Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:08:13.6±1.4, 6°.91S×128°.22E, h0km, mb3.2/1, mb1 3.3/3, mb1mx2.8/26, mbtmp3.1/3, ML3.3/2, Error ellipse: s-maj=132.5km s-min=13.5km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.25**	**156**	Pn	Pn	00 11 36.8	-0.1
	0.2nm,0.3s,baz=333,slow=13,SNR=11						
WRA				Sn	Sn	00 13 59.0	-17
	0.3nm,0.3s,baz=341,slow=21,SNR=7.3						
ASAR	**Alice Springs**	**17.53**	**162**	P	Pn	00 12 20.0	+0.3
	0.1nm,0.3s,baz=324,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**67.19**	**328**	P	P	00 19 09.7	0.0
	0.2nm,0.6s,baz=124,slow=7.8,SNR=2.0						

IDC 01 00:33:55.2±1.9, 7°.76S×119°.28E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.2/53, mbtmp3.7/5, ML3.6/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/62, Error ellipse: s-maj=61.2km s-min=20.3km az=70.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.77**	**10**	Pn	Pn	00 34 39.9	-1.0
	2.5nm,0.3s,baz=216,slow=8.4,SNR=11						
KAPI				Sn	Sb	00 35 17.8	-2.3
	3.8nm,0.3s,baz=155,slow=24,SNR=4.4						
KAPI				LR	LR	00 36 04.0	
	comp=Z,71nm,18.8s,baz=201,slow=47						
FITZ	**Fitzroy Crossi**	**12.00**	**150**	Pn	Pn	00 36 47.6	-0.1
	baz=355,slow=12						
FITZ				Sn	Sn	00 38 56.1	-6.3
	0.1nm,0.3s,baz=273,slow=6.0,SNR=1.6						
WRA	**Warramunga Arr**	**18.96**	**131**	P	P	00 38 18.2	-0.1
	0.4nm,0.3s,baz=306,slow=13,SNR=16						
ASAR	**Alice Springs**	**21.14**	**140**	P	P	00 38 42.3	+0.3
	2.5nm,0.3s,baz=313,slow=9.2,SNR=52						
MKAR	**Makanchi Array**	**63.49**	**332**	P	P	00 44 27.3	+0.1
	0.3nm,0.7s,baz=148,slow=8.2,SNR=3.5						
KIRV	**Kirov**	**86.30**	**330**	LR	LR	01 32 52.3	
	comp=Z,96nm,18.5s,baz=357,slow=41						

*AEIC **01** 00:37:53.6±1.3, 61°.54N±0°.02×152°.38W±0°.04, h1km±7km, ML3.4/109, ML3.7/130(NEIC), Error ellipse: s-maj=2.9km s-min=2.7km az=86.0*

*NEIC **01** 00:37:54.0±1.1, 61°.54N±0°.02×152°.42W±0°.04, h1km±11km, Error ellipse: s-maj=3.0km s-min=2.9km az=221.0*

ISC 01 00:37:53.4±1.2, 61°.55N±0°.02×152°.41W±0°.02, h1km±11km, n207, σ0§85/200, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.28**	**100**		**Pg**	**00 37 59.0**	**+0.3**
SPBG	**Spurr Blockage**	**0.29**	**177**		**Pg**	**00 37 59.4**	**+0.4**
SPBG					**Sg**	**00 38 03.5**	**+0.8**
SPCG	**Spurr Capps Gl**	**0.32**	**144**		**Pg**	**00 37 59.7**	**+0.3**
SPCG					**Sg**	**00 38 04.0**	**+0.5**
SPCN	**Chakachatna No**	**0.34**	**162**		**Pg**	**00 38 00.6**	**+0.7**
SPCR	**Spurr Chakacha**	**0.36**	**165**		**Pg**	**00 38 00.7**	**+0.4**
SPCR	**Spurr Chakacha**	**0.36**	**165**	P	**Pg**	**00 38 00.7**	**+0.4**
	baz=346						
SPU	**Mount Spurr**	**0.41**	**155**		**Pg**	**00 38 01.3**	**+0.2**
DFR	**Drift River**	**0.97**	**188**		**Pg**	**00 38 11.7**	**-0.3**
DFR					**Sg**	**00 38 24.8**	**+0.3**
RDJH	**Redoubt Jeurge**	**0.98**	**192**		**Pg**	**00 38 12.0**	**-0.1**
RDJH					**Sg**	**00 38 25.0**	**+0.2**
CAPN	**Captain Cook N**	**0.99**	**142**		**Pg**	**00 38 13.0**	**+0.7**
CAPN					**Pb**	**00 38 13.2**	**-0.1**
CAPN				IAML		00 38 43.4	
	comp=E,1μm,0.8s						
CAPN				IAML		00 38 45.5	
	comp=N,1μm,0.6s						
CAPN	**Captain Cook N**	**0.99**	**142**	P	**Pb**	**00 38 13.8**	**+0.5**
	baz=323						
NCT	**North Crescent**	**1.02**	**195**		**Pg**	**00 38 12.6**	**-0.3**
NCT					**Sg**	**00 38 26.3**	**+0.1**
RDWB	**Redoubt West**	**1.09**	**191**		**Pg**	**00 38 13.7**	**-0.5**
RSO	**Redoubt South**	**1.10**	**189**		**Pg**	**00 38 13.9**	**-0.6**
M22K	**Willow**	**1.11**	**78**		**Pg**	**00 38 14.0**	**-0.6**
M22K					**Sg**	**00 38 29.1**	**+0.2**
M22K	**Willow**	**1.11**	**78**	P	**Pg**	**00 38 14.0**	**-0.6**
	baz=260						
M22K				S	**Sg**	**00 38 29.1**	**+0.2**
	baz=260						
FIS	**Fire Island**	**1.13**	**110**		**Pg**	**00 38 15.2**	**+0.2**
FIS	**Fire Island**	**1.13**	**110**		**Pb**	**00 38 16.2**	**+0.6**
FIS				IAML		00 38 38.4	
	comp=E,1μm,0.8s						
FIS				IAML		00 38 44.6	
	comp=N,1μm,0.8s						
RED	**Redoubt Volcan**	**1.15**	**189**		**Pg**	**00 38 14.6**	**-0.8**
RED					**Sg**	**00 38 29.9**	**-0.3**
L20K	**Farewell, AK**	**1.16**	**324**		**Pg**	**00 38 15.5**	**-0.1**
L20K					**Sb**	**00 38 32.4**	**+0.5**
L20K	**Farewell, AK**	**1.16**	**324**	P	**Pg**	**00 38 15.5**	**-0.1**
	baz=142						
L20K				S	**Sb**	**00 38 32.4**	**+0.5**
	baz=142						
N19K	**Bonanza Creek**	**1.25**	**235**	Pg	**Pg**	**00 38 16.8**	**-0.5**
N19K					**Pb**	**00 38 16.9**	**-0.8**
N19K				IAML		00 38 38.1	
	comp=N,2μm,0.4s						
N19K				IAML		00 38 38.7	
	comp=E,2μm,0.5s						
N19K	**Bonanza Creek**	**1.25**	**235**	P	**Pg**	**00 38 16.8**	**-0.5**
	baz=53						
CUT	**Chulitna**	**1.32**	**49**		**Pg**	**00 38 17.9**	**-0.8**
CUT	**Chulitna**	**1.32**	**49**	IAML		00 38 39.1	
	comp=N,2μm,0.4s						
CUT	**Chulitna**	**1.32**	**49**	P	**Pg**	**00 38 17.9**	**-0.8**
	baz=230						
PPLA	**Purkeypile**	**1.35**	**4**		**Pg**	**00 38 19.1**	**-0.3**
PPLA	**Purkeypile**	**1.35**	**4**	P	**Pg**	**00 38 19.0**	**-0.3**
	baz=184						
RC01	**Rabbit Creek A**	**1.37**	**109**		**Pg**	**00 38 18.4**	**-1.1**
RC01					**Sg**	**00 38 36.6**	**-0.6**
RC01	**Rabbit Creek A**	**1.37**	**109**	P	**Pg**	**00 38 18.4**	**-1.1**
	baz=291						
RC01				S	**Sg**	**00 38 36.6**	**-0.6**
	baz=291						
O20K	**Slope Mountain**	**1.48**	**184**		**Pn**	**00 38 20.5**	**-0.7**
O20K					**Sg**	**00 38 40.7**	**-0.1**
O20K	**Slope Mountain**	**1.48**	**184**	P	**Pn**	**00 38 20.5**	**-0.7**
	baz=4.5						
O20K				S	**Sg**	**00 38 40.7**	**-0.1**
	baz=4.5						
SLKM	**Skilak Lake**	**1.49**	**134**		**Pn**	**00 38 20.2**	**-1.1**
ILIM	**Iliamna**	**1.50**	**191**		**Pn**	**00 38 21.2**	**-0.3**
PMR	**Palmer**	**1.57**	**87**		**Pn**	**00 38 21.5**	**-0.8**
PMR					**Sn**	**00 38 42.0**	**-1.2**
PMR	**Palmer**	**1.57**	**87**	P	**Pn**	**00 38 21.5**	**-0.8**
	baz=270						
PMR				S	**Sn**	**00 38 42.0**	**-1.2**
	baz=270						
IVE	**Iliamna Volcan**	**1.57**	**191**		**Pn**	**00 38 21.9**	**-0.6**
IVE					**Sn**	**00 38 43.1**	**-0.3**
SVW2	**Sparrevohn**	**1.60**	**255**		**Pn**	**00 38 23.0**	**+0.2**
SVW2					**Sn**	**00 38 44.4**	**+0.3**
O19K	**Port Alsworth**	**1.65**	**215**		**Pn**	**00 38 23.6**	**+0.1**
O19K	**Port Alsworth**	**1.65**	**215**	P	**Pn**	**00 38 23.6**	**+0.1**
	baz=34						
GHO	**Glory Hole Cre**	**1.68**	**81**		**Pn**	**00 38 23.6**	**-0.3**
GHO	**Glory Hole Cre**	**1.68**	**81**	IAML		00 38 47.6	
	comp=N,947nm,0.8s						
GHO				IAML		00 38 51.2	
	comp=E,643nm,0.7s						
CAST	**Castle Rocks**	**1.88**	**4**		**Pn**	**00 38 27.6**	**+0.8**
CAST	**Castle Rocks**	**1.88**	**4**	P	**Pn**	**00 38 27.5**	**+0.8**
	baz=184						
KNK	**Knik Glacier**	**1.90**	**92**		**Pn**	**00 38 27.0**	**0.0**
KNK				IAML		00 39 00.7	
	comp=E,624nm,0.6s						
KNK	**Knik Glacier**	**1.90**	**92**	P	**Pn**	**00 38 27.9**	**+0.9**
	baz=276						
HOM	**Homer**	**1.94**	**168**		**Sb**	**00 38 54.1**	**0.0**
HOM				IAML		00 38 58.1	
	comp=N,933nm,0.5s						
HOM	**Homer**	**1.94**	**168**		**Pn**	**00 38 27.4**	**0.0**
HOM	**Homer**	**1.94**	**168**	P	**Pn**	**00 38 27.4**	**0.0**
	baz=350						
BRLK	**Bradley Lake**	**1.94**	**157**		**Pn**	**00 38 27.9**	**+0.4**
OPT	**Oil Point**	**1.95**	**192**		**Pb**	**00 38 29.4**	**-0.3**
OPT	**Oil Point**	**1.95**	**192**	P	**Pb**	**00 38 29.4**	**-0.3**
	baz=12						
SML	**Sawmill**	**1.96**	**81**		**Pn**	**00 38 28.4**	**+0.6**
SML	**Sawmill**	**1.96**	**81**	IAML		00 38 59.2	
	comp=N,685nm,0.7s						
SML				IAML		00 39 00.2	
	comp=E,558nm,1.0s						
SML	**Sawmill**	**1.96**	**81**	P	**Pn**	**00 38 28.4**	**+0.6**
	baz=264						
K20K	**Telida**	**1.97**	**338**		**Pn**	**00 38 28.5**	**+0.5**
K20K				IAML		00 38 59.6	
	comp=E,500nm,0.7s						
BRSE	**Bradley Lake S**	**1.99**	**155**		**Pn**	**00 38 28.6**	**+0.5**
BRSE	**Bradley Lake S**	**1.99**	**155**	P	**Pn**	**00 38 28.6**	**+0.5**
	baz=337						
SEW	**Seward**	**2.05**	**134**		**Pn**	**00 38 29.3**	**+0.3**
SEW	**Seward**	**2.05**	**134**	P	**Pn**	**00 38 29.3**	**+0.3**
	baz=316						
PWL	**Port Wells**	**2.09**	**108**		**Pn**	**00 38 30.5**	**+1.0**
PWL	**Port Wells**	**2.09**	**108**	IAML		00 39 03.0	
	comp=N,376nm,0.8s						
PWL	**Port Wells**	**2.09**	**108**	P	**Pn**	**00 38 30.5**	**+1.0**
	baz=291						
WAT7	**Susitna Watana**	**2.11**	**51**		**Pn**	**00 38 30.5**	**+0.7**
CNPM	**China Poot**	**2.11**	**164**		**Pn**	**00 38 30.5**	**+0.6**
CNPM	**China Poot**	**2.11**	**164**	IAML		00 38 59.3	
	comp=E,472nm,0.5s						
KTH	**Kantishna Hill**	**2.12**	**18**		**Pn**	**00 38 31.2**	**+1.1**
KTH	**Kantishna Hill**	**2.12**	**18**	IAML		00 39 02.6	
	comp=E,414nm,0.9s						
KTH				IAML		00 39 02.6	
	comp=N,390nm,0.7s						
TRF	**Thorofare Moun**	**2.15**	**26**		**Pn**	**00 38 31.5**	**+1.1**
TRF	**Thorofare Moun**	**2.15**	**26**	IAML		00 39 04.9	
	comp=E,542nm,0.6s						
TRF				IAML		00 39 05.4	
	comp=N,615nm,0.7s						
TRF	**Thorofare Moun**	**2.15**	**26**	P	**Pn**	**00 38 31.5**	**+1.1**
	baz=208						
TT01	**Tatalina**	**2.17**	**310**		**Pn**	**00 38 31.1**	**+0.4**
TTA	**Tatalina**	**2.18**	**311**		**Pn**	**00 38 31.8**	**+0.9**
TTA	**Tatalina**	**2.18**	**311**	IAML		00 39 03.8	
	comp=E,445nm,0.7s						
TTA				IAML		00 39 04.3	
	comp=N,432nm,0.3s						
TTA	**Tatalina**	**2.18**	**311**	P	**Pn**	**00 38 31.8**	**+0.9**
	baz=128						
O18K	**Koktuh Hills**	**2.19**	**220**		**Pn**	**00 38 31.5**	**+0.5**
O18K	**Koktuh Hills**	**2.19**	**220**	IAML		00 39 05.0	
	comp=N,443nm,0.6s						
O18K				IAML		00 39 05.4	
	comp=E,421nm,0.4s						
O18K	**Koktuh Hills**	**2.19**	**220**	P	**Pn**	**00 38 31.5**	**+0.5**
	baz=38						
AUL	**Augustine Lava**	**2.23**	**194**		**Pb**	**00 38 33.3**	**-1.2**
AUQ	**Augustine Qik'**	**2.26**	**193**		**Pn**	**00 38 33.0**	**+1.1**
CHUM	**Lake Minchumin**	**2.34**	**1**		**Pn**	**00 38 33.7**	**+0.7**
CHUM	**Lake Minchumin**	**2.34**	**1**	P	**Pn**	**00 38 33.7**	**+0.7**
	baz=181						
WAT6	**Susitna Watana**	**2.43**	**63**		**Pn**	**00 38 35.1**	**+0.7**
WAT6	**Susitna Watana**	**2.43**	**63**	P	**Pn**	**00 38 35.1**	**+0.7**
	baz=247						
SCM	**Sheep Creek Mo**	**2.44**	**81**		**Pn**	**00 38 35.4**	**+1.0**
SCM	**Sheep Creek Mo**	**2.44**	**81**	IAML		00 39 12.9	
	comp=E,592nm,1.0s						
SCM				IAML		00 39 13.4	
	comp=N,465nm,1.0s						
SCM	**Sheep Creek Mo**	**2.44**	**81**	P	**Pn**	**00 38 35.4**	**+1.0**
	baz=265						
RND	**Reindeer**	**2.49**	**40**		**Pn**	**00 38 35.8**	**+0.7**
RND	**Reindeer**	**2.49**	**40**	IAML		00 39 13.4	
	comp=N,522nm,0.7s						
RND				IAML		00 39 13.8	
	comp=E,427nm,0.7s						
P18K	**Big Mountain,**	**2.58**	**214**		**Pn**	**00 38 36.7**	**+0.4**
P18K	**Big Mountain,**	**2.58**	**214**	P	**Pn**	**00 38 36.7**	**+0.4**
	baz=32						
BPAW	**Bear Paw Mtn.**	**2.64**	**14**		**Pn**	**00 38 37.8**	**+0.7**
BPAW	**Bear Paw Mtn.**	**2.64**	**14**	IAML		00 39 18.0	
	comp=E,205nm,0.6s						
BPAW	**Bear Paw Mtn.**	**2.64**	**14**	P	**Pn**	**00 38 37.8**	**+0.7**
	baz=195						
Q19K	**Cape Douglas,**	**2.70**	**194**		**Pn**	**00 38 38.6**	**+0.7**
Q19K	**Cape Douglas,**	**2.70**	**194**	P	**Pn**	**00 38 39.0**	**+1.0**
	baz=13						
MCK	**McKinley**	**2.71**	**35**		**Pn**	**00 38 39.5**	**+1.4**
MCK	**McKinley**	**2.71**	**35**	IAML		00 39 23.1	
	comp=N,259nm,1.1s						
MCK				IAML		00 39 24.5	
	comp=E,232nm,0.7s						
MCK	**McKinley**	**2.71**	**35**	P	**Pn**	**00 38 39.5**	**+1.4**
	baz=217						
J20K	**Nowinta River**	**2.75**	**344**		**Pn**	**00 38 39.3**	**+0.6**
J20K	**Nowinta River**	**2.75**	**344**	IAML		00 39 22.7	
	comp=N,315nm,0.5s						
J20K				IAML		00 39 24.9	
	comp=E,312nm,0.6s						
J20K	**Nowinta River**	**2.75**	**344**	P	**Pn**	**00 38 39.3**	**+0.6**
	baz=162						
DHY	**Denali Highway**	**2.80**	**55**		**Pn**	**00 38 40.4**	**+0.9**
DHY	**Denali Highway**	**2.80**	**55**	IAML		00 39 24.3	
	comp=E,192nm,0.9s						
DHY				IAML		00 39 27.1	
	comp=N,279nm,0.8s						
DHY	**Denali Highway**	**2.80**	**55**	P	**Pn**	**00 38 40.4**	**+0.9**
	baz=239						
BWN	**Browne**	**2.96**	**26**		**Pn**	**00 38 42.5**	**+1.0**
M24K	**Tolsona, Glenn**	**3.01**	**77**		**Pn**	**00 38 43.0**	**+0.8**
M24K	**Tolsona, Glenn**	**3.01**	**77**	IAML		00 39 45.3	
	comp=N,309nm,1.4s						
M24K	**Tolsona, Glenn**	**3.01**	**77**	P	**Pn**	**00 38 43.0**	**+0.8**
	baz=262						
KLU	**Klutina**	**3.11**	**88**		**Pn**	**00 38 44.5**	**+0.9**
KLU	**Klutina**	**3.11**	**88**	IAML		00 39 33.3	
	comp=N,170nm,1.2s						
KLU	**Klutina**	**3.11**	**88**	P	**Pn**	**00 38 44.5**	**+0.9**
	baz=274						
KAHC	**Katmai Hardscr**	**3.19**	**205**		**Pn**	**00 38 45.0**	**+0.3**
KAHC	**Katmai Hardscr**	**3.19**	**205**	P	**Pn**	**00 38 45.0**	**+0.3**
	baz=23						
DIV	**Divide**	**3.22**	**95**		**Pn**	**00 38 46.0**	**+0.8**
PS11	**TAPS Pump St11**	**3.33**	**78**		**Pn**	**00 38 47.2**	**+0.6**
EYAK	**Cordova Ski Ar**	**3.39**	**104**		**Pn**	**00 38 48.1**	**+0.8**
EYAK	**Cordova Ski Ar**	**3.39**	**104**	P	**Pn**	**00 38 48.1**	**+0.8**
	baz=290						
NEA2	**Nenana**	**3.41**	**25**		**Pn**	**00 38 48.0**	**+0.3**
NEA2	**Nenana**	**3.41**	**25**	P	**Pn**	**00 38 48.0**	**+0.3**
	baz=208						
HARP	**HAARP**	**3.53**	**73**		**Pn**	**00 38 50.2**	**+1.0**
HARP	**HAARP**	**3.53**	**73**	P	**Pn**	**00 38 50.2**	**+1.0**
	baz=259						
KCG	**Knife Ck. Glac**	**3.53**	**204**		**Pn**	**00 38 50.4**	**+1.1**
WRH	**Wood River Hil**	**3.53**	**32**		**Pn**	**00 38 50.1**	**+0.8**
PAX	**Paxson**	**3.54**	**63**		**Pn**	**00 38 50.4**	**+0.9**
PAX	**Paxson**	**3.54**	**63**	P	**Pn**	**00 38 50.4**	**+0.9**
	baz=249						
MLY	**Manley**	**3.57**	**11**		**Pn**	**00 38 50.2**	**+0.3**
MLY	**Manley**	**3.57**	**11**	P	**Pn**	**00 38 50.2**	**+0.3**
	baz=193						
KABU	**Katmai Buttres**	**3.59**	**205**		**Pn**	**00 38 51.8**	**+1.5**
I21K	**Tanana**	**3.65**	**3**		**Pn**	**00 38 51.5**	**+0.6**
I21K	**Tanana**	**3.65**	**3**	IAML		00 39 55.5	
	comp=E,113nm,0.6s						
I21K				IAML		00 39 56.3	
	comp=N,127nm,0.8s						
I21K	**Tanana**	**3.65**	**3**	P	**Pn**	**00 38 51.5**	**+0.6**
	baz=183						
ANCK	**Angle Creek**	**3.71**	**206**		**Pn**	**00 38 52.8**	**+1.1**
N25K	**Chitina, Valde**	**3.73**	**86**		**Pn**	**00 38 53.5**	**+1.3**
N25K	**Chitina, Valde**	**3.73**	**86**	IAML		00 39 51.1	
	comp=N,87nm,0.9s						
N25K	**Chitina, Valde**	**3.73**	**86**	P	**Pn**	**00 38 53.5**	**+1.3**
	baz=272						
CCB	**Clear Creek Bu**	**3.75**	**32**		**Pn**	**00 38 52.6**	**+0.3**
CCB	**Clear Creek Bu**	**3.75**	**32**	IAML		00 39 54.3	
	comp=E,85nm,1.3s						
KDAK	**Kodiak Island**	**3.78**	**181**		**Pn**	**00 38 52.8**	**0.0**
KDAK				IAML		00 40 04.4	
	comp=E,83nm,3.3s						
GCSA	**Galena City Sc**	**3.80**	**330**		**Pn**	**00 38 53.9**	**+1.0**
GCSA	**Galena City Sc**	**3.80**	**330**	P	**Pn**	**00 38 53.9**	**+1.0**
	baz=146						
HDA	**Harding Lake**	**3.80**	**39**	IAML		00 39 55.0	
	comp=E,112nm,0.5s						
HDA				IAML		00 39 58.2	
	comp=N,174nm,0.5s						
BMRM	**Bremner River**	**3.81**	**95**		**Pn**	**00 38 53.8**	**+0.6**
BMRM	**Bremner River**	**3.81**	**95**	IAML		00 40 00.6	
	comp=E,107nm,2.4s						
BMRM				IAML		00 40 03.6	
	comp=N,155nm,1.1s						
BMRM	**Bremner River**	**3.81**	**95**	P	**Pn**	**00 38 53.8**	**+0.6**
	baz=282						
I23K	**Minto, Yukon-K**	**3.86**	**19**		**Pn**	**00 38 54.3**	**+0.4**
I23K	**Minto, Yukon-K**	**3.86**	**19**	IAML		00 40 00.8	
	comp=N,75nm,0.9s						
I23K				IAML		00 40 03.0	
	comp=E,77nm,0.6s						
I23K	**Minto, Yukon-K**	**3.86**	**19**	P	**Pn**	**00 38 54.3**	**+0.4**
	baz=202						
MDM	**Murphy Dome**	**3.91**	**27**		**Pn**	**00 38 54.4**	**-0.1**
TCOL	**CIGO, UAF Yank**	**3.92**	**30**		**Pn**	**00 38 55.5**	**+0.8**
COLA	**College**	**3.92**	**30**		**Pn**	**00 38 55.5**	**+0.8**
IL31		**4.09**	**35**		**Pn**	**00 38 57.4**	**+0.4**
GLB	**Gilahina Butte**	**4.12**	**88**		**Pn**	**00 38 60.0**	**+2.5**
GLB				IAML		00 40 01.4	
	comp=N,62nm,3.0s						
RIDG	**Independent Ri**	**4.12**	**54**		**Pn**	**00 38 58.0**	**+0.5**
RIDG	**Independent Ri**	**4.12**	**54**	IAML		00 40 04.9	
	comp=E,123nm,1.0s						
RIDG	**Independent Ri**	**4.12**	**54**	P	**Pn**	**00 38 58.0**	**+0.5**
	baz=241						
H21K	**Melozitna Rive**	**4.13**	**358**		**Pn**	**00 38 58.0**	**+0.5**
H21K				IAML		00 40 06.7	
	comp=E,75nm,0.9s						
H21K				IAML		00 40 08.5	
	comp=N,66nm,1.2s						
POKR	**Poker Plat Res**	**4.22**	**30**		**Pn**	**00 38 59.0**	**+0.2**
POKR	**Poker Plat Res**	**4.22**	**30**	P	**Pn**	**00 38 59.0**	**+0.2**
	baz=214						
OHAK	**Old Harbor**	**4.37**	**186**	Pn	**Pn**	**00 39 03.1**	**+2.4**
OHAK				IAML		00 40 18.0	
	comp=N,64nm,4.9s						
OHAK				IAML		00 40 48.0	
	comp=E,78nm,4.3s						
DOT	**Dot Lake**	**4.39**	**58**		**Pn**	**00 39 01.6**	**+0.4**
SUCK	**Suckling Hills**	**4.48**	**106**	Pn	**Pn**	**00 39 01.9**	**-0.5**
L26K	**Log Cabin Wild**	**4.48**	**67**		**Pn**	**00 39 03.8**	**+1.4**
L26K				IAML		00 40 17.7	
	comp=E,94nm,0.5s						
L26K				IAML		00 40 27.6	
	comp=N,72nm,1.1s						
IM03		**4.49**	**353**		**Pn**	**00 39 02.9**	**+0.4**
IMAR	**Indian Mountai**	**4.49**	**353**		**Pn**	**00 39 03.4**	**+0.9**
MCARA	**McCarthy VSAT**	**4.50**	**88**		**Pn**	**00 39 03.3**	**+0.7**
M26K	**Nabesna, AK**	**4.52**	**75**		**Pn**	**00 39 03.5**	**+0.5**
M26K	**Nabesna, AK**	**4.52**	**75**	IAML		00 40 19.4	
	comp=E,64nm,0.5s						
M26K				IAML		00 40 22.1	
	comp=N,75nm,1.2s						
M26K	**Nabesna, AK**	**4.52**	**75**	P	**Pn**	**00 39 03.5**	**+0.5**
	baz=263						
CRQM	**Cirque**	**4.56**	**96**		**Pn**	**00 39 04.4**	**+0.8**
SCRK	**Sand Creek**	**4.57**	**54**		**Pn**	**00 39 04.0**	**+0.3**
SCRK	**Sand Creek**	**4.57**	**54**	IAML		00 40 20.8	
	comp=E,55nm,1.1s						
SCRK				IAML		00 40 22.5	
	comp=N,52nm,1.1s						
SCRK	**Sand Creek**	**4.57**	**54**	P	**Pn**	**00 39 04.0**	**+0.3**
	baz=241						
H24K	**Noodor Dome**	**4.75**	**23**		**Pn**	**00 39 06.7**	**+0.5**
H24K				IAML		00 40 31.0	
	comp=E,47nm,1.6s						
WAX	**Waxell Ridge**	**4.78**	**99**	Pn	**Pn**	**00 39 07.5**	**+1.0**
PTPK	**Patty Peak**	**4.80**	**90**		**Pn**	**00 39 07.4**	**+0.5**
SNH	**Sunshine Point**	**4.87**	**102**	Pn	**Pn**	**00 39 07.5**	**-0.3**
KIAG	**Kiagna River**	**4.89**	**93**		**Pn**	**00 39 08.9**	**+0.7**
ISLE	**Juniper Island**	**4.98**	**97**	Pn	**Pn**	**00 39 10.1**	**+0.8**
J26L	**Joseph Creek**	**5.00**	**50**		**Pn**	**00 39 10.0**	**+0.5**
J26L	**Joseph Creek**	**5.00**	**50**	P	**Pn**	**00 39 10.0**	**+0.5**
	baz=238						
M27K	**Edge Creek, AK**	**5.04**	**76**		**Pn**	**00 39 10.5**	**+0.4**
M27K	**Edge Creek, AK**	**5.04**	**76**	IAML		00 40 36.5	
	comp=N,57nm,3.9s						
M27K	**Edge Creek, AK**	**5.04**	**76**	P	**Pn**	**00 39 10.5**	**+0.4**
	baz=265						
L27K	**Beaver Creek,**	**5.16**	**68**	Pn	**Pn**	**00 39 12.7**	**+1.0**
L27K				IAML		00 40 43.0	
	comp=N,31nm,1.3s						
BC03		**5.18**	**68**		**Pn**	**00 39 12.9**	**+0.9**
BCAR	**Beaver Creek A**	**5.18**	**68**	Pn	**Pn**	**00 39 13.9**	**+1.9**
BARN	**Barnard Glacie**	**5.20**	**91**	Pn	**Pn**	**00 39 14.6**	**+2.1**
BARN				IAML		00 40 36.8	
	comp=E,46nm,2.2s						
BARN				IAML		00 40 38.4	
	comp=N,59nm,3.4s						
MESA	**MESA**	**5.29**	**100**	Pn	**Pn**	**00 39 15.1**	**+1.4**
CTGM	**Chitina Glacie**	**5.38**	**91**	Pn	**Pn**	**00 39 16.8**	**+2.0**
CTGM				IAML		00 40 49.1	
	comp=E,41nm,3.8s						
LOGN	**Logan Glacier**	**5.56**	**92**	Pn	**Pn**	**00 39 20.1**	**+2.7**
TABL	**Table Mountain**	**5.59**	**97**	Pn	**Pn**	**00 39 19.9**	**+2.1**
COLD	**Coldfoot**	**5.78**	**9**	Pn	**Pn**	**00 39 21.6**	**+1.5**
FYU	**Fort Yukon**	**5.94**	**29**	Pn	**Pn**	**00 39 22.4**	**+0.1**
EGAK	**Eagle**	**6.03**	**53**	Pn	**Pn**	**00 39 25.8**	**+2.2**
PCA	**Pinnacle**	**6.12**	**98**	Pn	**Pn**	**00 39 25.1**	**+0.2**
BCPM	**Bancas Point**	**6.46**	**99**	Pn	**Pn**	**00 39 30.1**	**+0.5**
DAWY	**Dawson**	**6.47**	**61**	Pn	**Pn**	**00 39 32.4**	**+2.6**
ANM	**Nome**	**6.62**	**303**		**Pn**	**00

JEW	Eniwo	1.06	292	⇓P	Pn	00 38 18.6	-0.1
JEW				eS	Sn	00 38 33.4	-0.7
JEW	Eniwo	1.06	292	Pn	Pn	00 38 18.3	-0.4
JEW				Sn	Sn	00 38 33.1	-1.0
JAR	Ashorobuto	1.11	40	⇓P	Pn	00 38 19.5	+0.2
JAR				eS	Sn	00 38 34.9	-0.3
JAB	Ashibetsu	1.13	339	⇓P	Pn	00 38 19.7	+0.2
JNB	Noboribetsu	1.29	271	⇑P	Pn	00 38 20.6	-0.8
JNB				eS	Sn	00 38 37.1	-1.9
JISS	Ishikarishitsu	1.30	310	P	Pn	00 38 21.5	0.0
JISS				eS	Sn	00 38 39.5	+0.4
JKB	Kayabe	1.42	247	⇑P	Pn	00 38 22.5	-0.5
JKB				eS	Sn	00 38 40.7	-1.1
JKK2	Kamakawa 2	1.42	359	P	Pn	00 38 23.1	0.0
JKK2				eS	Sn	00 38 42.0	+0.2
JHR	Hokuryu	1.50	329	P	Pn	00 38 24.7	+0.6
JHR				eS	Sn	00 38 44.5	+0.8
JAK	Akkeshi	1.51	68	⇓P	Pn	00 38 24.4	+0.2
JAK				eS	Sn	00 38 43.7	-0.1
AKK	Akkeshi	1.62	69	eP	Pn	00 38 25.7	+0.2
AKK				eS	Sn	00 38 45.1	-1.2
ASAJ	Asahikawa	1.67	355	P	Pn	00 38 26.6	+0.5
	70nm,0.3s,baz=215,slow=16,SNR=398						
ASAJ				LR	LR	00 38 44.9	
	comp=Z,17nm,20.9s,baz=295,slow=28						
ASAJ				S	Sn	00 38 47.9	+0.4
	47nm,0.3s,baz=117,slow=30,SNR=7.5						
JKA	Kamikawa-asahi	1.67	355	Pn	Pn	00 38 26.4	+0.2
JKA	Kamikawa-asahi	1.67	355	eP	Pn	00 38 26.8	+0.6
JOT	Ohata	1.68	231	⇑P	Pn	00 38 25.9	-0.4
JOT				eS	Sn	00 38 45.8	-1.9
JTKR	Abashiri--Toko	1.73	28	⇑P	Pn	00 38 27.4	+0.5
JTKR				eS	Sn	00 38 48.5	-0.2
JTM	Tenmabayashi	2.10	218	Pn	Pn	00 38 31.3	-0.5
NMR	Nemuro--Hokkai	2.35	66	ePN	Pn	00 38 35.3	+0.2
NMR				eS	Sn	00 39 01.8	-1.5
NMR	Nemuro--Hokkai	2.35	66	eP	Pn	00 38 35.3	+0.2
NMR				eS	Sn	00 39 01.8	-1.5
GLVR	Golovnino	2.38	56	ePN	Pn	00 38 36.1	+0.6
GLVR				eS	Sn	00 39 03.7	-0.3
GLVR				pmax	pmax		
	comp=Z,288nm,0.1s						
GLVR				smax	smax		
	comp=N,924nm,0.2s						
GLVR				smax	smax		
	comp=E,844nm,0.2s						
GLVR	Golovnino	2.38	56	eP	Pn	00 38 36.1	+0.6
GLVR				AMB	AMB	00 38 38.4	
	comp=E,150nm,0.4s						
GLVR				eS	Sn	00 39 03.7	-0.3
GLVR				A	A	00 39 06.6	
	comp=E,450nm,0.5s						
GLVR				A	A	00 39 06.6	
	comp=E,400nm,0.5s						
RUSJ	Misakicho	2.44	47	ePN	Pn	00 38 37.8	+1.5
RUSJ				eS	Sn	00 39 06.7	+1.2
YUK	Yuzh-Kuril'sk	2.75	54	ePN	Pn	00 38 41.7	+1.3
YUK				eS	Sn	00 39 13.3	+0.5
YUK				pmax	pmax		
	comp=N,48nm,0.3s						
YUK				pmax	pmax		
	comp=Z,127nm,0.3s						
YUK				pmax	pmax		
	comp=E,50nm,0.1s						
YUK				smax	smax		
	comp=N,693nm,0.5s						
YUK				smax	smax		
	comp=E,785nm,0.4s						
YUK	Yuzh-Kuril'sk	2.75	54	eP	Pn	00 38 41.7	+1.3
YUK				AMB	AMB	00 38 43.4	
	comp=E,130nm,0.3s						
YUK				eS	Sn	00 39 13.3	+0.5
YUK				A	A	00 39 17.6	
	comp=E,350nm,0.5s						
YUK				A	A	00 39 17.6	
	comp=E,400nm,0.5s						
SHO	Shikotan	3.28	63	ePN	Pn	00 38 47.5	0.0
SHO				eS	Sn	00 39 23.7	-1.9
SHO				pmax	pmax		
	comp=Z,45nm,0.2s						
SHO				pmax	pmax		
	comp=N,19nm,0.3s						
SHO				pmax	pmax		
	comp=E,30nm,0.3s						
SHO				smax	smax		
	comp=E,420nm,0.2s						
SHO				smax	smax		
	comp=N,492nm,0.4s						
SHO	Shikotan	3.28	63	eP	Pn	00 38 47.0	-0.5
SHO				AMB	AMB	00 38 48.1	
	comp=N,50nm,0.3s						
SHO				eS	Sn	00 39 23.7	-1.9
SHO				A	A	00 39 26.5	
	comp=N,250nm,0.4s						
SHO				A	A	00 39 26.5	
	comp=N,210nm,0.4s						
YSS	Yuzh-Sakhalins	4.50	360	⇓iPN	Pn	00 39 05.8	+1.8
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS	Yuzh-Sakhalins	4.50	360	Pn	Pn	00 39 03.9	-0.1
YSS	Yuzh-Sakhalins	4.50	360	i P	Pn	00 39 05.8	+1.8
YSS				AMB	AMB	00 39 06.1	
	comp=Z,50nm,0.9s						
YSS				eS	Sn	00 39 54.7	-0.4
YSS				A	A	00 39 58.7	
	comp=Z,30nm,0.8s						
YSS				A	A	00 39 58.7	
	comp=Z,40nm,0.8s						
KUR	Kuril'sk	4.61	51	ePN	Pn	00 39 07.7	+2.2
KUR				eS	Sn	00 40 01.1	+3.4
KUR				pmax	pmax		
	comp=Z,60nm,0.5s						
KUR				smax	smax		
	comp=E,72nm,0.6s						
KUR				smax	smax		
	comp=N,41nm,0.4s						
KUR	Kuril'sk	4.61	51	eP	Pn	00 39 07.0	+1.5
KUR				AMB	AMB	00 39 08.0	
	comp=N,60nm,0.5s						
KUR				eS	Sn	00 39 58.1	+0.4
KUR				A	A	00 40 08.8	
	comp=N,180nm,0.5s						
KUR				A	A	00 40 08.8	
	comp=N,100nm,0.5s						
JMM	Marumori	4.83	199		Pn	00 39 07.4	-1.1
JSD	Sado	5.61	220	Pn	Pn	00 39 18.5	-0.6
JYT	Yasato	6.53	199		Pn	00 39 30.0	-1.7
MJB9	Matsu-Tunnel	6.88	212	Pn	Pn	00 39 37.1	+0.7
MAJO	Matsushiro	6.88	212	PN	Pn	00 39 36.7	+0.2
MAJO	Matsushiro	6.88	212	Pn	Pn	00 39 36.7	+0.2
MJAR	Matsushiro Arr	6.88	212	P	Pn	00 39 36.3	-0.2
	comp=N,0.3nm,0.3s,baz=22,slow=16,SNR=16						
JGF	Kuroka	8.04	213	Pn	Pn	00 39 52.7	+0.4
INU	Inuyama	8.40	214	Pn	Pn	00 39 57.9	+0.8
JWT	Wachi	9.18	221	Pn	Pn	00 40 09.8	+2.0
JHJ2	Mitsune	9.62	195	Pn	Pn	00 40 11.4	-2.3
SKR	Severo-Kuril's	12.31	43	ePN	Pn	00 40 48.5	-1.5
SKR				MLR	MLR		
	comp=Z,1μm,17.0s						
SKR	Severo-Kuril's	12.31	43	eP	Pn	00 40 48.5	-1.5
SKR				eS	Sn	00 42 58.9	-6.3
PETK	Petropavlovsk-	14.60	38	P	Pn	00 41 19.1	-1.0
	comp=Z,0.4nm,0.3s,baz=172,slow=6.5,SNR=14						
PET	Petropavlovsk	14.99	40	eP	Pn	00 41 19.1	-5.9
MA2	Magadan	17.84	13	P	P	00 41 59.0	-0.7
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MA2	Magadan	17.84	13	P	P	00 41 59.0	-0.7
MA2				IAmb	IAmb	00 42 01.3	
	comp=Z,6.5nm,0.8s						
MA2	Magadan	17.84	13	eP	P	00 41 59.0	-0.7
YAK	Yakutsk	21.11	343	P	P	00 42 33.4	-1.6
	comp=Z,2.5nm,0.3s,baz=130,slow=4.7,SNR=6.2						
YAK	Yakutsk	21.11	343	P	P	00 42 32.1	-2.9
YAK				IAmb	IAmb	00 42 38.1	
	comp=Z,6.0nm,0.6s						
SEY	Seymchan	21.28	12	P	P	00 42 35.5	-1.3
	comp=Z,2.6nm,0.4s,baz=192,slow=7.8,SNR=21						
SONM	Songino Array	26.05	294	P	P	00 43 23.1	+0.2
	comp=Z,0.5nm,0.8s,baz=92,slow=8.5,SNR=4.8						
SONM	Songino Array	26.05	294	IAmb	IAmb	00 43 23.6	
	comp=Z,1.2nm,1.2s						
TIXI	Tiksi	30.07	351	LR	LR	00 56 31.9	
	comp=Z,106nm,19.0s,baz=246,slow=37						
H11N2	WAKE ISLAND Hy	30.46	131	T	T	01 15 47.0	
	baz=324,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy	30.47	131	T	T	01 15 49.0	
	baz=324,slow=75,SNR=25						
H11N3	WAKE ISLAND Hy	30.48	131	T	T	01 15 45.1	
	baz=324,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	31.33	132	T	T	01 17 00.2	
	baz=330,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	31.34	132	T	T	01 16 56.1	
	baz=330,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	31.35	132	T	T	01 16 56.7	
	baz=330,slow=76,SNR=11						
ZALV	Zalesovo Beam	39.24	308	P	P	00 45 17.1	-0.3
	comp=Z,0.9nm,0.6s,baz=89,slow=9.7,SNR=7.2						
A21K	Barrow	41.09	25	P	P	00 45 32.6	+0.3
J20K	Nowinta River	41.29	36	P	P	00 45 35.4	+1.3
MK31	Makanchi Array	42.34	297	IAmb	IAmb	00 45 45.0	
	comp=Z,0.7nm,0.8s						
MKAR	Makanchi Array	42.34	297	P	P	00 45 43.5	+0.5
	comp=Z,0.6nm,0.5s,baz=83,slow=8.9,SNR=14						
MAKZ	Makanchi	42.55	298	P	P	00 45 45.0	+0.4
MAKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MAKZ	Makanchi	42.55	298	P	P	00 45 45.0	+0.4
MAKZ				IAmb	IAmb	00 45 46.4	
	comp=Z,0.9nm,0.8s						
KURK	Kurchatov	43.60	304	P	P	00 45 53.4	+0.4
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	Kurchatov	43.60	304	P	P	00 45 53.4	+0.4
KURK				IAmb	IAmb	00 45 55.1	
	comp=Z,2.4nm,0.9s						
KURK	Kurchatov	43.60	304	eP	P	00 45 53.4	+0.4
RND	Reindeer	43.67	37	P	P	00 45 52.9	-0.6
RND				pmax	pmax		
	comp=Z,3.0nm,0.6s						
RND	Reindeer	43.67	37	P	P	00 45 52.9	-0.6
RND				IAmb	IAmb	00 45 58.5	
	comp=Z,2.5nm,0.6s						
ILAR	Eielson Array	44.41	35	P	P	00 45 60.0	+0.7
	comp=Z,2.0nm,1.0s,baz=270,slow=7.0,SNR=6.5						
ILAR	Eielson Array	44.41	35	P	P	00 46 00.0	+0.7
INK	Inuvik	49.12	29	P	P	00 46 36.8	+0.9
	comp=Z,1.8nm,0.4s,baz=310,slow=5.4,SNR=20						
INK	Inuvik	49.12	29	IAmb	IAmb	00 46 39.1	
	comp=Z,2.0nm,0.6s						
ARU	Arti	53.09	316	P	P	00 47 05.8	0.0
	comp=Z,0.8nm,0.3s,baz=87,slow=18,SNR=6.4						
ARU	Arti	53.09	316	IAmb	IAmb	00 47 07.7	
	comp=Z,2.9nm,0.5s						
HNR	Honiara	53.97	159	LR	LR	01 08 47.1	
	comp=Z,27nm,20.1s,baz=106,slow=34						
RES	Resolute Bay	57.10	16	P	P	00 47 33.9	-0.5
	comp=Z,2.1nm,0.6s,baz=296,slow=5.2,SNR=14						
YKA	Yellowknife Ar	58.63	32	P	P	00 47 45.7	+0.5
	comp=Z,0.6nm,0.5s,baz=303,slow=7.0,SNR=17						
ARCES	ARCESS Array B	59.32	339	P	P	00 47 50.0	+0.1
	comp=Z,4.6nm,0.9s,baz=35,slow=4.6,SNR=4.2						
WRA	Warramunga Arr	62.57	189	P	P	00 48 12.4	-0.1
	comp=Z,0.6nm,0.8s,baz=6.1,slow=7.1,SNR=5.0						
WRA	Warramunga Arr	62.57	189	IAmb	IAmb	00 48 21.5	
	comp=Z,0.1nm,1.1s						
FINES	FINESS Array B	64.53	332	P	P	00 48 24.5	-0.4
	comp=Z,1.9nm,0.5s,baz=41,slow=6.8,SNR=12						
ASAR	Alice Springs	66.30	189	P	P	00 48 37.8	+1.1
	comp=Z,0.7nm,1.0s,baz=1.3,slow=7.3,SNR=5.6						
NOA	NORSAR Array B	69.60	337	P	P	00 48 58.9	+1.8
	comp=Z,1.9nm,1.1s,baz=52,slow=7.8,SNR=7.2						
AKASG	Malin Array Be	70.67	322	P	P	00 49 05.5	+1.7
	comp=Z,0.8nm,0.5s,baz=42,slow=6.6,SNR=6.9						
GERES	GERESS Array B	78.66	328	P	P	00 49 51.0	+1.0
	comp=Z,0.2nm,0.4s,baz=36,slow=5.9,SNR=6.2						
GERES	GERESS Array B	78.66	328	P	P	00 49 51.0	+1.0

*KNET **01** 00:43:17.5±0.5, 42°.10N×73°.86E, h6km±6km, ml1.2, Error ellipse: s-maj=4.6km s-min=3.0km az=168.0*
*SOME **01** 00:43:17.3, 42°.10N×73°.87E, h5km*
*NNC **01** 00:43:17.3±1.1, 42°.07N×73°.84E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=9.3km s-min=4.8km az=167.0*

ISC 01 00:43:17.0±1.1, 42°.07N±0°.05×73°.85E±0°.02, h13km±8km, n38, σ0°86/62, 10C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.13	298	⇑P	Pg	00 43 20.6	-0.1
	90nm,0.1s,SNR=516						
AML				⇑S	Sg	00 43 22.9	-0.4
	120nm,0.2s						
UCH	Uchtor	0.52	72	⇓P	Pg	00 43 27.5	+0.2
	2.5nm,0.1s,SNR=6.5						
UCH				⇑S	Sg	00 43 34.2	-0.2
	18nm,0.3s						
EKS2	Erkin-Say	0.59	355	⇑P	Pg	00 43 29.0	+0.3
	1.7nm,0.1s,SNR=10						
EKS2				⇑S	Sb	00 43 37.1	-0.7
	14nm,0.2s						
AAK	Ala-Archa	0.74	40	⇓P	Pg	00 43 31.7	+0.2
	7.3nm,0.1s,SNR=23						
AAK				⇑S	Sb	00 43 41.5	-0.6
	11nm,0.3s						
AAK	Ala-Archa	0.74	40	⇓P	Pg	00 43 31.5	0.0
	1.8nm,0.2s						
AAK				⇓S	Sb	00 43 41.5	-0.6
	5.2nm,0.5s						
MRKS	Merke	0.82	326	eP	Pg	00 43 33.0	+0.2
	4.9nm,0.1s						
MRKS				eS	Sb	00 43 44.0	-0.1
	18nm,0.1s						
MRKS	Merke	0.82	326	P	Pg	00 43 33.0	+0.2
	4.9nm,0.1s						
MRKS				S	Sb	00 43 44.2	0.0
	18nm,0.1s						
KBK	Karagaybulak	1.00	54	⇓P	Pg	00 43 36.4	0.0
	4.9nm,0.1s,SNR=17						
CHMS	Chumysh	1.14	35	⇓P	Pb	00 43 38.9	+0.2
	2.8nm,0.1s,SNR=7.8						
CHMS				⇑S	Sb	00 43 54.3	+0.7
	3.0nm,0.1s						
USP	Ospenovka	1.29	22	⇓P	Pb	00 43 41.5	+0.3
	2.3nm,0.1s,SNR=13						
SGDS	Sogindy	1.50	22	eP	Pb	00 43 45.0	+0.2
	1.5nm,0.1s						
SGDS				eS	Sg	00 44 05.0	-0.2
	4.2nm,0.1s						
SGDS	Sogindy	1.50	22	P	Pg	00 43 45.5	-0.3
	1.5nm,0.1s						
SGDS				S	Sg	00 44 05.4	+0.2
	4.2nm,0.1s						
TKM2	Tokmak 2	1.55	56	⇑P	Pb	00 43 45.8	+0.1
	2.1nm,0.1s,SNR=30						
TKM2	Tokmak 2	1.55	56	⇓P	Pn	00 43 45.2	+0.7
	0.8nm,0.4s						
TKM2				⇓S	Sg	00 44 06.3	-0.7
	3.1nm,0.5s						
DGS	Degeres	1.84	50	eP	Pg	00 43 51.7	-0.6
	2.1nm,0.2s						
DGS				eS	Sg	00 44 16.3	0.0
	3.5nm,0.4s						
DGS	Degeres	1.84	50	P	Pg	00 43 51.7	-0.6
	2.1nm,0.2s						
DGS				S	Sg	00 44 16.3	0.0
	3.5nm,0.4s						
KST	Kastek	1.84	57	eP	Pg	00 43 51.7	-0.7
	3.1nm,0.1s						
KST				eS	Sg	00 44 16.2	0.0
	6.6nm,0.3s						
KST	Kastek	1.84	57	P	Pg	00 43 51.9	-0.5
	3.1nm,0.1s						
KST				S	Sg	00 44 16.4	+0.1
	6.6nm,0.3s						
KRBS	Karabastau	2.11	39	eP	Pb	00 43 56.3	+1.1
	3.0nm,0.1s						
KRBS				eS	Sg	00 44 24.0	-0.8
	5.9nm,0.2s						
KRBS	Karabastau	2.11	39	Pg	Pb	00 43 56.3	+1.1
	3.0nm,0.1s						
KRBS				Lg	Lg	00 44 24.0	
	5.9nm,0.2s						
MTBS	Maitube	2.18	60	eP	Pg	00 43 57.9	-0.9
	2.3nm,0.3s						
MTBS				eS	Sg	00 44 26.9	-0.3
	4.1nm,0.2s						
MTBS	Maitube	2.18	60	Pg	Pg	00 43 57.9	-0.9
	2.3nm,0.3s						
MTBS				Lg	Lg	00 44 26.9	
	4.1nm,0.2s						
TNSS	Tian-Shan	2.49	66	eP	Pg	00 44 03.8	-0.9
	4.2nm,0.3s						
TNSS				eS	Sg	00 44 37.0	+0.1
	1.9nm,0.3s						
TNSS	Tian-Shan	2.49	66	Pg	Pg	00 44 03.8	-0.9
	4.2nm,0.3s						
TNSS				Lg	Lg	00 44 37.0	
	1.9nm,0.3s						
KUU	Kurty	2.58	44	eP	Pb	00 44 04.0	+0.8
	1.4nm,0.3s						
KUU				eS	Sg	00 44 37.4	-2.6
	4.6nm,0.4s						
KUU	Kurty	2.58	44	Pg	Pb	00 44 04.0	+0.8
	1.4nm,0.3s						
KUU				Lg	Lg	00 44 37.4	
	4.6nm,0.4s						
MDOK	Medeo	2.60	64	eP	Pb	00 44 05.3	+1.7
	2.9nm,0.3s						
MDOK				eS	Sg	00 44 39.5	-1.1
	5.5nm,0.5s						
MDOK	Medeo	2.60	64	Pg	Pb	00 44 05.1	+1.4
	1.3nm,0.4s						
MDOK				⇑Lg	Lg	00 44 39.7	
	5.3nm,0.7s						
MDOK	Medeo	2.60	64	Pg	Pb	00 44 05.3	+1.7
	2.9nm,0.3s						
MDOK				Lg	Lg	00 44 39.5	
	5.5nm,0.5s						
KTBS	Karatobe	2.65	51	eP	Pb	00 44 05.7	+1.3
	1.9nm,0.1s						
KTBS				eS	Sg	00 44 40.3	-1.9
	4.4nm,0.3s						
KTBS	Karatobe	2.65	51	Pg	Pb	00 44 05.7	+1.3
	1.9nm,0.1s						
KTBS				Lg	Lg	00 44 40.3	
	4.4nm,0.3s						
KK02	Karatay Array	2.67	294	⇑Pg	Pb	00 44 03.3	-1.4
	1.0nm,0.8s,baz=120,slow=16						
KK02				⇓Lg	Lg	00 44 39.2	
	1.6nm,0.6s,baz=122,slow=28						
KOTS	Kotyrbulak	2.67	63	eP	Pg	00 44 07.2	-1.1
	1.7nm,0.2s						
KOTS				eS	Sg	00 44 42.8	-0.2
	5.0nm,0.2s						
KOTS	Kotyrbulak	2.67	63	Pg	Pg	00 44 07.2	-1.1
	1.7nm,0.2s						
KOTS				Lg	Lg	00 44 42.8	
	5.0nm,0.2s						
IUG	Iuzhnay	2.84	273	eP	Pg	00 44 10.8	-0.6
	36nm,0.4s						
IUG				eS	Sg	00 44 49.0	+0.8
	8.8nm,0.2s						
IUG	Iuzhnay	2.84	273	Pg	Pg	00 44 10.8	-0.6
	36nm,0.4s						
IUG				Lg	Lg	00 44 49.0	
	8.8nm,0.2s						
BRLS	Borolday	3.11	289	eP	Pg	00 44 16.2	-0.5
	0.8nm,0.2s						
BRLS				eS	Sg	00 44 58.1	+1.1
	2.5nm,0.3s						
BRLS	Borolday	3.11	289	Pg	Pg	00 44 16.2	-0.5
	0.8nm,0.2s						
BRLS				Lg	Lg	00 44 58.1	
	2.5nm,0.3s						

TRN 01 00:44:48.6, 10°.48N×62°.51W, h24km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	1.10	81	eP	Pn	00 45 08.5	0.0
TRN				eS	Sb	00 45 22.9	0.0
GRFF	Grenada Fort F	1.73	26	eP	Pn	00 45 16.8	-0.4
GRFF				eS	Sn	00 45 39.0	+0.4
GRGR	Grenville	1.84	27	eP	Pn	00 45 18.5	-0.3
GRGR				eS	Sn	00 45 42.3	+0.9
TOSP	Speyside	2.10	67	eP	Pn	00 45 23.8	+1.5
TOSP	Speyside	2.10	67	e	Pb	00 45 27.4	+1.3
TOSP				eS	Sn	00 45 48.2	+0.5
GCMP	Grenada, Carri	2.26	28	eP	Pn	00 45 23.8	-0.7
GCMP	Grenada, Carri	2.26	28	eP	Pn	00 45 24.9	+0.4
GCMP				eS	Sn	00 45 51.0	-0.5
SVB	Belmont	3.03	24	e	Pn	00 45 35.8	+0.6
SVV	Soufriere Volc	3.09	24	e	Pn	00 45 38.6	+2.6
BAUV	El Baul	5.67	255	eP	Pn	00 46 13.1	+1.7
BAUV	El Baul	5.67	255	eS	Sn	00 47 13.4	-2.3

GUC 01 01:01:18.6±0.7, 30°.85S×71°.39W, h50km±3km, ML3.6, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.28	309	⇑iP	Pn	01 01 27.2	-0.3
CO06				i S	Sn	01 01 33.4	-0.4
CO06				IAML		01 01 34.7	
	comp=E,5μm,0.1s						
CO03	El Pedregal	0.60	90	⇓iP	Pn	01 01 31.2	+0.1
CO03				i S	Sn	01 01 40.1	-0.1
CO03				IAML		01 01 41.0	
	comp=E,5μm,0.3s						
GO04	Tololo Observa	0.84	37	⇓iP	Pn	01 01 34.8	+0.4
GO04				i S	Sn	01 01 47.1	+1.1
GO04				IAML		01 01 48.3	
	comp=N,5μm,0.2s						
LCO	Las Campanas	1.92	18	⇓iP	Pn	01 01 50.1	+0.9
VA03	San Esteban	2.04	160	eP	Pn	01 01 51.7	+1.1
VA03				i S	Sn	01 02 17.3	+2.4
VA03				IAML		01 02 22.5	
	comp=E,650nm,0.1s						
ROCH	El Roble	2.14	172	⇑iP		01 01 52.9	
ROCH				eP	Pn	01 01 52.2	+0.1
ROCH				eS	Sn	01 02 19.6	+2.0
ROCH				eS		01 02 20.1	
ROCH				IAML		01 02 23.9	
	comp=E,251nm,0.3s						
ROCH				IAML		01 02 25.1	
	comp=N,365nm,0.4s						
MT02	Curacav	2.42	175	⇑iP	Pn	01 01 55.9	+0.2
MT02				eS	Sn	01 02 25.6	+1.6
MT02				IAML		01 02 36.8	
	comp=E,167nm,0.2s						
MT05	Renca	2.60	168	eP	Pn	01 01 58.7	+0.5
MT05				eS	Sn	01 02 31.9	+3.3
MT05				IAML		01 02 44.0	
	comp=E,434nm,0.2s						
VA05	Santo Domingo	2.81	184	eP	Pn	01 02 00.4	-0.6
MT09	Talagante	2.94	174	eP	Pn	01 02 03.8	+0.9
MT09				IAML		01 02 53.8	
	comp=N,200nm,0.2s						
GO03	Copiap	3.39	18	eP	Pn	01 02 10.0	+0.9
GO03				IAML		01 03 02.8	
	comp=N,151nm,0.2s						
VCA	Vinchina	3.47	54	eP	Pn	01 02 14.8	+4.5
BO02	Sierra Bellavi	3.97	173	eP	Pn	01 02 17.5	+0.5
GO05	Huala	4.18	186	eP	Pn	01 02 18.4	-1.4
AC02	Maricunga	4.46	27	eP	Pn	01 02 26.2	+2.1

*EAF **01** 01:02:59.4±0.8, 21°.58S×33°.16E, h10km, MD4.2*

BUL 01 01:02:58.1±1.0, 21°.68S×33°.21E, h10km, MD4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIPN	CHIPINGE	1.53	340	i P	Pn	01 03 20.6	-5.0
CHIPN	CHIPINGE	1.53	340	i P	Pn	01 03 20.6	-5.0
MOPA	Mopani	2.48	222	i P	Pn	01 03 40.4	+1.8
MOPA				i Sg	Sg	01 04 18.2	+0.3
MOPA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.55**	**166**	Pn	Pn	01 22 49.5	+1.1
	0.1nm,0.3s,baz=346,slow=10,SNR=1.0						
ASAR	**Alice Springs**	**20.06**	**170**	P	P	01 23 29.6	-0.2
	0.6nm,0.6s,baz=346,slow=9.7,SNR=9.8						
MKAR	**Makanchi Array**	**65.62**	**326**	P	P	01 29 40.8	0.0
	0.3nm,0.3s,baz=116,slow=7.6,SNR=11						

*SOME **01** 01:18:55.7, 39°.00N×78°.85E, h5km*
*NNC **01** 01:18:58.6±0.7, 39°.07N×78°.80E, h16km±4km, mb3.7, mpv3.4, Error ellipse: s-maj=5.7km s-min=4.4km az=70.0*

ISC 01 01:19:01.0±2.8, 39°.2N±0°.1×78°.82E±0°.08, h10km, n33, σ2°39/48, 1C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**3.85**	**355**	*eP*	**Pb**	**01 20 10.6**	**+1.5**
	3.5nm,0.4s						
SATY				*eS*	**Sg**	**01 21 04.3**	**-0.3**
	5.4nm,0.2s						
SATY	**Saty**	**3.85**	**355**	Pg	**Pb**	**01 20 11.4**	**+2.3**
	3.5nm,0.4s						
SATY				Lg	Lg	01 21 05.8	
	5.4nm,0.2s						
ZHN	**Zhinishke**	**3.96**	**356**	*eP*	**Pb**	**01 20 12.5**	**+1.6**
	8.5nm,0.2s						
ZHN				*eS*	**Sg**	**01 21 07.6**	**-0.5**
	7.3nm,0.4s						
ZHN	**Zhinishke**	**3.96**	**356**	Pg	**Pb**	**01 20 13.2**	**+2.3**
	4.8nm,0.1s						
ZHN				Lg	Lg	01 21 09.0	
	7.3nm,0.4s						
SHLS	**Shalkode**	**3.96**	**7**	*eP*	**Pb**	**01 20 13.7**	**+2.6**
	3.0nm,0.2s						
SHLS				*eS*	**Sg**	**01 21 10.1**	**+1.8**
	5.8nm,0.4s						
SHLS	**Shalkode**	**3.96**	**7**	Pg	**Pg**	**01 20 14.4**	**-2.6**
	3.0nm,0.2s						
SHLS				Lg	Lg	01 21 11.1	
	5.8nm,0.4s						
TNSS	**Tian-Shan**	**4.07**	**340**	*eP*	**Pb**	**01 20 15.4**	**+2.4**
	3.0nm,0.3s						
TNSS				*eS*	**Sg**	**01 21 13.0**	**+1.3**
	3.3nm,0.4s						
TNSS	**Tian-Shan**	**4.07**	**340**	Pg	**Pb**	**01 20 15.4**	**+2.4**
	3.0nm,0.3s						
TNSS				Lg	Lg	01 21 13.0	
	3.3nm,0.4s						
MDOK	**Medeo**	**4.16**	**342**	*eP*	**Pb**	**01 20 16.1**	**+1.6**
	3.3nm,0.5s						
MDOK				*eS*	**Sg**	**01 21 14.1**	**-0.6**
	5.4nm,0.3s						
MDOK	**Medeo**	**4.16**	**342**	Pg	**Pb**	**01 20 16.8**	**+2.4**
	3.0nm,0.7s						
MDOK				⇓Lg	Lg	01 21 15.2	
	8.0nm,0.6s						
MDOK	**Medeo**	**4.16**	**342**	Pg	**Pb**	**01 20 16.1**	**+1.6**
	3.3nm,0.5s						
MDOK				Lg	Lg	01 21 14.1	
	5.4nm,0.3s						
KOTS	**Kotyrbulak**	**4.21**	**343**	*eP*	**Pb**	**01 20 17.8**	**+2.5**
	2.3nm,0.3s						
KOTS				*eS*	**Sg**	**01 21 16.9**	**+0.6**
	13nm,0.5s						
KOTS	**Kotyrbulak**	**4.21**	**343**	Pg	**Pb**	**01 20 17.8**	**+2.5**
	2.3nm,0.3s						
KOTS				Lg	Lg	01 21 17.0	
	13nm,0.5s						
KPKS	**Kokpek**	**4.25**	**359**	*eP*	**Pb**	**01 20 18.2**	**+2.4**
	2.7nm,0.3s						
KPKS				*eS*	**Sg**	**01 21 17.6**	**+0.3**
	5.7nm,0.3s						
MTBS	**Maitube**	**4.30**	**336**	*eP*	**Pb**	**01 20 19.0**	**+2.1**
	1.4nm,0.3s						
MTBS				*eS*	**Sg**	**01 21 19.0**	**-0.2**
	4.1nm,0.2s						
MTBS	**Maitube**	**4.30**	**336**	Pg	**Pb**	**01 20 19.0**	**+2.1**
	1.4nm,0.3s						
MTBS				Lg	Lg	01 21 19.0	
	4.1nm,0.2s						
KST	**Kastek**	**4.39**	**331**	*eP*	**Pb**	**01 20 21.1**	**+2.8**
	3.2nm,0.5s						
KST				*eS*	**Sg**	**01 21 22.7**	**+0.8**
	4.8nm,0.5s						
KST	**Kastek**	**4.39**	**331**	Pg	**Pb**	**01 20 21.1**	**+2.8**
	3.2nm,0.5s						
KST				Lg	Lg	01 21 22.7	
	4.8nm,0.5s						
TKM2	**Tokmak 2**	**4.43**	**328**	⇓Pg	**Pb**	**01 20 21.6**	**+2.6**
	1.4nm,1.1s						
TKM2				⇓Lg	Lg	01 21 24.1	
	2.4nm,0.6s						
DGS	**Degeres**	**4.63**	**331**	*eP*	**Pb**	**01 20 25.3**	**+2.9**
	1.3nm,0.3s						
DGS				*eS*	**Sg**	**01 21 29.9**	**+0.2**
	5.9nm,0.4s						
DGS	**Degeres**	**4.63**	**331**	Pg	**Pb**	**01 20 25.3**	**+2.9**
	1.3nm,0.3s						
DGS				Lg	Lg	01 21 29.9	
	5.9nm,0.4s						
AAK	**Ala-Archa**	**4.73**	**318**	⇑Lg	Lg	01 21 32.3	
	7.0nm,0.8s						
KTBS	**Karatobe**	**4.77**	**341**	*eP*	**Pg**	**01 20 28.8**	**-3.6**
	1.1nm,0.6s						
KTBS				*eS*	**Sg**	**01 21 35.7**	**+1.6**
	9.5nm,0.4s						
KTBS	**Karatobe**	**4.77**	**341**	Pg	**Pg**	**01 20 28.8**	**-3.6**
	1.1nm,0.6s						
KTBS				Lg	Lg	01 21 35.7	
	9.5nm,0.4s						
CHKK	**Chushkaly**	**4.83**	**344**	*eP*	**Pb**	**01 20 29.3**	**+3.5**
	2.8nm,0.3s						
CHKK				*eS*	**Sg**	**01 21 36.7**	**+0.6**
	7.8nm,0.4s						
CHKK	**Chushkaly**	**4.83**	**344**	Pg	**Pb**	**01 20 29.3**	**+3.5**
	2.8nm,0.3s						
CHKK				Lg	Lg	01 21 36.7	
	7.8nm,0.4s						
BLB	**Baldybastay**	**4.88**	**357**	*eP*	**Pg**	**01 20 31.1**	**-3.5**
	3.5nm,0.3s						
BLB				*eS*	**Sg**	**01 21 39.6**	**+1.9**
	7.7nm,0.1s						
BLB	**Baldybastay**	**4.88**	**357**	Pg	**Pg**	**01 20 31.1**	**-3.5**
	3.5nm,0.3s						
BLB				Lg	Lg	01 21 39.6	
	7.7nm,0.1s						
ARXS	**Arharly**	**5.04**	**352**	*eP*	**Pg**	**01 20 33.9**	**-3.8**
	1.5nm,0.6s						
ARXS				*eS*	**Sg**	**01 21 44.6**	**+1.6**
	4.3nm,0.4s						
ARXS	**Arharly**	**5.04**	**352**	Pg	**Pg**	**01 20 33.9**	**-3.8**
	1.5nm,0.6s						
ARXS				Lg	Lg	01 21 44.6	
	4.3nm,0.4s						
KRBS	**Karabastau**	**5.06**	**333**	*eP*	**Pb**	**01 20 32.8**	**+3.1**
	0.9nm,0.2s						
KRBS				*eS*	**Sg**	**01 21 42.5**	**-0.9**
	3.1nm,0.5s						
KRBS	**Karabastau**	**5.06**	**333**	Pg	**Pb**	**01 20 32.8**	**+3.1**
	0.9nm,0.2s						
KRBS				Lg	Lg	01 21 42.5	
	3.1nm,0.5s						
MK31	**Makanchi Array**	**7.99**	**17**	Pn	**Pn**	**01 20 57.0**	**-0.2**
	0.2nm,0.2s,baz=202,slow=13,SNR=14						
MK31				⇓Sn	**Sn**	**01 22 28.0**	**+0.5**
	0.3nm,0.4s,baz=200,slow=24,SNR=6.9						

IDC 01 01:22:36.2±3.0, 6°.88S×129°.94E, h169km±29km, mb3.1/2, mb1 3.2/4, mb1mx2.9/28, mbtmp3.6/4, Error ellipse: s-maj=61.7km s-min=19.1km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.67**	**162**	P	Pn	01 25 43.2	-0.2
	0.2nm,0.3s,baz=340,slow=15,SNR=10.0						
WRA				S	Sn	01 28 06.0	-9.3
	0.9nm,0.3s,baz=334,slow=22,SNR=9.7						
ASAR	**Alice Springs**	**17.12**	**168**	P	P	01 26 24.7	+0.1
	0.2nm,0.3s,baz=340,slow=11,SNR=21						
ASAR				S	S	01 29 25.2	-9.4
	0.3nm,0.3s,baz=317,slow=16,SNR=6.9						
STKA	**Stephens Creek**	**27.15**	**158**	P	P	01 28 02.4	-1.3
	0.9nm,0.5s,baz=325,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**68.09**	**327**	P	P	01 33 17.8	+0.1
	0.2nm,0.7s,baz=114,slow=7.0,SNR=2.2						

IDC 01 01:30:45.8±5.7, 50°.65S×139°.27E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.5/18, mbtmp3.9/3, ML4.0/1, MS3.3/6, Ms1 3.3/6, ms1mx3.1/42, Error ellipse: s-maj=209.9km s-min=49.9km az=107.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**18.84**	**6**	P	Pn	01 35 07.4	-0.2
	0.3nm,0.3s,baz=171,slow=11,SNR=6.1						
STKA				LR	LR	01 41 15.8	
	comp=Z,111nm,18.4s,baz=202,slow=33						
H01W1	**Cape Leeuwin H**	**24.08**	**301**	T	T	02 01 00.8	
	baz=137,slow=74,SNR=103						
H01W2	**Cape Leeuwin H**	**24.09**	**301**	T	T	02 01 05.1	
	baz=137,slow=74,SNR=79						
H01W3	**Cape Leeuwin H**	**24.10**	**301**	T	T	02 01 02.1	
	baz=137,slow=74,SNR=95						
ASAR	**Alice Springs**	**27.26**	**349**	P	P	01 36 31.6	-0.1
	0.9nm,0.7s,baz=167,slow=9.8,SNR=16						
ASAR				LR	LR	01 46 28.7	
	comp=Z,22nm,20.7s,baz=212,slow=35						
VNDA	**Vanda**	**28.28**	**170**	LR	LR	01 45 57.7	
	comp=Z,36nm,19.4s,baz=342,slow=32						
URZ	**Urewera**	**29.39**	**80**	LR	LR	01 47 30.8	
	comp=Z,76nm,19.3s,baz=211,slow=34						
WRA	**Warramunga Arr**	**30.89**	**351**	P	P	01 37 03.9	0.0
	1.0nm,0.7s,baz=179,slow=10,SNR=8.4						
FITZ	**Fitzroy Crossi**	**34.26**	**337**	LR	LR	01 50 25.7	
	comp=Z,32nm,21.4s,baz=172,slow=34						
DZM	**Mont Dzumac**	**35.57**	**47**	LR	LR	01 48 09.6	
	comp=Z,112nm,19.7s,baz=226,slow=29						
H08S2	**Diego Garcia H**	**69.47**	**283**	T	T	02 57 44.9	
	baz=141,slow=76,SNR=4.9						
H08S1	**Diego Carcia H**	**69.48**	**283**	T	T	02 57 43.3	
	baz=141,slow=76,SNR=5.3						
H08S3	**Diego Garcia H**	**69.49**	**283**	T	T	02 57 51.1	
	baz=141,slow=76,SNR=5.2						
GERES	**GERESS Array B**	**145.44**	**289**	PKPbc	PKPdf	01 50 24.1	-0.8
	1.1nm,1.0s,baz=117,slow=4.7,SNR=5.8						

*IDC **01** 01:33:27.6±0.9, 63°.81N×126°.37W, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.3/37, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=13.5km s-min=9.8km az=20.0*
*PGC **01** 01:33:28.5±0.0, 63°.85N×126°.42W, h1km, ML3.4/7, 163km Sse of Norman Wells, Nt Nw Territories - Nunavut, Canada*

ISC 01 01:33:26.7±0.7, 63°.92N±0°.04×126°.32W±0°.05, h10km, n26, σ2°86/42, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FARO	**Faro, Yukon**	**3.62**	**245**	Pn	**Pn**	**01 34 23.9**	**+1.1**
FARO				Sg	**Sb**	**01 35 17.6**	**+2.9**
WTLY	**Watson Lake, Y**	**3.99**	**198**	Pn	**Pn**	**01 34 29.8**	**+1.9**
WTLY				Sg	**Sb**	**01 35 30.2**	**+4.9**
NBC2	**NorthernBC 2**	**4.53**	**155**	Pn	**Pn**	**01 34 36.9**	**+1.6**
NBC2				Sn	**Sn**	**01 35 28.3**	**+0.3**
EPYK	**Eagle Plains**	**5.03**	**304**	Pn	**Pn**	**01 34 44.6**	**+2.4**
EPYK				Sn	**Sn**	**01 35 38.8**	**-1.6**
NBC3	**NorthernBC 3**	**5.06**	**145**	Pn	**Pn**	**01 34 44.3**	**+1.7**
WHY	**Whitehorse**	**5.16**	**235**	Pn	**Pn**	**01 34 44.7**	**+0.7**
WHY				Sg	**Sg**	**01 36 07.1**	**-5.1**
FNBB	**Fort Nelson**	**5.29**	**161**	Pn	**Pn**	**01 34 46.1**	**+0.4**
FNBB				Sn	**Sn**	**01 35 46.4**	**-0.2**
INK	**Inuvik**	**5.29**	**330**	Pn	**Pn**	**01 34 48.4**	**+2.7**
	1.0nm,0.3s,baz=142,slow=15,SNR=48						
INK				Sn	**Sn**	**01 35 45.7**	**-0.9**
	2.2nm,0.3s,baz=126,slow=16,SNR=3.6						
INK				Lg	Lg	01 36 15.5	
	4.1nm,0.3s,baz=218,slow=27,SNR=8.2						
INK	**Inuvik**	**5.29**	**330**	Pn	**Pn**	**01 34 48.4**	**+2.7**
INK				Sn	**Sn**	**01 35 45.9**	**-0.7**
YKA	**Yellowknife Ar**	**5.49**	**100**	Pn	**Pn**	**01 34 49.9**	**+1.5**
	0.5nm,0.3s,baz=287,slow=13,SNR=64						
YKA				Lg	Lg	01 36 18.5	
	2.4nm,0.3s,baz=161,slow=28,SNR=6.9						
C36M	**Paulatuk**	**5.53**	**8**	Pn	**Pn**	**01 34 51.9**	**+3.0**
C36M				Sn	**Sn**	**01 35 52.2**	**-0.2**
DAWY	**Dawson**	**5.76**	**277**	Pn	**Pn**	**01 34 53.2**	**+1.0**
DAWY				Sn	**Sn**	**01 35 56.8**	**-1.4**
DLBC	**Dease Lake**	**5.78**	**200**	Pn	**Pn**	**01 34 53.2**	**+0.6**
	1.1nm,0.3s,baz=33,slow=4.5,SNR=14						
DLBC				Lg	Lg	01 36 27.5	
	1.6nm,0.3s,baz=119,slow=26,SNR=5.9						
DLBC	**Dease Lake**	**5.78**	**200**	Pn	**Pn**	**01 34 53.6**	**+1.1**
DLBC				Sg	**Sg**	**01 36 26.0**	**-6.1**
NBC6	**NorthernBC 6**	**5.86**	**154**	Pn	**Pn**	**01 34 54.1**	**+0.5**
NBC6				Sn	**Sn**	**01 35 59.3**	**-1.5**
KUKN	**Kugluktuk,NWT**	**6.04**	**45**	Pn	**Pn**	**01 34 59.6**	**+3.6**
KUKN				Sn	**Sn**	**01 36 05.0**	**-0.1**
NBC5	**NorthernBC 5**	**6.66**	**163**	Pn	**Pn**	**01 35 04.5**	**-0.1**
YUK3	**Moose Creek**	**6.82**	**258**	Pn	**Pn**	**01 35 07.9**	**+1.1**
YUK2	**White River**	**6.98**	**259**	Pn	**Pn**	**01 35 10.2**	**+1.2**
A36M	**Sachs Harbour**	**8.12**	**2**	Pn	**Pn**	**01 35 27.2**	**+2.8**
A36M				Sn	**Sn**	**01 36 53.4**	**-2.7**
ILAR	**Eielson Array**	**8.96**	**285**	Pn	**Pn**	**01 35 37.0**	**+1.1**
	0.3nm,0.3s,baz=86,slow=12,SNR=15						
ILAR				Lg	Lg	01 38 11.9	
	0.1nm,0.3s,baz=91,slow=28,SNR=5.0						
BDMTA	**Bald Mountain**	**9.87**	**154**	Pn	**Pn**	**01 35 48.0**	**-0.6**
RES	**Resolute Bay**	**15.21**	**32**	Pn	**Pn**	**01 37 01.7**	**+0.6**
	0.2nm,0.3s,baz=237,slow=11,SNR=11						
RES				Sn	**Sn**	**01 39 42.9**	**-6.4**
	0.4nm,0.3s,baz=242,slow=15,SNR=6.3						
RES	**Resolute Bay**	**15.21**	**32**	Pn	**Pn**	**01 37 01.7**	**+0.6**
RES				Sn	**Sn**	**01 39 40.3**	**-9.0**
FCC	**Fort Churchill**	**16.17**	**94**	Pn	**Pn**	**01 37 13.0**	**-0.8**
FCC				Sn	Sn	01 39 57.6	-15
ZALV	**Zalesovo Beam**	**60.01**	**339**	P	**P**	**01 43 36.4**	**+3.5**
	0.2nm,0.3s,baz=28,slow=6.5,SNR=2.2						

*BGR **01** 02:00:34.7±0.0, 51°.57S×140°.98E, h10km*
*IDC **01** 02:00:37.6±0.3, 50°.54S×139°.87E, h0km, mb5.4/24, mb1 5.5/25, mb1mx5.3/33, mbtmp5.4/25, ML5.2/1, MS6.1/46, Ms1 6.1/46, ms1mx6.1/47, Error ellipse: s-maj=17.0km s-min=10.7km az=90.0*
*NEIC **01** 02:00:39.9, 50°.57S×139°.39E, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}=0.71; $M_{\theta\theta}$0.39; $M_{\phi\phi}$0.32; $M_{r\theta}$0.50; $M_{\theta\phi}$-3.08; $M_{\phi r}$-0.05; Fault plane solution: $M_0$3.18000×10^{18} NP1:ϕ_s270.02000°, δ87.66000°, λ-170.03000°. NP2:ϕ_s179.61000°, δ80.04000°, λ-2.38000°. Principal axes: T 3.4725, Plg5.0000°, Azm44.0000°; N -0.7020, Plg80.0000°, Azm283.0000°; P -2.7706, Plg9.0000°, Azm135.0000°;*
*MOS **01** 02:00:39.1±1.2, 50°.48S×139°.59E, h12km, mb6.0/33, MS6.1/39 Error ellipse: s-maj=14.7km s-min=6.2km az=90.5*
*NEIC **01** 02:00:40.0±1.8, 50°.56S±0°.07×139°.45E±0°.10, h10km±1km, mb6.1/133, Ms_20 6.3/424, Mwb6.3/37, Mwp6.3, Mww6.3, Error ellipse: s-maj=12.9km s-min=8.5km az=220.0*
*GCMT **01** 02:00:43.0±0.0, 50°.65S×139°.45E, h12km, MW6.3/165, Moment Tensor Solution. s165,c408; s154,c608; Duration: 3s6 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.33±.02; $M_{\theta\theta}$0.48±.02; $M_{\phi\phi}$-0.15±.02; $M_{r\theta}$0.14±.04; $M_{\theta\phi}$-4.07±.01; $M_{\phi r}$-0.21±.04; Best double couple: $M_0$4.08900×10^{18} NP1:ϕ_s88.00000°, δ87.00000°, λ179.00000°. NP2:ϕ_s178.00000°, δ89.00000°, λ3.00000°. Principal axes: T 4.2620, Plg3.0000°, Azm43.0000°; N -0.3450, Plg87.0000°, Azm204.0000°; P -3.9170, Plg1.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 02:00:45.50°.58S×139°.29E, h12km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.06; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-0.10; $M_{r\theta}$0.61; $M_{\theta\phi}$-3.63; $M_{\phi r}$-0.74; Fault plane solution: $M_0$3.76000×10^{18} NP1:ϕ_s88.00000°, δ79.00000°, λ172.00000°. NP2:ϕ_s180.00000°, δ82.00000°, λ11.00000°. Principal axes: T 3.8999, Plg14.0000°, Azm44.0000°; N -0.2918, Plg76.0000°, Azm216.0000°; P -3.6081, Plg2.0000°, Azm314.0000°;*

ISC 01 02:00:40.6±0.4, 50°.62S±0°.04×139°.55E±0°.04, h15km±2km, h15km:pP-P, n1439, σ1°63/1229, mb6.0/161, MS3.6/319, 147C-74D, Fault plane solution: NP1:ϕ_s174.27564°, δ79.74826°, λ-0.26752°. NP2:ϕ_s264.32324°, δ89.73676°, λ-169.74815°. Principal axes: T Plg7.0420°, Azm38.8391°; N Plg79.7448°, Azm265.7784°; P Plg7.4173°, Azm129.7605°; Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**9.37**	**38**	P	**Pn**	**02 02 55.6**	**+0.6**
TAU	**Tasmania Unive**	**9.37**	**38**	⇑P	**Pn**	**02 02 54.2**	**-0.8**
TAU	**Tasmania Unive**	**9.37**	**38**	Pn	**Pn**	**02 02 55.6**	**+0.6**
TAU	**Tasmania Unive**	**9.37**	**38**	P	**Pn**	**02 02 56.8**	**+1.8**
MOO	**Moorlands**	**9.72**	**36**	P	**Pn**	**02 03 01.9**	**+2.1**
CORO	**Coronation Par**	**10.58**	**33**	P	**Pn**	**02 03 12.4**	**+1.0**
GLAD	**Gladstone**	**11.29**	**35**	P	**Pn**	**02 03 22.3**	**+1.0**
MCQ	**Macquarie Isla**	**12.42**	**116**	P	**Pn**	**02 03 38.1**	**+1.5**
MCQ	**Macquarie Isla**	**12.42**	**116**		**Pn**	**02 03 38.1**	**+1.5**
MCQ	**Macquarie Isla**	**12.42**	**116**	P	P	02 03 43.3	-5.2
GEXS	**Deakin Univers**	**12.87**	**17**	P	**Pn**	**02 03 43.4**	**+0.6**
MLBS	**Spotswood, Mel**	**13.35**	**19**	P	**Pn**	**02 03 50.2**	**+0.9**
	101nm,0.5s						
BRAT	**Ballarat**	**13.44**	**15**	P	**Pn**	**02 03 51.8**	**+1.2**
	84nm,0.9s						
TOO	**Toolangi**	**13.72**	**20**	P	**Pn**	**02 03 52.8**	**-1.7**
TOO	**Toolangi**	**13.72**	**20**	⇑P	**Pn**	**02 03 53.6**	**-0.9**
TOO	**Toolangi**	**13.72**	**20**	Pn	**Pn**	**02 03 52.8**	**-1.7**
TOO	**Toolangi**	**13.72**	**20**	P	**Pn**	**02 03 54.5**	**0.0**
ARPS	**Mount Arapiles**	**13.95**	**8**	P	**Pn**	**02 03 58.3**	**+0.8**
MILA	**Mila**	**15.21**	**31**	⇑P	**Pn**	**02 04 14.4**	**-0.3**
TWOA	**Tennyson Woods**	**15.60**	**357**	P	**Pn**	**02 04 18.6**	**-1.1**
	335nm,1.4s						
GHSS	**Government Hou**	**15.71**	**357**	P	**Pn**	**02 04 20.8**	**-0.4**
	330nm,1.3s						
CAN	**Canberra**	**16.76**	**28**	P	**Pn**	**02 04 34.0**	**-0.7**
CAN				pmax	pmax		
	comp=Z,1μm,1.9s						
CAN	**Canberra**	**16.76**	**28**	⇑P	**Pn**	**02 04 34.1**	**-0.5**
CAN	**Canberra**	**16.76**	**28**		**Pn**	**02 04 34.0**	**-0.7**
CAN	**Canberra**	**16.76**	**28**	P	**Pn**	**02 04 35.0**	**+0.3**
CNB	**Canberra Magne**	**16.88**	**29**	P	**Pn**	**02 04 36.6**	**+0.4**
HTT	**Hallett**	**17.18**	**358**	⇑P	**Pn**	**02 04 37.0**	**-3.1**
HTT	**Hallett**	**17.18**	**358**	P	**Pn**	**02 04 39.2**	**-0.8**
NAPP	**Napperby**	**17.46**	**356**	P	**P**	**02 04 44.0**	**-0.5**
	comp=Z,358nm,1.5s						
PTPS	**Port Pirie**	**17.47**	**356**	P	**P**	**02 04 44.2**	**-0.5**
WHYH	**Whyalla**	**17.64**	**355**	P	**Pn**	**02 04 43.8**	**-1.8**
BBOO	**Buckleboo**	**17.98**	**350**	Pn	**Pn**	**02 04 46.3**	**-3.6**
BBOO				IAmb	IAmb	02 04 54.5	
	comp=Z,4μm,2.0s						
BBOO	**Buckleboo**	**17.98**	**350**	P	**Pn**	**02 04 48.3**	**-1.6**
PYZ	**Puysegur Point**	**18.51**	**87**	P	**Pn**	**02 04 56.5**	**+0.3**
PYZ				IAmb	IAmb	02 05 06.6	
	comp=Z,3μm,1.8s						
SYDH	**Sydney Hard Ro**	**18.74**	**30**	P	**Pn**	**02 04 59.7**	**+0.6**
	comp=Z,100nm,1.7s						
STKA	**Stephens Creek**	**18.79**	**5**	P	**P**	**02 04 57.5**	**-1.8**
	comp=Z,4.5nm,0.3s,baz=160,slow=11,SNR=107						
STKA				LR	LR	02 11 10.8	
	comp=Z,90μm,19.6s,baz=181,slow=34						
STKA	**Stephens Creek**	**18.79**	**5**	P	**P**	**02 04 57.6**	**-1.6**
STKA				pmax	pmax		
	comp=Z,46nm,1.0s						
STKA	**Stephens Creek**	**18.79**	**5**	P	**P**	**02 04 57.6**	**-1.6**
STKA	**Stephens Creek**	**18.79**	**5**	P	**P**	**02 04 58.9**	**-0.3**
RIV	**Riverview**	**18.82**	**31**	P	**Pn**	**02 05 00.6**	**+0.6**
RIV				pmax	pmax		
	comp=Z,601nm,2.1s						
RIV	**Riverview**	**18.82**	**31**	⇑P	**Pn**	**02 05 00.1**	**+0.1**
DCZ	**Deep Cove**	**19.11**	**85**	P	**Pn**	**02 05 04.1**	**+0.6**
MGCD	**Mangrove Creek**	**19.37**	**30**	P	**Pn**	**02 05 07.3**	**+0.6**
CMSA	**Cobar Meteorol**	**19.61**	**16**	P	**P**	**02 05 08.5**	**+0.3**
NTLS	**Newcastle Soft**	**19.84**	**32**	P	**Pn**	**02 05 12.2**	**0.0**
NTLH	**Newcastle Hard**	**19.85**	**31**	P	**Pn**	**02 05 12.4**	**0.0**
LCRK	**Leigh Creek**	**20.18**	**357**	P	**P**	**02 05 14.9**	**+0.5**
WKZ	**Wanaka**	**20.57**	**85**	IAMs_20	IAMs_20	02 10 49.6	
	comp=Z,110μm,20.0s						
MULG	**Mulgathing**	**20.73**	**346**	P	**P**	**02 05 20.5**	**+0.1**
ODZ	**Otahua Downs**	**21.51**	**87**	⇑P	**P**	**02 05 29.2**	**+0.6**
ODZ	**Otahua Downs**	**21.51**	**87**	IAMs_20	IAMs_20	02 11 41.4	
	comp=Z,100μm,21.0s						
CASY	**Casey**	**21.51**	**212**	⇑P	**P**	**02 05 27.7**	**-0.9**
CASY	**Casey**	**21.51**	**212**	P	**P**	**02 05 27.5**	**-1.0**
CASY				IAmb	IAmb	02 05 36.2	
	comp=Z,1μm,1.1s						
LBZ	**Lake Benmore**	**21.51**	**85**	IAMs_20	IAMs_20	02 11 40.5	
	comp=Z,133μm,19.0s						
FORT	**Forrest**	**21.60**	**332**	⇑P	**P**	**02 05 28.9**	**-0.9**
FORT	**Forrest**	**21.60**	**332**	P	**P**	**02 05 27.9**	**-1.8**
FORT				IAmb	IAmb	02 05 32.6	
	comp=Z,2μm,1.4s						
FORT	**Forrest**	**21.60**	**332**	P	**P**	**02 05 29.5**	**-0.3**
ARMA	**Armidale**	**22.12**	**29**	⇑P	**P**	**02 05 36.0**	**+0.6**
ARMA	**Armidale**	**22.12**	**29**	P	**P**	**02 05 35.0**	**-0.4**
ARMA	**Armidale**	**22.12**	**29**	P	**P**	**02 05 36.7**	**+1.3**
RPZ	**Rata Peaks**	**22.38**	**84**	P	**P**	**02 05 37.9**	**-0.3**
RPZ				IAmb	IAmb	02 05 47.7	
	comp=Z,921nm,1.4s						
RPZ				IAMs_20	IAMs_20	02 12 17.6	
	comp=Z,131μm,19.0s						
INKA	**Innaminka**	**22.87**	**3**	P	**P**	**02 05 43.7**	**+0.4**
OOD	**Oodnadatta**	**22.98**	**351**	P	**P**	**02 05 43.7**	**-0.8**
OXZ	**Oxford**	**23.20**	**84**	IAMs_20	IAMs_20	02 12 42.3	
	comp=Z,89μm,20.0s						
MQZ	**McQueen's Vall**	**23.40**	**86**	IA

comp=Z,46nm,1.2s
MEEK Meekatharra 28.80 318 P **P 02 06 38.1 +0.2**
OUZ Omahuta 28.99 71 IAMs_20 IAMs_20 02 15 11.0
comp=Z,78µm,20.0s
SBA Scott Base 29.15 169 P **P 02 06 41.6 +1.2**
SBA pmax pmax
comp=Z,337nm,1.3s
SBA Scott Base 29.15 169 P **P 02 06 41.6 +1.2**
SBA IAmb IAmb 02 07 12.5
comp=Z,337nm,1.2s
SBA Scott Base 29.15 169 IAMs_20 IAMs_20 02 16 02.1
comp=Z,71µm,21.0s
URZ Urewera 29.21 80 P **P 02 06 38.8 -2.5**
comp=Z,84nm,0.9s,baz=121,slow=24,SNR=9.2
URZ LR LR 02 17 23.1
comp=Z,59µm,18.8s,baz=211,slow=35
URZ Urewera 29.21 80 ⇑P **P 02 06 40.0 -1.4**
URZ Urewera 29.21 80 IAMs_20 IAMs_20 02 17 01.9
comp=Z,60µm,19.0s
QIS Mount Isa 30.00 0 P **P 02 06 48.6 +0.1**
WR0 Warramunga Arr 30.85 351 IAmb IAmb 02 07 36.5
comp=Z,379nm,1.6s
WB2 Warramunga Arr 30.89 350 P **P 02 06 53.9 -2.5**
WRA Warramunga Arr 30.89 350 P **P 02 06 54.8 -1.6**
comp=Z,59nm,0.8s,baz=174,slow=7.9,SNR=199
WRA LR LR 02 19 03.2
comp=Z,21µm,19.4s,baz=170,slow=36
WRA Warramunga Arr 30.89 350 P **P 02 06 54.8 -1.6**
WRAB Tennant Creek 30.90 350*c iP* **P 02 06 54.8 -1.7**
WRAB pmax pmax
comp=Z,230nm,1.7s
WRAB MLR MLR
comp=Z,19µm,17.0s
WRAB Tennant Creek 30.90 350 ⇑P **P 02 06 54.8 -1.7**
WRAB Tennant Creek 30.90 350 P **P 02 06 54.0 -2.5**
WRAB Tennant Creek 30.90 350 P **P 02 06 55.5 -1.0**
CTA Charters Tower 30.93 12 P **P 02 06 54.7 -2.0**
comp=Z,39nm,1.0s,baz=192,slow=12,SNR=17
CTA LR LR 02 19 45.9
comp=Z,63µm,18.1s,baz=180,slow=37
CTA Charters Tower 30.93 12 P **P 02 06 56.7 0.0**
CTAO Charters Tower 30.93 12 P **P 02 06 55.5 -1.2**
CTAO pmax pmax
comp=Z,119nm,1.2s
CTAO MLR MLR
comp=Z,85µm,19.0s
CTAO Charters Tower 30.93 12 ⇑P **P 02 06 56.5 -0.2**
CTAO Charters Tower 30.93 12 P **P 02 06 55.5 -1.2**
CTAO Charters Tower 30.93 12 IAMs_20 IAMs_20 02 19 42.4
comp=Z,85µm,19.0s
CTAO Charters Tower 30.93 12 P **P 02 06 56.5 -0.2**
MTSU Mount Surprise 32.63 8 P **P 02 07 12.1 +0.3**
PSA00 Pilbara Seismi 32.86 325 P **P 02 07 12.2 -1.5**
PSA00 IAmb IAmb 02 07 15.9
comp=Z,580nm,1.9s
PSA00 Pilbara Seismi 32.86 325 P **P 02 07 12.8 -0.9**
MBWA Marble Bar 33.28 325 ⇑P **P 02 07 15.6 -1.7**
MBWA Marble Bar 33.28 325 IAMs_20 IAMs_20 02 18 50.1
comp=Z,54µm,20.0s
MBWA Marble Bar 33.28 325 P **P 02 07 16.5 -0.9**
GIRL Giralia 34.20 315 ⇑p **P 02 07 27.3 +2.0**
GIRL Giralia 34.20 315 P **P 02 07 25.0 -0.4**
GIRL Giralia 34.20 315 P **P 02 07 25.5 +0.1**
FITZ Fitzroy Crossi 34.30 336 P **P 02 07 24.9 -1.3**
comp=Z,45nm,0.8s,baz=179,slow=9.1,SNR=50
FITZ LR LR 02 20 32.5
comp=Z,23µm,21.2s,baz=167,slow=35
OUENC Ouen Island, N 35.30 47 P **P 02 07 34.9 +0.1**
OUENC IAmb IAmb 02 07 37.3
comp=Z,474nm,1.5s
OUENC Ouen Island, N 35.30 47 P **P 02 07 36.2 +1.3**
NOUC Port Laguerre 35.33 46 P **P 02 07 35.9 +0.8**
DZM Mont Dzumac 35.42 46 P **P 02 07 33.1 -2.9**
comp=Z,77nm,1.0s,baz=226,slow=7.0,SNR=23
DZM LR LR 02 19 13.4
comp=Z,54µm,20.4s,baz=187,slow=32
DZM Mont Dzumac 35.42 46*eP* **P 02 07 36.1 +0.1**
comp=Z,297nm,1.4s
DZM *e*S **S 02 13 07.5 -2.7**
comp=Z,20µm,26.0s
DZM *e*LR LR 02 16 55.4
comp=Z,154µm,26.4s,baz=212
DZM Mont Dzumac 35.42 46 ⇑P **P 02 07 36.2 +0.3**
DZM Mont Dzumac 35.42 46 P **P 02 07 35.6 -0.4**
DZM Mont Dzumac 35.42 46 P **P 02 07 36.7 +0.7**
YATNC Mamie plateau, 35.64 47 P **P 02 07 39.2 +1.5**
KOUNC Koumac, New Ca 35.79 42 ⇑P **P 02 07 39.2 +0.2**
KOUNC Koumac, New Ca 35.79 42 P **P 02 07 39.9 +0.9**
KNRA Kununurra 35.93 342 P **P 02 07 38.2 -2.0**
KNRA Kununurra 35.93 342 P **P 02 07 39.4 -0.8**
COEN Coen 36.68 6 ⇑P **P 02 07 46.2 -0.6**
COEN Coen 36.68 6 P **P 02 07 46.0 -0.7**
COEN Coen 36.68 6 P **P 02 07 46.9 +0.2**
LIFNC LIFOU 36.90 46 P **P 02 07 48.3 -0.3**
LIFNC IAmb IAmb 02 07 50.2
comp=Z,244nm,1.0s
LIFNC IAMs_20 IAMs_20 02 20 55.0
comp=Z,38µm,18.0s
LIFNC LIFOU 36.90 46 P **P 02 07 49.3 +0.7**
KDU Kakadu 38.27 349 ⇑P **P 02 07 59.1 -1.1**
KDU ⇑S **S 02 13 58.2 +4.8**
KDU Kakadu 38.27 349 P **P 02 07 59.7 -0.4**
RAO Raoul Island 38.28 72 LR LR 02 21 48.9
comp=Z,35µm,18.8s,baz=210,slow=33
RAO Raoul Island 38.28 72 IAMs_20 IAMs_20 02 21 39.0
comp=Z,36µm,18.0s
MTN Manton Dam 38.30 347 ⇑P **P 02 07 59.2 -1.1**
MTN ⇑S **S 02 13 58.6 +4.7**
MTN Manton Dam 38.30 347 P **P 02 07 59.3 -1.1**
MTN IAmb IAmb 02 08 03.4
comp=Z,523nm,1.6s
MTN Manton Dam 38.30 347 P **P 02 08 00.0 -0.4**
DRS Darwin Rock St 38.73 346 P **P 02 08 04.0 0.0**
QSPA South Pole Qui 39.49 180 P **P 02 08 09.5 -0.7**
baz=338,slow=3.3
QSPA LR LR 02 24 38.1
comp=Z,68µm,18.3s,baz=2.0,slow=36
QSPA South Pole Qui 39.49 180 IAmb IAmb 02 08 37.1
comp=Z,864nm,1.6s
MAW Mawson 39.80 216 P **P 02 08 12.5 +0.1**
comp=Z,71nm,1.0s,baz=105,slow=9.7,SNR=26
MAW LR LR 02 22 08.2
comp=Z,137µm,21.8s,baz=92,slow=32
MAW Mawson 39.80 216 P **P 02 08 12.1 -0.3**
PMG Port Moresby 41.57 11 P **P 02 08 26.1 -1.5**
comp=Z,125nm,1.0s,baz=169,slow=4.3,SNR=34
PMG LR LR 02 26 07.8
comp=Z,48µm,18.3s,baz=186,slow=37
PMG Port Moresby 41.57 11 P **P 02 08 27.4 -0.1**
PMG pmax pmax
comp=Z,323nm,1.2s
PMG MLR MLR
comp=Z,63µm,18.0s
PMG Port Moresby 41.57 11 ⇑P **P 02 08 28.1 +0.6**
PMG Port Moresby 41.57 11 P **P 02 08 27.4 -0.1**
PMG Port Moresby 41.57 11 P **P 02 08 28.6 +1.0**
SANVU Saraoutou 41.57 42 ⇑P **P 02 08 27.6 0.0**
SANVU Saraoutou 41.57 42 P **P 02 08 27.4 -0.2**
SANVU IAmb IAmb 02 08 29.3
comp=Z,321nm,1.0s
SANVU IAMs_20 IAMs_20 02 22 05.5
comp=Z,35µm,21.0s
SANVU Saraoutou 41.57 42 P **P 02 08 28.5 +0.9**
BATI Baumata 42.37 336 P **P 02 08 33.4 -0.8**
comp=Z,197nm,1.0s,baz=196,slow=1.3,SNR=31
BATI LR LR 02 25 22.3
comp=Z,45µm,21.2s,baz=192,slow=35
SOEI Soe 42.65 337 ⇑P **P 02 08 36.6 0.0**
SOEI Soe 42.65 337 P **P 02 08 35.4 -1.2**
SOEI IAmb IAmb 02 08 47.1
comp=Z,378nm,1.2s
SOEI Soe 42.65 337 P **P 02 08 37.2 +0.6**
SAUI Saumlaki 43.05 348 P **P 02 08 38.9 -0.8**
SAUI IAMs_20 IAMs_20 02 25 28.0
comp=Z,36µm,20.0s
SAUI Saumlaki 43.05 348 P **P 02 08 39.9 +0.2**
MMRI Maumere 44.25 335 ⇑P **P 02 08 48.6 -0.7**
MMRI Maumere 44.25 335 IAmb IAmb 02 09 01.1
comp=Z,516nm,1.3s
MMRI Maumere 44.25 335 P **P 02 08 49.4 +0.1**
HNR Honiara 44.39 29 LR LR 02 26 18.3
comp=Z,10µm,18.6s,baz=192,slow=35
MSVF Nonsavu 44.89 57 LR LR 02 24 33.0
comp=Z,57µm,18.8s,baz=222,slow=32
MSVF Nonsavu 44.89 57⇓*eP* **P 02 08 50.7 -3.8**
MSVF pmax pmax
comp=Z,277nm,2.4s
AIS Amsterdam Isla 44.97 262 IAMs_20 IAMs_20 02 22 50.2
comp=Z,37µm,22.0s
BNDI Bandanaira 46.65 347 P **P 02 09 08.5 +0.2**
DGTI Dogotuki 46.97 58 P **P 02 09 13.3 +2.4**
JAGI Jajag, Banyuwa 47.00 325 ⇑P **P 02 09 10.7 -0.4**
JAGI Jajag, Banyuwa 47.00 325 P **P 02 09 09.8 -1.3**
JAGI IAmb IAmb 02 09 15.2
comp=Z,467nm,1.8s
JAGI Jajag, Banyuwa 47.00 325 P **P 02 09 11.2 +0.1**
SYO Syowa Base 47.20 209 ⇑*iP* **P 02 09 11.6 -0.4**
SYO Syowa Base 47.20 209 ⇑*ep*P pP 02 09 14.4 -1.6
SYO Syowa Base 47.20 209 ⇑*iP*cP **PcP 02 10 42.6 -0.5**
RABL Rabaul 47.47 17 P **P 02 09 14.2 -0.6**
RABL IAmb IAmb 02 09 15.7
comp=Z,297nm,1.4s
RABL Rabaul 47.47 17 P **P 02 09 15.5 +0.7**
comp=Z,149nm,1.9s
GENI Genyem 47.86 1 P **P 02 09 18.1 +0.4**
FAKI Fak Fak 47.93 350 ⇑P **P 02 09 18.1 -0.2**
FAKI Fak Fak 47.93 350 P **P 02 09 17.1 -1.2**
FAKI Fak Fak 47.93 350 P **P 02 09 18.9 +0.6**
JAY Jayapura 47.95 2 P **P 02 09 16.7 -1.7**
comp=Z,32nm,0.9s,baz=190,slow=16,SNR=6.9
JAY LR LR 02 29 17.8
comp=Z,30µm,21.7s,baz=152,slow=36
KAPI Kappang 48.39 333 P **P 02 09 21.8 -0.1**
comp=Z,86nm,0.9s,baz=198,slow=5.1,SNR=61
KAPI LR LR 02 28 59.8
comp=Z,17µm,20.6s,baz=194,slow=35
KAPI Kappang 48.39 333 P **P 02 09 21.7 -0.1**
XMIS Christmas Isla 48.75 313 P **P 02 09 24.0 -0.6**
XMIS IAmb IAmb 02 09 35.9
comp=Z,348nm,1.8s
XMIS Christmas Isla 48.75 313 P **P 02 09 24.9 +0.2**
XMI Christmas Isla 48.76 313 P **P 02 09 25.2 +0.5**
UGM Wanagama 48.92 320 P **P 02 09 25.7 -0.3**
UGM IAMs_20 IAMs_20 02 28 22.9
comp=Z,40µm,20.0s
UGM Wanagama 48.92 320 P **P 02 09 26.3 +0.4**
SMRI Semarang 49.73 321 P **P 02 09 32.1 -0.1**
SMRI IAMs_20 IAMs_20 02 27 36.5
comp=Z,42µm,22.0s
SMRI Semarang 49.73 321 P **P 02 09 32.4 +0.2**
SANI Sanana 49.74 342 P **P 02 09 31.3 -0.9**
SIJI Sorong 50.07 349 P **P 02 09 34.2 -0.5**
comp=Z,56nm,1.0s,baz=170,slow=6.0,SNR=20
LEM Lembang 51.11 318 P **P 02 09 43.4 +0.6**
comp=Z,185nm,1.1s,baz=166,slow=8.3,SNR=29
LEM LR LR 02 29 42.6
comp=Z,16µm,21.1s,baz=142,slow=34
LUWI Luwuk 51.41 338 ⇑P **P 02 09 44.7 -0.1**
LUWI Luwuk 51.41 338 P **P 02 09 45.0 +0.2**
TNTI Ternate 52.25 345 IAmb IAmb 02 10 22.9
comp=Z,309nm,1.7s
TNTI Ternate 52.25 345 P **P 02 09 50.9 -0.1**
BKB Balikpapan 52.80 331 IAMs_20 IAMs_20 02 29 32.9
comp=Z,28µm,21.0s
AFI Afiamalu 53.66 65 LR LR 02 28 17.4
comp=Z,24µm,21.3s,baz=200,slow=31
TOLI2 Tolitoli 53.97 337 P **P 02 10 01.5 -2.2**
TOLI2 IAMs_20 IAMs_20 02 32 48.2
comp=Z,25µm,20.0s
TOLI2 Tolitoli 53.97 337 P **P 02 10 03.1 -0.6**
TROLL Troll, Antarti 53.99 195 P **P 02 10 03.1 -0.3**
CRZF Crozet Islands 54.93 238 IAMs_20 IAMs_20 02 27 48.8
comp=Z,32µm,21.0s
SNAA Sanae 55.14 194 P **P 02 10 11.3 -0.3**
SNAA Sanae 55.14 194 LR LR 02 32 48.6
comp=Z,46µm,21.0s,baz=153,slow=35
SNAA Sanae 55.14 194*d iP* **P 02 10 10.8 -0.9**
SNAA pmax pmax
comp=Z,337nm,1.7s
SNAA MLR MLR
comp=Z,40µm,16.0s
SNAA Sanae 55.14 194 ⇓P **P 02 10 10.9 -0.7**
SNAA Sanae 55.14 194 P **P 02 10 11.0 -0.7**
SNAA IAmb IAmb 02 10 17.2
comp=Z,252nm,1.2s
RAR Rarotonga 55.36 81 LR LR 02 31 35.7
comp=Z,9µm,18.0s,baz=220,slow=34
RAR Rarotonga 55.36 81 P **P 02 10 15.2 +1.4**
RAR pmax pmax
comp=Z,194nm,1.4s
RAR Rarotonga 55.36 81 P **P 02 10 15.2 +1.4**
RAR IAmb IAmb 02 10 20.8
comp=Z,194nm,1.4s
PMBI Palembang 55.83 316 P **P 02 10 17.3 +0.1**
PMBI IAMs_20 IAMs_20 02 30 25.5
comp=Z,25µm,22.0s
VNA2 Neumayer--Watz 56.46 192 P **P 02 10 20.5 -0.6**
baz=154,slow=7.0
VNA3 Neumayer Olymp 56.47 191 P **P 02 10 20.3 -0.8**
VNA1 Neumayer--Stat 56.83 192 P **P 02 10 23.3 -0.4**
KSM Kuching 57.59 325 IAmb IAmb 02 10 33.4
comp=Z,358nm,1.6s
KSM IAMs_20 IAMs_20 02 32 58.6
comp=Z,22µm,22.0s
KSM Kuching 57.59 325 P **P 02 10 30.0 +0.3**
KSM Kuching 57.59 325 P **P 02 10 30.0 +0.3**
SBUM Sibu 57.82 327 ⇓P **P 02 10 31.6 +0.3**
SBUM Sibu 57.82 327 P **P 02 10 30.7 -0.6**
SBUM Sibu 57.82 327 P **P 02 10 31.0 -0.3**
MYLDM Lahad Datu 58.47 335 ⇑p **P 02 10 39.2 +3.3**
MYLDM Lahad Datu 58.47 335 IAMs_20 IAMs_20 02 35 41.1
comp=Z,23µm,22.0s
DAV Davao City (W) 58.72 344 P **P 02 10 36.9 -0.6**
comp=Z,111nm,0.3s,baz=187,slow=0.5,SNR=9.5
DAV LR LR 02 36 27.3
comp=Z,6µm,20.6s,baz=127,slow=37
DAV Davao City (W) 58.72 344 P **P 02 10 37.1 -0.4**
SMAI San Martin Ant 59.91 169 P **P 02 10 45.4 +0.3**
SMAI IAmb IAmb 02 10 48.4
comp=Z,149nm,1.2s
KKM Kota Kinabalu 59.93 333 IAmb IAmb 02 10 48.2
comp=Z,230nm,1.7s
KKM IAMs_20 IAMs_20 02 36 36.8
comp=Z,21µm,22.0s
TBI Tubuai 60.36 91 *e*S **S 02 19 03.9 +0.8**
comp=Z,5µm,26.5s
TBI *e*LQ LQ 02 26 06.5
comp=Z,43µm,29.5s
TBI *e*LR LR 02 28 19.2
comp=Z,16µm,31.2s,baz=216
BKNI Bangkinang 60.39 314 IAmb IAmb 02 11 17.2
comp=Z,254nm,1.7s
MYKOM Kota Tinggi 60.45 318 P **P 02 10 50.4 +0.8**
MYKOM IAmb IAmb 02 10 53.4
comp=Z,392nm,1.9s
MYKOM IAMs_20 IAMs_20 02 35 15.4
comp=Z,22µm,21.0s
GSI Gunungsitoli 62.87 311 ⇑P **P 02 11 06.8 +0.9**
GSI Gunungsitoli 62.87 311 P **P 02 11 06.2 +0.3**
GSI Gunungsitoli 62.87 311 P **P 02 11 06.7 +0.9**
PMSA Palmer Station 63.49 169 LR LR 02 35 44.3
comp=Z,18µm,18.6s,baz=198,slow=33
PMSA Palmer Station 63.49 169 P **P 02 11 10.6 +1.3**
PMSA IAmb IAmb 02 11 26.6
comp=Z,182nm,1.6s
PSI Prapat 63.55 313 LR LR 02 36 30.1
comp=Z,12µm,20.0s,baz=144,slow=34
IPM Ipoh 64.08 316 P **P 02 11 12.6 -1.3**
IPM Ipoh 64.08 316 P **P 02 11 14.0 +0.1**
IPM Ipoh 64.08 316 P **P 02 11 13.6 -0.3**
GUMO Guam 64.10 6 LR LR 02 37 17.1
comp=Z,12µm,21.9s,baz=190,slow=34
PAE Paea 64.44 87*eP* **P 02 11 18.4 +2.2**
comp=Z,27nm,1.3s
PPT2 Papeete2 64.50 87*eP* **P 02 11 19.0 +2.3**
comp=Z,115nm,1.5s
PPT2 *e*S **S 02 19 55.8 +0.5**
comp=Z,17µm,26.8s
PPT2 *e*LQ LQ 02 27 34.4
comp=Z,79µm,30.8s
PPT2 *e*LR LR 02 30 31.4
comp=Z,21µm,23.0s,baz=221
PPT Papeete 64.51 87 LR LR 02 33 06.7
comp=Z,11µm,21.4s,baz=234,slow=30
TIAR Tiarei 64.67 87*eP* **P 02 11 20.0 +2.2**
KULM Kulim 64.97 316 ⇓P **P 02 11 19.2 -0.5**
KULM Kulim 64.97 316 P **P 02 11 18.6 -1.1**
KULM IAMs_20 IAMs_20 02 34 42.1
comp=Z,17µm,22.0s
KULM Kulim 64.97 316 P **P 02 11 19.0 -0.7**
LHMI Lhok Sumawe 66.60 313 P **P 02 11 29.7 -0.5**
LHMI IAMs_20 IAMs_20 02 37 07.1
comp=Z,21µm,21.0s
VAH Vaihoa 67.49 87*eP* **P 02 11 37.9 +2.0**
comp=Z,218nm,1.4s
PMOR Pomariorio Ree 67.49 86*eP* **P 02 11 38.2 +2.3**
SRIT Nakonsritamara 68.38 317 IAmb IAmb 02 11 44.8
comp=Z,354nm,1.9s
H08S2 Diego Garcia H 69.63 283 T T 03 27 37.9
baz=142,slow=76,SNR=2771
H08S1 Diego Garcia H 69.64 283 T T 03 27 37.9
baz=142,slow=76,SNR=1744
H08S3 Diego Garcia H 69.65 283 T T 03 27 39.4
baz=142,slow=76,SNR=2867
DGAR Diego Garcia 69.84 283⇑*eP* **P 02 11 49.8 -0.8**
DGAR pmax pmax
comp=Z,417nm,1.7s
DGAR Diego Garcia 69.84 283 P **P 02 11 50.9 +0.3**
DGAR Diego Garcia 69.84 283 IAMs_20 IAMs_20 02 34 31.8
comp=Z,22µm,22.0s
USHA Ushuaia 72.34 163 LR LR 02 38 58.6
comp=Z,11µm,18.9s,baz=194,slow=32
GO10 Punta Arenas 73.43 161 IAmb IAmb 02 12 15.6
comp=Z,206nm,1.4s
QIZ Qiongzhong 74.12 331 P **P 02 12 16.3 +0.3**
QIZ S **S 02 21 51.2 +2.8**
QIZ SS **SS 02 26 35.4 +1.2**
QIZ pmax pmax
comp=Z,41nm,1.3s
QIZ pmax pmax
comp=Z,1µm,5.3s
QIZ LR LR
comp=Z,6µm,26.5s
QIZ LR LR
comp=Z,3µm,35.5s
QIZ LR LR
comp=Z,10µm,27.5s
PBA Port Blair 74.19 312 IAMs_20 IAMs_20 02 44 26.1
comp=Z,12µm,18.6s
MG05 Puerto Natales 74.51 160 IAmb IAmb 02 12 24.4
comp=Z,261nm,1.6s
GO09 Cerro Castillo 74.93 160 IAmb IAmb 02 12 26.9
comp=Z,332nm,1.6s
VOI Vohitsoka 75.08 254 ⇓P **P 02 12 24.1 +2.2**
VOI Vohitsoka 75.08 254 P **P 02 12 21.6 -0.4**
VOI IAmb IAmb 02 12 28.2
comp=Z,383nm,2.0s
VOI Vohitsoka 75.08 254 P P 02 12 28.2 +6.3
HOPE Hope Point 75.41 182 P **P 02 12 22.6 -0.6**
HOPE pmax pmax
comp=Z,164nm,1.5s
HOPE MLR MLR
comp=Z,29µm,20.0s
HOPE Hope Point 75.41 182 P **P 02 12 22.6 -0.6**
YULB Yu-li 75.44 343 P **P 02 12 23.6 0.0**
TPUB Ta-pu 75.47 342 P **P 02 12 23.5 -0.3**
SKRH Sakahara 75.64 252 P **P 02 12 22.2 -2.9**
SSLB Suanglung 75.89 342 IAmb IAmb 02 12 32.2
comp=Z,268nm,1.7s
SSLB Suanglung 75.89 342 P **P 02 12 25.3 -0.8**
PALK Pallekele 76.70 299 LR LR 02 40 42.4
comp=Z,17µm,20.1s,baz=260,slow=31
PALK Pallekele 76.70 299 P **P 02 12 29.8 -1.3**
PALK pmax pmax
comp=Z,319nm,1.9s
PALK Pallekele 76.70 299 P **P 02 12 29.8 -1.3**
PALK IAmb IAmb 02 12 38.0
comp=Z,319nm,1.9s
PALK Pallekele 76.70 299 IAMs_20 IAMs_20 02 40 31.3
comp=Z,18µm,20.0s
ABPO Ambohimpanom 76.98 256 P **P 02 12 32.7 -0.2**
ABPO pmax pmax
comp=Z,172nm,1.9s
ABPO Ambohimpanom 76.98 256 P **P 02 12 32.7 -0.2**
ABPO Ambohimpanom 76.98 256 P P 02 12 24.9 -8.0
EFI East Falkland 76.99 169*de*P **P 02 12 31.2 -1.0**
EFI pmax pmax
comp=Z,136nm,1.2s
EFI East Falkland 76.99 169 ⇓P **P 02 12 31.1 -1.1**
EFI East Falkland 76.99 169 P **P 02 12 31.3 -0.9**
EFI East Falkland 76.99 169 IAMs_20 IAMs_20 02 40 19.8
comp=Z,13µm,21.0s
TAOE Nuku Hiva Isla 77.06 88*e*S **S 02 22 21.3 -0.3**
comp=Z,6µm,26.7s
TAOE Nuku Hiva Isla 77.06 88*e*LR LR 02 36 16.4
comp=Z,15µm,23.7s,baz=230
OPO Ambohidratompo 77.34 256 P **P 02 12 35.8 +0.9**
comp=Z,13nm,1.1s,baz=215,slow=2.4,SNR=5.0
OPO LR LR 02 39 01.6
comp=Z,19µm,20.1s,baz=6.5,slow=30
CM31 Chiang Mai Arr 77.50 321 P **P 02 12 35.4 0.0**
CMAR Chiang Mai Arr 77.50 321 P **P 02 12 35.8 +0.4**
comp=Z,75nm,1.3s,baz=173,slow=5.2,SNR=95
CMAR LR LR 02 44 54.4
comp=Z,11µm,21.3s,baz=155,slow=34
CMAR Chiang Mai Arr 77.50 321 P **P 02 12 35.2 -0.2**
JOW Kunigami 77.75 350 LR LR 02 48 25.1
comp=Z,7µm,19.1s,baz=172,slow=37
JOW Kunigami 77.75 350 IAmb IAmb 02 12 40.6
comp=Z,253nm,1.5s
JOW Kunigami 77.75 350 P **P 02 12 37.1 +0.5**
CHTO Chiang Mai 77.82 321 P **P 02 12 36.6 -0.5**
CHTO pmax pmax
comp=Z,160nm,1.1s
CHTO Chiang Mai 77.82 321 ⇑P **P 02 12 37.5 +0.3**
CHTO Chiang Mai 77.82 321 P **P 02 12 36.6 -0.5**
CHTO IAmb IAmb 02 12 44.3
comp=Z,160nm,1.1s
CHTO Chiang Mai 77.82 321 P **P 02 12 37.9 +0.8**
SOE Somerset East 78.68 232*eP* **P 02 12 43.7 +1.7**
SOE IAmb IAmb 02 12 49.7
comp=Z,269nm,1.5s
SBV Sambava 79.50 262 P P 02 12 53.7 +7.1
POGA Pongola 79.71 239*eP* **P 02 12 48.4 +0.7**
POGA IAmb IAmb 02 12 53.8
comp=Z,526nm,2.2s
POGA Pongola 79.71 239 P **P 02 12 48.9 +1.2**
GULI GuiLin 79.87 333 ⇑P **P 02 12 49.8 +1.6**
GULI S **S 02 22 56.8 +6.0**
GULI pmax pmax
comp=Z,70nm,1.6s
GULI LR LR
comp=Z,2µm,28.7s
GULI LR LR
comp=Z,3µm,28.2s
GULI LR LR
comp=Z,6µm,27.1s
CNG Changalane 80.27 240*eP* **P 02 12 53.3 +2.6**
CNG IAmb IAmb 02 12 56.7
comp=Z,284nm,2.5s
COYC Coyhaique 80.34 158 IAmb IAmb 02 12 57.8
comp=Z,231nm,1.5s
COYC Coyhaique 80.34 158 IAMs_20 IAMs_20 02 41 16.9
comp=Z,12µm,20.0s
NWCL Newcastle 80.39 238*eP* **P 02 12 52.5 +1.0**
NWCL IAmb IAmb 02 12 57.4
comp=Z,946nm,2.5s
HVD Gariep Dam 80.41 233*eP* P 02 12 58.4 +6.8
HVD IAmb IAmb 02 13 02.0
comp=Z,815nm,2.4s
JOHN Johnston Islan 80.55 49 IAMs_20 IAMs_20 02 44 06.0
comp=Z,16µm,19.0s
MATJ Matjiesfontein 80.66 228*eP* **P 02 12 55.1 +2.3**
MATJ IAmb IAmb 02 13 07.8
comp=Z,481nm,1.9s
GRAN Grantham 80.68 230*eP* **P 02 12 56.0 +3.0**
GRAN IAmb IAmb 02 13 00.7
comp=Z,36nm,1.0s
MAGG Maguga Dam 80.95 240*eP* **P 02 12 54.5 +0.1**
MAGG IAmb IAmb 02 13 01.7
comp=Z,85nm,1.3s
CER Ceres 81.18 227⇑*iP* **P 02 12 57.4 +1.9**
CER IAmb IAmb 02 13 02.1
comp=Z,235nm,2.3s
SUR Sutherland 81.27 229 LR LR 02 42 02.8
comp=Z,24µm,20.4s,baz=153,slow=30
SUR Sutherland 81.27 229 ⇑P **P 02 12 58.1 +1.9**
SUR Sutherland 81.27 229 P **P 02 12 57.0 +0.7**
SUR IAmb IAmb 02 13 04.6
comp=Z,180nm,1.2s
SUR Sutherland 81.27 229 P **P 02 12 58.0 +1.7**
RPN Rapa Nui 81.66 123 LR LR 02 41 43.8
comp=Z,6µm,20.6s,baz=212,slow=30
CRLN Carolina, Mapu 81.70 239*eP* **P 02 13 01.7 +3.2**
CNSH ChangSha 81.92 336 ⇓P **P 02 12 59.4 +0.3**
CNSH S **S 02 23 12.8 +0.7**

CNSH			pmax	pmax		
	comp=Z,46nm,1.5s					
CNSH			LR	LR		
	comp=Z,3μm,17.7s					
CNSH			LR	LR		
	comp=Z,7μm,22.5s					
CNSH			LR	LR		
	comp=Z,6μm,50.2s					
GYA	**Guiyang**	**82.07 331**	⇓P	**P**	**02 13 00.9**	**+0.8**
GYA			pP	pP	02 13 03.3	-0.9
GYA			PcP	**PcP**	**02 13 06.2**	**+0.6**
GYA			S	**S**	**02 23 17.9**	**+3.9**
GYA			ScS	**ScS**	**02 23 31.7**	**+1.6**
GYA			pmax	pmax		
	comp=Z,47nm,1.8s					
GYA			pmax	pmax		
	comp=Z,2μm,5.4s					
GYA			LR	LR		
	comp=Z,4μm,24.0s					
GYA			LR	LR		
	comp=Z,3μm,20.0s					
GYA			LR	LR		
	comp=Z,9μm,27.2s					
BOSA	**Boshof**	**82.13 234**	P	**P**	**02 13 02.0**	**+1.3**
	comp=Z,54nm,1.2s,baz=140,slow=5.3,SNR=18					
BOSA			LR	LR	02 41 50.4	
	comp=Z,31μm,21.6s,baz=142,slow=30					
BOSA	**Boshof**	**82.13 234**	⇑*i*P	**P**	**02 13 00.2**	**-0.6**
BOSA			IAmb	IAmb	02 13 07.6	
	comp=Z,176nm,1.4s					
BOSA	**Boshof**	**82.13 234**	⇓P	**P**	**02 13 01.6**	**+0.8**
BOSA	**Boshof**	**82.13 234**	P	**P**	**02 13 00.9**	**+0.2**
BOSA			IAmb	IAmb	02 13 08.1	
	comp=Z,195nm,1.5s					
BOSA	**Boshof**	**82.13 234**	P	**P**	**02 13 01.1**	**+0.4**
KMI	**Kunming**	**82.14 327**	⇑P	**P**	**02 13 01.9**	**+1.3**
KMI			pP	pP	02 13 04.9	+0.2
KMI			sP	pwP	02 13 08.4	-0.3
KMI			PP	**PP**	**02 16 15.9**	**+6.7**
KMI			S	**S**	**02 23 20.7**	**+5.8**
KMI			pmax	pmax		
	comp=Z,120nm,1.5s					
KMI			pmax	pmax		
	comp=Z,2μm,3.8s					
KMI			LR	LR		
	comp=Z,8μm,28.4s					
KMI			LR	LR		
	comp=Z,7μm,23.8s					
KMI			LR	LR		
	comp=Z,13μm,29.3s					
PRYS	**Parys**	**82.39 237**	*e*P	**P**	**02 13 03.2**	**+1.1**
PRYS			IAmb	IAmb	02 13 07.9	
	comp=Z,378nm,2.3s					
CVNA	**Calvinia**	**82.52 228**	⇑*i*P	**P**	**02 13 05.2**	**+2.5**
CVNA			IAmb	IAmb	02 13 09.5	
	comp=Z,1μm,2.6s					
MSEY	**Mahe Island**	**82.65 272**	P	**P**	**02 13 04.1**	**+0.6**
MSEY			pmax	pmax		
	comp=Z,363nm,2.0s					
MSEY	**Mahe Island**	**82.65 272**	P	**P**	**02 13 04.1**	**+0.6**
MSEY			IAmb	IAmb	02 13 10.6	
	comp=Z,363nm,2.0s					
WDLM	**Western Deep L**	**82.76 237**	*e*P	**P**	**02 13 05.0**	**+0.9**
WDLM			IAmb	IAmb	02 13 10.2	
	comp=Z,849nm,2.5s					
SLR	**Silverton**	**82.85 238**	*e*P	**P**	**02 13 05.9**	**+1.4**
SLR			IAmb	IAmb	02 13 10.5	
	comp=Z,455nm,2.3s					
MOPA	**Mopani**	**82.89 242**	*e*P	**P**	**02 13 05.7**	**+1.1**
MOPA			IAmb	IAmb	02 13 11.3	
	comp=Z,39nm,2.4s					
HRAO	**HartRAO**	**83.04 237**	*e*P	**P**	**02 13 05.8**	**+0.2**
HRAO			IAmb	IAmb	02 13 11.6	
	comp=Z,1μm,2.3s					
LESE	**Lesego, Limpop**	**83.10 240**	P	**P**	**02 13 04.9**	**-0.9**
SWZ	**Schweizer**	**83.25 235**	*e*P	**P**	**02 13 08.7**	**+2.1**
SWZ			IAmb	IAmb	02 13 12.8	
	comp=Z,128nm,1.4s					
JHJ	**Hachijo jima 2**	**83.38 0**	LR	LR	02 47 02.6	
	comp=Z,11μm,21.9s,baz=186,slow=33					
KSR	**Koster**	**83.50 237**	*e*P	**P**	**02 13 11.2**	**+3.3**
KSR			IAmb	IAmb	02 13 14.9	
	comp=Z,63nm,1.2s					
JNU	**Nakatsue**	**83.73 353**	P	**P**	**02 13 07.8**	**-0.7**
	comp=Z,14nm,0.9s,baz=315,slow=1.4,SNR=2.8					
JNU			LR	LR	02 53 36.3	
	comp=Z,3μm,18.1s,baz=176,slow=38					
JNU	**Nakatsue**	**83.73 353**	⇓P	**P**	**02 13 07.8**	**-0.7**
JNU	**Nakatsue**	**83.73 353**	P	**P**	**02 13 08.5**	**0.0**
	comp=Z,46nm,1.4s					
PZH	**PanZhiHua**	**83.75 326**	P	**P**	**02 13 08.7**	**-0.2**
PZH			PcP	**sP**	**02 13 14.5**	**+0.1**
PZH			sP	**pwP**	**02 13 17.2**	**+0.3**
PZH			S	**S**	**02 23 30.3**	**-0.8**
PZH			SS	**SS**	**02 28 58.7**	**-0.4**
PZH			pmax	pmax		
	comp=Z,60nm,1.2s					
PZH			pmax	pmax		
	comp=Z,1μm,3.9s					
PZH			LR	LR		
	comp=Z,11μm,25.1s					
PZH			LR	LR		
	comp=Z,6μm,24.0s					
PZH			LR	LR		
	comp=Z,16μm,25.0s					
WHN	**Wuhan**	**83.83 338**	⇑P	**P**	**02 13 08.5**	**-0.5**
WHN			sP	**sP**	**02 13 14.3**	**-0.2**
WHN			S	**S**	**02 23 33.5**	**+2.1**
WHN			pmax	pmax		
	comp=Z,320nm,1.5s					
WHN			pmax	pmax		
	comp=Z,2μm,4.4s					
WHN			LR	LR		
	comp=Z,8μm,16.9s					
WHN			LR	LR		
	comp=Z,3μm,14.6s					
WHN			LR	LR		
	comp=Z,14μm,19.2s					
JMN	**Monobe**	**84.13 355**	⇑P	**P**	**02 13 10.6**	**+0.1**
JMN	**Monobe**	**84.13 355**	IAmb	IAmb	02 13 14.6	
	comp=Z,122nm,1.2s					
ADKI	**Addanki**	**84.19 303**	*e*P	**P**	**02 13 11.2**	**+0.1**
ADKI			*e*pP	**pP**	**02 13 14.1**	**-1.1**
KEIM	**Keimoes**	**84.22 231**	*e*P	**P**	**02 13 13.8**	**+2.3**
KEIM			IAmb	IAmb	02 13 18.1	
	comp=Z,311nm,2.2s					
CHLP	**Challavanipeta**	**84.31 308**	*e*P	**P**	**02 13 11.4**	**-0.3**
NJ2	**Nanjing**	**84.33 342**	⇑P	**P**	**02 13 08.8**	**-2.6**
NJ2			PP	**PP**	**02 16 24.5**	**-2.3**
NJ2			S	**S**	**02 23 32.9**	**-3.4**
NJ2			SS	**SS**	**02 29 07.3**	**+0.2**
NJ2			pmax	pmax		
	comp=Z,82nm,1.1s					
NJ2			pmax	pmax		
	comp=Z,1μm,4.5s					
NJ2			LR	LR		
	comp=Z,5μm,20.4s					
NJ2			LR	LR		
	comp=Z,4μm,20.0s					
NJ2			LR	LR		
	comp=Z,6μm,20.4s					
UPI	**Upington**	**84.36 231**	⇑*i*P	**P**	**02 13 14.2**	**+2.0**
UPI			IAmb	IAmb	02 13 18.6	
	comp=Z,454nm,2.6s					
RCLA	**Racherla**	**84.41 302**	*e*P	**P**	**02 13 11.9**	**-0.4**
LL03	**Petrohue**	**84.43 156**	IAmb	IAmb	02 13 29.4	
	comp=Z,157nm,0.8s					
PVM	**Polavaram**	**84.49 306**	*e*P	**P**	**02 13 12.8**	**+0.2**
MYLAV	**Mylavaram**	**84.59 304**	*e*P	**P**	**02 13 13.2**	**+0.1**
MSNA	**Messina**	**84.59 241**	*e*P	**P**	**02 13 15.4**	**+2.0**
MSNA			IAmb	IAmb	02 13 20.6	
	comp=Z,778nm,2.2s					
ENH	**Enshi**	**84.82 334**	P	**P**	**02 13 13.6**	**-0.5**
ENH			IAmb	IAmb	02 13 17.5	
	comp=Z,165nm,1.4s					
LBTB	**Lobatse**	**84.86 236**	LR	LR	02 45 16.7	
	comp=Z,28μm,18.7s,baz=158,slow=32					
LBTB	**Lobatse**	**84.86 236**	⇑*i*P	**P**	**02 13 16.3**	**+1.5**
LBTB			IAmb	IAmb	02 13 21.0	
	comp=Z,352nm,2.1s					
LBTB	**Lobatse**	**84.86 236**	P	**P**	**02 13 14.9**	**+0.1**
LBTB			pmax	pmax		
	comp=Z,77nm,1.3s					
LBTB	**Lobatse**	**84.86 236**	⇑P	**P**	**02 13 16.4**	**+1.7**
LBTB	**Lobatse**	**84.86 236**	P	**P**	**02 13 14.9**	**+0.1**
LBTB	**Lobatse**	**84.86 236**	P	**P**	**02 13 16.4**	**+1.7**
URV	**Uravakonda**	**84.91 301**	*e*P	**P**	**02 13 14.8**	**0.0**
SRLM	**Srisailam**	**84.97 303**	*e*P	**P**	**02 13 14.7**	**-0.4**
NJS	**Nagarjunasagar**	**85.13 303**	*e*P	**P**	**02 13 15.5**	**-0.4**
PLCA	**Paso Flores**	**85.28 158**	P	**P**	**02 13 16.1**	**-0.5**
	comp=Z,15nm,1.1s,baz=210,slow=5.0,SNR=14					
PLCA			LR	LR	02 43 55.9	
	comp=Z,11μm,21.8s,baz=191,slow=30					
PLCA	**Paso Flores**	**85.28 158**	⇓P	**P**	**02 13 16.1**	**-0.6**
PLCA	**Paso Flores**	**85.28 158**	P	**P**	**02 13 16.2**	**-0.5**
ARMS	**Ukamas**	**85.38 230**	*e*P	**P**	**02 13 19.0**	**+1.7**
ARMS			IAmb	IAmb	02 13 23.6	
	comp=Z,594nm,2.4s					
JHS	**Saijyo**	**85.44 355**	⇓P	**P**	**02 13 17.2**	**+0.2**
JHS	**Saijyo**	**85.44 355**	IAmb	IAmb	02 13 20.7	
	comp=Z,173nm,1.5s					
JWT	**Wachi**	**85.61 357**	⇓P	**P**	**02 13 18.4**	**+0.5**
JWT	**Wachi**	**85.61 357**	IAmb	IAmb	02 13 21.4	
	comp=Z,153nm,1.4s					
INU	**Inuyama**	**85.63 358**	P	**P**	**02 13 18.1**	**+0.1**
INU			IAmb	IAmb	02 13 49.6	
	comp=Z,329nm,1.8s					
INU	**Inuyama**	**85.63 358**	P	**P**	**02 13 18.2**	**+0.3**
SILR	**SILCHAR**	**85.67 318**	*e*P	**P**	**02 13 19.5**	**+1.1**
LR03	**Panguipulli**	**85.86 156**	IAmb	IAmb	02 13 26.9	
	comp=Z,318nm,1.9s					
JGF	**Kuroka**	**85.87 358**	IAmb	IAmb	02 13 26.9	
	comp=Z,213nm,1.8s					
CUPL	**Choutuppal**	**85.95 303**	*e*P	**P**	**02 13 19.6**	**-0.3**
KOHI	**KOHIMA**	**85.96 320**	*e*P	**P**	**02 13 18.3**	**-1.7**
HYB	**Hyderabad**	**86.24 303**	*e*P	**P**	**02 13 22.7**	**+1.2**
HYB			IAmb	IAmb	02 13 27.4	
	comp=Z,493nm,2.6s					
HYBB	**Hyderabad (bro**	**86.24 303**	*e*P	**P**	**02 13 21.4**	**-0.1**
HYBB			IVmB_BB		02 13 23.7	
	comp=Z,631nm,4.3s					
HYBB			*e*PP	**PP**	**02 16 42.1**	**-0.5**
HYBB			*e*SKSac	**SKSac**	**02 23 46.4**	**-0.7**
HYBB			IVMs_BB	IVMs_BB	02 42 59.8	
	comp=Z,2μm,24.2s					
MOKO	**MOKOCHONG**	**86.33 320**	*e*P	**P**	**02 13 20.5**	**-1.3**
JYT	**Yasato**	**86.48 1**	P	**P**	**02 13 21.7**	**-0.4**
LC01	**Cunco**	**86.68 156**	P	**P**	**02 13 22.5**	**-0.9**
LC01			IAmb	IAmb	02 13 29.6	
	comp=Z,210nm,1.8s					
LKP	**Lekhapani**	**86.70 322**	*e*P	**P**	**02 13 22.7**	**-0.8**
LKP			IAMs_20	IAMs_20	02 46 13.8	
	comp=Z,18μm,24.5s					
SHL	**Shillong**	**86.76 318**	*e*P	**P**	**02 13 23.0**	**-1.0**
SHL			IAMs_20	IAMs_20	02 44 01.9	
	comp=Z,18μm,35.4s					
MJAR	**Matsushiro Arr**	**86.80 359**	P	**P**	**02 13 23.0**	**-0.7**
	comp=Z,44nm,1.2s,baz=182,slow=5.7,SNR=29					
MJAR			LR	LR	02 50 49.5	
	comp=Z,7μm,20.8s,baz=171,slow=35					
MJAR	**Matsushiro Arr**	**86.80 359**	P	**P**	**02 13 23.4**	**-0.3**
MJAR			pmax	pmax		
	comp=Z,184nm,1.6s					
MJAR	**Matsushiro Arr**	**86.80 359**	P	**P**	**02 13 23.4**	**-0.3**
MJAR			IAmb	IAmb	02 13 27.8	
	comp=Z,184nm,1.6s					
MAJO	**Matsushiro**	**86.80 359***c*	*i*P	**P**	**02 13 23.7**	**0.0**
MAJO			pmax	pmax		
	comp=Z,192nm,1.7s					
MAJO	**Matsushiro**	**86.80 359**	⇑P	**P**	**02 13 23.7**	**0.0**
MAJO	**Matsushiro**	**86.80 359**	P	**P**	**02 13 23.7**	**0.0**
MAJO			IAmb	IAmb	02 13 27.9	
	comp=Z,241nm,1.6s					
MAJO	**Matsushiro**	**86.80 359**	P	**P**	**02 13 23.5**	**-0.2**
MAT	**Matsushiro**	**86.80 359**	P	**P**	**02 13 23.5**	**-0.2**
MAT			S	**S**	**02 23 56.8**	**-3.7**
MJB9	**Matsu-Tunnel**	**86.80 359**	IAmb	IAmb	02 13 27.9	
	comp=Z,230nm,1.5s					
MATP	**Matopo**	**86.97 241**	LR	LR	02 46 59.5	
	comp=Z,19μm,18.4s,baz=153,slow=32					
ZOMB	**Zomba**	**86.99 249**	P	**P**	**02 13 24.7**	**-0.7**
RPR	**Rampur**	**87.04 305**	*e*P	**P**	**02 13 25.1**	**-0.2**
CD2	**Chengdu**	**87.13 330**	P	**P**	**02 13 25.5**	**0.0**
CD2			SKS	**SKSac**	**02 23 52.3**	**+0.4**
CD2			S	**S**	**02 24 06.5**	**+2.4**
CD2			SS	**SS**	**02 29 53.0**	**+4.4**
CD2			pmax	pmax		
	comp=Z,110nm,1.6s					
CD2			pmax	pmax		
	comp=Z,860nm,5.2s					
CD2			LR	LR		
	comp=Z,700nm,22.1s					
CD2			LR	LR		
	comp=Z,4μm,17.9s					
CD2			LR	LR		
	comp=Z,9μm,19.6s					
BLWY	**Bulawayo**	**87.14 241**	*e*P	**P**	**02 13 27.7**	**+1.5**
BLWY			IAmb	IAmb	02 13 33.1	
	comp=Z,3μm,2.2s					
MIDW	**Midway**	**87.25 37**	IAMs_20	IAMs_20	02 49 56.7	
	comp=Z,12μm,22.0s					
GOA	**Goa**	**87.26 298**	*e*P	**P**	**02 13 28.5**	**+2.1**
GOA			IAMs_20	IAMs_20	02 43 21.0	
	comp=Z,29μm,24.2s					
TJN	**Taejon**	**87.29 350***ce*	P	**P**	**02 13 25.7**	**-0.3**
TJN	**Taejon**	**87.29 350**	P	**P**	**02 13 26.2**	**+0.2**
ITAN	**ITANAGAR**	**87.38 320**	*e*P	**P**	**02 13 26.4**	**-0.3**
ITAN			IAmb	IAmb	02 13 38.1	
	comp=Z,377nm,1.3s					
TETE	**Tete**	**87.44 248**	*e*P	**P**	**02 13 29.8**	**+2.4**
TETE			IAmb	IAmb	02 13 36.5	
	comp=Z,193nm,1.3s					
TETE	**Tete**	**87.44 248**	P	**P**	**02 13 30.7**	**+3.2**
SRSP	**Sriramsagar**	**87.60 304**	*e*P	**P**	**02 13 27.9**	**-0.1**
KLRI	**Killari**	**87.83 302**	*e*P	**P**	**02 13 28.9**	**-0.3**
BOK	**Bokaro**	**87.91 312**	*e*P	**P**	**02 13 28.9**	**-0.5**
BOK			IAmb	IAmb	02 13 35.1	
	comp=Z,398nm,2.1s					
BOK			*e*S	**SKSac**	**02 23 55.8**	**-1.1**
BOK			IAMs_20	IAMs_20	02 45 03.4	
	comp=Z,7μm,35.4s					
LYN	**LuoYang**	**88.11 338**	⇑P	**P**	**02 13 29.7**	**-0.3**
LYN			SKS	**SKSac**	**02 23 57.9**	**+0.3**
LYN			S	**S**	**02 24 15.9**	**+2.7**
LYN			SS	**SS**	**02 29 58.9**	**-3.8**
LYN			pmax	pmax		
	comp=Z,70nm,2.0s					
LYN			pmax	pmax		
	comp=Z,840nm,9.0s					
LYN			LR	LR		
	comp=Z,5μm,21.2s					
LYN			LR	LR		
	comp=Z,3μm,22.7s					
LYN			LR	LR		
	comp=Z,5μm,29.6s					
AUSN	**Aus**	**88.20 228**	*e*P	**P**	**02 13 32.1**	**+0.9**
AUSN			IAmb	IAmb	02 13 37.7	
	comp=Z,653nm,2.4s					
KSAR	**Wonju Array Be**	**88.29 351**	P	**P**	**02 13 30.5**	**-0.3**
KSAR	**Wonju Array Be**	**88.29 351**	P	**P**	**02 13 30.5**	**-0.3**
KSRS	**Korea Array**	**88.30 351**	P	**P**	**02 13 30.3**	**-0.5**
	comp=Z,17nm,0.9s,baz=179,slow=4.6,SNR=42					
KSRS			LR	LR	02 51 28.5	
	comp=Z,4μm,21.8s,baz=185,slow=35					
KS19	**Wonju Array Si**	**88.35 351**	P	**P**	**02 13 30.6**	**-0.5**
INCN	**Inchon**	**88.47 350**	P	**P**	**02 13 31.2**	**-0.5**
INCN			pmax	pmax		
	comp=Z,231nm,1.8s					
INCN			MLR	MLR		
	comp=Z,4μm,22.0s					
INCN	**Inchon**	**88.47 350**	P	**P**	**02 13 31.2**	**-0.5**
INCN			IAmb	IAmb	02 13 35.6	
	comp=Z,231nm,1.8s					
INCN	**Inchon**	**88.47 350**	P	**P**	**02 13 31.7**	**0.0**
XAN	**Xi'an**	**88.53 335**	P	**P**	**02 13 32.6**	**+0.5**
XAN			pP	pP	02 13 35.6	-0.6
XAN			sP	sP	02 13 38.4	+0.7
XAN			PP	**PP**	**02 16 59.0**	**-1.9**
XAN			SKS	**SKSac**	**02 23 59.4**	**-0.9**
XAN			S	**S**	**02 24 18.4**	**+1.1**
XAN			SS	**SS**	**02 30 12.0**	**+3.0**
XAN			pmax	pmax		
	comp=Z,44nm,1.0s					
XAN			pmax	pmax		
	comp=Z,2μm,5.0s					
XAN			LR	LR		
	comp=Z,5μm,18.4s					
XAN			LR	LR		
	comp=Z,3μm,19.1s					
XAN			LR	LR		
	comp=Z,8μm,20.4s					
HJU	**Haeju**	**89.12 349**	P	P	02 13 28.3	-6.4
HJU			S	**S**	**02 24 16.6**	**-5.9**
HJU			AmB			
	comp=Z,1μm,3.1s					
HJU			AMS	AMS		
	comp=N,118nm,0.8s					
HJU			AMS	AMS		
	comp=E,1μm,7.9s					
HJU			AMS	AMS		
	comp=Z,1μm,6.9s					
H03S2	**Juan Fernandez**	**89.30 149**	T	T	03 53 16.0	
	SNR=1125					
H03S1	**Juan Fernandez**	**89.30 149**	T	T	03 53 17.5	
	SNR=951					
H03S3	**Juan Fernandez**	**89.32 149**	T	T	03 53 17.1	
	SNR=1222					
H03N3	**Juan Fernandez**	**89.65 149**	T	T	03 53 37.7	
	baz=236,slow=75,SNR=188					
H03N2	**Juan Fernandez**	**89.66 149**	T	T	03 53 36.9	
	baz=236,slow=75,SNR=357					
H03N1	**Juan Fernandez**	**89.67 149**	T	T	03 53 37.5	
	baz=236,slow=75,SNR=222					
POO	**Poona**	**89.70 300**	*e*P	**P**	**02 13 36.5**	**-1.5**
POO			IAmb	IAmb	02 13 43.2	
	comp=Z,916nm,2.1s					
POO			IAMs_20	IAMs_20	02 44 28.9	
	comp=Z,15μm,31.6s					
ML02	**Panimavida**	**89.75 155**	IAmb	IAmb	02 13 46.5	
	comp=Z,166nm,1.3s					
PYAG	**Pyongyang**	**90.11 349**	P	P	02 13 33.1	-6.2
PYAG			pP	**PcP**	**02 13 37.3**	**-3.2**
PYAG			S	**S**	**02 24 26.5**	**-5.2**
PYAG			AmB			
	comp=Z,567nm,2.8s					
PYAG			AMS	AMS		
	comp=N,77nm,1.5s					
PYAG			AMS	AMS		
	comp=E,731nm,14.4s					
PYAG			AMS	AMS		
	comp=Z,74nm,1.5s					
JBP	**Jabalpur**	**90.26 307**	⇓*e*P	P	02 13 35.0	-5.5
JBP			*e*S	**SKSac**	**02 24 04.6**	**-6.2**
GO05	**Huala**	**90.32 155**	P	**P**	**02 13 40.5**	**-0.3**
GO05			IAmb	IAmb	02 13 47.2	
	comp=Z,204nm,1.4s					
HNS	**HongShan**	**90.34 340**	⇑P	**P**	**02 13 40.2**	**-0.2**
HNS			SKS	**SKSac**	**02 24 08.9**	**-1.6**
HNS			S	**S**	**02 24 32.7**	**-1.1**
HNS			pmax	pmax		
	comp=Z,64nm,1.6s					
HNS			pmax	pmax		
	comp=Z,990nm,6.4s					
HNS			LR	LR		
	comp=Z,1μm,23.5s					
HNS			LR	LR		
	comp=Z,4μm,21.1s					
HNS			LR	LR		
	comp=Z,6μm,20.6s					
DL2	**Dalian**	**90.53 346**	P	**P**	**02 13 41.9**	**+0.6**
DL2			SKS	**SKSac**	**02 24 12.4**	**+0.8**
DL2			S	**ScS**	**02 24 38.1**	**-1.0**
DL2			pmax	pmax		
	comp=Z,65nm,1.5s					
DL2			pmax	pmax		
	comp=Z,660nm,4.7s					
DL2			LR	LR		
	comp=Z,4μm,24.8s					
DL2			LR	LR		
	comp=Z,2μm,20.9s					
DL2			LR	LR		
	comp=Z,7μm,22.7s					
LSA	**Lhasa**	**90.69 319**	P	**P**	**02 13 42.7**	**-0.2**
LSA			pmax	pmax		
	comp=Z,537nm,2.0s					
LSA			MLR	MLR		
	comp=Z,4μm,19.0s					
LSA	**Lhasa**	**90.69 319**	P	**P**	**02 13 43.1**	**+0.2**
LSA			pP	**pwP**	**02 13 49.6**	**-1.4**
LSA			sP	sP	02 13 57.0	+8.6
LSA			S	**S**	**02 24 41.1**	**+2.6**
LSA			pmax	pmax		
	comp=Z,270nm,1.6s					
LSA			LR	LR		
	comp=Z,8μm,19.9s					
LSA			LR	LR		
	comp=Z,4μm,18.5s					
LSA			LR	LR		
	comp=Z,11μm,17.1s					
LSA	**Lhasa**	**90.69 319**	P	**P**	**02 13 42.7**	**-0.2**
HHU	**Hamhung**	**90.79 351**	P	P	02 13 36.8	-5.6
HHU			S	**S**	**02 24 35.0**	**-2.9**
HHU			AmB			
	comp=Z,613nm,3.7s					
HHU			AMS	AMS		
	comp=N,140nm,6.4s					
HHU			AMS	AMS		
	comp=E,83nm,3.8s					
HHU			AMS	AMS		
	comp=Z,30nm,1.4s					
BO01	**Tunca**	**91.14 155**	IAmb	IAmb	02 13 52.7	
	comp=Z,119nm,1.2s					
TIY	**Taiyuan**	**91.14 339**	*e*P	**P**	**02 13 43.9**	**-0.4**
TIY			SKS	**SKSac**	**02 24 20.5**	**+5.1**
TIY			S	**S**	**02 24 37.7**	**-3.7**
TIY			LR	LR		
	comp=Z,3μm,22.7s					
TIY			LR	LR		
	comp=Z,4μm,19.9s					
TIY			LR	LR		
	comp=Z,5μm,23.4s					
WIN	**Windhoek**	**91.25 231**	*e*P	**P**	**02 13 47.7**	**+2.1**
WIN			IAmb	IAmb	02 13 52.2	
	comp=Z,177nm,2.3s					
WIN	**Windhoek**	**91.25 231**	IAmb	IAmb	02 13 53.8	
	comp=Z,156nm,1.6s					
WIN	**Windhoek**	**91.25 231**	P	**P**	**02 13 47.0**	**+1.4**
LSZ	**Lusaka**	**91.27 244**	LR	LR	02 48 25.7	
	comp=Z,37μm,20.5s,baz=144,slow=31					
LSZ	**Lusaka**	**91.27 244**	P	**P**	**02 13 46.5**	**+0.9**
LSZ			pmax	pmax		
	comp=Z,248nm,1.5s					
LSZ	**Lusaka**	**91.27 244**	P	**P**	**02 13 46.5**	**+0.9**
LSZ	**Lusaka**	**91.27 244**	P	**P**	**02 13 48.8**	**+3.2**
SUJ	**Sinuiju**	**91.31 349**	P	P	02 13 39.6	-5.2
SUJ			sP	pP	02 13 49.0	0.0
SUJ			S	**S**	**02 24 41.9**	**-0.7**
SUJ			AmB			
	comp=Z,998nm,3.2s					
SUJ			AMS	AMS		
	comp=N,134nm,1.4s					
SUJ			AMS	AMS		
	comp=E,578nm,6.2s					
SUJ			AMS	AMS		
	comp=Z,136nm,1.5s					
PKI	**Pulchoki**	**91.36 314**	*e*P	**P**	**02 13 45.1**	**-0.8**
	comp=Z,922nm,1.8s					
PKIN	**Phulchoki**	**91.37 314**	*e*P	**P**	**02 13 45.0**	**-0.8**
	comp=Z,966nm,1.8s					
GUN	**Gumba**	**91.43 315**	*e*P	**P**	**02 13 45.9**	**-0.3**
DMN	**Daman**	**91.53 314**	*e*P	**P**	**02 13 46.1**	**-0.5**
	comp=Z,704nm,1.6s					
MT01	**Popeta**	**91.59 155**	IAmb	IAmb	02 13 54.9	
	comp=Z,118nm,1.1s					
KKN	**Kakani**	**91.60 314**	*e*P	**P**	**02 13 46.3**	**-0.5**
	comp=Z,282nm,1.1s					
BHPL	**Bhopal**	**91.63 306**	*e*P	**P**	**02 13 45.3**	**-1.6**
MT09	**Talagante**	**91.74 155**	IAmb	IAmb	02 13 53.7	
	comp=Z,181nm,1.6s					
LZH	**Lanzhou**	**91.90 332**	⇓P	**P**	**02 13 49.1**	**+1.2**
LZH			sP	pwP	02 13 55.0	-1.0
LZH			PP	**PP**	**02 17 33.0**	**+5.2**
LZH			SKS	**SKSac**	**02 24 19.2**	**-0.8**
LZH			S	**ScS**	**02 24 52.8**	**+1.8**
LZH			sS	sS	02 24 58.6	+3.7
LZH			pmax	pmax		
	comp=Z,120nm,1.4s					
LZH			pmax	pmax		
	comp=Z,960nm,8.9s					
LZH			LR	LR		
	comp=Z,6μm,16.8s					
LZH			LR	LR		
	comp=Z,4μm,17.9s					
LZH			LR	LR		
	comp=Z,7μm,19.0s					
GKN	**Gorkha**	**92.08 314**	*e*P	**P**	**02 13 48.3**	**-0.7**

comp=Z,1μm,1.8s
MT05 **Renca** 92.17 155 P **P** 02 13 50.0 +0.5
MT02 **Curacav** 92.19 155 IAmb IAmb 02 13 56.9
comp=Z,204nm,1.8s
VA01 **Torpederas** 92.27 154 IAmb IAmb 02 13 56.1
comp=Z,167nm,1.4s
ERM **Erimo** 92.31 3 IAMs_20 IAMs_20 02 51 36.5
comp=Z,9μm,21.0s
KOLN **Koldanda** 92.36 313 *e*P **P** 02 13 49.3 -1.1
comp=Z,938nm,1.7s
PEL **Peldehue** 92.42 155 P **P** 02 13 53.0 +2.4
PEL pmax pmax
comp=Z,57nm,1.5s
BJT **Baijiatuau** 92.56 342 P **P** 02 13 50.0 -0.7
BJT pmax pmax
comp=Z,41nm,1.1s
BJT MLR MLR
comp=Z,6μm,22.0s
BJT **Baijiatuau** 92.56 342 P **P** 02 13 50.0 -0.7
BJI **Beijing** 92.58 342 P **P** 02 13 50.1 -0.6
BJI PP **PP** 02 17 31.9 -1.0
BJI SKS **SKSac** 02 24 25.2 +2.0
BJI S **ScS** 02 24 56.4 +0.3
BJI SS **SS** 02 31 05.6 -1.7
BJI pmax pmax
comp=Z,31nm,0.9s
BJI pmax pmax
comp=Z,640nm,5.0s
BJI LR LR
comp=Z,5μm,23.2s
BJI LR LR
comp=Z,3μm,23.8s
BJI LR LR
comp=Z,7μm,22.0s
DANN **Dangsing** 92.78 313 *e*P **P** 02 13 51.5 -0.9
comp=Z,737nm,1.4s
VA03 **San Esteban** 92.82 155 IAmb IAmb 02 13 59.0
comp=Z,124nm,1.2s
PYUN **Piuthan** 92.93 312 *e*P **P** 02 13 52.0 -1.0
comp=Z,995nm,1.7s
SNY **Shenyang** 93.12 348 ⇓P **P** 02 13 52.7 -0.5
SNY PP **PP** 02 17 40.7 +3.6
SNY SKS **SKSac** 02 24 24.0 -2.1
SNY S **S** 02 24 56.0 -2.8
SNY SS **SS** 02 31 14.9 0.0
SNY pmax pmax
comp=Z,17nm,0.9s
SNY pmax pmax
comp=Z,320nm,4.5s
SNY LR LR
comp=Z,4μm,22.8s
SNY LR LR
comp=Z,2μm,18.9s
SNY LR LR
comp=Z,7μm,19.6s
VLA **Vladivostok** 93.60 354 ⇓*i*P **P** 02 13 55.9 +0.6
VLA pmax pmax
comp=Z,53nm,1.4s
HHC **Hu-ho-hao-te** 94.33 339 *e*P **P** 02 13 59.9 +0.9
HHC sP pwP 02 14 09.7 +2.7
HHC SKS **SKSac** 02 24 35.5 +2.4
HHC S **S** 02 25 09.2 -0.6
HHC sS sS 02 25 17.0 +0.6
HHC pmax pmax
comp=Z,16nm,1.2s
HHC pmax pmax
comp=Z,600nm,6.2s
HHC LR LR
comp=Z,3μm,20.8s
HHC LR LR
comp=Z,4μm,19.6s
HHC LR LR
comp=Z,7μm,20.9s
ASAJ **Asahikawa** 94.39 2 LR LR 02 56 14.1
comp=Z,6μm,20.7s,baz=184,slow=35
YUK **Yuzh-Kuril'sk** 94.44 5 *e*P **P** 02 13 58.9 -0.3
YUK *e* 02 17 46.1
YUK *e*PPP PPP 02 19 47.0
YUK *e*S **SKSac** 02 24 33.8 +0.7
YUK *e* 02 25 12.0
YUK *e*SS **SS** 02 31 34.2 +0.6
YUK *e*SSS SSS 02 35 15.9
YUK pmax pmax
comp=Z,457nm,1.6s
YUK pmax pmax
comp=Z,290nm,1.2s
BTO **Baotou** 94.46 338 *e*P **P** 02 13 58.0 -1.6
BTO LR LR
comp=Z,4μm,8.3s
BTO LR LR
comp=Z,2μm,5.4s
ZON **Zonda** 94.46 156 P **P** 02 13 59.3 -0.8
ZON pmax pmax
comp=Z,111nm,1.8s
ZON **Zonda** 94.46 156 P **P** 02 13 59.3 -0.8
ZON IAmb IAmb 02 14 06.5
comp=Z,111nm,1.8s
NEPA **Kaukuwa** 94.56 235 P P 02 14 06.3 +5.5
USA0B **Ussuriysk Arra** 94.67 355 P **P** 02 14 00.0 -0.2
USA0B pmax pmax
comp=Z,40nm,1.1s
USA0B **Ussuriysk Arra** 94.67 355 P **P** 02 14 00.0 -0.2
USRK **Ussuriysk Ar.** 94.67 355 P **P** 02 13 60.0 -0.3
comp=Z,19nm,0.9s,baz=191,slow=3.4,SNR=23
USRK LR LR 02 57 41.3
comp=Z,3μm,18.1s,baz=162,slow=36
USRK **Ussuriysk Ar.** 94.67 355 P **P** 02 14 00.2 -0.1
USRK **Ussuriysk Ar.** 94.67 355 P **P** 02 14 00.2 -0.1
CN2 **Changchun** 94.84 350 *e*P **P** 02 14 00.4 -0.7
CN2 SS SS 02 31 44.8 +5.3
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,400nm,8.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,3μm,21.0s
CN2 LR LR
comp=Z,4μm,21.0s
GOMU **GeErMu** 95.01 325 P **P** 02 14 03.1 +0.6
GOMU pP pP 02 14 06.8 +0.2
GOMU sP sP 02 14 08.2 +0.1
GOMU SS SS 02 31 44.4 +1.6
GOMU pmax pmax
comp=Z,220nm,6.1s
GOMU LR LR
comp=Z,5μm,20.6s
GOMU LR LR
comp=Z,3μm,20.8s
GOMU LR LR
comp=Z,5μm,19.4s
MDJ **Mudanjiang** 95.25 353 P **P** 02 14 04.7 +1.8
MDJ pP sP 02 14 08.5 0.0
MDJ sP pwP 02 14 09.7 -1.2
MDJ PP **PP** 02 17 56.3 +2.6
MDJ S **S** 02 25 22.1 +4.8
MDJ SS **SS** 02 31 43.9 -1.4
MDJ pmax pmax
comp=Z,26nm,1.8s
MDJ pmax pmax
comp=Z,580nm,8.8s
MDJ LR LR
comp=Z,3μm,18.2s
MDJ LR LR
comp=Z,3μm,19.0s
MDJ LR LR
comp=Z,6μm,18.6s
MDJ **Mudanjiang** 95.25 353 P **P** 02 14 02.4 -0.5
MDJ IAmb IAmb 02 14 07.1
comp=Z,104nm,1.9s
MDJ **Mudanjiang** 95.25 353 P **P** 02 14 03.5 +0.6
TEY **Ternei** 95.31 358 *e*P **P** 02 14 02.6 -0.5
TEY *e* 02 25 22.2
KIBK **Kibwezi** 95.49 260 IAMs_20 IAMs_20 02 47 34.6
comp=Z,16μm,22.0s
KUR **Kuril'sk** 95.75 6 P **P** 02 14 05.6 +0.5
KUR *e* 02 18 06.3
KUR *e*PPP PPP 02 20 03.1
KUR *e*S **SKSac** 02 24 42.2 +2.1
KUR *e* 02 25 22.8
KUR MLR MLR
comp=Z,4μm,20.0s
KUR MLR MLR
comp=N,4μm,17.0s
KUR MLR MLR
comp=E,4μm,17.0s
GTA **Gaotai** 96.20 330 ⇑P **P** 02 14 07.5 -0.1
GTA pP sP 02 14 13.0 -0.2
GTA sP pwP 02 14 16.3 +0.7
GTA PP **PP** 02 18 06.1 +4.8
GTA SKS **SKSac** 02 24 42.8 -0.3
GTA S **S** 02 25 23.1 -3.0
GTA sS sS 02 25 33.0 +0.5
GTA pmax pmax
comp=E,18nm,1.8s
GTA pmax pmax
comp=E,480nm,5.5s
GTA LR LR
comp=E,5μm,22.9s
GTA LR LR
comp=E,3μm,21.1s
GTA LR LR
comp=E,7μm,22.5s
XLT **XiLinHaoTe** 96.33 343 *e*P **P** 02 14 07.2 -0.8
XLT PP **PP** 02 18 04.8 +2.5
XLT S **S** 02 25 23.3 -3.6
XLT SS **SS** 02 31 57.0 -3.9
XLT pmax pmax
comp=E,37nm,1.5s
XLT pmax pmax
comp=E,750nm,5.7s
XLT LR LR
comp=E,5μm,21.5s
XLT LR LR
comp=E,4μm,21.5s
XLT LR LR
comp=E,6μm,20.6s
KMBO **Kilima Mbogo** 96.92 260 P **P** 02 14 13.3 +1.6
comp=E,2.1nm,0.8s,baz=141,slow=5.4,SNR=8.2
KMBO LR LR 02 48 29.7
comp=E,13μm,21.8s,baz=136,slow=30
KMBO **Kilima Mbogo** 96.92 260 *e*P **P** 02 14 12.4 +0.6
KMBO IAmb IAmb 02 14 18.0
comp=Z,174nm,2.1s
KMBO **Kilima Mbogo** 96.92 260 P **P** 02 14 11.8 +0.1
KMBO **Kilima Mbogo** 96.92 260 IAMs_20 IAMs_20 02 48 39.8
comp=Z,15μm,22.0s
KMBO **Kilima Mbogo** 96.92 260 P P 02 14 28.5 +17
YSS **Yuzh-Sakhalins** 97.23 2 IAMs_20 IAMs_20 02 56 37.8
comp=Z,9μm,22.0s
SMLA **Simla** 98.24 310 *e*P **P** 02 14 15.2 -1.6
SMLA IAmb IAmb 02 14 22.6
comp=Z,73nm,1.3s
SMLA IAMs_20 IAMs_20 02 47 50.9
comp=Z,8μm,31.6s
DHRM **DHARAMSHALA** 99.58 310 *e*P **Pdif** 02 14 23.6 +0.5
KLR **Kul'dur** 99.70 355 LR LR 03 02 00.4
comp=Z,1μm,18.1s,baz=176,slow=37
KLR **Kul'dur** 99.70 355⇑*e*P **Pdif** 02 14 23.7 +0.8
KLR pmax pmax
comp=Z,11nm,1.7s
HIA **Hailar** 100.95 347 P **Pdif** 02 14 28.0 -0.5
HIA MLR MLR
comp=Z,6μm,19.0s
HIA **Hailar** 100.95 347 Pdif **Pdif** 02 14 28.0 -0.5
GINR **Hospital, Gini** 101.08 268 P **Pdif** 02 14 32.5 +2.2
SKR **Severo-Kuril's** 101.91 11 *i* P **Pdif** 02 14 24.1 -8.5
SKR *e* 02 18 42.5
SKR *e*PPS PPS 02 28 35.1
SKR *e*SS SS 02 33 18.1 -0.4
SKR *e*SSS SSS 02 37 08.4
SKR pmax pmax
comp=Z,400nm,15.8s
SKR MLR MLR
comp=Z,2μm,18.0s
ULN **Ulaanbaatar** 102.02 338 P **Pdif** 02 14 33.0 -0.4
ULN **Ulaanbaatar** 102.02 338 Pdif **Pdif** 02 14 33.0 -0.4
SONM **Songino Array** 102.14 338 P **Pdif** 02 14 32.8 -1.2
comp=Z,2.1nm,0.9s,baz=150,slow=2.4,SNR=10
SONM **Songino Array** 102.14 338 P **Pdif** 02 14 33.0 -1.0
SONM **Songino Array** 102.14 338 Pdif **Pdif** 02 14 33.0 -1.0
PB15 **IPOC Station P** 102.15 153 IAMs_20 IAMs_20 03 01 37.9
comp=Z,8μm,22.0s
NIL **Nilore** 102.22 309 P **Pdif** 02 14 34.1 -0.5
NIL MLR MLR
comp=Z,6μm,20.0s
NIL **Nilore** 102.22 309 Pdif **Pdif** 02 14 34.1 -0.5
FURI **Furi** 103.72 267 IAMs_20 IAMs_20 02 57 14.1
comp=Z,7μm,21.0s
PETK **Petropavlovsk-** 104.48 11 PP **PKiKP** 02 19 00.6 +0.6
comp=Z,7.7nm,1.1s,baz=212,slow=5.1,SNR=4.6
ZEA **Zeya** 104.50 352 *e*P **Pdif** 02 14 44.7 +0.6
ZEA *e* 02 33 51.5
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA pmax pmax
comp=E,100nm,4.8s
ZEA pmax pmax
comp=N,100nm,6.3s
ZEA pmax pmax
comp=Z,200nm,4.5s
PET **Petropavlovsk** 104.52 12 *e*P **Pdif** 02 14 49.1 +4.9
PET *e* 02 19 02.2
PET *e* 02 25 22.7
PET *e*S **Sdif** 02 26 40.3 +5.2
PET *e*SP **SP** 02 28 16.7 +2.5
PET *e*SPP SPP 02 29 09.4
PET *e*SS **SS** 02 33 58.4 +3.9
PET pmax pmax
comp=Z,300nm,17.8s
PET smax smax
comp=E,1μm,14.4s
PET smax smax
comp=E,1μm,15.9s
SHEL **Horse Pasture** 107.04 215 IAMs_20 IAMs_20 02 54 55.6
comp=Z,12μm,21.0s
SATY **Saty** 107.40 318 *e*PKiKP **PKiKP** 02 19 06.0 +0.1
baz=318
KPKS **Kokpek** 107.61 318 *e*PKiKP **PKiKP** 02 19 06.5 +0.3
baz=318
TNSS **Tian-Shan** 108.02 317 *e*PKiKP **PKiKP** 02 19 07.0 -0.4
baz=317
MDOK **Medeo** 108.07 317 *e*PKiKP **PKiKP** 02 19 07.3 +0.2
baz=317
AAA **Alma-Ata** 108.17 317 *e*PKiKP **PKiKP** 02 19 07.4 +0.2
baz=317
ZSN **Zaisan** 108.44 324 *e*PKiKP **PKiKP** 02 19 07.5 0.0
baz=324
HRA **Herat** 108.52 302 Pdif **Pdif** 02 15 04.0 +1.2
CHKK **Chushkaly** 108.66 317 *e*PKiKP **PKiKP** 02 19 07.8 -0.3
baz=318
MKAR **Makanchi Array** 108.87 322 Pdiff **Pdif** 02 15 02.6 -1.2
comp=Z,0.5nm,0.9s,baz=165,slow=6.3,SNR=4.1
MKAR PKiKP **PKiKP** 02 19 08.9 +0.5
comp=Z,1.6nm,0.7s,baz=184,slow=1.9,SNR=9.1
MKAR PP **PP** 02 19 39.4 +3.1
comp=Z,2.1nm,1.0s,baz=141,slow=4.1,SNR=4.4
MKAR PKKPbc **PKKPbc** 02 30 19.7 +3.6
comp=Z,0.4nm,0.8s,baz=29,slow=2.8,SNR=3.8
MKAR **Makanchi Array** 108.87 322 P **Pdif** 02 15 04.0 +0.2
MKAR **Makanchi Array** 108.87 322 Pdif **Pdif** 02 15 04.0 +0.2
KUU **Kurty** 108.97 317 *e*PKiKP **PKiKP** 02 19 09.1 +0.4
baz=317
TDK **Taldyqorghan** 108.98 319 *e*PKiKP **PKiKP** 02 19 08.9 +0.3
baz=319
SGDS **Sogindy** 109.37 316 *e*PKiKP **PKiKP** 02 19 09.0 -0.5
baz=316
NNA **Nana** 110.04 142 IAMs_20 IAMs_20 02 55 20.0
comp=Z,7μm,20.0s
SIV **San Ignacio** 111.24 159 PKKPbc PKKPbc 02 30 12.2 +4.6
comp=Z,1.8nm,0.9s,baz=48,slow=2.5,SNR=4.1
YAK **Yakutsk** 112.58 355 *i* PKIKP **PKiKP** 02 19 15.5 +0.7
YAK *e* 02 20 03.9
YAK *e*SS SS 02 35 35.1 -7.8
YAK pmax pmax
comp=Z,3.0nm,0.7s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=Z,301nm,3.0s
YAK pmax pmax
comp=N,237nm,3.3s
SEM **Semipalatinsk** 112.60 323 *i* PKIKP **PKiKP** 02 19 15.4 -0.1
SEM **Semipalatinsk** 112.60 323 *e*PKiKP **PKiKP** 02 19 15.4 -0.1
baz=324
GEYT **Alibeck** 113.38 302 PKiKP **PKiKP** 02 19 18.2 +1.0
comp=N,2.0nm,0.7s,baz=76,slow=6.3,SNR=6.0
KURBB **Kurchatov Arra** 113.43 323 PKiKP **PKiKP** 02 19 17.4 +0.6
comp=N,2.2nm,0.7s,baz=150,slow=1.3,SNR=12
KURBB PP **PP** 02 20 11.9 +3.0
comp=N,3.8nm,1.2s,baz=147,slow=7.0,SNR=4.7
KURBB PKKPbc **PKKPab** 02 30 07.0 +1.3
comp=N,0.9nm,0.9s,baz=324,slow=3.7,SNR=5.6
KURK **Kurchatov** 113.47 323⇑*i* PKIKP **PKiKP** 02 19 15.4 -1.5
KURK MLR MLR
comp=Z,6μm,23.0s
ZALV **Zalesovo Beam** 113.85 328 PKiKP **PKiKP** 02 19 19.0 +1.5
comp=Z,0.9nm,0.6s,baz=150,slow=2.2,SNR=4.1
ZALV PP **PP** 02 20 10.6 -1.2
comp=Z,3.7nm,1.0s,baz=151,slow=3.4,SNR=5.2
ZALV PKKPbc **PKKPab** 02 30 04.7 +1.1
comp=Z,1.0nm,0.6s,baz=332,slow=4.0,SNR=6.5
ZALV **Zalesovo Beam** 113.85 328 *i* PKIKP **PKiKP** 02 19 19.0 +1.5
SPIA **Saint Paul Isl** 115.12 28 P **PKiKP** 02 19 19.8 0.0
baz=213
BRZS **Berezniki** 115.29 319 *e*PKIKP **PKiKP** 02 19 21.1 +0.7
BRZS **Berezniki** 115.29 319 *e*PKP **PKiKP** 02 19 21.2 +0.7
baz=319
CHNA **Chernabura Isl** 116.70 34 P **PKPdf** 02 19 22.9 0.0
baz=219
ASCN **Ascension** 117.45 209 IAMs_20 IAMs_20 02 59 19.8
comp=Z,11μm,22.0s
BVAR **Borovoye Array** 118.52 320 PKP **PKPdf** 02 19 25.3 -1.2
comp=Z,5.1nm,0.8s,baz=172,slow=4.5,SNR=12
BVAR PKKPbc **PKKPab** 02 29 48.7 +5.2
comp=Z,2.1nm,0.9s,baz=265,slow=5.4,SNR=7.4
BRVK **Borovoye** 118.59 320*d* *i* PKIKP **PKPdf** 02 19 25.9 -0.8
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK **Borovoye** 118.59 320 PKPdf **PKPdf** 02 19 26.4 -0.3
BILL **Bilibino** 120.02 11⇑*i* PKIKP **PKPdf** 02 19 28.6 -0.4
BILL *i* 02 20 55.2
BILL *i* 02 26 39.9
BILL *i* PS **PS** 02 30 46.8 +3.3
BILL *e*SS SS 02 37 32.9 +13
BILL pmax pmax
comp=Z,21nm,1.7s
BILL MLR MLR
comp=Z,6μm,20.0s
BILL **Bilibino** 120.02 11 PKPdf **PKiKP** 02 19 31.1 +2.0
BILL IAMs_20 IAMs_20 03 13 00.8
comp=Z,6μm,20.0s
GAMB **Gambell** 120.27 23 IAMs_20 IAMs_20 03 04 28.9
comp=Z,7μm,22.0s
GAMB **Gambell** 120.27 23 P **PKiKP** 02 19 29.6 0.0
baz=214
ABKAR **Akbulak array** 120.47 312 PKPdf **PKPdf** 02 19 28.6 -1.8
ABKAR **Akbulak array** 120.47 312 **PKPdf** 02 19 29.6 -0.8
KDAK **Kodiak Island** 121.49 36 IAMs_20 IAMs_20 03 04 09.6
comp=Z,7μm,20.0s
P18K **Big Mountain,** 121.72 33 **PKPdf** 02 19 32.2 -0.3
P18K IAMs_20 IAMs_20 03 03 02.0
comp=Z,7μm,22.0s
Q19K **Cape Douglas,** 121.94 34 IAMs_20 IAMs_20 03 01 47.9
comp=Z,7μm,22.0s
Q19K **Cape Douglas,** 121.94 34 P **PKPdf** 02 19 31.9 -1.1
baz=224
GHAJ **Ghor Haditha** 122.03 282 IAMs_20 IAMs_20 03 04 02.3
comp=Z,7μm,21.0s
AKTO **Aktyubinsk** 122.19 312 PKP **PKPdf** 02 19 32.9 -0.8
comp=Z,2.6nm,0.6s,baz=77,slow=2.8,SNR=8.8
TIXI **Tiksi** 122.20 356 PKP **PKPdf** 02 19 30.9 -2.1
comp=Z,6.5nm,0.9s,baz=46,slow=1.2,SNR=13
TIXI **Tiksi** 122.20 356⇓*i* PKIKP **PKPdf** 02 19 31.5 -1.5
TIXI **Tiksi** 122.20 356 **PKPdf** 02 19 31.6 -1.4
CIS **Catalina Islan** 122.24 75 P **PKPdf** 02 19 32.3 -2.1
baz=227
PKM **Mcpherson Peak** 122.38 73 P **PKPdf** 02 19 33.2 -1.6
baz=228
GNI **Garni** 122.41 295 PKP **PKPdf** 02 19 34.7 0.0
comp=Z,12nm,0.8s,baz=190,slow=4.3,SNR=11
GNI **Garni** 122.41 295 PKPdf **PKiKP** 02 19 35.7 +0.9
GNI **Garni** 122.41 295 IAMs_20 IAMs_20 03 09 02.3
comp=Z,6μm,21.0s
ANM **Nome** 122.53 25 PKIKP **PKPdf** 02 19 33.5 -0.4
ANM **Nome** 122.53 25 PKPdf **PKPdf** 02 19 33.5 -0.4
ANM **Nome** 122.53 25 P **PKiKP** 02 19 34.0 0.0
baz=218
O19K **Port Alsworth** 122.62 33 IAMs_20 IAMs_20 03 07 09.1
comp=Z,7μm,21.0s
O19K **Port Alsworth** 122.62 33 P **PKPdf** 02 19 33.7 -0.5
baz=224
SAO **San Andreas Ge** 122.65 70 IAMs_20 IAMs_20 03 02 59.2
comp=Z,9μm,20.0s
TNA **Tin City** 122.67 23 P **PKPdf** 02 19 33.9 -0.1
baz=217
MAK **Makhachkala** 122.69 299 *i* P **Pdif** 02 16 00.5 -4.8
MAK *e* 02 26 29.3
MAK *e*PS **PS** 02 31 03.5 -4.5
MAK pmax pmax
comp=Z,121nm,1.4s
MAK MLR MLR
comp=Z,2μm,19.0s
MCCM **Marconi Confer** 122.71 68 IAMs_20 IAMs_20 03 04 57.6
comp=Z,8μm,19.0s
FLOC **Florencia** 122.78 137 *e*P **PKiKP** 02 19 40.0 +3.7
SOTA **Rioblanco** 122.85 135 *e*P **PKiKP** 02 19 40.9 +3.9
PASC **Pasadena Art C** 122.90 75 IAMs_20 IAMs_20 03 06 46.1
comp=Z,7μm,19.0s
N19K **Bonanza Creek** 123.01 32 P **PKiKP** 02 19 35.3 0.0
baz=224
PCON **Cinco Dias** 123.12 136 *e*P **PKiKP** 02 19 41.9 +4.2
MURC **Murrieta** 123.13 76 P **PKPdf** 02 19 35.2 -0.9
baz=228
O20K **Slope Mountain** 123.13 34 P **PKPdf** 02 19 34.0 -1.3
baz=225
MONP2 **Monument Peak** 123.13 77 P **PKPdf** 02 19 34.7 -1.6
baz=228
HOPS **Hopland Field** 123.15 67 IAMs_20 IAMs_20 03 04 08.4
comp=Z,8μm,19.0s
IKP **In-Ko-Pah, Jac** 123.16 78 P **PKPdf** 02 19 35.7 -0.6
baz=227
HOM **Homer** 123.18 34 IAMs_20 IAMs_20 03 02 58.6
comp=Z,10μm,22.0s
POPC **Popayan, Colom** 123.18 135 *e*P **PKiKP** 02 19 41.9 +4.5
CNPM **China Poot** 123.23 35 IAMs_20 IAMs_20 03 02 47.2
comp=Z,9μm,22.0s
VES **Vestal, Richgr** 123.46 73 P **PKPdf** 02 19 34.8 -1.7
baz=228
EDW2 **Edwards Air Fo** 123.49 74 P **PKPdf** 02 19 35.1 -1.7
baz=228
BRLK **Bradley Lake** 123.53 35 IAMs_20 IAMs_20 03 07 11.5
comp=Z,7μm,20.0s
BRSE **Bradley Lake S** 123.56 35 P **PKPdf** 02 19 35.7 -0.4
baz=226
PFO **Pinyon Flats O** 123.59 76 IAMs_20 IAMs_20 03 02 53.6
comp=Z,6μm,20.0s
PFO **Pinyon Flats O** 123.59 76 P **PKPdf** 02 19 37.0 -0.1
baz=228
TPFO **Pinon Flats** 123.59 76 P **PKPdf** 02 19 36.1 -1.0
baz=228
KARS **Kars** 123.69 295 PKIKP **PKiKP** 02 19 37.4 0.0
KARS **Kars** 123.69 295 PKPdf **PKiKP** 02 19 37.4 0.0
ISA **Isabella, Lake** 123.72 73 P **PKPdf** 02 19 36.2 -1.0
baz=228
JCC **Jacoby Creek,** 123.78 65 IAMs_20 IAMs_20 03 01 09.9
comp=Z,9μm,22.0s
AKH **Akhalkalaki** 123.95 296 ⇑P **PKPdf** 02 19 36.1 -1.5
TTA **Tatalina** 124.04 30 P **PKPdf** 02 19 36.7 -0.2
baz=224
MACC **Macarena, Meta** 124.06 138 *e*P **PKiKP** 02 19 41.9 +3.1
LRMC **Laurel Mtn Rad** 124.08 74 P **PKPdf** 02 19 36.7 -1.3
baz=228
O02D **Mt. Diablo Mer** 124.09 66 P **PKPdf** 02 19 36.8 -1.0
baz=230
CMB **Columbia Colle** 124.12 70 IAMs_20 IAMs_20 03 05 12.1
comp=Z,6μm,20.0s
BELC **Belle Mtn. Jos** 124.14 76 P **PKPdf** 02 19 37.3 -0.8
baz=228
BC3 **Big Chuckawall** 124.24 77 P **PKPdf** 02 19 36.5 -1.8
baz=228
SEW **Seward** 124.28 35 P **PKPdf** 02 19 37.0 -0.3
baz=227
L20K **Farewell, AK** 124.40 31 P **PKPdf** 02 19 36.0 -1.6
baz=225
UNM **Universidad Na** 124.46 102 IAMs_20 IAMs_20 03 05 25.7
comp=Z,5μm,18.0s
CWC **Cottonwood Cre** 124.47 73 P **PKPdf** 02 19 38.2 -0.6
baz=229
HEC **Hector,Ludlow** 124.48 75 P **PKPdf** 02 19 37.8 -0.9
baz=228
GSC **Goldstone, Bar** 124.50 75 P **PKPdf** 02 19 37.5 -1.2
baz=229
MPMC **Manual Prospec** 124.58 74 P **PKPdf** 02 19 37.8 -1.2
baz=229
YOTC **Yotoco, Valle** 124.61 135 *e*P **PKiKP** 02 19 41.9 +1.9
N02D **Trinity Center** 124.65 66 P **PKPdf** 02 19 38.7 -0.1

baz=230,SNR=17
OMMB Old Mammoth Mi 124.67 71 PKPdf 02 19 39.1 -0.2
O03E Paynes Creek 124.74 67 P **PKPdf 02 19 38.0 -1.0**
baz=230
214A Organ Pipe Nat 124.76 80 P **PKPdf 02 19 38.5 -0.8**
baz=228
IRM Iron Mountain 124.77 77 P **PKPdf 02 19 38.2 -1.0**
baz=228
M02C Callahan 124.83 65 P **PKiKP 02 19 39.4 -0.1**
baz=230,SNR=18
RC01 Rabbit Creek A 124.86 34 IAMs_20 IAMs_20 03 09 22.0
comp=Z,9μm,21.0s
RC01 Rabbit Creek A 124.86 34 P **PKPdf 02 19 37.9 -0.5**
baz=227
ZAIG Zacatecas 124.86 96 PKPdf **PKiKP 02 19 40.8 +0.4**
GMRC Granite Mounta 124.86 76 P **PKPdf 02 19 37.9 -1.7**
baz=229
L02E Cave Junction 124.89 64 P **PKPdf 02 19 38.8 -0.3**
baz=230
K20K Telida 124.96 30 IAMs_20 IAMs_20 03 07 11.9
comp=Z,9μm,22.0s
K20K Telida 124.96 30 P **PKPdf 02 19 38.3 -0.3**
baz=226
PRAC Prado 125.02 136 *e*P **PKiKP 02 19 44.7 +4.0**
ORTC Ortega, Tolima 125.04 136 *e*P **PKPdf 02 19 40.0 -0.5**
GCSA Galena City Sc 125.08 28 P **PKiKP 02 19 39.4 +0.3**
baz=224
TUQ Turquoise Moun 125.13 75 P **PKPdf 02 19 39.2 -0.8**
baz=229
YBH Yreka Blue Hor 125.13 65 PKP **PKPdf 02 19 38.8 -1.0**
comp=Z,2.1nm,0.9s,baz=260,slow=1.8,SNR=4.9
M22K Willow 125.17 33 P **PKPdf 02 19 39.1 +0.1**
baz=227
K02D Willamette Mer 125.19 64 P **PKPdf 02 19 39.2 -0.6**
baz=231
PWL Port Wells 125.20 35 IAMs_20 IAMs_20 03 09 16.7
comp=Z,6μm,20.0s
SVE Sverdlovsk 125.21 319 *i*PKIKP **PKPdf 02 19 38.5 -0.7**
SVE pmax pmax
comp=Z,54nm,1.8s
SVE MLR MLR
comp=Z,5μm,22.0s
NCK Nalchik 125.22 298⇑*i*PKIKP **PKPdf 02 19 39.8 0.0**
NCK MLR MLR
comp=Z,3μm,19.0s
FURC Furnace Creek, 125.23 74 P **PKPdf 02 19 38.0 -1.9**
baz=229
PPLA Purkeypile 125.25 31 P **PKPdf 02 19 38.7 -0.7**
baz=226
GRAC Grapevine Rang 125.27 73 P **PKPdf 02 19 39.7 -0.4**
baz=229
J01E Myrtle Point 125.33 63 P **PKPdf 02 19 39.0 -1.0**
baz=231
LHV Little Huntoon 125.39 71 PKiKP 02 19 40.8 +0.2
CDITO Canoas 125.39 125 PKPdf 02 19 37.8 -3.2
PMR Palmer 125.41 34 P **PKPdf 02 19 39.0 -0.5**
baz=228
CMIG Matias Romero 125.42 107 PKP **PKPdf 02 19 40.0 -0.9**
comp=Z,1.9nm,0.7s,baz=141,slow=11,SNR=2.0
PDMCI Parker Dam,Lak 125.49 77 P **PKPdf 02 19 39.2 -1.3**
baz=229
J20K Nowinta River 125.51 30 IAMs_20 IAMs_20 03 08 54.4
comp=Z,9μm,21.0s
J20K Nowinta River 125.51 30 P **PKPdf 02 19 39.5 -0.1**
baz=226
KNK Knik Glacier 125.53 34 P **PKPdf 02 19 39.0 -0.7**
baz=228
HUMO Hull Mountain 125.54 64 IAMs_20 IAMs_20 03 02 50.5
comp=Z,6μm,21.0s
NRIK Noril'sk 125.56 340 PKP **PKPdf 02 19 38.0 -1.6**
comp=Z,6.0nm,0.8s,baz=100,slow=1.4,SNR=9.0
NRIK Noril'sk 125.56 340⇓*i*PKIKP **PKPdf 02 19 38.2 -1.3**
NRIK MLR MLR
comp=Z,8μm,24.0s
NRIK Noril'sk 125.56 340 PKPdf **PKPdf 02 19 38.4 -1.1**
CUT Chulitna 125.56 33 P **PKPdf 02 19 39.3 -0.5**
baz=228
GHO Glory Hole Cre 125.61 34 IAMs_20 IAMs_20 03 10 35.2
comp=Z,7μm,20.0s
RYN Ryan 125.62 71 PKiKP 02 19 41.6 +0.4
NVAR Mina Array Bea 125.62 71 PKP **PKPdf 02 19 40.4 -0.5**
comp=Z,3.1nm,0.8s,baz=211,slow=3.9,SNR=17
NVAR PKKPbc **PKKPbc 02 29 21.7 +5.7**
comp=Z,0.4nm,0.7s,baz=65,slow=2.8,SNR=3.7
NVAR SKKPbc SKKPbc 02 33 14.1 +7.4
comp=Z,0.2nm,0.4s,baz=95,slow=1.8,SNR=3.7
NVAR Mina Array Bea 125.62 71 PKPdf **PKPdf 02 19 40.9 -0.1**
CAST Castle Rocks 125.65 31 IAMs_20 IAMs_20 03 07 08.1
comp=Z,8μm,21.0s
CAST Castle Rocks 125.65 31 P **PKPdf 02 19 39.4 -0.5**
baz=227
M04C Macdoel 125.67 66 P **PKPdf 02 19 39.4 -1.4**
baz=231
L04D Klamath Falls 125.67 65 P **PKPdf 02 19 39.6 -1.2**
baz=231
JTS Las Juntas de 125.73 122 IAMs_20 IAMs_20 03 02 59.0
comp=Z,7μm,19.0s
KBZ Khabaz 125.77 297 PKP **PKPdf 02 19 40.0 -0.7**
comp=Z,7.5nm,0.8s,baz=40,slow=2.8,SNR=14
KBZ Khabaz 125.77 297*d*PKIKP **PKPdf 02 19 40.2 -0.5**
SML Sawmill 125.84 34 IAMs_20 IAMs_20 03 10 01.4
comp=Z,7μm,21.0s
SML Sawmill 125.84 34 P **PKPdf 02 19 40.3 -0.1**
baz=228
ARU Arti 125.84 317 PKP **PKPdf 02 19 39.6 -0.9**
comp=Z,5.1nm,0.8s,baz=84,slow=1.5,SNR=18
ARU Arti 125.84 317 *i*PKIKP **PKPdf 02 19 39.6 -0.9**
ARU 02 26 51.0
ARU SP SP 02 31 27.5 -5.9
ARU MLR MLR
comp=Z,5μm,19.0s
ARU Arti 125.84 317 PKPdf **PKPdf 02 19 39.9 -0.6**
ARU IAMs_20 IAMs_20 03 13 04.7
comp=Z,5μm,20.0s
RDOG Red Dog Mine 125.86 23 IAMs_20 IAMs_20 03 06 29.2
comp=Z,9μm,22.0s
RDOG Red Dog Mine 125.86 23 P **PKiKP 02 19 40.7 +0.1**
baz=222
CSS Mathiatis 125.86 283 IAMs_20 IAMs_20 03 06 41.8
comp=Z,7μm,21.0s
CHUM Lake Minchumin 125.89 30 P **PKPdf 02 19 40.2 -0.1**
baz=227
TPNV Topopah Spring 125.92 74 PKIKP **PKPdf 02 19 41.4 -0.1**
TPNV Topopah Spring 125.92 74 PKPdf **PKPdf 02 19 41.4 -0.1**
TPNV Topopah Spring 125.92 74 P **PKPdf 02 19 40.9 -0.6**
baz=230
HDC Heredia 125.94 123 IAMs_20 IAMs_20 03 01 40.5
comp=Z,6μm,22.0s
I02E Swisshome, OR 125.98 62 P **PKPdf 02 19 40.2 -0.9**
baz=231
I03D Drain, OR 126.00 63 P **PKPdf 02 19 40.9 -0.2**
baz=231
KIV Kislovodsk 126.03 298 ⇑P **PKPdf 02 19 39.8 -1.6**
KIV Kislovodsk 126.03 298*c*/PKIKP **PKPdf 02 19 40.1 -1.3**
KIV *i* 02 21 35.0
KIV 02 26 53.0
KIV *e*PS **PS 02 31 33.5 -4.1**
KIV *e*SS SS 02 38 39.9 +2.5
KIV pmax pmax
comp=Z,44nm,1.7s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 126.03 298 PKPdf **PKPdf 02 19 40.7 -0.7**
KAIM Kayak Island 126.05 37 P **PKPdf 02 19 40.0 -0.7**
baz=230
KTH Kantishna Hill 126.12 31 IAMs_20 IAMs_20 03 09 29.3
comp=Z,7μm,20.0s
GUY2C Guyana, Caldas 126.15 135 *e*P **PKiKP 02 19 46.6 +3.1**
PTGA Pitinga 126.20 156 PKP **PKPdf 02 19 42.5 -0.1**
comp=Z,1.3nm,0.3s,baz=328,slow=22,SNR=3.5
SCM Sheep Creek Mo 126.22 34 P **PKPdf 02 19 39.3 -1.9**
baz=229
K04D Chiloquin, OR 126.24 65 P **PKPdf 02 19 40.7 -1.2**
baz=231
RAGM Ragged Mountai 126.25 37 IAMs_20 IAMs_20 03 09 11.2
comp=Z,9μm,20.0s
TRF Thorofare Moun 126.27 32 P **PKPdf 02 19 40.6 -0.7**
baz=228
TUC Tucson 126.27 82 PKIKP **PKPdf 02 19 41.4 -0.8**
TUC MLR MLR
comp=Z,7μm,18.0s
TUC Tucson 126.27 82 PKPdf **PKPdf 02 19 41.4 -0.8**
TUC Tucson 126.27 82 IAMs_20 IAMs_20 03 12 01.5
comp=Z,7μm,18.0s
TUC Tucson 126.27 82 P **PKPdf 02 19 40.0 -2.3**
baz=228
ROSC El Rosal 126.27 136 PKP **PKiKP 02 19 43.6 0.0**
comp=Z,8.2nm,0.6s,baz=88,slow=16,SNR=9.1
ROSC El Rosal 126.27 136 *e*P **PKiKP 02 19 47.6 +4.0**
CHIC Chingaza 126.34 137 *e*P **PKPdf 02 19 39.0 -4.4**
BPAW Bear Paw Mtn. 126.47 31 IAMs_20 IAMs_20 03 07 42.8
comp=Z,8μm,21.0s
BPAW Bear Paw Mtn. 126.47 31 P **PKPdf 02 19 40.8 -0.7**
baz=228
KLU Klutina 126.50 35 IAMs_20 IAMs_20 03 11 44.0
comp=Z,9μm,20.0s
KLU Klutina 126.50 35 P **PKiKP 02 19 42.1 -0.1**
baz=230
GOF Gofitskoye 126.51 299⇑*e*PKIKP **PKiKP 02 19 46.6 +4.0**
WAT6 Susitna Watana 126.56 33 P **PKPdf 02 19 41.1 -0.7**
baz=229
I04A Tendick Farm, 126.59 63 P **PKPdf 02 19 41.5 -0.9**
baz=232
BERG Berg Lake 126.63 37 IAMs_20 IAMs_20 03 09 29.2
comp=Z,6μm,20.0s
PTGC Puerto Gaitan, 126.63 139 *e*P **PKiKP 02 19 43.8 -0.1**
BMRM Bremner River 126.65 36 IAMs_20 IAMs_20 03 10 48.1
comp=Z,6μm,21.0s
BMRM Bremner River 126.65 36 P **PKPdf 02 19 42.0 +0.1**
baz=230
NORC Norcasia 126.67 135 *e*P **PKiKP 02 19 46.6 +2.6**
PTAC Punta Ardita, 126.71 131 *e*P **PKiKP 02 19 45.7 +1.7**
RND Reindeer 126.72 32 IAMs_20 IAMs_20 03 09 00.4
comp=Z,9μm,22.0s
KIC Kosan Boka 126.79 226 *e*PKP2 **PKPdf 02 19 43.0 -0.7**
comp=Z,18nm,1.1s
LIC Lamto 126.80 226 *e*PKP2 **PKiKP 02 19 44.2 0.0**
comp=Z,30nm,1.0s
M24K Tolsona, Glenn 126.81 34 P **PKPdf 02 19 41.6 -0.6**
baz=230
BNN Bunyan 126.83 289 PKPdf 02 19 41.5 -1.7
H04D Lebanon 126.86 62 P **PKPdf 02 19 41.7 -1.1**
baz=232
I21K Tanana 126.88 29 P **PKPdf 02 19 40.7 -1.5**
baz=228
IMAR Indian Mountai 126.89 28 PKPdf 02 19 42.0 -0.2
MCK McKinley 126.91 32 IAMs_20 IAMs_20 03 06 53.4
comp=Z,7μm,22.0s
MCK McKinley 126.91 32 P **PKPdf 02 19 42.5 +0.1**
baz=229,SNR=7.9
HELC Santa Helena 126.93 134 *e*P **PKiKP 02 19 46.6 +1.7**
H21K Melozitna Rive 126.95 29 IAMs_20 IAMs_20 03 10 10.0
comp=Z,9μm,20.0s
H21K Melozitna Rive 126.95 29 P **PKPdf 02 19 41.5 -0.8**
baz=228
J05D Fort Rock, OR 126.95 64 P **PKPdf 02 19 42.2 -1.0**
baz=232
G03D McMinnville, O 126.98 61 P **PKPdf 02 19 41.8 -1.3**
baz=232
WAX Waxell Ridge 126.99 37 IAMs_20 IAMs_20 03 08 12.8
comp=Z,7μm,20.0s
DHY Denali Highway 127.01 33 IAMs_20 IAMs_20 03 06 10.3
comp=Z,9μm,22.0s
DHY Denali Highway 127.01 33 P **PKPdf 02 19 42.5 -0.2**
baz=230
BWN Browne 127.02 31 IAMs_20 IAMs_20 03 06 47.5
comp=Z,9μm,21.0s
N25K Chitina, Valde 127.06 36 IAMs_20 IAMs_20 03 04 59.9
comp=Z,6μm,22.0s
N25K Chitina, Valde 127.06 36 P **PKPdf 02 19 42.1 -0.7**
baz=231
CRQM Cirque 127.08 37 IAMs_20 IAMs_20 03 16 32.4
comp=Z,5μm,20.0s
CRQE Cirque 127.09 37 P **PKPdf 02 19 42.1 -0.8**
baz=231
SPBC San Pablo de B 127.11 136 *e*P **PKiKP 02 19 44.7 -0.2**
DBIC Dimbokro 127.12 226 PKP **PKiKP 02 19 45.0 +0.2**
comp=Z,7.5nm,1.0s,baz=237,slow=3.0,SNR=6.2
DBIC Dimbokro 127.12 226 PKIKP **PKiKP 02 19 45.0 +0.2**
TIC Toumodi 127.17 226 *e*PKP2 **PKPdf 02 19 43.9 -0.5**
MESA MESA 127.17 38 P **PKPdf 02 19 42.3 -0.9**
baz=232
MLY Manley 127.17 30 PKPdf 02 19 42.5 -0.3
MLY IAMs_20 IAMs_20 03 08 31.4
comp=Z,9μm,22.0s
MLY Manley 127.17 30 P **PKPdf 02 19 42.1 -0.7**
baz=229
TGL Tana Glacier 127.19 37 IAMs_20 IAMs_20 03 08 21.4
comp=Z,6μm,21.0s
R11A Troy Canyon, C 127.22 73 P **PKPdf 02 19 44.0 0.0**
baz=231,SNR=33
ISLE Juniper Island 127.28 37 IAMs_20 IAMs_20 03 14 34.9
comp=Z,6μm,20.0s
DBBC Dabeiba 127.35 133 *e*P **PKiKP 02 19 47.6 +2.2**
HARP HAARP 127.36 35 P **PKPdf 02 19 42.8 -0.4**
baz=231
YAH Yahtse 127.37 38 IAMs_20 IAMs_20 03 12 55.0
comp=Z,7μm,19.0s
NEA2 Nenana 127.42 31 IAMs_20 IAMs_20 03 10 37.1
comp=Z,8μm,21.0s
NEA2 Nenana 127.42 31 P **PKiKP 02 19 43.7 -0.2**
baz=230
BCIP Isla Barro Col 127.45 128 IAMs_20 IAMs_20 03 01 55.6
comp=Z,7μm,22.0s
SOC Sochi 127.49 296 *i*PKIKP **PKPdf 02 19 42.2 -1.8**
SOC *e*SS SS 02 38 55.6 +0.2
SOC *e*SSS SSS 02 43 36.1
SOC MLR MLR
comp=Z,2μm,18.0s
MCARA McCarthy VSAT 127.51 36 P **PKPdf 02 19 43.5 -0.1**
baz=232
TGUH Tegucigalpa,Un 127.52 117 *e*P **PKiKP 02 19 49.5 +3.8**
I05D Terrebonne, OR 127.54 63 P **PKPdf 02 19 43.8 -0.4**
baz=232
PAX Paxson 127.61 34 P **PKiKP 02 19 44.4 0.0**
baz=231
TABL Table Mountain 127.65 38 IAMs_20 IAMs_20 03 13 03.3
comp=Z,9μm,20.0s
F04D Rainier, OR 127.66 61 P **PKPdf 02 19 44.2 0.0**
baz=233
WRH Wood River Hil 127.67 31 IAMs_20 IAMs_20 03 07 15.6
comp=Z,8μm,22.0s
I23K Minto, Yukon-K 127.69 30 IAMs_20 IAMs_20 03 08 32.1
comp=Z,9μm,22.0s
I23K Minto, Yukon-K 127.69 30 P **PKPdf 02 19 42.4 -1.3**
baz=230
PTBC PUERTO BERRIO 127.72 135 *e*P **PKiKP 02 19 47.6 +1.5**
RUSC La Rusia 127.75 137 *e*P **PKPdf 02 19 45.7 -0.5**
PINM Pinnacle 127.79 39 P **PKPdf 02 19 43.5 -0.7**
baz=233
PNL Peninsula 127.88 39 P **PKPdf 02 19 43.4 -0.9**
baz=233
CCB Clear Creek Bu 127.88 31 IAMs_20 IAMs_20 03 07 33.0
comp=Z,8μm,22.0s
CTG Chitna Glacier 127.90 37 P **PKPdf 02 19 42.6 -1.8**
baz=232
CTGM Chitina Glacie 127.90 37 IAMs_20 IAMs_20 03 08 33.0
comp=Z,6μm,22.0s
MDM Murphy Dome 127.94 31 IAMs_20 IAMs_20 03 10 32.6
comp=Z,6μm,20.0s
LOGN Logan Glacier 127.94 38 IAMs_20 IAMs_20 03 13 13.2
comp=Z,6μm,20.0s
BCPM Bancas Point 127.95 39 IAMs_20 IAMs_20 03 11 13.6
comp=Z,8μm,19.0s
WUAZ Wupatki 128.00 78 IAMs_20 IAMs_20 03 08 21.3
comp=Z,6μm,20.0s
WUAZ Wupatki 128.00 78 P **PKPdf 02 19 44.1 -1.4**
baz=230
TCOL CIGO, UAF Yank 128.00 31 IAMs_20 IAMs_20 03 12 54.4
comp=Z,5μm,20.0s
TCOL CIGO, UAF Yank 128.00 31 P **PKPdf 02 19 43.7 -0.6**
baz=230
COLA College 128.01 31⇑*i*PKIKP **PKPdf 02 19 44.0 -0.3**
COLA MLR MLR
comp=Z,5μm,20.0s
COLA College 128.01 31 IAMs_20 IAMs_20 03 12 54.0
comp=Z,5μm,20.0s
COLA College 128.01 31 P **PKPdf 02 19 43.5 -0.8**
baz=230
HDA Harding Lake 128.01 32 PKPdf 02 19 44.7 +0.3
HDA IAMs_20 IAMs_20 03 09 47.7
comp=Z,9μm,21.0s
HDA Harding Lake 128.01 32 P **PKPdf 02 19 42.8 -1.6**
baz=231
SIT Sitka 128.03 44 P **PKPdf 02 19 44.3 -0.3**
baz=234
CRAG Craig 128.08 46 P **PKPdf 02 19 44.2 -0.5**
baz=234
G05D Wamic, OR 128.10 62 P **PKPdf 02 19 44.2 -1.0**
baz=233
M26K Nabesna, AK 128.15 35 IAMs_20 IAMs_20 03 13 50.6
comp=Z,8μm,22.0s
M26K Nabesna, AK 128.15 35 P **PKPdf 02 19 44.5 -0.3**
baz=232
E04D Cinebar 128.19 60 P **PKPdf 02 19 43.7 -1.6**
baz=233
ILAR Eielson Array 128.26 32 PKP **PKPdf 02 19 44.0 -0.9**
comp=Z,3.8nm,0.8s,baz=286,slow=2.9,SNR=16
ILAR Eielson Array 128.26 32 PKPdf 02 19 43.4 -1.4
POKR Poker Plat Res 128.30 31 IAMs_20 IAMs_20 03 07 35.2
comp=Z,6μm,22.0s
POKR Poker Plat Res 128.30 31 P **PKPdf 02 19 45.0 0.0**
baz=231
UREC San Jos de Ur 128.31 133 *e*P **PKiKP 02 19 49.5 +2.3**
121A Cookes Peak, D 128.31 83 P **PKPdf 02 19 44.4 -1.9**
baz=228
RIDG Independent Ri 128.31 33 IAMs_20 IAMs_20 03 13 14.7
comp=Z,6μm,21.0s
RIDG Independent Ri 128.31 33 P **PKPdf 02 19 44.1 -1.0**
baz=232
ZARC Zaragoza, Cauc 128.39 134 *e*P **PKPdf 02 19 46.6 -0.1**
ZARC Zaragoza, Cauc 128.39 134 PKPdf **PKPdf 02 19 45.7 -1.1**
F05D White Salmon 128.40 62 P **PKiKP 02 19 46.2 -0.2**
baz=233
L26K Log Cabin Wild 128.41 35 IAMs_20 IAMs_20 03 07 55.3
comp=Z,7μm,21.0s
L26K Log Cabin Wild 128.41 35 P **PKPdf 02 19 44.6 -0.6**
baz=232
D04E Lakebay 128.44 60 P **PKPdf 02 19 44.7 -1.0**
baz=234
D03D Eldon 128.48 59 P **PKPdf 02 19 44.8 -1.0**
baz=234
BELG Belogornoye 128.48 309 PKP **PKiKP 02 19 47.6 +1.3**
comp=Z,24nm,0.8s,baz=31,slow=2.1,SNR=7.7
BELG Belogornoye 128.48 309⇑*i*PKIKP **PKiKP 02 19 47.0 +0.8**
BELG MLR MLR
comp=Z,861nm,21.0s
M27K Edge Creek, AK 128.54 36 P **PKPdf 02 19 44.4 -1.3**
baz=233
BRRC Barranca, Sant 128.56 136 *e*P **PKPdf 02 19 44.7 -2.3**
H24K Noodor Dome 128.61 30 IAMs_20 IAMs_20 03 12 46.3
comp=Z,9μm,21.0s
H24K Noodor Dome 128.61 30 P **PKPdf 02 19 45.2 -0.4**
baz=231
EPT El Paso 128.62 85 IAMs_20 IAMs_20 03 11 28.8
comp=Z,7μm,19.0s
BRTR Keskin Array B 128.71 288 PKP **PKPdf 02 19 45.1 -1.6**
comp=Z,6.9nm,1.2s,baz=197,slow=2.1,SNR=8.3
BRTR Keskin Array B 128.71 288*c*/PKIKP **PKPdf 02 19 46.7 0.0**
BRTR pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 128.71 288 PKPdf 02 19 46.4 -0.4
YUK3 Moose Creek 128.72 37 P **PKPdf 02 19 44.9 -1.2**
baz=234
SCRK Sand Creek 128.76 33 PKPdf **PKiKP 02 19 47.0 +0.3**
SCRK IAMs_20 IAMs_20 03 13 16.5
comp=Z,5μm,20.0s
SCRK Sand Creek 128.76 33 P **PKPdf 02 19 44.9 -1.1**
baz=233
W18A Petrified Fore 128.77 80 P **PKPdf 02 19 45.8 -1.3**
baz=230
COLD Coldfoot 128.78 28 P **PKPdf 02 19 45.5 -0.3**
baz=230
TAMC Tame, Arauca 128.79 138 *e*P **PKiKP 02 19 48.6 +0.3**
ELK Elko 128.92 70 IAMs_20 IAMs_20 03 05 51.2
comp=Z,8μm,21.0s
L27K Beaver Creek, 128.98 35 P **PKPdf 02 19 46.4 +0.1**
baz=234
WRAK Wrangell Islan 128.99 46 P **PKPdf 02 19 45.4 -1.1**
baz=235
BCAR Beaver Creek A 129.00 35 PKPdf **PKPdf 02 19 46.0 -0.4**
JIS Juneau Island 129.15 43 IAMs_20 IAMs_20 03 06 05.7
comp=Z,8μm,21.0s
PRP Porcupine Dome 129.18 31 IAMs_20 IAMs_20 03 08 35.4
comp=Z,6μm,22.0s
PRP Porcupine Dome 129.18 31 P **PKPdf 02 19 45.6 -1.2**
baz=233
J26L Joseph Creek 129.22 33 P **PKPdf 02 19 46.0 -0.8**
baz=233
MNTX Cornudas Mount 129.28 86 IAMs_20 IAMs_20 03 06 55.4
comp=Z,6μm,20.0s
MNTX Cornudas Mount 129.28 86 P **PKPdf 02 19 46.9 -1.0**
baz=228
ANTO Ankara 129.31 288 PKIKP **PKPdf 02 19 48.0 +0.2**
ANTO MLR MLR
comp=Z,6μm,20.0s
ANTO Ankara 129.31 288 PKPdf **PKPdf 02 19 48.0 +0.2**
ANTO IAMs_20 IAMs_20 03 14 31.0
comp=Z,6μm,20.0s
TORD Torodi Ar. Bea 129.37 238 PKP **PKPdf 02 19 47.3 -1.2**
comp=Z,6.7nm,0.9s,baz=78,slow=1.2,SNR=16
A04D Lummi Island 129.38 58 P **PKPdf 02 19 46.1 -1.3**
baz=235
SKAG Skagway 129.43 41 P **PKPdf 02 19 46.9 -0.3**
baz=235
B05A Bryant 129.45 59 P **PKPdf 02 19 47.1 -0.5**
baz=235
ILGA Ilgaz 129.48 290 PKPdf **PKiKP 02 19 49.0 0.0**
A21K Barrow 129.74 22 IAMs_20 IAMs_20 03 11 45.5
comp=Z,8μm,21.0s
A21K Barrow 129.74 22 P **PKPdf 02 19 46.9 -0.5**
baz=228
OCAC Ocana 129.74 136 *e*P **PKiKP 02 19 50.5 +0.2**
TOLK Toolik Lake Re 129.85 27 PKPdf **PKiKP 02 19 48.4 -0.2**
TOLK IAMs_20 IAMs_20 03 11 09.0
comp=Z,6μm,21.0s
TOLK Toolik Lake Re 129.85 27 P **PKiKP 02 19 48.9 +0.3**
baz=232,SNR=5.2
Y22D IRIS PASSCAL I 129.87 83 IAMs_20 IAMs_20 03 10 13.8
comp=Z,6μm,18.0s
Y22D IRIS PASSCAL I 129.87 83 P **PKPdf 02 19 47.3 -1.8**
baz=230
SMLC San Martn de 129.90 134 *e*P **PKiKP 02 19 51.4 +1.1**
FYU Fort Yukon 129.91 30 IAMs_20 IAMs_20 03 11 09.6
comp=Z,8μm,22.0s
C06D Leavenworth 129.91 60 P **PKPdf 02 19 48.5 -0.1**
baz=235
DUG Dugway, Tooele 130.05 72 P **PKPdf 02 19 48.2 -1.1**
baz=232
BMO Blue Mountains 130.16 65 IAMs_20 IAMs_20 03 12 47.7
comp=Z,8μm,20.0s
MFID Camas Ranch 130.17 67 IAMs_20 IAMs_20 03 13 54.4
comp=Z,5μm,18.0s
EGAK Eagle 130.23 33 IAMs_20 IAMs_20 03 14 07.3
comp=Z,8μm,20.0s
EGAK Eagle 130.23 33 P **PKPdf 02 19 48.2 -0.4**
baz=235
ELOV Elorza 130.25 141 *e*P **PKiKP 02 19 54.3 +3.2**
WHY Whitehorse 130.29 40 P **PKPdf 02 19 49.0 +0.1**
baz=236
SJCC San Jacinto, C 130.35 133 *e*P **PKiKP 02 19 53.3 +2.0**
SJCC San Jacinto, C 130.35 133 PKPdf **PKPdf 02 19 49.1 -1.4**
N31M Braeburn, Yuko 130.39 39 P **PKPdf 02 19 48.5 -0.5**
baz=236
DAWY Dawson 130.45 35 P **PKPdf 02 19 49.0 -0.1**
baz=236
M30M Minto, Yukon 130.59 37 P **PKPdf 02 19 49.4 0.0**
baz=237
BMAR Burnt Mountain 130.62 30 PKPdf **PKPdf 02 19 49.8 +0.4**
MDUB Mudurnu 130.65 287 PKPdf **PKiKP 02 19 51.7 +0.6**
ANMO Albuquerque 130.72 82 PKP **PKPdf 02 19 49.9 -0.8**
comp=Z,1.1nm,0.6s,baz=201,slow=4.1,SNR=3.2
ANMO Albuquerque 130.72 82 IAMs_20 IAMs_20 03 10 59.4
comp=Z,5μm,19.0s
ANMO Albuquerque 130.72 82 P **PKPdf 02 19 49.6 -1.2**
baz=230
LL1C La Loma 1 Cana 130.79 135 *e*P **PKiKP 02 19 55.3 +3.1**
833A Chaparral WMA, 130.81 94 P **PKPdf 02 19 48.8 -2.0**
baz=226
VRH Novokhopyorsk 130.83 305 *e*PKIKP **PKiKP 02 19 52.0 +1.0**
VRH pmax pmax
comp=Z,50nm,1.0s
SOCV Socops 130.85 139 *e*P **PKPdf 02 19 51.4 0.0**
MVCO Mesa Verde 130.87 78 PKPdf **PKPdf 02 19 51.2 +0.2**
MVCO IAMs_20 IAMs_20 03 10 18.2
comp=Z,6μm,20.0s
MVCO Mesa Verde 130.87 78 P **PKPdf 02 19 51.2 +0.2**
baz=231,SNR=21
LL5C La Loma 5 El P 130.90 134 *e*P **PKiKP 02 19 58.1 +5.8**
P33M Teslin, Yukon 130.90 41 P **PKPdf 02 19 49.7 -0.5**
baz=237
LL6C La Loma 6 Bece 131.09 135 *e*P **PKiKP 02 19 57.2 +4.4**
HLID Hailey 131.09 68 IAMs_20 IAMs_20 03 06 47.8
comp=Z,6μm,21.0s
HLID Hailey 131.09 68 P **PKPdf 02 19 50.3 -0.8**
baz=234
J29M Klondike Camp 131.10 35 P **PKPdf 02 19 50.5 +0.2**
baz=237
KIRV Kirov 131.10 316 PKP **PKPdf 02 19 50.6 +0.2**
comp=Z,20nm,0.7s,baz=46,slow=2.2,SNR=7.8

KIRV	Kirov	131.10	316	⇑	iPKIKP	PKiKP	02 19 51.1	-0.2
DLBC	Dease Lake	131.16	44		PKPdf	PKiKP	02 19 51.6	+0.1
M31M	Drury Creek, Y	131.33	39		P	PKPdf	02 19 50.8	0.0
baz=238								
SDV	Santo Domingo	131.48	138		eP	PKPdf	02 19 51.4	-1.4
SDV	Santo Domingo	131.48	138		PKPdf	PKPdf	02 19 51.9	-0.9
SDV	Santo Domingo	131.48	138		IAMs_20	IAMs_20	03 09 40.2	
comp=Z,8μm,19.0s								
I29M	Ogilvie Camp,	131.56	34		P	PKPdf	02 19 51.1	-0.1
baz=238								
HWUT	Hardware Ranch	131.65	72		IAMs_20	IAMs_20	03 07 18.5	
comp=Z,9μm,21.0s								
JCT	Junction City	132.02	91		PKIKP	PKiKP	02 19 55.2	+1.0
JCT	Junction City	132.02	91		PKPdf	PKiKP	02 19 55.2	+1.0
JCT					IAMs_20	IAMs_20	03 06 31.9	
comp=Z,7μm,21.0s								
JCT	Junction City	132.02	91		P	PKPdf	02 19 51.8	-1.4
baz=227								
VSR	Storozhevoye	132.19	303		ePKIKP	PKiKP	02 19 54.0	+0.2
VSR					pmax	pmax		
comp=Z,50nm,1.6s								
NEW	Newport	132.19	61		P	PKPdf	02 19 52.2	-0.7
baz=237								
S22A	4UR Ranch, Cre	132.24	79		P	PKPdf	02 19 51.9	-1.8
baz=232								
CRJC	Cerrejon, Guaj	132.40	135		eP	PKPdf	02 19 54.3	-0.1
MSTX	Muleshoe	132.43	86		P	PKPdf	02 19 52.8	-1.1
baz=230								
AHID	Auburn Hatcher	132.61	71		IAMs_20	IAMs_20	03 19 06.0	
comp=Z,5μm,18.0s								
EPYK	Eagle Plains	132.64	33		IAMs_20	IAMs_20	03 09 37.2	
comp=Z,5μm,21.0s								
EPYK	Eagle Plains	132.64	33		P	PKPdf	02 19 52.4	-0.8
baz=240								
O20A	White River Ci	132.81	75		P	PKPdf	02 19 52.5	-2.1
baz=234								
SMCO	Snowmass	133.02	77		PKPdf	PKPdf	02 19 55.4	+0.2
SMCO					IAMs_20	IAMs_20	03 10 21.2	
comp=Z,7μm,20.0s								
SDCO	Great Sand Dun	133.07	80		IAMs_20	IAMs_20	03 07 39.6	
comp=Z,7μm,22.0s								
SDCO	Great Sand Dun	133.07	80		P	PKPdf	02 19 53.5	-1.8
baz=232								
REDW	Red Top Meadow	133.10	70		IAMs_20	IAMs_20	03 12 32.9	
comp=Z,7μm,20.0s								
SNOW	Snow King Moun	133.21	70		IAMs_20	IAMs_20	03 12 46.0	
comp=Z,7μm,20.0s								
MSO	Missoula	133.22	65		IAMs_20	IAMs_20	03 09 27.6	
comp=Z,7μm,20.0s								
DABV	Dabajuro	133.31	137		eP	PKPdf	02 19 54.3	-1.7
MOOW	Moose Ponds	133.38	70		IAMs_20	IAMs_20	03 13 01.4	
comp=Z,6μm,20.0s								
T25A	Trinidad	133.38	81		P	PKPdf	02 19 54.8	-1.0
baz=232								
LOHW	Long Hollow	133.39	70		IAMs_20	IAMs_20	03 12 51.6	
comp=Z,6μm,20.0s								
BW06	Boulder Array	133.54	72		IAMs_20	IAMs_20	03 08 59.6	
comp=Z,7μm,21.0s								
BW06	Boulder Array	133.54	72		P	PKPdf	02 19 54.9	-1.0
baz=235								
PDAR	Pinedale Array	133.54	72		PKhKP	PKPpre	02 19 45.0	
comp=Z,0.2nm,0.5s,baz=158,slow=1.6,SNR=4.1								
PDAR					PKP	PKPdf	02 19 55.0	-0.9
comp=Z,1.5nm,0.8s,baz=154,slow=2.4,SNR=10								
PDAR					SKKPbc	SKKPbc	02 32 40.0	+1.2
comp=Z,1.5nm,1.1s,baz=66,slow=5.0,SNR=5.1								
PDAR	Pinedale Array	133.54	72			PKPdf	02 19 55.1	-0.8
ABTX	Abilene, Hawle	133.54	89		P	PKPdf	02 19 54.7	-1.3
baz=229								
FLWY	Flagg Ranch	133.60	69		IAMs_20	IAMs_20	03 13 18.1	
comp=Z,6μm,20.0s								
435B	Jarrell	133.63	93		P	PKPdf	02 19 53.4	-2.7
baz=228								
AMTX	Amarillo	133.70	85		P	PKPdf	02 19 54.3	-2.0
baz=230								
H17A	Grant Village	133.84	69		P	PKPdf	02 19 54.4	-2.0
baz=236								
BOZ	Bozeman (W)	133.88	67		P	PKPdf	02 19 55.0	-1.3
baz=237								
Q24A	Divide	134.03	79		P	PKPdf	02 19 55.8	-1.3
baz=233								
HKT	Hockley	134.19	95	⇑	iPKIKP	PKiKP	02 19 58.2	-0.2
ISCO	Idaho Springs	134.24	77		PKIKP	PKPdf	02 19 56.5	-0.9
ISCO	Idaho Springs	134.24	77			PKPdf	02 19 56.5	-0.9
ISCO					IAMs_20	IAMs_20	03 11 32.0	
comp=Z,7μm,19.0s								
ISCO	Idaho Springs	134.24	77		P	PKPdf	02 19 56.2	-1.2
baz=234								
PRGR	Permogore	134.28	318		ePKIKP	PKPdf	02 19 56.2	-0.1
PRGR					pmax	pmax		
comp=Z,34nm,1.0s								
RWWY	Rawlins	134.35	74		IAMs_20	IAMs_20	03 10 17.3	
comp=Z,8μm,20.0s								
WHTX	Lake Whitney,	134.52	92		P	PKPdf	02 19 55.6	-2.2
baz=228								
TIRR	Tirgusor	134.63	290	⇑	P	PKPdf	02 19 52.2	-5.3
TIRR	Tirgusor	134.63	290	⇑	PKIKP	PKPdf	02 19 52.2	-5.3
TIRR	Tirgusor	134.63	290		IAMs_20	IAMs_20	03 26 00.7	
comp=Z,7μm,22.0s								
INK	Inuvik	134.66	31		PKP	PKPdf	02 19 56.1	-0.7
comp=Z,9.5nm,0.8s,baz=203,slow=2.3,SNR=19								
INK	Inuvik	134.66	31		P	PKPdf	02 19 55.8	-1.1
baz=244								
N23A	Red Feather La	134.67	76		P	PKPdf	02 19 56.3	-1.8
baz=235								
RLMT	Red Lodge	135.02	69		IAMs_20	IAMs_20	03 14 08.8	
comp=Z,5μm,18.0s								
RLMT	Red Lodge	135.02	69		P	PKPdf	02 19 56.6	-2.0
baz=237								
HARR	Harsova	135.05	290	⇑	P	PKPdf	02 19 53.9	-4.4
HARR	Harsova	135.05	290	⇑	PKIKP	PKPdf	02 19 53.9	-4.4
PHWY	Pilot Hill	135.21	76		IAMs_20	IAMs_20	03 13 55.1	
comp=Z,7μm,19.0s								
MOS	Moscow	135.25	308		iPKIKP	PKPdf	02 19 58.3	0.0
MOS					e		02 22 36.0	
MOS					eSS	SS	02 40 22.7	-7.1
MOS					pmax	pmax		
comp=Z,400nm,2.6s								
MOS					pmax	pmax		
comp=Z,130nm,2.3s								
MOS					MLR	MLR		
comp=N,3μm,21.0s								
MOS					MLR	MLR		
comp=E,3μm,21.0s								
MOS					MLR	MLR		
comp=Z,4μm,21.0s								
WMOK	Wichita Mounta	135.46	88		P	PKPdf	02 19 57.0	-2.5
baz=231								
OBN	Obninsk	135.49	307	⇑	P	PKPdf	02 19 56.5	-2.2
OBN	Obninsk	135.49	307	⇓	iPKIKP	PKiKP	02 20 01.8	+1.5
OBN							02 27 06.0	
OBN					ePS	PS	02 32 51.1	-7.9
OBN					eSS	SS	02 40 55.7	+23
OBN					eSSS	SSS	02 45 41.4	
OBN					pmax	pmax		
comp=Z,142nm,2.5s								
OBN					MLR	MLR		
comp=Z,3μm,24.0s								
OBN	Obninsk	135.49	307		PKPdf	PKiKP	02 19 59.5	-0.8
KSCO	Kaye Shedlock'	135.64	80		P	PKPdf	02 19 57.9	-1.9
baz=234								
MILM	Milestii Mici	135.71	293	⇑	iPKP	PKPdf	02 20 00.0	+0.5
comp=Z,200nm,1.5s								
MILM	Milestii Mici	135.71	293		ePKS		02 23 33.0	
MILM					eL	L	03 04 46.0	
MILM					eLR	LR	03 24 03.0	
comp=Z,400nm,18.5s								
MILM	Milestii Mici	135.71	293	c	iPKIKP	PKPdf	02 20 00.0	+0.5
MILM					pmax	pmax		
comp=Z,200nm,1.5s								
KIS	Kishinev	135.75	293		ePKP	PKiKP	02 20 02.0	+0.9
comp=Z,100nm,2.0s								
KIS	Kishinev	135.75	293		ePP	PP	02 22 37.0	-1.7
KIS	Kishinev	135.75	293		iPKS		02 23 35.0	
KIS					eLQ	LQ	03 11 06.0	
comp=Z,1μm,23.0s								
KIS					LRM	MLR	03 26 30.0	
comp=Z,800nm,18.0s								
KIS	Kishinev	135.75	293		ePKIKP	PKiKP	02 20 02.0	+0.9
KIS					e		02 22 37.0	
KIS					pmax	pmax		
comp=Z,100nm,2.0s								
NATX	Nacogdoches	136.15	94		P	PKPdf	02 19 58.4	-2.4
baz=228								
BISRR	Bisoca	136.24	291	⇑	P	PKPdf	02 19 58.7	-2.0
EGMT	Eagleton	136.26	65		P	PKPdf	02 19 59.4	-1.2
baz=240								
U32A	Winter Ranch,	136.34	86		IAMs_20	IAMs_20	03 14 46.2	
comp=Z,5μm,19.0s								
NEHR	Nehoiu	136.42	290	⇑	P	PKPpre	02 19 53.7	
MLR	Muntele Rosu	136.66	290	⇑	P	PKPpre	02 19 49.7	
MLR				⇑	P	PKPpre	02 19 51.1	
MLR	Muntele Rosu	136.66	290		PKP	PKPdf	02 20 01.9	+0.5
comp=Z,7.1nm,0.8s,baz=40,slow=12,SNR=4.5								
MLR	Muntele Rosu	136.66	290			PKPdf	02 20 01.4	-0.1
OK035	E0210 Rd and N	136.73	86		IAMs_20	IAMs_20	03 16 54.5	
comp=Z,6μm,18.0s								
VTS	Vitosha	136.76	285	⇑	P	PKPdf	02 19 58.4	-3.4
VTS	Vitosha	136.76	285	⇑	PKIKP	PKPdf	02 19 58.4	-3.4
VTS	Vitosha	136.76	285		eP	PKPpre	02 19 51.7	
TESR	Tescani	136.78	292	⇓	P	PKPpre	02 19 51.2	
VLAD	Vladila	136.80	287	⇑	P	PKPpre	02 19 54.3	
OK025	Westminster Rd	136.90	88		IAMs_20	IAMs_20	03 10 34.2	
comp=Z,8μm,20.0s								
OK032	Salt Plains WL	137.10	86		IAMs_20	IAMs_20	03 19 47.4	
comp=Z,6μm,18.0s								
OGNE	Ogallala	137.13	78		IAMs_20	IAMs_20	03 11 03.9	
comp=Z,7μm,22.0s								
OGNE	Ogallala	137.13	78		P	PKPdf	02 20 00.3	-2.2
baz=235								
BOSS	Bosilegrad	137.16	284		eP	PKPpre	02 19 49.3	
KBN	Korca	137.16	281		PKIKP	PKPdf	02 20 01.3	-1.2
KBN	Korca	137.16	281		PKPdf	PKPdf	02 20 01.3	-1.2
VOIR		137.17	290	⇑	P	PKiKP	02 20 07.8	+3.6
VOIR		137.17	290	⇑	PKIKP	PKiKP	02 20 07.8	+3.6
DOPR	Dopca	137.24	290	⇓	P	PKPpre	02 19 57.4	
CBKS	Cedar Bluff	137.34	82		IAMs_20	IAMs_20	03 16 56.6	
comp=Z,7μm,19.0s								
CBKS	Cedar Bluff	137.34	82		P	PKPdf	02 20 01.0	-1.9
baz=234								
AKASG	Malin Array Be	137.36	298		PKP	PKPdf	02 20 01.6	-0.8
comp=Z,1.8nm,0.6s,baz=81,slow=2.1,SNR=8.2								
AKASG	Malin Array Be	137.36	298			PKPdf	02 20 01.2	-1.2
AKBB	Malin Array Si	137.36	298	⇑	iPKIKP	PKPdf	02 20 03.2	+0.8
ARR	Arges	137.38	289	⇓	P	PKPpre	02 19 57.0	
OK031	S. Brethren Rd	137.45	88		IAMs_20	IAMs_20	03 11 10.7	
comp=Z,7μm,21.0s								
PRAR	RASCA	137.46	293	⇑	P	PKPpre	02 19 57.9	
OK030	Cody Creek RV	137.47	88		IAMs_20	IAMs_20	03 11 12.2	
comp=Z,7μm,20.0s								
X37A	Clayton	137.53	90		IAMs_20	IAMs_20	03 10 46.9	
comp=Z,8μm,21.0s								
OK034	N. Norfolk Rd.	137.57	88		IAMs_20	IAMs_20	03 11 15.8	
comp=Z,7μm,20.0s								
RSSD	Black Hills	137.64	73		PKIKP	PKPpre	02 19 57.1	
RSSD	Black Hills	137.64	73			PKPpre	02 19 57.1	
RSSD	Black Hills	137.64	73		IAMs_20	IAMs_20	03 14 22.2	
comp=Z,5μm,20.0s								
RSSD	Black Hills	137.64	73		P	PKPdf	02 20 01.4	-2.1
baz=238								
LAO	LASA Array	137.65	69		IAMs_20	IAMs_20	03 11 23.4	
comp=Z,8μm,21.0s								
LAO	LASA Array	137.65	69		P	PKPdf	02 20 01.2	-2.0
baz=240								
BARS	Barje	137.74	284		eP	PKPpre	02 19 58.4	
BARS	Barje	137.74	284		eP	PKiKP	02 20 07.1	+1.7
PUNG	Punghina	137.84	287	⇓	P	PKPdf	02 20 01.3	-2.2
GRGR	Grenville	137.88	148		IAMs_20	IAMs_20	03 25 28.0	
comp=Z,7μm,20.0s								
TUL1	Leonard	138.09	89		PKPdf	PKPdf	02 20 01.5	-2.8
TUL1	Leonard	138.09	89		P	PKPdf	02 20 00.4	-3.9
baz=232								
TIR	Tirane	138.15	281		IAMs_20	IAMs_20	03 31 28.9	
comp=Z,4μm,18.0s								
BURAR	Bucovina Array	138.18	292	⇑	P	PKPpre	02 19 59.9	
BURAR	Bucovina Array	138.18	292	⇑	PKIKP	PKPpre	02 19 59.9	
BURAR	Bucovina Array	138.18	292			PKPpre	02 19 58.1	
C36M	Paulatuk	138.23	32		IAMs_20	IAMs_20	03 15 55.8	
comp=Z,5μm,22.0s								
C36M	Paulatuk	138.23	32		P	PKPdf	02 20 03.3	-0.1
baz=252								
T35A	Sooner Cattle	138.25	87		PKPdf	PKPdf	02 20 04.1	-0.4
BOVS	Bovan	138.25	285	⇓	P	PKPdf	02 20 01.0	-3.3
BOVS	Bovan	138.25	285		eP	PKiKP	02 20 06.8	+0.4
Z41A	Richland Creek	138.31	94		P	PKPdf	02 20 02.5	-2.2
baz=229								
ARCR	ARCALIA	138.43	291	⇑	P	PKPdf	02 20 02.8	-1.7
GZR	Gura Zlata	138.52	288	⇑	P	PKPpre	02 19 54.2	
GZR	Gura Zlata	138.52	288	⇑	PKHKP	PKPpre	02 19 54.2	
A36M	Sachs Harbour	138.64	28		IAMs_20	IAMs_20	03 18 19.3	
comp=Z,5μm,22.0s								
A36M	Sachs Harbour	138.64	28		P	PKPdf	02 20 02.8	-1.3
baz=254								
MIAR	Mount Ida	138.65	92		IAMs_20	IAMs_20	03 16 07.4	
comp=Z,4μm,19.0s								
MIAR	Mount Ida	138.65	92		P	PKPdf	02 20 03.3	-2.0
baz=230								
KUBS	Kucevo	138.68	286		eP	PKiKP	02 20 08.7	+1.5
DEV	Deva	138.69	289	⇑	P	PKPpre	02 19 59.2	
DEV	Deva	138.69	289	⇑	PKIKP	PKPpre	02 19 59.2	
TIP	Timpagrande	138.86	277		PKPdf	PKPdf	02 20 05.6	-0.1
CEL	Celeste	138.87	275		IAMs_20	IAMs_20	03 27 22.3	
comp=Z,8μm,20.0s								
W39A	Magazine	138.93	91		IAMs_20	IAMs_20	03 12 11.8	
comp=Z,5μm,21.0s								
W39A	Magazine	138.93	91		P	PKPdf	02 20 04.2	-1.6
baz=231								
GRUS	Gruza	139.00	285		eP	PKPpre	02 19 54.1	
VBMS	Vicksburg	139.08	97		P	PKPdf	02 20 03.6	-2.6
baz=228								
X40A	Basin Creek Fa	139.08	93		P	PKPdf	02 20 02.7	-3.4
baz=230								
PDG	Podgorica	139.12	282		PKPdf	PKPdf	02 20 06.0	+0.1
SJES	Sjenica	139.12	284		eP	PKPpre	02 19 58.5	
IVAS	Ivanjica	139.18	284		eP	PKPpre	02 20 00.8	
BMR	Baia Mare	139.22	292	⇑	P	PKPpre	02 20 00.2	
BMR	Baia Mare	139.22	292	⇑	PKIKP	PKPpre	02 20 00.2	
DRGR		139.26	290	⇑	P	PKPdf	02 20 04.0	-2.1
DRGR		139.26	290	⇑	PKIKP	PKPdf	02 20 04.0	-2.1
BZS	Buzias	139.34	288	⇑	P	PKPpre	02 20 00.6	
BZS	Buzias	139.34	288	⇑	PKIKP	PKPpre	02 20 00.6	
TRUS	Trudelj	139.36	285		eP	PKPpre	02 19 54.4	
KSU1	Kansas State U	139.49	84		IAMs_20	IAMs_20	03 17 08.5	
comp=Z,6μm,20.0s								
KSU1	Kansas State U	139.49	84		P	PKPdf	02 20 04.5	-2.2
baz=234								
DIVS	Divibare	139.55	285		PKPdf	PKPdf	02 20 07.0	+0.2
DIVS	Divibare	139.55	285		eP	PKPpre	02 20 00.2	
SIRR	Siria	139.63	289	⇓	P	PKPpre	02 20 00.3	
DGMT	Dagmar	139.72	67		IAMs_20	IAMs_20	03 16 53.0	
comp=Z,6μm,20.0s								
DGMT	Dagmar	139.72	67		P	PKPpre	02 20 02.7	
baz=242								
MNK	Minsk	139.76	303		iPKIKP	PKPdf	02 20 06.3	-0.4
MNK					iSS	SS	02 41 20.8	-2.7
MNK					pmax	pmax		
comp=Z,29nm,0.8s								
MNK					MLR	MLR		
comp=Z,3μm,20.0s								
MNK					MLR	MLR		
comp=N,2μm,19.0s								
MNK					MLR	MLR		
comp=E,349nm,19.0s								
MNK	Minsk	139.76	303		iPKP	PKPdf	02 20 06.4	-0.3
MNK					iPKP	PKPdf	02 20 06.4	-0.3
MNK					iPKP	PKPdf	02 20 06.4	-0.3
comp=Z,29nm,0.8s,baz=293								
MNK					iPP	PP	02 22 58.0	-5.4
MNK					iPKKP	PKKPdf	02 29 40.2	+7.9
MNK					iSKKS		02 36 47.6	
MNK					iSS	SS	02 41 20.8	-2.6
MNK					iLR	LR	03 18 21.9	
MNK					iLRM	MLR	03 20 56.0	
comp=Z,3μm,20.4s								
MNK					iLRM	MLR	03 21 16.8	
comp=N,2μm,18.9s								
MNK					iLRM	MLR	03 21 21.9	
comp=E,349nm,19.1s								
YKA	Yellowknife Ar	139.77	44		PKhKP	PKPpre	02 19 58.2	
comp=E,6.9nm,1.0s,baz=255,slow=3.4,SNR=22								
YKA					PKP	PKPdf	02 20 04.4	-2.0
comp=E,7.9nm,1.0s,baz=242,slow=3.1,SNR=29								
YKA	Yellowknife Ar	139.77	44			PKPpre	02 19 59.2	
BBLS	Lazići	139.79	284		eP	PKPpre	02 20 02.2	
BGNE	Belgrade	139.82	80			PKPdf	02 20 06.7	-0.6
BGNE	Belgrade	139.82	80		P	PKPpre	02 20 02.3	
baz=237								
W41B	Gary Mavity, V	139.89	92		P	PKPdf	02 20 04.7	-2.9
baz=231								
LVV	L'vov	139.91	295		iPKHKP	PKPpre	02 20 01.0	
LVV					e		02 23 02.0	
TRPA	Tarpa	140.01	292	⇓	P	PKPpre	02 19 56.9	
LTVH	Ltavrtes, Hu	140.03	290		PKPDF	PKPdf	02 20 03.4	-4.0
LTVH					SPKPDF	sPKPdf	02 20 13.4	+0.3
TEKS	Tekeris	140.07	285		eP	PKPdf	02 20 04.1	-3.5
SDDR	Presa de Saban	140.07	131		IAMs_20	IAMs_20	03 33 09.3	
comp=Z,5μm,20.0s								
FRGS	Fruska Gora	140.20	286	⇑	P	PKPdf	02 19 59.2	-8.7
FRGS	Fruska Gora	140.20	286		eP	PKPdf	02 20 01.2	-6.7
U40A	Yellville	140.24	90		IAMs_20	IAMs_20	03 12 40.5	
comp=Z,7μm,20.0s								
U40A	Yellville	140.24	90		P	PKPdf	02 20 04.1	-4.1
baz=232								
X43A	Marvell	140.34	94		P	PKPdf	02 20 06.0	-2.4
baz=230								
UZH	Uzhgorod	140.38	292		ePKHKP	PKPpre	02 20 01.0	
UZH					i		02 20 08.8	
FDF	Fort de France	140.47	147		IAMs_20	IAMs_20	03 23 35.8	
comp=Z,4μm,19.0s								
NACGM	Naroch	140.50	303		iPKP	PKPdf	02 20 05.8	-2.2
KWP	Kalwaria Pacla	140.59	294		ePKPdf	PKPdf	02 20 08.4	0.0
KWP					eSS	SS	02 41 37.9	+4.4
KWP					eSSS	SSS	02 46 54.0	
KWP	Kalwaria Pacla	140.59	294		PKIKP	PKiKP	02 20 09.9	-1.1
KWP					MLR	MLR		
comp=Z,29μm,20.0s								
KWP	Kalwaria Pacla	140.59	294		PKPdf	PKiKP	02 20 09.9	-1.1
LVZ	Lovozero	140.85	325		IAMs_20	IAMs_20	03 25 48.6	
comp=Z,6μm,20.0s								
SUSD	Miller	140.92	76		P	PKPdf	02 20 07.6	-1.5
baz=240								
IIGN	Ignalina	140.97	304		eP	PKPdf	02 20 09.9	+1.0
ISAL	Salakas	141.10	304		eP	PKPdf	02 20 07.2	-1.8
APA	Apatity	141.24	324	⇓	iPKHKP	PKPpre	02 19 58.6	
APA					i		02 23 11.0	
APA					i		02 27 22.0	
APA					pmax	pmax		
comp=Z,12nm,0.8s								
KECS	Kecovo	141.39	291		ePKIKP	PKPdf	02 20 05.6	-4.2
KECS	Kecovo	141.39	291		ePKP	PKPdf	02 20 05.6	-4.2
PSZ	Piszkesteto	141.48	290		PKIKP	PKPdf	02 20 08.6	-1.5
PSZ	Piszkesteto	141.48	290		PKPdf	PKPdf	02 20 08.6	-1.5
PSZ	Piszkesteto	141.48	290		PKPDF	PKPdf	02 20 06.5	-3.6
PSZ					PKIKP	PKiKP	02 20 09.4	-3.5
KEST	Kesra	141.51	267		PKhKP	PKPpre	02 20 05.5	
comp=Z,15nm,0.9s,baz=275,slow=3.8,SNR=10.0								
SJG	San Juan	141.64	138		IAMs_20	IAMs_20	03 20 36.2	
comp=Z,5μm,21.0s								
VSU	Vasula	141.78	308		iPKIKP	PKPdf	02 20 07.4	-2.8
VSU	Vasula	141.78	308		eP	PKPdf	02 20 07.0	-3.2
BUD	Budapest	141.80	289		PKPDF	PKPdf	02 20 08.3	-2.3
BUD					SPKPDF	sPKPdf	02 20 19.9	+3.7
GNAR	Gosnell	141.80	93		PKPdf	PKPdf	02 20 11.0	0.0
DWPF	Disney Wildern	141.82	110		IAMs_20	IAMs_20	03 36 57.1	
comp=Z,6μm,22.0s								
DWPF	Disney Wildern	141.82	110		P	PKPdf	02 20 09.6	-1.6
baz=222								
ECSD	EROS Data Cent	142.01	78		IAMs_20	IAMs_20	03 14 06.2	
comp=Z,4μm,21.0s								
ECSD	EROS Data Cent	142.01	78		P	PKPdf	02 20 09.2	-1.9
baz=239								
SUW	Suwalki	142.12	301		ePKPdf	PKPdf	02 20 08.7	-2.2
SUW					eSS	SS	02 41 52.1	+1.1
SUW	Suwalki	142.12	301		eP	PKPdf	02 20 11.2	+0.2
MDND	Maddock	142.16	71		PKPdf	PKPdf	02 20 09.0	-2.3
MDND	Maddock	142.16	71		P	PKPdf	02 20 09.3	-2.0
baz=243								
PABE	Paberze	142.23	303		eP	PKPdf	02 20 07.0	-4.1
CCM	Cathedral Cave	142.28	89		PKIKP	PKPdf	02 20 10.0	-1.8
CCM	Cathedral Cave	142.28	89		PKPdf	PKPdf	02 20 10.0	-1.8
CCM	Cathedral Cave	142.28	89		P	PKPdf	02 20 10.2	-1.6
baz=234								
LANS	Liptovska Anna	142.28	292		ePKIKP	PKPdf	02 20 08.8	-2.7
LANS	Liptovska Anna	142.28	292		ePKP	PKPdf	02 20 08.8	-2.7
GRTK	Grand Turk	142.29	129		IAMs_20	IAMs_20	03 15 23.4	
comp=Z,5μm,20.0s								
SEUS	St. Eustatius	142.35	143		IAMs_20	IAMs_20	03 27 09.9	
comp=Z,5μm,21.0s								
SABA	Saba	142.37	143		IAMs_20	IAMs_20	03 28 29.4	
comp=Z,6μm,21.0s								
VYHS	Vyhne	142.37	290		ePKIKP	PKPdf	02 20 09.5	-2.1
VYHS	Vyhne	142.37	290		ePKP	PKPdf	02 20 09.5	-2.1
SRO	Srobarova	142.38	289		ePKIKP	PKPdf	02 20 10.0	-1.6
SRO	Srobarova	142.38	289		ePKP	P

	comp=Z,5µm,21.0s						
DPC	Dobruska-Polom	144.64	292	ePKP	PKPab	02 20 14.3	0.0
DPC				AMS	AMS	03 41 40.0	
	comp=Z,5µm,21.0s						
MYKA	Terra Mystica	144.69	285	i P	PKPab	02 20 14.2	-0.4
	comp=Z,448nm,2.0s,SNR=70						
TREC	Trest	144.71	290	ePKIKP	PKPab	02 20 14.5	-0.1
TREC				MLR	MLR		
	comp=Z,5µm,21.0s						
TREC	Trest	144.71	290	ePKP	PKPab	02 20 14.5	-0.1
TREC				AMS	AMS	03 28 30.0	
	comp=Z,5µm,21.0s						
OSTC	Ostas	144.78	292	ePKP	PKPbc	02 20 14.9	0.0
OSTC				AMS	AMS	03 28 20.0	
	comp=Z,4µm,19.6s						
KSP	Ksiaz	144.85	293	ePKPdf	PKPab	02 20 15.0	0.0
KSP				eSS	SS	02 42 10.6	-12
KSP				eSSS	SSS	02 47 43.0	
MOA	Molln	144.85	287	i P	PKPab	02 20 13.9	-1.3
	comp=Z,219nm,1.9s,SNR=35						
UPC	Upice	144.88	292	ePKIKP	PKPab	02 20 15.0	-0.1
UPC				MLR	MLR		
	comp=Z,4µm,17.8s						
UPC	Upice	144.88	292	ePKP	PKPab	02 20 15.0	-0.1
UPC				AMS	AMS	03 43 00.0	
	comp=Z,4µm,17.8s						
CHVC	Chvalec	144.89	292	ePKP	PKPab	02 20 14.5	-0.7
CHVC				AMS	AMS	03 24 10.0	
	comp=Z,5µm,19.9s						
HDIL	Hopedale	144.95	87	P	PKPab	02 20 14.4	-1.3
	baz=237						
ZOU	Zoufplan	145.07	285		PKPbc	02 20 15.6	-0.6
KBA	Koelnbreinsper	145.07	286	i P	PKPbc	02 20 15.1	-1.1
	comp=Z,200nm,1.5s,SNR=39						
SPMN	Marine on St.	145.12	78	P	PKPbc	02 20 15.9	-0.2
	baz=242						
GKP	Gorka Klasztor	145.17	297	ePKPdf	PKPbc	02 20 15.8	-0.2
GKP				eSS	SS	02 42 26.9	+0.7
GKP				eSS	SS	02 42 33.8	+7.6
GKP				eSSS	SSS	02 48 08.7	
GKP	Gorka Klasztor	145.17	297	eP	PKPbc	02 20 15.7	-0.2
CKRC	Cesky Krumlov	145.23	289	ePKP	PKPbc	02 20 15.6	-0.8
CKRC				AMS	AMS	03 43 00.0	
	comp=Z,5µm,19.6s						
ZCCA	Zocca	145.28	280	PKPbc	PKPbc	02 20 16.3	-0.4
ULM	Lac du Bonnet	145.40	69	PKPbc	PKPbc	02 20 14.4	-2.4
	comp=Z,36nm,1.1s,baz=248,slow=3.8,SNR=23						
ULM	Lac du Bonnet	145.40	69	PKIKP	PKPbc	02 20 16.2	-0.6
ULM	Lac du Bonnet	145.40	69		PKPbc	02 20 16.2	-0.6
ABTA	Abfaltersbach	145.44	285	i P	PKPdf	02 20 16.4	-0.8
	comp=Z,183nm,1.2s,SNR=75						
WCI	Wyandotte Cave	145.54	93	PKIKP	PKPdf	02 20 17.3	-0.2
WCI	Wyandotte Cave	145.54	93		PKPdf	02 20 17.3	-0.2
WCI	Wyandotte Cave	145.54	93	IAMs_20	IAMs_20	03 38 28.9	
	comp=Z,7µm,22.0s						
WCI	Wyandotte Cave	145.54	93	P	PKPdf	02 20 16.7	-0.8
	baz=234						
PRU	Pruhonice	145.55	291	ePKIKP	PKPdf	02 20 16.5	-0.6
PRU				eSS	SS	02 42 28.4	-2.4
PRU				MLR	MLR		
	comp=Z,4µm,20.1s						
PRU	Pruhonice	145.55	291	ePKP	PKPdf	02 20 16.5	-0.6
PRU				eSS	SS	02 42 28.4	-2.4
PRU				AMS	AMS	03 38 00.0	
	comp=Z,4µm,20.1s						
VLC	Villacollemand	145.56	279	IAMs_20	IAMs_20	03 35 33.1	
	comp=Z,6µm,19.0s						
AAL	Aland	145.56	310	eP	PKPdf	02 20 16.5	-0.3
JFWS	Jewell Farm	145.59	83	IAMs_20	IAMs_20	03 17 18.2	
	comp=Z,7µm,21.0s						
JFWS	Jewell Farm	145.59	83	P	PKPdf	02 20 16.6	-0.8
	baz=239						
GEC2	GERESS Array S	145.60	289	ePKPbc	PKPdf	02 20 16.2	-1.2
	baz=112,slow=2.6						
GERES	GERESS Array B	145.60	289	PKPbc	PKPdf	02 20 16.4	-1.0
	comp=Z,46nm,0.8s,baz=129,slow=3.6,SNR=171						
GERES	GERESS Array B	145.60	289		PKPdf	02 20 16.0	-1.4
PRA	Prague	145.65	291	ePKIKP	PKPbc	02 20 17.5	-0.1
PRA				eSS	SS	02 42 34.3	+2.5
PRA				MLR	MLR		
	comp=Z,4µm,22.0s						
PRA	Prague	145.65	291	ePKP	PKPbc	02 20 17.5	-0.1
PRA				eSS	SS	02 42 34.3	+2.5
PRA				AMS	AMS	03 41 50.0	
	comp=Z,4µm,22.0s						
RJOB	Jochberg	145.69	286	ePKPbc	PKPdf	02 20 16.3	-1.2
	baz=112,slow=2.6						
SPITS	Spitsbergen Ar	145.71	342	PKPbc	PKPdf	02 20 16.6	0.0
	comp=Z,195nm,1.1s,baz=131,slow=10,SNR=17						
PVCC	Panska Ves	145.74	292	ePKP2	PKPbc	02 20 17.8	-0.1
PVCC				MLR	MLR		
	comp=Z,6µm,20.0s						
PVCC	Panska Ves	145.74	292	ePKP	PKPbc	02 20 17.8	-0.1
PVCC				AMS	AMS	03 41 00.0	
	comp=Z,6µm,20.0s						
KHC	Kasperske Hory	145.79	289	ePKP2	PKPdf	02 20 17.0	-0.6
KHC				eSS	SS	02 42 30.5	-3.1
KHC				MLR	MLR		
	comp=Z,6µm,17.9s						
KHC	Kasperske Hory	145.79	289	ePKP	PKPdf	02 20 17.0	-0.6
KHC				eSS	SS	02 42 30.5	-3.1
KHC				AMS	AMS	03 35 20.0	
	comp=Z,6µm,17.9s						
PRMA	PARMA	145.90	280		PKPdf	02 20 17.8	-0.1
NHSC	New Hope	146.13	106	P	PKPdf	02 20 17.9	-0.7
	baz=227						
SALO	Salr	146.16	282	PKPbc	PKPbc	02 20 19.4	0.0
WTTA	Wattenberg	146.20	285	i P	PKPdf	02 20 18.3	-0.3
	comp=Z,826nm,1.6s,SNR=115						
WET	Wettzell	146.22	289	ePKPbc	PKPdf	02 20 18.3	0.0
	baz=112,slow=2.6						
BRG	Berggiesshubel	146.24	292‖	ePKPf		02 20 18.7	
BRG				Amp		02 20 22.2	
	comp=Z,43nm,1.0s						
BRG				ex	x	02 20 24.3	
BRG				Amp		02 20 26.3	
	comp=Z,972nm,2.1s						
BRG				ex	x	02 22 59.0	
BRG				Amp		02 23 01.2	
	comp=Z,54nm,1.7s						
BRG				SKP		02 23 31.1	
BRG				Amp		02 23 33.3	
	comp=Z,217nm,2.3s						
BRG	Berggiesshubel	146.24	292	ePKP2	PKPdf	02 20 18.6	+0.4
BRG				SS	SS	02 42 39.0	+0.5
BRG				pmax	pmax		
	comp=Z,43nm,1.0s						
BRG	Berggiesshubel	146.24	292	ePKPbc	PKPdf	02 20 18.7	+0.5
	baz=112,slow=2.6						
SFIN	Lafayette	146.25	89	P	PKPdf	02 20 18.7	+0.1
	baz=236						
TZTN	Tazewell	146.26	98		PKPdf	02 20 19.1	+0.3
TZTN				IAMs_20	IAMs_20	03 19 14.0	
	comp=Z,4µm,20.0s						
TZTN	Tazewell	146.26	98	P	PKPdf	02 20 18.6	-0.2
	baz=232						
WATA	Walderalm	146.27	285	i P	PKPdf	02 20 19.1	+0.5
	comp=Z,621nm,1.6s,SNR=85						
SQTA	Sankt Quirin	146.45	285	i P	PKPdf	02 20 19.5	+0.6
	comp=Z,737nm,2.2s,SNR=49						
HQIL	Hanson Quary C	146.54	87	IAMs_20	IAMs_20	03 37 04.2	
	comp=Z,6µm,20.0s						
MOTA	Moosalm	146.57	285	i P	PKPdf	02 20 19.7	+0.6
	comp=Z,582nm,2.2s,SNR=52						
FBE	Freiberg	146.60	292	ePKPbc	PKPbc	02 20 19.9	-0.6
	baz=112,slow=2.6						
FETA	Feichten	146.66	284	i P	PKPbc	02 20 20.3	-0.7
	comp=Z,116nm,1.0s,SNR=53						
UPP	Uppsala	146.67	309	eP	PKPdf	02 20 18.9	+0.2
L44A	Lake County Fo	146.70	86	IAMs_20	IAMs_20	03 38 25.0	
	comp=Z,7µm,22.0s						
L44A	Lake County Fo	146.70	86	P	PKPdf	02 20 19.5	+0.2
	baz=239						
KMSC	Kings Mountain	146.76	102	P	PKPdf	02 20 19.7	+0.1
	baz=229						
OJGS	Djebel Guires	146.80	259	P	PKPdf	02 20 20.0	+0.2
FUR	Furstenfeldbru	146.80	286	ePKPbc	PKPdf	02 20 19.8	+0.5
	baz=112,slow=2.6						
R50A	Paris	146.82	95		PKPdf	02 20 20.4	+0.7
RETA	Reutte	146.84	285	i P	PKPdf	02 20 20.4	+0.9
	comp=Z,328nm,1.8s,SNR=76						
EANR	'Ain N'Sour	146.86	260	P	PKPbc	02 20 22.0	+0.2
ROTZ	Rotzenmuhle	146.87	289	ePKPbc	PKPdf	02 20 20.2	+0.8
	baz=112,slow=2.6						
TDRA	Tendrara	146.88	253	P	PKiKP	02 20 26.0	+1.4
RUE	Ruedersdorf	146.89	295	eP	PKPbc	02 20 20.7	-0.5
RUE	Ruedersdorf	146.89	295	ePKPbc	PKPdf	02 20 19.9	+0.7
	baz=112,slow=2.6						
NKC	Novy Kostel	146.89	290	ePKP2	PKPbc	02 20 20.7	-0.7
NKC				MLR	MLR		
	comp=Z,6µm,20.1s						
NKC	Novy Kostel	146.89	290	ePKP	PKPbc	02 20 20.7	-0.7
NKC				AMS	AMS	03 31 10.0	
	comp=Z,6µm,20.1s						
ZGR	Zagora	146.92	245	P	PKiKP	02 20 26.0	+1.2
ZGR	Zagora	146.92	245	P	PKPab	02 20 23.0	-0.6
CLL	Collm	146.95	292	i PKP2	PKPdf	02 20 20.4	+1.0
CLL				i		02 23 55.9	
CLL				pmax	pmax		
	comp=Z,60nm,1.3s						
CLL				MLR	MLR		
	comp=Z,7µm,21.8s						
CLL	Collm	146.95	292	i PKPbc	PKPdf	02 20 20.4	+1.0
	comp=Z,60nm,1.3s						
CLL				i x	x	02 20 24.2	
	comp=Z,440nm,1.8s						
CLL				ePKPlp		02 20 29.0	
	comp=Z,2µm,10.2s						
CLL				ex	x	02 22 17.0	
CLL				ePP	PP	02 23 46.0	-0.8
CLL				i PKSdf	PKSdf	02 23 55.9	+1.5
CLL				ePPP	PPP	02 27 12.0	
CLL				eSKKSac	SKKSac	02 30 42.0	+5.1
CLL				ex	x	02 30 58.0	
CLL				ePSKS		02 34 00.0	
CLL				ePPS	PPS	02 36 29.0	
CLL				ePPPPrev		02 37 54.0	
CLL				ex	x	02 41 51.0	
CLL				eSS	SS	02 42 44.0	-2.6
CLL				ePSS	PSS	02 43 38.0	
CLL				ePSPS		02 44 06.0	
CLL				ex	x	02 47 33.0	
CLL				eSSS	SSS	02 48 17.0	
CLL				ex	x	02 51 30.0	
CLL				LmV		03 32 00.0	
	comp=Z,7µm,21.8s						
CLL	Collm	146.95	292	ePKPbc	PKPdf	02 20 20.2	+0.8
	baz=112,slow=2.6						
CLL	Collm	146.95	292	PKPdf	PKPdf	02 20 19.0	-0.4
TANN	Tannenbergstha	146.95	291	ePKPbc	PKPdf	02 20 20.5	+1.0
	baz=112,slow=2.6						
WERN	Wernitzgruen	146.96	290	ePKPbc	PKPbc	02 20 20.8	-0.8
	baz=112,slow=2.6						
MANZ	Manzenberg	147.01	290	ePKPbc	PKPbc	02 20 20.8	-0.9
	baz=112,slow=2.6						
GUNZ	Gunzen	147.01	290	ePKPbc	PKPbc	02 20 20.8	-0.9
	baz=112,slow=2.6						
BSD	Bornholm Skovb	147.03	300	i P	PKPdf	02 20 20.1	+0.7
BSD				IAmb	IAmb	02 20 25.2	
	comp=Z,103nm,0.8s						
BSD	Bornholm Skovb	147.03	300	eP	PKPbc	02 20 20.7	-0.8
WERD	Werda	147.06	291	ePKPbc	PKPdf	02 20 20.7	+1.0
	baz=112,slow=2.6						
DAVOX	Davos/Dischmat	147.08	283	PKPbc	PKPdf	02 20 21.1	+1.0
	baz=185,slow=5.0						
OJBR	Djebel Berber	147.10	259	P	PKPab	02 20 24.0	-0.1
EYMN	Ely	147.13	74	P	PKPbc	02 20 21.2	-0.8
	baz=246						
PLN	Plauen	147.16	291	ePKPbc	PKPbc	02 20 21.0	-1.1
	baz=112,slow=2.6						
MAHO	Mahon	147.21	268	PKP	PKiKP	02 20 30.5	+5.7
MAHO				SS	SS	02 42 57.8	+8.0
ODJA	Bouhanifia	147.25	258	P	PKiKP	02 20 26.0	+0.8
DAVA	Damuels	147.30	284	i P	PKPdf	02 20 21.5	+1.2
	comp=Z,218nm,1.3s,SNR=52						
P49A	Miami Univ. Ec	147.30	92	IAMs_20	IAMs_20	03 21 28.0	
	comp=Z,7µm,21.0s						
P49A	Miami Univ. Ec	147.30	92	P	PKPdf	02 20 21.2	+0.8
	baz=235,SNR=7.5						
RES	Resolute Bay	147.31	24	PKP2	PKPbc	02 20 21.2	-0.6
RES	Resolute Bay	147.31	24	PKPbc	PKPbc	02 20 21.2	-0.6
UBR	Ueberruh	147.32	285	ePKPbc	PKPdf	02 20 21.4	+1.1
	baz=112,slow=2.6						
ALE	Alert	147.33	5	IAMs_20	IAMs_20	03 20 51.2	
	comp=Z,5µm,22.0s						
TZRR	Tazzarine	147.38	246	P	PKPbc	02 20 24.0	+0.5
GRF	Grafenberg Arr	147.43	289	ePKPbc	PKPbc	02 20 21.8	-1.1
	baz=112,slow=2.6						
GRFO	Grafenberg	147.43	289	PKP2	PKPdf	02 20 21.5	+1.2
GRFO	Grafenberg	147.43	289		PKPdf	02 20 21.5	+1.2
MOX	Moxa	147.54	291	ePKPbc	PKPbc	02 20 22.1	-1.1
	baz=112,slow=2.6						
OTSS	Djebel Tessala	147.62	257	P	PKPab	02 20 28.0	+1.8
NEUB	Neuenburg	147.64	292	ePKPbc	PKPbc	02 20 22.2	-1.2
	baz=112,slow=2.6						
GOLM	Goulmima	147.69	248	P	PKiKP	02 20 26.0	-0.3
USTO	Oran	147.76	258	P	PKPab	02 20 34.0	+7.4
RGN	Rugen	147.76	298	eP	PKiKP	02 20 25.5	0.0
RGN	Rugen	147.76	298	ePKPbc	PKPbc	02 20 22.9	-0.6
	baz=112,slow=2.6						
RGN	Rugen	147.76	298		PKPbc	02 20 23.8	+0.3
RGN				IAMs_20	IAMs_20	03 35 19.9	
	comp=Z,6µm,22.0s						
DEL	Delary	147.94	302	i P	PKiKP	02 20 26.0	+0.2
NOR	Nord	148.02	354	i P	PKPdf	02 20 21.4	+0.9
JBK	JBK	148.09	254	P	PKPab	02 20 29.0	+0.8
JBK	JBK	148.09	254	P	PKPbc	02 20 26.0	+0.6
OUZM	OUZ	148.16	245	P	PKiKP	02 20 27.0	-0.3
OUZM	OUZ	148.16	245	P	PKiKP	02 20 27.0	-0.3
MDT	Midelt	148.27	250	P	PKPab	02 20 29.6	+0.7
MDT	Midelt	148.27	250	P	PKiKP	02 20 27.4	0.0
F42A	Maple Grove Fa	148.28	80	PKPbc	PKiKP	02 20 27.4	+0.5
STU	Stuttgart	148.31	286	PKIKP	PKPbc	02 20 23.6	-1.6
STU				MLR	MLR		
	comp=Z,4µm,20.0s						
STU	Stuttgart	148.31	286	ePKPbc	PKPbc	02 20 23.7	-1.5
	baz=112,slow=2.6						
STU	Stuttgart	148.31	286		PKPbc	02 20 23.6	-1.6
STU				IAMs_20	IAMs_20	03 28 25.8	
	comp=Z,4µm,20.0s						
FLTG	Flechtingen	148.32	294	ePKPbc	PKPbc	02 20 23.6	-1.5
	baz=112,slow=2.6						
SENIN	Lac Senin/Sane	148.51	281	IAMs_20	IAMs_20	03 40 03.6	
	comp=Z,6µm,22.0s						
UBBA	Unterbreizbach	148.56	290	ePKPbc	PKPbc	02 20 24.5	-1.1
	baz=112,slow=2.6						
CHAS	Isla Isabel II	148.56	255	PKP	PKPab	02 20 30.9	+1.1
CHAS				SS	SS	02 43 04.9	+0.1
ASSE	Asse, Remlinge	148.59	293	ePKPbc	PKPbc	02 20 24.6	-1.1
	baz=112,slow=2.6						
BLA	Blacksburg	148.64	100	P	PKPdf	02 20 23.5	+0.7
	baz=232						
HFS	Hagfors	148.66	309	PKPbc	PKPbc	02 20 24.3	-1.5
	comp=Z,14nm,0.9s,baz=129,slow=3.9,SNR=1.7						
BFO	Black Forest	148.67	285	PKP2	PKPab	02 20 30.5	+0.5
BFO	Black Forest	148.67	285	ePKPbc	PKPbc	02 20 24.7	-1.5
	baz=112,slow=2.6						
BFO	Black Forest	148.67	285		PKPbc	02 20 25.2	-1.0
BFO				PKPab	PKPab	02 20 30.5	+0.5
BFO				IAMs_20	IAMs_20	03 31 56.9	
	comp=Z,5µm,22.0s						
CLZ	Clausthal	148.68	292	ePKPbc	PKPbc	02 20 25.1	-1.0
	baz=112,slow=2.6						
ACSO	Alum Creek Sta	148.79	93	IAMs_20	IAMs_20	03 40 17.0	
	comp=Z,7µm,21.0s						
ACSO	Alum Creek Sta	148.79	93	P	PKPdf	02 20 24.2	+1.4
	baz=236,SNR=8.3						
GTTG	Gottingen	148.82	292	ePKPbc	PKPbc	02 20 25.4	-1.0
	baz=112,slow=2.6						
TTIG	Tnine Tigouga,	148.85	242	P	PKPab	02 20 32.0	+0.7
SFNM	Sidi Ifni	148.87	238	P	PKPab	02 20 34.0	+2.8
GOG	Mont Gurugu	148.94	255	P	PKPab	02 20 31.0	-0.5
CNNC	Cliffs of the	148.96	105		PKPbc	02 20 27.1	-0.2
CNNC	Cliffs of the	148.96	105	P	PKPdf	02 20 24.5	+1.3
	baz=229						
AKLM	AKL	148.99	253	P	PKiKP	02 20 29.0	+0.1
AKLM	AKL	148.99	253	P	PKPab	02 20 31.0	-0.7
P52A	Corning	149.00	94	P	PKPbc	02 20 25.3	-1.9
	baz=235,SNR=17						
OUK	Oukaimeden	149.02	244	P	PKPab	02 20 32.0	-0.3
NRDL	Niedersach Rie	149.03	293	ePKPbc	PKPbc	02 20 26.2	-0.6
	baz=112,slow=2.6						
LCRM	LCR	149.03	251	P	PKPab	02 20 31.0	-1.0
IFR	Ifrane	149.08	250	PKP	PKPab	02 20 33.2	+1.0
IFR				SS	SS	02 43 27.3	+16
CART	Cartagena	149.20	260	PKP	PKPbc	02 20 27.9	+0.1
CART				SS	SS	02 42 55.2	-17
T57A	Hurt	149.24	101		PKPbc	02 20 27.3	-0.6
TNS	Taunus Mts	149.29	289	ePKPbc	PKPbc	02 20 26.6	-1.2
	baz=112,slow=2.6						
BSEG	Bad Segeberg	149.31	296	ePKPbc	PKPbc	02 20 26.8	-0.7
	baz=112,slow=2.6						
ECH	Echery	149.35	284	IAMs_20	IAMs_20	03 37 31.9	
	comp=Z,5µm,19.0s						
AAM	Ann Arbor	149.47	89	P	PKPdf	02 20 22.6	-1.3
	baz=239						
R55A	Marlinton	149.48	98		PKPbc	02 20 27.3	-1.3
R55A				PKPab	PKPab	02 20 33.7	0.0
PALE	Palemas	149.51	254	P	PKPab	02 20 34.0	+0.3
RETH	Rethem/Aller,	149.53	294	ePKPbc	PKPbc	02 20 27.1	-1.0
	baz=112,slow=2.6						
SICH	Sidi Chahed	149.60	251	P	PKPab	02 20 37.0	+2.9
NB201	NORSAR Array S	149.93	310		PKPbc	02 20 27.8	-1.1
O53A	New Philadelph	149.93	94	IAMs_20	IAMs_20	03 35 57.6	
	comp=Z,7µm,21.0s						
O53A	New Philadelph	149.93	94	P	PKPdf	02 20 24.0	-0.7
	baz=236,SNR=25						
ZHG	ZHG	149.93	248	P	PKiKP	02 20 31.0	+0.2
ZHG	ZHG	149.93	248	P	PKPab	02 20 35.4	-0.1
NB2	NORSAR Subarra	149.96	310	PKP	PKPbc	02 20 27.5	-1.5
	comp=Z,552nm,2.0s,baz=87,slow=4.1						
NB2	NORSAR Subarra	149.96	310	PKP	PKPbc	02 20 27.5	-1.5
	baz=87,slow=4.1						
NOA	NORSAR Array B	149.96	310	PKPbc	PKPbc	02 20 26.8	-2.3
	comp=Z,20nm,0.8s,baz=248,slow=3.0,SNR=24						
GLMI	Grayling	150.08	84	PKPbc	PKiKP	02 20 30.9	+0.2
GLMI	Grayling	150.08	84	P	PKPdf	02 20 24.9	+0.1
	baz=243						
AHRW	Bad Neuenahr-A	150.23	289	ePKPbc	PKPbc	02 20 28.8	-1.1
	baz=112,slow=2.6						
AVE	Averroes	150.28	247	P	PKPab	02 20 36.8	-0.1
CHEFC	Chefchaouen	150.29	252	P	PKiKP	02 20 32.2	+0.6
CHEFC	Chefchaouen	150.29	252	P	PKPab	02 20 36.0	-1.1
IBBN	Ibbenburen	150.35	292	ePKPbc	PKPbc	02 20 29.2	-1.0
	baz=112,slow=2.6						
BUG	Bochum--Univer	150.39	290	ePKPbc	PKPbc	02 20 29.1	-1.1
	baz=112,slow=2.6						
MCWV	Mont Chateau	150.46	96	IAMs_20	IAMs_20	03 39 44.1	
	comp=Z,6µm,20.0s						
MCWV	Mont Chateau	150.46	96	P	PKPdf	02 20 25.1	-0.4
	baz=235,SNR=5.4						
MUD	Monsted U'grnd	150.49	301	i P	PKPbc	02 20 30.0	-0.3
WLF	Walferdange	150.50	287	ePKPbc	PKPbc	02 20 29.5	-1.1
	baz=112,slow=2.6						
WLF	Walferdange	150.50	287	PKP	PKPbc	02 20 29.7	-0.9
WLF				x	x	02 20 35.6	
Q56A	Snyder Ridge,	150.52	98		PKPbc	02 20 29.9	-1.2
KONO	Kongsberg	150.67	307	IAMs_20	IAMs_20	03 36 40.7	
	comp=Z,7µm,22.0s						
BTNL	Ternell	150.81	288	x	x	02 20 35.6	
BHOU	Houvegnez	150.81	288	PKP	PKPbc	02 20 30.7	-0.7
BHOU				PKPab	sPKPbc	02 20 36.8	-0.2
EMAL	Malaga-Limoner	150.82	256	PKP	PKPab	02 20 37.4	-1.6
MEM	Membach	150.90	288	PKP	PKPab	02 20 35.6	-3.4
M53A	WI Miller and	150.92	93	P	PKPdf	02 20 26.2	0.0
	baz=238						
N54A	Moraine State	151.10	94	IAMs_20	IAMs_20	03 37 00.5	
	comp=Z,7µm,22.0s						
N54A	Moraine State	151.10	94	P	PKPdf	02 20 25.9	-0.6
	baz=237,SNR=6.3						
BEBN	Eben Emael	151.15	289	PKP	PKPbc	02 20 31.4	-0.7
BEBN				PKPab	PKPab	02 20 39.5	-0.5
BSTI	Sart Tilman	151.15	288	PKP	PKPbc	02 20 30.9	-1.2
BSTI				x	x	02 20 36.9	
CBN	Corbin Frederi	151.16	101	P	PKPdf	02 20 26.7	+0.1
	baz=232						
RCHB	Rochefort	151.22	287	PKP	PKPbc	02 20 31.0	-1.3
RCHB				PKPab	PKPab	02 20 39.7	-0.6
BCLA	Clavier	151.26	288	PKP	PKPbc	02 20 31.7	-0.6
BGES	Gesves	151.38	287	PKP	PKPbc	02 20 31.6	-1.1
BGES				x	x	02 20 36.9	
BGES				PKPab	sPKPbc	02 20 39.2	+0.9
LIJA	Lijar	151.51	255	PKP	PKPdf	02 20 30.0	+2.6
BMRD	Maredsous	151.55	287	PKPdf	PKPdf	02 20 27.1	+0.2
BMRD				PKP	sPKPdf	02 20 31.9	-0.5
BMRD				x	x	02 20 42.7	
DOU	Dourbes	151.59	287	PKP	PKPbc	02 20 32.6	-0.6
DOU				PKPab	PKPab	02 20 41.1	-0.8
M54A	Oil Creek Stat	151.60	93	P	PKPdf	02 20 26.0	-1.3
	baz=238						
O56A	Blue Knob Stat	151.62	97	P	PKPdf	02 20 27.4	+0.1
	baz=236,SNR=20						
ERPA	Erie	151.71	92	P	PKPdf	02 20 27.4	0.0
	baz=239						
TULEG	Thule	151.73	14	eP	PKPbc	02 20 29.8	-2.9
TULEG	Thule	151.73	14	PKPdf	PKPdf	02 20 25.9	-0.5
TULEG				PKPbc	PKPbc	02 20 32.3	-0.4
UCC	Uccle	151.95	288	PKP	PKiKP	02 20 34.2	0.0
SSPA	Standing Stone	152.25	96		PKPbc	02 20 33.2	-1.7
SSPA	Standing Stone	152.25	96	IAMs_20	IAMs_20	03 22 25.5	
	comp=Z,7µm,20.0s						
SSPA	Standing Stone	152.25	96	P	PKPdf	02 20 28.5	+0.3
	baz=236						
ESDC	Sonseca Array	152.31	261	PKP	PKPdf	02 20 29.7	+1.3
	comp=Z,2.7nm,1.1s,baz=64,slow=0.8,SNR=20						
ESDC				PKPbc	PKiKP	02 20 35.5	0.0
	comp=Z,11nm,0.7s,baz=67,slow=0.5,SNR=27						
ES

baz=236
LBNH Lisbon 157.89 95 P PKPdf 02 20 35.5 -0.3
baz=242
SUMG Summit 157.95 358 PKIKP **PKPdf 02 20 34.9 -0.6**
SUMG Summit 157.95 358 *eP* PKPdf 02 20 44.4 +8.9
SUMG Summit 157.95 358 PKPdf 02 20 34.9 -0.6
PKME Peaks-Kenny Pk 160.02 94 P PKPdf 02 20 38.9 +0.7
baz=244
SFJD Kangerlussuaq 162.80 14 PKP2 **PKPab 02 21 29.2 -0.4**
SFJD 03 20 39.8
SFJD Kangerlussuaq 162.80 14 PKPdf **PKPdf 02 20 39.8 -0.6**
SFJD PKPab **PKPab 02 21 29.2 -0.4**
SCHQ Schefferville 163.52 65 PKPab **PKPab 02 21 32.3 -0.9**
comp=Z,11nm,1.1s,baz=285,slow=5.5,SNR=3.0
SCHQ Schefferville 163.52 65 PKPdf **PKPdf 02 20 41.4 -0.2**
SCHQ PKPab **PKPab 02 21 32.5 -0.7**

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*DSN **01** 02:25:06.7±2.6,28°.36N×52°.84E,h15km,ML3.0/3 Error ellipse: s-maj=49.9km s-min=18.0km az=23.0*
*TEH **01** 02:25:07.0,28°.47N×52°.87E,h8km,ML3.2*
*OMAN **01** 02:25:10.0±0.4,28°.33N×52°.79E,h30km,mb4.6/1,ml3.1/3, ms3.8/2, Error ellipse: s-maj=11.9km s-min=5.4km az=227.0*
ISC 01 02:25:06.8±1.2,28°.39N±0°.05×52°.86E±0°.04,h6km±10km, n45,σ1§20/57,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.16**	**133**	*e*Pg	**Pg**	**02 25 10.3**	**+0.3**
QIR1	**Qir**	**0.19**	**64**	*e*Pg	**Pg**	**02 25 10.1**	**-0.4**
QIR1				*e*Sg	**Sg**	**02 25 13.1**	**0.0**
QIR1				*e*		02 25 13.4	
comp=Z,84μm,0.1s							
JHRM	**Jahrom**	**0.65**	**80**	*e*Pg	**Pg**	**02 25 19.3**	**+0.1**
JHRM				*e*		02 25 37.4	
comp=Z,32μm,0.5s							
LMD1	**Lamerd**	**1.08**	**165**	*e*Pg	**Pn**	**02 25 29.5**	**+1.0**
LMD1				*e*Sg	**Sn**	**02 25 46.7**	**+2.8**
LMD1				*e*		02 25 53.9	
comp=Z,10μm,0.6s							
SHI	**Shiraz**	**1.28**	**347**	*e*Pg	**Pn**	**02 25 30.8**	**-0.5**
SHI				*e*		02 25 52.4	
comp=Z,3μm,0.4s							
AHBU	**AHRAM**	**1.45**	**289**	*e*Pg	**Pg**	**02 25 34.7**	**+0.1**
LAR1	**LAR**	**1.52**	**118**	*e*Pg	**Pb**	**02 25 35.6**	**+0.1**
LAR1				*e*		02 26 07.6	
comp=Z,10μm,0.6s							
KAZ1	**Kazerun**	**1.62**	**319**	*e*Pg	**Pb**	**02 25 36.5**	**-0.7**
KAZ1				*e*		02 26 03.9	
comp=Z,4μm,0.3s							
KLNJ	**Kolanjah**	**2.83**	**337**	*e*Pn	**Pn**	**02 25 53.9**	**+1.1**
IMEH	**Mehriz**	**3.35**	**27**	*e*Pn	**Pn**	**02 26 02.6**	**+2.7**
IRAM	**Ramesheh**	**3.43**	**353**	*e*Pn	**Pn**	**02 26 01.3**	**+0.4**
IRAM				*e*		02 27 06.7	
comp=Z,271nm,0.8s							
KHGB	**Koh Gabri**	**3.73**	**57**	*e*		02 26 16.6	
comp=Z,206nm,0.6s							
KHGB				*e*Pn	**Pn**	**02 26 06.4**	**+1.4**
SHME	**Shamm**	**3.74**	**128**	P	**Pn**	**02 26 07.6**	**+2.6**
SHME	**Shamm**	**3.74**	**128**	P	**Pn**	**02 26 03.4**	**-1.6**
KRBR	**Kerman**	**3.76**	**64**	*e*Pn	**Pn**	**02 26 05.5**	**-0.1**
TVBK	**TV Kerman**	**3.77**	**64**	*e*		02 26 32.8	
comp=Z,344nm,0.5s							
TVBK				*e*Pn	**Pn**	**02 26 08.2**	**+2.5**
TRNA	**Turayna**	**3.93**	**202**	P	**Pn**	**02 26 08.9**	**+1.3**
BANOM	**Banah**	**3.93**	**128**	P	**Pn**	**02 26 08.5**	**+0.8**
SNR=7.2							
BANOM	**Banah**	**3.93**	**128**	P	**Pn**	**02 26 07.8**	**0.0**
BANOM				S	**Sn**	**02 26 53.3**	**-0.9**
MASF	**Masafi**	**4.22**	**135**	P	**Pn**	**02 26 11.6**	**0.0**
MASF				S	**Sn**	**02 27 01.9**	**+0.7**
NAZ	**Nazwa, Dubai**	**4.22**	**143**	P	**Pn**	**02 26 12.5**	**+0.8**
NAZ				S	**Sn**	**02 27 01.7**	**+0.5**
NAZ	**Nazwa, Dubai**	**4.22**	**143**	P	**Pn**	**02 26 11.3**	**-0.3**
MSFE	**Esma-Masafi**	**4.22**	**135**	P	**Pn**	**02 26 09.5**	**-2.2**
YZKH	**Yazd**	**4.26**	**20**	*e*Pn	**Pn**	**02 26 13.1**	**+0.9**
ASUD	**Al Ashush, Dub**	**4.36**	**149**	P	**Pn**	**02 26 14.2**	**+0.7**
ASUD				S	**Sn**	**02 27 04.4**	**-0.2**
FAQ	**Al Faqa, Dubai**	**4.38**	**145**	P	**Pn**	**02 26 14.2**	**+0.3**
FAQ				S	**Sn**	**02 27 04.1**	**-1.1**
FAQ	**Al Faqa, Dubai**	**4.38**	**145**	P	**Pn**	**02 26 12.9**	**-1.0**
IZEF	**Zefreh**	**4.51**	**354**	*e*Pn	**Pn**	**02 26 16.4**	**+0.6**
UOSS	**Minazif**	**4.56**	**138**	P	**Pn**	**02 26 17.3**	**+1.0**
UOSS				S	**Sn**	**02 27 08.6**	**-1.0**
UOSS	**Minazif**	**4.56**	**138**	P	**Pn**	**02 26 15.4**	**-0.9**
HATD	**Hatta, Dubai**	**4.61**	**140**	P	**Pn**	**02 26 18.4**	**+1.4**
HATD				S	**Sn**	**02 27 10.0**	**-0.9**
HATD	**Hatta, Dubai**	**4.61**	**140**	P	**Pn**	**02 26 13.9**	**-3.1**
ASHO	**Ashiyiah**	**4.68**	**141**	P	**Pn**	**02 26 18.2**	**+0.3**
SNR=23							
ASHO				S	**Sn**	**02 27 12.3**	**-0.3**
ASHO	**Ashiyiah**	**4.68**	**141**	P	**Pn**	**02 26 17.2**	**-0.8**
IKLH	**Kolahrood**	**5.03**	**348**	*e*Pn	**Pn**	**02 26 23.1**	**+0.1**
SOHO	**SOHO**	**5.38**	**141**	P	**Pn**	**02 26 28.0**	**+0.5**
SOHO				S	**Sn**	**02 27 29.4**	**-0.3**
ARQ	**Araqi**	**6.02**	**146**	P	**Pn**	**02 26 37.0**	**+0.5**
SNR=15							
HOQ	**Hoqain**	**6.25**	**139**	P	**Pn**	**02 26 40.1**	**+0.6**
BSY	**Bisya**	**6.86**	**144**	P	**Pn**	**02 26 47.7**	**-0.2**
SMDO	**Samad**	**7.08**	**137**	P	**Pn**	**02 26 51.5**	**+0.4**
SNR=5.3							
SMDO				S	**Sn**	**02 28 10.2**	**-1.8**
WSAR	**Wadi Sarin**	**7.31**	**133**	P	**Pn**	**02 26 54.5**	**+0.4**
SNR=5.7							
DOK	**Doka**	**9.80**	**173**	P	**Pn**	**02 27 26.6**	**-1.7**
WHFO	**Wadi Hawf**	**10.46**	**175**	P	**Pn**	**02 27 35.9**	**-1.4**
SNR=10							
DMTO	**DMTO**	**10.80**	**169**	P	**Pn**	**02 27 40.9**	**-1.1**
ABTO	**Aybut**	**11.00**	**178**	P	**Pn**	**02 27 43.8**	**-0.9**

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*UCR **01** 02:26:55.4±0.7,13°.02N×88°.92W,h54km±8km,ML3.5*
*INET **01** 02:26:55.2±0.4,12°.95N×88°.95W,h27km±2km,MW3.4*
ISC 01 02:26:55.1±2.1,13°.0N±0°.1×88°.94W±0°.06,h48km±25km, n39,σ0§30/44,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.52**	**44**	*e*P	**Pn**	**02 27 06.6**	**+0.1**
TECO	**Alcaldia de Te**	**0.60**	**15**	*e*P	**Pn**	**02 27 07.2**	**-0.4**
TECO				IAML		02 27 18.2	
comp=Z,2μm,0.1s							
LALI	**Alcalda de L**	**0.65**	**325**	*e*P	**Pn**	**02 27 07.9**	**-0.3**
LALI	**Alcalda de L**	**0.65**	**325**	*e*P	**Pn**	**02 27 08.2**	**+0.1**
LALI				*e*S	**Sn**	**02 27 17.0**	**-0.5**
COEB	**Comit de Eme**	**0.67**	**36**	*e*P	**Pn**	**02 27 08.5**	**-0.1**
COEB	**Comit de Eme**	**0.67**	**36**	*e*P	**Pn**	**02 27 08.5**	**-0.1**
COEB				*e*S	**Sn**	**02 27 18.6**	**+0.4**
LFRS	**El Faro**	**0.68**	**350**	*e*P	**Pn**	**02 27 08.3**	**-0.3**
PAVA	**Las Pavas**	**0.76**	**0**	*e*P	**Pn**	**02 27 09.6**	**-0.1**
PAVA				IAML		02 27 21.9	
comp=Z,3μm,0.1s							
PAVA	**Las Pavas**	**0.76**	**0**	*e*P	**Pn**	**02 27 09.6**	**-0.1**
PAVA				*e*S	**Sn**	**02 27 21.0**	**+0.8**
PQSS	**Presa 15 de Se**	**0.76**	**29**	*e*P	**Pn**	**02 27 09.6**	**-0.1**
SNET	**Serv Nac Est T**	**0.78**	**339**	*e*P	**Pn**	**02 27 09.4**	**-0.6**
SNET				IAML		02 27 22.6	
comp=Z,2μm,0.2s							
SNET	**Serv Nac Est T**	**0.78**	**339**	*e*P	**Pn**	**02 27 09.6**	**-0.4**
LCY	**Lacayo**	**0.78**	**53**	*e*P	**Pn**	**02 27 09.9**	**-0.1**
UTEC	**Universidad Te**	**0.79**	**341**	*e*P	**Pn**	**02 27 10.6**	**+0.6**
UDBS	**Universidad Do**	**0.79**	**345**	*e*P	**Pn**	**02 27 10.0**	**0.0**
UDBS				IAML		02 27 27.2	
comp=Z,1μm,0.3s							
LBRS	**Las Brisas**	**0.79**	**353**	*e*P	**Pn**	**02 27 10.1**	**+0.1**
LBRS				*e*S	**Sn**	**02 27 20.7**	**-0.1**
IGN	**Direccin Gen**	**0.79**	**344**	*e*P	**Pn**	**02 27 10.0**	**-0.1**
PACA	**Pacayal**	**0.79**	**49**	*e*P	**Pn**	**02 27 10.2**	**+0.1**
PACA				IAML		02 27 23.4	
comp=Z,1μm,0.2s							
OPAM	**Oficina de Pla**	**0.80**	**342**	*e*P	**Pn**	**02 27 10.3**	**+0.2**
OPAM				IAML		02 27 24.1	
comp=Z,1μm,0.1s							
VSM	**San Miguel**	**0.80**	**54**	*e*P	**Pn**	**02 27 10.4**	**0.0**
LFU	**La Fuente**	**0.81**	**348**	*e*P	**Pn**	**02 27 10.1**	**-0.2**
UEES	**Universidad Ev**	**0.81**	**339**	*e*P	**Pn**	**02 27 10.2**	**-0.2**
UEES				IAML		02 27 24.4	
comp=Z,2μm,0.2s							
BOQS	**Boqueron**	**0.84**	**337**	*e*P	**Pn**	**02 27 10.9**	**0.0**
BOQS				IAML		02 27 24.9	
comp=Z,747nm,0.2s							
JAYA	**Jayaque - finc**	**0.85**	**325**	*e*P	**Pn**	**02 27 10.6**	**-0.5**
CEDA	**San Andres**	**0.95**	**332**	*e*P	**Pn**	**02 27 12.0**	**-0.2**
CEDA	**San Andres**	**0.95**	**332**	*e*P	**Pn**	**02 27 12.1**	**-0.2**
CEDA				*e*S	**Sn**	**02 27 24.9**	**+0.1**
LCND	**La Caada**	**1.08**	**71**	*e*P	**Pn**	**02 27 13.6**	**-0.3**
LCND				IAML		02 27 30.1	
comp=Z,2μm,0.3s							
TACO	**Tacachico**	**1.09**	**338**	*e*P	**Pn**	**02 27 13.8**	**-0.3**
CEVE	**Cerro Verde**	**1.09**	**323**	*e*P	**Pn**	**02 27 14.7**	**+0.4**
SBLS	**San Blas**	**1.10**	**323**	*e*P	**Pn**	**02 27 14.9**	**+0.5**
SNJE	**San Jose**	**1.12**	**325**	*e*P	**Pn**	**02 27 14.7**	**+0.2**
CNCH	**Conchagua**	**1.12**	**73**	*e*P	**Pn**	**02 27 14.4**	**-0.2**
UNIC	**Universidad Ca**	**1.18**	**330**	*e*P	**Pn**	**02 27 15.5**	**+0.2**
UNIC				IAML		02 27 15.8	
comp=Z,447nm,0.1s							
LLGN	**La Laguna**	**1.20**	**360**	*e*P	**Pn**	**02 27 15.4**	**-0.2**
NUBE	**Las Nubes**	**1.25**	**319**	*e*P	**Pn**	**02 27 16.2**	**-0.1**
CSGN	**Cosiguina Volc**	**1.35**	**89**	*e*P	**Pn**	**02 27 17.7**	**+0.1**
MTO3	**Montecristo**	**1.49**	**344**	*e*P	**Pn**	**02 27 19.6**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.96**	**56**	*e*P	**Pn**	**02 27 25.7**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.96**	**56**	*e*P	**Pn**	**02 27 25.8**	**-0.2**

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*SSNC **01** 02:35:16.5±1.6,19°.63N×75°.58W,h11km±9km,MD3.3, ML3.2,MW3.1*
*JSN **01** 02:35:17.2±1.1,19°.41N×75°.58W,h0km±999km,MD4.0*
*OSPL **01** 02:35:18.4±2.2,19°.67N×75°.57W,h12km±13km,ML3.3*
ISC 01 02:35:12.0±1.2,19°.52N±0°.03×75°.54W±0°.03,h14km±10km, n18,σ2§07/33,1D,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.49**	**343**	*i* P	**Pg**	**02 35 22.9**	**+1.1**
RCC				*e*S	**Sg**	**02 35 27.8**	**-0.6**
RCC				IAML		02 35 28.0	
comp=E,3μm,0.3s							
RCC				IAML		02 35 28.1	
comp=N,5μm,0.2s							
GTBY	**Guantanamo Bay**	**0.57**	**45**	*i* P	**Pn**	**02 35 26.3**	**+0.5**
GTBY				*e*S	**Sn**	**02 35 34.0**	**-1.0**
GTBY	**Guantanamo Bay**	**0.57**	**45**	*i* P	**Pn**	**02 35 26.3**	**+0.5**
GTBY				*e*S	**Sn**	**02 35 34.0**	**-1.0**
GTBY				IAML		02 35 34.3	
comp=Z,2μm,0.3s							
GTMO	**Guantanamo**	**0.67**	**34**	⇓*i*P	**Pn**	**02 35 27.5**	**+0.4**
GTMO				*e*S	**Sn**	**02 35 36.4**	**-1.1**
MOAC	**Moa**	**1.26**	**26**	*i* P	**Pb**	**02 35 35.5**	**0.0**
MOAC				*e*S	**Sb**	**02 35 50.7**	**-0.9**
MOAC				IAML		02 35 52.2	
comp=N,702nm,0.3s							
MOAC				IAML		02 35 52.4	
comp=E,521nm,0.2s							
MASC	**Masc**	**1.39**	**62**	*e*P	**Pb**	**02 35 38.4**	**+0.6**
MASC				*e*S	**Sb**	**02 35 55.8**	**+0.3**
MASC				IAML		02 35 57.1	
comp=N,170nm,0.2s							
MASC				IAML		02 36 01.1	
comp=E,354nm,0.2s							
HLGC	**Holguin**	**1.45**	**340**	*e*P	**Pg**	**02 35 40.3**	**+0.4**
HLGC				*e*S	**Sg**	**02 36 00.0**	**+1.3**
HLGC				IAML		02 36 01.5	
comp=N,445nm,0.5s							
HLGC				IAML		02 36 01.8	
comp=E,821nm,0.4s							
LMGC	**Las Mercedes**	**1.48**	**292**	*e*P	**Pb**	**02 35 39.1**	**-0.2**
LMGC				*e*S	**Sn**	**02 35 55.7**	**-1.7**
LMGC				IAML		02 35 56.8	
comp=N,270nm,0.1s							
LMGC				IAML		02 35 58.4	
comp=E,407nm,0.1s							
GWJ	**Greenwich**	**1.83**	**218**	*i* P	**Pb**	**02 35 46.5**	**+1.2**
STH	**Stony Hill**	**1.87**	**220**	*i* P	**Pb**	**02 35 47.3**	**+1.2**
HOJ	**Hope**	**1.90**	**217**	*i* P	**Pg**	**02 35 48.5**	**+0.1**
MTDJ	**Mount Denham**	**2.29**	**236**	*e*P	**Pb**	**02 35 51.9**	**-1.3**
MTDJ				*e*S	**Sn**	**02 36 18.9**	**+1.4**
MCJ	**Malvern**	**2.58**	**232**	*i* P	**Pb**	**02 35 58.0**	**-0.2**
MCJ				*i* S	**Sb**	**02 36 28.4**	**-1.4**
CCCC	**Cccc**	**2.67**	**309**	*e*P	**Pn**	**02 35 52.9**	**-1.8**
CCCC				*e*S	**Sn**	**02 36 22.6**	**-4.3**
CCCC				IAML		02 36 28.8	
comp=N,54nm,0.6s							
CCCC				IAML		02 36 29.6	
comp=E,38nm,0.3s							
LONE2	**Loma La Sidra**	**3.97**	**103**	*i* P	**Pb**	**02 36 18.1**	**-3.8**
LONE2				*e*SG	**Sg**	**02 37 16.8**	**-2.7**
SDDR	**Presa de Saban**	**4.05**	**97**	*i* P	**Pb**	**02 36 19.7**	**-3.6**
SDDR				*e*S	**Sn**	**02 37 05.6**	**+4.5**
SDDR				IAML		02 37 12.3	
comp=Z,35nm,0.6s							
GRTK	**Grand Turk**	**4.58**	**64**	*i* P	**Pn**	**02 36 25.2**	**+4.3**
GRTK				*e*S	**Sn**	**02 37 15.5**	**+1.6**
MGV	**Manicaragua**	**4.89**	**303**	*e*P	**Pn**	**02 36 27.2**	**+2.0**
MGV				*e*S	**Sn**	**02 37 23.0**	**+1.5**
MGV				IAML		02 37 28.7	
comp=E,3.0nm,0.5s							
MGV				IAML		02 37 28.7	
comp=N,5.3nm,0.5s							

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*NOU **01** 02:36:56.2,12°.23S×166°.60E,h91km,mb5.1/13,Santa Cruz Islands*
*IDC **01** 02:36:58.3±1.0,12°.49S×166°.77E,h93km±7km,mb3.8/7, mb1 4.1/9,mb1mx3.8/27,mbtmp4.3/9,Error ellipse: s-maj=22.4km s-min=19.0km az=124.0*
*NEIC **01** 02:36:58.9±1.5,12°.5S±0°.1×166°.8E±0°.1,h94km±3km, mb4.4/12,Error ellipse: s-maj=20.0km s-min=14.2km az=57.0*
ISC 01 02:36:59.3±0.8,12°.50S±0°.09×166°.8E±0°.1,h100km,n44, σ1§30/44,mb4.3/16,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.96**	**172**	Pn	**Pn**	**02 37 43.3**	**-1.3**
SANVU	**Saraoutou**	**2.96**	**172**	P	**Pn**	**02 37 44.5**	**-0.1**
DVP	**Devils Point**	**5.38**	**165**	P	**Pn**	**02 38 18.3**	**+1.2**
HNR	**Honiara**	**7.36**	**294**	P	**Pn**	**02 38 44.7**	**+0.5**
92nm,0.3s,baz=186,slow=3.3,SNR=19							
HNR				S	**Sn**	**02 40 05.8**	**-0.4**
100nm,0.3s,baz=163,slow=23,SNR=7.9							
HNR	**Honiara**	**7.36**	**294**	Pn	**Pn**	**02 38 43.7**	**-0.4**
LIFNC	**LIFOU**	**8.25**	**177**	Pn	**Pn**	**02 38 54.5**	**-1.6**
LIFNC	**LIFOU**	**8.25**	**177**	P	**Pn**	**02 38 55.4**	**-0.8**
KOUNC	**Kouoac, New Ca**	**8.36**	**196**	P	**Pn**	**02 38 57.7**	**0.0**
YATNC	**Mamie plateau,**	**9.51**	**179**	P	**Pn**	**02 39 12.5**	**-0.9**
DZM	**Mont Dzumac**	**9.53**	**182**	P	**Pn**	**02 39 13.8**	**+0.2**
6.8nm,0.3s,baz=38,slow=15,SNR=48							
DZM	**Mont Dzumac**	**9.53**	**182**	*e*Pn	**Pn**	**02 39 13.6**	**-0.1**
157nm,1.4s							
DZM	**Mont Dzumac**	**9.53**	**182**	Pn	**Pn**	**02 39 13.2**	**-0.5**
DZM	**Mont Dzumac**	**9.53**	**182**	P	**Pn**	**02 39 13.9**	**+0.2**
NOUC	**Port Laguerre**	**9.56**	**183**	P	**Pn**	**02 39 14.7**	**+0.6**
OUENC	**Ouen Island, N**	**9.87**	**180**	Pn	**Pn**	**02 39 17.7**	**-0.5**
OUENC	**Ouen Island, N**	**9.87**	**180**	P	**Pn**	**02 39 19.0**	**+0.8**
PINNC	**Pines Island,**	**10.08**	**176**		**Pn**	**02 39 20.6**	**-0.5**
PINNC	**Pines Island,**	**10.08**	**176**	P	**Pn**	**02 39 22.4**	**+1.3**
EIDS	**Eidsvold**	**19.57**	**227**	P	**P**	**02 41 20.4**	**+0.9**
EIDS				IAmb	IAmb	02 41 24.9	
comp=Z,9.3nm,0.8s							
ARMA	**Armidale**	**22.68**	**216**	P	**P**	**02 41 52.9**	**+0.2**
COEN	**Coen**	**23.02**	**264**	P	**P**	**02 41 55.8**	**-0.3**
COEN				IAmb	IAmb	02 42 09.8	
comp=Z,19nm,1.3s							
STKA	**Stephens Creek**	**30.13**	**226**	P	**P**	**02 43 00.5**	**+0.7**
comp=Z,4.7nm,0.6s,baz=61,slow=10,SNR=12							
STKA	**Stephens Creek**	**30.13**	**226**	IAmb	IAmb	02 43 01.6	
comp=Z,0.9nm,0.7s							
TOO	**Toolangi**	**31.39**	**214**	P	**P**	**02 43 11.9**	**+1.0**
WB0	**Warramunga Arr**	**31.89**	**253**	P	**P**	**02 43 14.7**	**-0.8**
WB0				IAmb	IAmb	02 43 15.9	
comp=Z,5.4nm,0.7s							
WB2	**Warramunga Arr**	**31.96**	**252**	P	**P**	**02 43 15.0**	**-1.0**
WB2				IAmb	IAmb	02 43 15.8	
comp=Z,8.0nm,1.0s							
WRA	**Warramunga Arr**	**31.97**	**252**	P	**P**	**02 43 15.2**	**-0.9**
comp=Z,3.7nm,0.7s,baz=84,slow=9.3,SNR=20							
AS31	**Alice Springs**	**33.08**	**246**	P	**P**	**02 43 25.1**	**-0.7**
AS31				IAmb	IAmb	02 43 25.8	
comp=Z,2.7nm,0.5s							
ASAR	**Alice Springs**	**33.08**	**246**	P	**P**	**02 43 24.9**	**-1.0**
comp=Z,4.9nm,0.4s,baz=66,slow=10,SNR=149							
ASAR				pP	**pP**	**02 43 45.7**	**-0.8**
comp=Z,1.8nm,0.7s,baz=70,slow=9.7,SNR=3.6							
ASAR	**Alice Springs**	**33.08**	**246**	P	**P**	**02 43 24.4**	**-1.4**
BBOO	**Buckleboo**	**34.61**	**229**	P	**P**	**02 43 39.3**	**+0.3**
KNRA	**Kununurra**	**36.97**	**261**	P	**P**	**02 43 59.2**	**0.0**
ENH	**Enshi**	**69.59**	**309**	P	**P**	**02 47 59.6**	**+1.6**
HHC	**Hu-ho-hao-te**	**73.58**	**319**	*e*P	P	02 48 28.1	+6.3
HHC				pmax	pmax		
comp=Z,8.0nm,1.0s							
HHC				pmax	pmax		
comp=Z,1μm,8.0s							
CMAR	**Chiang Mai Arr**	**73.61**	**294**	P	**P**	**02 48 22.6**	**+0.2**
comp=Z,0.7nm,0.6s,baz=122,slow=4.2,SNR=4.9							
PZH	**PanZhiHua**	**74.10**	**302**	P	**P**	**02 48 29.1**	**+3.9**
PZH				pmax	pmax		
comp=Z,10.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,100nm,5.1s							
LZH	**Lanzhou**	**76.47**	**312**	*e*P	P	02 48 43.8	+5.2
LZH				pP	pwP	02 49 05.4	-1.1
LZH				pmax	pmax		
comp=Z,16nm,1.2s							
SONM	**Songino Array**	**80.42**	**324**	P	**P**	**02 49 00.8**	**+0.7**
comp=Z,0.2nm,0.4s,baz=136,slow=6.7,SNR=5.2							
SONM				pP	**pP**	**02 49 25.8**	**+0.4**
comp=Z,0.3nm,0.5s,baz=122,slow=5.8,SNR=2.2							
ILAR	**Eielson Array**	**84.57**	**18**	P	**P**	**02 49 21.2**	**+0.1**
comp=Z,0.3nm,0.5s,baz=260,slow=5.4,SNR=2.0							
ILAR				pP	**pP**	**02 49 45.3**	**-1.3**
comp=Z,0.8nm,0.7s,baz=239,slow=5.1,SNR=4.2							
NVAR	**Mina Array Bea**	**86.19**	**49**	pP	pP	02 49 53.6	-2.0
comp=Z,0.5nm,0.8s,baz=251,slow=4.5,SNR=2.6							
WMQ	**Urumqi**	**90.83**	**315**	*e*P	**P**	**02 49 55.2**	**+3.5**
MKAR	**Makanchi Array**	**95.26**	**317**	P	**P**	**02 50 10.5**	**-1.5**
comp=Z,0.4nm,0.6s,baz=83,slow=7.5,SNR=3.9							
MKAR				pP	**pP**	**02 50 34.7**	**-3.1**
comp=Z,0.5nm,0.7s,baz=84,slow=7.1,SNR=3.7							
YKA	**Yellowknife Ar**	**95.80**	**27**	pP	pP	02 50 38.5	-1.3
comp=Z,0.1nm,0.4s,baz=259,slow=4.7,SNR=2.5							
KEST	**Kesra**	**149.17**	**322**	PKPbc	**PKPbc**	**02 56 34.5**	**-2.2**
comp=Z,3.0nm,0.9s,baz=203,slow=2.9,SNR=3.8							

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*NNC **01** 02:50:13.7±0.3,43°.57N×77°.19E,h5km±2km,mb3.0, mpv3.6,Error ellipse: s-maj=2.2km s-min=1.8km az=136.0*
*KRNET **01** 02:50:14.0±0.1,43°.57N×77°.18E,h23km,mb3.0*
ISC 01 02:50:14.0±0.9,43°.57N±0°.02×77°.17E±0°.01,h10km±8km, n53,σ0§79/101,36C-14D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKK	**Chushkaly**	**0.31**	**335**	P	**Pg**	**02 50 20.9**	**+0.6**
CHKK				S	**Sb**	**02 50 25.8**	**-1.0**
418nm,0.1s							
CHKK	**Chushkaly**	**0.31**	**335**	⇑*e*P	**Pg**	**02 50 20.9**	**+0.6**
baz=35							
CHKK				⇑*e*S	**Sb**	**02 50 25.8**	**-1.0**
baz=35							
KOTS	**Kotyrbulak**	**0.34**	**188**	P	**Pg**	**02 50 21.4**	**+0.5**
89nm,0.1s							
KOTS				S	**Sb**	**02 50 26.6**	**-1.2**
141nm,0.2s							
KOTS	**Kotyrbulak**	**0.34**	**188**	⇓*e*P	**Pg**	**02 50 21.4**	**+0.5**
baz=88							
KOTS				⇓*e*S	**Sb**	**02 50 26.6**	**-1.2**
baz=88							
KTBS	**Karatobe**	**0.38**	**292**	P	**Pg**	**02 50 22.1**	**+0.5**
54nm,0.1s							
KTBS				S	**Sb**	**02 50 27.8**	**-1.1**
57nm,0.2s							
KTBS	**Karatobe**	**0.38**	**292**	⇑*e*P	**Pg**	**02 50 22.1**	**+0.5**
baz=92							
KTBS				⇑*e*S	**Sb**	**02 50 27.8**	**-1.1**
baz=92							
KNDC	**Almaty**	**0.39**	**203**	⇑P	**Pb**	**02 50 22.2**	**-0.7**
29nm,0.2s							
KNDC				⇓S	**Sb**	**02 50 28.1**	**-0.9**
49nm,0.3s							
MDOK	**Medeo**	**0.42**	**193**	⇓P	**Pg**	**02 50 22.4**	**+0.1**
13nm,0.4s							
MDOK				⇑S	**Sg**	**02 50 27.8**	**0.0**
6.3nm,0.2s							
MDOK	**Medeo**	**0.42**	**193**	Pg	**Pg**	**02 50 22.5**	**+0.2**
28nm,0.1s							
MDOK				Lg	Lg	02 50 28.5	
26nm,0.1s							
MDOK	**Medeo**	**0.42**	**193**	⇑*e*P	**Pg**	**02 50 22.5**	**+0.2**
baz=93							
MDOK				⇑*e*S	**Sg**	**02 50 27.9**	**0.0**
baz=93							
TNSS	**Tian-Shan**	**0.56**	**197**	P	**Pg**	**02 50 25.2**	**+0.2**
30nm,0.1s							
TNSS				S	**Sg**	**02 50 33.2**	**+0.7**
13nm,0.2s							
TNSS	**Tian-Shan**	**0.56**	**197**	*e*P	**Pg**	**02 50 25.2**	**+0.2**
baz=98							
TNSS

baz=95
TKM2 Tokmak 2 1.32 241 ⇑P Pn 02 50 38.2 -0.6
1.6nm,0.4s
TKM2 ⇑S Sb 02 50 55.9 -0.3
12nm,0.2s
TKM2 Tokmak 2 1.32 241 ⇑*i*P Pn 02 50 38.3 -0.4
baz=41
TKM2 ⇑*i*S Sg 02 50 56.2 -0.4
baz=41
BOOM Boomskoye usch 1.41 220 ⇑*i*P Pn 02 50 40.1 +0.2
baz=21
BOOM ⇑*i*S Sn 02 50 58.6 0.0
baz=21
PRZ Przheval'sk 1.41 140 ⇑*i*P Pn 02 50 40.0 +0.1
baz=40
PRZ ⇑*i*S Sb 02 50 58.3 -0.3
baz=40
UZB Uzynbulak 1.41 107 P Pn 02 50 39.9 0.0
16nm,0.1s
UZB S Sb 02 50 58.2 -0.4
52nm,0.1s
UZB Uzynbulak 1.41 107 *e*P Pn 02 50 39.9 0.0
baz=7.0
UZB *e*S Sb 02 50 58.3 -0.4
baz=7.0
KDJ Kajisay 1.44 180 ⇑*i*P Pn 02 50 40.0 -0.3
baz=80
KDJ ⇑*i*S Sb 02 50 59.5 0.0
baz=80
ULHL Ulahol 1.49 208 ⇑*i*P Pn 02 50 41.4 +0.4
baz=8.0
ULHL ⇑*i*S Sb 02 51 01.3 +0.3
baz=8.0
TDK Taldyqorghan 1.68 31 P Pb 02 50 44.5 -0.5
15nm,0.2s
TDK S Sb 02 51 06.5 +0.3
62nm,0.2s
SHLS Shalkode 1.72 103 Pg Pg 02 50 50.8 +3.8
3.2nm,0.2s
SHLS Lg Lg 02 51 17.0
8.4nm,0.3s
SGDS Sogindy 1.85 267 P Pb 02 50 47.7 -0.3
1.3nm,0.1s
SGDS S Sb 02 51 11.8 +0.5
8.1nm,0.2s
CHMS Chumysh 1.86 253 ⇑*i*P Pb 02 50 47.1 -1.0
baz=53
CHMS ⇑*i*S Sb 02 51 11.2 -0.2
baz=53
KBK Karagaybulak 1.87 241 ⇓*i*P Pn 02 50 47.1 +0.9
baz=42
KBK ⇓*i*S Sb 02 51 11.1 -0.7
baz=42
TARG Taragay, Kyrgy 1.90 166 ⇓*i*P Pn 02 50 47.7 +0.9
baz=66
TARG ⇓*i*S Sb 02 51 12.3 -0.6
baz=66
FRU1 Bishkek 2.01 249 ⇑*i*P Pb 02 50 49.8 -0.9
baz=49
FRU1 ⇑*i*S Sb 02 51 15.1 -0.7
baz=49
DJR Jarkent 2.04 67 Pg Pb 02 50 51.0 -0.2
1.6nm,0.1s
DJR Lg Lg 02 51 17.5
18nm,0.3s
AAK Ala-Archa 2.17 245 ⇓Pn Pn 02 50 51.6 +1.2
1.6nm,0.6s
AAK ⇑Sn Sb 02 51 20.7 +0.1
6.2nm,0.5s
AAK Ala-Archa 2.17 245 ⇑*i*P Pn 02 50 51.5 +1.2
baz=46
AAK ⇑*i*S Sb 02 51 19.7 -0.8
baz=46
KAPS Kapalarasan 2.32 42 Pg Pb 02 50 55.8 -0.1
2.2nm,0.1s
KAPS Lg Lg 02 51 25.8
8.6nm,0.2s
UCH Uchtor 2.37 236 ⇓*i*P Pn 02 50 54.4 +1.0
baz=37
UCH ⇓*i*S Sn 02 51 23.8 +1.1
baz=37
EKS2 Erkin-Say 2.65 251 ⇑*i*P Pn 02 50 58.1 +1.2
baz=51
EKS2 ⇑*i*S Sn 02 51 30.7 +1.6
baz=51
ARLS Aral 2.71 232 ⇑*i*P Pn 02 50 59.2 +1.5
baz=32
ARLS ⇑*i*S Sn 02 51 31.7 +1.1
baz=32
MK31 Makanchi Array 4.84 47 ⇑Pn Pn 02 51 27.9 +1.0
baz=223,slow=16,SNR=9.3
MK31 ⇓⇓Lg Lg 02 52 45.1
0.3nm,0.4s,baz=213,slow=26,SNR=5.7

IDC 01 02:55:51.7±6.2,5°.13S×153°.72E,h133km±37km,mb3.2/3, mb1 3.5/4,mb1mx2.9/36,mbtmp3.8/4, Error ellipse: s-maj=72.9km s-min=26.5km az=93.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.88**	**296**	P	Pn	02 56 24.4	-0.1
KRVT	baz=217,slow=20						
				S	Sn	02 56 49.8	+0.4
KRVT	baz=232,slow=19						
PMG	**Port Moresby**	**7.78**	**236**	P	Pn	02 57 41.8	-0.4
	3.2nm,0.3s,baz=42,slow=5.8,SNR=6.9						
WRA	**Warramunga Arr**	**23.93**	**230**	P	P	03 00 53.6	-0.1
	0.9nm,0.5s,baz=55,slow=9.6,SNR=10						
ASAR	**Alice Springs**	**26.54**	**224**	P	P	03 01 17.6	+0.2
	0.6nm,0.7s,baz=57,slow=9.3,SNR=15						
MKAR	**Makanchi Array**	**81.17**	**319**	P	P	03 07 52.6	-0.1
	0.4nm,0.7s,baz=99,slow=6.2,SNR=4.9						

*IDC **01** 03:00:12.1±0.8,35°.56N×141°.77E,h0km,mb3.7/9, mb1 4.0/12,mb1mx3.6/57,mbtmp3.8/12,ML3.8/2, Error ellipse: s-maj=21.7km s-min=17.7km az=109.0*
*JMA **01** 03:00:15.5±0.2,35°.66N×141°.80E,h44km±3km,M3.4*
*NEIC **01** 03:00:17.6±2.3,35°.64N±0°.06×141°.7E±0°.1,h35km±6km, mb4.1/8, Error ellipse: s-maj=13.2km s-min=8.9km az=110.0*
ISC 01 03:00:15.1±0.7,35°.60N±0°.05×141°.79E±0°.06,h22km,n48, σ0s99/49,mb3.8/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.77**	**278**	P	Pb	03 00 30.2	+0.4
CHOJ				*e*S	Sb	03 00 40.6	+0.8
JSMT	**Sammumatsuo**	**1.10**	**273**	P	Pn	03 00 35.0	-0.1
BSO1	**Boso 1**	**1.16**	**215**	P	Pn	03 00 36.0	+0.5
JHYU	**Hitachinakayam**	**1.23**	**307**	P	Pn	03 00 36.3	-0.6
BSO3	**Boso 3**	**1.32**	**233**	P	Pn	03 00 38.9	+1.0
JYT	**Yasato**	**1.44**	**296**		Pn	03 00 39.3	-0.6
JAG	**Ashikaga**	**2.07**	**294**	P	Pn	03 00 48.5	0.0
JIM2	**Oshima 3**	**2.13**	**246**	P	Pn	03 00 49.1	-0.2
JOD2	**Odawara 2**	**2.23**	**262**	P	Pn	03 00 51.0	+0.2
JOD2				*e*S	Sn	03 01 17.4	-0.3
JFT	**Otama**	**2.24**	**329**	P	Pn	03 00 51.5	+0.6
JFT				*e*S	Sn	03 01 17.2	-0.8
JKT	**Katashina**	**2.36**	**300**	P	Pn	03 00 52.9	+0.2
JKT				*e*S	Sn	03 01 20.8	-0.2
JMM	**Marumori**	**2.40**	**341**		Pn	03 00 53.1	0.0
JHJ2	**Mitsune**	**2.97**	**214**	Pn	Pn	03 01 01.2	+0.3
JHJ	**Hachijo jima 2**	**2.98**	**214**	Pn	Pn	03 01 01.1	0.0
	21nm,0.3s,baz=118,slow=22,SNR=11						
JHJ				Sn	Sn	03 01 33.9	-2.3
	62nm,0.3s,baz=121,slow=23,SNR=11						
MJAR	**Matsushiro Arr**	**3.05**	**289**	Pn	Pn	03 01 02.0	0.0
	0.5nm,0.3s,baz=92,slow=14,SNR=34						
MJAR	**Matsushiro Arr**	**3.05**	**289**		Pn	03 01 03.3	+1.2
MAJO	**Matsushiro**	**3.05**	**289**		Pn	03 01 02.7	+0.7
MAT	**Matsushiro**	**3.05**	**289**	P	Pn	03 01 03.0	+0.9
MAT				*e*S	Sn	03 01 36.0	-1.9
MJB9	**Matsu-Tunnel**	**3.06**	**289**		Pn	03 01 02.5	+0.4
JGF	**Kuroka**	**3.62**	**271**		Pn	03 01 10.8	+1.0
INU	**Inuyama**	**3.91**	**268**	Pn	Pn	03 01 14.7	+0.9
ERM	**Erimo**	**6.49**	**9**	Pn	Pn	03 01 48.8	-0.4
JKA	**Kamikawa-asahi**	**8.53**	**4**	Pn	Pn	03 02 17.3	+0.1
ASAJ	**Asahikawa**	**8.53**	**4**	Pn	Pn	03 02 15.5	-1.7
	1.3nm,0.3s,baz=204,slow=13,SNR=15						
ASAJ				Sn	Sn	03 03 49.1	-3.6
	0.3nm,0.3s,baz=194,slow=34,SNR=1.6						
H11N2	**WAKE ISLAND Hy 27.17 119**			T	T	03 34 20.8	
	baz=311,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy 27.18 119**			T	T	03 34 23.6	
	baz=311,slow=75,SNR=8.9						
H11N3	**WAKE ISLAND Hy 27.19 119**			T	T	03 34 24.2	
	baz=311,slow=75,SNR=9.0						
H11S1	**WAKE ISLAND Hy 27.84 121**			T	T	03 35 20.8	
	baz=313,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy 27.84 121**			T	T	03 35 15.0	
	baz=313,slow=76,SNR=8.1						
H11S2	**WAKE ISLAND Hy 27.86 121**			T	T	03 35 23.4	
	baz=313,slow=76,SNR=5.9						
SONM	**Songino Array**	**28.86**	**306**	P	**P**	**03 06 12.4**	**+0.4**
	0.7nm,0.6s,baz=116,slow=11,SNR=6.0						
SONM	**Songino Array**	**28.86**	**306**	IAmb	IAmb	03 06 15.4	
	comp=Z,1.9nm,1.2s						
LSA	**Lhasa**	**42.66**	**277**	P	**P**	**03 08 09.1**	**-1.6**
ZAA0	**Zalesovo Array**	**43.11**	**314**	P	**P**	**03 08 12.8**	**-0.6**
ZAA0				IAmb	IAmb	03 08 23.3	
	comp=Z,1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**43.11**	**314**	P	**P**	**03 08 13.9**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=95,slow=6.6,SNR=5.6						
ZALV				PcP	**PcP**	**03 10 02.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=111,slow=6.0,SNR=2.5						
MK31	**Makanchi Array**	**45.15**	**303**	P	**P**	**03 08 29.4**	**-0.6**
MK31				IAmb	IAmb	03 08 41.0	
	comp=Z,3.1nm,1.4s						
MKAR	**Makanchi Array**	**45.15**	**303**	P	**P**	**03 08 30.0**	**0.0**
	comp=Z,1.0nm,0.7s,baz=86,slow=10.0,SNR=10.0						
MKAR				PcP	**PcP**	**03 10 10.7**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=70,slow=4.7,SNR=1.7						
MKAR	**Makanchi Array**	**45.15**	**303**	P	**P**	**03 08 30.5**	**+0.5**
KURK	**Kurchatov**	**47.06**	**309**	P	**P**	**03 08 45.3**	**+0.4**
IL31		**50.54**	**32**	P	**P**	**03 09 12.2**	**+0.8**
IL31				IAmb	IAmb	03 09 36.9	
	comp=Z,6.7nm,1.5s						
ILAR	**Eielson Array**	**50.54**	**32**	P	**P**	**03 09 13.1**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=264,slow=6.7,SNR=6.1						
WRA	**Warramunga Arr**	**55.69**	**188**	P	**P**	**03 09 49.2**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=11,slow=7.7,SNR=7.3						
WRA	**Warramunga Arr**	**55.69**	**188**	IAmb	IAmb	03 09 50.7	
	comp=Z,0.4nm,1.1s						
ABKAR	**Akbulak array**	**59.10**	**311**	P	**P**	**03 10 13.3**	**-0.4**
ABKAR				IAmb	IAmb	03 10 25.3	
	comp=Z,3.1nm,1.2s						
ASAR	**Alice Springs**	**59.42**	**188**	P	**P**	**03 10 15.8**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=5.6,slow=7.3,SNR=7.5						
YKA	**Yellowknife Ar**	**64.89**	**30**	P	**P**	**03 10 52.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=297,slow=6.7,SNR=6.2						
NVAR	**Mina Array Bea**	**75.60**	**53**	P	**P**	**03 11 59.5**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=286,slow=8.2,SNR=3.7						
PDAR	**Pinedale Array**	**78.45**	**45**	P	**P**	**03 12 16.0**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=304,slow=3.4,SNR=4.2						

*TUL **01** 03:13:20.8±1.1,36°.29N±0°.02×98°.22W±0°.04,h6km±7km, ML2.7,mb_Lg2.7/12(NEIC), Error ellipse: s-maj=4.7km s-min=2.1km az=80.0*
NEIC 01 03:13:20.3±1.1,36°.268N±0°.010×98°.20W±0°.04,h5km±2km, Error ellipse: s-maj=5.8km s-min=3.0km az=74.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.30**	**37**	Pg	Pg	03 13 26.8	+0.8
CROK				Sg	Sg	03 13 30.9	+1.0
OK032	**Salt Plains WL**	**0.54**	**359**	Pg	Pg	03 13 30.8	+0.2
OK035	**E0210 Rd and N**	**0.60**	**317**	Pg	Pg	03 13 31.5	-0.3
GC02	**Grant County #**	**0.65**	**25**		Pg	03 13 32.5	-0.2
GC02				Sg	Sg	03 13 41.6	+0.5
U32A	**Winter Ranch,**	**0.65**	**280**	Pg	Pg	03 13 32.9	0.0
KAN14	**Manchester OK**	**0.71**	**16**		Pg	03 13 33.5	-0.5
KAN14				Sg	Sg	03 13 43.7	+0.4
BCOK	**Bluff Creek, N**	**0.78**	**141**	Pg	Pb	03 13 35.8	-0.5
BCOK				Sg	Sg	03 13 46.2	+0.9
KAN17	**Caldwell West**	**0.85**	**24**		Pg	03 13 36.2	-0.4
KAN10	**Anthony SW Sta**	**0.86**	**6**	Pg	Pg	03 13 36.4	-0.4
KAN05	**Bluff City Nor**	**0.88**	**18**	Pg	Pg	03 13 37.2	0.0
BLOK	**Blackwell**	**0.94**	**58**	Pg	Pg	03 13 38.4	+0.1
KAN13	**South Haven SW**	**0.94**	**38**	Pg	Pg	03 13 38.4	0.0
KAN01	**Argonia South**	**0.95**	**22**		Pg	03 13 38.6	+0.1
KAN16	**Harper SW Stat**	**0.96**	**7**	Pg	Pg	03 13 38.6	-0.1
OK025	**Westminster Rd**	**0.98**	**134**		Pb	03 13 39.6	-0.2
KAN06	**Argonia West S**	**1.02**	**16**		Pg	03 13 39.8	0.0
OKCFA	**Oklahoma City**	**1.05**	**144**		Pg	03 13 40.2	-0.2
OKCSW	**OKLAHOMA CITY**	**1.06**	**144**		Pg	03 13 40.5	-0.2
OK031	**S. Brethren Rd**	**1.15**	**105**	Pg	Pg	03 13 41.6	-0.7
OK030	**Cody Creek RV**	**1.20**	**106**		Pg	03 13 43.1	-0.2
FNO	**Franklin**	**1.20**	**147**	Pg	Pg	03 13 43.2	-0.1
QUOK	**Quay**	**1.21**	**94**	Pg	Pg	03 13 43.2	-0.3
OK034	**N. Norfolk Rd.**	**1.23**	**102**		Pg	03 13 43.2	-0.8
T35A	**Sooner Cattle**	**1.51**	**64**		Pn	03 13 47.8	-0.2
W35A	**Tecumseh**	**1.55**	**135**		Pb	03 13 49.2	-0.3
WMOK	**Wichita Mounta**	**1.60**	**197**		Pn	03 13 49.6	+0.4
X34A	**Smith Ranch, M**	**1.69**	**170**		Pb	03 13 51.7	-0.2
X34A				IAmb_Lg		03 14 19.2	
	comp=Z,52nm,0.7s						
TUL1	**Leonard**	**1.99**	**100**	Pn	Pn	03 13 54.8	+0.2
TUL1				IAmb_Lg		03 14 28.9	
	comp=Z,54nm,1.0s						
R32A	**Long Quarter,**	**2.19**	**350**		Pn	03 13 58.3	+0.9
LOOK	**Love County**	**2.42**	**159**	Pn	Pn	03 14 01.6	+1.1
CBKS	**Cedar Bluff**	**2.82**	**335**	Pn	Pn	03 14 05.8	-0.2
X37A	**Clayton**	**2.86**	**125**	Pn	Pn	03 14 07.2	+0.7
X37A					LR	03 14 52.8	
X37A				IAmb_Lg		03 14 58.1	
	comp=Z,16nm,0.8s						
U38A	**Gravette**	**3.09**	**86**	Pn	Pn	03 14 09.4	-0.3
KSU1	**Kansas State U**	**3.10**	**24**	Pn	Pn	03 14 08.6	-1.2
KSU1					Lg	03 15 01.8	
AMTX	**Amarillo**	**3.15**	**245**	Pn	Pn	03 14 10.8	+0.2
HHAR	**Hobbs**	**3.44**	**89**	Pn	Pn	03 14 14.4	-0.3
HHAR					Sb	03 15 07.4	+3.4
W39A	**Magazine**	**3.75**	**105**	Pn	Pn	03 14 18.9	+0.1
ABTX	**Abilene, Hawle**	**3.83**	**199**	Pn	Pn	03 14 19.6	-0.2
MIAR	**Mount Ida**	**4.15**	**113**	Pn	Pn	03 14 24.6	+0.3
S39A	**Bolivar**	**4.16**	**69**	Pn	Pn	03 14 23.6	-0.8
U40A	**Yellville**	**4.32**	**87**	Pn	Pn	03 14 26.6	-0.1
KSCO	**Kaye Shedlock'**	**4.45**	**309**	Pn	Pn	03 14 29.3	+0.7
X40A	**Basin Creek Fa**	**4.73**	**110**	Pn	Pn	03 14 32.8	+0.5
X40A				IAmb_Lg		03 15 52.0	
	comp=Z,14nm,1.2s						
MGMO	**Mountain Grove**	**4.85**	**78**	Pn	Pn	03 14 33.1	-0.9
WHAR	**Wooly Hollow**	**4.91**	**100**	Pn	Pn	03 14 36.0	+1.3
P38A	**Dawn**	**4.99**	**46**	Pn	Pn	03 14 35.7	0.0
P38A				IAmb_Lg		03 16 08.6	
	comp=Z,10nm,0.8s						
T25A	**Trinidad**	**5.06**	**282**	Pn	Pn	03 14 36.4	-0.7
R40A	**Maddies Statio**	**5.15**	**65**	Pn	Pn	03 14 37.1	-0.8
JCT	**Junction City**	**5.93**	**193**	IAmb_Lg		03 16 31.7	
	comp=Z,14nm,1.1s						

*IDC **01** 03:16:56.7±2.5,25°.41S×179°.39W,h414km±23km, mb3.5/11,mb1 3.8/14,mb1mx3.3/42,mbtmp4.4/14, Error ellipse: s-maj=31.9km s-min=15.8km az=139.0*
*NEIC **01** 03:16:57.6±2.1,25°.4S±0°.1×179°.5W±0°.1,h415km±8km, mb4.1/12, Error ellipse: s-maj=19.5km s-min=16.2km az=131.0*
ISC 01 03:16:58.5±0.5,25°.43S±0°.06×179°.42W±0°.08,h432km, n86,σ1s54/95,mb3.9/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.02**	**161**	P	**P**	**03 18 14.1**	**+1.5**
RAO	**Raoul Island**	**4.03**	**161**	P	**P**	**03 18 14.3**	**+1.6**
GLKZ	**Green Lake**	**4.04**	**161**	P	**P**	**03 18 14.2**	**+1.5**
GLKZ				S	**S**	**03 19 11.4**	**-1.9**
MSVF	**Nonsavu**	**8.02**	**342**	P	**P**	**03 18 52.4**	**-1.7**
	20nm,0.3s,baz=185,slow=6.6,SNR=50						
MSVF	**Nonsavu**	**8.02**	**342**	P	**P**	**03 18 52.2**	**-1.9**
NIUE	**Niue**	**10.83**	**56**	P	**P**	**03 19 28.4**	**+3.5**
NIUE				S	**S**	**03 21 25.0**	**-0.6**
NIUE	**Niue**	**10.83**	**56**	P	**P**	**03 19 25.4**	**+0.6**
OUZ	**Omahuta**	**11.46**	**210**	P	**P**	**03 19 34.2**	**+2.6**
MXZ	**Matakaoa Point**	**12.24**	**189**	P	**P**	**03 19 38.4**	**-1.6**
MXZ				S	**S**	**03 21 50.4**	**-3.1**
MXZ	**Matakaoa Point**	**12.24**	**189**	P	**P**	**03 19 39.0**	**-1.1**
WMGZ	**Waiomatatini S**	**12.48**	**188**	P	**P**	**03 19 41.6**	**-1.0**
WMGZ				S	**S**	**03 21 56.8**	**-1.5**
HAZ	**Te Kaha**	**12.51**	**190**	P	**P**	**03 19 43.4**	**+0.5**
HAZ				S	**S**	**03 21 57.5**	**-1.4**
PKGZ	**Pakihiroa**	**12.60**	**189**	P	**P**	**03 19 42.8**	**-1.2**
RUGZ	**Raukumara Rang**	**12.73**	**190**	P	**P**	**03 19 44.6**	**-0.9**
RUGZ				S	**S**	**03 22 02.0**	**-1.5**
PUZ	**Puketiti**	**12.75**	**188**	P	**P**	**03 19 44.4**	**-1.2**
PUZ				S	**S**	**03 21 59.6**	**-4.1**
TGRZ	**Tauranga**	**12.80**	**196**	P	**P**	**03 19 48.4**	**+2.3**
OPRZ	**Ohinepanea**	**12.84**	**194**	P	**P**	**03 19 48.3**	**+1.8**
TWGZ	**Tauwhareparae**	**12.89**	**189**	P	**P**	**03 19 45.9**	**-1.3**
TWGZ				S	**S**	**03 22 05.0**	**-1.6**
TOZ	**Tahuroa Road**	**13.00**	**198**	P	**P**	**03 19 50.3**	**+2.0**
EDRZ	**Edgecumbe**	**13.05**	**194**	P	**P**	**03 19 50.2**	**+1.3**
KARZ	**Kaharoa**	**13.08**	**195**	P	**P**	**03 19 51.6**	**+2.4**
MWZ	**Matawai**	**13.12**	**191**	P	**P**	**03 19 48.5**	**-1.1**
MWZ				S	**S**	**03 22 09.1**	**-2.0**
URZ	**Urewera**	**13.12**	**192**	P	**P**	**03 19 48.1**	**-1.4**
	26nm,0.3s,baz=301,slow=24,SNR=113						
URZ				S	**S**	**03 22 10.2**	**-0.7**
	2.6nm,0.3s,baz=301,slow=24,SNR=62						
URZ	**Urewera**	**13.12**	**192**	P	**P**	**03 19 48.5**	**-1.1**
URZ				S	**S**	**03 22 11.0**	**+0.1**
URZ	**Urewera**	**13.12**	**192**	P	**P**	**03 19 48.3**	**-1.3**
CNGZ	**Carnagh Statio**	**13.17**	**188**	P	**P**	**03 19 50.1**	**+0.1**
TKGZ	**Te Karaka**	**13.17**	**189**	P	**P**	**03 19 48.9**	**-1.2**
RAGZ	**Rawiri**	**13.30**	**191**	P	**P**	**03 19 50.9**	**-0.7**
MUGZ	**Murupara**	**13.40**	**193**	P	**P**	**03 19 53.1**	**+0.5**
HRRZ	**Handcock Road**	**13.42**	**195**	P	**P**	**03 19 54.6**	**+1.7**
RIGZ	**Rimuhau**	**13.45**	**190**	P	**P**	**03 19 52.2**	**-1.0**
RIGZ				S	**S**	**03 22 13.6**	**-3.9**
RTZ	**Ruatahuna**	**13.49**	**192**	P	**P**	**03 19 53.4**	**-0.3**
AFI	**Afiamalu**	**13.53**	**34**	P	**P**	**03 19 51.5**	**-2.9**
	6.4nm,0.3s,baz=300,slow=11,SNR=5.4						
ALRZ	**Allen Road**	**13.57**	**194**	P	**P**	**03 19 54.3**	**-0.3**
SNGZ	**Shannon Statio**	**13.59**	**191**	P	**P**	**03 19 54.4**	**-0.3**
SNGZ				S	**S**	**03 22 23.1**	**+2.8**
PRGZ	**Paritu Road**	**13.64**	**189**	P	**P**	**03 19 55.6**	**+0.4**
MTHZ	**Maungataniwha**	**13.75**	**192**	P	**P**	**03 19 56.1**	**-0.3**
KNZ	**Kokohu**	**13.77**	**190**	P	**P**	**03 19 55.6**	**-1.0**
MHGZ	**Mahia Peninsul**	**13.86**	**189**	P	**P**	**03 19 58.9**	**+1.3**
HIZ	**Hauiti**	**13.91**	**199**	P	**P**	**03 19 59.8**	**+1.6**
NMHZ	**Naumai**	**13.99**	**192**	P	**P**	**03 19 56.7**	**-2.4**
ARHZ	**Aropaoanui**	**14.12**	**191**	P	**P**	**03 20 00.7**	**+0.4**
BKZ	**Black Stump Fm**	**14.12**	**193**	P	**P**	**03 19 58.1**	**-2.3**
NTVZ	**North Tongarir**	**14.24**	**196**	P	**P**	**03 20 00.8**	**-1.1**
ETVZ	**East Tongariro**	**14.27**	**196**	P	**P**	**03 20 01.2**	**-0.9**
OTVZ	**Oturere**	**14.30**	**196**	P	**P**	**03 20 01.4**	**-1.2**
MCHZ	**McNeill Hill**	**14.35**	**192**	P	**P**	**03 20 00.9**	**-1.9**
KWHZ	**Kaweka Forest**	**14.38**	**193**	P	**P**	**03 20 00.8**	**-2.5**
WNVZ	**Wahianoa**	**14.47**	**196**	P	**P**	**03 20 02.6**	**-1.8**
BHHZ	**Black Hill Sta**	**14.52**	**194**	P	**P**	**03 20 02.3**	**-2.5**
LTZ	**Lake Taylor**	**18.60**	**199**	P	**P**	**03 20 46.9**	**-0.9**
CTA	**Charters Tower**	**32.04**	**272**	P	**P**	**03 22 48.7**	**+0.8**
	2.8nm,0.4s,baz=99,slow=11,SNR=6.2						
CTAO	**Charters Tower**	**32.04**	**272**	P	**P**	**03 22 47.5**	**-0.3**
CTAO				IAmb	IAmb	03 22 55.5	
	comp=Z,7.1nm,1.2s						
STKA	**Stephens Creek**	**34.67**	**250**	P	**P**	**03 23 10.3**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=111,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**34.67**	**250**	IAmb	IAmb	03 23 16.7	
	comp=Z,1.8nm,1.5s						
AS31	**Alice Springs**	**42.33**	**262**	P	**P**	**03 24 11.3**	**-1.7**
ASAR	**Alice Springs**	**42.33**	**262**	P	**P**	**03 24 12.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=97,slow=7.1,SNR=25						
ASAR	**Alice Springs**	**42.33**	**262**	P	**P**	**03 24 11.3**	**-1.7**
WB2	**Warramunga Arr**	**42.84**	**268**	P	**P**	**03 24 16.4**	**-0.7**
WB2				IAmb	IAmb	03 24 26.7	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**42.85**	**268**	P	**P**	**03 24 17.0**	**-0.1**
WB0				IAmb	IAmb	03 24 24.5	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**42.85**	**268**	P	**P**	**03 24 15.8**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=102,slow=7.8,SNR=27						
WRA	**Warramunga Arr**	**42.85**	**268**	IAmb	IAmb	03 24 17.4	
	comp=Z,0.3nm,0.8s						
KNRA	**Kununurra**	**49.22**	**271**	P	**P**	**03 25 05.4**	**-0.6**
VNDA	**Vanda**	**52.90**	**185**	P	**P**	**03 25 34.1**	**+2.0**
VNDA				IAmb	IAmb	03 25 49.9	
	comp=Z,5.4nm,1.4s						
MJAR	**Matsushiro Arr**	**73.45**	**326**	P	**P**	**03 27 44.6**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=154,slow=6.7,SNR=6.5						
KSRS	**Korea Array**	**79.75**	**320**	P	**P**	**03 28 20.6**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=132,slow=5.9,SNR=8.1						
PETK	**Petropavlovsk-**	**80.71**	**346**	P	**P**	**03 28 25.1**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=145,slow=6.2,SNR=4.3						
TROLL	**Troll, Antarti**	**82.81**	**181**	P	**P**	**03 28 36.5**	**+0.7**
SNAA	**Sanae**	**83.13**	**179**	P	**P**	**03 28 37.9**	**+0.5**
VNA3	**Neumayer Olymp**	**83.32**	**177**	P	**P**	**03 28 38.6**	**+0.4**
VNA2	**Neumayer--Watz**	**83.74**	**177**	P	**P**	**03 28 40.5**	**+0.1**
NVAR	**Mina Array Bea**	**85.49**	**44**	P	**P**	**03 28 50.5**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=225,slow=8.5,SNR=7.9						
NVAR	**Mina Array Bea**	**85.49**	**44**	P	**P**	**03 28 50.0**	**+0.3**
G08A	**Pilot Rock**	**89.31**	**38**	P	**P**	**03 29 08.5**	**+1.1**
G08A				IAmb	IAmb	03 29 09.7	
	comp=Z,2.0nm,0.8s						
MT05	**Renca**	**90.48**	**128**	P	**P**	**03 29 13.2**	**-0.1**
TMUT	**Trail Mountain**	**90.52**	**46**	P	**P**	**03 29 13.9**	**+0.5**
TMUT				IAmb	IAmb	03 29 16.4	
	comp=Z,7.1nm,1.3s						
CMAR	**Chiang Mai Arr**	**90.55**	**290**	P	**P**	**03 29 15.2**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=143,slow=4.2,SNR=8.0						
SEY	**Seymchan**	**90.87**	**348**	P	**P**	**03 29 13.7**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=107,slow=19,SNR=5.7						
ILAR	**Eielson Array**	**93.39**	**13**	P	**P**	**03 29 25.1**	**-0.6**

	baz=52							
MNAS	**Manas**	**1.60**	**351**	⇓*i*P		**Pg**	**03 26 35.6**	**-0.6**
	baz=57							
MNAS				⇓*i*S		**Sg**	**03 26 57.4**	**+0.3**
	baz=57							
DRK	**Karamyk**	**1.62**	**209**	⇓*i*P		**Pn**	**03 26 33.6**	**0.0**
	baz=5.0							
DRK				⇓*i*S		**Sn**	**03 26 54.3**	**0.0**
	baz=5.0							
DRK	**Karamyk**	**1.62**	**209**			**Pn**	**03 26 34.8**	**+1.2**
BTK	**Batken**	**1.75**	**242**		PN	**Pn**	**03 26 34.9**	**-0.2**
BTK	**Batken**	**1.75**	**242**	⇓*i*P		**Pn**	**03 26 35.0**	**-0.2**
	baz=41							
BTK				⇓*i*S		**Sn**	**03 26 56.6**	**-0.5**
	baz=41							
BTK	**Batken**	**1.75**	**242**			**Pn**	**03 26 34.9**	**-0.2**
UCH	**Uchtor**	**1.83**	**43**	P		**Pg**	**03 26 41.3**	**+0.7**
	SNR=4193							
UCH	**Uchtor**	**1.83**	**43**	⇑*i*P		**Pg**	**03 26 41.3**	**+0.7**
	baz=45							
UCH				⇑*i*S		**Sg**	**03 27 07.1**	**+2.7**
	baz=45							
MRKS	**Merke**	**1.86**	**9**	*e*P		**Pg**	**03 26 40.7**	**-0.6**
	909nm,0.4s							
MRKS				*e*S		**Sg**	**03 27 06.5**	**+1.0**
	6μm,0.2s							
MRKS	**Merke**	**1.86**	**9**	Pg		**Pg**	**03 26 40.7**	**-0.6**
	909nm,0.4s							
MRKS				Lg		Lg	03 27 06.5	
	6μm,0.2s							
EKS2	**Erkin-Say**	**1.90**	**22**	P		**Pg**	**03 26 41.6**	**-0.2**
	SNR=356							
EKS2	**Erkin-Say**	**1.90**	**22**	⇑*i*P		**Pg**	**03 26 41.6**	**-0.2**
	baz=25							
EKS2				⇑*i*S		**Sg**	**03 27 07.7**	**+1.3**
	baz=25							
AAK	**Ala-Archa**	**2.13**	**35**	Pn		**Pg**	**03 26 45.6**	**-0.7**
	309nm,0.3s,baz=187,slow=4.6,SNR=1820							
AAK				Sn		**Sg**	**03 27 16.2**	**+2.1**
	586nm,0.3s,baz=164,slow=23,SNR=33							
AAK	**Ala-Archa**	**2.13**	**35**	P		**Pg**	**03 26 45.6**	**-0.7**
	SNR=801							
AAK	**Ala-Archa**	**2.13**	**35**	⇑Pn		**Pg**	**03 26 44.9**	**-1.5**
	953nm,0.6s							
AAK				⇑Lg		Lg	03 27 16.3	
	1μm,0.3s							
AAK	**Ala-Archa**	**2.13**	**35**	⇑*i*P		**Pg**	**03 26 45.1**	**-1.3**
	baz=37							
AAK				⇑*i*S		**Sg**	**03 27 13.7**	**-0.4**
	baz=37							
DZA	**Taraz**	**2.28**	**331**	*e*PN		**Pb**	**03 26 44.7**	**-1.5**
DZA	**Taraz**	**2.28**	**331**	⇑*i*P		**Pb**	**03 26 45.0**	**-1.2**
	2μm,0.3s							
DZA				*e*S		**Sb**	**03 27 14.1**	**0.0**
	6μm,0.2s							
DZA	**Taraz**	**2.28**	**331**	*e*P		**Pb**	**03 26 44.7**	**-1.5**
	baz=335							
DZA	**Taraz**	**2.28**	**331**	Pg		**Pb**	**03 26 45.0**	**-1.2**
	2μm,0.3s							
DZA				Lg		Lg	03 27 14.1	
	6μm,0.2s							
FRU1	**Bishkek**	**2.33**	**35**	PN		**Pg**	**03 26 48.1**	**-2.0**
FRU1	**Bishkek**	**2.33**	**35**	⇑*i*P		**Pg**	**03 26 48.1**	**-2.0**
	baz=36							
FRU1				⇑*i*S		**Sg**	**03 27 18.5**	**-1.9**
	baz=36							
FRU1	**Bishkek**	**2.33**	**35**			**Pg**	**03 26 48.1**	**-2.0**
KBK	**Karagaybulak**	**2.36**	**41**	P		**Pg**	**03 26 49.4**	**-1.3**
	SNR=606							
KBK	**Karagaybulak**	**2.36**	**41**	⇑*i*P		**Pg**	**03 26 48.5**	**-2.2**
	baz=43							
KBK				⇑*i*S		**Sg**	**03 27 19.6**	**-1.8**
	baz=43							
IUG	**Iuzhnay**	**2.44**	**302**	*d i*PN		**Pn**	**03 26 45.6**	**+1.0**
IUG				*e*S		**Sn**	**03 27 13.0**	**-1.2**
IUG	**Iuzhnay**	**2.44**	**302**	*e*P		**Pb**	**03 26 47.4**	**-1.5**
	19μm,0.5s							
IUG				*e*S		**Sb**	**03 27 18.0**	**-0.8**
	5μm,0.3s							
IUG	**Iuzhnay**	**2.44**	**302**	⇓*i*P		**Pn**	**03 26 45.7**	**+1.0**
	baz=303							
IUG				*e*S		**Sn**	**03 27 13.1**	**-1.2**
	baz=303							
IUG	**Iuzhnay**	**2.44**	**302**	Pg		**Pb**	**03 26 47.4**	**-1.5**
	19μm,0.5s							
IUG				Lg		Lg	03 27 18.0	
	5μm,0.3s							
CHMS	**Chumysh**	**2.54**	**34**	P		**Pb**	**03 26 51.1**	**+0.5**
	SNR=66							
CHMS	**Chumysh**	**2.54**	**34**	⇑*i*P		**Pb**	**03 26 51.0**	**+0.5**
	baz=36							
CHMS				⇑*i*S		**Sg**	**03 27 23.1**	**-3.9**
	baz=36							
USP	**Ospenovka**	**2.67**	**27**	P		**Pb**	**03 26 52.3**	**-0.5**
	SNR=148							
USP	**Ospenovka**	**2.67**	**27**	⇑*i*P		**Pb**	**03 26 52.3**	**-0.5**
	baz=29							
USP				⇑*i*S		**Sg**	**03 27 26.5**	**-4.7**
	baz=29							
TAS	**Tashkent**	**2.70**	**280**	PN		**Pn**	**03 26 49.7**	**+1.5**
TAS	**Tashkent**	**2.70**	**280**	⇑*i*P		**Pn**	**03 26 49.5**	**+1.3**
	baz=82							
TAS				⇑*i*S		**Sn**	**03 27 21.5**	**+1.0**
	baz=82							
TAS	**Tashkent**	**2.70**	**280**			**Pn**	**03 26 49.6**	**+1.5**
KSH	**Kashi**	**2.78**	**119**	P		**Pb**	**03 26 53.9**	**-0.8**
KSH				S		**Sb**	**03 27 29.6**	**+1.1**
KSH				smax		smax		
	comp=N,2μm,0.8s							
KSH				smax		smax		
	comp=E,1μm,0.9s							
KK02	**Karatay Array**	**2.80**	**323**	⇓Pn		**Pn**	**03 26 49.5**	**+0.1**
	287nm,0.5s							
KK02				⇑Lg		Lg	03 27 26.7	
	453nm,0.5s							
KK31	**Karatay Array**	**2.80**	**323**	PN		**Pn**	**03 26 50.9**	**+1.4**
KKAR	**Karatay Array**	**2.80**	**323**	PN		**Pn**	**03 26 50.2**	**+0.8**
KKAR	**Karatay Array**	**2.80**	**323**			**Pn**	**03 26 50.2**	**+0.8**
CHM	**Chimkent**	**2.80**	**301**	⇑*i*P		**Pb**	**03 26 55.5**	**+0.4**
	894nm,0.4s							
CHM				*e*S		**Sb**	**03 27 31.7**	**+2.6**
	4μm,0.4s							
BOOM	**Boomskoye usch**	**2.82**	**55**	PN		**Pb**	**03 26 55.3**	**-0.1**
BOOM	**Boomskoye usch**	**2.82**	**55**	⇑*i*P		**Pb**	**03 26 55.1**	**-0.3**
	baz=56							
BOOM				⇑*i*S		**Sb**	**03 27 31.1**	**+1.4**
	baz=56							
BOOM	**Boomskoye usch**	**2.82**	**55**			**Pb**	**03 26 55.3**	**-0.1**
SGDS	**Sogindy**	**2.88**	**27**	*e*P		**Pg**	**03 26 59.0**	**-1.5**
	208nm,0.5s							
SGDS				*e*S		**Sg**	**03 27 37.5**	**-0.4**
	1μm,0.4s							
SGDS	**Sogindy**	**2.88**	**27**	⇑*i*P		**Pb**	**03 26 55.1**	**-1.2**
	baz=30							
SGDS				*e*S		**Sb**	**03 27 30.0**	**-1.3**
	baz=30							
SGDS	**Sogindy**	**2.88**	**27**	Pg		**Pg**	**03 26 59.0**	**-1.5**
	208nm,0.5s							
SGDS				Lg		Lg	03 27 37.5	
	1μm,0.4s							
TKM2	**Tokmak 2**	**2.89**	**45**	P		**Pb**	**03 26 56.3**	**-0.3**
	SNR=365							
TKM2	**Tokmak 2**	**2.89**	**45**	PN		**Pb**	**03 26 56.1**	**-0.5**
TKM2	**Tokmak 2**	**2.89**	**45**	⇑Pn		**Pb**	**03 26 56.2**	**-0.5**
	189nm,0.5s							
TKM2				⇓Lg		Lg	03 27 38.9	
	653nm,0.7s							
TKM2	**Tokmak 2**	**2.89**	**45**	⇑*i*P		**Pb**	**03 26 55.7**	**-0.9**
	baz=46							
TKM2				⇑*i*S		**Sb**	**03 27 32.3**	**+0.6**
	baz=46							
ULHL	**Ulahol**	**2.89**	**61**	P		**Pb**	**03 26 55.8**	**-0.9**
	SNR=29							
ULHL	**Ulahol**	**2.89**	**61**	⇑*i*P		**Pb**	**03 26 56.0**	**-0.7**
	baz=62							
ULHL				⇑*i*S		**Sb**	**03 27 33.3**	**+1.5**
	baz=62							
BRLS	**Borolday**	**3.08**	**315**	*e*P		**Pb**	**03 26 58.4**	**-1.5**
	637nm,0.4s							
BRLS				*e*S		**Sb**	**03 27 36.7**	**-0.5**
	807nm,0.4s							
BRLS	**Borolday**	**3.08**	**315**	Pg		**Pb**	**03 26 58.4**	**-1.5**
	637nm,0.4s							
BRLS				Lg		Lg	03 27 36.7	
	807nm,0.4s							
KST	**Kastek**	**3.17**	**46**	*e*P		**Pg**	**03 27 05.3**	**-0.8**
	363nm,0.3s							
KST				*e*S		**Sg**	**03 27 48.4**	**+1.2**
	835nm,0.4s							
KST	**Kastek**	**3.17**	**46**	*i* P		**Pb**	**03 27 00.1**	**-1.3**
	baz=49							
KST	**Kastek**	**3.17**	**46**	Pg		**Pg**	**03 27 05.3**	**-0.8**
	363nm,0.3s							
KST				Lg		Lg	03 27 48.4	
	835nm,0.4s							
DGS	**Degeres**	**3.20**	**42**	*e*P		**Pg**	**03 27 05.9**	**-0.8**
	377nm,0.5s							
DGS				*e*S		**Sg**	**03 27 49.9**	**+1.6**
	681nm,0.6s							
DGS	**Degeres**	**3.20**	**42**	Pg		**Pg**	**03 27 05.9**	**-0.8**
	377nm,0.5s							
DGS				Lg		Lg	03 27 49.9	
	681nm,0.6s							
MTBS	**Maitube**	**3.48**	**49**	*e*P		**Pg**	**03 27 11.0**	**-1.2**
	103nm,0.5s							
MTBS				*e*S		**Sg**	**03 27 58.0**	**+0.7**
	384nm,0.2s							
MTBS	**Maitube**	**3.48**	**49**	*e*P		**Pb**	**03 27 04.3**	**-2.4**
	baz=51							
MTBS	**Maitube**	**3.48**	**49**	Pg		**Pg**	**03 27 11.0**	**-1.2**
	103nm,0.5s							
MTBS				Lg		Lg	03 27 58.0	
	384nm,0.2s							
KDJ	**Kajisay**	**3.49**	**68**	PN		**Pb**	**03 27 04.0**	**-2.8**
KDJ	**Kajisay**	**3.49**	**68**	⇓*i*P		**Pb**	**03 27 04.5**	**-2.3**
	baz=68							
KDJ				⇓*i*S		**Sb**	**03 27 47.5**	**-1.5**
	baz=68							
KDJ	**Kajisay**	**3.49**	**68**	Pn		**Pb**	**03 27 04.0**	**-2.8**
KRBS	**Karabastau**	**3.50**	**36**	*e*P		**Pg**	**03 27 10.7**	**-1.7**
	407nm,0.3s							
KRBS				*e*S		**Sg**	**03 27 58.0**	**+0.2**
	445nm,0.5s							
KRBS	**Karabastau**	**3.50**	**36**	Pg		**Pg**	**03 27 10.7**	**-1.7**
	407nm,0.3s							
KRBS				Lg		Lg	03 27 58.0	
	445nm,0.5s							
CHGR	**Chuyangaron**	**3.61**	**233**	PN		**Pn**	**03 27 00.6**	**-0.1**
CHGR	**Chuyangaron**	**3.61**	**233**	⇑*i*P		**Pn**	**03 27 02.1**	**+1.4**
	baz=32							
CHGR				⇑*i*S		**Sn**	**03 27 43.0**	**0.0**
	baz=32							
CHGR	**Chuyangaron**	**3.61**	**233**			**Pn**	**03 27 00.6**	**-0.1**
TNSS	**Tian-Shan**	**3.74**	**54**	*e*P		**Pg**	**03 27 15.8**	**-1.2**
	88nm,0.3s							
TNSS				*e*S		**Sg**	**03 28 06.4**	**+0.9**
	134nm,0.6s							
TNSS	**Tian-Shan**	**3.74**	**54**	⇓*i*P		**Pb**	**03 27 08.1**	**-3.1**
	baz=56							
TNSS	**Tian-Shan**	**3.74**	**54**	Pg		**Pg**	**03 27 15.8**	**-1.2**
	88nm,0.3s							
TNSS				Lg		Lg	03 28 06.4	
	134nm,0.6s							
KNDC	**Almaty**	**3.85**	**52**	PN		**Pb**	**03 27 09.9**	**-3.0**
KNDC	**Almaty**	**3.85**	**52**	⇓Pn		**Pb**	**03 27 09.6**	**-3.3**
	111nm,0.8s							
KNDC				⇑Pg		Pg	03 27 19.6	+0.5
	372nm,0.7s							
KNDC				⇓Lg		Lg	03 28 12.7	
	1μm,0.9s							
MDOK	**Medeo**	**3.87**	**53**	*i* PN		**Pb**	**03 27 09.9**	**-3.4**
MDOK	**Medeo**	**3.87**	**53**	*e*P		**Pg**	**03 27 18.5**	**-1.0**
	158nm,0.5s							
MDOK				*e*S		**Sg**	**03 28 11.1**	**+1.4**
	290nm,0.7s							
MDOK	**Medeo**	**3.87**	**53**	*i* P		**Pb**	**03 27 09.9**	**-3.4**
	baz=55							
MDOK	**Medeo**	**3.87**	**53**	⇓Pn		**Pb**	**03 27 09.7**	**-3.6**
	51nm,0.7s							
MDOK				⇓Pg		Pg	03 27 19.2	-0.3
	167nm,0.7s							
MDOK				⇑Lg		Lg	03 28 13.6	
	417nm,1.0s							
MDOK	**Medeo**	**3.87**	**53**	Pg		**Pg**	**03 27 18.5**	**-1.0**
	158nm,0.5s							
MDOK				Lg		Lg	03 28 11.1	
	290nm,0.7s							
KOTS	**Kotyrbulak**	**3.95**	**52**	*e*P		**Pg**	**03 27 19.8**	**-1.2**
	246nm,0.3s							
KOTS				*e*S		**Sg**	**03 28 13.4**	**+1.3**
	571nm,0.7s							
KOTS	**Kotyrbulak**	**3.95**	**52**	Pg		**Pg**	**03 27 19.8**	**-1.2**
	246nm,0.3s							
KOTS				Lg		Lg	03 28 13.5	
	571nm,0.7s							
KUU	**Kurty**	**3.96**	**40**	*c i*PN		Pb	03 27 09.7	-5.1
KUU	**Kurty**	**3.96**	**40**	*e*P		**Pg**	**03 27 19.3**	**-1.9**
	92nm,0.3s							
KUU				*e*S		**Sg**	**03 28 12.6**	**+0.1**
	422nm,0.4s							
KUU	**Kurty**	**3.96**	**40**	⇑*i*P		Pb	03 27 09.7	-5.1
	baz=42							
KUU	**Kurty**	**3.96**	**40**	Pg		**Pg**	**03 27 19.3**	**-1.9**
	92nm,0.3s							
KUU				Lg		Lg	03 28 12.6	
	422nm,0.4s							
KTBS	**Karatobe**	**4.00**	**44**	*e*P		**Pg**	**03 27 20.6**	**-1.4**
	114nm,0.5s							
KTBS				*e*S		**Sg**	**03 28 14.6**	**+0.6**
	754nm,0.6s							
KTBS	**Karatobe**	**4.00**	**44**	Pg		**Pg**	**03 27 20.6**	**-1.4**
	114nm,0.5s							
KTBS				Lg		Lg	03 28 14.6	
	754nm,0.6s							
ANVS	**Anan'yevo**	**4.07**	**61**	⇓*i*P		**Pb**	**03 27 12.4**	**-4.4**
	baz=61							
ANVS				⇓*i*S		**Sb**	**03 28 01.2**	**-4.6**
	baz=61							
CHKK	**Chushkaly**	**4.26**	**45**	*e*P		**Pg**	**03 27 24.9**	**-2.2**
	103nm,0.4s							
CHKK				*e*S		**Sg**	**03 28 21.9**	**-0.3**
	278nm,0.5s							
CHKK	**Chushkaly**	**4.26**	**45**	⇑*i*P		**Pn**	**03 27 13.8**	**+4.1**
	baz=47							
CHKK	**Chushkaly**	**4.26**	**45**	Pg		**Pg**	**03 27 24.9**	**-2.2**
	103nm,0.4s							
CHKK				Lg		Lg	03 28 21.9	
	278nm,0.5s							
SATY	**Saty**	**4.68**	**61**	*e*PN		**Pn**	**03 27 19.9**	**+4.5**
SATY	**Saty**	**4.68**	**61**	*e*P		**Pg**	**03 27 34.2**	**-0.8**
	84nm,0.3s							
SATY				*e*S		**Sg**	**03 28 38.0**	**+2.3**
	251nm,0.3s							
SATY	**Saty**	**4.68**	**61**	*e*P		**Pn**	**03 27 19.9**	**+4.5**
	baz=62							
SATY	**Saty**	**4.68**	**61**	Pg		**Pg**	**03 27 34.2**	**-0.8**
	84nm,0.3s							
SATY				Lg		Lg	03 28 38.0	
	251nm,0.3s							
ZHN	**Zhinishke**	**4.75**	**60**	*e*P		**Pg**	**03 27 35.0**	**-1.3**
	110nm,0.7s							
ZHN				*e*S		**Sg**	**03 28 39.6**	**+1.8**
	190nm,0.4s							
ZHN	**Zhinishke**	**4.75**	**60**	Pg		**Pg**	**03 27 34.7**	**-1.6**
	110nm,0.7s							
ZHN				Lg		Lg	03 28 38.9	
	190nm,0.4s							
ARXS	**Arharly**	**4.96**	**46**	*e*P		**Pg**	**03 27 37.8**	**-2.5**
	109nm,0.6s							
ARXS				*e*S		**Sg**	**03 28 44.4**	**0.0**
	277nm,0.4s							
ARXS	**Arharly**	**4.96**	**46**	Pg		**Pg**	**03 27 37.8**	**-2.5**
	109nm,0.6s							
ARXS				Lg		Lg	03 28 44.4	
	277nm,0.4s							
KPKS	**Kokpek**	**5.05**	**58**	*e*PN		Pn	03 27 25.9	+5.5
KPKS	**Kokpek**	**5.05**	**58**	*e*P		**Pg**	**03 27 39.6**	**-2.4**
	90nm,0.5s							
KPKS				*e*S		**Sg**	**03 28 47.6**	**+0.3**
	255nm,0.3s							
KPKS	**Kokpek**	**5.05**	**58**	*e*P		Pn	03 27 25.9	+5.5
	baz=59							
UZB	**Uzynbulak**	**5.13**	**62**	*e*P		**Pg**	**03 27 41.5**	**-2.0**
	56nm,0.6s							
UZB				*e*S		**Sg**	**03 28 50.5**	**+0.5**
	142nm,0.4s							
UZB	**Uzynbulak**	**5.13**	**62**	Pg		**Pg**	**03 27 41.6**	**-2.0**
	56nm,0.6s							
UZB				Lg		Lg	03 28 50.8	
	142nm,0.4s							
BLB	**Baldybastay**	**5.25**	**51**	*e*P		**Pg**	**03 27 43.7**	**-2.3**
	172nm,0.4s							
BLB				*e*S		**Sg**	**03 28 54.7**	**+0.6**
	171nm,0.7s							
BLB	**Baldybastay**	**5.25**	**51**	Pg		**Pg**	**03 27 43.7**	**-2.3**
	172nm,0.4s							
BLB				Lg		Lg	03 28 54.7	
	171nm,0.7s							
SHLS	**Shalkode**	**5.43**	**63**	*e*PN		Pb	03 27 34.6	-5.2
SHLS	**Shalkode**	**5.43**	**63**	*e*P		Pb	03 27 34.7	-5.2
	baz=65							
SHLS	**Shalkode**	**5.43**	**63**	Pg		Pg	03 27 54.1	+4.8
	39nm,0.3s							
SHLS				Lg		Lg	03 29 12.2	
	181nm,0.6s							
TDK	**Taldyqorghan**	**5.79**	**43**	*i* PN		Pn	03 27 35.1	+4.6
TDK	**Taldyqorghan**	**5.79**	**43**	*i* P		Pn	03 27 35.2	+4.6
	baz=44							
TDK	**Taldyqorghan**	**5.79**	**43**	Pg		**Pg**	**03 27 54.6**	**-1.6**
	177nm,0.5s							
TDK				Lg		Lg	03 29 13.1	
	529nm,1.0s							
KTMS	**Ketmen**	**6.14**	**63**	Pg		**Pg**	**03 28 02.0**	**-0.9**
	31nm,0.4s							
KTMS				Lg		Lg	03 29 25.8	
	80nm,0.4s							
DJR	**Jarkent**	**6.17**	**54**	⇑*i*P		**Pn**	**03 27 39.8**	**+3.9**
	baz=55							
DJR	**Jarkent**	**6.17**	**54**	Pg		**Pg**	**03 28 02.1**	**-1.4**
	70nm,0.6s							
DJR				Lg		Lg	03 29 26.1	
	115nm,1.0s							
KAPS	**Kapalarasan**	**6.48**	**45**	Pg		**Pg**	**03 28 06.8**	**-2.6**
	20nm,0.6s							
KAPS				Lg		Lg	03 29 34.2	
	96nm,0.6s							
KBL	**Kabul**	**7.02**	**206**	PN		**Pn**	**03 27 48.9**	**+1.2**
KBL	**Kabul**	**7.02**	**206**			**Pn**	**03 27 48.9**	**+1.2**
CHCP	**Chirah Chowk**	**7.24**	**177**	P		**Pn**	**03 27 54.5**	**+4.0**
NIL	**Nilore**	**7.25**	**177**	P		**Pn**	**03 27 53.9**	**+3.3**
NIL	**Nilore**	**7.25**	**177**	Pn		**Pn**	**03 27 53.9**	**+3.3**
OTUK	**Ortayu**	**7.35**	**357**	P		**Pn**	**03 27 53.4**	**+1.4**
OTUK	**Ortayu**	**7.35**	**357**	⇑Pn		**Pn**	**03 27 54.3**	**+2.4**
	9.6nm,0.6s							
OTUK				⇑Pg		Pg	03 28 19.0	-7.0
	32nm,0.7s							
OTUK				⇑Lg		Lg	03 29 56.0	
	365nm,1.1s							
MAKZ	**Makanchi**	**8.86**	**45**	P		Pn	03 28 17.7	+5.0
MAKZ	**Makanchi**	**8.86**	**45**	⇑Pn		**Pn**	**03 28 16.5**	**+3.8**
	6.5nm,0.9s							
MAKZ				⇑Lg		Lg	03 30 51.2	
	25nm,0.8s							
MAKZ	**Makanchi**	**8.86**	**45**			Pn	03 28 17.7	+5.0
MK31	**Makanchi Array**	**9.02**	**46**	*c i*P		**Pn**	**03 28 18.4**	**+3.5**
MK31				pmax		pmax		
	comp=Z,15nm,0.7s							
MK31	**Makanchi Array**	**9.02**	**46**	Pn		**Pn**	**03 28 18.4**	**+3.5**
	comp=Z,15nm,0.8s,baz=227,slow=12,SNR=102							
MK31				⇑Lg		Lg	03 30 56.3	
	comp=Z,23nm,0.6s							
MK31	**Makanchi Array**	**9.02**	**46**			**Pn**	**03 28 18.4**	**+3.5**
MKAR	**Makanchi Array**	**9.02**	**46**	Pn		**Pn**	**03 28 18.5**	**+3.6**
	comp=Z,0.9nm,0.3s,baz=228,slow=14,SNR=55							
MKAR				Lg		Lg	03 30 53.7	
	comp=Z,1.5nm,0.3s,baz=247,slow=24,SNR=6.8							
DHRM	**DHARAMSHALA**	**9.07**	**161**	*e*P		**Pn**	**03 28 13.7**	**-2.1**
DHRM				*ex*		x	03 29 52.0	
DHRM				IAML			03 30 05.0	
	comp=E,154nm,0.8s							
SMLA	**Simla**	**10.36**	**159**	*e*P		**Pn**	**03 28 30.4**	**-2.9**
SMLA				*e*S		Sn	03 30 20.2	-8.9
SMLA				IAML			03 30 29.5	
	comp=E,65nm,0.4s							
SMLA				IAML			03 30 32.1	
	comp=N,97nm,0.6s							
KURBB	**Kurchatov Arra**	**10.50**	**20**	Pn		**Pn**	**03 28 36.5**	**+1.4**
	comp=N,0.3nm,0.3s,baz=216,slow=12,SNR=5.2							
KURBB				Sn		**Sn**	**03 30 36.4**	**+4.1**
	comp=N,0.3nm,0.3s,baz=77,slow=28,SNR=4.6							
KURBB				Lg		Lg	03 31 39.0	
	comp=N,0.7nm,0.3s,baz=215,slow=30,SNR=5.5							
KURBB	**Kurchatov Arra**	**10.50**	**20**	⇓Lg		Lg	03 31 38.9	
	comp=N,155nm,0.7s							
KURK	**Kurchatov**	**10.61**	**20**	⇓*e*P		**Pn**	**03 28 38.7**	**+2.1**
KURK	**Kurchatov**	**10.61**	**20**	Pn		**Pn**	**03 28 38.0**	**+1.5**
HRA	**Herat**	**10.61**	**236**	Pn		**Pn**	**03 28 33.4**	**-3.5**
WMQ	**Urumqi**	**11.38**	**70**	*e*P		Pn	03 28 54.8	+7.6
GEYT	**Alibeck**	**11.76**	**260**	Pn		Pn	03 28 48.5	-4.0
	comp=N,1.1nm,0.3s,baz=88,slow=12,SNR=11							
GEYT	**Alibeck**	**11.76**	**260**			**Pn**	**03 28 50.2**	**-2.2**
GYA0	**ALIBECK ARRAY**	**11.76**	**260**	P		**Pn**	**03 28 50.9**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**11.76**	**260**	⇓Pn		**Pn**	**03 28 50.9**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**11.76**	**260**	Pn		**Pn**	**03 28 50.2**	**-2.2**
BVAR	**Borovoye Array**	**12.24**	**353**	Pn		**Pn**	**03 28 58.0**	**-0.9**
	comp=N,0.4nm,0.3s,baz=168,slow=15,SNR=16							
BVAR				Sn		**Sn**	**03 31 16.2**	**+1.3**
	comp=N,1.0nm,0.3s,baz=181,slow=27,SNR=1.9							
BVAR				Lg		Lg	03 32 33.3	
	comp=N,1.1nm,0.3s,baz=169,slow=24,SNR=3.0							
BRVK	**Borovoye**	**12.28**	**353**	⇑*e*P		**Pn**	**03 28 59.3**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
BRVK	**Borovoye**	**12.28**	**353**	⇑Pn		**Pn**	**03 28 59.4**	**0.0**
	comp=Z,5.1nm,0.6s							
BRVK	**Borovoye**	**12.28**	**353**	Pn		**Pn**	**03 29 00.1**	**+0.7**
AB31	**Akbulak array**	**12.34**	**317**	*i* P		**Pn**	**03 28 58.0**	**-2.4**
AB31	**Akbulak array**	**12.34**	**317**	Pn		**Pn**	**03 28 57.9**	**-2.4**
	comp=Z,9.2nm,0.6s,baz=128,slow=13,SNR=232							
AB31				⇓Sn		**Sn**	**03 31 15.1**	**-2.3**
	comp=Z,3.1nm,0.5s,baz=129,slow=22,SNR=4.2							
ABKAR	**Akbulak array**	**12.34**	**317**	Pn		**Pn**	**03 28 58.0**	**-2.4**
NDI	**New Delhi**	**12.71**

comp=Z,8.0nm,1.1s
BELG Belogornoye 20.66 312 P **P 03 30 42.8 -1.4**
comp=Z,7.3nm,0.6s,baz=121,slow=4.5,SNR=6.0
BELG Belogornoye 20.66 312 *de*P **P 03 30 44.8 +0.7**
BELG pmax pmax
comp=Z,4.0nm,1.8s
GNI Garni 21.33 277 P **P 03 30 51.6 -0.1**
comp=Z,2.8nm,0.5s,baz=173,slow=23,SNR=2.8
GNI Garni 21.33 277 P **P 03 30 50.3 -1.5**
GNI IAmb IAmb 03 31 03.6
comp=Z,23nm,0.8s
NCK Nalchik 21.76 287⇓ *e*P **P 03 30 54.7 -1.5**
NCK pmax pmax
comp=Z,3.0nm,0.7s
ONI Oni 21.94 284 P **P 03 30 55.8 -2.3**
ONI pmax pmax
comp=Z,10.0nm,0.9s
ONI Oni 21.94 284 P **P 03 30 55.8 -2.3**
ONI IAmb IAmb 03 31 07.9
comp=Z,10nm,0.9s
SHL Shillong 22.02 128 *ex* x 03 31 02.9
SHL IAmb IAmb 03 31 05.7
comp=Z,5.0nm,0.2s
KBZ Khabaz 22.26 287 P **P 03 31 02.1 +0.7**
comp=Z,1.6nm,0.6s,baz=94,slow=7.9,SNR=8.1
KBZ Khabaz 22.26 287⇑ *e*P **P 03 31 00.6 -0.8**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 22.40 288⇓ *e*P **P 03 31 01.9 -1.2**
KIV *e**PP **sP 03 31 13.8 +3.6**
KIV *SP pP 03 31 19.0 +11
KIV PPP PPP 03 31 34.0
KIV S **S 03 35 06.0 -2.5**
KIV *e*SSS SSS 03 35 47.8
KIV pmax pmax
comp=Z,5.0nm,0.7s
KIV MLR MLR
comp=Z,2μm,19.0s
ZAK Zakamensk 23.16 56 *e*P **P 03 31 10.9 -0.1**
ZAK pmax pmax
comp=Z,13nm,1.0s
VRH Novokhopyorsk 23.75 306 *e*P **P 03 31 20.3 +3.6**
VRH pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 24.83 62 P **P 03 31 29.4 +2.5**
comp=Z,2.4nm,0.9s,baz=272,slow=9.5,SNR=19
SONM Songino Array 24.83 62 P **P 03 31 29.7 +2.8**
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 24.83 62 P **P 03 31 29.7 +2.8**
VORD Divnogorie 25.20 305 *e*P **P 03 31 32.9 +2.9**
VORD pmax pmax
comp=Z,10.0nm,0.5s
ULN Ulaanbaatar 25.28 62⇑ *e*P **P 03 31 33.3 +2.4**
ULN pmax pmax
comp=Z,9.0nm,1.7s
ULN Ulaanbaatar 25.28 62 P **P 03 31 32.7 +1.8**
ULN IAmb IAmb 03 31 34.0
comp=Z,3.8nm,0.7s
VSR Storozhevoye 25.33 305 *e*P **P 03 31 33.0 +1.9**
VSR pmax pmax
comp=Z,10.0nm,1.1s
PZH PanZhiHua 27.86 112 P **P 03 31 58.1 +3.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.8s
RAYN Ar Rayn 28.72 241 P **P 03 32 01.4 -0.6**
RAYN pmax pmax
comp=Z,4.0nm,1.1s
RAYN Ar Rayn 28.72 241 P **P 03 32 01.4 -0.6**
RAYN IAmb IAmb 03 32 06.8
comp=Z,3.8nm,1.1s
HHC Hu-ho-hao-te 29.13 77 *e*P **P 03 32 08.1 +2.6**
HHC pmax pmax
comp=Z,11nm,1.1s
BR131 Keskin Array S 29.74 281 P **P 03 32 09.4 -1.6**
BR131 pmax pmax
comp=Z,8.0nm,0.8s
BR131 Keskin Array S 29.74 281 P **P 03 32 09.4 -1.6**
BR131 IAmb IAmb 03 32 17.0
comp=Z,8.1nm,0.8s
BRTR Keskin Array B 29.74 281 P **P 03 32 11.6 +0.5**
comp=Z,4.5nm,0.7s,baz=92,slow=9.4,SNR=5.8
AKASG Malin Array Be 31.52 303 P **P 03 32 25.9 -0.6**
comp=Z,0.2nm,0.3s,baz=79,slow=7.6,SNR=15
AKASG Malin Array Be 31.52 303 *e*P **P 03 32 29.3 +2.9**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 31.52 303 P **P 03 32 24.8 -1.6**
AKBB Malin Array Si 31.52 303⇓ *e*P **P 03 32 25.4 -1.0**
AKBB Malin Array Si 31.52 303 P **P 03 32 25.1 -1.3**
AKBB IAmb IAmb 03 32 31.9
comp=Z,6.7nm,0.8s
SLVN Son La 32.73 117 P **P 03 32 38.0 +0.6**
SLVN IAmb IAmb 03 33 05.2
comp=Z,7.7nm,1.2s
FINES FINESS Array B 34.76 322 P **P 03 32 54.4 -0.1**
comp=Z,3.6nm,0.7s,baz=114,slow=8.8,SNR=15
WHN Wuhan 34.97 94 ⇑P **P 03 32 59.6 +2.9**
OJC Ojcow 37.56 303 P **P 03 33 18.4 -0.3**
OJC pmax pmax
comp=Z,8.0nm,0.6s
OJC Ojcow 37.56 303 P **P 03 33 18.4 -0.3**
ARCES ARCESS Array B 37.69 335 P **P 03 33 19.5 -0.1**
comp=Z,1.5nm,0.6s,baz=104,slow=7.6,SNR=8.5
ARCES LR LR 03 49 13.7
comp=Z,3μm,21.5s,baz=256,slow=37
VYHS Vyhne 38.42 300 *e*P **P 03 33 29.0 +3.0**
VYHS Vyhne 38.42 300 *e*P **P 03 33 29.0 +3.0**
MORC Moravsky Berou 39.06 302 *e*P **P 03 33 35.6 +4.2**
JAVC Velka Javorina 39.13 301 *e*P P 03 33 36.7 +4.8
KRLC Kraliky 39.50 303 *e*P **P 03 33 38.1 +3.1**
KRLC Kraliky 39.50 303 *e*P **P 03 33 38.1 +3.1**
YAK Yakutsk 39.59 38 *de*P **P 03 33 36.5 +1.0**
YAK pmax pmax
comp=Z,5.0nm,0.6s
VRAC Vranov 39.75 302 *e*P **P 03 33 40.4 +3.4**
DPC Dobruska-Polom 39.75 303 *e*P **P 03 33 40.3 +3.2**
DPC Dobruska-Polom 39.75 303 *e*P **P 03 33 40.3 +3.2**
OSTC Ostas 39.79 304 *e*P **P 03 33 41.8 +4.4**
KRUC Moravsky 39.92 301 P **P 03 33 38.7 +0.3**
KRUC Moravsky 39.92 301 *e*P **P 03 33 42.3 +3.9**
UPC Upice 39.93 304 *e*P **P 03 33 41.7 +3.2**
UPC Upice 39.93 304 *e*P **P 03 33 41.7 +3.2**
CONA Conrad Observa 40.48 300 *e*P **P 03 33 43.7 +0.5**
comp=Z,4.9nm,0.8s
ARSA Arzberg 40.85 299 *e*P **P 03 33 43.8 -2.4**
comp=Z,2.6nm,1.1s
PRU Pruhonice 40.94 303 *e*P **P 03 33 47.5 +0.6**
PRU Pruhonice 40.94 303 *e*P **P 03 33 47.5 +0.6**
TIXI Tiksi 41.17 24 P **P 03 33 47.7 -0.7**
comp=Z,1.8nm,0.7s,baz=277,slow=6.1,SNR=9.7
TIXI Tiksi 41.17 24⇑ *e*P **P 03 33 48.8 +0.4**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 41.17 24 IAmb IAmb 03 33 49.8
comp=Z,2.5nm,0.8s
BRG Berggiesshubel 41.17 305 *e*P **P 03 33 51.7 +2.9**
BRG Amp 03 33 54.1
comp=Z,4.2nm,0.8s
BRG *ex* x 03 36 05.2
BRG Amp 03 36 05.8
comp=Z,3.9nm,0.7s
BRG Berggiesshubel 41.17 305 *e*P **P 03 33 51.6 +2.9**
BRG pmax pmax
comp=Z,4.0nm,0.8s
SOKA Soboth 41.31 298 *e*P **P 03 33 49.9 -0.2**
comp=Z,9.5nm,1.7s
KLR Kul'dur 41.49 58 P **P 03 33 52.3 +0.9**
comp=Z,1.1nm,0.5s,baz=279,slow=6.5,SNR=7.0
KLR Kul'dur 41.49 58⇓ *e*P **P 03 33 53.5 +2.1**
KLR pmax pmax
comp=Z,2.0nm,0.9s
MOA Molln 41.55 300 *e*P **P 03 33 52.7 +0.7**
comp=Z,8.1nm,1.7s
OBKA Obir 41.67 298 *e*P **P 03 33 52.1 -1.0**
comp=Z,5.1nm,1.1s
CLL Collm 41.68 305 *i*P **P 03 33 57.0 +4.1**
CLL Collm 41.68 305 *i*Px Px 03 33 57.0
comp=Z,5.0nm,0.8s
GERES GERESS Array B 41.70 302 P **P 03 33 52.8 -0.5**
comp=Z,1.8nm,0.7s,baz=66,slow=8.3,SNR=17
GERES GERESS Array B 41.70 302 P **P 03 33 53.4 +0.1**
GERES GERESS Array B 41.70 302 P **P 03 33 53.4 +0.1**

KHC Kasperske Hory 41.72 302⇑ *e*P **P 03 33 53.9 +0.6**
KHC pmax pmax
comp=Z,35nm,2.8s
KHC Kasperske Hory 41.72 302 *e*P **P 03 33 54.0 +0.6**
NB2 NORSAR Subarra 41.83 320 P **P 03 33 53.6 -0.5**
comp=Z,3.6nm,0.7s,baz=90,slow=8.6
NOA NORSAR Array B 41.83 320 P **P 03 33 53.8 -0.3**
comp=Z,3.1nm,0.7s,baz=90,slow=8.2,SNR=11
NOA NORSAR Array B 41.83 320 *e*P **P 03 33 57.2 +3.1**
NOA pmax pmax
comp=Z,3.0nm,0.6s
WTTA Wattenberg 43.42 300 *e*P **P 03 34 06.4 -0.9**
comp=Z,7.3nm,1.4s
WATA Walderalm 43.44 300 *e*P **P 03 34 06.1 -1.4**
comp=Z,5.1nm,1.0s
SQTA Sankt Quirin 43.71 300 *e*P **P 03 34 08.1 -1.5**
comp=Z,1.3nm,0.8s
MOTA Moosalm 43.75 300 *e*P **P 03 34 06.6 -3.4**
comp=Z,3.1nm,0.8s
RETA Reutte 43.94 300 *e*P **P 03 34 07.7 -3.6**
comp=Z,6.3nm,2.3s
DAVA Damuels 44.57 300 *e*P **P 03 34 16.2 -0.4**
comp=Z,4.4nm,0.7s
MAT Matsushiro 50.13 73 P **P 03 35 00.4 +0.6**
MJAR Matsushiro Arr 50.13 73 P **P 03 34 59.5 -0.3**
comp=Z,3.5nm,0.8s,baz=290,slow=10,SNR=7.1
MJAR Matsushiro Arr 50.13 73 IAmb IAmb 03 35 03.3
comp=Z,3.7nm,1.1s
MJA0 Matsu Arr-Jizo 50.16 73 *e*P **P 03 34 59.5 -0.6**
MJA0 pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 50.94 343 P **P 03 35 05.4 +0.1**
DAG pmax pmax
comp=Z,9.0nm,1.5s
DAG Danmarks Havn 50.94 343 *i*P **P 03 35 05.0 -0.3**
ESDC Sonseca Array 56.74 296 P **P 03 35 47.6 -0.8**
comp=Z,1.2nm,0.8s,baz=57,slow=6.7,SNR=4.6
TORD Torodi Ar. Bea 67.28 268 P **P 03 36 57.7 -1.8**
comp=Z,3.2nm,0.7s,baz=49,slow=5.3,SNR=32
INK Inuvik 69.33 10 P **P 03 37 11.3 -0.1**
comp=Z,0.7nm,0.4s,baz=360,slow=5.4,SNR=9.0
INK Inuvik 69.33 10 IAmb IAmb 03 37 30.8
comp=Z,1.5nm,0.8s
C36M Paulatuk 69.36 6 P **P 03 37 11.7 +0.1**
C36M IAmb IAmb 03 37 12.0
comp=Z,2.9nm,0.7s
ILAR Eielson Array 70.16 17 P **P 03 37 16.6 0.0**
comp=Z,0.3nm,0.7s,baz=304,slow=2.1,SNR=4.8
ILAR Eielson Array 70.16 17 *e*P **P 03 37 17.9 +1.3**
KOWA Kowa 70.77 273 P **P 03 37 19.3 -1.9**
FRB Frobisher Bay 71.29 343 P **P 03 37 24.0 +0.5**
DBIC Dimbokro 76.36 267 P **P 03 37 52.7 -1.3**
comp=Z,4.1nm,0.6s,baz=18,slow=4.8,SNR=7.6
KIC Kosan Boka 76.47 267 *e*PKIKP **P 03 37 53.4 -1.3**
comp=Z,16nm,0.5s
TIC Toumodi 76.50 267 *e*PKIKP **P 03 37 53.3 -1.5**
LIC Lamto 76.78 267 *e*PKIKP **P 03 37 53.8 -2.6**
comp=Z,16nm,0.6s
YKA Yellowknife Ar 76.78 4 P **P 03 37 55.8 +0.2**
comp=Z,0.7nm,0.5s,baz=349,slow=5.8,SNR=25
WRA Warramunga Arr 83.17 124 P **P 03 38 30.2 -0.5**
comp=Z,0.9nm,0.7s,baz=326,slow=4.8,SNR=7.9
WRA Warramunga Arr 83.17 124 *e*P **P 03 38 31.6 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRAB Tennant Creek 83.17 124 P **P 03 38 30.6 -0.1**
WRAB pmax pmax
comp=Z,11nm,3.0s
ASAR Alice Springs 85.65 126 P **P 03 38 43.0 -0.2**
comp=Z,2.3nm,0.7s,baz=318,slow=5.0,SNR=23
PLCA Paso Flores 152.41 258 PKPbc **PKPbc 03 45 59.5 -0.9**
comp=Z,1.6nm,0.9s,baz=92,slow=4.3,SNR=4.4

*TUL **01** 03:29:31.8±0.9, 35°.941N±0°.010×97°.28W±0°.02, h8km±7km, ML2.5, ML2.5/38(NEIC), Error ellipse: s-maj=2.9km s-min=2.1km az=132.0*
NEIC 01 03:29:31.8±0.9, 35°.941N±0°.010×97°.28W±0°.02, h8km±7km, Error ellipse: s-maj=2.9km s-min=1.2km az=72.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.35**	**88**	Pg	Pg	03 29 38.7	-0.1
OK031				IAML		03 29 43.8	
457nm,0.2s							
OK031				IAML		03 29 44.0	
834nm,0.2s							
OK025	**Westminster Rd**	**0.36**	**188**	Pg	Pg	03 29 38.5	-0.4
OK025				IAML		03 29 43.5	
516nm,0.2s							
BCOK	**Bluff Creek, N**	**0.39**	**224**	Pg	Pg	03 29 39.4	-0.1
OK030	**Cody Creek RV**	**0.40**	**92**		Pg	03 29 39.5	-0.1
OK030				IAML		03 29 45.4	
548nm,0.1s							
OK034	**N. Norfolk Rd.**	**0.46**	**81**	Pg	Pg	03 29 40.8	0.0
OK034				IAML		03 29 47.4	
370nm,0.2s							
QUOK	**Quay**	**0.52**	**63**	Pg	Pg	03 29 42.0	+0.2
QUOK				IAML		03 29 49.4	
comp=N,258nm,0.1s							
QUOK				IAML		03 29 50.5	
comp=E,335nm,0.2s							
OKCFA	**Oklahoma City**	**0.54**	**195**	Pg	Pg	03 29 42.0	-0.4
OKCFA				IAML		03 29 49.4	
comp=E,470nm,0.4s							
OKCSW	**OKLAHOMA CITY**	**0.55**	**194**		Pg	03 29 42.0	-0.4
FNO	**Franklin**	**0.69**	**189**	Pg	Pg	03 29 44.3	-0.8
FNO				IAML		03 29 53.8	
comp=E,294nm,0.2s							
CROK	**Carrier**	**0.80**	**315**	Pg	Pb	03 29 47.9	-0.2
CROK				IAML		03 30 01.6	
comp=E,166nm,0.3s							
CROK				IAML		03 30 06.1	
comp=N,175nm,0.2s							
BLOK	**Blackwell**	**0.82**	**3**	Pg	Pg	03 29 47.9	+0.3
BLOK				IAML		03 30 06.5	
comp=E,211nm,0.2s							
GC02	**Grant County #**	**1.02**	**333**		Pg	03 29 51.0	-0.5
KAN13	**South Haven SW**	**1.08**	**351**	Pg	Pg	03 29 52.6	0.0
OK032	**Salt Plains WL**	**1.15**	**319**		Pg	03 29 53.6	-0.2
OK032				IAML		03 30 18.4	
comp=E,148nm,0.2s							
T35A	**Sooner Cattle**	**1.15**	**32**	Pg	Pg	03 29 53.8	-0.2
T35A				IAML		03 30 10.3	
comp=N,96nm,0.3s							
KAN14	**Manchester OK**	**1.16**	**332**		Pg	03 29 53.5	-0.5
KAN14				IAML		03 30 14.0	
comp=E,143nm,0.5s							
KAN14				IAML		03 30 17.3	
comp=N,90nm,0.2s							
KAN17	**Caldwell West**	**1.17**	**340**		Pb	03 29 54.3	0.0
TUL1	**Leonard**	**1.21**	**91**	Pg	Pb	03 29 53.4	-1.5
TUL1				IAML		03 30 10.3	
comp=N,112nm,0.3s							
KAN05	**Bluff City Nor**	**1.26**	**338**		Pn	03 29 55.8	0.0
KAN01	**Argonia South**	**1.27**	**342**		Pg	03 29 56.2	-0.1
KAN10	**Anthony SW Sta**	**1.35**	**331**		Pn	03 29 57.0	0.0
OK035	**E0210 Rd and N**	**1.39**	**304**	Pn	Pn	03 29 57.7	+0.2
X34A	**Smith Ranch, M**	**1.41**	**199**	Pn	Pn	03 29 57.2	-0.6
U32A	**Winter Ranch,**	**1.46**	**288**	Pn	Pn	03 29 58.8	+0.2
WMOK	**Wichita Mounta**	**1.72**	**226**		Pn	03 30 02.4	+0.3
LOOK	**Love County**	**1.94**	**178**		Pn	03 30 05.6	+0.4
X37A	**Clayton**	**2.06**	**130**	Pn	Pn	03 30 06.6	-0.2
U38A	**Gravette**	**2.39**	**77**	Pn	Pn	03 30 11.5	+0.2
HHAR	**Hobbs**	**2.72**	**82**	Pn	Pn	03 30 15.8	-0.1
MIAR	**Mount Ida**	**3.33**	**114**	Pn	Pn	03 30 24.9	+0.6
U40A	**Yellville**	**3.60**	**82**	Pn	Pn	03 30 27.4	-0.6
S39A	**Bolivar**	**3.62**	**60**	Pn	Pn	03 30 29.0	+0.8
FCAR	**Ozark Folk Cen**	**4.18**	**89**	Pn	Pn	03 30 37.1	+1.2

*IDC **01** 03:36:59.9±1.4, 20°.97S×69°.74W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/27, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=42.4km s-min=14.7km az=112.0*
*GUC **01** 03:37:17.8±0.8, 19°.90S×69°.24W, h90km±3km, ML3.4*
ISC 01 03:37:17.3±1.0, 19°.92S±0°.03×69°.34W±0°.07, h95km±7km, n18, σ0°.87/30, 1C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.28**	**141**	⇓ *i*P	**Pn**	**03 37 31.1**	**-0.5**
PB08				*i* S	**Sn**	**03 37 41.9**	**-0.4**
PB08				IAML		03 37 44.5	
comp=E,2μm,0.3s							
PB11	**IPOC Station P**	**0.34**	**298**	*e*P	**Pn**	**03 37 31.4**	**-0.2**
PB11				IAML		03 37 43.0	
comp=E,3μm,0.1s							
TA02	**Huaiquique**	**0.82**	**245**	*e*P	**Pn**	**03 37 35.6**	**+0.2**
TA02				*i* S	**Sn**	**03 37 50.1**	**+1.2**
TA01	**Diego Aracena**	**1.02**	**231**	⇑ *i*P	**Pn**	**03 37 37.5**	**0.0**
TA01				*i* S	**Sn**	**03 37 53.3**	**+0.7**
TA01				IAML		03 37 57.0	
comp=N,590nm,0.5s							
PB01	**IPOC Station P**	**1.12**	**187**	⇓ *i*P	**Pn**	**03 37 38.9**	**+0.1**
PB01				*i* S	**Sn**	**03 37 55.6**	**+0.6**
PB01				IAML		03 37 57.3	
comp=N,2μm,0.4s							
PB02	**IPOC Station P**	**1.48**	**200**	*i* P	**Pn**	**03 37 43.2**	**0.0**
PB02				*i* S	**Sn**	**03 38 03.4**	**+0.6**
PB02				IAML		03 38 09.6	
comp=E,992nm,0.4s							
PB16	**IPOC Station P**	**1.59**	**354**	*e*P	**Pn**	**03 37 45.7**	**+0.8**
PB16				*i* S	**Sn**	**03 38 07.2**	**+1.5**
PB12	**IPOC Station P**	**1.60**	**324**	*e*P	**Pn**	**03 37 44.2**	**-0.4**
PB12				*i* S	**Sn**	**03 38 06.1**	**+0.7**
PB12				IAML		03 38 13.4	
comp=N,466nm,0.4s							
AP01	**Chacalluta**	**1.81**	**328**	*i* P	**Pn**	**03 37 47.5**	**+0.3**
AP01				*i* S	**Sn**	**03 38 10.9**	**+1.0**
PB07	**IPOC Station P**	**1.87**	**196**	⇓ *i*P	**Pn**	**03 37 48.3**	**+0.2**
PB07				*i* S	**Sn**	**03 38 12.4**	**+0.9**
PB07				IAML		03 38 18.6	
comp=N,386nm,0.2s							
PB09	**IPOC Station P**	**1.87**	**177**	⇓ *i*P	**Pn**	**03 37 48.7**	**+0.6**
PB09				*i* S	**Sn**	**03 38 13.1**	**+1.5**
PB03	**IPOC Station P**	**2.15**	**190**	*i* P	**Pn**	**03 37 51.7**	**-0.1**
PB03				*i* S	**Sn**	**03 38 19.2**	**+1.1**
PB03				IAML		03 38 26.8	
comp=E,183nm,0.5s							
PB04	**IPOC Station P**	**2.52**	**197**	⇓ *i*P	**Pn**	**03 37 57.2**	**+0.6**
PB04				IAML		03 38 38.3	
comp=N,166nm,0.2s							
LVC	**Limon Verde**	**2.70**	**172**	*i* P	**Pn**	**03 37 59.8**	**+0.5**
PB06	**IPOC Station P**	**2.78**	**184**	*i* P	**Pn**	**03 38 00.7**	**+0.6**
PB06				*i* S	**Sn**	**03 38 34.6**	**+1.6**
PB06				IAML		03 38 42.7	
comp=E,138nm,0.2s							
LPAZ	**La Paz**	**3.79**	**18**	Pn	**Pn**	**03 38 15.5**	**+1.3**
comp=E,0.7nm,0.3s,baz=204,slow=7.5,SNR=16							
TORD	**Torodi Ar. Bea**	**77.21**	**71**	P	**P**	**03 49 00.3**	**-1.2**
comp=E,0.5nm,0.8s,baz=234,slow=5.8,SNR=2.0							
YKA	**Yellowknife Ar**	**89.57**	**341**	P	**P**	**03 50 02.8**	**-0.9**
comp=E,0.1nm,0.3s,baz=133,slow=4.7,SNR=5.7							

*INET **01** 03:43:09.5±0.9, 11°.25N×86°.81W, h13km±8km, MW3.9*
*UCR **01** 03:43:09.3±1.3, 11°.11N×86°.94W, h35km±999km, MW4.4, mb4.1(NEIC)*
*NEIC **01** 03:43:12.7±1.3, 11°.50N±0°.06×86°.64W±0°.04, h59km±10km, mb4.1/6, Error ellipse: s-maj=9.0km s-min=4.5km az=205.0*
*IDC **01** 03:43:13.2±2.4, 11°.74N×86°.33W, h57km±26km, mb3.4/6, mb1 3.7/7, mb1mx3.4/35, mbtmp3.7/7, ML4.0/1, Error ellipse: s-maj=69.6km s-min=19.0km az=47.0*
ISC 01 03:43:11.6±1.1, 11°.35N±0°.05×86°.76W±0°.06, h57km±10km, n59, σ1°.49/69, mb4.1/10, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.84**	**11**	*e*P	**Pn**	**03 43 26.1**	**-1.3**
MGAN	**Managua**	**0.94**	**32**	*e*P	**Pn**	**03 43 28.3**	**-0.4**
MGAN				*e*P	**Pn**	**03 43 28.3**	**-0.4**
HUEN		**1.14**	**30**	*e*P	**Pn**	**03 43 31.0**	**-0.4**
HZTE	**Horizontes, Gu**	**1.31**	**119**	*e*P	**Pn**	**03 43 32.1**	**-1.6**
HZTE				*e*S	**Sn**	**03 43 48.9**	**-1.2**
HZTE	**Horizontes, Gu**	**1.31**	**119**		**Pn**	**03 43 32.5**	**-1.2**
HZTE	**Horizontes, Gu**	**1.31**	**119**	*e*P	**Pn**	**03 43 32.5**	**-1.2**
HZTE				*e*S	**Sn**	**03 43 49.2**	**-1.0**
CRIN	**San Cristobal**	**1.37**	**348**	Pn	**Pn**	**03 43 34.2**	**-0.3**
CRIN	**San Cristobal**	**1.37**	**348**	*e*P	**Pn**	**03 43 34.3**	**-0.3**
CRIN				*e*S	**Sn**	**03 43 54.0**	**+2.2**
GBS3	**Finca Las Img**	**1.40**	**114**	*i* P	**Pn**	**03 43 33.6**	**-1.4**
LAPC	**Finca la Perla**	**1.43**	**114**	*i* P	**Pn**	**03 43 33.7**	**-1.6**
BOAB	**BOACO BROADBAN**	**.53**	**44**		**Pn**	**03 43 34.9**	**-1.7**
ORTG	**Ortega, Santa**	**1.61**	**127**		**Pn**	**03 43 37.2**	**-0.7**
SAJU	**San Juanillo,**	**1.64**	**141**	*e*P	**Pn**	**03 43 35.0**	**-3.2**
ACON	**Acoyapa**	**1.67**	**68**	Pn	**Pn**	**03 43 37.9**	**-0.6**
CUI	**Cuipilapa**	**1.71**	**114**	*i* P	**Pn**	**03 43 38.6**	**-0.6**
MATN	**Matagalpa**	**1.77**	**27**	Pn	**Pn**	**03 43 38.3**	**-1.7**
DUNO	**Dulce Nombre,**	**1.77**	**135**	Pn	**Pn**	**03 43 41.1**	**+1.1**
CSGN	**Cosiguina Volc**	**1.79**	**334**	*e*P	**Pn**	**03 43 40.0**	**-0.3**
PTEN	**Parque Tenorio**	**1.85**	**110**	*i* P	**Pn**	**03 43 40.7**	**-0.4**
JTS	**Las Juntas de**	**2.07**	**121**	P	**Pn**	**03 43 45.5**	**+1.5**
JTS				S	**Sn**	**03 44 13.9**	**+5.2**
JTS	**Las Juntas de**	**2.07**	**121**	*e*P	**Pn**	**03 43 43.2**	**-0.8**
JTS	**Las Juntas de**	**2.07**	**121**	*e*P	**Pn**	**03 43 42.8**	**-1.2**
CNCH	**Conchagua**	**2.18**	**331**	*e*P	**Pn**	**03 43 45.5**	**-0.1**
LCND	**La Caada**	**2.24**	**331**	*e*P	**Pn**	**03 43 45.4**	**-0.9**
LCND				*e*S	**Sn**	**03 44 14.6**	**+1.8**
CAO2	**Cobano, Puntar**	**2.32**	**135**		**Pn**	**03 43 49.4**	**+1.9**
LAFE	**Finca La Fe, P**	**2.38**	**130**	*e*P	**Pn**	**03 43 45.7**	**-2.6**
LAFE	**Finca La Fe, P**	**2.38**	**130**	*e*P	**Pn**	**03 43 45.8**	**-2.5**
COVE	**Coope Vega, Sa**	**2.40**	**105**		**Pn**	**03 43 48.4**	**-0.1**
ESPN	**Las Esperanzas**	**2.55**	**71**	Pn	**Pn**	**03 43 49.7**	**-0.8**
ESPN	**Las Esperanzas**	**2.55**	**71**	*e*P	**Pn**	**03 43 50.4**	**-0.2**
PACA	**Pacayal**	**2.60**	**324**	*e*P	**Pn**	**03 43 51.5**	**+0.1**
PACA				*e*S	**Sn**	**03 44 23.3**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.73**	**350**	*e*P	**Pn**	**03 43 54.0**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.73**	**350**		**Pn**	**03 43 53.0**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.73**	**350**	*e*P	**Pn**	**03 43 54.1**	**+0.8**
TECO	**Alcaldia de Te**	**2.93**	**318**	*e*P	**Pn**	**03 43 54.4**	**-1.4**
TECO				*e*S	**Sn**	**03 44 28.7**	**-1.2**
LCR2	**La Lucha 2**	**3.15**	**120**	*e*P	**Pn**	**03 44 00.6**	**+1.6**
LFRS	**El Faro**	**3.19**	**315**	*e*P	**Pn**	**03 43 58.2**	**-1.1**
RIMA	**Rio Macho**	**3.26**	**119**		**Pn**	**03 44 00.8**	**+0.4**
SNET	**Serv Nac Est T**	**3.35**	**314**	Pn	**Pn**	**03 44 01.7**	**+0.1**
PEZE	**Perez Zeledon,**	**3.61**	**123**	Pn	**Pn**	**03 44 07.2**	**+2.0**
MTO3	**Montecristo**	**3.95**	**320**		**Pn**	**03 44 10.8**	**+0.9**
SRBA	**San Rafael, Bu**	**3.96**	**122**		**Pn**	**03 44 12.1**	**+2.2**
PETF	**Flores**	**6.30**	**332**	Pn	**Pn**	**03 44 41.4**	**-0.6**
CMIG	**Matias Romero**	**9.72**	**307**	P	**Pn**	**03 45 30.3**	**+1.5**
1.2nm,0.3s,baz=166,slow=12,SNR=18							
342A	**Flagon Creek P**	**20.58**	**346**	P	**P**	**03 47 45.5**	**-0.4**
MIAR	**Mount Ida**	**23.91**	**346**	P	**P**	**03 48 19.4**	**-0.8**
MIAR				IAmb	IAmb	03 48 23.1	
comp=Z,4.7nm,0.8s							
LCAR	**Lake Charles**	**24.93**	**352**	P	**P**	**03 48 29.2**	**-0.3**
LCAR				IAmb	IAmb	03 48 30.0	
comp=Z,5.3nm,0.9s							
WMOK	**Wichita Mounta**	**25.73**	**337**	P	**P**	**03 48 37.7**	**+0.9**
WMOK				IAmb	IAmb	03 48 41.0	
comp=Z,12nm,1.1s							
S39A	**Bolivar**	**26.88**	**348**	P	**P**	**03 48 46.4**	**-0.8**
S39A				IAmb	IAmb	03 48 48.1	
comp=Z,4.3nm,0.7s							
PDAR	**Pinedale Array**	**37.05**	**332**	P	**P**	**03 50 16.0**	**-0.4**
comp=Z,0.5nm,0.6s,baz=132,slow=9.0,SNR=6.6							
MOOW	**Moose Ponds**	**38.36**	**332**	P	**P**	**03 50 24.9**	**-2.6**
NVAR	**Mina Array Bea**	**38.97**	**319**	P	**P**	**03 50 34.9**	**+2.3**
comp=Z,0.3nm,0.6s,baz=133,slow=6.3,SNR=2.7							
NVAR				PcP	**PcP**	**03 52 44.7**	**+2.5**
comp=Z,0.8nm,0.7s,baz=130,slow=4.3,SNR=7.7							
ULM	**Lac du Bonnet**	**39.50**	**351**	P	**P**	**03 50 36.3**	**-0.3**
comp=Z,2.2nm,0.6s,baz=186,slow=7.7,SNR=3.1							
BDFB	**Brasilia**	**46.80**	**124**	P	**P**	**03 51 34.8**	**-1.3**
comp=Z,1.6nm,0.7s,baz=274,slow=11,SNR=3.4							
YKA	**Y

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.76**	**51**	Pn	Pn	03 48 01.5	-29
	2.6nm,0.3s,baz=156,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**47.45**	**258**	P	**P**	**03 55 27.4**	**-0.2**
	0.9nm,0.8s,baz=91,slow=5.6,SNR=5.3						
ASAR	**Alice Springs**	**47.64**	**253**	P	**P**	**03 55 28.6**	**-0.4**
	2.8nm,0.8s,baz=86,slow=7.8,SNR=23						
ILAR	**Eielson Array**	**84.37**	**12**	P	**P**	**03 59 21.9**	**+0.8**
	2.6nm,1.2s,baz=206,slow=6.0,SNR=5.4						
PDAR	**Pinedale Array**	**84.82**	**43**	P	**P**	**03 59 23.4**	**-0.8**
	1.3nm,0.8s,baz=229,slow=3.7,SNR=9.0						
BRTR	**Keskin Array B**	**145.94**	**318**	PKPbc	**PKiKP**	**04 06 32.1**	**+1.0**
	3.8nm,1.1s,baz=129,slow=3.3,SNR=5.3						
GERES	**GERESS Array B**	**147.29**	**349**	PKPbc	**PKPab**	**04 06 35.0**	**+1.1**
	1.2nm,1.0s,baz=30,slow=3.2,SNR=7.4						
CONA	**Conrad Observa**	**147.69**	**346**	*eP*	**PKPab**	**04 06 36.4**	**+0.9**
	6.2nm,1.4s						
MOA	**Molln**	**148.12**	**347**	*eP*	**PKPab**	**04 06 36.7**	**-0.5**
	5.8nm,1.5s						
KBA	**Koelnbreinsper**	**149.05**	**348**	*eP*	**PKPab**	**04 06 41.6**	**+0.4**
	9.5nm,1.8s						
SOKA	**Soboth**	**149.06**	**346**	*eP*	**PKPab**	**04 06 42.5**	**+1.4**
	4.8nm,1.9s						
WATA	**Walderalm**	**149.12**	**350**	*eP*	**PKPab**	**04 06 39.7**	**-1.7**
	0.7nm,0.5s						
WTTA	**Wattenberg**	**149.18**	**350**	*eP*	**PKPab**	**04 06 39.6**	**-2.0**
	0.6nm,0.4s						
MOTA	**Moosalm**	**149.18**	**351**	*eP*	**PKPab**	**04 06 39.8**	**-1.9**
OBKA	**Obir**	**149.33**	**346**	*eP*	**PKPbc**	**04 06 35.1**	**-1.7**
	5.2nm,1.3s						
DAVA	**Damuels**	**149.40**	**353**	*eP*	**PKPab**	**04 06 40.6**	**-1.9**
	0.9nm,0.7s						
MYKA	**Terra Mystica**	**149.42**	**347**	*eP*	**PKPdf**	**04 06 34.3**	**+2.0**
	1.5nm,0.7s						
ABTA	**Abfaltersbach**	**149.53**	**349**	*eP*	**PKiKP**	**04 06 38.1**	**-0.1**
	1.5nm,0.7s						
FETA	**Feichten**	**149.55**	**351**	*eP*	**PKiKP**	**04 06 38.8**	**+0.5**
	7.2nm,1.2s						

*JMA **01** 03:59:01.0±0.1,40.°11N×142.°80E,h21km±2km,M4.0*
*IDC **01** 03:59:05.6±1.0,40.°52N×141.°70E,h0km,mb3.6/7,*
mb1 3.7/9,mb1mx3.6/32,mbtmp3.6/9,ML2.6/1,Error
ellipse: s-maj=25.9km s-min=20.7km az=83.0
ISC 01 03:58:59.8±2.5,40.°12N±0.°05×142.°8E±0.°1,h12km±11km,
n27,σ0§94/23,mb3.5/7,1C-7D,Near east coast of
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.76**	**256**	⇓P	**Pg**	**03 59 15.2**	**+0.7**
JTH				*e*S	**Sb**	**03 59 25.4**	**+0.1**
JKEN	**Kujiedanarisaw**	**0.86**	**276**	P	**Pg**	**03 59 16.7**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.95**	**235**	⇓P	**Pg**	**03 59 17.8**	**-0.3**
MIYJ				*e*S	**Sg**	**03 59 29.9**	**-0.5**
JANG	**Nango**	**1.03**	**284**	⇓P	**Pg**	**03 59 19.4**	**-0.3**
JKZ	**Kuzumaki**	**1.16**	**264**	P	**Pb**	**03 59 21.4**	**-0.4**
JOM	**Ohasama**	**1.35**	**242**	⇓P	**Pn**	**03 59 24.2**	**-0.3**
OFUJ	**Ofunato**	**1.37**	**221**	P	**Pn**	**03 59 24.6**	**-0.2**
OFUJ				S	**Sb**	**03 59 42.3**	**-0.6**
JARK	**Aomorirokkasho**	**1.42**	**309**	⇓P	**Pn**	**03 59 25.9**	**+0.5**
JARK				*e*S	**Sn**	**03 59 44.4**	**+0.4**
JTM	**Tenmabayashi**	**1.49**	**297**	⇓P	**Pn**	**03 59 27.0**	**+0.5**
JTM				*e*S	**Sn**	**03 59 45.9**	**0.0**
JAH	**Hinai**	**1.68**	**273**	⇓P	**Pn**	**03 59 29.7**	**+0.7**
JAH				*e*S	**Sn**	**03 59 51.0**	**+0.6**
JMK	**Ichinoseki**	**1.71**	**227**	⇑P	**Pn**	**03 59 30.3**	**+0.9**
MJAR	**Matsushiro Arr**	**5.09**	**227**	Pn	**Pn**	**04 00 18.6**	**+2.6**
	0.2nm,0.3s,baz=33,slow=14,SNR=12						
MAT	**Matsushiro**	**5.09**	**227**	P	**Pn**	**04 00 18.2**	**+2.2**
MAT				*e*S	**Sn**	**04 01 13.9**	**-0.9**
USRK	**Ussuriysk Ar.**	**9.02**	**300**	Pn	Pn	04 01 05.4	-4.4
	baz=101,slow=17,SNR=1.7						
SONM	**Songino Array**	**27.12**	**299**	P	**P**	**04 04 42.1**	**-0.7**
	0.4nm,0.4s,baz=96,slow=9.2,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**28.97**	**127**	T	T	04 35 51.1	
	baz=318,slow=75,SNR=120						
H11N1	**WAKE ISLAND Hy**	**28.98**	**128**	T	T	04 35 47.4	
	baz=318,slow=75,SNR=86						
H11N3	**WAKE ISLAND Hy**	**28.98**	**127**	T	T	04 35 48.3	
	baz=318,slow=75,SNR=120						
H11S1	**WAKE ISLAND Hy**	**29.79**	**129**	T	T	04 36 27.1	
	baz=321,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**29.79**	**129**	T	T	04 36 27.3	
	baz=321,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.80**	**129**	T	T	04 36 29.3	
	baz=321,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**40.72**	**310**	P	**P**	**04 06 39.9**	**-0.2**
	1.7nm,0.4s,baz=94,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**43.48**	**300**	P	**P**	**04 07 02.4**	**-0.4**
	0.4nm,0.5s,baz=85,slow=11,SNR=8.6						
ILAR	**Eielson Array**	**46.31**	**34**	P	P	04 07 34.1	+9.1
	0.4nm,0.7s,baz=258,slow=6.0,SNR=5.6						
WRA	**Warramunga Arr**	**60.28**	**189**	P	P	04 09 17.4	+9.2
	0.6nm,0.7s,baz=6.6,slow=7.1,SNR=7.4						
YKA	**Yellowknife Ar**	**60.59**	**31**	P	P	04 09 17.7	+7.8
	0.2nm,0.8s,baz=301,slow=6.7,SNR=2.7						
ASAR	**Alice Springs**	**64.00**	**189**	P	P	04 09 43.4	+10
	0.3nm,0.8s,baz=5.8,slow=4.3,SNR=4.5						

JMA 01 03:59:06.2,39.°67N×141.°46E,h13km±1km,M0.4,Eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOM	**Ohasama**	**0.24**	**213**	P	Pg	03 59 11.2	0.0
JOM				S	Sg	03 59 14.8	+0.1
MIYJ	**Miyakonagasawa**	**0.29**	**108**	P	Pg	03 59 12.3	0.0
MIYJ				S	Sg	03 59 16.2	-0.1

*JMA **01** 04:05:04.7±0.1,24.°23N×121.°73E,h60km±1km,M3.1*
*TAP **01** 04:05:06.3,24.°28N×121.°75E,h48km,ML3.5,B*
ISC 01 04:05:06.4±1.2,24.°26N±0.°02×121.°80E±0.°02,h49km±5km,
n84,σ0§81/145,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.17**	**342**	*i*P	**Pn**	**04 05 14.5**	**0.0**
	baz=1.0						
ENA				*e*S	**Sn**	**04 05 21.7**	**+1.5**
	baz=1.0						
EWUT	**Wuta**	**0.18**	**354**	*i*P	**Pn**	**04 05 14.6**	**+0.1**
	baz=10.0						
EWUT				*e*S	**Sn**	**04 05 21.2**	**+1.0**
	baz=10.0						
ETL	**Fush Village**	**0.19**	**237**	*i*P	**Pn**	**04 05 14.5**	**-0.1**
	baz=222						
NACB	**Ninganchiao**	**0.21**	**245**	P	**Pn**	**04 05 14.1**	**-0.6**
	baz=231						
NACB				*e*S	**Sn**	**04 05 20.4**	**-0.2**
	baz=231						
TWD	**Chiawan**	**0.26**	**226**	*i*P	**Pn**	**04 05 14.8**	**-0.3**
	baz=212						
TWD				*i*S	**Sn**	**04 05 21.4**	**+0.2**
	baz=212						
ETLH	**Xiulin Townshi**	**0.29**	**259**	*i*P	**Pn**	**04 05 14.9**	**-0.5**
	baz=252						
ETLH				*i*S	**Sn**	**04 05 21.5**	**-0.4**
	baz=252						
HWA	**Hwalien**	**0.34**	**212**	*i*P	**Pn**	**04 05 15.9**	**+0.1**
	baz=201						
HWA				*e*S	**Sn**	**04 05 23.7**	**+1.3**
	baz=201						
TWC	**Suao**	**0.35**	**8**	*i*P	**Pn**	**04 05 16.0**	**+0.1**
	baz=17						
TWC				*i*S	**Sn**	**04 05 24.3**	**+1.7**
	baz=17						
LATG	**Datong**	**0.37**	**318**	*i*P	**Pn**	**04 05 15.7**	**-0.6**
	baz=321						
NDS	**Dongshan**	**0.38**	**348**	P	**Pn**	**04 05 15.8**	**-0.4**
	baz=355						
NNSB	**Datong**	**0.41**	**294**	*i*P	**Pn**	**04 05 16.4**	**-0.3**
	baz=293						
NNSB				*i*S	**Sn**	**04 05 23.8**	**-0.3**
	baz=293						
NDT	**Datong Townshi**	**0.43**	**322**	*i*P	**Pn**	**04 05 16.4**	**-0.3**
	baz=326						
NDT				*i*S	**Sn**	**04 05 24.4**	**+0.2**
	baz=326						
NNS	**Nan Shan**	**0.43**	**294**	*i*P	**Pn**	**04 05 16.4**	**-0.4**
	baz=294						
NNS				*i*S	**Sn**	**04 05 23.6**	**-0.8**
	baz=294						
ENTT	**Nioudou**	**0.43**	**331**	*i*P	**Pn**	**04 05 16.6**	**-0.3**
	baz=336						
ENTT				*e*S	**Sn**	**04 05 24.5**	**+0.2**
	baz=336						
TEYL	**Yanliau Villag**	**0.43**	**205**	P	**Pn**	**04 05 17.1**	**+0.3**
	baz=199						
TWE	**Neicheng**	**0.47**	**345**	*i*P	**Pn**	**04 05 17.1**	**-0.1**
	baz=352						
WHF	**Hehuan Shan**	**0.50**	**257**	*i*P	**Pn**	**04 05 17.6**	**-0.5**
	baz=252						
WHF				*i*S	**Sn**	**04 05 25.9**	**-0.4**
	baz=252						
FUSS	**Fushou**	**0.51**	**268**	*i*P	**Pn**	**04 05 17.7**	**-0.2**
	baz=265						
FUSS				*i*S	**Sn**	**04 05 26.0**	**-0.1**
	baz=265						
FUSB	**Fushanzhiwuyua**	**0.53**	**339**	*e*P	**Pn**	**04 05 17.6**	**-0.5**
	baz=343						
FUSB				*e*S	**Sn**	**04 05 25.5**	**-0.9**
	baz=343						
ESL	**Shilin**	**0.56**	**217**	*e*P	**Pn**	**04 05 17.1**	**-1.3**
	baz=210						
ESL				*e*S	**Sn**	**04 05 25.9**	**-1.0**
	baz=210						
YHNB	**Yeheng**	**0.56**	**316**	*i*P	**Pn**	**04 05 17.8**	**-0.6**
	baz=318						
YHNB				S	**Sn**	**04 05 25.9**	**-1.1**
	baz=318						
YHNB	**Yeheng**	**0.56**	**316**	P	**Pn**	**04 05 17.8**	**-0.6**
NSK	**Sanguang**	**0.57**	**316**	*i*P	**Pn**	**04 05 18.1**	**-0.5**
	baz=318						
NSK				*e*S	**Sn**	**04 05 25.9**	**-1.5**
	baz=318						
NWLT	**Wulai**	**0.58**	**332**	*i*P	**Pn**	**04 05 18.1**	**-0.5**
	baz=335						
NWLT				*i*S	**Sn**	**04 05 26.8**	**-0.6**
	baz=335						
TDCB	**Techi**	**0.58**	**269**	P	**Pn**	**04 05 18.7**	**-0.1**
	baz=266						
TDCB				*i*S	**Sn**	**04 05 27.3**	**-0.4**
	baz=266						
NTC	**Toucheng**	**0.59**	**3**	*e*P	**Pn**	**04 05 18.8**	**+0.1**
	baz=7.0						
NTC				*e*S	**Sn**	**04 05 28.6**	**+1.0**
	baz=7.0						
CHGB	**Renai**	**0.61**	**251**	P	**Pn**	**04 05 19.3**	**+0.1**
	baz=247						
CHGB				*i*S	**Sn**	**04 05 27.9**	**-0.3**
	baz=247						
OWD	**Renai**	**0.65**	**242**	*i*P	**Pn**	**04 05 19.3**	**-0.3**
	baz=237						
OWD				*i*S	**Sn**	**04 05 28.5**	**-0.5**
	baz=237						
WUSB	**Renai**	**0.68**	**247**	*i*P	**Pn**	**04 05 19.5**	**-0.5**
	baz=243						
WUSB				S	**Sn**	**04 05 29.0**	**-0.8**
	baz=243						
EGFH	**Guangfu**	**0.68**	**210**	*e*P	**Pn**	**04 05 18.9**	**-1.0**
	baz=205						
EGFH				*e*S	**Sn**	**04 05 28.1**	**-1.5**
	baz=205						
TIPB	**Shuangxi**	**0.71**	**2**	*i*P	**Pn**	**04 05 20.7**	**+0.5**
	baz=6.0						
TIPB				S	**Sn**	**04 05 31.3**	**+1.1**
	baz=6.0						
NHDH	**Xindian Distri**	**0.74**	**340**	*e*S	**Sn**	**04 05 30.1**	**-0.8**
	baz=343						
TWA	**Mucha**	**0.74**	**345**	*e*P	**Pn**	**04 05 20.2**	**-0.4**
	baz=348						
TWA				*e*S	**Sn**	**04 05 30.3**	**-0.7**
	baz=348						
TWB1	**Santiao Chiao**	**0.76**	**13**	*i*P	**Pn**	**04 05 21.1**	**+0.2**
	baz=17						
TWB1				S	**Sn**	**04 05 32.8**	**+1.4**
	baz=17						
WHP	**Taichung City**	**0.78**	**271**	*i*P	**Pn**	**04 05 21.3**	**+0.1**
	baz=269						
WHP				*e*S	**Sn**	**04 05 32.3**	**+0.3**
	baz=269						
VWDT	**VWDT**	**0.79**	**230**	*i*P	**Pn**	**04 05 21.1**	**-0.1**
	baz=226						
VWDT				*i*S	**Sn**	**04 05 31.7**	**-0.4**
	baz=226						
NWF	**Wu-fen Shan**	**0.80**	**359**	*i*P	**Pn**	**04 05 22.1**	**+0.5**
	baz=2.0						
NWF				*e*S	**Sn**	**04 05 33.0**	**+0.3**
	baz=2.0						
LIOB	**Emei**	**0.81**	**298**	*i*P	**Pn**	**04 05 21.4**	**-0.2**
	baz=298						
LIOB				*e*S	**Sn**	**04 05 33.4**	**+0.8**
	baz=298						
WPL	**Puli Township**	**0.81**	**252**	*i*P	**Pn**	**04 05 21.3**	**-0.2**
	baz=249						
WPL				*i*S	**Sn**	**04 05 32.9**	**+0.3**
	baz=249						
NSTT	**Nanjuang**	**0.81**	**297**	*e*P	**Pn**	**04 05 20.9**	**-0.7**
	baz=297						
NSTT				*e*S	**Sn**	**04 05 32.5**	**-0.2**
	baz=297						
SXI1	**Grass Mountain**	**0.83**	**5**	*e*P	**Pn**	**04 05 22.0**	**+0.1**
	baz=8.0						
WCS	**Beigang Elemen**	**0.84**	**256**	*e*P	**Pn**	**04 05 21.7**	**-0.2**
	baz=253						
HGSD	**Ruisui**	**0.84**	**204**	*e*P	**Pn**	**04 05 21.7**	**-0.2**
	baz=200						
EHY	**Hungye**	**0.87**	**210**	*e*P	**Pn**	**04 05 20.3**	**-2.1**
	baz=206						
TWS1	**Kuangyinshan**	**0.90**	**337**	*e*P	**Pn**	**04 05 21.9**	**-0.9**
	baz=340						
TWS1				*e*S	**Sn**	**04 05 34.2**	**-0.7**
	baz=340						
YM01	**YM01**	**0.90**	**347**	*e*P	**Pn**	**04 05 21.8**	**-1.1**
	baz=349						
SMLT	**Sun Moon Lake**	**0.91**	**245**	*i*P	**Pn**	**04 05 23.2**	**+0.2**
	baz=242						
SMLT				*e*S	**Sn**	**04 05 35.9**	**+0.8**
	baz=242						
SSLB	**Suanglung**	**0.91**	**239**	*e*P	**Pn**	**04 05 22.6**	**-0.2**
	baz=235						
SSLB	**Suanglung**	**0.91**	**239**	P	**Pn**	**04 05 22.3**	**-0.6**
TYC	**Yuchr**	**0.93**	**248**	*i*P	**Pn**	**04 05 23.4**	**+0.3**
	baz=244						
TYC				*e*S	**Sn**	**04 05 34.9**	**-0.6**
	baz=244						
TWQ1	**Liyutan**	**0.94**	**275**	*i*P	**Pn**	**04 05 22.9**	**-0.4**
	baz=274						
NMLH	**Miaoli**	**0.96**	**287**	*e*P	**Pn**	**04 05 22.7**	**-0.8**
	baz=286						
NMLH				*e*S	**Sn**	**04 05 35.7**	**-0.5**
	baz=286						
NSY	**Sanyi**	**0.96**	**279**	P	**Pn**	**04 05 23.4**	**-0.1**
	baz=278						
YULB	**Yu-li**	**0.98**	**208**	*e*P	**Pn**	**04 05 21.8**	**-2.1**
	baz=204						
WWF	**Wufeng**	**1.03**	**258**	P	**Pn**	**04 05 24.7**	**+0.2**
	baz=255						
TCU	**Taichung**	**1.03**	**264**	*e*P	**Pn**	**04 05 24.3**	**-0.2**
	baz=261						
TCU				*e*S	**Sn**	**04 05 38.3**	**+0.4**
	baz=261						
JYNG	**Yonagunijimaku**	**1.06**	**80**	P	**Pn**	**04 05 24.8**	**-0.1**
JYNG				*e*S	**Sn**	**04 05 39.2**	**+0.6**
WJS	**Zhushan**	**1.07**	**246**	P	**Pn**	**04 05 25.5**	**+0.4**
	baz=243						
WJS				S	**Sn**	**04 05 40.3**	**+1.3**
	baz=243						
WNT	**Mingjian**	**1.09**	**250**	*e*P	**Pn**	**04 05 25.7**	**+0.4**
	baz=247						
WNT				*e*S	**Sn**	**04 05 41.0**	**+1.7**
	baz=247						
YOJ	**Yonaguni jima**	**1.12**	**80**	P	**Pn**	**04 05 25.5**	**-0.2**
YOJ				*e*S	**Sn**	**04 05 40.7**	**+0.6**
YOJ	**Yonaguni jima**	**1.12**	**80**	*e*P	**Pn**	**04 05 25.5**	**-0.2**
	baz=80						
WCHH	**Zhanghua**	**1.15**	**261**	*e*P	**Pn**	**04 05 25.4**	**-0.7**
	baz=259						
WCHH				*e*S	**Sn**	**04 05 40.7**	**0.0**
	baz=259						
ALS	**Alishan**	**1.18**	**231**	*e*P	**Pn**	**04 05 26.9**	**+0.1**
	baz=227						
ALS				*e*S	**Sn**	**04 05 42.8**	**+0.9**
	baz=227						
CHN5	**Tsauling**	**1.22**	**237**	*i*P	**Pn**	**04 05 27.6**	**+0.4**
	baz=235						
CHN5				*e*S	**Sn**	**04 05 43.1**	**+0.5**
	baz=235						
WDLH	**Douliu**	**1.29**	**244**	*e*P	**Pn**	**04 05 28.5**	**+0.5**
	baz=241						
WDLH				*e*S	**Sn**	**04 05 45.9**	**+1.8**
	baz=241						
WRL	**Guolierlin Hig**	**1.35**	**255**	P	**Pn**	**04 05 28.0**	**-0.8**
	baz=253						
WRL				S	**Sn**	**04 05 45.4**	**-0.2**
	baz=253						
EDH	**Donghe**	**1.36**	**200**	*e*P	**Pn**	**04 05 27.7**	**-1.3**
	baz=197						
EDH				*e*S	**Sn**	**04 05 45.1**	**-0.9**
	baz=197						
CHN2	**Minshiung**	**1.41**	**239**	*e*P	**Pn**	**04 05 30.8**	**+1.1**
	baz=237						
CHN2				*e*S	**Sn**	**04 05 49.7**	**+2.5**
	baz=237						
STYH	**Taoyuan**	**1.44**	**221**	*e*P	**Pn**	**04 05 30.4**	**+0.4**
	baz=218						
STYH				*e*S	**Sn**	**04 05 49.1**	**+1.3**
	baz=218						
TPUB	**Ta-pu**	**1.44**	**228**	*e*P	**Pn**	**04 05 30.4**	**+0.4**
	baz=226						
TPUB				*e*S	**Sn**	**04 05 49.4**	**+1.6**
	baz=226						
TPUB	**Ta-pu**	**1.44**	**228**	P	**Pn**	**04 05 30.7**	**+0.6**
CHY	**Chiayi**	**1.47**	**239**	*e*P	**Pn**	**04 05 30.3**	**-0.2**
	baz=236						
CHY				*e*S	**Sn**	**04 05 50.0**	**+1.4**
	baz=236						
TWK	**Hsinying**	**1.56**	**231**	*e*P	**Pn**	**04 05 31.9**	**+0.1**
	baz=228						
TWK				*e*S	**Sn**	**04 05 52.2**	**+1.4**
	baz=228						
CHN1	**Nanshi**	**1.58**	**228**	*e*P	**Pn**	**04 05 32.1**	**+0.1**
	baz=225						
CHN1				*e*S	**Sn**	**04 05 52.8**	**+1.4**
	baz=225						
ICHU	**Yijhu**	**1.66**	**237**	*i*P	**Pn**	**04 05 33.9**	**+0.9**
	baz=235						
IRIF	**Iriomote-Funau**	**1.76**	**87**	P	**Pn**	**04 05 33.9**	**-0.6**
IRIF				*e*S	**Sn**	**04 05 55.4**	**-0.3**
HATJ	**Hateruma jima**	**1.84**	**96**	P	**Pn**	**04 05 35.3**	**-0.3**
MASBT	**Mashibuluo**	**1.96**	**213**	*e*P	**Pn**	**04 05 36.7**	**-0.5**
	baz=211						
JKRS	**Kuro-shima**	**2.02**	**90**	P	**Pn**	**04 05 38.0**	**0.0**
JKRS				*e*S	**Sn**	**04 06 03.1**	**+1.1**
JIJ	**Ishigaki jima**	**2.14**	**87**	P	**Pn**	**04 05 38.9**	**-0.8**
JIJ				S	**Sn**	**04 06 03.3**	**-1.7**
JISG	**Ishigakijimahi**	**2.31**	**81**	P	**Pn**	**04 05 41.3**	**-0.7**
JISG				*e*S	**Sn**	**04 06 06.6**	**-2.6**
JTJ	**Tarama**	**2.67**	**81**	P	**Pn**	**04 05 47.0**	**+0.1**
JTJ				*e*S	**Sn**	**04 06 18.4**	**+0.3**
JIRB	**Irabujima**	**3.12**	**79**	P	**Pn**	**04 05 53.2**	**+0.1**
JIRB				*e*S	**Sn**	**04 06 29.3**	**+0.1**
JMJ2	**Miyako jima3**	**3.25**	**81**	P	**Pn**	**04 05 55.4**	**+0.5**
JMJ2				*e*S	**Sn**	**04 06 33.2**	**+0.9**

*IDC **01** 04:12:12.9±7.3,10.°44N×56.°84E,h0km,mb3.8/5,*
mb1 3.9/5,mb1mx3.4/49,mbtmp3.8/5,Error ellipse:
s-maj=174.6km s-min=37.8km az=167.0
*NEIC **01** 04:12:16.5±2.0,10.°7N±0.°1×56.°9E±0.°1,h10km±2km,*
mb4.0/4,Error ellipse: s-maj=28.0km s-min=9.3km
az=226.0
ISC 01 04:12:16.6±2.5,10.°7N±0.°3×57.°0E±0.°2,h16km,n10,
σ1§20/9,mb4.0/6,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**3.33**	**297**	Pn	**Pn**	**04 13 09.1**	**+0.9**
UOSS	**Minazif**	**14.23**	**357**	Pn	**Pn**	**04 15 37.3**	**-0.3**
MAKZ	**Makanchi**	**41.79**	**26**	P	**P**	**04 20 06.6**	**+1.2**
MAKZ				IAmb	IAmb	04 20 14.0	
	comp=Z,3.9nm,1.4s						
MK31	**Makanchi Array**	**41.91**	**26**	P	**P**	**04 20 06.0**	**-0.4**
MKAR	**Makanchi Array**	**41.91**	**26**	P	**P**	**04 20 08.2**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=210,slow=9.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**48.54**	**22**	P	**P**	**04 20 60.0**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=230,slow=9.2,SNR=6.0						
SONM	**Songino Array**	**55.47**	**38**	P	**P**	**04 21 50.6**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=237,slow=7.6,SNR=2.6						
FINES	**FINESS Array B**	**55.51**	**343**	P	**P**	**04 21 49.5**	**-1.1**
	comp=Z,4.1nm,1.0s,baz=140,slow=16,SNR=4.8						
ESDC	**Sonseca Array**	**61.00**	**309**	P	**P**	**04 22 28.8**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=83,slow=5.5,SNR=11						
ESDC	**Sonseca Array**	**61.00**	**309**	IAmb	IAmb	04 22 32.1	
	comp=Z,1.7nm,1.3s						

*IDC **01** 04:16:18.0±1.3,35.°71S×175.°93E,h0km,mb3.7/3,*
mb1 3.9/3,mb1mx3.5/31,mbtmp3.7/3,Error ellipse:
s-maj=104.2km s-min=10.3km az=175.0
*NOU **01** 04:16:38.0,38.°73S×175.°03E,h235km,MLv4.4/6,North*
Island, New Zealand
*WEL **01** 04:16:43.5±0.8,39.°S±13.°×17.°5E±.°,h187km±8km,*
M4.1/152,ML3.6/8,MLv4.1/152,Error ellipse: s-maj=0.0km
s-min=0.0km az=159.2
ISC 01 04:16:40.2±0.8,38.°89S±0.°05×175.°08E±0.°05,h217km±5km,
n177,σ0§94/189,mb3.2/3,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.33**	**123**	P	**Pn**	**04 17 09.1**	**+0.2**
TWVZ				S	**S**	**04 17 29.8**	**-1.5**
VRZ	**Vera Road**	**0.34**	**227**	P	**Pn**	**04 17 09.2**	**+0.4**
HIZ	**Hauiti**	**0.42**	**335**	P	**Pn**	**04 17 09.1**	**+0.1**
HIZ	**Hauiti**	**0.42**	**335**	P	**Pn**	**04 17 09.1**	**+0.1**
HIZ	**Hauiti**	**0.42**	**335**	P	**Pn**	**04 17 09.2**	**+0.1**
PKVZ	**Pokaka**	**0.45**	**152**	P	**Pn**	**04 17 09.7**	**+0.5**
PKVZ				S	**S**	**04 17 30.8**	**-1.1**
WTVZ	**West Tongariro**	**0.46**	**119**	P	**Pn**	**04 17 09.7**	**+0.5**
WTVZ				S	**S**	**04 17 30.7**	**-1.2**
NNVZ	**North Ngauruho**	**0.48**	**120**	P	**Pn**	**04 17 09.8**	**+0.4**
NNVZ				S	**S**	**04 17 31.3**	**-0.9**
KRVZ	**Karewarewa**	**0.48**	**115**	P	**Pn**	**04 17 09.8**	**+0.5**
KATZ	**Kakaramea**	**0.49**	**100**	P	**Pn**	**04 17 09.7**	**+0.3**
NGZ	**Ngauruhoe**	**0.49**	**125**	P	**Pn**	**04 17 09.7**	**+0.3**
NGZ				S	**S**	**04 17 31.0**	**-1.2**
NTVZ	**North Tongarir**	**0.51**	**114**	P	**Pn**	**04 17 09.9**	**+0.5**
FWVZ	**Far West T-bar**	**0.52**	**135**	P	**Pn**	**04 17 10.1**	**+0.5**
FWVZ				S	**S**	**04 17 30.9**	**-1.6**
SNVZ	**South Ngauruho**	**0.53**	**124**	P	**Pn**	**04 17 10.2**	**+0.7**
OTVZ	**Oturere**	**0.53**	**121**	P	**Pn**	**04 17 09.7**	**+0

KWHZ	Kaweka Forest	1.17 117	P	Pn	04 17 13.5	+0.6
TOZ	Tahuroa Road	1.21 16	P	Pn	04 17 12.9	-0.2
KRHZ	Kereru	1.25 127	P	Pn	04 17 14.0	+0.6
RRRZ	Republican Roa	1.25 64	P	Pn	04 17 13.1	-0.4
KARZ	Kaharoa	1.26 47	P	Pn	04 17 13.2	-0.3
OMRZ	Omania	1.28 53	P	Pn	04 17 13.2	-0.5
TARZ	Mount Tarawera	1.30 60	P	Pn	04 17 13.7	-0.2
OHWZ	Ohakea	1.32 172	P	Pn	04 17 15.4	+1.5
PNHZ	Pukenui	1.34 140	P	Pn	04 17 14.9	+0.7
TSZ	Takapari Road	1.35 150	P	Pn	04 17 15.1	+0.9
NMHZ	Naumai	1.36 99	P	Pn	04 17 15.3	+0.9
MCHZ	McNeill Hill	1.37 114	P	Pn	04 17 15.4	+1.1
MTHZ	Maungataniwha	1.38 89	P	Pn	04 17 14.3	-0.2
MUGZ	Murupara	1.39 73	P	Pn	04 17 13.7	-0.8
TGRZ	Tauranga	1.49 39	P	Pn	04 17 14.9	-0.4
RTZ	Ruatahuna	1.51 80	P	Pn	04 17 15.1	-0.5
EDRZ	Edgecumbe	1.52 59	P	Pn	04 17 15.1	-0.6
ARHZ	Aropaoanui	1.54 105	P	Pn	04 17 16.3	+0.6
MARZ	Manawahe	1.55 55	P	Pn	04 17 15.5	-0.3
OPRZ	Ohinepanea	1.56 48	P	Pn	04 17 15.2	-0.7
RAHZ	Arahi	1.57 92	P	Pn	04 17 16.3	+0.3
WPHZ	Waipukurau	1.57 138	P	Pn	04 17 16.9	+0.9
POWZ	Post Office Ro	1.59 161	P	Pn	04 17 16.9	+0.8
DVHZ	Dannevirke	1.64 149	P	Pn	04 17 17.2	+0.6
KAHZ	Kahuranaki	1.66 123	P	Pn	04 17 17.8	+1.0
URZ	Urewera	1.71 69	P	Pn	04 17 16.2	-1.0
URZ	Urewera	1.71 69	P	Pn	04 17 16.3	-0.9
URZ	Urewera	1.71 69	P	Pn	04 17 16.4	-0.8
CKHZ	Cape Kidnapper	1.73 117	P	Pn	04 17 18.2	+0.9
SNGZ	Shannon Statio	1.77 87	P	Pn	04 17 17.8	0.0
PXZ	Pawanui	1.79 130	P	Pn	04 17 18.5	+0.7
PRWZ	Pori Road	1.80 158	P	Pn	04 17 18.9	+1.0
MRZ	Mangatainoka R	1.81 168	P	Pn	04 17 18.7	+0.7
PRHZ	Porangahau	1.82 139	P	Pn	04 17 19.0	+0.8
AWAZ	Awhitu Peninsu	1.86 349	P	Pn	04 17 18.8	+0.1
RAGZ	Rawiri	1.87 79	P	Pn	04 17 18.3	-0.5
ANWZ	Angora Road	1.90 146	P	Pn	04 17 19.8	+0.9
OGWZ	Otaki Gorge	1.92 178	P	Pn	04 17 20.1	+1.0
ETAZ	East Tamaki Re	1.94 356	P	Pn	04 17 19.5	0.0
KIW	Kapiti Island	1.97 184	P	Pn	04 17 20.2	+0.5
TIWZ	Tintock	1.98 162	P	Pn	04 17 20.4	+0.6
MWZ	Matawai	2.00 75	P	Pn	04 17 19.2	-0.8
WTAZ	Waiatarua	2.00 348	P	Pn	04 17 20.4	+0.4
BFZ	Birch Farm	2.00 154	P	Pn	04 17 20.4	+0.5
BFZ	Birch Farm	2.00 154	P	Pn	04 17 20.5	+0.6
BFZ	Birch Farm	2.00 154	P	Pn	04 17 20.6	+0.6
KNZ	Kokohu	2.03 94	P	Pn	04 17 20.1	-0.1
EPAZ	Eden Park BICE	2.03 352	P	Pn	04 17 20.5	+0.2
HOWZ	Holdsworth Sta	2.03 171	P	Pn	04 17 20.8	+0.5
WIAZ	Waiheke Island	2.10 1	P	Pn	04 17 20.8	-0.1
DUWZ	D'Urville Isla	2.10 205	P	Pn	04 17 21.5	+0.5
RIGZ	Rimuhau	2.10 86	P	Pn	04 17 20.9	-0.2
PRGZ	Paritu Road	2.19 92	P	Pn	04 17 21.7	-0.2
CPWZ	Castlepoint	2.19 157	P	Pn	04 17 22.8	+1.0
KUZ	Kuaotunu	2.20 14	P	Pn	04 17 21.7	-0.4
CAW	Cannon Point	2.21 180	P	Pn	04 17 22.7	+0.7
TKGZ	Te Karaka	2.21 79	P	Pn	04 17 21.9	-0.2
MHGZ	Mahia Peninsul	2.22 98	P	Pn	04 17 22.3	+0.2
RUGZ	Raukumara Rang	2.24 66	P	Pn	04 17 20.7	-1.8
MTW	Mount Morrison	2.29 172	P	Pn	04 17 23.1	+0.2
TMWZ	Te Maipa	2.30 165	P	Pn	04 17 23.3	+0.3
TWGZ	Tauwhareparae	2.38 73	P	Pn	04 17 23.4	-0.5
TCW	Tory Channel	2.40 195	P	Pn	04 17 24.7	+0.7
WEL	Wellington	2.40 186	P	Pn	04 17 24.5	+0.5
HAZ	Te Kaha	2.41 63	P	Pn	04 17 22.4	-1.7
SNZO	South Karori	2.43 187	P	Pn	04 17 24.9	+0.6
CNGZ	Carnagh Statio	2.48 82	P	Pn	04 17 24.8	-0.1
PAWZ	Paruwai Farm	2.50 174	P	Pn	04 17 25.4	+0.2
BHW	Baring Head	2.52 184	P	Pn	04 17 25.5	+0.2
MSWZ	Moikau Station	2.52 177	P	Pn	04 17 25.6	+0.2
TRWZ	Traveller	2.55 170	P	Pn	04 17 25.9	+0.3
PKGZ	Pakihiroa	2.56 68	P	Pn	04 17 24.7	-1.1
PUZ	Puketiti	2.62 73	P	Pn	04 17 25.3	-1.2
NNZ	Nelson	2.66 209	P	Pn	04 17 26.9	+0.1
PLWZ	Palliser	2.68 177	P	Pn	04 17 27.1	0.0
TUWZ	Tuamarina	2.68 199	P	Pn	04 17 27.5	+0.5
QRZ	Quartz Range	2.75 225	P	Pn	04 17 27.5	-0.4
QRZ	Quartz Range	2.75 225	P	Pn	04 17 27.5	-0.4
QRZ	Quartz Range	2.75 225	P	Pn	04 17 27.4	-0.4
WMGZ	Waiomatatini S	2.83 69	P	Pn	04 17 27.6	-1.3
MXZ	Matakaoa Point	2.87 63	P	Pn	04 17 28.3	-0.9
CMWZ	Cape Campbell	2.93 193	P	Pn	04 17 31.2	+1.4
BSWZ	Blackbirch Sta	2.97 198	P	Pn	04 17 31.0	+0.8
WCZ	Waipu Caves	3.00 349	P	Pn	04 17 30.9	+0.1
THZ	Tophouse	3.31 209	P	Pn	04 17 34.0	-0.4
KHZ	Kahutara	3.71 198	P	Pn	04 17 39.2	+0.3
KHZ	Kahutara	3.71 198	P	Pn	04 17 39.7	+0.8
KHZ	Kahutara	3.71 198	P	Pn	04 17 39.8	+0.8
DSZ	Denniston Nort	3.79 220	P	Pn	04 17 39.2	-0.8
OUZ	Omahuta	3.85 342	P	Pn	04 17 40.7	-0.1
GVZ	Greta Valley S	4.36 200	P	Pn	04 17 46.8	-0.1
LTZ	Lake Taylor	4.43 208	P	Pn	04 17 46.9	-1.0
AMCZ	Amberley	4.66 202	P	Pn	04 17 50.1	-0.6
INZ	Inchbonnie	4.72 215	P	Pn	04 17 49.9	-1.4
OXZ	Oxford	4.99 206	P	Pn	04 17 53.1	-1.7
OKCZ	Okains Bay	5.06 197	P	Pn	04 17 55.2	-0.5
MQZ	McQueen's Vall	5.14 200	P	Pn	04 17 55.3	-1.4
AKCZ	Akaroa Harbour	5.24 197	P	Pn	04 17 57.0	-0.9
RACZ	Rakaia	5.31 204	P	Pn	04 17 57.6	-1.3
WVZ	Waitaha Valley	5.32 217	P	Pn	04 17 57.6	-1.3
MHCZ	Mount Hutt	5.34 209	P	Pn	04 17 57.7	-1.5
WACZ	Wakanui South	5.60 205	P	Pn	04 18 01.4	-1.1
RPZ	Rata Peaks	5.69 211	P	Pn	04 18 02.2	-1.5
RPZ	Rata Peaks	5.69 211	P	Pn	04 18 02.0	-1.7
GCSZ	Gaunt Creek Bo	5.69 218	P	Pn	04 18 01.8	-1.9
ARCZ	Arundel	5.84 209	P	Pn	04 18 04.1	-1.5
FOZ	Fox Glacier	6.10 219	P	Pn	04 18 07.5	-1.3
TMZ	Timaru	6.28 208	P	Pn	04 18 10.0	-1.2
LBZ	Lake Benmore	6.60 212	P	Pn	04 18 13.6	-1.7
ODZ	Otahua Downs	6.98 207	P	Pn	04 18 18.8	-1.3
ODZ	Otahua Downs	6.98 207	P	Pn	04 18 18.9	-1.3
EAZ	Earnscleugh	7.65 212	P	Pn	04 18 26.8	-2.0
HHSZ	Highcliff Hill	7.73 204	P	Pn	04 18 30.0	+0.1
CTZ	Chatham Island	7.90 130	P	Pn	04 18 33.4	+1.4
TUZ	Tuapeka	8.12 208	P	Pn	04 18 35.0	+0.1
MLZ	Mavora Lakes	8.28 216	P	Pn	04 18 35.1	-1.9
ASAR	**Alice Springs**	**37.99 281**	P	**P**	**04 23 38.9**	**+1.4**
	0.4nm,0.6s,baz=134,slow=9.4,SNR=13					
WRA	**Warramunga Arr**	**39.80 286**	P	**P**	**04 23 53.4**	**+1.0**
	0.8nm,0.9s,baz=124,slow=7.4,SNR=5.7					
FITZ	**Fitzroy Crossi**	**47.49 281**	P	**P**	**04 24 55.5**	**+1.8**
	2.2nm,0.9s,baz=96,slow=4.8,SNR=1.3					
TROLL	**Troll, Antarti**	**69.28 182**	P	**P**	**04 27 25.3**	**+1.8**
SNAA	**Sanae**	**69.73 181**	P	**P**	**04 27 28.3**	**+2.1**
VNA3	**Neumayer Olymp**	**70.12 178**	P	**P**	**04 27 29.1**	**+0.6**
VNA2	**Neumayer--Watz**	**70.47 179**	P	**P**	**04 27 32.7**	**+2.1**
	baz=180,slow=5.8					
VNA1	**Neumayer--Stat**	**70.74 179**	P	**P**	**04 27 33.9**	**+1.8**
ARCES	**ARCESS Array B**	**145.29 342**	PKP	**PKPab**	**04 35 50.8**	**-0.8**
	2.9nm,0.6s,baz=57,slow=2.5,SNR=14					
BRTR	**Keskin Array B**	**150.30 284**	PKPbc	**PKPab**	**04 36 11.8**	**-0.9**
	0.7nm,0.5s,baz=132,slow=5.4,SNR=8.3					
FINES	**FINESS Array B**	**150.44 330**	PKPbc	**PKiKP**	**04 36 04.3**	**-1.4**
	2.9nm,1.0s,baz=65,slow=3.3,SNR=7.6					

IDC 01 04:21:11.3±4.8, 2°31N×129°98E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.1/34, mbtmp3.3/3, Error ellipse: s-maj=377.0km s-min=11.9km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.52**	**169**	P	P	04 26 12.4	-0.5
	0.5nm,0.6s,baz=351,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**26.10**	**172**	P	P	04 26 47.3	+0.2
	0.3nm,0.7s,baz=347,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**60.58**	**324**	P	P	04 31 23.8	-0.1
	0.2nm,0.3s,baz=116,slow=7.7,SNR=8.2						

*SJA **01** 04:23:09.6±0.6, 24°23S×67°06W, h206km±4km, ML4.0, MW3.7*

*GUC **01** 04:23:11.6±0.7, 24°31S×67°19W, h184km±8km, ML4.3*

ISC 01 04:23:07.3±1.5, 24°16S±0°05×67°06W±0°04, h229km±16km, n52, σ2°13/95, 10C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.53**	**112**	*i P*	**Pn**	**04 23 44.6**	**+0.7**
SLA				*i S*	**S**	**04 24 09.7**	**-2.8**
SLA	**San Lorenzo**	**1.53**	**112**	*eP*	**Pn**	**04 23 44.9**	**+0.9**
SLA				*eS*	**S**	**04 24 10.6**	**-2.0**
HJA	**Humahuaca**	**1.79**	**58**	*eP*	**Pn**	**04 23 48.2**	**+1.7**
HJA				*eS*	**S**	**04 24 15.4**	**-1.6**
AZAP	**Zapla**	**1.82**	**93**	*eP*	**Pn**	**04 23 47.5**	**+0.9**
AZAP				*eS*	**S**	**04 24 14.5**	**-2.7**
FSA	**Cafayete**	**2.18**	**153**	*eP*	**Pn**	**04 23 50.4**	**+0.5**
LVC	**Limon Verde**	**2.29**	**312**	*⇑iP*	**Pn**	**04 23 53.2**	**+1.9**
LVC				*i S*	**S**	**04 24 25.0**	**-0.6**
LVC	**Limon Verde**	**2.29**	**312**	*eP*	**Pn**	**04 23 53.0**	**+1.7**
LVC				*eS*	**S**	**04 24 25.5**	**-0.1**
ASTB	**Santa Barbara**	**2.39**	**86**	*eP*	**Pn**	**04 23 48.0**	**-4.0**
ASTB				*eP*	**Pn**	**04 23 53.5**	**+1.4**
PB15	**IPOC Station P**	**2.40**	**293**	*⇑iP*	**Pn**	**04 23 54.0**	**+1.8**
PB15				*i S*	**S**	**04 24 25.3**	**-2.0**
PB15	**IPOC Station P**	**2.40**	**293**	*eP*	**Pn**	**04 23 54.0**	**+1.8**
PB15				*eS*	**S**	**04 24 26.3**	**-1.0**
PB15				IAML		04 24 28.6	
	comp=Z,1μm,0.1s						
YJA	**Yavi**	**2.43**	**36**	*eP*	**Pn**	**04 23 55.4**	**+2.6**
YJA				*eS*	**S**	**04 24 29.4**	**+1.0**
PB06	**IPOC Station P**	**2.72**	**302**	*⇑iP*	**Pn**	**04 23 57.4**	**+1.9**
PB06				*i S*	**S**	**04 24 31.5**	**-1.8**
PB06				IAML		04 24 34.3	
	comp=N,501nm,0.1s						
PB06	**IPOC Station P**	**2.72**	**302**	*eP*	**Pn**	**04 23 57.5**	**+1.9**
PB06				*eS*	**S**	**04 24 31.6**	**-1.7**
PB06				IAML		04 24 34.5	
	comp=Z,311nm,0.1s						
ALOL	**LOMAS DE OLMED**	**2.84**	**84**	*eP*	**Pn**	**04 23 58.5**	**+1.8**
AHML	**Horco Molle**	**3.05**	**150**	*eP*	**Pn**	**04 24 00.2**	**+1.2**
AHML				*eS*	**S**	**04 24 38.3**	**-1.4**
PB14	**IPOC Station P**	**3.08**	**261**	*⇑iP*	**Pn**	**04 24 00.8**	**+1.1**
PB14				*i S*	**S**	**04 24 37.7**	**-3.1**
PB09	**IPOC Station P**	**3.09**	**319**	*⇓iP*	**Pn**	**04 24 02.7**	**+3.0**
PB09				*i S*	**S**	**04 24 40.5**	**-0.3**
PB09	**IPOC Station P**	**3.09**	**319**	*eP*	**Pn**	**04 24 02.7**	**+3.0**
PB09				*eS*	**S**	**04 24 41.1**	**+0.3**
PB09				IAML		04 24 41.4	
	comp=Z,204nm,0.4s						
PB05	**IPOC Station P**	**3.16**	**294**	*⇑iP*	**Pn**	**04 24 02.1**	**+1.7**
PB05				*i S*	**S**	**04 24 39.3**	**-2.8**
PB05	**IPOC Station P**	**3.16**	**294**	*eP*	**Pn**	**04 24 02.3**	**+1.9**
PB05				*eS*	**S**	**04 24 40.9**	**-1.2**
PB03	**IPOC Station P**	**3.25**	**310**	*⇑iP*	**Pn**	**04 24 03.5**	**+2.1**
PB03				*i S*	**S**	**04 24 41.9**	**-2.0**
PB03				IAML		04 24 46.0	
	comp=E,338nm,0.3s						
PB03	**IPOC Station P**	**3.25**	**310**	*eP*	**Pn**	**04 24 03.6**	**+2.1**
PB03				*eS*	**S**	**04 24 42.6**	**-1.3**
PB03				IAML		04 24 44.6	
	comp=Z,240nm,0.2s						
AC02	**Maricunga**	**3.26**	**215**	*i P*	**Pn**	**04 24 03.2**	**+1.4**
AC02	**Maricunga**	**3.26**	**215**	*eP*	**Pn**	**04 24 03.5**	**+1.7**
AC02				*eS*	S	04 24 27.9	-17
PB10	**IPOC Station P**	**3.26**	**281**	*⇑iP*	**Pn**	**04 24 03.3**	**+1.9**
PB10				*i S*	**S**	**04 24 40.4**	**-3.5**
PB10	**IPOC Station P**	**3.26**	**281**	*eP*	**Pn**	**04 24 03.3**	**+1.9**
PB10				*eS*	**S**	**04 24 43.7**	**-0.2**
PB04	**IPOC Station P**	**3.37**	**302**	*⇑iP*	**Pn**	**04 24 04.8**	**+1.9**
PB04				*i S*	**S**	**04 24 44.3**	**-2.2**
PB04				IAML		04 24 46.3	
	comp=N,332nm,0.4s						
PB04	**IPOC Station P**	**3.37**	**302**	*eP*	**Pn**	**04 24 05.0**	**+2.1**
PB04				*eS*	**S**	**04 24 45.0**	**-1.5**
PB04				IAML		04 24 49.4	
	comp=Z,187nm,0.3s						
PB07	**IPOC Station P**	**3.55**	**312**	*⇑iP*	**Pn**	**04 24 07.1**	**+2.0**
PB07				*i S*	**S**	**04 24 48.5**	**-1.9**
PB07	**IPOC Station P**	**3.55**	**312**	*eP*	**Pn**	**04 24 07.3**	**+2.2**
PB07				*eS*	**S**	**04 24 49.0**	**-1.4**
PB07				IAML		04 24 50.4	
	comp=Z,320nm,0.4s						
PB01	**IPOC Station P**	**3.82**	**324**	*⇓iP*	**Pn**	**04 24 10.5**	**+2.3**
PB01				*i S*	**S**	**04 24 54.7**	**-1.4**
PB01	**IPOC Station P**	**3.82**	**324**	*eP*	**Pn**	**04 24 05.0**	**-3.1**
PB01				*eP*	**Pn**	**04 24 10.5**	**+2.3**
PB01				*eP*	**Pn**	**04 24 10.6**	**+2.3**
PB01				*eS*	**S**	**04 24 55.6**	**-0.5**
PB01				IAML		04 24 57.8	
	comp=Z,145nm,0.2s						
PB08	**IPOC Station P**	**4.44**	**334**	*⇓iP*	**Pn**	**04 24 19.2**	**+3.3**
PB08				*i S*	**S**	**04 25 10.5**	**+0.4**
PB08	**IPOC Station P**	**4.44**	**334**	*eP*	**Pn**	**04 24 19.2**	**+3.3**
PB08				*eS*	**S**	**04 25 05.0**	**-5.1**
PB08				*eS*	S	04 25 10.7	+0.6
PB08				IAML		04 25 12.0	
	comp=Z,56nm,0.4s						
GO03	**Copiap**	**4.46**	**219**	*i P*	**Pn**	**04 24 16.4**	**+0.7**
GO03				*i S*	**S**	**04 25 06.5**	**-3.4**
TA01	**Diego Aracena**	**4.59**	**320**	*i P*	**Pn**	**04 24 19.7**	**+2.3**
VCA	**Vinchina**	**4.67**	**192**	*eP*	Pn	04 24 09.5	-8.9
VCA				*eS*	**S**	**04 25 17.1**	**+2.3**
PB11	**IPOC Station P**	**4.99**	**331**	*⇓iP*	**Pn**	**04 24 24.2**	**+1.7**
PB11				*i S*	**S**	**04 25 20.2**	**-1.9**
PB11	**IPOC Station P**	**4.99**	**331**	*eP*	**Pn**	**04 24 24.6**	**+2.0**
PB11				*eS*	**S**	**04 25 20.9**	**-1.2**
PB11				IAML		04 25 24.7	
	comp=Z,78nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.25**	**179**	*eP*	**Pn**	**04 24 27.4**	**+1.7**
ACLC				*eS*	**S**	**04 25 28.3**	**+0.5**
AC04	**Llanos de Chal**	**5.41**	**221**	*⇑iP*	**Pn**	**04 24 27.9**	**+0.5**
AC04				*i S*	**S**	**04 25 27.3**	**-3.8**
LCO	**Las Campanas**	**5.83**	**213**	*eP*	**Pn**	**04 24 33.4**	**+0.4**
APLL	**PUNTA DE LOS L**	**6.23**	**176**	*eP*	**Pn**	**04 24 39.3**	**+1.4**
PB12	**IPOC Station P**	**6.30**	**331**	*eP*	**Pn**	**04 24 41.0**	**+2.1**
PB12				*eS*	**S**	**04 25 49.6**	**-2.3**
PB12				IAML		04 25 52.8	
	comp=Z,15nm,0.5s						
AROD	**Rodeo**	**6.36**	**199**	*eP*	**Pn**	**04 24 43.0**	**+3.2**
AROD				*eS*	**S**	**04 25 51.9**	**-1.6**
AVFE	**Valle Fertil**	**6.49**	**183**	*eS*	**S**	**04 25 56.8**	**+0.7**
ACCO	**Cerro Coronel**	**6.65**	**195**	*eP*	**Pn**	**04 24 46.0**	**+2.5**
ACCO				*eS*	**S**	**04 26 00.4**	**+0.2**
TCA	**Tanti**	**7.48**	**164**	*eP*	**Pn**	**04 24 55.3**	**+1.5**
TCA				*eS*	**S**	**04 26 16.7**	**-2.5**
RTLS	**Leoncito**	**7.87**	**194**	*eP*	**Pn**	**04 25 01.5**	**+2.5**
RTLS				*eP*	**Pn**	**04 25 01.5**	**+2.5**
RTLS				*eS*	**S**	**04 26 28.1**	**-0.4**
MRA	**San Martin**	**8.32**	**172**	*eS*	**S**	**04 26 35.4**	**-3.4**
AAGR	**Agrelo**	**9.03**	**189**	*eP*	**Pn**	**04 25 16.7**	**+3.0**
RFA	**San Rafael**	**10.65**	**186**	*eP*	**Pn**	**04 25 36.5**	**+2.2**

IDC 01 04:39:52.7±1.4, 4°41S×125°78E, h429km±22km, mb2.6/2, mb1 2.7/5, mb1mx2.5/35, mbtmp3.5/5, Error ellipse: s-maj=22.7km s-min=18.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.04**	**264**	P	P	04 41 27.0	+0.4
	1.1nm,0.3s,baz=77,slow=16,SNR=11						
SIJI	**Sorong**	**6.51**	**57**	P	P	04 41 31.4	-0.5
	1.0nm,0.3s,baz=346,slow=7.9,SNR=4.0						
SIJI				S	S	04 42 53.8	+1.2
	1.3nm,0.3s,baz=231,slow=23,SNR=1.7						
WRA	**Warramunga Arr**	**17.55**	**152**	P	P	04 43 30.3	-1.2
	0.1nm,0.3s,baz=332,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**20.69**	**158**	P	P	04 44 02.4	+0.7
	0.5nm,0.8s,baz=335,slow=8.7,SNR=5.8						
MKAR	**Makanchi Array**	**63.80**	**328**	P	P	04 49 41.1	-0.1
	0.4nm,0.5s,baz=117,slow=8.1,SNR=7.6						

*NEIC **01** 04:47:11.5±1.4, 12°79N±0°09×144°2E±0°1, h28km±5km, mb4.5/35, Error ellipse: s-maj=17.4km s-min=10.2km az=121.0*

*IDC **01** 04:47:13.4±1.5, 12°76N×144°40E, h52km±13km, mb3.8/14, mb1 4.0/14, mb1mx3.8/40, mbtmp4.0/14, MS3.8/1, Ms1 3.8/1, ms1mx3.1/83, Error ellipse: s-maj=20.1km s-min=14.7km az=106.0*

ISC 01 04:47:13.9±0.5, 12°82N±0°07×144°3E±0°1, h54km, n69, σ1°02/64, mb4.3/31, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.93**	**34**	P	**Pn**	**04 47 29.9**	**-0.9**
	961nm,0.3s,baz=274,slow=6.0,SNR=455						
GUMO				S	**Sn**	**04 47 43.7**	**+0.5**
	3μm,0.3s,baz=340,slow=21,SNR=15						
GUMO	**Guam**	**0.93**	**34**		**Pn**	**04 47 29.9**	**-0.9**
GUMO					**Sn**	**04 47 44.0**	**+0.8**
JCJ	**Chichijima**	**14.35**	**352**	Pn	**Pn**	**04 50 32.7**	**-1.4**
JHJ	**Hachijo jima 2**	**20.63**	**349**	LR	LR	04 59 09.4	
	comp=Z,234nm,18.1s,baz=96,slow=35						
H11S3	**WAKE ISLAND Hy**	**22.25**	**72**	T	T	05 15 10.2	
	baz=258,slow=75,SNR=185						
H11S1	**WAKE ISLAND Hy**	**22.26**	**72**	T	T	05 15 11.8	
	baz=258,slow=75,SNR=198						
H11S2	**WAKE ISLAND Hy**	**22.26**	**72**	T	T	05 15 10.8	
	baz=258,slow=75,SNR=130						
H11N1	**WAKE ISLAND Hy**	**22.70**	**69**	T	T	05 15 43.0	
	baz=255,slow=75,SNR=566						
H11N2	**WAKE ISLAND Hy**	**22.71**	**69**	T	T	05 15 42.8	
	baz=255,slow=75,SNR=485						
H11N3	**WAKE ISLAND Hy**	**22.72**	**69**	T	T	05 15 44.2	
	baz=255,slow=75,SNR=484						
JNU	**Nakatsue**	**23.65**	**331**	P	**P**	**04 52 21.1**	**+0.6**
	3.8nm,0.6s,baz=106,slow=6.4,SNR=6.0						
JNU	**Nakatsue**	**23.65**	**331**	P	**P**	**04 52 20.3**	**-0.2**
JNU				IAmb	IAmb	04 52 30.8	
	comp=Z,18nm,1.4s						
MJAR	**Matsushiro Arr**	**24.25**	**348**	P	**P**	**04 52 24.6**	**-1.3**
MAJO	**Matsushiro**	**24.25**	**348**	P	**P**	**04 52 24.8**	**-1.2**
MAJO				IAmb	IAmb	04 52 46.8	
	comp=Z,20nm,1.3s						
MJB9	**Matsu-Tunnel**	**24.26**	**348**	P	**P**	**04 52 24.3**	**-1.7**
MJB9				IAmb	IAmb	04 52 46.8	
	comp=Z,19nm,1.3s						
COEN	**Coen**	**26.63**	**182**	P	**P**	**04 52 46.8**	**-0.9**
COEN				IAmb	IAmb	04 52 49.5	
	comp=Z,10nm,0.9s						
KSRS	**Korea Array**	**28.58**	**332**	P	**P**	**04 53 05.6**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=142,slow=9.4,SNR=4.9						
WB0	**Warramunga Arr**	**33.83**	**197**	P	**P**	**04 53 49.9**	**-1.3**
WB0				IAmb	IAmb	04 54 14.7	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**34.00**	**197**	P	**P**	**04 53 51.6**	**-1.2**
WB2				IAmb	IAmb	04 53 56.6	
	comp=Z,3.8nm,1.0s						
WRA	**Warramunga Arr**	**34.01**	**197**	P	**P**	**04 53 51.2**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=23,slow=9.5,SNR=20						
WRA	**Warramunga Arr**	**34.01**	**197**	P	**P**	**04 53 51.8**	**-1.1**
AS31	**Alice Springs**	**37.67**	**196**	P	**P**	**04 54 23.4**	**-0.7**
ASAR	**Alice Springs**	**37.67**	**196**	P	**P**	**04 54 23.4**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=20,slow=13,SNR=36						
ASAR	**Alice Springs**	**37.67**	**196**	P	**P**	**04 54 23.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**43.98**	**283**	P	**P**	**04 55 16.8**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=88,slow=5.9,SNR=6.6						
CMAR				PcP	**PcP**	**04 57 02.6**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=96,slow=0.9,SNR=4.4						
BBOO	**Buckleboo**	**46.05**	**190**	P	**P**	**04 55 31.6**	**-0.9**
SONM	**Songino Array**	**47.06**	**326**	P	**P**	**04 55 40.8**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=140,slow=7.6,SNR=11						
SONM	**Songino Array**	**47.06**	**326**	P	**P**	**04 55 41.2**	**+0.8**
MORW	**Morawa**	**49.81**	**213**	P	**P**	**04 56 02.8**	**+1.2**
BKZ	**Black Stump Fm**	**59.79**	**151**	P	**P**	**04 57 13.8**	**+0.2**
MK31	**Makanchi Array**	**61.68**	**316**	P	**P**	**04 57 25.4**	**-1.1**
MKAR	**Makanchi Array**	**61.68**	**316**	P	**P**	**04 57 27.1**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=93,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**61.68**	**316**	P	**P**	**04 57 25.7**	**-0.8**
MAKZ	**Makanchi**	**61.89**	**316**	P	**P**	**04 57 27.4**	**-0.5**
MAKZ				IAmb	IAmb	04 57 31.1	
	comp=Z,1.5nm,0.6s						
ZAA0	**Zalesovo Array**	**61.94**	**325**	P	**P**	**04 57 26.2**	**-1.8**
ZALV	**Zalesovo Beam**	**61.94**	**325**	P	**P**	**04 57 27.7**	**-0.3**
	comp

n58,σ1$09/73,mb3.9/4,5C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.35**	**18**	⇓*i*P	**Pn**	**05 15 37.0**	**+0.7**
PB08				*i* S	**Sn**	**05 15 47.7**	**+0.7**
PB08				IAML		05 15 48.6	
	comp=E,5μm,0.3s						
PB01	**IPOC Station P**	**0.60**	**200**	⇓*i*P	**Pn**	**05 15 38.6**	**+0.7**
PB01				*i* S	**Sn**	**05 15 50.8**	**+1.1**
PB01				IAML		05 15 51.8	
	comp=E,15μm,0.2s						
PB11	**IPOC Station P**	**0.80**	**333**	⇑*i*P	**Pn**	**05 15 40.6**	**+0.7**
PB11				*i* S	**Sn**	**05 15 54.3**	**+1.2**
PB11				IAML		05 15 55.6	
	comp=N,9μm,0.5s						
TA02	**Huaiquique**	**0.84**	**284**	⇑*i*P	**Pn**	**05 15 40.6**	**+0.6**
TA02				*e*S	**Sn**	**05 15 54.7**	**+1.2**
TA02				IAML		05 15 58.0	
	comp=N,7μm,0.1s						
TA01	**Diego Aracena**	**0.86**	**264**	⇑*i*P	**Pn**	**05 15 40.7**	**+0.4**
TA01				*i* S	**Sn**	**05 15 54.3**	**+0.4**
TA01				IAML		05 15 55.1	
	comp=E,4μm,0.3s						
PB09	**IPOC Station P**	**1.32**	**179**	⇑*i*P	**Pn**	**05 15 46.9**	**+1.1**
PB09				*i* S	**Sn**	**05 16 05.6**	**+2.0**
PB09				IAML		05 16 07.9	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**1.37**	**205**	⇓*i*P	**Pn**	**05 15 47.3**	**+0.8**
PB07				*i* S	**Sn**	**05 16 06.0**	**+1.1**
PB03	**IPOC Station P**	**1.63**	**196**	⇑*i*P	**Pn**	**05 15 50.2**	**+0.4**
PB03				*i* S	**Sn**	**05 16 09.8**	**-0.8**
PB03				IAML		05 16 17.5	
	comp=E,1μm,0.3s						
PB04	**IPOC Station P**	**2.02**	**204**	*e*P	**Pn**	**05 15 54.8**	**-0.1**
PB04				IAML		05 16 32.6	
	comp=E,666nm,0.3s						
PB12	**IPOC Station P**	**2.10**	**331**	*i* P	**Pn**	**05 15 55.9**	**+0.1**
PB12				*i* S	**Sn**	**05 16 21.2**	**-0.3**
PB12				IAML		05 16 30.0	
	comp=E,914nm,0.4s						
PB16	**IPOC Station P**	**2.14**	**354**	⇓*i*P	**Pn**	**05 15 58.6**	**+1.9**
PB16				*i* S	**Sn**	**05 16 25.2**	**+2.2**
PB16				IAML		05 16 30.9	
	comp=E,722nm,0.4s						
LVC	**Limon Verde**	**2.15**	**171**	P	**Pn**	**05 15 58.5**	**+1.8**
	comp=E,42nm,0.3s,baz=342,slow=8.4,SNR=180						
LVC				S	**Sn**	**05 16 26.3**	**+3.2**
	comp=E,75nm,0.3s,baz=336,slow=12,SNR=33						
LVC	**Limon Verde**	**2.15**	**171**	*e*P	**Pn**	**05 15 58.6**	**+1.8**
PB06	**IPOC Station P**	**2.24**	**187**	*i* P	**Pn**	**05 15 57.7**	**+0.1**
PB06				*i* S	**Sn**	**05 16 23.2**	**-1.6**
PB06				IAML		05 16 33.8	
	comp=E,653nm,0.4s						
PB05	**IPOC Station P**	**2.52**	**200**	*i* P	**Pn**	**05 16 01.2**	**-0.2**
LPAZ	**La Paz**	**4.30**	**15**	P	**Pn**	**05 16 28.0**	**+2.1**
	comp=E,3.5nm,0.3s,baz=207,slow=5.2,SNR=70						
LPAZ	**La Paz**	**4.30**	**15**	*e*P	**Pn**	**05 16 27.9**	**+2.1**
SIV	**San Ignacio**	**8.97**	**62**	P	**Pn**	**05 17 27.3**	**-1.7**
	comp=E,5.1nm,0.3s,baz=262,slow=9.3,SNR=129						
PTLB	**Pontes e Lacer**	**10.86**	**64**	*e*P	**Pn**	**05 17 54.2**	**-0.4**
ETMB	**Extrema**	**11.00**	**16**	*e*P	**Pn**	**05 17 56.4**	**-0.1**
VILB	**Vilhena**	**11.46**	**51**	*e*P	**Pn**	**05 18 02.6**	**-0.2**
CPUP	**Villa Florida**	**12.41**	**120**	P	**Pn**	**05 18 14.4**	**-1.1**
	comp=E,0.2nm,0.3s,baz=292,slow=19,SNR=3.4						
AQDB	**Aquidauana**	**12.72**	**92**	*e*P	**Pn**	**05 18 20.5**	**+0.9**
SALV	**Santo Antonio**	**13.68**	**73**	*e*P	**Pn**	**05 18 32.9**	**+0.6**
ARAG	**Araguaiana, MT**	**17.25**	**77**	*e*P	**P**	**05 19 16.8**	**-0.8**
CPSB	**Cacapava Do Su**	**17.36**	**128**	*e*P	**P**	**05 19 18.0**	**-0.7**
ITRB	**Iturama**	**17.78**	**91**	*e*P	**Pn**	**05 19 23.2**	**-0.6**
NPGB	**Novo Progresso**	**18.97**	**47**	*e*P	**P**	**05 19 36.2**	**-0.2**
SNDB	**Serra Nova Dou**	**19.20**	**67**	*e*P	**P**	**05 19 37.7**	**-1.2**
BB19B	**Bebedouro**	**19.40**	**95**	*e*P	**P**	**05 19 40.6**	**-0.5**
IPMB	**Ipameri, GO**	**20.04**	**86**	*e*P	**P**	**05 19 47.5**	**-0.5**
PLCA	**Paso Flores**	**20.22**	**183**	P	**P**	**05 19 50.4**	**+0.4**
	comp=E,0.9nm,0.6s,baz=13,slow=12,SNR=3.3						
PLCA	**Paso Flores**	**20.22**	**183**	*e*P	**P**	**05 19 51.0**	**+1.1**
RCLB	**Rio Claro- Sao**	**20.32**	**99**	*e*P	**P**	**05 19 50.0**	**-1.2**
SPB	**Sao Paulo**	**20.48**	**103**	*e*P	**P**	**05 19 52.1**	**-0.6**
ITTB	**Itaituba**	**20.73**	**41**	*e*P	**P**	**05 19 53.8**	**-1.7**
BDFB	**Brasilia**	**20.76**	**80**	P	**P**	**05 19 55.1**	**-0.8**
	comp=E,1.0nm,0.4s,baz=207,slow=2.6,SNR=6.3						
VAO	**Valinhos**	**20.87**	**101**	*e*P	**P**	**05 19 55.3**	**-1.7**
PEXB	**Peixe**	**21.76**	**71**	*e*P	**P**	**05 20 07.1**	**+0.6**
BSCB	**Bom Sucesso**	**22.91**	**96**	*e*P	**P**	**05 20 18.0**	**-0.6**
PRPB	**Parauapebas**	**23.63**	**56**	*e*P	**P**	**05 20 25.0**	**-0.3**
SMTB	**Santa Maria do**	**23.90**	**64**	*e*P	**P**	**05 20 27.1**	**-0.6**
VAS01	**Vassouras-RJ**	**24.11**	**99**	*e*P	**P**	**05 20 29.0**	**-0.5**
DIAM	**Diamantina, MG**	**24.23**	**89**	*e*P	**P**	**05 20 31.3**	**+0.4**
MC01	**Montes Claros**	**24.29**	**85**	*e*P	**P**	**05 20 30.7**	**-0.6**
BOAV	**Boa Vista**	**24.29**	**22**	*e*P	**P**	**05 20 31.0**	**-0.2**
JANB	**Januaria**	**24.35**	**81**	*e*P	**P**	**05 20 30.7**	**-1.1**
SDBA	**SAO DESIDERIO**	**24.68**	**75**	*e*P	**P**	**05 20 34.2**	**-0.6**
NAN01	**Guarapari, ES**	**27.64**	**90**	*e*P	**P**	**05 21 01.2**	**-0.2**
NVAR	**Mina Array Bea**	**74.48**	**322**	P	**P**	**05 26 52.6**	**+1.7**
	comp=E,0.3nm,0.4s,baz=168,slow=7.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**77.33**	**71**	P	**P**	**05 27 08.0**	**+0.7**
	comp=E,0.4nm,0.3s,baz=260,slow=5.7,SNR=9.7						
TORD				pP	**pP**	**05 27 31.1**	**-1.2**
	comp=E,2.0nm,0.7s,baz=257,slow=5.2,SNR=9.1						
FRB	**Frobisher Bay**	**83.94**	**0**	P	**P**	**05 27 41.0**	**-0.5**
	comp=E,0.8nm,0.7s,baz=204,slow=10.0,SNR=2.0						
YKA	**Yellowknife Ar**	**90.11**	**341**	P	**P**	**05 28 11.7**	**+0.2**
	comp=E,1.9nm,0.9s,baz=136,slow=4.6,SNR=27						
YKA				pP	**pP**	**05 28 36.4**	**+0.2**
	comp=E,0.8nm,0.8s,baz=134,slow=4.5,SNR=5.9						
ASAR	**Alice Springs**	**130.66**	**208**	PKP	**PKPdf**	**05 34 22.6**	**-0.7**
	comp=E,0.2nm,0.8s,baz=131,slow=1.5,SNR=4.7						
WRA	**Warramunga Arr**	**133.66**	**211**	PKP	**PKPdf**	**05 34 29.1**	**+0.1**
	comp=E,0.3nm,0.6s,baz=174,slow=1.8,SNR=1.6						
ZALV	**Zalesovo Beam**	**141.16**	**24**	PKP	**PKPdf**	**05 34 42.3**	**+0.5**
	comp=E,0.8nm,0.7s,baz=289,slow=4.5,SNR=4.6						
MKAR	**Makanchi Array**	**144.99**	**35**	PKP	**PKPdf**	**05 34 48.3**	**-0.5**
	comp=E,0.9nm,0.8s,baz=321,slow=2.6,SNR=6.7						
MKAR				pPKP	**pPKPdf**	**05 35 13.7**	**-1.2**
	comp=E,0.5nm,0.8s,baz=323,slow=3.6,SNR=2.9						
SONM	**Songino Array**	**152.48**	**6**	PKPbc	**PKiKP**	**05 35 08.2**	**0.0**
	comp=E,0.8nm,0.4s,baz=294,slow=1.3,SNR=14						

*IDC **01** 05:28:56.8±1.4, 6°.75N×72°.98W, h163km±15km, mb3.7/4, mb1 3.9/6, mb1mx3.3/43, mbtmp4.2/6, Error ellipse: s-maj=31.0km s-min=19.5km az=125.0*
*NEIC **01** 05:28:57.6±1.9, 6°.85N±0°.06×73°.09W±0°.07, h156km±7km, Error ellipse: s-maj=10.7km s-min=9.0km az=95.0*
*RSNC **01** 05:28:57.5±1.0, 6°.82N×73°.15W, h150km±3km, ML4.0, Mw4.0, Fault plane solution: NP1:φs57.00000°, δ78.00000°, λ-42.00000°.*

ISC 01 05:28:56.7±0.6, 6°.83N±0°.02×73°.11W±0°.03, h156km±5km, n123,σ1$44/168, mb4.3/26, 4C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**196**	⇓*i*P	**Pn**	**05 29 17.9**	**-0.2**
BARC				*e*S	**Sn**	**05 29 33.1**	**-1.3**
BARC				*i*		05 29 35.6	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	*e*P	**Pn**	**05 29 20.7**	**+0.6**
PAMC				*e*S	**Sn**	**05 29 37.7**	**-0.3**
PAMC				*i*		05 29 41.0	
	comp=Z,1μm,0.5s						
BRRC	**Barranca, Sant**	**0.66**	**295**	⇑*i*P	**Pn**	**05 29 19.7**	**+0.2**
BRRC				*e*S	**Sn**	**05 29 36.8**	**-0.2**
BRRC				*i*		05 29 40.5	
	comp=Z,1μm,0.3s						
RUSC	**La Rusia**	**0.93**	**178**	*e*P	**Pn**	**05 29 21.8**	**-0.3**
RUSC				*e*S	**Sn**	**05 29 40.5**	**-0.9**
RUSC				*i*		05 29 41.9	
	comp=Z,978nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P	**Pn**	**05 29 24.3**	**-1.0**
PTBC				*e*S	**Sn**	**05 29 45.4**	**-1.9**
PTBC				*i*		05 29 48.1	
	comp=Z,736nm,0.2s						
TAMC	**Tame, Arauca**	**1.37**	**106**	⇑*i*P	**Pn**	**05 29 26.3**	**+0.9**
TAMC				*i*		05 29 47.1	
	comp=Z,727nm,0.4s						
TAMC				*e*S	**Sn**	**05 29 48.2**	**+0.7**
OCAC	**Ocana**	**1.42**	**352**	⇑*e*P	**Pn**	**05 29 25.9**	**-0.1**
OCAC				*e*S	**Sn**	**05 29 48.3**	**-0.3**
OCAC				*i*		05 29 56.9	
	comp=Z,2μm,0.5s						
OCAC	**Ocana**	**1.42**	**352**		**Pn**	**05 29 25.9**	**-0.1**
SPBC	**San Pablo de B**	**1.51**	**219**	*e*P	**Pn**	**05 29 26.8**	**-0.2**
SPBC				*e*S	**Sn**	**05 29 48.1**	**-1.9**
SPBC				*i*		05 29 53.5	
	comp=Z,1μm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	**Pn**	**05 29 30.2**	**-0.3**
ZARC				*e*S	**Sn**	**05 29 55.5**	**-1.1**
ZARC				*i*		05 30 00.9	
	comp=Z,1μm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**		**Pn**	**05 29 30.4**	**-0.1**
NORC	**Norcasia**	**2.15**	**234**	*e*P	**Pn**	**05 29 33.8**	**-0.2**
NORC				*e*S	**Sn**	**05 30 01.6**	**-1.1**
NORC				*i*		05 30 07.3	
	comp=Z,592nm,0.2s						
SMLC	**San Martn de**	**2.18**	**334**	*e*P	**Pn**	**05 29 34.1**	**-0.2**
SMLC				*e*S	**Sn**	**05 30 02.5**	**-0.8**
SMLC				*i*		05 30 06.2	
	comp=Z,776nm,0.3s						
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**05 29 35.7**	**-0.1**
CHIC				*e*S	**Sn**	**05 30 05.5**	**-0.4**
CHIC				*i*		05 30 10.7	
	comp=Z,481nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**05 29 37.8**	**+1.5**
	comp=Z,186nm,0.3s,baz=125,slow=22,SNR=195						
ROSC				S	**Sn**	**05 30 07.8**	**+1.0**
	comp=Z,470nm,0.3s,baz=74,slow=22,SNR=7.7						
ROSC	**El Rosal**	**2.31**	**211**	*e*P	**Pn**	**05 29 37.7**	**+1.5**
ROSC				*e*S	**Sn**	**05 30 08.0**	**+1.3**
ROSC				*i*		05 30 12.5	
	comp=Z,2μm,0.4s						
ROSC	**El Rosal**	**2.31**	**211**		**Pn**	**05 29 37.5**	**+1.2**
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**05 29 38.6**	**+0.3**
HELC				*e*S	**Sn**	**05 30 10.0**	**-0.2**
HELC				*i*		05 30 18.1	
	comp=Z,539nm,0.3s						
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P	**Pn**	**05 29 38.5**	**-0.5**
UREC				*e*S	**Sn**	**05 30 08.3**	**-3.3**
SOCV	**Socops**	**2.67**	**57**	*e*P	**Pn**	**05 29 39.8**	**-0.4**
SOCV				*e*S	**Sn**	**05 30 10.4**	**-3.4**
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*e*P	**Pn**	**05 29 42.5**	**+1.6**
LL1C				*e*S	**Sn**	**05 30 17.9**	**+2.6**
LL1C				*i*		05 30 25.9	
	comp=Z,2μm,0.5s						
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P	**Pn**	**05 29 42.0**	**+0.4**
GUY2C				*e*S	**Sn**	**05 30 15.2**	**-1.1**
GUY2C				*i*		05 30 24.0	
	comp=Z,735nm,0.7s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	**Pn**	**05 29 41.3**	**-0.2**
VILC				*e*S	**Sn**	**05 30 15.5**	**-0.6**
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇓*e*P	**Pn**	**05 29 41.1**	**-0.6**
PTGC				*e*S	**Sn**	**05 30 14.7**	**-1.9**
PTGC				*i*		05 30 19.8	
	comp=Z,299nm,0.2s						
LL6C	**La Loma 6 Bece**	**2.89**	**357**	*e*P	**Pn**	**05 29 42.4**	**-0.6**
LL6C				*e*S	**Sn**	**05 30 18.2**	**-0.6**
LL6C				*i*		05 30 31.6	
	comp=Z,216nm,0.5s						
LL5C	**La Loma 5 El P**	**2.96**	**348**	*e*P	**Pn**	**05 29 44.7**	**+0.9**
LL5C				*e*S	**Sn**	**05 30 20.8**	**+0.4**
LL5C				*i*		05 30 23.5	
	comp=Z,243nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P	**Pn**	**05 29 45.2**	**+0.2**
CBOC				*e*S	**Sn**	**05 30 21.1**	**-1.2**
CBOC				*i*		05 30 42.3	
	comp=Z,154nm,0.5s						
DBBC	**Dabeiba**	**3.08**	**274**	⇑*e*P	**Pn**	**05 29 45.2**	**-0.2**
DBBC				*e*S	**Sn**	**05 30 21.4**	**-1.7**
MOTC	**Monteria, Cord**	**3.19**	**308**	*e*P	**Pn**	**05 29 44.7**	**-1.9**
MOTC				*e*S	**Sn**	**05 30 21.2**	**-4.2**
MOTC				*i*		05 30 25.1	
	comp=Z,120nm,0.2s						
MOTC	**Monteria, Cord**	**3.19**	**308**		**Pn**	**05 29 44.8**	**-1.9**
SDV	**Santo Domingo**	**3.20**	**50**	*e*P	**Pn**	**05 29 47.4**	**+0.4**
SDV				*e*S	**Sn**	**05 30 25.2**	**-0.8**
SDV				*i*		05 30 28.3	
	comp=Z,100nm,0.7s						
SDV	**Santo Domingo**	**3.20**	**50**		**Pn**	**05 29 47.2**	**+0.2**
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P	**Pn**	**05 29 47.9**	**+0.9**
ARGC				*e*S	**Sn**	**05 30 26.0**	**-0.1**
ARGC				*i*		05 30 35.2	
	comp=Z,140nm,0.3s						
ANIL	**Santa Ana**	**3.25**	**225**	*e*P	**Pn**	**05 29 48.2**	**+0.4**
ANIL				*e*S	**Sn**	**05 30 27.3**	**-0.1**
PRAC	**Prado**	**3.56**	**210**	*e*P	**Pn**	**05 29 51.0**	**-0.6**
PRAC				*e*S	**Sn**	**05 30 33.2**	**-0.9**
PRAC				*i*		05 30 39.9	
	comp=Z,658nm,0.5s						
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P	**Pn**	**05 29 52.2**	**+0.2**
ORTC				*e*S	**Sn**	**05 30 35.4**	**+0.6**
ORTC				*i*		05 30 41.7	
	comp=Z,310nm,0.4s						
ELOV	**Elorza**	**3.61**	**87**	*e*P	**Pn**	**05 29 52.0**	**-0.1**
ELOV				*e*S	**Sn**	**05 30 33.4**	**-1.6**
CVALL	**Valledupar, Ce**	**3.66**	**358**	*e*P	**Pn**	**05 29 50.9**	**-1.8**
CVALL				*e*S	**Sn**	**05 30 32.3**	**-4.1**
CVALL				*i*		05 30 40.7	
	comp=Z,232nm,0.3s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P	**Pn**	**05 29 51.6**	**-1.4**
SJCC				*e*S	**Sn**	**05 30 33.0**	**-3.6**
SJCC				*i*		05 30 47.6	
	comp=Z,190nm,0.7s						
SJCC	**San Jacinto, C**	**3.67**	**326**		**Pn**	**05 29 51.9**	**-1.0**
PLMC	**San Jos del P**	**3.69**	**239**	*e*P	**Pn**	**05 29 53.3**	**+0.1**
PLMC				*e*S	**Sn**	**05 30 35.5**	**-1.5**
PLMC				*i*		05 30 43.2	
	comp=Z,146nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P	**Pn**	**05 29 58.2**	**-1.3**
CRJC				*e*S	**Sn**	**05 30 45.9**	**-2.5**
CRJC				*i*		05 30 52.9	
	comp=Z,203nm,0.2s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**05 30 00.1**	**-0.8**
YOTC				*e*S	**Sn**	**05 30 51.7**	**+0.7**
GUVC	**San Jose del G**	**4.28**	**173**	*e*P	**Pn**	**05 29 59.8**	**-1.1**
GUVC				*e*S	**Sn**	**05 30 49.0**	**-1.8**
GUVC				*i*		05 30 55.5	
	comp=Z,278nm,0.2s						
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P	**Pn**	**05 30 02.4**	**-0.5**
SMRC				*e*S	**Sn**	**05 30 51.2**	**-3.4**
SMRC				*i*		05 30 53.5	
	comp=Z,127nm,0.4s						
MACC	**Macarena, Meta**	**4.71**	**189**	⇓*e*P	**Pn**	**05 30 04.8**	**-1.7**
MACC				*e*S	**Sn**	**05 30 55.7**	**-5.2**
MACC				*i*		05 31 02.2	
	comp=Z,160nm,0.8s						
BETC	**Betania**	**4.73**	**209**	*e*P	**Pn**	**05 30 05.8**	**-1.0**
BETC				*e*S	**Sn**	**05 30 54.5**	**-6.9**
BETC				*i*		05 31 10.0	
	comp=Z,99nm,0.5s						
URIC	**Uribia, Colomb**	**4.97**	**13**	Pn	**Pn**	**05 30 08.6**	**-1.2**
GARC	**Garzon, Huila**	**5.18**	**207**	*e*P	**Pn**	**05 30 12.0**	**-0.9**
GARC				*e*S	**Sn**	**05 31 08.3**	**-4.2**
GARC				*i*		05 31 16.1	
	comp=Z,132nm,0.2s						
BAUV	**El Baul**	**5.45**	**67**	Pn	**Pn**	**05 30 14.2**	**-1.9**
PCON	**Cinco Dias**	**5.54**	**216**	*e*P	**Pn**	**05 30 18.6**	**+0.6**
POPC	**Popayan, Colom**	**5.54**	**220**	*e*P	**Pn**	**05 30 17.3**	**-0.4**
FLOC	**Florencia**	**5.79**	**206**	*e*P	**Pn**	**05 30 20.0**	**-0.8**
FLOC				*e*S	**Sn**	**05 31 26.5**	**-0.1**
FLOC				*i*		05 31 30.8	
	comp=Z,44nm,0.5s						
FLOC	**Florencia**	**5.79**	**206**	Pn	**Pn**	**05 30 20.5**	**-0.4**
BBAC	**Balboa, Cauca**	**6.31**	**221**	*e*P	**Pn**	**05 30 27.3**	**-0.5**
BBAC				*e*S	**Sn**	**05 31 37.4**	**-1.8**
BBAC				*i*		05 31 41.4	
	comp=N,47nm,0.4s						
BIRV	**Birongo**	**7.67**	**61**	Pn	**Pn**	**05 30 44.0**	**-1.8**
OTAV	**Otavalo**	**8.44**	**219**		**Pn**	**05 30 57.3**	**+0.9**
PCRV	**Puerto La Cruz**	**9.02**	**68**	P	**Pn**	**05 31 02.8**	**-0.9**
	comp=N,2.2nm,0.3s,baz=239,slow=9.3,SNR=11						
PLCV	**Puerto La Cruz**	**9.06**	**68**		**Pn**	**05 31 02.8**	**-1.4**
MTDJ	**Mount Denham**	**12.12**	**340**		**Pn**	**05 31 46.0**	**+1.4**
CELP	**Cerrillos**	**12.87**	**29**	Pn	**Pn**	**05 31 52.5**	**-1.6**
SJG	**San Juan**	**13.11**	**31**	Pn	**Pn**	**05 31 55.5**	**-1.7**
GTBY	**Guantanamo Bay**	**13.16**	**352**		**P**	**05 32 01.8**	**-0.4**
HUMP	**Col San Antoni**	**13.29**	**32**	Pn	**Pn**	**05 31 58.6**	**-0.8**
BOAV	**Boa Vista**	**13.30**	**109**	Pn	**Pn**	**05 31 59.0**	**-0.7**
GCPR	**Guaynabo City**	**13.31**	**30**	Pn	**Pn**	**05 31 58.4**	**-1.3**
DLPL	**La Plaine**	**14.38**	**53**	Pn	**Pn**	**05 32 12.9**	**-0.4**
ETMB	**Extrema**	**17.91**	**157**		**P**	**05 32 54.3**	**-0.4**
VILB	**Vilhena**	**23.47**	**147**	P	**P**	**05 33 52.6**	**+0.2**
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**05 33 53.1**	**-0.1**
Y52A	**Lilburn**	**28.75**	**341**	P	**P**	**05 34 39.6**	**-0.1**
Y52A				IAmb	IAmb	05 34 59.7	
	comp=Z,15nm,1.4s						
W57A	**Gilead**	**28.89**	**348**	P	**P**	**05 34 41.6**	**+0.7**
WVT	**Waverly**	**32.13**	**337**	P	**P**	**05 35 10.6**	**+1.2**
WVT				IAmb	IAmb	05 35 11.2	
	comp=Z,6.0nm,1.1s						
T47A	**Sharon Grove**	**32.62**	**339**	P	**P**	**05 35 15.4**	**+1.7**
WHAR	**Wooly Hollow**	**33.36**	**331**	P	**P**	**05 35 20.7**	**+0.5**
WHAR				IAmb	IAmb	05 35 21.5	
	comp=Z,5.0nm,0.9s						
WCI	**Wyandotte Cave**	**33.46**	**341**	P	**P**	**05 35 22.7**	**+1.7**
WCI				IAmb	IAmb	05 35 22.8	
	comp=Z,13nm,1.4s						
P52A	**Corning**	**33.66**	**347**	P	**P**	**05 35 24.5**	**+1.9**
P52A				IAmb	IAmb	05 35 24.7	
	comp=Z,6.8nm,0.8s						
FCAR	**Ozark Folk Cen**	**33.77**	**332**	P	**P**	**05 35 24.3**	**+0.6**
FCAR				IAmb	IAmb	05 35 24.8	
	comp=Z,6.6nm,1.1s						
S44A	**Carbondale**	**34.05**	**337**	P	**P**	**05 35 27.6**	**+1.6**
S44A				IAmb	IAmb	05 35 27.9	
	comp=Z,11nm,1.4s						
P49A	**Miami Univ. Ec**	**34.20**	**344**	P	**P**	**05 35 27.4**	**+0.2**
P49A				IAmb	IAmb	05 35 36.7	
	comp=Z,4.9nm,0.8s						
CCM	**Cathedral Cave**	**35.17**	**335**	P	**P**	**05 35 36.8**	**+1.2**
SFIN	**Lafayette**	**35.68**	**342**	P	**P**	**05 35 41.3**	**+1.3**
R40A	**Maddies Statio**	**35.81**	**334**	P	**P**	**05 35 41.6**	**+0.5**
R40A				IAmb	IAmb	05 35 42.1	
	comp=Z,13nm,1.4s						
OK031	**S. Brethren Rd**	**36.23**	**326**	P	**P**	**05 35 45.2**	**+0.4**
OK031				IAmb	IAmb	05 36 07.8	
	comp=Z,6.1nm,1.0s						
WMOK	**Wichita Mounta**	**36.48**	**323**	P	**P**	**05 35 47.0**	**+0.1**
P40A	**Paris**	**36.75**	**335**	P	**P**	**05 35 49.6**	**+0.5**
P40A				IAmb	IAmb	05 35 50.1	
	comp=Z,4.9nm,0.7s						
P38A	**Dawn**	**37.46**	**334**	P	**P**	**05 35 55.6**	**+0.5**
P38A				IAmb	IAmb	05 35 55.7	
	comp=Z,4.9nm,0.6s						
SADO	**Sadowa**	**38.16**	**353**	P	**P**	**05 35 59.7**	**-1.2**
JFWS	**Jewell Farm**	**38.99**	**340**	P	**P**	**05 36 08.5**	**+0.7**
LMN	**Caledonia Moun**	**39.54**	**9**	P	**P**	**05 36 13.4**	**+1.1**
D62A	**Allapoint, All**	**40.26**	**4**	P	**P**	**05 36 19.8**	**+1.5**
BATG	**Bathurst New B**	**40.75**	**7**	P	**P**	**05 36 23.3**	**+1.0**
ECSD	**EROS Data Cent**	**42.14**	**334**	P	**P**	**05 36 33.7**	**0.0**
SDCO	**Great Sand Dun**	**42.55**	**321**	P	**P**	**05 36 39.5**	**+2.0**
S22A	**4UR Ranch, Cre**	**43.38**	**320**	P	**P**	**05 36 45.9**	**+1.8**
EYMN	**Ely**	**43.87**	**342**	P	**P**	**05 36 47.7**	**+0.2**
EYMN				IAmb	IAmb	05 36 48.2	
	comp=Z,7.8nm,0.7s						
B35A	**Bob, Littlefor**	**44.94**	**341**	P	**P**	**05 36 56.2**	**+0.2**
B35A				IAmb	IAmb	05 36 56.6	
	comp=Z,6.3nm,0.9s						
WUAZ	**Wupatki**	**45.22**	**315**	P	**P**	**05 36 59.6**	**+0.9**
AGMN	**Agassiz Nation**	**45.62**	**339**	P	**P**	**05 37 01.6**	**+0.2**
AGMN				IAmb	IAmb	05 37 05.7	
	comp=Z,3.1nm,0.6s						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**05 37 14.1**	**-0.3**
	comp=Z,3.5nm,0.5s,baz=146,slow=7.5,SNR=4.7						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**05 37 14.0**	**-0.3**
ULM				IAmb	IAmb	05 37 15.0	
	comp=Z,4.2nm,0.7s						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**05 37 21.3**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=119,slow=10.0,SNR=7.3						
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**05 37 21.2**	**+0.4**
BGU	**Big Grassy Mou**	**49.14**	**320**	P	**P**	**05 37 30.1**	**+1.1**
BGU			

ROCH				*e*S		**Sn**	**05 47 19.4 +0.6**
ROCH				*i* S		**Sn**	**05 47 19.9 +1.1**
ROCH				IAML			05 47 28.0
	comp=N,1μm,0.3s						
ROCH				IAML			05 47 28.5
	comp=N,2μm,0.4s						
LCO	**Las Campanas**	**2.09**	**23**	⇓*i*P		**Pn**	**05 46 53.3 -0.2**
LCO	**Las Campanas**	**2.09**	**23**	Pn		**Pn**	**05 46 53.3 -0.2**
PEL	**Peldehue**	**2.33**	**160**	*i* P		**Pn**	**05 46 57.8 +1.2**
PEL				*i* S		**Sn**	**05 47 27.5 +2.9**
PEL				IAML			05 47 35.3
	comp=E,772nm,0.4s						
PEL	**Peldehue**	**2.33**	**160**			**Pn**	**05 46 57.8 +1.2**
MT02	**Curacav**	**2.34**	**170**	*i* P		**Pn**	**05 46 56.8 +0.1**
MT02				*i* S		**Sn**	**05 47 26.5 +1.7**
MT02	**Curacav**	**2.34**	**170**			**Pn**	**05 46 56.7 -0.1**
MT05	**Renca**	**2.55**	**163**	*e*P		**Pn**	**05 47 00.8 +1.1**
MT05				*e*S		**Sn**	**05 47 31.6 +1.5**
MT05	**Renca**	**2.55**	**163**	Pn		**Pn**	**05 47 00.8 +1.1**
VA05	**Santo Domingo**	**2.70**	**180**	*e*P		**Pn**	**05 47 01.4 -0.3**
VA05				*e*S		**Sn**	**05 47 32.0 -1.7**
VA05				IAML			05 47 50.8
	comp=E,732nm,0.3s						
VA05	**Santo Domingo**	**2.70**	**180**			**Pn**	**05 47 01.3 -0.4**
AC04	**Llanos de Chal**	**2.77**	**10**	⇓*i*P		**Pn**	**05 47 02.3 -0.4**
AC04				*i* S		**Sn**	**05 47 36.4 +0.9**
AC04	**Llanos de Chal**	**2.77**	**10**	Pn		**Pn**	**05 47 02.3 -0.4**
MT09	**Talagante**	**2.87**	**169**	*i* P		**Pn**	**05 47 05.2 +1.1**
MT09				*e*S		**Sn**	**05 47 38.2 +0.1**
MT09				IAML			05 47 53.2
	comp=N,706nm,0.3s						
MT09	**Talagante**	**2.87**	**169**			**Pn**	**05 47 05.5 +1.3**
MT01	**Popeta**	**2.92**	**174**	⇑*i*P		**Pn**	**05 47 05.0 +0.3**
MT01				*e*S		**Sn**	**05 47 37.3 -2.0**
MT01				IAML			05 47 58.2
	comp=E,338nm,0.5s						
MT01	**Popeta**	**2.92**	**174**			**Pn**	**05 47 05.1 +0.3**
LMEL	**Las Melosas**	**3.13**	**158**	*i* S		**Sn**	**05 47 45.6 +1.1**
LMEL				IAML			05 48 01.4
	comp=N,434nm,0.3s						
BO04	**La Punta**	**3.15**	**165**	⇑*i*P		**Pn**	**05 47 08.9 +1.0**
BO04				*i* S		**Sn**	**05 47 45.9 +1.0**
BO04				IAML			05 47 59.6
	comp=N,603nm,0.6s						
BO01	**Tunca**	**3.46**	**173**	*i* P		**Pn**	**05 47 12.5 +0.3**
BO01				*i* S		**Sn**	**05 47 52.6 +0.1**
BO01	**Tunca**	**3.46**	**173**			**Pn**	**05 47 12.6 +0.4**
GO03	**Copiap**	**3.55**	**20**	*i* P		**Pn**	**05 47 13.8 +0.3**
GO03				*i* S		**Sn**	**05 47 56.6 +1.8**
GO03	**Copiap**	**3.55**	**20**	Pn		**Pn**	**05 47 13.6 +0.1**
BO02	**Sierra Bellavi**	**3.90**	**170**	*i* P		**Pn**	**05 47 19.1 +0.8**
BO02				*i* S		**Sn**	**05 48 03.7 +0.4**
BO02	**Sierra Bellavi**	**3.90**	**170**	Pn		**Pn**	**05 47 19.6 +1.3**
GO05	**Huala**	**4.06**	**184**			**Pn**	**05 47 19.2 -1.2**
AC02	**Maricunga**	**4.64**	**29**	Pn		**Pn**	**05 47 29.9 +1.0**
ML02	**Panimavida**	**4.80**	**178**	Pn		**Pn**	**05 47 30.4 -0.2**
LC01	**Cunco**	**7.93**	**181**	Pn		**Pn**	**05 48 12.1 -1.6**
PLCA	**Paso Flores**	**9.80**	**175**	Pn		**Pn**	**05 48 39.3 +0.1**
SNAA	**Sanae**	**54.28**	**159**	P		**P**	**05 55 43.6 -0.1**
SNAA				IAmb	IAmb		05 56 06.5
	comp=Z,3.8nm,1.2s						
DBIC	**Dimbokro**	**73.88**	**72**	P		**P**	**05 57 53.4 +0.3**
DBIC				IAmb	IAmb		05 58 21.5
	comp=Z,6.9nm,1.2s						

GUC ***01*** *06:03:31.6±0.8, 31°.55S×71°.48W, h43km±3km, ML4.0*
IDC ***01*** *06:03:32.8±3.3, 31°.43S×71°.27W, h43km±27km, mb3.9/3, mb1 3.7/7, mb1mx3.5/34, mbtmp3.8/7, ML3.4/4, Error ellipse: s-maj=60.9km s-min=28.4km az=102.0*
NEIC ***01*** *06:03:32.4±1.9, 31°.518S±0°.008×71°.5W±0°.1, h31km±6km, mb4.4/9, ML3.9(GUC), Error ellipse: s-maj=15.8km s-min=0.8km az=93.0*

ISC 01 06:03:32.5±0.9, 31°.51S±0°.03×71°.51W±0°.07, h42km±9km, n67, σ0s95/75, mb4.3/6, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.84**	**353**	⇑*i*P		**Pn**	**06 03 47.8 -0.1**
CO06				*i* S		**Sn**	**06 03 59.8 +0.6**
CO06	**Fray Jorge**	**0.84**	**353**			**Pn**	**06 03 48.4 +0.4**
CO03	**El Pedregal**	**0.97**	**47**	⇓*i*P		**Pn**	**06 03 49.9 +0.1**
CO03				*i* S		**Sn**	**06 04 02.2 -0.3**
CO03				IAML			06 04 04.6
	comp=N,5μm,0.3s						
CO03	**El Pedregal**	**0.97**	**47**			**Pn**	**06 03 50.1 +0.3**
VA06	**Catapilco**	**1.06**	**170**	⇑*i*P		**Pn**	**06 03 50.2 -0.7**
VA06				*i* S		**Sn**	**06 04 03.8 -0.7**
VA06				IAML			06 04 06.0
	comp=E,5μm,0.3s						
GO04	**Tololo Observa**	**1.47**	**25**	⇑*i*P		**Pn**	**06 03 57.5 +0.7**
GO04				*i* S		**Sn**	**06 04 16.9 +2.0**
GO04	**Tololo Observa**	**1.47**	**25**	Pn		**Pn**	**06 03 57.5 +0.7**
VA03	**San Esteban**	**1.49**	**147**	⇓*i*P		**Pn**	**06 03 56.7 -0.2**
VA03				*i* S		**Sn**	**06 04 15.7 +0.5**
VA03				IAML			06 04 17.7
	comp=E,5μm,0.1s						
VA03	**San Esteban**	**1.49**	**147**			**Pn**	**06 03 56.9 0.0**
VA01	**Torpederas**	**1.51**	**184**	*e*P		**Pn**	**06 03 57.2 +0.2**
VA01				*e*S		**Sn**	**06 04 16.1 +0.6**
VA01	**Torpederas**	**1.51**	**184**			**Pn**	**06 03 57.0 0.0**
ROCH	**El Roble**	**1.52**	**164**	⇑*i*P		**Pn**	**06 03 57.6 +0.3**
ROCH				⇑*i*P		**Pn**	**06 03 57.1 -0.2**
ROCH				*i* S		**Sn**	**06 04 16.3 +0.3**
ROCH				*i* S		**Sn**	**06 04 16.9 +0.9**
ROCH				IAML			06 04 18.5
	comp=N,3μm,0.1s						
ROCH				IAML			06 04 19.0
	comp=N,4μm,0.4s						
CO05	**La Serena**	**1.61**	**9**			**Pn**	**06 03 59.7 +1.4**
MT02	**Curacav**	**1.77**	**170**	*i* P		**Pn**	**06 04 00.4 -0.2**
MT02				*i* S		**Sn**	**06 04 22.5 +0.6**
MT02				IAML			06 04 25.4
	comp=E,986nm,0.4s						
MT02	**Curacav**	**1.77**	**170**			**Pn**	**06 04 01.6 +0.9**
PEL	**Peldehue**	**1.77**	**157**	⇓*i*P		**Pn**	**06 04 00.8 +0.1**
PEL				*i* S		**Sn**	**06 04 22.8 +0.8**
PEL				IAML			06 04 24.8
	comp=E,3μm,0.3s						
PEL	**Peldehue**	**1.77**	**157**			**Pn**	**06 04 01.0 +0.3**
MT05	**Renca**	**1.98**	**161**	*i* P		**Pn**	**06 04 03.8 +0.2**
MT05				*i* S		**Sn**	**06 04 28.2 +0.9**
MT05				IAML			06 04 31.8
	comp=E,4μm,0.3s						
MT05	**Renca**	**1.98**	**161**	Pn		**Pn**	**06 04 04.1 +0.5**
FCH	**Farellones**	**2.08**	**151**	*i* P		**Pn**	**06 04 05.1 -0.1**
FCH				*i* S		**Sn**	**06 04 31.7 +1.6**
VA05	**Santo Domingo**	**2.14**	**182**	*i* P		**Pn**	**06 04 05.4 -0.3**
VA05				*i* S		**Sn**	**06 04 31.0 0.0**
VA05				IAML			06 04 41.5
	comp=E,2μm,0.2s						
MT09	**Talagante**	**2.30**	**169**	*i* P		**Pn**	**06 04 08.7 +0.7**
MT09				*i* S		**Sn**	**06 04 36.0 +0.9**
MT09				IAML			06 04 40.6
	comp=N,1μm,0.3s						
MT09	**Talagante**	**2.30**	**169**			**Pn**	**06 04 08.9 +0.8**
MT01	**Popeta**	**2.35**	**175**	*i* P		**Pn**	**06 04 08.8 +0.1**
MT01				*i* S		**Sn**	**06 04 36.2 -0.2**
MT01				IAML			06 04 42.9
	comp=E,510nm,0.1s						
MT01	**Popeta**	**2.35**	**175**			**Pn**	**06 04 08.8 +0.1**
BO04	**La Punta**	**2.58**	**163**	*i* P		**Pn**	**06 04 11.9 0.0**
BO04				*i* S		**Sn**	**06 04 42.5 +0.5**
BO04				IAML			06 04 55.6
	comp=N,702nm,0.2s						
LCO	**Las Campanas**	**2.59**	**16**	⇓*i*P		**Pn**	**06 04 13.2 +1.0**
LCO				*i* S		**Sn**	**06 04 44.8 +2.3**
LCO	**Las Campanas**	**2.59**	**16**	Pn		**Pn**	**06 04 13.4 +1.2**
BO01	**Tunca**	**2.89**	**173**	⇑*i*P		**Pn**	**06 04 16.1 0.0**
BO01				*i* S		**Sn**	**06 04 49.8 +0.2**
BO01				IAML			06 04 59.3
	comp=E,260nm,0.2s						
AC04	**Llanos de Chal**	**3.32**	**7**	*i* P		**Pn**	**06 04 22.4 +0.4**
AC04				IAML			06 05 20.9
	comp=N,388nm,0.6s						
AC04	**Llanos de Chal**	**3.32**	**7**	Pn		**Pn**	**06 04 22.2 +0.3**
BO02	**Sierra Bellavi**	**3.33**	**170**	*i* P		**Pn**	**06 04 22.2 +0.1**
BO02				*i* S		**Sn**	**06 05 00.7 +0.3**
GO05	**Huala**	**3.50**	**186**			**Pn**	**06 04 23.6 -0.8**
GO03	**Copiap**	**4.06**	**16**	Pn		**Pn**	**06 04 33.3 +1.1**
AC02	**Maricunga**	**5.11**	**25**	Pn		**Pn**	**06 04 47.7 +0.8**
H03N1	**Juan Fernandez**	**6.54**	**251**	T		T	06 11 48.4
	baz=80,slow=72,SNR=1336						
H03N3	**Juan Fernandez**	**6.55**	**251**	T		T	06 11 46.8
	baz=80,slow=72,SNR=1313						
H03N2	**Juan Fernandez**	**6.56**	**251**	T		T	06 11 48.1
	baz=80,slow=72,SNR=1643						
H03S3	**Juan Fernandez**	**6.65**	**248**	T		T	06 11 59.8
	SNR=9.9						
H03S1	**Juan Fernandez**	**6.65**	**248**	T		T	06 11 56.5
	SNR=13						
H03S2	**Juan Fernandez**	**6.67**	**248**	T		T	06 11 58.5
	SNR=12						
LC01	**Cunco**	**7.37**	**182**			**Pn**	**06 05 16.4 -1.2**
LVC	**Limon Verde**	**9.17**	**15**	P		**Pn**	**06 05 39.7 -2.8**
	comp=N,0.2nm,0.3s,baz=157,slow=7.7,SNR=1.6						
PLCA	**Paso Flores**	**9.23**	**175**	P		**Pn**	**06 05 44.3 +1.2**
	comp=N,0.1nm,0.3s,baz=326,slow=12,SNR=2.0						
PB09	**IPOC Station P**	**9.89**	**12**	Pn		**Pn**	**06 05 52.7 +0.5**
PLTB	**Pedras Altas**	**15.26**	**96**	Pn		**Pn**	**06 07 04.9 -0.1**
PLTB				IAmb		IAmb	06 07 23.2
	comp=Z,19nm,1.5s						
LPAZ	**La Paz**	**15.47**	**12**	P		**Pn**	**06 07 08.2 -0.1**
	comp=Z,0.1nm,0.3s,baz=202,slow=9.2,SNR=4.3						
SIV	**San Ignacio**	**18.15**	**34**	P		**P**	**06 07 40.5 -0.8**
	comp=Z,0.3nm,0.3s,baz=208,slow=9.6,SNR=11						
ETMB	**Extrema**	**22.14**	**14**	P		**P**	**06 08 25.1 +0.4**
EFI	**East Falkland**	**22.45**	**158**	P		**P**	**06 08 29.7 +2.1**
EFI				IAmb		IAmb	06 08 43.6
	comp=Z,33nm,1.5s						
BDFB	**Brasília**	**26.62**	**59**	P		**P**	**06 09 04.7 -2.6**
	comp=Z,1.9nm,0.9s,baz=238,slow=1.7,SNR=3.2						
ZARC	**Zaragoza, Cauc**	**38.92**	**355**	P		**P**	**06 10 54.7 +0.4**
SNAA	**Sanae**	**53.72**	**159**	P		**P**	**06 12 49.7 -0.2**
SNAA				IAmb		IAmb	06 13 07.0
	comp=Z,3.7nm,1.2s						
QSPA	**South Pole Qui**	**58.72**	**180**	P		**P**	**06 13 25.8 +0.1**
DBIC	**Dimbokro**	**73.97**	**72**	P		**P**	**06 15 03.2 -0.7**
	comp=Z,2.6nm,0.6s,baz=233,slow=5.7,SNR=5.7						
DBIC	**Dimbokro**	**73.97**	**72**	IAmb		IAmb	06 15 08.7
	comp=Z,8.0nm,1.1s						
MAW	**Mawson**	**75.43**	**164**	P		P	06 15 15.2 +3.7
MAW				IAmb		IAmb	06 15 33.3
	comp=Z,4.3nm,1.3s						
CASY	**Casey**	**82.51**	**181**	P		**P**	**06 15 53.1 +2.8**
TORD	**Torodi Ar. Bea**	**82.95**	**70**	P		**P**	**06 15 52.5 -0.8**
	comp=Z,1.2nm,0.8s,baz=264,slow=3.0,SNR=7.2						
H11S2	**WAKE ISLAND Hyt**	**26.22**	**271**	T		T	08 41 23.6
	baz=107,slow=74,SNR=5.0						
H11S1	**WAKE ISLAND Hyt**	**26.23**	**271**	T		T	08 41 24.2
H11S3	**WAKE ISLAND Hyt**	**26.23**	**271**	T		T	08 41 27.9
	baz=101,slow=74,SNR=7.7						
H11N3	**WAKE ISLAND Hyt**	**26.57**	**272**	T		T	08 41 51.0
	baz=154,slow=74,SNR=10						
H11N1	**WAKE ISLAND Hyt**	**26.58**	**272**	T		T	08 41 50.5
H11N2	**WAKE ISLAND Hyt**	**26.58**	**272**	T		T	08 41 50.5
	baz=120,slow=74,SNR=14						
ZALV	**Zalesovo Beam**	**151.88**	**30**	PKPbc		**PKiKP**	**06 23 22.0 -0.6**
	comp=Z,3.0nm,0.4s,baz=310,slow=3.4,SNR=21						
ZALV				pPKPbc		**pPKPbc**	**06 23 35.2 -0.4**
	comp=Z,1.6nm,0.6s,baz=301,slow=3.2,SNR=6.4						
MKAR	**Makanchi Array**	**154.75**	**45**	PKPbc		**PKiKP**	**06 23 27.9 -0.9**
	comp=Z,0.2nm,0.6s,baz=325,slow=2.3,SNR=2.3						
MKAR				pPKPbc		**PKPab**	**06 23 43.0 -0.9**
	comp=Z,0.5nm,0.8s,baz=300,slow=4.9,SNR=4.0						

IDC ***01*** *06:54:31.2±3.9, 29°.28N×80°.66E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.2/47, mbtmp3.9/4, ML3.3/1, MS4.0/1, Ms1 4.0/1, ms1mx2.6/89, Error ellipse: s-maj=82.3km s-min=26.7km az=127.0*
NDI ***01*** *06:54:40.2±2.2, 29°.84N×80°.37E, h10km, ML3.3*

ISC 01 06:54:37.8±1.1, 29°.76N±0°.05×80°.40E±0°.08, h10km, n12, σ2s32/18, mb4.2/3, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.26**	**217**	*e*PG		**Pg**	**06 54 39.9 -3.3**
PTH				*e*SG		**Sg**	**06 54 42.9 -3.9**
NDI	**New Delhi**	**2.98**	**250**	*ex*		**Pg**	**06 55 38.7 +3.8**
SMLA	**Simla**	**3.11**	**297**	*e*P		**Pn**	**06 55 28.5 +1.6**
SMLA				*ex*		**Sb**	**06 56 09.5 -1.6**
SMLA				IAML			06 56 16.6
	comp=N,125nm,0.4s						
SMLA				IAML			06 56 16.7
	comp=E,180nm,0.4s						
KUDL	**Kundal**	**3.78**	**246**	*e*P		**Pn**	**06 55 38.0 +1.8**
KUDL				*e*S		**Sn**	**06 56 22.0 +1.2**
DHRM	**DHARAMSHALA**	**4.31**	**306**	*e*P		**Pn**	**06 55 44.5 +0.9**
DHRM				*e*S		**Sn**	**06 56 33.6 -0.4**
DHRM				IAML			06 56 57.0
	comp=E,74nm,1.1s						
DHRM				IAML			06 56 58.2
	comp=N,65nm,0.9s						
JHNI	**Jhansi**	**4.58**	**202**	*e*P		**Pn**	**06 55 50.6 +3.4**
JHNI				*e*S		**Sn**	**06 56 40.3 -0.2**
JBP	**Jabalpur**	**6.58**	**183**	*e*P		**Pn**	**06 56 17.7 +3.2**
JBP				*e*S		**Sn**	**06 57 31.5 +1.9**
BHPL	**Bhopal**	**7.01**	**203**	*e*S		**Sn**	**06 57 39.7 -0.8**
MKAR	**Makanchi Array**	**17.07**	**4**	P		**Pn**	**06 58 37.1 +0.5**
	comp=N,0.1nm,0.3s,baz=191,slow=12,SNR=9.5						
ZALV	**Zalesovo Beam**	**24.39**	**6**	P		**P**	**06 59 55.0 -1.1**
	comp=N,0.7nm,0.5s,baz=188,slow=9.3,SNR=6.1						
FINES	**FINESS Array B**	**47.41**	**328**	P		**P**	**07 03 10.8 -1.2**
	comp=N,1.9nm,0.8s,baz=107,slow=7.4,SNR=4.4						
FINES				LR		LR	07 25 31.5
	comp=N,157nm,18.1s,baz=2.0,slow=39						
ARCES	**ARCESS Array B**	**50.34**	**338**	P		**P**	**07 03 33.7 -0.8**
	comp=N,7.2nm,1.0s,baz=96,slow=9.2,SNR=2.3						

MAN 01 07:01:14.4, 17°.35N×120°.19E, h26km, mb4.3, ML3.1, MS2.9, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.63**	**24**	⇓*e*P		Pb	07 01 26.8 0.0
SIPP				*i* S		Sn	07 01 37.4 +0.6
APYP	**Conner**	**1.13**	**63**	⇑*i*P		Pb	07 01 45.0 +10
APYP				*i* S		Sb	07 01 51.7 +2.2
SMPP	**San Manuel, Pa**	**1.28**	**158**	⇓*e*P		Pn	07 01 36.8 +0.2
SMPP				*e*S		Sn	07 01 53.4 +0.5

BUL ***01*** *07:11:29.6±3.5, 23°.38S×29°.73E, h0km±34km, MD4.4*
EAF ***01*** *07:11:30.0±1.4, 23°.42S×29°.67E, h0km±21km, MD4.1*

ISC 01 07:11:31.7±1.0, 23°.38S±0°.05×29°.73E±0°.05, h10km, n10, σ2s39/16, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**1.54**	**96**	*i* P		**Pg**	**07 12 03.3 +2.0**
MOPA	**Mopani**	**1.54**	**96**	*i* P		**Pg**	**07 12 03.3 +2.0**
MATP	**Matopo**	**3.15**	**339**	*i* P		**Pn**	**07 12 20.5 -1.0**
MATP				*i* Sg		**Sb**	**07 13 08.7 +2.3**
MATP	**Matopo**	**3.15**	**339**	*i* P		**Pn**	**07 12 20.5 -1.0**
MATP				*i* Sg		**Sb**	**07 13 08.7 +2.3**
CNG	**Changalane**	**3.66**	**143**	*i* P		**Pn**	**07 12 27.5 -1.0**
CNG	**Changalane**	**3.66**	**143**	*i* P		**Pn**	**07 12 27.5 -1.0**
LBTB	**Lobatse**	**4.11**	**246**	*i* P		**Pn**	**07 12 33.9 -0.7**
LBTB				*i* Sg		**Sb**	**07 13 34.9 +0.9**
LBTB	**Lobatse**	**4.11**	**246**	*i* P		**Pn**	**07 12 33.9 -0.7**
LBTB				*i* Sg		**Sb**	**07 13 34.9 +0.9**
CHIPN	**CHIPINGE**	**4.14**	**42**	*i* P		**Pn**	**07 12 36.5 +1.4**
CHIPN				*i* Sg		**Sg**	**07 13 40.1 -4.7**
CHIPN	**CHIPINGE**	**4.14**	**42**	*i* P		**Pn**	**07 12 36.5 +1.4**
CHIPN				*i* Sg		**Sg**	**07 13 40.1 -4.7**

IDC 01 07:36:00.6±3.4, 28°.60S×177°.96W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.0/22, mbtmp3.4/2, Error ellipse: s-maj=249.1km s-min=33.4km az=166.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.27**	**265**	P		P	07 44 04.0 -0.1
	0.2nm,0.5s,baz=103,slow=7.5,SNR=2.1						
WRA	**Warramunga Arr**	**44.09**	**270**	P		P	07 44 10.7 -0.1
	0.2nm,0.3s,baz=110,slow=8.0,SNR=5.9						
FINES	**FINESS Array B**	**143.47**	**341**	PKP		PKPdf	07 55 35.9 -0.6
	4.0nm,0.9s,baz=58,slow=5.2,SNR=4.1						

SOME ***01*** *07:38:16.9, 44°.12N×87°.45E, h5km*
IDC ***01*** *07:38:24.6±3.5, 43°.89N×87°.06E, h0km, mb1 3.2/5, mb1mx2.8/57, mbtmp3.2/5, ML2.9/4, Error ellipse: s-maj=44.5km s-min=25.1km az=28.0*
NNC ***01*** *07:38:25.0±1.7, 44°.33N×87°.50E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=14.0km s-min=12.2km az=19.0*

ISC 01 07:38:23.2±1.4, 44°.07N±0°.07×87°.65E±0°.07, h10km, n16, σ2s72/27, 8C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.90**	**331**	*e*P		**Pb**	**07 39 30.5 -1.6**
	9.6nm,0.4s						
ZSN				*e*S		**Sb**	**07 40 23.3 +4.0**
	29nm,0.5s						
MK31	**Makanchi Array**	**4.65**	**308**	Pn		**Pn**	**07 39 34.3 +0.8**
	1.0nm,0.5s,baz=244,slow=14,SNR=52						
MK31				⇓Pg		**Pb**	**07 39 43.8 -1.0**
	1.2nm,0.3s						
MK31				⇑Sn		**Sn**	**07 40 26.8 -0.8**
	9.8nm,0.6s,baz=122,slow=24,SNR=4.1						
MK31				⇑Lg		Lg	07 40 46.8
	16nm,0.6s,baz=125,slow=28,SNR=4.6						
MKAR	**Makanchi Array**	**4.65**	**308**	Pn		**Pn**	**07 39 34.3 +0.8**
	0.5nm,0.3s,baz=126,slow=14,SNR=19						
MKAR				Sn		**Sn**	**07 40 26.0 -1.5**
	3.0nm,0.3s,baz=130,slow=22,SNR=7.7						
MKAR				Lg		Lg	07 40 47.5
	6.2nm,0.3s,baz=126,slow=27,SNR=11						
MAKZ	**Makanchi**	**4.84**	**306**	⇑Pn		**Pn**	**07 39 36.8 +0.7**
	2.5nm,0.5s						
MAKZ				⇓Sn		**Sn**	**07 40 30.7 -1.5**
	4.9nm,0.6s						
MAKZ				⇑Lg		Lg	07 40 50.3
	46nm,1.1s						
DJR	**Jarkent**	**5.65**	**275**	*e*P		**Pb**	**07 39 58.5 -3.5**
	2.3nm,0.5s						
DJR				*e*S		**Sb**	**07 41 11.5 +1.7**
	23nm,1.2s						
SHLS	**Shalkode**	**6.01**	**264**	*e*P		Pb	07 40 02.1 -6.0
	7.0nm,0.4s						
SHLS				*e*S		**Sb**	**07 41 17.8 -2.3**
	25nm,0.7s						
UZB	**Uzynbulak**	**6.33**	**265**	*e*P		**Pb**	**07 40 12.7 -0.9**
	3.7nm,0.4s						
UZB				*e*S		**Sb**	**07 41 35.7 +6.4**
	16nm,0.6s						
BLB	**Baldybastay**	**6.60**	**273**	*e*P		**Pb**	**07 40 16.6 -1.6**
	8.4nm,0.4s						
BLB				*e*S		**Sb**	**07 41 43.1 +5.9**
	21nm,0.5s						
MDOK	**Medeo**	**7.74**	**267**	Lg		Lg	07 42 29.7
	18nm,0.8s						
TKM2	**Tokmak 2**	**8.84**	**267**	⇑Pn		**Pn**	**07 40 31.2 0.0**
	2.3nm,1.0s						
TKM2				⇑Lg		Lg	07 43 03.5
	7.1nm,0.8s						
KURBB	**Kurchatov Arra**	**9.01**	**320**	Pn		**Pn**	**07 40 33.4 +0.2**
	0.2nm,0.3s,baz=130,slow=14,SNR=17						
KURBB				Sn		**Sn**	**07 42 11.9 -2.8**
	0.2nm,0.3s,baz=139,slow=17,SNR=6.1						
KURBB				Lg		Lg	07 43 08.3
	0.2nm,0.3s,baz=148,slow=31,SNR=5.7						
KURBB	**Kurchatov Arra**	**9.01**	**320**	⇓Pn		**Pn**	**07 40 33.0 -0.2**
	3.3nm,0.8s						
KURBB				⇑Sn		**Sn**	**07 42 11.4 -3.3**
	8.9nm,0.6s						
KURBB				⇑Lg		Lg	07 43 04.9
	17nm,0.8s						
ZAA0	**Zalesovo Array**	**10.06**	**350**	⇓Pn		**Pn**	**07 40 46.0 -1.6**
	0.2nm,0.5s						
ZAA0				⇓Sn		**Sn**	**07 42 38.2 -2.2**
	0.4nm,0.5s						
ZAA0				⇓Lg		Lg	07 43 35.8
	2.3nm,1.2s						
ZALV	**Zalesovo Beam**	**10.06**	**350**	Pn		**Pn**	**07 40 52.2 +4.7**
	0.3nm,0.3s,baz=176,slow=13,SNR=10.0						
ZALV				Sn		**Sn**	**07 42 39.2 -1.2**
	0.3nm,0.3s,baz=170,slow=24,SNR=5.6						
ZALV				Lg		Lg	07 43 48.0
	0.0nm,0.3s,baz=172,slow=26,SNR=2.3						
SONM	**Songino Array**	**13.57**	**67**	Pn		**P**	**07 41 45.7 +0.8**
	baz=257,slow=12,SNR=1.7						
BVAR	**Borovoye Array**	**14.49**	**314**	Pn		**Pn**	**07 41 47.1 -1.1**
	0.1nm,0.3s,baz=126,slow=14,SNR=2.4						

IDC ***01*** *08:16:37.8±2.1, 8°.33S×122°.99E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/37, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=253.0km s-min=31.1km az=56.0*
DJA ***01*** *08:16:56.5±1.3, 9°.S±10°×12°.3E±°, h28km±18km, M2.8/4, MLv2.8/4*

ISC 01 08:16:52.7±1.2, 9°.1S±0°.2×122°.6E±0°.1, h100km, n7, σ2s57/9, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.56**	**318**	P		**Pn**	**08 17 08.9 -0.1**
MMRI				S		**Sn**	**08 17 23.1 +1.9**
EDFI	**Ende, Flores**	**0.97**	**288**	P		**Pn**	**08 17 14.1 +1.2**
BATI	**Baumata**	**1

JEW	**Eniwo**	**9.68 360**	Pn	**Pn**	**08 49 19.1**	**-0.2**
ASAJ	**Asahikawa**	**10.99 4**	Pn	**Pn**	**08 49 34.2**	**-3.0**
	0.9nm,0.3s,baz=211,slow=13,SNR=11					
ASAJ			Sn	**Sn**	**08 51 32.8**	**-5.9**
	0.4nm,0.3s,baz=348,slow=30,SNR=1.8					
KSRS	**Korea Array**	**11.94 295**	Pn	**Pn**	**08 49 49.6**	**-0.7**
	0.1nm,0.3s,baz=104,slow=12,SNR=1.9					
KSRS			LR	LR	08 54 36.5	
	comp=Z,239nm,18.5s,baz=105,slow=38					
JOW	**Kunigami**	**13.11 245**	LR	LR	08 54 51.5	
	comp=Z,199nm,21.6s,baz=168,slow=36					
KLR	**Kul'dur**	**17.66 338**	P	**Pn**	**08 51 02.7**	**-2.7**
	0.3nm,0.3s,baz=157,slow=8.1,SNR=7.5					
NJ2	**Nanjing**	**19.16 273**	*e*P	**Pn**	**08 51 23.2**	**-0.5**
NJ2			pmax	pmax		
	comp=Z,11nm,0.5s					
YULB	**Yu-li**	**20.29 247**	P	**P**	**08 51 33.4**	**-1.6**
YULB			IAmb	IAmb	08 51 39.3	
	comp=Z,48nm,1.4s					
XLT	**XiLinHaoTe**	**22.55 306**	*e*P	**P**	**08 52 00.0**	**+0.7**
XLT			PP	**PnPn**	**08 52 27.9**	**+4.3**
XLT			S	**S**	**08 56 05.3**	**+1.4**
XLT			pmax	pmax		
	comp=Z,22nm,0.9s					
XLT			pmax	pmax		
	comp=Z,190nm,4.7s					
XLT			LR	LR		
	comp=N,160nm,12.6s					
XLT			LR	LR		
	comp=E,170nm,14.3s					
XLT			LR	LR		
	comp=Z,140nm,14.3s					
WHN	**Wuhan**	**23.23 271**	⇑P	**P**	**08 52 09.3**	**+3.0**
HHC	**Hu-ho-hao-te**	**25.07 297**	*e*P	**P**	**08 52 23.3**	**-0.1**
HHC			pmax	pmax		
	comp=Z,6.0nm,0.8s					
HHC			pmax	pmax		
	comp=Z,130nm,4.6s					
H11N2	**WAKE ISLAND Hy**	**26.25 114**	T	T	09 20 05.5	
	baz=307					
H11N1	**WAKE ISLAND Hy**	**26.25 114**	T	T	09 20 03.2	
	baz=307					
H11N3	**WAKE ISLAND Hy**	**26.26 114**	T	T	09 20 01.6	
	baz=307					
SONM	**Songino Array**	**30.20 310**	P	**P**	**08 53 11.2**	**+1.9**
	comp=Z,2.8nm,0.9s,baz=109,slow=8.0,SNR=17					
SONM	**Songino Array**	**30.20 310**	P	**P**	**08 53 11.2**	**+1.9**
GTA	**Gaotai**	**34.00 293**	⇓P	**P**	**08 53 41.8**	**-0.8**
GTA			sP	sP	08 53 58.2	+0.9
GTA			pmax	pmax		
	comp=Z,5.0nm,1.1s					
GTA			pmax	pmax		
	comp=Z,110nm,6.5s					
GTA			LR	LR		
	comp=N,110nm,16.0s					
GTA			LR	LR		
	comp=E,110nm,17.1s					
GTA			LR	LR		
	comp=Z,140nm,17.1s					
PZH	**PanZhiHua**	**35.01 270**	P	**P**	**08 53 50.6**	**-0.9**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,200nm,5.1s					
JAY	**Jayapura**	**35.48 181**	LR	LR	09 07 01.5	
	comp=Z,79nm,18.2s,baz=301,slow=34					
GOMU	**GeErMu**	**38.28 288**	P	**P**	**08 54 19.2**	**-0.3**
GOMU			pP	pP	08 54 23.3	-6.6
GOMU			sP	pwP	08 54 26.0	-8.4
GOMU			PcP	**sP**	**08 54 36.9**	**+2.6**
GOMU			pmax	pmax		
	comp=Z,7.0nm,0.8s					
GOMU			pmax	pmax		
	comp=Z,30nm,5.2s					
CMAR	**Chiang Mai Arr**	**40.77 260**	P	**P**	**08 54 38.8**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=51,slow=8.7,SNR=2.1					
WMQ	**Urumqi**	**42.81 301**	*e*P	**P**	**08 54 58.7**	**+2.2**
ZALV	**Zalesovo Beam**	**44.69 315**	P	**P**	**08 55 11.2**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=94,slow=5.9,SNR=6.9					
ZALV			PcP	**PcP**	**08 56 53.5**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=102,slow=4.9,SNR=3.9					
MK31	**Makanchi Array**	**46.37 305**	P	**P**	**08 55 24.8**	**0.0**
MK31			IAmb	IAmb	08 55 43.1	
	comp=Z,2.3nm,0.7s					
MKAR	**Makanchi Array**	**46.37 305**	P	**P**	**08 55 24.8**	**0.0**
	comp=Z,2.2nm,0.6s,baz=86,slow=9.3,SNR=42					
MKAR	**Makanchi Array**	**46.37 305**	P	**P**	**08 55 25.0**	**+0.1**
MAKZ	**Makanchi**	**46.59 305**	P	**P**	**08 55 26.4**	**-0.1**
MAKZ			IAmb	IAmb	08 55 44.8	
	comp=Z,2.7nm,0.8s					
COEN	**Coen**	**46.86 178**	P	**P**	**08 55 28.8**	**0.0**
NRIK	**Noril'sk**	**46.86 337**	P	**P**	**08 55 28.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=93,slow=6.3,SNR=4.1					
KURK	**Kurchatov**	**48.49 311**	P	**P**	**08 55 41.2**	**+0.1**
KURK			IAmb	IAmb	08 55 42.6	
	comp=Z,4.8nm,0.9s					
KNRA	**Kununurra**	**50.06 196**	P	**P**	**08 55 52.8**	**-0.6**
BOOM	**Boomskoye usch**	**51.51 301**	P	**P**	**08 56 06.0**	**+1.5**
BOOM			IAmb	IAmb	08 56 34.5	
	comp=Z,5.0nm,1.4s					
KSH	**Kashi**	**52.18 297**	P	P	08 56 13.7	+4.2
KSH			pmax	pmax		
	comp=Z,4.0nm,0.9s					
IL31		**52.74 31**	P	**P**	**08 56 14.5**	**+1.5**
ILAR	**Eielson Array**	**52.74 31**	P	**P**	**08 56 13.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=262,slow=5.6,SNR=15					
ILAR	**Eielson Array**	**52.74 31**	P	**P**	**08 56 13.6**	**+0.6**
WB0	**Warramunga Arr**	**53.06 188**	P	**P**	**08 56 14.6**	**-1.2**
WB0			IAmb	IAmb	08 56 32.6	
	comp=Z,6.3nm,0.6s					
WR0	**Warramunga Arr**	**53.23 188**	P	**P**	**08 56 15.6**	**-1.4**
WR0			IAmb	IAmb	08 56 37.8	
	comp=Z,20nm,1.5s					
WB2	**Warramunga Arr**	**53.23 188**	P	**P**	**08 56 15.5**	**-1.7**
WB2			IAmb	IAmb	08 56 19.9	
	comp=Z,19nm,1.4s					
WRA	**Warramunga Arr**	**53.24 188**	P	**P**	**08 56 16.0**	**-1.1**
	comp=Z,3.4nm,0.4s,baz=5.8,slow=7.5,SNR=89					
WRA	**Warramunga Arr**	**53.24 188**	P	**P**	**08 56 16.3**	**-0.8**
BCAR	**Beaver Creek A**	**55.07 33**	P	**P**	**08 56 31.2**	**+1.1**
KKAR	**Karatay Array**	**55.24 303**	P	**P**	**08 56 31.7**	**0.0**
AS31	**Alice Springs**	**56.96 188**	P	**P**	**08 56 44.1**	**+0.1**
ASAR	**Alice Springs**	**56.96 188**	P	**P**	**08 56 43.0**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=1.6,slow=6.2,SNR=15					
CHGR	**Chuyangaron**	**57.51 298**	P	**P**	**08 56 48.2**	**+0.3**
INK	**Inuvik**	**57.81 26**	P	**P**	**08 56 50.1**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=313,slow=5.6,SNR=5.6					
INK	**Inuvik**	**57.81 26**	P	**P**	**08 56 50.3**	**+0.9**
ABKAR	**Akbulak array**	**60.58 312**	P	**P**	**08 57 08.7**	**-0.2**
ABKAR	**Akbulak array**	**60.58 312**	P	**P**	**08 57 08.8**	**0.0**
ABKAR			IAmb	IAmb	08 57 20.4	
	comp=Z,3.0nm,0.6s					
C36M	**Paulatuk**	**60.92 24**	P	**P**	**08 57 11.1**	**+0.3**
C36M			IAmb	IAmb	08 57 31.3	
	comp=Z,9.8nm,1.5s					
EUNU	**Eureka**	**64.01 8**	P	**P**	**08 57 31.8**	**+0.3**
EUNU			IAmb	IAmb	08 57 38.5	
	comp=Z,9.2nm,1.5s					
AFI	**Afiamalu**	**64.59 129**	LR	LR	09 19 15.2	
	comp=Z,25nm,21.7s,baz=296,slow=30					
FORT	**Forrest**	**64.85 193**	P	**P**	**08 57 37.9**	**+0.5**
YKA	**Yellowknife Ar**	**67.12 29**	P	**P**	**08 57 52.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=296,slow=6.5,SNR=10.0					
YKA	**Yellowknife Ar**	**67.12 29**	P	**P**	**08 57 52.9**	**+1.2**
FIA1	**FINESS Array S**	**72.31 333**	P	**P**	**08 58 23.2**	**-0.4**
FINES	**FINESS Array B**	**72.31 333**	P	**P**	**08 58 23.3**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=135,slow=0.4,SNR=4.4					
FINES	**FINESS Array B**	**72.31 333**	P	**P**	**08 58 23.4**	**-0.2**
KBZ	**Khabaz**	**73.55 312**	P	**P**	**08 58 32.0**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=199,slow=4.4,SNR=4.9					
NVAR	**Mina Array Bea**	**77.24 52**	P	**P**	**08 58 54.6**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=2.5					
AKASG	**Malin Array Be**	**77.45 323**	P	**P**	**08 58 53.1**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=48,slow=6.0,SNR=5.6					
NOA	**NORSAR Array B**	**77.82 338**	P	**P**	**08 58 54.8**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=39,slow=5.8,SNR=3.9					
BRTR	**Keskin Array B**	**81.53 312**	P	**P**	**08 59 16.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=113,slow=3.2,SNR=5.2					
ANMO	**Albuquerque**	**87.00 50**	LR	LR	09 32 44.1	
	comp=Z,41nm,21.9s,baz=100,slow=32					
LPAZ	**La Paz**	**148.39 65**	PKPbc	**PKPbc**	**09 06 45.4**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=31,slow=2.3,SNR=7.4					

*JSN **01** 08:57:39.1±0.3, 18°.14N×76°.67W, h18km±3km, MD2.7*

*SSNC **01** 08:57:40.1±0.3, 18°.34N×76°.69W, h3km±3km, MD2.7, ML1.2*

ISC 01 08:57:36.6±1.1, 18°.3N±0°.1×76°.7W±0°.1, h16km±16km, n6, σ0°.81/11, 1C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.22**	**196**	*i* P	**Pg**	**08 57 42.5**	**+0.7**
GWJ				*i* S	**Sg**	**08 57 45.1**	**-0.1**
STH	**Stony Hill**	**0.25**	**213**	*i* P	**Pg**	**08 57 43.0**	**+0.8**
HOJ	**Hope**	**0.29**	**196**	⇑*i*P	**Pg**	**08 57 43.0**	**+0.2**
HOJ				*i* S	**Sg**	**08 57 45.9**	**-1.2**
MTDJ	**Mount Denham**	**0.83**	**266**	*e*P	**Pn**	**08 57 54.5**	**+0.7**
MTDJ				*e*S	**Sn**	**08 58 05.3**	**-0.5**
LMGC	**Las Mercedes**	**1.80**	**350**	*e*P	**Pb**	**08 58 08.5**	**-0.7**
LMGC				*e*S	**Sn**	**08 58 29.5**	**0.0**
LMGC				IAML		08 58 31.9	
	comp=E,7.2nm,0.1s						
LMGC				IAML		08 58 31.9	
	comp=N,4.9nm,0.0s						
RCC	**Rio Carpintero**	**1.93**	**28**	*e*P	**Pb**	**08 58 10.8**	**-0.7**
RCC				*e*S	**Sn**	**08 58 33.4**	**+0.6**
RCC				IAML		08 58 37.1	
	comp=E,0.9nm,0.1s						
RCC				IAML		08 58 38.3	
	comp=N,1.0nm,0.1s						

*IDC **01** 09:07:29.1±2.4, 24°.14S×66°.73W, h182km±32km, mb1 3.3/5, mb1mx3.0/32, mbtmp3.7/5, Error ellipse: s-maj=39.3km s-min=26.4km az=140.0*

*GUC **01** 09:07:31.1±0.5, 24°.00S×67°.29W, h248km±8km, ML4.0*

ISC 01 09:07:28.7±1.2, 24°.11S±0°.08×66°.79W±0°.08, h181km, n17, σ1°.55/29, 3C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.46**	**307**	P	**Pn**	**09 08 13.6**	**+2.2**
	6.4nm,0.3s,baz=105,slow=9.1,SNR=32						
LVC				S	**Sn**	**09 08 46.0**	**+1.6**
	30nm,0.3s,baz=265,slow=22,SNR=109						
LVC	**Limon Verde**	**2.46**	**307**	⇓*i*P	**Pn**	**09 08 13.5**	**+2.2**
LVC				*i* S	**Sn**	**09 08 46.6**	**+2.1**
PB06	**IPOC Station P**	**2.92**	**298**	⇑*i*P	**Pn**	**09 08 18.1**	**+1.6**
PB06				*i* S	**Sn**	**09 08 53.7**	**-0.1**
PB06				IAML		09 08 57.6	
	comp=N,417nm,0.1s						
PB09	**IPOC Station P**	**3.23**	**315**	*e*P	**Pn**	**09 08 22.6**	**+2.2**
PB09				*i* S	**Sn**	**09 09 01.6**	**+0.9**
PB09				IAML		09 09 06.7	
	comp=E,120nm,0.3s						
PB05	**IPOC Station P**	**3.38**	**291**	⇑*i*P	**Pn**	**09 08 23.1**	**+0.9**
PB05				*i* S	**Sn**	**09 09 01.7**	**-2.1**
PB05				IAML		09 09 04.2	
	comp=E,155nm,0.5s						
PB03	**IPOC Station P**	**3.42**	**306**	*e*P	**Pn**	**09 08 23.9**	**+1.2**
PB03				*i* S	**Sn**	**09 09 03.6**	**-1.2**
PB03				IAML		09 09 05.7	
	comp=E,232nm,0.1s						
PB10	**IPOC Station P**	**3.50**	**279**	⇑*i*P	**Pn**	**09 08 24.3**	**+0.8**
PB10				*i* S	**Sn**	**09 09 04.2**	**-2.2**
PB04	**IPOC Station P**	**3.56**	**299**	*e*P	**Pn**	**09 08 25.4**	**+0.8**
PB04				*i* S	**Sn**	**09 09 06.6**	**-1.5**
PB07	**IPOC Station P**	**3.72**	**309**	*e*P	**Pn**	**09 08 27.3**	**+0.9**
PB07				*i* S	**Sn**	**09 09 09.8**	**-1.7**
PB01	**IPOC Station P**	**3.94**	**320**	⇓*e*P	**Pn**	**09 08 30.1**	**+0.8**
PB01				*i* S	**Sn**	**09 09 15.5**	**-1.2**
PB08	**IPOC Station P**	**4.52**	**331**	*e*P	**Pn**	**09 08 38.5**	**+1.6**
PB08				*i* S	**Sn**	**09 09 30.1**	**-0.2**
PB11	**IPOC Station P**	**5.08**	**328**	*e*S	**Sn**	**09 09 40.8**	**-2.3**
LPAZ	**La Paz**	**7.89**	**351**	P	**Pn**	**09 09 22.2**	**+1.1**
	comp=E,0.9nm,0.3s,baz=176,slow=9.4,SNR=10						
LPAZ				S	**Sn**	**09 10 47.8**	**-2.3**
	comp=E,0.1nm,0.3s,baz=24,slow=7.3,SNR=1.7						
SIV	**San Ignacio**	**9.70**	**35**	P	**Pn**	**09 09 43.6**	**-0.8**
	comp=E,0.4nm,0.3s,baz=232,slow=12,SNR=4.9						
PLCA	**Paso Flores**	**16.87**	**190**	P	**P**	**09 11 12.8**	**-0.6**
	comp=E,0.1nm,0.3s,baz=80,slow=16,SNR=2.0						
BDFB	**Brasilia**	**19.55**	**68**	P	**P**	**09 11 43.0**	**+0.2**
	comp=E,0.3nm,0.3s,baz=224,slow=8.2,SNR=3.4						
MKAR	**Makanchi Array**	**146.49**	**40**	PKPbc	**PKPbc**	**09 26 48.0**	**-0.5**
	comp=E,0.2nm,0.5s,baz=292,slow=2.6,SNR=1.7						

*IDC **01** 09:09:21.4±0.7, 37°.82N×72°.63E, h0km, mb4.0/20, mb1 4.1/27, mb1mx3.9/61, mbtmp4.0/27, ML3.4/7, MS3.5/19, Ms1 3.5/19, ms1mx3.2/90, Error ellipse: s-maj=15.3km s-min=12.9km az=22.0*

*MOS **01** 09:09:24.3±1.3, 37°.95N×72°.44E, h18km, mb4.2/8, Error ellipse: s-maj=7.0km s-min=3.9km az=81.2*

*NNC **01** 09:09:25.7±2.0, 38°.20N×72°.35E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=16.7km s-min=11.7km az=160.0*

*NEIC **01** 09:09:25.1±2.6, 37°.93N±0°.05×72°.51E±0°.07, h15km±5km, mb4.5/21, Error ellipse: s-maj=9.1km s-min=5.8km az=138.0*

ISC 01 09:09:23.0±0.3, 37°.89N±0°.03×72°.57E±0°.03, h10km, n213, σ2°.40/204, mb4.0/34, MS3.5/15, 13C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.70**	**339**	Pn	**Pn**	**09 09 51.1**	**-1.9**
BTK	**Batken**	**2.56**	**328**	PN	**Pn**	**09 10 06.0**	**+1.3**
BTK	**Batken**	**2.56**	**328**	Pn	**Pn**	**09 10 06.0**	**+1.3**
CHGR	**Chuyangaron**	**2.79**	**287**	Pn	**Pb**	**09 10 11.0**	**-2.1**
KSH	**Kashi**	**3.12**	**58**	Pn	**Pn**	**09 10 10.5**	**-1.9**
KSH				Sn	**Sn**	**09 10 44.4**	**-5.4**
KSH				pmax	pmax		
	comp=Z,230nm,0.9s						
KSH				smax	smax		
	comp=N,800nm,0.9s						
KSH				smax	smax		
	comp=E,1μm,0.9s						
KSH				LR	LR		
	comp=N,6μm,5.5s						
KSH				LR	LR		
	comp=E,4μm,6.2s						
KSH				LR	LR		
	comp=Z,3μm,6.7s						
CEP	**Cherat**	**4.09**	**188**	P	**Pg**	**09 10 37.0**	**-4.5**
CEP				S	**Sg**	**09 11 36.0**	**+1.5**
CHCP	**Chirah Chowk**	**4.26**	**172**	P	**Pb**	**09 10 34.3**	**-3.8**
TAS	**Tashkent**	**4.26**	**325**	PN	**Pn**	**09 10 31.5**	**+3.5**
TAS	**Tashkent**	**4.26**	**325**	Pn	**Pn**	**09 10 31.5**	**+3.5**
NIL	**Nilore**	**4.27**	**172**	PN	**Pb**	**09 10 34.3**	**-3.9**
NIL	**Nilore**	**4.27**	**172**		**Pb**	**09 10 34.2**	**-3.9**
AML	**Almayashu**	**4.32**	**11**	P	**Pn**	**09 10 31.8**	**+2.6**
	SNR=75						
KBL	**Kabul**	**4.39**	**222**	PN	Pb	09 10 33.9	-6.5
KBL	**Kabul**	**4.39**	**222**	Pn	Pb	09 10 33.9	-6.5
UCH	**Uchtor**	**4.58**	**18**	P	**Pn**	**09 10 34.9**	**+2.1**
	SNR=19						
IUG	**Iuzhnay**	**4.68**	**336**	*i* PN	**Pn**	**09 10 36.4**	**+2.6**
IUG				*e*S	**Sn**	**09 11 27.9**	**-0.2**
IUG	**Iuzhnay**	**4.68**	**336**	*e*P	**Pb**	**09 10 45.0**	**-0.2**
	comp=Z,3μm,0.8s						
IUG				*e*S	**Sb**	**09 11 47.3**	**+5.7**
	comp=Z,722nm,0.7s						
IUG	**Iuzhnay**	**4.68**	**336**	*i* P	**Pn**	**09 10 36.5**	**+2.6**
	baz=336						
IUG				*e*S	**Sn**	**09 11 28.0**	**-0.2**
	baz=336						
IUG	**Iuzhnay**	**4.68**	**336**	Pg	**Pb**	**09 10 43.6**	**-1.6**
	comp=Z,3μm,0.8s						
IUG				Lg	Lg	09 11 45.3	
	comp=Z,722nm,0.7s						
EKS2	**Erkin-Say**	**4.86**	**11**	P	**Pn**	**09 10 39.1**	**+2.8**
	SNR=11						
MRKS	**Merke**	**4.88**	**6**	*e*P	**Pb**	**09 10 44.3**	**-4.2**
	comp=Z,20nm,0.6s						
MRKS				*e*S	**Sb**	**09 11 45.8**	**-1.5**
	comp=Z,132nm,1.0s						
MRKS	**Merke**	**4.88**	**6**	Pg	**Pb**	**09 10 44.3**	**-4.2**
	comp=Z,20nm,0.6s						
MRKS				Lg	Lg	09 11 45.8	
	comp=Z,132nm,1.0s						
AAK	**Ala-Archa**	**4.97**	**17**	Pn	**Pn**	**09 10 40.8**	**+3.0**
	comp=Z,1.2nm,0.3s,baz=204,slow=10,SNR=37						
AAK				Sn	**Sn**	**09 11 34.6**	**-0.7**
	comp=Z,2.9nm,0.3s,baz=41,slow=23,SNR=1.7						
AAK	**Ala-Archa**	**4.97**	**17**	P	**Pn**	**09 10 41.1**	**+3.3**
	SNR=20						
AAK	**Ala-Archa**	**4.97**	**17**	*i* PN	**Pn**	**09 10 41.0**	**+3.2**
AAK	**Ala-Archa**	**4.97**	**17**	⇓Pn	**Pn**	**09 10 39.9**	**+2.1**
	comp=Z,89nm,1.1s						
AAK				⇑Sn	**Sn**	**09 11 37.8**	**+2.4**
	comp=Z,131nm,1.1s						
CHM	**Chimkent**	**4.97**	**334**	*e*P	**Pb**	**09 10 51.2**	**+1.0**
	comp=Z,3.5nm,0.2s						
CHM				*e*S	**Sg**	**09 11 58.0**	**-4.7**
	comp=Z,562nm,0.6s						
DZA	**Taraz**	**5.09**	**350**	*e*PN	**Pn**	**09 10 41.4**	**+2.1**
DZA				pmax	pmax		
	comp=Z,15nm,0.7s						
DZA	**Taraz**	**5.09**	**350**	*e*P	**Pn**	**09 10 41.5**	**+2.1**
	comp=Z,15nm,0.7s,baz=350						
KBK	**Karagaybulak**	**5.10**	**20**	P	**Pn**	**09 10 43.3**	**+3.7**
	SNR=6.9						
THW	**Thamme Wali**	**5.13**	**188**	P	Pb	09 10 46.3	-6.6
FRU1	**Bishkek**	**5.16**	**17**	PN	**Pn**	**09 10 41.5**	**+1.1**
FRU1	**Bishkek**	**5.16**	**17**		**Pn**	**09 10 41.5**	**+1.1**
ULHL	**Ulahol**	**5.18**	**32**	P	Pb	09 10 48.7	-5.2
	SNR=8.1						
BOOM	**Boomskoye usch**	**5.27**	**28**	PN	**Pn**	**09 10 43.9**	**+1.9**
BOOM	**Boomskoye usch**	**5.27**	**28**		**Pn**	**09 10 43.9**	**+1.9**
CHMS	**Chumysh**	**5.37**	**17**	P	**Pn**	**09 10 46.6**	**+3.3**
	SNR=7.5						
KK02	**Karatay Array**	**5.44**	**344**	⇓Pn	**Pn**	**09 10 44.6**	**+0.4**
	comp=Z,16nm,0.7s						
KK02				⇓Pg	**Pb**	**09 10 59.7**	**+1.6**
	comp=Z,26nm,0.6s						
KK02				⇓Sn	**Sn**	**09 11 45.2**	**-1.6**
	comp=Z,50nm,0.8s						
KK02				⇓Lg	Lg	09 12 08.1	
	comp=Z,81nm,0.7s						
KKAR	**Karatay Array**	**5.44**	**344**	PN	**Pn**	**09 10 46.4**	**+2.2**
KKAR	**Karatay Array**	**5.44**	**344**	Pn	**Pn**	**09 10 46.4**	**+2.2**
KDJ	**Kajisay**	**5.52**	**38**	PN	**Pn**	**09 10 46.2**	**+0.8**
KDJ	**Kajisay**	**5.52**	**38**		**Pn**	**09 10 46.2**	**+0.8**
TKM2	**Tokmak 2**	**5.53**	**24**	P	**Pn**	**09 10 48.9**	**+3.3**
	SNR=11						
TKM2	**Tokmak 2**	**5.53**	**24**	PN	**Pn**	**09 10 48.2**	**+2.6**
TKM2	**Tokmak 2**	**5.53**	**24**	⇑Pn	**Pn**	**09 10 48.2**	**+2.6**
	comp=Z,8.6nm,0.6s						
TKM2				⇑Pg	**Pb**	**09 11 03.1**	**+3.3**
	comp=Z,37nm,1.0s						
TKM2				⇓Lg	Lg	09 12 17.5	
	comp=Z,73nm,0.9s						
BRLS	**Borolday**	**5.54**	**339**	*e*PN	**Pn**	**09 10 45.8**	**+0.2**
BRLS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRLS	**Borolday**	**5.54**	**339**	*e*P	**Pn**	**09 10 45.9**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=337						
TARG	**Taragay, Kyrgy**	**5.56**	**45**	Pn	**Pn**	**09 10 49.2**	**+2.9**
USP	**Ospenovka**	**5.57**	**15**	P	**Pn**	**09 10 48.3**	**+2.3**
	SNR=9.4						
KST	**Kastek**	**5.76**	**26**	*e*P	**Pb**	**09 11 02.8**	**-0.9**
	comp=Z,14nm,0.6s						
KST				*e*S	**Sb**	**09 12 17.6**	**+4.8**
	comp=Z,68nm,1.3s						
KST	**Kastek**	**5.76**	**26**	*e*P	Pn	09 10 52.6	+3.9
	baz=27						
KST	**Kastek**	**5.76**	**26**	Pg	**Pb**	**09 11 02.8**	**-0.9**
	comp=Z,14nm,0.6s						
KST				Lg	Lg	09 12 17.6	
	comp=Z,68nm,1.3s						
SGDS	**Sogindy**	**5.77**	**15**	*e*P	**Pb**	**09 11 05.0**	**+1.1**
	comp=Z,31nm,0.7s						
SGDS				*e*S	**Sg**	**09 12 21.2**	**-7.1**
	comp=Z,34nm,0.9s						
SGDS	**Sogindy**	**5.77**	**15**	*e*P	**Pn**	**09 10 50.8**	**+1.9**
	baz=16						
SGDS				*e*S	**Sn**	**09 11 54.3**	**-0.8**
	baz=16						
SGDS	**Sogindy**	**5.77**	**15**	Pg	**Pb**	**09 11 05.0**	**+1.1**
	comp=Z,31nm,0.7s						
SGDS				Lg	Lg	09 12 21.2	
	comp=Z,34nm,0.9s						
DGS	**Degeres**	**5.88**	**24**	*e*P	**Pb**	**09 11 06.6**	**+1.0**
	comp=Z,61nm,0.6s						
DGS				*e*S	**Sg**	**09 12 23.8**	**-7.8**
	comp=Z,48nm,1.4s						
DGS	**Degeres**	**5.88**	**24**	Pg	**Pb**	**09 11 06.1**	**+0.5**
	comp=Z,61nm,0.6s						
DGS				Lg	Lg	09 12 23.8	
	comp=Z,48nm,1.4s						
MTBS	**Maitube**	**6.00**	**28**	*e*P	**Pb**	**09 11 09.4**	**+1.6**
	comp=Z,17nm,0.5s						
MTBS				*e*S	**Sg**	**09 12 28.9**	**-6.8**
	comp=Z,58nm,2.2s						
MTBS	**Maitube**	**6.00**	**28**	*e*P	**Pn**	**09 10 54.8**	**+2.8**
	baz=30						
MTBS	**Maitube**	**6.00**	**28**	Pg	**Pb**	**09 11 09.4**	**+1.6**
	comp=Z,17nm,0.5s						
MTBS				Lg	Lg	09 12 28.9	
	comp=Z,58nm,2.2s						
TNSS	**Tian-Shan**	**6.13**	**32**	*e*P	**Pb**	**09 11 12.8**	**+2.7**
	comp=Z,16nm,0.7s						
TNSS				*e*S	**Sg**	**09 12 35.0**	**-4.8**
	comp=Z,20nm,1.0s						
TNSS	**Tian-Shan**	**6.13**	**32**	*e*P	Pn	09 10 58.6	+4.6
	baz=33						
TNSS	**Tian-Shan**	**6.13**	**32**	Pg	**Pb**	**09 11 12.9**	**+2.7**
	comp=Z,16nm,0.7s						
TNSS				Lg	Lg	09 12 35.0	
	comp=Z,20nm,1.0s						
MDOK	**Medeo**	**6.28**	**32**	*e*PN	Pn	09 11 00.2	+4.4
MDOK	**Medeo**	**6.28**	**32**	*e*P	Pn	09 11 00.2	+4.5
	baz=33						
MDOK	**Medeo**	**6.28**	**32**	⇑Pn	**Pn**	**09 10 58.4**	**+2.6**
	comp=Z,7.8nm,1.0s						
MDOK	

comp=Z,1.3nm,0.3s,baz=96,slow=14,SNR=20
GEYT Sn **Sn** **09 14 09.8 -4.0**
comp=Z,1.0nm,0.3s,baz=107,slow=25,SNR=3.6
GEYT LR LR 09 17 24.6
comp=Z,110nm,20.2s,baz=101,slow=42
GEYT Alibeck 11.42 275 Pn 09 12 05.8 -0.5
GYA0 ALIBECK ARRAY 11.42 275 P **Pn** **09 12 05.7 -0.5**
GYA0 S **Sn** **09 14 14.6 +0.7**
GYA0B ALIBECK ARRAY 11.42 275 ⇑Pn **Pn** **09 12 05.7 -0.5**
GYA0B ⇑Sn **Sn** **09 14 14.6 +0.8**
GYA0B ALIBECK ARRAY 11.42 275 Pn 09 12 05.1 -1.1
MK31 Makanchi Array 11.43 36 *i* P Pn 09 12 10.4 +4.1
MK31 Makanchi Array 11.43 36 Pn **Pn** **09 12 09.4 +3.0**
comp=Z,4.4nm,0.9s,baz=216,slow=14,SNR=8.5
MK31 Makanchi Array 11.43 36 Pn 09 12 06.9 +0.5
MKAR Makanchi Array 11.43 36 Pn **Pn** **09 12 08.8 +2.5**
comp=Z,0.1nm,0.3s,baz=214,slow=14,SNR=12
MKAR Lg Lg 09 15 19.2
baz=225,slow=32,SNR=2.0
MKAR Makanchi Array 11.43 36 *i* P Pn 09 12 10.6 +4.3
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 11.43 36 Pn 09 12 08.2 +1.9
PYUN Piuthan 13.10 135 *eP* **Pn** **09 12 27.3 -2.0**
comp=Z,28nm,0.4s
DANN Dangsing 13.35 132 *eP* **Pn** **09 12 29.9 -2.9**
comp=Z,20nm,0.4s
KURBB Kurchatov Arra 13.42 17 Pn **Pn** **09 12 32.1 -1.3**
comp=Z,0.0nm,0.3s,baz=206,slow=11,SNR=15
KURBB Sn **Sn** **09 15 03.3 +0.7**
comp=Z,0.0nm,0.3s,baz=317,slow=20,SNR=0.8
KURBB Lg Lg 09 16 24.6
comp=Z,0.0nm,0.3s,baz=216,slow=31,SNR=4.5
KURBB LR LR 09 17 40.6
comp=Z,168nm,20.6s,baz=167,slow=37
KURK Kurchatov 13.53 17 *ce*P **Pn** **09 12 35.9 +1.0**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 13.53 17 Pn 09 12 33.8 -1.1
KOLN Koldanda 13.69 134 *eP* **Pn** **09 12 35.5 -2.0**
comp=Z,8.0nm,0.3s
GKN Gorkha 14.12 131 *eP* **Pn** **09 12 40.2 -3.1**
AB31 Akbulak array 14.56 325 P **Pn** **09 12 46.4 -2.7**
AB31 S **Sn** **09 15 26.5 -4.0**
AB31 Akbulak array 14.56 325 ⇑Pn **Pn** **09 12 46.4 -2.7**
comp=Z,5.0nm,0.6s,baz=138,slow=12,SNR=91
AB31 Sn **Sn** **09 15 26.5 -4.0**
comp=Z,7.5nm,0.7s,baz=144,slow=22,SNR=7.3
ABKAR Akbulak array 14.56 325 Pn 09 12 47.0 -2.0
DMN Daman 14.69 131 *eP* **Pn** **09 12 48.2 -3.0**
comp=Z,15nm,0.5s
PKIN Phulchoki 14.89 130 *eP* **Pn** **09 12 51.4 -2.5**
comp=Z,14nm,0.5s
PKI Pulchoki 14.90 130 *eP* **Pn** **09 12 51.4 -2.7**
comp=Z,13nm,0.6s
GUN Gumba 14.95 128 *eP* **Pn** **09 12 51.8 -3.0**
comp=Z,10nm,0.4s
BHPL Bhopal 15.18 163 *eP* **P** **09 12 59.1 -3.6**
BVAR Borovoye Array 15.21 355 Pn **Pn** **09 12 56.1 -1.7**
comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=15
BRVK Borovoye 15.25 355 *i* P **Pn** **09 12 58.1 -0.2**
BRVK pmax pmax
comp=Z,11nm,1.1s
BRVK Borovoye 15.25 355 ⇑Pn **Pn** **09 12 57.4 -0.9**
comp=Z,11nm,1.2s
BRVK Borovoye 15.25 355 Pn **Pn** **09 12 57.4 -0.9**
BRVK IAmb IAmb 09 13 07.1
comp=Z,10nm,1.1s
DGZ Jazzator, Alta 15.92 37 *i* P **P** **09 13 10.3 -0.6**
DGZ pmax pmax
comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 16.28 325 Pn **Pn** **09 13 11.5 -0.2**
comp=Z,0.4nm,0.3s,baz=130,slow=14,SNR=12
AKTO Sn **Sn** **09 16 05.7 -6.5**
comp=Z,0.3nm,0.3s,baz=107,slow=20,SNR=5.7
AKTO LR LR 09 20 15.6
comp=Z,146nm,18.3s,baz=166,slow=40
AKTO Aktyubinsk 16.28 325 ⇓Pn **Pn** **09 13 12.5 +0.8**
comp=Z,20nm,0.8s
GOMU GeErMu 17.84 89 P **P** **09 13 35.2 +2.8**
GOMU pP sP 09 13 40.8 +2.4
GOMU sP pP 09 13 45.3 +8.8
GOMU pmax pmax
comp=Z,3.0nm,0.9s
GOMU pmax pmax
comp=Z,85nm,4.3s
ZAA0 Zalesovo Array 18.14 24 ⇓Pn **P** **09 13 37.2 +2.1**
comp=Z,1.5nm,0.9s
ZAA0 Zalesovo Array 18.14 24 P 09 13 35.4 +0.2
ZALV Zalesovo Beam 18.14 24 P **P** **09 13 34.2 -1.0**
comp=Z,0.4nm,0.3s,baz=216,slow=11,SNR=17
ZALV LR LR 09 21 26.8
comp=Z,72nm,18.4s,baz=240,slow=40
ZALV Zalesovo Beam 18.14 24 *i* P **P** **09 13 35.5 +0.3**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 18.14 24 Pn **P** **09 13 34.3 -0.8**
WSAR Wadi Sarin 18.87 223 P **Pn** **09 13 46.3 +2.3**
comp=Z,0.1nm,0.3s,baz=32,slow=9.8,SNR=2.4
WSAR LR LR 09 22 11.2
comp=Z,38nm,19.9s,baz=78,slow=41
UOSS Minazif 18.98 232 P **Pn** **09 13 46.1 +0.8**
MAK Makhachkala 19.71 293 *eP* **Pn** **09 13 53.8 -0.2**
MAK *e*S **S** **09 17 33.4 -1.3**
MAK pmax pmax
comp=Z,287nm,2.1s
MAK MLR MLR
comp=Z,316nm,15.0s
ARU Arti 20.77 338 P **P** **09 14 04.1 +0.1**
comp=Z,2.7nm,0.7s,baz=148,slow=10,SNR=8.1
ARU LR LR 09 22 41.4
comp=Z,109nm,18.4s,baz=159,slow=38
ARU Arti 20.77 338 *d* *i* P Pn 09 14 05.1 -1.3
ARU S **S** **09 17 54.0 -1.6**
ARU SS **SnSn** **09 18 15.1 -0.3**
ARU pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 20.77 338 P **P** **09 14 04.0 0.0**
ARU IAmb IAmb 09 14 09.7
comp=Z,6.6nm,0.8s
GTA Gaotai 21.31 77 ⇑P **P** **09 14 13.3 +3.3**
GTA pP sP 09 14 19.7 +3.7
GTA sP pP 09 14 22.4 +8.3
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,120nm,6.7s
GTA LR LR
comp=N,140nm,15.6s
GTA LR LR
comp=E,150nm,16.7s
GTA LR LR
comp=Z,220nm,16.7s
GNI Garni 21.71 285 P **P** **09 14 15.8 +1.5**
comp=Z,5.4nm,0.9s,baz=253,slow=21,SNR=1.6
GNI Garni 21.71 285 P **P** **09 14 14.7 +0.3**
GNI pmax pmax
comp=Z,43nm,1.4s
GNI Garni 21.71 285 P **P** **09 14 14.7 +0.3**
GNI IAmb IAmb 09 14 29.2
comp=Z,43nm,1.4s
NCK Nalchik 22.61 294 *i* P **P** **09 14 27.5 +3.7**
NCK pmax pmax
comp=Z,26nm,0.8s
BELG Belogornoye 22.65 318 P **P** **09 14 23.1 -0.9**
comp=Z,9.1nm,0.6s,baz=231,slow=2.0,SNR=3.6
BELG Belogornoye 22.65 318 *i* P **P** **09 14 25.7 +1.6**
BELG pmax pmax
comp=Z,7.0nm,1.7s
ONI Oni 22.66 291 P **P** **09 14 26.1 +1.7**
ONI pmax pmax
comp=Z,12nm,0.8s
ONI Oni 22.66 291 P 09 14 26.1 +1.7
ONI IAmb IAmb 09 14 52.0
comp=Z,12nm,0.8s
KARS Kars 22.95 286 P **P** **09 14 27.8 +0.2**
KARS pmax pmax
comp=Z,95nm,1.4s
KARS Kars 22.95 286 P **P** **09 14 27.8 +0.2**
KBZ Khabaz 23.13 294 P **P** **09 14 26.3 -2.9**
comp=Z,3.5nm,1.1s,baz=229,slow=20,SNR=2.9
KBZ Khabaz 23.13 294 *i* P **P** **09 14 33.4 +4.2**
KBZ pmax pmax
comp=Z,14nm,1.7s
KVAR Kislovodsk Arr 23.29 295 P **P** **09 14 32.2 +1.1**
comp=Z,1.4nm,0.4s,baz=272,slow=21,SNR=1.0
ZAK Zakamensk 25.14 50 *eP* **P** **09 14 48.6 +0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KIRV Kirov 25.58 332 P **P** **09 14 52.0 +0.1**
comp=Z,7.0nm,0.6s,baz=136,slow=21,SNR=1.7
KIRV Kirov 25.58 332 *i* P **P** **09 14 54.8 +2.9**
SONM Songino Array 26.52 57 P **P** **09 15 01.9 +1.1**
comp=Z,2.0nm,0.8s,baz=257,slow=8.7,SNR=16
SONM LR LR 09 25 47.8
comp=Z,105nm,20.0s,baz=218,slow=37
SONM Songino Array 26.52 57 P **P** **09 15 04.0 +3.2**
ULN Ulaanbaatar 26.96 57 *i* P **P** **09 15 08.6 +3.7**
ULN pmax pmax
comp=Z,4.0nm,1.5s
OBN Obninsk 29.74 317 ⇓*eP* **P** **09 15 31.7 +2.5**
OBN PPP PPP 09 16 36.0
OBN pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 30.09 123 P **P** **09 15 33.4 +0.7**
comp=Z,0.2nm,0.3s,baz=297,slow=8.0,SNR=1.9
PALK Pallekele 31.36 164 LR LR 09 28 32.6
comp=Z,54nm,19.6s,baz=101,slow=37
EIL Elat 32.15 267 LR LR 09 31 55.3
comp=Z,74nm,18.4s,baz=293,slow=42
NRIK Noril'sk 32.54 10 *i* P **P** **09 15 54.7 +0.9**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
AKBB Malin Array Si 33.08 307 *ce*P **P** **09 16 00.2 +1.4**
AKBB Malin Array Si 33.08 307 P **P** **09 15 58.9 +0.2**
ELL Elmali 33.73 281 P **P** **09 16 04.5 -0.3**
ELL pmax pmax
comp=Z,34nm,0.9s
ELL Elmali 33.73 281 P **P** **09 16 04.5 -0.3**
WHN Wuhan 35.09 89 ⇓P P 09 16 21.5 +5.1
MLR Muntele Rosu 35.22 298 LR LR 09 33 40.8
comp=Z,134nm,18.1s,baz=358,slow=41
FINES FINESS Array B 37.05 325 P **P** **09 16 32.7 -0.1**
comp=Z,2.2nm,0.8s,baz=121,slow=10.0,SNR=1.4
FINES FINESS Array B 37.05 325 P **P** **09 16 33.4 +0.5**
FINES FINESS Array B 37.05 325 P **P** **09 16 33.4 +0.5**
ARCES ARCESS Array B 40.35 337 P **P** **09 17 00.5 0.0**
comp=Z,2.8nm,0.9s,baz=113,slow=8.9,SNR=1.5
ARCES ARCESS Array B 40.35 337 P **P** **09 17 00.1 -0.3**
VRAC Vranov 41.22 305 LR LR 09 38 24.8
comp=Z,165nm,18.4s,baz=328,slow=42
HFS Hagfors 42.77 321 P **P** **09 17 20.8 +0.5**
comp=Z,2.3nm,0.7s,baz=99,slow=8.9,SNR=1.3
GERES GERESS Array B 43.17 304 P **P** **09 17 25.4 +1.5**
comp=Z,0.2nm,0.6s,baz=101,slow=10,SNR=1.5
GERES GERESS Array B 43.17 304 P **P** **09 17 24.3 +0.4**
GERES GERESS Array B 43.17 304 P **P** **09 17 24.2 +0.4**
KSRS Korea Array 43.26 73 LR LR 09 37 45.4
comp=Z,36nm,21.9s,baz=305,slow=39
CLL Collm 43.31 308 *eP* **P** **09 17 25.0 +0.1**
CLL Collm 43.31 308 *eP* **P** **09 17 25.0 +0.1**
KLR Kul'dur 43.32 55 LR LR 09 36 40.0
comp=Z,46nm,19.3s,baz=348,slow=38
KLR Kul'dur 43.32 55 *i* P P 09 17 29.3 +4.3
KLR pmax pmax
comp=Z,1.0nm,1.0s
NC303 NORSAR Array S 43.98 322 P **P** **09 17 30.8 +0.7**
NB2 NORSAR Subarra 44.04 322 P **P** **09 17 30.5 -0.2**
comp=Z,12nm,1.4s,baz=93,slow=8.6
NOA NORSAR Array B 44.04 322 P **P** **09 17 30.5 -0.2**
comp=Z,0.4nm,0.5s,baz=108,slow=7.7,SNR=1.1
NOA LR LR 09 37 28.7
comp=Z,62nm,19.5s,baz=315,slow=38
NC204 NORSAR Array S 44.27 322 P **P** **09 17 33.3 +0.8**
USRK Ussuriysk Ar. 44.41 62 LR LR 09 37 57.2
comp=Z,71nm,20.9s,baz=273,slow=39
DAVOX Davos/Dischmat 46.07 302 P **P** **09 17 48.4 +1.2**
comp=Z,1.7nm,0.7s,baz=188,slow=19,SNR=3.6
ASAJ Asahikawa 51.76 60 LR LR 09 41 29.6
comp=Z,42nm,18.3s,baz=10.0,slow=37
JHJ Hachijo jima 2 53.86 73 LR LR 09 43 29.3
comp=Z,72nm,18.2s,baz=12,slow=38
ESDC Sonseca Array 57.92 298 P **P** **09 19 16.4 +0.9**
comp=Z,1.5nm,0.9s,baz=51,slow=7.3,SNR=6.6
TORD Torodi Ar. Bea 67.00 269 P **P** **09 20 16.2 -0.2**
comp=Z,0.7nm,0.5s,baz=44,slow=5.5,SNR=7.9
TORD Torodi Ar. Bea 67.00 269 P **P** **09 20 16.9 +0.5**
TORD IAmb IAmb 09 20 19.7
comp=Z,4.6nm,1.4s
BATI Baumata 67.58 124 LR LR 09 54 11.3
comp=Z,48nm,18.9s,baz=317,slow=40
TOLK Toolik Lake Re 69.26 15 P **P** **09 20 30.5 +0.7**
TOLK IAmb IAmb 09 20 40.2
comp=Z,4.2nm,1.0s
A36M Sachs Harbour 69.70 6 P **P** **09 20 33.8 +1.4**
IMAR Indian Mountai 70.47 18 P **P** **09 20 37.3 0.0**
I21K Tanana 71.55 18 P **P** **09 20 45.2 +1.4**
I21K IAmb IAmb 09 20 50.0
comp=Z,7.7nm,1.4s
J20K Nowinta River 71.81 20 P **P** **09 20 46.2 +0.8**
J20K IAmb IAmb 09 20 50.5
comp=Z,7.1nm,1.4s
INK Inuvik 72.33 10 P **P** **09 20 48.9 +0.5**
comp=Z,3.7nm,1.1s,baz=342,slow=4.0,SNR=10
INK Inuvik 72.33 10 IAmb IAmb 09 20 52.1
comp=Z,5.6nm,1.2s
ILAR Eielson Array 73.10 17 P **P** **09 20 53.4 +0.3**
comp=Z,1.4nm,0.9s,baz=317,slow=4.8,SNR=11
YKA Yellowknife Ar 79.79 3 P **P** **09 21 31.0 -0.1**
comp=Z,0.6nm,0.5s,baz=349,slow=5.5,SNR=16
YKA Yellowknife Ar 79.79 3 P **P** **09 21 31.0 -0.1**
WRA Warramunga Arr 81.68 123 P **P** **09 21 40.2 -1.6**
comp=Z,1.1nm,0.6s,baz=324,slow=4.8,SNR=14
WRA Warramunga Arr 81.68 123 *i* P **P** **09 21 43.7 +2.0**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 81.68 123 P **P** **09 21 42.2 +0.4**
WRAB Tennant Creek 81.68 123 P **P** **09 21 43.6 +1.9**
WRAB pmax pmax
comp=Z,9.0nm,1.4s
ASAR Alice Springs 84.04 126 P **P** **09 21 53.6 -0.3**
comp=Z,0.8nm,0.9s,baz=299,slow=4.7,SNR=4.9
PDAR Pinedale Array 99.70 2 LR LR 10 13 04.9
comp=Z,36nm,18.4s,baz=32,slow=38

IDC 01 09:10:25.8±58.0, 17°49S×178°53E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/26, mbtmp3.9/3, Error ellipse: s-maj=1045.0km s-min=155.6km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.30**	**240**	P	P	09 17 31.4	0.0
	3.1nm,1.1s,baz=83,slow=8.1,SNR=2.2						
WRA	**Warramunga Arr**	**41.84**	**259**	P	P	09 18 18.0	+0.1
	0.3nm,0.3s,baz=94,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**42.10**	**254**	P	P	09 18 19.6	-0.4
	1.3nm,0.5s,baz=85,slow=8.9,SNR=21						

*IDC **01** 09:11:13.9±0.8, 40°.01N×30°.62E, h0km, mb3.8/11, mb1 3.8/16, mb1mx3.7/48, mbtmp3.8/16, ML3.6/5, MS3.2/5, Ms1 3.2/5, ms1mx2.7/86, Error ellipse: s-maj=14.0km s-min=9.2km az=36.0*
*THE **01** 09:11:13.9, 40°.07N×30°.81E, h6km±4km, ML3.9/1, Error ellipse: s-maj=7.1km s-min=0.7km az=88.0*
*MED_RC **01** 09:11:14.0±0.7, 40°.05N×30°.53E, h10km, MW4.2/10, Moment Tensor Solution. Mantle waves: s10, c11; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.24±.20; $M_{\theta\theta}$0.65±.19; $M_{\phi\phi}$0.59±.14; $M_{r\theta}$2.42±.40; $M_{\theta\phi}$0.27±.17; $M_{\phi r}$-1.13±.41; Best double couple: $M_0$2.81000×10^{15} NP1:ϕ_s292.00000°, δ81.00000°, λ-85.00000°. NP2:ϕ_s83.00000°, δ10.00000°, λ-118.00000°. Principal axes: T 2.4100, Plg36.0000°, Azm18.0000°; N 0.7900, Plg5.0000°, Azm111.0000°; P -3.2100, Plg54.0000°, Azm208.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*DDA **01** 09:11:14.3±0.0, 40°.04N×30°.53E, h7km±2km, MW4.0*
*MOS **01** 09:11:14.3±0.9, 40°.13N×30°.63E, h10km, mb4.5/8, Error ellipse: s-maj=5.1km s-min=3.3km az=120.2*
*ISK **01** 09:11:14.1, 40°.07N×30°.52E, h5km, ML4.2/49*
*IASPEI **01** 09:11:15.0±0.9, 40°.05N×30°.02×30°.55E±0°.02, h5km±7km, mb4.1/22, Error ellipse: s-maj=2.9km s-min=2.5km az=78.4, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*NEIC **01** 09:11:16.0±1.2, 40°.07N±0°.06×30°.56E±0°.05, h10km±1km, Error ellipse: s-maj=9.4km s-min=6.5km az=352.0*

ISC 01 09:11:15.1±0.8, 40°.06N±0°.01×30°.56E±0°.02, h6km±5km, n306, σ=14/354, mb4.1/22, 42C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SRCK	**Saricakaya, Es**	**0.06**	**110**	PG	**Pg**	**09 11 16.2**	**-0.4**
SRCK				SG	**Sg**	**09 11 17.8**	**+0.2**
BORA	**Eskisehir**	**0.20**	**203**		**Pg**	**09 11 18.7**	**-0.3**
BORA	**Eskisehir**	**0.20**	**203**	P	**Pg**	**09 11 18.6**	**-0.3**
BORA				S	**Sg**	**09 11 21.5**	**-0.1**
GPA	**Golpazari**	**0.30**	**320**	PG	**Pg**	**09 11 20.3**	**-0.6**
GPA				SG	**Sg**	**09 11 24.9**	**+0.1**
GULT	**Gulveren**	**0.37**	**355**	PG	**Pg**	**09 11 22.4**	**+0.1**
GULT				SG	**Sg**	**09 11 28.6**	**+1.3**
GEYV	**SAKARYA_Geyve**	**0.47**	**335**	SPECP		09 11 23.0	
GEYV				P	**Pg**	**09 11 23.9**	**-0.2**
GEYV				S	**Sg**	**09 11 31.0**	**+0.8**
BILE	**Bilecik/Merkez**	**0.53**	**281**	SPECP		09 11 24.0	
BILE				P	**Pg**	**09 11 24.6**	**-0.7**
BILE				S	**Sg**	**09 11 32.6**	**+0.4**
BILE				*i* AML	AML	09 11 33.0	
	comp=N,1μm,0.5s						
BILE				*i* AML	AML	09 11 37.0	
	comp=E,7μm,0.5s						
CAVI	**Cavuskoy**	**0.56**	**285**	PG	**Pg**	**09 11 25.6**	**-0.4**
CAVI				SG	**Sg**	**09 11 34.2**	**+0.9**
SGAZ	**Eskisehir, Sey**	**0.57**	**158**	P	**Pg**	**09 11 25.4**	**-0.8**
SGAZ				*i* AML	AML	09 11 34.0	
	comp=N,5μm,0.3s						
SGAZ				S	**Sg**	**09 11 34.3**	**+0.7**
ESKT	**Eskisehir**	**0.59**	**157**	PG	**Pg**	**09 11 26.7**	**+0.3**
MDUB	**Mudurnu**	**0.64**	**50**	PG	**Pb**	**09 11 28.7**	**-0.1**
MDUB	**Mudurnu**	**0.64**	**50**	Pg	**Pg**	**09 11 27.5**	**+0.1**
SAUV	**Serdivan-Sakar**	**0.70**	**346**	PG	**Pg**	**09 11 28.5**	**-0.1**
ADVT	**Abdulvahap**	**0.73**	**301**	PG	**Pg**	**09 11 28.5**	**-0.6**
ANDZ	**Kutahya, Merke**	**0.75**	**223**	P	**Pg**	**09 11 28.2**	**-1.2**
ANDZ				S	**Sg**	**09 11 40.0**	**+0.8**
AUKIR	**Kırka- Seyitga**	**0.78**	**181**	P	**Pg**	**09 11 29.0**	**-1.1**
AUKIR				S	**Sg**	**09 11 40.4**	**+0.1**
CIFT	**Cifteler, Eski**	**0.80**	**151**	PG	**Pb**	**09 11 31.1**	**-0.4**
SAHE	**Sakarya_HENDEK**	**0.82**	**16**	SPECP		09 11 30.0	
SAHE				P	**Pg**	**09 11 30.8**	**-0.1**
SAHE				S	**Sb**	**09 11 44.3**	**+1.1**
IZI	**Iznik**	**0.87**	**289**	PG	**Pg**	**09 11 31.6**	**-0.3**
KAYN	**Sakarya, Kayna**	**0.92**	**350**	P	**Pg**	**09 11 32.3**	**-0.4**
KAYN				S	**Sb**	**09 11 45.8**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.97**	**129**	PG	**Pg**	**09 11 33.3**	**-0.3**
AUSIV	**SIVRIHISAR**	**0.98**	**129**	P	**Pg**	**09 11 32.9**	**-1.0**
AUSIV				S	**Sn**	**09 11 48.9**	**-0.9**
STBT	**Saitabat**	**1.01**	**275**	SPECP		09 11 32.0	
STBT				P	**Pg**	**09 11 32.8**	**-1.7**
STBT				S	**Sn**	**09 11 50.6**	**0.0**
HRT	**Hereke**	**1.02**	**319**	P	**Pg**	**09 11 33.7**	**-0.9**
HRT	**Hereke**	**1.02**	**319**	PG	**Pg**	**09 11 33.9**	**-0.7**
YLV	**Yalova**	**1.04**	**300**	PG	**Pg**	**09 11 34.6**	**-0.4**
TVSB	**Tavsanli**	**1.04**	**234**	PG	**Pg**	**09 11 34.8**	**-0.3**
KIBS	**BOLU**	**1.05**	**70**	SPECP		09 11 34.0	
KIBS				P	**Pg**	**09 11 34.9**	**-0.4**
KIBS				S	**Sb**	**09 11 50.6**	**+0.6**
KIBS				*i* AML	AML	09 11 54.0	
	comp=N,2μm,0.6s						
KIBS				*i* AML	AML	09 11 57.0	
	comp=E,2μm,0.5s						
IGD	**Bursa**	**1.06**	**281**	SPECP		09 11 33.0	
IGD				P	**Pg**	**09 11 33.6**	**-1.8**
IGD				S	**Sn**	**09 11 51.7**	**+0.2**
IGD				*i* AML	AML	09 11 53.0	
	comp=N,5μm,0.7s						
IGD				*i* AML	AML	09 11 53.0	
	comp=E,4μm,0.7s						
KAND	**Kocaeli-Kandir**	**1.07**	**345**	SPECP		09 11 35.0	
KAND				P	**Pg**	**09 11 35.4**	**-0.2**
KAND				S	**Sb**	**09 11 50.5**	**+0.2**
AVDN	**Avdancik/Bursa**	**1.09**	**283**	SPECP		09 11 34.0	
AVDN				P	**Pg**	**09 11 34.2**	**-1.8**
AVDN				S	**Sn**	**09 11 53.0**	**+0.6**
ULDT	**Uludag**	**1.09**	**275**	SPECP		09 11 34.0	
ULDT				P	**Pg**	**09 11 34.3**	**-1.7**
ULDT				S	**Sb**	**09 11 51.0**	**-0.1**
GEMT	**Gemlik**	**1.11**	**290**	PG	**Pg**	**09 11 35.8**	**-0.6**
YIGI	**Dzce**	**1.13**	**37**	SPECP		09 11 36.0	
YIGI				P	**Pg**	**09 11 36.0**	**-0.7**
YIGI				S	**Sb**	**09 11 52.6**	**+0.6**
KURT	**Yalova, Merkez**	**1.16**	**298**	SPECP		09 11 35.0	
KURT				P	**Pg**	**09 11 35.3**	**-1.9**
KURT				S	**Sb**	**09 11 52.6**	**-0.2**
KURT				*i* AML	AML	09 11 55.0	
	comp=N,4μm,0.5s						
KURT				*i* AML	AML	09 11 55.0	
	comp=E,4μm,0.5s						
TRML	**Termal-Yalova**	**1.19**	**298**	PN	**Pg**	**09 11 37.6**	**-0.3**
ORLT	**Orhaneli**	**1.27**	**270**	PN	**Pg**	**09 11 39.1**	**-0.4**
GDZ	**Gediz**	**1.28**	**221**	SPECP		09 11 38.0	
GDZ				P	**Pg**	**09 11 38.1**	**-1.5**
GDZ				S	**Sn**	**09 11 58.6**	**+1.4**
AFYO	**Afyonkarahisar**	**1.29**	**189**	SPECP		09 11 38.0	
AFYO				P	**Pn**	**09 11 38.7**	**-1.1**
AFYO				S	**Sb**	**09 11 56.9**	**+0.3**
AFYO				*i* AML	AML	09 12 01.0	
	comp=E,3μm,0.5s						
AFYO				*i* AML	AML	09 12 02.0	
	comp=N,3μm,0.5s						
SILT	**Sile**	**1.29**	**328**	PN	**Pn**	**09 11 39.6**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.32**	**284**	PN	**Pn**	**09 11 39.9**	**-0.1**
GEDZ	**Gediz**	**1.35**	**221**	PN	**Pb**	**09 11 40.7**	**-0.1**
GEDZ				SN	**Sn**	**09 11 59.8**	**+1.0**
YYLC	**Yaylacik**	**1.35**	**281**	SPECP		09 11 39.0	
YYLC				P	**Pn**	**09 11 39.2**	**-1.4**
YYLC				S	**Sn**	**09 12 00.5**	**+1.6**
KDZE	**Karadeniz Ereo**	**1.42**	**28**	⇓P	**Pn**	**09 11 41.7**	**+0.1**
KDZE	**Karadeniz Ereo**	**1.42**	**28**	PN	**Pg**	**09 11 42.3**	**0.0**
KDZE				SN	**Sg**	**09 12 02.5**	**+1.7**
SHAP	**Saphane-Kutahy**	**1.46**	**225**	PN	**Pn**	**09 11 42.4**	**+0.2**
SHUT	**Suhut-Afyon**	**1.51**	**180**	PN	**Pb**	**09 11 43.3**	**-0.2**
SHUT				SN	**Sg**	**09 12 04.3**	**+0.8**
KAVV	**Kandilli-Istan**	**1.52**	**312**	PN	**Pn**	**09 11 43.1**	**+0.3**
KAVV				SN	**Sg**	**09 12 04.4**	**+0.6**
ISK	**Istanbul-Kandi**	**1.52**	**312**	P	**Pn**	**09 11 42.0**	**-0.8**
ISK				S	**Sg**	**09 12 03.7**	**-0.2**
	3μm,0.5s						
ISK	**Istanbul-Kandi**	**1.52**	**312**	P	**Pn**	**09 11 42.0**	**-0.8**
ISK				S	**Sg**	**09 12 03.7**	**-0.2**
ISK	**Istanbul-Kandi**	**1.52**	**312**	PN	**Pn**	**09 11 43.1**	**+0.3**
ISK				SN	**Sg**	**09 12 04.2**	**+0.3**
SMAA	**Simav-Kutahya**	**1.55**	**232**	PN	**Pb**	**09 11 44.0**	**-0.3**
DST	**Dursunbey**	**1.56**	**254**	P	**Pg**	**09 11 44.7**	**-0.3**
DST	**Dursunbey**	**1.56**	**254**	PN	**Pn**	**09 11 43.9**	**+0.5**
SIMA	**Simav-Kutahya**	**1.56**	**232**	PN	**Pn**	**09 11 43.6**	**+0.1**
KIZT	**Kizilcal**	**1.56**	**139**	PN	**Pb**	**09 11 44.3**	**-0.2**
KLYT	**Kilyos**	**1.66**	**316**	PN	**Pn**	**09 11 45.3**	**+0.6**
DURS	**Dursunbey**	**1.67**	**255**	SPECP		09 11 44.0	
DURS				P	**Pn**	**09 11 44.8**	**-0.2**
DURS				S	**Sg**	**09 12 09.4**	**+0.7**
AVCI	**Avcilar-stanb**	**1.68**	**304**	PN	**Pb**	**09 11 45.8**	**-0.6**
KCTX	**Karacabey (Bur**	**1.70**	**278**	PN	**Pn**	**09 11 45.8**	**+0.5**
LOD	**Lodumlu**	**1.71**	**95**	PN	**Pb**	**09 11 46.5**	**-0.4**
BR231	**Keskin MP Arra**	**1.72**	**97**		**Pn**	**09 11 45.9**	**+0.2**
ANTO	**Ankara**	**1.73**	**96**	P	**Pn**	**09 11 46.1**	**+0.3**
ANTO	**Ankara**	**1.73**	**96**	PN	**Pb**	**09 11 47.0**	**-0.3**
ANTO	**Ankara**	**1.73**	**96**		**Pn**	**09 11 46.1**	**+0.3**
DEMI	**Demirci**	**1.75**	**235**	SPECP		09 11 45.0	
DEMI				P	**Pn**	**09 11 45.8**	**-0.3**
DEMI				S	**Sg**	**09 12 12.5**	**+1.3**
BGKT	**Bogazkoy**	**1.76**	**310**	PN	**Pn**	**09 11 46.5**	**+0.4**
AFYN	**Afyon-Dinar-K**	**1.79**	**181**	SPECP		09 11 38.0	
AFYN				P	Pn	09 11 38.5	-8.2
AFYN				S	Sn	09 11 56.8	-13
USAK	**Uak-Merkez**	**1.80**	**222**	SPECP		09 11 46.0	
USAK				P	**Pn**	**09 11 46.4**	**-0.3**
USAK				S	**Sg**	**09 12 13.1**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.83**	**190**	SPECP		09 11 47.0	
KZIL				P	**Pn**	**09 11 47.2**	**-0.1**
KZIL				S	**Sg**	**09 12 17.5**	**+3.7**
YVAC	**Isparta, Yalva**	**1.86**	**163**	P	**Pn**	**09 11 48.0**	**+0.3**
YVAC				S	**Sb**	**09 12 13.8**	**+0.5**
BAGO	**Egridir - ISPA**	**2.08**	**175**	SP

EDC Edincik 2.08 279 P **Pb** **09 11 52.3 -1.0**
EDC Edincik 2.08 279 PN **Pn** **09 11 51.1 +0.5**
BALB Balikesir 2.10 259 PN **Pn** **09 11 51.3 +0.5**
BALB Balikesir 2.10 259 Pn **Pn** **09 11 50.8 -0.1**
KULA Kula-Manisa 2.13 224 P **Pn** **09 11 50.4 -1.0**
KULA S **Sn** **09 12 19.2 +1.0**
KULA Kula-Manisa 2.13 224 PN **Pn** **09 11 51.9 +0.5**
SLVT Silivri 2.13 304 PN **Pn** **09 11 51.9 +0.6**
BASM Basmaki-Afyon 2.17 191 PN **Pn** **09 11 52.3 +0.4**
GONE Gonen-Balikesi 2.20 271 PN **Pn** **09 11 52.4 +0.2**
CTYL Yalikoy Yolu 2.23 310 PN **Pn** **09 11 53.3 +0.7**
ISP Isparta 2.23 181 P **Pn** **09 11 52.8 0.0**
ISP Isparta 2.23 181 PN **Pn** **09 11 54.2 +1.4**
ISP Isparta 2.23 181 Pn **Pn** **09 11 52.8 0.0**
MRMT Marmara Adasi 2.33 284 PN **Pn** **09 11 54.6 +0.6**
LADK Ladik-KONYA 2.33 142 PN **Pn** **09 11 55.3 +1.2**
BR131 Keskin Array S 2.40 97 P **Pn** **09 11 55.4 +0.3**
BR131 Keskin Array S 2.40 97 **Pn** **09 11 55.4 +0.3**
BRTR Keskin Array B 2.40 97 Pn **Pn** **09 11 55.1 +0.1**
7.1nm,0.3s,baz=265,slow=12,SNR=182
BRTR Sn **Sn** **09 12 24.8 0.0**
20nm,0.3s,baz=259,slow=19,SNR=6.5
BRTR Lg Lg 09 12 33.1
37nm,0.3s,baz=270,slow=24,SNR=13
BRTR LR LR 09 13 16.4
comp=Z,306nm,19.9s,baz=277,slow=52
BRTR Keskin Array B 2.40 97 PN **Pn** **09 11 56.2 +1.2**
CRLT Corlu 2.40 297 PN **Pn** **09 11 55.6 +0.7**
CANT Cankiri 2.41 76 PN **Pn** **09 11 56.3 +1.2**
AKS Akhisar 2.43 242 PN **Pn** **09 11 56.1 +0.7**
KURC Kurucasile-Bar 2.43 42 PN **Pn** **09 11 56.8 +1.4**
GOMA Golmarmara-Man 2.45 237 PN **Pn** **09 11 56.5 +0.9**
TKR Tekirdag 2.48 293 PN **Pn** **09 11 56.6 +0.5**
KRBG Karabiga-Canak 2.52 279 PN **Pn** **09 11 57.3 +0.8**
GZKV Gazikoy-Tekird 2.56 287 PN **Pn** **09 11 57.8 +0.7**
MAR2 Marsite Statio 2.56 286 PN **Pn** **09 11 57.8 +0.6**
MAR3 Marsite Statio 2.58 286 PN **Pn** **09 11 58.2 +0.7**
MAR4 Marsite Statio 2.59 287 PN **Pn** **09 11 58.3 +0.7**
MAR6 Marsite Statio 2.59 285 PN **Pn** **09 11 58.9 +1.3**
ILGA Ilgaz 2.60 67 **Pn** **09 11 57.7 -0.3**
RKY Sarkoy-Tekirda 2.66 285 PN **Pn** **09 11 59.1 +0.6**
EZN Ezine 3.26 267 P **Pn** **09 12 06.7 -0.1**
EZN Ezine 3.26 267 P **Pn** **09 12 06.7 -0.1**
ELL Elmali 3.35 189 P **Pn** **09 12 08.9 +0.8**
ELL Elmali 3.35 189 **Pn** **09 12 08.9 +0.8**
EDRB Edirne 3.39 303 P **Pn** **09 12 08.3 -0.3**
PRK Paraskevi 3.41 258 P **Pn** **09 12 10.6 +1.8**
ENEZ Enez 3.43 283 P **Pn** **09 12 09.3 +0.2**
ALN Alexandroupoli 3.54 285 P **Pn** **09 12 10.5 -0.2**
ALN Alexandroupoli 3.54 285 P **Pn** **09 12 10.4 -0.2**
ALN Alexandroupoli 3.54 285 Pn **Pn** **09 12 10.4 -0.2**
JMB Yambol 3.84 310 P **Pb** **09 12 25.5 +2.3**
AKAS Kas 3.90 191 **Pn** **09 12 15.2 -0.4**
KDZ Kurdzhali 4.21 294 P **Pn** **09 12 20.2 +0.4**
BNN Bunyan 4.27 105 **Pn** **09 12 21.4 +0.6**
DIM Dimitrovgrad 4.29 299 P **Pn** **09 12 20.3 -0.6**
DIM Dimitrovgrad 4.29 299 P **Pn** **09 12 20.6 -0.3**
ARG Arkhangelos 4.29 207 P **Pn** **09 12 22.8 +1.9**
MFTR Murfatlar 4.41 340 ⇓P **Pn** **09 12 23.9 +1.4**
TOKA Tokat 4.54 85 **Pn** **09 12 24.3 -0.2**
TIRR Tirgusor 4.67 341 ⇑P **Pn** **09 12 26.9 +0.8**
TIRR Tirgusor 4.67 341 ⇑P **Pn** **09 12 26.9 +0.8**
TIRR Tirgusor 4.67 341 **Pn** **09 12 26.5 +0.3**
RZN Rozhen 4.72 292 P **Pn** **09 12 26.7 -0.3**
RZN Rozhen 4.72 292 P **Pn** **09 12 26.7 -0.3**
TLBR Topalu 4.85 338 ⇑P **Pn** **09 12 28.8 +0.2**
PLD Plovdiv 4.87 297 P **Pn** **09 12 28.9 0.0**
PLD Plovdiv 4.87 297 P **Pn** **09 12 28.5 -0.4**
HARR Harsova 5.02 338 ⇑P **Pn** **09 12 31.2 +0.3**
HARR Harsova 5.02 338 ⇑P **Pn** **09 12 31.2 +0.3**
SEV Sevastopol' 5.04 26 *e*P **Pn** **09 12 31.3 +0.1**
SEV Pm 09 12 33.2
comp=Z,14nm,0.3s
SEV *e*S **Sn** **09 13 27.1 -2.7**
SEV Sm 09 13 27.8
comp=N,12nm,0.5s
SEV Sm 09 13 27.8
comp=E,17nm,0.4s
SEV Sevastopol' 5.04 26 *e*P **Pn** **09 12 31.3 +0.1**
SEV *e*S **Sn** **09 13 27.1 -2.7**
TPGR Topolog 5.05 342 ⇓P **Pn** **09 12 31.5 +0.1**
YAL Yalta 5.17 30 *e*P **Pn** **09 12 32.0 -0.9**
YAL Pm 09 12 37.1
comp=Z,96nm,0.4s
YAL *e*S **Sn** **09 13 31.1 -1.8**
YAL Sm 09 13 34.2
comp=N,25nm,0.2s
YAL Sm 09 13 34.2
comp=E,66nm,0.5s
YAL Yalta 5.17 30 *e*P **Pn** **09 12 32.0 -0.9**
YAL *e*S **Sn** **09 13 30.1 -2.8**
TLCR 5.28 347 ⇓P **Pn** **09 12 34.4 -0.1**
TLCR 5.28 347 ⇓P **Pn** **09 12 34.4 -0.1**
PAIG Paliouri 5.28 271 P **Pn** **09 12 34.5 -0.1**
ZIMR 5.28 315 ⇓P **Pn** **09 12 35.8 +1.2**
MMB Musomiste 5.40 289 P **Pn** **09 12 36.2 0.0**
MMB Musomiste 5.40 289 P **Pn** **09 12 36.3 0.0**
SRS Serrai 5.41 283 P **Pn** **09 12 37.3 +1.0**
SRS pmax pmax
comp=Z,32nm,0.7s
CFR Carcaliu 5.42 342 ⇑P **Pn** **09 12 36.5 +0.1**
CFR Carcaliu 5.42 342 ⇑P **Pn** **09 12 36.5 +0.1**
ALU Alushta 5.43 30 *e*P **Pn** **09 12 36.1 -0.4**
ALU Pm 09 12 40.1
comp=Z,12nm,0.4s
ALU *e*S **Sn** **09 13 38.0 -1.3**
ALU Sm 09 13 42.6
comp=N,14nm,0.4s
ALU Sm 09 13 42.6
comp=E,6.0nm,0.5s
ALU Alushta 5.43 30 *e*P **Pn** **09 12 36.1 -0.4**
ALU *e*S **Sn** **09 13 38.0 -1.3**
PLG Polygyros 5.45 276 P **Pn** **09 12 36.6 -0.3**
CSS Mathiatis 5.55 156 Pn **Pn** **09 12 37.3 -0.9**
SOH Sokhos 5.55 280 P **Pn** **09 12 38.9 +0.6**
SIM Simferopol' 5.55 27⇓*e*P **Pn** **09 12 38.0 -0.2**
SIM Pm 09 12 02.4
comp=Z,90nm,0.3s
SIM *e*S **Sn** **09 13 41.2 -1.1**
SIM Sm 09 13 41.4
comp=N,32nm,0.5s
SIM Sm 09 13 41.4
comp=E,15nm,0.3s
SIM Simferopol' 5.55 27*d i*P **Pn** **09 12 38.0 -0.2**
SIM *e*S **Sn** **09 13 41.8 -0.5**
SIM pmax pmax
comp=Z,22nm,0.8s
SIM smax smax
comp=N,109nm,0.9s
SIM pmax pmax
comp=E,53nm,0.8s
COPA Copaceanca 5.69 317 ⇑P **Pn** **09 12 40.0 0.0**
GIUM Giurgiulesti 5.69 343 ⇓P **Pn** **09 12 40.8 +0.7**
SUDU Sudak 5.84 33 *e*P **Pn** **09 12 42.9 +0.7**
SUDU Pm 09 12 49.1
comp=Z,25nm,0.3s
SUDU *e*S **Sn** **09 13 49.4 0.0**
SUDU Sm 09 13 55.3
comp=N,39nm,0.4s
SUDU Sm 09 13 55.3
comp=E,15nm,0.4s
SUDU Sudak 5.84 33 *e*P **Pn** **09 12 42.9 +0.7**
SUDU *e*S **Sn** **09 13 49.4 0.0**
ISR Istrita 5.86 331 ⇑P **Pn** **09 12 43.6 +1.1**
ISR Istrita 5.86 331 P **Pn** **09 12 45.0 +2.5**
ISR pmax pmax
comp=Z,42nm,1.0s
KNT Kendrikon 5.93 283 P **Pn** **09 12 44.1 +0.6**
GRER 5.93 335 ⇑P **Pn** **09 12 45.2 +1.6**
VLDR Vladesti 6.06 343 ⇓P **Pn** **09 12 46.7 +1.5**
VTS Vitosha 6.07 297 ⇑P **Pn** **09 12 46.3 +0.7**
VTS Vitosha 6.07 297 ⇑P **Pn** **09 12 46.3 +0.7**
VTS Vitosha 6.07 297 Pn **Pn** **09 12 45.8 +0.2**
VTS Vitosha 6.07 297 *e*P **Pn** **09 12 45.7 +0.2**
VTS Vitosha 6.07 297 P **Pn** **09 12 45.5 -0.1**
HUMR Humele 6.08 319 ⇑P **Pn** **09 12 45.7 +0.2**
BISRR Bisoca 6.17 334 ⇑P **Pn** **09 12 48.2 +1.4**
NPS Neapolis 6.19 221 P **Pn** **09 12 49.1 +2.0**
NEHR Nehoiu 6.21 331 ⇑P **Pn** **09 12 49.0 +1.7**
GRG Griva 6.28 281 P **Pn** **09 12 50.1 +1.8**
GRG pmax pmax
comp=Z,11nm,0.6s

MLR Muntele Rosu 6.40 330 ⇓P **Pn** **09 12 51.1 +1.1**
MLR Muntele Rosu 6.40 330 Pn **Pn** **09 12 51.1 +1.1**
comp=Z,1.6nm,0.3s,baz=110,slow=15,SNR=12
MLR Lg Lg 09 14 41.8
comp=Z,0.8nm,0.3s,baz=152,slow=22,SNR=1.2
MLR Muntele Rosu 6.40 330 Pn **Pn** **09 12 50.7 +0.7**
GHRR 6.42 340 ⇑P **Pn** **09 12 51.3 +1.1**
AGG Agios Georgios 6.44 263 P **Pn** **09 12 51.1 +0.5**
AGG Agios Georgios 6.44 263 Pn **Pn** **09 12 51.1 +0.5**
VRI Vrincioaia 6.45 335 ⇓P **Pn** **09 12 51.0 +0.4**
VRI Vrincioaia 6.45 335 ⇓P **Pn** **09 12 51.0 +0.4**
PLOR Plostina 6.46 335 ⇑P **Pn** **09 12 51.7 +1.0**
PLOR Plostina 6.46 335 ⇑P **Pn** **09 12 51.7 +1.0**
STIP Stip 6.55 287 *i* Pn **Pn** **09 12 50.0 -2.0**
BOSS Bosilegrad 6.55 294 *e*P **Pn** **09 12 52.6 +0.6**
MTUR Matau 6.56 324 ⇑P **Pn** **09 12 53.3 +1.1**
MTUR Matau 6.56 324 ⇑P **Pn** **09 12 53.3 +1.1**
BIR Birlad 6.56 342 ⇑P **Pn** **09 12 52.9 +0.8**
BIR Birlad 6.56 342 ⇑P **Pn** **09 12 52.9 +0.8**
COVR Voineasa-Covas 6.60 333 ⇑P **Pn** **09 12 54.2 +1.4**
VOIR 6.73 325 ⇓P **Pn** **09 12 55.9 +1.4**
VOIR 6.73 325 ⇓P **Pn** **09 12 55.9 +1.4**
KZN Kozani 6.73 275 P **Pn** **09 12 56.0 +1.4**
ARR Arges 6.86 323 ⇑P **Pn** **09 12 56.9 +0.6**
OZUR 6.97 332 ⇓P **Pn** **09 12 58.3 +0.6**
MILM Milestii Mici 6.97 350 *e*P **Pn** **09 12 57.0 -0.7**
comp=Z,30nm,0.4s
MILM *e*S **Sn** **09 14 13.0 -4.3**
comp=Z,70nm,1.4s
MILM Milestii Mici 6.97 350 ⇓P **Pn** **09 12 58.8 +1.1**
MILM Milestii Mici 6.97 350 *e*P **Pn** **09 12 57.0 -0.7**
MILM *e*S **Sn** **09 14 13.0 -4.3**
MILM pmax pmax
comp=Z,30nm,0.4s
DOPR Dopca 7.01 329 ⇓P **Pn** **09 12 58.4 +0.1**
FNA Florina 7.04 279 P **Pn** **09 12 59.6 +0.8**
FNA Florina 7.04 279 **Pn** **09 12 59.6 +0.8**
TESR Tescani 7.05 337 ⇑P **Pn** **09 13 00.0 +1.2**
BARS Barje 7.12 296 *e*P **Pn** **09 13 00.4 +0.6**
BARS Barje 7.12 296 *e*P **Pn** **09 13 02.8 +3.0**
ZAGS Zajecar 7.25 304 *e*P **Pn** **09 13 05.0 +3.5**
LOT Lotru 7.34 319 ⇑P **Pn** **09 13 03.8 +0.8**
ITM Ithomi 7.34 250 Pn **Pn** **09 13 02.9 0.0**
BOVS Bovan 7.51 301 ⇑P **Pn** **09 13 05.4 +0.3**
BOVS Bovan 7.51 301 *e*P **Pn** **09 13 05.1 0.0**
MDB Medias 7.57 325 ⇑P **Pn** **09 13 07.5 +1.5**
MDB Medias 7.57 325 ⇑P **Pn** **09 13 07.5 +1.5**
SELS Selova 7.74 297 *e*P **Pn** **09 13 07.9 -0.4**
MMAI Mount Meron Ar 8.04 149 Pn **Pn** **09 13 11.0 -1.6**
comp=Z,2.3nm,0.3s,baz=330,slow=13,SNR=8.5
DEV Deva 8.08 319 ⇑P **Pn** **09 13 13.3 +0.3**
DEV Deva 8.08 319 ⇑P **Pn** **09 13 13.3 +0.3**
SORM Soroca 8.23 350 ⇑P **Pn** **09 13 15.2 +0.3**
SORM Soroca 8.23 350 ⇑P **Pn** **09 13 15.2 +0.3**
GRUS Gruza 8.27 301 *e*P **Pn** **09 13 15.5 0.0**
CJR Cluj-Napoca 8.36 325 ⇑P **Pn** **09 13 18.3 +1.5**
CJR Cluj-Napoca 8.36 325 ⇑P **Pn** **09 13 18.3 +1.5**
BURAR Bucovina Array 8.48 335 ⇑P **Pn** **09 13 19.9 +1.4**
BURAR Bucovina Array 8.48 335 ⇑P **Pn** **09 13 19.9 +1.4**
BURAR Bucovina Array 8.48 335 **Pn** **09 13 19.9 +1.4**
BUR08 Bucovina Ar. S 8.51 335 **Pn** **09 13 19.4 +0.5**
IVAS Ivanjica 8.53 298 *e*P **Pn** **09 13 18.7 -0.4**
BZS Buzias 8.60 313 ⇑P **Pn** **09 13 19.7 -0.4**
BZS Buzias 8.60 313 P **Pn** **09 13 21.3 +1.3**
BZS pmax pmax
comp=Z,7.0nm,3.1s
TRUS Trudelj 8.61 302 *e*P **Pn** **09 13 20.5 +0.3**
DRGR 8.82 322 ⇑P **Pn** **09 13 24.6 +1.4**
DRGR 8.82 322 ⇑P **Pn** **09 13 24.6 +1.4**
DIVS Divibare 8.83 301 **Pn** **09 13 22.8 -0.6**
DIVS Divibare 8.83 301 *e*P **Pn** **09 13 24.0 +0.7**
SIRR Siria 8.98 317 ⇓P **Pn** **09 13 24.9 -0.4**
BMR Baia Mare 9.16 329 ⇑P **Pn** **09 13 29.1 +1.4**
BMR Baia Mare 9.16 329 ⇑P **Pn** **09 13 29.1 +1.4**
TRPA Tarpa 9.91 327 PN **Pn** **09 13 39.9 +1.9**
NCK Nalchik 10.33 66 *i* P **Pn** **09 13 42.0 -1.8**
AKASG Malin Array Be 10.68 355 Pn **Pn** **09 13 47.3 -1.3**
comp=Z,3.3nm,0.3s,baz=175,slow=12,SNR=27
AKASG Sn **Sn** **09 15 46.2 -2.3**
comp=Z,1.1nm,0.3s,baz=29,slow=34,SNR=2.1
AKASG Malin Array Be 10.68 355 Pn **Pn** **09 13 47.0 -1.6**
AKBB Malin Array Si 10.68 355 *i* P **Pn** **09 13 47.5 -1.1**
AKBB Malin Array Si 10.68 355 **Pn** **09 13 47.5 -1.1**
TIP Timpagrande 10.68 270 Pn **Pn** **09 13 48.8 +0.1**
EIL Elat 10.97 159 LR LR 09 18 44.8
comp=Z,110nm,21.1s,baz=292,slow=41
PSZ Piszkesteto 10.98 319 P **Pn** **09 13 52.8 +0.1**
PSZ Piszkesteto 10.98 319 Pn **Pn** **09 13 52.8 +0.1**
SGRT San Giovanni R 11.34 283 Pn **Pn** **09 13 58.9 +1.1**
BTLR Botlikh 12.06 72 *i* P **Pn** **09 14 06.6 -0.9**
VRAC Vranov 13.55 318 LR LR 09 19 54.0
comp=Z,125nm,19.8s,baz=56,slow=38
TEOL Teolo 14.85 297 Pn **Pn** **09 14 43.3 -2.2**
GERES GERESS Array B 14.87 312 Pn **Pn** **09 14 48.8 +2.8**
comp=Z,0.0nm,0.3s,baz=148,slow=15,SNR=1.9
GERES GERESS Array B 14.87 312 Pn **Pn** **09 14 45.9 0.0**
CASP Castiglione de 15.02 287 Pn **Pn** **09 14 47.3 -0.5**
CASP IAmb IAmb 09 14 57.2
comp=Z,9.1nm,1.0s
NACGM Naroch 15.06 352 *i* P **Pn** **09 14 49.3 +0.9**
WTTA Wattenberg 15.45 304 *e*Pn **P** **09 14 57.0 -1.3**
comp=Z,1.0nm,0.6s
WATA Walderalm 15.51 304 *e*Pn **Pn** **09 14 56.3 +1.8**
comp=Z,0.8nm,0.4s
SQTA Sankt Quirin 15.71 303 *e*Pn **P** **09 15 03.1 +2.0**
comp=Z,3.0nm,0.5s
MOTA Moosalm 15.81 304 *e*Pn **P** **09 15 02.3 -0.1**
FETA Feichten 15.95 302 *e*Pn **P** **09 15 02.1 -1.8**
RETA Reutte 16.08 304 *e*Pn **P** **09 15 06.7 +1.5**
comp=Z,3.6nm,0.6s
DAVOX Davos/Dischmat 16.43 301 Pn **P** **09 15 10.8 +1.6**
comp=Z,0.2nm,0.3s,baz=123,slow=11,SNR=12
DAVOX LR LR 09 21 54.3
comp=Z,167nm,21.4s,baz=353,slow=39
CLL Collm 16.59 318 *e*P **Pn** **09 15 07.0 -1.2**
CLL Collm 16.59 318 *e*P **Pn** **09 15 07.0 -1.2**
BELG Belogornoye 17.02 38 *i* P **Pn** **09 15 12.6 -1.0**
BELG pmax pmax
comp=Z,6.0nm,0.9s
MBDF Montbardon 18.15 293 *e*P **P** **09 15 30.7 +2.4**
MBDF pmax pmax
comp=Z,5.0nm,0.8s
LPG La Plagne 18.27 295 *e*P **P** **09 15 32.7 +3.0**
LPG pmax pmax
comp=Z,5.0nm,0.8s
LPL La Plagne 18.29 295 *e*P **P** **09 15 35.1 +5.3**
LPL pmax pmax
comp=Z,49nm,2.0s
CDF Champ du Feu 18.60 304 *e*P **Pn** **09 15 37.1 +3.8**
CDF pmax pmax
comp=Z,8.0nm,1.2s
HINF Hinteralfeld 18.70 302 *e*P **Pn** **09 15 36.1 +1.7**
HINF pmax pmax
comp=Z,45nm,2.4s
ORIF Oris-en-Rattie 18.80 293 *e*P **Pn** **09 15 38.4 +2.6**
ORIF pmax pmax
comp=Z,42nm,2.2s
HAU Haudompre 19.08 303 *e*P **Pn** **09 15 40.8 +1.8**
HAU pmax pmax
comp=Z,8.0nm,1.1s
SMF Signal de Mont 20.45 298 *e*P Pn 09 15 54.7 -0.7
SMF pmax pmax
comp=Z,38nm,1.8s
LOR Lormes 20.55 299 *e*P Pn 09 15 55.6 -0.9
LOR pmax pmax
comp=Z,47nm,2.1s
AVF Avril sur Loir 20.81 298 *e*P Pn 09 15 58.5 -1.0
AVF pmax pmax
comp=Z,17nm,1.1s
BAIF Baives 21.02 307 *e*P **P** **09 16 00.6 +1.2**
BAIF pmax pmax
comp=Z,69nm,2.2s
FINES FINESS Array B 21.59 354 P **P** **09 16 05.0 -0.3**
comp=Z,4.3nm,1.0s,baz=138,slow=15,SNR=3.3
HFS Hagfors 22.69 338 P **P** **09 16 16.9 -0.3**
comp=Z,3.4nm,0.8s,baz=115,slow=10,SNR=5.1
MFF Saint Martin d 23.17 297 *e*P **P** **09 16 22.1 -0.2**
MFF pmax pmax
comp=Z,191nm,2.4s
LDF La Druitiere 23.42 302 *e*P **P** **09 16 25.5 +0.7**
LDF pmax pmax
comp=Z,105nm,2.1s
NC602 NORSAR Array S 23.81 337 P **P** **09 16 29.0 +0.4**

NOA NORSAR Array B 24.15 337 P **P** **09 16 31.1 -0.7**
comp=Z,0.7nm,0.6s,baz=138,slow=9.3,SNR=3.3
NOA LR LR 09 27 38.5
comp=Z,51nm,19.2s,baz=50,slow=41
NOA NORSAR Array B 24.15 337 *e*P **P** **09 16 34.9 +3.1**
NOA pmax pmax
comp=Z,1.0nm,0.8s
ARU Arti 24.57 39 P **P** **09 16 34.4 -1.1**
comp=Z,1.7nm,0.5s,baz=197,slow=5.8,SNR=5.4
ARU Arti 24.57 39*d i*P **P** **09 16 36.2 +0.7**
ARU S **S** **09 20 59.4 +2.8**
ARU SS **SnSn** **09 21 42.0 +1.0**
ARU pmax pmax
comp=Z,11nm,0.9s
ARU Arti 24.57 39 P **P** **09 16 36.3 +0.7**
UOSS Minazif 26.24 117 P **P** **09 16 51.2 +0.2**
UOSS IAmb IAmb 09 17 00.8
comp=Z,9.4nm,1.2s
ESDC Sonseca Array 26.40 280 P **P** **09 16 52.0 -0.4**
comp=Z,1.1nm,0.7s,baz=70,slow=9.2,SNR=13
BRVK Borovoye 29.84 51 *i* P **P** **09 17 21.5 -1.4**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
TORD Torodi Ar. Bea 36.90 232 P **P** **09 18 23.8 -1.0**
comp=Z,2.3nm,0.9s,baz=33,slow=9.2,SNR=10
TORD Torodi Ar. Bea 36.90 232 P **P** **09 18 24.6 -0.1**
TORD IAmb IAmb 09 18 54.1
comp=Z,2.7nm,0.8s
MK31 Makanchi Array 37.59 62 P **P** **09 18 30.3 -0.1**
MK31 pmax pmax
comp=Z,3.0nm,1.3s
MK31 Makanchi Array 37.59 62 P **P** **09 18 30.3 -0.1**
MK31 IAmb IAmb 09 18 44.5
comp=Z,3.4nm,1.3s
MKAR Makanchi Array 37.59 62 P **P** **09 18 30.5 +0.1**
comp=Z,1.0nm,0.6s,baz=264,slow=10,SNR=6.0
MKAR Makanchi Array 37.59 62 *e*P **P** **09 18 31.1 +0.7**
ZALV Zalesovo Beam 38.55 50 P **P** **09 18 38.4 +0.1**
comp=Z,0.7nm,0.7s,baz=282,slow=8.8,SNR=4.0
ZALV Zalesovo Beam 38.55 50 *e*P **P** **09 18 38.9 +0.6**
DGZ Jazzator, Alta 40.55 57 *i* P **P** **09 18 54.7 -0.5**
DGZ pmax pmax
comp=Z,2.0nm,1.1s
WMQ Urumqi 41.95 65 *e*P **P** **09 19 07.2 +0.5**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,85nm,3.7s
GOMU GeErMu 49.72 73 P **P** **09 20 06.0 -2.5**
GOMU pP sP 09 20 11.3 0.0
GOMU sP pP 09 20 14.1 +3.6
GOMU pmax pmax
comp=Z,2.0nm,0.4s
SONM Songino Array 53.11 55 P **P** **09 20 34.0 +0.4**
comp=Z,0.5nm,0.7s,baz=298,slow=7.6,SNR=3.7
SONM Songino Array 53.11 55 *e*P **P** **09 20 35.5 +2.0**
SONM pmax pmax
comp=Z,1.0nm,0.7s
HHC Hu-ho-hao-te 59.42 60 *e*P **P** **09 21 17.9 -0.8**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.8s
PZH PanZhiHua 59.58 80 P **P** **09 21 20.5 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.9s
BOSA Boshof 68.50 185 P **P** **09 22 19.1 +0.8**
comp=Z,1.8nm,0.8s,baz=344,slow=3.4,SNR=3.7
BOSA Boshof 68.50 185 P **P** **09 22 17.5 -0.8**
KSRS Korea Array 71.95 56 P **P** **09 22 38.9 -0.5**
comp=Z,1.0nm,0.7s,baz=322,slow=5.7,SNR=3.7

*IDC **01** 09:30:36.4±0.7,29.°16S×178.°94W,h323km±9km,mb3.0/4, mb1 3.3/6,mb1mx3.2/28,mbtmp3.9/6,Error ellipse: s-maj=33.3km s-min=21.4km az=140.0*
ISC 01 09:30:36.9±0.8,**29.°39S**±0.°08×**178.°9W**±0.°1,**h315**km,**n40,** σ1°**74**/61,**mb3.1/4,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.88**	**81**	P	**Pn**	**09 31 21.0**	**+2.6**
GLKZ	**Green Lake**	**0.89**	**82**	P	**Pn**	**09 31 19.7**	**+1.3**
GLKZ				S	**S**	**09 31 51.1**	**-0.4**
RAO	**Raoul Island**	**0.89**	**82**	P	**Pn**	**09 31 19.4**	**+0.9**
	79nm,0.3s,baz=260,slow=23,SNR=1.6						
RAO				S	**S**	**09 31 53.1**	**+1.6**
	49nm,0.3s,baz=111,slow=22,SNR=1.2						
WCZ	**Waipu Caves**	**8.65**	**219**	P	**P**	**09 32 46.2**	**+3.4**
WMGZ	**Waiomatatini S**	**8.70**	**194**	P	**P**	**09 32 43.6**	**+0.3**
WMGZ				S	**S**	**09 34 21.5**	**+3.1**
HAZ	**Te Kaha**	**8.79**	**197**	P	**P**	**09 32 42.2**	**-2.0**
HAZ				S	**S**	**09 34 18.0**	**-2.3**
PKGZ	**Pakihiroa**	**8.84**	**196**	P	**P**	**09 32 47.1**	**+2.1**
PKGZ				S	**S**	**09 34 22.0**	**+0.4**
PUZ	**Puketiti**	**8.97**	**194**	P	**P**	**09 32 45.5**	**-0.9**
PUZ				S	**S**	**09 34 25.5**	**+0.9**
RUGZ	**Raukumara Rang**	**9.01**	**197**	P	**P**	**09 32 47.7**	**+0.8**
RUGZ				S	**S**	**09 34 25.6**	**0.0**
TWGZ	**Tauwhareparae**	**9.14**	**196**	P	**P**	**09 32 49.3**	**+1.1**
TWGZ				S	**S**	**09 34 31.5**	**+3.1**
CNGZ	**Carnagh Statio**	**9.38**	**194**	P	**Pn**	**09 32 47.3**	**0.0**
MWZ	**Matawai**	**9.40**	**197**	P	**Pn**	**09 32 46.6**	**-0.9**
MWZ				S	**S**	**09 34 31.7**	**-2.5**
TKGZ	**Te Karaka**	**9.42**	**196**	P	**P**	**09 32 50.5**	**-0.8**
TKGZ				S	**S**	**09 34 36.5**	**+1.9**
URZ	**Urewera**	**9.44**	**199**	P	**Pn**	**09 32 48.7**	**+0.6**
	4.5nm,0.3s,baz=301,slow=24,SNR=28						
URZ				S	**S**	**09 34 34.3**	**-0.7**
	2.5nm,0.3s,baz=121,slow=24,SNR=24						
URZ	**Urewera**	**9.44**	**199**	P	**P**	**09 32 51.6**	**+0.1**
URZ				S	**S**	**09 34 35.0**	**0.0**
RIGZ	**Rimuhau**	**9.69**	**196**	P	**P**	**09 32 55.7**	**+1.4**
RIGZ				S	**S**	**09 34 37.0**	**-3.8**
MUGZ	**Murupara**	**9.75**	**200**	P	**P**	**09 32 55.3**	**+0.4**
MUGZ				S	**S**	**09 34 44.7**	**+2.8**
SNGZ	**Shannon Statio**	**9.87**	**197**	P	**P**	**09 32 56.0**	**-0.4**
SNGZ				S	**S**	**09 34 46.2**	**+1.4**
KUTZ	**Kaahu Road**	**10.07**	**204**	P	**P**	**09 33 00.7**	**+2.2**
NMHZ	**Naumai**	**10.31**	**199**	P	**Pn**	**09 32 56.5**	**-2.1**
NMHZ				S	**S**	**09 34 54.4**	**-0.3**
HIZ	**Hauiti**	**10.46**	**208**	P	P	09 33 08.2	+5.3
BKZ	**Black Stump Fm**	**10.46**	**200**	P	**P**	**09 33 02.3**	**-0.6**
BKZ				S	**S**	**09 34 58.0**	**-0.1**
TMVZ	**Te Maari**	**10.67**	**203**	P	**P**	**09 33 07.9**	**+2.6**
ETVZ	**East Tongariro**	**10.69**	**203**	P	**P**	**09 33 06.9**	**+1.4**
KWHZ	**Kaweka Forest**	**10.72**	**200**	P	**P**	**09 33 05.6**	**-0.2**
KWHZ				S	**S**	**09 35 05.2**	**+1.2**
OTVZ	**Oturere**	**10.73**	**203**	P	**P**	**09 33 07.4**	**+1.4**
OTVZ				S	**S**	**09 35 06.1**	**+1.8**
BHHZ	**Black Hill Sta**	**10.89**	**201**	P	**P**	**09 33 08.2**	**+0.5**
BHHZ				S	**S**	**09 35 07.8**	**0.0**
WNVZ	**Wahianoa**	**10.90**	**203**	P	**P**	**09 33 08.6**	**+0.7**
KRHZ	**Kereru**	**10.94**	**199**	P	**P**	**09 33 08.6**	**+0.3**
KRHZ				S	**S**	**09 35 06.8**	**-2.0**
PXZ	**Pawanui**	**11.17**	**197**	P	**P**	**09 33 11.9**	**+1.2**
PXZ				S	**S**	**09 35 11.4**	**-2.5**
PNHZ	**Pukenui**	**11.24**	**200**	P	**P**	**09 33 12.0**	**+0.5**
PNHZ				S	**S**	**09 35 13.3**	**-2.4**
TSZ	**Takapari Road**	**11.45**	**200**	P	**P**	**09 33 13.1**	**-0.7**
TSZ				S	**S**	**09 35 17.3**	**-2.9**
MSVF	**Nonsavu**	**11.93**	**346**	P	Pn	09 33 13.5	-5.0
	1.8nm,0.3s,baz=120,slow=21,SNR=4.9						
ASAR	**Alice Springs**	**42.37**	**266**	P	**P**	**09 38 00.2**	**-1.0**
	0.1nm,0.4s,baz=98,slow=6.4,SNR=6.9						
WRA	**Warramunga Arr**	**43.26**	**272**	P	**P**	**09 38 07.2**	**-1.2**
	0.2nm,0.4s,baz=109,slow=8.0,SNR=8.7						
PETK	**Petropavlovsk-**	**84.64**	**346**	P	**P**	**09 42 32.0**	**-3.0**
	1.9nm,0.8s,baz=140,slow=7.8,SNR=6.1						
NVAR	**Mina Array Bea**	**88.05**	**43**	P	**P**	**09 42 51.1**	**-1.1**
	0.3nm,0.6s,baz=216,slow=7.6,SNR=3.0						
FINES	**FINESS Array B**	**143.92**	**340**	PKP	PKPab	09 49 30.0	-2.3
	1.1nm,0.5s,baz=60,slow=3.2,SNR=18						
NOA	**NORSAR Array B**	**147.63**	**351**	PKPbc	**PKPdf**	**09 49 41.3**	**+0.7**
	2.8nm,1.2s,baz=9.8,slow=2.9,SNR=1.7						
AKASG	**Malin Array Be**	**150.01**	**323**	PKPbc	**PKPdf**	**09 49 48.1**	**+3.5**
	0.8nm,0.5s,baz=39,slow=3.2,SNR=6.6						

*NOU **01** 09:52:04.8,37.°89S×176.°45E,h218km,MLv4.1/9,North Island, New

*WEL **01** 09:52:14.0±1.0, 38°S±6°×17°6E±°, h138km±9km, M2.8/43, ML2.4/10, MLv2.8/43, Error ellipse: s-maj=0.0km s-min=0.0km az=154.1*

ISC 01 09:52:07.9±1.4, 38.15S±0.06×176.32E±0.06, h189km±8km, n133, σ1§79/136, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMRZ	Omania	0.06	45	P	Pn	09 52 33.6	+0.8
KARZ	Kaharoa	0.14	337	P	Pn	09 52 33.7	+0.9
HSRZ	Hossack Road	0.17	199	P	Pn	09 52 34.0	+1.2
HRRZ	Handcock Road	0.24	186	P	Pn	09 52 34.1	+1.1
RRRZ	Republican Roa	0.24	140	P	Pn	09 52 33.8	+0.9
GRRZ	Galatos Road	0.26	219	P	Pn	09 52 34.3	+1.3
MARZ	Manawahe	0.33	60	P	Pn	09 52 34.4	+1.2
PRRZ	Plateau Road	0.35	170	P	Pn	09 52 34.2	+1.0
OPRZ	Ohinepanea	0.36	32	P	Pn	09 52 33.9	+0.7
WPRZ	Whakapapatarin	0.39	198	P	Pn	09 52 34.6	+1.2
ALRZ	Allen Road	0.41	177	P	Pn	09 52 34.6	+1.2
MUGZ	Murupara	0.48	132	P	Pn	09 52 34.4	+0.8
KUTZ	Kaahu Road	0.51	229	P	Pn	09 52 35.2	+1.5
WHTZ	Whakaora	0.59	209	P	Pn	09 52 35.9	+1.8
URZ	Urewera	0.64	100	P	Pn	09 52 35.0	+0.7
URZ				S	S	09 52 51.9	-2.6
URZ	Urewera	0.64	100	P	Pn	09 52 35.0	+0.7
TLZ	Tolley Road	0.64	254	P	Pn	09 52 35.9	+1.6
MRHZ	Matea Rd	0.69	173	P	Pn	09 52 35.9	+1.3
RTZ	Ruatahuna	0.70	132	P	Pn	09 52 35.9	+1.2
RTZ				S	S	09 52 53.6	-1.9
WATZ	Wairara	0.72	219	P	Pn	09 52 36.4	+1.7
TOZ	Tahuroa Road	0.77	303	P	Pn	09 52 36.5	+1.5
MTHZ	Maungataniwha	0.81	150	P	Pn	09 52 36.8	+1.5
MTHZ				S	S	09 52 54.8	-1.8
RATZ	Rangitukua	0.83	211	P	Pn	09 52 37.1	+1.7
RITZ	Rihia Road	0.90	203	P	Pn	09 52 37.8	+2.0
RAGZ	Rawiri	0.93	112	P	Pn	09 52 37.7	+1.6
KATZ	Kakaramea	0.96	210	P	Pn	09 52 38.4	+2.1
MWZ	Matawai	0.97	101	P	Pn	09 52 37.7	+1.4
RAHZ	Arahi	0.97	142	P	Pn	09 52 38.4	+2.0
NMHZ	Naumai	1.02	158	P	Pn	09 52 39.1	+2.5
SNGZ	Shannon Statio	1.02	128	P	Pn	09 52 38.7	+2.1
BKZ	Black Stump Fm	1.02	172	P	Pn	09 52 38.3	+1.6
BKZ	Black Stump Fm	1.02	172	P	Pn	09 52 38.4	+1.7
NTVZ	North Tongariro	1.07	208	P	Pn	09 52 39.0	+1.9
TMVZ	Te Maari	1.08	206	P	Pn	09 52 39.0	+1.8
ETVZ	East Tongariro	1.09	206	P	Pn	09 52 39.1	+1.9
RUGZ	Raukumara Rang	1.09	81	P	Pn	09 52 37.8	+0.5
WTVZ	West Tongariro	1.12	210	P	Pn	09 52 39.3	+1.8
OTVZ	Oturere	1.13	207	P	Pn	09 52 39.8	+2.1
TWVZ	Taurewa	1.15	217	P	Pn	09 52 39.7	+2.0
SNVZ	South Ngauruho	1.16	207	P	Pn	09 52 39.9	+2.0
NGZ	Ngauruhoe	1.17	208	P	Pn	09 52 40.0	+2.2
HIZ	Hauiti	1.20	252	P	Pn	09 52 40.3	+2.3
HIZ	Hauiti	1.20	252	P	Pn	09 52 39.8	+1.8
HAZ	Te Kaha	1.23	72	P	Pn	09 52 39.1	+0.9
TUVZ	Tukino	1.23	205	P	Pn	09 52 40.5	+2.1
ARHZ	Aropaoanui	1.23	155	P	Pn	09 52 40.7	+2.5
TKGZ	Te Karaka	1.24	104	P	Pn	09 52 40.3	+2.0
FWVZ	Far West T-bar	1.25	208	P	Pn	09 52 40.6	+1.9
RIGZ	Rimuhau	1.26	116	P	Pn	09 52 40.7	+2.2
WHVZ	Whangaehu Hut	1.27	206	P	Pn	09 52 40.9	+2.1
KWHZ	Kaweka Forest	1.27	176	P	Pn	09 52 40.8	+2.1
TRVZ	Turoa	1.29	207	P	Pn	09 52 41.2	+2.2
WNVZ	Wahianoa	1.30	205	P	Pn	09 52 41.0	+2.0
TWGZ	Tauwhareparae	1.31	92	P	Pn	09 52 41.2	+2.2
MCHZ	McNeill Hill	1.32	167	P	Pn	09 52 41.7	+2.7
MOVZ	Moawhango	1.33	199	P	Pn	09 52 40.8	+1.6
BHHZ	Black Hill Sta	1.35	188	P	Pn	09 52 41.2	+1.9
PKVZ	Pokaka	1.37	213	P	Pn	09 52 41.5	+2.1
KNZ	Kokohu	1.37	130	P	Pn	09 52 41.5	+2.1
MTVZ	Mangateitei	1.40	208	P	Pn	09 52 41.9	+2.2
PKGZ	Pakihiroa	1.42	80	P	Pn	09 52 41.6	+1.7
PRGZ	Paritu Road	1.45	123	P	Pn	09 52 42.4	+2.3
KRHZ	Kereru	1.49	178	P	Pn	09 52 42.6	+2.1
CNGZ	Carnagh Statio	1.52	103	P	Pn	09 52 43.6	+2.8
PUZ	Puketiti	1.53	88	P	Pn	09 52 42.5	+1.6
VRZ	Vera Road	1.56	231	P	Pn	09 52 43.8	+2.7
MHGZ	Mahia Peninsul	1.60	129	P	Pn	09 52 44.1	+2.7
CKHZ	Cape Kidnapper	1.62	159	P	Pn	09 52 44.4	+2.7
ETAZ	East Tamaki Re	1.63	317	P	Pn	09 52 44.0	+2.2
MXZ	Matakaoa Point	1.68	70	P	Pn	09 52 44.5	+2.2
WMGZ	Waiomatatini S	1.69	79	P	Pn	09 52 44.4	+2.0
KAHZ	Kahuranaki	1.70	165	P	Pn	09 52 45.2	+2.7
AWAZ	Awhitu Peninsu	1.71	309	P	Pn	09 52 44.9	+2.3
PNHZ	Pukenui	1.76	183	P	Pn	09 52 45.1	+1.9
WAZ	Wanganui	1.91	213	P	Pn	09 52 47.1	+2.5
WPHZ	Waipukurau	1.91	177	P	Pn	09 52 46.8	+2.2
PXZ	Pawanui	1.93	167	P	Pn	09 52 47.1	+2.4
TSZ	Takapari Road	1.93	188	P	Pn	09 52 46.8	+2.0
DREZ	Durham Road	1.95	237	P	Pn	09 52 48.5	+3.4
LREZ	Lake Rotokare	1.98	228	P	Pn	09 52 48.6	+3.3
NEZ	North Egmont	2.06	237	P	Pn	09 52 49.9	+3.5
PRHZ	Porangahau	2.13	173	P	Pn	09 52 49.2	+2.3
DVHZ	Dannevirke	2.15	183	P	Pn	09 52 49.0	+1.9
OHWZ	Ohakea	2.19	200	P	Pn	09 52 50.2	+2.6
NBEZ	Newall Road No	2.22	239	P	Pn	09 52 50.5	+2.7
POWZ	Post Office Ro	2.28	191	P	Pn	09 52 50.5	+1.9
ANWZ	Angora Road	2.31	177	P	Pn	09 52 51.3	+2.5
PRWZ	Pori Road	2.42	186	P	Pn	09 52 52.3	+2.2
BFZ	Birch Farm	2.53	181	P	Pn	09 52 53.2	+1.9
BFZ	Birch Farm	2.53	181	P	Pn	09 52 53.4	+2.0
MRZ	Mangatainoka R	2.57	193	P	Pn	09 52 53.6	+1.7
TIWZ	Tintock	2.64	187	P	Pn	09 52 54.6	+1.9
CPWZ	Castlepoint	2.76	182	P	Pn	09 52 56.6	+2.6
OGWZ	Otaki Gorge	2.81	198	P	Pn	09 52 56.3	+1.7
HOWZ	Holdsworth Sta	2.81	192	P	Pn	09 52 56.2	+1.5
KIW	Kapiti Island	2.92	201	P	Pn	09 52 57.2	+1.3
TMWZ	Te Maipa	2.97	186	P	Pn	09 52 58.2	+1.6
MTW	Mount Morrison	3.07	192	P	Pn	09 52 58.9	+1.2
CAW	Cannon Point	3.11	198	P	Pn	09 52 59.6	+1.4
DUWZ	D'Urville Isla	3.23	214	P	Pn	09 53 01.0	+1.3
TRWZ	Traveller	3.28	188	P	Pn	09 53 01.6	+1.4
PAWZ	Paruwai Farm	3.30	192	P	Pn	09 53 01.6	+1.1
WEL	Wellington	3.35	200	P	Pn	09 53 02.1	+1.0
MSWZ	Moikau Station	3.36	194	P	Pn	09 53 02.3	+1.0
SNZO	South Karori	3.39	201	P	Pn	09 53 02.8	+1.2
TCW	Tory Channel	3.44	207	P	Pn	09 53 03.2	+1.0
BHW	Baring Head	3.44	198	P	Pn	09 53 02.4	+0.2
PLWZ	Palliser	3.51	193	P	Pn	09 53 04.0	+0.9
TUWZ	Tuamarina	3.75	208	P	Pn	09 53 07.0	+1.0
NNZ	Nelson	3.81	216	P	Pn	09 53 07.9	+1.1
QRZ	Quartz Range	3.96	226	P	Pn	09 53 09.4	+0.7
QRZ	Quartz Range	3.96	226	P	Pn	09 53 09.5	+0.7
BSWZ	Blackbirch Sta	4.02	207	P	Pn	09 53 10.7	+1.2
THZ	Tophouse	4.46	215	P	Pn	09 53 16.2	+1.1
KHZ	Kahutara	4.76	206	P	Pn	09 53 19.8	+1.0
KHZ	Kahutara	4.76	206	P	Pn	09 53 20.0	+1.2
DSZ	Denniston Nort	4.99	223	P	Pn	09 53 22.2	+0.3
GVZ	Greta Valley S	5.42	206	P	Pn	09 53 28.0	+0.6
LTZ	Lake Taylor	5.56	212	P	Pn	09 53 29.6	+0.4
INZ	Inchbonnie	5.89	218	P	Pn	09 53 33.1	-0.3
OKCZ	Okains Bay	6.09	203	P	Pn	09 53 36.6	+0.5
OXZ	Oxford	6.10	211	P	Pn	09 53 36.4	+0.1
MQZ	McQueen's Vall	6.20	205	P	Pn	09 53 37.0	-0.5
AKCZ	Akaroa Harbour	6.27	203	P	Pn	09 53 38.6	+0.2
RACZ	Rakaia	6.40	208	P	Pn	09 53 40.1	-0.1
MHCZ	Mount Hutt	6.47	212	P	Pn	09 53 40.8	-0.2
WACZ	Wakanui South	6.70	209	P	Pn	09 53 44.4	+0.3
RPZ	Rata Peaks	6.84	214	P	Pn	09 53 47.0	+1.2
RPZ	Rata Peaks	6.84	214	P	Pn	09 53 46.5	+0.7
TMZ	Timaru	7.40	211	P	Pn	09 53 54.1	+0.9
ODZ	Otahua Downs	8.09	210	P	Pn	09 54 03.0	+0.8
ODZ	Otahua Downs	8.09	210	P	Pn	09 54 03.0	+0.8
PYZ	Puysegur Point	10.73	219	P	P	09 54 43.4	-0.5

*IDC **01** 09:59:20.3±8.6, 30°72S×178°96W, h93km±64km, mb3.5/3, mb1 3.7/4, mb1mx3.5/22, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=74.8km s-min=29.4km az=43.0*

ISC 01 09:59:22.9±1.7, 30.89S±0.10×179.4W±0.3, h100km, n19, σ1§89/25, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	7.23	198	P	Pn	10 01 08.3	+2.5
HAZ				S	Sn	10 02 28.7	+2.4
PKGZ	Pakihiroa	7.28	196	S	Sn	10 02 28.7	+1.1
PUZ	Puketiti	7.41	194	P	Pn	10 01 08.4	0.0
PUZ				S	Sn	10 02 29.4	-1.5
RUGZ	Raukumara Rang	7.45	198	P	Pn	10 01 11.3	+2.3
RUGZ				S	Sn	10 02 30.4	-1.5
MWZ	Matawai	7.84	198	P	Pn	10 01 14.9	+0.7
MWZ				S	Sn	10 02 40.9	-0.3
TKGZ	Te Karaka	7.86	196	P	Pn	10 01 18.5	+4.1
TKGZ				S	Sn	10 02 40.1	-1.5
URZ	Urewera	7.88	200	P	Pn	10 01 16.4	+1.6
	0.7nm,0.3s,baz=121,slow=24,SNR=8.5						
URZ				S	Sn	10 02 39.9	-2.4
	0.5nm,0.3s,baz=120,slow=24,SNR=1.3						
URZ	Urewera	7.88	200	P	Pn	10 01 16.4	+1.6
RIGZ	Rimuhau	8.13	196	P	Pn	10 01 20.6	+2.4
RIGZ				S	Sn	10 02 46.6	-1.8
HRRZ	Handcock Road	8.27	204	P	Pn	10 01 18.9	-1.1
WHHZ	Waihua	8.61	198	P	Pn	10 01 31.4	+6.7
BKZ	Black Stump Fm	8.91	201	P	Pn	10 01 29.0	+0.3
HIZ	Hauiti	8.94	210	P	Pn	10 01 38.4	+9.3
KWHZ	Kaweka Forest	9.16	201	P	Pn	10 01 32.9	+0.7
KWHZ				S	Sn	10 03 11.7	-1.9
TSZ	Takapari Road	9.89	201	P	Pn	10 01 41.8	-0.2
TSZ				S	Sn	10 03 26.3	-4.8
ASAR	Alice Springs	41.85	268	P	P	10 07 04.7	+1.3
	0.7nm,0.5s,baz=106,slow=7.3,SNR=16						
WRA	Warramunga Arr	42.89	273	P	P	10 07 13.0	+1.3
	0.7nm,0.3s,baz=111,slow=8.1,SNR=25						
QSPA	South Pole Qui	59.22	180	P	P	10 09 12.7	-0.7
	0.7nm,0.7s,baz=54,slow=1.6,SNR=7.9						
FINES	FINESS Array B	145.17	339	PKPbc	PKPbc	10 18 45.1	-2.6
	2.1nm,0.8s,baz=68,slow=4.9,SNR=4.4						

JMA 01 10:00:27.7±0.1, 37.61N×141.83E, h32km±2km, M3.6, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.76	338	⇓P	Pn	10 00 41.9	-0.3
JIKH				S	Sb	10 00 51.4	-1.1
JMST	Minamisoumatoc	0.76	279	⇓P	Pn	10 00 41.9	-0.2
JMST				S	Sb	10 00 51.7	-0.8
JFK	Kawauchi	0.80	253	⇓P	Pn	10 00 42.5	-0.3
JFK				S	Sn	10 00 52.5	-1.1
JMM	Marumori	0.86	288	⇓P	Pn	10 00 43.6	0.0
JMM				S	Sn	10 00 54.7	-0.4
JIO	Ouri	0.93	336	⇓P	Pn	10 00 44.5	0.0
JIO				S	Sn	10 00 55.7	-0.9
ONAJ	Iwakimizuishiy	0.97	239	P	Pn	10 00 44.8	-0.3
ONAJ				S	Sn	10 00 56.4	-1.3
JFT	Otama	1.19	266	⇓P	Pb	10 00 49.2	-0.5
JFT				S	Sn	10 01 03.9	+0.7
JOU	Okura	1.19	310	P	Pn	10 00 48.9	+0.7
JOU				S	Sb	10 01 04.4	-0.4
JKMT	Kesennumamotoy	1.23	347	P	Pn	10 00 49.0	+0.3
JKMT				S	Sn	10 01 03.2	-1.0
JMK	Ichinoseki	1.42	340	P	Pn	10 00 52.1	+0.8
JMK				S	Sn	10 01 09.3	+0.4
JYS	Shirataka	1.52	294	P	Pb	10 00 54.8	-0.5
JYS				S	Sb	10 01 14.0	-0.3
JFY	Yanaizu	1.70	264	P	Pn	10 00 56.7	+1.5
JFY				S	Sb	10 01 17.9	-1.5
JYK	Kaneyama	1.75	319	P	Pn	10 00 56.9	+1.1
MAT	Matsushiro	3.09	251	P	Pn	10 01 16.5	+2.3
MAT				S	Sn	10 01 53.5	+3.5

*IDC **01** 10:23:19.5±4.7, 40°39N×143°21E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.4/55, mbtmp3.5/7, ML3.1/2, Error ellipse: s-maj=94.1km s-min=31.1km az=111.0*
*JMA **01** 10:23:27.6±0.1, 40°88N×142°83E, h21km, M3.5*

ISC 01 10:23:26.2±1.4, 40.84N±0.06×142.87E±0.07, h16km±11km, n21, σ1§09/32, mb3.2/5, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	Kujiedanarisaw	1.09	235	⇑P	Pg	10 23 47.2	-0.1
JKEN				S	Sb	10 24 01.5	+0.9
JANG	Nango	1.13	246	P	Pb	10 23 48.1	+0.7
JANG				S	Sb	10 24 02.4	+0.5
JARK	Aomorirokkasho	1.16	279	⇓P	Pn	10 23 47.6	-0.1
JARK				S	Sb	10 24 02.2	-0.3
JTH	Tanohata	1.18	221	⇑P	Pg	10 23 48.8	-0.3
JTH				eS	Sg	10 24 04.5	0.0
JEM	Erimo	1.20	10	P	Pb	10 23 48.7	+0.2
JEM				eS	Sb	10 24 03.5	-0.2
JAHD	Aomorihigashid	1.24	291	⇓P	Pn	10 23 48.7	-0.1
JAHD				S	Sn	10 24 03.5	-1.7
JTM	Tenmabayashi	1.37	268	P	Pn	10 23 51.8	+1.1
JTM				S	Sn	10 24 09.1	+0.6
JNBK	Urakawa-nobuka	1.44	356	⇓P	Pn	10 23 52.3	+0.6
JOT	Ohata	1.48	292	⇓P	Pn	10 23 52.4	+0.2
JOT				S	Sn	10 24 10.0	-1.2
JKB	Kayabe	1.74	308	P	Pn	10 23 56.0	+0.3
JKB				S	Sn	10 24 16.3	-1.2
JCH	Churui	1.81	11	⇓P	Pn	10 23 57.0	+0.3
JCH				eS	Sn	10 24 18.9	-0.4
JAH	Hinai	1.82	250	S	Sn	10 24 21.8	+2.2
JEW	Eniwo	2.27	332	P	Pn	10 24 05.1	+2.1
JEW				eS	Sn	10 24 33.3	+2.7
JMK	Ichinoseki	2.27	215	⇓P	Pb	10 24 06.0	-0.8
ASAJ	Asahikawa	3.28	357	P	Pn	10 24 18.8	+1.9
	2.9nm,0.3s,baz=206,slow=16,SNR=32						
ASAJ				Sn	Sb	10 25 03.0	-0.7
	2.3nm,0.3s,baz=273,slow=33,SNR=2.8						
MJAR	Matsushiro Arr	5.63	222	Pn	Pn	10 24 41.8	-7.4
	0.1nm,0.3s,baz=295,slow=20,SNR=2.0						
SONM	Songino Array	26.82	297	P	P	10 29 05.2	-0.5
	0.2nm,0.5s,baz=90,slow=7.2,SNR=2.1						
ZALV	Zalesovo Beam	40.30	309	P	P	10 31 02.4	+0.1
	0.2nm,0.3s,baz=104,slow=7.8,SNR=1.7						
MKAR	Makanchi Array	43.17	299	P	P	10 31 26.2	+0.2
	0.4nm,0.8s,baz=91,slow=8.9,SNR=2.8						
KURBB	Kurchatov Arra	44.65	305	P	P	10 31 37.0	-0.8
	0.3nm,0.5s,baz=79,slow=9.0,SNR=5.0						
FINES	FINESS Array B	65.99	332	P	P	10 34 10.6	-0.8
	6.0nm,1.1s,baz=49,slow=8.8,SNR=11						

*KRNET **01** 10:27:51.1±0.1, 39°01N×73°22E, h16km, mb3.0*
*NEIC **01** 10:27:53.5±1.2, 38°88N±0°05×72°55E±0°06, h10km±2km, mb4.5/5, Error ellipse: s-maj=11.3km s-min=3.0km az=135.0*
*SOME **01** 10:27:54.6, 38°97N×73°37E, h15km*
*NNC **01** 10:27:57.6±1.6, 39°14N×73°31E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=12.0km s-min=6.9km az=174.0*

ISC 01 10:27:53.6±1.0, 38.87N±0.06×72.78E±0.04, h10km, n46, σ2§11/63, mb4.5/3, 14C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.97	309	⇑iP	Pn	10 28 14.3	+0.7
	baz=94						
DRK				⇑iS	Sn	10 28 30.5	+2.9
	baz=94						
DRK	Karamyk	0.97	309		Pn	10 28 12.1	-1.5
SFK	Sufi-Kurgan	1.27	26	⇑eP	Pn	10 28 10.4	-7.2
	baz=12						
SFK				⇑eS	Sb	10 28 25.0	-9.2
	baz=12						
OHH	Osh	1.65	0	⇓iP	Pn	10 28 20.0	-2.7
	baz=48						
OHH				⇓eS	Sn	10 28 41.1	-2.9
	baz=48						
BTK	Batken	1.92	309	⇑iP	Pg	10 28 30.0	-0.5
	baz=0.0						
BTK				⇑iS	Sg	10 28 57.9	+2.5
	baz=0.0						
CHGR	Chuyangaron	2.84	267	Pn	Pn	10 28 36.2	-2.8
TRKS	Terek-Say	2.94	335	⇑iP	Pn	10 28 40.4	0.0
	baz=28						
TRKS				⇑iS	Sn	10 29 16.5	+0.7
	baz=28						
ARK	Arkit	2.99	348	⇑iP	Pn	10 28 41.1	0.0
	baz=41						
ARK				⇑iS	Sn	10 29 17.6	+0.5
	baz=41						
ARLS	Aral	3.21	21	⇓iP	Pn	10 28 41.2	-3.0
	baz=16						
ARLS				⇓iS	Sn	10 29 18.0	-4.6
	baz=16						
UCH	Uchtor	3.60	21	⇓iP	Pn	10 28 46.7	-3.2
	baz=17						
UCH				⇓iS	Sn	10 29 28.1	-4.6
	baz=17						
MRKS	Merke	3.88	5	eP	Pb	10 29 03.2	+1.1
	2.1nm,0.4s						
MRKS				eS	Sb	10 29 52.1	+2.8
	9.3nm,0.5s						
MRKS	Merke	3.88	5	Pg	Pb	10 29 03.3	+1.1
	2.1nm,0.4s						
MRKS				Lg	Lg	10 29 52.1	
	9.3nm,0.5s						
IUG	luzhnay	3.88	328	eP	Pg	10 29 07.9	0.0
IUG				eS	Sg	10 29 59.8	+1.5
IUG	luzhnay	3.88	328	Pg	Pg	10 29 07.9	0.0
IUG				Lg	Lg	10 29 59.8	
AAK	Ala-Archa	3.98	19	⇑Pn	Pn	10 28 55.2	+0.4
	2.7nm,0.5s						
AAK				⇑Lg	Lg	10 29 49.6	
	12nm,0.7s						
AAK	Ala-Archa	3.98	19		Pn	10 28 54.9	+0.1
BOOM	Boomskoye usch	4.34	33		Pn	10 29 00.7	+0.9
KK02	Karatay Array	4.56	339	⇑Pn	Pn	10 29 05.8	+3.1
	1.2nm,0.5s						
KK02				⇑Sn	Sb	10 30 02.3	-6.4
	4.3nm,0.6s						
KKAR	Karatay Array	4.56	339	Pn	Pn	10 29 01.4	-1.2
TKM2	Tokmak 2	4.57	27	⇓Pn	Pn	10 29 02.7	-0.3
	2.6nm,0.9s						
TKM2				⇓Lg	Lg	10 30 08.8	
	4.9nm,0.7s						
KDJ	Kajisay	4.67	44	Pn	Pn	10 29 06.3	+2.0
BRLS	Borolday	4.71	333	eP	Pg	10 29 21.0	-2.9
	2.6nm,0.4s						
BRLS				eS	Sg	10 30 22.5	-2.4
	4.5nm,1.1s						
BRLS	Borolday	4.71	333	Pg	Pg	10 29 21.0	-2.9
	2.6nm,0.4s						
BRLS				Lg	Lg	10 30 22.5	
	4.5nm,1.1s						
TARG	Taragay, Kyrgy	4.79	52		Pn	10 29 06.8	+0.7
KST	Kastek	4.81	29	eP	Pb	10 29 17.4	-0.7
	3.9nm,0.6s						
KST				eS	Sb	10 30 16.1	+0.1
	6.3nm,0.5s						
KST	Kastek	4.81	29	Pg	Pb	10 29 17.4	-0.7
	3.9nm,0.6s						
KST				Lg	Lg	10 30 16.1	
	6.3nm,0.5s						
DGS	Degeres	4.92	26	eP	Pb	10 29 21.1	+1.3
	5.5nm,0.6s						
DGS				eS	Sb	10 30 22.8	+3.8
	5.3nm,0.6s						
DGS	Degeres	4.92	26	Pg	Pb	10 29 21.1	+1.3
	5.5nm,0.6s						
DGS				Lg	Lg	10 30 22.8	
	5.3nm,0.6s						
MTBS	Maitube	5.07	32	eP	Pb	10 29 23.0	+0.6
	1.5nm,0.4s						
MTBS				eS	Sb	10 30 25.6	+2.2
	4.6nm,0.4s						
MTBS	Maitube	5.07	32	Pg	Pb	10 29 23.0	+0.6
	1.5nm,0.4s						
MTBS				Lg	Lg	10 30 26.3	
	4.6nm,0.4s						
TNSS	Tian-Shan	5.22	36	eP	Pb	10 29 25.2	0.0
	3.0nm,0.6s						
TNSS				eS	Sb	10 30 29.8	+1.8
	2.6nm,0.6s						
TNSS	Tian-Shan	5.22	36	Pg	Pb	10 29 25.2	0.0
	3.0nm,0.6s						
TNSS				Lg	Lg	10 30 29.8	
	2.6nm,0.6s						
KBL	Kabul	5.26	216	Pn	Pn	10 29 11.2	-1.3
KTBS	Karatobe	5.66	30	eP	Pb	10 29 31.7	-0.7
	1.2nm,0.6s						
KTBS				eS	Sb	10 30 41.0	+0.7
	6.3nm,0.7s						
KTBS	Karatobe	5.66	30	Pg	Pb	10 29 31.7	-0.7
	1.2nm,0.6s						
KTBS				Lg	Lg	10 30 41.0	
	6.3nm,0.7s						
KUU	Kurty	5.68	27	eP	Pb	10 29 33.0	+0.2
	0.9nm,0.7s						
KUU				eS	Sb	10 30 42.6	+1.6
	7.3nm,0.8s						
KUU	Kurty	5.68	27	Pg	Pb	10 29 33.0	+0.2
	0.9nm,0.7s						
KUU				Lg	Lg	10 30 42.6	
	7.3nm,0.8s						
CHKK	Chushkaly	5.90	31	eP	Pb	10 29 38.0	+1.6
	0.8nm,0.1s						
CHKK				eS	Sb	10 30 51.2	+4.0
	4.7nm,0.4s						
CHKK	Chushkaly	5.90	31	Pg	Pb	10 29 38.0	+1.6
	0.8nm,0.1s						
CHKK				Lg	Lg	10 30 51.2	
	4.7nm,0.4s						
ABKAR	Akbulak array	13.87	323	Pn	Pn	10 31 09.0	-1.0
USA0B	Ussuriysk Arra	43.81	63	P	P	10 36 02.1	+2.6
USRK	Ussuriysk Ar.	43.81	63	P	P	10 36 00.1	+0.6
JGF	Kuroka	50.56	72	P	P	10 36 55.2	+2.9
JGF				IAmb	IAmb	10 36 55.9	
	comp=Z,5.6nm,0.9s						

ML02					IAML			10 29 51.6
	comp=E,4μm,0.6s							
ML02	**Panimavida**	**1.64**	**151**	Pn		**Pb**	**10 29 21.2**	**-0.8**
MT05	**Renca**	**1.67**	**56**	⇑	*i*P	**Pn**	**10 29 21.4**	**+0.6**
MT05					*i* S	**Sb**	**10 29 42.9**	**-0.3**
MT05					IAML		10 29 50.2	
	comp=E,3μm,0.5s							
MT05	**Renca**	**1.67**	**56**	Pn		**Pn**	**10 29 21.2**	**+0.6**
ROCH	**El Roble**	**1.78**	**41**	⇑	*i*P	**Pb**	**10 29 22.9**	**-1.7**
ROCH				⇓	*i*P	**Pn**	**10 29 22.5**	**+0.1**
ROCH					*i* S	**Sb**	**10 29 46.6**	**-0.1**
ROCH					IAML		10 29 58.9	
	comp=N,2μm,0.6s							
PEL	**Peldehue**	**1.85**	**51**	⇑	*i*P	**Pn**	**10 29 24.3**	**+1.0**
PEL					*i* S	**Sb**	**10 29 48.1**	**-0.5**
PEL	**Peldehue**	**1.85**	**51**			**Pn**	**10 29 24.2**	**+1.0**
LMEL	**Las Melosas**	**1.88**	**76**	*i*	P	**Pn**	**10 29 25.0**	**+1.2**
LMEL					*i* S	**Sb**	**10 29 48.9**	**-0.7**
LMEL					IAML		10 29 59.5	
	comp=N,1μm,0.6s							
VA03	**San Esteban**	**2.20**	**45**	⇑	*i*P	**Pn**	**10 29 29.1**	**+1.1**
VA03					*i* S	**Sn**	**10 29 56.6**	**+1.9**
VA03					IAML		10 30 09.4	
	comp=E,2μm,0.6s							
VA03	**San Esteban**	**2.20**	**45**	Pn		**Pn**	**10 29 29.1**	**+1.1**
CO06	**Fray Jorge**	**3.70**	**10**			**Pn**	**10 29 47.6**	**-1.0**
CO03	**El Pedregal**	**3.77**	**23**	*eP*		**Pn**	**10 29 50.2**	**+0.6**
CO03	**El Pedregal**	**3.77**	**23**			**Pn**	**10 29 50.4**	**+0.7**
ZON	**Zonda**	**4.18**	**49**	Pn		**Pn**	**10 29 55.7**	**+0.4**
GO04	**Tololo Observa**	**4.36**	**19**	*i*	P	**Pn**	**10 29 58.2**	**+0.3**
GO04	**Tololo Observa**	**4.36**	**19**	Pn		**Pn**	**10 29 58.1**	**+0.2**
CO05	**La Serena**	**4.51**	**13**			**Pn**	**10 29 59.2**	**-0.5**
LC01	**Cunco**	**4.58**	**175**	Pn		**Pn**	**10 30 00.8**	**+0.1**
LR03	**Panguipulli**	**5.29**	**180**	Pn		**Pn**	**10 30 10.0**	**-0.5**
H03S1	**Juan Fernandez**	**5.42**	**273**	Pn		**Pn**	**10 30 11.9**	**-0.1**
	SNR=13							
H03S3	**Juan Fernandez**	**5.43**	**274**	Pn		**Pn**	**10 30 11.9**	**-0.2**
	SNR=10							
H03S2	**Juan Fernandez**	**5.44**	**273**	Pn		**Pn**	**10 30 11.9**	**-0.3**
	SNR=23							
H03N1	**Juan Fernandez**	**5.49**	**277**	Pn		**Pn**	**10 30 13.8**	**+0.9**
	baz=132,slow=23,SNR=20							
H03N3	**Juan Fernandez**	**5.50**	**277**	Pn		**Pn**	**10 30 13.9**	**+0.8**
	baz=132,slow=23,SNR=26							
LCO	**Las Campanas**	**5.50**	**16**	Pn		**Pn**	**10 30 13.6**	**+0.1**
H03N2	**Juan Fernandez**	**5.51**	**277**	Pn		**Pn**	**10 30 14.3**	**+1.1**
	baz=132,slow=23,SNR=16							
AC04	**Llanos de Chal**	**6.21**	**11**	Pn		**Pn**	**10 30 21.1**	**-2.0**
PLCA	**Paso Flores**	**6.56**	**168**	Pn		**Pn**	**10 30 27.8**	**-0.1**
	comp=E,0.2nm,0.3s,baz=336,slow=13,SNR=11							
PLCA				Lg		Lg	10 32 03.8	
	comp=E,0.1nm,0.3s,baz=44,slow=23,SNR=1.3							
PLCA				LR		LR	10 33 14.2	
	comp=E,119nm,18.4s,baz=339,slow=41							
LL04	**Puerto Octay**	**6.57**	**180**			**Pn**	**10 30 28.3**	**+0.4**
GO03	**Copiap**	**6.97**	**16**	Pn		**Pn**	**10 30 33.5**	**-0.1**
LL05	**Los Muermos**	**7.11**	**187**	Pn		**Pn**	**10 30 36.5**	**+1.1**
AC02	**Maricunga**	**7.98**	**22**	Pn		**Pn**	**10 30 47.5**	**-0.4**
LVC	**Limon Verde**	**12.07**	**16**	LR		LR	10 36 45.2	
	comp=E,108nm,18.7s,baz=198,slow=39							
CPUP	**Villa Florida**	**15.25**	**63**	LR		LR	10 38 40.9	
	comp=E,123nm,21.8s,baz=240,slow=39							
PB16	**IPOC Station P**	**16.14**	**10**			**Pn**	**10 32 37.6**	**-1.2**
LPAZ	**La Paz**	**18.37**	**13**	P		**Pn**	**10 33 08.2**	**+1.4**
	comp=E,0.3nm,0.3s,baz=195,slow=7.9,SNR=18							
LPAZ	**La Paz**	**18.37**	**13**			**P**	**10 33 04.4**	**-2.4**
AQDB	**Aquidauana**	**20.21**	**51**	P		**P**	**10 33 26.6**	**+0.4**
AQDB				IAmb		IAmb	10 33 42.5	
	comp=Z,15nm,1.3s							
SIV	**San Ignacio**	**20.91**	**32**	P		**P**	**10 33 33.6**	**-0.3**
	comp=Z,8.9nm,1.0s,baz=180,slow=7.8,SNR=14							
SIV				LR		LR	10 43 11.5	
	comp=Z,146nm,18.6s,baz=112,slow=41							
PTLB	**Pontes e Lacer**	**22.28**	**36**	P		**P**	**10 33 48.5**	**0.0**
PTLB				IAmb		IAmb	10 33 51.4	
	comp=Z,9.5nm,1.2s							
ETMB	**Extrema**	**25.05**	**15**			**P**	**10 34 16.8**	**+1.2**
ETMB				IAmb		IAmb	10 34 27.2	
	comp=Z,14nm,1.1s							
BDFB	**Brasilia**	**28.77**	**56**	P		**P**	**10 34 47.3**	**-1.9**
	comp=Z,1.4nm,0.5s,baz=209,slow=13,SNR=3.5							
BDFB	**Brasilia**	**28.77**	**56**	IAmb		IAmb	10 35 14.8	
	comp=Z,9.3nm,1.3s							
TBTG	**Tabatinga, AM**	**30.08**	**5**	P		**P**	**10 35 00.0**	**-0.7**
PMSA	**Palmer Station**	**30.90**	**173**	P		**P**	**10 35 05.0**	**-2.4**
	comp=Z,8.5nm,0.4s,baz=320,slow=7.9,SNR=9.3							
PMSA	**Palmer Station**	**30.90**	**173**	IAmb		IAmb	10 35 08.8	
	comp=Z,149nm,1.7s							
ZARC	**Zaragoza, Cauc**	**41.66**	**356**	P		**P**	**10 36 40.6**	**+0.9**
BAUV	**El Baul**	**43.23**	**6**	P		**P**	**10 36 52.7**	**+0.2**
VNA2	**Neumayer--Watz**	**49.82**	**157**	P		P	10 37 56.2	+13
	baz=290,slow=8.6							
SNAA	**Sanae**	**51.39**	**158**	P		P	10 38 07.5	+12
SNAA	**Sanae**	**51.39**	**158**	P		**P**	**10 37 55.7**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=234,slow=8.7,SNR=3.6							
SNAA	**Sanae**	**51.39**	**158**	P		**P**	**10 37 56.7**	**+1.1**
SNAA				IAmb		IAmb	10 38 25.1	
	comp=Z,9.9nm,1.4s							
TROLL	**Troll, Antarti**	**53.10**	**158**	P		P	10 38 21.0	+13
QSPA	**South Pole Qui**	**55.91**	**180**	P		**P**	**10 38 30.0**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=125,slow=1.7,SNR=5.8							
QSPA	**South Pole Qui**	**55.91**	**180**	P		**P**	**10 38 29.3**	**+0.5**
QSPA				IAmb		IAmb	10 38 41.2	
	comp=Z,5.9nm,1.1s							
BOSA	**Boshof**	**80.18**	**118**	P		**P**	**10 41 01.6**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=169,slow=5.2,SNR=2.0							
BOSA	**Boshof**	**80.18**	**118**	IAmb		IAmb	10 43 23.8	
	comp=Z,21nm,1.6s							
NVAR	**Mina Array Bea**	**83.99**	**325**	P		**P**	**10 41 24.3**	**+2.8**
	comp=Z,0.1nm,0.4s,baz=174,slow=1.6,SNR=1.7							
TORD	**Torodi Ar. Bea**	**84.60**	**70**	P		**P**	**10 41 25.2**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=238,slow=3.5,SNR=6.4							
WRA	**Warramunga Arr**	**120.33**	**209**	PKP		**PKPdf**	**10 47 42.8**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=167,slow=1.4,SNR=5.6							
KURBB	**Kurchatov Arra**	**153.31**	**44**	PKPbc		**PKiKP**	**10 48 49.5**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=305,slow=3.0,SNR=13							
ZALV	**Zalesovo Beam**	**154.66**	**32**	PKPbc		**PKiKP**	**10 48 52.2**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=306,slow=3.7,SNR=7.6							
SONM	**Songino Array**	**166.48**	**3**	PKPab		**PKPab**	**10 49 57.7**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=39,slow=0.9,SNR=2.6							

*IDC **01** 10:29:38.6±1.4,41°.26N×38°.66E,h0km,mb3.3/3,*
mb1 3.6/7,mb1mx3.3/44,mbtmp3.4/7,ML4.3/2,Error
ellipse: s-maj=26.0km s-min=10.1km az=162.0
*ISK **01** 10:29:40.5,41°.17N×38°.64E,h11km,ML3.5/12*
*MOS **01** 10:29:41.8±0.0,41°.25N×38°.59E,h33km,ML3.1/6,*
MPVA3.8
*DDA **01** 10:29:41.2±0.0,41°.08N×38°.58E,h19km±1km,MW3.5*
ISC 01 10:29:41.7±1.1,41°.19N±0°.03×38°.54E±0°.02,h27km±11km,
n88,σ2s28/143,mb3.3/4,20C-19D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTUT	**Trabzon**	**0.95**	**102**	PG	**Pb**	**10 29 58.0**	**-1.6**
KTUT				SG	**Sb**	**10 30 10.4**	**-1.4**
KELT	**Kelkit**	**1.18**	**152**	SPECP		10 30 01.0	
KELT				P	**Pb**	**10 30 01.9**	**-1.6**
KELT				S	**Sn**	**10 30 16.7**	**-1.1**
KELT				*i* AML	AML	10 30 18.0	
	comp=E,2μm,0.5s						
KELT				*i* AML	AML	10 30 20.0	
	comp=N,1μm,0.3s						
RSDY	**Resadiye-TOKAT**	**1.21**	**229**	PN	**Pb**	**10 30 03.7**	**-0.3**
REFA	**Refahiye_ERZN**	**1.30**	**172**	SPECP		10 30 04.0	
REFA				P	**Pb**	**10 30 04.2**	**-1.3**
REFA				S	**Sn**	**10 30 20.7**	**0.0**
REFA				*i* AML	AML	10 30 22.0	
	comp=N,596nm,0.3s						
REFA				*i* AML	AML	10 30 22.0	
	comp=E,418nm,0.2s						
CUZAR	**Zara_SIVAS**	**1.43**	**204**	P	**Pb**	**10 30 07.0**	**-0.7**
CUZAR				*i* AML	AML	10 30 26.0	
	comp=N,526nm,0.3s						
CUZAR				S	**Sb**	**10 30 26.2**	**+0.6**
CUZAR				*i* AML	AML	10 30 27.0	
	comp=E,724nm,0.3s						
ERBA	**Erbaa**	**1.44**	**250**	SPECP		10 30 07.0	
ERBA				P	**Pb**	**10 30 08.0**	**+0.1**
ERBA				S	**Sb**	**10 30 27.6**	**+1.7**
ERBA				*i* AML	AML	10 30 28.0	
	comp=N,657nm,0.2s						
ERBA				*i* AML	AML	10 30 28.0	
	comp=E,864nm,0.3s						
BAYT	**Aydıntepe-Bayb**	**1.46**	**123**	PN	**Pn**	**10 30 06.4**	**+0.1**
BAYT				SN	**Sb**	**10 30 24.9**	**-1.5**
BAYB	**BAYBURT**	**1.61**	**125**	SPECP		10 30 08.0	
BAYB				P	**Pn**	**10 30 08.5**	**0.0**
SCER	**sogukcermik**	**1.71**	**219**	SPECP		10 30 12.0	
SCER				P	**Pb**	**10 30 12.0**	**-0.5**
SCER				S	**Sb**	**10 30 34.9**	**+1.3**
SCER				*i* AML	AML	10 30 35.0	
	comp=E,551nm,1.0s						
SCER				*i* AML	AML	10 30 37.0	
	comp=N,809nm,0.8s						
EUZM	**Uzumlu**	**1.73**	**149**	SPECP		10 30 10.0	
EUZM				P	**Pb**	**10 30 11.0**	**-1.8**
EUZM				S	**Sb**	**10 30 34.0**	**-0.2**
EUZM				*i* AML	AML	10 30 38.0	
	comp=N,144nm,0.4s						
EUZM				*i* AML	AML	10 30 38.0	
	comp=E,200nm,0.6s						
SVSK	**Karacayir**	**1.73**	**223**	PN	**Pb**	**10 30 11.7**	**-1.1**
SVSK				SN	**Sb**	**10 30 34.9**	**+0.8**
ILIC	**ilic-Erzincan**	**1.74**	**179**	PN	**Pb**	**10 30 11.3**	**-1.7**
TOKT	**Tokat**	**1.75**	**241**	PN	**Pb**	**10 30 12.4**	**-0.6**
TOKT				SN	**Sb**	**10 30 35.6**	**+1.0**
SAMS	**Samsun-Alacam**	**1.78**	**276**	P	**Pb**	**10 30 12.6**	**-1.0**
TOKA	**Tokat**	**1.79**	**242**	SPECP		10 30 14.0	
TOKA				P	**Pb**	**10 30 14.3**	**+0.5**
TOKA				S	**Sb**	**10 30 38.9**	**+3.1**
TOKA				*i* AML	AML	10 30 41.0	
	comp=N,295nm,0.9s						
KOPT	**Kop Dagi**	**1.90**	**128**	SPECP		10 30 14.0	
KOPT				P	**Pb**	**10 30 14.9**	**-1.0**
KOPT				*i* AML	AML	10 30 40.0	
	comp=N,528nm,0.3s						
KOPT				*i* AML	AML	10 30 50.0	
	comp=E,493nm,0.9s						
KEMA	**Kemaliye**	**1.92**	**181**	SPECP		10 30 14.0	
KEMA				P	**Pb**	**10 30 14.3**	**-1.8**
KEMA				S	**Sb**	**10 30 42.6**	**+3.0**
KEMA				*i* AML	AML	10 30 44.0	
	comp=E,214nm,0.6s						
KEMA				*i* AML	AML	10 30 45.0	
	comp=N,196nm,0.5s						
CUKAN	**kangal_SIVAS**	**2.05**	**204**	P	**Pb**	**10 30 16.0**	**-2.3**
CUKAN				S	**Sb**	**10 30 46.0**	**+2.7**
CUKAN				*i* AML	AML	10 30 48.0	
	comp=E,238nm,0.6s						
CUKAN				*i* AML	AML	10 30 51.0	
	comp=N,129nm,0.6s						
ARPR	**Arapgir-MALATY**	**2.10**	**184**	PN	**Pb**	**10 30 16.6**	**-2.6**
TNCL	**Tunceli-Merkez**	**2.22**	**159**	SPECP		10 30 18.0	
TNCL				P	**Pb**	**10 30 18.6**	**-2.5**
TNCL				*i* AML	AML	10 30 51.0	
	comp=E,228nm,0.9s						
TNCL				*i* AML	AML	10 30 52.0	
	comp=N,211nm,0.8s						
YEDI	**Yedisu-Bingol**	**2.33**	**138**	PN	**Pn**	**10 30 19.2**	**+0.9**
BCA	**Borcka**	**2.34**	**83**	⇓	P	Pb	10 30 28.6	+5.5
BCA				⇓	S	Sb	10 31 01.2	+10
CUAYA	**Sivas-Altinyay**	**2.36**	**216**	P	**Pb**	**10 30 21.0**	**-2.6**
CUAYA				*i* AML	AML	10 30 57.0	
	comp=N,105nm,0.6s						
CUAYA				*i* AML	AML	10 30 59.0	
	comp=E,125nm,0.8s						
CUSAR	**Sarkisla-SIVAS**	**2.49**	**225**	P	**Pb**	**10 30 25.9**	**+0.1**
EJDE	**Erzurum, Palan**	**2.51**	**122**	PN	**Pn**	**10 30 21.6**	**+0.6**
ERZM	**Erzurum**	**2.51**	**120**	PN	**Pn**	**10 30 21.6**	**+0.7**
VSLR	**Vesyoloye**	**2.52**	**26**	*i* Pn	**Pn**	**10 30 20.8**	**0.0**
VSLR				*i* Sn	**Sn**	**10 30 50.2**	**-0.4**
SOC	**Sochi**	**2.54**	**20**	*e*Pn	**Pn**	**10 30 21.0**	**-0.1**
	12nm,0.5s						
SOC				*i* Sn	**Sn**	**10 30 50.4**	**-0.7**
	202nm,0.2s						
SOC				*i* AML	AML	10 30 52.5	
	181nm,0.2s						
CUGUR	**Gurin_SVAS**	**2.65**	**202**	P	**Pb**	**10 30 29.8**	**+1.2**
ELZG	**Elazig**	**2.71**	**173**	P	**Pb**	**10 30 27.0**	**-2.6**
BNGB	**Bingl**	**2.75**	**143**	PN	**Pn**	**10 30 25.1**	**+1.1**
KOPR	**Koprukoy-ERZUR**	**2.80**	**114**	PN	**Pn**	**10 30 25.5**	**+0.7**
LZRR	**Lazarevskoye**	**2.81**	**13**	*e*Pn	**Pn**	**10 30 26.0**	**+1.3**
LZRR				*e*Sn	**Sn**	**10 30 58.0**	**+0.3**
RPOR	**Krasnaya Polya**	**2.81**	**27**	*e*Pn	**Pn**	**10 30 25.1**	**+0.2**
	8.7nm,0.4s						
RPOR				*i* Sn	**Sn**	**10 30 56.9**	**-1.0**
	105nm,0.3s						
RPOR				*i* AML	AML	10 30 59.1	
	91nm,0.2s,baz=27						
SVRC	**Sivrice-ELAZID**	**2.87**	**168**	PN	**Pn**	**10 30 27.3**	**+1.5**
AKCD	**Akcadag**	**2.93**	**189**	P	**Pb**	**10 30 33.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.96**	**101**	PN	**Pn**	**10 30 27.8**	**+0.8**
GUZR	**Guzerípl'**	**3.04**	**22**	*i* Pn	**Pn**	**10 30 28.3**	**+0.4**
	6.9nm,0.2s						
GUZR				*i* Sn	**Sn**	**10 31 01.5**	**-1.8**
	74nm,0.3s						
GUZR				*i* AML	AML	10 31 08.2	
	76nm,0.6s,baz=22						
GOYR	**Goytkh**	**3.11**	**11**	*e*Pn	**Pn**	**10 30 29.4**	**+0.5**
	3.6nm,1.0s						
GOYR				*e*Sn	**Sn**	**10 31 04.2**	**-1.0**
	24nm,0.4s						
GOYR				*i* AML	AML	10 31 10.7	
	22nm,0.4s,baz=11						
SPGR	**Shapsug**	**3.56**	**355**	*i* Pn	**Pn**	**10 30 36.3**	**+1.3**
SPGR				*e*Sn	**Sn**	**10 31 15.8**	**-0.4**
NEY	**Neytrino**	**3.73**	**55**	*e*Pn	**Pn**	**10 30 38.6**	**+1.1**
	20nm,0.5s						
NEY				*e*Sn	**Sn**	**10 31 18.3**	**-2.3**
	39nm,0.3s						
NEY				*i* AML	AML	10 31 20.0	
	33nm,0.3s,baz=57						
AKH	**Akhalkalaki**	**3.74**	**85**	⇑	P	**Pb**	**10 30 48.3**	**+1.2**
AKH					S	**Sb**	**10 31 35.5**	**+3.5**
SHA1	**Shidzhatmaz**	**3.97**	**49**	*e*Pn	**Pn**	**10 30 41.6**	**+0.7**
	2.3nm,0.4s						
SHA1				*e*Sn	**Sn**	**10 31 24.2**	**-2.5**
	12nm,0.6s						
SHA1				*i* AML	AML	10 31 35.2	
	12nm,0.7s,baz=50						
BRTR	**Keskin Array B**	**4.01**	**250**	Pn	**Pn**	**10 30 44.1**	**+2.7**
	0.1nm,0.3s,baz=204,slow=33,SNR=1.7						
KBZ	**Khabaz**	**4.10**	**50**	Pn	**Pn**	**10 30 42.7**	**+0.2**
	0.4nm,0.3s,baz=225,slow=5.7,SNR=8.0						
KBZ				Sn	**Sn**	**10 31 29.0**	**-0.5**
	0.5nm,0.3s,baz=228,slow=4.2,SNR=4.1						
KBZ	**Khabaz**	**4.10**	**50**	*e*Pn	**Pn**	**10 30 42.5**	**+0.1**
KBZ				*e*Sn	**Sn**	**10 31 27.8**	**-1.8**
KIV	**Kislovodsk**	**4.12**	**47**	*e*Pn	**Pn**	**10 30 46.0**	**+3.1**
KIV				*e*Sn	**Sn**	**10 31 32.0**	**+1.7**
KVAR	**Kislovodsk Arr**	**4.13**	**47**	Pn	**Pn**	**10 30 43.9**	**+0.9**
	baz=259,slow=19,SNR=2.0						
KVAR				Sn	**Sn**	**10 31 31.7**	**+1.2**
	baz=251,slow=21,SNR=3.3						
BEYR	**Belyy Ugol+**	**4.23**	**47**	*e*Pn	**Pn**	**10 30 44.2**	**-0.2**
BEYR				*e*Sn	**Sn**	**10 31 33.0**	**+0.2**
FEO	**Feodosiya**	**4.46**	**330**	*e*P	**Pn**	**10 30 47.7**	**+0.3**
FEO				Pm		10 30 47.8	
	comp=Z,19nm,0.2s						
FEO	**Feodosiya**	**4.46**	**330**	*e*Pn	**Pn**	**10 30 47.7**	**+0.3**
SUDU	**Sudak**	**4.51**	**326**	*e*P	**Pn**	**10 30 47.8**	**-0.3**
SUDU				Pm		10 30 50.0	
	comp=Z,16nm,0.4s						
SUDU				*e*S	**Sn**	**10 31 38.5**	**-1.1**
SUDU				Sm		10 31 41.6	
	comp=N,58nm,0.4s						
SUDU				Sm		10 31 41.6	
	comp=E,19nm,0.3s						
SUDU	**Sudak**	**4.51**	**326**	*e*Pn	**Pn**	**10 30 47.8**	**-0.3**
SUDU				*e*Sn	**Sn**	**10 31 38.5**	**-1.1**
LACR	**Lac**	**4.59**	**67**	*e*Pn	**Pn**	**10 30 50.6**	**+1.2**
LACR				*e*Sn	**Sn**	**10 31 40.2**	**-1.7**
YAL	**Yalta**	**4.61**	**317**	*e*P	**Pn**	**10 30 49.5**	**+0.1**
YAL				Pm		10 30 50.9	
	comp=Z,29nm,0.2s						
YAL				*e*S	**Sn**	**10 31 40.9**	**-1.0**
YAL				Sm		10 31 43.1	
	comp=N,68nm,0.3s						
YAL				Sm		10 31 43.1	
	comp=E,42nm,0.3s						
YAL	**Yalta**	**4.61**	**317**	*e*Pn	**Pn**	**10 30 49.5**	**+0.1**
YAL				*e*Sn	**Sn**	**10 31 40.9**	**-1.0**
ALU	**Alushta**	**4.62**	**320**	*e*P	**Pn**	**10 30 49.7**	**+0.1**
ALU				Pm		10 30 51.6	
	comp=Z,27nm,0.5s						
ALU				*e*S	Sn	10 31 31.0	-11
ALU				Sm		10 31 43.1	
	comp=N,22nm,0.3s						
ALU				Sm		10 31 43.1	
	comp=E,16nm,0.4s						
ALU	**Alushta**	**4.62**	**320**	*e*Pn	**Pn**	**10 30 49.7**	**+0.1**
ALU				*e*Sn	**Sn**	**10 31 41.1**	**-1.2**
SEV	**Sevastopol'**	**4.90**	**315**	*e*P	**Pn**	**10 30 54.4**	**+1.0**
SEV				Pm		10 30 54.8	
	comp=Z,6.0nm,0.3s						
SEV				*e*S	**Sn**	**10 31 48.7**	**-0.5**
SEV				Sm		10 31 49.5	
	comp=N,11nm,0.4s						
SEV				Sm		10 31 49.5	
	comp=E,14nm,0.4s						
SEV	**Sevastopol'**	**4.90**	**315**	*e*Pn	**Pn**	**10 30 54.4**	**+1.0**
SEV				*e*Sn	**Sn**	**10 31 48.7**	**-0.5**
SIM	**Simferopol'**	**4.96**	**321**	*e*S	**Sn**	**10 31 50.1**	**-0.5**
SIM				Sm		10 31 50.3	
	comp=N,15nm,0.4s						
SIM				Sm		10 31 50.3	
	comp=E,10.0nm,0.3s						
SIM	**Simferopol'**	**4.96**	**321**	*e*Pn	Pn	10 31 00.4	+6.2
SIM				*e*Sn	**Sn**	**10 31 50.1**	**-0.5**
MANR	**Mangalia**	**7.80**	**293**	⇑	S	**Sn**	**10 32 56.1**	**-4.6**
MFTR	**Murfatlar**	**8.02**	**295**	P		**Pn**	**10 31 34.4**	**-1.9**
MFTR				⇓	S	**Sn**	**10 33 01.5**	**-4.7**
TIRR	**Tirgusor**	**8.12**	**297**	⇑	P	**Pn**	**10 31 36.2**	**-1.5**
TIRR				⇑	S	**Sn**	**10 33 03.3**	**-5.3**
TLCR		**8.14**	**303**	⇓	P	**Pn**	**10 31 36.5**	**-1.5**
TLCR				⇑	S	**Sn**	**10 33 03.3**	**-5.7**
TPGR	**Topolog**	**8.26**	**300**	⇑	P	**Pn**	**10 31 37.9**	**-1.7**
TPGR				⇑	S	**Sn**	**10 33 07.2**	**-4.9**
TLBR	**Topalu**	**8.40**	**297**	⇑	P	**Pn**	**10 31 40.7**	**-0.8**
TLBR				⇓	S	**Sn**	**10 33 11.1**	**-4.2**
CFR	**Carcaliu**	**8.58**	**301**	⇓	P	**Pn**	**10 31 42.5**	**-1.4**
CFR				⇓	S	**Sn**	**10 33 13.9**	**-5.7**
VLDR	**Vladesti**	**8.90**	**305**	⇓	P	**Pn**	**10 31 46.9**	**-1.5**
VLDR				⇑	S	**Sn**	**10 33 23.1**	**-4.6**
MILM	**Milestii Mici**	**9.04**	**313**	⇑	P	**Pn**	**10 31 48.8**	**-1.4**
MILM				⇓	S	**Sn**	**10 33 27.1**	**-3.9**
VRI	**Vrincioaia**	**9.76**	**303**	⇓	P	**Pn**	**10 31 58.8**	**-1.4**
VRI				⇑	S	**Sn**	**10 33 43.8**	**-5.0**
PLOR	**Plostina**	**9.80**	**302**	⇑	P	**Pn**	**10 31 59.1**	**-1.7**
PLOR				⇑	S	**Sn**	**10 33 45.8**	**-4.2**
SORM	**Soroca**	**10.03**	**317**	⇓	P	**Pn**	**10 32 02.2**	**-1.6**
SORM				⇑	S	**Sn**	**10 33 50.3**	**-5.1**
COVR	**Voineasa-Covas**	**10.09**	**302**	⇑	P	**Pn**	**10 32 03.3**	**-1.4**
COVR				⇑	S	**Sn**	**10 33 52.2**	**-4.7**
TESR	**Tescani**	**10.09**	**306**	⇓	P	**Pn**	**10 32 03.2**	**-1.5**
TESR				⇑	S	**Sn**	**10 33 51.6**	**-5.3**
MLR	**Muntele Rosu**	**10.12**	**299**	⇓	P	**Pn**	**10 32 04.1**	**-1.2**
MLR				⇑	S	**Sn**	**10 33 53.3**	**-4.7**
MLR	**Muntele Rosu**	**10.12**	**299**	Pn		**Pn**	**10 32 06.8**	**+1.5**
	comp=E,0.5nm,0.3s,baz=163,slow=14,SNR=4.3							
MLR				Sn		**Sn**	**10 33 53.5**	**-4.4**
	comp=E,0.2nm,0.3s,baz=139,slow=14,SNR=1.6							
DOPR	**Dopca**	**10.66**	**301**	⇑	P	**Pn**	**10 32 11.9**	**-0.6**
DOPR				⇓	S	**Sn**	**10 34 06.4**	**-4.5**
VOIR		**10.70**	**298**	⇓	P	**Pn**	**10 32 11.9**	**-1.2**
VOIR				⇓	S	**Sn**	**10 34 07.6**	**-4.4**
ARR	**Arges**	**10.96**	**297**	P		**Pn**	**10 32 14.8**	**-1.8**
ARR				⇓	S	**Sn**	**10 34 13.2**	**-5.0**
BURAR	**Bucovina Array**	**11.48**	**308**	⇓	P	**Pn**	**10 32 21.9**	**-1.9**
BURAR				⇑	S	**Sn**	**10 34 26.8**	**-4.3**
AKASG	**Malin Array Be**	**11.50**	**329**	Pn		**Pn**	**10 32 22.3**	**-1.6**
	comp=E,1.4nm,0.3s,baz=136,slow=13,SNR=12							
AKASG				Sn	Sn		10 34 20.5	-11
	comp=E,0.6nm,0.3s,baz=133,slow=24,SNR=3.9							
LOT	**Lotru**	**11.56**	**296**	P		**Pn**	**10 32 23.3**	**-1.7**
LOT				⇓	S	**Sn**	**10 34 27.6**	**-5.5**
FINES	**FINESS Array B**	**21.65**	**344**	P		**P**	**10 34 33.2**	**+3.6**
	comp=E,9.7nm,1.2s,baz=134,slow=9.9,SNR=4.

baz=277
NSTT Nanjuang 1.17 278 *e*P **Pg 11 01 47.0 +0.7**
baz=276
WHP Taichung City 1.23 261 *e*P **Pg 11 01 47.8 +0.4**
baz=260
HGSD Ruisui 1.25 219 *e*P **Pb 11 01 46.8 +0.3**
baz=205
VWDT VWDT 1.26 236 *e*P **Pg 11 01 47.8 -0.2**
baz=220
EHY Hungye 1.30 222 *e*P **Pb 11 01 47.3 -0.1**
baz=222
IRIF Iriomote-Funau 1.33 96 P **Pn 11 01 47.2 0.0**
IRIF *e*S **Sb 11 02 04.7 0.0**
YULB Yu-li 1.40 220 *e*P **Pn 11 01 48.6 +0.5**
baz=220
JKRS Kuro-shima 1.60 98 S **Sn 11 02 10.6 -0.4**
JIJ Ishigaki jima 1.71 93 P **Pn 11 01 52.6 +0.3**
JIJ *e*S **Sn 11 02 12.3 -1.3**
JISG Ishigakijimahi 1.86 86 P **Pn 11 01 55.1 +0.7**
JISG *e*S **Sn 11 02 16.2 -1.2**

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*IDC **01** 11:08:05.1±1.9, 33°.22N×141°.69E, h0km, mb3.4/3, mb1 3.4/4, mb1mx2.9/59, mbtmp3.3/4, Error ellipse: s-maj=37.3km s-min=24.3km az=52.0*
*JMA **01** 11:08:13.3±0.4, 33°.22N×141°.25E, h45km, M2.8*
ISC 01 11:08:11.9±1.6, 33°.15N±0°.08×141°.5E±0°.1, h41km, n12, σ1s78/15, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.39**	**269**	P	**Pn**	**11 08 34.4**	**-0.3**
JHJ	**Hachijo jima 2**	**1.42**	**269**	Pn	**Pn**	**11 08 34.5**	**-0.6**
	31nm,0.3s,baz=65,slow=17,SNR=16						
JHJ				Sn	**Sn**	**11 08 56.2**	**+3.6**
	29nm,0.3s,baz=67,slow=23,SNR=8.1						
BSO1	**Boso 1**	**1.56**	**345**	P	**Pn**	**11 08 37.4**	**+0.8**
BSO3	**Boso 3**	**1.83**	**334**	P	**Pn**	**11 08 41.2**	**+0.6**
BSO4	**Boso 4**	**2.06**	**333**	P	**Pn**	**11 08 45.2**	**+1.3**
JIM2	**Oshima 3**	**2.31**	**313**	P	**Pn**	**11 08 47.6**	**+0.2**
JOD2	**Odawara 2**	**2.89**	**318**	P	**Pn**	**11 08 56.0**	**+0.6**
JOD2				*e*S	**Sn**	**11 09 25.8**	**-3.1**
JAG	**Ashikaga**	**3.67**	**334**	P	**Pn**	**11 09 06.9**	**+0.9**
MJAR	**Matsushiro Arr**	**4.32**	**323**	Pn	**Pn**	**11 09 12.1**	**-3.0**
	baz=146,slow=11,SNR=1.6						
MJAR				Sn	**Sn**	**11 10 05.6**	**+1.5**
	0.1nm,0.3s,baz=135,slow=17,SNR=1.7						
MKAR	**Makanchi Array**	**46.31**	**305**	P	**P**	**11 16 33.4**	**-0.1**
	0.3nm,0.7s,baz=87,slow=8.7,SNR=2.4						
KURBB	**Kurchatov Arra**	**48.50**	**311**	P	**P**	**11 16 50.2**	**-0.2**
	0.1nm,0.3s,baz=104,slow=6.9,SNR=1.6						
WRA	**Warramunga Arr**	**53.23**	**188**	P	**P**	**11 17 25.9**	**-0.4**
	0.4nm,0.5s,baz=4.4,slow=7.4,SNR=11						

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*MOS **01** 11:16:47.9±0.9, 36°.52N×70°.66E, h201km, mb4.3/25, Error ellipse: s-maj=7.0km s-min=3.5km az=78.1*
*BJI **01** 11:16:48.6±0.0, 36°.61N×70°.67E, h205km, mb4.4/32, mB4.7/18*
*IDC **01** 11:16:49.8±0.7, 36°.42N×70°.68E, h211km±6km, mb3.8/26, mb1 3.9/30, mb1mx3.6/51, mbtmp4.4/30, Error ellipse: s-maj=9.2km s-min=8.1km az=13.0*
*NEIC **01** 11:16:49.9±1.9, 36°.50N±0°.02×70°.63E±0°.08, h203km±5km, mb4.5/59, Error ellipse: s-maj=9.2km s-min=1.9km az=77.0*
*NNC **01** 11:16:50.2±2.0, 36°.79N×70°.46E, h181km±21km, mb4.3, mpv5.4, Error ellipse: s-maj=20.1km s-min=11.0km az=161.0*
ISC 01 11:16:48.8±0.4, 36°.52N±0°.04×70°.62E±0°.04, h197km±4km, h197km:pP-P, n294, σ1s60/325, mb4.4/71, 28C-15D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.36**	**214**	PN	**Pn**	**11 17 31.4**	**+0.1**
KBL	**Kabul**	**2.36**	**214**	Pn	**Pn**	**11 17 31.4**	**+0.1**
CHGR	**Chuyangaron**	**2.43**	**332**	PN	**Pn**	**11 17 32.7**	**+0.9**
CHGR	**Chuyangaron**	**2.43**	**332**	Pn	**Pn**	**11 17 32.7**	**+0.9**
CEP	**Cherat**	**2.89**	**158**	P	**Pn**	**11 17 37.3**	**0.0**
DRK	**Karamyk**	**3.10**	**17**		**Pn**	**11 17 41.1**	**+1.4**
BTK	**Batken**	**3.53**	**2**	PN	**Pn**	**11 17 46.6**	**+1.8**
BTK	**Batken**	**3.53**	**2**		**Pn**	**11 17 46.6**	**+1.8**
CHCP	**Chirah Chowk**	**3.58**	**142**	P	**Pn**	**11 17 45.4**	**-0.1**
NIL	**Nilore**	**3.58**	**142**	PN	**Pn**	**11 17 45.7**	**+0.2**
NIL	**Nilore**	**3.58**	**142**		**Pn**	**11 17 45.7**	**+0.2**
THW	**Thamme Wali**	**3.83**	**166**	P	**Pn**	**11 17 48.3**	**-0.2**
SARP	**Sargodha**	**4.89**	**159**	P	**Pn**	**11 18 00.6**	**-1.3**
TAS	**Tashkent**	**4.91**	**348**	PN	**Pn**	**11 18 03.4**	**+1.5**
TAS	**Tashkent**	**4.91**	**348**	Pn	**Pn**	**11 18 03.4**	**+1.5**
KSH	**Kashi**	**5.17**	**53**	P	**Pn**	**11 18 01.3**	**-4.2**
KSH				S	Sn	11 18 55.0	-11
KSH				pmax	pmax		
	comp=Z,790nm,0.4s						
KSH				smax	smax		
	comp=N,800nm,0.7s						
KSH				smax	smax		
	comp=E,610nm,0.6s						
IUG	**Iuzhnay**	**5.64**	**356**	*e*PN	**Pn**	**11 18 11.9**	**+0.6**
IUG	**Iuzhnay**	**5.64**	**356**	*e*P	**Pn**	**11 18 12.0**	**+0.6**
	baz=355						
CHM	**Chimkent**	**5.84**	**353**	*e*P	**Pn**	**11 18 15.3**	**+1.4**
	5.6nm,0.4s						
CHM				*e*S	**Sn**	**11 19 19.4**	**-1.9**
	6μm,0.4s						
AML	**Almayashu**	**6.08**	**22**	P	**Pn**	**11 18 17.6**	**+0.2**
	SNR=816						
DHRM	**DHARAMSHALA**	**6.34**	**131**	*e*P	**Pn**	**11 18 18.9**	**-1.8**
DHRM				*e*S	**Sn**	**11 19 28.4**	**-4.9**
DZA	**Taraz**	**6.38**	**5**	*e*PN	**Pn**	**11 18 21.4**	**+0.4**
DZA	**Taraz**	**6.38**	**5**	*e*P	**Pn**	**11 18 22.0**	**+1.0**
	298nm,0.1s						
DZA				*e*S	**Sn**	**11 19 31.5**	**-2.5**
	4μm,0.4s						
DZA	**Taraz**	**6.38**	**5**	*e*P	**Pn**	**11 18 21.4**	**+0.4**
	baz=3.9						
UCH	**Uchtor**	**6.44**	**27**	P	**Pn**	**11 18 22.4**	**+0.2**
	SNR=429						
BRLS	**Borolday**	**6.53**	**355**	*e*PN	**Pn**	**11 18 20.1**	**-2.7**
BRLS	**Borolday**	**6.53**	**355**	*e*P	**Pn**	**11 18 19.8**	**-3.1**
	40nm,0.1s						
BRLS				*e*S	Sn	11 19 27.4	-10
	288nm,0.7s						
BRLS	**Borolday**	**6.53**	**355**	*e*P	**Pn**	**11 18 20.1**	**-2.7**
	baz=353						
MRKS	**Merke**	**6.53**	**17**	*e*P	**Pn**	**11 18 23.6**	**+0.7**
	196nm,0.3s						
MRKS				*e*S	**Sn**	**11 19 34.7**	**-2.9**
	737nm,0.5s						
KK02	**Karatay Array**	**6.57**	**359**	⇑P	**Pn**	**11 18 23.7**	**+0.3**
	48nm,0.3s						
KK02				⇑S	**Sn**	**11 19 32.4**	**-6.0**
	489nm,0.5s						
KK31	**Karatay Array**	**6.57**	**359**	PN	**Pn**	**11 18 23.7**	**+0.3**
KKAR	**Karatay Array**	**6.57**	**359**	PN	**Pn**	**11 18 23.7**	**+0.3**
KKAR	**Karatay Array**	**6.57**	**359**		**Pn**	**11 18 23.7**	**+0.3**
EKS2	**Erkin-Say**	**6.60**	**21**	P	**Pn**	**11 18 24.3**	**+0.4**
	SNR=173						
AAK	**Ala-Archa**	**6.80**	**25**	P	**Pn**	**11 18 26.9**	**+0.4**
	53nm,0.3s,baz=202,slow=5.8,SNR=365						
AAK				S	**Sn**	**11 19 42.0**	**-1.9**
	29nm,0.3s,baz=221,slow=8.8,SNR=5.4						
AAK	**Ala-Archa**	**6.80**	**25**	P	**Pn**	**11 18 26.9**	**+0.4**
	SNR=273						
AAK	**Ala-Archa**	**6.80**	**25**	*de*PN	**Pn**	**11 18 26.7**	**+0.2**
AAK				pmax	pmax		
	comp=Z,372nm,0.6s						
AAK	**Ala-Archa**	**6.80**	**25**	⇑P	**Pn**	**11 18 26.5**	**0.0**
	comp=Z,92nm,0.4s						
AAK				⇑S	**Sn**	**11 19 41.0**	**-3.0**
	comp=Z,443nm,1.0s						
KBK	**Karagaybulak**	**6.98**	**27**	P	**Pn**	**11 18 29.5**	**+0.7**
	SNR=14						
FRU1	**Bishkek**	**7.00**	**25**	PN	**Pn**	**11 18 29.7**	**+0.7**
FRU1	**Bishkek**	**7.00**	**25**		**Pn**	**11 18 29.7**	**+0.7**
BHK	**Bhakra**	**7.00**	**135**	*e*P	**Pn**	**11 18 27.5**	**-1.7**
HRA	**Herat**	**7.16**	**255**	Pn	**Pn**	**11 18 31.3**	**-0.1**
ULHL	**Ulahol**	**7.18**	**36**	P	**Pn**	**11 18 31.1**	**-0.5**
	SNR=63						
CHMS	**Chumysh**	**7.21**	**25**	P	**Pn**	**11 18 31.7**	**0.0**
	SNR=122						
BOOM	**Boomskoye usch**	**7.24**	**33**	PN	**Pn**	**11 18 32.3**	**+0.1**
BOOM	**Boomskoye usch**	**7.24**	**33**		**Pn**	**11 18 32.3**	**+0.1**
USP	**Ospenovka**	**7.37**	**23**	P	**Pn**	**11 18 33.2**	**-0.6**
	SNR=110						
TKM2	**Tokmak 2**	**7.45**	**29**	P	**Pn**	**11 18 35.2**	**+0.1**
	SNR=170						
TKM2	**Tokmak 2**	**7.45**	**29**	PN	**Pn**	**11 18 34.7**	**-0.3**
TKM2	**Tokmak 2**	**7.45**	**29**	⇓P	**Pn**	**11 18 34.8**	**-0.3**
	comp=Z,125nm,0.4s						
TKM2				⇑S	**Sn**	**11 19 55.5**	**-3.9**
	comp=Z,121nm,0.8s						
KDJ	**Kajisay**	**7.56**	**40**	PN	**Pn**	**11 18 36.2**	**-0.2**
KDJ	**Kajisay**	**7.56**	**40**		**Pn**	**11 18 36.2**	**-0.2**
SGDS	**Sogindy**	**7.57**	**23**	*e*PN	**Pn**	**11 18 35.8**	**-0.7**
SGDS	**Sogindy**	**7.57**	**23**	*i* P	**Pn**	**11 18 35.9**	**-0.7**
	baz=22						
TARG	**Taragay, Kyrgy**	**7.63**	**45**		**Pn**	**11 18 37.1**	**-0.5**
SMLA	**Simla**	**7.65**	**133**	*e*P	**Pn**	**11 18 35.3**	**-2.3**
SMLA				*e*S	**Sn**	**11 19 58.2**	**-5.7**
SMLA				IAML		11 20 01.1	
	comp=N,584nm,0.3s						
SMLA				IAML		11 20 01.8	
	comp=E,885nm,0.0s						
DGS	**Degeres**	**7.79**	**29**	*e*P	**Pn**	**11 18 39.1**	**-0.2**
TNSS	**Tian-Shan**	**8.12**	**35**	*e*P	**Pn**	**11 18 42.8**	**-1.2**
	baz=34						
AAA	**Alma-Ata**	**8.24**	**34**	*e*PN	**Pn**	**11 18 44.8**	**-0.4**
AAA	**Alma-Ata**	**8.24**	**34**	*e*P	**Pn**	**11 18 44.9**	**-0.4**
	baz=34						
MDOK	**Medeo**	**8.27**	**35**	PN	**Pn**	**11 18 45.4**	**-0.2**
MDOK	**Medeo**	**8.27**	**35**	*e*P	**Pn**	**11 18 45.2**	**-0.5**
	baz=34						
MDOK	**Medeo**	**8.27**	**35**	⇑P	**Pn**	**11 18 45.5**	**-0.2**
	comp=E,159nm,0.8s						
KNDC	**Almaty**	**8.27**	**34**	PN	**Pn**	**11 18 46.2**	**+0.6**
KNDC	**Almaty**	**8.27**	**34**	⇑P	**Pn**	**11 18 46.3**	**+0.6**
	comp=E,347nm,0.7s						
PRZ	**Przheval'sk**	**8.46**	**43**	PN	**Pn**	**11 18 48.8**	**+0.7**
PRZ	**Przheval'sk**	**8.46**	**43**		**Pn**	**11 18 48.8**	**+0.7**
KUU	**Kurty**	**8.56**	**29**	*e*PN	**Pn**	**11 18 48.2**	**-1.1**
KUU				pmax	pmax		
	comp=Z,23nm,0.6s						
KUU	**Kurty**	**8.56**	**29**	*e*P	**Pn**	**11 18 48.2**	**-1.1**
	comp=Z,23nm,0.6s,baz=28						
CHKK	**Chushkaly**	**8.79**	**32**	*e*P	**Pn**	**11 18 51.3**	**-1.0**
	baz=31						
SATY	**Saty**	**8.86**	**40**	*d i*PN	**Pn**	**11 18 52.3**	**-1.0**
SATY				pmax	pmax		
	comp=Z,19nm,1.0s						
SATY	**Saty**	**8.86**	**40**	⇓*i*P	**Pn**	**11 18 52.3**	**-1.0**
	comp=Z,19nm,1.0s,baz=40						
BTLS	**Baital**	**8.90**	**16**	*e*PN	**Pn**	**11 18 53.3**	**-0.3**
BTLS				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BTLS	**Baital**	**8.90**	**16**	*e*P	**Pn**	**11 18 53.3**	**-0.3**
	comp=Z,4.9nm,0.4s,baz=15						
UZB	**Uzynbulak**	**9.24**	**42**	*e*P	**Pn**	**11 18 57.3**	**-1.0**
UZB	**Uzynbulak**	**9.24**	**42**	*e*P	**Pn**	**11 18 57.3**	**-1.0**
	baz=41						
KPKS	**Kokpek**	**9.29**	**39**	*d i*P	**Pn**	**11 18 58.2**	**-0.6**
KPKS				pmax	pmax		
	comp=Z,11nm,0.4s						
KPKS	**Kokpek**	**9.29**	**39**	⇓*i*P	**Pn**	**11 18 58.2**	**-0.6**
	comp=Z,11nm,0.4s,baz=39						
ARXS	**Arharly**	**9.44**	**33**	*e*P	**Pn**	**11 18 59.4**	**-1.4**
SHLS	**Shalkode**	**9.49**	**43**	*e*P	**Pn**	**11 19 03.5**	**+2.0**
SHLS	**Shalkode**	**9.49**	**43**	*e*P	**Pn**	**11 19 03.5**	**+2.0**
	baz=44						
KHET	**Khetri**	**9.49**	**151**	*e*P	**Pn**	**11 18 58.8**	**-2.9**
KHET				*i* x	x	11 19 01.4	
KHET				*e*S	Sn	11 20 38.2	-10
NDI	**New Delhi**	**9.59**	**143**	*e*P	**Pn**	**11 19 00.5**	**-2.3**
NDI				*e*S	Sn	11 20 39.5	-11
PDGK	**Podgornoye**	**9.62**	**42**	P	**Pn**	**11 19 01.6**	**-1.6**
PDGK	**Podgornoye**	**9.62**	**42**	⇑P	**Pn**	**11 19 01.6**	**-1.6**
	comp=Z,16nm,0.7s						
KUDL	**Kundal**	**9.71**	**148**	*e*P	**Pn**	**11 19 01.6**	**-2.8**
KUDL				*e*S	Sn	11 20 42.8	-10
SONA	**Sohna**	**9.89**	**145**	*e*P	**Pn**	**11 19 04.4**	**-2.3**
SONA				*e*S	Sn	11 20 46.5	-11
GEYT	**Alibeck**	**10.07**	**282**	P	**Pn**	**11 19 07.8**	**-1.2**
	comp=Z,2.7nm,0.3s,baz=117,slow=12,SNR=77						
GEYT				S	**Sn**	**11 20 58.5**	**-3.0**
	comp=Z,3.8nm,0.3s,baz=119,slow=8.9,SNR=2.7						
GEYT	**Alibeck**	**10.07**	**282**		**Pn**	**11 19 07.6**	**-1.4**
GYA0	**ALIBECK ARRAY**	**10.07**	**282**	P	**Pn**	**11 19 07.4**	**-1.7**
GYA0				S	**Sn**	**11 20 57.1**	**-4.4**
GYA0B	**ALIBECK ARRAY**	**10.07**	**282**	⇓P	**Pn**	**11 19 07.5**	**-1.6**
GYA0B				⇑S	**Sn**	**11 20 57.2**	**-4.3**
GYA0B	**ALIBECK ARRAY**	**10.07**	**282**		**Pn**	**11 19 07.8**	**-1.3**
AJM	**Ajmer**	**10.58**	**160**	*e*P	**Pn**	**11 19 12.0**	**-3.7**
AJM				*e*P	P	11 19 13.7	-9.2
AJM				*i* S	Sn	11 20 57.0	-17
OTUK	**Ortayu**	**11.78**	**6**	P	**Pn**	**11 19 30.3**	**-0.5**
OTUK				S	**Sn**	**11 21 37.2**	**-4.9**
OTUK	**Ortayu**	**11.78**	**6**	⇓P	**Pn**	**11 19 30.4**	**-0.5**
	comp=Z,21nm,1.1s						
MAKZ	**Makanchi**	**13.31**	**36**	P	**Pn**	**11 19 49.3**	**-0.9**
MAKZ	**Makanchi**	**13.31**	**36**	⇑P	**Pn**	**11 19 49.1**	**-1.1**
	comp=Z,98nm,0.6s						
MAKZ	**Makanchi**	**13.31**	**36**	Pn	**Pn**	**11 19 49.3**	**-0.9**
PYUN	**Piuthan**	**13.40**	**125**	*e*P	**Pn**	**11 19 48.4**	**-3.3**
	comp=Z,164nm,0.4s						
PYUN				*e*S	Sn	11 22 07.5	-14
MK31	**Makanchi Array**	**13.45**	**37**	*e*P	**Pn**	**11 19 50.6**	**-1.3**
MK31	**Makanchi Array**	**13.45**	**37**	⇓P	**Pn**	**11 19 50.7**	**-1.3**
	comp=Z,54nm,0.7s,baz=220,slow=11,SNR=387						
MK31	**Makanchi Array**	**13.45**	**37**	Pn	**Pn**	**11 19 50.6**	**-1.3**
MKAR	**Makanchi Array**	**13.45**	**37**	P	**Pn**	**11 19 51.2**	**-0.7**
	comp=Z,4.4nm,0.3s,baz=224,slow=16,SNR=164						
MKAR	**Makanchi Array**	**13.45**	**37**	*i* P	**Pn**	**11 19 51.2**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,31nm,0.6s						
BRZS	**Berezniki**	**13.54**	**6**	*e*P	**Pn**	**11 19 52.9**	**0.0**
BRZS				pmax	pmax		
	comp=Z,11nm,0.6s						
BRZS	**Berezniki**	**13.54**	**6**	*e*P	**Pn**	**11 19 52.9**	**0.0**
	comp=Z,11nm,0.6s,baz=5.3						
DANN	**Dangsing**	**13.75**	**123**	*e*P	**Pn**	**11 19 53.3**	**-2.8**
	comp=Z,120nm,0.3s						
DANN				*e*S	S	11 22 16.4	-13
KOLN	**Koldanda**	**14.02**	**125**	*e*P	**Pn**	**11 19 56.6**	**-2.8**
	comp=Z,99nm,0.3s						
KOLN				*e*S	S	11 22 22.7	-13
BHPL	**Bhopal**	**14.48**	**154**	*e*P	**Pn**	**11 20 04.4**	**-0.5**
BHPL				*i* x	x	11 20 07.2	
BHPL				*e*S	S	11 22 34.0	-12
GKN	**Gorkha**	**14.57**	**122**	*e*P	**Pn**	**11 20 03.2**	**-2.9**
	comp=Z,164nm,0.3s						
GKN				*e*S	S	11 22 34.9	-14
AB31	**Akbulak array**	**14.92**	**332**	*i* P	**Pn**	**11 20 09.6**	**-0.4**
AB31				*e*S	**S**	**11 22 50.4**	**-5.3**
AB31	**Akbulak array**	**14.92**	**332**	P	**Pn**	**11 20 09.6**	**-0.4**
	comp=Z,16nm,0.5s,baz=143,slow=11,SNR=765						
AB31				⇑S	**S**	**11 22 50.4**	**-5.3**
	comp=Z,7.2nm,0.6s,baz=157,slow=22,SNR=2.6						
ABKAR	**Akbulak array**	**14.92**	**332**	Pn	**Pn**	**11 20 09.3**	**-0.7**
WMQ	**Urumqi**	**14.93**	**56**	*e*P	**Pn**	**11 20 10.3**	**0.0**
WMQ				S	**S**	**11 22 54.9**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,52nm,3.8s						
DMN	**Daman**	**15.14**	**122**	*e*P	**Pn**	**11 20 11.1**	**-2.1**
	comp=Z,211nm,0.4s						
DMN				*e*S	S	11 22 49.6	-12
KKN	**Kakani**	**15.15**	**121**	*e*P	**Pn**	**11 20 11.1**	**-2.1**
	comp=Z,154nm,0.4s						
KKN				*e*S	S	11 22 49.3	-12
KURBB	**Kurchatov Arra**	**15.20**	**20**	P	**Pn**	**11 20 12.7**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=207,slow=11,SNR=83						
KURBB	**Kurchatov Arra**	**15.20**	**20**	P	**Pn**	**11 20 11.8**	**-1.6**
KURBB	**Kurchatov Arra**	**15.20**	**20**	⇑P	**Pn**	**11 20 11.8**	**-1.6**
	comp=Z,20nm,0.3s						
KURK	**Kurchatov**	**15.31**	**20**	*ce*P	**Pn**	**11 20 13.7**	**-1.0**
KURK				pmax	pmax		
	comp=Z,41nm,1.3s						
KURK	**Kurchatov**	**15.31**	**20**	Pn	**Pn**	**11 20 13.2**	**-1.5**
KURK				IAmb	IAmb	11 20 17.5	
	comp=Z,24nm,0.9s						
PKIN	**Phulchoki**	**15.36**	**121**	*e*P	**Pn**	**11 20 13.8**	**-2.1**
	comp=Z,258nm,0.5s						
PKIN				*e*S	S	11 22 53.9	-13
PKI	**Pulchoki**	**15.37**	**121**	*e*P	**Pn**	**11 20 14.1**	**-2.0**
	comp=Z,246nm,0.6s						
PKI				*e*S	S	11 22 55.0	-12
GUN	**Gumba**	**15.49**	**119**	*e*P	**Pn**	**11 20 15.6**	**-1.9**
	comp=Z,120nm,0.4s						
SEM	**Semipalatinsk**	**15.52**	**24**	*e*P	**Pn**	**11 20 15.7**	**-1.8**
SEM				*e*S	**S**	**11 23 08.5**	**-1.3**
SEM				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SEM	**Semipalatinsk**	**15.52**	**24**	*e*P	**Pn**	**11 20 15.7**	**-1.8**
	comp=Z,9.9nm,1.0s,baz=23						
SEM				*e*S	**S**	**11 23 08.5**	**-1.3**
	baz=23						
JBP	**Jabalpur**	**15.58**	**146**	*e*P	**Pn**	**11 20 15.2**	**-3.0**
JBP				IAmb	IAmb	11 20 17.8	
	comp=Z,11nm,0.4s						
JBP				*ex*	x	11 22 57.8	
BVAR	**Borovoye Array**	**16.50**	**360**	P	**Pn**	**11 20 28.9**	**-0.2**
	comp=Z,5.4nm,0.3s,baz=166,slow=10.0,SNR=88						
BVAR				S	**S**	**11 23 31.1**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=168,slow=26,SNR=10						
BRVK	**Borovoye**	**16.54**	**359**	*ce*P	**Pn**	**11 20 30.1**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,40nm,1.7s						
BRVK	**Borovoye**	**16.54**	**359**	⇑P	**Pn**	**11 20 29.3**	**-0.2**
	comp=Z,36nm,1.5s						
BRVK				⇓S	**S**	**11 23 30.9**	**-0.4**
	comp=Z,18nm,0.9s						
BRVK	**Borovoye**	**16.54**	**359**		**Pn**	**11 20 29.8**	**+0.3**
BRVK				IAmb	IAmb	11 20 33.8	
	comp=Z,48nm,1.4s						
AKTO	**Aktyubinsk**	**16.61**	**331**	P	**Pn**	**11 20 31.2**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=143,slow=12,SNR=62						
AKTO	**Aktyubinsk**	**16.61**	**331**	⇑P	**Pn**	**11 20 30.9**	**+0.5**
	comp=Z,26nm,0.8s						
UOSS	**Minazif**	**16.91**	**231**	P	**Pn**	**11 20 36.2**	**+2.0**
GTK	**Tadong**	**17.79**	**116**	*e*P	**P**	**11 20 43.5**	**+0.8**
GTK				IAmb	IAmb	11 20 47.5	
	comp=Z,25nm,1.0s						
DGZ	**Jazzator, Alta**	**17.95**	**38**	*d i*P	**Pn**	**11 20 45.3**	**-1.0**
DGZ				pmax	pmax		
	comp=Z,49nm,0.5s						
LSA	**Lhasa**	**18.48**	**106**	P	**Pn**	**11 20 52.8**	**-0.3**
LSA				pmax	pmax		
	comp=Z,13nm,0.5s						
LSA	**Lhasa**	**18.48**	**106**	P	**Pn**	**11 20 52.3**	**-0.7**
LSA	**Lhasa**	**18.48**	**106**	P	**Pn**	**11 20 52.8**	**-0.3**
LSA				IAmb	IAmb	11 21 03.7	
	comp=Z,12nm,0.5s						
GOMU	**GeErMu**	**19.48**	**84**	P	**P**	**11 21 02.4**	**+1.2**
GOMU				pP	Pn	11 21 07.3	+2.5
GOMU				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GOMU				pmax	pmax		
	comp=Z,67nm,5.9s						
GOMU				LR	LR		
	comp=Z,120nm,7.1s						
GOMU				LR	LR		
	comp=Z,88nm,6.6s						
GOMU				LR	LR		
	comp=Z,96nm,6.9s						
ZAA0	**Zalesovo Array**	**20.02**	**25**	⇑P	**P**	**11 21 06.0**	**-0.3**
	comp=Z,14nm,0.8s						
ZAA0	**Zalesovo Array**	**20.02**	**25**	P	**P**	**11 21 06.8**	**+0.4**
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**11 21 06.7**	**+0.3**
	comp=Z,35nm,0.3s,baz=215,slow=11,SNR=354						
ZALV				S	**S**	**11 24 40.7**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=211,slow=15,SNR=2.4						
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**11 21 06.5**	**+0.2**
GNI	**Garni**	**20.60**	**288**	P	**P**	**11 21 14.9**	**+2.1**
	comp=Z,15nm,1.2s,baz=138,slow=14,SNR=1.9						
GNI	**Garni**	**20.60**	**288**	IAmb	IAmb	11 21 16.5	
	comp=Z,53nm,1.4s						
SVE	**Sverdlovsk**	**21.39**	**345**	*e*P	**P**	**11 21 23.2**	**+2.4**
ARU	**Arti**	**21.51**	**342**	P	**P**	**11 21 22.9**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=155,slow=5.7,SNR=12						
ARU	**Arti**	**21.51**	**342**	*d i*P	**P**	**11 21 24.3**	**+2.2**
ARU				*PP	**pP**	**11 21 56.0**	**-0.1**
ARU						11 22 05.4	
ARU				S	**S**	**11 25 12.0**	**+4.7**
ARU				pmax	pmax		
	comp=Z,22nm,1.6s						
ARU	**Arti**	**21.51**	**342**	P	**P**	**11 21 22.5**	**+0.4**
ARU				IAmb	IAmb	11 21 25.3	
	comp=Z,10nm,0.9s						
ONI	**Oni**	**21.76**	**295**	P	**P**	**11 21 23.6**	**-1.2**
ONI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ONI	**Oni**	**21.76**	**295**	P	**P**	**11 21 23.6**	**-1.2**
ONI				IAmb	IAmb	11 21 39.3	
	comp=Z,8.4nm,1.0s						
NCK	**Nalchik**	**21.78**	**297**	*i* P	**P**	**11 21 25.0**	**0.0**
KBZ	**Khabaz**	**22.32**	**297**	P	**P**	**11 21 31.1**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=127,slow=5.1,SNR=2.3						
KBZ	**Khabaz**	**22.32**	**297**	*i* P	**P**	**11 21 31.3**	**+1.2**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.5s						
NEY	**Neytrino**	**22.38**	**296**	*i* P	**P**	**11 21 30.6**	**-0.2**
NEY				pmax	pmax		
	comp=Z,2.0nm,1.4s						
**KVA

CMAR	Chiang Mai Arr	30.73	118	*ce*P		P	11 22 46.7 +1.1
CMAR				pmax		pmax	
	comp=Z,3.0nm,0.7s						
XAN	Xi'an	31.23	83	P		P	11 22 50.9 +1.1
XAN				pmax		pmax	
	comp=Z,8.0nm,0.9s						
XAN				pmax		pmax	
	comp=Z,110nm,4.6s						
HHC	Hu-ho-hao-te	32.04	70	*e*P		P	11 22 49.8 -7.1
HHC				pmax		pmax	
	comp=Z,9.0nm,1.0s						
HHC				pmax		pmax	
	comp=Z,200nm,5.4s						
AKASG	Malin Array Be	32.70	309	P		P	11 23 03.2 +0.8
	comp=Z,0.7nm,0.4s,baz=82,slow=7.4,SNR=5.2						
AKASG				pP		pP	11 23 46.4 +3.2
	comp=Z,0.8nm,0.5s,baz=87,slow=7.5,SNR=2.3						
NRIK	Noril'sk	34.16	11	P		P	11 23 16.1 +1.4
	comp=Z,9.2nm,0.5s,baz=201,slow=5.6,SNR=19						
NRIK	Noril'sk	34.16	11	*ce*P		P	11 23 16.4 +1.6
NRIK				pmax		pmax	
	comp=Z,15nm,0.9s						
NRIK	Noril'sk	34.16	11	P		P	11 23 15.6 +0.8
BOD	Bodaibo	35.52	39	*e*P		P	11 23 27.1 +0.5
BOD				pmax		pmax	
	comp=Z,6.0nm,0.9s						
WHN	Wuhan	36.69	86	⇑P		P	11 23 36.0 -0.8
FIA1	FINESS Array S	37.30	326	P		P	11 23 42.9 +1.4
FIA1				IAmb	IAmb		11 23 58.1
	comp=Z,22nm,1.4s						
FINES	FINESS Array B	37.30	326	P		P	11 23 42.6 +1.1
	comp=Z,4.2nm,0.4s,baz=119,slow=9.5,SNR=52						
FINES	FINESS Array B	37.30	326	*ce*P		P	11 23 42.9 +1.4
FINES				pmax		pmax	
	comp=Z,4.0nm,0.4s						
FINES	FINESS Array B	37.30	326	P		P	11 23 42.9 +1.4
UBPT	Khong Chiam	37.51	115	P		P	11 23 43.5 -0.4
UBPT				IAmb	IAmb		11 24 08.9
	comp=Z,9.2nm,1.2s						
NJ2	Nanjing	39.77	82	*e*P		P	11 24 02.0 -0.5
NJ2				pmax		pmax	
	comp=Z,16nm,0.6s						
KEV	Kevo	40.67	338	P		P	11 24 10.8 +1.5
KEV				pmax		pmax	
	comp=Z,89nm,1.5s						
KEV	Kevo	40.67	338	P		P	11 24 10.8 +1.5
ARA0	ARCESS Array S	41.01	338	*e*P		P	11 24 13.8 +1.6
ARCES	ARCESS Array B	41.01	338	P		P	11 24 13.3 +1.1
	comp=Z,5.7nm,0.5s,baz=114,slow=7.7,SNR=55						
ARCES	ARCESS Array B	41.01	338	P		P	11 24 13.7 +1.5
ARCES				pmax		pmax	
	comp=Z,17nm,1.3s						
ARCES	ARCESS Array B	41.01	338	P		P	11 24 13.7 +1.5
ARCES				IAmb	IAmb		11 24 22.8
	comp=Z,17nm,1.2s						
KTK1	Kautokeino	41.48	336	*e*P		P	11 24 17.0 +1.0
HAMF	Hammerfest	42.09	339	*e*P		P	11 24 22.1 +1.2
ZEA	Zeya	42.28	48	*e*P		P	11 24 24.1 +1.5
ZEA				pmax		pmax	
	comp=Z,10.0nm,1.0s						
IPM	Ipoh	42.38	132	P		P	11 24 23.5 -0.5
IPM				IAmb	IAmb		11 24 31.9
	comp=Z,23nm,1.3s						
PSI	Prapat	42.51	136	P		P	11 24 25.2 +0.2
	comp=Z,2.4nm,0.6s,baz=272,slow=13,SNR=4.0						
JETT	Jettan, Norway	42.62	336	*e*P		P	11 24 27.7 +2.5
GSI	Gunungsitoli	43.01	138	P		P	11 24 29.1 +0.2
GSI				IAmb	IAmb		11 24 30.1
	comp=Z,16nm,0.6s						
TRO	Tromso	43.13	336	*e*P		P	11 24 30.4 +1.2
FAUS	Fauske	43.64	333	*e*P		P	11 24 34.5 +1.2
STEI	Steigen	43.82	333	*e*P		P	11 24 36.1 +1.4
NC405	NORSAR Array S	43.95	323	P		P	11 24 36.0 0.0
NC405				IAmb	IAmb		11 24 42.8
	comp=Z,18nm,1.2s						
YAK	Yakutsk	44.12	36	P		P	11 24 37.2 -0.1
	comp=Z,9.8nm,0.4s,baz=191,slow=1.1,SNR=14						
YAK	Yakutsk	44.12	36	*e*P		P	11 24 37.1 -0.1
YAK				*e*			11 26 28.4
YAK				*e*S		S	11 30 54.9 +0.3
YAK				*e*			11 34 06.1
YAK				pmax		pmax	
	comp=Z,20nm,0.7s						
YAK				pmax		pmax	
	comp=N,1.0nm,0.9s						
YAK				pmax		pmax	
	comp=E,1.0nm,0.8s						
YAK				pmax		pmax	
	comp=Z,44nm,2.8s						
YAK				pmax		pmax	
	comp=N,43nm,2.9s						
YAK				pmax		pmax	
	comp=E,72nm,3.5s						
YAK				smax		smax	
	comp=E,48nm,3.2s						
YAK				smax		smax	
	comp=N,28nm,2.8s						
YAK	Yakutsk	44.12	36	P		P	11 24 37.3 +0.1
NB201	NORSAR Array S	44.14	323	P		P	11 24 38.3 +0.8
NB201				IAmb	IAmb		11 25 03.5
	comp=Z,22nm,1.1s						
NB2	NORSAR Subarra	44.18	323	P		P	11 24 38.0 +0.2
	comp=Z,1.1nm,0.5s,baz=97,slow=7.9						
NB2	NORSAR Subarra	44.18	323	P		P	11 24 38.0 +0.2
	baz=97,slow=7.9						
NOA	NORSAR Array B	44.18	323	P		P	11 24 37.9 +0.2
	comp=Z,1.9nm,0.5s,baz=97,slow=7.7,SNR=9.4						
NOA				pP		pP	11 25 22.8 +2.2
	comp=Z,1.7nm,0.7s,baz=97,slow=8.1,SNR=2.7						
KONS	Konsvik	44.24	331	*e*P		P	11 24 39.1 +0.9
NAO01	NORSAR Array S	44.32	323	P		P	11 24 39.6 +0.7
NBO00	NORSAR Array S	44.39	323	P		P	11 24 39.3 -0.2
NBO00				IAmb	IAmb		11 24 51.8
	comp=Z,26nm,1.4s						
NC204	NORSAR Array S	44.42	323	P		P	11 24 40.9 +1.2
LOF	Lofoten	44.49	333	*e*P		P	11 24 40.9 +0.8
KONO	Kongsberg	44.88	321	*ce*P		P	11 24 43.4 +0.1
KONO				pmax		pmax	
	comp=Z,27nm,1.3s						
KONO	Kongsberg	44.88	321	P		P	11 24 44.5 +1.2
KONO				IAmb	IAmb		11 25 04.1
	comp=Z,32nm,1.2s						
KSRS	Korea Array	45.16	71	P		P	11 24 45.0 -0.8
	comp=Z,1.1nm,0.6s,baz=278,slow=7.0,SNR=6.3						
KSRS	Korea Array	45.16	71	P		P	11 24 45.0 -0.8
KLR	Kul'dur	45.38	54	*ce*P		P	11 24 47.4 0.0
KLR				pmax		pmax	
	comp=Z,6.0nm,1.5s						
TIXI	Tiksi	45.87	22	*ce*P		P	11 24 51.3 +0.5
TIXI				pmax		pmax	
	comp=Z,17nm,0.8s						
TIXI	Tiksi	45.87	22	P		P	11 24 49.7 -1.1
TIXI				IAmb	IAmb		11 24 52.3
	comp=Z,17nm,0.8s						
SPB2	Spitsbergen Ar	47.40	347	P		P	11 25 04.2 +1.6
SPA0	Spitsbergen Ar	47.40	347	*e*P		P	11 25 04.8 +2.0
SPITS	Spitsbergen Ar	47.40	347	P		P	11 25 04.1 +1.4
SPITS				pmax		pmax	
	comp=Z,61nm,1.4s						
KBS	Kingsbay	48.52	347	P		P	11 25 13.4 +2.1
KBS				pmax		pmax	
	comp=Z,71nm,1.4s						
KBS	Kingsbay	48.52	347	P		P	11 25 13.4 +2.1
YSS	Yuzh-Sakhalins	53.06	55	P		P	11 25 46.5 +1.0
YSS				IAmb	IAmb		11 25 58.3
	comp=Z,14nm,1.1s						
MA2	Magadan	54.53	38	P		P	11 25 57.3 +1.3
MA2				pmax		pmax	
	comp=Z,6.0nm,1.2s						
MA2	Magadan	54.53	38	P		P	11 25 57.3 +1.3
SEY	Seymchan	54.57	34	P		P	11 25 56.8 +0.6
	comp=Z,5.6nm,0.6s,baz=272,slow=9.6,SNR=36						
DAG	Danmarks Havn	54.62	344	*i* P		P	11 25 57.0 +0.6
ESDC	Sonseca Array	57.18	298	P		P	11 26 15.5 +0.3
	comp=Z,0.4nm,0.7s,baz=52,slow=8.1,SNR=4.7						
BILL	Bilibino	58.72	26	*d* *i* P		P	11 26 26.7 +1.4
BILL							11 28 38.0
BILL				SS	SS		11 38 08.0 -1.7
BILL				SSS	SSS		11 40 50.0
BILL				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BILL	Bilibino	58.72	26	P		P	11 26 26.8 +1.4
BILL				IAmb	IAmb		11 26 27.2
	comp=Z,10.0nm,0.8s						
PETK	Petropavlovsk-	60.16	44	P		P	11 26 34.8 -0.7
	comp=Z,1.7nm,0.8s,baz=329,slow=6.0,SNR=9.8						
PETK	Petropavlovsk-	60.16	44	P		P	11 26 35.1 -0.4
PETK	Petropavlovsk-	60.16	44	P		P	11 26 35.1 -0.4
TORD	Torodi Ar. Bea	65.42	268	P		P	11 27 09.1 -1.6
	comp=Z,2.2nm,0.3s,baz=50,slow=6.1,SNR=34						
TORD				pP		pP	11 27 58.9 +1.8
	comp=Z,1.1nm,0.5s,baz=48,slow=6.0,SNR=2.8						
A21K	Barrow	67.37	15	P		P	11 27 23.2 +1.1
ANM	Nome	70.13	22	P		P	11 27 40.8 +1.5
ANM				pmax		pmax	
	comp=Z,5.0nm,0.9s						
ANM	Nome	70.13	22	P		P	11 27 40.8 +1.5
ANM				IAmb	IAmb		11 27 40.9
	comp=Z,4.7nm,0.9s						
TOLK	Toolik Lake Re	70.98	14	P		P	11 27 45.6 +1.2
A36M	Sachs Harbour	71.21	5	P		P	11 27 46.9 +1.2
A36M				IAmb	IAmb		11 27 47.4
	comp=Z,9.0nm,0.8s						
COLD	Coldfoot	72.03	16	P		P	11 27 51.6 +0.9
COLD				IAmb	IAmb		11 27 52.2
	comp=Z,9.5nm,1.2s						
IMAR	Indian Mountai	72.24	17	P		P	11 27 52.2 +0.2
J20K	Nowinta River	73.61	19	P		P	11 28 01.1 +1.1
H24K	Noodor Dome	73.71	15	P		P	11 28 01.9 +1.2
MLY	Manley	73.75	17	P		P	11 28 02.0 +1.1
C36M	Paulatuk	73.89	5	P		P	11 28 02.1 +0.6
INK	Inuvik	73.93	9	P		P	11 28 02.9 +1.1
INK				pmax		pmax	
	comp=Z,6.0nm,0.6s						
INK	Inuvik	73.93	9	P		P	11 28 02.9 +1.1
INK				IAmb	IAmb		11 28 03.4
	comp=Z,6.4nm,0.6s						
TTA	Tatalina	74.11	20	P		P	11 28 04.0 +0.9
TTA				pmax		pmax	
	comp=Z,6.0nm,1.3s						
TTA	Tatalina	74.11	20	P		P	11 28 04.0 +0.9
K20K	Telida	74.29	19	P		P	11 28 05.3 +1.3
K20K				IAmb	IAmb		11 28 05.7
	comp=Z,8.5nm,1.1s						
MDM	Murphy Dome	74.38	16	P		P	11 28 05.7 +1.1
MDM				IAmb	IAmb		11 28 06.0
	comp=Z,6.9nm,1.1s						
POKR	Poker Plat Res	74.42	16	P		P	11 28 06.1 +1.3
POKR				IAmb	IAmb		11 28 06.5
	comp=Z,23nm,1.4s						
NEA2	Nenana	74.50	17	P		P	11 28 05.8 +0.6
NEA2				IAmb	IAmb		11 28 06.4
	comp=Z,9.7nm,1.0s						
CCB	Clear Creek Bu	74.74	16	P		P	11 28 06.5 0.0
CAST	Castle Rocks	74.76	18	P		P	11 28 07.5 +0.8
CAST				IAmb	IAmb		11 28 08.2
	comp=Z,19nm,1.2s						
WRH	Wood River Hil	74.83	16	P		P	11 28 08.3 +1.2
WRH				IAmb	IAmb		11 28 21.0
	comp=Z,12nm,1.4s						
IL31		74.84	16	P		P	11 28 07.5 +0.4
ILAR	Eielson Array	74.84	16	P		P	11 28 06.3 -0.8
	comp=Z,1.9nm,0.9s,baz=297,slow=4.4,SNR=14						
ILAR				PP		PP	11 30 57.7 +1.1
	comp=Z,0.4nm,0.6s,baz=316,slow=5.7,SNR=4.2						
ILAR	Eielson Array	74.84	16	P		P	11 28 07.4 +0.3
ILAR	Eielson Array	74.84	16	P		P	11 28 07.4 +0.3
MTN	Manton Dam	75.17	119	P		P	11 28 08.6 -1.1
MTN				IAmb	IAmb		11 28 32.9
	comp=Z,21nm,1.2s						
KNRA	Kununurra	75.50	122	P		P	11 28 10.8 -0.7
RND	Reindeer	75.56	17	P		P	11 28 11.5 +0.1
RND				pmax		pmax	
	comp=Z,10.0nm,1.2s						
RND	Reindeer	75.56	17	P		P	11 28 11.5 +0.1
RND				IAmb	IAmb		11 28 12.8
	comp=Z,10.0nm,1.2s						
BCAR	Beaver Creek A	77.42	14	P		P	11 28 22.9 +1.2
BOSA	Boshof	77.57	220	P		P	11 28 22.2 -0.8
	comp=Z,1.0nm,0.3s,baz=18,slow=4.4,SNR=9.5						
BOSA	Boshof	77.57	220	IAmb	IAmb		11 28 23.8
	comp=Z,3.9nm,1.0s						
YKA	Yellowknife Ar	81.24	2	P		P	11 28 42.5 +0.2
	comp=Z,1.6nm,0.4s,baz=349,slow=5.3,SNR=82						
YKA				pP		pP	11 29 33.3 +2.3
	comp=Z,0.8nm,0.5s,baz=350,slow=5.4,SNR=4.5						
YKA	Yellowknife Ar	81.24	2	*ce*P		P	11 28 42.7 +0.4
YKA				pmax		pmax	
	comp=Z,2.0nm,0.4s						
YKA	Yellowknife Ar	81.24	2	P		P	11 28 42.7 +0.4
WRA	Warramunga Arr	82.26	122	P		P	11 28 46.4 -1.8
	comp=Z,1.3nm,0.5s,baz=318,slow=5.2,SNR=41						
WRA	Warramunga Arr	82.26	122	*i* P		P	11 28 46.4 -1.8
WRA				pmax		pmax	
	comp=Z,2.0nm,0.5s						
WRA	Warramunga Arr	82.26	122	P		P	11 28 46.5 -1.8
WB2	Warramunga Arr	82.27	122	P		P	11 28 46.5 -1.8
WB2				IAmb	IAmb		11 29 14.1
	comp=Z,10nm,1.2s						
ASAR	Alice Springs	84.52	125	P		P	11 28 57.7 -2.1
	comp=Z,1.2nm,0.5s,baz=315,slow=4.6,SNR=34						
ASAR	Alice Springs	84.52	125	P		P	11 28 58.8 -1.0
ASAR	Alice Springs	84.52	125	P		P	11 28 58.8 -1.0
TROLL	Troll, Antarti	118.02	199	PKPdf		PKiKP	11 35 11.9 +0.9
SNAA	Sanae	119.31	200	PKPdf		PKiKP	11 35 14.0 +0.6
VNA2	Neumayer--Watz	120.31	202	PKPdf		PKiKP	11 35 15.8 +0.4
VNA3	Neumayer Olymp	121.11	202	PKPdf		PKiKP	11 35 17.1 +0.2

DDA ***01*** *11:18:15.8±0.0,37°.01N×26°.55E,h7km±2km,ML2.2*
ISK ***01*** *11:18:15.6,36°.95N×26°.53E,h5km,ML2.8/5*
ISC 01 11:18:15.9±1.3,**37°.00N**±0°.03×**26°.53E**±0°.04,**h8**km±12km,
n14,σ0s76/25,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	Kos Island	0.43	125	PG	Pg	11 18 24.0	-0.3
KOSK				SG	Sg	11 18 30.5	+0.5
NIS1	Nisyros Isl.	0.65	127	PG	Pg	11 18 28.3	-0.2
NIS1				SG	Sb	11 18 37.5	-1.3
DDIM	Aydin, Didim	0.73	51	P	Pg	11 18 29.1	-0.9
DDIM				S	Sb	11 18 41.1	+0.1
DDIM				*i* AML	AML	11 18 46.0	
	comp=E,188nm,0.8s						
DAT	Datca	0.88	108	P	Pg	11 18 32.4	-0.4
DAT				S	Sb	11 18 45.5	+0.1
DAT				*i* AML	AML	11 18 47.0	
	comp=N,62nm,0.3s						
DAT				*i* AML	AML	11 18 47.0	
	comp=E,51nm,0.3s						
GCAM	G?zelcaml?	0.90	38	P	Pg	11 18 32.6	-0.5
GCAM				S	Sb	11 18 45.7	-0.1
SANT	Santorini	1.07	234	PG	Pg	11 18 35.9	-0.5
SANT				SG	Sb	11 18 50.8	0.0
DGB	zmir	1.09	15	P	Pg	11 18 36.1	-0.7
DGB				S	Sb	11 18 52.1	+0.8
DGB				*i* AML	AML	11 18 54.0	
	comp=E,61nm,0.3s						
DGB				*i* AML	AML	11 18 56.0	
	comp=N,51nm,0.4s						
ZEYE	Izmir, Urla-Ze	1.24	359	P	Pn	11 18 38.9	-0.6
ZEYE				S	Sn	11 18 56.7	+0.3
ZEYE				*i* AML	AML	11 18 59.0	
	comp=E,75nm,0.2s						
ZEYE				*i* AML	AML	11 19 00.0	
	comp=N,74nm,0.3s						
AYDN	Tasoluk	1.26	58	P	Pg	11 18 38.4	-1.7
AYDN				S	Sg	11 18 56.5	0.0
URLA	Izmir	1.36	2	P	Pn	11 18 41.4	+0.2
URLA				*i* AML	AML	11 19 04.0	
	comp=E,54nm,0.6s						
URLA				*i* AML	AML	11 19 09.0	
	comp=N,48nm,1.3s						
YER	Yerkesik	1.41	84	PN	Pg	11 18 42.6	-0.3
YER				SN	Sg	11 19 02.3	+1.2
AYDB	Zeytinkoy-Aydi	1.44	48	PN	Pg	11 18 43.6	+0.1
AYDB				SN	Sg	11 19 03.7	+1.6
MULA	Mugla, Merkez-	1.45	79	P	Pb	11 18 43.2	-0.1
MULA				*i* AML	AML	11 19 06.0	
	comp=E,32nm,1.4s						
ZKR	Zakros	1.90	188	PN	Pn	11 18 48.9	+0.3

IDC ***01*** *11:39:38.3±0.8,35°.74N×97°.43W,h0km,mb3.9/12,*
mb1 4.1/21,mb1mx3.9/60,mbtmp4.0/21,ML3.3/7,MS3.7/39,
Ms1 3.7/39,ms1mx3.6/86,Error ellipse: s-maj=14.6km
s-min=9.8km az=13.0
TUL ***01*** *11:39:39.8±1.6,35°.67N±0°.01×97°.41W±0°.03,h6km±4km,*
ML4.6,mb4.3/42(NEIC),mb_Lg4.8/133(NEIC),
Mwr4.2/104(NEIC),Error ellipse: s-maj=3.0km
s-min=1.8km az=103.0
ANF ***01*** *11:39:39.1±1.6,35°.73N×97°.36W,h7km±13km,ML5.5/17,*
Error ellipse: s-maj=2.6km s-min=2.0km az=171.0
NEIC ***01*** *11:39:39.8,35°.69N×97°.43W,h4km,Moment Tensor*
Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.31;
$M_{\theta\theta}$2.23; $M_{\phi\phi}$-2.54; $M_{r\theta}$-0.85; $M_{\theta\phi}$0.88; $M_{\phi r}$-0.22; Fault
plane solution: $M_0$2.71000×10^{15} NP1:ϕ_s306.64000°,
δ74.92000°,λ13.49000°. NP2:ϕ_s213.06000°,δ76.98000°,
λ164.51000°. Principal axes: T 2.7114, Plg20.0000°,
Azm170.0000°; N -0.0082, Plg70.0000°, Azm354.0000°;
P -2.7032, Plg1.0000°, Azm260.0000°;
NEIC ***01*** *11:39:40.5±1.6,35°.67N±0°.02×97°.40W±0°.03,h5km±1km*
Error ellipse: s-maj=4.6km s-min=2.9km az=120.0
ISC 01 11:39:39.2±0.8,**35°.72N**±0°.02×**97°.40W**±0°.02,**h8**km±6km,
n419,σ1s26/406,mb4.2/17,MS3.9/29,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.14	189		Pg	11 39 42.0	-0.1
OK009				Sg	Sg	11 39 43.9	-0.3
OK025	Westminster Rd	0.15	161		Pg	11 39 42.4	+0.1
OK025				Sg	Sg	11 39 44.4	0.0
OK005	Luther M Schoo	0.18	111		Pg	11 39 43.7	+0.8
OK005				Sg	Sg	11 39 46.8	+1.4
OK001	Jones High Sch	0.18	151	Pg	Pg	11 39 43.1	+0.2
OK001				Sg	Sg	11 39 45.7	+0.3
BCOK	Bluff Creek, N	0.18	250	Pg	Pg	11 39 43.4	+0.4
BCOK				Sg	Sg	11 39 46.2	+0.7
OKCFA	Oklahoma City	0.31	188	Pg	Pg	11 39 45.1	-0.1
OKCFA				Sg	Sg	11 39 49.1	-0.2
OKCSW	OKLAHOMA CITY	0.32	186		Pg	11 39 45.2	-0.2
OKCSW				Sg	Sg	11 39 49.6	0.0
FNO	Franklin	0.46	180	Pg	Pg	11 39 48.0	-0.1
FNO				Sg	Sg	11 39 54.2	0.0
OK031	S. Brethren Rd	0.51	63	Pg	Pb	11 39 50.3	-0.2
OK031				IAmb_Lg		11 39 57.1	
	comp=Z,8μm,0.9s						
OK031				Sg	Sb	11 39 58.0	0.0
OK030	Cody Creek RV	0.54	67		Pb	11 39 50.8	-0.2
OK030				Sg	Sb	11 39 58.8	-0.1
OK011	Prague	0.62	112		Pg	11 39 51.5	+0.2
OK011				Sg	Sg	11 40 00.3	+0.9
W35A	Tecumseh	0.71	143		Pg	11 39 52.7	-0.2
W35A				Sg	Sg	11 40 02.1	0.0
QUOK	Quay	0.72	51	Pg	Pb	11 39 54.2	+0.2
QUOK				Sg	Sb	11 40 04.7	+0.6
CROK	Carrier	0.92	329	Pg	Pb	11 39 57.8	+0.4
BLOK	Blackwell	1.05	8		Pn	11 40 00.3	+0.1
X34A	Smith Ranch, M	1.17	198		Pg	11 40 01.2	-0.5
X34A				IAmb_Lg		11 40 15.4	
	comp=Z,6μm,1.2s						
X34A				Sg	Sb	11 40 17.2	+0.1
GC02	Grant County #	1.19	342		Pn	11 40 02.7	+0.4
KAN13	South Haven SW	1.29	357		Pg	11 40 04.7	+0.6
KAN14	Manchester OK	1.32	340		Pg	11 40 04.8	+0.3
TUL1	Leonard	1.32	81		Pn	11 40 03.7	-0.3
TUL1				IAmb_Lg		11 40 22.7	
	comp=Z,4μm,0.8s						
TUL1	Leonard	1.32	81	P	Pn	11 40 03.6	-0.3
	baz=261,SNR=1000						
TUL1				S	Sn	11 40 21.9	+0.1
	baz=261						
KAN17	Caldwell West	1.35	347		Pg	11 40 05.5	+0.3
T35A	Sooner Cattle	1.39	31		Pg	11 40 05.9	0.0
KAN05	Bluff City Nor	1.44	345		Pg	11 40 07.0	+0.2
OK035	E0210 Rd and N	1.45	313	Pg	Pb	11 40 06.6	+0.1
KAN01	Argonia South	1.46	349		Pg	11 40 07.3	0.0
KAN01				IAmb_Lg		11 40 29.6	
	comp=Z,4μm,1.3s						
WMOK	Wichita Mounta	1.50	230		Pn	11 40 06.1	-0.3
WMOK	Wichita Mounta	1.50	230	P	Pn	11 40 06.1	-0.3
	baz=49						
WMOK				S	Sn	11 40 25.4	-0.8
	baz=49						
KAN10	Anthony SW Sta	1.51	338		Pg	11 40 08.0	-0.2
KAN06	Argonia West S	1.57	346		Pg	11 40 09.1	-0.2
KAN08	Anthony NE Sta	1.57	343		Pg	11 40 09.2	-0.2
KAN08				IAmb_Lg		11 40 32.9	
	comp=Z,6μm,1.2s						
KAN16	Harper SW Stat	1.60	340		Pb	11 40 09.2	+0.2
KAN16				IAmb_Lg		11 40 32.9	
	comp=Z,3μm,1.2s						
KAN12	Harper NE Stat	1.65	343		Pb	11 40 10.2	+0.4
KAN12				IAmb_Lg		11 40 34.4	
	comp=Z,4μm,1.2s						
LOOK	Love County	1.73	174	Pn	Pn	11 40 10.2	+0.6
LOOK				IAmb_Lg		11 40 36.2	
	comp=Z,5μm,1.2s						
X37A	Clayton	2.01	124	Pn	Pn	11 40 14.4	+1.0
Z35A	Perchaven, San	2.38	177	Pn	Pn	11 40 19.3	+0.7
Z35A				IAmb_Lg		11 41 00.0	
	comp=Z,2μm,1.1s						
U38A	Gravette	2.54	73	Pn	Pn	11 40 21.9	+1.1
U38A				IAmb_Lg		11 40 59.4	
	comp=Z,3μm,0.7s						
HHAR	Hobbs	2.86	78		Pn	11 40 26.0	+0.9
HHAR				IAmb_Lg		11 41 13.7	
	comp=Z,2μm,1.0s						
R32A	Long Quarter,	2.90	339		Pn	11 40 26.9	+1.3
W39A	Magazine	3.00	99		Pn	11 40 27.8	+0.8
W39A				IAmb_Lg		11 41 20.8	
	comp=Z,4μm,0.7s						
W39A	Magazine	3.00	99	P	Pn	11 40 27.9	+0.9
	baz=280,SNR=195						
W39A				S	Sn	11 41 04.3	+1.2
	baz=280						
Z38A	Mt. Pleasant	3.16	140	Pn	Pn	11 40 29.7	+0.4
Z38A				IAmb_Lg		11 41 23.0	
	comp=Z,3μm,0.8s						
MIAR	Mount Ida	3.34	109		Pn	11 40 32.9	+1.1
MIAR				IAmb_Lg		11 41 33.9	
	comp=Z,3μm,1.0s						
MIAR	Mount Ida	3.34	109	P	Pn	11 40 32.9	+1.1
	baz=291,SNR=97						
MIAR				S	Sn	11 41 13.6	+1.9
	baz=291						
KSU1	Kansas State U	3.43	10	Pn	Pn	11 40 34.3	+1.3
KSU1				IAmb_Lg		11 41 35.7	
	comp=Z,2μm,0.8s						
KSU1	Kansas State U	3.43	10	P	Pn	11 40 34.4	+1.3
	baz=191,SNR=123						
AMTX	Amarillo

comp=Z,2µm,0.8s
W41B Gary Mavity, V 4.24 96 P Pn 11 40 45.0 +0.9
baz=278,SNR=132
FCAR Ozark Folk Cen 4.29 86 Pn 11 40 44.9 +0.1
FCAR **Pb 11 40 54.9 0.0**
FCAR IAmb_Lg 11 41 55.0
comp=Z,2µm,0.8s
MGMO Mountain Grove 4.38 69 Pn 11 40 47.2 +1.2
MGMO IAmb_Lg 11 41 57.5
comp=Z,3µm,0.9s
Z41A Richland Creek 4.52 122 Pn 11 40 48.0 +0.1
Z41A IAmb_Lg 11 42 14.2
comp=Z,2µm,0.8s
Z41A Richland Creek 4.52 122 P Pn 11 40 47.7 -0.3
baz=304,SNR=14
NATX Nacogdoches 4.56 149 Pn **Pn 11 40 48.2 -0.3**
NATX Nacogdoches 4.56 149 P **Pn 11 40 48.5 0.0**
baz=330,SNR=7.3
MSTX Muleshoe 4.75 250 Pn **Pn 11 40 51.8 +0.5**
MSTX IAmb_Lg 11 42 14.5
comp=Z,924nm,1.2s
MSTX Muleshoe 4.75 250 P Pn 11 40 51.8 +0.5
baz=67,SNR=34
R40A Maddies Statio 4.84 56 Pn 11 40 52.2 -0.1
R40A IAmb_Lg 11 42 21.1
comp=Z,2µm,0.9s
435B Jarrell 4.93 182 Pn **Pn 11 40 54.0 +0.3**
435B IAmb_Lg 11 42 22.9
comp=Z,3µm,0.9s
435B Jarrell 4.93 182 P Pn 11 40 53.9 +0.3
baz=1.5
435B Sb **Sb 11 42 09.4 +4.3**
baz=1.5
P38A Dawn 4.96 37 Pn **Pn 11 40 56.0 +2.0**
P38A IAmb_Lg 11 42 21.6
comp=Z,2µm,0.8s
CCAR Cane Creek 4.96 110 Pn **Pn 11 40 54.5 +0.4**
CCAR IAmb_Lg 11 42 25.8
comp=Z,3µm,1.0s
N33A J Bar K, Exete 5.01 360 Pn 11 40 53.9 -0.9
N33A IAmb_Lg 11 42 32.7
comp=Z,2µm,1.2s
LCAR Lake Charles 5.08 84 Pn 11 40 55.4 -0.3
LCAR IAmb_Lg 11 42 26.7
comp=Z,2µm,1.2s
T42A Van Buren 5.25 74 Pn 11 40 58.7 +0.7
T42A IAmb_Lg 11 42 34.6
comp=Z,1µm,0.8s
KSCO Kaye Shedlock' 5.31 310 Pn **Pn 11 41 00.6 +1.7**
KSCO IAmb_Lg 11 42 32.1
comp=Z,890nm,0.9s
KSCO Kaye Shedlock' 5.31 310 P Pn 11 40 60.0 +1.1
baz=127,SNR=30
N35A Tabor 5.32 15 Pn 11 41 00.3 +1.4
CCM Cathedral Cave 5.45 63 Pn **Pn 11 41 01.6 +0.8**
CCM IAmb_Lg 11 42 35.3
comp=Z,2µm,1.0s
CCM Cathedral Cave 5.45 63 P Pn 11 41 01.2 +0.4
baz=246
HBAR Harrisburg 5.49 90 Pn 11 41 02.9 +1.6
JCT Junction City 5.60 202 Pn **Pn 11 41 01.4 -1.5**
JCT Junction City 5.60 202 P **Pn 11 41 03.1 +0.2**
baz=20
P40A Paris 5.70 47 Pn 11 41 04.5 +0.3
BGNE Belgrade 5.71 354 Pn **Pn 11 41 05.3 +0.9**
BGNE IAmb_Lg 11 42 56.2
comp=Z,1µm,0.9s
BGNE Belgrade 5.71 354 P Pn 11 41 04.4 +0.1
baz=174,SNR=7.8
PBMO Poplar Bluff 5.73 77 Pn 11 41 04.7 +0.1
LPAR Lepanto 5.78 89 Pn **Pn 11 41 06.9 +1.6**
143A Socs Landing, 5.80 119 Pn 11 41 05.9 +0.3
143A IAmb_Lg 11 42 59.3
comp=Z,1µm,0.8s
T25A Trinidad 5.83 286 Pn **Pn 11 41 07.3 +1.2**
T25A IAmb_Lg 11 42 55.3
comp=Z,2µm,1.1s
T25A Trinidad 5.83 286 P Pn 11 41 07.1 +0.9
baz=102,SNR=37
HKT Hockley 5.90 167 Pn **Pn 11 41 07.3 +0.4**
GNAR Gosnell 6.00 86 Pn **Pn 11 41 11.2 +3.0**
HDBT Hernando Brdge 6.02 93 IAmb_Lg 11 43 02.3
comp=Z,2µm,0.8s
FVM French Village 6.03 66 Pn 11 41 09.6 +0.9
N38A Joes South For 6.03 32 Pn **Pn 11 41 09.2 +0.5**
342A Flagon Creek P 6.06 134 Pn **Pn 11 41 08.7 -0.4**
441A DeRidder 6.08 143 Pn **Pn 11 41 06.1 -3.3**
MET Memphis--Engin 6.12 93 Pn **Pn 11 41 10.4 +0.4**
MET IAmb_Lg 11 42 52.4
comp=Z,2µm,1.0s
PEBM Pemiscott Bayo 6.13 84 Pn **Pn 11 41 09.8 -0.3**
PVMO Portageville 6.27 81 IAmb_Lg 11 42 59.5
comp=Z,2µm,0.8s
OGNE Ogallala 6.36 326 Pn **Pn 11 41 14.4 +1.1**
OGNE IAmb_Lg 11 43 08.7
comp=Z,1µm,0.8s
OGNE Ogallala 6.36 326 P Pn 11 41 14.7 +1.3
baz=144,SNR=35
SLM Saint Louis 6.42 61 Pn **Pn 11 41 12.8 -1.1**
LNXT Lenox 6.43 84 Pn **Pn 11 41 13.6 -0.6**
LNXT IAmb_Lg 11 43 09.4
comp=Z,2µm,0.8s
HENM Henderson Moun 6.48 79 Pn **Pn 11 41 17.4 +2.5**
HALT Halls 6.55 86 Pn **Pn 11 41 13.3 -2.5**
HALT IAmb_Lg 11 43 21.3
comp=Z,2µm,0.9s
HICK Hickman 6.66 81 Pn **Pn 11 41 16.4 -1.0**
VBMS Vicksburg 6.70 119 Pn **Pn 11 41 16.4 -1.4**
VBMS Vicksburg 6.70 119 P **Pn 11 41 19.1 +1.2**
baz=303
Y45A Yeager Farm, C 6.72 104 Pn **Pn 11 41 18.0 -0.2**
Y45A IAmb_Lg 11 43 23.8
comp=Z,944nm,0.8s
W45A Hickory Valley 6.73 92 Pn 11 41 16.6 -1.7
W45A IAmb_Lg 11 43 16.4
comp=Z,1µm,0.7s
SDCO Great Sand Dun 6.81 290 Pn 11 41 21.5 +1.7
SDCO IAmb_Lg 11 43 18.8
comp=Z,702nm,1.2s
SDCO Great Sand Dun 6.81 290 P Pn 11 41 21.2 +1.4
baz=105,SNR=123
S44A Carbondale 6.83 71 Pn 11 41 19.6 -0.1
S44A IAmb_Lg 11 43 18.0
comp=Z,2µm,0.8s
735A Kenedy 6.85 183 Pn 11 41 21.3 +1.2
735A IAmb_Lg 11 43 31.0
comp=Z,956nm,0.8s
UTMT University of 6.94 82 Pn **Pn 11 41 23.6 +2.4**
Q24A Divide 6.97 300 Pn 11 41 21.5 -0.4
Q24A Divide 6.97 300 P Pn 11 41 22.8 +0.9
baz=116,SNR=12
K31A O'Neill 6.97 352 Pn 11 41 22.3 +0.6
SCIA State Center 6.99 27 Pn **Pn 11 41 23.1 +1.2**
SCIA IAmb_Lg 11 43 31.3
comp=Z,1µm,0.8s
SCIA State Center 6.99 27 P Pn 11 41 22.8 +1.0
baz=209,SNR=9.8
344A Westbrook Farm 7.00 126 Pn **Pn 11 41 23.0 +0.9**
344A IAmb_Lg 11 43 36.8
comp=Z,771nm,1.3s
N41A Harden Midland 7.16 44 Pn 11 41 25.4 +1.2
T45A Paducah 7.18 77 Pn 11 41 25.4 +0.9
Q44A Meyer Farm, Va 7.39 62 Pn 11 41 28.3 +0.9
ANMO Albuquerque 7.45 267 Pn **Pn 11 41 29.1 +0.7**
comp=Z,0.4nm,0.3s,baz=92,slow=13,SNR=20
ANMO Lg Lg 11 43 33.1
comp=Z,19nm,0.3s,baz=44,slow=10,SNR=6.5
ANMO LR LR 11 44 32.4
comp=Z,1µm,19.1s,baz=84,slow=40
ANMO Albuquerque 7.45 267 Pn **Pn 11 41 28.6 +0.3**
ANMO Albuquerque 7.45 267 P **Pn 11 41 28.6 +0.3**
baz=82
146A Union 7.56 112 Pn 11 41 28.9 -0.9
146A IAmb_Lg 11 43 56.6
comp=Z,567nm,0.9s
833A Chaparral WMA, 7.57 193 Pn 11 41 29.4 -0.4
833A IAmb_Lg 11 43 45.7
comp=Z,2µm,1.1s
833A Chaparral WMA, 7.57 193 P Pn 11 41 29.9 +0.1
baz=12
PLAL Pickwick Lake 7.65 93 Pn 11 41 30.6 -0.4
PLAL IAmb_Lg 11 43 43.6
comp=Z,499nm,0.8s
ISCO Idaho Springs 7.68 304 Pn 11 41 32.4 +0.8
ISCO Idaho Springs 7.68 304 P **Pn 11 41 32.1 +0.5**
baz=120
BNM Barren Site 7.74 261 Pn 11 41 32.8 +0.3
MNTX Cornudas Mount 7.77 241 Pn **Pn 11 41 32.5 0.0**
MNTX IAmb_Lg 11 43 52.0
comp=Z,570nm,0.9s
MNTX Cornudas Mount 7.77 241 P Pn 11 41 32.6 0.0
baz=57,SNR=26
WVT Waverly 7.77 84 Pn **Pn 11 41 32.0 -0.6**
WVT Waverly 7.77 84 P Pn 11 41 31.9 -0.7
baz=270
K38A Parkersburg 7.79 26 Pn 11 41 33.1 +0.2
S22A 4UR Ranch, Cre 7.84 288 Pn 11 41 35.5 +1.6
S22A 4UR Ranch, Cre 7.84 288 P Pn 11 41 35.6 +1.7
baz=102,SNR=7.5
346A Big Creek Wild 7.90 121 Pn **Pn 11 41 32.8 -1.6**
L40A Anamosa 7.95 35 Pn **Pn 11 41 35.1 0.0**
Y22D IRIS PASSCAL I 8.00 261 IAmb_Lg 11 44 13.6
comp=Z,1µm,1.1s
HDIL Hopedale 8.00 50 Pn 11 41 36.2 +0.4
HDIL Hopedale 8.00 50 P Pn 11 41 35.9 +0.1
baz=235
OLIL Olney 8.00 65 Pn 11 41 37.9 +2.1
ECSD EROS Data Cent 8.03 4 Pn **Pn 11 41 35.2 -0.9**
ECSD EROS Data Cent 8.03 4 P Pn 11 41 35.4 -0.7
baz=185,SNR=57
Z47A Carrollton 8.10 105 Pn **Pn 11 41 37.7 +0.5**
T47A Sharon Grove 8.40 78 Pn 11 41 41.1 -0.1
PHWY Pilot Hill 8.42 314 Pn **Pn 11 41 42.4 +0.6**
PHWY IAmb_Lg 11 44 16.6
comp=Z,542nm,1.1s
N23A Red Feather La 8.47 310 Pn 11 41 44.1 +1.6
N23A IAmb_Lg 11 44 20.5
comp=Z,945nm,1.1s
N23A Red Feather La 8.47 310 P Pn 11 41 43.6 +1.1
baz=125,SNR=36
X48A Hartselle 8.58 95 Pn 11 41 43.0 -0.8
V48A Smith Brothers 8.60 87 Pn **Pn 11 41 43.1 -0.9**
L42A Oliver, Polo 8.70 42 Pn 11 41 45.8 +0.5
SUSD Miller 8.79 353 Pn **Pn 11 41 48.9 +2.2**
SUSD IAmb_Lg 11 44 31.9
comp=Z,1µm,1.2s
I37A Lemond, Waseca 8.84 19 Pn **Pn 11 41 46.0 -1.2**
I37A IAmb_Lg 11 44 26.9
comp=Z,1µm,1.1s
P46A Rosedale 8.97 61 Pn 11 41 48.1 -0.9
CLTN Cedars of Leba 8.99 84 Pn 11 41 51.3 +2.0
MVCO Mesa Verde 9.07 283 P Pn 11 41 52.9 +2.2
baz=96
JFWS Jewell Farm 9.07 35 Pn 11 41 50.2 -0.2
JFWS IAmb_Lg 11 44 36.2
comp=Z,1µm,0.7s
JFWS Jewell Farm 9.07 35 P Pn 11 41 49.8 -0.6
baz=220,SNR=9.4
Y49A Blount Mountai 9.22 98 Pn 11 41 52.0 -0.5
WCI Wyandotte Cave 9.23 71 Pn **Pn 11 41 52.9 +0.2**
WCI Wyandotte Cave 9.23 71 P Pn 11 41 52.3 -0.3
baz=258
M44A Midewin, Midew 9.26 50 Pn **Pn 11 41 53.2 +0.3**
BLO Bloomington 9.31 65 Pn 11 41 54.8 +1.1
SFIN Lafayette 9.36 57 Pn **Pn 11 41 54.9 +0.6**
SFIN Lafayette 9.36 57 P Pn 11 41 54.0 -0.4
baz=243
SWET Sewanee 9.37 90 Pn 11 41 56.5 +1.9
U49A Red Boiling Sp 9.43 82 Pn 11 41 55.5 0.0
HQIL Hanson Quary C 9.61 48 Pn **Pn 11 41 59.2 +1.4**
I40A Norwalk 9.68 30 Pn 11 41 59.1 +0.3
I40A IAmb_Lg 11 44 51.4
comp=Z,1µm,1.2s
RWWY Rawlins 9.71 311 Pn 11 41 59.8 +0.4
RWWY IAmb_Lg 11 45 15.5
comp=Z,354nm,1.1s
FPAL Fort Paine 9.72 94 Pn **Pn 11 41 59.1 -0.4**
BRAL Brewton 9.76 115 Pn **Pn 11 41 59.6 -0.3**
BRAL Brewton 9.76 115 P Pn 11 41 59.3 -0.6
baz=300
L44A Lake County Fo 9.80 46 P Pn 11 41 59.9 -0.5
baz=232
RSSD Black Hills 9.81 331 Pn **Pn 11 42 01.2 +0.4**
RSSD Black Hills 9.81 331 P Pn 11 42 00.4 -0.4
baz=147
W50A Signal Mountai 9.87 89 Pn **Pn 11 42 01.5 0.0**
K22A Casper 9.90 317 Pn **Pn 11 42 03.1 +1.1**
K22A IAmb_Lg 11 45 23.2
comp=Z,773nm,1.2s
K22A Casper 9.90 317 P Pn 11 42 01.6 -0.4
baz=132,SNR=16
K43A Burlington 9.90 42 Pn **Pn 11 42 01.8 0.0**
250A Grady 9.98 109 Pn 11 42 02.5 -0.4
R49A Shelbyville 10.11 72 Pn 11 42 05.6 +0.9
SPMN Marine on St. 10.12 19 Pn **Pn 11 42 03.3 -1.5**
SPMN Marine on St. 10.12 19 P Pn 11 42 03.3 -1.5
baz=202,SNR=11
F33A 5 Mile Ranch, 10.14 4 Pn **Pn 11 42 03.7 -1.4**
P48A Milroy 10.21 65 Pn 11 42 06.0 0.0
T50A Nancy 10.21 79 Pn 11 42 05.0 -1.1
X51A Calhoun 10.33 93 Pn 11 42 07.5 -0.2
Z51A Franklin 10.37 100 Pn 11 42 07.6 -0.6
I42A Draeger Farm, 10.44 36 Pn 11 42 09.1 -0.1
CPCT Cooper Cave 10.49 88 Pn **Pn 11 42 10.4 +0.5**
N47A Urbana 10.54 57 Pn **Pn 11 42 09.9 -0.6**
F36A Milaca 10.55 15 Pn **Pn 11 42 09.2 -1.5**
V51A Loudon 10.60 86 Pn 11 42 12.8 +1.3
L46A Eue Claire 10.69 51 Pn 11 42 13.0 +0.4
P49A Miami Univ. Ec 10.75 65 Pn 11 42 12.5 -1.0
P49A Miami Univ. Ec 10.75 65 P Pn 11 42 12.0 -1.5
baz=253
R50A Paris 10.76 72 Pn **Pn 11 42 11.9 -1.6**
152A Waverly Hall 10.93 103 Pn 11 42 14.9 -1.0
LNIG Linares 10.93 190 Pn 11 42 14.5 -1.5
G40A Rib Lake 10.99 28 Pn 11 42 16.4 -0.4
451A Vernon 11.01 114 Pn **Pn 11 42 17.8 +0.9**
W52A Murphy 11.01 89 Pn **Pn 11 42 16.4 -0.7**
TKL Tuckaleechee C 11.08 86 Pn **Pn 11 42 17.4 -0.6**
comp=Z,1.5nm,0.3s,baz=234,slow=7.8,SNR=21
TKL Sn **Sn 11 44 24.3 +2.2**
comp=Z,5.6nm,0.3s,baz=148,slow=20,SNR=2.3
TKL Lg Lg 11 45 11.1
comp=Z,9.8nm,0.3s,baz=297,slow=18,SNR=2.5
TKL LR LR 11 46 45.6
comp=Z,261nm,21.9s,baz=288,slow=38
TKL Tuckaleechee C 11.08 86 Pn 11 42 17.7 -0.3
Y52A Lilburn 11.12 96 Pn 11 42 17.7 -0.8
V52A Sevierville 11.21 85 Pn 11 42 19.4 -0.4
352A Blakely 11.22 109 Pn **Pn 11 42 17.9 -2.0**
P17A Butcher Ranch, 11.23 293 Pn **Pn 11 42 20.7 +0.6**
TZTN Tazewell 11.23 82 Pn **Pn 11 42 19.7 -0.3**
TZTN Tazewell 11.23 82 P Pn 11 42 20.0 -0.1
baz=270
O49A Covington 11.23 63 Pn 11 42 18.9 -1.2
HPIG 11.25 221 Pn **Pn 11 42 19.6 -0.9**
S51A Beattyville 11.25 76 Pn 11 42 18.5 -1.8
Q16A Castle Valley 11.42 290 Pn **Pn 11 42 23.1 +0.3**
H43A Windswept, Lux 11.43 37 Pn **Pn 11 42 22.1 -0.6**
N49A Columbus Grove 11.60 59 Pn **Pn 11 42 23.8 -1.3**
Q51A Peebles 11.66 69 Pn 11 42 25.2 -0.6
GOGA Godfrey 11.71 97 Pn 11 42 25.4 -1.2
GOGA Godfrey 11.71 97 P Pn 11 42 24.3 -2.4
baz=285
E38A The Farm, Brul 11.73 20 Pn **Pn 11 42 25.6 -1.2**
BW06 Boulder Array 11.76 310 Pn 11 42 27.4 0.0
BW06 Boulder Array 11.76 310 P Pn 11 42 26.0 -1.4
baz=123,SNR=10
PD31 Pinedale Array 11.76 310 Pn 11 42 27.5 +0.1
PDAR Pinedale Array 11.76 310 Pn **Pn 11 42 27.6 +0.1**
comp=Z,0.6nm,0.3s,baz=117,slow=15,SNR=23
PDAR Lg Lg 11 45 44.4
comp=Z,1.6nm,0.3s,baz=129,slow=31,SNR=2.5
PDAR LR LR 11 47 45.0
comp=Z,176nm,18.1s,baz=118,slow=42
PDAR Pinedale Array 11.76 310 Pn 11 42 25.6 -1.9
BG3 Lake Jocassee 11.84 89 Pn **Pn 11 42 29.6 +1.2**
L48A N Adams 11.86 55 Pn 11 42 29.1 +0.4
V53A Saluda 11.86 86 Pn **Pn 11 42 29.2 +0.5**
I45A Fountain 11.93 42 Pn **Pn 11 42 29.6 +0.1**
P51A Williamsport 11.97 67 Pn 11 42 28.5 -1.7
COWI Conover 12.10 28 Pn **Pn 11 42 30.9 -1.0**
553A Crawfordville 12.20 113 Pn **Pn 11 42 33.8 +0.4**
ACSO Alum Creek Sta 12.23 64 Pn **Pn 11 42 32.6 -1.1**
ACSO Alum Creek Sta 12.23 64 P Pn 11 42 31.3 -2.4
baz=253,SNR=9.3
154A Montrose 12.23 101 Pn **Pn 11 42 31.7 -2.0**
J47A Sunmer 12.27 48 Pn **Pn 11 42 35.7 +1.5**
Q52A Bidwell 12.47 70 Pn 11 42 36.5 -0.5
AAM Ann Arbor 12.54 54 Pn **Pn 11 42 37.7 -0.1**
AAM Ann Arbor 12.54 54 P Pn 11 42 36.6 -1.3
baz=243
M50A Fremont 12.58 59 Pn **Pn 11 42 38.0 -0.4**
R53A Hurricane 12.62 74 Pn **Pn 11 42 38.7 -0.3**
AGMN Agassiz Nation 12.62 5 Pn **Pn 11 42 35.8 -3.2**
AGMN Agassiz Nation 12.62 5 P Pn 11 42 35.1 -3.9
baz=186,SNR=8.6
U54A Nelsons Funny 12.62 82 Pn 11 42 38.8 -0.3
P52A Corning 12.71 68 Pn 11 42 39.4 -0.8
P52A Corning 12.71 68 P Pn 11 42 39.1 -1.1
baz=257,SNR=14
LOHW Long Hollow 12.86 312 Pn 11 42 43.1 +0.6
REDW Red Top Meadow 12.88 310 Pn **Pn 11 42 42.9 +0.2**
N51A Ashland 12.88 62 Pn 11 42 42.9 +0.3
G45A Suttons Bay 12.90 40 Pn **Pn 11 42 41.9 -0.9**
B35A Bob, Littlefor 12.92 11 Pn **Pn 11 42 40.8 -2.3**
255A Hazlehurst 12.97 103 Pn **Pn 11 42 41.6 -2.2**
EYMN Ely 12.98 18 Pn **Pn 11 42 41.0 -2.9**
EYMN Ely 12.98 18 P Pn 11 42 40.4 -3.5
baz=202,SNR=5.6
MOOW Moose Ponds 13.02 312 Pn **Pn 11 42 44.8 +0.1**
RLMT Red Lodge 13.03 320 Pn 11 42 44.5 -0.2
RLMT Red Lodge 13.03 320 P Pn 11 42 43.5 -1.3
baz=132
O52A Adamsville 13.04 66 Pn **Pn 11 42 44.2 -0.6**
S54A Dingess, Beckl 13.07 76 Pn 11 42 43.1 -2.1
KMSC Kings Mountain 13.12 88 Pn 11 42 46.2 +0.3
KMSC Kings Mountain 13.12 88 P Pn 11 42 45.6 -0.2
baz=277
V55A Taylorsville 13.14 85 Pn 11 42 45.3 -0.9
FLWY Flagg Ranch 13.18 313 Pn **Pn 11 42 45.6 -1.2**
E43A Lone Tree Farm 13.21 33 Pn **Pn 11 42 45.7 -1.3**
P53A Whipple 13.24 69 Pn **Pn 11 42 45.7 -1.7**
H17A Grant Village 13.29 315 P Pn 11 42 48.2 -0.1
baz=126
GLMI Grayling 13.32 43 Pn **Pn 11 42 47.4 -1.2**
GLMI Grayling 13.32 43 P Pn 11 42 45.9 -2.7
baz=231,SNR=7.7
O53A New Philadelph 13.54 66 Pn 11 42 50.0 -1.6
O53A New Philadelph 13.54 66 P Pn 11 42 48.9 -2.7
baz=256,SNR=7.1
Q54A Coxs Mills 13.57 71 Pn 11 42 50.1 -1.9
GCMT Greycliff 13.69 321 Pn **Pn 11 42 50.8 -2.9**
DGMT Dagmar 13.70 341 Pn **Pn 11 42 51.5 -2.2**
DGMT Dagmar 13.70 341 P Pn 11 42 50.3 -3.4
baz=156,SNR=7.1
BLA Blacksburg 13.75 79 Pn **Pn 11 42 52.2 -2.2**
BLA Blacksburg 13.75 79 P Pn 11 42 52.1 -2.4
baz=269
M52A Chesterland 13.81 60 Pn **Pn 11 42 53.2 -2.2**
BIRD Birdtown, Kers 13.90 90 Pn **Pn 11 42 56.4 -0.1**
YHL Hebgen Lake 13.91 315 Pn **Pn 11 42 55.7 -1.2**
N53A Lisbon 13.96 64 Pn 11 42 56.1 -1.2
656A Willston 14.04 113 Pn **Pn 11 42 57.5 -0.9**
R55A Marlinton 14.04 74 Pn 11 42 56.2 -2.3
M53A WI Miller and 14.27 61 Pn **Pn 11 43 02.1 +0.6**
MCWV Mont Chateau 14.44 69 Pn **Pn 11 43 02.5 -1.4**
MCWV Mont Chateau 14.44 69 P Pn 11 43 02.2 -1.7
baz=260
E46A Sault Ste Mari 14.49 39 Pn **Pn 11 43 02.1 -2.5**
ULM Lac du Bonnet 14.57 4 Pn Pn 11 42 59.8 -5.8
comp=Z,1.2nm,0.3s,baz=183,slow=12,SNR=13
ULM Sn Sn 11 45 33.7 -13
comp=Z,0.6nm,0.3s,baz=86,slow=13,SNR=2.7
ULM Lg Lg 11 47 10.8
comp=Z,2.5nm,0.3s,baz=110,slow=18,SNR=2.8
ULM LR LR 11 48 44.9
comp=Z,638nm,18.7s,baz=186,slow=38
ULM Lac du Bonnet 14.57 4 Pn **Pn 11 43 01.6 -3.9**
BOZ Bozeman (W) 14.61 317 P Pn 11 43 05.4 -0.9
baz=128
N54A Moraine State 14.62 64 Pn **Pn 11 43 05.0 -1.5**
N54A Moraine State 14.62 64 P Pn 11 43 03.2 -3.2
baz=254
T57A Hurt 14.68 80 Pn **Pn 11 43 05.2 -2.0**
Y58A Scranton 14.68 92 Pn **Pn 11 43 04.7 -2.4**
ALLY Alegheny Colle 14.71 61 Pn **Pn 11 43 04.7 -2.8**
X58A Rowland 14.82 89 Pn **Pn 11 43 07.8 -1.4**
ELK Elko 14.89 295 Pn **Pn 11 43 10.4 +0.2**
comp=Z,0.1nm,0.3s,baz=112,slow=5.4,SNR=4.8
ELK Lg Lg 11 47 30.5
comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=3.0
ELK LR LR 11 49 45.8
comp=Z,94nm,19.9s,baz=92,slow=41
S57A Dark Hollow, R 14.93 77 Pn 11 43 08.7 -1.9
M54A Oil Creek Stat 15.01 62 Pn 11 43 09.3 -2.3
M54A Oil Creek Stat 15.01 62 P Pn 11 43 09.5 -2.2
baz=253
HLID Hailey 15.25 306 P Pn 11 43 15.1 +0.1
baz=115,SNR=6.1
EGMT Eagleton 15.33 327 P Pn 11 43 13.1 -2.8
baz=139,SNR=5.8
O56A Blue Knob Stat 15.52 67 Pn **Pn 11 43 16.0 -2.4**
O56A IAmb IAmb 11 43 18.5
comp=Z,12nm,0.8s
O56A Blue Knob Stat 15.52 67 P Pn 11 43 15.6 -2.8
baz=259
M55A Ridgway 15.65 63 Pn **Pn 11 43 17.6 -2.4**
TPFO Pinon Flats 15.82 268 P P 11 43 26.1 -0.2
baz=77
PFO Pinyon Flats O 15.83 268 Pn **Pn 11 43 22.3 -0.2**
comp=Z,0.1nm,0.3s,baz=127,slow=10,SNR=1.7
PFO Lg Lg 11 47 57.8
comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=1.7
PFO LR LR 11 49 50.6
comp=Z,404nm,18.3s,baz=84,slow=39
PFO Pinyon Flats O 15.83 268 IAmb IAmb 11 43 28.2
comp=Z,7.8nm,1.2s
WVNY West Valley, N 16.04 60 Pn **Pn 11 43 23.3 -1.8**
WVNY IAmb IAmb 11 43 32.6
comp=Z,30nm,0.9s
T59A Double "B" Far 16.04 80 Pn **Pn 11 43 23.3 -1.8**
LPIG La Paz 16.09 227 LR LR 11 49 22.7
comp=Z,176nm,19.7s,baz=44,slow=36
SSPA Standing Stone 16.10 66 Pn **Pn 11 43 22.9 -3.0**
SSPA IAmb IAmb 11 43 25.4
comp=Z,13nm,0.8s
SSPA Standing Stone 16.10 66 P Pn 11 43 23.1 -2.8
baz=258
MPMC Manual Prospec 16.29 277 P Pn 11 43 28.9 +0.3
baz=85
MURC Murrieta 16.43 268 P Pn 11 43 30.5 +0.3
baz=77
SADO Sadowa 16.58 51 Pn **Pn 11 43 29.2 -2.8**
comp=Z,0.2nm,0.3s,baz=104,slow=2.8,SNR=3.1
SADO Sn Sn 11 46 24.1 -12
comp=Z,1.2nm,0.3s,baz=255,slow=4.2,SNR=3.1
SADO Lg Lg 11 48 13.0
comp=Z,3.9nm,0.3s,baz=80,slow=4.5,SNR=7.0
SADO Sadowa 16.58 51 IAmb IAmb 11 43 29.6
comp=Z,53nm,1.5s
L56A Greenwood 16.70 61 Pn 11 43 31.9 -1.6
L56A IAmb IAmb 11 43 43.9
comp=Z,23nm,1.1s
SDMD Soldier's Deli 16.71 71 Pn 11 43 33.9 +0.3
CWC Cottonwood Cre 16.74 279 P Pn 11 43 34.1 -0.1
baz=86
M57A Sunshine Farm, 16.81 64 Pn **Pn 11 43 33.6 -1.3**
M57A IAmb IAmb 11 43 40.5
comp=Z,14nm,0.6s
NVAR Mina Array Bea 16.90 285 Pn **Pn 11 43 36.3 0.0**
comp=Z,0.1nm,0.3s,baz=88,slow=11,SNR=2.4
NVAR LR LR 11 51 16.0
comp=Z,69nm,21.8s,baz=92,slow=42
N58A Sunbury 17.01 66 Pn 11 43 37.6 +0.1
N58A IAmb IAmb 11 43 57.5
comp=Z,11nm,0.6s
MVL Millersville 17.15 69 Pn **Pn 11 43 37.5 -1.8**
N59A State Game Lan 17.73 66 P Pn 11 43 46.8 +0.4
baz=260
BINY Binghamton 17.84 62 P 11 43 49.0 +0.4
BINY IAmb IAmb 11 43 51.7
comp=Z,20nm,0.9s
BINY Binghamton 17.84 62 P Pn 11 43 45.6 -2.2
baz=256
PNTR Pine Nut 17.95 287 P 11 43 50.5 +0.5
LUPA Lehigh Univers 17.98 68 P 11 43 50.9 +0.8
LUPA IAmb IAmb 11 43 52.7
comp=Z,38nm,1.3s
TLIG Tlapa 18.11 184 P **Pn 11 43 49.0 -2.4**
F10A Beach Ranch, E 18.12 310 P **P 11 43 52.7 +1.0**
L59A Walton 18.52 63 P **Pn 11 43 57.3 +1.1**
BRNJ Basking Ridge 18.60 68 P **Pn 11 43 57.1 +0.1**
ODNJ Ogdensburg 18.63 66 P **P 11 43 56.4 -0.8**

ODNJ IAmb IAmb 11 44 23.4
comp=Z,13nm,0.9s
J58A Remsen 18.65 59 P Pn 11 43 58.7 +1.0
CMIG Matias Romero 18.69 172 P Pn 11 43 59.7 +1.5
comp=Z,1.4nm,0.3s,baz=353,slow=7.6,SNR=21
CMIG LR LR 11 54 43.7
comp=Z,82nm,18.7s,baz=15,slow=48
PAL Palisades 19.14 67 P P 11 44 03.0 +0.2
baz=262
NEW Newport 19.22 317 LR LR 11 52 20.6
comp=Z,174nm,20.8s,baz=120,slow=40
NEW Newport 19.22 317 P P 11 44 03.7 0.0
baz=124
VLDQ Val d'Or 19.26 44 P P 11 44 02.5 -1.6
VLDQ IAmb IAmb 11 44 04.3
comp=Z,27nm,1.1s
NCB Newcomb 19.56 58 P P 11 44 07.2 -0.2
NCB IAmb IAmb 11 44 16.1
comp=Z,21nm,1.1s
C09A Chrisman Ranch 19.63 314 P Pn 11 44 10.1 +0.6
C09A IAmb IAmb 11 44 12.2
comp=Z,27nm,1.5s
TRY Troy 19.64 62 P Pn 11 44 09.9 +0.4
TRY IAmb IAmb 11 44 21.6
comp=Z,13nm,0.7s
ACCN Adirondack Com 19.79 60 P P 11 44 08.2 -1.7
ACCN IAmb IAmb 11 44 15.9
comp=Z,26nm,1.3s
CCIG Comitan 19.92 165 P P 11 44 12.4 +0.7
M04C Macdoel 19.97 295 P Pn 11 44 13.6 -0.1
baz=100
I05D Terrebonne, OR 20.20 303 P P 11 44 15.1 +0.7
baz=107
L61B Northampton 20.29 63 P Pn 11 44 16.3 -1.0
baz=259
QUA2 Belchertown 20.50 64 P Pn 11 44 18.7 -1.1
QUA2 IAmb IAmb 11 44 37.4
comp=Z,17nm,1.0s
N02D Trinity Center 20.50 292 P Pn 11 44 19.3 -0.6
baz=97
YBH Yreka Blue Hor 20.60 295 P P 11 44 19.7 +0.9
comp=Z,6.0nm,1.0s,baz=101,slow=7.1,SNR=6.7
YBH LR LR 11 52 28.2
comp=Z,131nm,19.2s,baz=104,slow=37
YBH Yreka Blue Hor 20.60 295 IAmb IAmb 11 44 25.8
comp=Z,5.8nm,0.9s
HNH Hanover 20.84 60 P Pn 11 44 22.6 -1.2
HNH IAmb IAmb 11 44 38.2
comp=Z,20nm,1.4s
FCC Fort Churchill 23.16 4 P P 11 44 46.8 +1.0
FCC IAmb IAmb 11 44 48.1
comp=Z,18nm,1.4s
D62A Allapoint, All 23.97 53 P P 11 44 55.0 +1.0
F64A Sherman 24.09 56 P P 11 44 55.9 +0.7
F64A IAmb IAmb 11 45 26.6
comp=Z,7.9nm,1.1s
BBB Bella Bella 27.29 317 LR LR 11 57 05.7
comp=Z,280nm,18.9s,baz=97,slow=38
JTS Las Juntas de 27.73 153 LR LR 11 58 20.4
comp=Z,80nm,18.2s,slow=40
SCHQ Scheffervilla 28.42 38 P P 11 45 33.6 -0.6
comp=Z,2.2nm,0.7s,baz=238,slow=10,SNR=4.7
YKA Yellowknife Ar 28.87 343 P P 11 45 38.1 0.0
comp=Z,2.2nm,1.0s,baz=144,slow=8.7,SNR=22
YKA LR LR 11 57 39.6
comp=Z,295nm,18.6s,baz=196,slow=38
DLBC Dease Lake 31.26 327 LR LR 11 58 39.4
comp=Z,184nm,19.6s,baz=119,slow=36
FRB Frobisher Bay 33.12 23 P P 11 46 15.1 -0.3
comp=Z,0.8nm,0.6s,baz=217,slow=11,SNR=5.5
FRB LR LR 11 59 35.4
comp=Z,127nm,19.3s,baz=200,slow=36
M27K Edge Creek, AK 38.29 328 P P 11 47 01.5 +1.5
baz=113
INK Inuvik 38.38 339 P P 11 47 00.6 +0.1
comp=Z,1.3nm,0.8s,baz=117,slow=9.5,SNR=5.5
INK LR LR 12 03 54.7
comp=Z,189nm,21.7s,baz=108,slow=38
BCAR Beaver Creek A 38.53 329 P P 11 47 03.5 +1.6
RES Resolute Bay 39.07 1 P P 11 47 06.0 -0.2
comp=Z,0.7nm,0.9s,baz=193,slow=14,SNR=2.3
RES LR LR 12 03 27.5
comp=Z,238nm,18.7s,baz=249,slow=37
A36M Sachs Harbour 39.08 347 P P 11 47 06.9 +0.5
A36M IAmb IAmb 11 47 08.1
comp=Z,4.9nm,1.0s
A36M Sachs Harbour 39.08 347 P P 11 47 06.8 +0.4
baz=143
J26L Joseph Creek 39.84 331 P P 11 47 13.9 +1.0
baz=114
IL31 41.26 330 P P 11 47 26.1 +1.6
IL31 IAmb IAmb 11 47 49.6
comp=Z,10nm,1.5s
ILAR Eielson Array 41.26 330 P P 11 47 25.7 +1.1
comp=Z,1.7nm,0.7s,baz=106,slow=7.1,SNR=24
ILAR LR LR 12 05 09.1
comp=Z,156nm,19.3s,baz=122,slow=37
BMAR Burnt Mountain 41.44 335 P P 11 47 27.9 +1.8
TRF Thorofare Moun 42.28 328 P P 11 47 34.3 +1.2
baz=105
KDAK Kodiak Island 42.30 319 LR LR 12 04 53.4
comp=Z,109nm,18.3s,baz=111,slow=36
CAST Castle Rocks 43.05 327 P P 11 47 40.1 +0.8
baz=104
I21K Tanana 43.45 330 P P 11 47 44.8 +2.5
I21K IAmb IAmb 11 47 45.1
comp=Z,3.1nm,0.8s
I21K Tanana 43.45 330 P P 11 47 43.6 +1.3
baz=105
TOLK Toolik Lake Re 43.65 335 P P 11 47 44.9 +1.0
baz=111
N19K Bonanza Creek 43.67 323 P P 11 47 45.9 +1.6
baz=98
J20K Nowinta River 44.12 328 P P 11 47 49.2 +1.5
J20K IAmb IAmb 11 48 10.8
comp=Z,4.4nm,1.2s
ATAH Atahualpa 46.23 153 LR LR 12 08 56.7
comp=Z,47nm,19.4s,baz=350,slow=38
NIKH Nikolski High 51.73 313 P P 11 48 44.4 -2.4
baz=79
LPAZ La Paz 58.69 147 P P 11 49 38.2 +0.1
comp=Z,1.1nm,0.5s,baz=303,slow=2.8,SNR=8.9
LPAZ LR LR 12 20 26.7
comp=Z,41nm,18.3s,baz=300,slow=42
LPAZ La Paz 58.69 147 P P 11 49 37.7 -0.4
PB16 IPOC Station P 59.91 149 P P 11 49 48.4 +1.9
SPITS Spitsbergen Ar 59.93 13 LR LR 12 16 11.5
comp=Z,150nm,18.3s,baz=357,slow=37
SHEM Shemya Is, Ala 61.69 316 LR LR 12 15 43.4
comp=Z,35nm,20.1s,baz=296,slow=35
EKA Eskdalemuir Ar 63.73 39 P P 11 50 10.9 -0.2
comp=Z,1.4nm,0.6s,baz=294,slow=6.0,SNR=4.3
LVC Limon Verde 63.98 151 LR LR 12 21 21.0
comp=Z,20nm,19.1s,baz=344,slow=39
ARCES ARCESS Array B 67.13 19 P P 11 50 33.4 +0.4
comp=Z,4.2nm,0.8s,baz=296,slow=6.9,SNR=1.7
SEY Seymchan 67.16 332 LR LR 12 22 17.0
comp=Z,120nm,18.6s,baz=88,slow=38
PETK Petropavlovsk- 70.27 322 LR LR 12 23 43.8
comp=Z,50nm,18.1s,baz=59,slow=38
ESDC Sonseca Array 70.61 55 LR LR 12 18 10.0
comp=Z,110nm,20.1s,baz=312,slow=33
CPUP Villa Florida 72.39 143 LR LR 12 25 00.8
comp=Z,19nm,21.9s,baz=358,slow=38
PPT Papeete 72.44 232 LR LR 12 16 36.2
comp=Z,30nm,20.9s,baz=56,slow=31
FINES FINESS Array B 72.90 25 P P 11 51 09.7 +1.2
comp=Z,2.8nm,1.0s,baz=303,slow=3.9,SNR=3.6
MDT Midelt 73.73 61 LR LR 12 19 48.5
comp=Z,64nm,19.9s,baz=328,slow=33
NRIK Noril'sk 75.19 358 LR LR 12 25 29.8
comp=Z,80nm,18.2s,baz=320,slow=37
YAK Yakutsk 75.44 339 LR LR 12 30 19.1
comp=Z,42nm,18.1s,baz=60,slow=40
ASAJ Asahikawa 83.68 321 LR LR 12 30 49.6
comp=Z,59nm,18.9s,baz=78,slow=37
KLR Kul'dur 84.84 330 LR LR 12 31 17.9
comp=Z,62nm,18.4s,baz=1.0,slow=37
ARU Arti 85.96 13 LR LR 12 34 33.0
comp=Z,88nm,18.9s,baz=319,slow=38
DBIC Dimbokro 88.21 83 LR LR 12 27 19.5
comp=Z,70nm,18.6s,baz=342,slow=32
ZALV Zalesovo Beam 90.68 359 P P 11 52 42.0 -0.2
comp=Z,0.2nm,0.3s,baz=327,slow=6.9,SNR=2.3
KURBB Kurchatov Arra 93.95 3 LR LR 12 39 05.6
comp=Z,99nm,19.3s,baz=311,slow=38
GNI Garni 96.84 28 LR LR 12 37 30.0
comp=Z,32nm,18.6s,baz=320,slow=36

IDC 01 11:53:29.9±3.3,31°.64S×178°.11W,h0km,mb3.4/2, mb1 3.8/3,mb1mx3.6/19,mbtmp3.6/3,ML3.1/1,Error ellipse: s-maj=74.7km s-min=48.6km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.68**	**209**	Pn	Pn	11 55 22.0	-1.0
	0.3nm,0.3s,baz=120,slow=24,SNR=2.2						
URZ				Sn	Sn	11 56 44.5	-6.2
	0.4nm,0.3s,baz=302,slow=24,SNR=1.4						
ASAR	**Alice Springs**	**42.97**	**268**	P	P	12 01 31.0	+0.1
	0.3nm,0.5s,baz=106,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**44.06**	**273**	P	P	12 01 39.7	-0.1
	0.2nm,0.3s,baz=113,slow=7.9,SNR=10						
FINES	**FINESS Array B**	**146.27**	**339**	PKPbc	PKPdf	12 13 10.8	+0.3
	3.2nm,0.9s,baz=37,slow=5.8,SNR=3.7						

IDC 01 12:05:01.3±1.5,5°.15N×61°.45E,h0km,mb3.8/4,mb1 4.1/4, mb1mx3.4/47,mbtmp3.8/4,MS3.4/14,Ms1 3.4/14, ms1mx3.1/78,Error ellipse: s-maj=74.4km s-min=30.4km az=26.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**18.18**	**352**	LR	LR	12 14 34.9	
	comp=Z,68nm,18.2s,baz=194,slow=32						
PALK	**Pallekele**	**19.25**	**83**	LR	LR	12 15 20.9	
	comp=Z,111nm,18.8s,baz=17,slow=32						
ATD	**Arta Tunnel**	**19.46**	**290**	LR	LR	12 15 49.3	
	comp=Z,45nm,21.8s,baz=62,slow=33						
MBAR	**Mbarara**	**31.21**	**260**	LR	LR	12 23 26.4	
	comp=Z,36nm,18.8s,baz=40,slow=35						
EIL	**Elat**	**34.94**	**317**	LR	LR	12 23 31.9	
	comp=Z,55nm,18.9s,baz=16,slow=32						
PSI	**Prapat**	**37.45**	**92**	LR	LR	12 24 29.0	
	comp=Z,55nm,21.3s,baz=264,slow=31						
LSZ	**Lusaka**	**38.70**	**238**	LR	LR	12 27 12.0	
	comp=Z,70nm,18.6s,baz=339,slow=34						
CMAR	**Chiang Mai Arr**	**38.90**	**67**	P	P	12 12 29.0	0.0
	0.2nm,0.5s,baz=257,slow=8.2,SNR=2.4						
CMAR				LR	LR	12 27 30.0	
	comp=Z,13nm,22.0s,baz=220,slow=35						
AAK	**Ala-Archa**	**39.08**	**15**	LR	LR	12 29 09.8	
	comp=Z,67nm,18.5s,baz=285,slow=37						
KBZ	**Khabaz**	**41.76**	**340**	LR	LR	12 30 10.3	
	comp=Z,69nm,20.8s,baz=324,slow=36						
LBTB	**Lobatse**	**45.98**	**228**	LR	LR	12 29 54.1	
	comp=Z,60nm,21.7s,baz=38,slow=32						
BOSA	**Boshof**	**48.38**	**224**	LR	LR	12 32 03.0	
	comp=Z,66nm,19.1s,baz=5.0,slow=34						
ESDC	**Sonseca Array**	**67.88**	**311**	P	P	12 16 01.9	0.0
	1.6nm,0.8s,baz=82,slow=5.8,SNR=7.0						
KLR	**Kul'dur**	**73.29**	**40**	LR	LR	12 48 59.9	
	comp=Z,45nm,19.9s,baz=324,slow=36						
WRA	**Warramunga Arr**	**75.79**	**112**	P	P	12 16 49.7	-0.1
	1.6nm,0.9s,baz=297,slow=4.7,SNR=5.8						
ASAR	**Alice Springs**	**76.13**	**116**	P	P	12 16 51.8	+0.1
	0.8nm,0.8s,baz=286,slow=5.8,SNR=6.2						
PETK	**Petropavlovsk-**	**89.66**	**37**	LR	LR	12 58 42.7	
	comp=Z,49nm,19.3s,baz=316,slow=36						

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*NEIC **01** 12:06:37.2±2.0,5°.04S±0°.09×154°.6E±0°.1,h35km±1km, mb4.3/5,Error ellipse: s-maj=24.7km s-min=11.2km az=119.0*
*IDC **01** 12:06:46.3±6.1,5°.02S×154°.13E,h120km±47km,mb3.4/8, mb1 3.7/9,mb1mx3.5/36,mbtmp3.9/9,MS2.9/3,Ms1 2.8/3, ms1mx2.5/30,Error ellipse: s-maj=61.9km s-min=26.7km az=110.0*
ISC 01 12:06:36.9±1.5,4°.9S±0°.2×154°.3E±0°.3,h35km,n20, σ0°.90/17,mb3.7/11,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.24**	**287**	Pn	Pn	12 07 16.2	+4.7
HNR	**Honiara**	**7.21**	**129**	LR	LR	12 11 38.9	
	comp=Z,80nm,20.2s,baz=270,slow=40						
PMG	**Port Moresby**	**8.41**	**237**	P	Pn	12 08 42.3	+6.0
	6.1nm,0.3s,baz=34,slow=11,SNR=16						
PMG				S	**Sn**	**12 10 10.0**	**-0.2**
	1.1nm,0.3s,baz=342,slow=19,SNR=1.8						
PMG				LR	LR	12 11 49.4	
	comp=Z,62nm,18.7s,baz=72,slow=37						
PMG	**Port Moresby**	**8.41**	**237**		**Pn**	**12 08 37.1**	**+0.7**
WR0	**Warramunga Arr**	**24.41**	**230**	P	**P**	**12 11 53.1**	**+0.8**
WR0				IAmb	IAmb	12 12 17.3	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**24.41**	**231**	P	**P**	**12 11 53.2**	**+0.9**
WB0				IAmb	IAmb	12 11 54.2	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**24.54**	**231**	P	**P**	**12 11 54.3**	**+0.8**
WB2				IAmb	IAmb	12 12 21.0	
	comp=Z,6.6nm,1.1s						
WRA	**Warramunga Arr**	**24.55**	**231**	P	**P**	**12 11 53.0**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=53,slow=9.6,SNR=17						
AS31	**Alice Springs**	**27.14**	**224**	P	**P**	**12 12 16.7**	**-0.4**
ASAR	**Alice Springs**	**27.14**	**224**	P	**P**	**12 12 16.4**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=56,slow=9.2,SNR=27						
STKA	**Stephens Creek**	**29.41**	**202**	LR	LR	12 23 29.5	
	comp=Z,26nm,21.3s,baz=22,slow=34						
FITZ	**Fitzroy Crossi**	**30.96**	**243**	P	**P**	**12 12 49.5**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=60,slow=10,SNR=2.4						
MORW	**Morawa**	**43.49**	**232**	P	**P**	**12 14 36.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**59.26**	**295**	P	**P**	**12 16 35.5**	**0.0**
	comp=Z,0.6nm,0.9s,baz=99,slow=5.6,SNR=3.0						
SONM	**Songino Array**	**67.18**	**327**	P	**P**	**12 17 28.1**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=134,slow=6.2,SNR=3.2						
MKAR	**Makanchi Array**	**81.36**	**319**	P	**P**	**12 18 49.9**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=106,slow=7.1,SNR=4.7						
ILAR	**Eielson Array**	**81.65**	**22**	P	**P**	**12 18 52.0**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=238,slow=5.0,SNR=2.4						
ILAR	**Eielson Array**	**81.65**	**22**	P	**P**	**12 18 52.0**	**+0.8**
ZALV	**Zalesovo Beam**	**82.04**	**326**	P	**P**	**12 18 52.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=119,slow=5.1,SNR=2.1						
TORD	**Torodi Ar. Bea**	**151.75**	**289**	PKPbc	**PKPbc**	**12 26 27.6**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=72,slow=2.2,SNR=5.8						

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*EAF **01** 12:29:30.0±1.3,26°.21S×27°.79E,h0km±20km,MD4.1*
*BUL **01** 12:29:30.0±1.3,26°.21S×27°.79E,h0km±20km,MD4.5*
ISC 01 12:29:30.5±1.6,26°.31S±0°.08×27°.77E±0°.09,h10km,n10, σ1°.61/12,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**3.20**	**224**	*i* P	**Pn**	**12 30 21.8**	**+0.8**
BOSA	**Boshof**	**3.20**	**224**	*i* P	**Pn**	**12 30 21.8**	**+0.8**
CNG	**Changalane**	**3.96**	**91**	*i* P	**Pn**	**12 30 32.2**	**+0.8**
CNG				*i* S	**Sn**	**12 31 15.6**	**-2.3**
CNG	**Changalane**	**3.96**	**91**	*i* P	**Pn**	**12 30 32.2**	**+0.8**
CNG				*i* S	**Sn**	**12 31 15.6**	**-2.3**
MSNA	**Messina**	**4.45**	**28**	*i* Sg	**Sb**	**12 31 44.6**	**+2.0**
MSNA	**Messina**	**4.45**	**28**	*i* Sg	**Sb**	**12 31 44.6**	**+2.0**
MATP	**Matopo**	**5.90**	**7**	*i* P	**Pn**	**12 30 57.1**	**-1.0**
MATP	**Matopo**	**5.90**	**7**	*i* P	**Pn**	**12 30 57.1**	**-1.0**
CHIPN	**CHIPINGE**	**7.53**	**38**	*i* P	**Pn**	**12 31 20.5**	**0.0**
CHIPN	**CHIPINGE**	**7.53**	**38**	*i* P	**Pn**	**12 31 20.5**	**0.0**

IDC 01 12:40:53.7±1.9,33°.00N×141°.56E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.3/37,mbtmp3.5/4,ML2.8/2,Error ellipse: s-maj=33.4km s-min=23.1km az=56.0,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.50**	**275**	Pn	Pn	12 41 21.6	-0.2
	20nm,0.3s,baz=138,slow=23,SNR=12						
JHJ				Sn	Sn	12 41 42.8	+0.8
	30nm,0.3s,baz=76,slow=22,SNR=8.5						
MJAR	**Matsushiro Arr**	**4.48**	**323**	Pn	Pn	12 42 03.8	+0.9
	0.1nm,0.3s,baz=148,slow=12,SNR=7.4						
MJAR				Sn	Sn	12 42 55.1	-0.6
	0.1nm,0.3s,baz=99,slow=38,SNR=1.3						
ASAJ	**Asahikawa**	**11.13**	**4**	Pn	Pn	12 43 33.8	-0.2
	0.2nm,0.3s,baz=191,slow=18,SNR=2.0						
MKAR	**Makanchi Array**	**46.45**	**305**	P	P	12 49 21.5	-0.8
	0.2nm,0.5s,baz=87,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**53.10**	**189**	P	P	12 50 13.0	0.0
	0.3nm,0.4s,baz=5.2,slow=7.5,SNR=11						

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*TAP **01** 12:41:45.0,24°.42N×121°.92E,h25km,ML3.2,C*
*JMA **01** 12:41:44.7±0.1,24°.34N×121°.87E,h44km±2km,M2.5*
ISC 01 12:41:45.0±0.9,24°.41N±0°.01×121°.95E±0°.02,h19km±2km, n102, σ0°.79/197,1C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.16**	**283**	*i* P	**Pg**	**12 41 50.0**	**+0.4**
	baz=281						
EWUT				S	**Sg**	**12 41 53.3**	**+0.7**
	baz=281						
ENA	**Nanau**	**0.19**	**275**	P	**Pg**	**12 41 50.4**	**+0.4**
	baz=273						
ENA				S	**Sg**	**12 41 54.0**	**+0.7**
	baz=273						
EHP	**Heping Village**	**0.22**	**243**	*e*P	**Pb**	**12 41 49.8**	**0.0**
	baz=235						
EHP				*e*S	**Sg**	**12 41 54.3**	**+0.4**
	baz=235						
TWC	**Suao**	**0.22**	**335⇓**	*i* P	**Pg**	**12 41 50.9**	**+0.5**
	baz=343						
TWC				*i* S	**Sg**	**12 41 54.6**	**+0.6**
	baz=343						
NDS	**Dongshan**	**0.31**	**316**	*i* P	**Pb**	**12 41 52.2**	**+0.3**
	baz=319						
NDS				S	**Sb**	**12 41 56.7**	**+0.1**
	baz=319						
ETL	**Fush Village**	**0.39**	**230**	*i* P	**Pg**	**12 41 53.5**	**+0.4**
	baz=230						
ETL				S	**Sb**	**12 42 00.2**	**+1.1**
	baz=230						
ILA	**Ilan**	**0.40**	**332**	*i* P	**Pb**	**12 41 53.9**	**+0.4**
	baz=337						
ILA				*e*S	**Sb**	**12 42 00.2**	**+0.8**
	baz=337						
NACB	**Ninganchiao**	**0.40**	**234⇑**	*i*P	**Pg**	**12 41 53.3**	**-0.1**
	baz=234						
NACB				*i* S	**Sb**	**12 41 59.8**	**+0.4**
	baz=234						
TWE	**Neicheng**	**0.40**	**320⇓**	*i*P	**Pg**	**12 41 53.7**	**+0.2**
	baz=325						
TWE				*e*S	**Sg**	**12 41 59.4**	**+0.3**
	baz=325						
ENTT	**Nioudou**	**0.42**	**303**	*i* P	**Pg**	**12 41 53.9**	**+0.2**
	baz=309						
ENTT				S	**Sb**	**12 41 60.0**	**+0.1**
	baz=309						
EGS		**0.43**	**358**	P	**Pb**	**12 41 54.6**	**+0.5**
	baz=3.0						
EGS				S	**Sb**	**12 42 00.9**	**+0.6**
	baz=3.0						
NDT	**Datong Townshi**	**0.44**	**296**	P	**Pb**	**12 41 54.4**	**+0.1**
	baz=301						
NDT				S	**Sb**	**12 42 00.9**	**+0.4**
	baz=301						
NTC	**Toucheng**	**0.46**	**346**	*e*P	**Pb**	**12 41 54.6**	**+0.1**
	baz=350						
NTC				*e*S	**Sg**	**12 42 00.7**	**0.0**
	baz=350						
TWD	**Chiawan**	**0.46**	**225**	*i* P	**Pg**	**12 41 54.5**	**+0.1**
	baz=226						
TWD				*e*S	**Sb**	**12 42 02.2**	**+1.2**
	baz=226						
ETLH	**Xiulin Townshi**	**0.47**	**245**	*e*P	**Pg**	**12 41 54.7**	**0.0**
	baz=245						
ETLH				*e*S	**Sb**	**12 42 01.8**	**+0.4**
	baz=245						
NNSB	**Datong**	**0.52**	**272**	*i* P	**Pb**	**12 41 55.4**	**-0.1**
	baz=275						
NNSB				*e*S	**Sb**	**12 42 02.9**	**+0.2**
	baz=275						
NNS	**Nan Shan**	**0.53**	**273**	P	**Pb**	**12 41 55.5**	**-0.2**
	baz=276						
NNS				S	**Sg**	**12 42 03.0**	**0.0**
	baz=276						
HWA	**Hwalien**	**0.54**	**216**	*e*P	**Pg**	**12 41 56.6**	**+0.9**
	baz=212						
HWA				*e*S	**Sn**	**12 42 06.9**	**+0.8**
	baz=212						
NWLT	**Wulai**	**0.55**	**312**	P	**Pb**	**12 41 56.0**	**+0.1**
	baz=320						
NWLT				S	**Sb**	**12 42 03.2**	**-0.2**
	baz=320						
TIPB	**Shuangxi**	**0.57**	**349**	*i* P	**Pg**	**12 41 56.6**	**+0.1**
	baz=357						
TIPB				S	**Sb**	**12 42 04.2**	**+0.1**
	baz=357						
YHNB	**Yeheng**	**0.58**	**296**	*i* P	**Pb**	**12 41 56.6**	**+0.1**
	baz=297						
YHNB				S	**Sb**	**12 42 04.4**	**-0.1**
	baz=297						
TWB1	**Santiao Chiao**	**0.60**	**3**	*i* P	**Pg**	**12 41 57.2**	**+0.3**
	baz=2.0						
TWB1				S	**Sg**	**12 42 05.4**	**+0.4**
	baz=2.0						
NSK	**Sanguang**	**0.60**	**296**	P	**Pb**	**12 41 56.9**	**0.0**
	baz=297						
NSK				*e*S	**Sb**	**12 42 05.0**	**+0.1**
	baz=297						
ETM	**Tongmen**	**0.61**	**223**	*i* P	**Pb**	**12 41 57.0**	**0.0**
	baz=220						
TWA	**Mucha**	**0.66**	**330**	P	**Pg**	**12 41 58.8**	**+0.7**
	baz=332						
TWA				S	**Sg**	**12 42 07.0**	**+0.1**
	baz=332						
FUSS	**Fushou**	**0.67**	**256**	*i* P	**Pb**	**12 41 58.2**	**+0.2**
	baz=260						
FUSS				S	**Sb**	**12 42 07.3**	**+0.3**
	baz=260						
NHDH	**Xindian Distri**	**0.67**	**325**	P	**Pg**	**12 41 58.5**	**+0.1**
	baz=322						
NHDH				S	**Sg**	**12 42 07.3**	**0.0**
	baz=322						
NWF	**Wu-fen Shan**	**0.68**	**347**	P	**Pg**	**12 41 58.7**	**+0.3**
	baz=343						
NWF				*e*S	**Sg**	**12 42 07.9**	**+0.4**
	baz=343						
WHF	**Hehuan Shan**	**0.68**	**247**	*i* P	**Pb**	**12 41 58.3**	**-0.1**
	baz=252						
WHF				*e*S	**Sg**	**12 42 08.1**	**+0.3**
	baz=252						
TWT	**Tachien**	**0.72**	**258**	*e*P	**Pb**	**12 41 59.4**	**+0.3**
	baz=261						
TWT				*e*S	**Sb**	**12 42 08.5**	**-0.2**
	baz=261						
TDCB	**Techi**	**0.74**	**258**	*e*P	**Pb**	**12 41 59.5**	**+0.2**
	baz=261						
TDCB				*e*S	**Sb**	**12 42 09.5**	**+0.4**
	baz=261						
ESL	**Shilin**	**0.76**	**219**	*e*P	**Pb**	**12 41 58.8**	**-0.8**
	baz=230						
ESL				*e*S	**Sg**	**12 42 10.1**	**+0.1**
	baz=230						
CHGB	**Renai**	**0.79**	**244**	P	**Pb**	**12 42 00.0**	**-0.2**
	baz=242						
CHGB				*e*S	**Sg**	**12 42 11.5**	**+0.4**
	baz=242						
YM01	**YM01**	**0.81**	**335**	P	**Pg**	**12 42 01.1**	**+0.2**
	baz=337						
YM01				S	**Sg**	**12 42 11.8**	**+0.1**
	baz=337						
OWD	**Renai**	**0.84**	**237**	*e*P	**Pb**	**12 42 00.7**	**-0.4**
	baz=224						
OWD				*e*S	**Sb**	**12 42 12.6**	**+0.6**
	baz=224						
TWS1	**Kuangyinshan**	**0.84**	**325**	P	**Pg**	**12 42 01.7**	**+0.2**
	baz=327						
TWS1				S	**Sn**	**12 42 13.8**	**+0.2**
	baz=327						
ANP	**Anpu**	**0.87**	**333**	*e*P	**Pb**	**12 42 01.4**	**-0.1**
	baz=336						
ANP				*e*S	**Sg**	**12 42 13.8**	**+0.3**
	baz=336						
NTST	**Danshui**	**0.88**	**329**	*e*P	**Pn**	**12 42 02.4**	**+0.1**
	baz=331						
NTST				*e*S	**Sn**	**12 42 14.5**	**-0.1**
	baz=331						
EGFH	**Guangfu**	**0.88**	**213**	*e*P	**Pb**	**12 42 00.8**	**-0.8**
	baz=228						
EGFH				*e*S	**Sn**	**12 42 14.8**	**+0.2**
	baz=228						
LIOB	**Emei**	**0.88**	**286**	*e*P	**Pg**	**12 42 02.3**	**+0.1**
	baz=278						
LIOB				*e*S	**Sn**	**12 42 15.1**	**+0.3**
	baz=278						

NCU	National Centr	0.89	309	eP	Pb	12 42 00.8	-1.1
	baz=311						
NCU				eS	Sn	12 42 16.4	+1.5
	baz=311						
NCUH	Zhongli	0.89	309	eP	Pg	12 42 02.4	0.0
	baz=311						
NCUH				eS	Sn	12 42 15.5	+0.6
	baz=311						
NSTT	Nanjuang	0.89	284	eP	Pg	12 42 02.5	0.0
	baz=277						
NSTT				eS	Sb	12 42 13.6	+0.2
	baz=277						
JYNG	Yonagunijimaku	0.91	87	P	Pb	12 42 02.5	+0.4
JYNG				eS	Sn	12 42 15.5	+0.2
TWY	Chenhua	0.92	340	eP	Pn	12 42 02.9	0.0
	baz=343						
TWY				eS	Sb	12 42 14.4	+0.3
	baz=343						
WHP	Taichung City	0.93	262	eP	Pg	12 42 03.7	+0.6
	baz=261						
WHP				eS	Sg	12 42 15.7	+0.4
	baz=261						
SBCB	Hsinchu	0.96	294	eP	Pb	12 42 03.2	+0.2
	baz=310						
SBCB				eS	Sn	12 42 17.4	+0.9
	baz=310						
YOJ	Yonaguni jima	0.97	87	P	Pb	12 42 03.3	+0.2
YOJ				eS	Sg	12 42 16.6	0.0
YOJ	Yonaguni jima	0.97	87	P	Pb	12 42 02.5	-0.7
	baz=86						
YOJ				eS	Sg	12 42 16.8	+0.2
	baz=86						
HSN	Hsinchu	0.97	294	eP	Pn	12 42 03.9	+0.3
	baz=298						
HSN				eS	Sn	12 42 17.6	+0.7
	baz=298						
VWDT	VWDT	0.99	229	P	Pb	12 42 02.8	-0.6
	baz=215						
VWDT				S	Sn	12 42 17.3	+0.1
	baz=215						
WCS	Beigang Elemen	1.01	250	eP	Pb	12 42 03.8	-0.1
	baz=248						
WCS				eS	Sn	12 42 17.8	0.0
	baz=248						
HGSD	Ruisui	1.03	208	eP	Pb	12 42 03.7	-0.6
	baz=194						
HGSD				eS	Sg	12 42 20.0	+1.3
	baz=194						
NMLH	Miaoli	1.06	277	eP	Pg	12 42 05.8	+0.1
	baz=278						
NMLH				eS	Sg	12 42 20.1	+0.4
	baz=278						
EHY	Hungye	1.07	213	eP	Pb	12 42 03.0	-1.9
	baz=211						
EHY				eS	Sb	12 42 18.8	+0.3
	baz=211						
TWQ1	Liyutan	1.08	267	P	Pg	12 42 06.3	+0.4
	baz=266						
TWQ1				eS	Sg	12 42 21.0	+0.9
	baz=266						
SSLB	Suanglung	1.10	236	P	Pn	12 42 04.6	-0.9
	baz=234						
SSLB				eS	Sb	12 42 19.6	+0.1
	baz=234						
TYC	Yuchr	1.12	243	eP	Pn	12 42 05.1	-0.5
	baz=233						
TYC				eS	Sg	12 42 21.4	0.0
	baz=233						
YULB	Yu-li	1.18	211	P	Pn	12 42 04.6	-1.8
	baz=209						
YULB				eS	Sb	12 42 21.1	-0.4
	baz=209						
TCU	Taichung	1.19	258	eP	Pn	12 42 06.2	-0.5
	baz=256						
TCU				eS	Sg	12 42 23.9	+0.2
	baz=256						
WDJ	Dajia District	1.20	267	eP	Pn	12 42 06.9	+0.2
	baz=267						
WDJ				eS	Sg	12 42 23.4	-0.4
	baz=267						
EYUL	Yuli	1.21	209	eP	Pn	12 42 05.8	-1.1
	baz=208						
EYUL				eS	Sg	12 42 23.8	-0.4
	baz=208						
WJS	Zhushan	1.26	243	P	Pb	12 42 08.5	+0.3
	baz=229						
WJS				S	Sg	12 42 26.8	+0.8
	baz=229						
WNT	Mingjian	1.27	246	eP	Pb	12 42 08.5	+0.2
	baz=232						
WNT				eS	Sg	12 42 27.4	+1.1
	baz=232						
WCHH	Zhanghua	1.31	256	eP	Pn	12 42 08.6	+0.3
	baz=255						
WCHH				eS	Sb	12 42 26.6	+1.1
	baz=255						
FULB	Fuli	1.35	207	eP	Pn	12 42 07.8	-1.0
	baz=216						
FULB				eS	Sg	12 42 29.4	+0.6
	baz=216						
ALS	Alishan	1.38	230	eP	Pn	12 42 09.7	+0.2
	baz=217						
ALS				eS	Sg	12 42 29.6	-0.2
	baz=217						
CHN5	Tsauling	1.42	235	eP	Pb	12 42 10.6	-0.2
	baz=234						
CHN5				eS	Sg	12 42 31.9	+0.9
	baz=234						
WDLH	Douliu	1.48	241	P	Pn	12 42 11.2	+0.6
	baz=240						
WDLH				S	Sg	12 42 32.1	-0.8
	baz=240						
ELDTW	Lidau	1.49	215	eP	Pn	12 42 10.0	-0.8
	baz=202						
ELDTW				eS	Sb	12 42 31.2	+0.6
	baz=202						
WRL	Guolierlin Hig	1.52	251	eP	Pn	12 42 11.4	+0.2
	baz=250						
WRL				eS	Sb	12 42 31.8	+0.2
	baz=250						
EDH	Donghe	1.55	203	eP	Pn	12 42 10.0	-1.5
	baz=189						
EDH				eS	Sn	12 42 30.0	-1.1
	baz=189						
WTK	Tuku	1.60	244	eP	Pn	12 42 13.1	+0.9
	baz=242						
WTK				eS	Sb	12 42 34.9	+1.2
	baz=242						
CHN2	Minshiung	1.61	237	eP	Pb	12 42 13.7	-0.3
	baz=223						
CHN2				eS	Sg	12 42 37.3	+0.3
	baz=223						
IRIF	Iriomote-Funau	1.62	92	P	Pn	12 42 12.3	-0.3
IRIF				eS	Sn	12 42 33.2	+0.2
STYH	Taoyuan	1.64	221	P	Pn	12 42 12.6	-0.1
	baz=220						
STYH				eS	Sb	12 42 35.2	+0.4
	baz=220						
TPUB	Ta-pu	1.64	228	eP	Pn	12 42 13.7	+0.9
	baz=227						
TPUB				eS	Sb	12 42 36.3	+1.4
	baz=227						
CHY	Chiayi	1.67	237	eP	Pn	12 42 13.9	+0.7
	baz=236						
CHY				eS	Sb	12 42 36.5	+0.8
	baz=236						
LONT	Longtian	1.68	207	eP	Pn	12 42 11.0	-2.3
	baz=193						
WTP	Ta-pu	1.69	227	eP	Pn	12 42 14.3	+0.8
	baz=226						
WTP				eS	Sb	12 42 37.4	+1.1
	baz=226						
TWK	Hsinying	1.76	230	eP	Pn	12 42 15.6	+1.1
	baz=229						
TWK				eS	Sb	12 42 39.9	+1.5
	baz=229						
WSF	Szhu	1.76	244	eS	Sb	12 42 38.8	+0.5
	baz=243						
SNST	Tainan City	1.78	229	eP	Pb	12 42 16.7	-0.4
	baz=228						
SNST				eS	Sb	12 42 40.5	+1.5
	baz=228						
CHN1	Nanshi	1.79	227	eP	Pn	12 42 16.1	+1.3
	baz=227						
CHN1				eS	Sb	12 42 40.4	+1.3
	baz=227						
SGST	Jiashian	1.82	224	eP	Pn	12 42 15.3	0.0
	baz=223						
SGST				eS	Sb	12 42 39.9	-0.3
	baz=223						
SLGT	Liugui	1.85	221	eP	Pn	12 42 16.8	+1.1
	baz=220						
SLGT				eS	Sb	12 42 41.6	+0.7
	baz=220						
ICHU	Yijhu	1.85	236	eP	Pn	12 42 17.1	+1.4
	baz=235						
ICHU				eS	Sb	12 42 41.2	+0.2
	baz=235						
JKRS	Kuro-shima	1.89	95	eS	Sn	12 42 39.8	+0.4
JIJ	Ishigaki jima	2.00	91	eS	Sn	12 42 41.5	-0.7
SSD	Sandimen	2.05	216	eP	Pn	12 42 19.7	+1.2
	baz=205						
SSD				eS	Sb	12 42 47.3	+0.5
	baz=205						
TSMG	Majia	2.08	215	eP	Pn	12 42 19.6	+0.8
	baz=205						
TSMG				eS	Sb	12 42 46.5	-1.0
	baz=205						
JISG	Ishigakijimahi	2.16	85	eS	Sn	12 42 45.9	-0.2
MASBT	Mashibuluo	2.16	214	eP	Pn	12 42 20.7	+0.8
	baz=202						
MASBT				eS	Sn	12 42 48.2	+2.0
	baz=202						
PNG	Penghu	2.35	250	eP	Pn	12 42 21.7	-0.8
	baz=248						
PNG				eS	Sn	12 42 50.1	-0.7
	baz=248						
PHUB	P'eng-hu	2.35	248	eP	Pn	12 42 21.6	-1.0
	baz=246						
PHUB				eS	Sn	12 42 49.5	-1.5
	baz=246						
SCZT	Fangliau	2.37	211	eP	Pn	12 42 24.1	+1.2
	baz=200						
SCZT				eS	Sb	12 42 54.3	-1.6
	baz=200						
MATB	Ma-tsu	2.51	314	eP	Pn	12 42 24.0	-0.7
	baz=315						
MATB				eS	Sn	12 42 52.6	-2.2
	baz=315						
PTMZ	Houxiangcun	2.65	284	eP	Pn	12 42 26.0	-0.7
	baz=285						
PTMZ				eS	Sn	12 42 56.5	-1.8
	baz=285						
LYJJ	Jianjiangzhen	2.91	318	eP	Pn	12 42 29.5	-0.7
	baz=318						
LYJJ				eS	Sn	12 43 02.7	-1.9
	baz=318						
XPSS	Dashiqiu	2.97	328	eP	Pn	12 42 30.3	-0.8
	baz=328						
XPSS				eS	Sn	12 43 04.9	-1.3
	baz=328						
KNMB	Chin-men Tao	3.25	272	eP	Pn	12 42 32.9	-2.1
	baz=271						
KNMB				eS	Sn	12 43 09.7	-3.4
	baz=271						
AXDP	Jialang	3.66	278	eP	Pn	12 42 40.2	-0.3
	baz=276						

IDC 01 12:51:17.2±19.0, 62°.66S×175°.59E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.2/4, MS3.4/7, Ms1 3.4/7, ms1mx3.1/42, Error ellipse: s-maj=377.5km s-min=58.1km az=147.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	24.45	3	P	P	12 56 37.8	+0.4
	4.1nm,0.5s,baz=127,slow=20,SNR=1.8						
URZ				LR	LR	13 05 22.2	
	comp=Z,52nm,18.5s,baz=121,slow=35						
STKA	Stephens Creek	37.64	309	P	P	12 58 33.2	-0.3
	2.1nm,0.7s,baz=153,slow=14,SNR=3.5						
STKA				LR	LR	13 11 24.5	
	comp=Z,47nm,18.2s,baz=195,slow=32						
DZM	Mont Dzumac	41.04	347	LR	LR	13 14 03.0	
	comp=Z,52nm,18.4s,baz=190,slow=33						
PMSA	Palmer Station	45.46	149	LR	LR	13 16 06.6	
	comp=Z,65nm,18.1s,baz=313,slow=33						
ASAR	Alice Springs	47.92	305	P	P	12 59 57.7	+0.6
	1.8nm,0.6s,baz=153,slow=7.7,SNR=31						
ASAR				LR	LR	13 17 11.9	
	comp=Z,35nm,20.3s,baz=186,slow=32						
WRA	Warramunga Arr	51.15	307	P	P	13 00 20.8	-0.9
	2.7nm,0.7s,baz=155,slow=6.5,SNR=16						
WRA				LR	LR	13 19 42.6	
	comp=Z,44nm,20.7s,baz=234,slow=33						
PLCA	Paso Flores	64.24	129	LR	LR	13 23 28.8	
	comp=Z,29nm,18.8s,baz=195,slow=30						
H03S2	Juan Fernandez	67.11	119	T	T	14 17 34.1	
	baz=210						
H03S1	Juan Fernandez	67.11	119	T	T	14 17 46.1	
	baz=210						
H03S3	Juan Fernandez	67.12	119	T	T	14 17 37.7	
	baz=210						
H03N3	Juan Fernandez	67.44	119	T	T	14 17 53.4	
	baz=217						
H03N2	Juan Fernandez	67.45	119	T	T	14 17 52.4	
	baz=217,slow=74						
H03N1	Juan Fernandez	67.46	119	T	T	14 17 54.9	
	baz=217,slow=74						

*IDC **01** 13:12:34.8±1.9, 50°.23N×130°.31W, h0km, mb3.7/2, mb1 3.6/9, mb1mx3.4/42, mbtmp3.4/9, ML3.3/7, MS3.3/8, Ms1 3.3/8, ms1mx2.9/87, Error ellipse: s-maj=30.2km s-min=14.1km az=61.0*

*PGC **01** 13:12:36.7±2.0, 50°.26N×130°.22W, h10km, MLSn3.1/18, Mw3.7/18, 204km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

ISC 01 13:12:42.1±1.6, 50°.32N±0°.07×130°.10W±0°.08, h34km±2km, n52, σ2s57/48, MS3.5/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.30	75	Pn	Pn	13 13 00.1	-3.7
PACB	Port Alice, BC	1.67	85	Pn	Pn	13 13 04.9	-4.0
PACB				Sn	Sn	13 13 25.2	-3.9
PHC	Port Hardy	1.75	76	Pn	Pn	13 13 06.5	-3.4
PHC				Sn	Sn	13 13 27.5	-3.5
MAYB	Maynard	1.88	86	Pn	Pn	13 13 07.8	-4.0
HG4B	Hotspring	2.10	341	Sn	Sn	13 13 35.7	-3.9
TLCB	Telegraph Cove	2.10	82	Pn	Pn	13 13 11.6	-3.2
TLCB				Sn	Sn	13 13 36.5	-3.2
BBB	Bella Bella	2.25	33	Pn	Pn	13 13 14.1	-2.7
	11nm,0.3s,baz=218,slow=5.0,SNR=128						
BBB				Sn	Sn	13 13 39.5	-3.8
	17nm,0.3s,baz=318,slow=21,SNR=12						
BBB	Bella Bella	2.25	33	Pn	Pn	13 13 14.2	-2.6
BBB				Sn	Sn	13 13 40.1	-3.2
WOSB	Woss	2.27	93	Pn	Pn	13 13 13.8	-3.4
BNB	Barry Inlet	2.49	336	Pn	Pn	13 13 15.6	-4.6
NCRB	Newcastle Ridg	2.59	87	Pn	Pn	13 13 18.7	-3.0
GDR	Gold River	2.67	100	Pn	Pn	13 13 18.8	-3.9
SPLB	Strathcona Par	2.89	97	Pn	Pn	13 13 22.9	-2.8
BUTB	Butedale	2.93	20	Pn	Pn	13 13 24.6	-1.8
BUTB				Sn	Sn	13 13 59.0	-1.4
BNKB	Banks Island	3.02	2	Pn	Pn	13 13 24.3	-3.2
BNKB				Sn	Sn	13 13 60.0	-2.5
CBB	Campbell River	3.06	94	Pn	Pn	13 13 24.8	-3.1
BTB	Buttle Lake	3.08	104	Pn	Pn	13 13 24.5	-3.9
DIB	Dawson Inlet,	3.25	334	Pn	Pn	13 13 26.6	-3.9
HWKB	Hawksbury Isla	3.34	10	Pn	Pn	13 13 29.6	-2.3
HWKB				Sn	Sn	13 14 07.5	-2.8
GRNB	Grenville Isla	3.54	1	Pn	Pn	13 13 31.7	-2.8
GRNB				Sn	Sn	13 14 11.6	-3.6
TXB	Texada	3.70	97	Pn	Pn	13 13 34.3	-2.6
MGB	Mount Grey	3.75	109	Pn	Pn	13 13 35.9	-1.7
MBLB	Minette Bay Lo	3.83	13	Sn	Sn	13 14 20.4	-1.9
KITB	Kitimat	3.87	13	Pn	Pn	13 13 37.3	-1.8
KITB				Sn	Sn	13 14 22.1	-1.3
RUBB	Prince Rupert	4.02	359	Pn	Pn	13 13 38.7	-2.4
SHB	Sechelt	4.08	98	Pn	Pn	13 13 39.5	-2.6
NLLB	Nanaimo Lost L	4.11	103	Pn	Pn	13 13 39.6	-2.8
WSLR	Whistler	4.61	90	Pn	Pn	13 13 47.5	-1.9
HNBB	Haney	4.98	99	Pn	Pn	13 13 53.0	-1.4
LLLB	Lillooet	5.26	84	Pn	Pn	13 13 56.2	-2.0
VDB	Vedder Mountai	5.35	101	Pn	Pn	13 13 58.1	-1.4
FSB	Fort Saint Jam	5.46	38	Pn	Pn	13 14 00.0	-1.0
FSB				Sn	Sn	13 15 00.2	-2.3
FSJB	Fort St James	5.46	38	Pn	Pn	13 13 59.9	-1.1
FSJB				Sn	Sn	13 15 00.2	-2.4
B08A	Colville Reser	7.30	101	Pn	Pn	13 14 25.2	-1.1
DLBC	Dease Lake	8.14	0	Pn	Pn	13 14 35.4	-2.4
	0.2nm,0.3s,baz=182,slow=5.0,SNR=7.0						
DLBC				Sn	Sn	13 16 08.5	+0.1
	0.1nm,0.3s,baz=184,slow=16,SNR=1.3						
DLBC				LR	LR	13 17 43.7	
	comp=Z,137nm,18.2s,baz=86,slow=38						
DLBC	Dease Lake	8.14	0	Pn	Pn	13 14 37.8	0.0
NEW	Newport	8.73	99	Pn	Pn	13 14 43.9	-1.9
	0.2nm,0.3s,baz=297,slow=16,SNR=2.7						
NEW				LR	LR	13 18 05.5	
	comp=Z,180nm,19.6s,baz=300,slow=37						
YBH	Yreka Blue Hor	10.00	146	LR	LR	13 17 22.5	
	comp=Z,38nm,20.2s,baz=352,slow=29						
ELK	Elko	14.12	127	LR	LR	13 21 27.0	
	comp=Z,121nm,18.1s,baz=332,slow=38						
NVAR	Mina Array Bea	14.55	140	Pn	Pn	13 16 05.7	+0.1
	0.0nm,0.3s,baz=318,slow=10,SNR=1.8						
YKA	Yellowknife Ar	14.86	29	Pn	Pn	13 16 05.1	-4.3
	0.1nm,0.3s,baz=225,slow=11,SNR=10						
PDAR	Pinedale Array	15.99	110	Pn	Pn	13 16 23.6	-1.0
	0.0nm,0.3s,baz=312,slow=9.6,SNR=4.0						
ILAR	Eielson Array	16.97	335	Pn	Pn	13 16 34.5	-2.1
	0.0nm,0.3s,baz=149,slow=11,SNR=1.3						
ULM	Lac du Bonnet	21.76	77	P	P	13 17 29.1	-1.4
	2.5nm,0.5s,baz=287,slow=8.8,SNR=3.1						
SADO	Sadowa	34.28	79	LR	LR	13 33 15.6	
	comp=Z,75nm,19.1s,baz=216,slow=36						
FRB	Frobisher Bay	34.59	44	LR	LR	13 34 00.6	
	comp=Z,100nm,18.4s,baz=1.0,slow=37						
SCHQ	Schefferville	37.55	58	LR	LR	13 35 43.1	
	comp=Z,99nm,20.5s,baz=107,slow=37						
ASAJ	Asahikawa	56.35	300	LR	LR	13 44 46.2	
	comp=Z,23nm,19.2s,baz=346,slow=34						
H11N2	WAKE ISLAND Hy	57.88	262	T	T	14 25 09.5	
	baz=42,slow=75						
H11N3	WAKE ISLAND Hy	57.88	262	T	T	14 25 01.2	
	baz=42,slow=75						
H11N1	WAKE ISLAND Hy	57.90	262	T	T	14 25 08.9	
	baz=42,slow=75						
MKAR	Makanchi Array	79.30	338	P	P	13 24 42.3	-1.5
	0.3nm,0.8s,baz=35,slow=5.3,SNR=3.8						

*IGQ **01** 13:57:36±1.7, 1°.S±4°.×8°.1W±1°.4, h10km*

*IDC **01** 13:57:39.6±1.4, 0°.22S×80°.40W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/33, mbtmp3.6/5, ML3.7/1, MS3.1/5, Ms1 3.1/5, ms1mx2.8/35, Error ellipse: s-maj=100.4km s-min=21.7km az=58.0*

ISC 01 13:57:39.5±1.0, 0°.59S±0°.05×80°.91W±0°.07, h10km, n37, σ1s71/35, mb3.6/3, MS3.1/3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAB1	Cabo Pasado-Ma	0.52	67	P	Pn	13 57 53.0	0.0
CABP	Cabo Pasado	0.52	67	P	Pn	13 57 53.0	0.0
ISPT	Isla de la Pla	0.69	194	P	Pg	13 57 50.0	-2.8
ISPT				S	Sb	13 58 01.0	-2.2
CHSH	Refugio Sur-Vo	2.23	114	P	Pb	13 58 19.0	-1.2
PORT	Chimborazo Vol	2.30	112	P	Pb	13 58 20.0	-1.5
GGPT	Toaza - Volcan	2.32	81	P	Pn	13 58 19.0	+0.9
TAMH	Tambohuasha Ch	2.33	114	P	Pb	13 58 21.0	-0.9
SUCR	Mariscal Sucre	2.41	91	P	Pb	13 58 22.0	-1.3
SLOR	San Lorenzo -	2.41	93	P	Pb	13 58 22.0	-1.4
BNAS	Cotopaxi Volca	2.43	92	P	Pb	13 58 23.0	-0.6
BREF	Cotopaxi Volca	2.47	92	P	Pb	13 58 24.0	-0.4
TOMA	Boca Toma-Volc	2.47	88	P	Pb	13 58 23.0	-1.4
PULU	Pululahua	2.48	76	P	Pn	13 58 21.0	+0.6
COHC	Cochancay	2.49	138	P	Pb	13 58 21.0	-3.4
BVC2	Cotopaxi Volca	2.50	92	P	Pb	13 58 23.0	-1.8
VCES	Cotopaxi	2.52	95	P	Pb	13 58 24.0	-1.2
PIS1	Pisayambo	2.56	100	P	Pg	13 58 27.0	-1.7
BMAS	Trigal station	2.59	110	P	Pb	13 58 26.0	-0.3
BPAT	Tungurahua Vol	2.63	110	P	Pb	13 58 26.0	-1.1
ANTG	Antisana-Guama	2.65	88	P	Pb	13 58 27.0	-0.5
PIAT	Ana Tenorio	2.68	99	P	Pb	13 58 27.0	-0.8
CUIC	Cuicocha-Domo	2.70	71	P	Pb	13 58 26.0	-2.2
CUSW	Cuicocha Oeste	2.70	71	P	Pb	13 58 27.0	-1.2
ANTS	Antisana-Sarah	2.74	88	P	Pb	13 58 28.0	-1.0
IMBA	Imbabura, San	2.84	72	P	Pb	13 58 29.0	-1.6
URCU	Urcuqui	2.84	69	P	Pn	13 58 27.0	+1.6
CHL1	Volc¡n Chiles	3.27	65	P	Pn	13 58 32.0	+0.7
CHL2	Volc¡n Chiles	3.29	65	P	Pn	13 58 33.0	+1.3
ATAH	Atahualpa	6.97	159	Pn	Pn	13 59 25.7	+3.6
	1.3nm,0.3s,baz=18,slow=10,SNR=6.9						
ATAH				Sn	Sn	14 00 45.8	+4.1
	0.7nm,0.3s,baz=317,slow=17,SNR=1.3						
ATAH				LR	LR	14 02 24.6	
	comp=Z,265nm,20.1s,baz=331,slow=40						
NNA	Nana	12.02	161	LR	LR	14 06 16.3	
	comp=Z,27nm,21.8s,baz=322,slow=42						
LPAZ	La Paz	20.05	142	P	Pn	14 02 15.8	+0.4
	2.1nm,0.6s,baz=334,slow=11,SNR=8.9						
CMIG	Matias Romero	22.33	323	LR	LR	14 08 53.8	
	comp=Z,42nm,21.4s,baz=355,slow=30						
LVC	Limon Verde	24.80	153	LR	LR	14 14 10.4	
	comp=Z,51nm,18.3s,baz=338,slow=40						
SIV	San Ignacio	24.84	129	P	P	14 03 02.0	-0.4
	0.9nm,0.6s,baz=302,slow=10,SNR=4.4						
PDAR	Pinedale Array	50.26	333	LR	LR	14 28 07.5	
	comp=Z,30nm,18.7s,baz=60,slow=36						
NVAR	Mina Array Bea	51.86	323	P	P	14 06 49.8	+1.4
	0.0nm,0.7s,baz=134,slow=7.6,SNR=5.0						
YKA	Yellowknife Ar	67.84	344	P	P	14 08 38.4	+0.7
	0.2nm,0.8s,baz=140,slow=6.1,SNR=4.5						

IDC 01 14:38:48.9±1.8, 0°.64S×131°.77E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/25, Error ellipse: s-maj=29.0km s-min=12.4km az=161.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	0.56	246	Pg	Pg	14 39 00.1	+0.6
	281nm,0.3s,baz=17,slow=19,SNR=2578						
SIJI				Lg	Lg	14 39 06.7	
	455nm,0.3s,baz=127,slow=20,SNR=34						
PMG	Port Moresby	17.62	120	LR	LR	14 50 14.9	
	comp=Z,27nm,20.9s,baz=62,slow=39						
WRA	Warramunga Arr	19.35	173	P	P	14 43 16.2	0.0
	0.1nm,0.3s,baz=355,slow=11,SNR=5.4						
WRA				S	Sn	14 46 41.6	-13
	0.1nm,0.3s,baz=3.0,slow=31,SNR=2.7						
ASAR	Alice Springs	22.98	175	P	P	14 43 55.5	+0.1
	1.3nm,1.1s,baz=358,slow=10,SNR=8.8						
MKAR	Makanchi Array	64.00	324	P	P	14 49 24.0	-0.4
	0.1nm,0.5s,baz=116,slow=8.3,SNR=1.7						

*BGR **01** 15:02:14.3±0.0, 29°.05S×175°.72W, h35km*

*BJI **01** 15:02:14.0±0.0, 29°.20S×177°.10W, h35km, mb5.4/62, mB5.9/54, Ms5.3/64, Ms7 5.1/62*

*NOU **01** 15:02:15.7, 29°.42S×176°.84W, h43km, ML5.6/98, Kermadec Islands Region*

*NEIC **01** 15:02:16.6, 28°.93S×177°.24W, h35km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}2.93; $M_{\theta\theta}$-0.59; $M_{\phi\phi}$-2.34; $M_{r\theta}$-0.23; $M_{\theta\phi}$-1.17; $M_{\phi r}$0.46; Fault plane solution: $M_0$2.97000×10^17^ NP1:ϕ_s18.91000°, δ48.57000°, λ79.69000°. NP2:ϕ_s214.28000°, δ42.47000°, λ101.46000°. Principal axes: T 2.9985, Plg82.0000°, Azm228.0000°; N -0.0600, Plg8.0000°, Azm26.0000°; P -2.9385, Plg3.0000°, Azm116.0000°;*

*NEIC **01** 15:02:16.7±2.6, 28°.63S±0°.07×177°.28W±0°.09, h34km±1km, mb5.7/122, Ms_20 5.3/196, Mwb5.6/39, Mww5.8 Error ellipse: s-maj=15.8km s-min=9.0km az=128.0*

*MOS **01** 15:02:16.7±1.1, 28°.76S×177°.40W, h43km, mb5.7/38, MS5.2/15, Error ellipse: s-maj=8.7km s-min=7.5km az=105.9*

*IDC **01** 15:02:20.1±0.6, 28°.82S×177°.43W, h60km±5km, mb5.0/24, mb1 5.1/24, mb1mx5.0/25, mbtmp5.3/24, MS5.0/55, Ms1 5.0/55, ms

0.1920, Plg1.0000°, Azm12.0000°; P -4.3320, Plg11.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

NEIC ***01*** *15:02:20,28.815S×177.09W,h40km,Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^17^Nm; Mrr3.76; Mθθ-0.21; Mφφ-3.55; Mrθ0.94; Mrφ-0.90; Mθφ3.90; Fault plane solution: M0 5.51000×10^17^ NP1: φs195.00000°,δ22.00000°,λ91.00000°. NP2:φs14.00000°, δ68.00000°,λ90.00000°. Principal axes: T 5.4993, Plg67.0000°, Azm283.0000°; N 0.0137, Plg0.0000°, Azm14.0000°; P -5.5130, Plg23.0000°, Azm104.0000°;*

ISC 01 15:02:17.3±0.3,29.10S±0.03×177.14W±0.04,h45km±2km, h45km:pP-P,n1261,σ1.976/1220,mb5.6/190,MS5.3/190, 79C-31D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RAO	**Raoul Island**	**0.70**	**257**	P		**Pn**	**15 02 33.0**	**+2.1**
	11μm,0.3s,baz=76,slow=1.2,SNR=277							
RAO				S		**Sn**	**15 02 41.6**	**+1.0**
	38μm,0.3s,baz=54,slow=19,SNR=20							
RAO	**Raoul Island**	**0.70**	**257**	P		**Pn**	**15 02 32.8**	**+2.0**
RAO							15 02 43.4	
RAO	**Raoul Island**	**0.70**	**257**			**Pn**	**15 02 32.8**	**+2.0**
RAO						**Sn**	**15 02 43.4**	**+2.8**
RAO	**Raoul Island**	**0.70**	**257**	P		**Pn**	**15 02 33.3**	**+2.5**
RAO	**Raoul Island**	**0.70**	**257**	P		**Pn**	**15 02 32.9**	**+2.1**
GLKZ	**Green Lake**	**0.70**	**256**	P		**Pn**	**15 02 33.0**	**+2.1**
GLKZ				S		**Sn**	**15 02 43.1**	**+2.4**
RIZ	**Raoul Island**	**0.70**	**258**	P		**Pn**	**15 02 33.2**	**+2.3**
RIZ				S		**Sn**	**15 02 44.2**	**+3.4**
MXZ	**Matakaoa Point**	**9.26**	**203**	P		**Pn**	**15 04 24.6**	**-3.6**
MXZ				S		**Sn**	**15 06 10.9**	**-0.1**
WMGZ	**Waiomatatini S**	**9.46**	**202**	P		**Pn**	**15 04 28.4**	**-2.5**
WMGZ				S		**Sn**	**15 06 14.0**	**-1.8**
HAZ	**Te Kaha**	**9.62**	**205**	P		**Pn**	**15 04 30.4**	**-2.7**
HAZ				S		**Sn**	**15 06 22.2**	**+2.4**
PKGZ	**Pakihiroa**	**9.63**	**203**	P		**Pn**	**15 04 30.8**	**-2.5**
PKGZ				S		**Sn**	**15 06 17.0**	**-3.2**
PUZ	**Puketiti**	**9.74**	**202**	P		**Pn**	**15 04 31.1**	**-3.7**
PUZ				S		**Sn**	**15 06 20.4**	**-2.4**
RUGZ	**Raukumara Rang**	**9.84**	**205**	P		**Pn**	**15 04 32.8**	**-3.6**
RUGZ				S		**Sn**	**15 06 24.4**	**-1.1**
TWGZ	**Tauwhareparae**	**9.93**	**203**	P		**Pn**	**15 04 33.9**	**-3.4**
TWGZ				S		**Sn**	**15 06 26.2**	**-1.2**
CNGZ	**Carnagh Statio**	**10.13**	**201**	P		**Pn**	**15 04 37.1**	**-3.0**
OPRZ	**Ohinepanea**	**10.19**	**209**	P		**Pn**	**15 04 40.4**	**-0.4**
OPRZ				S		**Sn**	**15 06 36.2**	**+2.5**
TKGZ	**Te Karaka**	**10.21**	**203**	P		**Pn**	**15 04 36.9**	**-4.2**
TKGZ				S		**Sn**	**15 06 32.5**	**-1.7**
MWZ	**Matawai**	**10.22**	**204**	P		Pn	15 04 37.1	-4.3
MWZ				S		**Sn**	**15 06 34.1**	**-0.6**
URZ	**Urewera**	**10.31**	**206**	P		**Pn**	**15 04 39.1**	**-3.6**
	3.1nm,0.3s,baz=121,slow=24,SNR=32							
URZ				S		**Sn**	**15 06 37.1**	**+0.3**
	49nm,0.3s,baz=108,slow=19,SNR=5.7							
URZ	**Urewera**	**10.31**	**206**	P		**Pn**	**15 04 39.0**	**-3.7**
URZ	**Urewera**	**10.31**	**206**	P		**Pn**	**15 04 38.4**	**-4.2**
RAGZ	**Rawiri**	**10.41**	**204**	P		**Pn**	**15 04 41.3**	**-2.7**
RAGZ				S		**Sn**	**15 06 37.3**	**-2.0**
RIGZ	**Rimuhau**	**10.48**	**202**	P		Pn	15 04 40.6	-4.3
RIGZ				S		**Sn**	**15 06 40.0**	**-0.9**
TOZ	**Tahuroa Road**	**10.58**	**214**	P		**Pn**	**15 04 50.7**	**+4.5**
RRRZ	**Republican Roa**	**10.62**	**208**	P		**Pn**	**15 04 46.5**	**-0.4**
PRGZ	**Paritu Road**	**10.63**	**202**	P		**Pn**	**15 04 43.6**	**-3.4**
PRGZ				S		**Sn**	**15 06 43.0**	**-1.7**
MUGZ	**Murupara**	**10.63**	**207**	P		**Pn**	**15 04 43.0**	**-4.1**
MUGZ				S		**Sn**	**15 06 43.3**	**-1.4**
SNGZ	**Shannon Statio**	**10.69**	**204**	P		**Pn**	**15 04 44.8**	**-3.0**
SNGZ				S		**Sn**	**15 06 44.2**	**-1.8**
KNZ	**Kokohu**	**10.79**	**202**	P		Pn	15 04 44.5	-4.6
PRRZ	**Plateau Road**	**10.81**	**208**	P		**Pn**	**15 04 50.3**	**+0.9**
ALRZ	**Allen Road**	**10.88**	**208**	P		**Pn**	**15 04 48.2**	**-2.2**
RAHZ	**Arahi**	**10.90**	**205**	P		**Pn**	**15 04 46.5**	**-4.1**
MTHZ	**Maungataniwha**	**10.93**	**206**	P		**Pn**	**15 04 50.0**	**-1.2**
TLZ	**Tolley Road**	**11.04**	**212**	P		**Pn**	**15 04 55.0**	**+2.4**
NMHZ	**Naumai**	**11.16**	**205**	P		**Pn**	**15 04 50.3**	**-4.1**
ARHZ	**Aropaoanui**	**11.24**	**204**	P		**Pn**	**15 04 51.5**	**-3.8**
HATZ	**Hinemaiaia**	**11.26**	**208**	P		**Pn**	**15 04 56.2**	**+0.6**
BKZ	**Black Stump Fm**	**11.34**	**206**	P		Pn	15 04 51.5	-5.2
BKZ	**Black Stump Fm**	**11.34**	**206**	Pn		Pn	15 04 51.5	-5.2
BKZ	**Black Stump Fm**	**11.34**	**206**	P		Pn	15 04 52.1	-4.6
RITZ	**Rihia Road**	**11.43**	**209**	P		**Pn**	**15 04 59.0**	**+1.0**
HIZ	**Hauiti**	**11.51**	**213**	P		**Pn**	**15 05 01.7**	**+2.7**
HIZ	**Hauiti**	**11.51**	**213**			**Pn**	**15 04 55.7**	**-3.3**
MCHZ	**McNeill Hill**	**11.51**	**205**	P		**Pn**	**15 04 55.1**	**-3.8**
CKHZ	**Cape Kidnapper**	**11.56**	**203**	P		**Pn**	**15 04 56.2**	**-3.5**
KWHZ	**Kaweka Forest**	**11.59**	**206**	P		Pn	15 04 55.3	-4.8
NTVZ	**North Tongarir**	**11.61**	**206**	P		**Pn**	**15 04 58.8**	**-1.7**
TMVZ	**Te Maari**	**11.62**	**209**	P		**Pn**	**15 04 58.1**	**-2.4**
ETVZ	**East Tongariro**	**11.63**	**209**	P		**Pn**	**15 04 58.4**	**-2.3**
OTVZ	**Oturere**	**11.67**	**209**	P		**Pn**	**15 04 58.6**	**-2.8**
SNVZ	**South Ngauruho**	**11.70**	**209**	P		**Pn**	**15 05 04.7**	**+2.9**
NGZ	**Ngauruhoe**	**11.71**	**209**	P		**Pn**	**15 05 02.5**	**+0.7**
KAHZ	**Kahuranaki**	**11.75**	**203**	P		Pn	15 04 57.4	-4.9
BHHZ	**Black Hill Sta**	**11.79**	**207**	P		Pn	15 04 58.0	-4.8
FWVZ	**Far West T-bar**	**11.79**	**209**	P		**Pn**	**15 05 03.3**	**+0.2**
NIUE	**Niue**	**11.95**	**35**	P		Pn	15 04 59.5	-5.6
	baz=12,SNR=10							
NIUE				S		Sn	15 06 57.9	-19
	baz=12							
NIUE	**Niue**	**11.95**	**35**	Pn		Pn	15 04 59.3	-5.8
VRZ	**Vera Road**	**12.04**	**212**	P		**Pn**	**15 05 08.4**	**+2.2**
MSVF	**Nonsavu**	**12.14**	**338**	P		**Pn**	**15 05 07.9**	**+0.1**
	4.1nm,0.3s,baz=144,slow=13,SNR=30							
MSVF				LR		LR	15 08 55.4	
	comp=Z,17μm,22.0s,baz=152,slow=34							
MSVF	**Nonsavu**	**12.14**	**338**	*i* P		**Pn**	**15 05 07.0**	**-0.8**
MSVF	**Nonsavu**	**12.14**	**338**			**Pn**	**15 05 06.7**	**-1.1**
MSVF	**Nonsavu**	**12.14**	**338**	P		**Pn**	**15 05 11.2**	**+3.4**
MSVF	**Nonsavu**	**12.14**	**338**	P		**Pn**	**15 05 11.5**	**+3.7**
DVHZ	**Dannevirke**	**12.45**	**204**	P		**Pn**	**15 05 10.8**	**-1.1**
WAZ	**Wanganui**	**12.45**	**209**	P		**Pn**	**15 05 12.3**	**+0.4**
NEZ	**North Egmont**	**12.47**	**213**	P		**Pn**	**15 05 14.7**	**+2.5**
LREZ	**Lake Rotokare**	**12.47**	**212**	P		Pn	15 05 17.7	+5.6
TAVE	**Taveuni**	**12.59**	**348**	P		**Pn**	**15 05 18.1**	**+4.3**
POWZ	**Post Office Ro**	**12.68**	**205**	P		**Pn**	**15 05 14.6**	**-0.4**
BFZ	**Birch Farm**	**12.76**	**203**	P		Pn	15 05 09.7	-6.4
CPWZ	**Castlepoint**	**12.98**	**203**	P		**Pn**	**15 05 16.4**	**-2.6**
DGTI	**Dogotuki**	**13.06**	**347**	P		**Pn**	**15 05 22.5**	**+2.3**
TRWZ	**Traveller**	**13.59**	**204**	P		**Pn**	**15 05 24.8**	**-2.7**
PAWZ	**Paruwai Farm**	**13.67**	**204**	P		Pn	15 05 23.9	-4.6
WEL	**Wellington**	**13.83**	**206**	P		**Pn**	**15 05 28.8**	**-1.8**
SNZO	**South Karori**	**13.88**	**206**			Pn	15 05 25.7	-5.6
SNZO	**South Karori**	**13.88**	**206**	P		Pn	15 05 25.9	-5.4
PLWZ	**Palliser**	**13.90**	**204**	P		Pn	15 05 27.2	-4.4
BHW	**Baring Head**	**13.90**	**206**	P		**Pn**	**15 05 28.9**	**-2.7**
BHW	**Baring Head**	**13.90**	**206**			Pn	15 05 22.1	-9.5
TUWZ	**Tuamarina**	**14.29**	**208**			Pn	15 05 30.2	-6.6
NNZ	**Nelson**	**14.35**	**210**			Pn	15 05 30.7	-7.0
QRZ	**Quartz Range**	**14.43**	**213**	P		Pn	15 05 33.5	-5.3
CMWZ	**Cape Campbell**	**14.45**	**207**	P		**Pn**	**15 05 37.2**	**-1.7**
BSWZ	**Blackbirch Sta**	**14.55**	**208**	P		**Pn**	**15 05 36.5**	**-3.9**
BSWZ	**Blackbirch Sta**	**14.55**	**208**			Pn	15 05 33.3	-7.0
THZ	**Tophouse**	**15.00**	**210**	Pn		Pn	15 05 38.6	-7.7
KHZ	**Kahutara**	**15.28**	**207**	Pn		Pn	15 05 39.5	-10
KHZ				IAmb		IAmb	15 05 55.5	
	comp=Z,255nm,0.8s							
KHZ	**Kahutara**	**15.28**	**207**	P		**Pn**	**15 05 46.5**	**-3.4**
PINNC	**Pines Island,**	**15.30**	**291**	P		**Pn**	**15 05 48.2**	**-2.0**
PINNC				IAmb		IAmb	15 06 05.0	
	comp=Z,260nm,1.1s							
PINNC	**Pines Island,**	**15.30**	**291**	P		**P**	**15 05 53.2**	**-1.1**
MARNC	**Mare, Loyalty**	**15.40**	**296**	P		**Pn**	**15 05 49.0**	**-2.5**
OUENC	**Ouen Island, N**	**15.88**	**291**	P		**Pn**	**15 05 57.3**	**-0.5**
AFI	**Afiamalu**	**15.91**	**19**	P		**Pn**	**15 05 51.8**	**-6.5**
	comp=Z,4.4nm,0.3s,baz=254,slow=9.1,SNR=4.3							
AFI				S		Sn	15 08 32.7	-21
	comp=Z,5.3nm,0.3s,baz=209,slow=21,SNR=2.6							
YATNC	**Mamie plateau,**	**16.01**	**292**	P		**P**	**15 06 05.8**	**+3.5**
LTZ	**Lake Taylor**	**16.10**	**209**			**Pn**	**15 05 58.8**	**-1.8**
AMCZ	**Amberley**	**16.27**	**208**	P		**Pn**	**15 06 01.5**	**-1.0**
DZM	**Mont Dzumac**	**16.37**	**292**	P		**P**	**15 06 06.0**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=125,slow=23,SNR=14							
DZM				S		Sn	15 08 48.3	-17
	baz=129,slow=21,SNR=0.9							
DZM				LR		LR	15 10 56.5	
	comp=Z,19μm,21.0s,baz=134,slow=32							
DZM	**Mont Dzumac**	**16.37**	**292**	*e*Pn		**P**	**15 06 05.9**	**-0.4**
	comp=Z,537nm,1.7s							
DZM				*e*LR		LR	15 09 53.6	
	comp=Z,34μm,25.4s,baz=123							
DZM	**Mont Dzumac**	**16.37**	**292**	P		**Pn**	**15 06 01.6**	**-2.5**
DZM	**Mont Dzumac**	**16.37**	**292**	P		**P**	**15 06 08.1**	**+1.7**
DZM	**Mont Dzumac**	**16.37**	**292**	P		**P**	**15 06 12.3**	**+5.9**
LIFNC	**LIFOU**	**16.40**	**297**	P		**Pn**	**15 06 01.6**	**-2.7**
LIFNC				IAmb		IAmb	15 06 31.6	
	comp=Z,765nm,0.9s							
LIFNC	**LIFOU**	**16.40**	**297**	P		**P**	**15 06 09.5**	**+2.9**
NOUC	**Port Laguerre**	**16.47**	**291**	P		**P**	**15 06 10.4**	**+3.0**
NOUC	**Port Laguerre**	**16.47**	**291**	P		**P**	**15 06 10.3**	**+2.9**
MQZ	**McQueen's Vall**	**16.71**	**207**			Pn	15 05 59.4	-8.7
AKCZ	**Akaroa Harbour**	**16.76**	**206**	P		**Pn**	**15 06 06.0**	**-2.7**
RACZ	**Rakaia**	**16.94**	**208**	P		**Pn**	**15 06 08.5**	**-2.5**
WVZ	**Waitaha Valley**	**17.02**	**212**	P		**Pn**	**15 06 11.6**	**-0.3**
WACZ	**Wakanui South**	**17.24**	**208**	P		**Pn**	**15 06 13.9**	**-0.8**
RTV	**Rentapao**	**17.36**	**307**	P		**P**	**15 06 19.8**	**+2.6**
RPZ	**Rata Peaks**	**17.38**	**210**			Pn	15 06 09.4	-7.1
RPZ	**Rata Peaks**	**17.38**	**210**	P		**Pn**	**15 06 11.8**	**-4.7**
RAR	**Rarotonga**	**17.56**	**67**	P		**Pn**	**15 06 17.5**	**-1.3**
	comp=Z,19nm,0.3s,baz=240,slow=16,SNR=16							
RAR				S		Sn	15 09 15.8	-18
	comp=Z,6.4nm,0.3s,baz=216,slow=19,SNR=3.2							
RAR				LR		LR	15 11 31.1	
	comp=Z,6μm,21.8s,baz=265,slow=31							
RAR	**Rarotonga**	**17.56**	**67**	P		**Pn**	**15 06 16.7**	**-2.1**
RAR				pmax		pmax		
	comp=Z,364nm,1.1s							
RAR	**Rarotonga**	**17.56**	**67**			**Pn**	**15 06 16.7**	**-2.1**
RAR				IAmb		IAmb	15 06 22.1	
	comp=Z,364nm,1.1s							
RAR	**Rarotonga**	**17.56**	**67**	P		**Pn**	**15 06 18.3**	**-0.5**
DVP	**Devils Point**	**17.57**	**307**	P		**P**	**15 06 22.6**	**+3.1**
FOZ	**Fox Glacier**	**17.80**	**212**			**Pn**	**15 06 16.6**	**-5.0**
LBZ	**Lake Benmore**	**18.30**	**210**			**P**	**15 06 24.2**	**-3.2**
ODZ	**Otahua Downs**	**18.63**	**208**	P		**P**	**15 06 25.7**	**-5.3**
ODZ	**Otahua Downs**	**18.63**	**208**	P		**P**	**15 06 27.8**	**-3.2**
KOUNC	**Koumac, New Ca**	**18.86**	**293**	P		**Pn**	**15 06 35.7**	**+1.0**
WKZ	**Wanaka**	**19.16**	**211**	P		P	15 06 27.7	-9.2
HHSZ	**Highcliff Hill**	**19.34**	**207**	P		**Pn**	**15 06 42.4**	**+2.2**
SANVU	**Saraoutou**	**19.83**	**310**	P		**P**	**15 06 43.3**	**-1.1**
SANVU				IAmb		IAmb	15 07 22.1	
	comp=Z,284nm,1.0s							
SANVU	**Saraoutou**	**19.83**	**310**	P		**Pn**	**15 06 45.5**	**-0.7**
SANVU	**Saraoutou**	**19.83**	**310**	P		**Pn**	**15 06 47.1**	**+0.9**
MLZ	**Mavora Lakes**	**19.98**	**212**	P		**P**	**15 06 42.6**	**-3.3**
WHZ	**Wether Hill Ro**	**20.46**	**211**	P		**P**	**15 06 49.0**	**-2.1**
DCZ	**Deep Cove**	**20.51**	**213**	P		**P**	**15 06 48.8**	**-2.7**
LHI	**Lord Howe Isla**	**20.68**	**257**	P		Pn	15 06 54.9	-1.4
	baz=21,SNR=6.1							
LHI	**Lord Howe Isla**	**20.68**	**257**	P		**P**	**15 06 53.5**	**0.0**
TBI	**Tubuai**	**25.45**	**83**	*e*S		**S**	**15 12 01.2**	**-3.9**
	comp=Z,4μm,32.0s							
TBI				*e*LQ		LQ	15 12 55.8	
	comp=Z,3μm,23.8s							
TBI				*e*LR		LR	15 14 00.2	
	comp=Z,17μm,26.8s,baz=250							
TBI	**Tubuai**	**25.45**	**83**	*e*T		T	15 33 36.7	
	comp=Z,115nm,0.3s							
ARMA	**Armidale**	**27.10**	**259**	P		**P**	**15 07 58.6**	**+2.5**
	baz=27,SNR=37							
ARMA	**Armidale**	**27.10**	**259**	P		**P**	**15 07 57.5**	**+1.4**
ARMA	**Armidale**	**27.10**	**259**	P		**P**	**15 07 58.2**	**+2.1**
MGCD	**Mangrove Creek**	**27.42**	**253**	P		**P**	**15 08 02.1**	**+3.2**
	baz=28,SNR=15							
MGCD	**Mangrove Creek**	**27.42**	**253**	P		**P**	**15 08 02.0**	**+3.2**
PAE	**Paea**	**27.67**	**72**	*e*P		**P**	**15 08 01.3**	**+0.2**
	comp=Z,18nm,1.0s							
PAE	**Paea**	**27.67**	**72**	*e*T		T	15 36 22.8	
	comp=Z,70nm,0.3s							
PPT2	**Papeete2**	**27.71**	**72**	*e*P		**P**	**15 08 01.9**	**+0.3**
	comp=Z,88nm,1.1s							
PPT2				*e*S		**S**	**15 12 38.0**	**-3.0**
	comp=Z,3μm,28.5s							
PPT2				*e*LQ		LQ	15 13 48.0	
	comp=Z,5μm,22.4s							
PPT2				*e*LR		LR	15 15 03.5	
	comp=Z,16μm,25.8s,baz=236							
PPT2	**Papeete2**	**27.71**	**72**	*e*T		T	15 36 27.9	
	comp=Z,49nm,0.4s							
PPT	**Papeete**	**27.72**	**72**	P		**P**	**15 08 04.3**	**+2.7**
	comp=Z,40nm,0.9s,baz=83,slow=7.2,SNR=3.7							
PPT				LR		LR	15 16 13.3	
	comp=Z,3μm,21.4s,baz=245,slow=30							
TIAR	**Tiarei**	**27.92**	**72**	*e*P		**P**	**15 08 03.7**	**+0.3**
	comp=Z,1.6nm,0.8s							
EIDS	**Eidsvold**	**28.45**	**270**	P		**P**	**15 08 08.7**	**+0.6**
	baz=29,SNR=12							
EIDS	**Eidsvold**	**28.45**	**270**	P		**P**	**15 08 07.5**	**-0.6**
EIDS	**Eidsvold**	**28.45**	**270**	P		**P**	**15 08 10.3**	**+2.2**
MEH	**Mehetia**	**28.83**	**74**	*e*T		T	15 37 54.6	
	comp=Z,24nm,0.2s							
CNB	**Canberra Magne**	**28.92**	**249**	P		**P**	**15 08 14.3**	**+2.0**
	baz=29,SNR=24							
CNB	**Canberra Magne**	**28.92**	**249**	P		**P**	**15 08 14.5**	**+2.2**
HNR	**Honiara**	**29.06**	**308**	P		**P**	**15 08 12.6**	**-0.8**
	comp=Z,51nm,0.5s,baz=221,slow=2.3,SNR=1.8							
HNR				LR		LR	15 17 57.5	
	comp=Z,2μm,20.5s,baz=152,slow=33							
HNR	**Honiara**	**29.06**	**308**	P		**P**	**15 08 12.3**	**-1.2**
HNR				IAmb		IAmb	15 08 46.7	
	comp=Z,180nm,0.8s							
CAN	**Canberra**	**29.22**	**249**	P		**P**	**15 08 15.3**	**+0.4**
CAN				pmax		pmax		
	comp=Z,75nm,0.9s							
CAN	**Canberra**	**29.22**	**249**	P		**P**	**15 08 15.3**	**+0.4**
CAN				IAmb		IAmb	15 08 18.4	
	comp=Z,75nm,0.9s							
CAN	**Canberra**	**29.22**	**249**	P		**P**	**15 08 16.0**	**+1.1**
CAN	**Canberra**	**29.22**	**249**	P		**P**	**15 08 16.4**	**+1.5**
CAN				pP		**pwP**	**15 08 28.2**	**-1.6**
RK1H	**Rockhampton Ha**	**29.52**	**273**	P		**P**	**15 08 18.7**	**+1.1**
RMQ	**Roma**	**30.22**	**267**	P		**P**	**15 08 25.3**	**+1.5**
	baz=30,SNR=30							
RMQ	**Roma**	**30.22**	**267**	P		**P**	**15 08 25.2**	**+1.5**
PMOR	**Pomariorio Ree**	**30.42**	**69**	*e*P		**P**	**15 08 26.0**	**+0.5**
	comp=Z,108nm,1.3s							
VAH	**Vaihoa**	**30.51**	**69**	*e*P		**P**	**15 08 26.7**	**+0.3**
	comp=Z,249nm,1.3s							
VAH	**Vaihoa**	**30.51**	**69**	*e*T		T	15 39 57.2	
	comp=Z,121nm,0.2s							
MOO	**Moorlands**	**31.62**	**235**	P		**P**	**15 08 38.6**	**+2.7**
	baz=32,SNR=6.4							
MOO	**Moorlands**	**31.62**	**235**	P		**P**	**15 08 34.8**	**-1.1**
TAU	**Tasmania Unive**	**31.63**	**235**	P		**P**	**15 08 35.9**	**-0.1**
TAU				pmax		pmax		
	comp=Z,90nm,1.1s							
TAU	**Tasmania Unive**	**31.63**	**235**	P		**P**	**15 08 35.9**	**-0.1**
TAU				IAmb		IAmb	15 08 53.9	
	comp=Z,90nm,1.1s							
CMSA	**Cobar Meteorol**	**32.08**	**256**	P		**P**	**15 08 40.8**	**+0.7**
	baz=32,SNR=49							
CMSA	**Cobar Meteorol**	**32.08**	**256**	P		**P**	**15 08 41.9**	**+1.8**
TOO	**Toolangi**	**32.18**	**245**	P		**P**	**15 08 41.5**	**+0.6**
	baz=32,SNR=13							
TOO	**Toolangi**	**32.18**	**245**	P		**P**	**15 08 40.6**	**-0.3**
TOO				pmax		pmax		
	comp=Z,37nm,1.0s							
TOO	**Toolangi**	**32.18**	**245**	P		**P**	**15 08 40.6**	**-0.3**
TOO	**Toolangi**	**32.18**	**245**	P		**P**	**15 08 42.0**	**+1.1**
BRAT	**Ballarat**	**33.41**	**245**	P		**P**	**15 08 54.0**	**+2.4**
QLP	**Quilpie**	**34.15**	**265**	P		**P**	**15 08 57.8**	**-0.4**
	baz=34,SNR=29							
QLP	**Quilpie**	**34.15**	**265**	P		**P**	**15 08 58.9**	**+0.7**
CTA	**Charters Tower**	**34.36**	**277**	P		**P**	**15 09 00.1**	**0.0**
	comp=Z,24nm,0.4s,baz=95,slow=12,SNR=32							
CTA	**Charters Tower**	**34.36**	**277**	P		**P**	**15 09 00.9**	**+0.8**
	comp=Z,96nm,1.1s							
CTAO	**Charters Tower**	**34.36**	**277**	P		**P**	**15 08 59.7**	**-0.4**
CTAO				pmax		pmax		
	comp=Z,102nm,1.0s							
CTAO				MLR		MLR		
	comp=Z,9μm,18.0s							
CTAO	**Charters Tower**	**34.36**	**277**	P		**P**	**15 08 59.7**	**-0.4**
CTAO				IAmb		IAmb	15 09 02.2	
	comp=Z,102nm,1.0s							
CTAO	**Charters Tower**	**34.36**	**277**	P		**P**	**15 09 00.5**	**+0.4**
	comp=Z,111nm,1.1s							
CTAO	**Charters Tower**	**34.36**	**277**	P		**P**	**15 09 00.3**	**+0.3**
CTAO				pP		**pwP**	**15 09 14.5**	**-0.1**
ARPS	**Mount Arapiles**	**35.06**	**247**	P		**P**	**15 09 07.3**	**+1.3**
	baz=35,SNR=14							
ARPS	**Mount Arapiles**	**35.06**	**247**	P		**P**	**15 09 06.5**	**+0.5**
STKA	**Stephens Creek**	**35.52**	**255**	P		**P**	**15 09 10.4**	**+0.5**
	comp=Z,32nm,0.7s,baz=97,slow=12,SNR=50							
STKA				LR		LR	15 22 33.6	
	comp=Z,4μm,18.1s,baz=82,slow=34							
STKA	**Stephens Creek**	**35.52**	**255**	P		**P**	**15 09 10.3**	**+0.3**
	baz=36,SNR=36							
STKA	**Stephens Creek**	**35.52**	**255**	P		**P**	**15 09 09.8**	**-0.1**
STKA	**Stephens Creek**	**35.52**	**255**	P		**P**	**15 09 10.6**	**+0.6**
	comp=Z,15nm,1.7s							
XMAS	**Kiritimati**	**36.26**	**35**	P		**P**	**15 09 16.8**	**+0.4**
MTSU	**Mount Surprise**	**36.81**	**279**	P		**P**	**15 09 21.5**	**+0.3**
	baz=37,SNR=20							
MTSU	**Mount Surprise**	**36.81**	**279**	P		**P**	**15 09 23.0**	**+1.8**
INKA	**Innaminka**	**36.92**	**262**	P		**P**	**15 09 22.7**	**+0.7**
HTT	**Hallett**	**37.60**	**252**	P		**P**	**15 09 27.7**	**-0.1**
	baz=38,SNR=49							
HTT	**Hallett**	**37.60**	**252**	P		**P**	**15 09 27.8**	**+0.1**
TWOA	**Tennyson Woods**	**37.75**	**249**	P		**P**	**15 09 30.0**	**+1.0**
RABL	**Rabaul**	**38.21**	**305**	P		**P**	**15 09 31.4**	**-1.7**
RABL				IAmb		IAmb	15 10 07.6	
	comp=Z,81nm,0.6s							
NAPP	**Napperby**	**38.27**	**252**	P		**P**	**15 09 34.7**	**+1.4**
LCRK	**Leigh Creek**	**38.59**	**257**	P		**P**	**15 09 35.7**	**-0.3**
PMG	**Port Moresby**	**38.75**	**293**	P		**P**	**15 09 36.7**	**-0.8**
	comp=Z,11nm,0.9s,baz=147,slow=14,SNR=4.6							
PMG				LR		LR	15 22 37.1	
	comp=Z,5μm,22.0s,baz=131,slow=32							
PMG	**Port Moresby**	**38.75**	**293**	P		**P**	**15 09 38.2**	**+0.7**
PMG	**Port Moresby**	**38.75**	**293**	IAMs_20		IAMs_20	15 22 35.8	
	comp=Z,4μm,20.0s							
WHYH	**Whyalla**	**38.76**	**252**	P		**P**	**15 09 38.2**	**+0.7**
	comp=Z,110nm,0.8s							
COEN	**Coen**	**39.66**	**284**	P		**P**	**15 09 43.3**	**-1.8**
COEN	**Coen**	**39.66**	**284**	P		**P**	**15 09 45.7**	**+0.6**
QIS	**Mount Isa**	**39.98**	**272**	P		**P**	**15 09 47.5**	**-0.3**
	baz=40,SNR=16							
QIS	**Mount Isa**	**39.98**	**272**	P		**P**	**15 09 47.0**	**-0.8**
BBOO	**Buckleboo**	**40.05**	**253**	P		**P**	**15 09 47.2**	**-1.1**
	baz=40,SNR=36							
BBOO	**Buckleboo**	**40.05**	**253**	P		**P**	**15 09 46.8**	**-1.5**
BBOO				IAmb		IAmb	15 09 50.3	
	comp=Z,84nm,0.8s							
BBOO	**Buckleboo**	**40.05**	**253**	P		**P**	**15 09 47.6**	**-0.7**
TAOE	**Nuku Hiva Isla**	**40.11**	**67**	*e*S		**S**	**15 15 50.3**	**-2.2**
	comp=Z,2μm,29.9s							
TAOE				*e*LR		LR	15 20 45.5	
	comp=Z,9μm,25.8s,baz=243							

HON Honolulu 53.42 22 P **P 15 11 30.7 -2.0**
DHH Diamond Head 53.43 23 P **P 15 11 30.0 -2.8**
DHH Diamond Head 53.43 23 P **P 15 11 30.0 -2.8**
HLK Haleakala 53.51 25 P **P 15 11 29.9 -3.7**
KIP Kipapa 53.51 22 P **P 15 11 31.1 -2.2**
KIP pmax pmax
comp=Z,134nm,1.0s
KIP Kipapa 53.51 22 P **P 15 11 31.1 -2.2**
KIP IAmb IAmb 15 12 05.7
comp=Z,134nm,1.0s
KIP Kipapa 53.51 22 P **P 15 11 34.6 +1.3**
CCD Concordia, Ant 54.41 196 P **P 15 11 42.2 +2.4**
FAKI Fak Fak 54.61 289 P **P 15 11 39.3 -2.4**
comp=Z,3μmcomp=Z,968nmcomp=Z,45nm,0.9s
FAKI Fak Fak 54.61 289 P **P 15 11 38.4 -3.2**
FAKI IAmb IAmb 15 11 40.5
comp=Z,38nm,1.0s
FAKI Fak Fak 54.61 289 P **P 15 11 39.7 -2.0**
KLBR Kellerberrin 55.49 250 P **P 15 11 46.3 -1.5**
baz=56,SNR=24
KLBR Kellerberrin 55.49 250 P **P 15 11 47.0 -0.8**
NWAO Narrogin (SRO) 55.56 248 P **P 15 11 48.0 -0.4**
NWAO Narrogin (SRO) 55.56 248 IAMs_20 IAMs_20 15 34 04.8
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 55.56 248 P **P 15 11 47.9 -0.4**
GUMO Guam 56.10 314 LR LR 15 34 20.4
comp=Z,727nm,18.4s,baz=141,slow=34
MEEK Meekatharra 56.21 256 P **P 15 11 50.8 -2.3**
baz=56,SNR=24
MEEK Meekatharra 56.21 256 P **P 15 11 52.6 -0.5**
SIJI Sorong 56.57 290 LR LR 15 33 15.9
comp=Z,966nm,20.0s,baz=149,slow=33
SWI Sorong 56.58 290 P **P 15 11 53.9 -1.9**
comp=Z,3μmcomp=Z,2μmcomp=Z,143nm,1.0s
BLDU Ballidu 56.62 251 P **P 15 11 54.0 -2.0**
baz=57,SNR=9.0
BLDU Ballidu 56.62 251 P **P 15 11 53.9 -2.0**
CASY Casey 56.64 207 P **P 15 11 54.2 -1.2**
CASY Casey 56.64 207 P **P 15 11 55.7 +0.3**
CASY pP **sP 15 12 11.8 -0.3**
MUN Mundaring 56.65 249 P **P 15 11 54.7 -1.4**
baz=57,SNR=9.1
MUN Mundaring 56.65 249 P **P 15 11 55.6 -0.5**
PSA00 Pilbara Seismi 56.87 262 P **P 15 11 55.0 -2.8**
PSA00 IAmb IAmb 15 11 57.1
comp=Z,115nm,1.0s
PSA00 Pilbara Seismi 56.87 262 P **P 15 11 54.8 -3.1**
PSA00 IAmb IAmb 15 11 57.1
comp=Z,83nm,1.1s
PSA00 Pilbara Seismi 56.87 262 P **P 15 11 56.2 -1.6**
comp=Z,123nm,1.1s
MTKN Mount Kenneth 57.02 249 P **P 15 11 59.4 +0.7**
MBWA Marble Bar 57.12 262 P **P 15 11 58.3 -1.3**
MBWA Marble Bar 57.12 262 P **P 15 11 57.5 -2.1**
MSAI Masohi 57.15 286 P **P 15 11 57.9 -1.9**
comp=Z,14nm,0.8s
AAI Ambon 57.59 285 P **P 15 11 59.7 -3.2**
comp=Z,1μmcomp=Z,42nm,1.0s
MORW Morawa 57.63 252 P **P 15 12 01.1 -1.9**
baz=58,SNR=12
MORW Morawa 57.63 252 P **P 15 12 00.7 -2.4**
MORW IAmb IAmb 15 12 02.4
comp=Z,67nm,0.9s
MORW Morawa 57.63 252 P **P 15 12 01.4 -1.7**
SOEI Soe 57.92 277 P **P 15 12 05.2 -0.3**
comp=Z,3μmcomp=Z,2μmcomp=Z,220nm,0.8s
SOEI Soe 57.92 277 P **P 15 12 04.1 -1.4**
SOEI Soe 57.92 277 P **P 15 12 07.5 +2.0**
BATI Baumata 58.24 276 P **P 15 12 07.2 -0.3**
comp=Z,110nm,0.9s,baz=58,slow=0.2,SNR=21
BATI LR LR 15 37 31.2
comp=Z,6μm,18.1s,baz=134,slow=36
BATI Baumata 58.24 276 P **P 15 12 06.9 -0.6**
comp=Z,1μmcomp=Z,1μmcomp=Z,79nm,1.0s
RPN Rapa Nui 59.07 106 P **P 15 12 15.6 +2.5**
comp=Z,49nm,0.9s,baz=207,slow=2.3,SNR=3.0
RPN LR LR 15 31 13.8
comp=Z,1μm,21.8s,baz=253,slow=29
LBMI Labuha 59.81 288 P **P 15 12 16.4 -2.0**
comp=Z,1μmcomp=Z,690nmcomp=Z,40nm,0.9s
MMRI Maumere 60.22 277 P **P 15 12 18.9 -2.3**
comp=Z,2μmcomp=Z,2μmcomp=Z,244nm,1.1s
MMRI Maumere 60.22 277 P **P 15 12 19.1 -2.1**
MMRI Maumere 60.22 277 P **P 15 12 22.0 +0.8**
SANI Sanana 60.32 286 P **P 15 12 19.0 -2.9**
comp=Z,2μmcomp=Z,955nmcomp=Z,69nm,0.8s
SANI Sanana 60.32 286 P **P 15 12 23.4 +1.5**
EDFI Ende, Flores 60.64 276 P **P 15 12 21.6 -2.6**
comp=Z,2μmcomp=Z,654nmcomp=Z,44nm,1.0s
BASI Baing, Sumba 60.92 274 P **P 15 12 25.2 -0.8**
comp=Z,1μmcomp=Z,108nm,0.9s
QSPA South Pole Qui 61.01 180 LR LR 15 38 08.0
comp=Z,581nm,18.1s,baz=32,slow=35
QSPA South Pole Qui 61.01 180 P **P 15 12 28.8 +2.8**
QSPA South Pole Qui 61.01 180 P **P 15 12 30.1 +4.1**
GIRL Giralia 61.32 259 P **P 15 12 28.1 -0.5**
baz=62,SNR=17
GIRL Giralia 61.32 259 P **P 15 12 27.8 -0.8**
GIRL Giralia 61.32 259 P **P 15 12 27.9 -0.7**
BBSI Bau Bau 61.46 280 P **P 15 12 26.2 -3.4**
comp=Z,94nmcomp=Z,10nm,0.9s
WBSI Waikabubak, Su 62.23 274 P **P 15 12 32.1 -2.7**
BSSI Bau Bau, Buton 62.93 278 P **P 15 12 37.3 -2.2**
comp=Z,650nmcomp=Z,23nm,0.7s
KMSI Cibinong 63.42 287 P **P 15 12 40.7 -2.0**
comp=Z,1μmcomp=Z,60nm,0.8s
LUWI Luwuk 63.57 285 P **P 15 12 42.0 -1.7**
comp=Z,2μmcomp=Z,100nm,1.0s
LUWI Luwuk 63.57 285 P **P 15 12 41.0 -2.7**
LUWI IAmb IAmb 15 13 11.4
comp=Z,80nm,0.9s
BKSI Bulukumba 63.66 279 P **P 15 12 42.4 -1.9**
comp=Z,2μmcomp=Z,1μmcomp=Z,91nm,0.9s
BNSI Bone 64.12 280 P **P 15 12 45.5 -1.9**
comp=Z,2μmcomp=Z,113nm,1.2s
KAPI Kappang 64.13 279 P **P 15 12 46.3 -1.0**
comp=Z,23nm,0.9s,baz=160,slow=1.9,SNR=27
KAPI LR LR 15 39 34.6
comp=Z,1μm,21.8s,baz=149,slow=35
KAPI Kappang 64.13 279 P **P 15 12 44.1 -3.3**
KAPI IAmb IAmb 15 12 47.4
comp=Z,78nm,1.1s
KAPI Kappang 64.13 279 P **P 15 12 45.4 -2.0**
KAPI pP **pP 15 12 59.1 -0.5**
GTOI Gorontalo 64.26 286 P **P 15 12 46.6 -1.7**
comp=Z,320nmcomp=Z,18nm,0.7s
APSI Ampana 64.59 284 P **P 15 12 48.8 -1.6**
SPSI Sidrap Palu 64.63 280 P **P 15 12 48.1 -2.6**
comp=Z,2μmcomp=Z,1μmcomp=Z,51nm,1.2s
TTSI Tana Toraja 65.05 281 P **P 15 12 51.1 -2.3**
comp=Z,825nmcomp=Z,48nm,1.3s
MRSI Marisa 65.08 286 P **P 15 12 50.2 -3.4**
comp=Z,2μmcomp=Z,453nmcomp=Z,30nm,0.9s
DAV Davao City (W) 65.77 294 LR LR 15 42 12.9
comp=Z,470nm,18.3s,baz=116,slow=37
IGBI Denpasar 66.31 273 P **P 15 13 00.2 -1.4**
comp=Z,2μmcomp=Z,257nm,1.1s
DNP Denpasar 66.32 273 P **P 15 13 00.5 -1.1**
comp=Z,299nm,0.9s
SRBI Singaraja 66.60 274 P **P 15 13 01.4 -2.0**
comp=Z,2μmcomp=Z,2μmcomp=Z,163nm,1.0s
MPSI Mapaga 66.73 284 P **P 15 13 01.8 -2.4**
comp=Z,2μmcomp=Z,693nmcomp=Z,32nm,1.0s
JAGI Jajag, Banyuwa 67.34 273 P **P 15 13 05.6 -2.6**
comp=Z,2μmcomp=Z,218nm,1.0s
JAGI Jajag, Banyuwa 67.34 273 P **P 15 13 05.4 -2.8**
JAGI Jajag, Banyuwa 67.34 273 P **P 15 13 08.9 +0.7**
ABJI Asem Bagus 67.59 274 P **P 15 13 08.3 -1.4**
comp=Z,110nm,0.9s
GMJI Gumukmas 68.06 273 P **P 15 13 11.0 -1.6**
comp=Z,180nm,1.1s
KBKI Kotabaru 68.08 279 P **P 15 13 11.4 -1.3**
comp=Z,790nmcomp=Z,46nm,0.8s
BLJI Banyuglugur 68.17 273 P **P 15 13 11.9 -1.4**
comp=Z,3μmcomp=Z,76nm,0.8s
KMMI Kalianget 68.17 274 P **P 15 13 11.7 -1.6**
comp=Z,3μmcomp=Z,210nm,1.1s
BBKI Banjar Baru 69.14 278 P **P 15 13 18.5 -0.9**
comp=Z,1μmcomp=Z,73nm,1.1s
BWJI Bawean 69.88 275 P **P 15 13 23.0 -1.0**
comp=Z,63nm,0.7s
PCJI Pacitan 70.07 272 P **P 15 13 24.6 -0.5**
comp=Z,3μmcomp=Z,426nm,1.0s
MTKI Muara Teweh, K 70.35 280 P **P 15 13 25.2 -1.7**
comp=Z,35nm,0.9s
WOJI Wonogiri, Jawa 70.46 272 P **P 15 13 26.6 -0.9**
comp=Z,177nm,1.1s
UGM Wanagama 70.78 272 P **P 15 13 28.6 -0.9**
comp=Z,2μmcomp=Z,163nm,1.0s
UGM Wanagama 70.78 272 P **P 15 13 27.6 -1.9**
UGM Wanagama 70.78 272 P **P 15 13 29.4 -0.1**
YOGI Yogyakarta 71.02 272 P **P 15 13 30.0 -0.9**
comp=Z,180nm,1.1s
UWJI Ujung Watu 71.11 273 P **P 15 13 28.8 -2.7**
comp=Z,2μmcomp=Z,131nm,1.0s
SPMM Salut 71.95 286 P **P 15 13 36.0 -0.5**
PBKI Pangkalan Bun 72.27 277 P **P 15 13 37.6 -0.8**
comp=Z,142μmcomp=Z,268nm,1.0s
CMJI Cimerak 72.65 271 P **P 15 13 39.1 -1.6**
comp=Z,1μmcomp=Z,92nm,1.3s
PMSA Palmer Station 73.14 156 LR LR 15 38 16.1
comp=Z,1μm,21.7s,baz=287,slow=29
MAW Mawson 73.78 200 P **P 15 13 48.7 +2.2**
comp=Z,44nm,0.9s,baz=123,slow=7.3,SNR=22
MAW LR LR 15 44 56.4
comp=Z,1μm,20.5s,baz=103,slow=35
MAW Mawson 73.78 200 P **P 15 13 48.8 +2.4**
baz=74,SNR=14
MAW Mawson 73.78 200 P **P 15 13 48.7 +2.2**
STKI Sintang 73.81 279 P **P 15 13 47.4 -0.1**
comp=Z,74nm,1.0s
LEM Lembang 73.83 271 LR LR 15 48 01.8
comp=Z,1μm,18.9s,baz=112,slow=37
LEM Lembang 73.83 271 P **P 15 13 47.4 -0.5**
comp=Z,1μmcomp=Z,135nm,1.0s
XMI Christmas Isla 73.84 267 P **P 15 13 47.2 -0.5**
comp=Z,148nm,1.0s
XMIS Christmas Isla 73.86 267 P **P 15 13 44.7 -3.2**
XMIS IAmb IAmb 15 13 47.7
comp=Z,87nm,0.9s
XMIS Christmas Isla 73.86 267 P **P 15 13 47.3 -0.6**
comp=Z,105nm,1.0s
CNJI Cibinong 74.03 270 P **P 15 13 47.4 -1.4**
comp=Z,2μmcomp=Z,277nm,1.0s
JHJ Hachijo jima 2 74.13 323 LR LR 15 41 13.3
comp=Z,631nm,21.2s,baz=146,slow=32
SBUM Sibu 74.38 282 P **P 15 13 50.0 -0.8**
SKJI Sukabumi 74.67 270 P **P 15 13 51.0 -1.6**
comp=Z,142nm,0.9s
CBJI Citeko 74.69 271 P **P 15 13 50.7 -2.0**
comp=Z,5μmcomp=Z,146nm,1.0s
DBJI Dramaga 74.72 271 P **P 15 13 51.8 -1.1**
comp=Z,183nm,1.0s
TNG Tangerang 74.99 271 P **P 15 13 53.5 -0.9**
comp=Z,286nm,0.6s
SBJI Serang 75.46 271 P **P 15 13 55.9 -1.2**
comp=Z,3μmcomp=Z,143nm,1.6s
KSM Kuching 75.52 280 P **P 15 13 55.4 -2.0**
KSM IAmb IAmb 15 13 57.6
comp=Z,52nm,1.0s
CGJI Cibinong 75.61 270 P **P 15 13 56.2 -1.8**
comp=Z,2μmcomp=Z,199nm,1.0s
JOW Kunigami 76.35 311 LR LR 15 42 33.1
comp=Z,932nm,21.9s,baz=120,slow=32
ESPZ Base Esperanza 76.46 156 P **P 15 14 04.0 +2.0**
USHA Ushuaia 76.57 146 LR LR 15 40 14.5
comp=Z,1μm,21.6s,baz=235,slow=30
BLSI Bandar Lampung 76.59 271 P **P 15 14 01.8 -1.8**
comp=Z,1μmcomp=Z,111nm,1.0s
KLI Kotabumi 77.17 272 P **P 15 14 04.5 -2.3**
comp=Z,259nm,1.1s
KASI Kota Agung 77.17 271 P **P 15 14 04.8 -2.0**
comp=Z,1μmcomp=Z,134nm,1.0s
INU Inuyama 77.31 323 P **P 15 14 07.3 +0.3**
comp=Z,45nm,1.2s
PPBI Pangkal Pinang 77.35 275 P **P 15 14 07.2 -0.6**
comp=Z,5μmcomp=Z,36nm,0.8s
KLSI 77.36 272 P **P 15 14 05.5 -2.4**
comp=Z,707nmcomp=Z,42nm,1.0s
MJAR Matsushiro Arr 77.61 325 P **P 15 14 07.7 -1.0**
comp=Z,28nm,0.8s,baz=159,slow=5.4,SNR=52
MJAR LR LR 15 45 08.7
comp=Z,407nm,20.5s,baz=146,slow=33
MJAR Matsushiro Arr 77.61 325 P **P 15 14 05.1 -3.6**
MJAR IAmb IAmb 15 14 09.1
comp=Z,37nm,0.9s
MAJO Matsushiro 77.61 325|| *e*P **P 15 14 07.1 -1.6**
MAJO pmax pmax
comp=Z,45nm,0.9s
MAJO Matsushiro 77.61 325 P **P 15 14 05.0 -3.7**
MAJO IAmb IAmb 15 14 09.1
comp=Z,43nm,0.9s
MAJO Matsushiro 77.61 325 P **P 15 14 08.3 -0.4**
MAJO Matsushiro 77.61 325 P **P 15 14 07.3 -1.4**
MAT Matsushiro 77.61 325 P **P 15 14 07.4 -1.3**
MAT S **S 15 23 55.2 -1.8**
LWLI Liwa 77.80 271 P **P 15 14 08.9 -1.6**
comp=Z,37μmcomp=Z,158nm,0.8s
MDSI Maura Dua 77.94 272 P **P 15 14 09.2 -1.9**
comp=Z,1μmcomp=Z,955nmcomp=Z,106nm,0.9s
JWT Wachi 78.11 322 P **P 15 14 10.8 -0.7**
JWT IAmb IAmb 15 14 12.3
comp=Z,44nm,1.0s
PMBI Palembang 78.17 273 IAMs_20 IAMs_20 15 49 27.8
comp=Z,1μm,20.0s
JSU Suzuyama 78.20 316 P **P 15 14 10.6 -1.5**
JSU IAmb IAmb 15 14 13.0
comp=Z,84nm,1.0s
SYO Syowa Base 78.55 193⇑ *i*P **P 15 14 15.4 +1.9**
SYO Syowa Base 78.55 193⇑ *i*PcP **PcP 15 14 23.1 +0.7**
SYO Syowa Base 78.55 193|| *i*pP pP 15 14 25.6 -0.3
LHSI Lahat 78.83 272 P **P 15 14 15.3 -0.7**
comp=Z,2μmcomp=Z,74nm,1.3s
YULB Yu-li 78.93 305 P **P 15 14 13.7 -2.7**
MNAI Manna 79.07 271 IAMs_20 IAMs_20 15 50 41.1
comp=Z,1μm,21.0s
JNU Nakatsue 79.09 318 LR LR 15 44 01.1
comp=Z,452nm,21.5s,baz=135,slow=32
JNU Nakatsue 79.09 318 P **P 15 14 14.4 -2.6**
JNU IAmb IAmb 15 14 33.3
comp=Z,136nm,1.4s
JNU Nakatsue 79.09 318 P **P 15 14 17.2 +0.2**
comp=Z,64nm,1.4s
TROLL Troll, Antarti 79.17 180 P **P 15 14 19.9 +2.8**
TPUB Ta-pu 79.36 304 P **P 15 14 15.5 -3.2**
TPUB IAmb IAmb 15 15 02.1
comp=Z,118nm,1.3s
COYC Coyhaique 79.36 136 P **P 15 14 22.6 +4.2**
COYC pP **sP 15 14 38.3 +2.8**
SSLB Suanglung 79.42 305 P **P 15 14 17.1 -2.0**
SSLB IAMs_20 IAMs_20 15 43 42.9
comp=Z,2μm,22.0s
SNAA Sanae 79.43 178 P **P 15 14 20.9 +2.5**
SNAA Sanae 79.43 178 LR LR 15 46 50.2
comp=Z,563nm,19.9s,baz=193,slow=34
SNAA Sanae 79.43 178*c i*P **P 15 14 20.9 +2.5**
SNAA Sanae 79.43 178 P **P 15 14 20.6 +2.1**
SNAA IAmb IAmb 15 14 22.1
comp=Z,62nm,1.0s
DSRI Dabo 79.53 275 P **P 15 14 19.3 -0.5**
comp=Z,755nmcomp=Z,34nm,1.1s
VNA3 Neumayer Olymp 79.55 176 P **P 15 14 21.3 +2.2**
H06S1 SOCORRO T 79.60 62 T T 16 42 35.4
SNR=9.4
H06E1 SOCORRO T-PHAS 79.66 62 T T 16 42 36.7
SNR=16
JMBI JAMBI 79.78 274 P **P 15 14 21.1 -0.1**
VNA2 Neumayer--Watz 79.99 177 P **P 15 14 24.1 +2.7**
baz=177,slow=4.7
VNA1 Neumayer--Stat 80.22 176 P **P 15 14 25.2 +2.7**
YUK Yuzh-Kuril'sk 80.27 334 *e*P **P 15 14 22.0 -1.1**
YUK *e* 15 17 25.5
YUK *e*PPP PPP 15 19 14.6
YUK *e*S **S 15 24 25.2 +0.3**
YUK *e* 15 24 44.0
YUK *e*SS **SS 15 29 37.6 +0.1**
YUK pmax pmax
comp=Z,341nm,1.5s
YUK pmax pmax
comp=N,303nm,1.4s
YUK pmax pmax
comp=E,348nm,1.3s
YUK pmax pmax
comp=Z,439nm,1.8s
MASI Maura Aman, Be 80.28 272 P **P 15 14 22.5 -1.5**
comp=Z,3μmcomp=Z,376nm,0.9s
H03S2 Juan Fernandez 80.56 123 T T 16 44 16.1
baz=239
H03S1 Juan Fernandez 80.57 123 T T 16 44 18.1
baz=239
H03S3 Juan Fernandez 80.58 123 T T 16 44 11.6
baz=239
LL02 Futaleuf 80.73 134 P **P 15 14 29.5 +3.6**
LL02 IAmb IAmb 15 14 47.4
comp=Z,99nm,1.2s
H03N3 Juan Fernandez 80.74 123 T T 16 44 22.5
baz=244,slow=72,SNR=110
H03N2 Juan Fernandez 80.74 123 T T 16 44 26.4
baz=244,slow=72,SNR=87
H03N1 Juan Fernandez 80.76 123 T T 16 44 16.5
baz=244,slow=72,SNR=84
ATKA Atka Island 80.99 2 P **P 15 14 24.9 -1.8**
ATKA IAmb IAmb 15 14 43.0
comp=Z,103nm,1.0s
ATKA Atka Island 80.99 2 P **P 15 14 26.0 -0.7**
MYKOM Kota Tinggi 81.27 277 IAMs_20 IAMs_20 15 49 44.4
comp=Z,1μm,21.0s
KRJI Kerinci 81.47 272 P **P 15 14 29.4 -1.0**
comp=Z,167nm,0.9s
ASAJ Asahikawa 81.64 332 LR LR 15 44 11.0
comp=Z,2μm,21.9s,baz=168,slow=31
SHEM Shemya Is, Ala 81.84 355 LR LR 15 42 28.9
comp=Z,1μm,21.4s,baz=159,slow=30
NIKH Nikolski High 82.04 5 P **P 15 14 32.0 -0.2**
NIKH Nikolski High 82.04 5 P **P 15 14 31.0 -1.2**
baz=187
SNCC San Nicolas Is 82.60 46 P **P 15 14 36.2 +0.5**
baz=228
PLCA Paso Flores 82.84 133 P **P 15 14 40.9 +3.7**
comp=Z,22nm,1.0s,baz=228,slow=5.3,SNR=38
PLCA pP **sP 15 14 57.0 +2.7**
comp=Z,67nm,1.0s,baz=230,slow=5.8,SNR=27
PLCA LR LR 15 42 46.0
comp=Z,1μm,21.6s,baz=279,slow=29
PLCA Paso Flores 82.84 133 P **P 15 14 40.8 +3.6**
LC01 Cunco 82.95 131 P **P 15 14 40.2 +2.5**
BKNI Bangkinang 83.00 274 P **P 15 14 37.7 -0.6**
comp=Z,2μmcomp=Z,1μmcomp=Z,88nm,1.2s
BKNI Bangkinang 83.00 274 IAMs_20 IAMs_20 15 54 50.7
comp=Z,1μm,18.0s
BKNI Bangkinang 83.00 274 P **P 15 14 38.9 +0.6**
comp=Z,107nm,1.1s
SCI2 San Clemente I 83.04 46 P **P 15 14 38.5 +0.5**
baz=229
UNV Unalaska Valle 83.11 6 P **P 15 14 38.8 +1.0**
baz=189
LPIG La Paz 83.21 58 LR LR 15 45 40.6
comp=Z,885nm,18.4s,baz=212,slow=31
CIS Catalina Islan 83.40 46 P **P 15 14 41.6 +1.7**
baz=229
TJN Taejon 83.43 318*ce*P **P 15 14 39.5 -0.4**
TJN Taejon 83.43 318 P **P 15 14 40.9 +1.0**
comp=Z,278nm,1.1s
EFI East Falkland 83.47 147 *i* P **P 15 14 41.1 +1.1**
EFI pmax pmax
comp=Z,90nm,1.1s
EFI East Falkland 83.47 147 P **P 15 14 41.3 +1.3**
EFI East Falkland 83.47 147 IAMs_20 IAMs_20 15 43 26.3
comp=Z,2μm,22.0s
PKM Mcpherson Peak 83.52 44 P **P 15 14 42.5 +1.8**
baz=228
FMP Fort Macarthur 83.68 46 P **P 15 14 42.9 +1.7**
baz=229
SSE Sheshan 83.82 311 P **P 15 14 41.7 -0.3**
SSE S **S 15 25 02.6 +0.6**
SSE pmax pmax
comp=Z,13nm,1.2s
SSE pmax pmax
comp=Z,200nm,7.0s
SSE LR LR
comp=Z,220nm,19.8s
SSE LR LR
comp=Z,330nm,23.9s
KSRS Korea Array 83.85 319 P **P 15 14 42.0 +0.1**
comp=Z,18nm,0.9s,baz=142,slow=5.8,SNR=31
KSRS LR LR 15 50 07.8
comp=Z,343nm,18.8s,baz=135,slow=34
KSAR Wonju Array Be 83.86 319 P **P 15 14 41.4 -0.7**
KSAR Wonju Array Be 83.86 319 P **P 15 14 41.4 -0.7**
109C Camp Elliot, M 83.90 47 P **P 15 14 44.1 +1.7**
baz=230
YSS Yuzh-Sakhalins 83.91 334 *e*P **P 15 14 41.8 -0.3**
YSS *e**SP **pP 15 14 55.9 +1.4**
YSS *e*S **S 15 25 02.9 +0.8**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,500nm,4.4s
YSS Yuzh-Sakhalins 83.91 334 P **P 15 14 42.7 +0.6**
comp=Z,90nm,0.8s
SISI Saibi 83.91 272 P **P 15 14 42.9 -0.1**
comp=Z,43nm,1.8s
MCCM Marconi Confer 83.94 40 IAMs_20 IAMs_20 15 42 06.0
comp=Z,2μm,22.0s
OSI Osito Audit: C 84.00 45 P **P 15 14 44.6 +1.6**
baz=228
DECC Green Verdugo 84.01 45 P **P 15 14 44.3 +1.3**
baz=229
PASC Pasadena Art C 84.05 46 IAMs_20 IAMs_20 15 42 21.6
comp=Z,2μm,22.0s
ARVC Arvin 84.28 45 P **P 15 14 46.1 +1.8**
baz=228,SNR=8.3
MURC Murrieta 84.30 47 P **P 15 14 46.4 +1.9**
baz=229,SNR=14
MONP2 Monument Peak 84.34 48 P **P 15 14 46.7 +1.7**
baz=230,SNR=9.3
IKP In-Ko-Pah, Jac 84.39 48 P **P 15 14 47.0 +2.0**
baz=230,SNR=9.0
BFSC Mount Baldy Ra 84.42 46 P **P 15 14 46.7 +1.5**
baz=229,SNR=11
FALS False Pass 84.44 8 P **P 15 14 46.7 +2.1**
baz=192
PET Petropavlovsk 84.45 346 *e*P **P 15 14 43.2 -1.5**
PET *e**PP **pP 15 14 55.8 -1.4**
PET *e* 15 25 01.3
PET *e*S **S 15 25 06.4 -0.9**
PET *e*SP **SPn 15 25 59.8 -0.6**
PET *e*PS **PnS 15 26 07.5 +0.9**
PET *e*SS **SS 15 30 38.7 -0.7**
PET pmax pmax
comp=Z,46nm,1.3s
PET pmax pmax
comp=Z,200nm,13.4s
MNSI Mandailing Nat 84.51 274 P **P 15 14 44.0 -2.0**
comp=Z,46nm,0.8s
VES Vestal, Richgr 84.59 44 P **P 15 14 47.3 +1.4**
baz=228,SNR=18
EDW2 Edwards Air Fo 84.63 45 P **P 15 14 47.7 +1.6**
baz=229,SNR=27
VOG Valley Oaks Go 84.73 43 P **P 15 14 47.6 +1.1**
baz=228
PEA0B Petropavlovsk- 84.75 345 P **P 15 14 45.2 -1.0**
PEA0B pmax pmax
comp=Z,44nm,0.8s
PEA0B Petropavlovsk- 84.75 345 P **P 15 14 45.2 -1.0**
PEA0B IAmb IAmb 15 14 50.2
comp=Z,44nm,0.8s
PETK Petropavlovsk- 84.75 345 P **P 15 14 44.9 -1.3**
comp=Z,31nm,0.8s,baz=122,slow=5.0,SNR=51
PETK PKiKP **PKiKP 15 19 59.4 +0.5**
comp=Z,3.2nm,0.9s,baz=77,slow=5.0,SNR=4.2
PETK LR LR 15 49 53.1
comp=Z,723nm,19.3s,baz=171,slow=34
PFO Pinyon Flats O 84.78 47 LR LR 15 47 41.1
comp=Z,1μm,18.3s,baz=247,slow=32
PFO Pinyon Flats O 84.78 47 P **P 15 14 45.6 -1.4**
PFO pmax pmax
comp=Z,73nm,1.3s
PFO Pinyon Flats O 84.78 47 P **P 15 14 45.6 -1.4**
PFO IAmb IAmb 15 15 06.1
comp=Z,73nm,1.3s
PFO Pinyon Flats O 84.78 47 P **P 15 14 48.2 +1.2**
baz=230,SNR=12
PFO Pinyon Flats O 84.78 47 P P 15 14 59.5 +13
SWSC Sam W. Stewart 84.78 48 P **P 15 14 48.5 +1.7**
baz=230,SNR=7.1
TPFO Pinon Flats 84.78 47 P **P 15 14 48.4 +1.4**
baz=230,SNR=14
ISA Isabella, Lake 84.85 44 P **P 15 14 49.3 +2.0**
baz=228,SNR=34
BBRC Big Bear Solar 84.90 46 P **P 15 14 49.4 +1.6**
baz=230
CHNA Chernabura Isl 84.94 10 P **P 15 14 50.1 +3.0**
baz=195
IPM Ipoh 85.04 278 IAMs_20 IAMs_20 15 56 12.1
comp=Z,1μm,20.0s
IPM Ipoh 85.04 278 P **P 15 14 48.8 +0.1**
comp=Z,50nm,0.8s
QIZ Qiongzhong 85.12 295 P **P 15 14 48.3 -0.6**

QIZ				S	**S**	**15 25 17.7 +2.2**	
QIZ				SS	**SS**	**15 30 53.5 +3.1**	
QIZ				LR	LR		
	comp=Z,340nm,11.6s						
QIZ				LR	LR		
	comp=Z,780nm,32.6s						
LRMC	**Laurel Mtn Rad**	**85.22**	**45**	P	**P**	**15 14 51.0 +1.8**	
	baz=229,SNR=20						
RRX	**Edison Barstow**	**85.25**	**46**	P	**P**	**15 14 51.0 +1.8**	
	baz=229						
CMB	**Columbia Colle**	**85.30**	**42**	P	**P**	**15 14 50.6 +1.2**	
CMB				pmax	pmax		
	comp=Z,40nm,1.0s						
CMB	**Columbia Colle**	**85.30**	**42**	P	**P**	**15 14 50.6 +1.2**	
CMB				IAmb	IAmb	15 14 52.1	
	comp=Z,40nm,0.9s						
CMB				IAMs_20	IAMs_20	15 43 23.0	
	comp=Z,2μm,22.0s						
SDPT	**Sand Point**	**85.31**	**9**	P	**P**	**15 14 51.6 +2.6**	
	baz=194						
BELC	**Belle Mtn. Jos**	**85.32**	**47**	P	**P**	**15 14 51.7 +2.0**	
	baz=230,SNR=32						
O02D	**Mt. Diablo Mer**	**85.42**	**39**	P	**P**	**15 14 52.2 +2.2**	
	baz=225,SNR=50						
BC3	**Big Chuckawall**	**85.45**	**47**	P	**P**	**15 14 52.4 +2.1**	
	baz=230,SNR=20						
GLA	**Glamis**	**85.47**	**48**	P	**P**	**15 14 52.8 +2.4**	
	baz=231,SNR=8.8						
CWC	**Cottonwood Cre**	**85.60**	**44**	P	**P**	**15 14 52.9 +1.8**	
	baz=229						
HEC	**Hector,Ludlow**	**85.64**	**46**	P	**P**	**15 14 53.3 +2.1**	
	baz=230,SNR=16						
GSC	**Goldstone, Bar**	**85.64**	**45**	P	**P**	**15 14 53.0 +1.7**	
	baz=230,SNR=33						
ORV	**Oroville**	**85.70**	**40**	P	**P**	**15 14 52.3 +1.0**	
ORV				pmax	pmax		
	comp=Z,45nm,1.1s						
ORV	**Oroville**	**85.70**	**40**	P	**P**	**15 14 52.3 +1.0**	
ORV				IAmb	IAmb	15 15 09.8	
	comp=Z,45nm,1.1s						
MPMC	**Manual Prospec**	**85.71**	**45**	P	**P**	**15 14 53.4 +1.6**	
	baz=229,SNR=37						
VLA	**Vladivostok**	**85.75**	**325**	*i* P	**P**	**15 14 51.6 +0.1**	
VLA				pmax	pmax		
	comp=Z,12nm,0.5s						
VLA				MLR	MLR		
	comp=Z,949nm,21.0s						
KULM	**Kulim**	**85.77**	**278**	IAMs_20	IAMs_20	15 57 21.2	
	comp=Z,1μm,20.0s						
WDC	**Whiskeytown Da**	**85.83**	**38**	IAMs_20	IAMs_20	15 43 53.7	
	comp=Z,2μm,19.0s						
TIN	**Tinemaha, Big**	**85.91**	**43**	P	**P**	**15 14 54.4 +1.8**	
	baz=229,SNR=6.0						
MLAC	**Mammoth, Mammo**	**85.93**	**43**	P	**P**	**15 14 54.7 +1.9**	
	baz=228						
IRM	**Iron Mountain**	**85.97**	**47**	P	**P**	**15 14 55.1 +2.3**	
	baz=231,SNR=42						
NJ2	**Nanjing**	**85.97**	**310**	⇑P	**P**	**15 14 48.9 -3.9**	
NJ2				sS	**sS**	**15 25 39.8 -4.7**	
NJ2				pmax	pmax		
	comp=Z,27nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,610nm,5.7s						
NJ2				LR	LR		
	comp=Z,520nm,22.1s						
NJ2				LR	LR		
	comp=Z,680nm,22.6s						
NJ2				LR	LR		
	comp=Z,760nm,24.5s						
RPSI	**Rantau Prapat**	**86.00**	**275**	IAMs_20	IAMs_20	15 56 26.9	
	comp=Z,1μm,19.0s						
N02D	**Trinity Center**	**86.02**	**38**	P	**P**	**15 14 54.9 +2.0**	
	baz=225,SNR=25						
GMRC	**Granite Mounta**	**86.03**	**46**	P	**P**	**15 14 55.2 +2.0**	
	baz=230,SNR=23						
O03E	**Paynes Creek**	**86.04**	**39**	P	**P**	**15 14 54.2 +1.1**	
	baz=226,SNR=11						
PSI	**Prapat**	**86.05**	**275**	LR	LR	15 56 29.3	
	comp=Z,1μm,18.2s,baz=131,slow=38						
214A	**Organ Pipe Nat**	**86.13**	**50**	P	**P**	**15 14 56.0 +2.3**	
	baz=232						
M02C	**Callahan**	**86.23**	**38**	P	**P**	**15 14 56.0 +2.0**	
	baz=225,SNR=22						
TUQ	**Turquoise Moun**	**86.28**	**46**	P	**P**	**15 14 56.7 +2.2**	
	baz=230,SNR=7.4						
SHOC	**Shoshone, Teco**	**86.36**	**45**	P	**P**	**15 14 56.3 +1.6**	
	baz=230,SNR=9.3						
FURC	**Furnace Creek,**	**86.36**	**45**	P	**P**	**15 14 56.3 +1.7**	
	baz=229,SNR=12						
L02E	**Cave Junction**	**86.38**	**37**	P	**P**	**15 14 56.5 +1.9**	
	baz=225						
LCH	**Last Change Ra**	**86.38**	**44**	P	**P**	**15 14 54.9 0.0**	
LCH				IAmb	IAmb	15 15 14.3	
	comp=Z,144nm,1.9s						
GRAC	**Grapevine Rang**	**86.40**	**44**	P	**P**	**15 14 56.9 +2.0**	
	baz=229,SNR=20						
PNTR	**Pine Nut**	**86.46**	**41**	P	**P**	**15 14 56.3 +0.9**	
PNTR				IAmb	IAmb	15 14 58.2	
	comp=Z,66nm,1.0s						
USRK	**Ussuriysk Ar.**	**86.50**	**326**	P	**P**	**15 14 55.1 0.0**	
	comp=Z,30nm,1.1s,baz=144,slow=3.2,SNR=23						
USRK				LR	LR	15 50 07.3	
	comp=Z,754nm,20.1s,baz=133,slow=33						
GSI	**Gunungsitoli**	**86.50**	**273**	P	**P**	**15 14 55.7 -0.2**	
	comp=Z,2μmcomp=Z,92nm,1.1s						
GSI	**Gunungsitoli**	**86.50**	**273**	P	**P**	**15 14 56.6 +0.7**	
	comp=Z,92nm,1.1s						
LHV	**Little Huntoon**	**86.54**	**42**	P	**P**	**15 14 56.8 +1.3**	
LHV				IAmb	IAmb	15 15 15.2	
	comp=Z,72nm,1.1s						
YBH	**Yreka Blue Hor**	**86.55**	**38**	LR	LR	15 45 00.1	
	comp=Z,615nm,20.9s,baz=232,slow=30						
NEE2	**Needles Airpor**	**86.69**	**47**	P	**P**	**15 14 58.4 +2.1**	
	baz=231						
UBPT	**Khong Chiam**	**86.69**	**289**	P	**P**	**15 14 56.2 -0.6**	
UBPT				IAmb	IAmb	15 14 58.9	
	comp=Z,63nm,1.0s						
PDMCI	**Parker Dam,Lak**	**86.70**	**48**	P	**P**	**15 14 58.5 +2.1**	
	baz=231,SNR=11						
TSI	**Tuntungan**	**86.70**	**276**	P	**P**	**15 14 56.2 -0.7**	
K02D	**Willamette Mer**	**86.72**	**36**	P	**P**	**15 14 58.2 +1.8**	
	baz=225						
NVAR	**Mina Array Bea**	**86.78**	**42**	P	**P**	**15 14 58.4 +1.4**	
	comp=Z,31nm,0.9s,baz=221,slow=8.2,SNR=162						
NVAR				pP	**sP**	**15 15 14.5 +0.4**	
	comp=Z,27nm,0.8s,baz=216,slow=8.9,SNR=12						
NVAR				PKKPbc	**PKKPbc**	**15 32 53.9 +1.7**	
	comp=Z,1.5nm,0.8s,baz=119,slow=1.9,SNR=11						
NVAR				PKPPKP	**P'P'df**	**15 40 57.2 +1.6**	
	comp=Z,0.8nm,0.7s,baz=105,slow=3.1,SNR=5.3						
NVAR				LR	LR	15 49 47.4	
	comp=Z,1μm,18.0s,baz=224,slow=33						
NVAR	**Mina Array Bea**	**86.78**	**42**	P	**P**	**15 14 57.6 +0.6**	
PEL	**Peldehue**	**86.83**	**126**	IAMs_20	IAMs_20	15 43 35.9	
	comp=Z,1μm,22.0s						
PEL	**Peldehue**	**86.83**	**126**	P	**P**	**15 15 00.3 +2.9**	
PEL				pP	**sP**	**15 15 16.4 +1.8**	
NV11	**Mina Array Sit**	**86.87**	**42**	P	**P**	**15 14 57.3 0.0**	
NV11				IAmb	IAmb	15 15 16.3	
	comp=Z,51nm,1.1s						
J01E	**Myrtle Point**	**86.92**	**36**	P	**P**	**15 14 59.0 +1.8**	
	baz=224						
PAYG	**Puerto Ayora**	**86.92**	**89**	IAMs_20	IAMs_20	15 43 47.9	
	comp=Z,2μm,22.0s						
TPNV	**Topopah Spring**	**87.05**	**44**	P	**P**	**15 15 00.2 +2.0**	
	baz=230,SNR=28						
M04C	**Macdoel**	**87.05**	**38**	P	**P**	**15 14 59.5 +1.4**	
	baz=226,SNR=8.6						
L04D	**Klamath Falls**	**87.10**	**37**	P	**P**	**15 14 59.6 +1.3**	
	baz=226,SNR=5.6						
TYV	**Tymovskoe**	**87.17**	**336**	*e*P	**P**	**15 14 58.3 +0.1**	
TYV				pmax	pmax		
	comp=Z,22nm,1.2s						
TYV				pmax	pmax		
	comp=Z,800nm,6.2s						
Y14A	**Wickenburg**	**87.22**	**49**	P	**P**	**15 14 59.3 +0.3**	
Y14A				IAmb	IAmb	15 15 19.0	
	comp=Z,61nm,1.2s						
KVN	**Kaiserville**	**87.31**	**42**	IAmb	IAmb	15 15 17.8	
	comp=Z,36nm,0.9s						
I03D	**Drain, OR**	**87.60**	**36**	P	**P**	**15 15 02.2 +1.8**	
	baz=225						
I02E	**Swisshome, OR**	**87.64**	**35**	P	**P**	**15 15 02.5 +1.9**	
	baz=224						
K04D	**Chiloquin, OR**	**87.68**	**37**	P	**P**	**15 15 02.5 +1.4**	
	baz=226						
TUC	**Tucson**	**87.72**	**51**	P	**P**	**15 15 04.2 +2.8**	
TUC				pmax	pmax		
	comp=Z,58nm,1.9s						
TUC	**Tucson**	**87.72**	**51**	P	**P**	**15 15 04.3 +2.8**	
	baz=233						
TUC	**Tucson**	**87.72**	**51**	P	**P**	**15 15 04.1 +2.6**	
TUC				pP	**sP**	**15 15 20.4 +1.8**	
TPTI		**87.79**	**275**	P	**P**	**15 15 01.5 -0.7**	
	comp=Z,452nmcomp=Z,29nm,1.3s						
CNSH	**ChangSha**	**87.83**	**304**	⇓P	**P**	**15 15 02.6 +0.6**	
CNSH				pmax	pmax		
	comp=Z,29nm,1.1s						
J04D	**Umpqua Nationa**	**87.92**	**37**	P	**P**	**15 15 03.6 +1.3**	
	baz=226						
MOD	**Modoc Plateau**	**87.97**	**39**	P	**P**	**15 15 02.3 -0.2**	
MOD				IAmb	IAmb	15 15 20.8	
	comp=Z,38nm,0.9s						
MDJ	**Mudanjiang**	**87.98**	**325**	P	**P**	**15 15 02.2 -0.1**	
MDJ				pP	pP	15 15 13.3 -1.5	
MDJ				sP	pwP	15 15 17.3 -1.5	
MDJ				S	**S**	**15 25 42.1 -0.1**	
MDJ				pmax	pmax		
	comp=Z,29nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,730nm,4.2s						
MDJ				LR	LR		
	comp=Z,570nm,20.2s						
MDJ				LR	LR		
	comp=Z,460nm,20.3s						
MDJ				LR	LR		
	comp=Z,880nm,20.3s						
MDJ	**Mudanjiang**	**87.98**	**325**	P	**P**	**15 15 02.6 +0.3**	
	comp=Z,46nm,1.1s						
MDJ	**Mudanjiang**	**87.98**	**325**	P	**P**	**15 15 01.9 -0.4**	
GULI	**GuiLin**	**88.12**	**300**	⇑P	**P**	**15 15 06.6 +3.2**	
GULI				pmax	pmax		
	comp=Z,30nm,1.1s						
GULI				LR	LR		
	comp=Z,410nm,20.1s						
GULI				LR	LR		
	comp=Z,350nm,21.1s						
GULI				LR	LR		
	comp=Z,830nm,21.1s						
I04A	**Tendick Farm,**	**88.15**	**36**	P	**P**	**15 15 04.3 +1.1**	
	baz=226						
WHN	**Wuhan**	**88.17**	**307**	⇓*i*P	**P**	**15 15 04.4 +0.9**	
WHN				pP	**pP**	**15 15 15.4 -0.7**	
WHN				sP	**pwP**	**15 15 19.9 +0.1**	
WHN				S	**S**	**15 25 44.2 -0.3**	
WHN				pmax	pmax		
	comp=Z,150nm,1.2s						
WHN				pmax	pmax		
	comp=Z,1μm,4.0s						
WHN				LR	LR		
	comp=Z,2μm,19.5s						
WHN				LR	LR		
	comp=Z,4μm,29.0s						
WHN				LR	LR		
	comp=Z,3μm,24.6s						
OHAK	**Old Harbor**	**88.31**	**13**	P	**P**	**15 15 07.0 +3.5**	
	baz=201						
R11A	**Troy Canyon, C**	**88.35**	**44**	P	**P**	**15 15 05.8 +1.4**	
	baz=230,SNR=11						
J05D	**Fort Rock, OR**	**88.41**	**37**	P	**P**	**15 15 06.2 +1.6**	
	baz=226,SNR=15						
H04D	**Lebanon**	**88.49**	**36**	P	**P**	**15 15 06.1 +1.4**	
	baz=225						
DL2	**Dalian**	**88.51**	**317**	P	**P**	**15 15 04.5 -0.4**	
DL2				S	**S**	**15 25 51.1 +3.7**	
DL2				pmax	pmax		
	comp=Z,34nm,0.8s						
DL2				pmax	pmax		
	comp=Z,470nm,3.6s						
DL2				LR	LR		
	comp=Z,370nm,26.6s						
DL2				LR	LR		
	comp=Z,470nm,22.6s						
DL2				LR	LR		
	comp=Z,710nm,20.6s						
G03D	**McMinnville, O**	**88.71**	**35**	P	**P**	**15 15 06.8 +1.1**	
	baz=225						
LHMI	**Lhok Sumawe**	**88.95**	**277**	IAMs_20	IAMs_20	15 54 07.9	
	comp=Z,2μm,21.0s						
KDAK	**Kodiak Island**	**88.97**	**13**	LR	LR	15 50 15.8	
	comp=Z,409nm,18.6s,baz=225,slow=32						
LCO	**Las Campanas**	**89.06**	**123**	IAMs_20	IAMs_20	15 45 06.4	
	comp=Z,1μm,21.0s						
LCO	**Las Campanas**	**89.06**	**123**	P	P	15 15 26.9 +19	
I05D	**Terrebonne, OR**	**89.08**	**36**	P	**P**	**15 15 08.9 +1.3**	
	baz=226,SNR=13						
WVOR	**Wild Horse Val**	**89.24**	**39**	IAMs_20	IAMs_20	15 52 28.0	
	comp=Z,1μm,20.0s						
WUAZ	**Wupatki**	**89.24**	**48**	IAMs_20	IAMs_20	15 45 27.6	
	comp=Z,1μm,22.0s						
WUAZ	**Wupatki**	**89.24**	**48**	P	**P**	**15 15 10.7 +2.0**	
	baz=233						
SNY	**Shenyang**	**89.27**	**320**	⇑P	**P**	**15 15 07.2 -1.2**	
SNY				S	**S**	**15 25 52.2 -2.2**	
SNY				pmax	pmax		
	comp=Z,20nm,1.5s						
SNY				pmax	pmax		
	comp=Z,510nm,3.5s						
SNY				LR	LR		
	comp=Z,430nm,21.5s						
SNY				LR	LR		
	comp=Z,490nm,18.4s						
SNY				LR	LR		
	comp=Z,900nm,24.5s						
F04D	**Rainier, OR**	**89.45**	**34**	P	**P**	**15 15 11.2 +2.0**	
	baz=225						
GRNR	**Gornyy**	**89.47**	**333**	⇑*i*P	**P**	**15 15 09.6 +0.4**	
GRNR				pmax	pmax		
	comp=N,7.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,30nm,1.1s						
GRNR				MLR	MLR		
	comp=E,170nm,16.0s						
GRNR				MLR	MLR		
	comp=N,330nm,15.0s						
CN2	**Changchun**	**89.56**	**322**	*e*P	**P**	**15 15 08.8 -0.9**	
CN2				*e*S	**S**	**15 25 57.0 -0.1**	
CN2				SS	**SS**	**15 31 58.6 +4.0**	
CN2				pmax	pmax		
	comp=N,30nm,1.2s						
CN2				pmax	pmax		
	comp=N,500nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,20.0s						
CN2				LR	LR		
	comp=N,400nm,20.0s						
CN2				LR	LR		
	comp=N,600nm,20.0s						
TIA	**Tai'an**	**89.64**	**312**	⇑P	**P**	**15 15 09.9 -0.4**	
TIA				pmax	pmax		
	comp=N,63nm,1.0s						
TIA				pmax	pmax		
	comp=N,510nm,4.1s						
TIA				LR	LR		
	comp=N,580nm,25.5s						
TIA				LR	LR		
	comp=N,710nm,25.5s						
TIA				LR	LR		
	comp=N,2μm,28.2s						
G05D	**Wamic, OR**	**89.72**	**36**	P	**P**	**15 15 11.8 +1.4**	
	baz=226,SNR=8.1						
BNX	**BinXian**	**89.87**	**325**	⇓P	**P**	**15 15 10.5 -0.6**	
BNX				pmax	pmax		
	comp=N,17nm,1.1s						
BNX				pmax	pmax		
	comp=N,200nm,3.8s						
I07A	**Izee**	**89.87**	**37**	IAmb	IAmb	15 15 30.7	
	comp=Z,70nm,1.3s						
121A	**Cookes Peak, D**	**89.90**	**52**	P	**P**	**15 15 14.5 +2.6**	
	baz=235						
E04D	**Cinebar**	**90.00**	**34**	P	**P**	**15 15 13.3 +1.6**	
	baz=225,SNR=7.3						
P18K	**Big Mountain,**	**90.01**	**11**	P	**P**	**15 15 14.5 +3.0**	
	baz=199						
ELK	**Elko**	**90.08**	**42**	LR	LR	15 47 23.8	
	comp=Z,2μm,21.8s,baz=244,slow=30						
ELK	**Elko**	**90.08**	**42**	P	**P**	**15 15 13.0 +0.4**	
ELK				pmax	pmax		
	comp=Z,101nm,1.9s						
ELK	**Elko**	**90.08**	**42**	P	**P**	**15 15 13.0 +0.4**	
ELK				IAmb	IAmb	15 15 31.7	
	comp=Z,101nm,1.9s						
W18A	**Petrified Fore**	**90.08**	**49**	P	**P**	**15 15 14.8 +2.2**	
	baz=234						
F05D	**White Salmon**	**90.09**	**35**	P	**P**	**15 15 13.2 +1.1**	
	baz=226						
HOPE	**Hope Point**	**90.28**	**158**	IAMs_20	IAMs_20	15 53 48.3	
	comp=Z,1μm,18.0s						
KLR	**Kul'dur**	**90.29**	**329**	LR	LR	15 51 16.4	
	comp=Z,747nm,20.8s,baz=148,slow=33						
KLR	**Kul'dur**	**90.29**	**329**	*c i*P	**P**	**15 15 12.9 -0.1**	
KLR				pmax	pmax		
	comp=Z,25nm,1.2s						
KLR				MLR	MLR		
	comp=Z,652nm,20.0s						
D04E	**Lakebay**	**90.34**	**34**	P	**P**	**15 15 14.6 +1.3**	
	baz=225,SNR=5.6						
D03D	**Eldon**	**90.44**	**33**	P	**P**	**15 15 15.0 +1.3**	
	baz=225						
O18K	**Koktuh Hills**	**90.45**	**11**	P	**P**	**15 15 12.4 -1.1**	
O18K	**Koktuh Hills**	**90.45**	**11**	P	**P**	**15 15 15.3 +1.7**	
	baz=199						
HOM	**Homer**	**90.90**	**13**	P	**P**	**15 15 17.1 +1.5**	
	baz=202						
O19K	**Port Alsworth**	**90.92**	**11**	P	**P**	**15 15 17.1 +1.5**	
	baz=200						
MNTX	**Cornudas Mount**	**91.11**	**54**	P	**P**	**15 15 17.0 -0.3**	
	baz=236,SNR=24						
O20K	**Slope Mountain**	**91.11**	**12**	P	**P**	**15 15 18.2 +1.5**	
	baz=201						
BRSE	**Bradley Lake S**	**91.16**	**13**	P	**P**	**15 15 18.6 +1.8**	
	baz=203						
DUG	**Dugway, Tooele**	**91.18**	**44**	IAMs_20	IAMs_20	15 46 43.1	
	comp=Z,1μm,22.0s						
DUG	**Dugway, Tooele**	**91.18**	**44**	P	**P**	**15 15 17.6 0.0**	
	baz=232						
Y22D	**IRIS PASSCAL I**	**91.37**	**51**	P	**P**	**15 15 18.2 -0.5**	
	baz=235						
LENM	**Lemitar**	**91.39**	**51**	P	**P**	**15 15 18.9 +0.1**	
HAWA	**Hanford**	**91.41**	**36**	IAMs_20	IAMs_20	15 47 29.9	
	comp=Z,1μm,22.0s						
B05A	**Bryant**	**91.43**	**33**	P	**P**	**15 15 19.0 +0.7**	
	baz=226,SNR=5.0						
A04D	**Lummi Island**	**91.46**	**33**	P	**P**	**15 15 19.5 +1.1**	
	baz=225						
ENH	**Enshi**	**91.49**	**304**	P	**P**	**15 15 18.4 -0.7**	
GYA	**Guiyang**	**91.56**	**299**	⇓P	**P**	**15 15 20.5 +0.9**	
GYA				sP	sP	15 15 36.3 -0.7	
GYA				PP	**PP**	**15 18 59.3 +0.7**	
GYA				SKS	**SKSac**	**15 25 52.1 +3.3**	
GYA				S	**S**	**15 26 16.9 +0.5**	
GYA				SS	**SS**	**15 32 22.1 -2.2**	
GYA				pmax	pmax		
	comp=Z,24nm,1.6s						
GYA				pmax	pmax		
	comp=Z,440nm,13.3s						
GYA				LR	LR		
	comp=Z,150nm,4.6s						
GYA				LR	LR		
	comp=Z,290nm,4.9s						
GYA				LR	LR		
	comp=Z,360nm,10.0s						
BBB	**Bella Bella**	**91.60**	**28**	LR	LR	15 48 09.7	
	comp=Z,458nm,21.6s,baz=234,slow=30						
CMIG	**Matias Romero**	**91.64**	**71**	LR	LR	15 46 29.8	
	comp=Z,573nm,20.7s,baz=242,slow=29						
PB14	**IPOC Station P**	**91.66**	**119**	IAMs_20	IAMs_20	15 46 44.0	
	comp=Z,1μm,21.0s						
SEW	**Seward**	**91.75**	**13**	P	**P**	**15 15 20.8 +1.3**	
	baz=204						
LYN	**LuoYang**	**91.76**	**309**	⇑P	**P**	**15 15 20.4 +0.2**	
LYN				pP	pP	15 15 34.1 +1.3	
LYN				sP	sP	15 15 37.3 -0.1	
LYN				SKS	**SKSac**	**15 25 52.6 +3.3**	
LYN				S	**ScS**	**15 26 19.5 -0.7**	
LYN				SS	**SS**	**15 32 29.3 +2.6**	
LYN				pmax	pmax		
	comp=Z,30nm,0.6s						
LYN				pmax	pmax		
	comp=Z,320nm,9.2s						
LYN				LR	LR		
	comp=Z,440nm,19.6s						
LYN				LR	LR		
	comp=Z,460nm,19.8s						
LYN				LR	LR		
	comp=Z,680nm,18.8s						
Q23K	**Middleton Isla**	**91.81**	**15**	P	**P**	**15 15 20.7 +0.9**	
	baz=207						
HNS	**HongShan**	**91.90**	**312**	⇑P	**P**	**15 15 20.7 -0.1**	
HNS				S	**S**	**15 26 25.9 +7.1**	
HNS				pmax	pmax		
	comp=Z,39nm,1.1s						
HNS				pmax	pmax		
	comp=Z,400nm,6.1s						
HNS				LR	LR		
	comp=Z,700nm,21.7s						
HNS				LR	LR		
	comp=Z,600nm,23.3s						
HNS				LR	LR		
	comp=Z,2μm,23.0s						
MVCO	**Mesa Verde**	**92.11**	**48**	P	**P**	**15 15 21.3 -0.8**	
MVCO				IAMs_20	IAMs_20	15 47 18.6	
	comp=Z,1μm,22.0s						
MVCO	**Mesa Verde**	**92.11**	**48**	P	**P**	**15 15 23.1 +1.0**	
	baz=234,SNR=7.8						
PB10	**IPOC Station P**	**92.14**	**118**	IAMs_20	IAMs_20	15 48 28.9	
	comp=Z,1μm,21.0s						
ANMO	**Albuquerque**	**92.18**	**51**	LR	LR	15 48 18.8	
	comp=Z,730nm,21.9s,baz=230,slow=30						
ANMO	**Albuquerque**	**92.18**	**51**	P	**P**	**15 15 22.6 +0.2**	
ANMO				pmax	pmax		
	comp=Z,57nm,1.4s						
ANMO	**Albuquerque**	**92.18**	**51**	P	**P**	**15 15 22.6 +0.2**	
ANMO				IAmb	IAmb	15 15 42.1	
	comp=Z,57nm,1.4s						
ANMO	**Albuquerque**	**92.18**	**51**	IAMs_20	IAMs_20	15 46 59.0	
	comp=Z,1μm,22.0s						
ANMO	**Albuquerque**	**92.18**	**51**	P	**P**	**15 15 23.8 +1.4**	
	baz=236						
MA2	**Magadan**	**92.24**	**344**	*ce*P	**P**	**15 15 20.5 -1.3**	
MA2				pmax	pmax		
	comp=Z,29nm,1.2s						
MA2	**Magadan**	**92.24**	**344**	P	**P**	**15 15 21.1 -0.7**	
	comp=Z,28nm,1.2s						
HLID	**Hailey**	**92.33**	**40**	IAMs_20	IAMs_20	15 56 23.0	
	comp=Z,1μm,18.0s						
HLID	**Hailey**	**92.33**	**40**	P	**P**	**15 15 24.2 +1.3**	
	baz=231,SNR=28						
BJI	**Beijing**	**92.53**	**315**	P	**P**	**15 15 23.8 +0.2**	
BJI				sP	**pP**	**15 15 37.5 +1.4**	
BJI				SKS	**SKSac**	**15 25 52.7 -0.6**	
BJI				S	**S**	**15 26 22.1 -2.1**	
BJI				pmax	pmax		
	comp=Z,42nm,1.0s						
BJI				pmax	pmax		
	comp=Z,380nm,3.7s						
BJI				LR	LR		
	comp=Z,520nm,27.9s						
BJI				LR	LR		
	comp=Z,640nm,27.1s						
BJI				LR	LR		
	comp=Z,1μm,23.2s						
GAMB	**Gambell**	**92.66**	**2**	IAMs_20	IAMs_20	15 52 32.3	
	comp=Z,1μm,20.0s						
GAMB	**Gambell**	**92.66**	**2**	P	**P**	**15 15 24.2 +0.6**	
	baz=185						
HWUT	**Hardware Ranch**	**92.79**	**43**	IAMs_20	IAMs_20	15 48 17.6	
	comp=Z,2μm,22.0s						
NNA	**Nana**	**93.05**	**105**	LR	LR	15 48 21.4	
	comp=Z,770nm,20.9s,baz=218,slow=30						
PB15	**IPOC Station P**	**93.14**	**119**	IAMs_20	IAMs_20	15 48 29.4	
	comp=Z,1μm,20.0s						
TTA	**Tatalina**	**93.25**	**10**	P	**P**	**15 15 25.7 -0.8**	
TTA				pmax	pmax		
	comp=Z,15nm,1.0s						
TTA	**Tatalina**	**93.25**	**10**	P	**P**	**15 15 25.6 -0.8**	
TTA				IAmb	IAmb	15 15 55.4	
	comp=Z,15nm,1.0s						
WRAK	**Wrangell Islan**	**93.27**	**23**	P	**P**	**15 15 27.3 +0.7**	
	baz=218						
PB06	**IPOC Station P**	**93.34**	**118**	IAMs_20	IAMs_20	15 47 44.6	
	comp=Z,1μm,22.0s						
S22A	**4UR Ranch, Cre**	**93.51**	**48**	P	**P**	**15 15 29.3 +0.7**	
	baz=236,SNR=17						
CMAR	**Chiang Mai Arr**	**93.68**	**289**	P	**P**	**15 15 30.1 +0.7**	
	comp=Z,1nm,1.1s,baz=141,slow=3.3,SNR=40						
CMAR				PKKP	**PKKPbc**	**15 32 34.9 +1.3**	
	comp=Z,1.1nm,0.9s,baz=289,slow=4

CUT	Chulitna	93.70	12	P	P	15 15 29.3	+0.8
	baz=203						
SCM	Sheep Creek Mo	93.76	14	P	P	15 15 30.1	+1.2
	baz=206						
AHID	Auburn Hatcher	93.76	42	IAMs_20	IAMs_20	15 48 58.2	
	comp=Z,2μm,22.0s						
ANM	Nome	93.80	5	P	P	15 15 30.9	+2.0
	baz=190						
CHTO	Chiang Mai	93.85	289	P	P	15 15 31.6	+1.3
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CHTO	Chiang Mai	93.85	289	P	P	15 15 31.5	+1.3
	comp=Z,11nm,1.1s						
CHTO	Chiang Mai	93.85	289	P	P	15 15 29.4	-0.9
NEW	Newport	93.88	35	LR	LR	15 49 37.7	
	comp=Z,1μm,21.9s,baz=216,slow=30						
NEW	Newport	93.88	35	IAMs_20	IAMs_20	15 48 42.2	
	comp=Z,2μm,22.0s						
NEW	Newport	93.88	35	P	P	15 15 30.8	+1.1
	baz=229						
LVC	Limon Verde	93.90	118	LR	LR	15 48 14.3	
	comp=Z,1μm,21.9s,baz=217,slow=29						
LVC	Limon Verde	93.90	118	IAMs_20	IAMs_20	15 48 13.4	
	comp=Z,1μm,21.0s						
LVC	Limon Verde	93.90	118	P	P	15 15 50.4	+19
KMI	Kunming	93.91	296	⇓P	P	15 15 32.4	+1.8
KMI				sP	sP	15 15 48.4	+0.4
KMI				PP	PP	15 19 21.4	+4.2
KMI				SKS	SKSac	15 26 00.8	-1.4
KMI				S	ScS	15 26 38.7	-0.3
KMI				sS	sS	15 26 56.5	-2.5
KMI				pmax	pmax		
	comp=Z,29nm,1.4s						
KMI				pmax	pmax		
	comp=Z,240nm,5.6s						
KMI				LR	LR		
	comp=Z,340nm,19.3s						
KMI				LR	LR		
	comp=Z,450nm,18.3s						
KMI				LR	LR		
	comp=Z,640nm,19.3s						
XAN	Xi'an	93.93	307	P	P	15 15 30.9	+0.6
XAN				pP	pP	15 15 42.4	-0.5
XAN				sP	pwP	15 15 46.6	-0.2
XAN				PP	PP	15 19 23.0	+6.0
XAN				SKS	SKSac	15 25 59.8	-1.7
XAN				S	ScS	15 26 39.8	+1.4
XAN				pmax	pmax		
	comp=Z,32nm,1.4s						
XAN				pmax	pmax		
	comp=Z,590nm,5.8s						
XAN				LR	LR		
	comp=Z,470nm,20.4s						
XAN				LR	LR		
	comp=Z,670nm,20.1s						
XAN				LR	LR		
	comp=Z,1μm,24.0s						
XAN	Xi'an	93.93	307	P	P	15 15 29.0	-1.3
K20K	Telida	93.95	10	P	P	15 15 28.5	-1.1
K20K				IAmb	IAmb	15 15 58.5	
	comp=Z,15nm,1.0s						
K20K	Telida	93.95	10	P	P	15 15 30.3	+0.6
	baz=200						
O20A	White River Ci	93.96	46	P	P	15 15 30.6	+0.1
	baz=235,SNR=7.2						
ATAH	Atahualpa	94.15	100	LR	LR	15 48 21.6	
	comp=Z,2μm,21.4s,baz=234,slow=29						
MSTX	Muleshoe	94.19	53	P	P	15 15 31.7	+0.1
MSTX				IAmb	IAmb	15 15 34.0	
	comp=Z,31nm,0.8s						
MSTX	Muleshoe	94.19	53	P	P	15 15 31.4	-0.2
	baz=238,SNR=17						
SMCO	Snowmass	94.22	47	IAMs_20	IAMs_20	15 48 51.2	
	comp=Z,1μm,21.0s						
REDW	Red Top Meadow	94.26	42	IAMs_20	IAMs_20	15 55 08.4	
	comp=Z,1μm,20.0s						
MCARA	McCarthy VSAT	94.31	16	P	P	15 15 32.5	+1.1
	baz=209						
PB01	IPOC Station P	94.31	117	IAMs_20	IAMs_20	15 49 21.2	
	comp=Z,1μm,19.0s						
CAST	Castle Rocks	94.32	11	P	P	15 15 32.1	+0.7
	baz=202						
SDCO	Great Sand Dun	94.38	49	P	P	15 15 32.5	-0.1
	baz=236,SNR=12						
JCT	Junction City	94.51	58	IAMs_20	IAMs_20	15 54 21.3	
	comp=Z,1μm,19.0s						
JCT	Junction City	94.51	58	P	P	15 15 33.1	0.0
	baz=239						
MOOW	Moose Ponds	94.56	42	IAMs_20	IAMs_20	15 55 26.1	
	comp=Z,1μm,18.0s						
LOHW	Long Hollow	94.56	42	IAMs_20	IAMs_20	15 48 59.2	
	comp=Z,1μm,21.0s						
TNA	Tin City	94.62	4	IAmb	IAmb	15 15 59.7	
	comp=Z,17nm,0.9s						
TNA	Tin City	94.62	4	P	P	15 15 33.2	+0.7
	baz=188						
TRF	Thorofare Moun	94.66	12	P	P	15 15 32.9	-0.2
	baz=203						
BW06	Boulder Array	94.68	43	P	P	15 15 33.9	+0.1
BW06	Boulder Array	94.68	43	P	P	15 15 33.9	+0.1
	baz=234,SNR=12						
PDAR	Pinedale Array	94.68	43	P	P	15 15 34.3	+0.5
	comp=Z,6.2nm,0.9s,baz=214,slow=3.4,SNR=42						
PDAR				PKKP	PKKPbc	15 32 32.6	+0.3
	comp=Z,2.1nm,0.8s,baz=82,slow=4.6,SNR=16						
PDAR				PKPPKP	P'P'df	15 40 43.8	+2.6
	comp=Z,0.4nm,0.8s,baz=96,slow=1.8,SNR=4.8						
PDAR				LR	LR	15 50 03.9	
	comp=Z,1μm,21.9s,baz=235,slow=30						
J20K	Nowinta River	94.71	10	P	P	15 15 33.4	+0.3
	baz=200						
CHUM	Lake Minchumin	94.72	11	P	P	15 15 33.7	+0.6
	baz=202						
HARP	HAARP	94.72	14	P	P	15 15 33.4	+0.2
	baz=208						
T25A	Trinidad	94.77	50	P	P	15 15 33.0	-1.4
	baz=237,SNR=5.7						
FLWY	Flagg Ranch	94.78	42	IAMs_20	IAMs_20	15 49 20.0	
	comp=Z,1μm,21.0s						
GCSA	Galena City Sc	94.86	9	P	P	15 15 34.9	+1.2
	baz=198						
XLT	XiLinHaoTe	94.87	318	eP	P	15 15 33.8	-0.6
XLT				sP	pP	15 15 48.2	+1.2
XLT				S	S	15 26 45.4	+0.5
XLT				pmax	pmax		
	comp=Z,12nm,1.2s						
XLT				pmax	pmax		
	comp=Z,320nm,6.9s						
XLT				LR	LR		
	comp=Z,320nm,23.2s						
XLT				LR	LR		
	comp=Z,650nm,23.2s						
XLT				LR	LR		
	comp=Z,1μm,22.3s						
DHY	Denali Highway	94.87	13	P	P	15 15 34.3	+0.3
	baz=206						
SEY	Seymchan	94.89	347	LR	LR	15 52 22.8	
	comp=Z,927nm,21.9s,baz=148,slow=32						
SEY	Seymchan	94.89	347	⇑P	P	15 15 33.0	-0.9
PB12	IPOC Station P	94.97	114	IAMs_20	IAMs_20	15 48 38.3	
	comp=Z,1μm,21.0s						
H17A	Grant Village	95.04	41	P	P	15 15 35.3	-0.2
	baz=234,SNR=9.4						
BPAW	Bear Paw Mtn.	95.14	11	P	P	15 15 36.6	+1.5
	baz=203						
BOZ	Bozeman (W)	95.15	40	IAMs_20	IAMs_20	15 56 56.5	
	comp=Z,949nm,20.0s						
BOZ	Bozeman (W)	95.15	40	P	P	15 15 35.8	0.0
	baz=233,SNR=19						
MCK	McKinley	95.17	12	P	P	15 15 34.8	-0.5
	baz=204						
M26K	Nabesna, AK	95.21	15	P	P	15 15 35.3	-0.2
	baz=210						
YUK3	Moose Creek	95.28	17	P	P	15 15 36.4	+0.3
	baz=212						
Q24A	Divide	95.28	48	P	P	15 15 36.6	-0.2
	baz=237,SNR=6.6						
PZH	PanZhiHua	95.37	297	P	P	15 15 37.3	+0.1
PZH				SKS	SKSac	15 26 06.6	-3.2
PZH				S	ScS	15 26 50.5	-0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,70nm,6.1s						
PZH				LR	LR		
	comp=Z,720nm,20.6s						
PZH				LR	LR		
	comp=Z,910nm,20.0s						
PZH				LR	LR		
	comp=Z,1μm,19.8s						
M27K	Edge Creek, AK	95.43	16	P	P	15 15 36.8	+0.2
	baz=210						
AMTX	Amarillo	95.44	53	IAMs_20	IAMs_20	15 55 16.3	
	comp=Z,908nm,20.0s						
AMTX	Amarillo	95.44	53	P	P	15 15 35.6	-1.7
	baz=238						
ISCO	Idaho Springs	95.44	47	IAMs_20	IAMs_20	15 49 54.6	
	comp=Z,1μm,22.0s						
ISCO	Idaho Springs	95.44	47	P	P	15 15 36.3	-1.2
	baz=236						
ZEA	Zeya	95.48	330	eP	P	15 15 36.4	-0.4
ZEA				e		15 19 31.2	
ZEA				eS	SKKSac	15 26 39.0	+6.7
ZEA				pmax	pmax		
	comp=N,100nm,5.0s						
ZEA				pmax	pmax		
	comp=Z,200nm,5.3s						
ZEA				pmax	pmax		
	comp=N,10.0nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,100nm,5.8s						
ZEA				smax	smax		
	comp=N,200nm,14.5s						
RWWY	Rawlins	95.49	45	IAMs_20	IAMs_20	15 49 58.3	
	comp=Z,1μm,22.0s						
L26K	Log Cabin Wild	95.67	15	P	P	15 15 38.3	+0.7
	baz=209						
ABTX	Abilene, Hawle	95.72	56	P	P	15 15 38.3	-0.3
	baz=239						
N23A	Red Feather La	95.83	46	P	P	15 15 38.5	-0.6
	baz=236						
HHC	Hu-ho-hao-te	95.87	314	eP	P	15 15 41.1	+2.0
HHC				sP	sP	15 15 57.6	+1.2
HHC				S	S	15 26 57.8	+4.0
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,6.1s						
HHC				LR	LR		
	comp=Z,660nm,19.9s						
HHC				LR	LR		
	comp=Z,810nm,21.6s						
HHC				LR	LR		
	comp=Z,2μm,20.6s						
RIDG	Independent Ri	95.98	14	P	P	15 15 39.4	+0.5
	baz=208						
I21K	Tanana	95.98	10	P	P	15 15 39.4	+0.5
	baz=202						
WRH	Wood River Hil	96.00	12	P	P	15 15 38.1	-0.8
WRH				IAmb	IAmb	15 16 22.8	
	comp=Z,24nm,1.1s						
CD2	Chengdu	96.03	302	P	P	15 15 39.2	-0.8
CD2				SKS	SKSac	15 26 11.1	-1.8
CD2				S	S	15 26 52.8	-2.7
CD2				pmax	pmax		
	comp=Z,40nm,1.1s						
CD2				pmax	pmax		
	comp=Z,190nm,4.8s						
CD2				LR	LR		
	comp=Z,750nm,22.1s						
CD2				LR	LR		
	comp=Z,860nm,21.1s						
MLY	Manley	96.05	11	P	P	15 15 39.7	+0.5
	baz=203						
L27K	Beaver Creek,	96.05	15	P	P	15 15 39.7	+0.4
	baz=210						
HIA	Hailar	96.10	324	IAMs_20	IAMs_20	15 56 50.0	
	comp=Z,967nm,20.0s						
HDA	Harding Lake	96.16	13	P	P	15 15 39.2	-0.5
	baz=206						
RLMT	Red Lodge	96.22	41	IAMs_20	IAMs_20	15 55 30.0	
	comp=Z,1μm,19.0s						
RLMT	Red Lodge	96.22	41	P	P	15 15 39.8	-0.9
	baz=234						
435B	Jarrell	96.31	58	IAMs_20	IAMs_20	15 54 43.0	
	comp=Z,946nm,20.0s						
SCRK	Sand Creek	96.37	14	P	P	15 15 38.5	-2.3
SCRK	Sand Creek	96.37	14	P	P	15 15 40.8	0.0
	baz=209						
I23K	Minto, Yukon-K	96.39	11	IAMs_20	IAMs_20	15 54 58.4	
	comp=Z,1μm,21.0s						
I23K	Minto, Yukon-K	96.39	11	P	P	15 15 40.8	+0.1
	baz=204						
TCOL	CIGO, UAF Yank	96.40	12	P	P	15 15 41.6	+0.8
	baz=205						
COLA	College	96.41	12	i P	P	15 15 40.3	-0.5
COLA				pmax	pmax		
	comp=Z,16nm,1.2s						
COLA	College	96.41	12	P	P	15 15 41.0	+0.2
	baz=205						
MDM	Murphy Dome	96.42	12	IAmb	IAmb	15 16 09.4	
	comp=Z,28nm,1.3s						
MDM				IAMs_20	IAMs_20	15 54 48.2	
	comp=Z,1μm,19.0s						
K22A	Casper	96.45	44	P	P	15 15 40.9	-0.9
	baz=236,SNR=6.2						
ILAR	Eielson Array	96.50	13	P	P	15 15 40.6	-0.6
	comp=Z,1.9nm,0.8s,baz=221,slow=5.6,SNR=14						
ILAR				PKKP	PKKPdf	15 32 30.6	+0.8
	comp=Z,0.6nm,0.8s,baz=34,slow=2.0,SNR=4.1						
ILAR				LR	LR	15 57 44.2	
	comp=Z,235nm,18.2s,baz=220,slow=34						
TGUH	Tegucigalpa,Un	96.59	78	IAMs_20	IAMs_20	15 48 37.0	
	comp=Z,1μm,22.0s						
JTS	Las Juntas de	96.82	82	LR	LR	15 50 16.8	
	comp=Z,1μm,21.4s,slow=30						
JTS	Las Juntas de	96.82	82	IAMs_20	IAMs_20	15 50 02.9	
	comp=Z,1μm,20.0s						
J26L	Joseph Creek	96.92	14	P	P	15 15 43.4	+0.1
	baz=209						
M31M	Drury Creek, Y	97.24	19	P	Pdif	15 15 45.2	+0.5
	baz=217						
WMOK	Wichita Mounta	97.41	54	P	P	15 15 45.0	-1.2
	baz=240						
DAWY	Dawson	97.48	16	P	Pdif	15 15 45.9	+0.1
	baz=213						
EGMT	Eagleton	97.62	39	IAMs_20	IAMs_20	15 58 55.7	
	comp=Z,1μm,18.0s						
BILL	Bilibino	97.63	354	deP	P	15 15 45.7	-0.6
BILL				*SP	pP	15 16 00.0	+1.2
BILL						15 19 43.0	
BILL				e		15 28 26.9	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,346nm,20.0s						
EGAK	Eagle	97.68	15	P	Pdif	15 15 46.7	+0.1
	baz=211						
LPAZ	La Paz	97.99	114	P	Pdif	15 15 53.4	+3.4
	comp=Z,2.3nm,1.0s,baz=283,slow=4.3,SNR=7.4						
LPAZ				pP	sP	15 16 10.0	+2.8
	comp=Z,4.2nm,0.7s,baz=216,slow=5.2,SNR=8.8						
LPAZ				LR	LR	15 52 03.3	
	comp=Z,552nm,21.3s,baz=243,slow=30						
COLD	Coldfoot	98.16	10	P	P	15 15 48.5	-0.2
	baz=204						
OK035	E0210 Rd and N	98.45	53	IAMs_20	IAMs_20	15 57 10.9	
	comp=Z,1μm,19.0s						
LZH	Lanzhou	98.55	306	eP	Pdif	15 15 54.3	+2.9
LZH				pP	pP	15 16 02.5	-1.5
LZH				sP	sP	15 16 09.6	+0.9
LZH				SKS	SKSac	15 26 26.3	+0.5
LZH				SS	SS	15 34 08.8	+5.3
LZH				pmax	pmax		
	comp=Z,25nm,1.4s						
LZH				pmax	pmax		
	comp=Z,190nm,7.6s						
LZH				LR	LR		
	comp=Z,480nm,17.2s						
LZH				LR	LR		
	comp=Z,600nm,17.3s						
LZH				LR	LR		
	comp=Z,660nm,19.5s						
RSSD	Black Hills	98.77	44	P	Pdif	15 15 53.6	+1.3
RSSD				pmax	pmax		
	comp=Z,45nm,1.2s						
RSSD	Black Hills	98.77	44		P	15 15 50.3	-1.9
RSSD	Black Hills	98.77	44	P	P	15 15 51.9	-0.4
	baz=238						
CBKS	Cedar Bluff	98.80	50	IAMs_20	IAMs_20	15 51 02.0	
	comp=Z,1μm,22.0s						
LAO	LASA Array	98.86	41	IAMs_20	IAMs_20	15 57 19.8	
	comp=Z,1μm,18.0s						
LAO	LASA Array	98.86	41	P	P	15 15 51.9	-0.5
	baz=237						
OK025	Westminster Rd	98.86	54	IAMs_20	IAMs_20	15 51 38.9	
	comp=Z,908nm,21.0s						
OK031	S. Brethren Rd	99.39	54	IAMs_20	IAMs_20	15 52 03.1	
	comp=Z,815nm,19.0s						
OK034	N. Norfolk Rd.	99.51	54	IAMs_20	IAMs_20	15 51 38.1	
	comp=Z,1μm,22.0s						
TOLK	Toolik Lake Re	99.55	10	P	Pdif	15 15 55.1	+0.1
	baz=204						
TUL1	Leonard	100.12	55	IAMs_20	IAMs_20	15 52 38.5	
	comp=Z,939nm,21.0s						
YAK	Yakutsk	100.33	337	LR	LR	15 54 17.1	
	comp=Z,722nm,21.9s,baz=94,slow=31						
YAK	Yakutsk	100.33	337	eP	Pdif	15 15 56.4	-2.0
YAK				eP	pwP	15 16 13.3	-1.7
YAK				eS	SKSac	15 26 33.5	+0.5
YAK				eSS	SS	15 34 34.0	+7.1
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				smax	smax		
	comp=N,29nm,2.5s						
KSU1	Kansas State U	101.06	51	IAMs_20	IAMs_20	16 00 44.0	
	comp=Z,753nm,18.0s						
MIAR	Mount Ida	101.08	57	IAMs_20	IAMs_20	15 58 14.1	
	comp=Z,837nm,20.0s						
W39A	Magazine	101.23	56	P	Pdif	15 16 02.0	-1.1
	baz=242						
X40A	Basin Creek Fa	101.59	57	IAMs_20	IAMs_20	16 01 31.9	
	comp=Z,816nm,18.0s						
ULN	Ulaanbaatar	102.31	318	⇑eP	Pdif	15 16 06.8	-1.0
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	Songino Array	102.68	318	P	Pdif	15 16 08.9	-0.5
	comp=Z,2.0nm,1.1s,baz=188,slow=2.6,SNR=6.8						
SONM				PKiKP	PKiKP	15 20 29.6	-0.5
	comp=Z,3.1nm,1.1s,baz=134,slow=6.2,SNR=3.2						
SONM				PKKPbc	PKKPbc	15 32 11.1	+1.3
	comp=Z,1.5nm,0.9s,baz=285,slow=3.0,SNR=7.5						
SHL	Shillong	102.77	292	i x	x	15 16 09.4	
GTA	Gaotai	102.93	308	⇓P	Pdif	15 16 12.0	+1.2
GTA				pP	pPdif	15 16 22.4	-1.0
GTA				sP	sPdif	15 16 27.1	-1.0
GTA				PP	PKiKP	15 20 32.8	+1.9
GTA	Gaotai	102.93	308	sS	sS	15 28 04.8	-11
SIV	San Ignacio	103.74	117	PKKPbc	PKKPbc	15 32 05.0	-0.2
	comp=Z,1.9nm,0.9s,baz=89,slow=4.7,SNR=5.4						
YKA	Yellowknife Ar	103.95	25	Pdiff	Pdif	15 16 14.8	+0.3
	comp=Z,0.9nm,0.9s,baz=228,slow=4.1,SNR=11						
YKA				PKiKP	PKiKP	15 20 31.4	-0.4
	comp=Z,0.7nm,0.8s,baz=259,slow=1.8,SNR=8.6						
YKA				PKKPbc	PKKPbc	15 32 04.6	-1.7
	comp=Z,5.8nm,0.9s,baz=41,slow=2.9,SNR=9.2						
YKA				PKKPab	PKKPdf	15 32 22.0	+6.3
	comp=Z,3.8nm,0.9s,baz=46,slow=4.1,SNR=14						
CCM	Cathedral Cave	104.33	54	IAMs_20	IAMs_20	16 00 37.9	
	comp=Z,882nm,20.0s						
SCIA	State Center	104.64	50	IAMs_20	IAMs_20	16 00 51.7	
	comp=Z,952nm,18.0s						
GOMU	GeErMu	105.09	303	Pdif	Pdif	15 16 19.1	-1.7
GOMU				SKS	SKSac	15 26 59.2	+1.7
GOMU				AMB	AMB		
	comp=Z,68nm,4.4s						
GOMU				LR	LR		
	comp=Z,260nm,18.5s						
GOMU				LR	LR		
	comp=Z,350nm,19.3s						
GOMU				LR	LR		
	comp=Z,460nm,21.1s						
PLAL	Pickwick Lake	105.33	58	IAMs_20	IAMs_20	16 04 09.0	
	comp=Z,1μm,18.0s						
ZAK	Zakamensk	105.68	319	eP	Pdif	15 16 26.5	+3.8
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
HDIL	Hopedale	106.75	53	IAMs_20	IAMs_20	16 01 49.8	
	comp=Z,802nm,20.0s						
A36M	Sachs Harbour	106.96	15	P	PKiKP	15 20 36.2	-0.9
	baz=226						
EYMN	Ely	108.27	45	IAMs_20	IAMs_20	15 57 23.5	
	comp=Z,1μm,22.0s						
L44A	Lake County Fo	108.35	52	IAMs_20	IAMs_20	16 04 03.0	
	comp=Z,960nm,18.0s						
SPB	Sao Paulo	108.69	132	IAMs_20	IAMs_20	15 58 11.8	
	comp=Z,988nm,22.0s						
TZTN	Tazewell	109.33	58	IAMs_20	IAMs_20	16 06 29.8	
	comp=Z,947nm,19.0s						
P49A	Miami Univ. Ec	109.59	55	IAMs_20	IAMs_20	15 57 51.4	
	comp=Z,1μm,22.0s						
ACSO	Alum Creek Sta	111.09	55	IAMs_20	IAMs_20	16 03 04.0	
	comp=Z,1μm,20.0s						
AAM	Ann Arbor	111.34	53	IAMs_20	IAMs_20	16 06 45.1	
	comp=Z,794nm,18.0s						
BLA	Blacksburg	111.91	59	IAMs_20	IAMs_20	16 09 07.1	
	comp=Z,824nm,18.0s						
WMQ	Urumqi	113.00	308	ePKP	PKiKP	15 20 48.0	-1.4
WMQ				LR	LR		
	comp=Z,1μm,28.8s						
WMQ				LR	LR		
	comp=Z,580nm,28.1s						
M53A	WI Miller and	113.15	54	IAMs_20	IAMs_20	16 04 16.2	
	comp=Z,720nm,20.0s						
N54A	Moraine State	113.48	55	IAMs_20	IAMs_20	16 00 44.3	
	comp=Z,966nm,19.0s						
BDFB	Brasilia	113.73	125	PKKPab	PKKPab	15 31 43.0	-0.2
	comp=Z,1.3nm,0.6s,baz=116,slow=5.2,SNR=5.3						
ERPA	Erie	113.85	54	IAMs_20	IAMs_20	16 10 15.7	
	comp=Z,758nm,18.0s						
M54A	Oil Creek Stat	113.89	55	IAMs_20	IAMs_20	16 08 10.8	
	comp=Z,654nm,18.0s						
CBN	Corbin Frederi	114.52	59	IAMs_20	IAMs_20	16 09 29.1	
	comp=Z,601nm,18.0s						
SSPA	Standing Stone	114.89	56	P	PKPdf	15 20 51.3	-1.7
	baz=252						
DGZ	Jazzator, Alta	114.94	315	i PKIKP	PKPdf	15 20 52.1	-1.0
RES	Resolute Bay	115.78	17	PKIKP	PKiKP	15 20 53.5	-0.2
ZSN	Zaisan	115.97	312	ePKIKP	PKPdf	15 20 53.6	-1.3
ZSN				i		15 21 57.8	
ZSN	Zaisan	115.97	312	ePKP	PKPdf	15 20 53.6	-1.3
	baz=312						
ZSN				i PP	PP	15 21 57.8	-2.3
	baz=312						
P60A	Greenville	116.30	57	IAMs_20	IAMs_20	16 07 26.1	
	comp=Z,851nm,20.0s						
BINY	Binghamton	116.72	55	IAMs_20	IAMs_20	16 02 24.9	
	comp=Z,882nm,21.0s						
MK31	Makanchi Array	117.50	310	PKIKP	PKPdf	15 20 57.0	-0.9
MK31	Makanchi Array	117.50	310		PKPdf	15 20 57.0	-0.9
MKAR	Makanchi Array	117.50	310	PKP	PKPdf	15 20 57.2	-0.8
	comp=Z,8.2nm,0.8s,baz=72,slow=2.2,SNR=46						
MKAR				PKKPab	PKKPab	15 31 23.6	+1.2
	comp=Z,2.3nm,0.9s,baz=266,slow=4.3,SNR=5.1						
MKAR	Makanchi Array	117.50	310	PKPdf	PKPdf	15 20 56.9	-1.1
ZALV	Zalesovo Beam	117.55	319	PKP	PKPdf	15 20 57.0	-0.8
	comp=Z,5.6nm,0.8s,baz=180,slow=1.1,SNR=28						
ZALV	Zalesovo Beam	117.55	319	PKIKP	PKPdf	15 20 57.0	-0.8
MAKZ	Makanchi	117.72	310	PKIKP	PKPdf	15 20 57.2	-1.1
MAKZ	Makanchi	117.72	310	PKPdf	PKPdf	15 20 57.2	-1.1
DHRM	DHARAMSHALA	117.92	293	i x	x	15 21 01.7	
LONY	Lake Ozonia	118.33	52	IAMs_20	IAMs_20	16 07 58.1	
	comp=Z,822nm,19.0s						
SHLS	Shalkode	118.56	306	ePKIKP	PKPdf	15 20 58.4	-1.8
SHLS	Shalkode	118.56	306	ePKP	PKPdf	15 20 58.5	-1.8
	baz=306						
EUNU	Eureka	118.58	11		PKPdf	15 20 58.9	-0.3
PDGK	Podgornoye	118.58	306	PKIKP	PKPdf	15 20 59.0	-1.3
BOSA	Boshof	118.75	202	PKP	PKiKP	15 21 02.4	+1.2
	comp=Z,13nm,1.0s,baz=158,slow=3.2,SNR=14						
BOSA				PKKPbc	PKKPab	15 31 19.6	-2.4
	comp=Z,2.1nm,1.0s,baz=90,slow=2.7,SNR=3.8						
NRIK	Noril'sk

SATY	Saty	119.29 306	*e*PKIKP	PKPdf	15 21 00.4	-1.2
SATY	Saty	119.29 306	*e*PKP	PKPdf	15 21 00.5	-1.2
	baz=306					
VT1	Waterbury	119.54 53	IAMs_20	IAMs_20	16 19 52.1	
	comp=Z,789nm,18.0s					
SEM	Semipalatinsk	119.61 314	*e*PKIKP	PKPdf	15 21 00.0	-2.1
SEM	Semipalatinsk	119.61 314	*e*PKP	PKPdf	15 21 00.1	-2.1
	baz=314					
TDK	Taldyqorghan	119.73 308	*e*PKIKP	PKPdf	15 21 00.8	-1.4
TDK	Taldyqorghan	119.73 308	*e*PKP	PKPdf	15 21 00.8	-1.4
	baz=308					
KSH	Kashi	120.22 301	PKP	PKiKP	15 21 04.7	+1.1
KSH			sPKP		15 21 17.8	
KSH			LR	LR		
	comp=Z,410nm,18.9s					
KSH			LR	LR		
	comp=Z,480nm,19.4s					
KSH			LR	LR		
	comp=Z,730nm,21.6s					
MDOK	Medeo	120.28 305	*e*PKIKP	PKPdf	15 21 02.0	-1.6
MDOK	Medeo	120.28 305	*e*PKP	PKPdf	15 21 02.0	-1.6
	baz=305					
TNSS	Tian-Shan	120.33 305	*e*PKP	PKPdf	15 21 02.5	-1.5
	baz=305					
AAA	Alma-Ata	120.39 305	*e*PKIKP	PKPdf	15 21 02.3	-1.4
AAA	Alma-Ata	120.39 305	*e*PKP	PKPdf	15 21 02.3	-1.4
	baz=306					
ULHL	Ulahol	120.66 304	P	PKPdf	15 21 04.3	0.0
	SNR=14					
KURK	Kurchatov	120.68 314	*c i*PKIKP	PKPdf	15 21 02.2	-1.6
KURK			pmax	pmax		
	comp=Z,41nm,1.3s					
KURK	Kurchatov	120.68 314	PKPdf	PKPdf	15 21 03.0	-0.9
KURK	Kurchatov	120.68 314	IAMs_20	IAMs_20	16 08 13.5	
	comp=Z,686nm,22.0s					
KURBB	Kurchatov Arra	120.72 314	PKIKP	PKPdf	15 21 02.1	-1.8
KUU	Kurty	120.94 306	*e*PKIKP	PKPdf	15 21 02.6	-2.0
KUU	Kurty	120.94 306	*e*PKP	PKPdf	15 21 02.7	-2.0
	baz=306					
TKM2	Tokmak 2	121.27 305	P	PKPdf	15 21 04.9	-0.6
	SNR=17					
TKM2	Tokmak 2	121.27 305	PKIKP	PKPdf	15 21 04.0	-1.5
KBK	Karagaybulak	121.68 304	P	PKiKP	15 21 06.5	0.0
	SNR=8.1					
CHMS	Chumysh	121.89 305	P	PKPdf	15 21 05.6	-0.9
	SNR=15					
UCH	Uchtor	121.91 304	P	PKPdf	15 21 07.2	+0.1
	SNR=26					
AAK	Ala-Archa	122.00 304	P	PKiKP	15 21 07.1	0.0
	SNR=8.9					
AAK	Ala-Archa	122.00 304	*c i*PKIKP	PKPdf	15 21 06.8	-0.1
AAK			pmax	pmax		
	comp=Z,39nm,1.3s					
AAK	Ala-Archa	122.00 304	PKPdf	PKPdf	15 21 06.6	-0.3
AAK	Ala-Archa	122.00 304	*i* PKiKP	PKPdf	15 21 06.8	-0.2
	SNR=12					
SGDS	Sogindy	122.07 305	*e*PKP	PKPdf	15 21 05.6	-1.3
	baz=305					
USP	Ospenovka	122.12 305	P	PKPdf	15 21 06.3	-0.6
	SNR=23					
TULEG	Thule	122.33 15	*i* P	PKPdf	15 21 04.8	-1.5
AML	Almayashu	122.48 304	P	PKPdf	15 21 08.2	+0.1
	SNR=32					
AML	Almayashu	122.48 304	*i* PKiKP	PKPdf	15 21 07.9	-0.2
	SNR=34					
EKS2	Erkin-Say	122.53 304	P	PKiKP	15 21 08.2	+0.2
	SNR=15					
BTLS	Baital	122.77 307	*e*PKIKP	PKPdf	15 21 06.9	-1.1
BTLS	Baital	122.77 307	*e*PKP	PKPdf	15 21 07.0	-1.1
	baz=307					
DZA	Taraz	124.34 304	*e*PKIKP	PKPdf	15 21 10.1	-1.1
DZA	Taraz	124.34 304	*e*PKP	PKPdf	15 21 10.1	-1.1
	baz=304					
BRZS	Berezniki	124.36 313	*e*PKIKP	PKPdf	15 21 09.3	-1.7
BRZS	Berezniki	124.36 313	*e*PKP	PKPdf	15 21 09.4	-1.7
	baz=313					
OTUK	Ortayu	124.39 311	PKIKP	PKPdf	15 21 10.2	-0.9
SCHQ	Schefferville	124.77 41	PKP	PKPdf	15 21 11.3	-0.3
	comp=Z,9.6nm,1.0s,baz=294,slow=4.8,SNR=6.8					
IUG	Iuzhnay	125.17 303	*e*PKIKP	PKPdf	15 21 11.6	-1.3
IUG	Iuzhnay	125.17 303	*e*PKP	PKPdf	15 21 11.6	-1.3
	baz=303					
BRLS	Borolday	125.44 304	*e*PKIKP	PKPdf	15 21 12.5	-0.8
BRLS	Borolday	125.44 304	*e*PKP	PKPdf	15 21 12.6	-0.8
	baz=304					
NEEM	North Greenlan	125.79 13	*i* P	PKPdf	15 21 12.7	-0.6
BRVK	Borovoye	126.05 316	*c i*PKIKP	PKPdf	15 21 12.7	-1.4
BRVK			pmax	pmax		
	comp=Z,46nm,1.3s					
BRVK	Borovoye	126.05 316	PKPdf	PKPdf	15 21 14.0	-0.1
BRVK	Borovoye	126.05 316	IAMs_20	IAMs_20	16 12 19.1	
	comp=Z,972nm,22.0s					
NOR	Nord	126.86 4	*i* P	PKPdf	15 21 13.9	-1.0
LSZ	Lusaka	129.55 212	IAMs_20	IAMs_20	16 13 08.8	
	comp=Z,845nm,20.0s					
SOCY	Socotra	129.68 262	IAMs_20	IAMs_20	16 13 34.9	
	comp=Z,847nm,20.0s					
SPA0	Spitsbergen Ar	130.46 356	*e*PKPdf	PKiKP	15 21 22.9	+0.1
DAG	Danmarks Havn	131.17 6	*i* P	PKPdf	15 21 21.4	-1.8
SUMG	Summit	131.25 15	*i* P	PKiKP	15 21 25.0	+0.1
SVE	Sverdlovsk	131.35 322	*i* PKIKP	PKPdf	15 21 20.1	-4.0
SVE			pmax	pmax		
	comp=Z,21nm,0.9s					
SVE			MLR	MLR		
	comp=Z,2μm,25.0s					
SOHO	SOHO	132.09 277	*i* PKiKP	PKPdf	15 21 25.6	-0.8
	SNR=16					
DY2G	Dye2	132.30 24	*i* P	PKPdf	15 21 24.4	-1.5
ARU	Arti	132.55 321	*i* PKIKP	PKPdf	15 21 25.6	-0.7
ARU					15 23 45.6	
AB31	Akbulak array	132.62 312	*i* PKIKP	PKPdf	15 21 25.7	-1.0
UOSS	Minazif	132.63 278	PKiKP	PKPdf	15 21 27.0	-0.5
HATD	Hatta, Dubai	132.65 278	*i* PKiKP	PKPdf	15 21 27.4	-0.2
	SNR=8.3					
ASHO	Ashiyiah	132.67 278	*i* PKiKP	PKPdf	15 21 27.6	0.0
	SNR=6.8					
ALNE	Al Ain	132.75 277	*i* PKiKP	PKPdf	15 21 27.8	0.0
	SNR=10.0					
MSFE	Esma-Masafi	132.79 279	PKiKP	PKiKP	15 21 29.2	+0.2
SHME	Shamm	133.00 280	PKiKP	PKPdf	15 21 28.2	0.0
ICESG	Greenland Ices	133.09 19	*i* P	PKPdf	15 21 27.4	0.0
FAQ	Al Faqa, Dubai	133.10 278	PKiKP	PKPdf	15 21 28.5	+0.1
DBG	Daneborg	133.21 8	*i* P	PKPdf	15 21 25.4	-1.7
ASUD	Al Ashush, Dub	133.29 277	PKiKP	PKPdf	15 21 29.4	+0.6
GEYT	Alibeck	133.67 296	PKhKP	PKPpre	15 21 18.6	
	comp=Z,2.4nm,0.8s,baz=179,slow=7.0,SNR=7.1					
GEYT			PKP	PKPdf	15 21 28.8	-0.4
	comp=Z,12nm,0.8s,baz=90,slow=1.4,SNR=18					
GEYT			SKP		15 24 56.8	
	comp=Z,7.5nm,1.1s,baz=132,slow=3.6,SNR=6.7					
GYA0	ALIBECK ARRAY	133.67 296	PKIKP	PKPdf	15 21 29.3	+0.2
AKTO	Aktyubinsk	133.76 313	PKIKP	PKPdf	15 21 28.0	-0.8
KMBO	Kilima Mbogo	135.45 234	PKhKP	PKPpre	15 21 26.1	
	comp=Z,1.0nm,0.6s,baz=180,slow=5.0,SNR=2.6					
KMBO			PKP	PKPdf	15 21 32.9	-0.6
	comp=Z,8.5nm,1.0s,baz=178,slow=4.4,SNR=11					
KMBO	Kilima Mbogo	135.45 234	*i* PKiKP	PKPdf	15 21 33.8	+0.3
	SNR=7.9					
KIRV	Kirov	136.66 326	*c i*PKIKP	PKPdf	15 21 33.0	-0.9
PRGR	Permogore	137.04 332	*e*PKIKP	PKPdf	15 21 31.6	-3.0
PRGR			pmax	pmax		
	comp=Z,28nm,1.1s					
APA	Apatity	137.39 343	⇓*i*PKIKP	PKPdf	15 21 34.2	-0.9
APA			pmax	pmax		
	comp=Z,12nm,1.0s					
ARA0	ARCESS Array S	137.47 348	*e*	PKPdf	15 21 31.3	-3.9
ARCES	ARCESS Array B	137.47 348	PKhKP	PKPpre	15 21 26.3	
	comp=Z,9.3nm,1.0s,baz=5.7,slow=2.4,SNR=8.6					
ARCES			PKP	PKPdf	15 21 35.5	+0.3
	comp=Z,14nm,0.8s,baz=79,slow=1.7,SNR=15					
KTK1	Kautokeino	138.32 349	*e*PKPdf	PKPdf	15 21 34.0	-2.8
TRO	Tromso	138.38 352	*e*PKPdf	PKiKP	15 21 38.6	-0.3
H10S3	ASCENSION HYDR	138.57 153	T	T	17 57 31.2	
	baz=15,slow=74,SNR=1293					
H10S2	ASCENSION HYDR	138.57 153	T	T	17 57 25.1	
	baz=205,slow=74,SNR=360					
H10N3	ASCENSION HYDR	139.65 153	T	T	17 58 55.7	
	baz=204,slow=75,SNR=582					
H10N1	ASCENSION HYDR	139.65 153	T	T	17 58 58.8	
	baz=204,slow=75,SNR=616					
H10N2	ASCENSION HYDR	139.66 153	T	T	17 59 04.3	
	baz=204,slow=75,SNR=738					
BELG	Belogornoye	139.74 318	*i* PKIKP	PKPdf	15 21 38.9	-0.9
LODK	Lodwar	139.95 236	IAMs_20	IAMs_20	16 17 43.3	
	comp=Z,593nm,22.0s					
MBAR	Mbarara	140.22 227	*c i*PKIKP	PKPdf	15 21 43.3	+1.1
MBAR	Mbarara	140.22 227	IAMs_20	IAMs_20	16 26 56.1	
	comp=Z,656nm,18.0s					
RAYN	Ar Rayn	141.53 272	IAMs_20	IAMs_20	16 21 45.9	
	comp=Z,677nm,20.0s					
RAYN	Ar Rayn	141.53 272	*i* PKPdf	PKPdf	15 21 38.3	-5.7
	SNR=7.0					
MAK	Makhachkala	141.78 304	*i* P	Pdif	15 19 00.5	-2.7
MAK			*i*		15 21 44.3	
MAK			*e*		15 24 43.6	
MAK			*e*		15 28 52.3	
MAK			*e*SS	SS	15 43 07.3	-11
MAK			*e*SSS	SSS	15 48 29.0	
MAK			pmax	pmax		
	comp=Z,1μm,1.9s					
VRH	Novokhopyorsk	143.59 318	*e*PKIKP	PKPbc	15 21 43.8	-0.4
VRH			pmax	pmax		
	comp=Z,50nm,0.8s					
MOS	Moscow	143.67 327	*e*PKHKP	PKPpre	15 21 42.3	
MOS			*e*		15 24 53.8	
MOS			pmax	pmax		
	comp=Z,70nm,1.2s					
NSS	Namsos	144.08 353	*e*PKPdf	PKPab	15 21 44.5	-0.3
GNI	Garni	144.11 299	IAMs_20	IAMs_20	16 30 31.4	
	comp=Z,456nm,20.0s					
GNI	Garni	144.11 299	PKPdf	PKPdf	15 21 48.3	0.0
FIA1	FINESS Array S	144.17 341		PKPab	15 21 44.8	-0.5
FINES	FINESS Array B	144.17 341	PKhKP	PKPpre	15 21 44.4	
	comp=Z,32nm,0.8s,baz=64,slow=4.4,SNR=47					
FINES	FINESS Array B	144.17 341	PKIKP	PKPab	15 21 44.9	-0.3
FINES	FINESS Array B	144.17 341	PKPdf	PKPab	15 21 44.9	-0.3
ZEI	Tsey	144.43 304	*i* PKIKP	PKPab	15 21 46.4	-0.7
ZEI			pmax	pmax		
	comp=Z,12nm,1.0s					
OBN	Obninsk	144.51 327	⇓P	PKPab	15 21 46.2	-0.5
OBN	Obninsk	144.51 327	*c i*PKIKP	PKPab	15 21 45.7	-1.0
OBN			*e*		15 21 57.7	
OBN			*e*		15 22 02.1	
OBN			PPS	PPS	15 37 38.0	
OBN			pmax	pmax		
	comp=Z,106nm,1.0s					
OBN			pmax	pmax		
	comp=Z,85nm,1.6s					
OBN			MLR	MLR		
	comp=Z,470nm,21.0s					
NCK	Nalchik	144.53 305	*i* PKIKP	PKPbc	15 21 47.4	0.0
GOF	Gofitskoye	144.60 308	⇓*i*PKIKP	PKPbc	15 21 47.6	0.0
GOF			pmax	pmax		
	comp=Z,59nm,0.9s					
ONI	Oni	144.78 304	PKIKP	PKPdf	15 21 49.3	+0.1
ONI	Oni	144.78 304		PKPdf	15 21 49.3	+0.1
CLDR	Caldiran	144.82 298	P	PKPbc	15 21 49.1	+0.3
AKH	Akhalkalaki	144.92 302	⇓P	PKPdf	15 21 49.6	-0.1
KBZ	Khabaz	144.98 306	PKP	PKPab	15 21 48.4	-0.4
	comp=Z,16nm,0.9s,baz=118,slow=2.4,SNR=23					
VSR	Storozhevoye	145.05 319	*e*PKIKP	PKPbc	15 21 47.7	-1.1
VSR			pmax	pmax		
	comp=Z,80nm,0.8s					
VORD	Divnogorie	145.09 319	*e*PKIKP	PKPbc	15 21 47.3	-1.6
VORD			pmax	pmax		
	comp=Z,50nm,0.6s					
KIV	Kislovodsk	145.09 306	⇑P	PKPbc	15 21 48.9	-0.4
KIV	Kislovodsk	145.09 306	*c i*PKIKP	PKPbc	15 21 48.5	-0.8
KIV			*e*		15 21 58.3	
KIV			*i*		15 22 02.6	
KIV					15 28 46.0	
KIV			SSS	SSS	15 49 17.0	
KIV			pmax	pmax		
	comp=Z,32nm,1.3s					
KIV			MLR	MLR		
	comp=Z,506nm,20.0s					
KIV	Kislovodsk	145.09 306	IAMs_20	IAMs_20	16 34 25.7	
	comp=Z,599nm,19.0s					
KIV	Kislovodsk	145.09 306	*i* PKPdf	PKPbc	15 21 49.2	-0.1
	SNR=7.2					
NEY	Neytrino	145.20 305	⇑*i*PKIKP	PKPdf	15 21 50.3	+0.2
NEY			pmax	pmax		
	comp=Z,11nm,0.7s					
KARS	Kars	145.33 300	P	PKPbc	15 21 49.9	-0.3
AGRB	Hanur-Agry	145.50 298	P	PKPab	15 21 51.2	0.0
TBLU	Trondheim	145.50 354	*e*PKPab	PKPdf	15 21 49.1	-0.6
AKDM	Akdamar-Van	145.60 296	P	PKPdf	15 21 50.7	-0.2
CHVG	Ch'k'valeri	145.76 304	⇑P	PKPbc	15 21 51.4	+0.1
CHVG	Ch'k'valeri	145.76 304	⇑PKIKP	PKPbc	15 21 51.4	+0.1
MLAZ	Malazgirt-MUS	145.88 298	P	PKPab	15 21 52.8	+0.2
SENK	Senkaya-Erzuru	145.89 300	P	PKPbc	15 21 52.3	+0.2
SIRT	Sirnak	146.07 295	P	PKPbc	15 21 52.7	+0.1
BCA	Borcka	146.31 302	⇑P	PKiKP	15 22 08.0	+12
BCA	Borcka	146.31 302	P	PKiKP	15 22 08.3	+12
VSU	Vasula	146.33 337	*e*P	PKPbc	15 21 52.2	-0.2
MOL	Molde	146.38 356	*e*PKPbc	PKPbc	15 21 52.1	-0.4
VRTB	Varto-Mus	146.73 298	P	PKPab	15 21 55.9	+0.1
EJDE	Erzurum, Palan	146.77 299	P	PKPbc	15 21 54.1	-0.8
DOMB	Dombas	146.80 355	*e*PKPbc	PKPbc	15 21 53.4	-0.4
AKN	Aaknes	146.80 356	*e*PKPab	PKPbc	15 21 53.8	0.0
AAL	Aland	146.83 344	*e*P	PKPbc	15 21 53.2	-0.7
SVAN	Silvan-Diyarba	147.01 296	P	PKPab	15 21 56.2	-0.6
KARO	Karliova-Bingo	147.02 298	P	PKPab	15 21 56.6	-0.4
MTSE	Matsula	147.06 340	*e*P	PKPbc	15 21 54.5	0.0
SOC	Sochi	147.27 306	*i* PKHKP	PKPpre	15 21 50.6	
SOC			pmax	pmax		
	comp=Z,52nm,0.8s					
SOC			MLR	MLR		
	comp=Z,343nm,20.0s					
BNGB	Bingl	147.34 298	P	PKPbc	15 21 57.1	+0.9
NC303	NORSAR Array S	147.37 352		PKPbc	15 21 55.2	-0.2
YEDI	Yedisu-Bingol	147.40 299	P	PKPbc	15 21 57.1	+0.7
FOO	Floro	147.46 358	*e*PKPbc	PKPbc	15 21 55.8	+0.2
NB2	NORSAR Subarra	147.57 352	PKP	PKPbc	15 21 55.0	-1.0
	comp=Z,151nm,1.2s,baz=9.4,slow=2.9					
NB2	NORSAR Subarra	147.57 352	PKPab	PKPbc	15 21 55.0	-1.0
	baz=9.4,slow=2.9					
NOA	NORSAR Array B	147.57 352	PKPbc	PKPbc	15 21 55.2	-0.8
	comp=Z,6.6nm,0.8s,baz=61,slow=1.5,SNR=45					
UPP	Uppsala	147.65 346	*e*P	PKPbc	15 21 55.5	-0.6
KTUT	Trabzon	147.76 302	⇑P	PKPdf	15 21 40.7	-14
KTUT	Trabzon	147.76 302	P	PKPbc	15 21 57.4	+0.3
NAO01	NORSAR Array S	147.80 353		PKPbc	15 21 56.9	+0.2
NC602	NORSAR Array S	147.83 352	*e*PKPbc	PKPbc	15 21 55.8	-0.9
HYA	Hoyanger	147.85 357	*e*PKPbc	PKPbc	15 21 56.0	-0.6
DYBB	Diyarbakir	147.86 296	P	PKPbc	15 21 58.3	+0.7
SKAR	Skarslia	148.21 355	*e*PKPbc	PKPbc	15 21 57.9	+0.1
SLIT	Slitere, Latvi	148.41 340	*e*P	PKPbc	15 21 57.6	-0.7
SVRC	Sivrice-ELAZID	148.48 297	P	PKiKP	15 22 00.5	-0.4
ASK	Askoy	148.58 358	*e*PKPbc	PKPbc	15 21 59.3	+0.7
BER	Bergen	148.67 358	*e*PKPbc	PKPbc	15 21 58.8	0.0
IDID	Didziasalis	148.69 334	*e*P	PKPbc	15 21 59.4	+0.3
OSL	Oslo	148.70 352	*e*PKPbc	PKPbc	15 21 58.7	-0.3
ISAL	Salakas	148.74 334	*e*P	PKPbc	15 21 59.5	+0.3
MNK	Minsk	148.82 332	*i* PKP2	PKPbc	15 21 59.0	-0.4
MNK			*i*		15 25 25.3	
MNK			*i*		15 38 09.7	
MNK			pmax	pmax		
	comp=E,10.0nm,1.4s					
MNK			pmax	pmax		
	comp=Z,247nm,1.0s					
MNK			pmax	pmax		
	comp=N,65nm,1.0s					
MNK			MLR	MLR		
	comp=Z,897nm,19.0s					
MNK			MLR	MLR		
	comp=N,537nm,22.0s					
MNK			MLR	MLR		
	comp=E,538nm,26.0s					
MNK	Minsk	148.82 332	*i* PKP	PKPbc	15 21 59.1	-0.4
	comp=E,10.0nm,1.4s					
MNK			*i* PKP	PKPbc	15 21 59.1	-0.4
	comp=N,65nm,1.0s					
MNK			*i* PKP	PKPbc	15 21 59.1	-0.4
	comp=Z,247nm,1.0s,baz=232					
MNK			*i* PP	PP	15 25 25.3	-4.6
MNK			*i* SKKS		15 38 09.8	
MNK			*i* SS	SS	15 44 52.6	+16
MNK			*i* LR	LR	16 22 10.3	
MNK			*i* LRM	MLR	16 29 08.0	
	comp=Z,897nm,18.9s					
MNK			*i* LRM	MLR	16 29 11.9	
	comp=N,537nm,21.8s					
MNK			*i* LRM	MLR	16 29 17.0	
	comp=E,538nm,26.2s					
IIGN	Ignalina	148.87 334	*e*P	PKPbc	15 21 60.0	+0.4
ILIC	ilic-Erzincan	148.91 299	P	PKiKP	15 22 01.8	+0.1
NACGM	Naroch	148.98 333	*i* PKP	PKPbc	15 21 59.2	-0.6
ODD1	Odda	149.08 356	*e*PKPbc	PKPbc	15 21 59.8	-0.2
KONO	Kongsberg	149.11 353	*c i*PKP2	PKPbc	15 22 00.1	+0.1
KONO			pmax	pmax		
	comp=Z,85nm,1.0s					
KONO	Kongsberg	149.11 353	*e*PKPbc	PKPbc	15 22 00.3	+0.3
MALT	Malatya	149.17 297	P	PKiKP	15 22 01.8	-0.4
BLS5	Blasjo	149.58 356	*e*PKPbc	PKPbc	15 22 01.5	+0.2
PABE	Paberze	149.58 336	*e*P	PKPbc	15 22 01.2	0.0
RSDY	Resadiye-TOKAT	149.70 301	P	PKiKP	15 22 03.0	-0.1
PBUR	Paburge	149.85 339	*e*P	PKPbc	15 22 02.0	+0.1
DARE	Darende-Malaty	149.87 297	P	PKiKP	15 22 03.9	+0.2
SVSK	Karacayir	150.03 300	P	PKiKP	15 22 04.2	+0.4
GAZ	Gaziantep	150.25 295	P	PKPbc	15 22 03.3	-0.3
TOKT	Tokat	150.30 301	P	PKiKP	15 22 04.1	-0.3
KYT	Kavak	150.50 303	P	PKPdf	15 22 00.7	+2.0
HOMB	Homborsund	150.57 354	*e*PKPbc	PKiKP	15 22 04.2	-0.1
SNART	Snartemo	150.61 355	*e*PKPbc	PKPbc	15 22 03.8	+0.1
SIM	Simferopol'	150.68 311	*i* PKIKP	PKPbc	15 22 03.3	-1.0
SIM					15 22 18.0	
SIM			pmax	pmax		
	comp=Z,131nm,0.5s					
AKASG	Malin Array Be	150.69 325	PKPbc	PKPbc	15 22 03.3	-0.8
	comp=Z,52nm,0.9s,baz=46,slow=2.9,SNR=32					
SARI	SarD1z-Kayseri	150.72 297	P	PKiKP	15 22 05.6	+0.1
SNOP	Sinop	150.88 305	P	PKiKP	15 22 05.5	0.0
SUW	Suwalki	151.04 335	*e*PKPdf	PKPdf	15 21 59.1	+0.1
SUW			*e*PKPbc	PKPbc	15 22 04.8	0.0
SUW			*e*L	L	16 22 12.4	
	comp=Z,812nm,26.7s					
SUW	Suwalki	151.04 335	*e*P	PKPbc	15 22 04.8	0.0
BNN	Bunyan	151.10 298	P	PKiKP	15 22 06.1	-0.1
TAHT	Tahtakopru-Hat	151.14 293	P	PKiKP	15 22 06.9	+0.7
KOZT	Kozan	151.31 296	P	PKiKP	15 22 06.6	+0.1
YOZ	Yozgat	151.35 300	P	PKPbc	15 22 06.3	0.0
RCY	Rachaya	151.55 287	*e*P	PKiKP	15 22 07.6	+0.2
BHL	Bhannes	151.70 288	*e*P	PKPbc	15 22 07.0	-0.2
CORM	Corum	151.76 302	P	PKiKP	15 22 07.9	+0.4
MUD	Monsted U'grnd	152.29 352	*i* P	PKPbc	15 22 06.9	-0.6
MERS	Mersin	152.42 295	P	PKPbc	15 22 08.0	-0.7
BSD	Bornholm Skovb	152.59 345	*i* P	PKPbc	15 22 07.2	-1.1
BSD	Bornholm Skovb	152.59 345	*e*P	PKPbc	15 22 08.4	+0.1
BRTR	Keskin Array B	152.60 301	PKP	PKPdf	15 22 02.9	+0.8
	comp=Z,3.7nm,0.9s,baz=112,slow=1.5,SNR=9.9					
BRTR			PKPbc	PKPbc	15 22 08.4	-0.7
	comp=Z,28nm,0.7s,baz=135,slow=2.4,SNR=43					
KAMT	Kaman	152.63 300	P	PKPbc	15 22 09.1	0.0
PURM	Purcari	152.66 317	⇑P	PKiKP	15 22 09.5	+0.5
SORM	Soroca	152.67 321	⇑P	PKPbc	15 22 08.1	-0.6
SORM	Soroca	152.67 321	⇑PKIKP	PKPbc	15 22 08.1	-0.6
KIS	Kishinev	153.04 319	*e*PKP	PKPdf	15 22 03.0	+0.8
KIS			*e*L	L	16 17 40.0	
KIS			LRM	MLR	16 25 36.0	
	comp=Z,400nm,21.0s					
KIS	Kishinev	153.04 319	*e*PKIKP	PKPdf	15 22 02.0	-0.2
MILM	Milestii Mici	153.08 318	*e*PKP	PKPbc	15 22 09.0	-0.7
	comp=Z,110nm,1.3s					
MILM			*e*LR	LR	16 21 18.0	
	comp=Z,650nm,22.0s					
MILM	Milestii Mici	153.08 318	⇑P	PKPbc	15 22 09.0	-0.7
MILM	Milestii Mici	153.08 318	*e*PKIKP	PKPbc	15 22 09.0	-0.7
MILM			pmax	pmax		
	comp=Z,110nm,1.3s					
IKL	Isikli	153.17 293	P	PKiKP	15 22 10.9	+0.5
LOD	Lodumlu	153.22 302	P	PKiKP	15 22 10.8	+0.3
KULU	Kulu	153.24 300	P	PKiKP	15 22 10.7	+0.1
RGN	Rugen	153.46 346	*e*P	PKPbc	15 22 08.9	-1.3
GKP	Gorka Klasztor	153.64 340	*e*PKPdf	PKPdf	15 22 03.4	+0.5
GKP			*e*PKPbc	PKiKP	15 22 11.1	+0.3
GKP			*e*PP	PP	15 25 58.0	+0.7
GKP	Gorka Klasztor	153.64 340	*e*P	PKiKP	15 22 11.7	+0.9
BEL	Belsk	153.65 335	*e*PKPdf	PKPdf	15 22 03.2	+0.2
BEL			*e*PKPbc	PKiKP	15 22 11.3	+0.5
BEL			*e*L	L	16 21 47.6	
	comp=Z,900nm,35.0s					
LVV	L'vov	153.79 328	*i* PKIKP	PKPbc	15 22 11.0	-0.2
LVV			MLR	MLR		
	comp=E,500nm,23.0s					
LVV			MLR	MLR		
	comp=N,600nm,22.0s					
LVV			MLR	MLR		
	comp=Z,900nm,23.0s					
TLCR		153.97 315	⇑P	PKiKP	15 22 12.2	+0.5
VLDR	Vladesti	154.08 317	⇑P	PKPbc	15 22 11.1	-0.8
BIR	Birlad	154.12 318	⇑P	PKPbc	15 22 11.1	-0.9
BIR	Birlad	154.12 318	⇑PKIKP	PKPbc	15 22 11.1	-0.9
JURR	Jurilovca	154.13 314	⇑P	PKiKP	15 22 13.3	+1.2
SCTR	Scanteiesti	154.22 317	⇓P	PKiKP	15 22 13.3	+1.1
PRAR	RASCA	154.28 322	⇑P	PKiKP	15 22 13.0	+0.6
GHRR		154.36 318	⇑P	PKiKP	15 22 14.2	+1.7
TPGR	Topolog	154.37 315	⇑P	PKPbc	15 22 12.0	-0.6
CFR	Carcaliu	154.39 316	⇓P	PKPbc	15 22 11.3	-1.3
CFR	Carcaliu	154.39 316	⇓PKIKP	PKPbc	15 22 11.3	-1.3
IZVR	Izvoarele	154.42 317	⇓P	PKiKP	15 22 13.6	+0.9
KWP	Kalwaria Pacla	154.53 329	*e*PKPdf	PKPdf	15 22 04.5	+0.2
KW

comp=Z,36nm,0.8s
CHVC Chvalec 156.33 339 *e*PKPAB **PKPab 15 22 35.2 +0.1**
ARR Arges 156.36 319 ⇓P **PKPdf 15 22 07.2 +0.2**
KECS Kecovo 156.37 330 *e*PKP2 **PKPab 15 22 35.3 0.0**
UPC Upice 156.42 339 *e*PKIKP **PKPdf 15 22 06.7 -0.1**
UPC Upice 156.42 339 *e*PKPDF **PKPdf 15 22 06.7 -0.1**
UPC *e*PKPAB **PKPab 15 22 35.3 -0.1**
DPC Dobruska-Polom 156.45 338 *e*PKIKP **PKPdf 15 22 07.2 +0.3**
DPC Dobruska-Polom 156.45 338 *e*PKPDF **PKPdf 15 22 07.2 +0.3**
DPC *e*PKPAB **PKPab 15 22 35.3 -0.3**
TIC Toumodi 156.46 160 *e*PKP1 **PKPdf 15 22 08.1 +0.1**
DRGR 156.51 324 ⇑P **PKPdf 15 22 06.4 -0.8**
DRGR 156.51 324 ⇑PKIKP **PKPdf 15 22 06.4 -0.8**
MORC Moravsky Berou 156.52 336 ⇓P **PKPdf 15 22 07.5 +0.5**
MORC Moravsky Berou 156.52 336 ⇓PKIKP **PKPdf 15 22 07.5 +0.5**
MORC Moravsky Berou 156.52 336 *e*PKP **PKPdf 15 22 07.0 0.0**
IBBN Ibbenburen 156.53 352 *e*PKPab **PKPab 15 22 35.8 +0.1**
baz=20,slow=1.2
DBIC Dimbokro 156.53 160 PKP **PKPdf 15 22 09.5 +1.4**
comp=Z,9.9nm,0.9s,baz=242,slow=0.7,SNR=11
DBIC PKPab **PKPab 15 22 39.0 +2.2**
comp=Z,6.1nm,0.7s,baz=170,slow=3.5,SNR=5.5
KRLC Kraliky 156.54 337 *e*PKIKP **PKPdf 15 22 07.2 +0.2**
KRLC Kraliky 156.54 337 *e*PKPDF **PKPdf 15 22 07.2 +0.2**
KRLC *e*PKPAB **PKPab 15 22 35.3 -0.7**
CLL Collm 156.54 344 *e*PKIKP **PKPdf 15 22 07.0 +0.1**
CLL *i* 15 22 17.2
CLL *i* 15 22 34.9
CLL pmax pmax
comp=Z,42nm,1.9s
CLL pmax pmax
comp=Z,28nm,1.3s
CLL pmax pmax
comp=Z,33nm,1.0s
CLL MLR MLR
comp=Z,600nm,20.5s
CLL Collm 156.54 344 *e*PKPdf **PKPdf 15 22 07.0 +0.1**
comp=Z,42nm,1.9s
CLL *i* PKPdif **pPKPdf 15 22 17.2 -2.7**
comp=Z,28nm,1.3s
CLL *e*pPKPdif **sPKPdf 15 22 29.0 +4.5**
CLL *i* PKPab **PKPab 15 22 34.9 -1.0**
comp=Z,33nm,1.0s
CLL *e*pPKPab **pPKPab 15 22 47.0 -1.5**
CLL *e*PP **PP 15 26 14.0 +0.5**
CLL *e*x x 15 26 31.0
CLL *e*x x 15 29 11.0
CLL *e*SKSP 15 36 24.0
CLL *e*SKKSdf SKKSdf 15 37 48.0 +5.1
CLL *e*PPS PPS 15 39 18.0
CLL *e*x x 15 41 00.0
CLL *e*SS **SS 15 46 00.0 -0.8**
CLL *e*SSS SSS 15 52 06.0
CLL *e*SSSS 15 56 12.0
CLL LmV 16 41 00.0
comp=Z,600nm,20.5s
CLL Collm 156.54 344 *e*pPKPdf pPKPdf 15 22 17.4 -2.5
CLZ Clausthal 156.60 348 *e*PKPdf **PKPdf 15 22 07.5 +0.4**
baz=20,slow=1.2
CLZ *e*PKPab **PKPab 15 22 36.1 0.0**
baz=20,slow=1.2
BRG Berggiesshubel 156.70 342 ⇓*e*PKPf 15 22 07.5
BRG Amp 15 22 08.7
comp=Z,24nm,1.5s
BRG ⇑*i*PKP PKPdf 15 22 17.9 +11
BRG Amp 15 22 21.5
comp=Z,24nm,1.5s
BRG *e*PKPab **PKPab 15 22 36.0 -0.6**
BRG Amp 15 22 37.4
comp=Z,30nm,1.1s
BRG *e*x x 15 22 52.3
BRG Amp 15 22 54.4
comp=Z,28nm,1.2s
BRG Berggiesshubel 156.70 342 *e*PKIKP **PKPdf 15 22 07.4 +0.3**
BRG pmax pmax
comp=Z,24nm,1.5s
BRG Berggiesshubel 156.70 342 *e*PKPdf **PKPdf 15 22 07.4 +0.3**
baz=20,slow=1.2
BRG *e*pPKPdf **pPKPdf 15 22 18.0 -2.1**
BRG *e*PKPab **PKPab 15 22 36.3 -0.3**
baz=20,slow=1.2
BORR Bors 156.77 326 ⇑P PKPab 15 22 26.5 -11
FBE Freiberg 156.81 343 *e*pPKPdf **pPKPdf 15 22 19.0 -1.3**
FBE *e*PKPab **PKPab 15 22 37.1 +0.1**
baz=20,slow=1.2
NEUB Neuenburg 156.92 346 *e*PKPab **PKPab 15 22 37.3 -0.2**
baz=20,slow=1.2
GTTG Gottingen 156.95 349 *e*PKPab **PKPab 15 22 37.5 -0.1**
baz=20,slow=1.2
DEV Deva 157.00 322 ⇑P **PKPdf 15 22 09.0 +1.3**
DEV Deva 157.00 322 ⇑PKIKP **PKPdf 15 22 09.0 +1.3**
PSZ Piszkesteto 157.05 330 ⇑P **PKPdf 15 22 08.6 +0.8**
PSZ Piszkesteto 157.05 330 ⇑PKIKP **PKPdf 15 22 08.6 +0.8**
PSZ Piszkesteto 157.05 330 *e*PKPDF **PKPdf 15 22 04.7 -3.1**
VYHS Vyhne 157.06 332 *e*PKIKP **PKPdf 15 22 08.7 +1.0**
VYHS Vyhne 157.06 332 *e*PKP **PKPdf 15 22 08.7 +1.0**
VYHS *e* 15 22 38.0
JAVC Velka Javorina 157.23 334 *e*PKP **PKPdf 15 22 08.9 +0.9**
VRAC Vranov 157.25 336 ⇑P **PKPdf 15 22 08.8 +0.9**
VRAC Vranov 157.25 336 ⇑PKIKP **PKPdf 15 22 08.8 +0.9**
VRAC Vranov 157.25 336 *e*PKP **PKPdf 15 22 07.4 -0.5**
VRAC *e* 15 22 38.7
PRU Pruhonice 157.33 340 *e*PKIKP **PKPdf 15 22 08.3 +0.3**
PRU MLR MLR
comp=Z,1μm,23.2s
PRU Pruhonice 157.33 340 *e*PKPDF **PKPdf 15 22 08.3 +0.3**
PRU *e*PKPAB **PKPab 15 22 37.4 -1.9**
PRU AMS AMS 16 28 20.0
comp=Z,1μm,23.2s
SIRR Siria 157.40 324 ⇓P **PKPdf 15 22 08.1 -0.2**
BUG Bochum--Univer 157.44 353 *e*PKPdf **PKPdf 15 22 08.3 +0.3**
baz=20,slow=1.2
BUG *e*PKPab **PKPab 15 22 39.1 -0.6**
baz=20,slow=1.2
MOX Moxa 157.49 345 *e*PKPdf **PKPdf 15 22 08.2 0.0**
baz=20,slow=1.2
MOX *e*PKPab **PKPab 15 22 39.0 -1.0**
baz=20,slow=1.2
TANN Tannenbergstha 157.50 344 *e*PKPdf **PKPdf 15 22 07.5 -0.8**
baz=20,slow=1.2
TANN *e*PKPab **PKPab 15 22 39.4 -0.7**
baz=20,slow=1.2
WERD Werda 157.51 344 *e*PKPab **PKPab 15 22 39.5 -0.6**
baz=20,slow=1.2
KRUC Moravsky 157.53 336 *e*PKP **PKPdf 15 22 07.7 -0.6**
KRUC *e* 15 22 39.7
GUNZ Gunzen 157.58 344 *e*PKPdf **PKPdf 15 22 09.6 +1.3**
baz=20,slow=1.2
GUNZ *e*PKPab **PKPab 15 22 40.1 -0.4**
baz=20,slow=1.2
WERN Wernitzgruen 157.64 344 *e*PKPdf **PKPdf 15 22 09.7 +1.2**
baz=20,slow=1.2
WERN *e*PKPab **PKPab 15 22 40.4 -0.3**
baz=20,slow=1.2
UBBA Unterbreizbach 157.65 348 *e*PKPdf **PKPdf 15 22 08.5 +0.2**
baz=20,slow=1.2
UBBA *e*PKPab **PKPab 15 22 39.6 -0.9**
baz=20,slow=1.2
NKC Novy Kostel 157.67 344 *e*PKP2 **PKPab 15 22 39.4 -1.4**
NKC Novy Kostel 157.67 344 *e*PKPAB **PKPab 15 22 39.4 -1.4**
BUD Budapest 157.76 330 P **PKPdf 15 22 09.9 +1.3**
MODS Modra-Piesok 157.78 334 *e*PKIKP **PKPdf 15 22 08.0 -0.6**
MODS Modra-Piesok 157.78 334 *e*PKP **PKPdf 15 22 08.0 -0.6**
MODS *e* 15 22 39.6
AMBH Ambrzfalva 157.81 326 P **PKPdf 15 22 12.7 +4.1**
BZS Buzias 157.86 323 ⇑P **PKPdf 15 22 08.1 -0.7**
BZS Buzias 157.86 323 ⇑PKIKP **PKPdf 15 22 08.1 -0.7**
HERR Herculane 157.90 321 ⇑P **PKPdf 15 22 08.1 -0.8**
MANZ Manzenberg 157.99 344 *e*PKPdf **PKPdf 15 22 09.0 +0.2**
baz=20,slow=1.2
MANZ *e*PKPab **PKPab 15 22 42.0 -0.2**
baz=20,slow=1.2
ZST Bratislava 157.99 334 *e*PKIKP **PKPdf 15 22 09.4 +0.5**
ZST Bratislava 157.99 334 *e*PKP **PKPdf 15 22 09.4 +0.5**
ZST *e* 15 22 42.0
ROTZ Rotzenmuhle 158.16 344 *e*PKPab **PKPab 15 22 42.9 0.0**
baz=20,slow=1.2
BEBN Eben Emael 158.22 355 PKPab **PKPab 15 22 41.9 -1.2**
AHRW Bad Neuenahr-A 158.34 353 *e*PKPab **PKPab 15 22 41.2 -2.4**
baz=20,slow=1.2
KHC Kasperske Hory 158.38 341 *e*PKIKP **PKPdf 15 22 09.1 -0.3**
KHC *e* 15 22 42.1
KHC Kasperske Hory 158.38 341 *e*PKPDF **PKPdf 15 22 09.1 -0.3**
KHC *e*PKPAB **PKPab 15 22 42.1 -1.8**

MEM Membach 158.38 355 PKPab **PKPab 15 22 41.3 -2.5**
CKRC Cesky Krumlov 158.43 339 *e*PKPDF **PKPdf 15 22 09.4 0.0**
CKRC *e*PKPAB **PKPab 15 22 43.7 -0.5**
CKRC AMS AMS 16 33 50.0
comp=Z,2μm,25.0s
GRF Grafenberg Arr 158.47 345 *e*PKPab **PKPab 15 22 44.3 0.0**
baz=20,slow=1.2
TNS Taunus Mts 158.48 350 *e*PKPab **PKPab 15 22 43.9 -0.4**
baz=20,slow=1.2
WET Wettzell 158.56 342 *e*PKPdf **PKPdf 15 22 09.4 -0.2**
baz=20,slow=1.2
WET *e*PKPab **PKPab 15 22 45.0 +0.3**
baz=20,slow=1.2
GEC2 GERESS Array S 158.59 340 *e*PKPdf **PKPdf 15 22 09.5 -0.2**
baz=20,slow=1.2
GEC2 *e*PKPab **PKPab 15 22 44.7 -0.3**
baz=20,slow=1.2
GERES GERESS Array B 158.59 340 PKP **PKPdf 15 22 09.5 -0.2**
comp=Z,1.4nm,0.9s,baz=93,slow=2.7,SNR=10
GERES PKPab **PKPab 15 22 43.9 -1.0**
comp=Z,7.7nm,0.9s,baz=31,slow=2.8,SNR=5.1
BCLA Clavier 158.62 356 PKPab **PKPab 15 22 43.7 -1.1**
BHOU Houvegnez 158.63 354 PKPab **PKPab 15 22 42.2 -2.7**
BGES Gesves 158.67 356 PKPab **PKPab 15 22 43.8 -1.3**
CONA Conrad Observa 158.68 335 *e*P **PKPdf 15 22 09.8 0.0**
comp=Z,5.4nm,1.0s
CONA *i* P **PKPab 15 22 45.4 +0.1**
comp=Z,30nm,1.4s,SNR=6.0
VTS Vitosha 158.75 315 ⇑P **PKPdf 15 22 11.0 +0.8**
VTS Vitosha 158.75 315 ⇑PKIKP **PKPdf 15 22 11.0 +0.8**
BMRD Maredsous 158.77 357 PKPab **PKPab 15 22 44.5 -1.0**
MORH Mrgy, Hungar 158.90 328 ⇑P **PKPdf 15 22 09.5 -0.5**
DOU Dourbes 158.99 357 PKPab **PKPab 15 22 45.0 -1.5**
BOVS Bovan 159.07 319 ⇑P **PKPdf 15 22 10.0 -0.3**
BOVS Bovan 159.07 319 *e*P **PKPdf 15 22 09.5 -0.8**
FRGS Fruska Gora 159.10 325 ⇓P **PKPdf 15 22 08.3 -2.0**
FRGS Fruska Gora 159.10 325 *e*P **PKPdf 15 22 09.7 -0.6**
BOSS Bosilegrad 159.28 315 *e*P **PKPdf 15 22 12.3 +1.7**
MOA Molln 159.30 338 *e*P **PKPdf 15 22 07.0 -3.5**
comp=Z,6.9nm,1.2s
MOA *e*P **PKPab 15 22 48.0 +0.1**
comp=Z,20nm,1.1s
ARSA Arzberg 159.37 335 *e*P **PKPdf 15 22 09.8 -0.8**
comp=Z,4.6nm,1.1s
ARSA *e*P **PKPab 15 22 47.9 -0.4**
comp=Z,15nm,1.6s
TRUS Trudelj 159.42 322 *e*P **PKPdf 15 22 10.6 -0.1**
GRUS Gruza 159.47 321 *e*P **PKPdf 15 22 10.8 0.0**
BARS Barje 159.50 317 *e*P **PKPdf 15 22 07.8 -3.1**
BARS Barje 159.50 317 *e*P **PKPdf 15 22 10.4 -0.5**
DIVS Divibare 159.73 322 *e*P **PKPdf 15 22 10.8 -0.4**
STU Stuttgart 159.76 348 *e*PKPdf **PKPdf 15 22 11.3 +0.3**
baz=20,slow=1.2
STU *e*PKPab **PKPab 15 22 49.5 -0.4**
baz=20,slow=1.2
VAY Valandovo 159.85 312 *i* P **PKPab 15 22 50.0 -0.6**
RJOB Jochberg 159.86 340 *e*PKPab **PKPab 15 22 50.9 +0.4**
baz=20,slow=1.2
FUR Furstenfeldbru 159.88 343 *e*PKPab **PKPab 15 22 50.5 0.0**
baz=20,slow=1.2
STIP Stip 159.90 314 *i* P **PKPab 15 22 49.4 -1.5**
IVAS Ivanjica 159.99 321 *e*P **PKPdf 15 22 10.6 -0.9**
SOKA Soboth 160.03 335 *e*P **PKPdf 15 22 09.3 -2.1**
comp=Z,8.7nm,1.2s
SOKA *i* P **PKPab 15 22 50.5 -0.8**
comp=Z,22nm,1.1s,SNR=5.6
BBLS Lazići 160.20 323 *e*P **PKPdf 15 22 11.7 0.0**
SKO Skopje 160.21 315 *i* P **PKPab 15 22 52.5 +0.3**
KBA Koelnbreinsper 160.27 338 *e*P **PKPdf 15 22 10.6 -1.2**
comp=Z,7.3nm,1.1s
KBA *e*P **PKPab 15 22 52.4 -0.1**
comp=Z,12nm,1.0s
SJES Sjenica 160.29 320 *e*P **PKPdf 15 22 11.9 0.0**
BFO Black Forest 160.34 349 *e*PKPab **PKPab 15 22 52.0 -0.4**
baz=20,slow=1.2
OBKA Obir 160.35 335 *e*P **PKPdf 15 22 14.1 +2.3**
comp=Z,6.8nm,1.6s
OBKA *e*P **PKPab 15 22 50.2 -2.5**
comp=Z,9.1nm,1.0s
WATA Walderalm 160.57 342 *e*P **PKPdf 15 22 11.7 -0.3**
comp=Z,11nm,1.8s
WATA *i* P **PKPab 15 22 53.2 -0.5**
comp=Z,27nm,1.1s,SNR=5.5
MYKA Terra Mystica 160.57 337 *e*P **PKPdf 15 22 11.3 -0.7**
comp=Z,4.5nm,1.2s
MYKA *e*P **PKPab 15 22 52.4 -1.2**
comp=Z,12nm,0.7s
WTTA Wattenberg 160.62 342 *e*P **PKPdf 15 22 11.9 -0.3**
comp=Z,8.5nm,1.5s
WTTA *e*P **PKPab 15 22 53.4 -0.5**
comp=Z,30nm,0.9s
RETA Reutte 160.64 344 *e*P **PKPdf 15 22 12.6 +0.5**
RETA *e*P **PKPab 15 22 53.4 -0.4**
comp=Z,26nm,1.1s
MOTA Moosalm 160.69 343 *e*P **PKPdf 15 22 11.8 -0.4**
comp=Z,10nm,1.5s
MOTA *i* P **PKPab 15 22 53.3 -0.9**
comp=Z,37nm,1.1s,SNR=5.7
LJU Ljubljana 160.76 335 *e*PKPdf **PKPdf 15 22 11.6 -0.6**
SQTA Sankt Quirin 160.77 343 *e*P **PKPdf 15 22 12.0 -0.3**
comp=Z,10nm,1.6s
SQTA *e*P **PKPab 15 22 54.0 -0.5**
comp=Z,27nm,1.0s
ABTA Abfaltersbach 160.83 339 *e*P **PKPdf 15 22 11.5 -0.8**
comp=Z,7.3nm,1.2s
ABTA *e*P **PKPab 15 22 53.5 -1.3**
comp=Z,26nm,1.0s
CADS Cadrg 160.88 336 *i* PKPdf **PKPdf 15 22 11.1 -1.3**
CADS *e* 15 22 52.7
BOJS Bojanci 160.92 332 *e*PKPdf **PKPdf 15 22 11.7 -0.6**
DAVA Damuels 161.03 345 *e*P **PKPdf 15 22 12.7 0.0**
comp=Z,6.3nm,1.0s
DAVA *e*P **PKPab 15 22 55.5 -0.2**
comp=Z,18nm,0.9s
FETA Feichten 161.08 343 *e*P **PKPdf 15 22 12.1 -0.6**
comp=Z,13nm,1.4s
FETA *e*P **PKPab 15 22 55.9 0.0**
comp=Z,12nm,1.1s
OHR Ohrid 161.09 314 *i* P **PKPab 15 22 54.5 -1.6**
PDG Podgorica 161.23 320 ⇓P **PKPab 15 22 55.3 -1.2**
TORD Torodi Ar. Bea 164.09 176 PKP **PKPdf 15 22 17.3 +0.9**
comp=Z,9.8nm,1.0s,baz=314,slow=1.6,SNR=45
TORD PKPab **PKPab 15 23 11.8 +2.2**
comp=Z,12nm,0.9s,baz=173,slow=3.4,SNR=12
KOWA Kowa 164.14 155 P **PKPdf 15 22 17.5 +1.1**
PGAV Gavieira, Arco 164.31 32 *e*PKP **PKPdf 15 22 17.8 +1.9**
TIP Timpagnande 164.73 315 ⇑P **PKPdf 15 22 17.4 +1.1**
POLO Lamas de Olo 164.99 32 *e*PKP **PKPdf 15 22 18.4 +1.9**
MVO Moncorvo 165.51 31 *e*PKP **PKPdf 15 22 18.8 +1.9**
PCBR Castelo Branco 166.32 36 *e*PKP **PKPdf 15 22 19.3 +1.8**
MORF Marmelete 167.36 47 *e*PKP **PKPdf 15 22 20.8 +2.3**
ESDC Sonseca Array 168.04 26 PKP **PKPdf 15 22 20.1 +1.2**
comp=Z,6.4nm,1.1s,baz=330,slow=2.6,SNR=15
ESDC PKPab **PKPab 15 23 27.0 +0.4**
comp=Z,2.9nm,0.8s,baz=330,slow=4.4,SNR=8.7
OUK Oukaimeden 170.48 75 P **PKPdf 15 22 24.0 +2.9**
KEST Kesra 171.41 322 PKP **PKPdf 15 22 22.0 +0.9**
comp=Z,8.8nm,0.9s,baz=312,slow=3.4,SNR=9.6
KEST PKPab **PKPab 15 23 41.0 -0.7**
comp=Z,11nm,1.0s,baz=14,slow=4.2,SNR=3.8
OUZM OUZ 171.47 75 P **PKPdf 15 22 24.0 +2.7**
LCRM LCR 171.97 53 P **PKPdf 15 22 25.0 +3.5**
TZRR Tazzarine 172.50 75 P **PKPdf 15 22 25.0 +3.2**
ZGR Zagora 172.55 80 P **PKPdf 15 22 24.0 +2.3**
MDT Midelt 172.60 58 P **PKPdf 15 22 24.4 +2.7**
TAF Taforalt 172.75 37 P **PKPdf 15 22 25.0 +3.3**
GOLM Goulmima 172.77 67 P **PKPdf 15 22 25.0 +3.1**
JBK JBK 173.03 40 P **PKPdf 15 22 25.0 +3.0**
TDRA Tendrara 174.25 46 P **PKPdf 15 22 25.0 +2.5**

*STR **01** 15:03:45.6±0.5, 48°N±2°×°±°, h13km±4km, MLv1.5/7, preliminary*
*LDG **01** 15:03:45.0±0.1, 48°.29N×9°.03E, h6km, Md1.9/2, Ml1.9/6, Error ellipse: s-maj=1.0km s-min=0.8km az=111.0*
ISC 01 15:03:43.2±1.6, 48°.29N±0°.07×9°.28E±0°.05, h23km±10km, n21, σ1°33/30, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**0.25**	**206**	Pg	**Pb**	**15 03 49.6**	**+0.2**
GUT				Sg	**Sb**	**15 03 53.1**	**-0.5**
SLE	**Schleitheim**	**0.75**	**225**	Sg	**Sb**	**15 04 05.7**	**-1.7**
SLE	**Schleitheim**	**0.75**	**225**	Pg	**Pb**	**15 03 57.2**	**-0.4**
FELD	**Feldberg im Sc**	**0.95**	**244**	Pg	**Pn**	**15 04 01.4**	**+0.1**
KIZ	**Kirchzarten**	**0.97**	**250**	Pg	**Pn**	**15 04 01.3**	**-0.2**
KIZ	**Kirchzarten**	**0.97**	**250**	Sg	**Sb**	**15 04 12.4**	**-1.4**
VOGT	**Vogtsburg - To**	**1.10**	**259**	Pg	**Pb**	**15 04 03.3**	**-0.2**
VOGT	**Vogtsburg - To**	**1.10**	**259**	Sg	**Sb**	**15 04 16.0**	**-1.3**
SULZ	**Cheisacher**	**1.10**	**226**	Pg	**Pb**	**15 04 03.3**	**-0.2**
SULZ	**Cheisacher**	**1.10**	**226**	Sg	**Sn**	**15 04 16.9**	**-0.8**
OBER	**Oberstdorf**	**1.12**	**142**	Pg	**Pn**	**15 04 04.2**	**+0.6**
OBER				Sg	**Sb**	**15 04 17.4**	**-0.8**
WLS	**Welschbruch**	**1.29**	**276**	Pg	**Pb**	**15 04 06.8**	**-0.1**
CDF	**Champ du Feu**	**1.34**	**276**	*e*Pg	**Pb**	**15 04 07.2**	**-0.5**
CDF				*e*Sg	**Sn**	**15 04 22.5**	**-1.2**
4.1nm,0.2s							
BALST	**Balsthal**	**1.43**	**229**	Pn	**Pn**	**15 04 08.0**	**+0.2**
BALST	**Balsthal**	**1.43**	**229**	Sg	**Sb**	**15 04 27.3**	**+0.1**
HINF	**Hinteralfeld**	**1.69**	**255**	*e*Pg	**Pb**	**15 04 13.6**	**-0.1**
HINF				*e*Sn	**Sn**	**15 04 30.3**	**-2.1**
HINF				*e*Sg	**Sb**	**15 04 33.8**	**-0.8**
1.3nm,0.2s							
HAU	**Haudompre**	**1.98**	**263**	*e*Pg	**Pb**	**15 04 18.8**	**+0.2**
HAU				*e*Sg	**Sb**	**15 04 42.2**	**-0.7**
3.5nm,0.4s							
PAGF	**Fort de Pagny**	**2.38**	**278**	*e*Pg	**Pb**	**15 04 26.1**	**+0.7**
PAGF				*e*Sg	**Sb**	**15 04 54.5**	**+0.2**
0.4nm,0.2s							
CABF	**La Chapelle**	**2.74**	**233**	*e*Pg	**Pb**	**15 04 33.4**	**+1.8**
CABF				*e*Sg	**Sb**	**15 05 06.7**	**+1.9**
0.5nm,0.2s							
LOR	**Lormes**	**3.79**	**256**	*e*Pn	**Pn**	**15 04 40.6**	**+0.3**
LOR	**Lormes**	**3.79**	**256**	*e*Pg	**Pb**	**15 04 52.3**	**+2.8**
LOR				*e*Sg	**Sb**	**15 05 38.8**	**+3.8**
1.3nm,0.4s							

IDC 01 15:06:30.0±16.0, 17°.92S×178°.64W, h507km±182km, mb3.3/4, mb1 3.6/4, mb1mx3.0/29, mbtmp4.1/4, Error ellipse: s-maj=173.4km s-min=59.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.41**	**260**	P	P	15 13 54.8	-0.6
2.6nm,0.9s,baz=97,slow=8.1,SNR=0.9							
ASAR	**Alice Springs**	**44.57**	**254**	P	P	15 13 56.9	+0.2
7.2nm,0.4s,baz=89,slow=7.9,SNR=8.3							
ILAR	**Eielson Array**	**85.95**	**13**	P	P	15 18 14.6	-1.0
0.2nm,0.4s,baz=216,slow=4.5,SNR=1.2							
PDAR	**Pinedale Array**	**87.51**	**44**	P	P	15 18 24.4	+0.6
0.3nm,0.5s,baz=226,slow=4.7,SNR=1.8							
GERES	**GERESS Array B**	**147.56**	**345**	PKPbc	PKPbc	15 25 16.4	-0.6
0.5nm,0.5s,baz=23,slow=3.2,SNR=4.7							

IDC 01 15:24:06.3±13.0, 25°.50S×179°.27W, h508km±57km, mb3.2/3, mb1 3.3/5, mb1mx3.0/30, mbtmp4.2/5, Error ellipse: s-maj=230.2km s-min=52.6km az=62.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.09**	**193**	P	P	15 26 56.2	0.0
0.5nm,0.3s,baz=301,slow=24,SNR=8.7							
DZM	**Mont Dzumac**	**13.52**	**282**	P	P	15 27 01.7	+0.6
0.4nm,0.3s,baz=101,slow=16,SNR=2.0							
STKA	**Stephens Creek**	**34.78**	**250**	P	P	15 30 12.3	-1.6
0.9nm,0.4s,baz=106,slow=19,SNR=4.2							
ASAR	**Alice Springs**	**42.46**	**262**	P	P	15 31 16.6	+0.2
1.2nm,0.5s,baz=90,slow=7.6,SNR=56							
WRA	**Warramunga Arr**	**42.99**	**268**	P	P	15 31 20.8	+0.2
1.6nm,0.4s,baz=103,slow=7.8,SNR=32							

JMA 01 15:31:09.6, 35°.89N×135°.59E, h16km±1km, M3.0, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**0.47**	**237**	P	Pg	15 31 18.9	-0.2
JKY				S	Sg	15 31 25.2	-0.3
JFM	**Mihama**	**0.48**	**138**	P	Pg	15 31 19.1	-0.1
JFM				S	Sg	15 31 25.6	-0.1
JWT	**Wachi**	**0.62**	**194**	P	Pg	15 31 21.6	-0.3
JWT				S	Sg	15 31 29.7	-0.5
JKG	**Kaga**	**0.71**	**57**	P	Pg	15 31 23.2	-0.4
JKG				S	Sg	15 31 32.7	-0.3
JKSM	**Kasumi**	**0.81**	**248**	P	Pb	15 31 24.6	-0.7
JKSM				*e*S	Sb	15 31 35.3	-0.7
JYTA	**Yamagatataniai**	**0.98**	**107**	P	Pb	15 31 27.7	-0.5
JYTA				S	Sb	15 31 40.7	-0.1
MAT	**Matsushiro**	**2.21**	**72**	P	Pn	15 31 46.9	+1.2
MAT				S	Sb	15 32 15.1	-1.4

*IDC **01** 15:33:51.8±2.1, 18°.92S×174°.32W, h283km±22km, mb3.6/4, mb1 3.7/6, mb1mx3.3/38, mbtmp4.3/6, Error ellipse: s-maj=33.7km s-min=18.0km az=127.0*
ISC 01 15:33:51.0±1.1, 19°.05±0°.2×174°.4W±0°.2, h250km, n24, σ2°04/19, mb3.8/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.70**	**27**	P	**Pn**	**15 35 15.3**	**-0.2**
18nm,0.3s,baz=227,slow=22,SNR=9.4							
DZM	**Mont Dzumac**	**18.16**	**257**	P	**P**	**15 37 47.4**	**+2.0**
0.3nm,0.3s,baz=12,slow=21,SNR=1.6							
URZ	**Urewera**	**20.52**	**199**	P	**P**	**15 38 10.4**	**0.0**
5.6nm,0.4s,baz=120,slow=24,SNR=8.8							
STKA	**Stephens Creek**	**41.44**	**243**	P	**P**	**15 41 12.2**	**-1.3**
2.1nm,0.8s,baz=76,slow=8.3,SNR=3.2							
ASAR	**Alice Springs**	**48.13**	**255**	P	**P**	**15 42 05.1**	**-1.2**
4.5nm,0.7s,baz=86,slow=8.6,SNR=83							
ASAR				PcP	**sP**	**15 43 28.9**	**+2.4**
0.4nm,0.6s,baz=98,slow=4.0,SNR=1.7							
WRA	**Warramunga Arr**	**48.15**	**260**	P	**P**	**15 42 04.2**	**-2.3**
1.6nm,0.4s,baz=98,slow=6.9,SNR=43							
H03S2	**Juan Fernandez**	**84.02**	**124**	T	T	17 18 42.4	
baz=253							
H03S1	**Juan Fernandez**	**84.03**	**124**	T	T	17 18 43.4	
baz=253							
H03S3	**Juan Fernandez**	**84.04**	**124**	T	T	17 18 42.1	
baz=253							
H03N2	**Juan Fernandez**	**84.14**	**123**	T	T	17 18 47.6	
baz=246,slow=74							
H03N3	**Juan Fernandez**	**84.15**	**123**	T	T	17 18 52.9	
baz=246,slow=74							
H03N1	**Juan Fernandez**	**84.16**	**123**	T	T	17 18 45.3	
baz=246							
ARCES	**ARCESS Array B**	**128.05**	**351**	PKP	**PKPdf**	**15 52 23.3**	**-3.2**
3.8nm,0.8s,baz=22,slow=0.5,SNR=3.9							
BRTR	**Keskin Array B**	**148.23**	**316**	PKPbc	**PKPdf**	**15 53 04.9**	**+0.7**
1.5nm,0.9s,baz=108,slow=2.9,SNR=4.0							
GERES	**GERESS Array B**	**149.55**	**349**	PKPbc	**PKPdf**	**15 53 06.6**	**+0.6**
0.5nm,0.5s,baz=27,slow=3.3,SNR=7.0							
CONA	**Conrad Observa**	**149.99**	**346**	*e*P	**PKPdf**	**15 53 08.6**	**+1.9**
3.2nm,1.0s							
MOA	**Molln**	**150.40**	**348**	*e*P	**PKPdf**	**15 53 09.1**	**+1.8**
2.8nm,1.1s							
KBA	**Koelnbreinsper**	**151.32**	**349**	*e*P	**PKPdf**	**15 53 08.4**	**-0.5**
5.8nm,1.6s							
WATA	**Walderalm**	**151.35**	**351**	*e*P	**PKPdf**	**15 53 10.0**	**+1.1**
3.8nm,1.1s							
MOTA	**Moosalm**	**151.41**	**352**	*e*P	**PKPdf**	**15 53 11.0**	**+2.1**
9.8nm,1.8s							
WTTA	**Wattenberg**	**151.41**	**351**	*e*P	**PKPdf**	**15 53 10.5**	**+1.4**
4.8nm,0.9s							
MYKA	**Terra Mystica**	**151.69**	**348**	*e*P	**PKPdf**	**15 53 11.7**	**+2.4**
1.9nm,0.5s							
FETA	**Feichten**	**151.77**	**353**	*e*P	**PKPdf**	**15 53 12.9**	**+3.4**
6.8nm,1.7s							
ABTA	**Abfaltersbach**	**151.78**	**350**	*e*P	**PKPdf**	**15 53 11.8**	**+2.4**
7.8nm,1.1s							

*IDC **01** 15:45:25.8±1.7, 5°.67N×74°.76W, h86km±19km, mb3.1/2, mb1 3.4/2, mb1mx3.0/24, mbtmp3.4/2, Error ellipse: s-maj=68.1km s-min=27.2km az=80.0*
*RSNC **01** 15:45:28.0±1.4, 5°.62N×74°.37W, h83km±5km, ML3.4, Mw3.6, Fault plane solution: NP1:φs12.00000°, δ64.00000°, λ178.00000°.*
ISC 01 15:45:26.2±0.8, 5°.64N±0°.02×74°.36W±0°.03, h98km±6km, n36, σ1°36/68, 8C-10D, Colombia

| Code |

SPBC *i* 15 45 51.7
comp=Z,2μm,0.1s
NORC Norcasia 0.52 262⇓*i*P Pn 15 45 41.7 -0.2
NORC *e*S **Sn 15 45 52.6 -1.0**
NORC *i* 15 45 54.1
comp=Z,1μm,0.3s
ROSC El Rosal 0.80 177 P **Pn 15 45 45.4 +0.6**
comp=Z,121nm,0.3s,baz=332,slow=4.4,SNR=89
ROSC S **Sn 15 45 59.5 +0.9**
comp=Z,390nm,0.3s,baz=343,slow=19,SNR=25
ROSC LR LR 15 46 02.9
comp=Z,267nm,20.2s,baz=216,slow=40
ROSC El Rosal 0.80 177⇑*i*P Pn 15 45 45.3 +0.6
ROSC *e*S **Sn 15 45 58.3 -0.3**
ROSC *i* 15 46 00.7
comp=Z,854nm,0.3s
PTBC PUERTO BERRIO, 0.90 354⇓*i*P Pn 15 45 45.5 +0.1
PTBC *e*S **Sn 15 45 59.7 -0.1**
PTBC *i* 15 46 01.0
comp=Z,1μm,0.4s
GUY2C Guyana, Caldas 1.09 248⇓*e*P Pn 15 45 48.2 +0.3
GUY2C *e*S **Sn 15 46 03.1 -1.1**
GUY2C *i* 15 46 08.5
comp=Z,219nm,0.1s
CHIC Chingaza 1.18 148⇑*i*P Pn 15 45 49.3 +0.3
CHIC *e*S **Sn 15 46 05.0 -1.0**
CHIC *i* 15 46 11.6
comp=Z,587nm,0.7s
HELC Santa Helena 1.29 295⇑*e*P Pn 15 45 50.6 +0.5
HELC *e*S **Sn 15 46 08.6 +0.4**
HELC *i* 15 46 11.0
comp=Z,390nm,0.4s
RUSC La Rusia 1.29 79⇓*e*P Pn 15 45 50.8 +0.6
RUSC *e*S **Sn 15 46 09.2 +0.8**
RUSC *i* 15 46 11.0
comp=Z,164nm,0.3s
BARC Barichara 1.50 51⇓*i*P Pn 15 45 53.7 +1.1
BARC *e*S **Sn 15 46 13.0 +0.4**
BARC *i* 15 46 17.2
comp=Z,354nm,0.2s
ANIL Santa Ana 1.55 222 *e*P Pn 15 45 53.6 +0.4
ANIL *e*S **Sn 15 46 13.3 -0.3**
ANIL *i* 15 46 15.4
comp=Z,797nm,0.3s
BRRC Barranca, Sant 1.59 24⇓*i*P Pn 15 45 54.2 +0.6
BRRC *e*S **Sn 15 46 15.1 +0.9**
BRRC *i* 15 46 19.8
comp=Z,481nm,0.1s
VILC Villavicencio, 1.66 156⇑*e*P Pn 15 45 55.2 +0.8
VILC *e*S **Sn 15 46 17.5 +1.6**
CBOC Ciudad Bolivar 1.66 278 *e*P Pn 15 45 55.8 +1.3
CBOC *e*S **Sn 15 46 15.2 -0.9**
ZARC Zaragoza, Cauc 1.91 345⇑*e*P Pn 15 45 57.8 +0.2
ZARC *e*S **Sn 15 46 23.6 +2.2**
ZARC *i* 15 46 28.6
comp=Z,711nm,0.1s
ORTC Ortega, Tolima 1.94 207 *e*P Pn 15 45 58.1 +0.2
ORTC *e*S **Sn 15 46 21.8 -0.2**
ORTC *i* 15 46 29.2
comp=Z,140nm,0.2s
PRAC Prado 1.98 195⇑*e*P Pn 15 45 58.3 -0.3
PRAC *e*S **Sn 15 46 23.1 -0.1**
PRAC *i* 15 46 25.5
comp=Z,129nm,0.2s
PLMC San Jos del P 2.05 249⇓*e*P Pn 15 46 00.9 +1.5
PLMC *e*S **Sn 15 46 24.5 -0.4**
DBBC Dabeiba 2.30 307⇑*i*P Pn 15 46 04.0 +1.4
DBBC *i* 15 46 35.1
comp=Z,445nm,0.3s
PAMC Pamplona, Colo 2.36 44 *e*P Pn 15 46 05.1 +1.2
PAMC *e*S **Sn 15 46 35.1 +2.5**
PAMC *i* 15 46 38.8
comp=Z,148nm,0.2s
UREC San Jos de Ur 2.40 331⇑*i*P Pn 15 46 03.8 -0.3
UREC *e*S **Sn 15 46 32.1 -0.9**
UREC *i* 15 46 42.8
comp=Z,217nm,0.2s
YOTC Yotoco, Valle 2.58 230⇓*e*P Pn 15 46 06.8 +0.4
YOTC *e*S **Sn 15 46 38.5 +1.3**
PTGC Puerto Gaitan, 2.64 123 *e*P Pn 15 46 07.2 +0.1
PTGC *e*S **Sn 15 46 37.4 -1.1**
PTGC *i* 15 46 42.5
comp=Z,122nm,0.2s
TAMC Tame, Arauca 2.67 73⇓*i*P Pn 15 46 08.8 +1.3
TAMC *e*S **Sn 15 46 40.3 +0.9**
TAMC *i* 15 46 47.7
comp=Z,135nm,0.4s
OCAC Ocana 2.78 22 *e*P Pn 15 46 09.9 +0.8
OCAC *e*S **Sn 15 46 43.6 +1.4**
SMLC San Martn de 3.15 5 *e*P Pn 15 46 13.6 -0.4
SMLC *e*S **Sn 15 46 52.2 +1.4**
SMLC *i* 15 47 00.6
comp=Z,141nm,0.1s
GUVC San Jose del G 3.52 151 *e*P Pn 15 46 18.4 -0.6
GUVC *e*S **Sn 15 46 57.2 -2.6**
GUVC *i* 15 47 02.0
comp=Z,132nm,0.3s
FLOC Florencia 4.23 198 *e*P Pn 15 46 28.0 -0.6
FLOC *e*S **Sn 15 47 16.8 -0.2**
FLOC *i* 15 47 20.5
comp=Z,26nm,0.4s
SJCC San Jacinto, C 4.31 349 *e*P Pn 15 46 28.6 -1.1
SJCC *e*S **Sn 15 47 13.3 -5.6**
SJCC *i* 15 47 41.1
comp=Z,39nm,0.3s
SOCV Socops 4.36 53 *e*P Pn 15 46 30.1 -0.1
SOCV *e*S **Sn 15 47 17.9 -2.0**
ELOV Elorza 5.03 74 *e*P Pn 15 46 39.7 +0.4
ELOV *e*S **Sn 15 47 32.4 -3.8**
CRJC Cerrejon, Guaj 5.54 15 *e*P Pn 15 46 46.0 -0.4
CRJC *e*S **Sn 15 47 48.3 -0.6**
CRJC *i* 15 48 07.0
comp=Z,72nm,0.4s
LPAZ La Paz 22.64 164 P **P 15 50 23.2 +3.2**
comp=Z,0.6nm,0.4s,baz=340,slow=8.9,SNR=3.3
YKA Yellowknife Ar 63.95 340 P **P 15 55 48.8 +0.1**
comp=Z,0.2nm,0.4s,baz=133,slow=6.2,SNR=10
YKA pP **pP 15 56 11.9 -1.3**
comp=Z,0.1nm,0.4s,baz=135,slow=6.7,SNR=2.0
ASAR Alice Springs 147.43 234 PKPbc **PKPbc 16 04 58.6 -1.1**
comp=Z,1.6nm,0.4s,baz=117,slow=3.6,SNR=85
WRA Warramunga Arr 148.69 240 PKPbc **PKPbc 16 05 02.3 -0.9**
comp=Z,1.2nm,0.5s,baz=109,slow=2.9,SNR=24

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*OSPL **01** 15:58:01.5±0.8, 18°.33N×74°.27W, h0^{km}±13^{km}, ML3.5*
*SSNC **01** 15:58:02.9±1.4, 18°.28N×74°.18W, h25^{km}±13^{km}, MD3.5, ML2.9, MW3.0*
ISC 01 15:58:00.7±3.6, 18°.41N±0°.09×74°.26W±0°.05, h13^{km}±26^{km}, n15, σ1^{s}47/29, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**1.71**	**332**	*e*P	**Pn**	**15 58 31.6**	**+1.4**
GTBY				*e*S	**Sn**	**15 58 53.4**	**+1.4**
GTBY	**Guantanamo Bay**	**1.71**	**332**	*i*P	**Pn**	**15 58 31.6**	**+1.4**
GTBY				*e*S	**Sn**	**15 58 53.9**	**+1.8**
GTBY				IAML		15 58 57.1	
comp=Z,186nm,0.8s							
MASC	**Masc**	**1.76**	**1**	*e*P	**Pn**	**15 58 31.1**	**+0.2**
MASC				*e*S	**Sn**	**15 58 52.2**	**-1.0**
GTMO	**Guantanamo**	**1.86**	**334**	*e*P	**Pn**	**15 58 31.9**	**-0.4**
GTMO				*e*S	**Sn**	**15 58 54.4**	**-1.3**
PAPH	**Port-au-Prince**	**1.87**	**86**	*i*P	**Pn**	**15 58 32.3**	**-0.1**
PAPH				*e*S	**Sn**	**15 58 56.1**	**+0.3**
PAPH				IAML		15 58 59.2	
comp=Z,441nm,0.4s							
RCC	**Rio Carpintero**	**2.08**	**320**	*e*P	**Pn**	**15 58 36.6**	**+1.3**
RCC				*e*Pg	**Pb**	**15 58 37.6**	**-0.8**
RCC				*e*S	**Sn**	**15 59 01.7**	**+0.6**
RCC				*e*S	**Sb**	**15 59 02.7**	**-1.4**
RCC				IAML		15 59 06.6	
comp=E,60nm,0.2s							
RCC				IAML		15 59 07.2	
comp=N,101nm,0.2s							
LOPE2	**Hotel El Peder**	**2.42**	**98**	*i*P	**Pn**	**15 58 40.1**	**+0.1**
LOPE2				*e*S	**Sn**	**15 59 09.3**	**-0.2**
LOPE2				IAML		15 59 17.4	
comp=Z,223nm,0.6s							
LONE2	**Loma La Sidra**	**2.65**	**86**	*i*P	**Pn**	**15 58 44.1**	**+0.8**
SDDR	**Presa de Saban**	**2.88**	**78**	*e*P	**Pn**	**15 58 46.7**	**+0.3**
SDDR				*e*S	**Sn**	**15 59 23.1**	**+2.2**
SDDR	**Presa de Saban**	**2.88**	**78**	*i*P	**Pn**	**15 58 46.7**	**+0.3**
HLGC	**Holguin**	**3.00**	**326**	*e*P	**Pn**	**15 58 51.2**	**+3.2**
HLGC				*e*S	**Sb**	**15 59 32.3**	**+1.8**
HLGC				IAML		15 59 41.0	
comp=N,25nm,0.6s							
HLGC				IAML		15 59 41.6	
comp=E,18nm,0.4s							
LOBA2	**Hotel Casa Bon**	**3.03**	**96**	*i*P	**Pn**	**15 58 49.1**	**+0.7**
LMGC	**Las Mercedes**	**3.07**	**303**	*e*P	**Pn**	**15 58 49.3**	**+0.4**
LMGC				*e*S	**Sn**	**15 59 24.6**	**-1.0**
LMGC				IAML		15 59 27.5	
comp=E,30nm,0.2s							
LMGC				IAML		15 59 28.1	
comp=N,30nm,0.1s							
GRTK	**Grand Turk**	**4.27**	**43**	*e*P	**Pn**	**15 59 06.2**	**+0.8**
GRTK				*e*S	**Sn**	**15 59 51.9**	**-3.2**
CCCC	**Cccc**	**4.31**	**311**	*e*P	**Pn**	**15 59 05.5**	**-0.6**
CCCC				*e*S	**Sn**	**15 59 54.0**	**-2.2**
CCCC				IAML		15 59 57.5	
comp=E,2.9nm,0.2s							
CCCC				IAML		15 59 58.7	
comp=N,3.3nm,0.3s							

NNC 01 16:07:05.6±6.9, 37°.47N×71°.24E, h0^{km}, mb3.9, mpv3.5, 4C, Error ellipse: s-maj=63.4km s-min=54.0km az=59.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**5.66**	**355**	⇑P	Pn	16 08 31.8	+0.9
1.7nm,0.3s							
KK02				⇑S	Sn	16 09 37.3	+0.7
0.5nm,0.4s							
AAK	**Ala-Archa**	**5.73**	**25**	P	Pn	16 08 31.8	-0.3
3.5nm,0.5s							
AAK				⇑S	Sn	16 09 40.3	+1.6
2.0nm,0.6s							
TKM2	**Tokmak 2**	**6.38**	**30**	⇑P	Pn	16 08 40.2	-0.8
1.5nm,0.5s							

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*ATH **01** 16:20:23.7, 34°.84N×25°.03E, h12^{km}±2^{km}, ML2.3/7, Error ellipse: s-maj=2.6km s-min=1.0km az=351.0*
*THE **01** 16:20:26.9, 35°.08N×24°.70E, h20^{km}±1^{km}, ML2.3/3, Error ellipse: s-maj=3.0km s-min=0.4km az=131.0*
ISC 01 16:20:23.1±1.3, 34°.82N±0°.07×25°.00E±0°.04, h22^{km}±4^{km}, n17, σ0^{s}78/30, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.25**	**321**	P	**Pb**	**16 20 29.1**	**-0.1**
SIVA				S	**Sb**	**16 20 32.8**	**-0.6**
SIVA	**Sivas**	**0.25**	**321**	P	**Pb**	**16 20 30.9**	**+1.7**
SIVA	**Sivas**	**0.25**	**321**	P	**Pb**	**16 20 29.1**	**-0.1**
SIVA				S	**Sb**	**16 20 32.8**	**-0.6**
SIVA				AML	AML	16 20 33.7	
comp=N,6199μm,0.4s							
SIVA				AML	AML	16 20 33.9	
comp=E,11352μm,0.3s							
TMBK	**Timbaki Herakl**	**0.32**	**322**	P	**Pb**	**16 20 30.5**	**+0.4**
TMBK				S	**Sb**	**16 20 35.1**	**+0.2**
comp=E,1μm,0.4s							
TMBK	**Timbaki Herakl**	**0.32**	**322**	P	**Pb**	**16 20 30.5**	**+0.4**
TMBK				S	**Sb**	**16 20 33.2**	**-1.7**
comp=E,1μm,0.4s							
IDI	**Anoyia**	**0.47**	**349**	P	**Pb**	**16 20 32.5**	**-0.3**
IDI				S	**Sb**	**16 20 37.7**	**-1.7**
IDI	**Anoyia**	**0.47**	**349**	P	**Pb**	**16 20 32.5**	**-0.3**
IDI				S	**Sb**	**16 20 39.2**	**-0.2**
IDI				AML	AML	16 20 40.1	
comp=N,488μm,0.5s							
IDI				AML	AML	16 20 41.4	
comp=E,796μm,0.4s							
NPS	**Neapolis**	**0.66**	**49**	P	**Pb**	**16 20 36.5**	**+0.4**
NPS				S	**Sn**	**16 20 46.4**	**-0.6**
NPS	**Neapolis**	**0.66**	**49**	P	**Pb**	**16 20 35.6**	**-0.5**
NPS				S	**Sb**	**16 20 44.9**	**0.0**
NPS				AML	AML	16 20 47.3	
comp=E,369μm,0.3s							
NPS				AML	AML	16 20 49.0	
comp=N,204μm,0.3s							
GVDS	**Gavdos**	**0.75**	**272**	P	**Pn**	**16 20 38.2**	**-0.2**
GVDS				S	**Sb**	**16 20 46.4**	**-0.9**
comp=N,285nm,0.5s							
GVD	**Gavdhos**	**0.75**	**271**	P	**Pb**	**16 20 37.7**	**+0.2**
GVD				S	**Sb**	**16 20 46.3**	**-1.1**
comp=N,532nm,0.3s							
GVD	**Gavdhos**	**0.75**	**271**	P	**Pn**	**16 20 38.4**	**0.0**
GVD				S	**Sn**	**16 20 49.0**	**-0.2**
GVD				AML	AML	16 20 53.0	
comp=E,849μm,0.3s							
GVD				AML	AML	16 20 53.8	
comp=N,632μm,0.3s							
VAM	**Vamos**	**0.88**	**312**	P	**Pn**	**16 20 40.2**	**+0.1**
VAM				S	**Sn**	**16 20 52.3**	**+0.1**
VAM				AML	AML	16 20 53.6	
comp=N,398μm,0.3s							
VAM				AML	AML	16 20 54.4	
comp=E,546μm,0.4s							
ZKR	**Zakros**	**1.04**	**73**	P	**Pn**	**16 20 42.8**	**+0.4**
ZKR				AML	AML	16 21 04.1	
comp=E,314μm,0.5s							
ZKR				AML	AML	16 21 06.2	
comp=N,119μm,0.6s							
IMMV	**Iera Moni Meta**	**1.05**	**307**	P	**Pn**	**16 20 43.5**	**+1.0**
IMMV				S	**Sn**	**16 20 57.9**	**+1.4**
IMMV				AML	AML	16 21 01.0	
comp=N,452μm,0.4s							
IMMV				AML	AML	16 21 04.2	
comp=E,359μm,0.7s							
STAX	**Taxiarchis Har**	**1.60**	**12**	P	**Pb**	**16 20 52.6**	**+0.5**
ANKY	**Antikythira Is**	**1.74**	**307**	P	**Pb**	**16 20 54.5**	**+0.2**

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*GUC **01** 17:02:34.7±0.6, 20°.89S×69°.08W, h101^{km}±3^{km}, ML3.7*
*VAO **01** 17:02:34.2±0.4, 20°.99S×68°.14W, h10^{km}, mb4.1*
*IDC **01** 17:02:36.5±1.4, 20°.94S×68°.68W, h110^{km}±15^{km}, mb3.5/3, mb1 3.6/5, mb1mx3.4/25, mbtmp3.9/5, Error ellipse: s-maj=32.9km s-min=16.2km az=108.0*
ISC 01 17:02:34.9±0.8, 20°.88S±0°.04×69°.15W±0°.07, h100^{km}±7^{km}, n29, σ1^{s}39/42, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.35**	**243⇑**	*e*P	**Pn**	**17 02 49.4**	**-0.5**
PB01				*e*S	**Sn**	**17 03 01.2**	**+0.1**
PB01				IAML		17 03 02.0	
comp=E,11μm,0.3s							
PB08	**IPOC Station P**	**0.74**	**360**	*e*P	**Pn**	**17 02 52.8**	**-0.3**
PB08				*e*S	**Sn**	**17 03 06.8**	**+0.1**
PB08				IAML		17 03 08.6	
comp=N,4μm,0.2s							
PB02	**IPOC Station P**	**0.82**	**238⇓**	*e*P	**Pn**	**17 02 53.5**	**-0.1**
PB02				*e*S	**Sn**	**17 03 08.1**	**+0.5**
PB02				IAML		17 03 09.9	
comp=E,8μm,0.3s							
PB09	**IPOC Station P**	**0.91**	**185**	*e*P	**Pn**	**17 02 54.7**	**+0.1**
PB09				*e*S	**Sn**	**17 03 10.0**	**+0.6**
PB09				IAML		17 03 12.5	
comp=N,2μm,0.5s							
TA01	**Diego Aracena**	**1.02**	**288**	*e*P	**Pn**	**17 02 55.2**	**-0.2**
TA01				*e*S	**Sn**	**17 03 11.3**	**+0.3**
TA01				IAML		17 03 12.2	
comp=E,2μm,0.3s							
PB07	**IPOC Station P**	**1.08**	**219**	*e*P	**Pn**	**17 02 56.3**	**-0.1**
PB07				*e*S	**Sn**	**17 03 12.6**	**-0.1**
PB07				IAML		17 03 13.7	
comp=N,2μm,0.3s							
TA02	**Huaiquique**	**1.10**	**303**	*e*P	**Pn**	**17 02 56.2**	**-0.2**
TA02				*e*S	**Sn**	**17 03 12.9**	**+0.2**
TA02				IAML		17 03 15.8	
comp=N,2μm,0.1s							
PB11	**IPOC Station P**	**1.21**	**337**	*e*P	**Pn**	**17 02 57.6**	**-0.3**
PB11				*e*S	**Sn**	**17 03 15.2**	**-0.1**
PB11				IAML		17 03 16.1	
comp=E,5μm,0.2s							
PB03	**IPOC Station P**	**1.29**	**206**	*e*P	**Pn**	**17 02 58.7**	**-0.1**
PB03				*e*S	**Sn**	**17 03 16.8**	**-0.1**
PB03				IAML		17 03 18.0	
comp=E,1μm,0.3s							
PB04	**IPOC Station P**	**1.72**	**213**	*e*P	**Pn**	**17 03 03.6**	**-0.4**
PB04				*e*S	**Sn**	**17 03 26.0**	**-0.2**
PB04				IAML		17 03 37.1	
comp=E,492nm,0.7s							
LVC	**Limon Verde**	**1.73**	**173**	P	**Pn**	**17 03 05.1**	**+0.7**
comp=E,17nm,0.3s,baz=16,slow=11,SNR=63							
LVC				S	**Sn**	**17 03 28.2**	**+1.4**
comp=E,54nm,0.3s,baz=91,slow=23,SNR=14							
LVC	**Limon Verde**	**1.73**	**173**	*e*P	**Pn**	**17 03 04.5**	**0.0**
LVC				*e*S	**Sn**	**17 03 26.7**	**-0.1**
LVC	**Limon Verde**	**1.73**	**173**	*e*P	**Pn**	**17 03 05.8**	**+1.4**
LVC				*e*S	**Sn**	**17 03 26.7**	**-0.1**
PB06	**IPOC Station P**	**1.86**	**192**	*e*P	**Pn**	**17 03 05.5**	**-0.3**
PB06				*e*S	**Sn**	**17 03 29.2**	**-0.1**
PB06				IAML		17 03 33.8	
comp=E,480nm,0.2s							
PB05	**IPOC Station P**	**2.19**	**206⇑**	*e*P	**Pn**	**17 03 09.4**	**-0.7**
PB05				*i*S	**Sn**	**17 03 35.4**	**-1.5**
PB05				IAML		17 03 36.9	
comp=E,212nm,0.4s							
PB15	**IPOC Station P**	**2.33**	**187⇑**	*e*P	**Pn**	**17 03 12.7**	**+0.7**
PB15				*e*S	**Sn**	**17 03 40.0**	**-0.4**
LPAZ	**La Paz**	**4.67**	**12**	P	**Pn**	**17 03 46.7**	**+3.0**
comp=E,1.3nm,0.3s,baz=190,slow=17,SNR=18							
LPAZ	**La Paz**	**4.67**	**12**	*e*P	**Pn**	**17 03 45.9**	**+2.2**
SIV	**San Ignacio**	**9.08**	**59**	P	**Pn**	**17 04 38.8**	**-4.3**
comp=E,1.4nm,0.3s,baz=252,slow=9.4,SNR=25							
ETMB	**Extrema**	**11.36**	**15**	*e*P	**Pn**	**17 05 14.9**	**+0.8**
VILB	**Vilhena**	**11.64**	**49**	*e*P	Pn	17 05 11.0	-6.8
CPUP	**Villa Florida**	**12.11**	**119**	*e*P	Pn	17 05 16.1	-7.9
PDRB	**Porto dos Gac**	**15.06**	**54**	*e*P	Pn	17 05 57.4	-5.1
BDFB	**Brasilia**	**20.73**	**79**	P	**P**	**17 07 03.4**	**-4.2**
comp=E,2.1nm,0.3s,baz=254,slow=15,SNR=1.6							
DIAM	**Diamantina, MG**	**24.13**	**88**	*e*P	**P**	**17 07 40.7**	**-1.1**
ROSB	**Rosrio**	**30.23**	**57**	*e*P	**P**	**17 08 39.7**	**+3.5**
TORD	**Torodi Ar. Bea**	**77.36**	**71**	P	**P**	**17 14 18.3**	**-0.9**
comp=E,0.4nm,0.4s,baz=260,slow=5.3,SNR=7.4							
YKA	**Yellowknife Ar**	**90.53**	**341**	P	**P**	**17 15 24.8**	**-0.3**
comp=E,0.4nm,0.6s,baz=134,slow=4.1,SNR=7.3							
MKAR	**Makanchi Array**	**145.26**	**35**	PKPbc	**PKPbc**	**17 22 00.6**	**-0.2**
comp=E,1.2nm,0.8s,baz=315,slow=3.1,SNR=10							

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*IGQ **01** 17:15:40±0.1, 0°.N±1°×7°.9W±°, h3^{km}*
*NEIC **01** 17:15:42.9±2.3, 0°.48N±0°.06×78°.77W±0°.07, h27^{km}±5^{km}, mb4.8/104, Error ellipse: s-maj=11.0km s-min=8.2km az=53.0*
*GCMT **01** 17:15:43.9±0.3, 0°.15N±0°.01×78°.99W±0°.02, h18^{km}±1^{km}, MW5.1/86, Moment Tensor Solution. s24,c24; s86,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.67±.16; $M_{\theta\theta}$3.23±.14; $M_{\phi\phi}$-3.90±.17; $M_{r\theta}$-1.39±.33; $M_{r\phi}$0.84±.12; $M_{\theta\phi}$-4.19±.61; Best double couple: $M_0$5.60300×10^{16} NP1:ϕ_s305.00000°, δ38.00000°, λ6.00000°. NP2: ϕ_s210.00000°, δ86.00000°, λ128.00000°. Principal axes: T 4.8180, Plg37.0000°, Azm153.0000°; N 1.5670, Plg38.0000°, Azm28.0000°; P -6.3890, Plg31.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **01** 17:15:46.3±2.0, 0°.50N×78°.87W, h47^{km}±20^{km}, mb4.0/24, mb1 4.2/30, mb1mx4.1/50, mbtmp4.3/30, ML4.4/5, MS4.0/35, Ms1 4.0/35, ms1mx3.9/54 Error ellipse: s-maj=18.4km s-min=10.8km az=55.0*
*VAO **01** 17:15:46.2±0.4, 0°.50N×78°.75W, h47^{km}, mb4.7*
ISC 01 17:15:40.8±0.3, 0°.44N±0°.02×78°.93W±0°.02, h16^{km}, n395, σ1^{s}59/375, mb4.8/72, MS4.1/33, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**0.22**	**141**	S	**Sg**	**17 15 48.0**	**-1.6**
PAC1	**Pacto, Paraso**	**0.22**	**141**	P	**Pg**	**17 15 45.0**	**-1.1**
ACHO	**Acelerografo,**	**0.25**	**141**	S	**Sg**	**17 15 48.0**	**-2.3**
ACHO	**Acelerografo,**	**0.25**	**141**	P	**Pg**	**17 15 45.0**	**-1.5**
APR2	**Miler**	**0.36**	**186**	S	**Sg**	**17 15 51.0**	**-2.5**
APR2	**Miler**	**0.36**	**186**	P	**Pg**	**17 15 46.0**	**-2.4**
BV15	**Puerto Quito-O**	**0.40**	**226**	P	**Pg**	**17 15 47.0**	**-2.1**
BV15	**Puerto Quito-O**	**0.40**	**226**	S	**Sg**	**17 15 52.0**	**-2.6**
OTAV	**Otavalo**	**0.52**	**113**		**Pg**	**17 15 50.3**	**-1.1**
OTAV					**Sg**	**17 15 57.4**	**-1.1**
CUSE	**Cuicocha Este**	**0.55**	**104**	P	**Pg**	**17 15 51.0**	**-0.9**
AV18	**Acelerografo,**	**0.56**	**257**	P	**Pg**	**17 15 52.0**	**+0.1**
APR1	**Acelerografo,**	**0.58**	**147**	P	**Pg**	**17 15 51.0**	**-1.4**
APR1	**Acelerografo,**	**0.58**	**147**	S	**Sg**	**17 15 58.0**	**-2.2**
CUIC	**Cuicocha-Domo**	**0.59**	**103**	P	**Pg**	**17 15 52.0**	**-0.6**
CUIC	**Cuicocha-Domo**	**0.59**	**103**	S	**Sg**	**17 15 59.0**	**-1.5**
PULU	**Pululahua**	**0.60**	**134**	P	**Pg**	**17 15 51.0**	**-1.8**
PULU	**Pululahua**	**0.60**	**134**	S	**Sg**	**17 15 59.0**	**-1.8**
CUSW	**Cuicocha Oeste**	**0.60**	**105**	P	**Pg**	**17 15 52.0**	**-0.8**
COTA	**Cotacachi**	**0.60**	**100**	P	**Pg**	**17 15 52.0**	**-0.9**
LGCB	**Laguna Cube**	**0.65**	**265**	P	**Pg**	**17 15 52.0**	**-1.5**
AV21	**Acelerografo,**	**0.65**	**290**	P	**Pg**	**17 15 53.0**	**-0.7**
SADP	**Ecuador-Quito-**	**0.65**	**132**	P	**Pg**	**17 15 53.0**	**-0.8**
YANA	**Yana**	**0.66**	**147**	P	**Pg**	**17 15 52.0**	**-2.0**
URCU	**Urcuqui**	**0.68**	**90**	P	**Pg**	**17 15 54.0**	**-0.2**
PINO	**Pino**	**0.68**	**151**	P	**Pg**	**17 15 53.0**	**-1.3**
TERV	**Terraza Guagua**	**0.69**	**152**	P	**Pg**	**17 15 53.0**	**-1.6**
GGPC	**Guagua Pichinc**	**0.70**	**151**	P	**Pg**	**17 15 53.0**	**-1.7**
AOTA	**Otavalo**	**0.70**	**106**	P	**Pg**	**17 15 54.0**	**-0.7**
HPAL	**Hacienda Las P**	**0.71**	**157**	P	**Pg**	**17 15 53.0**	**-1.9**
CRPG	**Carapungo - Pi**	**0.72**	**139**	P	**Pg**	**17 15 54.0**	**-1.1**
AAT1	**Ecuador-Atunta**	**0.73**	**99**	P	**Pb**	**17 15 55.0**	**-0.3**
JUA2	**San Juan 2**	**0.73**	**153**	P	**Pg**	**17 15 53.0**	**-2.2**
GGPT	**Toaza - Volcan**	**0.73**	**155**	P	**Pg**	**17 15 53.0**	**-2.2**
IMBA	**Imbabura, San**	**0.75**	**103**	P	**Pg**	**17 15 55.0**	**-0.6**
AV11	**Acelerografo,**	**0.76**	**132**	P	**Pg**	**17 15 55.0**	**-0.7**
RVRD	**Rio Verde**	**0.77**	**324**	P	**Pg**	**17 15 55.0**	**-0.9**
RVRD				S	**Sg**	**17 16 05.0**	**-1.0**
BELL	**Bellavista**	**0.78**	**143**	P	**Pg**	**17 15 55.0**	**-1.1**
CIVI	**Edificio de In**	**0.78**	**146**	P	**Pg**	**17 15 55.0**	**-1.2**
EPNL	**EPN Laboratori**	**0.78**	**146**	P	**Pg**	**17 15 55.0**	**-1.2**
AIB1	**Ecuador-Imbabu**	**0.81**	**97**	P	**Pg**	**17 15 56.0**	**-0.7**
AIB2	**Ibarra (Univer**	**0.83**	**97**	P	**Pb**	**17 15 57.0**	**-0.1**
YAHU	**Yahuarcocha**	**0.86**	**95**	P	**Pg**	**17 15 57.0**	**-0.7**
AMA1	**Acelerografo,**	**0.93**	**302**	P	**Pb**	**17 15 58.0**	**-0.6**
CHMA	**Chilma**	**0.96**	**64**	P	**Pb**	**17 15 58.0**	**-1.4**
LNGL	**El Angel-Carch**	**0.97**	**72**	P	**Pb**	**17 15 59.0**	**-0.7**
MAG1	**Magdalena**	**0.98**	**239**	P	**Pb**	**17 15 58.0**	**-1.5**
ANGU	**Angureal**	**1.00**	**113**	P	**Pb**	**17 16 00.0**	**-0.2**
CAYA	**Cayambe**	**1.01**	**111**	P	**Pb**	**17 15 59.0**	**-1.3**
CAYR	**Refugio Cayamb**	**1.02**	**115**	P	**Pb**	**17 16 00.0**	**-0.5**
ECEN	**Cerro Negro**	**1.03**	**68**	P	**Pb**	**17 16 00.0**	**-0.7**
CHL1	**Volc¡n Chiles**	**1.05**	**71**	P	**Pb**	**17 16 00.0**	**-0.9**
TOMA	**Boca Toma-Volc**	**1.06**	**152**	P	**Pb**	**17 16 00.0**	**-1.0**
CHL2	**Volc¡n Chiles**	**1.07**	**71**	P	**Pb**	**17 16 00.0**	**-1.4**
APS4	**Papallacta**	**1.15**	**134**	P	**Pb**	**17 16 01.0**	**-1.6**
ANTG	**Antisana-Guama**	**1.16**	**

CHSH Refugio Sur-Vo 1.92 178 P Pn 17 16 14.0 +0.5
IGUA Igualata 1.94 171 P Pn 17 16 14.0 +0.3
RETU Refugio 1.94 166 P Pn 17 16 14.0 +0.3
TAMH Tambohuasha Ch 1.98 176 P Pn 17 16 15.0 +0.9
BMAS Trigal station 1.98 167 P Pn 17 16 15.0 +0.9
ARRY Arrayan 1.99 166 P Pn 17 16 15.0 +0.8
BPAT Tungurahua Vol 2.00 166 P Pn 17 16 15.0 +0.7
APS1 Acelerografo, 2.04 100 P Pb 17 16 18.0 +0.4
APUY Puyo 2.11 154 P Pb 17 16 18.0 -0.8
PUYO Puyo, Santa Ro 2.12 155 P Pb 17 16 18.0 -1.1
AMNT Manta-Manabi 2.27 233 P Pn 17 16 17.0 -0.6
SANGA Volcan Sangay 2.54 167 P Pn 17 16 24.0 +2.2
AMIL Milagro (Trans 2.64 195 P Pn 17 16 22.0 -0.8
ISPT Isla de la Pla 2.73 232 P Pn 17 16 23.0 -1.0
SOTA Rioblanco 2.87 54 eP Pn 17 16 28.2 +1.8
COHC Cochancay 2.91 186 P Pn 17 16 25.0 -1.4
POPC Popayan, Colom 3.07 47 eP Pn 17 16 29.7 +0.8
PCON Cinco Dias 3.15 53 eP Pn 17 16 33.1 +2.8
CFLOR Florencia 3.47 71 eP Pg 17 16 44.4 -2.9
FLOC Florencia 3.47 71 eP Pb 17 16 39.6 -2.4
BOSC San Juan Bosco 3.59 173 P Pn 17 16 40.0 +3.9
ISPG Isla Puna-Puer 3.61 200 P Pn 17 16 36.0 -0.1
GARC Garzon, Huila 3.85 63 eP Pb 17 16 44.2 -4.3
ARNL Arenillas 4.12 196 P Pn 17 16 42.0 -1.2
BETC Betania 4.14 57 eP Pb 17 16 49.8 -3.6
PTLC Puerto Leguiza 4.14 94 eP Pn 17 16 45.6 +2.1
PTLC Puerto Leguiza 4.14 94 P Pn 17 16 46.0 +2.5
YOTC Yotoco, Valle 4.37 36 eP Pn 17 16 48.8 +2.1
YOTC Yotoco, Valle 4.37 36 eP Pn 17 16 46.4 -0.2
GONZ Gonzanam 4.67 186 P Pn 17 16 52.0 +0.9
MCRA Macar, Loja 4.89 192 P Pn 17 16 53.0 -0.8
ORTC Ortega, Tolima 5.04 47 eP Pn 17 16 57.3 +1.4
PLMC San Jos del P 5.16 31 eP Pn 17 16 57.2 -0.4
PRAC Prado 5.19 51 eP Pn 17 16 60.0 +2.1
ANIL Santa Ana 5.35 41 eP Pn 17 17 03.0 +2.7
MACC Macarena, Meta 5.36 72 eP Pb 17 17 09.4 -4.7
MACC Macarena, Meta 5.36 72 eP Pn 17 17 04.7 +4.5
GUY2C Guyana, Caldas 5.94 37 eP Pn 17 17 10.1 +1.5
CBOC Ciudad Bolivar 6.12 28 eP Pn 17 17 08.2 -2.7
ROSC El Rosal 6.35 46 P Pn 17 17 17.9 +3.7
8.0nm,0.3s,baz=170,slow=9.8,SNR=18
ROSC El Rosal 6.35 46 eP Pn 17 17 12.9 -1.2
ROSC El Rosal 6.35 46 Pn Pn 17 17 15.8 +1.6
CROSA EL ROSAL, CUND 6.35 46 eP Pn 17 17 15.0 +0.8
VILC Villavicencio, 6.38 55 eP Pn 17 17 18.8 +4.5
NORC Norcasia 6.51 38 eP Pn 17 17 15.2 -0.8
GUVC San Jose del G 6.64 72 eP Pb 17 17 29.0 -7.0
HELC Santa Helena 6.64 31 eP Pn 17 17 20.7 +2.5
CHIC Chingaza 6.66 51 eP Pn 17 17 21.0 +2.6
DBBC Dabeiba 7.07 23 eP Pn 17 17 26.5 +2.6
SPBC San Pablo de B 7.09 43 eP Pn 17 17 24.1 -0.1
PTBC PUERTO BERRIO, 7.53 36 eP Pn 17 17 28.9 -1.1
ATAH Atahualpa 7.54 176 P Pn 17 17 33.8 +3.2
7.8nm,0.3s,baz=5.2,slow=8.9,SNR=25
ATAH S Sn 17 19 04.0 +7.8
4.4nm,0.3s,baz=14,slow=14,SNR=2.5
PTGC Puerto Gaitan, 7.75 61 eP Pn 17 17 34.3 +1.3
RUSC La Rusia 7.96 47 eP Pn 17 17 37.2 +0.8
UREC San Jos de Ur 8.01 25 eP Pn 17 17 39.9 +3.2
ZARC Zaragoza, Cauc 8.10 30 eP Pn 17 17 41.0 +3.2
ZARC Zaragoza, Cauc 8.10 30 Pn 17 17 38.5 +0.7
BARC Barichara 8.38 43 eP Pn 17 17 43.4 +1.5
BRRC Barranca, Sant 8.42 38 eP Pn 17 17 39.9 -2.4
CDITO Canoas 8.98 334 Pn 17 17 53.1 +3.1
BRU2 Volcan 9.10 336 eP Pn 17 17 55.6 +3.8
BRU2 Volcan 9.10 336 Pn 17 17 53.7 +1.9
PAMC Pamplona, Colo 9.25 42 eP Pn 17 17 58.7 +4.6
TAMC Tame, Arauca 9.29 50 eP Pn 17 17 54.0 -0.2
OCAC Ocana 9.55 36 eP Pn 17 17 57.5 -0.4
OCAC Ocana 9.55 36 Pn 17 17 56.5 -1.5
SMLC San Martn de 9.61 30 eP Pn 17 18 02.8 +4.2
SRBA San Rafael, Bu 9.78 333 Pn 17 18 04.2 +3.1
PEZE Perez Zeledon, 10.06 332 Pn 17 18 07.1 +2.2
SJCC San Jacinto, C 10.11 22 Pn Pn 17 18 05.9 +0.4
TBTG Tabatinga, AM 10.12 117 eP Pn 17 18 08.6 +3.0
TBTG Tabatinga, AM 10.12 117 eP Pn 17 18 06.6 +1.0
TBTG Tabatinga, AM 10.12 117 Pn 17 18 06.7 +1.0
CZSB Cruzeiro do Su 10.22 143 eP Pn 17 18 08.3 +1.3
CZSB Cruzeiro do Su 10.22 143 Pn Pn 17 18 08.3 +1.3
RIMA Rio Macho 10.48 332 Pn Pn 17 18 11.9 +1.1
CVTR Volcan Turrial 10.66 333 Pn 17 18 13.2 -0.1
HDC Heredia 10.81 332 Pn Pn 17 18 15.9 +0.8
CAO2 Cobano, Puntar 11.05 326 Pn Pn 17 18 20.4 +2.1
SOCV Socops 11.20 46 eP Pn 17 18 18.8 -1.7
PAYG Puerto Ayora 11.41 264 Pn Pn 17 18 27.4 +4.2
JTS Las Juntas de 11.47 329 LR LR 17 22 16.6
comp=Z,776nm,18.4s,slow=34
JTS Las Juntas de 11.47 329 Pn Pn 17 18 24.5 +0.4
SDV Santo Domingo 11.78 44 eP Pn 17 18 26.3 -2.2
SDV Santo Domingo 11.78 44 eP Pn 17 18 28.8 +0.4
SDV Santo Domingo 11.78 44 Pn Pn 17 18 26.3 -2.2
NNA Nana 12.52 171 P Pn 17 18 40.7 +2.1
3.6nm,0.3s,baz=338,slow=13,SNR=8.5
NNA S Sn 17 20 59.0 +1.1
4.4nm,0.3s,baz=231,slow=16,SNR=4.4
NNA Nana 12.52 171 Pn Pn 17 18 40.1 +1.6
BAUV El Baul 13.74 52 Pn Pn 17 18 52.1 -3.1
AUA1 Aruba 14.90 36 Pn Pn 17 19 12.7 +1.7
TGUH Tegucigalpa,Un 15.85 329 P P 17 19 26.5 -0.8
BIRV Birongo 16.06 51 P Pn 17 19 25.5 -0.6
ETMB Extrema 16.25 129 eP Pn 17 19 28.1 -0.5
ETMB Extrema 16.25 129 Pn 17 19 26.4 -2.2
PCRV Puerto La Cruz 17.20 55 P P 17 19 43.9 +1.7
1.1nm,0.3s,baz=223,slow=18,SNR=6.8
MTO3 Montecristo 17.28 324 P P 17 19 44.2 +0.9
ESQI Esquipulas 17.40 324 P Pn 17 19 42.4 -0.8
ESQI IAmb IAmb 17 20 05.1
comp=Z,113nm,1.3s
BOAV Boa Vista 18.50 84 eP Pn 17 19 56.9 +0.1
BOAV Boa Vista 18.50 84 P P 17 19 54.3 -2.3
MACA Manacapuru-AM 18.59 101 eP P 17 19 57.3 -0.2
MACA Manacapuru-AM 18.59 101 P P 17 19 56.3 -1.2
PTGA Pitinga 19.00 94 P Pn 17 20 04.9 +2.1
comp=Z,0.7nm,0.3s,baz=259,slow=12,SNR=7.4
PTGA LR LR 17 27 48.5
comp=Z,621nm,19.6s,baz=274,slow=38
PETF Flores 19.60 327 P P 17 20 07.9 -0.6
LPAZ La Paz 19.75 148 P Pn 17 20 14.2 +1.9
comp=Z,0.6nm,0.3s,baz=324,slow=5.8,SNR=24
LPAZ La Paz 19.75 148 eP P 17 20 09.5 -1.3
LPAZ La Paz 19.75 148 eP P 17 20 11.1 +0.3
LPAZ La Paz 19.75 148 P P 17 20 10.7 -0.1
SDDR Presa de Saban 19.89 22 P P 17 20 11.2 -0.6
SDDR IAmb IAmb 17 20 40.1
comp=Z,54nm,1.1s
CCIG Comitan 20.43 321 P P 17 20 18.0 +0.2
CCIG IAmb IAmb 17 20 46.8
comp=Z,123nm,1.8s
SC01 Santiago de Io 20.51 23 P P 17 20 16.2 -2.3
PB12 IPOC Station P 20.74 156 P P 17 20 20.4 -0.6
PB12 IAmb IAmb 17 20 31.5
comp=Z,31nm,0.7s
PB16 IPOC Station P 20.83 154 P P 17 20 22.4 -0.2
PB16 IAmb IAmb 17 20 36.1
comp=Z,28nm,0.7s
CRPR Cabo Rojo, PR 20.97 33 P P 17 20 23.9 +0.5
OBIP Obispado Ponce 21.28 34 P P 17 20 25.9 -0.9
CELP Cerrillos 21.32 34 P P 17 20 26.7 -0.5
CELP IAmb IAmb 17 20 47.3
comp=Z,30nm,0.8s
AOPR Arecibo Observ 21.44 33 P P 17 20 26.9 -1.7
AOPR IAmb IAmb 17 20 34.0
comp=Z,53nm,0.9s
PDPR Patillas Dam, 21.59 35 P P 17 20 26.6 -3.4
PDPR IAmb IAmb 17 20 41.2
comp=Z,44nm,1.0s
SJG San Juan 21.59 35 P P 17 20 29.8 -0.3
GCPR Guaynabo City 21.79 35 P P 17 20 31.0 -1.2
HUMP Col San Antoni 21.79 35 P P 17 20 31.3 -0.9
HUMP IAmb IAmb 17 20 50.5
comp=Z,32nm,0.9s
CBYP Canovanas 21.89 35 P P 17 20 32.1 -1.3
MTP Monte Pirata 21.93 36 P P 17 20 32.2 -1.5
PB11 IPOC Station P 22.04 156 P P 17 20 34.4 -0.7
PB11 IAmb IAmb 17 20 49.8
comp=Z,39nm,1.0s
CDVI St. Croix 22.14 38 P P 17 20 34.4 -1.6
CUPR Culebra, Puert 22.25 36 P P 17 20 35.1 -2.0
CUPR IAmb IAmb 17 20 53.6
comp=Z,24nm,0.8s
TA02 Huaiquique 22.32 158 P P 17 20 37.8 -0.1
TA02 IAmb IAmb 17 21 08.1
comp=Z,46nm,1.1s
STVI Saint Thomas 22.48 37 P P 17 20 37.3 -2.4
TA01 Diego Aracena 22.57 158 P P 17 20 42.8 +2.2
TA01 IAmb IAmb 17 21 11.3
comp=Z,38nm,1.1s
PB08 IPOC Station P 22.59 155 P P 17 20 43.2 +2.0
FDF Fort de France 22.60 50 P P 17 20 38.9 -2.1
MPOM Morne Pois Mar 22.65 51 P P 17 20 41.4 -0.1
CMIG Matias Romero 22.81 317 P P 17 20 44.8 +1.6
comp=Z,13nm,1.0s,baz=84,slow=10,SNR=6.8
VILB Vilhena 22.85 126 eP P 17 20 43.9 +0.2
VILB Vilhena 22.85 126 P P 17 20 43.4 -0.3
VILB IAmb IAmb 17 21 19.6
comp=Z,37nm,0.9s
PB01 IPOC Station P 23.26 157 P P 17 20 48.6 +0.6
PB01 IAmb IAmb 17 21 24.6
comp=Z,24nm,1.0s
SMRT St. Maarten 23.43 41 P P 17 20 49.1 -0.5
ITTB Itaituba 23.66 102 eP P 17 20 52.7 +0.8
PB07 IPOC Station P 23.74 159 P P 17 20 53.4 +0.8
PB07 IAmb IAmb 17 21 15.7
comp=Z,26nm,0.9s
SIV San Ignacio 24.03 134 P P 17 20 55.8 +0.4
comp=Z,9.6nm,0.9s,baz=307,slow=11,SNR=18
SIV LR LR 17 30 58.9
comp=Z,920nm,18.8s,baz=326,slow=38
PB09 IPOC Station P 24.04 157 P P 17 20 56.0 +0.5
PB09 IAmb IAmb 17 21 18.7
comp=Z,28nm,0.9s
NPGB Novo Progresso 24.67 108 eP P 17 21 00.8 -0.4
PB06 IPOC Station P 24.75 159 P P 17 21 02.7 +0.7
MALB Monte Alegre 24.77 98 eP P 17 21 01.4 -0.7
LVC Limon Verde 24.91 158 P P 17 21 06.1 +2.4
comp=Z,6.3nm,1.0s,baz=356,slow=8.2,SNR=5.5
LVC LR LR 17 32 04.8
comp=Z,993nm,21.7s,baz=326,slow=39
LVC Limon Verde 24.91 158 eP P 17 21 04.3 +0.6
LVC Limon Verde 24.91 158 P P 17 21 03.1 -0.6
LVC IAmb IAmb 17 21 33.7
comp=Z,19nm,1.0s
PDRB Porto dos Gac 25.10 119 eP P 17 21 05.3 +0.2
PTLB Pontes e Lacer 25.14 130 eP P 17 21 05.5 +0.1
PTLB Pontes e Lacer 25.14 130 P P 17 21 02.9 -2.5
PB10 IPOC Station P 25.16 162 P P 17 21 05.0 -0.6
CLDB Colider 25.60 117 eP P 17 21 09.9 +0.2
MDP Montagnes des 26.66 80 P P 17 21 19.2 -0.1
comp=Z,33nm,1.0s,baz=205,slow=15,SNR=3.6
MDP LR LR 17 32 02.7
comp=Z,1µm,18.8s,baz=277,slow=37
MCPB Macapa, AP 26.89 92 eP P 17 21 20.4 -0.9
SALV Santo Antonio 28.11 126 eP P 17 21 32.0 -0.3
AC02 Maricunga 28.72 162 P P 17 21 37.6 -0.5
AC02 IAmb IAmb 17 22 14.7
comp=Z,14nm,0.9s
PP1B Ponte de Pedra 29.70 128 eP P 17 21 46.5 +0.1
PRPB Paraua pebas 29.80 103 eP P 17 21 46.6 -0.7
SNDB Serra Nova Dou 30.09 115 eP P 17 21 49.6 -0.2
TMAB Tom-Au,PA,Br 30.95 95 eP P 17 21 58.8 +1.2
ARAG Araguaiana, MT 31.22 122 eP P 17 22 01.1 +1.3
SMTB Santa Maria do 32.56 107 eP P 17 22 13.2 +1.4
PEXB Peixe 32.86 113 eP P 17 22 15.2 +0.8
CPUP Villa Florida 33.80 144 LR LR 17 39 18.8
comp=Z,380nm,19.0s,baz=314,slow=42
CPUP Villa Florida 33.80 144 eP P 17 22 23.5 +1.2
MT02 Curacav 34.32 168 P P 17 22 27.1 +0.3
MT02 IAmb IAmb 17 22 43.0
comp=Z,18nm,1.4s
ITRB Iturama 34.43 127 eP P 17 22 29.6 +1.6
BDFB Brasilia 34.47 119 P P 17 22 31.6 +3.2
comp=Z,3.9nm,0.7s,baz=286,slow=4.1,SNR=5.2
BDFB Brasilia 34.47 119 P P 17 22 27.1 -1.3
PCMB Pacaembu 34.78 131 eP P 17 22 32.1 +1.2
MT09 Talagante 34.85 168 P P 17 22 31.5 +0.1
MT09 IAmb IAmb 17 22 47.3
comp=Z,10nm,1.0s
ROSB Rosrio 34.95 96 eP P 17 22 33.6 +1.1
CPCT Cooper Cave 35.22 352 P P 17 22 34.4 -0.1
CPCT IAmb IAmb 17 22 47.9
comp=Z,12nm,1.1s
IPMB Ipameri, GO 35.33 123 eP P 17 22 36.7 +1.0
JCT Junction City 35.86 328 P P 17 22 40.9 +0.8
JCT IAmb IAmb 17 22 43.5
comp=Z,18nm,1.1s
V48A Smith Brothers 35.88 349 P P 17 22 40.6 +0.4
V48A IAmb IAmb 17 22 45.6
comp=Z,11nm,0.7s
SDBA SAO DESIDERIO 36.10 112 eP P 17 22 42.5 +0.1
T59A Double "B" Far 36.37 2 P P 17 22 43.4 -1.0
T57A Hurt 36.38 360 P P 17 22 43.2 -1.2
T57A IAmb IAmb 17 22 46.7
comp=Z,16nm,0.9s
WVT Waverly 36.46 348 P P 17 22 44.6 -0.5
WVT IAmb IAmb 17 23 18.3
comp=Z,24nm,1.6s
W41B Gary Mavity, V 36.72 342 P P 17 22 47.0 -0.3
W41B IAmb IAmb 17 22 48.9
comp=Z,19nm,1.2s
ITQB Itaqui 36.74 146 eP P 17 22 49.2 +1.7
WHAR Wooly Hollow 36.84 342 P P 17 22 47.8 -0.6
FRTB Fartura 37.06 132 eP P 17 22 52.0 +1.5
LCAR Lake Charles 37.22 344 P P 17 22 50.3 -1.3
LCAR IAmb IAmb 17 22 52.8
comp=Z,30nm,1.4s
W39A Magazine 37.25 340 P P 17 22 51.4 -0.4
W39A IAmb IAmb 17 22 54.0
comp=Z,21nm,1.2s
FCAR Ozark Folk Cen 37.34 342 P P 17 22 52.2 -0.4
FCAR IAmb IAmb 17 22 53.7
comp=Z,24nm,1.5s
JANB Januaria 37.53 116 eP P 17 22 55.7 +1.1
T42A Van Buren 38.11 344 P P 17 22 58.4 -0.6
T42A IAmb IAmb 17 23 03.6
comp=Z,9.5nm,0.8s
HHAR Hobbs 38.29 340 P P 17 22 59.9 -0.8
HHAR IAmb IAmb 17 23 02.0
comp=Z,14nm,1.1s
LPIG La Paz 38.44 310 LR LR 17 36 43.4
comp=Z,162nm,19.1s,baz=55,slow=33
MC01 Montes Claros 38.47 118 eP P 17 23 03.5 +0.9
MGMO Mountain Grove 38.56 343 P P 17 23 01.1 -1.8
FVM French Village 38.83 345 P P 17 23 03.5 -1.6
FVM IAmb IAmb 17 23 09.9
comp=Z,39nm,1.5s
CCM Cathedral Cave 39.11 345 P P 17 23 06.3 -1.2
DIAM Diamantina, MG 39.34 120 eP P 17 23 10.9 +1.0
MVL Millersville 39.44 3 P P 17 23 10.1 -0.1
MVL IAmb IAmb 17 23 17.1
comp=Z,23nm,0.8s
MNTX Cornudas Mount 39.90 324 P P 17 23 15.2 +1.0
SSPA Standing Stone 40.02 1 P P 17 23 15.5 +0.5
SSPA IAmb IAmb 17 23 17.7
comp=Z,20nm,1.1s
RPN Rapa Nui 40.08 224 LR LR 17 35 48.5
comp=Z,132nm,18.9s,baz=324,slow=30
LUPA Lehigh Univers 40.10 4 P P 17 23 16.0 +0.3
LUPA IAmb IAmb 17 23 19.0
comp=Z,32nm,1.1s
MSTX Muleshoe 40.15 329 P P 17 23 17.3 +0.9
N58A Sunbury 40.26 3 P P 17 23 17.1 0.0
N58A IAmb IAmb 17 23 19.9
comp=Z,39nm,1.4s
AMTX Amarillo 40.32 331 P P 17 23 17.3 -0.5
OK032 Salt Plains WL 40.35 336 P P 17 23 17.2 -0.6
KAN14 Manchester OK 40.38 336 P P 17 23 17.2 -0.9
N59A State Game Lan 40.39 4 P P 17 23 18.9 +0.7
N59A IAmb IAmb 17 23 21.4
comp=Z,16nm,0.9s
TRNY Table Rock, Ra 40.74 5 P P 17 23 19.9 -1.1
TRNY IAmb IAmb 17 23 23.7
comp=Z,19nm,0.9s
M57A Sunshine Farm, 40.74 2 P P 17 23 20.4 -0.6
M57A IAmb IAmb 17 23 24.0
comp=Z,25nm,0.9s
GDU01 Guandu, BA 41.44 111 eP P 17 23 28.6 +1.4
BINY Binghamton 41.65 3 P P 17 23 27.4 -1.1
PLCA Paso Flores 41.69 170 P P 17 23 30.7 +1.8
comp=Z,2.8nm,0.7s,baz=349,slow=10,SNR=9.5
PLCA LR LR 17 37 52.1
comp=Z,130nm,20.8s,baz=11,slow=32
PLCA Paso Flores 41.69 170 eP P 17 23 30.4 +1.5
PLCA Paso Flores 41.69 170 P P 17 23 29.4 +0.5
121A Cookes Peak, D 41.93 322 P P 17 23 32.1 +1.0
CMC01 Camacan, BA 41.99 114 eP P 17 23 32.7 +1.1
BSFB Barra de Sao F 42.01 119 eP P 17 23 33.3 +1.5
K57A Scipio Center 42.16 3 P P 17 23 31.9 -0.8
BNM Barren Site 42.39 325 P P 17 23 36.4 +1.4
ANMO Albuquerque 42.87 326 P P 17 23 41.0 +2.2
comp=Z,8.4nm,0.9s,baz=146,slow=9.2,SNR=22
ANMO Albuquerque 42.87 326 P P 17 23 39.5 +0.6
ANMO IAmb IAmb 17 23 42.6
comp=Z,14nm,1.0s
J59A Piesco 43.02 5 P P 17 23 40.6 +1.0
J59A IAmb IAmb 17 23 42.2
comp=Z,21nm,1.0s
TUC Tucson 43.67 320 P P 17 23 44.6 -0.6
SDCO Great Sand Dun 44.47 330 P P 17 23 50.9 -0.8
W18A Petrified Fore 44.89 323 P P 17 23 54.7 -0.3
W18A IAmb IAmb 17 23 59.0
comp=Z,19nm,1.1s
MNTQ Montreal, Queb 45.11 5 P P 17 23 56.6 +0.2
X16A Lo Mia Camp, P 45.46 321 P P 17 23 59.0 -0.6
W13A Hualapai Mount 47.44 320 P P 17 24 15.5 +0.4
GWY Greenwater Val 49.89 320 P P 17 24 34.1 +0.2
PDAR Pinedale Array 50.30 331 P P 17 24 37.7 +0.7
comp=Z,1.6nm,1.0s,baz=125,slow=7.8,SNR=4.5
TPH Tonopah 51.38 321 P P 17 24 46.0 +0.8
ULM Lac du Bonnet 51.69 346 P P 17 24 46.4 -0.6
comp=Z,10nm,0.8s,baz=190,slow=8.2
ELK Elko 51.89 325 P P 17 24 49.9 +0.9
comp=Z,0.9nm,0.9s,baz=158,slow=7.7,SNR=2.0
OMMB Old Mammoth Mi 52.24 320 P P 17 24 50.9 -0.9
NVAR Mina Array Bea 52.27 321 P P 17 24 54.2 +2.3
comp=Z,1.8nm,0.6s,baz=131,slow=7.8,SNR=13
NVAR LR LR 17 49 16.9
comp=Z,153nm,18.2s,baz=128,slow=38
NVAR Mina Array Bea 52.27 321 P P 17 24 50.9 -1.0
BOZ Bozeman (W) 53.40 332 P P 17 24 59.0 -1.0
BOZ IAmb IAmb 17 25 02.9
comp=Z,18nm,1.5s
PAHR Pah Rah Range 53.71 322 P P 17 25 00.9 -1.5
MFID Camas Ranch 53.99 327 P P 17 25 04.2 -0.1
MFID IAmb IAmb 17 25 07.6
comp=Z,18nm,1.4s
ORV Oroville 54.96 320 P P 17 25 11.1 -0.2
SCHQ Schefferville 55.12 9 P P 17 25 13.5 +1.3
comp=Z,1.7nm,0.6s,baz=184,slow=9.1,SNR=5.1
USHA Ushuaia 55.76 173 LR LR 17 49 01.5
comp=Z,171nm,18.3s,baz=58,slow=36
G08A Pilot Rock 56.91 327 P P 17 25 24.6 -0.8
G08A IAmb IAmb 17 25 28.4
comp=Z,18nm,1.7s
YBH Yreka Blue Hor 56.94 322 P P 17 25 27.7 +2.1
comp=Z,2.0nm,0.9s,baz=122,slow=5.5,SNR=5.6
YBH LR LR 17 52 43.3
comp=Z,74nm,18.2s,baz=128,slow=39
YBH Yreka Blue Hor 56.94 322 IAmb IAmb 17 26 03.1
comp=Z,14nm,1.7s
E09A Wood Farm, Sta 57.28 329 P P 17 25 26.7 -1.1
E09A IAmb IAmb 17 25 30.6
comp=Z,24nm,1.7s
FRB Frobisher Bay 63.62 5 P P 17 26 10.5 -0.2
comp=Z,2.3nm,0.7s,baz=206,slow=6.9,SNR=5.0
FRB LR LR 17 55 16.9
comp=Z,92nm,20.4s,baz=192,slow=37
PMSA Palmer Station 65.97 173 LR LR 17 55 25.5
comp=Z,42nm,19.7s,baz=282,slow=36
YKA Yellowknife Ar 67.42 343 P P 17 26 35.6 +0.2
comp=Z,1.3nm,0.6s,baz=140,slow=5.7,SNR=23
SFJD Kangerlussuaq 69.33 11 LR LR 17 58 01.7
comp=Z,110nm,19.8s,baz=180,slow=37
DLBC Dease Lake 70.32 334 P P 17 26 55.1 +1.5
comp=Z,7.6nm,1.2s,baz=97,slow=5.9,SNR=3.5
DLBC LR LR 18 01 13.4
comp=Z,109nm,18.3s,baz=132,slow=39
LIC Lamto 73.95 84 ePKP2 P 17 27 15.6 -0.5
comp=Z,34nm,1.4s
TIC Toumodi 73.97 83 ePKP2 P 17 27 15.3 -1.0
DBIC Dimbokro 74.13 83 P P 17 27 17.0 -0.2
comp=Z,4.1nm,0.7s,baz=240,slow=7.8,SNR=5.4
DBIC LR LR 17 57 44.4
comp=Z,90nm,20.5s,baz=264,slow=34
DBIC Dimbokro 74.13 83 P P 17 27 16.1 -1.1
DBIC IAmb IAmb 17 27 18.5
comp=Z,9.9nm,1.2s
KIC Kosan Boka 74.24 84 ePKP2 P 17 27 16.6 -1.2
comp=Z,16nm,0.7s
RES Resolute Bay 74.76 356 P P 17 27 20.2 +0.6
comp=Z,1.9nm,1.0s,baz=174,slow=10,SNR=4.1
RES LR LR 18 00 39.5
comp=Z,112nm,21.2s,baz=124,slow=36
KOWA Kowa 75.29 75 LR LR 18 00 24.1
comp=Z,97nm,19.1s,baz=234,slow=36
KOWA Kowa 75.29 75 P P 17 27 21.9 -2.0
KOWA IAmb IAmb 17 27 25.1
comp=Z,11nm,1.1s
BORG Borgarnes 76.31 22 LR LR 17 58 12.2
comp=Z,110nm,21.8s,baz=218,slow=33
SUMG Summit 76.32 12 iP P 17 27 28.0 -1.2
SUMG Summit 76.32 12 P P 17 27 28.8 -0.4
MDT Midelt 76.61 56 LR LR 18 01 12.5
comp=Z,53nm,18.6s,baz=300,slow=36
INK Inuvik 77.14 342 P P 17 27 34.6 +1.3
comp=Z,4.7nm,1.1s,baz=158,slow=3.3,SNR=6.5
INK LR LR 18 03 28.7
comp=Z,156nm,21.0s,baz=110,slow=37
INK Inuvik 77.14 342 P P 17 27 33.2 -0.2
INK IAmb IAmb 17 27 35.6
comp=Z,19nm,1.4s
A36M Sachs Harbour 77.17 347 P P 17 27 31.6 -1.7
A36M IAmb IAmb 17 27 46.1
comp=Z,7.8nm,0.8s
ESDC Sonseca Array 78.17 50 P P 17 27 39.7 -0.1
comp=Z,1.8nm,0.8s,baz=265,slow=5.4,SNR=14
ESDC Sonseca Array 78.17 50 P P 17 27 36.5 -3.2
ILAR Eielson Array 80.34 336 P P 17 27 51.6 +0.6
comp=Z,1.1nm,0.9s,baz=114,slow=4.9,SNR=6.6
ILAR LR LR 18 06 59.2
comp=Z,36nm,19.1s,baz=114,slow=38
TORD Torodi Ar. Bea 80.77 77 P P 17 27 54.5 +0.2
comp=Z,0.8nm,0.6s,baz=301,slow=8.3,SNR=3.9
KDAK Kodiak Island 80.95 329 LR LR 18 08 37.8
comp=Z,72nm,18.7s,baz=92,slow=39
EKA Eskdalemuir Ar 81.56 34 LR LR 18 04 28.1
comp=Z,86nm,19.6s,baz=328,slow=36
JMIC Jan Mayen 83.28 18 LR LR 18 04 32.1
comp=Z,26nm,18.8s,baz=245,slow=35
VNA3 Neumayer Olymp 83.84 162 P P 17 28 10.3 +1.0
VNA2 Neumayer--Watz 84.44 162 P P 17 28 12.5 +0.1
BCLA Clavier 85.98 40 PcP P 17 28 21.7 +1.2
SNAA Sanae 86.06 162 P P 17 28 22.4 +1.9
SNAA Sanae 86.06 162 LR LR 18 09 17.9
comp=Z,85nm,19.5s,baz=351,slow=37
BSTI Sart Tilman 86.16 39 PcP PcP 17 28 23.1 -0.8
BTNL Ternell 86.52 40 PcP P 17 28 23.6 +0.5
TROLL Troll, Antarti 87.77 162 P P 17 28 28.6 -0.3
DAVOX Davos/Dischmat 88.86 43 P P 17 28 36.4 +1.7
comp=Z,3.2nm,0.8s,baz=343,slow=9.4,SNR=6.5
DAVOX LR LR 18 05 01.3
comp=Z,82nm,20.8s,baz=282,slow=33
FETA Feichten 89.45 43 eP P 17 28 39.2 +1.7
comp=Z,2.5nm,0.8s
NOA NORSAR Array B 89.69 29 LR LR 18 06 50.1
comp=Z,52nm,19.8s,baz=285,slow=34
MOTA Moosalm 89.70 43 eP P 17 28 40.2 +1.6
comp=Z,0.7nm,0.4s
WATA Walderalm 90.02 43 eP P 17 28 38.3 -1.7
comp=Z,0.5nm,0.3s
WTTA Wattenberg 90.07 43 eP P 17 28 36.5 -3.8
CTI Castel Tesino 90.09 44 P P 17 28 38.0 -2.3
QSPA South Pole Qui 90.49 180 P P 17 28 40.7 -1.1
SPITS Spitsbergen Ar 90.66 12 LR LR 18 09 01.4
comp=Z,88nm,21.6s,baz=52,slow=35
ABTA Abfaltersbach 90.67 43 eP P 17 28 42.5 -0.5
comp=Z,0.3nm,0.3s
HFS Hagfors 90.94 30 LR LR 18 10 08.0
comp=Z,63nm,18.5s,baz=276,slow=36
GERES GERESS Array B 91.41 41 P P 17 28 49.1 +2.7
comp=Z,0.4nm,0.7s,baz=252,slow=2.5,SNR=4.5
VRAC Vranov 93.28 41 LR LR 18 07 54.6
comp=Z,80nm,18.9s,baz=314,slow=34
ARCES ARCESS Array B 94.62 20 LR LR 18 10 46.0
comp=Z,50nm,20.6s,baz=216,slow=35
FINES FINESS Array B 96.76 28 LR LR 18 07 06.5
comp=Z,114nm,20.5s,baz=272,slow=32
SUR Sutherland 98.47 123 LR LR 18 08 53.3
comp=Z,121nm,21.8s,baz=260,slow=32
BVAR Borovoye Array 120.89 21 PKP PKiKP 17 34 32.9 +0.3
comp=Z,0.5nm,0.7s,baz=212,slow=5.1,SNR=3.8
ZALV Zalesovo Beam 124.15 12 PKP PKiKP 17 34 39.2 +0.2

comp=Z,0.9nm,0.4s,baz=318,slow=2.0,SNR=6.3
MKAR Makanchi Array 130.16 17 PKP **PKPdf 17 34 50.6 +0.1**
comp=Z,0.8nm,0.9s,baz=0.0,slow=3.6,SNR=4.7
AAK Ala-Archa 130.90 26 PKP **PKPdf 17 34 52.5 +0.3**
comp=Z,0.6nm,0.4s,baz=296,slow=4.4,SNR=5.5
ASAR Alice Springs 140.66 232 PKhKP PKPpre 17 35 06.8
comp=Z,0.3nm,0.4s,baz=119,slow=4.0,SNR=14
ASAR PKP **PKiKP 17 35 12.8 -0.4**
comp=Z,0.9nm,0.7s,baz=121,slow=2.2,SNR=12
WRA Warramunga Arr 142.10 237 PKP **PKiKP 17 35 15.6 -0.7**
comp=Z,1.6nm,0.5s,baz=116,slow=2.0,SNR=15
WRA Warramunga Arr 142.10 237 PKPdf 17 35 07.3 -6.1
PZH PanZhiHua 153.20 359 PKPbc **PKPdf 17 35 29.2 -2.4**
CMAR Chiang Mai Arr 161.10 6 PKPab **PKPab 17 36 27.1 +2.6**
comp=Z,1.1nm,0.9s,baz=334,slow=5.4,SNR=6.4

*IDC **01** 17:18:40.1±2.1, 43°.28N×105°.36W, h0km, mb1 3.3/4, mb1mx3.1/63, mbtmp3.0/4, ML3.0/4, Error ellipse: s-maj=45.4km s-min=10.6km az=151.0*
*NEIC **01** 17:18:41.9±2.8, 43°.49N±0°.04×105°.16W±0°.05, h0km±2km, ML3.4/66, Error ellipse: s-maj=9.0km s-min=3.1km az=219.0*

ISC 01 17:18:41.7±1.1, 43°.53N±0°.05×105°.27W±0°.06, h0km, n48, σ1°.55/47, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.07**	**56**		**Pn**	**17 19 03.8**	**-0.4**
K22A	**Casper**	**1.27**	**227**		**Pg**	**17 19 05.7**	**-0.4**
PHWY	**Pilot Hill**	**2.23**	**184**	Pn	**Pn**	**17 19 22.1**	**+1.9**
RWWY	**Rawlins**	**2.33**	**219**		**Pn**	**17 19 23.0**	**+1.4**
RWWY				IAML		17 19 56.3	
	164nm,1.6s						
RWWY				IAML		17 20 04.7	
	198nm,0.7s						
N23A	**Red Feather La**	**2.68**	**191**		**Pn**	**17 19 28.9**	**+2.5**
N23A				IAML		17 20 11.3	
	comp=N,114nm,0.7s						
N23A				IAML		17 20 19.4	
	comp=E,95nm,0.8s						
LAO	**LASA Array**	**3.23**	**348**		**Pn**	**17 19 34.6**	**+0.9**
PD31	**Pinedale Array**	**3.23**	**258**		**Pn**	**17 19 34.8**	**+1.0**
PDAR	**Pinedale Array**	**3.23**	**258**	Pn	**Pn**	**17 19 34.9**	**+1.0**
	comp=E,2.0nm,0.3s,baz=84,slow=18,SNR=42						
PDAR				Lg	Lg	17 20 16.3	
	comp=E,2.8nm,0.3s,baz=92,slow=26,SNR=1.1						
PDAR	**Pinedale Array**	**3.23**	**258**		**Pn**	**17 19 35.0**	**+1.0**
BW06	**Boulder Array**	**3.23**	**258**		**Pn**	**17 19 34.9**	**+1.0**
RLMT	**Red Lodge**	**3.28**	**300**		**Pn**	**17 19 35.9**	**+1.3**
RLMT				IAML		17 20 34.9	
	comp=E,64nm,1.1s						
RLMT				IAML		17 21 48.8	
	comp=E,84nm,3.9s						
OGNE	**Ogallala**	**3.53**	**136**	Pn	**Pn**	**17 19 40.0**	**+2.1**
YMP	**Mirror Lake Pl**	**3.72**	**291**		**Pn**	**17 19 42.1**	**+1.4**
YMP				IAML		17 20 43.4	
	comp=E,98nm,0.6s						
ISCO	**Idaho Springs**	**3.74**	**184**		**Pn**	**17 19 43.3**	**+2.3**
LKWY	**Lake**	**3.84**	**287**		**Pn**	**17 19 43.4**	**+1.1**
LKWY				IAML		17 21 10.0	
	comp=E,43nm,1.8s						
LKWY				IAML		17 21 29.6	
	comp=E,52nm,1.7s						
GCMT	**Greycliff**	**3.87**	**307**		**Pn**	**17 19 43.9**	**+1.4**
LOHW	**Long Hollow**	**3.88**	**273**		**Pn**	**17 19 42.7**	**-0.1**
H17A	**Grant Village**	**3.93**	**285**		**Pn**	**17 19 44.5**	**+1.0**
H17A				IAML		17 20 49.5	
	comp=E,46nm,1.9s						
H17A				IAML		17 20 51.1	
	comp=N,60nm,1.9s						
FLWY	**Flagg Ranch**	**3.97**	**280**		**Pn**	**17 19 46.8**	**+2.7**
FLWY				IAML		17 20 58.1	
	comp=N,65nm,1.8s						
MOOW	**Moose Ponds**	**3.98**	**275**		**Pn**	**17 19 44.8**	**+0.6**
SNOW	**Snow King Moun**	**3.99**	**271**		**Pn**	**17 19 43.5**	**-0.9**
SNOW				IAML		17 21 06.7	
	comp=N,83nm,1.9s						
SNOW				IAML		17 21 14.4	
	comp=N,73nm,2.2s						
O20A	**White River Ci**	**4.06**	**214**		**Pn**	**17 19 47.1**	**+1.9**
O20A				IAML		17 21 08.5	
	comp=N,84nm,2.3s						
O20A				IAML		17 21 30.6	
	comp=E,77nm,1.8s						
REDW	**Red Top Meadow**	**4.07**	**270**		**Pn**	**17 19 45.2**	**-0.2**
REDW				IAML		17 21 16.5	
	comp=E,72nm,1.5s						
REDW				IAML		17 21 17.9	
	comp=E,80nm,1.8s						
YNR	**Norris Junctio**	**4.07**	**289**		**Pn**	**17 19 46.9**	**+1.4**
YNR				IAML		17 21 02.6	
	comp=N,26nm,1.6s						
YFT	**Old Faithful**	**4.12**	**285**		**Pn**	**17 19 48.5**	**+2.4**
YFT				IAML		17 21 01.3	
	comp=N,43nm,2.0s						
YMR	**Madison River**	**4.26**	**287**		**Pn**	**17 19 48.9**	**+0.9**
YMR				IAML		17 21 08.1	
	comp=N,48nm,1.5s						
YMR				IAML		17 21 27.4	
	comp=E,46nm,0.8s						
AHID	**Auburn Hatcher**	**4.34**	**262**		**Pn**	**17 19 50.9**	**+1.9**
AHID				IAML		17 21 06.4	
	comp=E,37nm,0.9s						
AHID				IAML		17 21 24.5	
	comp=E,34nm,1.7s						
RDMU	**Red Mountain**	**4.36**	**229**		**Pn**	**17 19 47.6**	**-1.8**
RDMU				IAML		17 21 26.1	
	comp=N,31nm,2.1s						
RDMU				IAML		17 21 29.1	
	comp=E,31nm,1.8s						
E28A	**Huff**	**4.45**	**45**	Pn	**Pn**	**17 19 49.6**	**-0.8**
YHL	**Hebgen Lake**	**4.45**	**289**		**Pn**	**17 19 52.4**	**+1.6**
YHL				IAML		17 21 17.5	
	comp=N,54nm,1.5s						
YHL				IAML		17 21 34.2	
	comp=E,46nm,1.6s						
ECR	**Eagle Creek**	**4.48**	**266**		**Pn**	**17 19 51.1**	**+0.1**
SMCO	**Snowmass**	**4.54**	**197**		**Pn**	**17 19 52.2**	**+0.3**
SMCO				IAML		17 21 15.4	
	comp=E,39nm,2.0s						
SMCO				IAML		17 21 20.4	
	comp=E,30nm,1.3s						
Q24A	**Divide**	**4.56**	**179**		**Pn**	**17 19 49.2**	**-3.1**
Q24A				IAML		17 21 15.6	
	comp=E,27nm,1.5s						
QLMT	**Earthquake Lak**	**4.62**	**288**		**Pn**	**17 19 53.8**	**+0.9**
SUSD	**Miller**	**4.64**	**77**	Pn	**Pn**	**17 19 50.3**	**-2.9**
K31A	**O'Neill**	**4.86**	**99**		**Pn**	**17 19 54.3**	**-1.7**
KSCO	**Kaye Shedlock'**	**4.94**	**155**	Pn	**Pn**	**17 19 55.2**	**-2.0**
BOZ	**Bozeman (W)**	**4.99**	**297**		**Pn**	**17 19 59.8**	**+1.8**
BOZ				IAML		17 21 27.8	
	comp=E,17nm,1.6s						
BOZ				IAML		17 21 31.2	
	comp=E,19nm,1.6s						
DGMT	**Dagmar**	**5.00**	**8**		**Pn**	**17 19 58.9**	**+0.9**
P18A	**Preston Nutter**	**5.40**	**225**		**Pn**	**17 20 05.5**	**+1.8**
CTU	**Camp Tracy**	**5.59**	**242**	Pn	**Pn**	**17 20 06.0**	**-0.3**
MCMT	**McKenzie Canyo**	**5.60**	**286**		**Pn**	**17 20 06.3**	**-0.2**
HRY	**Holter Researc**	**5.63**	**307**		**Pn**	**17 20 07.1**	**+0.4**
HVU	**Hansel Valley**	**5.81**	**255**		**Pn**	**17 20 08.9**	**-0.3**
I10CA	**LAC DU BONNET**	**9.19**	**40**	*i*		18 16 30.0	
	baz=219,slow=265,SNR=5.4						
ULM	**Lac du Bonnet**	**9.29**	**40**	Pn	**Pn**	**17 20 56.0**	**-0.9**
	comp=E,0.6nm,0.3s,baz=233,slow=13,SNR=3.3						
ULM				Lg	Lg	17 23 32.4	
	comp=E,0.3nm,0.3s,baz=328,slow=17,SNR=2.1						
NVAR	**Mina Array Bea**	**11.09**	**247**	Pn	**Pn**	**17 21 19.5**	**-2.3**
	comp=E,0.0nm,0.3s,baz=59,slow=13,SNR=1.6						
YKA	**Yellowknife Ar**	**19.77**	**347**	P	**P**	**17 23 14.1**	**+1.1**
	comp=E,0.1nm,0.3s,baz=155,slow=13,SNR=4.8						

*NEIC **01** 17:30:30.9±2.3, 17°.5S±0°.1×178°.9W±0°.1, h549km±7km, mb4.8/41, Error ellipse: s-maj=18.7km s-min=17.4km az=174.0*
*IDC **01** 17:30:32.7±1.3, 17°.52S×178°.99W, h569km±10km, mb3.3/9, mb1 3.5/10, mb1mx3.2/26, mbtmp4.1/10, Error ellipse: s-maj=27.2km s-min=17.7km az=112.0*

ISC 01 17:30:30.8±0.6, 17°.53S±0°.10×178°.89W±0°.09, h550km, n77, σ1°.34/77, mb4.7/28, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.92**	**266**	P	**P**	**17 31 48.0**	**+2.5**
	31nm,0.3s,baz=122,slow=22,SNR=95						
MSVF				S	**S**	**17 32 51.6**	**+5.4**
	baz=258,slow=23,SNR=1.0						
MSVF	**Nonsavu**	**2.92**	**266**	P	**P**	**17 31 47.8**	**+2.2**
NIUE	**Niue**	**8.65**	**102**	P	**P**	**17 32 33.0**	**-2.1**
MARNC	**Mare, Loyalty**	**12.94**	**250**	P	**P**	**17 33 18.4**	**-0.8**
LIFNC	**LIFOU**	**13.50**	**254**	P	**P**	**17 33 23.3**	**-1.5**
SANVU	**Saraoutou**	**13.50**	**277**	P	**P**	**17 33 25.7**	**+0.7**
PINNC	**Pines Island,**	**13.79**	**246**	P	**P**	**17 33 27.8**	**-0.1**
URZ	**Urewera**	**20.95**	**189**	P	**P**	**17 34 35.5**	**+0.2**
	13nm,0.9s,baz=121,slow=24,SNR=7.0						
URZ	**Urewera**	**20.95**	**189**	P	**P**	**17 34 35.5**	**+0.2**
SNZO	**South Karori**	**24.33**	**192**	P	**P**	**17 35 05.8**	**+0.4**
QRZ	**Quartz Range**	**24.36**	**196**	P	**P**	**17 35 07.9**	**+2.1**
BHW	**Baring Head**	**24.39**	**191**	P	**P**	**17 35 07.6**	**+1.6**
THZ	**Tophouse**	**25.15**	**195**	P	**P**	**17 35 13.2**	**+0.4**
KHZ	**Kahutara**	**25.63**	**193**	P	**P**	**17 35 16.4**	**-0.6**
OXZ	**Oxford**	**26.84**	**195**	P	**P**	**17 35 27.1**	**-0.5**
OXZ				IAmb	IAmb	17 35 30.4	
	comp=Z,49nm,1.5s						
FOZ	**Fox Glacier**	**27.63**	**198**	P	**P**	**17 35 35.8**	**+1.3**
FOZ				IAmb	IAmb	17 36 28.2	
	comp=Z,58nm,1.8s						
LBZ	**Lake Benmore**	**28.31**	**197**	P	**P**	**17 35 39.6**	**-0.9**
LBZ				IAmb	IAmb	17 36 27.8	
	comp=Z,22nm,1.5s						
ODZ	**Otahua Downs**	**28.80**	**196**	P	**P**	**17 35 44.4**	**-0.3**
ODZ				IAmb	IAmb	17 36 28.3	
	comp=Z,44nm,1.6s						
WKZ	**Wanaka**	**29.04**	**198**	P	**P**	**17 35 46.0**	**-0.9**
MLZ	**Mavora Lakes**	**29.80**	**199**	P	**P**	**17 35 54.7**	**+1.3**
WHZ	**Wether Hill Ro**	**30.33**	**198**	P	**P**	**17 35 58.9**	**+1.0**
WHZ				IAmb	IAmb	17 36 43.2	
	comp=Z,64nm,2.0s						
CTAO	**Charters Tower**	**33.06**	**260**	P	**P**	**17 36 20.1**	**-1.5**
PMG	**Port Moresby**	**33.95**	**279**	P	**P**	**17 36 28.7**	**-0.4**
PMG				IAmb	IAmb	17 36 30.6	
	comp=Z,20nm,1.1s						
COEN	**Coen**	**36.64**	**270**	P	**P**	**17 36 51.1**	**-0.4**
COEN				IAmb	IAmb	17 38 28.2	
	comp=Z,71nm,2.0s						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**17 37 07.1**	**+1.4**
WB0	**Warramunga Arr**	**44.21**	**259**	P	**P**	**17 37 50.0**	**-1.8**
WB2	**Warramunga Arr**	**44.24**	**259**	P	**P**	**17 37 50.5**	**-1.5**
WRA	**Warramunga Arr**	**44.25**	**259**	P	**P**	**17 37 50.8**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=88,slow=7.6,SNR=14						
AS31	**Alice Springs**	**44.45**	**254**	P	**P**	**17 37 53.3**	**-0.3**
ASAR	**Alice Springs**	**44.45**	**254**	P	**P**	**17 37 53.3**	**-0.3**
	comp=Z,4.7nm,0.5s,baz=90,slow=7.9,SNR=169						
ASAR				PcP	**PcP**	**17 39 25.4**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=96,slow=3.9,SNR=2.4						
ASAR				ScP	**ScP**	**17 42 24.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=103,slow=4.7,SNR=4.9						
ASAR				S	**S**	**17 43 44.3**	**-4.8**
	comp=Z,0.6nm,0.9s,baz=87,slow=16,SNR=4.6						
MTN	**Manton Dam**	**48.35**	**268**	P	**P**	**17 38 21.9**	**-1.3**
MTN				IAmb	IAmb	17 39 48.8	
	comp=Z,22nm,1.1s						
FAKI	**Fak Fak**	**50.05**	**281**	P	**P**	**17 38 34.8**	**-1.0**
FAKI				IAmb	IAmb	17 39 27.9	
	comp=Z,72nm,1.8s						
KNRA	**Kununurra**	**50.07**	**264**	P	**P**	**17 38 35.4**	**-0.5**
KNRA				IAmb	IAmb	17 39 23.6	
	comp=Z,75nm,1.8s						
SOEI	**Soe**	**55.61**	**270**	P	**P**	**17 39 15.1**	**-0.5**
SOEI				IAmb	IAmb	17 40 25.9	
	comp=Z,62nm,1.6s						
PSA00	**Pilbara Seismi**	**57.56**	**255**	P	**P**	**17 39 28.1**	**-0.6**
TOLI2	**Tolitoli**	**62.19**	**281**	P	**P**	**17 39 59.8**	**+0.3**
JAGI	**Jajag, Banyuwa**	**65.59**	**269**	P	**P**	**17 40 19.7**	**-1.5**
JAGI				IAmb	IAmb	17 40 21.4	
	comp=Z,17nm,1.1s						
JYT	**Yasato**	**66.00**	**325**	P	**P**	**17 40 23.2**	**+0.1**
JYT				IAmb	IAmb	17 42 46.7	
	comp=Z,59nm,1.5s						
MJAR	**Matsushiro Arr**	**67.33**	**324**	P	**P**	**17 40 30.3**	**-1.2**
	comp=Z,2.6nm,0.5s,baz=157,slow=5.7,SNR=12						
MJAR	**Matsushiro Arr**	**67.33**	**324**	P	**P**	**17 40 30.2**	**-1.3**
MAJO	**Matsushiro**	**67.33**	**324**	P	**P**	**17 40 30.8**	**-0.7**
MAJO				IAmb	IAmb	17 42 04.7	
	comp=Z,55nm,2.0s						
MJB9	**Matsu-Tunnel**	**67.34**	**324**	P	**P**	**17 40 30.8**	**-0.8**
MJB9				IAmb	IAmb	17 42 04.7	
	comp=Z,53nm,2.0s						
KKM	**Kota Kinabalu**	**68.20**	**284**	P	**P**	**17 40 37.1**	**-0.2**
KKM				IAmb	IAmb	17 41 00.5	
	comp=Z,55nm,1.3s						
JTM	**Tenmabayashi**	**68.91**	**328**	P	**P**	**17 40 42.5**	**+1.6**
UGM	**Wanagama**	**69.20**	**268**		**P**	**17 40 43.0**	**-0.3**
JHS	**Saijyo**	**69.31**	**319**	P	**P**	**17 40 43.7**	**+0.1**
QSPA	**South Pole Qui**	**72.52**	**180**	P	**P**	**17 41 04.3**	**+2.4**
PEA0B	**Petropavlovsk-**	**73.20**	**346**	P	**P**	**17 41 05.6**	**-0.2**
PEA0B				IAmb	IAmb	17 41 18.8	
	comp=Z,84nm,1.8s						
PETK	**Petropavlovsk-**	**73.20**	**346**	P	**P**	**17 41 05.5**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=140,slow=8.7,SNR=5.0						
PETK	**Petropavlovsk-**	**73.20**	**346**	P	**P**	**17 41 04.9**	**-0.9**
K20K	**Telida**	**82.92**	**11**	P	**P**	**17 41 57.8**	**0.0**
K20K				IAmb	IAmb	17 43 04.1	
	comp=Z,38nm,1.9s						
N25K	**Chitina, Valde**	**83.46**	**16**	P	**P**	**17 41 59.8**	**-0.8**
N25K				IAmb	IAmb	17 42 35.6	
	comp=Z,58nm,1.9s						
DHY	**Denali Highway**	**84.05**	**14**	P	**P**	**17 42 07.1**	**+3.6**
DHY				IAmb	IAmb	17 43 06.8	
	comp=Z,45nm,1.9s						
ILAR	**Eielson Array**	**85.63**	**13**	P	**P**	**17 42 10.1**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=220,slow=5.4,SNR=11						
CMAR	**Chiang Mai Arr**	**88.33**	**290**	P	**P**	**17 42 26.0**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=128,slow=2.7,SNR=4.9						
SYO	**Syowa Base**	**89.42**	**193**	*eP*	**P**	**17 42 29.2**	**+0.4**
SONM	**Songino Array**	**92.97**	**319**	P	**P**	**17 42 45.6**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=112,slow=6.0,SNR=4.5						
SONM	**Songino Array**	**92.97**	**319**	IAmb	IAmb	17 43 18.0	
	comp=Z,9.2nm,2.0s						
YKA	**Yellowknife Ar**	**94.18**	**25**	P	**P**	**17 42 50.6**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=250,slow=4.2,SNR=3.7						
BNN	**Bunyan**	**143.06**	**312**		PKPab	17 49 00.2	-0.2
BUR08	**Bucovina Ar. S**	**144.05**	**332**		PKPbc	17 49 02.9	-0.8
BRTR	**Keskin Array B**	**144.19**	**315**	PKP	**PKPab**	**17 49 04.7**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=94,slow=2.5,SNR=6.7						
CLL	**Collm**	**145.00**	**347**	*i* PKPbc	PKPbc	17 49 06.4	+0.1
GERES	**GERESS Array B**	**147.13**	**345**	PKPbc	**PKPbc**	**17 49 12.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=29,slow=3.5,SNR=16						
CONA	**Conrad Observa**	**147.36**	**341**	*eP*	**PKiKP**	**17 49 14.0**	**-0.8**
	comp=Z,2.7nm,0.7s						
MOA	**Molln**	**147.90**	**343**	*eP*	**PKPbc**	**17 49 14.5**	**+0.1**
	comp=Z,10nm,1.8s						
KBA	**Koelnbreinsper**	**148.85**	**344**	*eP*	**PKiKP**	**17 49 18.1**	**+0.1**
	comp=Z,1.2nm,0.4s						
OBKA	**Obir**	**149.03**	**342**	*eP*	**PKPbc**	**17 49 17.0**	**-0.4**
	comp=Z,0.2nm,0.3s						
WATA	**Walderalm**	**149.05**	**346**	*eP*	**PKPbc**	**17 49 17.5**	**+0.1**
	comp=Z,0.9nm,0.4s						
RETA	**Reutte**	**149.09**	**347**	*eP*	**PKPbc**	**17 49 17.9**	**+0.4**
	comp=Z,0.3nm,0.2s						
WTTA	**Wattenberg**	**149.11**	**346**	*eP*	**PKPbc**	**17 49 17.9**	**+0.3**
	comp=Z,2.1nm,0.4s						
MOTA	**Moosalm**	**149.15**	**347**	*eP*	**PKPbc**	**17 49 17.7**	**0.0**
	comp=Z,0.7nm,0.4s						
MYKA	**Terra Mystica**	**149.18**	**343**	*eP*	**PKPbc**	**17 49 17.4**	**-0.3**
	comp=Z,1.5nm,0.4s						
SQTA	**Sankt Quirin**	**149.24**	**346**	*eP*	**PKPbc**	**17 49 18.1**	**+0.3**
	comp=Z,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**149.38**	**345**	*eP*	**PKPbc**	**17 49 17.9**	**-0.2**
	comp=Z,2.0nm,0.6s						
DAVA	**Damuels**	**149.46**	**348**	*eP*	**PKiKP**	**17 49 19.4**	**+0.2**
	comp=Z,0.2nm,0.2s						
FETA	**Feichten**	**149.54**	**347**	*eP*	**PKPbc**	**17 49 18.9**	**+0.3**
	comp=Z,0.7nm,0.4s						

*IDC **01** 18:44:22.6±1.8, 62°.96N×151°.04W, h104km±17km, mb3.2/5, mb1 3.3/10, mb1mx3.0/41, mbtmp3.6/10, MS2.4/1, Ms1 2.5/1, ms1mx2.3/36, Error ellipse: s-maj=21.3km s-min=20.4km az=140.0*
*NEIC **01** 18:44:23.1±1.6, 62°.98N±0°.01×150°.83W±0°.07, h111km±5km, Error ellipse: s-maj=4.9km s-min=1.4km az=109.0*
*AEIC **01** 18:44:23.9±1.7, 62°.96N±0°.04×150°.83W±0°.07, h105km±4km, ML3.3/131, ML3.5/138(NEIC), Error ellipse: s-maj=5.6km s-min=3.8km az=209.0*

ISC 01 18:44:23.2±0.7, 62°.95N±0°.03×150°.82W±0°.03, h113km±5km, n221, σ0°.72/252, mb3.5/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.55**	**25**		**Pn**	**18 44 40.9**	**0.0**
TRF				Sn	**Sn**	**18 44 53.9**	**-0.5**
TRF				IAML		18 44 54.4	
	comp=N,3μm,0.5s						
TRF				IAML		18 44 54.4	
	comp=E,2μm,0.4s						
TRF	**Thorofare Moun**	**0.55**	**25**	P	**Pn**	**18 44 40.9**	**0.0**
	baz=207,SNR=91						
TRF				S	**Sn**	**18 44 53.8**	**-0.5**
	baz=207						
KTH	**Kantishna Hill**	**0.60**	**356**		**Pn**	**18 44 41.2**	**+0.1**
KTH				Sn	**Sn**	**18 44 54.0**	**-0.7**
KTH				IAML		18 44 54.9	
	comp=N,1μm,0.8s						
CUT	**Chulitna**	**0.61**	**155**		**Pn**	**18 44 41.3**	**+0.2**
CUT				Sn	**Sn**	**18 44 54.4**	**-0.2**
CUT				IAML		18 44 54.8	
	comp=E,4μm,0.4s						
CUT				IAML		18 44 56.2	
	comp=N,3μm,0.4s						
CUT	**Chulitna**	**0.61**	**155**	P	**Pn**	**18 44 41.3**	**+0.2**
	baz=335,SNR=65						
CUT				S	**Sn**	**18 44 54.5**	**0.0**
	baz=335						
PPLA	**Purkeypile**	**0.63**	**265**		**Pn**	**18 44 42.0**	**+0.5**
PPLA	**Purkeypile**	**0.63**	**265**		**Sn**	**18 44 55.3**	**+0.1**
PPLA	**Purkeypile**	**0.63**	**265**	P	**Pn**	**18 44 42.0**	**+0.5**
	baz=84,SNR=139						
PPLA				S	**Sn**	**18 44 55.4**	**+0.1**
	baz=84						
CAST	**Castle Rocks**	**0.74**	**310**		**Pn**	**18 44 42.2**	**+0.1**
CAST				Sn	**Sn**	**18 44 55.7**	**-0.9**
CAST	**Castle Rocks**	**0.74**	**310**	P	**Pn**	**18 44 42.3**	**+0.1**
	baz=129,SNR=303						
CAST				S	**Sn**	**18 44 55.7**	**-0.9**
	baz=129						
WAT7	**Susitna Watana**	**0.91**	**97**		**Pn**	**18 44 43.6**	**-0.2**
WAT7					**Sn**	**18 44 59.0**	**-0.4**
RND	**Reindeer**	**1.00**	**62**	Pn	**Pn**	**18 44 44.8**	**+0.2**
RND				Sn	**Sn**	**18 45 00.1**	**-0.8**
RND				IAML		18 45 01.4	
	comp=E,831nm,0.6s						
CHUM	**Lake Minchumin**	**1.15**	**325**		**Pn**	**18 44 46.5**	**+0.4**
CHUM	**Lake Minchumin**	**1.15**	**325**	P	**Pn**	**18 44 46.5**	**+0.4**
	baz=144,SNR=272						
CHUM				S	**Sn**	**18 45 03.4**	**-0.1**
	baz=144						
BPAW	**Bear Paw Mtn.**	**1.15**	**356**		**Pn**	**18 44 46.3**	**+0.1**
BPAW				Sn	**Sn**	**18 45 02.6**	**-1.1**
BPAW	**Bear Paw Mtn.**	**1.15**	**356**	P	**Pn**	**18 44 46.3**	**+0.1**
	baz=176,SNR=201						
BPAW				S	**Sn**	**18 45 02.7**	**-1.0**
	baz=176						
MCK	**McKinley**	**1.15**	**47**	Pn	**Pn**	**18 44 46.6**	**+0.3**
MCK	**McKinley**	**1.15**	**47**	P	**Pn**	**18 44 46.5**	**+0.3**
	baz=228,SNR=28						
MCK				S	**Sn**	**18 45 02.9**	**-0.8**
	baz=228						
M22K	**Willow**	**1.25**	**165**		**Pn**	**18 44 47.6**	**+0.4**
M22K	**Willow**	**1.25**	**165**	P	**Pn**	**18 44 47.6**	**+0.4**
	baz=345,SNR=14						
M22K				S	**Sn**	**18 45 05.9**	**+0.5**
	baz=345						
BWN	**Browne**	**1.36**	**26**	Pn	**Pn**	**18 44 49.2**	**+0.7**
BWN				Sn	**Sn**	**18 45 08.4**	**+0.5**
BWN				IAML		18 45 09.1	
	comp=N,531nm,0.9s						
BWN				IAML		18 45 23.1	
	comp=E,356nm,1.0s						
WAT6	**Susitna Watana**	**1.46**	**103**		**Pn**	**18 44 49.8**	**-0.1**
WAT6	**Susitna Watana**	**1.46**	**103**	P	**Pn**	**18 44 49.8**	**-0.1**
	baz=286,SNR=66						
WAT6				S	**Sn**	**18 45 09.5**	**-0.6**
	baz=286						
GHO	**Glory Hole Cre**	**1.48**	**142**		**Pn**	**18 44 50.5**	**+0.5**
GHO				Sn	**Sn**	**18 45 10.3**	**+0.1**
GHO				IAML		18 45 14.5	
	comp=E,1μm,0.6s						
L20K	**Farewell, AK**	**1.49**	**253**		**Pn**	**18 44 50.1**	**+0.1**
L20K					**Sn**	**18 45 09.9**	**-0.5**
L20K	**Farewell, AK**	**1.49**	**253**	P	**Pn**	**18 44 50.2**	**+0.1**
	baz=70						
L20K				S	**Sn**	**18 45 10.0**	**-0.5**
	baz=70						
K20K	**Telida**	**1.53**	**287**		**Pn**	**18 44 50.8**	**+0.3**
K20K					**Sn**	**18 45 10.5**	**-0.8**
K20K	**Telida**	**1.53**	**287**	IAML		18 45 11.5	
	comp=N,368nm,0.8s						
K20K	**Telida**	**1.53**	**287**	P	**Pn**	**18 44 50.8**	**+0.3**
	baz=104						
K20K				S	**Sn**	**18 45 10.7**	**-0.7**
	baz=104						
STLK	**Strandline Lak**	**1.54**	**198**		**Pn**	**18 44 50.8**	**+0.2**
DHY	**Denali Highway**	**1.57**	**84**		**Pn**	**18 44 51.3**	**+0.1**
DHY				Sn	**Sn**	**18 45 12.0**	**-0.4**
DHY				IAML		18 45 13.3	
	comp=E,1μm,0.4s						
DHY				IAML		18 45 13.6	
	comp=N,973nm,0.3s						
DHY	**Denali Highway**	**1.57**	**84**	P	**Pn**	**18 44 51.3**	**+0.1**
	baz=267,SNR=46						
DHY				S	**Sn**	**18 45 12.0**	**-0.4**
	baz=267					

	baz=345					
WRH	**Wood River Hil**	**1.95**	**37**		**Pn**	**18 44 55.8 +0.2**
SCM	**Sheep Creek Mo**	**1.98**	**123**		**Pn**	**18 44 56.0 -0.1**
SCM				IAML		18 45 22.5
	comp=E,502nm,0.7s					
SCM	**Sheep Creek Mo**	**1.98**	**123**	P	**Pn**	**18 44 56.1 +0.1**
	baz=306,SNR=19					
MLY	**Manley**	**2.09**	**1**		**Pn**	**18 44 57.5 +0.2**
MLY	**Manley**	**2.09**	**1**	P	**Pn**	**18 44 57.6 +0.2**
	baz=181,SNR=117					
CCB	**Clear Creek Bu**	**2.16**	**37**		**Pn**	**18 44 58.3 0.0**
CAPN	**Captain Cook N**	**2.20**	**184**	Pn	**Pn**	**18 45 01.8 +3.0**
HDA	**Harding Lake**	**2.26**	**48**		**Pn**	**18 44 59.5 0.0**
HDA				IAML		18 45 31.1
	comp=E,239nm,0.6s					
HDA				IAML		18 45 31.5
	comp=N,338nm,0.5s					
HDA	**Harding Lake**	**2.26**	**48**	P	**Pn**	**18 44 59.7 +0.1**
	baz=232					
I21K	**Tanana**	**2.29**	**348**		**Pn**	**18 45 00.4 +0.4**
I21K	**Tanana**	**2.29**	**348**	P	**Pn**	**18 45 00.4 +0.4**
	baz=167					
I23K	**Minto, Yukon-K**	**2.29**	**16**		**Pn**	**18 45 00.4 +0.4**
I23K	**Minto, Yukon-K**	**2.29**	**16**	P	**Pn**	**18 45 00.3 +0.4**
	baz=197,SNR=138					
M24K	**Tolsona, Glenn**	**2.31**	**109**	Pn	**Pn**	**18 45 01.0 +0.7**
M24K				IAML		18 45 36.5
	comp=N,438nm,0.5s					
M24K	**Tolsona, Glenn**	**2.31**	**109**	P	**Pn**	**18 45 00.9 +0.6**
	baz=294,SNR=31					
MDM	**Murphy Dome**	**2.31**	**28**		**Pn**	**18 45 00.5 +0.2**
TCOL	**CIGO, UAF Yank**	**2.33**	**33**		**Pn**	**18 45 00.8 +0.4**
TCOL				IAML		18 45 51.8
	comp=N,337nm,0.5s					
TCOL				IAML		18 46 00.3
	comp=E,272nm,0.5s					
TCOL	**CIGO, UAF Yank**	**2.33**	**33**	P	**Pn**	**18 45 00.6 +0.2**
	baz=216,SNR=28					
COLA	**College**	**2.33**	**33**		**Pn**	**18 45 00.7 +0.3**
COLA				IAML		18 45 51.2
	comp=E,308nm,0.5s					
COLA				IAML		18 45 52.0
	comp=E,364nm,0.5s					
COLA	**College**	**2.33**	**33**	P	**Pn**	**18 45 00.5 +0.1**
	baz=216					
PS10	**TAPS Pump St10**	**2.34**	**76**		**Pn**	**18 45 01.9 +1.3**
TTA	**Tatalina**	**2.38**	**272**	Pn	**Pn**	**18 45 00.3 -0.8**
TTA	**Tatalina**	**2.38**	**272**	P	**Pn**	**18 45 01.3 +0.2**
	baz=87,SNR=11					
TT01	**Tatalina**	**2.38**	**271**		**Pn**	**18 45 01.4 +0.3**
PS08	**TAPS Pump Stn8**	**2.39**	**46**		**Pn**	**18 45 01.6 +0.4**
PWL	**Port Wells**	**2.41**	**150**		**Pn**	**18 45 01.4 0.0**
PWL	**Port Wells**	**2.41**	**150**	P	**Pn**	**18 45 01.3 -0.2**
	baz=332,SNR=8.1					
PAX	**Paxson**	**2.44**	**87**		**Pn**	**18 45 02.4 +0.4**
PAX	**Paxson**	**2.44**	**87**	P	**Pn**	**18 45 02.5 +0.4**
	baz=272,SNR=101					
SLKM	**Skilak Lake**	**2.47**	**173**		**Pn**	**18 45 02.5 +0.2**
IL31		**2.52**	**42**		**Pn**	**18 45 02.9 +0.1**
ILAR	**Eielson Array**	**2.52**	**42**	P	**Pn**	**18 45 02.9 0.0**
	comp=E,5.4nm,0.3s,baz=222,slow=13,SNR=222					
ILAR				S	**Sn**	**18 45 29.9 -3.6**
	comp=E,5.1nm,0.3s,baz=232,slow=16,SNR=3.5					
ILAR				LR	LR	18 45 34.3
	comp=E,69nm,19.1s,baz=272,slow=28					
ILAR	**Eielson Array**	**2.52**	**42**	Pn	**Pn**	**18 45 02.7 -0.2**
DFR	**Drift River**	**2.53**	**201**		**Pn**	**18 45 03.7 +0.5**
PS11	**TAPS Pump St11**	**2.63**	**107**		**Pn**	**18 45 05.2 +0.9**
POKR	**Poker Plat Res**	**2.63**	**33**		**Pn**	**18 45 04.7 +0.3**
POKR	**Poker Plat Res**	**2.63**	**33**	P	**Pn**	**18 45 04.7 +0.3**
	baz=216,SNR=12					
RDWB	**Redoubt West**	**2.66**	**202**		**Pn**	**18 45 05.3 +0.5**
RSO	**Redoubt South**	**2.67**	**201**	Pn	**Pn**	**18 45 04.9 -0.2**
HARP	**HAARP**	**2.67**	**100**		**Pn**	**18 45 05.7 +0.8**
HARP	**HAARP**	**2.67**	**100**	P	**Pn**	**18 45 05.6 +0.8**
	baz=285,SNR=70					
KLU	**Klutina**	**2.72**	**120**		**Pn**	**18 45 05.0 -0.7**
KLU				IAML		18 45 48.2
	comp=E,287nm,0.4s					
KLU				IAML		18 45 50.3
	comp=N,289nm,0.5s					
KLU	**Klutina**	**2.72**	**120**	P	**Pn**	**18 45 04.9 -0.7**
	baz=305,SNR=20					
N19K	**Bonanza Creek**	**2.76**	**221**		**Pn**	**18 45 06.6 +0.4**
N19K	**Bonanza Creek**	**2.76**	**221**	P	**Pn**	**18 45 06.6 +0.4**
	baz=37					
RIDG	**Independent Ri**	**2.81**	**71**		**Pn**	**18 45 06.8 +0.1**
RIDG				IAML		18 45 45.4
	comp=N,220nm,0.7s					
RIDG				IAML		18 45 50.3
	comp=E,298nm,0.4s					
RIDG	**Independent Ri**	**2.81**	**71**	P	**Pn**	**18 45 07.3 +0.6**
	baz=256,SNR=33					
H21K	**Melozitna Rive**	**2.85**	**343**		**Pn**	**18 45 07.3 +0.1**
H21K	**Melozitna Rive**	**2.85**	**343**	P	**Pn**	**18 45 07.5 +0.3**
	baz=162,SNR=48					
SVW2	**Sparrevohn**	**2.92**	**232**		**Pn**	**18 45 08.2 +0.1**
SEW	**Seward**	**2.93**	**167**	Pn	**Pn**	**18 45 07.9 -0.4**
SEW	**Seward**	**2.93**	**167**	P	**Pn**	**18 45 08.5 +0.2**
	baz=348,SNR=8.2					
PS06	**TAPS Pump Stn6**	**2.95**	**9**		**Pn**	**18 45 09.0 +0.4**
DIV	**Divide**	**3.00**	**125**	Pn	**Pn**	**18 45 08.1 -1.2**
O20K	**Slope Mountain**	**3.01**	**198**	P	**Pn**	**18 45 10.4 +1.0**
	baz=16					
DOT	**Dot Lake**	**3.13**	**74**	Pn	**Pn**	**18 45 10.2 -0.7**
IVE	**Iliamna Volcan**	**3.13**	**201**		**Pn**	**18 45 10.6 -0.4**
H24K	**Noodor Dome**	**3.16**	**22**		**Pn**	**18 45 11.1 -0.2**
H24K	**Noodor Dome**	**3.16**	**22**	P	**Pn**	**18 45 11.4 0.0**
	baz=205,SNR=6.8					
BRLK	**Bradley Lake**	**3.20**	**181**		**Pn**	**18 45 12.7 +0.8**
BRLK				IAML		18 45 59.0
	comp=N,86nm,0.8s					
BRLK				IAML		18 45 59.4
	comp=E,90nm,0.5s					
N25K	**Chitina, Valde**	**3.21**	**112**		**Pn**	**18 45 11.9 -0.1**
N25K				IAML		18 45 50.9
	comp=E,100nm,0.5s					
N25K				IAML		18 45 59.9
	comp=N,211nm,0.4s					
N25K	**Chitina, Valde**	**3.21**	**112**	P	**Pn**	**18 45 11.8 -0.1**
	baz=298,SNR=13					
BRSE	**Bradley Lake S**	**3.22**	**179**		**Pn**	**18 45 12.5 +0.3**
BRSE	**Bradley Lake S**	**3.22**	**179**	P	**Pn**	**18 45 12.4 +0.3**
	baz=359					
GCSA	**Galena City Sc**	**3.23**	**307**		**Pn**	**18 45 12.9 +0.7**
GCSA	**Galena City Sc**	**3.23**	**307**	P	**Pn**	**18 45 12.7 +0.5**
	baz=121,SNR=31					
SCRK	**Sand Creek**	**3.23**	**68**		**Pn**	**18 45 12.3 -0.1**
SCRK				IAML		18 45 56.9
	comp=N,80nm,0.5s					
SCRK				IAML		18 45 59.7
	comp=E,57nm,0.5s					
SCRK	**Sand Creek**	**3.23**	**68**	P	**Pn**	**18 45 12.3 -0.1**
	baz=255,SNR=29					
MENT	**Mentasta**	**3.24**	**87**		**Pn**	**18 45 12.9 +0.5**
IM03		**3.30**	**339**		**Pn**	**18 45 13.2 +0.2**
IMAR	**Indian Mountai**	**3.30**	**339**		**Pn**	**18 45 13.0 -0.1**
HOM	**Homer**	**3.33**	**187**	Pn	**Pn**	**18 45 14.5 +0.9**
HOM	**Homer**	**3.33**	**187**	P	**Pn**	**18 45 14.5 +0.9**
	baz=6.4					
L26K	**Log Cabin Wild**	**3.41**	**85**	Pn	**Pn**	**18 45 14.8 +0.2**
L26K	**Log Cabin Wild**	**3.41**	**85**	P	**Pn**	**18 45 14.9 +0.3**
	baz=272,SNR=29					
EYAK	**Cordova Ski Ar**	**3.41**	**133**		**Pn**	**18 45 13.1 -1.5**
EYAK	**Cordova Ski Ar**	**3.41**	**133**	P	**Pn**	**18 45 14.6 0.0**
	baz=317					
CNPM	**China Poot**	**3.45**	**184**		**Pn**	**18 45 14.1 -1.0**
CNPM				IAML		18 46 06.2
	comp=N,110nm,1.4s					
CNPM				IAML		18 46 07.5
	comp=E,127nm,0.5s					
PRP	**Porcupine Dome**	**3.46**	**40**		**Pn**	**18 45 14.6 -0.8**
PRP	**Porcupine Dome**	**3.46**	**40**	P	**Pn**	**18 45 15.7 +0.3**
	baz=224,SNR=5.9					
BMRM	**Bremner River**	**3.55**	**121**		**Pn**	**18 45 15.2 -1.3**
BMRM				IAML		18 46 15.7
	comp=E,140nm,0.6s					
BMRM	**Bremner River**	**3.55**	**121**	P	**Pn**	**18 45 15.6 -0.9**
	baz=307,SNR=12					
J26L	**Joseph Creek**	**3.58**	**61**		**Pn**	**18 45 16.9 0.0**
J26L	**Joseph Creek**	**3.58**	**61**	P	**Pn**	**18 45 17.3 +0.4**
	baz=248,SNR=63					
GLB	**Gilahina Butte**	**3.62**	**112**		**Pn**	**18 45 16.7 -0.7**
GLB				IAML		18 45 59.4
	comp=N,112nm,0.5s					
GLB				IAML		18 45 59.5
	comp=E,140nm,0.4s					
M26K	**Nabesna, AK**	**3.65**	**95**		**Pn**	**18 45 17.9 0.0**
M26K	**Nabesna, AK**	**3.65**	**95**	IAML		18 46 18.9
	comp=N,124nm,0.5s					
M26K				IAML		18 46 21.2
	comp=E,136nm,0.5s					
M26K	**Nabesna, AK**	**3.65**	**95**	P	**Pn**	**18 45 17.9 0.0**
	baz=282					
GOAT	**Goat Mountain**	**3.75**	**127**		**Pn**	**18 45 18.7 -0.5**
O18K	**Koktuh Hills**	**3.76**	**216**	Pn	**Pn**	**18 45 19.7 +0.4**
O18K				IAML		18 46 04.5
	comp=E,67nm,4.2s					
O18K				IAML		18 46 47.8
	comp=N,63nm,4.0s					
O18K	**Koktuh Hills**	**3.76**	**216**	P	**Pn**	**18 45 20.0 +0.7**
	baz=32					
VRDI	**Verde Repeater**	**3.87**	**113**		**Pn**	**18 45 20.5 -0.5**
VRDI				IAML		18 46 20.7
	comp=N,61nm,0.9s					
VRDI				IAML		18 46 23.1
	comp=E,46nm,0.8s					
PS05	**TAPS Pump Stn5**	**3.88**	**1**		**Pn**	**18 45 21.6 +0.8**
MCARA	**McCarthy VSAT**	**3.98**	**110**	Pn	**Pn**	**18 45 22.3 +0.1**
MCARA	**McCarthy VSAT**	**3.98**	**110**	P	**Pn**	**18 45 22.3 +0.1**
	baz=297					
L27K	**Beaver Creek,**	**4.10**	**84**	P	**Pn**	**18 45 23.5 -0.3**
	baz=272					
BC03		**4.12**	**84**		**Pn**	**18 45 23.9 -0.2**
BCAR	**Beaver Creek A**	**4.12**	**84**		**Pn**	**18 45 23.8 -0.3**
M27K	**Edge Creek, AK**	**4.17**	**94**		**Pn**	**18 45 25.2 +0.4**
M27K				IAML		18 46 38.8
	comp=N,79nm,0.9s					
M27K				IAML		18 46 40.2
	comp=E,50nm,0.7s					
M27K	**Edge Creek, AK**	**4.17**	**94**	P	**Pn**	**18 45 25.5 +0.7**
	baz=282,SNR=6.6					
CRQM	**Cirque**	**4.25**	**118**		**Pn**	**18 45 25.8 -0.3**
CRQM				IAML		18 46 39.9
	comp=E,84nm,0.6s					
Q19K	**Cape Douglas,**	**4.27**	**200**	P	**Pn**	**18 45 26.4 +0.3**
	baz=18					
CRQE	**Cirque**	**4.27**	**118**	P	**Pn**	**18 45 25.9 -0.4**
	baz=304					
COLD	**Coldfoot**	**4.30**	**3**		**Pn**	**18 45 26.5 +0.1**
COLD	**Coldfoot**	**4.30**	**3**	P	**Pn**	**18 45 26.6 +0.1**
	baz=184,SNR=17					
PTPK	**Patty Peak**	**4.31**	**111**		**Pn**	**18 45 26.9 +0.1**
FYU	**Fort Yukon**	**4.34**	**31**		**Pn**	**18 45 27.4 +0.3**
FYU				IAML		18 47 00.9
	comp=E,66nm,4.1s					
FYU				IAML		18 48 10.3
	comp=N,75nm,4.8s					
TGL	**Tana Glacier**	**4.38**	**117**		**Pn**	**18 45 27.4 -0.3**
TGL				IAML		18 46 35.9
	comp=N,88nm,0.7s					
BALM	**Baldy**	**4.43**	**112**		**Pn**	**18 45 27.8 -0.6**
KIAG	**Kiagna River**	**4.48**	**113**		**Pn**	**18 45 28.4 -0.8**
WAX	**Waxell Ridge**	**4.55**	**120**		**Pn**	**18 45 29.2 -0.7**
BVCY	**Beaver Creek**	**4.62**	**92**		**Pn**	**18 45 30.8 0.0**
BVCY	**Beaver Creek**	**4.62**	**92**	P	**Pn**	**18 45 31.2 +0.3**
	baz=281,SNR=5.3					
EGAK	**Eagle**	**4.65**	**63**		**Pn**	**18 45 31.3 +0.2**
EGAK				IAML		18 46 28.0
	comp=N,66nm,0.8s					
EGAK				IAML		18 46 43.1
	comp=N,37nm,0.7s					
EGAK	**Eagle**	**4.65**	**63**	P	**Pn**	**18 45 31.5 +0.3**
	baz=251					
ISLE	**Juniper Island**	**4.67**	**117**	Pn	**Pn**	**18 45 30.9 -0.7**
BARN	**Barnard Glacie**	**4.71**	**110**		**Pn**	**18 45 31.8 -0.5**
BARN				IAML		18 46 46.7
	comp=E,42nm,0.6s					
BARN				IAML		18 46 53.3
	comp=N,43nm,4.2s					
SNH	**Sunshine Point**	**4.72**	**123**	Pn	**Pn**	**18 45 30.8 -1.4**
YUK2	**White River**	**4.79**	**100**		**Pn**	**18 45 33.9 +0.7**
GRNC	**Granite Creek**	**4.84**	**113**		**Pn**	**18 45 33.1 -0.8**
CTG	**Chitna Glacier**	**4.90**	**110**	P	**Pn**	**18 45 34.8 +0.1**
	baz=298					
CTGM	**Chitina Glacie**	**4.90**	**110**	Pn	**Pn**	**18 45 34.2 -0.5**
CTGM				IAML		18 46 26.8
	comp=E,30nm,4.7s					
CTGM				IAML		18 47 03.3
	comp=N,40nm,3.7s					
YUK3	**Moose Creek**	**4.97**	**99**		**Pn**	**18 45 36.1 +0.4**
YUK3	**Moose Creek**	**4.97**	**99**	P	**Pn**	**18 45 36.1 +0.4**
	baz=288					
YAH	**Yahtse**	**5.04**	**117**	Pn	**Pn**	**18 45 36.0 -0.8**
YAH					**Sn**	**18 46 32.3 -1.6**
MESA	**MESA**	**5.07**	**119**	Pn	**Pn**	**18 45 36.6 -0.5**
MESA	**MESA**	**5.07**	**119**	P	**Pn**	**18 45 37.0 0.0**
	baz=307					
LOGN	**Logan Glacier**	**5.11**	**110**	Pn	**Pn**	**18 45 36.2 -1.4**
LOGN				IAML		18 47 24.4
	comp=N,37nm,4.9s					
LOGN				IAML		18 48 25.0
	comp=E,31nm,3.7s					
BM03	**Burnt Mountain**	**5.19**	**28**		**Pn**	**18 45 38.8 +0.3**
BMAR	**Burnt Mountain**	**5.20**	**28**	Pn	**Pn**	**18 45 38.4 -0.3**
BM01	**Burnt Mountain**	**5.23**	**28**		**Pn**	**18 45 39.4 +0.4**
DAWY	**Dawson**	**5.24**	**73**		**Pn**	**18 45 39.2 +0.1**
DAWY	**Dawson**	**5.24**	**73**	IAML		18 46 47.0
	comp=E,23nm,2.1s					
DAWY				IAML		18 47 14.5
	comp=N,30nm,0.6s					
DAWY	**Dawson**	**5.24**	**73**	P	**Pn**	**18 45 39.3 +0.1**
	baz=263,SNR=21					
TABL	**Table Mountain**	**5.25**	**114**	Pn	**Pn**	**18 45 39.1 -0.3**
TABL				IAML		18 48 09.9
	comp=N,43nm,3.5s					
KDAK	**Kodiak Island**	**5.26**	**190**	P	**Pn**	**18 45 38.4 -1.1**
	comp=N,3.8nm,0.3s,baz=13,slow=11,SNR=26					
KDAK				S	**Sn**	**18 46 35.9 -3.0**
	comp=N,2.8nm,0.3s,baz=166,slow=22,SNR=7.4					
KDAK	**Kodiak Island**	**5.26**	**190**	Pn	**Pn**	**18 45 38.3 -1.2**
KDAK	**Kodiak Island**	**5.26**	**190**	P	**Pn**	**18 45 38.5 -1.0**
	baz=8.7					
SAMH	**Samovar Hills**	**5.57**	**116**		**Pn**	**18 45 44.2 +0.4**
TOLK	**Toolik Lake Re**	**5.74**	**5**		**Pn**	**18 45 45.5 -0.4**
TOLK	**Toolik Lake Re**	**5.74**	**5**	P	**Pn**	**18 45 47.1 +1.2**
	baz=186,SNR=5.9					
PCA	**Pinnacle**	**5.81**	**115**	Pn	**Pn**	**18 45 45.7 -1.2**
PINM	**Pinnacle**	**5.81**	**115**	P	**Pn**	**18 45 47.0 +0.1**
	baz=304					
OHAK	**Old Harbor**	**5.88**	**193**	Pn	**Pn**	**18 45 46.6 -1.2**
OHAK	**Old Harbor**	**5.88**	**193**	P	**Pn**	**18 45 48.7 +0.9**
	baz=11					
I29M	**Ogilvie Camp,**	**5.98**	**61**	P	**Pn**	**18 45 49.5 +0.4**
	baz=252,SNR=8.8					
BCPM	**Bancas Point**	**6.15**	**114**	Pn	**Pn**	**18 45 51.0 -0.4**
M30M	**Minto, Yukon**	**6.45**	**87**		**Pn**	**18 45 55.5 0.0**
M30M	**Minto, Yukon**	**6.45**	**87**	P	**Pn**	**18 45 55.5 0.0**
	baz=280					
ANM	**Nome**	**6.65**	**290**	Pn	**Pn**	**18 45 57.0 -1.2**
ANM	**Nome**	**6.65**	**290**	P	**Pn**	**18 45 59.3 +1.1**
	baz=98					
TNA	**Tin City**	**7.89**	**297**	P	**Pn**	**18 46 16.1 +1.3**
	baz=102					
WHY	**Whitehorse**	**7.89**	**100**	Pn	**Pn**	**18 46 13.4 -1.6**
WHY	**Whitehorse**	**7.89**	**100**	P	**Pn**	**18 46 15.5 +0.4**
	baz=294					
SKAG	**Skagway**	**8.25**	**108**	Pn	**Pn**	**18 46 19.1 -0.7**
A21K	**Barrow**	**8.70**	**348**	Pn	**Pn**	**18 46 24.9 -1.0**
INK	**Inuvik**	**8.91**	**45**	P	**Pn**	**18 46 30.1 +1.4**
	comp=N,0.1nm,0.3s,baz=226,slow=19,SNR=4.5					
INK				S	**Sn**	**18 48 09.3 +2.1**
	comp=N,0.1nm,0.3s,baz=270,slow=18,SNR=1.5					
BESE	**Bessie Mountai**	**8.95**	**112**	Pn	**Pn**	**18 46 28.8 -0.6**
JIS	**Juneau Island**	**9.33**	**113**	Pn	**Pn**	**18 46 34.0 -0.4**
DLBC	**Dease Lake**	**11.12**	**105**	P	**Pn**	**18 46 58.6 -0.1**
	comp=N,0.1nm,0.3s,baz=342,slow=6.4,SNR=2.7					
DLBC	**Dease Lake**	**11.12**	**105**	Pn	**Pn**	**18 46 56.9 -1.9**
C36M	**Paulatuk**	**12.48**	**48**	Pn	**Pn**	**18 47 13.9 -2.5**
YKA	**Yellowknife Ar**	**16.47**	**75**	P	**Pn**	**18 48 07.0 -0.8**
	comp=N,0.1nm,0.3s,baz=286,slow=9.7,SNR=11					
YKA				ScP	**ScP**	**18 56 15.9 +0.8**
	comp=N,0.0nm,0.3s,baz=296,slow=2.3,SNR=4.1					
YKA	**Yellowknife Ar**	**16.47**	**75**		**P**	**18 48 08.7 +0.9**
PDAR	**Pinedale Array**	**31.26**	**111**	P	**P**	**18 50 34.1 +1.9**
	comp=N,0.2nm,0.6s,baz=316,slow=6.2,SNR=3.8					
SONM	**Songino Array**	**53.91**	**306**	P	**P**	**18 53 35.1 +0.5**
	comp=N,0.6nm,0.8s,baz=21,slow=8.4,SNR=5.2					
ZALV	**Zalesovo Beam**	**55.61**	**324**	P	**P**	**18 53 45.9 -0.6**
	comp=N,0.7nm,0.6s,baz=12,slow=9.7,SNR=3.6					
MKAR	**Makanchi Array**	**62.76**	**322**	P	**P**	**18 54 35.1 -0.9**
	comp=N,0.2nm,0.4s,baz=38,slow=7.1,SNR=2.0					
AKASG	**Malin Array Be**	**66.69**	**360**	P	**P**	**18 55 01.7 +0.4**
	comp=N,0.2nm,0.3s,baz=1.0,slow=5.9,SNR=4.3					

*WEL **01** 18:58:59.4±0.9, 37°S±7°×17°7E±°, h113km±9km, M2.9/15, ML3.2/16, MLv2.9/15, Error ellipse: s-maj=0.0km s-min=0.0km az=136.8*
*NOU **01** 18:59:06.6, 38°31S×177°31E, h108km, MLv4.2/6, North Island, New Zealand*

ISC 01 18:58:54.9±2.8, 37°3S±0°1×177°53E±0°08, h165km±14km, n87, σ1°65/83, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.53**	**158**	P	**Pn**	**18 59 18.3**	**+0.3**
HAZ				S	**Sn**	**18 59 32.8**	**-3.2**
MXZ	**Matakaoa Point**	**0.69**	**116**	P	**Pn**	**18 59 19.9**	**+1.1**
RUGZ	**Raukumara Rang**	**0.71**	**170**	P	**Pn**	**18 59 19.3**	**+0.1**
RUGZ				S	**Sn**	**18 59 34.4**	**-3.6**
PKGZ	**Pakihiroa**	**0.76**	**145**	P	**Pn**	**18 59 20.8**	**+1.4**
PKGZ				S	**Sn**	**18 59 36.8**	**-1.6**
WMGZ	**Waiomatatini S**	**0.90**	**128**	P	**Pn**	**18 59 21.8**	**+1.5**
TWGZ	**Tauwhareparae**	**0.98**	**159**	P	**Pn**	**18 59 23.4**	**+2.4**
TWGZ				S	**Sn**	**18 59 40.9**	**-0.3**
PUZ	**Puketiti**	**0.99**	**144**	P	**Pn**	**18 59 22.5**	**+1.4**
PUZ				S	**Sn**	**18 59 40.4**	**-0.8**
URZ	**Urewera**	**1.05**	**198**	P	**Pn**	**18 59 22.3**	**+0.9**
URZ				S	**Sn**	**18 59 40.7**	**-1.2**
URZ	**Urewera**	**1.05**	**198**	P	**Pn**	**18 59 22.3**	**+0.9**
MWZ	**Matawai**	**1.07**	**180**	P	**Pn**	**18 59 22.8**	**+1.2**
MWZ				S	**Sn**	**18 59 41.7**	**-0.8**
TKGZ	**Te Karaka**	**1.20**	**168**	P	**Pn**	**18 59 24.4**	**+1.7**
TKGZ				S	**Sn**	**18 59 43.7**	**-0.6**
RAGZ	**Rawiri**	**1.23**	**184**	P	**Pn**	**18 59 25.0**	**+1.8**
RAGZ				S	**Sn**	**18 59 44.4**	**-0.6**
CNGZ	**Carnagh Statio**	**1.33**	**156**	P	**Pn**	**18 59 26.4**	**+2.5**
MUGZ	**Murupara**	**1.35**	**206**	P	**Pn**	**18 59 25.5**	**+1.3**
MUGZ				S	**Sn**	**18 59 45.6**	**-1.2**
RTZ	**Ruatahuna**	**1.42**	**198**	P	**Pn**	**18 59 26.0**	**+1.1**
RTZ				S	**Sn**	**18 59 47.0**	**-1.1**
RIGZ	**Rimuhau**	**1.45**	**173**	P	**Pn**	**18 59 26.9**	**+1.7**
SNGZ	**Shannon Statio**	**1.52**	**185**	P	**Pn**	**18 59 27.5**	**+1.7**
SNGZ				S	**Sn**	**18 59 50.2**	**+0.4**
ALRZ	**Allen Road**	**1.60**	**215**	P	**Pn**	**18 59 28.3**	**+1.7**
MTHZ	**Maungataniwha**	**1.68**	**199**	P	**Pn**	**18 59 29.2**	**+1.8**
TOZ	**Tahuroa Road**	**1.68**	**253**	P	**Pn**	**18 59 28.8**	**+1.4**
PRGZ	**Paritu Road**	**1.68**	**170**	P	**Pn**	**18 59 29.6**	**+2.2**
RAHZ	**Arahi**	**1.69**	**192**	P	**Pn**	**18 59 29.3**	**+1.8**
KNZ	**Kokohu**	**1.76**	**176**	P	**Pn**	**18 59 29.9**	**+1.7**
MRHZ	**Matea Rd**	**1.79**	**209**	P	**Pn**	**18 59 30.1**	**+1.4**
WHHZ	**Waihua**	**1.82**	**187**	P	Pn	18 59 39.0	+10
WHHZ				S	Sn	19 00 03.5	+8.1
TLZ	**Tolley Road**	**1.90**	**235**	P	**Pn**	**18 59 31.9**	**+2.1**
MHGZ	**Mahia Peninsul**	**1.91**	**171**	P	**Pn**	**18 59 32.4**	**+2.5**
NMHZ	**Naumai**	**1.92**	**197**	P	**Pn**	**18 59 32.6**	**+2.5**
ARHZ	**Aropaoanui**	**2.04**	**192**	P	**Pn**	**18 59 33.5**	**+2.2**
BKZ	**Black Stump Fm**	**2.07**	**203**	P	**Pn**	**18 59 33.2**	**+1.5**
MCHZ	**McNeill Hill**	**2.27**	**196**	P	**Pn**	**18 59 36.0**	**+2.0**
KWHZ	**Kaweka Forest**	**2.33**	**202**	P	**Pn**	**18 59 36.0**	**+1.3**
NTVZ	**North Tongarir**	**2.34**	**218**	P	**Pn**	**18 59 37.3**	**+2.3**
TMVZ	**Te Maari**	**2.34**	**217**	P	**Pn**	**18 59 37.0**	**+2.1**
ETVZ	**East Tongariro**	**2.35**	**217**	P	**Pn**	**18 59 37.1**	**+2.0**
OTVZ	**Oturere**	**2.40**	**217**	P	**Pn**	**18 59 37.7**	**+2.1**
CKHZ	**Cape Kidnapper**	**2.42**	**188**	P	**Pn**	**18 59 37.3**	**+1.6**
SNVZ	**South Ngauruho**	**2.43**	**217**	P	**Pn**	**18 59 38.3**	**+2.3**
NGZ	**Ngauruhoe**	**2.44**	**218**	P	**Pn**	**18 59 38.5**	**+2.4**
HIZ	**Hauiti**	**2.45**	**239**	P	**Pn**	**18 59 39.0**	**+2.9**
HIZ	**Hauiti**	**2.45**	**239**	P	**Pn**	**18 59 39.1**	**+2.9**
TUVZ	**Tukino**	**2.48**	**216**	P	**Pn**	**18 59 38.7**	**+2.0**
BHHZ	**Black Hill Sta**	**2.50**	**207**	P	**Pn**	**18 59 38.1**	**+1.3**
FWVZ	**Far West T-bar**	**2.52**	**217**	P	**Pn**	**18 59 39.3**	**+2.1**
DRZ	**Dome Shelter**	**2.53**	**217**	P	**Pn**	**18 59 41.3**	**+3.9**
KRHZ	**Kereru**	**2.54**	**201**	P	**Pn**	**18 59 38.2**	**+1.0**
MOVZ	**Moawhango**	**2.55**	**213**	P	**Pn**	**18 59 38.6**	**+1.2**
WNVZ	**Wahianoa**	**2.56**	**216**	P	**Pn**	**18 59 39.3**	**+1.7**
KAHZ	**Kahuranaki**	**2.58**	**191**	P	**Pn**	**18 59 39.4**	**+1.7**
PKVZ	**Pokaka**	**2.65**	**220**	P	**Pn**	**18 59 38.4**	**-0.2**
PXZ	**Pawanui**	**2.81**	**190**	P	**Pn**	**18 59 41.5**	**+1.0**
PNHZ	**Pukenui**	**2.84**	**201**	P	**Pn**	**18 59 41.8**	**+

mb1 3.0/8, mb1mx2.6/47, mbtmp3.9/8, Error ellipse: s-maj=52.6km s-min=9.7km az=67.0

ISC 01 19:16:31.1±0.6, 6°24N±0°07×124°02E±0°10, h541km±7km, n52, σ0°96/61, mb3.7/14, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.94**	**99**	↑*eP*	**P**	**19 17 36.3**	**-0.2**
GSPH				*i*S	**S**	**19 18 29.8**	**+0.3**
KCP	**Kidapawan**	**1.31**	**54**	↓*eP*	**P**	**19 17 36.9**	**-0.5**
MATI	**Mati**	**2.34**	**72**	↓*eP*	**P**	**19 17 41.1**	**-0.5**
MATI				*e*S	**S**	**19 18 36.1**	**-2.7**
MYLDM	**Lahad Datu**	**5.59**	**259**	P	**P**	**19 18 06.2**	**+0.7**
TOLI2	**Tolitoli**	**6.03**	**212**	P	**P**	**19 18 09.0**	**-0.6**
TOLI2	**Tolitoli**	**6.03**	**212**	P	**P**	**19 18 09.6**	**0.0**
TNTI	**Ternate**	**6.38**	**148**	P	**P**	**19 18 14.3**	**+1.5**
LUWI	**Luwuk**	**7.33**	**190**	P	**P**	**19 18 21.2**	**-0.8**
KKM	**Kota Kinabalu**	**7.76**	**269**	P	**P**	**19 18 25.7**	**-0.6**
KKM	**Kota Kinabalu**	**7.76**	**269**	P	**P**	**19 18 25.7**	**-0.6**
SANI	**Sanana**	**8.46**	**166**	P	**P**	**19 18 32.9**	**-0.3**
SIJI	**Sorong**	**10.11**	**134**	P	**P**	**19 18 51.5**	**+1.4**
	1.3nm,0.3s,baz=313,slow=15,SNR=9.7						
FAKI	**Fak Fak**	**12.26**	**138**	P	**P**	**19 19 13.5**	**+1.2**
FAKI	**Fak Fak**	**12.26**	**138**	P	**P**	**19 19 13.6**	**+1.2**
SBUM	**Sibu**	**12.35**	**253**	P	**P**	**19 19 14.0**	**+0.7**
SOEI	**Soe**	**15.89**	**179**	P	**P**	**19 19 49.1**	**-0.9**
SOEI				IAmb	IAmb	19 19 49.2	
	comp=Z,27nm,1.4s						
SOEI	**Soe**	**15.89**	**179**	P	**P**	**19 19 51.1**	**+1.1**
BATI	**Baumata**	**16.34**	**181**	P	**P**	**19 19 54.4**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=0.0,slow=11,SNR=6.1						
TPUB	**Ta-pu**	**17.28**	**349**	P	**P**	**19 20 01.9**	**-0.9**
MTN	**Manton Dam**	**20.23**	**160**	P	**P**	**19 20 31.2**	**+1.4**
KDU	**Kakadu**	**20.59**	**156**	P	**P**	**19 20 34.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.23**	**176**	P	**P**	**19 21 05.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=356,slow=6.2,SNR=14						
JNU	**Nakatsue**	**27.50**	**13**	P	**P**	**19 21 35.2**	**+0.9**
COEN	**Coen**	**27.64**	**137**	P	**P**	**19 21 35.7**	**-0.1**
COEN				IAmb	IAmb	19 21 50.1	
	comp=Z,25nm,1.5s						
WB0	**Warramunga Arr**	**27.78**	**159**	P	**P**	**19 21 37.0**	**+0.1**
WB0				IAmb	IAmb	19 21 50.2	
	comp=Z,13nm,1.5s						
WRAB	**Tennant Creek**	**27.92**	**159**	P	**P**	**19 21 38.5**	**+0.4**
WRA	**Warramunga Arr**	**27.93**	**159**	P	**P**	**19 21 38.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=331,slow=11,SNR=21						
WRA				PcP	**PcP**	**19 24 35.7**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=330,slow=1.8,SNR=1.7						
WRA				S	**S**	**19 25 41.4**	**-2.9**
	comp=Z,0.4nm,0.7s,baz=326,slow=15,SNR=2.1						
WRA				ScP	**ScP**	**19 27 25.0**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=343,slow=2.8,SNR=1.2						
WRA	**Warramunga Arr**	**27.93**	**159**	IAmb	IAmb	19 21 46.6	
	comp=Z,0.2nm,1.1s						
WB2	**Warramunga Arr**	**27.93**	**159**	P	**P**	**19 21 38.4**	**+0.2**
WB2				IAmb	IAmb	19 21 43.6	
	comp=Z,9.3nm,1.4s						
PSA00	**Pilbara Seismi**	**27.94**	**188**	P	**P**	**19 21 36.7**	**-1.5**
GIRL	**Giralia**	**30.25**	**198**	P	**P**	**19 21 57.4**	**-1.0**
AS31	**Alice Springs**	**31.25**	**162**	P	**P**	**19 22 08.2**	**+1.2**
ASAR	**Alice Springs**	**31.25**	**162**	P	**P**	**19 22 08.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=336,slow=7.7,SNR=21						
ASAR				PcP	**PcP**	**19 24 44.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=350,slow=2.5,SNR=8.2						
ASAR				S	**S**	**19 26 34.2**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=352,slow=20,SNR=10						
ASAR				ScP	**ScP**	**19 27 36.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=339,slow=3.3,SNR=5.7						
ASAR	**Alice Springs**	**31.25**	**162**	P	**P**	**19 22 07.2**	**+0.3**
WRKA	**Warakurna**	**31.36**	**173**	P	**P**	**19 22 09.0**	**+1.1**
MEEK	**Meekatharra**	**33.09**	**189**	P	**P**	**19 22 22.8**	**+0.2**
MORW	**Morawa**	**35.93**	**192**	P	**P**	**19 22 46.2**	**0.0**
FORT	**Forrest**	**37.01**	**174**	P	**P**	**19 22 56.0**	**+1.0**
ULN	**Ulaanbaatar**	**43.94**	**344**	P	**P**	**19 23 50.8**	**+0.6**
ULN				IAmb	IAmb	19 24 02.6	
	comp=Z,4.6nm,1.6s						
SONM	**Songino Array**	**44.10**	**343**	P	**P**	**19 23 52.1**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=163,slow=7.9,SNR=2.7						
SONM	**Songino Array**	**44.10**	**343**	IAmb	IAmb	19 24 11.9	
	comp=Z,3.3nm,1.6s						
MK31	**Makanchi Array**	**53.97**	**326**	P	**P**	**19 25 04.9**	**+0.6**
MK31				PcP	**PcP**	**19 26 00.9**	**-0.2**
MKAR	**Makanchi Array**	**53.97**	**326**	P	**P**	**19 25 04.9**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=121,slow=7.8,SNR=42						
MKAR				PcP	**PcP**	**19 26 00.6**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=110,slow=4.2,SNR=5.8						
TARG	**Taragay, Kyrgy**	**54.09**	**318**	P	**P**	**19 25 07.3**	**+1.6**
MAKZ	**Makanchi**	**54.16**	**325**	P	**P**	**19 25 06.1**	**+0.4**
MAKZ				IAmb	IAmb	19 25 06.7	
	comp=Z,1.7nm,0.6s						
MAKZ				PcP	**PcP**	**19 26 01.1**	**-0.6**
KDJ	**Kajisay**	**54.69**	**318**	P	**P**	**19 25 10.4**	**+0.7**
KDJ				IAmb	IAmb	19 25 25.0	
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**58.19**	**328**	P	**P**	**19 25 33.5**	**+0.1**
KURK				IAmb	IAmb	19 25 34.3	
	comp=Z,3.5nm,0.8s						
CHGR	**Chuyangaron**	**58.99**	**312**	P	**P**	**19 25 39.7**	**+0.6**
CHGR				IAmb	IAmb	19 25 59.2	
	comp=Z,6.1nm,1.3s						
MIDW	**Midway**	**59.49**	**61**	P	**P**	**19 25 42.8**	**+0.3**
ABKAR	**Akbulak array**	**68.51**	**321**	P	**P**	**19 26 39.1**	**-0.4**
ABKAR	**Akbulak array**	**68.51**	**321**	P	**P**	**19 26 38.8**	**-0.7**
ABKAR				IAmb	IAmb	19 27 01.7	
	comp=Z,1.6nm,1.1s						
BRTR	**Keskin Array B**	**86.35**	**309**	P	**P**	**19 28 15.3**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=90,slow=1.4,SNR=5.1						

*IDC **01** 19:23:28.3±2.2, 41°25S×89°05W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/21, mbtmp3.8/6, ML3.5/1, MS4.0/36, Ms1 4.0/36, ms1mx3.9/47, Error ellipse: s-maj=72.9km s-min=30.7km az=173.0*

*NEIC **01** 19:23:29.8±2.1, 41°1S±0°1×88°9W±0°2, h10km±1km, mb4.5/27, Error ellipse: s-maj=23.4km s-min=21.5km az=278.0*

*GCMT **01** 19:23:30.8±0.3, 41°30S±0°02×89°29W±0°02, h23km±1km, MW5.0/106, Moment Tensor Solution. s33,c34; s106,c146; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.78±.19; Mθθ 1.77±.17; Mφφ=0.99±.15; Mrθ=1.33±.23; Mθφ=3.98±.12; Mφr 0.77±.21; Best double couple: Mo=4.42000×10^16 NP1:φs=352.00000°, δ77.00000°, λ9.00000°. NP2:φs=260.00000°, δ82.00000°, λ167.00000°. Principal axes: T 5.0050, Plg15.0000°, Azm215.0000°; N -1.1750, Plg75.0000°, Azm47.0000°; P -3.8340, Plg3.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 19:23:28.2±0.7, 41°25S±0°1×89°00W±0°09, h10km, n89, σ1°33/48, mb4.4/10, MS4.0/36, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**10.88**	**51**	T	T	19 37 25.6	
	baz=222						
H03S1	**Juan Fernandez**	**10.88**	**51**	T	T	19 37 26.9	
	baz=222						
H03S3	**Juan Fernandez**	**10.89**	**51**	T	T	19 37 26.0	
	baz=222						
H03N3	**Juan Fernandez**	**11.15**	**49**	T	T	19 37 45.3	
	baz=224,slow=72,SNR=5336						
H03N2	**Juan Fernandez**	**11.16**	**49**	T	T	19 37 38.9	
	baz=224,slow=72,SNR=3970						
H03N1	**Juan Fernandez**	**11.17**	**49**	T	T	19 37 38.9	
	baz=224,slow=72,SNR=3855						
LR03	**Panguipulli**	**12.79**	**88**	Pn	**Pn**	**19 26 29.8**	**-0.4**
LL02	**Futaleuf**	**12.87**	**104**	Pn	**Pn**	**19 26 30.7**	**-0.5**
COYC	**Coyhaique**	**13.04**	**115**		**Pn**	**19 26 34.1**	**+0.6**
PLCA	**Paso Flores**	**13.95**	**94**	Pn	**Pn**	**19 26 48.9**	**+2.9**
	0.1nm,0.3s,baz=213,slow=16,SNR=2.2						
PLCA				LR	LR	19 30 10.8	
	comp=Z,202nm,19.9s,baz=260,slow=29						
PLCA	**Paso Flores**	**13.95**	**94**		**Pn**	**19 26 46.0**	**0.0**
GO05	**Huala**	**14.79**	**71**	Pn	**Pn**	**19 26 55.0**	**-2.6**
ML02	**Panimavida**	**14.80**	**74**	Pn	**Pn**	**19 26 57.8**	**+0.2**
GO09	**Cerro Castillo**	**15.25**	**137**	Pn	**P**	**19 27 06.0**	**-2.4**
GO09				IAmb	IAmb	19 27 19.6	
	comp=Z,37nm,1.1s						
MG05	**Puerto Natales**	**15.40**	**138**		**P**	**19 27 08.5**	**-1.6**
BO01	**Tunca**	**15.71**	**70**		**Pn**	**19 27 10.3**	**+0.8**
BO02	**Sierra Bellavi**	**15.72**	**72**	Pn	**Pn**	**19 27 09.1**	**-0.7**
VA05	**Santo Domingo**	**15.73**	**67**	Pn	**Pn**	**19 27 09.6**	**-0.2**
VA05				IAmb	IAmb	19 27 24.6	
	comp=Z,34nm,1.4s						
MT01	**Popeta**	**15.87**	**68**	Pn	**Pn**	**19 27 10.2**	**-1.4**
MT01				IAmb	IAmb	19 27 27.6	
	comp=Z,58nm,2.0s						
MT09	**Talagante**	**16.10**	**68**		**Pn**	**19 27 14.5**	**-0.3**
MT09				IAmb	IAmb	19 27 27.2	
	comp=Z,42nm,1.4s						
MT05	**Renca**	**16.48**	**68**	Pn	**Pn**	**19 27 18.7**	**-0.9**
MT05				IAmb	IAmb	19 27 24.3	
	comp=Z,100nm,1.6s						
PEL	**Peldehue**	**16.66**	**67**	P	**P**	**19 27 23.0**	**-1.2**
PEL				IAmb	IAmb	19 27 28.0	
	comp=Z,42nm,1.4s						
VA03	**San Esteban**	**16.97**	**66**	P	**P**	**19 27 26.3**	**-1.4**
VA03				IAmb	IAmb	19 27 30.2	
	comp=Z,24nm,1.2s						
GO10	**Punta Arenas**	**17.00**	**141**	P	**P**	**19 27 28.5**	**+0.6**
MG02	**Cerro Sombrero**	**17.69**	**137**		**P**	**19 27 37.0**	**+1.6**
CO03	**El Pedregal**	**18.05**	**61**	P	**P**	**19 27 41.2**	**+1.6**
ZON	**Zonda**	**18.96**	**66**	P	**Pn**	**19 27 51.0**	**+0.7**
USHA	**Ushuaia**	**19.25**	**142**	LR	LR	19 33 54.8	
	comp=Z,1μm,19.1s,baz=295,slow=32						
AC02	**Maricunga**	**21.78**	**55**	P	**P**	**19 28 21.9**	**+1.2**
AC02				IAmb	IAmb	19 28 26.8	
	comp=Z,50nm,1.7s						
LVC	**Limon Verde**	**25.10**	**48**	P	**P**	**19 28 56.2**	**+2.6**
	comp=Z,4.3nm,0.6s,baz=223,slow=7.7,SNR=5.0						
LVC				LR	LR	19 36 21.6	
	comp=Z,500nm,19.2s,baz=224,slow=31						
LVC	**Limon Verde**	**25.10**	**48**	P	**P**	**19 28 54.0**	**+0.4**
LVC				IAmb	IAmb	19 28 57.7	
	comp=Z,16nm,1.4s						
PMSA	**Palmer Station**	**27.59**	**157**	LR	LR	19 37 10.9	
	comp=Z,224nm,21.7s,baz=294,slow=30						
CPUP	**Villa Florida**	**30.03**	**70**	LR	LR	19 40 50.7	
	comp=Z,510nm,18.6s,baz=241,slow=35						
LPAZ	**La Paz**	**30.70**	**42**	P	**P**	**19 29 46.0**	**+2.0**
	comp=Z,1.2nm,0.7s,baz=159,slow=8.1,SNR=5.7						
LPAZ				LR	LR	19 39 29.7	
	comp=Z,464nm,18.4s,baz=206,slow=31						
LPAZ	**La Paz**	**30.70**	**42**	P	**P**	**19 29 43.5**	**-0.4**
NNA	**Nana**	**31.02**	**24**	LR	LR	19 38 52.9	
	comp=Z,241nm,20.5s,baz=198,slow=30						
SIV	**San Ignacio**	**34.84**	**52**	LR	LR	19 43 05.4	
	comp=Z,488nm,21.9s,baz=258,slow=34						
AQDB	**Aquidauana**	**34.98**	**64**	P	**P**	**19 30 20.2**	**-0.5**
AQDB				IAmb	IAmb	19 30 26.9	
	comp=Z,9.1nm,1.2s						
ATAH	**Atahualpa**	**35.24**	**18**	LR	LR	19 41 15.2	
	comp=Z,60nm,20.9s,baz=210,slow=30						
CZSB	**Cruzeiro do Su**	**36.37**	**28**	P	**P**	**19 30 31.7**	**-1.0**
CZSB				IAmb	IAmb	19 30 43.7	
	comp=Z,11nm,0.9s						
PTLB	**Pontes e Lacer**	**36.43**	**54**	P	**P**	**19 30 32.9**	**-0.2**
PTLB				IAmb	IAmb	19 30 42.1	
	comp=Z,11nm,1.5s						
ETMB	**Extrema**	**37.20**	**39**	P	**P**	**19 30 39.5**	**-0.1**
VILB	**Vilhena**	**37.76**	**50**	P	**P**	**19 30 44.0**	**-0.5**
SPB	**Sao Paulo**	**38.83**	**76**	P	**P**	**19 30 52.6**	**-0.9**
BDFB	**Brasilia**	**43.58**	**66**	P	**P**	**19 31 33.3**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=196,slow=7.4,SNR=3.1						
BDFB				LR	LR	19 49 16.6	
	comp=Z,421nm,18.8s,baz=202,slow=36						
BDFB	**Brasilia**	**43.58**	**66**	IAmb	IAmb	19 31 33.5	
	comp=Z,14nm,1.8s						
ROSC	**El Rosal**	**47.78**	**20**	LR	LR	19 50 33.7	
	comp=Z,278nm,18.5s,baz=218,slow=34						
PTGA	**Pitinga**	**48.11**	**41**	LR	LR	19 50 09.7	
	comp=Z,336nm,21.2s,baz=198,slow=33						
VNA3	**Neumayer Olymp**	**48.21**	**155**	P	**P**	**19 32 07.5**	**-1.0**
VNA1	**Neumayer--Stat**	**48.74**	**154**	P	**P**	**19 32 11.8**	**-0.7**
VNA2	**Neumayer--Watz**	**48.98**	**154**	P	**P**	**19 32 13.4**	**-1.0**
QSPA	**South Pole Qui**	**49.00**	**180**	LR	LR	19 50 10.6	
	comp=Z,86nm,19.8s,baz=136,slow=33						
ZARC	**Zaragoza, Cauc**	**50.20**	**18**	P	**P**	**19 32 23.4**	**-0.8**
ZARC				IAmb	IAmb	19 32 34.4	
	comp=Z,5.1nm,1.0s						
SNAA	**Sanae**	**50.30**	**156**	LR	LR	19 49 17.2	
	comp=Z,122nm,21.7s,baz=335,slow=31						
BOAV	**Boa Vista**	**50.57**	**38**	P	**P**	**19 32 25.9**	**-1.2**
JTS	**Las Juntas de**	**51.40**	**5**	LR	LR	19 49 04.8	
	comp=Z,214nm,20.4s,slow=30						
TROLL	**Troll, Antarti**	**51.84**	**157**	P	**P**	**19 32 35.3**	**-0.9**
TBI	**Tubuai**	**53.09**	**270**	*e*LR	LR	19 47 49.8	
	comp=Z,187nm,25.5s						
VNDA	**Vanda**	**54.05**	**195**	LR	LR	19 50 42.6	
	comp=Z,158nm,21.0s,baz=112,slow=30						
PPT2	**Papeete2**	**56.59**	**276**	*e*S	**S**	**19 41 00.4**	**-3.1**
	comp=Z,49nm,25.0s						
PPT2				*e*LR	LR	19 49 30.4	
	comp=Z,165nm,25.5s						
PPT	**Papeete**	**56.60**	**276**	LR	LR	19 50 49.9	
	comp=Z,70nm,22.0s,baz=162,slow=29						
MDP	**Montagnes des**	**56.84**	**45**	LR	LR	19 55 22.9	
	comp=Z,217nm,21.3s,baz=282,slow=34						
CMIG	**Matias Romero**	**58.28**	**353**	LR	LR	19 53 28.6	
	comp=Z,64nm,21.9s,baz=218,slow=31						
RAR	**Rarotonga**	**62.10**	**265**	LR	LR	19 51 46.9	
	comp=Z,41nm,21.5s,baz=212,slow=27						
LPIG	**La Paz**	**67.94**	**339**	LR	LR	19 57 06.0	
	comp=Z,47nm,18.0s,baz=20,slow=30						
URZ	**Urewera**	**68.61**	**238**	LR	LR	19 56 54.8	
	comp=Z,216nm,18.9s,baz=211,slow=29						
MAW	**Mawson**	**69.42**	**169**	LR	LR	20 03 28.2	
	comp=Z,110nm,19.9s,baz=240,slow=35						
TKL	**Tuckaleechee C**	**76.67**	**4**	LR	LR	20 03 22.9	
	comp=Z,92nm,20.0s,baz=162,slow=31						
PFO	**Pinyon Flats O**	**78.65**	**337**	LR	LR	20 02 15.9	
	comp=Z,52nm,18.5s,baz=177,slow=30						
MSU	**Marysvale**	**82.14**	**342**	P	**P**	**19 35 49.4**	**+0.3**
SUR	**Sutherland**	**82.32**	**127**	LR	LR	20 06 33.4	
	comp=Z,76nm,18.5s,baz=196,slow=31						
NVAR	**Mina Array Bea**	**83.67**	**337**	P	**P**	**19 35 58.5**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=45,slow=55,SNR=2.0						
ECSD	**EROS Data Cent**	**84.86**	**354**	P	**P**	**19 36 03.5**	**+0.8**
PDAR	**Pinedale Array**	**85.65**	**345**	P	**P**	**19 36 07.7**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=148,slow=11,SNR=2.6						
DZM	**Mont Dzumac**	**86.02**	**244**	LR	LR	20 06 41.6	
	comp=Z,115nm,19.7s,baz=108,slow=30						
DZM	**Mont Dzumac**	**86.02**	**244**	*e*LR	LR	20 02 58.3	
	comp=Z,286nm,27.9s						
SADO	**Sadowa**	**86.07**	**7**	LR	LR	20 10 32.6	
	comp=Z,77nm,18.5s,baz=170,slow=33						
BOSA	**Boshof**	**87.69**	**127**	LR	LR	20 09 49.2	
	comp=Z,59nm,18.9s,baz=197,slow=32						
YBH	**Yreka Blue Hor**	**88.04**	**335**	LR	LR	20 07 42.2	
	comp=Z,36nm,18.6s,baz=96,slow=30						
DBIC	**Dimbokro**	**89.96**	**81**	LR	LR	20 15 51.9	
	comp=Z,76nm,18.0s,baz=279,slow=35						
LBTB	**Lobatse**	**90.50**	**124**	LR	LR	20 16 46.7	
	comp=Z,40nm,18.1s,baz=208,slow=35						
STKA	**Stephens Creek**	**93.57**	**221**	LR	LR	20 11 27.2	
	comp=Z,86nm,18.7s,baz=203,slow=31						
MATP	**Matopo**	**95.67**	**123**	LR	LR	20 14 17.7	
	comp=Z,35nm,18.3s,baz=204,slow=32						
SCHQ	**Schefferville**	**97.55**	**13**	LR	LR	20 20 36.0	
	comp=Z,47nm,18.0s,baz=195,slow=35						
LSZ	**Lusaka**	**99.25**	**120**	LR	LR	20 20 21.6	
	comp=Z,48nm,18.9s,baz=84,slow=34						
KLR	**Kul'dur**	**150.50**	**300**	PKP	**PKPdf**	**19 43 15.3**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=63,slow=4.5,SNR=4.1						
NRIK	**Noril'sk**	**151.77**	**3**	PKP	**PKPdf**	**19 43 15.9**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=94,slow=2.7,SNR=2.4						
PZH	**PanZhiHua**	**162.84**	**214**	PKP	**PKPdf**	**19 43 31.4**	**+0.5**
SONM	**Songino Array**	**167.19**	**306**	PKPab	**PKPab**	**19 44 41.2**	**+2.6**
	comp=Z,0.6nm,0.9s,baz=26,slow=3.7,SNR=2.7						

*IDC **01** 19:46:00.1±1.7, 13°64S×129°40E, h0km, mb3.4/2, mb1 3.4/4, mb1mx2.9/22, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=141.3km s-min=26.0km az=60.0*

*AUST **01** 19:46:03.0±1.6, 13°89S×129°23E, h15km, Error ellipse: s-maj=28.7km s-min=8.5km az=124.0*

ISC 01 19:46:01.3±0.9, 13°99S±0°06×129°23E±0°07, h10km, n19, σ1°81/25, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	**Kununurra**	**1.73**	**195**	P	**Pg**	**19 46 35.1**	**+0.6**
	baz=1.8						
KNRA				S	**Sg**	**19 46 57.1**	**0.0**
	baz=1.8						
MTN	**Manton Dam**	**2.17**	**59**	P	**Pn**	**19 46 37.6**	**0.0**
	baz=2.1						
MTN				S	**Sn**	**19 47 04.4**	**-0.2**
	baz=2.1						
AUDHS	**Darwin High Sc**	**2.19**	**45**	P	**Pn**	**19 46 37.8**	**0.0**
	baz=2.1						
AUDHS				S	**Sn**	**19 47 05.6**	**+0.6**
	baz=2.1						
KDU	**Kakadu**	**3.41**	**68**	P	**Pn**	**19 46 55.0**	**+0.4**
	baz=3.4						
FITZ	**Fitzroy Crossi**	**5.35**	**220**	P	**Pn**	**19 47 23.2**	**+2.0**
	baz=5.4						
FITZ				S	**Sn**	**19 48 22.0**	**-0.8**
	baz=5.4						
AUNHS	**Nhulunbuy High**	**7.57**	**77**	P	**Pn**	**19 47 51.6**	**-0.1**
	baz=7.6						
WRA	**Warramunga Arr**	**7.67**	**141**	Pn	**Pn**	**19 47 55.0**	**+1.8**
	0.3nm,0.3s,baz=323,slow=14,SNR=11						
WRA				Sn	**Sn**	**19 49 17.6**	**-2.6**
	0.6nm,0.3s,baz=320,slow=20,SNR=2.8						
WRA				Lg	Lg	19 49 59.9	
	0.8nm,0.3s,baz=297,slow=17,SNR=1.8						
WB2	**Warramunga Arr**	**7.68**	**141**	P	**Pn**	**19 47 56.2**	**+2.9**
	baz=7.8						
ASAR	**Alice Springs**	**10.59**	**156**	Pn	**Pn**	**19 48 34.7**	**+1.5**
	0.1nm,0.3s,baz=337,slow=14,SNR=8.8						
ASAR				Sn	**Sn**	**19 50 28.9**	**-3.0**
	0.2nm,0.3s,baz=318,slow=16,SNR=1.9						
ASAR				Lg	Lg	19 51 32.6	
	0.0nm,0.3s,baz=337,slow=31,SNR=1.1						
QIS	**Mount Isa**	**11.86**	**125**	P	**Pn**	**19 48 53.6**	**+2.9**
	baz=12						
COEN	**Coen**	**13.54**	**92**	P	**Pn**	**19 49 11.5**	**-2.0**
	baz=14						
OOD	**Oodnadatta**	**14.99**	**157**	P	**Pn**	**19 49 32.7**	**-0.6**
	baz=15						
MEEK	**Meekatharra**	**16.03**	**217**	P	**Pn**	**19 49 45.9**	**-1.0**
	baz=16						
MULG	**Mulgathing**	**16.81**	**165**	P	**Pn**	**19 49 55.7**	**-1.2**
	baz=17						
MORW	**Morawa**	**19.35**	**217**	P	**P**	**19 50 26.2**	**-0.9**
	baz=20						
BBOO	**Buckleboo**	**19.74**	**163**	P	**P**	**19 50 32.0**	**+0.8**
	baz=20						
BLDU	**Ballidu**	**20.17**	**213**	P	**P**	**19 50 35.9**	**-0.1**
	baz=20						
STKA	**Stephens Creek**	**21.10**	**150**	P	**P**	**19 50 50.5**	**+4.4**
	2.3nm,1.1s,baz=320,slow=13,SNR=1.4						
MKAR	**Makanchi Array**	**73.69**	**328**	P	**P**	**19 57 34.5**	**-0.8**
	0.3nm,0.6s,baz=132,slow=5.3,SNR=4.9						

DJA 01 20:05:10.1±1.0, 0°S±2°×12°5E±°, h19km±9km, M3.5/14, mb3.7/6, mB5.0/1, MLv3.5/14, Mw(mB)4.4/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.29**	**312**	P	Pn	20 05 32.9	-0.3
KMSI				S	Sn	20 05 49.6	-0.4
SANI	**Sanana**	**2.03**	**149**	P	Pn	20 05 42.7	-0.6
GTOI	**Gorontalo**	**2.14**	**296**	P	Pb	20 05 47.6	-0.7
GTOI				S	Sb	20 06 13.6	-0.9
LUWI	**Luwuk**	**2.29**	**251**	P	Pb	20 05 49.2	-1.6
LUWI				S	Sb	20 06 18.9	+0.1
LBMI	**Labuha**	**2.58**	**97**	P	Pn	20 05 49.3	-1.6
LBMI				S	Sn	20 06 21.7	-0.1
TNTI	**Ternate**	**2.65**	**66**	P	Pn	20 05 51.1	-0.7
MRSI	**Marisa**	**3.10**	**284**	P	Pn	20 05 56.3	-1.7
APSI	**Ampana**	**3.35**	**260**	P	Pn	20 06 00.7	-0.7
MPSI	**Mapaga**	**5.08**	**277**	P	Pn	20 06 26.3	+1.0
	0.0nm8.5nm,1.6s						
TTSI	**Tana Toraja**	**5.80**	**242**	P	Pn	20 06 33.7	-1.5
	0.1nm1μm11nm,1.5s						
BNSI	**Bone**	**6.32**	**230**	P	Pn	20 06 41.9	-0.4
	0.0nm6.4nm,1.1s						
SPSI	**Sidrap Palu**	**6.32**	**235**	P	Pn	20 06 43.5	+1.2
	0.1nm8.7nm,0.6s						
BKSI	**Bulukumba**	**6.93**	**224**	P	Pn	20 06 50.8	+0.1
	0.0nm3.7nm,1.0s						
BSSI	**Bau Bau, Buton**	**7.31**	**217**	P	Pn	20 06 54.2	-1.7

*IASPEI **01** 20:28:07.5±0.9, 35°83N±0°02×97°45W±0°02, h8km±6km, Error ellipse: s-maj=3.6km s-min=3.1km az=94.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*TUL **01** 20:28:07.6±1.2, 35°82N±0°01×97°44W±0°02, h6km±6km, ML3.4, mb_Lg3.1/91(NEIC

	comp=Z,81nm,0.9s					
KAN16	Harper SW Stat	1.47 341		Pn	20 28 35.0	+0.3
KAN12	Harper NE Stat	1.52 344		Pn	20 28 35.9	+0.4
KAN12			IAmb_Lg		20 28 56.9	
	comp=Z,103nm,0.9s					
WMOK	Wichita Mounta	1.54 225		Pn	20 28 35.5	-0.2
WMOK	Wichita Mounta	1.54 225	P	Pn	20 28 35.6	-0.2
	baz=44					
WMOK			S	Sb	20 28 56.0	-0.4
	baz=44					
LOOK	Love County	1.85 173		Pn	20 28 40.4	+0.4
LOOK			IAmb_Lg		20 29 08.3	
	comp=Z,69nm,0.9s					
X37A	Clayton	2.11 125	Pn	Pn	20 28 43.7	+0.2
Z35A	Perchaven, San	2.50 176		Pn	20 28 49.2	+0.2
U38A	Gravette	2.56 75	Pn	Pn	20 28 49.8	+0.1
U38A			IAmb_Lg		20 29 28.9	
	comp=Z,60nm,0.9s					
R32A	Long Quarter,	2.77 339	Pn	Pn	20 28 51.9	-0.8
HHAR	Hobbs	2.88 80	Pn	Pn	20 28 53.9	-0.3
HHAR			IAmb_Lg		20 29 45.0	
	comp=Z,40nm,0.7s					
W39A	Magazine	3.06 101		Pn	20 28 56.1	-0.5
W39A			IAmb_Lg		20 29 48.6	
	comp=Z,42nm,0.8s					
W39A	Magazine	3.06 101	P	Pn	20 28 57.4	+0.8
	baz=283					
Z38A	Mt. Pleasant	3.28 141	Pn	Pn	20 28 59.6	0.0
KSU1	Kansas State U	3.33 11	Pn	Pn	20 29 01.0	+0.7
KSU1			IAmb_Lg		20 29 59.1	
	comp=Z,62nm,0.9s					
KSU1	Kansas State U	3.33 11	Pb	Pb	20 29 08.9	+1.8
	baz=192					
MIAR	Mount Ida	3.43 111	Pn	Pn	20 29 01.6	-0.1
MIAR			IAmb_Lg		20 30 01.9	
	comp=Z,38nm,1.0s					
CBKS	Cedar Bluff	3.48 329	Pn	Pn	20 29 01.9	-0.5
CBKS	Cedar Bluff	3.48 329	Pb	Pb	20 29 11.6	+1.8
	baz=148					
CBKS			Sb	Sg	20 29 57.7	-2.0
	baz=148					
AMTX	Amarillo	3.58 256		Pn	20 29 02.3	-1.5
AMTX			IAmb_Lg		20 30 02.7	
	comp=Z,47nm,0.7s					
AMTX	Amarillo	3.58 256	Pb	Pb	20 29 10.9	-0.6
	baz=73					
ABTX	Abilene, Hawle	3.68 210		Pn	20 29 05.1	-0.1
ABTX			IAmb_Lg		20 30 11.5	
	comp=Z,33nm,0.8s					
ABTX	Abilene, Hawle	3.68 210	Pb	Pb	20 29 12.8	-0.3
	baz=29					
U40A	Yellville	3.76 81	Pn	Pn	20 29 07.5	+1.2
U40A			IAmb_Lg		20 30 15.8	
	comp=Z,43nm,0.7s					
S39A	Bolivar	3.80 60		Pn	20 29 06.6	-0.2
S39A			IAmb_Lg		20 30 13.4	
	comp=Z,45nm,0.7s					
WHTX	Lake Whitney,	3.83 180		Pn	20 29 07.2	0.0
WHTX	Lake Whitney,	3.83 180	Sb	Sb	20 30 04.3	+1.9
	baz=0.1					
X40A	Basin Creek Fa	4.02 108		Pn	20 29 08.7	-1.0
X40A			IAmb_Lg		20 30 20.8	
	comp=Z,42nm,0.9s					
237A	Washetta, Mont	4.06 160	Pn	Pn	20 29 11.0	+0.6
WLAR	White Oak Lake	4.17 120	Pn	Pn	20 29 11.0	-0.8
WHAR	Wooly Hollow	4.25 96		Pn	20 29 12.5	-0.4
WHAR			IAmb_Lg		20 30 23.1	
	comp=Z,59nm,1.0s					
W41B	Gary Mavity, V	4.30 97		Pn	20 29 14.0	+0.3
W41B			IAmb_Lg		20 30 21.7	
	comp=Z,39nm,0.7s					
W41B	Gary Mavity, V	4.30 97	P	Pn	20 29 14.3	+0.7
	baz=280					
FCAR	Ozark Folk Cen	4.33 88		Pn	20 29 14.4	+0.3
MGMO	Mountain Grove	4.38 71	Pn	Pn	20 29 14.7	-0.1
MGMO			IAmb_Lg		20 30 25.6	
	comp=Z,50nm,0.9s					
Z41A	Richland Creek	4.62 122	IAmb_Lg		20 30 40.7	
	comp=Z,24nm,0.8s					
MSTX	Muleshoe	4.75 248		Pn	20 29 20.3	+0.3
R40A	Maddies Statio	4.82 58		Pn	20 29 20.2	-0.5
R40A			IAmb_Lg		20 30 41.0	
	comp=Z,35nm,0.8s					
N33A	J Bar K, Exete	4.90 0	Pn	Pn	20 29 19.6	-2.2
N33A			IAmb_Lg		20 30 55.8	
	comp=Z,54nm,1.0s					
P38A	Dawn	4.90 38	Pn	Pn	20 29 18.4	-3.4
P38A			IAmb_Lg		20 30 46.2	
	comp=Z,38nm,0.9s					
435B	Jarrell	5.04 181	IAmb_Lg		20 30 52.6	
	comp=Z,57nm,1.0s					
LCAR	Lake Charles	5.12 86	Pn	Pn	20 29 23.0	-1.8
KSCO	Kaye Shedlock'	5.20 309	Pn	Pn	20 29 24.9	-1.2
N35A	Tabor	5.22 15	Pn	Pn	20 29 25.9	-0.4
T42A	Van Buren	5.27 75	Pn	Pn	20 29 27.5	+0.6
T42A			IAmb_Lg		20 31 07.5	
	comp=Z,20nm,0.7s					
CCM	Cathedral Cave	5.45 64		Pn	20 29 29.9	+0.5
CCM			IAmb_Lg		20 31 03.0	
	comp=Z,20nm,0.7s					
HBAR	Harrisburg	5.54 91		Pn	20 29 30.4	-0.3
BGNE	Belgrade	5.59 355	Pn	Pn	20 29 31.7	+0.3
BGNE			IAmb_Lg		20 31 20.4	
	comp=Z,49nm,0.8s					
P40A	Paris	5.66 48	Pn	Pn	20 29 31.8	-0.5
P40A			IAmb_Lg		20 31 11.9	
	comp=Z,49nm,0.8s					
JCT	Junction City	5.69 201	Pn	Pn	20 29 32.5	-0.3
PBMO	Poplar Bluff	5.75 79	Pn	Pn	20 29 32.2	-1.4
PBMO			IAmb_Lg		20 31 19.8	
	comp=Z,35nm,0.7s					
T25A	Trinidad	5.75 285		Pn	20 29 33.9	+0.1
T25A			IAmb_Lg		20 31 16.1	
	comp=Z,34nm,0.8s					
T25A	Trinidad	5.75 285	P	Pn	20 29 34.3	+0.5
	baz=101					
LPAR	Lepanto	5.83 90	IAmb_Lg		20 31 20.2	
	comp=Z,47nm,0.9s					
143A	Socs Landing,	5.91 120	IAmb_Lg		20 31 25.2	
	comp=Z,18nm,0.7s					
FVM	French Village	6.03 67	Pn	Pn	20 29 34.4	-3.0
FVM			IAmb_Lg		20 31 27.0	
	comp=Z,25nm,0.9s					
OGNE	Ogallala	6.24 326	Pn	Pn	20 29 40.0	-0.3
SLM	Saint Louis	6.40 62	IAmb_Lg		20 31 27.7	
	comp=Z,41nm,0.8s					
SDCO	Great Sand Dun	6.73 289		Pn	20 29 48.4	+1.1
SDCO	Great Sand Dun	6.73 289	P	Pn	20 29 48.6	+1.3
	baz=104					
W45A	Hickory Valley	6.78 93	IAmb_Lg		20 31 49.3	
	comp=Z,26nm,0.8s					
S44A	Carbondale	6.84 72	IAmb_Lg		20 31 48.4	
	comp=Z,40nm,1.0s					
Q24A	Divide	6.87 299	IAmb_Lg		20 32 01.7	
	comp=Z,22nm,0.8s					
N41A	Harden Midland	7.11 45	IAmb_Lg		20 31 51.6	
	comp=Z,36nm,0.7s					
833A	Chaparral WMA,	7.67 193	IAmb_Lg		20 32 28.6	
	comp=Z,20nm,0.9s					
K38A	Parkersburg	7.71 27	IAmb_Lg		20 32 25.5	
	comp=Z,31nm,0.8s					
MNTX	Cornudas Mount	7.78 240	Pn	Pn	20 30 01.5	0.0
MNTX	Cornudas Mount	7.78 240	P	Pn	20 30 02.1	+0.6
	baz=56					
L40A	Anamosa	7.89 36	IAmb_Lg		20 32 21.7	
	comp=Z,20nm,0.8s					
Y22D	IRIS PASSCAL I	7.97 260	IAmb_Lg		20 32 28.2	
	comp=Z,21nm,0.8s					
PHWY	Pilot Hill	8.31 313	IAmb_Lg		20 32 46.4	
	comp=Z,15nm,0.8s					
L42A	Oliver, Polo	8.64 42	IAmb_Lg		20 32 43.9	
	comp=Z,26nm,0.8s					
RWWY	Rawlins	9.60 310	IAmb_Lg		20 33 28.4	
	comp=Z,11nm,0.9s					
K22A	Casper	9.78 317	IAmb_Lg		20 33 42.3	
	comp=Z,24nm,1.1s					

*NOU **01** 20:46:50.6, 38.°81S×175.°14E, h234km, MLv4.2/10, North Island, New Zealand*
*WEL **01** 20:46:54.4±0.5, 39.°S±4.°×17.°5E±.°, h200km±4km, M3.4/61, ML3.2/12, MLv3.4/61, Error ellipse: s-maj=0.0km s-min=0.0km az=108.8*
ISC 01 20:46:48.6±1.9, 38.°80S±0.°07×175.°16E±0.°06,

h241km±10km, n158, σ1971/172, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.35	141	P	Pn	20 47 21.7	+1.4
HIZ	Hauiti	0.37	321	P	Pn	20 47 21.4	+1.1
HIZ	Hauiti	0.37	321	P	Pn	20 47 21.7	+1.5
VRZ	Vera Road	0.45	224	P	Pn	20 47 21.9	+1.5
VRZ				S	S	20 47 44.5	-0.7
KATZ	Kakaramea	0.46	113	P	Pn	20 47 21.9	+1.4
WATZ	Wairara	0.46	79	P	Pn	20 47 22.0	+1.5
WTVZ	West Tongariro	0.46	133	P	Pn	20 47 21.9	+1.4
WTVZ				S	S	20 47 43.3	-2.3
KRVZ	Karewarewa	0.48	128	P	Pn	20 47 22.2	+1.6
KRVZ				S	S	20 47 44.2	-1.5
RATZ	Rangitukua	0.49	98	P	Pn	20 47 21.9	+1.3
NNVZ	North Ngauruho	0.49	139	P	Pn	20 47 22.2	+1.6
NTVZ	North Tongariro	0.50	126	P	Pn	20 47 22.4	+1.8
PKVZ	Pokaka	0.51	163	P	Pn	20 47 22.3	+1.7
NGZ	Ngauruhoe	0.51	137	P	Pn	20 47 22.4	+1.6
TMVZ	Te Maari	0.53	127	P	Pn	20 47 22.2	+1.5
OTVZ	Oturere	0.54	133	P	Pn	20 47 22.3	+1.5
OTVZ				S	S	20 47 46.0	-0.2
SNVZ	South Ngauruho	0.54	136	P	Pn	20 47 22.5	+1.7
ETVZ	East Tongariro	0.55	128	P	Pn	20 47 22.3	+1.4
FWVZ	Far West T-bar	0.55	146	P	Pn	20 47 22.6	+1.7
FWVZ				S	S	20 47 44.3	-2.0
TLZ	Tolley Road	0.56	33	P	Pn	20 47 21.9	+1.1
DRZ	Dome Shelter	0.57	146	P	Pn	20 47 22.9	+1.8
RITZ	Rihia Road	0.58	108	P	Pn	20 47 22.5	+1.7
TRVZ	Turoa	0.58	149	P	Pn	20 47 22.8	+1.7
TRVZ				S	S	20 47 44.8	-1.8
WHVZ	Whangaehu Hut	0.59	145	P	Pn	20 47 22.8	+1.7
WHVZ				S	S	20 47 44.6	-2.0
KUTZ	Kaahu Road	0.61	60	P	Pn	20 47 22.5	+1.5
TUVZ	Tukino	0.61	140	P	Pn	20 47 22.8	+1.7
TUVZ				S	S	20 47 45.4	-1.2
WNVZ	Wahianoa	0.63	147	P	Pn	20 47 22.8	+1.7
WNVZ				S	S	20 47 44.5	-2.3
MTVZ	Mangateitei	0.63	157	P	Pn	20 47 22.8	+1.8
MTVZ				S	S	20 47 44.7	-1.9
MHEZ	Mangahewa	0.70	247	P	Pn	20 47 23.6	+2.4
HATZ	Hinemaiaia	0.74	97	P	Pn	20 47 22.6	+1.1
HATZ				S	S	20 47 44.4	-2.7
MOVZ	Moawhango	0.76	143	P	Pn	20 47 23.0	+1.4
MOVZ				S	S	20 47 44.6	-2.9
WPRZ	Whakapapatarin	0.84	71	P	Pn	20 47 23.0	+1.1
DREZ	Durham Road	0.84	242	P	Pn	20 47 23.9	+2.1
LREZ	Lake Rotokare	0.88	221	P	Pn	20 47 24.3	+2.2
PREZ	Palmer Road	0.95	235	P	Pn	20 47 24.7	+2.2
NEZ	North Egmont	0.95	240	P	Pn	20 47 24.7	+2.2
ALRZ	Allen Road	0.96	76	P	Pn	20 47 23.6	+1.1
ALRZ				S	S	20 47 47.4	-1.7
WAZ	Wanganui	0.96	188	P	Pn	20 47 24.7	+2.2
BHHZ	Black Hill Sta	0.99	135	P	Pn	20 47 24.2	+1.5
MRHZ	Matea Rd	0.99	92	P	Pn	20 47 23.7	+1.0
MRHZ				S	S	20 47 46.3	-3.1
PKE	Pukeiti	0.99	246	P	Pn	20 47 25.0	+2.3
KHEZ	Kahui Hut	1.02	241	P	Pn	20 47 25.1	+2.2
TOZ	Tahuroa Road	1.10	14	P	Pn	20 47 24.6	+1.2
BKZ	Black Stump Fm	1.10	110	P	Pn	20 47 24.8	+1.4
BKZ	Black Stump Fm	1.10	110	P	Pn	20 47 24.8	+1.4
NBEZ	Newall Road No	1.11	245	P	Pn	20 47 25.7	+2.4
KARZ	Kaharoa	1.16	48	P	Pn	20 47 24.8	+1.0
RRRZ	Republican Roa	1.16	67	P	Pn	20 47 24.9	+1.1
KWHZ	Kaweka Forest	1.17	123	P	Pn	20 47 25.6	+1.8
NMEZ	Namu Road	1.17	238	P	Pn	20 47 26.0	+2.3
OMRZ	Omania	1.18	54	P	Pn	20 47 25.0	+1.1
KRHZ	Kereru	1.27	132	P	Pn	20 47 26.3	+1.9
MUGZ	Murupara	1.30	76	P	Pn	20 47 25.3	+0.6
MTHZ	Maungataniwha	1.32	93	P	Pn	20 47 26.2	+1.4
NMHZ	Naumai	1.32	104	P	Pn	20 47 27.2	+2.3
MCHZ	McNeill Hill	1.36	119	P	Pn	20 47 27.5	+2.5
PNHZ	Pukenui	1.38	144	P	Pn	20 47 27.0	+1.8
TGRZ	Tauranga	1.38	39	P	Pn	20 47 26.2	+1.0
TSZ	Takapari Road	1.40	154	P	Pn	20 47 27.5	+2.1
OHWZ	Ohakea	1.41	175	P	Pn	20 47 28.1	+2.7
RTZ	Ruatahuna	1.44	83	P	Pn	20 47 26.9	+1.1
OPRZ	Ohinepanea	1.46	50	P	Pn	20 47 26.7	+0.9
ARHZ	Aropaoanui	1.51	108	P	Pn	20 47 28.2	+2.1
RAHZ	Arahi	1.51	95	P	Pn	20 47 28.0	+1.8
WPHZ	Waipukurau	1.61	142	P	Pn	20 47 29.1	+2.2
URZ	Urewera	1.63	71	P	Pn	20 47 27.7	+0.6
URZ	Urewera	1.63	71	P	Pn	20 47 27.8	+0.7
POWZ	Post Office Ro	1.66	164	P	Pn	20 47 29.3	+2.0
KAHZ	Kahuranaki	1.66	127	P	Pn	20 47 29.9	+2.4
DVHZ	Dannevirke	1.69	153	P	Pn	20 47 29.6	+1.9
SNGZ	Shannon Statio	1.71	90	P	Pn	20 47 29.5	+1.6
CKHZ	Cape Kidnapper	1.72	120	P	Pn	20 47 30.2	+2.3
AWAZ	Awhitu Peninsu	1.78	347	P	Pn	20 47 30.1	+1.6
PXZ	Pawanui	1.81	133	P	Pn	20 47 30.7	+2.1
ETAZ	East Tamaki Re	1.85	354	P	Pn	20 47 30.6	+1.5
PRHZ	Porangahau	1.86	142	P	Pn	20 47 31.2	+2.2
PRWZ	Pori Road	1.86	160	P	Pn	20 47 31.3	+2.2
MRZ	Mangatainoka R	1.89	170	P	Pn	20 47 31.2	+1.9
MWZ	Matawai	1.92	77	P	Pn	20 47 30.6	+0.9
WTAZ	Waiatarua	1.92	346	P	Pn	20 47 31.6	+1.9
ANWZ	Angora Road	1.95	149	P	Pn	20 47 32.2	+2.4
EPAZ	Eden Park BICE	1.95	350	P	Pn	20 47 31.5	+1.6
HBAZ	Herne Bay Bore	1.98	350	P	Pn	20 47 31.9	+1.7
KNZ	Kokohu	1.98	97	P	Pn	20 47 31.8	+1.6
OGWZ	Otaki Gorge	2.02	180	P	Pn	20 47 32.7	+2.3
MBAZ	Motutapu North	2.04	354	P	Pn	20 47 32.5	+1.7
RIGZ	Rimuhau	2.04	88	P	Pn	20 47 32.3	+1.5
TIWZ	Tintock	2.05	164	P	Pn	20 47 32.8	+1.9
BFZ	Birch Farm	2.06	156	P	Pn	20 47 32.7	+1.9
BFZ	Birch Farm	2.06	156	P	Pn	20 47 32.8	+1.9
KIW	Kapiti Island	2.07	185	P	Pn	20 47 32.8	+1.9
RVAZ	Riverhead Bore	2.08	347	P	Pn	20 47 32.8	+1.7
KUZ	Kuaotunu	2.10	13	P	Pn	20 47 32.5	+1.2
HOWZ	Holdsworth Sta	2.11	173	P	Pn	20 47 33.2	+1.8
PRGZ	Paritu Road	2.13	94	P	Pn	20 47 33.3	+1.7
TKGZ	Te Karaka	2.14	81	P	Pn	20 47 33.4	+1.8
RUGZ	Raukumara Rang	2.15	68	P	Pn	20 47 32.0	0.0
MHGZ	Mahia Peninsul	2.17	100	P	Pn	20 47 33.9	+1.9
DUWZ	D'Urville Isla	2.21	205	P	Pn	20 47 34.2	+1.8
CPWZ	Castlepoint	2.26	159	P	Pn	20 47 35.1	+2.4
TWGZ	Tauwhareparae	2.30	75	P	Pn	20 47 35.3	+2.0
CAW	Cannon Point	2.31	182	P	Pn	20 47 35.2	+2.0
HAZ	Te Kaha	2.31	64	P	Pn	20 47 33.5	+0.2
MTW	Mount Morrison	2.37	174	P	Pn	20 47 35.5	+1.6
TMWZ	Te Maipa	2.37	166	P	Pn	20 47 35.7	+1.7
CNGZ	Carnagh Statio	2.41	83	P	Pn	20 47 36.4	+2.0
PKGZ	Pakihiroa	2.47	69	P	Pn	20 47 36.4	+1.0
WEL	Wellington	2.50	187	P	Pn	20 47 37.0	+1.8
TCW	Tory Channel	2.50	195	P	Pn	20 47 37.3	+2.1
SNZO	South Karori	2.53	188	P	Pn	20 47 37.5	+2.0
PUZ	Puketiti	2.54	74	P	Pn	20 47 36.7	+1.0
GRZ	Great Barrier	2.56	5	P	Pn	20 47 37.5	+1.6
PAWZ	Paruwai Farm	2.59	175	P	Pn	20 47 37.8	+1.7
MSWZ	Moikau Station	2.61	178	P	Pn	20 47 38.0	+1.6
BHW	Baring Head	2.62	185	P	Pn	20 47 38.0	+1.6
TRWZ	Traveller	2.63	171	P	Pn	20 47 38.2	+1.7
WMGZ	Waiomatatini S	2.75	70	P	Pn	20 47 39.1	+1.3
PLWZ	Palliser	2.77	178	P	Pn	20 47 39.6	+1.5
NNZ	Nelson	2.77	209	P	Pn	20 47 39.6	+1.6
MXZ	Matakaoa Point	2.77	65	P	Pn	20 47 39.4	+1.3
TUWZ	Tuamarina	2.79	199	P	Pn	20 47 40.1	+1.9
QRZ	Quartz Range	2.86	224	P	Pn	20 47 40.0	+1.1
QRZ	Quartz Range	2.86	224	P	Pn	20 47 40.1	+1.1
WCZ	Waipu Caves	2.93	347	P	Pn	20 47 41.8	+1.9
CMWZ	Cape Campbell	3.03	193	P	Pn	20 47 43.3	+2.5
BSWZ	Blackbirch Sta	3.07	198	P	Pn	20 47 43.5	+2.2
THZ	Tophouse	3.42	209	P	Pn	20 47 46.6	+1.3
OUZ	Omahuta	3.79	340	P	Pn	20 47 52.0	+2.4
OUZ	Omahuta	3.79	340	P	Pn	20 47 51.9	+2.4
KHZ	Kahutara	3.82	198	P	Pn	20 47 51.7	+1.9
KHZ	Kahutara	3.82	198	P	Pn	20 47 51.8	+2.0
DSZ	Denniston Nort	3.90	220	P	Pn	20 47 51.7	+0.8
GVZ	Greta Valley S	4.46	200	P	Pn	20 47 58.8	+1.3
LTZ	Lake Taylor	4.54	208	P	Pn	20 47 59.4	+0.9
INZ	Inchbonnie	4.83	215	P	Pn	20 48 02.5	+0.6
OXZ	Oxford	5.10	207	P	Pn	20 48 06.2	+0.9
OKCZ	Okains Bay	5.17	197	P	Pn	20 48 07.4	+1.3
MQZ	McQueen's Vall	5.25	200	P	Pn	20 48 07.7	+0.5
AKCZ	Akaroa Harbour	5.34	198	P	Pn	20 48 09.2	+1.0
RACZ	Rakaia	5.42	204	P	Pn	20 48 10.1	+0.9
WVZ	Waitaha Valley	5.42	217	P	Pn	20 48 10.2	+1.0
MHCZ	Mount Hutt	5.45	209	P	Pn	20 48 10.4	+0.8
WACZ	Wakanui South	5.71	205	P	Pn	20 48 13.8	+1.0
RPZ	Rata Peaks	5.80	211	P	Pn	20 48 14.5	+0.5
RPZ	Rata Peaks	5.80	211	P	Pn	20 48 14.7	+0.7
GCSZ	Gaunt Creek Bo	5.80	217	P	Pn	20 48 14.1	+0.1
ARCZ	Arundel	5.95	209	P	Pn	20 48 16.4	+0.5
FOZ	Fox Glacier	6.21	219	P	Pn	20 48 18.7	-0.4
TMZ	Timaru	6.39	208	P	Pn	20 48 22.5	+1.1
LBZ	Lake Benmore	6.71	212	P	Pn	20 48 25.8	+0.4
ODZ	Otahua Downs	7.09	207	P	Pn	20 48 31.9	+1.6
ODZ	Otahua Downs	7.09	207	P	Pn	20 48 31.8	+1.6
JCZ	Jackson Bay	7.12	220	P	Pn	20 48 30.4	-0.3
WKZ	Wanaka	7.57	215	P	Pn	20 48 36.0	-0.3
EAZ	Earnscleugh	7.76	212	P	Pn	20 48 38.7	-0.1
HHSZ	Highcliff Hill	7.84	204	P	Pn	20 48 42.5	+2.8
MLZ	Mavora Lakes	8.39	216	P	Pn	20 48 48.0	+1.2
SYZ	Scrubby Hill	8.91	208	P	Pn	20 48 55.9	+2.6
APZ	The Paps	9.60	211	P	Pn	20 49 03.5	+1.4

*MOS **01** 21:28:30.8±0.9, 44.°37N×147.°87E, h105km, mb4.5/11, Error ellipse: s-maj=9.1km s-min=7.0km az=105.6*
*JMA **01** 21:28:32.2±0.3, 44.°09N×147.°93E, h85km, M4.2*
*SKHL **01** 21:28:32.4±0.3, 44.°40N×147.°80E, h106km±8km, mb4.9/13, msha5.8/5*
*NEIC **01** 21:28:35.7±1.2, 44.°8N±0.°1×147.°6E±0.°1, h113km±9km, mb4.3/40, Error ellipse: s-maj=18.2km s-min=10.4km az=183.0*
*IDC **01** 21:28:35.4±2.4, 44.°82N×147.°60E, h112km±17km, mb3.8/16, mb1 3.9/18, mb1mx3.7/44, mbtmp4.2/18, Error ellipse: s-maj=40.2km s-min=13.0km az=162.0*
ISC 01 21:28:30.2±0.7, 44.°27N±0.°05×147.°90E±0.°06, h94km±5km, n187, σ1§49/207, mb4.2/54, 15C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.87	243	*e*PN	Pn	21 28 50.3	+1.5
SHO				*e*S	Sn	21 29 03.5	+0.8
SHO				pmax	pmax		
	comp=Z,1μm,0.3s						
SHO				pmax	pmax		
	comp=N,636nm,0.2s						
SHO				pmax	pmax		
	comp=E,962nm,0.2s						
SHO				smax	smax		
	comp=N,5μm,0.2s						
SHO				smax	smax		
	comp=E,6μm,0.2s						
SHO	Shikotan	0.87	243	*e*P	Pn	21 28 50.3	+1.5
SHO				AMB	AMB	21 28 51.0	
	comp=E,1μm,0.3s						
SHO				*e*S	Sn	21 29 03.5	+0.8
SHO				A	A	21 29 05.1	
	comp=E,7μm,0.4s						
SHO				A	A	21 29 05.1	
	comp=E,4μm,0.4s						
KUR	Kuril'sk	0.96	358	*d i*PN	Pn	21 28 51.1	+1.3
KUR				*i* S	Sn	21 29 05.4	+1.0
KUR				pmax	pmax		
	comp=Z,5μm,0.3s						
KUR				pmax	pmax		
	comp=N,1μm,0.2s						
KUR				smax	smax		
	comp=N,12μm,0.4s						
KUR				smax	smax		
	comp=E,7μm,0.2s						
KUR	Kuril'sk	0.96	358	*i* P	Pn	21 28 51.1	+1.3
KUR				AMB	AMB	21 28 51.4	
	comp=E,4μm,0.4s						
KUR				*i* S	Sn	21 29 05.4	+1.0
KUR				A	A	21 29 06.2	
	comp=E,13μm,0.3s						
KUR				A	A	21 29 06.2	
	comp=E,6μm,0.3s						
YUK	Yuzh-Kuril'sk	1.49	262	*e*PN	Pn	21 28 57.6	+1.6
YUK				*e*S	Sn	21 29 16.6	+1.1
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,575nm,0.1s						
YUK				pmax	pmax		
	comp=E,572nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.2s						
YUK	Yuzh-Kuril'sk	1.49	262	*e*P	Pn	21 28 57.6	+1.6
YUK				AMB	AMB	21 28 58.0	
	comp=E,1μm,0.3s						
YUK				*e*S	Sn	21 29 16.6	+1.1
YUK				A	A	21 29 20.1	
	comp=E,2μm,0.5s						
YUK				A	A	21 29 20.1	
	comp=E,2μm,0.5s						
GLVR	Golovnino	1.80	254	*e*PN	Pn	21 29 01.8	+1.8
GLVR				*e*S	Sn	21 29 24.1	+1.5
GLVR				pmax	pmax		
	comp=N,181nm,0.1s						
GLVR				pmax	pmax		
	comp=E,270nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,999nm,0.1s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR				smax	smax		
	comp=E,1μm,0.2s						
GLVR	Golovnino	1.80	254	*e*P	Pn	21 29 01.8	+1.8
GLVR				AMB	AMB	21 29 02.2	
	comp=E,1μm,0.3s						
GLVR				*e*S	Sn	21 29 24.1	+1.5
GLVR				A	A	21 29 25.1	
	comp=E,2μm,0.4s						
GLVR				A	A	21 29 25.1	
	comp=E,1μm,0.4s						
NEM2	Nemuro 2	1.81	241	P	Pn	21 29 01.2

YSS				A	A	21 30 30.8
	comp=E,10.0nm,0.7s					
YSS				A	A	21 30 30.8
	comp=E,20nm,0.7s					
JKB	**Kayabe**	**5.57**	**247**	P	**Pn**	**21 29 51.7 +1.2**
JKB				*e*S	**Sn**	**21 30 50.6 -2.5**
JOT	**Ohata**	**5.81**	**243**	P	**Pn**	**21 29 54.2 +0.4**
JOT				*e*S	**Sn**	**21 30 55.9 -3.1**
JANG	**Nango**	**6.13**	**233**	P	**Pn**	**21 29 58.0 -0.2**
JANG				*e*S	**Sn**	**21 31 02.6 -4.3**
UGL	**Uglegorsk**	**6.26**	**322**	*e*PN	**Pn**	**21 30 02.6 +2.7**
UGL				pmax	pmax	
	comp=E,80nm,1.0s					
UGL				pmax	pmax	
	comp=Z,70nm,0.7s					
UGL	**Uglegorsk**	**6.26**	**322**	*e*P	**Pn**	**21 29 59.8 -0.1**
UGL				AMB	AMB	21 30 03.8
	comp=Z,50nm,0.7s					
TYV	**Tymovskoe**	**7.49**	**334**	*e*PN	**Pn**	**21 30 17.6 +1.0**
TYV				*e*S	**Sn**	**21 31 37.4 -2.4**
TYV				pmax	pmax	
	comp=Z,7.0nm,0.9s					
TYV				pmax	pmax	
	comp=Z,200nm,3.5s					
TYV				smax	smax	
	comp=N,6.0nm,1.0s					
TYV				smax	smax	
	comp=E,7.0nm,1.0s					
TYV	**Tymovskoe**	**7.49**	**334**	*e*P	**Pn**	**21 30 17.2 +0.6**
TYV				AMB	AMB	21 30 18.0
	comp=E,10.0nm,0.5s					
TYV				*e*S	**Sn**	**21 31 37.3 -2.5**
TYV				A	A	21 31 42.1
	comp=E,10.0nm,0.8s					
TYV				A	A	21 31 42.1
	comp=E,10.0nm,0.8s					
SKR	**Severo-Kuril's**	**8.49**	**38**	*e*PN	**Pn**	**21 30 29.9 -0.3**
SKR				pmax	pmax	
	comp=Z,158nm,1.2s					
SKR				MLR	MLR	
	comp=Z,900nm,11.0s					
SKR	**Severo-Kuril's**	**8.49**	**38**	*e*P	**Pn**	**21 30 31.0 +0.8**
SKR				AMB	AMB	21 30 34.5
	comp=Z,40nm,0.8s					
PAU	**Pauzhetka**	**9.36**	**37**	*e*P	**Pn**	**21 30 44.1 +2.1**
PAU				AMB	AMB	21 30 48.0
	comp=Z,20nm,0.8s					
OKH	**Okha**	**9.84**	**342**	*e*P	**Pn**	**21 30 50.9 +2.3**
OKH				AMB	AMB	21 30 53.5
	comp=Z,30nm,0.3s					
NKL	**Nikolayevsk**	**10.08**	**334**	*e*P	**Pn**	**21 30 51.9 +0.1**
NKL				AMB	AMB	21 30 55.7
	comp=Z,20nm,0.6s					
PETK	**Petropavlovsk-**	**10.95**	**33**	P	**Pn**	**21 31 05.3 +1.6**
	comp=Z,0.1nm,0.3s,baz=181,slow=14,SNR=2.1					
PET	**Petropavlovsk**	**11.27**	**35**	*e*P	**Pn**	**21 31 05.5 -2.5**
KLR	**Kul'dur**	**12.13**	**300**	P	**Pn**	**21 31 21.1 +1.5**
	comp=Z,0.2nm,0.3s,baz=106,slow=10,SNR=3.0					
KLR	**Kul'dur**	**12.13**	**300**	*i* PN	**Pn**	**21 31 15.5 -4.1**
KLR				pmax	pmax	
	comp=Z,2.0nm,1.3s					
SEY	**Seymchan**	**18.88**	**6**	P	**P**	**21 32 40.5 -2.2**
	comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=6.0					
SEY	**Seymchan**	**18.88**	**6**	*i* P	**P**	**21 32 42.0 -0.7**
YAK	**Yakutsk**	**20.74**	**335**	P	**P**	**21 32 59.9 -3.0**
	comp=Z,11nm,0.3s,baz=132,slow=3.6,SNR=21					
YAK	**Yakutsk**	**20.74**	**335**	*e*P	**P**	**21 32 59.7 -3.2**
YAK				pmax	pmax	
	comp=Z,28nm,0.8s					
YAK				pmax	pmax	
	comp=N,2.0nm,0.8s					
YAK				pmax	pmax	
	comp=E,3.0nm,0.9s					
YAK	**Yakutsk**	**20.74**	**335**	P	**P**	**21 32 59.9 -3.0**
BILL	**Bilibino**	**25.71**	**16⇑**	*e*P	**P**	**21 33 51.7 +0.5**
BILL				pmax	pmax	
	comp=Z,2.0nm,1.4s					
BILL				MLR	MLR	
	comp=Z,57nm,14.0s					
BILL	**Bilibino**	**25.71**	**16**	*e*P	**P**	**21 33 51.4 +0.2**
ULN	**Ulaanbaatar**	**28.33**	**292**	*ce*P	**P**	**21 34 16.0 +0.9**
ULN				pmax	pmax	
	comp=Z,2.0nm,1.3s					
ULN	**Ulaanbaatar**	**28.33**	**292**	P	**P**	**21 34 15.4 +0.3**
ULN	**Ulaanbaatar**	**28.33**	**292**	*e*P	**P**	**21 34 16.0 +0.9**
SONM	**Songino Array**	**28.78**	**292**	P	**P**	**21 34 19.7 +0.6**
	comp=Z,0.8nm,0.3s,baz=87,slow=8.2,SNR=10					
SONM	**Songino Array**	**28.78**	**292**	IAmb	IAmb	21 34 20.2
	comp=Z,1.3nm,0.9s					
H11N2	**WAKE ISLAND Hy**	**29.15**	**141**	T	T	22 05 22.8
	baz=332,slow=75,SNR=200					
H11N1	**WAKE ISLAND Hy**	**29.16**	**141**	T	T	22 05 26.1
	baz=332,slow=75,SNR=118					
H11N3	**WAKE ISLAND Hy**	**29.17**	**141**	T	T	22 05 27.4
	baz=332,slow=75,SNR=186					
H11S1	**WAKE ISLAND Hy**	**30.14**	**142**	T	T	22 06 38.8
	baz=333,slow=76,SNR=80					
H11S3	**WAKE ISLAND Hy**	**30.14**	**143**	T	T	22 06 40.4
	baz=333,slow=76,SNR=61					
H11S2	**WAKE ISLAND Hy**	**30.16**	**142**	T	T	22 06 38.1
	baz=333,slow=76,SNR=116					
XAN	**Xi'an**	**31.64**	**265**	P	P	21 34 53.5 +9.1
XAN				pmax	pmax	
	comp=Z,4.0nm,1.3s					
A21K	**Barrow**	**37.84**	**26**	P	**P**	**21 35 36.6 -0.6**
IMAR	**Indian Mountai**	**37.91**	**35**	P	**P**	**21 35 39.6 +1.8**
H21K	**Melozitna Rive**	**38.27**	**35**	P	**P**	**21 35 42.0 +1.1**
CAST	**Castle Rocks**	**38.48**	**39**	P	**P**	**21 35 44.2 +1.5**
CAST				IAmb	IAmb	21 35 50.6
	comp=Z,3.2nm,0.9s					
KTH	**Kantishna Hill**	**39.00**	**39**	P	**P**	**21 35 48.4 +1.3**
KTH				IAmb	IAmb	21 35 53.6
	comp=Z,9.2nm,1.2s					
TOLK	**Toolik Lake Re**	**39.76**	**31**	P	**P**	**21 35 54.3 +1.0**
TOLK				IAmb	IAmb	21 36 09.2
	comp=Z,3.8nm,1.1s					
MCK	**McKinley**	**39.89**	**38**	P	**P**	**21 35 55.4 +1.0**
MCK				pmax	pmax	
	comp=Z,3.0nm,0.9s					
MCK	**McKinley**	**39.89**	**38**	P	**P**	**21 35 55.4 +1.0**
MDM	**Murphy Dome**	**40.17**	**36**	P	**P**	**21 35 57.4 +0.7**
SML	**Sawmill**	**40.27**	**41**	P	**P**	**21 35 59.9 +2.3**
H24K	**Noodor Dome**	**40.31**	**35**	P	**P**	**21 35 59.6 +1.8**
DGZ	**Jazzator, Alta**	**40.63**	**300**	*i* P	**P**	**21 36 01.1 +0.3**
DGZ				pmax	pmax	
	comp=Z,2.0nm,0.9s					
HDA	**Harding Lake**	**40.73**	**37**	P	**P**	**21 36 01.3 0.0**
HDA				IAmb	IAmb	21 36 11.1
	comp=Z,3.8nm,1.1s					
IL31		**40.74**	**37**	P	**P**	**21 36 03.1 +1.7**
ILAR	**Eielson Array**	**40.74**	**37**	P	**P**	**21 36 02.2 +0.8**
	comp=Z,1.0nm,0.7s,baz=272,slow=7.5,SNR=7.7					
ILAR	**Eielson Array**	**40.74**	**37**	P	**P**	**21 36 02.6 +1.2**
ILAR	**Eielson Array**	**40.74**	**37**	P	**P**	**21 36 02.5 +1.2**
ZALV	**Zalesovo Beam**	**41.12**	**307**	P	**P**	**21 36 03.8 -0.8**
	comp=Z,0.6nm,0.3s,baz=86,slow=9.4,SNR=7.5					
ZALV	**Zalesovo Beam**	**41.12**	**307**	*i* P	**P**	**21 36 04.0 -0.6**
ZALV				pmax	pmax	
	comp=Z,1.0nm,0.3s					
M24K	**Tolsona, Glenn**	**41.26**	**41**	P	**P**	**21 36 07.3 +1.6**
M24K				IAmb	IAmb	21 36 16.8
	comp=Z,8.4nm,1.1s					
FYU	**Fort Yukon**	**41.37**	**34**	P	**P**	**21 36 07.3 +0.9**
FYU				IAmb	IAmb	21 36 12.4
	comp=Z,4.0nm,0.7s					
BMAR	**Burnt Mountain**	**41.60**	**32**	P	**P**	**21 36 10.4 +1.9**
SCRK	**Sand Creek**	**42.06**	**38**	P	**P**	**21 36 12.4 +0.1**
SCRK				IAmb	IAmb	21 36 20.3
	comp=Z,4.1nm,1.1s					
M26K	**Nabesna, AK**	**42.70**	**40**	P	**P**	**21 36 18.9 +1.5**
M26K				IAmb	IAmb	21 36 35.7
	comp=Z,3.3nm,1.1s					
L27K	**Beaver Creek,**	**43.13**	**39**	P	**P**	**21 36 22.5 +1.6**
L27K				IAmb	IAmb	21 36 24.0
	comp=Z,2.3nm,0.6s					
BCAR	**Beaver Creek A**	**43.15**	**39**	P	**P**	**21 36 23.0 +1.9**
EGAK	**Eagle**	**43.19**	**36**	P	**P**	**21 36 21.6 +0.4**
M27K	**Edge Creek, AK**	**43.22**	**40**	P	**P**	**21 36 23.7 +2.0**
BARN	**Barnard Glacie**	**43.55**	**42**	P	**P**	**21 36 25.9 +1.5**
BARN				IAmb	IAmb	21 36 29.6
	comp=Z,6.0nm,1.1s					
DAWY	**Dawson**	**44.05**	**37**	P	**P**	**21 36 28.2 -0.1**
MK31	**Makanchi Array**	**44.83**	**297**	*i* P	**P**	**21 36 35.2 +0.6**
MK31	**Makanchi Array**	**44.83**	**297**	P	**P**	**21 36 35.2 +0.6**
MK31				IAmb	IAmb	21 36 35.6
	comp=Z,5.8nm,0.8s					
MKAR	**Makanchi Array**	**44.83**	**297**	P	**P**	**21 36 34.9 +0.3**
	comp=Z,5.2nm,0.7s,baz=77,slow=8.0,SNR=59					
MAKZ	**Makanchi**	**45.02**	**298**	P	**P**	**21 36 36.6 +0.4**
MAKZ				pmax	pmax	
	comp=Z,7.0nm,0.8s					
MAKZ	**Makanchi**	**45.02**	**298**	P	**P**	**21 36 36.6 +0.4**
MAKZ				IAmb	IAmb	21 36 37.2
	comp=Z,6.8nm,0.8s					
INK	**Inuvik**	**45.68**	**31**	P	**P**	**21 36 42.8 +1.8**
	comp=Z,2.3nm,0.3s,baz=287,slow=6.6,SNR=30					
INK	**Inuvik**	**45.68**	**31**	IAmb	IAmb	21 36 43.0
	comp=Z,2.6nm,0.4s					
KURK	**Kurchatov**	**45.69**	**304**	*ce*P	**P**	**21 36 43.0 +1.7**
KURK				pmax	pmax	
	comp=Z,8.0nm,2.5s					
KURK	**Kurchatov**	**45.69**	**304**	P	**P**	**21 36 41.5 +0.2**
KURK	**Kurchatov**	**45.69**	**304**	*e*P	**P**	**21 36 43.0 +1.7**
A36M	**Sachs Harbour**	**47.67**	**25**	P	**P**	**21 36 56.6 +0.2**
A36M				IAmb	IAmb	21 36 57.9
	comp=Z,2.2nm,0.7s					
C36M	**Paulatuk**	**48.76**	**28**	P	**P**	**21 37 05.9 +1.0**
C36M				IAmb	IAmb	21 37 06.2
	comp=Z,3.1nm,0.6s					
BRVK	**Borovoye**	**49.64**	**309**	P	**P**	**21 37 11.5 -0.3**
BRVK				pmax	pmax	
	comp=Z,2.0nm,1.2s					
BRVK	**Borovoye**	**49.64**	**309**	P	**P**	**21 37 11.5 -0.3**
BRVK	**Borovoye**	**49.64**	**309**	*e*P	**P**	**21 37 11.5 -0.3**
KDJ	**Kajisay**	**50.11**	**294**	P	**P**	**21 37 16.3 +0.5**
KDJ				pmax	pmax	
	comp=Z,3.0nm,0.8s					
KDJ	**Kajisay**	**50.11**	**294**	P	**P**	**21 37 16.2 +0.5**
KDJ				IAmb	IAmb	21 37 17.5
	comp=Z,3.1nm,0.8s					
BOOM	**Boomskoye usch**	**50.75**	**295**	P	**P**	**21 37 21.8 +1.2**
BOOM				pmax	pmax	
	comp=Z,4.0nm,0.7s					
BOOM	**Boomskoye usch**	**50.75**	**295**	P	**P**	**21 37 21.8 +1.2**
AAK	**Ala-Archa**	**51.62**	**296**	*ce*P	**P**	**21 37 28.0 +0.9**
AAK				pmax	pmax	
	comp=Z,20nm,2.5s					
AAK	**Ala-Archa**	**51.62**	**296**	P	**P**	**21 37 27.7 +0.6**
AAK				IAmb	IAmb	21 37 29.4
	comp=Z,2.7nm,1.1s					
AAK	**Ala-Archa**	**51.62**	**296**	*e*P	**P**	**21 37 28.0 +0.9**
KKAR	**Karatay Array**	**53.95**	**298**	P	**P**	**21 37 44.2 +0.1**
KKAR	**Karatay Array**	**53.95**	**298**	P	**P**	**21 37 44.2 +0.1**
RES	**Resolute Bay**	**54.31**	**17**	P	**P**	**21 37 45.7 -0.4**
RES				pmax	pmax	
	comp=Z,2.0nm,0.8s					
RES	**Resolute Bay**	**54.31**	**17**	P	**P**	**21 37 45.7 -0.4**
RES				IAmb	IAmb	21 37 46.8
	comp=Z,2.3nm,0.8s					
ARU	**Arti**	**54.34**	**317**	*c i* P	**P**	**21 37 44.8 -1.8**
ARU				*PP	**pP**	**21 38 06.3 -3.3**
ARU				S	**S**	**21 45 14.8 -2.3**
ARU				pmax	pmax	
	comp=Z,3.0nm,0.5s					
ARU	**Arti**	**54.34**	**317**	P	**P**	**21 37 45.1 -1.5**
ARU	**Arti**	**54.34**	**317**	*e*P	**P**	**21 37 44.8 -1.8**
YKA	**Yellowknife Ar**	**55.06**	**34**	P	**P**	**21 37 52.9 +1.1**
	comp=Z,0.9nm,0.8s,baz=302,slow=7.0,SNR=11					
YKA	**Yellowknife Ar**	**55.06**	**34**	*ce*P	**P**	**21 37 54.7 +2.9**
YKA				pmax	pmax	
	comp=Z,1.0nm,0.7s					
BTK	**Batken**	**55.31**	**295**	P	**P**	**21 37 54.8 +0.8**
BTK				pmax	pmax	
	comp=Z,5.0nm,1.0s					
BTK	**Batken**	**55.31**	**295**	P	**P**	**21 37 54.8 +0.8**
BTK				IAmb	IAmb	21 37 56.0
	comp=Z,5.4nm,1.0s					
CHGR	**Chuyangaron**	**57.14**	**294**	P	**P**	**21 38 07.9 +0.8**
ABKAR	**Akbulak array**	**57.16**	**309**	P	**P**	**21 38 06.7 -0.2**
ABKAR	**Akbulak array**	**57.16**	**309**	P	**P**	**21 38 07.0 +0.1**
ABKAR				IAmb	IAmb	21 38 07.7
	comp=Z,4.7nm,0.5s					
ARCES	**ARCESS Array B**	**58.95**	**340**	P	**P**	**21 38 17.7 -1.4**
	comp=Z,1.1nm,0.3s,baz=57,slow=7.5,SNR=14					
ARCES	**ARCESS Array B**	**58.95**	**340**	IAmb	IAmb	21 38 17.8
	comp=Z,6.3nm,1.1s					
FINES	**FINESS Array B**	**64.66**	**333**	P	**P**	**21 38 56.5 -1.0**
	comp=Z,5.8nm,0.5s,baz=44,slow=6.4,SNR=40					
GEYT	**Alibeck**	**64.66**	**299**	P	**P**	**21 38 58.7 +0.7**
	comp=Z,1.1nm,0.4s,baz=247,slow=14,SNR=4.9					
GEYT	**Alibeck**	**64.66**	**299**	IAmb	IAmb	21 39 01.5
	comp=Z,2.4nm,0.8s					
NVAR	**Mina Array Bea**	**66.84**	**58**	P	**P**	**21 39 13.3 +1.2**
	comp=Z,0.4nm,0.6s,baz=317,slow=6.5,SNR=2.4					
NB2	**NORSAR Subarra**	**69.31**	**339**	P	**P**	**21 39 26.6 -0.4**
	comp=Z,1.4nm,0.5s,baz=30,slow=6.5					
NOA	**NORSAR Array B**	**69.31**	**339**	P	**P**	**21 39 25.9 -1.1**
	comp=Z,1.8nm,0.6s,baz=31,slow=6.6,SNR=20					
KIV	**Kislovodsk**	**69.82**	**312**	*ce*P	**P**	**21 39 31.6 +1.1**
KIV				*e*		21 39 55.6
KIV				pmax	pmax	
	comp=Z,11nm,0.7s					
KIV	**Kislovodsk**	**69.82**	**312**	*e*P	**P**	**21 39 31.6 +1.1**
KBZ	**Khabaz**	**69.86**	**312**	P	**P**	**21 39 31.4 +0.8**
	comp=Z,4.0nm,0.6s,baz=117,slow=3.3,SNR=18					
KBZ	**Khabaz**	**69.86**	**312**	*ce*P	**P**	**21 39 31.7 +1.1**
KBZ				pmax	pmax	
	comp=Z,5.0nm,0.7s					
KBZ	**Khabaz**	**69.86**	**312**	*e*P	**P**	**21 39 31.7 +1.1**
AKASG	**Malin Array Be**	**71.48**	**324**	P	**P**	**21 39 39.8 -0.5**
	comp=Z,4.8nm,0.6s,baz=37,slow=6.1,SNR=22					
AKBB	**Malin Array Si**	**71.48**	**324**	*ce*P	**P**	**21 39 40.4 +0.1**
SORM	**Soroca**	**73.79**	**323**	⇓P	**P**	**21 39 54.6 +0.6**
SORM	**Soroca**	**73.79**	**323**	⇓P	**P**	**21 39 54.6 +0.6**
BURAR	**Bucovina Array**	**75.54**	**324**	⇑P	**P**	**21 40 04.6 +0.3**
BURAR	**Bucovina Array**	**75.54**	**324**	⇑P	**P**	**21 40 04.6 +0.3**
ODBI	**Odobesti**	**76.18**	**322**	⇓P	**P**	**21 40 09.2 +1.4**
TRPA	**Tarpa**	**76.23**	**326**	⇓P	**P**	**21 40 09.1 +1.0**
DOPR	**Dopca**	**76.75**	**323**	⇓P	**P**	**21 40 11.7 +0.6**
DPC	**Dobruska-Polom**	**76.78**	**331**	*e*P	**P**	**21 40 13.1 +1.9**
DPC	**Dobruska-Polom**	**76.78**	**331**	*e*P	**P**	**21 40 13.1 +1.9**
KRLC	**Kraliky**	**76.84**	**330**	*e*P	**P**	**21 40 11.7 +0.1**
KRLC	**Kraliky**	**76.84**	**330**	*e*P	**P**	**21 40 11.7 +0.1**
MLR	**Muntele Rosu**	**76.88**	**322**	⇓P	**P**	**21 40 12.6 +0.6**
MLR	**Muntele Rosu**	**76.88**	**322**	⇓P	**P**	**21 40 12.6 +0.6**
CLL	**Collm**	**77.10**	**333**	*i* P	**P**	**21 40 12.2 -0.7**
CLL	**Collm**	**77.10**	**333**	*e*P	**P**	**21 40 13.0 +0.1**
VOIR		**77.31**	**323**	⇑P	**P**	**21 40 15.7 +1.4**
VOIR		**77.31**	**323**	⇑P	**P**	**21 40 15.7 +1.4**
ARR	**Arges**	**77.55**	**323**	⇓P	**P**	**21 40 17.6 +2.0**
BRTR	**Keskin Array B**	**77.58**	**314**	P	**P**	**21 40 16.6 +0.6**
	comp=Z,1.0nm,0.9s,baz=54,slow=8.5,SNR=3.7					
BRTR	**Keskin Array B**	**77.58**	**314**	P	**P**	**21 40 15.7 -0.2**
BZS	**Buzias**	**78.63**	**325**	⇑P	**P**	**21 40 22.4 +0.9**
BZS	**Buzias**	**78.63**	**325**	⇑P	**P**	**21 40 22.4 +0.9**
KHC	**Kasperske Hory**	**78.77**	**331**	*e*P	**P**	**21 40 22.6 +0.4**
KHC	**Kasperske Hory**	**78.77**	**331**	*e*P	**P**	**21 40 22.6 +0.4**
CKRC	**Cesky Krumlov**	**78.78**	**331**	*e*P	**P**	**21 40 22.5 +0.2**
GERES	**GERESS Array B**	**78.97**	**331**	P	**P**	**21 40 23.2 -0.2**
	comp=Z,0.5nm,0.4s,baz=45,slow=5.8,SNR=15					
CONA	**Conrad Observa**	**78.97**	**329**	*e*P	**P**	**21 40 24.5 +1.1**
	comp=Z,3.1nm,1.8s					
SOKA	**Soboth**	**80.33**	**329**	*e*P	**P**	**21 40 31.3 +0.5**
	comp=Z,2.1nm,1.0s					
KBA	**Koelnbreinsper**	**80.60**	**330**	*e*P	**P**	**21 40 33.0 +0.7**
	comp=Z,7.2nm,1.1s					
OBKA	**Obir**	**80.65**	**329**	*e*P	**P**	**21 40 32.8 +0.3**
	comp=Z,0.8nm,0.6s					
WATA	**Walderalm**	**80.99**	**332**	*e*P	**P**	**21 40 34.7 +0.3**
	comp=Z,0.6nm,0.3s					
WTTA	**Wattenberg**	**81.03**	**332**	*e*P	**P**	**21 40 35.2 +0.5**
	comp=Z,1.5nm,0.4s					
RETA	**Reutte**	**81.14**	**332**	*e*P	**P**	**21 40 36.1 +1.0**
	comp=Z,0.1nm,0.2s					
MOTA	**Moosalm**	**81.15**	**332**	*e*P	**P**	**21 40 35.6 +0.3**
	comp=Z,1.1nm,0.4s					
SQTA	**Sankt Quirin**	**81.22**	**332**	*e*P	**P**	**21 40 35.6 0.0**
	comp=Z,0.3nm,0.2s					
FETA	**Feichten**	**81.55**	**332**	*e*P	**P**	**21 40 37.6 +0.1**
	comp=Z,0.3nm,0.4s					
DAVA	**Damuels**	**81.61**	**333**	*e*P	**P**	**21 40 37.9 +0.2**
	comp=Z,0.4nm,0.3s					

TAP 01 21:33:59.5,24.°62N×121.°70E,h8km,ML1.1,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.02**	**57**	*i* P	Pg	21 34 01.3	+0.3
	baz=58						
NDS				*i* S	Sg	21 34 02.4	+0.3
	baz=58						
TWE	**Neicheng**	**0.10**	**344**	P	Pg	21 34 02.4	+0.5
	baz=352						
TWE				S	Sg	21 34 04.1	+0.5
	baz=352						
ENTT	**Nioudou**	**0.12**	**278**	P	Pg	21 34 02.9	+0.6
	baz=277						
ENTT				S	Sg	21 34 04.5	+0.4
	baz=277						
NDT	**Datong Townshi**	**0.17**	**263**	P	Pg	21 34 03.7	+0.6
	baz=263						
NDT				S	Sg	21 34 06.2	+0.8
	baz=263						
EWUT	**Wuta**	**0.19**	**158**	P	Pg	21 34 03.8	+0.4
	baz=151						
EWUT				S	Sg	21 34 06.4	+0.3
	baz=151						
ENA	**Nanau**	**0.20**	**169**	P	Pg	21 34 04.0	+0.5
	baz=160						
ENA				S	Sg	21 34 06.8	+0.5
	baz=160						
NWLT	**Wulai**	**0.23**	**311**	P	Pg	21 34 04.9	+0.6
	baz=311						
NWLT				S	Sg	21 34 08.0	+0.6
	baz=311						
YHNB	**Yeheng**	**0.30**	**279**	P	Pg	21 34 06.1	+0.6
	baz=283						
YHNB				S	Sg	21 34 09.8	+0.4
	baz=283						
NSK	**Sanguang**	**0.31**	**280**	P	Pg	21 34 06.3	+0.5
	baz=284						
NSK				S	Sg	21 34 10.1	+0.2
	baz=284						
NNSB	**Datong**	**0.35**	**236**	*e*S	Sg	21 34 11.7	+0.7
	baz=228						
NNS	**Nan Shan**	**0.35**	**238**	*e*S	Sg	21 34 12.1	+1.2
	baz=229						
TIPB	**Shuangxi**	**0.37**	**18**	*e*S	Sg	21 34 11.7	+0.1
	baz=8.0						
NACB	**Ninganchiao**	**0.46**	**192**	*e*S	Sg	21 34 15.3	+0.9
	baz=201						
FUSS	**Fushou**	**0.56**	**228**	*e*P	Pg	21 34 10.9	+0.6
	baz=218						
TWT	**Tachien**	**0.60**	**232**	*e*P	Pb	21 34 12.0	-0.4
	baz=223						
TWT				*e*S	Sb	21 34 21.0	0.0
	baz=223						
TDCB	**Techi**	**0.61**	**233**	*e*P	Pg	21 34 11.6	+0.2
	baz=226						
TDCB				*e*S	Sb	21 34 21.1	-0.3
	baz=226						

JMA 01 21:34:07.2±0.4,25.°08N×123.°54E,h12km,M2.1,
Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.76**	**167**	P	Pg	21 34 21.8	-0.2
YOJ	**Yonaguni jima**	**0.78**	**218**	P	Pg	21 34 22.1	-0.2
YOJ				S	Sg	21 34 31.9	-0.7
JYNG	**Yonagunijimaku**	**0.83**	**221**	P	Pg	21 34 22.7	-0.5
JYNG				S	Sg	21 34 33.2	-0.8
JISG	**Ishigakijimahi**	**0.85**	**125**	P	Pg	21 34 23.1	-0.6
JIJ	**Ishigaki jima**	**0.90**	**142**	P	Pg	21 34 24.0	-0.6
JIJ				*e*S	Sg	21 34 35.1	-1.2
JKRS	**Kuro-shima**	**0.94**	**153**	P	Pb	21 34 25.8	+0.3
JKRS				*e*S	Sg	21 34 37.5	-0.1
HATJ	**Hateruma jima**	**1.05**	**167**	P	Pb	21 34 26.7	-0.6
HATJ				S	Sb	21 34 40.3	-0.6
JTJ	**Tarama**	**1.14**	**112**	*e*S	Sb	21 34 43.3	-0.4

DDA 01 21:38:19.3±0.0,39.°38N×26.°34E,h7km±1km,ML1.0,
Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.20**	**309**	P	Pg	21 38 23.7	+0.4
KOCA				S	Sg	21 38 27.0	+1.1
KOCA				*i* AML	AML	21 38 27.0	
	comp=N,36nm,0.2s						
AYVA	**Ayvalik**	**0.28**	**104**	P	Pg	21 38 25.3	+0.5
AYVA				*i* AML	AML	21 38 30.0	
	comp=E,17nm,0.5s						
AYVA				*i* AML	AML	21 38 30.0	
	comp=N,20nm,0.3s						
AYVA				S	Sg	21 38 30.0	+1.4
BAYC	**CANAKKALE_Bayr**	**0.40**	**24**	P	Pg	21 38 27.1	+0.1
BAYC				S	Sg	21 38 33.1	+0.8
BUHA	**Balikesir, Bur**	**0.59**	**78**	P	Pg	21 38 30.6	0.0
BUHA				*i* AML	AML	21 38 46.0	
	comp=E,9.6nm,1.1s						
ZEDA	**zmir-Bergama**	**0.71**	**125**	P	Pg	21 38 33.1	+0.2
ZEDA				S	Sb	21 38 43.6	-0.2
ZEDA				*i* AML	AML	21 38 45.0	
	comp=N,8.7nm,0.3s						
ZEDA				*i* AML	AML	21 38 45.0	
	comp=E,8.8nm,0.2s						

IDC ***01*** *21:49:37.0±0.5,8.°95S×158.°17E,h0km,mb4.6/19, mb1 4.7/23,mb1mx4.6/31,mbtmp4.5/23,ML4.2/3,MS4.0/41, Ms1 4.0/41,ms1mx3.9/53,Error ellipse: s-maj=14.7km s-min=13.8km az=10.0*

BJI ***01*** *21:49:39.6±0.0,8.°75S×158.°78E,h33km,mb4.6/44, mB5.1/24,Ms4.6/10,Ms7 4.4/12*

NEIC ***01*** *21:49:40.1±1.6,9.°01S±0.°07×158.°31E±0.°06,h15km±3km, mb4.9/104,Error ellipse: s-maj=11.4km s-min=8.0km az=216.0*

GCMT ***01*** *21:49:43.1±0.3,9.°07S±0.°02×158.°18E±0.°02,h30km±1km, MW5.0/83,Moment Tensor Solution. s31,c36; s83,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.94±.18; $M_{\theta\theta}$-0.05±.13; $M_{\phi\phi}$-1.88±.12; $M_{r\theta}$-0.11±.17; $M_{\theta\phi}$2.03±.08; $M_{\phi r}$-2.43±.19; Best double couple: $M_0$3.67700×$10^{

CTAO Charters Tower 15.94 225 P **P 21 53 26.4 -1.0**
EIDS Eidsvold 17.59 202 P **Pn 21 53 45.0 +0.3**
JAY Jayapura 18.60 289 P **P 21 53 55.9 -1.0**
1.0nm,0.3s,baz=150,slow=17,SNR=2.7
JAY Jayapura 18.60 289 P **Pn 21 54 02.1 +4.8**
36nm,1.6s
GENI Genyem 19.07 289 P **Pn 21 54 09.1 +6.1**
2um94nm,1.1s
SMPI Sarmi 20.65 289 P **P 21 54 20.4 +1.2**
2um122nm,1.3s
MSVF Nonsavu 21.10 116 P **P 21 54 24.7 +0.5**
14nm,0.8s,baz=250,slow=22,SNR=1.3
QIS Mount Isa 21.30 235 P **P 21 54 28.0 +1.8**
QLP Quilpie 21.90 215 P **P 21 54 35.8 +3.2**
ARMA Armidale 22.12 195 P **P 21 54 36.4 +1.2**
ARMA Armidale 22.12 195 P **P 21 54 38.3 +3.2**
INKA Innaminka 24.85 219 P **P 21 55 03.2 +1.4**
CMSA Cobar Meteorol 25.22 206 P **P 21 55 06.4 +1.2**
WR0 Warramunga Arr 25.32 242 P **P 21 55 05.2 -1.1**
WB0 Warramunga Arr 25.38 243 P **P 21 55 06.8 -0.1**
WB0 IAmb IAmb 21 55 09.8
comp=Z,50nm,1.4s
WRAB Tennant Creek 25.48 242 P **P 21 55 08.3 +0.5**
WRAB IAmb IAmb 21 55 33.6
comp=Z,31nm,1.2s
WRAB Tennant Creek 25.48 242 P **P 21 55 07.8 +0.1**
WB2 Warramunga Arr 25.48 242 P **P 21 55 07.1 -0.6**
WRA Warramunga Arr 25.49 242 P **P 21 55 06.1 -1.8**
comp=Z,3.5nm,0.7s,baz=67,slow=9.8,SNR=16
WRA PcP **PcP 21 58 39.1 -0.3**
comp=Z,1.6nm,0.7s,baz=72,slow=2.6,SNR=4.5
WRA Warramunga Arr 25.49 242 P **P 21 55 07.2 -0.6**
GUMO Guam 26.12 329 LR LR 22 06 18.8
comp=Z,100nm,18.8s,baz=134,slow=38
AS31 Alice Springs 27.42 235 P **P 21 55 24.9 -0.4**
ASAR Alice Springs 27.42 235 P **P 21 55 24.4 -0.9**
comp=Z,1.0nm,0.7s,baz=65,slow=9.1,SNR=15
ASAR PcP **PcP 21 58 44.1 +0.2**
comp=Z,1.8nm,0.8s,baz=76,slow=2.7,SNR=5.2
ASAR Alice Springs 27.42 235 P **P 21 55 25.0 -0.2**
STKA Stephens Creek 27.46 212 P **P 21 55 25.2 -0.2**
comp=Z,10nm,0.6s,baz=42,slow=13,SNR=25
STKA LR LR 22 05 21.7
comp=Z,353nm,19.1s,baz=30,slow=34
STKA Stephens Creek 27.46 212 P **P 21 55 25.1 -0.3**
STKA Stephens Creek 27.46 212 P **P 21 55 27.5 +2.1**
SIJI Sorong 28.04 285 P **P 21 55 30.0 -0.9**
comp=Z,2.7nm,0.4s,baz=213,slow=23,SNR=1.6
OOD Oodnadatta 28.27 226 P **P 21 55 34.2 +1.5**
LCRK Leigh Creek 28.32 219 P **P 21 55 33.6 +0.5**
KNRA Kununurra 29.50 254 P **P 21 55 44.2 +0.4**
KNRA IAmb IAmb 21 56 10.3
comp=Z,36nm,1.1s
KNRA Kununurra 29.50 254 P **P 21 55 44.0 +0.2**
AFI Afiamalu 29.77 102 LR LR 22 05 43.4
comp=Z,482nm,18.8s,baz=272,slow=32
HTT Hallett 30.08 213 P **P 21 55 50.2 +1.4**
MULG Mulgathing 30.91 224 P **P 21 55 55.7 -0.4**
BBOO Buckleboo 31.28 218 P **P 21 55 59.8 +0.4**
BBOO Buckleboo 31.28 218 P **P 21 55 59.8 +0.4**
ARPS Mount Arapiles 31.34 206 P **P 21 56 01.1 +1.3**
LBMI Labuha 31.71 284 P **P 21 56 07.9 +4.5**
comp=Z,558nmcomp=Z,25nm,1.1s
WRKA Warakurna 32.62 237 P **P 21 56 10.6 -0.7**
SANI Sanana 32.81 280 P **P 21 56 14.3 +1.3**
comp=Z,21nm,1.3s
FITZ Fitzroy Crossi 32.88 251 LR LR 22 08 44.9
comp=Z,222nm,20.7s,baz=72,slow=35
HAZ Te Kaha 33.58 151 P **P 21 56 21.6 +2.2**
URZ Urewera 33.68 153 LR LR 22 08 30.2
comp=Z,497nm,18.7s,baz=31,slow=34
URZ Urewera 33.68 153 P **P 21 56 21.4 +1.2**
PKGZ Pakihiroa 33.83 151 P **P 21 56 23.8 +2.1**
WMGZ Waiomatatini S 33.93 151 P **P 21 56 24.6 +2.1**
TWGZ Tauwhareparae 34.01 152 P **P 21 56 25.6 +2.4**
PUZ Puketiti 34.06 151 P **P 21 56 25.3 +1.7**
BATI Baumata 34.09 265 LR LR 22 12 14.5
comp=Z,395nm,18.8s,baz=105,slow=40
BKZ Black Stump Fm 34.15 154 P **P 21 56 26.1 +1.6**
BKZ Black Stump Fm 34.15 154 P **P 21 56 24.4 0.0**
BKZ IAmb IAmb 21 56 26.5
comp=Z,15nm,0.7s
BKZ Black Stump Fm 34.15 154 P **P 21 56 25.9 +1.4**
RAHZ Arahi 34.20 153 P **P 21 56 27.1 +2.3**
SNGZ Shannon Statio 34.21 153 P **P 21 56 26.8 +1.9**
NMHZ Naumai 34.23 154 P **P 21 56 27.6 +2.5**
KWHZ Kaweka Forest 34.34 155 P **P 21 56 28.5 +2.4**
CNGZ Carnagh Statio 34.36 152 P **P 21 56 28.2 +2.0**
KRHZ Kereru 34.50 155 P **P 21 56 29.4 +2.0**
TSZ Takapari Road 34.68 156 P **P 21 56 30.5 +1.5**
KAHZ Kahuranaki 34.84 154 P **P 21 56 32.3 +1.9**
TUWZ Tuamarina 35.10 159 P **P 21 56 32.9 +0.3**
SNZO South Karori 35.27 158 P **P 21 56 32.8 -1.2**
SNZO IAmb IAmb 21 57 00.8
comp=Z,23nm,1.1s
BFZ Birch Farm 35.32 156 P **P 21 56 35.0 +0.5**
BFZ Birch Farm 35.32 156 P **P 21 56 35.9 +1.4**
MMRI Maumere 35.56 268 P **P 21 56 36.5 -0.3**
MSWZ Moikau Station 35.57 158 P **P 21 56 36.3 -0.3**
KHZ Kahutara 35.85 160 P **P 21 56 37.6 -1.3**
KHZ IAmb IAmb 21 57 06.2
comp=Z,26nm,1.2s
KHZ Kahutara 35.85 160 P **P 21 56 39.5 +0.6**
DAV Davao City (W) 36.27 295 LR LR 22 12 20.0
comp=Z,129nm,18.2s,baz=307,slow=38
BSSI Bau Bau, Buton 37.51 272 P **P 21 56 54.7 +1.2**
comp=Z,477nmcomp=Z,46nm,1.4s
KAPI Kappang 38.38 273 LR LR 22 15 40.9
comp=Z,152nm,18.1s,baz=118,slow=41
KAPI Kappang 38.38 273 P **P 21 57 01.1 +0.2**
KAPI IAmb IAmb 21 57 10.2
comp=Z,51nm,1.4s
SPSI Sidrap Palu 38.53 275 P **P 21 57 06.1 +4.0**
comp=Z,19nm,0.9s
TOLI2 Tolitoli 38.65 283 P **P 21 57 01.9 -1.2**
PSA00 Pilbara Seismi 38.94 247 P **P 21 57 05.1 -0.4**
PSA00 IAmb IAmb 21 57 12.0
comp=Z,30nm,1.2s
PSA00 Pilbara Seismi 38.94 247 IAmb IAmb 21 57 14.1
comp=Z,13nm,1.1s
RAR Rarotonga 42.17 112 LR LR 22 11 40.5
comp=Z,292nm,21.3s,baz=298,slow=31
SRBI Singaraja 42.53 268 P **P 21 57 37.9 +2.7**
comp=Z,17nm,1.0s
BBKI Banjar Baru 43.46 275 P **P 21 57 44.5 +1.7**
JAGI Jajag, Banyuwa 43.55 267 P **P 21 57 40.9 -2.6**
JOW Kunigami 46.02 322 LR LR 22 16 28.2
comp=Z,117nm,19.2s,baz=115,slow=35
MJAR Matsushiro Arr 49.11 339 P **P 21 58 24.4 -2.4**
comp=Z,2.1nm,0.9s,baz=152,slow=8.0,SNR=2.9
MJAR LR LR 22 17 56.9
comp=Z,70nm,21.1s,baz=167,slow=35
JNU Nakatsue 49.38 329 LR LR 22 18 49.8
comp=Z,58nm,19.6s,baz=164,slow=36
LEM Lembang 50.14 269 LR LR 22 21 41.2
comp=Z,115nm,18.6s,baz=91,slow=38
PPT Papeete 51.36 105 LR LR 22 16 23.3
comp=Z,157nm,20.5s,baz=221,slow=31
PPT2 Papeete2 51.36 105 *e*S **S 22 06 06.4 +3.6**
comp=Z,127nm,29.2s
PPT2 *e*LR LR 22 13 28.2
comp=Z,423nm,23.2s,baz=267
TBI Tubuai 51.93 113 *e*S **S 22 06 12.4 +2.0**
comp=Z,98nm,37.5s
TBI *e*LR LR 22 13 43.0
comp=Z,345nm,25.5s,baz=287
KSRS Korea Array 54.28 330 P **P 21 59 02.2 -3.1**
comp=Z,1.4nm,1.0s,baz=148,slow=6.7,SNR=2.2
KSAR Wonju Array Be 54.29 330 P **P 21 59 05.1 -0.4**
ASAJ Asahikawa 54.79 346 LR LR 22 21 38.7
comp=Z,206nm,19.9s,baz=174,slow=35
QIZ Qiongzhong 55.26 301 P **P 21 59 13.6 +0.7**
QIZ S **S 22 06 57.2 +1.5**
QIZ LR LR
comp=Z,460nm,20.9s
NJ2 Nanjing 55.55 319 *e*P **P 21 59 16.3 +1.6**
USRK Ussuriysk Ar. 58.10 338 P **P 21 59 30.4 -2.2**
comp=Z,3.9nm,0.8s,baz=147,slow=7.6,SNR=5.1
USRK LR LR 22 22 24.3
comp=Z,51nm,20.4s,baz=105,slow=34
USRK Ussuriysk Ar. 58.10 338 P **P 21 59 31.8 -0.8**
PSI Prapat 60.26 278 LR LR 22 27 17.6
comp=Z,67nm,21.0s,baz=110,slow=38
CN2 Changchun 60.44 333 *e*P **P 21 59 48.4 -0.4**
CN2 pmax pmax
comp=Z,20nm,0.9s
BNX BinXian 61.16 336 ⇓P **P 21 59 53.3 -0.4**
BNX pmax pmax
comp=Z,9.0nm,0.7s
BNX pmax pmax
comp=Z,170nm,5.2s
GYA Guiyang 61.25 307 ⇑P **P 21 59 58.8 +4.0**
GYA pmax pmax
comp=Z,6.0nm,1.0s
HNS HongShan 61.59 321 ⇓P **P 21 59 59.5 +2.8**
HNS pmax pmax
comp=Z,5.0nm,1.3s
PETK Petropavlovsk- 61.93 360 P **P 21 59 57.0 -1.7**
comp=Z,7.3nm,0.9s,baz=171,slow=9.1,SNR=8.9
KLR Kul'dur 62.52 341 LR LR 22 23 50.5
comp=Z,91nm,22.0s,baz=150,slow=33
XAN Xi'an 63.41 315 P **P 22 00 08.6 -0.5**
XAN pP pP 22 00 16.0 -0.2
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN pmax pmax
comp=Z,63nm,5.5s
KMI Kunming 63.82 304 ⇓P **P 22 00 12.1 -0.1**
KMI pP pP 22 00 18.8 -0.3
KMI sP sP 22 00 29.5 +7.5
KMI pmax pmax
comp=Z,6.0nm,0.8s
KMI LR LR
comp=Z,170nm,21.9s
KMI LR LR
comp=Z,190nm,19.6s
KMI LR LR
comp=Z,250nm,19.6s
CM31 Chiang Mai Arr 64.56 295 P **P 22 00 16.5 -0.3**
CM31 IAmb IAmb 22 00 24.0
comp=Z,16nm,1.2s
CMAR Chiang Mai Arr 64.56 295 P **P 22 00 16.8 0.0**
comp=Z,4.0nm,0.8s,baz=125,slow=5.1,SNR=43
CMAR LR LR 22 25 51.2
comp=Z,72nm,21.6s,baz=120,slow=34
CMAR Chiang Mai Arr 64.56 295 P **P 22 00 16.6 -0.2**
CHTO Chiang Mai 64.68 296 P **P 22 00 17.6 0.0**
XLT XiLinHaoTe 65.09 328 *e*P **P 22 00 20.9 +1.0**
XLT pP sP 22 00 32.6 +2.9
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,190nm,5.5s
PZH PanZhiHua 65.21 305 P **P 22 00 22.6 +1.5**
PZH S **S 22 09 02.4 -1.1**
PZH sS **sS 22 09 21.2 +6.3**
PZH ScS **SKSac 22 10 13.6 -1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,5.3s
PZH LR LR
comp=Z,410nm,21.9s
PZH LR LR
comp=Z,440nm,20.4s
PZH LR LR
comp=Z,600nm,18.6s
CD2 Chengdu 65.58 310 P **P 22 00 27.0 +3.6**
HHC Hu-ho-hao-te 65.65 323 *e*P **P 22 00 26.1 +2.4**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,230nm,5.2s
HIA Hailar 67.16 334 P **P 22 00 32.8 -0.2**
HIA IAmb IAmb 22 00 51.4
comp=Z,9.5nm,1.0s
LZH Lanzhou 68.03 315 *e*P **P 22 00 36.0 -3.0**
LZH pP pP 22 00 47.5 +1.3
LZH sP sP 22 00 51.9 +3.1
LZH pmax pmax
comp=Z,23nm,1.3s
LZH LR LR
comp=Z,180nm,19.0s
LZH LR LR
comp=Z,150nm,19.0s
VNDA Vanda 68.46 179 LR LR 22 26 40.9
comp=Z,87nm,18.1s,baz=350,slow=32
MA2 Magadan 68.67 356 P **P 22 00 41.2 -1.1**
MA2 IAmb IAmb 22 00 42.0
comp=Z,10nm,0.9s
GTA Gaotai 72.43 316 ⇑P **P 22 01 05.8 -0.1**
GTA pP sP 22 01 18.5 +2.8
GTA sP PcP 22 01 24.8 +1.2
GTA S **S 22 10 26.8 -1.9**
GTA sS sS 22 10 43.1 +2.7
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,95nm,5.3s
GTA LR LR
comp=Z,130nm,17.5s
GTA LR LR
comp=Z,120nm,17.1s
GTA LR LR
comp=Z,140nm,18.2s
ULN Ulaanbaatar 72.47 327 P **P 22 01 06.5 +0.6**
ULN IAmb IAmb 22 01 08.0
comp=Z,10.0nm,1.0s
SONM Songino Array 72.81 326 P **P 22 01 08.2 +0.3**
comp=Z,9.5nm,0.8s,baz=137,slow=5.7,SNR=44
SONM LR LR 22 30 44.6
comp=Z,61nm,21.4s,baz=146,slow=34
SONM Songino Array 72.81 326 P **P 22 01 07.8 -0.1**
SONM IAmb IAmb 22 01 09.6
comp=Z,10nm,0.9s
YAK Yakutsk 74.27 346 LR LR 22 32 56.4
comp=Z,32nm,20.4s,baz=233,slow=35
YAK Yakutsk 74.27 346 P **P 22 01 15.5 -0.5**
YAK IAmb IAmb 22 01 30.0
comp=Z,11nm,0.7s
GOMU GeErMu 74.60 311 P P 22 01 26.5 +7.5
GOMU pP PcP 22 01 31.4 -1.9
GOMU sP sP 22 01 36.6 +7.7
GOMU PP PP 22 04 50.6 +45
GOMU pmax pmax
comp=Z,76nm,6.3s
LSA Lhasa 75.08 304 P **P 22 01 22.6 +0.6**
LSA pmax pmax
comp=Z,10.0nm,1.3s
ANM Nome 78.33 15 P **P 22 01 38.4 -0.7**
ANM IAmb IAmb 22 01 40.2
comp=Z,12nm,1.3s
GUN Gumba 78.92 301 *e*P **P 22 01 42.9 -0.6**
comp=Z,21nm,0.8s
PKI Pulchoki 79.22 300 *e*P **P 22 01 44.2 -1.0**
comp=Z,14nm,0.8s
PKIN Phulchoki 79.24 300 *e*P **P 22 01 44.2 -1.0**
comp=Z,16nm,0.8s
KKN Kakani 79.40 300 *e*P **P 22 01 45.4 -0.6**
DMN Daman 79.49 300 *e*P **P 22 01 46.1 -0.5**
comp=Z,28nm,0.8s
GKN Gorkha 80.00 301 *e*P **P 22 01 48.4 -0.8**
comp=Z,28nm,0.8s
KOLN Koldanda 80.82 300 *e*P **P 22 01 52.5 -1.2**
comp=Z,35nm,0.8s
DANN Dangsing 80.84 301 *e*P **P 22 01 52.3 -1.6**
comp=Z,15nm,0.7s
QSPA South Pole Qui 80.93 180 P **P 22 01 54.1 +0.7**
comp=Z,7.7nm,1.0s,baz=49,slow=1.1,SNR=15
QSPA LR LR 22 35 55.6
comp=Z,89nm,18.2s,baz=322,slow=34
QSPA South Pole Qui 80.93 180 P **P 22 01 54.0 +0.7**
QSPA IAmb IAmb 22 02 03.8
comp=Z,18nm,0.9s
J20K Nowinta River 81.32 19 IAmb IAmb 22 02 03.9
comp=Z,12nm,1.1s
PYUN Piuthan 81.43 300 *e*P **P 22 01 55.5 -1.4**
comp=Z,27nm,0.9s
WMQ Urumqi 82.51 317 *e*P **P 22 02 01.5 -0.6**
WMQ pP sP 22 02 14.0 +2.0
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=Z,100nm,23.1s
I21K Tanana 82.69 19 IAmb IAmb 22 02 04.6
comp=Z,18nm,1.3s
MLY Manley 82.99 19 IAmb IAmb 22 02 11.0
comp=Z,18nm,1.4s
MAW Mawson 83.73 203 P **P 22 02 07.3 -0.5**
comp=Z,7.1nm,1.0s,baz=197,slow=9.4,SNR=3.8
MAW Mawson 83.73 203 IAmb IAmb 22 02 10.3
comp=Z,5.2nm,1.4s
COLA College 83.87 20 P **P 22 02 07.5 -1.0**
IL31 84.14 21 IAmb IAmb 22 02 10.2
comp=Z,9.8nm,1.1s
ILAR Eielson Array 84.14 21 P **P 22 02 08.6 -1.3**
comp=Z,5.9nm,1.0s,baz=258,slow=4.5,SNR=20
ILAR LR LR 22 37 51.3
comp=Z,85nm,19.4s,baz=228,slow=34
RIDG Independent Ri 84.28 22 P **P 22 02 10.3 -0.4**
SCRK Sand Creek 84.73 22 P **P 22 02 12.4 -0.6**
SCRK IAmb IAmb 22 02 30.4
comp=Z,7.3nm,1.0s
L27K Beaver Creek, 85.07 23 P **P 22 02 14.7 0.0**
L27K IAmb IAmb 22 02 16.1
comp=Z,9.8nm,1.2s
ZSN Zaisan 85.58 319 *e*P **P 22 02 16.4 -1.2**
comp=Z,3.6nm,1.1s,baz=319
A21K Barrow 85.63 13 IAmb IAmb 22 02 17.8
comp=Z,17nm,1.4s
MK31 Makanchi Array 87.07 318 IAmb IAmb 22 02 26.6
comp=Z,5.4nm,0.9s
MKAR Makanchi Array 87.07 318 P **P 22 02 24.1 -0.8**
comp=Z,5.4nm,0.6s,baz=98,slow=5.4,SNR=80
BBB Bella Bella 87.26 36 LR LR 22 34 51.1
comp=Z,90nm,20.1s,baz=264,slow=31
MAKZ Makanchi 87.28 318 P **P 22 02 25.0 -0.9**
MAKZ IAmb IAmb 22 02 26.0
comp=Z,6.6nm,0.8s
ZALV Zalesovo Beam 87.68 325 P **P 22 02 25.7 -1.9**
comp=Z,2.4nm,0.5s,baz=123,slow=5.3,SNR=14
ZALV LR LR 22 40 27.9
comp=Z,55nm,21.3s,baz=142,slow=35
YBH Yreka Blue Hor 87.91 47 LR LR 22 37 43.7
comp=Z,59nm,18.1s,baz=288,slow=33
ORV Oroville 88.29 50 P **P 22 02 30.4 -0.5**
DLBC Dease Lake 88.30 30 LR LR 22 36 02.9
comp=Z,150nm,19.6s,baz=268,slow=32
PRZ Przheval'sk 88.64 313 P **P 22 02 32.2 -0.5**
SATY Saty 88.77 314 *e*P **P 22 02 32.3 -1.0**
baz=314
TDK Taldyqorghan 89.22 316 *e*P **P 22 02 34.5 -0.7**
comp=Z,2.0nm,0.8s,baz=316
SEM Semipalatinsk 89.35 321 *e*P **P 22 02 33.3 -2.6**
baz=321
PNTR Pine Nut 89.63 50 P **P 22 02 36.4 -1.1**
PNTR IAmb IAmb 22 02 39.5
comp=Z,7.2nm,0.9s
MDOK Medeo 89.76 314 *e*P **P 22 02 36.5 -1.4**
baz=314
MWC Mount Wilson 89.89 55 P **P 22 02 38.0 -0.8**
PAHR Pah Rah Range 89.92 50 P **P 22 02 40.0 +1.2**
PAHR IAmb IAmb 22 02 40.7
comp=Z,7.1nm,1.0s
CHKK Chushkaly 89.95 314 *e*P **P 22 02 37.8 -0.9**
baz=314
LHV Little Huntoon 90.31 51 P **P 22 02 40.2 -0.1**
RYN Ryan 90.36 51 P **P 22 02 40.0 -0.8**
RYN IAmb IAmb 22 02 42.9
comp=Z,9.2nm,1.0s
KUU Kurty 90.42 314 *e*P **P 22 02 39.5 -1.4**
comp=Z,3.6nm,0.8s,baz=314
KURBB Kurchatov Arra 90.47 321 LR LR 22 41 52.1
comp=Z,79nm,21.7s,baz=90,slow=35
NVAR Mina Array Bea 90.49 51 P **P 22 02 42.8 +1.2**
comp=Z,8.7nm,0.9s,baz=242,slow=6.8,SNR=40
NVAR LR LR 22 41 09.6
comp=Z,65nm,18.1s,baz=275,slow=34
NVAR Mina Array Bea 90.49 51 P **P 22 02 41.6 0.0**
INK Inuvik 90.53 20 LR LR 22 41 41.7
comp=Z,94nm,18.5s,baz=225,slow=34
INK Inuvik 90.53 20 IAmb IAmb 22 02 41.3
comp=Z,12nm,1.4s
NV11 Mina Array Sit 90.61 51 P **P 22 02 41.8 -0.2**
I07A Izee 90.73 46 P **P 22 02 42.2 -0.2**
I07A IAmb IAmb 22 02 43.9
comp=Z,6.2nm,0.9s
KVN Kaiserville 90.77 51 P **P 22 02 43.0 +0.2**
LCH Last Change Ra 90.78 53 P **P 22 02 41.4 -1.5**
LCH IAmb IAmb 22 02 44.8
comp=Z,9.3nm,1.5s
WVOR Wild Horse Val 91.02 47 P **P 22 02 41.7 -2.1**
WVOR IAmb IAmb 22 02 45.7
comp=Z,6.7nm,1.0s
PFO Pinyon Flats O 91.08 56 LR LR 22 35 33.3
comp=Z,240nm,20.9s,baz=244,slow=30
QSM Queen of Sheba 91.16 54 P **P 22 02 43.8 -0.7**
QSM IAmb IAmb 22 03 06.0
comp=Z,8.5nm,1.2s
TPH Tonopah 91.26 52 P **P 22 02 45.2 +0.1**
J08A Circle Bar Ran 91.32 46 P **P 22 02 45.5 +0.4**
G08A Pilot Rock 91.35 44 P **P 22 02 45.1 -0.1**
SYO Syowa Base 91.41 198|| *e*P **P 22 02 45.8 +0.9**
AAK Ala-Archa 91.49 313 LR LR 22 44 14.9
comp=Z,72nm,20.2s,baz=83,slow=36
AAK Ala-Archa 91.49 313 P **P 22 02 45.2 -0.9**
B08A Colville Reser 91.71 41 P **P 22 02 45.2 -1.5**
NRIK Noril'sk 91.73 340 LR LR 22 42 44.8
comp=Z,89nm,22.0s,baz=96,slow=35
TPNV Topopah Spring 91.83 53 P **P 22 02 46.4 -1.4**
E09A Wood Farm, Sta 92.15 43 P **P 22 02 48.1 -0.6**
E09A IAmb IAmb 22 02 49.5
comp=Z,8.6nm,1.1s
BTLS Baital 92.26 315 *e*P **P 22 02 47.9 -1.4**
baz=315
BMO Blue Mountains 92.42 45 P **P 22 02 49.4 -0.8**
BMO IAmb IAmb 22 02 51.2
comp=Z,7.2nm,0.9s
R11A Troy Canyon, C 92.58 52 P **P 22 02 50.8 -0.4**
R11A IAmb IAmb 22 03 05.8
comp=Z,5.3nm,1.1s
SHPR Sheep Range 92.62 54 P **P 22 02 50.5 -0.8**
SHPR IAmb IAmb 22 03 06.5
comp=Z,7.9nm,1.3s
F10A Beach Ranch, E 92.67 44 IAmb IAmb 22 02 52.0
comp=Z,5.6nm,0.9s
PRN Pahroc Range 92.85 53 P **P 22 02 52.1 -0.2**
NEW Newport 93.15 42 LR LR 22 38 03.5
comp=Z,150nm,19.9s,baz=251,slow=31
MFID Camas Ranch 93.22 47 P **P 22 02 53.1 -0.9**
MFID IAmb IAmb 22 02 56.3
comp=Z,5.2nm,1.2s
ELK Elko 93.23 49 LR LR 22 36 41.1
comp=Z,57nm,21.8s,baz=295,slow=30
ELK Elko 93.23 49 P **P 22 02 53.8 -0.4**
ELK IAmb IAmb 22 02 56.0
comp=Z,4.4nm,0.9s
PLID Pearl Lake 93.37 45 IAmb IAmb 22 03 13.7
comp=Z,9.4nm,1.4s
SPR3 Spring Creek 3 93.65 51 P **P 22 02 55.7 -0.6**
C36M Paulatuk 94.11 20 IAmb IAmb 22 03 14.4
comp=Z,4.5nm,1.0s
HLID Hailey 94.26 47 P **P 22 02 59.0 +0.1**
HLID IAmb IAmb 22 03 01.2
comp=Z,5.7nm,1.1s
IUG Iuzhnay 94.67 312 *e*P **P 22 02 58.7 -2.0**
baz=312
BGU Big Grassy Mou 94.92 49 P **P 22 03 02.1 +0.2**
LPIG La Paz 94.97 66 LR LR 22 41 51.0
comp=Z,136nm,18.0s,baz=230,slow=33
HVU Hansel Valley 95.22 49 P **P 22 03 02.9 -0.3**
HVU IAmb IAmb 22 03 05.5
comp=Z,5.9nm,0.9s
NLU North Lily Min 95.51 51 P **P 22 03 04.3 -0.4**
NLU IAmb IAmb 22 03 06.7
comp=Z,5.3nm,1.0s
CTU Camp Tracy 95.85 50 P **P 22 03 06.3 +0.2**
CTU IAmb IAmb 22 03 08.1
comp=Z,4.1nm,0.8s
BRVK Borovoye 95.93 323 P **P 22 03 04.7 -1.2**
BRVK IAmb IAmb 22 03 05.4
comp=Z,3.4nm,0.9s
JLU Jordanelle 96.07 50 P **P 22 03 06.2 -1.0**
JLU IAmb IAmb 22 03 08.9
comp=Z,4.3nm,0.9s
TMUT Trail Mountain 96.10 51 P **P 22 03 06.9 -0.5**
TMUT IAmb IAmb 22 03 09.8
comp=Z,4.2nm,1.0s
BOZ Bozeman (W) 96.50 45 P **P 22 03 08.4 -0.6**
BOZ IAmb IAmb 22 03 10.0
comp=Z,3.5nm,1.1s
YKA Yellowknife Ar 96.66 28 P **P 22 03 08.4 -0.6**
comp=Z,3.1nm,0.9s,baz=257,slow=4.8,SNR=32
YKA LR LR 22 43 04.7
comp=Z,92nm,18.3s,baz=266,slow=33

YHL	Hebgen Lake	96.73	46	P	P	22 03 10.9	+0.7
YHL				IAmb	IAmb	22 03 13.7	
comp=Z,4.4nm,1.1s							
RDMU	Red Mountain	97.49	50	P	P	22 03 13.9	+0.3
BW06	Boulder Array	97.70	48	P	P	22 03 13.8	-0.8
BW06				IAmb	IAmb	22 03 15.2	
comp=Z,2.5nm,0.8s							
PD31	Pinedale Array	97.70	48	P	P	22 03 13.1	-1.4
PDAR	Pinedale Array	97.70	48	P	P	22 03 14.4	-0.1
comp=Z,1.8nm,0.8s,baz=245,slow=2.7,SNR=17							
PDAR				LR	LR	22 41 29.2	
comp=Z,59nm,20.2s,baz=307,slow=32							
ANMO	Albuquerque	99.46	56	LR	LR	22 41 30.3	
comp=Z,145nm,19.7s,baz=281,slow=31							
AKASG	Malin Array Be	121.07	325	PKP	PKPdf	22 08 30.6	-1.2
comp=Z,1.3nm,0.6s,baz=63,slow=2.2,SNR=6.7							
AKASG	Malin Array Be	121.07	325	PKPdf	PKPdf	22 08 30.9	-0.9
LPAZ	La Paz	127.66	119	PKP	PKPdf	22 08 46.5	+0.3
comp=Z,1.5nm,0.7s,baz=268,slow=2.7,SNR=9.2							
LPAZ	La Paz	127.66	119	PKPdf	PKPdf	22 08 45.8	-0.4
MORC	Moravsky Berou	127.92	329	ePKP	PKPdf	22 08 44.2	-0.9
VRAC	Vranov	128.69	329	ePKP	PKPdf	22 08 46.5	0.0
KRUC	Moravsky	128.95	328	ePKP	PKPdf	22 08 47.0	0.0
CLL	Collm	129.13	333	ePKPdf	PKPdf	22 08 47.0	-0.2
GERES	GERESS Array B	130.45	330	PKP	PKPdf	22 08 49.4	-0.6
comp=Z,0.4nm,0.6s,baz=90,slow=2.7,SNR=5.7							
ABTA	Abfaltersbach	132.44	328	eP	PKPdf	22 08 53.3	-0.5
comp=Z,0.5nm,0.5s							
WTTA	Wattenberg	132.54	329	eP	PKPdf	22 08 54.3	+0.2
comp=Z,0.2nm,0.2s							
FETA	Feichten	133.16	330	eP	PKPdf	22 08 55.5	+0.2
comp=Z,4.5nm,1.1s							
DAVA	Damuels	133.39	331	eP	PKPdf	22 08 56.5	+0.8
comp=Z,0.4nm,0.2s							
BDFB	Brasilia	144.25	133	PKP	PKPab	22 09 14.6	+0.4
comp=Z,11nm,0.7s,baz=212,slow=4.0,SNR=23							
MVO	Moncorvo	145.46	340	ePKPab	PKPbc	22 09 17.5	-0.1
POLO	Lamas de Olo	145.52	341	ePKPab	PKPdf	22 09 17.9	+0.1
ESDC	Sonseca Array	145.61	335	PKPbc	PKPdf	22 09 17.8	-0.1
comp=Z,5.3nm,0.9s,baz=11,slow=3.4,SNR=16							
PCBR	Castelo Branco	146.80	340	ePKPab	PKPbc	22 09 21.7	+0.1
PMRV	Marv??o	147.14	339	ePKPab	PKPbc	22 09 22.6	0.0
PESTR	Estremoz	147.71	339	ePKPab	PKPab	22 09 27.7	+1.2
PBEJ	Beja	148.55	339	ePKPab	PKiKP	22 09 27.6	-0.4
PCVE	Castro Verde	148.97	339	ePKPab	PKPab	22 09 30.6	-0.9
TORD	Torodi Ar. Bea	156.62	282	PKP	PKPdf	22 09 33.6	-1.7
comp=Z,0.8nm,1.0s,baz=65,slow=0.8,SNR=3.0							
TORD				PKPab	PKPab	22 10 04.0	-0.4
comp=Z,2.2nm,1.0s,baz=75,slow=3.9,SNR=6.2							
TORD	Torodi Ar. Bea	156.62	282		PKPab	22 10 04.7	+0.2

*GUC **01** 21:59:52.1±0.7,21°.90S×68°.41W,h132km±4km,ML3.3*
*IDC **01** 21:59:54.3±9.4,21°.76S×68°.19W,h148km±65km,mb3.4/2,*
mb1 3.5/3,mb1mx3.2/20,mbtmp3.7/3, Error ellipse:
s-maj=91.6km s-min=56.2km az=37.0

ISC 01 21:59:51.9±1.0,21°.88S±0°.04×68°.53W±0°.10,h139km±8km,
n18,σ0°70/33,3C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.66	277↑	eP	Pn	22 00 13.4	+0.2
PB09				eS	Sn	22 00 29.4	0.0
PB09				IAML		22 00 32.3	
comp=E,456nm,0.4s							
LVC	Limon Verde	0.81	205↓	eP	Pn	22 00 13.8	-0.8
LVC				eS	Sn	22 00 30.7	-1.0
PB03	IPOC Station P	1.15	261	eP	Pn	22 00 17.3	+0.1
PB03				eS	Sn	22 00 36.8	+0.4
PB03				IAML		22 00 37.7	
comp=E,756nm,0.3s							
PB01	IPOC Station P	1.21	313	eP	Pn	22 00 17.6	-0.2
PB01				eS	Sn	22 00 37.5	0.0
PB01				IAML		22 00 39.4	
comp=E,238nm,0.1s							
PB07	IPOC Station P	1.27	276	eP	Pn	22 00 18.8	+0.4
PB07				i S	Sn	22 00 38.9	+0.3
PB07				IAML		22 00 40.5	
comp=N,652nm,0.1s							
PB06	IPOC Station P	1.27	229	eP	Pn	22 00 18.5	+0.1
PB06				i S	Sn	22 00 38.7	+0.1
PB06				IAML		22 00 39.8	
comp=N,1μm,0.1s							
PB02	IPOC Station P	1.38	293	eP	Pn	22 00 19.8	+0.2
PB02				eS	Sn	22 00 40.5	-0.1
PB02				IAML		22 00 42.3	
comp=N,285nm,0.3s							
PB04	IPOC Station P	1.57	253	eP	Pn	22 00 21.8	+0.2
PB04				eS	Sn	22 00 44.6	+0.3
PB04				IAML		22 00 51.4	
comp=N,436nm,0.3s							
PB08	IPOC Station P	1.82	341	eP	Pn	22 00 25.2	+0.5
PB08				eS	Sn	22 00 50.4	+0.7
PB05	IPOC Station P	1.83	237	eP	Pn	22 00 24.6	+0.2
PB05				eS	Sn	22 00 49.2	-0.2
PB05				IAML		22 00 56.1	
comp=N,217nm,0.8s							
TA01	Diego Aracena	2.02	310↑	eP	Pn	22 00 26.2	-0.4
TA01				eS	Sn	22 00 53.0	-0.2
TA01				IAML		22 01 01.1	
comp=E,101nm,0.2s							
PB11	IPOC Station P	2.35	333	eP	Pn	22 00 30.4	-0.5
PB11				i S	Sn	22 01 00.5	-0.3
PB11				IAML		22 01 02.3	
comp=N,187nm,0.4s							
PB10	IPOC Station P	2.48	228↑	eP	Pn	22 00 32.0	-0.2
PB10				eS	Sn	22 01 03.0	-0.3
PB10				IAML		22 01 04.9	
comp=E,106nm,0.4s							
PB12	IPOC Station P	3.66	332↓	eP	Pn	22 00 45.6	-1.9
PB12				eS	Sn	22 01 28.8	-1.8
PB12				IAML		22 01 30.5	
comp=N,29nm,0.2s							
LPAZ	La Paz	5.57	4	P	Pn	22 01 14.4	+1.0
comp=N,1.0nm,0.3s,baz=177,slow=7.0,SNR=29							
LPAZ				S	Sn	22 02 17.0	+0.2
baz=199,slow=7.6,SNR=1.1							
TORD	Torodi Ar. Bea	77.15	70	P	P	22 11 29.6	-1.1
comp=N,0.9nm,1.0s,baz=265,slow=4.1,SNR=2.0							
YKA	Yellowknife Ar	91.66	340	P	P	22 12 43.5	+0.8
comp=N,0.2nm,0.4s,baz=133,slow=4.3,SNR=8.5							
MKAR	Makanchi Array	145.73	36	PKPbc	PKPab	22 19 16.1	+1.0
comp=N,0.1nm,0.4s,baz=321,slow=3.7,SNR=1.9							

*TUL **01** 22:08:04.7±1.2,35°.67N±0°.02×97°.40W±0°.04,h7km±5km,*
ML3.0,mb_Lg2.4/24(NEIC), Error ellipse: s-maj=4.3km
s-min=1.9km az=70.0

NEIC 01 22:08:05.0±1.5,35°.67N±0°.02×97°.41W±0°.05,h10km±5km,
Error ellipse: s-maj=5.5km s-min=2.8km az=86.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.09	189	Pg	Pg	22 08 07.0	-0.6
OK025	Westminster Rd	0.11	149	Pg	Pg	22 08 07.2	-0.6
OK025				Sg	Sg	22 08 09.2	-0.5
OK029	Liberty Lake	0.13	342	Pg	Pg	22 08 07.8	-0.3
OK029				Sg	Sg	22 08 10.2	0.0
BCOK	Bluff Creek, N	0.17	264	Pg	Pg	22 08 08.4	-0.3
BCOK				Sg	Sg	22 08 11.3	+0.1
OK005	Luther M Schoo	0.18	96	Pg	Pg	22 08 08.6	-0.3
OKCFA	Oklahoma City	0.26	188		Pg	22 08 09.6	-0.7
OKCFA				Sg	Sg	22 08 14.0	+0.1
OKCSW	OKLAHOMA CITY	0.27	186		Pg	22 08 10.0	-0.5
OKCSW				Sg	Sg	22 08 14.3	+0.1
FNO	Franklin	0.42	179	Sg	Sg	22 08 18.8	+0.1
OK031	S. Brethren Rd	0.54	59	Pg	Pg	22 08 15.1	-0.4
OK030	Cody Creek RV	0.56	63	Pg	Pg	22 08 15.5	-0.6
OK034	N. Norfolk Rd.	0.66	59	Pg	Pg	22 08 17.1	-0.6
W35A	Tecumseh	0.68	140	Pg	Pg	22 08 17.3	-0.8
QUOK	Quay	0.75	49	Pg	Pg	22 08 19.0	-0.6
CROK	Carrier	0.95	331		Pg	22 08 22.7	-0.6
BLOK	Blackwell	1.09	8	Pg	Pb	22 08 25.3	-0.8
X34A	Smith Ranch, M	1.13	198	Pn	Pb	22 08 26.1	-0.5
GC02	Grant County #	1.23	343		Pn	22 08 27.6	-0.7
OK032	Salt Plains WL	1.30	330	Pn	Pn	22 08 28.7	-0.6
TUL1	Leonard	1.33	79		Pn	22 08 28.8	-0.9
KAN13	South Haven SW	1.34	358	Pn	Pn	22 08 29.7	-0.1
KAN14	Manchester OK	1.36	341		Pn	22 08 29.9	-0.1
KAN17	Caldwell West	1.40	348		Pn	22 08 30.6	0.0
T35A	Sooner Cattle	1.43	30		Pn	22 08 31.1	0.0
WMOK	Wichita Mounta	1.46	231	Pn	Pn	22 08 31.3	-0.2
U32A	Winter Ranch,	1.47	299	Pn	Pn	22 08 31.6	-0.1
OK035	E0210 Rd and N	1.48	315	Pn	Pn	22 08 31.4	-0.3
KAN05	Bluff City Nor	1.48	345	Pn	Pn	22 08 31.3	-0.4
KAN01	Argonia South	1.50	349		Pn	22 08 32.1	+0.1
KAN10	Anthony SW Sta	1.55	339	Pn	Pn	22 08 33.0	+0.3
KAN08	Anthony NE Sta	1.61	344	Pn	Pn	22 08 34.2	+0.6
KAN16	Harper SW Stat	1.64	341		Pn	22 08 34.6	+0.7
LOOK	Love County	1.69	174	Pn	Pn	22 08 35.3	+0.8
KAN12	Harper NE Stat	1.69	344		Pn	22 08 35.3	+0.7
X37A	Clayton	1.99	122	Pn	Pn	22 08 39.7	+1.1
X37A				IAmb_Lg		22 09 10.5	
comp=Z,13nm,0.9s							
Z35A	Perchaven, San	2.34	177	Pn	Pn	22 08 43.1	-0.4
Z35A				IAmb_Lg		22 09 24.1	
comp=Z,11nm,0.8s							
U38A	Gravette	2.56	72	Pn	Pn	22 08 46.9	+0.3
R32A	Long Quarter,	2.94	340		Pn	22 08 50.9	-0.8
W39A	Magazine	3.00	98	Pn	Pn	22 08 52.9	+0.4
W39A				IAmb_Lg		22 09 46.2	
comp=Z,12nm,0.8s							
MIAR	Mount Ida	3.33	109	Pn	Pn	22 08 58.3	+1.1
KSU1	Kansas State U	3.48	10	IAmb_Lg		22 10 00.3	
comp=Z,14nm,0.8s							
ABTX	Abilene, Hawle	3.56	212	Pn	Pn	22 09 01.6	+1.2
AMTX	Amarillo	3.59	259	Pn	Pn	22 09 00.8	0.0
CBKS	Cedar Bluff	3.65	330	Pn	Pn	22 09 01.8	+0.3
U40A	Yellville	3.75	78	Pn	Pn	22 09 03.9	+1.0
U40A				IAmb_Lg		22 10 09.5	
comp=Z,7.3nm,0.7s							
X40A	Basin Creek Fa	3.93	106		Pn	22 09 06.5	+1.1
W41B	Gary Mavity, V	4.24	95		Pn	22 09 09.8	+0.2
FCAR	Ozark Folk Cen	4.30	86	IAmb_Lg		22 10 28.3	
comp=Z,6.3nm,0.7s							
435B	Jarrell	4.88	182	IAmb_Lg		22 10 45.1	
comp=Z,13nm,0.9s							
T42A	Van Buren	5.27	73	IAmb_Lg		22 11 06.0	
comp=Z,4.3nm,0.7s							
JCT	Junction City	5.56	202	IAmb_Lg		22 11 13.1	
comp=Z,12nm,1.0s							
P40A	Paris	5.74	46	IAmb_Lg		22 11 08.5	
comp=Z,11nm,0.8s							
PBMO	Poplar Bluff	5.75	77	IAmb_Lg		22 11 13.2	
comp=Z,10nm,0.8s							
Q24A	Divide	6.99	300	IAmb_Lg		22 11 58.6	
comp=Z,3.5nm,0.8s							

*IDC **01** 22:36:44.8±1.1,55°.88N×158°.02W,h0km,mb3.8/15,*
mb1 4.0/17,mb1mx3.8/35,mbtmp3.8/17,ML3.7/2,MS3.3/1,
Ms1 3.3/1,ms1mx2.4/99,Error ellipse: s-maj=34.5km
s-min=15.1km az=10.0
*AEIC **01** 22:36:51.0±1.6,55°.67N±0°.04×157°.83W±0°.08,h9km±4km,*
Error ellipse: s-maj=6.5km s-min=4.9km az=70.0
*NEIC **01** 22:36:52.2±2.0,55°.76N±0°.05×157°.9W±0°.1,h53km±4km,*
mb4.0/10,ML4.0/20,ML3.8/42(AEIC),Error ellipse:
s-maj=8.8km s-min=5.9km az=116.0

ISC 01 22:36:51.4±0.9,55°.74N±0°.06×157°.79W±0°.05,h55km±9km,
n159,σ1°34/160,mb3.8/17,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	Chignik	0.67	328		Pn	22 37 04.4	-0.4
CHGN					Sn	22 37 14.3	-0.4
CHGN				IAML		22 37 14.8	
comp=N,12μm,0.5s							
CHGN	Chignik	0.67	328	P	Pn	22 37 04.5	-0.4
baz=152							
CHGN				S	Sn	22 37 14.5	-0.2
baz=152							
ANPB	Aniakchak Plen	1.10	346		Pn	22 37 11.1	+0.5
AZAC	Aniakchak	1.19	348		Pn	22 37 12.6	+0.7
ANNW	Aniakchak Nort	1.25	349		Pn	22 37 13.5	+0.8
CHNA	Chernabura Isl	1.38	229	P	Pn	22 37 13.2	-1.1
baz=49							
CHNA				S	Sn	22 37 30.6	-0.7
baz=49							
CNBA	Chernabura Isl	1.38	229		Pn	22 37 13.2	-1.1
CNBA					Sn	22 37 30.6	-0.9
SDPT	Sand Point	1.58	257		Pn	22 37 16.4	-0.6
SDPT					Sn	22 37 36.4	+0.2
SDPT	Sand Point	1.58	257	IAML		22 37 46.9	
comp=E,970nm,0.7s							
SDPT	Sand Point	1.58	257	P	Pn	22 37 16.4	-0.6
baz=77							
SDPT				S	Sn	22 37 36.4	+0.2
baz=77							
PS4A	Pavlof South-4	2.35	262		Pn	22 37 27.2	-0.3
HAG	Hague Volcano	2.38	261		Pn	22 37 27.9	-0.1
DT1	Dutton Round H	2.64	258		Pn	22 37 31.1	-0.4
ANCK	Angle Creek	2.77	26		Pn	22 37 35.1	+1.8
BALA	Baldy Mountain	2.90	261		Pn	22 37 35.7	+0.6
OHAK	Old Harbor	2.91	57		Pn	22 37 34.8	-0.3
OHAK	Old Harbor	2.91	57	P	Pn	22 37 34.8	-0.3
baz=240							
KELA	Mount Kelaz	2.93	22		Pn	22 37 37.3	+1.8
FALS	False Pass	3.34	257		Pn	22 37 40.8	-0.3
FALS					Sn	22 38 20.5	+1.1
FALS	False Pass	3.34	257	P	Pn	22 37 40.8	-0.3
baz=73							
FALS				S	Sn	22 38 20.5	+1.1
baz=73							
KDAK	Kodiak Island	3.52	52	Pn	Pn	22 37 43.2	-0.3
comp=E,4.2nm,0.3s,baz=247,slow=4.9,SNR=26							
KDAK				Sn	Sn	22 38 21.5	-2.3
comp=E,5.1nm,0.3s,baz=63,slow=22,SNR=11							
KDAK	Kodiak Island	3.52	52	P	Pn	22 37 43.2	-0.3
baz=236							
ISLZ	Isanotski Laza	3.54	256		Pn	22 37 43.8	-0.1
BRPK	Brown Peak	3.58	255		Pn	22 37 44.3	-0.1
SSLS	Shishaldin Sou	3.70	256		Pn	22 37 46.0	-0.1
Q19K	Cape Douglas,	3.91	33		Pn	22 37 50.5	+1.7
Q19K	Cape Douglas,	3.91	33	IAML		22 39 34.7	
comp=N,296nm,1.6s							
Q19K	Cape Douglas,	3.91	33	P	Pn	22 37 50.5	+1.7
baz=216							
WESE	West Dahl East	4.11	255		Pn	22 37 51.9	+0.3
WESP	Westdahl Peak	4.17	255		Pn	22 37 52.8	+0.2
WECS	Westdahl Cape	4.19	256		Pn	22 37 53.1	+0.4
O19K	Port Alsworth	4.83	21		Pn	22 38 03.8	+2.3
O19K	Port Alsworth	4.83	21	IAML		22 39 36.7	
comp=E,116nm,0.5s							
O19K				IAML		22 39 38.8	
comp=N,91nm,0.4s							
O19K	Port Alsworth	4.83	21	P	Pn	22 38 03.8	+2.3
baz=204							
AKUT	Akutan	4.88	254	Pn	Pn	22 38 01.3	-0.8
AKUT				IAML		22 40 14.1	
comp=E,155nm,4.2s							
AKGG	Akutan Green G	4.97	255		Pn	22 38 03.9	+0.5
IVE	Iliamna Volcan	4.99	29		Pn	22 38 04.7	+0.9
HOM	Homer	5.13	37	Pn	Pn	22 38 05.9	+0.4
CNPM	China Poot	5.18	40	Pn	Pn	22 38 07.2	+1.0
CNPM				IAML		22 39 41.4	
comp=N,121nm,3.4s							
CNPM				IAML		22 40 01.1	
comp=E,113nm,3.6s							
N19K	Bonanza Creek	5.38	18		Pn	22 38 10.6	+1.5
N19K	Bonanza Creek	5.38	18	IAML		22 39 51.6	
comp=E,48nm,3.5s							
N19K				IAML		22 40 16.8	
comp=N,46nm,3.7s							
N19K	Bonanza Creek	5.38	18	P	Pn	22 38 10.6	+1.5
baz=200							
UNV	Unalaska Valle	5.39	253		Pn	22 38 08.2	-0.9
UNV	Unalaska Valle	5.39	253	P	Pn	22 38 08.2	-0.9
baz=66							
RDWB	Redoubt West	5.44	27		Pn	22 38 11.1	+1.2
RSO	Redoubt South	5.44	27		Pn	22 38 12.2	+2.2
BRLK	Bradley Lake	5.47	40	Pn	Pn	22 38 11.4	+1.2
SVW2	Sparrevohn	5.50	11		Pn	22 38 12.3	+1.7
BRSE	Bradley Lake S	5.51	40		Pn	22 38 10.9	+0.2
BRSE	Bradley Lake S	5.51	40	P	Pn	22 38 10.9	+0.2
baz=226							
MSW	Makushin Switc	5.51	254		Pn	22 38 10.6	-0.2
SPU	Mount Spurr	6.23	26	Pn	Pn	22 38 23.0	+2.3
SEW	Seward	6.23	42		Pn	22 38 21.5	+0.9
SEW	Seward	6.23	42	P	Pn	22 38 21.5	+0.9
baz=229							
SLKM	Skilak Lake	6.24	37		Pn	22 38 21.6	+0.8
L19K	White Mountain	6.64	12		Pn	22 38 27.8	+1.6
RC01	Rabbit Creek A	6.83	35	Pn	Pn	22 38 30.4	+1.6
PWL	Port Wells	7.15	40	Pn	Pn	22 38 34.0	+0.8
TTA	Tatalina	7.27	6		Pn	22 38 35.0	0.0
TTA	Tatalina	7.27	6	P	Pn	22 38 35.0	0.0
baz=188							
PMR	Palmer	7.40	34	Pn	Pn	22 38 38.7	+2.1
KNK	Knik Glacier	7.49	37	Pn	Pn	22 38 38.6	+0.8
GHO	Glory Hole Cre	7.60	34		Pn	22 38 39.6	+0.1
CLES	Cleveland East	7.67	253	Pn	Pn	22 38 39.5	-0.8
CUT	Chulitna	7.72	27	Pn	Pn	22 38 43.1	+2.1
PPLA	Purkeypile	7.73	19	Pn	Pn	22 38 44.4	+3.2
SML	Sawmill	7.81	35	Pn	Pn	22 38 41.0	-1.3
K20K	Telida	7.87	12	Pn	Pn	22 38 43.9	+0.8
EYAK	Cordova Ski Ar	7.98	48	Pn	Pn	22 38 44.1	-0.4
SCM	Sheep Creek Mo	8.17	37	Pn	Pn	22 38 47.9	+0.7
CAST	Castle Rocks	8.23	18		Pn	22 38 50.2	+2.2
KTH	Kantishna Hill	8.57	21	Pn	Pn	22 38 56.0	+3.3
TRF	Thorofare Moun	8.61	23	Pn	Pn	22 38 56.0	+2.6
SUCK	Suckling Hills	8.63	54	Pn	Pn	22 38 53.3	-0.1
J20K	Nowinta River	8.66	11		Pn	22 38 55.2	+1.4
BMRM	Bremner River	8.68	47	Pn	Pn	22 38 55.1	+1.0
M24K	Tolsona, Glenn	8.76	38	Pn	Pn	22 38 56.2	+1.0
RND	Reindeer	8.92	27	Pn	Pn	22 38 59.0	+1.5
N25K	Chitina, Valde	9.03	44	Pn	Pn	22 39 00.6	+1.5
BPAW	Bear Paw Mtn.	9.05	19	Pn	Pn	22 38 59.4	+0.2
DHY	Denali Highway	9.06	31	Pn	Pn	22 39 00.5	+1.1
SNH	Sunshine Point	9.10	55	Pn	Pn	22 39 00.5	+0.6
MCK	McKinley	9.17	25	Pn	Pn	22 39 02.7	+1.9
WAX	Waxell Ridge	9.20	53	Pn	Pn	22 39 02.5	+1.2
CRQM	Cirque	9.21	51	Pn	Pn	22 39 04.4	+2.9
GLB	Gilahina Butte	9.26	46	Pn	Pn	22 39 03.1	+1.1
VRDI	Verde Repeater	9.30	48	Pn	Pn	22 39 03.7	+1.0
TGL	Tana Glacier	9.34	51	Pn	Pn	22 39 04.8	+1.5
MCARA	McCarthy VSAT	9.55	48	Pn	Pn	22 39 07.3	+1.3
PAX	Paxson	9.58	36		Pn	22 39 07.0	+0.5
PAX	Paxson	9.58	36	P	Pn	22 39 07.0	+0.5
baz=226							
ANM	Nome	9.62	340		Pn	22 39 07.8	+0.9
ANM	Nome	9.62	340	P	Pn	22 39 07.8	+0.9
baz=154							
NEA2	Nenana	9.88	22	Pn	Pn	22 39 10.2	-0.2
I21K	Tanana	9.89	14	Pn	Pn	22 39 11.9	+1.3
TABL	Table Mountain	9.98	55	Pn	Pn	22 39 12.7	+0.5
BARN	Barnard Glacie	9.99	51	Pn	Pn	22 39 13.1	+0.9
WRH	Wood River Hil	9.99	25		Pn	22 39 13.0	+1.0
CTGM	Chitina Glacie	10.10	52	Pn	Pn	22 39 15.7	+2.1
M26K	Nabesna, AK	10.11	43	Pn	Pn	22 39 14.0	+0.3
MENT	Mentasta	10.16	39	Pn	Pn	22 39 16.1	+1.6
LOGN	Logan Glacier	10.19	53	Pn	Pn	22 39 15.7	+0.8
CCB	Clear Creek Bu	10.21	25		Pn	22 39 15.2	+0.3
HDA	Harding Lake	10.23	27		Pn	22 39 16.6	+1.4
H21K	Melozitna Rive	10.24	12		Pn	22 39 16.9	+1.4
PCA	Pinnacle	10.29	58	Pn	Pn	22 39 17.0	+0.9
ATKA	Atka Island	10.29	257	Pn	Pn	22 39 14.5	-1.6
I23K	Minto, Yukon-K	10.30	20		Pn	22 39 18.1	+1.8
RIDG	Independent Ri	10.32	34	Pn	Pn	22 39 17.7	+1.1
L26K	Log Cabin Wild	10.35	39	Pn	Pn	22 39 19.8	+2.8
MDM	Murphy Dome	10.38	23		Pn	22 39 18.0	+0.7
IMAR	Indian Mountai	10.46	9	Pn	Pn	22 39 19.4	+0.9
DOT	Dot Lake	10.51	35	Pn	Pn	22 39 21.2	+2.0
M27K	Edge Creek, AK	10.52	44	Pn	Pn	22 39 20.4	+1.0
IL31		10.54	26		Pn	22 39 20.2	+0.8
ILAR	Eielson Array	10.54	26	Pn	Pn	22 39 17.0	-2.4
comp=N,0.5nm,0.3s,baz=217,slow=13,SNR=30							
ILAR				Sn	Sn	22 41 03.5	-12
baz=146,slow=28,SNR=1.1							
ILAR	Eielson Array	10.54	26		Pn	22 39 20.1	+0.7
GAMB	Gambell	10.66	325	Pn	Pn	22 39 22.0	+0.8
POKR	Poker Plat Res	10.69	24	Pn	Pn	22 39 20.6	-1.0
SCRK	Sand Creek	10.76	34	Pn	Pn	22 39 24.1	+1.4
L27K	Beaver Creek,	10.93	41	Pn	Pn	22 39 27.1	+2.3
BCAR	Beaver Creek A	10.95	41	Pn	Pn	22 39 27.4	+2.3
TNA	Tin City	11.02	337		Pn	22 39 27.5	+1.5
H24K	Noodor Dome	11.21	21	Pn	Pn	22 39 29.6	+0.9
DAWY	Dawson	12.40	40	Pn	Pn	22 39 46.1	+1.2
FYU	Fort Yukon	12.40	24	Pn	Pn	22 39 48.0	+3.2
SKAG	Skagway	12.58	64	Pn	Pn	22 39 49.4	+2.0
WHY	Whitehorse	13.01	58	Pn	Pn	22 39 54.5	+1.2
BMAR	Burnt Mountain	13.26	23	Pn	Pn	22 39 58.8	+2.2
TOLK	Toolik Lake Re	13.48	13	Pn	P	22 40 03.6	-3.6
DLBC	Dease Lake	15.28	68	Pn	Pn	22 40 24.5	+1.0
comp=N,0.1nm,0.3s,baz=146,slow=16,SNR=1.4							
DLBC	Dease Lake	15.28	68	IAmb	IAmb	22 40 26.5	
comp=Z,2.3nm,1.1s							
A21K	Barrow	15.65	1	P	P	22 40 29.3	-1.9
A21K				IAmb	IAmb	22 40

OKCFA				Sg	Sg	22 40 44.9	+0.2
OKCSW	OKLAHOMA CITY	0.55	184		Pg	22 40 37.3	-0.5
OKCSW				Sg	Sg	22 40 45.3	+0.4
OK034	N. Norfolk Rd.	0.56	84	Pg	Pg	22 40 37.5	-0.5
OK034				Sg	Sg	22 40 45.5	+0.3
QUOK	Quay	0.60	68	Pg	Pg	22 40 38.2	-0.6
QUOK				Sg	Sg	22 40 46.6	0.0
FNO	Franklin	0.69	180	Pg	Pg	22 40 39.8	-0.8
CROK	Carrier	0.73	319	Pg	Pg	22 40 40.4	-1.0
BLOK	Blackwell	0.82	10		Pg	22 40 42.1	-0.9
W35A	Tecumseh	0.90	152		Pg	22 40 43.3	-1.3
GC02	Grant County #	0.97	337		Pg	22 40 44.8	-1.2
KAN13	South Haven SW	1.06	356	Pg	Pg	22 40 46.6	-1.1
OK032	Salt Plains WL	1.08	322	Pg	Pg	22 40 46.6	-1.3
KAN14	Manchester OK	1.10	336	Pg	Pg	22 40 47.1	-1.3
KAN17	Caldwell West	1.13	345	Pg	Pg	22 40 47.7	-1.3
T35A	Sooner Cattle	1.20	36		Pg	22 40 48.8	-1.4
KAN05	Bluff City Nor	1.22	342		Pg	22 40 49.3	-1.4
KAN01	Argonia South	1.23	346		Pg	22 40 49.5	-1.4
KAN10	Anthony SW Sta	1.30	334	Pg	Pn	22 40 50.4	-1.6
TUL1	Leonard	1.30	91		Pn	22 40 50.0	-1.9
OK035	E0210 Rd and N	1.30	306		Pn	22 40 50.4	-1.6
KAN06	Argonia West S	1.35	344		Pn	22 40 51.4	-1.2
KAN08	Anthony NE Sta	1.35	340		Pn	22 40 51.4	-1.3
U32A	Winter Ranch,	1.37	289		Pn	22 40 51.6	-1.3
KAN16	Harper SW Stat	1.38	337		Pn	22 40 51.9	-1.2
X34A	Smith Ranch, M	1.39	195		Pn	22 40 52.5	-0.7
WMOK	Wichita Mounta	1.66	224		Pn	22 40 56.2	-0.7
X37A	Clayton	2.14	129		Pn	22 41 03.1	-0.4
U38A	Gravette	2.48	78		Pn	22 41 08.2	0.0
R32A	Long Quarter,	2.68	337	Pn	Pn	22 41 11.2	+0.2
HHAR	Hobbs	2.81	82		Pn	22 41 12.5	-0.3
W39A	Magazine	3.04	103		Pn	22 41 15.5	-0.3
W39A				IAmb_Lg		22 42 11.5	
	comp=Z,45nm,0.8s						
KSU1	Kansas State U	3.21	11		Pn	22 41 18.2	+0.1
KSU1				IAmb_Lg		22 42 13.0	
	comp=Z,30nm,0.7s						
Z38A	Mt. Pleasant	3.34	143		Pn	22 41 19.9	-0.1
Z38A				IAmb_Lg		22 42 19.7	
	comp=Z,17nm,0.9s						
CBKS	Cedar Bluff	3.41	328	IAmb_Lg		22 42 18.6	
	comp=Z,17nm,0.7s						
MIAR	Mount Ida	3.42	113		Pn	22 41 21.4	+0.3
MIAR				IAmb_Lg		22 42 24.6	
	comp=Z,18nm,0.8s						
U40A	Yellville	3.70	82	IAmb_Lg		22 42 25.2	
	comp=Z,29nm,0.7s						
S39A	Bolivar	3.70	61		Pn	22 41 24.4	-0.6
ABTX	Abilene, Hawle	3.81	210		Pn	22 41 24.9	-1.5
X40A	Basin Creek Fa	4.01	110		Pn	22 41 28.9	-0.2
X40A				IAmb_Lg		22 42 37.1	
	comp=Z,33nm,0.8s						
WLAR	White Oak Lake	4.18	121	IAmb_Lg		22 42 36.4	
	comp=Z,16nm,0.9s						
WHAR	Wooly Hollow	4.21	98	IAmb_Lg		22 42 52.7	
	comp=Z,19nm,0.7s						
FCAR	Ozark Folk Cen	4.28	89	Pn	Pn	22 41 32.7	-0.2
FCAR				IAmb_Lg		22 42 39.4	
	comp=Z,13nm,0.7s						
MGMO	Mountain Grove	4.30	72	IAmb_Lg		22 42 53.7	
	comp=Z,20nm,0.7s						
P38A	Dawn	4.78	39		Pn	22 41 38.9	-0.8
P38A				IAmb_Lg		22 43 03.7	
	comp=Z,13nm,0.9s						
LCAR	Lake Charles	5.06	87	IAmb_Lg		22 43 09.7	
	comp=Z,11nm,0.7s						
KSCO	Kaye Shedlock'	5.16	308	IAmb_Lg		22 43 19.6	
	comp=Z,12nm,0.8s						
T42A	Van Buren	5.19	76	IAmb_Lg		22 43 15.4	
	comp=Z,20nm,0.8s						
CCM	Cathedral Cave	5.35	65	IAmb_Lg		22 43 30.1	
	comp=Z,10nm,0.8s						
PBMO	Poplar Bluff	5.68	80	IAmb_Lg		22 43 28.5	
	comp=Z,28nm,0.7s						
T25A	Trinidad	5.77	284	IAmb_Lg		22 43 35.0	
	comp=Z,15nm,0.8s						
JCT	Junction City	5.82	201	IAmb_Lg		22 43 45.0	
	comp=Z,21nm,0.9s						
N38A	Joes South For	5.83	33	IAmb_Lg		22 43 48.0	
	comp=Z,18nm,0.7s						
FVM	French Village	5.94	68	IAmb_Lg		22 43 51.4	
	comp=Z,13nm,1.0s						
W45A	Hickory Valley	6.74	94	IAmb_Lg		22 44 11.7	
	comp=Z,16nm,0.8s						
SDCO	Great Sand Dun	6.74	288	IAmb_Lg		22 44 00.5	
	comp=Z,8.7nm,1.0s						
Q24A	Divide	6.86	298	IAmb_Lg		22 44 13.3	
	comp=Z,8.0nm,0.9s						
O44A	Mansfield	8.19	57	IAmb_Lg		22 44 45.3	
	comp=Z,11nm,0.8s						

IDC ***01*** *23:01:26.9±2.2, 6°.33S×130°.13E, h0km, mb3.1/1, mb1 3.9/3, mb1mx3.1/44, mbtmp3.6/3, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/18, Error ellipse: s-maj=113.3km s-min=31.4km az=70.0, Banda Sea*

ISC 01 23:01:05.9±2.2, **6°.33S×130°.13E, h0**km, **mb3.1**/1, **mb1 3.9**/3, **mb1mx3.1**/44, **mbtmp3.6**/3, **ML3.9**/2, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.4**/18, **Error ellipse: s-maj=113.3km s-min=31.4km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.14	164	Pn	Pn	23 04 27.6	0.0
	0.6nm,0.3s,baz=344,slow=11,SNR=17						
WRA				Sn	Sn	23 06 51.4	-14
	0.4nm,0.3s,baz=338,slow=22,SNR=3.7						
ASAR	Alice Springs	17.62	169	P	Pn	23 05 12.9	-0.1
	0.4nm,0.3s,baz=345,slow=11,SNR=32						
ASAR				S	Sn	23 08 14.7	-15
	0.1nm,0.3s,baz=348,slow=22,SNR=2.0						
HNR	Honiara	29.69	98	LR	LR	23 19 24.6	
	comp=Z,76nm,20.7s,baz=36,slow=37						
MKAR	Makanchi Array	67.74	327	P	P	23 12 05.4	+0.1
	0.2nm,0.8s,baz=116,slow=8.2,SNR=5.7						

IDC ***01*** *23:01:26.9±4.0, 5°.25S×11°.81W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/56, mbtmp3.7/6, ML2.7/1, MS3.5/13, Ms1 3.5/13, ms1mx3.2/67, Error ellipse: s-maj=193.5km s-min=28.9km az=141.0*

ISC 01 23:01:28.6±2.8, **5°.4S**±0°.6×**11°.7W**±0°.6, **h13**km, **n25**, σ1§**88**/9, **mb3.8**/5, **MS3.5**/12, **Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	3.63	229	T	T	23 06 04.2	
	baz=54,slow=75,SNR=579						
H10N1	ASCENSION HYDR	3.64	228	T	T	23 06 11.3	
	baz=54,slow=75,SNR=546						
H10N3	ASCENSION HYDR	3.65	229	T	T	23 06 06.0	
	baz=54,slow=75,SNR=872						
H10S2	ASCENSION HYDR	4.55	219	T	T	23 07 14.9	
	baz=176,slow=74,SNR=55						
H10S3	ASCENSION HYDR	4.55	219	T	T	23 07 16.7	
	baz=44,slow=74,SNR=70						
LIC	Lamto	13.37	30	*e*P	P	23 04 50.8	+3.1
	38nm,1.5s						
KIC	Kosan Boka	13.63	31	*e*P	P	23 04 52.8	+2.1
	26nm,1.5s						
TIC	Toumodi	13.73	29	*e*P	P	23 04 53.2	+1.4
DBIC	Dimbokro	13.83	30	Pn	Pn	23 04 43.1	-1.4
	0.0nm,0.3s,baz=210,slow=6.0,SNR=2.5						
DBIC				LR	LR	23 09 18.6	
	comp=Z,132nm,18.9s,baz=204,slow=34						
TORD	Torodi Ar. Bea	22.77	36	P	P	23 06 29.7	-1.3
	2.5nm,0.9s,baz=229,slow=6.9,SNR=13						
LSZ	Lusaka	40.41	107	LR	LR	23 25 14.4	
	comp=Z,56nm,18.5s,baz=254,slow=35						
SUR	Sutherland	40.53	136	LR	LR	23 20 39.4	
	comp=Z,21nm,21.5s,baz=186,slow=28						
LBTB	Lobatse	40.74	123	LR	LR	23 23 44.9	
	comp=Z,39nm,21.1s,baz=250,slow=33						
BOSA	Boshof	41.95	128	LR	LR	23 23 40.8	
	comp=Z,54nm,18.2s,baz=188,slow=32						
MBAR	Mbarara	42.67	85	LR	LR	23 25 25.8	
	comp=Z,169nm,20.0s,baz=236,slow=34						
CPUP	Villa Florida	48.19	239	LR	LR	23 26 56.0	
	comp=Z,34nm,21.3s,baz=70,slow=32						
PTGA	Pitinga	48.36	274	LR	LR	23 30 20.0	
	comp=Z,66nm,18.2s,baz=75,slow=36						
KMBO	Kilima Mbogo	49.08	87	LR	LR	23 29 50.7	
	comp=Z,85nm,18.9s,baz=98,slow=35						
SIV	San Ignacio	49.48	254	P	P	23 10 19.3	0.0
	0.8nm,0.8s,baz=120,slow=12,SNR=2.7						
SIV				LR	LR	23 28 48.6	
	comp=Z,35nm,20.0s,baz=92,slow=33						
LPAZ	La Paz	56.26	254	LR	LR	23 35 15.9	
	comp=Z,36nm,18.1s,baz=62,slow=36						
GERES	GERESS Array B	58.43	19	P	P	23 11 24.2	+0.1
	0.9nm,1.0s,baz=210,slow=6.5,SNR=5.0						
BRTR	Keskin Array B	61.34	39	P	P	23 11 44.8	+0.4
	1.2nm,1.1s,baz=242,slow=6.2,SNR=2.0						
NNA	Nana	64.56	259	LR	LR	23 39 12.4	
	comp=Z,50nm,19.8s,baz=44,slow=35						
AKASG	Malin Array Be	66.07	27	P	P	23 12 13.9	-1.2
	0.2nm,0.2s,baz=231,slow=6.2,SNR=4.2						
ATAH	Atahualpa	66.23	265	LR	LR	23 41 35.3	
	comp=Z,121nm,18.0s,baz=63,slow=36						

NOU ***01*** *23:04:51.8, 20°.65S×179°.08W, h653km, ML5.0/101, Fiji Islands Region*
MOS ***01*** *23:04:51.7±1.1, 20°.59S×179°.27W, h657km, mb5.0/8, Error ellipse: s-maj=11.0km s-min=8.6km az=50.2*
BGR ***01*** *23:04:52.8±0.0, 20°.69S×178°.71W, h660km*
IDC ***01*** *23:04:52.7±0.5, 20°.55S×179°.24W, h654km±4km, mb4.3/40, mb1 4.4/42, mb1mx4.2/54, mbtmp5.3/42, Error ellipse: s-maj=9.9km s-min=6.8km az=151.0*
NEIC ***01*** *23:04:52.3±1.7, 20°.57S±0°.09×179°.2W±0°.1, h643km±5km, mb5.0/298, Error ellipse: s-maj=16.1km s-min=12.3km az=126.0*
GCMT ***01*** *23:04:53.3±0.5, 20°.58S±0°.05×179°.12W±0°.05, h663km±5km, MW5.4/45, Moment Tensor Solution. s45,c51; Duration: 1§2 Moment tensor: Scale 10^17^Nm; Mrr0.25±.06; Mθθ0.64±.09; Mϕϕ-0.88±.10; Mrθ0.88±.09; Mθϕ0.62±.11; Mϕr-0.53±.09; Best double couple: M0 1.43600×10^17^ NP1:ϕs24.00000°, δ43.00000°, λ171.00000°. NP2:ϕs120.00000°, δ84.00000°, λ48.00000°. Principal axes: T 1.3610, Plg36.0000°, Azm354.0000°; N 0.1490, Plg42.0000°, Azm126.0000°; P -1.5100, Plg27.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 01 23:04:52.0±0.3, **20°.56S**±0°.05×**179°.10W**±0°.05, **h654**km±3km, **h655**km:**pP-P, n1107**, σ1§**24**/1078, **mb5.0**/277, **133C-88D, Fault plane solution: NP1:**ϕs311.52258°, δ88.54886°, λ-19.02766°. **NP2:**ϕs42.02297°, δ70.97868°, λ-178.46503°. **Principal axes:** T Plg12.2720°, Azm358.3575°; N Plg70.9191°, Azm127.3228°; P Plg14.3809°, Azm265.1602°; **Fault plane solution: NP1:**ϕs307.23563°, δ88.93443°, λ-74.08917°. **NP2:** ϕs40.96814°, δ15.94555°, λ-176.11858°. **Principal axes:** T Plg41.8167°, Azm22.1597°; N Plg15.9080°, Azm126.9319°; P Plg43.8720°, Azm232.8344°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.90	316	P	P	23 06 21.8	+0.9
	38nm,0.3s,baz=152,slow=5.9,SNR=57						
MSVF				S	S	23 07 33.7	+0.4
	baz=329,slow=21,SNR=11						
MSVF	Nonsavu	3.90	316	*i* P	P	23 06 21.3	+0.4
MSVF	Nonsavu	3.90	316	P	P	23 06 21.0	+0.1
MSVF	Nonsavu	3.90	316	P	P	23 06 21.8	+0.9
TAVE	Taveuni	3.91	349	P	P	23 06 22.2	+1.2
DGTI	Dogotuki	4.38	345	P	P	23 06 24.8	+0.7
RAO	Raoul Island	8.72	173	P	P	23 07 01.2	+1.6
	242nm,0.3s,baz=100,slow=23,SNR=4.4						
RAO	Raoul Island	8.72	173	P	P	23 06 58.2	-1.4
RAO	Raoul Island	8.72	173	P	P	23 06 58.2	-1.4
NIUE	Niue	8.76	82	P	P	23 07 00.6	+0.4
	baz=8.8,SNR=16						
NIUE	Niue	8.76	82	P	P	23 07 00.3	+0.2
NIUE	Niue	8.76	82	P	P	23 07 00.8	+0.6
AFI	Afiamalu	9.63	48	P	P	23 07 06.8	-1.7
	20nm,0.3s,baz=198,slow=23,SNR=12						
AFI				S	S	23 08 54.8	-5.4
	2.9nm,0.3s,baz=44,slow=23,SNR=1.8						
MARNC	Mare, Loyalty	12.05	263	P	P	23 07 29.8	-1.3
MARNC	Mare, Loyalty	12.05	263	P	P	23 07 30.6	-0.5
FUNA	Funafuti	12.08	352	P	P	23 07 30.8	-0.7
RTV	Rentapao	12.11	281	P	P	23 07 32.7	+1.1
	939μm,0.9s						
DVP	Devils Point	12.34	281	P	P	23 07 33.8	0.0
PINNC	Pines Island,	12.68	258	P	P	23 07 37.1	+0.2
PINNC	Pines Island,	12.68	258	P	P	23 07 37.5	+0.6
LIFNC	LIFOU	12.79	267	P	P	23 07 36.3	-1.6
LIFNC	LIFOU	12.79	267	P	P	23 07 37.7	-0.2
YATNC	Mamie plateau,	13.14	261	P	P	23 07 41.8	+0.7
OUENC	Ouen Island, N	13.22	259	P	P	23 07 41.1	-0.7
OUENC	Ouen Island, N	13.22	259	P	P	23 07 42.3	+0.5
DZM	Mont Dzumac	13.56	261	P	P	23 07 45.6	+0.6
	8.5nm,0.3s,baz=118,slow=9.4,SNR=144						
DZM	Mont Dzumac	13.56	261	*e*P	P	23 07 45.6	+0.6
	482nm,1.4s						
DZM	Mont Dzumac	13.56	261	P	P	23 07 44.9	-0.1
DZM	Mont Dzumac	13.56	261	P	P	23 07 46.1	+1.1
NOUC	Port Laguerre	13.69	261	P	P	23 07 47.0	+0.9
SANVU	Saraoutou	13.98	289	P	P	23 07 49.1	+0.1
NFK	Norfolk Island	14.47	232	P	P	23 07 53.6	+0.4
	baz=14,SNR=3.8						
NFK	Norfolk Island	14.47	232	P	P	23 07 52.4	-0.8
KOUNC	Koumac, New Ca	15.56	267	P	P	23 08 05.0	+1.7
OUZ	Omahuta	15.95	202	P	P	23 08 09.0	+2.4
OUZ				IAmb	IAmb	23 08 11.0	
	comp=Z,76nm,1.1s						
OPRZ	Ohinepanea	17.63	191	P	P	23 08 31.7	+10
URZ	Urewera	17.94	190	S	S	23 11 09.5	-7.3
	comp=Z,1.8nm,0.3s,baz=121,slow=24,SNR=1.6						
URZ	Urewera	17.94	190	P	P	23 08 24.4	-0.2
TLZ	Tolley Road	18.30	194	P	P	23 08 39.3	+11
RAHZ	Arahi	18.58	189	P	P	23 08 38.9	+8.4
KNZ	Kokohu	18.60	188	P	P	23 08 38.3	+7.6
HIZ	Hauiti	18.64	195	P	P	23 08 45.0	+14
NMHZ	Naumai	18.80	190	P	P	23 08 32.6	0.0
BKZ	Black Stump Fm	18.92	191	P	P	23 08 32.1	-1.5
NTVZ	North Tongarir	19.01	193	P	P	23 08 43.4	+8.9
KNTN	Kanton	19.09	23	P	P	23 08 35.1	-0.3
KNTN	Kanton	19.09	23	P	P	23 08 35.7	+0.3
	comp=Z,488nm,1.5s						
NGZ	Ngauruhoe	19.10	193	P	P	23 08 46.2	+11
SNVZ	South Ngauruho	19.10	193	P	P	23 08 44.6	+9.2
MCHZ	McNeill Hill	19.16	190	P	P	23 08 44.6	+8.9
KWHZ	Kaweka Forest	19.19	191	P	P	23 08 35.1	-0.9
WNVZ	Wahianoa	19.25	193	P	P	23 08 46.0	+9.3
KAHZ	Kahuranaki	19.48	189	P	P	23 08 40.7	+2.1
PNHZ	Puketi	19.70	191	P	P	23 08 47.2	+6.6
TSZ	Takapari Road	19.89	191	P	P	23 08 41.4	-0.8
DVHZ	Dannevirke	20.08	191	P	P	23 08 45.9	+1.9
BFZ	Birch Farm	20.44	190	P	P	23 08 46.8	-0.4
BFZ	Birch Farm	20.44	190	P	P	23 08 47.6	+0.4
BFZ				IAmb	IAmb	23 08 51.7	
	comp=Z,98nm,1.6s						
MRZ	Mangatainoka R	20.54	192	P	P	23 08 46.4	-1.6
TIWZ	Tintock	20.60	191	P	P	23 08 45.9	-2.7
OGWZ	Otaki Gorge	20.77	192	P	P	23 08 48.9	-1.2
DUWZ	D'Urville Isla	21.03	195	P	P	23 08 51.9	-0.6
MSWZ	Moikau Station	21.33	192	P	P	23 08 55.0	-0.2
TCW	Tory Channel	21.34	194	P	P	23 08 54.5	-0.6
SNZO	South Karori	21.34	193	P	P	23 08 54.2	-0.9
SNZO				IAmb	IAmb	23 09 27.4	
	comp=Z,104nm,1.8s						
BHW	Baring Head	21.40	193	P	P	23 08 54.7	-0.9
QRZ	Quartz Range	21.42	198	P	P	23 08 56.1	+0.2
QRZ	Quartz Range	21.42	198	P	P	23 08 56.3	+0.4
QRZ	Quartz Range	21.42	198	P	P	23 08 56.5	+0.6
PLWZ	Palliser	21.48	192	P	P	23 08 55.1	-1.4
NNZ	Nelson	21.56	196	P	P	23 08 56.2	-0.8
NNZ	Nelson	21.56	196	P	P	23 08 56.9	-0.2
TUWZ	Tuamarina	21.62	194	P	P	23 08 57.8	+0.1
CMWZ	Cape Campbell	21.87	194	P	P	23 09 01.6	+1.7
BSWZ	Blackbirch Sta	21.91	194	P	P	23 09 00.6	+0.4
THZ	Tophouse	22.19	196	P	P	23 09 02.0	-0.8
THZ	Tophouse	22.19	196	P	P	23 09 01.4	-1.3
LHI	Lord Howe Isla	22.41	236	P	P	23 09 04.7	-0.1
LHI	Lord Howe Isla	22.41	236	P	P	23 09 05.1	+0.3
DSZ	Denniston Nort	22.48	198	P	P	23 09 04.9	-0.4
KHZ	Kahutara	22.65	194	P	P	23 09 05.1	-1.7
KHZ	Kahutara	22.65	194	P	P	23 09 05.8	-0.9
KHZ				IAmb	IAmb	23 09 07.2	
	comp=Z,28nm,0.8s						
KHZ	Kahutara	22.65	194	P	P	23 09 06.2	-0.6
TARA	Tarawa	23.14	339	P	P	23 09 11.2	-0.4
TARA	Tarawa	23.14	339	P	P	23 09 12.9	+1.4
	comp=Z,259nm,1.4s						
GVZ	Greta Valley S	23.29	195	P	P	23 09 10.7	-1.7
LTZ	Lake Taylor	23.31	196	P	P	23 09 11.4	-1.2
LTZ	Lake Taylor	23.31	196	P	P	23 09 11.5	-1.2
LTZ				IAmb	IAmb	23 09 14.4	
	comp=Z,30nm,0.7s						
INZ	Inchbonnie	23.48	198	P	P	23 09 13.2	-0.9
OXZ	Oxford	23.88	196	P	P	23 09 16.3	-1.3
OXZ	Oxford	23.88	196	P	P	23 09 16.6	-1.0
WVZ	Waitaha Valley	24.01	199	P	P	23 09 18.6	-0.2
MQZ	McQueen's Vall	24.08	195	P	P	23 09 18.8	-0.5
GCSZ	Gaunt Creek Bo	24.35	199	P	P	23 09 21.5	-0.3
RPZ	Rata Peaks	24.51	197	P	P	23 09 22.8	-0.3
RPZ	Rata Peaks	24.51	197	P	P	23 09 23.1	-0.1
RPZ				IAmb	IAmb	23 09 52.1	
	comp=Z,90nm,1.8s						
ARCZ	Arundel	24.69	197	P	P	23 09 23.4	-1.3
FOZ	Fox Glacier	24.71	200	P	P	23 09 24.1	-0.7
LBZ	Lake Benmore	25.37	198	P	P	23 09 29.2	-1.6
LBZ				IAmb	IAmb	23 09 33.3	
	comp=Z,32nm,0.9s						
ODZ	Otahua Downs	25.85	197	P	P	23 09 33.6	-1.3
ODZ				IAmb	IAmb	23 10 20.6	
	comp=Z,68nm,1.9s						
ODZ	Otahua Downs	25.85	197	P	P	23 09 34.0	-0.9
WKZ	Wanaka	26.12	199	P	P	23 09 36.4	-0.9
WKZ				IAmb	IAmb	23 09 37.2	
	comp=Z,67nm,1.0s						
MLZ	Mavora Lakes	26.89	200	P	P	23 09 44.6	+0.6
DCZ	Deep Cove	27.30	201	P	P	23 09 47.2	-0.3
DCZ				IAmb	IAmb	23 09 48.5	
	comp=Z,23nm,0.8s						
WHZ	Wether Hill Ro	27.41	200	P	P	23 09 49.0	+0.5
EIDS	Eidsvold	27.84	254	P	P	23 09 52.1	-0.4
	baz=28,SNR=27						
EIDS	Eidsvold	27.84	254	P	P	23 09 52.0	-0.4
EIDS	Eidsvold	27.84	254	P	P	23 09 52.3	-0.2
PYZ	Puysegur Point	28.07	201	P	P	23 09 55.1	+0.9
PYZ				IAmb	IAmb	23 11 05.7	
	comp=Z,50nm,0.9s						
ARMA	Armidale	28.11	244	P	P	23 09 55.8	+0.8
	baz=28,SNR=90						
ARMA	Armidale	28.11	244	P	P	23 09 55.7	+0.8
ARMA	Armidale	28.11	244	P	P	23 09 55.9	+0.9
RK1H	Rockhampton Ha	28.31	259	P	P	23 09 56.1	-0.5
	comp=Z,57nm,0.9s						
NTLH	Newcastle Hard	28.73	239	P	P	23 10 01.1	+1.1
	comp=Z,156nm,0.8s						
MGCD	Mangrove Creek	29.30	238	P	P	23 10 05.7	+0.8
	baz=29,SNR=27						
MGCD	Mangrove Creek	29.30	238	P	P	23 10 05.8	+0.9
RIV	Riverview	29.45	237	P	P	23 10 06.8	+0.5
	baz=30,SNR=6.0						
RIV	Riverview	29.45	237	P	P	23 10 06.8	+0.5
RIV				pmax	pmax		
	comp=Z,128nm,1.1s						
SYDH	Sydney Hard Ro	29.76	237	P	P	23 10 09.2	+0.3
	comp=Z,280nm,0.7s						
RMQ	Roma	30.00	252	P	P	23 10 11.8	+0.6
	baz=30,SNR=82						
RMQ	Roma	30.00	252	P	P	23 10 12.1	+1.0
XMAS	Kiritimati	30.91	46	P	P	23 10 18.2	-0.7
CNB	Canberra Magne	31.34	235	P	P	23 10 23.0	+0.6
	baz=31,SNR=118						
CNB	Canberra Magne	31.34	235	P	P	23 10 23.3	+0.9
CAN	Canberra	31.62	236	P	P	23 10 25.0	+0.2
CAN				pmax	pmax		
	comp=Z,80nm,0.8s						
CAN	Canberra	31.62	236	P	P	23 10 25.0	+0.2
CAN	Canberra	31.62	236	P	P	23 10 25.2	+0.4
MILA	Mila	32.11	232	P	P	23 10 29.0	+0.1
	baz=32,SNR=7.4						
CTA	Charters Tower	32.46	265	P	P	23 10 32.0	+0.1
	comp=Z,103nm,0.5s,baz=92,slow=12,SNR=165						
CTA	Charters Tower	32.46	265	P	P	23 10 32.2	+0.3
CTA				pmax	pmax		
	comp=Z,228nm,0.9s						
CTA	Charters Tower	32.46	265	P	P	23 10 32.3	+0.3
CTAO	Charters Tower	32.46	265	P	P	23 10 31.8	-0.1
CTAO				pmax	pmax		
	comp=Z,154nm,0.7s						
CTAO	Charters Tower	32.46	265	P	P	23 10 31.8	-0.1
CTAO	Charters Tower	32.46	265	P	P	23 10 32.2	+0.3
CMSA	Cobar Meteorol	33.33	244	P	P	23 10 39.3	+0.2
	baz=33,SNR=220						
CMSA	Cobar Meteorol	33.33	244	P	P	23 10 39.4	+0.3
QLP	Quilpie	34.05	253	P	P	23 10 45.1	0.0
	baz=34,SNR=63						
QLP	Quilpie	34.05	253	P	P	23 10 45.9	+0.7
PMG	Port Moresby	34.35	284	P	P	23 10 47.8	+0.1
	comp=Z,213nm,0.8s,baz=84,slow=5.8,SNR=46						
PMG	Port Moresby	34.35	284	P	P	23 10 47.6	-0.2
PMG				pmax	pmax		
	comp=Z,240nm,0.8s						
PMG	Port Moresby	34.35	284	P	P	23 10 47.6	-0.2
PMG	Port Moresby	34.35	284	P	P	23 10 48.6	+0.8
MTSU	Mount Surprise	34.56	268	P	P	23 10 49.5	0.0
	baz=34,SNR=89						
MTSU	Mount Surprise	34.56	268	P	P	23 10 50.0	+0.5
TOO	Toolangi	35.03	233	P	P	23 10 53.4	+0.3
	baz=35,SNR=85						
TOO	Toolangi	35.03	233	P

comp=Z,297nm,0.8s
JAY Jayapura 43.09 289 P P 23 11 57.8 +0.1
comp=Z,2µcomp=Z,186nm,0.8s
MULG Mulgathing 43.14 247 P P 23 11 57.7 -0.1
WR0 Warramunga Arr 43.38 262 P P 23 11 58.9 -0.9
AS31 Alice Springs 43.50 257 P P 23 12 00.3 -0.4
AS31 IAmb IAmb 23 12 01.3
comp=Z,57nm,0.7s
ASAR Alice Springs 43.50 257 P P 23 12 00.5 -0.2
comp=Z,272nm,0.8s,baz=96,slow=7.6,SNR=1609
ASAR PcP **PcP 23 13 33.4 +0.1**
comp=Z,6.7nm,0.6s,baz=104,slow=3.9,SNR=2.3
ASAR ScP **ScP 23 16 24.8 +0.9**
comp=Z,5.4nm,0.8s,baz=107,slow=4.0,SNR=5.6
ASAR S **S 23 17 41.5 -3.1**
comp=Z,6.7nm,0.9s,baz=95,slow=15,SNR=8.8
GENI Genyem 43.53 289 P P 23 12 00.8 -0.2
comp=Z,296nm,1.0s
WB0 Warramunga Arr 43.55 263 P P 23 12 00.1 -1.0
WB2 Warramunga Arr 43.56 262 P P 23 12 00.8 -0.4
WRAB Tennant Creek 43.56 262 *ce*P **P 23 12 00.5 -0.7**
WRAB pmax pmax
comp=Z,264nm,1.3s
WRAB Tennant Creek 43.56 262 P P 23 12 00.7 -0.5
WRA Warramunga Arr 43.57 262 P P 23 12 00.1 -1.2
comp=Z,78nm,0.5s,baz=97,slow=8.2,SNR=140
WRA PcP **PcP 23 13 35.2 +1.6**
comp=Z,2.7nm,0.5s,baz=79,slow=4.4,SNR=1.6
WRA Warramunga Arr 43.57 262 P P 23 12 00.2 -1.1
WRA pmax pmax
comp=Z,20nm,1.0s
WRA Warramunga Arr 43.57 262 P P 23 12 00.2 -1.1
KHLU Kahalu`u 45.93 31 P P 23 12 19.9 +0.7
HUH Hualalai 46.03 31 P P 23 12 21.0 +0.9
MLOA Mauna Loa Obse 46.03 32 P P 23 12 20.9 +0.5
MLOA IAmb IAmb 23 12 27.6
comp=Z,80nm,0.9s
MLH Mauna Loa 46.09 32 P P 23 12 21.7 +1.1
HMH Humu'ula Sheep 46.13 32 P P 23 12 22.3 +1.4
POHA Pohakuloa 46.24 31 P P 23 12 22.6 +0.9
POHA IAmb IAmb 23 12 30.4
comp=Z,66nm,0.8s
HON Honolulu 46.46 28 P P 23 12 24.2 +1.2
HON pmax pmax
comp=Z,184nm,0.8s
HON Honolulu 46.46 28 P P 23 12 24.2 +1.2
KIP Kipapa 46.54 28 P P 23 12 24.2 +0.6
KIP pmax pmax
comp=Z,570nm,1.9s
KIP Kipapa 46.54 28 P P 23 12 24.2 +0.6
KIP Kipapa 46.54 28 P P 23 12 25.7 +2.1
comp=Z,124nm,1.7s
HLK Haleakala 46.76 30 P P 23 12 26.6 +1.0
KHLH Kahului Airpor 46.79 30 P P 23 12 27.0 +1.5
MTN Manton Dam 48.13 271 P P 23 12 34.8 -0.8
baz=48,SNR=12
MTN Manton Dam 48.13 271 P P 23 12 34.9 -0.8
MTN Manton Dam 48.13 271 P P 23 12 35.8 +0.2
FORT Forrest 48.32 247 P P 23 12 36.1 -0.7
baz=48,SNR=75
FORT Forrest 48.32 247 P P 23 12 36.0 -0.8
FORT Forrest 48.32 247 P P 23 12 37.1 +0.3
WRKA Warakurna 48.46 254 P P 23 12 37.6 -0.4
baz=48,SNR=479
WRKA Warakurna 48.46 254 P P 23 12 37.9 -0.1
DRS Darwin Rock St 48.47 271 P P 23 12 37.3 -0.8
comp=Z,64nm,1.1s
KNRA Kununurra 49.63 267 P P 23 12 46.2 -0.4
baz=50,SNR=10
KNRA Kununurra 49.63 267 P P 23 12 45.9 -0.6
KNRA Kununurra 49.63 267 P P 23 12 47.0 +0.4
FAKI Fak Fak 50.51 284 P P 23 12 51.7 -1.3
comp=Z,71nm,1.3s
FAKI Fak Fak 50.51 284 P P 23 12 52.4 -0.6
FAKI IAmb IAmb 23 12 53.6
comp=Z,84nm,1.1s
FITZ Fitzroy Crossi 52.00 263 P P 23 13 03.4 -0.2
comp=Z,38nm,0.5s,baz=90,slow=4.2,SNR=37
FITZ Fitzroy Crossi 52.00 263 P P 23 13 03.5 -0.2
baz=52,SNR=13
SIJI Sorong 52.26 286 P P 23 13 05.5 0.0
comp=Z,235nm,0.7s,baz=94,slow=5.2,SNR=84
SWI Sorong 52.27 286 P P 23 13 05.2 -0.4
comp=Z,3µcomp=Z,366nm,0.9s
DRV Dumont d'Urvil 52.95 199 P P 23 13 09.9 +0.4
DRV pmax pmax
comp=Z,199nm,0.8s
MSAI Masohi 53.38 282 P P 23 13 15.8 +2.4
comp=Z,659nmcomp=Z,18nm,0.6s
AAI Ambon 53.92 281 P P 23 13 16.2 -1.0
comp=Z,2µcomp=Z,86nm,1.2s
SOEI Soe 55.47 272 P P 23 13 29.2 +1.1
comp=Z,3µcomp=Z,416nm,0.9s
SOEI Soe 55.47 272 P P 23 13 29.4 +1.3
SOEI Soe 55.47 272 P P 23 13 28.5 +0.4
LBMI Labuha 55.77 284 P P 23 13 29.8 -0.2
comp=Z,837nmcomp=Z,75nm,1.1s
BATI Baumata 55.90 271 P P 23 13 32.0 +1.1
comp=Z,121nm,0.7s,baz=139,slow=0.9,SNR=17
BATI Baumata 55.90 271 P P 23 13 31.6 +0.7
comp=Z,92nm,0.8s
TNTI Ternate 56.48 285 P P 23 13 33.8 -1.1
comp=Z,101nm,1.0s
TNTI Ternate 56.48 285 P P 23 13 35.0 +0.1
comp=Z,102nm,1.0s
SANI Sanana 56.59 282 P P 23 13 34.6 -1.0
comp=Z,823nmcomp=Z,98nm,1.1s
SANI Sanana 56.59 282 P P 23 13 35.5 -0.1
PSA00 Pilbara Seismi 56.65 257 P P 23 13 34.5 -1.4
PSA00 IAmb IAmb 23 13 36.2
comp=Z,87nm,0.9s
PSA00 Pilbara Seismi 56.65 257 P P 23 13 35.2 -0.7
PSA00 IAmb IAmb 23 13 36.1
comp=Z,161nm,0.8s
PSA00 Pilbara Seismi 56.65 257 P P 23 13 35.5 -0.4
MBWA Marble Bar 56.83 258 P P 23 13 36.8 -0.4
MEEK Meekatharra 56.92 251 P P 23 13 36.7 -1.0
baz=57,SNR=54
MEEK Meekatharra 56.92 251 P P 23 13 37.0 -0.8
KLBR Kellerberrin 57.09 245 P P 23 13 38.2 -0.6
baz=57,SNR=24
KLBR Kellerberrin 57.09 245 P P 23 13 38.6 -0.2
NWAO Narrogin (SRO) 57.42 243 P P 23 13 41.5 +0.5
NWAO pmax pmax
comp=Z,97nm,1.3s
NWAO Narrogin (SRO) 57.42 243 P P 23 13 40.7 -0.3
MMRI Maumere 57.73 273 P P 23 13 42.3 -1.0
comp=Z,5µcomp=Z,134nm,0.9s
MMRI Maumere 57.73 273 P P 23 13 42.5 -0.8
MMRI IAmb IAmb 23 13 43.5
comp=Z,151nm,1.1s
MMRI Maumere 57.73 273 P P 23 13 42.5 -0.8
comp=Z,134nm,0.8s
SBA Scott Base 57.74 184 P P 23 13 44.7 +2.4
SBA pmax pmax
comp=Z,40nm,1.1s
SBA Scott Base 57.74 184 P P 23 13 44.7 +2.4
VNDA Vanda 57.76 185 P P 23 13 44.1 +1.7
comp=Z,5.1nm,0.5s,baz=17,slow=6.7,SNR=48
VNDA ScP **ScP 23 17 24.1 -0.2**
comp=Z,4.1nm,0.8s,baz=340,slow=4.7,SNR=5.9
VNDA Vanda 57.76 185 P P 23 13 44.1 +1.7
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 57.76 185 P P 23 13 44.0 +1.7
BLDU Ballidu 58.09 246 P P 23 13 44.8 -0.7
baz=58,SNR=80
BLDU Ballidu 58.09 246 P P 23 13 45.2 -0.3
EDFI Ende, Flores 58.20 272 P P 23 13 45.9 -0.7
comp=Z,533nmcomp=Z,72nm,1.1s
MUN Mundaring 58.37 244 P P 23 13 47.0 -0.3
baz=58,SNR=25
MUN Mundaring 58.37 244 P P 23 13 47.6 +0.2
MTKN Mount Kenneth 58.74 244 P P 23 13 51.0 +1.2
BASI Baing, Sumba 58.79 270 P P 23 13 50.3 -0.1
MORW Morawa 58.85 248 P P 23 13 49.9 -0.7
baz=59,SNR=18
MORW Morawa 58.85 248 P P 23 13 50.0 -0.7
MORW IAmb IAmb 23 13 51.0
comp=Z,100nm,1.1s
MORW Morawa 58.85 248 P P 23 13 50.4 -0.2
LUWI Luwuk 59.93 281 P P 23 13 58.2 +0.2
comp=Z,147nm,1.1s
LUWI Luwuk 59.93 281 P P 23 13 57.8 -0.2
LUWI IAmb IAmb 23 13 59.3
comp=Z,137nm,1.0s
LUWI Luwuk 59.93 281 P P 23 13 58.5 +0.5
comp=Z,147nm,1.1s
WBSI Waikabubak, Su 60.08 271 P P 23 13 58.2 -0.8
BSSI Bau Bau, Buton 60.19 275 P P 23 13 58.9 -0.7
comp=Z,28nm,1.3s
BKSI Bulukumba 60.81 275 P P 23 14 02.6 -1.1
comp=Z,384nmcomp=Z,31nm,0.9s
APSI Ampana 61.02 281 P P 23 14 05.7 +0.6
comp=Z,693nmcomp=Z,81nm,0.9s
BNSI Bone 61.15 276 P P 23 14 06.2 +0.3
comp=Z,6µcomp=Z,65nm,1.3s
KAPI Kappang 61.26 276 P P 23 14 05.7 -0.9
comp=Z,8.6nm,0.6s,baz=141,slow=3.5,SNR=8.1
KAPI Kappang 61.26 276 P P 23 14 06.3 -0.4
KAPI pmax pmax
comp=Z,15nm,0.8s
KAPI Kappang 61.26 276 P P 23 14 06.3 -0.4
MRSI Marisa 61.30 282 P P 23 14 06.1 -0.8
comp=Z,37nm,1.1s
GIRL Giralia 61.54 255 P P 23 14 09.0 +0.6
baz=62,SNR=21
GIRL Giralia 61.54 255 P P 23 14 09.2 +0.9
GIRL Giralia 61.54 255 P P 23 14 09.2 +0.9
SPSI Sidrap Palu 61.62 277 P P 23 14 07.7 -1.3
comp=Z,42nm,0.8s
TTSI Tana Toraja 61.91 278 P P 23 14 10.2 -0.6
comp=Z,19nm,0.8s
TOLI2 Tolitoli 62.61 282 P P 23 14 15.1 -0.3
TOLI2 Tolitoli 62.61 282 P P 23 14 16.2 +0.8
MPSI Mapaga 63.12 281 P P 23 14 18.2 -0.4
comp=Z,759nmcomp=Z,74nm,0.9s
CASY Casey 63.47 205 P P 23 14 19.8 0.0
CASY IAmb IAmb 23 14 21.1
comp=Z,69nm,1.1s
DNP Denpasar 64.30 270 P P 23 14 25.8 -0.2
IGBI Denpasar 64.31 270 P P 23 14 25.8 -0.3
comp=Z,140nm,0.9s
SRBI Singaraja 64.48 271 P P 23 14 26.1 -1.1
comp=Z,1µcomp=Z,88nm,0.9s
KBKI Kotabaru 65.21 276 P P 23 14 31.3 -0.5
comp=Z,47nm,1.1s
JAGI Jajag, Banyuwa 65.35 270 P P 23 14 31.0 -1.6
comp=Z,99nm,0.9s
JAGI Jajag, Banyuwa 65.35 270 P P 23 14 31.1 -1.5
JAGI IAmb IAmb 23 14 32.1
comp=Z,86nm,0.9s
JAGI Jajag, Banyuwa 65.35 270 P P 23 14 32.0 -0.6
ABJI Asem Bagus 65.49 271 P P 23 14 33.3 -0.2
comp=Z,88nm,1.0s
KMMI Kalianget 65.99 271 P P 23 14 35.7 -0.8
comp=Z,71nm,1.0s
GMJI Gumukmas 66.08 270 P P 23 14 36.0 -1.1
comp=Z,49nm,1.0s
BLJI Banyuglugur 66.11 271 P P 23 14 36.8 -0.5
comp=Z,68nm,0.7s
JHJ Hachijo jima 2 66.26 323 P P 23 14 37.3 -0.5
comp=Z,146nm,0.9s,baz=219,slow=20,SNR=2.5
MYLDM Lahad Datu 66.36 286 P P 23 14 40.6 +1.8
BBKI Banjar Baru 66.39 275 P P 23 14 39.4 +0.3
MTKI Muara Teweh, K 67.25 278 P P 23 14 44.4 +0.1
SPMM Sapulut 68.00 284 P P 23 14 50.0 +1.1
PCJI Pacitan 68.23 269 P P 23 14 50.0 -0.2
comp=Z,2µcomp=Z,297nm,0.8s
WOJI Wonogiri, Jawa 68.58 269 P P 23 14 52.0 -0.3
comp=Z,64nm,1.2s
KKM Kota Kinabalu 68.78 285 P P 23 14 53.6 0.0
KKM IAmb IAmb 23 14 54.8
comp=Z,92nm,1.5s
UGM Wanagama 68.93 269 P P 23 14 54.0 -0.5
comp=Z,134nm,0.7s
UGM Wanagama 68.93 269 P P 23 14 54.0 -0.5
UGM IAmb IAmb 23 14 54.8
comp=Z,80nm,0.8s
UGM Wanagama 68.93 269 P P 23 14 54.4 -0.1
UWJI Ujung Watu 69.02 271 P P 23 14 54.7 -0.3
comp=Z,6µcomp=Z,117nm,0.9s
YOGI Yogyakarta 69.18 269 P P 23 14 55.3 -0.6
comp=Z,92nm,1.0s
JMM Marumori 69.28 327 P P 23 14 56.5 +0.6
SMRI Semarang 69.29 270 P P 23 14 56.7 +0.1
comp=Z,99nm,0.9s
QSPA South Pole Qui 69.50 180 P P 23 14 58.1 +1.1
PBKI Pangkalan Bun 69.62 275 P P 23 14 59.3 +0.8
comp=Z,4µcomp=Z,127nm,0.9s
MJAR Matsushiro Arr 69.66 324 P P 23 14 57.6 -0.6
comp=Z,16nm,0.7s,baz=158,slow=5.7,SNR=28
MJAR Matsushiro Arr 69.66 324 P P 23 14 57.9 -0.3
MJAR pmax pmax
comp=Z,8.0nm,0.7s
MJAR Matsushiro Arr 69.66 324 P P 23 14 57.9 -0.3
MAJO Matsushiro 69.66 324 P P 23 14 58.3 +0.1
MAJO pmax pmax
comp=Z,21nm,0.9s
MAJO Matsushiro 69.66 324 P P 23 14 58.3 +0.1
MAJO Matsushiro 69.66 324 P P 23 14 58.9 +0.7
comp=Z,27nm,1.8s
MAT Matsushiro 69.66 324 P P 23 14 58.1 -0.1
MJB9 Matsu-Tunnel 69.66 324 P P 23 14 58.6 +0.4
STKI Sintang 70.80 278 P P 23 15 06.4 +1.0
comp=Z,7µcomp=Z,40nm,0.9s
CMJI Cimerak 70.92 269 P P 23 15 04.9 -1.2
comp=Z,47nm,1.0s
JNU Nakatsue 71.62 317 P P 23 15 09.4 -0.4
comp=Z,16nm,0.9s,baz=147,slow=2.8,SNR=5.5
JNU Nakatsue 71.62 317 IAmb IAmb 23 15 11.1
comp=Z,46nm,1.3s
LEM Lembang 72.01 269 P P 23 15 12.6 0.0
comp=Z,126nm,0.8s,baz=66,slow=5.3,SNR=25
LEM Lembang 72.01 269 P P 23 15 12.8 +0.2
comp=Z,93nm,1.1s
KIWB Kanaga Island 72.12 1 P P 23 15 12.4 +0.2
CNJI Cibinong 72.31 269 P P 23 15 12.9 -1.2
comp=Z,874nmcomp=Z,104nm,1.0s
KSM Kuching 72.40 278 IAmb IAmb 23 15 16.1
comp=Z,62nm,1.0s
KSM Kuching 72.40 278 P P 23 15 15.0 +0.3
KSM Kuching 72.40 278 P P 23 15 15.3 +0.6
comp=Z,71nm,1.0s
ATKA Atka Island 72.58 3 P P 23 15 14.6 -0.2
ATKA Atka Island 72.58 3 P P 23 15 14.8 0.0
XMI Christmas Isla 72.65 265 P P 23 15 16.9 +0.8
comp=Z,67nm,1.3s
CBJI Citeko 72.86 269 P P 23 15 16.0 -1.3
DBJI Dramaga 72.91 269 P P 23 15 17.4 -0.2
comp=Z,28µcomp=Z,62nm,1.0s
JKA Kamikawa-asahi 73.30 332 IAmb IAmb 23 15 22.1
comp=Z,37nm,0.9s
ASAJ Asahikawa 73.30 332 P P 23 15 20.8 +1.7
comp=Z,27nm,0.8s,baz=204,slow=4.6,SNR=12
NIKH Nikolski High 73.77 6 P P 23 15 21.2 -0.2
baz=190
CGJI Cibinong 73.88 269 P P 23 15 21.9 -1.2
comp=Z,972nmcomp=Z,125nm,1.0s
UNV Unalaska Valle 74.89 8 P P 23 15 27.4 -0.3
baz=192
PPBI Pangkal Pinang 74.98 273 P P 23 15 29.8 +0.6
comp=Z,16µcomp=Z,54nm,0.9s
KLI Kotabumi 75.25 270 P P 23 15 29.4 -1.3
KASI Kota Agung 75.36 270 P P 23 15 29.9 -1.4
comp=Z,875nmcomp=Z,93nm,1.0s
KLSI 75.43 270 P P 23 15 29.9 -1.8
comp=Z,11nm,0.9s
YSS Yuzh-Sakhalins 75.50 334 ⇑*iP* **P 23 15 32.5 +1.3**
YSS *e* 23 15 42.3
YSS pmax pmax
comp=Z,30nm,0.9s
LWLI Liwa 75.95 270 P P 23 15 33.8 -0.9
comp=Z,106nm,0.7s
MDSI Maura Dua 76.01 270 P P 23 15 33.4 -1.5
comp=Z,36nm,0.8s
PEA0B Petropavlovsk- 76.08 346 *ce*P **P 23 15 35.4 +1.1**
PEA0B Petropavlovsk- 76.08 346 IAmb IAmb 23 15 35.8
comp=Z,60nm,0.9s
PETK Petropavlovsk- 76.08 346 P P 23 15 34.2 -0.1
comp=Z,27nm,0.7s,baz=143,slow=6.7,SNR=52
KSRS Korea Array 76.26 319 P P 23 15 36.4 +0.8
comp=Z,3.0nm,0.8s,baz=135,slow=6.2,SNR=8.1
DSRI Dabo 77.03 274 P P 23 15 40.9 +0.5
comp=Z,35nm,1.0s
MNAI Manna 77.20 270 P P 23 15 41.5 +0.1
comp=Z,159nm,0.7s
SDPT Sand Point 77.26 11 P P 23 15 40.9 +0.2
baz=198
JMBI JAMBI 77.50 273 P P 23 15 43.8 +0.9
comp=Z,97nm,1.0s
SNCC San Nicolas Is 78.05 48 P P 23 15 46.9 +1.5
baz=236
MASI Maura Aman, Be 78.29 271 P P 23 15 47.5 +0.3
comp=Z,26µcomp=Z,149nm,1.3s
USRK Ussuriysk Ar. 78.44 326 P P 23 15 48.9 +1.6
comp=Z,18nm,0.8s,baz=113,slow=3.4,SNR=19
SCI2 San Clemente I 78.58 48 P P 23 15 50.1 +1.8
baz=236
TYV Tymovskoe 78.68 336 *e*P **P 23 15 49.5 +1.2**
TYV *e*S **S 23 24 48.8 -5.0**
TYV pmax pmax
comp=Z,33nm,0.9s
TYV pmax pmax
comp=Z,500nm,4.8s
TYV smax smax
comp=N,1µm,10.2s
TYV smax smax
comp=E,1µm,10.2s
PKM Mcpherson Peak 78.78 46 P P 23 15 50.3 +0.8
baz=235,SNR=5.3
SAO San Andreas Ge 78.78 44 IAmb IAmb 23 15 52.4
comp=Z,45nm,0.9s
PMPB Monarch Peak 78.88 45 IAmb IAmb 23 15 53.2
comp=Z,88nm,1.5s
CIS Catalina Islan 78.90 48 P P 23 15 51.5 +1.5
baz=236
PAGB Antelope Grade 78.97 45 IAmb IAmb 23 15 54.6
comp=Z,145nm,2.0s
HOPS Hopland Field 79.09 41 IAmb IAmb 23 15 54.0
comp=Z,61nm,0.9s
NJ2 Nanjing 79.13 310 *e*P **P 23 15 53.2 +2.0**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
GDXM Geysers 79.15 41 P P 23 15 53.2 +2.0
FMP Fort Macarthur 79.16 48 P P 23 15 52.8 +1.5
baz=236
KCPM Cahto Peak 79.21 40 IAmb IAmb 23 15 54.9
comp=Z,64nm,0.9s
OSI Osito Audit: C 79.36 47 P P 23 15 54.1 +1.7
baz=236
DECC Green Verdugo 79.43 47 P P 23 15 54.2 +1.4
baz=236
KMRM Mail Ridge 79.46 40 P P 23 15 55.5 +2.7
PASC Pasadena Art C 79.49 47 P P 23 15 54.4 +1.4
109C Camp Elliot, M 79.54 49 P P 23 15 55.0 +1.7
baz=237,SNR=6.1
ARVC Arvin 79.58 46 P P 23 15 55.1 +1.6
baz=236,SNR=7.0
JCC Jacoby Creek, 79.64 39 IAmb IAmb 23 15 57.2
comp=Z,123nm,1.5s
VES Vestal, Richgr 79.81 46 P P 23 15 56.0 +1.4
baz=236,SNR=10
KHMM Horse Mountain 79.85 39 P P 23 15 57.6 +2.6
KHMM IAmb IAmb 23 15 58.5
comp=Z,84nm,1.2s
MURC Murrieta 79.86 48 P P 23 15 56.7 +1.7
baz=237,SNR=12
BFSC Mount Baldy Ra 79.89 48 P P 23 15 57.4 +2.1
baz=237,SNR=7.6
MDJ Mudanjiang 79.98 326 P P 23 15 56.6 +1.3
MDJ pmax pmax
comp=Z,25nm,1.0s
MDJ pmax pmax
comp=Z,120nm,5.3s
MDJ Mudanjiang 79.98 326 P P 23 15 56.9 +1.6
comp=Z,27nm,1.1s
O02D Mt. Diablo Mer 79.99 40 P P 23 15 58.1 +2.6
baz=232,SNR=44
EDW2 Edwards Air Fo 80.01 47 P P 23 15 57.4 +1.6
baz=236,SNR=32
MONP2 Monument Peak 80.03 49 P P 23 15 57.8 +1.7
baz=238,SNR=28
ISA Isabella, Lake 80.12 46 P P 23 15 58.2 +1.9
ISA pmax pmax
comp=Z,40nm,0.9s
ISA Isabella, Lake 80.12 46 P P 23 15 58.2 +1.9
ISA IAmb IAmb 23 15 59.4
comp=Z,40nm,0.9s
ISA Isabella, Lake 80.12 46 P P 23 15 58.2 +1.9
baz=236,SNR=33
IKP In-Ko-Pah, Jac 80.12 50 P P 23 15 58.4 +2.0
baz=238,SNR=15
CMB Columbia Colle 80.21 43 P P 23 15 58.3 +1.6
CMB pmax pmax
comp=Z,47nm,1.2s
CMB Columbia Colle 80.21 43 P P 23 15 58.3 +1.6
CMB IAmb IAmb 23 15 59.6
comp=Z,48nm,1.1s
WDC Whiskeytown Da 80.38 40 P P 23 15 59.6 +2.1
WDC pmax pmax
comp=Z,69nm,1.1s
WDC Whiskeytown Da 80.38 40 P P 23 15 59.6 +2.1
WDC IAmb IAmb 23 16 00.7
comp=Z,69nm,1.1s
PFO Pinyon Flats O 80.39 49 P P 23 15 59.5 +1.7
comp=Z,10nm,0.9s,baz=270,slow=4.2,SNR=20
PFO Pinyon Flats O 80.39 49 P P 23 15 59.9 +2.1
PFO pmax pmax
comp=Z,19nm,1.1s
PFO Pinyon Flats O 80.39 49 P P 23 15 59.9 +2.1
PFO Pinyon Flats O 80.39 49 P P 23 15 59.6 +1.7
baz=238,SNR=12
TPFO Pinon Flats 80.39 49 P P 23 15 59.5 +1.6
baz=238,SNR=14
ORV Oroville 80.40 41 IAmb IAmb 23 16 00.5
comp=Z,45nm,1.0s
OHAK Old Harbor 80.45 14 P P 23 15 59.7 +2.3
baz=204
SWSC Sam W. Stewart 80.50 50 P P 23 16 00.1 +1.9
baz=238
N02D Trinity Center 80.53 40 P P 23 16 00.9 +2.6
baz=232,SNR=38
LRMC Laurel Mtn Rad 80.55 47 P P 23 16 00.2 +1.5
baz=236,SNR=17
O03E Paynes Creek 80.66 41 P P 23 16 00.8 +1.7
baz=233
M02C Callahan 80.69 39 P P 23 16 01.4 +2.3
baz=232,SNR=45
RRX Edison Barstow 80.69 47 P P 23 16 00.9 +1.7
baz=237
L02E Cave Junction 80.73 38 P P 23 16 01.5 +2.3
baz=231,SNR=5.8
CWC Cottonwood Cre 80.82 46 P P 23 16 01.7 +1.6
baz=236
BELC Belle Mtn. Jos 80.92 49 P P 23 16 02.6 +2.0
baz=238,SNR=22
MLAC Mammoth, Mammo 80.98 44 P P 23 16 03.0 +2.1
baz=235
YBH Yreka Blue Hor 80.99 39 P P 23 16 03.0 +2.3
comp=Z,50nm,1.0s,baz=200,slow=1.3,SNR=130
YBH pP **pP 23 18 15.4 +0.3**
comp=Z,2.8nm,1.1s,baz=188,slow=9.0,SNR=3.5
YBH Yreka Blue Hor 80.99 39 IAmb IAmb 23 16 04.0
comp=Z,55nm,0.9s
MPMC Manual Prospec 81.00 46 P P 23 16 02.8 +1.8
baz=236,SNR=41
K02D Willamette Mer 81.02 38 P P 23 16 02.8 +1.9
baz=231,SNR=7.8
GSC Goldstone, Bar 81.06 47 P P 23 16 02.6 +1.4
GSC pmax pmax
comp=Z,31nm,1.0s
GSC Goldstone, Bar 81.06 47 P P 23 16 02.6 +1.4
GSC Goldstone, Bar 81.06 47 P P 23 16 02.9 +1.7
baz=237,SNR=23
TIN Tinemaha, Big 81.06 45 P P 23 16 03.3 +2.1
baz=236,SNR=13
GRNR Gornyy 81.09 333 ⇑*iP* **P 23 16 02.2 +1.3**
GRNR pmax pmax
comp=Z,20nm,0.9s
BC3 Big Chuckawall 81.12 49 P P 23 16 03.8 +2.2
baz=238,SNR=13
KDAK Kodiak Island 81.12 14 P P 23 16 01.9 +1.1
comp=Z,29nm,0.9s,baz=214,slow=6.9,SNR=4.2
KDAK Kodiak Island 81.12 14 P P 23 16 01.9 +1.1
KDAK pmax pmax
comp=Z,351nm,1.7s
KDAK Kodiak Island 81.12 14 P P 23 16 03.8 +2.9
baz=205
HEC Hector,Ludlow 81.13 48 P P 23 16 03.2 +1.7
baz=237,SNR=39
MAW Mawson 81.15 200 P P 23 16 01.2 +0.2
comp=Z,8.4nm,0.8s,baz=136,slow=8.6,SNR=9.1
MAW pP **pP 23 18 15.7 +0.3**
comp=Z,8.2nm,1.1s,baz=146,slow=19,SNR=2.8
MAW Mawson 81.15 200 P P 23 16 01.7 +0.7
baz=81,SNR=4.6
J01E Myrtle Point 81.16 37 P P 23 16 03.6 +2.2

	baz=231					
GLA	Glamis	81.25	50	IAmb	IAmb	23 16 05.6
	comp=Z,50nm,0.9s					
GLA	Glamis	81.25	50	P	P	23 16 04.6 +2.4
	baz=239,SNR=16					
HUMO	Hull Mountain	81.38	38	IAmb	IAmb	23 16 06.1
	comp=Z,67nm,1.1s					
VCNR	Virginia City	81.41	43	IAmb	IAmb	23 16 06.0
	comp=Z,34nm,0.9s					
YERR	Yerington	81.49	43	IAmb	IAmb	23 16 06.2
	comp=Z,60nm,0.9s					
L04D	Klamath Falls	81.52	39	P	P	23 16 05.5 +2.0
	baz=232,SNR=19					
M04C	Macdoel	81.53	39	P	P	23 16 05.6 +2.1
	baz=233,SNR=19					
LHV	Little Huntoon	81.55	44	IAmb	IAmb	23 16 06.8
	comp=Z,61nm,1.1s					
GMRC	Granite Mounta	81.57	48	P	P	23 16 05.6 +1.7
	baz=238,SNR=14					
GRAC	Grapevine Rang	81.60	45	P	P	23 16 05.9 +2.0
	baz=236,SNR=18					
IRM	Iron Mountain	81.60	49	P	P	23 16 06.1 +2.2
	baz=238,SNR=23					
GWY	Greenwater Val	81.63	46	P	P	23 16 05.5 +1.4
FURC	Furnace Creek,	81.65	46	P	P	23 16 05.8 +1.8
	baz=237,SNR=11					
CN2	Changchun	81.73	323	eP	P	23 16 05.1 +0.8
CN2				pmax	pmax	
	comp=Z,20nm,1.2s					
TUQ	Turquoise Moun	81.73	47	P	P	23 16 06.5 +1.8
	baz=238,SNR=31					
SHOC	Shoshone, Teco	81.74	47	P	P	23 16 06.2 +1.6
	baz=237					
NVAR	Mina Array Bea	81.78	44	P	P	23 16 06.7 +1.7
	comp=Z,27nm,0.8s,baz=225,slow=8.4,SNR=151					
NVAR				pP	pwP	23 18 22.7 -0.4
	comp=Z,0.3nm,0.5s,baz=219,slow=7.0,SNR=2.2					
I02E	Swisshome, OR	81.81	37	P	P	23 16 06.8 +2.2
	baz=231					
PAHR	Pah Rah Range	81.82	42	IAmb	IAmb	23 16 07.8
	comp=Z,53nm,0.9s					
I03D	Drain, OR	81.83	37	P	P	23 16 06.9 +2.1
	baz=231,SNR=7.5					
NV11	Mina Array Sit	81.88	44	IAmb	IAmb	23 16 08.0
	comp=Z,67nm,1.2s					
BNX	BinXian	81.89	325	⇑P	P	23 16 05.2 +0.2
BNX				pmax	pmax	
	comp=Z,19nm,0.9s					
KLR	Kul'dur	82.06	330	P	P	23 16 07.0 +1.1
	comp=Z,7.3nm,0.8s,baz=102,slow=3.4,SNR=28					
KLR	Kul'dur	82.06	330	ceP	P	23 16 06.7 +0.9
KLR				pmax	pmax	
	comp=Z,15nm,1.0s					
K04D	Chiloquin, OR	82.09	39	P	P	23 16 08.2 +1.9
	baz=233,SNR=5.7					
IPM	Ipoh	82.12	278	P	P	23 16 06.8 -0.2
IPM				IAmb	IAmb	23 16 08.0
	comp=Z,26nm,0.6s					
IPM	Ipoh	82.12	278	P	P	23 16 08.0 +1.0
IPM	Ipoh	82.12	278	P	P	23 16 07.8 +0.8
	comp=Z,43nm,1.3s					
MNSI	Mandailing Nat	82.15	274	P	P	23 16 07.1 0.0
214A	Organ Pipe Nat	82.16	52	P	P	23 16 09.0 +2.2
	baz=240					
J04D	Umpqua Nationa	82.26	38	P	P	23 16 09.3 +2.1
	baz=232,SNR=8.1					
KVN	Kaiserville	82.26	43	IAmb	IAmb	23 16 09.9
	comp=Z,46nm,1.0s					
NEE2	Needles Airpor	82.29	49	P	P	23 16 09.3 +2.0
	baz=238,SNR=10					
TPNV	Topopah Spring	82.33	46	P	P	23 16 09.4 +1.7
	baz=237,SNR=28					
BUCK	Buck Mountain	82.35	37	IAmb	IAmb	23 16 10.7
	comp=Z,89nm,1.2s					
PDMCI	Parker Dam,Lak	82.39	49	P	P	23 16 09.9 +2.0
	baz=239,SNR=9.9					
I04A	Tendick Farm,	82.42	38	P	P	23 16 09.3 +1.4
	baz=232					
MOD	Modoc Plateau	82.53	40	IAmb	IAmb	23 16 11.3
	comp=Z,48nm,0.8s					
H04D	Lebanon	82.69	37	P	P	23 16 11.1 +2.0
	baz=232,SNR=6.2					
J05D	Fort Rock, OR	82.80	39	P	P	23 16 12.0 +2.2
	baz=233,SNR=79					
G03D	McMinnville, O	82.82	36	P	P	23 16 11.6 +1.9
	baz=231,SNR=5.3					
O19K	Port Alsworth	82.96	12	P	P	23 16 10.1 +0.1
O19K	Port Alsworth	82.96	12	P	P	23 16 10.3 +0.3
	baz=203,SNR=7.9					
H04A	Detroit Lake	83.10	37	IAmb	IAmb	23 16 13.1
	comp=Z,30nm,0.7s					
BRSE	Bradley Lake S	83.31	14	P	P	23 16 12.4 +0.6
	baz=207					
I05D	Terrebonne, OR	83.37	38	P	P	23 16 14.4 +1.9
	baz=233,SNR=11					
PRN	Pahroc Range	83.38	46	IAmb	IAmb	23 16 16.1
	comp=Z,37nm,1.1s					
PSI	Prapat	83.47	275	P	P	23 16 13.3 -0.6
	comp=Z,11nm,0.8s,baz=88,slow=2.5,SNR=11					
PSI				PP	sP	23 19 35.4 +1.2
	comp=Z,2.8nm,0.8s,baz=151,slow=6.9,SNR=4.2					
N19K	Bonanza Creek	83.50	12	IAmb	IAmb	23 16 13.6
	comp=Z,46nm,1.2s					
N19K	Bonanza Creek	83.50	12	P	P	23 16 12.7 -0.1
	baz=203					
F04D	Rainier, OR	83.50	36	P	P	23 16 15.5 +2.4
	baz=232,SNR=5.1					
R11A	Troy Canyon, C	83.52	45	P	P	23 16 14.7 +1.1
	baz=238,SNR=7.5					
MA2	Magadan	83.58	345	ceP	P	23 16 13.3 +0.2
MA2				pmax	pmax	
	comp=Z,29nm,1.7s					
MA2	Magadan	83.58	345	P	P	23 16 13.0 -0.1
MA2	Magadan	83.58	345	P	P	23 16 13.3 +0.2
	comp=Z,37nm,1.6s					
BMN	Battle Mountai	83.59	43	IAmb	IAmb	23 16 16.6
	comp=Z,35nm,1.0s					
HOOD	Mount Hood Mea	83.79	37	IAmb	IAmb	23 16 17.3
	comp=Z,43nm,1.1s					
TUC	Tucson	83.83	52	P	P	23 16 17.5 +2.4
TUC				pmax	pmax	
	comp=Z,29nm,1.0s					
TUC	Tucson	83.83	52	P	P	23 16 17.5 +2.4
TUC				IAmb	IAmb	23 16 18.7
	comp=Z,29nm,1.0s					
TUC	Tucson	83.83	52	P	P	23 16 17.5 +2.4
	baz=241					
WVOR	Wild Horse Val	83.84	40	IAmb	IAmb	23 16 18.0
	comp=Z,42nm,1.0s					
NLWA	Neilton Lookou	83.86	34	IAmb	IAmb	23 16 17.8
	comp=Z,42nm,0.9s					
G05D	Wamic, OR	83.93	37	P	P	23 16 16.8 +1.5
	baz=233					
SEW	Seward	83.93	14	P	P	23 16 15.8 +1.0
	baz=208					
E04D	Cinebar	84.04	35	P	P	23 16 17.5 +1.8
	baz=232,SNR=9.8					
TSI	Tuntungan	84.06	276	P	P	23 16 16.3 -0.2
	comp=Z,28nm,1.0s					
CAPN	Captain Cook N	84.14	13	P	P	23 16 18.4 +2.6
	baz=206					
GSI	Gunungsitoli	84.20	274	P	P	23 16 18.1 +0.8
	comp=Z,87nm,1.0s					
GSI	Gunungsitoli	84.20	274	P	P	23 16 18.5 +1.2
	comp=Z,87nm,1.0s					
F05D	White Salmon	84.23	36	P	P	23 16 18.3 +1.6
	baz=233					
GAMB	Gambell	84.26	3	P	P	23 16 17.3 +1.0
	baz=187,SNR=6.5					
I07A	Izee	84.28	39	IAmb	IAmb	23 16 20.1
	comp=Z,49nm,1.1s					
SPCR	Spurr Chakacha	84.31	13	P	P	23 16 16.3 -0.5
	baz=205					
D04E	Lakebay	84.31	35	P	P	23 16 19.4 +2.4
	baz=232					
D03D	Eldon	84.37	34	P	P	23 16 19.1 +1.8
	baz=231,SNR=6.2					
X16A	Lo Mia Camp, P	84.38	50	P	P	23 16 19.6 +1.7
LCMT	Little Creek M	84.41	47	P	P	23 16 19.4 +1.5
J08A	Circle Bar Ran	84.47	40	IAmb	IAmb	23 16 20.9
	comp=Z,62nm,1.2s					
319A	Douglas	84.52	54	P	P	23 16 20.7 +2.1
CCUT	Cedar City	84.60	47	P	P	23 16 20.9 +2.0
CLRS	Cowichan Lake	84.64	33	P	P	23 16 19.9 +1.4
CLRS				IAmb	IAmb	23 16 21.2
	comp=Z,44nm,1.1s					
L19K	White Mountain	84.70	11	IAmb	IAmb	23 16 20.4
	comp=Z,67nm,1.2s					
L19K	White Mountain	84.70	11	P	P	23 16 19.4 +0.8
	baz=203					
KNB	Kanab	84.70	47	P	P	23 16 21.1 +1.7
KNB				pmax	pmax	
	comp=Z,22nm,1.0s					
KNB	Kanab	84.70	47	P	P	23 16 21.1 +1.7
D05A	Enumclaw	84.74	35	P	P	23 16 20.7 +1.7
RC01	Rabbit Creek A	84.74	14	P	P	23 16 18.8 +0.1
	baz=208					
CBB	Campbell River	84.80	31	IAmb	IAmb	23 16 21.6
	comp=Z,32nm,1.0s					
SZCU	Shurtz Canyon	84.81	47	P	P	23 16 21.5 +1.6
HNS	HongShan	84.83	313	⇑P	P	23 16 20.8 +1.1
HNS				pmax	pmax	
	comp=Z,11nm,0.9s					
PWL	Port Wells	84.86	15	P	P	23 16 19.6 +0.3
	baz=209					
PGC	Sidney	84.88	33	IAmb	IAmb	23 16 22.2
	comp=Z,27nm,0.8s					
BBB	Bella Bella	84.95	29	P	P	23 16 21.1 +1.2
	comp=Z,16nm,0.7s,baz=312,slow=5.9,SNR=4.7					
WUAZ	Wupatki	84.96	49	P	P	23 16 21.2 +0.5
	baz=240					
LYN	LuoYang	85.00	310	eP	P	23 16 22.0 +1.4
LYN				pmax	pmax	
	comp=Z,10.0nm,0.7s					
ELK	Elko	85.03	43	P	P	23 16 22.2 +1.2
	comp=Z,8.9nm,0.9s,baz=238,slow=4.8,SNR=34					
ELK				pP	pwP	23 18 39.8 -0.7
	comp=Z,1.4nm,0.9s,baz=112,slow=6.5,SNR=3.0					
L20K	Farewell, AK	85.15	11	P	P	23 16 21.1 +0.3
	baz=204					
TTA	Tatalina	85.19	10	IAmb	IAmb	23 16 22.8
	comp=Z,37nm,1.3s					
TTA	Tatalina	85.19	10	P	P	23 16 21.3 +0.3
	baz=202,SNR=5.2					
CRAG	Craig	85.19	24	P	P	23 16 22.3 +1.3
	baz=222					
BJI	Beijing	85.22	316	P	P	23 16 21.6 +0.1
BJI				pmax	pmax	
	comp=Z,12nm,0.8s					
EYAK	Cordova Ski Ar	85.22	16	P	P	23 16 21.4 +0.3
	baz=211					
M22K	Willow	85.25	13	P	P	23 16 21.0 -0.1
	baz=207,SNR=5.8					
TPTI		85.26	275	P	P	23 16 22.2 -0.2
	comp=Z,11nm,0.8s					
PKCU	Pink Cliffs	85.27	47	P	P	23 16 24.5 +2.2
PKCU				IAmb	IAmb	23 16 25.9
	comp=Z,49nm,1.0s					
G08A	Pilot Rock	85.30	38	IAmb	IAmb	23 16 24.8
	comp=Z,58nm,1.1s					
A04D	Lummi Island	85.31	34	P	P	23 16 23.8 +2.1
	baz=232,SNR=5.5					
KNK	Knik Glacier	85.32	14	P	P	23 16 21.1 -0.4
	baz=209					
PMR	Palmer	85.32	14	IAmb	IAmb	23 16 22.8
	comp=Z,52nm,1.3s					
PMR	Palmer	85.32	14	P	P	23 16 21.7 +0.2
	baz=208,SNR=5.8					
B05A	Bryant	85.34	34	P	P	23 16 23.6 +1.7
	baz=232,SNR=5.8					
LTY	Liberty	85.50	36	IAmb	IAmb	23 16 24.6
	comp=Z,20nm,0.8s					
ANM	Nome	85.52	6	P	P	23 16 22.8 +0.4
	baz=193					
E07A	Sunnyside	85.53	36	IAmb	IAmb	23 16 25.8
	comp=Z,51nm,1.0s					
HAWA	Hanford	85.61	37	IAmb	IAmb	23 16 26.1
	comp=Z,43nm,0.8s					
MTPU	Mount Pierson	85.65	47	P	P	23 16 26.2 +2.1
SML	Sawmill	85.69	14	P	P	23 16 23.3 -0.1
	baz=209					
DIV	Divide	85.72	16	IAmb	IAmb	23 16 24.9
	comp=Z,40nm,1.0s					
CUT	Chulitna	85.80	13	P	P	23 16 23.6 -0.2
	baz=207,SNR=9.1					
B06A	Marblemount	85.82	34	IAmb	IAmb	23 16 26.4
	comp=Z,30nm,0.9s					
PPLA	Purkeypile	85.85	12	P	P	23 16 24.4 +0.2
	baz=205					
MVU	Marysvale	85.86	46	P	P	23 16 26.4 +1.4
BMRM	Bremner River	85.88	16	P	P	23 16 24.7 +0.4
	baz=212					
MSU	Marysvale	85.89	46	P	P	23 16 27.1 +2.0
MSU	Marysvale	85.89	46	P	P	23 16 27.1 +2.0
K20K	Telida	85.92	11	IAmb	IAmb	23 16 25.8
	comp=Z,29nm,1.1s					
K20K	Telida	85.92	11	P	P	23 16 24.6 +0.3
	baz=203					
E08A	Dider Farm, El	85.94	37	IAmb	IAmb	23 16 27.5
	comp=Z,33nm,0.8s					
MESA	MESA	85.94	18	P	P	23 16 25.5 +0.7
	baz=215					
SCM	Sheep Creek Mo	85.95	15	P	P	23 16 25.1 +0.6
	baz=210,SNR=6.8					
KLU	Klutina	85.99	15	IAmb	IAmb	23 16 26.2
	comp=Z,17nm,0.7s					
KLU	Klutina	85.99	15	P	P	23 16 25.3 +0.4
	baz=211					
BMO	Blue Mountains	86.01	39	IAmb	IAmb	23 16 27.8
	comp=Z,23nm,0.9s					
CRQE	Cirque	86.10	17	P	P	23 16 26.0 +0.7
	baz=214					
MFID	Camas Ranch	86.10	41	IAmb	IAmb	23 16 28.6
	comp=Z,43nm,1.1s					
ZAIG	Zacatecas	86.16	64	P	P	23 16 28.0 +1.2
121A	Cookes Peak, D	86.18	53	P	P	23 16 26.4 -0.1
	baz=243					
WRAK	Wrangell Islan	86.19	24	IAmb	IAmb	23 18 20.1
	comp=Z,51nm,1.1s					
WRAK	Wrangell Islan	86.19	24	P	P	23 16 26.8 +1.1
	baz=223					
SEY	Seymchan	86.21	347	P	P	23 16 26.2 +0.6
	comp=Z,24nm,0.8s,baz=145,slow=5.1,SNR=47					
SEY	Seymchan	86.21	347	i P	P	23 16 26.5 +0.8
PNL	Peninsula	86.27	19	P	P	23 16 27.7 +1.6
	baz=217					
TNA	Tin City	86.28	5	P	P	23 16 26.6 +0.7
	baz=190					
DUG	Dugway, Tooele	86.32	45	P	P	23 16 27.8 +0.9
	baz=239					
D08A	Wollman Farm,	86.34	36	P	P	23 16 28.2 +1.5
D08A				IAmb	IAmb	23 16 29.5
	comp=Z,55nm,1.0s					
CAST	Castle Rocks	86.35	12	P	P	23 16 25.2 -1.1
CAST				IAmb	IAmb	23 16 26.4
	comp=Z,38nm,0.8s					
CAST	Castle Rocks	86.35	12	P	P	23 16 25.4 -1.0
	baz=205,SNR=14					
PINM	Pinnacle	86.36	18	P	P	23 16 26.8 +0.2
	baz=216					
N25K	Chitina, Valde	86.42	16	IAmb	IAmb	23 16 28.1
	comp=Z,32nm,0.7s					
N25K	Chitina, Valde	86.42	16	P	P	23 16 27.6 +0.7
	baz=212,SNR=9.1					
SYO	Syowa Base	86.43	193‖	eP	P	23 16 26.4 -0.4
SYO	Syowa Base	86.43	193‖	ePcP	PcP	23 16 29.0 +0.7
SYO	Syowa Base	86.43	193‖	epP	pP	23 18 42.0 -1.7
M24K	Tolsona, Glenn	86.46	15	IAmb	IAmb	23 16 29.1
	comp=Z,33nm,0.8s					
M24K	Tolsona, Glenn	86.46	15	P	P	23 16 27.8 +0.8
	baz=211					
E09A	Wood Farm, Sta	86.47	37	IAmb	IAmb	23 16 29.8
	comp=Z,58nm,1.2s					
GLB	Gilahina Butte	86.48	16	IAmb	IAmb	23 16 28.2
	comp=Z,21nm,0.7s					
WAT6	Susitna Watana	86.51	14	P	P	23 16 27.4 +0.1
	baz=209,SNR=12					
MCARA	McCarthy VSAT	86.64	16	P	P	23 16 28.5 +0.7
	baz=214,SNR=5.3					
J20K	Nowinta River	86.67	11	IAmb	IAmb	23 16 29.2
	comp=Z,31nm,1.1s					
J20K	Nowinta River	86.67	11	P	P	23 16 28.1 +0.3
	baz=203,SNR=15					
KTH	Kantishna Hill	86.70	12	IAmb	IAmb	23 16 28.3
	comp=Z,38nm,0.9s					
CHUM	Lake Minchumin	86.73	12	P	P	23 16 27.5 -0.6
	baz=205,SNR=5.3					
TRF	Thorofare Moun	86.73	13	P	P	23 16 27.8 -0.5
	baz=207,SNR=15					
LOGN	Logan Glacier	86.74	18	IAmb	IAmb	23 16 29.8
	comp=Z,26nm,0.6s					
BARN	Barnard Glacie	86.75	17	IAmb	IAmb	23 16 30.4
	comp=Z,42nm,0.8s					
GCSA	Galena City Sc	86.75	9	P	P	23 16 28.9 +0.7
	baz=201,SNR=7.9					
CTG	Chitna Glacier	86.76	17	P	P	23 16 29.4 +0.9
	baz=215,SNR=7.8					
CTGM	Chitina Glacie	86.76	17	IAmb	IAmb	23 16 30.3
	comp=Z,40nm,0.9s					
Q16A	Castle Valley	86.78	46	P	P	23 16 30.9 +1.7
Q16A				IAmb	IAmb	23 16 33.5
	comp=Z,86nm,1.8s					
B08A	Colville Reser	86.88	35	IAmb	IAmb	23 16 31.2
	comp=Z,45nm,0.8s					
BESE	Bessie Mountai	86.89	21	IAmb	IAmb	23 16 31.7
	comp=Z,42nm,1.1s					
LLLB	Lillooet	86.90	32	IAmb	IAmb	23 16 31.6
	comp=Z,30nm,1.0s					
PLID	Pearl Lake	86.91	39	IAmb	IAmb	23 16 32.1
	comp=Z,50nm,1.1s					
TMUT	Trail Mountain	86.94	46	IAmb	IAmb	23 16 33.3
	comp=Z,38nm,1.2s					
HARP	HAARP	86.96	15	P	P	23 16 29.3 0.0
	baz=212					
MPU	Maple Canyon	87.01	45	IAmb	IAmb	23 16 33.2
	comp=Z,41nm,1.8s					
DHY	Denali Highway	87.02	14	IAmb	IAmb	23 16 31.0
	comp=Z,64nm,1.6s					
DHY	Denali Highway	87.02	14	P	P	23 16 29.8 +0.1
	baz=210,SNR=6.9					
HLID	Hailey	87.05	41	IAmb	IAmb	23 16 33.4
	comp=Z,40nm,1.1s					
HLID	Hailey	87.05	41	P	P	23 16 32.2 +1.9
	baz=238,SNR=49					
SPUT	South Promonto	87.12	44	IAmb	IAmb	23 16 33.5
	comp=Z,33nm,1.2s					
C09A	Chrisman Ranch	87.13	36	IAmb	IAmb	23 16 32.7
	comp=Z,45nm,0.9s					
HVU	Hansel Valley	87.15	43	IAmb	IAmb	23 16 33.6
	comp=Z,63nm,1.4s					
ZEA	Zeya	87.19	331	eP	P	23 16 31.4 +0.9
ZEA				pmax	pmax	
	comp=Z,10.0nm,0.9s					
MCK	McKinley	87.26	13	IAmb	IAmb	23 16 32.5
	comp=Z,37nm,0.8s					
MCK	McKinley	87.26	13	P	P	23 16 30.5 -0.2
	baz=208,SNR=16					
CTU	Camp Tracy	87.27	45	IAmb	IAmb	23 16 34.0
	comp=Z,26nm,1.2s					
XLT	XiLinHaoTe	87.31	319	eP	P	23 16 31.7 +0.3
XLT				pmax	pmax	
	comp=Z,11nm,0.8s					
XLT				pmax	pmax	
	comp=Z,190nm,4.5s					
SRU	San Rafael Swe	87.31	46	P	P	23 16 33.2 +1.5
SRU				pmax	pmax	
	comp=Z,34nm,1.0s					
SRU	San Rafael Swe	87.31	46	P	P	23 16 33.2 +1.5
SRU				IAmb	IAmb	23 16 34.3
	comp=Z,34nm,1.0s					
P17A	Butcher Ranch,	87.34	46	P	P	23 16 33.2 +1.4
P17A				IAmb	IAmb	23 16 34.9
	comp=Z,36nm,1.2s					
XAN	Xi'an	87.36	308	P	P	23 16 33.6 +1.8
XAN				pmax	pmax	
	comp=Z,12nm,1.3s					
XAN				pmax	pmax	
	comp=Z,95nm,6.5s					
PAX	Paxson	87.37	15	P	P	23 16 31.0 -0.2
	baz=211					
SKAG	Skagway	87.40	21	P	P	23 16 33.3 +2.0
SKAG				IAmb	IAmb	23 16 34.4
	comp=Z,55nm,1.4s					
SKAG	Skagway	87.40	21	P	P	23 16 32.9 +1.6
	baz=220					
M26K	Nabesna, AK	87.50	16	IAmb	IAmb	23 16 33.7
	comp=Z,38nm,1.1s					
M26K	Nabesna, AK	87.50	16	P	P	23 16 32.6 +0.8
	baz=214					
MNTX	Cornudas Mount	87.63	55	P	P	23 16 34.9 +1.7
	baz=244,SNR=7.6					
TROLL	Troll, Antarti	87.66	181	P	P	23 16 32.7 0.0
TROLL	Troll, Antarti	87.66	181	pP	pP	23 18 54.6 +4.2
YUK3	Moose Creek	87.67	17	P	P	23 16 33.7 +0.9
	baz=216,SNR=30					
P18A	Preston Nutter	87.75	46	P	P	23 16 35.0 +1.1
P18A				IAmb	IAmb	23 16 36.5
	comp=Z,24nm,1.1s					
M27K	Edge Creek, AK	87.76	16	P	P	23 16 34.1 +1.0
	baz=215					
MENT	Mentasta	87.77	15	IAmb	IAmb	23 16 34.8
	comp=Z,26nm,1.0s					
L26K	Log Cabin Wild	87.94	15	IAmb	IAmb	23 16 35.5
	comp=Z,43nm,1.4s					
L26K	Log Cabin Wild	87.94	15	P	P	23 16 34.6 +0.7
	baz=213,SNR=8.0					
I21K	Tanana	87.97	11	IAmb	IAmb	23 16 35.0
	comp=Z,47nm,0.9s					
I21K	Tanana	87.97	11	P	P	23 16 34.0 +0.2
	baz=205					
SNAA	Sanae	87.97	179	P	P	23 16 33.3 -0.8
SNAA	Sanae	87.97	179	pP	pP	23 18 56.9 +5.1
SNAA	Sanae	87.97	179	i P	P	23 16 31.5 -2.6
SNAA				pmax	pmax	
	comp=Z,9.0nm,1.2s					
SNAA	Sanae	87.97	179	P	P	23 16 33.2 -0.8
NEW	Newport	88.03	36	P	P	23 16 35.3 +0.6
	comp=Z,9.4nm,0.9s,baz=238,slow=4.8,SNR=18					
NEW	Newport	88.03	36	P	P	23 16 35.5 +0.9
	baz=236,SNR=8.8					
MLY	Manley	88.06	12	IAmb	IAmb	23 16 34.8
	comp=Z,36nm,1.1s					
MLY	Manley	88.06	12	P	P	23 16 33.8 -0.6
	baz=206,SNR=14					
BVCY	Beaver Creek	88.08	17	P	P	23 16 35.3 +0.8
	baz=216					
WRH	Wood River Hil	88.09	13	P	P	23 16 34.2 -0.2
VNA3	Neumayer Olymp	88.14	177	P	P	23 16 34.3 -0.5
VNA3	Neumayer Olymp	88.14	177	pP	pP	23 18 58.9 +6.2
RIDG	Independent Ri	88.18	15	P	P	23 16 35.3 +0.4
	baz=212,SNR=5.8					
ANMO	Albuquerque	88.25	52	P	P	23 16 37.4 +1.2
	comp=Z,15nm,0.9s,baz=214,slow=5.9,SNR=12					
ANMO	Albuquerque	88.25	52	P	P	23 16 37.6 +1.4
ANMO				pmax	pmax	
	comp=Z,22nm,1.1s					
ANMO	Albuquerque	88.25	52	P	P	23 16 37.6 +1.4
ANMO				IAmb	IAmb	23 16 38.7
	comp=Z,22nm,1.1s					
ANMO	Albuquerque	88.25	52	P	P	23 16 37.3 +1.2
	baz=243					
H21K	Melozitna Rive	88.26	11	IAmb	IAmb	23 16 36.7
	comp=Z,24nm,0.9s					
H21K	Melozitna Rive	88.26	11	P	P	23 16 35.6 +0.4
	baz=205					
HDA	Harding Lake	88.28	13	IAmb	IAmb	23 16 36.2
	comp=Z,30nm,0.7s					
HDA	Harding Lake	88.28	13	P	P	23 16 35.3 0.0
	baz=210					
DOT	Dot Lake	88.29	15	IAmb	IAmb	23 16 36.8
	comp=Z,28nm,0.8s					
L27K	Beaver Creek,	88.35	16	P	P	23 16 36.2 +0.4
	baz=215					
I23K	Minto, Yukon-K	88.43	12	P	P	23 16 35.6 -0.4
	baz=208,SNR=8.8					
KMI	Kunming	88.46	297	⇑P	P	23 16 41.2 +3.8
KMI				pmax	pmax	
	comp=Z,3.0nm,1.3s					
WHY	Whitehorse	88.46	20	IAmb	IAmb	23 16 38.6
	comp=Z,18nm,0.8s					
WHY	Whitehorse	88.46	20	P	P	23 16 37.5 +1.1
	baz=221,SNR=8.0					
TCOL	CIGO, UAF Yank	88.49	13	P	P	23 16 36.0 -0.3
	baz=209,SNR=7.0					
COLA	College	88.50	13	P	P	23 16 36.0 -0.3
COLA				pmax	pmax	
	comp=Z,55nm,0.9s					
COLA	College	88.50	13	P	P	23 16 36.0 -0.3
COLA	College	88.50	13	P	P	23 16 36.0 -0.3
	baz=209					
DLBC	Dease Lake	88.52	23	P	P	23 16 37.0 +0.4
	comp=Z,7.4nm,0.8s,baz=219,slow=6.2,SNR=10					
VNA2	Neumayer--Watz	88.57	177	P	P	23 16 36.9 +0.1
VNA2	Neumayer--Wat

RDMU Red Mountain 88.66 46 IAmb IAmb 23 16 40.3
comp=Z,26nm,0.9s
HHC Hu-ho-hao-te 88.66 315 *eP* **P** **23 16 39.2 +1.4**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,190nm,4.9s
AHID Auburn Hatcher 88.72 43 IAmb IAmb 23 16 41.5
comp=Z,27nm,0.9s
POKR Poker Plat Res 88.80 13 P **P** **23 16 37.2 -0.5**
baz=210,SNR=7.8
VNA1 Neumayer--Stat 88.80 177 P **P** **23 16 37.3 -0.6**
VNA1 Neumayer--Stat 88.80 177 pP pP 23 19 01.8 +5.8
P33M Teslin, Yukon 88.81 21 P **P** **23 16 38.8 +0.8**
baz=223
N31M Braeburn, Yuko 88.81 19 P **P** **23 16 39.0 +1.1**
baz=220,SNR=6.1
BILL Bilibino 89.00 355 *d i* P **P** **23 16 38.5 -0.1**
BILL *PP **pP** **23 19 00.0 +2.9**
BILL *e* 23 20 22.8
BILL pmax pmax
comp=Z,33nm,2.5s
BILL Bilibino 89.00 355 P **P** **23 16 38.9 +0.3**
J26L Joseph Creek 89.12 15 P **P** **23 16 40.3 +0.9**
baz=213,SNR=32
RDOG Red Dog Mine 89.16 6 P P 23 16 49.6 +10
baz=195
CM31 Chiang Mai Arr 89.17 290 P **P** **23 16 41.3 +0.8**
CMAR Chiang Mai Arr 89.17 290 P **P** **23 16 41.7 +1.2**
comp=Z,3.2nm,0.9s,baz=121,slow=3.5,SNR=16
CMAR PP **PP** **23 20 23.6 -0.3**
comp=Z,2.1nm,1.0s,baz=132,slow=6.7,SNR=8.2
CMAR PKKPbc **PKKPbc** **23 34 14.3 +1.1**
comp=Z,0.6nm,0.9s,baz=346,slow=2.9,SNR=4.1
REDW Red Top Meadow 89.18 43 IAmb IAmb 23 16 43.0
comp=Z,41nm,1.1s
S22A 4UR Ranch, Cre 89.23 49 IAmb IAmb 23 16 43.6
comp=Z,27nm,1.3s
S22A 4UR Ranch, Cre 89.23 49 P **P** **23 16 42.3 +1.5**
baz=243,SNR=7.6
SNOW Snow King Moun 89.29 43 IAmb IAmb 23 16 43.7
comp=Z,32nm,0.9s
CHTO Chiang Mai 89.30 290 P **P** **23 16 42.8 +1.7**
CHTO pmax pmax
comp=Z,19nm,1.6s
CHTO Chiang Mai 89.30 290 P **P** **23 16 42.8 +1.7**
CHTO Chiang Mai 89.30 290 P **P** **23 16 42.6 +1.5**
comp=Z,5.7nm,0.8s
M30M Minto, Yukon 89.35 18 P **P** **23 16 41.2 +0.8**
baz=219,SNR=21
O20A White River Ci 89.35 46 P **P** **23 16 42.5 +1.4**
baz=242,SNR=17
MOOW Moose Ponds 89.44 42 IAmb IAmb 23 16 44.1
comp=Z,32nm,1.7s
PRP Porcupine Dome 89.55 13 IAmb IAmb 23 16 43.1
comp=Z,30nm,1.3s
PRP Porcupine Dome 89.55 13 P **P** **23 16 42.5 +1.1**
baz=211,SNR=6.2
FLWY Flagg Ranch 89.63 42 IAmb IAmb 23 16 45.5
comp=Z,27nm,1.1s
YPP Pitchstone Pla 89.65 42 P **P** **23 16 44.6 +2.0**
YHL Hebgen Lake 89.70 41 IAmb IAmb 23 16 46.0
comp=Z,16nm,0.9s
BW06 Boulder Array 89.72 44 IAmb IAmb 23 16 44.8
comp=Z,18nm,1.0s
BW06 Boulder Array 89.72 44 P **P** **23 16 43.8 +1.0**
baz=241,SNR=21
PD31 Pinedale Array 89.72 44 IAmb IAmb 23 16 44.8
comp=Z,15nm,0.9s
PDAR Pinedale Array 89.72 44 P **P** **23 16 43.6 +0.8**
comp=Z,8.0nm,0.7s,baz=200,slow=2.9,SNR=74
PDAR pP **pwP** **23 19 04.6 +0.4**
comp=Z,2.3nm,1.1s,baz=260,slow=4.4,SNR=5.2
PDAR PP **PP** **23 20 26.4 -1.7**
comp=Z,1.0nm,0.9s,baz=241,slow=4.9,SNR=5.0
YFT Old Faithful 89.72 42 P **P** **23 16 44.9 +2.1**
SMCO Snowmass 89.78 48 IAmb IAmb 23 16 46.5
comp=Z,17nm,0.9s
M31M Drury Creek, Y 89.78 19 P **P** **23 16 42.7 +0.3**
baz=221
BOZ Bozeman (W) 89.80 40 IAmb IAmb 23 16 45.7
comp=Z,17nm,1.1s
BOZ Bozeman (W) 89.80 40 P **P** **23 16 44.5 +1.4**
baz=240,SNR=18
DAWY Dawson 89.81 16 P **P** **23 16 43.2 +0.8**
baz=217,SNR=15
PZH PanZhiHua 89.83 298 P **P** **23 16 44.6 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,4.5s
H17A Grant Village 89.86 42 P **P** **23 16 45.0 +1.5**
H17A Grant Village 89.86 42 P **P** **23 16 46.1 +2.6**
baz=241,SNR=6.8
EGAK Eagle 89.94 15 IAmb IAmb 23 16 44.5
comp=Z,30nm,1.1s
EGAK Eagle 89.94 15 P **P** **23 16 43.6 +0.6**
baz=215,SNR=14
LKWY Lake 90.05 42 P **P** **23 16 46.4 +2.0**
LKWY pmax pmax
comp=Z,8.0nm,0.9s
LKWY Lake 90.05 42 P **P** **23 16 46.4 +2.0**
COLD Coldfoot 90.13 11 P **P** **23 16 44.5 +0.6**
COLD IAmb IAmb 23 16 45.8
comp=Z,21nm,1.0s
COLD Coldfoot 90.13 11 P **P** **23 16 44.7 +0.8**
baz=207,SNR=10
SDCO Great Sand Dun 90.18 50 P **P** **23 16 46.0 +0.8**
SDCO Great Sand Dun 90.18 50 P **P** **23 16 46.2 +1.0**
baz=244,SNR=12
WALA Waterton Lakes 90.25 37 IAmb IAmb 23 16 47.0
comp=Z,15nm,0.8s
MSTX Muleshoe 90.58 54 IAmb IAmb 23 16 48.4
comp=Z,12nm,0.7s
MSTX Muleshoe 90.58 54 P **P** **23 16 47.9 +1.0**
baz=246,SNR=6.2
CMIG Matias Romero 90.67 72 P **P** **23 16 48.9 +1.5**
comp=Z,1.9nm,0.6s,baz=256,slow=6.3,SNR=4.9
T25A Trinidad 90.70 50 P **P** **23 16 47.7 +0.2**
T25A Trinidad 90.70 50 P **P** **23 16 48.4 +0.9**
baz=245,SNR=6.4
RWWY Rawlins 90.76 45 IAmb IAmb 23 16 48.7
comp=Z,24nm,1.1s
Q24A Divide 90.96 49 P **P** **23 16 50.1 +1.3**
Q24A Divide 90.96 49 P **P** **23 16 49.9 +1.1**
baz=244,SNR=6.5
833A Chaparral WMA, 90.98 60 P **P** **23 16 49.2 +0.5**
833A IAmb IAmb 23 16 51.0
comp=Z,15nm,0.8s
833A Chaparral WMA, 90.98 60 P **P** **23 16 49.9 +1.2**
baz=247,SNR=6.3
ISCO Idaho Springs 91.00 48 P **P** **23 16 50.3 +1.3**
ISCO pmax pmax
comp=Z,15nm,1.7s
ISCO Idaho Springs 91.00 48 P **P** **23 16 50.3 +1.3**
ISCO Idaho Springs 91.00 48 P **P** **23 16 50.2 +1.3**
baz=244,SNR=6.5
RLMT Red Lodge 91.03 42 P **P** **23 16 49.7 +0.9**
RLMT Red Lodge 91.03 42 P **P** **23 16 50.3 +1.5**
baz=242,SNR=6.3
I29M Ogilvie Camp, 91.12 16 P **P** **23 16 48.6 0.0**
baz=218,SNR=8.0
N23A Red Feather La 91.25 47 IAmb IAmb 23 16 52.6
comp=Z,20nm,0.9s
N23A Red Feather La 91.25 47 P **P** **23 16 51.5 +1.5**
baz=244,SNR=14
JCT Junction City 91.49 58 P **P** **23 16 51.7 +0.6**
baz=247
TOLK Toolik Lake Re 91.50 10 IAmb IAmb 23 16 51.8
comp=Z,42nm,1.8s
TOLK Toolik Lake Re 91.50 10 P **P** **23 16 50.7 +0.5**
baz=208
K22A Casper 91.64 45 IAmb IAmb 23 16 53.9
comp=Z,17nm,1.2s
K22A Casper 91.64 45 P **P** **23 16 52.9 +1.2**
baz=243
AMTX Amarillo 91.78 53 P **P** **23 16 53.2 +0.9**
baz=246
YAK Yakutsk 91.79 338 P **P** **23 16 50.9 -0.6**
comp=Z,12nm,0.7s,baz=307,slow=0.6,SNR=16
YAK Yakutsk 91.79 338 *eP* **P** **23 16 50.7 -0.9**
YAK pmax pmax
comp=Z,18nm,0.7s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,1.0nm,0.9s

YAK Yakutsk 91.79 338 P **P** **23 16 51.5 -0.1**
LZH Lanzhou 91.99 308 ⇑P **P** **23 16 54.8 +1.4**
LZH pP pwP 23 19 19.5 +5.2
LZH pmax pmax
comp=E,21nm,1.5s
EGMT Eagleton 92.12 39 P **P** **23 16 54.9 +1.4**
baz=241
ABTX Abilene, Hawle 92.44 56 P **P** **23 16 56.2 +0.8**
baz=247,SNR=6.1
KSCO Kaye Shedlock' 92.76 49 P **P** **23 16 58.1 +1.3**
baz=246
A21K Barrow 92.96 7 P **P** **23 16 57.5 +0.8**
baz=201
LAO LASA Array 93.63 41 P **P** **23 17 01.5 +1.0**
LAO IAmb IAmb 23 17 03.3
comp=Z,9.8nm,0.9s
RSSD Black Hills 93.92 44 P **P** **23 17 02.7 +0.6**
RSSD pmax pmax
comp=Z,12nm,0.9s
RSSD Black Hills 93.92 44 P **P** **23 17 02.7 +0.6**
RSSD IAmb IAmb 23 17 04.5
comp=Z,12nm,0.9s
RSSD Black Hills 93.92 44 P **P** **23 17 02.9 +0.8**
baz=245
INK Inuvik 94.61 15 P **P** **23 17 04.1 -0.2**
comp=Z,7.8nm,1.0s,baz=206,slow=5.9,SNR=18
INK PP **PP** **23 20 59.8 -4.9**
comp=Z,1.9nm,0.9s,baz=219,slow=10.0,SNR=4.1
INK Inuvik 94.61 15 IAmb IAmb 23 17 05.2
comp=Z,10.0nm,1.1s
INK Inuvik 94.61 15 P **P** **23 17 04.3 +0.1**
baz=222
CBKS Cedar Bluff 94.75 50 P **P** **23 17 07.1 +1.4**
baz=248
SONM Songino Array 95.13 319 P **P** **23 17 06.9 -0.4**
comp=Z,0.7nm,0.9s,baz=136,slow=5.4,SNR=4.2
DGMT Dagmar 95.64 40 P **P** **23 17 10.5 +1.1**
DGMT IAmb IAmb 23 17 11.8
comp=Z,11nm,0.8s
DGMT Dagmar 95.64 40 P **P** **23 17 11.1 +1.6**
baz=245
GTA Gaotai 96.22 310 ⇑P **P** **23 17 14.0 +1.6**
GTA pP pwP 23 19 33.5 -1.3
GTA sP sP 23 20 38.9 +3.6
GTA pmax pmax
comp=Z,2.0nm,1.2s
YKA Yellowknife Ar 97.00 25 P **P** **23 17 15.4 +0.2**
comp=Z,3.1nm,0.8s,baz=246,slow=4.5,SNR=49
YKA PP **PP** **23 21 21.0 -1.9**
comp=Z,2.3nm,1.0s,baz=241,slow=7.6,SNR=9.8
YKA PKKPbc **PKKPbc** **23 33 51.9 -2.7**
comp=Z,0.2nm,0.4s,baz=49,slow=2.4,SNR=12
C36M Paulatuk 97.81 17 P **P** **23 17 19.6 +1.0**
baz=231
ECSD EROS Data Cent 98.73 47 P **P** **23 17 24.4 +1.0**
baz=250
ZALV Zalesovo Beam 109.90 321 PKiKP **PKiKP** **23 22 09.2 -1.2**
comp=Z,1.4nm,0.5s,baz=115,slow=0.8,SNR=11
ZALV PP **PP** **23 22 58.5 +1.3**
comp=Z,0.6nm,0.6s,baz=67,slow=5.0,SNR=3.6
NRIK Noril'sk 110.23 338 *i* PKIKP **PKiKP** **23 22 09.4 -1.2**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 110.49 314 PKiKP **PKiKP** **23 22 10.8 -1.0**
comp=Z,1.2nm,0.6s,baz=91,slow=1.1,SNR=21
KURK Kurchatov 113.34 317 *i* PKIKP **PKiKP** **23 22 14.7 -2.4**
KURBB Kurchatov Arra 113.39 317 PKiKP **PKiKP** **23 22 16.0 -1.2**
comp=Z,1.7nm,0.8s,baz=106,slow=2.6,SNR=15
KURBB PP **PP** **23 23 20.4 -1.4**
comp=Z,0.7nm,1.0s,baz=88,slow=6.8,SNR=4.1
KSH Kashi 114.08 305 PKP PKPdf 23 22 14.4 -4.7
AAK Ala-Archa 115.53 308 PKP **PKPdf** **23 22 20.8 -1.0**
comp=Z,0.3nm,0.3s,baz=146,slow=3.6,SNR=4.6
AAK Ala-Archa 115.53 308 *c i* PKIKP **PKPdf** **23 22 21.5 -0.3**
AAK pmax pmax
comp=Z,3.0nm,1.3s
NEEM North Greenlan 117.84 11 *i* P **PKPdf** **23 22 24.9 -0.5**
NEEM IAmb IAmb 23 22 25.3
comp=Z,6.4nm,0.6s
BVAR Borovoye Array 118.47 320 PKP **PKPdf** **23 22 26.3 -0.6**
comp=Z,3.3nm,0.3s,baz=157,slow=2.3,SNR=43
BRVK Borovoye 118.53 320 *c i* PKIKP **PKPdf** **23 22 26.6 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 118.53 320 PKPdf **PKPdf** **23 22 26.6 -0.4**
SCHQ Schefferville 119.36 38 PKP **PKPdf** **23 22 27.6 -0.9**
comp=Z,3.0nm,0.9s,baz=270,slow=1.0,SNR=2.5
DAG Danmarks Havn 122.90 5 *i* P **PKPdf** **23 22 32.9 -1.8**
DAG IAmb IAmb 23 22 33.6
comp=Z,3.3nm,0.6s
SUMG Summit 123.45 13 PKIKP **PKiKP** **23 22 36.7 0.0**
SUMG Summit 123.45 13 *i* P **PKPdf** **23 22 36.0 -0.5**
SUMG Summit 123.45 13 **PKiKP** **23 22 36.7 0.0**
SVE Sverdlovsk 123.46 325 *e* PKIKP **PKPdf** **23 22 36.2 -0.2**
SVE pmax pmax
comp=Z,8.0nm,0.9s
SUR Sutherland 124.01 200 PKP **PKiKP** **23 22 39.1 +0.2**
comp=Z,1.6nm,0.5s,baz=244,slow=2.7,SNR=9.9
ARU Arti 124.67 325 PKP **PKPdf** **23 22 38.2 -0.5**
comp=Z,2.4nm,0.4s,baz=342,slow=1.7,SNR=18
ARU Arti 124.67 325 *i* PKIKP **PKPdf** **23 22 38.7 0.0**
ARU 23 24 35.8
ARU 23 28 48.7
ARU Arti 124.67 325 PKPdf **PKPdf** **23 22 38.3 -0.4**
DBG Daneborg 125.02 7 *i* P **PKPdf** **23 22 38.0 -0.9**
DBG IAmb IAmb 23 22 38.8
comp=Z,4.2nm,0.7s
DY2G Dye2 125.14 21 *i* P **PKPdf** **23 22 38.7 -0.9**
DY2G IAmb IAmb 23 22 39.5
comp=Z,11nm,0.9s
BOSA Boshof 125.75 207 PKP **PKiKP** **23 22 42.5 +0.1**
comp=Z,0.7nm,0.3s,baz=142,slow=1.5,SNR=7.7
BOSA PKKPbc **PKKPbc** **23 32 20.2 -1.0**
comp=Z,1.2nm,0.6s,baz=343,slow=3.4,SNR=6.4
AKTO Aktyubinsk 126.43 318 PKP **PKiKP** **23 22 42.7 -0.1**
comp=Z,3.7nm,0.8s,baz=79,slow=2.6,SNR=13
GEYT Alibeck 127.95 303 PKP **PKPdf** **23 22 45.4 -0.2**
comp=Z,1.0nm,0.3s,baz=350,slow=8.1,SNR=4.2
KIRV Kirov 128.50 330 PKP **PKPdf** **23 22 45.9 0.0**
comp=Z,10nm,0.7s,baz=19,slow=2.8,SNR=4.7
KIRV SKPbc SKPbc 23 25 07.3
comp=Z,8.1nm,0.6s,baz=108,slow=14,SNR=5.5
KIRV Kirov 128.50 330 *c i* PKIKP **PKiKP** **23 22 46.3 -0.3**
LBTB Lobatse 128.72 209 PKP **PKPdf** **23 22 47.9 +0.3**
comp=Z,1.0nm,0.5s,baz=209,slow=21,SNR=1.8
LBTB SKPbc SKPbc 23 25 09.9
comp=Z,4.0nm,0.8s,baz=150,slow=4.0,SNR=4.8
ARCES ARCESS Array B 128.79 349 PKP **PKPdf** **23 22 45.8 -0.4**
comp=Z,5.3nm,0.6s,baz=93,slow=1.6,SNR=19
ARCES SKPbc SKPbc 23 25 07.6
comp=Z,16nm,0.9s,baz=30,slow=2.9,SNR=9.2
ARCES ARCESS Array B 128.79 349 pPKPdf 23 25 09.3 -5.3
MATP Matopo 131.12 215 SKPbc **SKPab** **23 25 19.3 +0.7**
comp=Z,11nm,0.7s,baz=148,slow=8.5,SNR=17
BELG Belogornoye 132.04 323 PKP **PKPdf** **23 22 52.4 -0.4**
comp=Z,25nm,0.9s,baz=253,slow=1.2,SNR=17
BELG SKPbc **SKPbc** **23 25 20.0 +0.5**
comp=Z,29nm,1.0s,baz=130,slow=2.3,SNR=13
LSZ Lusaka 135.42 219 PKP **PKPdf** **23 23 01.1 +0.6**
comp=Z,1.3nm,0.3s,baz=25,slow=0.2,SNR=8.5
LSZ SKPbc **SKPbc** **23 25 33.1 +1.3**
comp=Z,7.9nm,0.8s,baz=149,slow=2.7,SNR=18
FINES FINESS Array B 135.54 343 PKhKP PKPpre 23 22 45.8
comp=Z,1.3nm,0.5s,baz=15,slow=5.8,SNR=1.7
FINES PKP **PKPdf** **23 22 57.6 -1.5**
comp=Z,3.7nm,0.6s,baz=115,slow=1.0,SNR=13
FINES SKPbc **SKPbc** **23 25 31.7 +1.2**
comp=Z,22nm,0.9s,baz=56,slow=3.2,SNR=21
VRH Novokhopyorsk 135.85 324 *e* PKIKP **PKPdf** **23 22 57.7 -2.3**
VRH pmax pmax
comp=Z,5.0nm,0.8s
OBN Obninsk 136.32 331 PKP **PKPdf** **23 23 00.4 -0.3**
comp=Z,2.1nm,0.6s,baz=136,slow=7.9,SNR=7.2
OBN SKPbc **SKPbc** **23 25 33.7 +0.7**
comp=Z,2.4nm,0.5s,baz=111,slow=6.0,SNR=9.3
OBN Obninsk 136.32 331 ⇓ *e* PKIKP **PKPdf** **23 22 58.8 -1.9**
OBN 23 29 16.0
OBN SSS SSS 23 48 24.0
OBN pmax pmax
comp=Z,13nm,1.2s
OBN pmax pmax
comp=Z,35nm,1.7s
VSR Storozhevoye 137.24 325 *e* PKIKP **PKPdf** **23 23 01.1 -1.4**
VSR pmax pmax
comp=Z,5.0nm,1.0s
VORD Divnogorie 137.30 325 *e* PKIKP **PKPdf** **23 23 01.6 -1.1**

VORD pmax pmax
comp=Z,4.0nm,0.8s
VSU Vasula 137.76 340 *eP* PKPpre 23 22 54.0
AAL Aland 138.16 346 *eP* PKPpre 23 22 53.1
KIV Kislovodsk 138.26 314 ⇑ *e* PKHKP PKPpre 23 22 59.4
KIV *i* 23 23 02.9
KIV SS SS 23 43 34.0 +7.4
KIV pmax pmax
comp=Z,10.0nm,1.7s
KIV pmax pmax
comp=Z,11nm,1.8s
KMBO Kilima Mbogo 138.39 243 SKPbc **SKPbc** **23 25 42.2 +1.5**
comp=Z,2.9nm,1.0s,baz=178,slow=1.8,SNR=5.9
ATD Arta Tunnel 138.80 264 SKPbc **SKPbc** **23 25 41.4 -0.1**
comp=Z,10nm,1.1s,baz=229,slow=9.8,SNR=4.3
NB2 NORSAR Subarra 138.91 352 PKP PKPdf 23 22 55.9 -10
comp=Z,5.0nm,0.9s,baz=22,slow=3.6
NOA NORSAR Array B 138.91 352 PKhKP PKPpre 23 22 56.2
comp=Z,2.9nm,0.8s,baz=16,slow=4.5,SNR=9.2
NOA PKP **PKPdf** **23 23 05.6 +0.2**
comp=Z,1.9nm,0.7s,baz=14,slow=4.1,SNR=7.2
NOA SKPbc **SKPbc** **23 25 41.3 +1.0**
comp=Z,9.9nm,0.9s,baz=14,slow=4.5,SNR=17
HFS Hagfors 139.43 350 PKhKP PKPpre 23 22 58.3
comp=Z,3.7nm,0.3s,baz=58,slow=2.8,SNR=43
IDID Didziasalis 140.23 337 *eP* **PKPdf** **23 23 02.2 -5.6**
IIGN Ignalina 140.39 337 *eP* **PKPdf** **23 23 03.1 -5.1**
MNK Minsk 140.42 335 *i* PKHKP PKPpre 23 23 03.6
MNK *i* 23 26 13.0
MNK *i* 23 29 12.4
MNK *i* SS SS 23 43 47.5 -2.4
MNK pmax pmax
comp=Z,14nm,0.9s
MNK Minsk 140.42 335 *i* PKP **PKPdf** **23 23 03.6 -4.6**
MNK *i* PKP **PKPdf** **23 23 03.6 -4.6**
MNK *i* PKP **PKPdf** **23 23 03.6 -4.6**
comp=Z,14nm,0.9s,baz=221
MNK *i* pPKP **pPKPdf** **23 25 26.7 -10**
MNK *i* PP **PP** **23 26 13.1 -2.8**
MNK *i* SKS **SKSdf** **23 29 12.4 -5.2**
MNK *i* SS **SS** **23 43 47.5 -2.4**
NACGM Naroch 140.53 337 *i* PKP **PKPdf** **23 23 03.5 -4.9**
PABE Paberze 141.05 339 *eP* **PKPdf** **23 23 04.4 -4.9**
BORU Boraas 141.96 350 *i* P **PKPdf** **23 23 06.4 -4.5**
LODK Lodwar 142.37 248 PKPdf **PKPdf** **23 23 09.5 -3.5**
SUW Suwalki 142.53 338 *e* PKPdf **PKPdf** **23 23 09.8 -2.2**
AKASG Malin Array Be 142.56 330 PKhKP PKPpre 23 23 08.9
comp=Z,8.4nm,0.3s,baz=42,slow=4.5,SNR=193
AKASG SKPbc **SKPbc** **23 25 50.1 +0.2**
comp=Z,1.9nm,0.6s,baz=38,slow=3.4,SNR=6.5
AKBB Malin Array Si 142.56 330 *c i* PKHKP PKPpre 23 23 09.0
FABU Falkenberg 142.58 349 *i* P **PKPdf** **23 23 07.7 -4.2**
BLEU Blekinge 142.62 346 *i* P **PKPdf** **23 23 08.4 -3.7**
DEL Delary 142.87 348 *i* P **PKPdf** **23 23 09.2 -3.3**
MCD Coleburn Disti 142.90 4 *eP* **PKPdf** **23 23 10.1 -2.4**
KPL Plockton 142.96 6 *eP* **PKPdf** **23 23 10.5 -2.1**
MDO Dochfour 142.97 5 *eP* **PKPdf** **23 23 10.8 -1.9**
KLNR Kaliningrad 142.99 341 *i* PKIKP **PKPdf** **23 23 10.6 -2.2**
GOET G??ttrup 143.06 352 *i* P PKPbc 23 23 11.5 +0.2
GOET IAmb IAmb 23 23 12.3
comp=Z,65nm,0.6s
SIM Simferopol' 143.38 319 *i* PKIKP PKPab 23 23 12.2 -0.5
SIM pmax pmax
comp=Z,98nm,0.8s
MUD Monsted U'grnd 143.63 352 *i* P PKPbc 23 23 12.4 -0.7
MUD IAmb IAmb 23 23 13.3
comp=Z,36nm,0.7s
BSD Bornholm Skovb 143.92 346 *i* P PKPbc 23 23 13.4 -0.6
BSD IAmb IAmb 23 23 14.4
comp=Z,34nm,0.7s
BSD Bornholm Skovb 143.92 346 *eP* **PKPdf** **23 23 14.4 0.0**
INVG Invergeldie, C 144.00 5 *eP* PKPbc 23 23 13.9 -0.4
MBAR Mbarara 144.01 238 PKP **PKPab** **23 23 16.6 +0.4**
comp=Z,12nm,0.8s,baz=105,slow=5.2,SNR=18
MBAR SKPbc **SKiKP** **23 25 56.3 +0.8**
comp=Z,2.2nm,0.2s,baz=77,slow=5.8,SNR=5.2
GAZ Gaziantep 144.41 306 **PKPdf** **23 23 15.9 0.0**
PGBU Glenifferbraes 144.57 5 *eP* PKPbc 23 23 15.9 -0.1
ESY Stoneypath 144.60 3 *eP* **PKPdf** **23 23 15.6 0.0**
SORM Soroca 144.72 328 ⇓P **PKPdf** **23 23 16.1 +0.1**
SORM Soroca 144.72 328 ⇓PKIKP **PKPdf** **23 23 16.1 +0.1**
GKP Gorka Klasztor 145.01 343 *e* PKPbc **PKPbc** **23 23 17.4 +0.1**
BEL Belsk 145.14 338 *e* PKPbc **PKPbc** **23 23 18.4 +0.6**
EKA Eskdalemuir Ar 145.15 4 PKPbc **PKPbc** **23 23 17.2 -0.5**
comp=Z,24nm,0.8s,baz=4.1,slow=4.2,SNR=24
ESK Eskdalemuir 145.16 4 *eP* **PKPdf** **23 23 17.0 +0.5**
MILM Milestii Mici 145.27 326 ⇓P **PKPbc** **23 23 18.0 -0.3**
MILM Milestii Mici 145.27 326 ⇓PKIKP **PKPbc** **23 23 18.0 -0.3**
NEWG New Galloway 145.28 5 *eP* **PKPdf** **23 23 17.2 +0.5**
LVV L'vov 145.51 333 *e* PKIKP **PKPbc** **23 23 18.7 -0.3**
EDMD Edmundbyers 145.72 3 *eP* **PKPbc** **23 23 19.3 -0.1**
IAS Iasi 145.74 327 ⇑P **PKPbc** **23 23 19.6 -0.1**
IAS Iasi 145.74 327 ⇑PKIKP **PKPbc** **23 23 19.6 -0.1**
ASF Jabal al Asfar 145.89 297 PKPbc **PKPbc** **23 23 20.6 -0.2**
comp=Z,6.0nm,0.8s,baz=165,slow=3.7,SNR=5.5
KESW Keswick, Cumbr 145.90 4 *eP* **PKPbc** **23 23 19.9 0.0**
BSEG Bad Segeberg 145.91 350 *e* PKPbc **PKPbc** **23 23 20.5 +0.6**
baz=17,slow=4.2
VASR Vaslui 145.99 326 ⇑P **PKPbc** **23 23 21.0 +0.6**
IOMK Kirk Michael 146.10 6 *eP* **PKPbc** **23 23 19.4 -1.0**
BRTR Keskin Array B 146.12 312 PKPbc **PKPbc** **23 23 20.7 -0.5**
comp=Z,4.8nm,0.7s,baz=112,slow=2.5,SNR=25
BRTR SKPbc **SKPbc** **23 25 58.7 0.0**
comp=Z,1.2nm,0.8s,baz=133,slow=3.6,SNR=3.1
BRTR Keskin Array B 146.12 312 **PKPbc** **23 23 20.9 -0.3**
KWP Kalwaria Pacla 146.20 334 *e* PKPbc **PKPbc** **23 23 21.3 +0.4**
KWP *e* PKPab **PKPab** **23 23 24.5 +0.9**
WIM Isle of Man 146.20 6 *eP* **PKPbc** **23 23 20.9 +0.2**
PRAR RASCA 146.29 328 ⇑P **PKPbc** **23 23 21.9 +0.7**
GHRR 146.57 326 ⇑P **PKiKP** **23 23 23.2 -0.7**
BURAR Bucovina Array 146.60 330 ⇑P **PKPbc** **23 23 22.8 +0.6**
BURAR Bucovina Array 146.60 330 ⇑PKP2 **PKPbc** **23 23 22.8 +0.6**
HPK Haverah Park 146.61 3 *eP* **PKPbc** **23 23 21.9 +0.1**
RUE Ruedersdorf 146.61 346 *eP* **PKPbc** **23 23 22.6 +0.8**
RUE Ruedersdorf 146.61 346 *e* PKPbc **PKPbc** **23 23 22.4 +0.6**
baz=17,slow=4.2
TESR Tescani 146.66 327 ⇓P **PKPbc** **23 23 22.3 +0.1**
OJC Ojcow 146.84 338 *e* PKPbc **PKPbc** **23 23 22.8 +0.2**
MMAI Mount Meron Ar 146.95 299 PKPbc **PKPbc** **23 23 24.1 +0.6**
comp=Z,6.0nm,0.4s,baz=73,slow=6.3,SNR=34
MMAI SKPbc **SKiKP** **23 26 01.6 +0.8**
comp=Z,12nm,0.9s,baz=172,slow=2.0,SNR=3.2
WME Myndd Eilian 146.98 6 *eP* **PKPbc** **23 23 22.8 -0.1**
VRI Vrincioaia 147.05 326 ⇑P **PKPbc** **23 23 24.0 +0.7**
VRI Vrincioaia 147.05 326 ⇑PKP2 **PKPbc** **23 23 24.0 +0.7**
WLF1 Llynfaes 147.08 6 *eP* **PKPbc** **23 23 22.9 -0.2**
PLOR Plostina 147.10 326 ⇑P **PKPbc** **23 23 24.0 +0.5**
PLOR Plostina 147.10 326 ⇑PKP2 **PKPbc** **23 23 24.0 +0.5**
UZH Uzhgorod 147.15 334 *e* PKHKP PKPpre 23 23 17.7
UZH *e* 23 23 20.2
UZH *e* 23 25 46.0
YLL Llanberis 147.25 6 *eP* **PKPbc** **23 23 23.3 -0.2**
FLTG Flechtingen 147.29 348 *e* PKPbc **PKPbc** **23 23 23.9 +0.3**
baz=17,slow=4.2
FLTG *e* PKPab **PKPab** **23 23 28.2 +0.3**
baz=17,slow=4.2
NIE Niedzica 147.31 336 *e* PKPbc **PKiKP** **23 23 25.6 +0.1**
NIE *e* PKPab **PKPab** **23 23 30.0 +1.9**
COVR Voineasa-Covas 147.34 326 ⇓P **PKPbc** **23 23 24.2 +0.1**
NRDL Niedersach Rie 147.34 350 *e* PKPbc **PKPbc** **23 23 24.2 +0.6**
baz=17,slow=4.2
BMR Baia Mare 147.36 331 ⇓P **PKPbc** **23 23 24.4 +0.4**
BMR Baia Mare 147.36 331 ⇓PKP2 **PKPbc** **23 23 24.4 +0.4**
OZUR 147.38 327 ⇑P **PKPbc** **23 23 24.9 +0.7**
TRPA Tarpa 147.43 333 ⇑P **PKPbc** **23 23 24.6 +0.5**
TRPA Tarpa 147.43 333 ⇑PKPB 23 23 23.6
KSP Ksiaz 147.44 342 *e* PKPbc **PKiKP** **23 23 24.9 -0.7**
KSP *e* PKPab **PKPab** **23 23 29.6 +1.0**
NEHR Nehoiu 147.57 326 ⇓P **PKPbc** **23 23 24.7 0.0**
ASSE Asse, Remlinge 147.59 349 *e* PKPbc **PKPbc** **23 23 25.0 +0.6**
baz=17,slow=4.2
ISR Istrita 147.64 325 ⇓P **PKPab** **23 23 31.1 +1.4**
ISR Istrita 147.64 325 ⇓PKP2 **PKPab** **23 23 31.1 +1.4**
DOPR Dopca 147.67 327 ⇑P **PKiKP** **23 23 25.6 -0.7**
MLR Muntele Rosu 147.71 326 ⇓P **PKPbc** **23 23 24.1 -1.0**
MLR Muntele Rosu 147.71 326 PKPbc **PKPbc** **23 23 24.9 -0.2**
comp=Z,15nm,0.8s,baz=258,slow=2.7,SNR=18
MLR Muntele Rosu 147.71 326 ⇓PKIKP **PKPbc** **23 23 24.1 -1.0**
CHVC Chvalec 147.74 342 ⇑ *e* PKP **PKiKP** **23 23 25.6 -0.7**
UPC Upice 147.82 342 *e* PKP2 **PKiKP** **23 23 25.8 -0.6**
UPC Upice 147.82 342 ⇑ *e* PKP **PKiKP** **23 23 25.8 -0.6**
CWF Charnwood Fore 147.84 3 *eP* **PKPbc** **23 23 24.9 -0.2**
DPC Dobruska-Polom 147.87 341 *e* PKHKP PKPpre 23 23 21.0

DPC			*e*		23 23 31.1		
DPC	**Dobruska-Polom**	**147.87 341**	*e*PKPDF	**PKPdf**	**23 23 21.0**	**-0.3**	
DPC			⇑*e*PKP	**PKPbc**	**23 23 25.8**	**+0.5**	
DPC			*e*PKPAB	**PKPab**	**23 23 31.1**	**+0.7**	
IBBN	**Ibbenburen**	**147.87 352**	*e*PKPbc	**PKPbc**	**23 23 25.7**	**+0.6**	
baz=17,slow=4.2							
CLL	**Collm**	**147.88 346**	*e*PKHKP	PKPpre	23 23 21.0		
CLL			*i*		23 23 29.9		
CLL			pmax	pmax			
comp=Z,50nm,0.9s							
CLL			pmax	pmax			
comp=Z,28nm,0.9s							
CLL	**Collm**	**147.88 346**	*e*PKPdf	**PKPdf**	**23 23 21.0**	**-0.2**	
CLL			⇑*i*PKPbc	**PKPbc**	**23 23 25.2**	**0.0**	
comp=Z,50nm,0.9s							
CLL			⇓*i*PKPab	**PKPab**	**23 23 29.9**	**-0.4**	
comp=Z,28nm,0.9s							
CLL			*e*pPKPbc	**pPKPdf**	**23 25 48.0**	**-2.3**	
CLZ	**Clausthal**	**147.92 349**	*e*PKPbc	**PKPbc**	**23 23 25.9**	**+0.6**	
baz=17,slow=4.2							
CLZ			*e*PKPab	**PKPab**	**23 23 31.4**	**+0.9**	
baz=17,slow=4.2							
SECR		**147.95 325**	⇑P	**PKPbc**	**23 23 25.8**	**+0.2**	
EIL	**Elat**	**147.96 293**	PKPbc	**PKPbc**	**23 23 24.9**	**-1.2**	
comp=Z,4.6nm,0.7s,baz=31,slow=7.5,SNR=4.9							
KRLC	**Kraliky**	**147.97 341**	*e*PKP2	**PKPbc**	**23 23 26.1**	**+0.6**	
KRLC	**Kraliky**	**147.97 341**	⇑*e*PKP	**PKPbc**	**23 23 26.1**	**+0.6**	
KRLC			*e*PKPAB	**PKPab**	**23 23 31.5**	**+0.7**	
HLM1	**Long Mynd**	**147.97 4**	*e*P	**PKPbc**	**23 23 25.0**	**-0.4**	
MORC	**Moravsky Berou**	**147.99 339**	⇑P	**PKiKP**	**23 23 26.2**	**-0.6**	
MORC	**Moravsky Berou**	**147.99 339**	⇑PKP2	**PKiKP**	**23 23 26.2**	**-0.6**	
MORC	**Moravsky Berou**	**147.99 339**	*e*PKP	**PKPbc**	**23 23 25.9**	**+0.3**	
MORC			*e*		23 23 31.6		
CBBR	**Cluj-Babes-Bol**	**148.00 330**	⇑P	**PKPbc**	**23 23 25.8**	**+0.2**	
KECS	**Kecovo**	**148.00 335**	*e*PKP2	**PKiKP**	**23 23 26.5**	**-0.3**	
KECS	**Kecovo**	**148.00 335**	*e*PKP	**PKiKP**	**23 23 26.5**	**-0.3**	
KECS			*e*		23 23 31.7		
CJR	**Cluj-Napoca**	**148.02 330**	⇓P	**PKPbc**	**23 23 26.2**	**+0.4**	
CJR	**Cluj-Napoca**	**148.02 330**	⇓PKP2	**PKPbc**	**23 23 26.2**	**+0.4**	
BRG	**Berggiesshubel**	**148.05 344**	⇓*e*PKPf	**PKPdf**	**23 23 22.2**	**+0.7**	
BRG			⇑*i*PKP	**PKPbc**	**23 23 26.1**	**+0.5**	
BRG			Amp		23 23 28.1		
comp=Z,26nm,0.8s							
BRG			*i* PKPab	**PKPab**	**23 23 31.5**	**+0.5**	
BRG			Amp		23 23 32.9		
comp=Z,22nm,1.2s							
BRG			*ex*	x	23 26 03.6		
BRG			Amp		23 26 06.7		
comp=Z,24nm,1.6s							
BRG	**Berggiesshubel**	**148.05 344**	*e*PKHKP	**PKPdf**	**23 23 22.2**	**+0.7**	
BRG	**Berggiesshubel**	**148.05 344**	*e*PKPbc	**PKPbc**	**23 23 26.2**	**+0.6**	
baz=17,slow=4.2							
BRG			*e*PKPab	**PKPab**	**23 23 31.7**	**+0.7**	
baz=17,slow=4.2							
SULR		**148.08 325**	⇓P	**PKiKP**	**23 23 27.4**	**+0.3**	
FBE	**Freiberg**	**148.16 345**	*e*PKPbc	**PKiKP**	**23 23 26.8**	**-0.2**	
baz=17,slow=4.2							
PVCC	**Panska Ves**	**148.21 343**	*e*PKP2	**PKiKP**	**23 23 27.0**	**-0.2**	
PVCC	**Panska Ves**	**148.21 343**	⇑*e*PKP	**PKiKP**	**23 23 27.0**	**-0.2**	
VOIR		**148.21 327**	⇓P	**PKPbc**	**23 23 25.7**	**-0.6**	
VOIR		**148.21 327**	⇓PKHKP	**PKPbc**	**23 23 25.7**	**-0.6**	
NEUB	**Neuenburg**	**148.25 347**	*e*PKPbc	**PKiKP**	**23 23 26.7**	**-0.5**	
baz=17,slow=4.2							
GTTG	**Gottingen**	**148.28 349**	*e*PKPbc	**PKiKP**	**23 23 26.8**	**-0.5**	
baz=17,slow=4.2							
GTTG			*e*PKPab	**PKPab**	**23 23 32.7**	**+0.8**	
baz=17,slow=4.2							
LTVH	**Ltavrtes, Hu**	**148.28 332**	⇑P	**PKiKP**	**23 23 27.8**	**+0.4**	
LTVH	**Ltavrtes, Hu**	**148.28 332**	⇑PKPB	**PKPbc**	**23 23 26.2**	**-0.1**	
MTUR	**Matau**	**148.35 327**	⇑P	**PKPbc**	**23 23 26.7**	**0.0**	
MTUR	**Matau**	**148.35 327**	⇑PKHKP	**PKPbc**	**23 23 26.7**	**0.0**	
DRGR		**148.37 331**	⇑P	**PKPbc**	**23 23 26.9**	**+0.2**	
DRGR		**148.37 331**	⇑PKHKP	PKPpre	23 23 26.9		
ARR	**Arges**	**148.47 327**	⇑P	**PKiKP**	**23 23 28.4**	**+0.4**	
MCH1	**Michaelchurch**	**148.48 5**	*e*P	**PKPbc**	**23 23 26.3**	**-0.3**	
VYHS	**Vyhne**	**148.62 337**	*e*PKHKP	**PKPbc**	**23 23 27.6**	**+0.4**	
VYHS			*e*		23 23 34.4		
VYHS	**Vyhne**	**148.62 337**	*e*PKP	**PKPbc**	**23 23 27.6**	**+0.4**	
VYHS			*e*		23 23 34.4		
RAZG	**Razgrad**	**148.65 323**	⇑P	**PKiKP**	**23 23 28.2**	**-0.2**	
PRA	**Prague**	**148.66 343**	*e*PKP2	**PKiKP**	**23 23 28.0**	**-0.1**	
PRA	**Prague**	**148.66 343**	⇑*e*PKP	**PKiKP**	**23 23 28.0**	**-0.1**	
PSZ	**Piszkesteto**	**148.69 335**	⇑P	**PKPbc**	**23 23 27.8**	**+0.4**	
PSZ	**Piszkesteto**	**148.69 335**	⇑PKHKP	**PKPbc**	**23 23 27.8**	**+0.4**	
PSZ	**Piszkesteto**	**148.69 335**	⇑PKPB	**PKPbc**	**23 23 26.4**	**-1.0**	
VRAC	**Vranov**	**148.70 340**	⇑P	**PKiKP**	**23 23 27.8**	**-0.5**	
VRAC	**Vranov**	**148.70 340**	⇑PKHKP	**PKiKP**	**23 23 27.8**	**-0.5**	
VRAC	**Vranov**	**148.70 340**	*e*PKP	**PKPbc**	**23 23 27.7**	**+0.4**	
VRAC			*e*		23 23 34.8		
PRU	**Pruhonice**	**148.70 343**	*e*PKHKP	**PKPbc**	**23 23 27.6**	**+0.3**	
PRU	**Pruhonice**	**148.70 343**	⇑*e*PKP	**PKPbc**	**23 23 27.6**	**+0.3**	
KOLL	**Kolacno**	**148.71 337**	*e*PKP	**PKiKP**	**23 23 28.2**	**-0.1**	
JAVC	**Velka Javorina**	**148.73 338**	*e*PKP	**PKiKP**	**23 23 28.9**	**+0.5**	
BUG	**Bochum--Univer**	**148.78 352**	*e*PKPbc	**PKPbc**	**23 23 27.7**	**+0.4**	
baz=17,slow=4.2							
MOX	**Moxa**	**148.81 347**	*e*PKPbc	**PKPbc**	**23 23 27.9**	**+0.4**	
baz=17,slow=4.2							
TANN	**Tannenbergstha**	**148.84 346**	*e*PKPbc	**PKiKP**	**23 23 28.1**	**-0.5**	
baz=17,slow=4.2							
WERD	**Werda**	**148.84 346**	*e*PKPbc	**PKiKP**	**23 23 28.3**	**-0.3**	
baz=17,slow=4.2							
LOT	**Lotru**	**148.85 328**	⇑P	**PKPbc**	**23 23 27.5**	**-0.4**	
HUMR	**Humele**	**148.87 326**	⇓P	**PKPbc**	**23 23 27.8**	**0.0**	
GUNZ	**Gunzen**	**148.92 346**	*e*PKPbc	**PKiKP**	**23 23 28.6**	**-0.1**	
baz=17,slow=4.2							
GUNZ			*e*PKPab	**PKPab**	**23 23 35.4**	**+0.7**	
baz=17,slow=4.2							
UBBA	**Unterbreizbach**	**148.97 349**	*e*PKPbc	**PKiKP**	**23 23 28.2**	**-0.4**	
baz=17,slow=4.2							
WERN	**Wernitzgruen**	**148.98 346**	*e*PKPbc	**PKiKP**	**23 23 28.8**	**-0.1**	
baz=17,slow=4.2							
WERN			*e*PKPab	**PKPab**	**23 23 36.0**	**+1.0**	
baz=17,slow=4.2							
KRUC	**Moravsky**	**148.98 340**	*e*PKP	**PKPbc**	**23 23 28.3**	**+0.3**	
KRUC			*e*		23 23 35.6		
COPA	**Copaceanca**	**149.00 325**	⇓P	**PKPbc**	**23 23 27.5**	**-0.6**	
NKC	**Novy Kostel**	**149.01 346**	*e*PKHKP	**PKPbc**	**23 23 28.7**	**+0.7**	
NKC			*e*		23 23 35.0		
NKC	**Novy Kostel**	**149.01 346**	⇑*e*PKP	**PKPbc**	**23 23 28.7**	**+0.7**	
NKC			*e*PKPAB	**PKPab**	**23 23 35.0**	**-0.1**	
TREC	**Trest**	**149.05 341**	*e*PKHKP	**PKPbc**	**23 23 28.6**	**+0.4**	
TREC	**Trest**	**149.05 341**	⇑*e*PKP	**PKPbc**	**23 23 28.6**	**+0.4**	
SIRR	**Siria**	**149.24 331**	⇑P	**PKiKP**	**23 23 29.3**	**-0.2**	
MODS	**Modra-Piesok**	**149.28 338**	*e*PKHKP	PKPpre	23 23 28.8		
MODS			*e*		23 23 36.9		
MODS	**Modra-Piesok**	**149.28 338**	*e*PKP	**PKPbc**	**23 23 28.8**	**+0.1**	
MODS			*e*		23 23 36.9		
MANZ	**Manzenberg**	**149.32 346**	*e*PKPbc	**PKiKP**	**23 23 29.4**	**-0.1**	
baz=17,slow=4.2							
GZR	**Gura Zlata**	**149.37 329**	⇑P	**PKPbc**	**23 23 29.2**	**+0.1**	
GZR	**Gura Zlata**	**149.37 329**	⇑PKIKP	**PKPbc**	**23 23 29.2**	**+0.1**	
SRO	**Srobarova**	**149.38 337**	*e*PKHKP	PKPpre	23 23 29.7		
SRO			*e*		23 23 37.6		
SRO	**Srobarova**	**149.38 337**	*e*PKP	**PKiKP**	**23 23 29.7**	**0.0**	
SRO			*e*		23 23 37.6		
BUD	**Budapest**	**149.39 336**	⇑PKPB		23 23 30.1		
ZST	**Bratislava**	**149.49 338**	*e*PKHKP	**PKPbc**	**23 23 30.3**	**+1.1**	
ZST			*e*		23 23 38.4		
ZST	**Bratislava**	**149.49 338**	*e*PKP	**PKPbc**	**23 23 30.3**	**+1.1**	
ZST			*e*		23 23 38.4		
ROTZ	**Rotzenmuhle**	**149.50 345**	*e*PKPbc	**PKiKP**	**23 23 29.6**	**-0.3**	
baz=17,slow=4.2							
VLAD	**Vladila**	**149.53 325**	⇓P	**PKiKP**	**23 23 30.2**	**+0.1**	
AMBH	**Ambrzfalva**	**149.59 332**	⇑P	**PKiKP**	**23 23 30.5**	**+0.4**	
AMBH	**Ambrzfalva**	**149.59 332**	⇑PKPB	**PKPbc**	**23 23 30.7**	**+1.2**	
BEBN	**Eben Emael**	**149.60 354**	PKPbc	**PKPbc**	**23 23 29.5**	**+0.2**	
BEBN			PKPab	**PKPab**	**23 23 37.4**	**+0.1**	
SRE	**Strehaia**	**149.69 328**	⇓P	**PKiKP**	**23 23 30.6**	**+0.1**	
SRE	**Strehaia**	**149.69 328**	⇓PKHKP	**PKiKP**	**23 23 30.6**	**+0.1**	
AHRW	**Bad Neuenahr-A**	**149.69 352**	*e*PKPbc	**PKiKP**	**23 23 30.2**	**0.0**	
baz=17,slow=4.2							
UCC	**Uccle**	**149.71 356**	PKPbc	**PKPbc**	**23 23 29.8**	**+0.2**	
KHC	**Kasperske Hory**	**149.75 343**	*e*PKHKP	**PKPdf**	**23 23 24.8**	**+0.5**	
KHC			*e*		23 23 38.9		
KHC	**Kasperske Hory**	**149.75 343**	*e*PKPDF	**PKPdf**	**23 23 24.8**	**+0.5**	
KHC			⇑*e*PKP	**PKiKP**	**23 23 30.3**	**-0.2**	
KHC			*e*PKPAB	**PKPab**	**23 23 38.9**	**+0.7**	
KHC			*ex*	x	23 24 56.0		
KHC			*ex*	x	23 25 13.0		
KHC	**Kasperske Hory**	**149.75 343**	PKPbc	**PKPbc**	**23 23 30.0**	**+0.1**	
MEM	**Membach**	**149.75 354**	PKPdf	**PKPdf**	**23 23 24.7**	**+0.5**	
MEM			PKPbc	**PKPbc**	**23 23 29.9**	**+0.2**	
BZS	**Buzias**	**149.76 330**	⇑P	**PKPbc**	**23 23 29.9**	**0.0**	
BTNL	**Ternell**	**149.76 353**	PKPbc	**PKPbc**	**23 23 30.0**	**+0.2**	
GRF	**Grafenberg Arr**	**149.79 347**	*e*PKPbc	**PKiKP**	**23 23 30.5**	**0.0**	
baz=17,slow=4.2							
GRF			*e*PKPab	**PKPab**	**23 23 39.6**	**+1.3**	
baz=17,slow=4.2							
TNS	**Taunus Mts**	**149.81 350**	*e*PKPbc	**PKiKP**	**23 23 30.5**	**-0.1**	
baz=17,slow=4.2							
TNS			*e*PKPab	**PKPab**	**23 23 38.7**	**+0.3**	
baz=17,slow=4.2							
BSTI	**Sart Tilman**	**149.82 354**	PKP	**PKiKP**	**23 23 30.5**	**0.0**	
CKRC	**Cesky Krumlov**	**149.82 342**	*e*PKPDF	**PKPdf**	**23 23 25.0**	**+0.6**	
CKRC			⇑*e*PKP	**PKiKP**	**23 23 30.5**	**-0.1**	
WET	**Wettzell**	**149.92 344**	*e*PKPbc	**PKiKP**	**23 23 30.5**	**-0.3**	
baz=17,slow=4.2							
WET			*e*PKPab	**PKPab**	**23 23 39.7**	**+0.9**	
baz=17,slow=4.2							
HERR	**Herculane**	**149.92 329**	⇑P	**PKPbc**	**23 23 30.5**	**+0.1**	
GEC2	**GERESS Array S**	**149.97 343**	*e*PKPbc	**PKPbc**	**23 23 30.7**	**+0.3**	
baz=17,slow=4.2							
GERES	**GERESS Array B**	**149.97 343**	PKP	**PKPdf**	**23 23 24.6**	**-0.2**	
comp=Z,0.9nm,0.8s,baz=78,slow=1.9,SNR=7.9							
GERES			PKPbc	**PKPbc**	**23 23 30.6**	**+0.1**	
comp=Z,9.5nm,0.8s,baz=45,slow=2.1,SNR=66							
GERES			PKPab	**PKPab**	**23 23 39.5**	**+0.3**	
comp=Z,1.0nm,0.5s,baz=46,slow=3.6,SNR=5.6							
GERES			pPKPbc	**pPKPab**	**23 25 59.2**	**-1.2**	
comp=Z,1.2nm,1.0s,baz=342,slow=0.3,SNR=3.1							
SNF	**Seneffe**	**150.00 356**	PKPbc	**PKPbc**	**23 23 30.5**	**+0.2**	
SNF			PKPab	**PKPab**	**23 23 38.7**	**-0.4**	
BHOU	**Houvegnez**	**150.00 353**	PKiKP	**PKiKP**	**23 23 30.9**	**0.0**	
BHOU			PKPab	**PKPab**	**23 23 38.5**	**-0.6**	
BCLA	**Clavier**	**150.00 354**	PKiKP	**PKiKP**	**23 23 31.0**	**+0.2**	
BCLA			PKPab	**PKPab**	**23 23 38.9**	**-0.3**	
BGES	**Gesves**	**150.06 355**	PKPab	**PKPab**	**23 23 39.1**	**-0.3**	
EGYH	**Egyhazaskeszo**	**150.08 337**	⇑PKPB	**PKPbc**	**23 23 29.7**	**-0.9**	
SOP	**Sopron**	**150.12 339**	⇑PKPB	**PKPbc**	**23 23 30.3**	**-0.4**	
CONA	**Conrad Observa**	**150.14 340**	*i* P	**PKiKP**	**23 23 31.4**	**+0.1**	
comp=Z,18nm,0.8s,SNR=8.9							
CONA			*e*P	**PKPab**	**23 23 40.9**	**+1.0**	
comp=Z,20nm,1.1s							
CONA			*e*P	**pPKPab**	**23 26 00.5**	**-0.5**	
comp=Z,2.2nm,1.2s							
BANR	**Banloc**	**150.16 331**	⇓P	**PKiKP**	**23 23 31.5**	**+0.2**	
BMRD	**Maredsous**	**150.17 355**	PKPbc	**PKPbc**	**23 23 30.9**	**+0.2**	
BMRD			PKPab	**PKPab**	**23 23 40.1**	**+0.3**	
MPLH	**Magyarpolny**	**150.21 337**	⇑PKPB	**PKPbc**	**23 23 31.0**	**+0.1**	
RCHB	**Rochefort**	**150.27 354**	PKPbc	**PKPbc**	**23 23 31.0**	**+0.1**	
MPEP	**Malo Peshtene**	**150.32 325**	*i* P	**PKPbc**	**23 23 31.5**	**+0.2**	
DOU	**Dourbes**	**150.39 355**	PKiKP	**PKiKP**	**23 23 31.6**	**-0.1**	
DOU			PKPab	**PKPab**	**23 23 40.5**	**-0.2**	
ALN	**Alexandroupoli**	**150.55 319**	PKIKP	**PKPbc**	**23 23 31.5**	**-0.4**	
ALN	**Alexandroupoli**	**150.55 319**		**PKPbc**	**23 23 31.5**	**-0.4**	
KUBS	**Kucevo**	**150.62 329**	*e*P	**PKPbc**	**23 23 30.5**	**-1.5**	
WLF	**Walferdange**	**150.66 353**	*e*PKPbc	**PKiKP**	**23 23 32.8**	**+0.6**	
baz=17,slow=4.2							
WLF	**Walferdange**	**150.66 353**	PKiKP	**PKiKP**	**23 23 32.6**	**+0.3**	
WLF			PKPab	**PKPab**	**23 23 42.6**	**+0.6**	
MOA	**Molln**	**150.71 341**	*e*P	**PKPbc**	**23 23 32.0**	**-0.1**	
comp=Z,6.1nm,0.7s							
MOA			*e*P	**PKPab**	**23 23 43.2**	**+0.9**	
comp=Z,11nm,1.1s							
MOA			*e*P	**pPKPab**	**23 26 03.5**	**+0.1**	
comp=Z,8.1nm,1.7s							
ZAGS	**Zajecar**	**150.78 327**	*e*P	**PKPbc**	**23 23 31.3**	**-1.0**	
ARSA	**Arzberg**	**150.85 339**	*e*P	**PKPbc**	**23 23 32.4**	**0.0**	
comp=Z,5.9nm,1.5s							
ARSA			*e*P	**PKPab**	**23 23 41.6**	**-1.3**	
comp=Z,5.7nm,0.9s							
ARSA			*e*P	**pPKPab**	**23 26 04.8**	**+0.6**	
comp=Z,0.1nm,0.3s							
KOVH	**Kovagotottos**	**150.90 335**	⇑PKPB		23 23 32.1		
FRGS	**Fruska Gora**	**150.93 332**	⇑P	**PKPbc**	**23 23 32.4**	**-0.2**	
FRGS	**Fruska Gora**	**150.93 332**	*e*P	**PKPbc**	**23 23 32.2**	**-0.5**	
FRGS	**Fruska Gora**	**150.93 332**	⇑*i*P	**PKPbc**	**23 23 32.2**	**-0.5**	
SVIS	**Svilajnac**	**150.96 329**	*e*P	**PKPbc**	**23 23 32.6**	**-0.1**	
ZAPS	**Zavoj**	**150.96 326**	*e*P	**PKiKP**	**23 23 33.2**	**0.0**	
STU	**Stuttgart**	**151.08 349**	*e*PKPbc	**PKiKP**	**23 23 33.3**	**+0.2**	
baz=17,slow=4.2							
VTS	**Vitosha**	**151.09 325**	⇑P	**PKPbc**	**23 23 33.4**	**+0.1**	
VTS	**Vitosha**	**151.09 325**	⇑PKIKP	**PKPbc**	**23 23 33.4**	**+0.1**	
BOVS	**Bovan**	**151.18 328**	⇑P	**PKPbc**	**23 23 32.4**	**-0.8**	
BOVS	**Bovan**	**151.18 328**	*e*P	**PKPbc**	**23 23 32.5**	**-0.8**	
FUR	**Furstenfeldbru**	**151.22 345**	*e*PKPab	**PKPab**	**23 23 45.5**	**+1.1**	
baz=17,slow=4.2							
RJOB	**Jochberg**	**151.23 343**	*e*PKPbc	**PKPbc**	**23 23 33.3**	**-0.1**	
baz=17,slow=4.2							
RJOB			*e*PKPab	**PKPab**	**23 23 45.8**	**+1.3**	
baz=17,slow=4.2							
KOGS	**Kog**	**151.29 338**	*i* PKPbc	**PKPbc**	**23 23 32.9**	**-0.5**	
KOGS			*i*		23 23 44.7		
TRUS	**Trudelj**	**151.37 330**	⇑*i*P	**PKPbc**	**23 23 33.7**	**0.0**	
GRUS	**Gruza**	**151.48 329**	⇑*i*P	**PKiKP**	**23 23 34.2**	**+0.1**	
SOKA	**Soboth**	**151.51 339**	*i* P	**PKPbc**	**23 23 33.6**	**-0.4**	
comp=Z,8.9nm,1.0s,SNR=5.6							
SOKA			*e*P	**PKPab**	**23 23 45.8**	**0.0**	
comp=Z,13nm,1.2s							
PERS	**Pernice**	**151.52 339**	*i* PKPbc	**PKPbc**	**23 23 33.5**	**-0.5**	
BOSS	**Bosilegrad**	**151.58 325**	*e*P	**PKPbc**	**23 23 34.3**	**+0.1**	
BFO	**Black Forest**	**151.66 350**	*e*PKPbc	**PKiKP**	**23 23 34.4**	**0.0**	
baz=17,slow=4.2							
BFO			*e*PKPab	**PKPab**	**23 23 46.6**	**+0.4**	
baz=17,slow=4.2							
BFO	**Black Forest**	**151.66 350**		**PKPbc**	**23 23 34.2**	**-0.1**	
BFO			PKPab	**PKPab**	**23 23 45.8**	**-0.4**	
DIVS	**Divibare**	**151.66 330**	*e*P	**PKPbc**	**23 23 34.5**	**0.0**	
DIVS	**Divibare**	**151.66 330**	*e*P	**PKPbc**	**23 23 34.4**	**0.0**	
KKB	**Krupnik**	**151.68 324**	*i* P	**PKPbc**	**23 23 34.3**	**-0.1**	
KBA	**Koelnbreinsper**	**151.68 342**	*e*P	**PKPbc**	**23 23 33.7**	**-0.8**	
comp=Z,11nm,0.9s							
KBA			*e*P	**PKPab**	**23 23 47.7**	**+1.2**	
comp=Z,8.3nm,0.7s							
KBA			*e*P	**pPKPbc**	**23 26 01.7**	**-0.1**	
comp=Z,3.9nm,1.3s							
BARS	**Barje**	**151.71 326**	⇑*i*P	**PKPbc**	**23 23 34.4**	**-0.1**	
SELS	**Selova**	**151.77 328**	*e*P	**PKPbc**	**23 23 34.3**	**-0.3**	
OBKA	**Obir**	**151.82 340**	*e*P	**PKPbc**	**23 23 34.1**	**-0.6**	
comp=Z,4.2nm,0.6s							
OBKA			*e*P	**PKPab**	**23 23 47.2**	**+0.1**	
comp=Z,1.9nm,0.6s							
OBKA			*e*P	**pPKPbc**	**23 26 02.9**	**+0.8**	
comp=Z,4.8nm,1.3s							
ZAG	**Zagreb**	**151.92 337**	*e*P	**PKiKP**	**23 23 35.1**	**+0.1**	
WATA	**Walderalm**	**151.92 344**	*e*P	**PKPbc**	**23 23 34.7**	**-0.2**	
comp=Z,15nm,1.1s							
WATA			*e*P	**PKPab**	**23 23 48.1**	**+0.5**	
comp=Z,21nm,1.1s							
WATA			*e*P	**pPKPbc**	**23 26 04.6**	**+2.2**	
comp=Z,9.2nm,1.8s							
UBR	**Ueberruh**	**151.94 347**	*e*PKPbc	**PKPbc**	**23 23 35.0**	**0.0**	
baz=17,slow=4.2							
WTTA	**Wattenberg**	**151.97 344**	*e*P	**PKPdf**	**23 23 27.7**	**-0.2**	
comp=Z,4.0nm,1.0s							
WTTA			*i* P	**PKPbc**	**23 23 35.0**	**-0.1**	
comp=Z,4.6nm,0.6s,SNR=5.2							
WTTA			*e*P	**PKPab**	**23 23 48.3**	**+0.5**	
comp=Z,34nm,1.4s							
RETA	**Reutte**	**151.97 346**	*e*P	**PKPbc**	**23 23 34.9**	**-0.1**	
comp=Z,4.9nm,0.7s							
RETA			*e*P	**PKPab**	**23 23 48.2**	**+0.5**	
comp=Z,9.6nm,0.7s							
IVAS	**Ivanjica**	**151.98 329**	⇑*i*P	**PKPbc**	**23 23 34.6**	**-0.5**	
MYKA	**Terra Mystica**	**151.99 341**	*e*P	**PKPbc**	**23 23 34.4**	**-0.7**	
comp=Z,5.3nm,0.6s							
MYKA			*e*P	**PKPab**	**23 23 47.7**	**-0.1**	
comp=Z,8.0nm,0.9s							
MYKA			*e*P	**pPKPab**	**23 26 12.1**	**+3.6**	
comp=Z,3.4nm,1.1s							
GCIS	**Gornji Cirnik**	**152.01 338**	*i* PKPbc	**PKPbc**	**23 23 35.1**	**+0.1**	
GCIS			*e*		23 23 47.6		
MOTA	**Moosalm**	**152.03 345**	*e*P	**PKPdf**	**23 23 27.6**	**-0.4**	
comp=Z,9.1nm,1.3s							
MOTA			*e*P	**PKPbc**	**23 23 35.0**	**-0.2**	
comp=Z,12nm,0.9s							
MOTA			*e*P	**PKPab**	**23 23 48.5**	**+0.5**	
comp=Z,13nm,0.9s							
CRES	**Cresnjev**	**152.11 338**	*e*P	**PKPbc**	**23 23 34.2**	**-1.1**	
BBLS	**Lazići**	**152.11 331**	*e*P	**PKPbc**	**23 23 35.4**	**0.0**	
BBLS	**Lazići**	**152.11 331**	*e*P	**PKiKP**	**23 23 35.6**	**0.0**	
SQTA	**Sankt Quirin**	**152.12 345**	*e*P	**PKPdf**	**23 23 28.2**	**+0.1**	
comp=Z,6.7nm,1.1s							
SQTA			*e*P	**PKPbc**	**23 23 34.8**	**-0.6**	
comp=Z,5.4nm,0.6s							
SQTA			*e*P	**PKPab**	**23 23 48.6**	**+0.3**	
comp=Z,12nm,0.9s							
SQTA			*e*P	**pPKPab**	**23 26 06.0**	**-2.9**	
comp=Z,9.6nm,1.5s							
ABTA	**Abfaltersbach**	**152.22 343**	*e*P	**PKPdf**	**23 23 27.9**	**-0.2**	
comp=Z,7.6nm,1.0s							
ABTA			*i* P	**PKPbc**	**23 23 34.9**	**-0.7**	
comp=Z,13nm,0.7s,SNR=6.0							
ABTA			*e*P	**PKPab**	**23 23 48.7**	**0.0**	
comp=Z,7.4nm,0.7s							
ABTA			*e*P	**pPKPab**	**23 26 09.0**	**-0.4**	
comp=Z,5.6nm,1.0s							
LJU	**Ljubljana**	**152.24 339**	*e*P	**PKPbc**	**23 23 35.0**	**-0.5**	
LJU	**Ljubljana**	**152.24 339**	*i* PKPbc	**PKPbc**	**23 23 35.4**	**-0.1**	
MRAK	**Mrakovica**	**152.26 335**	*e*P	**PKPbc**	**23 23 35.3**	**-0.4**	
RUDO	**Rudo**	**152.32 330**	*e*P	**PKPbc**	**23 23 35.4**	**-0.4**	
DAVA	**Damuels**	**152.36 347**	*e*P	**PKiKP**	**23 23 37.3**	**+1.2**	
comp=Z,7.5nm,0.8s							
DAVA			*e*P	**PKPab**	**23 23 49.7**	**+0.3**	
comp=Z,18nm,0.8s							
BLY	**Banja Luka**	**152.37 334**	*e*P	**PKPbc**	**23 23 32.5**	**-3.3**	
FETA	**Feichten**	**152.42 345**	*e*P	**PKPdf**	**23 23 28.6**	**0.0**	
comp=Z,4.8nm,0.9s							
FETA			*e*P	**PKPbc**	**23 23 35.9**	**-0.2**	
comp=Z,12nm,0.9s							
FETA			*e*P	**PKPab**	**23 23 50.4**	**+0.7**	
comp=Z,13nm,1.2s							
FETA			*e*P	**pPKPbc**	**23 26 05.1**	**+1.5**	
comp=Z,7.1nm,1.3s							
CEY	**Cerknica**	**152.54 339**	*e*P	**PKPbc**	**23 23 35.9**	**-0.3**	
MGRS	**Mrkonjic Grad**	**152.68 334**	*e*P	**PKPab**	**23 23 51.0**	**+0.3**	
RIY	**Rijeka**	**152.88 339**	*e*P	**PKPbc**	**23 23 35.8**	**-1.1**	
CTI	**Castel Tesino**	**153.09 343**	PKIKP	**PKPdf**	**23 23 29.6**	**+0.1**	
CTI					23 23 37.4		
CTI					23 23 52.7		
CTI	**Castel Tesino**	**153.09 343**		**PKPdf**	**23 23 29.6**	**+0.1**	
CTI			PKPbc	**PKPbc**	**23 23 37.4**	**-0.1**	
CTI			PKPab	**PKPab**	**23 23 52.7**	**+0.1**	
PDG	**Podgorica**	**153.

FNO	Franklin	0.71	180	Pg	Pg	23 16 12.2	-0.3
FNO				Sg	Sg	23 16 21.9	+0.2
CROK	Carrier	0.71	319	Pg	Pg	23 16 12.8	+0.2
CROK				Sg	Sg	23 16 22.7	+0.9
GC02	Grant County #	0.95	337	Pg	Pg	23 16 16.4	-0.8
KAN13	South Haven SW	1.04	357	Pg	Pg	23 16 18.6	-0.3
OK032	Salt Plains WL	1.06	322	Pg	Pg	23 16 19.1	-0.1
KAN14	Manchester OK	1.08	336	Pg	Pg	23 16 19.4	-0.2
KAN17	Caldwell West	1.11	345	Pg	Pg	23 16 20.2	0.0
T35A	Sooner Cattle	1.19	37	Pg	Pg	23 16 21.0	-0.6
KAN05	Bluff City Nor	1.20	342	Pg	Pg	23 16 21.5	-0.3
KAN01	Argonia South	1.22	346	Pg	Pg	23 16 21.8	-0.4
KAN10	Anthony SW Sta	1.28	334	Pn	Pg	23 16 23.0	-0.4
OK035	E0210 Rd and N	1.29	305	Pn	Pn	23 16 22.7	-0.8
TUL1	Leonard	1.31	92	Pn	Pn	23 16 22.6	-1.2
U32A	Winter Ranch,	1.36	288	Pn	Pn	23 16 23.8	-0.7
KAN16	Harper SW Stat	1.36	337	Pn	Pn	23 16 24.1	-0.5
KAN12	Harper NE Stat	1.41	340	Pn	Pn	23 16 25.1	-0.1
X34A	Smith Ranch, M	1.41	195	Pn	Pn	23 16 24.2	-1.0
WMOK	Wichita Mounta	1.67	223	Pn	Pn	23 16 28.9	+0.1
LOOK	Love County	1.98	175	Pn	Pn	23 16 32.9	-0.2
LOOK				IAmb_Lg		23 17 04.0	
	comp=Z,10nm,1.1s						
X37A	Clayton	2.16	129	Pn	Pn	23 16 34.3	-1.1
U38A	Gravette	2.48	78	Pn	Pn	23 16 39.8	-0.1
HBAR	Harrisburg	5.50	92	IAmb_Lg		23 19 07.3	
	comp=Z,78nm,0.8s						
GLAT	Glass	6.58	85	IAmb_Lg		23 19 36.3	
	comp=Z,116nm,0.7s						

*IDC **01** 23:17:27.7±0.9, 26°.55N×55°.26E, h0km, mb3.9/14, mb1 4.0/17, mb1mx3.6/66, mbtmp3.9/17, ML3.5/3, Error ellipse: s-maj=22.4km s-min=16.9km az=31.0*
*OMAN **01** 23:17:28.3±0.4, 26°.70N×55°.21E, h10km, mb6.0/6, ml3.5/23, Error ellipse: s-maj=8.3km s-min=3.2km az=17.0*
*DSN **01** 23:17:28.7±1.6, 26°.65N×55°.21E, h10km, ML3.4/13, Error ellipse: s-maj=20.7km s-min=4.4km az=15.0*
*NEIC **01** 23:17:29.5±1.1, 26°.6N±0°.1×55°.1E±0°.1, h10km±2km, mb4.3/12, mb_Lg3.7(TEH), Error ellipse: s-maj=19.4km s-min=13.6km az=34.0*
*TEH **01** 23:17:31.2, 26°.52N×55°.24E, h23km, ML3.7*
ISC 01 23:17:31.7±1.2, 26°.55N±0°.03×55°.18E±0°.03, h28km±9km, n162, σ1$37/164, mb4.2/25, 11C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	Shamm	0.99	120	ePg	Pb	23 17 48.7	-1.6
SHME	Shamm	0.99	120	S	Sn	23 18 03.8	+0.9
SHME	Shamm	0.99	120	eP	Pb	23 17 48.7	-1.6
	SNR=39						
SHME				S	Sn	23 18 03.1	+0.3
UMQ	Umm Al-Quwin	1.10	157	ePg	Pb	23 17 52.4	+0.2
UMQ	Umm Al-Quwin	1.10	157	S	Sn	23 18 09.0	+3.4
UMQ	Umm Al-Quwin	1.10	157	eP	Pb	23 17 52.3	+0.1
	SNR=29						
BANOM	Banah	1.18	121	ePg	Pn	23 17 52.3	-0.1
BANOM	Banah	1.18	121	P	Pb	23 17 52.5	-1.0
	SNR=64						
BANOM				S	Sn	23 18 08.1	+0.6
BANOM	Banah	1.18	121	eP	Pn	23 17 52.2	-0.1
	SNR=64						
BANOM				S	Sn	23 18 07.7	+0.2
GENO	Geno	1.23	46	ePg	Pb	23 17 53.7	-0.7
GENO				e		23 18 15.0	
	comp=Z,13μm,0.3s						
LAR1	LAR	1.33	327	ePg	Pb	23 17 56.1	0.0
MASF	Masafi	1.46	143	P	Pb	23 17 57.3	-1.1
	SNR=49						
MASF				S	Sb	23 18 16.8	+0.2
MSFE	Esma-Masafi	1.47	143	ePn	Pb	23 17 56.9	-1.6
MSFE	Esma-Masafi	1.47	143	eP	Pb	23 17 56.9	-1.6
	SNR=49						
IBND	Bandar-abas	1.51	53	ePg	Pb	23 17 57.6	-1.5
IBND				e		23 18 31.7	
	comp=Z,13μm,0.4s						
NAZ	Nazwa, Dubai	1.61	164	ePn	Pb	23 17 59.9	-0.9
NAZ	Nazwa, Dubai	1.61	164	P	Pb	23 17 59.9	-0.9
	SNR=15						
NAZ				S	Sb	23 18 24.1	+3.3
NAZ	Nazwa, Dubai	1.61	164	eP	Pb	23 17 59.4	-1.4
	SNR=15						
FAQ	Al Faqa, Dubai	1.83	168	ePn	Pb	23 18 02.5	-2.0
FAQ	Al Faqa, Dubai	1.83	168	P	Pb	23 18 02.5	-2.0
	SNR=14						
FAQ	Al Faqa, Dubai	1.83	168	eP	Pn	23 18 02.3	+1.0
	SNR=14						
UOSS	Minazif	1.84	150	ePn	Pn	23 18 01.6	+0.1
UOSS	Minazif	1.84	150	P	Pn	23 18 02.5	+1.0
UOSS				S	Sb	23 18 28.7	+1.4
UOSS	Minazif	1.84	150		Pn	23 18 01.6	+0.1
UOSS	Minazif	1.84	150	eP	Pn	23 18 01.8	+0.3
	SNR=85						
HATD	Hatta, Dubai	1.92	153	ePn	Pn	23 18 03.4	+0.9
HATD	Hatta, Dubai	1.92	153	P	Pn	23 18 03.3	+0.9
	SNR=25						
HATD	Hatta, Dubai	1.92	153	eP	Pn	23 18 03.0	+0.4
	SNR=25						
ASUD	Al Ashush, Dub	1.92	176	ePn	Pb	23 18 04.4	-1.6
ASUD	Al Ashush, Dub	1.92	176	P	Pb	23 18 04.4	-1.6
	SNR=12						
ASUD	Al Ashush, Dub	1.92	176	eP	Pb	23 18 04.2	-1.8
	SNR=12						
LMD1	Lamerd	1.97	294	e		23 18 43.5	
LMD1	comp=Z,6μm,0.3s						
				ePn	Pb	23 18 05.7	-1.2
AJN	Ajban	1.98	185	ePn	Pb	23 18 04.8	-2.3
AJN	Ajban	1.98	185	P	Pb	23 18 04.9	-2.3
ASHO	Ashiyiah	2.02	157	ePn	Pn	23 18 04.8	+0.9
ASHO	Ashiyiah	2.02	157	P	Pn	23 18 05.0	+1.1
	SNR=41						
ASHO	Ashiyiah	2.02	157	eP	Pn	23 18 04.6	+0.7
	SNR=29						
JHRM	Jahrom	2.42	324	ePn	Pn	23 18 11.3	+1.8
ALNE	Al Ain	2.53	168	ePn	Pn	23 18 12.1	+1.1
ALNE	Al Ain	2.53	168	P	Pn	23 18 12.1	+1.1
	SNR=9.7						
ALNE	Al Ain	2.53	168	eP	Pn	23 18 11.7	+0.7
	SNR=9.8						
GHIR	Ghir-Karzin	2.61	312	ePn	Pb	23 18 15.9	-2.0
KHNJ	Kahnooj	2.65	58	ePn	Pn	23 18 13.1	+0.5
SOHO	SOHO	2.69	153	ePn	Pn	23 18 13.1	-0.1
SOHO	SOHO	2.69	153	P	Pn	23 18 13.2	0.0
SOHO	SOHO	2.69	153	eP	Pn	23 18 12.7	-0.5
	SNR=72						
QIR1	Qir	2.70	316	ePn	Pb	23 18 16.2	-3.2
QIR1				e		23 19 13.3	
	comp=Z,5μm,0.5s						
MZWR	Madinat Zayed	3.01	203	ePn	Pn	23 18 18.7	+1.1
MZWR	Madinat Zayed	3.01	203	P	Pn	23 18 18.7	+1.1
GHWR	Ruwais	3.31	220	ePn	Pn	23 18 22.7	+1.0
GHWR	Ruwais	3.31	220	P	Pn	23 18 22.5	+0.8
ARQ	Araqi	3.42	159	P	Pn	23 18 23.4	+0.2
	SNR=104						
HOQ	Hoqain	3.53	146	P	Pn	23 18 23.0	-1.7
	SNR=71						
KRBR	Kerman	3.69	22	ePn	Pn	23 18 29.6	+2.3
TVBK	TV Kerman	3.70	22	ePn	Pn	23 18 29.8	+2.5
TVBK				e		23 18 30.5	
	comp=Z,2μm,0.2s						
UMZA	Um Al Zommool	3.82	180	ePn	Pn	23 18 29.1	+0.5
UMZA	Um Al Zommool	3.82	180	P	Pn	23 18 29.2	+0.5
SHMA	Al-Shehemyia	3.85	261	P	Pn	23 18 30.2	+1.1
KBAM	BAM	3.88	48	ePn	Pn	23 18 31.5	+1.9
KBAM				e		23 18 33.4	
	comp=Z,724nm,0.3s						
CHMN	Cheshme madani	3.90	32	ePn	Pn	23 18 32.4	+2.3
CHMN				e		23 18 39.8	
	comp=Z,631nm,0.3s						
KHGB	Koh Gabri	3.98	16	ePn	Pn	23 18 33.8	+2.7
KHGB				e		23 18 34.9	
	comp=Z,1μm,0.2s						
TRNA	Turayna	4.01	244	P	Pn	23 18 32.5	+1.2
TRNA				S	Sn	23 19 18.8	+1.5
BIDO	Bidbid	4.03	138	ePn	Pn	23 18 31.1	-0.4
BIDO	Bidbid	4.03	138	P	Pn	23 18 30.9	-0.7
BSY	Bisya	4.21	154	P	Pn	23 18 34.7	+0.6
	SNR=19						
SMDO	Samad	4.34	143	P	Pn	23 18 35.9	-0.1
	SNR=116						
WSAR	Wadi Sarin	4.54	136	Pn	Pn	23 18 37.8	-0.9
	comp=Z,3.1nm,0.3s,baz=322,slow=8.9,SNR=56						
WSAR				Sn	Sn	23 19 28.6	-2.0
	comp=Z,1.6nm,0.3s,baz=12,slow=20,SNR=5.9						
WSAR	Wadi Sarin	4.54	136	P	Pn	23 18 38.6	-0.1
	SNR=66						
IMEH	Mehriz	4.85	354	ePn	Pn	23 18 45.4	+2.3
CHBR	Chabahar	4.86	100	ePn	Pn	23 18 43.2	+0.2
JMDO	Jabal Madar	4.94	147	P	Pn	23 18 43.8	-0.3
	SNR=12						
WBK	Wadi Bani Khal	5.22	138	P	Pn	23 18 47.5	-0.5
	SNR=102						
KLNJ	Kolanjah	5.45	326	ePn	Pn	23 18 52.1	+0.7
NGCH	Negor - Chabah	5.49	101	ePn	Pn	23 18 52.0	+0.4
ISAD	Sadrabad	5.51	347	ePn	Pn	23 18 54.5	+2.4
ICHK	Chekchek	5.72	353	ePn	Pn	23 18 57.5	+2.5
ZHDN	Zahedan	5.73	59	ePn	Pn	23 18 56.5	+1.4
ZHSF	Zahedan	5.81	57	ePn	Pn	23 18 57.5	+1.3
JLN	Jalan Bani Buh	5.83	138	P	Pn	23 18 55.4	-1.0
	SNR=18						
YZKH	Yazd	5.85	355	ePn	Pn	23 18 58.8	+2.2
BSRN	Basiran	6.40	32	ePn	Pn	23 19 06.8	+2.5
IGAR	Gharneh	6.45	336	ePn	Pn	23 19 07.0	+2.0
SRVN	Saravan	6.50	81	ePn	Pn	23 19 07.1	+1.5
NASN	Na'in	6.56	342	ePn	Pn	23 19 07.7	+1.0
TPRV	Parvadeh(Tabas	6.59	11	ePn	Pn	23 19 09.2	+2.4
IZEF	Zefreh	6.80	339	ePn	Pn	23 19 10.0	+0.2
SHK1	Shahrekord	6.87	328	ePn	Pn	23 19 11.5	+0.7
ITEG	Tejag	7.05	25	ePn	Pn	23 19 14.4	+1.2
IPIR	Pirpir	7.17	330	ePn	Pn	23 19 16.4	+1.5
TKDS	Koohdasht(Taba	7.24	13	ePn	Pn	23 19 17.4	+1.6
AMIS	Naft Sefid	7.25	316	ePn	Pn	23 19 17.1	+1.2
TABS	Tabas	7.28	13	ePn	Pn	23 19 19.0	+2.8
IKLH	Kolahrood	7.44	336	ePn	Pn	23 19 19.3	+0.7
DOK	Doka	7.95	187	P	Pn	23 19 25.1	-0.4
	SNR=26						
ISFB	Sefidab	8.18	343	ePn	Pn	23 19 29.8	+1.1
SHAO	Shalim	8.49	177	P	Pn	23 19 33.1	+0.1
	SNR=26						
SHAO	Shalim	8.49	177	i P	Pn	23 19 31.6	-1.4
	SNR=27						
WHFO	Wadi Hawf	8.69	189	P	Pn	23 19 36.0	+0.4
	SNR=146						
DMTO	DMTO	8.79	181	P	Pn	23 19 36.5	-0.5
	SNR=19						
RBK	Rabkut	9.04	186	P	Pn	23 19 40.2	-0.3
	SNR=7.0						
RAYN	Ar Rayn	9.28	253	P	Pn	23 19 42.7	-1.1
RAYN	Ar Rayn	9.28	253		Pn	23 19 42.3	-1.4
RAYN	Ar Rayn	9.28	253	i P	Pn	23 19 42.1	-1.6
	SNR=6.8						
ABTO	Aybut	9.31	191	P	Pn	23 19 43.9	-0.4
	SNR=10						
MMAI	Mount Meron Ar	18.33	295	P	Pn	23 21 43.6	-0.4
	comp=Z,0.2nm,0.3s,baz=99,slow=18,SNR=1.8						
KBZ	Khabaz	19.83	333	P	Pn	23 22 01.9	0.0
	comp=Z,0.1nm,0.3s,baz=121,slow=9.0,SNR=5.3						
KIV	Kislovodsk	20.10	333	P	P	23 22 04.1	+0.8
KIV				IAmb	IAmb	23 22 08.6	
	comp=Z,9.3nm,0.8s						
BRTR	Keskin Array B	22.25	312	P	P	23 22 27.7	+1.2
	comp=Z,1.1nm,0.8s,baz=136,slow=12,SNR=6.0						
BRTR				PcP	PcP	23 26 23.1	+1.0
	comp=Z,1.6nm,0.9s,baz=102,slow=4.4,SNR=2.8						
ABKAR	Akbulak array	22.97	8	P	P	23 22 33.8	0.0
BELG	Belogornoye	26.43	350	P	P	23 23 06.2	+0.2
	comp=Z,3.7nm,0.4s,baz=295,slow=1.4,SNR=4.5						
BELG	Belogornoye	26.43	350	PKIKP	P	23 23 06.2	+0.2
TLCR		28.13	318	⇑P	P	23 23 21.4	+0.1
TLCR		28.13	318	⇑PKP2	P	23 23 21.4	+0.1
TPGR	Topolog	28.20	317	⇑P	P	23 23 23.8	+1.8
PURM	Purcari	28.28	321	⇓P	P	23 23 17.6	-5.0
HARR	Harsova	28.41	317	⇑P	P	23 23 24.0	+0.2
HARR	Harsova	28.41	317	⇑PKP2	P	23 23 24.0	+0.2
CFR	Carcaliu	28.54	318	⇑P	P	23 23 22.6	-2.3
CFR	Carcaliu	28.54	318	⇑PKP2	P	23 23 22.6	-2.3
AMRR	Amara	28.74	316	⇓P	P	23 23 25.4	-1.3
AMRR	Amara	28.74	316	⇓PKP2	P	23 23 25.4	-1.3
DIM	Dimitrovgrad	28.78	310	i P	P	23 23 31.2	+4.1
BVAR	Borovoye Array	28.79	19	P	P	23 23 26.1	-0.9
	comp=Z,0.6nm,0.6s,baz=195,slow=16,SNR=2.6						
TATR	Tatarca	28.81	318	⇑P	P	23 23 22.3	-5.0
VLDR	Vladesti	28.92	319	⇑P	P	23 23 21.9	-6.4
IZVR	Izvoarele	28.95	318	⇑P	P	23 23 22.9	-5.6
LEHL	Lehliu	28.99	315	⇑P	P	23 23 26.1	-2.9
MAKZ	Makanchi	29.27	39	P	P	23 23 31.2	-0.3
MKAR	Makanchi Array	29.45	40	P	P	23 23 32.1	-0.9
	comp=Z,0.4nm,0.6s,baz=229,slow=9.2,SNR=5.4						
MKAR				PcP	PcP	23 26 39.5	+1.3
	comp=Z,0.2nm,0.6s,baz=220,slow=3.8,SNR=1.5						
MKAR	Makanchi Array	29.45	40	P	P	23 23 33.1	+0.1
ODBI	Odobesti	29.49	318	⇓P	P	23 23 23.9	-9.4
MMB	Musomiste	29.87	308	i P	P	23 23 33.6	-3.2
KURBB	Kurchatov Arra	29.94	30	P	P	23 23 36.6	-0.7
	comp=Z,0.5nm,0.6s,baz=230,slow=8.5,SNR=6.0						
AGG	Agios Georgios	30.13	303	pmax	pmax		
	comp=Z,6.0nm,0.8s						
AGG	Agios Georgios	30.13	303	P	P	23 23 38.6	-0.5
AGG				IAmb	IAmb	23 23 39.3	
	comp=Z,6.2nm,0.8s						
AGG	Agios Georgios	30.13	303	PKIKP	P	23 23 38.7	-0.5
PALK	Pallekele	30.92	124	P	P	23 23 46.4	0.0
	comp=Z,4.6nm,0.7s,baz=329,slow=14,SNR=1.4						
OBN	Obninsk	31.62	340	P	P	23 23 52.5	+0.5
	comp=Z,1.1nm,0.4s,baz=162,slow=20,SNR=3.7						
KBN	Korca	31.69	305	pmax	pmax		
	comp=Z,15nm,0.9s						
KBN	Korca	31.69	305	P	P	23 23 52.5	-0.4
KBN	Korca	31.69	305	PKP2	P	23 23 52.5	-0.4
ZAA0	Zalesovo Array	35.04	31	P	P	23 24 21.9	+0.1
ZAA0				IAmb	IAmb	23 24 22.4	
	comp=Z,2.0nm,0.5s						
ZALV	Zalesovo Beam	35.04	31	P	P	23 24 21.8	-0.1
	comp=Z,1.7nm,0.3s,baz=237,slow=9.2,SNR=12						
CASP	Castiglione de	39.41	306	P	P	23 24 59.3	+0.2
CASP				IAmb	IAmb	23 25 01.5	
	comp=Z,10nm,0.8s						
CTI	Castel Tesino	39.53	311	P	P	23 24 58.0	-2.2
WTTA	Wattenberg	39.85	313	eP	P	23 25 02.6	-0.4
	comp=Z,4.6nm,0.6s						
WATA	Walderalm	39.91	313	eP	P	23 25 02.9	-0.5
	comp=Z,1.5nm,0.5s						
FINES	FINESS Array B	40.01	339	P	P	23 25 03.7	-0.1
	comp=Z,2.1nm,0.4s,baz=140,slow=8.3,SNR=12						
VSL	Villasalto	40.11	301	P	P	23 25 04.5	-0.5
VSL				IAmb	IAmb	23 25 17.4	
	comp=Z,5.6nm,1.0s						
SQTA	Sankt Quirin	40.12	313	eP	P	23 25 04.5	-0.7
	comp=Z,3.8nm,0.5s						
FETA	Feichten	40.39	312	eP	P	23 25 07.3	-0.1
	comp=Z,3.4nm,0.6s						
RETA	Reutte	40.48	313	eP	P	23 25 07.2	-0.9
	comp=Z,2.3nm,0.7s						
DAVA	Damuels	41.02	312	eP	P	23 25 12.1	-0.4
	comp=Z,6.3nm,0.5s						
SENIN	Lac Senin/Sane	42.55	311	P	P	23 25 24.1	-1.1
BNI	Bardonecchia	42.76	309	P	P	23 25 25.9	-0.8
NC602	NORSAR Array S	45.12	331	P	P	23 25 42.1	-3.2
NB201	NORSAR Array S	45.38	332	P	P	23 25 41.6	-5.8
ESDC	Sonseca Array	50.41	301	P	P	23 26 26.9	+0.1
	comp=Z,0.4nm,0.5s,baz=72,slow=7.2,SNR=5.2						
TORD	Torodi Ar. Bea	51.71	266	P	P	23 26 36.6	-0.1
	comp=Z,0.2nm,0.3s,baz=67,slow=6.9,SNR=5.9						
SEY	Seymchan	69.88	29	P	P	23 28 39.5	-0.3
	comp=Z,0.7nm,0.6s,baz=156,slow=22,SNR=2.1						
SCHQ	Schefferville	84.96	330	P	P	23 30 03.9	-0.4
	comp=Z,4.2nm,1.0s,baz=61,slow=14,SNR=1.7						
ILAR	Eielson Array	87.37	9	P	P	23 30 17.6	+1.7
	comp=Z,0.2nm,0.8s,baz=316,slow=5.0,SNR=2.0						

IDC 01 23:17:56.1±7.3, 4°.65S×12°.23W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/50, mbtmp3.7/4, Error ellipse: s-maj=239.3km s-min=105.5km az=147.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	22.45	38	P	P	23 22 56.9	-0.1
	3.0nm,0.8s,baz=223,slow=9.7,SNR=16						
GERES	GERESS Array B	57.88	20	P	P	23 27 50.0	+0.1
	0.7nm,0.8s,baz=220,slow=8.1,SNR=1.7						
BRTR	Keskin Array B	61.06	39	P	P	23 28 12.1	0.0
	0.4nm,0.8s,baz=225,slow=4.9,SNR=1.7						
AKASG	Malin Array Be	65.62	28	P	P	23 28 41.7	-0.1
	1.1nm,0.8s,baz=224,slow=6.6,SNR=5.7						

*DDA **01** 23:21:55.9±0.0, 39°.14N×29°.07E, h7km±1km, ML1.1*
ISK 01 23:21:56.0, 39°.14N×29°.07E, h5km, ML1.6/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	Simav-Kutahya	0.08	241	PG	Pg	23 21 58.3	+0.5
SMAA				SG	Sg	23 22 00.1	+1.0
SIMA	Simav-Kutahya	0.09	230	PG	Pg	23 21 58.5	+0.5
SIMA				SG	Sg	23 22 00.0	+0.7
SHAP	Saphane-Kutahy	0.17	134	PG	Pg	23 22 00.0	+0.7
SHAP				SG	Sg	23 22 02.9	+1.4
GEDZ	Gediz	0.28	110	PG	Pg	23 22 02.2	+0.7
GEDZ				SG	Sg	23 22 06.7	+1.5
DEMI	Demirci	0.29	251	P	Pg	23 22 01.6	-0.1
DEMI				i AML	AML	23 22 05.0	
	comp=N,29nm,0.3s						
DEMI				i AML	AML	23 22 05.0	
	comp=E,42nm,0.2s						
DEMI				S	Sg	23 22 05.3	-0.3
GDZ	Gediz	0.32	99	P	Pg	23 22 03.1	+0.7
GDZ				i AML	AML	23 22 08.0	
	comp=N,20nm,0.3s						
GDZ				i AML	AML	23 22 08.0	
	comp=E,21nm,0.4s						
GDZ				S	Sg	23 22 08.2	+1.6
USAK	Uak-Merkez	0.43	185	P	Pg	23 22 04.3	+0.1
USAK				i AML	AML	23 22 10.0	
	comp=E,13nm,0.1s						
USAK				i AML	AML	23 22 10.0	
	comp=N,22nm,0.2s						
USAK				S	Sg	23 22 10.1	+0.3
TVSB	Tavsanli	0.43	44	PG	Pg	23 22 04.9	+0.5
TVSB				SG	Sg	23 22 11.1	+1.0
DURS	Dursunbey	0.65	315	P	Pg	23 22 09.0	+0.5
KULA	Kula-Manisa	0.70	207	PG	Pg	23 22 09.2	-0.3
CAVI	Cavuskoy	1.22	29	PN	Pn	23 22 20.3	+0.6
KCTX	Karacabey (Bur	1.25	334	PN	Pn	23 22 20.9	+0.7
YLV	Yalova	1.44	9	PN	Pg	23 22 24.2	+0.5

*TUL **02** 00:00:41.3±1.1, 36°.49N±0°.04×98°.74W±0°.02, h7km±7km, ML2.9, mb_Lg2.5/27(NEIC), Error ellipse: s-maj=5.9km s-min=2.5km az=168.0*
NEIC 02 00:00:41.5±1.0, 36°.45N±0°.03×98°.696W±0°.009, h3km±7km, Error ellipse: s-maj=3.9km s-min=0.9km az=173.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.26	254	Pg	Pg	00 00 46.4	0.0
U32A				Sg	Sg	00 00 50.3	+0.6
OK035	E0210 Rd and N	0.26	358	Pg	Pg	00 00 46.3	-0.2
OK035				Sg	Sg	00 00 49.9	0.0
OK032	Salt Plains WL	0.53	48	Pg	Pg	00 00 51.6	0.0
OK032				Sg	Sg	00 00 58.9	+0.4
CROK	Carrier	0.58	84	Pg	Pg	00 00 53.0	+0.5
CROK				Sg	Sg	00 01 01.5	+1.4
KAN14	Manchester OK	0.78	49	Pg	Pg	00 00 56.3	-0.1
GC02	Grant County #	0.78	59	Pg	Pg	00 00 56.4	-0.1
KAN10	Anthony SW Sta	0.83	35	Pg	Pg	00 00 57.1	-0.3
KAN17	Caldwell West	0.96	51	Pg	Pg	00 00 59.3	-0.5
KAN12	Harper NE Stat	1.01	33	Pg	Pg	00 01 00.4	-0.5
KAN01	Argonia South	1.03	47	Pg	Pg	00 01 00.4	-0.8
KAN13	South Haven SW	1.13	60		Pg	00 01 02.2	-1.0
BCOK	Bluff Creek, N	1.18	132		Pg	00 01 04.0	-0.1
OK029	Liberty Lake	1.20	123		Pg	00 01 04.1	-0.3
BLOK	Blackwell	1.23	75	Pn	Pg	00 01 04.5	-0.6
OK025	Westminster Rd	1.40	128		Pn	00 01 07.8	-0.2
OKCFA	Oklahoma City	1.44	135	Pn	Pn	00 01 08.3	-0.3
OKCSW	OKLAHOMA CITY	1.46	135		Pn	00 01 08.5	-0.2
OK031	S. Brethren Rd	1.58	108		Pn	00 01 10.8	+0.3
FNO	Franklin	1.59	138		Pb	00 01 11.0	-0.5
QUOK	Quay	1.63	99		Pn	00 01 11.7	+0.5
OK030	Cody Creek RV	1.63	108		Pn	00 01 11.4	+0.2
OK034	N. Norfolk Rd.	1.66	105		Pn	00 01 11.5	-0.1
WMOK	Wichita Mounta	1.71	182		Pn	00 01 11.9	-0.3
T35A	Sooner Cattle	1.82	74	Pn	Pn	00 01 14.0	+0.3
R32A	Long Quarter,	1.97	360	Pn	Pn	00 01 16.0	+0.1
X34A	Smith Ranch, M	1.97	159	Pn	Pn	00 01 16.4	+0.6
TUL1	Leonard	2.41	102		Pn	00 01 21.0	-0.9
TUL1				IAmb_Lg		00 01 58.7	
	comp=Z,19nm,0.7s						
CBKS	Cedar Bluff	2.50	341		Pn	00 01 24.1	+1.0
LOOK	Love County	2.75	153	Pn	Pn	00 01 27.1	+0.6
AMTX	Amarillo	2.89	238	Pn	Pn	00 01 29.0	+0.5
X37A	Clayton	3.29	123	Pn	Pn	00 01 34.0	+0.1
X37A				IAmb_Lg		00 02 31.5	
	comp=Z,20nm,0.7s						
U38A	Gravette	3.48	89		Pn	00 01 36.7	+0.2
U38A		

WMOK	Wichita Mounta	1.73	182	Pn	Pn	00 03 09.0 -0.1
T35A	Sooner Cattle	1.82	75	Pn	Pn	00 03 11.2 +0.9
R32A	Long Quarter,	1.94	360		Pn	00 03 12.5 +0.5
X34A	Smith Ranch, M	2.00	159	Pn	Pn	00 03 12.3 -0.4
TUL1	Leonard	2.43	103		Pn	00 03 19.0 +0.4
TUL1	comp=Z,32nm,0.7s			IAmb_Lg		00 03 56.3
CBKS	Cedar Bluff	2.47	341	Pn	Pn	00 03 18.4 -0.9
LOOK	Love County	2.77	153	Pn	Pn	00 03 24.7 +1.3
AMTX	Amarillo	2.89	238	Pn	Pn	00 03 25.8 +0.7
AMTX					LR	00 04 08.5
KSU1	Kansas State U	3.10	32	Pn	Pn	00 03 28.5 +0.5
KSU1					Lg	00 04 21.3
X37A	Clayton	3.31	124	Pn	Pn	00 03 31.6 +0.8
X37A	comp=Z,32nm,0.7s			IAmb_Lg		00 04 28.2
Z35A	Perchaven, San	3.36	159	Pn	Pn	00 03 31.4 0.0
HHAR	Hobbs	3.85	91		Sg	00 04 38.0 -4.1
ABTX	Abilene, Hawle	3.92	192		Pb	00 03 49.5 +1.5
KSCO	Kaye Shedlock'	4.01	310	Pn	Pn	00 03 41.4 +0.9
MSTX	Muleshoe	4.16	234	IAmb_Lg		00 04 52.4
	comp=Z,24nm,1.1s					
Z38A	Mt. Pleasant	4.43	135	IAmb_Lg		00 05 00.1
	comp=Z,19nm,0.8s					
T25A	Trinidad	4.62	280	IAmb_Lg		00 05 03.0
	comp=Z,16nm,0.7s					
U40A	Yellville	4.72	90	IAmb_Lg		00 05 05.1
	comp=Z,22nm,0.9s					
P38A	Dawn	5.16	51	IAmb_Lg		00 05 31.7
	comp=Z,8.9nm,0.7s					
X40A	Basin Creek Fa	5.19	111	IAmb_Lg		00 05 29.9
	comp=Z,16nm,0.8s					
FCAR	Ozark Folk Cen	5.36	94	IAmb_Lg		00 05 28.8
	comp=Z,12nm,0.9s					
W41B	Gary Mavity, V	5.41	102	IAmb_Lg		00 05 42.2
	comp=Z,16nm,1.0s					
Q24A	Divide	5.68	298	IAmb_Lg		00 05 35.5
	comp=Z,9.6nm,0.8s					
SLM	Saint Louis	7.07	70	IAmb_Lg		00 06 22.2
	comp=Z,10nm,0.9s					
PHWY	Pilot Hill	7.13	315	IAmb_Lg		00 06 38.2
	comp=Z,7.4nm,0.8s					
S44A	Carbondale	7.65	78	IAmb_Lg		00 06 52.0
	comp=Z,10.0nm,0.7s					
RSSD	Black Hills	8.65	334	IAmb_Lg		00 07 13.9
	comp=Z,4.6nm,0.9s					

*ATH **02** 00:05:42.0, 35°.26N×23°.35E, h73km±5km, ML3.2/7, Error ellipse: s-maj=7.7km s-min=2.0km az=230.0*
*ISK **02** 00:05:43.1, 35°.21N×23°.23E, h17km, ML3.3/5*
*THE **02** 00:05:45.3, 35°.24N×23°.35E, h27km, ML3.0/7, Error ellipse: s-maj=1.0km s-min=0.3km az=54.0*
*IDC **02** 00:05:45.6±1.9, 35°.28N×23°.27E, h76km±23km, mb3.5/7, mb1 3.4/10, mb1mx3.2/38, mbtmp3.6/10, Error ellipse: s-maj=25.2km s-min=17.4km az=128.0*
ISC 02 00:05:43.0±0.9, 35°.23N±0°.05×23°.34E±0°.06, h45km±10km, n44, σ2°.22/59, mb3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.28	90	P	Pn	00 05 51.4	0.0
KNDR	3μm,0.4s			S	Sn	00 05 56.2	-1.2
RODP	Rodopos	0.47	46	P	Pn	00 05 54.8	+1.2
RODP				S	Sn	00 06 02.2	+1.0
RODP	Rodopos	0.47	46	PG	Pn	00 05 54.8	+1.2
RODP				SG	Sn	00 06 02.8	+1.6
IMMV	Iera Moni Meta	0.57	66	P	Pn	00 05 56.3	+1.5
IMMV	3μm,0.5s			S	Sn	00 06 04.8	+1.5
IMMV	Iera Moni Meta	0.57	66	P	Pn	00 05 56.3	+1.5
IMMV	comp=N,6215μm,0.4s			AML	AML	00 06 08.4	
IMMV	comp=E,4927μm,0.6s			AML	AML	00 06 08.5	
IMMV	Iera Moni Meta	0.57	66	PG	Pn	00 05 56.3	+1.5
IMMV				SG	Sn	00 06 06.2	+2.9
ANKY	Antikythira Is	0.63	357	P	Pn	00 05 57.1	+1.4
ANKY	comp=E,2μm,0.5s			S	Sn	00 06 06.9	+2.1
ANKY	Antikythira Is	0.63	357	P	Pn	00 05 57.0	+1.4
ANKY				S	Sn	00 06 09.0	+4.2
ANKY	comp=E,2894μm,1.0s			AML	AML	00 06 09.7	
ANKY	comp=N,5091μm,0.5s			AML	AML	00 06 10.0	
VAM	Vamos	0.72	76	P	Pn	00 05 58.7	+1.8
VAM	Vamos	0.72	76	P	Pn	00 05 59.0	+2.1
VAM	comp=E,4582μm,0.7s			AML	AML	00 06 12.1	
VAM	comp=N,3400μm,0.6s			AML	AML	00 06 14.1	
GVD	Gavdhos	0.73	122	P	Pn	00 05 58.8	+1.9
GVD	comp=N,2μm,0.4s			S	Sn	00 06 09.5	+2.5
GVD	Gavdhos	0.73	122	P	Pn	00 05 58.9	+1.9
GVD				S	Sn	00 06 12.3	+5.4
GVD	comp=E,3733μm,0.5s			AML	AML	00 06 13.3	
GVD	comp=N,5084μm,0.4s			AML	AML	00 06 14.4	
GVD	Gavdhos	0.73	122	PG	Pn	00 05 58.8	+1.9
GVD				SG	Sn	00 06 10.5	+3.5
GVDS	Gavdos	0.73	122	P	Pn	00 05 58.5	+1.6
GVDS	comp=N,2μm,0.3s			S	Sn	00 06 08.7	+1.8
PRNS	Prines Rethymn	0.96	82	P	Pn	00 06 01.2	+1.2
KTHA	Kythira Island	1.05	348	P	Pn	00 06 03.2	+1.9
KTHA	comp=N,800nm,0.4s			S	Sn	00 06 17.3	+2.5
KTHA	Kythira Island	1.05	348	P	Pn	00 06 03.7	+2.4
KTHA	comp=E,2443μm,0.6s			AML	AML	00 06 21.6	
KTHA	comp=N,716μm,0.3s			AML	AML	00 06 23.6	
KTHR	Kythira	1.06	345	P	Pn	00 06 03.4	+1.9
KTHR	comp=N,518nm,0.3s			S	Sn	00 06 17.4	+2.3
IDI	Anoyia	1.27	87	P	Pn	00 06 06.8	+2.4
IDI	comp=N,25nm,0.3s,baz=220,slow=15,SNR=162			S	Sn	00 06 26.1	+5.8
IDI	comp=N,22nm,0.3s,baz=25,slow=23,SNR=15						
IDI	Anoyia	1.27	87	P	Pn	00 06 06.8	+2.4
IDI	comp=N,759μm,0.5s			AML	AML	00 06 28.0	
IDI	comp=E,624μm,0.7s			AML	AML	00 06 34.5	
VLI	Veliai	1.52	348	P	Pn	00 06 10.1	+2.4
VLI	comp=N,599μm,0.6s			AML	AML	00 06 44.4	
VLI	comp=E,482μm,0.8s			AML	AML	00 06 50.9	
NPS	Neapolis	1.86	88	P	Pn	00 06 15.7	+3.3
ITM	Ithomi	2.25	330	PN	Pn	00 06 20.4	+2.6
ZKR	Zakros	2.36	92	PN	Pn	00 06 20.1	+0.9
BARS	Barje	7.67	352	*e*Pn	Pn	00 07 31.3	-0.8
ZAPS	Zavoj	8.05	356	*e*Pn	Pn	00 07 39.2	+1.9
SELS	Selova	8.16	348	*e*Pn	Pn	00 07 37.3	-1.5
SJES	Sjenica	8.43	343	*e*Pn	Pn	00 07 41.2	-1.4
IVAS	Ivanjica	8.69	344	*e*Pn	Pn	00 07 43.8	-2.3
GRUS	Gruza	8.88	348	*e*Pn	Pn	00 07 46.8	-1.9
BBLS	Lazići	9.14	342	*e*Pn	Pn	00 07 50.4	-1.9
BRTR	Keskin Array B	9.33	58	P	Pn	00 07 55.8	+0.8
	comp=E,0.1nm,0.3s,baz=236,slow=13,SNR=2.3						
MMAI	Mount Meron Ar	10.24	99	P	Pn	00 08 06.5	-0.9
	comp=E,0.7nm,0.3s,baz=268,slow=11,SNR=12						
MMAI	comp=E,0.8nm,0.3s,baz=261,slow=17,SNR=5.2			S	Sn	00 09 57.3	-3.6
EIL	Elat	11.26	116	P	Pn	00 08 19.6	-1.8
	comp=E,0.2nm,0.3s,baz=342,slow=0.8,SNR=18						
EIL	comp=E,0.3nm,0.3s,baz=90,slow=23,SNR=2.1			S	Sn	00 10 13.9	-12
VRAC	Vranov	14.92	343	P	P	00 09 15.8	+0.1
	comp=E,0.2nm,0.3s,baz=145,slow=12,SNR=5.2						
GERES	GERESS Array B	15.35	335	P	Pn	00 09 18.4	+1.8
	comp=E,0.1nm,0.3s,baz=138,slow=11,SNR=4.9						
AKASG	Malin Array Be	16.04	14	P	Pn	00 09 25.9	+0.6
	comp=E,0.5nm,0.3s,baz=212,slow=10,SNR=4.6						
HFS	Hagfors	25.69	349	P	P	00 11 08.0	-0.6
	comp=E,4.7nm,1.0s,baz=143,slow=15,SNR=5.0						
FINES	FINESS Array B	26.29	3	P	P	00 11 12.4	-1.6
	comp=E,2.7nm,1.0s,baz=171,slow=9.8,SNR=1.4						
NOA	NORSAR Array B	26.97	347	P	P	00 11 20.1	-0.1
	comp=E,0.4nm,0.8s,baz=165,slow=9.2,SNR=4.2						
TORD	Torodi Ar. Bea	29.42	227	P	P	00 11 43.0	+0.6
	comp=E,0.1nm,0.3s,baz=33,slow=8.8,SNR=9.3						
DBIC	Dimbokro	38.47	229	P	P	00 12 58.9	-1.9
	comp=E,1.6nm,0.6s,baz=96,slow=5.1,SNR=3.6						
MKAR	Makanchi Array	44.98	56	P	P	00 13 53.5	-0.2
	comp=E,0.2nm,0.3s,baz=270,slow=8.1,SNR=10						
ZALV	Zalesovo Beam	46.03	46	P	P	00 14 00.5	-1.5
	comp=E,0.3nm,0.4s,baz=262,slow=9.8,SNR=2.5						

PGC 02 00:19:03.6±0.0, 52°.48N×122°.23W, h0km, ML2.4/9, 38km Nnw of Williams Lk., Bc British Columbia, Canada
Mining explosion., British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UBRB	Upper Baezaeko	1.20	291	P	Pg	00 19 25.3	-1.4
UBRB				S	Sg	00 19 40.2	-2.0
LLLB	Lillooet	1.88	173	Pn	Pn	00 19 36.1	-0.9
LLLB				Sg	Sg	00 20 07.3	+3.3
LLLB	Lillooet	1.88	173	Pn	Pn	00 19 36.8	-0.2
LLLB				Sg	Sb	00 20 03.0	+0.1
BLBC	Blue River	1.89	102	Pn	Pn	00 19 36.5	-0.8
FSJB	Fort St James	2.34	329	Pn	Pn	00 19 43.2	-0.1
FSJB				Sg	Sg	00 20 17.5	-1.2
FSJB	Fort St James	2.34	329	Pn	Pn	00 19 43.4	0.0
FSJB				Sg	Sb	00 20 14.7	-1.4
FSB	Fort Saint Jam	2.37	329	Pn	Pn	00 19 42.4	-1.4
FSB				Pg	Pb	00 19 46.4	-0.7
MNB	Mounoet Dainar	2.38	95	Pn	Pn	00 19 44.3	+0.3
WSLR	Whistler	2.39	191	Pn	Pn	00 19 43.2	-0.9
WSLR	Whistler	2.39	191	Pn	Pn	00 19 43.9	-0.2
SLEB	Sale Mountain	2.86	116	Pn	Pn	00 19 50.2	-0.5
SLEB				Sg	Sg	00 20 36.2	+0.8
SLEB	Sale Mountain	2.86	116	Pn	Pn	00 19 50.7	0.0
SLEB				Sg	Sg	00 20 33.8	-1.7
BDMTA	Bald Mountain	3.06	39	Pn	Pn	00 19 46.0	-7.3
BDMTA				Sg	Sg	00 21 00.6	+19
SHB	Sechelt	3.06	200	Pn	Pn	00 19 52.8	-0.6
TXB	Texada	3.11	207	Pn	Pn	00 19 53.4	-0.5
TXB	Texada	3.11	207	Pn	Pn	00 19 53.8	-0.1
NCRB	Newcastle Ridg	3.17	231	Pn	Pn	00 19 55.5	+0.7
PNT	Penticton	3.57	151	Pn	Pn	00 19 59.2	-1.1
PNT				Sg	Sg	00 20 56.9	-1.3
PNT	Penticton	3.57	151	Pn	Pn	00 20 00.1	-0.2
PNT				Sg	Sg	00 20 55.2	-3.0

*IDC **02** 00:24:45.1±2.1, 31°.45N×41°.01W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/46, mbtmp3.7/7, MS3.6/10, Ms1 3.6/10, ms1mx3.1/89, Error ellipse: s-maj=57.7km s-min=26.1km az=10.0*
ISC 02 00:24:47.2±1.8, 31°.4N±0°.3×41°.0W±0°.2, h14km, n23, σ0°.81/9, mb3.8/9, MS3.6/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	29.72	329	LR	LR	00 42 14.2	
	comp=Z,98nm,18.1s,baz=116,slow=35						
TKL	Tuckaleechee C	35.68	289	LR	LR	00 43 32.1	
	comp=Z,62nm,19.4s,baz=69,slow=32						
DAVOX	Davos/Dischmat	41.63	53	P	P	00 32 35.6	+0.5
	1.8nm,0.9s,baz=268,slow=18,SNR=3.0						
DBIC	Dimbokro	41.80	118	LR	LR	00 48 09.9	
	comp=Z,58nm,20.3s,baz=317,slow=34						
SQTA	Sankt Quirin	42.56	53	*e*P	P	00 32 43.5	+0.8
	1.0nm,0.5s						
TORD	Torodi Ar. Bea	43.19	105	P	P	00 32 48.1	+0.2
	0.6nm,1.0s,baz=296,slow=5.4,SNR=3.7						
GERES	GERESS Array B	44.30	51	P	P	00 32 56.0	-0.7
	0.5nm,0.6s,baz=280,slow=7.7,SNR=6.5						
OBKA	Obir	44.84	54	*e*P	P	00 33 00.2	-0.8
	1.3nm,0.6s						
H10N2	ASCENSION HYDR	46.56	142	T	T	01 22 50.1	
	baz=329,slow=75,SNR=16						
H10N3	ASCENSION HYDR	46.56	142	T	T	01 22 50.4	
	baz=329,slow=75,SNR=18						
H10N1	ASCENSION HYDR	46.58	142	T	T	01 22 51.5	
	baz=329,slow=75,SNR=20						
H10S3	ASCENSION HYDR	47.42	143	T	T	01 23 53.3	
	baz=327,slow=74,SNR=20						
H10S2	ASCENSION HYDR	47.44	143	T	T	01 23 54.4	
	baz=253,slow=74,SNR=20						
FINES	FINESS Array B	52.06	34	P	P	00 33 57.1	+0.9
	5.0nm,1.1s,baz=296,slow=10,SNR=3.9						
ANMO	Albuquerque	54.00	293	LR	LR	00 55 04.7	
	comp=Z,52nm,19.2s,baz=92,slow=34						
AKASG	Malin Array Be	54.25	48	P	P	00 34 11.5	-1.1
	0.8nm,0.6s,baz=277,slow=6.6,SNR=6.8						
PDAR	Pinedale Array	54.45	303	P	P	00 34 14.3	-0.1
	0.9nm,0.9s,baz=82,slow=6.8,SNR=6.1						
PDAR				LR	LR	00 56 34.1	
	comp=Z,65nm,18.5s,baz=70,slow=35						
YKA	Yellowknife Ar	55.13	327	P	P	00 34 18.8	+0.1
	0.1nm,0.6s,baz=84,slow=7.6,SNR=2.4						
ELK	Elko	59.07	302	LR	LR	00 59 34.9	
	comp=Z,41nm,19.0s,baz=56,slow=35						
NVAR	Mina Array Bea	62.03	300	LR	LR	01 00 23.2	
	comp=Z,84nm,19.7s,baz=52,slow=34						
PFO	Pinyon Flats O	62.28	294	LR	LR	01 02 16.9	
	comp=Z,46nm,18.1s,baz=34,slow=36						
DLBC	Dease Lake	63.32	324	LR	LR	01 01 21.2	
	comp=Z,51nm,20.5s,baz=274,slow=35						
ILAR	Eielson Array	68.37	334	LR	LR	01 04 37.7	
	comp=Z,50nm,18.4s,baz=345,slow=35						

*IDC **02** 00:28:42.1±0.7, 27°.70S×177°.65W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/26, mbtmp3.5/2, Error ellipse: s-maj=30.0km s-min=17.8km az=15.0*
ISC 02 00:29:17.0±0.9, 28°.70S±0°.09×179°.0W±0°.1, h250km, n46, σ1°.95/68, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	1.12	119	P	Pn	00 29 53.4	+0.7
GLKZ	Green Lake	1.14	120	P	Pn	00 29 54.6	+1.9
GLKZ				S	S	00 30 20.9	0.0
HAZ	Te Kaha	9.42	196	P	Pn	00 31 26.7	-1.4
HAZ				S	S	00 33 20.4	+6.2
PKGZ	Pakihiroa	9.48	194	P	P	00 31 34.4	-1.1
PKGZ				S	S	00 33 17.6	+1.8
CNGZ	Carnagh Statio	10.03	192	P	Pn	00 31 36.2	+0.4
CNGZ				S	S	00 33 29.5	+1.1
MWZ	Matawai	10.03	196	P	Pn	00 31 36.3	+0.5
MWZ				S	S	00 33 26.7	-1.9
TKGZ	Te Karaka	10.06	194	P	Pn	00 31 37.3	+1.1
TKGZ				S	S	00 33 29.3	+0.2
URZ	Urewera	10.06	198	P	P	00 31 39.2	-2.7
URZ				S	S	00 33 32.1	+2.8
KNZ	Kokohu	10.65	194	P	Pn	00 31 44.2	+0.5
KNZ				S	S	00 33 44.2	+1.3
RAHZ	Arahi	10.69	196	P	P	00 31 48.4	-0.5
RAHZ				S	S	00 33 43.4	-0.5
MHGZ	Mahia Peninsul	10.73	193	S	S	00 33 44.2	-0.7
HIZ	Hauiti	11.03	206	P	P	00 31 55.8	+3.2
BKZ	Black Stump Fm	11.08	198	P	Pn	00 31 48.4	-0.6
BKZ				S	S	00 33 54.9	+1.9
KWHZ	Kaweka Forest	11.34	198	P	S	00 34 01.2	+2.1
BHHZ	Black Hill Sta	11.50	199	P	S	00 34 06.6	+3.8
KAHZ	Kahuranaki	11.57	196	P	Pn	00 31 56.6	+1.4
KAHZ				S	S	00 34 03.4	-0.9
TSZ	Takapari Road	12.06	199	P	S	00 34 16.0	+0.4
PRHZ	Porangahau	12.08	196	P	S	00 34 18.4	+2.5
DVHZ	Dannevirke	12.23	198	P	S	00 34 19.6	+0.2
ANWZ	Angora Road	12.30	196	P	S	00 34 20.8	-0.2
POWZ	Post Office Ro	12.42	199	P	S	00 34 24.6	+0.7
PRWZ	Pori Road	12.52	198	P	S	00 34 24.3	-1.8
BFZ	Birch Farm	12.57	197	P	S	00 34 27.8	+0.6
TIWZ	Tintock	12.75	198	P	S	00 34 30.9	-0.5
OGWZ	Otaki Gorge	12.99	200	P	P	00 32 13.5	-0.9
OGWZ				S	S	00 34 34.4	-2.5
KIW	Kapiti Island	13.11	201	P	Pn	00 32 13.6	-0.5
KIW				P	S	00 34 37.2	-2.4
MTW	Mount Morrison	13.21	198	P	Pn	00 32 12.6	-2.7
MTW				P	S	00 34 38.3	-3.6
CAW	Cannon Point	13.29	200	P	Pn	00 32 14.1	-2.2
CAW				P	S	00 34 41.7	-2.0
DUWZ	D'Urville Isla	13.38	204	P	Pn	00 32 17.7	+0.2
DUWZ				S	S	00 34 46.1	+0.2
TRWZ	Traveller	13.38	197	P	Pn	00 32 17.1	-0.4
TRWZ				P	S	00 34 46.1	+0.2
PAWZ	Paruwai Farm	13.44	198	P	S	00 34 44.5	-2.7
MSWZ	Moikau Station	13.52	199	P	Pn	00 32 16.5	-2.7
MSWZ				S	S	00 34 44.4	-4.5
TCW	Tory Channel	13.63	202	P	Pn	00 32 20.0	-0.4
TCW				S	S	00 34 49.6	-1.8
PLWZ	Palliser	13.66	198	P	Pn	00 32 20.3	-0.6
PLWZ				S	S	00 34 47.8	-4.4
TUWZ	Tuamarina	13.93	202	P	P	00 32 24.7	-0.1
TUWZ				S	S	00 34 55.6	-2.8
NNZ	Nelson	13.94	204	P	P	00 32 25.6	+0.7
NNZ				S	S	00 34 58.7	+0.1
BSWZ	Blackbirch Sta	14.21	202	P	S	00 35 05.2	+0.4
ASAR	Alice Springs	42.31	266	P	P	00 36 48.6	+2.0
	0.4nm,0.6s,baz=104,slow=7.1,SNR=6.9						
WRA	Warramunga Arr	43.14	271	P	P	00 36 54.2	+0.9
	0.2nm,0.3s,baz=108,slow=7.9,SNR=7.7						
SNAA	Sanae	79.88	179	P	P	00 40 57.7	+0.1
VNA3	Neumayer Olymp	80.06	177	P	P	00 40 58.5	0.0
VNA2	Neumayer--Watz	80.48	177	P	P	00 41 01.1	+0.4
	baz=203,slow=4.6						
MKAR	Makanchi Array	115.98	311	PKP	PKPdf	00 47 26.5	-3.3
	0.1nm,0.5s,baz=154,slow=1.0,SNR=4.3						
AKASG	Malin Array Be	149.40	324	PKPbc	PKPdf	00 48 32.4	+1.1
	0.4nm,0.4s,baz=50,slow=3.0,SNR=6.5						
MMAI	Mount Meron Ar	150.20	287	PKPbc	PKPbc	00 48 37.1	-1.6
	8.1nm,1.1s,baz=60,slow=5.7,SNR=1.7						
TORD	Torodi Ar. Bea	164.51	183	PKPab	PKPab	00 49 47.0	-0.4
	1.0nm,0.6s,baz=184,slow=3.5,SNR=7.7						

WEL 02 00:34:24.0±0.3, 38°.S±3°×17°.8E±°, h29km±3km, M3.3/34, ML3.5/35, MLv3.3/34, Error ellipse: s-maj=0.0km s-min=0.0km az=4.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.18	78	P	Pn	00 34 31.3	+0.4
HAZ				S	Sb	00 34 37.2	+3.3
RUGZ	Raukumara Rang	0.20	151	S	Sb	00 34 37.2	+2.7
WIZ	White Island	0.40	312	P	Pn	00 34 33.7	-0.1
WSRZ	White Island S	0.41	312	P	Pn	00 34 34.5	+0.6
WHRZ	Whale Island	0.47	262	P	Pn	00 34 35.4	+0.6
WHRZ				S	Sn	00 34 43.8	+1.8
MWZ	Matawai	0.54	182	P	Pb	00 34 35.5	+0.3
MWZ				S	Sn	00 34 44.3	+0.3
URZ	Urewera	0.58	217	P	Pn	00 34 36.3	-0.1
URZ				S	Sn	00 34 45.4	+0.5
PUZ	Puketiti	0.62	117	P	Pn	00 34 36.7	-0.2
PUZ				S	Sn	00 34 47.4	+1.5
MXZ	Matakaoa Point	0.64	69	P	Pb	00 34 36.4	-0.3
MXZ				S	Sn	00 34 45.9	-0.4
WMGZ	Waiomatatini S	0.68	92	P	Pn	00 34 37.6	-0.1
WMGZ				S	Sn	00 34 49.3	+2.0
TKGZ	Te Karaka	0.69	160	P	Pn	00 34 38.4	+0.7
TKGZ				S	Sn	00 34 49.3	+1.8
RAGZ	Rawiri	0.71	189	P	Pn	00 34 38.3	+0.1
RAGZ				S	Sn	00 34 49.4	+1.2
EDRZ	Edgecumbe	0.72	244	P	Pn	00 34 38.4	+0.2
MARZ	Manawahe	0.72	254	P	Pb	00 34 38.1	0.0
CNGZ	Carnagh Statio	0.86	144	P	Pn	00 34 40.2	+0.1
MUGZ	Murupara	0.92	222	P	Pn	00 34 40.7	-0.3
MUGZ				S	Sn	00 34 52.2	-1.2
RIGZ	Rimuhau	0.93	170	P	Pb	00 34 41.8	+0.3
TARZ	Mount Tarawera	0.94	242	P	Pb	00 34 41.6	-0.2
LIRZ	Lichensteins R	0.95	257	P	Pb	00 34 41.7	-0.2
RRRZ	Republican Roa	0.99	236	P	Pn	00 34 41.9	-0.1
OMRZ	Omania	0.99	251	P	Pn	00 34 42.0	+0.1
SNGZ	Shannon Statio	1.00	190	P	Pb	00 34 42.9	+0.1
HLRZ	Highlands Stat	1.05	244	P	Pn	00 34 43.1	+0.2
KARZ	Kaharoa	1.06	257	P	Pn	00 34 42.9	0.0
NGRZ	Ngongotaha	1.12	254	P	Pb	00 34 44.5	-0.4
UTU	Utuhina	1.14	250	P	Pb	00 34 45.0	-0.2
PRGZ	Paritu Road	1.16	167	P	Pn	00 34 44.3	0.0
PRRZ	Plateau Road	1.16	232	P	Pn	00 34 44.1	-0.1
HRRZ	Handcock Road	1.17	239	P	Pn	00 34 44.7	+0.3
RAHZ	Arahi	1.18	198	P	Pn	00 34 44.8	+0.2
MTHZ	Maungataniwha	1.20	208	P	Pn	00 34 44.4	-0.5
MTHZ				S	Sn	00 34 59.8	-0.4
ALRZ	Allen Road	1.23	231	P	Pn	00 34 45.0	-0.2
KNZ	Kokohu	1.23	176	P	Pn	00 34 44.8	-0.5
KNZ				S	Sn	00 35 01.4	+0.5
GRRZ	Galatos Road	1.27	244	P	Pn	00 34 46.1	+0.2
KMRZ	Kaimai	1.28	267	P	Pn	00 34 45.6	-0.4
WPRZ	Whakapapatarin	1.32	236	P	Pn	00 34 46.7	+0.3
MRHZ	Matea Rd	1.37	220	P	Pn	00 34 46.9	-0.4
MRHZ				S	Sn	00 35 04.3	-0.2
MHGZ	Mahia Peninsul	1.39	169	P	Pn	00 34 47.1	-0.3
NMHZ	Naumai	1.43	204	P	Pn	00 34 48.5	+0.4
ARHZ	Aropaoanui	1.53	196	P	Pn	00 34 49.8	+0.3
KUTZ	Kaahu Road	1.53	243	P	Pn	00 34 49.6	+0.1
BKZ	Black Stump Fm	1.60	211	P	Pn	00 34 50.1	-0.4
TOZ	Tahuroa Road	1.63	272	P	Pn	00 34 50.3	-0.4
TLZ	Tolley Road	1.68	251	P	Pn	00 34 51.4	-0.1
WATZ	Wairara	1.70	237	P	Pn	00 34 51.9	+0.1
MCHZ	McNeill Hill	1.78	202	P	Pn	00 34 53.5	+0.7
MCHZ				S	Sb	00 35 19.0	+1.1
RITZ	Rihia Road	1.78	228	P	Pn	00 34 53.2	+0.3
KUZ	Kuaotunu	1.80	305	P	Pn	00 34 52.1	-1.0
KUZ				S	Sn	00 35 13.7	-1.2
KWHZ	Kaweka Forest	1.85	208	P	Pn	00 34 54.1	+0.2
CKHZ	Cape Kidnapper	1.90	191	P	Pn	00 34 53.6	-0.9
CKHZ				S	Sn	00 35 17.2	-0.3
TMVZ	Te Maari	1.96	227	P	Pn	00 34 55.5

s-maj=82.4km s-min=18.5km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.06**	**194**	P	P	00 45 10.9	-0.8
	0.1nm,0.3s,baz=21,slow=14,SNR=1.8						
WRA	**Warramunga Arr**	**14.64**	**158**	P	P	00 45 40.0	0.0
	0.2nm,0.3s,baz=338,slow=11,SNR=12						
WRA				S	S	00 48 15.8	-0.3
	0.1nm,0.3s,baz=333,slow=20,SNR=2.3						
ASAR	**Alice Springs**	**17.98**	**164**	P	P	00 46 16.4	+0.6
	0.1nm,0.3s,baz=345,slow=13,SNR=11						
ASAR				S	S	00 49 21.7	+0.5
	0.1nm,0.3s,baz=346,slow=23,SNR=2.6						
MKAR	**Makanchi Array**	**66.91**	**327**	P	P	00 52 41.8	-0.1
	0.2nm,0.7s,baz=134,slow=8.3,SNR=2.1						

*IDC **02** 00:47:08.3±1.6, 5.°09S×151.°78E, h95km±8km, mb3.4/7, mb1 3.6/8, mb1mx3.4/36, mbtmp3.8/8, Error ellipse: s-maj=65.1km s-min=16.1km az=117.0*
*NEIC **02** 00:47:09.8±1.1, 4.°7S±0.°2×151.°5E±0.°1, h97km±17km, mb4.4/8, Error ellipse: s-maj=32.7km s-min=12.2km az=149.0*

ISC 02 00:47:10.1±0.7, 4.°8S±0.°1×151.°5E±0.°1, h100km, n21, σ1§13/24, mb3.7/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.69**	**46**	P	**Pn**	**00 47 26.9**	**-0.5**
KRVT				S	**Sn**	**00 47 40.9**	**+0.4**
RABL	**Rabaul**	**0.87**	**47**		**Pn**	**00 47 28.4**	**-0.8**
RABL				Sn	**Sn**	**00 47 42.7**	**-0.9**
PMG	**Port Moresby**	**6.31**	**223**	P	**Pn**	**00 48 40.5**	**-0.1**
	4.5nm,0.3s,baz=67,slow=12,SNR=4.2						
PMG	**Port Moresby**	**6.31**	**223**		**Pn**	**00 48 41.0**	**+0.4**
PMG					**Sn**	**00 49 50.8**	**-0.5**
MTN	**Manton Dam**	**21.66**	**247**	P	**P**	**00 51 52.4**	**-0.5**
MTN				IAmb	IAmb	00 52 10.9	
	comp=Z,26nm,1.2s						
LIFNC	**LIFOU**	**22.04**	**138**	P	**P**	**00 51 57.1**	**+0.4**
LIFNC				IAmb	IAmb	00 52 14.7	
	comp=Z,35nm,1.0s						
WB0	**Warramunga Arr**	**22.36**	**227**	P	**P**	**00 51 58.4**	**-1.7**
WB2	**Warramunga Arr**	**22.50**	**227**	P	**P**	**00 52 00.2**	**-1.4**
WB2				IAmb	IAmb	00 52 10.2	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**22.51**	**227**	P	**P**	**00 51 59.4**	**-2.3**
	comp=Z,1.1nm,0.5s,baz=52,slow=10.0,SNR=14						
KNRA	**Kununurra**	**24.84**	**243**	P	**P**	**00 52 21.8**	**-1.6**
KNRA				IAmb	IAmb	00 52 40.6	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**25.31**	**220**	P	**P**	**00 52 27.1**	**-0.6**
ASAR	**Alice Springs**	**25.31**	**220**	P	**P**	**00 52 25.8**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=55,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**25.31**	**220**	P	**P**	**00 52 27.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**28.55**	**240**	P	**P**	**00 52 55.9**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=76,slow=8.3,SNR=1.6						
NNZ	**Nelson**	**41.21**	**155**	P	**P**	**00 54 46.4**	**+1.3**
MORW	**Morawa**	**41.37**	**230**	P	**P**	**00 54 46.1**	**-0.4**
SONM	**Songino Array**	**65.65**	**328**	P	**P**	**00 57 45.6**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=148,slow=5.6,SNR=6.0						
MKAR	**Makanchi Array**	**79.49**	**319**	P	**P**	**00 59 06.8**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=104,slow=5.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**80.45**	**327**	P	**P**	**00 59 11.0**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=117,slow=6.4,SNR=4.1						
YKA	**Yellowknife Ar**	**96.01**	**28**	P	**P**	**01 00 25.6**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=280,slow=4.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**149.10**	**288**	PKPbc	**PKPbc**	**01 06 47.1**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=94,slow=2.0,SNR=9.0						

*ISK **02** 00:50:41.4, 35.°87N×31.°11E, h8km, ML2.8/20*
*NIC **02** 00:50:43.6±0.0, 36.°12N×31.°17E, h3km±2km, Ml2.8/2*
*DDA **02** 00:50:43.0±0.0, 35.°96N×31.°22E, h7km±4km, ML2.2*

ISC 02 00:50:43.1±1.3, 35.°97N±0.°03×31.°14E±0.°03, h7km±11km, n37, σ1§22/48, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.73**	**299**	P	**Pb**	**00 50 58.1**	**-0.1**
AKUM				S	**Sn**	**00 51 10.5**	**-0.9**
AKUM				*i* AML	AML	00 51 13.0	
	comp=N,125nm,0.5s						
AKUM				*i* AML	AML	00 51 15.0	
	comp=E,103nm,0.4s						
KEMT	**Kemer-ANTALYA**	**0.79**	**324**	PG	**Pg**	**00 50 58.5**	**+0.2**
KEMT				SG	**Sb**	**00 51 10.9**	**+0.8**
GAZI	**Gazipasa**	**0.99**	**74**	PG	**Pg**	**00 51 01.7**	**-0.5**
GAZI	**Gazipasa**	**0.99**	**74**	P	**Pb**	**00 51 01.8**	**-0.8**
GAZI				S	**Sg**	**00 51 13.9**	**-1.1**
GAZI				*i* AML	AML	00 51 15.0	
	comp=N,61nm,0.3s						
GAZI				*i* AML	AML	00 51 15.0	
	comp=E,87nm,0.3s						
KEPZ	**Antalya-Kepez**	**1.00**	**22**	P	**Pb**	**00 51 02.9**	**0.0**
KEPZ				S	**Sb**	**00 51 15.8**	**-0.6**
KEPZ				*i* AML	AML	00 51 18.0	
	comp=E,41nm,0.5s						
KEPZ				*i* AML	AML	00 51 20.0	
	comp=N,38nm,0.3s						
ANTB	**Antalya**	**1.01**	**337**	PN	**Pg**	**00 51 02.8**	**+0.3**
ANTB				SN	**Sn**	**00 51 18.4**	**+0.3**
KORT	**Korkueli**	**1.21**	**329**	PN	**Pg**	**00 51 06.3**	**-0.1**
KORT	**Korkueli**	**1.21**	**329**	P	**Pn**	**00 51 07.0**	**+0.4**
KORT				*i* AML	AML	00 51 33.0	
	comp=E,74nm,0.6s						
KORT				*i* AML	AML	00 51 34.0	
	comp=N,51nm,0.6s						
ELL	**Elmali**	**1.26**	**308**	PN	**Pn**	**00 51 06.5**	**-0.8**
ELL	**Elmali**	**1.26**	**308**	P	**Pn**	**00 51 06.3**	**-1.0**
ELL				S	**Sn**	**00 51 24.8**	**+0.2**
AKAS	**Kas**	**1.27**	**282**	PN	**Pn**	**00 51 06.1**	**-1.3**
AKMS	**Akamas**	**1.36**	**134**	P	**Pg**	**00 51 10.9**	**+1.7**
AKMS				S	**Sn**	**00 51 31.3**	**+4.4**
AKMS				AML	AML	00 51 33.7	
	0.5nm,0.8s						
AKMS				AML	AML	00 51 33.7	
	0.5nm,0.8s						
AKMS				AML	AML	00 51 41.3	
	0.6nm,0.7s						
AKMS				AML	AML	00 51 41.3	
	0.6nm,0.7s						
BUCA	**Burdur, Bucak-**	**1.43**	**341**	P	**Pn**	**00 51 09.8**	**+0.2**
BUCA				*i* AML	AML	00 51 38.0	
	comp=E,26nm,0.6s						
BUCA				*i* AML	AML	00 51 40.0	
	comp=N,20nm,0.8s						
ALFC	**Alefka**	**1.44**	**124**	P	**Pg**	**00 51 10.9**	**+0.1**
ALFC				S	**Sg**	**00 51 33.1**	**+3.6**
ALFC				AML	AML	00 51 33.5	
	0.4nm,0.5s						
ALFC				AML	AML	00 51 33.5	
	0.4nm,0.5s						
ALFC				AML	AML	00 51 36.2	
	0.5nm,0.7s						
ALFC				AML	AML	00 51 36.2	
	0.5nm,0.7s						
HDMB	**Hadim**	**1.47**	**47**	PN	**Pn**	**00 51 10.1**	**-0.2**
SEYD	**Seydisehir-KON**	**1.54**	**21**	PN	**Pn**	**00 51 10.6**	**-0.6**
BCK	**Bucak**	**1.55**	**344**	PN	**Pn**	**00 51 10.9**	**-0.4**
SEDI	**Konya, Seydise**	**1.56**	**18**	P	**Pn**	**00 51 11.4**	**-0.1**
SEDI				S	**Sg**	**00 51 34.5**	**+1.2**
SEDI				*i* AML	AML	00 51 35.0	
	comp=N,31nm,0.5s						
SEDI				*i* AML	AML	00 51 38.0	
	comp=E,29nm,0.9s						
ERMK	**Ermenek**	**1.58**	**64**	P	**Pn**	**00 51 11.6**	**-0.2**
ERMK				*i* AML	AML	00 51 42.0	
	comp=E,72nm,0.9s						
ERMK				*i* AML	AML	00 51 46.0	
	comp=N,60nm,0.4s						
TEKE	**Tekeli-Mersin**	**1.61**	**83**	PN	**Pn**	**00 51 11.0**	**-1.0**
LEF	**Lefka**	**1.66**	**120**	PN	**Pn**	**00 51 10.9**	**-1.8**
NATA	**Nata**	**1.67**	**135**	P	**Pg**	**00 51 15.3**	**+0.1**
BERE	**Bereket-Mersin**	**1.73**	**77**	PN	**Pn**	**00 51 13.4**	**-0.4**
KKBE	**Karaman, Kazim**	**1.91**	**49**	P	**Pb**	**00 51 17.1**	**-1.4**
KKBE				S	**Sg**	**00 51 46.1**	**+1.4**
KKBE				*i* AML	AML	00 51 47.0	
	comp=N,26nm,0.7s						
KKBE				*i* AML	AML	00 51 49.0	
	comp=E,30nm,0.5s						
TEVE	**Tevekalti-Mers**	**1.92**	**75**	PN	**Pn**	**00 51 16.1**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.96**	**83**	P	**Pb**	**00 51 17.7**	**-1.4**
GULN				S	**Sb**	**00 51 41.9**	**-1.9**
GULN				*i* AML	AML	00 51 45.0	
	comp=E,32nm,0.5s						
GULN				*i* AML	AML	00 51 54.0	
	comp=N,25nm,1.3s						
AKKU	**Akkuyu-Mersin**	**1.96**	**84**	PN	**Pn**	**00 51 16.6**	**-0.3**
ATHAL	**Athalassa**	**2.02**	**114**	S	**Sg**	**00 51 47.2**	**-0.8**
CSS	**Mathiatis**	**2.05**	**119**	S	**Sg**	**00 51 47.3**	**-1.8**
IKL	**Isikli**	**2.08**	**82**	PN	**Pn**	**00 51 18.3**	**-0.2**
KEBE	**Keben-Mersin**	**2.14**	**76**	PN	**Pn**	**00 51 19.1**	**-0.2**
KONT	**Konya--Tatoy**	**2.20**	**26**	PN	**Pn**	**00 51 20.5**	**+0.3**
LADK	**Ladik-KONYA**	**2.43**	**23**	PN	**Pn**	**00 51 24.3**	**+0.9**
KIZK	**Mersin**	**2.48**	**77**	PN	**Pn**	**00 51 24.0**	**0.0**
YESY	**Yesilyurt**	**2.76**	**48**	PN	**Pn**	**00 51 28.5**	**+0.5**
MERS	**Mersin**	**2.87**	**71**	PN	**Pn**	**00 51 29.7**	**+0.3**
SULT	**Sultanhani-AKS**	**2.93**	**40**	PN	**Pn**	**00 51 31.1**	**+0.9**

*NEIC **02** 00:55:27.4±1.3, 5.°46S±0.°08×153.°69E±0.°05, h66km±11km, mb4.0/13, Error ellipse: s-maj=14.1km s-min=2.5km az=149.0*
*IDC **02** 00:55:28.3±4.2, 5.°43S×153.°58E, h79km±29km, mb3.6/9, mb1 3.8/10, mb1mx3.6/37, mbtmp4.0/10, MS3.3/6, Ms1 3.3/6, ms1mx2.8/54, Error ellipse: s-maj=38.0km s-min=14.3km az=97.0*

ISC 02 00:55:25.0±0.8, 5.°42S±0.°07×153.°80E±0.°09, h50km, n31, σ1§44/28, mb3.9/12, MS3.0/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.03**	**307**	Pn	**Pn**	**00 55 59.0**	**+2.1**
KRVT	**Keravat (AS076**	**2.08**	**302**	P	**Pn**	**00 55 58.9**	**+1.4**
KRVT				S	**Sn**	**00 56 22.6**	**+0.3**
PMG	**Port Moresby**	**7.68**	**239**	P	**Pn**	**00 57 16.9**	**+2.5**
	2.7nm,0.3s,baz=31,slow=8.7,SNR=5.7						
PMG				S	**Sn**	**00 58 38.1**	**-2.0**
	8.2nm,0.3s,baz=298,slow=23,SNR=9.9						
PMG				LR	LR	01 00 13.4	
	comp=Z,114nm,21.9s,baz=82,slow=38						
PMG	**Port Moresby**	**7.68**	**239**		**Pn**	**00 57 16.5**	**+2.2**
PMG					**Sn**	**00 58 38.8**	**-1.3**
CTAO	**Charters Tower**	**16.32**	**206**	Pn	**Pn**	**00 59 11.0**	**0.0**
CTAO				IAmb	IAmb	00 59 14.5	
	comp=Z,8.1nm,1.0s						
EIDS	**Eidsvold**	**20.01**	**187**	P	**P**	**00 59 53.3**	**-0.4**
EIDS				IAmb	IAmb	00 59 54.3	
	comp=Z,5.9nm,0.8s						
DZM	**Mont Dzumac**	**20.59**	**145**	P	**P**	**01 00 00.1**	**0.0**
DZM				IAmb	IAmb	01 00 01.1	
	comp=Z,10nm,0.6s						
PINNC	**Pines Island,**	**21.59**	**144**	P	**P**	**01 00 10.5**	**-0.3**
WB0	**Warramunga Arr**	**23.66**	**231**	P	**P**	**01 00 30.4**	**-1.8**
WB0				IAmb	IAmb	01 00 31.6	
	comp=Z,18nm,1.5s						
WB2	**Warramunga Arr**	**23.80**	**231**	P	**P**	**01 00 32.2**	**-1.2**
WB2				IAmb	IAmb	01 00 33.0	
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**23.80**	**231**	P	**P**	**01 00 31.5**	**-2.0**
	comp=Z,3.3nm,0.8s,baz=54,slow=9.7,SNR=15						
WRA	**Warramunga Arr**	**23.80**	**231**	IAmb	IAmb	01 00 32.8	
	comp=Z,0.3nm,1.4s						
ARMA	**Armidale**	**24.95**	**184**	P	**P**	**01 00 44.1**	**+0.2**
ARMA				IAmb	IAmb	01 00 44.6	
	comp=Z,6.6nm,0.8s						
AS31	**Alice Springs**	**26.39**	**225**	P	**P**	**01 00 56.1**	**-0.9**
ASAR	**Alice Springs**	**26.39**	**225**	P	**P**	**01 00 55.6**	**-1.3**
	comp=Z,2.9nm,0.9s,baz=57,slow=9.2,SNR=19						
ASAR				LR	LR	01 10 30.1	
	comp=Z,49nm,20.6s,baz=62,slow=34						
ASAR	**Alice Springs**	**26.39**	**225**	P	**P**	**01 00 55.8**	**-1.2**
KNRA	**Kununurra**	**26.61**	**246**	P	**P**	**01 00 59.1**	**+0.1**
STKA	**Stephens Creek**	**28.70**	**202**	P	**P**	**01 01 19.0**	**+1.5**
	comp=Z,2.6nm,0.7s,baz=340,slow=12,SNR=2.9						
STKA				LR	LR	01 13 04.0	
	comp=Z,35nm,18.6s,baz=25,slow=37						
STKA	**Stephens Creek**	**28.70**	**202**	IAmb	IAmb	01 01 20.1	
	comp=Z,1.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.25**	**243**	P	**P**	**01 01 29.6**	**-1.9**
	comp=Z,5.0nm,0.6s,baz=48,slow=7.2,SNR=19						
KAPI	**Kappang**	**33.91**	**269**	LR	LR	01 17 06.4	
	comp=Z,30nm,21.4s,baz=104,slow=38						
QRZ	**Quartz Range**	**39.05**	**157**	P	**P**	**01 02 48.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**59.04**	**295**	P	**P**	**01 05 19.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=114,slow=5.0,SNR=5.9						
SONM	**Songino Array**	**67.38**	**327**	P	**P**	**01 06 16.1**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=150,slow=6.1,SNR=2.8						
SONM	**Songino Array**	**67.38**	**327**	IAmb	IAmb	01 06 22.4	
	comp=Z,0.8nm,1.3s						
MKAR	**Makanchi Array**	**81.44**	**319**	P	**P**	**01 07 36.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=92,slow=7.5,SNR=6.9						
ZALV	**Zalesovo Beam**	**82.22**	**326**	P	**P**	**01 07 39.1**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=111,slow=7.9,SNR=2.0						
ILAR	**Eielson Array**	**82.36**	**22**	P	**P**	**01 07 39.9**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=254,slow=5.2,SNR=1.7						
INK	**Inuvik**	**88.67**	**21**	LR	LR	01 42 53.5	
	comp=Z,35nm,20.1s,baz=58,slow=32						
YBH	**Yreka Blue Hor**	**88.72**	**48**	LR	LR	01 43 32.0	
	comp=Z,41nm,18.4s,baz=312,slow=32						
TORD	**Torodi Ar. Bea**	**151.44**	**288**	PKPbc	**PKPbc**	**01 15 13.3**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=72,slow=2.6,SNR=2.3						

*IDC **02** 00:55:41.7±2.4, 10.°37S×75.°34W, h43km±24km, mb3.6/4, mb1 3.8/8, mb1mx3.6/30, mbtmp3.9/8, ML3.8/4, MS2.7/2, Ms1 2.7/2, ms1mx2.5/42, Error ellipse: s-maj=26.3km s-min=17.4km az=127.0*
*NEIC **02** 00:55:42.0±1.6, 10.°49S±0.°05×75.°35W±0.°08, h47km±10km, mb4.3/16, Error ellipse: s-maj=11.0km s-min=6.9km az=77.0*

ISC 02 00:55:39.3±0.5, 10.°45S±0.°06×75.°37W±0.°07, h25km, n34, σ1§03/35, mb4.2/9, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.10**	**223**	P	**Pn**	**00 56 14.9**	**+1.9**
	44nm,0.3s,baz=32,slow=18,SNR=64						
NNA				S	**Sb**	**00 56 41.8**	**-0.6**
	41nm,0.3s,baz=331,slow=22,SNR=10						
NNA				LR	LR	00 57 22.9	
	comp=Z,86nm,20.3s,baz=346,slow=46						
NNA	**Nana**	**2.10**	**223**		**Pn**	**00 56 14.6**	**+1.5**
NNA				Sn	**Sb**	**00 56 42.1**	**-0.4**
CZSB	**Cruzeiro do Su**	**3.77**	**44**	Pn	**Pn**	**00 56 37.0**	**+1.0**
ATAH	**Atahualpa**	**4.45**	**318**	P	**Pn**	**00 56 47.4**	**+1.8**
	4.2nm,0.3s,baz=165,slow=3.6,SNR=43						
ETMB	**Extrema**	**9.04**	**87**		**Pn**	**00 57 49.5**	**+1.2**
PB16	**IPOC Station P**	**9.68**	**145**	Pn	**Pn**	**00 57 59.7**	**+2.1**
PB11	**IPOC Station P**	**10.77**	**150**	Pn	**Pn**	**00 58 13.9**	**+1.7**
TA01	**Diego Aracena**	**11.23**	**154**	Pn	**Pn**	**00 58 17.8**	**-0.6**
PB09	**IPOC Station P**	**12.72**	**153**	Pn	**Pn**	**00 58 38.4**	**-0.5**
SIV	**San Ignacio**	**14.97**	**113**	P	**Pn**	**00 59 10.1**	**+0.6**
	0.3nm,0.3s,baz=298,slow=10,SNR=9.2						
SIV				LR	LR	01 05 03.1	
	comp=Z,58nm,19.5s,baz=100,slow=38						
MACA	**Manacapuru-AM**	**16.28**	**65**	Pn	**Pn**	**00 59 26.8**	**+0.3**
PTLB	**Pontes e Lacer**	**16.58**	**109**		**Pn**	**00 59 31.0**	**+0.7**
PTGA	**Pitinga**	**18.11**	**59**	P	**Pn**	**00 59 49.4**	**+0.1**
	0.7nm,0.3s,baz=326,slow=22,SNR=4.7						
BOAV	**Boa Vista**	**19.53**	**50**	P	**P**	**01 00 05.2**	**0.0**
SJCC	**San Jacinto, C**	**20.22**	**1**	P	**P**	**01 00 13.2**	**+0.5**
SJCC				IAmb	IAmb	01 00 13.3	
	comp=Z,14nm,1.1s						
BAUV	**El Baul**	**20.60**	**21**	P	**P**	**01 00 16.7**	**-0.2**
BAUV				IAmb	IAmb	01 00 21.7	
	comp=Z,18nm,1.2s						
BIRV	**Birongo**	**22.68**	**24**	P	**P**	**01 00 39.1**	**0.0**
GO05	**Huala**	**24.65**	**173**	P	**P**	**01 00 56.1**	**-2.0**
GO05				IAmb	IAmb	01 01 15.2	
	comp=Z,13nm,1.2s						
ITAB	**Concordia**	**27.53**	**131**	P	**P**	**01 01 23.3**	**-0.9**
T57A	**Hurt**	**47.34**	**356**	P	**P**	**01 04 10.9**	**-0.2**
T57A				IAmb	IAmb	01 04 20.4	
	comp=Z,7.3nm,1.2s						
W39A	**Magazine**	**48.63**	**340**	P	**P**	**01 04 21.6**	**+0.4**
W39A				IAmb	IAmb	01 04 30.6	
	comp=Z,1.7nm,0.8s						
R55A	**Marlinton**	**48.68**	**355**	P	**P**	**01 04 20.8**	**-0.8**
FCAR	**Ozark Folk Cen**	**48.73**	**342**	P	**P**	**01 04 20.7**	**-1.2**
RDMU	**Red Mountain**	**59.80**	**330**	P	**P**	**01 05 43.5**	**+0.6**
RDMU				IAmb	IAmb	01 05 49.4	
	comp=Z,2.9nm,1.3s						
DUG	**Dugway, Tooele**	**61.16**	**328**	P	**P**	**01 05 53.7**	**+1.7**
AGMN	**Agassiz Nation**	**61.24**	**345**	P	**P**	**01 05 51.5**	**-0.7**
AGMN				IAmb	IAmb	01 05 59.6	
	comp=Z,6.3nm,1.4s						
PDAR	**Pinedale Array**	**61.49**	**332**	P	**P**	**01 05 53.6**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=136,slow=12,SNR=2.8						
YKA	**Yellowknife Ar**	**78.81**	**343**	P	**P**	**01 07 39.2**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=143,slow=5.9,SNR=14						
TORD	**Torodi Ar. Bea**	**80.00**	**75**	P	**P**	**01 07 47.1**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=275,slow=5.3,SNR=5.9						
INK	**Inuvik**	**88.53**	**342**	P	**P**	**01 08 28.7**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=129,slow=4.0,SNR=9.7						
INK	**Inuvik**	**88.53**	**342**	IAmb	IAmb	01 08 33.9	
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**133.82**	**16**	PKP	**PKPdf**	**01 14 54.4**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=304,slow=2.9,SNR=3.7						
ASAR	**Alice Springs**	**135.62**	**220**	PKP	**PKPdf**	**01 14 58.9**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=108,slow=2.4,SNR=2.8						
WRA	**Warramunga Arr**	**137.95**	**224**	PKP	**PKPdf**	**01 15 03.0**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=128,slow=2.2,SNR=2.9						

TRN 02 01:01:46.0, 15.°14N×60.°44W, h38km, MD4.0,3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.55**	**229**	⇓*iP*	Pn	01 01 58.7	+1.3
ILAM				*eS*	Sn	01 02 07.7	+2.3
MVM	**Montagne Vaucl**	**0.73**	**217**	*eP*	Pn	01 02 01.2	+1.4
BAMF	**Morne Balai**	**0.75**	**245**	*eP*	Pn	01 02 01.8	+1.7
LPMF	**Morne Lapointe**	**0.76**	**222**	*eP*	Pn	01 02 01.2	+1.1
SVN	**Savane Anatole**	**0.76**	**247**	*eP*	Pn	01 02 02.0	+1.7
GBMF	**Grand Be**	**0.78**	**244**	*eP*	Pn	01 02 02.1	+1.6
FDF	**Fort de France**	**0.79**	**239**	*eP*	Pn	01 02 02.2	+1.5
FDF				*eS*	Sn	01 02 13.6	+2.2
DLPL	**La Plaine**	**0.80**	**284**	*eP*	Pn	01 02 03.0	+2.2
DLPL				*eS*	Sn	01 02 14.1	+2.7
ZAM	**Aeronautique**	**0.80**	**225**	*eP*	Pn	01 02 02.0	+1.3
MPOM	**Morne Pois Mar**	**0.80**	**210**	⇓*iP*	Pn	01 02 01.9	+1.1
MPOM				*eS*	Sn	01 02 13.2	+1.7
PML	**Morne Lenard**	**0.80**	**244**	*eP*	Pn	01 02 02.5	+1.7
PCM	**Pelee Case Pet**	**0.81**	**247**	*eP*	Pn	01 02 02.6	+1.7
PCM	**Pelee Case Pet**	**0.81**	**247**	*eP*	Pn	01 02 02.6	+1.7
TRMF	**Trois Ilets**	**0.84**	**224**	*eP*	Pn	01 02 02.6	+1.3
BIM	**Bigot**	**0.87**	**224**	⇓*iP*	Pn	01 02 03.3	+1.6
BIM				*eS*	Sn	01 02 15.6	+2.4
MDN	**Morne-Daniel**	**0.93**	**281**	*eP*	Pn	01 02 04.9	+2.3
MDN				*eS*	Sn	01 02 18.0	+3.3
DSLB	**Salisbury**	**0.99**	**288**	*eP*	Pn	01 02 05.1	+1.8
DSLB				*eS*	Sn	01 02 19.3	+3.2
MDCT	**Cottage Hill,**	**1.09**	**296**	*eP*	Pn	01 02 06.0	+1.3
MDCT				*eS*	Sn	01 02 20.7	+2.2
MAGL	**Barre de l'ile**	**1.14**	**315**	*eP*	Pn	01 02 06.5	+1.1
MAGL				*eS*	Sn	01 02 21.6	+1.8
SLBI	**Saint Lucia, B**	**1.22**	**205**	*eP*	Pn	01 02 07.7	+1.1
SLBI				*eS*	Sn	01 02 23.8	+2.0
SLCP	**Castries, St.**	**1.24**	**205**	*eP*	Pn	01 02 08.3	+1.5
SLCP				*eS*	Sn	01 02 24.8	+2.5
TDBA	**Terre de Bas,**	**1.35**	**302**	*eP*	Pn	01 02 09.9	+1.6
TDBA				*eS*	Sn	01 02 27.0	+2.1
TBG	**Guadaloupe-3**	**1.36**	**302**	*eP*	Pn	01 02 09.6	+1.2
CBE	**Ff, Capester**	**1.45**	**310**	*eP*	Pn	01 02 11.4	+1.7
CBE				*eS*	Sn	01 02 29.8	+2.2
MCLT	**Moule a Chique**	**1.50**	**199**	*eP*	Pn	01 02 12.0	+1.5
MCLT				*eS*	Sn	01 02 31.9	+3.2
SVV	**Soufriere Volc**	**1.96**	**203**	*eP*	Pn	01 02 18.1	+1.3
SVV				*eS*	Sn	01 02 43.4	+3.3
SVB	**Belmont**	**2.02**	**203**	*eP*	Pn	01 02 19.5	+2.0
SVB				*eS*	Sn	01 02 43.6	+2.1
BBGH	**Gun Hill**	**2.16**	**157**	*eP*	Pn	01 02 22.2	+2.7
ANBD	**Bethesda, Anti**	**2.28**	**326**	*eP*	Pn	01 02 23.0	+1.9
ANBD				*eS*	Sn	01 02 49.8	+1.8
ANDO	**Antigua, Disas**	**2.37**	**326**	*eS*	Sn	01 02 52.8	+2.7
GCMP	**Grenada, Carri**	**2.81**	**200**	*eP*	Pn	01 02 30.2	+1.9
GCMP				*eS*	Sn	01 03 02.9	+1.9
ANWB	**Willy Bob**	**2.82**	**333**	*eP*	Pn	01 02 30.4	+1.8
GRGR	**Grenville**	**3.21**	**202**	*eP*	Pn	01 02 36.4	+2.4
GRGR				*eS*	Sn	01 03 12.0	+1.0
GRFF	**Grenada Fort F**	**3.32**	**202**	*eP*	Pn	01 02 37.6	+2.2
GRFF				*eS*	Sn	01

FULB	**Fuli**	**0.56 198**	*e*P	**Pb**	**01 25 48.5**	**+0.4**
	baz=203					
FULB			*e*S	**Sb**	**01 25 57.6**	**+1.9**
	baz=203					
TDCB	**Techi**	**0.60 330⇓**	*i*P	**Pg**	**01 25 48.5**	**-0.3**
	baz=334					
TDCB			S	**Sg**	**01 25 55.2**	**-1.6**
	baz=334					
TYC	**Yuchr**	**0.60 287⇓**	*i*P	**Pg**	**01 25 47.6**	**-1.1**
	baz=292					
TYC			S	**Sg**	**01 25 54.3**	**-2.5**
	baz=292					
WCS	**Beigang Elemen**	**0.62 302⇓**	*i*P	**Pg**	**01 25 48.2**	**-0.8**
	baz=306					
WCS			S	**Sg**	**01 25 54.4**	**-2.9**
	baz=306					
EHP	**Heping Village**	**0.62 22**	*e*S	**Sb**	**01 25 58.6**	**+1.1**
	baz=16					
CHKT	**Chengkung**	**0.64 190**	*e*P	**Pg**	**01 25 48.9**	**-0.6**
	baz=172					
ALS	**Alishan**	**0.66 251⇑**	*i*P	**Pg**	**01 25 49.4**	**-0.6**
	baz=248					
ALS			S	**Sg**	**01 25 56.9**	**-2.0**
	baz=248					
ELDTW	**Lidau**	**0.69 219**	*e*P	**Pg**	**01 25 49.1**	**-1.4**
	baz=207					
ELDTW			*e*S	**Sg**	**01 25 58.0**	**-1.7**
	baz=207					
NNSB	**Datong**	**0.70 352⇑**	*i*P	**Pb**	**01 25 50.2**	**-0.3**
	baz=7.0					
NNSB			*e*S	**Sg**	**01 25 58.7**	**-1.2**
	baz=7.0					
WJS	**Zhushan**	**0.70 277**	⇓P	**Pg**	**01 25 50.5**	**-0.1**
	baz=278					
WJS			*e*S	**Sg**	**01 25 60.0**	**+0.1**
	baz=278					
NNS	**Nan Shan**	**0.71 352⇑**	*i*P	**Pb**	**01 25 50.5**	**-0.3**
	baz=7.0					
NNS			*e*S	**Sb**	**01 25 60.0**	**-0.3**
	baz=7.0					
ENA	**Nanau**	**0.73 19**	*e*P	**Pg**	**01 25 50.1**	**-1.0**
	baz=25					
WHP	**Taichung City**	**0.73 318⇓**	*i*P	**Pg**	**01 25 50.5**	**-0.7**
	baz=325					
WHP			*e*S	**Sg**	**01 25 59.5**	**-1.5**
	baz=325					
WNT	**Mingjian**	**0.75 281⇓**	*i*P	**Pg**	**01 25 51.5**	**0.0**
	baz=282					
WNT			*e*S	**Sg**	**01 26 02.0**	**+0.6**
	baz=282					
CHN5	**Tsauling**	**0.75 260⇑**	*i*P	**Pg**	**01 25 51.2**	**-0.4**
	baz=252					
CHN5			*e*S	**Sg**	**01 26 00.9**	**-0.7**
	baz=252					
EWUT	**Wuta**	**0.76 21**	*e*P	**Pg**	**01 25 50.8**	**-0.9**
	baz=16					
EWUT			*e*S	**Sb**	**01 26 02.0**	**+0.5**
	baz=16					
EDH	**Donghe**	**0.78 192**	*e*P	**Pg**	**01 25 50.4**	**-1.6**
	baz=189					
EDH			*e*S	**Sb**	**01 26 03.1**	**+1.2**
	baz=189					
TCU	**Taichung**	**0.85 299**	⇓P	**Pg**	**01 25 53.3**	**-0.1**
	baz=300					
TCU			*e*S	**Sb**	**01 26 05.2**	**+1.1**
	baz=300					
STYH	**Taoyuan**	**0.86 229**	P	**Pg**	**01 25 52.4**	**-1.2**
	baz=227					
STYH			*e*S	**Sg**	**01 26 03.8**	**-1.2**
	baz=227					
NDT	**Datong Townshi**	**0.87 2**	*e*P	**Pb**	**01 25 53.3**	**0.0**
	baz=12					
NDT			*e*S	**Sb**	**01 26 04.6**	**0.0**
	baz=12					
WDLH	**Douliu**	**0.87 267**	*e*P	**Pg**	**01 25 53.3**	**-0.4**
	baz=267					
WDLH			*e*S	**Sg**	**01 26 04.8**	**-0.5**
	baz=267					
LONT	**Longtian**	**0.89 202**	*e*P	**Pg**	**01 25 53.5**	**-0.6**
	baz=185					
LONT			*e*S	**Sb**	**01 26 06.5**	**+1.4**
	baz=185					
TWQ1	**Liyutan**	**0.89 313**	*e*P	**Pb**	**01 25 54.2**	**+0.4**
	baz=315					
TWQ1			*e*S	**Sg**	**01 26 05.4**	**-0.7**
	baz=315					
TPUB	**Ta-pu**	**0.90 241⇑**	*i*P	**Pg**	**01 25 53.6**	**-0.7**
	baz=240					
TPUB			S	**Sg**	**01 26 05.3**	**-0.8**
	baz=240					
ENTT	**Nioudou**	**0.91 5**	*e*P	**Pg**	**01 25 53.3**	**-1.2**
	baz=8.0					
ENTT			*e*S	**Sb**	**01 26 05.5**	**-0.3**
	baz=8.0					
WCHH	**Zhanghua**	**0.92 292**	*e*P	**Pg**	**01 25 54.1**	**-0.6**
	baz=292					
WCHH			*e*S	**Sg**	**01 26 06.5**	**-0.2**
	baz=292					
NDS	**Dongshan**	**0.92 13**	*e*P	**Pn**	**01 25 55.1**	**+0.2**
	baz=26					
NDS			*e*S	**Sb**	**01 26 06.8**	**+0.6**
	baz=26					
TWC	**Suao**	**0.93 21**	*e*P	**Pn**	**01 25 55.2**	**+0.2**
	baz=17					
TWC			*e*S	**Sn**	**01 26 08.1**	**+0.2**
	baz=17					
WTP	**Ta-pu**	**0.94 239**	*e*P	**Pg**	**01 25 54.6**	**-0.5**
	baz=237					
WTP			*e*S	**Sg**	**01 26 07.0**	**-0.4**
	baz=237					
YHNB	**Yeheng**	**0.94 354**	*e*P	**Pg**	**01 25 54.3**	**-0.8**
	baz=356					
YHNB			S	**Sg**	**01 26 06.5**	**-1.0**
	baz=356					
NSK	**Sanguang**	**0.95 353**	*e*P	**Pg**	**01 25 54.4**	**-0.8**
	baz=356					
NSK			S	**Sg**	**01 26 06.5**	**-1.2**
	baz=356					
CHN2	**Minshiung**	**0.95 258**	*e*P	**Pg**	**01 25 54.0**	**-1.2**
	baz=258					
CHN2			*e*S	**Sg**	**01 26 07.8**	**0.0**
	baz=258					
NSY	**Sanyi**	**0.95 316⇓**	*i*P	**Pn**	**01 25 55.6**	**+0.3**
	baz=317					
NSY			*e*S	**Sg**	**01 26 07.5**	**-0.3**
	baz=317					
TWGBT	**Beinan**	**0.98 202**	*e*P	**Pg**	**01 25 53.9**	**-2.0**
	baz=187					
TWGBT			*e*S	**Sg**	**01 26 08.4**	**-0.5**
	baz=187					
WDJ	**Dajia District**	**0.98 309**	*e*P	**Pb**	**01 25 56.0**	**+0.7**
	baz=320					
WDJ			*e*S	**Sb**	**01 26 09.7**	**+1.7**
	baz=320					
NSTT	**Nanjuang**	**1.00 334⇓**	*i*P	**Pb**	**01 25 55.9**	**+0.3**
	baz=344					
NSTT			*e*S	**Sg**	**01 26 08.0**	**-1.3**
	baz=344					
TWE	**Neicheng**	**1.00 10**	*e*P	**Pb**	**01 25 55.4**	**-0.1**
	baz=24					
TWE			*e*S	**Sg**	**01 26 07.8**	**-1.5**
	baz=24					
CHY	**Chiayi**	**1.00 257**	*e*P	**Pg**	**01 25 55.1**	**-1.1**
	baz=266					
LIOB	**Emei**	**1.00 335⇓**	*i*P	**Pn**	**01 25 56.2**	**+0.1**
	baz=337					
LIOB			*e*S	**Sg**	**01 26 07.5**	**-2.1**
	baz=337					
WTK	**Tuku**	**1.01 268**	*e*P	**Pg**	**01 25 55.3**	**-1.1**
	baz=268					
WTK			*e*S	**Sg**	**01 26 08.7**	**-0.9**
	baz=268					
NMLH	**Miaoli**	**1.02 322**	*e*P	**Pn**	**01 25 57.1**	**+0.9**
	baz=323					
NMLH			*e*S	**Sg**	**01 26 09.4**	**-0.7**
	baz=323					
WRL	**Guolierlin Hig**	**1.03 280**	*e*P	**Pg**	**01 25 55.4**	**-1.4**
	baz=280					
WRL			*e*S	**Sg**	**01 26 08.3**	**-2.0**
	baz=280					
CHN1	**Nanshi**	**1.03 238**	*e*P	**Pb**	**01 25 56.5**	**+0.3**
	baz=237					
CHN1			*e*S	**Sg**	**01 26 10.1**	**-0.4**
	baz=237					
NWLT	**Wulai**	**1.04 1**	*e*P	**Pg**	**01 25 55.6**	**-1.4**
	baz=13					
NWLT			*e*S	**Sg**	**01 26 09.2**	**-1.5**
	baz=13					
SNST	**Tainan City**	**1.04 241**	*e*P	**Pb**	**01 25 56.8**	**+0.5**
	baz=240					
SNST			*e*S	**Sg**	**01 26 10.4**	**-0.3**
	baz=240					
SGST	**Jiashian**	**1.05 232**	*e*P	**Pb**	**01 25 55.7**	**-0.9**
	baz=238					
SGST			*e*S	**Sg**	**01 26 10.1**	**-1.0**
	baz=238					
ILA	**Ilan**	**1.05 13**	*e*P	**Pn**	**01 25 57.0**	**+0.3**
	baz=19					
LDUT	**Ludao**	**1.05 181**	*e*P	**Pb**	**01 25 55.0**	**-1.5**
	baz=179					
LDUT			*e*S	**Sg**	**01 26 08.6**	**-2.6**
	baz=179					
SLGT	**Liugui**	**1.07 226**	*e*P	**Pb**	**01 25 56.5**	**-0.2**
	baz=220					
WTCT	**Ta-ch'eng**	**1.11 277**	*e*P	**Pb**	**01 25 57.2**	**-0.3**
	baz=276					
SBCB	**Hsinchu**	**1.15 337**	*e*P	**Pn**	**01 25 58.6**	**+0.6**
	baz=339					
SBCB			*e*S	**Sn**	**01 26 14.6**	**+1.3**
	baz=339					
NTC	**Toucheng**	**1.16 16**	*e*P	**Pb**	**01 25 57.7**	**-0.7**
	baz=17					
NTC			*e*S	**Sn**	**01 26 14.2**	**+0.7**
	baz=17					
WSF	**Szhu**	**1.16 266**	*e*P	**Pb**	**01 25 57.7**	**-0.7**
	baz=266					
WSF			*e*S	**Sb**	**01 26 13.3**	**+0.2**
	baz=266					
HSN	**Hsinchu**	**1.16 336**	*e*P	**Pg**	**01 25 59.4**	**0.0**
	baz=324					
HSN			*e*S	**Sn**	**01 26 15.3**	**+1.6**
	baz=324					
ICHU	**Yijhu**	**1.17 252**	*e*P	**Pn**	**01 25 58.5**	**+0.2**
	baz=251					
ICHU			*e*S	**Sb**	**01 26 13.6**	**+0.4**
	baz=251					
EGS		**1.18 20**	*e*P	**Pb**	**01 25 58.1**	**-0.6**
	baz=26					
CHN3	**Shinhua**	**1.22 238**	*e*P	**Pg**	**01 26 01.4**	**+1.0**
	baz=231					
NHDH	**Xindian Distri**	**1.23 2**	*e*P	**Pn**	**01 25 59.2**	**+0.2**
	baz=15					
CHN8	**Yiju**	**1.23 252**	*e*P	**Pn**	**01 25 59.0**	**-0.1**
	baz=252					
CHN8			*e*S	**Sb**	**01 26 15.8**	**+0.7**
	baz=252					
ECL	**Taimali**	**1.23 203**	*e*P	**Pn**	**01 25 59.4**	**+0.2**
	baz=184					
SSD	**Sandimen**	**1.26 219**	*e*P	**Pn**	**01 25 59.6**	**+0.1**
	baz=217					
SSD			*e*S	**Sb**	**01 26 17.5**	**+1.6**
	baz=217					
NCUH	**Zhongli**	**1.26 347**	*e*P	**Pg**	**01 26 00.3**	**-0.9**
	baz=349					
NCUH			*e*S	**Sn**	**01 26 18.2**	**+2.2**
	baz=349					
NCU	**National Centr**	**1.26 348**	*e*P	**Pg**	**01 26 00.5**	**-0.7**
	baz=349					
NCU			*e*S	**Sn**	**01 26 18.2**	**+2.1**
	baz=349					
TIPB	**Shuangxi**	**1.27 14**	*e*P	**Pn**	**01 25 59.1**	**-0.7**
	baz=19					
TSMG	**Majia**	**1.28 217**	*e*P	**Pn**	**01 25 59.6**	**-0.2**
	baz=215					
TSMG			*e*S	**Sb**	**01 26 17.4**	**+0.9**
	baz=215					
TWM1	**Shoushan**	**1.33 227**	*e*P	**Pg**	**01 26 03.4**	**+0.9**
	baz=235					
TWB1	**Santiao Chiao**	**1.35 20**	*e*P	**Pn**	**01 26 00.8**	**0.0**
	baz=26					
NWF	**Wu-fen Shan**	**1.36 11**	*e*P	**Pn**	**01 26 00.9**	**-0.1**
	baz=28					
TWS1	**Kuangyinshan**	**1.36 357**	*e*P	**Pg**	**01 26 03.1**	**-0.1**
	baz=12					
TWS1			*e*S	**Sg**	**01 26 22.5**	**+1.6**
	baz=12					
MASBT	**Mashibuluo**	**1.36 215**	*e*P	**Pn**	**01 26 01.0**	**0.0**
	baz=213					
MASBT			*e*S	**Sb**	**01 26 20.5**	**+1.6**
	baz=213					
YM01	**YM01**	**1.41 3**	*e*P	**Pn**	**01 26 01.5**	**-0.1**
	baz=28					
NTST	**Danshui**	**1.43 359**	*e*P	**Pg**	**01 26 03.6**	**-0.8**
	baz=24					
SNJT	**Kaohsiung City**	**1.44 228**	*e*P	**Pg**	**01 26 04.7**	**+0.1**
	baz=217					
ANP	**Anpu**	**1.45 1**	*e*P	**Pg**	**01 26 04.1**	**-0.6**
	baz=27					
EAST	**Anshuo**	**1.47 204**	*e*P	**Pb**	**01 26 03.8**	**+0.2**
	baz=186					
TAW	**Tawu**	**1.47 202**	*e*P	**Pn**	**01 26 01.6**	**-0.8**
	baz=184					
SSPT	**Xinbi**	**1.50 214**	*e*P	**Pn**	**01 26 04.1**	**+1.3**
	baz=191					
JYNG	**Yonagunijimaku**	**1.51 62**	P	**Pb**	**01 26 03.7**	**-0.7**
JYNG			*e*S	**Sg**	**01 26 23.4**	**-2.3**
TWY	**Chenhua**	**1.54 4**	*e*P	**Pb**	**01 26 05.0**	**+0.2**
	baz=27					
YOJ	**Yonaguni jima**	**1.57 62**	P	**Pb**	**01 26 04.6**	**-0.8**
YOJ			*e*S	**Sb**	**01 26 24.5**	**-0.4**
YOJ	**Yonaguni jima**	**1.57 62**	*e*P	**Pn**	**01 26 04.0**	**+0.2**
	baz=62					
YOJ			*e*S	**Sn**	**01 26 24.1**	**+0.4**
	baz=62					
SCZT	**Fangliau**	**1.57 211**	*e*P	**Pn**	**01 26 05.0**	**+1.2**
	baz=202					
SLIU	**Shizi**	**1.64 203**	*e*P	**Pn**	**01 26 05.3**	**+0.5**
	baz=182					
LAY	**Lan-yu**	**1.69 178**	*e*P	**Pn**	**01 26 03.3**	**-2.1**
	baz=168					
LAY			*e*S	**Sn**	**01 26 25.9**	**-0.7**
	baz=168					
LYUB	**Lan-yu**	**1.73 177**	*e*P	**Pn**	**01 26 03.6**	**-2.4**
	baz=172					
WDGT	**Dungji**	**1.74 255**	*e*P	**Pn**	**01 26 05.7**	**-0.4**
	baz=255					
WDGT			*e*S	**Sn**	**01 26 28.0**	**+0.1**
	baz=255					
PHUB	**P'eng-hu**	**1.77 263**	*e*P	**Pn**	**01 26 06.1**	**-0.5**
	baz=264					
PHUB			*e*S	**Sn**	**01 26 27.2**	**-1.3**
	baz=264					
PNG	**Penghu**	**1.78 265**	*e*P	**Pn**	**01 26 06.0**	**-0.7**
	baz=249					
PNG			*e*S	**Sn**	**01 26 28.2**	**-0.6**
	baz=249					
VCHM	**Qimei**	**1.96 255**	*e*P	**Pn**	**01 26 08.3**	**-0.8**
	baz=250					
PCYT	**Pengchaiyu**	**1.96 16**	*e*P	**Pn**	**01 26 10.3**	**+1.1**
	baz=22					
IRIF	**Iriomote-Funau**	**2.14 73**	P	**Pn**	**01 26 12.2**	**+0.6**
IRIF			*e*S	**Sn**	**01 26 38.5**	**+0.8**
HATJ	**Hateruma jima**	**2.15 81**	P	**Pn**	**01 26 12.2**	**+0.5**
HATJ			*e*S	**Sn**	**01 26 38.5**	**+0.6**
JKRS	**Kuro-shima**	**2.36 77**	P	**Pn**	**01 26 15.6**	**+0.9**
JKRS			S	**Sn**	**01 26 44.3**	**+1.1**
JIJ	**Ishigaki jima**	**2.51 75**	P	**Pn**	**01 26 17.0**	**+0.3**
JIJ			S	**Sn**	**01 26 46.9**	**0.0**
PTMZ	**Houxiangcun**	**2.52 302**	*e*P	**Pn**	**01 26 16.3**	**-0.6**
	baz=304					
JISG	**Ishigakijimahi**	**2.72 71**	P	**Pn**	**01 26 19.7**	**+0.1**
JISG			*e*S	**Sn**	**01 26 52.5**	**+0.5**
MATB	**Ma-tsu**	**2.78 330**	*e*P	**Pn**	**01 26 19.4**	**-1.1**
	baz=338					
KNM	**Kinmen**	**2.87 284**	*e*P	**Pn**	**01 26 22.3**	**+0.6**
	baz=270					
KNMB	**Chin-men Tao**	**2.92 285**	*e*P	**Pn**	**01 26 20.9**	**-1.5**
	baz=271					
JTJ	**Tarama**	**3.07 72**	P	**Pn**	**01 26 25.4**	**+0.9**
JTJ			*e*S	**Sn**	**01 27 01.8**	**+1.0**
LYJJ	**Jianjiangzhen**	**3.21 331**	*e*P	**Pn**	**01 26 25.7**	**-0.7**
	baz=341					
XPSS	**Dashiqiu**	**3.39 340**	*e*P	**Pn**	**01 26 28.4**	**-0.4**
	baz=337					
AXDP	**Jialang**	**3.41 291**	*e*P	**Pn**	**01 26 28.5**	**-0.6**
	baz=291					
ZPLA	**Ao Xicun**	**3.43 274**	*e*P	**Pn**	**01 26 28.4**	**-0.9**
	baz=273					
JMJ2	**Miyako jima3**	**3.65 73**	*e*S	**Sn**	**01 27 17.0**	**+2.0**
JOGS	**Gusukube**	**3.72 73**	S	**Sn**	**01 27 18.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**21.67 260**	P	**P**	**01 30 27.6**	**+0.9**
	0.3nm,0.7s,baz=72,slow=8.6,SNR=1.7					
SONM	**Songino Array**	**26.89 337**	P	**P**	**01 31 17.6**	**+0.8**
	0.7nm,0.9s,baz=152,slow=8.9,SNR=3.9					
MKAR	**Makanchi Array**	**38.85 316**	P	**P**	**01 33 01.6**	**+0.6**
	0.4nm,0.7s,baz=109,slow=9.0,SNR=5.7					
ZALV	**Zalesovo Beam**	**40.77 327**	P	**P**	**01 33 16.0**	**-0.7**
	0.9nm,0.8s,baz=108,slow=9.5,SNR=3.8					
KURBB	**Kurchatov Arra**	**42.63 320**	P	**P**	**01 33 32.1**	**+0.1**
	0.2nm,0.7s,baz=108,slow=9.6,SNR=4.3					
STKA	**Stephens Creek**	**58.55 160**	LR	LR	02 02 27.2	
	comp=Z,21nm,19.1s,baz=202,slow=39					

IDC ***02*** *01:34:42.3±6.1, 36°.43N×71°.38E, h100km±36km, mb2.9/2, mb1 3.2/8, mb1mx2.9/58, mbtmp3.5/8, Error ellipse: s-maj=74.9km s-min=24.9km az=147.0*

NNC ***02*** *01:34:47.4±8.3, 36°.92N×70°.89E, h148km±205km, mb2.8, mpv3.7, Error ellipse: s-maj=79.6km s-min=48.5km az=6.0*

ISC 02 01:34:43.8±1.8, 36°.6N±0°.2×71°.1E±0°.1, h100km, n19, σ1§40/23, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.84**	**19**	P	**Pn**	**01 36 09.6**	**+1.4**
	SNR=60						
UCH	**Uchtor**	**6.17**	**24**	P	**Pn**	**01 36 13.2**	**+0.5**
	SNR=11						
EKS2	**Erkin-Say**	**6.36**	**18**	P	**Pn**	**01 36 16.7**	**+1.7**
	SNR=10						
KK08	**Karatay Array**	**6.49**	**356**	⇓P	**Pn**	**01 36 18.5**	**+1.9**
	2.2nm,0.4s,baz=180,slow=13						
KK08				⇓S	**Sn**	**01 37 27.5**	**-1.7**
	1.6nm,0.3s,baz=182,slow=21						
AAK	**Ala-Archa**	**6.53**	**22**	P	**Pn**	**01 36 19.0**	**+1.6**
	2.0nm,0.3s,baz=183,slow=5.7,SNR=35						
AAK				S	**Sn**	**01 37 30.6**	**+0.1**
	0.4nm,0.3s,baz=341,slow=19,SNR=8.8						
AAK	**Ala-Archa**	**6.53**	**22**	P	**Pn**	**01 36 18.9**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**6.53**	**22**	⇑P	**Pn**	**01 36 18.4**	**+1.0**
	3.4nm,0.5s						
AAK				⇑S	**Sn**	**01 37 30.5**	**0.0**
	5.1nm,0.8s						
CHMS	**Chumysh**	**6.94**	**22**	P	**Pn**	**01 36 24.1**	**+1.3**
	SNR=5.1						
USP	**Ospenovka**	**7.11**	**20**	P	**Pn**	**01 36 26.8**	**+1.6**
	SNR=16						
TKM2	**Tokmak 2**	**7.16**	**27**	P	**Pn**	**01 36 26.9**	**+0.9**
	SNR=5.0						
TKM2	**Tokmak 2**	**7.16**	**27**	⇓P	**Pn**	**01 36 26.7**	**+0.8**
	4.6nm,0.6s						
TKM2				⇑S	**Sn**	**01 37 46.0**	**+0.2**
	0.4nm,0.4s						
GEYT	**Alibeck**	**10.46**	**281**	P	**Pn**	**01 37 10.9**	**+0.2**
	0.5nm,0.3s,baz=115,slow=13,SNR=7.0						
MKAR	**Makanchi Array**	**13.12**	**36**	P	**Pn**	**01 37 46.0**	**-0.2**
	0.0nm,0.3s,baz=225,slow=14,SNR=2.8						
KURBB	**Kurchatov Arra**	**14.96**	**19**	P	**P**	**01 38 11.7**	**-1.2**
	0.1nm,0.3s,baz=206,slow=10,SNR=15						
AB31	**Akbulak array**	**15.02**	**331**	⇓P	**Pn**	**01 38 07.8**	**-2.8**
	0.1nm,0.4s,baz=263,slow=37,SNR=8.6						
BVAR	**Borovoye Array**	**16.40**	**358**	P	**P**	**01 38 30.5**	**+1.6**
	0.2nm,0.3s,baz=164,slow=11,SNR=4.5						
ZALV	**Zalesovo Beam**	**19.75**	**24**	P	**P**	**01 39 04.8**	**-0.7**
	1.2nm,0.3s,baz=206,slow=10,SNR=27						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**01 42 45.2**	**+1.5**
	0.3nm,0.7s,baz=103,slow=7.3,SNR=1.0						
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**01 46 46.4**	**-1.2**
	0.1nm,0.5s,baz=348,slow=5.1,SNR=4.2						

LJU ***02*** *01:44:29.7, 46°.45N×14°.69E, h28km, ML0.6*

VIE 02 01:44:32.8±0.3, 46°.47N×14°.72E, h8km, ml0.3/1, Error ellipse: s-maj=4.5km s-min=1.5km az=3.0 11 km ESE of Eisenkappel, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.13**	**290**	*i* Pg	Pg	01 44 35.7	+0.1
	2.2nm,0.1s						
OBKA				*i* Sg	Sg	01 44 38.1	+0.4
	1.7nm,0.1s						
MOZS	**Mozjanca**	**0.26**	**229**	*i* Sg	Sg	01 44 41.0	-0.3
MOZS				IAML		01 44 41.5	
	comp=Z,1.9nm,0.1s						
PERS	**Pernice**	**0.32**	**58**	*i* Sg	Sg	01 44 43.9	+0.5
PERS				IAML		01 44 44.6	
	comp=Z,1.0nm,0.1s						

IDC 02 01:48:40.8±6.4, 16°.66S×177°.17W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.7/28, mbtmp4.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/58, Error ellipse: s-maj=312.9km s-min=50.7km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**256**	LR	LR	01 50 53.2	
	comp=Z,215nm,18.5s,baz=322,slow=28						
WRA	**Warramunga Arr**	**46.04**	**258**	P	P	01 57 06.7	0.0
	0.6nm,0.3s,baz=94,slow=7.3,SNR=20						
ASAR	**Alice Springs**	**46.28**	**253**	P	P	01 57 08.3	-0.3
	2.2nm,0.6s,baz=87,slow=8.5,SNR=30						
GERES	**GERESS Array B**	**146.69**	**347**	PKPbc	PKPdf	02 08 23.9	+0.8
	0.3nm,0.5s,baz=22,slow=4.3,SNR=5.3						

PGC 02 02:45:23.4±0.0, 50°.56N×130°.32W, h10km, MLSn2.9/11, Mw3.5/11, Mw3.5/11, 205km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.40**	**86**	P	Pn	02 45 46.8	-2.2
HOLB				S	Sn	02 46 03.2	-4.3
PACB	**Port Alice, BC**	**1.81**	**93**	Pn	Pn	02 45 52.1	-2.5
PHC	**Port Hardy**	**1.85**	**84**	Pn	Pn	02 45 53.3	-1.8
PHC				Sn	Sn	02 46 14.4	-4.1
MAYB	**Maynard**	**2.02**	**93**	Pn	Pn	02 45 55.7	-2.0
BBB	**Bella Bella**	**2.14**	**39**	Pn	Pn	02 45 57.6	-1.6
BBB				Sn	Sn	02 46 20.9	-4.8
EDB	**Eliza Dome**	**2.17**	**107**	Pn	Pn	02 45 57.6	-2.0
TLCB	**Telegraph Cove**	**2.23**	**89**	Pn	Pn	02 45 58.8	-1.5
TLCB				Sn	Sn	02 46 24.4	-3.4
WOSB	**Woss**	**2.44**	**98**	Pn	Pn	02 46 01.8	-1.5
NCRB	**Newcastle Ridg**	**2.73**	**92**	Pn	Pn	02 46 05.7	-1.7
BUTB	**Butedale**	**2.76**	**24**	Pn	Pn	02 46 07.0	-0.9
BUTB				Sn	Sn	02 46 38.2	-3.1
BNKB	**Banks Island**	**2.79**	**5**	Pn	Pn	02 46 06.5	-1.6
GDR	**Gold River**	**2.87**	**104**	Pn	Pn	02 46 06.7	-2.4
SPLB	**Strathcona Par**	**3.07**	**101**	Pn	Pn	02 46 10.5	-1.4
HWKB	**Hawksbury Isla**	**3.13**	**13**	Pn	Pn	02 46 12.1	-0.7
HWKB				Sn	Sn	02 46 46.4	-3.9
CBB	**Campbell River**	**3.22**	**97**	Pn	Pn	02 46 12.7	-1.3
BTB	**Buttle Lake**	**3.28**	**108**	Pn	Pn	02 46 12.3	-2.7
GRNB	**Grenville Isla**	**3.30**	**4**	Pn	Pn	02 46 13.8	-1.4
GRNB				Sn	Sn	02 46 50.8	-3.7
KITB	**Kitimat**	**3.68**	**16**	Pn	Pn	02 46 18.2	-2.1
KITB				Sn	Sn	02 46 59.7	-3.9
TXB	**Texada**	**3.88**	**101**	Pn	Pn	02 46 21.7	-1.5
SHB	**Sechelt**	**4.26**	**101**	Pn	Pn	02 46 27.1	-1.3
UBRB	**Upper Baezaeko**	**4.53**	**56**	Pn	Pn	02 46 32.3	+0.2
UBRB				Sn	Sn	02 47 22.9	-1.9
FSB	**Fort Saint Jam**	**5.37**	**41**	Pn	Pn	02 46 43.2	-0.3
LLLB	**Lillooet**	**5.38**	**86**	Pn	Pn	02 46 43.1	-0.6
VDB	**Vedder Mountai**	**5.54**	**103**	Pn	Pn	02 46 46.7	+0.8
A05A	**Maple Falls**	**5.56**	**103**	Pn	Pn	02 46 47.0	+0.9
LTY	**Liberty**	**7.17**	**114**	Pn	Pn	02 47 09.8	+1.5
B08A	**Col

JIO			S	Sn	02 59 53.0	-1.5
JFK	**Kawauchi**	**2.89 277**	P	**Pn**	**02 59 20.9**	**-1.3**
JFK			*e*S	**Sn**	**02 59 54.0**	**-1.8**
JMST	**Minamisoumatoc**	**2.93 284**	P	**Pn**	**02 59 21.5**	**-1.3**
JMST			*e*S	**Sn**	**02 59 55.5**	**-1.3**
ONAJ	**Iwakimizuishiy**	**2.94 272**	P	**Pn**	**02 59 21.9**	**-1.0**
ONAJ			S	**Sn**	**02 59 55.4**	**-1.6**
JKMT	**Kesennumamotoy**	**2.95 307**	P	**Pn**	**02 59 21.8**	**-1.2**
JKMT			S	**Sn**	**02 59 55.1**	**-2.0**
JMM	**Marumori**	**3.04 287**		**Pn**	**02 59 23.3**	**-0.9**
JMK	**Ichinoseki**	**3.19 307**	P	**Pn**	**02 59 25.6**	**-0.7**
JMK			*e*S	**Sn**	**03 00 01.5**	**-1.6**
JFT	**Otama**	**3.33 279**	P	**Pn**	**02 59 27.9**	**-0.4**
JFT			*e*S	**Sn**	**03 00 05.8**	**-0.8**
JYT	**Yasato**	**3.54 258**		**Pn**	**02 59 29.4**	**-1.6**
BSO1	**Boso 1**	**3.71 231**	P	**Pn**	**02 59 31.5**	**-1.5**
BSO1			*e*S	**Sn**	**03 00 14.4**	**-0.8**
JTM	**Tenmabayashi**	**4.58 326**	Pn	**Pn**	**02 59 46.8**	**+1.5**
JRY	**Ryogami san**	**4.61 259**	P	**Pn**	**02 59 44.2**	**-1.6**
JRY			*e*S	**Sn**	**03 00 36.6**	**-1.4**
JOD2	**Odawara 2**	**4.71 249**	P	**Pn**	**02 59 45.3**	**-1.9**
JOD2			*e*S	**Sn**	**03 00 38.2**	**-2.3**
MJAR	**Matsushiro Arr**	**5.05 266**	Pn	**Pn**	**02 59 52.0**	**+0.1**
	1.1nm,0.3s,baz=88,slow=15,SNR=39					
MJAR	**Matsushiro Arr**	**5.05 266**		**Pn**	**02 59 51.7**	**-0.2**
MAJO	**Matsushiro**	**5.05 266**		**Pn**	**02 59 51.4**	**-0.5**
MAT	**Matsushiro**	**5.05 266**	P	**Pn**	**02 59 52.3**	**+0.4**
MAT			*e*S	**Sn**	**03 00 47.4**	**-1.6**
ERM	**Erimo**	**5.06 349**	Pn	**Pn**	**02 59 50.0**	**-1.9**
MJB9	**Matsu-Tunnel**	**5.06 266**		**Pn**	**02 59 51.7**	**-0.3**
JOT	**Ohata**	**5.07 329**	P	**Pn**	**02 59 52.1**	**0.0**
JOT			*e*S	**Sn**	**03 00 45.7**	**-3.7**
JHJ2	**Mitsune**	**5.48 226**	P	**Pn**	**02 59 54.6**	**-3.2**
JHJ2			*e*S	**Sn**	**03 00 55.5**	**-4.0**
JHJ2	**Mitsune**	**5.48 226**	Pn	**Pn**	**02 59 53.1**	**-4.6**
JHJ	**Hachijo jima 2**	**5.50 226**	Pn	**Pn**	**02 59 54.8**	**-3.1**
	16nm,0.3s,baz=109,slow=22,SNR=17					
JHJ			Sn	**Sn**	**03 00 52.7**	**-7.2**
	71nm,0.3s,baz=96,slow=23,SNR=13					
JKB	**Kayabe**	**5.51 332**	P	**Pn**	**02 59 57.3**	**-0.8**
JKB			*e*S	**Sn**	**03 00 57.1**	**-3.0**
JCH	**Churui**	**5.62 352**	P	**Pn**	**02 59 57.1**	**-2.5**
JCH			*e*S	**Sn**	**03 00 58.4**	**-4.4**
JGF	**Kuroka**	**5.93 258**		**Pn**	**03 00 03.0**	**-0.9**
JEW	**Eniwo**	**6.23 339**	Pn	**Pn**	**03 00 08.3**	**+0.4**
INU	**Inuyama**	**6.26 256**	Pn	**Pn**	**03 00 07.7**	**-0.8**
NEM2	**Nemuro 2**	**6.38 8**	P	Pn	03 00 04.9	-5.1
NEM2			*e*S	**Sn**	**03 01 12.9**	**-8.5**
JTKR	**Abashiri--Toko**	**6.92 357**	P	**Pn**	**03 00 14.6**	**-2.8**
JTKR			*e*S	**Sn**	**03 01 28.3**	**-6.5**
JHR	**Hokuryu**	**7.00 343**	P	**Pn**	**03 00 18.3**	**-0.2**
JHR			*e*S	**Sn**	**03 01 35.5**	**-1.3**
JKA	**Kamikawa-asahi**	**7.20 349**		**Pn**	**03 00 19.8**	**-1.4**
ASAJ	**Asahikawa**	**7.20 349**	Pn	**Pn**	**03 00 19.8**	**-1.5**
	2.8nm,0.3s,baz=184,slow=8.3,SNR=16					
ASAJ			Sn	**Sn**	**03 01 37.0**	**-4.6**
	1.2nm,0.3s,baz=64,slow=30,SNR=3.6					
ASAJ			LR	LR	03 03 45.2	
	comp=Z,69nm,18.4s,baz=334,slow=42					
KSRS	**Korea Array**	**13.20 277**	Pn	**Pn**	**03 01 44.2**	**+0.9**
	baz=87,slow=14,SNR=4.4					
PETK	**Petropavlovsk-**	**18.52 26**	LR	LR	03 10 04.6	
	comp=Z,28nm,21.3s,baz=219,slow=37					
H11N2	**WAKE ISLAND Hy**	**26.11 125**	T	T	03 30 55.0	
	baz=317,slow=75,SNR=599					
H11N1	**WAKE ISLAND Hy**	**26.11 125**	T	T	03 31 00.8	
	baz=317,slow=75,SNR=257					
H11N3	**WAKE ISLAND Hy**	**26.12 125**	T	T	03 31 03.1	
	baz=317,slow=75,SNR=314					
SEY	**Seymchan**	**26.36 8**	P	**P**	**03 04 11.3**	**+1.6**
	2.0nm,0.7s,baz=106,slow=4.4,SNR=6.2					
YAK	**Yakutsk**	**26.65 344**	LR	LR	03 16 24.0	
	comp=Z,28nm,18.5s,baz=272,slow=40					
H11S1	**WAKE ISLAND Hy**	**26.87 127**	T	T	03 31 57.3	
	baz=318,slow=76,SNR=106					
H11S3	**WAKE ISLAND Hy**	**26.87 127**	T	T	03 31 53.5	
	baz=318,slow=76,SNR=110					
H11S2	**WAKE ISLAND Hy**	**26.89 127**	T	T	03 31 57.0	
	baz=318,slow=76,SNR=78					
SONM	**Songino Array**	**29.81 303**	P	**P**	**03 04 44.4**	**+3.5**
	0.3nm,0.7s,baz=99,slow=8.9,SNR=2.4					
SONM			LR	LR	03 16 53.6	
	comp=Z,58nm,19.7s,baz=326,slow=37					
SONM	**Songino Array**	**29.81 303**	P	**P**	**03 04 42.0**	**+1.0**
SONM			IAmb	IAmb	03 04 50.2	
	comp=Z,1.9nm,1.3s					
ZALV	**Zalesovo Beam**	**43.71 312**	P	**P**	**03 06 39.9**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=84,slow=7.1,SNR=3.1					
ZALV			PcP	**PcP**	**03 08 25.4**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=93,slow=2.9,SNR=2.3					
MK31	**Makanchi Array**	**46.18 303**	P	**P**	**03 06 59.9**	**+1.6**
MK31			IAmb	IAmb	03 07 01.6	
	comp=Z,1.5nm,0.8s					
MKAR	**Makanchi Array**	**46.18 303**	P	**P**	**03 07 00.8**	**+2.5**
	comp=Z,1.7nm,0.8s,baz=85,slow=10,SNR=18					
KURK	**Kurchatov**	**47.84 309**	P	**P**	**03 07 11.9**	**+0.7**
KURK			IAmb	IAmb	03 07 14.0	
	comp=Z,3.0nm,0.9s					
KURBB	**Kurchatov Arra**	**47.91 308**	P	**P**	**03 07 13.6**	**+1.9**
	comp=Z,3.0nm,0.5s,baz=82,slow=8.1,SNR=6.4					
ILAR	**Eielson Array**	**48.16 32**	P	**P**	**03 07 14.8**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=255,slow=6.7,SNR=6.3					
INK	**Inuvik**	**53.25 27**	P	**P**	**03 07 53.8**	**+2.1**
	comp=Z,1.0nm,0.5s,baz=299,slow=7.5,SNR=9.8					
INK	**Inuvik**	**53.25 27**	IAmb	IAmb	03 08 10.6	
	comp=Z,3.0nm,1.2s					
NIL	**Nilore**	**56.92 290**	P	**P**	**03 08 19.4**	**+0.6**
WB0	**Warramunga Arr**	**57.31 191**	P	**P**	**03 08 18.0**	**-3.4**
WRA	**Warramunga Arr**	**57.49 191**	P	**P**	**03 08 21.4**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=9.9,slow=7.1,SNR=8.0					
WRA	**Warramunga Arr**	**57.49 191**	IAmb	IAmb	03 08 22.1	
	comp=Z,0.4nm,1.2s					
ABKAR	**Akbulak array**	**59.79 311**	P	**P**	**03 08 37.0**	**-1.5**
ABKAR			IAmb	IAmb	03 08 53.2	
	comp=Z,1.6nm,1.1s					
ASAR	**Alice Springs**	**61.21 191**	P	**P**	**03 08 46.9**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=15,slow=12,SNR=5.4					
YKA	**Yellowknife Ar**	**62.55 31**	P	**P**	**03 08 56.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=297,slow=6.5,SNR=4.8					
YKA			PcP	**PcP**	**03 09 36.7**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=300,slow=3.3,SNR=3.7					
FINES	**FINESS Array B**	**69.92 333**	LR	LR	03 42 56.8	
	comp=Z,77nm,18.3s,baz=274,slow=38					
NVAR	**Mina Array Bea**	**73.00 55**	P	**P**	**03 10 04.2**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=301,slow=6.6,SNR=4.3					
NOA	**NORSAR Array B**	**75.09 338**	P	**P**	**03 10 16.4**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=45,slow=6.3,SNR=2.1					
AKASG	**Malin Array Be**	**75.76 324**	P	**P**	**03 10 18.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=43,slow=6.5,SNR=4.4					
AKASG	**Malin Array Be**	**75.76 324**	IAmb	IAmb	03 10 27.2	
	comp=Z,0.8nm,1.1s					
PDAR	**Pinedale Array**	**75.89 47**	P	**P**	**03 10 19.9**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=267,slow=3.4,SNR=3.2					

KRSC 02 02:58:52.8±1.2, 55°.29N×164°.02E, h48km±23km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.12**	**93**	*e*P	Pn	02 59 13.0	+0.9
BKI				*e*S	Sn	02 59 27.2	+0.9
KBTR	**Krutoberegovo**	**1.15**	**324**	*i* P	Pn	02 59 12.6	+0.2
KBTR				*e*S	Sn	02 59 26.1	-0.9
KBG	**Krutoberegovo**	**1.22**	**323**	*e*P	Pn	02 59 14.1	+0.7
KBG				*e*S	Sn	02 59 29.0	+0.2
MKZ	**Mys Kozlova**	**1.51**	**242**	*e*P	Pn	02 59 20.1	+2.7
MKZ				*e*S	Sn	02 59 38.1	+2.3
BDR	**Baidarnaya**	**2.04**	**310**	*e*P	Pn	02 59 28.1	+3.4
TUMD	**Tumrok D**	**2.08**	**269**	*e*P	Pn	02 59 28.9	+3.8
TUMD				*e*S	Sn	02 59 53.7	+3.9
SRKR	**Sorokina**	**2.11**	**312**	*e*P	Pn	02 59 29.2	+3.6
KMNR	**Kamenistaya**	**2.20**	**284**	*e*P	Pn	02 59 31.1	+4.2
TUMR	**Tumrok**	**2.22**	**272**	*e*P	Pn	02 59 31.5	+4.3
KII	**Karymskiy**	**2.94**	**247**	*e*P	Pn	02 59 41.2	+4.2
KII				*e*S	Sn	03 00 15.0	+4.0
SPN	**Mys Shipunski**	**3.21**	**229**	*e*P	Pn	02 59 43.7	+3.0
SPN				*e*S	Sn	03 00 19.0	+1.3
NLC	**Nalytchevo**	**3.47**	**234**	*e*S	Sn	03 00 27.4	+3.5
SMAR	**Somma**	**3.67**	**239**	*e*P	Pn	02 59 51.7	+4.5
UGLR	**Uglovaya**	**3.69**	**238**	*e*P	Pn	02 59 52.3	+4.9
KOK	**Koryaka**	**3.73**	**240**	*e*P	Pn	02 59 52.7	+4.7
DALK	**Dalny**	**3.83**	**236**	*e*S	Sn	03 00 36.0	+3.1
GNL	**Ganaly**	**3.89**	**248**	*e*P	Pn	02 59 55.1	+5.0
KRMR	**Karymshinskiy**	**4.25**	**237**	*e*P	Pn	02 59 59.6	+4.6
KRMR				*e*S	Sn	03 00 46.3	+3.0
RUS	**Russkaya**	**4.33**	**231**	*e*P	Pn	03 00 00.1	+4.0
GRL	**Gorelyy**	**4.46**	**235**	*e*P	Pn	03 00 03.0	+5.1
ASAK	**Asacha**	**4.65**	**234**	*e*P	Pn	03 00 05.6	+5.1
KDTR	**Khodutka, Kamc**	**4.97**	**228**	*e*P	Pn	03 00 08.3	+3.5
KDTR				*e*S	Sn	03 01 02.7	+1.9

IDC 02 02:59:42.9±1.9, 1°.86N×127°.75E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.1/46, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=103.4km s-min=26.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.94**	**186**	P	P	03 04 16.6	0.0
	0.1nm,0.3s,baz=23,slow=7.7,SNR=1.2						
WRA	**Warramunga Arr**	**22.61**	**164**	P	P	03 04 46.2	+0.8
	1.3nm,0.5s,baz=344,slow=10,SNR=19						
ASAR	**Alice Springs**	**26.07**	**167**	P	P	03 05 17.6	-0.8
	0.2nm,0.3s,baz=343,slow=7.3,SNR=8.4						
STKA	**Stephens Creek**	**36.03**	**160**	P	P	03 06 45.8	-0.3
	3.7nm,1.1s,baz=336,slow=10.0,SNR=2.2						
MKAR	**Makanchi Array**	**59.66**	**325**	P	P	03 09 49.5	+0.4
	0.1nm,0.4s,baz=112,slow=6.0,SNR=1.6						

*IDC **02** 03:04:23.8±0.7, 40°.92N×142°.40E, h0km, mb3.6/7, mb1 3.6/9, mb1mx3.4/45, mbtmp3.5/9, ML3.6/1, Error ellipse: s-maj=14.6km s-min=4.9km az=111.0*
*JMA **02** 03:04:25.1±0.2, 41°.01N×142°.79E, h12km±3km, M3.7*
ISC 02 03:04:24.7±1.4, 41°.03N±0°.03×142°.77E±0°.05, h15km±9km, n26, σ0°.77/41, mb3.6/7, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.03**	**16**	P	**Pg**	**03 04 44.7**	**0.0**
JEM				*e*S	**Sg**	**03 04 58.8**	**+0.6**
JARK	**Aomorirokkasho**	**1.06**	**269**	P	**Pn**	**03 04 45.1**	**+0.1**
JAHD	**Aomorihigashid**	**1.10**	**283**	||P	**Pb**	**03 04 45.7**	**+0.2**
JAHD				*e*S	**Sn**	**03 05 00.3**	**-0.2**
JKEN	**Kujiedanarisaw**	**1.15**	**225**	P	**Pb**	**03 04 46.3**	**+0.1**
JKEN				*e*S	**Sn**	**03 05 01.6**	**0.0**
JANG	**Nango**	**1.15**	**236**	P	**Pb**	**03 04 46.6**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.25**	**360**	P	**Pb**	**03 04 48.4**	**+0.4**
JNBK				*e*S	**Sg**	**03 05 04.9**	**-0.3**
JTM	**Tenmabayashi**	**1.31**	**260**	||P	**Pb**	**03 04 49.4**	**+0.4**
JTM				S	**Sg**	**03 05 07.2**	**+0.2**
JOT	**Ohata**	**1.34**	**286**	||P	**Pb**	**03 04 49.3**	**-0.3**
JOT				*e*S	**Sb**	**03 05 07.5**	**+1.0**
JKB	**Kayabe**	**1.56**	**304**	||P	**Pn**	**03 04 52.4**	**+0.5**
JKB				S	**Sn**	**03 05 12.0**	**+0.2**
JCH	**Churui**	**1.65**	**15**	P	**Pb**	**03 04 54.1**	**-0.7**
JCH				*e*S	**Sb**	**03 05 15.0**	**-0.4**
JIAM	**Iburiatsuma**	**1.72**	**339**	P	**Pb**	**03 04 56.5**	**+0.6**
JIAM				S	**Sg**	**03 05 19.2**	**-0.8**
JBT2	**Biratori 2**	**1.78**	**350**	P	**Pb**	**03 04 56.8**	**-0.2**
JBT2				*e*S	**Sb**	**03 05 20.3**	**+1.3**
JAH	**Hinai**	**1.82**	**243**	P	**Pb**	**03 04 57.5**	**-0.2**
JAH				S	**Sb**	**03 05 20.9**	**+0.5**
JSR	**Shiriuchi**	**1.84**	**287**	P	**Pb**	**03 04 57.4**	**-0.6**
JSR				*e*S	**Sb**	**03 05 21.0**	**+0.2**
JOM	**Ohasama**	**1.92**	**216**	P	**Pb**	**03 04 58.6**	**-0.7**
JOM				*e*S	**Sb**	**03 05 22.7**	**-0.4**
JEW	**Eniwo**	**2.06**	**332**	P	**Pb**	**03 05 00.7**	**-1.1**
JEW				*e*S	**Sb**	**03 05 27.4**	**+0.2**
JFR	**Furan**	**2.14**	**357**	P	**Pb**	**03 05 02.8**	**-0.4**
ASAJ	**Asahikawa**	**3.09**	**358**	Pn	**Pn**	**03 05 15.4**	**+2.5**
	4.7nm,0.3s,baz=206,slow=11,SNR=22						
ASAJ				Sn	**Sb**	**03 05 54.5**	**-2.4**
	3.0nm,0.3s,baz=3.5,slow=32,SNR=9.5						
USRK	**Ussuriysk Ar.**	**8.56**	**295**	Pn	**Pn**	**03 06 27.1**	**-0.8**
	baz=95,slow=15,SNR=1.9						
ZALV	**Zalesovo Beam**	**40.11**	**309**	P	**P**	**03 11 59.4**	**-0.1**
	0.7nm,0.5s,baz=80,slow=10,SNR=2.1						
MKAR	**Makanchi Array**	**43.01**	**299**	P	**P**	**03 12 23.3**	**0.0**
	0.3nm,0.6s,baz=78,slow=13,SNR=5.7						
KURBB	**Kurchatov Arra**	**44.48**	**305**	P	**P**	**03 12 35.1**	**0.0**
	0.3nm,0.3s,baz=78,slow=8.9,SNR=9.2						
BVAR	**Borovoye Array**	**48.74**	**310**	P	**P**	**03 13 09.0**	**+0.6**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=2.5						
WRA	**Warramunga Arr**	**61.16**	**189**	P	**P**	**03 14 38.3**	**-0.2**
	0.6nm,0.9s,baz=5.3,slow=7.0,SNR=1.2						
ASAR	**Alice Springs**	**64.89**	**189**	P	**P**	**03 15 03.5**	**+0.3**
	0.3nm,0.6s,baz=3.8,slow=5.6,SNR=1.9						
FINES	**FINESS Array B**	**65.78**	**332**	P	**P**	**03 15 08.1**	**-0.6**
	1.1nm,0.6s,baz=46,slow=8.2,SNR=5.4						

*PRE **02** 03:26:29.9±1.1, 26°.96S×26°.79E, h2km, ML2.8*
*BUL **02** 03:26:33.2±1.1, 26°.98S×26°.87E, h0km±13km, MD4.5*
*EAF **02** 03:26:33.2±1.1, 26°.98S×26°.88E, h0km±13km, MD4.1*
ISC 02 03:26:31.1±1.2, 26°.96S±0°.03×26°.83E±0°.03, h14km±9km, n30, σ1°.78/58, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.47**	**87**	*e*P	**Pb**	**03 26 40.6**	**-0.7**
PRYS				*e*S	**Sb**	**03 26 47.6**	**-0.6**
PRYS				IAML		03 26 52.8	
	comp=Z,514nm,1.0s						
KSR	**Koster**	**1.10**	**3**	*e*P	**Pg**	**03 26 52.1**	**-0.2**
KSR				*e*S	**Sg**	**03 27 06.4**	**-0.4**
KSR				IAML		03 27 12.7	
	comp=Z,1μm,0.1s						
HRAO	**HartRAO**	**1.31**	**36**	*e*P	**Pg**	**03 26 55.8**	**-0.5**
HRAO				*e*S	**Sn**	**03 27 14.0**	**+1.5**
HRAO				IAML		03 27 18.0	
	comp=Z,141nm,0.3s						
SWZ	**Schweizer**	**1.36**	**260**	*e*P	**Pn**	**03 26 55.8**	**0.0**
SWZ				*e*S	**Sb**	**03 27 13.1**	**-0.5**
SWZ				IAML		03 27 18.0	
	comp=Z,326nm,0.3s						
SNKL	**Senekal, Frees**	**1.56**	**148**	*e*P	**Pb**	**03 26 59.5**	**-0.3**
SNKL				*e*S	**Sg**	**03 27 20.9**	**-0.5**
SNKL				IAML		03 27 28.2	
	comp=Z,119nm,0.9s						
SLR	**Silverton**	**1.78**	**47**	*e*P	**Pb**	**03 27 03.0**	**-0.6**
SLR				*e*S	**Sg**	**03 27 26.8**	**-1.6**
SLR				IAML		03 27 30.7	
	comp=Z,213nm,0.4s						
BOSA	**Boshof**	**2.16**	**220**	*i* P	**Pb**	**03 27 10.3**	**+0.2**
BOSA	**Boshof**	**2.16**	**220**	*i* P	**Pb**	**03 27 10.3**	**+0.2**
LBTB	**Lobatse**	**2.23**	**330**	*e*P	**Pn**	**03 27 09.3**	**+1.5**
LBTB				*e*S	**Sn**	**03 27 36.3**	**+1.1**
LBTB				IAML		03 27 43.7	
	comp=Z,73nm,0.2s						
NWCL	**Newcastle**	**2.83**	**107**	*e*P	**Pn**	**03 27 17.9**	**+1.8**
NWCL				*e*S	**Sn**	**03 27 51.9**	**+1.8**
NWCL				IAML		03 28 01.8	
	comp=Z,61nm,0.6s						
PKA	**Prieska**	**4.50**	**232**	*e*P	**Pn**	**03 27 38.9**	**0.0**
PKA				*e*S	**Sn**	**03 28 30.1**	**-1.1**
PKA				IAML		03 28 52.3	
	comp=Z,6.0nm,0.6s						
CNG	**Changalane**	**4.84**	**83**	*i* P	**Pn**	**03 27 46.6**	**+3.1**
CNG				*i* S	**Sn**	**03 28 39.4**	**0.0**
CNG	**Changalane**	**4.84**	**83**	*i* P	**Pn**	**03 27 46.6**	**+3.1**
CNG				*i* S	**Sn**	**03 28 39.4**	**0.0**
UPI	**Upington**	**5.14**	**253**	*e*P	**Pn**	**03 27 48.8**	**+1.0**
UPI				*e*S	**Sn**	**03 28 45.6**	**-1.5**
UPI				IAML		03 29 17.2	
	comp=Z,8.9nm,0.5s						
MOPA	**Mopani**	**5.37**	**51**	*e*P	**Pn**	**03 27 52.5**	**+1.6**
MOPA				*e*S	**Sn**	**03 28 52.1**	**-0.5**
MOPA				IAML		03 28 52.8	
	comp=Z,6.5nm,0.5s						
MOPA	**Mopani**	**5.37**	**51**	*i* P	**Pn**	**03 27 52.9**	**+2.0**
MOPA				*i* S	**Sn**	**03 28 52.0**	**-0.5**
MOPA	**Mopani**	**5.37**	**51**	*i* P	**Pn**	**03 27 52.9**	**+2.0**
MOPA				*i* S	**Sn**	**03 28 52.0**	**-0.5**
MSNA	**Messina**	**5.43**	**33**	*e*P	**Pn**	**03 27 51.9**	**+0.2**
MSNA				*e*S	**Sn**	**03 28 51.1**	**-3.0**
MSNA				IAML		03 29 06.0	
	comp=Z,8.1nm,0.4s						
MSNA	**Messina**	**5.43**	**33**	*i* P	**Pn**	**03 27 54.6**	**+2.9**
MSNA				*i* S	**Sn**	**03 28 54.4**	**+0.3**
MSNA	**Messina**	**5.43**	**33**	*i* P	**Pn**	**03 27 54.6**	**+2.9**
MSNA				*i* S	**Sn**	**03 28 54.4**	**+0.3**
KEIM	**Keimoes**	**5.48**	**250**	*e*P	**Pn**	**03 27 53.2**	**+0.8**
KEIM				*e*S	**Sn**	**03 28 53.4**	**-1.8**
KEIM				IAML		03 29 23.5	
	comp=Z,19nm,1.8s						
ARMS	**Ukamas**	**6.39**	**259**	*e*P	**Pn**	**03 28 06.1**	**+1.1**
ARMS				*e*S	**Sn**	**03 29 14.6**	**-3.2**
ARMS				IAML		03 29 57.5	
	comp=Z,28nm,1.6s						
MATP	**Matopo**	**6.68**	**14**	*i* P	**Pn**	**03 28 11.7**	**+2.7**
MATP				*i* S	**Sn**	**03 29 23.6**	**-1.4**
MATP	**Matopo**	**6.68**	**14**	*i* P	**Pn**	**03 28 11.7**	**+2.7**
MATP				*i* S	**Sn**	**03 29 23.6**	**-1.4**
GRAN	**Grantham**	**6.70**	**216**	*e*P	**Pn**	**03 28 10.6**	**+1.4**
GRAN				*e*S	**Sn**	**03 29 23.7**	**-1.6**
GRAN				IAML		03 29 31.7	
	comp=Z,4.3nm,0.2s						
BLWY	**Bulawayo**	**6.98**	**14**	*i* P	**Pn**	**03 28 15.1**	**+2.0**
BLWY				*i* S	**Sn**	**03 29 32.0**	**-0.3**
BLWY	**Bulawayo**	**6.98**	**14**	*i* P	**Pn**	**03 28 15.1**	**+2.0**
BLWY				*i* S	**Sn**	**03 29 32.0**	**-0.3**
CVNA	**Calvinia**	**7.65**	**232**	*e*P	**Pn**	**03 28 23.4**	**+1.2**
CVNA				*e*S	**Sn**	**03 29 45.5**	**-3.3**
CVNA				IAML		03 30 38.4	
	comp=Z,19nm,3.0s						
CHIPN	**CHIPINGE**	**8.55**	**40**	*i* P	**Pn**	**03 28 38.1**	**+3.4**
CHIPN				*i* S	**Sn**	**03 30 08.7**	**-2.4**
CHIPN	**CHIPINGE**	**8.55**	**40**	*i* P	**Pn**	**03 28 38.1**	**+3.4**
CHIPN				*i* S	**Sn**	**03 30 08.7**	**-2.4**

IDC 02 03:29:26.5±0.6, 23°.22N×142°.24E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/34, mbtmp3.7/5, Error ellipse: s-maj=35.3km s-min=13.7km az=98.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.58**	**191**	P	P	03 37 32.4	-0.2
	2.6nm,1.2s,baz=18,slow=9.3,SNR=4.4						
ASAR	**Alice Springs**	**47.30**	**190**	P	P	03 38 01.9	-0.1
	0.4nm,0.8s,baz=16,slow=13,SNR=5.0						
YKA	**Yellowknife Ar**	**75.53**	**28**	P	P	03 41 12.2	-0.4
	0.3nm,0.7s,baz=291,slow=5.5,SNR=5.1						
FINES	**FINESS Array B**	**81.44**	**334**	P	P	03 41 45.2	0.0
	2.1nm,0.8s,baz=59,slow=7.4,SNR=7.6						
NVAR	**Mina Array Bea**	**82.88**	**51**	P	P	03 41 54.3	+0.8
	0.5nm,0.8s,baz=267,slow=7.4,SNR=3.5						

*NERS **02** 04:06:15.3±0.0, 61°.20N×144°.70E, h2km*
*IDC **02** 04:06:15.7±0.8, 61°.07N×144°.61E, h0km, mb3.7/8, mb1 3.9/13, mb1mx3.7/41, mbtmp3.7/13, ML2.9/4, MS3.9/9, Ms1 3.9/9, ms1mx3.3/94, Error ellipse: s-maj=18.6km s-min=13.8km az=155.0*
*NEIC **02** 04:06:16.9±1.3, 61°.0N±0°.1×144°.3E±0°.2, h13km±6km, mb4.2/4, Error ellipse: s-maj=17.3km s-min=9.0km az=202.0*
ISC 02 04:06:16.3±0.5, 61°.07N±0°.05×144°.61E±0°.04, h10km, n34, σ2°.12/43, mb3.6/9, MS4.3/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHR	**Omchak**	**1.68**	**68**	*e*Pg	**Pn**	**04 06 45.2**	**-0.6**
OCHR				Pgmax		04 06 46.0	
	1μm,0.3s						
OCHR				*e*Sg	**Sn**	**04 07 05.9**	**-1.5**
OCHR				Sgmax		04 07 09.1	
	2μm,0.3s						
SUUS	**Susuman**	**2.41**	**43**	*e*P	**Pn**	**04 06 53.7**	**-2.0**
SUUS				*e*Pg	**Pb**	**04 06 57.2**	**-2.4**
SUUS				Pgmax		04 06 58.2	
	140nm,0.3s						
SUUS				*e*Sg	**Sn**	**04 07 25.4**	**+0.2**
SUUS				Sgmax		04 07 27.0	
	4μm,0.4s						
SUUS				Sgmax		04 07 27.0	
	2μm,0.3s						
MGD	**Magadan 1**	**3.19**	**106**	*e*P	**Pn**	**04 07 07.7**	**+1.3**
MGD				*e*Pg	**Pb**	**04 07 12.4**	**-0.6**
MGD				*e*Sg	**Sb**	**04 07 54.9**	**+3.0**
MGD				Sgmax		04 07 56.4	
	1μm,0.3s						
MG

YKA	**Yellowknife Ar**	**42.98**	**42**	P	**P**	**04 14 16.3**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=311,slow=8.4,SNR=12						
NOA	**NORSAR Array B**	**53.08**	**334**	P	**P**	**04 15 33.5**	**+0.4**
	comp=Z,1.8nm,1.0s,baz=28,slow=7.4,SNR=3.0						
AKASG	**Malin Array Be**	**57.19**	**317**	P	**P**	**04 16 03.9**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=32,slow=7.3,SNR=2.6						
KAPI	**Kappang**	**68.67**	**207**	LR	LR	04 48 57.8	
	comp=Z,183nm,19.2s,baz=63,slow=37						
PALK	**Pallekele**	**71.21**	**250**	LR	LR	04 50 11.9	
	comp=Z,119nm,21.5s,baz=149,slow=37						
BATI	**Baumata**	**72.95**	**202**	LR	LR	04 49 44.8	
	comp=Z,190nm,21.8s,baz=63,slow=36						
LEM	**Lembang**	**73.59**	**219**	LR	LR	04 52 29.0	
	comp=Z,88nm,18.6s,baz=338,slow=38						
WRA	**Warramunga Arr**	**81.15**	**190**	P	**P**	**04 18 30.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=3.1,slow=5.9,SNR=1.6						
WRA				LR	LR	04 58 23.8	
	comp=Z,97nm,18.4s,baz=54,slow=38						
ASAR	**Alice Springs**	**84.87**	**190**	P	**P**	**04 18 52.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=8.5,slow=6.9,SNR=4.6						
ASAR				LR	LR	04 57 54.5	
	comp=Z,152nm,20.2s,baz=304,slow=36						
KMBO	**Kilima Mbogo**	**99.33**	**285**	LR	LR	05 08 09.4	
	comp=Z,82nm,18.4s,baz=68,slow=37						

SOME ***02*** *04:15:10.6, 39.˚38N×73.˚05E, h20km*
KRNET ***02*** *04:15:12.1±0.1, 39.˚34N×73.˚31E, h7km, mb3.1*
NNC ***02*** *04:15:20.8±3.6, 39.˚68N×73.˚15E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=27.8km s-min=14.6km az=171.0
ISC 02 04:15:15.8±1.4, 39.˚43N±0.˚07×73.˚18E±0.˚03, h10km, n49,
σ2§25/80, 24C-18D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.63**	**23**	⇑*eP*		**Pg**	**04 15 25.7**	**-2.4**
	baz=13							
SFK				⇑*eS*		**Sg**	**04 15 35.3**	**-1.1**
	baz=13							
DRK	**Karamyk**	**1.07**	**273**	⇑*iP*		**Pg**	**04 15 34.5**	**-1.9**
	baz=77							
DRK				⇑*iS*		**Sg**	**04 15 50.8**	**+0.4**
	baz=77							
OHH	**Osh**	**1.13**	**345**	⇑*eP*		**Pb**	**04 15 35.6**	**-1.9**
	baz=41							
OHH				⇑*eS*		**Sg**	**04 15 53.6**	**+1.3**
	baz=41							
BTK	**Batken**	**1.93**	**290**	⇓*iP*		**Pn**	**04 15 49.9**	**+1.2**
	baz=91							
BTK				⇓*iS*		**Sg**	**04 16 17.9**	**+0.2**
	baz=91							
ARK	**Arkit**	**2.54**	**339**	⇓*iP*		**Pn**	**04 15 58.6**	**+1.4**
	baz=38							
ARK				⇓*iS*		**Sb**	**04 16 32.3**	**-0.5**
	baz=38							
ARLS	**Aral**	**2.58**	**19**	⇑*iP*		**Pn**	**04 15 58.2**	**+0.5**
	baz=17							
ARLS				⇑*iS*		**Sn**	**04 16 31.7**	**+2.5**
	baz=17							
TRKS	**Terek-Say**	**2.61**	**324**	⇑*iP*		**Pn**	**04 15 58.6**	**+0.4**
	baz=23							
TRKS				⇑*iS*		**Sn**	**04 16 32.3**	**+2.3**
	baz=23							
AML	**Almayashu**	**2.72**	**8**	P		**Pn**	**04 16 02.2**	**+2.2**
	SNR=9.0							
UCH	**Uchtor**	**2.97**	**19**	P		**Pn**	**04 16 05.2**	**+1.8**
	SNR=16							
UCH	**Uchtor**	**2.97**	**19**	⇓*iP*		**Pn**	**04 16 03.8**	**+0.4**
	baz=17							
UCH				⇓*iS*		**Sn**	**04 16 41.2**	**+1.9**
	baz=17							
EKS2	**Erkin-Say**	**3.26**	**8**	P		**Pn**	**04 16 10.3**	**+3.3**
	SNR=6.7							
EKS2	**Erkin-Say**	**3.26**	**8**	⇑*iP*		**Pn**	**04 16 07.8**	**+0.7**
	baz=6.0							
EKS2				⇑*iS*		**Sn**	**04 16 48.5**	**+2.6**
	baz=6.0							
MRKS	**Merke**	**3.31**	**1**	*eP*		**Pn**	**04 16 09.8**	**+2.0**
	2.1nm,0.5s							
MRKS				*eS*		**Sb**	**04 16 52.2**	**-2.8**
	5.9nm,0.5s							
MRKS	**Merke**	**3.31**	**1**	Pg		**Pb**	**04 16 15.7**	**+1.0**
	6.1nm,0.3s							
MRKS				Lg		Lg	04 16 52.9	
	5.9nm,0.5s							
AAK	**Ala-Archa**	**3.35**	**17**	P		**Pn**	**04 16 10.9**	**+2.5**
	SNR=6.3							
AAK	**Ala-Archa**	**3.35**	**17**	⇑Pn		**Pn**	**04 16 10.7**	**+2.3**
	6.0nm,0.7s							
AAK				⇓Sn		**Sb**	**04 16 54.8**	**-1.5**
	22nm,0.9s							
AAK	**Ala-Archa**	**3.35**	**17**	⇓*iP*		**Pn**	**04 16 09.0**	**+0.6**
	baz=15							
AAK				⇓*iS*		**Sn**	**04 16 50.6**	**+2.3**
	baz=15							
KBK	**Karagaybulak**	**3.49**	**22**	P		**Pb**	**04 16 17.5**	**-0.2**
	SNR=6.5							
KBK	**Karagaybulak**	**3.49**	**22**	⇓*iP*		**Pn**	**04 16 10.6**	**+0.3**
	baz=20							
KBK				⇓*iS*		**Sn**	**04 16 53.5**	**+1.8**
	baz=20							
FRU1	**Bishkek**	**3.55**	**18**	⇑*iP*		**Pn**	**04 16 12.0**	**+1.0**
	baz=15							
FRU1				⇑*iS*		**Sn**	**04 16 55.6**	**+2.6**
	baz=15							
IUG	**Iuzhnay**	**3.61**	**320**	*eP*		**Pn**	**04 16 14.8**	**+2.9**
	73nm,0.2s							
IUG				*eS*		**Sb**	**04 17 01.2**	**-2.6**
	29nm,0.4s							
IUG	**Iuzhnay**	**3.61**	**320**	Pg		**Pb**	**04 16 21.1**	**+1.2**
	103nm,0.3s							
IUG				Lg		Lg	04 17 02.6	
	29nm,0.4s							
ULHL	**Ulahol**	**3.64**	**39**	⇓*iP*		**Pn**	**04 16 12.2**	**-0.3**
	baz=37							
ULHL				⇓*iS*		**Sn**	**04 16 56.4**	**+0.8**
	baz=37							
BOOM	**Boomskoye usch**	**3.70**	**33**	⇑*iP*		**Pn**	**04 16 13.5**	**+0.3**
	baz=32							
BOOM				⇑*iS*		**Sn**	**04 16 57.9**	**+1.0**
	baz=32							
CHMS	**Chumysh**	**3.75**	**18**	⇓*iP*		**Pn**	**04 16 14.4**	**+0.6**
	baz=16							
CHMS				⇓*iS*		**Sn**	**04 16 59.8**	**+1.7**
	baz=16							
TKM2	**Tokmak 2**	**3.93**	**27**	P		**Pn**	**04 16 18.7**	**+2.3**
	SNR=5.2							
TKM2	**Tokmak 2**	**3.93**	**27**	⇑Pn		**Pn**	**04 16 18.3**	**+1.9**
	1.5nm,0.5s							
TKM2				⇑Lg		Lg	04 17 18.1	
	5.1nm,0.6s							
TKM2	**Tokmak 2**	**3.93**	**27**	⇑*iP*		**Pn**	**04 16 16.7**	**+0.3**
	baz=25							
TKM2				⇑*iS*		**Sn**	**04 17 03.8**	**+1.1**
	baz=25							
USP	**Ospenovka**	**3.96**	**14**	⇑*iP*		**Pn**	**04 16 17.2**	**+0.6**
	baz=13							
USP				⇑*iS*		**Sn**	**04 17 04.8**	**+1.7**
	baz=13							
KDJ	**Kajisay**	**4.06**	**47**	⇓*iP*		**Pn**	**04 16 17.8**	**-0.3**
	baz=45							
KDJ				⇓*iS*		**Sn**	**04 17 06.0**	**+0.2**
	baz=45							
SGDS	**Sogindy**	**4.16**	**15**	*eP*		**Pb**	**04 16 27.6**	**-1.5**
	2.3nm,0.5s							
SGDS				*eS*		**Sb**	**04 17 23.1**	**+3.6**
	8.0nm,0.6s							
SGDS	**Sogindy**	**4.16**	**15**	Pg		**Pg**	**04 16 33.6**	**-1.9**
	2.0nm,0.3s							
SGDS				Lg		Lg	04 17 23.6	
	8.0nm,0.6s							
KST	**Kastek**	**4.17**	**29**	*eP*		**Pb**	**04 16 29.0**	**-0.4**
	4.9nm,0.5s							
KST				*eS*		**Sb**	**04 17 24.6**	**+4.8**
	16nm,0.7s							
KST	**Kastek**	**4.17**	**29**	Pg		**Pg**	**04 16 34.2**	**-1.5**
	4.9nm,0.5s							
KST				Lg		Lg	04 17 24.6	
	16nm,0.7s							
KK08	**Karatay Array**	**4.19**	**332**	⇓Pn		**Pn**	**04 16 22.2**	**+2.4**
	1.4nm,0.5s,baz=147,slow=15							
KK08				⇑Sn		**Sb**	**04 17 16.0**	**-4.3**
	3.6nm,0.5s,baz=150,slow=26							
DGS	**Degeres**	**4.28**	**26**	*eP*		**Pb**	**04 16 30.6**	**-0.6**
	6.0nm,0.7s							
DGS				*eS*		**Sb**	**04 17 28.2**	**+5.4**
	9.2nm,0.7s							
DGS	**Degeres**	**4.28**	**26**	Pg		**Pg**	**04 16 35.7**	**-2.0**
	6.0nm,0.7s							
DGS				Lg		Lg	04 17 28.2	
	9.2nm,0.7s							
BRLS	**Borolday**	**4.39**	**326**	*eP*		**Pb**	**04 16 29.1**	**-3.9**
	2.5nm,0.4s							
BRLS				*eS*		**Sb**	**04 17 24.9**	**-1.1**
	8.6nm,0.5s							
BRLS	**Borolday**	**4.39**	**326**	Pg		**Pb**	**04 16 34.1**	**+1.1**
	2.5nm,0.4s							
BRLS				Lg		Lg	04 17 24.9	
	8.6nm,0.5s							
MTBS	**Maitube**	**4.43**	**32**	*eP*		**Pb**	**04 16 33.6**	**-0.1**
	2.5nm,0.4s							
MTBS				*eS*		**Sb**	**04 17 32.5**	**+5.3**
	5.5nm,0.6s							
MTBS	**Maitube**	**4.43**	**32**	Pg		**Pg**	**04 16 39.3**	**-1.3**
	2.1nm,0.3s							
MTBS				Lg		Lg	04 17 33.4	
	5.5nm,0.6s							
IZV	**Izvestkoviy**	**4.43**	**35**	*eP*		**Pb**	**04 16 34.0**	**+0.2**
	4.0nm,0.5s							
IZV				*eS*		**Sg**	**04 17 33.7**	**-4.4**
	12nm,0.5s							
IZV	**Izvestkoviy**	**4.43**	**35**	Pg		**Pg**	**04 16 39.9**	**-0.8**
	4.0nm,0.5s							
IZV				Lg		Lg	04 17 34.4	
	12nm,0.5s							
TNSS	**Tian-Shan**	**4.58**	**37**	*eP*		**Pb**	**04 16 34.8**	**-1.7**
	1.4nm,0.3s							
TNSS				*eS*		**Sb**	**04 17 35.1**	**+3.1**
	4.1nm,0.4s							
TNSS	**Tian-Shan**	**4.58**	**37**	Pg		**Pg**	**04 16 40.4**	**-3.2**
	3.0nm,0.4s							
TNSS				Lg		Lg	04 17 35.1	
	4.1nm,0.4s							
KRBS	**Karabastau**	**4.65**	**23**	*eP*		**Pb**	**04 16 35.8**	**-1.7**
	4.8nm,0.5s							
KRBS				*eS*		**Sb**	**04 17 36.8**	**+3.2**
	10nm,0.7s							
KRBS	**Karabastau**	**4.65**	**23**	Pg		**Pb**	**04 16 40.8**	**+3.3**
	4.8nm,0.5s							
KRBS				Lg		Lg	04 17 36.8	
	10nm,0.7s							
KOTS	**Kotyrbulak**	**4.81**	**37**	*eP*		**Pb**	**04 16 40.2**	**-0.1**
	3.6nm,0.5s							
KOTS				*eS*		**Sg**	**04 17 44.9**	**-5.5**
	26nm,0.7s							
KOTS	**Kotyrbulak**	**4.81**	**37**	Pg		**Pg**	**04 16 46.0**	**-2.0**
	3.6nm,0.5s							
KOTS				Lg		Lg	04 17 44.9	
	26nm,0.7s							

NIED ***02*** *04:22:16.2, 45.˚01N×130.˚54E, h681km, MW5.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr-0.70; Mθθ1.62; Mφφ-0.92; Mrθ-2.10; Mθφ-2.38; Mφr-2.07; Fault plane solution: M0 3.89000×10^17 NP1: φs78.00000°, δ77.00000°, λ-140.00000°. NP2: φs337.00000°, δ51.00000°, λ-17.00000°.*
JMA ***02*** *04:22:16.2±0.2, 45.˚01N×130.˚53E, h681km, M5.7*
DSN ***02*** *04:22:17.8±1.3, 44.˚81N×130.˚50E, h588km, mb5.8/22, Error ellipse: s-maj=26.9km s-min=19.8km az=98.0*
MOS ***02*** *04:22:18.4±0.9, 44.˚79N×130.˚03E, h590km, mb5.8/93, Error ellipse: s-maj=5.7km s-min=3.6km az=121.8*
IDC ***02*** *04:22:19.8±0.3, 44.˚80N×129.˚93E, h590km±2km, mb5.1/32, mb1 5.1/40, mb1mx5.1/43, mbtmp6.0/40, Error ellipse: s-maj=6.6km s-min=5.8km az=95.0*
NEIC ***02*** *04:22:19.8, 44.˚81N×129.˚94E, h588km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.25; Mθθ-3.43; Mφφ-3.68; Mrθ-3.67; Mθφ-2.59; Mφr-4.02; Fault plane solution: M0 7.00000×10^17 NP1: φs221.25000°, δ72.08000°, λ103.04000°. NP2: φs4.27000°, δ22.04000°, λ55.09000°. Principal axes: T 6.3277, Plg61.0000°, Azm150.0000°; N 1.1969, Plg12.0000°, Azm37.0000°; P -7.5246, Plg26.0000°, Azm301.0000°;*
SKHL ***02*** *04:22:19.1±0.9, 44.˚80N×130.˚09E, h588km±5km, mb6.1/13, mbv6.2/10, msh6.1/10, msha6.1/10*
NEIC ***02*** *04:22:19.6±1.8, 44.˚81N±0.˚07×129.˚9E±0.˚1, h585km±3km, mb5.6/732, Mwb5.8/44, Mww5.8, Error ellipse: s-maj=11.0km s-min=10.0km az=102.0*
BJI ***02*** *04:22:19.6±0.0, 44.˚81N×129.˚95E, h580km, mb6.1/66, mB6.1/34*
GCMT ***02*** *04:22:20.6±0.1, 44.˚83N±0.˚01×129.˚75E±0.˚02, h587km±1km, MW5.8/133, Moment Tensor Solution. s133, c253; s61, c63; Duration: 2§0 Moment tensor: Scale 10^17Nm; Mrr2.43±.06; Mθθ0.80±.10; Mφφ-3.23±.10; Mrθ-3.50±.09; Mθφ-4.05±.09; Mφr-3.66±.09; Best double couple: M0 6.66500×10^17 NP1: φs355.00000°, δ28.00000°, λ35.00000°. NP2: φs233.00000°, δ74.00000°, λ114.00000°. Principal axes: T 5.2370, Plg55.0000°, Azm172.0000°; N 2.8560, Plg23.0000°, Azm46.0000°; P -8.0930, Plg25.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
NEIC ***02*** *04:22:20, 44.˚77N×129.˚97E, h600km, Moment Tensor Solution. Duration: 2§0 Moment tensor: Scale 10^17Nm; Mrr2.43; Mθθ0.17; Mφφ-2.60; Mrθ-3.11; Mθφ-3.10; Mφr-3.58; Fault plane solution: M0 6.20000×10^17 NP1: φs12.00000°, δ20.00000°, λ60.00000°. NP2: φs223.00000°, δ72.00000°, λ101.00000°. Principal axes: T 4.9132, Plg61.0000°, Azm149.0000°; N 2.0587, Plg10.0000°, Azm40.0000°; P -6.9720, Plg27.0000°, Azm305.0000°;*
BGR ***02*** *04:22:25.1±0.0, 45.˚55N×130.˚33E, h596km, mb6.4*
KEA ***02*** *04:22:37.9, 43.˚58N×129.˚53E, h565km, MS4.8/2*
ISC 02 04:22:19.3±0.2, 44.˚81N±0.˚02×129.˚97E±0.˚02, h591km±1km, h590km; pP-P, n2336, σ1§75/2811, mb5.6/654, 307C-668D, Fault plane solution: NP1: φs322.93747°, δ37.31815°, λ25.80741°. NP2: φs211.90166°, δ74.69690°, λ124.46052°. Principal axes: T Plg48.5014°, Azm159.0474°; N Plg33.0777°, Azm21.6354°; P Plg22.0692°, Azm276.3235°; Fault plane solution: NP1: φs345.82913°, δ81.79076°, λ-14.96090°. NP2: φs78.01422°, δ75.19592°, λ-171.50685°. Principal axes: T Plg4.5719°, Azm32.5685°; N Plg72.9800°, Azm137.7112°; P Plg16.3583°, Azm301.2236°; Fault plane solution: NP1: φs205.82408°, δ75.71501°, λ86.60792°. NP2: φs39.33155°, δ14.67405°, λ103.08228°. Principal axes: T Plg59.1506°, Azm111.1441°; N Plg3.2871°, Azm206.6620°; P Plg30.6350°, Azm298.6112°; Northeastern China

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	**0.33**	**234**	P		**P**	**04 23 28.7**	**0.0**
MDJ				S		**S**	**04 24 23.1**	**-2.0**
MDJ	**Mudanjiang**	**0.33**	**234**	P		**P**	**04 23 28.4**	**-0.3**
MDJ				S		**S**	**04 24 24.2**	**-0.9**
MDJ	**Mudanjiang**	**0.33**	**234**	P		**P**	**04 23 29.5**	**+0.8**
MDJ	**Mudanjiang**	**0.33**	**234**	P		**P**	**04 23 29.0**	**+0.3**
USA0B	**Ussuriysk Arra**	**1.57**	**112**	P		**P**	**04 23 30.7**	**-0.4**
USA0B				S		**S**	**04 24 27.6**	**-2.1**
USA0B	**Ussuriysk Arra**	**1.57**	**112**	P		**P**	**04 23 30.7**	**-0.4**
USA0B				S		**S**	**04 24 27.6**	**-2.1**
USRK	**Ussuriysk Ar.**	**1.57**	**112**	P		**P**	**04 23 30.8**	**-0.3**
	baz=291,slow=3.0,SNR=5818							
USRK				S		**S**	**04 24 27.3**	**-2.4**
	baz=281,slow=8.1,SNR=11							
USRK	**Ussuriysk Ar.**	**1.57**	**112**	P		**P**	**04 23 30.6**	**-0.6**
GRTR	**Gornotajezhnoj**	**1.92**	**124**	⇓*iP*		**P**	**04 23 32.5**	**0.0**
GRTR				AMB		AMB	04 23 32.9	
	4μm,0.4s							
GRTR				*i*S		**S**	**04 24 31.2**	**-0.8**
GRTR				A		A	04 24 33.0	
	5μm,1.2s							
GRTR				A		A	04 24 33.0	
	11μm,1.2s							
BNX	**BinXian**	**2.03**	**298**	⇑P		**P**	**04 23 32.3**	**-0.4**
BNX				S		**S**	**04 24 32.0**	**-0.9**
VLA	**Vladivostok**	**2.19**	**140**	*d iP*		**P**	**04 23 33.1**	**-0.5**
VLA	**Vladivostok**	**2.19**	**140**	P		**P**	**04 23 33.1**	**-0.5**
CN2	**Changchun**	**3.40**	**254**	⇑*iP*		**P**	**04 23 39.5**	**-0.5**
CN2				*eS*		**S**	**04 24 44.7**	**-1.3**
KLR	**Kul'dur**	**4.59**	**15**	P		**P**	**04 23 48.6**	**+0.5**
	771nm,0.3s,baz=202,slow=5.4,SNR=9124							
KLR	**Kul'dur**	**4.59**	**15**	*ceP*		**P**	**04 23 48.5**	**+0.4**
KLR				pmax		pmax		
	comp=Z,7μm,0.7s							
KLR	**Kul'dur**	**4.59**	**15**	⇑*iP*		**P**	**04 23 48.6**	**+0.5**
KLR				*eS*		**S**	**04 25 00.7**	**-0.3**
TEY	**Ternei**	**4.72**	**85**	⇓*iP*		**P**	**04 23 49.3**	**+0.1**
TEY				*i* S		**S**	**04 25 01.1**	**-1.8**
TEY				pmax		pmax		
	comp=Z,12μm,2.0s							
TEY				pmax		pmax		
	comp=E,6μm,3.1s							
TEY				pmax		pmax		
	comp=E,1μm,1.3s							
TEY				pmax		pmax		
	comp=Z,2μm,1.3s							
TEY				pmax		pmax		
	comp=N,390nm,0.4s							
TEY				pmax		pmax		
	comp=N,1μm,1.8s							
TEY				smax		smax		
	comp=E,8μm,2.9s							
TEY				smax		smax		
	comp=N,46μm,4.1s							
TEY	**Ternei**	**4.72**	**85**	⇓*iP*		**P**	**04 23 49.1**	**-0.1**
TEY				AMB		AMB	04 23 50.2	
	comp=N,12μm,2.0s							
TEY				AMB		AMB	04 23 50.4	
	comp=N,2μm,0.6s							
TEY				*e*S		**S**	**04 25 00.1**	**-2.8**
TEY				A		A	04 25 05.0	
	comp=N,7μm,2.5s							
TEY				A		A	04 25 05.0	
	comp=N,4μm,2.5s							
TEY				A		A	04 25 05.7	
	comp=N,740nm,1.0s							
TEY				A		A	04 25 05.7	
	comp=N,1μm,1.0s							
KHBR	**Khabarovsk**	**5.07**	**42**	⇑*iP*		**P**	**04 23 52.6**	**+0.7**
KHBR				AMB		AMB	04 23 53.5	
	comp=N,1μm,0.4s							
KHBR				AMB		AMB	04 23 53.6	
	comp=N,5μm,2.5s							
KHBR				*i* S		**S**	**04 25 07.4**	**-0.5**
KHBR				A		A	04 25 08.9	
	comp=N,3μm,1.1s							
KHBR				A		A	04 25 08.9	
	comp=N,2μm,1.1s							
HHU	**Hamhung**	**5.20**	**201**	P		**P**	**04 23 53.4**	**+0.1**
SNY	**Shenyang**	**5.53**	**240**	⇑P		**P**	**04 23 56.5**	**+0.6**
SNY				S		**S**	**04 25 15.2**	**+0.3**
SNY				ScS		**ScS**	**04 35 50.9**	**-1.0**
SUJ	**Sinuiju**	**6.21**	**223**	P		**P**	**04 24 02.6**	**+0.8**
SUJ				S		S	04 25 15.9	-10
SUJ				sP			04 25 26.8	
SUJ				AMS		AMS		
	comp=N,3μm,3.9s							
SUJ				AMS		AMS		
	comp=E,840nm,1.3s							
SUJ				AMS		AMS		
	comp=Z,1μm,1.9s							
PYAG	**Pyongyang**	**6.55**	**210**	P		**P**	**04 24 05.8**	**+0.9**
PYAG				S		S	04 25 19.4	-12
PYAG				sP			04 25 28.1	
PYAG				AMS		AMS		
	comp=N,5μm,1.7s							
PYAG				AMS		AMS		
	comp=E,7μm,2.7s							
PYAG				AMS		AMS		
	comp=Z,6μm,2.3s							
GRNR	**Gornyy**	**7.38**	**34**	⇑*iP*		**P**	**04 24 12.4**	**+0.3**
GRNR				*e*S		**S**	**04 25 42.6**	**-2.2**
GRNR				pmax		pmax		
	comp=E,980nm,0.6s							
GRNR				pmax		pmax		
	comp=Z,2μm,0.6s							
GRNR				pmax		pmax		
	comp=N,870nm,0.7s							
GRNR				smax		smax		
	comp=N,50nm,0.6s							
GRNR				MLR		MLR		
	comp=E,660nm,11.0s							
GRNR				MLR		MLR		
	comp=N,610nm,12.0s							
GRNR				MLR		MLR		
	comp=Z,1μm,14.0s							
GRNR	**Gornyy**	**7.38**	**34**	⇑*iP*		**P**	**04 24 12.3**	**+0.2**
GRNR				AMB		AMB	04 24 13.2	
	comp=Z,2μm,0.6s							
GRNR				AMB		AMB	04 24 13.3	
	comp=Z,4μm,4.6s							
GRNR				*e*S		**S**	**04 25 43.5**	**-1.3**
GRNR				A		A	04 25 45.9	
	comp=Z,5μm,8.5s							
GRNR				A		A	04 25 45.9	
	comp=Z,4μm,8.5s							
GRNR				A		A	04 25 46.0	
	comp=Z,347nm,1.1s							
GRNR				A		A	04 25 46.0	
	comp=Z,249nm,1.1s							
JOSM	**Okushiri--Mats**	**7.44**	**108**	P		**P**	**04 24 10.4**	**-2.5**
KS19	**Wonju Array Si**	**7.47**	**193**	P		**P**	**04 24 14.1**	**+0.8**
HJU	**Haeju**	**7.47**	**207**	P		**P**	**04 24 13.8**	**+0.5**
KSRS	**Korea Array**	**7.51**	**193**	P		**P**	**04 24 14.2**	**+0.5**
	comp=Z,89nm,0.3s,baz=9.8,slow=9.3,SNR=1458							
KSRS				S		**S**	**04 25 45.9**	**-1.4**
	baz=12,slow=16,SNR=10.0							
KSRS				ScP		**ScP**	**04 32 20.4**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=313,slow=2.6,SNR=14							
KSAR	**Wonju Array Be**	**7.53**	**193**	P		**P**	**04 24 14.0**	**+0.1**
KSAR				ScP		**ScP**	**04 32 19.9**	**-0.9**
KSAR	**Wonju Array Be**	**7.53**	**193**	*eP*		**P**	**04 24 14.0**	**+0.1**
JHST	**Hiyamasetana**	**7.58**	**105**	P		**P**	**04 24 12.1**	**-2.1**
JSH	**Shimam**	**7.61**	**103**	P		**P**	**04 24 12.1**	**-2.4**
JSH				*e*S		**S**	**04 25 44.8**	**-4.2**
JSK	**Shakotan**	**7.71**	**97**	P		**P**	**04 24 13.4**	**-2.0**
JSK				*e*S		**S**	**04 25 44.1**	**-6.5**
INCN	**Inchon**	**7.74**	**200**	P		**P**	**04 24 16.5**	**+0.6**
INCN				P		**P**	**04 24 16.5**	**+0.6**
INCN	**Inchon**	**7.74**	**200**	P		**P**	**04 24 16.2**	**+0.2**
INCN				ScP		**ScP**	**04 32 20.6**	**-0.5**
INCN	**Inchon**	**7.74**	**200**	P		**P**	**04 24 16.9**	**+1.0**
INCN	**Inchon**	**7.74**	**200**	P		**P**	**04 24 16.7**	**+0.8**
INCN	**Inchon**	**7.74**	**200**	P		**P**	**04 24 16.5**	**+0.6**
JRBN	**Rebuntou**	**7.88**	**82**	P		**P**	**04 24 15.2**	**-1.7**
JYM2	**Yakumo 2**	**8.03**	**106**	P		**P**	**04 24 16.5**	**-2.0**
HIA	**Hailar**	**8.28**	**306**	P		**P**	**04 24 20.9**	**+0.1**
HIA	**Hailar**	**8.28**	**306**	P		**P**	**04 24 20.9**	**+0.1**
HIA				ScP		**ScP**	**04 32 21.3**	**-0.1**
HIA	**Hailar**	**8.28**	**306**	P		**P**	**04 24 21.1**	**+0.3**
JSR	**Shiriuchi**	**8.31**	**110**	P		**P**	**04 24 18.9**	**-2.3**
JOG3	**Oga3**	**8.33**	**123**	P		**P**	**04 24 23.4**	**+2.0**
JNB	**Noboribetsu**	**8.36**	**102**	P		**P**	**04 24 19.2**	**-2.5**
JWK2	**Keihoku**	**8.46**	**82**	P		**P**	**04 24 22.0**	**-0.6**
JWK2				*e*S		**S**	**04 26 01.2**	**-2.6**
JHR	**Hokuryu**	**8.51**	**93**	P		**P**	**04 24 21.4**	**-1.6**
JHR				*e*S		**S**	**04 26 00.9**	**-3.7**
JIW	**Iwasaki**	**8.51**	**116**	P		**P**	**04 24 20.7**	**-2.5**
JSI2	**Shiura 2**	**8.53**	**112**	S		**S**	**04 25 59.6**	**-5.5**
JEW	**Eniwo**	**8.53**	**99**	P		**P**	**04 24 21.5**	**-

JTM	**Tenmabayashi**	**9.10 112**	P	**P**	**04 24 24.1**	**-4.7**
ZEA	**Zeya**	**9.11 350**	*ce*P	**P**	**04 24 29.4**	**+0.7**
ZEA			*e*S	**S**	**04 26 12.4**	**-2.7**
ZEA			pmax	pmax		
	comp=E,300nm,0.6s					
ZEA			pmax	pmax		
	comp=N,900nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,2μm,1.0s					
ZEA			pmax	pmax		
	comp=E,360nm,0.6s					
ZEA			pmax	pmax		
	comp=N,880nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,2μm,0.9s					
ZEA			smax	smax		
	comp=E,14μm,6.6s					
ZEA			smax	smax		
	comp=N,26μm,6.5s					
ZEA			MLR	MLR		
	comp=E,1μm,5.0s					
ZEA			MLR	MLR		
	comp=Z,1μm,5.0s					
ZEA	**Zeya**	**9.11 350**	⇑*i*P	**P**	**04 24 29.2**	**+0.5**
ZEA			*e*S	**S**	**04 26 13.8**	**-1.3**
YSS	**Yuzh-Sakhalins**	**9.18 72**	κ *i*P	**P**	**04 24 28.4**	**-1.0**
YSS			*e*S	**S**	**04 26 12.8**	**-3.6**
YSS			pmax	pmax		
	comp=Z,4μm,1.7s					
YSS			pmax	pmax		
	comp=E,2μm,3.0s					
YSS			pmax	pmax		
	comp=Z,1μm,1.0s					
YSS			pmax	pmax		
	comp=N,350nm,1.1s					
YSS			smax	smax		
	comp=N,26μm,3.1s					
YSS			smax	smax		
	comp=N,1μm,1.4s					
YSS	**Yuzh-Sakhalins**	**9.18 72**	P	**P**	**04 24 28.1**	**-1.4**
YSS			ScP	**ScP**	**04 32 22.9**	**+0.5**
YSS	**Yuzh-Sakhalins**	**9.18 72**	P	**P**	**04 24 29.5**	**0.0**
YSS	**Yuzh-Sakhalins**	**9.18 72**	⇓*i*P	**P**	**04 24 28.5**	**-1.0**
YSS			AMB	AMB	04 24 29.0	
	comp=N,4μm,1.7s					
YSS			AMB	AMB	04 24 30.0	
	comp=N,1μm,1.0s					
YSS			*e*S	**S**	**04 26 12.4**	**-4.0**
YSS			A	A	04 26 14.0	
	comp=N,26μm,3.1s					
YSS			A	A	04 26 16.0	
	comp=N,1μm,1.4s					
YSS	**Yuzh-Sakhalins**	**9.18 72**	P	**P**	**04 24 28.5**	**-1.0**
JARK	**Aomorirokkasho**	**9.19 110**	P	**P**	**04 24 26.3**	**-3.4**
JSD	**Sado**	**9.19 135**	P	**P**	**04 24 27.4**	**-2.5**
JSD			*e*S	**S**	**04 26 13.5**	**-3.5**
JSD	**Sado**	**9.19 135**	P	**P**	**04 24 26.5**	**-3.4**
JBT2	**Biratori 2**	**9.19 98**	P	**P**	**04 24 27.3**	**-2.5**
JKK2	**Kamakawa 2**	**9.21 91**	P	**P**	**04 24 28.5**	**-1.4**
JSZ	**Suzu**	**9.23 140**	P	**P**	**04 24 28.8**	**-1.4**
JFR	**Furan**	**9.25 96**	P	**P**	**04 24 28.3**	**-2.1**
UGL	**Uglegorsk**	**9.31 58**	⇑*i*P	**P**	**04 24 30.8**	**+0.1**
UGL			*e*S	**S**	**04 26 15.6**	**-3.2**
UGL			pmax	pmax		
	comp=Z,500nm,0.4s					
UGL			smax	smax		
	comp=E,13μm,3.4s					
UGL			smax	smax		
	comp=N,31μm,3.2s					
UGL			smax	smax		
	comp=E,400nm,1.4s					
UGL			smax	smax		
	comp=N,2μm,1.9s					
UGL	**Uglegorsk**	**9.31 58**	⇑*i*P	**P**	**04 24 30.8**	**+0.1**
UGL			AMB	AMB	04 24 31.5	
	comp=N,460nm,0.4s					
UGL			*e*S	**S**	**04 26 15.5**	**-3.2**
UGL			A	A	04 26 18.2	
	comp=N,1μm,1.4s					
UGL			A	A	04 26 18.2	
	comp=N,3μm,3.2s					
JAW	**Awa shima**	**9.41 129**	P	**P**	**04 24 29.2**	**-2.8**
JYA	**Atsumi**	**9.57 127**	P	**P**	**04 24 30.6**	**-3.0**
JRG	**Rokugo**	**9.59 121**	P	**P**	**04 24 30.6**	**-3.2**
JRG			S	**S**	**04 26 17.1**	**-7.1**
JMP	**Maruseppu**	**9.62 90**	P	**P**	**04 24 32.4**	**-1.6**
JKZ	**Kuzumaki**	**9.69 116**	P	**P**	**04 24 30.9**	**-3.9**
JYK	**Kaneyama**	**9.73 124**	P	**P**	**04 24 32.1**	**-3.1**
JKG	**Kaga**	**9.80 148**	P	**P**	**04 24 34.1**	**-1.8**
JKG			*e*S	**S**	**04 26 25.5**	**-2.5**
KROS	**Kirovskiy**	**9.82 350**	⇑*i*P	**P**	**04 24 36.5**	**+0.7**
JJN	**Nakama**	**9.88 138**	P	**P**	**04 24 34.3**	**-2.4**
JKSM	**Kasumi**	**9.88 157**	P	**P**	**04 24 35.5**	**-1.3**
JKSM			*e*S	**S**	**04 26 27.3**	**-2.3**
JTT	**Ttatey**	**9.92 143**	P	**P**	**04 24 34.9**	**-2.2**
JTT			*e*S	**S**	**04 26 26.7**	**-3.5**
BMKR	**Bomnak**	**9.94 356**	*e*P	**P**	**04 24 36.1**	**-0.8**
JCH	**Churui**	**9.95 98**	P	**P**	**04 24 33.9**	**-3.3**
JCH			S	S	04 26 21.4	-9.1
JOM	**Ohasama**	**9.96 118**	P	**P**	**04 24 33.4**	**-4.0**
JKY	**Yasaka**	**9.97 155**	P	**P**	**04 24 36.3**	**-1.4**
JKY			*e*S	**S**	**04 26 29.3**	**-2.0**
XLT	**XiLinHaoTe**	**9.99 270**	⇓*i*P	**P**	**04 24 37.6**	**-0.2**
XLT			sP		04 26 24.9	
XLT			S	**S**	**04 26 27.2**	**-4.3**
XLT			pmax	pmax		
	comp=N,3μm,0.8s					
XLT			pmax	pmax		
	comp=N,11μm,3.5s					
ERM	**Erimo**	**10.00 102**	*de*P	**P**	**04 24 35.5**	**-2.2**
ERM			pmax	pmax		
	comp=Z,2μm,0.6s					
ERM	**Erimo**	**10.00 102**	P	**P**	**04 24 35.2**	**-2.5**
ERM	**Erimo**	**10.00 102**	P	**P**	**04 24 36.1**	**-1.6**
ERM	**Erimo**	**10.00 102**	P	**P**	**04 24 35.7**	**-2.0**
JTKR	**Abashiri--Toko**	**10.02 90**	P	**P**	**04 24 36.7**	**-1.2**
JTKR			*e*S	**S**	**04 26 26.3**	**-5.5**
JAR	**Ashorobuto**	**10.05 94**	P	**P**	**04 24 36.6**	**-1.7**
JHGM	**Hagimishima**	**10.06 174**	P	**P**	**04 24 38.5**	**0.0**
JHS	**Saijyo**	**10.09 165**	P	**P**	**04 24 38.0**	**-0.9**
JHS			*e*S	**S**	**04 26 30.6**	**-2.9**
JHS	**Saijyo**	**10.09 165**	P	**P**	**04 24 38.0**	**-0.9**
JMK	**Ichinoseki**	**10.23 121**	P	**P**	**04 24 36.2**	**-3.9**
JMK			*e*S	S	04 26 26.5	-9.2
JGN	**Niukaw**	**10.23 144**	P	**P**	**04 24 37.9**	**-2.4**
JGN			S	**S**	**04 26 32.5**	**-3.6**
JOFO	**Osakifurukawao**	**10.26 123**	P	**P**	**04 24 37.3**	**-3.1**
JOU	**Okura**	**10.27 125**	P	**P**	**04 24 37.2**	**-3.4**
JTU	**Tsushima**	**10.28 183**	P	**P**	**04 24 40.9**	**+0.2**
JTU			S	**S**	**04 26 38.1**	**+1.2**
JTU	**Tsushima**	**10.28 183**	P	**P**	**04 24 40.5**	**-0.2**
JYAR	**Yonezawaarcadi**	**10.29 129**	P	**P**	**04 24 37.5**	**-3.3**
JFM	**Mihama**	**10.35 152**	P	**P**	**04 24 39.9**	**-1.5**
MJB9	**Matsu-Tunnel**	**10.35 140**	P	**P**	**04 24 38.5**	**-3.0**
MJB9			ScP	**ScP**	**04 32 23.8**	**-0.3**
MAJO	**Matsushiro**	**10.36 140**	*d*i*P*	**P**	**04 24 38.0**	**-3.5**
MAJO	**Matsushiro**	**10.36 140**	P	**P**	**04 24 39.3**	**-2.2**
MAJO	**Matsushiro**	**10.36 140**	P	**P**	**04 24 38.8**	**-2.7**
MAJO	**Matsushiro**	**10.36 140**	P	**P**	**04 24 38.5**	**-2.9**
MAT	**Matsushiro**	**10.36 140**	P	**P**	**04 24 38.4**	**-3.1**
MAT			S	**S**	**04 26 32.8**	**-5.4**
MAT	**Matsushiro**	**10.36 140**	P	**P**	**04 24 38.4**	**-3.1**
MJAR	**Matsushiro Arr**	**10.36 140**	P	**P**	**04 24 38.8**	**-2.7**
	comp=Z,6.3nm,0.3s,baz=327,slow=11,SNR=429					
MJAR			ScP	**ScP**	**04 32 24.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=310,slow=2.3,SNR=32					
MJAR	**Matsushiro Arr**	**10.36 140**	P	**P**	**04 24 38.5**	**-3.0**
MJAR	**Matsushiro Arr**	**10.36 140**	P	**P**	**04 24 38.5**	**-3.0**
MJAR				**ScP**	**04 32 24.5**	**+0.4**
JAD	**Aida**	**10.37 160**	P	**P**	**04 24 40.5**	**-1.1**
JHIK	**Hikimi**	**10.38 171**	P	**P**	**04 24 40.5**	**-1.2**
JWT	**Wachi**	**10.38 155**	P	**P**	**04 24 40.6**	**-1.2**
JWT			*e*S	**S**	**04 26 34.0**	**-4.7**
JWT	**Wachi**	**10.38 155**	P	**P**	**04 24 40.1**	**-1.7**
JNG	**Nsakai**	**10.42 141**	P	**P**	**04 24 39.3**	**-2.9**
OFUJ	**Ofunato**	**10.42 119**	P	**P**	**04 24 37.8**	**-4.3**
TYV	**Tymovskoe**	**10.45 50**	*e*P	**P**	**04 24 43.0**	**+0.9**
TYV			*e*S	**S**	**04 26 38.3**	**-1.2**
TYV			pmax	pmax		
	comp=Z,3μm,1.8s					
TYV			pmax	pmax		
	comp=Z,1μm,0.8s					
TYV			smax	smax		
	comp=N,12μm,2.5s					
TYV			smax	smax		
	comp=E,4μm,2.5s					
TYV			smax	smax		
	comp=N,1μm,1.3s					
TYV			smax	smax		
	comp=E,380nm,1.3s					
TYV	**Tymovskoe**	**10.45 50**	⇑*i*P	**P**	**04 24 42.7**	**+0.6**
TYV			AMB	AMB	04 24 43.7	
	comp=E,2μm,2.0s					
TYV			AMB	AMB	04 24 43.9	
	comp=E,606nm,0.8s					
TYV			*e*S	**S**	**04 26 38.5**	**-1.0**
TYV			A	A	04 26 40.4	
	comp=E,10μm,4.5s					
TYV			A	A	04 26 40.4	
	comp=E,4μm,4.5s					
JKMT	**Kesennumamotoy**	**10.47 121**	P	**P**	**04 24 38.2**	**-4.3**
JKS	**Kasai**	**10.50 157**	P	**P**	**04 24 41.9**	**-1.0**
JYTA	**Yamagatataniai**	**10.56 148**	P	**P**	**04 24 41.2**	**-2.2**
JIO	**Ouri**	**10.62 123**	P	**P**	**04 24 39.6**	**-4.4**
JNK	**Nakash**	**10.67 91**	P	**P**	**04 24 42.6**	**-1.8**
JKT	**Katashina**	**10.67 136**	P	**P**	**04 24 41.3**	**-3.4**
JFT	**Otama**	**10.68 129**	P	**P**	**04 24 41.2**	**-3.5**
JMM	**Marumori**	**10.69 127**	P	**P**	**04 24 40.6**	**-4.1**
JMM			*e*S	**S**	**04 26 36.0**	**-8.2**
JMM	**Marumori**	**10.69 127**	ScP	**ScP**	**04 32 23.8**	**-0.6**
JMIK	**Miki**	**10.73 157**	P	**P**	**04 24 43.8**	**-1.4**
JIKH	**Ishinomakikobu**	**10.78 123**	P	**P**	**04 24 41.3**	**-4.3**
JAK	**Akkeshi**	**10.78 95**	P	**P**	**04 24 42.9**	**-2.7**
JGF	**Kuroka**	**10.79 146**	P	**P**	**04 24 43.3**	**-2.6**
JGF	**Kuroka**	**10.79 146**	P	**P**	**04 24 42.9**	**-3.0**
JHM	**Kurahashi**	**10.84 169**	P	**P**	**04 24 44.5**	**-1.8**
JKD	**Kudamatsu**	**10.84 172**	P	**P**	**04 24 45.4**	**-1.0**
JSB	**Shiboa**	**10.86 133**	P	**P**	**04 24 43.6**	**-2.9**
INU	**Inuyama**	**10.88 148**	P	**P**	**04 24 43.7**	**-3.0**
INU			ScP	**ScP**	**04 32 24.8**	**+0.1**
INU	**Inuyama**	**10.88 148**	P	**P**	**04 24 44.4**	**-2.3**
INU	**Inuyama**	**10.88 148**	P	**P**	**04 24 43.6**	**-3.0**
JNT	**Takato**	**10.88 142**	P	**P**	**04 24 43.8**	**-3.1**
AKK	**Akkeshi**	**10.88 94**	⇓*i*P	**P**	**04 24 43.9**	**-2.7**
JRA	**Rausu**	**10.89 89**	P	**P**	**04 24 45.7**	**-0.9**
NKL	**Nikolayevsk**	**10.91 36**	*e*P	**P**	**04 24 45.2**	**-1.4**
NKL			*e*S	**S**	**04 26 49.6**	**+1.9**
NKL			pmax	pmax		
	comp=N,5.0nm,0.6s					
NKL			pmax	pmax		
	comp=E,5.0nm,0.6s					
NKL			pmax	pmax		
	comp=Z,1μm,1.3s					
NKL			smax	smax		
	comp=E,4.0nm,2.8s					
NKL			smax	smax		
	comp=N,5.0nm,4.8s					
NKL			MLR	MLR		
	comp=E,7.0nm,7.0s					
NKL			MLR	MLR		
	comp=N,6.0nm,6.0s					
NKL			MLR	MLR		
	comp=Z,306nm,5.0s					
NKL	**Nikolayevsk**	**10.91 36**	⇑*i*P	**P**	**04 24 46.2**	**-0.4**
RUSJ	**Misakicho**	**10.95 88**	⇓*i*P	**P**	**04 24 46.7**	**-0.5**
RUSJ			*e*S	**S**	**04 26 47.3**	**-1.5**
JII	**Iki**	**11.00 181**	P	**P**	**04 24 48.2**	**+0.3**
JAO	**Obara**	**11.04 147**	P	**P**	**04 24 45.2**	**-3.2**
JHE	**Heguri**	**11.05 155**	P	**P**	**04 24 46.5**	**-2.0**
JFK	**Kawauchi**	**11.09 128**	P	**P**	**04 24 44.1**	**-4.7**
JKHN	**Kushirohamanak**	**11.09 94**	P	**P**	**04 24 46.1**	**-2.6**
JRY	**Ryogami san**	**11.11 139**	*e*S	**S**	**04 26 45.3**	**-6.8**
JFFD	**Fukushimafurud**	**11.11 130**	P	**P**	**04 24 44.6**	**-4.4**
JNY	**Yasuok**	**11.20 145**	P	**P**	**04 24 46.5**	**-3.6**
GLVR	**Golovnino**	**11.21 90**	*e*P	**P**	**04 24 48.8**	**-1.0**
GLVR			*e*S	**S**	**04 26 50.0**	**-3.5**
GLVR			pmax	pmax		
	comp=Z,3μm,0.7s					
GLVR			pmax	pmax		
	comp=N,1μm,0.3s					
GLVR			pmax	pmax		
	comp=E,752nm,0.4s					
GLVR			pmax	pmax		
	comp=Z,10μm,1.9s					
GLVR	**Golovnino**	**11.21 90**	*e*P	**P**	**04 24 48.7**	**-1.0**
GLVR			*e*S	**S**	**04 26 50.0**	**-3.5**
BJI	**Beijing**	**11.25 250**	P	**P**	**04 24 50.7**	**+0.4**
BJI			S	**S**	**04 26 55.7**	**+1.2**
BJI			ScS	**ScS**	**04 35 59.8**	**-0.9**
BJI			pmax	pmax		
	comp=Z,490nm,0.9s					
BJT	**Baijiatuau**	**11.27 250**	P	**P**	**04 24 49.8**	**-0.7**
BJT	**Baijiatuau**	**11.27 250**	P	**P**	**04 24 49.8**	**-0.7**
BJT	**Baijiatuau**	**11.27 250**	P	**P**	**04 24 50.5**	**0.0**
GRPR	**Tuman**	**11.34 89**	*c*i*P*	**P**	**04 24 49.6**	**-1.6**
GRPR			*i* S	**S**	**04 26 51.6**	**-4.4**
GRPR			pmax	pmax		
	comp=Z,3μm,2.5s					
GRPR			pmax	pmax		
	comp=N,453nm,0.3s					
GRPR			pmax	pmax		
	comp=Z,1μm,0.3s					
GRPR			pmax	pmax		
	comp=E,309nm,0.4s					
GRPR	**Tuman**	**11.34 89**	*i* P	**P**	**04 24 49.6**	**-1.6**
GRPR			AMB	AMB	04 24 51.0	
	comp=E,3μm,2.5s					
GRPR			AMB	AMB	04 24 54.0	
	comp=E,1μm,0.3s					
GRPR			*i* S	**S**	**04 26 51.6**	**-4.4**
YUK	**Yuzh-Kuril'sk**	**11.40 88**	*c*i*P*	**P**	**04 24 50.2**	**-1.5**
YUK			*i* S	**S**	**04 26 52.6**	**-4.5**
YUK			pmax	pmax		
	comp=Z,4μm,1.3s					
YUK			pmax	pmax		
	comp=Z,2μm,0.8s					
YUK			pmax	pmax		
	comp=N,1μm,0.6s					
YUK			pmax	pmax		
	comp=E,614nm,0.3s					
YUK	**Yuzh-Kuril'sk**	**11.40 88**	*e*P	**P**	**04 24 50.2**	**-1.5**
YUK			AMB	AMB	04 24 53.0	
	comp=E,4μm,2.7s					
YUK			AMB	AMB	04 24 56.0	
	comp=E,2μm,0.8s					
YUK			*e*S	**S**	**04 26 53.6**	**-3.5**
YUK			A	A	04 26 57.0	
	comp=E,4μm,2.5s					
YUK			A	A	04 26 57.0	
	comp=E,5μm,2.5s					
NMR	**Nemuro--Hokkai**	**11.43 92**	⇓*i*P	**P**	**04 24 49.1**	**-3.0**
NMR			*e*S	**S**	**04 26 49.6**	**-8.1**
NMR	**Nemuro--Hokkai**	**11.43 92**	⇓*i*P	**P**	**04 24 49.1**	**-3.0**
NEM2	**Nemuro 2**	**11.44 92**	P	**P**	**04 24 49.2**	**-3.0**
NEM2			S	**S**	**04 26 49.7**	**-8.2**
JSSY	**Shinshiroyabe**	**11.45 147**	P	**P**	**04 24 49.1**	**-3.3**
JYZW	**Yoshizawa**	**11.47 146**	P	**P**	**04 24 48.7**	**-3.9**
JHO	**Hitachi**	**11.47 132**	P	P	04 24 47.6	-5.1
JMN	**Monobe**	**11.47 163**	P	**P**	**04 24 51.3**	**-1.5**
JMN	**Monobe**	**11.47 163**	P	**P**	**04 24 50.5**	**-2.2**
JAA	**Atsumi**	**11.56 149**	P	**P**	**04 24 50.9**	**-2.7**
JAA			S	**S**	**04 26 53.9**	**-6.5**
SHZ3	**Shizuoka 3**	**11.60 144**	P	**P**	**04 24 49.9**	**-4.2**
JKN2	**Miekihoku**	**11.62 153**	P	**P**	**04 24 51.3**	**-2.9**
JIE	**Ise**	**11.62 151**	P	**P**	**04 24 51.8**	**-2.4**
JIE			*e*S	**S**	**04 26 54.3**	**-7.3**
JNU	**Nakatsue**	**11.69 176**	P	**P**	**04 24 54.7**	**-0.3**
	comp=E,33nm,0.3s,baz=13,slow=2.6,SNR=299					
JNU			S	**S**	**04 27 04.1**	**+1.1**
	baz=116,slow=21,SNR=21					
JNU			ScP	**ScP**	**04 32 25.5**	**-0.5**
	comp=E,0.5nm,0.3s,baz=60,slow=3.5,SNR=12					
JNU	**Nakatsue**	**11.69 176**	P	**P**	**04 24 54.5**	**-0.5**
JNU	**Nakatsue**	**11.69 176**	P	**P**	**04 24 54.9**	**-0.1**
JTNC	**Tanabenakahech**	**11.81 156**	P	**P**	**04 24 53.0**	**-3.1**
JTNC			*e*S	**S**	**04 26 58.4**	**-6.7**
JUS	**Usuki**	**11.81 173**	P	**P**	**04 24 54.4**	**-1.7**
JOD2	**Odawara 2**	**11.81 141**	*e*S	S	04 26 55.0	-10
MRT2	**Murotomisaki 2**	**11.86 163**	P	**P**	**04 24 54.4**	**-2.2**
JSG	**Sagara**	**11.93 145**	P	**P**	**04 24 54.4**	**-2.9**
JMMH	**Miemihama**	**11.93 155**	P	**P**	**04 24 54.5**	**-2.8**
JHTM	**Izuhatsuma**	**12.03 142**	P	**P**	**04 24 54.8**	**-3.6**
SHO	**Shikotan**	**12.11 89**	*d*i*P*	**P**	**04 24 56.1**	**-2.9**
SHO			pmax	pmax		
	comp=Z,632nm,0.4s					
SHO			pmax	pmax		
	comp=N,221nm,0.2s					
SHO			pmax	pmax		
	comp=E,313nm,0.2s					
SHO			pmax	pmax		
	comp=Z,2μm,2.4s					
SHO	**Shikotan**	**12.11 89**	⇓*i*P	**P**	**04 24 56.2**	**-2.8**
SHO			AMB	AMB	04 24 57.0	
	comp=Z,630nm,0.4s					
SHO			AMB	AMB	04 24 57.0	
	comp=Z,2μm,2.4s					
SHO			*e*S	**S**	**04 27 03.8**	**-6.5**
JTO	**Tosashimizu**	**12.13 169**	P	**P**	**04 24 57.5**	**-1.9**
OKH	**Okha**	**12.17 39**	*c*i*P*	**P**	**04 24 59.6**	**+0.3**
OKH			*i* S	**S**	**04 27 11.8**	**+0.8**
OKH			pmax	pmax		
	comp=Z,1μm,9.5s					
OKH			smax	smax		
	comp=N,2μm,6.4s					
OKH			MLR	MLR		
	comp=N,700nm,15.0s					
OKH			MLR	MLR		
	comp=E,1μm,15.0s					
OKH			MLR	MLR		
	comp=Z,500nm,5.0s					
OKH	**Okha**	**12.17 39**	*e*P	**P**	**04 24 59.6**	**+0.3**
OKH			*e*S	**S**	**04 27 08.8**	**-2.2**
OKH			A	A	04 27 14.4	
	comp=Z,2μm,6.4s					
OKH			A	A	04 27 14.4	
	comp=Z,2μm,6.4s					
JIZS	**Izushimoda**	**12.18 143**	P	**P**	**04 24 56.4**	**-3.4**
TTO1	**TONANKAI O.B.S**	**12.35 152**	P	**P**	**04 24 58.9**	**-2.4**
JTSN	**Tsuno**	**12.60 174**	P	**P**	**04 25 02.4**	**-1.8**
KUR	**Kuril'sk**	**12.68 82**	*d*i*P*	**P**	**04 25 04.0**	**-0.6**
KUR			*i* S	**S**	**04 27 18.5**	**-2.2**
KUR			pmax	pmax		
	comp=N,106nm,0.5s					
KUR			pmax	pmax		
	comp=E,134nm,0.5s					
KUR			pmax	pmax		
	comp=Z,532nm,0.5s					
KUR			pmax	pmax		
	comp=Z,5μm,3.2s					
KUR			smax	smax		
	comp=N,23μm,4.8s					
KUR			smax	smax		
	comp=E,7μm,2.2s					
KUR	**Kuril'sk**	**12.68 82**	⇓*i*P	**P**	**04 25 04.0**	**-0.6**
KUR			AMB	AMB	04 25 05.3	
	comp=E,530nm,0.5s					
KUR			AMB	AMB	04 25 06.0	
	comp=E,5μm,3.2s					
KUR			*e*S	**S**	**04 27 17.2**	**-3.5**
KUR			A	A	04 27 20.4	
	comp=E,25μm,6.0s					
KUR			A	A	04 27 20.4	
	comp=E,7μm,6.0s					
TIA	**Tai'an**	**13.00 233**	⇑P	**P**	**04 25 07.8**	**-0.3**
TIA			sP		04 27 10.3	
TIA			S	**S**	**04 27 22.2**	**-4.8**
TIA			pmax	pmax		
	comp=E,1μm,2.3s					
CIT	**Chita**	**13.06 309**	*e*P	**P**	**04 25 08.7**	**+0.2**
CIT			*e*S	**S**	**04 27 28.1**	**+0.4**
CIT			pmax	pmax		
	comp=Z,9μm,1.9s					
JSJ	**Shimokoshiki**	**13.11 181**	P	**P**	**04 25 07.9**	**-1.5**
JSJ			*e*S	**S**	**04 27 26.9**	**-2.3**
BSO1	**Boso 1**	**13.20 136**	P	**P**	**04 25 06.7**	**-2.9**
BSO1			*e*S	**S**	**04 27 23.1**	**-6.7**
JSU	**Suzuyama**	**13.29 178**	P	**P**	**04 25 09.5**	**-1.7**
JSU			ScP	**ScP**	**04 32 27.4**	**-1.1**
HNS	**HongShan**	**13.67 242**	⇑P	**P**	**04 25 14.8**	**-0.1**
HNS			sP		04 27 12.9	
HNS			S	**S**	**04 27 38.9**	**-0.1**
HNS			ScP	**ScP**	**04 32 29.1**	**+0.1**
HNS			ScS	**ScS**	**04 36 05.3**	**-1.0**
HNS			pmax	pmax		
	comp=Z,200nm,0.8s					
JHJ	**Hachijo jima 2**	**13.94 144**	P	**P**	**04 25 14.4**	**-3.3**
	comp=Z,140nm,0.3s,baz=80,slow=20,SNR=64					
JHJ			S	**S**	**04 27 41.0**	**-2.9**
	comp=Z,99nm,0.3s,baz=77,slow=20,SNR=7.1					
JHJ2	**Mitsune**	**13.96 143**	P	**P**	**04 25 14.6**	**-3.3**
JHJ2			*e*S	**S**	**04 27 38.2**	**-5.9**
JHJ2	**Mitsune**	**13.96 143**	P	**P**	**04 25 16.3**	**-1.6**
HHC	**Hu-ho-hao-te**	**14.07 260**	*e*P	**P**	**04 25 19.1**	**+0.1**
HHC			sP		04 27 20.8	
HHC			S	**S**	**04 27 39.6**	**-6.6**
HHC			pmax	pmax		
	comp=Z,2μm,1.1s					
HHC			pmax	pmax		
	comp=Z,6μm,6.1s					
TIY	**Taiyuan**	**14.96 248**	⇓P	**P**	**04 25 28.2**	**+0.8**
TIY			sP		04 27 34.9	
TIY			S	**S**	**04 28 04.5**	**+3.4**
TIY			ScS	**ScS**	**04 36 09.8**	**0.0**
TIY			pmax	pmax		
	comp=Z,780nm,1.8s					
BTO	**Baotou**	**15.25 261**	*e*P	**P**	**04 25 31.1**	**+1.0**
BTO			S	**S**	**04 28 05.6**	**-0.3**
SSE	**Sheshan**	**15.33 210**	P	**P**	**04 25 30.6**	**-0.2**
SSE			S	**S**	**04 28 06.7**	**-0.5**
SSE			pmax	pmax		
	comp=Z,410nm,0.9s					
SSE			pmax	pmax		
	comp=Z,2μm,3.5s					
NJ2	**Nanjing**	**15.41 218**	⇑*i*P	**P**	**04 25 29.2**	**-2.4**
NJ2			sP	sP	04 27 34.4	-17
NJ2			S	**S**	**04 28 07.1**	**-1.4**
NJ2			pmax	pmax		
	comp=Z,280nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,3μm,3.5s					
ULN	**Ulaanbaatar**	**16.11 289**	*ce*P	**P**	**04 25 38.5**	**+0.5**
ULN			pmax	pmax		
	comp=Z,4μm,1.3s					
ULN	**Ulaanbaatar**	**16.11 289**	P	**P**	**04 25 39.0**	**+1.0**
ULN	**Ulaanbaatar**	**16.11 289**	P	**P**	**04 25 38.2**	**+0.2**
ULN	**Ulaanbaatar**	**16.11 289**	P	**P**	**04 25 38.6**	**+0.7**
BOD	**Bodaibo**	**16.35 328**	*e*P	**P**	**04 25 39.7**	**-0.1**
BOD			pmax	pmax		
	comp=Z,3μm,1.5s					
JAMN	**Amaminishikomi**	**16.55 182**	P	**P**	**04 25 40.0**	**-2.1**
SONM	**Songino Array**	**16.55 289**	P	**P**	**04 25 43.0**	**+1.0**
	comp=Z,101nm,0.3s,baz=106,slow=8.1,SNR=2145					
SONM			ScP	**ScP**	**04 32 34.2**	**-0.2**
	comp=Z,11nm,0.3s,baz=137,slow=1.6,SNR=39					
SONM			PKiKP	**PKiKP**	**04 37 46.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=82,slow=0.2,SNR=4.4					
SONM			P3KPbc		05 00 21.6	
	comp=Z,0.1nm,0.3s,baz=226,slow=4.0,SNR=8.9					
SONM			PKP2ab		05 04 28.8	
	comp=Z,0.0nm,0.3s,baz=349,slow=1.5,SNR=3.5					
SONM	**Songino Array**	**16.55 289**	P	**P**	**04 25 42.2**	**+0.3**
OKHT	**Okhotsk**	**16.64 24**	⇑*i*P	**P**	**04 25 42.8**	**+0.4**
OKHT			AMB	AMB	04 25 45.9	
	comp=Z,373nm,0.8s					
LYN	**LuoYang**	**16.89 239**	⇑*i*P	**P**	**04 25 46.5**	**+1.4**
LYN			sP	sP	04 27 58.8	-9.2
LYN			S	**S**	**04 28 33.7**	**+1.0**
LYN			PcS	**PcS**	**04 33 30.4**	**-1.7**
LYN			ScS	**ScS**	**04 36 14.3**	**-1.0**
LYN			pmax	pmax		
	comp=Z,330

YAK S **S** **04 28 38.9 +1.2**
YAK Yakutsk 17.25 360 *e*P **P** **04 25 47.7 -0.2**
JOW Kunigami 17.99 185 P **P** **04 25 54.7 -0.6**
comp=N,34nm,0.3s,baz=102,slow=13,SNR=53
JOW S **S** **04 28 41.5 -9.2**
comp=N,6.3nm,0.3s,baz=346,slow=11,SNR=11
JOW ScP **ScP** **04 32 38.2 +0.6**
comp=N,0.5nm,0.3s,baz=345,slow=3.6,SNR=7.3
JOW Kunigami 17.99 185 P **P** **04 25 53.9 -1.3**
JOW Kunigami 17.99 185 P **P** **04 25 55.6 +0.3**
SKR Severo-Kuril's 18.49 62 *e*P **P** **04 25 59.1 -0.3**
SKR pmax pmax
comp=Z,800nm,1.7s
SKR pmax pmax
comp=Z,100nm,1.7s
SKR pmax pmax
comp=Z,199nm,0.6s
SKR Severo-Kuril's 18.49 62 *e*P **P** **04 25 58.8 -0.6**
SKR AMB AMB 04 25 59.7
comp=Z,800nm,1.7s
SKR AMB AMB 04 26 00.2
comp=Z,100nm,1.7s
IRK Irkutsk 18.50 303 *e*P **P** **04 26 00.6 +1.0**
IRK pmax pmax
comp=Z,1μm,0.4s
JKE Kume jima 2 18.62 189 P **P** **04 25 59.4 -1.6**
ZAK Zakamensk 18.79 297 *e*P **P** **04 26 03.4 +1.1**
ZAK pmax pmax
comp=Z,1μm,1.4s
WHN Wuhan 18.81 226⇑*i*P **P** **04 26 03.2 +0.6**
WHN S **S** **04 29 02.7 -1.1**
WHN ScP **ScP** **04 32 39.4 +0.1**
WHN pmax pmax
comp=Z,3μm,1.8s
JMZ Minamidaito 2 18.98 177 P **P** **04 26 05.0 +0.8**
PAU Pauzhetka 19.04 60⇑*i*P **P** **04 26 03.9 -0.5**
PAU AMB AMB 04 26 04.5
comp=Z,370nm,0.7s
MA2 Magadan 19.39 33*ce*P **P** **04 26 08.2 +0.7**
MA2 pmax pmax
comp=Z,2μm,0.8s
MA2 Magadan 19.39 33 P **P** **04 26 07.9 +0.4**
MA2 ScP **ScP** **04 32 40.3 +0.1**
MA2 Magadan 19.39 33 P **P** **04 26 09.0 +1.5**
MA2 Magadan 19.39 33 *e*P **P** **04 26 08.2 +0.7**
MA2 Magadan 19.39 33 P **P** **04 26 08.4 +0.9**
XAN Xi'an 19.44 244 P **P** **04 26 10.2 +1.8**
XAN sP sP 04 28 31.7 -4.7
XAN S **S** **04 29 14.2 +0.3**
XAN pmax pmax
comp=Z,120nm,0.8s
PEA0B Petropavlovsk- 19.91 55*ce*P **P** **04 26 11.3 -1.0**
PEA0B Petropavlovsk- 19.91 55 P **P** **04 26 12.4 +0.1**
PETK Petropavlovsk- 19.91 55 P **P** **04 26 11.9 -0.3**
comp=Z,16nm,0.3s,baz=219,slow=12,SNR=254
PETK S S 04 29 34.8 +14
baz=245,slow=14,SNR=4.0
PETK PcP **PcP** **04 30 01.8 +1.0**
comp=Z,2.8nm,0.3s,baz=38,slow=2.6,SNR=5.6
PETK ScP **ScP** **04 32 41.5 0.0**
comp=Z,3.8nm,0.3s,baz=110,slow=0.8,SNR=28
PETK ScS **ScS** **04 36 25.8 +1.3**
comp=Z,0.1nm,0.3s,baz=320,slow=28,SNR=11
PETK Petropavlovsk- 19.91 55 P **P** **04 26 12.0 -0.3**
PETK Petropavlovsk- 19.91 55 P **P** **04 26 12.0 -0.3**
PETK ScP **ScP** **04 32 41.2 -0.3**
CBIJ Chichi jima 20.21 147 P **P** **04 26 13.6 -1.8**
JCJ Chichijima 20.21 147 P **P** **04 26 13.7 -1.7**
JCJ Chichijima 20.21 147 P **P** **04 26 14.7 -0.7**
MOY Mondy 20.39 300 *e*P **P** **04 26 17.4 +0.6**
MOY pmax pmax
comp=Z,1μm,1.9s
PET Petropavlovsk 20.45 56α*i*P **P** **04 26 17.0 -0.1**
PET *e**SP **sP** **04 28 44.3 -3.3**
PET *e*S **S** **04 29 28.5 -0.7**
PET *e* 04 30 00.5
PET *e* 04 36 27.6
PET pmax pmax
comp=Z,2μm,8.5s
PET pmax pmax
comp=Z,700nm,13.6s
PET pmax pmax
comp=Z,426nm,1.1s
PET MLR MLR
comp=Z,1μm,14.0s
PET MLR MLR
comp=Z,900nm,16.0s
PET Petropavlovsk 20.45 56 P **P** **04 26 16.0 -1.2**
PET Petropavlovsk 20.45 56 P **P** **04 26 17.4 +0.3**
PET Petropavlovsk 20.45 56 *e*P **P** **04 26 17.0 -0.1**
PET Petropavlovsk 20.45 56 P **P** **04 26 16.8 -0.4**
TATO Taipei 20.95 202 P **P** **04 26 23.7 +1.7**
TATO Taipei 20.95 202 P **P** **04 26 22.2 +0.1**
TATO Taipei 20.95 202 P **P** **04 26 23.5 +1.5**
YOJ Yonaguni jima 21.08 198 P **P** **04 26 22.4 -0.7**
YOJ pmax pmax
comp=Z,267nm,1.0s
YOJ Yonaguni jima 21.08 198 P **P** **04 26 22.4 -0.7**
YOJ IAmb IAmb 04 26 29.2
comp=Z,267nm,1.0s
YOJ Yonaguni jima 21.08 198 P **P** **04 26 23.2 +0.1**
YHNB Yeheng 21.27 202 P **P** **04 26 26.4 +1.4**
CNSH ChangSha 21.45 225⇑P **P** **04 26 26.3 -0.1**
CNSH S **S** **04 29 44.1 -1.4**
CNSH LR LR
comp=N,700nm,8.0s
CNSH LR LR
comp=E,1μm,8.1s
LZH Lanzhou 21.63 255⇓P **P** **04 26 30.2 +2.0**
LZH sP sP 04 28 58.3 -2.5
LZH S **S** **04 29 50.9 +2.2**
LZH ScP **ScP** **04 32 47.8 +1.4**
LZH ScS **ScS** **04 36 30.3 -1.4**
LZH pmax pmax
comp=E,850nm,1.1s
LZH pmax pmax
comp=E,3μm,4.9s
NACB Ninganchiao 21.69 201 P **P** **04 26 28.0 -0.6**
ENH Enshi 21.70 235 P **P** **04 26 28.1 -0.6**
ENH IAmb IAmb 04 26 30.1
comp=Z,170nm,1.0s
ENH ScP **ScP** **04 32 46.0 -0.4**
ENH Enshi 21.70 235 P **P** **04 26 28.7 0.0**
QZH Quanzhou 21.87 209⇑*i*P **P** **04 26 29.3 -0.9**
QZH sP **sP** **04 29 05.0 +1.9**
QZH S **S** **04 29 51.0 -1.2**
QZH ScS **ScS** **04 36 33.0 +0.6**
QZH pmax pmax
comp=Z,660nm,7.0s
SSLB Suanglung 22.23 202 P **P** **04 26 33.4 -0.1**
SSLB IAmb IAmb 04 26 35.5
comp=Z,243nm,0.9s
SSLB **PcP** **04 30 05.4 -0.5**
SSLB ScP **ScP** **04 32 46.9 -1.0**
SSLB Suanglung 22.23 202 P **P** **04 26 34.2 +0.7**
SEY Seymchan 22.24 27 P **P** **04 26 33.6 +0.6**
comp=Z,122nm,0.5s,baz=223,slow=7.1,SNR=167
SEY S **S** **04 29 58.4 +1.2**
comp=Z,51nm,1.1s,baz=55,slow=19,SNR=5.6
SEY ScP **ScP** **04 32 48.0 +0.8**
comp=Z,59nm,0.5s,baz=212,slow=4.0,SNR=18
SEY ScS **ScS** **04 36 32.1 -0.5**
comp=Z,8.4nm,1.0s,baz=25,slow=20,SNR=6.0
SEY Seymchan 22.24 27 *i*P **P** **04 26 33.1 +0.1**
SEY Seymchan 22.24 27 *e*P **P** **04 26 33.1 +0.1**
KNMB Chin-men Tao 22.38 209 P **P** **04 26 33.6 -1.1**
KNMB IAmb IAmb 04 26 40.0
comp=Z,352nm,1.3s
YULB Yu-li 22.51 201 P **P** **04 26 35.0 -1.0**
YULB IAmb IAmb 04 26 40.4
comp=Z,173nm,1.0s
TPUB Ta-pu 22.78 203 ScP **ScP** **04 32 49.1 -0.3**
TPUB Ta-pu 22.78 203 P **P** **04 26 39.1 +0.8**
GTA Gaotai 22.93 267⇓P **P** **04 26 41.4 +1.7**
GTA sP sP 04 29 13.3 -1.7
GTA PcP **PcP** **04 30 07.5 +0.2**
GTA S **S** **04 30 10.4 +1.4**
GTA ScP **ScP** **04 32 49.6 -0.1**
GTA ScS **ScS** **04 36 36.0 -0.5**
GTA pmax pmax
comp=Z,530nm,1.0s
GTA pmax pmax
comp=Z,2μm,4.4s
TWG Pinlang 23.12 201 IAmb IAmb 04 26 43.4
comp=Z,92nm,0.5s
CD2 Chengdu 24.78 245⇓P **P** **04 26 57.1 +1.1**
CD2 sP sP 04 29 32.1 -2.8
CD2 S **S** **04 30 37.9 -0.1**
CD2 ScS **ScS** **04 36 42.5 -1.7**
CD2 pmax pmax
comp=Z,550nm,0.7s
GULI GuiLin 25.12 226⇑P **P** **04 27 01.1 +2.1**
GULI sP **sP** **04 29 40.9 +2.4**
GULI S **S** **04 30 38.9 -4.4**
HKC Hong Kong Obse 25.93 215⇑P **P** **04 27 06.0 -0.1**
HKPS Hong Kong Po S 25.97 215 IAmb IAmb 04 27 19.2
comp=Z,194nm,1.3s
GYA Guiyang 26.20 233⇑P **P** **04 27 08.6 0.0**
GYA sP sP 04 29 51.3 +1.3
GYA PcP **PcP** **04 30 16.1 +1.2**
GYA S **S** **04 30 58.7 -1.7**
GYA ScP **ScP** **04 32 58.7 -0.4**
GYA ScS **ScS** **04 36 48.1 -2.5**
GYA pmax pmax
comp=Z,170nm,1.2s
GYA pmax pmax
comp=Z,380nm,3.5s
TIXI Tiksi 26.92 359 P **P** **04 27 14.1 0.0**
comp=Z,173nm,0.4s,baz=148,slow=5.9,SNR=209
TIXI S **S** **04 31 10.0 -0.3**
comp=Z,32nm,0.3s,baz=3.4,slow=19,SNR=24
TIXI ScP **ScP** **04 32 59.9 -0.4**
comp=Z,101nm,0.9s,baz=140,slow=5.0,SNR=5.8
TIXI ScS **ScS** **04 36 50.5 -1.5**
comp=Z,34nm,1.1s,baz=307,slow=22,SNR=22
TIXI Tiksi 26.92 359*ce*P **P** **04 27 13.8 -0.3**
TIXI pmax pmax
comp=Z,496nm,1.1s
TIXI Tiksi 26.92 359 P **P** **04 27 14.0 -0.2**
TIXI Tiksi 26.92 359 ScP **ScP** **04 33 00.2 -0.1**
TIXI Tiksi 26.92 359 *e*P **P** **04 27 13.8 -0.3**
TIXI Tiksi 26.92 359 P **P** **04 27 13.9 -0.3**
GOMU GeErMu 27.90 264 P **P** **04 27 24.9 +1.2**
GOMU S **S** **04 31 27.7 +0.5**
GOMU pmax pmax
comp=Z,790nm,0.9s
DGZ Jazzator, Alta 28.99 295*d i*P **P** **04 27 34.1 +1.5**
DGZ pmax pmax
comp=Z,611nm,0.4s
PZH PanZhiHua 29.10 241⇑P **P** **04 27 34.1 +0.2**
PZH PcP **PcP** **04 30 22.5 +0.4**
PZH S **S** **04 31 42.7 -2.8**
PZH ScP **ScP** **04 33 07.9 -0.3**
PZH PcS **PcS** **04 34 04.6 -1.5**
PZH pmax pmax
comp=Z,80nm,0.7s
PZH pmax pmax
comp=Z,460nm,3.8s
KMI Kunming 29.50 237⇑P **P** **04 27 37.5 0.0**
KMI sP sP 04 30 17.9 -2.5
KMI PcP **PcP** **04 30 25.1 +1.8**
KMI S **S** **04 31 50.2 -1.7**
KMI ScP **ScP** **04 33 10.5 +0.8**
KMI SS **SS** **04 34 52.6 -6.4**
KMI ScS **ScS** **04 37 03.5 -2.7**
KMI pmax pmax
comp=Z,110nm,0.7s
KMI pmax pmax
comp=Z,320nm,3.5s
SMY Shemya 29.74 59 P **P** **04 27 38.4 -0.5**
SMY pmax pmax
comp=Z,274nm,0.7s
SMY Shemya 29.74 59 P **P** **04 27 38.4 -0.5**
BILL Bilibino 29.94 27*de*P **P** **04 27 41.2 +0.9**
BILL *e**SP **sP** **04 30 24.4 -0.1**
BILL *e* 04 30 28.8
BILL pmax pmax
comp=Z,174nm,0.6s
BILL MLR MLR
comp=Z,103nm,13.0s
BILL Bilibino 29.94 27 P **P** **04 27 40.8 +0.4**
BILL ScP **ScP** **04 33 10.5 +0.5**
BILL Bilibino 29.94 27 *e*P **P** **04 27 41.2 +0.9**
BILL Bilibino 29.94 27 P **P** **04 27 41.2 +0.9**
WMQ Urumqi 30.02 283⇓*i*P **P** **04 27 42.8 +1.3**
WMQ S **S** **04 32 00.2 +1.1**
WMQ ScP **ScP** **04 33 11.0 +0.2**
WMQ ScS **ScS** **04 37 04.7 -3.2**
WMQ pmax pmax
comp=Z,820nm,1.3s
WMQ pmax pmax
comp=Z,3μm,3.7s
ZAA0 Zalesovo Array 30.31 304 P **P** **04 27 43.5 -0.3**
ZALV Zalesovo Beam 30.31 304 P **P** **04 27 44.0 +0.3**
comp=Z,203nm,0.3s,baz=90,slow=8.8,SNR=1250
ZALV PcP **PcP** **04 30 25.3 +0.6**
comp=Z,20nm,0.6s,baz=57,slow=2.3,SNR=4.4
ZALV ScP **ScP** **04 33 10.9 -0.5**
comp=Z,140nm,0.9s,baz=95,slow=3.1,SNR=28
ZALV ScS **ScS** **04 37 02.5 -6.3**
comp=Z,13nm,0.9s,baz=98,slow=4.5,SNR=4.1
ZALV P3KPbc 04 59 22.1
comp=Z,1.1nm,0.6s,baz=290,slow=5.3,SNR=5.4
ZALV Zalesovo Beam 30.31 304 ScP **ScP** **04 33 11.0 -0.5**
QIZ Qiongzhong 30.69 220 P **P** **04 27 48.6 +1.1**
QIZ pP **pP** **04 29 22.5 0.0**
QIZ sP **sP** **04 30 29.5 -1.3**
QIZ S **S** **04 32 10.6 +0.8**
QIZ sS **sS** **04 35 09.5 +1.5**
QIZ ScS **ScS** **04 37 13.7 +2.0**
QIZ pmax pmax
comp=Z,56nm,1.5s
QIZ pmax pmax
comp=Z,580nm,2.4s
QIZ Qiongzhong 30.69 220 P **P** **04 27 48.3 +0.8**
QIZ sP **PcP** **04 30 27.8 +1.5**
QIZ S **S** **04 32 12.1 +2.3**
QIZ ScS **ScS** **04 37 12.2 +0.5**
ZSN Zaisan 31.04 291*d i*P **P** **04 27 51.4 +1.4**
ZSN *i* S **S** **04 32 17.0 +2.6**
ZSN pmax pmax
comp=Z,398nm,1.0s
ZSN Zaisan 31.04 291⇓*i*P **P** **04 27 51.5 +1.4**
comp=Z,398nm,1.0s,baz=291
ZSN *i* S **S** **04 32 17.1 +2.6**
baz=291
NRIK Noril'sk 32.52 334 P **P** **04 28 02.3 -0.1**
comp=Z,282nm,0.5s,baz=112,slow=9.0,SNR=355
NRIK ScP **ScP** **04 33 18.3 -0.5**
comp=Z,200nm,0.8s,baz=103,slow=2.8,SNR=14
NRIK Noril'sk 32.52 334*de*P **P** **04 28 02.0 -0.3**
NRIK pmax pmax
comp=Z,766nm,0.9s
NRIK Noril'sk 32.52 334 P **P** **04 28 02.2 -0.1**
DIBR DIBRUGARH 32.86 250⇓*i*P **P** **04 28 06.1 +0.4**
MK31 Makanchi Array 32.90 291 *i* P **P** **04 28 06.2 +0.3**
MK31 Makanchi Array 32.90 291 P **P** **04 28 06.1 +0.2**
MK31 ScP **ScP** **04 33 19.2 -1.4**
MKAR Makanchi Array 32.90 291 P **P** **04 28 06.6 +0.7**
comp=Z,258nm,0.8s,baz=84,slow=12,SNR=2139
MKAR ScP **ScP** **04 33 19.8 -0.8**
comp=Z,101nm,1.0s,baz=76,slow=5.1,SNR=16
MKAR P3KPbc 04 59 10.6
comp=Z,3.4nm,0.5s,baz=248,slow=4.5,SNR=82
MKAR Makanchi Array 32.90 291 P **P** **04 28 06.1 +0.2**
MAKZ Makanchi 33.10 291 P **P** **04 28 08.1 +0.5**
MAKZ Makanchi 33.10 291 P **P** **04 28 08.1 +0.5**
MAKZ ScP **ScP** **04 33 19.8 -1.5**
MAKZ Makanchi 33.10 291 P **P** **04 28 08.1 +0.5**
SEM Semipalatinsk 33.46 298*d i*P **P** **04 28 10.7 -0.1**
SEM pmax pmax
comp=Z,434nm,1.1s
SEM Semipalatinsk 33.46 298⇓*i*P **P** **04 28 10.7 -0.1**
comp=Z,434nm,1.1s,baz=297
GUMO Guam 33.61 153 P **P** **04 28 13.1 +0.9**
comp=Z,180nm,0.4s,baz=56,slow=1.5,SNR=11
GUMO Guam 33.61 153 P **P** **04 28 11.5 -0.6**
GUMO Guam 33.61 153 P **P** **04 28 12.5 +0.4**
ITAN ITANAGAR 33.87 251⇓*i*P **P** **04 28 16.1 +1.8**
ITAN IAmb IAmb 04 28 23.3
comp=Z,752nm,1.3s
MOKO MOKOCHONG 33.88 249⇓*i*P **P** **04 28 16.5 +1.9**
MOKO IAmb IAmb 04 28 22.2
comp=Z,204nm,1.1s
LSA Lhasa 34.03 257 P **P** **04 28 17.4 +1.3**
LSA S **S** **04 33 01.7 +0.6**
LSA pmax pmax
comp=Z,435nm,1.0s
LSA Lhasa 34.03 257 P **P** **04 28 18.1 +2.0**
LSA S **S** **04 33 04.0 +2.9**
LSA ScS **ScS** **04 37 28.4 -1.6**
LSA pmax pmax
comp=Z,2μm,1.1s
LSA pmax pmax
comp=Z,2μm,3.0s
LSA Lhasa 34.03 257 P **P** **04 28 17.4 +1.3**
LSA S **S** **04 33 01.7 +0.6**
LSA Lhasa 34.03 257 P **P** **04 28 17.9 +1.8**
LSA Lhasa 34.03 257 P **P** **04 28 17.9 +1.8**
KURK Kurchatov 34.43 299 P **P** **04 28 19.5 +1.0**
KURK Kurchatov 34.43 299 P **P** **04 28 19.1 +0.5**
KURK Kurchatov 34.43 299 P **P** **04 28 19.0 +0.4**
KURK ScP **ScP** **04 33 25.3 -0.6**
KURK Kurchatov 34.43 299 P **P** **04 28 18.4 -0.2**
KURBB Kurchatov Arra 34.50 298 P **P** **04 28 19.4 +0.3**
comp=Z,906nm,0.8s,baz=82,slow=9.5,SNR=2497
KURBB ScP **ScP** **04 33 25.1 -1.1**
comp=Z,47nm,0.9s,baz=84,slow=3.1,SNR=14
KOHI KOHIMA 34.56 249 *e*P **P** **04 28 21.6 +1.5**
KIWB Kanaga Island 35.18 59 P **P** **04 28 24.2 -0.5**
PDGK Podgornoye 35.83 286 P **P** **04 28 30.8 +0.4**
UBPT Khong Chiam 35.99 223 IAmb IAmb 04 28 34.1
comp=Z,136nm,0.7s
TDK Taldyqorghan 36.01 289 *i* P **P** **04 28 33.0 +1.3**
TDK pmax pmax
comp=Z,1μm,1.0s
TDK Taldyqorghan 36.01 289 *i* P **P** **04 28 33.0 +1.3**
comp=Z,1μm,1.0s,baz=288
SILR SILCHAR 36.06 249 *e*P **P** **04 28 34.1 +1.7**
UZB Uzynbulak 36.21 286*d i*P **P** **04 28 34.2 +0.6**
UZB pmax pmax
comp=Z,361nm,1.2s
UZB Uzynbulak 36.21 286⇓*i*P **P** **04 28 34.2 +0.6**
comp=Z,361nm,1.2s,baz=285
KPKS Kokpek 36.33 286*d i*P **P** **04 28 35.4 +0.9**
KPKS pmax pmax
comp=Z,345nm,1.2s
KPKS Kokpek 36.33 286⇓*i*P **P** **04 28 35.4 +0.9**
comp=Z,345nm,1.2s,baz=286
CHTO Chiang Mai 36.59 235 P **P** **04 28 37.5 +0.7**
CHTO pmax pmax
comp=Z,112nm,0.7s
CHTO Chiang Mai 36.59 235 P **P** **04 28 37.2 +0.4**
CHTO Chiang Mai 36.59 235 P **P** **04 28 37.5 +0.7**
CHTO IAmb IAmb 04 28 38.8
comp=Z,112nm,0.8s
CHTO ScP **ScP** **04 33 34.2 -0.2**
CHTO Chiang Mai 36.59 235 P **P** **04 28 38.0 +1.2**
CHTO Chiang Mai 36.59 235 P **P** **04 28 37.4 +0.6**
CHTO pP **pP** **04 30 14.6 -1.0**
SATY Saty 36.66 286*d i*P **P** **04 28 38.2 +1.0**
SATY pmax pmax
comp=Z,315nm,1.5s
SATY Saty 36.66 286⇓*i*P **P** **04 28 38.3 +1.0**
comp=Z,315nm,1.5s,baz=286
CM31 Chiang Mai Arr 36.87 235 P **P** **04 28 39.9 +0.8**
SNR=24
CM31 Chiang Mai Arr 36.87 235 IAmb IAmb 04 28 41.3
comp=Z,111nm,1.1s
CMAR Chiang Mai Arr 36.87 235 P **P** **04 28 39.9 +0.8**
comp=Z,21nm,0.4s,baz=26,slow=7.7,SNR=165
CMAR pP **pP** **04 30 18.1 +0.1**
comp=Z,13nm,1.0s,baz=37,slow=7.8,SNR=3.4
CMAR PcP **PcP** **04 30 45.2 +0.9**
comp=Z,13nm,0.8s,baz=13,slow=2.5,SNR=8.2
CMAR ScP **ScP** **04 33 36.1 +0.6**
comp=Z,15nm,0.8s,baz=11,slow=2.9,SNR=14
CMAR S **S** **04 33 45.0 +2.3**
comp=Z,4.2nm,0.9s,baz=42,slow=17,SNR=6.9
CMAR Chiang Mai Arr 36.87 235 P **P** **04 28 39.1 0.0**
CMAR PcP **PcP** **04 30 45.6 +1.3**
PRZ Przheval'sk 36.88 285 ScP **ScP** **04 33 34.8 -0.6**
ATKA Atka Island 36.91 58 P **P** **04 28 41.3 +2.4**
GTK Tadong 37.26 256⇓*i*P **P** **04 28 43.7 +1.4**
GAMB Gambell 37.32 39 P **P** **04 28 42.7 +0.7**
GAMB IAmb IAmb 04 28 44.6
comp=Z,412nm,1.4s
GAMB Gambell 37.32 39 P **P** **04 28 43.1 +1.1**
baz=268,SNR=40
GAMB S **S** **04 33 49.6 +1.5**
baz=268
CHKK Chushkaly 37.35 288⇓*i*P **P** **04 28 43.6 +0.9**
baz=287
MDOK Medeo 37.55 287 *i* P **P** **04 28 45.8 +1.3**
MDOK Medeo 37.55 287 *i* P **P** **04 28 45.9 +1.3**
baz=286
DLV T Lat 37.57 216 IAmb IAmb 04 28 47.7
comp=Z,403nm,1.3s
DLV T Lat 37.57 216 P **P** **04 28 46.9 +1.9**
TARG Taragay, Kyrgy 37.57 284 ScP **ScP** **04 33 37.8 -0.6**
KNDC Almaty 37.59 287 P **P** **04 28 46.1 +1.4**
TNSS Tian-Shan 37.67 287 *i* P **P** **04 28 47.2 +1.4**
baz=286
KUU Kurty 37.77 288*d i*P **P** **04 28 46.6 +0.4**
KUU *e*S **S** **04 33 57.2 +1.6**
KUU pmax pmax
comp=Z,1μm,1.8s
KUU Kurty 37.77 288⇓*i*P **P** **04 28 46.6 +0.4**
comp=Z,1μm,1.8s,baz=288
KUU *e*S **S** **04 33 57.2 +1.6**
baz=288
DAV Davao City (W) 37.79 187 P **P** **04 28 47.0 +0.4**
comp=Z,94nm,0.4s,baz=45,slow=2.5,SNR=8.2
DAV ScP **ScP** **04 33 39.1 +0.1**
comp=Z,82nm,0.3s,baz=40,slow=3.0,SNR=6.4
DAV Davao City (W) 37.79 187 P **P** **04 28 47.1 +0.4**
DAV IAmb IAmb 04 28 47.5
comp=Z,239nm,0.9s
KDJ Kajisay 37.85 285 P **P** **04 28 47.7 +0.7**
KDJ pmax pmax
comp=Z,589nm,1.1s
KDJ Kajisay 37.85 285 P **P** **04 28 47.7 +0.7**
KDJ ScP **ScP** **04 33 37.8 -1.3**
BELO BELONIA 38.01 248⇓*i*P **P** **04 28 50.1 +1.9**
BRZS Berezniki 38.30 299*d i*P **P** **04 28 50.7 +0.4**
BRZS pmax pmax
comp=Z,541nm,1.2s
BRZS Berezniki 38.30 299⇓*i*P **P** **04 28 50.8 +0.4**
comp=Z,541nm,1.2s,baz=298
SPIA Saint Paul Isl 38.36 49 P **P** **04 28 51.8 +1.2**
baz=278,SNR=5.9
SPIA S **S** **04 34 03.8 +0.2**
baz=278
SPIA Saint Paul Isl 38.36 49 P **P** **04 28 52.3 +1.7**
ULHL Ulahol 38.45 286 P **P** **04 28 52.9 +1.1**
SNR=102
BOOM Boomskoye usch 38.56 286 P **P** **04 28 53.7 +0.9**
BOOM ScP **ScP** **04 33 40.9 -0.9**
TKM2 Tokmak 2 38.63 287 P **P** **04 28 54.9 +1.6**
SNR=468
TKM2 Tokmak 2 38.63 287 P **P** **04 28 54.7 +1.4**
GUN Gumba 38.78 259 *e*P **P** **04 28 55.7 +0.8**
comp=Z,543nm,0.4s
BTLS Baital 38.91 291*d i*P **P** **04 28 55.6 +0.3**
BTLS pmax pmax
comp=Z,250nm,1.2s
BTLS Baital 38.91 291⇓*i*P **P** **04 28 55.7 +0.4**
comp=Z,250nm,1.2s,baz=290
BVAR Borovoye Array 38.97 304 P **P** **04 28 56.2 +0.5**
comp=Z,195nm,0.5s,baz=77,slow=6.4,SNR=1374
BVAR PP **PcP** **04 30 48.9 -1.6**
comp=Z,30nm,0.5s,baz=110,slow=6.5,SNR=3.9
BVAR ScP **ScP** **04 33 42.6 -0.4**
comp=Z,69nm,0.7s,baz=156,slow=4.7,SNR=12
BVAR ScS **ScS** **04 37 55.4 -1.0**
comp=Z,11nm,0.8s,baz=134,slow=11,SNR=5.2
TNA Tin City 38.99 36 P **P** **04 28 56.4 +0.8**
TNA IAmb IAmb 04 28 58.8
comp=Z,158nm,1.0s
TNA Tin City 38.99 36 P **P** **04 28 56.8 +1.3**
baz=269,SNR=100
TNA S **S** **04 34 13.8 +1.1**
baz=269
OTUK Ortayu 39.00 296 P **P** **04 28 56.6 +0.6**
BRVK Borovoye 39.02 304*de*P **P** **04 28 56.4 +0.3**
BRVK pmax pmax
comp=Z,562nm,1.0s
BRVK Borovoye 39.02 304 P **P** **04 28 56.7 +0.6**
BRVK P **P** **04 28 56.7 +0.6**
BRVK Borovoye 39.02 304 P **P** **04 28 56.7 +0.6**
BRVK ScP **ScP** **04 33 42.4 -0.8**
BRVK Borovoye 39.02 304 *e*P **P** **04 28 56.4 +0.3**
BRVK Borovoye 39.02 304 P **P** **04 28 56.6 +0.5**

SGDS	**Sogindy**	**39.09 288**	*e*P	**P**	**04 28 57.6 +0.8**
SGDS			pmax	pmax	
	comp=Z,341nm,1.2s				
SGDS	**Sogindy**	**39.09 288**	‖*i*P	**P**	**04 28 57.7 +0.8**
	comp=Z,341nm,1.2s,baz=288				
SGDS			*e*S	**S**	**04 34 16.8 +1.9**
	baz=288				
KBK	**Karagaybulak**	**39.17 287**	P	**P**	**04 28 59.1 +1.4**
	SNR=192				
CHMS	**Chumysh**	**39.18 287**	P	**P**	**04 28 58.4 +0.9**
	SNR=136				
USP	**Ospenovka**	**39.25 288**	P	**P**	**04 28 59.0 +1.0**
	SNR=192				
KKN	**Kakani**	**39.28 260**	*e*P	**P**	**04 28 59.6 +0.9**
PKI	**Pulchoki**	**39.32 259**	*e*P	**P**	**04 28 59.9 +0.7**
PKIN	**Phulchoki**	**39.33 259**	*e*P	**P**	**04 28 59.8 +0.6**
AAK	**Ala-Archa**	**39.49 287**	P	**P**	**04 29 01.2 +1.0**
	comp=Z,158nm,0.3s,baz=113,slow=4.3,SNR=639				
AAK			PP	**PcP**	**04 30 51.7 -0.8**
	comp=Z,119nm,1.0s,baz=72,slow=12,SNR=12				
AAK			ScP	**ScP**	**04 33 44.7 -0.8**
	comp=Z,75nm,0.9s,baz=199,slow=2.7,SNR=9.8				
AAK	**Ala-Archa**	**39.49 287**	P	**P**	**04 29 01.3 +1.0**
	SNR=347				
AAK	**Ala-Archa**	**39.49 287**	*de*P	**P**	**04 29 00.9 +0.8**
AAK			pmax	pmax	
	comp=Z,2μm,1.3s				
AAK	**Ala-Archa**	**39.49 287**	P	**P**	**04 29 01.1 +0.9**
AAK			P	**P**	**04 29 01.1 +0.9**
AAK	**Ala-Archa**	**39.49 287**	P	**P**	**04 29 00.9 +0.8**
AAK			ScP	**ScP**	**04 33 44.2 -1.3**
AAK	**Ala-Archa**	**39.49 287**	*e*P	**P**	**04 29 00.9 +0.8**
AAK	**Ala-Archa**	**39.49 287**	P	**P**	**04 29 01.1 +1.0**
AAK			pP	**PcP**	**04 30 51.7 -0.8**
AAK	**Ala-Archa**	**39.49 287**	*i*P	**P**	**04 29 01.2 +1.0**
	SNR=409				
DMN	**Daman**	**39.51 260**	*e*P	**P**	**04 29 01.5 +0.9**
GKN	**Gorkha**	**39.60 261**	*e*P	**P**	**04 29 02.0 +0.8**
	comp=Z,615nm,0.4s				
UCH	**Uchtor**	**39.64 286**	P	**P**	**04 29 03.0 +1.3**
	SNR=192				
KSH	**Kashi**	**39.75 282**	P	P	04 29 07.4 +5.1
KSH			PP	**PcP**	**04 30 56.9 +3.5**
KSH			ScP	**ScP**	**04 33 48.7 +2.2**
KSH			S	**S**	**04 34 33.3 +8.5**
KSH			ScS	**ScS**	**04 38 04.1 +2.2**
KSH			pmax	pmax	
	comp=Z,370nm,1.2s				
KSH			pmax	pmax	
	comp=Z,2μm,2.8s				
NIKH	**Nikolski High**	**39.92 56**	P	**P**	**04 29 02.2 -1.0**
	baz=284,SNR=6.7				
EKS2	**Erkin-Say**	**39.97 287**	P	**P**	**04 29 04.9 +1.0**
	SNR=331				
DANN	**Dangsing**	**40.01 262**	*e*P	**P**	**04 29 06.2 +1.6**
	comp=Z,1μm,0.5s				
ANM	**Nome**	**40.09 37**	IAmb	IAmb	04 29 07.4
	comp=Z,145nm,0.8s				
ANM	**Nome**	**40.09 37**	P	**P**	**04 29 06.1 +1.7**
	baz=273,SNR=120				
ANM			S	**S**	**04 34 31.5 +2.9**
	baz=273				
AML	**Almayashu**	**40.23 287**	P	**P**	**04 29 07.7 +1.3**
	SNR=370				
AML	**Almayashu**	**40.23 287**	P	**P**	**04 29 07.7 +1.3**
AML	**Almayashu**	**40.23 287**	*i*P	**P**	**04 29 07.6 +1.2**
	SNR=217				
KKM	**Kota Kinabalu**	**40.44 201**	P	**P**	**04 29 08.0 0.0**
KKM			IAmb	IAmb	04 29 10.2
	comp=Z,172nm,0.6s				
KKM	**Kota Kinabalu**	**40.44 201**	P	**P**	**04 29 09.1 +1.1**
KOLN	**Koldanda**	**40.47 261**	*e*P	**P**	**04 29 09.5 +1.3**
PYUN	**Piuthan**	**40.70 262**	*e*P	**P**	**04 29 11.5 +1.5**
MYLDM	**Lahad Datu**	**40.73 198**	P	**P**	**04 29 11.5 +1.3**
MYLDM			IAmb	IAmb	04 29 12.9
	comp=Z,161nm,1.0s				
RDOG	**Red Dog Mine**	**40.98 32**	P	P	04 29 22.1 +11
	baz=271,SNR=157				
RDOG			S	S	04 34 51.1 +10
	baz=271				
UNV	**Unalaska Valle**	**41.08 54**	IAmb	IAmb	04 29 12.2
	comp=Z,187nm,1.4s				
UNV	**Unalaska Valle**	**41.08 54**	P	**P**	**04 29 11.7 -0.6**
	baz=284				
SGSI	**Sangihe**	**41.14 187**	P	P	04 29 20.3 +6.9
BOK	**Bokaro**	**41.40 255**	‖*i*P	**P**	**04 29 15.7 +0.3**
BOK			IAmb	IAmb	04 29 16.9
	comp=Z,138nm,0.7s				
DZA	**Taraz**	**41.53 289**	*i*P	**P**	**04 29 17.2 +1.0**
DZA	**Taraz**	**41.53 289**	*i*P	**P**	**04 29 17.3 +1.0**
	baz=288				
SPMM	**Sapulut**	**41.66 200**	P	**P**	**04 29 18.0 +0.5**
KKAR	**Karatay Array**	**42.00 289**	P	**P**	**04 29 20.3 +0.5**
KKAR	**Karatay Array**	**42.00 289**	P	**P**	**04 29 20.3 +0.5**
BRLS	**Borolday**	**42.48 290**	*i*P	**P**	**04 29 25.7 +2.1**
BRLS			*i*S	**S**	**04 35 08.2 +4.5**
BRLS			pmax	pmax	
	comp=Z,147nm,1.4s				
BRLS	**Borolday**	**42.48 290**	*i*P	**P**	**04 29 25.8 +2.1**
	comp=Z,147nm,1.4s,baz=289				
BRLS			*i*S	**S**	**04 35 08.3 +4.5**
	baz=289				
FALS	**False Pass**	**42.57 52**	IAmb	IAmb	04 29 30.4
	comp=Z,165nm,0.5s				
FALS	**False Pass**	**42.57 52**	P	**P**	**04 29 23.6 -0.4**
	baz=285				
FALS	**False Pass**	**42.57 52**	P	**P**	**04 29 24.9 +0.9**
DRK	**Karamyk**	**42.66 284**	IAmb	IAmb	04 29 27.6
	comp=Z,318nm,0.9s				
IUG	**Iuzhnay**	**42.71 288**	*d*iP	**P**	**04 29 26.6 +1.1**
IUG			*i*S	**S**	**04 35 09.6 +2.4**
IUG	**Iuzhnay**	**42.71 288**	‖*i*P	**P**	**04 29 26.7 +1.2**
	baz=288				
IUG			*i*S	**S**	**04 35 09.7 +2.4**
	baz=288				
A21K	**Barrow**	**43.08 27**	P	**P**	**04 29 29.2 +1.4**
	baz=273,SNR=135				
A21K			S	**S**	**04 35 11.8 +0.5**
	baz=273				
SMLA	**Simla**	**43.08 270**	‖*i*P	**P**	**04 29 29.0 +0.6**
SMLA			IAmb	IAmb	04 29 30.4
	comp=Z,893nm,0.8s				
DHRM	**DHARAMSHALA**	**43.09 272**	‖*i*P	**P**	**04 29 29.0 +0.3**
DHRM			IAmb	IAmb	04 29 31.2
	comp=Z,327nm,0.7s				
DHRM			*i*pP	**PP**	**04 31 25.4 +3.9**
SVE	**Sverdlovsk**	**43.54 312**	*c i*P	**P**	**04 29 32.6 +1.0**
SVE			*e*S	**S**	**04 35 18.9 +0.6**
SVE			pmax	pmax	
	comp=Z,1μm,1.2s				
TAS	**Tashkent**	**43.56 288**	P	**P**	**04 29 33.0 +1.0**
TAS			pmax	pmax	
	comp=Z,664nm,1.1s				
TAS	**Tashkent**	**43.56 288**	P	**P**	**04 29 33.0 +1.0**
GCSA	**Galena City Sc**	**43.70 36**	P	**P**	**04 29 33.8 +1.2**
	baz=280,SNR=19				
TNTI	**Ternate**	**43.91 184**	P	**P**	**04 29 34.7 -0.3**
	comp=Z,3μmcomp=Z,198nm,1.3s				
TNTI	**Ternate**	**43.91 184**	IAmb	IAmb	04 29 38.0
	comp=Z,230nm,1.1s				
TNTI	**Ternate**	**43.91 184**	P	**P**	**04 29 35.3 +0.3**
SDPT	**Sand Point**	**44.06 50**	P	**P**	**04 29 35.4 -0.1**
	baz=287				
TOLI2	**Tolitoli**	**44.27 193**	P	**P**	**04 29 37.4 -0.3**
TOLI2			IAmb	IAmb	04 29 38.6
	comp=Z,210nm,1.0s				
TOLI2	**Tolitoli**	**44.27 193**	P	**P**	**04 29 38.1 +0.4**
KMSI	**Cibinong**	**44.37 189**	P	**P**	**04 29 38.5 +0.1**
	comp=Z,4μmcomp=Z,266nm,0.7s				
GTOI	**Gorontalo**	**44.42 190**	P	**P**	**04 29 37.6 -1.2**
	comp=Z,976nmcomp=Z,55nm,1.2s				
TTA	**Tatalina**	**44.42 39**	P	**P**	**04 29 39.1 +0.7**
TTA			pmax	pmax	
	comp=Z,187nm,1.1s				
TTA	**Tatalina**	**44.42 39**	P	**P**	**04 29 39.0 +0.7**
TTA			IAmb	IAmb	04 29 41.1
	comp=Z,187nm,1.1s				
TTA	**Tatalina**	**44.42 39**	P	**P**	**04 29 39.9 +1.5**
	baz=282,SNR=40				
NIL	**Nilore**	**44.50 276**	P	**P**	**04 29 40.1 +0.8**
NIL			pmax	pmax	
	comp=Z,667nm,1.1s				
NIL	**Nilore**	**44.50 276**	P	**P**	**04 29 40.1 +0.8**
NIL	**Nilore**	**44.50 276**	P	**P**	**04 29 40.5 +1.1**
SRIT	**Nakonsritamara**	**44.63 225**	P	**P**	**04 29 41.5 +1.0**
SRIT			IAmb	IAmb	04 29 43.3
	comp=Z,292nm,1.1s				
MIDW	**Midway**	**44.66 93**	P	**P**	**04 29 41.4 +0.9**
MIDW			IAmb	IAmb	04 29 42.7
	comp=Z,204nm,0.8s				
MIDW	**Midway**	**44.66 93**	P	**P**	**04 29 42.5 +2.0**
	comp=Z,360nm,1.0s				
CHNA	**Chernabura Isl**	**44.70 51**	P	**P**	**04 29 40.4 -0.1**
	baz=288,SNR=12				
CNBA	**Chernabura Isl**	**44.71 51**	IAmb	IAmb	04 29 42.4
	comp=Z,426nm,1.3s				
MRSI	**Marisa**	**44.72 191**	P	**P**	**04 29 40.9 -0.2**
	comp=Z,6μmcomp=Z,596nm,1.2s				
ARU	**Arti**	**44.76 312**	ScP	**ScP**	**04 34 04.9 -1.4**
	baz=0.0,slow=6.1				
ARU	**Arti**	**44.76 312**	*d i*P	**P**	**04 29 41.4 +0.5**
ARU					04 31 10.5
ARU			*PP	**pP**	**04 31 23.9 -1.5**
ARU					04 31 35.3
ARU			*SP	**sP**	**04 32 31.2 -0.1**
ARU			S	**S**	**04 35 36.1 +0.7**
ARU					04 38 28.2
ARU			*SS	**sS**	**04 38 40.0 -5.5**
ARU			SS	**SS**	**04 39 07.0 -0.8**
ARU			pmax	pmax	
	comp=Z,1μm,1.0s				
ARU	**Arti**	**44.76 312**	P	**P**	**04 29 41.5 +0.5**
ARU	**Arti**	**44.76 312**	*e*P	**P**	**04 29 41.2 +0.3**
ARU	**Arti**	**44.76 312**	P	**P**	**04 29 41.2 +0.3**
IMAR	**Indian Mountai**	**44.77 34**	P	**P**	**04 29 41.4 +0.5**
IMAR			PcP	**PcP**	**04 31 11.4 +1.7**
IMAR			ScP	**ScP**	**04 34 07.2 +1.1**
CHGN	**Chignik**	**44.91 49**	P	**P**	**04 29 41.3 -0.7**
	baz=287				
J20K	**Nowinta River**	**44.97 37**	PcP	**PcP**	**04 31 11.6 +1.1**
J20K			ScP	**ScP**	**04 34 07.9 +0.9**
J20K	**Nowinta River**	**44.97 37**	P	**P**	**04 29 44.5 +2.1**
	baz=282				
J20K			S	**S**	**04 35 39.2 +1.0**
	baz=282				
SBUM	**Sibu**	**45.00 206**	P	**P**	**04 29 44.3 +1.1**
SBUM			IAmb	IAmb	04 29 46.0
	comp=Z,107nm,0.8s				
PATS	**Pohnpei**	**45.16 138**	P	**P**	**04 29 45.3 +0.8**
PATS			IAmb	IAmb	04 29 46.4
	comp=Z,250nm,0.7s				
PATS	**Pohnpei**	**45.16 138**	P	**P**	**04 29 46.1 +1.6**
MPSI	**Mapaga**	**45.18 194**	P	**P**	**04 29 44.8 +0.2**
	comp=Z,3μmcomp=Z,182nm,1.3s				
K20K	**Telida**	**45.19 38**	P	**P**	**04 29 46.3 +2.2**
	baz=283				
K20K			S	**S**	**04 35 44.2 +2.9**
	baz=283				
H21K	**Melozitna Rive**	**45.22 35**	IAmb	IAmb	04 29 47.7
	comp=Z,416nm,1.4s				
H21K	**Melozitna Rive**	**45.22 35**	P	**P**	**04 29 45.8 +1.5**
	baz=282				
H21K			S	**S**	**04 35 42.9 +1.2**
	baz=282				
LBMI	**Labuha**	**45.30 183**	P	**P**	**04 29 45.7 +0.1**
	comp=Z,3μmcomp=Z,2μmcomp=Z,173nm,1.2s				
L20K	**Farewell, AK**	**45.48 39**	P	**P**	**04 29 48.5 +2.1**
	baz=284				
SWI	**Sorong**	**45.49 178**	P	**P**	**04 29 47.1 +0.1**
	comp=Z,3μmcomp=Z,230nm,1.3s				
N19K	**Bonanza Creek**	**45.63 42**	P	**P**	**04 29 48.6 +1.0**
N19K			IAmb	IAmb	04 29 51.1
	comp=Z,117nm,0.9s				
N19K			PcP	**PcP**	**04 31 14.8 +1.7**
N19K			ScP	**ScP**	**04 34 10.8 +0.8**
N19K	**Bonanza Creek**	**45.63 42**	P	**P**	**04 29 49.7 +2.1**
	baz=285				
I21K	**Tanana**	**45.66 35**	P	**P**	**04 29 49.4 +1.8**
	baz=283				
I21K			S	**S**	**04 35 49.0 +1.3**
	baz=283				
P18K	**Big Mountain,**	**45.66 44**	IAmb	IAmb	04 29 50.8
	comp=Z,197nm,0.9s				
P18K	**Big Mountain,**	**45.66 44**	P	**P**	**04 29 49.5 +1.8**
	baz=286				
CHUM	**Lake Minchumin**	**45.82 37**	P	**P**	**04 29 51.2 +2.3**
	baz=284,SNR=117				
CHUM			S	**S**	**04 35 50.5 +0.5**
	baz=284				
TOLK	**Toolik Lake Re**	**45.83 30**	P	**P**	**04 29 50.0 +1.0**
TOLK			IAmb	IAmb	04 29 51.7
	comp=Z,126nm,0.5s				
TOLK			PcP	**PcP**	**04 31 14.7 +1.1**
TOLK			ScP	**ScP**	**04 34 10.9 +0.3**
TOLK	**Toolik Lake Re**	**45.83 30**	P	**P**	**04 29 50.3 +1.3**
	baz=282,SNR=126				
TOLK			S	**S**	**04 35 50.5 +0.3**
	baz=282				
O19K	**Port Alsworth**	**45.88 42**	IAmb	IAmb	04 29 52.5
	comp=Z,189nm,1.1s				
O19K	**Port Alsworth**	**45.88 42**	P	**P**	**04 29 51.2 +1.9**
	baz=286,SNR=16				
COLD	**Coldfoot**	**45.90 32**	IAmb	IAmb	04 29 52.2
	comp=Z,276nm,1.4s				
COLD	**Coldfoot**	**45.90 32**	P	**P**	**04 29 50.8 +1.4**
	baz=283,SNR=119				
COLD			S	**S**	**04 35 50.8 -0.3**
	baz=283				
CAST	**Castle Rocks**	**46.04 38**	P	**P**	**04 29 52.0 +1.4**
CAST	**Castle Rocks**	**46.04 38**	P	**P**	**04 29 52.6 +2.0**
	baz=285,SNR=198				
CAST			S	**S**	**04 35 54.7 +1.5**
	baz=285				
LUWI	**Luwuk**	**46.10 190**	P	**P**	**04 29 49.8 -1.8**
	comp=Z,5μmcomp=Z,198nm,1.2s				
LUWI	**Luwuk**	**46.10 190**	P	**P**	**04 29 49.3 -2.3**
LUWI			IAmb	IAmb	04 29 50.5
	comp=Z,388nm,1.3s				
LUWI	**Luwuk**	**46.10 190**	P	**P**	**04 29 52.4 +0.8**
APSI	**Ampana**	**46.12 192**	P	**P**	**04 29 51.8 0.0**
	comp=Z,4μmcomp=Z,291nm,1.4s				
PPLA	**Purkeypile**	**46.13 38**	IAmb	IAmb	04 29 55.0
	comp=Z,312nm,1.0s				
PPLA	**Purkeypile**	**46.13 38**	P	**P**	**04 29 53.7 +2.3**
	baz=285,SNR=54				
PPLA			S	**S**	**04 35 57.0 +2.3**
	baz=285				
MLY	**Manley**	**46.20 35**	IAmb	IAmb	04 29 55.0
	comp=Z,158nm,1.1s				
MLY	**Manley**	**46.20 35**	P	**P**	**04 29 53.7 +1.9**
	baz=284				
MLY			S	**S**	**04 35 57.2 +1.8**
	baz=284				
BPAW	**Bear Paw Mtn.**	**46.34 37**	IAmb	IAmb	04 29 57.4
	comp=Z,213nm,1.2s				
BPAW	**Bear Paw Mtn.**	**46.34 37**	P	**P**	**04 29 54.7 +1.9**
	baz=285,SNR=53				
BPAW			S	**S**	**04 35 59.1 +1.8**
	baz=285				
AB31	**Akbulak array**	**46.38 302**	*e*P	**P**	**04 29 53.9 +0.6**
ABKAR	**Akbulak array**	**46.38 302**	P	**P**	**04 29 54.0 +0.7**
SMKI	**Samarinda**	**46.47 198**	P	**P**	**04 29 56.4 +2.0**
	comp=Z,12μmcomp=Z,414nm,1.4s				
KSM	**Kuching**	**46.53 208**	P	**P**	**04 29 55.3 +0.5**
KSM	**Kuching**	**46.53 208**	P	**P**	**04 29 56.0 +1.2**
KSM	**Kuching**	**46.53 208**	P	**P**	**04 29 56.1 +1.2**
Q19K	**Cape Douglas,**	**46.58 44**	P	**P**	**04 29 55.6 +0.9**
	baz=288				
O20K	**Slope Mountain**	**46.72 42**	P	**P**	**04 29 57.1 +1.3**
	baz=288,SNR=5.4				
I23K	**Minto, Yukon-K**	**46.74 35**	P	**P**	**04 29 56.7 +0.9**
I23K			IAmb	IAmb	04 29 59.0
	comp=Z,227nm,0.7s				
I23K			PcP	**PcP**	**04 31 17.9 +1.2**
I23K			ScP	**ScP**	**04 34 15.3 +0.9**
I23K	**Minto, Yukon-K**	**46.74 35**	P	**P**	**04 29 57.8 +2.0**
	baz=285,SNR=184				
SANI	**Sanana**	**46.79 185**	P	**P**	**04 29 55.1 -1.7**
	comp=Z,3μmcomp=Z,3μmcomp=Z,243nm,1.3s				
SANI	**Sanana**	**46.79 185**	P	**P**	**04 29 55.8 -1.0**
TRF	**Thorofare Moun**	**46.81 37**	IAmb	IAmb	04 30 02.0
	comp=Z,123nm,1.0s				
TRF	**Thorofare Moun**	**46.81 37**	P	**P**	**04 29 57.9 +1.4**
	baz=286,SNR=62				
TRF			S	**S**	**04 36 05.7 +1.6**
	baz=286				
SRPI	**Serui, Papua**	**46.81 171**	P	**P**	**04 29 58.0 +1.0**
	comp=Z,260nm,1.2s				
KULM	**Kulim**	**46.97 222**	P	**P**	**04 29 58.4 +0.2**
KULM	**Kulim**	**46.97 222**	P	**P**	**04 30 00.0 +1.8**
KBL	**Kabul**	**47.00 279**	P	**P**	**04 29 58.1 -0.4**
KBL			pmax	pmax	
	comp=Z,565nm,1.2s				
KBL	**Kabul**	**47.00 279**	P	**P**	**04 29 57.9 -0.6**
	SNR=179				
KBL			P	**P**	**04 29 57.9 -0.6**
	SNR=179				
KBL	**Kabul**	**47.00 279**	P	**P**	**04 29 58.1 -0.4**
KBL	**Kabul**	**47.00 279**	P	**P**	**04 29 58.0 -0.6**
NEA2	**Nenana**	**47.01 36**	P	**P**	**04 29 59.5 +1.6**
	baz=286,SNR=70				
AKTO	**Aktyubinsk**	**47.08 304**	ScP	**ScP**	**04 34 14.7 -1.4**
	comp=Z,18nm,0.7s,baz=118,slow=5.3,SNR=3.1				
CUT	**Chulitna**	**47.12 39**	P	**P**	**04 29 59.9 +1.3**
	baz=287,SNR=31				
CUT			S	**S**	**04 36 06.9 -1.1**
	baz=287				
H24K	**Noodor Dome**	**47.15 34**	IAmb	IAmb	04 30 02.3
	comp=Z,113nm,0.7s				
H24K	**Noodor Dome**	**47.15 34**	P	**P**	**04 30 01.1 +2.1**
	baz=286				
H24K			S	**S**	**04 36 09.0 +0.5**
	baz=286				
CAPN	**Captain Cook N**	**47.21 41**	P	**P**	**04 30 01.5 +2.2**
	baz=288				
MDM	**Murphy Dome**	**47.25 35**	IAmb	IAmb	04 30 03.3
	comp=Z,352nm,1.2s				
OHAK	**Old Harbor**	**47.30 46**	IAmb	IAmb	04 30 02.2
	comp=Z,294nm,1.0s				
OHAK	**Old Harbor**	**47.30 46**	P	**P**	**04 30 00.8 +0.8**
	baz=290,SNR=13				
MCK	**McKinley**	**47.31 37**	P	**P**	**04 30 01.2 +1.0**
	baz=287,SNR=135				
MCK			S	**S**	**04 36 11.1 +0.3**
	baz=287				
HOM	**Homer**	**47.32 43**	P	**P**	**04 30 00.8 +0.5**
	baz=289				
HOM			S	**S**	**04 36 12.3 +1.4**
	baz=289				
BKB	**Balikpapan**	**47.32 198**	P	**P**	**04 30 02.5 +1.7**
	comp=Z,6μmcomp=Z,468nm,1.2s				
BKB	**Balikpapan**	**47.32 198**	P	**P**	**04 30 00.8 -0.1**
BKB	**Balikpapan**	**47.32 198**	P	**P**	**04 30 02.0 +1.2**
JRMM	**Jerantut**	**47.37 219**	P	**P**	**04 30 02.0 +0.8**
M22K	**Willow**	**47.38 40**	P	**P**	**04 30 01.2 +0.6**
	baz=288,SNR=16				
M22K			S	**S**	**04 36 13.0 +1.4**
	baz=288				
TCOL	**CIGO, UAF Yank**	**47.43 35**	P	**P**	**04 30 02.7 +1.8**
	baz=287,SNR=104				
TCOL			S	**S**	**04 36 14.7 +2.5**
	baz=287				
COLA	**College**	**47.43 35**	*c i*P	**P**	**04 30 02.5 +1.6**
COLA			pmax	pmax	
	comp=Z,770nm,1.6s				
COLA	**College**	**47.43 35**	P	**P**	**04 30 02.3 +1.4**
COLA	**College**	**47.43 35**	P	**P**	**04 30 02.8 +1.9**
	baz=287				
COLA			S	**S**	**04 36 16.6 +4.4**
	baz=287				
COLA	**College**	**47.43 35**	P	**P**	**04 30 02.8 +1.9**
KDAK	**Kodiak Island**	**47.47 45**	P	**P**	**04 30 02.1 +0.8**
KDAK			pmax	pmax	
	comp=Z,238nm,0.8s				
KDAK	**Kodiak Island**	**47.47 45**	P	**P**	**04 30 02.1 +0.8**
KDAK			IAmb	IAmb	04 30 03.8
	comp=Z,238nm,0.8s				
KDAK	**Kodiak Island**	**47.47 45**	P	**P**	**04 30 02.1 +0.8**
	baz=290				
STKI	**Sintang**	**47.48 205**	P	**P**	**04 30 03.4 +1.4**
	comp=Z,8μmcomp=Z,202nm,1.5s				
MTKI	**Muara Teweh, K**	**47.49 201**	P	**P**	**04 30 02.6 +0.5**
	comp=Z,286nm,1.3s				
IPM	**Ipoh**	**47.51 221**	P	**P**	**04 30 02.6 +0.3**
IPM			IAmb	IAmb	04 30 04.0
	comp=Z,498nm,1.4s				
IPM			PcP	**PcP**	**04 31 20.8 +0.4**
IPM			pP	**pP**	**04 31 48.2 -0.7**
IPM			ScP	**ScP**	**04 34 18.2 -0.3**
IPM	**Ipoh**	**47.51 221**	P	**P**	**04 30 03.0 +0.8**
IPM	**Ipoh**	**47.51 221**	P	**P**	**04 30 03.0 +0.8**
POKR	**Poker Plat Res**	**47.53 35**	P	**P**	**04 30 03.7 +2.0**
	baz=287,SNR=142				
POKR			S	**S**	**04 36 14.9 +1.2**
	baz=287				
CNPM	**China Poot**	**47.56 43**	P	**P**	**04 30 02.3 +0.2**
CNPM			IAmb	IAmb	04 30 05.0
	comp=Z,188nm,0.6s				
FAKI	**Fak Fak**	**47.56 177**	P	**P**	**04 30 02.6 0.0**
	comp=Z,3μmcomp=Z,163nm,1.9s				
FAKI	**Fak Fak**	**47.56 177**	P	**P**	**04 30 02.1 -0.5**
FAKI			IAmb	IAmb	04 30 03.2
	comp=Z,86nm,0.7s				
FAKI			PcP	**PcP**	**04 31 20.7 +0.2**
FAKI			ScP	**ScP**	**04 34 17.9 -0.7**
FAKI	**Fak Fak**	**47.56 177**	P	**P**	**04 30 02.8 +0.2**
BHPL	**Bhopal**	**47.64 261**	‖*i*P	**P**	**04 30 03.3 +0.1**
BHPL			IAmb	IAmb	04 30 05.0
	comp=Z,444nm,1.2s				
BHPL			*i* x	x	04 34 16.6
BRLK	**Bradley Lake**	**47.65 42**	IAmb	IAmb	04 30 06.9
	comp=Z,101nm,0.7s				
BRSE	**Bradley Lake S**	**47.73 42**	P	**P**	**04 30 03.8 +0.5**
	baz=289				
BRSE			S	**S**	**04 36 14.3 -2.3**
	baz=289				
RC01	**Rabbit Creek A**	**47.76 40**	IAmb	IAmb	04 30 05.8
	comp=Z,392nm,1.2s				
RC01	**Rabbit Creek A**	**47.76 40**	P	**P**	**04 30 04.5 +1.0**
	baz=289,SNR=28				
RC01			S	**S**	**04 36 14.2 -2.8**
	baz=289				
ILAR	**Eielson Array**	**47.85 35**	P	**P**	**04 30 05.0 +0.9**
	comp=Z,163nm,0.4s,baz=291,slow=8.2,SNR=1519				
ILAR			PcP	**PcP**	**04 31 20.5 -0.4**
	comp=Z,8.7nm,0.6s,baz=286,slow=4.7,SNR=4.5				
ILAR			pP	**pP**	**04 31 50.6 -0.1**
	comp=Z,40nm,0.8s,baz=284,slow=8.6,SNR=10				
ILAR			ScP	**ScP**	**04 34 18.2 -1.0**
	comp=Z,9.9nm,0.8s,baz=284,slow=4.6,SNR=5.1				
ILAR			S	**S**	**04 36 19.4 +1.2**
	comp=Z,14nm,1.1s,baz=276,slow=9.9,SNR=9.3				
ILAR			PKPPKP	**P'P'df**	**05 01 05.8 +1.7**
	comp=Z,1.5nm,1.0s,baz=124,slow=4.7,SNR=5.5				
ILAR			P4KPbc		05 07 33.5
	comp=Z,0.5nm,1.0s,baz=283,slow=4.9,SNR=4.3				
ILAR	**Eielson Array**	**47.85 35**	P	**P**	**04 30 04.7 +0.6**
PMR	**Palmer**	**47.88 40**	IAmb	IAmb	04 30 06.6
	comp=Z,297nm,1.2s				
PMR	**Palmer**	**47.88 40**	P	**P**	**04 30 05.1 +0.8**
	baz=289,SNR=31				
PMR			S	**S**	**04 36 19.5 +1.0**
	baz=289				
HDA	**Harding Lake**	**47.94 36**	P	**P**	**04 30 05.6 +0.8**
	baz=288				
HDA			S	**S**	**04 36 18.5 -0.8**
	baz=288				
HDA			S	**S**	**04 36 18.5 -0.8**
	baz=288				
MSAI	**Masohi**	**47.95 181**	P	**P**	**04 30 06.8 +1.3**
	comp=Z,899nmcomp=Z,73nm,0.5s				
BMAR	**Burnt Mountain**	**47.95 31**	P	**P**	**04 30 06.4 +1.5**
BMAR			PcP	**PcP**	**04 31 22.9 +1.6**
BMAR			ScP	**ScP**	**04 34 21.3 +1.7**
GENI	**Genyem**	**48.06 166**	P	**P**	**04 30 09.9 +3.6**
	comp=Z,4μmcomp=Z,82nm,1.2s				
GENI	**Genyem**	**48.06 166**	P	**P**	**04 30 08.5 +2.2**
JAY	**Jayapura**	**48.08 166**	P	**P**	**04 30 07.6 +1.1**
	comp=Z,1μmcomp=Z,85nm,1.5s				
SML	**Sawmill**	**48.17 39**	P	**P**	**04 30 07.9 +1.3**
	baz=289,SNR=48				
SML			S	**S**	**04 36 23.9 +1.2**
	baz=289				
PRP	**Porcupine Dome**	**48.17 34**	P	**P**	**04 30 08.7 +2.0**
	baz=288,SNR=167				
PRP			S

KNK	Knik Glacier	48.24	40	P	P	04 30 08.5	+1.4
	baz=289,SNR=41						
KNK				S	S	04 36 23.0	-0.6
	baz=289						
AAI	Ambon	48.31	182	P	P	04 30 08.7	+0.6
	comp=Z,4μmcomp=Z,316nm,1.4s						
PWL	Port Wells	48.49	40	IAmb	IAmb	04 30 11.0	
	comp=Z,267nm,0.9s						
PWL	Port Wells	48.49	40	P	P	04 30 09.9	+1.0
	baz=290,SNR=37						
TTSI	Tana Toraja	48.50	194	P	P	04 30 09.3	-0.2
	comp=Z,2μmcomp=Z,104nm,2.0s						
SCM	Sheep Creek Mo	48.61	39	P	P	04 30 11.5	+1.7
	baz=290,SNR=72						
SCM				S	S	04 36 28.5	-0.2
	baz=290						
MYKOM	Kota Tinggi	48.65	216	P	P	04 30 11.3	+0.6
MYKOM				IAmb	IAmb	04 30 13.4	
	comp=Z,221nm,1.3s						
MYKOM	Kota Tinggi	48.65	216	P	P	04 30 12.0	+1.3
KIRV	Kirov	48.74	317	*d iP*	P	04 30 11.2	+0.5
PVM	Polavaram	48.77	252	*eP*	P	04 30 11.2	-0.3
M24K	Tolsona, Glenn	49.03	38	P	P	04 30 15.2	+2.2
	baz=290,SNR=68						
M24K				S	S	04 36 37.1	+2.8
	baz=290						
RIDG	Independent Ri	49.03	36	P	P	04 30 13.6	+0.7
	baz=290,SNR=225						
RIDG				S	S	04 36 34.4	0.0
	baz=290						
PAX	Paxson	49.03	37	P	P	04 30 13.2	+0.2
PAX				IAmb	IAmb	04 30 15.2	
	comp=Z,100nm,0.5s						
PAX				PcP	PcP	04 31 25.9	+0.6
PAX				ScP	ScP	04 34 25.2	+0.9
PAX	Paxson	49.03	37	P	P	04 30 13.8	+0.8
	baz=290,SNR=59						
PAX				S	S	04 36 35.5	+1.0
	baz=290						
BNDI	Bandanaira	49.11	180	P	P	04 30 14.2	+0.2
MANU	Manus Island	49.16	157	P	P	04 30 14.2	-0.2
MANU				IAmb	IAmb	04 30 15.9	
	comp=Z,101nm,0.8s						
TPRI	Tanjung Pinang	49.16	215	P	P	04 30 16.2	+1.7
	comp=Z,250nm,1.2s						
RPR	Rampur	49.24	255	*eP*	P	04 30 15.1	+0.1
J26L	Joseph Creek	49.30	35	P	P	04 30 15.2	+0.3
	baz=290,SNR=112						
J26L				S	S	04 36 38.8	+0.8
	baz=290						
SCRK	Sand Creek	49.31	35	IAmb	IAmb	04 30 16.9	
	comp=Z,303nm,1.0s						
SCRK	Sand Creek	49.31	35	P	P	04 30 15.7	+0.7
	baz=291,SNR=200						
SCRK				S	S	04 36 37.7	-0.5
	baz=291						
KLU	Klutina	49.36	39	IAmb	IAmb	04 30 18.1	
	comp=Z,167nm,1.0s						
KLU	Klutina	49.36	39	P	P	04 30 17.0	+1.6
	baz=291,SNR=39						
HARP	HAARP	49.37	38	P	P	04 30 17.4	+2.0
	baz=291,SNR=72						
SPSI	Sidrap Palu	49.41	193	P	P	04 30 14.9	-1.3
	comp=Z,1μmcomp=Z,52nm,0.8s						
PRGR	Permogore	49.41	321	*eP*	P	04 30 16.3	+0.7
PRGR				*eS*	S	04 36 38.7	-0.6
PRGR				pmax	pmax		
	comp=Z,3μm,0.9s						
KBKI	Kotabaru	49.46	198	P	P	04 30 16.3	-0.3
	comp=Z,3μmcomp=Z,310nm,1.2s						
TSI	Tuntungan	49.53	223	P	P	04 30 19.0	+1.8
	comp=Z,5μmcomp=Z,7μmcomp=Z,198nm,1.3s						
DIV	Divide	49.56	39	IAmb	IAmb	04 30 19.5	
	comp=Z,355nm,1.3s						
BNSI	Bone	49.78	193	P	P	04 30 18.4	-0.6
	comp=Z,2μmcomp=Z,174nm,1.3s						
EYAK	Cordova Ski Ar	49.78	40	IAmb	IAmb	04 30 21.4	
	comp=Z,314nm,1.1s						
EYAK	Cordova Ski Ar	49.78	40	P	P	04 30 20.3	+1.9
	baz=292,SNR=13						
MYLAV	Mylavaram	49.79	252	*eP*	P	04 30 16.2	-2.8
MENT	Mentasta	49.79	37	P	P	04 30 19.7	+1.3
MENT				ScP	ScP	04 34 29.1	+1.6
SRSP	Sriramsagar	49.85	256	*eP*	P	04 30 19.4	-0.2
N25K	Chitina, Valde	49.91	39	P	P	04 30 21.6	+2.2
	baz=292,SNR=78						
L26K	Log Cabin Wild	49.92	37	IAmb	IAmb	04 30 22.1	
	comp=Z,430nm,1.4s						
L26K	Log Cabin Wild	49.92	37	P	P	04 30 21.0	+1.6
	baz=292,SNR=73						
L26K				S	S	04 36 48.3	+2.0
	baz=292						
BBKI	Banjar Baru	49.93	200	P	P	04 30 20.1	+0.1
	comp=Z,6μmcomp=Z,226nm,1.2s						
PSI	Prapat	49.97	222	PcP	PcP	04 31 28.9	-0.7
	comp=Z,16nm,0.5s,baz=254,slow=7.4,SNR=5.1						
PSI				pP	pP	04 32 08.1	-0.7
	comp=Z,15nm,0.9s,baz=348,slow=3.3,SNR=2.7						
PSI				ScP	ScP	04 34 28.7	-0.4
	comp=Z,63nm,0.9s,baz=318,slow=2.9,SNR=21						
PSI	Prapat	49.97	222	P	P	04 30 20.2	-0.3
PSI						04 31 28.9	
PSI				*PP	pP	04 32 08.8	0.0
PSI				pmax	pmax		
	comp=Z,85nm,0.9s						
RPSI	Rantau Prapat	50.06	222	P	P	04 30 20.2	-0.8
RPSI				PcP	PcP	04 31 28.9	-0.8
RPSI				pP	pP	04 32 08.8	-0.7
RPSI				ScP	ScP	04 34 28.4	-0.9
BMRM	Bremner River	50.15	39	IAmb	IAmb	04 30 23.9	
	comp=Z,176nm,0.6s						
BMRM	Bremner River	50.15	39	P	P	04 30 22.8	+1.7
	baz=292,SNR=35						
EGAK	Eagle	50.16	34	IAmb	IAmb	04 30 24.1	
	comp=Z,208nm,0.7s						
EGAK	Eagle	50.16	34	P	P	04 30 22.3	+1.3
	baz=292,SNR=132						
EGAK				S	S	04 36 50.9	+1.5
	baz=292						
HOPEN	Hopen	50.24	343	‖ *iP*	P	04 30 23.5	+2.0
M26K	Nabesna, AK	50.30	37	IAmb	IAmb	04 30 26.7	
	comp=Z,398nm,1.3s						
M26K	Nabesna, AK	50.30	37	P	P	04 30 24.4	+2.1
	baz=293						
M26K				S	S	04 36 54.7	+3.1
	baz=293						
GLB	Gilahina Butte	50.32	39	IAmb	IAmb	04 30 26.5	
	comp=Z,427nm,1.4s						
DSRI	Dabo	50.42	214	P	P	04 30 25.6	+2.0
	comp=Z,2μmcomp=Z,143nm,1.4s						
TPTI		50.42	225	P	P	04 30 22.8	-0.9
	comp=Z,420ncomp=Z,36nm,1.2s						
KAPI	Kappang	50.44	193	P	P	04 30 23.3	-0.4
KAPI				pmax	pmax		
	comp=Z,317nm,1.5s						
KAPI	Kappang	50.44	193	P	P	04 30 23.3	-0.4
KAPI				IAmb	IAmb	04 30 27.1	
	comp=Z,317nm,1.4s						
KAPI	Kappang	50.44	193	P	P	04 30 23.3	-0.4
BBSI	Bau Bau	50.51	190	P	P	04 30 25.7	+1.4
	comp=Z,322nmcomp=Z,31nm,1.1s						
L27K	Beaver Creek,	50.55	36	IAmb	IAmb	04 30 27.4	
	comp=Z,94nm,0.6s						
L27K	Beaver Creek,	50.55	36	P	P	04 30 25.9	+1.9
	baz=293						
L27K				S	S	04 36 57.0	+2.2
	baz=293						
VRDI	Verde Repeater	50.56	39	IAmb	IAmb	04 30 27.3	
	comp=Z,165nm,0.6s						
CUPL	Choutuppal	50.58	254	*eP*	P	04 30 24.5	-0.3
KAIM	Kayak Island	50.64	41	P	P	04 30 26.6	+2.0
	baz=293						
BKSI	Bulukumba	50.68	193	P	P	04 30 24.8	-0.7
	comp=Z,3μmcomp=Z,121nm,1.1s						
MCARA	McCarthy VSAT	50.69	38	P	P	04 30 26.6	+1.6
MCARA				PcP	PcP	04 31 33.5	+2.1
MCARA				ScP	ScP	04 34 32.7	+1.3
MCARA	McCarthy VSAT	50.69	38	P	P	04 30 27.2	+2.2
	baz=293,SNR=99						
MCARA				S	S	04 36 55.9	-0.8
	baz=293						
HYB	Hyderabad	50.74	255	‖ *iP*	P	04 30 26.0	-0.1
HYB				IAmb	IAmb	04 30 28.3	
	comp=Z,34nm,0.5s						
HYBB	Hyderabad (bro	50.74	255	*eP*	P	04 30 26.3	+0.3
HYBB				*e*		04 30 27.4	
	baz=37,slow=6.5						
HYBB				IVmB_BB		04 30 28.0	
	comp=Z,390nm,1.1s						
HYBB				*e*PcP	PcP	04 31 32.0	-0.4
HYBB				*e*PP	PP	04 32 31.2	+0.6
HYBB				*e*sP	sP	04 33 17.9	-1.2
HYBB				*e*ScP	ScP	04 34 31.4	-0.9
HYBB				*e*S	S	04 36 57.7	-0.9
HYBB				*e*ScS	ScS	04 39 09.2	-5.0
HYBB				*e*SS	SS	04 40 46.9	+3.0
M27K	Edge Creek, AK	50.80	37	IAmb	IAmb	04 30 29.7	
	comp=Z,136nm,0.9s						
M27K	Edge Creek, AK	50.80	37	P	P	04 30 27.9	+2.0
	baz=293						
NJS	Nagarjunasagar	50.83	253	*eP*	P	04 30 24.5	-2.1
ADKI	Addanki	50.88	252	‖ *eP*	P	04 30 24.5	-2.5
ADKI				*eS*	S	04 37 00.6	+0.3
ADKI				*eS*	S	04 37 00.6	+0.3
I29M	Ogilvie Camp,	51.05	33	P	P	04 30 29.0	+1.5
	baz=294,SNR=68						
I29M				S	S	04 37 03.6	+2.3
	baz=294						
SPA0	Spitsbergen Ar	51.06	346	‖ *iP*	P	04 30 28.2	+0.8
SPB2	Spitsbergen Ar	51.06	346	IAmb	IAmb	04 30 29.5	
	comp=Z,238nm,1.1s						
SBSI	Sibolga	51.08	222	P	P	04 30 27.0	-1.4
	comp=Z,1μmcomp=Z,143nm,1.0s						
DAWY	Dawson	51.15	34	P	P	04 30 29.5	+1.2
	baz=294,SNR=93						
BKNI	Bangkinang	51.17	218	P	P	04 30 30.3	+1.2
	comp=Z,5μmcomp=Z,525nm,1.3s						
BKNI	Bangkinang	51.17	218	P	P	04 30 29.6	+0.5
BKNI	Bangkinang	51.17	218	P	P	04 30 30.3	+1.2
	comp=Z,526nm,1.3s						
BVCY	Beaver Creek	51.21	37	P	P	04 30 31.0	+2.2
	baz=294,SNR=39						
BVCY				S	S	04 37 03.2	-0.5
	baz=294						
LVZ	Lovozero	51.30	331	*deP*	P	04 30 29.1	-0.2
LVZ				pmax	pmax		
	comp=Z,444nm,1.7s						
LVZ	Lovozero	51.30	331	P	P	04 30 29.2	-0.1
LVZ				ScP	ScP	04 34 33.4	-0.6
LVZ	Lovozero	51.30	331	P	P	04 30 29.0	-0.4
ISLE	Juniper Island	51.31	39	IAmb	IAmb	04 30 32.3	
	comp=Z,260nm,1.2s						
KBS	Kingsbay	51.36	347	P	P	04 30 30.6	+1.1
KBS				pmax	pmax		
	comp=Z,168nm,0.8s						
KBS	Kingsbay	51.36	347	*i* P	P	04 30 29.5	0.0
KBS	Kingsbay	51.36	347	‖ *iP*	P	04 30 30.4	+0.9
KBS	Kingsbay	51.36	347	P	P	04 30 30.1	+0.6
KBS				IAmb	IAmb	04 30 31.9	
	comp=Z,172nm,0.8s						
KBS				ScP	ScP	04 34 34.4	+0.5
KBS	Kingsbay	51.36	347	P	P	04 30 30.7	+1.2
PPBI	Pangkal Pinang	51.37	211	P	P	04 30 31.6	+1.1
	comp=Z,25μmcomp=Z,342nm,1.1s						
MNSI	Mandailing Nat	51.42	220	P	P	04 30 29.9	-1.0
	comp=Z,3μmcomp=Z,199nm,0.5s						
BARN	Barnard Glacie	51.42	38	IAmb	IAmb	04 30 33.7	
	comp=Z,240nm,0.6s						
SRLM	Srisailam	51.43	253	*eP*	P	04 30 30.7	-0.3
BSSI	Bau Bau, Buton	51.43	192	P	P	04 30 29.8	-1.1
	comp=Z,2μmcomp=Z,130nm,1.2s						
J29M	Klondike Camp	51.45	34	P	P	04 30 32.5	+1.9
	baz=295,SNR=25						
INK	Inuvik	51.53	28	P	P	04 30 32.4	+1.5
	comp=Z,119nm,0.4s,baz=285,slow=7.2,SNR=1735						
INK				pP	pP	04 32 20.9	+0.8
	comp=Z,24nm,0.9s,baz=275,slow=8.9,SNR=3.2						
INK				ScP	ScP	04 34 35.3	+0.4
	comp=Z,46nm,0.9s,baz=283,slow=5.3,SNR=11						
INK	Inuvik	51.53	28	P	P	04 30 31.9	+1.0
INK				IAmb	IAmb	04 30 32.9	
	comp=Z,117nm,0.5s						
INK				PcP	PcP	04 31 35.6	+1.2
INK				ScP	ScP	04 34 35.1	+0.2
INK	Inuvik	51.53	28	P	P	04 30 32.4	+1.5
	baz=296,SNR=161						
INK				S	S	04 37 07.7	0.0
	baz=296						
CTG	Chitna Glacier	51.61	38	P	P	04 30 33.8	+2.0
	baz=295,SNR=51						
CTG				S	S	04 37 09.9	+0.7
	baz=295						
CTGM	Chitna Glacie	51.61	38	IAmb	IAmb	04 30 34.9	
	comp=Z,248nm,0.6s						
KLRI	Killari	51.64	257	*eP*	P	04 30 29.5	-3.0
YUK3	Moose Creek	51.65	37	P	P	04 30 33.7	+1.5
	baz=295,SNR=19						
YUK3				S	S	04 37 13.3	+3.4
	baz=295						
MESA	MESA	51.66	40	P	P	04 30 34.2	+1.9
	baz=295,SNR=14						
LOGN	Logan Glacier	51.82	39	P	P	04 30 34.4	+1.1
LOGN				IAmb	IAmb	04 30 36.2	
	comp=Z,130nm,0.6s						
HRA	Herat	51.83	283	P	P	04 30 34.8	+0.9
HRA				IAmb	IAmb	04 30 35.4	
	comp=Z,237nm,1.0s						
JMBI	JAMBI	51.84	214	P	P	04 30 37.4	+3.5
APA	Apatity	51.88	331	‖ *iP*	P	04 30 32.3	-1.1
APA				*i*		04 31 43.0	
APA				*i* *PP	pP	04 32 18.0	-4.8
APA				*i*		04 32 38.0	
APA				*i* S	S	04 37 11.0	-1.2
APA				*i*		04 39 15.0	
APA				pmax	pmax		
	comp=Z,174nm,1.0s						
APA				MLR	MLR		
	comp=Z,800nm,15.0s						
GSI	Gunungsitoli	51.92	223	P	P	04 30 35.1	+0.6
	comp=Z,9μmcomp=Z,762nm,1.1s						
GSI	Gunungsitoli	51.92	223	P	P	04 30 35.5	+1.0
BELG	Belogornoye	52.18	310	*d iP*	P	04 30 36.2	+0.4
BELG				pmax	pmax		
	comp=Z,434nm,1.0s						
A36M	Sachs Harbour	52.34	22	IAmb	IAmb	04 30 38.9	
	comp=Z,218nm,0.6s						
A36M	Sachs Harbour	52.34	22	P	P	04 30 38.0	+1.4
	baz=300,SNR=337						
A36M				S	S	04 37 19.2	+0.9
	baz=300						
PCA	Pinnacle	52.47	39	IAmb	IAmb	04 30 40.9	
	comp=Z,144nm,0.6s						
PINM	Pinnacle	52.47	39	P	P	04 30 39.6	+1.8
	baz=296,SNR=7.9						
BJO1	Bjornoya	52.55	342	‖ *iP*	P	04 30 38.3	+0.2
SKHT	Srikalahasti	52.55	250	*eP*	P	04 30 39.8	+0.8
SAUI	Saumlaki	52.56	178	P	P	04 30 39.4	+0.4
PMBI	Palembang	52.58	212	P	P	04 30 42.2	+3.0
	comp=Z,35μmcomp=Z,241nm,0.8s						
PMBI	Palembang	52.58	212	P	P	04 30 40.1	+0.9
PMBI	Palembang	52.58	212	P	P	04 30 41.7	+2.5
NOR	Nord	52.60	354	*i* P	P	04 30 37.6	-0.8
NOR				IAmb	IAmb	04 30 39.6	
	comp=Z,62nm,0.4s						
RABL	Rabaul	52.68	152	P	P	04 30 41.4	+1.5
	comp=Z,1μm,1.0s						
GEYT	Alibeck	52.75	289	P	P	04 30 40.8	+0.7
	comp=Z,160nm,0.6s,baz=85,slow=1.8,SNR=318						
GEYT	Alibeck	52.75	289	P	P	04 30 40.9	+0.7
GEYT				IAmb	IAmb	04 30 42.1	
	comp=Z,293nm,0.9s						
GYA0B	ALIBECK ARRAY	52.75	289	IAmb	IAmb	04 30 42.0	
	comp=Z,397nm,1.0s						
PBSI	Pulau Batu	52.77	221	P	P	04 30 42.1	+1.6
	comp=Z,5μmcomp=Z,279nm,1.4s						
ALE	Alert	52.77	2	P	P	04 30 40.5	+0.8
BWJI	Bawean	52.77	202	P	P	04 30 46.1	+5.6
BCPM	Bancas Point	52.81	39	IAmb	IAmb	04 30 43.5	
	comp=Z,224nm,0.8s						
M30M	Minto, Yukon	52.85	35	P	P	04 30 42.8	+2.4
	baz=297,SNR=76						
M30M				S	S	04 37 27.9	+2.5
	baz=297						
KEV	Kevo	52.92	335	P	P	04 30 41.3	+0.5
KEV				pmax	pmax		
	comp=Z,343nm,0.8s						
KEV	Kevo	52.92	335	P	P	04 30 41.3	+0.5
KEV				IAmb	IAmb	04 30 42.6	
	comp=Z,343nm,0.8s						
KEV				ScP	ScP	04 34 40.6	-0.3
KEV	Kevo	52.92	335	P	P	04 30 41.3	+0.5
PNL	Peninsula	53.05	39	P	P	04 30 43.9	+2.0
	baz=297,SNR=13						
PNL				S	S	04 37 26.0	-2.1
	baz=297						
KRJI	Kerinci	53.16	217	P	P	04 30 44.0	+0.6
	comp=Z,11μmcomp=Z,1μm,1.1s						
POO	Poona	53.25	259	‖ *iP*	P	04 30 44.3	+0.3
URV	Uravakonda	53.35	253	*eP*	P	04 30 44.7	0.0
HAMF	Hammerfest	53.44	337	‖ *iP*	P	04 30 44.6	+0.2
ARA0	ARCESS Array S	53.49	335	‖ *iP*	P	04 30 45.4	+0.5
ARCES	ARCESS Array B	53.49	335	P	P	04 30 45.3	+0.5
	comp=Z,91nm,0.4s,baz=71,slow=8.8,SNR=1045						
ARCES				pP	pP	04 32 36.2	+0.9
	comp=Z,20nm,0.7s,baz=52,slow=6.8,SNR=3.2						
ARCES				PP	PP	04 32 52.4	-1.3
	comp=Z,120nm,1.0s,baz=56,slow=7.4,SNR=10.0						
ARCES				ScP	ScP	04 34 43.3	-0.1
	comp=Z,89nm,0.9s,baz=56,slow=5.1,SNR=14						
ARCES	ARCESS Array B	53.49	335	P	P	04 30 44.9	+0.1
ARCES				IAmb	IAmb	04 30 46.5	
	comp=Z,195nm,0.8s						
ARCES				ScP	ScP	04 34 43.3	-0.1
SISI	Saibi	53.52	220	P	P	04 30 55.5	+10
KMMI	Kalianget	53.59	200	P	P	04 30 45.8	-0.5
	comp=Z,2μmcomp=Z,6μmcomp=Z,496nm,1.6s						
MMRI	Maumere	53.65	190	P	P	04 30 45.4	-1.3
	comp=Z,2μmcomp=Z,9μmcomp=Z,635nm,0.7s						
MMRI	Maumere	53.65	190	P	P	04 30 45.8	-0.9
MASI	Maura Aman, Be	53.78	215	P	P	04 30 48.3	+0.6
	comp=Z,122μmcomp=Z,7μmcomp=Z,625nm,1.2s						
N31M	Braeburn, Yuko	53.78	36	P	P	04 30 49.3	+2.3
	baz=298,SNR=40						
N31M				S	S	04 37 39.7	+2.1
	baz=298						
EDFI	Ende, Flores	53.83	190	P	P	04 30 45.6	-2.5
	comp=Z,1μmcomp=Z,101nm,0.6s						
LHSI	Lahat	53.89	213	P	P	04 30 48.9	+0.5
	comp=Z,6μmcomp=Z,393nm,1.5s						
M31M	Drury Creek, Y	54.01	35	P	P	04 30 50.4	+1.7
	baz=299,SNR=40						
M31M				S	S	04 37 43.6	+2.9
	baz=299						
C36M	Paulatuk	54.04	25	P	P	04 30 49.9	+1.2
	baz=302,SNR=695						
C36M				S	S	04 37 40.9	+0.2
	baz=302						
KLSI		54.22	212	P	P	04 30 50.8	+0.1
	comp=Z,2μmcomp=Z,206nm,1.4s						
MDSI	Maura Dua	54.24	212	P	P	04 30 50.4	-0.4
	comp=Z,2μmcomp=Z,184nm,1.1s						
ABJI	Asem Bagus	54.25	199	P	P	04 30 50.8	-0.1
	comp=Z,6μmcomp=Z,398nm,1.4s						
SRBI	Singaraja	54.31	198	P	P	04 30 51.1	-0.2
	comp=Z,9μmcomp=Z,910nm,1.5s						
KLI	Kotabumi	54.33	211	P	P	04 30 51.7	+0.2
	comp=Z,8μmcomp=Z,788nm,1.1s						
BLJI	Banyuglugur	54.35	200	P	P	04 30 51.2	-0.4
	comp=Z,2μmcomp=Z,164nm,1.2s						
PPSI	Pulau Pagai	54.38	218	P	P	04 30 52.2	+0.3
	comp=Z,7μmcomp=Z,636nm,1.1s						
KTK1	Kautokeino	54.45	335	‖ *iP*	P	04 30 52.2	+0.6
SMRI	Semarang	54.53	204	P	P	04 30 53.8	+0.8
	comp=Z,5μmcomp=Z,263nm,2.2s						
SMRI	Semarang	54.53	204	IAmb	IAmb	04 30 54.7	
	comp=Z,274nm,1.1s						
SMRI	Semarang	54.53	204	P	P	04 30 53.7	+0.8
	comp=Z,259nm,2.2s						
SOEI	Soe	54.55	187	P	P	04 30 51.9	-1.3
	comp=Z,4μmcomp=Z,356nm,0.9s						
SOEI	Soe	54.55	187	P	P	04 30 52.0	-1.1
SOEI				IAmb	IAmb	04 31 03.5	
	comp=Z,274nm,1.0s						
SOEI	Soe	54.55	187	P	P	04 30 52.4	-0.8
WHY	Whitehorse	54.56	37	P	P	04 30 54.4	+1.8
	baz=300,SNR=24						
BLSI	Bandar Lampung	54.66	211	P	P	04 30 53.7	-0.1
	comp=Z,255nm,1.2s						
LWLI	Liwa	54.77	212	P	P	04 30 53.9	-0.8
	comp=Z,402nm,0.7s						
DNP	Denpasar	54.88	198	P	P	04 30 54.1	-1.2
	comp=Z,21μmcomp=Z,793nm,1.1s						
GMJI	Gumukmas	54.90	200	P	P	04 30 54.2	-1.2
	comp=Z,7μmcomp=Z,509nm,1.5s						
JAGI	Jajag, Banyuwa	54.92	199	P	P	04 30 54.0	-1.6
	comp=Z,1μmcomp=Z,98nm,1.4s						
JAGI	Jajag, Banyuwa	54.92	199	P	P	04 30 53.9	-1.6
SKAG	Skagway	54.97	38	P	P	04 30 57.6	+2.3
	baz=300,SNR=24						
JETT	Jettan, Norway	54.98	336	‖ *iP*	P	04 30 57.0	+1.7
IGBI	Denpasar	55.03	198	P	P	04 30 53.9	-2.4
	comp=Z,3μmcomp=Z,237nm,1.1s						
WBSI	Waikabubak, Su	55.03	193	P	P	04 30 53.5	-2.9
	comp=Z,3μmcomp=Z,242nm,0.7s						
SBJI	Serang	55.04	209	P	P	04 30 57.1	+0.7
	comp=Z,327nm,1.3s						
BATI	Baumata	55.05	188	P	P	04 30 55.7	-0.8
	comp=Z,6μmcomp=Z,548nm,0.7s						
KASI	Kota Agung	55.07	211	P	P	04 30 54.7	-2.0
	comp=Z,2μmcomp=Z,129nm,1.2s						
WOJI	Wonogiri, Jawa	55.15	203	P	P	04 30 56.0	-1.1
	comp=Z,2μmcomp=Z,119nm,1.4s						
DBJI	Dramaga	55.23	208	P	P	04 30 57.8	0.0
	comp=Z,15μmcomp=Z,185nm,1.2s						
YOGI	Yogyakarta	55.30	204	P	P	04 30 57.6	-0.7
	comp=Z,4μmcomp=Z,289nm,1.6s						
UGM	Wanagama	55.33	204	P	P	04 30 57.3	-1.2
	comp=Z,8μmcomp=Z,692nm,1.3s						
UGM	Wanagama	55.33	204	P	P	04 30 57.2	-1.2
UGM	Wanagama	55.33	204	P	P	04 30 58.0	-0.5
GOA	Goa	55.34	257	‖ *iP*	P	04 30 59.0	+0.5
TRO	Tromso	55.36	337	‖ *iP*	P	04 30 58.0	+0.2
PCJI	Pacitan	55.42	203	P	P	04 30 57.8	-1.2
	comp=Z,3μmcomp=Z,194nm,1.3s						
BASI	Baing, Sumba	55.43	191	P	P	04 30 57.8	-1.3
	comp=Z,3μmcomp=Z,181nm,0.9s						
CGJI	Cibinong	55.65	210	P	P	04 30 57.7	-2.9
	comp=Z,2μmcomp=Z,124nm,1.2s						
P33M	Teslin, Yukon	55.67	37	P	P	04 31 02.4	+2.1
	baz=301,SNR=93						
P33M				S	S	04 38 07.9	+5.5
	baz=301						
SKJI	Sukabumi	55.72	209	P	P	04 30 59.1	-2.0
	comp=Z,218nm,0.5s						
MOS	Moscow	55.75	317	*eP*	P	04 30 57.3	-3.5
MOS				*e**PP	pP	04 32 51.1	-1.5
MOS				*e*		04 33 12.2	
MOS				*eS*	S	04 37 59.7	-3.6
MOS				*e*		04 39 45.1	
MOS				pmax	pmax		
	comp=Z,3μm,1.5s						
MOS				pmax	pmax

OBN Obninsk 56.59 317 *e*P **P 04 31 06.4 -0.1**
OBN Obninsk 56.59 317 P **P 04 31 06.3 -0.1**
PALK Pallekele 56.69 244 P **P 04 31 08.2 +0.2**
PALK pmax pmax
comp=Z,48nm,0.8s
PALK Pallekele 56.69 244 P **P 04 31 08.7 +0.8**
PALK Pallekele 56.69 244 P **P 04 31 08.2 +0.2**
LPSR Galich'ya Gora 56.72 313 *e*P **P 04 31 07.6 +0.1**
LPSR *e*S **S 04 38 14.7 -1.1**
LPSR pmax pmax
comp=Z,1μm,1.0s
LPSR pmax pmax
comp=Z,830nm,0.7s
LPSR smax smax
comp=N,1μm,1.6s
PUL Pulkovo 56.94 323 *de*P **P 04 31 09.2 +0.3**
PUL pmax pmax
comp=Z,2μm,1.3s
PUL Pulkovo 56.94 323 *e*P **P 04 31 09.4 +0.6**
PUL Pulkovo 56.94 323 *e*P **P 04 31 09.2 +0.3**
MAK Makhachkala 56.94 300 *e*P **P 04 31 06.8 -2.4**
MAK *e**PP **pP 04 33 00.3 -1.4**
MAK *e* 04 33 26.3
MAK *e**SP **sP 04 34 05.7 +0.7**
MAK *e*S **S 04 38 14.8 -4.2**
MAK *e*SS **SS 04 42 20.1 +0.2**
MAK pmax pmax
comp=Z,668nm,1.5s
MAK MLR MLR
comp=Z,512nm,18.0s
DRS Darwin Rock St 56.98 179 P **P 04 31 09.7 0.0**
DAG Danmarks Havn 57.08 352 P **P 04 31 09.3 -0.2**
DAG Danmarks Havn 57.08 352 *i* P **P 04 31 08.5 -1.0**
DAG IAmb IAmb 04 31 11.0
comp=Z,84nm,0.5s
N2IH Innhavet 57.24 336 ⇓ *i*P **P 04 31 11.1 +0.4**
KDU Kakadu 57.27 177 P **P 04 31 11.9 +0.3**
VSR Storozhevoye 57.33 312 *e*P **P 04 31 11.8 +0.1**
VSR *e*S **S 04 38 22.8 -0.9**
VSR pmax pmax
comp=Z,1μm,0.8s
VSR pmax pmax
comp=Z,2μm,0.9s
VSR smax smax
comp=N,1μm,1.3s
MTN Manton Dam 57.39 179 IAmb IAmb 04 31 13.4
comp=Z,639nm,1.4s
MTN Manton Dam 57.39 179 P **P 04 31 12.6 +0.1**
VORD Divnogorie 57.40 311 *e*P **P 04 31 11.7 -0.4**
VORD *e*S **S 04 38 23.8 -0.7**
VORD pmax pmax
comp=Z,380nm,0.6s
VORD pmax pmax
comp=Z,950nm,1.0s
VORD smax smax
comp=N,710nm,1.1s
STEI Steigen 57.47 336 ⇓ *i*P **P 04 31 12.6 +0.3**
TARA Tarawa 57.50 126 P **P 04 31 13.7 +0.3**
JOHN Johnston Islan 57.53 99 P **P 04 31 14.4 +0.9**
JOHN IAmb IAmb 04 31 15.4
comp=Z,304nm,0.8s
FINES FINESS Array B 57.73 327 P **P 04 31 14.4 +0.2**
comp=Z,415nm,0.5s,baz=84,slow=6.0,SNR=3340
FINES pP **pP 04 33 07.5 +0.3**
comp=Z,46nm,0.7s,baz=74,slow=8.5,SNR=4.7
FINES ScP **ScP 04 35 01.7 -0.6**
comp=Z,45nm,0.9s,baz=70,slow=6.3,SNR=6.6
FINES S **S 04 38 26.9 -1.5**
comp=Z,10nm,0.9s,baz=8.9,slow=14,SNR=4.4
FINES FINESS Array B 57.73 327 *i* P **P 04 31 14.3 +0.1**
FINES pmax pmax
comp=Z,417nm,0.5s
FINES FINESS Array B 57.73 327 P **P 04 31 14.3 +0.1**
FINES ScP **ScP 04 35 01.1 -1.1**
FAUS Fauske 57.81 335 ⇓ *i*P **P 04 31 14.9 +0.3**
LOF Lofoten 57.82 337 ⇓ *i*P **P 04 31 14.6 -0.1**
WRAK Wrangell Islan 57.92 41 P **P 04 31 17.9 +2.4**
baz=304
NEEM North Greenlan 58.02 0 *i* P **P 04 31 15.8 -0.5**
NEEM IAmb IAmb 04 31 17.7
comp=Z,181nm,0.7s
CRAG Craig 58.09 42 P **P 04 31 19.2 +2.5**
baz=304,SNR=8.8
TULEG Thule 58.34 5 *i* P **P 04 31 16.7 -1.3**
TULEG IAmb IAmb 04 31 18.8
comp=Z,117nm,0.4s
TULEG Thule 58.34 5 IAmb IAmb 04 31 19.2
comp=Z,155nm,0.6s
LGD Lagodekhi 58.34 299 P **P 04 31 18.5 -0.2**
GOF Gofitskoye 58.50 304 ⇑ *e*P **P 04 31 20.4 +0.7**
GOF *e*S **S 04 38 37.2 -1.5**
GOF pmax pmax
comp=Z,2μm,1.1s
GOF smax smax
comp=N,84nm,0.9s
GOF smax smax
comp=E,472nm,1.3s
DDFL Dedoflistskaro 58.63 299 P **P 04 31 23.6 +2.9**
MOR8 Moi Rana 58.86 335 ⇓ *i*P **P 04 31 20.7 -1.0**
KONS Konsvik 59.03 335 *e*P **P 04 31 22.8 0.0**
NCK Nalchik 59.03 302 *d i*P **P 04 31 23.2 -0.1**
NCK pmax pmax
comp=Z,480nm,1.3s
STOK Stokkvaagen 59.18 335 *e*P **P 04 31 23.8 0.0**
VSU Vasula 59.21 323 *d i*P **P 04 31 24.7 +0.5**
VSU pmax pmax
comp=Z,2μm,0.7s
VSU Vasula 59.21 323 *e*P **P 04 31 24.6 +0.5**
VSU Vasula 59.21 323 *e*P **P 04 31 24.6 +0.5**
XMI Christmas Isla 59.23 208 P **P 04 31 24.4 -0.5**
XMIS Christmas Isla 59.27 208 P **P 04 31 24.1 -1.0**
SEAG Tbilisi Sea 59.27 300 P **P 04 31 25.9 +0.9**
KIV Kislovodsk 59.32 303 ⇓ P **P 04 31 26.4 +1.0**
KIV Kislovodsk 59.32 303 *de*P **P 04 31 26.0 +0.7**
KIV *e* 04 32 05.2
KIV *e**PP **pP 04 33 20.4 +1.1**
KIV *e**SP **sP 04 34 24.6 +2.4**
KIV *i* S **S 04 38 50.7 +1.4**
KIV *e*SS **SS 04 43 00.3 +3.1**
KIV pmax pmax
comp=Z,1μm,1.0s
KIV Kislovodsk 59.32 303 P **P 04 31 26.2 +0.9**
KIV P **P 04 31 26.2 +0.9**
KIV Kislovodsk 59.32 303 P **P 04 31 25.9 +0.5**
KIV Kislovodsk 59.32 303 *e*P **P 04 31 26.0 +0.7**
KIV Kislovodsk 59.32 303 P **P 04 31 25.8 +0.5**
KIV Kislovodsk 59.32 303 *i* P **P 04 31 26.1 +0.7**
SNR=28
KBZ Khabaz 59.32 303 P **P 04 31 25.6 +0.5**
comp=Z,65nm,0.5s,baz=53,slow=1.0,SNR=231
KBZ Khabaz 59.32 303 *de*P **P 04 31 25.6 +0.5**
KBZ pmax pmax
comp=Z,304nm,1.3s
DBG Daneborg 59.48 351 *i* P **P 04 31 24.7 -1.0**
DBG IAmb IAmb 04 31 26.5
comp=Z,36nm,1.3s
ONI Oni 59.63 301 P **P 04 31 28.0 +0.6**
COEN Coen 59.71 165 P **P 04 31 28.3 +0.3**
COEN Coen 59.71 165 P **P 04 31 29.1 +1.1**
KNRA Kununurra 60.20 181 P **P 04 31 31.4 +0.1**
KNRA Kununurra 60.20 181 P **P 04 31 31.7 +0.4**
GNI Garni 60.23 298 P **P 04 31 31.8 +0.3**
GNI pmax pmax
comp=Z,259nm,0.9s
GNI Garni 60.23 298 P **P 04 31 31.8 +0.3**
GNI IAmb IAmb 04 31 38.8
comp=Z,259nm,0.9s
GNI Garni 60.23 298 P **P 04 31 32.5 +1.0**
MTSE Matsula 60.28 325 *e*P **P 04 31 31.8 +0.7**
MTSE Matsula 60.28 325 *e*P **P 04 31 31.5 +0.3**
AKH Akhalkalaki 60.28 300 ⇑ P **P 04 31 32.9 +1.1**
AKH Akhalkalaki 60.28 300 P **P 04 31 32.6 +0.8**
BGD Bogdanovka 60.30 300 P **P 04 31 33.0 +1.0**
CHVG Ch'k'valeri 60.39 302 ⇓ P **P 04 31 33.2 +0.9**
CHVG Ch'k'valeri 60.39 302 ⇓ P **P 04 31 33.2 +0.9**
HNR Honiara 60.40 145 P **P 04 31 33.9 +1.3**
HNR pmax pmax
comp=Z,566nm,1.1s
HNR Honiara 60.40 145 P **P 04 31 33.9 +1.3**
HNR IAmb IAmb 04 31 41.9
comp=Z,566nm,1.1s
JMIC Jan Mayen 60.73 346 *e*P **P 04 31 36.5 +2.5**
NSS Namsos 60.74 334 ⇓ *i*P **P 04 31 33.9 -0.2**
AAL Aland 60.87 327 *e*P **P 04 31 34.5 -0.5**
AAL Aland 60.87 327 *e*P **P 04 31 34.6 -0.5**
BANOM Banah 60.95 279 P **P 04 31 36.6 +0.3**
SNR=8.4
BANOM Banah 60.95 279 *i* P **P 04 31 36.5 +0.3**
SNR=18
SHME Shamm 60.98 279 P **P 04 31 36.4 +0.1**
SNR=13
SHME Shamm 60.98 279 *i* P **P 04 31 36.5 +0.1**
SNR=45
WSAR Wadi Sarin 60.98 275 P **P 04 31 37.6 +1.1**
SNR=8.6
KARS Kars 60.99 300 P **P 04 31 37.5 +1.1**
MNK Minsk 61.08 319 *i* P **P 04 31 37.8 +1.3**
MNK *i* 04 32 14.1
MNK *i* *PP **pP 04 33 33.1 +1.6**
MNK *i* 04 34 01.2
MNK *i* S **S 04 39 11.8 +1.3**
MNK *i* SS **SS 04 43 26.5 +2.8**
MNK pmax pmax
comp=Z,1μm,1.0s
MNK pmax pmax
comp=N,553nm,1.0s
MNK pmax pmax
comp=E,111nm,1.0s
MNK MLR MLR
comp=E,53nm,14.0s
MNK MLR MLR
comp=N,380nm,18.0s
MNK MLR MLR
comp=Z,297nm,14.0s
MNK Minsk 61.08 319 *i* P **P 04 31 37.8 +1.3**
comp=E,111nm,1.0s
MNK *i* P **P 04 31 37.8 +1.3**
comp=N,553nm,1.0s
MNK *i* P **P 04 31 37.8 +1.3**
comp=Z,1μm,1.0s,baz=53
MNK *i* PcP **PcP 04 32 14.1 +1.7**
MNK *i* pP **pP 04 33 33.2 +1.7**
MNK *i* PP **PP 04 34 01.2 +0.6**
MNK *i* S **S 04 39 11.8 +1.4**
MNK *i* sS **sS 04 42 36.1 -0.1**
MNK *i* SS **SS 04 43 26.6 +2.9**
MNK *i* SSS SSS 04 46 43.2
MNK *i* LRM MLR 05 01 42.0
comp=E,53nm,13.8s
MNK *i* LRM MLR 05 01 52.5
comp=N,380nm,17.7s
MNK *i* LRM MLR 05 02 02.3
comp=Z,297nm,14.4s
IDID Didziasalis 61.11 321 *e*P **P 04 31 37.6 +0.9**
JLN Jalan Bani Buh 61.12 273 P **P 04 31 38.2 +0.9**
SNR=22
JLN P **P 04 31 38.2 +0.9**
SNR=22
WBK Wadi Bani Khal 61.14 274 P **P 04 31 38.7 +1.2**
SNR=23
BIDO Bidbid 61.16 275 P **P 04 31 38.3 +0.7**
SNR=24
ISAL Salakas 61.23 321 *e*P **P 04 31 38.5 +1.0**
SOC Sochi 61.30 304 *d i*P **P 04 31 38.3 +0.1**
SOC *e**PP **pP 04 33 31.5 -1.7**
SOC *e**SP **sP 04 34 32.8 -3.0**
SOC *e*S **S 04 39 14.1 +0.6**
SOC *e*SS **SS 04 43 26.5 -1.1**
SOC *e*SSS SSS 04 46 32.7
SOC pmax pmax
comp=Z,697nm,1.1s
YKA Yellowknife Ar 61.30 29 P **P 04 31 38.7 +0.8**
comp=Z,89nm,0.4s,baz=310,slow=6.4,SNR=5065
YKA PcP **PcP 04 32 14.4 +1.2**
comp=Z,6.8nm,0.6s,baz=318,slow=3.5,SNR=4.2
YKA pP **pP 04 33 33.0 +0.1**
comp=Z,18nm,0.8s,baz=309,slow=6.8,SNR=8.6
YKA S **S 04 39 09.1 -3.9**
comp=Z,6.5nm,1.1s,baz=313,slow=11,SNR=4.0
YKA PKPPKP **P'P'df 05 00 42.0 -2.6**
comp=Z,2.7nm,0.8s,baz=140,slow=2.5,SNR=8.0
IIGN Ignalina 61.32 321 *e*P **P 04 31 39.2 +1.1**
NACGM Naroch 61.34 320 *i* P **P 04 31 38.9 +0.6**
MASF Masafi 61.39 278 P **P 04 31 39.3 +0.2**
SNR=8.6
MSFE Esma-Masafi 61.40 278 *i* P **P 04 31 39.3 +0.1**
SNR=22
SMDO Samad 61.51 275 P **P 04 31 40.6 +0.6**
SNR=40
SMDO P **P 04 31 40.6 +0.6**
SNR=40
SLIT Slitere, Latvi 61.59 324 *e*P **P 04 31 39.7 -0.1**
SLIT Slitere, Latvi 61.59 324 *e*P **P 04 31 39.6 -0.1**
UOSS Minazif 61.62 278 P **P 04 31 40.1 -0.6**
UOSS Minazif 61.62 278 P **P 04 31 40.5 -0.1**
UOSS IAmb IAmb 04 31 41.9
comp=Z,273nm,1.1s
UOSS Minazif 61.62 278 P **P 04 31 40.2 -0.4**
UOSS pP **pP 04 33 35.2 -0.7**
UOSS Minazif 61.62 278 *i* P **P 04 31 40.3 -0.3**
SNR=13
UMQ Umm Al-Quwin 61.64 279 P **P 04 31 41.8 +1.1**
HOQ Hoqain 61.70 276 P **P 04 31 41.5 +0.3**
SNR=35
HOQ P **P 04 31 41.5 +0.3**
SNR=35
HATD Hatta, Dubai 61.75 278 P **P 04 31 41.9 +0.4**
SNR=26
HATD P **P 04 31 41.9 +0.4**
SNR=26
HATD Hatta, Dubai 61.75 278 *i* P **P 04 31 41.8 +0.4**
SNR=62
ASHO Ashiyiah 61.89 278 P **P 04 31 42.8 +0.4**
SNR=37
ASHO Ashiyiah 61.89 278 *i* P **P 04 31 42.8 +0.4**
SNR=72
SOHO SOHO 61.90 277 P **P 04 31 42.4 0.0**
SOHO SOHO 61.90 277 *i* P **P 04 31 41.8 -0.6**
SNR=12
JMDO Jabal Madar 61.91 274 P **P 04 31 43.2 +0.7**
SNR=27
UPP Uppsala 61.98 328 *e*P **P 04 31 42.2 0.0**
UPP Uppsala 61.98 328 *e*P **P 04 31 42.1 -0.2**
NAZ Nazwa, Dubai 61.98 278 P **P 04 31 42.9 0.0**
SNR=10
NAZ P **P 04 31 42.9 0.0**
SNR=10
NAZ Nazwa, Dubai 61.98 278 *i* P **P 04 31 43.1 +0.2**
SNR=11
TBLU Trondheim 62.18 334 ⇓ *i*P **P 04 31 42.6 -1.0**
FAQ Al Faqa, Dubai 62.18 278 P **P 04 31 44.2 0.0**
SNR=8.7
FAQ Al Faqa, Dubai 62.18 278 *i* P **P 04 31 44.2 0.0**
SNR=11
PABE Paberze 62.22 322 *e*P **P 04 31 44.4 +0.5**
PABE Paberze 62.22 322 *e*P **P 04 31 44.4 +0.5**
BSY Bisya 62.31 275 P **P 04 31 45.7 +0.5**
SNR=48
ARQ Araqi 62.41 276 P **P 04 31 46.3 +0.6**
SNR=30
ARQ P **P 04 31 46.3 +0.6**
SNR=30
BBB Bella Bella 62.42 43 IAmb IAmb 04 31 48.0
comp=Z,230nm,1.4s
ASUD Al Ashush, Dub 62.44 278 P **P 04 31 46.4 +0.5**
SNR=13
ASUD P **P 04 31 46.4 +0.5**
SNR=13
ASUD Al Ashush, Dub 62.44 278 *i* P **P 04 31 46.4 +0.5**
SNR=41
OPA Opana 62.46 86 IAmb IAmb 04 31 48.2
comp=Z,277nm,0.8s
ALNE Al Ain 62.50 277 P **P 04 31 46.5 +0.2**
SNR=29
ALNE Al Ain 62.50 277 *i* P **P 04 31 46.6 +0.2**
SNR=16
KIP Kipapa 62.63 86 P **P 04 31 48.0 +0.9**
KIP pmax pmax
comp=Z,118nm,0.7s
KIP Kipapa 62.63 86 P **P 04 31 48.0 +0.9**
KIP IAmb IAmb 04 31 48.9
comp=Z,118nm,0.7s
UPNV Upernavik 62.63 2 *i* P **P 04 31 45.1 -1.2**
UPNV IAmb IAmb 04 31 47.3
comp=Z,133nm,0.5s
SUMG Summit 62.63 356 P **P 04 31 47.7 +0.9**
SUMG pmax pmax
comp=Z,178nm,0.9s
SUMG Summit 62.63 356 *i* P **P 04 31 46.3 -0.5**
SUMG IAmb IAmb 04 31 48.6
comp=Z,86nm,0.8s
SUMG Summit 62.63 356 P **P 04 31 47.7 +0.9**
SUMG IAmb IAmb 04 31 49.0
comp=Z,178nm,0.9s
HON Honolulu 62.70 86 P **P 04 31 48.5 +0.9**
HON pmax pmax
comp=Z,368nm,1.2s
HON Honolulu 62.70 86 P **P 04 31 48.5 +0.9**
HON IAmb IAmb 04 31 50.1
comp=Z,368nm,1.2s
AJN Ajban 62.72 278 P **P 04 31 47.3 -0.4**
SNR=8.3
AJN Ajban 62.72 278 *i* P **P 04 31 47.3 -0.4**
SNR=6.4
AKASG Malin Array Be 62.76 315 P **P 04 31 47.4 -0.1**
comp=Z,78nm,0.3s,baz=45,slow=7.5,SNR=3146
AKASG pP **pP 04 33 44.1 +0.7**
comp=Z,50nm,0.8s,baz=45,slow=7.4,SNR=5.8
AKASG ScP **ScP 04 35 23.7 -1.1**
comp=Z,20nm,0.9s,baz=45,slow=4.4,SNR=4.0
AKASG S **S 04 39 31.1 -0.1**
comp=Z,40nm,0.9s,baz=52,slow=12,SNR=32
AKASG ScS **SKSac 04 40 38.1 -3.4**
comp=Z,7.7nm,0.9s,baz=50,slow=8.9,SNR=4.6
AKASG PKPPKP 05 00 39.0
comp=Z,3.8nm,1.1s,baz=235,slow=3.0,SNR=4.6
PBUR Paburge 62.77 323 *e*P **P 04 31 48.0 +0.6**
PBUR Paburge 62.77 323 *e*P **P 04 31 47.8 +0.3**
KTUT Trabzon 62.80 302 ⇓ P **P 04 31 48.3 +0.4**
KOPT Kop Dagi 62.94 300 IAmb IAmb 04 31 51.8
comp=Z,363nm,1.3s
SCO Scoresbysund 63.23 350 P **P 04 31 51.1 +1.0**
SCO pmax pmax
comp=Z,89nm,0.8s
SCO Scoresbysund 63.23 350 *i* P **P 04 31 50.0 -0.1**
SCO IAmb IAmb 04 31 52.0
comp=Z,52nm,0.6s
SCO Scoresbysund 63.23 350 P **P 04 31 51.1 +1.0**
NC303 NORSAR Array S 63.27 332 IAmb IAmb 04 31 52.0
comp=Z,381nm,1.0s
HOLB Holberg 63.38 44 P **P 04 31 52.6 +1.1**
DOMB Dombas 63.44 333 ⇓ *i*P **P 04 31 52.0 +0.3**
NB2 NORSAR Subarra 63.45 332 P **P 04 31 51.1 -0.7**
comp=Z,134nm,0.6s,baz=44,slow=6.9
NB2 NORSAR Subarra 63.45 332 P **P 04 31 51.1 -0.7**
baz=44,slow=6.9
NOA NORSAR Array B 63.45 332 P **P 04 31 51.8 0.0**
comp=Z,141nm,0.6s,baz=53,slow=8.0,SNR=809
NOA pP **pP 04 33 48.0 -0.1**
comp=Z,26nm,1.0s,baz=44,slow=6.7,SNR=7.3
NOA PP **PP 04 34 21.5 +0.4**
comp=Z,19nm,0.9s,baz=45,slow=8.9,SNR=3.7
NOA ScP 04 35 26.8
comp=Z,24nm,0.9s,baz=52,slow=4.3,SNR=5.3
MOL Molde 63.53 334 ⇓ *i*P **P 04 31 52.8 +0.6**
SUW Suwalki 63.53 321 *e*P **P 04 31 52.4 0.0**
SUW *e*PcP **PcP 04 32 22.6 +0.1**
SUW *e*S **S 04 39 40.5 +0.1**
SUW Suwalki 63.53 321 *e*P **P 04 31 52.2 -0.2**
NORES NORESS Array B 63.56 331 P **P 04 31 52.0 -0.4**
SIM Simferopol' 63.70 308 *ce*P **P 04 31 50.8 -2.9**
SIM *e**PP **pP 04 33 49.3 -0.7**
SIM pmax pmax
comp=Z,417nm,0.4s
NAO01 NORSAR Array S 63.70 331 ⇓ *i*P **P 04 31 53.2 -0.2**
UMZA Um Al Zommool 63.77 277 P **P 04 31 54.0 -0.4**
AKN Aaknes 63.99 334 ⇓ *i*P **P 04 31 55.8 +0.6**
MTSU Mount Surprise 63.99 165 P **P 04 31 56.9 +1.1**
MZWR Madinat Zayed 64.01 278 P **P 04 31 55.2 -0.7**
KHLH Kahului Airpor 64.09 86 IAmb IAmb 04 31 59.1
comp=Z,222nm,0.7s
COCO West Island 64.19 216 P **P 04 31 58.0 +1.0**
COCO pmax pmax
comp=Z,440nm,1.2s
COCO West Island 64.19 216 P **P 04 31 58.0 +1.0**
COCO IAmb IAmb 04 31 59.2
comp=Z,440nm,1.2s
HLK Haleakala 64.31 86 IAmb IAmb 04 32 00.2
comp=Z,181nm,0.7s
WB0 Warramunga Arr 64.39 175 IAmb IAmb 04 31 59.4
comp=Z,487nm,1.3s
OSL Oslo 64.42 331 ⇓ *i*P **P 04 31 58.2 +0.3**
KHOR Al-Khor Airpor 64.49 281 P **P 04 31 58.4 -0.6**
WRAB Tennant Creek 64.55 175 *ce*P **P 04 31 59.1 -0.2**
WRAB pmax pmax
comp=Z,494nm,1.7s
WRAB Tennant Creek 64.55 175 P **P 04 31 59.2 0.0**
WRAB IAmb IAmb 04 32 00.4
comp=Z,480nm,1.4s
WRAB PcP **PcP 04 32 27.4 +0.3**
WRAB Tennant Creek 64.55 175 P **P 04 31 59.4 +0.2**
WRAB Tennant Creek 64.55 175 P **P 04 31 59.0 -0.2**
WRA Warramunga Arr 64.56 175 P **P 04 31 59.1 -0.2**
comp=Z,102nm,0.7s,baz=351,slow=6.9,SNR=482
WRA PcP **PcP 04 32 27.6 +0.4**
comp=Z,29nm,0.5s,baz=353,slow=4.8,SNR=9.8
WRA pP **pP 04 33 56.8 +1.4**
comp=Z,10nm,0.9s,baz=358,slow=7.2,SNR=2.4
WRA PKPPKP 05 00 39.3
comp=Z,1.7nm,0.8s,baz=191,slow=2.2,SNR=6.1
WRA Warramunga Arr 64.56 175 *i* P **P 04 31 59.0 -0.3**
WRA pmax pmax
comp=Z,102nm,0.7s
WB2 Warramunga Arr 64.56 175 IAmb IAmb 04 32 00.5
comp=Z,503nm,1.4s
GHWR Ruwais 64.59 279 P **P 04 31 58.8 -0.7**
WR0 Warramunga Arr 64.59 175 P **P 04 31 59.0 -0.5**
WR0 PcP **PcP 04 32 26.3 -0.9**
SKAR Skarslia 64.69 332 ⇓ *i*P **P 04 32 00.5 +0.9**
SHMA Al-Shehemyia 64.72 282 P **P 04 31 59.8 -0.6**
SORM Soroca 64.82 314 ⇓ P **P 04 32 00.6 0.0**
SORM Soroca 64.82 314 ⇓ P **P 04 32 00.6 0.0**
SAKB Bahrain 64.94 282 P **P 04 32 01.2 -0.6**
KVT Kavak 64.98 304 P **P 04 32 02.8 +1.0**
HYA Hoyanger 65.01 334 ⇓ *i*P **P 04 32 02.1 +0.6**
KONO Kongsberg 65.02 331 *ce*P **P 04 32 02.1 +0.4**
KONO pmax pmax
comp=Z,290nm,1.7s
KONO Kongsberg 65.02 331 ⇓ *i*P **P 04 32 01.8 +0.1**
KONO Kongsberg 65.02 331 P **P 04 32 01.6 -0.1**
KONO IAmb IAmb 04 32 03.1
comp=Z,161nm,1.0s
FOO Floro 65.04 334 ⇓ *i*P **P 04 32 02.2 +0.6**
PURM Purcari 65.04 311 ⇓ P **P 04 32 01.9 -0.1**
HPAH Hawaii Prepara 65.17 86 IAmb IAmb 04 32 05.0
comp=Z,216nm,0.8s
KIS Kishinev 65.30 312 ⇓ *i*P **P 04 32 03.0 -0.7**
comp=Z,700nm,1.2s
KIS *e*pP pP 04 34 13.0 +12
KIS Kishinev 65.30 312 *e*PP PP 04 34 28.0 -9.3
KIS *i* S **S 04 40 01.0 -0.8**
comp=Z,600nm,3.2s
KIS Kishinev 65.30 312 ⇑ P **P 04 32 03.9 +0.2**
KIS Kishinev 65.30 312 *d i*P **P 04 32 03.0 -0.7**
KIS *i* S **S 04 40 01.0 -0.8**
KIS pmax pmax
comp=Z,700nm,1.2s
KIS smax smax
comp=N,600nm,3.2s
MILM Milestii Mici 65.36 312 ⇓ *i*P **P 04 32 03.5 -0.5**
comp=N,770nm,0.9s
MILM *i* pP **pP 04 34 00.0 -1.2**
MILM Milestii Mici 65.36 312 *e*PP PP 04 34 32.0 -5.7
MILM Milestii Mici 65.36 312 ⇓ P **P 04 32 04.0 0.0**
MILM Milestii Mici 65.36 312 *d i*P **P 04 32 03.5 -0.5**
MILM *i* *PP **pP 04 34 00.0 -1.2**
MILM *i* S **S 04 40 01.0 -1.4**
MILM pmax pmax
comp=Z,6μm,0.9s
MILM pmax pmax
comp=N,170nm,0.1s
MILM pmax pmax
comp=E,200nm,1.2s
MILM smax smax
comp=N,430nm,1.4s
POHA Pohakuloa 65.47 86 P **P 04 32 06.0 +0.6**
POHA Pohakuloa 65.47 86 P **P 04 32 07.1 +1.7**
SUE Sulen 65.54 334 ⇓ *i*P **P 04 32 06.2 +1.3**
MLOA Mauna Loa Obse 65.58 86 IAmb IAmb 04 32 08.8
comp=Z,533nm,1.4s
QIS Mount Isa 65.64 170 P **P 04 32 07.0 +0.9**
KHU Kahuku 65.75 87 IAmb IAmb 04 32 09.7
comp=Z,418nm,1.3s
DEL Delary 65.76 327 *i* P **P 04 32 05.0 -1.3**
ODD1 Odda 65.82 333 ⇓ *i*P **P 04 32 07.5 +0.7**

IAS	**Iasi**	**65.83 313**	⇓P	**P**	**04 32 07.3 +0.4**
IAS	**Iasi**	**65.83 313**	⇓P	**P**	**04 32 07.3 +0.4**
ASK	**Askoy**	**65.85 334**	⇓*i*P	**P**	**04 32 07.5 +0.7**
BER	**Bergen**	**65.88 333**	⇓*i*P	**P**	**04 32 07.5 +0.5**
LVV	**L'vov**	**65.89 317**	*c i*P	**P**	**04 32 07.7 +0.4**
LVV			*e**PP	**pP**	**04 34 05.6 +0.8**
LVV			*e*		04 35 10.3
LVV			*e*PPP	PPP	04 36 28.9
LVV			*e*S	**S**	**04 40 07.4 -1.2**
LVV			*e*		04 41 05.5
LVV			*e*SSS	SSS	04 47 57.4
LVV			pmax	pmax	
	comp=Z,2μm,1.5s				
LEOM	**Leova**	**65.94 312**	⇑P	**P**	**04 32 08.3 +0.7**
LEOM	**Leova**	**65.94 312**	⇑P	**P**	**04 32 08.3 +0.7**
BEL	**Belsk**	**66.06 320**	*e*P	**P**	**04 32 09.4 +1.1**
BEL			*e*pP	**pP**	**04 34 06.0 +0.2**
BEL			*e*PP	**PP**	**04 34 45.6 +2.0**
BEL			*e*S	**S**	**04 40 12.5 +1.9**
VASR	**Vaslui**	**66.07 313**	⇑P	**P**	**04 32 08.8 +0.3**
ICESG	**Greenland Ices**	**66.16 356**	*i* P	**P**	**04 32 08.8 -0.2**
ICESG			IAmb	IAmb	04 32 10.7
	comp=Z,158nm,0.8s				
BLS5	**Blasjo**	**66.25 332**	⇓*i*P	**P**	**04 32 10.1 +0.8**
CTA	**Charters Tower**	**66.27 163**	P	**P**	**04 32 10.7 +0.7**
CTAO	**Charters Tower**	**66.27 163**	P	**P**	**04 32 10.5 +0.5**
CTAO			pmax	pmax	
	comp=Z,338nm,1.5s				
CTAO	**Charters Tower**	**66.27 163**	P	**P**	**04 32 10.5 +0.5**
CTAO			IAmb	IAmb	04 32 11.6
	comp=Z,338nm,1.5s				
CTAO	**Charters Tower**	**66.27 163**	P	**P**	**04 32 10.4 +0.5**
CTAO	**Charters Tower**	**66.27 163**	P	**P**	**04 32 10.3 +0.3**
CTAO			pP	**pwP**	**04 34 09.8 -1.4**
ILULI	**Ilulissat**	**66.30 0**	*i* P	**P**	**04 32 09.1 -0.3**
ILULI			IAmb	IAmb	04 32 10.6
	comp=Z,118nm,0.5s				
ILULI	**Ilulissat**	**66.30 0**	IAmb	IAmb	04 32 11.0
	comp=Z,159nm,0.5s				
MBWA	**Marble Bar**	**66.31 190**	P	**P**	**04 32 10.2 0.0**
MBWA	**Marble Bar**	**66.31 190**	P	**P**	**04 32 09.8 -0.4**
BSD	**Bornholm Skovb**	**66.31 325**	*i* P	**P**	**04 32 08.6 -1.2**
BSD			IAmb	IAmb	04 32 10.5
	comp=Z,247nm,0.6s				
BSD	**Bornholm Skovb**	**66.31 325**	*e*P	**P**	**04 32 09.7 -0.1**
BSD	**Bornholm Skovb**	**66.31 325**	*e*P	**P**	**04 32 09.6 -0.2**
BIR	**Birlad**	**66.40 312**	⇓P	**P**	**04 32 11.6 +1.1**
BIR	**Birlad**	**66.40 312**	P	**P**	**04 32 12.9 +2.4**
PRAR	**RASCA**	**66.41 314**	⇑P	**P**	**04 32 10.5 -0.1**
HOMB	**Homborsund**	**66.42 331**	*i* P	**P**	**04 32 09.0 -1.4**
HOMB	**Homborsund**	**66.42 331**	⇓*i*P	**P**	**04 32 10.6 +0.2**
VLDR	**Vladesti**	**66.44 312**	⇑P	**P**	**04 32 11.5 +0.8**
SOEG	**Soedalen**	**66.44 353**	*i* P	**P**	**04 32 10.4 +0.1**
SOEG			IAmb	IAmb	04 32 11.7
	comp=Z,75nm,0.4s				
TLCR		**66.47 311**	⇑P	**P**	**04 32 11.2 +0.3**
TLCR		**66.47 311**	P	**P**	**04 32 12.6 +1.7**
SHAO	**Shalim**	**66.50 272**	P	**P**	**04 32 12.4 +0.8**
	SNR=7.8				
SHAO			P	**P**	**04 32 12.4 +0.8**
	SNR=7.8				
SHAO	**Shalim**	**66.50 272**	*i* P	**P**	**04 32 12.0 +0.5**
	SNR=69				
VARL	**Varlezi**	**66.52 312**	⇑P	**P**	**04 32 11.8 +0.6**
OVD	**Ostervraa, Den**	**66.53 329**	*i* P	**P**	**04 32 10.9 -0.2**
OVD			IAmb	IAmb	04 32 12.0
	comp=Z,359nm,0.5s				
SCTR	**Scanteiesti**	**66.59 312**	⇑P	**P**	**04 32 12.3 +0.6**
GIUM	**Giurgiulesti**	**66.60 311**	⇑P	**P**	**04 32 12.4 +0.7**
TATR	**Tatarca**	**66.61 312**	⇑P	**P**	**04 32 12.4 +0.6**
GKP	**Gorka Klasztor**	**66.65 323**	*e*P	**P**	**04 32 12.4 +0.6**
GKP			*e*pP	**pP**	**04 34 10.3 +0.6**
GKP			*e*PP	**PP**	**04 34 51.1 +2.5**
GKP			*e*S	**S**	**04 40 18.3 +1.0**
GKP	**Gorka Klasztor**	**66.65 323**	*e*P	**P**	**04 32 12.0 +0.2**
GHRR		**66.65 312**	⇑P	**P**	**04 32 13.0 +1.0**
KWP	**Kalwaria Pacla**	**66.65 317**	*e*P	**P**	**04 32 13.1 +1.1**
KWP			*e*pP	**pP**	**04 34 10.4 +0.5**
KWP			*e*S	**S**	**04 40 18.8 +1.2**
PSA00	**Pilbara Seismi**	**66.70 190**	P	**P**	**04 32 11.3 -1.2**
PSA00			IAmb	IAmb	04 32 13.7
	comp=Z,509nm,1.5s				
PSA00	**Pilbara Seismi**	**66.70 190**	P	**P**	**04 32 12.5 -0.1**
JURR	**Jurilovca**	**66.71 310**	⇑P	**P**	**04 32 14.0 +1.6**
GAZ	**Gaziantep**	**66.72 300**	IAmb	IAmb	04 32 13.6
	comp=Z,254nm,1.0s				
TESR	**Tescani**	**66.75 313**	⇑P	**P**	**04 32 13.0 +0.3**
BURAR	**Bucovina Array**	**66.76 315**	⇓P	**P**	**04 32 13.6 +0.8**
BURAR	**Bucovina Array**	**66.76 315**	P	**P**	**04 32 14.9 +2.1**
BURAR	**Bucovina Array**	**66.76 315**	P	**P**	**04 32 13.3 +0.5**
BURAR			pP	**pP**	**04 34 12.1 +1.3**
SLCR	**Slobozia Conac**	**66.77 312**	⇓P	**P**	**04 32 13.3 +0.6**
SCHL	**Schela**	**66.79 312**	⇑P	**P**	**04 32 13.5 +0.6**
IZVR	**Izvoarele**	**66.80 312**	⇓P	**P**	**04 32 14.0 +1.1**
TUDR		**66.82 312**	⇓P	**P**	**04 32 14.2 +1.2**
SNART	**Snartemo**	**66.82 331**	*i* P	**P**	**04 32 12.0 -0.8**
SNART	**Snartemo**	**66.82 331**	⇓*i*P	**P**	**04 32 13.4 +0.5**
CFR	**Carcaliu**	**66.84 311**	⇑P	**P**	**04 32 13.0 -0.2**
CFR	**Carcaliu**	**66.84 311**	⇑P	**P**	**04 32 13.0 -0.2**
TPGR	**Topolog**	**66.90 311**	⇑P	**P**	**04 32 13.7 +0.1**
C03A	**Quillayute Air**	**66.90 45**	IAmb	IAmb	04 32 17.2
	comp=Z,205nm,1.1s				
ODBI	**Odobesti**	**67.03 312**	⇓P	**P**	**04 32 16.5 +2.1**
VRI	**Vrincioaia**	**67.14 312**	⇑P	**P**	**04 32 15.8 +0.7**
VRI	**Vrincioaia**	**67.14 312**	⇑P	**P**	**04 32 15.8 +0.7**
TIRR	**Tirgusor**	**67.16 310**	⇓P	**P**	**04 32 15.1 -0.1**
TIRR	**Tirgusor**	**67.16 310**	⇓P	**P**	**04 32 15.1 -0.1**
PLOR	**Plostina**	**67.19 312**	⇓P	**P**	**04 32 16.2 +0.8**
PLOR	**Plostina**	**67.19 312**	⇓P	**P**	**04 32 16.2 +0.8**
TSCT	**Constanta Port**	**67.22 310**	⇓P	**P**	**04 32 16.0 +0.5**
BR131	**Keskin Array S**	**67.26 304**	IAmb	IAmb	04 32 17.7
	comp=Z,325nm,1.0s				
BRTR	**Keskin Array B**	**67.26 304**	P	**P**	**04 32 16.4 +0.2**
	comp=Z,152nm,0.9s,baz=58,slow=4.9,SNR=304				
BRTR			pP	**pP**	**04 34 14.7 +0.4**
	comp=Z,15nm,0.8s,baz=79,slow=3.5,SNR=4.7				
BRTR			PP	**PP**	**04 34 51.0 -3.4**
	comp=Z,22nm,1.0s,baz=78,slow=9.1,SNR=4.1				
BRTR			PKPPKP	**P'P'df**	**05 00 34.1 -1.2**
	comp=Z,6.4nm,1.2s,baz=129,slow=1.8,SNR=6.9				
BRTR	**Keskin Array B**	**67.26 304**	*i* P	**P**	**04 32 16.3 +0.2**
BRTR			pmax	pmax	
	comp=Z,156nm,0.9s				
HARR	**Harsova**	**67.27 311**	⇑P	**P**	**04 32 16.3 +0.5**
HARR	**Harsova**	**67.27 311**	P	**P**	**04 32 17.7 +1.9**
EFOR	**EFORIE**	**67.29 310**	⇓P	**P**	**04 32 17.0 +1.1**
A04D	**Lummi Island**	**67.30 43**	P	**P**	**04 32 17.8 +1.8**
	baz=313,SNR=17				
TLBR	**Topalu**	**67.30 311**	⇑P	**P**	**04 32 16.6 +0.6**
GRER		**67.33 312**	⇓P	**P**	**04 32 18.0 +1.8**
MFTR	**Murfatlar**	**67.34 310**	⇑P	**P**	**04 32 17.2 +0.9**
B04A	**Port Angeles**	**67.36 44**	IAmb	IAmb	04 32 19.5
	comp=Z,185nm,1.3s				
RGN	**Rugen**	**67.36 326**	*e*P	**P**	**04 32 17.1 +0.9**
RGN	**Rugen**	**67.36 326**	*e*P	**P**	**04 32 17.3 +1.0**
	comp=Z,980nm,1.2s,baz=40,slow=5.8				
RGN			*e*pP	**pP**	**04 34 14.1 -0.4**
RGN			*e*PP	**PP**	**04 34 48.7 -6.0**
RGN	**Rugen**	**67.36 326**	P	**P**	**04 32 16.9 +0.6**
COVR	**Voineasa-Covas**	**67.42 313**	⇓P	**P**	**04 32 17.6 +0.8**
OZUR		**67.48 313**	⇓P	**P**	**04 32 18.3 +1.2**
MANR	**Mangalia**	**67.48 310**	⇓P	**P**	**04 32 18.1 +1.0**
STHS	**Stebnicka Huta**	**67.50 318**	*e*P	**P**	**04 32 17.2 0.0**
STHS	**Stebnicka Huta**	**67.50 318**	*e*P	**P**	**04 32 17.2 0.0**
UZH	**Uzhgorod**	**67.53 317**	⇓*e*P	**P**	**04 32 15.5 -1.9**
UZH			*e*		04 36 44.2
UZH			*i* S	**S**	**04 40 24.0 -3.8**
ARCR	**ARCALIA**	**67.55 315**	⇓P	**P**	**04 32 19.1 +1.5**
MUD	**Monsted U'grnd**	**67.55 329**	*i* P	**P**	**04 32 16.9 -0.4**
MUD			IAmb	IAmb	04 32 18.8
	comp=Z,136nm,0.6s				
BMR	**Baia Mare**	**67.59 315**	⇓P	**P**	**04 32 18.9 +1.1**
BMR	**Baia Mare**	**67.59 315**	⇓P	**P**	**04 32 18.9 +1.1**
NLWA	**Neilton Lookou**	**67.62 45**	IAmb	IAmb	04 32 21.5
	comp=Z,376nm,1.4s				
OJC	**Ojcow**	**67.63 319**	*e*P	**P**	**04 32 18.9 +0.9**
OJC			*e*PP	**PP**	**04 34 59.1 +2.0**
OJC			*e*S	**S**	**04 40 30.0 +1.0**
PGOR	**Pogoanele**	**67.63 312**	⇑P	**P**	**04 32 19.5 +1.5**
AMRR	**Amara**	**67.64 311**	⇓P	**P**	**04 32 19.1 +1.0**
AMRR	**Amara**	**67.64 311**	⇓P	**P**	**04 32 19.1 +1.0**
NEHR	**Nehoiu**	**67.65 312**	⇓P	**P**	**04 32 19.0 +0.8**
ANTO	**Ankara**	**67.66 304**	P	**P**	**04 32 19.1 +0.7**
ANTO			pmax	pmax	
	comp=Z,593nm,1.1s				
ANTO	**Ankara**	**67.66 304**	P	**P**	**04 32 19.1 +0.7**
ISR	**Istrita**	**67.73 312**	⇑P	**P**	**04 32 20.5 +1.8**
ISR	**Istrita**	**67.73 312**	⇑P	**P**	**04 32 20.5 +1.8**
TRPA	**Tarpa**	**67.75 316**	⇓P	**P**	**04 32 19.9 +1.2**
TRPA	**Tarpa**	**67.75 316**	P	**P**	**04 32 19.4 +0.7**
TRPA			PP	**pP**	**04 34 17.9 +0.8**
DOPR	**Dopca**	**67.77 313**	⇑P	**P**	**04 32 20.2 +1.3**
PSN	**Preselentsi**	**67.79 310**	*i* P	**P**	**04 32 20.0 +0.9**
MLR	**Muntele Rosu**	**67.80 313**	⇓P	**P**	**04 32 20.0 +0.8**
MLR	**Muntele Rosu**	**67.80 313**	⇓P	**P**	**04 32 20.0 +0.8**
MLR	**Muntele Rosu**	**67.80 313**	P	**P**	**04 32 19.6 +0.4**
TGMR	**Targu Mures**	**67.84 314**	⇑P	**P**	**04 32 21.1 +1.9**
KALB	**Balgarevo**	**67.85 310**	⇑P	**P**	**04 32 20.9 +1.5**
RBK	**Rabkut**	**67.85 273**	P	**P**	**04 32 19.5 -0.4**
	SNR=19				
WISH	**Wishkah**	**67.86 45**	IAmb	IAmb	04 32 23.2
	comp=Z,130nm,0.9s				
WHFO	**Wadi Hawf**	**67.88 274**	P	**P**	**04 32 19.5 -0.6**
	SNR=28				
B05A	**Bryant**	**67.91 43**	P	**P**	**04 32 21.5 +1.9**
	baz=313,SNR=40				
B05A			S	**S**	**04 40 32.7 +0.4**
	baz=313				
D03D	**Eldon**	**67.92 44**	P	**P**	**04 32 21.9 +2.2**
	baz=313,SNR=26				
NIE	**Niedzica**	**67.95 318**	*e*P	**P**	**04 32 22.0 +2.1**
NIE			*e*PP	**PP**	**04 35 03.8 +3.9**
NIE			*e*S	**S**	**04 40 36.4 +3.7**
RASA	**Rasa**	**68.00 311**	⇓P	**P**	**04 32 20.7 +0.5**
LEHL	**Lehliu**	**68.01 311**	⇓P	**P**	**04 32 21.4 +1.1**
B06A	**Marblemount**	**68.03 43**	IAmb	IAmb	04 32 22.4
	comp=Z,162nm,0.5s				
SECR		**68.03 312**	⇓P	**P**	**04 32 21.7 +1.2**
PLAR	**PLOIESTI**	**68.14 312**	⇓P	**P**	**04 32 22.4 +1.3**
CBBR	**Cluj-Babes-Bol**	**68.17 315**	⇓P	**P**	**04 32 22.7 +1.4**
MDB	**Medias**	**68.17 314**	⇓P	**P**	**04 32 22.9 +1.6**
MDB	**Medias**	**68.17 314**	P	**P**	**04 32 24.2 +2.9**
SULR		**68.17 312**	⇑P	**P**	**04 32 21.6 +0.3**
CJR	**Cluj-Napoca**	**68.18 315**	⇑P	**P**	**04 32 22.6 +1.2**
CJR	**Cluj-Napoca**	**68.18 315**	⇑P	**P**	**04 32 22.6 +1.2**
MESR	**Meseseni**	**68.21 315**	⇓P	**P**	**04 32 23.0 +1.4**
AS31	**Alice Springs**	**68.24 176**	P	**P**	**04 32 22.4 +0.4**
ASAR	**Alice Springs**	**68.24 176**	P	**P**	**04 32 22.3 +0.4**
	comp=Z,110nm,0.5s,baz=354,slow=6.5,SNR=1314				
ASAR			PcP	**PcP**	**04 32 42.6 +0.1**
	comp=Z,25nm,0.6s,baz=3.6,slow=4.7,SNR=7.4				
ASAR			PKPPKP	**P'P'df**	**05 00 33.9 +4.6**
	comp=Z,1.4nm,0.8s,baz=180,slow=3.9,SNR=5.2				
VOIR		**68.30 313**	⇓P	**P**	**04 32 22.8 +0.6**
VOIR		**68.30 313**	⇓P	**P**	**04 32 22.8 +0.6**
D04E	**Lakebay**	**68.31 45**	P	**P**	**04 32 24.9 +2.8**
	baz=313,SNR=22				
E03A	**Lebam**	**68.35 45**	IAmb	IAmb	04 32 26.3
	comp=Z,274nm,1.0s				
INCR	**INCERC-Sediu C**	**68.38 312**	⇑P	**P**	**04 32 23.7 +1.2**
MTUR	**Matau**	**68.43 313**	⇓P	**P**	**04 32 23.5 +0.5**
MTUR	**Matau**	**68.43 313**	P	**P**	**04 32 26.0 +3.0**
RAC	**Raciborz**	**68.46 320**	*e*P	**P**	**04 32 24.2 +1.2**
RAC			*e*PP	**pP**	**04 34 19.2 -2.6**
RAC	**Raciborz**	**68.46 320**	*e*P	**P**	**04 32 24.2 +1.2**
BORG	**Borgarnes**	**68.49 347**	P	**P**	**04 32 24.5 +1.6**
BORG			pmax	pmax	
	comp=Z,285nm,1.3s				
BORG	**Borgarnes**	**68.49 347**	P	**P**	**04 32 24.5 +1.6**
BORG			IAmb	IAmb	04 32 26.4
	comp=Z,285nm,1.2s				
KECS	**Kecovo**	**68.50 318**	*e*P	**P**	**04 32 23.9 +0.6**
KECS			pmax	pmax	
	comp=Z,55nm,1.1s				
KECS	**Kecovo**	**68.50 318**	*e*P	**P**	**04 32 23.9 +0.6**
KECS			*e*PP	**PP**	**04 35 04.5 -0.1**
BUC1	**Bucharest**	**68.52 312**	⇓P	**P**	**04 32 23.8 +0.5**
BUC1	**Bucharest**	**68.52 312**	P	**P**	**04 32 26.0 +2.6**
SFJD	**Kangerlussuaq**	**68.52 0**	*i* P	**P**	**04 32 22.1 -0.9**
SFJD			IAmb	IAmb	04 32 24.2
	comp=Z,29nm,0.8s				
SFJD	**Kangerlussuaq**	**68.52 0**	P	**P**	**04 32 23.5 +0.5**
SFJD			IAmb	IAmb	04 32 24.7
	comp=Z,135nm,1.0s				
SFJD			pP	**pP**	**04 34 22.6 +0.7**
ARR	**Arges**	**68.56 313**	⇓P	**P**	**04 32 25.2 +1.5**
LTVH	**Ltavrtes, Hu**	**68.57 316**	⇑P	**P**	**04 32 24.5 +0.8**
LTVH	**Ltavrtes, Hu**	**68.57 316**	P	**P**	**04 32 24.1 +0.4**
LTVH			PP	**pP**	**04 34 20.4 -2.1**
LTVH			S	**S**	**04 40 43.3 +3.4**
DRGR		**68.58 315**	⇑P	**P**	**04 32 24.6 +0.8**
DRGR		**68.58 315**	⇑P	**P**	**04 32 24.6 +0.8**
ABTO	**Aybut**	**68.60 273**	P	**P**	**04 32 24.2 -0.2**
	SNR=36				
SGRR	**Singureni**	**68.63 311**	⇑P	**P**	**04 32 24.2 +0.2**
GIRL	**Giralia**	**68.65 196**	P	**P**	**04 32 25.7 +1.3**
OKC	**Ostrava-Krasne**	**68.66 320**	*e*P	**P**	**04 32 25.1 +0.9**
OKC	**Ostrava-Krasne**	**68.66 320**	⇓*e*P	**P**	**04 32 25.1 +0.9**
RUE	**Ruedersdorf**	**68.68 324**	*e*P	**P**	**04 32 25.0 +0.8**
RUE	**Ruedersdorf**	**68.68 324**	*e*P	**P**	**04 32 25.3 +1.0**
	comp=Z,669nm,1.3s,baz=40,slow=5.8				
RUE			*e*pP	**pP**	**04 34 23.7 +0.6**
D05A	**Enumclaw**	**68.70 44**	IAmb	IAmb	04 32 28.8
	comp=Z,473nm,1.4s				
C06D	**Leavenworth**	**68.73 43**	P	**P**	**04 32 26.2 +1.5**
	baz=314,SNR=11				
STFAR	**Stefanesti-Arg**	**68.73 313**	⇓P	**P**	**04 32 24.7 0.0**
KSP	**Ksiaz**	**68.78 321**	*e*P	**P**	**04 32 25.9 +1.0**
KSP			*e*pP	**pP**	**04 34 23.9 +0.1**
KSP			*e*S	**S**	**04 40 43.8 +1.6**
RAZG	**Razgrad**	**68.78 311**	⇑P	**P**	**04 32 25.2 +0.2**
IZAB	**Izabela**	**68.81 318**	*e*P	**P**	**04 32 26.3 +1.1**
IZAB			pmax	pmax	
	comp=Z,206nm,1.1s				
BORR	**Bors**	**68.83 316**	⇑P	**P**	**04 32 26.5 +1.2**
E04D	**Cinebar**	**68.84 45**	P	**P**	**04 32 27.6 +2.3**
	baz=313,SNR=34				
SANVU	**Saraoutou**	**68.86 141**	P	**P**	**04 32 26.5 +0.7**
SANVU	**Saraoutou**	**68.86 141**	P	**P**	**04 32 26.9 +1.1**
F04D	**Rainier, OR**	**68.94 45**	P	**P**	**04 32 28.1 +2.1**
	baz=313,SNR=12				
HUMR	**Humele**	**68.95 312**	⇑P	**P**	**04 32 26.1 0.0**
LOT	**Lotru**	**68.96 314**	⇑P	**P**	**04 32 27.2 +1.0**
MORC	**Moravsky Berou**	**68.98 320**	⇓P	**P**	**04 32 27.4 +1.2**
MORC	**Moravsky Berou**	**68.98 320**	P	**P**	**04 32 28.5 +2.3**
MORC	**Moravsky Berou**	**68.98 320**	⇓*i*P	**P**	**04 32 27.1 +0.9**
MORC			*e*pP	**pP**	**04 34 26.1 +0.9**
MORC			*e*S	S	**04 40 45.9 +1.3**
MORC			*e*PKPPKP	P'P'df	05 00 23.4 -8.8
MORC	**Moravsky Berou**	**68.98 320**	P	**P**	**04 32 26.5 +0.3**
BSEG	**Bad Segeberg**	**69.01 327**	*e*P	**P**	**04 32 27.2 +1.0**
	comp=Z,447nm,1.1s,baz=40,slow=5.8				
BSEG			*e*pP	**pP**	**04 34 25.8 +0.6**
DY2G	**Dye2**	**69.01 358**	*i* P	**P**	**04 32 25.8 -0.5**
DY2G			IAmb	IAmb	04 32 27.9
	comp=Z,148nm,0.9s				
CHVC	**Chvalec**	**69.07 321**	⇓*i*P	**P**	**04 32 27.8 +1.1**
CHVC			*ex*	**S**	**04 40 48.2 +2.6**
DEV	**Deva**	**69.10 314**	⇓P	**P**	**04 32 27.9 +1.0**
DEV	**Deva**	**69.10 314**	⇓P	**P**	**04 32 27.9 +1.0**
KRLC	**Kraliky**	**69.11 321**	⇓*i*P	**P**	**04 32 28.0 +1.1**
KRLC			*e*		04 40 47.2
KRLC	**Kraliky**	**69.11 321**	⇓*i*P	**P**	**04 32 28.4 +1.1**
KRLC			*ex*	**S**	**04 40 47.2 +1.1**
KRLC			*e*PKPPKP	**P'P'df**	**05 00 24.5 -7.5**
DPC	**Dobruska-Polom**	**69.12 321**	⇓*i*P	**P**	**04 32 28.3 +1.3**
DPC			*e**PP	**pP**	**04 34 28.2 +2.1**
DPC			*e*		04 40 47.6
DPC	**Dobruska-Polom**	**69.12 321**	⇓*i*P	**P**	**04 32 28.3 +1.3**
DPC			*e*pP	**pP**	**04 34 28.2 +2.1**
DPC			*e*S	**S**	**04 40 47.6 +1.4**
DPC			*e*PKPPKP	**P'P'df**	**05 00 24.3 -7.6**
UPC	**Upice**	**69.14 321**	⇓*i*P	**P**	**04 32 28.1 +1.0**
UPC			*e*		04 40 48.0
UPC	**Upice**	**69.14 321**	⇓*i*P	**P**	**04 32 28.1 +1.0**
UPC			*e*S	**S**	**04 40 48.0 +1.6**
HEBO	**Mount Hebo**	**69.16 47**	P	**P**	**04 32 28.4 +1.0**
HEBO			IAmb	IAmb	04 32 30.9
	comp=Z,229nm,1.1s				
B08A	**Colville Reser**	**69.17 42**	IAmb	IAmb	04 32 30.1
	comp=Z,152nm,1.2s				
PSZ	**Piszkesteto**	**69.18 317**	⇓P	**P**	**04 32 28.8 +1.3**
PSZ	**Piszkesteto**	**69.18 317**	P	**P**	**04 32 30.0 +2.5**
PSZ	**Piszkesteto**	**69.18 317**	P	**P**	**04 32 27.5 +0.1**
PSZ			PP	**pP**	**04 34 27.3 +0.7**
PSZ			S	**S**	**04 40 49.0 +1.9**
VYHS	**Vyhne**	**69.28 318**	*e*P	**P**	**04 32 28.9 +0.9**
VYHS			pmax	pmax	
	comp=Z,353nm,1.3s				
VYHS	**Vyhne**	**69.28 318**	*e*P	**P**	**04 32 28.9 +0.9**
VYHS			*e*PP	**PP**	**04 35 10.0 -1.2**
SZH	**Strazhica**	**69.29 311**	*i* P	**P**	**04 32 28.1 0.0**
LTY	**Liberty**	**69.30 43**	IAmb	IAmb	04 32 30.8
	comp=Z,108nm,0.8s				
ZIMR		**69.33 311**	⇓P	**P**	**04 32 28.9 +0.5**
ZIMR		**69.33 311**	P	**P**	**04 32 29.9 +1.6**
HWQ	**Hawqa**	**69.36 298**	*e*P	**P**	**04 32 28.2 -0.7**
G03D	**McMinnville, O**	**69.41 46**	P	**P**	**04 32 30.9 +2.2**
	baz=313,SNR=13				
KOLL	**Kolacno**	**69.43 319**	*e*P	**P**	**04 32 30.0 +1.2**
BSZH	**Besenyszg**	**69.44 317**	⇓P	**P**	**04 32 30.3 +1.5**
BSZH	**Besenyszg**	**69.44 317**	P	**P**	**04 32 28.8 0.0**
BSZH			PP	**pP**	**04 34 27.2 -0.8**
SIRR	**Siria**	**69.47 315**	⇑P	**P**	**04 32 29.7 +0.6**
JMB	**Yambol**	**69.48 310**	*i* P	**P**	**04 32 29.8 +0.6**
ANGG	**Ammassalik, Gr**	**69.49 355**	*i* P	**P**	**04 32 28.2 -0.6**
ANGG			IAmb	IAmb	04 32 29.6
	comp=Z,94nm,0.5s				
ANGG	**Ammassalik, Gr**	**69.49 355**	IAmb	IAmb	04 32 30.0
	comp=Z,110nm,0.6s				
GZR	**Gura Zlata**	**69.50 314**	⇓P	**P**	**04 32 30.3 +0.9**
GZR	**Gura Zlata**	**69.50 314**	⇓P	**P**	**04 32 30.3 +0.9**
WRKA	**Warakurna**	**69.53 182**	P	**P**	**04 32 30.2 +0.6**
JAVC	**Velka Javorina**	**69.57 319**	⇓*i*P	**P**	**04 32 31.7 +2.0**
JAVC			*e*pP	**pP**	**04 34 31.2 +2.1**
JAVC			*e*S	**S**	**04 40 54.5 +3.0**
JAVC			*e*PKPPKP	P'P'df	05 00 23.2 -8.0
VLAD	**Vladila**	**69.61 312**	⇓P	**P**	**04 32 30.2 +0.3**
ISOG	**Isortoq, Green**	**69.64 355**	*i* P	**P**	**04 32 28.8 -1.0**
ISOG			IAmb	IAmb	04 32 30.6
	comp=Z,93nm,0.5s				
VRAC	**Vranov**	**69.74 320**	⇓P	**P**	**04 32 31.8 +1.1**
VRAC	**Vranov**	**69.74 320**	P	**P**	**04 32 33.4 +2.7**
VRAC	**Vranov**	**69.74 320**	⇓*i*P	**P**	**04 32 31.9 +1.2**
VRAC			*e*pP	**pP**	**04 34 31.3 +1.2**
VRAC			*e*S	**S**	**04 40 54.9 +1.6**
VRAC			*e*PKPPKP	**P'P'df**	**05 00 24.9 -5.9**
HLG	**Helgoland**	**69.75 328**	*e*P	**P**	**04 32 31.4 +0.8**
	comp=Z,511nm,1.2s,baz=40,slow=5.8				
PVCC	**Panska Ves**	**69.77 322**	⇓*i*P	**P**	**04 32 32.0 +1.2**
PVCC	**Panska Ves**	**69.77 322**	⇓*i*P	**P**	**04 32 32.0 +1.2**
SRE	**Strehaia**	**69.78 313**	⇓P	**P**	**04 32 32.4 +1.4**
SRE	**Strehaia**	**69.78 313**	⇓P	**P**	**04 32 32.4 +1.4**
BRG	**Berggiesshubel**	**69.79 323**	⇓*i*P	**P**	**04 32 31.6 +0.7**
BRG			Amp		04 32 33.8
	comp=Z,433nm,1.5s				
BRG			*ex*	x	04 32 46.5
BRG			Amp		04 32 49.6
	comp=Z,52nm,1.1s				
BRG			pP	**pP**	**04 34 30.6 +0.2**
BRG			Amp		04 34 32.4
	comp=Z,81nm,1.4s				
BRG			*ex*	x	04 34 54.9
BRG			Amp		04 34 58.0
	comp=Z,53nm,1.2s				
BRG			PP	**PP**	**04 35 15.2 -0.2**
BRG			Amp		04 35 19.6
	comp=Z,148nm,1.5s				
BRG			*i* S	**S**	**04 40 55.4 +1.7**
BRG			Amp		04 40 58.0
	comp=Z,112nm,2.0s				
BRG			⇑SP	**SKSac**	**04 41 30.3 -4.5**
BRG			Amp		04 41 31.3
	comp=Z,20nm,1.2s				
BRG	**Berggiesshubel**	**69.79 323**	⇓*i*P	**P**	**04 32 31.6 +0.7**
BRG			*e*		04 32 46.4
BRG					04 34 30.5
BRG					04 35 15.1
BRG			*i* S	**S**	**04 40 55.4 +1.7**
BRG					04 41 30.2
BRG			SS	**SS**	**04 45 36.0 -1.3**
BRG			pmax	pmax	
	comp=Z,433nm,1.5s				
BRG	**Berggiesshubel**	**69.79 323**	*e*P	**P**	**04 32 31.8 +0.9**
	comp=Z,263nm,1.2s,baz=40,slow=5.8				
BRG		

RAYN **Ar Rayn** 70.02 284 *i* P P 04 32 32.5 -0.3
SNR=92
HERR **Herculane** 70.04 314 ⇑P P 04 32 32.7 +0.2
TIM **Timisoara** 70.05 315 ⇑P P 04 32 34.1 +1.5
TIM **Timisoara** 70.05 315 P P 04 32 35.5 +3.0
C09A **Chrisman Ranch** 70.07 42 IAmb IAmb 04 32 34.9
comp=Z,158nm,0.5s
MODS **Modra-Piesok** 70.10 319 *e*P P 04 32 33.2 +0.4
MODS pmax pmax
comp=Z,403nm,1.2s
MODS **Modra-Piesok** 70.10 319 *e*P P 04 32 33.2 +0.4
DJES **Djerdap** 70.14 314 ⇑P P 04 32 33.8 +0.7
DJES **Djerdap** 70.14 314 *e*P P 04 32 33.9 +0.8
KNTN **Kanton** 70.14 115 P P 04 32 34.7 +1.2
KNTN IAmb IAmb 04 32 36.1
comp=Z,205nm,0.9s
KNTN **Kanton** 70.14 115 P P 04 32 36.7 +3.2
comp=Z,279nm,1.5s
BAIL **Bailesti** 70.15 313 ⇓P P 04 32 34.4 +1.2
H04D **Lebanon** 70.16 47 P P 04 32 35.4 +2.2
baz=314,SNR=16
H04D S S 04 40 56.5 -1.7
baz=314
HOOD **Mount Hood Mea** 70.16 45 IAmb IAmb 04 32 36.6
comp=Z,283nm,1.0s
PRA **Prague** 70.16 322⇓*i*P P 04 32 34.4 +1.3
PRA **Prague** 70.16 322⇓*i*P P 04 32 34.4 +1.3
PRU **Pruhonice** 70.17 322⇓*i*P P 04 32 34.2 +1.0
PRU *e**PP pP 04 34 33.6 +0.8
PRU *e* 04 41 00.0
PRU **Pruhonice** 70.17 322⇓*i*P P 04 32 34.2 +1.0
PRU *e*pP pP 04 34 33.6 +0.8
PRU *e*S S 04 41 00.0 +1.9
PRU *e*PKPPKP P'P'df 05 00 21.4 -8.6
NRDL **Niedersach Rie** 70.18 326 *e*P P 04 32 34.1 +1.0
comp=Z,311nm,1.1s,baz=40,slow=5.8
NRDL *e*pP pP 04 34 33.2 +0.5
E07A **Sunnyside** 70.19 44 IAmb IAmb 04 32 36.6
comp=Z,163nm,0.6s
EDC **Edincik** 70.19 307 P P 04 32 34.0 +0.5
PUNG **Punghina** 70.19 313 ⇓P P 04 32 34.1 +0.7
BIGH **Upper Bighouse** 70.21 336 *e*P P 04 32 33.8 +0.6
MLA1 **Latheron** 70.21 336⇓*e*P P 04 32 34.1 +0.9
ASSE **Asse, Remlinge** 70.22 325 *e*P P 04 32 34.4 +1.0
comp=Z,333nm,1.5s,baz=40,slow=5.8
ASSE *e*PcP PcP 04 32 54.9 +4.3
ASSE *e*pP pP 04 34 33.0 +0.1
BUCK **Buck Mountain** 70.25 47 IAmb IAmb 04 32 37.7
comp=Z,253nm,1.1s
TREC **Trest** 70.25 321⇓*i*P P 04 32 34.8 +1.1
TREC **Trest** 70.25 321⇓*i*P P 04 32 34.8 +1.1
NEW **Newport** 70.28 41 IAmb IAmb 04 32 36.9
comp=Z,205nm,1.3s
NEW **Newport** 70.28 41 P P 04 32 35.5 +1.5
baz=316,SNR=82
NEW S S 04 41 01.2 +1.7
baz=316
D08A **Wollman Farm,** 70.29 43 P P 04 32 34.9 +1.0
D08A IAmb IAmb 04 32 36.8
comp=Z,322nm,1.5s
RETH **Rethem/Aller,** 70.29 326 *e*P P 04 32 34.7 +0.9
comp=Z,393nm,1.2s,baz=40,slow=5.8
RETH *e*pP pP 04 34 33.9 +0.4
ZST **Bratislava** 70.31 319 *e*P P 04 32 35.3 +1.3
ZST pmax pmax
comp=Z,969nm,1.4s
ZST **Bratislava** 70.31 319 *e*P P 04 32 35.3 +1.3
H04A **Detroit Lake** 70.33 46 IAmb IAmb 04 32 37.7
comp=Z,103nm,0.7s
DIM **Dimitrovgrad** 70.33 310 *i*P P 04 32 35.4 +1.1
ISP **Isparta** 70.34 304 P P 04 32 34.4 -0.2
ISP **Isparta** 70.34 304 IAmb IAmb 04 32 35.6
comp=Z,279nm,1.2s
BANR **Banloc** 70.34 315 ⇓P P 04 32 35.3 +1.0
CSKK **Cskako** 70.36 318 P P 04 32 35.3 +0.9
CSKK S S 04 41 02.8 +2.5
G05D **Wamic, OR** 70.38 45 P P 04 32 36.6 +2.0
baz=314,SNR=24
I03D **Drain, OR** 70.41 48 P P 04 32 37.0 +2.3
baz=314,SNR=42
I03D S S 04 41 04.6 +3.6
baz=314
RK1H **Rockhampton Ha** 70.41 160 P P 04 32 36.0 +1.2
KEBM **Edson Butte** 70.45 49 IAmb IAmb 04 32 38.8
comp=Z,272nm,1.3s
NEUB **Neuenburg** 70.46 324 *e*P P 04 32 35.6 +0.7
comp=Z,449nm,1.1s,baz=40,slow=5.8
NEUB *e*pP pP 04 34 34.8 +0.2
J01E **Myrtle Point** 70.47 48 P P 04 32 37.4 +2.3
baz=314,SNR=18
MDVR **Moldovita** 70.47 314 ⇓P P 04 32 35.6 +0.5
CSS **Mathiatis** 70.54 300 IAmb IAmb 04 32 38.3
comp=Z,149nm,0.8s
CLZ **Clausthal** 70.56 325 *e*P P 04 32 36.6 +1.1
comp=Z,470nm,1.1s,baz=40,slow=5.8
CLZ *e*pP pP 04 34 35.9 +0.6
F07A **Phinny Hill Vi** 70.62 44 IAmb IAmb 04 32 39.2
comp=Z,503nm,1.4s
E08A **Dider Farm, El** 70.62 43 IAmb IAmb 04 32 38.9
comp=Z,191nm,1.1s
BALB **Balikesir** 70.66 307 IAmb IAmb 04 32 37.8
comp=Z,298nm,1.0s
KDZ **Kurdzhali** 70.67 310 *i*P P 04 32 37.2 +0.9
PGB **Panagyurishte** 70.73 311 *i*P P 04 32 37.2 +0.5
KUBS **Kucevo** 70.75 314⇓*i*P P 04 32 36.2 -0.5
EGYH **Egyhazaskeszo** 70.76 318 S S 04 41 08.2 +3.4
TANN **Tannenbergstha** 70.76 323 *e*P P 04 32 37.8 +1.0
comp=Z,176nm,1.2s,baz=40,slow=5.8
TANN *e*pP pP 04 34 37.1 +0.5
WERD **Werda** 70.80 323 *e*P P 04 32 38.0 +1.0
comp=Z,265nm,1.2s,baz=40,slow=5.8
WERD *e*pP pP 04 34 37.4 +0.5
I04A **Tendick Farm,** 70.83 47 P P 04 32 39.1 +1.9
baz=314,SNR=94
I04A S S 04 41 09.0 +3.1
baz=314
ALN **Alexandroupoli** 70.84 309 P P 04 32 34.5 -2.7
ALN **Alexandroupoli** 70.84 309 P P 04 32 37.8 +0.6
ALN pmax pmax
comp=Z,312nm,1.1s
ALN **Alexandroupoli** 70.84 309 P P 04 32 37.8 +0.6
ALN IAmb IAmb 04 32 39.0
comp=Z,312nm,1.1s
PLN **Plauen** 70.84 323 *e*P P 04 32 38.2 +1.1
comp=Z,232nm,1.3s,baz=40,slow=5.8
PLN *e*pP pP 04 34 37.6 +0.5
PLN *e*PP PP 04 35 27.3 +3.1
MPLH **Magyarpolny** 70.84 318 P P 04 32 36.9 -0.3
MPLH PP pP 04 34 37.7 +0.6
MPLH S S 04 41 07.2 +1.4
GUNZ **Gunzen** 70.86 323 *e*P P 04 32 38.3 +1.0
comp=Z,261nm,1.1s,baz=40,slow=5.8
GUNZ *e*pP pP 04 34 37.5 +0.3
TIH **Tihany** 70.86 318 P P 04 32 36.5 -0.8
ZAGS **Zajecar** 70.88 313⇓*i*P P 04 32 36.9 -0.5
WERN **Wernitzgruen** 70.89 323 *e*P P 04 32 38.6 +1.1
comp=Z,258nm,1.0s,baz=40,slow=5.8
WERN *e*pP pP 04 34 37.9 +0.4
NKC **Novy Kostel** 70.90 323⇓*i*P P 04 32 38.2 +0.7
NKC **Novy Kostel** 70.90 323⇓*i*P P 04 32 38.2 +0.7
K02D **Willamette Mer** 70.93 48 P P 04 32 39.9 +2.0
baz=314,SNR=36
K02D S S 04 41 08.3 +1.1
baz=314
SOP **Sopron** 70.93 319 P P 04 32 38.4 +0.7
SOP S S 04 41 08.9 +2.1
RDO **Rodhopi** 70.95 309 P P 04 32 35.6 -2.3
MOX **Moxa** 70.95 324 *e*P P 04 32 38.8 +1.0
comp=Z,340nm,1.5s,baz=40,slow=5.8
MOX *e*pP pP 04 34 38.2 +0.5
GTTG **Gottingen** 70.95 325 *e*P P 04 32 38.7 +1.0
comp=Z,357nm,1.1s,baz=40,slow=5.8
GTTG *e*pP pP 04 34 38.2 +0.5
KBO **Bosley Butte** 70.97 49 IAmb IAmb 04 32 41.8
comp=Z,259nm,1.1s
KULA **Kula-Manisa** 70.97 306 P P 04 32 36.5 -1.7
MORH **Mrgy, Hungar** 70.99 317⇓*i*P P 04 32 38.3 +0.2
MORH **Mrgy, Hungar** 70.99 317 S S 04 41 06.8 -0.7
I05D **Terrebonne, OR** 71.00 46 P P 04 32 40.1 +1.8
baz=315,SNR=50
RZN **Rozhen** 71.03 310 *i*P P 04 32 39.6 +1.0
ZAPS **Zavoj** 71.04 313 *e*P P 04 32 39.5 +1.0
E09A **Wood Farm, Sta** 71.05 43 IAmb IAmb 04 32 41.5
comp=Z,120nm,0.8s

CONA **Conrad Observa** 71.08 320 *i*P P 04 32 40.3 +1.7
comp=Z,533nm,1.4s,SNR=117
CONA *i*P pP 04 34 41.0 +2.2
comp=Z,82nm,1.2s,SNR=6.1
CONA *e*P P'P'bc 05 00 28.9 +1.5
comp=Z,16nm,1.3s
SVIS **Svilajnac** 71.09 314 *e*P P 04 32 39.0 +0.4
SVIS **Svilajnac** 71.09 314 *e*P P 04 32 40.2 +1.6
DRUM **Mains of Drumt** 71.11 335 *e*P P 04 32 39.8 +1.3
CKRC **Cesky Krumlov** 71.13 321⇓*i*P P 04 32 39.8 +0.9
CKRC *e*S S 04 41 10.4 +1.4
CKRC *e*PKPPKP P'P'df 05 00 19.8 -8.6
WALA **Waterton Lakes** 71.16 39 IAmb IAmb 04 32 42.1
comp=Z,108nm,0.7s
FRGS **Fruska Gora** 71.17 315 ⇑P P 04 32 39.3 +0.1
FRGS **Fruska Gora** 71.17 315⇓*i*P P 04 32 39.2 +0.1
FRGS **Fruska Gora** 71.17 315⇓*i*P P 04 32 39.2 +0.1
VTS **Vitosha** 71.18 312 ⇓P P 04 32 40.6 +1.1
VTS **Vitosha** 71.18 312 P P 04 32 41.7 +2.2
VTS **Vitosha** 71.18 312 *i*P P 04 32 40.5 +1.1
MDO **Dochfour** 71.22 336⇓*e*P P 04 32 39.6 +0.4
KHC **Kasperske Hory** 71.23 322⇓*i*P P 04 32 40.4 +0.9
KHC *e**PP pP 04 34 40.4 +0.8
KHC *e* 04 41 11.4
KHC **Kasperske Hory** 71.23 322⇓*i*P P 04 32 40.4 +0.9
KHC *e*pP pP 04 34 40.4 +0.8
KHC *ex* x 04 35 13.0
KHC *e*S S 04 41 11.4 +1.3
KHC *e*PKPPKP P'P'df 05 00 19.2 -9.1
KHC *ex* x 05 00 27.5
KHC **Kasperske Hory** 71.23 322 IAmb IAmb 04 32 41.8
comp=Z,342nm,1.1s
MANZ **Manzenberg** 71.23 323 *e*P P 04 32 40.5 +1.0
comp=Z,50nm,1.2s,baz=40,slow=5.8
MANZ *e*pP pP 04 34 40.1 +0.6
IBBN **Ibbenburen** 71.25 327 *e*P P 04 32 40.1 +0.6
comp=Z,404nm,1.1s,baz=40,slow=5.8
IBBN *e*pP pP 04 34 39.7 +0.1
BOVS **Bovan** 71.28 313 ⇓P P 04 32 39.6 -0.2
BOVS **Bovan** 71.28 313⇓*i*P P 04 32 39.3 -0.5
LEWI **Lewis, Hebride** 71.33 337 *e*P P 04 32 40.5 +0.7
LEWI IAmb IAmb 04 32 42.0
comp=Z,212nm,1.1s
L02E **Cave Junction** 71.34 49 P P 04 32 42.4 +2.2
baz=314,SNR=22
L02E S SKiKP 04 41 15.9 -0.9
baz=314
NUUK **Nuuk** 71.34 1 *i*P P 04 32 39.0 -0.8
NUUK IAmb IAmb 04 32 41.2
comp=Z,42nm,0.5s
KOVH **Kovagotottos** 71.35 317 P P 04 32 39.6 -0.6
KOVH PP pP 04 34 39.3 -1.0
ROTZ **Rotzenmuhle** 71.35 323 *e*P P 04 32 41.5 +1.4
comp=Z,92nm,1.3s,baz=40,slow=5.8
ROTZ *e*pP pP 04 34 41.3 +0.9
HUMO **Hull Mountain** 71.37 48 P P 04 32 41.9 +1.4
J04D **Umpqua Nationa** 71.38 47 P P 04 32 42.8 +2.1
baz=314,SNR=15
J04D S S 04 41 14.7 +2.4
baz=314
GEC2 **GERESS Array S** 71.39 321 *e*P P 04 32 41.3 +0.8
comp=Z,252nm,1.3s,baz=40,slow=5.8
GEC2 *e*pP pP 04 34 40.6 -0.1
GEC2 **GERESS Array S** 71.39 321 IAmb IAmb 04 32 42.4
comp=Z,202nm,1.1s
GERES **GERESS Array B** 71.39 321 P P 04 32 41.0 +0.5
comp=Z,36nm,0.5s,baz=40,slow=5.4,SNR=446
GERES PP PP 04 35 19.3 -10
comp=Z,13nm,0.8s,baz=46,slow=9.6,SNR=5.2
GERES PKPPKP P'P'df 05 00 22.7 -5.4
comp=Z,3.1nm,1.1s,baz=250,slow=2.7,SNR=10
EZN **Ezine** 71.41 308 P P 04 32 40.5 -0.1
SMTH **Samothraki Isl** 71.41 309 P P 04 32 38.4 -2.3
UBBA **Unterbreizbach** 71.49 325 *e*P P 04 32 41.8 +1.0
comp=Z,400nm,1.6s,baz=40,slow=5.8
UBBA *e*pP pP 04 34 41.3 +0.3
WET **Wettzell** 71.53 322 *e*P P 04 32 42.4 +1.2
comp=Z,253nm,1.2s,baz=40,slow=5.8
WET *e*pP pP 04 34 42.2 +0.7
TRUS **Trudelj** 71.53 314⇓*i*P P 04 32 41.6 +0.3
EDU **Dundee** 71.58 335⇓*i*P P 04 32 42.0 +0.7
SOCY **Socotra** 71.58 269 P P 04 32 40.6 -1.5
SOCY pP pP 04 34 40.6 -1.9
PINE **Pine Mountain** 71.59 46 IAmb IAmb 04 32 46.0
comp=Z,183nm,0.7s
GRUS **Gruza** 71.61 314⇓*i*P P 04 32 42.4 +0.7
KAVA **Kavala** 71.61 310 P P 04 32 41.8 0.0
MMB **Musomiste** 71.63 311 *i*P P 04 32 42.7 +0.8
BOSS **Bosilegrad** 71.67 312 *e*P P 04 32 43.0 +0.9
KPL **Plockton** 71.68 336⇓*e*P P 04 32 42.8 +1.0
KPL IAmb IAmb 04 32 43.7
comp=Z,340nm,0.9s
NVR **Nevrokopi** 71.72 310 P P 04 32 42.3 -0.2
ARSA **Arzberg** 71.73 319 *i*P P 04 32 43.7 +1.3
comp=Z,304nm,1.2s,SNR=142
ARSA *i*P pP 04 34 44.8 +2.1
comp=Z,62nm,1.5s,SNR=5.8
ARSA *e*P P'P'ab 05 00 20.1 -4.9
comp=Z,6.0nm,1.6s
TEKS **Tekeris** 71.74 315 *e*P P 04 32 41.6 -0.9
TEKS **Tekeris** 71.74 315⇓*i*P P 04 32 42.2 -0.3
THAS **Thassos island** 71.77 309 P P 04 32 42.1 -0.6
KKB **Krupnik** 71.78 311 *i*P P 04 32 43.7 +0.9
BARS **Barje** 71.79 313⇓*i*P P 04 32 35.8 -7.0
BARS **Barje** 71.79 313⇓*i*P P 04 32 43.1 +0.3
J05D **Fort Rock, OR** 71.80 47 P P 04 32 45.5 +2.4
baz=315,SNR=141
DIVS **Divibare** 71.83 315⇓*i*P P 04 32 43.4 +0.3
DIVS **Divibare** 71.83 315 IAmb IAmb 04 32 44.7
comp=Z,325nm,1.0s
DIVS **Divibare** 71.83 315⇓*i*P P 04 32 43.4 +0.3
GRF **Grafenberg Arr** 71.83 323 *e*P P 04 32 44.4 +1.5
comp=Z,798nm,1.1s,baz=40,slow=5.8
GRFO **Grafenberg** 71.83 323 P P 04 32 43.7 +0.8
GRFO pmax pmax
comp=Z,550nm,1.0s
GRFO **Grafenberg** 71.83 323 P P 04 32 43.7 +0.8
GRFO **Grafenberg** 71.83 323 P P 04 32 44.3 +1.4
PRK **Paraskevi** 71.84 307 P P 04 32 43.0 -0.1
MEEK **Meekatharra** 71.86 191 P P 04 32 43.3 0.0
MOA **Molln** 71.87 320 *i*P P 04 32 44.3 +1.1
comp=Z,129nm,1.1s,SNR=26
MOA *e*P P'P'ab 05 00 17.3 -7.2
comp=Z,9.7nm,1.4s
SELS **Selova** 71.87 313⇓*i*P P 04 32 42.9 -0.4
F10A **Beach Ranch, E** 71.88 43 IAmb IAmb 04 32 46.4
comp=Z,193nm,1.4s
AKAS **Kas** 71.95 303 IAmb IAmb 04 32 45.0
comp=Z,237nm,0.9s
KOGS **Kog** 71.97 318 *i*P P 04 32 43.8 +0.1
ESY **Stoneypath** 71.98 334⇓*i*P P 04 32 44.3 +0.6
INVG **Invergeldie, C** 71.99 335⇓*e*P P 04 32 44.2 +0.5
INVG IAmb IAmb 04 32 45.2
comp=Z,127nm,0.7s
BLCB **Balcova** 71.99 306 P P 04 32 43.6 -0.4
L04D **Klamath Falls** 71.99 48 P P 04 32 46.1 +1.9
baz=315,SNR=106
L04D S S 04 41 18.9 -0.2
baz=315
FETY **Fethiye** 71.99 304 P P 04 32 43.2 -0.9
K04D **Chiloquin, OR** 71.99 47 P P 04 32 46.1 +2.0
baz=315,SNR=42
K04D S S 04 41 21.1 +2.0
baz=315
LIA **Limnos Island** 72.00 309 P P 04 32 42.9 -1.1
LIA **Limnos Island** 72.00 309 P SKSac 04 41 44.5 -7.3
KOKK **Kokkinochori,** 72.02 310 P P 04 32 44.2 +0.1
SRS **Serrai** 72.03 310 P P 04 32 44.2 0.0
JCC **Jacoby Creek,** 72.04 50 IAmb IAmb 04 32 47.9
comp=Z,335nm,1.2s
SIGR **SIGRI** 72.10 308 P P 04 32 43.9 -0.7
BUG **Bochum--Univer** 72.11 326 *e*P P 04 32 45.1 +0.7
comp=Z,368nm,1.2s,baz=40,slow=5.8
BUG *e*pP pP 04 34 45.0 0.0
IVAS **Ivanjica** 72.12 314⇓*i*P P 04 32 44.6 -0.1
I07A **Izee** 72.12 45 IAmb IAmb 04 32 47.6
comp=Z,81nm,0.6s
YER **Yerkesik** 72.12 305 P P 04 32 44.8 -0.1
KHMM **Horse Mountain** 72.16 50 IAmb IAmb 04 32 48.9
comp=Z,212nm,1.3s
KOUNC **Koumac, New Ca** 72.19 146 P P 04 32 47.2 +1.9
EBL **Broad Law** 72.23 334 *i*P P 04 32 45.9 +0.8
QLP **Quilpie** 72.23 167 P P 04 32 47.3 +1.9
M02C **Callahan** 72.27 49 P P 04 32 48.1 +2.4
baz=315,SNR=38
M02C S S 04 41 23.9 +1.7
baz=315
BBLS **Lazići** 72.29 315⇓*i*P P 04 32 46.6 +0.8
BBLS **Lazići** 72.29 315⇓*i*P P 04 32 46.7 +0.9
DOB **Doboj** 72.32 316 *e*P P 04 32 45.9 +0.1
OUR **Ouranopolis** 72.36 310 P P 04 32 46.0 -0.1
OUR **Ouranopolis** 72.36 310 P SKSac 04 41 49.2 -5.3
SOH **Sokhos** 72.37 310 P P 04 32 45.0 -1.2
K05A **Summer Lake** 72.37 47 P P 04 32 48.2 +1.8
K05A IAmb IAmb 04 32 50.1
comp=Z,165nm,0.9s
K05A pP pP 04 34 49.1 +2.1
KNT **Kendrikon** 72.38 311 P P 04 32 46.0 -0.2
KNT **Kendrikon** 72.38 311 P SKSac 04 41 52.4 -2.2
SOKA **Soboth** 72.38 319 *i*P P 04 32 47.2 +1.0
comp=Z,624nm,1.0s,SNR=286
SOKA *i*P pP 04 34 48.1 +1.2
comp=Z,101nm,1.6s,SNR=7.9
SOKA *e*S S 04 41 25.7 +2.6
comp=Z,33nm,1.5s
SOKA *e*P P'P'df 05 00 24.3 -2.1
comp=Z,9.8nm,1.5s
STIP **Stip** 72.38 312 *i*P P 04 32 45.9 -0.4
SJES **Sjenica** 72.43 314⇓*i*P P 04 32 47.4 +0.8
VAY **Valandovo** 72.44 311 *i*P P 04 32 47.4 +0.8
OOD **Oodnadatta** 72.44 175 P P 04 32 47.4 +0.9
EIDS **Eidsvold** 72.46 160 IAmb IAmb 04 32 48.5
comp=Z,89nm,0.7s
EIDS **Eidsvold** 72.46 160 P P 04 32 48.1 +1.4
RUDO **Rudo** 72.48 315 *e*P P 04 32 46.7 -0.1
M04C **Macdoel** 72.54 48 P P 04 32 49.3 +2.0
baz=315,SNR=80
M04C S S 04 41 27.6 +2.4
baz=315
CHOS **Chios island** 72.55 307 P P 04 32 47.2 -0.2
ZAG **Zagreb** 72.55 318⇓*i*P P 04 32 47.7 +0.6
SMG **Samos** 72.57 306 P P 04 32 46.9 -0.5
SMG **Samos** 72.57 306 P S 04 41 25.1 -0.3
SKO **Skopje** 72.58 312 *i*P P 04 32 48.5 +1.2
TNS **Taunus Mts** 72.59 325 *e*P P 04 32 48.2 +0.9
comp=Z,291nm,1.2s,baz=40,slow=5.8
TNS *e*pP pP 04 34 48.6 +0.5
RJOB **Jochberg** 72.61 321 *e*P P 04 32 48.9 +1.4
comp=Z,326nm,1.1s,baz=40,slow=5.8
RJOB *e*pP pP 04 34 49.1 +0.8
KMRM **Mail Ridge** 72.63 50 IAmb IAmb 04 32 50.7
comp=Z,100nm,0.6s
PLG **Polygyros** 72.63 310 P P 04 32 47.2 -0.5
PLG **Polygyros** 72.63 310 P SKSac 04 41 45.0 -12
EKA **Eskdalemuir Ar** 72.64 334 P P 04 32 47.5 +0.1
PGBU **Glenifferbraes** 72.64 335⇓*e*P P 04 32 48.2 +0.8
PGBU IAmb IAmb 04 32 49.4
comp=Z,641nm,1.0s
N02D **Trinity Center** 72.65 49 P P 04 32 50.1 +2.2
baz=315,SNR=51
HORT **Hortiatis** 72.66 310 P P 04 32 47.5 -0.5
HORT **Hortiatis** 72.66 310 P SKSac 04 41 54.1 -2.8
ESK **Eskdalemuir** 72.67 334⇓*i*P P 04 32 48.4 +0.8
ESK IAmb IAmb 04 32 49.3
comp=Z,242nm,1.0s
ESK **Eskdalemuir** 72.67 334 P P 04 32 47.8 +0.2
ESK pmax pmax
comp=Z,220nm,0.9s
ESK **Eskdalemuir** 72.67 334 P P 04 32 47.8 +0.2
ESK IAmb IAmb 04 32 49.5
comp=Z,220nm,0.9s
ESK pP pP 04 34 48.1 -0.4
EDMD **Edmundbyers** 72.68 333⇓*e*P P 04 32 48.0 +0.3
EDMD IAmb IAmb 04 32 49.0
comp=Z,123nm,0.7s
GCIS **Gornji Cirnik** 72.69 318 *i*P P 04 32 48.3 +0.4
MRAK **Mrakovica** 72.71 317⇓*i*P P 04 32 48.3 +0.2
THE **Thessaloniki** 72.71 310 P P 04 32 47.0 -1.1
OBKA **Obir** 72.73 319 *i*P P 04 32 49.0 +0.8
comp=Z,207nm,1.1s,SNR=89
OBKA *e*P pP 04 34 50.6 +1.5
comp=Z,60nm,1.0s
OBKA *i*S S 04 41 25.4 -1.6
comp=Z,66nm,1.7s,SNR=7.6
OBKA *e*P P'P'df 05 00 15.9 -10
comp=Z,8.6nm,1.5s
BODT **Bodrum** 72.74 305 P P 04 32 47.5 -0.9
BLY **Banja Luka** 72.76 317⇓*i*P P 04 32 48.6 +0.3
GRG **Griva** 72.79 311 P P 04 32 47.4 -1.2
CRES **Cresnjev** 72.81 318⇓*i*P P 04 32 48.8 +0.2
DAT **Datca** 72.81 305 P P 04 32 47.5 -1.4
PAIG **Paliouri** 72.81 309 P P 04 32 47.6 -1.1
PRIJ **Prijedor** 72.82 317 *e*P P 04 32 47.5 -1.2
ARG **Arkhangelos** 72.84 304 P P 04 32 48.9 0.0
ARG **Arkhangelos** 72.84 304 P S 04 41 27.7 -0.7
KBA **Koelnbreinsper** 72.86 320 *i*P P 04 32 50.2 +1.1
comp=Z,462nm,1.1s,SNR=194
KBA *i*P pP 04 34 51.9 +1.9
comp=Z,93nm,1.1s,SNR=7.2
KBA *e*S S 04 41 31.0 +2.4
comp=Z,59nm,1.3s
INKA **Innaminka** 72.87 170 P P 04 32 50.7 +1.7
AHRW **Bad Neuenahr-A** 72.89 326 *e*P P 04 32 49.9 +1.0
comp=Z,472nm,1.2s,baz=40,slow=5.8
AHRW *e*pP pP 04 34 50.4 +0.5
FUR **Furstenfeldbru** 72.96 322 *e*P P 04 32 50.8 +1.3
comp=Z,747nm,1.2s,baz=40,slow=5.8
FUR *e*pP pP 04 34 51.0 +0.5
RMQ **Roma** 73.00 162 P P 04 32 51.7 +1.9
WDC **Whiskeytown Da** 73.01 49 P P 04 32 51.1 +1.2
WDC pmax pmax
comp=Z,120nm,1.2s
WDC **Whiskeytown Da** 73.01 49 P P 04 32 51.0 +1.2
UPM **Unac-Piva** 73.02 314⇓*i*P P 04 32 50.2 +0.1
MGRS **Mrkonjic Grad** 73.05 316⇓*i*P P 04 32 51.5 +1.5
MYKA **Terra Mystica** 73.06 320 *i*P P 04 32 50.6 +0.6
comp=Z,362nm,1.3s,SNR=86
MYKA *e*P pP 04 34 52.4 +1.4
comp=Z,47nm,0.8s
MYKA *e*P P'P'df 05 00 22.5 -2.7
comp=Z,4.6nm,1.1s
KCPM **Cahto Peak** 73.07 51 IAmb IAmb 04 32 52.9
comp=Z,163nm,1.3s
LJU **Ljubljana** 73.08 319⇓*i*P P 04 32 50.4 +0.3
LJU **Ljubljana** 73.08 319 *i*P P 04 32 50.5 +0.3
LJU *e*pP pP 04 34 51.6 +0.4
LJU *e*S S 04 41 29.9 -0.9
NEWG **New Galloway** 73.15 335⇓*e*P P 04 32 50.6 +0.3
NEWG IAmb IAmb 04 32 51.9
comp=Z,174nm,1.2s
J08A **Circle Bar Ran** 73.16 45 IAmb IAmb 04 32 54.3
comp=Z,145nm,0.6s
O02D **Mt. Diablo Mer** 73.16 50 P P 04 32 53.1 +2.3
baz=315,SNR=82
DGAR **Diego Garcia** 73.19 241 P P 04 32 51.9 +0.7
DGAR pmax pmax
comp=Z,199nm,0.7s
DGAR **Diego Garcia** 73.19 241 P P 04 32 52.4 +1.2
DGAR **Diego Garcia** 73.19 241 P P 04 32 51.9 +0.7
DGAR IAmb IAmb 04 32 52.8
comp=Z,199nm,0.7s
BTNL **Ternell** 73.23 326 ⇓P P 04 32 50.9 -0.1
comp=Z,123nm,1.1s
BTNL pP pP 04 34 52.1 +0.1
BEBN **Eben Emael** 73.24 327 ⇓P P 04 32 51.2 +0.3
comp=Z,167nm,1.0s
BEBN pP pP 04 34 51.6 -0.4
KESW **Keswick, Cumbr** 73.25 334⇓*e*P P 04 32 51.9 +1.0
KESW IAmb IAmb 04 32 52.9
comp=Z,581nm,1.1s
MEM **Membach** 73.26 327 P P 04 32 51.4 +0.3
comp=Z,138nm,1.1s
MEM pP pP 04 34 52.6 +0.4
MOD **Modoc Plateau** 73.26 47 IAmb IAmb 04 32 54.7
comp=Z,321nm,1.4s
HPK **Haverah Park** 73.30 333⇓*e*P P 04 32 52.0 +0.8
HPK IAmb IAmb 04 32 53.1
comp=Z,849nm,1.4s
PHP **Peshkopia** 73.31 313 P P 04 32 49.9 -1.7
PHP **Peshkopia** 73.31 313 P S 04 41 26.3 -7.2
CEY **Cerknica** 73.36 319⇓*i*P P 04 32 51.9 +0.1
STU **Stuttgart** 73.39 324 *e*P P 04 32 52.7 +0.8
comp=Z,968nm,1.2s,baz=40,slow=5.8
STU *e*pP pP 04 34 53.2 +0.2
STU **Stuttgart** 73.39 324 IAmb IAmb 04 32 53.9
comp=Z,348nm,1.1s
PDG **Podgorica** 73.39 314⇓*i*P P 04 32 52.4 +0.4
ZOU **Zoufplan** 73.42 320 IAmb IAmb 04 32 53.4

comp=Z,317nm,1.2s
BRY Bratogost 73.42 314 ⇓ *i* P **P 04 32 52.2 -0.1**
BSTI Sart Tilman 73.45 327 P **P 04 32 52.9 +0.8**
BSTI pP **pP 04 34 53.7 +0.4**
FNA Florina 73.46 311 IAmb IAmb 04 32 53.5
comp=Z,160nm,1.2s
WATA Walderalm 73.46 321 *i* P **P 04 32 53.3 +0.9**
comp=Z,354nm,1.3s,SNR=69
WATA *i* P **pP 04 34 54.9 +1.3**
comp=Z,90nm,1.1s,SNR=8.3
BHOU Houvegnez 73.46 326 P **P 04 32 52.6 +0.3**
comp=Z,67nm,1.3s
BHOU pP **pP 04 34 53.2 -0.2**
KYMI Kymi, Euboea I 73.48 308 P **P 04 32 51.7 -0.9**
KYMI Kymi, Euboea I 73.48 308 P **S 04 41 34.2 -1.2**
ABTA Abfaltersbach 73.48 320 *i* P **P 04 32 52.5 0.0**
comp=Z,193nm,1.2s,SNR=64
ABTA *e*S **S 04 41 34.1 -1.2**
comp=Z,40nm,1.3s
ABTA *e*P P'P'df 05 00 13.9 -11
comp=Z,5.5nm,1.2s
WTTA Wattenberg 73.49 321 *i* P **P 04 32 53.6 +1.0**
comp=Z,280nm,1.1s,SNR=81
WTTA *i* P **pP 04 34 55.6 +1.7**
comp=Z,96nm,1.6s,SNR=5.7
NEO Neokhori 73.50 309 P **P 04 32 51.7 -1.0**
GAL1 Galloway 73.51 335 ⇓ *e*P **P 04 32 52.8 +0.4**
GAL1 IAmb IAmb 04 32 54.0
comp=Z,219nm,0.8s
OHR Ohrid 73.53 312 *i* P **P 04 32 53.1 +0.2**
KZN Kozani 73.58 311 P **P 04 32 50.6 -2.6**
LIFNC LIFOU 73.60 144 P **P 04 32 53.8 +0.5**
LIFNC LIFOU 73.60 144 P **P 04 32 55.5 +2.2**
DRME Dracevica, Mon 73.61 314 ⇓ *i* P **P 04 32 53.8 +0.6**
O03E Paynes Creek 73.61 49 P **P 04 32 54.5 +1.1**
baz=315,SNR=56
RIY Rijeka 73.64 318 ⇓ *i* P **P 04 32 53.3 0.0**
TREB Trebinje 73.65 314 ⇓ *i* P **P 04 32 53.1 -0.3**
MOTA Moosalm 73.66 322 *i* P **P 04 32 54.5 +0.9**
comp=Z,457nm,1.1s,SNR=80
MOTA *i* P **pP 04 34 55.7 +0.8**
comp=Z,138nm,1.7s,SNR=6.6
MOTA *e*P **P'P'df 05 00 27.9 +3.7**
comp=Z,16nm,1.6s
BCLA Clavier 73.69 327 ⇓ P **P 04 32 53.7 +0.2**
comp=Z,65nm,1.3s
BCLA pP **pP 04 34 54.0 -0.7**
BCLA PP **PP 04 35 48.6 +0.5**
SKDS Skadanscina 73.69 319 *i* P **P 04 32 53.5 -0.2**
SKDS *e*pP **pP 04 34 54.6 -0.3**
SKDS *e*S **S 04 41 36.8 -0.6**
LRSO Larissa Observ 73.70 310 P **P 04 32 52.7 -1.0**
RETA Reutte 73.70 322 *i* P **P 04 32 54.9 +1.1**
comp=Z,598nm,1.1s,SNR=84
RETA *i* P **pP 04 34 55.9 +0.9**
comp=Z,85nm,1.4s,SNR=5.8
RETA *e*P **P'P'df 05 00 21.4 -2.6**
comp=Z,9.0nm,1.3s
SQTA Sankt Quirin 73.71 321 *i* P **P 04 32 54.8 +1.0**
comp=Z,224nm,1.2s,SNR=53
SQTA *i* P **pP 04 34 56.0 +0.9**
comp=Z,100nm,1.6s,SNR=7.6
SQTA *e*P **P'P'df 05 00 27.7 +3.6**
comp=Z,11nm,1.5s
WVOR Wild Horse Val 73.74 46 IAmb IAmb 04 32 57.5
comp=Z,161nm,0.9s
CLGH Cloghs, Cushen 73.75 335 *e*P **P 04 32 54.5 +0.7**
CLGH IAmb IAmb 04 32 55.4
comp=Z,430nm,1.0s
UCC Uccle 73.75 327 P **P 04 32 54.1 +0.3**
UCC pmax pmax
comp=Z,59nm,1.2s
UCC Uccle 73.75 327 P **P 04 32 54.1 +0.3**
UCC Uccle 73.75 327 ⇓ P **P 04 32 53.9 +0.1**
TYRN Tyrnavos 73.76 310 P **P 04 32 52.6 -1.5**
TYRN Tyrnavos 73.76 310 P **S 04 41 33.9 -4.4**
EGMT Eagleton 73.76 37 IAmb IAmb 04 32 56.7
comp=Z,134nm,0.7s
EGMT Eagleton 73.76 37 P **P 04 32 55.4 +1.3**
baz=320,SNR=96
EGMT S **S 04 41 40.1 +1.9**
baz=320
STAL STALIGIAL 73.76 320 IAmb IAmb 04 32 54.7
comp=Z,280nm,0.9s
HCY Herceg Novi 73.77 314 ⇓ *i* P **P 04 32 54.0 -0.1**
LBWR Ladybower, Pea 73.80 332 ⇓ *e*P **P 04 32 54.9 +0.9**
LBWR IAmb IAmb 04 32 55.9
comp=Z,1μm,1.0s
BGES Gesves 73.80 327 P **P 04 32 53.9 -0.2**
comp=Z,61nm,1.2s
BGES pP **pP 04 34 54.8 -0.6**
HOPS Hopland Field 73.84 51 IAmb IAmb 04 32 57.7
comp=Z,150nm,1.1s
UBR Ueberruh 73.84 322 *e*P **P 04 32 55.1 +0.6**
comp=Z,287nm,1.5s,baz=40,slow=5.8
TIR Tirane 73.86 313 ⇓ P **P 04 32 54.9 +0.3**
TIR Tirane 73.86 313 P **P 04 32 54.2 -0.4**
TIR Tirane 73.86 313 ⇓ P **P 04 32 54.9 +0.3**
STON Ston 73.87 315 ⇓ *i* P **P 04 32 54.1 -0.5**
KBN Korca 73.89 312 P **P 04 32 54.7 -0.2**
KBN Korca 73.89 312 P SKSac 04 41 55.3 -11
NEST Nestorio 73.90 311 P **P 04 32 54.1 -0.9**
NEST Nestorio 73.90 311 P **S 04 41 36.8 -3.2**
RCHB Rochefort 73.93 327 ⇓ P **P 04 32 54.8 0.0**
comp=Z,102nm,1.2s
RCHB pP **pP 04 34 56.0 -0.2**
ELMS Elmsett, Ipswi 73.95 330 *e*P **P 04 32 55.0 +0.1**
WLF Walferdange 73.95 326 *e*P **P 04 32 55.8 +0.8**
comp=Z,153nm,1.3s,baz=40,slow=5.8
WLF Walferdange 73.95 326 P **P 04 32 55.7 +0.7**
comp=Z,44nm,1.1s
DION Dionisos Attik 73.97 308 P **P 04 32 53.3 -2.0**
DION Dionisos Attik 73.97 308 P **S 04 41 37.7 -3.0**
THL Klokotos Trika 73.98 310 P **P 04 32 54.1 -1.2**
IOMK Kirk Michael 73.98 334 *e*P **P 04 32 55.4 +0.4**
BMRD Maredsous 73.99 327 ⇓ P **P 04 32 55.5 +0.3**
comp=Z,177nm,1.1s
BMRD pP **pP 04 34 55.9 -0.7**
PENT Pentalofos 74.00 311 P **P 04 32 54.7 -0.9**
SNF Seneffe 74.01 327 P **P 04 32 55.6 +0.3**
comp=Z,142nm,1.0s
SNF pP **pP 04 34 56.9 +0.1**
PTL Penteli 74.02 308 P **P 04 32 53.5 -2.2**
KPRO Kipourio 74.06 311 P **P 04 32 53.8 -2.1**
KPRO Kipourio 74.06 311 P **S 04 41 39.5 -2.2**
FETA Feichten 74.08 322 *i* P **P 04 32 56.8 +0.9**
comp=Z,179nm,1.1s,SNR=42
FETA *e*P **pP 04 34 58.1 +0.7**
comp=Z,58nm,1.4s
FETA *e*S **S 04 41 42.2 +0.3**
comp=Z,30nm,1.5s
LKR Lokris 74.08 309 P **P 04 32 54.1 -1.8**
LKR Lokris 74.08 309 P **S 04 41 39.3 -2.6**
BFO Black Forest 74.10 324 P **P 04 32 56.7 +0.8**
BFO pmax pmax
comp=Z,485nm,1.0s
BFO Black Forest 74.10 324 *e*P **P 04 32 56.8 +0.8**
comp=Z,677nm,1.1s,baz=40,slow=5.8
BFO *e*pP **pP 04 34 57.7 +0.3**
BFO Black Forest 74.10 324 P **P 04 32 56.7 +0.8**
BFO Black Forest 74.10 324 P **P 04 32 56.4 +0.5**
WIM Isle of Man 74.11 334 ⇓ *i* P **P 04 32 56.5 +0.6**
ATHU Athens Univers 74.13 308 P **P 04 32 54.7 -1.5**
ATHU Athens Univers 74.13 308 P **ScS 04 42 20.6 +8.8**
GIVF Givet 74.13 327 *e*P **P 04 32 55.3 -0.7**
GIVF pmax pmax
comp=Z,287nm,1.3s
ATH Athens Observa 74.16 308 P **ScS 04 42 15.9 +3.9**
IDGL Inch Island, C 74.16 336 ⇓ *e*P **P 04 32 56.9 +0.8**
IDGL IAmb IAmb 04 32 57.8
comp=Z,291nm,0.9s
AGG Agios Georgios 74.19 310 P **P 04 32 54.5 -2.1**
VLY Voula,Athens 74.20 308 P **P 04 32 55.1 -1.5**
CWF Charnwood Fore 74.21 332 ⇓ *i* P **P 04 32 56.7 +0.3**
CWF IAmb IAmb 04 32 57.6
comp=Z,157nm,0.8s
DOU Dourbes 74.22 327 ⇓ P **P 04 32 56.7 +0.2**
comp=Z,78nm,1.2s
DOU pP **pP 04 34 57.3 -0.7**
DAVA Damuels 74.24 322 *i* P **P 04 32 57.9 +1.0**
comp=Z,552nm,0.9s,SNR=88
DAVA *i* P **pP 04 34 59.2 +0.8**
comp=Z,97nm,1.4s,SNR=6.4
THR8 Santorini-Mono 74.25 306 P **P 04 32 54.2 -2.7**
SANT Santorini 74.29 306 P **P 04 32 55.4 -1.8**
SANT Santorini 74.29 306 P **S 04 41 39.5 -4.8**
SANT Santorini 74.29 306 P **P 04 32 55.9 -1.3**
SANT IAmb IAmb 04 32 56.8
comp=Z,290nm,1.3s
THR3 Thira Island, 74.30 306 P **P 04 32 54.4 -2.8**
THR3 Thira Island, 74.30 306 P **S 04 41 41.2 -3.1**
STAX Taxiarchis Har 74.30 306 P **P 04 32 54.2 -3.0**
STAX Taxiarchis Har 74.30 306 P **S 04 41 39.3 -5.0**
NRS Narsarsuaq 74.32 358 P **P 04 32 56.5 -0.3**
NRS **pP 04 34 57.6 -0.8**
THR5 Thira Island, 74.32 306 P **P 04 32 54.5 -2.8**
THR5 Thira Island, 74.32 306 P **S 04 41 40.1 -4.5**
LSK Leskovik 74.33 311 P **P 04 32 57.5 +0.1**
LSK Leskovik 74.33 311 P **S 04 41 43.7 -1.0**
THR6 Thira Island, 74.33 306 P **P 04 32 54.8 -2.6**
THR9 Santorini-Faro 74.36 306 P **P 04 32 55.0 -2.5**
NOUC Port Laguerre 74.39 145 P **P 04 32 59.8 +2.1**
BAIF Baives 74.40 327 *e*P **P 04 32 56.8 -0.7**
BAIF pmax pmax
comp=Z,278nm,1.6s
CTI Castel Tesino 74.40 320 IAmb IAmb 04 32 58.5
comp=Z,360nm,1.0s
DZM Mont Dzumac 74.42 145 *e*P **P 04 33 00.0 +1.9**
comp=Z,828nm,1.4s
DZM Mont Dzumac 74.42 145 P **P 04 32 59.4 +1.3**
DZM IAmb IAmb 04 33 00.8
comp=Z,153nm,0.7s
DZM Mont Dzumac 74.42 145 P **P 04 33 00.3 +2.2**
DZM Mont Dzumac 74.42 145 P **P 04 32 60.0 +1.9**
CDF Champ du Feu 74.48 324 *e*P **P 04 32 57.8 -0.3**
CDF pmax pmax
comp=Z,276nm,1.3s
MCCM Marconi Confer 74.54 51 IAmb IAmb 04 33 01.1
comp=Z,234nm,1.3s
JAN Janina 74.54 311 P **P 04 32 58.0 -0.6**
JAN Janina 74.54 311 P **S 04 41 47.7 +0.8**
LTK Loutraki 74.55 308 P **P 04 32 55.7 -2.9**
LTK Loutraki 74.55 308 P **S 04 41 43.6 -3.4**
EVR Evrytania 74.55 310 P **P 04 32 57.2 -1.5**
EVR Evrytania 74.55 310 P **S 04 41 43.3 -3.9**
MARNC Mare, Loyalty 74.56 143 P **P 04 32 59.9 +1.2**
MARNC Mare, Loyalty 74.56 143 P **P 04 33 00.6 +1.9**
YATNC Mamie plateau, 74.60 145 P **P 04 33 01.1 +2.2**
MORW Morawa 74.61 193 IAmb IAmb 04 33 00.4
comp=Z,359nm,1.3s
MORW Morawa 74.61 193 P **P 04 32 59.4 +0.5**
WME Myndd Eilian 74.64 334 ⇓ *i* P **P 04 32 59.3 +0.6**
ELSH Elham, Standar 74.67 329 ⇓ *e*P **P 04 32 59.2 +0.2**
ELSH IAmb IAmb 04 32 60.0
comp=Z,723nm,1.1s
MHLO Agia Marina, M 74.67 307 P **S 04 41 43.6 -4.8**
ECH Echery 74.68 324 P **P 04 32 59.3 +0.2**
ECH pmax pmax
comp=Z,210nm,1.0s
ECH Echery 74.68 324 P **P 04 32 59.2 +0.2**
ECH IAmb IAmb 04 33 01.0
comp=Z,210nm,1.0s
ECH Echery 74.68 324 P **P 04 32 59.4 +0.2**
VLO Vlora 74.68 312 P **P 04 32 58.9 -0.3**
VLO Vlora 74.68 312 P **S 04 41 49.5 +1.2**
VLO Vlora 74.68 312 IAmb IAmb 04 33 02.8
comp=Z,370nm,1.1s
ANX Ano Chora 74.72 309 P **P 04 32 58.4 -1.3**
ANX Ano Chora 74.72 309 P **S 04 41 44.2 -4.8**
ZKR Zakros 74.72 304 P **P 04 32 59.0 -0.6**
ZKR Zakros 74.72 304 P **S 04 41 47.0 -2.0**
STIA Sitia Lasithi 74.74 305 P **P 04 32 58.1 -1.6**
STIA Sitia Lasithi 74.74 305 P **S 04 41 44.8 -4.3**
WLF1 Llynfaes 74.76 334 ⇓ *e*P **P 04 32 59.8 +0.4**
WLF1 IAmb IAmb 04 33 01.1
comp=Z,586nm,1.1s
BOZ Bozeman (W) 74.78 40 IAmb IAmb 04 33 03.0
comp=Z,138nm,1.1s
BOZ Bozeman (W) 74.78 40 P **P 04 33 01.6 +1.6**
baz=320,SNR=144
BOZ S **S 04 41 49.0 -0.6**
baz=320
TRIZ Trizonia 74.80 309 P **P 04 32 58.0 -1.9**
TRIZ Trizonia 74.80 309 P S 04 41 34.6 -15
YLL Llanberis 74.81 333 ⇓ *e*P **P 04 33 00.3 +0.6**
MULG Mulgathing 74.83 176 P **P 04 33 00.6 +0.6**
SRN Sarande 74.84 311 P **P 04 32 59.5 -0.6**
SRN Sarande 74.84 311 P **S 04 41 46.9 -3.1**
YRC Rhoscolyn 74.85 334 ⇓ *e*P **P 04 33 00.4 +0.5**
EFP Efpalio 74.85 309 P **P 04 32 58.6 -1.6**
EFP Efpalio 74.85 309 P **S 04 41 47.4 -2.8**
ALIK Aliki, Aigiali 74.85 309 P **P 04 33 00.1 -0.1**
LLW Llanuwychllyn 74.90 333 ⇓ *e*P **P 04 33 00.9 +0.7**
OUENC Ouen Island, N 74.90 145 P **P 04 33 01.7 +1.1**
OUENC IAmb IAmb 04 33 03.4
comp=Z,160nm,1.1s
OUENC Ouen Island, N 74.90 145 P **P 04 33 03.1 +2.5**
IGT Igoumenitsa 74.91 311 P **P 04 32 59.0 -1.6**
IGT Igoumenitsa 74.91 311 P **S 04 41 45.9 -5.0**
TEOL Teolo 74.92 320 IAmb IAmb 04 33 01.8
comp=Z,310nm,0.9s
HLM1 Long Mynd 74.92 332 ⇓ *e*P **P 04 33 00.8 +0.5**
HLM1 IAmb IAmb 04 33 01.3
comp=Z,238nm,1.2s
NPS Neapolis 74.97 305 P **P 04 32 58.3 -2.7**
NPS Neapolis 74.97 305 P **S 04 41 49.2 -2.5**
KLV Kalavryta, Ach 74.98 309 P **P 04 32 58.9 -2.2**
KLV Kalavryta, Ach 74.98 309 P **S 04 41 48.0 -3.8**
HLID Hailey 75.01 43 IAmb IAmb 04 33 04.9
comp=Z,175nm,1.1s
HLID Hailey 75.01 43 P **P 04 33 03.6 +2.3**
baz=318,SNR=170
HLID S **S 04 41 54.5 +2.3**
baz=318
UPR University Cam 75.01 309 P **S 04 41 49.2 -2.8**
KEK Kerkira 75.07 311 P **P 04 33 01.0 -0.4**
KEK Kerkira 75.07 311 P **S 04 41 47.4 -5.1**
FRMA Ierapetra Chan 75.08 305 P **P 04 33 00.4 -1.1**
FRMA Ierapetra Chan 75.08 305 P **S 04 41 49.5 -3.2**
HINF Hinteralfeld 75.12 324 *e*P **P 04 33 01.0 -0.6**
HINF pmax pmax
comp=Z,466nm,1.8s
HAU Haudompre 75.18 325 *e*P **P 04 33 01.3 -0.7**
HAU pmax pmax
comp=Z,223nm,1.3s
HMNX Herstmonceux 75.19 330 *e*P **P 04 33 02.7 +0.9**
HRKL Herakleio 75.24 305 P **S 04 41 50.9 -3.6**
SALO Salr 75.24 321 IAmb IAmb 04 33 03.5
comp=Z,229nm,1.0s
FORT Forrest 75.25 182 P **P 04 33 02.4 +0.1**
FORT Forrest 75.25 182 P **P 04 33 02.7 +0.4**
KSTL Kastelli Herak 75.26 305 P **P 04 33 01.0 -1.6**
LKD2 Lefkada island 75.27 310 P **P 04 33 01.6 -1.0**
LKD2 Lefkada island 75.27 310 P **S 04 41 50.3 -4.5**
LCRK Leigh Creek 75.28 173 P **P 04 33 03.8 +1.3**
DRO Drossia 75.29 309 P **P 04 33 01.9 -0.9**
DRO Drossia 75.29 309 P **S 04 41 51.5 -3.5**
NYDR Nydri-Lefkada 75.30 310 P **P 04 33 01.1 -1.6**
NYDR Nydri-Lefkada 75.30 310 P **S 04 41 49.7 -5.3**
STRD Stroud 75.30 332 ⇓ *e*P **P 04 33 02.9 +0.4**
STRD IAmb IAmb 04 33 04.1
comp=Z,908nm,1.2s
PINNC Pines Island, 75.32 144 P **P 04 33 05.5 +2.6**
PAHR Pah Rah Range 75.33 48 IAmb IAmb 04 33 06.1
comp=Z,289nm,1.5s
RLS Riolos of Patr 75.35 309 P **P 04 33 01.1 -1.9**
RLS Riolos of Patr 75.35 309 P **S 04 41 47.1 -8.5**
WOL Wolverton 75.37 331 *e*P **P 04 33 02.8 -0.1**
IDI Anoyia 75.38 305 P **P 04 33 01.6 -1.7**
IDI Anoyia 75.38 305 P **S 04 41 48.4 -7.7**
DRAG Dragano-Lefkad 75.39 310 P **S 04 41 48.6 -7.5**
MCH1 Michaelchurch 75.40 332 ⇓ *e*P **P 04 33 03.5 +0.5**
MCH1 IAmb IAmb 04 33 04.5
comp=Z,310nm,1.0s
SWN1 Swindon 75.40 331 ⇓ *e*P **P 04 33 03.7 +0.6**
SWN1 IAmb IAmb 04 33 04.7
comp=Z,2μm,1.5s
VLI Veliai 75.49 307 P S 04 41 44.8 -12
SCTE Santa Cesarea 75.51 312 P **P 04 33 03.2 -0.6**
YHL Hebgen Lake 75.56 40 IAmb IAmb 04 33 07.6
comp=Z,129nm,1.0s
TMBK Timbaki Herakl 75.60 305 P **P 04 33 04.0 -0.4**
TMBK Timbaki Herakl 75.60 305 P **S 04 41 53.9 -4.4**
VTN Vitineika 75.61 309 P **P 04 33 03.6 -0.8**
PNTR Pine Nut 75.66 49 IAmb IAmb 04 33 08.9
comp=Z,78nm,0.6s
VAM Vamos 75.69 306 P **P 04 33 03.0 -2.0**
VAM Vamos 75.69 306 P **S 04 41 55.8 -3.6**
DGMT Dagmar 75.70 34 IAmb IAmb 04 33 06.6
comp=Z,138nm,0.5s
DGMT Dagmar 75.70 34 P **P 04 33 06.0 +1.2**
baz=324,SNR=62
DGMT S **S 04 41 58.7 -0.4**
baz=324
ITM Ithomi 75.72 308 P **P 04 33 02.9 -2.3**
ITM Ithomi 75.72 308 P **S 04 41 51.2 -8.5**
ITM Ithomi 75.72 308 IAmb IAmb 04 33 05.3
comp=Z,245nm,0.9s
KTHA Kythira Island 75.74 307 P **P 04 33 01.9 -3.4**
KTHA Kythira Island 75.74 307 P S 04 41 43.9 -16
KTHR Kythira 75.77 307 P **P 04 33 03.0 -2.4**
KTHR Kythira 75.77 307 P S 04 41 49.5 -11
KEF4 Livadi, Kephal 75.78 310 P **P 04 33 03.8 -1.6**
KEF4 Livadi, Kephal 75.78 310 P **S 04 41 58.3 -1.8**
IMMV Iera Moni Meta 75.78 306 P **P 04 33 03.8 -1.7**
IMMV Iera Moni Meta 75.78 306 P **S 04 41 53.9 -6.4**
DGTI Dogotuki 75.78 131 P **P 04 33 09.1 +3.5**
PSDA Pessada-Kefalo 75.80 310 P **S 04 41 55.9 -4.4**
DMLN Damoulianata-K 75.82 310 P **P 04 33 04.4 -1.3**
DMLN Damoulianata-K 75.82 310 P **S 04 41 59.7 -1.0**
RODP Rodopos 75.84 306 P **P 04 33 05.0 -0.8**
RODP Rodopos 75.84 306 P **S 04 41 56.1 -4.8**
KEF3 Kipouria, Keph 75.86 310 P **P 04 33 05.0 -0.8**
KEF3 Kipouria, Keph 75.86 310 P **S 04 41 56.8 -4.2**
ANKY Antikythira Is 75.88 307 P **P 04 33 04.0 -2.0**
YERR Yerington 75.93 49 IAmb IAmb 04 33 09.7
comp=Z,120nm,0.8s
BMN Battle Mountai 75.93 47 IAmb IAmb 04 33 10.0
comp=Z,437nm,1.5s
PRMA PARMA 75.99 320 P **P 04 33 06.7 +0.3**
PRMA pP **pP 04 35 08.6 -0.2**
CMB Columbia Colle 76.00 50 IAmb IAmb 04 33 09.7
comp=Z,177nm,1.2s
ZCCA Zocca 76.01 320 IAmb IAmb 04 33 10.0
comp=Z,293nm,1.0s
RSBS Rosebush, Pemb 76.01 333 ⇓ *e*P **P 04 33 06.7 +0.3**
RSBS IAmb IAmb 04 33 07.2
comp=Z,188nm,1.0s
PYL PYLOS 76.03 308 P **P 04 33 04.5 -2.3**
PYL PYLOS 76.03 308 P S 04 41 42.1 -21
BLDU Ballidu 76.03 192 P **P 04 33 06.8 +0.1**
SENIN Lac Senin/Sane 76.08 323 IAmb IAmb 04 33 08.8
comp=Z,181nm,1.0s
MSVF Nonsavu 76.08 133 P **P 04 33 09.4 +2.1**
MSVF pmax pmax
comp=Z,511nm,1.3s
MSVF Nonsavu 76.08 133 P **P 04 33 09.4 +2.1**
MSVF Nonsavu 76.08 133 P **P 04 33 10.7 +3.4**
KNDR Palaiochora Ch 76.11 306 P **P 04 33 04.7 -2.6**
KNDR Palaiochora Ch 76.11 306 P **S 04 42 00.6 -3.2**
IGLA Glengowla, Co 76.14 336 *e*P **P 04 33 06.9 -0.2**
GVDS Gavdos 76.15 305 P **P 04 33 06.5 -1.0**
GVDS Gavdos 76.15 305 P **S 04 42 02.7 -1.6**
GVD Gavdhos 76.16 305 P **P 04 33 05.4 -2.2**
GVD Gavdhos 76.16 305 P **S 04 42 01.3 -3.0**
H17A Grant Village 76.19 40 IAmb IAmb 04 33 12.5
comp=Z,286nm,1.4s
H17A Grant Village 76.19 40 P **P 04 33 11.2 +3.3**
baz=320,SNR=102
H17A S **S 04 42 11.2 +6.3**
baz=320
RLMT Red Lodge 76.22 39 P **P 04 33 09.6 +1.6**
baz=321,SNR=113
RLMT S **S 04 42 04.9 -0.2**
baz=321
XMAS Kiritimati 76.25 101 P **P 04 33 09.2 +0.9**
XMAS IAmb IAmb 04 33 10.6
comp=Z,217nm,0.8s
XMAS Kiritimati 76.25 101 P **P 04 33 10.2 +1.9**
IWEX Carrickbyrne, 76.28 334 *e*P **P 04 33 08.8 +0.9**
LAO LASA Array 76.30 36 P **P 04 33 09.5 +1.2**
baz=323,SNR=18
LAO S **S 04 42 06.2 +0.6**
baz=323
FLWY Flagg Ranch 76.37 40 P **P 04 33 10.9 +2.1**
FLWY IAmb IAmb 04 33 12.9
comp=Z,266nm,1.4s
AQU L'Aquila 76.38 317 ⇓ *i* P **P 04 33 09.8 +1.1**
VLC Villacollemand 76.42 320 IAmb IAmb 04 33 11.4
comp=Z,247nm,1.0s
KVN Kaiserville 76.48 48 IAmb IAmb 04 33 12.8
comp=Z,202nm,1.2s
OSSC Osservatorio P 76.52 319 IAmb IAmb 04 33 10.9
comp=Z,345nm,1.1s
RYN Ryan 76.57 49 IAmb IAmb 04 33 13.3
comp=Z,256nm,1.4s
MOOW Moose Ponds 76.61 41 IAmb IAmb 04 33 13.8
comp=Z,355nm,1.5s
MSSA Maissana 76.70 321 P **P 04 33 10.2 -0.3**
MSSA IAmb IAmb 04 33 11.5
comp=Z,206nm,1.1s
HTL Hartland 76.74 332 *e*P **P 04 33 11.0 +0.6**
HTL IAmb IAmb 04 33 11.5
comp=Z,192nm,1.1s
CLF Chambon-Foret 76.80 327 IAmb IAmb 04 33 13.6
comp=Z,423nm,1.3s
PAOL Paolisi 76.80 315 IAmb IAmb 04 33 12.4
comp=Z,266nm,1.3s
NVAR Mina Array Bea 76.83 49 P **P 04 33 13.5 +2.1**
comp=Z,35nm,0.5s,baz=304,slow=5.2,SNR=262
NVAR pP **pP 04 35 15.8 +1.6**
comp=Z,8.7nm,0.7s,baz=291,slow=5.0,SNR=6.0
NVAR PKP2bc 04 59 53.4
comp=Z,0.9nm,0.6s,baz=143,slow=3.9,SNR=5.1
KLBR Kellerberrin 76.85 191 P **P 04 33 11.2 +0.1**
LHV Little Huntoon 76.86 49 IAmb IAmb 04 33 15.3
comp=Z,388nm,1.2s
LPL La Plagne 76.99 323 *e*P **P 04 33 12.0 -0.2**
LPL pmax pmax
comp=Z,312nm,1.1s
LPG La Plagne 76.99 323 *e*P **P 04 33 12.1 -0.2**
LPG pmax pmax
comp=Z,375nm,1.2s
STKA Stephens Creek 77.05 170 P **P 04 33 13.2 +1.0**
comp=Z,78nm,0.5s,baz=346,slow=6.5,SNR=260
STKA Stephens Creek 77.05 170 P **P 04 33 12.6 +0.4**
STKA Stephens Creek 77.05 170 P **P 04 33 13.5 +1.3**
TIP Timpagrande 77.06 313 P **P 04 33 13.2 +0.7**
TIP IAmb IAmb 04 33 14.5
comp=Z,362nm,1.2s
MLAC Mammoth, Mammo 77.13 49 P **P 04 33 15.6 +2.4**
baz=317,SNR=27
MLAC S **S 04 42 11.6 -3.5**
baz=317
FLN La Foliniere 77.23 329 *e*P **P 04 33 12.1 -1.0**
FLN pmax pmax
comp=Z,364nm,1.3s
LDF La Druitiere 77.24 329 *e*P **P 04 33 12.2 -1.0**
LDF pmax pmax
comp=Z,80nm,0.6s
ULM Lac du Bonnet 77.28 28 P **P 04 33 13.5 +0.1**
comp=Z,72nm,0.5s,baz=330,slow=6.1,SNR=91
ULM pP **pP 04 35 17.1 +0.9**
comp=Z,42nm,1.2s,baz=339,slow=7.6,SNR=5.3
ULM S **S 04 42 12.5 -3.1**
comp=Z,10.0nm,1.1s,baz=230,slow=21,SNR=12
ULM Lac du Bonnet 77.28 28 IAmb IAmb 04 33 14.8
comp=Z,97nm,0.6s
CMSA Cobar Meteorol 77.32 166 P **P 04 33 15.9 +2.2**
AVF Avril sur Loir 77.37 326 *e*P **P 04 33 13.4 -0.5**
AVF pmax pmax
comp=Z,432nm,1.2s
BNI Bardonecchia 77.38 323 P **P 04 33 14.8 +0.6**
BNI pmax pmax
comp=Z,103nm,1.1s
BNI Bardonecchia 77.38 323 P **P 04 33 14.8 +0.6**
ARMA Armidale 77.43 161 P **P 04 33 15.7 +1.3**
ARMA Armidale 77.43 161 P **P 04 33 16.5 +2.1**
MUN Mundaring 77.44 192 P **P 04 33 14.5 +0.2**
BBOO Buckleboo 77.45 175 P **P 04 33 14.2 -0.2**
BBOO IAmb IAmb 04 33 16.2
comp=Z,379nm,1.4s
BBOO Buckleboo 77.45 175 P **P 04 33 15.1 +0.7**
MTKN Mount Kenneth 77.47 192 P **P 04 33 16.1 +1.7**
JVM Valle D.L. Mar 77.47 330 ⇓ *e*P **P 04 33 14.8 +0.4**
JSA Saint Aubin 77.48 330 ⇓ *e*P **P 04 33 14.6 +0.2**
JSA IAmb IAmb 04 33 15.7
comp=Z,268nm,0.7s
MQOL MQOL 77.73 287 *i* P **P 04 33 16.3 0.0**
MQOL *i* 04 33 24.3
baz=246,slow=12
PAGB Antelope Grade 77.74 52 IAmb IAmb 04 33 19.4
comp=Z,454nm,1.5s

WHYH	Whyalla	77.78	173	P	P	04 33 17.2 +1.1
VOG	Valley Oaks Go	77.79	51	P	P	04 33 17.7 +1.3
	baz=317					
TIN	Tinemaha, Big	77.88	49	P	P	04 33 19.3 +2.2
	baz=318,SNR=26					
BW06	Boulder Array	77.92	40	P	P	04 33 18.2 +1.0
	baz=321,SNR=171					
BW06				S	S	04 42 22.5 -0.6
	baz=321					
PDAR	Pinedale Array	77.92	40	P	P	04 33 18.2 +0.9
	comp=Z,28nm,0.5s,baz=52,slow=1.2,SNR=332					
PDAR				pP	pP	04 35 21.1 +0.7
	comp=Z,14nm,0.9s,baz=22,slow=1.7,SNR=11					
PDAR				PKKPbc	PKKPbc	04 52 10.6 -0.2
	comp=Z,0.4nm,0.4s,baz=127,slow=6.5,SNR=10.0					
PDAR				PKP2bc		04 59 52.6
	comp=Z,0.3nm,0.5s,baz=112,slow=5.9,SNR=3.6					
NAPP	Napperby	77.98	173	P	P	04 33 18.7 +1.5
MDND	Maddock	77.98	32	P	P	04 33 18.2 +1.0
MDND					pP	04 35 21.0 +0.6
MDND	Maddock	77.98	32	P	P	04 33 18.1 +1.0
	baz=326,SNR=8.6					
MDND				S	S	04 42 22.7 -0.4
	baz=326					
SSB	Saint Sauveur	78.11	324	IAmb	IAmb	04 33 19.8
	comp=Z,170nm,1.0s					
NWAO	Narrogin (SRO)	78.23	191	P	P	04 33 20.0 +1.4
NWAO	Narrogin (SRO)	78.23	191	P	P	04 33 20.0 +1.4
NWAO				pP	pP	04 35 18.6 -3.8
NWAO	Narrogin (SRO)	78.23	191	P	P	04 33 19.3 +0.8
HTT	Hallett	78.30	172	P	P	04 33 20.2 +1.3
VES	Vestal, Richgr	78.31	51	P	P	04 33 20.2 +1.1
	baz=317,SNR=80					
R11A	Troy Canyon, C	78.32	47	P	P	04 33 21.4 +1.9
	baz=319,SNR=68					
DUG	Dugway, Tooele	78.34	44	IAmb	IAmb	04 33 23.0
	comp=Z,215nm,1.4s					
DUG	Dugway, Tooele	78.34	44	P	P	04 33 21.5 +2.0
	baz=320,SNR=101					
DUG				S	S	04 42 31.2 +3.8
	baz=320					
GRAC	Grapevine Rang	78.39	49	P	P	04 33 21.9 +2.2
	baz=318,SNR=40					
VIVF	Saint-Julien-I	78.39	324	eP	P	04 33 19.1 -0.4
VIVF				pmax	pmax	
	comp=Z,311nm,1.1s					
CWC	Cottonwood Cre	78.42	50	P	P	04 33 21.6 +1.6
	baz=318					
PKM	Mcpherson Peak	78.60	52	P	P	04 33 23.1 +2.1
	baz=317,SNR=52					
ISA	Isabella, Lake	78.77	51	P	P	04 33 22.5 +0.8
	baz=318,SNR=38					
QUIF	Quistinic	78.91	330	eP	P	04 33 21.6 -0.5
QUIF				pmax	pmax	
	comp=Z,432nm,1.5s					
AGMN	Agassiz Nation	78.95	29	P	P	04 33 22.6 +0.2
AGMN				pP	pP	04 35 25.3 -0.6
AGMN	Agassiz Nation	78.95	29	P	P	04 33 22.5 +0.2
	baz=329,SNR=35					
AGMN				S	S	04 42 30.3 -2.8
	baz=329					
ARVC	Arvin	78.97	51	P	P	04 33 23.9 +1.2
	baz=318,SNR=25					
MPMC	Manual Prospec	79.02	50	P	P	04 33 25.0 +1.8
	baz=318,SNR=91					
TPNV	Topopah Spring	79.02	48	P	P	04 33 25.0 +1.8
	baz=319,SNR=74					
FURC	Furnace Creek,	79.05	49	P	P	04 33 25.2 +2.1
	baz=318,SNR=61					
RSSD	Black Hills	79.28	36	P	P	04 33 25.6 +1.1
RSSD				*PP	pP	04 35 28.9 +0.8
RSSD				pmax	pmax	
	comp=Z,91nm,0.9s					
RSSD	Black Hills	79.28	36	P	P	04 33 25.6 +1.1
RSSD				pP	pP	04 35 28.9 +0.8
RSSD	Black Hills	79.28	36	P	P	04 33 25.6 +1.1
	baz=324					
RSSD				S	S	04 42 36.3 -0.8
	baz=324					
RSSD	Black Hills	79.28	36	P	P	04 33 25.6 +1.1
RSSD				pP	pP	04 35 27.8 -0.4
RJF	Les Rejaudoux	79.32	326	eP	P	04 33 24.1 -0.3
RJF				pmax	pmax	
	comp=Z,203nm,1.3s					
LRMC	Laurel Mtn Rad	79.34	50	P	P	04 33 26.4 +1.6
	baz=318,SNR=76					
K22A	Casper	79.38	39	P	P	04 33 25.6 +0.6
	baz=323,SNR=26					
K22A				S	S	04 42 37.2 -1.0
	baz=323					
OSI	Osito Audit: C	79.41	51	IAmb	IAmb	04 33 27.6
	comp=Z,97nm,0.7s					
OSI	Osito Audit: C	79.41	51	P	P	04 33 27.0 +1.9
	baz=318,SNR=16					
QSM	Queen of Sheba	79.42	49	IAmb	IAmb	04 33 29.1
	comp=Z,302nm,1.3s					
EDW2	Edwards Air Fo	79.61	51	P	P	04 33 28.0 +1.9
	baz=318,SNR=118					
EDW2				S	S	04 42 42.3 +1.7
	baz=318					
RDMU	Red Mountain	79.62	42	IAmb	IAmb	04 33 30.1
	comp=Z,283nm,1.3s					
B35A	Bob, Littlefor	79.62	28	IAmb	IAmb	04 33 27.5
	comp=Z,272nm,1.5s					
SCHQ	Schefferville	79.71	10	P	P	04 33 27.1 +0.9
	comp=Z,14nm,0.3s,baz=27,slow=6.4,SNR=139					
SCHQ				pP	pP	04 35 30.2 +0.2
	comp=Z,12nm,0.8s,baz=354,slow=4.7,SNR=5.3					
SCHQ				S	S	04 42 41.2 +0.5
	comp=Z,25nm,1.1s,baz=260,slow=18,SNR=25					
SCHQ				PKKPbc	PKKPbc	04 52 05.5 -1.5
	comp=Z,4.4nm,0.5s,baz=231,slow=1.5,SNR=26					
SCHQ	Schefferville	79.71	10	P	P	04 33 26.9 +0.6
RAFF	Raffo Rosso	79.78	313	P	P	04 33 27.6 +0.7
RAFF				IAmb	IAmb	04 33 31.3
	comp=Z,250nm,1.4s					
SHOC	Shoshone, Teco	79.79	49	P	P	04 33 29.0 +2.0
	baz=319,SNR=36					
NTLH	Newcastle Hard	79.83	162	P	P	04 33 30.1 +3.2
	comp=Z,72nm,1.2s					
RWWY	Rawlins	79.84	40	P	P	04 33 27.4 -0.1
RWWY					pP	04 35 31.5 +0.1
TWOA	Tennyson Woods	79.85	173	P	P	04 33 28.2 +1.2
DECC	Green Verdugo	79.89	51	P	P	04 33 29.2 +1.6
	baz=318,SNR=14					
DECC				S	S	04 42 44.6 +1.3
	baz=318					
P17A	Butcher Ranch,	79.91	43	IAmb	IAmb	04 33 31.1
	comp=Z,234nm,1.1s					
ATD	Arta Tunnel	79.95	276	P	P	04 33 29.6 +1.4
ATD				pP	pP	04 35 31.6 -0.7
GSC	Goldstone, Bar	79.95	50	P	P	04 33 29.9 +1.9
	baz=318,SNR=94					
SNCC	San Nicolas Is	79.96	53	P	P	04 33 28.4 +0.4
SNCC				IAmb	IAmb	04 33 30.8
	comp=Z,341nm,1.3s					
SNCC	San Nicolas Is	79.96	53	P	P	04 33 29.6 +1.6
	baz=318,SNR=7.6					
MGCD	Mangrove Creek	80.00	162	P	P	04 33 30.1 +2.3
P18A	Preston Nutter	80.03	43	IAmb	IAmb	04 33 32.4
	comp=Z,183nm,0.9s					
CLTB	Caltabellotta	80.10	314	P	P	04 33 27.6 -1.0
RRX	Edison Barstow	80.17	50	P	P	04 33 31.2 +2.2
	baz=318,SNR=13					
RRX				S	S	04 42 48.5 +2.4
	baz=318					
BFSC	Mount Baldy Ra	80.28	51	P	P	04 33 31.0 +1.3
	baz=318,SNR=80					
MTPU	Mount Pierson	80.30	45	IAmb	IAmb	04 33 34.2
	comp=Z,293nm,1.5s					
FMP	Fort Macarthur	80.31	52	P	P	04 33 31.3 +1.6
	baz=318,SNR=7.6					
TUQ	Turquoise Moun	80.33	49	P	P	04 33 32.1 +2.1
	baz=319,SNR=110					
TUQ				S	S	04 42 50.4 +2.4
	baz=319					
SYDH	Sydney Hard Ro	80.45	163	P	P	04 33 32.6 +2.5
CIS	Catalina Islan	80.47	52	P	P	04 33 31.9 +1.3
	baz=318,SNR=32					
VSL	Villasalto	80.52	318	P	P	04 33 31.2 +0.5
VSL				IAmb	IAmb	04 33 32.5
	comp=Z,166nm,1.1s					
HEC	Hector,Ludlow	80.56	50	P	P	04 33 32.9 +1.8
	baz=319,SNR=70					
O20A	White River Ci	80.59	41	P	P	04 33 32.8 +1.4
	baz=322,SNR=77					
O20A				S	S	04 42 49.7 -1.0
	baz=322					
BBRC	Big Bear Solar	80.67	51	P	P	04 33 33.4 +1.5
	baz=319,SNR=15					
BBRC				S	S	04 42 53.3 +1.7
	baz=319					
PKCU	Pink Cliffs	80.69	46	IAmb	IAmb	04 33 36.2
	comp=Z,148nm,1.0s					
SCI2	San Clemente I	80.71	52	P	P	04 33 33.2 +1.4
	baz=318,SNR=10					
EYMN	Ely	80.72	27	P	P	04 33 31.6 0.0
EYMN					pP	04 35 35.2 -0.7
EYMN	Ely	80.72	27	P	P	04 33 31.7 +0.1
	baz=332,SNR=12					
EYMN				S	S	04 42 46.2 -5.0
	baz=332					
GMRC	Granite Mounta	80.96	49	P	P	04 33 35.1 +1.8
	baz=319,SNR=69					
MURC	Murrieta	81.01	51	P	P	04 33 34.8 +1.4
	baz=319,SNR=51					
MURC				S	S	04 42 57.6 +2.9
	baz=319					
N23A	Red Feather La	81.05	39	IAmb	IAmb	04 33 36.9
	comp=Z,130nm,1.1s					
N23A	Red Feather La	81.05	39	P	P	04 33 35.5 +1.7
	baz=324,SNR=82					
N23A				S	S	04 42 56.1 +0.8
	baz=324					
SUSD	Miller	81.08	33	IAmb	IAmb	04 33 34.9
	comp=Z,167nm,0.6s					
SUSD	Miller	81.08	33	P	P	04 33 34.3 +0.7
	baz=327,SNR=17					
SUSD				S	S	04 42 52.3 -2.7
	baz=327					
BELC	Belle Mtn. Jos	81.37	50	P	P	04 33 36.8 +1.5
	baz=319,SNR=93					
PFO	Pinyon Flats O	81.41	51	P	P	04 33 36.4 +0.9
PFO				IAmb	IAmb	04 33 38.5
	comp=Z,291nm,1.3s					
PFO					pP	04 35 40.7 +0.5
PFO	Pinyon Flats O	81.41	51	P	P	04 33 37.0 +1.5
	baz=319,SNR=165					
PFO	Pinyon Flats O	81.41	51	P	P	04 33 37.1 +1.5
TPFO	Pinon Flats	81.41	51	P	P	04 33 37.2 +1.6
	baz=319,SNR=201					
U15A	North Rim	81.49	46	IAmb	IAmb	04 33 39.9
	comp=Z,453nm,1.4s					
NEE2	Needles Airpor	81.53	49	P	P	04 33 37.6 +1.6
	baz=320,SNR=8.9					
109C	Camp Elliot, M	81.59	52	IAmb	IAmb	04 33 39.1
	comp=Z,115nm,0.9s					
109C	Camp Elliot, M	81.59	52	P	P	04 33 37.9 +1.6
	baz=319,SNR=30					
109C				S	S	04 43 01.1 +0.7
	baz=319					
CAN	Canberra	81.61	164	P	P	04 33 37.7 +1.6
CAN	Canberra	81.61	164	IAmb	IAmb	04 33 39.1
	comp=Z,324nm,1.5s					
CAN	Canberra	81.61	164	P	P	04 33 38.1 +2.0
CNB	Canberra Magne	81.67	164	P	P	04 33 38.0 +1.5
IRM	Iron Mountain	81.71	49	P	P	04 33 39.1 +2.2
	baz=319,SNR=127					
IRM				S	S	04 43 03.9 +2.2
	baz=319					
TJX	Tijuana	81.90	52	P	P	04 33 39.4 +1.5
TJX				IAmb	IAmb	04 33 40.4
	comp=Z,159nm,0.6s					
ARPS	Mount Arapiles	81.91	170	P	P	04 33 38.6 +1.0
BC3	Big Chuckawall	81.92	50	P	P	04 33 39.9 +1.7
	baz=319,SNR=12					
SMCO	Snowmass	81.94	41	P	P	04 33 39.8 +1.3
SMCO				IAmb	IAmb	04 33 41.7
	comp=Z,394nm,1.4s					
MONP2	Monument Peak	81.97	51	P	P	04 33 40.1 +1.6
	baz=319,SNR=87					
BAR	Barrett	81.99	51	IAmb	IAmb	04 33 41.2
	comp=Z,213nm,1.4s					
ISCO	Idaho Springs	82.08	40	P	P	04 33 40.9 +1.8
	baz=324,SNR=97					
ISCO				S	S	04 43 06.4 +0.6
	baz=324					
PDMCI	Parker Dam,Lak	82.14	49	P	P	04 33 40.9 +1.8
	baz=320,SNR=39					
SJPF	Ste Jean	82.24	326	eP	P	04 33 39.7 +0.2
SJPF				pmax	pmax	
	comp=Z,40nm,0.9s					
SWSC	Sam W. Stewart	82.27	51	P	P	04 33 41.3 +1.5
	baz=319,SNR=29					
IKP	In-Ko-Pah, Jac	82.32	51	P	P	04 33 41.9 +1.8
	baz=319,SNR=76					
MSEY	Mahe Island	82.36	256	P	P	04 33 41.6 +1.0
MSEY				pmax	pmax	
	comp=Z,26nm,1.0s					
MSEY	Mahe Island	82.36	256	P	P	04 33 41.6 +1.0
MSEY	Mahe Island	82.36	256	P	P	04 33 41.5 +1.0
ECSD	EROS Data Cent	82.58	32	P	P	04 33 41.3 +0.2
ECSD				IAmb	IAmb	04 33 42.9
	comp=Z,230nm,1.5s					
ECSD				pP	pP	04 35 45.6 -0.6
ECSD	EROS Data Cent	82.58	32	P	P	04 33 41.6 +0.5
	baz=329,SNR=90					
ECSD				S	S	04 43 04.0 -5.9
	baz=329					
CCX	Cicese	82.60	52	P	P	04 33 42.0 +0.6
WUAZ	Wupatki	82.66	46	IAmb	IAmb	04 33 45.7
	comp=Z,161nm,1.2s					
WUAZ	Wupatki	82.66	46	P	P	04 33 44.3 +2.4
	baz=321,SNR=68					
WUAZ				S	S	04 43 08.9 -2.5
	baz=321					
SPMN	Marine on St.	82.67	29	P	P	04 33 41.9 +0.4
	baz=331,SNR=25					
SPMN				S	S	04 43 06.9 -3.8
	baz=331					
K31A	O'Neill	82.69	34	IAmb	IAmb	04 33 44.4
	comp=Z,251nm,1.1s					
GLA	Glamis	82.72	50	IAmb	IAmb	04 33 45.4
	comp=Z,247nm,1.3s					
GLA	Glamis	82.72	50	P	P	04 33 44.2 +2.1
	baz=320,SNR=51					
GLA				S	S	04 43 14.0 +2.2
	baz=320					
OGNE	Ogallala	82.73	37	P	P	04 33 43.3 +1.2
OGNE				IAmb	IAmb	04 33 44.5
	comp=Z,428nm,1.5s					
OGNE					pP	04 35 47.9 +0.7
OGNE	Ogallala	82.73	37	P	P	04 33 43.2 +1.1
	baz=326,SNR=25					
OGNE				S	S	04 43 09.6 -2.1
	baz=326					
MVCO	Mesa Verde	82.78	43	IAmb	IAmb	04 33 45.7
	comp=Z,222nm,1.2s					
MVCO	Mesa Verde	82.78	43	P	P	04 33 44.4 +1.9
	baz=322,SNR=104					
MVCO				S	S	04 43 15.2 +2.6
	baz=322					
BRAT	Ballarat	82.95	169	P	P	04 33 45.1 +2.4
Q24A	Divide	82.96	40	P	P	04 33 44.9 +1.4
	baz=324,SNR=41					
Y14A	Wickenburg	83.03	48	IAmb	IAmb	04 33 47.0
	comp=Z,192nm,1.4s					
S22A	4UR Ranch, Cre	83.16	42	P	P	04 33 46.4 +1.9
	baz=323,SNR=63					
S22A				S	S	04 43 20.2 +3.7
	baz=323					
TOO	Toolangi	83.20	168	IAmb	IAmb	04 33 47.2
	comp=Z,283nm,1.2s					
TOO	Toolangi	83.20	168	P	P	04 33 46.0 +1.9
X16A	Lo Mia Camp, P	83.48	47	IAmb	IAmb	04 33 49.9
	comp=Z,221nm,1.4s					
ANKE	Ethiopia-Afar	83.49	277	eP	P	04 33 48.2 +1.6
ANKE				eS	S	04 43 21.2 +0.7
KEST	Kesra	83.49	315	P	P	04 33 46.5 +0.6
	comp=Z,129nm,0.9s,baz=338,slow=0.9,SNR=119					
KEST				pP	pP	04 35 52.0 +0.7
	comp=Z,48nm,1.1s,baz=332,slow=0.7,SNR=5.9					
KEST				PP	PP	04 37 08.7 +0.1
	comp=Z,63nm,1.2s,baz=76,slow=1.4,SNR=5.8					
KEST				PKKPbc	PKKPbc	04 52 00.4 +2.3
	comp=Z,1.6nm,0.5s,baz=278,slow=3.0,SNR=6.9					
KEST	Kesra	83.49	315	P	P	04 33 46.9 +0.9
	SNR=28					
KEST	Kesra	83.49	315	IAmb	IAmb	04 33 48.0
	comp=Z,258nm,1.1s					
G40A	Rib Lake	83.50	27	P	P	04 33 45.7 0.0
G40A				IAmb	IAmb	04 33 47.6
	comp=Z,184nm,1.4s					
G40A					pP	04 35 50.5 -0.7
E43A	Lone Tree Farm	83.51	25	IAmb	IAmb	04 33 47.1
	comp=Z,65nm,0.6s					
SDCO	Great Sand Dun	83.78	41	P	P	04 33 49.2 +1.6
	baz=324,SNR=74					
SDCO				S	S	04 43 20.8 -1.8
	baz=324					
W18A	Petrified Fore	83.81	45	P	P	04 33 49.9 +2.2
	baz=322,SNR=28					
W18A				S	S	04 43 27.4 +4.7
	baz=322					
BGNE	Belgrade	83.95	34	P	P	04 33 48.7 +0.7
BGNE					pP	04 35 54.3 +0.7
BGNE	Belgrade	83.95	34	P	P	04 33 49.0 +1.0
	baz=328,SNR=22					
BGNE				S	S	04 43 22.6 -1.0
	baz=328					
KSCO	Kaye Shedlock'	84.06	38	IAmb	IAmb	04 33 52.1
	comp=Z,359nm,1.3s					
KSCO	Kaye Shedlock'	84.06	38	P	P	04 33 50.0 +1.3
	baz=326,SNR=60					
KSCO				S	S	04 43 23.2 -1.7
	baz=326					
L34A	Svendsen Farm,	84.18	33	IAmb	IAmb	04 33 50.6
	comp=Z,57nm,0.6s					
SFX	San Felipe	84.24	51	P	P	04 33 50.6 +1.1
AAE	Adis Abeba	84.56	277	eP	P	04 33 51.4 -0.4
AAE				eS	S	04 43 24.5 -6.3
I40A	Norwalk	84.58	28	IAmb	IAmb	04 33 53.0
	comp=Z,99nm,0.5s					
214A	Organ Pipe Nat	84.65	49	P	P	04 33 53.4 +1.8
	baz=321,SNR=28					
214A				S	S	04 43 30.0 -0.7
	baz=321					
FURI	Furi	84.72	277	P	P	04 33 54.3 +1.8
FURI				IAmb	IAmb	04 33 56.2
	comp=Z,254nm,1.3s					
FURI				pP	pP	04 35 59.1 +0.6
FURI	Furi	84.72	277	eP	P	04 33 52.8 +0.3
FURI				eS	S	04 43 27.6 -4.7
T25A	Trinidad	84.78	41	IAmb	IAmb	04 33 55.1
	comp=Z,97nm,0.7s					
T25A	Trinidad	84.78	41	P	P	04 33 53.8 +1.4
	baz=325,SNR=95					
T25A				S	S	04 43 32.3 +0.2
	baz=325					
N33A	J Bar K, Exete	84.80	34	IAmb	IAmb	04 33 53.9
	comp=Z,100nm,0.7s					
N35A	Tabor	85.41	33	IAmb	IAmb	04 33 57.6
	comp=Z,325nm,1.4s					
SCIA	State Center	85.41	31	IAmb	IAmb	04 33 57.3
	comp=Z,297nm,1.4s					
SCIA	State Center	85.41	31	P	P	04 33 56.0 +0.9
	baz=331,SNR=5.8					
TUC	Tucson	85.46	48	P	P	04 33 56.7 +1.1
TUC				*PP	pP	04 36 03.9 +2.1
TUC				pmax	pmax	
	comp=Z,60nm,1.4s					
TUC	Tucson	85.46	48	P	P	04 33 56.7 +1.1
TUC				pP	pP	04 36 03.9 +2.1
TUC	Tucson	85.46	48	P	P	04 33 57.6 +2.0
	baz=322					
PBRG	Braganca	85.46	329	eP	P	04 33 55.7 +0.3
PBRG				epP	pP	04 36 02.3 +0.7
PBRG	Braganca	85.46	329	ePP	PP	04 37 25.4 +1.4
CBKS	Cedar Bluff	85.48	37	IAmb	IAmb	04 33 58.0
	comp=Z,92nm,0.8s					
CBKS	Cedar Bluff	85.48	37	P	P	04 33 56.3 +0.8
	baz=327,SNR=14					
CBKS				S	S	04 43 34.8 -3.6
	baz=327					
JFWS	Jewell Farm	85.57	28	IAmb	IAmb	04 33 57.5
	comp=Z,99nm,1.1s					
JFWS	Jewell Farm	85.57	28	P	P	04 33 56.0 +0.2
	baz=333,SNR=13					
JFWS				S	S	04 43 37.0 -2.0
	baz=333					
ANMO	Albuquerque	85.58	43	P	P	04 33 57.4 +1.2
ANMO				pmax	pmax	
	comp=Z,168nm,1.4s					
ANMO	Albuquerque	85.58	43	P	P	04 33 57.4 +1.2
ANMO				IAmb	IAmb	04 34 00.1
	comp=Z,168nm,1.4s					
ANMO	Albuquerque	85.58	43	P	P	04 33 58.6 +2.4
	baz=324					
ANMO				S	S	04 43 43.1 +3.4
	baz=324					
ANMO	Albuquerque	85.58	43	P	P	04 33 58.6 +2.4
ANMO				pP	pP	04 36 02.2 -0.3
GLMI	Grayling	85.62	24	IAmb	IAmb	04 33 58.0
	comp=Z,142nm,1.2s					
GLMI	Grayling	85.62	24	P	P	04 33 56.7 +0.7
	baz=336,SNR=6.3					
GLMI				S	S	04 43 36.6 -2.7
	baz=336					
PGAV	Gavieira, Arco	85.87	330	eP	P	04 33 58.6 +1.2
	comp=Z,187nm,1.7s					
L40A	Anamosa	85.99	29	IAmb	IAmb	04 33 59.5
	comp=Z,234nm,1.4s					
MVO	Moncorvo	86.13	329	eP	P	04 33 59.1 +0.5
	comp=Z,106nm,1.6s					
MVO				epP	pP	04 36 06.0 +0.9
MVO	Moncorvo	86.13	329	ePP	PP	04 37 29.2 -0.1
POLO	Lamas de Olo	86.22	330	eP	P	04 33 59.5 +0.5
	comp=Z,50nm,1.8s					
POLO				epP	pP	04 36 07.1 +1.5
ESBB	Sonseca Array	86.24	326	P	P	04 33 58.7 -0.4
ESBB				pP	pP	04 36 05.3 -0.4
R32A	Long Quarter,	86.24	36	IAmb	IAmb	04 34 01.3
	comp=Z,187nm,1.4s					
ESDC	Sonseca Array	86.25	326	P	P	04 33 59.2 +0.1
	comp=Z,10nm,0.4s,baz=24,slow=4.5,SNR=238					
ESDC				pP	pP	04 36 06.1 +0.4
	comp=Z,36nm,1.2s,baz=26,slow=3.6,SNR=16					
ESDC				PP	PP	04 37 28.3 -2.0
	comp=Z,19nm,1.1s,baz=34,slow=7.7,SNR=4.9					
ESDC				PKKPbc	PKKPbc	04 51 54.1 +2.1
	comp=Z,0.6nm,0.5s,baz=251,slow=2.1,SNR=13					
PVRL	Vila Real	86.28	329	eP	P	04 34 00.0 +0.7
	comp=Z,164nm,1.8s					
N38A	Joes South For	86.38	31	IAmb	IAmb	04 34 01.8
	comp=Z,148nm,1.2s					
K43A	Burlington	86.40	27	IAmb	IAmb	04 34 01.5
	comp=Z,79nm,0.9s					
PAB	San Pablo	86.51	326	P	P	04 33 59.9 -0.5
PAB				pP	pP	04 36 06.8 -0.3
PAB	San Pablo	86.51	326	P	P	04 34 00.5 +0.1
KSU1	Kansas State U	86.53	34	IAmb	IAmb	04 34 01.9
	comp=Z,73nm,0.6s					
KSU1	Kansas State U	86.53	34	P	P	04 34 01.4 +0.9
	baz=329,SNR=33					
KSU1				S	S	04 43 47.2 -1.0
	baz=329					
DILA	Dilla	86.71	276	eP	P	04 34 04.8 +3.0
DILA				eS	S	04 43 36.7 -14
PVIS	Viseu	86.84	329	eP	P	04 34 00.8 -1.1
	comp=Z,115nm,1.6s					
PVIS				epP	pP	04 36 09.6 +0.9
PVIS	Viseu	86.84	329	ePP	PP	04 37 36.4 +1.5
121A	Cookes Peak, D	86.84	46	IAmb	IAmb	04 34 06.1
	comp=Z,124nm,1.4s					
121A	Cookes Peak, D	86.84	46	P	P	04 34 04.6 +2.4
	baz=323,SNR=28					
121A				S	S	04 43 53.9 +2.2
	baz=323					
319A	Douglas	86.98	47	IAmb	IAmb	04 34 06.2
	comp=Z,113nm,1.3s					
L44A	Lake County Fo	87.00	27	P	P	04 34 03.5 +0.9
	baz=334					
L44A				S	S	04 43 50.1 -2.3
	baz=334					
P38A	Dawn	87.28	32	IAmb	IAmb	04 34 06.4
	comp=Z,293nm,1.5s					
N41A	Harden Midland	87.31	30	IAmb	IAmb	04 34 06.0
	comp=Z,161nm,1.1s					
HQIL	Hanson Quary C	87.36	27	P	P	04 34 04.3 +0.1
HQIL				IAmb	IAmb	04 34 06.4
	comp=Z,105nm,0.9s					
PCBR	Castelo Branco	87.45	329	eP	P	04 34 04.9 +0.2
PCBR				epP	pP	04 36 12.0 +0.2
PCBR	Castelo Branco	87.45	329	ePP	PP	04 37 41.5 +1.9
KAN10	Anthony SW Sta	87.60	37	IAmb	IAmb	04 34 08.5
	comp=Z,136nm,1.0s					
PCAS	Casmilo, Conde	87.64	329	eP	P	04 34 04.4 -1.2
	comp=Z,180nm,1.7s					
PCAS				epP	pP	04 36 12.6 -0.1

PCAS	Casmilo, Conde	87.64	329	ePP	PP	04 37 43.8	+2.7
M44A	Midewin, Midew	87.67	28	IAmb	IAmb	04 34 07.7	
	comp=Z,245nm,1.4s						
PMRV	Marv??o	87.78	328	eP	P	04 34 07.0	+0.7
	comp=Z,106nm,1.5s						
PMRV				epP	pP	04 36 13.5	0.0
PMRV	Marv??o	87.78	328	ePP	PP	04 37 43.8	+1.5
KAN14	Manchester OK	87.80	37		P	04 34 06.3	-0.1
KAN14				IAmb	IAmb	04 34 09.4	
	comp=Z,174nm,1.3s						
KAN14					pP	04 36 14.3	+0.7
KAN17	Caldwell West	87.81	36	IAmb	IAmb	04 34 09.5	
	comp=Z,202nm,1.2s						
U32A	Winter Ranch,	87.84	38	IAmb	IAmb	04 34 10.8	
	comp=Z,120nm,1.2s						
AMTX	Amarillo	87.89	40	IAmb	IAmb	04 34 09.4	
	comp=Z,171nm,1.3s						
AMTX	Amarillo	87.89	40	P	P	04 34 08.8	+1.9
	baz=326						
AMTX				S	S	04 44 02.3	+1.1
	baz=326						
P40A	Paris	87.92	31	IAmb	IAmb	04 34 09.8	
	comp=Z,77nm,0.8s						
HDIL	Hopedale	88.00	29	IAmb	IAmb	04 34 09.3	
	comp=Z,84nm,0.9s						
HDIL	Hopedale	88.00	29	P	P	04 34 08.1	+0.8
	baz=333,SNR=13						
HDIL				S	S	04 43 59.5	-2.2
	baz=333						
K50A	Casco	88.07	23	IAmb	IAmb	04 34 09.7	
	comp=Z,58nm,0.7s						
MSTX	Muleshoe	88.14	41	P	P	04 34 08.9	+0.7
MSTX				pP	pP	04 36 16.6	+1.2
MSTX	Muleshoe	88.14	41	P	P	04 34 09.3	+1.1
	baz=326,SNR=20						
MSTX				S	S	04 44 05.9	+2.4
	baz=326						
CROK	Carrier	88.17	37	IAmb	IAmb	04 34 11.3	
	comp=Z,138nm,0.9s						
AAM	Ann Arbor	88.21	24	IAmb	IAmb	04 34 11.0	
	comp=Z,135nm,1.4s						
AAM	Ann Arbor	88.21	24	P	P	04 34 09.2	+1.1
	baz=337,SNR=5.8						
AAM				S	S	04 43 59.3	-4.2
	baz=337						
BLOK	Blackwell	88.28	36	IAmb	IAmb	04 34 10.9	
	comp=Z,71nm,0.5s						
L48A	N Adams	88.31	25	IAmb	IAmb	04 34 11.0	
	comp=Z,199nm,1.4s						
LONY	Lake Ozonia	88.32	17	P	P	04 34 09.3	+0.7
	baz=343						
PESTR	Estremoz	88.34	328	eP	P	04 34 08.8	-0.1
	comp=Z,54nm,1.7s						
PESTR				epP	pP	04 36 16.6	+0.3
PESTR	Estremoz	88.34	328	ePP	PP	04 37 46.9	+0.2
PESTR	Estremoz	88.34	328	P	P	04 34 08.3	-0.6
PESTR				pP	pP	04 36 15.8	-0.5
PMTG	Montargil	88.40	329	eP	P	04 34 09.0	-0.2
	comp=Z,65nm,1.6s						
PMTG				epP	pP	04 36 16.5	0.0
O44A	Mansfield	88.64	28	IAmb	IAmb	04 34 12.2	
	comp=Z,71nm,0.6s						
PKME	Peaks-Kenny Pk	88.70	13	P	P	04 34 11.4	+1.0
	baz=346						
PKME				S	S	04 44 05.3	-2.6
	baz=346						
TAU	Tasmania Unive	88.70	167	P	P	04 34 11.5	+1.4
TAU				pmax	pmax		
	comp=Z,138nm,1.3s						
TAU	Tasmania Unive	88.70	167	P	P	04 34 11.5	+1.4
TAU				IAmb	IAmb	04 34 14.0	
	comp=Z,138nm,1.2s						
MNTX	Cornudas Mount	88.72	45	IAmb	IAmb	04 34 14.5	
	comp=Z,61nm,1.1s						
MNTX	Cornudas Mount	88.72	45	P	P	04 34 13.0	+2.2
	baz=324,SNR=73						
MNTX				S	S	04 44 11.8	+3.1
	baz=324						
N47A	Urbana	88.89	26	IAmb	IAmb	04 34 13.3	
	comp=Z,192nm,1.4s						
SFIN	Lafayette	88.89	27	IAmb	IAmb	04 34 13.6	
	comp=Z,70nm,1.1s						
SFIN	Lafayette	88.89	27	P	P	04 34 12.4	+1.0
	baz=335,SNR=12						
SFIN				S	S	04 44 07.2	-2.6
	baz=335						
OUZ	Omahuta	88.94	146	IAmb	IAmb	04 34 15.4	
	comp=Z,108nm,0.9s						
QUOK	Quay	88.99	36		P	04 34 13.2	+1.2
QUOK				pP	pP	04 36 21.2	+1.7
BCOK	Bluff Creek, N	89.05	37	IAmb	IAmb	04 34 15.5	
	comp=Z,112nm,0.9s						
OK030	Cody Creek RV	89.17	36	IAmb	IAmb	04 34 15.8	
	comp=Z,117nm,0.9s						
PBEJ	Beja	89.19	328	eP	P	04 34 13.5	+0.7
	comp=Z,65nm,1.7s						
PBEJ				epP	pP	04 36 21.2	+0.8
PBEJ	Beja	89.19	328	ePP	PP	04 37 55.0	+1.7
M50A	Fremont	89.21	24	IAmb	IAmb	04 34 15.5	
	comp=Z,71nm,1.0s						
LBNH	Lisbon	89.22	16	P	P	04 34 14.2	+1.4
	baz=345						
LBNH				S	S	04 44 10.8	-1.9
	baz=345						
N49A	Columbus Grove	89.32	25	P	P	04 34 13.5	+0.1
N49A				IAmb	IAmb	04 34 15.7	
	comp=Z,205nm,1.4s						
WMOK	Wichita Mounta	89.32	38	IAmb	IAmb	04 34 16.6	
	comp=Z,107nm,1.1s						
WMOK	Wichita Mounta	89.32	38	P	P	04 34 15.3	+1.8
	baz=328,SNR=136						
WMOK				S	S	04 44 13.0	-1.0
	baz=328						
SLM	Saint Louis	89.37	30	IAmb	IAmb	04 34 15.6	
	comp=Z,70nm,1.1s						
ERPA	Erie	89.40	22	P	P	04 34 14.4	+0.7
	baz=339						
WVNY	West Valley, N	89.49	21	IAmb	IAmb	04 34 15.2	
	comp=Z,23nm,0.5s						
CCM	Cathedral Cave	89.52	31	P	P	04 34 14.8	+0.4
CCM				pmax	pmax		
	comp=Z,169nm,1.5s						
CCM	Cathedral Cave	89.52	31	P	P	04 34 14.8	+0.4
CCM				IAmb	IAmb	04 34 16.5	
	comp=Z,169nm,1.4s						
CCM	Cathedral Cave	89.52	31	P	P	04 34 15.2	+0.9
	baz=332						
CCM				S	S	04 44 11.3	-4.3
	baz=332						
CCM	Cathedral Cave	89.52	31	P	P	04 34 15.2	+0.9
Q44A	Meyer Farm, Va	89.56	29	IAmb	IAmb	04 34 16.8	
	comp=Z,126nm,1.2s						
M52A	Chesterland	89.57	23	IAmb	IAmb	04 34 16.9	
	comp=Z,110nm,0.8s						
PCVE	Castro Verde	89.60	328	epP	pP	04 36 23.2	+0.8
PCVE	Castro Verde	89.60	328	ePP	PP	04 37 58.8	+2.3
TUL1	Leonard	89.60	36	IAmb	IAmb	04 34 18.3	
	comp=Z,93nm,0.9s						
TUL1	Leonard	89.60	36	P	P	04 34 16.5	+1.7
	baz=330,SNR=39						
TUL1				S	S	04 44 15.6	-0.8
	baz=330						
I63A	Otisfield	89.65	15	IAmb	IAmb	04 34 17.7	
	comp=Z,43nm,0.7s						
PVAQ	Vaqueiros	89.67	328	eP	P	04 34 15.9	+0.8
	comp=Z,64nm,1.9s						
PVAQ				epP	pP	04 36 23.5	+0.7
PVAQ	Vaqueiros	89.67	328	ePP	PP	04 37 59.3	+2.2
ACCN	Adirondack Com	89.69	17	P	P	04 34 15.6	+0.5
ACCN					pP	04 36 22.2	-0.5
ALLY	Alegheny Colle	89.80	22	IAmb	IAmb	04 34 18.2	
	comp=Z,136nm,1.4s						
M53A	WI Miller and	89.85	23	IAmb	IAmb	04 34 18.0	
	comp=Z,64nm,0.6s						
M53A	WI Miller and	89.85	23	P	P	04 34 16.8	+0.9
	baz=339,SNR=8.6						
M53A				S	S	04 44 13.0	-5.5
	baz=339						
N51A	Ashland	89.85	24	IAmb	IAmb	04 34 17.9	
	comp=Z,49nm,0.8s						
FVM	French Village	89.88	31	P	P	04 34 16.2	+0.2
FVM				*PP	pP	04 36 23.9	+0.2
FVM				pmax	pmax		
	comp=Z,46nm,1.2s						
FVM	French Village	89.88	31	P	P	04 34 16.2	+0.2
FVM				pP	pP	04 36 23.9	+0.2
MGMO	Mountain Grove	89.92	32	IAmb	IAmb	04 34 18.5	
	comp=Z,67nm,1.1s						
O49A	Covington	89.94	26	IAmb	IAmb	04 34 18.4	
	comp=Z,75nm,1.1s						
HHAR	Hobbs	90.03	34	IAmb	IAmb	04 34 19.1	
	comp=Z,91nm,1.4s						
OLIL	Olney	90.03	29	IAmb	IAmb	04 34 19.1	
	comp=Z,91nm,1.2s						
M54A	Oil Creek Stat	90.06	22	IAmb	IAmb	04 34 18.8	
	comp=Z,40nm,0.7s						
M54A	Oil Creek Stat	90.06	22	P	P	04 34 17.5	+0.7
	baz=340,SNR=6.5						
M54A				S	S	04 44 14.7	-5.6
	baz=340						
MORF	Marmelete	90.11	328	ePP	PP	04 38 02.8	+2.2
BLO	Bloomington	90.17	28	IAmb	IAmb	04 34 19.7	
	comp=Z,115nm,1.4s						
JBK	JBK	90.22	322	P	P	04 34 19.0	+1.0
P48A	Milroy	90.26	27	IAmb	IAmb	04 34 20.5	
	comp=Z,146nm,1.4s						
ACSO	Alum Creek Sta	90.31	25	IAmb	IAmb	04 34 20.1	
	comp=Z,54nm,0.6s						
ACSO	Alum Creek Sta	90.31	25	P	P	04 34 18.9	+1.0
	baz=337,SNR=15						
ACSO				S	S	04 44 18.4	-4.2
	baz=337						
BINY	Binghamton	90.32	19	P	P	04 34 18.7	+0.7
BINY				pP	pP	04 36 25.4	-0.3
BINY	Binghamton	90.32	19	P	P	04 34 18.7	+0.7
	baz=342						
BINY				S	S	04 44 18.7	-4.0
	baz=342						
U40A	Yellville	90.39	33	P	P	04 34 19.6	+1.1
	baz=331,SNR=12						
U40A				S	S	04 44 20.4	-3.2
	baz=331						
P49A	Miami Univ. Ec	90.42	26	IAmb	IAmb	04 34 20.5	
	comp=Z,36nm,0.6s						
P49A	Miami Univ. Ec	90.42	26	P	P	04 34 19.3	+0.8
	baz=336,SNR=13						
P49A				S	S	04 44 20.1	-3.5
	baz=336						
N54A	Moraine State	90.48	22	IAmb	IAmb	04 34 21.0	
	comp=Z,66nm,0.7s						
N54A	Moraine State	90.48	22	P	P	04 34 19.6	+0.9
	baz=339,SNR=15						
N54A				S	S	04 44 20.0	-4.1
	baz=339						
L59A	Walton	90.54	18	IAmb	IAmb	04 34 21.6	
	comp=Z,55nm,0.9s						
S44A	Carbondale	90.56	30	IAmb	IAmb	04 34 21.6	
	comp=Z,141nm,1.4s						
K62A	Royalston	90.68	16	IAmb	IAmb	04 34 22.4	
	comp=Z,33nm,0.7s						
ABTX	Abilene, Hawle	90.71	40	IAmb	IAmb	04 34 22.8	
	comp=Z,46nm,0.8s						
ABTX	Abilene, Hawle	90.71	40	P	P	04 34 21.4	+1.4
	baz=327,SNR=37						
CHEFC	Chefchaouen	90.73	325	P	P	04 34 20.0	-0.1
O52A	Adamsville	90.75	24	IAmb	IAmb	04 34 22.6	
	comp=Z,56nm,0.7s						
L61B	Northampton	90.80	17	P	P	04 34 20.9	+0.7
	baz=344						
O53A	New Philadelph	90.81	23	IAmb	IAmb	04 34 22.6	
	comp=Z,40nm,0.7s						
O53A	New Philadelph	90.81	23	P	P	04 34 21.0	+0.8
	baz=338,SNR=16						
O53A				S	S	04 44 22.9	-4.1
	baz=338						
M57A	Sunshine Farm,	90.86	20	IAmb	IAmb	04 34 23.1	
	comp=Z,45nm,0.9s						
LODK	Lodwar	90.88	276	P	P	04 34 21.4	+0.3
LODK				IAmb	IAmb	04 34 23.3	
	comp=Z,46nm,1.2s						
X37A	Clayton	90.91	36	IAmb	IAmb	04 34 23.7	
	comp=Z,58nm,1.3s						
HRV	Adam Dziewonsk	90.96	16	P	P	04 34 21.7	+0.8
HRV				*PP	pP	04 36 29.7	+0.9
HRV				pmax	pmax		
	comp=Z,21nm,0.7s						
HRV	Adam Dziewonsk	90.96	16	P	P	04 34 21.7	+0.8
HRV				pP	pP	04 36 29.7	+0.9
HRV	Adam Dziewonsk	90.96	16	P	P	04 34 22.1	+1.2
	baz=345						
HRV				S	S	04 44 24.7	-3.6
	baz=345						
P51A	Williamsport	90.98	25	IAmb	IAmb	04 34 22.8	
	comp=Z,110nm,1.5s						
W39A	Magazine	91.04	35	IAmb	IAmb	04 34 24.1	
	comp=Z,66nm,1.2s						
W39A	Magazine	91.04	35	P	P	04 34 22.4	+1.0
	baz=331,SNR=18						
W39A				S	S	04 44 24.7	-4.5
	baz=331						
FCAR	Ozark Folk Cen	91.09	33	IAmb	IAmb	04 34 24.3	
	comp=Z,45nm,0.8s						
WCI	Wyandotte Cave	91.10	28	P	P	04 34 22.6	+1.0
WCI				*PP	pP	04 36 29.5	0.0
WCI				pmax	pmax		
	comp=Z,19nm,0.5s						
WCI	Wyandotte Cave	91.10	28	P	P	04 34 22.6	+1.0
WCI				IAmb	IAmb	04 34 24.5	
	comp=Z,19nm,0.5s						
WCI				pP	pP	04 36 29.5	0.0
WCI	Wyandotte Cave	91.10	28	P	P	04 34 22.6	+1.0
	baz=335						
WCI				S	S	04 44 27.1	-2.5
	baz=335						
P52A	Corning	91.11	24	IAmb	IAmb	04 34 23.4	
	comp=Z,130nm,1.5s						
P52A	Corning	91.11	24	P	P	04 34 22.1	+0.5
	baz=338,SNR=12						
P52A				S	S	04 44 25.5	-4.3
	baz=338						
LCAR	Lake Charles	91.30	32	IAmb	IAmb	04 34 25.1	
	comp=Z,63nm,0.8s						
Q51A	Peebles	91.31	25	IAmb	IAmb	04 34 24.7	
	comp=Z,128nm,1.5s						
SSPA	Standing Stone	91.33	21	P	P	04 34 22.6	0.0
SSPA				IAmb	IAmb	04 34 25.4	
	comp=Z,67nm,1.4s						
SSPA					pP	04 36 30.6	0.0
SSPA	Standing Stone	91.33	21	P	P	04 34 23.3	+0.6
	baz=341						
T45A	Paducah	91.38	30	IAmb	IAmb	04 34 25.2	
	comp=Z,47nm,0.9s						
R49A	Shelbyville	91.41	27	IAmb	IAmb	04 34 25.6	
	comp=Z,60nm,1.4s						
P53A	Whipple	91.46	24	IAmb	IAmb	04 34 25.5	
	comp=Z,123nm,1.4s						
O56A	Blue Knob Stat	91.50	21	IAmb	IAmb	04 34 25.7	
	comp=Z,76nm,1.2s						
O56A	Blue Knob Stat	91.50	21	P	P	04 34 24.3	+0.7
	baz=340,SNR=13						
O56A				S	S	04 44 28.1	-5.2
	baz=340						
WHAR	Wooly Hollow	91.55	33	IAmb	IAmb	04 34 26.8	
	comp=Z,46nm,0.8s						
N59A	State Game Lan	91.58	19	P	P	04 34 24.1	+0.2
N59A	State Game Lan	91.58	19	P	P	04 34 24.7	+0.9
	baz=342,SNR=5.9						
N59A				S	S	04 44 30.6	-3.3
	baz=342						
W41B	Gary Mavity, V	91.67	33	P	P	04 34 25.4	+1.1
	baz=332,SNR=23						
W41B				S	S	04 44 37.6	+2.9
	baz=332						
MIAR	Mount Ida	91.69	35	IAmb	IAmb	04 34 27.4	
	comp=Z,84nm,1.2s						
MIAR	Mount Ida	91.69	35	P	P	04 34 26.0	+1.6
	baz=331,SNR=29						
MIAR				S	S	04 44 35.5	+0.5
	baz=331						
MCWV	Mont Chateau	91.74	23	IAmb	IAmb	04 34 27.6	
	comp=Z,31nm,0.8s						
MCWV	Mont Chateau	91.74	23	P	P	04 34 25.8	+1.2
	baz=339,SNR=10						
MCWV				S	S	04 44 32.2	-3.0
	baz=339						
PEBM	Pemiscott Bayo	91.75	31	IAmb	IAmb	04 34 27.0	
	comp=Z,62nm,0.8s						
GNAR	Gosnell	91.82	31	IAmb	IAmb	04 34 27.6	
	comp=Z,57nm,0.7s						
UTMT	University of	91.91	30	IAmb	IAmb	04 34 28.9	
	comp=Z,93nm,0.9s						
PAL	Palisades	91.92	18	P	P	04 34 26.1	+0.8
	baz=343						
PAL				S	S	04 44 31.0	-5.7
	baz=343						
HBAR	Harrisburg	91.94	32	P	P	04 34 27.2	+1.6
HBAR				IAmb	IAmb	04 34 28.4	
	comp=Z,128nm,1.4s						
HBAR				pP	pP	04 36 33.8	+0.3
X40A	Basin Creek Fa	92.03	34	IAmb	IAmb	04 34 28.9	
	comp=Z,114nm,1.4s						
X40A	Basin Creek Fa	92.03	34	P	P	04 34 27.2	+1.2
	baz=331,SNR=33						
X40A				S	S	04 44 34.6	-3.4
	baz=331						
Q54A	Coxs Mills	92.09	24	IAmb	IAmb	04 34 28.8	
	comp=Z,28nm,0.6s						
WHTX	Lake Whitney,	92.23	39	IAmb	IAmb	04 34 29.8	
	comp=Z,94nm,1.5s						
WHTX	Lake Whitney,	92.23	39	P	P	04 34 28.3	+1.3
	baz=328,SNR=6.3						
WHTX				S	S	04 44 37.5	-2.3
	baz=328						
R53A	Hurricane	92.37	25	IAmb	IAmb	04 34 29.0	
	comp=Z,52nm,1.4s						
MDT	Midelt	92.40	323	P	P	04 34 28.5	+0.6
HPIG		92.42	48	P	P	04 34 29.2	+1.0
HPIG				IAmb	IAmb	04 34 31.6	
	comp=Z,140nm,1.3s						
HPIG				pP	pP	04 36 37.2	+0.9
JCT	Junction City	92.43	41	IAmb	IAmb	04 34 30.4	
	comp=Z,86nm,1.5s						
JCT	Junction City	92.43	41	P	P	04 34 29.1	+1.1
	baz=327,SNR=15						
JCT				S	S	04 44 39.3	-2.4
	baz=327						
WVT	Waverly	92.47	30	P	P	04 34 28.4	+0.4
WVT				*PP	pP	04 36 36.1	+0.1
WVT				pmax	pmax		
	comp=Z,28nm,1.2s						
WVT	Waverly	92.47	30	P	P	04 34 28.4	+0.4
WVT					pP	04 36 36.0	+0.1
WVT	Waverly	92.47	30	P	P	04 34 28.8	+0.9
	baz=334						
WVT				S	S	04 44 39.5	-2.2
	baz=334						
WLAR	White Oak Lake	92.62	35	IAmb	IAmb	04 34 31.9	
	comp=Z,66nm,0.9s						
P60A	Greenville	92.67	19	P	P	04 34 29.2	+0.4
	baz=342						
P60A				S	S	04 44 38.3	-4.9
	baz=342						
KMBO	Kilima Mbogo	92.72	271	P	P	04 34 31.0	+1.2
	comp=Z,60nm,0.9s,baz=35,slow=6.9,SNR=144						
KMBO				pP	pP	04 36 37.5	-0.4
	comp=Z,6.6nm,1.2s,baz=44,slow=5.9,SNR=4.9						
KMBO	Kilima Mbogo	92.72	271	P	P	04 34 31.0	+1.2
KMBO	Kilima Mbogo	92.72	271	P	P	04 34 30.1	+0.4
KMBO				IAmb	IAmb	04 34 32.1	
	comp=Z,84nm,1.0s						
KMBO					pP	04 36 37.8	-0.1
KMBO	Kilima Mbogo	92.72	271	eP	P	04 34 33.0	+3.3
KMBO				eS	S	04 44 43.9	-1.1
KMBO	Kilima Mbogo	92.72	271	i P	P	04 34 31.0	+1.2
	SNR=79						
X43A	Marvell	92.77	33	P	P	04 34 30.0	+0.6
	baz=332						
W45A	Hickory Valley	92.85	31	IAmb	IAmb	04 34 32.4	
	comp=Z,60nm,1.1s						
237A	Washetta, Mont	92.94	38	IAmb	IAmb	04 34 34.0	
	comp=Z,95nm,1.4s						
KIBK	Kibwezi	93.00	270	P	P	04 34 32.1	+1.2
	SNR=6.9						
KIBK	Kibwezi	93.00	270	P	P	04 34 31.8	+1.0
KIBK					pP	04 36 38.8	-0.2
Z41A	Richland Creek	93.12	35	P	P	04 34 32.7	+1.7
	baz=331						
Z41A				S	S	04 44 46.5	-1.0
	baz=331						
435B	Jarrell	93.20	39	P	P	04 34 32.5	+1.1
	baz=328						
435B				S	S	04 44 47.5	-0.8
	baz=328						
GOLM	Goulmima	93.50	323	P	P	04 34 34.0	+1.0
BKZ	Black Stump Fm	93.50	146	IAmb	IAmb	04 34 33.6	
	comp=Z,68nm,1.3s						
TZTN	Tazewell	93.53	26	P	P	04 34 32.8	-0.1
TZTN					pP	04 36 41.0	+0.1
TZTN	Tazewell	93.53	26	P	P	04 34 33.7	+0.9
	baz=337						
Q61A	Milford	93.62	20	P	P	04 34 33.7	+0.6
	baz=342						
NATX	Nacogdoches	93.65	37	P	P	04 34 35.4	+2.0
	baz=330,SNR=12						
NATX				S	S	04 44 51.4	-0.7
	baz=330						
CBN	Corbin Frederi	93.76	21	P	P	04 34 34.4	+0.6
	baz=341						
BLA	Blacksburg	93.86	24	P	P	04 34 34.8	+0.4
	baz=339						
NNZ	Nelson	94.07	149	P	P	04 34 35.0	+0.2
NNZ				IAmb	IAmb	04 34 42.2	
	comp=Z,36nm,1.3s						
143A	Socs Landing,	94.17	34	IAmb	IAmb	04 34 39.0	
	comp=Z,67nm,1.2s						
X48A	Hartselle	94.25	30	P	P	04 34 35.8	-0.4
X48A					pP	04 36 44.8	+0.5
833A	Chaparral WMA,	94.43	42	IAmb	IAmb	04 34 40.1	
	comp=Z,38nm,1.3s						
833A	Chaparral WMA,	94.43	42	P	P	04 34 38.8	+1.7
	baz=327						
TZRR	Tazzarine	94.56	323	P	P	04 34 38.0	+0.2
VBMS	Vicksburg	94.95	34	P	P	04 34 41.0	+1.7
	baz=332						
OUZM	OUZ	94.96	324	P	P	04 34 40.0	+0.4
342A	Flagon Creek P	94.96	35	IAmb	IAmb	04 34 43.0	
	comp=Z,65nm,1.3s						
ZGR	Zagora	95.16	322	P	P	04 34 41.0	+0.5
OUK	Oukaimeden	95.16	325	P	P	04 34 41.0	+0.2
OXZ	Oxford	95.43	151	IAmb	IAmb	04 34 41.2	
	comp=Z,21nm,0.9s						
KMSC	Kings Mountain	95.51	25	P	P	04 34 42.7	+0.9
	baz=338						
344A	Westbrook Farm	95.54	34	IAmb	IAmb	04 34 45.0	
	comp=Z,25nm,0.6s						
PPT2	Papeete2	95.65	109	eLR	LR	05 06 39.0	
	comp=Z,568nm,23.0s						
GOGA	Godfrey	96.42	28	P	P	04 34 46.5	+0.6
	baz=337						
MBAR	Mbarara	96.98	276	P	P	04 34 49.2	+0.3
MBAR	Mbarara	96.98	276	P	P	04 34 48.9	-0.1
MBAR				pP	pP	04 36 57.1	-0.4
MBAR	Mbarara	96.98	276	eP	P	04 34 41.5	-7.4
MBAR				eS	SKSac	04 44 28.6	-1.3
ZAIG	Zacatecas	97.43	48	P	P	04 34 52.3	+1.3
TBI	Tubuai	99.77	113	eLR	LR	05 08 31.7	
	comp=Z,417nm,22.5s						
TORD	Torodi Ar. Bea	105.71	307	Pdiff	Pdif	04 35 27.5	0.0
	comp=Z,0.6nm,0.4s,baz=21,slow=4.7,SNR=13						
TORD				PKiKP	PKiKP	04 39 36.7	+0.1
	comp=Z,8.3nm,1.0s,baz=22,slow=2.6,SNR=6.6						
TORD				PP	PP	04 39 53.5	-4.9
	comp=Z,59nm,1.0s,baz=34,slow=8.0,SNR=16						
TORD				PKKPbc	PKKPbc	04 50 59.8	-0.2
	comp=Z,6.6nm,0.6s,baz=222,slow=3.5,SNR=12						
DBIC	Dimbokro	114.67	309	PKP	PKiKP	04 39 52.9	-0.8
	comp=Z,3.6nm,0.6s,baz=79,slow=1.8,SNR=8.7						
DBIC				PP	PP	04 40 57.7	-4.1
	comp=Z,67nm,1.0s,baz=34,slow=5.9,SNR=8.4						
DBIC				PKKPbc	PKKPbc	04 50 33.5	+1.8
	comp=Z,2.8nm,0.5s,baz=231,slow=3.5,SNR=8.7						
DBIC				SKKPbc	SKKPbc	04 53 21.8	+4.2
	comp=Z,1.7nm,0.9s,baz=168,slow=4.1,SNR=4.1						
DBIC	Dimbokro	114.67	309		PKKPbc	04 50 33.9	+2.2
LBTB	Lobatse	117.11	261	PKIKP	PKPdf	04 39 57.7	-0.4
LBTB	Lobatse	117.11	261		PKPdf	04 39 57.7	-0.4
BOSA	Boshof	119.58	258	PKP	PKiKP	04 40 02.9	+0.1
	comp=Z,5.2nm,0.6s,baz=118,slow=1.4,SNR=16						
BOSA				PKKPbc	PKKPab	04 50 16.9	-1.1
	comp=Z,5.9nm,0.6s,baz=210,slow=3.3,SNR=7.6						
B

DBBC	Dabeiba	123.29	32	eP		PKPdf	04 40 09.9	-0.4
ZARC	Zaragoza, Cauc	123.34	30	eP		PKPdf	04 40 09.9	-0.4
SDV	Santo Domingo	123.41	25	eP		PKPdf	04 40 09.9	-0.8
SDV	Santo Domingo	123.41	25	eP		PKiKP	04 40 11.0	0.0
SDV	Santo Domingo	123.41	25			PKPdf	04 40 10.3	-0.4
VNDA	Vanda	123.65	172	PKP		PKPdf	04 40 09.1	+0.1
	comp=Z,19nm,0.9s,baz=316,slow=4.7,SNR=52							
VNDA				PP		PP	04 41 57.6	-4.8
	comp=Z,4.0nm,0.8s,baz=325,slow=8.6,SNR=5.5							
VNDA				SKKPbc		SKKPbc	04 52 53.1	-2.3
	comp=Z,4.8nm,0.9s,baz=214,slow=3.4,SNR=9.9							
PCRV	Puerto La Cruz	123.70	17	PKP		PKPdf	04 40 09.2	-1.9
	comp=Z,13nm,0.5s,baz=315,slow=2.1,SNR=19							
SOCV	Socops	123.91	25	eP		PKPdf	04 40 09.9	-1.5
BRRC	Barranca, Sant	124.10	29	eP		PKPdf	04 40 09.9	-1.8
PAMC	Pamplona, Colo	124.22	28	eP		PKPdf	04 40 11.9	-0.7
HELC	Santa Helena	124.30	31	eP		PKPdf	04 40 11.9	-0.8
PTBC	PUERTO BERRIO	124.37	30	eP		PKPdf	04 40 10.9	-1.4
CBOC	Ciudad Bolivar	124.42	32	eP		PKPdf	04 40 11.9	-0.7
SBA	Scott Base	124.45	171	PKIKP		PKiKP	04 40 11.0	+0.2
SBA	Scott Base	124.45	171			PKiKP	04 40 11.0	+0.2
BARC	Barichara	124.76	28	eP		PKPdf	04 40 11.9	-1.5
NORC	Norcasia	125.12	31	eP		PKPdf	04 40 11.9	-1.9
PLMC	San Jos del P	125.20	33	eP		PKPdf	04 40 13.8	-0.2
GUY2C	Guyana, Caldas	125.25	31	eP		PKPdf	04 40 12.8	-1.7
SPBC	San Pablo de B	125.35	30	eP		PKPdf	04 40 12.8	-1.4
RUSC	La Rusia	125.44	29	eP		PKPdf	04 40 13.8	-1.1
ELOV	Elorza	125.53	24	eP		PKPdf	04 40 13.8	-0.7
ANIL	Santa Ana	125.91	32	eP		PKPdf	04 40 12.8	-2.8
ROSC	El Rosal	125.99	30	PKP		PKPdf	04 40 15.8	-0.1
	comp=Z,24nm,0.6s,baz=141,slow=4.2,SNR=18							
ROSC	El Rosal	125.99	30	eP		PKPdf	04 40 15.8	-0.1
YOTC	Yotoco, Valle	126.02	33	eP		PKiKP	04 40 16.7	+0.6
CHIC	Chingaza	126.40	30	eP		PKPdf	04 40 15.8	-0.9
ORTC	Ortega, Tolima	126.51	32	eP		PKPdf	04 40 15.8	-0.7
PRAC	Prado	126.82	32	eP		PKPdf	04 40 15.8	-1.3
VILC	Villavicencio,	126.89	30	eP		PKPdf	04 40 16.7	-0.5
POPC	Popayan, Colom	127.21	34	eP		PKPdf	04 40 16.7	-1.3
PTGC	Puerto Gaitan,	127.35	28	eP		PKPdf	04 40 17.7	-0.3
PCON	Cinco Dias	127.51	34	eP		PKiKP	04 40 19.6	0.0
SOTA	Rioblanco	127.60	34	eP		RiKiKP	04 40 19.6	-0.1
OTAV	Otavalo	128.54	37	PKIKP		PKPdf	04 40 20.4	-0.4
OTAV	Otavalo	128.54	37			PKPdf	04 40 20.4	-0.4
MDP	Montagnes des	130.26	3	PKP		PKiKP	04 40 24.1	-0.4
	comp=Z,86nm,1.3s,baz=328,slow=2.3,SNR=17							
MDP				SKPbc		SKPab	04 42 52.8	+0.3
	comp=Z,258nm,1.1s,baz=354,slow=4.6,SNR=24							
SYO	Syowa Base	131.06	209‖	ePdiff		Pdif	04 37 23.4	+4.5
SYO	Syowa Base	131.06	209‖	epPdiff		pPdif	04 39 28.6	+0.5
BOAV	Boa Vista	132.08	14	eP		PKPdf	04 40 26.8	-0.2
QSPA	South Pole Qui	134.55	180	SKKPbc		SKKPbc	04 52 20.4	+3.0
	comp=Z,11nm,1.1s,baz=156,slow=2.9,SNR=6.4							
QSPA	South Pole Qui	134.55	180	PKPdf		PKPdf	04 40 30.5	+0.6
ATAH	Atahualpa	135.09	42	PKP		PKPdf	04 40 33.3	+0.3
	comp=Z,12nm,0.6s,baz=104,slow=3.0,SNR=10							
ATAH				SKPbc		SKPbc	04 43 09.9	+1.0
	comp=Z,60nm,0.8s,baz=324,slow=1.9,SNR=25							
PTGA	Pitinga	135.23	14	PKP		PKPdf	04 40 32.8	0.0
	comp=Z,15nm,0.7s,baz=321,slow=2.3,SNR=18							
PTGA				SKPbc		SKPbc	04 43 08.6	-0.3
	comp=Z,75nm,0.9s,baz=354,slow=3.7,SNR=34							
MCPB	Macapa, AP	135.70	3	eP		PKiKP	04 40 34.7	-0.8
TBTG	Tabatinga, AM	135.94	29	eP		PKPdf	04 40 34.4	+0.3
MALB	Monte Alegre	137.06	6	eP		PKiKP	04 40 37.3	-0.9
MACA	Manacapuru-AM	137.47	16	eP		PKPdf	04 40 37.6	+0.6
TMAB	Tom-Au,PA,Br	137.70	357	eP		PKPdf	04 40 37.7	+0.3
CZSB	Cruzeiro do Su	138.14	35	eP		PKiKP	04 40 40.2	-0.2
ITTB	Itaituba	139.41	9	eP		PKiKP	04 40 41.9	-1.1
NNA	Nana	140.05	43	PKhKP		PKPpre	04 40 35.0	
	comp=Z,9.1nm,0.5s,baz=335,slow=8.9,SNR=10							
NNA				SKPbc		SKPbc	04 43 22.1	-0.4
	comp=Z,48nm,0.7s,baz=316,slow=3.9,SNR=17							
NNA	Nana	140.05	43	PKHKP		PKPpre	04 40 35.4	
NNA	Nana	140.05	43			PKPpre	04 40 35.4	
PRPB	Parauapebas	141.51	360	eP		PKPdf	04 40 45.4	+1.1
SMTB	Santa Maria do	144.12	356	eP		PKPdf	04 40 49.3	+0.5
SNAA	Sanae	145.02	204	PKPdf		PKPbc	04 40 49.5	-0.1
SNAA	Sanae	145.02	204	PKPbc		PKPbc	04 40 49.4	-0.3
	comp=Z,232nm,1.1s,baz=216,slow=3.6,SNR=126							
SNAA				pPKPbc		pPKPbc	04 43 03.5	-0.8
	comp=Z,24nm,0.9s,baz=99,slow=3.8,SNR=5.3							
SNAA				SKPbc		SKPbc	04 43 31.6	-1.2
	comp=Z,23nm,1.0s,baz=54,slow=3.2,SNR=4.2							
SNAA				SKKPbc		SKKPab	04 51 33.0	-0.7
	comp=Z,7.8nm,0.9s,baz=277,slow=6.1,SNR=12							
SNAA	Sanae	145.02	204			PKPdf	04 40 48.0	-0.8
CLDB	Colider	145.82	10	eP		PKPdf	04 40 52.6	+0.9
PDRB	Porto dos Gac	146.42	12	eP		PKPdf	04 40 53.2	+0.5
VNA2	Neumayer--Watz	146.67	204	PKPdf		PKPbc	04 40 54.3	+0.1
VNA1	Neumayer--Stat	147.05	204	PKPdf		PKPbc	04 40 55.5	+0.3
VILB	Vilhena	147.08	18	eP		PKPbc	04 40 55.5	-1.5
VNA3	Neumayer Olymp	147.15	203	PKPdf		PKPbc	04 40 55.2	-0.3
SNDB	Serra Nova Dou	147.26	2	eP		PKPdf	04 40 54.6	+0.5
PEXB	Peixe	147.38	357	eP		PKPdf	04 40 54.5	+0.2
SDBA	SAO DESIDERIO	147.41	351	eP		PKPdf	04 40 55.2	+0.8
LPAZ	La Paz	147.73	34	PKP		PKPdf	04 40 56.0	+0.4
	comp=Z,53nm,1.0s,baz=1.4,slow=3.5,SNR=56							
LPAZ				PKPbc		PKPbc	04 40 59.5	+0.2
	comp=Z,28nm,0.5s,baz=7.1,slow=5.9,SNR=65							
LPAZ				pPKPbc		pPKPbc	04 43 13.9	-0.2
	comp=Z,40nm,1.0s,baz=7.2,slow=5.4,SNR=13							
LPAZ	La Paz	147.73	34	eP		PKPdf	04 40 56.7	+1.1
GDU01	Guandu, BA	147.76	341	eP		PKPbc	04 40 57.2	-1.4
CMC01	Camacan, BA	149.32	340	eP		PKPdf	04 40 59.7	+2.3
PTLB	Pontes e Lacer	149.73	18	eP		PKPdf	04 40 58.8	+0.8
SIV	San Ignacio	149.80	21	PKP		PKPdf	04 40 59.1	+1.0
	comp=Z,17nm,0.9s,baz=345,slow=0.6,SNR=50							
SIV				PKPbc		PKPbc	04 41 03.9	+0.3
	comp=Z,51nm,0.7s,baz=314,slow=1.2,SNR=50							
SIV				pPKPbc		pPKPbc	04 43 18.8	-0.3
	comp=Z,28nm,0.9s,baz=353,slow=3.5,SNR=7.7							
JANB	Januaria	149.95	349	eP		PKPdf	04 40 59.2	+0.8
TA02	Huaiquique	150.40	41			PKPdf	04 40 59.3	+0.4
TA02						PKiKP	04 41 05.2	-0.2
GUA01	Guaratinga, BA	150.57	340	eP		PKPdf	04 41 00.4	+1.1
SALV	Santo Antonio	150.79	11	eP		PKPdf	04 40 60.0	+0.3
BDFB	Brasilia	150.87	356	PKP		PKPdf	04 41 00.2	+0.3
	comp=Z,25nm,1.1s,baz=63,slow=1.9,SNR=15							
BDFB				PKPbc		PKiKP	04 41 06.7	+0.1
	comp=Z,38nm,0.6s,baz=313,slow=0.8,SNR=70							
BDFB				pPKPbc		pPKPbc	04 43 21.1	-0.8
	comp=Z,25nm,1.0s,baz=358,slow=4.5,SNR=5.8							
BDFB	Brasilia	150.87	356			PKPdf	04 40 59.8	-0.1
BDFB				PKPbc		PKPbc	04 41 06.2	-0.1
ARAG	Araguaiana, MT	150.95	4	eP		PKPdf	04 41 00.8	+0.9
MC01	Montes Claros	151.52	348	eP		PKPdf	04 41 01.5	+0.7
NAN01	Guarapari, ES	151.86	340	eP		PKPdf	04 41 02.1	+0.9
PP1B	Ponte de Pedra	152.57	10	eP		PKPdf	04 41 03.1	+0.9
SJMB	Sao Joao De Ma	152.94	341	eP		PKPdf	04 41 03.5	+0.8
PB10	IPOC Station P	152.94	45	PKPdf		PKPdf	04 41 02.6	-0.1
PB10						PKiKP	04 41 10.8	+0.2
LVC	Limon Verde	152.98	41	PKP		PKPdf	04 41 03.4	+0.3
	comp=Z,8.0nm,0.9s,baz=111,slow=0.6,SNR=12							
LVC				PKPbc		PKiKP	04 41 12.0	+0.9
	comp=Z,20nm,0.9s,baz=307,slow=2.5,SNR=14							
LVC				PKPab		PKPab	04 41 27.1	+1.7
	comp=Z,24nm,0.5s,baz=335,slow=4.3,SNR=30							
LVC	Limon Verde	152.98	41	eP		PKPdf	04 41 04.7	+1.5
BSFB	Barra de Sao F	152.98	341	eP		PKPdf	04 41 03.7	+0.9
DIAM	Diamantina, MG	153.03	347	eP		PKPdf	04 41 04.1	+1.1
IPMB	Ipameri, GO	153.21	356	eP		PKPdf	04 41 03.8	+0.6
RIB01	Linhares ES	153.34	339	eP		PKPdf	04 41 04.1	+0.8
ALF01	Guarapari-ES	154.67	339	eP		PKPdf	04 41 04.6	-0.5
ITRB	Iturama	154.96	1	eP		PKPdf	04 41 06.7	+1.1
AQDB	Aquidauana	155.28	13	eP		PKPdf	04 41 06.3	+0.4
BSCB	Bom Sucesso	155.86	348	eP		PKPdf	04 41 08.7	+1.9
CAM01	Campos-RJ	156.06	341	eP		PKPdf	04 41 08.6	+1.7
GO03	Copiap	156.42	50			PKPdf	04 41 06.8	-0.6
GO03						PKPab	04 41 40.2	+0.5
PCMB	Pacaembu	156.84	3	eP		PKPdf	04 41 09.4	+1.5
VAS01	Vassouras-RJ	156.88	344	eP		PKPdf	04 41 09.3	+1.3
LCO	Las Campanas	157.25	53	PKIKP		PKPdf	04 41 09.3	+0.7
LCO	Las Campanas	157.25	53			PKPdf	04 41 09.3	+0.7
RCLB	Rio Claro- Sao	157.57	354	eP		PKPdf	04 41 11.0	+2.1
CO05	La Serena	157.62	56			PKPdf	04 41 08.1	-0.5
CO05				PKPab		PKPab	04 41 46.1	+1.3
VAO	Valinhos	158.10	352	eP		PKPdf	04 41 10.7	+1.2
PARB	Paraibuna	158.28	349	eP		PKPdf	04 41 11.0	+1.3
FRTB	Fartura	158.58	359	eP		PKPdf	04 41 11.9	+1.8
SPB	Sao Paulo	158.73	353	eP		PKPdf	04 41 10.7	+0.6
PET01	Itanhaem-SP	159.41	353	eP		PKPdf	04 41 11.0	+0.1
PTGB	Pitanga	159.88	5	eP		PKPdf	04 41 13.7	+2.2
VA03	San Esteban	160.05	60			PKPdf	04 41 10.7	-0.8
VA03				PKPab		PKPab	04 41 56.6	+1.1
TIJ01	Guaruva-PR	160.54	357	eP		PKPdf	04 41 14.0	+1.8
CPUP	Villa Florida	160.65	20	PKP		PKPdf	04 41 11.7	-0.5
	comp=Z,2.8nm,0.6s,baz=68,slow=3.1,SNR=6.2							
CPUP				PKPab		PKPab	04 41 58.6	+0.6
	comp=Z,6.8nm,0.6s,baz=6.3,slow=4.8,SNR=15							
CPUP	Villa Florida	160.65	20	PKIKP		PKPdf	04 41 12.2	0.0
CPUP							04 41 57.9	
CPUP	Villa Florida	160.65	20			PKPdf	04 41 12.2	0.0
CPUP						PKPab	04 41 57.9	-0.1
ITAB	Concordia	162.38	6	eP		PKPdf	04 41 16.2	+2.2
MG05	Puerto Natales	163.57	123			PKPdf	04 41 13.8	-0.4
MG05						PKPab	04 42 10.6	+0.2
ITQB	Itaqui	164.01	21	PKPdf		PKPdf	04 41 14.7	-0.7
ITQB						PKPab	04 42 12.3	-0.4
PLCA	Paso Flores	164.40	82	PKP		PKPdf	04 41 14.3	-1.2
	comp=Z,15nm,1.1s,baz=271,slow=2.1,SNR=3.1							
PLCA				PKPab		PKPab	04 42 15.4	+0.8
	comp=Z,33nm,1.1s,baz=288,slow=3.7,SNR=15							
PLCA	Paso Flores	164.40	82	eP		PKPdf	04 41 14.8	-0.8
CPSB	Cacapava Do Su	165.37	12	eP		PKPdf	04 41 17.1	+0.5
PLTB	Pedras Altas	166.68	13	eP		PKPdf	04 41 17.8	+0.2
PLTB	Pedras Altas	166.68	13			PKPdf	04 41 16.9	-0.6
EFI	East Falkland	171.29	145	PKP2		PKPab	04 42 43.1	-1.4
EFI	East Falkland	171.29	145			PKPab	04 42 43.1	-1.4

UCR ***02*** *04:50:20.3±1.5, 12°.03N×89°.02W, h15km, ML4.5, MW4.6, mb4.6(NEIC)*
SNET ***02*** *04:50:21.9±1.2, 12°.10N×89°.01W, h20km, ML4.6*
INET ***02*** *04:50:21.1±1.1, 12°.11N×88°.82W, h1km±3km, ML4.0, MW3.9*
IDC ***02*** *04:50:23.6±2.5, 12°.08N×88°.76W, h44km±25km, mb3.9/11, mb1 4.1/14, mb1mx3.9/35, mbtmp4.1/14, ML2.9/2, MS3.8/4, Ms1 3.8/4, ms1mx3.1/61, Error ellipse: s-maj=29.0km s-min=14.2km az=52.0*
NEIC ***02*** *04:50:24.3±2.3, 12°.11N±0°.07×88°.76W±0°.05, h36km±7km, mb4.6/99, Md4.6(SNET), Error ellipse: s-maj=10.1km s-min=6.3km az=198.0*
GCG ***02*** *04:50:25.3±3.1, 12°.79N×89°.50W, h254km±121km, MD4.3*
ISC 02 04:50:23.2±1.1, 12°.05N±0°.05×88°.91W±0°.05, h40km±11km, n201, σ1§11/179, mb4.5/53, MS3.9/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	1.31	15	eP	Pn	04 50 44.8	-0.3
ALJI				IAML		04 50 45.3	
	comp=Z,6μm,0.3s						
ALJI				eS	Sn	04 51 03.5	+2.1
ALJI	Alcalda de J	1.31	15	eP	Pn	04 50 44.8	-0.3
ALJI				IAML		04 50 45.3	
	comp=Z,6μm,0.3s						
ALJI				eS	Sn	04 51 03.5	+2.1
TECO	Alcaldia de Te	1.48	5	eP	Pn	04 50 46.8	-0.7
TECO	Alcaldia de Te	1.48	5	eP	Pn	04 50 46.8	-0.7
LALI	Alcalda de L	1.49	344	eP	Pn	04 50 46.7	-0.7
LALI	Alcalda de L	1.49	344	eP	Pn	04 50 46.8	-0.6
LALI	Alcalda de L	1.49	344	eP	Pn	04 50 46.7	-0.7
COEB	Comit de Eme	1.49	14	eP	Pn	04 50 47.1	-0.4
COEB	Comit de Eme	1.49	14	eP	Pn	04 50 47.2	-0.4
COEB	Comit de Eme	1.49	14	eP	Pn	04 50 47.1	-0.4
VSM	San Miguel	1.50	24	eP	Pn	04 50 48.0	0.0
VSM	San Miguel	1.50	24	eP	Pn	04 50 48.0	0.0
PACA	Pacayal	1.52	22	eP	Pn	04 50 48.2	+0.1
SNVI	San Vicente	1.56	3	eP	Pn	04 50 47.5	-1.1
SNVI	San Vicente	1.56	3	eP	Pn	04 50 47.5	-1.1
LCND	La Caada	1.60	38	eP	Pn	04 50 48.4	-0.6
LCND	La Caada	1.60	38	eP	Pn	04 50 48.4	-0.6
PQSS	Presa 15 de Se	1.60	12	eP	Pn	04 50 48.9	-0.1
PQSS	Presa 15 de Se	1.60	12	eP	Pn	04 50 48.9	-0.1
CNCH	Conchagua	1.61	41	eP	Pn	04 50 49.0	-0.3
CNCH	Conchagua	1.61	41	eP	Pn	04 50 49.0	-0.3
CSGN	Cosiguina Volc	1.61	55	eP	Pn	04 50 48.5	-0.7
CSGN				IAML		04 51 40.9	
	comp=Z,44μm,0.6s						
PAVA	Las Pavas	1.65	359	eP	Pn	04 50 49.4	-0.5
PAVA	Las Pavas	1.65	359	eP	Pn	04 50 49.4	-0.5
PAVA	Las Pavas	1.65	359	eP	Pn	04 50 49.4	-0.5
SNET	Serv Nac Est T	1.66	349	eP	Pn	04 50 49.1	-0.8
SNET	Serv Nac Est T	1.66	349		Pn	04 50 49.1	-0.8
SNET	Serv Nac Est T	1.66	349	eP	Pn	04 50 49.1	-0.8
OPAM	Oficina de Pla	1.68	350	eP	Pn	04 50 49.5	-0.7
OPAM				eS	Sn	04 51 10.8	+0.3
OPAM	Oficina de Pla	1.68	350	eP	Pn	04 50 49.5	-0.7
OPAM				eS	Sn	04 51 10.8	+0.3
JAYA	Jayaque - finc	1.68	342	eP	Pn	04 50 49.5	-0.8
JAYA				IAML		04 51 11.3	
	comp=Z,8μm,0.2s						
JAYA	Jayaque - finc	1.68	342	eP	Pn	04 50 49.5	-0.8
JAYA				IAML		04 51 11.3	
	comp=Z,8μm,0.2s						
UEES	Universidad Ev	1.69	349	eP	Pn	04 50 49.5	-0.8
UEES	Universidad Ev	1.69	349	eP	Pn	04 50 49.5	-0.8
LFU	La Fuente	1.70	353	eP	Pn	04 50 50.1	-0.4
LFU	La Fuente	1.70	353	eP	Pn	04 50 50.1	-0.4
BOQS	Boqueron	1.71	348	eP	Pn	04 50 50.3	-0.5
BOQS				eS	Sn	04 51 12.2	+0.6
BOQS	Boqueron	1.71	348	eP	Pn	04 50 50.3	-0.5
BOQS				eS	Sn	04 51 12.2	+0.6
CEDA	San Andres	1.81	345	eP	Pn	04 50 51.3	-0.6
CEDA				IAML		04 51 18.1	
	comp=Z,5μm,0.3s						
CEDA	San Andres	1.81	345	eP	Pn	04 50 51.5	-0.4
CEDA	San Andres	1.81	345	eP	Pn	04 50 51.3	-0.6
CEDA				eS	Sn	04 51 12.8	-0.8
CEDA				IAML		04 51 18.1	
	comp=Z,5μm,0.3s						
CEVE	Cerro Verde	1.90	339	eP	Pn	04 50 52.9	-0.5
CEVE				eS	Sn	04 51 16.4	+0.2
CEVE				IAML		04 51 19.3	
	comp=Z,9μm,0.3s						
CEVE	Cerro Verde	1.90	339	eP	Pn	04 50 52.9	-0.5
CEVE				eS	Sn	04 51 16.4	+0.2
CEVE				IAML		04 51 19.3	
	comp=Z,9μm,0.3s						
SBLS	San Blas	1.91	339	eS	Sn	04 51 16.4	-0.1
SBLS	San Blas	1.91	339	eS	Sn	04 51 16.4	-0.1
CRIN	San Cristobal	1.93	70		Pn	04 50 53.1	-0.5
CRIN	San Cristobal	1.93	70	eP	Pn	04 50 53.1	-0.5
TACO	Tacachico	1.96	347	eP	Pn	04 50 53.8	-0.2
TACO				eS	Sn	04 51 17.5	+0.1
TACO	Tacachico	1.96	347	eP	Pn	04 50 53.8	-0.2
TACO				eS	Sn	04 51 17.5	+0.1
RTR	El Retiro	1.97	339	eP	Pn	04 50 54.0	-0.3
RTR	El Retiro	1.97	339	eP	Pn	04 50 54.0	-0.3
NUBE	Las Nubes	2.03	335	eP	Pn	04 50 53.7	-1.4
NUBE				eS	Sn	04 51 18.1	-1.1
NUBE	Las Nubes	2.03	335	eP	Pn	04 50 53.7	-1.4
NUBE				eS	Sn	04 51 18.1	-1.1
TELN	Telica	2.10	75	eP	Pn	04 50 55.1	-0.9
COPN	Copaltepe	2.27	86	eP	Pn	04 50 56.6	-1.6
COPN				IAML		04 51 49.7	
	comp=Z,546nm,0.4s						
MTO3	Montecristo	2.38	349		Pn	04 51 00.2	+0.2
MTO3	Montecristo	2.38	349	eP	Pn	04 51 00.1	+0.1
ESQI	Esquipulas	2.53	350		Pn	04 51 02.5	+0.6
ESQI	Esquipulas	2.53	350	eP	Pn	04 51 01.4	-0.5
TGUH	Tegucigalpa,Un	2.56	38	eP	Pn	04 51 02.7	+0.4
TGUH	Tegucigalpa,Un	2.56	38	Pn	Pn	04 51 02.4	+0.1
TGUH	Tegucigalpa,Un	2.56	38	eP	Pn	04 51 02.7	+0.4
TISN	Laguna Tiscapa	2.58	88	eP	Pn	04 51 00.9	-1.7
BRAN	Las Pilas	2.59	75	eP	Pn	04 51 00.3	-2.4
MGAN	Managua	2.61	88	eP	Pn	04 51 02.1	-0.7
MGAN				eP	Pn	04 51 02.2	-0.7
HUEN		2.69	84	eP	Pn	04 51 03.3	-0.8
NBG	Las Nubes	2.88	331	eP	Pn	04 51 08.7	+1.8
FUG	Fuego 3	3.04	322	eP	Pn	04 51 09.3	+0.4
FUG				eS	Sn	04 51 44.7	+0.5
MATN	Matagalpa	3.04	73		Pn	04 51 06.9	-2.1
MATN	Matagalpa	3.04	73	eP	Pn	04 51 06.9	-2.1
MATN				eS	Sn	04 51 44.6	+0.3
MRL	Marmol	3.11	346	eP	Pn	04 51 11.3	+1.3
BOAB	BOACO BROADBAN	3.20	83	Pn	Pn	04 51 08.7	-2.2
CONN	Concepcion	3.25	98	eP	Pn	04 51 10.5	-1.2
CONN				IAML		04 52 13.5	
	comp=Z,153nm,0.7s						
HZTE	Horizontes, Gu	3.51	112	eP	Pn	04 51 15.3	0.0
HZTE	Horizontes, Gu	3.51	112	Pn	Pn	04 51 15.9	+0.5
HZTE	Horizontes, Gu	3.51	112	eP	Pn	04 51 15.8	+0.5
HZTE				IAML		04 52 23.8	
	comp=Z,108nm,2.5s						
LAPC	Finca la Perla	3.64	110	i P	Pn	04 51 17.3	+0.2
BUEV	Buena Vista	3.65	110	i P	Pn	04 51 17.5	+0.1
ACON	Acoyapa	3.66	91		Pn	04 51 15.0	-2.3
STG3	Santiaguito 3,	3.70	316	eP	Pn	04 51 18.3	+0.2
STG3				eS	Sn	04 51 56.8	-3.8
SAJU	San Juanillo,	3.71	122	eP	Pn	04 51 17.1	-0.9
GUAI	GUAI	3.78	118	i P	Pn	04 51 18.2	-0.8
ORTG	Ortega, Santa	3.78	116		Pn	04 51 18.4	-0.7
LIM1	Limonal	3.83	110	i P	Pn	04 51 20.7	+0.9
GUAB	Guayabo de Bag	3.85	110	i P	Pn	04 51 21.0	+1.0
DUNO	Dulce Nombre,	3.88	120		Pn	04 51 19.2	-1.2
DUNO	Dulce Nombre,	3.88	120	eP	Pn	04 51 19.9	-0.5
DUNO				IAML		04 52 31.5	
	comp=Z,142nm,0.2s						
COLC	Colonia	3.89	110	i P	Pn	04 51 21.2	+0.7
ACAL	Aguas Claras	4.05	110	i P	Pn	04 51 23.4	+0.5
HUEH	Huehuetenango	4.11	323		Pn	04 51 25.2	+1.5
JTS	Las Juntas de	4.26	114	P	Pn	04 51 24.2	-1.4
JTS				S	Sn	04 52 15.0	+0.8
JTS	Las Juntas de	4.26	114	eP	Pn	04 51 25.7	+0.1
JTS	Las Juntas de	4.26	114	Pn	Pn	04 51 24.1	-1.6
ARE1	Arenal 1	4.40	111	eP	Pn	04 51 28.4	+0.7
CAO2	Cobano, Puntar	4.41	122	eP	Pn	04 51 27.5	-0.2
CAO2	Cobano, Puntar	4.41	122		Pn	04 51 27.8	+0.1
ESPN	Las Esperanzas	4.51	88		Pn	04 51 27.1	-1.9
LAFE	Finca La Fe, P	4.52	119	eP	Pn	04 51 28.0	-1.1
SRA1	San Ramn	4.77	114	eP	Pn	04 51 33.6	+0.9
HDC	Heredia	5.13	113	eP	Pn	04 51 39.1	+1.4
HDC	Heredia	5.13	113		Pn	04 51 37.3	-0.4
CCIG	Comitan	5.24	324		Pn	04 51 40.7	+1.4
LCR2	La Lucha 2	5.33	115	eP	Pn	04 51 41.4	+0.8
CVTR	Volcan Turrial	5.44	111		Pn	04 51 40.0	-2.2
RIMA	Rio Macho	5.45	114	eP	Pn	04 51 42.8	+0.6
RIMA	Rio Macho	5.45	114		Pn	04 51 41.5	-0.7
PEZE	Perez Zeledon,	5.79	117	eP	Pn	04 51 47.7	+1.1
PEZE	Perez Zeledon,	5.79	117		Pn	04 51 46.5	-0.2
SRBA	San Rafael, Bu	6.13	117	eP	Pn	04 51 52.3	+0.9
SRBA

RSSD	**Black Hills**	34.51 341	P	P		04 57 10.2	+2.4
RSSD			IAmb	IAmb		04 57 12.1	
	comp=Z,3.5nm,0.6s						
PDAR	**Pinedale Array**	35.47 333	P	P		04 57 17.2	+1.1
	comp=Z,0.4nm,0.7s,baz=119,slow=12,SNR=4.8						
REDW	**Red Top Meadow**	36.52 333	IAmb	IAmb		04 57 30.8	
	comp=Z,6.0nm,0.8s						
SNOW	**Snow King Moun**	36.55 333	IAmb	IAmb		04 57 30.8	
	comp=Z,11nm,1.1s						
AGMN	**Agassiz Nation**	36.60 352	IAmb	IAmb		04 57 28.8	
	comp=Z,5.5nm,0.7s						
NVAR	**Mina Array Bea**	37.08 320	P	P		04 57 32.0	+2.1
	comp=Z,0.8nm,0.6s,baz=134,slow=8.8,SNR=7.1						
VILB	**Vilhena**	37.79 130	P	P		04 57 35.2	-0.8
ULM	**Lac du Bonnet**	38.52 353	P	P		04 57 42.8	+1.2
	comp=Z,1.8nm,0.5s,baz=178,slow=9.7,SNR=4.1						
ULM	**Lac du Bonnet**	38.52 353	IAmb	IAmb		04 58 07.5	
	comp=Z,7.6nm,1.1s						
EGMT	**Eagleton**	39.87 338	IAmb	IAmb		04 58 10.3	
	comp=Z,5.3nm,0.7s						
K05A	**Summer Lake**	41.27 324	P	P		04 58 04.5	-0.4
K05A			IAmb	IAmb		04 58 06.2	
	comp=Z,14nm,0.9s						
AC02	**Maricunga**	43.16 154	P	P		04 58 19.5	-1.2
SCHQ	**Schefferville**	46.08 18	P	P		04 58 41.9	-1.3
	comp=Z,4.4nm,0.7s,baz=216,slow=5.7,SNR=11						
BO01	**Tunca**	49.19 160	P	P		04 59 07.3	-0.1
YKA	**Yellowknife Ar**	53.63 346	P	P		04 59 38.8	-1.5
	comp=Z,4.1nm,1.0s,baz=152,slow=6.7,SNR=27						
PLCA	**Paso Flores**	55.20 163	P	P		04 59 50.3	-1.8
	comp=Z,2.3nm,0.9s,baz=341,slow=10,SNR=4.5						
DLBC	**Dease Lake**	55.66 335	LR	LR		05 25 18.4	
	comp=Z,109nm,18.7s,baz=172,slow=38						
INK	**Inuvik**	63.16 343	LR	LR		05 29 49.1	
	comp=Z,46nm,20.8s,baz=108,slow=37						
ILAR	**Eielson Array**	65.81 337	P	P		05 01 07.5	+3.3
MDT	**Midelt**	78.83 59	LR	LR		05 31 14.8	
	comp=Z,78nm,21.1s,baz=6.5,slow=31						
TORD	**Torodi Ar. Bea**	87.89 77	P	P		05 03 07.6	-1.8
	comp=Z,0.9nm,1.0s,baz=317,slow=5.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	87.89 77	IAmb	IAmb		05 03 12.6	
	comp=Z,3.9nm,1.4s						
WRA	**Warramunga Arr**	137.79 254	PKP	PKPdf		05 09 43.4	-0.7
	comp=Z,0.7nm,0.6s,baz=90,slow=1.6,SNR=5.3						
ASAR	**Alice Springs**	137.80 248	PKP	PKPdf		05 09 43.4	-0.7
	comp=Z,0.6nm,0.9s,baz=88,slow=2.2,SNR=3.3						
PZH	**PanZhiHua**	140.30 345	PKP	PKPdf		05 09 49.1	+0.3
CMAR	**Chiang Mai Arr**	148.71 346	PKPbc	PKPbc		05 10 07.6	+0.5
	comp=Z,2.1nm,0.7s,baz=341,slow=3.4,SNR=13						

*ANF **02** 04:50:24.4±0.4, 46°.51N×121°.32W, h11^{km}±3^{km}, ML3.0/14, Error ellipse: s-maj=3.0km s-min=1.8km az=77.0*
*NEIC **02** 04:50:25.0±1.3, 46°.508N±0°.006×121°.33W±0°.02, h8^{km}±6^{km}, Error ellipse: s-maj=2.0km s-min=1.0km az=90.0*
*SEA **02** 04:50:25.7±1.4, 46°.53N±0°.01×121°.35W±0°.02, h10^{km}±7^{km}, ML3.1/108, ML2.9/66(NEIC), Error ellipse: s-maj=1.9km s-min=1.7km az=124.0*

ISC 02 04:50:25.2±1.0, 46°.52N±0°.02×121°.34W±0°.02, h10^{km}±8^{km}, n136, σ0^{s}67/154, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLK	**Glacier Lake**	0.19	285		Pg	04 50 29.9	+0.6
WPW	**White Pass**	0.23	322		Pg	04 50 29.9	-0.2
LON	**Longmire**	0.40	306		Pg	04 50 32.6	-0.5
PANH	**Panhandle Gap,**	0.40	329		Pg	04 50 32.8	-0.4
PANH					Sg	04 50 39.0	+0.5
NAC	**Naches**	0.42	58		Pg	04 50 33.1	-0.3
RCS	**Mount Rainier-**	0.45	323		Pg	04 50 33.7	-0.4
REMR	**Mount Rainier-**	0.46	312		Pg	04 50 33.9	-0.4
FMW	**Mount Fremont**	0.47	331		Pg	04 50 34.2	-0.3
OBSR	**Observation Ro**	0.50	320		Pg	04 50 34.7	-0.4
TRW	**Toppenish Ridg**	0.60	112		Pg	04 50 36.7	-0.1
RVC	**Mount Rainier-**	0.61	315		Pg	04 50 36.6	-0.4
SOSW	**Source of Smit**	0.61	244		Pg	04 50 36.8	-0.4
TDL	**Tradedollar La**	0.63	255		Pg	04 50 37.1	-0.3
F05D	**White Salmon**	0.64	187		Pg	04 50 37.4	-0.2
F05D	**White Salmon**	0.64	187	P	Pg	04 50 37.2	-0.3
	baz=6.8,SNR=116						
F05D				S	Sg	04 50 45.8	0.0
	baz=6.8						
JRO	**Jston Ridge Ob**	0.65	249		Pg	04 50 37.4	-0.5
JRO					Sg	04 50 46.7	+0.3
EBG	**Ellensburg**	0.66	53		Pg	04 50 38.1	0.0
STD	**Studebaker Rid**	0.67	246		Pg	04 50 37.7	-0.5
STD					Sg	04 50 47.5	+0.5
B201	**Coldwater, Mou**	0.67	252		Pg	04 50 37.7	-0.5
B201					Sg	04 50 47.2	+0.1
SHW	**Mount Saint He**	0.70	243		Pg	04 50 38.4	-0.3
ERK	**Elk Rock**	0.72	253		Pg	04 50 38.7	-0.5
GSM	**Grass Mountain**	0.75	336		Pg	04 50 39.3	-0.5
B941	**Kapowsin**	0.77	308		Pg	04 50 39.1	-0.9
FL2	**Flat Top 2**	0.77	246		Pg	04 50 39.7	-0.4
D05A	**Enumclaw**	0.81	327		Pg	04 50 40.1	-0.6
D05A				Sg	Sg	04 50 51.9	+0.7
GHW	**Garrison Hill**	0.83	310		Pg	04 50 40.3	-0.8
TBM	**Table Mountain**	0.83	38		Pg	04 50 41.0	-0.2
E04D	**Cinebar**	0.85	273		Pg	04 50 41.0	-0.6
E04D	**Cinebar**	0.85	273	P	Pg	04 50 41.0	-0.6
	baz=91,SNR=374						
E04D				S	Sb	04 50 53.5	0.0
	baz=91						
LTY	**Liberty**	0.87	32		Pg	04 50 41.3	-0.7
LTY				Sg	Sg	04 50 53.2	-0.3
F04A	**Amboy**	0.95	232		Pg	04 50 42.5	-1.0
F04A				Sg	Sg	04 50 55.4	-0.4
F04A				IAML		04 50 58.7	
	comp=E,397nm,0.4s						
RATT	**Rattlesnake La**	0.96	341		Pg	04 50 43.0	-0.8
BLTW	**Bickleton**	1.01	126		Pg	04 50 44.2	-0.4
E07A	**Sunnyside**	1.03	87		Pg	04 50 44.2	-0.7
E07A				IAML		04 51 01.6	
	comp=E,439nm,0.4s						
E07A				IAML		04 51 04.6	
	comp=N,337nm,0.6s						
RVW	**Rose Valley**	1.04	250		Pg	04 50 44.1	-1.1
BVW	**Beverly**	1.05	73		Pg	04 50 45.1	-0.2
SHRK	**Shell Rock**	1.06	187		Pg	04 50 44.9	-0.7
VGB	**Gordon Butte**	1.07	158		Pg	04 50 44.9	-1.0
MDW	**Midway**	1.09	84		Pg	04 50 45.5	-0.8
BENWA	**Benson Ranch**	1.12	89		Pg	04 50 46.1	-0.7
HIYU	**Hiyu Mountain**	1.13	197		Pg	04 50 46.4	-0.6
F07A	**Phinny Hill Vi**	1.16	122		Pg	04 50 46.6	-0.9
SNIWA	**Snively Ranch**	1.16	92		Pg	04 50 46.7	-0.9
D04E	**Lakebay**	1.18	305		Pb	04 50 47.2	-0.6
D04E	**Lakebay**	1.18	305	P	Pb	04 50 47.1	-0.7
	baz=123,SNR=30						
D04E				S	Sn	04 51 04.5	+0.5
	baz=123						
GBB	**Gable Butte**	1.19	85		Pg	04 50 47.6	-0.4
C05A	**Tolt Reservoir**	1.20	349		Pb	04 50 47.5	-0.6
SP2	**Seward Park 2**	1.21	329		Pb	04 50 48.0	-0.2
RSW	**Rattlesnake Hi**	1.22	95		Pg	04 50 47.6	-1.0
F04D	**Rainier, OR**	1.24	250		Pn	04 50 47.7	-0.9
F04D	**Rainier, OR**	1.24	250	P	Pn	04 50 47.7	-0.9
	baz=68,SNR=23						
F04D				S	Sg	04 51 05.0	+0.1
	baz=68						
WAH2	**Wahluke Slope**	1.25	78		Pn	04 50 48.4	-0.3
HAWA	**Hanford**	1.26	95	Pn	Pn	04 50 48.0	-0.9
HAWA				IAML		04 51 06.7	
	comp=N,188nm,0.8s						
HAWA				IAML		04 51 11.4	
	comp=N,243nm,0.8s						
G05D	**Wamic, OR**	1.27	179		Pn	04 50 48.8	-0.4
G05D	**Wamic, OR**	1.27	179	P	Pn	04 50 48.5	-0.7
	baz=359,SNR=231						
G05D				S	Sn	04 51 07.3	+0.9
	baz=359						
ETW	**Entiat**	1.29	32		Pn	04 50 48.6	-0.9
GBL	**Gable Mountain**	1.30	86		Pn	04 50 49.0	-0.5
BMW	**Boistfort Moun**	1.30	269		Pn	04 50 48.4	-1.2
HTW	**Haystack Looko**	1.32	347		Pn	04 50 49.0	-0.8
H2OWA	**Water**	1.33	95		Pn	04 50 49.4	-0.5
LOCW	**Locke Island**	1.33	81		Pn	04 50 49.8	-0.1
REDWA	**Red Mountain**	1.33	99		Pn	04 50 49.6	-0.4
FHE	**Frenchman Hill**	1.34	70		Pb	04 50 50.2	-0.2
SLFW	**Sugar Loaf**	1.36	24		Pn	04 50 50.1	-0.4
MJ2	**May Junction 2**	1.37	88		Pn	04 50 50.4	0.0
WIW	**Wooded Island**	1.42	93		Pn	04 50 51.3	+0.2
GMW	**Gold Mountain**	1.43	317		Pn	04 50 50.4	-0.8
C06D	**Leavenworth**	1.44	12		Pb	04 50 52.3	+0.2
C06D	**Leavenworth**	1.44	12	P	Pn	04 50 51.0	-0.4
	baz=193,SNR=13						
C06D				S	Sn	04 51 10.5	0.0
	baz=193						
GNW	**Green Mountain**	1.46	316		Pn	04 50 50.8	-0.8
EPH	**Ephrata**	1.46	54		Pb	04 50 52.1	-0.4
OT3	**Othello 3**	1.46	83		Pn	04 50 51.6	0.0
WTV	**Waterville**	1.52	38		Pn	04 50 52.7	+0.1
G04A	**Mulino**	1.53	212		Pn	04 50 53.0	+0.4
E03A	**Lebam**	1.53	272		Pn	04 50 52.1	-0.5
E03A				IAML		04 51 18.7	
	comp=E,252nm,0.5s						
CROR	**Criterion Ridg**	1.55	171		Pn	04 50 53.0	-0.1
CBSW	**Chelan Butte S**	1.56	34		Pn	04 50 53.7	+0.5
D03D	**Eldon**	1.57	311		Pn	04 50 52.7	-0.5
D03D	**Eldon**	1.57	311	P	Pn	04 50 52.6	-0.6
	baz=130,SNR=11						
D03D				S	Sn	04 51 13.7	+0.1
	baz=130						
E08A	**Dider Farm, El**	1.58	90		Pn	04 50 53.1	-0.2
E08A				IAML		04 51 16.0	
	comp=E,186nm,0.4s						
E08A				IAML		04 51 16.2	
	comp=N,221nm,0.4s						
B017	**Montesano**	1.60	288		Pn	04 50 53.8	+0.3
B019	**Raymond**	1.60	276		Pn	04 50 53.7	+0.1
GPW	**Glacier Peak**	1.61	5		Pb	04 50 55.2	0.0
C04A	**Brinnon**	1.64	318		Pn	04 50 53.9	-0.2
B013	**Quilcene**	1.68	321		Pn	04 50 54.8	+0.1
B013	**Quilcene**	1.68	321		Pn	04 50 54.8	+0.1
NLW	**Nelson Butte**	1.71	23		Pb	04 50 57.2	+0.4
YPT	**Yellepit**	1.71	105		Pn	04 50 55.3	+0.2
JCW	**Jim Creek**	1.73	347		Pn	04 50 56.3	+0.9
D08A	**Wollman Farm,**	1.75	71		Pn	04 50 55.7	0.0
D08A				IAML		04 51 21.7	
	comp=N,129nm,0.5s						
D08A				IAML		04 51 24.3	
	comp=E,102nm,0.6s						
WISH	**Wishkah**	1.77	291		Pn	04 50 56.9	+0.9
WISH				IAML		04 51 43.7	
	comp=N,82nm,3.1s						
DHW2	**Dyer Hill 2**	1.82	35		Pn	04 50 57.2	+0.6
B05A	**Bryant**	1.82	344		Pb	04 50 58.0	-0.7
B05A	**Bryant**	1.82	344	Pb	Pb	04 50 57.9	-0.7
	baz=163						
B05A				Sb	Sb	04 51 22.1	+0.6
	baz=163						
G03D	**McMinnville, O**	1.87	227	Pb	Pb	04 50 58.5	-1.0
	baz=45						
G03D				S	Sn	04 51 21.7	+0.7
	baz=45						
H04A	**Detroit Lake**	1.93	198	Pn	Pn	04 50 59.0	+0.9
H04A				IAML		04 51 32.0	
	comp=E,94nm,0.3s						
H04A				IAML		04 51 33.8	
	comp=N,82nm,0.4s						
RPW	**Rockport**	1.94	357		Pn	04 50 59.2	+0.9
NLWA	**Neilton Lookou**	1.94	298		Pn	04 50 58.8	+0.5
SQM	**Sequim**	1.94	324		Pb	04 50 59.8	-0.9
OLQ	**Olympics--Lake**	1.96	302		Pn	04 50 59.3	+0.7
OD2	**Odessa Site #2**	2.00	63		Pn	04 51 00.0	+0.8
B06A	**Marblemount**	2.00	357		Pb	04 51 01.1	-0.7
G08A	**Pilot Rock**	2.07	126	Pn	Pn	04 50 59.4	-0.7
HEBO	**Mount Hebo**	2.13	233	Pn	Pn	04 51 01.5	+0.6
I05D	**Terrebonne, OR**	2.18	180		Pb	04 51 03.1	-1.6
I05D	**Terrebonne, OR**	2.18	180	Pb	Pn	04 51 03.0	+1.4
	baz=360,SNR=12						
I05D				Sb	Sb	04 51 32.9	+1.1
	baz=360						
E09A	**Wood Farm, Sta**	2.21	89		Pn	04 51 01.8	-0.1
E09A				IAML		04 51 41.1	
	comp=N,98nm,0.5s						
E09A				IAML		04 51 47.1	
	comp=E,64nm,0.7s						
H04D	**Lebanon**	2.22	207		Pb	04 51 04.2	-1.3
H04D	**Lebanon**	2.22	207	P	Pn	04 51 03.0	+0.8
	baz=25,SNR=44						
H04D				Sb	Sb	04 51 34.0	+1.0
	baz=25						
B08A	**Colville Reser**	2.29	36		Pn	04 51 02.9	-0.3
B08A				IAML		04 51 38.1	
	comp=E,49nm,0.3s						
SHUK	**Shuksan-Mt. Ba**	2.35	355		Pb	04 51 07.0	-0.7
COR	**Corvallis**	2.37	216	Pn	Pn	04 51 06.0	+1.8
COR				IAML		04 51 41.4	
	comp=E,60nm,0.3s						
COR				IAML		04 51 41.6	
	comp=E,85nm,1.8s						
A04D	**Lummi Island**	2.39	338	Sb	Sb	04 51 39.0	+1.1
	baz=157						
C09A	**Chrisman Ranch**	2.46	57		Pn	04 51 05.4	0.0
VDB	**Vedder Mountai**	2.56	349		Pb	04 51 09.9	-1.4
PGC	**Sidney**	2.57	327	Pn	Pn	04 51 07.5	+0.7
PGC				IAML		04 51 44.2	
	comp=N,36nm,0.5s						
BUCK	**Buck Mountain**	2.59	207	Pn	Pn	04 51 09.0	+1.7
BUCK				IAML		04 52 07.6	
	comp=N,34nm,4.5s						
PINE	**Pine Mountain**	2.74	174		Pn	04 51 09.8	+0.4
PINE				IAML		04 52 05.9	
	comp=E,47nm,0.7s						
PINE				IAML		04 52 08.9	
	comp=N,38nm,0.7s						
I07A	**Izee**	2.76	151	Pn	Pn	04 51 09.9	+0.2
I07A				IAML		04 52 03.4	
	comp=N,30nm,0.9s						
I07A				IAML		04 52 03.9	
	comp=E,29nm,0.9s						
I04A	**Tendick Farm,**	2.83	196	Sb	Sb	04 51 52.0	+1.6
	baz=15						
F10A	**Beach Ranch, E**	2.91	99		Pn	04 51 11.9	+0.2
F10A				IAML		04 52 05.2	
	comp=N,64nm,0.7s						
BMO	**Blue Mountains**	3.28	119		Pn	04 51 16.8	0.0
BMO				IAML		04 52 11.0	
	comp=N,22nm,0.6s						
NEW	**Newport**	3.36	57		Pn	04 51 17.5	-0.3
NEW				IAML		04 52 22.7	
	comp=N,23nm,0.6s						
NEW				IAML		04 52 26.4	
	comp=N,24nm,1.1s						
NEW	**Newport**	3.36	57	P	Pn	04 51 17.5	-0.3
	baz=240						
J08A	**Circle Bar Ran**	3.76	146	Pn	Pn	04 51 23.2	-0.2
J08A				IAML		04 52 37.0	
	comp=N,26nm,0.8s						
J08A				IAML		04 52 41.1	
	comp=E,20nm,0.9s						
PLID	**Pearl Lake**	4.00	109		Pn	04 51 27.3	+0.5
HUMO	**Hull Mountain**	4.08	197	Pn	Pn	04 51 29.1	+1.5
LLLB	**Lillooet**	4.11	355	Pn	Pn	04 51 27.7	-0.5
LLLB				IAML		04 52 49.5	
	comp=N,18nm,3.9s						
LLLB				IAML		04 52 56.6	
	comp=E,15nm,4.3s						
YBH	**Yreka Blue Hor**	4.88	192	Pn	Pn	04 51 39.5	+0.6
YBH				IAML		04 52 40.5	
	comp=E,11nm,4.9s						
YBH				IAML		04 53 37.5	
	comp=N,11nm,4.4s						
MFID	**Camas Ranch**	4.99	126	Pn	Pn	04 51 40.7	+0.3
MSO	**Missoula**	5.10	84	Pn	Pn	04 51 41.3	-0.6
WALA	**Waterton Lakes**	5.62	60	Pn	Pn	04 51 49.3	+0.4
MCMT	**McKenzie Canyo**	6.19	103	Pn	Pn	04 51 57.5	+0.7
LRM	**Limekiln Ridge**	6.21	93	Pn	Pn	04 51 56.3	-0.9
BOZ	**Bozeman (W)**	6.82	94	Pn	Pn	04 52 05.7	+0.2
YHL	**Hebgen Lake**	7.31	100	Pn	Pn	04 52 12.7	+0.4

*GUC **02** 04:56:18.5±0.7, 23°.12S×67°.07W, h247^{km}±8^{km}, ML3.6*
*IDC **02** 04:56:19.1±0.5, 23°.08S×66°.91W, h215^{km}±10^{km}, mb2.8/2, mb1 3.2/3, mb1mx3.0/24, mbtmp3.4/3, Error ellipse: s-maj=15.8km s-min=4.5km az=99.0*

ISC 02 04:56:19.3±1.6, 23°.08S±0°.08×67°.0W±0°.2, h228^{km}±14^{km}, n19, σ0^{s}63/34, 11C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	1.81	285	P	Pn	04 56 58.2	-0.4
	6.4nm,0.3s,baz=89,slow=8.7,SNR=71						
LVC				S	S	04 57 28.9	-0.2
	9.1nm,0.3s,baz=254,slow=20,SNR=27						
LVC	**Limon Verde**	1.81	285	⇑iP	Pn	04 56 58.6	0.0
LVC				iS	S	04 57 29.1	-0.1
PB15	**IPOC Station P**	2.27	266	eP	Pn	04 57 03.2	+0.4
PB15				iS	S	04 57 37.1	+0.4
PB06	**IPOC Station P**	2.39	278	eP	Pn	04 57 04.4	+0.3
PB06				iS	S	04 57 38.8	-0.1
PB06				IAML		04 57 43.9	
	comp=E,114nm,0.3s						
PB09	**IPOC Station P**	2.42	301	⇑iP	Pn	04 57 05.2	+0.8
PB09				iS	S	04 57 40.7	+1.0
PB09				IAML		04 57 42.5	
	comp=E,80nm,0.6s						
PB03	**IPOC Station P**	2.73	292	⇑iP	Pn	04 57 07.9	+0.2
PB03				iS	S	04 57 45.0	-0.4
PB03				IAML		04 57 46.7	
	comp=E,136nm,0.3s						
PB05	**IPOC Station P**	2.95	274	⇑iP	Pn	04 57 10.3	+0.3
PB05				iS	S	04 57 49.2	-0.5
PB05				IAML		04 57 53.4	
	comp=E,65nm,0.3s						
PB07	**IPOC Station P**	2.98	296	⇑iP	Pn	04 57 10.7	+0.3
PB07				iS	S	04 57 49.5	-0.9
PB04	**IPOC Station P**	2.99	284	⇑iP	Pn	04 57 10.8	+0.3
PB04				iS	S	04 57 50.1	-0.5
PB01	**IPOC Station P**	3.06	311	⇑iP	Pn	04 57 11.3	0.0
PB01				iS	S	04 57 52.2	+0.2
PB02	**IPOC Station P**	3.19	303	⇑iP	Pn	04 57 12.9	+0.1
PB02				iS	S	04 57 54.1	-0.6
PB10	**IPOC Station P**	3.28	262	⇑iP	Pn	04 57 14.2	+0.5
PB10				iS	S	04 57 55.8	-0.6
PB14	**IPOC Station P**	3.46	243	⇑iP	Pn	04 57 16.0	-0.1
PB14				iS	S	04 57 59.5	-1.1
PB08	**IPOC Station P**	3.54	325	⇑iP	Pn	04 57 17.7	+0.6
PB11	**IPOC Station P**	4.12	323	eP	Pn	04 57 22.9	-0.9
PB11				iS	S	04 58 13.2	-1.4
LPAZ	**La Paz**	6.84	351	P	Pn	04 57 58.3	0.0
	comp=E,1.3nm,0.3s,baz=184,slow=12,SNR=28						
LPAZ				S	S	04 59 17.2	0.0
	comp=E,0.0nm,0.3s,baz=259,slow=22,SNR=1.2						
TORD	**Torodi Ar. Bea**	76.25	69	P	P	05 07 42.5	-0.8
	comp=E,0.2nm,0.7s,baz=257,slow=4.0,SNR=1.4						
YKA	**Yellowknife Ar**	93.26	340	P	P	05 09 08.6	+1.2
	comp=E,0.1nm,0.6s,baz=120,slow=5.9,SNR=2.0						
MKAR	**Makanchi Array**	145.82	39	PKPbc	PKPab	05 15 32.4	-0.1
	comp=E,0.4nm,0.6s,baz=309,slow=4.1,SNR=5.7						

*TUL **02** 05:08:11.5±1.2, 36°.82N±0°.01×97°.71W±0°.01, h6^{km}±6^{km}, ML3.0, mb_Lg2.8/51(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=134.0*
*NEIC **02** 05:08:11.8±0.8, 36°.80N±0°.01×97°.709W±0°.009, h4^{km}±7^{km}, Error ellipse: s-maj=2.0km s-min=0.9km az=165.0*
*ANF **02** 05:08:14.2±0.4, 36°.88N×97°.73W, h25^{km}±5^{km}, ML3.5/10, Error ellipse: s-maj=3.2km s-min=2.7km az=17.0*

ISC 02 05:08:11.8±1.0, 36°.80N±0°.02×97°.72W±0°.02, h5^{km}±9^{km}, n73, σ0^{s}88/60, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	0.12	293	Pg	Pg	05 08 14.6	+0.1
KAN17	**Caldwell West**	0.24	351	Pg	Pg	05 08 16.6	-0.1
KAN17				Sg	Sg	05 08 20.0	+0.1
KAN14	**Manchester OK**	0.25	308	Pg	Pg	05 08 16.8	0.0
KAN14				Sg	Sg	05 08 20.4	+0.3
KAN13	**South Haven SW**	0.28	42	Pg	Pg	05 08 17.2	-0.2
KAN13				Sg	Sg	05 08 21.3	+0.1
KAN05	**Bluff City Nor**	0.33	338		Pg	05 08 18.3	0.0
KAN05				Sg	Sg	05 08 22.7	0.0
KAN01	**Argonia South**	0.35	355	Pg	Pg	05 08 18.5	-0.2
KAN01				Sg	Sg	05 08 23.4	+0.1
CROK	**Carrier**	0.37	216		Pg	05 08 19.1	+0.2
OK032	**Salt Plains WL**	0.40	270	Pg	Pg	05 08 19.6	0.0
OK032				Sg	Sg	05 08 25.3	+0.6
BLOK	**Blackwell**	0.41	96		Pg	05 08 19.5	-0.2
BLOK				Sg	Sg	05 08 25.2	+0.2
KAN10	**Anthony SW Sta**	0.44	317	Pg	Pg	05 08 20.3	-0.1
KAN06	**Argonia West S**	0.46	346		Pg	05 08 20.5	-0.2
KAN08	**Anthony NE Sta**	0.47	335		Pg	05 08 20.8	-0.1
KAN12	**Harper NE Stat**	0.54	336	Pg	Pg	05 08 22.3	0.0
OK035	**E0210 Rd and N**	0.80	264	Pg	Pg	05 08 27.0	-0.3
T35A	**Sooner Cattle**	0.97	83	Pg	Pg	05 08 29.8	-0.7
OK029	**Liberty Lake**	1.03	168		Pg	05 08 31.1	-0.4
QUOK	**Quay**	1.03	127		Pg	05 08 31.1	-0.5
OK031	**S. Brethren Rd**	1.10	140		Pg	05 08 32.4	-0.7
U32A	**Winter Ranch,**	1.12	248	Pg	Pg	05 08 32.7	-0.6
OK034	**N. Norfolk Rd.**	1.13	134		Pg	05 08 33.0	-0.6
BCOK	**Bluff Creek, N**	1.15	176		Pg	05 08 33.3	-0.6
OK030	**Cody Creek RV**	1.15	139		Pg	05 08 33.3	-0.7
OK025	**Westminster Rd**	1.26	166		Pn	05 08 35.3	-0.8
OKCFA	**Oklahoma City**	1.40	171	Pn	Pn	05 08 37.8	-0.3
OKCSW	**OKLAHOMA CITY**	1.41	171		Pn	05 08 38.0	-0.2
FNO	**Franklin**	1.56	170	Pn	Pn	05 08 40.4	+0.2
TUL1	**Leonard**	1.79	119	Pn	Pn	05 08 43.6	+0.2
TUL1	**Leonard**	1.79	119	P	Pn	05 08 43.6	+0.2
	baz=301						
TUL1				S	Sb	05

comp=Z,12nm,1.0s
P40A Paris 5.23 57 IAmb_Lg 05 11 08.1
comp=Z,13nm,0.7s
CCM Cathedral Cave 5.30 74 IAmb_Lg 05 11 04.8
comp=Z,20nm,0.8s
N38A Joes South For 5.30 40 IAmb_Lg 05 11 01.2
comp=Z,26nm,0.7s
T42A Van Buren 5.31 86 IAmb_Lg 05 11 07.7
comp=Z,11nm,1.0s
LCAR Lake Charles 5.34 96 IAmb_Lg 05 11 05.4
comp=Z,11nm,1.0s
PBMO Poplar Bluff 5.85 88 IAmb_Lg 05 11 21.8
comp=Z,14nm,0.7s
FVM French Village 5.92 76 IAmb_Lg 05 11 19.7
comp=Z,24nm,0.9s
435B Jarrell 6.00 179 IAmb_Lg 05 11 29.5
comp=Z,18nm,1.0s
W45A Hickory Valley 7.11 101 IAmb_Lg 05 11 54.8
comp=Z,15nm,0.8s
T45A Paducah 7.27 86 IAmb_Lg 05 12 05.9
comp=Z,16nm,0.8s
N23A Red Feather La 7.61 305 IAmb_Lg 05 12 17.9
comp=Z,9.7nm,0.9s

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*IDC **02** 05:11:43.4±1.4, 40°.39N×124°.60W, h0km, mb3.9/4, mb1 4.1/9, mb1mx3.6/56, mbtmp3.9/9, ML4.3/4, MS3.7/14, Ms1 3.7/14, ms1mx3.3/86, Error ellipse: s-maj=16.7km s-min=10.6km az=92.0*

*NEIC **02** 05:11:44.1±3.0, 40°.31N±0°.04×124°.83W±0°.07, h10km±2km, Error ellipse: s-maj=8.9km s-min=7.3km az=256.0*

*NEIC **02** 05:11:45.4, 40°.33N×124°.74W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.30; $M_{\theta\theta}$-2.38; $M_{\phi\phi}$2.08; $M_{r\theta}$0.72; $M_{\theta\phi}$-5.19; $M_{\phi r}$-0.88; Fault plane solution: $M_0$5.77000×10^{15} NP1:ϕ_s192.24000°, δ80.93000°, λ7.62000°. NP2:ϕ_s101.04000°, δ82.48000°, λ170.85000°. Principal axes: T 5.7333, Plg12.0000°, Azm57.0000°; N 0.0631, Plg78.0000°, Azm242.0000°; P -5.7964, Plg1.0000°, Azm147.0000°;*

*NCEDC **02** 05:11:46.6±3.0, 40°.31N±0°.04×124°.69W±0°.08, h15km±6km, Mwr4.4/4, mb4.6/14(NEIC), ML3.8/70(NEIC) Error ellipse: s-maj=9.0km s-min=5.8km az=89.0*

*ANF **02** 05:11:46.8±0.5, 40°.44N×124°.49W, h10km, ML4.2/20, Error ellipse: s-maj=7.6km s-min=2.5km az=77.0*

ISC 02 05:11:45.3±1.9, 40°.33N±0°.05×124°.72W±0°.07, h16km±12km, n197, σ1§55/200, mb4.5/11, MS3.7/9, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCRM	**Chalk Rock**	**0.69**	**82**		**Pn**	**05 11 59.7**	**-0.8**
JCC	**Jacoby Creek,**	**0.71**	**47**		**Pb**	**05 11 59.3**	**0.0**
KMRM	**Mail Ridge**	**0.78**	**98**		**Pb**	**05 12 01.2**	**+0.7**
KHMM	**Horse Mountain**	**0.93**	**54**		**Pb**	**05 12 03.0**	**-0.1**
KBSM	**Bell Springs**	**0.95**	**115**		**Pg**	**05 12 03.4**	**-0.5**
KCPM	**Cahto Peak**	**1.08**	**126**		**Pb**	**05 12 05.1**	**-0.7**
KOMM	**Orleans Mounta**	**1.35**	**45**		**Pn**	**05 12 08.8**	**-0.8**
GNAM	**Navarro Ridge**	**1.41**	**143**		**Pn**	**05 12 09.2**	**-1.1**
O02D	**Mt. Diablo Mer**	**1.48**	**95**	P	**Pn**	**05 12 11.2**	**-0.2**
	baz=277,SNR=1000						
O02D				S	**Sb**	**05 12 29.1**	**-2.1**
	baz=277						
N02D	**Trinity Center**	**1.66**	**67**	P	**Pn**	**05 12 13.3**	**-0.5**
	baz=248,SNR=1000						
WDC	**Whiskeytown Da**	**1.68**	**81**		**Pn**	**05 12 13.4**	**-0.6**
WDC				IAML		05 12 51.1	
	comp=N,1μm,0.9s						
GASB	**Alder Springs**	**1.68**	**113**		**Pn**	**05 12 13.4**	**-0.8**
M02C	**Callahan**	**1.77**	**53**	P	**Pn**	**05 12 14.7**	**-0.6**
	baz=234,SNR=1000						
M02C				S	**Sn**	**05 12 35.7**	**-1.7**
	baz=234						
HOPS	**Hopland Field**	**1.84**	**136**		**Pn**	**05 12 15.5**	**-0.7**
HOPS				IAML		05 13 00.4	
	comp=E,1μm,1.2s						
HOPS				IAML		05 13 01.6	
	comp=N,1μm,0.9s						
KBO	**Bosley Butte**	**1.91**	**11**		**Pn**	**05 12 16.0**	**-1.3**
LTCM	**Tuscan Springs**	**1.99**	**93**		**Pn**	**05 12 18.1**	**-0.1**
L02E	**Cave Junction**	**2.01**	**24**	P	**Pn**	**05 12 17.6**	**-0.9**
	baz=205,SNR=838						
L02E				S	**Sn**	**05 12 41.3**	**-2.0**
	baz=205						
YBH	**Yreka Blue Hor**	**2.06**	**47**	Pn	**Pn**	**05 12 19.0**	**-0.3**
	comp=N,367nm,0.3s,baz=272,slow=9.5,SNR=8404						
YBH				Lg	Lg	05 12 43.4	
	comp=N,135nm,0.3s,baz=176,slow=18,SNR=13						
YBH				LR	LR	05 13 15.7	
	comp=N,808nm,19.8s,baz=223,slow=47						
YBH	**Yreka Blue Hor**	**2.06**	**47**		**Pn**	**05 12 19.1**	**-0.3**
YBH				IAML		05 12 46.5	
	comp=E,823nm,0.6s						
YBH				IAML		05 12 46.8	
	comp=N,901nm,0.5s						
GDXM	**Geysers**	**2.13**	**135**		**Pn**	**05 12 19.7**	**-0.6**
GSGM	**Seigler Mounta**	**2.13**	**133**		**Pn**	**05 12 20.2**	**+0.1**
FTR	**Fort Ross**	**2.17**	**146**		**Pn**	**05 12 19.7**	**-1.1**
GCRM	**Castle Rock Sp**	**2.20**	**135**		**Pn**	**05 12 20.7**	**-0.4**
O03E	**Paynes Creek**	**2.23**	**90**	P	**Pn**	**05 12 21.1**	**-0.6**
	baz=272,SNR=269						
O03E				S	**Sn**	**05 12 47.7**	**-1.1**
	baz=272						
MNRC	**McLaughlin Min**	**2.28**	**129**		**Pn**	**05 12 22.3**	**0.0**
LMEM	**Manzanita Entr**	**2.41**	**84**		**Pn**	**05 12 24.0**	**-0.2**
K02D	**Willamette Mer**	**2.49**	**18**	P	**Pn**	**05 12 24.3**	**-0.9**
	baz=199,SNR=535						
K02D				S	**Sn**	**05 12 52.5**	**-2.8**
	baz=199						
SUTB	**Sutter Butte**	**2.51**	**115**		**Pn**	**05 12 24.4**	**-1.0**
HATC	**Hat Creek Radi**	**2.53**	**78**		**Pn**	**05 12 26.4**	**+0.6**
KEBM	**Edson Butte**	**2.55**	**6**		**Pn**	**05 12 26.6**	**+0.6**
KEBM				IAML		05 13 08.5	
	comp=E,473nm,1.0s						
KEBM				IAML		05 13 10.6	
	comp=N,557nm,0.5s						
ORV	**Oroville**	**2.59**	**106**		**Pn**	**05 12 26.0**	**-0.6**
MCCM	**Marconi Confer**	**2.61**	**146**	Pn	**Pn**	**05 12 25.8**	**-0.9**
MCCM				IAML		05 13 32.1	
	comp=E,382nm,1.3s						
MCCM				IAML		05 13 42.6	
	comp=N,369nm,1.4s						
M04C	**Macdoel**	**2.61**	**55**	P	**Pn**	**05 12 27.4**	**+0.4**
	baz=237,SNR=330						
L04D	**Klamath Falls**	**2.62**	**43**	P	**Pn**	**05 12 28.0**	**+0.9**
	baz=225,SNR=1000						
L04D				S	**Sn**	**05 12 58.7**	**+0.2**
	baz=225						
HUMO	**Hull Mountain**	**2.63**	**30**	Pn	**Pn**	**05 12 26.7**	**-0.4**
HUMO				IAML		05 12 59.6	
	comp=E,504nm,0.5s						
HUMO				IAML		05 12 59.6	
	comp=N,438nm,0.6s						
CVS	**Carmenet Viney**	**2.65**	**138**		**Pn**	**05 12 26.6**	**-0.6**
J01E	**Myrtle Point**	**2.89**	**11**	P	**Pn**	**05 12 31.1**	**+0.6**
	baz=192,SNR=15						
J01E				S	**Sn**	**05 13 01.9**	**-3.0**
	baz=192						
DBO	**Dodson Butte**	**3.00**	**21**		**Pn**	**05 12 32.4**	**+0.2**
DBO				IAML		05 13 07.8	
	comp=N,242nm,0.6s						
DBO				IAML		05 13 09.6	
	comp=E,294nm,0.7s						
VAK	**Adit at Lawren**	**3.11**	**141**		**Pn**	**05 12 32.9**	**-0.8**
BKS	**Berkeley--Byer**	**3.12**	**141**		**Pn**	**05 12 32.9**	**-0.9**
K04D	**Chiloquin, OR**	**3.19**	**43**	P	**Pn**	**05 12 35.3**	**+0.4**
	baz=225						
K04D				S	**Sn**	**05 13 11.5**	**-1.2**
	baz=225						
J04D	**Umpqua Nationa**	**3.50**	**33**	P	**Pn**	**05 12 39.6**	**+0.4**
	baz=215						
J04D				S	**Sn**	**05 13 18.4**	**-2.0**
	baz=215						
JRSC	**Jasper Ridge**	**3.51**	**146**		**Pn**	**05 12 38.1**	**-1.0**
I03D	**Drain, OR**	**3.51**	**16**	P	**Pn**	**05 12 39.3**	**+0.1**
	baz=198						
I03D				S	**Sn**	**05 13 17.9**	**-2.5**
	baz=198						
MOD	**Modoc Plateau**	**3.68**	**63**		**Pn**	**05 12 41.2**	**-0.5**
MOD				IAML		05 13 54.0	
	comp=E,161nm,0.9s						
MOD				IAML		05 14 00.6	
	comp=N,165nm,1.4s						
K05A	**Summer Lake**	**3.73**	**49**	Pn	**Pn**	**05 12 42.9**	**+0.5**
K05A				IAML		05 13 46.0	
	comp=N,195nm,0.9s						
K05A				IAML		05 14 03.6	
	comp=E,173nm,1.2s						
I02E	**Swisshome, OR**	**3.83**	**9**	P	**Pn**	**05 12 44.6**	**+1.1**
	baz=190						
I02E				S	**Sn**	**05 13 25.7**	**-2.4**
	baz=190						
MHC	**Mount Hamilton**	**3.83**	**140**		**Pn**	**05 12 43.2**	**-0.5**
I04A	**Tendick Farm,**	**3.86**	**26**	P	**Pn**	**05 12 44.7**	**+0.7**
	baz=207						
I04A				S	**Sn**	**05 13 27.3**	**-1.8**
	baz=207						
J05D	**Fort Rock, OR**	**3.93**	**40**	P	**Pn**	**05 12 46.2**	**+1.0**
	baz=223						
J05D				S	**Sn**	**05 13 30.1**	**-0.9**
	baz=223						
VCNR	**Virginia City**	**4.04**	**103**		**Pn**	**05 12 48.3**	**+1.7**
VCNR				IAML		05 14 11.8	
	comp=E,156nm,1.6s						
VCNR				IAML		05 14 17.5	
	comp=N,179nm,1.2s						
BUCK	**Buck Mountain**	**4.07**	**18**		**Pn**	**05 12 48.7**	**+1.7**
BUCK				IAML		05 13 47.8	
	comp=E,171nm,0.8s						
BUCK				IAML		05 13 51.8	
	comp=N,161nm,1.0s						
CMB	**Columbia Colle**	**4.07**	**123**	Pn	**Pn**	**05 12 48.0**	**+1.0**
GHS	**Gilroy Hot Spr**	**4.12**	**141**		**Pn**	**05 12 46.9**	**-0.8**
PNTR	**Pine Nut**	**4.14**	**106**	Pn	**Pn**	**05 12 49.9**	**+1.8**
PAHR	**Pah Rah Range**	**4.14**	**97**		**Pn**	**05 12 48.6**	**+0.6**
PAHR				IAML		05 14 14.2	
	comp=N,90nm,2.2s						
HCOM	**Corn Cob Canyo**	**4.17**	**145**		**Pn**	**05 12 46.9**	**-1.4**
HFEM	**San Felipe**	**4.23**	**141**		**Pn**	**05 12 48.3**	**-0.8**
COR	**Corvallis**	**4.38**	**13**		**Pn**	**05 12 53.4**	**+2.3**
COR				IAML		05 13 43.9	
	comp=N,133nm,0.8s						
COR				IAML		05 13 48.1	
	comp=N,109nm,0.8s						
SAO	**San Andreas Ge**	**4.39**	**143**	Pn	**Pn**	**05 12 49.9**	**-1.3**
H04D	**Lebanon**	**4.44**	**19**	P	**Pn**	**05 12 53.5**	**+1.6**
	baz=200						
H04D				S	**Sn**	**05 13 41.8**	**-1.4**
	baz=200						
YERR	**Yerington**	**4.44**	**106**		**Pn**	**05 12 53.5**	**+1.4**
YERR				IAML		05 14 27.6	
	comp=N,126nm,1.8s						
PINE	**Pine Mountain**	**4.46**	**38**	Pn	**Pn**	**05 12 53.8**	**+1.5**
PINE				IAML		05 14 38.7	
	comp=E,85nm,1.9s						
BLRM	**Lewis Ranch**	**4.55**	**142**		**Pn**	**05 12 52.7**	**-0.7**
BJCM	**Johnson Can.**	**4.59**	**144**		**Pn**	**05 12 52.5**	**-1.5**
HAST	**Hastings Reser**	**4.66**	**147**		**Pn**	**05 12 53.3**	**-1.6**
I05D	**Terrebonne, OR**	**4.72**	**31**	P	**Pn**	**05 12 56.9**	**+1.1**
	baz=213						
H04A	**Detroit Lake**	**4.73**	**22**	Pn	**Pn**	**05 12 57.8**	**+1.7**
H04A				IAML		05 13 53.7	
	comp=N,118nm,0.5s						
BBNM	**San Benito**	**4.77**	**142**		**Pn**	**05 12 55.6**	**-0.9**
G03D	**McMinnville, O**	**4.99**	**12**	P	**Pn**	**05 13 00.9**	**+1.4**
	baz=193						
WVOR	**Wild Horse Val**	**5.03**	**63**		**Pn**	**05 13 00.1**	**-0.1**
WVOR				IAML		05 14 58.6	
	comp=N,62nm,1.8s						
RYN	**Ryan**	**5.08**	**108**		**Pn**	**05 13 02.8**	**+1.8**
RYN				IAML		05 14 49.1	
	comp=E,47nm,2.7s						
RYN				IAML		05 14 52.5	
	comp=N,55nm,1.9s						
PMPB	**Monarch Peak**	**5.14**	**142**	Pn	**Pn**	**05 13 01.7**	**+0.1**
PMPB				IAML		05 14 08.9	
	comp=N,77nm,0.8s						
OMMB	**Old Mammoth Mi**	**5.22**	**120**	Pn	**Pn**	**05 13 05.6**	**+2.7**
KVN	**Kaiserville**	**5.26**	**102**	Pn	**Pn**	**05 13 04.3**	**+0.9**
KVN				IAML		05 14 58.6	
	comp=N,42nm,2.9s						
MLAC	**Mammoth, Mammo**	**5.32**	**119**	P	**Pn**	**05 13 06.2**	**+2.0**
	baz=302						
NVAR	**Mina Array Bea**	**5.32**	**109**	Pn	**Pn**	**05 13 04.8**	**+0.6**
	comp=N,1.6nm,0.3s,baz=244,slow=30,SNR=36						
NVAR				LR	LR	05 15 08.1	
	comp=N,297nm,18.9s,baz=264,slow=38						
NVAR	**Mina Array Bea**	**5.32**	**109**		**Pn**	**05 13 05.8**	**+1.6**
I07A	**Izee**	**5.39**	**44**	Pn	**Pn**	**05 13 06.8**	**+1.7**
NV11	**Mina Array Sit**	**5.43**	**108**		**Pn**	**05 13 06.8**	**+1.1**
G05D	**Wamic, OR**	**5.51**	**26**	P	**Pn**	**05 13 07.9**	**+1.2**
	baz=208						
J08A	**Circle Bar Ran**	**5.56**	**55**		**Pn**	**05 13 07.6**	**+0.2**
BMN	**Battle Mountai**	**5.72**	**87**	Pn	**Pn**	**05 13 10.0**	**+0.3**
PAGB	**Antelope Grade**	**5.79**	**141**	Pn	**Pn**	**05 13 10.0**	**-0.6**
VOG	**Valley Oaks Go**	**5.80**	**132**	P	**Pn**	**05 13 12.1**	**+1.5**
	baz=315						
F04A	**Amboy**	**5.84**	**16**		**Pn**	**05 13 13.2**	**+2.0**
TIN	**Tinemaha, Big**	**6.04**	**121**	P	**Pn**	**05 13 14.9**	**+0.9**
	baz=305						
F05D	**White Salmon**	**6.04**	**22**	P	**Pn**	**05 13 14.5**	**+0.6**
	baz=204						
VES	**Vestal, Richgr**	**6.31**	**133**	P	**Pn**	**05 13 18.9**	**+1.2**
	baz=317						
CWC	**Cottonwood Cre**	**6.50**	**125**	P	**Pn**	**05 13 21.1**	**+0.7**
	baz=309						
G08A	**Pilot Rock**	**6.52**	**39**	Pn	**Pn**	**05 13 23.4**	**+2.9**
F07A	**Phinny Hill Vi**	**6.57**	**31**		**Pn**	**05 13 23.5**	**+2.3**
GRAC	**Grapevine Rang**	**6.65**	**118**	P	**Pn**	**05 13 24.4**	**+2.1**
	baz=302						
PKM	**Mcpherson Peak**	**6.68**	**143**	P	**Pn**	**05 13 22.3**	**-0.6**
	baz=326						
ISA	**Isabella, Lake**	**6.78**	**131**	Pn	**Pn**	**05 13 26.4**	**+2.2**
ISA	**Isabella, Lake**	**6.78**	**131**	P	**Pn**	**05 13 26.1**	**+1.9**
	baz=315						
ARVC	**Arvin**	**6.98**	**136**	P	**Pn**	**05 13 27.3**	**+0.4**
	baz=320						
BMO	**Blue Mountains**	**7.09**	**48**		**Pn**	**05 13 30.2**	**+1.8**
MPMC	**Manual Prospec**	**7.11**	**125**	P	**Pn**	**05 13 30.5**	**+1.6**
	baz=309						
HAWA	**Hanford**	**7.14**	**30**	Pn	**Pn**	**05 13 31.3**	**+2.3**
ELK	**Elko**	**7.23**	**84**	Pn	**Pn**	**05 13 30.9**	**+0.4**
	comp=N,0.2nm,0.3s,baz=270,slow=12,SNR=12						
ELK				LR	LR	05 16 43.8	
	comp=N,302nm,18.4s,baz=264,slow=42						
ELK	**Elko**	**7.23**	**84**	Pn	**Pn**	**05 13 30.7**	**+0.2**
D03D	**Eldon**	**7.29**	**9**	P	**Pn**	**05 13 31.9**	**+0.8**
	baz=190						
LRMC	**Laurel Mtn Rad**	**7.37**	**129**	P	**Pn**	**05 13 33.5**	**+1.1**
	baz=313						
E08A	**Dider Farm, El**	**7.40**	**32**		**Pn**	**05 13 34.8**	**+2.2**
OSI	**Osito Audit: C**	**7.43**	**138**	P	**Pn**	**05 13 35.1**	**+2.0**
	baz=322						
EDW2	**Edwards Air Fo**	**7.62**	**133**	P	**Pn**	**05 13 37.1**	**+1.5**
	baz=318						
E09A	**Wood Farm, Sta**	**7.81**	**36**		**Pn**	**05 13 39.8**	**+1.6**
F10A	**Beach Ranch, E**	**7.86**	**42**		**Pn**	**05 13 42.2**	**+3.3**
PLID	**Pearl Lake**	**7.98**	**51**	Pn	**Pn**	**05 13 43.3**	**+2.5**
GSC	**Goldstone, Bar**	**8.02**	**126**	Pn	**Pn**	**05 13 43.6**	**+2.3**
GSC	**Goldstone, Bar**	**8.02**	**126**	P	**Pn**	**05 13 43.4**	**+2.1**
	baz=311						
PASC	**Pasadena Art C**	**8.06**	**138**		**Pn**	**05 13 43.9**	**+2.3**
RRX	**Edison Barstow**	**8.20**	**129**	P	**Pn**	**05 13 45.8**	**+2.2**
	baz=314						
BFSC	**Mount Baldy Ra**	**8.28**	**135**	P	**Pn**	**05 13 46.2**	**+1.3**
	baz=319						
HLID	**Hailey**	**8.33**	**64**	Pn	**Pn**	**05 13 48.5**	**+3.0**
HLID	**Hailey**	**8.33**	**64**	P	**Pn**	**05 13 47.5**	**+2.0**
	baz=251						
TUQ	**Turquoise Moun**	**8.50**	**122**	P	**Pn**	**05 13 50.8**	**+3.0**
	baz=308						
HEC	**Hector,Ludlow**	**8.63**	**127**	P	**Pn**	**05 13 51.8**	**+2.3**
	baz=312						
BBRC	**Big Bear Solar**	**8.68**	**132**	P	**Pn**	**05 13 51.3**	**+1.0**
	baz=317						
B08A	**Colville Reser**	**8.90**	**24**		**Pn**	**05 13 55.5**	**+2.3**
BGU	**Big Grassy Mou**	**8.91**	**82**	Pn	**Pn**	**05 13 55.9**	**+2.5**
MURC	**Murrieta**	**9.02**	**136**	P	**Pn**	**05 13 55.4**	**+0.6**
	baz=320						
GMRC	**Granite Mounta**	**9.07**	**125**	P	**Pn**	**05 13 56.2**	**+0.5**
	baz=310						
DUG	**Dugway, Tooele**	**9.10**	**87**	Pn	**Pn**	**05 13 58.3**	**+2.2**
DUG	**Dugway, Tooele**	**9.10**	**87**	P	**Pn**	**05 13 57.7**	**+1.6**
	baz=275						
BELC	**Belle Mtn. Jos**	**9.40**	**130**	P	**Pn**	**05 14 01.5**	**+1.4**
	baz=315						
PFO	**Pinyon Flats O**	**9.41**	**133**	Pn	**Pn**	**05 14 00.7**	**+0.4**
	comp=N,1.5nm,0.3s,baz=322,slow=10,SNR=39						
PFO				LR	LR	05 17 52.1	
	comp=N,210nm,19.3s,baz=304,slow=39						
PFO	**Pinyon Flats O**	**9.41**	**133**	Pn	**Pn**	**05 14 02.0**	**+1.6**
PFO	**Pinyon Flats O**	**9.41**	**133**	P	**Pn**	**05 14 01.5**	**+1.2**
	baz=318						
TPFO	**Pinon Flats**	**9.42**	**133**	P	**Pn**	**05 14 01.5**	**+1.1**
	baz=318						
NEW	**Newport**	**9.61**	**32**	Pn	**Pn**	**05 14 05.3**	**+2.4**
	comp=N,0.6nm,0.3s,baz=239,slow=18,SNR=8.9						
NEW				LR	LR	05 17 31.5	
	comp=N,268nm,20.6s,baz=236,slow=37						
IRM	**Iron Mountain**	**9.80**	**126**	P	**Pn**	**05 14 06.7**	**+1.1**
	baz=312						
MCMT	**McKenzie Canyo**	**9.84**	**59**		**Pn**	**05 14 08.5**	**+2.3**
BC3	**Big Chuckawall**	**9.96**	**129**	P	**Pn**	**05 14 08.5**	**+0.6**
	baz=315						
MONP2	**Monument Peak**	**9.97**	**136**	P	**Pn**	**05 14 08.9**	**+0.8**
	baz=320						
DLMT	**Dillon**	**10.22**	**57**	Pn	**Pn**	**05 14 13.5**	**+2.1**
IKP	**In-Ko-Pah, Jac**	**10.33**	**135**	P	**Pn**	**05 14 13.9**	**+1.1**
	baz=320						
LRM	**Limekiln Ridge**	**10.51**	**55**		**Pn**	**05 14 17.9**	**+2.4**
GLA	**Glamis**	**10.76**	**129**		**Pn**	**05 14 19.6**	**+1.0**
GLA	**Glamis**	**10.76**	**129**	P	**Pn**	**05 14 19.2**	**+0.5**
	baz=315						
P17A	**Butcher Ranch,**	**10.78**	**90**		**Pn**	**05 14 19.9**	**+0.9**
REDW	**Red Top Meadow**	**10.78**	**69**		**Pn**	**05 14 19.5**	**+0.4**
BOZ	**Bozeman (W)**	**10.93**	**57**		**Pn**	**05 14 21.3**	**+0.2**
BOZ	**Bozeman (W)**	**10.93**	**57**	P	**Pn**	**05 14 20.6**	**-0.6**
	baz=246						
YHL	**Hebgen Lake**	**10.95**	**61**		**Pn**	**05 14 25.4**	**+4.0**
HRY	**Holter Researc**	**11.31**	**51**		**Pn**	**05 14 28.1**	**+1.8**
PDAR	**Pinedale Array**	**11.62**	**73**	Pn	**Pn**	**05 14 34.4**	**+3.8**
	comp=N,0.6nm,0.3s,baz=270,slow=10,SNR=15						
PDAR				LR	LR	05 19 41.4	
	comp=N,183nm,19.3s,baz=272,slow=42						
WALA	**Waterton Lakes**	**11.62**	**38**		**Pn**	**05 14 31.0**	**+0.6**
RLMT	**Red Lodge**	**12.32**	**62**	P	**Pn**	**05 14 36.0**	**-4.2**
	baz=253						
EGMT	**Eagleton**	**13.19**	**49**	P	**Pn**	**05 14 51.1**	**-0.8**
	baz=240						
TUC	**Tucson**	**13.78**	**121**	P	**Pn**	**05 15 02.6**	**+2.6**
	baz=310						
K22A	**Casper**	**13.83**	**74**	Pn	**Pn**	**05 15 03.1**	**+2.3**
K22A	**Casper**	**13.83**	**74**	P	**Pn**	**05 15 01.2**	**+0.4**
	baz=266						
S22A	**4UR Ranch, Cre**	**14.14**	**95**	P	**Pn**	**05 15 01.5**	**-3.6**
	baz=286						
SDCO	**Great Sand Dun**	**15.15**	**94**	P	**Pn**	**05 15 19.1**	**+0.2**
	baz=286						
RSSD	**Black Hills**	**15.77**	**69**	P	**Pn**	**05 15 24.8**	**-2.1**
	baz=263						
DGMT	**Dagmar**	**16.73**	**54**	P	**Pn**	**05 15 37.6**	**-1.3**
	baz=248						
KSCO	**Kaye Shedlock'**	**17.06**	**87**	P	**P**	**05 15 44.7**	**-0.2**
KSCO				IAmb	IAmb	05 15 47.7	
	comp=Z,18nm,0.6s						
KSCO	**Kaye Shedlock'**	**17.06**	**87**	P	**Pn**	**05 15 44.0**	**+0.8**
	baz=282						
SIT	**Sitka**	**18.10**	**341**	P	**Pn**	**05 15 56.9**	**+1.1**
	baz=153						
CBKS	**Cedar Bluff**	**19.30**	**86**	P	**P**	**05 16 07.4**	**-2.1**
	baz=282						
SUSD	**Miller**	**19.44**	**69**	P	**P**	**05 16 09.6**	**-1.3**
R32A	**Long Quarter,**	**20.17**	**87**	P	**P**	**05 16 20.3**	**+1.2**
R32A				IAmb	IAmb	05 16 30.0	
	comp=Z,25nm,0.8s						
LPIG	**La Paz**	**20.22**	**139**	LR	LR	05 23 59.5	
	comp=Z,171nm,21.9s,baz=320,slow=36						
ECSD	**EROS Data Cent**	**21.11**	**71**	P	**P**	**05 16 27.0**	**-2.1**
ECSD	**EROS Data Cent**	**21.11**	**71**	P	**P**	**05 16 26.3**	**-2.8**
	baz=270						
WMOK	**Wichita Mounta**	**21.27**	**97**	P	**P**	**05 16 29.6**	**-1.3**
	baz=293						
F33A	**5 Mile Ranch,**	**21.41**	**66**	P	**P**	**05 16 30.1**	**-2.3**
F33A				IAmb	IAmb	05 16 34.5	
	comp=Z,16nm,0.5s						
KSU1	**Kansas State U**	**21.62**	**84**	P	**P**	**05 16 35.9**	**+1.2**
	baz=282						
AGMN	**Agassiz Nation**	**22.03**	**59**	P	**P**	**05 16 38.6**	**-0.3**
AGMN				IAmb	IAmb	05 16 41.3	
	comp=Z,20nm,0.7s						
AGMN	**Agassiz Nation**	**22.03**	**59**	P	**P**	**05 16 38.2**	**-0.7**
	baz=260						
ULM	**Lac du Bonnet**	**22.45**	**54**	P	**P**	**05 16 41.6**	**-1.8**
	comp=Z,4.1nm,0.5s,baz=249,slow=10,SNR=6.3						
YKA	**Yellowknife Ar**	**23.01**	**12**	P	**P**	**05 16 49.7**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=196,slow=9.9,SNR=11						
B35A	**Bob, Littlefor**	**23.45**	**60**	P	**P**	**05 16 54.0**	**+0.3**
SPMN	**Marine on St.**	**23.84**	**68**	P	**P**	**05 16 55.4**	**-2.1**
	baz=270						
E38A	**The Farm, Brul**	**24.75**	**64**	P	**P**	**05 17 07.7**	**+1.8**
E38A				IAmb	IAmb	05 17 35.2	
	comp=Z,22nm,1.2s						
EYMN	**Ely**	**24.88**	**61**	P	**P**	**05 17 07.9**	**+0.8**
EYMN				IAmb	IAmb	05 17 15.8	
	comp=Z,8.9nm,1.1s						
KDAK	**Kodiak Island**	**24.99**	**324**	LR	LR	05 24 15.7	
	comp=Z,244nm,18.6s,baz=130,slow=30						
G40A	**Rib Lake**	**25.68**	**67**	P	**P**	**05 17 14.2**	**-0.1**
G40A				IAmb	IAmb	05 17 33.1	
	comp=Z,13nm,1.1s						
JFWS	**Jewell Farm**	**25.79**	**73**	P	**P**	**05 17 17.0**	**+1.6**
JFWS				IAmb	IAmb	05 17 17.6	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**26.02**	**91**	P	**P**	**05 17 18.3**	**+0.7**
COWI	**Conover**	**26.41**	**66**	P	**P**	**05 17 22.5**	**+1.5**
FCC	**Fort Churchill**	**26.74**	**36**	P	**P**	**05 17 25.5**	**+1.7**
ILAR	**Eielson Array**	**27.64**	**340**	P	**P**	**05 17 30.8**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=154,slow=9.7,SNR

5.7nm,0.3s
DZM *e*LR LR 05 24 37.0
comp=Z,758nm,24.6s
DZM Mont Dzumac 12.02 160 Pn **Pn 05 21 56.7 +1.3**
DZM Mont Dzumac 12.02 160 P **Pn 05 21 55.5 0.0**
MARNC Mare, Loyalty 12.13 152 P **Pn 05 21 58.3 +1.4**
YATNC Mamie plateau, 12.17 158 P **Pn 05 21 56.5 -0.9**
OUENC Ouen Island, N 12.48 159 Pn **Pn 05 22 03.4 +1.8**
PMG Port Moresby 14.62 274 LR LR 05 27 30.9
comp=Z,854nm,20.9s,baz=101,slow=34
CTA Charters Tower 17.71 237 P **P 05 23 09.9 -0.3**
0.6nm,0.3s,baz=66,slow=17,SNR=14
CTAO Charters Tower 17.71 237 P **P 05 23 11.2 +1.0**
CTAO IAmb IAmb 05 23 14.8
comp=Z,30nm,1.0s
EIDS Eidsvold 17.79 214 P **P 05 23 12.3 +1.3**
EIDS IAmb IAmb 05 23 20.2
comp=Z,11nm,0.8s
PATS Pohnpei 17.88 348 **P 05 23 12.0 +0.1**
WB0 Warramunga Arr 28.00 248 P **P 05 24 51.5 -1.6**
WB0 IAmb IAmb 05 25 01.9
comp=Z,23nm,1.4s
WRA Warramunga Arr 28.09 248 P **P 05 24 53.0 -0.9**
comp=Z,1.6nm,0.8s,baz=77,slow=9.7,SNR=7.7
WRA LR LR 05 36 24.8
comp=Z,531nm,18.0s,baz=44,slow=37
STKA Stephens Creek 28.18 219 LR LR 05 36 08.6
comp=Z,420nm,18.7s,baz=31,slow=36
H11S2 WAKE ISLAND Hy 29.47 9 T T 05 56 00.2
baz=188,slow=76,SNR=67
H11S3 WAKE ISLAND Hy 29.47 9 T T 05 55 54.3
baz=188,slow=76,SNR=40
H11S1 WAKE ISLAND Hy 29.48 9 T T 05 56 00.4
baz=188,slow=76,SNR=44
GUMO Guam 29.55 325 LR LR 05 36 06.3
comp=Z,169nm,21.8s,baz=108,slow=34
AS31 Alice Springs 29.61 241 P **P 05 25 05.9 -1.5**
ASAR Alice Springs 29.61 241 P **P 05 25 05.8 -1.6**
comp=Z,0.8nm,0.6s,baz=64,slow=10,SNR=11
ASAR LR LR 05 36 41.5
comp=Z,283nm,18.8s,baz=74,slow=36
ASAR Alice Springs 29.61 241 P **P 05 25 06.3 -1.1**
URZ Urewera 30.55 156 LR LR 05 36 02.2
comp=Z,174nm,20.0s,baz=31,slow=33
KNRA Kununurra 32.64 258 P **P 05 25 33.3 -0.8**
BATI Baumata 37.63 267 LR LR 05 42 00.6
comp=Z,69nm,20.6s,baz=25,slow=36
DAV Davao City (W) 40.31 295 LR LR 05 39 43.6
comp=Z,74nm,20.9s,baz=329,slow=31
KAPI Kappang 42.15 274 LR LR 05 45 58.0
comp=Z,38nm,19.7s,baz=110,slow=38
PPT2 Papeete2 47.38 104 *e*LR LR 05 41 03.6
comp=Z,188nm,26.2s
TBI Tubuai 47.89 112 *e*LR LR 05 41 18.8
comp=Z,152nm,31.0s
JHJ Hachijo jima 2 48.50 335 LR LR 05 46 30.6
comp=Z,47nm,21.6s,baz=111,slow=34
ASAJ Asahikawa 57.40 344 LR LR 05 49 08.2
comp=Z,53nm,21.2s,baz=226,slow=31
KSRS Korea Array 57.62 328 P **P 05 28 51.1 -0.5**
comp=Z,0.5nm,0.5s,baz=147,slow=6.9,SNR=1.8
KSRS LR LR 05 51 33.5
comp=Z,46nm,21.3s,baz=160,slow=34
PETK Petropavlovsk- 63.74 357 LR LR 05 54 22.0
comp=Z,44nm,20.7s,baz=140,slow=33
SHEM Shemya Is, Ala 64.11 8 LR LR 05 52 53.0
comp=Z,62nm,19.7s,baz=94,slow=32
VNDA Vanda 66.72 180 P **P 05 29 52.9 +0.8**
comp=Z,3.3nm,0.8s,baz=346,slow=5.5,SNR=9.5
VNDA Vanda 66.72 180 P **P 05 29 53.4 +1.3**
VNDA IAmb IAmb 05 29 54.1
comp=Z,4.9nm,0.9s
CMAR Chiang Mai Arr 68.60 295 P **P 05 30 05.6 +0.7**
comp=Z,0.2nm,0.3s,baz=124,slow=4.5,SNR=1.8
CMAR LR LR 06 01 59.3
comp=Z,18nm,18.3s,baz=105,slow=38
SONM Songino Array 76.28 325 P **P 05 30 50.3 0.0**
comp=Z,0.9nm,0.9s,baz=139,slow=5.4,SNR=5.8
SONM Songino Array 76.28 325 IAmb IAmb 05 31 00.5
comp=Z,5.2nm,1.1s
QSPA South Pole Qui 79.22 180 P **P 05 31 05.3 -1.0**
QSPA IAmb IAmb 05 31 11.0
comp=Z,11nm,1.4s
PALK Pallekele 82.82 279 LR LR 06 11 11.7
comp=Z,27nm,18.5s,baz=160,slow=38
IMAR Indian Mountai 83.22 17 P **P 05 31 28.1 +0.9**
ILAR Eielson Array 84.49 20 P **P 05 31 33.1 -0.6**
comp=Z,0.3nm,0.6s,baz=245,slow=3.9,SNR=2.2
BCAR Beaver Creek A 85.24 22 P **P 05 31 38.9 +1.2**
NVAR Mina Array Bea 88.73 51 P **P 05 31 56.0 +0.6**
comp=Z,0.4nm,0.7s,baz=237,slow=5.5,SNR=3.7
MKAR Makanchi Array 90.79 317 P **P 05 32 03.6 -0.9**
comp=Z,0.3nm,0.6s,baz=139,slow=4.9,SNR=2.7
KURBB Kurchatov Arra 94.10 321 P **P 05 32 19.4 -0.3**
comp=Z,0.1nm,0.3s,baz=104,slow=3.2,SNR=1.7
YKA Yellowknife Ar 96.47 28 P **P 05 32 29.4 -0.9**
comp=Z,0.4nm,0.7s,baz=258,slow=4.8,SNR=7.2

IDC 02 05:23:03.5±13.0, 19°.05S×167°.43E, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.8/32, mbtmp4.2/3, ML2.5/1, Error ellipse: s-maj=223.4km s-min=38.4km az=76.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.14**	**197**	Pn	Pn	05 23 53.8	-0.6
DZM	0.6nm,0.3s,baz=128,slow=13,SNR=20			Sn	Sn	05 24 32.8	+0.1
	0.5nm,0.3s,baz=96,slow=22,SNR=1.6						
STKA	**Stephens Creek**	**26.52**	**236**	P	P	05 28 43.5	+0.6
	4.4nm,0.7s,baz=62,slow=9.5,SNR=5.9						
WRA	**Warramunga Arr**	**31.18**	**263**	P	P	05 29 23.5	-1.2
	1.1nm,0.6s,baz=92,slow=9.0,SNR=9.2						
ASAR	**Alice Springs**	**31.52**	**256**	P	P	05 29 28.4	+0.8
	2.3nm,0.8s,baz=81,slow=9.2,SNR=17						

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*IDC **02** 05:32:14.8±1.2, 15°.29N×120°.20E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.5/52, mbtmp3.7/8, Error ellipse: s-maj=56.4km s-min=19.8km az=63.0*
*MAN **02** 05:32:16.2, 13°.81N×120°.53E, h103km, mb4.0, ML2.8, MS2.4*
ISC 02 05:32:16.2±1.0, 13°.7N±0°.1×120°.60E±0°.07, h115km±7km, n14, σ1°56/17, mb3.7/8, 1C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**269**	‖ *i* P	**Pn**	**05 32 32.9**	**+0.1**
LUBP				*i* S	**Sn**	**05 32 44.6**	**-0.6**
PGP	**Puerto Galera**	**0.42**	**124**	‖ *e* P	**Pn**	**05 32 32.4**	**-0.8**
PGP				*i* S	**Sn**	**05 32 45.3**	**-0.7**
TGY	**Tagaytay City**	**0.49**	**43**	*e* P	**Pn**	**05 32 33.8**	**+0.1**
TGY				*i* S	**Sn**	**05 32 47.1**	**+0.3**
LQP	**Lukban**	**0.99**	**68**	‖ *e* P	**Pn**	**05 32 38.5**	**+0.6**
LQP				*i* S	**Sn**	**05 32 57.3**	**+3.0**
GQP	**Guinayangan**	**1.80**	**85**	‖ *e* P	**Pn**	**05 32 48.1**	**+1.1**
GQP				*e* S	**Sn**	**05 33 07.2**	**-3.3**
PCPH	**Palayan**	**1.87**	**15**	‖ *e* P	**Pn**	**05 32 46.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**21.32**	**286**	P	**P**	**05 36 56.2**	**+2.1**
	1.7nm,0.8s,baz=98,slow=7.3,SNR=10						
SONM	**Songino Array**	**35.99**	**344**	P	**P**	**05 39 04.9**	**-1.2**
	1.1nm,0.7s,baz=161,slow=9.9,SNR=6.9						
WRA	**Warramunga Arr**	**36.10**	**158**	P	P	05 39 32.5	+25
	0.3nm,0.6s,baz=335,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**39.39**	**161**	P	P	05 39 58.9	+24
	0.4nm,0.9s,baz=340,slow=7.6,SNR=2.3						
MKAR	**Makanchi Array**	**45.94**	**324**	P	**P**	**05 40 27.1**	**-0.5**
	0.3nm,0.3s,baz=114,slow=8.2,SNR=13						
ZALV	**Zalesovo Beam**	**48.97**	**333**	P	**P**	**05 40 50.9**	**0.0**
	0.7nm,0.3s,baz=128,slow=6.5,SNR=5.7						
KURBB	**Kurchatov Arra**	**50.10**	**326**	P	**P**	**05 41 00.4**	**+0.9**
	2.2nm,0.9s,baz=129,slow=8.0,SNR=19						
BVAR	**Borovoye Array**	**55.68**	**326**	P	**P**	**05 41 41.1**	**+0.7**
	0.4nm,0.3s,baz=138,slow=8.9,SNR=6.6						

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*JMA **02** 05:57:56.4±0.1, 23°.74N×122°.49E, h36km, M2.3*
*TAP **02** 05:57:57.0, 23°.78N×122°.51E, h46km±1km, ML2.9, D*
ISC 02 05:57:54.6±1.2, 23°.73N±0°.03×122°.52E±0°.02, h18km±4km, n42, σ0°67/80, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.82**	**29**	P	**Pn**	**05 58 11.6**	**+0.3**
JYNG				*e* S	**Sn**	**05 58 22.1**	**-0.8**
TEYL	**Yanliau Villag**	**0.85**	**280**	P	**Pn**	**05 58 11.9**	**+0.2**
	baz=272						
TEYL				S	**Sg**	**05 58 23.2**	**+0.6**
	baz=272						
YOJ	**Yonaguni jima**	**0.86**	**32**	P	**Pn**	**05 58 12.3**	**+0.5**
YOJ				*e* S	**Sn**	**05 58 23.0**	**-0.9**
YOJ	**Yonaguni jima**	**0.86**	**32**	P	**Pn**	**05 58 12.4**	**+0.5**
	baz=33						
YOJ				*e* S	**Sn**	**05 58 23.7**	**-0.2**
	baz=33						
TWD	**Chiawan**	**0.91**	**293**	*i* P	**Pg**	**05 58 12.2**	**-0.2**
	baz=290						
TWD				S	**Sg**	**05 58 24.7**	**+0.2**
	baz=290						
NACB	**Ninganchiao**	**0.95**	**298**	P	**Pb**	**05 58 12.8**	**+0.2**
	baz=295						
NACB				S	**Sb**	**05 58 25.0**	**+0.1**
	baz=295						
ETM	**Tongmen**	**0.97**	**284**	P	**Pb**	**05 58 13.0**	**+0.1**
	baz=276						
ETM				S	**Sb**	**05 58 25.6**	**+0.3**
	baz=276						
EWUT	**Wuta**	**0.98**	**317**	P	**Pg**	**05 58 14.2**	**+0.4**
	baz=324						
EWUT				S	**Sn**	**05 58 26.5**	**-0.4**
	baz=324						
ENA	**Nanau**	**0.99**	**315**	P	**Pg**	**05 58 14.6**	**+0.7**
	baz=322						
ENA				S	**Sn**	**05 58 27.1**	**-0.1**
	baz=322						
ESL	**Shilin**	**1.00**	**275**	P	**Pb**	**05 58 13.7**	**+0.4**
	baz=265						
ESL				S	**Sb**	**05 58 26.4**	**+0.2**
	baz=265						
EGFH	**Guangfu**	**1.00**	**267**	P	**Pn**	**05 58 14.0**	**+0.3**
	baz=264						
EGFH				S	**Sb**	**05 58 27.1**	**+0.9**
	baz=264						
HGSD	**Ruisui**	**1.03**	**257**	P	**Pb**	**05 58 14.3**	**+0.5**
	baz=254						
HGSD				*e* S	**Sb**	**05 58 26.5**	**-0.6**
	baz=254						
ETLH	**Xiulin Townshi**	**1.06**	**297**	P	**Pn**	**05 58 14.7**	**0.0**
	baz=294						
ETLH				*e* S	**Sb**	**05 58 27.4**	**-0.7**
	baz=294						
ECBN	**Changbin**	**1.06**	**247**	P	**Pn**	**05 58 15.4**	**+0.8**
	baz=235						
ECBN				S	**Sb**	**05 58 28.3**	**+0.4**
	baz=235						
TWC	**Suao**	**1.07**	**325**	*e* P	**Pg**	**05 58 15.7**	**+0.3**
	baz=324						
TWC				S	**Sg**	**05 58 29.3**	**-0.1**
	baz=324						
EHY	**Hungye**	**1.12**	**259**	*i* P	**Pb**	**05 58 16.1**	**+0.7**
	baz=256						
EHY				*i* S	**Sb**	**05 58 30.2**	**+0.6**
	baz=256						
NDS	**Dongshan**	**1.16**	**321**	P	**Pb**	**05 58 16.0**	**-0.2**
	baz=320						
NDS				S	**Sn**	**05 58 30.4**	**-0.9**
	baz=320						
EYUL	**Yuli**	**1.16**	**251**	S	**Sb**	**05 58 31.3**	**+0.4**
	baz=241						
YULB	**Yu-li**	**1.17**	**254**	P	**Pb**	**05 58 16.9**	**+0.6**
	baz=251						
YULB				S	**Sb**	**05 58 31.4**	**+0.3**
	baz=251						
WHF	**Hehuan Shan**	**1.22**	**290**	*i* P	**Pb**	**05 58 17.6**	**+0.2**
	baz=280						
WHF				S	**Sn**	**05 58 33.1**	**-0.2**
	baz=280						
HATJ	**Hateruma jima**	**1.22**	**74**	P	**Pb**	**05 58 17.7**	**+0.5**
HATJ				*e* S	**Sg**	**05 58 33.8**	**-0.6**
FULB	**Fuli**	**1.24**	**245**	P	**Pn**	**05 58 17.6**	**+0.6**
	baz=233						
FULB				S	**Sb**	**05 58 32.2**	**-0.9**
	baz=233						
NNSB	**Datong**	**1.25**	**304**	P	**Pb**	**05 58 17.9**	**+0.2**
	baz=302						
NNSB				S	**Sb**	**05 58 32.7**	**-0.8**
	baz=302						
ENTT	**Nioudou**	**1.25**	**316**	*i* P	**Pg**	**05 58 18.2**	**-0.7**
	baz=315						
ENTT				*i* S	**Sn**	**05 58 33.4**	**-0.3**
	baz=315						
VWDT	**VWDT**	**1.26**	**271**	P	**Pb**	**05 58 18.3**	**+0.4**
	baz=269						
VWDT				S	**Sb**	**05 58 33.2**	**-0.5**
	baz=269						
IRIF	**Iriomote-Funau**	**1.26**	**61**	P	**Pg**	**05 58 19.0**	**-0.1**
IRIF				*e* S	**Sg**	**05 58 34.5**	**-1.1**
CHGB	**Renai**	**1.27**	**285**	P	**Pb**	**05 58 18.7**	**+0.5**
	baz=277						
CHGB				S	**Sn**	**05 58 34.5**	**+0.1**
	baz=277						
FUSS	**Fushou**	**1.27**	**294**	P	**Pb**	**05 58 18.5**	**+0.3**
	baz=292						
FUSS				S	**Sn**	**05 58 34.4**	**-0.1**
	baz=292						
TWT	**Tachien**	**1.33**	**293**	*i* P	**Pb**	**05 58 19.6**	**+0.4**
	baz=291						
TWT				*i* S	**Sn**	**05 58 35.7**	**-0.2**
	baz=291						
EDH	**Donghe**	**1.34**	**236**	P	**Pn**	**05 58 18.7**	**+0.2**
	baz=228						
EDH				*e* S	**Sn**	**05 58 34.2**	**-1.7**
	baz=228						
ECS	**Chishang**	**1.35**	**242**	P	**Pb**	**05 58 19.7**	**+0.4**
	baz=232						
ECS				S	**Sn**	**05 58 35.4**	**-0.6**
	baz=232						
TIPB	**Shuangxi**	**1.39**	**333**	P	**Pg**	**05 58 20.4**	**-1.1**
	baz=333						
TIPB				S	**Sb**	**05 58 37.3**	**-0.2**
	baz=333						
LDUT	**Ludao**	**1.43**	**223**	P	**Pn**	**05 58 19.6**	**0.0**
	baz=220						
LDUT				*e* S	**Sn**	**05 58 35.7**	**-2.1**
	baz=220						
SSLB	**Suanglung**	**1.43**	**273**	P	**Pn**	**05 58 20.2**	**+0.4**
	baz=270						
SSLB				*e* S	**Sn**	**05 58 36.1**	**-2.0**
	baz=270						
JKRS	**Kuro-shima**	**1.46**	**69**	P	**Pb**	**05 58 21.7**	**+0.5**
JKRS				*e* S	**Sb**	**05 58 39.6**	**+0.2**
ELDTW	**Lidau**	**1.48**	**249**	P	**Pn**	**05 58 21.2**	**+0.8**
	baz=246						
ELDTW				S	**Sn**	**05 58 38.7**	**-0.7**
	baz=246						
TYC	**Yuchr**	**1.53**	**277**	*i* P	**Pn**	**05 58 21.8**	**+0.8**
	baz=275						
TYC				*e* S	**Sn**	**05 58 40.8**	**+0.4**
	baz=275						
JIJ	**Ishigaki jima**	**1.62**	**67**	P	**Pb**	**05 58 23.4**	**-0.5**
JIJ				S	**Sn**	**05 58 42.6**	**0.0**
LAY	**Lan-yu**	**1.90**	**208**	P	**Pn**	**05 58 27.2**	**+1.0**
	baz=207						
LYUB	**Lan-yu**	**1.92**	**207**	*e* P	**Pn**	**05 58 26.2**	**-0.2**
	baz=214						
JTJ	**Tarama**	**2.19**	**65**	*e* S	**Sn**	**05 58 58.0**	**+1.2**
JMJ	**Miyako jima 2**	**2.76**	**66**	P	**Pn**	**05 58 39.2**	**+1.3**
	baz=68						
JMJ				S	**Sn**	**05 59 10.3**	**-0.4**
	baz=68						

IDC 02 06:22:21.1±1.6, 2°.97N×126°.90E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.4/49, mbtmp3.9/5, MS3.2/1, Ms1 3.2/1, ms1mx2.2/73, Error ellipse: s-maj=102.0km s-min=21.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.97**	**183**	P	P	06 27 07.1	+1.0
	1.2nm,0.6s,baz=1.3,slow=11,SNR=7.3						
WRA	**Warramunga Arr**	**23.91**	**163**	P	P	06 27 36.4	-0.6
	2.9nm,0.4s,baz=341,slow=11,SNR=29						
ASAR	**Alice Springs**	**27.34**	**166**	P	P	06 28 08.2	+0.1
	0.9nm,0.4s,baz=343,slow=7.4,SNR=24						
HNR	**Honiara**	**35.16**	**111**	LR	LR	06 43 30.3	
	comp=Z,42nm,21.1s,baz=28,slow=36						
STKA	**Stephens Creek**	**37.37**	**159**	P	P	06 29 35.9	+0.2
	2.6nm,0.8s,baz=346,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**58.27**	**325**	P	P	06 32 17.3	-0.4
	0.5nm,0.5s,baz=116,slow=8.1,SNR=14						

IDC 02 06:22:31.7±1.9, 0°.29N×125°.09E, h0km, mb3.3/3, mb1 3.5/3, mb1mx2.9/46, mbtmp3.4/3, Error ellipse: s-maj=204.4km s-min=25.4km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.05**	**156**	P	P	06 27 27.4	-1.0
	0.9nm,0.8s,baz=334,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**25.30**	**161**	P	P	06 28 01.1	+0.8
	0.1nm,0.3s,baz=344,slow=12,SNR=6.3						
MKAR	**Makanchi Array**	**59.49**	**327**	P	P	06 32 36.6	-0.1
	0.2nm,0.3s,baz=113,slow=7.8,SNR=6.7						

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*NOU **02** 06:25:47.1, 18°.86S×169°.46E, h236km, MLv4.7/15, Vanuatu Islands*
*NEIC **02** 06:25:47.7±2.0, 18°.83S±0°.06×169°.3E±0°.1, h240km±7km, mb4.6/24, Error ellipse: s-maj=14.4km s-min=8.0km az=101.0*
*IDC **02** 06:25:48.6±1.6, 18°.88S×169°.29E, h258km±16km, mb3.9/11, mb1 4.1/14, mb1mx3.6/37, mbtmp4.5/14, Error ellipse: s-maj=29.0km s-min=11.5km az=153.0*
ISC 02 06:25:47.5±0.5, 18°.85S±0°.06×169°.31E±0°.08, h246km, n64, σ0°92/63, mb4.4/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.34**	**321**	P	**Pn**	**06 26 24.2**	**-0.1**
DVP	**Devils Point**	**1.54**	**316**	P	**Pn**	**06 26 25.5**	**-0.3**
LIFNC	**LIFOU**	**2.74**	**225**	Pn	**Pn**	**06 26 35.8**	**-1.1**
LIFNC	**LIFOU**	**2.74**	**225**	P	**Pn**	**06 26 35.9**	**-1.0**
MARNC	**Mare, Loyalty**	**2.88**	**204**		**Pn**	**06 26 37.3**	**-1.2**
MARNC	**Mare, Loyalty**	**2.88**	**204**	P	**Pn**	**06 26 37.5**	**-1.0**
YATNC	**Mamie plateau,**	**3.92**	**215**	P	**Pn**	**06 26 49.0**	**-1.2**
SANVU	**Saraoutou**	**3.94**	**329**	Pn	**Pn**	**06 26 49.7**	**-0.7**
SANVU	**Saraoutou**	**3.94**	**329**	P	**Pn**	**06 26 50.1**	**-0.3**
PINNC	**Pines Island,**	**4.13**	**205**		**Pn**	**06 26 52.6**	**-0.1**
DZM	**Mont Dzumac**	**4.19**	**219**	P	**Pn**	**06 26 53.6**	**+0.2**
	8.6nm,0.3s,baz=26,slow=22,SNR=76						
DZM	**Mont Dzumac**	**4.19**	**219**	*e* P	**Pn**	**06 26 53.5**	**+0.1**
	190nm,0.8s						
DZM	**Mont Dzumac**	**4.19**	**219**	P	**Pn**	**06 26 53.6**	**+0.2**
OUENC	**Ouen Island, N**	**4.24**	**213**	Pn	**Pn**	**06 26 54.4**	**+0.4**
OUENC	**Ouen Island, N**	**4.24**	**213**	P	**Pn**	**06 26 54.8**	**+0.8**
NOUC	**Port Laguerre**	**4.29**	**221**	P	**Pn**	**06 26 55.1**	**+0.5**
KOUNC	**Koumac, New Ca**	**5.03**	**249**	P	**Pn**	**06 27 05.3**	**+1.8**
	108nm,1.1s						
MSVF	**Nonsavu**	**8.38**	**84**	P	**Pn**	**06 27 46.6**	**+0.9**
	1.3nm,0.3s,baz=263,slow=14,SNR=5.9						
HNR	**Honiara**	**13.03**	**315**	P	**Pn**	**06 28 44.0**	**-0.1**
	5.8nm,0.3s,baz=202,slow=11,SNR=3.8						
OUZ	**Omahuta**	**16.75**	**168**	P	**P**	**06 29 27.9**	**+1.3**
EIDS	**Eidsvold**	**18.09**	**246**	P	**P**	**06 29 43.0**	**+1.7**
ARMA	**Armidale**	**19.75**	**231**	P	**P**	**06 30 00.7**	**+1.4**
BKZ	**Black Stump Fm**	**21.18**	**164**	P	**P**	**06 30 14.2**	**0.0**
BKZ				IAmb	IAmb	06 30 19.4	
	comp=Z,17nm,1.2s						
CTA	**Charters Tower**	**21.77**	**263**	P	**P**	**06 30 19.9**	**0.0**
	comp=Z,5.1nm,0.6s,baz=82,slow=12,SNR=6.5						
CTAO	**Charters Tower**	**21.77**	**263**	P	**P**	**06 30 20.9**	**+0.9**
CTAO				IAmb	IAmb	06 30 21.8	
	comp=Z,18nm,1.1s						
PMG	**Port Moresby**	**23.42**	**291**	P	**P**	**06 30 35.3**	**+0.4**
	comp=Z,4.9nm,0.4s,baz=111,slow=7.3,SNR=4.4						
STKA	**Stephens Creek**	**28.11**	**237**	P	**P**	**06 31 17.8**	**+0.9**
	comp=Z,3.1nm,0.6s,baz=82,slow=8.7,SNR=8.2						
STKA	**Stephens Creek**	**28.11**	**237**	IAmb	IAmb	06 31 26.2	
	comp=Z,6.5nm,1.8s						
WB0	**Warramunga Arr**	**32.93**	**263**	P	**P**	**06 31 58.4**	**-0.9**
WB0				IAmb	IAmb	06 31 59.1	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**32.97**	**262**	P	**P**	**06 31 58.5**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=82,slow=6.3,SNR=62						
WRA	**Warramunga Arr**	**32.97**	**262**	P	**P**	**06 31 58.5**	**-1.1**
AS31	**Alice Springs**	**33.29**	**255**	P	**P**	**06 32 02.1**	**-0.2**
ASAR	**Alice Springs**	**33.29**	**255**	P	**P**	**06 32 02.0**	**-0.3**
	comp=Z,30nm,0.4s,baz=82,slow=8.8,SNR=692						
ASAR				S	**S**	**06 37 02.3**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=80,slow=14,SNR=4.4						
KNRA	**Kununurra**	**38.79**	**268**	P	**P**	**06 32 48.6**	**-0.3**
KNRA				IAmb	IAmb	06 32 48.9	
	comp=Z,12nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.35**	**264**	P	**P**	**06 33 10.3**	**+0.5**
	comp=Z,9.3nm,0.6s,baz=86,slow=7.4,SNR=23						
PSA00	**Pilbara Seismi**	**46.35**	**258**	P	**P**	**06 33 48.8**	**-0.7**
QSPA	**South Pole Qui**	**71.21**	**180**	P	**P**	**06 36 39.5**	**-0.2**
QSPA				IAmb	IAmb	06 37 14.2	
	comp=Z,23nm,1.9s						
PEA0B	**Petropavlovsk-**	**72.36**	**353**	P	**P**	**06 36 46.9**	**+0.6**
PETK	**Petropavlovsk-**	**72.36**	**353**	P	**P**	**06 36 46.9**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=142,slow=7.5,SNR=9.6						
PETK	**Petropavlovsk-**	**72.36**	**353**	P	**P**	**06 36 46.6**	**+0.3**
KMRM	**Mail Ridge**	**85.58**	**45**	P	**P**	**06 37 58.8**	**+0.4**
PAGB	**Antelope Grade**	**85.91**	**50**	P	**P**	**06 38 01.0**	**+1.0**
PAGB				IAmb	IAmb	06 41 03.9	
	comp=Z,31nm,1.9s						
SONM	**Songino Array**	**86.95**	**323**	P	**P**	**06 38 04.9**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=148,slow=7.4,SNR=6.7						
NVAR	**Mina Array Bea**	**88.49**	**48**	P	**P**	**06 38 13.1**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=227,slow=8.6,SNR=8.5						
K05A	**Summer Lake**	**88.63**	**44**	P	**P**	**06 38 13.5**	**+0.5**
PINE	**Pine Mountain**	**89.08**	**43**	P	**P**	**06 38 16.0**	**+0.8**
PINE				IAmb	IAmb	06 38 16.9	
	comp=Z,17nm,1.4s						
TPNV	**Topopah Spring**	**89.35**	**51**	P	**P**	**06 38 16.8**	**+0.3**
SNAA	**Sanae**	**89.56**	**182**	P	**P**	**06 38 15.4**	**-1.4**
ILAR	**Eielson Array**	**89.84**	**17**	P	**P**	**06 38 16.2**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=237,slow=5.2,SNR=8.1						
WVOR	**Wild Horse Val**	**89.99**	**45**	P	**P**	**06 38 19.3**	**0.0**
WVOR				IAmb	IAmb	06 38 20.8	
	comp=Z,4.6nm,1.0s						
I07A	**Izee**	**90.14**	**43**	P	**P**	**06 38 20.6**	**+0.6**
I07A				IAmb	IAmb	06 38 21.5	
	comp=Z,4.9nm,0.8s						
VNA3	**Neumayer Olymp**	**90.14**	**180**	P	**P**	**06 38 17.9**	**-1.5**
PRN	**Pahroc Range**	**90.41**	**50**	P	**P**	**06 38 22.3**	**+0.9**
PRN				IAmb	IAmb	06 38 23.1	
	comp=Z,6.0nm,0.8s						
VNA2	**Neumayer--Watz**	**90.44**	**181**	P	**P**	**06 38 19.6**	**-1.2**
TOLK	**Toolik Lake Re**	**92.14**	**14**	P	**P**	**06 38 28.5**	**-0.1**
BMAR	**Burnt Mountain**	**92.45**	**16**	P	**P**	**06 38 29.9**	**-0.1**
INK	**Inuvik**	**96.15**	**18**	P	**P**	**06 38 46.3**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=252,slow=7.2,SNR=3.8						
INK	**Inuvik**	**96.15**	**18**	IAmb	IAmb	06 39 34.3	
	comp=Z,10nm,1.6s						
YKA	**Yellowknife Ar**	**100.29**	**27**	P	**Pdif**	**06 39 04.4**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=253,slow=4.6,SNR=11						
GERES	**GERESS Array B**	**144.18**	**332**	PKP	**PKPab**	**06 44 52.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=48,sl

KOK	**Koryaka**	**4.75**	**16**	*e*P	Pn	06 29 49.0	+5.7
SMAR	**Somma**	**4.75**	**17**	*e*P	Pn	06 29 48.0	+4.5
SPN	**Mys Shipunski**	**4.90**	**26**	*e*P	Pn	06 29 50.2	+5.0
SPN				*e*S	Sn	06 30 47.7	+6.8
GNL	**Ganaly**	**5.04**	**10**	*e*P	Pn	06 29 51.9	+4.6
MKZ	**Mys Kozlova**	**6.67**	**27**	*e*P	Pn	06 30 13.1	+3.6
TUMR	**Tumrok**	**6.93**	**18**	*e*P	Pn	06 30 19.5	+6.3
KBTR	**Krutoberegovo**	**8.41**	**25**	*e*P	Pn	06 30 37.3	+3.9
BKI	**Bering**	**8.72**	**39**	*e*S	Sn	06 32 18.0	+3.2

IDC ***02*** *06:40:25.9±0.7, 38°.35N×22°.16E, h0km, mb3.9/13, mb1 3.9/18, mb1mx3.7/50, mbtmp3.8/18, ML3.5/5, MS3.3/5, Ms1 3.3/5, ms1mx2.7/92, Error ellipse: s-maj=16.8km s-min=14.0km az=101.0*
IASPEI ***02*** *06:40:27.1±0.8, 38°.33N±0°.02×22°.07E±0°.02, h11km±4km, mb3.9/12, MS3.1/3, Error ellipse: s-maj=2.7km s-min=2.7km az=105.4, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISK ***02*** *06:40:27.4, 38°.36N×22°.21E, h8km, ML3.6/26*
THE ***02*** *06:40:27.4, 38°.32N×22°.07E, h9km, ML3.7/5, Error ellipse: s-maj=0.7km s-min=0.2km az=217.0*
ATH ***02*** *06:40:27.4, 38°.32N×22°.06E, h11km±1km, ML3.6/28, Error ellipse: s-maj=1.3km s-min=0.7km az=358.0*

ISC 02 06:40:27.3±0.7, 38°.33N±0°.02×22°.07E±0°.02, h10km±4km, n175, σ1§26/202, mb3.9/12, MS3.1/3, 5C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.04**	**358**	P	**Pg**	**06 40 29.0**	**-0.3**
TRIZ	**Trizonia**	**0.04**	**358**	P	**Pg**	**06 40 29.0**	**-0.3**
TRIZ				S	**Sg**	**06 40 30.4**	**-0.3**
ALIK	**Aliki, Aigiali**	**0.07**	**156**	P	**Pg**	**06 40 29.7**	**+0.1**
ALIK				S	**Sg**	**06 40 31.2**	**0.0**
SERG	**Sergoula**	**0.09**	**351**	P	**Pg**	**06 40 29.7**	**-0.1**
SERG	**Sergoula**	**0.09**	**351**	P	**Pg**	**06 40 29.8**	**-0.1**
SERG				S	**Sg**	**06 40 31.9**	**+0.2**
SERG				AML	AML	06 40 32.1	
SERG				AML	AML	06 40 32.1	
LAKA	**Lakka**	**0.12**	**221**	P	**Pg**	**06 40 30.0**	**-0.2**
LAKA				S	**Sg**	**06 40 31.9**	**-0.4**
LAKA	**Lakka**	**0.12**	**221**	P	**Pg**	**06 40 30.0**	**-0.2**
EFP	**Efpalio**	**0.17**	**307**	P	**Pg**	**06 40 31.0**	**0.0**
EFP				S	**Sg**	**06 40 33.7**	**+0.2**
	57μm,0.3s						
EFP	**Efpalio**	**0.17**	**307**	P	**Pg**	**06 40 30.9**	**0.0**
EFP				S	**Sg**	**06 40 34.2**	**+0.7**
EFP				AML	AML	06 40 34.4	
EFP				AML	AML	06 40 34.5	
	comp=N,92792μm,0.3s						
UPR	**University Cam**	**0.23**	**259**	P	**Pg**	**06 40 32.0**	**-0.1**
UPR				S	**Sg**	**06 40 35.5**	**+0.2**
KLV	**Kalavryta, Ach**	**0.29**	**168**	P	**Pg**	**06 40 32.9**	**-0.3**
KLV				S	**Sg**	**06 40 37.3**	**+0.2**
KLV	**Kalavryta, Ach**	**0.29**	**168**	P	**Pg**	**06 40 33.0**	**-0.3**
KLV				AML	AML	06 40 42.8	
	comp=E,11804μm,0.4s						
KLV				AML	AML	06 40 43.2	
	comp=N,20996μm,0.6s						
ANX	**Ano Chora**	**0.29**	**336**	P	**Pg**	**06 40 33.1**	**-0.2**
ANX				S	**Sg**	**06 40 37.6**	**+0.4**
ANX	**Ano Chora**	**0.29**	**336**	P	**Pg**	**06 40 33.4**	**+0.1**
ANX				S	**Sg**	**06 40 38.4**	**+1.1**
ANX				AML	AML	06 40 38.6	
ANX				AML	AML	06 40 38.7	
DLFA	**Delphi**	**0.36**	**65**	P	**Pg**	**06 40 34.4**	**-0.2**
DLFA				S	**Sb**	**06 40 40.9**	**-0.8**
DLFA				AML	AML	06 40 41.3	
	comp=N,21782μm,0.3s						
DLFA				AML	AML	06 40 43.7	
	comp=E,21917μm,0.4s						
DRO	**Drossia**	**0.47**	**218**	P	**Pg**	**06 40 36.4**	**-0.1**
DRO				S	**Sg**	**06 40 43.2**	**+0.4**
DRO	**Drossia**	**0.47**	**218**	P	**Pg**	**06 40 36.5**	**-0.1**
DRO				AML	AML	06 40 48.0	
	comp=N,60181μm,0.2s						
DRO				AML	AML	06 40 48.2	
	comp=E,82191μm,0.2s						
THAL	**Thalero**	**0.55**	**122**	P	**Pg**	**06 40 37.9**	**-0.1**
THAL				S	**Sb**	**06 40 46.0**	**-0.8**
	comp=E,13μm,0.3s						
THAL	**Thalero**	**0.55**	**122**	P	**Pg**	**06 40 38.1**	**+0.1**
THAL				AML	AML	06 40 51.0	
	comp=N,23129μm,0.4s						
THAL				AML	AML	06 40 57.8	
	comp=E,21527μm,0.4s						
RLS	**Riolos of Patr**	**0.55**	**241**	P	**Pg**	**06 40 37.8**	**-0.2**
RLS				S	**Sg**	**06 40 45.8**	**+0.6**
	comp=E,7μm,0.3s						
RLS	**Riolos of Patr**	**0.55**	**241**	P	**Pg**	**06 40 37.8**	**-0.2**
RLS				S	**Sg**	**06 40 45.8**	**+0.6**
RLS				AML	AML	06 40 49.0	
	comp=N,14583μm,0.4s						
RLS				AML	AML	06 40 49.4	
	comp=E,12239μm,0.2s						
EVR	**Evrytania**	**0.62**	**341**	P	**Pg**	**06 40 39.5**	**0.0**
EVR	**Evrytania**	**0.62**	**341**	P	**Pg**	**06 40 39.7**	**+0.2**
EVR				AML	AML	06 40 51.8	
	comp=N,24299μm,0.5s						
EVR				AML	AML	06 40 52.8	
	comp=E,17837μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.69**	**4**	P	**Pg**	**06 40 40.6**	**0.0**
MAKR	**Makrakomi, Fth**	**0.69**	**4**	P	**Pg**	**06 40 40.6**	**0.0**
MAKR				AML	AML	06 40 56.0	
	comp=N,9884μm,0.6s						
MAKR				AML	AML	06 40 58.6	
	comp=E,8086μm,0.7s						
AGG	**Agios Georgios**	**0.72**	**16**	P	**Pg**	**06 40 40.9**	**-0.4**
AGG				S	**Sb**	**06 40 51.8**	**-0.2**
	comp=E,5μm,0.4s						
AGG	**Agios Georgios**	**0.72**	**16**	P	**Pg**	**06 40 40.6**	**-0.6**
AGG				AML	AML	06 40 56.7	
	comp=N,11859μm,0.5s						
AGG				AML	AML	06 40 58.8	
	comp=E,6247μm,0.4s						
AGG	**Agios Georgios**	**0.72**	**16**	PG	**Pg**	**06 40 40.7**	**-0.6**
AGG				SG	**Sg**	**06 40 50.6**	**-0.2**
LTK	**Loutraki**	**0.77**	**113**	P	**Pg**	**06 40 42.1**	**-0.1**
LTK				AML	AML	06 40 56.1	
	comp=N,5514μm,0.5s						
LTK				AML	AML	06 40 56.3	
	comp=E,6417μm,0.4s						
LKR	**Lokris**	**0.79**	**66**	P	**Pg**	**06 40 42.4**	**-0.3**
LKR				S	**Sb**	**06 40 54.0**	**0.0**
	comp=E,5μm,0.2s						
LKR	**Lokris**	**0.79**	**66**	P	**Pg**	**06 40 41.9**	**-0.8**
LKR				AML	AML	06 40 57.4	
	comp=E,7422μm,0.2s						
LKR				AML	AML	06 40 58.6	
	comp=N,12571μm,0.2s						
VTN	**Vitineika**	**0.81**	**240**	P	**Pg**	**06 40 42.7**	**-0.3**
ATAL	**Atalanti**	**0.83**	**64**	P	**Pg**	**06 40 42.4**	**-0.8**
ATAL				AML	AML	06 40 59.7	
	comp=N,7724μm,1.2s						
ATAL				AML	AML	06 41 01.7	
	comp=E,5580μm,0.9s						
VIL2	**Platees**	**0.95**	**97**	P	**Pn**	**06 40 46.3**	**-0.3**
VIL2				AML	AML	06 41 09.4	
	comp=N,6438μm,0.6s						
VIL2				AML	AML	06 41 11.3	
	comp=E,9441μm,0.7s						
EPID	**Epidavros**	**1.09**	**130**	P	**Pg**	**06 40 47.7**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.15**	**290**	P	**Pb**	**06 40 48.2**	**-1.0**
EVGI	**Lefkada island**	**1.15**	**285**	P	**Pb**	**06 40 48.3**	**-1.0**
ITM	**Ithomi**	**1.15**	**186**	P	**Pb**	**06 40 48.1**	**-1.1**
LTHK	**Lithakia**	**1.16**	**238**	P	**Pb**	**06 40 48.6**	**-0.8**
VLS	**Valsamata**	**1.18**	**263**	P	**Pb**	**06 40 48.8**	**-0.9**
VLS				AML	AML	06 41 08.5	
	comp=E,3660μm,0.3s						
VLS				AML	AML	06 41 11.9	
	comp=N,5064μm,0.3s						
PSDA	**Pessada-Kefalo**	**1.19**	**260**	P	**Pn**	**06 40 48.9**	**-1.1**
FSK	**Fiskardo**	**1.20**	**277**	P	**Pn**	**06 40 49.2**	**-0.8**
FSK				AML	AML	06 41 13.7	
	comp=E,8032μm,0.6s						
FSK				AML	AML	06 41 16.8	
	comp=N,5021μm,0.9s						
LKD2	**Lefkada island**	**1.20**	**293**	P	**Pn**	**06 40 49.7**	**-0.4**
LKD2				AML	AML	06 41 20.5	
	comp=E,5120μm,0.6s						
LKD2				AML	AML	06 41 20.7	
	comp=N,3710μm,0.6s						
TSLK	**Tsoukalades, L**	**1.22**	**294**	P	**Pn**	**06 40 50.0**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.23**	**287**	P	**Pn**	**06 40 49.7**	**-0.9**
THL	**Klokotos Trika**	**1.24**	**358**	P	**Pn**	**06 40 50.4**	**-0.2**
THL				AML	AML	06 41 11.5	
	comp=E,4022μm,0.8s						
THL				AML	AML	06 41 12.6	
	comp=N,3030μm,0.7s						
KRND	**KRANIDI**	**1.27**	**138**	P	**Pn**	**06 40 50.9**	**-0.2**
LXRA	**Lixouri, Kepha**	**1.29**	**265**	P	**Pn**	**06 40 51.0**	**-0.3**
KEF4	**Livadi, Kephal**	**1.30**	**267**	P	**Pn**	**06 40 50.7**	**-0.7**
NEO	**Neokhori**	**1.33**	**42**	P	**Pn**	**06 40 51.5**	**-0.4**
NEO				AML	AML	06 41 17.4	
	comp=E,3796μm,0.4s						
NEO				AML	AML	06 41 21.4	
	comp=N,3423μm,0.5s						
ATH	**Athens Observa**	**1.34**	**105**	P	**Pg**	**06 40 52.8**	**-0.3**
ATH				AML	AML	06 41 15.5	
	comp=N,2412μm,0.8s						
ATH				AML	AML	06 41 24.7	
	comp=E,2975μm,0.6s						
XOR	**Xorichti**	**1.35**	**40**	P	**Pb**	**06 40 52.6**	**-0.2**
XOR				AML	AML	06 41 15.8	
	comp=N,4087μm,0.6s						
XOR				AML	AML	06 41 18.5	
	comp=E,2788μm,0.5s						
KEF3	**Kipouria, Keph**	**1.36**	**265**	P	**Pn**	**06 40 51.3**	**-1.1**
ATHU	**Athens Univers**	**1.40**	**104**	P	**Pb**	**06 40 53.3**	**-0.2**
PTL	**Penteli**	**1.44**	**101**	P	**Pb**	**06 40 54.0**	**-0.2**
PTL				AML	AML	06 41 20.6	
	comp=N,2036μm,0.8s						
PTL				AML	AML	06 41 21.8	
	comp=E,2542μm,0.6s						
VLY	**Voula,Athens**	**1.44**	**109**	P	**Pb**	**06 40 53.7**	**-0.5**
VLY				AML	AML	06 41 19.9	
	comp=E,2504μm,0.4s						
VLY				AML	AML	06 41 20.8	
	comp=N,2370μm,0.6s						
PYL	**PYLOS**	**1.45**	**191**	P	**Pn**	**06 40 53.4**	**-0.2**
PYL				AML	AML	06 41 25.8	
	comp=E,2472μm,0.8s						
PYL				AML	AML	06 41 29.1	
	comp=N,2195μm,0.8s						
DION	**Dionisos Attik**	**1.48**	**99**	P	**Pb**	**06 40 54.8**	**-0.2**
DION				AML	AML	06 41 20.6	
	comp=N,3894μm,0.5s						
DION				AML	AML	06 41 20.8	
	comp=E,5135μm,0.4s						
KYMI	**Kymi, Euboea I**	**1.62**	**79**	P	**Pn**	**06 40 56.2**	**+0.4**
KYMI				AML	AML	06 41 26.4	
	comp=N,1528μm,0.8s						
KYMI				AML	AML	06 41 34.8	
	comp=E,1188μm,0.8s						
KPRO	**Kipourio**	**1.72**	**341**	P	**Pb**	**06 40 58.8**	**-0.1**
VLI	**Veliai**	**1.75**	**157**	P	**Pn**	**06 40 58.2**	**+0.6**
VLI				AML	AML	06 41 27.9	
	comp=E,2783μm,0.6s						
VLI				AML	AML	06 41 31.5	
	comp=N,3849μm,0.8s						
KARY	**Karystos**	**1.89**	**98**	P	**Pn**	**06 41 00.2**	**+0.7**
KZN	**Kozani**	**1.99**	**353**	P	**Pb**	**06 41 02.7**	**-0.9**
HORT	**Hortiatis**	**2.40**	**19**	PN	**Pn**	**06 41 06.8**	**+0.1**
HORT				SN	**Sn**	**06 41 36.2**	**0.0**
OUR	**Ouranopolis**	**2.49**	**36**	PN	**Pn**	**06 41 08.1**	**+0.3**
FNA	**Florina**	**2.51**	**348**	PN	**Pn**	**06 41 09.9**	**+1.7**
GRG	**Griva**	**2.64**	**5**	PN	**Pn**	**06 41 11.0**	**+1.1**
KNT	**Kendrikon**	**2.90**	**12**	PN	**Pn**	**06 41 14.5**	**+1.0**
OHR	**Ohrid**	**2.95**	**341**	*i* Pn	**Pb**	**06 41 18.2**	**-1.8**
VAY	**Valandovo**	**3.01**	**7**	*i* Pn	**Pn**	**06 41 16.1**	**+1.1**
RODP	**Rodopos**	**3.07**	**153**	PN	**Pn**	**06 41 16.8**	**+0.9**
SIGR	**SIGRI**	**3.08**	**72**	PN	**Pn**	**06 41 16.1**	**+0.1**
CHOS	**Chios island**	**3.13**	**88**	PN	**Pn**	**06 41 17.3**	**+0.6**
IMMV	**Iera Moni Meta**	**3.24**	**151**	PN	**Pn**	**06 41 18.9**	**+0.7**
SANT	**Santorini**	**3.33**	**125**	PN	**Pn**	**06 41 20.6**	**+1.2**
STIP	**Stip**	**3.36**	**1**	*i* Pn	**Pn**	**06 41 21.8**	**+1.9**
BOZC	**Bozcaada**	**3.44**	**63**	PN	**Pn**	**06 41 21.0**	**0.0**
TIR	**Tirane**	**3.46**	**331**	⇑P	**Pb**	**06 41 27.4**	**-1.3**
MMS	**Musomiste**	**3.50**	**21**	*i* P	**Pn**	**06 41 21.9**	**+0.2**
GADA	**Gvkgeada**	**3.50**	**57**	PN	**Pn**	**06 41 21.9**	**+0.1**
URLA	**Izmir**	**3.56**	**88**	PN	**Pn**	**06 41 23.7**	**+1.2**
KKB	**Krupnik**	**3.62**	**12**	*i* P	**Pn**	**06 41 24.5**	**+1.1**
EZN	**Ezine**	**3.63**	**64**	PN	**Pn**	**06 41 23.9**	**+0.4**
IDI	**Anoyia**	**3.78**	**142**	Pn	**Pn**	**06 41 25.6**	**-0.1**
	comp=N,4.7nm,0.3s,baz=319,slow=15,SNR=33						
IDI				Sn	**Sn**	**06 42 08.0**	**-2.3**
	comp=N,6.3nm,0.3s,baz=321,slow=18,SNR=2.0						
GVD	**Gavdhos**	**3.84**	**154**	PN	**Pn**	**06 41 29.1**	**+2.7**
RDO	**Rodhopi**	**3.88**	**42**	PN	**Pn**	**06 41 26.8**	**-0.1**
RZN	**Rozhen**	**3.92**	**30**	*i* P	**Pn**	**06 41 28.5**	**+0.8**
GELI	**Tayfur-Gelibol**	**3.99**	**57**	PN	**Pn**	**06 41 28.9**	**+0.5**
ALN	**Alexandroupoli**	**4.00**	**49**	PN	**Pn**	**06 41 29.2**	**+0.6**
ERIK	**Erikli-Kesan**	**4.16**	**54**	PN	**Pn**	**06 41 30.3**	**-0.4**
LPK	**Lapseki**	**4.17**	**59**	PN	**Pn**	**06 41 31.7**	**+0.8**
BOSS	**Bosilegrad**	**4.17**	**4**	*e*Pn	**Pn**	**06 41 32.5**	**+1.5**
KDZ	**Kurdzhali**	**4.20**	**37**	*i* P	**Pn**	**06 41 30.6**	**-0.7**
TIP	**Timpagrande**	**4.24**	**283**	⇑P	**Pn**	**06 41 33.8**	**+1.8**
BODT	**Bodrum**	**4.34**	**105**	PN	**Pn**	**06 41 34.5**	**+1.2**
VTS	**Vitosha**	**4.38**	**11**	⇑P	**Pn**	**06 41 35.9**	**+2.0**
VTS	**Vitosha**	**4.38**	**11**	*i* P	**Pn**	**06 41 35.0**	**+1.1**
DRME	**Dracevica, Mon**	**4.44**	**331**	*e*Pn	**Pn**	**06 41 35.9**	**+1.2**
BARS	**Barje**	**4.49**	**358**	*e*Pn	**Pn**	**06 41 37.0**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**4.60**	**93**	PN	**Pn**	**06 41 38.2**	**+1.2**
ZKR	**Zakros**	**4.62**	**133**	PN	**Pn**	**06 41 38.8**	**+1.6**
PDG	**Podgorica**	**4.63**	**333**	⇓P	**Pn**	**06 41 40.2**	**+3.0**
PDG	**Podgorica**	**4.63**	**333**	*e*Pn	**Pn**	**06 41 37.9**	**+0.7**
DAT	**Datca**	**4.66**	**108**	PN	**Pn**	**06 41 39.3**	**+1.6**
HCY	**Herceg Novi**	**4.94**	**328**	*e*Pn	**Pn**	**06 41 42.1**	**+0.6**
SELS	**Selova**	**4.94**	**352**	*e*Pn	**Pn**	**06 41 42.9**	**+1.3**
ZAPS	**Zavoj**	**4.96**	**5**	*e*Pn	**Pn**	**06 41 43.2**	**+1.4**
YER	**Yerkesik**	**5.06**	**102**	PN	**Pn**	**06 41 44.7**	**+1.4**
MPEP	**Malo Peshtene**	**5.18**	**14**	*i* P	**Pn**	**06 41 49.2**	**+4.4**
SJES	**Sjenica**	**5.18**	**343**	*e*Pn	**Pn**	**06 41 48.1**	**+3.2**
TREB	**Trebinje**	**5.22**	**328**	*e*Pn	**Pn**	**06 41 46.1**	**+0.7**
BRY	**Bratogost**	**5.30**	**331**	*e*Pn	**Pn**	**06 41 47.5**	**+0.9**
BOVS	**Bovan**	**5.31**	**357**	⇑P	**Pn**	**06 41 47.0**	**+0.4**
BOVS	**Bovan**	**5.31**	**357**	*e*Pn	**Pn**	**06 41 47.4**	**+0.8**
UPM	**Unac-Piva**	**5.43**	**335**	*e*Pn	**Pn**	**06 41 50.7**	**+2.2**
IVAS	**Ivanjica**	**5.44**	**345**	*e*Pn	**Pn**	**06 41 50.0**	**+1.5**
ZAGS	**Zajecar**	**5.48**	**1**	*e*Pn	**Pn**	**06 41 49.7**	**+0.8**
STON	**Ston**	**5.63**	**325**	*e*Pn	**Pn**	**06 41 51.1**	**+0.2**
GRUS	**Gruza**	**5.65**	**350**	*e*Pn	**Pn**	**06 41 53.6**	**+2.3**
RUDO	**Rudo**	**5.67**	**340**	*e*Pn	**Pn**	**06 41 52.4**	**+0.9**
BBLS	**Lazići**	**5.89**	**341**	*e*Pn	**Pn**	**06 41 56.1**	**+1.5**
BBLS	**Lazići**	**5.89**	**341**	*e*Pn	**Pn**	**06 41 56.2**	**+1.6**
DIVS	**Divibare**	**5.97**	**345**	*e*Pn	**Pn**	**06 41 57.4**	**+1.6**
DIVS	**Divibare**	**5.97**	**345**	*e*Pn	**Pn**	**06 41 57.7**	**+1.9**
TRUS	**Trudelj**	**6.02**	**348**	*e*Pn	**Pn**	**06 41 58.7**	**+2.3**
HERR	**Herculane**	**6.55**	**2**	⇑P	**Pn**	**06 42 05.2**	**+1.5**
FRGS	**Fruska Gora**	**7.03**	**347**	⇓P	**Pn**	**06 42 11.3**	**+1.1**
FRGS	**Fruska Gora**	**7.03**	**347**	*e*Pn	**Pn**	**06 42 06.1**	**-4.2**
FRGS	**Fruska Gora**	**7.03**	**347**	*e*Pn	**Pn**	**06 42 11.2**	**+0.9**
GZR	**Gura Zlata**	**7.08**	**4**	⇓P	**Pn**	**06 42 12.8**	**+1.8**
MGRS	**Mrkonjic Grad**	**7.15**	**330**	*e*Pn	**Pn**	**06 42 13.6**	**+1.7**
ARR	**Arges**	**7.29**	**14**	⇓P	**Pn**	**06 42 15.9**	**+2.1**
BLY	**Banja Luka**	**7.39**	**332**	*e*Pn	**Pn**	**06 42 16.8**	**+1.7**
VOIR		**7.44**	**16**	⇓P	**Pn**	**06 42 17.2**	**+1.2**
MLR	**Muntele Rosu**	**7.72**	**21**	⇓P	**Pn**	**06 42 22.0**	**+2.2**
MLR	**Muntele Rosu**	**7.72**	**21**	Pn	**Pn**	**06 42 21.3**	**+1.6**
	comp=N,0.3nm,0.3s,baz=173,slow=8.1,SNR=3.4						
MRAK	**Mrakovica**	**7.72**	**332**	*e*Pn	**Pn**	**06 42 19.6**	**-0.1**
PLOR	**Plostina**	**8.25**	**23**	⇓P	**Pn**	**06 42 28.8**	**+1.8**
MORH	**Mrgy, Hungar**	**8.28**	**343**	*e*Pn	**Pn**	**06 42 27.8**	**+0.4**
MORH	**Mrgy, Hungar**	**8.28**	**343**	PN	**Pn**	**06 42 27.4**	**+0.1**
MORH				SN	**Sn**	**06 43 57.1**	**-3.7**
KOVH	**Kovagotottos**	**8.30**	**340**	PN	**Pn**	**06 42 27.7**	**+0.2**
KOVH				SN	**Sn**	**06 43 56.5**	**-4.8**
CRES	**Cresnjev**	**8.96**	**329**	*e*Pn	**Pn**	**06 42 34.2**	**-2.5**
RIY	**Rijeka**	**9.00**	**323**	*e*Pn	**Pn**	**06 42 37.2**	**0.0**
BRTR	**Keskin Array B**	**9.11**	**78**	Pn	**Pn**	**06 42 40.1**	**+1.3**
	comp=N,0.4nm,0.3s,baz=259,slow=13,SNR=15						
CEY	**Cerknica**	**9.33**	**325**	*e*Pn	**Pn**	**06 42 41.4**	**-0.5**
MPLH	**Magyarpolny**	**9.44**	**341**	PN	**Pn**	**06 42 44.1**	**+0.8**
LJU	**Ljubljana**	**9.53**	**326**	*e*Pn	**Pn**	**06 42 43.6**	**-0.8**
OBKA	**Obir**	**9.88**	**328**	*e*Pn	**Pn**	**06 42 51.6**	**+2.2**
	comp=N,3.5nm,0.7s						
OBKA				*e*Sn	**Sn**	**06 44 41.2**	**+0.8**
	comp=N,4.6nm,0.6s						
ARSA	**Arzberg**	**10.13**	**334**	*e*Pn	**Pn**	**06 42 54.4**	**+1.7**
	comp=N,1.1nm,0.4s						
KBA	**Koelnbreinsper**	**10.84**	**327**	*e*Pn	**Pn**	**06 43 06.0**	**+3.4**
	comp=N,0.9nm,0.4s						
KBA				*e*Sn	**Sn**	**06 45 03.9**	**-0.2**
	comp=N,1.1nm,0.6s						
ABTA	**Abfaltersbach**	**10.97**	**323**	Pn	**Pn**	**06 43 05.6**	**+1.3**
	comp=N,3.2nm,0.5s,SNR=4.7						
ABTA				*e*Sn	**Sn**	**06 45 07.2**	**+0.1**
	comp=N,3.1nm,0.6s						
VRAC	**Vranov**	**11.66**	**342**	LR	LR	06 48 49.9	
	comp=N,113nm,21.6s,baz=144,slow=43						
WTTA	**Wattenberg**	**11.76**	**323**	*i* Pn	**Pn**	**06 43 16.1**	**+0.9**
	comp=N,3.5nm,0.5s,SNR=6.7						
WTTA				*e*Sn	**Sn**	**06 45 25.9**	**-0.6**
	comp=N,5.2nm,0.7s						
WATA	**Walderalm**	**11.84**	**323**	*i* Pn	**Pn**	**06 43 17.3**	**+1.0**
	comp=N,5.6nm,0.6s,SNR=5.5						
SQTA	**Sankt Quirin**	**11.94**	**322**	*i* Pn	**Pn**	**06 43 18.9**	**+1.4**
	comp=N,3.6nm,0.4s						
FETA	**Feichten**	**12.04**	**320**	*e*Pn	**Pn**	**06 43 22.9**	**+4.0**
	comp=N,2.1nm,0.6s						
MOTA	**Moosalm**	**12.07**	**322**	*i* Pn	**Pn**	**06 43 20.1**	**+0.7**
	comp=N,4.6nm,0.6s						
MOTA				*e*Sn	**Sn**	**06 45 35.8**	**+1.7**
	comp=N,5.2nm,0.9s						
GERES	**GERESS Array B**	**12.13**	**333**	Pn	**Pn**	**06 43 21.9**	**+1.7**
	comp=N,0.1nm,0.3s,baz=152,slow=14,SNR=4.2						
GERES				LR	LR	06 49 02.2	
	comp=N,160nm,20.5s,baz=110,slow=42						
DAVOX	**Davos/Dischmat**	**12.32**	**317**	Pn	**Pn**	**06 43 24.4**	**+1.5**
	comp=N,0.5nm,0.3s,baz=99,slow=20,SNR=8.3						
RETA	**Reutte**	**12.34**	**321**	*i* Pn	**Pn**	**06 43 24.0**	**+1.0**
	comp=N,1.2nm,0.5s						
RETA				*e*Sn	**Sn**	**06 45 42.5**	**+1.9**
	comp=N,1.5nm,0.5s						
KHC	**Kasperske Hory**	**12.41**	**333**	*e*PN	**Pn**	**06 43 24.6**	**+0.6**
KHC				*e*SN	**Sn**	**06 45 41.6**	**-0.7**
ESDC	**Sonseca Array**	**20.26**	**282**	P	**P**	**06 45 03.6**	**+0.7**
	comp=N,3.4nm,0.8s,baz=74,slow=11,SNR=19						
HFS	**Hagfors**	**22.46**	**349**	P	**P**	**06 45 28.2**	**+1.9**
	comp=N,2.2nm,0.7s,baz=140,slow=9.4,SNR=5.6						
FINES	**FINESS Array B**	**23.27**	**5**	P	**P**	**06 45 33.6**	**-1.1**
	comp=N,2.3nm,1.0s,baz=192,slow=11,SNR=4.4						
FINES				LR	LR	06 54 16.6	
	comp=N,156nm,21.2s,baz=262,slow=36						
NOA	**NORSAR Array B**	**23.73**	**347**	P	**P**	**06 45 39.1**	**-0.2**
	comp=N,1.8nm,0.9s,baz=160,slow=9.8,SNR=6.6						
NOA				LR	LR	06 56 17.6	
	comp=N,57nm,19.1s,baz=330,slow=40						
EKA	**Eskdalemuir Ar**	**24.03**	**323**	P	**P**	**06 45 42.2**	**+0.1**
	comp=N,4.1nm,0.7s,baz=125,slow=9.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**30.93**	**221**	P	**P**	**06 46 45.3**	**+0.9**
	comp=N,1.4nm,0.5s,baz=30,slow=9.4,SNR=17						
ARCES	**ARCESS Array B**	**31.32**	**2**	P	**P**	**06 46 45.9**	**-1.5**
	comp=N,2.0nm,0.9s,baz=198,slow=8.3,SNR=1.1						
WSAR	**Wadi Sarin**	**34.57**	**105**	LR	LR	07 04 35.3	
	comp=N,29nm,18.7s,baz=220,slow=42						
DBIC	**Dimbokro**	**39.84**	**225**	P	**P**	**06 48 01.9**	**+0.9**
	comp=N,1.7nm,0.7s,baz=27,slow=3.2,SNR=3.5						
MKAR	**Makanchi Array**	**44.18**	**59**	P	**P**	**06 48 36.1**	**0.0**
	comp=N,3.0nm,0.6s,baz=276,slow=7.6,SNR=32						
ZALV	**Zalesovo Beam**	**44.68**	**48**	P	**P**	**06 48 39.6**	**-0.4**
	comp=N,2.4nm,0.6s,baz=274,slow=9.4,SNR=9.0						
SONM	**Songino Array**	**59.41**	**51**	P	**P**	**06 50 29.6**	**-0.4**
	comp=N,0.6nm,0.8s,baz=288,slow=8.1,SNR=3.6						
BOSA	**Boshof**	**66.66**	**177**	P	**P**	**06 51 18.4**	**+0.3**
	comp=N,6.9nm,1.3s,baz=359,slow=7.7,SNR=5.2						
YKA	**Yellowknife Ar**	**73.66**	**341**	P	**P**	**06 52

LALI	Alcalda de L	1.44	344	eP		Pb	06 59 41.6	0.0
LALI	Alcalda de L	1.44	344	eP		Pb	06 59 41.5	0.0
LALI				eS		Sg	07 00 00.5	-0.6
LCY	Lacayo	1.45	24	eP		Pb	06 59 41.6	-0.1
LCY	Lacayo	1.45	24	eP		Pb	06 59 41.6	-0.1
PACA	Pacayal	1.48	23	eP		Pg	06 59 43.0	0.0
PACA	Pacayal	1.48	23	eP		Pg	06 59 43.1	0.0
PACA				i P		Pg	06 59 43.1	0.0
PACA	Pacayal	1.48	23	eP		Pg	06 59 43.0	0.0
LFRS	El Faro	1.53	354	eP		Pn	06 59 42.6	+0.6
LFRS	El Faro	1.53	354	eP		Pn	06 59 42.6	+0.6
PQSS	Presa 15 de Se	1.56	13	eP		Pb	06 59 43.4	-0.1
PQSS				eS		Sg	07 00 04.9	+0.1
PQSS	Presa 15 de Se	1.56	13	eP		Pb	06 59 43.4	-0.1
PQSS				eS		Sg	07 00 04.9	+0.1
LCND	La Caada	1.56	39	eP		Pb	06 59 43.0	-0.7
LCND	La Caada	1.56	39	eP		Pb	06 59 43.0	-0.7
CSGN	Cosiguina Volc	1.58	56	eP		Pn	06 59 37.3	-5.4
CSGN					IAML		07 00 13.0	
	comp=Z,20μm,0.4s							
PAVA	Las Pavas	1.61	359	eP		Pb	06 59 43.9	-0.5
PAVA				eS		Sn	07 00 04.7	+0.6
PAVA	Las Pavas	1.61	359	eP		Pb	06 59 44.1	-0.4
PAVA	Las Pavas	1.61	359	eP		Pb	06 59 43.9	-0.5
PAVA				eS		Sn	07 00 04.7	+0.6
SNET	Serv Nac Est T	1.61	349			Pn	06 59 43.8	+0.6
OPAM	Oficina de Pla	1.63	350	eP		Pn	06 59 44.1	+0.7
OPAM	Oficina de Pla	1.63	350	eP		Pn	06 59 44.1	+0.7
JAYA	Jayaque - finc	1.64	341	eP		Pn	06 59 44.2	+0.6
JAYA				eS		Sn	07 00 05.1	+0.3
JAYA	Jayaque - finc	1.64	341	eP		Pn	06 59 44.2	+0.6
JAYA				eS		Sn	07 00 05.1	+0.3
UEES	Universidad Ev	1.64	349	eP		Pn	06 59 44.3	+0.7
UEES	Universidad Ev	1.64	349	eP		Pn	06 59 44.3	+0.7
LFU	La Fuente	1.66	353	eS		Sb	07 00 06.9	+0.7
LFU	La Fuente	1.66	353	eS		Sb	07 00 06.9	+0.7
BOQS	Boqueron	1.67	347	eP		Pb	06 59 45.0	-0.5
BOQS	Boqueron	1.67	347	eP		Pb	06 59 45.0	-0.5
CEDA	San Andres	1.76	344	eP		Pn	06 59 45.3	+0.1
CEDA				eS		Sn	07 00 08.5	+0.7
CEDA	San Andres	1.76	344	eP		Pn	06 59 45.3	+0.1
CEDA				eS		Sn	07 00 08.5	+0.7
CEDA					IAML		07 00 14.1	
	comp=Z,969nm,0.4s							
CEVE	Cerro Verde	1.86	338	eP		Pn	06 59 47.8	+1.1
CEVE				eS		Sb	07 00 12.5	+0.3
CEVE	Cerro Verde	1.86	338	eP		Pn	06 59 47.8	+1.1
CEVE				eS		Sb	07 00 12.5	+0.3
CEVE					IAML		07 00 15.5	
	comp=Z,2μm,0.4s							
SBLS	San Blas	1.87	338	eP		Pn	06 59 46.9	+0.1
SBLS	San Blas	1.87	338	eP		Pn	06 59 46.9	+0.1
SNJE	San Jose	1.89	339	eP		Pn	06 59 48.0	+0.9
SNJE	San Jose	1.89	339	eP		Pn	06 59 48.0	+0.9
CRIN	San Cristobal	1.91	71			Pn	06 59 47.7	+0.4
CRIN	San Cristobal	1.91	71	eP		Pn	06 59 47.6	+0.3
CRIN				eS		Sb	07 00 13.7	+0.1
TACO	Tacachico	1.91	347	eP		Pn	06 59 48.5	+1.2
TACO				eS		Sn	07 00 11.5	+0.1
TACO	Tacachico	1.91	347	eP		Pn	06 59 48.5	+1.2
TACO				eS		Sn	07 00 11.5	+0.1
NUBE	Las Nubes	1.99	335	eS		Sn	07 00 12.2	-1.3
SLOZ	Alcaldia de Sa	2.10	336	eP		Pn	06 59 50.7	+0.8
COPN	Copaltepe	2.27	88	eP		Pn	06 59 51.0	-1.1
COPN					IAML		07 00 43.2	
	comp=Z,93nm,0.5s							
MTO3	Montecristo	2.33	349	eP		Pn	06 59 54.8	+1.5
MTO3				eS		Sn	07 00 23.6	+1.6
MTO3	Montecristo	2.33	349			Pn	06 59 54.5	+1.3
MTO3	Montecristo	2.33	349	eP		Pn	06 59 54.9	+1.7
MTO3	Montecristo	2.33	349	eP		Pn	06 59 54.8	+1.5
MTO3				eS		Sn	07 00 23.6	+1.6
MOMN	Momotombo	2.33	82	eP		Pn	06 59 50.4	-2.7
ESQI	Esquipulas	2.49	350			Pn	06 59 57.2	+2.0
TGUH	Tegucigalpa,Un	2.52	39	eP		Pn	06 59 57.3	+1.6
TGUH	Tegucigalpa,Un	2.52	39			Pn	06 59 57.2	+1.5
TGUH	Tegucigalpa,Un	2.52	39	eP		Pn	06 59 57.3	+1.6
TISN	Laguna Tiscapa	2.58	89	eP		Pn	06 59 55.3	-1.1
MGAN	Managua	2.60	89	eP		Pn	06 59 56.5	-0.2
MGAN				eP		Pn	06 59 56.6	-0.2
HUEN		2.69	85	eP		Pn	06 59 57.6	-0.2
MATN	Matagalpa	3.03	74			Pn	07 00 01.6	-1.1
BOAB	BOACO BROADBAN	3.19	83			Pn	07 00 04.1	-0.6
HZTE	Horizontes, Gu	3.53	113	Pn		Pn	07 00 10.1	+0.7
LAPC	Finca la Perla	3.65	111	i P		Pn	07 00 11.9	+0.7
ACON	Acoyapa	3.66	92			Pn	07 00 10.8	-0.5
ORTG	Ortega, Santa	3.80	117			Pn	07 00 13.7	+0.4
DUNO	Dulce Nombre,	3.90	121			Pn	07 00 14.2	-0.4
DUNO	Dulce Nombre,	3.90	121	eP		Pn	07 00 14.3	-0.4
DUNO					IAML		07 01 20.8	
	comp=Z,27nm,0.3s							
JTS	Las Juntas de	4.28	114	Pn		Pn	07 00 20.4	+0.6
JTS				Sn		Sn	07 01 05.6	-4.2
JTS	Las Juntas de	4.28	114			Pn	07 00 20.3	+0.5
RIMA	Rio Macho	5.47	115			Pn	07 00 37.1	+0.8
PEZE	Perez Zeledon,	5.80	117			Pn	07 00 43.0	+2.2
SRBA	San Rafael, Bu	6.15	117			Pn	07 00 47.3	+1.7
CDITO	Canoas	6.89	120	Pn		Pn	07 00 58.4	+2.6
CMIG	Matias Romero	7.62	311	Pn		Pn	07 01 06.3	+0.6
	comp=Z,0.4nm,0.3s,baz=164,slow=8.9,SNR=12							
CMIG				Sn		Sn	07 02 30.3	-2.0
	comp=Z,0.4nm,0.3s,baz=152,slow=11,SNR=2.5							
TLIG	Tlapa	10.80	301	Pn		Pn	07 01 52.2	+2.7
BAUV	El Baul	20.75	97	P		P	07 03 55.2	-0.5
BAUV				IAmb		IAmb	07 04 22.0	
	comp=Z,22nm,1.3s							
X34A	Smith Ranch, M	23.83	342	P		P	07 04 28.4	+0.5
X34A				IAmb		IAmb	07 04 48.3	
	comp=Z,9.4nm,1.1s							
FCAR	Ozark Folk Cen	23.87	354	P		P	07 04 29.2	+1.0
FCAR				IAmb		IAmb	07 04 39.3	
	comp=Z,4.5nm,0.8s							
LCAR	Lake Charles	23.96	356	P		P	07 04 31.0	+1.9
V53A	Saluda	24.11	12	P		P	07 04 32.0	+1.4
V53A				IAmb		IAmb	07 04 41.0	
	comp=Z,8.1nm,1.1s							
FNO	Franklin	24.31	343	P		P	07 04 32.0	-0.4
ETMB	Extrema	31.34	133	P		P	07 05 41.4	+5.9
ETMB				IAmb		IAmb	07 05 43.9	
	comp=Z,3.0nm,0.9s							
NEW	Newport	43.05	332	LR		LR	07 29 09.5	
	comp=Z,86nm,18.6s,baz=296,slow=42							
YKA	Yellowknife Ar	53.59	346	P		P	07 08 32.3	-3.3
	comp=Z,0.3nm,0.6s,baz=138,slow=8.3,SNR=8.5							
YKA				PcP		PcP	07 09 40.8	-1.3
	comp=Z,0.2nm,0.6s,baz=146,slow=3.8,SNR=6.2							
TORD	Torodi Ar. Bea	87.88	77	P		P	07 12 04.4	-0.7
	comp=Z,0.3nm,0.4s,baz=289,slow=4.4,SNR=2.2							
CMAR	Chiang Mai Arr	148.67	346	PKPbc		PKPbc	07 19 02.5	-0.5
	comp=Z,0.4nm,0.3s,baz=351,slow=3.3,SNR=4.5							

NNC ***02*** *07:17:31.0±1.8, 48°.65N×77°.77E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=15.4km s-min=10.2km az=69.0, Suspected Mining explosion.*

IDC ***02*** *07:17:38.3±4.4, 48°.70N×78°.46E, h0km, mb1 2.3/2, mb1mx2.3/30, mbtmp2.3/2, ML1.7/2, Error ellipse: s-maj=52.4km s-min=25.0km az=72.0*

ISC 02 07:17:32.9±3.5, 48°.7N±0°.1×77°.7E±0°.3, h0km, n8, σ0§71/6, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.06	16	⇓Pg		Pn	07 18 08.1	-0.6
	4.0nm,0.5s,baz=197,slow=16							
KURBB				⇑Lg		Lg	07 18 35.9	
	6.4nm,0.6s,baz=33,slow=25							
KURK	Kurchatov	2.16	16	⇑Pg		Pn	07 18 10.8	+0.7
	2.6nm,0.5s							
KURK				⇑Lg		Lg	07 18 37.4	
	11nm,1.0s							
MAKZ	Makanchi	3.44	121	⇑Lg		Lg	07 19 18.2	
	0.5nm,0.4s							
OTUK	Ortayu	3.57	265	⇑Lg		Lg	07 19 25.5	
	2.0nm,0.6s							
MK31	Makanchi Array	3.63	119	⇓Pg		Pb	07 18 37.8	-0.2
	baz=323,slow=15,SNR=8.6							
MK31				⇑Lg		Lg	07 19 22.1	
	0.4nm,0.3s,baz=309,slow=27,SNR=10.0							
MKAR	Makanchi Array	3.63	119	Pn		Pn	07 18 30.6	+0.2
	0.1nm,0.3s,baz=307,slow=11,SNR=5.7							
MKAR				Lg		Lg	07 19 20.9	
	0.4nm,0.3s,baz=310,slow=27,SNR=22							
I46RU	ZALESOVO INFRA	6.95	37	i			07 57 00.0	
	baz=219,slow=342,SNR=2.7							
ZALV	Zalesovo Beam	6.95	37	Pn		Pn	07 19 16.5	+0.6
	0.1nm,0.3s,baz=234,slow=14,SNR=2.5							
ZALV				Sn		Sn	07 20 35.1	-0.4
	0.1nm,0.3s,baz=231,slow=23,SNR=3.6							

IDC 02 07:32:22.7±0.8, 7°.33S×122°.92E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, ML3.7/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/26, Error ellipse: s-maj=45.6km s-min=9.9km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.03	166	LR		LR	07 40 19.5	
	comp=Z,28nm,19.8s,baz=352,slow=43							
WRA	Warramunga Arr	16.73	140	Pn		Pn	07 36 18.7	0.0
	0.3nm,0.3s,baz=324,slow=12,SNR=12							
ASAR	Alice Springs	19.37	148	P		P	07 36 50.2	0.0
	0.2nm,0.3s,baz=329,slow=9.3,SNR=29							
MKAR	Makanchi Array	64.84	330	P		P	07 43 03.5	0.0
	0.2nm,0.4s,baz=133,slow=6.3,SNR=5.6							

IDC 02 07:56:26.6±3.9, 23°.88S×115°.62W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.8/25, mbtmp3.7/3, MS3.6/11, Ms1 3.6/11, ms1mx3.3/53, Error ellipse: s-maj=128.3km s-min=41.5km az=31.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	6.54	121	LR		LR	08 00 01.5	
	comp=Z,519nm,19.1s,baz=296,slow=33							
TBI	Tubuai	30.97	264	eLR		LR	08 10 27.7	
	comp=Z,106nm,27.5s							
PPT2	Papeete2	32.31	275	eLR		LR	08 11 03.4	
	comp=Z,164nm,27.2s							
H03N2	Juan Fernandez	33.43	115	T		T	08 38 36.5	
	baz=280,slow=75,SNR=58							
H03N3	Juan Fernandez	33.44	115	T		T	08 38 39.1	
	baz=280,slow=75,SNR=72							
H03N1	Juan Fernandez	33.45	115	T		T	08 38 37.4	
	baz=280,slow=75,SNR=78							
NNA	Nana	38.62	79	LR		LR	08 15 49.1	
	comp=Z,72nm,18.1s,baz=264,slow=30							
ATAH	Atahualpa	39.38	71	LR		LR	08 16 07.0	
	comp=Z,63nm,21.0s,baz=273,slow=30							
PLCA	Paso Flores	41.15	125	LR		LR	08 16 51.8	
	comp=Z,67nm,20.1s,baz=238,slow=30							
LVC	Limon Verde	42.79	98	LR		LR	08 17 44.7	
	comp=Z,52nm,19.3s,baz=268,slow=30							
LPAZ	La Paz	45.07	90	P		P	08 04 45.3	-0.1
	2.2nm,0.8s,baz=252,slow=4.2,SNR=8.1							
LPAZ				LR		LR	08 19 54.0	
	comp=Z,62nm,18.3s,baz=126,slow=31							
LPIG	La Paz	47.98	7	LR		LR	08 20 30.5	
	comp=Z,57nm,19.3s,baz=264,slow=30							
SIV	San Ignacio	51.62	92	LR		LR	08 24 30.6	
	comp=Z,74nm,18.3s,baz=90,slow=33							
PFO	Pinyon Flats O	57.18	359	LR		LR	08 25 09.7	
	comp=Z,78nm,19.7s,baz=20,slow=30							
PTGA	Pitinga	58.57	75	LR		LR	08 28 21.6	
	comp=Z,36nm,18.4s,baz=74,slow=33							
PDAR	Pinedale Array	66.55	5	P		P	08 07 18.9	+0.3
	0.4nm,0.8s,baz=165,slow=6.2,SNR=4.5							
DZM	Mont Dzumac	70.86	254	LR		LR	08 33 02.9	
	comp=Z,62nm,20.9s,baz=58,slow=31							
DZM	Mont Dzumac	70.86	254	eLR		LR	08 28 54.9	
	comp=Z,77nm,26.6s							
YKA	Yellowknife Ar	86.08	0	P		P	08 09 08.5	-0.2
	0.3nm,0.7s,baz=174,slow=5.6,SNR=8.0							
H11S2	WAKE ISLAND Hy	86.64	292	T		T	09 44 42.7	
	baz=117,slow=75,SNR=21							
H11S1	WAKE ISLAND Hy	86.65	292	T		T	09 44 44.3	
	baz=117,slow=75,SNR=17							
H11S3	WAKE ISLAND Hy	86.66	292	T		T	09 44 43.2	
	baz=117,slow=75,SNR=15							
ZALV	Zalesovo Beam	146.28	338	PKPbc		PKPdf	08 16 07.9	+0.1
	0.8nm,0.5s,baz=16,slow=3.5,SNR=4.6							

IDC 02 07:56:46.8±2.2, 1°.34N×126°.57E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/35, mbtmp3.4/3, Error ellipse: s-maj=185.0km s-min=26.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.48	161	P		P	08 01 47.5	-0.5
	1.0nm,0.6s,baz=339,slow=11,SNR=9.9							
ASAR	Alice Springs	25.86	164	P		P	08 02 20.6	+0.3
	0.4nm,0.5s,baz=344,slow=11,SNR=8.0							
MKAR	Makanchi Array	59.42	326	P		P	08 06 51.3	0.0
	0.1nm,0.3s,baz=120,slow=7.7,SNR=5.0							

IDC 02 07:57:05.5±20.0, 18°.62S×177°.67W, h560km±197km, mb3.1/4, mb1 3.3/4, mb1mx2.9/34, mbtmp4.1/4, Error ellipse: s-maj=133.9km s-min=108.6km az=95.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.91	242	P		P	08 03 43.9	+0.1
	2.1nm,0.9s,baz=89,slow=7.5,SNR=5.3							
WRA	Warramunga Arr	45.20	260	P		P	08 04 32.9	-0.5
	0.9nm,0.4s,baz=98,slow=6.6,SNR=27							
ASAR	Alice Springs	45.28	255	P		P	08 04 33.8	-0.2
	1.4nm,0.4s,baz=92,slow=7.8,SNR=43							
ASAR				PcP		PcP	08 06 01.8	-0.1
	0.5nm,0.5s,baz=104,slow=4.1,SNR=7.3							
FITZ	Fitzroy Crossi	53.61	261	P		P	08 05 35.3	+0.1
	1.1nm,0.4s,baz=90,slow=6.1,SNR=2.3							
ARCES	ARCESS Array B	127.14	350	PKP		PKPdf	08 15 05.3	-0.5
	3.4nm,1.0s,baz=35,slow=4.6,SNR=4.0							

MOS ***02*** *08:37:20.4±0.9, 36°.52N×71°.05E, h186km, mb5.6/54, Error ellipse: s-maj=4.1km s-min=2.9km az=112.1*

GCMT ***02*** *08:37:21.5±0.1, 36°.49N±0°.01×70°.75E±0°.01, h195km±1km, MW5.3/139, Moment Tensor Solution. s93,c122; s139,c234; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.61±.02; Mθθ-0.75±.02; Mφφ0.14±.02; Mrθ0.49±.01; Mθφ-0.03±.02; Mφr0.69±.01; Best double couple: M0 1.08100×10^17 NP1:φs292.00000°, δ31.00000°, λ144.00000°. NP2:φs54.00000°, δ72.00000°, λ64.00000°. Principal axes: T 1.1870, Plg55.0000°, Azm290.0000°; N -0.2110, Plg25.0000°, Azm62.0000°; P -0.9760, Plg23.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***02*** *08:37:21.3±0.0, 36°.60N×71°.05E, h182km, mb4.9/64, mB4.9/42*

DSN ***02*** *08:37:21.7±0.6, 36°.49N×70°.96E, h180km, mb6.0/20, Error ellipse: s-maj=11.7km s-min=7.0km az=120.0*

NEIC ***02*** *08:37:22.5±1.8, 36°.54N±0°.05×70°.93E±0°.06, h189km±1km, mb5.3/132, Mwb5.2/40, Error ellipse: s-maj=9.5km s-min=6.7km az=42.0*

NEIC ***02*** *08:37:22.4, 36°.55N×70°.92E, h192km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr4.94; Mθθ-4.71; Mφφ-0.24; Mrθ3.84; Mθφ-1.42; Mφr5.26; Fault plane solution: M0 8.23000×10^16 NP1:φs271.89000°, δ24.46000°, λ132.68000°. NP2:φs46.51000°, δ72.28000°, λ72.86000°. Principal axes: T 8.7157, Plg59.0000°, Azm293.0000°; N -1.0789, Plg16.0000°, Azm52.0000°; P -7.6367, Plg25.0000°, Azm150.0000°;*

BGR ***02*** *08:37:23.2±0.0, 36°.45N×70°.93E, h195km±7km, mb5.6*

IDC ***02*** *08:37:23.5±1.0, 36°.45N×70°.98E, h204km±8km, mb4.9/43, mb1 5.0/47, mb1mx5.0/52, mbtmp5.5/47, MS3.9/11, Ms1 3.9/11, ms1mx3.4/90, Error ellipse: s-maj=8.0km s-min=6.1km az=173.0*

NNC ***02*** *08:37:24.3±6.9, 36°.89N×70°.77E, h184km±77km, mb4.9, mpv6.2, Error ellipse: s-maj=64.0km s-min=34.6km az=18.0*

ISC 02 08:37:21.7±0.2, 36°.49N±0°.03×70°.96E±0°.02, h190km±1km, h190km:pP-P, n1279, σ1§43/1491, mb5.3/324, 416C-243D, Fault plane solution: NP1:φs45.68943°, δ76.02712°, λ60.52633°. NP2:φs292.55524°, δ32.34719°, λ153.17345°. Principal axes: T Plg50.1853°, Azm282.7772°; N Plg28.5199°, Azm53.4604°; P Plg25.2545°, Azm158.3133°; **Fault plane solution: NP1:** φs174.60100°, δ19.23578°, λ47.95810°. **NP2:**φs38.28386°, δ75.83752°, λ103.15253°. **Principal axes:** T Plg57.2077°, Azm325.5663°; N Plg12.7459°, Azm215.0116°; P Plg29.6447°, Azm117.6152°; **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.50	219	PN		Pn	08 38 05.5	+0.3
KBL	Kabul	2.50	219	P		Pn	08 38 05.6	+0.4
	SNR=967							
KBL				S		Sn	08 38 38.0	-1.0
KBL	Kabul	2.50	219	Pn		Pn	08 38 05.5	+0.3
CHGR	Chuyangaron	2.59	327	PN		Pn	08 38 05.3	-0.8
CHGR	Chuyangaron	2.59	327	Pn		Pn	08 38 05.3	-0.8
CEP	Cherat	2.77	163	P		Pn	08 38 09.4	+1.0
CEP				S		Sn	08 38 45.0	+0.3
DRK	Karamyk	3.06	12			Pn	08 38 11.9	+0.1
CHCP	Chirah Chowk	3.40	146	P		Pn	08 38 17.0	+1.2
NIL	Nilore	3.40	146	PN		Pn	08 38 17.0	+1.2
NIL	Nilore	3.40	146	P		Pn	08 38 17.1	+1.2
NIL	Nilore	3.40	146	Pn		Pn	08 38 17.0	+1.2
BTK	Batken	3.56	358	PN		Pn	08 38 17.9	+0.2
BTK	Batken	3.56	358			Pn	08 38 17.9	+0.2
THW	Thamme Wali	3.75	170	P		Pn	08 38 20.9	+0.8
SARP	Sargodha	4.78	162	P		Pn	08 38 33.0	0.0
KSH	Kashi	4.98	51	P		Pn	08 38 31.3	-4.4
KSH				S		Sn	08 39 22.6	-11
KSH				pmax		pmax		
	comp=Z,3μm,0.4s							
KSH				smax		smax		
	comp=N,18μm,0.9s							
KSH				smax		smax		
	comp=E,8μm,0.7s							
TAS	Tashkent	5.00	345	PN		Pn	08 38 35.5	-0.3
TAS	Tashkent	5.00	345	Pn		Pn	08 38 35.5	-0.3
CHM	Chimkent	5.91	350	d iPN		Pn	08 38 47.6	0.0
CHM				pmax		pmax		
	comp=Z,9.0nm,0.2s							
CHM	Chimkent	5.91	350	⇓d iP		Pn	08 38 47.6	0.0
	comp=Z,8.9nm,0.2s,baz=349							
AML	Almayashu	6.02	20	P		Pn	08 38 48.5	-0.9
	SNR=6817							
AML	Almayashu	6.02	20	P		Pn	08 38 48.6	-0.7
AML	Almayashu	6.02	20	i P		Pn	08 38 48.4	-1.0
	SNR=7716							
DHRM	DHARAMSHALA	6.11	132	eP		Pn	08 38 50.3	-0.3
DHRM				eS		Sn	08 39 57.7	-3.0
UCH	Uchtor	6.35	25	P		Pn	08 38 53.0	-0.9
	SNR=811							
DZA	Taraz	6.40	2	d iPN		Pn	08 38 53.4	-0.6
DZA	Taraz	6.40	2	⇓d iP		Pn	08 38 53.5	-0.6
	baz=1.6							
EKS2	Erkin-Say	6.53	19	P		Pn	08 38 55.2	-0.7
	SNR=2580							
KK02	Karatay Array	6.61	357	⇓P		Pn	08 38 55.8	-1.0
	comp=Z,2μm,0.6s,baz=179,slow=12							
KK02				⇓S		Sn	08 40 05.1	-6.9
	comp=Z,2μm,0.7s,baz=185,slow=22							
KK31	Karatay Array	6.61	357	PN		Pn	08 38 55.7	-1.1
KKAR	Karatay Array	6.61	357	PN		Pn	08 38 55.7	-1.1
KKAR	Karatay Array	6.61	357			Pn	08 38 55.6	-1.1
AAK	Ala-Archa	6.72	23	P		Pn	08 38 57.9	-0.4
	comp=Z,223nm,0.3s,baz=201,slow=6.9,SNR=2319							
AAK				S		Sn	08 40 10.4	-4.3
	comp=Z,74nm,0.3s,baz=211,slow=11,SNR=3.9							
AAK				LR		LR	08 41 31.9	
	comp=Z,989nm,20.1s,baz=168,slow=37							
AAK	Ala-Archa	6.72	23	P		Pn	08 38 57.7	-0.5
	SNR=465							
AAK	Ala-Archa	6.72	23	d iPN		Pn	08 38 57.5	-0.8
AAK				pmax		pmax		
	comp=Z,3μm,0.7s							
AAK	Ala-Archa	6.72	23	P		Pn	08 38 57.8	-0.5
AAK				S		Sn	08 40 12.3	-2.4
AAK	Ala-Archa	6.72	23	⇓P		Pn	08 38 57.7	-0.5
	comp=Z,550nm,0.5s							
AAK				⇓S		Sn	08 40 10.0	-4.7
	comp=Z,2μm,0.9s							
AAK	Ala-Archa	6.72	23	Pn		Pn	08 38 57.7	-0.5
AAK	Ala-Archa	6.72	23	i P		Pn	08 38 57.8	-0.5
	SNR=1417							
BHK	Bhakra	6.79	137	eP		Pn	08 38 58.8	-0.5
KBK	Karagaybulak	6.88	25	P		Pn	08 38 60.0	-0.5
	SNR=663							
FRU1	Bishkek	6.91	23	PN		Pn	08 39 00.6	-0.2
FRU1	Bishkek	6.91	23			Pn	08 39 00.6	-0.2
ULHL	Ulahol	7.05	34	P		Pn	08 39 01.2	-1.5
	SNR=256							
BOOM	Boomskoye usch	7.12	31	PN		Pn	08 39 02.4	-1.2
BOOM	Boomskoye usch	7.12	31			Pn	08 39 02.4	-1.2
CHMS	Chumysh	7.12	23	P		Pn	08 39 02.2	-1.2
	SNR=1035							
USP	Ospenovka	7.29	21	P		Pn	08 39 04.2	-1.5
	SNR=1264							
TKM2	Tokmak 2	7.35	28	P		Pn	08 39 05.7	-0.8
	SNR=338							
TKM2	Tokmak 2	7.35	28	PN		Pn	08 39 05.7	-0.8
TKM2	Tokmak 2	7.35	28	⇓P		Pn	08 39 05.7	-0.8
	comp=Z,2μm,0.8s							
KDJ	Kajisay	7.41	39	PN		Pn	08 39 06.8	-0.6
KDJ	Kajisay	7.41	39			Pn	08 39 06.8	-0.6
HRA	Herat	7.42	256	Pn		Pn	08 39 07.3	-0.3
SMLA	Simla	7.43	134	eP		Pn	08 39 06.7	-0.9
SMLA				e

GEYT Alibeck 10.35 282 P Pn 08 39 43.6 -2.0
comp=Z,37nm,0.3s,baz=114,slow=13,SNR=244
GEYT S Sn 08 41 33.2 -7.7
comp=Z,33nm,0.3s,baz=82,slow=13,SNR=2.8
GEYT Alibeck 10.35 282 Pn 08 39 42.8 -2.8
GYA0B ALIBECK ARRAY 10.35 282 Pn Pn 08 39 42.8 -2.8
AJM Ajmer 10.46 162 *ex* x 08 39 46.2
AJM *eP* **Pn 08 39 46.2 -1.0**
OTUK Ortayu 11.79 5 P Pn 08 40 02.1 -2.0
OTUK Ortayu 11.79 5 ⇑P Pn 08 40 02.1 -2.0
comp=Z,246nm,1.1s
JHNI Jhansi 12.76 147 *eP* **Pn 08 40 14.5 -2.2**
PYUN Piuthan 13.16 126 *eP* **Pn 08 40 19.5 -2.4**
comp=Z,854nm,0.4s
PYUN *e*S Sn 08 42 37.8 -11
MAKZ Makanchi 13.18 35 P Pn 08 40 19.9 -1.8
MAKZ Makanchi 13.18 35 Pn Pn 08 40 19.9 -1.8
MK31 Makanchi Array 13.31 36 P Pn 08 40 21.4 -2.0
MK31 Makanchi Array 13.31 36 ⇑P Pn 08 40 21.3 -2.0
comp=Z,18nm,0.5s
MK31 Makanchi Array 13.31 36 Pn 08 40 21.4 -2.0
MKAR Makanchi Array 13.31 36 P Pn 08 40 22.6 -0.8
comp=Z,2.0nm,0.3s,baz=225,slow=9.6,SNR=212
MKAR LR LR 08 45 47.2
comp=Z,272nm,21.8s,baz=228,slow=38
MKAR Makanchi Array 13.31 36 *i* P **Pn 08 40 21.2 -2.2**
MKAR pmax pmax
comp=Z,39nm,0.8s
MKAR Makanchi Array 13.31 36 Pn 08 40 21.5 -1.9
DANN Dangsing 13.51 123 *eP* **Pn 08 40 24.2 -2.1**
comp=Z,1μm,0.6s
DANN *e*S Sn 08 42 47.0 -10
BRZS Berezniki 13.54 5 *eP* **Pn 08 40 23.7 -2.5**
BRZS pmax pmax
comp=Z,43nm,0.8s
KOLN Koldanda 13.78 126 *eP* **Pn 08 40 27.8 -1.8**
comp=Z,1μm,0.5s
KOLN *e*S Sn 08 42 53.4 -10
VLK Valmikinagar 14.27 126 *eP* **Pn 08 40 33.3 -2.0**
GKN Gorkha 14.33 122 *eP* **Pn 08 40 34.9 -1.4**
comp=Z,698nm,0.3s
GKN *e*S Sn 08 43 05.7 -11
BHPL Bhopal 14.34 155 *eP* **Pn 08 40 34.1 -2.3**
BHPL *i* x x 08 40 40.0
BHPL *e*S Sn 08 43 04.5 -12
ALBI Allahabad 14.51 137 *eP* **Pn 08 40 36.0 -2.5**
WMQ Urumqi 14.73 55 ⇓*i*P **Pn 08 40 40.8 -0.2**
WMQ S **Sn 08 43 19.3 -6.2**
WMQ pmax pmax
comp=Z,63nm,0.7s
WMQ pmax pmax
comp=Z,220nm,3.7s
WMQ LR LR
comp=Z,160nm,15.9s
DMN Daman 14.90 122 *eP* **Pn 08 40 42.6 -0.8**
comp=Z,1μm,0.6s
DMN *e*S Sn 08 43 19.2 -11
KKN Kakani 14.90 122 *eP* **Pn 08 40 42.4 -1.0**
comp=Z,2μm,0.7s
AB31 Akbulak array 15.07 331 *eP* **Pn 08 40 43.4 -1.7**
AB31 Akbulak array 15.07 331 P Pn 08 40 43.5 -1.7
comp=Z,92nm,0.3s,baz=144,slow=11,SNR=9883
ABKAR Akbulak array 15.07 331 Pn 08 40 43.0 -2.2
ABKAR Akbulak array 15.07 331 P Pn 08 40 43.4 -1.8
ABKAR IAmb IAmb 08 40 47.7
comp=Z,307nm,0.8s
PKIN Phulchoki 15.12 122 *eP* **Pn 08 40 45.1 -1.0**
PKI Pulchoki 15.13 122 *eP* **Pn 08 40 45.3 -1.0**
KURBB Kurchatov Arra 15.14 19 P Pn 08 40 43.5 -2.4
comp=Z,0.9nm,0.3s,baz=207,slow=12,SNR=71
KURBB S **Sn 08 43 36.1 +1.1**
baz=7.8,slow=28,SNR=1.8
KURBB LR LR 08 46 32.8
comp=Z,537nm,19.0s,baz=189,slow=36
KURBB PKiKP **PKiKP 08 53 32.5 -1.3**
comp=Z,0.1nm,0.3s,baz=215,slow=0.4,SNR=6.7
KURBB Kurchatov Arra 15.14 19 P Pn 08 40 43.0 -2.9
KURBB Kurchatov Arra 15.14 19 ⇓P Pn 08 40 43.0 -2.9
comp=Z,50nm,0.6s
VAR Varanasi 15.20 134 *eP* **Pn 08 40 46.0 -0.8**
GUN Gumba 15.24 120 *eP* **Pn 08 40 46.9 -0.8**
comp=Z,783nm,0.3s
KURK Kurchatov 15.25 19 *d i*P **Pn 08 40 44.2 -3.0**
KURK pmax pmax
comp=Z,78nm,1.3s
KURK Kurchatov 15.25 19 P Pn 08 40 44.6 -2.5
KURK Kurchatov 15.25 19 P Pn 08 40 44.5 -2.7
JBP Jabalpur 15.40 147 *eP* **Pn 08 40 46.6 -2.7**
JBP IAmb IAmb 08 40 49.5
comp=Z,142nm,0.7s
JBP *ex* x 08 43 26.5
BANOM Banah 16.36 234 P P 08 41 00.3 0.0
SNR=7.6
BANOM Banah 16.36 234 *i* P **P 08 40 59.9 -0.5**
SNR=45
SHME Shamm 16.38 235 P Pn 08 41 03.2 +2.1
SNR=6.2
SHME Shamm 16.38 235 *i* P **P 08 41 00.4 -0.1**
SNR=32
BVAR Borovoye Array 16.54 359 P P 08 41 01.8 -0.2
comp=Z,18nm,0.3s,baz=181,slow=12,SNR=175
BRVK Borovoye 16.57 359 *d i*P **P 08 41 01.7 -0.7**
BRVK pmax pmax
comp=Z,103nm,0.8s
BRVK Borovoye 16.57 359 P P 08 41 02.1 -0.3
BRVK Borovoye 16.57 359 ⇑P P 08 41 01.7 -0.7
comp=Z,162nm,1.1s
BRVK Borovoye 16.57 359 P P 08 41 02.1 -0.3
BRVK IAmb IAmb 08 41 09.8
comp=Z,126nm,0.9s
AKL Akola 16.60 160 *eP* **Pn 08 41 04.6 +0.8**
AKTO Aktyubinsk 16.77 330 P Pn 08 41 05.5 -0.1
comp=Z,103nm,0.3s,baz=140,slow=10.0,SNR=1042
AKTO S **S 08 44 06.6 -3.2**
comp=Z,6.2nm,0.3s,baz=322,slow=19,SNR=3.1
AKTO Aktyubinsk 16.77 330 ⇑P Pn 08 41 05.5 -0.1
comp=Z,490nm,0.6s
MASF Masafi 16.83 233 P Pn 08 41 06.9 +0.2
SNR=13
MSFE Esma-Masafi 16.84 233 *i* P **Pn 08 41 06.4 -0.3**
SNR=35
WSAR Wadi Sarin 16.97 222 P Pn 08 41 08.3 +0.1
comp=Z,5.6nm,0.3s,baz=78,slow=8.3,SNR=33
WSAR S **S 08 44 16.4 +2.1**
comp=Z,1.1nm,0.3s,baz=63,slow=6.8,SNR=1.9
WSAR ScP **ScP 08 48 58.1 -1.2**
comp=Z,0.5nm,0.3s,baz=321,slow=0.5,SNR=6.7
WSAR Wadi Sarin 16.97 222 P Pn 08 41 09.2 +0.9
SNR=7.3
BIDO Bidbid 17.03 224 P Pn 08 41 10.1 +1.2
SNR=6.1
UMQ Umm Al-Quwin 17.05 234 P Pn 08 41 10.3 +1.1
UMQ Umm Al-Quwin 17.05 234 *i* P **Pn 08 41 10.2 +1.1**
SNR=6.4
UOSS Minazif 17.11 232 P Pn 08 41 09.4 -0.4
UOSS Minazif 17.11 232 P P 08 41 08.9 +0.4
UOSS IAmb IAmb 08 41 16.2
comp=Z,164nm,0.7s
UOSS Minazif 17.11 232 *i* P **P 08 41 09.0 +0.4**
SNR=14
HATD Hatta, Dubai 17.24 232 P Pn 08 41 11.1 -0.3
SNR=9.5
HATD Hatta, Dubai 17.24 232 *i* P **P 08 41 10.6 +0.6**
SNR=42
BLSP Bilaspur 17.29 143 *eP* **Pn 08 41 11.6 -0.5**
WBK Wadi Bani Khal 17.30 220 P Pn 08 41 12.7 +0.5
SNR=10
ASHO Ashiyiah 17.39 232 P Pn 08 41 12.7 -0.5
SNR=33
ASHO Ashiyiah 17.39 232 *i* P **Pn 08 41 12.5 -0.7**
SNR=126
NAZ Nazwa, Dubai 17.42 233 P Pn 08 41 13.0 -0.6
SNR=17
NAZ Nazwa, Dubai 17.42 233 *i* P **P 08 41 12.6 +0.6**
SNR=21
SMDO Samad 17.43 223 P Pn 08 41 13.8 0.0
HOQ Hoqain 17.45 226 P Pn 08 41 13.3 -0.5
SNR=6.6
JLN Jalan Bani Buh 17.46 218 P Pn 08 41 14.9 +0.9
SNR=16
SOHO SOHO 17.49 229 *i* P **P 08 41 13.5 +0.8**
SNR=15
GTK Tadong 17.53 116 ⇓*i*P **Pn 08 41 14.7 -0.2**
FAQ Al Faqa, Dubai 17.64 233 P Pn 08 41 15.6 -0.5
SNR=9.2
FAQ Al Faqa, Dubai 17.64 233 *i* P **P 08 41 14.8 +0.4**
SNR=5.6
LKRN Lenkeran, Azer 17.71 284 P Pn 08 41 16.2 -0.6
DGZ Jazzator, Alta 17.81 37 *c i*P **Pn 08 41 17.2 -0.8**
DGZ pmax pmax
comp=Z,81nm,0.8s
ASUD Al Ashush, Dub 17.89 233 P Pn 08 41 18.2 -0.9
SNR=13
ASUD Al Ashush, Dub 17.89 233 *i* P **P 08 41 17.8 +0.7**
SNR=79
JMDO Jabal Madar 17.96 222 P Pn 08 41 19.8 -0.1
SNR=13
ALNE Al Ain 18.03 231 P P 08 41 19.5 +0.9
SNR=36
ALNE Al Ain 18.03 231 *i* P **P 08 41 19.4 +0.8**
SNR=50
BOK Bokaro 18.05 130 ⇓*i*P **P 08 41 19.9 +1.0**
POO Poona 18.07 171 ⇓*i x* x 08 41 21.2
POO IAmb IAmb 08 41 22.6
comp=Z,115nm,0.6s
ARQ Araqi 18.10 228 P Pn 08 41 20.6 -0.9
SNR=13
AJN Ajban 18.16 234 P P 08 41 20.6 +0.6
SNR=17
AJN Ajban 18.16 234 *i* P **P 08 41 20.4 +0.4**
SNR=11
BSY Bisya 18.16 225 P Pn 08 41 21.7 -0.6
SNR=14
LSA Lhasa 18.21 106 P Pn 08 41 24.0 +0.8
LSA pP P 08 41 28.7 +7.7
LSA PP **pP 08 41 49.8 -3.5**
LSA S **S 08 44 35.4 -4.3**
LSA pmax pmax
comp=Z,270nm,1.6s
LSA LR LR
comp=Z,570nm,8.2s
LSA LR LR
comp=Z,530nm,8.2s
LSA LR LR
comp=Z,840nm,8.5s
LSA Lhasa 18.21 106 P Pn 08 41 23.7 +0.5
JHSG JHARSUGUGA 18.43 139 *eP* **Pn 08 41 25.7 +0.3**
SRSP Sriramsagar 18.66 158 *eP* **P 08 41 26.7 +1.2**
KLRI Killari 19.02 163 *eP* **P 08 41 30.4 +1.1**
RPR Rampur 19.04 155 *eP* **Pn 08 41 31.4 -1.2**
SEKA Sheki 19.08 292 P P 08 41 31.1 +1.2
MNGR Mingechevir, A 19.12 290 P P 08 41 31.4 +1.2
MAK Makhachkala 19.13 297 *eP* **P 08 41 29.2 -1.2**
MAK *e*S **S 08 44 58.6 +1.6**
MAK pmax pmax
comp=Z,3μm,3.4s
MAK MLR MLR
comp=Z,901nm,17.0s
GOMU GeErMu 19.21 84 P P 08 41 32.8 +1.1
GOMU S **S 08 44 59.6 +0.2**
GOMU pmax pmax
comp=Z,22nm,1.5s
GOMU pmax pmax
comp=Z,180nm,4.4s
GOMU LR LR
comp=Z,200nm,9.8s
GOMU LR LR
comp=Z,230nm,10.2s
GOMU LR LR
comp=Z,260nm,10.6s
UMZA Um Al Zommool 19.39 229 P P 08 41 33.5 +0.2
MZWR Madinat Zayed 19.44 234 P P 08 41 33.0 -0.8
ZKTA Zakatala 19.56 293 P P 08 41 36.3 +1.3
GANJ Ganja 19.69 290 P P 08 41 36.3 -0.1
KHOR Al-Khor Airpor 19.84 242 P P 08 41 37.6 -0.5
LGD Lagodekhi 19.87 293 P P 08 41 39.3 +1.0
DDFL Dedoflistskaro 19.91 292 P Pn 08 41 42.4 -0.5
ZAA0 Zalesovo Array 19.93 25 P P 08 41 38.3 -0.6
ZAA0 IAmb IAmb 08 41 44.2
comp=Z,98nm,0.6s
ZALV Zalesovo Beam 19.93 25 P P 08 41 39.3 +0.5
comp=Z,24nm,0.3s,baz=221,slow=11,SNR=391
ZALV Zalesovo Beam 19.93 25 *i* P **P 08 41 38.7 -0.2**
ZALV pmax pmax
comp=Z,77nm,0.4s
ZALV Zalesovo Beam 19.93 25 P P 08 41 38.9 +0.1
GHWR Ruwais 19.96 236 P P 08 41 38.5 -1.0
SHMA Al-Shehemyia 20.09 244 P P 08 41 40.5 -0.3
HYBB Hyderabad (bro 20.15 159 *eP* **P 08 41 42.5 +1.0**
HYBB *e* 08 41 43.4
baz=342,slow=14
HYBB IVmB_BB 08 41 43.8
comp=Z,1μm,0.4s
HYBB *e*sPn **sPn 08 42 39.9 +1.5**
HYBB *e*S **S 08 45 19.9 +2.5**
HYBB IVMs_BB IVMs_BB 08 48 06.2
comp=Z,1μm,6.2s
HYB Hyderabad 20.15 159 ⇓*i*P **P 08 41 42.5 +0.8**
HYB IAmb IAmb 08 41 43.9
comp=Z,671nm,0.1s
HYB *i* x x 08 42 38.7
DQM DQM 20.27 219 P P 08 41 43.8 +1.1
NAX Nakhchivan 20.27 285 P P 08 41 44.1 +1.3
SAKB Bahrain 20.33 245 P P 08 41 43.0 -0.4
CUPL Choutuppal 20.38 158 *eP* **P 08 41 44.6 +0.6**
RAGD RAYAGADA 20.39 144 *eP* **P 08 41 45.6 +1.5**
TRNA Turayna 20.60 241 P P 08 41 44.9 -1.4
BWNR Bhubaneshwar 20.71 137 *eP* **P 08 41 49.3 +1.8**
GNI Garni 20.87 288 P P 08 41 51.2 +2.1
comp=Z,406nm,0.8s,baz=70,slow=0.7,SNR=150
GNI Garni 20.87 288 P P 08 41 50.8 +1.7
GNI pmax pmax
comp=Z,931nm,1.1s
GNI Garni 20.87 288 P P 08 41 50.8 +1.7
GNI Garni 20.87 288 P P 08 41 51.4 +2.2
SEAG Tbilisi Sea 20.93 293 P P 08 41 52.3 +2.7
SHL Shillong 20.93 115 *eP* **P 08 41 50.0 0.0**
SHL IAmb IAmb 08 41 53.4
comp=Z,167nm,0.5s
GOA Goa 21.07 172 *eP* **P 08 41 52.8 +1.6**
GOA IAmb IAmb 08 41 55.2
comp=Z,414nm,1.4s
GOA *i* x x 08 42 48.8
NJS Nagarjunasagar 21.20 157 *eP* **P 08 41 52.8 +0.2**
CHLP Challavanipeta 21.31 144 *eP* **P 08 41 54.3 +0.5**
CHLP *e*S **S 08 45 41.3 +2.5**
PVM Polavaram 21.37 151 *eP* **P 08 41 55.4 +1.0**
MYLAV Mylavaram 21.46 154 *eP* **P 08 41 56.7 +1.4**
SVE Sverdlovsk 21.49 344 *d i*P **P 08 41 55.6 +0.2**
SVE *e*S **S 08 45 42.6 +1.5**
SVE pmax pmax
comp=Z,320nm,1.1s
SRLM Srisailam 21.50 159 *eP* **P 08 41 56.0 +0.1**
ARU Arti 21.63 341 P P 08 41 57.4 +0.6
comp=Z,52nm,0.6s,baz=149,slow=7.1,SNR=169
ARU Arti 21.63 341 *c i*P **P 08 41 56.9 +0.1**
ARU *PP **pP 08 42 28.2 -1.6**
ARU 08 42 51.9
ARU S **S 08 45 45.3 +2.0**
ARU *SS **sS 08 46 40.6 -1.6**
ARU pmax pmax
comp=Z,564nm,1.1s
ARU Arti 21.63 341 P P 08 41 56.9 +0.1
AKH Akhalkalaki 21.88 291 P P 08 42 01.7 +2.0
ONI Oni 22.02 295 P P 08 42 02.5 +1.6
ONI pmax pmax
comp=Z,193nm,0.7s
ONI Oni 22.02 295 P P 08 42 02.5 +1.6
NCK Nalchik 22.04 297 *c i*P **P 08 42 01.5 +0.4**
NCK pmax pmax
comp=Z,505nm,0.9s
ADKI Addanki 22.07 156 *eP* **P 08 42 02.3 +0.8**
ADKI *e*pP **pP 08 42 33.7 -0.9**
ADKI *e*S **S 08 45 53.7 +2.6**
RCLA Racherla 22.13 159 *eP* **P 08 42 02.9 +0.8**
RCLA *e*S **S 08 45 54.3 +2.3**
KARS Kars 22.15 289 P P 08 42 04.0 +1.7
KARS pmax pmax
comp=Z,1μm,1.4s
KARS Kars 22.15 289 P P 08 42 04.0 +1.7
URV Uravakonda 22.18 164 *eP* **P 08 42 03.5 +0.8**
URV *e*S **S 08 45 55.6 +2.6**
KOHI KOHIMA 22.49 112 IAmb IAmb 08 42 08.7
comp=Z,131nm,0.7s
KBZ Khabaz 22.58 297 P P 08 42 06.4 +0.5
comp=Z,64nm,0.6s,baz=117,slow=5.8,SNR=226
KBZ Khabaz 22.58 297 *c i*P **P 08 42 06.1 +0.1**
KBZ pmax pmax
comp=Z,149nm,1.4s
BRDH Bariadhala 22.59 122 P P 08 42 08.8 +2.5
comp=Z,0.7nm,0.3s,baz=231,slow=24,SNR=9.8
NEY Neytrino 22.63 296 *ce*P **P 08 42 09.0 +2.3**
NEY pmax pmax
comp=Z,71nm,1.6s
GOF Gofitskoye 22.72 301⇑*eP* **P 08 42 09.2 +1.9**
GOF pmax pmax
comp=Z,2μm,1.5s
KVAR Kislovodsk Arr 22.76 298 P P 08 42 09.3 +1.5
comp=Z,58nm,0.7s,baz=102,slow=20,SNR=16
KIV Kislovodsk 22.76 298 *c i*P **P 08 42 08.1 +0.3**
KIV *e*PP **pP 08 42 43.0 +1.0**
KIV *e*SP **sP 08 43 08.0 +2.2**
KIV *e*S **S 08 46 03.3 +1.2**
KIV *e*SS **sS 08 47 05.4 +0.1**
KIV pmax pmax
comp=Z,88nm,0.6s
KIV Kislovodsk 22.76 298 P P 08 42 08.3 +0.6
KIV Kislovodsk 22.76 298 P P 08 42 08.4 +0.6
KIV Kislovodsk 22.76 298 *i* P **P 08 42 08.5 +0.7**
SNR=35
SHAO Shalim 22.84 220 P P 08 42 10.9 +2.3
SHAO Shalim 22.84 220 *i* P **P 08 42 09.7 +1.1**
SNR=16
IMP Imphal 22.88 114 ⇓*i*P **P 08 42 11.1 +2.1**
IMP IAmb IAmb 08 42 13.0
comp=Z,196nm,0.8s
BELG Belogornoye 22.88 321 P P 08 42 09.4 +0.8
comp=Z,1μm,0.7s,baz=315,slow=0.8,SNR=413
BELG Belogornoye 22.88 321 *c i*P **P 08 42 08.9 +0.3**
BELG pmax pmax
comp=Z,184nm,0.8s
GTA Gaotai 22.90 74 ⇓P **P 08 42 10.9 +1.8**
GTA pP pP 08 42 47.4 +2.8
GTA S **S 08 46 04.7 +0.2**
GTA SS **SnSn 08 47 03.2 +2.4**
GTA ScS **ScS 08 52 56.2 -3.0**
GTA pmax pmax
comp=Z,45nm,1.4s
GTA pmax pmax
comp=Z,140nm,5.6s
CHVG Ch'k'valeri 23.03 295 ⇓P **P 08 42 13.3 +3.1**
CHVG Ch'k'valeri 23.03 295 ⇓P **P 08 42 13.3 +3.1**
DOK Doka 23.17 224 P P 08 42 12.2 +0.7
SNR=10
DMTO DMTO 23.45 221 P P 08 42 15.9 +1.8
WHFO Wadi Hawf 23.93 224 P P 08 42 18.8 +0.2
SNR=11
SKHT Srikalahasti 23.98 159 *eP* **P 08 42 19.7 +0.8**
RBK Rabkut 24.03 223 P P 08 42 19.7 +0.2
SNR=5.9
KOPT Kop Dagi 24.12 288 P P 08 42 22.5 +2.1
KOPT IAmb IAmb 08 42 29.1
comp=Z,95nm,1.0s
ABTO Aybut 24.65 224 P P 08 42 25.6 +0.5
SNR=24
MDRS Chennai 24.77 158 IAmb IAmb 08 47 16.1
comp=Z,24nm,0.6s
SOC Sochi 24.85 296 *eP* **P 08 42 26.6 0.0**
SOC *e*PP **pP 08 43 02.5 -1.8**
SOC *e* 08 43 13.0
SOC *e*SP PP 08 43 25.7 -1.0
SOC *e*S **S 08 46 37.3 +2.1**
SOC *e*SS **sS 08 47 43.5 -1.6**
SOC pmax pmax
comp=Z,161nm,0.8s
RAYN Ar Rayn 25.47 247 P P 08 42 32.8 +0.3
RAYN pmax pmax
comp=Z,275nm,1.1s
RAYN Ar Rayn 25.47 247 P P 08 42 32.8 +0.3
RAYN Ar Rayn 25.47 247 P P 08 42 32.8 +0.3
RAYN Ar Rayn 25.47 247 *i* P **P 08 42 32.5 +0.1**
SNR=18
MALT Malatya 25.84 284 P P 08 42 37.8 +2.1
MOY Mondy 26.13 45 *eP* **P 08 42 38.3 +0.1**
MOY *e* 08 43 30.9
MOY pmax pmax
comp=Z,115nm,1.3s
KIRV Kirov 26.23 334 P P 08 42 39.8 +0.9
comp=Z,233nm,0.6s,baz=130,slow=2.7,SNR=96
KIRV Kirov 26.23 334 *c i*P **P 08 42 39.6 +0.8**
LZH Lanzhou 26.44 81 *eP* **P 08 42 42.9 +1.7**
LZH pP pP 08 43 22.8 +1.9
LZH S **S 08 47 02.7 +1.9**
LZH ScS **ScS 08 53 10.9 -3.0**
LZH pmax pmax
comp=Z,17nm,1.2s
LZH pmax pmax
comp=Z,140nm,4.1s
LZH LR LR
comp=Z,640nm,11.4s
LZH LR LR
comp=Z,590nm,14.6s
LZH LR LR
comp=Z,600nm,15.2s
GAZ Gaziantep 26.94 282 P P 08 42 45.8 +0.2
GAZ IAmb IAmb 08 42 46.6
comp=Z,33nm,0.8s
ZAK Zakamensk 27.02 49 *eP* **P 08 42 47.2 +1.1**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
CD2 Chengdu 27.76 92 P P 08 42 54.7 +1.8
CD2 pP pP 08 43 32.2 -0.5
CD2 S **S 08 47 21.6 +0.1**
CD2 ScS **ScS 08 53 15.6 -4.1**
CD2 pmax pmax
comp=Z,60nm,1.1s
CD2 pmax pmax
comp=Z,90nm,5.0s
BNN Bunyan 27.79 286 P P 08 42 54.1 +0.9
BNN IAmb IAmb 08 43 09.5
comp=Z,89nm,1.0s
PZH PanZhiHua 27.97 102 P P 08 42 55.9 +1.0
PZH pP **pP 08 43 38.6 +3.7**
PZH PP **PnPn 08 43 52.6 -0.5**
PZH S **S 08 47 25.7 +0.7**
PZH SS **SnSn 08 49 02.6 -0.8**
PZH ScS **ScS 08 53 17.4 -3.5**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,140nm,5.3s
SONM Songino Array 28.36 55 P P 08 42 59.7 +1.5
comp=Z,7.0nm,0.7s,baz=261,slow=9.3,SNR=66
SONM Songino Array 28.36 55 P P 08 42 59.0 +0.8
ASF Jabal al Asfar 28.37 271 P P 08 42 59.4 +1.0
comp=Z,9.7nm,0.8s,baz=81,slow=11,SNR=9.2
SOCY Socotra 28.62 217 P P 08 43 00.3 -0.3
ULN Ulaanbaatar 28.81 55 *c i*P **P 08 43 03.4 +1.3**
ULN pmax pmax
comp=Z,30nm,2.5s
ULN Ulaanbaatar 28.81 55 P P 08 43 03.5 +1.3
ULN Ulaanbaatar 28.81 55 P P 08 43 03.5 +1.3
MMAI Mount Meron Ar 29.32 274 P P 08 43 08.3 +1.6
comp=Z,2.5nm,0.4s,baz=72,slow=9.1,SNR=22
MMAI PcP **PcP 08 46 08.9 +0.5**
comp=Z,7.5nm,0.5s,baz=64,slow=5.7,SNR=6.7
MMAI ScP **ScP 08 49 31.0 -1.0**
comp=Z,23nm,1.0s,baz=82,slow=6.0,SNR=6.0
BR131 Keskin Array S 29.41 288 P P 08 43 07.3 -0.2
BR131 pmax pmax
comp=Z,35nm,0.9s
BR131 Keskin Array S 29.41 288 P P 08 43 08.5 +1.0
BR131 Keskin Array S 29.41 288 P P 08 43 07.3 -0.2
BR131 IAmb IAmb 08 43 08.9
comp=Z,35nm,0.8s
BRTR Keskin Array B 29.41 288 P P 08 43 08.2 +0.7
comp=Z,15nm,0.7s,baz=108,slow=8.9,SNR=59
BRTR PcP **PcP 08 46 08.2 -0.3**
comp=Z,9.2nm,0.8s,baz=142,slow=4.2,SNR=6.2
BRTR ScP **ScP 08 49 31.4 -0.8**
comp=Z,4.4nm,0.9s,baz=150,slow=5.3,SNR=4.6
BRTR Keskin Array B 29.41 288 *i* P **P 08 43 08.1 +0.6**
BRTR pmax pmax
comp=Z,15nm,0.7s
BRTR Keskin Array B 29.41 288 P P 08 43 07.8 +0.3
KMI Kunming 29.43 104 ⇑P **P 08 43 09.2 +1.3**
KMI pP pP 08 43 51.3 +3.3
KMI PP **PnPn 08 44 14.6 +2.9**
KMI S **S 08 47 48.9 +0.9**
KMI ScS **ScS 08 53 24.6 -3.3**
KMI pmax pmax
comp=Z,22nm,0.6s
KMI pmax pmax
comp=Z,140nm,4.9s
KMI LR LR

comp=Z,210nm,9.4s
KMI LR LR
comp=Z,290nm,11.7s
KMI LR LR
comp=Z,130nm,16.9s
MOS Moscow 29.65 321 *e*P **P** **08 43 06.2 -3.0**
MOS *e**PP **pP** **08 43 48.6 +0.2**
MOS *e* 08 44 10.3
MOS *e*S **S** **08 47 48.8 -1.5**
MOS pmax pmax
comp=Z,800nm,1.5s
MOS pmax pmax
comp=Z,476nm,1.2s
PRGR Permogore 29.77 336 *e*P **P** **08 43 10.8 +0.7**
PRGR *e**PP **pP** **08 43 47.1 -2.4**
PRGR *e**SP **sP** **08 44 07.9 -3.7**
PRGR pmax pmax
comp=Z,217nm,0.7s
OBN Obninsk 29.92 319 ⇑P **P** **08 43 12.5 +0.8**
OBN Obninsk 29.92 319 P **P** **08 43 12.4 +0.8**
comp=Z,59nm,0.4s,baz=28,slow=0.9,SNR=74
OBN LR LR 08 57 46.9
comp=Z,53nm,18.8s,baz=148,slow=41
OBN Obninsk 29.92 319*c i*P **P** **08 43 12.3 +0.7**
OBN *e**PP **pP** **08 43 52.8 +2.0**
OBN *e**SP **sP** **08 44 15.7 +2.9**
OBN *e* 08 46 08.3
OBN *e*S **S** **08 47 55.3 +0.6**
OBN *e**SS **sS** **08 49 05.3 -0.3**
OBN pmax pmax
comp=Z,606nm,1.3s
ANTO Ankara 30.04 288 P **P** **08 43 15.0 +2.0**
BR231 Keskin MP Arra 30.06 288 P **P** **08 43 13.7 +0.5**
BR231 IAmb IAmb 08 43 15.0
comp=Z,52nm,1.2s
CHTO Chiang Mai 30.24 118 P **P** **08 43 15.6 +0.7**
CHTO pmax pmax
comp=Z,39nm,0.5s
CHTO Chiang Mai 30.24 118 P **P** **08 43 15.5 +0.7**
CHTO Chiang Mai 30.24 118 P **P** **08 43 15.6 +0.7**
CHTO IAmb IAmb 08 43 17.8
comp=Z,39nm,0.5s
CHTO Chiang Mai 30.24 118 P **P** **08 43 15.4 +0.5**
PALK Pallekele 30.41 161 P **P** **08 43 18.0 +1.6**
PALK pmax pmax
comp=Z,136nm,0.7s
PALK Pallekele 30.41 161 P **P** **08 43 18.3 +1.8**
PALK Pallekele 30.41 161 P **P** **08 43 18.0 +1.6**
CM31 Chiang Mai Arr 30.48 119 P **P** **08 43 18.1 +1.1**
SNR=19
CM31 Chiang Mai Arr 30.48 119 P **P** **08 43 17.5 +0.5**
CM31 IAmb IAmb 08 43 19.4
comp=Z,58nm,0.8s
CMAR Chiang Mai Arr 30.48 119 P **P** **08 43 17.8 +0.8**
comp=Z,46nm,0.8s,baz=299,slow=8.4,SNR=190
CMAR ScP **ScP** **08 49 34.3 -1.6**
comp=Z,4.9nm,0.8s,baz=298,slow=4.7,SNR=6.3
CMAR Chiang Mai Arr 30.48 119 P **P** **08 43 17.5 +0.5**
CMAR pP **pP** **08 43 58.7 +1.5**
EIL Elat 30.80 268 P **P** **08 43 20.6 +0.9**
comp=Z,27nm,1.0s,baz=57,slow=3.7,SNR=12
XAN Xi'an 30.96 83 P **P** **08 43 22.7 +1.6**
XAN pP pP 08 44 02.3 +0.8
XAN sP sP 08 44 19.6 -4.2
XAN PP **PnPn** **08 44 31.5 +0.8**
XAN S **S** **08 48 14.3 +2.8**
XAN sS sS 08 49 19.1 -3.5
XAN SS SS 08 50 13.7 -19
XAN ScS **ScS** **08 53 34.0 -0.7**
XAN pmax pmax
comp=Z,40nm,0.9s
XAN pmax pmax
comp=Z,100nm,4.1s
XAN LR LR
comp=Z,410nm,11.9s
XAN LR LR
comp=Z,310nm,13.1s
XAN LR LR
comp=Z,350nm,13.2s
MDUB Mudurnu 31.20 290 P **P** **08 43 23.9 +0.7**
HHC Hu-ho-hao-te 31.80 70 *e*P **P** **08 43 30.1 +1.7**
HHC S **S** **08 48 26.2 +1.7**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,150nm,7.0s
HHC LR LR
comp=Z,320nm,11.4s
HHC LR LR
comp=Z,310nm,10.8s
HHC LR LR
comp=Z,300nm,11.4s
BORA Eskisehir 31.83 289 P **P** **08 43 28.8 +0.1**
GYA Guiyang 31.89 98 ⇓P **P** **08 43 30.6 +1.2**
GYA pP pP 08 44 11.4 +1.5
GYA sP sP 08 44 34.3 +2.1
GYA PP **PP** **08 44 47.0 +1.6**
GYA PcP **PcP** **08 46 15.2 -0.1**
GYA S **S** **08 48 27.3 +1.0**
GYA ScP **ScP** **08 49 38.0 -2.7**
GYA pmax pmax
comp=Z,51nm,1.0s
GYA pmax pmax
comp=Z,130nm,3.5s
GYA LR LR
comp=Z,260nm,10.7s
GYA LR LR
comp=Z,200nm,10.1s
GYA LR LR
comp=Z,230nm,9.8s
PURM Purcari 32.04 301 ⇓P **P** **08 43 31.7 +1.4**
ENH Enshi 32.61 90 P **P** **08 43 36.2 +0.7**
ENH IAmb IAmb 08 43 37.5
comp=Z,47nm,0.6s
TLCR 32.73 299 ⇓P **P** **08 43 37.3 +0.9**
TLCR 32.73 299 P **P** **08 43 37.7 +1.3**
ELL Elmali 32.77 283 P **P** **08 43 38.0 +1.0**
ELL pmax pmax
comp=Z,853nm,0.6s
ELL Elmali 32.77 283 P **P** **08 43 38.0 +1.0**
KIS Kishinev 32.79 302 *e*P **P** **08 43 37.0 +0.2**
comp=Z,300nm,1.0s
KIS *e*pP **pP** **08 44 13.0 -3.2**
KIS Kishinev 32.79 302 *i* P **P** **08 43 37.0 +0.2**
KIS *e**PP **pP** **08 44 13.0 -3.2**
KIS *e* 08 44 39.0
KIS pmax pmax
comp=Z,300nm,1.0s
MILM Milestii Mici 32.79 302 PM 08 43 28.0
comp=Z,400nm,1.1s
MILM Milestii Mici 32.79 302⇑ *i*P **P** **08 43 37.0 +0.2**
MILM *i* pP **pP** **08 44 11.0 -5.2**
MILM Milestii Mici 32.79 302*c i*P **P** **08 43 37.0 +0.2**
MILM *i* *PP **pP** **08 44 11.0 -5.2**
MILM *i* 08 44 38.0
MILM *e* 08 44 51.0
MILM pmax pmax
comp=Z,400nm,1.1s
AKASG Malin Array Be 32.93 309 P **P** **08 43 38.5 +0.5**
comp=Z,192nm,0.5s,baz=81,slow=6.9,SNR=1102
AKASG ScP **ScP** **08 49 41.4 -2.2**
comp=Z,8.6nm,0.9s,baz=80,slow=3.2,SNR=7.0
AKASG Malin Array Be 32.93 309 *i* P **P** **08 43 38.0 0.0**
AKASG pmax pmax
comp=Z,193nm,0.5s
AKASG Malin Array Be 32.93 309 P **P** **08 43 38.0 0.0**
AKBB Malin Array Si 32.93 309*c i*P **P** **08 43 38.0 +0.1**
AKBB pmax pmax
comp=Z,215nm,0.6s
AKBB Malin Array Si 32.93 309 P **P** **08 43 38.1 +0.1**
TPGR Topolog 33.02 298 ⇓P **P** **08 43 40.0 +1.2**
MFTR Murfatlar 33.02 297 ⇓P **P** **08 43 40.4 +1.5**
LEOM Leova 33.16 301 ⇑P **P** **08 43 41.4 +1.4**
LEOM Leova 33.16 301 ⇑P **P** **08 43 41.4 +1.4**
SORM Soroca 33.18 304 ⇑P **P** **08 43 40.3 +0.1**
CFR Carcaliu 33.22 299 ⇑P **P** **08 43 41.4 +0.8**
CFR Carcaliu 33.22 299 ⇑P **P** **08 43 41.4 +0.8**
VLDR Vladesti 33.26 300 ⇑P **P** **08 43 42.0 +1.0**
TLBR Topalu 33.28 297 ⇑P **P** **08 43 42.5 +1.3**
KULA Kula-Manisa 33.41 286 P **P** **08 43 42.9 +0.5**
VARL Varlezi 33.42 300 ⇑P **P** **08 43 43.4 +1.1**
VASR Vaslui 33.48 301 ⇑P **P** **08 43 43.8 +0.9**
BIR Birlad 33.58 301 ⇓P **P** **08 43 45.4 +1.7**
BIR Birlad 33.58 301 ⇓P **P** **08 43 45.4 +1.7**

LYN LuoYang 33.65 81 ⇓P **P** **08 43 46.7 +2.2**
LYN pP pP 08 44 27.4 +2.4
LYN S **S** **08 48 53.4 +0.2**
LYN SS **SnSn** **08 51 09.8 -11**
LYN pmax pmax
comp=Z,20nm,1.0s
LYN pmax pmax
comp=Z,50nm,5.2s
IAS Iasi 33.66 302 P **P** **08 43 45.1 +0.8**
IAS pmax pmax
comp=Z,195nm,0.5s
BALB Balikesir 33.83 289 P **P** **08 43 46.7 +0.8**
BALB IAmb IAmb 08 43 47.8
comp=Z,50nm,0.9s
ODBI Odobesti 33.97 300 ⇓P **P** **08 43 49.1 +2.0**
NRIK Noril'sk 34.14 10 P **P** **08 43 49.5 +1.4**
comp=Z,112nm,0.9s,baz=200,slow=5.6,SNR=123
NRIK Noril'sk 34.14 10*c i*P **P** **08 43 49.4 +1.2**
NRIK pmax pmax
comp=Z,240nm,1.3s
NRIK Noril'sk 34.14 10 P **P** **08 43 49.6 +1.4**
VRI Vrincioaia 34.20 300 ⇑P **P** **08 43 50.9 +1.8**
VRI Vrincioaia 34.20 300 ⇑P **P** **08 43 50.9 +1.8**
PLOR Plostina 34.26 300 ⇑P **P** **08 43 51.6 +2.0**
PLOR Plostina 34.26 300 ⇑P **P** **08 43 51.6 +2.0**
TESR Tescani 34.26 301 ⇓P **P** **08 43 50.9 +1.3**
ARG Arkhangelos 34.29 283 P **P** **08 43 50.4 +0.5**
ISR Istrita 34.34 299 ⇑P **P** **08 43 51.4 +1.0**
ISR Istrita 34.34 299 ⇑P **P** **08 43 51.4 +1.0**
RAZG Razgrad 34.43 296 ⇑P **P** **08 43 52.5 +1.4**
MNK Minsk 34.48 315 *i* P **P** **08 43 51.1 -0.2**
MNK *i* *PP **pP** **08 44 30.3 -0.7**
MNK *i* 08 45 13.1
MNK *i* 08 46 21.4
MNK *i* S **S** **08 49 06.0 +0.6**
MNK *i* *SS **sS** **08 50 17.0 -0.1**
MNK pmax pmax
comp=Z,462nm,1.2s
MNK pmax pmax
comp=E,54nm,1.2s
MNK pmax pmax
comp=N,114nm,1.2s
MNK MLR MLR
comp=N,322nm,17.0s
MNK MLR MLR
comp=Z,268nm,17.0s
MNK MLR MLR
comp=E,120nm,15.0s
MNK Minsk 34.48 315 *i* P **P** **08 43 51.1 -0.2**
comp=E,54nm,1.2s
MNK *i* P **P** **08 43 51.1 -0.2**
comp=N,114nm,1.2s
MNK *i* P **P** **08 43 51.1 -0.2**
comp=Z,462nm,1.2s,baz=103
MNK *i* pP **pP** **08 44 30.3 -0.7**
MNK *i* PP **PP** **08 45 13.1 -0.3**
MNK *i* PcP **PcP** **08 46 21.4 -0.5**
MNK *i* S **S** **08 49 06.0 +0.6**
MNK *i* sS **sS** **08 50 17.0 -0.1**
MNK *i* SS **SS** **08 51 42.7 +1.8**
MNK *i* LRM MLR 09 00 17.9
comp=N,322nm,16.8s
MNK *i* LRM MLR 09 00 20.1
comp=Z,268nm,16.8s
MNK *i* LRM MLR 09 01 00.7
comp=E,120nm,15.2s
NEHR Nehoiu 34.51 299 ⇓P **P** **08 43 53.7 +1.9**
COVR Voineasa-Covas 34.57 300 ⇑P **P** **08 43 54.1 +1.8**
PRAR RASCA 34.57 303 ⇑P **P** **08 43 52.9 +0.7**
HNS HongShan 34.74 75 ⇑P **P** **08 43 56.3 +2.5**
HNS pmax pmax
comp=E,17nm,0.8s
MLR Muntele Rosu 34.76 299 ⇑P **P** **08 43 56.4 +2.4**
MLR Muntele Rosu 34.76 299 P **P** **08 43 55.9 +1.9**
comp=E,99nm,0.9s,baz=36,slow=2.6,SNR=116
MLR LR LR 09 02 52.2
comp=E,274nm,18.5s,baz=93,slow=44
MLR Muntele Rosu 34.76 299 P **P** **08 43 55.5 +1.5**
MLR pmax pmax
comp=Z,333nm,1.4s
MLR Muntele Rosu 34.76 299 P **P** **08 43 55.5 +1.5**
XLT XiLinHaoTe 34.90 64 *e*P **P** **08 43 57.2 +2.0**
XLT pP pP 08 44 36.4 +0.2
XLT sP sP 08 45 00.3 +1.7
XLT S **S** **08 49 18.6 +6.4**
XLT ScP **ScP** **08 49 50.3 -0.6**
XLT sS sS 08 50 25.1 +1.1
XLT pmax pmax
comp=Z,8.0nm,1.6s
XLT pmax pmax
comp=Z,210nm,5.3s
XLT LR LR
comp=Z,360nm,7.2s
XLT LR LR
comp=Z,180nm,8.9s
XLT LR LR
comp=Z,230nm,14.0s
PUL Pulkovo 34.90 325*c i*P **P** **08 43 55.7 +0.8**
PUL pmax pmax
comp=Z,762nm,1.3s
PUL Pulkovo 34.90 325 *e*P **P** **08 43 55.6 +0.8**
SMG Samos 34.97 286 P **P** **08 43 55.9 +0.1**
EZN Ezine 34.98 289 P **P** **08 43 57.1 +1.3**
ALN Alexandroupoli 35.04 291 P **P** **08 43 57.5 +1.2**
ALN pmax pmax
comp=Z,31nm,0.9s
ALN Alexandroupoli 35.04 291 P **P** **08 43 57.5 +1.2**
DOPR Dopca 35.14 300 ⇑P **P** **08 43 58.7 +1.6**
NACGM Naroch 35.20 316 *i* P **P** **08 43 58.1 +0.6**
BURAR Bucovina Array 35.26 303 ⇓P **P** **08 43 59.6 +1.3**
BURAR Bucovina Array 35.26 303 ⇓P **P** **08 43 59.6 +1.3**
BURAR Bucovina Array 35.26 303 P **P** **08 43 58.9 +0.6**
BURAR IAmb IAmb 08 44 00.6
comp=Z,72nm,1.1s
BUR08 Bucovina Ar. S 35.27 303 P **P** **08 43 59.0 +0.6**
BUR08 IAmb IAmb 08 44 00.4
comp=Z,50nm,1.0s
IDID Didziasalis 35.32 316 *e*P **P** **08 43 59.5 +1.1**
COPA Copaceanca 35.33 297 ⇑P **P** **08 44 01.0 +2.2**
BOD Bodaibo 35.38 39 *e*P **P** **08 43 58.8 -0.1**
BOD pmax pmax
comp=Z,16nm,1.2s
MTUR Matau 35.39 299 ⇓P **P** **08 44 00.8 +1.5**
MTUR Matau 35.39 299 ⇓P **P** **08 44 00.8 +1.5**
GULI GuiLin 35.39 97 ⇓P **P** **08 44 02.9 +3.4**
GULI S **S** **08 49 22.4 +2.5**
GULI pmax pmax
comp=Z,50nm,0.9s
GULI LR LR
comp=Z,210nm,11.9s
GULI LR LR
comp=Z,230nm,13.0s
GULI LR LR
comp=Z,280nm,15.7s
STFAR Stefanesti-Arg 35.47 298 ⇑P **P** **08 44 01.8 +1.8**
HUMR Humele 35.48 298 ⇓P **P** **08 44 01.4 +1.4**
ATD Arta Tunnel 35.49 233 P **P** **08 44 03.1 +2.7**
SNR=9.2
IIGN Ignalina 35.61 316 *e*P **P** **08 44 02.2 +1.2**
ARR Arges 35.68 299 ⇑P **P** **08 44 03.3 +1.5**
ISAL Salakas 35.72 317 *e*P **P** **08 44 02.9 +1.0**
TGMR Targu Mures 35.73 301 ⇑P **P** **08 44 03.2 +1.1**
MDB Medias 35.84 300 ⇑P **P** **08 44 04.9 +1.8**
MDB Medias 35.84 300 ⇑P **P** **08 44 04.9 +1.8**
ARCR ARCALIA 35.84 302 ⇑P **P** **08 44 05.2 +2.1**
KAAM Kaadhehdhoo 35.87 177 P **P** **08 44 05.7 +2.1**
LVV L'vov 36.14 307*d i*P **P** **08 44 06.3 +0.7**
LVV *e*S **S** **08 49 28.2 -2.6**
LVV pmax pmax
comp=Z,800nm,1.2s
STIA Sitia Lasithi 36.15 282 P **P** **08 44 05.2 -0.6**
VSU Vasula 36.17 322*c i*P **P** **08 44 05.8 +0.1**
VSU pmax pmax
comp=Z,986nm,0.9s
VSU Vasula 36.17 322 *e*P **P** **08 44 06.0 +0.4**
CNSH ChangSha 36.19 91 P **P** **08 44 07.1 +0.9**
CNSH pmax pmax
comp=Z,67nm,0.8s
PGB Panagyurishte 36.23 294 *i* P **P** **08 44 07.9 +1.4**
LOT Lotru 36.29 299 ⇑P **P** **08 44 08.0 +1.0**
SANT Santorini 36.35 284 ⇓P **P** **08 44 07.4 -0.2**
SANT Santorini 36.35 284 P **P** **08 44 07.1 -0.4**
SANT IAmb IAmb 08 44 07.6
comp=Z,68nm,0.8s

CJR Cluj-Napoca 36.37 301 ⇓P **P** **08 44 09.7 +2.1**
CJR Cluj-Napoca 36.37 301 ⇓P **P** **08 44 09.7 +2.1**
THR3 Thira Island, 36.38 284 P **P** **08 44 06.6 -1.2**
THR5 Thira Island, 36.42 284 P **P** **08 44 07.0 -1.1**
WHN Wuhan 36.42 86 ⇑P **P** **08 44 10.0 +1.8**
WHN S **S** **08 49 38.7 +3.1**
WHN ScP **ScP** **08 49 54.4 -2.1**
WHN pmax pmax
comp=Z,64nm,0.6s
BMR Baia Mare 36.43 303 ⇓P **P** **08 44 10.0 +2.0**
BMR Baia Mare 36.43 303 ⇓P **P** **08 44 10.0 +2.0**
THR9 Santorini-Faro 36.43 284 P **P** **08 44 07.6 -0.6**
MPEP Malo Peshtene 36.46 296 *i* P **P** **08 44 09.8 +1.4**
NVR Nevrokopi 36.61 292 P **P** **08 44 09.0 -0.7**
SRE Strehaia 36.73 298 ⇑P **P** **08 44 11.9 +1.2**
SRE Strehaia 36.73 298 ⇑P **P** **08 44 11.9 +1.2**
MESR Meseseni 36.80 302 ⇑P **P** **08 44 11.9 +0.7**
SRS Serrai 36.84 292 P **P** **08 44 11.1 -0.6**
DEV Deva 36.87 300 ⇓P **P** **08 44 13.6 +1.8**
DEV Deva 36.87 300 ⇓P **P** **08 44 13.6 +1.8**
PABE Paberze 36.90 316 *e*P **P** **08 44 12.3 +0.5**
PABE Paberze 36.90 316 P **P** **08 44 12.6 +0.7**
TIA Tai'an 36.90 76 ⇑P **P** **08 44 14.3 +2.1**
TIA pmax pmax
comp=Z,25nm,0.5s
VTS Vitosha 36.91 295 ⇑P **P** **08 44 13.4 +1.0**
VTS Vitosha 36.91 295 P **P** **08 44 13.1 +0.7**
VTS pmax pmax
comp=Z,24nm,0.7s
VTS Vitosha 36.91 295 P **P** **08 44 13.1 +0.7**
VTS Vitosha 36.91 295 *i* P **P** **08 44 13.4 +1.0**
PUNG Punghina 36.96 297 ⇓P **P** **08 44 13.9 +1.3**
DRGR 36.97 302 ⇓P **P** **08 44 14.5 +1.7**
DRGR 36.97 302 ⇓P **P** **08 44 14.5 +1.7**
PAIG Paliouri 36.97 290 P **P** **08 44 13.7 +1.0**
GZR Gura Zlata 36.99 299 ⇑P **P** **08 44 13.6 +0.7**
KWP Kalwaria Pacla 36.99 306 *e*P **P** **08 44 13.9 +1.1**
KWP *es*P **sP** **08 45 16.0 +1.4**
KWP Kalwaria Pacla 36.99 306 P **P** **08 44 13.8 +1.1**
KWP pmax pmax
comp=Z,3μm,1.1s
KWP Kalwaria Pacla 36.99 306 P **P** **08 44 13.8 +1.1**
IDI Anoyia 37.07 282 P **P** **08 44 13.2 -0.5**
comp=Z,53nm,0.6s,baz=44,slow=12,SNR=50
IDI Anoyia 37.07 282 P **P** **08 44 11.9 -1.8**
TRPA Tarpa 37.07 304 ⇑P **P** **08 44 14.9 +1.5**
TRPA Tarpa 37.07 304 P **P** **08 44 14.3 +0.9**
PLG Polygyros 37.07 291 P **P** **08 44 13.9 +0.3**
SUW Suwalki 37.10 314 *e*P **P** **08 44 13.7 +0.2**
SUW *e*PP **PnPn** **08 45 43.6 -1.4**
SUW Suwalki 37.10 314 P **P** **08 44 13.8 +0.2**
SUW pmax pmax
comp=Z,400nm,1.0s
SUW Suwalki 37.10 314 *e*P **P** **08 44 13.5 -0.1**
SUW Suwalki 37.10 314 P **P** **08 44 13.8 +0.3**
KKB Krupnik 37.12 293 *i* P **P** **08 44 14.0 +0.1**
DION Dionisos Attik 37.14 287 P **P** **08 44 13.9 -0.3**
PTL Penteli 37.20 287 P **P** **08 44 13.6 -1.1**
UZH Uzhgorod 37.24 305⇑ *i*P **P** **08 44 13.7 -1.1**
UZH *e*S **S** **08 49 45.5 -2.0**
ZAPS Zavoj 37.27 296 *i* P **P** **08 44 16.6 +1.3**
ATHU Athens Univers 37.28 287 P **P** **08 44 15.2 -0.2**
VLY Voula,Athens 37.30 287 P **P** **08 44 14.7 -0.8**
KNT Kendrikon 37.36 292 P **P** **08 44 15.5 -0.5**
LVZ Lovozero 37.45 338*c i*P **P** **08 44 16.8 +0.3**
LVZ pmax pmax
comp=Z,362nm,1.7s
LVZ Lovozero 37.45 338 P **P** **08 44 17.1 +0.6**
FIA1 FINESS Array S 37.47 326 P **P** **08 44 16.5 -0.1**
FINES FINESS Array B 37.47 326 P **P** **08 44 17.2 +0.6**
comp=Z,124nm,0.6s,baz=119,slow=9.5,SNR=687
FINES FINESS Array B 37.47 326 P **P** **08 44 17.2 +0.6**
FINES pP **pP** **08 44 58.5 +1.5**
BOSS Bosilegrad 37.48 294⇓ *i*P **P** **08 44 18.0 +1.0**
ZAGS Zajecar 37.50 297⇑ *i*P **P** **08 44 17.6 +0.5**
LTVH Ltavrtes, Hu 37.51 303 P **P** **08 44 20.1 +3.0**
VAY Valandovo 37.58 293 *i* P **P** **08 44 18.2 +0.4**
VAM Vamos 37.58 283 P **P** **08 44 16.8 -1.1**
BORR Bors 37.60 302 ⇑P **P** **08 44 19.8 +1.9**
APA Apatity 37.63 337⇓ *i*P **P** **08 44 17.2 -0.7**
APA pmax pmax
comp=Z,48nm,0.7s
APA MLR MLR
comp=Z,1μm,13.0s
MTSE Matsula 37.71 321 *e*P **P** **08 44 19.2 +0.6**
SIRR Siria 37.72 301 ⇑P **P** **08 44 20.9 +1.9**
IMMV Iera Moni Meta 37.74 283 P **P** **08 44 18.5 -0.7**
GRG Griva 37.76 292 P P 08 44 13.1 -6.3
MDVR Moldovita 37.78 298 ⇓P **P** **08 44 20.9 +1.3**
BZS Buzias 37.79 300 ⇑P **P** **08 44 20.9 +1.4**
BZS Buzias 37.79 300 ⇑P **P** **08 44 20.9 +1.4**
STIP Stip 37.80 293 *i* P **P** **08 44 18.7 -1.0**
KUBS Kucevo 37.84 298 *e*P **P** **08 44 19.9 -0.1**
BOVS Bovan 37.90 296 ⇑P **P** **08 44 21.3 +0.8**
BOVS Bovan 37.90 296⇑ *i*P **P** **08 44 20.9 +0.4**
BARS Barje 37.92 295⇑ *i*P **P** **08 44 17.7 -3.0**
BARS Barje 37.92 295⇑ *i*P **P** **08 44 21.5 +0.8**
STHS Stebnicka Huta 37.94 306 *e*P **P** **08 44 20.2 -0.5**
STHS Stebnicka Huta 37.94 306 *e*P **P** **08 44 20.1 -0.6**
SRIT Nakonsritamara 38.06 130 P **P** **08 44 23.4 +1.3**
SRIT IAmb IAmb 08 44 23.8
comp=Z,52nm,0.8s
TYRN Tyrnavos 38.11 290 P **P** **08 44 20.9 -1.3**
PBUR Paburge 38.13 317 *e*P **P** **08 44 22.8 +0.7**
AGG Agios Georgios 38.17 289 P **P** **08 44 21.6 -1.2**
AGG Agios Georgios 38.17 289 P **P** **08 44 22.7 -0.1**
AGG pmax pmax
comp=Z,33nm,0.9s
AGG Agios Georgios 38.17 289 P **P** **08 44 22.7 -0.1**
SLIT Slitere, Latvi 38.24 319 *e*P **P** **08 44 22.7 -0.3**
THL Klokotos Trika 38.30 290 P **P** **08 44 22.7 -1.2**
SKO Skopje 38.31 294 *i* P **P** **08 44 24.2 +0.2**
BEL Belsk 38.31 310 *e*P **P** **08 44 24.6 +0.8**
BEL *e*PP **PP** **08 45 55.0 -0.4**
BEL Belsk 38.31 310 P **P** **08 44 24.8 +1.0**
SELS Selova 38.38 296 *e*P **P** **08 44 24.9 +0.4**
KECS Kecovo 38.44 304 *e*P **P** **08 44 26.1 +1.1**
KECS pmax pmax
comp=Z,15nm,0.6s
KECS Kecovo 38.44 304 *e*P **P** **08 44 26.0 +1.1**
KECS *e*PP **PP** **08 45 57.4 +0.6**
TRIZ Trizonia 38.51 288 P **P** **08 44 24.1 -1.5**
NIE Niedzica 38.55 306 *e*P **P** **08 44 28.1 +2.2**
NIE *e*PP **PnPn** **08 46 03.8 +1.4**
NIE Niedzica 38.55 306 P **P** **08 44 28.0 +2.1**
FNA Florina 38.55 292 P **P** **08 44 24.2 -1.9**
FNA Florina 38.55 292 P **P** **08 44 26.4 +0.4**
FNA pmax pmax
comp=Z,41nm,0.7s
FNA Florina 38.55 292 P **P** **08 44 26.4 +0.4**
FNA IAmb IAmb 08 44 27.0
comp=Z,41nm,0.7s
ANX Ano Chora 38.57 288 P **P** **08 44 23.5 -2.8**
GRUS Gruza 38.59 297⇑ *i*P **P** **08 44 27.1 +0.9**
EVR Evrytania 38.59 289 P **P** **08 44 25.2 -1.2**
BSZH Besenyszg 38.62 302 P **P** **08 44 27.6 +1.2**
KPRO Kipourio 38.72 291 P **P** **08 44 26.7 -0.7**
TRUS Trudelj 38.77 298⇓ *i*P **P** **08 44 28.5 +0.8**
PSZ Piszkesteto 38.85 303 ⇑P **P** **08 44 29.5 +1.1**
PSZ Piszkesteto 38.85 303 P **P** **08 44 29.2 +0.7**
PSZ pmax pmax
comp=Z,88nm,1.3s
PSZ Piszkesteto 38.85 303 P **P** **08 44 29.1 +0.7**
PSZ IAmb IAmb 08 44 31.1
comp=Z,88nm,1.3s
PSZ Piszkesteto 38.85 303 P **P** **08 44 29.6 +1.2**
OJC Ojcow 38.88 307 *e*P **P** **08 44 29.3 +0.7**
OJC *e*pP **pP** **08 45 10.8 +1.9**
OJC *es*P **sP** **08 45 31.4 +0.8**
OJC *e*PP **PnPn** **08 46 05.2 -0.9**
OJC Ojcow 38.88 307 P **P** **08 44 29.1 +0.5**
OJC pmax pmax
comp=Z,164nm,1.0s
OJC Ojcow 38.88 307 P **P** **08 44 29.1 +0.5**
KLNR Kaliningrad 38.90 314*c i*P **P** **08 44 29.3 +0.7**
KLNR pmax pmax
comp=Z,491nm,0.7s
OHR Ohrid 38.93 293 *i* P **P** **08 44 28.6 -0.5**
IZAB Izabela 38.95 305 *e*P **P** **08 44 30.5 +1.3**
KBN Korca 39.02 292 P **P** **08 44 29.7 -0.3**
KBN pmax pmax

comp=Z,16nm,0.7s
KBN Korca 39.02 292 P **P 08 44 29.7 -0.3**
IVAS Ivanjica 39.03 297⇑*i*P **P 08 44 30.0 0.0**
DIVS Divibare 39.08 297⇑*i*P **P 08 44 30.8 +0.4**
DIVS Divibare 39.08 297 P **P 08 44 31.0 +0.6**
DIVS Divibare 39.08 297⇑*i*P **P 08 44 31.2 +0.8**
FRGS Fruska Gora 39.10 299⇑P **P 08 44 31.2 +0.7**
FRGS Fruska Gora 39.10 299⇑*i*P **P 08 44 30.8 +0.4**
FRGS Fruska Gora 39.10 299⇑*i*P **P 08 44 31.0 +0.6**
LHMI Lhok Sumawe 39.20 136 P **P 08 44 32.4 +0.9**
comp=Z,330nm,0.6s
SJES Sjenica 39.20 296⇑*i*P **P 08 44 32.6 +1.2**
LSK Leskovik 39.26 291 P **P 08 44 31.4 -0.5**
PVY Plav 39.31 295 *e*P **P 08 44 32.5 +0.1**
IVA Berane 39.31 295 *e*P **P 08 44 32.8 +0.4**
TEKS Tekeris 39.36 298⇑*i*P **P 08 44 32.6 0.0**
TEKS Tekeris 39.36 298⇑*i*P **P 08 44 32.8 +0.2**
BUD Budapest 39.46 303 P **P 08 44 35.0 +1.6**
BUD Budapest 39.46 303 P **P 08 44 34.4 +1.1**
NYDR Nydri-Lefkada 39.48 289 P **P 08 44 32.9 -0.7**
TSLK Tsoukalades, L 39.49 289 P **P 08 44 33.5 -0.2**
NJ2 Nanjing 39.51 82 *e*P **P 08 44 33.6 -0.3**
NJ2 pmax pmax
comp=Z,18nm,0.5s
BBLS Lazići 39.53 297⇑*i*P **P 08 44 34.2 +0.1**
BBLS Lazići 39.53 297⇑*i*P **P 08 44 34.9 +0.8**
VYHS Vyhne 39.54 304 *e*P **P 08 44 34.9 +0.9**
VYHS pmax pmax
comp=Z,102nm,1.5s
VYHS Vyhne 39.54 304 *e*P **P 08 44 34.9 +0.9**
VYHS *e*PP **PP 08 46 10.4 +1.7**
TIR Tirane 39.58 293 P P 08 44 40.3 +5.8
RUDO Rudo 39.59 297 *e*P **P 08 44 34.6 +0.1**
KOME Kolasin 39.59 296 *e*P **P 08 44 35.2 +0.5**
PLE Pljevlja 39.61 296 *e*P **P 08 44 34.7 -0.2**
MORH Mrgy, Hungar 39.81 301⇑*i*P **P 08 44 37.0 +0.7**
MORH Mrgy, Hungar 39.81 301 P **P 08 44 36.3 0.0**
KOLL Kolacno 39.82 305 *e*P **P 08 44 37.5 +1.2**
DMLN Damoulianata-K 39.84 288 P **P 08 44 36.3 -0.4**
PDG Podgorica 39.85 295⇑P **P 08 44 36.6 -0.1**
PDG Podgorica 39.85 295⇑*i*P **P 08 44 36.2 -0.4**
PDG Podgorica 39.85 295 P **P 08 44 36.4 -0.2**
TTG Podgorica 39.85 295 *e*P **P 08 44 36.8 +0.2**
SRO Srobarova 39.92 303 *e*P **P 08 44 39.0 +1.9**
SRO pmax pmax
comp=Z,269nm,1.7s
SRO Srobarova 39.92 303 *e*P **P 08 44 39.0 +1.9**
ULC Ulcinj 39.93 294 *e*P **P 08 44 36.7 -0.7**
DRME Dracevica, Mon 39.94 295⇑*i*P **P 08 44 36.8 -0.6**
DRME Dracevica, Mon 39.94 295 *e*P **P 08 44 37.8 +0.4**
OKC Ostrava-Krasne 39.95 307 *e*P **P 08 44 38.7 +1.3**
OKC Ostrava-Krasne 39.95 307⇓*e*P **P 08 44 38.7 +1.3**
AAL Aland 39.96 323 *e*P **P 08 44 36.8 -0.4**
UPM Unac-Piva 39.98 296 *e*P **P 08 44 38.7 +0.7**
UPM Unac-Piva 39.98 296 *e*P **P 08 44 37.6 -0.4**
CSKK Cskako 39.98 303 P **P 08 44 38.6 +0.9**
NKME Niksic 40.01 295 *e*P **P 08 44 38.2 +0.1**
VLO Vlora 40.02 292 P **P 08 44 37.7 -0.4**
VLO pmax pmax
comp=Z,103nm,0.6s
VLO Vlora 40.02 292 P **P 08 44 37.6 -0.4**
CEME Cevo 40.08 295 *e*P **P 08 44 38.3 -0.3**
BUM Brajici-Budva 40.13 295 *e*P **P 08 44 38.8 -0.3**
KOVH Kovagotottos 40.20 301 P **P 08 44 39.2 -0.3**
JAVC Velka Javorina 40.29 305⇑*i*P **P 08 44 42.1 +1.8**
JAVC *e*pP **pP 08 45 23.3 +2.3**
JAVC *e*SCP **ScP 08 50 09.8 -1.3**
BRY Bratogost 40.29 296⇑*i*P **P 08 44 40.5 0.0**
BRY Bratogost 40.29 296 *e*P **P 08 44 40.4 0.0**
MORC Moravsky Berou 40.34 306⇑P **P 08 44 41.8 +1.2**
MORC Moravsky Berou 40.34 306 P **P 08 44 41.3 +0.6**
MORC pmax pmax
comp=Z,63nm,0.7s
MORC Moravsky Berou 40.34 306⇑*i*P **P 08 44 41.7 +1.0**
MORC *e*pP **pP 08 45 23.7 +2.2**
MORC *e*PP **PP 08 46 14.3 -3.2**
MORC *e*SCP **ScP 08 50 10.3 -1.0**
MORC Moravsky Berou 40.34 306 P **P 08 44 41.3 +0.6**
MORC IAmb IAmb 08 44 43.0
comp=Z,63nm,0.7s
HCY Herceg Novi 40.40 295⇑*i*P **P 08 44 40.5 -0.7**
HCY Herceg Novi 40.40 295 *e*P **P 08 44 40.7 -0.5**
TREB Trebinje 40.46 296 *e*P **P 08 44 41.4 -0.3**
MPLH Magyarpolny 40.49 302 P **P 08 44 41.5 -0.3**
GKP Gorka Klasztor 40.55 312 *e*P **P 08 44 43.0 +0.8**
GKP *e*sP **sP 08 45 46.5 +1.8**
GKP Gorka Klasztor 40.55 312 P **P 08 44 43.2 +0.9**
GKP Gorka Klasztor 40.55 312 *e*P **P 08 44 43.4 +1.1**
MODS Modra-Piesok 40.58 304 *e*P **P 08 44 42.7 +0.1**
MODS pmax pmax
comp=Z,90nm,1.6s
MODS Modra-Piesok 40.58 304 *e*P **P 08 44 42.7 +0.1**
MODS *e*PP **PP 08 46 20.0 0.0**
EGYH Egyhazaskeszo 40.61 303 P **P 08 44 43.8 +0.9**
SNY Shenyang 40.62 66⇓P **P 08 44 43.7 +0.8**
SNY S **S 08 50 39.3 +1.1**
SNY ScS **ScS 08 54 23.5 -4.0**
SNY pmax pmax
comp=Z,12nm,0.5s
SNY pmax pmax
comp=Z,90nm,3.5s
SNY LR LR
comp=Z,220nm,8.1s
SNY LR LR
comp=Z,260nm,9.4s
SNY LR LR
comp=Z,360nm,11.9s
ZST Bratislava 40.71 304 *e*P **P 08 44 44.8 +1.2**
ZST pmax pmax
comp=Z,272nm,1.9s
ZST Bratislava 40.71 304 *e*P **P 08 44 44.8 +1.2**
ZST *e*PP **PP 08 46 22.2 +0.9**
KEV Kevo 40.80 338 P **P 08 44 43.9 -0.1**
KEV pmax pmax
comp=Z,135nm,0.9s
KEV Kevo 40.80 338 P **P 08 44 43.9 -0.1**
KEV IAmb IAmb 08 44 45.7
comp=Z,135nm,0.9s
KRLC Kraliky 40.83 307⇓*i*P **P 08 44 45.8 +1.2**
KRLC Kraliky 40.83 307⇓*i*P **P 08 44 45.8 +1.2**
STON Ston 40.91 296⇑*i*P **P 08 44 44.6 -0.7**
TPTI 40.95 138 P **P 08 44 44.2 -1.8**
comp=Z,906nmcomp=Z,85nm,1.3s
VRAC Vranov 40.98 306⇑P **P 08 44 47.3 +1.4**
VRAC Vranov 40.98 306 P **P 08 44 47.1 +1.3**
comp=Z,41nm,0.6s,baz=88,slow=8.9,SNR=58
VRAC Vranov 40.98 306⇑*i*P **P 08 44 46.8 +1.0**
VRAC *e*pP **pP 08 45 29.3 +2.6**
VRAC *e*PP **PP 08 46 22.6 -1.7**
VRAC *e*SCP **ScP 08 50 12.7 -1.1**
BLY Banja Luka 40.99 299⇑*i*P **P 08 44 46.5 +0.5**
SOP Sopron 41.11 303 P **P 08 44 47.6 +0.7**
SOP Sopron 41.11 303 P **P 08 44 46.9 0.0**
DPC Dobruska-Polom 41.11 307⇓*i*P **P 08 44 48.5 +1.5**
DPC Dobruska-Polom 41.11 307⇓*i*P **P 08 44 48.5 +1.5**
MGRS Mrkonjic Grad 41.11 298 *e*P **P 08 44 48.1 +1.1**
KSP Ksiaz 41.12 308 *e*P **P 08 44 47.8 +0.9**
KSP *e*PP **PP 08 46 28.0 +2.3**
KSP Ksiaz 41.12 308 P **P 08 44 47.7 +0.8**
KRUC Moravsky 41.12 305⇑*i*P **P 08 44 47.9 +0.9**
KRUC *e*pP **pP 08 45 30.3 +2.5**
KRUC *e*PP **PP 08 46 23.9 -1.9**
KRUC *e*SCP **ScP 08 50 13.1 -1.2**
ARA0 ARCESS Array S 41.14 338⇑*i*P **P 08 44 47.9 +1.0**
ARCES ARCESS Array B 41.14 338 P **P 08 44 47.8 +0.9**
comp=Z,168nm,0.7s,baz=111,slow=8.2,SNR=691
ARCES ARCESS Array B 41.14 338 P **P 08 44 47.7 +0.9**
ARCES pP **pP 08 45 28.9 +0.8**
MRAK Mrakovica 41.16 299⇑*i*P **P 08 44 47.6 +0.1**
CHVC Chvalec 41.27 308 *e*P **P 08 44 49.6 +1.3**
KULM Kulim 41.29 132 P **P 08 44 49.7 +0.9**
UPC Upice 41.30 308⇓*i*P **P 08 44 49.8 +1.3**
UPC Upice 41.30 308⇓*i*P **P 08 44 49.8 +1.3**
KOGS Kog 41.44 301 *i*P **P 08 44 50.2 +0.6**
TSI Tuntungan 41.52 136 P **P 08 44 49.2 -1.4**
comp=Z,4µmcomp=Z,145nm,0.5s
CONA Conrad Observa 41.56 304 *i*P **P 08 44 51.7 +1.1**
comp=Z,119nm,1.3s,SNR=37
CONA *e*P **PP 08 46 36.5 +6.0**
comp=Z,24nm,1.0s
CONA *e*S **ScP 08 50 14.8 -1.4**
comp=Z,0.9nm,0.5s

KTK1 Kautokeino 41.61 336⇑*i*P **P 08 44 51.3 +0.6**
CN2 Changchun 41.64 63 *e*P **P 08 44 54.4 +3.1**
CN2 ScP **ScP 08 50 14.9 -1.6**
CN2 *e*S **S 08 51 01.8 +8.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,400nm,12.0s
PTJ Puntijarka 41.70 301 P **P 08 44 52.2 +0.4**
TREC Trest 41.70 306 *e*P **P 08 44 53.1 +1.4**
TREC Trest 41.70 306⇓*e*P **P 08 44 53.1 +1.4**
ARSA Arzberg 41.85 303 *i*P **P 08 44 53.7 +0.8**
comp=Z,33nm,1.2s,SNR=11
ARSA *e*P **PP 08 46 36.5 +2.8**
comp=Z,7.8nm,0.9s
ARSA *e*S **ScP 08 50 16.2 -1.1**
comp=Z,1.8nm,0.6s
BSD Bornholm Skovb 41.99 315 *i*P **P 08 44 52.6 -1.4**
BSD IAmb IAmb 08 44 54.0
comp=Z,93nm,0.8s
BSD Bornholm Skovb 41.99 315 *e*P **P 08 44 53.2 -0.8**
CRES Cresnjev 42.06 301⇑*i*P **P 08 44 55.4 +0.7**
MATE Matera 42.06 293⇓P **P 08 44 54.7 -0.1**
ZEA Zeya 42.10 47 *e*P **P 08 44 56.9 +2.1**
ZEA *e* 08 45 40.5
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
IPM Ipoh 42.16 132 P **P 08 44 56.4 +0.6**
HAMF Hammerfest 42.22 339⇑*i*P **P 08 44 56.9 +1.3**
PVCC Panska Ves 42.22 308 *e*P **P 08 44 57.7 +1.8**
PVCC *e**PP **pP 08 45 37.8 +0.9**
PVCC Panska Ves 42.22 308⇓*e*P **P 08 44 57.7 +1.8**
PVCC *e*pP **pP 08 45 37.8 +0.9**
SOKA Soboth 42.25 302 *i*P **P 08 44 57.3 +1.0**
comp=Z,55nm,0.6s,SNR=38
PRU Pruhonice 42.27 307⇓*i*P **P 08 44 57.7 +1.4**
PRU *e**PP **pP 08 45 38.9 +1.5**
PRU *e* 08 46 39.5
PRU Pruhonice 42.27 307⇓*i*P **P 08 44 57.7 +1.4**
PRU *e*pP **pP 08 45 38.9 +1.5**
PRU *e*PP **PP 08 46 39.5 +1.4**
PRU *e*SCP **ScP 08 50 16.9 -2.0**
PSI Prapat 42.30 136 P **P 08 44 56.5 -0.5**
PSI pmax pmax
comp=Z,96nm,0.6s
TIP Timpagrande 42.36 291⇑P **P 08 44 57.0 -0.2**
RPSI Rantau Prapat 42.38 136 P **P 08 44 56.5 -1.1**
RPSI IAmb IAmb 08 44 59.0
comp=Z,96nm,0.6s
CKRC Cesky Krumlov 42.51 305⇓*i*P **P 08 44 59.4 +1.1**
CKRC *e*SCP **ScP 08 50 18.3 -1.6**
SGRT San Giovanni R 42.54 295 P **P 08 44 58.7 0.0**
SGRT IAmb IAmb 08 45 00.1
comp=Z,100nm,0.6s
OBKA Obir 42.60 302 *i*P **P 08 45 00.2 +1.1**
comp=Z,34nm,1.0s,SNR=16
OBKA *e*P **PP 08 46 42.1 +0.4**
comp=Z,16nm,0.9s
OBKA *e*S **ScP 08 50 19.3 -1.1**
comp=Z,2.2nm,0.6s
BRG Berggiesshubel 42.60 308⇑*i*P **P 08 44 60.0 +1.0**
BRG Amp 08 45 01.9
comp=Z,143nm,1.1s
BRG *e*x x 08 45 29.7
BRG Amp 08 45 31.5
comp=Z,12nm,0.7s
BRG pP **pP 08 45 42.1 +2.1**
BRG Amp 08 45 44.6
comp=Z,27nm,0.9s
BRG sP **sP 08 46 04.3 +2.8**
BRG Amp 08 46 05.7
comp=Z,38nm,1.0s
BRG PP **PcP 08 46 44.6 -2.9**
BRG Amp 08 46 50.0
comp=Z,41nm,1.1s
BRG ⇑*i*SP **ScP 08 50 18.9 -1.3**
BRG Amp 08 50 20.6
comp=Z,25nm,1.3s
BRG Berggiesshubel 42.60 308⇑*i*P **P 08 44 59.9 +1.0**
BRG 08 45 42.1
BRG SP 08 46 04.3
BRG 08 46 44.5
BRG pmax pmax
comp=Z,143nm,1.1s
BRG Berggiesshubel 42.60 308 *e*P **P 08 44 60.0 +1.0**
comp=Z,143nm,1.1s,baz=85,slow=7.8
BRG *e*pP **pP 08 45 42.1 +2.1**
MOA Molln 42.63 304 *i*P **P 08 44 59.8 +0.6**
comp=Z,78nm,1.2s,SNR=17
RUE Ruedersdorf 42.64 311 *e*P **P 08 45 00.3 +1.1**
RUE Ruedersdorf 42.64 311 *e*P **P 08 44 59.4 +0.2**
comp=Z,207nm,1.0s,baz=85,slow=7.8
DEL Delary 42.65 317 *i*P **P 08 44 59.0 -0.2**
LJU Ljubljana 42.67 301⇑*i*P **P 08 45 00.4 +0.8**
LJU Ljubljana 42.67 301 *i*P **P 08 45 00.6 +1.0**
LJU *e*PP **PcP 08 46 45.5 -2.3**
LJU *e*ScP **ScP 08 50 19.2 -1.4**
JETT Jettan, Norway 42.75 336⇑*i*P **P 08 45 01.7 +1.7**
CEY Cerknica 42.79 301 *e*P **P 08 45 00.6 0.0**
GSI Gunungsitoli 42.81 139 P **P 08 45 02.0 +1.0**
comp=Z,6µmcomp=Z,785nm,0.7s
GSI Gunungsitoli 42.81 139 P **P 08 45 02.7 +1.7**
GSI Gunungsitoli 42.81 139 P **P 08 45 02.8 +1.8**
RIY Rijeka 42.81 300⇑*i*P **P 08 45 00.5 -0.2**
CRNS Crni Vrh 42.85 301 *i*P **P 08 45 01.9 +0.8**
CRNS *e*ScP **ScP 08 50 19.4 -2.0**
RGN Rugen 42.90 314 *e*P **P 08 45 02.8 +1.5**
RGN Rugen 42.90 314 *e*P **P 08 45 02.4 +1.2**
comp=Z,778nm,1.1s,baz=85,slow=7.8
RGN *e*pP **pP 08 45 45.8 +3.2**
GEC2 GERESS Array S 42.91 305 *e*P **P 08 45 02.0 +0.5**
comp=Z,69nm,1.5s,baz=85,slow=7.8
GEC2 *e*PP **PP 08 46 46.4 +1.4**
GEC2 GERESS Array S 42.91 305 P **P 08 45 02.1 +0.5**
GERES GERESS Array B 42.91 305 P **P 08 45 02.3 +0.8**
comp=Z,3.6nm,0.4s,baz=74,slow=7.3,SNR=50
GERES PP **PP 08 46 41.6 -3.4**
comp=Z,17nm,0.8s,baz=89,slow=8.1,SNR=7.5
GERES ScP **ScP 08 50 20.4 -1.2**
comp=Z,3.8nm,0.8s,baz=94,slow=5.4,SNR=5.3
GERES GERESS Array B 42.91 305 P **P 08 45 01.4 -0.1**
KHC Kasperske Hory 42.96 306⇓*i*P **P 08 45 02.8 +0.9**
KHC *e**PP **pP 08 45 45.7 +2.6**
KHC *e* 08 46 45.3
KHC Kasperske Hory 42.96 306⇓*i*P **P 08 45 02.8 +0.9**
KHC *e*pP **pP 08 45 45.7 +2.6**
KHC *e*PP **PP 08 46 45.3 -0.2**
KHC *e*SCP **ScP 08 50 19.6 -2.1**
FBE Freiberg 42.97 308 *e*P **P 08 45 03.0 +1.1**
comp=Z,162nm,0.9s,baz=85,slow=7.8
FBE *e*pP **pP 08 45 45.5 +2.5**
FBE *e*sP **sP 08 46 06.3 +1.6**
FBE *e*PP **PP 08 46 46.3 +0.7**
HFS Hagfors 43.05 322 P **P 08 45 02.9 +0.5**
comp=Z,285nm,0.6s,baz=98,slow=11,SNR=619
CLL Collm 43.17 309⇑*i*P **P 08 45 03.7 +0.2**
CLL *e**PP **pP 08 45 46.0 +1.2**
CLL pmax pmax
comp=Z,77nm,0.9s
CLL Collm 43.17 309⇑*i*P **P 08 45 03.7 +0.2**
comp=Z,77nm,0.9s
CLL *e*pP **pP 08 45 46.0 +1.2**
CLL *e*sP **sP 08 46 07.0 +0.7**
CLL *e*PP **PcP 08 46 49.0 -0.4**
CLL *i*pPP 08 47 18.1
CLL *e*PPP PPP 08 47 32.0
CLL *e*ScP **ScP 08 50 21.0 -1.5**
CLL *e*x x 08 54 13.0
CLL *e*SS **ScS 08 54 48.0 +5.1**
CLL *e*sSS 08 55 36.0
CLL *e*SSS SSS 08 56 18.0
CLL Collm 43.17 309 *e*P **P 08 45 03.8 +0.3**
comp=Z,77nm,0.9s,baz=85,slow=7.8
CLL *e*PP **PcP 08 46 49.4 0.0**

MYKA Terra Mystica 43.20 302 *i*P **P 08 45 04.5 +0.5**
comp=Z,20nm,0.7s,SNR=13
TRO Tromso 43.26 336⇑*i*P **P 08 45 04.6 +0.6**
KBA Koelnbreinsper 43.34 303 *i*P **P 08 45 05.7 +0.5**
comp=Z,26nm,0.5s,SNR=18
KBA *e*S **ScP 08 50 21.5 -2.0**
comp=Z,2.9nm,0.7s
ROBS Robic 43.35 302 *i*P **P 08 45 05.2 +0.3**
WET Wettzell 43.42 306 *e*P **P 08 45 06.1 +0.5**
comp=Z,38nm,1.3s,baz=85,slow=7.8
WET *e*sP **sP 08 46 09.2 +0.8**
WET *e*PP **PP 08 46 49.7 -0.6**
TANN Tannenbergstha 43.58 308 *e*P **P 08 45 07.6 +0.8**
comp=Z,88nm,1.3s,baz=85,slow=7.8
NKC Novy Kostel 43.60 307 *e*P **P 08 45 08.4 +1.4**
NKC Novy Kostel 43.60 307⇓*e*P **P 08 45 08.4 +1.4**
WERN Wernitzgruen 43.64 308 *e*P **P 08 45 08.3 +1.0**
comp=Z,120nm,1.6s,baz=85,slow=7.8
GUNZ Gunzen 43.66 308 *e*P **P 08 45 08.5 +1.0**
comp=Z,101nm,1.3s,baz=85,slow=7.8
GUNZ *e*sP **sP 08 46 11.6 +1.2**
ZOU Zoufplan 43.67 302 P **P 08 45 07.7 -0.1**
WERD Werda 43.67 308 *e*P **P 08 45 08.2 +0.7**
comp=Z,101nm,1.2s,baz=85,slow=7.8
PLN Plauen 43.76 308 *e*P **P 08 45 09.0 +0.7**
comp=Z,70nm,1.3s,baz=85,slow=7.8
PLN *e*pP **pP 08 45 51.3 +1.7**
PLN *e*sP **sP 08 46 12.3 +1.1**
PLN *e*PP **PP 08 46 54.6 +0.7**
ROTZ Rotzenmuhle 43.80 307 *e*P **P 08 45 09.8 +1.2**
comp=Z,37nm,1.4s,baz=85,slow=7.8
FAUS Fauske 43.80 333⇑*i*P **P 08 45 08.8 +0.6**
MOR8 Moi Rana 43.81 331⇑*i*P **P 08 45 08.2 -0.2**
MANZ Manzenberg 43.84 307 *e*P **P 08 45 09.8 +0.9**
comp=Z,21nm,1.2s,baz=85,slow=7.8
NEUB Neuenburg 43.95 309 *e*P **P 08 45 10.2 +0.5**
comp=Z,162nm,1.0s,baz=85,slow=7.8
NEUB *e*sP **sP 08 46 14.1 +1.4**
NEUB *e*PP **PP 08 46 57.5 +1.7**
ABTA Abfaltersbach 43.96 302 *i*P **P 08 45 09.8 -0.2**
comp=Z,26nm,0.8s,SNR=6.2
ABTA *e*S **ScP 08 50 23.7 -2.2**
comp=Z,2.6nm,0.6s
STEI Steigen 43.97 333⇑*i*P **P 08 45 10.2 +0.6**
YAK Yakutsk 43.99 35 P **P 08 45 10.4 +0.5**
comp=Z,18nm,0.5s,baz=189,slow=0.6,SNR=20
YAK Yakutsk 43.99 35 *e*P **P 08 45 09.1 -0.7**
YAK *e**PP **pP 08 45 52.7 +0.4**
YAK *e* 08 46 49.3
YAK *e* 08 46 55.4
YAK *e*PPP PPP 08 47 37.6
YAK *e*S **S 08 51 24.8 -2.2**
YAK *e**SS **sS 08 52 40.4 -0.5**
YAK *e* 08 54 37.2
YAK pmax pmax
comp=Z,31nm,0.8s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,35nm,0.8s
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,16nm,0.9s
YAK smax smax
comp=N,53nm,1.5s
YAK smax smax
comp=E,14nm,1.5s
YAK Yakutsk 43.99 35 P **P 08 45 09.7 -0.1**
YAK IAmb IAmb 08 45 10.7
comp=Z,49nm,0.8s
MOX Moxa 44.09 308 *e*P **P 08 45 11.7 +0.8**
comp=Z,142nm,1.4s,baz=85,slow=7.8
AQU L'Aquila 44.12 296 P **P 08 45 12.5 +1.2**
AQU L'Aquila 44.12 296 *e*P **P 08 45 11.4 +0.1**
NC405 NORSAR Array S 44.13 323 P **P 08 45 10.3 -0.8**
NORES NORESS Array B 44.18 323 P **P 08 45 11.3 -0.1**
FLTG Flechtingen 44.20 311 *e*P **P 08 45 12.0 +0.3**
comp=Z,267nm,0.8s,baz=85,slow=7.8
FLTG *e*pP **pP 08 45 54.5 +1.4**
FLTG *e*sP **sP 08 46 15.5 +0.9**
NRCA Norcia 44.23 297 P **P 08 45 12.0 -0.1**
MNSI Mandailing Nat 44.32 137 P **P 08 45 13.5 +0.5**
comp=Z,4µmcomp=Z,357nm,0.8s
PBSI Pulau Batu 44.32 139 P **P 08 45 14.4 +1.3**
comp=Z,4µmcomp=Z,403nm,1.0s
NB2 NORSAR Subarra 44.37 323 P **P 08 45 12.7 -0.2**
comp=Z,209nm,0.7s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.37 323 P **P 08 45 12.7 -0.2**
baz=95,slow=7.9
NOA NORSAR Array B 44.37 323 P **P 08 45 13.1 +0.2**
comp=Z,233nm,0.8s,baz=96,slow=7.8,SNR=510
KONS Konsvik 44.40 331⇑*i*P **P 08 45 13.4 +0.3**
STOK Stokkvaagen 44.41 331 *e*P **P 08 45 13.4 +0.3**
GRA1 Grafenberg Arr 44.44 307 P **P 08 45 14.9 +1.3**
GRA1 IAmb IAmb 08 45 16.6
comp=Z,208nm,1.4s
GRF Grafenberg Arr 44.44 307 P **P 08 45 14.9 +1.3**
GRF pmax pmax
comp=Z,208nm,1.4s
GRF Grafenberg Arr 44.44 307 *e*P **P 08 45 15.1 +1.4**
comp=Z,285nm,1.5s,baz=85,slow=7.8
GRF *e*PP **PP 08 47 02.3 +1.1**
GRFO Grafenberg 44.44 307 P **P 08 45 15.6 +1.9**
GRFO pmax pmax
comp=Z,224nm,1.5s
GRFO Grafenberg 44.44 307 P **P 08 45 15.6 +1.9**
GRFO IAmb IAmb 08 45 16.6
comp=Z,224nm,1.5s
WTTA Wattenberg 44.47 303 *i*P **P 08 45 14.0 -0.2**
comp=Z,39nm,0.5s,SNR=25
WTTA *e*P **PcP 08 46 53.4 -0.7**
comp=Z,18nm,0.7s
WTTA *e*S **ScP 08 50 26.7 -1.5**
comp=Z,8.0nm,0.9s
NSS Namsos 44.49 328⇑*i*P **P 08 45 13.6 -0.2**
WATA Walderalm 44.50 303 *i*P **P 08 45 14.0 -0.3**
comp=Z,70nm,1.1s,SNR=13
WATA *e*P **PcP 08 46 52.9 -1.3**
comp=Z,14nm,0.7s
WATA *e*S **ScP 08 50 25.7 -2.6**
comp=Z,6.7nm,0.8s
NAO01 NORSAR Array S 44.51 323⇑*i*P **P 08 45 13.8 -0.2**
OSL Oslo 44.52 321⇑*i*P **P 08 45 14.4 +0.3**
ASSE Asse, Remlinge 44.56 310 *e*P **P 08 45 14.7 +0.2**
comp=Z,98nm,1.8s,baz=85,slow=7.8
FUR Furstenfeldbru 44.59 305 *e*P **P 08 45 15.8 +0.9**
comp=Z,280nm,1.6s,baz=85,slow=7.8
VAE Valguarnera 44.59 289 P **P 08 45 16.8 +1.7**
comp=Z,18nm,0.8s,baz=31,slow=1.5,SNR=8.0
LOF Lofoten 44.64 333 *e*P **P 08 45 14.6 -0.3**
BSEG Bad Segeberg 44.67 313 *e*P **P 08 45 16.5 +1.1**
comp=Z,197nm,0.9s,baz=85,slow=7.8
OVD Ostervraa, Den 44.68 318 *i*P **P 08 45 16.0 +0.6**
OVD IAmb IAmb 08 45 16.6
comp=Z,570nm,0.6s
SQTA Sankt Quirin 44.77 303 *i*P **P 08 45 16.1 -0.3**
comp=Z,40nm,0.5s,SNR=27
SQTA *e*P **PcP 08 46 54.6 -0.5**
comp=Z,11nm,0.5s
SQTA *e*S **ScP 08 50 27.6 -1.7**
CLZ Clausthal 44.77 310 *e*P **P 08 45 17.1 +0.8**
comp=Z,217nm,1.4s,baz=85,slow=7.8
CLZ *e*pP **pP 08 46 00.0 +2.2**
MOTA Moosalm 44.82 303 *i*P **P 08 45 16.3 -0.5**
comp=Z,61nm,1.0s,SNR=15
MOTA *e*P **PcP 08 46 54.6 -0.7**
comp=Z,12nm,0.7s
MOTA *e*S **ScP 08 50 27.7 -1.8**
comp=Z,8.5nm,0.8s
NRDL Niedersach Rie 44.88 311 *e*P **P 08 45 18.2 +1.2**
comp=Z,173nm,1.2s,baz=85,slow=7.8
KSAR Wonju Array Be 44.89 71 P **P 08 45 18.4 +1.1**
KSAR Wonju Array Be 44.89 71 P **P 08 45 18.4 +1.1**
KSRS Korea Array 44.91 71 P **P 08 45 18.1 +0.5**
comp=Z,3.3nm,0.4s,baz=276,slow=7.0,SNR=25
KSRS ScP **ScP 08 50 27.4 -2.4**
comp=Z,2.1nm,0.6s,baz=290,slow=4.3,SNR=6.2
HOPEN Hopen 45.00 346⇑*i*P **P 08 45 20.7 +3.0**
RETA Reutte 45.03 304 *i*P **P 08 45 18.0 -0.4**
comp=Z,15nm,0.4s,SNR=10.0
RETA *e*P **PcP 08 46 55.4 -0.6**
comp=Z,6.0nm,0.6s
RETA S **ScP 08 50 28.3 -2.0**
comp=Z,3.4nm,0.8s
TBLU Trondheim 45.05 326⇑*i*P **P 08 45 18.2 0.0**

GTTG Gottingen 45.05 309 *eP* **P 08 45 19.3 +0.9**
comp=Z,235nm,1.1s,baz=85,slow=7.8
GTTG *eP* **pP 08 46 02.5 +2.5**
GTTG *eP* **PP 08 47 07.7 +0.3**
KONO Kongsberg 45.07 321*c i P* **P 08 45 18.5 +0.1**
KONO pmax pmax
comp=Z,238nm,1.3s
KONO Kongsberg 45.07 321⇑*i P* **P 08 45 18.6 +0.1**
KONO Kongsberg 45.07 321 P **P 08 45 18.6 +0.2**
KONO IAmb IAmb 08 45 19.6
comp=Z,150nm,0.8s
UBBA Unterbreizbach 45.10 308 *eP* **P 08 45 19.3 +0.6**
comp=Z,162nm,1.6s,baz=85,slow=7.8
FETA Feichten 45.12 303 *i P* **P 08 45 18.9 -0.3**
comp=Z,39nm,0.5s,SNR=13
FETA *eP* **PcP 08 46 56.3 -0.1**
comp=Z,16nm,0.5s
FETA *eS* **ScP 08 50 29.5 -1.3**
comp=Z,7.3nm,0.8s
KLR Kul'dur 45.17 54*ceP* **P 08 45 20.2 +0.8**
KLR pmax pmax
comp=Z,7.0nm,0.6s
MUD Monsted U'grnd 45.25 316 *i P* **P 08 45 20.4 +0.5**
MUD IAmb IAmb 08 45 21.5
comp=Z,37nm,1.0s
BJO1 Bjornoya 45.26 343⇑*i P* **P 08 45 20.7 +1.0**
RETH Rethem/Aller, 45.32 311 *eP* **P 08 45 21.3 +0.8**
comp=Z,59nm,1.1s,baz=85,slow=7.8
RETH *eP* **pP 08 46 04.3 +2.3**
RETH *eP* **PP 08 47 12.3 +2.2**
UBR Ueberruh 45.44 304 *eP* **P 08 45 21.6 0.0**
comp=Z,151nm,1.3s,baz=85,slow=7.8
UBR *eS* **sP 08 46 25.0 +0.4**
DOMB Dombas 45.48 324⇑*i P* **P 08 45 22.1 +0.4**
SALO Salr 45.51 301 P **P 08 45 22.8 +0.6**
SALO IAmb IAmb 08 45 24.3
comp=Z,160nm,1.0s
BKNI Bangkinang 45.52 135 P **P 08 45 22.9 +0.4**
comp=Z,4µmcomp=Z,493nm,0.8s
HOMB Homborsund 45.60 319 *i P* **P 08 45 22.0 -0.6**
HOMB Homborsund 45.60 319⇑*i P* **P 08 45 22.8 +0.1**
DAVA Damuels 45.65 304 *i P* **P 08 45 23.5 0.0**
comp=Z,116nm,0.5s,SNR=36
DAVA *eS* **ScP 08 50 31.6 -1.4**
comp=Z,13nm,0.8s
DAVOX Davos/Dischmat 45.74 303 P **P 08 45 23.9 -0.2**
comp=Z,37nm,0.5s,baz=104,slow=6.5,SNR=103
DAVOX PcP **PcP 08 46 58.4 -0.1**
comp=Z,24nm,0.5s,baz=217,slow=2.6,SNR=7.3
DAVOX ScP **ScP 08 50 32.0 -1.4**
comp=Z,12nm,0.9s,baz=94,slow=4.4,SNR=4.8
SKAR Skarslia 45.76 322⇑*i P* **P 08 45 24.9 +0.9**
TIXI Tiksi 45.79 22 P **P 08 45 24.4 +0.5**
comp=Z,20nm,0.3s,baz=268,slow=4.2,SNR=27
TIXI ScP **ScP 08 50 31.3 -1.6**
comp=Z,11nm,0.8s,baz=312,slow=6.1,SNR=4.6
TIXI Tiksi 45.79 22*ceP* **P 08 45 24.2 +0.3**
TIXI pmax pmax
comp=Z,49nm,0.8s
TIXI Tiksi 45.79 22 P **P 08 45 24.4 +0.5**
SISI Saibi 45.82 139 P **P 08 45 26.2 +1.3**
comp=Z,2µmcomp=Z,185nm,0.8s
STU Stuttgart 45.87 306 P **P 08 45 26.0 +1.1**
STU Stuttgart 45.87 306 *eP* **P 08 45 25.6 +0.6**
comp=Z,143nm,0.8s,baz=85,slow=7.8
MYKOM Kota Tinggi 45.99 131 P **P 08 45 27.3 +1.0**
MYKOM IAmb IAmb 08 45 28.3
comp=Z,81nm,0.8s
TNS Taunus Mts 46.15 308 *eP* **P 08 45 27.8 +0.6**
comp=Z,64nm,1.3s,baz=85,slow=7.8
USRK Ussuriysk Ar. 46.20 61 P **P 08 45 27.9 +0.4**
comp=Z,2.8nm,0.7s,baz=273,slow=7.0,SNR=7.0
MOL Molde 46.23 325 *eP* **P 08 45 28.1 +0.7**
SNART Snartemo 46.29 319 *i P* **P 08 45 27.0 -1.0**
SNART Snartemo 46.29 319⇑*i P* **P 08 45 28.9 +0.9**
IBBN Ibbenburen 46.34 311 *eP* **P 08 45 29.2 +0.7**
comp=Z,216nm,0.9s,baz=85,slow=7.8
IBBN *eP* **pP 08 46 12.4 +1.9**
IBBN *eS* **sP 08 46 33.7 +1.9**
LODK Lodwar 46.43 233 P **P 08 45 31.7 +1.9**
SNR=29
LODK Lodwar 46.43 233 P **P 08 45 31.5 +1.7**
LODK IAmb IAmb 08 45 32.6
comp=Z,67nm,0.8s
AKN Aaknes 46.46 324 *eP* **P 08 45 30.2 +0.9**
BFO Black Forest 46.51 305 P **P 08 45 31.2 +1.3**
BFO Black Forest 46.51 305 *eP* **P 08 45 30.7 +0.8**
comp=Z,48nm,1.3s,baz=85,slow=7.8
ODD1 Odda 46.58 321⇑*i P* **P 08 45 31.1 +0.7**
BLS5 Blasjo 46.67 321⇑*i P* **P 08 45 32.0 +1.0**
BUG Bochum--Univer 46.74 310 *eP* **P 08 45 32.2 +0.6**
comp=Z,136nm,1.2s,baz=85,slow=7.8
BUG *eP* **PP 08 47 25.2 +1.8**
HYA Hoyanger 46.81 323 *eP* **P 08 45 32.4 +0.4**
AHRW Bad Neuenahr-A 46.98 308 *eP* **P 08 45 33.9 +0.4**
comp=Z,102nm,1.2s,baz=85,slow=7.8
BER Bergen 47.23 322⇑*i P* **P 08 45 35.7 +0.5**
ASK Askoy 47.30 322 *eP* **P 08 45 36.5 +0.8**
FOO Floro 47.37 324⇑*i P* **P 08 45 36.8 +0.5**
SPB2 Spitsbergen Ar 47.49 347 P **P 08 45 38.4 +1.4**
SPB2 IAmb IAmb 08 45 44.1
comp=Z,128nm,1.0s
SPA0 Spitsbergen Ar 47.49 347⇑*i P* **P 08 45 38.5 +1.4**
SPITS Spitsbergen Ar 47.49 347 P **P 08 45 38.5 +1.4**
comp=Z,43nm,0.5s,baz=113,slow=10,SNR=66
SPITS Spitsbergen Ar 47.49 347 P **P 08 45 38.4 +1.4**
SPITS pmax pmax
comp=Z,180nm,1.2s
SUE Sulen 47.50 323 *eP* **P 08 45 38.2 +0.8**
PPSI Pulau Pagai 47.52 139 P **P 08 45 38.9 +0.9**
comp=Z,2µmcomp=Z,282nm,1.1s
SENIN Lac Senin/Sane 47.56 303 P **P 08 45 38.1 -0.3**
SENIN IAmb IAmb 08 45 39.7
comp=Z,80nm,0.7s
BTNL Ternell 47.57 309 P **P 08 45 38.9 +0.8**
comp=Z,35nm,1.1s
MEM Membach 47.64 309 P **P 08 45 39.0 +0.4**
comp=Z,35nm,0.9s
BHOU Houvegnez 47.69 308 P **P 08 45 40.4 +1.4**
WLF Walferdange 47.70 307 P **P 08 45 41.0 +1.9**
WLF Walferdange 47.70 307 *eP* **P 08 45 39.3 +0.2**
comp=Z,108nm,0.9s,baz=85,slow=7.8
WLF Walferdange 47.70 307 P **P 08 45 40.5 +1.4**
comp=Z,53nm,0.0s
BEBN Eben Emael 47.82 309 P **P 08 45 40.7 +0.8**
BSTI Sart Tilman 47.92 309 P **P 08 45 41.7 +1.0**
GRNR Gornyy 47.94 51⇓*i P* **P 08 45 42.3 +1.4**
GRNR MLR MLR
comp=E,150nm,13.0s
GRNR MLR MLR
comp=N,130nm,16.0s
GRNR MLR MLR
comp=Z,210nm,16.0s
BCLA Clavier 48.12 308 P **P 08 45 42.8 +0.5**
RCHB Rochefort 48.21 308 P **P 08 45 43.1 +0.1**
DSRI Dabo 48.23 132 P **P 08 45 44.6 +1.1**
comp=Z,1µmcomp=Z,125nm,0.8s
BGES Gesves 48.26 308 P **P 08 45 43.7 +0.4**
BNI Bardonecchia 48.28 301 P **P 08 45 44.5 +0.8**
BMRD Maredsous 48.48 308 P **P 08 45 45.5 +0.6**
comp=Z,44nm,1.2s
KBS Kingsbay 48.61 347 P **P 08 45 47.2 +1.6**
KBS Kingsbay 48.61 347⇑*i P* **P 08 45 47.0 +1.4**
DOU Dourbes 48.62 308 P **P 08 45 46.8 +0.7**
JNU Nakatsue 48.62 75 P **P 08 45 43.4 -3.0**
SNF Seneffe 48.74 309 P **P 08 45 47.8 +0.8**
comp=Z,47nm,1.1s
KMBO Kilima Mbogo 48.80 228 P **P 08 45 49.8 +1.6**
comp=Z,51nm,0.6s,baz=32,slow=11,SNR=124
KMBO Kilima Mbogo 48.80 228⇑*i P* **P 08 45 49.2 +1.0**
KMBO IAmb IAmb 08 45 50.1
comp=Z,157nm,0.7s
KMBO Kilima Mbogo 48.80 228 P **P 08 45 49.8 +1.6**
KMBO Kilima Mbogo 48.80 228 P **P 08 45 49.7 +1.6**
KMBO IAmb IAmb 08 45 50.3
comp=Z,50nm,0.7s
KMBO Kilima Mbogo 48.80 228 *i P* **P 08 45 49.8 +1.6**
SNR=64
KEST Kesra 49.01 288 P **P 08 45 50.1 +0.7**
comp=Z,21nm,0.4s,baz=20,slow=1.4,SNR=63
KEST Kesra 49.01 288 P **P 08 45 50.4 +1.0**
SNR=14
KEST Kesra 49.01 288 P **P 08 45 50.1 +0.7**
KEST IAmb IAmb 08 45 52.4
comp=Z,113nm,1.2s

MASI Maura Aman, Be 49.05 137 P **P 08 45 49.3 -0.5**
comp=Z,58µmcomp=Z,6µmcomp=Z,739nm,0.7s
KIBK Kibwezi 49.31 226 P **P 08 45 53.5 +1.6**
SNR=22
KIBK Kibwezi 49.31 226 P **P 08 45 53.5 +1.6**
KIBK IAmb IAmb 08 45 54.5
comp=Z,79nm,0.7s
LHSI Lahat 50.33 136 P **P 08 45 57.3 -2.1**
comp=Z,3µmcomp=Z,91nm,0.9s
MNAI Manna 50.45 137 P **P 08 45 58.6 -1.7**
comp=Z,254nm,0.9s
LRW Lerwick 50.48 322 *eP* **P 08 46 00.3 +0.3**
LRW IAmb IAmb 08 46 01.0
comp=Z,140nm,0.8s
ELMS Elmsett, Ipswi 50.48 311 *eP* **P 08 46 00.6 +0.5**
ELMS IAmb IAmb 08 46 01.4
comp=Z,214nm,0.7s
KKM Kota Kinabalu 51.24 115 P **P 08 46 08.1 +1.8**
MDSI Maura Dua 51.24 136 P **P 08 46 03.0 -3.1**
comp=Z,765nmcomp=Z,19nm,0.9s
LWLI Liwa 51.60 136 P **P 08 46 05.5 -3.5**
comp=Z,172nm,0.6s
HPK Haverah Park 51.67 314 *eP* **P 08 46 09.0 +0.1**
HPK IAmb IAmb 08 46 10.0
comp=Z,139nm,0.7s
EDMD Edmundbyers 51.69 315 *eP* **P 08 46 09.6 +0.5**
EDMD IAmb IAmb 08 46 10.1
comp=Z,115nm,0.7s
KLSI 51.72 135 P **P 08 46 06.8 -2.9**
comp=Z,378nmcomp=Z,52nm,0.9s
LBWR Ladybower, Pea 51.84 313 *eP* **P 08 46 10.4 +0.2**
LBWR IAmb IAmb 08 46 11.4
comp=Z,61nm,0.9s
ESY Stoneypath 51.85 317 *eP* **P 08 46 10.3 +0.1**
MCD Coleburn Disti 51.91 319 *eP* **P 08 46 11.3 +0.7**
BIGH Upper Bighouse 52.09 320 *eP* **P 08 46 11.9 -0.1**
BIGH IAmb IAmb 08 46 13.7
comp=Z,320nm,1.3s
EDI Edinburgh 52.17 317 *eP* **P 08 46 12.6 +0.1**
EDI IAmb IAmb 08 46 13.5
comp=Z,105nm,0.9s
KASI Kota Agung 52.27 136 P **P 08 46 10.9 -2.9**
comp=Z,95nm,0.6s
EKA Eskdalemuir Ar 52.27 316 P **P 08 46 13.5 +0.2**
comp=Z,93nm,0.9s,baz=82,slow=7.4,SNR=67
EKA ScP **ScP 08 50 59.7 -1.1**
comp=Z,1.1nm,0.5s,baz=91,slow=5.3,SNR=3.8
ESK Eskdalemuir 52.30 316 *eP* **P 08 46 13.5 -0.1**
ESK IAmb IAmb 08 46 14.4
comp=Z,130nm,1.1s
ESK Eskdalemuir 52.30 316 P **P 08 46 14.5 +1.0**
SWN1 Swindon 52.30 311 *eP* **P 08 46 14.3 +0.7**
SWN1 IAmb IAmb 08 46 14.7
comp=Z,436nm,1.3s
KESW Keswick, Cumbr 52.39 315 *eP* **P 08 46 15.1 +0.9**
KESW IAmb IAmb 08 46 15.4
comp=Z,111nm,1.0s
MBAR Mbarara 52.48 235 LR LR 09 10 10.5
comp=Z,94nm,20.5s,baz=6.0,slow=38
MBAR Mbarara 52.48 235*ceP* **P 08 46 16.2 +0.6**
MBAR Mbarara 52.48 235 P **P 08 46 16.4 +0.8**
MBAR Mbarara 52.48 235 P **P 08 46 16.5 +0.9**
MDO Dochfour 52.52 319 *eP* **P 08 46 15.6 +0.4**
INVG Invergeldie, C 52.54 317 *eP* **P 08 46 15.2 -0.1**
INVG IAmb IAmb 08 46 16.1
comp=Z,94nm,1.0s
HLM1 Long Mynd 52.72 312 *eP* **P 08 46 16.9 +0.2**
HLM1 IAmb IAmb 08 46 17.6
comp=Z,71nm,1.0s
YSS Yuzh-Sakhalins 52.85 55⇓*eP* **P 08 46 18.2 +0.5**
YSS pmax pmax
comp=Z,83nm,2.5s
PGBU Glenifferbraes 52.91 317 *eP* **P 08 46 18.3 +0.3**
PGBU IAmb IAmb 08 46 19.1
comp=Z,167nm,1.0s
MCH1 Michaelchurch 52.91 312 *eP* **P 08 46 18.0 -0.1**
MCH1 IAmb IAmb 08 46 18.9
comp=Z,165nm,0.9s
NEWG New Galloway 52.91 316 *eP* **P 08 46 18.3 +0.2**
NEWG IAmb IAmb 08 46 19.3
comp=Z,129nm,0.8s
MAJO Matsushiro 52.98 68⇑*eP* **P 08 46 19.7 +0.8**
MAJO pmax pmax
comp=Z,58nm,3.5s
MAT Matsushiro 52.98 68 P **P 08 46 19.5 +0.6**
MAT *eS* **S 08 53 34.6 +1.0**
MJAR Matsushiro Arr 52.99 68 P **P 08 46 19.9 +1.0**
comp=Z,6.5nm,1.0s,baz=295,slow=9.9,SNR=7.1
MJAR Matsushiro Arr 52.99 68 IAmb IAmb 08 46 22.7
comp=Z,4.8nm,1.1s
LLW Llanuwychllyn 53.10 313 *eP* **P 08 46 19.5 +0.1**
KPL Plockton 53.22 319 *eP* **P 08 46 20.3 0.0**
IOMK Kirk Michael 53.30 315 *eP* **P 08 46 21.1 +0.2**
IOMK IAmb IAmb 08 46 22.1
comp=Z,268nm,0.8s
WIM Isle of Man 53.38 315 *eP* **P 08 46 22.0 +0.5**
WLF1 Llynfaes 53.43 314 *eP* **P 08 46 22.3 +0.5**
WLF1 IAmb IAmb 08 46 23.3
comp=Z,109nm,1.0s
SBV Sambava 53.50 206 P **P 08 46 24.0 +1.3**
YRC Rhoscolyn 53.54 314 *eP* **P 08 46 22.9 +0.3**
NOR Nord 53.80 350 *i P* **P 08 46 23.6 -0.5**
NOR IAmb IAmb 08 46 25.2
comp=Z,9.6nm,0.6s
CGJI Cibinong 53.83 135 P **P 08 46 21.8 -3.4**
comp=Z,2µmcomp=Z,115nm,0.7s
RSBS Rosebush, Pemb 53.97 312 *eP* **P 08 46 25.3 -0.5**
RSBS IAmb IAmb 08 46 26.8
comp=Z,37nm,0.7s
DBJI Dramaga 54.39 134 P **P 08 46 32.5 +3.3**
comp=Z,62µmcomp=Z,202nm,0.8s
MA2 Magadan 54.39 38⇓*eP* **P 08 46 27.8 -0.9**
MA2 pmax pmax
comp=Z,12nm,1.0s
SEY Seymchan 54.44 34⇑*eP* **P 08 46 29.6 +0.6**
DAG Danmarks Havn 54.73 344 P **P 08 46 31.1 +0.2**
DAG Danmarks Havn 54.73 344 *i P* **P 08 46 29.8 -1.0**
DAG IAmb IAmb 08 46 31.8
comp=Z,66nm,0.7s
DBG Daneborg 55.58 341 *i P* **P 08 46 36.4 -0.5**
DBG IAmb IAmb 08 46 38.4
comp=Z,13nm,0.7s
SCO Scoresbysund 57.05 336 *i P* **P 08 46 48.5 +1.1**
SCO IAmb IAmb 08 46 49.2
comp=Z,9.1nm,0.8s
ESDC Sonseca Array 57.43 298 P **P 08 46 50.3 -0.4**
comp=Z,15nm,0.6s,baz=53,slow=7.7,SNR=115
PAB San Pablo 57.76 298 P **P 08 46 53.4 +0.4**
KBKI Kotabaru 57.79 123 P **P 08 46 54.5 +1.1**
comp=Z,82nm,0.8s
MPSI Mapaga 57.80 117 P **P 08 46 54.4 +0.9**
comp=Z,791nmcomp=Z,84nm,1.0s
TOLI2 Tolitoli 57.91 116 P **P 08 46 55.0 +0.8**
PBRG Braganca 58.56 301 *eP* **P 08 46 59.3 +0.8**
JBK JBK 58.56 292 P **P 08 46 60.0 +1.2**
BORG Borgarnes 58.59 330 P **P 08 47 00.1 +1.9**
comp=Z,24nm,0.8s,baz=120,slow=2.2,SNR=6.4
BORG Borgarnes 58.59 330 IAmb IAmb 08 47 01.4
comp=Z,176nm,1.4s
BILL Bilibino 58.63 26*d i P* **P 08 46 59.4 +1.0**
BILL *e*PP **pP 08 47 42.4 -0.5**
BILL *e* 08 47 50.3
BILL *e*SP **sP 08 48 03.5 -0.7**
BILL *e* 08 49 06.5
BILL *eS* **S 08 54 53.6 +6.4**
BILL *eS*S **SS 08 58 52.0 +10**
BILL pmax pmax
comp=Z,44nm,1.3s
BILL Bilibino 58.63 26 P **P 08 46 59.5 +1.1**
MVO Moncorvo 59.01 301 *eP* **P 08 47 02.1 +0.5**
KMMI Kalianget 59.16 128 P **P 08 46 58.9 -3.9**
MRSI Marisa 59.19 115 P **P 08 47 03.8 +0.8**
comp=Z,1µmcomp=Z,148nm,0.9s
PALE Palemas 59.22 293 P **P 08 47 03.0 -0.1**
PVRL Vila Real 59.44 301 *eP* **P 08 47 05.2 +0.7**
POLO Lamas de Olo 59.46 301 *eP* **P 08 47 05.3 +0.6**
PCAB Cabril 59.48 301 *eP* **P 08 47 06.0 +1.2**
PGAV Gavieira, Arco 59.55 302 *eP* **P 08 47 06.3 +1.0**
LIJA Lijar 59.58 295 P **P 08 47 04.0 -1.6**
GMJI Gumukmas 59.77 129 P **P 08 47 03.4 -3.5**
comp=Z,23nm,0.9s
PVIS Viseu 59.79 300 *eP* **P 08 47 08.0 +1.1**
PCBR Castelo Branco 59.85 299 *eP* **P 08 47 08.2 +0.9**
comp=Z,69nm,1.9s
GTOI Gorontalo 59.86 114 P **P 08 47 06.0 -1.7**

comp=Z,21nm,0.7s
APSI Ampana 59.93 117 P **P 08 47 06.9 -1.2**
comp=Z,783nmcomp=Z,72nm,1.1s
PMRV Marv??o 59.96 299 *eP* **P 08 47 08.8 +0.7**
comp=Z,61nm,1.7s
PETK Petropavlovsk- 60.00 44 P **P 08 47 07.8 -0.3**
comp=Z,2.3nm,0.8s,baz=137,slow=13,SNR=5.5
TTSI Tana Toraja 60.12 120 P **P 08 47 09.2 -0.2**
comp=Z,47nm,0.8s
PESTR Estremoz 60.34 298 *eP* **P 08 47 10.0 -0.6**
JAGI Jajag, Banyuwa 60.36 129 P **P 08 47 07.8 -3.2**
comp=Z,29nm,1.1s
PCAS Casmilo, Conde 60.48 300 *eP* **P 08 47 11.6 0.0**
LCRM LCR 60.56 292 P **P 08 47 13.0 +0.6**
SPSI Sidrap Palu 60.74 121 P **P 08 47 13.1 -0.5**
comp=Z,2µmcomp=Z,18nm,0.8s
MDT Midelt 60.76 291 P **P 08 47 13.7 0.0**
PBEJ Beja 60.88 298 *eP* **P 08 47 14.5 +0.2**
comp=Z,57nm,1.7s
NEEM North Greenlan 61.03 348 *i P* **P 08 47 15.1 0.0**
NEEM IAmb IAmb 08 47 17.3
comp=Z,44nm,0.7s
PVAQ Vaqueiros 61.04 297 *eP* **P 08 47 15.9 +0.5**
comp=Z,91nm,1.3s
SUMG Summit 61.06 341 P **P 08 47 16.0 +0.6**
SUMG pmax pmax
comp=Z,130nm,1.1s
SUMG Summit 61.06 341 *i P* **P 08 47 14.7 -0.7**
SUMG IAmb IAmb 08 47 16.9
comp=Z,47nm,0.7s
SUMG Summit 61.06 341 P **P 08 47 16.0 +0.6**
PCVE Castro Verde 61.18 297 *eP* **P 08 47 16.4 +0.1**
MESJ Messejana 61.22 297 *eP* **P 08 47 16.7 +0.2**
MESJ IAmb IAmb 08 47 18.2
comp=Z,33nm,0.6s
MESJ Messejana 61.22 297 *eP* **P 08 47 16.7 +0.2**
MESJ iAmb 08 47 18.2
MESJ Messejana 61.22 297 *eP* **P 08 47 16.7 +0.2**
KAPI Kappang 61.48 121 P **P 08 47 17.5 -1.0**
KAPI pmax pmax
comp=Z,17nm,0.9s
KAPI Kappang 61.48 121 P **P 08 47 17.5 -1.0**
GOLM Goulmima 61.52 290 P **P 08 47 20.0 +1.1**
BKSI Bulukumba 61.95 121 P P 08 47 16.5 -5.2
comp=Z,342nmcomp=Z,17nm,0.8s
TZRR Tazzarine 62.41 289 P **P 08 47 25.0 +0.2**
VOI Vohitsoka 62.41 205 P **P 08 47 26.2 +1.5**
ZGR Zagora 62.76 289 P **P 08 47 27.1 0.0**
TETE Tete 63.15 221⇑*i P* **P 08 47 30.3 +0.8**
TETE IAmb IAmb 08 47 31.1
comp=Z,69nm,0.7s
TETE Tete 63.15 221 *i P* **P 08 47 31.4 +1.9**
TETE Tete 63.15 221 *i P* **P 08 47 31.4 +1.9**
ICESG Greenland Ices 63.20 338 *i P* **P 08 47 29.9 +0.3**
ICESG IAmb IAmb 08 47 30.9
comp=Z,24nm,0.9s
OUZM OUZ 63.26 290 P **P 08 47 31.0 +0.6**
SANI Sanana 63.86 114 P **P 08 47 33.8 -0.5**
comp=Z,1µmcomp=Z,50nm,0.7s
OUK Oukaimeden 63.95 291 P **P 08 47 35.1 -0.1**
ANGG Ammassalik, Gr 64.41 334 *i P* **P 08 47 37.1 0.0**
ANGG IAmb IAmb 08 47 39.2
comp=Z,18nm,0.6s
TULEG Thule 64.44 350 *i P* **P 08 47 36.5 -0.6**
TULEG IAmb IAmb 08 47 42.1
comp=Z,11nm,0.7s
TULEG Thule 64.44 350 P **P 08 47 37.5 +0.3**
TULEG IAmb IAmb 08 47 38.7
comp=Z,79nm,1.2s
WBSI Waikabubak, Su 64.61 125 P **P 08 47 36.2 -3.0**
comp=Z,94nm,1.0s
TTIG Tnine Tigouga, 64.70 290 P **P 08 47 40.0 +0.2**
UPNV Upernavik 65.13 345 *i P* **P 08 47 42.0 +0.3**
UPNV IAmb IAmb 08 47 42.9
comp=Z,19nm,0.9s
LSZ Lusaka 65.43 226 P **P 08 47 44.7 +0.2**
LSZ pmax pmax
comp=Z,64nm,0.7s
LSZ Lusaka 65.43 226 P **P 08 47 44.7 +0.2**
LSZ IAmb IAmb 08 47 46.0
comp=Z,64nm,0.7s
EDFI Ende, Flores 65.50 123 P **P 08 47 41.5 -3.5**
comp=Z,9.7nm,0.8s
TORD Torodi Ar. Bea 65.69 269 P **P 08 47 44.6 -1.5**
comp=Z,56nm,0.6s,baz=39,slow=5.9,SNR=413
TORD Torodi Ar. Bea 65.69 269 P **P 08 47 44.5 -1.7**
TORD IAmb IAmb 08 47 45.4
comp=Z,61nm,0.7s
BASI Baing, Sumba 65.82 125 P **P 08 47 45.2 -1.7**
comp=Z,2µmcomp=Z,186nm,0.9s
ILULI Ilulissat 66.40 341 P **P 08 47 50.6 +0.8**
ILULI pmax pmax
comp=Z,57nm,0.9s
ILULI Ilulissat 66.40 341 *i P* **P 08 47 49.8 0.0**
ILULI IAmb IAmb 08 47 50.7
comp=Z,30nm,0.7s
ILULI Ilulissat 66.40 341 P **P 08 47 50.6 +0.8**
ILULI IAmb IAmb 08 47 51.1
comp=Z,57nm,0.9s
DY2G Dye2 66.78 337 *i P* **P 08 47 52.6 0.0**
DY2G IAmb IAmb 08 47 56.1
comp=Z,23nm,0.9s
A21K Barrow 67.33 15 P **P 08 47 56.5 +0.8**
A21K IAmb IAmb 08 47 57.0
comp=Z,54nm,0.8s
A21K Barrow 67.33 15 P **P 08 47 56.4 +0.8**
baz=320
SFJD Kangerlussuaq 67.75 339 P **P 08 47 59.7 +1.3**
SFJD Kangerlussuaq 67.75 339 *i P* **P 08 47 57.2 -1.1**
SFJD IAmb IAmb 08 48 00.1
comp=Z,7.6nm,0.9s
BATI Baumata 67.89 122 P **P 08 47 58.9 -1.1**
comp=Z,74nm,0.7s
RDOG Red Dog Mine 68.28 19 P **P 08 48 02.3 +0.6**
baz=316
GAMB Gambell 68.53 25 P **P 08 48 04.0 +0.8**
baz=310
TNA Tin City 68.58 22 P **P 08 48 04.4 +0.8**
baz=312
BLWY Bulawayo 69.09 223⇑*i P* **P 08 47.5 +0.1**
BLWY IAmb IAmb 08 48 08.3
comp=Z,432nm,1.1s
FAKI Fak Fak 69.10 110 P **P 08 48 07.4 -0.2**
comp=Z,974nmcomp=Z,44nm,1.0s
FAKI Fak Fak 69.10 110 P **P 08 48 06.5 -1.1**
MATP Matopo 69.38 223 *i P* **P 08 48 10.7 +1.5**
MATP Matopo 69.38 223 *i P* **P 08 48 10.7 +1.5**
KOWA Kowa 69.54 273 P **P 08 48 09.2 -1.1**
KOWA Kowa 69.54 273 P **P 08 48 09.2 -1.1**
PMAR Madeira 69.89 296 *eP* **P 08 48 12.8 +0.4**
comp=Z,264nm,1.3s
ANM Nome 70.05 22 P **P 08 48 13.2 +0.6**
ANM pmax pmax
comp=Z,29nm,0.9s
ANM Nome 70.05 22 P **P 08 48 13.2 +0.6**
ANM Nome 70.05 22 P **P 08 48 13.6 +1.0**
baz=315
MSNA Messina 70.14 220⇑*i P* **P 08 48 14.5 +0.8**
MSNA IAmb IAmb 08 48 15.7
comp=Z,84nm,1.2s
MSNA Messina 70.14 220 *i P* **P 08 48 13.8 +0.1**
MSNA Messina 70.14 220 *i P* **P 08 48 13.8 +0.1**
MOPA Mopani 70.41 218⇑*i P* **P 08 48 16.1 +0.8**
MOPA IAmb IAmb 08 48 17.0
comp=Z,7.1nm,0.7s
MOPA Mopani 70.41 218 *i P* **P 08 48 16.5 +1.2**
MOPA Mopani 70.41 218 *i P* **P 08 48 16.5 +1.2**
TOLK Toolik Lake Re 70.94 15 P **P 08 48 18.7 +0.7**
TOLK IAmb IAmb 08 48 19.8
comp=Z,70nm,0.7s
TOLK Toolik Lake Re 70.94 15 P **P 08 48 18.7 +0.7**
baz=326
A36M Sachs Harbour 71.22 5 P **P 08 48 20.2 +0.7**
baz=346,SNR=170
COLD Coldfoot 71.99 16 P **P 08 48 24.9 +0.7**
COLD IAmb IAmb 08 48 26.0
comp=Z,62nm,1.0s
COLD Coldfoot 71.99 16 P **P 08 48 24.9 +0.7**
baz=326
IMAR Indian Mountai 72.19 18 P **P 08 48 25.1 -0.3**
CNG Changalane 72.35 216⇑*i P* **P 08 48 27.1 +0.3**
CNG IAmb IAmb 08 48 27.7
comp=Z,12nm,0.8s
CNG Changalane 72.35 216 *i P* **P 08 48 27.5 +0.6**
CNG Changalane 72.35 216 *i P* **P 08 48 27.5 +0.6**

GCSA **Galena City Sc** 72.37 19 P P 08 48 27.1 +0.6
baz=321,SNR=16
MAGG **Maguba Dam** 72.62 217 eP P 08 48 28.3 -0.2
MAGG IAmb IAmb 08 48 29.6
comp=Z,95nm,1.3s
H21K **Melozitna Rive** 72.68 17 P P 08 48 28.4 0.0
H21K IAmb IAmb 08 48 30.0
comp=Z,48nm,1.1s
H21K **Melozitna Rive** 72.68 17 P P 08 48 28.7 +0.3
baz=324
BMAR **Burnt Mountain** 72.96 14 P P 08 48 30.9 +0.9
CRLN **Carolina, Mapu** 73.16 218⇑ iP P 08 48 31.9 +0.1
I21K **Tanana** 73.27 17 P P 08 48 32.4 +0.6
I21K IAmb IAmb 08 48 33.6
comp=Z,40nm,1.1s
I21K **Tanana** 73.27 17 P P 08 48 32.2 +0.4
baz=325
SPIA **Saint Paul Isl** 73.43 30 P P 08 48 32.6 -0.2
baz=313
POGA **Pongola** 73.47 216⇑ iP P 08 48 34.1 +0.7
POGA IAmb IAmb 08 48 34.8
comp=Z,80nm,0.7s
MBWA **Marble Bar** 73.55 133 P P 08 48 34.1 +0.1
J20K **Nowinta River** 73.55 19 P P 08 48 34.0 +0.6
J20K IAmb IAmb 08 48 34.8
comp=Z,37nm,0.8s
J20K **Nowinta River** 73.55 19 P P 08 48 34.3 +0.9
baz=324
FYU **Fort Yukon** 73.58 14 P P 08 48 34.9 +1.3
FYU IAmb IAmb 08 48 35.6
comp=Z,54nm,0.8s
H24K **Noodor Dome** 73.66 16 P P 08 48 34.4 +0.2
H24K **Noodor Dome** 73.66 16 P P 08 48 35.1 +1.0
baz=328
MLY **Manley** 73.69 17 P P 08 48 34.7 +0.3
baz=326
SLR **Silverton** 73.82 220⇑ iP P 08 48 35.9 +0.3
SLR IAmb IAmb 08 48 38.0
comp=Z,18nm,0.6s
C36M **Paulatuk** 73.89 5 P P 08 48 35.4 +0.1
baz=348,SNR=200
INK **Inuvik** 73.92 9 P P 08 48 36.0 +0.6
INK pmax pmax
comp=Z,103nm,1.1s
INK **Inuvik** 73.92 9 P P 08 48 36.0 +0.6
INK IAmb IAmb 08 48 37.4
comp=Z,103nm,1.1s
INK **Inuvik** 73.92 9 P P 08 48 36.3 +0.9
baz=340,SNR=64
I23K **Minto, Yukon-K** 73.92 17 P P 08 48 36.0 +0.4
I23K IAmb IAmb 08 48 37.5
comp=Z,56nm,1.1s
I23K **Minto, Yukon-K** 73.92 17 P P 08 48 36.2 +0.7
baz=327,SNR=17
PSA00 **Pilbara Seismi** 73.93 133 P P 08 48 35.9 -0.3
TTA **Tatalina** 74.04 20 P P 08 48 37.1 +0.7
baz=322,SNR=9.0
K20K **Telida** 74.23 19 P P 08 48 38.3 +0.9
baz=324
HRAO **HartRAO** 74.26 220⇑ iP P 08 48 38.3 +0.1
HRAO IAmb IAmb 08 48 39.5
comp=Z,174nm,0.9s
CHUM **Lake Minchumin** 74.26 18 P P 08 48 38.3 +0.7
baz=325,SNR=13
POKR **Poker Plat Res** 74.38 16 P P 08 48 38.4 +0.2
POKR IAmb IAmb 08 48 40.3
comp=Z,96nm,1.1s
POKR **Poker Plat Res** 74.38 16 P P 08 48 39.2 +1.0
baz=329,SNR=14
BPAW **Bear Paw Mtn.** 74.41 18 P P 08 48 38.7 +0.2
baz=326,SNR=7.1
PRP **Porcupine Dome** 74.44 15 P P 08 48 39.4 +0.7
baz=330
NEA2 **Nenana** 74.45 17 P P 08 48 38.6 0.0
NEA2 IAmb IAmb 08 48 40.0
comp=Z,72nm,0.9s
NEA2 **Nenana** 74.45 17 P P 08 48 38.7 +0.1
baz=328,SNR=10
TCOL **CIGO, UAF Yank** 74.49 16 P P 08 48 39.4 +0.5
TCOL IAmb IAmb 08 48 40.4
comp=Z,82nm,0.8s
TCOL **CIGO, UAF Yank** 74.49 16 P P 08 48 39.3 +0.5
baz=328,SNR=13
COLA **College** 74.49 16c iP P 08 48 39.4 +0.5
COLA pmax pmax
comp=Z,83nm,0.9s
COLA **College** 74.49 16 P P 08 48 39.3 +0.5
baz=328
KSR **Koster** 74.64 221 eP P 08 48 40.8 +0.4
KSR IAmb IAmb 08 48 41.7
comp=Z,60nm,0.9s
LBTB **Lobatse** 74.65 222⇑ iP P 08 48 41.2 +0.8
LBTB IAmb IAmb 08 48 42.0
comp=Z,275nm,1.4s
LBTB **Lobatse** 74.65 222 P P 08 48 41.3 +0.9
LBTB pmax pmax
comp=Z,285nm,1.5s
LBTB **Lobatse** 74.65 222 i P P 08 48 41.6 +1.2
LBTB **Lobatse** 74.65 222 i P P 08 48 41.6 +1.2
LBTB **Lobatse** 74.65 222 P P 08 48 41.3 +0.9
DBIC **Dimbokro** 74.67 267 P P 08 48 39.5 -1.3
comp=Z,20nm,0.5s,baz=52,slow=6.1,SNR=98
DBIC **Dimbokro** 74.67 267⇑ iP P 08 48 39.4 -1.3
DBIC **Dimbokro** 74.67 267 P P 08 48 39.5 -1.3
DBIC IAmb IAmb 08 48 39.9
comp=Z,32nm,0.6s
NWCL **Newcastle** 74.67 217⇑ iP P 08 48 40.9 +0.4
NWCL IAmb IAmb 08 48 41.2
comp=Z,63nm,0.7s
CAST **Castle Rocks** 74.70 19 P P 08 48 40.6 +0.4
baz=325,SNR=29
KIC **Kosan Boka** 74.75 267 ePKIKP P 08 48 40.0 -1.2
comp=Z,89nm,0.5s
IL31 **Ambon** 74.80 16 P P 08 48 40.3 -0.3
ILAR **Eielson Array** 74.80 16 P P 08 48 40.5 -0.1
comp=Z,20nm,0.9s,baz=316,slow=4.6,SNR=101
ILAR LR LR 09 25 53.4
comp=Z,163nm,18.6s,baz=318,slow=39
ILAR **Eielson Array** 74.80 16 P P 08 48 40.2 -0.4
TIC **Toumodi** 74.81 267 ePKIKP P 08 48 40.2 -1.4
MTN **Manton Dam** 74.92 119 P P 08 48 41.9 -0.2
L19K **White Mountain** 74.96 20 P P 08 48 41.6 0.0
L19K IAmb IAmb 08 48 43.7
comp=Z,43nm,1.1s
L19K **White Mountain** 74.96 20 P P 08 48 42.1 +0.4
baz=323
L20K **Farewell, AK** 74.99 20 P P 08 48 42.5 +0.6
baz=324
LIC **Lamto** 75.06 267 ePKIKP P 08 48 40.2 -2.8
comp=Z,142nm,0.6s
HDA **Harding Lake** 75.09 16 P P 08 48 41.5 -0.8
baz=329
PPLA **Purkeypile** 75.10 19 P P 08 48 42.6 0.0
baz=325
TRF **Thorofare Moun** 75.12 18 P P 08 48 42.2 -0.5
baz=327
MCK **McKinley** 75.22 17 P P 08 48 43.3 +0.2
baz=328,SNR=5.3
KNRA **Kununurra** 75.25 123 P P 08 48 44.0 +0.1
PRYS **Parys** 75.27 220⇑ iP P 08 48 43.7 -0.2
PRYS IAmb IAmb 08 48 44.7
comp=Z,58nm,1.4s
EPYK **Eagle Plains** 75.27 11 P P 08 48 43.2 -0.2
EPYK **Eagle Plains** 75.27 11 P P 08 48 43.6 +0.2
baz=337
J26L **Joseph Creek** 75.73 15 P P 08 48 46.4 +0.3
baz=332,SNR=27
I29M **Ogilvie Camp,** 75.94 12 P P 08 48 47.4 +0.2
baz=336,SNR=22
EGAK **Eagle** 75.96 14 P P 08 48 48.0 +0.8
EGAK **Eagle** 75.96 14 P P 08 48 47.5 +0.3
baz=334,SNR=11
CUT **Chulitna** 76.01 18 P P 08 48 47.1 -0.5
baz=327
SCRK **Sand Creek** 76.11 15 P P 08 48 48.8 +0.5
SCRK IAmb IAmb 08 48 49.4
comp=Z,30nm,0.8s
SCRK **Sand Creek** 76.11 15 P P 08 48 48.8 +0.5
baz=332,SNR=14
RIDG **Independent Ri** 76.14 16 P P 08 48 48.1 -0.3
baz=331
DHY **Denali Highway** 76.14 17 P P 08 48 48.2 -0.3
baz=329,SNR=9.7
SNKL **Senekal, Frees** 76.16 218⇑ iP P 08 48 49.5 +0.4
SNKL IAmb IAmb 08 48 49.8
comp=Z,94nm,0.7s

N19K **Bonanza Creek** 76.17 21 P P 08 48 49.0 +0.4
baz=324
WAT6 **Susitna Watana** 76.48 17 P P 08 48 50.1 -0.4
baz=329,SNR=5.6
SWZ **Schweizer** 76.53 221 eP P 08 48 51.3 +0.2
SWZ IAmb IAmb 08 48 51.8
comp=Z,70nm,0.7s
M22K **Willow** 76.59 19 P P 08 48 50.4 -0.5
baz=327
PAX **Paxson** 76.67 16 P P 08 48 51.5 +0.1
PAX pmax pmax
comp=Z,33nm,0.8s
PAX **Paxson** 76.67 16 P P 08 48 51.5 +0.1
PAX IAmb IAmb 08 48 52.1
comp=Z,33nm,0.8s
PAX **Paxson** 76.67 16 P P 08 48 51.5 +0.1
baz=331,SNR=15
O19K **Port Alsworth** 76.72 21 P P 08 48 51.9 +0.4
baz=324
J29M **Klondike Camp** 76.79 13 P P 08 48 52.7 +0.7
baz=336,SNR=7.6
GHO **Glory Hole Cre** 76.88 18 P P 08 48 53.1 +0.5
GHO IAmb IAmb 08 48 56.5
comp=Z,61nm,1.2s
DAWY **Dawson** 76.94 13 P P 08 48 52.8 0.0
DAWY **Dawson** 76.94 13 P P 08 48 53.3 +0.5
baz=335,SNR=13
PMR **Palmer** 76.98 18 P P 08 48 52.9 -0.1
baz=328
SML **Sawmill** 77.00 18 P P 08 48 53.7 +0.5
SML pmax pmax
comp=Z,59nm,0.8s
SML **Sawmill** 77.00 18 P P 08 48 53.7 +0.5
SML IAmb IAmb 08 48 53.9
comp=Z,59nm,0.8s
SML **Sawmill** 77.00 18 P P 08 48 53.3 +0.1
baz=328,SNR=7.6
L26K **Log Cabin Wild** 77.09 15 P P 08 48 54.3 +0.6
L26K **Log Cabin Wild** 77.09 15 P P 08 48 53.6 -0.1
baz=332,SNR=5.2
P18K **Big Mountain,** 77.10 22 P P 08 48 54.2 +0.5
baz=324
SCM **Sheep Creek Mo** 77.23 18 P P 08 48 54.6 +0.1
baz=329,SNR=6.1
HARP **HAARP** 77.25 16 P P 08 48 55.5 +1.0
baz=331,SNR=15
RC01 **Rabbit Creek A** 77.25 19 P P 08 48 54.4 -0.2
baz=328
M24K **Tolsona, Glenn** 77.27 17 P P 08 48 55.8 +1.1
baz=330,SNR=7.3
UNV **Unalaska Valle** 77.28 31 P P 08 48 56.1 +1.3
baz=316
O20K **Slope Mountain** 77.31 21 P P 08 48 55.7 +0.7
baz=325
KNK **Knik Glacier** 77.31 18 P P 08 48 55.1 +0.2
baz=328
L27K **Beaver Creek,** 77.37 15 P P 08 48 55.8 +0.5
L27K **Beaver Creek,** 77.37 15 P P 08 48 56.1 +0.9
baz=334
BCAR **Beaver Creek A** 77.38 15 P P 08 48 56.0 +0.7
BCAR pP pP 08 49 43.3 +1.1
M26K **Nabesna, AK** 77.72 15 P P 08 48 58.0 +0.8
baz=333
BOSA **Boshof** 77.72 220 P P 08 48 57.8 +0.2
comp=Z,58nm,0.8s,baz=24,slow=4.1,SNR=138
BOSA **Boshof** 77.72 220⇑ iP P 08 48 57.7 0.0
BOSA IAmb IAmb 08 48 58.5
comp=Z,103nm,1.1s
BOSA **Boshof** 77.72 220 i P P 08 48 57.9 +0.2
BOSA **Boshof** 77.72 220 i P P 08 48 57.9 +0.2
BOSA **Boshof** 77.72 220 P P 08 48 57.7 0.0
BOSA IAmb IAmb 08 48 58.8
comp=Z,103nm,1.1s
KLU **Klutina** 77.86 17 P P 08 48 58.5 +0.5
baz=330
Q19K **Cape Douglas,** 77.95 22 P P 08 48 59.2 +0.7
baz=325
M27K **Edge Creek, AK** 77.99 15 P P 08 48 59.6 +0.8
baz=334
N25K **Chitina, Valde** 78.07 17 P P 08 48 59.9 +0.7
baz=331
BRSE **Bradley Lake S** 78.12 20 P P 08 48 58.7 -0.7
baz=327
BVCY **Beaver Creek** 78.15 15 P P 08 49 00.4 +0.9
baz=334
SEW **Seward** 78.16 19 P P 08 49 00.2 +0.7
baz=328
MCARA **McCarthy VSAT** 78.62 16 P P 08 49 02.6 +0.5
baz=333
BMRM **Bremner River** 78.63 17 P P 08 49 02.7 +0.5
baz=332
EYAK **Cordova Ski Ar** 78.72 18 P P 08 49 03.4 +0.7
baz=331
M30M **Minto, Yukon** 78.78 13 P P 08 49 03.5 +0.5
baz=338
YUK3 **Moose Creek** 78.81 15 P P 08 49 04.0 +0.6
baz=335,SNR=6.9
CRQE **Cirque** 79.17 16 P P 08 49 05.6 +0.4
baz=333
KDAK **Kodiak Island** 79.22 22 P P 08 49 05.7 +0.3
baz=326
CHNA **Chernabura Isl** 79.24 27 P P 08 49 06.3 +0.8
baz=321
CTG **Chitna Glacier** 79.36 15 P P 08 49 06.9 +0.6
baz=334
OHAK **Old Harbor** 79.46 23 P P 08 49 07.5 +0.8
baz=325
M31M **Drury Creek, Y** 79.53 12 P P 08 49 07.9 +0.8
baz=340
UPI **Upington** 79.66 223⇑ iP P 08 49 08.8 +0.6
UPI IAmb IAmb 08 49 09.7
comp=Z,85nm,1.4s
PKA **Prieska** 79.88 221 eP P 08 49 09.7 +0.3
PKA IAmb IAmb 08 49 14.2
comp=Z,1.1nm,0.8s
MESA **MESA** 79.94 16 P P 08 49 10.0 +0.5
baz=334
N31M **Braeburn, Yuko** 79.97 13 P P 08 49 10.2 +0.8
baz=338
KEIM **Keimoes** 80.09 223⇑ iP P 08 49 11.1 +0.7
KEIM IAmb IAmb 08 49 11.6
comp=Z,33nm,0.8s
ARMS **Ukamas** 80.26 224 eP P 08 49 12.2 +0.8
ARMS IAmb IAmb 08 49 12.9
comp=Z,181nm,1.3s
PINM **Pinnacle** 80.38 15 P P 08 49 11.8 +0.1
baz=335
WHY **Whitehorse** 80.90 13 P P 08 49 14.5 0.0
baz=339
AUSN **Aus** 81.24 228 eP P 08 49 17.5 +0.8
AUSN IAmb IAmb 08 49 18.6
comp=Z,81nm,1.2s
YKA **Yellowknife Ar** 81.25 3 P P 08 49 16.9 +0.8
comp=Z,46nm,0.5s,baz=350,slow=5.4,SNR=1254
YKA S S 08 59 10.1 0.0
comp=Z,0.8nm,1.0s,baz=351,slow=9.7,SNR=5.1
YKA PKKPbc PKKPbc 09 07 47.5 -2.7
comp=Z,0.5nm,0.6s,baz=171,slow=2.4,SNR=20
YKA LR LR 09 27 58.0
comp=Z,57nm,20.4s,baz=330,slow=37
YKA **Yellowknife Ar** 81.25 3 i P P 08 49 16.2 +0.1
YKA pmax pmax
comp=Z,50nm,0.4s
YKA **Yellowknife Ar** 81.25 3 P P 08 49 16.3 +0.1
YKA pP pP 08 50 04.2 +0.8
NWAO **Narrogin (SRO)** 81.48 142 P P 08 49 16.7 -1.0
P33M **Teslin, Yukon** 81.67 12 P P 08 49 18.7 +0.2
baz=341
WB0 **Warramunga Arr** 81.93 122 P 08 49 19.9 -0.4
SKAG **Skagway** 81.94 13 P P 08 49 20.9 +1.1
baz=339
WRA **Warramunga Arr** 82.01 122 P P 08 49 20.0 -0.8
comp=Z,24nm,0.4s,baz=324,slow=4.8,SNR=562
WRA S S 08 59 12.5 -6.7
comp=Z,1.2nm,1.0s,baz=320,slow=14,SNR=3.8
WRA PKKPbc PKKPbc 09 07 48.8 +0.3
comp=Z,2.2nm,0.8s,baz=127,slow=2.5,SNR=22
WRA **Warramunga Arr** 82.01 122 P P 08 49 20.0 -0.8
WRA **Warramunga Arr** 82.01 122 P P 08 49 19.5 -1.3
WRA pP pP 08 50 09.3 +1.0
WRAB **Tennant Creek** 82.02 122d iP P 08 49 20.0 -0.8
WRAB pmax pmax
comp=Z,42nm,0.8s
WRAB **Tennant Creek** 82.02 122 P P 08 49 20.0 -0.8
WRAB IAmb IAmb 08 49 20.7
comp=Z,45nm,0.5s
WRAB **Tennant Creek** 82.02 122 P P 08 49 20.2 -0.6

WB2 **Warramunga Arr** 82.02 122 P P 08 49 19.8 -1.1
SCHQ **Schefferville** 82.09 337 P P 08 49 21.1 +0.3
comp=Z,18nm,0.7s,baz=36,slow=5.4,SNR=24
SCHQ LR LR 09 25 08.7
comp=Z,122nm,21.2s,baz=82,slow=35
SCHQ **Schefferville** 82.09 337 P P 08 49 20.7 0.0
WR0 **Warramunga Arr** 82.16 122 P P 08 49 20.3 -1.3
GRAN **Grantham** 82.26 220 eP P 08 49 22.7 +0.9
GRAN IAmb IAmb 08 49 23.4
comp=Z,21nm,0.6s
ROSN **Rosenhof** 82.50 217 eP P 08 49 23.1 +0.2
CVNA **Calvinia** 82.89 222⇑ iP P 08 49 25.5 +0.3
CVNA IAmb IAmb 08 49 26.5
comp=Z,73nm,1.4s
SUR **Sutherland** 83.03 221 P P 08 49 26.5 +0.6
SUR IAmb IAmb 08 49 27.9
comp=Z,28nm,0.8s
DRLN **Deer Lake** 83.17 329 P P 08 49 26.9 +0.5
DRLN IAmb IAmb 08 49 27.5
comp=Z,37nm,0.8s
MATJ **Matjiesfontein** 83.84 220⇑ iP P 08 49 30.8 +0.8
MATJ IAmb IAmb 08 49 31.0
comp=Z,36nm,0.7s
SIT **Sitka** 84.19 14 P P 08 49 32.1 +0.7
baz=339
AS31 **Alice Springs** 84.28 125 P P 08 49 31.6 -0.8
ASAR **Alice Springs** 84.28 125 P P 08 49 31.7 -0.6
comp=Z,40nm,0.6s,baz=310,slow=4.9,SNR=802
ASAR S S 08 59 30.8 -11
comp=Z,1.9nm,1.0s,baz=312,slow=7.4,SNR=6.6
ASAR PKKPbc PKKPbc 09 07 43.4 -0.1
comp=Z,1.2nm,0.6s,baz=129,slow=2.7,SNR=19
ASAR LR LR 09 35 33.2
comp=Z,28nm,18.3s,baz=346,slow=41
ASAR **Alice Springs** 84.28 125 P P 08 49 31.4 -0.9
ASAR pP pP 08 50 20.4 +0.4
FCC **Fort Churchill** 84.28 352 P P 08 49 31.9 +0.1
FCC pmax pmax
comp=Z,39nm,1.0s
FCC **Fort Churchill** 84.28 352 P P 08 49 31.9 +0.1
FCC IAmb IAmb 08 49 33.6
comp=Z,38nm,0.9s
COEN **Coen** 84.43 112 P P 08 49 32.5 -0.7
CER **Ceres** 84.60 221⇑ iP P 08 49 34.5 +0.9
CER IAmb IAmb 08 49 35.2
comp=Z,14nm,0.8s
ELIM **Elim** 85.31 220⇑ iP P 08 49 37.2 0.0
ELIM IAmb IAmb 08 49 38.1
comp=Z,40nm,0.8s
FORT **Forrest** 85.69 134 P P 08 49 38.7 -0.3
FORT **Forrest** 85.69 134 P P 08 49 38.8 -0.3
QIS **Mount Isa** 86.08 119 P P 08 49 40.5 -0.8
OOD **Oodnadatta** 88.27 127 P P 08 49 51.1 -0.5
MULG **Mulgathing** 88.95 130 P P 08 49 53.7 -1.0
CTAO **Charters Tower** 90.57 115 P P 08 50 01.3 -1.2
CTAO pmax pmax
comp=Z,15nm,0.7s
CTAO **Charters Tower** 90.57 115 P P 08 50 01.3 -1.2
CTAO IAmb IAmb 08 50 02.6
comp=Z,15nm,0.7s
ULM **Lac du Bonnet** 92.85 352 P P 08 50 12.8 +0.1
comp=Z,16nm,0.7s,baz=9.0,slow=6.0
ULM **Lac du Bonnet** 92.85 352 IAmb IAmb 08 50 13.3
comp=Z,23nm,0.8s
LONY **Lake Ozonia** 93.44 336 P P 08 50 15.7 +0.1
baz=27
EYMN **Ely** 94.49 348 P P 08 50 20.2 -0.1
baz=14
AGMN **Agassiz Nation** 94.77 351 P P 08 50 21.5 0.0
baz=11
STKA **Stephens Creek** 94.81 126 P P 08 50 20.2 -1.6
comp=Z,3.1nm,0.5s,baz=9.5,slow=4.8,SNR=13
B05A **Bryant** 94.82 9 P P 08 50 22.7 +1.0
baz=350
C06D **Leavenworth** 95.29 8 P P 08 50 23.7 -0.2
baz=350
DGMT **Dagmar** 95.30 357 P P 08 50 24.9 +0.9
baz=3.9
NEW **Newport** 95.31 5 LR LR 09 37 00.3
comp=Z,72nm,21.1s,baz=334,slow=38
NEW **Newport** 95.31 5 P P 08 50 25.0 +0.9
baz=354
D03D **Eldon** 95.41 10 P P 08 50 25.7 +1.3
baz=349
MDND **Maddock** 95.61 354 P P 08 50 25.9 +0.5
baz=7.6
EGMT **Eagleton** 95.86 0 P P 08 50 27.2 +0.7
EGMT IAmb IAmb 08 50 28.6
comp=Z,21nm,1.1s
EGMT **Eagleton** 95.86 0 P P 08 50 27.0 +0.4
baz=359
BINY **Binghamton** 96.06 336 P P 08 50 26.9 -0.7
baz=26
E04D **Cinebar** 96.44 9 P P 08 50 30.2 +1.1
baz=349
LAO **LASA Array** 97.16 358 P Pdif 08 50 33.5 +1.0
baz=2.3
F05D **White Salmon** 97.24 9 P Pdif 08 50 33.4 +0.6
baz=350
SPMN **Marine on St.** 97.34 349 P P 08 50 33.0 -0.3
baz=13
ERPA **Erie** 97.38 339 P P 08 50 32.9 -0.6
baz=23
P60A **Greenville** 98.08 335 P Pdif 08 50 37.7 +1.1
baz=26
BOZ **Bozeman (W)** 98.25 2 P Pdif 08 50 37.7 +0.1
baz=358
N54A **Moraine State** 98.44 338 P P 08 50 38.1 -0.2
baz=23
RLMT **Red Lodge** 98.76 0 P Pdif 08 50 40.1 +0.2
baz=360
ECSD **EROS Data Cent** 99.36 351 P Pdif 08 50 42.3 0.0
baz=10
MCWV **Mont Chateau** 99.59 338 P Pdif 08 50 42.8 -0.7
baz=23
RSSD **Black Hills** 99.63 356 P Pdif 08 50 44.1 +0.3
baz=4.1
J05D **Fort Rock, OR** 99.83 9 P Pdif 08 50 44.8 +0.2
baz=350
K02D **Willamette Mer** 100.06 11 P Pdif 08 50 43.9 -1.7
baz=348
BW06 **Boulder Array** 101.11 0 P Pdif 08 50 50.4 -0.1
baz=360
PDAR **Pinedale Array** 101.11 0 P Pdif 08 50 51.0 +0.6
comp=Z,0.9nm,0.5s,baz=61,slow=3.3,SNR=13
PDAR PKiKP PKiKP 08 55 13.5 -0.8
comp=Z,0.8nm,0.7s,baz=63,slow=2.0,SNR=3.6
DUG **Dugway, Tooele** 103.61 3 P Pdif 08 51 00.0 -1.4
baz=357
O20A **White River Ci** 103.74 359 P Pdif 08 51 00.6 -1.5
baz=0.7
NVAR **Mina Array Bea** 104.96 8 PKiKP PKiKP 08 55 21.9 +0.5
comp=Z,0.7nm,0.6s,baz=334,slow=2.7,SNR=6.4
S22A **4UR Ranch, Cre** 106.10 358 P PKiKP 08 55 20.8 -2.9
baz=1.9
SYO **Syowa Base** 107.72 191⇑ ePKiKP PKiKP 08 55 30.4 +5.3
HEC **Hector,Ludlow** 108.72 6 P PKiKP 08 55 26.9 -1.5
baz=354
Z41A **Richland Creek** 108.97 346 P PKiKP 08 55 27.3 -1.4
baz=14
PFO **Pinyon Flats O** 109.91 7 P PKiKP 08 55 30.0 -0.7
baz=354
TPFO **Pinon Flats** 109.92 7 P PKiKP 08 55 29.9 -0.9
baz=354
BC3 **Big Chuckawall** 109.96 6 P PKiKP 08 55 30.8 0.0
baz=355
SCI2 **San Clemente I** 110.32 9 P PKiKP 08 55 31.8 +0.5
baz=352
MONP2 **Monument Peak** 110.63 7 P PKiKP 08 55 32.0 -0.2
baz=354
SWSC **Sam W. Stewart** 110.63 6 P PKiKP 08 55 31.6 -0.2
baz=354
DWPF **Disney Wildern** 110.69 334 P PKiKP 08 55 31.6 -0.5
baz=23
IKP **In-Ko-Pah, Jac** 110.90 6 P PKiKP 08 55 32.1 -0.4
baz=354
121A **Cookes Peak, D** 111.32 359 P PKiKP 08 55 32.9 -0.5
baz=1.1
TUC **Tucson** 111.54 2 P PKiKP 08 55 33.7 -0.1
baz=358
214A **Organ Pipe Nat** 111.82 3 P PKiKP 08 55 33.9 -0.3
baz=357
MNTX **Cornudas Mount** 112.08 357 P PKiKP 08 55 34.6 -0.1
baz=3.2
JCT **Junction City** 112.82 351 P PKiKP 08 55 35.7 -0.5
baz=8.0
833A **Chaparral WMA,** 114.89 351 P PKiKP 08 55 39.7 -0.4

baz=8.5
SNAA Sanae 119.38 200 PKPdf PKPdf 08 55 46.4 -1.0
DIAM Diamantina, MG 120.26 269 *eP* **PKiKP 08 55 51.2 +0.3**
VNA2 Neumayer--Watz 120.38 202 PKPdf **PKPdf 08 55 48.7 -0.5**
VNA1 Neumayer--Stat 120.53 202 PKPdf PKPdf 08 55 48.9 -0.6
DUB01 Friburgo-RJ 121.16 264 *eP* **PKiKP 08 55 52.8 +0.4**
VNA3 Neumayer Olymp 121.19 202 PKPdf **PKPdf 08 55 50.1 -0.8**
ITTB Itaituba 121.67 290 *eP* **PKPdf 08 55 52.8 -0.6**
VAS01 Vassouras-RJ 122.11 265 *eP* **PKiKP 08 55 54.8 +0.6**
BDFB Brasilia 122.33 274 PKP **PKPdf 08 55 54.2 -0.5**
comp=Z,1.4nm,0.3s,baz=4.6,slow=1.1,SNR=5.7
PTGA Pitinga 122.37 297 PKP **PKPdf 08 55 54.1 -0.7**
comp=Z,1.6nm,0.3s,baz=20,slow=4.1,SNR=12
LL6C La Loma 6 Bece 123.03 317 *eP* **PKPdf 08 55 55.2 -0.9**
SMLC San Martn de 124.24 317 *eP* **PKPdf 08 55 58.0 -0.4**
OCAC Ocana 124.28 316 *eP* **PKPdf 08 55 56.1 -2.6**
PARB Paraibuna 124.38 265 *eP* **PKiKP 08 55 59.8 +1.1**
MACA Manacapuru-AM 124.55 295 *eP* **PKPdf 08 55 58.7 -0.3**
PAMC Pamplona, Colo 124.66 314 *eP* **PKPdf 08 55 58.0 -1.8**
CMIG Matias Romero 125.05 343 PKP **PKPdf 08 55 59.7 -0.2**
comp=Z,3.9nm,0.7s,baz=34,slow=6.1,SNR=2.2
VAO Valinhos 125.30 266 *eP* **PKPdf 08 55 59.8 -0.4**
BRRC Barranca, Sant 125.43 315 *eP* **PKPdf 08 55 58.0 -2.7**
VNDA Vanda 125.50 165 PKP **PKPdf 08 55 58.1 -0.8**
comp=Z,1.1nm,0.6s,baz=334,slow=3.4,SNR=5.5
TGUH Tegucigalpa,Un 125.69 334 *eP* **PKPdf 08 55 60.0 -1.4**
ZARC Zaragoza, Cauc 125.75 317 *eP* **PKPdf 08 55 60.0 -1.4**
CLDB Colider 125.78 284 *eP* **PKPdf 08 56 00.9 -0.4**
UREC San Jos de Ur 125.91 318 *eP* **PKPdf 08 56 00.9 -0.7**
PTBC PUERTO BERRIO 126.31 316 *eP* **PKPdf 08 56 00.9 -1.5**
SPBC San Pablo de B 126.82 315 *eP* **PKPdf 08 56 02.8 -0.7**
PTGC Puerto Gaitan, 126.84 312 *eP* **PKPdf 08 56 01.9 -1.6**
DBBC Dabeiba 126.89 318 *eP* **PKPdf 08 56 02.8 -0.8**
HELC Santa Helena 127.20 316 *eP* **PKiKP 08 56 05.7 +0.6**
NORC Norcasia 127.34 315 *eP* **PKPdf 08 56 03.8 -0.7**
CHIC Chingaza 127.45 313 *eP* **PKPdf 08 56 03.8 -1.3**
ROSC El Rosal 127.62 314 PKP **PKPdf 08 56 05.5 +0.1**
comp=Z,39nm,0.7s,baz=122,slow=3.9,SNR=20
ROSC SKPbc SKiKP 08 59 03.5 -20
comp=Z,7.4nm,0.5s,baz=90,slow=20,SNR=3.3
ROSC El Rosal 127.62 314 *eP* **PKPdf 08 56 04.7 -0.7**
CBOC Ciudad Bolivar 127.74 317 *eP* **PKPdf 08 56 01.9 -3.5**
VILC Villavicencio, 127.84 313 *eP* **PKPdf 08 56 04.7 -0.8**
GUY2C Guyana, Caldas 127.90 316 *eP* **PKPdf 08 56 04.7 -1.3**
GUVC San Jose del G 128.45 311 *eP* **PKPdf 08 56 03.8 -2.7**
SALV Santo Antonio 128.62 279 *eP* **PKPdf 08 56 06.8 +0.2**
PLMC San Jos del P 128.68 316 *eP* **PKPdf 08 56 05.7 -1.3**
PRAC Prado 128.86 314 *eP* **PKPdf 08 56 05.7 -1.6**
PP1B Ponte de Pedra 128.90 277 *eP* **PKPdf 08 56 06.8 -0.4**
YOTC Yotoco, Valle 129.47 316 *eP* **PKPdf 08 56 06.7 -1.9**
VILB Vilhena 130.46 285 *eP* **PKiKP 08 56 10.7 -0.4**
POPC Popayan, Colom 130.84 315 *eP* **PKPdf 08 56 08.6 -2.8**
PCON Cinco Dias 130.85 315 *eP* **PKiKP 08 56 12.4 -0.3**
FLOC Florencia 131.02 313 *eP* **PKPdf 08 56 10.5 -0.9**
AQDB Aquidauana 131.07 274 *eP* **PKPdf 08 56 10.2 -1.0**
PTLB Pontes e Lacer 131.09 282 *eP* **PKPdf 08 56 11.3 0.0**
TBTG Tabatinga, AM 131.79 302 *eP* **PKPdf 08 56 12.1 -0.7**
SIV San Ignacio 132.93 283 PKP **PKPdf 08 56 14.4 -0.5**
comp=Z,4.7nm,0.6s,baz=108,slow=3.1,SNR=39
ETMB Extrema 133.06 294 *eP* **PKPdf 08 56 14.6 -0.5**
CPUP Villa Florida 135.18 268 PKP **PKPdf 08 56 17.9 -0.9**
comp=Z,9.2nm,0.8s,baz=72,slow=2.7,SNR=11
CPUP SKPbc **SKPbc 08 59 29.3 -2.3**
comp=Z,10nm,1.1s,baz=63,slow=3.9,SNR=4.4
LPAZ La Paz 138.58 288 PKhKP PKPpre 08 56 18.3
comp=Z,0.7nm,0.6s,baz=180,slow=3.0,SNR=2.5
LPAZ PKP **PKPdf 08 56 25.6 -0.4**
comp=Z,6.1nm,0.8s,baz=56,slow=3.6,SNR=16
LPAZ La Paz 138.58 288 *eP* **PKPdf 08 56 26.4 +0.3**
ATAH Atahualpa 139.56 309 SKPbc **SKPbc 08 59 43.8 -1.6**
comp=Z,7.4nm,0.9s,baz=42,slow=3.8,SNR=4.3
NNA Nana 142.13 302 PKhKP PKPpre 08 56 25.8
comp=Z,3.9nm,0.5s,baz=328,slow=5.1,SNR=5.7
LVC Limon Verde 142.72 280 PKhKP PKPpre 08 56 28.4
comp=Z,9.5nm,0.9s,baz=34,slow=4.1,SNR=8.8
PB14 IPOC Station P 144.91 279 PKPbc 08 56 35.9 -0.5
ZON Zonda 146.36 266 PKIKP **PKPdf 08 56 39.0 +0.2**
ZON Zonda 146.36 266 PKPdf **PKPdf 08 56 39.0 +0.2**
CO05 La Serena 147.85 271 PKPbc 08 56 43.2 -1.2
VA03 San Esteban 148.25 265 PKPdf 08 56 42.1 +0.2
VA05 Santo Domingo 149.36 264 PKPbc 08 56 46.7 -1.4
PLCA Paso Flores 149.79 250 PKP **PKPdf 08 56 43.6 -0.5**
comp=Z,5.7nm,1.0s,baz=78,slow=2.6,SNR=12
PLCA PKPbc **PKPbc 08 56 49.2 +0.1**
comp=Z,43nm,0.8s,baz=69,slow=1.5,SNR=43
PLCA Paso Flores 149.79 250 *eP* **PKPdf 08 56 44.0 -0.2**
MG05 Puerto Natales 150.05 228 PKPbc 08 56 48.3 -0.9

NOU ***02*** *09:08:53.8, 14°.49S×167°.50E, h154km, mb4.5/28, Vanuatu Islands*
NEIC ***02*** *09:08:54.8±1.5, 14°.68S±0°.09×167°.5E±0°.1, h151km±6km, mb4.6/43, Error ellipse: s-maj=19.7km s-min=13.2km az=96.0*
IDC ***02*** *09:08:54.3±2.2, 14°.67S×167°.42E, h150km±19km, mb4.1/25, mb1 4.2/26, mb1mx4.0/43, mbtmp4.5/26, MS3.3/2, Ms1 3.3/2, ms1mx2.6/54, Error ellipse: s-maj=15.8km s-min=11.1km az=98.0*
ISC 02 09:08:56.3±0.4, 14°.73S±0°.05×167°.41E±0°.08, h170km, n128, σ1§10/134, mb4.4/43, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.74	195		Pn	09 09 18.2	-3.0
SANVU	Saraoutou	0.74	195	P	Pn	09 09 18.3	-2.9
DVP	Devils Point	3.07	166	P	Pn	09 09 45.2	-0.1
RTV	Rentapao	3.20	162	P	Pn	09 09 46.6	-0.3
LIFNC	LIFOU	6.02	181		Pn	09 10 22.3	-1.1
LIFNC				Sn	Sn	09 11 26.1	-5.8
LIFNC	LIFOU	6.02	181	P	Pn	09 10 22.2	-1.1
KOUNC	Koumac, New Ca	6.51	207	P	Pn	09 10 30.2	+0.3
YATNC	Mamie plateau,	7.31	184	P	Pn	09 10 41.2	+0.8
DZM	Mont Dzumac	7.36	187	P	Pn	09 10 40.4	-0.9
	4.5nm,0.3s,baz=24,slow=8.2,SNR=66						
DZM				S	Sn	09 12 04.2	+0.2
	6.0nm,0.3s,baz=145,slow=21,SNR=4.7						
DZM				LR	LR	09 13 23.2	
	comp=Z,182nm,18.8s,baz=255,slow=36						
DZM	Mont Dzumac	7.36	187	*eP*	Pn	09 10 40.8	-0.4
	40nm,0.9s						
DZM	Mont Dzumac	7.36	187		Pn	09 10 41.2	0.0
DZM	Mont Dzumac	7.36	187	P	Pn	09 10 41.6	+0.4
NOUC	Port Laguerre	7.41	188	P	Pn	09 10 42.7	+0.9
OUENC	Ouen Island, N	7.67	184		Pn	09 10 46.8	+1.6
OUENC	Ouen Island, N	7.67	184	P	Pn	09 10 47.2	+2.0
PINNC	Pines Island,	7.84	180		Pn	09 10 47.5	0.0
EIDS	Eidsvold	18.61	233	P	Pn	09 13 02.7	-0.4
EIDS				IAmb	IAmb	09 13 03.6	
	comp=Z,18nm,0.7s						
EIDS	Eidsvold	18.61	233	P	Pn	09 13 02.8	-0.4
CTA	Charters Tower	20.87	252	P	P	09 13 26.2	+1.0
	comp=Z,5.4nm,0.6s,baz=86,slow=10,SNR=5.8						
CTAO	Charters Tower	20.87	252	P	P	09 13 25.3	+0.1
CTAO				IAmb	IAmb	09 13 49.1	
	comp=Z,16nm,1.2s						
CTAO	Charters Tower	20.87	252	P	P	09 13 25.6	+0.4
RMQ	Roma	20.98	233	P	P	09 13 27.6	+1.3
ARMA	Armidale	21.31	220	P	P	09 13 30.9	+0.9
MGCD	Mangrove Creek	23.61	216	P	P	09 13 53.5	+1.7
CMSA	Cobar Meteorol	25.97	226	P	P	09 14 14.1	+0.9
CNB	Canberra Magne	26.13	215	P	P	09 14 16.1	+1.4
INKA	Innaminka	27.95	238	P	P	09 14 32.0	+1.1
LTZ	Lake Taylor	28.27	172	P	P	09 14 34.0	+0.4
LTZ				IAmb	IAmb	09 14 38.8	
	comp=Z,9.7nm,1.2s						
STKA	Stephens Creek	29.09	230	P	P	09 14 42.0	+1.0
	comp=Z,4.6nm,0.6s,baz=51,slow=7.3,SNR=15						
STKA				PcP	PcP	09 17 45.1	+0.3
	comp=Z,4.4nm,0.7s,baz=94,slow=3.6,SNR=8.7						
STKA	Stephens Creek	29.09	230	P	P	09 14 41.7	+0.7
STKA	Stephens Creek	29.09	230	P	P	09 14 42.1	+1.0
WB0	Warramunga Arr	31.89	256	P	P	09 15 04.4	-1.4
WB0				IAmb	IAmb	09 15 20.0	
	comp=Z,16nm,1.5s						
WB2	Warramunga Arr	31.94	256	P	P	09 15 06.0	-0.3
WB2				IAmb	IAmb	09 15 16.1	
	comp=Z,15nm,1.5s						
WRAB	Tennant Creek	31.94	256	P	P	09 15 06.0	-0.3
WRA	Warramunga Arr	31.95	256	P	P	09 15 05.0	-1.4
	comp=Z,0.7nm,0.5s,baz=85,slow=8.9,SNR=12						
WRA				PcP	PcP	09 17 52.8	+0.2
	comp=Z,0.9nm,0.8s,baz=72,slow=3.1,SNR=3.7						
WRA	Warramunga Arr	31.95	256	P	P	09 15 06.1	-0.3
AS31	Alice Springs	32.80	249	P	P	09 15 12.8	-0.9
ASAR	Alice Springs	32.80	249	P	P	09 15 12.5	-1.2
	comp=Z,1.5nm,0.3s,baz=78,slow=9.3,SNR=61						
ASAR				PcP	PcP	09 17 54.8	-0.1
	comp=Z,1.3nm,0.6s,baz=60,slow=2.2,SNR=10						
ASAR				S	S	09 20 14.9	-3.5
	comp=Z,0.9nm,1.1s,baz=72,slow=16,SNR=3.1						
ASAR				ScP	ScP	09 21 25.3	+2.2
	comp=Z,1.5nm,1.0s,baz=88,slow=3.0,SNR=6.6						
ASAR	Alice Springs	32.80	249	P	P	09 15 12.8	-0.9
BBOO	Buckleboo	33.68	232	P	P	09 15 22.1	+0.9
BBOO				IAmb	IAmb	09 15 28.3	
	comp=Z,23nm,1.1s						
BBOO	Buckleboo	33.68	232	P	P	09 15 22.0	+0.8
MULG	Mulgathing	34.32	238	P	P	09 15 26.5	-0.2
KNRA	Kununurra	37.27	263	P	P	09 15 53.7	+1.7
KNRA				IAmb	IAmb	09 16 10.9	
	comp=Z,23nm,1.4s						
WRKA	Warakurna	38.06	248	P	P	09 15 58.0	-0.6
SIJI	Sorong	38.27	288	LR	LR	09 32 30.7	
	comp=Z,90nm,19.5s,baz=160,slow=37						
FORT	Forrest	39.41	239	P	P	09 16 11.7	+2.0
FORT	Forrest	39.41	239	P	P	09 16 10.4	+0.7
PSA00	Pilbara Seismi	45.57	254	P	P	09 16 59.9	+0.4
MEEK	Meekatharra	46.91	247	P	P	09 17 09.7	-0.3
UGM	Wanagama	56.07	270	P	P	09 18 18.3	+0.1
JMN	Monobe	57.82	327	P	P	09 18 30.7	+0.6
MJAR	Matsushiro Arr	57.97	332	P	P	09 18 30.0	-1.0
	comp=Z,3.5nm,0.6s,baz=179,slow=7.8,SNR=8.5						
MJAR	Matsushiro Arr	57.97	332	P	P	09 18 30.4	-0.6
MAJO	Matsushiro	57.97	332	P	P	09 18 30.5	-0.5
MAJO				IAmb	IAmb	09 18 55.0	
	comp=Z,22nm,1.4s						
MJB9	Matsu-Tunnel	57.97	332	P	P	09 18 30.3	-0.8
MJB9				IAmb	IAmb	09 18 55.0	
	comp=Z,23nm,1.4s						
JNU	Nakatsue	59.00	324	P	P	09 18 37.6	-0.7
	comp=Z,7.4nm,0.8s,baz=26,slow=5.1,SNR=6.0						
JNU	Nakatsue	59.00	324	P	P	09 18 37.7	-0.6
TPUB	Ta-pu	59.35	309	P	P	09 18 39.6	-1.2
YHNB	Yeheng	59.59	311	P	P	09 18 42.6	+0.1
ASAJ	Asahikawa	62.79	340	P	P	09 19 04.0	+0.4
	comp=Z,12nm,0.8s,baz=237,slow=3.7,SNR=5.6						
VNDA	Vanda	62.86	181	P	P	09 19 04.4	+0.8
	comp=Z,1.0nm,0.5s,baz=6.5,slow=5.0,SNR=6.3						
VNDA	Vanda	62.86	181	P	P	09 19 04.5	+0.8
VNDA				IAmb	IAmb	09 19 07.8	
	comp=Z,4.7nm,1.2s						
KSRS	Korea Array	63.81	326	P	P	09 19 10.7	+0.2
	comp=Z,1.7nm,0.8s,baz=135,slow=7.1,SNR=6.5						
USRK	Ussuriysk Ar.	66.95	333	P	P	09 19 31.6	+1.2
	comp=Z,3.4nm,0.7s,baz=104,slow=6.1,SNR=3.7						
USRK	Ussuriysk Ar.	66.95	333	P	P	09 19 31.9	+1.5
PEA0B	Petropavlovsk-	68.08	354	P	P	09 19 37.6	+0.3
PETK	Petropavlovsk-	68.08	354	P	P	09 19 37.2	-0.2
	comp=Z,9.5nm,0.8s,baz=164,slow=5.9,SNR=19						
PETK	Petropavlovsk-	68.08	354	P	P	09 19 37.0	-0.4
RPSI	Rantau Prapat	69.96	278	P	P	09 19 49.3	-0.5
RPSI				IAmb	IAmb	09 19 50.0	
	comp=Z,8.1nm,0.9s						
KLR	Kul'dur	71.06	336	P	P	09 19 56.4	+0.7
	comp=Z,3.1nm,0.8s,baz=135,slow=3.1,SNR=7.3						
CM31	Chiang Mai Arr	75.07	294	P	P	09 20 20.1	+0.2
CM31				IAmb	IAmb	09 20 21.9	
	comp=Z,4.4nm,0.7s						
CMAR	Chiang Mai Arr	75.07	294	P	P	09 20 20.8	+0.9
	comp=Z,2.9nm,0.8s,baz=126,slow=4.7,SNR=16						
CMAR	Chiang Mai Arr	75.07	294	P	P	09 20 21.0	+1.1
MA2	Magadan	75.27	351	P	P	09 20 20.2	+0.1
MA2				IAmb	IAmb	09 20 20.4	
	comp=Z,7.1nm,0.9s						
QSPA	South Pole Qui	75.30	180	P	P	09 20 21.0	+0.5
	comp=Z,3.2nm,0.8s,baz=281,slow=0.7,SNR=22						
QSPA	South Pole Qui	75.30	180	P	P	09 20 21.1	+0.5
SEY	Seymchan	78.30	353	P	P	09 20 37.0	-0.1
	comp=Z,7.9nm,0.9s,baz=164,slow=5.6,SNR=13						
YAK	Yakutsk	82.07	343	P	P	09 20 57.3	+0.1
	comp=Z,18nm,0.7s,baz=334,slow=0.3,SNR=16						
YAK	Yakutsk	82.07	343	P	P	09 20 57.2	+0.1
ULN	Ulaanbaatar	82.22	324	P	P	09 20 58.6	+0.1
ULN				IAmb	IAmb	09 20 59.8	
	comp=Z,4.7nm,0.8s						
SONM	Songino Array	82.58	324	P	P	09 21 00.4	0.0
	comp=Z,3.0nm,1.0s,baz=144,slow=6.7,SNR=15						
SONM	Songino Array	82.58	324	P	P	09 21 00.3	-0.1
CAST	Castle Rocks	83.96	17	P	P	09 21 06.3	-0.7
CAST				IAmb	IAmb	09 21 06.8	
	comp=Z,11nm,0.8s						
SCM	Sheep Creek Mo	84.22	20	P	P	09 21 08.7	+0.4
N25K	Chitina, Valde	84.98	21	P	P	09 21 12.3	+0.1
YBH	Yreka Blue Hor	85.32	45	P	P	09 21 14.3	0.0
	comp=Z,1.8nm,0.9s,baz=52,slow=1.3,SNR=5.4						
YBH	Yreka Blue Hor	85.32	45	P	P	09 21 14.6	+0.3
H21K	Melozitna Rive	85.51	15	P	P	09 21 15.4	+0.8
IMAR	Indian Mountai	85.53	15	P	P	09 21 15.5	+0.8
IL31		86.49	18	P	P	09 21 19.3	-0.1
IL31				IAmb	IAmb	09 21 19.9	
	comp=Z,5.0nm,0.7s						
ILAR	Eielson Array	86.49	18	P	P	09 21 18.1	-1.3
	comp=Z,4.7nm,0.7s,baz=237,slow=4.7,SNR=44						
PFO	Pinyon Flats O	86.89	54	P	P	09 21 22.2	0.0
	comp=Z,1.0nm,0.8s,baz=309,slow=7.2,SNR=2.7						
NVAR	Mina Array Bea	87.17	49	P	P	09 21 23.6	-0.1
	comp=Z,1.2nm,0.8s,baz=227,slow=8.0,SNR=8.3						
PINE	Pine Mountain	87.34	43	P	P	09 21 25.4	+1.1
PINE				IAmb	IAmb	09 21 44.0	
	comp=Z,7.8nm,1.1s						
LTY	Liberty	88.88	40	P	P	09 21 31.6	+0.2
LTY				IAmb	IAmb	09 21 32.0	
	comp=Z,2.5nm,0.8s						
BMAR	Burnt Mountain	89.04	17	P	P	09 21 32.1	+0.6
G08A	Pilot Rock	89.23	43	P	P	09 21 33.0	-0.1
G08A				IAmb	IAmb	09 21 34.2	
	comp=Z,3.4nm,0.9s						
TIXI	Tiksi	90.00	349	P	P	09 21 35.1	-0.7
TIXI				IAmb	IAmb	09 21 59.0	
	comp=Z,5.4nm,0.8s						
VNA3	Neumayer Olymp	94.22	181	P	P	09 21 54.7	-0.9
VNA2	Neumayer--Watz	94.48	182	P	P	09 21 56.1	-0.7
	baz=179,slow=4.7						
PDAR	Pinedale Array	94.85	47	P	P	09 22 00.4	+1.1
	comp=Z,0.1nm,0.5s,baz=121,slow=0.9,SNR=4.0						
MK31	Makanchi Array	97.30	316	P	P	09 22 09.1	-0.9
MK31				IAmb	IAmb	09 22 11.3	
	comp=Z,2.3nm,0.8s						
MKAR	Makanchi Array	97.30	316	P	Pdif	09 22 10.2	+0.2
	comp=Z,3.1nm,0.7s,baz=96,slow=6.3,SNR=42						
ZAA0	Zalesovo Array	97.47	324		P	09 22 09.2	-1.3
ZAA0				IAmb	IAmb	09 22 10.2	
	comp=Z,2.7nm,0.7s						
ZALV	Zalesovo Beam	97.47	324	P	P	09 22 09.7	-0.9
	comp=Z,2.3nm,0.6s,baz=122,slow=3.7,SNR=13						
ZALV	Zalesovo Beam	97.47	324		P	09 22 09.4	-1.1
YKA	Yellowknife Ar	97.49	27	P	P	09 22 09.0	-1.4
	comp=Z,0.5nm,0.6s,baz=257,slow=4.7,SNR=14						
YKA	Yellowknife Ar	97.49	27	P	P	09 22 09.3	-1.1
MAKZ	Makanchi	97.51	316	P	P	09 22 10.6	-0.4
MAKZ				IAmb	IAmb	09 22 12.3	
	comp=Z,2.7nm,1.1s						
NRIK	Noril'sk	100.12	339	P	Pdif	09 22 21.6	-0.4
	comp=Z,1.4nm,0.4s,baz=106,slow=2.6,SNR=5.3						
BELG	Belogornoye	119.62	322	PKP	PKPdf	09 27 25.6	-0.1
	comp=Z,5.0nm,0.6s,baz=234,slow=4.1,SNR=4.8						
ARCES	ARCESS Array B	120.29	345	PKP	PKPdf	09 27 26.5	-0.1
	comp=Z,2.6nm,0.5s,baz=73,slow=2.0,SNR=21						
BOSA	Boshof	123.46	220	PKP	PKiKP	09 27 34.6	+0.3
	comp=Z,0.8nm,0.6s,baz=329,slow=2.9,SNR=4.5						
FINES	FINESS Array B	125.77	338	PKP	PKPdf	09 27 37.4	+0.1
	comp=Z,4.9nm,0.9s,baz=52,slow=2.3,SNR=12						
NB2	NORSAR Subarra	130.66	345	SKPa	SKPab	09 30 57.7	+2.8
	comp=Z,3.7nm,0.8s,baz=32,slow=3.0						
NOA	NORSAR Array B	130.66	345	PKP	PKiKP	09 27 47.3	-0.3
	comp=Z,0.8nm,0.7s,baz=348,slow=2.8,SNR=3.3						
AKASG	Malin Array Be	130.81	326	PKP	PKPdf	09 27 47.5	+0.3
	comp=Z,0.2nm,0.3s,baz=41,slow=2.7,SNR=4.4						
BRTR	Keskin Array B	132.61	311	PKP	PKPdf	09 27 51.7	+0.5
	comp=Z,0.6nm,0.6s,baz=133,slow=4.9,SNR=2.2						
BDFB	Brasilia	133.78	129	PKP	PKiKP	09 27 54.7	-0.6
	comp=Z,1.1nm,0.5s,baz=243,slow=2.3,SNR=3.3						
CONA	Conrad Observa	139.38	331	*eP*	PKiKP	09 28 06.2	+0.4
	comp=Z,0.7nm,0.3s						
KHC	Kasperske Hory	139.54	333	*e*PKP	PKiKP	09 28 07.1	+1.1
GERES	GERESS Array B	139.70	333	PKP	PKPdf	09 28 04.2	+0.2
	comp=Z,0.6nm,0.5s,baz=90,slow=2.0,SNR=6.1						
ARSA	Arzberg	140.03	330	*i* P	PKiKP	09 28 06.7	-0.3
	comp=Z,0.9nm,0.5s						
KBA	Koelnbreinsper	141.18	332	*i* P	PKPdf	09 28 05.6	-1.2
	comp=Z,1.4nm,0.5s						
FETA	Feichten	142.39	334	*e*P	PKPdf	09 28 06.3	-2.7
	comp=Z,2.4nm,0.6s						
KEST	Kesra	151.29	321	PKPbc	PKiKP	09 28 30.8	+0.2
	comp=Z,6.2nm,0.6s,baz=129,slow=0.6,SNR=9.7						
ESDC	Sonseca Array	154.02	345	PKPbc	PKiKP	09 28 36.5	+0.4
	comp=Z,1.9nm,1.1s,baz=19,slow=3.6,SNR=4.1						
ESDC				PKPab	PKPab	09 28 50.5	+0.4
	comp=Z,1.5nm,0.7s,baz=27,slow=4.3,SNR=6.1						
TORD	Torodi Ar. Bea	166.04	265	PKPab	PKPab	09 29 42.9	-0.3
	comp=Z,3.0nm,0.8s,baz=96,slow=3.8,SNR=14						

GUC 02 09:11:51.2±0.7, 31°.54S×71°.71W, h37km±3km, ML2.7, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.86	4	*i* P	Pn	09 12 06.8	0.0
CO06				*i* S	Sn	09 12 18.7	+0.5
VA06	Catapilco	1.08	161	||*i* P	Pn	09 12 10.6	+0.9
VA06				*i* S	Sn	09 12 25.1	+1.7
VA06				IAML		09 12 26.7	
	comp=N,644nm,0.2s						
CO03	El Pedregal	1.12	52	*e*P	Pn	09 12 11.3	+1.0
CO03				*i* S	Sn	09 12 26.2	+1.6
CO03				*i* S		09 12 26.6	
ROCH	El Roble	1.55	158	*i* P		09 12 18.1	
ROCH				*i* P	Pn	09 12 17.6	+1.2
ROCH				*i* S	Sn	09 12 37.7	+2.3
ROCH				*i* S		09 12 38.2	
ROCH				IAML		09 12 42.7	
	comp=E,116nm,0.5s						
ROCH				IAML		09 12 43.3	
	comp=E,145nm,0.3s						
GO04	Tololo Observa	1.57	30	*e*P	Pn	09 12 18.6	+1.9
GO04				*e*S	Sn	09 12 38.7	+2.8
VA03	San Esteban	1.57	142	*i* P	Pn	09 12 18.8	+2.2
VA03				*i* S	Sn	09 12 39.7	+4.0
VA03				IAML		09 12 42.0	
	comp=E,231nm,0.2s						
CO05	La Serena	1.66	14	*e*S	Sn	09 12 39.7	+1.8
MT02	Curacav	1.78	164	*i* P	Pn	09 12 20.6	+1.1
PEL	Peldehue	1.82	152	*e*P	Pn	09 12 22.3	+2.2
PEL				*e*S	Sn	09 12 45.2	+3.3
MT05	Renca	2.02	156	*e*P	Pn	09 12 24.6	+1.8
FCH	Farellones	2.15	146	||*i* P	Pn	09 12 27.4	+2.6
FCH				*i* S	Sn	09 12 54.7	+4.3
MT09	Talagante	2.31	165	*e*P	Pn	09 12 29.2	+2.3
MT09				*e*S	Sn	09 12 55.8	+1.6
MT01	Popeta	2.35	171	||*i* P	Pn	09 12 28.6	+1.3
MT01				*e*S	Sn	09 12 56.2	+1.3
MT01				IAML		09 13 05.4	
	comp=E,37nm,0.2s						

IDC ***02*** *09:12:16.2±5.4, 24°.06S×179°.63W, h476km±39km, mb3.3/4, mb1 3.4/4, mb1mx2.8/31, mbtmp4.2/4, Error ellipse: s-maj=106.5km s-min=39.9km az=150.0*
ISC 02 09:12:18.3±2.3, 24°.45±0°.8×179°.6W±0°.4, h500km, n7, σ1§07/8, mb3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.82	271	P	P	09 18 02.0	+0.5
	5.0nm,0.4s,baz=91,slow=9.4,SNR=6.6						
STKA	Stephens Creek	34.87	249	P	P	09 18 27.1	-0.1
	2.1nm,0.8s,baz=68,slow=9.5,SNR=3.4						
ASAR	Alice Springs	42.30	261	P	P	09 19 27.2	-0.5
	1.0nm,0.9s,baz=92,slow=7.2,SNR=7.8						
WRA	Warramunga Arr	42.72	267	P	P	09 19 30.3	-0.7
	2.1nm,0.5s,baz=103,slow=7.9,SNR=24						
WRA				ScP	ScP	09 24 16.8	+2.1
	0.6nm,0.9s,baz=92,slow=3.9,SNR=5.1						
NOA	NORSAR Array B	142.58	351	PKP	PKiKP	09 30 56.7	-0.2
	3.1nm,1.0s,baz=31,slow=3.1,SNR=7.6						
HFS	Hagfors	143.06	349	PKP

s-maj=31.9km s-min=19.8km az=154.0

ISC 02 09:13:33.1±1.3, 24°.05S±0°.1×67°.2W±0°.1, h187km±14km, n18, σ1°33/29, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.71**	**115**	||*iP*	Pn	09 14 05.0	-2.8
LVC	**Limon Verde**	**2.09**	**311**		**P**	**Pn**	**09 14 12.9**	**+0.8**
	8.8nm,0.3s,baz=130,slow=10,SNR=118							
LVC					S	**Sn**	**09 14 43.4**	**+1.3**
	17nm,0.3s,baz=252,slow=23,SNR=34							
LVC	**Limon Verde**	**2.09**	**311**	⇑	*iP*	**Pn**	**09 14 12.8**	**+0.8**
LVC					*i* S	**Sn**	**09 14 43.2**	**+1.0**
PB15	**IPOC Station P**	**2.22**	**290**	⇑	*iP*	**Pn**	**09 14 13.6**	**+0.3**
PB15					*i* S	**Sn**	**09 14 44.4**	**-0.1**
PB06	**IPOC Station P**	**2.53**	**300**	⇑	*iP*	**Pn**	**09 14 17.2**	**+0.5**
PB06					*i* S	**Sn**	**09 14 50.5**	**-0.1**
PB06					IAML		09 14 52.9	
	comp=N,357nm,0.4s							
PB09	**IPOC Station P**	**2.88**	**319**		*eP*	**Pn**	**09 14 22.3**	**+1.4**
PB09					*i* S	**Sn**	**09 14 59.9**	**+1.8**
PB09					IAML		09 15 02.5	
	comp=N,140nm,0.4s							
PB05	**IPOC Station P**	**2.98**	**292**	⇑	*iP*	**Pn**	**09 14 21.6**	**-0.3**
PB05					*i* S	**Sn**	**09 14 58.2**	**-1.8**
PB05					IAML		09 15 01.4	
	comp=N,104nm,0.3s							
PB03	**IPOC Station P**	**3.04**	**309**	⇑	*iP*	**Pn**	**09 14 23.2**	**+0.4**
PB03					*i* S	**Sn**	**09 15 01.1**	**-0.5**
PB03					IAML		09 15 03.0	
	comp=E,187nm,0.2s							
PB10	**IPOC Station P**	**3.11**	**278**	⇑	*iP*	**Pn**	**09 14 22.8**	**-0.6**
PB10					*i* S	**Sn**	**09 14 59.8**	**-2.8**
PB10					IAML		09 15 05.2	
PB04	**IPOC Station P**	**3.18**	**301**		*eP*	**Pn**	**09 14 24.6**	**+0.2**
PB04					*i* S	**Sn**	**09 15 02.9**	**-1.5**
PB04					IAML		09 15 10.3	
PB07	**IPOC Station P**	**3.35**	**312**		*eP*	**Pn**	**09 14 27.0**	**+0.4**
PB07					*i* S	**Sn**	**09 15 07.5**	**-0.7**
PB01	**IPOC Station P**	**3.62**	**324**		*eP*	**Pn**	**09 14 30.6**	**+0.9**
PB01					*i* S	**Sn**	**09 15 14.2**	**+0.1**
LPAZ	**La Paz**	**7.72**	**353**		P	**Pn**	**09 15 24.9**	**+1.6**
	comp=E,0.4nm,0.3s,baz=166,slow=8.0,SNR=10.0							
SIV	**San Ignacio**	**9.82**	**37**		P	**Pn**	**09 15 48.6**	**-1.8**
	comp=E,0.2nm,0.3s,baz=212,slow=12,SNR=8.8							
SIV					S	**Sn**	**09 17 37.6**	**-2.4**
	comp=E,0.1nm,0.3s,baz=330,slow=20,SNR=1.8							
PLCA	**Paso Flores**	**16.93**	**189**		P	**Pn**	**09 17 21.4**	**+2.2**
	comp=E,0.1nm,0.3s,baz=10,slow=8.9,SNR=3.6							
BDFB	**Brasilia**	**19.86**	**69**		P	**P**	**09 17 49.1**	**-1.0**
	comp=E,0.5nm,0.3s,baz=239,slow=9.2,SNR=7.4							
YKA	**Yellowknife Ar**	**94.06**	**340**		P	**P**	**09 26 30.6**	**+1.1**
	comp=E,0.2nm,0.8s,baz=135,slow=4.0,SNR=4.2							
MKAR	**Makanchi Array**	**146.64**	**39**		PKPbc	**PKPab**	**09 32 53.5**	**-0.6**
	comp=E,0.2nm,0.6s,baz=321,slow=1.8,SNR=2.9							

IDC 02 09:48:51.5±3.1, 2°.83N×128°.24E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/36, mbtmp3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/24, Error ellipse: s-maj=243.9km s-min=28.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**13.54**	**113**		LR	LR	09 57 02.2
	comp=Z,59nm,18.8s,baz=327,slow=36						
WRA	**Warramunga Arr**	**23.41**	**165**		P	P	09 54 02.6 +0.4
	0.2nm,0.3s,baz=344,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**26.90**	**168**		P	P	09 54 33.8 -0.7
	0.2nm,0.3s,baz=356,slow=8.6,SNR=5.7						
MKAR	**Makanchi Array**	**59.16**	**325**		P	P	09 58 54.5 +0.3
	0.2nm,0.5s,baz=111,slow=6.3,SNR=2.6						

ISK 02 09:57:50.2, 37°.14N×27°.88E, h0km, ML1.8/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.32**	**91**	PG	Pg	09 57 57.1	+0.7
YER				SG	Sg	09 58 02.5	+1.9
BODT	**Bodrum**	**0.46**	**260**	PG	Pg	09 57 59.2	+0.2
BODT				SG	Sb	09 58 06.9	-1.7
TURN	**Turunc**	**0.47**	**141**	PG	Pg	09 58 00.1	+0.9
DAT	**Datca**	**0.48**	**210**	PG	Pb	09 58 00.5	-1.1
AYDB	**Zeytinkoy-Aydi**	**0.80**	**1**	PG	Pb	09 58 06.5	-0.6
CAME	**Cameli-Denizli**	**1.16**	**100**	PN	Pg	09 58 12.6	+0.2

DDA 02 09:57:53.7±0.0, 37°.98N×28°.86E, h6km±1km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVA	**DENIZLI_Tavas**	**0.51**	**175**	P	Pg	09 58 02.8	-0.7
PASA	**Karahalli, USA**	**0.62**	**53**	P	Pg	09 58 05.7	0.0
PASA				S	Sg	09 58 13.2	-0.6
USAK	**Uak-Merkez**	**0.75**	**10**	P	Pg	09 58 08.3	+0.2
USAK				*i* AML	AML	09 58 15.0	
	comp=E,47nm,0.7s						
USAK				S	Sg	09 58 18.5	+0.7
DEMI	**Demirci**	**1.07**	**354**	P	Pg	09 58 14.0	-0.3
DEMI				S	Sg	09 58 28.2	0.0
DEMI				*i* AML	AML	09 58 33.0	
	comp=E,14nm,0.2s						
GDZ	**Gediz**	**1.22**	**24**	P	Pg	09 58 16.4	-0.6
GDZ				*i* AML	AML	09 58 29.0	
	comp=N,10nm,2.4s						
GDZ				S	Sb	09 58 33.3	+0.1

IDC ***02*** *09:58:25.9±2.2, 10°.62S×160°.90E, h84km±18km, mb3.5/4, mb1 3.7/5, mb1mx3.4/28, mbtmp3.8/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/32, Error ellipse: s-maj=42.3km s-min=18.1km az=60.0*

ISC 02 09:58:26.3±1.5, 10°.5S±0°.2×160°.9E±0°.2, h100km, n6, σ1°47/8, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.47**	**318**	P	**Pn**	**09 58 50.5**	**-1.7**
	38nm,0.3s,baz=184,slow=14,SNR=13						
HNR				S	**Sn**	**09 59 11.0**	**-0.8**
	154nm,0.3s,baz=356,slow=23,SNR=12						
DZM	**Mont Dzumac**	**12.62**	**156**	P	**Pn**	**10 01 22.7**	**+0.3**
	0.4nm,0.3s,baz=353,slow=16,SNR=12						
DZM				S	**Sn**	**10 03 39.6**	**-1.7**
	0.1nm,0.3s,baz=311,slow=19,SNR=1.2						
WRA	**Warramunga Arr**	**27.27**	**247**	P	**P**	**10 04 02.4**	**+0.8**
	1.6nm,0.7s,baz=76,slow=9.0,SNR=9.1						
ASAR	**Alice Springs**	**28.88**	**240**	P	**P**	**10 04 16.1**	**+0.3**
	0.4nm,0.6s,baz=61,slow=10,SNR=6.3						
ASAR				LR	LR	10 14 41.8	
	comp=Z,28nm,18.6s,baz=142,slow=34						
FITZ	**Fitzroy Crossi**	**34.97**	**254**	P	**P**	**10 05 09.7**	**+0.5**
	2.9nm,0.8s,baz=83,slow=8.1,SNR=2.1						
SONM	**Songino Array**	**75.52**	**325**	P	**P**	**10 10 01.8**	**+1.9**
	0.4nm,0.7s,baz=131,slow=5.9,SNR=1.9						

ROM ***02*** *10:42:44.4±0.2, 46°.51N±0°.01×8°.00E±0°.02, h10km, ML2.8/13, Error ellipse: s-maj=1.7km s-min=0.9km az=317.0*

STR ***02*** *10:42:44.1±0.3, 47°N±1°×±°, h4km, MLv3.0/19, preliminary*

LDG ***02*** *10:42:44.7±0.0, 46°.52N×8°.00E, h4km, Md3.1/2, Ml3.1/43, Error ellipse: s-maj=0.9km s-min=0.7km az=126.0*

GEN ***02*** *10:42:45.1, 46°.44N×7°.92E, h23km±3km, Ml2.8*

BGR ***02*** *10:42:46.0±0.5, 46°.57N×8°.02E, h4km±2km, ML3.3/33, Error ellipse: s-maj=5.6km s-min=3.3km az=30.0*

PRU ***02*** *10:42:50.0±0.0, 46°.66N×8°.24E, h22km*

ISC 02 10:42:43.4±0.9, 46°.53N±0°.01×7°.96E±0°.01, h18km±3km, n194, σ1°53/325, 2C, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMBD	**Embd, Matterta**	**0.33**	**195**	Pg	**Pb**	**10 42 51.4**	**+0.6**
EMBD				Sg	**Sg**	**10 42 55.7**	**+0.4**
EMBD	**Embd, Matterta**	**0.33**	**195**	P	**Pb**	**10 42 51.4**	**+0.6**
EMBD				S	**Sg**	**10 42 55.7**	**+0.4**
VANNI	**Vissoie, Val d**	**0.41**	**218**	P	**Pb**	**10 42 52.9**	**+0.7**
VANNI				S	**Sb**	**10 42 58.4**	**+0.3**
BNALP	**Bannalp**	**0.47**	**43**	P	**Pb**	**10 42 53.4**	**+0.2**
BNALP				S	**Sg**	**10 42 59.4**	**-0.1**
BNALP				AML	AML		
	comp=N,1570μm,0.2s						
BNALP				AML	AML		
	comp=E,1895μm,0.2s						
BNALP				AML	AML		
	comp=E,1895μm,0.2s						
BNALP				AML	AML		
	comp=N,1570μm,0.2s						
MMK	**Mattmark**	**0.48**	**179**	P	**Pb**	**10 42 54.0**	**+0.6**
MMK				S	**Sg**	**10 42 60.0**	**+0.2**
MMK				AML	AML		
	comp=E,2405μm,0.1s						
MMK				AML	AML		
	comp=N,2015μm,0.5s						
MMK	**Mattmark**	**0.48**	**179**	P	**Pb**	**10 42 54.1**	**+0.6**
MMK				S	**Sg**	**10 43 00.1**	**+0.2**
FUSIO	**Fusio**	**0.49**	**99**	P	**Pb**	**10 42 53.9**	**+0.2**
FUSIO				S	**Sg**	**10 43 00.1**	**-0.2**
FUSIO				AML	AML		
	comp=E,874μm,0.9s						
FUSIO				AML	AML		
	comp=N,1715μm,0.3s						
DIX	**Grande Dixence**	**0.59**	**220**	P	**Pg**	**10 42 56.2**	**+0.9**
DIX				S	**Sg**	**10 43 04.0**	**+0.7**
DIX				AML	AML		
	comp=N,620μm,0.4s						
DIX				AML	AML		
	comp=E,488μm,0.6s						
DIX				AML	AML		
	comp=N,620μm,0.4s						
DIX	**Grande Dixence**	**0.59**	**220**	P	**Pg**	**10 42 56.2**	**+0.9**
DIX				S	**Sg**	**10 43 03.9**	**+0.7**
SATI	**Passo dei Sala**	**0.66**	**185**	P	**Pg**	**10 42 57.2**	**+0.7**
SATI				S	**Sb**	**10 43 05.4**	**0.0**
SATI	**Passo dei Sala**	**0.66**	**185**	P	**Pg**	**10 42 57.3**	**+0.7**
SATI				S	**Sb**	**10 43 05.6**	**+0.2**
TORNY	**Torny/Romont**	**0.73**	**290**	Sg	**Sn**	**10 43 10.2**	**+0.7**
TORNY	**Torny/Romont**	**0.73**	**290**	Pg	**Pn**	**10 42 59.8**	**+1.0**
SALAN	**Lac Salanfe**	**0.78**	**241**	P	**Pn**	**10 42 59.9**	**+0.2**
BALST	**Balsthal**	**0.82**	**348**	Pg	**Pn**	**10 43 01.0**	**+0.8**
BALST	**Balsthal**	**0.82**	**348**	*e*Pg	**Pn**	**10 43 01.0**	**+0.8**
BALST				*e*Sg	**Sn**	**10 43 12.2**	**+0.2**
VARE	**Varese**	**0.87**	**139**	P	**Pb**	**10 42 59.5**	**-0.6**
VARE				S	**Sg**	**10 43 12.2**	**+0.2**
VARE				AML	AML		
	comp=E,379μm,1.0s						
VARE				AML	AML		
	comp=N,440μm,0.8s						
VARE				AML	AML		
	comp=N,440μm,0.8s						
REMY	**Saint-Rhmy-en**	**0.89**	**219**	⇑P	**Pn**	**10 43 01.5**	**+0.2**
REMY	**Saint-Rhmy-en**	**0.89**	**219**	P	**Pn**	**10 43 01.5**	**+0.2**
ZUR	**Degenried**	**0.94**	**27**	Pg	**Pg**	**10 43 02.9**	**+1.1**
ZUR	**Degenried**	**0.94**	**27**	Sg	**Sn**	**10 43 15.5**	**+0.7**
OGSI	**Sixt**	**0.95**	**241**	P	**Pg**	**10 43 03.2**	**+1.2**
OGSI				S	**Sn**	**10 43 15.5**	**+0.4**
CIRO	**Champorcher**	**0.97**	**196**	P	**Pn**	**10 43 02.5**	**+0.1**
CIRO				S	**Sg**	**10 43 15.1**	**0.0**
MUGIO	**Muggio**	**0.97**	**129**	AML	AML		
	comp=N,328μm,0.3s						
MUGIO				AML	AML		
	comp=E,207μm,1.5s						
MUGIO				AML	AML		
	comp=E,206μm,1.4s						
MUGIO				AML	AML		
	comp=N,329μm,0.3s						
MUGIO	**Muggio**	**0.97**	**129**	P	**Pg**	**10 43 02.7**	**+0.5**
MUGIO				S	**Sg**	**10 43 15.2**	**+0.1**
MRGE	**Morge**	**0.98**	**220**	P	**Pg**	**10 43 03.0**	**+0.5**
MRGE				AML	AML		
	comp=N,720μm,0.3s						
MRGE				AML	AML		
	comp=E,562μm,1.0s						
MRGE				AML	AML		
	comp=N,719μm,0.3s						
MRGE	**Morge**	**0.98**	**220**	P	**Pg**	**10 43 03.1**	**+0.5**
MRGE				S	**Sn**	**10 43 16.0**	**+0.1**
BOURR	**Bourrignon**	**1.00**	**330**	Pg	**Pg**	**10 43 05.1**	**+2.3**
SULZ	**Cheisacher**	**1.00**	**6**	Pg	**Pg**	**10 43 04.1**	**+1.2**
SULZ	**Cheisacher**	**1.00**	**6**	*e*Pn	**Pg**	**10 43 04.1**	**+1.2**
SULZ				*e*Sg	**Sn**	**10 43 18.0**	**+1.7**
TRAV	**Traversella**	**1.03**	**188**	P	**Pn**	**10 43 03.5**	**+0.5**
TRAV	**Traversella**	**1.03**	**188**	P	**Pg**	**10 43 03.8**	**+0.4**
TRAV				S	**Sb**	**10 43 16.3**	**+0.4**
BRANT	**Les Verrieres**	**1.10**	**292**	Pg	**Pg**	**10 43 07.6**	**+2.8**
BRANT	**Les Verrieres**	**1.10**	**292**	Sg	**Sg**	**10 43 21.9**	**+2.8**
PLONS	**Plons/SG**	**1.11**	**62**	P	**Pg**	**10 43 05.2**	**+0.2**
PLONS				AML	AML		
	comp=N,559μm,1.3s						
PLONS				AML	AML		
	comp=E,826μm,0.6s						
PLONS	**Plons/SG**	**1.11**	**62**	*e*Pn	**Pg**	**10 43 05.1**	**+0.2**
PLONS				*e*Sg	**Sn**	**10 43 19.3**	**+0.3**
CHMF	**Charmoille**	**1.15**	**309**	Pg	**Pg**	**10 43 07.2**	**+1.6**
CHMF				Sg	**Sg**	**10 43 23.0**	**+2.3**
GIMEL	**St. Georges /**	**1.17**	**271**	Pg	**Pg**	**10 43 08.3**	**+2.3**
GIMEL	**St. Georges /**	**1.17**	**271**	P	**Pg**	**10 43 06.7**	**+0.7**
GIMEL				AML	AML		
	comp=E,302μm,1.5s						
GIMEL				AML	AML		
	comp=N,291μm,1.4s						
METMA	**Mettma DE**	**1.20**	**10**	*e*Pn	**Pg**	**10 43 07.1**	**+0.4**
METMA				*e*Sg	**Sg**	**10 43 23.2**	**+0.9**
LSD	**Lago del Serru**	**1.22**	**208**	P	**Pg**	**10 43 06.9**	**-0.1**
LSD				AML	AML		
	comp=N,308μm,0.5s						
LSD				AML	AML		
	comp=E,447μm,1.3s						
LSD	**Lago del Serru**	**1.22**	**208**	P	**Pg**	**10 43 06.9**	**-0.1**
RSL	**Roselend**	**1.25**	**228**	Pn	**Pg**	**10 43 08.3**	**+0.7**
RSL	**Roselend**	**1.25**	**228**	P	**Pg**	**10 43 08.4**	**+0.7**
SLE	**Schleitheim**	**1.29**	**16**	Pn	**Pg**	**10 43 08.2**	**-0.1**
SLE	**Schleitheim**	**1.29**	**16**	*e*Pn	**Pg**	**10 43 08.3**	**-0.1**
SLE				*e*Pg	**Pb**	**10 43 09.8**	**+2.7**
SLE				*e*Sg	**Sg**	**10 43 25.6**	**+0.5**
CABF	**La Chapelle**	**1.29**	**274**	*e*P	**Pg**	**10 43 09.9**	**+1.5**
CABF				*e*Sg	**Sg**	**10 43 26.4**	**+1.1**
	comp=E,80nm,0.3s						
LPL	**La Plagne**	**1.32**	**220**	*e*Pg	**Pg**	**10 43 09.5**	**+0.5**
LPL				*e*Sg	**Sg**	**10 43 27.4**	**+1.0**
	comp=E,39nm,0.3s						
LPG	**La Plagne**	**1.33**	**219**	*e*Pg	**Pg**	**10 43 09.4**	**+0.2**
LPG				*e*Sg	**Sg**	**10 43 27.6**	**+1.0**
	comp=E,29nm,0.2s						
FELD	**Feldberg im Sc**	**1.35**	**1**	Sg	**Sg**	**10 43 26.3**	**-0.7**
FELD	**Feldberg im Sc**	**1.35**	**1**	Pn	**Pg**	**10 43 09.1**	**-0.3**
DAVOX	**Davos/Dischmat**	**1.35**	**79**	P	**Pg**	**10 43 09.4**	**-0.1**
DAVOX				AML	AML		
	comp=E,222μm,0.7s						
DAVOX				AML	AML		
	comp=N,420μm,1.1s						
BERGE	**Lenzkirch (DE)**	**1.35**	**6**	*e*Pn	**Pg**	**10 43 09.1**	**-0.4**
BERGE				*e*Pg	**Pb**	**10 43 10.7**	**+2.5**
BERGE				*e*Sg	**Sg**	**10 43 28.1**	**+0.9**
KIZ	**Kirchzarten**	**1.43**	**359**	Sn	**Sb**	**10 43 27.7**	**+0.4**
KIZ				Sg	**Sg**	**10 43 30.5**	**+0.9**
KIZ	**Kirchzarten**	**1.43**	**359**	Pg	**Pg**	**10 43 11.9**	**+0.9**
KIZ	**Kirchzarten**	**1.43**	**359**	Pn	**Pb**	**10 43 10.0**	**+0.5**
BERNI	**Berninapass**	**1.43**	**94**	P	**Pg**	**10 43 10.7**	**-0.4**
BERNI				AML	AML		
	comp=E,188μm,1.2s						
BERNI				AML	AML		
	comp=N,122μm,0.3s						
BERNI				AML	AML		
	comp=E,188μm,1.2s						
BERNI				AML	AML		
	comp=N,122μm,0.3s						
MOF	**Molkenrain**	**1.44**	**337**	Pn	**Pg**	**10 43 10.9**	**-0.2**
MONC	**Moncucco Torin**	**1.46**	**181**	P	**Pg**	**10 43 13.7**	**+2.2**
MONC				AML	AML		
	comp=E,424μm,0.6s						
MONC				AML	AML		
	comp=N,498μm,0.4s						
MONC				AML	AML		
	comp=E,423μm,0.6s						
WALHA	**Wallhausen, DE**	**1.46**	**33**	*e*Pn	**Pb**	**10 43 10.7**	**+0.7**
WALHA				*e*Pg	**Pg**	**10 43 12.4**	**+0.8**
WALHA				*e*Sg	**Sg**	**10 43 30.5**	**-0.1**
RSP	**Reno Superiore**	**1.47**	**199**	P	**Pg**	**10 43 11.8**	**+0.1**
RSP				AML	AML		
	comp=E,297μm,0.6s						
RSP				AML	AML		
	comp=N,289μm,0.7s						
RSP	**Reno Superiore**	**1.47**	**199**	P	**Pg**	**10 43 11.6**	**-0.1**
HINF	**Hinteralfeld**	**1.49**	**330**	*e*Pg	**Pg**	**10 43 11.6**	**-0.5**
HINF				*e*Sn	**Sb**	**10 43 30.3**	**+1.2**
HINF				*e*Sg	**Sg**	**10 43 32.6**	**+1.0**
	comp=N,38nm,0.2s						
EMING	**Emmingen-Lipti**	**1.49**	**24**	*e*Pn	**Pb**	**10 43 11.0**	**+0.4**
EMING				*e*Pg	**Pg**	**10 43 13.2**	**+1.1**
EMING				*e*Sg	**Sg**	**10 43 32.7**	**+1.1**
DAVA	**Damuels**	**1.52**	**60**	*i* Pn	**Pg**	**10 43 13.1**	**+0.3**
	comp=N,2.8nm,0.1s,SNR=29						
DAVA				*e*Sg	**Sg**	**10 43 33.2**	**+0.6**
	comp=N,156nm,0.3s						
DAVA	**Damuels**	**1.52**	**60**	*e*Pn	**Pg**	**10 43 13.1**	**+0.3**
VOGT	**Vogtsburg - To**	**1.56**	**353**	Pn	**Pb**	**10 43 12.3**	**+0.5**
OGMO	**Fort Saint-Gob**	**1.59**	**214**	Pn	**Pg**	**10 43 14.3**	**+0.2**
OG35	**Corcelles**	**1.72**	**254**	Pg	**Pg**	**10 43 18.7**	**+2.1**
OG35				Sg	**Sg**	**10 43 41.1**	**+2.1**
BNI	**Bardonecchia**	**1.73**	**212**	P	**Pg**	**10 43 16.8**	**+0.1**
BNI				AML	AML		
	comp=E,80μm,0.5s						
BNI				AML	AML		
	comp=N,74μm,1.5s						
BNI				AML	AML		
	comp=E,80μm,0.5s						
GUT	**Gutenstein**	**1.73**	**27**	Pg	**Pg**	**10 43 17.5**	**+0.8**
GUT	**Gutenstein**	**1.73**	**27**	Pn	**Pb**	**10 43 14.1**	**-0.6**
ECH	**Echery**	**1.77**	**342**	Pn	**Pb**	**10 43 15.2**	**-0.1**
ECH				Sg	**Sg**	**10 43 40.7**	**+0.2**
MOSI	**Grossmontoni**	**1.79**	**86**	P	**Pg**	**10 43 17.4**	**-0.5**
MOSI				S	**Sg**	**10 43 44.6**	**+3.4**
MOSI				AML	AML		
	comp=E,548μm,0.4s						
MOSI				AML	AML		
	comp=N,708μm,1.0s						
BFO	**Black Forest**	**1.82**	**8**	*e*Pn	**Pb**	**10 43 15.3**	**-0.9**
BFO				*e*Sn	**Sn**	**10 43 37.1**	**+0.7**
BFO				*e*Sg	**Sg**	**10 43 42.1**	**+0.1**
OGSM	**Saint Maurice**	**1.82**	**240**	Pg	**Pg**	**10 43 20.1**	**+1.7**
OGSM				Sg	**Sg**	**10 43 44.2**	**+2.0**
OBER	**Oberstdorf**	**1.82**	**60**	*e*Pg	**Pg**	**10 43 19.4**	**+0.9**
OBER				*e*Sg	**Sg**	**10 43 41.4**	**-0.9**
HAU	**Haudompre**	**1.84**	**324**	*e*P	**Pb**	**10 43 16.5**	**0.0**
HAU	**Haudompre**	**1.84**	**324**	*e*Pg	**Pg**	**10 43 19.2**	**+0.5**
HAU				*e*Sn	**Sn**	**10 43 37.9**	**+1.1**
HAU				*e*Sg	**Sg**	**10 43 43.0**	**+0.4**
	comp=N,160nm,0.5s						
UBR	**Ueberruh**	**1.87**	**51**	*e*Pn	**Pb**	**10 43 17.3**	**+0.3**
UBR				*e*Pg	**Pg**	**10 43 20.3**	**+1.0**
UBR				*e*Sg	**Sg**	**10 43 45.3**	**+1.7**
WLS	**Welschbruch**	**1.93**	**348**	Pn	**Pb**	**10 43 17.4**	**-0.6**
CDF	**Champ du Feu**	**1.94**	**346**	*e*Pn	**Pb**	**10 43 17.2**	**-1.0**
CDF				*e*Sn	**Sn**	**10 43 40.0**	**+0.6**
CDF				*e*Sg	**Sg**	**10 43 45.9**	**0.0**
	comp=N,37nm,0.2s						
FETA	**Feichten**	**1.97**	**75**	*i* Pg	**Pg**	**10 43 20.4**	**-0.8**
	comp=N,3.0nm,0.2s						
FETA				*i* Sg	**Sg**	**10 43 46.8**	**-0.1**
	comp=N,21nm,0.4s						
MBDF	**Montbardon**	**1.99**	**205**	*e*Pg	**Pg**	**10 43 21.2**	**-0.4**
MBDF				*e*Sg	**Sg**	**10 43 47.7**	**+0.3**
	comp=N,33nm,0.2s						
MAGA	**Magasa**	**2.01**	**111**	P	**Pg**	**10 43 21.2**	**-0.7**
MAGA				AML	AML		
	comp=N,318μm,0.4s						
MAGA				AML	AML		
	comp=E,641μm,0.6s						
GRN	**Grenoble**	**2.01**	**231**	Pg	**Pg**	**10 43 23.8**	**+1.8**
RETA	**Reutte**	**2.15**	**63**	*i* Pn	**Pb**	**10 43 21.5**	**-0.2**
	comp=E,0.7nm,0.1s						
RETA				*i* Pg	**Pg**	**10 43 25.4**	**+0.8**
	comp=E,17nm,0.3s						
RETA				*i* Sn	**Sb**	**10 43 48.1**	**+0.1**
	comp=E,8.3nm,0.3s						
RETA				*i* Sg	**Sg**	**10 43 53.2**	**+0.7**
	comp=E,67nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.17**	**223**	*e*P	**Pb**	**10 43 22.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**2.17**	**223**	*e*Pg	**Pg**	**10 43 25.4**	**+0.3**
ORIF				*e*Sg	**Sg**	**10 43 53.7**	**+0.4**
	comp=E,32nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.17**	**223**	Pg	**Pg**	**10 43 25.8**	**+0.7**
SURF	**Saint Ours**	**2.20**	**202**	Pn	**Pb**	**10 43 24.0**	**+1.2**
ZUGS	**Zugspitze, Sch**	**2.25**	**66**	*e*Sg	**Sg**	**10 43 56.8**	**+0.9**
OGAG	**Argentiere**	**2.30**	**206**	Pg	**Pn**	**10 43 21.8**	**+1.3**
MOTA	**Moosalm**	**2.31**	**68**	*i* Pn	**Pb**	**10 43 24.6**	**0.0**
	comp=E,0.4nm,0.1s,SNR=8.2						
MOTA				*i* Sn	**Sb**	**10 43 52.7**	**0.0**
	comp=E,2.0nm,0.1s						
MOTA				*e*Sg	**Sg**	**10 43 58.6**	**+1.0**
	comp=E,94nm,0.4s						
ABSI	**Aberstueckl**	**2.33**	**84**	P	**Pg**	**10 43 27.2**	**-0.9**
SQTA	**Sankt Quirin**	**2.34**	**72**	*i* Pn	**Pb**	**10 43 25.4**	**+0.3**
	comp=E,1.2nm,0.1s,SNR=14						
SQTA				*i* Sn	**Sg**	**10 43 58.7**	**+0.1**
	comp=E,71nm,0.3s						
PART	**Garmisch-Parte**	**2.37**	**65**	*e*Sg	**Sg**	**10 43 59.7**	**+0.2**
STU	**Stuttgart**	**2.39**	**20**	*e*Pn	**Pn**	**10 43 22.7**	**+1.0**
STU				*e*Sg	**Sg**	**10 44 00.4**	**0.0**
PAGF	**Fort de Pagny**	**2.53**	**324**	*e*P	**Pb**	**10 43 26.9**	**-1.3**
	baz=144						
PAGF				*e*Sn	**Sn**	**10 43 54.2**	**+0.4**
	comp=E,22nm,0.3s						
PAGF				*e*Sg	**Sg**	**10 44 04.5**	**-0.1**
	comp=E,22nm,0.4s						
SPIF	**crte de Spivo**	**2.53**	**192**	Pn	**Pb**	**10 43 26.9**	**-1.4**
SBPO	**S.Benedetto Po**	**2.55**	**124**	S	**Sg**	**10 44 08.0**	**+2.7**
SAOF	**Sa

LOR	**Lormes**	**2.90**	**286**	Pn	**Pb**	**10 43 31.9**	**-2.7**
SMRF	**Simiane la Rot**	**3.06**	**214**	*e*P	**Pb**	**10 43 34.7**	**-2.6**
SMRF				*e*Sn	**Sn**	**10 44 07.2**	**+0.2**
SMRF				*e*Sg	**Sg**	**10 44 21.3**	**-0.4**
	comp=E,3.0nm,0.3s						
SSF	**Saint Saulge**	**3.10**	**281**	*e*P	**Pb**	**10 43 35.8**	**-2.2**
SSF	**Saint Saulge**	**3.10**	**281**	*e*Pg	**Pg**	**10 43 42.7**	**-0.2**
SSF				*e*Sg	**Sg**	**10 44 22.7**	**-0.3**
	comp=E,13nm,0.2s						
CIMO	**Cimolais**	**3.11**	**92**	⇑P	**Pb**	**10 43 37.5**	**-0.7**
CIMO				AML	AML		
	comp=N,28μm,0.6s						
CIMO				AML	AML		
	comp=E,24μm,0.3s						
AVF	**Avril sur Loir**	**3.18**	**276**	*e*Pn	**Pn**	**10 43 35.3**	**+2.8**
AVF	**Avril sur Loir**	**3.18**	**276**	*e*Pg	**Pg**	**10 43 43.6**	**-0.7**
AVF				*e*Sn	**Sn**	**10 44 10.2**	**+0.3**
AVF				*e*Sg	**Sg**	**10 44 25.3**	**-0.2**
	comp=E,9.9nm,0.3s						
RIVT	**Riveris**	**3.28**	**346**	*e*Pn	**Pn**	**10 43 37.1**	**+3.3**
RIVT				*e*Sn	**Sn**	**10 44 13.0**	**+0.7**
LMR	**La Mourre**	**3.36**	**198**	*e*P	**Pb**	**10 43 39.2**	**-3.2**
LMR	**La Mourre**	**3.36**	**198**	*e*Pg	**Pg**	**10 43 47.1**	**-0.7**
LMR				*e*Sn	**Sn**	**10 44 14.1**	**-0.2**
	comp=E,4.5nm,0.3s						
WLF	**Walferdange**	**3.36**	**340**	*e*Pn	**Pn**	**10 43 38.7**	**+3.7**
WLF				*e*Sg	**Sg**	**10 44 31.1**	**-0.2**
ABH	**Alteburg**	**3.36**	**356**	Pn	**Pn**	**10 43 37.3**	**+2.2**
ABH	**Alteburg**	**3.36**	**356**	*e*Pn	**Pn**	**10 43 37.2**	**+2.2**
ABH				*e*Sg	**Sg**	**10 44 31.4**	**0.0**
BODE	**Bodenheim**	**3.39**	**4**	*e*Sg	**Sg**	**10 44 32.8**	**+0.5**
MILB	**Miltenberg**	**3.42**	**15**	*e*Pn	**Pn**	**10 43 36.4**	**+0.6**
MILB				*e*Sg	**Sg**	**10 44 32.8**	**-0.4**
BGF	**Bois d'Agland**	**3.53**	**272**	*e*P	**Pn**	**10 43 40.3**	**+3.1**
BGF	**Bois d'Agland**	**3.53**	**272**	*e*Pg	**Pg**	**10 43 50.5**	**-0.5**
BGF				*e*Sn	**Sn**	**10 44 18.6**	**+0.2**
BGF				*e*Sg	**Sg**	**10 44 36.1**	**-0.5**
	comp=E,15nm,0.3s						
TNS	**Taunus Mts**	**3.71**	**5**	*e*Pn	**Pn**	**10 43 41.5**	**+1.7**
TNS				*e*Sn	**Sn**	**10 44 23.6**	**+0.6**
TNS				*e*Sg	**Sg**	**10 44 42.9**	**+0.4**
HYF	**Humbligny**	**3.72**	**283**	*e*P	**Pb**	**10 43 44.4**	**-4.1**
HYF				*e*Sn	**Sn**	**10 44 23.1**	**-0.1**
HYF				*e*Sg	**Sg**	**10 44 42.1**	**-0.7**
KBA	**Koelnbreinsper**	**3.74**	**80**	*e*Pn	**Pb**	**10 43 45.2**	**-3.9**
	comp=E,0.8nm,0.1s						
KBA				*e*Sg	**Sg**	**10 44 47.0**	**+3.4**
	comp=E,6.5nm,0.5s						
KBA	**Koelnbreinsper**	**3.74**	**80**	*e*Pn	**Pb**	**10 43 45.1**	**-4.0**
LASF	**Ste Croix**	**3.79**	**231**	*e*Pn	**Pn**	**10 43 42.3**	**+1.4**
LASF	**Ste Croix**	**3.79**	**231**	*e*Pg	**Pg**	**10 43 55.4**	**-0.7**
LASF				*e*Sn	**Sn**	**10 44 24.7**	**-0.4**
LASF				*e*Sg	**Sg**	**10 44 43.3**	**-1.9**
	comp=E,6.2nm,0.4s						
GRF	**Grafenberg Arr**	**3.85**	**33**	*e*Sg	**Sg**	**10 44 44.9**	**-2.0**
TCF	**Toulx Ste Croi**	**3.98**	**269**	*e*Pn	**Pn**	**10 43 45.6**	**+2.1**
TCF				*e*Sn	**Sn**	**10 44 29.4**	**-0.3**
TCF				*e*Sg	**Sg**	**10 44 50.3**	**-0.9**
	comp=E,6.9nm,0.3s						
PGF	**Pioggiola**	**4.05**	**169**	*e*P	**Pn**	**10 43 47.1**	**+2.5**
PGF				*e*Sn	**Sn**	**10 44 30.6**	**-1.0**
	comp=E,1.7nm,0.3s						
CPGN	**Carpegna, Ital**	**4.12**	**130**	P	**Pn**	**10 43 49.8**	**+4.3**
CPGN				AML	AML		
	comp=N,500μm,1.6s						
CPGN				AML	AML		
	comp=E,245μm,1.6s						
GIVF	**Givet**	**4.14**	**331**	*e*P	**Pn**	**10 43 49.3**	**+3.6**
GIVF				*e*Sn	**Sn**	**10 44 32.8**	**-0.7**
GIVF				*e*Sg	**Sg**	**10 44 54.6**	**-1.7**
	comp=E,7.7nm,0.3s						
DOU	**Dourbes**	**4.21**	**329**	Pn	**Pn**	**10 43 50.1**	**+3.4**
WET	**Wettzell**	**4.22**	**50**	*e*Pn	**Pn**	**10 43 48.3**	**+1.5**
WET				*e*Pg	**Pg**	**10 44 03.0**	**-1.3**
WET				*e*Sn	**Sn**	**10 44 34.6**	**-1.0**
WET				*e*Sg	**Sg**	**10 44 56.9**	**-2.0**
HROE	**Hohe Rhon--Fla**	**4.27**	**19**	*e*Sg	**Sg**	**10 44 58.7**	**-1.6**
BAIF	**Baives**	**4.33**	**326**	*e*P	**Pn**	**10 43 51.5**	**+3.3**
BAIF	**Baives**	**4.33**	**326**	*e*Pg	**Pg**	**10 44 04.6**	**-1.6**
BAIF				*e*Sn	**Sn**	**10 44 37.3**	**-0.8**
	comp=E,7.4nm,0.4s						
BAIF				*e*Sg	**Sg**	**10 45 00.5**	**-1.7**
	comp=E,2.5nm,0.3s						
CAF	**Calviac**	**4.43**	**251**	*e*Pn	**Pn**	**10 43 52.3**	**+2.7**
CAF	**Calviac**	**4.43**	**251**	*e*Pg	**Pg**	**10 44 06.9**	**-1.3**
CAF				*e*Sn	**Sn**	**10 44 40.3**	**-0.4**
CAF				*e*Sg	**Sg**	**10 45 04.2**	**-1.3**
	comp=E,5.9nm,0.3s						
MOA	**Molln**	**4.50**	**71**	*i* Pn	**Pn**	**10 43 53.7**	**+3.0**
	comp=E,0.8nm,0.1s						
MOA	**Molln**	**4.50**	**71**	*e*Pn	**Pn**	**10 43 53.7**	**+3.0**
MOA				*e*Sn	**Sn**	**10 44 38.5**	**-4.0**
MOA				*e*Sg	**Sg**	**10 45 06.4**	**-1.4**
UBBA	**Unterbreizbach**	**4.50**	**17**	*e*Sg	**Sg**	**10 45 06.6**	**-1.2**
GEC2	**GERESS Array S**	**4.52**	**57**	*e*Sn	**Sn**	**10 44 42.4**	**-0.6**
GEC2				*e*Sg	**Sg**	**10 45 07.8**	**-0.7**
KHC	**Kasperske Hory**	**4.59**	**53**	*e*PN	**Pn**	**10 43 53.9**	**+1.9**
KHC				*e*PG	**Pg**	**10 44 08.6**	**-2.8**
KHC				*e*SN	**Sn**	**10 44 44.2**	**-0.6**
KHC				*e*SG	**Sg**	**10 45 08.1**	**-2.7**
	comp=E,12nm,0.6s						
RJF	**Les Rejaudoux**	**4.66**	**257**	*e*P	**Pn**	**10 43 56.1**	**+3.3**
RJF	**Les Rejaudoux**	**4.66**	**257**	*e*Pg	**Pg**	**10 44 10.9**	**-1.7**
RJF				*e*Sn	**Sn**	**10 44 45.5**	**-0.9**
RJF				*e*Sg	**Sg**	**10 45 11.3**	**-1.6**
	comp=E,3.9nm,0.3s						
KASTN	**Kahler Asten**	**4.69**	**4**	*e*Pn	**Pn**	**10 43 55.4**	**+2.2**
KASTN				*e*Sn	**Sn**	**10 44 48.7**	**+1.6**
NKC	**Novy Kostel**	**4.76**	**37**	*e*SG	**Sg**	**10 45 14.4**	**-1.8**
	comp=E,15nm,0.4s						
MOX	**Moxa**	**4.78**	**29**	*e*Sg	**Sg**	**10 45 15.1**	**-1.6**
CKRC	**Cesky Krumlov**	**4.87**	**60**	*e*PN	**Pn**	**10 43 57.7**	**+2.0**
CKRC				*e*SN	**Sn**	**10 44 50.2**	**-1.3**
CKRC				*e*SG	**Sg**	**10 45 16.5**	**-3.0**
	comp=E,7.0nm,0.3s						
MTLF	**Montolieu**	**5.17**	**234**	*e*Pn	**Pn**	**10 44 01.2**	**+1.3**
MTLF	**Montolieu**	**5.17**	**234**	*e*Pg	**Pg**	**10 44 21.0**	**-1.4**
MTLF				*e*Sg	**Sg**	**10 45 26.9**	**-2.5**
	comp=E,2.5nm,0.4s						
ARRO	**Arrone**	**5.24**	**137**	P	Pn	10 44 05.9	+5.1
LFF	**La Frestale**	**5.30**	**255**	*e*Pn	**Pn**	**10 44 02.7**	**+1.2**
LFF	**La Frestale**	**5.30**	**255**	*e*Pg	**Pg**	**10 44 22.9**	**-1.9**
LFF				*e*Sg	**Sg**	**10 45 31.4**	**-1.9**
	comp=E,6.9nm,0.3s						
CHRS	**Christianenhau**	**5.42**	**19**	*e*Sg	**Sg**	**10 45 34.9**	**-2.3**
CLZ	**Clausthal**	**5.55**	**16**	*e*Sg	**Sg**	**10 45 40.0**	**-1.3**
CONA	**Conrad Observa**	**5.56**	**73**	*i* Pn	**Pn**	**10 44 08.4**	**+3.1**
	comp=E,0.8nm,0.2s,SNR=4.9						
MFF	**Saint Martin d**	**5.59**	**274**	*e*Pn	**Pn**	**10 44 08.0**	**+2.5**
MFF				*e*Sn	**Sn**	**10 45 07.8**	**-1.4**
	comp=E,2.8nm,0.3s						
MFF				*e*Sg	**Sg**	**10 45 40.4**	**-2.2**
	comp=E,2.6nm,0.3s						
PRU	**Pruhonice**	**5.59**	**49**	*e*PG	**Pg**	**10 44 27.0**	**-3.5**
PRU				*e*SG	**Sg**	**10 45 39.4**	**-3.5**
	comp=E,22nm,1.1s						
CLL	**Collm**	**5.82**	**33**	*e*Sg	**Sg**	**10 45 48.6**	**-1.5**
LDF	**La Druitiere**	**5.84**	**294**	*e*Pn	**Pn**	**10 44 09.9**	**+0.8**
LDF	**La Druitiere**	**5.84**	**294**	*e*Pg	**Pg**	**10 44 33.1**	**-2.1**
LDF				*e*Sn	**Sn**	**10 45 13.8**	**-1.7**
LDF				*e*Sg	**Sg**	**10 45 48.3**	**-2.5**
	comp=E,4.7nm,0.6s						
BRG	**Berggiesshubel**	**5.88**	**40**	Pn	**Pg**	**10 44 35.6**	**-0.3**
BRG				Amp		10 44 39.5	
	comp=Z,1.1nm,0.6s						
BRG	**Berggiesshubel**	**5.88**	**40**	Sg	**Sg**	**10 45 50.3**	**-1.7**
BRG				Amp		10 45 55.8	
	comp=Z,7.1nm,0.5s						
BRG	**Berggiesshubel**	**5.88**	**40**	*e*Sg	**Sg**	**10 45 48.3**	**-3.7**
FLN	**La Foliniere**	**6.12**	**294**	*e*Pn	**Pn**	**10 44 13.6**	**+0.7**
FLN	**La Foliniere**	**6.12**	**294**	*e*Pg	**Pg**	**10 44 38.5**	**-2.0**
	baz=114						
FLN				*e*Sn	**Sn**	**10 45 20.9**	**-1.5**
FLN				*e*Sg	**Sg**	**10 45 56.5**	**-3.3**
	comp=Z,2.1nm,0.3s,baz=115						
KRUC	**Moravsky**	**6.22**	**63**	*e*PN	**Pn**	**10 44 15.7**	**+1.4**
KRUC				*e*SN	**Sn**	**10 45 22.0**	**-2.9**
GRR	**Gorron**	**6.26**	**290**	*e*Pn	**Pn**	**10 44 15.4**	**+0.7**
GRR				*e*Sn	**Sn**	**10 45 22.7**	**-3.0**
	comp=Z,8.0nm,0.3s						
GRR				*e*Sg	**Sg**	**10 46 01.2**	**-2.9**
	comp=Z,4.1nm,0.2s						
VRAC	**Vranov**	**6.44**	**61**	*e*PN	**Pn**	**10 44 18.8**	**+1.6**
VRAC				*e*SN	**Sn**	**10 45 28.1**	**-2.0**
LIK	**San Giovanni I**	**6.45**	**139**	P	Pn	10 44 22.2	+4.9
MORC	**Moravsky Berou**	**7.19**	**60**	*e*PN	**Pn**	**10 44 29.2**	**+1.6**
MORC				*e*SN	**Sn**	**10 45 46.4**	**-2.3**
QUIF	**Quistinic**	**7.70**	**284**	*e*Sn	**Sn**	**10 45 57.9**	**-3.2**
	comp=Z,5.1nm,0.4s						
ROSF	**Rostrenen**	**7.83**	**287**	*e*P	Pn	10 44 41.8	+5.5
ROSF				*e*Sn	**Sn**	**10 46 01.3**	**-3.0**
ROSF				*e*Sg	Sb	10 46 49.7	+18
	comp=Z,2.4nm,0.3s						

WEL 02 11:15:46.7±0.7,35°S±11′×17°9E±1°9,h325km±9km,M3.7/8, mB4.2/6,ML4.3/25,MLv4.0/8,Mw(mB)3.3/6,Error ellipse: s-maj=0.0km s-min=0.0km az=117.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**3.29**	**202**	P	Pn	11 16 45.2	-1.7
HAZ				S	S	11 17 32.9	-2.2
PKGZ	**Pakihiroa**	**3.33**	**197**	P	Pn	11 16 46.9	-0.4
PKGZ				S	S	11 17 36.2	-0.1
PUZ	**Puketiti**	**3.47**	**194**	P	Pn	11 16 48.2	-0.5
PUZ				S	S	11 17 38.6	+0.1
RUGZ	**Raukumara Rang**	**3.51**	**201**	P	Pn	11 16 48.5	-0.7
RUGZ				S	S	11 17 38.4	-1.0
CNGZ	**Carnagh Statio**	**3.88**	**193**	P	Pn	11 16 54.3	+1.4
MWZ	**Matawai**	**3.90**	**201**	P	Pn	11 16 52.4	-0.7
MWZ				S	S	11 17 47.0	+0.5
TKGZ	**Te Karaka**	**3.91**	**197**	P	Pn	11 16 52.8	-0.3
TKGZ				S	S	11 17 48.0	+1.4
URZ	**Urewera**	**3.97**	**206**	P	Pn	11 16 51.3	-2.4
URZ				S	S	11 17 48.0	+0.3
RIGZ	**Rimuhau**	**4.18**	**197**	P	Pn	11 16 56.8	+0.6
RIGZ				S	S	11 17 54.1	+2.1
SNGZ	**Shannon Statio**	**4.37**	**201**	P	Pn	11 16 58.2	+0.1
SNGZ				S	S	11 17 58.6	+3.0
KNZ	**Kokohu**	**4.51**	**196**	P	Pn	11 16 59.7	+0.2
KNZ				S	S	11 17 57.7	-0.6
NMHZ	**Naumai**	**4.82**	**204**	P	Pn	11 17 04.0	+0.8
NMHZ				S	S	11 18 08.6	+3.7
ARHZ	**Aropaoanui**	**4.91**	**201**	P	Pn	11 17 04.8	+0.7
ARHZ				S	S	11 18 10.0	+3.5
BKZ	**Black Stump Fm**	**4.99**	**206**	P	Pn	11 17 05.4	+0.4
BKZ				S	S	11 18 06.8	-1.5
HIZ	**Hauiti**	**5.22**	**222**	P	Pn	11 17 10.5	+2.9
KWHZ	**Kaweka Forest**	**5.25**	**205**	P	Pn	11 17 08.3	+0.3
KWHZ				S	S	11 18 14.8	+1.2
NTVZ	**North Tongarir**	**5.26**	**212**	P	Pn	11 17 09.0	+0.7
TMVZ	**Te Maari**	**5.27**	**212**	P	Pn	11 17 09.3	+1.1
OTVZ	**Oturere**	**5.32**	**212**	P	Pn	11 17 09.8	+0.8
SNVZ	**South Ngauruho**	**5.35**	**212**	P	Pn	11 17 10.0	+0.7
BHHZ	**Black Hill Sta**	**5.44**	**208**	P	Pn	11 17 10.4	+0.2
KAHZ	**Kahuranaki**	**5.44**	**200**	P	Pn	11 17 09.0	-1.1
KRHZ	**Kereru**	**5.46**	**205**	P	Pn	11 17 10.4	+0.1
KRHZ				S	S	11 18 18.4	+0.5
PXZ	**Pawanui**	**5.67**	**199**	P	Pn	11 17 13.2	+0.5
PXZ				S	S	11 18 23.7	+1.6
PNHZ	**Pukenui**	**5.76**	**205**	P	Pn	11 17 13.7	-0.2
PNHZ				S	S	11 18 24.8	+0.6
PRHZ	**Porangahau**	**5.95**	**200**	P	Pn	11 17 16.4	+0.5
TSZ	**Takapari Road**	**5.97**	**205**	P	Pn	11 17 16.1	-0.2
TSZ				S	S	11 18 28.7	0.0
BFZ	**Birch Farm**	**6.44**	**201**	P	Pn	11 17 22.1	+0.3
BFZ				S	S	11 18 39.4	+0.6
MRZ	**Mangatainoka R**	**6.64**	**205**	P	Pn	11 17 23.5	-0.6
MRZ				S	S	11 18 41.9	-1.2
TIWZ	**Tintock**	**6.64**	**203**	P	Pn	11 17 24.9	+0.8
OGWZ	**Otaki Gorge**	**6.93**	**207**	P	Pn	11 17 26.8	-0.7
TMWZ	**Te Maipa**	**6.94**	**202**	P	Pn	11 17 28.3	+0.6
TMWZ				S	S	11 18 50.0	+0.4
KIW	**Kapiti Island**	**7.07**	**208**	P	Pn	11 17 28.6	-0.5
KIW				S	S	11 18 52.1	-0.2
MTW	**Mount Morrison**	**7.11**	**204**	P	Pn	11 17 29.4	-0.3
MTW				S	S	11 18 53.3	0.0
CAW	**Cannon Point**	**7.22**	**206**	P	Pn	11 17 29.9	-1.1
CAW				S	S	11 18 54.4	-1.2
TRWZ	**Traveller**	**7.27**	**202**	P	Pn	11 17 32.3	+0.7
TRWZ				S	S	11 18 57.2	+0.5
MSWZ	**Moikau Station**	**7.43**	**204**	P	Pn	11 17 33.4	-0.1
PLWZ	**Palliser**	**7.56**	**204**	P	Pn	11 17 35.1	0.0
TUWZ	**Tuamarina**	**7.94**	**211**	P	Pn	11 17 38.5	-1.1

*IDC **02** 11:16:48.3±1.6,2°82N×96°10E,h0km,mb3.8/7,mb1 3.8/9, mb1mx3.6/54,mbtmp3.7/9,ML3.6/2,MS3.7/1,Ms1 3.7/1, ms1mx2.5/85,Error ellipse: s-maj=61.0km s-min=17.8km az=51.0*

*DJA **02** 11:16:57.5±0.5,3°N±2°×9°7E±°,h20km±4km,M4.0/9, mb4.4/1,MLv3.8/9*

*NEIC **02** 11:16:59.4±1.6,3°18N±0°06×96°7E±0°1,h69km±7km, mb4.0/8,Error ellipse: s-maj=16.1km s-min=8.6km az=84.0*

ISC 02 11:16:51.6±2.0,3°14N±0°04×96°51E±0°06,h9km±13km, n33,σ1°11/36,mb3.9/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**0.68**	**80**	P	**Pn**	**11 17 08.5**	**+1.0**
TPTI				S	**Sb**	**11 17 14.3**	**-0.9**
SNSI	**Sinabang, Aceh**	**0.75**	**194**	P	Pn	11 17 17.5	+9.0
SNSI				S	Sn	11 17 28.0	+8.0
TSI	**Tuntungan**	**2.08**	**80**	P	**Pb**	**11 17 30.0**	**+0.4**
TSI				S	**Sb**	**11 17 56.0**	**+0.4**
GSI	**Gunungsitoli**	**2.12**	**150**	P	**Pb**	**11 17 30.8**	**+0.6**
GSI				S	**Sb**	**11 17 56.5**	**-0.1**
GSI	**Gunungsitoli**	**2.12**	**150**		**Pg**	**11 17 31.5**	**-0.7**
LHMI	**Lhok Sumawe**	**2.12**	**12**	P	**Pb**	**11 17 30.8**	**+0.6**
LHMI				S	**Sn**	**11 17 53.6**	**-0.1**
LHMI	**Lhok Sumawe**	**2.12**	**12**	Pn	**Pb**	**11 17 31.5**	**+1.2**
PSI	**Prapat**	**2.44**	**98**	Pn	**Pb**	**11 17 34.8**	**-0.9**
	4.4nm,0.3s,baz=286,slow=11,SNR=18						
PSI				Sn	**Sn**	**11 18 03.4**	**+1.6**
	4.7nm,0.3s,baz=182,slow=0.8,SNR=7.9						
RPSI	**Rantau Prapat**	**2.45**	**100**		**Pb**	**11 17 35.5**	**-0.5**
MNSI	**Mandailing Nat**	**3.85**	**127**	P	**Pn**	**11 17 54.1**	**+2.9**
KULM	**Kulim**	**4.65**	**63**		**Pn**	**11 18 03.6**	**+1.6**
IPM	**Ipoh**	**4.70**	**73**		**Pn**	**11 18 05.2**	**+2.4**
MNAI	**Manna**	**9.85**	**139**	Pn	**Pn**	**11 19 15.6**	**+2.0**
MDSI	**Maura Dua**	**10.78**	**135**	P	**Pn**	**11 19 26.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**15.40**	**9**	Pn	**P**	**11 20 33.2**	**-0.9**
	0.1nm,0.3s,baz=200,slow=10,SNR=2.5						
WB0	**Warramunga Arr**	**43.62**	**123**	P	**P**	**11 24 56.0**	**-0.8**
WB0				IAmb	IAmb	11 25 18.5	
	comp=Z,6.9nm,1.3s						
WRA	**Warramunga Arr**	**43.66**	**123**	P	**P**	**11 24 56.4**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=302,slow=9.1,SNR=10						
WRA	**Warramunga Arr**	**43.66**	**123**	P	**P**	**11 24 56.1**	**-1.0**
WB2	**Warramunga Arr**	**43.67**	**123**	P	**P**	**11 24 56.4**	**-0.8**
AAK	**Ala-Archa**	**43.96**	**337**	LR	LR	11 45 57.3	
	comp=Z,83nm,20.3s,baz=122,slow=40						
ASAR	**Alice Springs**	**45.12**	**128**	P	**P**	**11 25 07.7**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=302,slow=7.8,SNR=17						
AS31	**Alice Springs**	**45.12**	**128**	P	**P**	**11 25 07.8**	**-1.1**
MK31	**Makanchi Array**	**45.20**	**346**	P	**P**	**11 25 08.4**	**-0.7**
MK31				IAmb	IAmb	11 25 09.3	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**45.20**	**346**	P	**P**	**11 25 08.7**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=162,slow=8.7,SNR=15						
MKAR	**Makanchi Array**	**45.20**	**346**	P	**P**	**11 25 08.4**	**-0.7**
MAKZ	**Makanchi**	**45.29**	**346**	P	**P**	**11 25 09.7**	**-0.1**
MAKZ				IAmb	IAmb	11 25 30.5	
	comp=Z,1.1nm,1.0s						
KURBB	**Kurchatov Arra**	**49.69**	**345**	P	**P**	**11 25 43.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=167,slow=6.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**51.54**	**351**	P	**P**	**11 25 57.0**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=165,slow=8.2,SNR=5.1						
BVAR	**Borovoye Array**	**54.20**	**341**	P	**P**	**11 26 16.8**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=147,slow=8.1,SNR=4.0						
ABKAR	**Akbulak array**	**55.49**	**332**	P	**P**	**11 26 26.9**	**0.0**
ABKAR	**Akbulak array**	**55.49**	**332**	P	**P**	**11 26 27.8**	**+0.9**
ABKAR				IAmb	IAmb	11 26 36.4	
	comp=Z,5.2nm,1.4s						
CASY	**Casey**	**70.00**	**174**	P	**P**	**11 28 03.5**	**+0.2**
ARCES	**ARCESS Array B**	**80.49**	**340**	P	**P**	**11 29 03.3**	**-0.4**
	comp=Z,3.7nm,1.0s,baz=101,slow=8.3,SNR=3.5						

*IDC **02** 11:17:46.3±1.2,38°85N×73°29E,h0km,mb3.6/7, mb1 3.7/13,mb1mx3.5/60,mbtmp3.5/13,ML2.9/7,Error ellipse: s-maj=20.5km s-min=18.6km az=163.0*

*NNC **02** 11:17:46.9±3.0,38°65N×73°41E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=23.9km s-min=14.3km az=163.0*

ISC 02 11:17:48.2±0.7,39°06N±0°05×73°47E±0°06,h10km,n44, σ2°15/48,mb3.6/7,4C-3D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.07**	**3**	P	**Pb**	**11 18 43.1**	**0.0**
	SNR=76						
UCH	**Uchtor**	**3.26**	**14**	P	**Pb**	**11 18 46.6**	**+0.1**
	SNR=14						
EKS2	**Erkin-Say**	**3.60**	**4**	P	**Pb**	**11 18 51.6**	**-0.5**
	SNR=12						
AAK	**Ala-Archa**	**3.66**	**12**	Pn	**Pb**	**11 18 51.8**	**-1.2**
	3.6nm,0.3s,baz=194,slow=6.0,SNR=77						
AAK				Sn	**Sg**	**11 19 42.3**	**-3.4**
	1.0nm,0.3s,baz=11,slow=14,SNR=5.1						
AAK	**Ala-Archa**	**3.66**	**12**	P	**Pb**	**11 18 53.6**	**+0.6**
	SNR=40						
AAK	**Ala-Archa**	**3.66**	**12**	⇓Pn	**Pb**	**11 18 53.5**	**+0.6**
	16nm,0.5s						
AAK				⇑Sn	**Sg**	**11 19 45.1**	**-0.5**
	25nm,0.7s						
KBK	**Karagaybulak**	**3.76**	**17**	P	**Pg**	**11 19 01.1**	**+0.8**
	SNR=6.5						
ULHL	**Ulahol**	**3.82**	**33**	P	**Pg**	**11 19 03.4**	**+2.0**
	SNR=8.2						
CHMS	**Chumysh**	**4.05**	**13**	P	**Pb**	**11 18 59.0**	**-0.7**
	SNR=10						
TKM2	**Tokmak 2**	**4.18**	**22**	⇑Pn	**Pb**	**11 18 60.0**	**-2.0**
	8.6nm,0.6s						
TKM2				⇑Lg	Lg	11 20 07.5	
	12nm,0.8s						
USP	**Ospenovka**	**4.27**	**10**	P	**Pb**	**11 19 01.7**	**-1.7**
	SNR=12						
KST	**Kastek**	**4.40**	**25**	Pg	**Pg**	**11 19 15.4**	**+2.9**
	12nm,0.8s						
KST				Lg	Lg	11 20 20.3	
	18nm,0.8s						
DGS	**Degeres**	**4.53**	**22**	Pg	**Pg**	**11 19 16.3**	**+1.5**
	9.7nm,0.6s						
DGS				Lg	Lg	11 20 22.5	
	10nm,0.7s						
KK08	**Karatay Array**	**4.63**	**332**	⇓Pn	**Pn**	**11 19 02.8**	**+4.6**
	8.5nm,0.6s,baz=151,slow=13						
KK08				⇑Sn	**Sb**	**11 20 02.9**	**-2.3**
	14nm,0.6s,baz=155,slow=26						
IZV	**Izvestkoviy**	**4.63**	**30**	Pg	**Pg**	**11 19 17.1**	**+0.3**
	8.2nm,0.6s						
IZV				Lg	Lg	11 20 23.8	
	18nm,0.7s						
MTBS	**Maitube**	**4.64**	**28**	Pg	**Pg**	**11 19 18.5**	**+1.4**
	5.9nm,0.5s						
MTBS				Lg	Lg	11 20 25.5	
	11nm,0.7s						
TNSS	**Tian-Shan**	**4.76**	**32**	Pg	**Pg**	**11 19 20.5**	**+1.0**
	7.8nm,0.7s						
TNSS				Lg	Lg	11 20 29.0	
	5.0nm,0.8s						
BRLS	**Borolday**	**4.82**	**326**	Pg	**Pb**	**11 19 15.8**	**+3.0**
	5.0nm,0.3s						
BRLS				Lg	Lg	11 20 20.8	
	12nm,0.7s						
MDOK	**Medeo**	**4.91**	**32**	Pg	**Pg**	**11 19 22.8**	**+0.5**
	8.7nm,0.5s						
MDOK				Lg	Lg	11 20 32.9	
	14nm,0.9s						
KRBS	**Karabastau**	**4.92**	**19**	Pg	**Pg**	**11 19 22.0**	**-0.4**
	6.6nm,0.9s						
KRBS				Lg	Lg	11 20 31.5	
	18nm,0.6s						
KOTS	**Kotyrbulak**	**5.00**	**32**	Pg	**Pg**	**11 19 23.2**	**-0.7**
	8.2nm,0.7s						
KOTS				Lg	Lg	11 20 34.2	
	23nm,0.8s						
KTBS	**Karatobe**	**

comp=Z,20nm,1.1s
DZM Mont Dzumac 19.28 145 P **Pn 11 31 02.0 -0.5**
comp=Z,0.8nm,0.3s,baz=299,slow=13,SNR=12
DZM LR LR 11 37 32.2
comp=Z,139nm,19.1s,baz=290,slow=34
DZM Mont Dzumac 19.28 145 P **Pn 11 31 02.4 -0.1**
DZM IAmb IAmb 11 31 03.5
comp=Z,13nm,1.2s
WB0 Warramunga Arr 23.63 234 P **P 11 31 45.5 -1.6**
WB0 IAmb IAmb 11 31 59.2
comp=Z,13nm,1.1s
WB2 Warramunga Arr 23.76 234 P **P 11 31 46.9 -1.4**
WB2 IAmb IAmb 11 32 00.4
comp=Z,18nm,1.2s
WRA Warramunga Arr 23.77 234 P **P 11 31 47.0 -1.4**
comp=Z,5.5nm,0.8s,baz=56,slow=9.1,SNR=28
WRA PcP **PcP 11 35 31.9 +0.6**
comp=Z,0.8nm,0.5s,baz=62,slow=2.6,SNR=11
WRA LR LR 11 41 10.6
comp=Z,145nm,18.3s,baz=182,slow=37
WRA Warramunga Arr 23.77 234 P **P 11 31 48.3 -0.2**
MTN Manton Dam 23.94 253 P **P 11 31 50.7 +0.7**
MTN IAmb IAmb 11 32 12.3
comp=Z,27nm,1.2s
ARMA Armidale 23.97 186 P **P 11 31 49.7 -0.6**
ARMA IAmb IAmb 11 32 10.8
comp=Z,13nm,1.2s
AS31 Alice Springs 26.20 227 P **P 11 32 09.9 -0.6**
ASAR Alice Springs 26.20 227 P **P 11 32 09.1 -1.5**
comp=Z,2.1nm,0.9s,baz=60,slow=8.8,SNR=25
ASAR PcP **PcP 11 35 37.1 +0.4**
comp=Z,0.7nm,0.7s,baz=61,slow=2.1,SNR=7.2
ASAR LR LR 11 42 33.0
comp=Z,102nm,18.3s,baz=52,slow=36
ASAR Alice Springs 26.20 227 P **P 11 32 09.3 -1.3**
KNRA Kununurra 26.89 248 P **P 11 32 18.1 +1.3**
STKA Stephens Creek 28.02 204 P **P 11 32 26.3 -0.5**
comp=Z,3.1nm,0.7s,baz=43,slow=13,SNR=6.3
STKA LR LR 11 43 32.5
comp=Z,98nm,19.6s,baz=25,slow=36
STKA Stephens Creek 28.02 204 P **P 11 32 26.5 -0.3**
BATI Baumata 30.79 261 LR LR 11 47 46.0
comp=Z,122nm,18.0s,baz=94,slow=41
DAV Davao City (W) 31.90 294 LR LR 11 44 37.0
comp=Z,22nm,19.4s,baz=124,slow=34
AFI Afiamalu 33.90 105 LR LR 11 45 23.6
comp=Z,90nm,18.6s,baz=254,slow=33
BKZ Black Stump Fm 38.08 152 P **P 11 33 56.1 +1.8**
LTZ Lake Taylor 39.39 159 P **P 11 34 05.0 -0.3**
PETK Petropavlovsk- 59.42 2 LR LR 12 02 05.6
comp=Z,26nm,19.4s,baz=146,slow=36
CMAR Chiang Mai Arr 60.18 295 P **P 11 36 45.0 +1.4**
comp=Z,0.5nm,0.4s,baz=111,slow=4.6,SNR=4.2
SHEM Shemya Is, Ala 61.28 13 LR LR 12 01 31.0
comp=Z,66nm,18.5s,baz=121,slow=34
SONM Songino Array 68.68 327 P **P 11 37 38.8 +0.1**
comp=Z,0.5nm,0.5s,baz=125,slow=4.9,SNR=4.0
SONM Songino Array 68.68 327 P **P 11 37 38.6 -0.2**
SONM IAmb IAmb 11 37 55.7
comp=Z,3.6nm,1.4s
VNDA Vanda 71.10 178 P **P 11 37 53.0 +0.1**
comp=Z,1.0nm,0.6s,baz=325,slow=5.7,SNR=5.1
VNDA Vanda 71.10 178 P **P 11 37 53.2 +0.2**
VNDA IAmb IAmb 11 38 19.8
comp=Z,7.6nm,1.4s
L19K White Mountain 78.64 22 P **P 11 38 36.8 0.0**
IMAR Indian Mountai 81.38 19 P **P 11 38 51.1 -0.3**
MK31 Makanchi Array 82.74 319 P **P 11 38 58.9 -0.1**
MKAR Makanchi Array 82.74 319 P **P 11 38 58.7 -0.3**
comp=Z,1.1nm,0.8s,baz=107,slow=4.5,SNR=9.8
MKAR Makanchi Array 82.74 319 P **P 11 38 59.5 +0.5**
ILAR Eielson Array 83.06 22 P **P 11 38 59.1 -1.1**
comp=Z,0.6nm,0.9s,baz=251,slow=5.8,SNR=2.6
QSPA South Pole Qui 83.49 180 P **P 11 39 02.5 -0.2**
comp=Z,3.8nm,0.9s,baz=312,slow=1.7,SNR=10
QSPA South Pole Qui 83.49 180 P **P 11 39 02.7 0.0**
QSPA IAmb IAmb 11 39 03.9
comp=Z,4.7nm,1.0s
ZAA0 Zalesovo Array 83.52 326 P **P 11 39 00.8 -2.0**
ZAA0 IAmb IAmb 11 39 17.0
comp=Z,1.1nm,0.8s
ZALV Zalesovo Beam 83.52 326 P **P 11 39 00.9 -1.9**
comp=Z,0.5nm,0.5s,baz=123,slow=7.3,SNR=4.3
TOLK Toolik Lake Re 84.26 18 P **P 11 39 06.3 -0.1**
TOLK IAmb IAmb 11 39 07.0
comp=Z,3.1nm,1.0s
YBH Yreka Blue Hor 88.86 48 LR LR 12 14 45.3
comp=Z,47nm,18.7s,baz=326,slow=32
NVAR Mina Array Bea 91.74 52 P **P 11 39 44.0 +0.8**
comp=Z,1.2nm,0.9s,baz=257,slow=5.9,SNR=5.9
NEW Newport 93.66 42 LR LR 12 14 30.6
comp=Z,47nm,20.1s,baz=288,slow=31
YKA Yellowknife Ar 96.08 28 P **P 11 40 01.9 -0.3**
comp=Z,0.3nm,0.9s,baz=264,slow=4.6,SNR=4.7
TORD Torodi Ar. Bea 152.48 286 PKPbc **PKPbc 11 46 31.6 -0.6**
comp=Z,4.0nm,0.7s,baz=60,slow=2.4,SNR=16

*IDC **02** 11:36:17.4±1.4, 50.8°S×140.0°E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/22, mbtmp3.7/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/44, Error ellipse: s-maj=108.4km s-min=23.8km az=84.0*

ISC 02 11:36:18.7±1.2, 50.8°S±0.2°×140.4°E±0.7°, h10km, n15, σ0.9°36°/9, mb3.8/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**24.74**	**300**	T	T	12 06 37.8	
	baz=139,slow=76,SNR=259						
H01W2	**Cape Leeuwin H**	**24.75**	**300**	T	T	12 06 38.3	
	baz=139,slow=76,SNR=259						
H01W3	**Cape Leeuwin H**	**24.76**	**300**	T	T	12 06 39.1	
	baz=139,slow=76,SNR=194						
ASAR	**Alice Springs**	**27.52**	**347**	P	**P**	**11 42 05.5**	**+0.1**
	0.3nm,0.7s,baz=170,slow=9.1,SNR=2.9						
ASAR				PcP	**PcP**	**11 45 23.6**	**+0.2**
	0.4nm,0.6s,baz=158,slow=2.8,SNR=4.4						
ASAR				LR	LR	11 52 26.7	
	comp=Z,46nm,18.2s,baz=233,slow=35						
WRA	**Warramunga Arr**	**31.13**	**349**	P	**P**	**11 42 37.6**	**+0.2**
	0.9nm,0.7s,baz=178,slow=7.8,SNR=12						
WRA				PcP	**PcP**	**11 45 32.6**	**+0.1**
	0.5nm,0.9s,baz=181,slow=2.4,SNR=1.9						
QSPA	**South Pole Qui**	**39.34**	**180**	P	**P**	**11 43 48.1**	**+0.3**
	2.4nm,1.0s,baz=313,slow=2.3,SNR=10						
KAPI	**Kappang**	**48.77**	**332**	LR	LR	12 06 54.4	
	comp=Z,15nm,18.3s,baz=195,slow=38						
H08S2	**Diego Garcia H**	**70.17**	**283**	T	T	13 03 13.5	
	baz=142,slow=76,SNR=113						
H08S1	**Diego Carcia H**	**70.18**	**283**	T	T	13 03 14.7	
	baz=142,slow=76,SNR=86						
H08S3	**Diego Garcia H**	**70.19**	**283**	T	T	13 03 15.1	
	baz=142,slow=76,SNR=116						
CMAR	**Chiang Mai Arr**	**77.95**	**320**	P	**P**	**11 48 17.1**	**+0.2**
	0.6nm,0.5s,baz=164,slow=6.5,SNR=4.2						
YKA	**Yellowknife Ar**	**139.53**	**44**	PKP	**PKPdf**	**11 55 44.8**	**-0.2**
	1.0nm,1.2s,baz=257,slow=2.1,SNR=2.3						
ARCES	**ARCESS Array B**	**144.79**	**326**	PKP	PKPbc	11 55 53.1	-0.3
	7.4nm,1.0s,baz=93,slow=3.1,SNR=10						
GERES	**GERESS Array B**	**146.14**	**288**	PKPbc	**PKPdf**	**11 55 57.0**	**-0.4**
	1.0nm,0.4s,baz=125,slow=3.9,SNR=11						
ESDC	**Sonseca Array**	**152.79**	**260**	PKPbc	**PKiKP**	**11 56 14.9**	**-0.6**
	0.9nm,0.8s,baz=116,slow=0.6,SNR=2.8						

*IDC **02** 11:59:08.9±4.4, 7.7°S×123.5°E, h187km±49km, mb2.9/1, mb1 3.1/5, mb1mx2.8/33, mbtmp3.5/5, Error ellipse: s-maj=117.5km s-min=26.0km az=53.0*

ISC 02 11:59:12.8±1.4, 8.3°S±0.2°×122.6°E±0.3°, h250km, n5, σ1.3°13°/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.19**	**151**	P	**Pn**	**11 59 56.3**	**-0.7**
	4.8nm,0.3s,baz=238,slow=4.5,SNR=4.3						
BATI				S	**S**	**12 00 30.8**	**-1.2**
	9.6nm,0.3s,baz=310,slow=20,SNR=14						
FITZ	**Fitzroy Crossi**	**10.20**	**163**	P	**P**	**12 01 39.6**	**+0.1**
	0.1nm,0.3s,baz=360,slow=12,SNR=6.4						
FITZ				S	**S**	**12 03 29.7**	**+1.0**
	0.2nm,0.3s,baz=5.6,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**16.24**	**137**	P	**Pn**	**12 02 48.3**	**+0.4**
	0.2nm,0.3s,baz=317,slow=12,SNR=13						
WRA				S	**S**	**12 05 45.4**	**+1.5**
	0.1nm,0.3s,baz=313,slow=26,SNR=1.7						
ASAR	**Alice Springs**	**18.75**	**146**	P	**Pn**	**12 03 16.6**	**-0.7**
	0.3nm,0.3s,baz=322,slow=9.6,SNR=17						
MKAR	**Makanchi Array**	**65.50**	**331**	P	**P**	**12 09 29.9**	**+0.4**
	0.2nm,0.4s,baz=138,slow=8.0,SNR=5.9						

*IDC **02** 12:36:24.8±0.8, 36.52N×12.04E, h0km, mb4.0/13, mb1 4.1/22, mb1mx3.9/53, mbtmp4.0/22, ML4.0/8, MS3.6/25, Ms1 3.6/25, ms1mx3.3/94, Error ellipse: s-maj=18.6km s-min=13.9km az=156.0*

*MED_RC **02** 12:36:24.0±0.4, 36.46N×12.03E, h10km, MW4.2/12, Moment Tensor Solution. Mantle waves: s12, c15; Duration: 1:0 Moment tensor: Scale 10^15 Nm; Mrr=0.74±.23; Mθθ=0.53±.23; Mφφ=0.22±.28; Mrθ=0.15±.62; Mφφ=-2.84±.15; Mφr=0.51±.59; Best double couple: M0=2.89000×10^15 NP1:φ=178.00000°, δ=88.00000°, λ=-11.00000°. NP2:φ=268.00000°, δ=79.00000°, λ=-178.00000°. Principal axes: T 3.2700, Plg=7.0000°, Azm=224.0000°; N -0.7500, Plg=79.0000°, Azm=350.0000°; P -2.5100, Plg=9.0000°, Azm=133.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*MOS **02** 12:36:25.5±1.3, 36.49N×12.10E, h15km, mb4.4/15 Error ellipse: s-maj=9.9km s-min=5.1km az=62.7*

*ROM **02** 12:36:26.2±0.4, 36.46N±0.01×11.98E±0.02, h29km±4km, ML4.2/46, Error ellipse: s-maj=1.6km s-min=0.5km az=78.0*

*LDG **02** 12:36:26.2±0.3, 36.33N×12.03E, h6km, Ml3.8/12, Error ellipse: s-maj=9.0km s-min=2.8km az=12.0*

*NEIC **02** 12:36:28.6±2.5, 36.46N±0.05×12.12E±0.07, h23km±6km, mb4.3/12, Error ellipse: s-maj=10.7km s-min=4.4km az=131.0*

ISC 02 12:36:26.4±2.0, 36.49N±0.05×12.05E±0.04, h14km±13km, n238, σ1.8°84/232, mb4.2/34, MS3.6/23, 26C-11D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPDG	**Lampedusa Capo**	**1.08**	**154**	P	**Pn**	**12 36 46.3**	**-0.8**
LPDG				S	**Sg**	**12 37 00.4**	**-1.0**
LPDG				AML	AML		
	comp=N,18050μm,0.8s						
LPDG				AML	AML		
	comp=E,17400μm,0.9s						
MMGO	**Monte Magaggia**	**1.38**	**32**	P	**Pn**	**12 36 49.9**	**-1.4**
CLTB	**Caltabellotta**	**1.43**	**40**	P	**Pn**	**12 36 52.2**	**+0.2**
CLTB				AML	AML		
	comp=E,8085μm,0.5s						
CLTB				AML	AML		
	comp=N,14350μm,0.6s						
CLTB				AML	AML		
	comp=N,19300μm,0.7s						
CLTB				AML	AML		
	comp=E,9555μm,0.5s						
CLTB	**Caltabellotta**	**1.43**	**40**	Pn	**Pn**	**12 36 50.1**	**-2.0**
MFNL	**Monte Finestre**	**1.47**	**28**	⇑P	**Pn**	**12 36 51.8**	**-0.8**
FAVR	**Favara**	**1.51**	**59**	P	**Pn**	**12 36 53.3**	**+0.2**
FAVR				AML	AML		
	comp=E,7340μm,1.4s						
FAVR				AML	AML		
	comp=N,9035μm,1.1s						
FAVR				AML	AML		
	comp=E,7345μm,1.4s						
CRJA	**Costa Raja**	**1.51**	**30**	P	**Pn**	**12 36 52.2**	**-1.0**
ERC	**Erice**	**1.60**	**16**	P	**Pn**	**12 36 53.3**	**-1.1**
ERC				S	**Sn**	**12 37 14.4**	**-0.5**
CLTA	**Licata**	**1.67**	**66**	P	**Pn**	**12 36 55.3**	**0.0**
CLTA				AML	AML		
	comp=E,3805μm,1.1s						
CLTA				AML	AML		
	comp=N,6405μm,1.3s						
CORL	**Corleone**	**1.72**	**35**	⇑P	**Pn**	**12 36 54.9**	**-1.1**
CORL				AML	AML		
	comp=E,1980μm,1.1s						
CORL				AML	AML		
	comp=N,2505μm,1.4s						
CORL				AML	AML		
	comp=N,3885μm,1.2s						
CORL				AML	AML		
	comp=E,3510μm,1.0s						
CORL	**Corleone**	**1.72**	**35**		**Pn**	**12 36 54.9**	**-1.1**
ALJA	**Alia**	**1.85**	**47**	⇑P	**Pn**	**12 36 57.9**	**0.0**
ALJA				AML	AML		
	comp=E,1280μm,1.5s						
ALJA				AML	AML		
	comp=N,1735μm,1.5s						
ALJA				AML	AML		
	comp=E,3110μm,1.0s						
ALJA				AML	AML		
	comp=N,2300μm,0.9s						
ALJA				AML	AML		
	comp=N,3045μm,1.2s						
MPG	**Monte Pellegri**	**1.97**	**32**	P	**Pn**	**12 36 58.4**	**-1.0**
MPG				S	**Sn**	**12 37 23.2**	**-0.7**
MPG				AML	AML		
	comp=E,1525μm,0.7s						
MPG				AML	AML		
	comp=N,1436μm,1.3s						
MPG				AML	AML		
	comp=E,2225μm,1.4s						
MPG				AML	AML		
	comp=N,1442μm,1.3s						
MPG				AML	AML		
	comp=N,1440μm,1.3s						
MPG				AML	AML		
	comp=E,2235μm,1.4s						
SOLUN	**Solunto**	**1.99**	**36**	⇑P	**Pn**	**12 36 58.6**	**-1.0**
SOLUN				AML	AML		
	comp=E,691μm,1.2s						
SOLUN				AML	AML		
	comp=N,900μm,0.6s						
SOLUN				AML	AML		
	comp=E,1108μm,1.4s						
SOLUN				AML	AML		
	comp=N,1090μm,1.5s						
SOLUN				AML	AML		
	comp=N,1090μm,1.5s						
SOLUN				AML	AML		
	comp=E,1110μm,1.5s						
RAFF	**Raffo Rosso**	**2.00**	**68**	P	**Pn**	**12 36 59.2**	**-0.6**
RAFF				S	**Sn**	**12 37 24.8**	**+0.3**
RAFF	**Raffo Rosso**	**2.00**	**68**		**Pn**	**12 36 59.0**	**-0.7**
WDD	**Wied Dalam**	**2.11**	**107**	⇓P	**Pn**	**12 37 00.6**	**-0.7**
WDD				S	**Sn**	**12 37 25.7**	**-1.6**
WDD				AML	AML		
	comp=E,4655μm,0.8s						
WDD				AML	AML		
	comp=N,7780μm,1.1s						
WDD				AML	AML		
	comp=N,7640μm,1.1s						
WDD				AML	AML		
	comp=E,5305μm,0.8s						
PETRA	**Petralia Sopra**	**2.13**	**50**	⇑P	**Pn**	**12 37 01.8**	**+0.1**
PETRA				AML	AML		
	comp=N,2590μm,0.8s						
PETRA				AML	AML		
	comp=E,1995μm,0.8s						
VAE	**Valguarnera**	**2.13**	**62**	Pn	**Pn**	**12 37 02.5**	**+0.8**
	comp=E,34nm,0.3s,baz=218,slow=4.4,SNR=29						
VAE				Sn	**Sn**	**12 37 28.4**	**+0.4**
	comp=E,58nm,0.3s,baz=325,slow=12,SNR=6.5						
CSLB	**Castelbuono**	**2.16**	**47**	⇑P	**Pn**	**12 37 01.7**	**-0.3**
CSLB				AML	AML		
	comp=N,1130μm,1.1s						
CSLB				AML	AML		
	comp=E,678μm,1.1s						
GIB	**Gibilmanna**	**2.17**	**46**	⇑P	**Pn**	**12 37 02.0**	**-0.3**
GIB				AML	AML		
	comp=E,3590μm,1.0s						
GIB				AML	AML		
	comp=N,3660μm,0.5s						
HMDC	**Modica**	**2.25**	**77**	P	**Pn**	**12 37 01.7**	**-1.5**
HMDC				S	**Sn**	**12 37 28.9**	**-1.9**
HMDC				AML	AML		
	comp=E,2345μm,0.6s						
HMDC				AML	AML		
	comp=N,3100μm,0.4s						
CAGR	**Agira**	**2.26**	**59**	P	**Pn**	**12 37 04.7**	**+1.2**
CAGR				AML	AML		
	comp=N,3610μm,0.5s						
CAGR				AML	AML		
	comp=E,3200μm,0.8s						
KEST	**Kesra**	**2.31**	**252**	Pn	**Pn**	**12 37 04.0**	**-0.2**
	comp=E,46nm,0.3s,baz=46,slow=4.3,SNR=205						
KEST				Sn	**Sn**	**12 37 32.2**	**-0.3**
	comp=E,76nm,0.3s,baz=71,slow=22,SNR=9.8						
KEST				LR	LR	12 38 12.2	
	comp=E,619nm,18.1s,baz=7.0,slow=46						
GALF	**Gagliano Caste**	**2.35**	**58**	P	**Pn**	**12 37 05.6**	**+0.9**
GALF				AML	AML		
	comp=N,3345μm,0.5s						
GALF				AML	AML		
	comp=E,4620μm,0.5s						
MEU	**Monte Lauro**	**2.39**	**74**	P	**Pn**	**12 37 03.5**	**-1.7**
MEU				AML	AML		
	comp=E,4990μm,0.3s						
MEU				AML	AML		
	comp=N,8830μm,1.4s						
HLNI	**Lentini**	**2.42**	**69**	P	**Pn**	**12 37 04.6**	**-0.9**
HLNI				AML	AML		
	comp=E,1730μm,0.8s						
HLNI				AML	AML		
	comp=N,2020μm,0.9s						
TAMR	**Tamra**	**2.42**	**284**	⇓P	**Pn**	**12 37 04.9**	**-0.7**
TAMR				AML	AML		
	comp=N,3705μm,0.7s						
TAMR				AML	AML		
	comp=E,3635μm,0.8s						
HPAC	**Pachino**	**2.48**	**84**	P	**Pn**	**12 37 04.5**	**-1.8**
HPAC				AML	AML		
	comp=E,3825μm,1.2s						
HPAC				AML	AML		
	comp=N,4525μm,1.0s						
SSY	**Sortino**	**2.52**	**74**	⇑P	**Pn**	**12 37 06.0**	**-0.9**
SSY				AML	AML		
	comp=N,5375μm,1.0s						
SSY				AML	AML		
	comp=E,4315μm,0.6s						
HAVL	**Avola**	**2.52**	**78**	P	**Pn**	**12 37 05.7**	**-1.3**
HAVL				AML	AML		
	comp=N,2935μm,0.6s						
HAVL				AML	AML		
	comp=E,3770μm,0.4s						
ESML	**S. M. di Licod**	**2.53**	**63**	⇓P	**Pn**	**12 37 07.7**	**+0.7**
ESML				AML	AML		
	comp=E,3245μm,0.4s						
ESML				AML	AML		
	comp=N,3880μm,0.6s						
MSFR	**San Fratello**	**2.55**	**52**	⇑P	**Pn**	**12 37 07.7**	**+0.4**
MSFR				AML	AML		
	comp=E,1097μm,1.1s						
MSFR				AML	AML		
	comp=N,1490μm,1.3s						
MNO	**Monte Soro**	**2.56**	**55**	P	**Pn**	**12 37 08.6**	**+0.9**
MNO				S	**Sb**	**12 37 42.0**	**-1.6**
MNO	**Monte Soro**	**2.56**	**55**	⇑P	**Pn**	**12 37 08.6**	**+0.9**
MNO				AML	AML		
	comp=E,4210μm,0.6s						
MNO				AML	AML		
	comp=N,3850μm,0.6s						
EPZF	**Pizzo Felice**	**2.61**	**59**	P	**Pn**	**12 37 09.4**	**+1.1**
HAGA	**Augusta**	**2.62**	**71**	⇑P	**Pn**	**12 37 07.2**	**-1.0**
HAGA				AML	AML		
	comp=E,2020μm,0.8s						
HAGA				AML	AML		
	comp=N,2440μm,1.4s						
ESLN	**Serra La Nave**	**2.63**	**62**	⇑P	**Pn**	**12 37 09.1**	**+0.4**
ESLN				AML	AML		
	comp=E,7505μm,0.8s						
ESLN				AML	AML		
	comp=N,4780μm,1.3s						
EMSG	**Monte Spagnolo**	**2.67**	**59**	P	**Pn**	**12 37 10.0**	**+0.9**
EMSG				AML	AML		
	comp=E,4595μm,0.8s						
EMSG				AML	AML		
	comp=N,4885μm,1.0s						
MUCR	**Ucria**	**2.73**	**55**	⇑P	**Pn**	**12 37 10.6**	**+0.6**
MUCR				AML	AML		
	comp=N,2795μm,1.6s						
MUCR				AML	AML		
	comp=E,2160μm,0.6s						
IACL	**Alicudi**	**2.74**	**41**	⇑P	**Pn**	**12 37 08.8**	**-1.2**
IACL				AML	AML		
	comp=E,1286μm,0.5s						
IACL				AML	AML		
	comp=N,1380μm,0.4s						
IFIL	**Filicudi I Eol**	**2.88**	**43**	⇑P	**Pn**	**12 37 10.6**	**-1.3**
IFIL				AML	AML		
	comp=N,2255μm,0.7s						
IFIL				AML	AML		
	comp=E,5195μm,1.0s						
AIO	**Antillo**	**2.94**	**59**	⇑P	**Pn**	**12 37 12.7**	**-0.1**
AIO				AML	AML		
	comp=N,788μm,1.1s						
AIO				AML	AML		
	comp=E,804μm,1.2s						
MCSR	**Castroreale**	**3.00**	**58**	⇑P	**Pn**	**12 37 13.3**	**-0.3**
MCSR				AML	AML		
	comp=E,2200μm,1.1s						
MCSR				AML	AML		
	comp=N,1960μm,1.0s						
VPL	**Vulcano Piano**	**3.00**	**50**	P	**Pn**	**12 37 12.8**	**-0.8**
VPL				AML	AML		
	comp=E,4380μm,1.5s						
VPL				AML	AML		
	comp=N,4690μm,0.4s						
LLI	**Lipari**	**3.02**	**49**	P	**Pn**	**12 37 13.3**	**-0.5**
LLI				AML	AML		
	comp=E,14800μm,0.6s						
LLI				AML	AML		
	comp=N,17050μm,0.7s						
MILZ	**Milazzo**	**3.10**	**54**	P	**Pn**	**12 37 14.6**	**-0.2**
MILZ				AML	AML		
	comp=N,1285μm,0.7s						
MILZ				AML	AML		
	comp=E,1440μm,0.4s						
MPNC	**Port Mandanici**	**3.11**	**57**	P	**Pn**	**12 37 15.2**	**+0.1**
MPNC				AML	AML		
	comp=N,1830μm,0.6s						
MPNC				AML	AML		
	comp=E,1965μm,0.6s						
MSRU	**Castanea**	**3.28**	**56**	P	**Pn**	**12 37 17.5**	**+0.2**
MSRU				AML	AML		
	comp=E,914μm,0.5s						
MSRU				AML	AML		
	comp=N,843μm,0.9s						
MTTG	**Motta San Giov**	**3.28**	**62**	⇑P	**Pn**	**12 37 17.7**	**+0.3**
MTTG				AML	AML		
	comp=N,1165μm,0.7s						
MTTG				AML	AML		
	comp=E,1225μm,1.4s						
GMB	**Gambarie**	**3.45**	**60**	P	**Pn**	**12 37 20.3**	**+0.5**
GMB	**Gambarie**	**3.45**	**60**	⇑P	**Pn**	**12 37 20.2**	**+0.5**
GMB				AML	AML		
	comp=E,3060μm,1.3s						
GMB				AML	AML		
	comp=N,1790μm,0.9s						
CEL	**Celeste**	**3.54**	**59**		**Pn**	**12 37 21.3**	**+0.3**
SOI	**Samo**	**3.56**	**63**	P	**Pn**	**12 37 21.2**	**-0.1**
SOI	**Samo**	**3.56**	**63**	P	**Pn**	**12 37 21.3**	**0.0**
SOI				AML	AML		
	comp=E,436μm,1.0s						
SOI				AML	AML		
	comp=N,450μm,0.6s						
CGL	**Cagliari Serpe**	**3.59**	**324**	P	**Pn**	**12 37 21.1**	**-0.7**
VSL	**Villasalto**	**3.66**	**326**	P	**Pn**	**12 37 22.0**	**-0.7**
VSL				S	**Sn**	**12 38 01.6**	**-4.1**
VSL				AML	AML		
	comp=E,748μm,0.4s						
VSL				AML	AML		
	comp=N,652μm,0.7s						
VSL	**Villasalto**	**3.66**	**326**	Pn	**Pn**	**12 37 21.9**	**-0.7**
PLAC	**Placanica**	**4.00**	**59**	⇑P	**Pn**	**12 37 27.9**	**+0.6**
PLAC				AML	AML		
	comp=E,262μm,0.7s						
PLAC				AML	AML		
	comp=N,402μm,1.3s						
BULG	**Bulgheria - Ca**	**4.44**	**35**	P	**Pn**	**12 37 33.0**	**-0.4**
BULG				AML	AML		
	comp=E,146μm,0.3s						
BULG				AML	AML		
	comp=N,204μm,1.4s						
CUC	**Castrocucco**	**4.58**	**39**	⇓P	**Pn**	**12 37 35.5**	**+0.1**
CUC				AML	AML		
	comp=N,178μm,0.5s						
CUC				AML	AML		
	comp=N,214μm,0.5s						
CUC				AML	AML		
	comp=E,191μm,0.7s						
CUC				AML	AML		

comp=E,152μm,0.7s
TIP Timpagrande 4.59 53 Pn **Pn 12 37 36.0 +0.5**
SIRI Monte Sirino - 4.75 38 P **Pn 12 37 38.4 +0.7**
SIRI AML AML
comp=N,306μm,0.6s
SIRI AML AML
comp=E,340μm,0.5s
MCEL Monticello 4.83 36 P **Pn 12 37 39.3 +0.6**
MCEL AML AML
comp=N,130μm,0.7s
MCEL AML AML
comp=E,138μm,0.5s
MCEL AML AML
comp=E,122μm,0.5s
MCEL AML AML
comp=N,128μm,0.7s
PAOL Paolisi 4.94 23 Pn Pn 12 37 41.1 +0.9
AQU L'Aquila 5.95 10 P **Pn 12 37 55.2 +1.1**
AQU L'Aquila 5.95 10 Pn 12 37 55.2 +1.1
SGRT San Giovanni R 5.99 28 Pn **Pn 12 37 55.2 +0.5**
SCTE Santa Cesarea 6.19 53 Pn 12 37 57.0 -0.3
CASP Castiglione de 6.36 352 Pn **Pn 12 38 01.1 +1.4**
NRCA Norcia 6.38 7 Pn **Pn 12 38 02.7 +2.6**
PGF Pioggiola 6.49 340 *e*Pn **Pn 12 38 02.9 +1.3**
PGF *e*Sn **Sn 12 39 13.3 -2.1**
comp=N,108nm,0.3s
MURB Monte Urbino 6.77 3 Pn 12 38 08.1 +2.6
OSSC Osservatorio P 7.05 355 Pn **Pn 12 38 12.5 +3.4**
VLC Villacollemand 7.76 351 Pn **Pn 12 38 22.1 +3.1**
ZCCA Zocca 7.89 354 Pn 12 38 25.8 +5.1
ITM Ithomi 7.95 82 Pn Pn 12 38 20.6 -1.0
LMR La Mourre 8.05 330 *e*Pn **Pn 12 38 22.8 0.0**
LMR *e*Sn **Sn 12 39 48.5 -5.1**
comp=N,11nm,0.6s
MSSA Maissana 8.05 347 Pn **Pn 12 38 24.2 +1.3**
PDG Podgorica 8.14 41 Pn **Pn 12 38 24.8 +0.8**
SBF Sospel 8.16 336 *e*Pn **Pn 12 38 24.7 +0.2**
SBF *e*Sn **Sn 12 39 53.1 -3.4**
comp=N,65nm,0.7s
FRF La Foret Royal 8.18 331 *e*Pn **Pn 12 38 25.2 +0.5**
FNA Florina 8.46 57 P **Pn 12 38 28.4 -0.2**
FNA Florina 8.46 57 Pn 12 38 28.4 -0.2
AGG Agios Georgios 8.53 70 P **Pn 12 38 29.0 -0.5**
AGG Agios Georgios 8.53 70 Pn **Pn 12 38 29.0 -0.5**
PLE Pljevlja 8.85 37 P **Pn 12 38 37.7 +3.7**
TEOL Teolo 8.86 358 Pn 12 38 37.0 +3.0
SMRF Simiane la Rot 8.96 329 *e*Pn **Pn 12 38 35.6 +0.2**
SMRF *e*Sn **Sn 12 40 11.9 -4.2**
comp=N,1.1nm,0.4s
SJES Sjenica 9.10 40 *e*Pn **Pn 12 38 38.8 +1.5**
MBDF Montbardon 9.15 336 *e*Pn **Pn 12 38 41.4 +3.3**
MBDF *e*Sn **Sn 12 40 16.8 -4.1**
comp=N,29nm,0.6s
SALO Salr 9.19 353 Pn Pn 12 38 45.9 +7.4
GRG Griva 9.24 58 P **Pn 12 38 41.9 +2.7**
BBLS Lazići 9.27 35 *e*Pn **Pn 12 38 41.7 +2.1**
IVAS Ivanjica 9.41 39 *e*Pn **Pn 12 38 39.9 -1.7**
BNI Bardonecchia 9.47 336 P **Pn 12 38 45.8 +3.4**
BNI Bardonecchia 9.47 336 Pn **Pn 12 38 45.8 +3.4**
CTI Castel Tesino 9.55 358 P **Pn 12 38 47.6 +4.0**
CTI Castel Tesino 9.55 358 Pn **Pn 12 38 47.6 +4.0**
ORIF Oris-en-Rattie 9.63 333 *e*Pn **Pn 12 38 44.9 +0.3**
ORIF *e*Sn **Sn 12 40 28.0 -4.6**
comp=N,1.2nm,0.4s
DIVS Divibare 9.72 36 Pn **Pn 12 38 46.8 +1.0**
DIVS Divibare 9.72 36 *e*Pn **Pn 12 38 44.9 -0.9**
STAL STALIGIAL 9.77 3 Pn **Pn 12 38 48.9 +2.4**
LASF Ste Croix 9.82 323 *e*Pn **Pn 12 38 46.6 -0.5**
LASF *e*Sn **Sn 12 40 32.2 -5.0**
comp=N,2.0nm,0.5s
BARS Barje 9.82 47 *e*Pn **Pn 12 38 49.2 +2.0**
LPL La Plagne 9.87 338 *e*Pn **Pn 12 38 48.2 +0.2**
TRUS Trudelj 10.01 37 *e*Pn **Pn 12 38 46.0 -3.8**
VIVF Saint-Julien-I 10.05 328 *e*Pn **Pn 12 38 50.5 +0.1**
VIVF *e*Sn **Sn 12 40 37.9 -5.0**
comp=N,0.6nm,0.4s
ZOU Zoufplan 10.08 4 Pn **Pn 12 38 53.4 +2.5**
MTLF Montolieu 10.18 315 *e*Pn **Pn 12 38 51.4 -0.7**
MTLF *e*Sn **Sn 12 40 40.4 -5.6**
comp=N,3.5nm,0.4s
OBKA Obir 10.18 10 *e*Pn **Pn 12 38 56.8 +4.6**
comp=N,1.4nm,0.4s
MYKA Terra Mystica 10.20 6 *e*Pn Pn 12 38 57.5 +5.1
comp=N,1.1nm,0.3s
ABTA Abfaltersbach 10.25 2 *e*Pn **Pn 12 38 57.5 +4.4**
comp=N,3.5nm,0.6s
DAVOX Davos/Dischmat 10.40 352 Pn Pn 12 39 01.3 +5.9
comp=N,3.0nm,0.3s,baz=180,slow=8.6,SNR=33
DAVOX Sn **Sn 12 40 54.9 +3.1**
comp=N,0.2nm,0.3s,baz=209,slow=23,SNR=1.3
FRGS Fruska Gora 10.46 32 *e*Pn Pn 12 38 42.0 -14
SENIN Lac Senin/Sane 10.48 342 Pn **Pn 12 38 60.0 +3.6**
IDI Anoyia 10.49 93 Pn **Pn 12 38 56.7 +0.2**
comp=N,1.4nm,0.3s,baz=280,slow=21,SNR=8.5
IDI Sn **Sn 12 40 47.0 -6.8**
comp=N,1.0nm,0.3s,baz=199,slow=19,SNR=1.8
FETA Feichten 10.56 355 *e*Pn Pn 12 39 04.3 +6.8
comp=N,2.7nm,0.5s
KBA Koelnbreinsper 10.62 5 *e*Pn **Pn 12 39 01.2 +2.9**
comp=N,1.4nm,0.5s
SQTA Sankt Quirin 10.74 357 *i* Pn Pn 12 39 06.4 +6.6
SNR=4.8
WTTA Wattenberg 10.77 359 *e*Pn Pn 12 39 06.4 +6.2
comp=N,8.3nm,0.8s
WATA Walderalm 10.84 358 *e*Pn Pn 12 39 07.0 +5.7
comp=N,3.9nm,0.5s
MOTA Moosalm 10.87 357 *e*Pn Pn 12 39 07.6 +6.0
comp=N,8.8nm,0.7s,SNR=6.1
DAVA Damuels 10.90 352 *e*Pn Pn 12 39 09.2 +7.1
comp=N,14nm,0.6s,SNR=4.2
RETA Reutte 11.03 355 *i* Pn Pn 12 39 10.8 +7.1
comp=N,8.8nm,0.7s,SNR=8.5
CABF La Chapelle 11.05 338 *e*Pn **Pn 12 39 04.0 0.0**
ARSA Arzberg 11.05 12 *i* Pn **Pn 12 39 06.8 +2.7**
comp=N,0.7nm,0.4s
EPF Esparros 11.12 310 *e*Pn **Pn 12 39 06.0 +1.0**
EPF *e*Sn **Sn 12 41 02.6 -6.6**
comp=N,0.7nm,0.3s
CAF Calviac 11.32 321 *e*Pn **Pn 12 39 07.6 -0.1**
ETSF Etsaut 11.62 307 *e*Pn **Pn 12 39 12.1 +0.2**
CONA Conrad Observa 11.77 13 *e*Pn **Pn 12 39 16.6 +2.7**
comp=N,5.4nm,0.9s
ALN Alexandroupoli 11.79 64 P **Pn 12 39 13.5 -0.6**
ALN Alexandroupoli 11.79 64 Pn **Pn 12 39 13.5 -0.6**
LFF La Frestale 12.02 318 *e*Pn **Pn 12 39 16.7 -0.5**
BFO Black Forest 12.14 348 P **Pn 12 39 20.5 +1.6**
BFO Black Forest 12.14 348 Pn **Pn 12 39 20.5 +1.6**
SJPF Ste Jean 12.15 307 *e*Pn **Pn 12 39 17.8 -1.3**
AVF Avril sur Loir 12.16 330 *e*Pn **Pn 12 39 18.9 -0.3**
LOR Lormes 12.37 333 *e*Pn **Pn 12 39 22.6 +0.6**
baz=153
GERES GERESS Array B 12.40 5 Pn **Pn 12 39 23.0 +0.4**
comp=N,0.1nm,0.3s,baz=167,slow=14,SNR=4.6
GERES LR LR 12 44 38.3
comp=N,204nm,18.6s,baz=224,slow=40
GERES GERESS Array B 12.40 5 P **Pn 12 39 23.9 +1.3**
GERES GERESS Array B 12.40 5 Pn **Pn 12 39 23.9 +1.3**
CDF Champ du Feu 12.42 345 *e*Pn **Pn 12 39 23.4 +0.7**
KHC Kasperske Hory 12.68 5‖*e*P **Pn 12 39 28.4 +2.1**
KHC Kasperske Hory 12.68 5 *e*P **Pn 12 39 27.5 +1.2**
ESBB Sonseca Array 13.01 289 Pn **Pn 12 39 33.2 +2.5**
ESDC Sonseca Array 13.01 289 Pn **Pn 12 39 32.1 +1.3**
comp=N,0.8nm,0.3s,baz=94,slow=14,SNR=49
ESDC LR LR 12 44 24.3
comp=N,140nm,18.6s,baz=87,slow=37
ESDC Sonseca Array 13.01 289 Pn 12 39 32.6 +1.8
PAB San Pablo 13.28 288 P **Pn 12 39 35.5 +0.9**
PAB San Pablo 13.28 288 Pn **Pn 12 39 35.5 +0.9**
MLR Muntele Rosu 13.80 45 LR LR 12 45 53.7
comp=N,186nm,20.6s,baz=264,slow=41
AKAS Kas 14.16 86 Pn **Pn 12 39 43.9 -2.7**
MDT Midelt 14.19 260 Pn **Pn 12 39 47.4 +0.4**
comp=N,0.6nm,0.3s,baz=97,slow=19,SNR=15
ELL Elmali 14.35 84 P **Pn 12 39 46.2 -3.1**
ELL Elmali 14.35 84 Pn 12 39 46.2 -3.1
CHVC Chvalec 14.38 10 *e*P **P 12 39 53.8 -2.7**
BURAR Bucovina Array 14.78 37 P **P 12 39 58.2 -2.8**
CLL Collm 14.83 2 *e*P **P 12 40 03.0 +1.7**
BRTR Keskin Array B 17.29 73 P **P 12 40 28.4 -0.6**
baz=243,slow=11,SNR=3.8
BRTR Keskin Array B 17.29 73 *e*P **P 12 40 29.3 +0.3**
AKASG Malin Array Be 18.81 36 P **P 12 40 45.5 0.0**
comp=N,0.8nm,0.3s,baz=230,slow=10,SNR=4.2
AKASG LR LR 12 49 08.0
comp=N,79nm,19.2s,baz=233,slow=41
AKASG Malin Array Be 18.81 36 P **P 12 40 44.8 -0.7**
AKBB Malin Array Si 18.81 36⇑*i*P **Pn 12 40 46.2 +0.2**
AKBB pmax pmax
comp=Z,13nm,1.0s
AKBB Malin Array Si 18.81 36 P **P 12 40 45.4 0.0**
MMAI Mount Meron Ar 19.49 93 P **Pn 12 40 53.9 -0.5**
comp=Z,0.6nm,0.3s,baz=270,slow=8.6,SNR=4.7
PABE Paberze 20.68 19 P **P 12 41 06.7 +0.9**
MNK Minsk 21.07 26 *i* P **P 12 41 09.0 -1.0**
MNK *i* 12 41 27.5
MNK *i* S **S 12 45 04.3 +0.3**
MNK *i* 12 45 15.1
MNK pmax pmax
comp=N,26nm,1.1s
MNK pmax pmax
comp=E,1.0nm,1.1s
MNK pmax pmax
comp=Z,18nm,1.1s
MNK MLR MLR
comp=Z,163nm,7.0s
MNK MLR MLR
comp=E,29nm,12.0s
MNK MLR MLR
comp=N,232nm,13.0s
MNK Minsk 21.07 26 *i* P **P 12 41 09.0 -1.0**
comp=E,1.0nm,1.1s
MNK *i* P **P 12 41 09.0 -1.0**
comp=N,26nm,1.1s
MNK *i* P **P 12 41 09.0 -1.0**
comp=Z,18nm,1.1s,baz=218
MNK *i* PP **PnPn 12 41 27.5 -1.4**
MNK *i* S **S 12 45 04.4 +0.4**
MNK *i* SS **SnSn 12 45 25.5 +0.2**
MNK *i* LQ LQ 12 47 34.4
MNK *i* LR LR 12 49 10.4
MNK *i* LRM MLR 12 50 56.7
comp=Z,163nm,6.8s
MNK *i* LRM MLR 12 51 03.2
comp=E,29nm,11.9s
MNK *i* LRM MLR 12 51 19.3
comp=N,232nm,12.6s
EKA Eskdalemuir Ar 21.52 336 P **P 12 41 14.8 0.0**
comp=N,1.6nm,0.8s,baz=140,slow=10,SNR=1.7
KONO Kongsberg 23.23 357‖*e*P **P 12 41 34.8 +2.0**
HFS Hagfors 23.68 2 P **P 12 41 36.1 -1.3**
comp=N,3.6nm,0.6s,baz=195,slow=10,SNR=9.9
HFS LR LR 12 51 34.8
comp=N,148nm,18.5s,baz=242,slow=38
VORD Divnogorie 24.25 45 *e*P P 12 41 52.8 +10
VORD pmax pmax
comp=Z,20nm,1.9s
NORES NORESS Array B 24.26 359 P **P 12 41 42.9 +0.1**
NORES pmax pmax
comp=Z,1.0nm,0.8s
VSR Storozhevoye 24.29 44 *e*P P 12 41 54.7 +12
VSR pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 24.45 63 *e*P **P 12 41 46.8 +1.9**
KIV *e* 12 42 17.4
KIV *e*PPP PPP 12 42 25.5
KIV *e* 12 45 23.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,31nm,15.0s
NBO00 NORSAR Array S 24.57 359 P **P 12 41 46.3 +0.6**
NB2 NORSAR Subarra 24.57 359 P **P 12 41 45.0 -0.7**
comp=Z,3.5nm,0.7s,baz=178,slow=9.3
NOA NORSAR Array B 24.57 359 P **P 12 41 45.6 -0.1**
comp=Z,2.2nm,0.7s,baz=181,slow=12,SNR=7.6
KBZ Khabaz 24.58 63 P **P 12 41 47.8 +1.9**
comp=Z,2.6nm,0.9s,baz=268,slow=6.3,SNR=3.7
KBZ Khabaz 24.58 63‖*e*P **P 12 41 45.9 0.0**
LPSR Galich'ya Gora 24.82 41 *e*P **P 12 41 52.4 +4.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
TORD Torodi Ar. Bea 25.04 204 P **P 12 41 51.1 +0.9**
comp=Z,2.1nm,0.8s,baz=25,slow=9.4,SNR=13
TORD Torodi Ar. Bea 25.04 204 P **P 12 41 51.5 +1.3**
OBN Obninsk 25.06 34 LR LR 12 52 12.9
comp=Z,37nm,18.2s,baz=166,slow=38
OBN Obninsk 25.06 34 *e*P **P 12 41 49.6 -0.5**
OBN *e* 12 42 25.4
OBN *e*PPP PPP 12 42 33.3
OBN *e* 12 45 25.0
OBN pmax pmax
comp=Z,18nm,1.3s
VRH Novokhopyorsk 25.74 46 *e*P **P 12 41 54.1 -2.2**
VRH pmax pmax
comp=Z,20nm,1.7s
FINES FINESS Array B 26.50 15 P **P 12 42 03.4 +0.3**
comp=Z,8.7nm,0.6s,baz=190,slow=8.1,SNR=44
FINES LR LR 12 54 00.7
comp=Z,108nm,19.2s,baz=238,slow=40
FINES FINESS Array B 26.50 15 P **P 12 42 02.9 -0.1**
FIA1 FINESS Array S 26.50 15 P **P 12 42 02.3 -0.7**
FIA1 IAmb IAmb 12 42 03.7
comp=Z,12nm,0.8s
BELG Belogornoye 29.59 46‖*e*P **P 12 42 32.3 +1.5**
BELG pmax pmax
comp=Z,3.0nm,0.8s
KIRV Kirov 32.87 36 LR LR 12 59 00.9
comp=Z,81nm,18.6s,baz=256,slow=41
KIRV Kirov 32.87 36‖*e*P **P 12 43 02.3 +2.7**
DBIC Dimbokro 33.47 212 LR LR 12 59 37.2
comp=Z,85nm,19.4s,baz=28,slow=42
BORG Borgarnes 34.56 335 LR LR 12 56 51.9
comp=Z,70nm,18.2s,baz=155,slow=36
AKTO Aktyubinsk 35.57 52 LR LR 12 59 16.0
comp=Z,92nm,18.3s,baz=297,slow=39
ABKAR Akbulak array 36.74 54 P **P 12 43 34.0 +0.9**
ABKAR Akbulak array 36.74 54 P **P 12 43 33.8 +0.7**
ABKAR IAmb IAmb 12 43 34.4
comp=Z,2.9nm,0.8s
ARU Arti 36.83 42 LR LR 13 01 36.3
comp=Z,71nm,18.4s,baz=30,slow=41
ATD Arta Tunnel 37.25 124 LR LR 13 00 47.6
comp=Z,64nm,18.0s,baz=34,slow=39
MBAR Mbarara 40.79 151 LR LR 13 01 30.3
comp=Z,81nm,18.1s,baz=336,slow=37
BRVK Borovoye 43.27 48*de*P **P 12 44 28.2 +1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 43.27 48 P **P 12 44 28.3 +1.0**
BRVK IAmb IAmb 12 44 29.2
comp=Z,2.8nm,0.8s
KMBO Kilima Mbogo 44.16 142 LR LR 13 04 53.0
comp=Z,117nm,19.1s,baz=93,slow=39
KKAR Karatay Array 44.61 63 P **P 12 44 39.6 +1.3**
KKAR Karatay Array 44.61 63 P **P 12 44 39.5 +1.3**
SFJD Kangerlussuaq 46.38 331 LR LR 13 03 19.5
comp=Z,104nm,18.8s,baz=114,slow=35
KURK Kurchatov 48.64 51*de*P **P 12 45 09.7 0.0**
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURK Kurchatov 48.64 51 P **P 12 45 09.9 +0.2**
ZALV Zalesovo Beam 51.78 46 P **P 12 45 33.1 -0.3**
comp=Z,0.3nm,0.3s,baz=297,slow=9.5,SNR=2.2
MK31 Makanchi Array 51.87 55*ce*P **P 12 45 34.3 0.0**
MK31 Makanchi Array 51.87 55 P **P 12 45 34.0 -0.3**
MK31 IAmb IAmb 12 45 35.4
comp=Z,2.4nm,0.8s
MKAR Makanchi Array 51.87 55 P **P 12 45 34.4 +0.1**
comp=Z,2.9nm,0.7s,baz=281,slow=6.6,SNR=35
MKAR Makanchi Array 51.87 55 P **P 12 45 34.9 +0.6**
FRB Frobisher Bay 53.92 327 LR LR 13 06 37.1
comp=Z,76nm,20.2s,baz=60,slow=34
DGZ Jazzator, Alta 54.38 51‖*e*P **P 12 45 53.2 +0.3**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
BOSA Boshof 65.94 167 LR LR 13 18 10.9
comp=Z,57nm,20.1s,baz=354,slow=38
GTA Gaotai 66.50 58 *e*P **P 12 47 17.4 +1.6**
GTA pP sP 12 47 22.6 +1.0
GTA sP pP 12 47 25.9 +5.9
GTA pmax pmax
comp=Z,4.0nm,1.5s
SONM Songino Array 66.65 47 P **P 12 47 17.4 +0.8**
comp=Z,1.7nm,0.7s,baz=287,slow=6.4,SNR=14
SONM Songino Array 66.65 47 *e*P **P 12 47 17.6 +1.0**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 66.65 47 P **P 12 47 17.2 +0.5**
SONM IAmb IAmb 12 47 18.3
comp=Z,3.7nm,1.2s
MDP Montagnes des 66.70 259 LR LR 13 14 36.7
comp=Z,56nm,18.8s,baz=106,slow=34
ULN Ulaanbaatar 67.02 47*ce*P **P 12 47 19.6 +0.6**
ULN pmax pmax
comp=Z,2.0nm,0.8s
LZH Lanzhou 70.93 59 *e*P P 12 47 35.8 -7.7
LZH pP pP 12 47 42.7 -5.0
LZH pmax pmax
comp=Z,26nm,1.3s
YKA Yellowknife Ar 72.47 337 P **P 12 47 54.0 +1.8**
comp=Z,0.3nm,0.7s,baz=47,slow=5.7,SNR=5.4
YKA Yellowknife Ar 72.47 337*ce*P **P 12 47 52.9 +0.8**
TKL Tuckaleechee C 73.91 303 LR LR 13 17 53.1
comp=Z,33nm,20.3s,baz=34,slow=34
BILL Bilibino 74.00 10 *e*P **P 12 48 02.0 +0.9**
BILL *e* 12 48 18.4
BILL *e* 12 50 46.0
BILL pmax pmax
comp=Z,1.0nm,1.0s
CMAR Chiang Mai Arr 76.84 77 P **P 12 48 18.2 0.0**
comp=Z,0.6nm,0.8s,baz=306,slow=7.0,SNR=4.6
ECSD EROS Data Cent 77.23 315 P **P 12 48 21.1 +1.1**
ECSD IAmb IAmb 12 48 24.6
comp=Z,3.0nm,1.1s
KLR Kul'dur 79.31 35 P **P 12 48 31.2 -0.3**
comp=Z,1.5nm,0.8s,baz=301,slow=12,SNR=4.6
KLR Kul'dur 79.31 35⇑*e*P **P 12 48 34.4 +2.9**
KLR pmax pmax
comp=Z,7.0nm,2.2s
PDAR Pinedale Array 84.86 321 P **P 12 49 01.6 +0.7**
comp=Z,0.6nm,0.8s,baz=54,slow=6.1,SNR=5.2
PDAR Pinedale Array 84.86 321 P **P 12 49 01.4 +0.4**
BBB Bella Bella 85.09 337 LR LR 13 26 58.9
comp=Z,108nm,18.0s,baz=301,slow=36
KSRS Korea Array 85.49 46 LR LR 13 31 52.1
comp=Z,22nm,19.2s,baz=325,slow=39
ELK Elko 89.19 323 LR LR 13 29 44.0
comp=Z,49nm,19.2s,baz=321,slow=36
CPUP Villa Florida 90.37 237 LR LR 13 30 50.0
comp=Z,57nm,18.4s,baz=55,slow=36
ASAR Alice Springs 128.78 93 PKP **PKiKP 12 55 33.8 -0.6**
comp=Z,0.4nm,0.7s,baz=331,slow=1.4,SNR=5.8

IDC ***02*** *12:46:54.9±0.8, 31°.04N×139°.56E, h0km, mb3.6/11, mb1 3.9/16, mb1mx3.7/32, mbtmp3.8/16, ML3.7/5, MS3.1/9, Ms1 3.2/9, ms1mx2.8/89, Error ellipse: s-maj=20.3km s-min=15.4km az=109.0*
NEIC ***02*** *12:46:56.9±2.2, 30°.96N±0°.06×139°.5E±0°.1, h10km±1km, mb4.2/7, Error ellipse: s-maj=14.6km s-min=10.9km az=263.0*
JMA ***02*** *12:46:56.9±0.2, 31°.10N×139°.27E, h32km, M4.4*
ISC 02 12:47:00.9±0.7, 31°.11N±0°.07×139°.31E±0°.06, h35km, n65, σ1§43/55, mb3.7/16, MS3.1/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.40**	**16**	P	**Pn**	**12 47 21.3**	**-2.7**
JHJ2	**Mitsune**	**2.04**	**12**	Pn	**Pn**	**12 47 31.9**	**-0.8**
JHJ	**Hachijo jima 2**	**2.04**	**11**	Pn	**Pn**	**12 47 32.0**	**-0.7**
	30nm,0.3s,baz=218,slow=17,SNR=8.1						
JHJ				Sn	**Sn**	**12 47 59.1**	**+2.0**
	38nm,0.3s,baz=222,slow=20,SNR=4.8						
TK01	**Tokai 1**	**3.02**	**332**	*e*S	**Sn**	**12 48 20.4**	**-0.3**
TTO1	**TONANKAI O.B.S**	**3.29**	**320**	P	**Pn**	**12 47 48.3**	**-1.4**
JIE	**Ise**	**3.94**	**327**	P	**Pn**	**12 47 57.3**	**-1.6**
JIE				*e*S	**Sn**	**12 48 42.3**	**-1.5**
HMMJ	**Hamamatsu 2**	**3.96**	**341**	*e*S	**Sn**	**12 48 42.6**	**-1.9**
JKN2	**Miekihoku**	**4.04**	**321**	P	**Pn**	**12 47 58.3**	**-1.9**
JKN2				*e*S	**Sn**	**12 48 43.8**	**-2.4**
JTNC	**Tanabenakahech**	**4.13**	**312**	P	**Pn**	**12 47 59.7**	**-1.8**
JTNC				*e*S	**Sn**	**12 48 46.5**	**-2.1**
JNY	**Yasuok**	**4.41**	**344**	*e*S	**Sn**	**12 48 54.9**	**-0.6**
JEG	**Eigenji**	**4.70**	**329**	*e*S	**Sn**	**12 49 02.0**	**-0.7**
JCJ	**Chichijima**	**4.73**	**147**	Pn	Pn	12 48 05.2	-4.6
JHU	**Hanno**	**4.73**	**360**	P	**Pn**	**12 48 11.3**	**+1.6**
JYT	**Yasato**	**5.16**	**8**	Pn	**Pn**	**12 48 16.6**	**+1.0**
JMN	**Monobe**	**5.28**	**301**		**Pn**	**12 48 16.6**	**-0.8**
JWT	**Wachi**	**5.29**	**323**	Pn	**Pn**	**12 48 16.7**	**-0.8**
MJAR	**Matsushiro Arr**	**5.49**	**351**	Pn	**Pn**	**12 48 21.1**	**+0.9**
	0.7nm,0.3s,baz=155,slow=13,SNR=42						
MJAR				Sn	**Sn**	**12 49 25.4**	**+3.2**
	0.1nm,0.3s,baz=92,slow=16,SNR=1.2						
MJAR				LR	LR	12 50 10.3	
	comp=Z,142nm,21.9s,baz=158,slow=35						
MJAR	**Matsushiro Arr**	**5.49**	**351**		**Pn**	**12 48 22.4**	**+2.1**
MAJO	**Matsushiro**	**5.49**	**351**		**Pn**	**12 48 21.4**	**+1.1**
MJB9	**Matsu-Tunnel**	**5.50**	**351**	Pn	**Pn**	**12 48 21.6**	**+1.2**
JHS	**Saijyo**	**6.49**	**308**	Pn	**Pn**	**12 48 33.2**	**-0.7**
JMM	**Marumori**	**6.85**	**10**		**Pn**	**12 48 38.0**	**-0.8**
JNU	**Nakatsue**	**7.43**	**288**	Pn	**Pn**	**12 48 46.6**	**-0.2**
	2.1nm,0.3s,baz=125,slow=8.2,SNR=29						
JNU				Sn	**Sn**	**12 50 12.4**	**+2.5**
	1.1nm,0.3s,baz=201,slow=19,SNR=2.6						
JNU				LR	LR	12 51 39.0	
	comp=Z,205nm,19.6s,baz=90,slow=37						
JNU	**Nakatsue**	**7.43**	**288**		**Pn**	**12 48 48.4**	**+1.5**
JSU	**Suzuyama**	**7.59**	**275**		**Pn**	**12 48 50.6**	**+1.5**
JTM	**Tenmabayashi**	**9.76**	**8**	Pn	**Pn**	**12 49 16.6**	**-2.1**
JOW	**Kunigami**	**10.56**	**249**	Pn	**Pn**	**12 49 31.2**	**+1.4**
	2.6nm,0.3s,baz=118,slow=21,SNR=7.8						
KSRS	**Korea Array**	**11.34**	**307**	Pn	**Pn**	**12 49 41.7**	**+1.3**
	0.1nm,0.3s,baz=106,slow=14,SNR=1.9						
KSRS				LR	LR	12 54 00.9	
	comp=Z,115nm,18.6s,baz=120,slow=37						
ASAJ	**Asahikawa**	**13.24**	**10**	LR	LR	12 55 02.1	
	comp=Z,67nm,19.1s,baz=128,slow=37						
KLR	**Kul'dur**	**18.98**	**345**	LR	LR	12 57 14.8	
	comp=Z,37nm,19.9s,baz=67,slow=32						
PETK	**Petropavlovsk-**	**25.72**	**26**	P	**P**	**12 52 25.5**	**-2.3**
	2.3nm,0.8s,baz=183,slow=7.2,SNR=3.8						
DAV	**Davao City (W)**	**27.15**	**211**	LR	LR	13 04 53.3	
	comp=Z,23nm,18.4s,baz=144,slow=40						
H11N2	**WAKE ISLAND Hy**	**27.30**	**108**	T	T	13 21 00.6	
	baz=300,slow=75,SNR=164						
H11N1	**WAKE ISLAND Hy**	**27.30**	**108**	T	T	13 20 58.3	
	baz=300,slow=75,SNR=156						
H11N3	**WAKE ISLAND Hy**	**27.31**	**108**	T	T	13 20 57.7	
	baz=300,slow=75,SNR=147						
H11S3	**WAKE ISLAND Hy**	**27.76**	**110**	T	T	13 21 29.4	
	baz=303,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**27.76**	**110**	T	T	13 21 32.5	
	baz=303,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.78**	**110**	T	T	13 21 37.6	
	baz=303,slow=75,SNR=180						
SONM	**Songino Array**	**30.11**	**313**	P	**P**	**12 53 08.0**	**+0.7**
	1.0nm,0.9s,baz=120,slow=6.5,SNR=4.6						
MANU	**Manus Island**	**33.85**	**165**	P	P	12 53 35.4	-4.9
CMAR	**Chiang Mai Arr**	**38.55**	**261**	P	**P**	**12 54 21.4**	**+1.0**
	0.4nm,0.6s,baz=51,slow=7.0,SNR=4.7						
CMAR				LR	LR	13 11 30.3	
	comp=Z,17nm,18.8s,baz=90,slow=38						
MK31	**Makanchi Array**	**46.02**	**307**	P	**P**	**12 55 21.8**	**+0.8**
MK31				IAmb	IAmb	12 55 35.5	
	comp=Z,1.3nm,1.1s						
MKAR	**Makanchi Array**	**46.02**	**307**	P	**P**	**12 55 21.3**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=93,slow=9.6,SNR=10						
MKAR	**Makanchi Array**	**46.02**	**307**	P	**P**	**12 55 21.6**	**+0.6**
WRA	**Warramunga Arr**	**50.99**	**186**	P	**P**	**12 55 57.9**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=3.3,slow=7.5,SNR=6.9						
WRA	**Warramunga Arr**	**50.99**	**186**	P	**P**	**12 55 58.3**	**-1.0**
J20K	**Nowinta River**	**52.28**	**31**	P	**P**	**12 56 09.1**	**+0.5**
J20K				IAmb	IAmb	12 56 20.1	
	comp=Z,5.2nm,1.3s						
H21K	**Melozitna Rive**	**53.00**	**29**	P	**P**	**12 56 13.6**	**-0.3**
H21K				IAmb	IAmb	12 56 17.8	
	comp=Z,3.6nm,1.2s						
ASAR	**Alice Springs**	**54.71**	**186**	P	**P**	**12 56 25.6**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=13,slow=12,SNR=5.7						
KKAR	**Karatay Array**	**54.74**	**303**	P	**P**	**12 56 27.4**	**+0.5**
ILAR	**Eielson Array**	**55.45**	**30**	P	**P**	**12 56 29.9**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=260,slow=6.4,SNR=6.3						
BMAR	**Burnt Mountain**	**56.37**	**27**	P	**P**	**12 56 38.9**	**+0.6**
BCAR	**Beaver Creek A**	**57.80**	**32**	P	**P**	**12 56 48.2**	**-0.2**
ARU	**Arti**	**59.73**	**321**	LR	LR	13 27 17.6	
	comp=Z,67nm,18.3s,baz=96,slow=40						
INK	**Inuvik**	**60.46**	**25**	P	**P**	**12 57 06.6**	**-0.1**
INK				IAmb	IAmb	12 57 34.1	
	comp=Z,4.2nm,1.2s						
ABKAR	**Akbulak array**	**60.52**	**312**	P	**P**	**12 57 08.5**	**+1.0**
EUNU	**Eureka**	**66.28**	**8**	P	**P**	**12 57 46.2**	**+1.1**
EUNU				IAmb	IAmb	12 57 49.7	
	comp=Z,1.4nm,0.8s						
YKA	**Yellowknife Ar**	**69.81**	**28**	P	**P**	**12 58 06.2**	**-1.3**

comp=Z,0.6nm,0.9s,baz=295,slow=6.2,SNR=7.3
FINES FINESS Array B 73.24 333 P **P 12 58 28.5 +0.4**
comp=Z,1.9nm,0.9s,baz=45,slow=8.3,SNR=1.5
NOA NORSAR Array B 78.95 337 LR LR 13 35 43.6
comp=Z,17nm,20.0s,baz=265,slow=37
NVAR Mina Array Bea 79.99 51 P **P 12 59 07.5 +0.4**
comp=Z,0.3nm,0.7s,baz=293,slow=5.4,SNR=2.4
PDAR Pinedale Array 83.10 44 P **P 12 59 23.2 -0.2**
comp=Z,0.2nm,0.6s,baz=308,slow=4.4,SNR=2.3
H03N2 Juan Fernandez 147.70 104 T T 15 51 29.5
baz=281,slow=75,SNR=57
H03N3 Juan Fernandez 147.71 104 T T 15 51 33.5
baz=281,slow=75,SNR=66
H03N1 Juan Fernandez 147.72 104 T T 15 51 31.0
baz=281,slow=75,SNR=63

IDC 02 12:53:14.7±2.4, 17°.54N×40°.17E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.2/35, mbtmp3.7/5, MS3.5/6, Ms1 3.5/6, ms1mx2.9/77, Error ellipse: s-maj=65.5km s-min=28.8km az=158.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**18.21**	**69**	LR	LR	13 05 03.3	
	comp=Z,75nm,18.1s,baz=288,slow=39						
BRTR	**Keskin Array B**	**22.83**	**347**	P	P	12 58 19.3	-0.2
	2.2nm,1.0s,baz=181,slow=9.9,SNR=5.7						
GNI	**Garni**	**22.88**	**9**	LR	LR	13 07 23.8	
	comp=Z,55nm,18.8s,baz=198,slow=37						
GEYT	**Alibeck**	**25.70**	**34**	LR	LR	13 09 50.2	
	comp=Z,146nm,18.1s,baz=293,slow=39						
LSZ	**Lusaka**	**34.68**	**201**	LR	LR	13 14 32.5	
	comp=Z,94nm,21.3s,baz=348,slow=37						
BELG	**Belogornoye**	**35.28**	**8**	LR	LR	13 16 55.2	
	comp=Z,73nm,18.4s,baz=118,slow=40						
TORD	**Torodi Ar. Bea**	**37.31**	**269**	P	P	13 00 28.9	-0.1
	0.9nm,0.8s,baz=77,slow=6.7,SNR=5.0						
DBIC	**Dimbokro**	**45.22**	**262**	LR	LR	13 19 53.6	
	comp=Z,75nm,18.3s,baz=1.0,slow=35						
MKAR	**Makanchi Array**	**45.27**	**40**	P	P	13 01 33.2	-0.8
	0.5nm,0.8s,baz=226,slow=6.6,SNR=6.0						
ZALV	**Zalesovo Beam**	**50.00**	**33**	P	P	13 02 11.6	+0.9
	1.8nm,0.8s,baz=248,slow=7.2,SNR=6.7						
SONM	**Songino Array**	**61.29**	**45**	P	P	13 03 31.9	-0.3
	0.7nm,0.9s,baz=258,slow=5.7,SNR=3.1						

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*JMA **02** 13:01:45.0±0.7, 45°.31N×150°.09E, h30km, M4.0*
SKHL 02 13:01:44.4±0.1, 45°.00N×150°.20E, h35km±5km, mb4.0/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.67**	**279**	*e*P	Pn	13 02 10.5	-0.6
KUR				AMB	AMB	13 02 11.3	
	30nm,0.3s						
KUR				*e*S	Sn	13 02 30.0	-1.2
KUR				A	A	13 02 33.5	
	130nm,0.3s						
KUR				A	A	13 02 33.5	
	210nm,0.3s						
SHO	**Shikotan**	**2.67**	**246**	*e*P	Pn	13 02 25.3	+0.5
SHO				AMB	AMB	13 02 28.6	
	30nm,0.3s						
SHO				*e*S	Sn	13 02 56.0	+0.2
SHO				A	A	13 03 05.3	
	140nm,0.4s						
SHO				A	A	13 03 05.3	
	80nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.25**	**254**	*i* P	Pn	13 02 33.3	+0.5
YUK				*e*S	Sn	13 03 10.0	-0.3
YUK				A	A	13 03 22.7	
	50nm,0.4s						
YUK				A	A	13 03 22.7	
	110nm,0.4s						
GLVR	**Golovnino**	**3.58**	**251**	*e*P	Pn	13 02 38.5	+1.1
GLVR				*e*S	Sn	13 03 20.8	+2.3
NEM2	**Nemuro 2**	**3.60**	**245**	P	Pn	13 02 38.6	+1.0
NEM2				*e*S	Sn	13 03 18.2	-0.7
NMR	**Nemuro--Hokkai**	**3.61**	**245**	*e*P	Pn	13 02 38.5	+0.8
NMR				*e*S	Sn	13 03 19.0	0.0
JRA	**Rausu**	**3.79**	**256**	P	Pn	13 02 43.0	+2.8
JNK	**Nakash**	**4.18**	**252**	P	Pn	13 02 48.1	+2.4
AKK	**Akkeshi**	**4.34**	**245**	*e*P	Pn	13 02 48.8	+0.9
AKK				*e*S	Sn	13 03 37.4	+0.2
JAK	**Akkeshi**	**4.45**	**245**	P	Pn	13 02 50.4	+1.1
JAK				*e*S	Sn	13 03 39.2	-0.6
JTKR	**Abashiri--Toko**	**4.62**	**259**	P	Pn	13 02 54.3	+2.7
JAR	**Ashorobuto**	**4.93**	**252**	P	Pn	13 02 58.3	+2.4
JOB	**Onbets**	**5.05**	**248**	P	Pn	13 02 59.5	+1.9
JCH	**Churui**	**5.49**	**247**	P	Pn	13 03 05.1	+1.4
JNBK	**Urakawa-nobuka**	**6.05**	**246**	P	Pn	13 03 12.3	+1.0
JKB	**Kayabe**	**7.36**	**248**	P	Pn	13 03 30.5	+1.2
JANG	**Nango**	**7.89**	**237**	*e*S	Sn	13 04 59.1	-5.5

NNC 02 13:16:19.6±7.5, 37°.23N×71°.02E, h0km, mb3.7, mpv3.4, 3C-1D, Error ellipse: s-maj=61.5km s-min=45.7km az=162.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	**Karatay Array**	**5.88**	**356**	⇑P	Pn	13 17 49.4	+1.3
	2.0nm,0.5s,baz=180,slow=13						
KK08				⇑S	Sn	13 18 58.3	+2.1
	1.9nm,0.3s,baz=176,slow=22						
AAK	**Ala-Archa**	**6.03**	**25**	⇑P	Pn	13 17 50.3	+0.1
	1.3nm,0.3s						
AAK				⇓S	Sn	13 18 59.7	-0.3
	2.9nm,0.6s						
AB31	**Akbulak array**	**14.46**	**330**	P	Pn	13 19 42.9	-2.6
	0.7nm,0.6s,baz=150,slow=11,SNR=15						

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*IDC **02** 13:27:06.5±3.3, 11°.88N×92°.93E, h54km±29km, mb3.6/21, mb1 3.7/23, mb1mx3.5/64, mbtmp3.9/23, ML4.1/1, MS2.9/5, Ms1 3.0/5, ms1mx2.6/87, Error ellipse: s-maj=22.9km s-min=12.4km az=59.0*
ISC 02 13:27:05.1±0.6, 11°.88N±0°.09×92°.8E±0°.1, h41km, n33, σ1§01/30, mb3.9/22, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.81**	**41**	P	**Pn**	**13 29 11.7**	**+1.8**
	0.6nm,0.3s,baz=233,slow=15,SNR=25						
CMAR				LR	LR	13 33 26.2	
	comp=Z,43nm,19.0s,baz=220,slow=43						
PSI	**Prapat**	**10.86**	**146**	P	**Pn**	**13 29 40.2**	**+2.0**
	baz=218,slow=13						
PSI				LR	LR	13 34 24.6	
	comp=Z,57nm,19.5s,baz=316,slow=40						
PALK	**Pallekele**	**12.80**	**250**	S	Sn	13 32 15.5	-10
	3.2nm,0.3s,baz=90,slow=23,SNR=10						
PALK				LR	LR	13 34 34.0	
	comp=Z,79nm,19.6s,baz=154,slow=35						
LEM	**Lembang**	**23.70**	**141**	LR	LR	13 41 10.8	
	comp=Z,34nm,18.1s,baz=289,slow=36						
H08S3	**Diego Garcia H**	**28.02**	**227**	T	T	14 01 38.6	
	baz=46,slow=75,SNR=14						
H08S2	**Diego Garcia H**	**28.02**	**227**	T	T	14 01 39.3	
	baz=46,slow=75,SNR=18						
H08S1	**Diego Carcia H**	**28.04**	**227**	T	T	14 01 40.3	
	baz=46,slow=75,SNR=5.9						
WSAR	**Wadi Sarin**	**34.41**	**294**	LR	LR	13 48 34.0	
	comp=Z,25nm,18.5s,baz=140,slow=37						
AAK	**Ala-Archa**	**34.54**	**336**	P	**P**	**13 33 51.1**	**+1.3**
	0.7nm,0.4s,baz=149,slow=6.0,SNR=4.2						
MKAR	**Makanchi Array**	**35.92**	**348**	P	**P**	**13 34 01.8**	**+0.3**
	1.1nm,0.7s,baz=167,slow=7.8,SNR=18						
MKAR				PcP	**PcP**	**13 36 28.2**	**+0.3**
	0.3nm,0.7s,baz=149,slow=3.0,SNR=3.0						
SONM	**Songino Array**	**37.60**	**15**	P	**P**	**13 34 15.7**	**-0.2**
	0.4nm,0.2s,baz=198,slow=7.8,SNR=8.1						
SONM				PcP	**PcP**	**13 36 34.0**	**+1.0**
	0.4nm,0.5s,baz=175,slow=3.7,SNR=2.5						
BATI	**Baumata**	**37.69**	**124**	P	**P**	**13 34 14.7**	**-2.2**
	36nm,0.8s,baz=345,slow=11,SNR=6.0						
KURBB	**Kurchatov Arra**	**40.37**	**346**	P	**P**	**13 34 39.2**	**+0.4**
	1.1nm,0.7s,baz=164,slow=7.5,SNR=11						
KURBB				PcP	**PcP**	**13 36 40.5**	**-1.0**
	0.2nm,0.7s,baz=154,slow=2.9,SNR=2.0						
KSRS	**Korea Array**	**40.43**	**45**	P	**P**	**13 34 38.8**	**-0.6**
	0.3nm,0.4s,baz=238,slow=8.6,SNR=2.2						
ZALV	**Zalesovo Beam**	**42.44**	**353**	P	**P**	**13 34 56.1**	**+0.3**
	0.6nm,0.4s,baz=177,slow=7.4,SNR=4.4						

BVAR	**Borovoye Array**	**44.80**	**341**	P	**P**	**13 35 15.1**	**+0.4**
	0.4nm,0.3s,baz=132,slow=9.7,SNR=3.2						
AKTO	**Aktyubinsk**	**47.84**	**330**	P	**P**	**13 35 39.1**	**+0.4**
	1.0nm,0.5s,baz=108,slow=12						
WRA	**Warramunga Arr**	**51.67**	**127**	P	**P**	**13 36 06.9**	**-1.4**
	0.5nm,0.4s,baz=301,slow=10.0,SNR=9.3						
ASAJ	**Asahikawa**	**53.33**	**43**	P	**P**	**13 36 20.8**	**+0.6**
	9.9nm,1.0s,baz=194,slow=4.2,SNR=2.1						
ASAR	**Alice Springs**	**53.50**	**131**	P	**P**	**13 36 21.4**	**-0.4**
	0.5nm,0.8s,baz=313,slow=6.7,SNR=12						
BRTR	**Keskin Array B**	**58.87**	**309**	P	**P**	**13 36 58.7**	**-1.4**
	0.8nm,0.7s,baz=95,slow=7.2,SNR=2.2						
TIXI	**Tiksi**	**63.59**	**12**	P	**P**	**13 37 30.3**	**-0.9**
	1.8nm,0.4s,baz=209,slow=4.4,SNR=6.4						
AKASG	**Malin Array Be**	**64.24**	**321**	P	**P**	**13 37 35.5**	**-0.4**
	0.3nm,0.4s,baz=86,slow=5.5,SNR=4.1						
FINES	**FINESS Array B**	**68.59**	**332**	P	**P**	**13 38 03.6**	**+0.1**
	3.5nm,0.9s,baz=100,slow=5.8,SNR=7.2						
ARCES	**ARCESS Array B**	**71.08**	**340**	P	**P**	**13 38 18.9**	**+0.2**
	3.3nm,0.9s,baz=46,slow=5.2,SNR=7.3						
GERES	**GERESS Array B**	**74.00**	**318**	P	**P**	**13 38 36.8**	**+0.1**
	0.7nm,0.7s,baz=93,slow=7.1,SNR=4.7						
NOA	**NORSAR Array B**	**75.63**	**330**	P	**P**	**13 38 44.8**	**-0.9**
	0.3nm,0.5s,baz=93,slow=5.9,SNR=1.1						
BOSA	**Boshof**	**76.65**	**237**	P	**P**	**13 38 53.9**	**+1.6**
	3.0nm,1.1s,baz=124,slow=3.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**88.43**	**283**	P	**P**	**13 39 54.4**	**+0.7**
	0.6nm,0.9s,baz=72,slow=6.2,SNR=2.1						
ILAR	**Eielson Array**	**91.53**	**22**	P	**P**	**13 40 06.7**	**-0.5**
	0.6nm,0.7s,baz=320,slow=4.6,SNR=4.7						
PDAR	**Pinedale Array**	**121.88**	**19**	PKP	**PKPdf**	**13 45 54.9**	**-0.6**
	0.6nm,0.9s,baz=199,slow=2.5,SNR=3.2						
NVAR	**Mina Array Bea**	**122.10**	**29**	PKP	**PKiKP**	**13 45 56.2**	**0.0**
	0.4nm,0.5s,baz=307,slow=2.9,SNR=4.1						
PLCA	**Paso Flores**	**147.75**	**204**	PKPbc	**PKiKP**	**13 46 47.2**	**-0.7**
	1.8nm,1.0s,baz=83,slow=1.6,SNR=3.3						

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*NEIC **02** 13:31:23.1±1.6, 23°.8S±0°.1×179°.6W±0°.2, h459km±14km, mb4.4/24, Error ellipse: s-maj=23.4km s-min=14.2km az=55.0*
*IDC **02** 13:31:26.2±3.0, 23°.71S×179°.72W, h496km±29km, mb3.7/16, mb1 3.7/17, mb1mx3.4/41, mbtmp4.5/17, Error ellipse: s-maj=24.0km s-min=14.7km az=62.0*
ISC 02 13:31:22.0±0.5, 23°.68S±0°.05×179°.73W±0°.07, h450km, n87, σ3§02/106, mb4.2/25, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.78**	**164**	P	**P**	**13 32 50.5**	**-3.4**
GLKZ	**Green Lake**	**5.79**	**164**	S	**S**	**13 34 17.9**	**+8.7**
MSVF	**Nonsavu**	**6.27**	**340**	P	**P**	**13 33 02.0**	**+2.8**
NIUE	**Niue**	**10.21**	**65**	P	**P**	**13 33 43.1**	**+1.6**
AFI	**Afiamalu**	**12.29**	**39**	S	**S**	**13 36 13.4**	**-4.6**
	1.1nm,0.3s,baz=180,slow=16,SNR=1.9						
OUENC	**Ouen Island, N**	**12.43**	**273**	P	**P**	**13 34 07.9**	**+2.4**
OUZ	**Omahuta**	**12.88**	**205**	P	**P**	**13 34 15.0**	**+4.8**
HAZ	**Te Kaha**	**14.19**	**188**	P	**P**	**13 34 28.4**	**+4.1**
HAZ				S	**S**	**13 36 54.4**	**-0.5**
PKGZ	**Pakihiroa**	**14.29**	**187**	P	P	13 34 30.4	+5.0
PUZ	**Puketiti**	**14.45**	**186**	P	**P**	**13 34 31.7**	**+4.6**
PUZ				S	**S**	**13 36 58.9**	**-1.1**
TWGZ	**Tauwhareparae**	**14.58**	**187**	P	**P**	**13 34 33.3**	**+4.7**
TWGZ				S	**S**	**13 37 02.2**	**-0.5**
TOZ	**Tahuroa Road**	**14.59**	**195**	P	P	13 34 34.7	+6.1
URZ	**Urewera**	**14.78**	**190**	P	**P**	**13 34 32.8**	**+2.2**
	2.7nm,0.3s,baz=301,slow=24,SNR=19						
URZ				S	**S**	**13 37 03.1**	**-3.4**
	0.5nm,0.3s,baz=302,slow=23,SNR=2.0						
URZ	**Urewera**	**14.78**	**190**	P	**P**	**13 34 32.8**	**+2.2**
URZ				S	**S**	**13 37 03.0**	**-3.4**
URZ	**Urewera**	**14.78**	**190**	P	**P**	**13 34 31.5**	**+0.9**
MWZ	**Matawai**	**14.79**	**188**	P	**P**	**13 34 33.9**	**+3.1**
MWZ				S	**S**	**13 37 05.4**	**-1.4**
TKGZ	**Te Karaka**	**14.86**	**187**	P	**P**	**13 34 35.4**	**+3.9**
RIGZ	**Rimuhau**	**15.13**	**188**	P	**P**	**13 34 38.0**	**+3.6**
RIGZ				S	**S**	**13 37 12.5**	**-0.9**
TLZ	**Tolley Road**	**15.15**	**194**	P	**P**	**13 34 40.2**	**+5.5**
KNZ	**Kokohu**	**15.45**	**188**	P	**P**	**13 34 41.6**	**+3.8**
KNZ				S	**S**	**13 37 16.1**	**-3.4**
HIZ	**Hauiti**	**15.49**	**196**	P	**P**	**13 34 44.9**	**+6.7**
NMHZ	**Naumai**	**15.65**	**190**	P	**P**	**13 34 43.6**	**+3.6**
BKZ	**Black Stump Fm**	**15.77**	**191**	P	**P**	**13 34 42.8**	**+1.6**
BKZ				S	**S**	**13 37 18.6**	**-7.2**
BKZ	**Black Stump Fm**	**15.77**	**191**	P	**P**	**13 34 42.3**	**+1.1**
BKZ				IAmb	IAmb	13 34 55.8	
	comp=Z,13nm,1.2s						
NTVZ	**North Tongarir**	**15.86**	**193**	P	**P**	**13 34 45.5**	**+3.3**
TMVZ	**Te Maari**	**15.87**	**193**	P	**P**	**13 34 45.0**	**+2.7**
ETVZ	**East Tongariro**	**15.89**	**193**	P	**P**	**13 34 45.3**	**+2.7**
OTVZ	**Oturere**	**15.93**	**193**	P	**P**	**13 34 45.9**	**+2.9**
SNVZ	**South Ngauruho**	**15.95**	**193**	P	**P**	**13 34 39.1**	**-4.1**
MCHZ	**McNeill Hill**	**16.01**	**190**	P	**P**	**13 34 45.7**	**+2.1**
MCHZ				S	**S**	**13 37 27.8**	**-2.4**
KWHZ	**Kaweka Forest**	**16.03**	**191**	P	**P**	**13 34 45.7**	**+1.7**
KWHZ				S	**S**	**13 37 26.6**	**-4.3**
VRZ	**Vera Road**	**16.09**	**196**	P	**P**	**13 34 49.8**	**+5.3**
WNVZ	**Wahianoa**	**16.10**	**193**	P	**P**	**13 34 47.7**	**+3.0**
BHHZ	**Black Hill Sta**	**16.16**	**192**	P	**P**	**13 34 46.2**	**+0.9**
BHHZ				S	**S**	**13 37 27.1**	**-6.3**
LREZ	**Lake Rotokare**	**16.50**	**196**	P	**P**	**13 34 54.8**	**+6.0**
PXZ	**Pawanui**	**16.55**	**189**	P	**P**	**13 34 51.4**	**+2.0**
PXZ				S	**S**	**13 37 34.4**	**-6.5**
TSZ	**Takapari Road**	**16.73**	**192**	P	**P**	**13 34 52.0**	**+0.7**
TSZ				S	**S**	**13 37 39.3**	**-5.0**
DVHZ	**Dannevirke**	**16.93**	**191**	P	**P**	**13 34 55.1**	**+1.8**
DVHZ				S	**S**	**13 37 41.1**	**-6.9**
ANWZ	**Angora Road**	**17.04**	**190**	P	**P**	**13 34 53.8**	**-0.6**
ANWZ				S	**S**	**13 37 43.6**	**-6.3**
BFZ	**Birch Farm**	**17.29**	**190**	P	**P**	**13 34 57.2**	**+0.1**
NNZ	**Nelson**	**18.42**	**197**	P	**P**	**13 35 07.5**	**-1.0**
KHZ	**Kahutara**	**19.51**	**195**	P	**P**	**13 35 17.3**	**-1.3**
KHZ				IAmb	IAmb	13 35 23.8	
	comp=Z,15nm,1.0s						
HNR	**Honiara**	**24.04**	**303**	P	**P**	**13 35 58.7**	**-1.4**
ARMA	**Armidale**	**26.33**	**249**	P	**P**	**13 36 21.9**	**+1.5**
EIDS	**Eidsvold**	**26.59**	**260**	P	**P**	**13 36 24.2**	**+1.7**
EIDS				IAmb	IAmb	13 36 25.4	
	comp=Z,5.7nm,0.6s						
CAN	**Canberra**	**29.47**	**240**	P	**P**	**13 36 47.5**	**-0.3**
CTA	**Charters Tower**	**31.73**	**270**	P	**P**	**13 37 09.7**	**+2.2**
	comp=Z,12nm,0.5s,baz=92,slow=11,SNR=20						
CTAO	**Charters Tower**	**31.73**	**270**	P	**P**	**13 37 09.7**	**+2.2**
TOO	**Toolangi**	**32.78**	**237**	P	**P**	**13 37 18.0**	**+1.7**
TOO				IAmb	IAmb	13 37 20.8	
	comp=Z,20nm,1.1s						
PMG	**Port Moresby**	**34.66**	**289**	P	**P**	**13 37 32.7**	**+0.2**
	comp=Z,9.9nm,0.7s,baz=113,slow=6.5,SNR=4.6						
STKA	**Stephens Creek**	**35.04**	**248**	P	**P**	**13 37 36.6**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=90,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**35.04**	**248**	P	**P**	**13 37 35.5**	**0.0**
BBOO	**Buckleboo**	**39.76**	**247**	P	**P**	**13 38 14.5**	**0.0**
BBOO				IAmb	IAmb	13 38 31.6	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**42.32**	**260**	P	**P**	**13 38 35.9**	**+0.8**
ASAR	**Alice Springs**	**42.32**	**260**	P	**P**	**13 38 35.8**	**+0.7**
	comp=Z,7.1nm,0.8s,baz=96,slow=7.5,SNR=98						
ASAR				PcP	**PcP**	**13 40 17.5**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=116,slow=4.2,SNR=3.5						
ASAR				ScP	**ScP**	**13 43 20.8**	**-5.3**
	comp=Z,0.7nm,0.9s,baz=90,slow=3.7,SNR=3.8						
ASAR				S	**S**	**13 44 16.1**	**-6.5**
	comp=Z,0.5nm,0.8s,baz=93,slow=15,SNR=2.7						
ASAR	**Alice Springs**	**42.32**	**260**	P	**P**	**13 38 35.4**	**+0.3**
WR0	**Warramunga Arr**	**42.48**	**266**	P	**P**	**13 38 36.7**	**+0.4**
WB2	**Warramunga Arr**	**42.66**	**266**	P	**P**	**13 38 38.0**	**+0.2**
WB2				IAmb	IAmb	13 38 38.8	
	comp=Z,9.6nm,0.7s						
WB0	**Warramunga Arr**	**42.66**	**266**	P	**P**	**13 38 38.1**	**+0.3**
WB0				IAmb	IAmb	13 38 38.8	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**42.66**	**266**	P	**P**	**13 38 38.1**	**+0.3**
WRAB				IAmb	IAmb	13 38 38.4	
	comp=Z,9.3nm,0.5s						
WRA	**Warramunga Arr**	**42.67**	**266**	P	**P**	**13 38 38.2**	**+0.3**
	comp=Z,8.1nm,0.5s,baz=101,slow=8.6,SNR=129						
WRA				PcP	**PcP**	**13 40 19.3**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=100,slow=3.0,SNR=3.3						
WRA				S	S	13 44 19.7	-8.0
	comp=Z,0.5nm,0.7s,baz=110,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**42.67**	**266**	P	**P**	**13 38 37.0**	**-0.9**
JAY	**Jayapura**	**43.66**	**293**	P	**P**	**13 38 46.5**	**+0.8**
	comp=Z,5.3nm,0.5s,baz=150,slow=22,SNR=1.2						

FORT	**Forrest**	**46.62**	**249**	P	**P**	**13 39 08.2**	**-0.2**
MTN	**Manton Dam**	**47.69**	**274**	P	**P**	**13 39 16.8**	**+0.1**
MTN				IAmb	IAmb	13 39 18.8	
	comp=Z,9.8nm,0.9s						
KNRA	**Kununurra**	**48.94**	**269**	P	**P**	**13 39 26.7**	**+0.7**
KNRA				IAmb	IAmb	13 39 27.4	
	comp=Z,12nm,0.9s						
SAUI	**Saumlaki**	**49.37**	**280**	P	**P**	**13 39 30.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**51.09**	**265**	P	**P**	**13 39 42.7**	**+0.8**
	comp=Z,4.1nm,0.6s,baz=103,slow=6.9,SNR=17						
SIJI	**Sorong**	**52.60**	**288**	P	**P**	**13 39 53.2**	**+0.3**
	comp=Z,15nm,0.6s,baz=128,slow=6.5,SNR=7.9						
VNDA	**Vanda**	**54.62**	**185**	P	**P**	**13 40 06.8**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=12,slow=5.7,SNR=1.6						
BATI	**Baumata**	**55.46**	**274**	P	**P**	**13 40 15.0**	**+1.7**
	comp=Z,14nm,0.6s,baz=112,slow=5.4,SNR=2.3						
MORW	**Morawa**	**57.18**	**250**	P	**P**	**13 40 24.2**	**-0.8**
MORW				IAmb	IAmb	13 40 25.1	
	comp=Z,6.5nm,0.5s						
GIRL	**Giralia**	**60.21**	**257**	P	**P**	**13 40 46.4**	**+0.9**
QSPA	**South Pole Qui**	**66.40**	**180**	P	**P**	**13 41 25.3**	**+0.3**
	comp=Z,3.8nm,0.6s,baz=328,slow=0.6,SNR=25						
QSPA	**South Pole Qui**	**66.40**	**180**	P	**P**	**13 41 25.1**	**+0.1**
QSPA				IAmb	IAmb	13 41 26.3	
	comp=Z,6.0nm,0.8s						
MJAR	**Matsushiro Arr**	**71.86**	**325**	P	**P**	**13 41 57.7**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=146,slow=9.1,SNR=4.0						
KSRS	**Korea Array**	**78.24**	**320**	P	**P**	**13 42 35.5**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=140,slow=6.0,SNR=3.8						
PETK	**Petropavlovsk-**	**78.94**	**346**	P	**P**	**13 42 37.9**	**+0.5**
	comp=Z,3.7nm,1.1s,baz=125,slow=7.8,SNR=4.3						
SEY	**Seymchan**	**89.11**	**348**	P	**P**	**13 43 28.2**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=209,slow=23,SNR=4.2						
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	**P**	**13 43 33.3**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=134,slow=3.2,SNR=10.0						
MKAR	**Makanchi Array**	**112.19**	**313**	PKiKP	**PKiKP**	**13 49 03.3**	**-2.1**
	comp=Z,0.1nm,0.4s,baz=130,slow=1.5,SNR=4.5						
AAK	**Ala-Archa**	**116.97**	**307**	PKP	**PKPdf**	**13 49 12.8**	**-2.1**
	comp=Z,2.3nm,0.6s,baz=22,slow=18,SNR=3.2						
ARU	**Arti**	**126.85**	**324**	PKP	**PKPdf**	**13 49 32.5**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=13,slow=13,SNR=3.0						
FINES	**FINESS Array B**	**138.32**	**342**	PKP	**PKPdf**	**13 49 53.2**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=114,slow=3.4,SNR=3.4						
AKASG	**Malin Array Be**	**144.92**	**328**	PKP	**PKPdf**	**13 50 05.9**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=42,slow=4.4,SNR=11						
BRTR	**Keskin Array B**	**147.64**	**308**	PKPbc	**PKPbc**	**13 50 13.4**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=136,slow=4.7,SNR=4.5						
BRTR				PKPab	**PKPab**	**13 50 18.5**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=46,slow=1.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**169.44**	**188**	PKPab	**PKPab**	**13 51 52.3**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=164,slow=4.0,SNR=4.1						

WEL 02 13:35:14.0, 41°S±3°×17°5E±°, h55km±4km, M2.4/19, ML2.7/22, MLv2.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=94.5, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGWZ	**Otaki Gorge**	**0.07**	**84**	P	Pn	13 35 23.1	+0.8
OGWZ				S	Sn	13 35 30.0	+1.7
KIW	**Kapiti Island**	**0.14**	**254**	P	Pn	13 35 23.4	+0.8
KIW				S	Sn	13 35 30.0	+1.3
CAW	**Cannon Point**	**0.28**	**182**	P	Pn	13 35 24.5	+1.0
CAW				S	Sn	13 35 32.3	+2.0
HOWZ	**Holdsworth Sta**	**0.34**	**103**	P	Pn	13 35 24.4	+0.5
HOWZ				S	Sn	13 35 32.4	+1.3
MRZ	**Mangatainoka R**	**0.41**	**67**	P	Pn	13 35 24.7	+0.1
MRZ				S	Sn	13 35 32.7	+0.4
MTW	**Mount Morrison**	**0.46**	**137**	P	Pn	13 35 25.9	+0.7
MTW				S	Sn	13 35 35.6	+2.3
WEL	**Wellington**	**0.52**	**207**	P	Pn	13 35 26.5	+0.7
BHW	**Baring Head**	**0.60**	**195**	P	Pn	13 35 27.5	+0.7
**

FNO	Franklin	1.01	177		Pg	13 46 25.6	-0.3
KAN06	Argonia West S	1.02	342		Pg	13 46 25.7	-0.4
KAN08	Anthony NE Sta	1.04	337		Pg	13 46 25.9	-0.3
KAN16	Harper SW Stat	1.07	334	Pg	Pg	13 46 26.6	-0.3
OK035	E0210 Rd and N	1.09	294		Pg	13 46 26.9	-0.4
KAN12	Harper NE Stat	1.11	338	Pg	Pg	13 46 27.2	-0.5
W35A	Tecumseh	1.22	156		Pg	13 46 28.7	-1.0
U32A	Winter Ranch,	1.24	275		Pg	13 46 29.5	-0.7
TUL1	Leonard	1.41	104		Pn	13 46 31.9	-1.1
X34A	Smith Ranch, M	1.69	190		Pb	13 46 37.9	-0.3
X34A				IAmb_Lg		13 46 59.7	
	comp=Z,76nm,1.2s						
WMOK	Wichita Mounta	1.87	215		Pn	13 46 39.8	+0.4
LOOK	Love County	2.29	174		Pn	13 46 44.8	-0.3
R32A	Long Quarter,	2.37	336		Pn	13 46 45.6	-0.6
X37A	Clayton	2.40	134		Pn	13 46 46.9	+0.3
X37A				IAmb_Lg		13 47 27.1	
	comp=Z,124nm,0.8s						
U38A	Gravette	2.50	85		Pn	13 46 48.1	+0.2
U38A				IAmb_Lg		13 47 28.4	
	comp=Z,67nm,0.7s						
HHAR	Hobbs	2.85	89		Pn	13 46 52.9	0.0
KSU1	Kansas State U	2.91	13		Pn	13 46 54.6	+1.0
CBKS	Cedar Bluff	3.11	325	IAmb_Lg		13 47 50.8	
	comp=Z,62nm,0.9s						
W39A	Magazine	3.19	109		Pn	13 46 57.7	+0.3
W39A				IAmb_Lg		13 47 51.8	
	comp=Z,89nm,0.8s						
S39A	Bolivar	3.61	66		Pn	13 47 04.3	+1.0
S39A				IAmb_Lg		13 48 11.0	
	comp=Z,47nm,0.8s						
MIAR	Mount Ida	3.62	117		Pn	13 47 03.4	0.0
MIAR				IAmb_Lg		13 48 05.7	
	comp=Z,43nm,1.0s						
Z38A	Mt. Pleasant	3.63	145		Pn	13 47 04.4	+0.8
Z38A				IAmb_Lg		13 48 09.0	
	comp=Z,93nm,0.8s						
AMTX	Amarillo	3.70	249	IAmb_Lg		13 48 07.8	
	comp=Z,38nm,0.8s						
U40A	Yellville	3.73	87	IAmb_Lg		13 48 06.2	
	comp=Z,80nm,0.8s						
X40A	Basin Creek Fa	4.18	114		Pn	13 47 11.1	0.0
X40A				IAmb_Lg		13 48 18.6	
	comp=Z,52nm,0.9s						
MGMO	Mountain Grove	4.27	77		Pn	13 47 13.0	+0.6
MGMO				IAmb_Lg		13 48 26.2	
	comp=Z,51nm,0.9s						
WHAR	Wooly Hollow	4.33	102	IAmb_Lg		13 48 30.7	
	comp=Z,70nm,0.9s						
FCAR	Ozark Folk Cen	4.35	93	IAmb_Lg		13 48 22.6	
	comp=Z,36nm,0.8s						
W41B	Gary Mavity, V	4.39	103	IAmb_Lg		13 48 30.5	
	comp=Z,40nm,0.9s						
WLAR	White Oak Lake	4.41	124	Pn	Pn	13 47 13.3	-0.9
WLAR				IAmb_Lg		13 48 38.2	
	comp=Z,41nm,0.8s						
P38A	Dawn	4.57	42	IAmb_Lg		13 48 41.3	
	comp=Z,42nm,0.7s						
R40A	Maddies Statio	4.61	63		Pn	13 47 17.4	+0.3
Z41A	Richland Creek	4.88	127	IAmb_Lg		13 48 50.8	
	comp=Z,36nm,0.8s						
KSCO	Kaye Shedlock'	4.92	305	IAmb_Lg		13 48 53.9	
	comp=Z,42nm,0.9s						
NATX	Nacogdoches	5.07	152	IAmb_Lg		13 48 58.7	
	comp=Z,37nm,0.8s						
BGNE	Belgrade	5.16	354	IAmb_Lg		13 49 03.7	
	comp=Z,32nm,0.7s						
T42A	Van Buren	5.18	80	IAmb_Lg		13 48 55.4	
	comp=Z,37nm,0.7s						
CCAR	Cane Creek	5.23	115	IAmb_Lg		13 49 00.5	
	comp=Z,49nm,0.9s						
CCM	Cathedral Cave	5.28	68	IAmb_Lg		13 48 56.3	
	comp=Z,40nm,0.8s						
435B	Jarrell	5.47	181	IAmb_Lg		13 49 09.6	
	comp=Z,30nm,0.9s						
T25A	Trinidad	5.64	281	IAmb_Lg		13 49 06.3	
	comp=Z,26nm,0.7s						
PBMO	Poplar Bluff	5.69	83	IAmb_Lg		13 49 16.3	
	comp=Z,56nm,0.9s						
L34A	Svendsen Farm,	5.75	8	IAmb_Lg		13 49 24.3	
	comp=Z,69nm,0.9s						
LPAR	Lepanto	5.86	94	IAmb_Lg		13 49 24.8	
	comp=Z,63nm,1.0s						
OGNE	Ogallala	5.88	324	IAmb_Lg		13 49 20.0	
	comp=Z,42nm,0.8s						
GNAR	Gosnell	6.04	91	IAmb_Lg		13 49 29.3	
	comp=Z,58nm,0.9s						
JCT	Junction City	6.10	199	IAmb_Lg		13 49 26.7	
	comp=Z,42nm,1.1s						
143A	Socs Landing,	6.14	124	IAmb_Lg		13 49 35.2	
	comp=Z,42nm,1.1s						
PVMO	Portageville	6.27	86	IAmb_Lg		13 49 34.0	
	comp=Z,50nm,0.8s						
LNXT	Lenox	6.46	89	IAmb_Lg		13 49 31.2	
	comp=Z,55nm,0.9s						
HENM	Henderson Moun	6.46	84	IAmb_Lg		13 49 44.5	
	comp=Z,56nm,0.8s						
GLAT	Glass	6.61	88	IAmb_Lg		13 49 40.6	
	comp=Z,54nm,0.9s						
Q24A	Divide	6.66	296	IAmb_Lg		13 49 38.6	
	comp=Z,25nm,0.9s						
S44A	Carbondale	6.73	75	IAmb_Lg		13 49 41.7	
	comp=Z,56nm,0.7s						
W45A	Hickory Valley	6.83	97	IAmb_Lg		13 49 49.6	
	comp=Z,41nm,0.8s						
Y45A	Yeager Farm, C	6.93	108	IAmb_Lg		13 50 01.9	
	comp=Z,22nm,1.0s						
PLAL	Pickwick Lake	7.76	97	IAmb_Lg		13 50 18.8	
	comp=Z,34nm,1.3s						
PHWY	Pilot Hill	8.01	311	IAmb_Lg		13 50 27.5	
	comp=Z,20nm,0.9s						
Y22D	IRIS PASSCAL I	8.04	257	IAmb_Lg		13 50 37.8	
	comp=Z,30nm,0.9s						
O44A	Mansfield	8.08	59	IAmb_Lg		13 50 25.8	
	comp=Z,43nm,0.7s						
N23A	Red Feather La	8.08	307	IAmb_Lg		13 50 37.1	
	comp=Z,26nm,0.8s						
I37A	Lemond, Waseca	8.34	21	IAmb_Lg		13 50 37.5	
	comp=Z,25nm,0.8s						
JFWS	Jewell Farm	8.66	38	IAmb_Lg		13 50 43.0	
	comp=Z,38nm,0.8s						
I40A	Norwalk	9.24	32	IAmb_Lg		13 51 02.8	
	comp=Z,21nm,0.9s						
RSSD	Black Hills	9.31	329	IAmb_Lg		13 51 06.4	
	comp=Z,14nm,1.0s						
K22A	Casper	9.46	315	IAmb_Lg		13 51 16.3	
	comp=Z,18nm,0.8s						
SPMN	Marine on St.	9.62	20	IAmb_Lg		13 51 29.7	
	comp=Z,12nm,0.8s						

*GCG **02** 13:59:16.1±0.6, 14.°05N×91.°81W, h13km±999km, MD3.8*
*SNET **02** 13:59:17.8±1.4, 13.°84N×91.°66W, h15km, ML3.2*
ISC 02 13:59:13.4±3.6,**13.°9N**±0.°2×**91.°8W**±0.°1,**h10**km±18km,**n9,**
σ0s94/14,1C-1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	Santiaguito 3,	0.84	15	↑iP	Pg	13 59 29.6	-0.1
FUG	Fuego 3	1.08	59	↓iP	Pn	13 59 35.0	+0.3
PCG	Pacaya	1.25	66	eP	Pg	13 59 38.0	+0.4
NBG	Las Nubes	1.56	63	eP	Pg	13 59 43.5	0.0
NBG				eS	Sg	14 00 04.5	+0.7
NUBE	Las Nubes	1.96	89	eP	Pb	13 59 48.8	-0.4
NUBE				eS	Sb	14 00 12.0	-1.7
NUBE				IAML		14 00 13.7	
	comp=Z,281nm,0.2s						
SLOZ	Alcaldia de Sa	1.96	86	eP	Pb	13 59 48.6	-0.5
SLOZ				eS	Sb	14 00 13.1	-0.5
SLOZ				IAML		14 00 22.0	
	comp=Z,249nm,0.6s						
CEVE	Cerro Verde	2.11	91	eP	Pb	13 59 51.4	-0.5
CEVE				eS	Sb	14 00 17.7	-0.5
JAYA	Jayaque - finc	2.29	96	eP	Pb	13 59 53.6	-1.3
JAYA				eS	Sn	14 00 20.4	+0.7
TACO	Tacachico	2.37	88	eP	Pn	13 59 53.6	+1.3

*IDC **02** 14:15:09.1±1.2, 5.°61N×124.°61E, h0km, mb3.6/6,*
mb1 3.8/6, mb1mx3.5/36, mbtmp3.6/6, MS3.1/4, Ms1 3.1/4,
ms1mx2.6/70, Error ellipse: s-maj=50.6km s-min=19.3km
az=87.0
*MAN **02** 14:15:19.1, 5.°94N×125.°27E, h7km, mb4.5, ML3.4, MS3.2*
ISC 02 14:15:11.3±0.9,**5.°59N**±0.°06×**125.°07E**±0.°07,**h10**km,**n14,**
σ0s97/15,mb3.6/6,MS2.8/4,3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.51	346	↓iP	Pb	14 15 23.6	+1.2
GSPH				iS	Sb	14 15 30.5	+0.6
DAV	Davao City (W)	1.55	19	Pn	Pg	14 15 42.0	+0.8
	68nm,0.3s,baz=262,slow=5.1,SNR=2.5						
DAV				Sn	Sg	14 16 01.3	0.0
	131nm,0.3s,baz=296,slow=17,SNR=6.1						
DAV				LR	LR	14 16 09.4	
	comp=Z,242nm,18.9s,baz=144,slow=35						
MATI	Mati	1.79	41	↓eP	Pb	14 15 43.9	-0.3
MATI				eS	Sn	14 16 04.6	-0.5
PAGZ	Pagadian	2.80	323	↓eP	Pb	14 16 00.9	-0.5
PAGZ				eS	Sb	14 16 36.5	+0.6
GUMO	Guam	21.06	66	LR	LR	14 26 10.9	
	comp=Z,25nm,21.4s,baz=107,slow=31						
PMG	Port Moresby	26.58	124	LR	LR	14 33 53.2	
	comp=Z,38nm,19.5s,baz=248,slow=42						
WRA	Warramunga Arr	26.96	160	P	P	14 20 54.1	+0.9
	0.5nm,0.4s,baz=339,slow=10,SNR=9.0						
ASAR	Alice Springs	30.33	164	P	P	14 21 24.0	+0.7
	0.3nm,0.4s,baz=338,slow=7.0,SNR=7.3						
ASAR				PcP	PcP	14 24 23.2	-0.4
	0.2nm,0.7s,baz=346,slow=2.4,SNR=2.1						
KSRS	Korea Array	31.82	4	LR	LR	14 36 55.5	
	comp=Z,10nm,18.0s,baz=325,slow=41						
STKA	Stephens Creek	40.45	158	P	P	14 22 51.3	+1.1
	2.5nm,1.0s,baz=338,slow=11,SNR=1.3						
PETK	Petropavlovsk-	54.37	24	P	P	14 24 38.2	0.0
	3.0nm,1.1s,baz=239,slow=5.2,SNR=4.1						
MKAR	Makanchi Array	55.09	325	P	P	14 24 41.5	-2.1
	0.1nm,0.6s,baz=117,slow=7.8,SNR=1.6						
KDAK	Kodiak Island	81.22	32	LR	LR	14 59 12.8	
	comp=Z,63nm,21.7s,baz=174,slow=32						
ILAR	Eielson Array	84.15	26	P	P	14 27 41.7	-0.8
	0.2nm,0.5s,baz=270,slow=4.3,SNR=2.1						

*NEIC **02** 14:15:44.7±1.9, 30.°42S±0.°04×72.°28W±0.°05, h10km±1km,*
mb4.5/4, ML4.2(GUC), Error ellipse: s-maj=8.9km
s-min=5.4km az=237.0
*GUC **02** 14:15:45.3±0.7, 30.°53S×72.°18W, h12km±3km, ML4.2*
*IDC **02** 14:15:45.4±1.7, 30.°63S×71.°76W, h0km, mb4.3/2,*
mb1 4.0/7, mb1mx3.9/25, mbtmp4.0/7, ML3.6/5, MS3.6/4,
Ms1 3.5/4, ms1mx3.0/44, Error ellipse: s-maj=53.2km
s-min=29.0km az=108.0
ISC 02 14:15:45.0±2.0,**30.°50S**±0.°03×**72.°19W**±0.°08,**h11**km±11km,
n62,σ1s39/66,mb4.3/3,4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.51	110	↓iP	Pg	14 15 56.0	+1.0
CO06				iS	Sg	14 16 02.5	+0.7
CO06	Fray Jorge	0.51	110		Pg	14 15 55.8	+0.9
CO05	La Serena	1.01	55	↓iP	Pb	14 16 04.2	-0.4
CO05				iS	Sn	14 16 18.5	-0.9
CO05				IAML		14 16 20.2	
	comp=N,8μm,0.4s						
CO05	La Serena	1.01	55		Pb	14 16 04.2	-0.4
GO04	Tololo Observa	1.25	75	↓iP	Pn	14 16 08.0	-0.7
GO04				iS	Sg	14 16 25.0	-0.2
GO04				IAML		14 16 29.9	
	comp=N,16μm,0.3s						
GO04	Tololo Observa	1.25	75	Pn	Pn	14 16 08.0	-0.7
CO03	El Pedregal	1.34	105	↓iP	Pn	14 16 09.3	-0.5
CO03				iS	Sg	14 16 27.6	-0.5
CO03	El Pedregal	1.34	105		Pn	14 16 09.2	-0.5
LCO	Las Campanas	1.97	41	eS	Sn	14 16 43.7	+0.2
LCO	Las Campanas	1.97	41	Pn	Pn	14 16 18.8	+0.1
VA06	Catapilco	2.19	160	eP	Pn	14 16 22.3	+0.9
VA06				eS	Sn	14 16 49.1	+0.6
VA06				IAML		14 16 59.3	
	comp=E,2μm,0.5s						
AC04	Llanos de Chal	2.49	23	eP	Pn	14 16 25.1	-0.5
AC04				IAML		14 17 16.7	
	comp=E,884nm,0.8s						
AC04	Llanos de Chal	2.49	23	Pn	Pn	14 16 25.0	-0.5
VA01	Torpederas	2.56	170	eP	Pn	14 16 27.0	+0.6
VA01	Torpederas	2.56	170	Pn	Pn	14 16 26.7	+0.2
VA03	San Esteban	2.65	149	eP	Pn	14 16 30.0	+2.1
VA03				eS	Sb	14 17 03.2	-2.1
VA03				IAML		14 17 16.4	
	comp=E,2μm,0.6s						
VA03	San Esteban	2.65	149		Pn	14 16 30.1	+2.2
ROCH	El Roble	2.66	158	eP	Pb	14 16 29.4	-3.4
ROCH				eP	Pn	14 16 28.9	+0.8
ROCH				eS	Sn	14 17 00.3	-0.2
ROCH				IAML		14 17 14.2	
	comp=E,803nm,0.5s						
ROCH				IAML		14 17 15.6	
	comp=N,1μm,0.6s						
MT02	Curacav	2.89	162	eP	Pn	14 16 32.6	+1.5
MT02				IAML		14 17 21.3	
	comp=E,298nm,0.5s						
MT02	Curacav	2.89	162		Pn	14 16 32.4	+1.3
PEL	Peldehue	2.93	154	eP	Pn	14 16 33.5	+1.8
PEL				eS	Sn	14 17 08.2	+1.3
PEL				IAML		14 17 22.0	
	comp=N,536nm,0.4s						
PEL	Peldehue	2.93	154	Pn	Pn	14 16 33.3	+1.7
MT05	Renca	3.13	157	eP	Pn	14 16 36.2	+1.7
MT05				eS	Sn	14 17 13.8	+1.8
MT05				IAML		14 17 30.4	
	comp=E,1μm,0.6s						
MT05	Renca	3.13	157		Pn	14 16 36.4	+1.9
VA05	Santo Domingo	3.18	171		Pn	14 16 36.0	+0.9
FCH	Farellones	3.25	151	eP	Pn	14 16 38.4	+2.2
FCH				eS	Sn	14 17 18.3	+3.1
FCH				IAML		14 17 34.9	
	comp=E,305nm,0.6s						
GO03	Copiap	3.37	31	eP	Pn	14 16 37.6	-0.1
GO03				eS	Sn	14 17 17.9	+0.2
GO03				IAML		14 17 39.2	
	comp=E,419nm,0.3s						
GO03	Copiap	3.37	31	Pn	Pn	14 16 37.6	-0.1
MT09	Talagante	3.42	163	eP	Pn	14 16 40.2	+1.7
MT09				IAML		14 17 44.9	
	comp=E,334nm,0.6s						
MT09	Talagante	3.42	163		Pn	14 16 39.6	+1.1
MT01	Popeta	3.45	167	eP	Pn	14 16 39.5	+0.8
MT01				IAML		14 17 44.2	
	comp=E,954nm,0.9s						
MT01	Popeta	3.45	167		Pn	14 16 39.6	+0.8
BO01	Tunca	3.99	167		Pn	14 16 47.1	+0.9
BO02	Sierra Bellavi	4.44	165	Pn	Pn	14 16 54.2	+1.7
GO05	Huala	4.50	177		Pn	14 16 53.1	-0.1
AC02	Maricunga	4.54	37	Pn	Pn	14 16 55.0	+0.8
PB14	IPOC Station P	6.06	16	Pn	Pn	14 17 12.2	-2.8
H03N1	Juan Fernandez	6.42	241	T	T	14 24 25.3	
	baz=70,slow=72,SNR=948						
H03N2	Juan Fernandez	6.43	241	T	T	14 24 24.8	
	baz=70,slow=72,SNR=1064						
H03N3	Juan Fernandez	6.43	241	T	T	14 24 23.7	
	baz=70,slow=72,SNR=708						
PB10	IPOC Station P	7.11	12	Pn	Pn	14 17 27.9	-1.2
LC01	Cunco	8.38	178	Pn	Pn	14 17 46.5	0.0
LVC	Limon Verde	8.39	21	Pn	Pn	14 17 48.9	+1.9
	comp=E,0.3nm,0.3s,baz=222,slow=9.0,SNR=2.4						
LVC				Lg	Lg	14 19 52.4	
	comp=E,1.0nm,0.3s,baz=180,slow=23,SNR=5.0						
PLCA	Paso Flores	10.29	173	Pn	Pn	14 18 13.4	+0.6
	comp=E,0.2nm,0.3s,baz=331,slow=13,SNR=8.3						
PLCA				LR	LR	14 22 53.5	
	comp=E,164nm,18.1s,baz=4.0,slow=42						
PLCA	Paso Flores	10.29	173		Pn	14 18 13.3	+0.5
CPUP	Villa Florida	13.72	76	Pn	Pn	14 18 57.5	-2.1
	comp=E,0.1nm,0.3s,baz=68,slow=13,SNR=1.6						
CPUP	Villa Florida	13.72	76		Pn	14 18 57.6	-2.0
LPAZ	La Paz	14.63	16	Pn	Pn	14 19 15.8	+3.2
	comp=E,0.1nm,0.3s,baz=187,slow=8.1,SNR=3.7						
SIV	San Ignacio	17.67	38	P	P	14 19 52.4	+0.1
	comp=E,0.4nm,0.3s,baz=216,slow=10.0,SNR=22						
SIV				LR	LR	14 27 44.1	
	comp=E,157nm,18.9s,baz=294,slow=41						
BDFB	Brasilia	26.63	62	P	P	14 21 23.1	-0.9
	comp=E,3.2nm,0.6s,baz=235,slow=12,SNR=6.5						
BDFB	Brasilia	26.63	62	P	P	14 21 22.9	-1.1
RPN	Rapa Nui	32.62	267	LR	LR	14 31 59.6	
	comp=E,70nm,18.7s,baz=312,slow=30						
SNAA	Sanae	54.87	159	P	P	14 25 15.0	-0.2
QSPA	South Pole Qui	59.72	180	P	P	14 25 50.2	+0.6
QSPA				IAmb	IAmb	14 25 50.3	
	comp=Z,8.3nm,1.5s						
TORD	Torodi Ar. Bea	83.15	70	P	P	14 28 12.0	+0.4
	comp=Z,2.0nm,0.8s,baz=254,slow=4.4,SNR=18						
TORD	Torodi Ar. Bea	83.15	70	P	P	14 28 10.8	-0.8
TORD				IAmb	IAmb	14 28 13.4	
	comp=Z,1.7nm,0.8s						
LBTB	Lobatse	83.90	115	LR	LR	15 00 32.3	
	comp=Z,70nm,19.8s,baz=192,slow=32						
H11S2	WAKE ISLAND Hyl	25.62	272	T	T	16 53 36.9	
	baz=115,slow=74,SNR=17						
H11S1	WAKE ISLAND Hyl	25.63	272	T	T	16 53 35.3	
	baz=115,slow=74,SNR=12						
H11S3	WAKE ISLAND Hyl	25.63	272	T	T	16 53 38.6	
	baz=115,slow=74,SNR=10						
ZALV	Zalesovo Beam	151.28	29	PKPbc	PKiKP	14 35 40.3	+1.6
	comp=Z,7.3nm,0.8s,baz=298,slow=3.5,SNR=35						
MKAR	Makanchi Array	154.44	43	PKPbc	PKiKP	14 35 46.4	+0.8
	comp=Z,0.6nm,0.8s,baz=311,slow=2.2,SNR=5.8						

IDC 02 14:16:03.1±1.7,**2.°85S**×**125.°83E,h0**km,**mb3.2**/2,
mb1 3.7/4,**mb1mx3.4**/33,**mbtmp3.5**/4,**ML3.5**/2,**Error**
ellipse: s-maj=44.9km s-min=27.5km az=68.0,Ceram
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.78	70	Pn	Pn	14 17 32.0	+1.9
	5.2nm,0.3s,baz=246,slow=12,SNR=18						
SIJI				Sn	Sn	14 18 32.0	-5.2
	0.2nm,0.3s,baz=283,slow=23,SNR=1.6						
WRA	Warramunga Arr	18.91	155	P	P	14 20 25.4	-0.1
	0.1nm,0.3s,baz=337,slow=13,SNR=9.7						
ASAR	Alice Springs	22.12	160	P	P	14 21 00.9	+0.6
	1.3nm,0.7s,baz=346,slow=12,SNR=19						
MKAR	Makanchi Array	62.52	328	P	P	14 26 27.5	-1.1
	0.1nm,0.6s,baz=126,slow=7.3,SNR=1.5						

*TUL **02** 14:40:17±0.6, 36.°763N±0.°009×98.°06W±0.°01, h6km±6km,*
ML2.6, mb_Lg2.3/18(NEIC), Error ellipse: s-maj=1.4km
s-min=1.2km az=132.0
NEIC 02 14:40:17.1±0.5,**36.°75N**±0.°02×**98.°064W**±0.°007,**h9**km±5km,
Error ellipse: s-maj=2.3km s-min=0.9km az=181.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.13	294	Pg	Pg	14 40 20.1	0.0
OK032				Sg	Sg	14 40 22.2	+0.1
GC02	Grant County #	0.19	58	Pg	Pg	14 40 21.1	0.0
GC02				Sg	Sg	14 40 24.2	+0.3
KAN14	Manchester OK	0.22	21	Pg	Pg	14 40 21.6	0.0
CROK	Carrier	0.25	165	Pg	Pg	14 40 22.5	+0.3
KAN10	Anthony SW Sta	0.37	356	Pg	Pg	14 40 24.5	0.0
KAN17	Caldwell West	0.38	39	Pg	Pg	14 40 24.5	-0.1
KAN05	Bluff City Nor	0.39	23		Pg	14 40 24.5	-0.3
KAN01	Argonia South	0.47	31		Pg	14 40 26.2	-0.1
KAN16	Harper SW Stat	0.47	360	Pg	Pg	14 40 26.3	0.0
KAN08	Anthony NE Sta	0.48	9		Pg	14 40 26.5	0.0
OK035	E0210 Rd and N	0.52	266	Pg	Pg	14 40 27.4	+0.2
KAN06	Argonia West S	0.52	18		Pg	14 40 27.2	-0.1
KAN13	South Haven SW	0.54	61	Pg	Pg	14 40 27.4	-0.2
KAN12	Harper NE Stat	0.55	6	Pg	Pg	14 40 27.7	0.0
BLOK	Blackwell	0.68	89	Pg	Pg	14 40 30.0	-0.2
U32A	Winter Ranch,	0.84	244	Pg	Pg	14 40 33.1	-0.2
BCOK	Bluff Creek, N	1.15	161	Pg	Pb	14 40 38.9	-0.3
QUOK	Quay	1.24	117	Pg	Pn	14 40 40.2	-0.3
T35A	Sooner Cattle	1.26	82		Pn	14 40 40.4	-0.5
OK031	S. Brethren Rd	1.27	128	Pn	Pn	14 40 40.8	-0.2
OK025	Westminster Rd	1.31	153		Pn	14 40 41.6	+0.1
OK034	N. Norfolk Rd.	1.32	124	Pn	Pn	14 40 41.5	-0.2
OK030	Cody Creek RV	1.32	128	Pn	Pn	14 40 40.7	-1.0
R32A	Long Quarter,	1.75	343		Pb	14 40 48.7	-0.6
W35A	Tecumseh	1.86	148	Pn	Pb	14 40 50.5	-0.9
W35A				IAmb_Lg		14 41 15.8	
	comp=Z,13nm,1.3s						
TUL1	Leonard	2.02	114	Pn	Pn	14 40 52.3	+1.0
TUL1				IAmb_Lg		14 41 22.0	
	comp=Z,19nm,0.9s						
WMOK	Wichita Mounta	2.09	196	Pn	Pn	14 40 53.7	+1.4
X37A	Clayton	3.08	134	IAmb_Lg		14 41 59.4	
	comp=Z,11nm,0.9s						
AMTX	Amarillo	3.48	239	IAmb_Lg		14 42 12.9	
	comp=Z,8.1nm,0.7s						
W39A	Magazine	3.80	113	IAmb_Lg		14 42 26.2	
	comp=Z,8.0nm,0.7s						
S39A	Bolivar	3.90	75	IAmb_Lg		14 42 23.5	
	comp=Z,7.7nm,0.9s						
MIAR	Mount Ida	4.26	120	IAmb_Lg		14 42 40.7	
	comp=Z,5.6nm,1.0s						
P38A	Dawn	4.58	50	IAmb_Lg		14 42 46.9	
	comp=Z,6.1nm,0.8s						
R40A	Maddies Statio	4.86	70	IAmb_Lg		14 42 52.3	
	comp=Z,5.8nm,0.8s						
P40A	Paris	5.49	58	IAmb_Lg		14 43 14.9	
	comp=Z,5.1nm,0.8s						

*IDC **02** 15:02:08.1±3.6, 1.°88S×79.°98W, h67km±34km, mb3.6/7,*
mb1 3.9/10, mb1mx3.7/32, mbtmp4.1/10, ML4.5/4, MS3.2/3,
Ms1 3.2/3, ms1mx2.8/53, Error ellipse: s-maj=37.3km
s-min=19.4km az=80.0
*NEIC **02** 15:02:11.8±2.3, 1.°96S±0.°08×79.°5W±0.°2, h96km±15km,*
mb4.3/14, Error ellipse: s-maj=23.8km s-min=11.5km
az=94.0
*IGQ **02** 15:02:12±0.3, 2.°S±2.°×8.°0W±.°, h80km*
ISC 02 15:02:10.3±0.7,**1.°94S**±0.°04×**79.°69W**±0.°05,**h92**km±6km,
n143,σ1s83/146,mb4.2/10,Ecuador

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

GGPC	Guagua Pichinc	2.06	32	P		Pn	15 02 46.0 +2.1
TERV	Terraza Guagua	2.06	32	P		Pn	15 02 46.0 +2.1
PINO	Pino	2.07	31	P		Pn	15 02 46.0 +1.9
ANTS	Antisana-Sarah	2.08	47	P		Pn	15 02 46.0 +1.8
ANTI	Antisana	2.12	46	P		Pn	15 02 46.0 +1.2
YANA	Yana	2.12	32	P		Pn	15 02 46.0 +1.3
APR2	Miler	2.13	20	P		Pn	15 02 45.0 +0.7
BV15	Puerto Quito-O	2.13	13	P		Pn	15 02 44.0 -0.4
PULU	Pululahua	2.28	31	P		Pn	15 02 48.0 +1.4
GONZ	Gonzanam	2.30	173	P		Pn	15 02 47.0 0.0
PAC1	Pacto, Paraso	2.37	22	P		Pn	15 02 48.0 +0.5
LOJ1	Universidad t	2.43	147	P		Pn	15 02 44.0 -4.4
MCRA	Macar, Loja	2.43	186	P		Pn	15 02 48.0 -0.3
OTAV	Otavalo	2.49	30			Pn	15 02 51.1 +1.6
CAYR	Refugio Cayambi	2.56	41	P		Pn	15 02 53.0 +2.3
CUSE	Cuicocha Este	2.57	30	P		Pn	15 02 52.0 +1.4
CUSW	Cuicocha Oeste	2.58	31	P		Pn	15 02 52.0 +1.4
ANGU	Angureal	2.59	40	P		Pn	15 02 55.0 +4.1
CUIC	Cuicocha-Domo	2.59	31	P		Pn	15 02 52.0 +1.2
COTA	Cotacachi	2.63	31	P		Pn	15 02 53.0 +1.6
IMBA	Imbabura, San	2.65	34	P		Pn	15 02 54.0 +2.3
LAV4	Lava4-Reventad	2.75	48	P		Pn	15 02 54.0 +1.2
URCU	Urcuqui	2.76	31	P		Pn	15 02 55.0 +1.9
YAHU	Yahuarcocha	2.80	35	P		Pn	15 02 56.0 +2.4
LNGL	El Angel-Carch	3.15	32	P		Pn	15 03 01.0 +2.7
ECEN	Cerro Negro	3.23	32	P		Pn	15 03 01.0 +1.5
CHL2	Volc¡n Chiles	3.25	33	P		Pn	15 03 01.0 +1.3
TULM	Tulcn-Chalpat	3.25	36	P		Pn	15 03 02.0 +2.3
CMBC	Cumbal	3.41	33	*eP*		Pn	15 03 01.1 -0.7
CTUM2	Tumaco	3.86	14	*eP*		Pn	15 03 09.2 +1.7
TUMC	Tumaco	3.86	14	*eP*		Pn	15 03 08.6 +1.2
TUMC	Tumaco	3.86	14	Pn		Pn	15 03 08.2 +0.7
GCUC	Volcan Galeras	3.92	37	*eP*		Pn	15 03 10.3 +1.5
SOTA	Rioblanco	5.08	37	*eP*		Pn	15 03 26.2 +1.7
PTLC	Puerto Leguiza	5.32	67	*eP*		Pn	15 03 25.0 -2.3
ATAH	Atahualpa	5.32	166	P		Pn	15 03 29.2 +1.6
	11nm,0.3s,baz=12,slow=9.7,SNR=57						
ATAH				S		Sn	15 04 27.2 -0.7
	13nm,0.3s,baz=133,slow=7.2,SNR=7.2						
FLOC	Florencia	5.34	49	*eP*		Pn	15 03 27.2 -0.4
PCON	Cinco Dias	5.36	38	*eP*		Pn	15 03 30.2 +1.8
POPC	Popayan, Colom	5.37	34	*eP*		Pn	15 03 27.9 -0.3
GARC	Garzon, Huila	5.86	46	*eP*		Pn	15 03 35.6 +0.7
MARP	Paez Belalcaza	6.04	38	*eP*		Pn	15 03 38.2 +0.9
BETC	Betania	6.25	43	*eP*		Pn	15 03 39.0 -1.0
YOTC	Yotoco, Valle	6.76	30	*eP*		Pn	15 03 43.9 -3.2
MACC	Macarena, Meta	7.11	55	*eP*		Pn	15 03 50.5 -1.2
ORTC	Ortega, Tolima	7.31	37	*eP*		Pn	15 03 53.4 -1.1
PRAC	Prado	7.38	41	*eP*		Pn	15 03 54.9 -0.6
PLMC	San Jos del P	7.60	27	*eP*		Pn	15 03 54.2 -4.3
ANIL	Santa Ana	7.69	34	*eP*		Pn	15 03 57.1 -2.7
ANIL				*eP*		Pn	15 03 57.8 -2.0
GUY2C	Guyana, Caldas	8.32	31	*eP*		Pn	15 04 04.5 -4.1
VILC	Villavicencio,	8.48	45	*eP*		Pn	15 04 07.8 -2.8
ROSC	El Rosal	8.61	39	LR		LR	15 08 11.0
	comp=Z,218nm,20.1s,baz=186,slow=42						
CHIC	Chingaza	8.83	42	*eP*		Pn	15 04 14.8 -0.7
NORC	Norcasia	8.87	33	*eP*		Pn	15 04 11.1 -4.6
CZSB	Cruzeiro do Su	9.02	130	Pn		Pn	15 04 17.2 -0.6
DBBC	Dabeiba	9.55	21	*eP*		Pn	15 04 26.7 +1.7
PTBC	PUERTO BERRIO,	9.91	32	*eP*		Pn	15 04 25.1 -4.8
NNA	Nana	10.37	164	P		Pn	15 04 35.4 -0.8
	7.6nm,0.3s,baz=330,slow=13,SNR=11						
NNA				S		Sn	15 06 25.8 -4.9
	10nm,0.3s,baz=224,slow=17,SNR=9.5						
NNA				LR		LR	15 09 02.7
	comp=Z,63nm,20.4s,baz=340,slow=39						
NNA	Nana	10.37	164	Pn		Pn	15 04 34.5 -1.8
ZARC	Zaragoza, Cauc	10.53	27	*eP*		Pn	15 04 34.1 -4.2
ZARC	Zaragoza, Cauc	10.53	27			Pn	15 04 35.0 -3.4
OCAC	Ocana	11.94	32	*eP*		Pn	15 04 58.0 +0.5
OCAC	Ocana	11.94	32			Pn	15 04 58.5 +1.0
SJCC	San Jacinto, C	12.58	21	Pn		Pn	15 05 01.3 -4.8
JTS	Las Juntas de	13.23	337	LR		LR	15 09 21.2
	comp=Z,121nm,18.2s,slow=33						
SDV	Santo Domingo	14.04	40	Pn		Pn	15 05 24.3 -1.0
ETMB	Extrema	15.51	121	Pn		Pn	15 05 40.4 -3.5
BAUV	El Baul	15.86	47	Pn		Pn	15 05 46.4 -1.9
BAUV				IAmb		IAmb	15 05 52.2
	comp=Z,32nm,0.7s						
BIRV	Birongo	18.18	47	P		P	15 06 12.5 -3.3
BIRV				IAmb		IAmb	15 06 19.1
	comp=Z,22nm,0.8s						
LPAZ	La Paz	18.24	142	P		Pn	15 06 19.0 +0.9
	comp=Z,0.2nm,0.3s,baz=327,slow=10.0,SNR=8.2						
LPAZ	La Paz	18.24	142	P		P	15 06 17.1 -0.1
MACA	Manacapuru-AM	19.02	94	P		P	15 06 22.9 -2.2
MACA				IAmb		IAmb	15 06 26.3
	comp=Z,27nm,0.5s						
PB16	IPOC Station P	19.11	149	P		P	15 06 26.9 +0.3
PCRV	Puerto La Cruz	19.22	51	P		Pn	15 06 28.6 -0.6
	comp=Z,111nm,0.3s,baz=245,slow=2.5,SNR=46						
BOAV	Boa Vista	19.64	77	P		P	15 06 31.0 -0.8
BOAV				IAmb		IAmb	15 06 36.4
	comp=Z,8.6nm,1.0s						
PTGA	Pitinga	19.75	87	P		P	15 06 32.5 -0.5
	comp=Z,2.5nm,0.4s,baz=271,slow=16,SNR=8.7						
PB11	IPOC Station P	20.25	152	P		P	15 06 38.8 +0.3
PB11				IAmb		IAmb	15 06 43.4
	comp=Z,9.6nm,1.0s						
SIV	San Ignacio	23.05	128	P		P	15 07 10.8 +2.8
	comp=Z,1.1nm,0.7s,baz=304,slow=13,SNR=4.2						
LVC	Limon Verde	23.06	154	P		P	15 07 09.5 +1.1
	comp=Z,4.7nm,0.8s,baz=298,slow=9.1,SNR=5.1						
LVC	Limon Verde	23.06	154	P		P	15 07 08.5 +0.1
LVC				IAmb		IAmb	15 07 10.6
	comp=Z,4.4nm,0.8s						
AOPR	Arecibo Observ	23.84	32	P		P	15 07 14.9 -0.2
PDPR	Patillas Dam,	23.96	34	P		P	15 07 14.8 -1.4
PDPR				IAmb		IAmb	15 07 17.6
	comp=Z,17nm,0.8s						
CBYP	Canovanas	24.26	34	P		P	15 07 18.8 -0.2
CUPR	Culebra, Puert	24.61	35	P		P	15 07 22.1 0.0
PLCA	Paso Flores	39.49	169	P		P	15 09 32.8 +0.9
	comp=Z,1.0nm,0.6s,baz=326,slow=7.6,SNR=7.0						
PLCA	Paso Flores	39.49	169	P		P	15 09 32.5 +0.6
PLCA				IAmb		IAmb	15 09 45.5
	comp=Z,7.0nm,1.4s						
ULM	Lac du Bonnet	53.81	347	P		P	15 11 22.6 -0.7
	comp=Z,2.3nm,0.6s,baz=158,slow=6.7,SNR=3.4						
SCHQ	Schefferville	57.56	9	P		P	15 11 49.6 -0.6
	comp=Z,3.0nm,0.9s,baz=205,slow=14,SNR=2.3						
YKA	Yellowknife Ar	69.47	344	P		P	15 13 08.9 +0.5
	comp=Z,0.5nm,0.7s,baz=141,slow=5.7,SNR=8.4						
LIC	Lamto	74.97	83	*eP*		P	15 13 40.9 -1.3
	comp=Z,15nm,1.2s						
TIC	Toumodi	75.01	83	*eP*		P	15 13 41.5 -0.9
KIC	Kosan Boka	75.27	83	*eP*		P	15 13 43.4 -0.5
	comp=Z,3.9nm,0.5s						
TORD	Torodi Ar. Bea	82.05	77	P		P	15 14 25.1 +4.0
	comp=Z,0.3nm,0.3s,baz=288,slow=6.1,SNR=4.3						
VNA1	Neumayer--Stat	82.08	161	P		P	15 14 22.6 +2.5
VNA2	Neumayer--Watz	82.43	162	P		P	15 14 22.6 +0.6
	baz=304,slow=4.5						
MKAR	Makanchi Array	132.64	17	PKP		PKPdf	15 21 14.3 -0.2
	comp=Z,0.1nm,0.5s,baz=338,slow=1.7,SNR=5.0						
ASAR	Alice Springs	138.59	230	PKhKP		PKPpre	15 21 19.1
	comp=Z,0.4nm,0.6s,baz=129,slow=3.4,SNR=7.3						
ASAR				PKP		PKPdf	15 21 26.5 +0.2
	comp=Z,0.3nm,0.7s,baz=91,slow=2.2,SNR=2.5						
WRA	Warramunga Arr	140.16	235	PKhKP		PKPpre	15 21 22.6
	comp=Z,0.6nm,0.6s,baz=126,slow=2.2,SNR=6.1						
PZH	PanZhiHua	155.54	357	PKP		PKPdf	15 21 53.3 -0.8

RSNC 02 15:04:30.3±0.8, 10°.53N×73°.47W, h26km±7km, ML2.2, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVALL	Valledupar, Ce	0.21	97	*eP*		Pb	15 04 36.1 -0.2
CVALL	Valledupar, Ce	0.21	97	*eP*		Pb	15 04 35.7 -0.6
CVALL				*eS*		Sb	15 04 40.3 0.0
CRJC	Cerrejon, Guaj	0.75	50	*iP*		Pb	15 04 44.3 -0.5
CRJC				*eS*		Sb	15 04 54.7 -0.1
CRJC				*i*			15 04 55.7
	comp=Z,219nm,0.4s						
LL6C	La Loma 6 Bece	0.82	166	*eP*		Pb	15 04 45.5 -0.4
LL6C				*eS*		Sb	15 04 56.1 -0.5
ARGC	Ariguani, Magd	1.02	229	*eP*		Pn	15 04 48.3 -0.6
ARGC				*eS*		Sb	15 05 00.6 -1.8
ARGC				*i*			15 05 06.5
	comp=Z,11nm,0.2s						
SMLC	San Martn de	1.82	199	*eP*		Pn	15 04 58.7 -1.3
SMLC				*eS*		Sn	15 05 21.2 -1.0
SMLC				*i*			15 05 27.9
	comp=Z,22nm,0.1s						

PRE ***02*** *15:04:36.3±0.9, 28°.91S×28°.94E, h5km, ML2.1*
EAF ***02*** *15:04:48.3±1.8, 28°.60S×28°.50E, h2km±25km, MD3.8*
BUL ***02*** *15:04:49.6±0.9, 28°.60S×28°.45E, h7km±12km, MD4.0*

ISC 02 15:04:35.3±1.3, 28°.81S±0°.08×28°.82E±0°.04, h9km, n16, σ2°.41/22, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNKL	Senekal, Frees	1.06	300	*eP*		Pn	15 04 59.1 +2.6
SNKL				*eS*		Sn	15 05 15.9 +4.3
SNKL				IAML			15 05 26.6
	comp=Z,70nm,0.2s						
NWCL	Newcastle	1.43	42	*eP*		Pg	15 05 03.7 +0.9
NWCL				*eS*		Sg	15 05 24.0 +2.6
NWCL				IAML			15 05 32.5
	comp=Z,36nm,0.7s						
PRYS	Parys	2.28	325	*eP*		Pg	15 05 17.8 -1.2
PRYS				*eS*		Sg	15 05 47.8 -0.8
PRYS				IAML			15 06 04.6
	comp=Z,9.0nm,1.0s						
POGA	Pongola	2.94	61	*eP*		Pn	15 05 23.9 +1.7
POGA				*eS*		Sn	15 05 58.3 +0.6
POGA				IAML			15 06 14.5
	comp=Z,12nm,2.5s						
BOSA	Boshof	3.13	273	*eP*		Pb	15 05 29.1 -2.2
BOSA				*eS*		Sb	15 06 07.5 -2.1
BOSA				IAML			15 06 22.7
	comp=Z,7.8nm,0.7s						
BOSA	Boshof	3.13	273	*i* P		Pg	15 05 34.6 -0.7
BOSA				*i* Sg		Sg	15 06 16.6 +0.6
BOSA	Boshof	3.13	273	*i* P		Pg	15 05 34.6 -0.7
BOSA				*i* Sg		Sg	15 06 16.6 +0.6
LBTB	Lobatse	4.75	322	*i* P		Pb	15 05 56.9 -1.9
LBTB				*i* S		Sn	15 06 44.6 +2.1
LBTB	Lobatse	4.75	322	*i* P		Pb	15 05 56.9 -1.9
LBTB				*i* S		Sn	15 06 44.6 +2.1
MOPA	Mopani	5.76	24	*eP*		Pn	15 06 03.1 +2.1
MOPA				*eS*		Sn	15 07 07.9 +0.6
MOPA				IAML			15 07 18.6
	comp=Z,4.1nm,2.7s						
MOPA	Mopani	5.76	24	*i* P		Pb	15 06 11.5 -4.5
MOPA	Mopani	5.76	24	*i* P		Pb	15 06 11.5 -4.5
MSNA	Messina	6.53	10	*i* P		Pb	15 06 23.6 -5.5
MSNA	Messina	6.53	10	*i* P		Pb	15 06 23.6 -5.5
MATP	Matopo	8.36	358	*i* P		Pn	15 06 45.8 +9.1
MATP	Matopo	8.36	358	*i* P		Pn	15 06 45.8 +9.1

IDC 02 15:07:21.9±5.8, 15°.95S×172°.75W, h436km±136km, mb3.1/3, mb1 3.2/4, mb1mx2.9/38, mbtmp3.8/4, Error ellipse: s-maj=284.6km s-min=130.8km az=74.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.24	25	P		P	15 08 24.3 +1.6
	3.9nm,0.3s,baz=221,slow=3.4,SNR=4.7						
AFI				S		S	15 09 11.9 0.0
	12nm,0.3s,baz=66,slow=20,SNR=8.1						
STKA	Stephens Creek	44.31	241	P		P	15 14 51.7 +0.2
	2.6nm,0.9s,baz=108,slow=21,SNR=2.8						
WRA	Warramunga Arr	50.33	257	P		P	15 15 37.2 -0.1
	0.3nm,0.4s,baz=96,slow=6.4,SNR=18						
ASAR	Alice Springs	50.54	252	P		P	15 15 38.5 -0.3
	1.1nm,0.6s,baz=90,slow=7.5,SNR=35						

DDA 02 15:18:31.4±0.0, 40°.43N×39°.69E, h7km±2km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	Kelkit	0.43	230	P		Pg	15 18 40.3 +0.4
KELT				S		Sb	15 18 47.1 -1.1
KELT				*i* AML		AML	15 18 48.0
	comp=E,32nm,0.5s						
KELT				*i* AML		AML	15 18 51.0
	comp=N,39nm,0.6s						
BAYB	BAYBURT	0.47	111	P		Pg	15 18 40.5 0.0
BAYB				S		Sb	15 18 48.1 -1.1
BAYB				*i* AML		AML	15 18 51.0
	comp=N,40nm,0.6s						
ALUC	Giresun/Alucra	0.70	263	P		Pg	15 18 35.5 -9.5
ALUC				S		Sb	15 18 55.7 -0.4
KOPT	Kop Dagi	0.74	123	P		Pn	15 18 50.4 +1.9
KOPT				S		Sg	15 18 56.2 +0.8
KOPT				*i* AML		AML	15 19 02.0
	comp=E,19nm,0.9s						
SUSE	Susehri	1.16	260	P		Pn	15 18 55.7 +1.6
SUSE				S		Sn	15 19 10.2 0.0
SUSE				*i* AML		AML	15 19 12.0
	comp=N,18nm,0.6s						

ISK 02 15:19:10.3, 39°.27N×40°.25E, h30km, ML2.0/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	Yedisu-Bingol	0.28	54	PG		Pb	15 19 18.0 +0.3
YEDI				SG		Sn	15 19 23.5 -0.5
BNGB	Bingl	0.43	130	PG		Pn	15 19 20.3 -0.4
BNGB				SG		Sn	15 19 27.7 0.0
ERZN	Erzincan	0.52	308	PG		Pn	15 19 21.7 -0.1
ERZN				SG		Sn	15 19 29.9 +0.2
KARO	Karliova-Bingo	0.62	86	PG		Pn	15 19 23.2 -0.1
KARO				SG		Sn	15 19 32.8 +0.4

IDC ***02*** *15:20:17.9±2.0, 0°.14N×97°.32E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/36, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=62.8km s-min=23.0km az=62.0*
DJA ***02*** *15:20:21.1±0.6, 0°.N±3°.×9°.7E±°, h62km±19km, M3.9/9, mb4.5/2, MLv3.6/9*

ISC 02 15:20:23.5±2.1, 0°.26N±0°.06×97°.5E±0°.1, h32km±14km, n17, σ1°.28/19, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.03	2	P		Pb	15 20 42.6 -0.3
GSI				S		Sn	15 20 58.5 +3.3
MNSI	Mandailing Nat	2.11	76	P		Pb	15 20 59.9 -1.3
MNSI				S		Sb	15 21 29.0 +1.9
SISI	Saibi	2.22	135	P		Pn	15 20 57.4 -0.7
SISI				S		Sn	15 21 23.7 -0.7
PSI	Prapat	2.88	29	Pn		Pn	15 21 06.6 -0.7
	0.7nm,0.3s,baz=225,slow=4.3,SNR=1.6						
PSI				Sn		Sn	15 21 40.2 -0.7
	2.2nm,0.3s,baz=216,slow=8.0,SNR=5.1						
TPTI		3.00	353	P		Pn	15 21 07.1 -1.7
TPTI				S		Sn	15 21 42.8 -0.9
PPSI	Pulau Pagai	3.90	141	P		Pn	15 21 22.5 +1.3
KRJI	Kerinci	4.57	121	P		Pn	15 21 30.8 +0.2
MNAI	Manna	7.10	130	P		Pn	15 22 05.5 +0.2
CMAR	Chiang Mai Arr	18.13	4	P		P	15 24 33.8 +0.6
	0.1nm,0.3s,baz=196,slow=13,SNR=8.7						
H08S2	Diego Garcia H	26.17	252	T		T	15 52 43.7
	baz=74,slow=74						
H08S3	Diego Garcia H	26.18	252	T		T	15 52 59.3
	baz=74,slow=74						
H08S1	Diego Carcia H	26.19	252	T		T	15 52 49.6
	baz=74						
WRA	Warramunga Arr	41.26	121	P		P	15 28 06.0 -0.2
	0.4nm,0.7s,baz=302,slow=8.8,SNR=2.9						
ASAR	Alice Springs	42.57	127	P		P	15 28 16.9 +0.1
	0.5nm,1.1s,baz=299,slow=7.9,SNR=1.8						
SONM	Songino Array	48.00	8	P		P	15 28 59.9 +0.3
	0.3nm,0.6s,baz=197,slow=4.6,SNR=3.7						
MKAR	Makanchi Array	48.22	346	P		P	15 29 00.8 -0.4
	0.7nm,0.5s,baz=160,slow=9.3,SNR=16						
ZALV	Zalesovo Beam	54.53	351	P		P	15 29 48.0 -0.3
	1.7nm,0.4s,baz=177,slow=6.9,SNR=13						

IDC ***02*** *15:24:10.1±0.8, 52°.70N×34°.32W, h0km, mb3.7/15, mb1 4.0/18, mb1mx3.8/58, mbtmp3.8/18, ML3.4/3, MS3.3/7, Ms1 3.3/7, ms1mx2.9/89, Error ellipse: s-maj=23.3km s-min=14.3km az=8.0*

ISC 02 15:24:13.0±0.7, 52°.71N±0°.10×34°.34W±0°.08, h20km, n24, σ0°.94/24, mb3.7/15, MS3.4/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	13.79	24	Pn		Pn	15 27 29.5 +2.4
	0.2nm,0.3s,baz=135,slow=1.4,SNR=2.5						
BORG				Sn		Sn	15 29 57.3 -2.1
	0.3nm,0.3s,baz=304,slow=9.1,SNR=1.5						
BORG				LR		LR	15 31 10.3
	comp=Z,70nm,20.0s,baz=255,slow=30						
SFJD	Kangerlussuaq	16.41	337	Pn		Pn	15 28 01.0 -0.7
	0.2nm,0.3s,baz=137,slow=18,SNR=1.6						
SFJD				LR		LR	15 32 37.4
	comp=Z,50nm,19.7s,baz=118,slow=31						
EKA	Eskdalemuir Ar	18.43	69	P		P	15 28 26.4 -0.3
	baz=282,slow=8.5,SNR=10						
SCHQ	Schefferville	19.23	289	P		P	15 28 34.6 -1.0
	0.2nm,0.3s,baz=86,slow=5.0,SNR=4.9						
FRB	Frobisher Bay	20.84	315	P		P	15 28 52.9 -0.2
	6.2nm,0.9s,baz=112,slow=11,SNR=5.3						
ESDC	Sonseca Array	24.53	110	P		P	15 29 31.1 +0.1
	0.5nm,0.7s,baz=319,slow=9.6,SNR=4.7						
NOA	NORSAR Array B	25.76	53	P		P	15 29 42.3 +0.4
	1.6nm,0.9s,baz=272,slow=9.2,SNR=4.7						
NOA				LR		LR	15 38 13.4
	comp=Z,44nm,18.0s,baz=275,slow=33						
GERES	GERESS Array B	30.17	78	P		P	15 30 20.8 -0.8
	0.5nm,0.6s,baz=302,slow=5.6,SNR=4.3						
ARCES	ARCESS Array B	31.75	35	P		P	15 30 34.8 -0.4
	5.6nm,0.9s,baz=267,slow=7.9,SNR=7.2						
FINES	FINESS Array B	32.83	50	P		P	15 30 43.5 -1.1
	5.3nm,1.2s,baz=234,slow=9.2,SNR=4.0						
FINES				LR		LR	15 41 22.9
	comp=Z,95nm,19.2s,baz=290,slow=32						
AKASG	Malin Array Be	38.30	67	P		P	15 31 31.6 -0.2
	0.5nm,0.5s,baz=298,slow=8.2,SNR=2.9						
AKASG				LR		LR	15 45 35.6
	comp=Z,20nm,20.1s,baz=293,slow=34						
YKA	Yellowknife Ar	41.36	316	P		P	15 31 56.8 -0.2
	0.5nm,0.9s,baz=60,slow=8.8,SNR=5.4						
INK	Inuvik	45.53	329	P		P	15 32 30.6 +0.1
	0.4nm,0.5s,baz=50,slow=7.9,SNR=2.4						
BRTR	Keskin Array B	47.07	78	P		P	15 32 44.0 +0.8
	1.3nm,0.9s,baz=326,slow=6.0,SNR=3.8						
TORD	Torodi Ar. Bea	48.80	130	P		P	15 32 56.0 -0.7
	1.0nm,0.8s,baz=328,slow=9.4,SNR=3.8						
PDAR	Pinedale Array	49.37	290	P		P	15 33 00.8 -0.2
	0.5nm,0.6s,baz=60,slow=7.2,SNR=6.7						
ILAR	Eielson Array	51.90	330	P		P	15 33 20.7 +1.2
	0.4nm,0.7s,baz=44,slow=6.4,SNR=3.2						
ROSC	El Rosal	57.92	229	P		P	15 34 04.7 +0.6
	5.1nm,0.3s,baz=66,slow=20,SNR=4.7						
GEYT	Alibeck	62.28	63	LR		LR	16 05 09.0
	comp=Z,21nm,18.1s,baz=270,slow=40						
MKAR	Makanchi Array	67.09	42	P		P	15 35 05.4 +0.7
	1.0nm,0.7s,baz=330,slow=6.1,SNR=15						
SONM	Songino Array	74.39	26	P		P	15 35 49.8 +0.6
	0.4nm,0.6s,baz=347,slow=5.9,SNR=2.7						
SUR	Sutherland	97.40	136	LR		LR	16 17 38.2
	comp=Z,49nm,21.0s,baz=242,slow=33						
WRA	Warramunga Arr	146.13	19	PKPbc		PKPab	15 43 52.1 0.0
	0.6nm,0.9s,baz=348,slow=3.1,SNR=2.5						
ASAR	Alice Springs	149.65	22	PKPbc		PKPbc	15 44 00.3 -0.7
	0.4nm,0.8s,baz=344,slow=2.4,SNR=2.7						
ASAR				PKPab		sPKPbc	15 44 08.0 -0.5
	0.9nm,0.6s,baz=352,slow=2.4,SNR=6.5						

SSNC ***02*** *15:25:38.5±2.8, 19°.96N×71°.23W, h17km±18km, MD4.7, MW4.4*
JSN ***02*** *15:25:38.0±0.4, 20°.07N×71°.03W, h50km±999km*
OSPL ***02*** *15:25:41.9±2.0, 19°.76N×71°.54W, h0km±9km, ML4.5*
NEIC ***02*** *15:25:41.1, 19°.79N×71°.48W, h23km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.76; $M_{\theta\theta}$-5.35; $M_{\phi\phi}$-0.41; $M_{r\theta}$-2.93; $M_{\theta\phi}$2.25; $M_{\phi r}$3.63; Fault plane solution: $M_0$7.60000×10^{15} NP1:ϕ_s94.28000°, δ30.26000°, λ59.38000°. NP2:ϕ_s308.70000°, δ64.30000°, λ106.55000°. Principal axes: T 7.6838, Plg67.0000°, Azm249.0000°; N -0.1720, Plg15.0000°, Azm121.0000°; P -7.5118, Plg18.0000°, Azm26.0000°;*
NEIC ***02*** *15:25:43.0±2.4, 19°.76N±0°.05×71°.51W±0°.04, h36km±7km, mb4.3/3, Mwr4.5/43 Error ellipse: s-maj=7.3km s-min=4.8km az=211.0*
IDC ***02*** *15:25:44.3±3.1, 19°.79N×71°.42W, h44km±30km, mb3.9/25, mb1 4.1/29, mb1mx3.9/49, mbtmp4.2/29, ML3.9/2, MS3.9/50, Ms1 3.9/50, ms1mx3.8/73, Error ellipse: s-maj=17.1km s-min=11.4km az=71.0*

ISC 02 15:25:41.7±0.8, 19°.76N±0°.03×71°.42W±0°.03, h25km±6km, n279, σ1°.45/261, mb4.3/26, MS4.0/47, 1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	Punta Rusia, P	0.23	65	*i* P		Pb	15 25 47.9 +0.1
LOPP1				*eS*		Sb	15 25 52.5 +0.6
LOPP1				IAML			15 25 58.9
	comp=Z,59µm,0.8s						
SC01	Santiago de lo

AOPR Arecibo Observ 4.63 107 *e*S **Sb 15 27 53.9 -3.6**
AOPR Arecibo Observ 4.63 107 Pn 15 26 51.5 +1.4
EMPR Esperanza - Ma 4.79 105 Pn 15 26 53.5 +1.2
OBIP Obispado Ponce 4.86 110 Pn 15 26 54.9 +1.6
CELP Cerrillos 4.88 109 Pn 15 26 55.5 +2.1
CMJ Castle Mountai 4.96 252 *i* P **Pn 15 26 54.9 +0.2**
GCPR Guaynabo City 5.25 105 Pn 15 27 00.0 +1.5
SJG San Juan 5.25 107 *e*P **Pn 15 27 00.4 +1.9**
SJG San Juan 5.25 107 Pn 15 27 00.7 +2.1
LMGC Las Mercedes 5.27 274 *e*P **Pn 15 26 57.9 -1.0**
LMGC *e*S **Sn 15 27 54.6 -4.2**
GWJ Greenwich 5.30 252 *i* P **Pn 15 26 59.7 +0.3**
STH Stony Hill 5.37 253 *i* P **Pn 15 27 00.8 +0.5**
PDPR Patillas Dam, 5.39 108 Pn **Pn 15 27 01.9 +1.3**
HUMP Col San Antoni 5.51 106 Pn **Pn 15 27 03.3 +1.1**
MTP Monte Pirata 5.79 106 Pn 15 27 08.2 +2.1
CUPR Culebra, Puert 5.98 103 Pn **Pn 15 27 08.8 +0.1**
MTDJ Mount Denham 5.99 256 *e*P **Pn 15 27 05.5 -3.3**
MTDJ Mount Denham 5.99 256 Pn **Pn 15 27 08.6 -0.2**
MTDJ Mount Denham 5.99 256 *e*P **Pn 15 27 08.2 -0.6**
MTDJ *e*S **Sn 15 28 12.7 -4.0**
CVJ Coleyville 5.99 256 *i* P **Pn 15 27 08.8 -0.1**
CCCC Cccc 6.12 285 *e*P Pn 15 27 02.7 -7.9
CCCC *e*S Sn 15 28 02.6 -17
MCJ Malvern 6.21 254 *i* P **Pn 15 27 12.0 +0.1**
MCJ *i* S **Sn 15 28 22.4 +0.2**
STVI Saint Thomas 6.27 102 Pn **Pn 15 27 13.0 +0.3**
CDVI St. Croix 6.61 106 *e*P Pn 15 27 26.1 +8.8
CDVI St. Croix 6.61 106 *e*S **Sn 15 28 32.3 +0.5**
SMRT St. Maarten 8.08 101 Pn 15 27 36.8 -0.7
CRJC Cerrejon, Guaj 8.80 189 *e*P **Pn 15 27 50.0 +2.5**
ANWB Willy Bob 9.36 101 *e*P **Pn 15 27 53.2 -1.8**
SJCC San Jacinto, C 10.45 201 *e*P **Pn 15 28 13.5 +3.3**
BIRV Birongo 10.48 151 Pn **Pn 15 28 13.3 +2.9**
SDV Santo Domingo 10.83 176 *e*P **Pn 15 28 18.1 +2.6**
SDV Santo Domingo 10.83 176 Pn **Pn 15 28 16.9 +1.4**
SMLC San Martn de 11.19 194 *e*P Pn 15 28 26.6 +6.4
BAUV El Baul 11.23 163 Pn **Pn 15 28 21.8 +1.0**
SOCV Socops 11.42 177 ‖ *e*P **Pn 15 28 25.1 +1.8**
PCRV Puerto La Cruz 11.56 145 P **Pn 15 28 28.9 +3.7**
comp=Z,0.9nm,0.3s,baz=302,slow=6.5,SNR=4.3
PCRV S **Sn 15 30 30.0 -3.5**
comp=Z,1.1nm,0.3s,baz=31,slow=12,SNR=2.1
DWPF Disney Wildern 12.37 314 P **Pn 15 28 34.2 -2.0**
baz=130
UREC San Jos de Ur 12.58 199 *e*P Pn 15 28 45.6 +6.4
ZARC Zaragoza, Cauc 12.64 196 *e*P Pn 15 28 44.8 +4.8
BARC Barichara 13.20 188 *e*P **Pn 15 28 48.3 +0.5**
TAMC Tame, Arauca 13.25 182 *e*P **Pn 15 28 44.7 -3.7**
BCIP Isla Barro Col 13.31 219 Pn **Pn 15 28 49.3 +0.2**
PTBC PUERTO BERRIO, 13.47 193 *e*P **Pn 15 28 54.8 +3.4**
DBBC Dabeiba 13.49 201 *e*P **Pn 15 28 54.9 +3.2**
RUSC La Rusia 13.88 187 *e*P **Pn 15 29 00.6 +3.2**
HELC Santa Helena 14.06 197 *e*P **Pn 15 29 02.5 +2.7**
SPBC San Pablo de B 14.26 191 *e*P **Pn 15 28 59.7 -2.5**
CBOC Ciudad Bolivar 14.52 199 *e*P **Pn 15 29 09.8 +4.0**
GUY2C Guyana, Caldas 14.95 195 *e*P **P 15 29 16.0 -1.4**
ROSC El Rosal 15.09 191 P **Pn 15 29 16.9 +3.1**
baz=186,slow=19,SNR=9.5
ROSC LR LR 15 34 38.2
comp=Z,311nm,21.6s,baz=41,slow=35
CHIC Chingaza 15.20 189 *e*P **P 15 29 19.5 -0.6**
PLMC San Jos del P 15.50 198 *e*P **Pn 15 29 20.6 +1.7**
ANIL Santa Ana 15.66 195 *e*P **P 15 29 27.1 +2.0**
TIGA Tifton 15.98 319 P **Pn 15 29 24.0 -0.9**
baz=134
JTS Las Juntas de 16.10 236 P **P 15 29 29.0 -0.6**
JTS LR LR 15 35 59.5
comp=Z,717nm,18.4s,slow=38
JTS Las Juntas de 16.10 236 *e*P **Pn 15 29 27.2 +0.7**
ORTC Ortega, Tolima 16.19 194 *e*P **P 15 29 31.2 +0.5**
PRAC Prado 16.30 192 *e*P **P 15 29 33.8 +1.9**
GOGA Godfrey 17.33 324 P **Pn 15 29 40.5 -1.4**
baz=139
MACC Macarena, Meta 17.66 188 *e*P **P 15 29 48.8 +1.8**
POPC Popayan, Colom 17.87 197 *e*P **P 15 29 50.6 +1.1**
PCON Cinco Dias 17.99 196 *e*P **Pn 15 29 51.0 +0.3**
SOTA Rioblanco 18.23 197 *e*P **P 15 29 56.3 +2.5**
BLA Blacksburg 19.09 338 P **P 15 30 02.0 -0.5**
baz=154
TKL Tuckaleechee C 19.22 328 P **P 15 30 03.9 -0.1**
comp=Z,0.3nm,0.3s,baz=142,slow=13,SNR=3.2
TKL S Sn 15 33 24.9 -15
comp=Z,0.5nm,0.3s,baz=208,slow=15,SNR=2.0
TKL LR LR 15 37 48.9
comp=Z,290nm,18.6s,baz=139,slow=38
PTLC Puerto Leguiza 19.74 190 *e*P **Pn 15 30 12.9 +1.5**
TZTN Tazewell 19.82 330 P **P 15 30 10.6 0.0**
baz=145
BOAV Boa Vista 20.28 147 P **P 15 30 15.4 -0.2**
BOAV IAmb IAmb 15 30 26.5
comp=Z,21nm,0.8s
P60A Greenville 20.32 351 P **P 15 30 16.4 +0.5**
baz=169
PAL Palisades 21.29 355 P **P 15 30 27.0 +0.6**
baz=174
O56A Blue Knob Stat 21.34 345 P **P 15 30 27.5 +0.5**
baz=162
N59A State Game Lan 21.42 351 P **P 15 30 28.2 +0.4**
baz=169
WVT Waverly 21.77 322 P **P 15 30 31.9 +0.3**
baz=134
P52A Corning 21.85 337 P **P 15 30 33.1 +0.6**
baz=152
O53A New Philadelph 22.09 340 P **P 15 30 36.0 +1.0**
baz=155
N54A Moraine State 22.37 343 P **P 15 30 38.2 +0.2**
baz=159
CMIG Matias Romero 22.42 267 P **P 15 30 38.9 +0.2**
comp=Z,2.0nm,0.6s,baz=68,slow=16,SNR=1.7
CMIG LR LR 15 40 06.5
comp=Z,121nm,20.2s,baz=37,slow=38
WCI Wyandotte Cave 22.49 328 P **P 15 30 39.7 +0.5**
baz=141
L61B Northampton 22.65 358 P **P 15 30 42.5 +1.5**
baz=177
HRV Adam Dziewonsk 22.68 360 P **P 15 30 42.5 +1.2**
baz=180
ACSO Alum Creek Sta 22.69 337 P **P 15 30 42.4 +1.0**
baz=151
BINY Binghamton 22.71 351 P **P 15 30 42.1 +0.5**
baz=169
P49A Miami Univ. Ec 22.80 333 P **P 15 30 43.3 +0.7**
baz=146
M53A WI Miller and 23.01 342 P **P 15 30 44.7 +0.1**
baz=158
PTGA Pitinga 23.25 150 P **P 15 30 49.5 +2.2**
comp=Z,1.4nm,0.3s,baz=317,slow=18,SNR=1.2
PTGA LR LR 15 40 13.9
comp=Z,327nm,19.7s,baz=5.0,slow=37
Z41A Richland Creek 23.33 310 P **P 15 30 46.7 -1.4**
baz=120
W41B Gary Mavity, V 23.96 314 P **P 15 30 54.9 +0.8**
baz=125
X40A Basin Creek Fa 23.98 312 P **P 15 30 55.2 +0.9**
baz=122,SNR=8.1
NATX Nacogdoches 24.05 304 P **P 15 30 56.3 +1.3**
baz=114,SNR=8.4
LBNH Lisbon 24.42 359 P **P 15 30 59.4 +1.2**
baz=179
MIAR Mount Ida 24.54 311 P **P 15 31 00.2 +0.8**
baz=122
SFIN Lafayette 24.55 330 P **P 15 31 00.5 +1.0**
baz=142
LONY Lake Ozonia 24.93 355 P **P 15 31 03.7 +0.8**
baz=173
W39A Magazine 25.02 313 P **P 15 31 04.0 +0.2**
baz=122,SNR=6.4
CCM Cathedral Cave 25.08 321 P **P 15 31 04.4 +0.2**
baz=131
PKME Peaks-Kenny Pk 25.50 3 P **P 15 31 09.5 +1.5**
baz=185
435B Jarrell 26.02 300 P **P 15 31 13.2 +0.3**
baz=109
TUL1 Leonard 26.79 312 P **P 15 31 20.5 +0.7**
baz=121
ATAH Atahualpa 27.59 195 P **P 15 31 29.8 +2.2**
comp=Z,3.6nm,0.6s,baz=25,slow=9.9,SNR=2.2
ATAH LR LR 15 43 57.3
comp=Z,151nm,19.7s,baz=345,slow=40
JCT Junction City 27.76 298 P **P 15 31 28.9 +0.3**
baz=106
JFWS Jewell Farm 28.01 330 P **P 15 31 31.0 +0.4**
baz=140
ABTX Abilene, Hawle 28.29 303 P **P 15 31 34.1 +0.8**
baz=110,SNR=8.3
WMOK Wichita Mounta 28.42 307 P **P 15 31 35.0 +0.6**
baz=115,SNR=7.8
AMTX Amarillo 30.67 306 P **P 15 31 54.6 +0.1**
baz=112
SPMN Marine on St. 30.96 330 P **P 15 31 56.4 -0.4**
baz=138
CBKS Cedar Bluff 30.96 314 P **P 15 31 56.2 -0.8**
baz=120
MSTX Muleshoe 31.21 303 P **P 15 31 59.5 +0.2**
baz=109
ECSD EROS Data Cent 31.87 324 P **P 15 32 05.1 +0.3**
baz=131
NNA Nana 31.99 190 LR LR 15 47 07.9
comp=Z,256nm,19.4s,baz=350,slow=40
MNTX Cornudas Mount 32.70 298 P **P 15 32 13.4 +1.2**
baz=103,SNR=27
T25A Trinidad 33.56 308 P **P 15 32 21.4 +1.4**
baz=112,SNR=5.2
ANMO Albuquerque 34.40 303 LR LR 15 47 41.6
comp=Z,212nm,21.8s,baz=112,slow=38
ANMO Albuquerque 34.40 303 P **P 15 32 28.6 +1.3**
baz=107
SDCO Great Sand Dun 34.59 309 P **P 15 32 30.3 +1.3**
baz=112,SNR=9.1
Q24A Divide 34.81 311 P **P 15 32 30.6 -0.3**
baz=114
121A Cookes Peak, D 34.87 299 P **P 15 32 33.2 +1.9**
baz=102,SNR=6.1
SCHQ Schefferville 35.19 5 P **P 15 32 33.2 -0.4**
comp=Z,3.5nm,0.9s,baz=284,slow=8.7,SNR=2.4
SCHQ LR LR 15 47 51.7
comp=Z,180nm,18.1s,baz=239,slow=38
ISCO Idaho Springs 35.47 312 P **P 15 32 38.2 +1.6**
baz=114,SNR=9.2
S22A 4UR Ranch, Cre 35.58 308 P **P 15 32 38.3 +0.8**
baz=110
LPAZ La Paz 35.96 175 P **P 15 32 42.1 +0.8**
comp=Z,3.1nm,0.9s,baz=7.6,slow=4.9,SNR=10.0
LPAZ LR LR 15 48 42.0
comp=Z,331nm,18.2s,baz=3.0,slow=38
LPAZ La Paz 35.96 175 *e*P **P 15 32 37.4 -3.8**
ULM Lac du Bonnet 36.10 333 P **P 15 32 40.6 -0.8**
comp=Z,2.3nm,0.5s,baz=117,slow=2.6,SNR=3.2
N23A Red Feather La 36.16 313 P **P 15 32 41.9 -0.5**
baz=115
LPIG La Paz 36.26 284 LR LR 15 49 20.7
comp=Z,48nm,20.1s,baz=22,slow=39
MVCO Mesa Verde 36.66 306 P **P 15 32 47.3 +0.6**
baz=108
SIV San Ignacio 36.95 163 P **P 15 32 48.3 -0.8**
comp=Z,4.6nm,0.9s,baz=358,slow=9.8,SNR=16
SIV LR LR 15 49 13.1
comp=Z,181nm,18.3s,baz=89,slow=38
TUC Tucson 37.31 298 P **P 15 32 52.9 +0.7**
baz=100
O20A White River Ci 37.46 311 P **P 15 32 54.9 +1.4**
baz=112
WUAZ Wupatki 38.44 303 P **P 15 33 03.2 +1.5**
baz=104,SNR=5.5
DGMT Dagmar 38.94 325 P **P 15 33 06.7 +1.2**
baz=126
BW06 Boulder Array 39.39 314 P **P 15 33 10.1 +0.4**
baz=114
PDAR Pinedale Array 39.39 314 PcP **PcP 15 35 17.8 +0.1**
comp=Z,1.2nm,0.8s,baz=116,slow=2.1,SNR=6.0
PDAR ScP **ScP 15 39 04.2 -0.6**
comp=Z,0.7nm,1.0s,baz=108,slow=2.9,SNR=3.7
PDAR LR LR 15 52 49.0
comp=Z,90nm,18.5s,baz=106,slow=41
RLMT Red Lodge 40.20 318 P **P 15 33 17.0 +0.7**
baz=117
PDMCI Parker Dam,Lak 40.42 300 P **P 15 33 18.9 +0.8**
baz=100
AHID Auburn Hatcher 40.44 314 pP 15 33 25.9 -0.1
H17A Grant Village 40.73 316 P **P 15 33 21.9 +1.1**
baz=114
DUG Dugway, Tooele 40.78 309 P **P 15 33 22.5 +1.3**
baz=108,SNR=7.1
GLA Glamis 40.80 298 P **P 15 33 22.8 +1.5**
baz=98
IRM Iron Mountain 41.22 300 P **P 15 33 26.4 +1.7**
baz=99,SNR=7.2
BC3 Big Chuckawall 41.40 299 P **P 15 33 27.1 +0.9**
baz=98
GMRC Granite Mounta 41.74 300 P **P 15 33 29.5 +0.4**
baz=99
BELC Belle Mtn. Jos 41.90 299 P **P 15 33 30.8 +0.4**
baz=98
BOZ Bozeman (W) 41.91 317 P **P 15 33 30.9 +0.6**
baz=115
BDFB Brasilia 42.03 145 P **P 15 33 30.6 -0.9**
comp=Z,1.4nm,0.5s,baz=29,slow=17,SNR=3.1
TUQ Turquoise Moun 42.06 301 P **P 15 33 33.5 +1.8**
baz=100,SNR=6.6
MONP2 Monument Peak 42.11 297 P **P 15 33 32.8 +0.6**
baz=97
LVC Limon Verde 42.18 177 LR LR 15 52 25.2
comp=Z,152nm,21.3s,baz=350,slow=38
PFO Pinyon Flats O 42.23 299 LR LR 15 53 42.6
comp=Z,90nm,20.4s,baz=101,slow=40
FCC Fort Churchill 42.29 343 P **P 15 33 33.5 +0.5**
FCC IAmb IAmb 15 33 42.0
comp=Z,5.3nm,0.9s
R11A Troy Canyon, C 42.37 306 P **P 15 33 35.2 +1.0**
baz=103
SHOC Shoshone, Teco 42.42 302 P **P 15 33 35.5 +1.0**
baz=100
TPNV Topopah Spring 42.59 303 P **P 15 33 38.0 +1.9**
baz=101,SNR=5.5
ELK Elko 42.71 309 LR LR 15 51 59.8
comp=Z,74nm,21.9s,baz=109,slow=37
GSC Goldstone, Bar 42.75 301 P **P 15 33 38.4 +1.1**
baz=99
MURC Murrieta 42.83 298 P **P 15 33 38.7 +0.8**
baz=97
HLID Hailey 42.99 313 P **P 15 33 40.7 +1.5**
baz=110
BFSC Mount Baldy Ra 43.29 299 P **P 15 33 42.7 +0.9**
baz=97
MPMC Manual Prospec 43.42 302 P **P 15 33 43.9 +1.1**
baz=99
GRAC Grapevine Rang 43.48 303 P **P 15 33 44.0 +0.9**
baz=100
LRMC Laurel Mtn Rad 43.48 301 P **P 15 33 44.7 +1.4**
baz=99
EDW2 Edwards Air Fo 43.65 300 P **P 15 33 46.2 +1.7**
baz=98,SNR=5.3
CWC Coronwood Cre 43.95 302 P **P 15 33 48.0 +0.9**
baz=99
FRB Frobisher Bay 44.00 2 P **P 15 33 47.0 +0.3**
comp=Z,6.9nm,0.8s,baz=177,slow=8.1,SNR=3.8
FRB LR LR 15 52 08.7
comp=Z,221nm,19.2s,baz=191,slow=36
ISA Isabella, Lake 44.15 301 P **P 15 33 49.5 +1.0**
baz=98
NVAR Mina Array Bea 44.48 305 P **P 15 33 51.2 0.0**
comp=Z,4.1nm,0.9s,baz=93,slow=7.2,SNR=22
NVAR PcP **PcP 15 35 35.4 +0.9**
comp=Z,1.0nm,0.8s,baz=123,slow=4.6,SNR=2.3
NVAR LR LR 15 54 16.1
comp=Z,212nm,20.3s,baz=97,slow=39
VES Vestal, Richgr 44.66 301 P **P 15 33 54.2 +1.7**
baz=98
PKM Mcpherson Peak 45.14 300 P **P 15 33 58.6 +2.0**
baz=97
NEW Newport 46.41 319 P **P 15 34 07.0 +0.8**
baz=112,SNR=7.7
O03E Paynes Creek 47.48 307 P **P 15 34 15.2 +0.4**
baz=100
J05D Fort Rock, OR 47.67 311 P **P 15 34 16.0 -0.4**
baz=103
M04C Macdoel 47.79 309 P **P 15 34 16.3 -1.0**
baz=102
CPUP Villa Florida 47.81 163 LR LR 15 54 57.1
comp=Z,55nm,20.6s,baz=344,slow=37
L04D Klamath Falls 48.22 309 P **P 15 34 21.4 +0.9**
baz=102
N02D Trinity Center 48.28 308 P **P 15 34 21.0 +0.1**
baz=100
YBH Yreka Blue Hor 48.42 309 LR LR 15 59 21.7
comp=Z,67nm,18.5s,baz=72,slow=42
M02C Callahan 48.46 308 P **P 15 34 22.2 -0.1**
baz=100
F05D White Salmon 48.47 314 P **P 15 34 22.7 +0.4**
baz=106
SFJD Kangerlussuaq 49.08 11 LR LR 15 55 10.7
comp=Z,102nm,18.2s,baz=174,slow=36
K02D Willamette Mer 49.30 310 P **P 15 34 29.9 +1.2**
baz=101
G03D McMinnville, O 49.54 313 P **P 15 34 30.3 -0.1**
baz=103
YKA Yellowknife Ar 51.94 336 P **P 15 34 48.0 -0.2**
comp=Z,2.1nm,0.9s,baz=120,slow=7.0,SNR=18
ICESG Greenland Ices 53.05 14 *e*P P 15 34 45.3 -11
BBB Bella Bella 54.33 321 LR LR 15 58 11.9
comp=Z,148nm,18.9s,baz=149,slow=36
BORG Boarnes 55.75 23 LR LR 15 55 21.7
comp=Z,112nm,20.4s,baz=218,slow=32
RES Resolute Bay 56.39 353 P **P 15 35 20.1 -0.4**
comp=Z,1.6nm,0.7s,baz=175,slow=10,SNR=5.1
RES Resolute Bay 56.39 353 P **P 15 35 20.0 -0.5**
RES IAmb IAmb 15 35 30.9
comp=Z,3.0nm,0.9s
RPN Rapa Nui 59.35 220 LR LR 15 57 31.5
comp=Z,81nm,18.1s,baz=318,slow=32
PLCA Paso Flores 60.18 179 P **P 15 35 46.8 -0.7**
comp=Z,3.8nm,0.9s,baz=342,slow=4.3,SNR=7.0
PLCA LR LR 16 02 56.7
comp=Z,82nm,18.8s,baz=2.5,slow=37
MDT Midelt 60.43 63 LR LR 15 56 18.0
comp=Z,166nm,21.6s,baz=342,slow=30
ESDC Sonseca Array 60.50 55 P **P 15 35 49.3 -0.6**
comp=Z,0.7nm,0.7s,baz=281,slow=6.6,SNR=5.7
ESDC LR LR 15 57 46.8
comp=Z,193nm,19.6s,baz=264,slow=32
A36M Sachs Harbour 60.51 343 P **P 15 35 49.4 +0.1**
baz=119
INK Inuvik 61.59 338 P **P 15 35 56.0 -0.7**
comp=Z,1.0nm,1.0s,baz=121,slow=5.9,SNR=2.1
INK LR LR 16 02 40.0
comp=Z,155nm,20.1s,baz=116,slow=36
EKA Eskdalemuir Ar 61.63 37 P **P 15 35 57.2 0.0**
comp=Z,2.5nm,0.9s,baz=293,slow=3.7,SNR=1.8
J26L Joseph Creek 64.67 333 P **P 15 36 16.7 -0.5**
baz=97
SCRK Sand Creek 64.78 332 P **P 15 36 18.9 +0.8**
baz=94
KLU Klutina 65.45 329 P **P 15 36 23.3 +0.9**
baz=94
ILAR Eielson Array 66.12 333 P **P 15 36 26.6 0.0**
comp=Z,1.6nm,0.9s,baz=99,slow=4.6,SNR=12
ILAR LR LR 16 06 14.0
comp=Z,129nm,18.1s,baz=126,slow=37
H24K Noodor Dome 66.61 334 P **P 15 36 30.0 +0.2**
baz=94
MCK McKinley 66.95 332 P **P 15 36 31.4 -0.5**
baz=92
I23K Minto, Yukon-K 67.19 333 P **P 15 36 33.6 +0.3**
baz=92
BWN Browne 67.20 332 pP 15 36 42.9 +1.4
TOLK Toolik Lake Re 67.45 337 P **P 15 36 35.3 +0.3**
baz=94
COLD Coldfoot 67.62 336 P **P 15 36 36.3 +0.3**
baz=92
BPAW Bear Paw Mtn. 67.87 332 P **P 15 36 37.8 +0.1**
baz=90
I21K Tanana 68.30 333 P **P 15 36 40.9 +0.6**
baz=90
PPLA Purkeypile 68.42 331 P **P 15 36 40.8 -0.6**
baz=89
CHUM Lake Minchumin 68.45 332 P **P 15 36 41.2 -0.1**
baz=89
SPCR Spurr Chakacha 68.47 329 P **P 15 36 41.6 0.0**
baz=88
H21K Melozitna Rive 68.64 334 P **P 15 36 42.6 +0.1**
baz=89
J20K Nowinta River 69.25 332 P **P 15 36 45.8 -0.5**
baz=88
K20K Telida 69.25 331 P **P 15 36 46.2 -0.2**
baz=87
NOA NORSAR Array B 69.37 31 LR LR 16 03 18.2
comp=Z,48nm,19.2s,baz=300,slow=32
TORD Torodi Ar. Bea 69.97 83 P **P 15 36 51.1 -0.5**
comp=Z,0.9nm,0.7s,baz=290,slow=7.5,SNR=5.3
DAVOX Davos/Dischmat 70.00 46 LR LR 16 04 46.3
comp=Z,86nm,19.0s,baz=265,slow=34
O18K Koktuh Hills 70.03 328 P **P 15 36 48.9 -2.3**
baz=85
SPITS Spitsbergen Ar 70.35 13 LR LR 16 08 50.3
comp=Z,160nm,18.2s,baz=28,slow=37
GCSA Galena City Sc 70.40 333 P **P 15 36 52.9 -0.4**
baz=85
HFS Hagfors 70.67 32 LR LR 16 05 47.0
comp=Z,73nm,18.1s,baz=283,slow=34
KEST Kesra 71.44 58 P **P 15 37 01.7 +1.4**
comp=Z,1.9nm,0.6s,baz=149,slow=5.9,SNR=2.2
KEST LR LR 16 03 33.5
comp=Z,105nm,21.4s,baz=266,slow=32
GERES GERESS Array B 72.23 44 LR LR 16 05 03.1
comp=Z,111nm,19.8s,baz=274,slow=33
VRAC Vranov 74.01 43 LR LR 16 05 00.3
comp=Z,179nm,20.9s,baz=276,slow=32
ARCES ARCESS Array B 74.06 21 P **P 15 37 15.9 +0.8**
comp=Z,4.7nm,1.1s,baz=280,slow=5.4,SNR=4.0
ARCES LR LR 16 05 44.1
comp=Z,45nm,19.2s,baz=256,slow=32
USHA Ushuaia 74.33 178 LR LR 16 11 27.9
comp=Z,52nm,18.6s,baz=60,slow=37
VAE Valguarnera 75.04 55 LR LR 16 06 40.5
comp=Z,118nm,19.5s,baz=354,slow=33
FINES FINESS Array B 76.37 29 P **P 15 37 29.4 +0.9**
comp=Z,1.4nm,0.7s,baz=265,slow=6.4,SNR=1.4
FINES LR LR 16 09 34.7
comp=Z,92nm,18.2s,baz=289,slow=34
MLR Muntele Rosu 81.14 45 LR LR 16 09 56.4
comp=Z,100nm,19.1s,baz=286,slow=33
AKASG Malin Array Be 81.45 39 P **P 15 37 56.8 +0.2**
comp=Z,0.2nm,0.4s,baz=282,slow=4.3,SNR=2.4
AKASG LR LR 16 13 50.2
comp=Z,81nm,18.2s,baz=271,slow=35
TIXI Tiksi 87.77 354 P **P 15 38 28.6 +0.4**
comp=Z,1.9nm,0.8s,baz=334,slow=4.4
KIRV Kirov 88.09 27 LR LR 16 15 47.8
comp=Z,62nm,19.3s,baz=299,slow=34
SHEM Shemya Is, Ala 88.32 326 LR LR 16 19 49.8
comp=Z,42nm,18.5s,baz=56,slow=37
BRTR Keskin Array B 88.56 48 P **P 15 38 33.5 +0.7**
comp=Z,1.4nm,0.8s,baz=302,slow=5.7,SNR=4.6
BRTR LR LR 16 19 35.0
comp=Z,30nm,18.1s,baz=317,slow=36
NRIK Noril'sk 89.88 7 LR LR 16 22 12.4
comp=Z,71nm,18.1s,baz=323,slow=38
SEY Seymchan 90.70 342 P **P 15 38 42.4 +0.3**
comp=Z,2.3nm,0.8s,baz=66,slow=11,SNR=4.0
KBZ Khabaz 92.85 41 LR LR 16 18 19.7
comp=Z,81nm,19.5s,baz=268,slow=34
ARU Arti 93.26 25 LR LR 16 18 33.1
comp=Z,70nm,18.6s,baz=316,slow=34
PETK Petropavlovsk- 95.95 333 LR LR 16 24 56.3
comp=Z,50nm,19.6s,baz=82,slow=37
YAK Yakutsk 96.77 350 LR LR 16 24 39.2
comp=Z,58nm,20.3s,baz=92,slow=36
PZH PanZhiHua 133.54 8 PKP **PKPdf 15 44 57.1 +0.3**
CMAR Chiang Mai Arr 140.86 15 PKP **PKPdf 15 45 09.2 -1.2**
comp=Z,0.7nm,0.9s,baz=301,slow=2.4,SNR=5.6
WRA Warramunga Arr 155.78 265 PKP **PKPdf 15 45 33.9 -0.5**
comp=Z,1.0nm,1.0s,baz=48,slow=1.3,SNR=3.4
ASAR Alice Springs 156.17 256 PKP **PKPdf 15 45 34.6 -0.2**
comp=Z,0.3nm,0.9s,baz=89,slow=3.3,SNR=2.0
ASAR PKPab **PKPab 15 46 02.8 +0.2**
comp=Z,2.5nm,0.9s,baz=92,slow=3.7,SNR=11

SOME ***02*** *15:46:24.0,41°.90N×83°.47E,h5km*
NNC ***02*** *15:46:28.2±2.3,42°.02N×83°.36E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=17.8km s-min=9.4km az=154.0
ISC 02 15:46:28.9±2.5,42°.0N±0°.1×83°.33E±0°.08,h15km,n23,
σ2.50/32,4C-5D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 2.4nm,0.2s	**3.12**	**296**	Pg	**Pb**	**15 47 24.5**	**+0.5**
PDGK	20nm,0.5s			Lg	Lg	15 48 08.9	
PDGK	**Podgornoye** 4.1nm,0.5s	**3.12**	**296**	⇑Pg	**Pg**	**15 47 27.1**	**-1.4**
PDGK	52nm,0.8s			⇑Lg	Lg	15 48 09.2	
UZB	**Uzynbulak** 5.6nm,0.3s	**3.37**	**291**	*e*P	**Pb**	**15 47 29.6**	**+1.1**
UZB	36nm,0.5s			*e*S	**Sg**	**15 48 16.8**	**-0.3**
UZB	**Uzynbulak** 5.6nm,0.3s	**3.37**	**291**	Pg	**Pb**	**15 47 29.6**	**+1.1**

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UZB                                  Lg   Lg   15 48 16.8
     36nm,0.5s
DJR  Jarkent          3.46 313 eP        Pb   15 47 30.7 +0.7
DJR                              eS        Sg   15 48 18.8 -1.4
DJR  Jarkent          3.46 313 Pg        Pb   15 47 30.7 +0.7
DJR                              Lg        Lg   15 48 18.8
KPKS Kokpek           3.71 294 eP        Pb   15 47 35.6 +1.4
     4.9nm,0.2s
KPKS                             eS        Sg   15 48 27.4 -0.6
     38nm,0.5s
SATY Saty             3.78 287 eP        Pb   15 47 37.2 +1.8
     2.9nm,0.5s
SATY                             eS        Sg   15 48 30.6 +0.3
     22nm,0.7s
SATY Saty             3.78 287 Pg        Pb   15 47 37.2 +1.8
     2.9nm,0.5s
SATY                             Lg        Lg   15 48 30.6
     22nm,0.7s
KAPS Kapalarasan      4.35 320 eP        Pg   15 47 49.3 -2.8
     7.8nm,0.4s
KAPS                             eS        Sg   15 48 51.6 +3.1
     14nm,0.4s
MDOK Medeo            4.77 286 eP        Pb   15 47 55.7 +3.3
     1.3nm,0.2s
MDOK                             eS        Sg   15 49 02.6 +0.5
     11nm,0.7s
TNSS Tian-Shan        4.82 284 eP        Pb   15 47 53.9 +0.6
     1.8nm,0.3s
TNSS                             eS        Sg   15 48 59.2 -4.5
     3.3nm,0.5s
TNSS Tian-Shan        4.82 284 Pg        Pb   15 47 53.9 +0.6
     1.8nm,0.3s
TNSS                             Lg        Lg   15 48 59.2
     3.3nm,0.5s
MK31 Makanchi Array   4.83 351 ⇑Pn       Pn   15 47 43.1 +2.1
     0.2nm,0.3s,baz=154,slow=13,SNR=24
MK31                             ⇓Pg       Pb   15 47 57.0 +3.9
     5.7nm,0.6s,baz=169,slow=16,SNR=16
MK31                             ⇓Lg       Lg   15 48 58.0
     5.7nm,0.4s,baz=176,slow=37,SNR=16
MAKZ Makanchi         4.88 349 ⇓Pg       Pg   15 48 00.7 -1.5
     3.5nm,0.6s
MAKZ                             ⇑Lg       Lg   15 49 01.8
     5.3nm,0.5s
KTBS Karatobe         5.17 291 eP        Pb   15 48 02.5 +3.6
     0.6nm,0.1s
KTBS                             eS        Sg   15 49 14.7  0.0
     13nm,0.6s
KTBS Karatobe         5.17 291 Pg        Pb   15 48 02.5 +3.6
     0.6nm,0.1s
KTBS                             Lg        Lg   15 49 14.7
     13nm,0.6s
KUU  Kurty            5.46 292 eP        Pg   15 48 09.6 -3.7
     1.1nm,0.3s
KUU                              eS        Sg   15 49 25.1 +1.1
     4.8nm,0.1s
KUU  Kurty            5.46 292 Pg        Pg   15 48 09.4 -3.9
     1.3nm,0.7s
KUU                              Lg        Lg   15 49 24.4
     9.7nm,0.5s
ZSN  Zaisan           5.53  11 eP        Pb   15 48 06.4 +1.2
     2.3nm,0.2s
ZSN                              eS        Sg   15 49 20.9 -5.5
     36nm,0.7s
ZSN  Zaisan           5.53  11 Pg        Pb   15 48 07.2 +2.0
     2.3nm,0.2s
ZSN                              Lg        Lg   15 49 20.9
     36nm,0.7s
KURBB Kurchatov Arra  9.21 341 ⇓Lg       Lg   15 51 20.1
     6.9nm,0.7s
KURK Kurchatov        9.28 341 ⇓Lg       Lg   15 51 20.9
     9.1nm,1.0s
```

*IDC **02** 15:56:26.8±1.8, 4°.56S×153°.23E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/35, mbtmp3.8/5, Error ellipse: s-maj=33.1km s-min=17.3km az=27.0*

ISC 02 15:56:34.9±2.0, 4°.5S±0°.2×153°.0E±0°.3, h55km, n7, σ1§00/7, mb3.9/5, New Britain region

```
Code Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op   ISC  h m s     ISC
KRVT Keravat (AS076   0.96 282   Pg   Pn   15 56 51.5 -0.8
     baz=127,slow=20
KRVT                             Lg   Lg   15 57 06.0
     baz=232,slow=19
WRA  Warramunga Arr  23.76 228   P    P    16 01 42.5  0.0
     2.5nm,0.6s,baz=52,slow=9.9,SNR=26
ASAR Alice Springs   26.47 222   P    P    16 02 07.3 +0.2
     0.3nm,0.4s,baz=54,slow=9.1,SNR=17
STKA Stephens Creek  29.24 200   P    P    16 02 30.8 -0.9
     2.6nm,0.9s,baz=80,slow=12,SNR=2.9
FITZ Fitzroy Crossi  29.94 241   P    P    16 02 39.6 +1.5
     2.7nm,0.8s,baz=66,slow=12,SNR=3.8
MKAR Makanchi Array  80.22 319   P    P    16 08 40.1 +0.4
     0.1nm,0.7s,baz=95,slow=7.2,SNR=1.6
TORD Torodi Ar. Bea  150.38 289  PKPbc PKPbc 16 16 20.9 -0.4
     0.4nm,0.8s,baz=27,slow=2.0,SNR=2.2
```

*IDC **02** 15:59:06.7±3.1, 6°.20S×153°.49E, h60km±24km, mb3.5/8, mb1 3.7/8, mb1mx3.3/45, mbtmp3.8/8, MS2.7/1, Ms1 2.7/1, ms1mx2.2/38, Error ellipse: s-maj=30.0km s-min=16.9km az=85.0*

ISC 02 15:59:03.4±0.9, 5°.98S±0°.09×153°.61E±0°.10, h32km, n12, σ1§42/15, mb3.8/7, New Ireland region

```
Code Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op   ISC  h m s     ISC
KRVT Keravat (AS076   2.29 316   P    Pb   15 59 42.7 -1.3
     baz=270,slow=20
KRVT                             S    Sb   16 00 12.2 +0.3
     baz=233,slow=20
HNR  Honiara          7.16 119   LR   LR   16 03 05.1
     comp=Z,50nm,18.8s,baz=312,slow=33
PMG  Port Moresby     7.24 242   P    Pn   16 00 49.7 +2.7
     1.9nm,0.3s,baz=42,slow=6.9,SNR=7.4
PMG                              S    Sn   16 02 08.0 -0.2
     0.6nm,0.3s,baz=143,slow=20,SNR=1.3
DZM  Mont Dzumac     20.25 143   P    P    16 03 35.4 -0.9
     3.7nm,0.9s,baz=284,slow=12,SNR=1.3
WRA  Warramunga Arr  23.31 232   P    P    16 04 07.6 -1.3
     1.0nm,0.9s,baz=58,slow=9.6,SNR=3.6
WRA                              PcP  PcP  16 07 55.8 +0.1
     0.2nm,0.5s,baz=59,slow=2.7,SNR=1.4
ASAR Alice Springs   25.86 225   P    P    16 04 30.8 -1.6
     1.8nm,0.7s,baz=54,slow=9.3,SNR=13
ASAR                             PcP  PcP  16 08 01.3  0.0
     0.3nm,0.7s,baz=50,slow=2.2,SNR=1.7
FITZ Fitzroy Crossi  29.83 244   P    P    16 05 06.9 -1.0
     4.7nm,0.9s,baz=95,slow=6.0,SNR=4.1
SONM Songino Array   67.74 328   P    P    16 09 58.4 +0.4
     0.4nm,0.8s,baz=128,slow=6.7,SNR=2.6
MKAR Makanchi Array  81.73 319   P    P    16 11 19.3 +0.3
     0.8nm,0.8s,baz=109,slow=5.2,SNR=8.7
ZALV Zalesovo Beam   82.57 326   P    P    16 11 22.6 -0.5
     0.4nm,0.5s,baz=108,slow=4.8,SNR=3.6
ILAR Eielson Array   82.94  22   P    P    16 11 27.1 +2.3
     0.3nm,0.7s,baz=233,slow=5.1,SNR=5.1
TORD Torodi Ar. Bea  151.42 287  PKPbc PKPbc 16 18 53.2 -1.9
     1.2nm,0.7s,baz=88,slow=1.8,SNR=8.1
```

*IDC **02** 16:13:20.3±2.1, 43°.49N×105°.31W, h0km, mb4.2/1, mb1 3.6/5, mb1mx3.4/37, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=50.9km s-min=8.3km az=150.0*
*NEIC **02** 16:13:22.1±0.6, 43°.70N±0°.05×105°.28W±0°.06, h0km±2km, ML3.1/36, Error ellipse: s-maj=8.9km s-min=6.6km az=331.0*

ISC 02 16:13:20.9±0.8, 43°.72N±0°.05×105°.25W±0°.06, h0km, n34, σ1§21/34, Wyoming

```
Code Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op   ISC  h m s     ISC
RSSD Black Hills      0.96  65   Pb   Pb   16 13 41.1 +0.4
K22A Casper           1.42 222   Pn   Pg   16 13 46.6 -1.4
K22A                             IAML      16 14 10.9
     comp=N,420nm,0.3s
K22A                             IAML      16 14 14.3
     comp=E,384nm,0.3s
PHWY Pilot Hill       2.42 184   Pn   Pn   16 14 02.7 +0.7
PHWY                             IAML      16 14 39.7
     comp=E,93nm,0.4s
RWWY Rawlins          2.49 216   Pn   Pn   16 14 03.6 +0.6
RWWY                             IAML      16 14 38.8
     comp=E,113nm,0.8s
N23A Red Feather La   2.87 191   Pn   Pn   16 14 09.4 +1.3
N23A                             IAML      16 14 51.0
     comp=N,85nm,0.4s
N23A                             IAML      16 14 51.1
     comp=E,66nm,0.5s
LAO  LASA Array       3.05 347   Pn   Pn   16 14 11.3 +0.8
LAO                              IAML      16 14 58.3
     comp=E,83nm,0.7s
RLMT Red Lodge        3.20 297   Pn   Pn   16 14 13.8 +1.0
RLMT                             IAML      16 15 03.2
     comp=E,43nm,0.3s
RLMT                             IAML      16 15 05.7
     comp=E,37nm,0.3s
PD31 Pinedale Array   3.29 255   Pn   Pn   16 14 14.6 +0.7
PDAR Pinedale Array   3.29 255   Pn   Pn   16 14 14.6 +0.7
     comp=E,4.9nm,0.3s,baz=77,slow=12,SNR=87
PDAR                             Lg   Lg   16 14 59.5
     comp=E,15nm,0.3s,baz=61,slow=21,SNR=3.3
PDAR Pinedale Array   3.29 255   Pn   Pn   16 14 14.4 +0.4
BW06 Boulder Array    3.29 255   Pn   Pn   16 14 14.6 +0.6
BW06                             IAML      16 15 03.8
     comp=E,57nm,0.6s
BW06                             IAML      16 15 05.5
     comp=E,48nm,0.3s
OGNE Ogallala         3.65 138   Pn   Pn   16 14 20.9 +2.1
YMP  Mirror Lake PI   3.67 288   Pn   Pn   16 14 20.0 +0.7
GCMT Greycliff        3.77 305   Pn   Pn   16 14 21.6 +1.2
LOHW Long Hollow      3.89 270   Pn   Pn   16 14 23.0 +0.9
ISCO Idaho Springs    3.92 184   Pn   Pn   16 14 23.9 +1.2
FLWY Flagg Ranch      3.96 277   Pn   Pn   16 14 23.2 +0.1
FLWY                             IAML      16 15 36.8
     comp=E,34nm,1.2s
MOOW Moose Ponds      3.98 272   Pn   Pn   16 14 25.1 +1.6
O20A White River Ci   4.22 213   Pn   Pn   16 14 27.2 +0.6
O20A                             IAML      16 15 37.0
     comp=E,29nm,0.3s
O20A                             IAML      16 15 51.3
     comp=N,26nm,1.1s
E28A Huff             4.31  47   Pn   Pn   16 14 29.9 +2.2
YHL  Hebgen Lake      4.41 287   Pn   Pn   16 14 30.2 +0.9
YHL                              IAML      16 15 48.8
     comp=N,19nm,1.5s
YHL                              IAML      16 15 49.8
     comp=E,19nm,0.8s
BOZ  Bozeman (W)      4.93 295   Pn   Pn   16 14 37.1 +0.8
BOZ                              IAML      16 15 21.4
     comp=E,14nm,4.9s
BOZ                              IAML      16 16 18.1
     comp=E,9.6nm,4.7s
HRY  Holter Researc   5.53 305   Pn   Pn   16 14 45.5 +0.9
P18A Preston Nutter   5.54 224   Pn   Pn   16 14 45.7 +0.8
P17A Butcher Ranch,   5.91 226   Pn   Pn   16 14 50.3 +0.5
SRU  San Rafael Swe   6.07 223   Pn   Pn   16 14 51.4 -0.8
TMUT Trail Mountain   6.29 227   Pn   Pn   16 14 55.7 +0.6
Q16A Castle Valley    6.55 225   Pn   Pn   16 14 58.9 +0.2
ELK  Elko             7.99 252   Pn   Pn   16 15 20.3 +1.8
     comp=E,0.1nm,0.3s,baz=79,slow=16,SNR=1.7
I10CA LAC DU BONNET   9.04  41   i         17 12 30.0
     baz=218,slow=311,SNR=0.6
ULM  Lac du Bonnet    9.15  41   Pn   Pn   16 15 33.7 -0.4
     comp=E,1.5nm,0.3s,baz=237,slow=12,SNR=7.7
ULM                              Sn   Sn   16 17 14.5 -3.2
     comp=E,0.3nm,0.3s,baz=294,slow=20,SNR=1.9
ULM                              Lg   Lg   16 18 10.3
     baz=133,slow=19
ULM  Lac du Bonnet    9.15  41   Pn   Pn   16 15 32.7 -1.4
YKA  Yellowknife Ar  19.59 347   P    P    16 17 52.4 +0.8
     comp=E,0.1nm,0.3s,baz=154,slow=11,SNR=4.9
FINES FINESS Array B  68.04  23   P    P    16 24 23.0 +1.3
     comp=E,2.5nm,0.9s,baz=328,slow=7.1,SNR=1.7
```

*KNET **02** 16:27:42.8±0.6, 42°.56N×75°.13E, h17km±4km, ml1.1, Error ellipse: s-maj=4.9km s-min=2.7km az=124.0*
*SOME **02** 16:27:43.6, 42°.60N×75°.12E, h0km*
*NNC **02** 16:27:44.8±0.6, 42°.67N×75°.11E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=8.3km s-min=2.1km az=161.0*

ISC 02 16:27:43.7±1.0, 42°.62N±0°.05×75°.11E±0°.03, h18km±6km, n27, σ0§53/53, 8C-10D, Lake Issyk-Kul region

```
Code Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op   ISC  h m s     ISC
KBK  Karagaybulak     0.12 285   ⇓P   Pg   16 27 47.8  0.0
     14nm,0.1s,SNR=39
KBK                              ⇑S   Sg   16 27 50.4 -0.1
     80nm,0.1s
AAK  Ala-Archa        0.46 272   ⇑P   Pb   16 27 53.4 +0.2
     1.3nm,0.2s,SNR=5.9
AAK                              ⇓S   Sb   16 28 00.2 +0.3
     14nm,0.3s
AAK  Ala-Archa        0.46 272   ⇑P   Pb   16 27 53.5 +0.2
     0.6nm,0.3s
AAK                              ⇑S   Sb   16 28 00.1 +0.3
     3.7nm,0.3s
CHMS Chumysh          0.46 325   ⇓P   Pb   16 27 53.7 +0.4
     4.1nm,0.1s,SNR=10
CHMS                             ⇓S   Sb   16 28 00.7 +0.9
     26nm,0.1s
TKM2 Tokmak 2         0.46  50   ⇑P   Pg   16 27 53.0 -0.2
     4.3nm,0.1s,SNR=6.8
TKM2                             ⇑S   Sg   16 27 59.3 -0.2
     18nm,0.1s
TKM2 Tokmak 2         0.46  50   ⇓P   Pg   16 27 52.9 -0.2
     1.2nm,0.2s
TKM2                             ⇓S   Sg   16 27 59.4 -0.2
     4.6nm,0.2s
UCH  Uchtor           0.59 228   ⇑P   Pg   16 27 55.2 -0.4
     1.5nm,0.2s,SNR=11
UCH                              ⇓S   Sb   16 28 02.8 -1.3
     5.7nm,0.1s
KST  Kastek           0.75  56   eP   Pg   16 27 58.5  0.0
     1.3nm,0.1s
KST                              eS   Sg   16 28 08.5  0.0
     2.7nm,0.2s
KST  Kastek           0.75  56   P    Pg   16 27 58.5  0.0
     1.3nm,0.1s
KST                              S    Sg   16 28 08.5  0.0
     2.7nm,0.2s
USP  Ospenovka        0.78 325   ⇓P   Pn   16 27 59.5 -0.4
     3.4nm,0.1s,SNR=26
USP                              ⇓S   Sn   16 28 10.7 -0.5
     4.9nm,0.1s
DGS  Degeres          0.79  38   eP   Pg   16 27 59.1 +0.1
     1.2nm,0.1s
DGS                              eS   Sg   16 28 10.0 +0.5
     2.8nm,0.1s
DGS  Degeres          0.79  38   P    Pg   16 27 59.1 +0.1
     1.2nm,0.1s
DGS                              S    Sg   16 28 10.0 +0.5
     2.8nm,0.1s
MTBS Maitube          1.09  62   eP   Pg   16 28 05.0 +0.1
     0.7nm,0.1s
MTBS                             eS   Sg   16 28 19.2  0.0
     6.6nm,0.2s
MTBS Maitube          1.09  62   P    Pg   16 28 05.0 +0.1
     0.7nm,0.1s
MTBS                             S    Sg   16 28 19.2  0.0
     6.6nm,0.2s
MRKS Merke            1.40 276   eP   Pg   16 28 11.0 +0.4
     1.1nm,0.1s
MRKS                             eS   Sg   16 28 29.8 +1.0
     5.0nm,0.2s
MRKS Merke            1.40 276   P    Pg   16 28 11.0 +0.4
     1.1nm,0.1s
MRKS                             S    Sg   16 28 29.8 +1.0
     5.0nm,0.2s
TNSS Tian-Shan        1.41  72   eP   Pg   16 28 11.3 +0.4
     0.5nm,0.2s
TNSS                             eS   Sg   16 28 30.5 +1.1
     1.3nm,0.2s
TNSS Tian-Shan        1.41  72   P    Pg   16 28 11.3 +0.4
     0.5nm,0.2s
TNSS                             S    Sg   16 28 30.5 +1.1
     1.3nm,0.2s
KUU  Kurty            1.55  35   eP   Pg   16 28 13.1 -0.5
     1.2nm,0.1s
KUU                              eS   Sg   16 28 33.9  0.0
     4.9nm,0.2s
KUU  Kurty            1.55  35   P    Pg   16 28 13.1 -0.5
     1.2nm,0.1s
KUU                              S    Sg   16 28 33.8  0.0
     4.9nm,0.2s
KTBS Karatobe         1.58  46   eP   Pg   16 28 13.5 -0.6
     1.4nm,0.2s
KTBS                             eS   Sg   16 28 34.3 -0.5
     6.5nm,0.3s
KTBS Karatobe         1.58  46   P    Pg   16 28 13.5 -0.6
     1.4nm,0.2s
KTBS                             S    Sg   16 28 34.3 -0.5
     6.5nm,0.3s
KOTS Kotyrbulak       1.59  67   eP   Pg   16 28 14.5 +0.2
     1.0nm,0.1s
KOTS                             eS   Sg   16 28 36.0 +0.9
     5.0nm,0.2s
KOTS Kotyrbulak       1.59  67   P    Pg   16 28 14.5 +0.2
     1.0nm,0.1s
KOTS                             S    Sg   16 28 36.0 +0.9
     5.0nm,0.2s
CHKK Chushkaly        1.84  47   eP   Pg   16 28 18.8 -0.2
CHKK                             eS   Sg   16 28 43.3 +0.3
     6.5nm,0.2s
CHKK Chushkaly        1.84  47   P    Pg   16 28 18.8 -0.2
CHKK                             S    Sg   16 28 43.3 +0.3
     6.5nm,0.2s
KK09 Karatay Array    3.43 280   ⇓Pg  Pg   16 28 48.5 -0.8
     0.2nm,0.3s,baz=350,slow=17
KK09                             ⇑Lg  Lg   16 29 31.3
     0.6nm,0.6s,baz=96,slow=29
```

*IDC **02** 16:28:14.1±2.3, 6°.25S×130°.34E, h107km±26km, mb3.2/1, mb1 4.0/6, mb1mx3.3/33, mbtmp4.3/6, Error ellipse: s-maj=30.8km s-min=19.5km az=108.0*
*DJA **02** 16:28:15.1±0.3, 6°.5±2°.×13°.0E±°., h156km±6km, M4.4/13, mb4.3/8, mB5.1/6, MLv4.4/13, Mw(mB)4.5/6*
*NEIC **02** 16:28:15.5±2.3, 6°.21S±0°.08×130°.46E±0°.07, h161km±8km, mb4.2/8, Error ellipse: s-maj=12.0km s-min=9.3km az=199.0*

ISC 02 16:28:13.8±0.6, 6°.14S±0°.05×130°.39E±0°.06, h150km, n43, σ2§16/48, mb4.1/3, Banda Sea

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Code Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op   ISC  h m s     ISC
BNDI Bandanaira       1.68 343   P    Pn   16 28 48.2 +2.9
SAUI Saumlaki         2.04 154   P    Pn   16 28 52.3 +2.8
SAUI                             S    Sn   16 29 20.1 +3.2
SAUI Saumlaki         2.04 154   P    Pn   16 28 50.7 +1.2
SAUI Saumlaki         2.04 154   P    Pn   16 28 52.5 +3.0
MSAI Masohi           3.13 332   P    Pn   16 29 05.8 +2.9
AAI  Ambon            3.27 318   P    Pn   16 29 06.4 +1.8
FAKI Fak Fak          3.70  30   P    Pn   16 29 11.7 +1.6
FAKI                             S    Sn   16 29 53.8 -0.1
FAKI Fak Fak          3.70  30   P    Pn   16 29 11.6 +1.4
FAKI Fak Fak          3.70  30   P    Pn   16 29 11.9 +1.8
SIJI Sorong           5.31  10   P    Pn   16 29 32.6 +1.3
     12nm,0.3s,baz=210,slow=20,SNR=140
SIJI                             S    Sn   16 30 28.8 -3.1
     10.0nm,0.3s,baz=198,slow=23,SNR=9.8
SWI  Sorong           5.31   9   P    Pn   16 29 32.8 +1.4
SWI                              S    Sn   16 30 29.8 -2.2
SANI Sanana           5.98 313   P    Pn   16 29 43.6 +3.4
     0.1nm15nm,0.6s
SANI Sanana           5.98 313   P    Pn   16 29 43.3 +3.1
LBMI Labuha           6.18 332   P    Pn   16 29 45.8 +2.9
     0.3nm972nm47nm,0.5s
MTN  Manton Dam       6.70 174        Pn   16 29 51.2 +1.3
KDU  Kakadu           6.83 163   P    Pn   16 29 52.6 +1.1
SOEI Soe              7.05 239   P    Pn   16 29 56.5 +1.9
     0.2nm865nm69nm,1.0s
SOEI Soe              7.05 239        Pn   16 29 56.6 +2.0
SOEI Soe              7.05 239   P    Pn   16 29 56.8 +2.2
BATI Baumata          7.79 238   P    Pn   16 30 04.0 -0.4
     7.1nm,0.3s,baz=62,slow=1.8,SNR=10
BATI                             S    Sn   16 31 29.8 -1.6
     4.1nm,0.3s,baz=24,slow=20,SNR=6.2
BATI Baumata          7.79 238   P    Pn   16 30 04.8 +0.4
     0.1nm22nm,0.7s
KNRA Kununurra        9.61 189        Pn   16 30 28.1 -0.5
KNRA Kununurra        9.61 189   P    Pn   16 30 28.2 -0.5
FITZ Fitzroy Crossi  12.76 201   P    Pn   16 31 08.6 -1.3
     1.1nm,0.3s,baz=33,slow=13,SNR=49
FITZ                             S    Sn   16 33 20.6 -10
     baz=165,slow=20
WB0  Warramunga Arr  14.10 164   Pn   Pn   16 31 26.6 -0.4
WRAB Tennant Creek   14.24 165        Pn   16 31 28.5 -0.4
WRA  Warramunga Arr  14.25 165   P    Pn   16 31 28.7 -0.3
     2.2nm,0.3s,baz=336,slow=14,SNR=61
WRA                              S    Sn   16 33 54.9 -12
     2.5nm,0.3s,baz=343,slow=22,SNR=11
WRA  Warramunga Arr  14.25 165   Pn   Pn   16 31 28.3 -0.6
WB2  Warramunga Arr  14.25 165   Pn   Pn   16 31 28.8 -0.2
WR0  Warramunga Arr  14.32 164        Pn   16 31 29.6 -0.2
COEN Coen            14.79 123   P    P    16 31 38.4 +0.7
AS31 Alice Springs   17.75 169        Pn   16 32 15.3 +3.5
AS31                             IAmb IAmb 16 32 20.4
     comp=Z,4.5nm,0.4s
ASAR Alice Springs   17.75 169   P    Pn   16 32 14.2 +2.4
     comp=Z,1.3nm,0.3s,baz=337,slow=9.3,SNR=76
ASAR                             S    S    16 35 21.0 -6.2
     comp=Z,0.3nm,0.3s,baz=0.7,slow=28,SNR=3.8
ASAR Alice Springs   17.75 169   P    Pn   16 32 11.8  0.0
PSA00 Pilbara Seismi 18.43 213   P    P    16 32 16.4 -1.4
PSA00                            IAmb IAmb 16 32 25.4
     comp=Z,9.7nm,0.9s
GIRL Giralia         22.63 222   P    P    16 33 04.2 +2.0
MORW Morawa          26.53 209   P    P    16 33 36.3 -1.3
MORW                             IAmb IAmb 16 33 43.6
     comp=Z,5.2nm,1.0s
BBOO Buckleboo       27.06 169   P    P    16 33 39.7 -2.6
CAN  Canberra        33.72 152   P    P    16 34 39.4 -1.5
CAN                              IAmb IAmb 16 34 45.5
     comp=Z,8.7nm,1.1s
MKAR Makanchi Array  67.72 326   P    P    16 39 00.5 +5.4
     comp=Z,0.2nm,0.3s,baz=112,slow=7.9,SNR=9.2
MKAR Makanchi Array  67.72 326   P    P    16 38 58.3 +3.2
VNDA Vanda           73.25 173   P    P    16 39 27.4 -0.7
QSPA South Pole Qui  83.83 180   P    P    16 40 26.6 +0.3
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*NOU **02** 16:35:01.2, 40°.91S×176°.18E, h32km, MLv3.8/7, North Island, New Zealand*
*WEL **02** 16:35:02.0±0.2, 41°.5±1°.×17°.6E±°., h5km, M3.6/24, ML3.9/24, MLv3.6/24, Error ellipse: s-maj=0.0km s-min=0.0km az=123.4*

ISC 02 16:35:01.9±0.9, 40°.72S±0°.02×175°.81E±0°.02, h18km±2km, n124, σ1§27/154, North Island

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Code Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op   ISC  h m s     ISC
TIWZ Tintock          0.08 134   P    Pg   16 35 05.4 -0.1
TIWZ                             S    Sg   16 35 08.6 +0.6
MRZ  Mangatainoka R   0.18 288   P    Pg   16 35 05.2 -1.4
MRZ                              S    Sg   16 35 07.8 -2.0
PRWZ Pori Road        0.21  38   P    Pb   16 35 06.2 -0.6
PRWZ                             S    Sb   16 35 09.9 -0.1
HOWZ Holdsworth Sta   0.28 231   P    Pg   16 35 08.0 -0.2
HOWZ                             S    Sg   16 35 12.8 +0.2
POWZ Post Office Ro   0.33 355   P    Pg   16 35 07.6 -1.3
BFZ  Birch Farm       0.34  84   P    Pg   16 35 09.5 +0.4
BFZ  Birch Farm       0.34  84   P    Pg   16 35 09.5 +0.4
CPWZ Castlepoint      0.36 123   P    Pg   16 35 11.2 +1.8
CPWZ                             S    Sg   16 35 19.2 +4.7
TMWZ Te Maipa         0.39 171   P    Pn   16 35 11.4 -1.3
TMWZ                             S    Sn   16 35 19.0 -0.8
OGWZ Otaki Gorge      0.49 258   P    Pb   16 35 11.2 -0.8
OGWZ                             S    Sb   16 35 17.7 -1.2
MTW  Mount Morrison   0.50 208   P    Pb   16 35 12.5 +0.4
MTW                              S    Sb   16 35 20.1 +1.1
DVHZ Dannevirke       0.50  33   P    Pg   16 35 11.0 -1.0
DVHZ                             S    Sg   16 35 17.8 -1.0
ANWZ Angora Road      0.57  63   P    Pn   16 35 13.7 -1.4
ANWZ                             S    Sn   16 35 23.4 -0.6
OHWZ Ohakea           0.63 324   P    Pb   16 35 13.8 -0.6
TSZ  Takapari Road    0.67  10   P    Pb   16 35 13.7 -1.3
TSZ                              S    Sb   16 35 22.3 -1.6
CAW  Cannon Point     0.68 235   P    Pb   16 35 15.0 -0.2
TRWZ Traveller        0.69 187   P    Pn   16 35 17.0 +0.3
TRWZ                             S    Sn   16 35 28.5 +1.6
KIW  Kapiti Island    0.69 258   P    Pb   16 35 14.9 -0.5
KIW                              S    Sb   16 35 24.1 -0.6
PAWZ Paruwai Farm     0.72 203   P    Pn   16 35 16.8 -0.4
PAWZ                             S    Sn   16 35 29.3 +1.4
PRHZ Porangahau       0.78  55   P    Pn   16 35 17.6 -0.3
PRHZ                             S    Sn   16 35 31.1 +1.9
WPHZ Waipukurau       0.81  37   P    Pg   16 35 17.5 -0.3
WPHZ                             S    Sn   16 35 29.4 -0.7
MSWZ Moikau Station   0.81 211   P    Pn   16 35 18.1 -0.3
MSWZ                             S    Sn   16 35 30.8 +0.7
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PNHZ	Pukenui	0.86	21	P	Pb	16 35 17.4	-0.8
PNHZ				S	Sb	16 35 29.2	-0.2
PLWZ	Palliser	0.95	206	P	Pg	16 35 20.1	-0.2
PLWZ				S	Sn	16 35 33.4	0.0
WEL	Wellington	0.97	234	P	Pb	16 35 20.0	-0.1
WEL				S	Sb	16 35 33.1	+0.5
BHW	Baring Head	0.99	225	P	Pb	16 35 20.4	-0.1
BHW				S	Sb	16 35 33.6	+0.5
SNZO	South Karori	1.02	234	P	Pb	16 35 20.9	-0.1
PXZ	Pawanui	1.06	50	P	Pg	16 35 21.6	-0.8
PXZ				S	Sg	16 35 38.2	+1.9
WAZ	Wanganui	1.15	327	P	Pn	16 35 23.3	+0.3
WAZ				S	Sb	16 35 38.7	+0.9
KRHZ	Kereru	1.16	22	P	Pn	16 35 22.9	-0.3
KRHZ				S	Sn	16 35 39.2	+0.6
KAHZ	Kahuranaki	1.23	42	P	Pb	16 35 24.3	-0.4
KAHZ				S	Sg	16 35 42.6	+0.7
BHHZ	Black Hill Sta	1.24	9	P	Pn	16 35 23.9	-0.5
TCW	Tory Channel	1.26	246	P	Pn	16 35 24.8	+0.2
TCW				S	Sn	16 35 40.7	-0.3
MOVZ	Moawhango	1.31	358	P	Pn	16 35 25.0	-0.3
MOVZ				S	Sn	16 35 41.1	-1.3
MTVZ	Mangateitei	1.36	349	P	Pn	16 35 26.4	+0.5
KWHZ	Kaweka Forest	1.38	20	P	Pn	16 35 26.3	+0.1
KWHZ				S	Sb	16 35 45.4	+1.1
WNVZ	Wahianoa	1.40	353	P	Pn	16 35 26.8	+0.2
TRVZ	Turoa	1.43	352	P	Pn	16 35 27.5	+0.4
DUWZ	D'Urville Isla	1.43	266	P	Pn	16 35 27.7	+0.7
DUWZ				S	Sn	16 35 46.6	+1.2
CKHZ	Cape Kidnapper	1.44	43	P	Pn	16 35 26.8	-0.2
MCHZ	McNeill Hill	1.44	29	P	Pn	16 35 27.1	0.0
WHVZ	Whangaehu Hut	1.44	353	P	Pn	16 35 27.7	+0.4
DRZ	Dome Shelter	1.45	353	P	Pn	16 35 28.4	+0.9
TUVZ	Tukino	1.45	355	P	Pn	16 35 27.9	+0.6
PKVZ	Pokaka	1.47	346	P	Pn	16 35 28.2	+0.7
PKVZ				S	Sn	16 35 46.5	+0.2
FWVZ	Far West T-bar	1.47	352	P	Pn	16 35 28.3	+0.6
SNVZ	South Ngauruho	1.54	355	P	Pn	16 35 29.3	+0.8
NGZ	Ngauruhoe	1.55	354	P	Pn	16 35 29.7	+1.0
OTVZ	Oturere	1.56	356	P	Pn	16 35 29.4	+0.6
TUWZ	Tuamarina	1.58	243	P	Pn	16 35 28.7	-0.2
CMWZ	Cape Campbell	1.58	229	P	Pb	16 35 31.4	+0.8
ETVZ	East Tongariro	1.58	357	P	Pn	16 35 29.9	+0.8
NNVZ	North Ngauruho	1.59	355	P	Pn	16 35 30.2	+0.9
TMVZ	Te Maari	1.60	357	P	Pn	16 35 30.1	+0.7
WTVZ	West Tongariro	1.61	354	P	Pn	16 35 30.4	+0.9
NTVZ	North Tongarir	1.62	356	P	Pn	16 35 30.5	+0.8
KRVZ	Karewarewa	1.63	355	P	Pn	16 35 30.6	+0.9
BKZ	Black Stump Fm	1.64	19	P	Pn	16 35 29.6	-0.2
BKZ	Black Stump Fm	1.64	19	P	Pn	16 35 29.8	0.0
LREZ	Lake Rotokare	1.65	319	P	Pn	16 35 32.0	+2.0
TWVZ	Taurewa	1.67	350	P	Pn	16 35 31.3	+1.0
ARHZ	Aropaoanui	1.72	33	P	Pn	16 35 30.8	-0.1
RITZ	Rihia Road	1.74	1	P	Pn	16 35 32.2	+1.0
KATZ	Kakaramea	1.74	357	P	Pn	16 35 32.6	+1.3
BSWZ	Blackbirch Sta	1.76	235	P	Pn	16 35 31.4	-0.1
VRZ	Vera Road	1.78	333	P	Pn	16 35 32.9	+1.2
NMHZ	Naumai	1.79	26	P	Pn	16 35 32.0	+0.1
HATZ	Hinemaiaia	1.84	7	P	Pn	16 35 32.9	+0.4
RATZ	Rangitukua	1.85	359	P	Pn	16 35 33.4	+0.7
PREZ	Palmer Road	1.87	317	P	Pn	16 35 35.7	+2.7
NNZ	Nelson	1.90	254	P	Pn	16 35 33.9	+0.5
MRHZ	Matea Rd	1.94	14	P	Pn	16 35 33.8	-0.1
NEZ	North Egmont	1.95	317	P	Pn	16 35 36.4	+2.2
DREZ	Durham Road	1.96	321	P	Pn	16 35 36.8	+2.6
NMEZ	Namu Road	1.97	311	P	Pn	16 35 37.1	+2.7
KHEZ	Kahui Hut	1.98	315	P	Pn	16 35 37.2	+2.7
MHEZ	Mangahewa	2.00	325	P	Pb	16 35 37.6	-0.1
WATZ	Wairara	2.01	358	P	Pn	16 35 35.3	+0.4
MTHZ	Maungataniwha	2.03	24	P	Pn	16 35 35.0	-0.2
RAHZ	Arahi	2.05	29	P	Pn	16 35 35.0	-0.5
WHTZ	Whakaora	2.05	3	P	Pn	16 35 36.2	+0.6
PKE	Pukeiti	2.07	317	P	Pn	16 35 38.6	+2.9
NBEZ	Newall Road No	2.08	314	P	Pb	16 35 39.3	+0.2
ALRZ	Allen Road	2.19	11	P	Pn	16 35 37.5	+0.1
WPRZ	Whakapapatarin	2.21	7	P	Pn	16 35 37.5	-0.2
KNZ	Kokohu	2.22	41	P	Pn	16 35 36.8	-1.0
KUTZ	Kaahu Road	2.23	0	P	Pn	16 35 38.8	+0.9
PRRZ	Plateau Road	2.26	12	P	Pb	16 35 42.6	+0.4
SNGZ	Shannon Statio	2.27	32	P	Pn	16 35 37.6	-0.9
RTZ	Ruatahuna	2.29	24	P	Pn	16 35 38.3	-0.5
HIZ	Hauiti	2.32	341	P	Pn	16 35 40.3	+1.1
HIZ	Hauiti	2.32	341	P	Pn	16 35 41.8	+2.6
HRRZ	Handcock Road	2.35	9	P	Pb	16 35 45.2	+1.4
GRRZ	Galatos Road	2.38	6	P	Pg	16 35 46.8	-0.7
TLZ	Tolley Road	2.40	353	P	Pn	16 35 41.4	+1.2
KHZ	Kahutara	2.40	224	P	Pn	16 35 39.0	-1.3
KHZ	Kahutara	2.40	224	P	Pn	16 35 40.3	0.0
PRGZ	Paritu Road	2.40	42	P	Pn	16 35 39.2	-1.1
THZ	Tophouse	2.42	244	P	Pn	16 35 40.3	-0.3
HSRZ	Hossack Road	2.43	8	P	Pb	16 35 45.4	+0.4
RRRZ	Republican Roa	2.44	13	P	Pb	16 35 46.7	+1.5
QRZ	Quartz Range	2.49	266	P	Pn	16 35 43.4	+1.9
QRZ	Quartz Range	2.49	266	P	Pn	16 35 43.0	+1.5
RIGZ	Rimuhau	2.51	38	P	Pn	16 35 40.8	-1.1
TARZ	Mount Tarawera	2.54	13	P	Pn	16 35 41.9	-0.3
URZ	Urewera	2.66	23	P	Pn	16 35 42.1	-1.6
URZ	Urewera	2.66	23	P	Pn	16 35 42.3	-1.4
MWZ	Matawai	2.73	30	P	Pn	16 35 43.1	-1.7
TOZ	Tahuroa Road	2.99	355	P	Pn	16 35 48.8	+0.4
TWGZ	Tauwhareparae	3.04	34	P	Pn	16 35 48.2	-1.0
GVZ	Greta Valley S	3.06	222	P	Pn	16 35 49.0	-0.3
PUZ	Puketiti	3.25	36	P	Pn	16 35 49.8	-2.2
HAZ	Te Kaha	3.33	26	P	Pn	16 35 52.1	-0.9
LTZ	Lake Taylor	3.35	231	P	Pn	16 35 52.6	-0.8
OKCZ	Okains Bay	3.63	213	P	Pn	16 35 55.7	-1.5
AWAZ	Awhitu Peninsu	3.76	346	P	Pn	16 36 02.1	+3.2
MQZ	McQueen's Vall	3.79	217	P	Pn	16 35 58.5	-0.8
AKCZ	Akaroa Harbour	3.81	213	P	Pn	16 35 58.3	-1.3
ETAZ	East Tamaki Re	3.82	349	P	Pn	16 36 01.1	+1.3
OXZ	Oxford	3.83	226	P	Pb	16 36 04.8	-4.0
INZ	Inchbonnie	3.83	237	P	Pb	16 36 05.9	-3.0
WTAZ	Waiatarua	3.90	345	P	Pn	16 36 02.7	+1.8
RVAZ	Riverhead Bore	4.06	346	P	Pn	16 36 04.4	+1.4
JCZ	Jackson Bay	6.18	235	P	Pn	16 36 36.4	+4.1

*TAP **02** 16:49:45.6,24.33N×122.95E,h44km,ML2.5,D*
*JMA **02** 16:49:45.7±0.1,24.26N×122.96E,h44km±2km,M2.1*
ISC 02 16:49:46.2±1.2,24.30N±0.04×122.97E±0.02,h42km±7km, n57,σ1§29/103,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.15	352	P	Pn	16 49 53.1	-0.3
JYNG				S	Sn	16 49 58.5	+0.1
YOJ	Yonaguni jima	0.17	13	P	Pn	16 49 53.4	-0.1
YOJ				S	Sn	16 49 58.7	+0.2
YOJ	Yonaguni jima baz=18	0.17	13	P	Pn	16 49 53.4	-0.1
YOJ	baz=18			eS	Sn	16 49 58.8	+0.2
IRIF	Iriomote-Funau	0.69	87	P	Pn	16 49 59.3	-0.3
IRIF				S	Sn	16 50 09.2	0.0
HATJ	Hateruma jima	0.80	107	eS	Sn	16 50 11.6	-0.2
JKRS	Kuro-shima	0.95	93	P	Pn	16 50 03.2	+0.1
JKRS				S	Sn	16 50 16.0	+0.5
TWC	Suao baz=295	1.07	287	eS	Sn	16 50 16.4	-2.0
JIJ	Ishigaki jima	1.07	86	P	Pn	16 50 04.4	-0.4
JIJ				S	Sn	16 50 17.6	-0.9
EWUT	Wuta baz=287	1.10	278	eP	Pn	16 50 04.7	-0.3
EWUT	baz=287			eS	Sn	16 50 17.0	-2.0
TWB1	Santiao Chiao baz=317	1.14	309	eS	Sn	16 50 18.2	-1.9
NDS	Dongshan baz=294	1.19	287	eP	Pn	16 50 06.1	-0.3
NDS	baz=294			eS	Sn	16 50 19.9	-1.5
TIPB	Shuangxi baz=312	1.24	303	eP	Pn	16 50 06.4	-0.7
TIPB	baz=312			eS	Sn	16 50 20.7	-1.9
TWE	Neicheng baz=289	1.26	290	P	Pn	16 50 06.8	-0.5
TWE	baz=289			S	Sn	16 50 22.1	-0.9
NACB	Ninganchiao baz=249	1.26	265	eP	Pn	16 50 07.1	-0.2
NACB	baz=249			eS	Sn	16 50 23.0	-0.1
ENTT	Nioudou baz=291	1.32	285	eP	Pn	16 50 09.4	+1.2
ENTT	baz=291			eS	Sn	16 50 24.0	-0.6
NWF	Wu-fen Shan baz=305	1.33	306	eP	Pn	16 50 08.2	-0.1
NWF	baz=305			eS	Sn	16 50 23.5	-1.4
WFSB	Wu-fen Shan baz=305	1.33	306	eP	Pn	16 50 07.8	-0.4
WFSB	baz=305			eS	Sn	16 50 23.2	-1.5
ETLH	Xiulin Townshi baz=265	1.36	266	eP	Pn	16 50 08.7	-0.1
ETLH	baz=265			eS	Sn	16 50 25.2	-0.5
NWLT	Wulai baz=289	1.42	290	eP	Pn	16 50 10.1	+0.5
NWLT	baz=289			eS	Sn	16 50 25.2	-1.8
NNSB	Datong baz=274	1.45	275	eS	Sn	16 50 28.7	+0.7
NNS	Nan Shan baz=275	1.46	276	eS	Sn	16 50 28.7	+0.5
ESL	Shilin baz=250	1.48	251	eP	Pn	16 50 09.3	-1.1
ESL	baz=250			eS	Sn	16 50 26.4	-2.2
YHNB	Yeheng baz=293	1.50	285	eP	Pn	16 50 12.6	+1.9
YHNB	baz=293			eS	Sn	16 50 29.3	+0.3
NSK	Sanguang baz=293	1.52	285	eP	Pn	16 50 12.6	+1.6
NSK	baz=293			eS	Sn	16 50 29.4	-0.1
EGFH	Guangfu baz=245	1.54	246	eP	Pn	16 50 10.5	-0.7
EGFH	baz=245			eS	Sn	16 50 28.8	-1.2
WHF	Hehuan Shan baz=251	1.56	265	eP	Pn	16 50 11.9	0.0
WHF	baz=251			eS	Sn	16 50 30.7	-0.5
FUSS	Fushou baz=267	1.57	269	eP	Pn	16 50 12.7	+0.8
FUSS	baz=267			eS	Sn	16 50 31.0	-0.2
JTJ	Tarama	1.62	77	P	Pn	16 50 12.4	+0.2
JTJ				S	Sn	16 50 31.9	+0.1
HGSD	Ruisui baz=239	1.63	241	eP	Pn	16 50 11.0	-1.3
HGSD	baz=239			eS	Sn	16 50 29.0	-3.1
CHGB	Renai baz=249	1.66	262	eP	Pn	16 50 12.9	-0.1
CHGB	baz=249			eS	Sn	16 50 33.2	0.0
OWD	Renai baz=257	1.67	259	eP	Pn	16 50 13.3	+0.2
OWD	baz=257			eS	Sn	16 50 32.6	-0.9
EHY	Hungye baz=253	1.70	243	eP	Pn	16 50 12.4	-1.0
EHY	baz=253			eS	Sn	16 50 31.1	-2.8
VWDT	VWDT baz=251	1.76	252	eP	Pn	16 50 14.4	+0.3
VWDT	baz=251			eS	Sn	16 50 34.5	-0.8
YULB	Yu-li baz=252	1.78	240	P	Pn	16 50 13.5	-1.0
YULB	baz=252			S	Sn	16 50 34.1	-1.7
EYUL	Yuli baz=237	1.78	238	P	Pn	16 50 13.5	-1.0
EYUL	baz=237			eS	Sn	16 50 35.3	-0.7
WHP	Taichung City baz=258	1.85	270	eP	Pn	16 50 17.0	+1.6
WHP	baz=258			eS	Sn	16 50 38.2	+0.6
FULB	Fuli baz=222	1.89	235	eP	Pn	16 50 14.3	-1.6
FULB	baz=222			eS	Sn	16 50 36.4	-2.2
WCS	Beigang Elemen baz=254	1.89	263	eP	Pn	16 50 16.9	+0.9
SSLB	Suanglung baz=254	1.91	255	eP	Pn	16 50 17.1	+0.8
SSLB	baz=254			eS	Sn	16 50 39.5	+0.3
SMLT	Sun Moon Lake baz=247	1.94	258	eP	Pn	16 50 18.1	+1.4
SMLT	baz=247			eS	Sn	16 50 39.6	-0.2
EDH	Donghe baz=220	2.02	230	eS	Sn	16 50 38.2	-3.6
ELDTW	Lidau baz=238	2.10	239	eP	Pn	16 50 17.9	-1.1
WJS	Zhushan baz=256	2.10	257	eS	Sn	16 50 46.8	+3.0
ALS	Alishan baz=247	2.13	249	eP	Pn	16 50 21.0	+1.5
ALS	baz=247			eS	Sn	16 50 44.6	-0.3
WNT	Mingjian baz=249	2.13	259	eP	Pn	16 50 20.7	+1.4
WNT	baz=249			eS	Sn	16 50 46.9	+2.4
CHN5	Tsauling baz=242	2.21	252	eP	Pn	16 50 21.9	+1.4
CHN5	baz=242			eS	Sn	16 50 47.3	+0.7
TWGBT	Beinan baz=240	2.27	230	eP	Pn	16 50 20.2	-1.1
TWGBT	baz=240			eS	Sn	16 50 45.8	-2.3
STYH	Taoyuan baz=232	2.30	241	eP	Pn	16 50 22.3	+0.6
STYH	baz=232			eS	Sn	16 50 48.6	-0.2
TPUB	Ta-pu baz=244	2.36	246	eP	Pn	16 50 23.5	+1.0
TPUB	baz=244			S	Sn	16 50 51.6	+1.3
WTP	Ta-pu baz=243	2.40	245	eP	Pn	16 50 24.4	+1.3
WTP	baz=243			eS	Sn	16 50 52.4	+1.2
WTK	Tuku baz=245	2.44	256	eS	Sn	16 50 53.9	+1.9
SLGT	Liugui baz=230	2.49	239	eP	Pn	16 50 25.6	+1.3
SLGT	baz=230			eS	Sn	16 50 55.5	+1.9
TWK	Hsinying baz=245	2.49	246	eP	Pn	16 50 26.1	+1.8
TWK	baz=245			eS	Sn	16 50 55.0	+1.4
CHN1	Nanshi baz=243	2.50	244	eP	Pn	16 50 25.5	+1.2
CHN1	baz=243			eS	Sn	16 50 55.5	+1.9
SGST	Jiashian baz=240	2.50	242	eS	Sn	16 50 54.7	+1.0
SSD	Sandimen baz=229	2.64	235	eP	Pn	16 50 27.7	+1.3
SSD	baz=229			eS	Sn	16 50 59.0	+1.8
MASBT	Mashibuluo baz=223	2.72	232	eP	Pn	16 50 27.4	-0.1
MASBT	baz=223			eS	Sn	16 51 01.3	+2.1

*NEIC **02** 17:17:38.6±1.7,15.74N±0.07×93.75W±0.05,h90km±7km, mb4.4/3,Md4.0/16(MEX),Error ellipse: s-maj=10.3km s-min=6.1km az=207.0*
*MEX **02** 17:17:40.1±0.9,15.77N×93.74W,h89km±8km,MD4.0*
ISC 02 17:17:38.4±0.9,15.76N±0.06×93.72W±0.05,h91km±10km, n36,σ1§02/47,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.48	97		Pn	17 17 53.1	0.0
PCIG				i P	Pn	17 17 53.1	0.0
PCIG				eS	Sn	17 18 04.0	0.0
TGIG		1.16	29		Pn	17 18 00.6	+0.6
TGIG					Sn	17 18 16.2	-0.2
TGIG		1.16	29	eP	Pn	17 18 00.6	+0.6
TGIG				i S	Sn	17 18 16.2	-0.2
PATR	El Naranjo	1.57	114	eP	Pn	17 18 05.4	+0.2
PATR				eS	Sn	17 18 25.7	+0.1
PAVE	Pavencul	1.59	111	eP	Pn	17 18 06.3	+0.8
PAVE				eS	Sn	17 18 27.7	+1.6
CCIG	Comitan	1.61	71		Pn	17 18 06.3	+0.6
CCIG					Sn	17 18 26.1	-0.2
CCIG	Comitan	1.61	71	eP	Pn	17 18 06.3	+0.6
CCIG				eS	Sn	17 18 26.1	-0.2
THIG		1.64	121		Sn	17 18 27.3	+0.5
THIG		1.64	121	i S	Sn	17 18 27.3	+0.5
CHUJ	Union Juarez	1.69	113	eP	Pn	17 18 07.1	+0.3
CHUJ				eS	Sn	17 18 29.4	+1.1
CMIG	Matias Romero	1.73	320		Pn	17 18 07.8	+0.7
CMIG					Sn	17 18 29.8	+0.8
CMIG	Matias Romero	1.73	320	eP	Pn	17 18 07.8	+0.7
CMIG				i S	Sn	17 18 29.8	+0.8
HUEH	Huehuetenango	2.18	101		Pn	17 18 13.7	+0.5
HUIG	Huatulco	2.30	271		Pn	17 18 13.2	-1.4
HUIG	Huatulco	2.30	271	eP	Pn	17 18 13.2	-1.4
RTAL	Retalhuleu	2.31	122	Pn	Pn	17 18 16.1	+1.4
PETF	Flores	3.87	72		Pn	17 18 36.5	+0.8
ESQI	Esquipulas	4.39	105	Pn	Pn	17 18 43.6	+0.8
MTO3	Montecristo	4.42	107		Pn	17 18 43.5	+0.1
TLIG	Tlapa	4.98	292	Pn	Pn	17 18 50.8	-0.1
UNM	Universidad Na	6.30	305	Pn	Pn	17 19 08.3	-0.7
TGUH	Tegucigalpa,Un	6.46	104	Pn	Pn	17 19 09.2	-1.7
CNGN	Cerro Negro	7.54	115	Pn	Pn	17 19 23.1	-2.6
HZTE	Horizontes, Gu	9.36	121	Pn	Pn	17 19 52.7	+2.2
ORTG	Ortega, Santa	9.67	123		Pn	17 19 55.5	+0.8
JTS	Las Juntas de	10.12	121	Pn	Pn	17 20 01.2	+0.3
RIMA	Rio Macho	11.30	121		Pn	17 20 17.8	+0.7
PEZE	Perez Zeledon,	11.67	122	Pn	Pn	17 20 23.2	+1.2
SRBA	San Rafael, Bu	12.01	121	Pn	Pn	17 20 26.5	-0.1
PRVC	Isla de Provid	12.19	100	Pn	Pn	17 20 28.4	-0.4
SOR	Soroa	12.29	54	Pn	Pn	17 20 27.5	-2.6
LCCY	Blossom Villag	13.56	71	Pn	Pn	17 20 48.2	+1.2
833A	Chaparral WMA,	13.56	338	Pn	Pn	17 20 48.3	+1.4
250A	Grady	17.51	21	P	Pn	17 21 37.2	+0.5
250A				IAmb	IAmb	17 21 55.1	
	comp=Z,42nm,1.6s						
LGNH	Logne	20.36	79	P	P	17 22 07.4	-0.3
LGNH				IAmb	IAmb	17 22 09.3	
	comp=Z,85nm,1.2s						

IDC 02 17:42:49.8±4.7,0.53N×129.97E,h0km,mb2.9/3, mb1 3.1/3,mb1mx2.6/40,mbtmp2.9/3,Error ellipse: s-maj=366.6km s-min=30.7km az=70.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.79	168	P	P	17 47 32.7	-0.1
	0.3nm,0.8s,baz=349,slow=11,SNR=1.6						
ASAR	Alice Springs	24.36	171	P	P	17 48 09.8	+0.1
	0.1nm,0.4s,baz=351,slow=10,SNR=1.2						
MKAR	Makanchi Array	62.01	325	P	P	17 53 11.9	-0.1
	0.2nm,0.6s,baz=107,slow=4.8,SNR=2.3						

*IDC **02** 18:38:17.5±5.5,57.70S×25.62W,h81km±48km,mb3.9/7, mb1 3.9/8,mb1mx3.7/26,mbtmp4.2/8,ML4.2/1,MS3.4/2, Ms1 3.3/2,ms1mx2.7/40,Error ellipse: s-maj=31.2km s-min=17.1km az=81.0*
*NEIC **02** 18:38:18.0±1.9,57.78S±0.09×25.9W±0.2,h88km±6km, mb4.5/14,Error ellipse: s-maj=19.3km s-min=4.7km az=50.0*
ISC 02 18:38:19.1±0.5,57.81S±0.09×25.9W±0.1,h100km,n45, σ1§28/36,mb4.3/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.88	296	Pn	Pn	18 39 57.6	+0.3
VNA1	Neumayer--Stat	14.90	157	P	Pn	18 41 41.6	-2.5
VNA3	Neumayer Olymp	15.10	160	P	Pn	18 41 44.4	-2.3
VNA2	Neumayer--Watz	15.30	157	P	Pn	18 41 46.6	-2.6
	baz=317,slow=13						
SNAA	Sanae	16.85	155	P	Pn	18 42 07.5	-1.0
SNAA	Sanae	16.85	155	P	Pn	18 42 08.2	-0.3
	0.9nm,0.3s,baz=311,slow=11,SNR=8.7						
SNAA				S	Sn	18 45 00.9	-14
	0.1nm,0.3s,baz=358,slow=18,SNR=2.0						
SNAA	Sanae	16.85	155	P	Pn	18 42 07.2	-1.3
USHA	Ushuaia	23.47	259	LR	LR	18 49 54.3	
	comp=Z,67nm,19.1s,baz=162,slow=30						
MG05	Puerto Natales	27.12	263	P	P	18 43 51.5	-0.7
PLTB	Pedras Altas	32.19	312		P	18 44 36.8	-0.5
QSPA	South Pole Qui	32.44	180	P	P	18 44 40.3	+0.9
	1.7nm,0.5s,baz=209,slow=19,SNR=33						
QSPA				PcP	PcP	18 47 24.6	+0.7
	0.7nm,0.6s,baz=269,slow=3.3,SNR=2.2						
QSPA	South Pole Qui	32.44	180	P	P	18 44 40.3	+0.9
CPUP	Villa Florida	38.49	311	P	P	18 45 29.6	-1.6
MT02	Curacav	39.01	289	P	P	18 45 33.8	-1.8
MT02				IAmb	IAmb	18 46 12.4	
	comp=Z,11nm,1.4s						
VNDA	Vanda	44.84	182	P	P	18 46 24.3	+1.8
	comp=Z,1.9nm,0.6s,baz=184,slow=6.8,SNR=16						
VNDA	Vanda	44.84	182	IAmb	IAmb	18 46 25.4	
	comp=Z,12nm,1.6s						
BDFB	Brasilia	45.23	329	P	P	18 46 27.4	+1.0
	comp=Z,1.4nm,0.5s,baz=119,slow=9.9,SNR=3.4						
BDFB	Brasilia	45.23	329	IAmb	IAmb	18 46 43.3	
	comp=Z,12nm,1.4s						
BOSA	Boshof	45.78	73	LR	LR	19 01 32.9	
	comp=Z,48nm,18.8s,baz=185,slow=31						
BOSA	Boshof	45.78	73	P	P	18 46 29.1	-1.5
BOSA				IAmb	IAmb	18 46 45.8	
	comp=Z,6.3nm,1.2s						
H10S2	ASCENSION HYDR	49.51	15	T	T	19 40 40.1	
	baz=32,slow=74,SNR=10						
H10S3	ASCENSION HYDR	49.51	15	T	T	19 40 40.1	
	baz=188,slow=74,SNR=14						
H10N1	ASCENSION HYDR	50.63	15	T	T	19 42 01.4	
	baz=182,slow=72,SNR=9.4						
H10N3	ASCENSION HYDR	50.63	15	T	T	19 42 05.0	
	baz=182,slow=72,SNR=27						
H10N2	ASCENSION HYDR	50.64	15	T	T	19 42 07.3	
	baz=182,slow=72,SNR=12						
LPAZ	La Paz	51.95	305	P	P	18 47 18.4	0.0
	comp=Z,1.2nm,0.6s,baz=194,slow=10,SNR=6.9						
LPAZ	La Paz	51.95	305	IAmb	IAmb	18 47 21.5	
	comp=Z,1.1nm,0.8s						
BOAV	Boa Vista	66.09	322	P	P	18 48 54.2	-1.1
BOAV				IAmb	IAmb	18 49 01.2	
	comp=Z,12nm,1.5s						
DBIC	Dimbokro	66.50	23	P	P	18 48 57.7	-0.1
	comp=Z,1.0nm,0.4s,baz=206,slow=7.3,SNR=5.3						
DBIC	Dimbokro	66.50	23	IAmb	IAmb	18 49 01.6	
	comp=Z,5.2nm,1.2s						
TORD	Torodi Ar. Bea	74.27	28	P	P	18 49 44.4	-0.7
	comp=Z,2.2nm,0.5s,baz=200,slow=6.3,SNR=39						
TORD				pP	PcP	18 50 02.8	+3.4
	comp=Z,4.4nm,0.7s,baz=198,slow=6.3,SNR=14						
TORD	Torodi Ar. Bea	74.27	28	P	P	18 49 45.5	+0.4
TORD				IAmb	IAmb	18 50 03.4	
	comp=Z,3.8nm,0.8s						
HIZ	Hauiti	82.46	196	P	P	18 50 30.6	+0.5
ASAR	Alice Springs	97.10	161	P	P	18 51 40.0	+0.1
	comp=Z,0.5nm,0.6s,baz=185,slow=4.2,SNR=16						
ASAR				pP	pP	18 51 57.5	-7.8
	comp=Z,0.4nm,0.8s,baz=181,slow=3.7,SNR=2.7						
WRA	Warramunga Arr	100.82	161	P	Pdif	18 51 56.5	0.0
	comp=Z,0.4nm,0.7s,baz=155,slow=5.0,SNR=2.1						
PDAR	Pinedale Array	121.85	301	PKP	PKiKP	18 57

ZALV	**Zalesovo Beam**	**142.50**	**65**	PKP	**PKPdf**	**18 57 38.7**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=232,slow=1.9,SNR=2.1						
SONM	**Songino Array**	**150.12**	**89**	PKPbc	**PKPbc**	**18 57 57.3**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=221,slow=3.7,SNR=26						
ILAR	**Eielson Array**	**151.78**	**309**	PKPbc	**PKiKP**	**18 58 01.2**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=135,slow=3.8,SNR=23						

*IDC **02** 18:38:56.9±0.6, 12°.51N×143°.77E, h0km, mb4.0/14, mb1 4.2/14, mb1mx3.9/48, mbtmp4.0/14, MS3.1/6, Ms1 3.2/6, ms1mx2.7/78, Error ellipse: s-maj=20.9km s-min=14.7km az=110.0*

*NEIC **02** 18:38:58.4±0.8, 12°.51N±0°.06×143°.7E±0°.1, h7km±4km, mb4.5/19, Error ellipse: s-maj=16.5km s-min=8.0km az=105.0*

ISC 02 18:39:00.8±0.5, 12°.47N±0°.08×143°.81E±0°.09, h27km, n49, σ0°.73/40, mb4.3/21, MS3.1/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.52**	**43**	Pn	**Pn**	**18 39 26.3**	**+0.1**
	114nm,0.3s,baz=203,slow=7.7,SNR=33						
GUMO				Sn	**Sn**	**18 39 45.5**	**+0.4**
	115nm,0.3s,baz=253,slow=19,SNR=9.6						
GUMO				LR	LR	18 40 11.4	
	comp=Z,658nm,18.9s,baz=246,slow=49						
GUMO	**Guam**	**1.52**	**43**		**Pn**	**18 39 26.2**	**0.0**
GUMO				Sn	**Sn**	**18 39 45.2**	**0.0**
PATS	**Pohnpei**	**15.35**	**110**	Pn	**Pn**	**18 42 33.4**	**-2.4**
SIJI	**Sorong**	**18.18**	**224**	LR	LR	18 49 17.8	
	comp=Z,59nm,21.0s,baz=39,slow=34						
DAV	**Davao City (W)**	**18.74**	**255**	LR	LR	18 49 18.4	
	comp=Z,60nm,21.9s,baz=164,slow=33						
H11S3	**WAKE ISLAND Hy**	**22.84**	**72**	T	T	19 07 45.1	
	baz=258,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**22.85**	**72**	T	T	19 07 46.8	
	baz=258,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**22.86**	**72**	T	T	19 07 46.1	
	baz=258,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**23.30**	**69**	T	T	19 08 18.9	
	baz=255,slow=75,SNR=63						
H11N2	**WAKE ISLAND Hy**	**23.31**	**69**	T	T	19 08 21.0	
	baz=255,slow=75,SNR=55						
H11N3	**WAKE ISLAND Hy**	**23.32**	**69**	T	T	19 08 21.7	
	baz=255,slow=75,SNR=47						
COEN	**Coen**	**26.26**	**181**	P	**P**	**18 44 34.1**	**+0.1**
COEN				IAmb	IAmb	18 44 40.4	
	comp=Z,22nm,1.4s						
WB0	**Warramunga Arr**	**33.35**	**196**	P	**P**	**18 45 36.6**	**-0.2**
WR0	**Warramunga Arr**	**33.49**	**196**	P	**P**	**18 45 38.0**	**0.0**
WRAB	**Tennant Creek**	**33.52**	**196**	P	**P**	**18 45 38.0**	**-0.3**
WRAB				IAmb	IAmb	18 45 39.5	
	comp=Z,6.4nm,0.8s						
WB2	**Warramunga Arr**	**33.52**	**196**	P	**P**	**18 45 38.4**	**0.0**
WRA	**Warramunga Arr**	**33.53**	**196**	P	**P**	**18 45 38.4**	**0.0**
	comp=Z,3.9nm,0.6s,baz=20,slow=9.7,SNR=47						
WRA				LR	LR	19 00 20.5	
	comp=Z,47nm,19.1s,baz=194,slow=38						
WRA	**Warramunga Arr**	**33.53**	**196**	P	**P**	**18 45 37.8**	**-0.6**
MDJ	**Mudanjiang**	**34.27**	**342**	P	**P**	**18 45 43.5**	**-1.1**
MDJ				IAmb	IAmb	18 46 13.9	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**37.20**	**195**	P	**P**	**18 46 10.0**	**0.0**
ASAR	**Alice Springs**	**37.20**	**195**	P	**P**	**18 46 10.2**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=15,slow=12,SNR=46						
ASAR				PcP	**PcP**	**18 48 30.8**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=17,slow=2.2,SNR=4.6						
ASAR	**Alice Springs**	**37.20**	**195**	P	**P**	**18 46 09.8**	**-0.1**
KLR	**Kul'dur**	**37.99**	**347**	P	**P**	**18 46 16.7**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=150,slow=14,SNR=2.3						
DZM	**Mont Dzumac**	**40.88**	**147**	P	**P**	**18 46 41.9**	**+1.0**
	comp=Z,3.6nm,0.7s,baz=295,slow=7.8,SNR=5.9						
DZM	**Mont Dzumac**	**40.88**	**147**	IAmb	IAmb	18 46 43.0	
	comp=Z,10.0nm,1.0s						
PETK	**Petropavlovsk-**	**42.03**	**12**	LR	LR	19 04 49.8	
	comp=Z,26nm,18.9s,baz=221,slow=37						
CMAR	**Chiang Mai Arr**	**43.56**	**284**	P	**P**	**18 47 02.9**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=78,slow=6.3,SNR=6.7						
CMAR				LR	LR	19 04 56.1	
	comp=Z,28nm,19.9s,baz=140,slow=36						
BBOO	**Buckleboo**	**45.63**	**189**	P	**P**	**18 47 19.1**	**+0.1**
SHEM	**Shemya Is, Ala**	**46.91**	**25**	LR	LR	19 08 32.3	
	comp=Z,15nm,18.0s,baz=146,slow=38						
SONM	**Songino Array**	**47.06**	**326**	P	**P**	**18 47 30.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=130,slow=5.8,SNR=4.3						
SONM	**Songino Array**	**47.06**	**326**	P	**P**	**18 47 29.4**	**-0.8**
MK31	**Makanchi Array**	**61.58**	**317**	P	**P**	**18 49 15.8**	**-0.1**
MKAR	**Makanchi Array**	**61.58**	**317**	P	**P**	**18 49 15.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=101,slow=7.9,SNR=4.9						
MAKZ	**Makanchi**	**61.79**	**317**	P	**P**	**18 49 17.0**	**-0.3**
MAKZ				IAmb	IAmb	18 49 25.3	
	comp=Z,4.3nm,1.4s						
KURK	**Kurchatov**	**64.77**	**320**	P	**P**	**18 49 36.9**	**0.0**
KURK				IAmb	IAmb	18 49 40.0	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**69.41**	**311**	P	**P**	**18 50 06.0**	**-0.6**
ILAR	**Eielson Array**	**70.02**	**25**	P	**P**	**18 50 08.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=253,slow=5.9,SNR=7.9						
ILAR	**Eielson Array**	**70.02**	**25**	P	**P**	**18 50 10.3**	**+0.5**
TOLK	**Toolik Lake Re**	**70.03**	**21**	P	**P**	**18 50 11.2**	**+1.2**
BRVK	**Borovoye**	**70.23**	**322**	P	**P**	**18 50 10.8**	**-0.6**
BRVK				IAmb	IAmb	18 50 12.4	
	comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**84.32**	**27**	P	**P**	**18 51 30.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=287,slow=5.2,SNR=15						
NEW	**Newport**	**86.75**	**41**	P	**P**	**18 51 43.3**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=287,slow=4.4,SNR=8.1						
NEW	**Newport**	**86.75**	**41**	IAmb	IAmb	18 51 44.5	
	comp=Z,3.2nm,0.7s						
BMO	**Blue Mountains**	**87.51**	**45**	P	**P**	**18 51 47.1**	**+0.6**
BMO				IAmb	IAmb	18 51 55.5	
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**87.82**	**342**	P	**P**	**18 51 47.5**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=69,slow=7.8,SNR=4.6						
NVAR	**Mina Array Bea**	**88.42**	**51**	P	**P**	**18 51 52.7**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=268,slow=5.0,SNR=6.9						
FINES	**FINESS Array B**	**91.73**	**335**	P	**P**	**18 52 04.7**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=76,slow=4.9,SNR=14						
PDAR	**Pinedale Array**	**93.48**	**45**	P	**P**	**18 52 15.5**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=296,slow=8.9,SNR=2.3						
LPAZ	**La Paz**	**148.85**	**101**	PKPbc	**PKPbc**	**18 58 47.0**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=259,slow=2.7,SNR=7.2						

IDC 02 18:40:38.8±9.9, 19°.21S×178°.47W, h591km±50km, mb2.6/2, mb1 2.9/3, mb1mx2.6/40, mbtmp3.6/3, Error ellipse: s-maj=291.4km s-min=100.9km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.61**	**293**	P	P	18 42 01.1	-0.1
	4.9nm,0.3s,baz=180,slow=13,SNR=16						
WRA	**Warramunga Arr**	**44.35**	**261**	P	P	18 47 58.2	+0.1
	0.2nm,0.3s,baz=97,slow=7.7,SNR=7.1						
ASAR	**Alice Springs**	**44.40**	**256**	P	P	18 47 58.1	-0.3
	0.6nm,0.5s,baz=90,slow=7.9,SNR=9.7						
AKASG	**Malin Array Be**	**141.67**	**332**	PKP	PKPdf	18 59 02.5	-1.1
	0.7nm,0.6s,baz=43,slow=3.8,SNR=11						

*TUL **02** 19:10:37.1±1.1, 36°.47N±0°.04×98°.78W±0°.03, h8km±7km, ML2.8, mb_Lg2.8/58(NEIC), Error ellipse: s-maj=5.4km s-min=3.1km az=162.0*

NEIC 02 19:10:37.3±0.8, 36°.47N±0°.03×98°.75W±0°.03, h8km±7km, Error ellipse: s-maj=4.9km s-min=2.9km az=156.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.23**	**247**	Pg	Pg	19 10 41.3	-0.5
U32A				Sg	Sg	19 10 44.8	-0.1
OK035	**E0210 Rd and N**	**0.24**	**7**	Pg	Pg	19 10 42.3	+0.2
OK035				Sg	Sg	19 10 46.3	+0.9
OK032	**Salt Plains WL**	**0.54**	**52**	Pg	Pg	19 10 48.0	+0.1
OK032				IAmb_Lg		19 10 54.9	
	comp=Z,96nm,0.9s						
CROK	**Carrier**	**0.61**	**87**	Pg	Pg	19 10 49.3	+0.1
KAN14	**Manchester OK**	**0.79**	**52**	Pg	Pg	19 10 52.6	0.0
GC02	**Grant County #**	**0.81**	**62**	Pg	Pg	19 10 52.7	-0.2
GC02				Sg	Sb	19 11 04.0	-0.6
KAN10	**Anthony SW Sta**	**0.83**	**38**	Pg	Pg	19 10 53.2	-0.2
KAN16	**Harper SW Stat**	**0.93**	**36**	Pg	Pg	19 10 55.0	-0.2
KAN05	**Bluff City Nor**	**0.95**	**47**		Pg	19 10 55.2	-0.3
KAN05				Sg	Sb	19 11 08.5	-0.2
KAN17	**Caldwell West**	**0.97**	**54**	Pg	Pg	19 10 55.7	-0.3
KAN17				Sg	Sg	19 11 09.0	+0.3
KAN08	**Anthony NE Sta**	**0.98**	**39**		Pg	19 10 55.8	-0.3
KAN12	**Harper NE Stat**	**1.02**	**36**	Pg	Pg	19 10 56.8	-0.2
KAN01	**Argonia South**	**1.04**	**49**		Pg	19 10 57.1	-0.3
KAN06	**Argonia West S**	**1.05**	**42**		Pg	19 10 57.2	-0.4
KAN13	**South Haven SW**	**1.15**	**62**		Pg	19 10 58.9	-0.6
BCOK	**Bluff Creek, N**	**1.23**	**131**		Pb	19 11 00.2	-0.6
OK029	**Liberty Lake**	**1.24**	**122**		Pn	19 11 00.1	-0.9
BLOK	**Blackwell**	**1.26**	**76**		Pn	19 11 00.7	-0.6
OK025	**Westminster Rd**	**1.44**	**127**		Pn	19 11 03.5	-0.3
OKCFA	**Oklahoma City**	**1.49**	**135**		Pn	19 11 04.5	+0.1
OKCSW	**OKLAHOMA CITY**	**1.50**	**135**	Pn	Pn	19 11 03.9	-0.7
OK033	**Mehan**	**1.52**	**106**		Pn	19 11 04.7	-0.1
OK031	**S. Brethren Rd**	**1.62**	**108**		Pn	19 11 06.5	+0.3
FNO	**Franklin**	**1.63**	**138**	Pn	Pn	19 11 06.3	0.0
QUOK	**Quay**	**1.67**	**100**		Pn	19 11 07.4	+0.5
OK034	**N. Norfolk Rd.**	**1.71**	**105**		Pn	19 11 08.0	+0.6
WMOK	**Wichita Mounta**	**1.73**	**181**	Pn	Pn	19 11 07.5	-0.2
T35A	**Sooner Cattle**	**1.85**	**75**		Pn	19 11 09.5	+0.1
T35A				IAmb_Lg		19 11 37.3	
	comp=Z,33nm,0.8s						
R32A	**Long Quarter,**	**1.95**	**1**	Pn	Pn	19 11 11.3	+0.6
X34A	**Smith Ranch, M**	**2.01**	**158**		Pn	19 11 12.7	+1.2
W35A	**Tecumseh**	**2.01**	**130**	Pn	Pn	19 11 11.3	-0.2
TUL1	**Leonard**	**2.45**	**102**	Pn	Pn	19 11 17.6	-0.1
CBKS	**Cedar Bluff**	**2.47**	**342**		Pn	19 11 19.1	+1.2
LOOK	**Love County**	**2.78**	**152**		Pn	19 11 22.3	+0.1
LOOK				IAmb_Lg		19 12 06.0	
	comp=Z,18nm,0.7s						
AMTX	**Amarillo**	**2.87**	**237**	Pn	Pn	19 11 23.6	+0.2
KSU1	**Kansas State U**	**3.12**	**32**	Pn	Pn	19 11 27.2	+0.3
KSU1				IAmb_Lg		19 12 20.9	
	comp=Z,32nm,1.1s						
X37A	**Clayton**	**3.33**	**123**	Pn	Pn	19 11 29.5	-0.2
X37A				IAmb_Lg		19 12 30.9	
	comp=Z,26nm,0.8s						
Z35A	**Perchaven, San**	**3.36**	**158**	Pn	Pn	19 11 30.1	0.0
U38A	**Gravette**	**3.51**	**89**		Pn	19 11 33.0	+0.7
U38A				IAmb_Lg		19 12 29.5	
	comp=Z,22nm,0.8s						
HHAR	**Hobbs**	**3.88**	**91**	IAmb_Lg		19 12 44.2	
	comp=Z,17nm,0.7s						
ABTX	**Abilene, Hawle**	**3.91**	**191**	IAmb_Lg		19 12 47.6	
	comp=Z,19nm,0.9s						
KSCO	**Kaye Shedlock'**	**3.99**	**311**		Pn	19 11 38.5	-0.4
KSCO				IAmb_Lg		19 12 53.1	
	comp=Z,22nm,0.9s						
MSTX	**Muleshoe**	**4.13**	**234**	IAmb_Lg		19 12 57.5	
	comp=Z,29nm,0.9s						
W39A	**Magazine**	**4.23**	**106**	Pn	Pn	19 11 41.7	-0.3
W39A				IAmb_Lg		19 13 02.4	
	comp=Z,28nm,1.1s						
S39A	**Bolivar**	**4.50**	**73**		Pn	19 11 45.7	-0.1
S39A				IAmb_Lg		19 13 01.9	
	comp=Z,22nm,0.9s						
T25A	**Trinidad**	**4.60**	**280**		Pn	19 11 47.2	-0.1
T25A				IAmb_Lg		19 13 03.5	
	comp=Z,15nm,0.8s						
U40A	**Yellville**	**4.75**	**90**	Pn	Pn	19 11 50.2	+1.0
U40A				IAmb_Lg		19 13 04.8	
	comp=Z,22nm,0.8s						
BGNE	**Belgrade**	**4.95**	**5**		Pn	19 11 52.0	0.0
BGNE				IAmb_Lg		19 13 14.7	
	comp=Z,27nm,0.8s						
OGNE	**Ogallala**	**5.16**	**331**	Pn	Pn	19 11 53.9	-1.0
P38A	**Dawn**	**5.18**	**51**	IAmb_Lg		19 13 26.9	
	comp=Z,29nm,1.2s						
X40A	**Basin Creek Fa**	**5.21**	**111**	Pn	Pn	19 11 55.8	+0.3
MGMO	**Mountain Grove**	**5.24**	**81**	IAmb_Lg		19 13 28.2	
	comp=Z,17nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.39**	**94**	IAmb_Lg		19 13 26.5	
	comp=Z,11nm,0.9s						
W41B	**Gary Mavity, V**	**5.43**	**102**	IAmb_Lg		19 13 36.1	
	comp=Z,12nm,0.7s						
R40A	**Maddies Statio**	**5.47**	**69**	IAmb_Lg		19 13 31.6	
	comp=Z,13nm,0.8s						
SDCO	**Great Sand Dun**	**5.55**	**285**	Pn	Pn	19 12 00.2	-0.2
Q24A	**Divide**	**5.66**	**298**	Pn	Pn	19 12 00.1	-1.9
435B	**Jarrell**	**5.75**	**170**	IAmb_Lg		19 13 48.7	
	comp=Z,20nm,0.8s						
P40A	**Paris**	**6.11**	**58**	IAmb_Lg		19 13 50.5	
	comp=Z,20nm,0.8s						
K31A	**O'Neill**	**6.14**	**360**	IAmb_Lg		19 14 08.7	
	comp=Z,25nm,0.8s						
LCAR	**Lake Charles**	**6.14**	**91**	IAmb_Lg		19 13 53.1	
	comp=Z,9.7nm,0.8s						
CCM	**Cathedral Cave**	**6.19**	**73**	IAmb_Lg		19 14 01.7	
	comp=Z,16nm,0.9s						
ANMO	**Albuquerque**	**6.46**	**259**	Pn	Pn	19 12 10.6	-2.2
FVM	**French Village**	**6.81**	**75**	IAmb_Lg		19 14 14.0	
	comp=Z,21nm,1.0s						
PHWY	**Pilot Hill**	**7.12**	**315**	IAmb_Lg		19 14 22.9	
	comp=Z,7.9nm,0.8s						
N23A	**Red Feather La**	**7.16**	**310**	IAmb_Lg		19 14 29.5	
	comp=Z,16nm,1.1s						
S44A	**Carbondale**	**7.68**	**78**	IAmb_Lg		19 14 41.1	
	comp=Z,15nm,0.7s						

*TUL **02** 19:26:13.7±0.5, 35°.74N±0°.02×97°.36W±0°.03, h6km±7km, ML2.6, mb_Lg2.5/32(NEIC), Error ellipse: s-maj=3.4km s-min=1.3km az=121.0*

NEIC 02 19:26:14.3±0.5, 35°.75N±0°.02×97°.36W±0°.02, h6km±7km, Error ellipse: s-maj=3.2km s-min=1.5km az=124.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.10**	**303**	Pg	Pg	19 26 16.1	-0.3
OK029				Sg	Sg	19 26 17.9	+0.1
OK005	**Luther M Schoo**	**0.16**	**123**	Pg	Pg	19 26 17.4	-0.2
OK005				Sg	Sg	19 26 20.1	+0.4
OK025	**Westminster Rd**	**0.16**	**174**	Pg	Pg	19 26 17.3	-0.2
OK025				Sg	Sg	19 26 20.1	+0.3
BCOK	**Bluff Creek, N**	**0.22**	**247**	Pg	Pg	19 26 18.3	-0.4
BCOK				Sg	Sg	19 26 21.9	+0.3
OKCFA	**Oklahoma City**	**0.34**	**193**	Pg	Pg	19 26 20.5	-0.3
OKCFA				Sg	Sg	19 26 25.6	+0.4
OKCSW	**OKLAHOMA CITY**	**0.34**	**191**		Pg	19 26 20.7	-0.3
OKCSW				Sg	Sg	19 26 26.0	+0.5
OK033	**Mehan**	**0.45**	**49**	Pg	Pg	19 26 22.7	-0.3
OK033				Sg	Sg	19 26 29.2	+0.2
OK031	**S. Brethren Rd**	**0.47**	**64**	Pg	Pg	19 26 23.0	-0.3
FNO	**Franklin**	**0.49**	**184**	Pg	Pg	19 26 23.3	-0.4
OK030	**Cody Creek RV**	**0.50**	**68**		Pg	19 26 23.5	-0.4
OK034	**N. Norfolk Rd.**	**0.59**	**63**	Pg	Pg	19 26 25.1	-0.5
QUOK	**Quay**	**0.68**	**51**	Pg	Pg	19 26 26.7	-0.6
W35A	**Tecumseh**	**0.71**	**146**		Pg	19 26 27.1	-0.8
CROK	**Carrier**	**0.91**	**326**	Pg	Pg	19 26 31.0	-0.8
BLOK	**Blackwell**	**1.02**	**6**		Pg	19 26 32.8	-1.0
GC02	**Grant County #**	**1.18**	**340**		Pg	19 26 35.7	-1.2
X34A	**Smith Ranch, M**	**1.21**	**199**		Pg	19 26 36.6	-0.7
OK032	**Salt Plains WL**	**1.26**	**327**		Pg	19 26 36.9	-1.6
KAN13	**South Haven SW**	**1.27**	**356**		Pg	19 26 37.1	-1.5
TUL1	**Leonard**	**1.28**	**82**		Pn	19 26 36.6	-2.1
TUL1				IAmb_Lg		19 26 57.1	
	comp=Z,28nm,1.1s						
KAN14	**Manchester OK**	**1.30**	**338**		Pn	19 26 37.7	-1.4
KAN17	**Caldwell West**	**1.34**	**346**		Pn	19 26 38.5	-1.1
T35A	**Sooner Cattle**	**1.35**	**30**		Pn	19 26 38.5	-1.3
KAN05	**Bluff City Nor**	**1.42**	**343**		Pn	19 26 39.8	-0.9
KAN01	**Argonia South**	**1.44**	**347**		Pn	19 26 40.2	-0.8
KAN01				IAmb_Lg		19 27 01.1	
	comp=Z,19nm,1.1s						
OK035	**E0210 Rd and N**	**1.46**	**312**	Pg	Pn	19 26 39.5	-1.7
U32A	**Winter Ranch,**	**1.48**	**296**		Pn	19 26 39.9	-1.6
KAN10	**Anthony SW Sta**	**1.50**	**337**	Pg	Pn	19 26 41.7	-0.1
WMOK	**Wichita Mounta**	**1.54**	**230**		Pn	19 26 41.6	-0.7
KAN06	**Argonia West S**	**1.55**	**345**		Pn	19 26 42.0	-0.5
KAN08	**Anthony NE Sta**	**1.56**	**342**		Pn	19 26 42.0	-0.6
KAN08				IAmb_Lg		19 27 06.9	
	comp=Z,20nm,0.9s						
KAN16	**Harper SW Stat**	**1.58**	**339**		Pn	19 26 42.5	-0.5
KAN12	**Harper NE Stat**	**1.63**	**342**		Pn	19 26 43.1	-0.5
LOOK	**Love County**	**1.75**	**175**		Pn	19 26 45.2	0.0
LOOK				IAmb_Lg		19 27 11.8	
	comp=Z,16nm,0.8s						
X37A	**Clayton**	**1.99**	**125**	Pn	Pn	19 26 48.8	+0.3
Z35A	**Perchaven, San**	**2.41**	**178**	Pn	Pn	19 26 54.8	+0.5
U38A	**Gravette**	**2.50**	**73**		Pn	19 26 55.8	+0.2
HHAR	**Hobbs**	**2.82**	**78**		Pn	19 26 59.6	-0.3
W39A	**Magazine**	**2.97**	**100**		Pn	19 27 01.3	-0.6
W39A				IAmb_Lg		19 27 53.5	
	comp=Z,14nm,0.8s						
MIAR	**Mount Ida**	**3.32**	**110**	Pn	Pn	19 27 07.4	+0.6
CBKS	**Cedar Bluff**	**3.60**	**329**	Pn	Pn	19 27 10.7	-0.1
AMTX	**Amarillo**	**3.64**	**258**		Pn	19 27 11.3	0.0
AMTX				IAmb_Lg		19 28 07.8	
	comp=Z,9.2nm,0.9s						
ABTX	**Abilene, Hawle**	**3.64**	**212**	IAmb_Lg		19 28 15.3	
	comp=Z,7.8nm,0.7s						
U40A	**Yellville**	**3.70**	**79**	Pn	Pn	19 27 11.3	-0.7
S39A	**Bolivar**	**3.78**	**58**	Pn	Pn	19 27 12.3	-0.8
S39A				IAmb_Lg		19 28 18.0	
	comp=Z,13nm,0.8s						
WHAR	**Wooly Hollow**	**4.16**	**95**	Pn	Pn	19 27 17.9	-0.4
W41B	**Gary Mavity, V**	**4.21**	**96**	Pn	Pn	19 27 18.3	-0.7
W41B				IAmb_Lg		19 28 28.4	
	comp=Z,13nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.25**	**87**	Pn	Pn	19 27 19.2	-0.5
MGMO	**Mountain Grove**	**4.34**	**70**	IAmb_Lg		19 28 33.1	
	comp=Z,11nm,0.7s						
R40A	**Maddies Statio**	**4.80**	**57**	IAmb_Lg		19 28 54.0	
	comp=Z,7.3nm,0.7s						
P38A	**Dawn**	**4.92**	**37**	IAmb_Lg		19 29 00.1	
	comp=Z,11nm,1.0s						
LCAR	**Lake Charles**	**5.05**	**85**	IAmb_Lg		19 28 60.0	
	comp=Z,5.8nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.31**	**309**	IAmb_Lg		19 29 13.7	
	comp=Z,8.6nm,0.9s						
CCM	**Cathedral Cave**	**5.41**	**63**	IAmb_Lg		19 29 11.2	
	comp=Z,9.9nm,1.1s						
PBMO	**Poplar Bluff**	**5.69**	**78**	IAmb_Lg		19 29 19.5	
	comp=Z,9.6nm,0.8s						

*IDC **02** 19:31:02.4±1.3, 5°.19S×129°.80E, h180km±16km, mb2.9/2, mb1 3.6/7, mb1mx3.1/32, mbtmp4.0/7, Error ellipse: s-maj=25.8km s-min=11.9km az=105.0*

ISC 02 19:31:01.9±0.9, 5°.34S±0°.07×130°.0E±0°.1, h200km, n7, σ1°.90/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.61**	**16**	P	**Pn**	**19 32 12.2**	**+0.8**
	20nm,0.3s,baz=169,slow=16,SNR=176						
SIJI				S	**Sn**	**19 33 03.2**	**-3.1**
	6.3nm,0.3s,baz=236,slow=24,SNR=12						
BATI	**Baumata**	**7.93**	**232**	P	**Pn**	**19 32 54.0**	**-0.3**
	2.9nm,0.3s,baz=74,slow=5.0,SNR=7.8						
BATI				S	**Sn**	**19 34 23.1**	**-0.7**
	0.1nm,0.3s,baz=61,slow=19,SNR=1.5						
FITZ	**Fitzroy Crossi**	**13.38**	**198**	P	**P**	**19 34 06.3**	**-0.5**
	0.3nm,0.3s,baz=21,slow=7.4,SNR=7.4						
WRA	**Warramunga Arr**	**15.12**	**164**	P	**P**	**19 34 27.6**	**+1.5**
	0.6nm,0.3s,baz=343,slow=13,SNR=22						
WRA				S	**S**	**19 37 10.7**	**-2.9**
	0.4nm,0.3s,baz=336,slow=21,SNR=5.8						
ASAR	**Alice Springs**	**18.61**	**169**	P	**Pn**	**19 35 08.8**	**+1.6**
	1.1nm,0.3s,baz=348,slow=11,SNR=97						
CMAR	**Chiang Mai Arr**	**38.69**	**308**	P	**P**	**19 38 07.1**	**+0.4**
	0.3nm,0.9s,baz=140,slow=7.3,SNR=4.4						
MKAR	**Makanchi Array**	**66.85**	**326**	P	**P**	**19 41 33.3**	**+1.0**
	0.2nm,0.3s,baz=117,slow=8.3,SNR=8.6						

*IDC **02** 19:31:16.5±1.1, 17°.92S×178°.48W, h578km±12km, mb4.0/25, mb1 4.1/28, mb1mx4.0/34, mbtmp4.9/28, Error ellipse: s-maj=14.1km s-min=10.1km az=146.0*

*BJI **02** 19:31:16.1±0.0, 17°.75S×177°.82W, h610km, mb4.5/37, mB5.0/19*

*NEIC **02** 19:31:16.5±1.4, 17°.9S±0°.1×178°.6W±0°.1, h569km±6km, mb4.6/129, Error ellipse: s-maj=16.5km s-min=13.3km az=141.0*

*NOU **02** 19:31:17.2, 17°.83S×178°.46W, h592km, mb4.9/77, Fiji Islands Region*

ISC 02 19:31:16.5±0.3, 17°.87S±0°.07×178°.51W±0°.05, h579km, n521, σ0°.92/527, mb4.6/140, 16C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**1.77**	**311**	P	**P**	**19

COEN	Coen	37.01 270	P	P	19 37 38.3 -0.1
COEN	Coen	37.01 270	P	P	19 37 39.1 +0.6
TOO	Toolangi	37.12 231	P	P	19 37 39.6 +0.5
TOO	Toolangi	37.12 231	P	P	19 37 40.1 +1.0
TAU	Tasmania Unive	38.21 222	P	P	19 37 47.4 -0.3
TAU			IAmb	IAmb	19 38 00.7
	comp=Z,38nm,1.2s				
STKA	Stephens Creek	38.57 241	P	P	19 37 51.4 +0.6
	comp=Z,33nm,0.5s,baz=88,slow=9.8,SNR=142				
STKA	Stephens Creek	38.57 241	P	P	19 37 51.2 +0.4
STKA			IAmb	IAmb	19 37 52.2
	comp=Z,11nm,1.0s				
STKA	Stephens Creek	38.57 241	P	P	19 37 51.6 +0.7
INKA	Innaminka	38.68 248	P	P	19 37 52.7 +0.9
QIS	Mount Isa	39.57 259	P	P	19 37 58.3 -0.8
ARPS	Mount Arapiles	39.60 234	P	P	19 37 59.2 +0.1
HTT	Hallett	41.09 239	P	P	19 38 11.6 +0.6
LCRK	Leigh Creek	41.19 244	P	P	19 38 12.1 +0.3
NAPP	Napperby	41.68 240	P	P	19 38 15.7 +0.1
	comp=Z,51nm,1.1s				
TWOA	Tennyson Woods	41.70 237	P	P	19 38 15.3 -0.5
	comp=Z,31nm,0.8s				
JAY	Jayapura	42.81 286	P	P	19 38 25.1 +0.4
	comp=Z,32nm,0.4s,baz=166,slow=5.7,SNR=21				
JAY	Jayapura	42.81 286	P	P	19 38 24.6 -0.2
	comp=Z,47nm,1.0s				
OOD	Oodnadatta	43.15 248	P	P	19 38 27.9 +0.7
KHU	Kahuku	43.20 32	P	P	19 38 28.4 +0.6
GENI	Genyem	43.27 286	P	P	19 38 29.0 +0.7
	comp=Z,172nm,0.8s				
BBOO	Buckleboo	43.34 241	P	P	19 38 28.3 -0.4
BBOO	Buckleboo	43.34 241	P	P	19 38 28.9 +0.2
AIN	Ainahou	43.38 33	P	P	19 38 30.0 +0.8
POHA	Pohakuloa	43.67 32	P	P	19 38 31.8 +0.2
DHH	Diamond Head	43.87 28	P	P	19 38 33.2 +0.5
WR0	Warramunga Arr	44.36 260	P	P	19 38 35.4 -1.3
WR0			IAmb	IAmb	19 38 38.1
	comp=Z,17nm,1.1s				
WB0	Warramunga Arr	44.52 260	P	P	19 38 36.7 -1.2
WB2	Warramunga Arr	44.54 260	P	P	19 38 36.9 -1.1
WRAB	Tennant Creek	44.54 260	P	P	19 38 36.8 -1.2
WRAB	Tennant Creek	44.54 260	P	P	19 38 37.8 -0.3
WRA	Warramunga Arr	44.55 260	P	P	19 38 36.9 -1.2
	comp=Z,26nm,0.7s,baz=95,slow=6.9,SNR=125				
WRA			PcP	PcP	19 40 08.3 -0.3
	comp=Z,2.8nm,0.4s,baz=96,slow=3.2,SNR=5.3				
WRA			ScP	ScP	19 43 07.8 +1.7
	comp=Z,1.1nm,0.9s,baz=83,slow=4.9,SNR=3.1				
WRA	Warramunga Arr	44.55 260	P	P	19 38 36.6 -1.6
AS31	Alice Springs	44.71 254	P	P	19 38 38.9 -0.5
ASAR	Alice Springs	44.71 254	P	P	19 38 39.0 -0.3
	comp=Z,172nm,0.6s,baz=88,slow=8.4,SNR=2044				
ASAR			PcP	PcP	19 40 08.8 -0.3
	comp=Z,6.3nm,0.6s,baz=100,slow=4.2,SNR=5.5				
ASAR			ScP	ScP	19 43 08.6 +1.8
	comp=Z,1.2nm,0.7s,baz=102,slow=3.9,SNR=4.1				
ASAR			S	S	19 44 31.7 -3.2
	comp=Z,1.5nm,0.8s,baz=83,slow=16,SNR=9.4				
ASAR	Alice Springs	44.71 254	P	P	19 38 38.8 -0.6
MULG	Mulgathing	44.74 245	P	P	19 38 39.2 -0.3
SRPI	Serui, Papua	47.16 285	P	P	19 38 57.6 -0.4
	comp=Z,35nm,0.6s				
KDU	Kakadu	47.47 269	P	P	19 39 00.0 -0.2
GUMO	Guam	47.78 308	P	P	19 39 02.8 +0.3
	comp=Z,83nm,0.6s,baz=157,slow=11,SNR=4.1				
GUMO	Guam	47.78 308	P	P	19 39 02.5 -0.1
MTN	Manton Dam	48.71 268	P	P	19 39 08.4 -1.1
MTN	Manton Dam	48.71 268	P	P	19 39 09.0 -0.5
WRKA	Warakurna	49.77 252	P	P	19 39 17.1 -0.1
FORT	Forrest	49.94 245	P	P	19 39 17.5 -0.8
FORT	Forrest	49.94 245	P	P	19 39 17.7 -0.6
KNRA	Kununurra	50.40 264	P	P	19 39 21.1 -0.8
KNRA	Kununurra	50.40 264	P	P	19 39 21.6 -0.3
FAKI	Fak Fak	50.48 281	P	P	19 39 21.8 -0.7
	comp=Z,26nm,1.1s				
FAKI	Fak Fak	50.48 281	P	P	19 39 21.7 -0.8
FAKI			IAmb	IAmb	19 39 23.7
	comp=Z,19nm,0.8s				
FAKI	Fak Fak	50.48 281	P	P	19 39 22.3 -0.2
SIJI	Sorong	52.14 283	P	P	19 39 34.4 -0.1
	comp=Z,99nm,0.6s,baz=106,slow=5.4,SNR=75				
BNDI	Bandanaira	52.14 278	P	P	19 39 34.2 -0.3
SWI	Sorong	52.15 283	P	P	19 39 34.3 -0.2
	comp=Z,1µmcomp=Z,173nm,0.8s				
FITZ	Fitzroy Crossi	52.94 261	P	P	19 39 39.9 -0.2
	comp=Z,3.8nm,0.3s,baz=106,slow=5.8,SNR=27				
FITZ			PcP	PcP	19 40 40.4 +1.0
	comp=Z,6.0nm,0.4s,baz=66,slow=0.1,SNR=6.2				
MSAI	Masohi	53.45 279	P	P	19 39 43.2 -0.6
	comp=Z,9.3nm,0.5s				
AAI	Ambon	54.02 279	P	P	19 39 46.7 -1.1
	comp=Z,1µmcomp=Z,78nm,0.4s				
LBMI	Labuha	55.72 282	P	P	19 40 00.0 +0.3
	comp=Z,42nm,0.8s				
SOEI	Soe	55.98 270	P	P	19 40 02.7 +1.1
	comp=Z,129nm,0.9s				
SOEI	Soe	55.98 270	P	P	19 40 02.2 +0.6
SOEI	Soe	55.98 270	P	P	19 40 02.4 +0.8
TNTI	Ternate	56.36 283	P	P	19 40 03.9 -0.2
	comp=Z,61nm,1.1s				
TNTI	Ternate	56.36 283	P	P	19 40 03.2 -0.9
TNTI			IAmb	IAmb	19 40 04.9
	comp=Z,46nm,0.8s				
BATI	Baumata	56.44 269	P	P	19 40 05.8 +1.2
	comp=Z,33nm,0.7s,baz=134,slow=2.1,SNR=14				
BATI	Baumata	56.44 269	P	P	19 40 05.6 +0.9
	comp=Z,25nm,0.8s				
SANI	Sanana	56.65 280	P	P	19 40 05.3 -0.7
	comp=Z,536nmcomp=Z,64nm,0.8s				
SANI	Sanana	56.65 280	P	P	19 40 05.6 -0.4
PSA00	Pilbara Seismi	57.83 255	P	P	19 40 12.9 -1.1
PSA00			IAmb	IAmb	19 40 14.0
	comp=Z,35nm,0.6s				
PSA00	Pilbara Seismi	57.83 255	P	P	19 40 12.8 -1.1
PSA00			IAmb	IAmb	19 40 14.1
	comp=Z,18nm,0.8s				
PSA00	Pilbara Seismi	57.83 255	P	P	19 40 13.1 -0.9
MBWA	Marble Bar	57.99 256	P	P	19 40 14.4 -0.7
MMRI	Maumere	58.21 271	P	P	19 40 15.9 -0.7
	comp=Z,56nm,0.9s				
MMRI	Maumere	58.21 271	P	P	19 40 15.1 -1.5
MMRI			IAmb	IAmb	19 40 16.2
	comp=Z,33nm,0.6s				
MMRI	Maumere	58.21 271	P	P	19 40 16.1 -0.5
MEEK	Meekatharra	58.36 249	P	P	19 40 16.8 -0.8
EDFI	Ende, Flores	58.70 271	P	P	19 40 19.2 -0.9
	comp=Z,24nm,0.9s				
KLBR	Kellerberrin	58.76 244	P	P	19 40 19.7 -0.4
NWAO	Narrogin (SRO)	59.15 242	P	P	19 40 21.9 -0.8
	comp=Z,40nm,0.9s				
KMSI	Cibinong	59.44 282	P	P	19 40 24.1 -0.8
	comp=Z,1µmcomp=Z,70nm,0.8s				
BLDU	Ballidu	59.72 245	P	P	19 40 25.9 -0.6
LUWI	Luwuk	60.01 279	P	P	19 40 28.4 -0.3
	comp=Z,64nm,1.0s				
LUWI	Luwuk	60.01 279	P	P	19 40 28.6 0.0
LUWI			IAmb	IAmb	19 40 29.8
	comp=Z,76nm,1.2s				
LUWI	Luwuk	60.01 279	P	P	19 40 29.7 +1.0
MUN	Mundaring	60.06 243	P	P	19 40 29.2 +0.5
MORW	Morawa	60.41 246	P	P	19 40 30.3 -0.9
MORW	Morawa	60.41 246	P	P	19 40 30.9 -0.2
SBA	Scott Base	60.45 184	P	P	19 40 32.4 +1.9
SBA			IAmb	IAmb	19 40 50.4
	comp=Z,20nm,1.2s				
VNDA	Vanda	60.48 185	P	P	19 40 31.6 +1.0
	comp=Z,1.3nm,1.0s,baz=352,slow=7.4,SNR=2.1				
VNDA	Vanda	60.48 185	P	P	19 40 31.4 +0.7
BSSI	Bau Bau, Buton	60.56 273	P	P	19 40 30.7 -1.6
	comp=Z,14nm,0.9s				
BKSI	Bulukumba	61.16 274	P	P	19 40 34.8 -1.4
	comp=Z,14nm,0.6s				
MRSI	Marisa	61.31 281	P	P	19 40 35.9 -1.3
	comp=Z,32nm,0.8s				
BNSI	Bone	61.45 275	P	P	19 40 37.8 -0.3
	comp=Z,32nm,1.1s				
KAPI	Kappang	61.60 274	P	P	19 40 38.7 -0.4
	comp=Z,5.7nm,0.5s,baz=145,slow=4.2,SNR=6.8				
KAPI	Kappang	61.60 274	P	P	19 40 38.6 -0.4
KAPI			IAmb	IAmb	19 40 39.1
	comp=Z,9.2nm,0.6s				
SPSI	Sidrap Palu	61.90 275	P	P	19 40 39.4 -1.7
	comp=Z,24nm,0.8s				
TOLI2	Tolitoli	62.62 281	P	P	19 40 45.2 -0.5
TOLI2			IAmb	IAmb	19 40 49.0
	comp=Z,14nm,0.7s				
TOLI2	Tolitoli	62.62 281	P	P	19 40 45.6 -0.1
GIRL	Giralia	62.82 253	P	P	19 40 47.3 +0.4
GIRL	Giralia	62.82 253	P	P	19 40 46.4 -0.5
MPSI	Mapaga	63.18 280	P	P	19 40 48.3 -1.0
	comp=Z,44nm,0.9s				
IGBI	Denpasar	64.91 268	P	P	19 40 59.6 -0.7
	comp=Z,66nm,0.7s				
SRBI	Singaraja	65.04 269	P	P	19 40 59.9 -1.2
	comp=Z,50nm,1.1s				
JAGI	Jajag, Banyuwa	65.95 269	P	P	19 41 05.0 -1.8
	comp=Z,69nm,0.8s				
JAGI	Jajag, Banyuwa	65.95 269	P	P	19 41 05.0 -1.8
JAGI	Jajag, Banyuwa	65.95 269	P	P	19 41 05.7 -1.1
ABJI	Asem Bagus	66.06 269	P	P	19 41 07.3 -0.1
	comp=Z,45nm,1.2s				
MYLDM	Lahad Datu	66.21 284	P	P	19 41 08.9 +0.5
MYLDM			IAmb	IAmb	19 41 21.9
	comp=Z,51nm,1.5s				
KMMI	Kalianget	66.52 270	P	P	19 41 09.2 -1.1
	comp=Z,25nm,1.1s				
GMJI	Gumukmas	66.68 269	P	P	19 41 09.6 -1.6
	comp=Z,51nm,0.6s				
BLJI	Banyuglugur	66.68 269	P	P	19 41 10.6 -0.7
	comp=Z,24nm,0.4s				
BBKI	Banjar Baru	66.73 274	P	P	19 41 11.7 +0.1
	comp=Z,24nm,0.8s				
MTKI	Muara Teweh, K	67.47 277	P	P	19 41 16.0 -0.1
	comp=Z,14nm,0.6s				
MJAR	Matsushiro Arr	67.82 323	P	P	19 41 17.4 -0.4
	comp=Z,9.5nm,0.8s,baz=157,slow=5.5,SNR=8.3				
MJAR	Matsushiro Arr	67.82 323	P	P	19 41 16.8 -1.0
MAJO	Matsushiro	67.82 323	P	P	19 41 17.4 -0.4
MAJO			IAmb	IAmb	19 41 22.5
	comp=Z,24nm,1.4s				
MAT	Matsushiro	67.82 323	P	P	19 41 17.2 -0.6
JWT	Wachi	68.59 321	P	P	19 41 22.1 -0.4
JWT			IAmb	IAmb	19 41 47.5
	comp=Z,37nm,1.4s				
KKM	Kota Kinabalu	68.64 284	P	P	19 41 22.9 -0.4
KKM			IAmb	IAmb	19 41 24.0
	comp=Z,28nm,0.9s				
KKM	Kota Kinabalu	68.64 284	P	P	19 41 23.8 +0.5
PCJI	Pacitan	68.86 268	P	P	19 41 24.7 +0.2
	comp=Z,155nm,0.8s				
WOJI	Wonogiri, Jawa	69.20 268	P	P	19 41 26.2 -0.3
	comp=Z,43nm,0.8s				
JSU	Suzuyama	69.34 315	P	P	19 41 26.8 -0.3
JSU			IAmb	IAmb	19 41 35.3
	comp=Z,45nm,1.3s				
UGM	Wanagama	69.56 268	P	P	19 41 28.2 -0.5
	comp=Z,104nm,0.5s				
UGM	Wanagama	69.56 268	P	P	19 41 28.1 -0.7
UGM	Wanagama	69.56 268	P	P	19 41 28.3 -0.5
JHS	Saijyo	69.81 319	P	P	19 41 30.0 +0.2
JHS			IAmb	IAmb	19 41 32.1
	comp=Z,39nm,1.3s				
SMRI	Semarang	69.88 269	P	P	19 41 30.3 -0.3
	comp=Z,53nm,0.8s				
PBKI	Pangkalan Bun	69.98 274	P	P	19 41 31.4 +0.2
	comp=Z,85nm,1.0s				
JNU	Nakatsue	70.05 316	P	P	19 41 30.8 -0.5
	comp=Z,4.3nm,0.8s,baz=198,slow=12,SNR=2.4				
JNU	Nakatsue	70.05 316	P	P	19 41 31.0 -0.3
JNU			IAmb	IAmb	19 41 39.0
	comp=Z,30nm,1.5s				
YOJ	Yonaguni jima	70.85 305	P	P	19 41 36.1 0.0
YOJ	Yonaguni jima	70.85 305	P	P	19 41 35.8 -0.3
	comp=Z,97nm,1.7s				
STKI	Sintang	71.03 276	P	P	19 41 38.1 +0.7
	comp=Z,27nm,0.8s				
NIKH	Nikolski High	71.04 6	P	P	19 41 37.8 +1.2
	baz=190				
SBUM	Sibu	71.11 279	P	P	19 41 37.8 -0.1
KPJI	Karang Pucung	71.23 268	P	P	19 41 37.8 -0.8
	comp=Z,40nm,0.5s				
TWG	Pinlang	71.57 302	P	P	19 41 38.5 -1.9
TWG			IAmb	IAmb	19 41 59.0
	comp=Z,22nm,1.0s				
YULB	Yu-li	71.67 303	P	P	19 41 39.5 -1.4
YULB			IAmb	IAmb	19 42 07.5
	comp=Z,27nm,1.3s				
SSLB	Suanglung	72.14 303	P	P	19 41 42.4 -1.2
SSLB	Suanglung	72.14 303	P	P	19 41 43.2 -0.5
TPUB	Ta-pu	72.16 302	P	P	19 41 42.4 -1.4
QSPA	South Pole Qui	72.18 180	P	P	19 41 43.8 +0.4
TATO	Taipei	72.30 304	P	P	19 41 44.3 -0.2
TATO			IAmb	IAmb	19 41 53.6
	comp=Z,67nm,1.4s				
KSM	Kuching	72.59 277	P	P	19 41 46.7 +0.2
KSM	Kuching	72.59 277	P	P	19 41 47.4 +0.9
LEM	Lembang	72.62 268	P	P	19 41 47.2 +0.4
	comp=Z,60nm,0.6s,baz=46,slow=5.4,SNR=19				
LEM	Lembang	72.62 268	P	P	19 41 47.1 +0.2
	comp=Z,50nm,0.8s				
DBJI	Dramaga	73.53 268	P	P	19 41 50.8 -1.1
FALS	False Pass	73.57 9	P	P	19 41 53.1 +2.1
	baz=195				
SKJI	Sukabumi	73.58 268	P	P	19 41 51.5 -0.6
	comp=Z,64nm,0.6s				
PETK	Petropavlovsk-	73.62 345	P	P	19 41 51.6 +0.2
	comp=Z,1.0nm,0.6s,baz=133,slow=6.5,SNR=5.5				
CGJI	Cibinong	74.52 268	P	P	19 41 55.8 -1.6
	comp=Z,1µmcomp=Z,121nm,0.6s				
KSRS	Korea Array	74.61 318	P	P	19 41 58.1 +0.7
	comp=Z,2.0nm,0.7s,baz=128,slow=6.1,SNR=14				
BLSI	Bandar Lampung	75.30 269	P	P	19 42 00.1 -1.7
	comp=Z,41nm,0.7s				
KASI	Kota Agung	75.97 269	P	P	19 42 04.0 -1.5
	comp=Z,50nm,0.9s				
SCI2	San Clemente I	76.38 48	P	P	19 42 08.3 +1.1
	baz=238				
SAO	San Andreas Ge	76.46 44	P	P	19 42 08.1 +0.5
SAO			IAmb	IAmb	19 42 09.7
	comp=Z,11nm,0.8s				
USRK	Ussuriysk Ar.	76.53 326	P	P	19 42 08.8 +1.0
	comp=Z,1.9nm,0.5s,baz=102,slow=7.0,SNR=5.2				
USRK	Ussuriysk Ar.	76.53 326	P	P	19 42 08.5 +0.6
MDSI	Maura Dua	76.58 270	P	P	19 42 07.2 -1.6
	comp=Z,13nm,1.1s				
PMPB	Monarch Peak	76.58 45	P	P	19 42 09.5 +1.0
PMPB			IAmb	IAmb	19 42 24.1
	comp=Z,26nm,1.3s				
CIS	Catalina Islan	76.69 48	P	P	19 42 10.1 +1.0
	baz=238				
109C	Camp Elliot, M	77.36 49	P	P	19 42 13.5 +0.9
	baz=239				
MWC	Mount Wilson	77.38 48	P	P	19 42 13.5 +0.5
MWC			IAmb	IAmb	19 42 14.1
	comp=Z,11nm,0.6s				
VES	Vestal, Richgr	77.53 46	P	P	19 42 14.1 +0.6
	baz=237				
O02D	Mt. Diablo Mer	77.58 40	P	P	19 42 14.8 +1.0
	baz=234				
MURC	Murrieta	77.67 49	P	P	19 42 15.3 +1.0
	baz=239				
BFSC	Mount Baldy Ra	77.67 48	P	P	19 42 15.0 +0.5
	baz=238				
EDW2	Edwards Air Fo	77.77 47	P	P	19 42 15.9 +1.0
	baz=238,SNR=13				
NJ2	Nanjing	77.84 310	eP	P	19 42 17.4 +2.2
NJ2			pmax	pmax	
	comp=Z,8.0nm,0.5s				
ISA	Isabella, Lake	77.86 46	P	P	19 42 15.9 +0.6
ISA	Isabella, Lake	77.86 46	P	P	19 42 16.4 +1.1
	baz=238,SNR=9.9				
MONP2	Monument Peak	77.86 50	P	P	19 42 16.7 +1.1
	baz=239,SNR=12				
CMB	Columbia Colle	77.87 43	P	P	19 42 16.0 +0.7
JMBI	JAMBI	77.94 272	P	P	19 42 17.7 +1.5
	comp=Z,33nm,0.4s				
RMX	La Rumorosa	77.96 50	P	P	19 42 17.0 +0.9
RMX			IAmb	IAmb	19 42 18.2
	comp=Z,11nm,0.7s				
IKP	In-Ko-Pah, Jac	77.96 50	P	P	19 42 17.3 +1.3
	baz=240,SNR=7.4				
WDC	Whiskeytown Da	77.97 40	P	P	19 42 15.6 -0.2
ORV	Oroville	78.02 42	P	P	19 42 16.8 +0.7
MDJ	Mudanjiang	78.10 325	P	P	19 42 17.6 +1.3
MDJ			pmax	pmax	
	comp=Z,17nm,0.8s				
MDJ			pmax	pmax	
	comp=Z,150nm,3.7s				
N02D	Trinity Center	78.11 40	P	P	19 42 18.3 +1.7
	baz=234				
PFO	Pinyon Flats O	78.20 49	P	P	19 42 18.0 +0.7
	baz=239				
TPFO	Pinon Flats	78.20 49	P	P	19 42 17.9 +0.6
	baz=239				
O03E	Paynes Creek	78.26 41	P	P	19 42 18.4 +1.0
	baz=234				
M02C	Callahan	78.26 39	P	P	19 42 18.5 +1.1
	baz=233				
L02E	Cave Junction	78.28 38	P	P	19 42 18.6 +1.3
	baz=233				
LRMC	Laurel Mtn Rad	78.31 47	P	P	19 42 18.5 +0.7
	baz=238				
SWSC	Sam W. Stewart	78.34 50	P	P	19 42 18.7 +0.9
	baz=240				
KDAK	Kodiak Island	78.39 14	P	P	19 42 17.9 +0.4
CWC	Cottonwood Cre	78.54 46	P	P	19 42 19.8 +0.7
	baz=238				
YBH	Yreka Blue Hor	78.55 39	P	P	19 42 20.0 +1.1
K02D	Willamette Mer	78.56 38	P	P	19 42 20.2 +1.2
	baz=233				
BELC	Belle Mtn. Jos	78.73 49	P	P	19 42 21.2 +1.1
	baz=239,SNR=5.3				
MPMC	Manual Prospec	78.74 46	P	P	19 42 21.2 +1.0
	baz=238,SNR=5.8				
MYKOM	Kota Tinggi	78.80 276	P	P	19 42 20.7 -0.1
MYKOM			IAmb	IAmb	19 42 32.9
	comp=Z,34nm,1.3s				
GSC	Goldstone, Bar	78.82 47	P	P	19 42 21.2 +0.7
	baz=239				
HEC	Hector,Ludlow	78.91 48	P	P	19 42 21.8 +0.8
	baz=239				
HUMO	Hull Mountain	78.93 38	P	P	19 42 22.0 +1.2
BC3	Big Chuckawall	78.94 49	P	P	19 42 22.3 +1.0
	baz=240				
PNTR	Pine Nut	78.97 43	P	P	19 42 22.4 +1.0
PNTR			IAmb	IAmb	19 42 23.4
	comp=Z,21nm,0.9s				
VCNR	Virginia City	79.06 43	P	P	19 42 22.6 +0.8
L04D	Klamath Falls	79.08 39	P	P	19 42 22.8 +0.9
	baz=234				
GLA	Glamis	79.10 50	P	P	19 42 23.4 +1.4
	baz=240				
M04C	Macdoel	79.11 40	P	P	19 42 23.0 +1.0
	baz=234				
QSM	Queen of Sheba	79.12 47	P	P	19 42 22.8 +0.8
YERR	Yerington	79.15 43	P	P	19 42 23.0 +0.7
YERR			IAmb	IAmb	19 42 24.0
	comp=Z,10nm,0.6s				
LHV	Little Huntoon	79.23 44	P	P	19 42 23.6 +1.1
LCH	Last Change Ra	79.26 45	P	P	19 42 23.6 +0.8
I02E	Swisshome, OR	79.32 37	P	P	19 42 24.5 +1.7
	baz=232				
GRAC	Grapevine Rang	79.32 46	P	P	19 42 24.4 +1.3
	baz=238,SNR=5.4				
I03D	Drain, OR	79.36 37	P	P	19 42 24.1 +1.1
	baz=233				
GMRC	Granite Mounta	79.36 48	P	P	19 42 23.9 +0.5
	baz=240				
GWY	Greenwater Val	79.38 47	P	P	19 42 24.2 +0.7
FURC	Furnace Creek,	79.39 46	P	P	19 42 24.1 +0.8
	baz=238				
IRM	Iron Mountain	79.42 49	P	P	19 42 24.4 +0.8
	baz=240				
RYN	Ryan	79.42 44	P	P	19 42 24.5 +0.8
PAHR	Pah Rah Range	79.46 42	P	P	19 42 24.6 +0.8
NVAR	Mina Array Bea	79.46 44	P	P	19 42 25.0 +1.0
	comp=Z,5.1nm,0.7s,baz=224,slow=8.9,SNR=34				
NVAR	Mina Array Bea	79.46 44	P	P	19 42 25.0 +1.0
TUQ	Turquoise Moun	79.51 47	P	P	19 42 25.0 +0.8
	baz=239,SNR=6.7				
NV11	Mina Array Sit	79.56 44	P	P	19 42 25.0 +0.5
K04D	Chiloquin, OR	79.65 39	P	P	19 42 25.7 +1.0
	baz=234				
O18K	Koktuh Hills	79.73 12	P	P	19 42 24.3 -0.3
	baz=202				
J04D	Umpqua Nationa	79.81 38	P	P	19 42 26.7 +1.0
	baz=234				
KVN	Kaiserville	79.93 43	P	P	19 42 27.2 +0.8
CN2	Changchun	79.94 322	eP	P	19 42 26.9 +0.8
CN2			pmax	pmax	
	comp=Z,10.0nm,1.1s				
I04A	Tendick Farm,	79.96 38	P	P	19 42 26.4 +0.2
	baz=233				
BNX	BinXian	80.01 325	P	P	19 42 26.6 +0.2
BNX			pmax	pmax	
	comp=Z,10.0nm,0.9s				
BNX			pmax	pmax	
	comp=Z,130nm,5.2s				
TPNV	Topopah Spring	80.06 46	P	P	19 42 28.1 +1.0
TPNV	Topopah Spring	80.06 46	P	P	19 42 27.9 +0.8
	baz=239,SNR=5.5				
214A	Organ Pipe Nat	80.06 52	P	P	19 42 28.2 +1.1
	baz=242				
MOD	Modoc Plateau	80.11 40	P	P	19 42 28.0 +0.7
MOD			IAmb	IAmb	19 42 29.0
	comp=Z,10nm,0.7s				
O19K	Port Alsworth	80.22 12	P	P	19 42 26.8 -0.4
	baz=203				
K05A	Summer Lake	80.23 39	P	P	19 42 29.1 +1.2
K05A			IAmb	IAmb	19 42 30.0
	comp=Z,21nm,1.0s				
J05D	Fort Rock, OR	80.35 39	P	P	19 42 29.6 +1.2
	baz=234,SNR=17				
BRSE	Bradley Lake S	80.57 14	P	P	19 42 29.8 +0.8
	baz=207				
I05D	Terrebonne, OR	80.90 38	P	P	19 42 32.0 +0.8
	baz=234				
F04D	Rainier, OR	80.99 36	P	P	19 42 32.9 +1.4
	baz=233				
PRN	Pahroc Range	81.11 46	P	P	19 42 33.9 +1.4
PRN			IAmb	IAmb	19 42 34.8
	comp=Z,10nm,0.9s				
R11A	Troy Canyon, C	81.23 45	P	P	19 42 33.7 +0.6
	baz=239,SNR=5.5				
BMN	Battle Mountai	81.24 43	P	P	19 42 33.7 +0.5
BMN			IAmb	IAmb	19 42 35.0
	comp=Z,11nm,1.0s				
WVOR	Wild Horse Val	81.44 40	P	P	19 42 34.9 +0.8
WVOR			IAmb	IAmb	19 42 36.0
	comp=Z,12nm,1.0s				
G05D	Wamic, OR	81.44 37	P	P	19 42 34.9 +1.0
	baz=234				
E04D	Cinebar	81.53 35	P	P	19 42 35.6 +1.4
	baz=233				
GAMB	Gambell	81.55 3	P	P	19 42 33.8 0.0
	baz=187				
F05D	White Salmon	81.74 36	P	P	19 42 35.8 +0.4
	baz=234				
TUC	Tucson	81.75 52	P	P	19 42 37.0 +1.2
TUC	Tucson	81.75 52	P	P	19 42 37.3 +1.5
	baz=243				
D04E	Lakebay	81.79 35	P	P	19 42 37.4 +1.9
	baz=233				
UBPT	Khong Chiam	81.83 289	P	P	19 42 36.4 -0.1
UBPT			IAmb	IAmb	19 42 37.2
	comp=Z,7.6nm,0.7s				
I07A	Izee	81.83 39	P	P	19 42 36.8 +0.8
I07A			IAmb	IAmb	19 42 37.9
	comp=Z,11nm,0.8s				
D03D	Eldon	81.84 34	P	P	19 42 36.3 +0.5
	baz=232				
X16A	Lo Mia Camp, P	82.23 50	P	P	19 42 39.5 +1.2
IPM	Ipoh	82.33 277	P	P	19 42 39.1 0.0
IPM			IAmb	IAmb	19 42 40.1
	comp=Z,15nm,0.7s				
SPR3	Spring Creek 3	82.41 45	P	P	19 42 39.6 +0.4
KNB	Kanab	82.47 47	P	P	19 42 40.3 +0.9
319A	Douglas	82.48 54	P	P	19 42 40.0 +0.4
319A			IAmb	IAmb	19 42 42.3
	comp=Z,9.6nm,0.8s				
U15A	North Rim	82.56 48	P	P	19 42 41.4 +1.3
U15A			IAmb	IAmb	19 42 42.4
	comp=Z,14nm,0.8s				
PMR	Palmer	82.59 14	P	P	19

CUT	Chulitna	83.06	13	P		P	19 42 40.8	-0.7
	baz=207							
HAWA	Hanford	83.13	37	P		P	19 42 42.8	+0.5
HAWA				IAmb		IAmb	19 42 44.0	
	comp=Z,13nm,1.1s							
BMRM	Bremner River	83.14	16	P		P	19 42 41.7	-0.4
BMRM				IAmb		IAmb	19 43 06.3	
	comp=Z,46nm,1.5s							
BMRM	Bremner River	83.14	16	P		P	19 42 41.7	-0.4
	baz=212							
K20K	Telida	83.18	11	P		P	19 42 42.6	+0.4
	baz=203							
MESA	MESA	83.21	17	P		P	19 42 43.1	+0.5
	baz=215							
SCM	Sheep Creek Mo	83.21	14	P		P	19 42 42.2	-0.2
	baz=210							
X18A	Snowflake	83.37	51	P		P	19 42 45.0	+0.9
MTPU	Mount Pierson	83.41	47	P		P	19 42 45.8	+1.5
TNA	Tin City	83.56	4	P		P	19 42 43.9	0.0
	baz=190							
BMO	Blue Mountains	83.57	39	P		P	19 42 44.7	+0.1
CAST	Castle Rocks	83.61	12	P		P	19 42 42.9	-1.4
CAST				IAmb		IAmb	19 42 43.6	
	comp=Z,7.6nm,0.8s							
CAST	Castle Rocks	83.61	12	P		P	19 42 42.9	-1.4
	baz=205							
N25K	Chitina, Valde	83.69	16	P		P	19 42 44.8	0.0
	baz=212							
M24K	Tolsona, Glenn	83.72	15	P		P	19 42 45.7	+0.7
	baz=211							
LYN	LuoYang	83.73	309	⇑P		P	19 42 46.6	+1.0
LYN				PP		PP	19 46 09.3	-0.5
LYN				pmax		pmax		
	comp=Z,10.0nm,0.9s							
LYN				pmax		pmax		
	comp=Z,60nm,5.8s							
RPSI	Rantau Prapat	83.76	275	P		P	19 42 45.2	-1.0
RPSI				IAmb		IAmb	19 42 46.9	
	comp=Z,26nm,1.1s							
WAT6	Susitna Watana	83.77	14	P		P	19 42 44.5	-0.8
	baz=209							
PSI	Prapat	83.79	275	P		P	19 42 45.9	-0.6
	comp=Z,8.7nm,0.4s,baz=114,slow=3.2,SNR=16							
D08A	Wollman Farm,	83.85	36	P		P	19 42 46.5	+0.7
D08A				IAmb		IAmb	19 42 47.1	
	comp=Z,6.7nm,0.8s							
MAW	Mawson	83.86	200	P		P	19 42 45.7	+0.1
	comp=Z,3.3nm,0.5s,baz=153,slow=9.0,SNR=2.4							
MAW	Mawson	83.86	200	P		P	19 42 46.0	+0.4
J20K	Nowinta River	83.93	10	P		P	19 42 45.7	-0.1
	baz=203							
CHUM	Lake Minchumin	83.99	11	P		P	19 42 44.8	-1.3
	baz=205							
TRF	Thorofare Moun	83.99	12	P		P	19 42 45.6	-0.8
	baz=207							
DUG	Dugway, Tooele	84.02	45	P		P	19 42 47.1	0.0
	baz=241							
121A	Cookes Peak, D	84.12	53	P		P	19 42 48.9	+1.1
	baz=245							
ENH	Enshi	84.17	304	P		P	19 42 48.2	+0.3
ENH				IAmb		IAmb	19 42 49.5	
	comp=Z,22nm,0.8s							
F10A	Beach Ranch, E	84.23	38	P		P	19 42 47.8	0.0
F10A				IAmb		IAmb	19 42 49.6	
	comp=Z,11nm,0.9s							
B08A	Colville Reser	84.36	35	P		P	19 42 48.3	-0.1
B08A				IAmb		IAmb	19 42 48.8	
	comp=Z,6.5nm,0.7s							
PLID	Pearl Lake	84.48	39	P		P	19 42 49.5	+0.2
MCK	McKinley	84.52	13	P		P	19 42 48.5	-0.3
	baz=208							
GSI	Gunungsitoli	84.61	273	P		P	19 42 49.9	-0.5
GSI	Gunungsitoli	84.61	273	P		P	19 42 50.9	+0.5
GSI	Gunungsitoli	84.61	273	P		P	19 42 51.0	+0.6
	comp=Z,39nm,1.0s							
HLID	Hailey	84.66	41	P		P	19 42 51.3	+1.1
	baz=239							
M26K	Nabesna, AK	84.77	16	P		P	19 42 50.8	+0.8
	baz=214							
GYA	Guiyang	84.94	300	⇓P		P	19 42 52.3	+0.5
GYA				pmax		pmax		
	comp=Z,9.0nm,1.3s							
YUK3	Moose Creek	84.94	17	P		P	19 42 51.1	0.0
	baz=216							
M27K	Edge Creek, AK	85.03	16	P		P	19 42 52.0	+0.5
	baz=215							
L26K	Log Cabin Wild	85.20	15	P		P	19 42 52.2	+0.1
	baz=213							
I21K	Tanana	85.23	11	P		P	19 42 51.9	-0.2
	baz=205							
NEA2	Nenana	85.26	12	P		P	19 42 51.8	-0.5
	baz=208							
MLY	Manley	85.32	11	P		P	19 42 52.4	-0.2
	baz=206							
BVCY	Beaver Creek	85.35	17	P		P	19 42 53.1	+0.2
	baz=216							
SLVN	Son La	85.38	294	P		P	19 42 53.5	-0.4
SLVN				IAmb		IAmb	19 42 55.9	
	comp=Z,10nm,1.4s							
RIDG	Independent Ri	85.44	14	P		P	19 42 53.2	-0.1
	baz=212							
H21K	Melozitna Rive	85.52	10	P		P	19 42 53.7	+0.1
	baz=204							
NEW	Newport	85.53	36	P		P	19 42 53.5	-0.5
	baz=237							
HDA	Harding Lake	85.54	13	P		P	19 42 53.4	-0.3
	baz=210							
L27K	Beaver Creek,	85.62	16	P		P	19 42 53.7	-0.4
	baz=215							
MNTX	Cornudas Mount	85.63	55	P		P	19 42 55.8	+0.9
MNTX				IAmb		IAmb	19 42 57.2	
	comp=Z,9.4nm,1.4s							
MNTX	Cornudas Mount	85.63	55	P		P	19 42 55.5	+0.6
	baz=246							
BCAR	Beaver Creek A	85.64	16	P		P	19 42 54.3	+0.1
IMAR	Indian Mountai	85.66	10	P		P	19 42 54.0	-0.2
I23K	Minto, Yukon-K	85.69	12	P		P	19 42 53.8	-0.6
	baz=208							
SCRK	Sand Creek	85.85	15	P		P	19 42 55.9	+0.6
	baz=213							
IL31		85.87	13	P		P	19 42 54.4	-0.8
IL31				IAmb		IAmb	19 42 56.8	
	comp=Z,13nm,1.5s							
ILAR	Eielson Array	85.87	13	P		P	19 42 54.4	-0.9
	comp=Z,1.6nm,0.4s,baz=222,slow=5.0,SNR=30							
POKR	Poker Plat Res	86.06	13	P		P	19 42 55.9	-0.2
	baz=210							
J25K	Salcha River,	86.07	14	P		P	19 42 55.7	-0.5
	baz=212							
ANMO	Albuquerque	86.14	52	P		P	19 42 58.2	+0.7
	baz=245							
XAN	Xi'an	86.16	307	P		P	19 42 58.9	+1.5
XAN				pmax		pmax		
	comp=Z,23nm,0.9s							
XAN				pmax		pmax		
	comp=Z,180nm,3.8s							
MCMT	McKenzie Canyo	86.27	41	P		P	19 42 58.8	+0.9
J26L	Joseph Creek	86.39	14	P		P	19 42 58.1	+0.3
	baz=213							
RDOG	Red Dog Mine	86.44	6	P		P	19 42 59.0	+1.2
	baz=195							
M30M	Minto, Yukon	86.63	18	P		P	19 42 58.9	0.0
	baz=219							
S22A	4UR Ranch, Cre	87.05	49	P		P	19 43 02.8	+0.9
	baz=245							
HHC	Hu-ho-hao-te	87.18	314	eP		P	19 43 00.3	-1.8
HHC				pmax		pmax		
	comp=Z,14nm,0.8s							
HHC				pmax		pmax		
	comp=Z,280nm,6.9s							
EGAK	Eagle	87.20	15	P		P	19 43 01.2	-0.2
	baz=215							
FLWY	Flagg Ranch	87.26	42	P		P	19 43 03.7	+1.1
FLWY				IAmb		IAmb	19 43 04.8	
	comp=Z,5.9nm,0.8s							
BW06	Boulder Array	87.39	43	P		P	19 43 03.4	+0.2
BW06				IAmb		IAmb	19 43 04.4	
	comp=Z,4.3nm,0.7s							
BW06	Boulder Array	87.39	43	P		P	19 43 03.6	+0.4
	baz=243							
PDAR	Pinedale Array	87.39	43	P		P	19 43 03.6	+0.4
	comp=Z,3.4nm,0.5s,baz=218,slow=3.3,SNR=47							
PDAR				PP		PP	19 46 36.9	-2.1
	comp=Z,0.6nm,0.9s,baz=244,slow=6.4,SNR=4.1							
PDAR	Pinedale Array	87.39	43	P		P	19 43 03.4	+0.2
COLD	Coldfoot	87.39	11	P		P	19 43 02.8	+0.5
	baz=207							
BOZ	Bozeman (W)	87.40	40	P		P	19 43 03.7	+0.6
	baz=241							
H17A	Grant Village	87.48	42	P		P	19 43 05.6	+1.9
	baz=242							
KMI	Kunming	87.73	297	⇓P		P	19 43 06.4	+1.2
KMI				pmax		pmax		
	comp=Z,7.0nm,0.8s							
SDCO	Great Sand Dun	88.01	49	P		P	19 43 06.6	+0.3
	baz=246							
MSTX	Muleshoe	88.54	54	P		P	19 43 08.9	+0.3
	baz=247							
T25A	Trinidad	88.55	50	P		P	19 43 09.3	+0.5
	baz=246							
BMAR	Burnt Mountain	88.64	12	P		P	19 43 08.6	+0.4
RLMT	Red Lodge	88.65	41	P		P	19 43 09.9	+0.9
	baz=243							
TOLK	Toolik Lake Re	88.77	10	P		P	19 43 08.3	-0.5
	baz=208							
ISCO	Idaho Springs	88.77	47	P		P	19 43 09.8	-0.1
	baz=246							
CM31	Chiang Mai Arr	88.78	290	P		P	19 43 10.2	+0.2
CM31				IAmb		IAmb	19 43 12.0	
	comp=Z,5.9nm,0.9s							
CMAR	Chiang Mai Arr	88.78	290	P		P	19 43 10.7	+0.7
	comp=Z,4.4nm,0.9s,baz=111,slow=2.7,SNR=34							
CMAR	Chiang Mai Arr	88.78	290	P		P	19 43 10.2	+0.2
CHTO	Chiang Mai	88.90	290	P		P	19 43 10.5	0.0
CHTO				IAmb		IAmb	19 43 12.0	
	comp=Z,6.5nm,0.8s							
N23A	Red Feather La	89.00	46	P		P	19 43 11.4	+0.6
N23A				IAmb		IAmb	19 43 13.3	
	comp=Z,7.1nm,1.1s							
N23A	Red Feather La	89.00	46	P		P	19 43 10.6	-0.2
	baz=245							
PZH	PanZhiHua	89.06	298	P		P	19 43 11.6	+0.4
PZH				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,120nm,4.5s							
K22A	Casper	89.34	45	P		P	19 43 12.5	+0.3
	baz=245							
JCT	Junction City	89.59	58	P		P	19 43 13.5	0.0
	baz=249							
AMTX	Amarillo	89.72	53	P		P	19 43 14.2	+0.1
	baz=248							
ABTX	Abilene, Hawle	90.48	56	P		P	19 43 17.3	-0.3
	baz=249							
SNAA	Sanae	90.64	179	P		P	19 43 17.2	-0.5
SNAA	Sanae	90.64	179	P		P	19 43 17.0	-0.6
SNAA				IAmb		IAmb	19 43 17.8	
	comp=Z,3.2nm,0.7s							
VNA3	Neumayer Olymp	90.78	176	P		P	19 43 18.0	-0.2
LZH	Lanzhou	90.80	308	eP		P	19 43 20.0	+0.9
LZH				pmax		pmax		
	comp=Z,16nm,0.9s							
VNA2	Neumayer--Watz	91.22	177	P		P	19 43 20.2	-0.1
LAO	LASA Array	91.24	41	P		P	19 43 21.9	+1.1
	baz=245							
VNA1	Neumayer--Stat	91.45	177	P		P	19 43 21.4	+0.1
RSSD	Black Hills	91.60	44	P		P	19 43 22.7	0.0
	baz=247							
INK	Inuvik	91.87	15	P		P	19 43 22.6	-0.5
	baz=222							
R32A	Long Quarter,	93.22	51	P		P	19 43 30.1	+0.1
DGMT	Dagmar	93.22	40	P		P	19 43 30.5	+0.7
	baz=247							
SONM	Songino Array	93.46	319	P		P	19 43 31.3	+0.3
	comp=Z,0.5nm,0.5s,baz=129,slow=4.3,SNR=6.3							
YKA	Yellowknife Ar	94.33	25	P		P	19 43 34.0	-0.5
	comp=Z,0.7nm,0.5s,baz=245,slow=4.5,SNR=13							
YKA	Yellowknife Ar	94.33	25	P		P	19 43 34.3	-0.2
GTA	Gaotai	94.94	310	eP		P	19 43 38.3	+0.4
KSU1	Kansas State U	95.00	51	P		P	19 43 38.9	+0.9
	baz=251							
C36M	Paulatuk	95.08	17	P		P	19 43 37.5	-0.2
	baz=231							
A36M	Sachs Harbour	96.47	15	P		P	19 43 43.9	+0.1
	baz=230							
ECSD	EROS Data Cent	96.47	46	P		P	19 43 43.8	-0.8
	baz=252							
W41B	Gary Mavity, V	97.12	55	P		Pdif	19 43 46.9	-0.7
	baz=253							
ZALV	Zalesovo Beam	108.15	322	PKiKP		PKiKP	19 48 37.7	-1.4
	comp=Z,0.7nm,0.6s,baz=144,slow=2.1,SNR=4.7							
MKAR	Makanchi Array	109.04	314	Pdiff		Pdif	19 44 41.5	+1.1
	comp=Z,0.2nm,0.4s,baz=193,slow=16,SNR=5.0							
MKAR				PKiKP		PKiKP	19 48 39.7	-1.3
	comp=Z,0.9nm,0.5s,baz=82,slow=3.8,SNR=25							
ARU	Arti	122.77	326			PKPdf	19 49 06.3	-0.6
AKTO	Aktyubinsk	124.78	320	PKP		PKPdf	19 49 10.6	-0.4
	comp=Z,1.3nm,0.6s,baz=74,slow=7.4,SNR=3.7							
ARCES	ARCESS Array B	126.26	350	PKP		PKPdf	19 49 12.8	-0.5
	comp=Z,2.7nm,0.8s,baz=29,slow=2.1,SNR=7.6							
ARCES	ARCESS Array B	126.26	350			PKPdf	19 49 13.2	-0.2
GEYT	Alibeck	126.94	304	PKP		PKPdf	19 49 15.5	-0.1
	comp=Z,1.2nm,0.6s,baz=116,slow=3.4,SNR=3.7							
FINES	FINESS Array B	133.13	344	PKhKP		PKPpre	19 49 22.3	
	comp=Z,3.2nm,1.0s,baz=154,slow=6.1,SNR=4.6							
FINES				PKP		PKPdf	19 49 26.4	-0.1
	comp=Z,0.9nm,0.5s,baz=64,slow=3.2,SNR=5.8							
AKASG	Malin Array Be	140.48	332	PKhKP		PKPpre	19 49 33.6	
	comp=Z,0.4nm,0.3s,baz=44,slow=4.0,SNR=8.0							
SORM	Soroca	142.71	330	⇑P		PKPdf	19 49 41.5	-2.9
BNN	Bunyan	143.56	312			PKPab	19 49 45.1	-0.1
LODK	Lodwar	143.85	251			PKPbc	19 49 46.2	-0.7
KWP	Kalwaria Pacla	144.00	336	ePKPbc		PKPbc	19 49 46.4	+0.2
KWP	Kalwaria Pacla	144.00	336			PKPbc	19 49 46.0	-0.2
VASR	Vaslui	144.03	329	⇑P		PKPbc	19 49 46.5	+0.1
VLDR	Vladesti	144.43	327	⇑P		PKPab	19 49 48.4	+0.2
TLCR		144.49	326	⇑P		PKPdf	19 49 47.9	+0.2
BUR08	Bucovina Ar. S	144.52	332	PKPdf		PKPbc	19 49 48.2	+0.2
BURAR	Bucovina Array	144.54	332	⇑P		PKPab	19 49 48.7	+0.1
BURAR	Bucovina Array	144.54	332			PKPdf	19 49 48.0	+0.2
OJC	Ojcow	144.54	340	ePKPbc		PKPdf	19 49 47.8	+0.1
SCTR	Scanteiesti	144.59	327	⇑P		PKPab	19 49 48.7	-0.1
TESR	Tescani	144.68	329	⇑P		PKPdf	19 49 46.9	-1.0
BR131	Keskin Array S	144.69	315			PKPdf	19 49 48.2	-0.2
BRTR	Keskin Array B	144.69	315	PKP		PKPdf	19 49 48.4	0.0
	comp=Z,4.1nm,0.5s,baz=99,slow=1.4,SNR=37							
SLCR	Slobozia Conac	144.76	327	⇓P		PKPab	19 49 49.8	+0.3
KSP	Ksiaz	145.05	344	ePKPbc		PKPbc	19 49 49.8	+0.4
NIE	Niedzica	145.06	338	ePKPbc		PKPab	19 49 50.6	+0.1
ANTO	Ankara	145.19	316	PKPdf		PKPdf	19 49 49.8	+0.6
TRPA	Tarpa	145.27	335	⇓P		PKPdf	19 49 49.3	+0.4
HARR	Harsova	145.29	326	⇓P		PKPab	19 49 51.1	-0.5
CHVC	Chvalec	145.34	344	ePKP		PKPab	19 49 52.0	+0.4
CLL	Collm	145.41	347	i PKPbc		PKPbc	19 49 50.1	-0.3
	comp=Z,15nm,1.2s							
CLL				eSKPdf		SKPdf	19 52 27.0	-1.9
CLL	Collm	145.41	347			PKPdf	19 49 49.9	+0.8
DPC	Dobruska-Polom	145.49	343	ePKP		PKPbc	19 49 51.1	+0.4
KRLC	Kraliky	145.60	343	ePKP		PKPbc	19 49 51.2	+0.1
MORC	Moravsky Berou	145.65	341	⇑P		PKPbc	19 49 51.3	+0.1
DOPR	Dopca	145.68	330	⇑P		PKPbc	19 49 52.2	+0.9
PVCC	Panska Ves	145.78	345	ePKP		PKPbc	19 49 51.8	+0.3
MESR	Meseseni	145.88	334	⇑P		PKiKP	19 49 59.7	+5.3
CJR	Cluj-Napoca	145.94	332	⇓P		PKPbc	19 49 52.1	0.0
SECR		146.01	328	⇓P		PKPdf	19 49 51.1	+0.8
PRU	Pruhonice	146.28	345	ePKP		PKPbc	19 49 53.1	+0.2
VYHS	Vyhne	146.35	339	ePKP		PKPbc	19 49 53.6	+0.5
PSZ	Piszkesteto	146.46	337	⇓P		PKPbc	19 49 53.5	-0.1
MODS	Modra-Piesok	146.97	341	ePKP		PKPbc	19 49 54.8	0.0
SIRR	Siria	147.12	334	⇑P		PKPbc	19 49 55.7	+0.4
KHC	Kasperske Hory	147.32	345	ePKP		PKPbc	19 49 55.9	+0.2
GZR	Gura Zlata	147.32	332	⇑P		PKPbc	19 49 55.2	-0.7
CKRC	Cesky Krumlov	147.42	344	ePKP		PKPbc	19 49 56.2	+0.2
GERES	GERESS Array B	147.55	345	PKPbc		PKPbc	19 49 56.3	-0.1
	comp=Z,3.6nm,0.6s,baz=33,slow=3,1,SNR=32							
BZS	Buzias	147.66	333	⇑P		PKPdf	19 49 53.6	+0.6
CONA	Conrad Observa	147.80	342	i P		PKPbc	19 49 57.3	+0.2
	comp=Z,2.6nm,0.5s,SNR=5.4							
HERR	Herculane	147.88	331	⇑P		PKPbc	19 49 57.3	+0.1
MOA	Molln	148.32	344	eP		PKiKP	19 49 59.2	-0.3
	comp=Z,0.6nm,0.4s							
MORH	Mrgy, Hungar	148.36	337	⇑P		PKPbc	19 49 57.9	-0.4
ARSA	Arzberg	148.51	342	i P		PKPbc	19 49 58.3	-0.5
	comp=Z,0.5nm,0.4s							
ZAGS	Zajecar	148.78	330	eP		PKPbc	19 49 58.2	-1.3
FRGS	Fruska Gora	148.78	335	⇓P		PKPbc	19 49 58.8	-0.7
FRGS	Fruska Gora	148.78	335	eP		PKPbc	19 49 59.2	-0.3
ZAPS	Zavoj	148.99	329	eP		PKPbc	19 50 00.2	+0.1
BOVS	Bovan	149.16	331	eP		PKPbc	19 49 59.5	-0.9
VTS	Vitosha	149.18	328	⇓P		PKPbc	19 49 59.7	-1.0
TRUS	Trudelj	149.29	333	eP		PKPbc	19 50 00.5	-0.2
GRUS	Gruza	149.41	332	eP		PKPbc	19 50 01.0	0.0
WATA	Walderalm	149.47	346	eP		PKPbc	19 50 01.0	-0.2
	comp=Z,2.2nm,0.5s							
RETA	Reutte	149.50	348	i P		PKPbc	19 50 00.9	-0.4
	comp=Z,1.1nm,0.4s							
WTTA	Wattenberg	149.52	346	eP		PKPbc	19 50 01.1	-0.3
	comp=Z,3.3nm,0.3s							
MOTA	Moosalm	149.56	347	i P		PKPbc	19 50 01.2	-0.3
	comp=Z,1.1nm,0.3s,SNR=4.1							
DIVS	Divibare	149.56	333			PKPbc	19 50 01.4	-0.1
DIVS	Divibare	149.56	333	eP		PKPbc	19 50 01.4	-0.1
MYKA	Terra Mystica	149.61	343	eP		PKPbc	19 50 00.7	-0.8
	comp=Z,2.1nm,0.4s							
BOSS	Bosilegrad	149.64	328	eP		PKPbc	19 50 01.5	-0.2
SQTA	Sankt Quirin	149.66	347	i P		PKPbc	19 50 01.6	-0.1
	comp=Z,3.5nm,0.6s,SNR=4.6							
BARS	Barje	149.73	330	eP		PKPbc	19 50 01.8	0.0
SELS	Selova	149.75	331	eP		PKPbc	19 50 01.3	-0.6
ABTA	Abfaltersbach	149.80	345	eP		PKPbc	19 50 01.3	-0.7
	comp=Z,4.2nm,0.6s							
IVAS	Ivanjica	149.91	332	eP		PKPbc	19 50 01.7	-0.6
FETA	Feichten	149.95	347	eP		PKPbc	19 50 02.5	0.0
	comp=Z,2.1nm,0.7s							
BBLS	Lazići	150.00	334	eP		PKPbc	19 50 02.2	-0.3
SJES	Sjenica	150.24	332	eP		PKiKP	19 50 03.7	0.0
FNA	Florina	151.46	327			PKPbc	19 50 05.1	-0.8
ESDC	Sonseca Array	157.76	11	PKPab		PKPab	19 50 43.7	-0.4
	comp=Z,0.4nm,0.6s,baz=347,slow=6.6,SNR=1.3							
TORD	Torodi Ar. Bea	175.30	182	PKP		PKPdf	19 50 20.4	-1.1
	comp=Z,0.5nm,0.8s,baz=155,slow=0.5,SNR=3.1							
TORD				PKPab		PKPab	19 52 01.0	-0.8
	comp=Z,0.3nm,0.6s,baz=203,slow=3.4,SNR=1.4							

*IDC **02** 19:38:26.2±4.3, 32°.52N×140°.72E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3. 1/37, mbtmp3.4/3, ML2.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.3/62, Error ellipse: s-maj=159.6km s-min=26.6km az=71.0*

*JMA **02** 19:38:34.8±0.2, 33°.48N×140°.95E, h29km, M2.8*

ISC 02 19:38:34.5±1.7, 33°.63N±0°.08×140°.6E±0°.1, h10km, n9, σ1°15/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.86	233	P	Pn	19 38 53.2	+0.5
JHCJ	Hachijoimakas	0.90	232	eS	Sn	19 39 07.0	+0.8
BSO1	Boso 1	1.05	15	P	Pg	19 38 55.5	+0.8
JHO	Hitachi	2.97	359	P	Pn	19 39 21.6	-0.1
MJAR	Matsushiro Arr	3.52	326	Pn	Pb	19 39 35.5	-1.3
	0.1nm,0.3s,baz=151,slow=12,SNR=11						
MJAR				Sn	Sg	19 40 28.6	+1.1
	0.2nm,0.3s,baz=241,slow=31,SNR=5.0						
JFT	Otama	3.88	356	P	Pn	19 39 35.1	+0.9
MKAR	Makanchi Array	45.46	305	P	P	19 46 52.5	-1.2
	0.1nm,0.4s,baz=88,slow=8.6,SNR=4.2						
FITZ	Fitzroy Crossi	53.40	198	LR	LR	20 09 21.7	
	comp=Z,44nm,19.9s,baz=184,slow=35						
WRA	Warramunga Arr	53.61	187	P	P	19 47 41.1	-15
	0.7nm,0.6s,baz=5.3,slow=7.6,SNR=5.5						

*IDC **02** 19:50:22.7±1.0, 38°.20N×73°.60E, h0km, mb3.9/11, mb1 3.9/17, mb1mx3.7/43, mbtmp3.8/17, ML3.2/6, MS3.5/2, Ms1 3.5/2, ms1mx2.5/92, Error ellipse: s-maj=18.3km s-min=16.5km az=70.0*

*NNC **02** 19:50:25.8±3.2, 38°.42N×73°.68E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=24.6km s-min=13.3km az=167.0*

ISC 02 19:50:23.2±0.7, 38°.05N±0°.07×73°.51E±0°.08, h10km, n35, σ1°76/35, mb3.8/10, 3C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.64	9	Pn	Pn	19 51 34.9	+1.3
	0.9nm,0.3s,baz=192,slow=6.2,SNR=18						
AAK				Sn	Sn	19 52 29.8	+2.3
	0.6nm,0.3s,baz=106,slow=18,SNR=2.1						
AAK				Lg	Lg	19 52 39.5	
	1.1nm,0.3s,baz=186,slow=18,SNR=5.8						
AAK	Ala-Archa	4.64	9	⇑Pg	Pb	19 51 41.6	-3.2
	7.8nm,0.5s						
AAK				⇑Lg	Lg	19 52 40.1	
	21nm,0.7s						
TKM2	Tokmak 2	5.12	17	⇓Pg	Pb	19 51 54.3	+1.4
	5.5nm,0.5s						
TKM2				⇓Lg	Lg	19 52 53.8	
	14nm,0.8s						
KK08	Karatay Array	5.55	336	⇑Pn	Pn	19 51 47.2	+1.4
	7.9nm,0.6s,baz=152,slow=12						
KK08				⇓Sn	Sn	19 52 49.4	-0.3
	7.8nm,0.7s,baz=157,slow=24						
TNSS	Tian-Shan	5.63	27	Pg	Pb	19 52 01.6	-0.1
TNSS				Lg	Lg	19 53 11.4	
BRLS	Borolday	5.71	332	Pg	Pb	19 52 03.7	+0.9
	6.9nm,0.5s						
BRLS				Lg	Lg	19 53 14.8	
	15nm,0.7s						
MDOK	Medeo	5.77	27	Pg	Pb	19 52 04.0	-0.1
MDOK	

s-min=24.7km az=75.0

ISC 02 20:14:52.9±1.8, 19°1'N±0'.2×121°.5E±0'.6, h39km, n6, σ3°09/5, mb3.4/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	San Manuel, Pa	3.04	194⇓	eP	Pn	20 15 36.0	-2.5
SMPP				eS	Sn	20 16 17.0	+3.4
KSRS	Korea Array	19.13	16	P	Pn	20 19 14.8	+1.1
	0.1nm,0.3s,baz=203,slow=12,SNR=5.8						
WRA	Warramunga Arr	40.81	161	P	P	20 22 30.8	0.0
	0.7nm,0.9s,baz=339,slow=9.1,SNR=2.2						
MKAR	Makanchi Array	42.26	320	P	P	20 22 54.7	+12
	0.5nm,1.0s,baz=111,slow=7.9,SNR=2.5						
YAK	Yakutsk	43.26	6	LR	LR	20 41 47.1	
	comp=Z,29nm,18.3s,baz=292,slow=37						
ASAR	Alice Springs	44.22	164	P	P	20 22 58.3	-0.1
	0.6nm,0.7s,baz=341,slow=7.2,SNR=10						

*TUL **02** 20:26:40.4±0.5, 35°.74N±0'.02×97°.36W±0'.03, h7km±6km, ML3.7, mb_Lg3.5/103(NEIC), Mwr3.3/8(SLM), Error ellipse: s-maj=3.4km s-min=2.4km az=86.0*

*ANF **02** 20:26:40.7±1.0, 35°.72N×97°.31W, h10km±7km, ML4.4/18, Error ellipse: s-maj=2.8km s-min=2.2km az=167.0*

*NEIC **02** 20:26:40.4, 35°.76N×97°.37W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.02; $M_{\theta\theta}$0.89; $M_{\phi\phi}$-0.90; $M_{r\theta}$-0.12; $M_{r\phi}$0.53; $M_{\theta\phi}$-0.03; Fault plane solution: $M_0$1.05000×10^{14} NP1:φ±300.00000°, δ85.00000°, λ5.00000°. NP2:φ±210.00000°, δ85.00000°, λ175.00000°. Principal axes: T 1.0468, Plg7.0000°, Azm165.0000°; N 0.0002, Plg83.0000°, Azm345.0000°; P -1.0470, Plg0.0000°, Azm255.0000°;*

*NEIC **02** 20:26:41.0±0.5, 35°.74N±0'.03×97°.35W±0'.03, h7km±5km Error ellipse: s-maj=4.3km s-min=2.3km az=141.0*

ISC 02 20:26:40.1±0.9, 35°.78N±0'.02×97°.32W±0'.02, h8km±7km, n125, σ0°79/110, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.11	281	Pg	Pg	20 26 42.8	+0.1
OK029				Sg	Sg	20 26 44.6	+0.1
OK005	Luther M Schoo	0.16	139	Pg	Pg	20 26 44.1	+0.6
OK025	Westminster Rd	0.19	184	Pg	Pg	20 26 44.0	0.0
OK009	Oakdale Elemen	0.21	204		Pg	20 26 44.2	-0.2
OK009				Sg	Sg	20 26 47.0	-0.3
OK001	Jones High Sch	0.21	173	Pg	Pg	20 26 44.5	+0.1
BCOK	Bluff Creek, N	0.26	244	Pg	Pg	20 26 45.0	-0.4
BCOK				Sg	Sg	20 26 48.5	-0.4
OKCFA	Oklahoma City	0.38	197	Pg	Pg	20 26 47.2	-0.3
OKCSW	OKLAHOMA CITY	0.38	195		Pg	20 26 47.3	-0.2
OK033	Mehan	0.41	49	Pg	Pb	20 26 49.4	-0.3
OK031	S. Brethren Rd	0.43	65	Pg	Pb	20 26 49.6	-0.3
OK030	Cody Creek RV	0.46	71		Pb	20 26 50.2	-0.3
FNO	Franklin	0.52	187	Pg	Pg	20 26 49.9	-0.3
OK034	N. Norfolk Rd.	0.55	64	Pg	Pb	20 26 51.7	-0.2
QUOK	Quay	0.63	51	Pg	Pb	20 26 53.4	-0.1
CROK	Carrier	0.91	324	Pg	Pg	20 26 57.6	+0.1
BLOK	Blackwell	0.99	5	Pg	Pb	20 26 59.6	+0.1
GC02	Grant County #	1.16	338	Pg	Pg	20 27 02.2	-0.2
KAN13	South Haven SW	1.24	354	Pg	Pg	20 27 04.0	0.0
X34A	Smith Ranch, M	1.24	200	Pg	Pg	20 27 03.2	-0.8
TUL1	Leonard	1.25	83		Pg	20 27 03.3	-0.8
TUL1	Leonard	1.25	83	P	Pg	20 27 03.3	-0.8
	baz=263,SNR=181						
TUL1				S	Sb	20 27 20.8	+0.7
	baz=263						
OK032	Salt Plains WL	1.25	325	Pg	Pg	20 27 03.7	-0.5
KAN14	Manchester OK	1.29	336		Pg	20 27 04.4	-0.4
T35A	Sooner Cattle	1.31	30	Pg	Pg	20 27 05.1	-0.2
KAN17	Caldwell West	1.32	344		Pg	20 27 05.2	-0.2
KAN05	Bluff City Nor	1.40	342		Pn	20 27 06.6	+0.6
KAN01	Argonia South	1.42	346		Pn	20 27 06.9	+0.7
OK035	E0210 Rd and N	1.46	310		Pn	20 27 06.9	+0.1
KAN10	Anthony SW Sta	1.48	335		Pn	20 27 07.5	+0.4
U32A	Winter Ranch,	1.49	294		Pn	20 27 07.2	0.0
KAN08	Anthony NE Sta	1.54	340		Pb	20 27 08.9	-0.1
KAN16	Harper SW Stat	1.57	338		Pn	20 27 09.1	+0.8
WMOK	Wichita Mounta	1.58	230		Pn	20 27 08.0	-0.4
WMOK	Wichita Mounta	1.58	230	P	Pn	20 27 08.1	-0.4
	baz=49						
WMOK				S	Sn	20 27 28.8	-0.3
	baz=49						
KAN12	Harper NE Stat	1.61	340		Pb	20 27 10.1	-0.1
LOOK	Love County	1.78	176	Pn	Pn	20 27 11.9	+0.7
X37A	Clayton	1.99	126	Pn	Pn	20 27 14.9	+0.9
X37A				IAmb_Lg		20 27 46.0	
	comp=Z,197nm,0.8s						
Z35A	Perchaven, San	2.44	179		Pn	20 27 20.7	+0.5
U38A	Gravette	2.47	74	Pn	Pn	20 27 21.9	+1.3
HHAR	Hobbs	2.79	79		Pn	20 27 26.1	+1.1
W39A	Magazine	2.94	100		Pn	20 27 28.4	+1.3
W39A				IAmb_Lg		20 28 22.8	
	comp=Z,146nm,0.8s						
W39A	Magazine	2.94	100	P	Pn	20 27 28.0	+0.8
	baz=282,SNR=17						
W39A				S	Sn	20 28 03.5	+0.8
	baz=282						
Z38A	Mt. Pleasant	3.16	142		Pn	20 27 30.6	+0.4
MIAR	Mount Ida	3.30	111	Pn	Pn	20 27 33.3	+1.2
MIAR				IAmb_Lg		20 28 32.8	
	comp=Z,143nm,0.8s						
MIAR	Mount Ida	3.30	111	P	Pn	20 27 32.8	+0.7
	baz=292,SNR=8.8						
MIAR				S	Sn	20 28 12.7	+1.1
	baz=292						
KSU1	Kansas State U	3.37	9	Pn	Pn	20 27 33.8	+0.8
KSU1				IAmb_Lg		20 28 32.2	
	comp=Z,125nm,0.7s						
KSU1	Kansas State U	3.37	9	P	Pn	20 27 33.9	+0.9
	baz=190						
KSU1				Sb	Sg	20 28 25.9	-2.4
	baz=190						
CBKS	Cedar Bluff	3.59	328		Pn	20 27 37.3	+1.1
CBKS				IAmb_Lg		20 28 44.3	
	comp=Z,112nm,0.8s						
CBKS	Cedar Bluff	3.59	328	P	Pn	20 27 37.5	+1.3
	baz=148						
CBKS				Sb	Sg	20 28 33.4	-2.2
	baz=148						
U40A	Yellville	3.66	80		Pn	20 27 37.8	+0.7
U40A	Yellville	3.66	80	P	Pn	20 27 37.4	+0.3
	baz=262						
AMTX	Amarillo	3.67	257	Pn	Pn	20 27 37.8	+0.4
AMTX	Amarillo	3.67	257	P	Pn	20 27 37.7	+0.4
	baz=75						
AMTX				S	Sn	20 28 22.9	+2.0
	baz=75						
ABTX	Abilene, Hawle	3.69	212	IAmb_Lg		20 28 39.6	
	comp=Z,74nm,0.7s						
ABTX	Abilene, Hawle	3.69	212	S	Sn	20 28 21.8	+0.7
	baz=31						
S39A	Bolivar	3.74	58	Pn	Pn	20 27 39.2	+1.2
S39A				IAmb_Lg		20 28 43.6	
	comp=Z,151nm,0.7s						
WHTX	Lake Whitney,	3.78	182	Pn	Pn	20 27 38.5	-0.1
WHTX	Lake Whitney,	3.78	182	P	Pn	20 27 38.6	0.0
	baz=1.2,SNR=19						
WHTX				Sb	Sb	20 28 34.4	+1.5
	baz=1.2						
X40A	Basin Creek Fa	3.89	108		Pn	20 27 41.0	+0.8
X40A				IAmb_Lg		20 28 47.9	
	comp=Z,188nm,0.9s						
X40A	Basin Creek Fa	3.89	108	P	Pn	20 27 40.4	+0.2
	baz=290						
X40A				S	Sn	20 28 26.9	+0.7
	baz=290						
237A	Washetta, Mont	3.97	161		Pn	20 27 41.1	-0.2
WLAR	White Oak Lake	4.04	120	IAmb_Lg		20 28 55.5	
	comp=Z,118nm,1.0s						
WHAR	Wooly Hollow	4.13	95	Pn	Pn	20 27 44.2	+0.7
WHAR				IAmb_Lg		20 28 52.5	
	comp=Z,114nm,0.9s						
W41B	Gary Mavity, V	4.18	97	Pn	Pn	20 27 44.8	+0.6
W41B				IAmb_Lg		20 28 55.3	
	comp=Z,88nm,0.8s						
W41B	Gary Mavity, V	4.18	97	P	Pn	20 27 44.7	+0.6
	baz=279,SNR=7.4						
W41B				S	Sn	20 28 33.6	+0.4
	baz=279						
FCAR	Ozark Folk Cen	4.22	87		Pn	20 27 44.5	-0.2
FCAR				IAmb_Lg		20 28 56.8	
	comp=Z,69nm,0.7s						
MGMO	Mountain Grove	4.30	70		Pn	20 27 46.6	+0.8
MGMO				IAmb_Lg		20 28 56.2	
	comp=Z,111nm,0.8s						
Z41A	Richland Creek	4.50	123	Pn	Pn	20 27 48.6	+0.1
Z41A				IAmb_Lg		20 29 11.3	
	comp=Z,81nm,0.9s						
Z41A	Richland Creek	4.50	123	S	Sn	20 28 40.8	-0.2
	baz=305						
NATX	Nacogdoches	4.58	150	S	Sn	20 28 41.8	-1.1
	baz=331						
R40A	Maddies Statio	4.76	57		Pn	20 27 52.8	+0.7
R40A				IAmb_Lg		20 29 20.2	
	comp=Z,80nm,0.8s						
MSTX	Muleshoe	4.83	250	Pn	Pn	20 27 53.1	-0.2
MSTX	Muleshoe	4.83	250	P	Pn	20 27 53.6	+0.3
	baz=67						
P38A	Dawn	4.88	37	Pn	Pn	20 27 55.0	+1.3
P38A				IAmb_Lg		20 29 26.9	
	comp=Z,75nm,0.9s						
CCAR	Cane Creek	4.92	111	Pn	Pn	20 27 54.6	+0.3
CCAR				IAmb_Lg		20 29 30.8	
	comp=Z,107nm,0.8s						
435B	Jarrell	4.98	183	Pn	Pn	20 27 54.5	-0.7
435B				IAmb_Lg		20 29 25.2	
	comp=Z,80nm,0.8s						
435B	Jarrell	4.98	183	S	Sn	20 28 52.2	-0.8
	baz=2.1						
LCAR	Lake Charles	5.01	85	Pn	Pn	20 27 55.6	0.0
LCAR				IAmb_Lg		20 29 23.7	
	comp=Z,68nm,1.0s						
N35A	Tabor	5.25	14		Pn	20 27 59.1	+0.2
KSCO	Kaye Shedlock'	5.32	309	Pn	Pn	20 28 02.0	+2.1
KSCO	Kaye Shedlock'	5.32	309	P	Pn	20 28 02.0	+2.1
	baz=126						
CCM	Cathedral Cave	5.37	63	Pn	Pn	20 28 01.7	+1.1
CCM				IAmb_Lg		20 29 36.4	
	comp=Z,52nm,0.7s						
CCM	Cathedral Cave	5.37	63	P	Pn	20 28 01.7	+1.1
	baz=246						
P40A	Paris	5.62	47	Pn	Pn	20 28 04.6	+0.7
PBMO	Poplar Bluff	5.66	78	IAmb_Lg		20 29 49.1	
	comp=Z,73nm,0.7s						
BGNE	Belgrade	5.66	354	Pn	Pn	20 28 04.2	-0.4
BGNE				IAmb_Lg		20 29 55.0	
	comp=Z,92nm,0.8s						
BGNE	Belgrade	5.66	354	P	Pn	20 28 05.1	+0.6
	baz=174						
JCT	Junction City	5.68	202	Pn	Pn	20 28 04.4	-0.4
JCT				IAmb_Lg		20 29 50.4	
	comp=Z,109nm,0.8s						
JCT	Junction City	5.68	202	P	Pn	20 28 04.4	-0.4
	baz=21						
LPAR	Lepanto	5.71	90	IAmb_Lg		20 29 57.2	
	comp=Z,60nm,0.7s						
143A	Socs Landing,	5.78	120	Pn	Pn	20 28 07.0	+0.9
143A				IAmb_Lg		20 30 00.7	
	comp=Z,39nm,0.8s						
T25A	Trinidad	5.88	285	Pn	Pn	20 28 07.9	+0.2
T25A				IAmb_Lg		20 29 54.8	
	comp=Z,80nm,0.7s						
T25A	Trinidad	5.88	285	P	Pn	20 28 08.1	+0.4
	baz=102						
GNAR	Gosnell	5.93	86	IAmb_Lg		20 29 56.7	
	comp=Z,95nm,0.8s						
FVM	French Village	5.95	66	Pn	Pn	20 28 08.7	+0.2
FVM				IAmb_Lg		20 29 54.3	
	comp=Z,75nm,0.9s						
N38A	Joes South For	5.95	31	Pn	Pn	20 28 09.1	+0.6
PARMO	Parma	6.18	80	IAmb_Lg		20 30 14.9	
	comp=Z,99nm,0.8s						
SLM	Saint Louis	6.33	61	IAmb_Lg		20 30 01.4	
	comp=Z,67nm,0.9s						
OGNE	Ogallala	6.35	326	IAmb_Lg		20 30 03.9	
	comp=Z,54nm,0.7s						
HENM	Henderson Moun	6.41	79	IAmb_Lg		20 30 17.7	
	comp=Z,104nm,0.8s						
GLAT	Glass	6.53	83	IAmb_Lg		20 30 12.9	
	comp=Z,100nm,0.9s						
W45A	Hickory Valley	6.67	93	IAmb_Lg		20 30 26.2	
	comp=Z,63nm,0.7s						
Y45A	Yeager Farm, C	6.67	104	IAmb_Lg		20 30 24.4	
	comp=Z,50nm,1.0s						
S44A	Carbondale	6.75	71	IAmb_Lg		20 30 28.9	
	comp=Z,56nm,0.8s						
SDCO	Great Sand Dun	6.86	289	P	Pn	20 28 22.3	+1.1
	baz=105						
UTMT	University of	6.87	83	IAmb_Lg		20 30 32.0	
	comp=Z,77nm,0.7s						
Q24A	Divide	7.00	299	IAmb_Lg		20 30 31.4	
	comp=Z,42nm,1.0s						
Q24A	Divide	7.00	299	P	Pn	20 28 24.4	+1.1
	baz=115						
833A	Chaparral WMA,	7.63	194	IAmb_Lg		20 30 54.5	
	comp=Z,28nm,0.8s						
ISCO	Idaho Springs	7.70	304	IAmb_Lg		20 30 58.8	
	comp=Z,36nm,1.2s						
ISCO	Idaho Springs	7.70	304	P	Pn	20 28 33.1	+0.3
	baz=119						
K38A	Parkersburg	7.72	26	IAmb_Lg		20 30 56.7	
	comp=Z,81nm,0.7s						
MNTX	Cornudas Mount	7.85	241	P	Pn	20 28 33.9	-0.7
	baz=57						
L40A	Anamosa	7.87	35	IAmb_Lg		20 30 58.8	
	comp=Z,58nm,0.8s						
OLIL	Olney	7.92	65	IAmb_Lg		20 31 09.9	
	comp=Z,56nm,0.8s						
ECSD	EROS Data Cent	7.97	4	P	Pn	20 28 35.7	-0.5
	baz=184						
Z47A	Carrollton	8.06	106	IAmb_Lg		20 31 11.7	
	comp=Z,27nm,1.1s						
Y22D	IRIS PASSCAL I	8.07	261	IAmb_Lg		20 31 11.5	
	comp=Z,78nm,1.1s						
PHWY	Pilot Hill	8.43	313	IAmb_Lg		20 31 24.8	
	comp=Z,29nm,0.9s						
N23A	Red Feather La	8.49	310	IAmb_Lg		20 31 25.2	
	comp=Z,54nm,1.0s						
N23A	Red Feather La	8.49	310	P	Pn	20 28 44.6	+1.0
	baz=125						
SUSD	Miller	8.75	352	IAmb_Lg		20 31 28.8	
	comp=Z,32nm,0.9s						
JFWS	Jewell Farm	8.99	35	IAmb_Lg		20 31 47.8	
	comp=Z,58nm,0.7s						
I40A	Norwalk	9.60	30	IAmb_Lg		20 31 50.8	
	comp=Z,45nm,1.1s						
RWWY	Rawlins	9.72	310	IAmb_Lg		20 31 53.5	
	comp=Z,26nm,1.1s						

*GUC **02** 20:30:20.0±0.5, 24°.10S×67°.55W, h214km±7km, ML3.7*

*IDC **02** 20:30:21.3±2.0, 23°.89S×67°.17W, h185km±17km, mb3.1/3, mb1 3.3/7, mb1mx3.3/26, mbtmp3.6/7, Error ellipse: s-maj=29.7km s-min=23.1km az=117.0*

ISC 02 20:30:19.6±1.1, 24°.09S±0'.07×67°.3W±0'.1, h183km±11km, n19, σ1°37/31, mb3.2/3, 10C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.09	314	P	Pn	20 30 58.9	+0.6
	16nm,0.3s,baz=125,slow=7.8,SNR=224						
LVC				S	S	20 31 29.4	+1.2
	10nm,0.3s,baz=315,slow=20,SNR=27						
LVC	Limon Verde	2.09	314	⇑P	Pn	20 30 58.9	+0.6
LVC				i S	S	20 31 28.9	+0.7
PB15	IPOC Station P	2.18	293	⇑P	Pn	20 30 59.5	+0.4
PB15				i S	S	20 31 29.2	-0.4
PB06	IPOC Station P	2.50	303	⇑P	Pn	20 31 03.2	+0.5
PB06				i S	S	20 31 35.9	-0.2
PB06				IAML		20 31 37.8	
	comp=N,241nm,0.4s						
PB09	IPOC Station P	2.90	321	⇑P	Pn	20 31 08.7	+1.2
PB09				i S	S	20 31 45.5	+0.8
PB09				IAML		20 31 48.4	
	comp=E,63nm,0.4s						
PB05	IPOC Station P	2.94	294	⇑P	Pn	20 31 07.6	-0.2
PB05				i S	S	20 31 43.8	-1.5
PB05				IAML		20 31 50.3	
	comp=E,88nm,0.3s						
PB10	IPOC Station P	3.04	280	⇑P	Pn	20 31 08.7	-0.2
PB10				i S	S	20 31 45.1	-2.1
PB10				IAML		20 31 50.9	
	comp=N,103nm,0.5s						
PB03	IPOC Station P	3.04	311	⇑P	Pn	20 31 09.4	+0.3
PB03				i S	S	20 31 46.8	-0.8
PB03				IAML		20 31 48.0	
	comp=E,235nm,0.3s						
PB04	IPOC Station P	3.15	303	⇑P	Pn	20 31 10.4	-0.1
PB04				i S	S	20 31 48.4	-1.6
PB04				IAML		20 31 51.1	
	comp=N,209nm,0.3s						
AC02	Maricunga	3.20	211	eP	Pn	20 31 09.1	-2.1
PB07	IPOC Station P	3.35	314	⇑P	Pn	20 31 13.1	+0.2
PB07				i S	S	20 31 53.2	-1.2
PB01	IPOC Station P	3.65	326	⇑P	Pn	20 31 16.4	-0.1
PB01				i S	S	20 32 00.5	-0.4
LPAZ	La Paz	7.80	354	P	Pn	20 32 11.6	+0.6
	comp=N,0.7nm,0.3s,baz=158,slow=7.1,SNR=16						
LPAZ				S	S	20 33 36.8	-2.2
	baz=320,slow=1.8,SNR=1.1						
SIV	San Ignacio	9.95	37	P	Pn	20 32 37.8	-0.8
	comp=N,0.5nm,0.3s,baz=224,slow=12,SNR=8.2						
PLCA	Paso Flores	16.82	189	P	Pn	20 34 08.8	+4.3
	comp=N,0.1nm,0.3s,baz=346,slow=8.3,SNR=4.3						
TORD	Torodi Ar. Bea	76.85	69	P	P	20 41 50.9	-0.9
	comp=N,0.2nm,0.4s,baz=257,slow=4.9,SNR=1.7						
PDAR	Pinedale Array	77.09	329	P	P	20 41 53.4	+0.6
	comp=N,0.2nm,0.6s,baz=166,slow=4.5,SNR=1.6						
YKA	Yellowknife Ar	94.12	340	P	P	20 43 17.6	+0.9
	comp=N,0.2nm,0.6s,baz=139,slow=4.1,SNR=2.1						
MKAR	Makanchi Array	146.76	39	PKPbc	PKiKP	20 49 40.8	-1.6
	comp=N,0.5nm,0.6s,baz=320,slow=3.0,SNR=7.2						

IDC 02 20:35:56.8±1.6, 27°.44N×102°.96E, h0km, mb3.1/3, mb1 3.2/4, mb1mx3.1/29, mbtmp3.0/4, ML3.2/1, Error ellipse: s-maj=49.3km s-min=24.6km az=85.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.67	203	Pn	Pn	20 38 19.2	+1.9
	0.1nm,0.3s,baz=9.8,slow=16,SNR=3.5						
CMAR				Sn	Sn	20 40 06.5	-0.2
	0.1nm,0.3s,baz=9.6,slow=28,SNR=5.3						
SONM	Songino Array	20.54	7	P	P	20 40 37.2	+0.4
	0.3nm,0.6s,baz=202,slow=11,SNR=2.3						
MKAR	Makanchi Array	25.26	325	P	P	20 41 24.5	-0.1
	0.2nm,0.6s,baz=133,slow=11,SNR=5.8						
WRA	Warramunga Arr	56.05	144	P	P	20 45 37.1	-0.6
	0.5nm,0.9s,baz=331,slow=7.7,SNR=2.1						

*IDC **02** 21:03:20.6±1.6, 43°.79N×105°.56W, h0km, mb1 3.6/4, mb1mx3.3/47, mbtmp3.3/4, ML3.4/4, Error ellipse: s-maj=43.1km s-min=9.0km az=147.0*

*NEIC **02** 21:03:21.5±1.2, 43°.76N±0'.04×105°.29W±0'.06, h0km±2km, ML3.1/54, Error ellipse: s-maj=7.7km s-min=6.4km az=298.0*

ISC 02 21:03:20.7±1.0, 43°.76N±0'.05×105°.33W±0'.05, h0km, n45, σ1°03/45, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.00	68	Pg	Pg	21 03 39.9	0.0
K22A	Casper	1.41	219		Pg	21 03 46.9	-0.7
K22A				IAML		21 04 09.6	
	comp=N,366nm,0.3s						
K22A				IAML		21 04 11.8	
	comp=E,359nm,0.3s						
PHWY	Pilot Hill	2.45	182	Pn	Pn	21 04 02.5	+0.2
PHWY				IAML		21 04 40.0	
	comp=E,90nm,0.3s						
PHWY				IAML		21 04 40.5	
	comp=E,69nm,0.3s						
RWWY	Rawlins	2.49	214		Pn	21 04 03.0	+0.4
RWWY				IAML		21 04 38.3	
	comp=E,120nm,0.6s						
RWWY				IAML		21 04 40.5	
	comp=E,143nm,0.9s						
N23A	Red Feather La	2.90	189	Pn	Pn	21 04 09.6	+1.3
N23A				IAML		21 04 55.2	
	comp=N,100nm,0.5s						
N23A				IAML		21 04 58.3	
	comp=E,64nm,0.7s						
LAO	LASA Array	3.00	348		Pn	21 04 09.8	+0.3
RLMT	Red Lodge	3.13	297		Pn	21 04 12.2	+0.7
RLMT				IAML		21 05 09.0	
	comp=E,62nm,0.3s						
RLMT				IAML		21 05 09.5	
	comp=E,41nm,0.7s						
PD31	Pinedale Array	3.24	254		Pn	21 04 13.9	+1.0
PDAR	Pinedale Array	3.24	254	Pn	Pn	21 04 14.2	+1.1
	comp=E,4.1nm,0.3s,baz=73,slow=16,SNR=76						
PDAR				Lg	Lg	21 04 58.1	
	comp=E,9.0nm,0.3s,baz=71,slow=35,SNR=3.4						
PDAR	Pinedale Array	3.24	254		Pn	21 04 14.0	+1.0
YMP	Mirror Lake Pl	3.60	288		Pn	21 04 19.0	+0.9
GCMT	Greycliff	3.70	305		Pn	21 04 20.4	+1.2
OGNE	Ogallala	3.72	138	Pn	Pn	21 04 20.8	+1.3
LKWY	Lake	3.73	284		Pn	21 04 21.5	+1.7
LKWY				IAML		21 05 30.3	
	comp=E,30nm,1.2s						
LKWY				IAML		21 05 39.3	
	comp=E,22nm,1.2s						
LOHW	Long Hollow	3.83	270		Pn	21 04 22.1	+1.1
H17A	Grant Village	3.83	281		Pn	21 04 22.9	+1.7
H17A				IAML		21 05 27.8	
	comp=E,19nm,1.4s						
H17A				IAML		21 05 27.0	
	comp=N,29nm,0.7s						
FLWY	Flagg Ranch	3.89	277		Pn	21 04 23.1	+1.2
FLWY				IAML		21 05 37.5	
	comp=N,30nm,2.1s						
MOOW	Moose Ponds	3.92	272		Pn	21 04 23.4	+1.0
ISCO	Idaho Springs	3.96	183	Pn	Pn	21 04 24.2	+1.2
REDW	Red Top Meadow	4.03	266		Pn	21 04 24.5	+0.6
REDW				IAML		21 05 30.6	
	comp=N,37nm,1.5s						
YHH	Holmes Hill	4.09	287		Pn	21 04 26.5	+1.7
O20A	White River Ci	4.22	212		Pn	21 04 26.6	+0.2
O20A				IAML		21 05 42.6	
	comp=E,25nm,0.6s						
E28A	Huff	4.33	48		Pn	21 04 28.4	+0.7
AHID	Auburn Hatcher	4.33	259		Pn	21 04 29.1	+1.1
AHID				IAML		21 05 45.9	
	comp=E,25nm,0.7s						
ECR	Eagle Creek	4.46	263		Pn	21 04 30.9	+1.2
RDMU	Red Mountain	4.48	226		Pn	21 04 32.1	+2.1
RDMU				IAML		21 05 48.0	
	comp=N,28nm,0.8s						
RDMU				IAML		21 05 54.0	
	comp=E,22nm,0.8s						
DGMT	Dagmar	4.78	9		Pn	21 04 34.8	+0.8
Q24A	Divide	4.79	178		Pn	21 04 35.5	+1.1
BOZ	Bozeman (W)	4.85	294		Pn	21 04 35.8	+0.7
BOZ				IAML		21 05 54.9	
	comp=E,12nm,0.7s						
BOZ				IAML		21 05 58.6	
	comp=E,11nm,0.8s						
KSCO	Kaye Shedlock'	5.16	156		Pn	21 04 39.2	-0.1
EGMT	Eagleton	5.27

Error ellipse: s-maj=12.4km s-min=3.6km az=158.0
ISC 02 21:04:34.4±1.1, 36°28N±0°02×97°47W±0°02, h7km±10km, n107, σ0$64/81, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.47**	**298**	Pg	**Pg**	**21 04 43.9**	**+0.3**
OK029	**Liberty Lake**	**0.48**	**179**	Pg	**Pg**	**21 04 43.8**	**+0.1**
OK029				Sg	**Sg**	**21 04 50.5**	**+0.5**
OK033	**Mehan**	**0.49**	**119**	Pg	**Pg**	**21 04 43.9**	**+0.1**
OK033				Sg	**Sg**	**21 04 50.5**	**+0.3**
BLOK	**Blackwell**	**0.52**	**23**	Pg	**Pg**	**21 04 44.7**	**+0.3**
OK031	**S. Brethren Rd**	**0.60**	**123**	Pg	**Pg**	**21 04 46.0**	**0.0**
QUOK	**Quay**	**0.62**	**100**	Pg	**Pg**	**21 04 46.4**	**0.0**
QUOK				Sg	**Sg**	**21 04 54.8**	**+0.2**
BCOK	**Bluff Creek, N**	**0.63**	**191**	Pg	**Pg**	**21 04 46.6**	**0.0**
GC02	**Grant County #**	**0.65**	**331**	Pg	**Pg**	**21 04 47.1**	**+0.2**
OK030	**Cody Creek RV**	**0.66**	**122**		**Pg**	**21 04 47.0**	**0.0**
OK034	**N. Norfolk Rd.**	**0.67**	**114**	Pg	**Pg**	**21 04 47.2**	**-0.1**
OK009	**Oakdale Elemen**	**0.70**	**177**		**Pg**	**21 04 47.7**	**-0.1**
OK025	**Westminster Rd**	**0.71**	**171**	Pg	**Pg**	**21 04 48.0**	**0.0**
KAN13	**South Haven SW**	**0.73**	**359**	Pg	**Pg**	**21 04 48.6**	**+0.1**
OK001	**Jones High Sch**	**0.73**	**169**	Pg	**Pg**	**21 04 48.3**	**-0.2**
KAN14	**Manchester OK**	**0.78**	**330**	Pg	**Pg**	**21 04 49.5**	**0.0**
OK032	**Salt Plains WL**	**0.79**	**311**	Pg	**Pg**	**21 04 49.7**	**0.0**
KAN17	**Caldwell West**	**0.80**	**343**	Pg	**Pg**	**21 04 49.8**	**+0.1**
OKCFA	**Oklahoma City**	**0.86**	**179**	Pg	**Pg**	**21 04 50.8**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**0.87**	**178**		**Pg**	**21 04 50.9**	**-0.3**
KAN05	**Bluff City Nor**	**0.89**	**339**		**Pg**	**21 04 51.5**	**0.0**
KAN01	**Argonia South**	**0.90**	**345**		**Pg**	**21 04 51.7**	**-0.1**
KAN10	**Anthony SW Sta**	**0.98**	**329**	Pg	**Pg**	**21 04 53.2**	**-0.1**
T35A	**Sooner Cattle**	**1.00**	**50**	Pg	**Pg**	**21 04 53.2**	**-0.3**
FNO	**Franklin**	**1.02**	**177**	Pg	**Pg**	**21 04 53.6**	**-0.5**
KAN08	**Anthony NE Sta**	**1.03**	**337**		**Pg**	**21 04 54.0**	**-0.1**
KAN16	**Harper SW Stat**	**1.06**	**333**	Pg	**Pg**	**21 04 54.6**	**-0.2**
OK035	**E0210 Rd and N**	**1.09**	**293**	Pg	**Pg**	**21 04 55.0**	**-0.3**
KAN12	**Harper NE Stat**	**1.10**	**337**	Pg	**Pg**	**21 04 55.3**	**-0.2**
U32A	**Winter Ranch,**	**1.24**	**275**		**Pb**	**21 04 57.6**	**-0.6**
TUL1	**Leonard**	**1.41**	**105**	Pn	**Pn**	**21 04 59.8**	**-0.7**
TUL1	**Leonard** baz=286	**1.41**	**105**	P	**Pn**	**21 04 59.8**	**-0.7**
TUL1				S	**Sb**	**21 05 19.1**	**0.0**
X34A	**Smith Ranch, M**	**1.70**	**190**		**Pb**	**21 05 05.8**	**-0.3**
WMOK	**Wichita Mounta**	**1.88**	**215**	Pn	**Pn**	**21 05 07.7**	**+0.7**
WMOK	**Wichita Mounta** baz=35	**1.88**	**215**	P	**Pn**	**21 05 07.7**	**+0.7**
WMOK				S	**Sb**	**21 05 32.9**	**+0.2**
LOOK	**Love County**	**2.29**	**174**	Pn	**Pn**	**21 05 13.8**	**+1.1**
R32A	**Long Quarter,**	**2.36**	**336**		**Pn**	**21 05 14.2**	**+0.6**
X37A	**Clayton**	**2.40**	**134**	Pn	**Pn**	**21 05 14.8**	**+0.6**
X37A				IAmb_Lg		21 05 52.2	
U38A	**Gravette** comp=Z,145nm,0.8s	**2.49**	**85**	Pn	**Pn**	**21 05 16.3**	**+0.9**
HHAR	**Hobbs**	**2.85**	**89**	Pn	**Pn**	**21 05 22.0**	**+1.7**
KSU1	**Kansas State U**	**2.90**	**13**		**Pn**	**21 05 21.4**	**+0.4**
KSU1	**Kansas State U** baz=194	**2.90**	**13**	P	**Pg**	**21 05 28.8**	**-1.1**
Z35A	**Perchaven, San**	**2.95**	**177**		**Pn**	**21 05 22.6**	**+1.0**
W39A	**Magazine**	**3.19**	**109**		**Pn**	**21 05 25.4**	**+0.5**
W39A				IAmb_Lg		21 06 21.5	
W39A	**Magazine** baz=291	**3.19**	**109**	P	**Pn**	**21 05 25.5**	**+0.6**
S39A	**Bolivar**	**3.60**	**66**		**Pn**	**21 05 31.3**	**+0.6**
S39A				IAmb_Lg		21 06 31.3	
MIAR	**Mount Ida**	**3.62**	**117**	Pn	**Pn**	**21 05 31.9**	**+1.0**
MIAR	**Mount Ida** baz=300	**3.62**	**117**	P	**Pn**	**21 05 31.9**	**+1.0**
Z38A	**Mt. Pleasant**	**3.64**	**145**	Pn	**Pn**	**21 05 31.6**	**+0.4**
Z38A				IAmb_Lg		21 06 37.5	
AMTX	**Amarillo** comp=Z,59nm,0.8s	**3.71**	**249**	IAmb_Lg		21 06 36.5	
AMTX	**Amarillo** baz=67	**3.71**	**249**	Pb	**Pb**	**21 05 40.6**	**+0.4**
U40A	**Yellville**	**3.73**	**87**	Pn	**Pn**	**21 05 32.6**	**+0.2**
U40A				IAmb_Lg		21 06 34.7	
ABTX	**Abilene, Hawle** baz=26	**4.07**	**207**	Sb	**Sg**	**21 06 42.6**	**-2.5**
X40A	**Basin Creek Fa**	**4.19**	**114**		**Pn**	**21 05 39.6**	**+0.9**
X40A				IAmb_Lg		21 06 47.3	
X40A	**Basin Creek Fa** baz=297	**4.19**	**114**	P	**Pn**	**21 05 39.9**	**+1.2**
MGMO	**Mountain Grove**	**4.27**	**77**	Pn	**Pn**	**21 05 40.8**	**+0.9**
MGMO				IAmb_Lg		21 06 54.3	
WHTX	**Lake Whitney,**	**4.28**	**180**	Pn	**Pn**	**21 05 40.5**	**+0.5**
WHTX	**Lake Whitney,** baz=360	**4.28**	**180**	P	**Pn**	**21 05 41.1**	**+1.1**
WHAR	**Wooly Hollow**	**4.32**	**102**	Pn	**Pn**	**21 05 41.0**	**+0.4**
WHAR				IAmb_Lg		21 06 58.8	
FCAR	**Ozark Folk Cen** comp=Z,64nm,0.9s	**4.34**	**94**	Pn	**Pn**	**21 05 41.3**	**+0.4**
FCAR				IAmb_Lg		21 06 54.4	
W41B	**Gary Mavity, V** comp=Z,42nm,0.7s	**4.39**	**103**	Pn	**Pn**	**21 05 41.2**	**-0.2**
W41B				IAmb_Lg		21 07 00.6	
W41B	**Gary Mavity, V** comp=Z,49nm,0.9s baz=286	**4.39**	**103**	S	**Sn**	**21 06 34.2**	**+1.4**
WLAR	**White Oak Lake**	**4.41**	**125**	Pn	**Pn**	**21 05 41.9**	**+0.1**
WLAR				IAmb_Lg		21 07 01.9	
237A	**Washetta, Mont** comp=Z,47nm,0.8s	**4.48**	**162**	Pn	**Pn**	**21 05 43.1**	**+0.3**
P38A	**Dawn**	**4.56**	**42**	Pn	**Pn**	**21 05 44.4**	**+0.6**
P38A				IAmb_Lg		21 07 07.6	
R40A	**Maddies Statio** comp=Z,42nm,0.8s	**4.61**	**63**	Pn	**Pn**	**21 05 44.9**	**+0.4**
N35A	**Tabor**	**4.79**	**17**	Pn	**Pn**	**21 05 47.2**	**+0.1**
Z41A	**Richland Creek**	**4.88**	**127**	Pn	**Pn**	**21 05 48.4**	**+0.2**
Z41A				IAmb_Lg		21 07 20.4	
Z41A	**Richland Creek** baz=310	**4.88**	**127**	P	**Pn**	**21 05 48.5**	**+0.3**
Z41A				S	**Sn**	**21 06 44.0**	**-1.0**
KSCO	**Kaye Shedlock'** comp=Z,39nm,0.7s	**4.92**	**305**	IAmb_Lg		21 07 10.1	
MSTX	**Muleshoe**	**4.92**	**244**	Pn	**Pn**	**21 05 49.8**	**+0.9**
NATX	**Nacogdoches** comp=Z,45nm,0.8s	**5.08**	**152**	IAmb_Lg		21 07 26.7	
BGNE	**Belgrade** comp=Z,49nm,0.9s	**5.15**	**354**	IAmb_Lg		21 07 28.0	
T42A	**Van Buren**	**5.18**	**80**		**Pn**	**21 05 52.6**	**+0.2**
CCAR	**Cane Creek** comp=Z,43nm,0.8s	**5.23**	**115**	IAmb_Lg		21 07 29.4	
CCM	**Cathedral Cave**	**5.28**	**69**	Pn	**Pn**	**21 05 53.8**	**+0.1**
CCM				IAmb_Lg		21 07 25.7	
CCM	**Cathedral Cave** comp=Z,42nm,0.7s baz=252	**5.28**	**69**	S	**Sn**	**21 06 54.2**	**-0.6**
435B	**Jarrell**	**5.48**	**181**	Pn	**Pn**	**21 05 56.7**	**+0.1**
435B				IAmb_Lg		21 07 38.6	
N38A	**Joes South For** comp=Z,35nm,0.9s	**5.59**	**35**	Pn	**Pn**	**21 05 58.5**	**+0.4**
T25A	**Trinidad**	**5.64**	**281**	Pn	**Pn**	**21 05 59.4**	**+0.4**
T25A				IAmb_Lg		21 07 45.2	
PBMO	**Poplar Bluff** comp=Z,31nm,0.7s	**5.69**	**83**	IAmb_Lg		21 07 44.5	
L34A	**Svendsen Farm,** comp=Z,60nm,0.8s	**5.74**	**8**	IAmb_Lg		21 07 53.2	
LPAR	**Lepanto** comp=Z,78nm,0.7s	**5.85**	**95**	IAmb_Lg		21 07 56.0	
OGNE	**Ogallala** comp=Z,69nm,1.1s	**5.87**	**324**	IAmb_Lg		21 07 47.6	
FVM	**French Village** comp=Z,62nm,0.8s	**5.88**	**71**	Pn	**Pn**	**21 06 01.8**	**-0.1**
GNAR	**Gosnell** comp=Z,60nm,0.8s	**6.04**	**91**	IAmb_Lg		21 07 53.1	
JCT	**Junction City** comp=Z,50nm,1.1s	**6.11**	**199**	IAmb_Lg		21 07 50.8	
143A	**Socs Landing,** comp=Z,31nm,0.7s	**6.15**	**124**	IAmb_Lg		21 07 56.8	
PEBM	**Pemiscott Bayo** comp=Z,67nm,0.8s	**6.15**	**89**	IAmb_Lg		21 07 54.7	
PVMO	**Portageville** comp=Z,51nm,0.7s	**6.27**	**86**	IAmb_Lg		21 07 55.4	
LNXT	**Lenox** comp=Z,65nm,0.8s	**6.45**	**89**	IAmb_Lg		21 07 59.7	
HENM	**Henderson Moun** comp=Z,70nm,0.8s	**6.46**	**84**	IAmb_Lg		21 08 09.8	
SCIA	**State Center** comp=Z,70nm,0.8s	**6.52**	**29**	IAmb_Lg		21 08 06.6	
HALT	**Halls** comp=Z,60nm,0.8s	**6.59**	**91**	IAmb_Lg		21 08 20.3	
Q24A	**Divide** comp=Z,27nm,0.7s	**6.66**	**296**	IAmb_Lg		21 08 08.0	
W45A	**Hickory Valley** comp=Z,48nm,0.8s	**6.83**	**97**	IAmb_Lg		21 08 17.7	
Y45A	**Yeager Farm, C** comp=Z,28nm,1.1s	**6.93**	**108**	IAmb_Lg		21 08 33.5	
L40A	**Anamosa** comp=Z,43nm,0.8s	**7.54**	**38**	IAmb_Lg		21 08 39.3	
PLAL	**Pickwick Lake** comp=Z,31nm,1.2s	**7.76**	**97**	IAmb_Lg		21 08 46.1	
OLIL	**Olney** comp=Z,49nm,1.0s	**7.84**	**69**	IAmb_Lg		21 08 59.2	
PHWY	**Pilot Hill** comp=Z,21nm,0.8s	**8.00**	**311**	IAmb_Lg		21 09 01.6	
Y22D	**IRIS PASSCAL I** comp=Z,41nm,0.9s	**8.05**	**257**	IAmb_Lg		21 09 12.5	
O44A	**Mansfield** comp=Z,47nm,0.7s	**8.07**	**59**	IAmb_Lg		21 08 58.3	
N23A	**Red Feather La** comp=Z,32nm,0.8s	**8.08**	**307**	IAmb_Lg		21 09 02.3	
I37A	**Lemond, Waseca** comp=Z,27nm,0.9s	**8.33**	**21**	IAmb_Lg		21 09 09.6	
JFWS	**Jewell Farm** comp=Z,44nm,0.7s	**8.65**	**38**	IAmb_Lg		21 09 11.5	
M44A	**Midewin, Midew** comp=Z,37nm,0.9s	**8.95**	**52**	IAmb_Lg		21 09 20.2	
I40A	**Norwalk** comp=Z,28nm,1.0s	**9.23**	**33**	IAmb_Lg		21 09 41.8	

*KNET **02** 21:19:58.2±0.5, 42°71N×73°65E, h18km±1km, ml1.2, Error ellipse: s-maj=3.5km s-min=1.9km az=119.0*
*SOME **02** 21:19:58.7, 42°78N×73°62E, h10km*
*NNC **02** 21:19:59.1±0.6, 42°75N×73°65E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=11.1km s-min=3.2km az=175.0*
ISC 02 21:19:58.9±0.9, 42°74N±0°04×73°66E±0°02, h15km±7km, n29, σ0$80/51, 10C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say** 37nm,0.1s,SNR=193	**0.12**	**132**	⇑P	**Pg**	**21 20 01.9**	**-0.7**
EKS2				⇑S	**Sg**	**21 20 04.9**	**-0.1**
MRKS	**Merke** 7.8nm,0.1s	**0.32**	**271**	*e*P	**Pg**	**21 20 05.6**	**+0.1**
MRKS				*e*S	**Sg**	**21 20 10.3**	**+0.2**
MRKS	**Merke** 7.8nm,0.1s	**0.32**	**271**	P	**Pg**	**21 20 05.6**	**+0.1**
MRKS				S	**Sg**	**21 20 10.3**	**+0.2**
AML	**Almayashu** 1.8nm,0.1s,SNR=6.3	**0.61**	**177**	⇑P	**Pg**	**21 20 10.2**	**-0.8**
AML				⇑S	**Sg**	**21 20 19.1**	**-0.1**
AAK	**Ala-Archa** 2.9nm,0.2s,SNR=9.4	**0.63**	**99**	⇑P	**Pb**	**21 20 11.7**	**+0.1**
AAK				⇓S	**Sb**	**21 20 20.9**	**+0.6**
AAK	**Ala-Archa** 1.2nm,0.3s	**0.63**	**99**	⇓P	**Pb**	**21 20 12.0**	**+0.4**
AAK				⇑S	**Sb**	**21 20 20.6**	**+0.4**
UCH	**Uchtor** 1.6nm,0.1s,SNR=11	**0.82**	**129**	⇑P	**Pg**	**21 20 14.1**	**-0.7**
UCH				⇑S	**Sb**	**21 20 26.6**	**+0.6**
CHMS	**Chumysh** 2.2nm,0.2s	**0.84**	**72**	⇑P	**Pg**	**21 20 14.8**	**-0.4**
CHMS				⇓S	**Sb**	**21 20 27.0**	**+0.6**
KBK	**Karagaybulak** 3.0nm,0.1s,SNR=11	**0.96**	**95**	⇓P	**Pg**	**21 20 16.7**	**-0.7**
KBK				⇓S	**Sb**	**21 20 30.8**	**+1.1**
TKM2	**Tokmak 2** 0.2nm,0.2s	**1.44**	**82**	⇓P	**Pn**	**21 20 24.8**	**+0.3**
TKM2				⇑S	**Sn**	**21 20 42.5**	**-0.8**
DGS	**Degeres** 3.8nm,0.2s	**1.63**	**71**	*e*P	**Pb**	**21 20 29.5**	**+0.8**
DGS				*e*S	**Sg**	**21 20 51.8**	**+0.4**
DGS	**Degeres** 3.8nm,0.2s	**1.63**	**71**	P	**Pb**	**21 20 29.5**	**+0.8**
DGS				S	**Sg**	**21 20 51.8**	**+0.4**
KST	**Kastek** 1.9nm,0.2s	**1.72**	**79**	*e*P	**Pg**	**21 20 31.6**	**-0.4**
KST				*e*S	**Sg**	**21 20 55.0**	**+0.6**
KST	**Kastek** 1.9nm,0.2s	**1.72**	**79**	P	**Pg**	**21 20 31.5**	**-0.4**
KST				S	**Sg**	**21 20 55.0**	**+0.6**
KRBS	**Karabastau** 4.4nm,0.2s	**1.76**	**56**	*e*P	**Pg**	**21 20 31.7**	**-0.9**
KRBS				*e*S	**Sg**	**21 20 55.4**	**-0.1**
KRBS	**Karabastau** 4.4nm,0.2s	**1.76**	**56**	P	**Pg**	**21 20 31.7**	**-0.9**
KRBS				S	**Sg**	**21 20 55.4**	**-0.1**
MTBS	**Maitube** 0.9nm,0.1s	**2.07**	**78**	*e*P	**Pb**	**21 20 37.2**	**+1.0**
MTBS				*e*S	**Sg**	**21 21 05.3**	**-0.2**
MTBS	**Maitube** 0.9nm,0.1s	**2.07**	**78**	Pg	**Pb**	**21 20 37.2**	**+1.0**
MTBS				Lg	Lg	21 21 05.4	
KUU	**Kurty** 1.0nm,0.2s	**2.27**	**59**	*e*P	**Pb**	**21 20 40.1**	**+0.5**
KUU				*e*S	**Sg**	**21 21 10.3**	**-1.6**
KUU	**Kurty** 1.0nm,0.2s	**2.27**	**59**	Pg	**Pb**	**21 20 40.1**	**+0.5**
KUU				Lg	Lg	21 21 10.3	
KK08	**Karatay Array** 0.3nm,0.5s,baz=100,slow=16	**2.35**	**280**	⇓Pg	**Pb**	**21 20 40.0**	**-1.0**
KK08				⇓Lg	Lg	21 21 12.4	
KTBS	**Karatobe** 0.4nm,0.2s	**2.42**	**65**	*e*P	**Pb**	**21 20 43.2**	**+1.1**
KTBS				*e*S	**Sg**	**21 21 14.7**	**-1.8**
KTBS	**Karatobe** 0.4nm,0.2s	**2.42**	**65**	Pg	**Pb**	**21 20 43.2**	**+1.1**
KTBS				Lg	Lg	21 21 14.7	
TNSS	**Tian-Shan** 1.0nm,0.3s	**2.44**	**82**	*e*P	**Pg**	**21 20 44.6**	**-1.0**
TNSS				*e*S	**Sg**	**21 21 16.6**	**-0.7**
TNSS	**Tian-Shan** 1.0nm,0.3s	**2.44**	**82**	Pg	**Pg**	**21 20 44.6**	**-1.0**
TNSS				Lg	Lg	21 21 16.6	
MDOK	**Medeo** 1.3nm,0.3s	**2.53**	**79**	*e*P	**Pb**	**21 20 45.2**	**+1.3**
MDOK				*e*S	**Sg**	**21 21 18.9**	**-1.1**
MDOK	**Medeo** 1.3nm,0.3s	**2.53**	**79**	Pg	**Pb**	**21 20 45.2**	**+1.3**
MDOK				Lg	Lg	21 21 18.9	
BRLS	**Borolday** 0.8nm,0.1s	**2.82**	**277**	*e*P	**Pg**	**21 20 52.2**	**-0.8**
BRLS				*e*S	**Sg**	**21 21 30.1**	**+0.6**
BRLS	**Borolday** 0.8nm,0.1s	**2.82**	**277**	Pg	**Pg**	**21 20 52.2**	**-0.8**
BRLS				Lg	Lg	21 21 30.1	

*TUL **02** 21:20:52.7±1.5, 36°281N×0°006×97°45W±0°02, h7km±7km, ML2.7, mb_Lg2.4/23(NEIC), Error ellipse: s-maj=2.0km s-min=0.6km az=69.0*
NEIC 02 21:20:52.8±1.0, 36°284N±0°010×97°46W±0°01, h1km±7km, Error ellipse: s-maj=1.8km s-min=1.3km az=123.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.48**	**298**	Pg	Pg	21 21 02.2	+0.2
CROK				Sg	Sg	21 21 09.1	+1.0
OK029	**Liberty Lake**	**0.49**	**179**	Pg	Pg	21 21 02.0	-0.1
OK029				Sg	Sg	21 21 08.9	+0.6
BLOK	**Blackwell**	**0.52**	**22**	Pg	Pg	21 21 02.8	+0.1
OK031	**S. Brethren Rd**	**0.60**	**123**	Pg	Pg	21 21 04.2	-0.1
OK031				Sg	Sg	21 21 12.3	+0.2
QUOK	**Quay**	**0.62**	**100**	Pg	Pg	21 21 04.5	-0.2
QUOK				Sg	Sg	21 21 13.1	+0.4
BCOK	**Bluff Creek, N**	**0.64**	**191**	Pg	Pg	21 21 04.9	-0.1
BCOK				Sg	Sg	21 21 13.7	+0.5
GC02	**Grant County #**	**0.65**	**331**	Pg	Pg	21 21 05.2	-0.1
OK034	**N. Norfolk Rd.**	**0.66**	**114**	Pg	Pg	21 21 05.3	-0.2
OK025	**Westminster Rd**	**0.71**	**172**	Pg	Pg	21 21 06.2	-0.1
OK025				Sg	Sg	21 21 16.0	+0.5
KAN13	**South Haven SW**	**0.73**	**359**	Pg	Pg	21 21 06.6	-0.1
KAN14	**Manchester OK**	**0.78**	**329**	Pg	Pg	21 21 07.7	-0.2
KAN14				Sg	Sg	21 21 18.5	+0.5
KAN17	**Caldwell West**	**0.80**	**342**	Pg	Pg	21 21 07.9	-0.2
OKCFA	**Oklahoma City**	**0.87**	**180**	Pg	Pg	21 21 09.1	-0.3
OKCSW	**OKLAHOMA CITY**	**0.88**	**179**		Pg	21 21 09.3	-0.3
KAN05	**Bluff City Nor**	**0.89**	**338**		Pg	21 21 09.4	-0.4
KAN01	**Argonia South**	**0.90**	**345**		Pg	21 21 09.7	-0.4
KAN10	**Anthony SW Sta**	**0.98**	**329**	Pg	Pg	21 21 11.3	-0.4
T35A	**Sooner Cattle**	**0.99**	**50**	Pg	Pg	21 21 11.3	-0.4
FNO	**Franklin**	**1.02**	**177**	Pg	Pg	21 21 11.8	-0.7
KAN08	**Anthony NE Sta**	**1.03**	**337**		Pg	21 21 12.0	-0.4
KAN16	**Harper SW Stat**	**1.06**	**333**	Pg	Pg	21 21 12.7	-0.4
OK035	**E0210 Rd and N**	**1.09**	**293**		Pg	21 21 13.6	-0.1
KAN12	**Harper NE Stat**	**1.10**	**337**	Pg	Pg	21 21 13.2	-0.7
U32A	**Winter Ranch,**	**1.25**	**275**		Pg	21 21 15.9	-0.8
TUL1	**Leonard**	**1.40**	**105**	Pn	Pn	21 21 17.9	-1.6
X34A	**Smith Ranch, M**	**1.71**	**190**		Pn	21 21 24.2	+0.5
WMOK	**Wichita Mounta**	**1.88**	**215**	Pn	Pn	21 21 26.0	-0.1
LOOK	**Love County**	**2.30**	**174**	Pn	Pn	21 21 32.6	+0.8
R32A	**Long Quarter,**	**2.36**	**335**		Pn	21 21 33.8	+1.2
X37A	**Clayton**	**2.40**	**134**	Pn	Pn	21 21 33.4	+0.2
X37A				IAmb_Lg		21 22 10.6	
U38A	**Gravette** comp=Z,18nm,0.8s	**2.49**	**86**	Pn	Pn	21 21 34.8	+0.4
U38A				IAmb_Lg		21 22 17.3	
HHAR	**Hobbs** comp=Z,12nm,1.1s	**2.84**	**89**	Pn	Pn	21 21 40.3	+1.0
KSU1	**Kansas State U**	**2.89**	**13**	Pn	Pn	21 21 40.1	+0.1
CBKS	**Cedar Bluff**	**3.11**	**325**	Pn	Pn	21 21 43.5	+0.5
W39A	**Magazine**	**3.18**	**109**		Pn	21 21 44.0	0.0
W39A				IAmb_Lg		21 22 36.7	
S39A	**Bolivar** comp=Z,8.1nm,0.7s	**3.60**	**66**	Pn	Pn	21 21 49.8	+0.1
S39A				IAmb_Lg		21 22 49.2	
MIAR	**Mount Ida** comp=Z,13nm,0.7s	**3.62**	**118**		Pn	21 21 49.8	-0.1
AMTX	**Amarillo** comp=Z,7.4nm,0.7s	**3.71**	**249**	IAmb_Lg		21 22 54.0	
U40A	**Yellville**	**3.72**	**88**	Pn	Pn	21 21 52.5	+1.1
X40A	**Basin Creek Fa**	**4.18**	**114**	Pn	Pn	21 21 57.9	+0.2
X40A				IAmb_Lg		21 23 16.8	
MGMO	**Mountain Grove** comp=Z,6.7nm,0.8s	**4.26**	**77**	IAmb_Lg		21 23 10.2	
WHTX	**Lake Whitney,** comp=Z,7.8nm,0.9s	**4.28**	**180**	Pn	Pn	21 21 60.0	+0.9
W41B	**Gary Mavity, V**	**4.38**	**103**	Pn	Pn	21 22 00.3	-0.1
W41B				IAmb_Lg		21 23 19.8	
P38A	**Dawn** comp=Z,10nm,0.9s	**4.56**	**42**	IAmb_Lg		21 23 19.4	
R40A	**Maddies Statio** comp=Z,7.8nm,0.7s	**4.60**	**63**	IAmb_Lg		21 23 17.0	
T25A	**Trinidad** comp=Z,16nm,0.7s	**5.65**	**281**	IAmb_Lg		21 24 02.9	
PBMO	**Poplar Bluff** comp=Z,4.6nm,0.7s	**5.68**	**83**	IAmb_Lg		21 24 04.1	
S44A	**Carbondale** comp=Z,9.9nm,0.7s	**6.72**	**75**	IAmb_Lg		21 24 27.4	
	comp=Z,11nm,0.9s						

IDC 02 21:21:25.0±2.2, 1°89N×126°33E, h0km, mb3.2/3, mb1 3.4/3, mb1mx2.8/37, mbtmp3.2/3, Error ellipse: s-maj=190.5km s-min=27.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=339,slow=11,SNR=1.7	**23.08**	**160**	P	P	21 26 32.2	-0.2
ASAR	**Alice Springs** 0.2nm,0.5s,baz=346,slow=11,SNR=2.3	**26.45**	**164**	P	P	21 27 04.2	+0.2
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=114,slow=8.1,SNR=5.7	**58.84**	**326**	P	P	21 31 25.4	-0.1

*IDC **02** 21:24:56.4±0.5, 43°20N×146°91E, h0km, mb4.4/24, mb1 4.5/30, mb1mx4.4/40, mbtmp4.4/30, ML3.1/7, MS3.9/50, Ms1 3.9/50, ms1mx3.7/94, Error ellipse: s-maj=15.6km s-min=11.1km az=138.0*
*BJI **02** 21:24:56.5±0.0, 43°26N×147°02E, h20km, mb4.5/65, mB4.9/29, Ms4.2/28, Ms7 4.0/28*
*JMA **02** 21:24:58.8±0.2, 43°08N×147°11E, h50km±4km, M4.6*
JMA Felt I J1.
*NIED **02** 21:24:58.9, 43°08N×147°11E, h50km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}6.26; $M_{\theta\theta}$-3.02; $M_{\phi\phi}$-3.25; $M_{r\theta}$3.59; $M_{\theta\phi}$-3.30; $M_{\phi r}$2.66; Fault plane solution: $M_0$7.76000×10^{15} NP1:ϕ_s49.00000°, δ63.00000°, λ95.00000°. NP2:ϕ_s218.00000°, δ28.00000°, λ80.00000°.*
*SKHL **02** 21:24:59.8±0.6, 43°00N×147°20E, h45km±1km, mb5.2/13, ms4.0/7*
*MOS **02** 21:25:00.6±0.8, 43°11N×146°87E, h44km, mb4.9/24, MS3.7/8, Error ellipse: s-maj=7.0km s-min=4.7km az=114.8*
*NEIC **02** 21:25:00.7±1.5, 43°13N±0°07×146°9E±0°1, h26km±4km, mb4.8/127, Error ellipse: s-maj=13.0km s-min=9.3km az=126.0*
ISC 02 21:25:00.5±0.6, 43°16N±0°04×146°99E±0°04, h29km±3km, h29km:pP-P, n478, σ1$32/497, mb4.7/148, MS4.0/58, 38C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.72**	**351**	*c i*PN	**Pn**	**21 25 14.7**	**0.0**
SHO				*i* S	**Sn**	**21 25 25.6**	**+0.9**
SHO	comp=N,8μm,0.6s			pmax	pmax		
SHO	comp=Z,10μm,0.6s			pmax	pmax		
SHO	comp=E,2μm,0.4s			pmax	pmax		
SHO	comp=E,41μm,0.6s			smax	smax		
SHO	comp=N,65μm,0.5s			smax	smax		
SHO	**Shikotan**	**0.72**	**351**	*i* P	**Pn**	**21 25 14.7**	**0.0**
SHO	comp=N,11μm,0.6s			AMB	AMB	21 25 15.7	
SHO				*i* S	**Sn**	**21 25 25.6**	**+0.9**
SHO	comp=N,65μm,0.6s			A	A	21 25 26.9	
SHO	comp=N,41μm,0.6s			A	A	21 25 26.9	
NEM2	**Nemuro 2**	**0.93**	**283**	P	**Pn**	**21 25 17.4**	**-0.2**
NEM2				*e*S	**Sn**	**21 25 30.9**	**+0.9**
NMR	**Nemuro--Hokkai**	**0.95**	**283**	⇑*i*PN	**Pn**	**21 25 17.5**	**-0.3**
NMR				*i* S	**Sn**	**21 25 31.0**	**+0.7**
NMR	comp=N,29μm,0.4s			smax	smax		
NMR	comp=E,22μm,0.5s			smax	smax		
NMR	**Nemuro--Hokkai**	**0.95**	**283**	*i* P	**Pn**	**21 25 17.5**	**-0.3**
NMR				*i* S	**Sn**	**21 25 31.0**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**1.20**	**317**	*c i*PN	**Pn**	**21 25 21.3**	**0.0**
YUK				*i* S	**Sb**	**21

comp=E,2μm,0.4s
YUK smax smax
comp=E,36μm,0.7s
YUK smax smax
comp=N,23μm,0.8s
YUK Yuzh-Kuril'sk 1.20 317 *i* P **Pn 21 25 21.3 0.0**
YUK AMB AMB 21 25 22.3
comp=N,16μm,0.4s
YUK *i* S **Sb 21 25 37.5 -0.1**
YUK A A 21 25 38.5
comp=N,44μm,0.7s
YUK A A 21 25 38.5
comp=N,67μm,0.7s
GRPR Tuman 1.21 314⇑ *i*PN **Pn 21 25 21.5 0.0**
GRPR *e*S **Sn 21 25 37.3 +0.3**
GRPR pmax pmax
comp=N,2μm,0.6s
GRPR pmax pmax
comp=Z,5μm,0.6s
GRPR pmax pmax
comp=E,1μm,0.5s
GRPR smax smax
comp=N,15μm,0.5s
GRPR smax smax
comp=E,18μm,0.7s
GRPR Tuman 1.21 314 *i* P **Pn 21 25 21.5 0.0**
GRPR AMB AMB 21 25 22.1
comp=E,5μm,0.6s
GRPR *e*S **Sb 21 25 38.0 -0.1**
GRPR A A 21 25 40.3
comp=E,15μm,0.7s
GRPR A A 21 25 40.3
comp=E,18μm,0.7s
GLVR Golovnino 1.22 299*c i*PN **Pn 21 25 21.5 0.0**
GLVR *e*S **Sb 21 25 37.9 -0.3**
GLVR pmax pmax
comp=E,291nm,0.4s
GLVR pmax pmax
comp=Z,3μm,0.4s
GLVR pmax pmax
comp=N,320nm,0.3s
GLVR smax smax
comp=E,6μm,0.4s
GLVR Golovnino 1.22 299 *i* P **Pn 21 25 21.6 0.0**
GLVR AMB AMB 21 25 22.0
comp=E,3μm,0.4s
GLVR *e*S **Sb 21 25 38.1 -0.1**
GLVR A A 21 25 44.0
comp=E,10μm,0.4s
GLVR A A 21 25 44.0
comp=E,6μm,0.4s
JKHN Kushirohamanak 1.34 267 P **Pn 21 25 23.2 -0.1**
JKHN *e*S **Sb 21 25 41.1 -0.6**
JRA Rausu 1.56 300 P **Pn 21 25 26.7 +0.4**
JRA *e*S **Sb 21 25 47.0 -1.1**
JNSB Nemuroshibetsu 1.57 294 P **Pn 21 25 26.4 0.0**
JNSB *e*S **Sn 21 25 46.8 +1.0**
RUSJ Misakicho 1.58 307⇑ *i*PN **Pn 21 25 27.1 +0.6**
RUSJ *e*S **Sb 21 25 47.3 -1.2**
AKK Akkeshi 1.58 265 *e*P **Pn 21 25 25.9 -0.6**
AKK *e*S **Sn 21 25 45.9 -0.1**
JAK Akkeshi 1.69 265 P **Pn 21 25 27.6 -0.4**
JAK *e*S **Sn 21 25 49.3 +0.6**
JNK Nakash 1.71 285 P **Pn 21 25 28.0 -0.3**
JNK *e*S **Sn 21 25 49.3 +0.1**
KUR Kuril'sk 2.17 17*d i*PN **Pn 21 25 35.9 +1.3**
KUR *e*S **Sn 21 26 02.9 +2.5**
KUR pmax pmax
comp=Z,791nm,0.6s
KUR pmax pmax
comp=N,365nm,0.5s
KUR pmax pmax
comp=E,155nm,0.5s
KUR smax smax
comp=N,899nm,0.5s
KUR smax smax
comp=E,2μm,0.5s
KUR Kuril'sk 2.17 17 *i* P **Pn 21 25 35.0 +0.4**
KUR AMB AMB 21 25 41.7
comp=E,790nm,0.6s
KUR *e*S **Sn 21 26 00.5 +0.1**
KUR A A 21 26 14.9
comp=E,2μm,0.5s
KUR A A 21 26 14.9
comp=E,2μm,0.5s
JOB Onbets 2.33 265 P **Pn 21 25 36.6 -0.2**
JAR Ashorobuto 2.36 274 P **Pn 21 25 37.3 +0.1**
JTKR Abashiri--Toko 2.38 291 P **Pn 21 25 38.6 +1.0**
JTKR *e*S **Sn 21 26 08.1 +2.3**
JCH Churui 2.72 260 P **Pn 21 25 41.8 -0.4**
JMP Maruseppu 2.77 289 P **Pn 21 25 44.1 +1.2**
ERM Erimo 3.05 249*ce*PN **Pn 21 25 48.0 +1.2**
ERM pmax pmax
comp=Z,359nm,0.8s
ERM Erimo 3.05 249 Pn **Pn 21 25 47.7 +0.9**
JEM Erimo 3.05 249 P **Pn 21 25 47.3 +0.5**
JEM Erimo 3.05 249 **Pn 21 25 48.3 +1.5**
JKK2 Kamakawa 2 3.17 284 P **Pn 21 25 49.7 +1.3**
JFR Furan 3.22 272 P **Pn 21 25 49.9 +0.8**
JNBK Urakawa-nobuka 3.25 256 P **Pn 21 25 49.2 -0.2**
JKA Kamikawa-asahi 3.33 288 Pn **Pn 21 25 51.1 +0.5**
JKA Kamikawa-asahi 3.33 288 *e*P **Pn 21 25 51.9 +1.3**
ASAJ Asahikawa 3.33 288 Pn **Pn 21 25 51.8 +1.2**
comp=Z,26nm,0.3s,baz=119,slow=13,SNR=21
ASAJ Sn **Sn 21 26 31.9 +2.7**
comp=Z,20nm,0.3s,baz=355,slow=33,SNR=1.8
ASAJ LR LR 21 27 15.0
comp=Z,2μm,21.0s,baz=145,slow=42
ASAJ Asahikawa 3.33 288 PN **Pn 21 25 51.1 +0.5**
JBT2 Biratori 2 3.42 265 P **Pn 21 25 51.7 -0.1**
JEW Eniwo 4.08 267 Pn **Pn 21 26 01.9 +1.0**
YSS Yuzh-Sakhalins 4.83 323⇑ *e*PN **Pn 21 26 13.3 +2.0**
YSS *e*S **Sn 21 27 07.2 +1.0**
YSS pmax pmax
comp=Z,90nm,0.5s
YSS smax smax
comp=N,70nm,0.7s
YSS smax smax
comp=E,80nm,0.8s
YSS MLR MLR
comp=Z,2μm,14.0s
YSS Yuzh-Sakhalins 4.83 323 Pn **Pn 21 26 12.9 +1.6**
YSS Yuzh-Sakhalins 4.83 323 *e*P **Pn 21 26 13.3 +2.0**
YSS AMB AMB 21 26 14.5
comp=Z,90nm,0.5s
YSS *e*S **Sn 21 27 08.9 +2.7**
YSS A A 21 27 10.9
comp=Z,70nm,0.7s
YSS A A 21 27 10.9
comp=Z,80nm,0.7s
YSS AMS AMS 21 30 17.5
comp=Z,1μm,14.0s
YSS AMS AMS 21 30 17.5
comp=Z,2μm,14.0s
JTM Tenmabayashi 5.01 244 Pn **Pn 21 26 13.1 -0.6**
UGL Uglegorsk 6.83 332 *e*PN **Pn 21 26 35.9 -2.8**
UGL pmax pmax
comp=Z,100nm,1.2s
UGL MLR MLR
comp=Z,1μm,16.0s
UGL Uglegorsk 6.83 332 *e*P **Pn 21 26 41.5 +2.8**
UGL AMB AMB 21 26 44.2
comp=Z,20nm,0.8s
UGL *e*S **Sn 21 27 57.2 +1.8**
UGL AMS AMS 21 30 33.0
comp=Z,2μm,18.0s
UGL AMS AMS 21 30 33.0
comp=Z,1μm,18.0s
JMM Marumori 7.09 224 **Pn 21 26 39.4 -2.8**
TYV Tymovskoe 8.25 341 *e*PN **Pn 21 27 01.0 +2.9**
TYV pmax pmax
comp=Z,11nm,1.2s
TYV pmax pmax
comp=Z,100nm,2.6s
TYV MLR MLR
comp=N,2μm,15.0s
TYV MLR MLR
comp=Z,1μm,15.0s
TYV Tymovskoe 8.25 341 *e*P **Pn 21 27 01.0 +2.9**
TYV AMB AMB 21 27 09.3
comp=Z,10.0nm,0.5s
TYV *e*S **Sn 21 28 31.3 +1.0**
TYV A A 21 28 34.2
comp=Z,10.0nm,0.5s
TYV A A 21 28 34.2
comp=Z,10.0nm,0.5s
TYV AMS AMS 21 30 11.8
comp=Z,2μm,15.0s
TYV AMS AMS 21 30 11.8
comp=Z,1μm,15.0s
JSD Sado 8.38 235 **Pn 21 26 57.6 -2.3**
JYT Yasato 8.68 219 Pn **Pn 21 27 01.2 -2.9**
MJAR Matsushiro Arr 9.45 229 Pn **Pn 21 27 13.6 -1.0**
comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=20
MJAR Sn **Sn 21 29 03.5 +3.7**
comp=Z,0.1nm,0.3s,baz=280,slow=16,SNR=1.8
MJAR Matsushiro Arr 9.45 229 **Pn 21 27 13.1 -1.5**
MJB9 Matsu-Tunnel 9.45 229 **Pn 21 27 12.9 -1.7**
MAJO Matsushiro 9.45 229⇓ *e*PN **Pn 21 27 14.4 -0.2**
MAJO Matsushiro 9.45 229 **Pn 21 27 13.1 -1.6**
MAT Matsushiro 9.45 229 P **Pn 21 27 13.1 -1.5**
MAT *e*S **Sn 21 28 57.3 -2.5**
SKR Severo-Kuril's 9.77 36⇓ *e*PN **Pn 21 27 18.8 -0.1**
SKR Severo-Kuril's 9.77 36 *e*P **Pn 21 27 19.6 +0.7**
SKR AMB AMB 21 27 33.3
comp=Z,70nm,0.5s
SKR *e*S **Sn 21 29 02.6 -5.0**
SKR A A 21 29 04.9
comp=Z,20nm,0.9s
SKR A A 21 29 04.9
comp=Z,30nm,0.9s
GRNR Gornyy 10.48 320⇓ *i*PN **Pn 21 27 32.2 +3.5**
GRNR *e*S **Sn 21 29 33.1 +8.0**
GRNR pmax pmax
comp=E,6.0nm,0.5s
GRNR pmax pmax
comp=N,5.0nm,0.6s
GRNR pmax pmax
comp=Z,8.0nm,0.6s
GRNR smax smax
comp=N,1.0nm,0.5s
GRNR MLR MLR
comp=E,350nm,16.0s
GRNR MLR MLR
comp=Z,620nm,15.0s
GRNR Gornyy 10.48 320 *e*P **Pn 21 27 32.2 +3.5**
GRNR AMB AMB 21 27 32.7
comp=Z,10.0nm,0.5s
GRNR AMS AMS 21 31 57.0
comp=Z,350nm,15.0s
GRNR AMS AMS 21 31 57.0
comp=Z,620nm,15.0s
JGF Kuroka 10.61 228 **Pn 21 27 29.4 -1.1**
PAU Pauzhetka 10.64 35 *e*P **Pn 21 27 31.5 +0.6**
PAU AMB AMB 21 27 44.2
comp=Z,90nm,0.6s
OKH Okha 10.74 347 AMS AMS 21 32 34.1
comp=Z,1μm,14.0s
OKH AMS AMS 21 32 34.1
comp=Z,1μm,14.0s
OKH AMS AMS 21 32 34.1
comp=Z,700nm,14.0s
NKL Nikolayevsk 10.84 339 *e*P **Pn 21 27 35.7 +2.1**
NKL AMB AMB 21 27 38.6
comp=Z,60nm,0.7s
NKL AMS AMS 21 31 59.6
comp=Z,10.0nm,18.0s
NKL AMS AMS 21 31 59.6
comp=Z,10.0nm,18.0s
NKL AMS AMS 21 31 59.6
comp=Z,660nm,18.0s
USRK Ussuriysk Ar. 10.92 281 Pn **Pn 21 27 34.0 -0.6**
baz=78,slow=15,SNR=5.1
USRK LR LR 21 31 56.9
comp=Z,447nm,19.0s,baz=75,slow=39
USRK Ussuriysk Ar. 10.92 281 Pn **Pn 21 27 33.8 -0.9**
INU Inuyama 10.98 228 **Pn 21 27 35.2 -0.3**
VLA Vladivostok 11.04 275⇓ *e*PN **Pn 21 27 39.1 +2.7**
VLA pmax pmax
comp=Z,27nm,0.9s
VLA Vladivostok 11.04 275 *e*P **Pn 21 27 39.1 +2.7**
JHJ Hachijo jima 2 11.51 212 Pn **Pn 21 27 43.8 +0.9**
comp=Z,2.8nm,0.3s,baz=247,slow=20,SNR=1.8
JHJ Sn Sn 21 29 36.6 -14
comp=Z,4.3nm,0.3s,baz=214,slow=23,SNR=1.9
JWT Wachi 11.94 233 Pn **Pn 21 27 47.8 -0.8**
KLR Kul'dur 12.17 305 Pn **Pn 21 27 52.0 +0.2**
comp=Z,0.1nm,0.3s,baz=105,slow=12,SNR=1.5
KLR LR LR 21 33 03.7
comp=Z,569nm,19.5s,baz=126,slow=40
KLR Kul'dur 12.17 305⇑ *i*PN Pn 21 27 57.3 +5.5
KLR pmax pmax
comp=Z,21nm,1.6s
KLR MLR MLR
comp=Z,885nm,14.0s
KLR Kul'dur 12.17 305 *e*P **Pn 21 27 54.8 +3.0**
PEA0B Petropavlovsk- 12.24 32⇑ *e*PN **Pn 21 27 52.4 -0.3**
PEA0B Petropavlovsk- 12.24 32 Pn **Pn 21 27 52.1 -0.7**
PETK Petropavlovsk- 12.24 32 Pn **Pn 21 27 51.8 -0.9**
comp=Z,0.6nm,0.3s,baz=188,slow=9.1,SNR=22
PETK LR LR 21 33 13.0
comp=Z,379nm,20.4s,baz=227,slow=41
PETK Petropavlovsk- 12.24 32 PN **Pn 21 27 52.0 -0.7**
PETK Petropavlovsk- 12.24 32 Pn **Pn 21 27 52.0 -0.7**
MDJ Mudanjiang 12.64 283 P **Pn 21 27 58.8 +0.6**
MDJ pP P 21 28 02.8 -6.5
MDJ sP 21 28 06.7
MDJ S **Sn 21 30 17.9 0.0**
MDJ pmax pmax
comp=Z,11nm,1.1s
MDJ pmax pmax
comp=Z,260nm,4.7s
MDJ LR LR
comp=Z,380nm,10.4s
MDJ LR LR
comp=Z,740nm,14.5s
MDJ LR LR
comp=Z,790nm,16.3s
JHS Saijyo 13.50 237 Pn **Pn 21 28 09.5 -0.6**
JMN Monobe 13.92 232 Pn **Pn 21 28 14.4 -1.4**
BNX BinXian 14.22 287⇑ P **Pn 21 28 19.2 -0.7**
BNX pmax pmax
comp=Z,9.0nm,0.7s
BNX pmax pmax
comp=Z,150nm,5.2s
KSRS Korea Array 15.61 255 Pn **Pn 21 28 37.9 -0.5**
comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=7.5
KSRS LR LR 21 34 27.3
comp=Z,195nm,21.6s,baz=65,slow=37
CN2 Changchun 15.65 280 *e*P **Pn 21 28 38.3 -0.6**
CN2 *es*P P 21 28 45.0 +2.3
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,600nm,15.0s
JNU Nakatsue 16.13 237 Pn **Pn 21 28 44.3 -0.9**
comp=Z,0.1nm,0.3s,baz=28,slow=11,SNR=1.3
JNU LR LR 21 35 28.3
comp=Z,160nm,19.2s,baz=358,slow=39
JNU Nakatsue 16.13 237 P **Pn 21 28 45.9 +0.7**
TJN Taejon 16.52 252⇓ *e*P **P 21 28 53.1 +0.7**
MA2 Magadan 16.60 7⇓ *e*P **Pn 21 28 52.0 +1.1**
MA2 pmax pmax
comp=Z,25nm,1.8s
MA2 Magadan 16.60 7 Pn **Pn 21 28 50.2 -0.7**
MA2 Magadan 16.60 7 *e*P **Pn 21 28 52.0 +1.1**
ZEA Zeya 16.78 316 *e*P **P 21 28 56.0 +0.9**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=N,300nm,16.0s
ZEA MLR MLR
comp=E,500nm,16.0s
ZEA MLR MLR
comp=Z,500nm,13.0s
ZEA Zeya 16.78 316 *e*P **Pn 21 28 52.2 -0.9**
ZEA AMB AMB 21 29 00.7
comp=Z,10.0nm,0.8s
ZEA AMS AMS 21 35 57.0
comp=Z,300nm,15.0s
ZEA AMS AMS 21 35 57.0
comp=Z,500nm,15.0s
ZEA AMS AMS 21 35 57.0
comp=Z,500nm,15.0s
DL2 Dalian 19.57 266 P **P 21 29 26.6 +0.6**
DL2 pmax pmax
comp=Z,20nm,0.9s
SEY Seymchan 20.06 7 P **P 21 29 29.8 -1.2**
comp=Z,0.6nm,0.3s,baz=187,slow=9.5,SNR=17
SEY LR LR 21 37 31.8
comp=Z,286nm,18.9s,baz=116,slow=38
YAK Yakutsk 21.50 337 P **P 21 29 43.2 -3.4**
comp=Z,3.6nm,0.4s,baz=235,slow=2.4,SNR=5.4
YAK S **S 21 33 34.6 -8.6**
comp=Z,2.8nm,0.3s,baz=268,slow=1.5,SNR=1.6
YAK LR LR 21 38 17.4
comp=Z,212nm,19.2s,baz=92,slow=37
YAK Yakutsk 21.50 337 *e*P **P 21 29 43.4 -3.2**
YAK *e*S **S 21 33 39.9 -3.3**
YAK *e* 21 33 50.4
YAK *e**SS **sS 21 33 57.5 +3.0**
YAK *e*SSS SSS 21 34 22.1
YAK *e* 21 40 59.2
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,1.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=N,43nm,2.3s
YAK smax smax
comp=E,13nm,2.2s
YAK Yakutsk 21.50 337 P **P 21 29 43.9 -2.6**
YAK IAmb IAmb 21 30 00.9
comp=Z,18nm,0.7s
JOW Kunigami 22.29 229 P **P 21 29 54.8 -0.7**
comp=Z,14nm,0.8s,baz=16,slow=7.4,SNR=2.0
XLT XiLinHaoTe 22.36 283 *e*P **P 21 29 54.1 -2.1**
XLT pP pP 21 29 59.8 -3.7
XLT S **S 21 33 56.8 -3.5**
XLT pmax pmax
comp=Z,14nm,1.1s
XLT pmax pmax
comp=Z,250nm,5.6s
XLT LR LR
comp=Z,230nm,14.7s
XLT LR LR
comp=Z,550nm,16.4s
XLT LR LR
comp=Z,560nm,16.9s
BJI Beijing 23.19 273 P **P 21 30 02.9 -1.8**
BJI pmax pmax
comp=Z,15nm,0.9s
BJT Baijiatuau 23.20 273 P **P 21 30 02.6 -2.3**
BJT pmax pmax
comp=Z,13nm,1.0s
BJT Baijiatuau 23.20 273 P **P 21 30 02.6 -2.3**
SSE Sheshan 23.74 248 P **P 21 30 08.3 -1.8**
SSE S **S 21 34 24.3 +0.8**
SSE pmax pmax
comp=Z,10.0nm,1.0s
SSE pmax pmax
comp=Z,36nm,3.7s
SSE LR LR
comp=Z,100nm,16.8s
SSE LR LR
comp=Z,140nm,16.8s
NJ2 Nanjing 24.78 253 *e*P **P 21 30 20.0 +0.2**
NJ2 sP **pP 21 30 27.5 0.0**
NJ2 pmax pmax
comp=Z,12nm,0.7s
NJ2 LR LR
comp=Z,560nm,20.0s
NJ2 LR LR
comp=Z,310nm,16.5s
NJ2 LR LR
comp=Z,490nm,22.6s
HNS HongShan 25.19 268⇓ P **P 21 30 23.9 +0.5**
HNS *e*S **S 21 34 52.9 +6.1**
HNS pmax pmax
comp=Z,16nm,1.1s
HNS LR LR
comp=Z,280nm,18.4s
HNS LR LR
comp=Z,250nm,16.3s
HHC Hu-ho-hao-te 26.31 277 *e*P **P 21 30 34.0 +0.3**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,74nm,6.7s
HHC LR LR
comp=Z,210nm,14.0s
HHC LR LR
comp=Z,270nm,13.3s
HHC LR LR
comp=Z,330nm,13.3s
BILL Bilibino 26.96 16 *e*P **P 21 30 38.4 -0.7**
BILL *e*PPP PPP 21 31 30.8
BILL *e* 21 34 00.6
BILL pmax pmax
comp=Z,6.0nm,1.5s
BILL MLR MLR
comp=Z,186nm,18.0s
BILL Bilibino 26.96 16 P **P 21 30 39.3 +0.2**
BILL Bilibino 26.96 16 *e*P **P 21 30 38.4 -0.7**
BTO Baotou 27.50 277 *e*P **P 21 30 40.7 -3.7**
LYN LuoYang 28.07 264⇓ P **P 21 30 50.3 +0.9**
LYN PP **PnPn 21 31 40.5 +3.2**
LYN S **S 21 35 35.0 +2.7**
LYN pmax pmax
comp=Z,10.0nm,1.2s
LYN LR LR
comp=Z,140nm,16.1s
LYN LR LR
comp=Z,170nm,18.0s
ULN Ulaanbaatar 28.15 294*c i*P **P 21 30 49.5 -0.7**
ULN pmax pmax
comp=Z,20nm,1.3s
ULN Ulaanbaatar 28.15 294 P **P 21 30 49.0 -1.2**
ULN IAmb IAmb 21 30 52.0
comp=Z,33nm,1.5s
ULN Ulaanbaatar 28.15 294 *e*P **P 21 30 49.5 -0.7**
SONM Songino Array 28.59 294 P **P 21 30 54.3 +0.2**
comp=Z,8.1nm,0.5s,baz=88,slow=8.6,SNR=53
SONM PcP **PcP 21 34 04.3 -0.3**
comp=Z,0.5nm,0.5s,baz=128,slow=4.2,SNR=2.0
SONM LR LR 21 43 25.5
comp=Z,605nm,19.3s,baz=100,slow=39
SONM Songino Array 28.59 294 P **P 21 30 53.9 -0.2**
SONM IAmb IAmb 21 30 55.3
comp=Z,10nm,0.6s
H11N2 WAKE ISLAND Hy 28.74 138 T T 22 01 45.9
baz=329,slow=75,SNR=432
H11N1 WAKE ISLAND Hy 28.75 138 T T 22 01 55.2
baz=329,slow=75,SNR=293
H11N3 WAKE ISLAND Hy 28.75 138 T T 22 01 57.3
baz=329,slow=75,SNR=259
WHN Wuhan 28.81 255⇑ P **P 21 30 56.7 +0.7**
TPUB Ta-pu 29.44 236 P **P 21 31 01.6 -0.1**
H11S1 WAKE ISLAND Hy 29.69 140 T T 22 03 03.7
baz=330,slow=75,SNR=526
H11S3 WAKE ISLAND Hy 29.69 140 T T 22 03 01.2
baz=330,slow=75,SNR=473
H11S2 WAKE ISLAND Hy 29.71 140 T T 22 03 06.6
baz=330,slow=75,SNR=377
TIXI Tiksi 29.91 349 LR LR 21 44 30.9
comp=Z,175nm,19.4s,baz=78,slow=39
ZAK Zakamensk 30.43 299 *e*P **P 21 31 09.6 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
XAN Xi'an 30.89 266 P P 21 31 20.7 +6.2
XAN pP sP 21 31 30.0 +4.6
XAN sP pwP 21 31 34.2 +9.1
XAN pmax pmax
comp=Z,15nm,1.0s
XAN pmax pmax
comp=Z,140nm,5.7s
ENH Enshi 32.43 259 P **P 21 31 27.8 -0.2**
ENH IAmb IAmb 21 31 44.0
comp=Z,9.0nm,0.9s
TNA Tin City 33.41 32 P **P 21 31 37.0 +0.9**
TNA IAmb IAmb 21 31 52.8
comp=Z,13nm,0.8s
LZH Lanzhou 33.68 273 *e*P **P 21 31 39.7 +0.6**
LZH pP pP 21 31 45.4 -1.6
LZH sP sP 21 31 50.2 +0.1
LZH pmax pmax
comp=Z,11nm,1.2s

LZH LR LR
comp=Z,290nm,13.6s
LZH LR LR
comp=Z,170nm,15.2s
LZH LR LR
comp=Z,230nm,15.2s
ANM Nome 34.14 35 P **P 21 31 43.8 +1.3**
ANM pmax pmax
comp=Z,10.0nm,1.2s
ANM Nome 34.14 35 P **P 21 31 43.8 +1.3**
ANM IAmb IAmb 21 31 45.3
comp=Z,10nm,1.2s
GTA Gaotai 35.28 280 *e*P **P 21 31 52.7 -0.1**
GTA pP pP 21 31 57.3 -3.5
GTA sP pwP 21 32 01.1 -2.1
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,71nm,4.5s
GTA LR LR
comp=Z,100nm,15.3s
GTA LR LR
comp=Z,160nm,16.7s
GTA LR LR
comp=Z,290nm,16.4s
CD2 Chengdu 36.23 265 P **P 21 32 01.2 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
GYA Guiyang 36.67 256 ⇓P **P 21 32 04.5 -0.3**
GYA pmax pmax
comp=Z,9.0nm,0.9s
J20K Nowinta River 38.88 37 P **P 21 32 24.1 +1.2**
J20K IAmb IAmb 21 32 37.9
comp=Z,11nm,0.9s
A21K Barrow 39.13 25 P **P 21 32 24.8 -0.1**
A21K IAmb IAmb 21 32 26.5
comp=Z,41nm,1.3s
IMAR Indian Mountai 39.20 34 P **P 21 32 26.6 +1.0**
H21K Melozitna Rive 39.55 34 P **P 21 32 30.0 +1.4**
NRIK Noril'sk 39.71 331 LR LR 21 50 15.0
comp=Z,119nm,18.6s,baz=98,slow=38
KDAK Kodiak Island 39.73 47 P **P 21 32 30.2 +0.1**
comp=Z,13nm,0.9s,baz=295,slow=14,SNR=1.7
KDAK Kodiak Island 39.73 47 P **P 21 32 30.9 +0.8**
KDAK pmax pmax
comp=Z,56nm,1.3s
KDAK Kodiak Island 39.73 47 P **P 21 32 30.9 +0.8**
CAST Castle Rocks 39.76 38 P **P 21 32 31.5 +1.1**
I21K Tanana 39.87 35 P **P 21 32 32.6 +1.4**
PZH PanZhiHua 40.17 261 P **P 21 32 33.6 -0.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.3s
GOMU GeErMu 40.21 278 P **P 21 32 34.9 +0.1**
GOMU pP pP 21 32 37.9 -4.9
GOMU sP pwP 21 32 40.1 -5.1
GOMU pmax pmax
comp=Z,28nm,0.8s
GOMU pmax pmax
comp=Z,100nm,5.6s
BPAW Bear Paw Mtn. 40.26 37 P **P 21 32 35.6 +1.1**
KMI Kunming 40.28 258 ⇑P **P 21 32 35.3 0.0**
KMI pP pP 21 32 39.1 -4.1
KMI sP pwP 21 32 44.0 -2.0
KMI pmax pmax
comp=Z,8.0nm,0.9s
KMI LR LR
comp=Z,160nm,20.0s
KMI LR LR
comp=Z,150nm,20.0s
KMI LR LR
comp=Z,150nm,22.9s
KTH Kantishna Hill 40.28 38 P **P 21 32 36.4 +1.7**
KTH IAmb IAmb 21 32 54.5
comp=Z,14nm,0.9s
DGZ Jazzator, Alta 40.62 301⇑*e*P **P 21 32 38.1 +0.4**
DGZ pmax pmax
comp=Z,6.0nm,1.2s
COLD Coldfoot 40.71 32 P **P 21 32 38.9 +0.7**
I23K Minto, Yukon-K 40.97 35 P **P 21 32 41.5 +1.2**
I23K IAmb IAmb 21 32 57.5
comp=Z,24nm,1.4s
TOLK Toolik Lake Re 41.05 30 P **P 21 32 42.0 +1.0**
ZAA0 Zalesovo Array 41.26 308 P **P 21 32 42.7 -0.1**
ZALV Zalesovo Beam 41.26 308 P **P 21 32 42.1 -0.7**
comp=Z,2.3nm,0.6s,baz=84,slow=8.2,SNR=13
ZALV PcP **PcP 21 34 41.2 +0.2**
comp=Z,1.9nm,0.7s,baz=84,slow=3.5,SNR=5.1
ZALV LR LR 21 49 51.4
comp=Z,94nm,18.9s,baz=61,slow=36
ZALV Zalesovo Beam 41.26 308 *i*P **P 21 32 43.0 +0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 41.26 308 P **P 21 32 42.6 -0.1**
MDM Murphy Dome 41.45 36 P **P 21 32 45.2 +0.9**
WRH Wood River Hil 41.52 36 P **P 21 32 45.6 +0.8**
H24K Noodor Dome 41.59 34 P **P 21 32 46.8 +1.4**
H24K IAmb IAmb 21 33 05.6
comp=Z,12nm,1.0s
COLA College 41.62 36⇑*e*P **P 21 32 45.5 0.0**
COLA pmax pmax
comp=Z,9.0nm,0.7s
POKR Poker Plat Res 41.79 35 P **P 21 32 48.7 +1.7**
POKR IAmb IAmb 21 33 07.1
comp=Z,14nm,0.8s
SLVN Son La 41.86 253 P **P 21 32 46.6 -1.6**
IL31 42.03 36 P **P 21 32 49.9 +1.0**
IL31 IAmb IAmb 21 33 04.3
comp=Z,24nm,1.4s
ILAR Eielson Array 42.03 36 P **P 21 32 49.2 +0.2**
comp=Z,2.1nm,0.7s,baz=272,slow=9.3,SNR=17
ILAR Eielson Array 42.03 36 P **P 21 32 50.1 +1.2**
ILAR Eielson Array 42.03 36 P **P 21 32 50.1 +1.2**
WMQ Urumqi 42.21 292 *e*P **P 21 32 50.6 -0.2**
WMQ pP pP 21 32 55.3 -3.5
WMQ sP pwP 21 32 59.9 -1.3
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,130nm,4.5s
WMQ LR LR
comp=Z,550nm,9.3s
WMQ LR LR
comp=Z,350nm,17.5s
FYU Fort Yukon 42.66 33 P **P 21 32 55.7 +1.7**
FYU IAmb IAmb 21 33 02.9
comp=Z,17nm,0.8s
BMAR Burnt Mountain 42.89 32 P **P 21 32 57.7 +1.7**
SCRK Sand Creek 43.34 37 P **P 21 33 00.2 +0.4**
WAX Waxell Ridge 44.35 42 P **P 21 33 09.4 +1.6**
L27K Beaver Creek, 44.41 38 P **P 21 33 09.2 +1.0**
L27K IAmb IAmb 21 33 28.0
comp=Z,7.2nm,0.8s
BCAR Beaver Creek A 44.43 38 P **P 21 33 10.0 +1.6**
EGAK Eagle 44.48 36 P **P 21 33 10.2 +1.5**
EGAK IAmb IAmb 21 33 16.0
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 44.76 298*ce*P **P 21 33 10.9 -0.3**
MK31 Makanchi Array 44.76 298 P **P 21 33 11.1 -0.1**
MKAR Makanchi Array 44.76 298 P **P 21 33 11.4 +0.2**
comp=Z,20nm,0.6s,baz=83,slow=9.4,SNR=298
MKAR PcP **PcP 21 34 52.7 -0.3**
comp=Z,0.8nm,0.6s,baz=74,slow=5.2,SNR=1.4
MKAR LR LR 21 53 07.2
comp=Z,194nm,20.1s,baz=66,slow=38
MKAR Makanchi Array 44.76 298 *i*P **P 21 33 11.3 +0.1**
MKAR pmax pmax
comp=Z,20nm,0.6s
MKAR Makanchi Array 44.76 298 P **P 21 33 11.2 0.0**
MKAR Makanchi Array 44.76 298 *e*P **P 21 33 11.3 +0.1**
MAKZ Makanchi 44.95 298 P **P 21 33 12.6 -0.2**
MAKZ pmax pmax
comp=Z,24nm,0.7s
MAKZ Makanchi 44.95 298 P **P 21 33 12.6 -0.2**
DAWY Dawson 45.34 36 P **P 21 33 16.7 +1.1**
KURK Kurchatov 45.76 304*ce*P **P 21 33 18.1 -1.0**
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK Kurchatov 45.76 304 P **P 21 33 18.1 -1.0**
KURK Kurchatov 45.76 304 *e*P **P 21 33 18.1 -1.0**
KURBB Kurchatov Arra 45.85 304 LR LR 21 53 54.5
comp=Z,211nm,18.0s,baz=63,slow=38
SIJI Sorong 46.05 202 LR LR 21 48 54.1
comp=Z,37nm,21.3s,baz=78,slow=31
LSA Lhasa 46.09 272 P **P 21 33 22.5 0.0**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 46.09 272 P **P 21 33 22.5 0.0**
INK Inuvik 46.97 30 P **P 21 33 29.4 +1.2**
comp=Z,8.3nm,0.7s,baz=291,slow=7.3,SNR=30
INK Inuvik 46.97 30 P **P 21 33 29.6 +1.3**
INK pmax pmax
comp=Z,9.0nm,0.8s
INK Inuvik 46.97 30 P **P 21 33 29.6 +1.3**
INK IAmb IAmb 21 33 30.3
comp=Z,9.3nm,0.8s
CHTO Chiang Mai 47.01 254 P **P 21 33 29.6 +0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 47.01 254 P **P 21 33 29.6 +0.3**
CHTO IAmb IAmb 21 33 30.6
comp=Z,6.1nm,0.8s
CM31 Chiang Mai Arr 47.25 254 P **P 21 33 31.2 +0.1**
CM31 IAmb IAmb 21 33 32.8
comp=Z,14nm,1.5s
CMAR Chiang Mai Arr 47.25 254 P **P 21 33 31.8 +0.6**
comp=Z,2.0nm,0.7s,baz=46,slow=7.1,SNR=19
CMAR LR LR 21 53 42.1
comp=Z,89nm,21.0s,baz=60,slow=37
CMAR Chiang Mai Arr 47.25 254 P **P 21 33 31.2 +0.1**
A36M Sachs Harbour 48.95 24 P **P 21 33 44.4 +0.8**
PRZ Przheval'sk 48.99 294 P **P 21 33 44.7 +0.2**
PRZ pmax pmax
comp=Z,10.0nm,0.7s
PRZ Przheval'sk 48.99 294 P **P 21 33 44.7 +0.2**
PRZ IAmb IAmb 21 33 46.2
comp=Z,9.5nm,0.7s
TARG Taragay, Kyrgy 49.71 293 P **P 21 33 50.5 +0.1**
TARG IAmb IAmb 21 33 57.8
comp=Z,5.9nm,0.7s
BRVK Borovoye 49.84 310⇓*e*P **P 21 33 49.2 -1.4**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
BRVK Borovoye 49.84 310 P **P 21 33 50.8 +0.2**
BRVK IAmb IAmb 21 33 51.3
comp=Z,8.5nm,1.4s
BRVK Borovoye 49.84 310 *e*P **P 21 33 49.2 -1.4**
KDJ Kajisay 49.95 294 P **P 21 33 51.8 -0.1**
KDJ pmax pmax
comp=Z,11nm,1.0s
KDJ Kajisay 49.95 294 P **P 21 33 51.8 -0.1**
KDJ IAmb IAmb 21 33 53.1
comp=Z,11nm,0.9s
C36M Paulatuk 50.05 28 P **P 21 33 52.6 +0.6**
ULHL Ulahol 50.53 295 P **P 21 33 56.5 +0.2**
SNR=8.6
BOOM Boomskoye usch 50.62 295 P **P 21 33 57.1 +0.2**
BOOM pmax pmax
comp=Z,23nm,0.8s
BOOM Boomskoye usch 50.62 295 P **P 21 33 57.1 +0.2**
TKM2 Tokmak 2 50.66 296 P **P 21 33 57.9 +0.6**
SNR=13
GUN Gumba 50.93 274 *e*P **P 21 33 59.6 -0.1**
comp=Z,47nm,0.8s
KBK Karagaybulak 51.20 296 P **P 21 34 01.7 +0.4**
SNR=17
USP Ospenovka 51.22 297 P **P 21 34 01.6 +0.3**
SNR=14
FRU1 Bishkek 51.34 296 P **P 21 34 02.2 0.0**
FRU1 pmax pmax
comp=Z,12nm,0.7s
FRU1 Bishkek 51.34 296 P **P 21 34 02.2 0.0**
FRU1 IAmb IAmb 21 34 03.4
comp=Z,12nm,0.7s
KKN Kakani 51.44 274 *e*P **P 21 34 03.2 -0.1**
PKI Pulchoki 51.47 274 *e*P **P 21 34 03.1 -0.6**
comp=Z,31nm,1.2s
PKIN Phulchoki 51.48 274 *e*P **P 21 34 03.2 -0.4**
AAK Ala-Archa 51.51 296 LR LR 21 58 16.9
comp=Z,156nm,19.5s,baz=78,slow=39
AAK Ala-Archa 51.51 296 P **P 21 34 03.6 0.0**
SNR=10
AAK Ala-Archa 51.51 296*c i*P **P 21 34 03.4 -0.2**
AAK pmax pmax
comp=Z,51nm,1.7s
AAK Ala-Archa 51.51 296 P **P 21 34 03.2 -0.3**
AAK IAmb IAmb 21 34 05.3
comp=Z,4.9nm,0.7s
AAK Ala-Archa 51.51 296 *e*P **P 21 34 03.4 -0.2**
DMN Daman 51.67 274 *e*P **P 21 34 05.0 -0.1**
comp=Z,28nm,1.0s
GKN Gorkha 51.79 275 *e*P **P 21 34 05.3 -0.6**
EKS2 Erkin-Say 51.97 296 P **P 21 34 07.1 +0.1**
SNR=14
KSH Kashi 51.97 292 P **P 21 34 11.1 +4.1**
KSH pP pwP 21 34 17.6 -0.4
KSH pmax pmax
comp=Z,7.0nm,0.9s
DANN Dangsing 52.23 275 *e*P **P 21 34 09.5 +0.2**
comp=Z,100nm,0.9s
AML Almayashu 52.27 296 P **P 21 34 10.4 +0.9**
SNR=11
PMG Port Moresby 52.31 180 LR LR 21 52 32.8
comp=Z,38nm,21.6s,baz=42,slow=32
KOLN Koldanda 52.68 275 *e*P **P 21 34 12.4 -0.1**
comp=Z,38nm,0.9s
PYUN Piuthan 52.93 276 *e*P **P 21 34 14.3 -0.1**
comp=Z,39nm,1.0s
EUNU Eureka 53.46 10 P **P 21 34 16.4 -0.9**
EUNU IAmb IAmb 21 34 18.0
comp=Z,7.8nm,0.8s
HNR Honiara 53.66 164 LR LR 21 57 05.4
comp=Z,75nm,18.9s,baz=336,slow=36
KKAR Karatay Array 53.89 298 P **P 21 34 20.5 -0.5**
KKAR Karatay Array 53.89 298 P **P 21 34 20.5 -0.5**
ARU Arti 54.70 317 LR LR 22 00 19.1
comp=Z,247nm,19.1s,baz=78,slow=39
ARU Arti 54.70 317*c i*P **P 21 34 25.8 -0.8**
ARU 21 35 23.8
ARU 21 36 26.4
ARU S **S 21 42 05.0 +0.3**
ARU SS **SKiKP 21 45 39.7 +7.2**
ARU pmax pmax
comp=Z,13nm,1.4s
ARU Arti 54.70 317 P **P 21 34 25.4 -1.3**
ARU IAmb IAmb 21 34 26.6
comp=Z,11nm,1.2s
ARU Arti 54.70 317 *e*P **P 21 34 25.9 -0.7**
BBB Bella Bella 54.75 49 LR LR 22 01 42.1
comp=Z,39nm,18.0s,baz=256,slow=40
DRK Karamyk 54.80 294 P **P 21 34 27.4 -0.6**
DRK IAmb IAmb 21 34 33.2
comp=Z,20nm,1.5s
BTK Batken 55.17 295 P **P 21 34 30.1 -0.4**
BTK pmax pmax
comp=Z,19nm,1.5s
BTK Batken 55.17 295 P **P 21 34 30.1 -0.4**
BTK IAmb IAmb 21 34 37.2
comp=Z,19nm,1.4s
NOR Nord 55.18 357 *i*P **P 21 34 27.8 -2.0**
NOR IAmb IAmb 21 34 29.3
comp=Z,3.1nm,0.6s
SPITS Spitsbergen Ar 55.34 349 LR LR 22 01 33.5
comp=Z,104nm,18.4s,baz=276,slow=40
RES Resolute Bay 55.56 17 LR LR 22 01 39.2
comp=Z,80nm,18.1s,baz=30,slow=40
RES Resolute Bay 55.56 17 P **P 21 34 32.9 +0.3**
RES pmax pmax
comp=Z,19nm,0.6s
RES Resolute Bay 55.56 17 P **P 21 34 32.9 +0.3**
KULM Kulim 55.57 241 P **P 21 34 34.0 +0.6**
KULM IAmb IAmb 21 34 47.5
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 56.35 33 P **P 21 34 39.0 +0.6**
comp=Z,1.8nm,0.6s,baz=302,slow=7.0,SNR=24
YKA Yellowknife Ar 56.35 33 P **P 21 34 38.6 +0.2**
NIL Nilore 56.85 287 P **P 21 34 41.4 -1.1**
NIL pmax pmax
comp=Z,41nm,1.3s
NIL Nilore 56.85 287 P **P 21 34 41.4 -1.1**
CHGR Chuyangaron 56.99 294 P **P 21 34 42.7 -0.8**
CHGR pmax pmax
comp=Z,33nm,0.8s
CHGR Chuyangaron 56.99 294 P **P 21 34 42.7 -0.8**
BATI Baumata 57.22 208 LR LR 21 58 05.2
comp=Z,34nm,21.0s,baz=275,slow=35
ABKAR Akbulak array 57.34 309 P **P 21 34 45.6 -0.1**
ABKAR Akbulak array 57.34 309 P **P 21 34 45.6 -0.1**
ABKAR IAmb IAmb 21 34 46.4
comp=Z,18nm,0.6s
AKTO Aktyubinsk 57.83 311 LR LR 22 01 41.7
comp=Z,145nm,20.8s,baz=59,slow=38
KIRV Kirov 57.99 322 LR LR 22 02 43.8
comp=Z,126nm,18.7s,baz=43,slow=39
KIRV Kirov 57.99 322⇑*e*P **P 21 34 51.4 +1.4**
TULEG Thule 58.42 9 *i*P **P 21 34 51.0 -1.8**
TULEG IAmb IAmb 21 34 52.8
comp=Z,5.9nm,0.8s
TULEG Thule 58.42 9 P **P 21 34 52.6 -0.2**
TULEG IAmb IAmb 21 34 52.9
comp=Z,14nm,1.0s
NEEM North Greenlan 59.14 5 *i*P **P 21 34 56.7 -1.5**
NEEM IAmb IAmb 21 34 58.4
comp=Z,14nm,0.5s
KBL Kabul 59.28 290 P **P 21 34 58.7 -1.0**
KBL pmax pmax
comp=Z,9.0nm,0.7s
KBL Kabul 59.28 290 P **P 21 34 58.7 -1.0**
KBL IAmb IAmb 21 34 59.3
comp=Z,8.6nm,0.7s
ARCES ARCESS Array B 59.76 340 P **P 21 35 02.0 -0.2**
comp=Z,1.8nm,0.7s,baz=43,slow=7.3,SNR=7.0
ARCES ARCESS Array B 59.76 340 P **P 21 35 02.0 -0.2**
DAG Danmarks Havn 60.00 356 P **P 21 35 02.6 -1.1**
DAG pmax pmax
comp=Z,9.0nm,1.2s
DAG Danmarks Havn 60.00 356 *i*P **P 21 35 01.8 -1.9**
DAG IAmb IAmb 21 35 03.4
comp=Z,3.3nm,0.6s
B08A Colville Reser 61.54 49 P **P 21 35 16.3 +1.6**
BELG Belogornoye 62.25 317 LR LR 22 04 59.8
comp=Z,236nm,18.0s,baz=149,slow=39
BELG Belogornoye 62.25 317*c i*P **P 21 35 18.9 -0.4**
BELG pmax pmax
comp=Z,4.0nm,0.9s
WB0 Warramunga Arr 63.68 193 P **P 21 35 29.2 +0.1**
K05A Summer Lake 63.84 55 P **P 21 35 31.2 +0.9**
K05A IAmb IAmb 21 35 49.0
comp=Z,12nm,1.2s
WRAB Tennant Creek 63.85 193⇑*e*P **P 21 35 29.9 -0.3**
WRAB pmax pmax
comp=Z,27nm,2.7s
WRA Warramunga Arr 63.86 193 P **P 21 35 30.1 -0.2**
comp=Z,3.0nm,0.7s,baz=9.3,slow=6.8,SNR=18
WRA Warramunga Arr 63.86 193 P **P 21 35 29.7 -0.6**
HRA Herat 63.99 294 P **P 21 35 31.6 +0.1**
HRA IAmb IAmb 21 35 32.1
comp=Z,6.2nm,0.6s
WALA Waterton Lakes 64.07 46 P **P 21 35 33.7 +2.0**
WALA IAmb IAmb 21 35 49.0
comp=Z,9.2nm,1.4s
SUMG Summit 64.50 2 P **P 21 35 34.8 +0.4**
SUMG pmax pmax
comp=Z,16nm,0.5s
SUMG Summit 64.50 2 *i*P **P 21 35 34.0 -0.4**
SUMG IAmb IAmb 21 35 35.1
comp=Z,13nm,0.5s
SUMG Summit 64.50 2 P **P 21 35 34.8 +0.4**
GEYT Alibeck 64.62 299 P **P 21 35 34.7 -0.6**
comp=Z,3.0nm,0.7s,baz=50,slow=7.9,SNR=8.8
GEYT LR LR 22 06 14.4
comp=Z,268nm,19.3s,baz=46,slow=38
GEYT Alibeck 64.62 299 P **P 21 35 35.2 -0.1**
GEYT IAmb IAmb 21 35 36.5
comp=Z,7.1nm,1.1s
GYA0B ALIBECK ARRAY 64.62 299 P **P 21 35 35.1 -0.2**
GYA0B IAmb IAmb 21 35 43.1
comp=Z,8.0nm,1.0s
PLID Pearl Lake 65.30 51 P **P 21 35 40.5 +0.6**
PLID IAmb IAmb 21 35 42.8
comp=Z,8.3nm,1.4s
FIA1 FINESS Array S 65.34 333 P **P 21 35 39.1 -0.4**
FIA1 IAmb IAmb 21 35 40.4
comp=Z,8.0nm,0.7s
FINES FINESS Array B 65.35 333 P **P 21 35 39.1 -0.5**
comp=Z,5.2nm,0.6s,baz=42,slow=7.4,SNR=55
FINES LR LR 22 09 37.4
comp=Z,94nm,18.2s,baz=24,slow=41
FINES FINESS Array B 65.35 333 *i*P **P 21 35 38.5 -1.1**
FINES pmax pmax
comp=Z,5.0nm,0.6s
OBN Obninsk 65.72 324 LR LR 22 07 18.0
comp=Z,34nm,19.6s,baz=354,slow=39
OBN Obninsk 65.72 324 *e*P **P 21 35 41.3 -0.8**
OBN *e* 21 36 07.2
OBN *e* 21 38 07.3
OBN pmax pmax
comp=Z,34nm,2.1s
OBN MLR MLR
comp=Z,170nm,19.0s
OBN Obninsk 65.72 324 *e*P **P 21 35 41.3 -0.8**
VRH Novokhopyorsk 65.88 318 *e*P **P 21 35 42.2 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 66.31 321 *e*P **P 21 35 46.5 +0.6**
LPSR pmax pmax
comp=Z,20nm,0.6s
FCC Fort Churchill 66.59 30 P **P 21 35 47.8 +0.2**
FCC pmax pmax
comp=Z,5.0nm,0.8s
FCC Fort Churchill 66.59 30 P **P 21 35 47.8 +0.2**
FCC IAmb IAmb 21 36 00.2
comp=Z,4.7nm,0.8s
HRY Holter Researc 66.61 47 P **P 21 35 49.4 +1.3**
PNTR Pine Nut 66.79 58 P **P 21 35 50.2 +0.7**
PNTR IAmb IAmb 21 36 04.9
comp=Z,7.0nm,0.9s
LRM Limekiln Ridge 66.83 48 P **P 21 35 50.6 +0.9**
CMB Columbia Colle 66.94 59 P **P 21 35 51.7 +1.4**
CMB pmax pmax
comp=Z,7.0nm,1.4s
CMB Columbia Colle 66.94 59 P **P 21 35 51.6 +1.4**
CMB IAmb IAmb 21 35 59.3
comp=Z,6.5nm,1.4s
YERR Yerington 67.07 58 P **P 21 35 51.5 +0.2**
YERR IAmb IAmb 21 36 05.0
comp=Z,14nm,1.5s
VSR Storozhevoye 67.10 319 *e*P **P 21 35 50.4 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 67.21 319 *e*P **P 21 35 51.0 -0.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSU Vasula 67.29 331⇑*e*P **P 21 35 49.3 -2.7**
VSU pmax pmax
comp=Z,90nm,1.7s
DZM Mont Dzumac 67.33 160 LR LR 22 02 50.3
comp=Z,58nm,20.2s,baz=270,slow=34
DZM Mont Dzumac 67.33 160 *e*LR LR 21 56 01.5
comp=Z,64nm,20.6s
BOZ Bozeman (W) 67.42 48 P **P 21 35 54.6 +1.3**
BOZ pmax pmax
comp=Z,4.0nm,0.6s
BOZ Bozeman (W) 67.42 48 P **P 21 35 54.6 +1.3**
BOZ IAmb IAmb 21 35 56.6
comp=Z,3.5nm,0.6s
AS31 Alice Springs 67.58 193 P **P 21 35 54.6 +0.4**
ASAR Alice Springs 67.58 193 P **P 21 35 54.9 +0.6**
comp=Z,0.8nm,0.6s,baz=7.6,slow=5.9,SNR=14
ASAR LR LR 22 04 58.1
comp=Z,22nm,18.9s,baz=42,slow=36
ASAR Alice Springs 67.58 193 P **P 21 35 55.0 +0.7**
KVN Kaiserville 67.73 57 P **P 21 35 56.6 +1.1**
KVN pmax pmax
comp=Z,6.0nm,0.9s
KVN Kaiserville 67.73 57 P **P 21 35 56.5 +1.1**
KVN IAmb IAmb 21 36 11.3
comp=Z,6.2nm,0.9s
PALK Pallekele 67.81 259 LR LR 22 07 28.1
comp=Z,45nm,20.4s,baz=141,slow=38
ICESG Greenland Ices 67.96 3 *i*P **P 21 35 56.6 0.0**
ICESG IAmb IAmb 21 35 57.3
comp=Z,16nm,0.7s
NVAR Mina Array Bea 67.99 58 P **P 21 35 58.7 +1.6**
comp=Z,2.1nm,0.5s,baz=291,slow=7.0,SNR=17
NVAR Mina Array Bea 67.99 58 P **P 21 35 57.3 +0.2**
YHH Holmes Hill 68.36 48 P **P 21 36 01.5 +2.0**
TPH Tonopah 68.88 57 P **P 21 36 03.6 +0.9**
TPH pmax pmax
comp=Z,18nm,0.9s
TPH Tonopah 68.88 57 P **P 21 36 03.6 +0.9**
MOOW Moose Ponds 69.08 49 P **P 21 36 05.5 +1.6**
SFJD Kangerlussuaq 69.35 7 LR LR 22 06 51.9
comp=Z,55nm,19.8s,baz=352,slow=36

R11A Troy Canyon, C 69.71 56 P **P 21 36 08.5 +0.8**
FRB Frobisher Bay 69.78 16 LR LR 22 09 17.5
comp=Z,98nm,18.3s,baz=32,slow=38
FRB Frobisher Bay 69.78 16 P **P 21 36 07.2 -0.3**
FRB pmax pmax
comp=Z,16nm,0.7s
NC300 NORSAR Array S 69.87 339 P **P 21 36 07.9 -0.2**
NACGM Naroch 69.89 328 *i* P **P 21 36 06.5 -1.9**
KIV Kislovodsk 70.07 312 *ce*P **P 21 36 10.9 +1.1**
KIV *e* 21 36 27.9
KIV *e* 21 38 44.2
KIV *e*PPP PPP 21 40 24.6
KIV pmax pmax
comp=Z,14nm,0.8s
KIV MLR MLR
comp=Z,237nm,18.0s
KIV Kislovodsk 70.07 312 P **P 21 36 10.1 +0.3**
KIV Kislovodsk 70.07 312 *e*P **P 21 36 10.9 +1.1**
KBZ Khabaz 70.10 312 P **P 21 36 10.4 +0.6**
comp=Z,8.1nm,0.8s,baz=63,slow=5.4,SNR=16
KBZ LR LR 22 11 54.6
comp=Z,223nm,18.9s,baz=50,slow=40
KBZ Khabaz 70.10 312 *d i*P **P 21 36 10.8 +1.0**
KBZ pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 70.10 312 *e*P **P 21 36 10.8 +1.0**
NB2 NORSAR Subarra 70.11 339 P **P 21 36 09.1 -0.6**
comp=Z,7.4nm,0.7s,baz=32,slow=6.9
NOA NORSAR Array B 70.11 339 P **P 21 36 09.3 -0.4**
comp=Z,8.5nm,0.9s,baz=32,slow=6.6,SNR=27
NOA LR LR 22 11 51.7
comp=Z,121nm,18.2s,baz=0.0,slow=40
DUG Dugway, Tooele 70.19 53 P **P 21 36 11.6 +1.0**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 70.19 53 P **P 21 36 11.6 +1.0**
HFS Hagfors 70.19 337 LR LR 22 10 29.1
comp=Z,128nm,18.3s,baz=44,slow=39
DY2G Dye2 70.22 6 *e*P **P 21 36 09.6 -0.9**
DY2G IAmb IAmb 21 36 10.6
comp=Z,4.7nm,0.6s
PD31 Pinedale Array 70.38 49 P **P 21 36 12.5 +0.6**
PD31 IAmb IAmb 21 36 20.4
comp=Z,7.9nm,1.4s
PDAR Pinedale Array 70.38 49 P **P 21 36 12.7 +0.8**
comp=Z,1.2nm,0.5s,baz=269,slow=1.1,SNR=20
PDAR Pinedale Array 70.38 49 P **P 21 36 12.8 +1.0**
QSM Queen of Sheba 70.42 59 P **P 21 36 13.1 +1.1**
QSM IAmb IAmb 21 36 21.0
comp=Z,14nm,1.5s
ONI Oni 70.54 310 P **P 21 36 13.6 +0.9**
ONI pmax pmax
comp=Z,11nm,0.9s
ONI Oni 70.54 310 P **P 21 36 13.6 +0.9**
ONI IAmb IAmb 21 36 23.5
comp=Z,11nm,0.9s
SHPR Sheep Range 71.14 58 P **P 21 36 18.5 +2.0**
GNI Garni 71.41 308 LR LR 22 11 04.4
comp=Z,82nm,20.2s,baz=60,slow=39
SOC Sochi 71.92 313 *e*P **P 21 36 20.0 -0.9**
SOC *e* 21 38 59.8
SOC *e*PPP PPP 21 40 42.5
SOC *e*S **S 21 45 39.9 0.0**
SOC *e*SS **SS 21 50 18.3 +2.5**
AKASG Malin Array Be 71.98 324 P **P 21 36 20.6 -0.5**
comp=Z,3.9nm,0.6s,baz=39,slow=6.0,SNR=32
AKASG LR LR 22 10 35.8
comp=Z,139nm,18.5s,baz=32,slow=38
AKASG Malin Array Be 71.98 324 P **P 21 36 20.8 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 71.98 324 P **P 21 36 20.8 -0.3**
AKBB Malin Array Si 71.98 324 *de*P **P 21 36 20.8 -0.3**
AKBB pmax pmax
comp=Z,11nm,0.9s
AKBB Malin Array Si 71.98 324 P **P 21 36 20.7 -0.5**
AKBB IAmb IAmb 21 36 21.6
comp=Z,9.5nm,0.8s
BORG Borgarnes 72.04 355 P **P 21 36 22.7 +1.5**
BORG pmax pmax
comp=Z,57nm,1.2s
BORG Borgarnes 72.04 355 P **P 21 36 22.7 +1.5**
SRU San Rafael Swe 72.23 53 P **P 21 36 24.5 +1.4**
SRU pmax pmax
comp=Z,4.0nm,0.6s
SRU San Rafael Swe 72.23 53 P **P 21 36 24.5 +1.4**
RSSD Black Hills 72.45 46 P **P 21 36 25.6 +1.3**
RSSD pmax pmax
comp=Z,6.0nm,1.3s
WSAR Wadi Sarin 73.34 286 LR LR 22 13 23.6
comp=Z,46nm,18.6s,baz=60,slow=40
UOSS Minazif 73.93 289 P **P 21 36 32.8 -0.3**
GURO Guroymak-BITLI 74.04 308 P **P 21 36 34.6 +0.9**
GURO IAmb IAmb 21 36 35.9
comp=Z,10.0nm,1.1s
SORM Soroca 74.27 322 ⇑P **P 21 36 34.2 -0.5**
SORM Soroca 74.27 322 ⇑P **P 21 36 34.2 -0.5**
ISCO Idaho Springs 74.57 50 P **P 21 36 40.0 +3.0**
ISCO pmax pmax
comp=Z,5.0nm,1.3s
X16A Lo Mia Camp, P 74.80 57 P **P 21 36 39.6 +1.4**
STKA Stephens Creek 74.84 185 LR LR 22 06 47.8
comp=Z,23nm,21.9s,baz=25,slow=34
KWP Kalwaria Pacla 75.53 326 P **P 21 36 42.4 +0.4**
KWP pmax pmax
comp=Z,183nm,1.0s
KWP Kalwaria Pacla 75.53 326 P **P 21 36 42.4 +0.4**
VASR Vaslui 75.64 322 ⇑P **P 21 36 43.0 +0.4**
BUR08 Bucovina Ar. S 76.03 324 P **P 21 36 45.0 +0.1**
BUR08 IAmb IAmb 21 36 57.3
comp=Z,8.3nm,1.0s
BURAR Bucovina Array 76.04 324 ⇑P **P 21 36 45.3 +0.2**
BURAR Bucovina Array 76.04 324 ⇑P **P 21 36 45.3 +0.2**
BURAR Bucovina Array 76.04 324 P **P 21 36 45.2 +0.2**
BURAR IAmb IAmb 21 36 57.6
comp=Z,6.6nm,1.0s
VLDR Vladesti 76.10 321 ⇓P **P 21 36 44.8 -0.5**
OJC Ojcow 76.22 328 *e*P **P 21 36 46.1 +0.3**
OJC Ojcow 76.22 328 P **P 21 36 46.0 +0.1**
OJC pmax pmax
comp=Z,14nm,1.0s
OJC Ojcow 76.22 328 P **P 21 36 46.0 +0.1**
OJC IAmb IAmb 21 36 57.8
comp=Z,14nm,1.0s
TESR Tescani 76.25 322 ⇓P **P 21 36 45.4 -0.7**
NIE Niedzica 76.66 327 *e*P **P 21 36 50.4 +1.9**
TRPA Tarpa 76.78 325 ⇑P **P 21 36 49.8 +0.8**
ARCR ARCALIA 76.82 324 ⇓P **P 21 36 50.8 +1.4**
OZUR 76.95 322 ⇑P **P 21 36 51.2 +1.0**
KSP Ksiaz 77.02 330 *e*P **P 21 36 50.6 +0.2**
DOPR Dopca 77.23 322 ⇓P **P 21 36 53.0 +1.3**
BNN Bunyan 77.31 312 P **P 21 36 53.0 +0.6**
MLR Muntele Rosu 77.35 322 ⇑P **P 21 36 52.7 +0.2**
MLR Muntele Rosu 77.35 322 ⇑P **P 21 36 52.7 +0.2**
MLR Muntele Rosu 77.35 322 P **P 21 36 51.9 -0.6**
MLR IAmb IAmb 21 37 16.2
comp=Z,12nm,1.1s
DPC Dobruska-Polom 77.42 330 *e*P **P 21 36 53.2 +0.5**
DPC *e**PP **pwP 21 37 04.6 +0.4**
DPC Dobruska-Polom 77.42 330 *e*P **P 21 36 53.2 +0.5**
DPC *e*pP **pwP 21 37 04.6 +0.4**
MORC Moravsky Berou 77.43 329 ⇑P **P 21 36 53.3 +0.5**
MORC Moravsky Berou 77.43 329 ⇑P **P 21 36 53.3 +0.5**
MORC Moravsky Berou 77.43 329 *e*P **P 21 36 53.1 +0.3**
MORC Moravsky Berou 77.43 329 P **P 21 36 52.7 -0.1**
MORC IAmb IAmb 21 37 05.9
comp=Z,12nm,1.1s
KRLC Kraliky 77.47 330 *e*P **P 21 36 52.7 -0.3**
KRLC *e**PP **pwP 21 37 04.4 -0.2**
KRLC Kraliky 77.47 330 *e*P **P 21 36 52.7 -0.3**
KRLC *e*pP **pwP 21 37 04.4 -0.2**
CLL Collm 77.78 332 *i* P **P 21 36 54.3 -0.3**
CLL *i* 21 37 05.1
CLL pmax pmax
comp=Z,15nm,1.3s
CLL Collm 77.78 332 *i* P **P 21 36 54.3 -0.3**
comp=Z,15nm,1.3s
CLL *i* pP **sP 21 37 05.1 -1.0**
VOIR 77.79 322 ⇓P **P 21 36 56.0 +1.1**
VOIR 77.79 322 ⇓P **P 21 36 56.0 +1.1**
BR131 Keskin Array S 77.86 314 P **P 21 36 55.5 0.0**
BR131 pmax pmax
comp=Z,13nm,1.3s
BR131 Keskin Array S 77.86 314 P **P 21 36 55.5 0.0**
BR131 IAmb IAmb 21 37 15.0
comp=Z,13nm,1.2s
BRTR Keskin Array B 77.87 314 P **P 21 36 55.7 +0.2**
comp=Z,2.3nm,0.8s,baz=75,slow=3.3,SNR=7.4
BRTR Keskin Array B 77.87 314 P **P 21 36 55.4 -0.1**
ARR Arges 78.03 323 ⇓P **P 21 36 57.8 +1.6**
VRAC Vranov 78.17 329 LR LR 22 13 42.1
comp=Z,132nm,18.7s,baz=31,slow=38
VRAC Vranov 78.17 329 *e*P **P 21 36 56.8 -0.1**
SCHQ Schefferville 78.21 19 P **P 21 36 57.2 +0.2**
comp=Z,3.9nm,0.7s,baz=344,slow=4.2,SNR=8.2
SCHQ LR LR 22 16 17.8
comp=Z,88nm,18.0s,baz=86,slow=39
SCHQ Schefferville 78.21 19 P **P 21 36 57.2 +0.2**
SCHQ IAmb IAmb 21 37 23.4
comp=Z,21nm,1.5s
PRU Pruhonice 78.36 331 *e*P **P 21 36 58.1 +0.3**
PRU *e**PP **pwP 21 37 09.2 -0.2**
PRU Pruhonice 78.36 331 *e*P **P 21 36 58.1 +0.3**
PRU *e*pP **pwP 21 37 09.2 -0.2**
KRUC Moravsky 78.45 329 *e*P **P 21 36 58.6 +0.2**
ESK Eskdalemuir 78.68 343 P **P 21 36 58.9 -0.6**
ESK pmax pmax
comp=Z,67nm,1.5s
ESK Eskdalemuir 78.68 343 P **P 21 36 58.9 -0.6**
MODS Modra-Piesok 78.68 328 *e*P **P 21 37 02.9 +3.2**
MODS *e* 21 37 11.0
MODS Modra-Piesok 78.68 328 *e* P 21 37 11.0 +11
MODS Modra-Piesok 78.68 328 *e*P **P 21 37 02.9 +3.2**
COPA Copaceanca 78.72 321 ⇓P **P 21 36 59.9 0.0**
BZS Buzias 79.15 324 ⇑P **P 21 37 02.0 -0.3**
BZS Buzias 79.15 324 ⇑P **P 21 37 02.0 -0.3**
CKRC Cesky Krumlov 79.42 330 *e*P **P 21 37 03.5 -0.2**
CKRC *e*pP **sP 21 37 14.4 -0.8**
KHC Kasperske Hory 79.42 331 ⇓*i*P **P 21 37 03.5 -0.3**
KHC pmax pmax
comp=Z,30nm,1.7s
KHC Kasperske Hory 79.42 331 *e*P **P 21 37 04.1 +0.3**
KHC *e*pP **pwP 21 37 15.4 +0.1**
KHC Kasperske Hory 79.42 331 P **P 21 37 04.0 +0.3**
KHC IAmb IAmb 21 37 16.8
comp=Z,6.6nm,0.8s
CONA Conrad Observa 79.59 329 *e*P **P 21 37 05.5 +0.7**
comp=Z,1.9nm,0.6s
CONA *e*P **pwP 21 37 17.4 +1.1**
comp=Z,2.7nm,0.7s
GERES GERESS Array B 79.61 331 P **P 21 37 04.8 -0.1**
comp=Z,0.8nm,0.6s,baz=42,slow=6.1,SNR=7.9
GERES LR LR 22 16 23.9
comp=Z,174nm,18.1s,baz=48,slow=39
GERES GERESS Array B 79.61 331 P **P 21 37 04.5 -0.4**
MOA Molln 80.25 330 *e*P **P 21 37 09.0 +0.7**
comp=Z,1.1nm,0.6s
MOA *e*P **pwP 21 37 21.0 +1.2**
comp=Z,1.8nm,0.7s
MNTX Cornudas Mount 80.36 55 P **P 21 37 09.7 +0.6**
RAR Rarotonga 80.59 131 LR LR 22 12 11.6
comp=Z,49nm,18.1s,baz=259,slow=35
VTS Vitosha 80.81 322 ⇓P **P 21 37 12.5 +1.0**
VTS Vitosha 80.81 322 ⇓P **P 21 37 12.5 +1.0**
VTS Vitosha 80.81 322 P **P 21 37 11.9 +0.4**
VTS IAmb IAmb 21 37 25.0
comp=Z,9.3nm,1.0s
DIVS Divibare 81.06 324 P **P 21 37 12.6 -0.2**
KBA Koelnbreinsper 81.23 330 *e*P **P 21 37 14.6 +0.9**
comp=Z,2.1nm,0.3s
OBKA Obir 81.26 329 *e*P P 21 37 25.6 +12
comp=Z,2.9nm,0.7s
WATA Walderalm 81.65 331 *e*P **P 21 37 16.1 +0.2**
comp=Z,1.5nm,0.4s
WATA *e*P **pwP 21 37 28.2 +0.7**
comp=Z,3.8nm,0.6s
WTTA Wattenberg 81.69 331 *e*P **P 21 37 16.6 +0.4**
comp=Z,2.4nm,0.5s
WTTA *e*P **pwP 21 37 28.7 +1.0**
comp=Z,5.2nm,0.7s
MMAI Mount Meron Ar 81.75 308 LR LR 22 18 05.6
comp=Z,92nm,19.3s,baz=214,slow=39
RETA Reutte 81.81 332 *e*P **P 21 37 16.9 +0.3**
comp=Z,0.7nm,0.4s
RETA *e*P **pwP 21 37 28.6 +0.4**
comp=Z,2.4nm,0.8s
MOTA Moosalm 81.81 331 *e*P **P 21 37 17.2 +0.5**
comp=Z,4.0nm,0.8s
MOTA *e*P **pwP 21 37 28.9 +0.6**
comp=Z,6.5nm,0.9s
SQTA Sankt Quirin 81.88 331 *e*P **P 21 37 17.7 +0.6**
comp=Z,2.5nm,0.6s
SQTA *e*P **pwP 21 37 29.2 +0.6**
comp=Z,3.8nm,0.7s
ELL Elmali 82.04 314 P **P 21 37 17.3 -0.8**
ELL pmax pmax
comp=Z,20nm,0.8s
ELL Elmali 82.04 314 P **P 21 37 17.3 -0.8**
DAVA Damuels 82.28 332 *e*P **P 21 37 19.4 +0.2**
comp=Z,1.8nm,0.5s
PDG Podgorica 82.72 324 P **P 21 37 20.9 -0.4**
TAOE Nuku Hiva Isla 83.75 108 *e*LR LR 22 03 23.8
comp=Z,195nm,25.1s
PPT2 Papeete2 83.83 121 *e*LR LR 22 03 33.4
comp=Z,125nm,24.0s
EIL Elat 84.45 306 LR LR 22 21 56.0
comp=Z,51nm,19.7s,baz=74,slow=40
D62A Allapoint, All 84.65 24 P **P 21 37 31.0 -0.1**
FCAR Ozark Folk Cen 84.67 44 P **P 21 37 31.7 +0.2**
FCAR IAmb IAmb 21 37 33.7
comp=Z,4.3nm,0.9s
NRCA Norcia 84.91 328 P **P 21 37 32.8 +0.1**
MIAR Mount Ida 84.95 46 P **P 21 37 33.7 +0.7**
MIAR pmax pmax
comp=Z,17nm,1.5s
MIAR Mount Ida 84.95 46 P **P 21 37 33.6 +0.7**
ITM Ithomi 85.73 319 P **P 21 37 35.9 -0.9**
T50A Nancy 87.32 39 P **P 21 37 45.1 +0.5**
T50A IAmb IAmb 21 38 06.6
comp=Z,8.2nm,1.1s
SWET Sewanee 88.28 41 P **P 21 37 49.0 -0.2**
SWET IAmb IAmb 21 37 50.0
comp=Z,5.5nm,0.8s
TZTN Tazewell 88.30 38 P **P 21 37 50.2 +0.8**
ATD Arta Tunnel 92.28 288 LR LR 22 25 34.1
comp=Z,79nm,18.1s,baz=38,slow=39
KEST Kesra 92.50 327 LR LR 22 22 48.1
comp=Z,110nm,20.0s,baz=312,slow=38
ESDC Sonseca Array 93.46 338 P **P 21 38 12.7 -0.5**
comp=Z,1.2nm,1.0s,baz=8.0,slow=5.3,SNR=4.8
TORD Torodi Ar. Bea 115.59 322 PKP **PKiKP 21 43 39.2 -1.0**
comp=Z,0.3nm,0.5s,baz=21,slow=2.1,SNR=2.5
SNAA Sanae 147.86 197 PKPbc **PKPbc 21 44 41.6 +0.1**
VNA2 Neumayer--Watz 149.39 196 PKPbc **PKPbc 21 44 45.8 +0.5**
VNA3 Neumayer Olymp 149.58 195 PKPbc **PKiKP 21 44 46.5 -0.4**
BDFB Brasilia 149.72 30 PKPbc **PKPbc 21 44 48.1 +0.2**
comp=Z,3.9nm,0.6s,baz=218,slow=5.4,SNR=7.7
BDFB Brasilia 149.72 30 PKP2 **PKiKP 21 44 48.6 -0.3**
BDFB Brasilia 149.72 30 **PKiKP 21 44 48.6 -0.3**
PLCA Paso Flores 152.12 98 PKPbc **PKPbc 21 44 53.0 +0.2**
comp=Z,1.2nm,0.7s,baz=279,slow=3.5,SNR=5.2
PLCA Paso Flores 152.12 98 PKiKP **PKPbc 21 44 53.0 +0.2**
PLCA Paso Flores 152.12 98 **PKiKP 21 44 53.3 +0.2**

TAP ***02*** *21:27:09.9, 24°.39N×121°.97E, h33km, ML2.9, B*
JMA ***02*** *21:27:10.2±0.1, 24°.33N×121°.93E, h46km±3km, M2.2*
ISC 02 21:27:10.7±1.0, 24°.36N±0°.02×122°.02E±0°.02, h25km±8km, n76, σ0°89/110, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.24**	**291**	*i* P		**Pb**	**21 27 16.4**	**-0.4**
	baz=287							
EWUT				*i* S		**Sb**	**21 27 21.2**	**+0.3**
	baz=287							
ENA	**Nanau**	**0.27**	**285**	P		**Pb**	**21 27 16.8**	**-0.4**
	baz=280							
NDS	**Dongshan**	**0.39**	**314**	*i* P		**Pb**	**21 27 18.5**	**-0.6**
	baz=317							
NDS				S		**Sb**	**21 27 24.5**	**-0.3**
	baz=317							
ETL	**Fush Village**	**0.42**	**241**	*i* P		**Pb**	**21 27 19.3**	**-0.3**
	baz=234							
NACB	**Ninganchiao**	**0.43**	**245**	*i* P		**Pb**	**21 27 19.2**	**-0.6**
	baz=236							
NACB				S		**Sb**	**21 27 27.1**	**+1.2**
	baz=236							
ILA	**Ilan**	**0.47**	**328**	*e*S		**Sb**	**21 27 27.5**	**+0.4**
	baz=330							
TWD	**Chiawan**	**0.48**	**235**	P		**Pb**	**21 27 20.0**	**-0.5**
	baz=225							
TWD				*e*S		**Sb**	**21 27 28.3**	**+1.1**
	baz=225							
TWE	**Neicheng**	**0.48**	**318**	*i* P		**Pb**	**21 27 20.1**	**-0.5**
	baz=322							
TWE				*e*S		**Sb**	**21 27 27.1**	**-0.3**
	baz=322							
ENTT	**Nioudou**	**0.50**	**304**	*i* P		**Pb**	**21 27 20.0**	**-0.9**
	baz=304							
ENTT				*e*S		**Sb**	**21 27 27.2**	**-0.7**
	baz=304							
ETLH	**Xiulin Townshi**	**0.52**	**253**	*i* P		**Pb**	**21 27 20.5**	**-0.8**
	baz=246							
ETLH				*e*S		**Sb**	**21 27 28.2**	**-0.2**
	baz=246							
NTC	**Toucheng**	**0.52**	**340**	*e*P		**Pb**	**21 27 21.1**	**-0.2**
	baz=346							
NDT	**Datong Townshi**	**0.52**	**297**	*i* P		**Pb**	**21 27 20.5**	**-0.8**
	baz=296							
NDT				*e*S		**Sb**	**21 27 27.9**	**-0.6**
	baz=296							
NNSB	**Datong**	**0.59**	**277**	*i* P		**Pb**	**21 27 21.4**	**-1.1**
	baz=274							
NNSB				*e*S		**Sb**	**21 27 29.6**	**-0.9**
	baz=274							
NNS	**Nan Shan**	**0.60**	**278**	*i* P		**Pb**	**21 27 21.6**	**-1.1**
	baz=275							
NNS				*e*S		**Sb**	**21 27 29.6**	**-1.2**
	baz=275							
ETM	**Tongmen**	**0.62**	**231**	P		**Pb**	**21 27 22.2**	**-0.8**
	baz=232							
TEYL	**Yanliau Villag**	**0.63**	**219**	*e*P		**Pb**	**21 27 22.4**	**-0.6**
	baz=214							
NWLT	**Wulai**	**0.63**	**311**	P		**Pb**	**21 27 22.0**	**-1.1**
	baz=312							
NWLT				*e*S		**Sb**	**21 27 30.7**	**-0.9**
	baz=312							
TIPB	**Shuangxi**	**0.64**	**343**	P		**Pb**	**21 27 22.6**	**-0.6**
	baz=351							
TIPB				*e*S		**Sb**	**21 27 31.9**	**+0.3**
	baz=351							
TWB1	**Santiao Chiao**	**0.65**	**357**	*e*P		**Pb**	**21 27 22.8**	**-0.5**
	baz=3.0							
YHNB	**Yeheng**	**0.67**	**298**	*i* P		**Pb**	**21 27 22.8**	**-1.0**
	baz=297							
YHNB				S		**Sb**	**21 27 31.7**	**-0.9**
	baz=297							
NSK	**Sanguang**	**0.68**	**297**	*i* P		**Pb**	**21 27 22.9**	**-1.1**
	baz=297							
NSK				*e*S		**Sb**	**21 27 31.9**	**-1.2**
	baz=297							
FUSS	**Fushou**	**0.72**	**261**	*i* P		**Pb**	**21 27 23.7**	**-1.0**
	baz=257							
FUSS				*e*S		**Sb**	**21 27 33.7**	**-0.6**
	baz=257							
WHF	**Hehuan Shan**	**0.73**	**253**	*i* P		**Pb**	**21 27 23.9**	**-1.0**
	baz=249							
TWA	**Mucha**	**0.74**	**327**	*e*P		**Pb**	**21 27 24.5**	**-0.3**
	baz=323							
NWF	**Wu-fen Shan**	**0.74**	**343**	*e*P		**Pb**	**21 27 24.6**	**-0.4**
	baz=347							
WFSB	**Wu-fen Shan**	**0.74**	**343**	*e*P		**Pb**	**21 27 22.1**	**-2.9**
	baz=341							
WFSB				*e*S		**Sb**	**21 27 35.1**	**+0.4**
	baz=341							
NHDH	**Xindian Distri**	**0.75**	**323**	*e*P		**Pb**	**21 27 24.7**	**-0.4**
	baz=320							
ESL	**Shilin**	**0.77**	**225**	*e*P		**Pb**	**21 27 24.1**	**-1.3**
	baz=231							
TWT	**Tachien**	**0.78**	**262**	P		**Pb**	**21 27 25.2**	**-0.6**
	baz=258							
TWT				*e*S		**Sb**	**21 27 35.9**	**-0.1**
	baz=258							
TATO	**Taipei**	**0.78**	**322**	*e*P		**Pb**	**21 27 25.1**	**-0.5**
	baz=323							
TDCB	**Techi**	**0.80**	**262**	*e*P		**Pb**	**21 27 25.0**	**-1.0**
	baz=259							
CHGB	**Renai**	**0.83**	**249**	P		**Pb**	**21 27 25.6**	**-1.0**
	baz=236							
JYNG	**Yonagunijimaku**	**0.84**	**84**	P		**Pn**	**21 27 27.2**	**+0.2**
JYNG				*e*S		**Sn**	**21 27 39.0**	**+0.4**
OWD	**Renai**	**0.87**	**243**	*e*P		**Pb**	**21 27 26.3**	**-1.0**
	baz=229							
EGFH	**Guangfu**	**0.88**	**219**	*e*P		**Pb**	**21 27 26.0**	**-1.2**
	baz=202							
YM01	**YM01**	**0.89**	**332**	*e*P		**Pb**	**21 27 26.8**	**-0.6**
	baz=335							
YOJ	**Yonaguni jima**	**0.91**	**83**	*e*S		**Sn**	**21 27 40.5**	**+0.4**
	baz=82							
TWS1	**Kuangyinshan**	**0.92**	**323**	*e*P		**Pb**	**21 27 27.3**	**-0.7**
	baz=325							
NJD	**Zhudong**	**0.93**	**294**	*e*P		**Pb**	**21 27 28.0**	**-0.1**
	baz=292							
NJD				*e*S		**Sn**	**21 27 41.2**	**+0.4**
	baz=292							
ANP	**Anpu**	**0.94**	**331**	*e*P		**Pb**	**21 27 27.3**	**-1.1**
	baz=334							
LIOB	**Emei**	**0.96**	**287**	*e*P		**Pb**	**21 27 27.9**	**-0.7**
	baz=285							
LIOB				*e*S		**Sb**	**21 27 41.1**	**+0.1**
	baz=285							
NSTT	**Nanjuang**	**0.97**	**286**	P		**Pb**	**21 27 28.2**	**-0.7**
	baz=284							
NSTT				*e*S		**Sb**	**21 27 41.2**	**-0.1**
	baz=284							
NCU	**National Centr**	**0.97**	**309**	*e*P		**Pb**	**21 27 28.2**	**-0.7**
	baz=309							
NCUH	**Zhongli**	**0.97**	**309**	*e*P		**Pb**	**21 27 28.2**	**-0.7**
	baz=309							
NCUH				*e*S		**Sn**	**21 27 42.5**	**+0.6**
	baz=309							
WHP	**Taichung City**	**0.99**	**265**	P		**Pb**	**21 27 28.5**	**-0.7**
	baz=262							
WHP				*e*S		**Sb**	**21 27 41.5**	**-0.3**
	baz=262							
VWDT	**VWDT**	**1.01**	**233**	P		**Pb**	**21 27 28.4**	**-1.1**
	baz=221							
HGSD	**Ruisui**	**1.02**	**213**	*e*P		**Pb**	**21 27 28.9**	**-0.9**
	baz=197							
SBCB	**Hsinchu**	**1.04**	**295**	*e*P		**Pb**	**21 27 29.4**	**-0.6**
	baz=309							
SBCB				*e*S		**Sn**	**21 27 44.5**	**+1.0**
	baz=309							
DPDB	**Guoxing**	**1.05**	**252**	*e*P		**Pb**	**21 27 29.1**	**-1.2**
	baz=241							
WCS	**Beigang Elemen**	**1.06**	**254**	*e*P		**Pb**	**21 27 29.2**	**-1.1**
	baz=243							
EHY	**Hungye**	**1.07**	**217**	*e*P		**Pb**	**21 27 28.2**	**-2.3**
	baz=212							
NJN	**Zhunan**	**1.10**	**287**	*e*S		**Sn**	**21 27 46.1**	**+1.2**
	baz=277							
SMLT	**Sun Moon Lake**	**1.13**	**245**	*e*P		**Pn**	**21 27 30.4**	**-0.6**
	baz=234							
SSLB	**Suanglung**	**1.13**	**240**	*e*P		**Pn**	**21 27 29.9**	**-1.1**
	baz=226							
NMLH	**Miaoli**	**1.14**	**279**	*e*P		**Pn**	**21 27 31.0**	**0.0**
	baz=277							
NMLH				*e*S		**Sn**	**21 27 47.1**	**+1.2**
	baz=277							
TWQ1	**Liyutan**	**1.14**	**270**	*e*P		**Pb**	**21 27 31.9**	**+0.2**
	baz=266							
TWQ1				*e*S		**Sn**	**21 27 46.4**	**+0.4**
	baz=266							
NSY	**Sanyi**	**1.15**	**273**	*e*P		**Pb**	**21 27 32.1**	**+0.1**
	baz=270							
NSY				*e*S		**Sn**	**21 27 47.8**	**+1.5**
	baz=270							
TYC	**Yuchr**	**1.16**	**247**	*e*P		**Pn**	**21 27 30.9**	**-0.4**
	baz=236							
YULB	**Yu-li**	**1.17**	**215**	*e*P		**Pn**	**21 27 30.4**	**-1.1**
	baz=209							
WDJ	**Dajia District**	**1.26**	**270**	*e*S		**Sb**	**21 27 50.9**	**+1.3**
	baz=273							
WJS	**Zhushan**	**1.30**	**246**	*e*P		**Pn**	**21 27 32.6**	**-0.7**
	baz=242							
ALS	**Alishan**	**1.40**	**233**	*e*P		**Pn**	**21 27 35.3**	**+0.4**
	baz=218							
CHN5	**Tsauling**	**1.45**	**239**	*e*P		**Pn**	**21 27 35.8**	**+0.4**
	baz=233							
CHN5				*e*S		**Sb**	**21 27 55.5**	**+0.4**
	baz=233							
ELDTW	**Lidau**	**1.49**	**219**	*e*P		**Pn**	**21 27 35.4**	**-0.6**
	baz=203							
WDLH	**Douliu**	**1.52**	**244**	*e*P		**Pb**	**21 27 37.6**	**-0.5**
	baz=239							
WDLH				*e*S		**Sb**	**21 27 57.6**	**+0.8**

baz=239
IRIF Iriomote-Funau 1.56 91 P **Pn 21 27 37.9 +1.1**
IRIF eS **Sb 21 27 57.6 -0.5**
WTK Tuku 1.64 246 eP **Pn 21 27 38.6 +0.7**
baz=241
WTK eS **Sb 21 27 59.6 -0.8**
baz=241
STYH Taoyuan 1.65 224 eP **Pn 21 27 38.7 +0.6**
baz=208
CHN4 Tsaushan 1.65 233 eP **Pb 21 27 39.4 -1.0**
baz=227
CHN4 eS **Sb 21 28 01.3 +0.4**
baz=227
TPUB Ta-pu 1.66 231 eP **Pn 21 27 39.3 +1.1**
baz=212
WTP Ta-pu 1.70 230 eP **Pn 21 27 40.0 +1.2**
baz=224
TWK Hsinying 1.78 233 eP **Pb 21 27 41.3 -1.3**
baz=226
TWK eS **Sb 21 28 04.5 -0.1**
baz=226
CHN1 Nanshi 1.80 230 eP **Pb 21 27 41.9 -1.1**
baz=224
JKRS Kuro-shima 1.81 93 eS **Sn 21 28 03.8 +1.2**
JIJ Ishigaki jima 1.93 89 P **Pn 21 27 41.1 -0.9**
JIJ eS **Sn 21 28 06.6 +1.1**
MASBT Mashibuluo 2.16 217 eP **Pn 21 27 46.8 +1.7**
baz=210

*GEN **02** 21:35:28.3,44°.17N×10°.90E,h16km±2km,MI1.7*
*ROM **02** 21:35:28.5±0.1,44°.180N±0°.007×10°.888E±0°.006,*
h8km,ML1.8/5,Error ellipse: s-maj=0.8km s-min=0.3km
az=4.0
ISC 02 21:35:28.5±0.9,**44°.18N**±0°.03×**10°.90E**±0°.02,**h16**km±6km,
n29,σ0^{s}**69**/47,**2C-2D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNVD	**Fontana Vidola**	**0.16**	**95**	⇓P	**Pg**	**21 35 32.2**	**-0.6**
FNVD				S	**Sg**	**21 35 35.2**	**-0.4**
FNVD				AML	AML		
	comp=E,733μm,0.5s						
FNVD				AML	AML		
	comp=N,608μm,0.2s						
FNVD	**Fontana Vidola**	**0.16**	**95**	P	**Pg**	**21 35 32.2**	**-0.6**
FNVD				S	**Sg**	**21 35 35.1**	**-0.6**
MTCR	**Monte La Croce**	**0.17**	**155**	⇓P	**Pg**	**21 35 32.9**	**0.0**
MTCR				S	**Sg**	**21 35 36.2**	**+0.3**
MTCR	**Monte La Croce**	**0.17**	**155**	P	**Pg**	**21 35 32.9**	**0.0**
MTCR				S	**Sb**	**21 35 36.3**	**-0.4**
ZCCA	**Zocca**	**0.18**	**19**	⇑P	**Pg**	**21 35 33.1**	**+0.1**
ZCCA				AML	AML		
	comp=N,647μm,0.4s						
ZCCA				AML	AML		
	comp=E,411μm,1.0s						
ZCCA				AML	AML		
	comp=N,646μm,0.4s						
ZCCA	**Zocca**	**0.18**	**19**	P	**Pg**	**21 35 33.1**	**+0.1**
BDI	**Bagni Di Lucca**	**0.25**	**241**	⇑P	**Pg**	**21 35 34.2**	**+0.1**
BDI				S	**Sb**	**21 35 38.5**	**-0.3**
BDI				AML	AML		
	comp=E,228μm,1.1s						
BDI				AML	AML		
	comp=N,246μm,0.7s						
BDI				AML	AML		
	comp=N,259μm,1.6s						
BDI				AML	AML		
	comp=E,227μm,1.1s						
BDI				AML	AML		
	comp=N,247μm,0.7s						
BDI				AML	AML		
	comp=E,242μm,1.1s						
BDI	**Bagni Di Lucca**	**0.25**	**241**	P	**Pg**	**21 35 34.2**	**+0.1**
BDI				S	**Sb**	**21 35 38.6**	**-0.3**
MPPT	**Montemurlo**	**0.27**	**148**	P	**Pg**	**21 35 34.1**	**-0.2**
MPPT				S	**Sg**	**21 35 38.7**	**+0.4**
MPPT				AML	AML		
	comp=E,195μm,0.6s						
MPPT				AML	AML		
	comp=N,241μm,0.3s						
MPPT				AML	AML		
	comp=N,242μm,0.3s						
CARD	**Cardoso**	**0.34**	**242**	P	**Pg**	**21 35 35.5**	**-0.1**
CARD				S	**Sb**	**21 35 40.9**	**-0.5**
CARD	**Cardoso**	**0.34**	**242**	P	**Pg**	**21 35 35.4**	**-0.1**
CARD				S	**Sb**	**21 35 41.2**	**-0.2**
SARO	**Sassorosso**	**0.36**	**270**	P	**Pg**	**21 35 35.9**	**0.0**
SARO				S	**Sb**	**21 35 41.8**	**-0.1**
SARO	**Sassorosso**	**0.36**	**270**	P	**Pg**	**21 35 36.0**	**0.0**
SARO				S	**Sb**	**21 35 41.9**	**-0.1**
SEI	**Scarperia**	**0.36**	**111**	P	**Pg**	**21 35 35.5**	**-0.4**
SEI				S	**Sb**	**21 35 41.9**	**-0.1**
SEI				AML	AML		
	comp=E,350μm,0.5s						
SEI				AML	AML		
	comp=N,444μm,0.3s						
SEI				AML	AML		
	comp=N,443μm,0.3s						
SEI				AML	AML		
	comp=E,350μm,0.5s						
VLC	**Villacollemand**	**0.37**	**266**	P	**Pg**	**21 35 36.3**	**+0.2**
VLC				S	**Sb**	**21 35 42.5**	**+0.3**
VLC	**Villacollemand**	**0.37**	**266**	P	**Pg**	**21 35 36.3**	**+0.2**
VLC				S	**Sb**	**21 35 42.6**	**+0.3**
CRMI	**Carmignano**	**0.40**	**172**	P	**Pb**	**21 35 37.6**	**+0.4**
CRMI				S	**Sb**	**21 35 43.5**	**+0.4**
CRMI	**Carmignano**	**0.40**	**172**	P	**Pb**	**21 35 37.6**	**+0.4**
MAIM	**Mastiano**	**0.40**	**227**	P	**Pg**	**21 35 36.4**	**-0.2**
BRIS	**BRISIGHELLA**	**0.44**	**94**	P	**Pn**	**21 35 41.9**	**+1.6**
MTRZ	**Monterenzio**	**0.45**	**65**	P	**Pg**	**21 35 37.6**	**0.0**
MTRZ				AML	AML		
	comp=E,333μm,0.6s						
MTRZ				AML	AML		
	comp=N,244μm,1.5s						
PII	**Pisa**	**0.53**	**210**	P	**Pg**	**21 35 39.1**	**+0.1**
PII	**Pisa**	**0.53**	**210**	P	**Pg**	**21 35 39.2**	**+0.1**
EQUI	**Equi**	**0.54**	**268**	P	**Pb**	**21 35 39.4**	**-0.1**
EQUI				S	**Sg**	**21 35 46.3**	**0.0**
RUFI	**Rufina**	**0.56**	**128**	P	**Pb**	**21 35 40.1**	**+0.1**
RUFI				S	**Sb**	**21 35 48.2**	**+0.4**
RUFI	**Rufina**	**0.56**	**128**	P	**Pb**	**21 35 40.1**	**+0.1**
LMD	**Lutirano**	**0.59**	**100**	P	**Pb**	**21 35 40.7**	**+0.1**
GRAM	**Graiana**	**0.67**	**298**	P	**Pg**	**21 35 41.9**	**+0.2**
GRAM				S	**Sb**	**21 35 52.7**	**+1.7**
RSP	**Reno Superiore**	**2.76**	**292**	S	**Sn**	**21 36 42.0**	**-3.4**

*IDC **02** 21:50:06.1±1.3,44°.49N×148°.91E,h0km,mb3.4/6,*
mb1 3.7/8,mb1mx3.4/45,mbtmp3.5/8,ML2.8/2,MS3.1/5,
Ms1 3.1/5,ms1mx2.6/68,Error ellipse: s-maj=37.3km
s-min=25.6km az=126.0
ISC 02 21:50:10.2±1.0,**44°.3N**±0°.1×**149°.1E**±0°.1,**h35**km,**n29,**
σ2^{s}**22**/22,**mb3.5**/6,**MS3.1**/3,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.62**	**251**	P	**Pn**	**21 50 51.0**	**+1.0**
NEM2				eS	**Sn**	**21 51 20.1**	**-0.4**
JRA	**Rausu**	**2.91**	**265**	P	**Pn**	**21 50 56.4**	**+2.4**
JNK	**Nakash**	**3.27**	**260**	P	**Pn**	**21 51 00.9**	**+2.0**
JAK	**Akkeshi**	**3.46**	**250**	P	**Pn**	**21 51 03.2**	**+1.6**
JTKR	**Abashiri--Toko**	**3.78**	**267**	P	**Pn**	**21 51 09.7**	**+3.8**
JAR	**Ashorobuto**	**4.01**	**258**	P	**Pn**	**21 51 12.0**	**+2.9**
JCH	**Churui**	**4.52**	**251**	P	**Pn**	**21 51 18.2**	**+2.1**
JNBK	**Urakawa-nobuka**	**5.07**	**249**	P	**Pn**	**21 51 25.5**	**+1.9**
JNB	**Noboribetsu**	**6.17**	**256**	P	**Pn**	**21 51 41.1**	**+2.3**
JKB	**Kayabe**	**6.39**	**251**	P	**Pn**	**21 51 43.3**	**+1.4**
JKB				eS	**Sn**	**21 52 51.3**	**-2.3**
JANG	**Nango**	**6.86**	**238**	P	**Pn**	**21 51 48.8**	**+0.6**
JANG				eS	**Sn**	**21 53 01.1**	**-3.9**
PETK	**Petropavlovsk-**	**10.50**	**29**	Pn	**Pn**	**21 52 38.3**	**+0.1**
	0.2nm,0.3s,baz=212,slow=13,SNR=6.4						
PETK				LR	LR	21 56 39.4	
	comp=Z,66nm,18.1s,baz=191,slow=38						
MJAR	**Matsushiro Arr**	**11.35**	**231**	LR	LR	21 57 09.9	
	comp=Z,33nm,18.7s,baz=26,slow=37						
SEY	**Seymchan**	**18.80**	**5**	P	**P**	**21 54 23.9**	**-2.4**
	0.1nm,0.3s,baz=180,slow=11,SNR=4.2						
YAK	**Yakutsk**	**21.13**	**334**	LR	LR	22 02 50.7	
	comp=Z,50nm,18.7s,baz=104,slow=37						
H11N2	**WAKE ISLAND Hy 28.60**	**143**		T	T	22 26 53.7	
	baz=334,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy 28.61**	**143**		T	T	22 27 02.5	
	baz=334,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy 28.61**	**143**		T	T	22 27 02.8	
	baz=334,slow=76,SNR=31						
H11S1	**WAKE ISLAND Hy 29.60**	**145**		T	T	22 28 11.9	
	baz=335,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy 29.61**	**145**		T	T	22 28 09.8	
	baz=335,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy 29.62**	**145**		T	T	22 28 11.7	
	baz=335,slow=76,SNR=33						
ILAR	**Eielson Array**	**40.22**	**37**	P	**P**	**21 57 41.4**	**-1.6**
	0.6nm,0.8s,baz=265,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**45.62**	**298**	P	**P**	**21 58 24.9**	**-2.0**
	0.3nm,0.9s,baz=68,slow=7.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**46.52**	**304**	P	**P**	**21 58 32.9**	**-1.0**
	0.2nm,0.8s,baz=76,slow=8.3,SNR=1.2						
JAY	**Jayapura**	**47.18**	**192**	LR	LR	22 20 13.4	
	comp=Z,17nm,18.0s,baz=226,slow=38						
YKA	**Yellowknife Ar**	**54.57**	**34**	P	**P**	**21 59 35.3**	**+0.8**
	0.3nm,0.6s,baz=295,slow=6.7,SNR=4.2						
FITZ	**Fitzroy Crossi**	**65.67**	**205**	LR	LR	22 24 35.4	
	comp=Z,61nm,22.0s,baz=300,slow=31						
ASAR	**Alice Springs**	**69.02**	**195**	P	**P**	**22 01 14.8**	**+2.6**
	0.5nm,0.8s,baz=12,slow=4.8,SNR=4.0						
NOA	**NORSAR Array B**	**69.64**	**340**	P	**P**	**22 01 16.4**	**+0.8**
	1.3nm,0.9s,baz=58,slow=8.6,SNR=3.6						

*IDC **02** 21:53:06.2±1.3,53°.72N×165°.92W,h0km,mb3.6/10,*
mb1 3.8/12,mb1mx3.4/53,mbtmp3.6/12,ML3.4/2,Error
ellipse: s-maj=33.4km s-min=17.3km az=173.0
*AEIC **02** 21:53:11±4.0,53°.31N±0°.06×165°.65W±0°.07,h16km±4km,*
Error ellipse: s-maj=8.3km s-min=5.6km az=168.0
*NEIC **02** 21:53:12.1±2.5,53°.40N±0°.04×165°.71W±0°.08,h55km±8km,*
mb3.9/15,ML3.9/8,ML3.6(AEIC),Error ellipse:
s-maj=7.2km s-min=5.7km az=80.0
ISC 02 21:53:12.3±1.3,**53°.4N**±0°.1×**165°.60W**±0°.05,**h56**km±10km,
n107,σ1^{s}**53**/103,**mb3.8**/17,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.69**	**309**		**Pn**	**21 53 25.3**	**-0.9**
UNV					**Sn**	**21 53 35.5**	**-0.7**
AKBBA	**Akutan Broad B**	**0.71**	**344**		**Pn**	**21 53 26.0**	**-0.5**
AKMO	**Akutan Morgan**	**0.72**	**340**		**Pn**	**21 53 26.2**	**-0.4**
AKMO					**Sn**	**21 53 37.3**	**+0.3**
AKSA	**Akutan Strait**	**0.72**	**356**		**Pn**	**21 53 26.0**	**-0.6**
AKSA					**Sn**	**21 53 37.3**	**+0.3**
AKUT	**Akutan**	**0.73**	**352**		**Pn**	**21 53 26.2**	**-0.4**
AKUT	**Akutan**	**0.73**	**352**	Sn	**Sn**	**21 53 38.0**	**+0.9**
AKRB	**Akutan Reef Bi**	**0.77**	**339**		**Pn**	**21 53 26.9**	**-0.3**
AKLV	**Akutan Long Va**	**0.78**	**344**		**Pn**	**21 53 26.7**	**-0.6**
AKGG	**Akutan Green G**	**0.82**	**344**		**Pn**	**21 53 27.5**	**-0.4**
MTBL	**Makushin Table**	**0.85**	**311**		**Pn**	**21 53 27.8**	**-0.5**
MSW	**Makushin Switc**	**0.86**	**306**		**Pn**	**21 53 27.8**	**-0.7**
MSW					**Sn**	**21 53 40.2**	**0.0**
MAPS	**Pakushin South**	**0.89**	**297**		**Pn**	**21 53 27.8**	**-1.0**
WESP	**Westdahl Peak**	**1.20**	**25**		**Pn**	**21 53 33.3**	**+0.4**
WESP					**Sn**	**21 53 50.0**	**+1.7**
WECS	**Westdahl Cape**	**1.22**	**23**		**Pn**	**21 53 33.9**	**+0.7**
WEBT	**Westdahl Beart**	**1.28**	**23**		**Pn**	**21 53 34.9**	**+1.0**
OKCE	**Okmok Cone E**	**1.53**	**271**		**Pn**	**21 53 37.0**	**-0.4**
SSLS	**Shishaldin Sou**	**1.61**	**35**		**Pn**	**21 53 39.1**	**+0.7**
OKSP	**Okmok Steeple**	**1.62**	**265**		**Pn**	**21 53 37.2**	**-1.3**
SSLN	**Shishaldin Nor**	**1.69**	**33**		**Pn**	**21 53 40.8**	**+1.3**
ISLZ	**Isanotski Laza**	**1.72**	**40**		**Pn**	**21 53 40.3**	**+0.3**
ISNN	**Isanotski Nort**	**1.78**	**36**		**Pn**	**21 53 42.1**	**+1.4**
FALS	**False Pass**	**1.93**	**41**		**Pn**	**21 53 43.5**	**+0.7**
NIKH	**Nikolski High**	**2.01**	**259**		**Pn**	**21 53 42.7**	**-1.1**
CLES	**Cleveland East**	**2.66**	**259**	Pn	**Pn**	**21 53 53.2**	**+0.6**
CLES				IAML		21 54 43.9	
	comp=E,541nm,3.6s						
CLES				IAML		21 54 59.0	
	comp=N,586nm,3.4s						
SDPT	**Sand Point**	**3.57**	**55**		**Pn**	**21 54 05.8**	**+0.7**
SDPT	**Sand Point**	**3.57**	**55**	IAML		21 54 56.9	
	comp=E,216nm,4.2s						
SPIA	**Saint Paul Isl**	**4.61**	**327**	Pn	**Pn**	**21 54 18.9**	**-0.5**
CHGN	**Chignik**	**5.06**	**52**	Pn	**Pn**	**21 54 26.2**	**+0.7**
CHGN				IAML		21 55 42.1	
	comp=E,80nm,4.0s						
ATKA	**Atka Island**	**5.35**	**260**	Pn	**Pn**	**21 54 29.2**	**-0.4**
P18K	**Big Mountain,**	**8.30**	**40**	Pn	**Pn**	**21 55 09.2**	**-0.7**
KDAK	**Kodiak Island**	**8.57**	**54**	Pn	**Pn**	**21 55 12.3**	**-1.2**
	comp=E,0.6nm,0.3s,baz=248,slow=18,SNR=2.0						
KDAK				Sn	**Sn**	**21 56 42.5**	**-6.0**
	comp=E,0.4nm,0.3s,baz=100,slow=22,SNR=1.2						
KDAK	**Kodiak Island**	**8.57**	**54**		**Pn**	**21 55 14.8**	**+1.3**
Q19K	**Cape Douglas,**	**8.65**	**46**	Pn	**Pn**	**21 55 15.1**	**+0.4**
N19K	**Bonanza Creek**	**9.55**	**35**	Pn	**Pn**	**21 55 28.2**	**+1.1**
GAMB	**Gambell**	**10.86**	**345**	Pn	**Pn**	**21 55 46.4**	**+1.6**
ANM	**Nome**	**11.19**	**1**	Pn	**Pn**	**21 55 50.4**	**+1.1**
K20K	**Telida**	**11.64**	**27**	Pn	**Pn**	**21 55 56.5**	**+1.1**
PWL	**Port Wells**	**11.95**	**45**	Pn	**Pn**	**21 55 57.0**	**-2.7**
KNK	**Knik Glacier**	**12.20**	**42**	Pn	**Pn**	**21 56 01.0**	**-2.1**
GHO	**Glory Hole Cre**	**12.22**	**40**	Pn	**Pn**	**21 56 01.9**	**-1.5**
TNA	**Tin City**	**12.24**	**355**	Pn	**Pn**	**21 56 04.3**	**+0.7**
CAST	**Castle Rocks**	**12.24**	**30**	Pn	**Pn**	**21 56 05.5**	**+1.8**
J20K	**Nowinta River**	**12.29**	**24**	Pn	**Pn**	**21 56 05.8**	**+1.5**
SCM	**Sheep Creek Mo**	**12.88**	**42**	Pn	**Pn**	**21 56 10.3**	**-2.1**
BPAW	**Bear Paw Mtn.**	**13.08**	**29**	Pn	**Pn**	**21 56 15.2**	**0.0**
DIV	**Divide**	**13.18**	**46**	Pn	**Pn**	**21 56 14.1**	**-2.4**
RND	**Reindeer**	**13.27**	**34**	Pn	**Pn**	**21 56 18.3**	**+0.6**
KLU	**Klutina**	**13.28**	**45**	Pn	**Pn**	**21 56 15.4**	**-2.5**
M24K	**Tolsona, Glenn**	**13.49**	**42**	Pn	**Pn**	**21 56 18.6**	**-2.0**
BMRM	**Bremner River**	**13.62**	**48**	Pn	**Pn**	**21 56 21.7**	**-0.8**
I21K	**Tanana**	**13.65**	**25**	Pn	**Pn**	**21 56 24.4**	**+1.6**
H21K	**Melozitna Rive**	**13.84**	**23**	Pn	**Pn**	**21 56 26.2**	**+0.7**
MLY	**Manley**	**13.86**	**27**	Pn	**Pn**	**21 56 26.5**	**+0.8**
N25K	**Chitina, Valde**	**13.90**	**46**	Pn	**Pn**	**21 56 24.1**	**-2.1**
GLB	**Gilahina Butte**	**14.16**	**47**	Pn	**Pn**	**21 56 27.4**	**-2.4**
WAX	**Waxell Ridge**	**14.22**	**51**	Pn	**Pn**	**21 56 28.6**	**-2.0**
PAX	**Paxson**	**14.22**	**40**	Pn	**Pn**	**21 56 28.8**	**-1.9**
VRDI	**Verde Repeater**	**14.23**	**48**	Pn	**Pn**	**21 56 28.5**	**-2.4**
I23K	**Minto, Yukon-K**	**14.33**	**29**	Pn	**Pn**	**21 56 30.7**	**-1.2**
ISLE	**Juniper Island**	**14.51**	**51**	Pn	**Pn**	**21 56 32.6**	**-1.9**
MDM	**Murphy Dome**	**14.53**	**30**	Pn	**Pn**	**21 56 32.8**	**-1.7**
ILAR	**Eielson Array**	**14.82**	**33**	Pn	**Pn**	**21 56 33.7**	**-4.6**
	comp=E,0.1nm,0.3s,baz=222,slow=12,SNR=4.3						
RIDG	**Independent Ri**	**14.89**	**38**	Pn	**Pn**	**21 56 37.8**	**-1.4**
M26K	**Nabesna, AK**	**14.93**	**44**	Pn	**Pn**	**21 56 38.7**	**-1.1**
H24K	**Noodor Dome**	**15.26**	**28**	Pn	**Pn**	**21 56 43.9**	**-0.1**
M27K	**Edge Creek, AK**	**15.38**	**45**	Pn	**Pn**	**21 56 45.0**	**-0.6**
BCAR	**Beaver Creek A**	**15.73**	**43**	Pn	**Pn**	**21 56 47.9**	**-2.2**
EGAK	**Eagle**	**16.80**	**38**	Pn	**P**	**21 57 03.8**	**-1.2**
EGAK				IAmb	IAmb	21 57 22.0	
	comp=Z,8.1nm,1.4s						
TOLK	**Toolik Lake Re**	**17.03**	**20**		**P**	**21 57 07.2**	**-0.3**
BMAR	**Burnt Mountain**	**17.32**	**28**		**P**	**21 57 10.2**	**-0.5**
INK	**Inuvik**	**21.22**	**33**	P	**P**	**21 57 50.8**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=270,slow=11,SNR=8.6						
INK	**Inuvik**	**21.22**	**33**	P	**P**	**21 57 50.8**	**-2.2**
INK				IAmb	IAmb	21 58 06.8	
	comp=Z,5.1nm,1.4s						
C36M	**Paulatuk**	**24.78**	**34**	P	**P**	**21 58 29.0**	**+0.6**
C36M				IAmb	IAmb	21 58 56.2	
	comp=Z,7.1nm,1.4s						
YKA	**Yellowknife Ar**	**27.82**	**51**	P	**P**	**21 58 57.7**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=274,slow=8.8,SNR=11						
YKA	**Yelloknife Ar**	**27.82**	**51**	P	**P**	**21 58 57.1**	**+1.2**
K05A	**Summer Lake**	**31.24**	**92**	P	**P**	**21 59 29.3**	**+2.7**
PAHR	**Pah Rah Range**	**33.98**	**95**	P	**P**	**21 59 52.7**	**+2.1**
PAHR				IAmb	IAmb	21 59 53.7	
	comp=Z,1.4nm,0.6s						
NVAR	**Mina Array Bea**	**35.44**	**96**	P	**P**	**22 00 06.0**	**+2.7**
	comp=Z,1.0nm,0.7s,baz=297,slow=8.6,SNR=6.1						
NVAR	**Mina Array Bea**	**35.44**	**96**	P	**P**	**22 00 04.4**	**+1.2**
PDAR	**Pinedale Array**	**37.98**	**83**	P	**P**	**22 00 25.7**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=259,slow=5.3,SNR=3.5						
PDAR	**Pinedale Array**	**37.98**	**83**	P	**P**	**22 00 25.0**	**+0.1**
FCC	**Fort Churchill**	**38.50**	**53**	P	**P**	**22 00 29.9**	**+1.2**
H11N2	**WAKE ISLAND Hy 39.74**	**223**		T	T	22 43 03.1	
	baz=25,slow=76,SNR=64						
H11N3	**WAKE ISLAND Hy 39.74**	**223**		T	T	22 43 13.3	
	baz=25,slow=76,SNR=52						
H11N1	**WAKE ISLAND Hy 39.76**	**223**		T	T	22 43 01.2	
	baz=25,slow=76,SNR=55						
H11S1	**WAKE ISLAND Hy 40.92**	**222**		T	T	22 44 21.5	
	baz=25,slow=76,SNR=75						
H11S2	**WAKE ISLAND Hy 40.93**	**222**		T	T	22 44 29.8	
	baz=25,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy 40.93**	**222**		T	T	22 44 45.4	
	baz=25,slow=76,SNR=37						
KSRS	**Korea Array**	**47.53**	**278**	P	**P**	**22 01 42.3**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=40,slow=9.7,SNR=2.0						
MNTX	**Cornudas Mount**	**47.76**	**92**	P	**P**	**22 01 44.2**	**+0.5**
SUMG	**Summit**	**49.09**	**19**	P	**P**	**22 01 54.2**	**+0.4**
KURK	**Kurchatov**	**63.07**	**320**	P	**P**	**22 03 33.5**	**+0.1**
KURK				IAmb	IAmb	22 03 42.7	
	comp=Z,1.6nm,0.9s						
KURBB	**Kurchatov Arra**	**63.18**	**320**	P	**P**	**22 03 31.3**	**-2.9**
	comp=Z,0.5nm,0.7s,baz=45,slow=4.3,SNR=4.4						
MK31	**Makanchi Array**	**64.71**	**315**	P	**P**	**22 03 43.1**	**-1.1**
MK31				IAmb	IAmb	22 04 04.0	
	comp=Z,1.0nm,1.2s						
MKAR	**Makanchi Array**	**64.71**	**315**	P	**P**	**22 03 43.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=48,slow=5.9,SNR=7.2						
MKAR	**Makanchi Array**	**64.71**	**315**	P	**P**	**22 03 43.3**	**-1.0**
MAKZ	**Makanchi**	**64.83**	**315**	P	**P**	**22 03 44.3**	**-0.7**
MAKZ				IAmb	IAmb	22 03 49.6	
	comp=Z,1.2nm,1.0s						
FINES	**FINESS Array B**	**65.11**	**354**	P	**P**	**22 03 45.8**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=4.2,slow=7.8,SNR=6.7						
FINES	**FINESS Array B**	**65.11**	**354**	P	**P**	**22 03 45.4**	**-1.2**
BOOM	**Boomskoye usch**	**70.84**	**316**	P	**P**	**22 04 22.5**	**-0.6**
BOOM				IAmb	IAmb	22 04 41.1	
	comp=Z,3.2nm,1.2s						
AAK	**Ala-Archa**	**71.31**	**318**	P	**P**	**22 04 25.3**	**-0.7**
AAK				IAmb	IAmb	22 04 27.8	
	comp=Z,2.2nm,1.3s						
KKAR	**Karatay Array**	**72.48**	**320**		**P**	**22 04 31.6**	**-1.2**
AKASG	**Malin Array Be**	**75.51**	**350**	P	**P**	**22 04 49.4**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=12,slow=6.0,SNR=5.3						
CMAR	**Chiang Mai Arr**	**78.58**	**285**	P	**P**	**22 05 09.9**	**+2.0**
	comp=Z,0.1nm,0.4s,baz=12,slow=5.4,SNR=4.5						
H03N2	**Juan Fernandez**	**114.22**	**114**	T	T	00 16 28.2	
	baz=322,slow=78,SNR=67						
H03N1	**Juan Fernandez**	**114.23**	**114**	T	T	00 16 27.2	
	baz=322,slow=78,SNR=88						
H03N3	**Juan Fernandez**	**114.24**	**114**	T	T	00 16 28.9	
	baz=322,slow=78,SNR=76						

*IDC **02** 22:14:04.1±1.0,52°.77N×168°.41W,h0km,mb3.7/15,*
mb1 3.8/16,mb1mx3.6/35,mbtmp3.7/16,ML3.5/1,MS3.5/1,
Ms1 3.5/1,ms1mx2.4/94,Error ellipse: s-maj=30.8km
s-min=16.2km az=158.0
*AEIC **02** 22:14:09±3.3,52°.70N±0°.05×168°.30W±0°.06,h26km±5km,*
ML3.5,mb4.0/33(NEIC),ML4.1/6(NEIC),Error ellipse:
s-maj=8.9km s-min=2.8km az=150.0
*NEIC **02** 22:14:10.2±2.2,52°.75N±0°.07×168°.35W±0°.07,h43km±7km,*
Error ellipse: s-maj=10.4km s-min=4.9km az=155.0
ISC 02 22:14:10.5±1.2,**52°.77N**±0°.09×**168°.34W**±0°.05,**h46**km±9km,
n107,σ1^{s}**09**/106,**mb3.8**/19,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.38**	**303**		**Pn**	**22 14 19.0**	**-1.0**
NIKH					**Sn**	**22 14 25.5**	**-1.2**
OKCE	**Okmok Cone E**	**0.67**	**9**		**Pn**	**22 14 23.4**	**-0.2**
OKCE					**Sn**	**22 14 33.8**	**+0.7**
OKNC	**Okmok New Cone**	**0.70**	**10**		**Pn**	**22 14 24.2**	**+0.1**
OKNC					**Sn**	**22 14 34.3**	**+0.4**
CLCO	**Concord Point,**	**0.84**	**272**		**Pn**	**22 14 25.0**	**-0.9**
CLCO					**Sn**	**22 14 36.7**	**-0.6**
CLES	**Cleveland East**	**0.95**	**274**		**Pn**	**22 14 26.6**	**-0.7**
CLES					**Sn**	**22 14 39.7**	**-0.1**
CLES	**Cleveland East**	**0.95**	**274**	IAML		22 14 41.5	
	comp=N,5μm,0.3s						
CLES				IAML		22 14 44.3	
	comp=E,6μm,0.3s						
MAPS	**Pakushin South**	**1.33**	**38**		**Pn**	**22 14 32.0**	**-0.7**
MSW	**Makushin Switc**	**1.48**	**38**		**Pn**	**22 14 34.5**	**-0.1**
MSW					**Sn**	**22 14 53.2**	**+0.5**
UNV	**Unalaska Valle**	**1.54**	**45**		**Pn**	**22 14 34.8**	**-0.6**
MTBL	**Makushin Table**	**1.56**	**39**		**Pn**	**22 14 35.5**	**-0.3**
AKMO	**Akutan Morgan**	**1.92**	**45**		**Pn**	**22 14 40.9**	**+0.2**
AKMO					**Sn**	**22 15 05.0**	**+1.5**
AKRB	**Akutan Reef Bi**	**1.92**	**44**		**Pn**	**22 14 41.4**	**+0.7**
AKBBA	**Akutan Broad B**	**1.96**	**46**		**Pn**	**22 14 42.4**	**+1.2**
AKLV	**Akutan Long Va**	**1.99**	**45**		**Pn**	**22 14 42.5**	**+0.8**
AKGG	**Akutan Green G**	**2.00**	**43**		**Pn**	**22 14 43.2**	**+1.4**
AKUT	**Akutan**	**2.05**	**47**		**Pn**	**22 14 42.4**	**-0.1**
AKUT	**Akutan**	**2.05**	**47**	I

comp=Z,0.5nm,0.4s,baz=86,slow=13,SNR=2.3
YKA Yellowknife Ar 29.50 49 P **P 22 20 10.3 +0.4**
comp=Z,0.5nm,0.4s,baz=273,slow=7.7,SNR=14
YKA PcP **PcP 22 23 14.8 +0.8**
comp=Z,0.1nm,0.6s,baz=290,slow=2.0,SNR=3.8
YKA Yellowknife Ar 29.50 49 P **P 22 20 09.3 -0.6**
YHH Holmes Hill 37.80 78 P **P 22 21 22.9 +0.5**
H11N2 WAKE ISLAND Hy 38.16 220 T T 23 02 02.9
baz=24,slow=76,SNR=260
H11N3 WAKE ISLAND Hy 38.17 220 T T 23 02 05.8
baz=24,slow=76,SNR=281
H11N1 WAKE ISLAND Hy 38.18 220 T T 23 02 10.7
baz=24,slow=76,SNR=293
H11S1 WAKE ISLAND Hy 39.35 219 T T 23 03 44.0
baz=23,slow=76,SNR=359
H11S2 WAKE ISLAND Hy 39.36 219 T T 23 03 34.7
baz=23,slow=76,SNR=343
H11S3 WAKE ISLAND Hy 39.37 219 T T 23 03 34.9
baz=23,slow=76,SNR=214
PSUT Pine Spring 39.68 89 P **P 22 21 38.0 -0.1**
PDAR Pinedale Array 39.71 80 P **P 22 21 38.9 +0.5**
comp=Z,0.2nm,0.6s,baz=309,slow=4.5,SNR=2.3
PDAR Pinedale Array 39.71 80 P **P 22 21 38.5 +0.2**
FCC Fort Churchill 40.20 51 P **P 22 21 42.3 +0.5**
FCC IAmb IAmb 22 21 43.2
comp=Z,3.4nm,1.1s
MAJO Matsushiro 40.34 268 P **P 22 21 43.6 +0.2**
KSRS Korea Array 45.98 277 P **P 22 22 29.6 +0.7**
comp=Z,0.5nm,0.4s,baz=52,slow=7.9,SNR=4.2
FRB Frobisher Bay 48.28 36 LR LR 22 45 17.5
comp=Z,50nm,18.7s,baz=214,slow=39
SONM Songino Array 51.63 301 P **P 22 23 13.3 +1.0**
comp=Z,0.3nm,0.4s,baz=65,slow=8.0,SNR=2.9
P40A Paris 52.05 72 P **P 22 23 14.4 -0.9**
MK31 Makanchi Array 63.98 314 P **P 22 24 38.3 -0.5**
MK31 IAmb IAmb 22 24 44.2
comp=Z,0.8nm,1.1s
MKAR Makanchi Array 63.98 314 P **P 22 24 37.3 -1.4**
comp=Z,0.1nm,0.3s,baz=47,slow=5.6,SNR=5.2
MKAR Makanchi Array 63.98 314 P **P 22 24 37.9 -0.9**
FINES FINESS Array B 65.56 352 P **P 22 24 48.1 -0.5**
comp=Z,1.3nm,0.7s,baz=0.5,slow=7.7,SNR=3.8
FINES FINESS Array B 65.56 352 P **P 22 24 48.3 -0.4**
ABKAR Abkulak array 70.42 329 P **P 22 25 19.2 -0.2**
ABKAR Abkulak array 70.42 329 P **P 22 25 19.2 -0.2**
ABKAR IAmb IAmb 22 25 20.5
comp=Z,3.2nm,1.4s
KKAR Karatay Array 71.91 319 P **P 22 25 28.0 -0.6**
BTK Batken 74.33 317 P **P 22 25 43.4 +0.4**
BTK IAmb IAmb 22 25 55.2
comp=Z,3.4nm,1.4s
AKASG Malin Array Be 75.84 349 P **P 22 25 50.2 -1.1**
comp=Z,0.6nm,0.5s,baz=13,slow=5.2,SNR=5.4
AKASG Malin Array Be 75.84 349 P **P 22 25 50.7 -0.7**
AKASG IAmb IAmb 22 26 11.8
comp=Z,1.9nm,1.3s
CHGR Chuyangaron 76.20 317 P **P 22 25 53.7 -0.1**
CMAR Chiang Mai Arr 77.14 283 P **P 22 26 00.1 +0.9**
comp=Z,1.4nm,0.7s,baz=25,slow=7.0,SNR=13
BURAR Bucovina Array 79.33 351 P **P 22 26 10.9 -0.1**
BURAR IAmb IAmb 22 26 30.9
comp=Z,1.0nm,1.1s
BRTR Keskin Array B 85.93 343 P **P 22 26 46.3 +0.8**
comp=Z,0.3nm,0.4s,baz=358,slow=3.9,SNR=1.8
ESDC Sonseca Array 86.94 12 P **P 22 26 50.2 -0.2**
comp=Z,0.3nm,0.7s,baz=342,slow=4.5,SNR=1.4
WRA Warramunga Arr 87.75 232 P **P 22 26 53.5 -0.8**
comp=Z,1.0nm,1.0s,baz=54,slow=4.2,SNR=2.6
ASAR Alice Springs 91.14 231 P **P 22 27 10.2 +0.1**
comp=Z,0.4nm,0.7s,baz=30,slow=2.9,SNR=4.2

IDC 02 22:34:22.1±2.0, 0°.44N×124°.89E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, Error ellipse: s-maj=179.8km s-min=27.9km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.27**	**156**	P	P	22 39 19.4	-1.6
	0.5nm,0.4s,baz=334,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.51**	**161**	P	P	22 39 53.8	+1.3
	0.3nm,0.3s,baz=344,slow=11,SNR=8.5						
MKAR	**Makanchi Array**	**59.25**	**327**	P	P	22 44 25.3	-0.2
	0.1nm,0.4s,baz=118,slow=8.0,SNR=2.4						

*IDC **02** 22:46:36.5±3.3, 30°.83N×140°.22E, h61km±28km, mb3.4/13, mb1 3.7/15, mb1mx3.5/36, mbtmp3.7/15, ML2.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.1/54, Error ellipse: s-maj=24.3km s-min=16.2km az=99.0*

ISC 02 22:46:33.6±0.8, 30°.88N±0°.09×140°.4E±0°.1, h35km, n27, σ1s85/20, mb3.6/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.28**	**348**	P	**Pn**	**22 47 05.5**	**-3.3**
	7.7nm,0.3s,baz=72,slow=23,SNR=5.3						
JHJ				S	**Sn**	**22 47 32.2**	**-3.5**
	32nm,0.3s,baz=267,slow=18,SNR=5.7						
MJAR	**Matsushiro Arr**	**5.92**	**343**	P	**Pn**	**22 48 01.1**	**+2.2**
	0.4nm,0.3s,baz=153,slow=12,SNR=24						
MJAR				S	**Sn**	**22 49 08.8**	**+3.3**
	baz=296,slow=44,SNR=1.3						
KSRS	**Korea Array**	**12.20**	**306**	P	**Pn**	**22 49 28.2**	**+3.4**
	0.0nm,0.3s,baz=113,slow=13,SNR=1.8						
PETK	**Petropavlovsk-**	**25.55**	**25**	LR	LR	23 03 38.2	
	comp=Z,19nm,19.4s,baz=246,slow=40						
H11N2	**WAKE ISLAND Hy 26.37**	**109**		T	T	23 19 41.0	
	baz=300,slow=75						
H11N1	**WAKE ISLAND Hy 26.37**	**109**		T	T	23 19 41.3	
	baz=300,slow=75						
H11N3	**WAKE ISLAND Hy 26.39**	**109**		T	T	23 19 42.3	
	baz=300,slow=75						
H11S3	**WAKE ISLAND Hy 26.84**	**111**		T	T	23 20 15.4	
	baz=303,slow=75						
H11S1	**WAKE ISLAND Hy 26.84**	**111**		T	T	23 20 16.2	
	baz=303,slow=75						
H11S2	**WAKE ISLAND Hy 26.85**	**111**		T	T	23 20 16.2	
	baz=303,slow=75						
CMAR	**Chiang Mai Arr**	**39.40**	**262**	P	**P**	**22 54 00.2**	**-0.1**
	0.8nm,0.7s,baz=58,slow=7.1,SNR=5.8						
ZALV	**Zalesovo Beam**	**45.61**	**317**	PcP	**PcP**	**22 56 28.2**	**+0.1**
	0.6nm,0.5s,baz=116,slow=3.4,SNR=2.5						
MKAR	**Makanchi Array**	**46.88**	**307**	P	**P**	**22 54 59.2**	**-1.2**
	0.2nm,0.5s,baz=89,slow=9.1,SNR=7.6						
MKAR				PcP	**PcP**	**22 56 32.8**	**0.0**
	0.3nm,0.8s,baz=87,slow=3.3,SNR=4.1						
WRA	**Warramunga Arr**	**50.86**	**187**	P	**P**	**22 55 30.5**	**-0.6**
	0.9nm,0.5s,baz=4.8,slow=7.8,SNR=7.8						
ASAR	**Alice Springs**	**54.59**	**187**	P	**P**	**22 55 57.8**	**-0.9**
	0.3nm,0.5s,baz=17,slow=12,SNR=8.4						
ILAR	**Eielson Array**	**55.20**	**30**	P	**P**	**22 56 02.8**	**+0.2**
	0.5nm,0.8s,baz=261,slow=7.6,SNR=4.8						
ARCES	**ARCESS Array B**	**69.45**	**340**	P	**P**	**22 57 38.0**	**+0.2**
	2.3nm,0.8s,baz=88,slow=8.5,SNR=5.0						
YKA	**Yellowknife Ar**	**69.59**	**29**	P	**P**	**22 57 39.1**	**+0.3**
	0.5nm,0.8s,baz=290,slow=5.9,SNR=6.7						
FINES	**FINESS Array B**	**73.86**	**333**	P	**P**	**22 58 04.2**	**-0.3**
	0.6nm,0.5s,baz=46,slow=5.5,SNR=7.2						
AKASG	**Malin Array Be**	**78.64**	**323**	P	**P**	**22 58 31.4**	**-0.4**
	0.6nm,0.6s,baz=47,slow=6.2,SNR=8.2						
NVAR	**Mina Array Bea**	**79.43**	**52**	P	**P**	**22 58 38.6**	**+1.8**
	0.4nm,0.5s,baz=318,slow=5.2,SNR=2.0						
NOA	**NORSAR Array B**	**79.51**	**337**	P	**P**	**22 58 36.0**	**-0.5**
	1.0nm,0.9s,baz=41,slow=5.5,SNR=1.6						
BRTR	**Keskin Array B**	**82.28**	**312**	P	**P**	**22 58 51.9**	**+0.1**
	0.5nm,0.7s,baz=115,slow=3.9,SNR=2.2						
PDAR	**Pinedale Array**	**82.64**	**44**	P	**P**	**22 58 55.1**	**+1.3**
	0.3nm,0.6s,baz=297,slow=5.9,SNR=2.8						
H03N2	**Juan Fernandez**	**146.77**	**105**	T	T	01 50 12.7	
	baz=281,slow=75,SNR=18						
H03N3	**Juan Fernandez**	**146.78**	**105**	T	T	01 50 13.9	
	baz=281,slow=75,SNR=15						
H03N1	**Juan Fernandez**	**146.79**	**105**	T	T	01 50 13.9	
	baz=281,slow=75,SNR=18						

*NOU **02** 22:53:06.6, 37°.01S×176°.03E, h431km, MLv3.7/4, North Island, New Zealand*
*WEL **02** 22:53:41.4, 39°.5±8°.×17°.6E±1°.0, h141km±14km, M2.8/49, ML2.1/10, MLv2.8/49, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6*

ISC 02 22:53:33.9±2.1, 38°.26S±0°.09×175°.96E±0°.06, h203km±13km, n83, σ0s49/83, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRRZ	**Galatos Road**	**0.15**	**127**	P	**Pn**	**22 54 00.1**	**-0.5**
TLZ	**Tolley Road**	**0.34**	**258**	P	**Pn**	**22 54 00.9**	**-0.1**
ALRZ	**Allen Road**	**0.43**	**135**	P	**Pn**	**22 54 00.7**	**-0.5**
MRHZ	**Matea Rd**	**0.68**	**148**	P	**Pn**	**22 54 01.4**	**-0.8**
RITZ	**Rihia Road**	**0.72**	**186**	P	**Pn**	**22 54 02.4**	**0.0**
KATZ	**Kakaramea**	**0.74**	**196**	P	**Pn**	**22 54 02.5**	**-0.2**
NTVZ	**North Tongarir**	**0.87**	**195**	P	**Pn**	**22 54 03.3**	**0.0**
KRVZ	**Karewarewa**	**0.87**	**197**	P	**Pn**	**22 54 03.1**	**-0.2**
RTZ	**Ruatahuna**	**0.88**	**114**	P	**Pn**	**22 54 02.9**	**-0.5**
TMVZ	**Te Maari**	**0.88**	**193**	P	**Pn**	**22 54 03.3**	**-0.1**
ETVZ	**East Tongariro**	**0.90**	**193**	P	**Pn**	**22 54 03.5**	**0.0**
WTVZ	**West Tongariro**	**0.90**	**199**	P	**Pn**	**22 54 03.5**	**-0.1**
HIZ	**Hauiti**	**0.90**	**253**	P	**Pn**	**22 54 03.9**	**+0.6**
HIZ	**Hauiti**	**0.90**	**253**	P	**Pn**	**22 54 04.0**	**+0.6**
URZ	**Urewera**	**0.91**	**90**	P	**Pn**	**22 54 02.5**	**-0.8**
URZ	**Urewera**	**0.91**	**90**	P	**Pn**	**22 54 02.8**	**-0.6**
TWVZ	**Taurewa**	**0.91**	**207**	P	**Pn**	**22 54 02.5**	**-1.0**
MTHZ	**Maungataniwha**	**0.91**	**131**	P	**Pn**	**22 54 03.2**	**-0.3**
NNVZ	**North Ngauruho**	**0.91**	**197**	P	**Pn**	**22 54 03.7**	**+0.1**
OTVZ	**Oturere**	**0.93**	**194**	P	**Pn**	**22 54 03.9**	**+0.2**
SNVZ	**South Ngauruho**	**0.96**	**195**	P	**Pn**	**22 54 04.2**	**+0.3**
BKZ	**Black Stump Fm**	**1.00**	**155**	P	**Pn**	**22 54 03.6**	**-0.4**
NMHZ	**Naumai**	**1.07**	**142**	P	**Pn**	**22 54 05.1**	**+0.6**
RAHZ	**Arahi**	**1.10**	**127**	P	**Pn**	**22 54 04.9**	**+0.2**
WNVZ	**Wahianoa**	**1.10**	**195**	P	**Pn**	**22 54 05.0**	**+0.1**
MOVZ	**Moawhango**	**1.16**	**188**	P	**Pn**	**22 54 04.9**	**-0.3**
SNGZ	**Shannon Statio**	**1.20**	**116**	P	**Pn**	**22 54 05.7**	**+0.2**
KWHZ	**Kaweka Forest**	**1.22**	**163**	P	**Pn**	**22 54 05.7**	**0.0**
BHHZ	**Black Hill Sta**	**1.23**	**176**	P	**Pn**	**22 54 05.5**	**-0.3**
MWZ	**Matawai**	**1.24**	**94**	P	**Pn**	**22 54 05.7**	**-0.1**
VRZ	**Vera Road**	**1.28**	**227**	P	**Pn**	**22 54 07.0**	**+1.0**
ARHZ	**Aropaoanui**	**1.29**	**141**	P	**Pn**	**22 54 06.5**	**+0.4**
MCHZ	**McNeill Hill**	**1.31**	**154**	P	**Pn**	**22 54 07.0**	**+0.7**
RUGZ	**Raukumara Rang**	**1.39**	**78**	P	**Pn**	**22 54 06.3**	**-0.8**
KRHZ	**Kereru**	**1.42**	**167**	P	**Pn**	**22 54 07.4**	**+0.2**
RIGZ	**Rimuhau**	**1.48**	**108**	P	**Pn**	**22 54 07.6**	**-0.1**
HAZ	**Te Kaha**	**1.52**	**71**	P	**Pn**	**22 54 07.8**	**-0.3**
KNZ	**Kokohu**	**1.54**	**120**	P	**Pn**	**22 54 08.4**	**+0.2**
TWGZ	**Tauwhareparae**	**1.59**	**88**	P	**Pn**	**22 54 09.5**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.65**	**148**	P	**Pn**	**22 54 09.9**	**+0.7**
PRGZ	**Paritu Road**	**1.65**	**114**	P	**Pn**	**22 54 09.6**	**+0.3**
PNHZ	**Pukenui**	**1.66**	**174**	P	**Pn**	**22 54 09.5**	**+0.1**
KAHZ	**Kahuranaki**	**1.69**	**155**	P	**Pn**	**22 54 10.3**	**+0.6**
PKGZ	**Pakihiroa**	**1.71**	**78**	P	**Pn**	**22 54 10.4**	**+0.5**
MHGZ	**Mahia Peninsul**	**1.77**	**121**	P	**Pn**	**22 54 11.0**	**+0.7**
CNGZ	**Carnagh Statio**	**1.78**	**98**	P	**Pn**	**22 54 11.5**	**+1.1**
TSZ	**Takapari Road**	**1.80**	**180**	P	**Pn**	**22 54 10.9**	**+0.2**
PKE	**Pukeiti**	**1.80**	**238**	P	**Pn**	**22 54 12.6**	**+1.8**
PUZ	**Pukeiti**	**1.82**	**85**	P	**Pn**	**22 54 11.1**	**+0.2**
WPHZ	**Waipukurau**	**1.84**	**168**	P	**Pn**	**22 54 11.4**	**+0.3**
PXZ	**Pawanui**	**1.90**	**159**	P	**Pn**	**22 54 12.0**	**+0.4**
WMGZ	**Waiomatatini S**	**1.99**	**78**	P	**Pn**	**22 54 12.8**	**+0.3**
DVHZ	**Dannevirke**	**2.04**	**176**	P	**Pn**	**22 54 13.1**	**0.0**
PRHZ	**Porangahau**	**2.07**	**166**	P	**Pn**	**22 54 13.8**	**+0.4**
POWZ	**Post Office Ro**	**2.13**	**184**	P	**Pn**	**22 54 14.2**	**+0.1**
ANWZ	**Angora Road**	**2.23**	**170**	P	**Pn**	**22 54 15.6**	**+0.5**
PRWZ	**Pori Road**	**2.29**	**180**	P	**Pn**	**22 54 16.2**	**+0.5**
MRZ	**Mangatainoka R**	**2.42**	**187**	P	**Pn**	**22 54 17.1**	**0.0**
BFZ	**Birch Farm**	**2.43**	**175**	P	**Pn**	**22 54 17.3**	**+0.1**
BFZ	**Birch Farm**	**2.43**	**175**	P	**Pn**	**22 54 17.5**	**+0.3**
TIWZ	**Tintock**	**2.51**	**181**	P	**Pn**	**22 54 18.5**	**+0.3**
OGWZ	**Otaki Gorge**	**2.63**	**193**	P	**Pn**	**22 54 19.7**	**+0.3**
CPWZ	**Castlepoint**	**2.65**	**176**	P	**Pn**	**22 54 20.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**2.66**	**187**	P	**Pn**	**22 54 19.7**	**0.0**
KIW	**Kapiti Island**	**2.72**	**197**	P	**Pn**	**22 54 20.5**	**0.0**
TMWZ	**Te Maipa**	**2.84**	**181**	P	**Pn**	**22 54 21.8**	**-0.1**
MTW	**Mount Morrison**	**2.92**	**187**	P	**Pn**	**22 54 22.4**	**-0.3**
CAW	**Cannon Point**	**2.93**	**193**	P	**Pn**	**22 54 22.9**	**+0.1**
DUWZ	**D'Urville Isla**	**2.99**	**211**	P	**Pn**	**22 54 23.8**	**+0.2**
TRWZ	**Traveller**	**3.14**	**184**	P	**Pn**	**22 54 25.3**	**-0.1**
MSWZ	**Moikau Station**	**3.20**	**190**	P	**Pn**	**22 54 25.7**	**-0.3**
TCW	**Tory Channel**	**3.22**	**203**	P	**Pn**	**22 54 26.3**	**0.0**
BHW	**Baring Head**	**3.25**	**195**	P	**Pn**	**22 54 26.3**	**-0.4**
PLWZ	**Palliser**	**3.35**	**189**	P	**Pn**	**22 54 27.4**	**-0.5**
TUWZ	**Tuamarina**	**3.53**	**205**	P	**Pn**	**22 54 30.0**	**+0.1**
NNZ	**Nelson**	**3.56**	**213**	P	**Pn**	**22 54 30.4**	**0.0**
QRZ	**Quartz Range**	**3.69**	**225**	P	**Pn**	**22 54 31.8**	**-0.1**
THZ	**Tophouse**	**4.21**	**213**	P	**Pn**	**22 54 38.3**	**-0.2**
KHZ	**Kahutara**	**4.54**	**203**	P	**Pn**	**22 54 42.6**	**+0.1**
LTZ	**Lake Taylor**	**5.32**	**211**	P	**Pn**	**22 54 52.4**	**-0.1**
MQZ	**McQueen's Vall**	**5.99**	**204**	P	**Pn**	**22 54 59.6**	**-1.3**
ARCZ	**Arundel**	**6.73**	**211**	P	**Pn**	**22 55 10.1**	**-0.5**
TMZ	**Timaru**	**7.16**	**210**	P	**Pn**	**22 55 15.9**	**-0.3**

*IDC **02** 23:03:19.6±1.2, 17°.73S×167°.17E, h0km, mb3.8/7, mb1 4.1/8, mb1mx4.0/24, mbtmp3.9/8, ML4.8/1, MS3.3/4, Ms1 3.3/4, ms1mx2.7/53, Error ellipse: s-maj=42.7km s-min=23.1km az=135.0*
*NEIC **02** 23:03:21.1±1.8, 17°.82S±0°.05×167°.34E±0°.04, h10km±1km, mb4.1/7, Error ellipse: s-maj=9.3km s-min=5.5km az=190.0*
*NOU **02** 23:03:23.8, 17°.86S×167°.23E, h28km, MLv4.9/16, Vanuatu Islands*

ISC 02 23:03:22.3±0.6, 17°.85S±0°.04×167°.25E±0°.06, h20km, n40, σ0s96/41, mb3.8/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.91**	**82**	P	**Pn**	**23 03 40.9**	**+1.0**
RTV	**Rentapao**	**1.12**	**87**	P	**Pb**	**23 03 44.0**	**+1.0**
SANVU	**Saraoutou**	**2.39**	**359**		**Pn**	**23 04 00.4**	**+1.0**
SANVU				Sn	**Sn**	**23 04 27.3**	**-1.7**
SANVU	**Saraoutou**	**2.39**	**359**	P	**Pn**	**23 04 00.5**	**+0.2**
LIFNC	**LIFOU**	**2.91**	**180**		**Pn**	**23 04 06.4**	**-1.2**
LIFNC	**LIFOU**	**2.91**	**180**	P	**Pn**	**23 04 06.3**	**-1.2**
MARNC	**Mare, Loyalty**	**3.69**	**169**		**Pn**	**23 04 16.9**	**-1.2**
MARNC	**Mare, Loyalty**	**3.69**	**169**	P	**Pn**	**23 04 18.6**	**+0.4**
KOUNC	**Koumac, New Ca**	**3.88**	**226**	P	**Pn**	**23 04 21.5**	**+0.7**
YATNC	**Mamie plateau,**	**4.20**	**184**	P	**Pn**	**23 04 25.0**	**-0.2**
DZM	**Mont Dzumac**	**4.27**	**190**	*e*Pn	**Pn**	**23 04 27.1**	**+0.9**
	45nm,0.3s,baz=70,slow=4.3,SNR=1943						
DZM				Sn	**Sn**	**23 05 13.7**	**-1.8**
	32nm,0.3s,baz=321,slow=23,SNR=5.9						
DZM				LR	LR	23 06 02.3	
	comp=Z,220nm,20.7s,baz=326,slow=37						
DZM	**Mont Dzumac**	**4.27**	**190**	*e*Pn	**Pn**	**23 04 26.5**	**+0.3**
	154nm,1.1s						
DZM				*e*Sn	**Sn**	**23 05 15.0**	**-0.5**
	141nm,0.8s						
DZM	**Mont Dzumac**	**4.27**	**190**		**Pn**	**23 04 26.7**	**+0.4**
DZM	**Mont Dzumac**	**4.27**	**190**	P	**Pn**	**23 04 27.2**	**+0.9**
NOUC	**Port Laguerre**	**4.32**	**192**	P	**Pn**	**23 04 28.2**	**+1.3**
OUENC	**Ouen Island, N**	**4.56**	**185**		**Pn**	**23 04 31.3**	**+1.1**
OUENC	**Ouen Island, N**	**4.56**	**185**	P	**Pn**	**23 04 31.6**	**+1.4**
PINNC	**Pines Island,**	**4.74**	**178**		**Pn**	**23 04 33.7**	**+1.0**
PINNC	**Pines Island,**	**4.74**	**178**	P	**Pn**	**23 04 33.9**	**+1.2**
MSVF	**Nonsavu**	**10.29**	**91**	LR	LR	23 09 22.8	
	comp=Z,133nm,18.4s,baz=206,slow=35						
MSVF	**Nonsavu**	**10.29**	**91**	Pn	**Pn**	**23 05 47.8**	**-1.2**
EIDS	**Eidsvold**	**16.78**	**241**	Pn	**Pn**	**23 07 17.0**	**+0.8**
EIDS				IAmb	IAmb	23 07 21.1	
	comp=Z,14nm,1.4s						
ARMA	**Armidale**	**18.94**	**226**	P	**Pn**	**23 07 43.2**	**+0.3**
ARMA				IAmb	IAmb	23 08 11.7	
	comp=Z,21nm,1.3s						
CTAO	**Charters Tower**	**19.98**	**260**	P	**P**	**23 07 54.0**	**+0.5**
CTAO				IAmb	IAmb	23 07 59.2	
	comp=Z,16nm,1.4s						
CAN	**Canberra**	**23.79**	**219**	P	**P**	**23 08 34.1**	**+0.4**
STKA	**Stephens Creek**	**27.05**	**234**	P	**P**	**23 09 04.7**	**+1.2**
	comp=Z,2.5nm,0.6s,baz=70,slow=13,SNR=6.3						
STKA	**Stephens Creek**	**27.05**	**234**	P	**P**	**23 09 04.1**	**+0.6**
STKA				IAmb	IAmb	23 09 28.2	
	comp=Z,2.7nm,1.4s						
WRA	**Warramunga Arr**	**31.18**	**261**	P	**P**	**23 09 39.7**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=75,slow=6.2,SNR=1.2						
WRA				LR	LR	23 20 57.9	
	comp=Z,51nm,18.8s,baz=80,slow=34						
AS31	**Alice Springs**	**31.66**	**254**	P	**P**	**23 09 43.1**	**-1.5**
ASAR	**Alice Springs**	**31.66**	**254**	P	**P**	**23 09 44.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=82,slow=8.1,SNR=17						
ASAR	**Alice Springs**	**31.66**	**254**	P	**P**	**23 09 43.5**	**-1.1**
LEM	**Lembang**	**59.06**	**273**	LR	LR	23 40 13.2	
	comp=Z,37nm,18.2s,baz=74,slow=38						
QSPA	**South Pole Qui**	**72.19**	**180**	P	**P**	**23 14 45.3**	**-0.4**
QSPA				IAmb	IAmb	23 14 57.0	
	comp=Z,5.4nm,1.4s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**76.21**	**295**	P	**P**	**23 15 10.9**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=126,slow=5.1,SNR=5.2						
CMAR	**Chiang Mai Arr**	**76.21**	**295**	P	**P**	**23 15 09.9**	**+0.2**
SONM	**Songino Array**	**84.98**	**324**	P	**P**	**23 15 55.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=108,slow=4.7,SNR=2.2						
NVAR	**Mina Array Bea**	**89.31**	**49**	P	**P**	**23 16 18.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=226,slow=9.0,SNR=4.7						
ILAR	**Eielson Array**	**89.48**	**18**	P	**P**	**23 16 16.9**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=235,slow=4.9,SNR=8.2						
ILAR	**Eielson Array**	**89.48**	**18**	P	**P**	**23 16 17.1**	**-0.4**
YKA	**Yellowknife Ar**	**100.31**	**28**	P	**Pdif**	**23 17 07.6**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=256,slow=3.9,SNR=2.1						

*NOU **02** 23:23:56.2, 23°.69S×179°.33W, h552km, mb4.3/30, South of Fiji Islands*
*NEIC **02** 23:23:56.7±2.1, 24°.0S±0°.1×179°.8W±0°.2, h502km±8km, mb4.4/23, Error ellipse: s-maj=25.0km s-min=16.1km az=54.0*
*IDC **02** 23:23:56.4±1.6, 23°.93S×179°.93W, h493km±15km, mb3.5/5, mb1 3.7/8, mb1mx3.0/35, mbtmp4.5/8, Error ellipse: s-maj=23.3km s-min=19.0km az=117.0*

ISC 02 23:23:56.0±0.6, 23°.88S±0°.08×179°.69W±0°.09, h500km, n79, σ1s23/82, mb4.3/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.47**	**340**	P	**P**	**23 25 38.6**	**+1.5**
	2.8nm,0.3s,baz=223,slow=17,SNR=8.7						
MSVF	**Nonsavu**	**6.47**	**340**	P	**P**	**23 25 37.8**	**+0.7**
MARNC	**Mare, Loyalty**	**11.59**	**279**	P	**P**	**23 26 30.4**	**+0.2**
PINNC	**Pines Island,**	**11.90**	**274**	P	**P**	**23 26 34.9**	**+1.5**
AFI	**Afiamalu**	**12.42**	**38**	P	**P**	**23 26 41.5**	**+2.3**
	3.0nm,0.3s,baz=258,slow=11,SNR=1.4						
AFI				S	**S**	**23 28 49.7**	**-4.0**
	3.1nm,0.3s,baz=355,slow=20,SNR=1.9						
OUZ	**Omahuta**	**12.72**	**206**	P	**P**	**23 26 45.1**	**+3.1**
DZM	**Mont Dzumac**	**12.90**	**275**	P	**P**	**23 26 45.9**	**+1.7**
	0.3nm,0.3s,baz=157,slow=10,SNR=7.0						
DZM	**Mont Dzumac**	**12.90**	**275**	P	**P**	**23 26 45.8**	**+1.6**
URZ	**Urewera**	**14.59**	**190**	P	**P**	**23 27 01.4**	**-0.3**
	2.7nm,0.3s,baz=301,slow=24,SNR=34						
URZ				S	**S**	**23 29 33.2**	**-1.7**
	1.7nm,0.3s,baz=301,slow=24,SNR=2.6						
BKZ	**Black Stump Fm**	**15.58**	**191**	P	**P**	**23 27 10.9**	**-1.2**
BKZ				IAmb	IAmb	23 27 30.2	
	comp=Z,32nm,1.4s						
QRZ	**Quartz Range**	**18.12**	**199**	P	**P**	**23 27 37.5**	**+0.3**
KHZ	**Kahutara**	**19.32**	**195**	P	**P**	**23 27 48.3**	**+0.1**
ARMA	**Armidale**	**26.30**	**249**	P	**P**	**23 28 51.8**	**+0.7**
ARMA				IAmb	IAmb	23 28 52.6	
	comp=Z,7.8nm,0.7s						
ARMA	**Armidale**	**26.30**	**249**	P	**P**	**23 28 51.8**	**+0.7**
EIDS	**Eidsvold**	**26.59**	**261**	P	**P**	**23 28 53.1**	**-0.5**
EIDS				IAmb	IAmb	23 28 54.2	
	comp=Z,8.4nm,0.7s						
EIDS	**Eidsvold**	**26.59**	**261**	P	**P**	**23 28 53.5**	**-0.1**
	comp=Z,15nm,0.7s						
MGCD	**Mangrove Creek**	**27.21**	**243**	P	**P**	**23 28 59.9**	**+0.9**
RMQ	**Roma**	**28.64**	**258**	P	**P**	**23 29 12.4**	**+0.8**
CNB	**Canberra Magne**	**29.11**	**240**	P	**P**	**23 29 16.7**	**+1.1**
CAN	**Canberra**	**29.40**	**240**	P	**P**	**23 29 18.4**	**+0.2**
CAN	**Canberra**	**29.40**	**240**	P	**P**	**23 29 18.7**	**+0.6**
CMSA	**Cobar Meteorol**	**31.49**	**248**	P	**P**	**23 29 36.1**	**-0.1**
CTA	**Charters Tower**	**31.76**	**270**	P	**P**	**23 29 38.6**	**-0.1**
CTAO	**Charters

*NIC **02** 23:25:53.2±0.0, 35°.13N×31°.48E, h23km±1km, MI3.3/3*
ISC 02 23:25:51.8±1.4, 35°.20N±0°.04×31°.50E±0°.03, h15km±10km, n43, σ1§62/63, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.71**	**105**	P	**Pb**	**23 26 06.8**	**+1.0**
AKMS				S	**Sn**	**23 26 18.0**	**+0.1**
AKMS				AML	AML	23 26 20.4	
	4.1nm,0.3s						
AKMS				AML	AML	23 26 20.4	
	4.1nm,0.3s						
AKMS				AML	AML	23 26 22.1	
	5.7nm,0.4s						
AKMS				AML	AML	23 26 22.1	
	5.7nm,0.4s						
ALFC	**Alefka**	**0.90**	**93**	P	**Pn**	**23 26 10.2**	**+0.3**
ALFC				S	**Sn**	**23 26 23.9**	**+1.2**
ALFC				AML	AML	23 26 25.1	
	3.2nm,0.4s						
ALFC				AML	AML	23 26 25.1	
	3.2nm,0.4s						
ALFC				AML	AML	23 26 25.4	
	3.1nm,0.3s						
ALFC				AML	AML	23 26 25.4	
	3.1nm,0.3s						
NATA	**Nata**	**0.97**	**116**	P	**Pn**	**23 26 12.1**	**+1.2**
NATA				S	**Sn**	**23 26 24.8**	**+0.3**
NATA				AML	AML	23 26 34.1	
	4.1nm,0.4s						
NATA				AML	AML	23 26 34.1	
	4.1nm,0.4s						
NATA				AML	AML	23 26 38.6	
	4.1nm,0.5s						
NATA				AML	AML	23 26 38.6	
	4.1nm,0.5s						
LEF	**Lefka**	**1.14**	**94**	PG	**Pb**	**23 26 13.2**	**0.0**
LEF				SG	**Sn**	**23 26 28.4**	**-0.2**
AKDN	**Akdeniz- Kıbrı**	**1.20**	**85**	PN	**Pg**	**23 26 14.9**	**0.0**
AKDN				SN	**Sn**	**23 26 31.0**	**+0.9**
GAZI	**Gazipasa**	**1.22**	**32**	PN	**Pb**	**23 26 14.1**	**-0.5**
GAZI				SN	**Sn**	**23 26 31.2**	**+0.5**
GAZI	**Gazipasa**	**1.22**	**32**	P	**Pb**	**23 26 13.2**	**-1.5**
GAZI				S	**Sb**	**23 26 29.7**	**-0.6**
AKUM	**Antalya-Kumluc**	**1.46**	**320**	P	**Pb**	**23 26 20.4**	**+1.7**
ASGA	**Asgata**	**1.49**	**106**	P	**Pn**	**23 26 18.7**	**+0.7**
CSS	**Mathiatis**	**1.52**	**99**	PN	**Pn**	**23 26 19.2**	**+0.7**
CSS				SN	**Sg**	**23 26 39.3**	**-1.4**
CSS	**Mathiatis**	**1.52**	**99**	P	**Pn**	**23 26 19.2**	**+0.7**
TEKE	**Tekeli-Mersin**	**1.61**	**54**	PN	**Pn**	**23 26 19.1**	**-0.6**
TEKE				SN	**Sb**	**23 26 40.7**	**-0.7**
LFK	**Lefkose**	**1.66**	**87**	PN	**Pb**	**23 26 21.6**	**-0.6**
KEPZ	**Antalya-Kepez**	**1.70**	**3**	P	**Pn**	**23 26 20.9**	**0.0**
KEPZ				S	**Sn**	**23 26 43.4**	**+0.9**
BERE	**Bereket-Mersin**	**1.81**	**50**	PN	**Pn**	**23 26 22.5**	**0.0**
ANTB	**Antalya**	**1.83**	**338**	PN	**Pn**	**23 26 24.3**	**+1.6**
ERMK	**Ermenek**	**1.83**	**38**	P	**Pn**	**23 26 23.9**	**+0.9**
ERMK				S	**Sg**	**23 26 49.7**	**-1.2**
ERMK				*i* AML	AML	23 26 56.0	
	comp=E,46nm,0.5s						
ERMK				*i* AML	AML	23 26 58.0	
	comp=N,43nm,0.6s						
AKAS	**Kas**	**1.85**	**304**	PN	**Pn**	**23 26 25.5**	**+2.3**
AKKU	**Akkuyu-Mersin**	**1.92**	**60**	PN	**Pn**	**23 26 24.6**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.93**	**59**	P	**Pn**	**23 26 25.1**	**+1.0**
GULN				S	**Sb**	**23 26 49.5**	**-1.0**
HDMB	**Hadim**	**1.93**	**24**	PN	**Pn**	**23 26 25.2**	**+0.9**
TEVE	**Tevekalti-Mers**	**2.00**	**51**	PN	**Pn**	**23 26 26.3**	**+1.2**
ELL	**Elmali**	**2.01**	**320**	PN	**Pn**	**23 26 27.2**	**+1.8**
TISA	**Tisan-Mersin**	**2.01**	**61**	PN	**Pn**	**23 26 26.3**	**+1.1**
KORT	**Korkueli**	**2.02**	**333**	PN	**Pn**	**23 26 27.4**	**+1.9**
KORT	**Korkueli**	**2.02**	**333**	P	**Pg**	**23 26 30.8**	**+0.2**
KORT				S	**Sg**	**23 27 00.9**	**+4.1**
IKL	**Isikli**	**2.05**	**59**	PN	**Pn**	**23 26 26.6**	**+0.8**
KEBE	**Keben-Mersin**	**2.18**	**55**	PN	**Pn**	**23 26 28.7**	**+1.1**
SEDI	**Konya, Seydise**	**2.25**	**5**	P	**Pn**	**23 26 31.1**	**+2.5**
SEDI				S	**Sb**	**23 27 01.2**	**+1.2**
SEDI				*i* AML	AML	23 27 08.0	
	comp=E,44nm,0.7s						
SEDI				*i* AML	AML	23 27 11.0	
	comp=N,27nm,0.5s						
KKBE	**Karaman, Kazim**	**2.32**	**30**	P	**Pn**	**23 26 31.1**	**+1.5**
KKBE				S	**Sg**	**23 27 04.0**	**-2.5**
FETY	**Fethiye**	**2.43**	**307**	P	**Pn**	**23 26 29.9**	**-1.1**
FETY				S	**Sn**	**23 26 57.5**	**-3.0**
KIZK	**Mersin**	**2.50**	**59**	PN	**Pn**	**23 26 33.3**	**+1.4**
KIZK	**Mersin**	**2.50**	**59**	P	**Pn**	**23 26 33.5**	**+1.7**
KIZK				*i* AML	AML	23 27 13.0	
	comp=E,29nm,1.0s						
KIZK				*i* AML	AML	23 27 15.0	
	comp=N,25nm,1.3s						
GOLH	**Golhisar**	**2.57**	**323**	P	**Pn**	**23 26 34.7**	**+1.7**
KMER	**Konya-Meram**	**2.65**	**15**	P	**Pb**	**23 26 38.4**	**-0.7**
KONT	**Konya--Tatoy**	**2.82**	**14**	P	**Pb**	**23 26 40.6**	**-1.3**
KONT				S	**Sb**	**23 27 17.6**	**+1.3**
DOGA	**KONYA_Doganhis**	**2.90**	**3**	P	**Pb**	**23 26 42.1**	**-1.2**
DOGA				S	**Sb**	**23 27 17.8**	**-0.9**
KERG	**Konya-Eregli**	**3.06**	**43**	P	**Pn**	**23 26 42.5**	**+2.7**
KERG				*i* AML	AML	23 27 29.0	
	comp=E,21nm,0.8s						
KERG				*i* AML	AML	23 27 40.0	
	comp=N,30nm,1.1s						
YVAC	**Isparta, Yalva**	**3.07**	**356**	P	**Pn**	**23 26 43.8**	**+3.9**
YVAC				S	**Sb**	**23 27 21.8**	**-1.7**
KDHN	**Kadinhani**	**3.35**	**8**	P	**Pb**	**23 26 48.7**	**-2.2**
GULE	**Gulek**	**3.36**	**51**	P	**Pn**	**23 26 46.9**	**+2.9**
GULE				*i* AML	AML	23 27 42.0	
	comp=E,14nm,0.5s						
DAT	**Datca**	**3.53**	**297**	P	**Pn**	**23 26 45.7**	**-0.5**
DAT				S	**Sn**	**23 27 23.7**	**-4.1**
DAT				*i* AML	AML	23 27 29.0	
	comp=N,11nm,0.3s						
AYDN	**Tasoluk**	**3.81**	**311**	P	**Pn**	**23 26 49.9**	**-0.2**

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*OSPL **02** 23:53:53.9±0.7, 19°.73N×71°.67W, h25km±7km, ML2.3*
*SSNC **02** 23:53:55.3±1.5, 19°.70N×71°.45W, h1km±11km, MD2.7, ML2.5*
ISC 02 23:53:52.5±2.1, 19°.76N±0°.08×71°.59W±0°.05, h0km±21km, n6, σ0§73/11, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.38**	**76**	*i* P	**Pb**	**23 54 02.7**	**+0.6**
LOPP1				IAML		23 54 07.2	
	comp=Z,1μm,1.4s						
SDDR	**Presa de Saban**	**0.83**	**160**	*e*P	**Pg**	**23 54 08.3**	**-0.1**
SDDR				*e*S	**Sg**	**23 54 18.9**	**-0.2**
SDDR	**Presa de Saban**	**0.83**	**160**	*i* P	**Pg**	**23 54 08.8**	**+0.4**
SDDR				*e*S	**Sg**	**23 54 19.0**	**-0.2**
SDDR				IAML		23 54 20.5	
	comp=Z,97nm,0.7s						
SC01	**Santiago de Io**	**0.88**	**112**	*i* P	**Pg**	**23 54 09.7**	**+0.3**
SC01				*e*S	**Sb**	**23 54 22.1**	**-0.9**
SC01				IAML		23 54 24.0	
	comp=Z,65nm,0.4s						
GRTK	**Grand Turk**	**1.79**	**14**	*e*P	**Pn**	**23 54 24.6**	**-0.1**
GRTK				*e*S	**Sn**	**23 54 47.6**	**-0.5**
MASC	**Masc**	**2.51**	**280**	*e*P	**Pb**	**23 54 38.0**	**-0.4**
MASC				*e*S	**Sn**	**23 55 07.2**	**+1.3**
MASC				IAML		23 55 17.6	
	comp=N,13nm,0.5s						
MASC				IAML		23 55 17.6	
	comp=E,15nm,0.3s						

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*SOME **03** 00:19:59.7, 38°.40N×72°.80E, h0km*
*IDC **03** 00:20:16.2±2.0, 38°.79N×73°.53E, h0km, mb3.9/5, mb1 3.8/10, mb1mx3.3/61, mbtmp3.7/10, ML2.8/5, Error ellipse: s-maj=26.8km s-min=20.5km az=169.0*
*NEIC **03** 00:20:18.1±2.6, 38°.74N±0°.04×73°.11E±0°.03, h10km±1km, mb4.3/4, Error ellipse: s-maj=7.6km s-min=4.5km az=157.0*
*NNC **03** 00:20:20.8±2.4, 38°.92N×73°.42E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=19.1km s-min=10.5km az=172.0*
ISC 03 00:20:17.6±0.7, 38°.66N±0°.05×73°.06E±0°.05, h10km, n55, σ2§33/64, mb4.0/6, 7C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.28**	**310**	Pn	**Pn**	**00 20 39.6**	**-2.2**
DRK				Sn	**Sg**	**00 20 58.9**	**0.0**
BTK	**Batken**	**2.23**	**310**	Pn	**Pn**	**00 20 55.6**	**+0.9**
CHGR	**Chuyangaron**	**3.06**	**271**	Pn	**Pn**	**00 21 08.5**	**+2.4**
AML	**Almayashu**	**3.50**	**8**	P	**Pn**	**00 21 12.9**	**+0.4**
	SNR=52						
UCH	**Uchtor**	**3.74**	**17**	P	**Pn**	**00 21 15.7**	**0.0**
	SNR=25						
TAS	**Tashkent**	**3.93**	**314**	Pn	**Pn**	**00 21 16.5**	**-1.5**
EKS2	**Erkin-Say**	**4.04**	**8**	P	**Pn**	**00 21 21.2**	**+1.6**
	SNR=9.6						
MRKS	**Merke**	**4.09**	**2**	*e*P	**Pn**	**00 21 22.0**	**+1.8**
	7.4nm,0.1s						
MRKS				*e*S	**Sb**	**00 22 21.4**	**+2.2**
	24nm,0.6s						
AAK	**Ala-Archa**	**4.12**	**15**	Pn	**Pn**	**00 21 21.3**	**+0.6**
	2.1nm,0.3s,baz=198,slow=10,SNR=41						
AAK				Sn	**Sn**	**00 22 11.9**	**+2.7**
	1.0nm,0.3s,baz=332,slow=15,SNR=6.9						
AAK	**Ala-Archa**	**4.12**	**15**	P	**Pn**	**00 21 22.0**	**+1.2**
	SNR=32						
AAK	**Ala-Archa**	**4.12**	**15**	⇓Pn	**Pn**	**00 21 21.4**	**+0.6**
	19nm,0.8s						
AAK				⇑Lg	Lg	00 22 20.4	
	32nm,1.2s						
AAK	**Ala-Archa**	**4.12**	**15**	Pn	**Pn**	**00 21 20.2**	**-0.6**
FRU1	**Bishkek**	**4.32**	**16**		**Pn**	**00 21 22.1**	**-1.3**
ULHL	**Ulahol**	**4.33**	**33**	P	**Pb**	**00 21 31.2**	**-2.6**
	SNR=7.9						
BOOM	**Boomskoye usch**	**4.41**	**29**	Pn	**Pn**	**00 21 23.8**	**-0.9**
DZA	**Taraz**	**4.43**	**343**	*e*P	**Pn**	**00 21 26.1**	**+1.2**
	14nm,0.0s						
DZA				*e*S	**Sb**	**00 22 28.0**	**-1.0**
	41nm,0.1s						
CHMS	**Chumysh**	**4.52**	**16**	P	**Pn**	**00 21 28.3**	**+2.2**
	SNR=7.8						
TKM2	**Tokmak 2**	**4.67**	**24**	⇑Pg	**Pb**	**00 21 39.9**	**+0.1**
	16nm,1.1s						
TKM2				⇑Lg	Lg	00 22 37.9	
	18nm,0.8s						
KDJ	**Kajisay**	**4.68**	**41**	Pn	**Pn**	**00 21 28.6**	**+0.1**
TARG	**Taragay, Kyrgy**	**4.76**	**48**		**Pn**	**00 21 29.0**	**-0.7**
KK02	**Karatay Array**	**4.84**	**337**	⇓Pn	**Pn**	**00 21 32.1**	**+1.6**
	8.1nm,0.7s,baz=145,slow=13						
KK02				⇓Sn	**Sn**	**00 22 30.9**	**+4.1**
	14nm,0.6s,baz=151,slow=25						
KKAR	**Karatay Array**	**4.84**	**337**	Pn	**Pn**	**00 21 31.1**	**+0.6**
SGDS	**Sogindy**	**4.94**	**13**	*e*P	Pb	00 21 37.4	-6.8
	1.1nm,0.1s						
SGDS				*e*S	**Sb**	**00 22 47.3**	**+3.8**
	14nm,0.1s						
NIL	**Nilore**	**5.00**	**178**	Pn	**Pn**	**00 21 34.7**	**+2.0**
BRLS	**Borolday**	**5.01**	**332**	*e*P	**Pn**	**00 21 33.0**	**+0.2**
	1.8nm,0.4s						
BRLS				*e*S	**Sb**	**00 22 40.5**	**-5.1**
	7.0nm,0.3s						
KBL	**Kabul**	**5.23**	**219**		**Pn**	**00 21 39.4**	**+3.4**
MDOK	**Medeo**	**5.42**	**33**	Pg	**Pb**	**00 21 52.2**	**-0.2**
	7.0nm,0.6s						
MDOK				Lg	Lg	00 23 02.0	
	10nm,0.7s						
KNDC	**Almaty**	**5.43**	**32**	⇑Pg	**Pb**	**00 21 52.7**	**+0.2**
	16nm,0.5s						
KNDC				⇓Lg	Lg	00 23 03.8	
	51nm,0.9s						
PRZ	**Przheval'sk**	**5.58**	**45**	Pn	**Pn**	**00 21 39.7**	**-1.1**
PDGK	**Podgornoye**	**6.74**	**44**	⇓Pg	**Pb**	**00 22 18.5**	**+3.6**
	5.5nm,0.7s						
PDGK				⇑Lg	Lg	00 23 41.5	
	13nm,0.9s						
DHRM	**DHARAMSHALA**	**6.92**	**157**	*e*P	**Pn**	**00 21 59.2**	**0.0**
DHRM				*e*S	**Sn**	**00 23 17.9**	**-0.2**
SMLA	**Simla**	**8.23**	**155**	*e*S	Sn	00 23 42.1	-7.9
MK31	**Makanchi Array**	**10.59**	**37**	Pn	**Pn**	**00 22 47.7**	**-1.6**
MKAR	**Makanchi Array**	**10.59**	**37**	Pn	**Pn**	**00 22 46.0**	**-3.3**
	0.1nm,0.3s,baz=225,slow=14,SNR=7.5						
MKAR	**Makanchi Array**	**10.59**	**37**		**Pn**	**00 22 48.0**	**-1.3**
KURBB	**Kurchatov Arra**	**12.58**	**16**	Pn	**Pn**	**00 23 11.9**	**-4.6**
	0.0nm,0.3s,baz=206,slow=12,SNR=2.0						
KURBB				Lg	Lg	00 26 50.5	
	0.0nm,0.3s,baz=219,slow=28,SNR=4.2						
AB31	**Akbulak array**	**14.17**	**323**	⇓Pn	**Pn**	**00 23 40.6**	**+2.3**
	0.4nm,0.5s,baz=260,slow=30,SNR=20						
AB31				⇓Sn	**Sn**	**00 26 18.3**	**+2.8**
	1.6nm,0.9s,baz=137,slow=21,SNR=5.3						
ABKAR	**Akbulak array**	**14.17**	**323**	Pn	**Pn**	**00 23 36.1**	**-2.2**
ABKAR	**Akbulak array**	**14.17**	**323**	Pn	**Pn**	**00 23 35.3**	**-3.0**
BVAR	**Borovoye Array**	**14.49**	**354**	Pn	**Pn**	**00 23 42.8**	**+0.2**
	0.1nm,0.3s,baz=179,slow=12,SNR=2.4						
BRVK	**Borovoye**	**14.53**	**353**	Pn	**Pn**	**00 23 38.9**	**-4.3**
AKTO	**Aktyubinsk**	**15.89**	**323**	Pn	**Pn**	**00 24 02.2**	**+1.0**
	0.2nm,0.3s,baz=138,slow=13,SNR=5.0						
AKTO				Sn	**Sn**	**00 26 50.7**	**-6.6**
	0.1nm,0.3s,baz=341,slow=13,SNR=1.5						
AKTO	**Aktyubinsk**	**15.89**	**323**	⇑Pn	**P**	**00 24 05.8**	**+0.9**
	0.9nm,0.5s						
AKTO				⇑Sn	**Sn**	**00 27 02.1**	**+4.8**
	1.7nm,0.8s						
ZAA0	**Zalesovo Array**	**17.28**	**24**	Pn	**Pn**	**00 24 16.4**	**-2.4**
ZALV	**Zalesovo Beam**	**17.28**	**24**	Pn	**Pn**	**00 24 14.9**	**-3.9**
	0.1nm,0.3s,baz=206,slow=13,SNR=6.1						
ZALV	**Zalesovo Beam**	**17.28**	**24**		**Pn**	**00 24 16.2**	**-2.6**
BELG	**Belogornoye**	**22.35**	**316**	P	**P**	**00 25 16.6**	**+1.2**
	5.2nm,0.9s,baz=164,slow=19,SNR=2.9						
SONM	**Songino Array**	**25.79**	**58**	P	**P**	**00 25 46.4**	**-2.3**
	1.0nm,0.8s,baz=251,slow=7.5,SNR=5.0						
GAZ	**Gaziantep**	**28.21**	**278**	P	**P**	**00 26 10.1**	**-0.5**
GAZ				IAmb	IAmb	00 26 22.7	
	comp=Z,10nm,1.3s						
FIA1	**FINESS Array S**	**36.66**	**324**	P	**P**	**00 27 24.4**	**+0.4**
FINES	**FINESS Array B**	**36.66**	**324**	P	**P**	**00 27 24.7**	**+0.7**
	comp=Z,3.0nm,1.1s,baz=120,slow=11,SNR=5.7						
FINES	**FINESS Array B**	**36.66**	**324**	P	**P**	**00 27 24.5**	**+0.5**
ARCES	**ARCESS Array B**	**39.81**	**336**	P	**P**	**00 27 51.9**	**+1.4**
	comp=Z,3.1nm,0.9s,baz=102,slow=4.2,SNR=6.0						
ARCES	**ARCESS Array B**	**39.81**	**336**	P	**P**	**00 27 51.1**	**+0.6**
ARCES				IAmb	IAmb	00 28 04.5	
	comp=Z,7.6nm,1.2s						
YKA	**Yellowknife Ar**	**79.01**	**4**	P	**P**	**00 32 20.0**	**-1.3**
	comp=Z,0.1nm,0.6s,baz=347,slow=6.1,SNR=4.7						

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*IDC **03** 00:26:08.4±2.5, 5°.77S×147°.54E, h99km±23km, mb4.0/8, mb1 4.1/10, mb1mx3.6/41, mbtmp4.3/10, MS4.0/1, Ms1 4.0/1, ms1mx2.5/52, Error ellipse: s-maj=22.2km s-min=17.5km az=88.0*
*NEIC **03** 00:26:11.8±2.1, 5°.87S±0°.08×147°.4E±0°.1, h118km±9km, mb4.5/20, Error ellipse: s-maj=16.8km s-min=10.4km az=119.0*
ISC 03 00:26:09.6±0.6, 5°.80S±0°.06×147°.38E±0°.08, h100km, n60, σ1§38/62, mb4.4/16, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.59**	**183**	P	**Pn**	**00 27 04.4**	**+1.1**
	32nm,0.3s,baz=19,slow=7.9,SNR=35						
PMG				S	**Sn**	**00 27 43.9**	**-0.9**
	56nm,0.3s,baz=224,slow=21,SNR=14						
PMG	**Port Moresby**	**3.59**	**183**		**Pn**	**00 27 04.4**	**+1.1**
PMG				Sn	**Sn**	**00 27 44.6**	**-0.2**
RABL	**Rabaul**	**5.03**	**72**	Pn	**Pn**	**00 27 24.8**	**+2.0**
JAY	**Jayapura**	**7.41**	**296**	P	**Pn**	**00 27 56.0**	**+0.8**
	1.2nm,0.3s,baz=341,slow=19,SNR=1.3						
COEN	**Coen**	**9.10**	**207**	Pn	**Pn**	**00 28 19.4**	**+1.3**
COEN	**Coen**	**9.10**	**207**	P	**Pn**	**00 28 19.8**	**+1.7**
CTAO	**Charters Tower**	**14.25**	**184**	Pn	**Pn**	**00 29 27.7**	**+0.9**
CTAO	**Charters Tower**	**14.25**	**184**	P	**P**	**00 29 31.4**	**+0.4**
FAKI	**Fak Fak**	**15.35**	**280**		**Pn**	**00 29 43.3**	**+2.4**
FAKI				IAmb	IAmb	00 29 44.8	
	comp=Z,70nm,1.5s						
QIS	**Mount Isa**	**16.50**	**206**	P	**Pn**	**00 29 56.0**	**+0.9**
MTN	**Manton Dam**	**17.48**	**245**	P	**P**	**00 30 06.9**	**0.0**
MTN				IAmb	IAmb	00 30 26.1	
	comp=Z,43nm,1.5s						
WB0	**Warramunga Arr**	**18.77**	**221**	P	**P**	**00 30 21.6**	**+0.6**
WB0				IAmb	IAmb	00 30 23.9	
	comp=Z,39nm,1.1s						
WRAB	**Tennant Creek**	**18.92**	**221**	P	**P**	**00 30 23.6**	**+1.0**
WB2	**Warramunga Arr**	**18.92**	**221**	P	**P**	**00 30 22.6**	**-0.1**
WRA	**Warramunga Arr**	**18.93**	**221**	P	**P**	**00 30 23.9**	**+1.1**
	comp=Z,11nm,0.3s,baz=42,slow=11,SNR=302						
WRA				S	**S**	**00 33 49.6**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=38,slow=23,SNR=3.3						
WRA	**Warramunga Arr**	**18.93**	**221**	P	**P**	**00 30 22.2**	**-0.6**
EIDS	**Eidsvold**	**19.78**	**170**	P	**P**	**00 30 32.2**	**+0.3**
EIDS				IAmb	IAmb	00 30 34.8	
	comp=Z,6.4nm,0.7s						
RMQ	**Roma**	**20.61**	**176**	P	Pn	00 30 44.9	+0.8
	comp=Z,10.0nm,0.7s						
KNRA	**Kununurra**	**20.73**	**240**	P	**P**	**00 30 42.2**	**-0.1**
AS31	**Alice Springs**	**21.99**	**215**	P	**P**	**00 30 56.4**	**+0.6**
AS31				IAmb	IAmb	00 30 57.3	
	comp=Z,7.7nm,0.5s						
ASAR	**Alice Springs**	**22.00**	**215**	P	**P**	**00 30 56.7**	**+0.9**
	comp=Z,17nm,0.7s,baz=47,slow=8.8,SNR=338						
ASAR				S	**S**	**00 34 48.4**	**-4.2**
	comp=Z,1.6nm,0.8s,baz=39,slow=18,SNR=4.7						
ASAR	**Alice Springs**	**22.00**	**215**	P	**P**	**00 30 56.4**	**+0.6**
INKA	**Innaminka**	**22.71**	**195**	P	**P**	**00 31 04.8**	**+1.7**
BATI	**Baumata**	**23.88**	**258**	P	**P**	**00 31 15.6**	**+1.4**
	comp=Z,12nm,0.4s,baz=255,slow=17,SNR=3.3						
FITZ	**Fitzroy Crossi**	**24.49**	**238**	P	**P**	**00 31 20.1**	**+0.5**
	comp=Z,28nm,0.6s,baz=54,slow=9.8,SNR=97						
DZM	**Mont Dzumac**	**24.53**	**133**	P	**P**	**00 31 19.2**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=87,slow=22,SNR=2.2						
DZM	**Mont Dzumac**	**24.53**	**133**	P	**P**	**00 31 18.3**	**-1.7**
DZM				IAmb	IAmb	00 31 38.4	
	comp=Z,11nm,1.3s						
OOD	**Oodnadatta**	**24.53**	**206**	P	**P**	**00 31 22.2**	**+2.3**
ARMA	**Armidale**	**24.82**	**171**	P	**P**	**00 31 22.0**	**-0.6**
ARMA				IAmb	IAmb	00 31 22.1	
	comp=Z,25nm,1.5s						
MMRI	**Maumere**	**25.09**	**262**	P	**P**	**00 31 25.7**	**+0.5**
MMRI				IAmb	IAmb	00 31 26.3	
	comp=Z,14nm,0.6s						
LCRK	**Leigh Creek**	**25.99**	**198**	P	**P**	**00 31 35.8**	**+2.7**
WRKA	**Warakurna**	**26.47**	**222**	P	**P**	**00 31 38.1**	**+0.6**
STKA	**Stephens Creek**	**26.50**	**191**	P	**P**	**00 31 37.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=159,slow=17,SNR=2.3						
STKA	**Stephens Creek**	**26.50**	**191**	P	**P**	**00 31 36.4**	**-1.3**
HTT	**Hallett**	**28.60**	**195**	P	**P**	**00 31 59.1**	**+2.7**
FORT	**Forrest**	**30.77**	**214**	P	**P**	**00 32 15.6**	**-0.1**
FORT	**Forrest**	**30.77**	**214**	P	**P**	**00 32 16.6**	**+0.9**
MBWA	**Marble Bar**	**30.83**	**238**	P	**P**	**00 32 16.2**	**-0.1**
	comp=Z,15nm,1.9s						
PSA00	**Pilbara Seismi**	**30.92**	**237**	P	**P**	**00 32 15.8**	**-1.3**
PSA00	**Pilbara Seismi**	**30.92**	**237**	P	**P**	**00 32 16.6**	**-0.5**
PSA00				IAmb	IAmb	00 32 18.3	
	comp=Z,9.9nm,0.8s						
MSVF	**Nonsavu**	**32.23**	**114**	LR	LR	00 42 14.3	
	comp=Z,268nm,21.3s,baz=197,slow=30						
MEEK	**Meekatharra**	**34.37**	**230**	P	**P**	**00 32 47.8**	**+0.6**
GIRL	**Giralia**	**36.09**	**239**	P	**P**	**00 33 02.3**	**+0.3**
GIRL	**Giralia**	**36.09**	**239**	P	**P**	**00 33 01.2**	**-0.8**
MORW	**Morawa**	**37.58**	**228**	P	**P**	**00 33 14.6**	**+0.1**
MORW				IAmb	IAmb	00 33 29.9	
	comp=Z,13nm,1.2s						
MORW	**Morawa**	**37.58**	**228**	P	**P**	**00 33 15.0**	**+0.4**
KLBR	**Kellerberrin**	**37.77**	**224**	P	**P**	**00 33 16.2**	**0.0**
BLDU	**Ballidu**	**37.94**	**226**	P	**P**	**00 33 17.8**	**+0.2**
MUN	**Mundaring**	**39.07**	**224**	P	**P**	**00 33 27.6**	**+0.6**
	comp=Z,11nm,0.9s						
JKA	**Kamikawa-asahi**	**49.87**	**356**	P	**P**	**00 34 54.8**	**+2.1**
PETK	**Petropavlovsk-**	**59.33**	**7**	P	**P**	**00 36 00.4**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=196,slow=3.8,SNR=6.4						
PETK	**Petropavlovsk-**	**59.33**	**7**	P	**P**	**00 36 00.2**	**-0.7**
VNDA	**Vanda**	**72.09**	**177**	P	**P**	**00 37 22.3**	**-0.2**
MK31	**Makanchi Array**	**77.58**	**320**	P	**P**	**00 37 54.0**	**-0.7**
MKAR	**Makanchi Array**	**77.58**	**320**	P	**P**	**00 37 54.0**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=105,slow=5.5,SNR=2.1						
MKAR	**Makanchi Array**	**77.58**	**320**	P	**P**	**00 37 53.3**	**-1.5**
ZALV	**Zalesovo Beam**	**79.04**	**328**	P	**P**	**00 38 00.9**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=105,slow=9.5,SNR=2.2						
ILAR	**Eielson Array**	**85.15**	**23**	P	**P**	**00 38 32.5**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=252,slow=5.2,SNR=15						
GERES	**GERESS Array B**	**121.95**	**326**	PKP	**PKPdf**	**00 44 51.0**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=336,slow=2.2,SNR=2.2						
TORD	**Torodi Ar. Bea**	**145.40**	**285**	PKPbc	**PKPdf**	**00 45 34.4**	**-2.5**
	comp=Z,0.4nm,0.5s,baz=65,slow=3.5,SNR=2.9						

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*JMA **03** 00:28:57.9±0.1, 40°.96N×142°.01E, h56km±2km, M3.4*
JMA Felt I J1.
*IDC **03** 00:28:59.8±2.9, 41°.04N×142°.03E, h74km±17km, mb3.7/7, mb1 3.6/11, mb1mx3.3/62, mbtmp3.8/11, Error ellipse: s-maj=40.3km s-min=16.0km az=122.0*
ISC 03 00:28:58.4±0.9, 40°.96N±0°.03×141°.95E±0°.05, h59km±8km, n27, σ0§93/40, mb3.9/7, 1C-7D, Near east coast of eastern Honshu

| Code | Station Name | Δ° | AZ° | Phase ID Op | IS

YUK				AMB	AMB	00 36 32.0
	90nm,0.3s					
YUK				*e*S	**Sn**	**00 36 51.9 -0.9**
YUK				A	A	00 36 55.6
	160nm,0.2s					
YUK				A	A	00 36 55.6
	100nm,0.2s					
GRPR	**Tuman**	**1.97 261**	*e*P		**Pn**	**00 36 31.3 +0.2**
GRPR				AMB	AMB	00 36 33.5
	60nm,0.3s					
GRPR				*e*S	**Sn**	**00 36 53.0 -1.6**
GRPR				A	A	00 36 57.2
	180nm,0.4s					
GRPR				A	A	00 36 57.2
	160nm,0.4s					
NEM2	**Nemuro 2**	**2.19 245**	P		**Pn**	**00 36 34.2 +0.1**
NEM2			*e*S		**Sn**	**00 36 57.9 -2.1**
NMR	**Nemuro--Hokkai**	**2.20 245**	*i* P		**Pn**	**00 36 34.2 0.0**
NMR			*i* S		**Sn**	**00 36 57.8 -2.4**
GLVR	**Golovnino**	**2.21 256**	*e*P		**Pn**	**00 36 34.9 +0.6**
GLVR			*e*S		**Sn**	**00 36 59.2 -1.2**
GLVR			A		A	00 37 04.5
	180nm,0.3s					
GLVR			A		A	00 37 04.5
	70nm,0.3s					
JRA	**Rausu**	**2.44 262**	P		**Pn**	**00 36 39.0 +1.5**
JRA			*e*S		**Sn**	**00 37 06.5 +0.4**
JNSB	**Nemuroshibetsu**	**2.56 259**	P		**Pn**	**00 36 40.9 +1.8**
JKHN	**Kushirohamanak**	**2.70 244**	P		**Pn**	**00 36 41.6 +0.5**
JNK	**Nakash**	**2.81 256**	P		**Pn**	**00 36 43.7 +1.1**
JNK			*e*S		**Sn**	**00 37 14.3 -0.9**
AKK	**Akkeshi**	**2.94 245**	*e*P		**Pn**	**00 36 44.8 +0.5**
AKK			*e*S		**Sn**	**00 37 16.6 -1.7**
JAK	**Akkeshi**	**3.04 245**	P		**Pn**	**00 36 46.5 +0.7**
JAK			*e*S		**Sn**	**00 37 19.9 -1.0**
JAR	**Ashorobuto**	**3.55 255**	P		Pn	00 36 55.0 +2.2
JAR			*e*S		**Sn**	**00 37 34.9 +1.4**
JCH	**Churui**	**4.09 247**	P		**Pn**	**00 37 01.8 +1.7**
JCH			*e*S		**Sn**	**00 37 46.6 -0.1**
JNBK	**Urakawa-nobuka**	**4.64 246**	P		**Pn**	**00 37 09.6 +1.9**
JKB	**Kayabe**	**5.96 248**	P		**Pn**	**00 37 27.5 +1.7**

NEIC ***03*** *00:37:02.0±1.8, 44°.54N±0°.07×148°.3E±0°.1, h10km±1km, mb4.9/160, Error ellipse: s-maj=14.4km s-min=10.5km az=135.0*

NIED ***03*** *00:37:06.2, 44°.09N×148°.03E, h0km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.89; $M_{\theta\theta}$-1.11; $M_{\phi\phi}$-0.78; $M_{r\theta}$3.22; $M_{r\phi}$-1.59; $M_{\theta\phi}$4.06; Fault plane solution: $M_0$5.64000×10^{15} NP1:ϕ_s39.00000°, δ79.00000°, λ85.00000°. NP2:ϕ_s243.00000°, δ12.00000°, λ114.00000°.*

BJI ***03*** *00:37:06.3±0.0, 44°.38N×148°.30E, h71km, mb4.8/56, mB5.0/27, Ms3.9/6, Ms7 3.8/6*

MOS ***03*** *00:37:06.4±1.0, 44°.41N×148°.20E, h64km, mb5.0/60, Error ellipse: s-maj=5.5km s-min=4.5km az=101.0*

MOS Felt (II) at Goryachiye Klyuchi, Reydovo.

JMA ***03*** *00:37:06.1±0.3, 44°.09N×148°.03E, h0km, M4.7*

JMA Felt II J1.

SKHL ***03*** *00:37:07.5±0.9, 44°.40N×148°.30E, h68km±5km, mb5.3/15, mbv5.2/2, msh5.0/1*

IDC ***03*** *00:37:08.1±1.9, 44°.54N×148°.10E, h60km±17km, mb4.2/34, mb1 4.3/41, mb1mx4.2/61, mbtmp4.5/41, MS3.6/43, Ms1 3.6/43, ms1mx3.4/95, Error ellipse: s-maj=13.0km s-min=10.2km az=139.0*

ISC 03 00:37:07.6±0.6, 44°.39N±0°.04×148°.22E±0°.04, h60km±4km, h59km;pP-P, n502, σ1§28/539, mb4.7/175, 14C-27D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.88**	**343**	*d*	iPN	**Pn**	**00 37 22.7**	**-1.4**
KUR				*i*	S	**Sn**	**00 37 34.6**	**-1.6**
KUR					pmax	pmax		
	comp=Z,9μm,0.4s							
KUR					pmax	pmax		
	comp=N,3μm,0.3s							
KUR					pmax	pmax		
	comp=E,2μm,0.2s							
KUR					smax	smax		
	comp=E,27μm,0.3s							
KUR					smax	smax		
	comp=N,12μm,0.2s							
KUR					smax	smax		
	comp=N,36μm,2.3s							
KUR					smax	smax		
	comp=E,57μm,2.3s							
KUR	**Kuril'sk**	**0.88**	**343**	*i*	P	**Pn**	**00 37 23.0**	**-1.1**
KUR					AMB	AMB	00 37 23.6	
	comp=E,8μm,0.4s							
KUR				*i*	S	**Sn**	**00 37 34.6**	**-1.6**
KUR					A	A	00 37 35.4	
	comp=E,12μm,0.3s							
KUR					A	A	00 37 35.4	
	comp=E,27μm,0.3s							
KUR					A	A	00 37 35.8	
	comp=E,36μm,2.3s							
KUR					A	A	00 37 35.8	
	comp=E,57μm,2.3s							
SHO	**Shikotan**	**1.13**	**243**	*d*	iPN	**Pn**	**00 37 26.0**	**-1.3**
SHO				*i*	S	**Sn**	**00 37 39.0**	**-3.0**
SHO					pmax	pmax		
	comp=N,745nm,0.3s							
SHO					pmax	pmax		
	comp=E,846nm,0.3s							
SHO					pmax	pmax		
	comp=Z,2μm,0.3s							
SHO					smax	smax		
	comp=N,5μm,0.2s							
SHO					smax	smax		
	comp=E,24μm,0.2s							
SHO	**Shikotan**	**1.13**	**243**	*i*	P	**Pn**	**00 37 26.1**	**-1.3**
SHO					AMB	AMB	00 37 26.6	
	comp=E,2μm,0.3s							
SHO				*i*	S	**Sn**	**00 37 39.5**	**-2.5**
SHO					A	A	00 37 43.5	
	comp=E,5μm,0.2s							
SHO					A	A	00 37 43.5	
	comp=E,24μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.73**	**259**	*d*	iPN	**Pn**	**00 37 35.0**	**-0.4**
YUK				*i*	S	**Sn**	**00 37 55.0**	**-1.5**
YUK					pmax	pmax		
	comp=N,1μm,0.2s							
YUK					pmax	pmax		
	comp=Z,7μm,0.2s							
YUK					pmax	pmax		
	comp=E,1μm,0.1s							
YUK					smax	smax		
	comp=N,7μm,0.1s							
YUK					smax	smax		
	comp=E,18μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.73**	**259**	*i*	P	**Pn**	**00 37 35.0**	**-0.4**
YUK					AMB	AMB	00 37 36.8	
	comp=E,7μm,0.2s							
YUK				*i*	S	**Sn**	**00 37 55.3**	**-1.2**
YUK					A	A	00 38 01.9	
	comp=E,7μm,0.4s							
YUK					A	A	00 38 01.9	
	comp=E,18μm,0.4s							
GRPR	**Tuman**	**1.81**	**258**	*d*	iPN	**Pn**	**00 37 36.2**	**-0.2**
GRPR				*i*	S	**Sn**	**00 37 56.5**	**-1.8**
GRPR					pmax	pmax		
	comp=Z,5μm,0.3s							
GRPR					pmax	pmax		
	comp=N,1μm,0.2s							
GRPR					smax	smax		
	comp=N,14μm,0.2s							
GRPR					smax	smax		
	comp=E,3μm,0.3s							
GRPR	**Tuman**	**1.81**	**258**	*i*	P	**Pn**	**00 37 36.2**	**-0.2**
GRPR					AMB	AMB	00 37 39.0	
	comp=E,5μm,0.3s							
GRPR				*i*	S	**Sn**	**00 37 57.5**	**-0.8**
GRPR					A	A	00 38 02.2	
	comp=E,14μm,0.3s							
GRPR					A	A	00 38 02.2	
	comp=E,3μm,0.3s							
GLVR	**Golovnino**	**2.06**	**252**	‖ *i*	PN	**Pn**	**00 37 39.8**	**0.0**
GLVR				*i*	S	**Sn**	**00 38 02.9**	**-1.4**
GLVR					pmax	pmax		
	comp=N,669nm,0.1s							
GLVR					pmax	pmax		
	comp=E,476nm,0.1s							
GLVR					pmax	pmax		
	comp=Z,2μm,0.1s							
GLVR					smax	smax		
	comp=E,5μm,0.2s							
GLVR					smax	smax		
	comp=N,14μm,0.3s							
GLVR	**Golovnino**	**2.06**	**252**	*i*	P	**Pn**	**00 37 39.8**	**0.0**
GLVR					AMB	AMB	00 37 42.4	
	comp=N,2μm,0.2s							
GLVR				*i*	S	**Sn**	**00 38 03.6**	**-0.7**
GLVR					A	A	00 38 07.6	
	comp=N,14μm,0.3s							
GLVR					A	A	00 38 07.6	
	comp=N,5μm,0.3s							
NEM2	**Nemuro 2**	**2.06**	**241**	P		**Pn**	**00 37 38.7**	**-1.2**
NEM2				*e*S		**Sn**	**00 38 02.4**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.07**	**241**	‖ *i*	PN	**Pn**	**00 37 38.7**	**-1.3**
NMR				*i*	S	**Sn**	**00 38 02.5**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.07**	**241**	*i*	P	**Pn**	**00 37 38.9**	**-1.1**
NMR				*i*	S	**Sn**	**00 38 02.7**	**-2.0**
RUSJ	**Misakicho**	**2.16**	**263**	‖ *i*	PN	**Pn**	**00 37 41.7**	**+0.5**
RUSJ				*i*	S	**Sn**	**00 38 08.2**	**+1.4**
JRA	**Rausu**	**2.28**	**260**	P		**Pn**	**00 37 43.4**	**+0.6**
JRA				*e*S		**Sn**	**00 38 09.8**	**+0.1**
JNSB	**Nemuroshibetsu**	**2.40**	**256**	P		**Pn**	**00 37 45.1**	**+0.6**
JNSB				*e*S		**Sn**	**00 38 14.1**	**+1.4**
JKHN	**Kushirohamanak**	**2.58**	**241**	P		**Pn**	**00 37 46.2**	**-0.7**
JKHN				*e*S		**Sn**	**00 38 15.4**	**-1.6**
JNK	**Nakash**	**2.65**	**254**	P		**Pn**	**00 37 48.3**	**+0.3**
JNK				*e*S		**Sn**	**00 38 18.5**	**-0.4**
AKK	**Akkeshi**	**2.81**	**242**	*e*P		**Pn**	**00 37 49.4**	**-0.7**
AKK				*e*S		**Sn**	**00 38 20.6**	**-2.1**
JAK	**Akkeshi**	**2.91**	**243**	P		**Pn**	**00 37 51.0**	**-0.5**
JAK				*e*S		**Sn**	**00 38 23.4**	**-1.8**
JTKR	**Abashiri--Toko**	**3.13**	**264**	P		**Pn**	**00 37 55.1**	**+0.6**
JAR	**Ashorobuto**	**3.40**	**253**	P		**Pn**	**00 37 59.2**	**+1.0**
JAR				*e*S		**Sn**	**00 38 38.6**	**+1.3**
JCH	**Churui**	**3.96**	**245**	P		**Pn**	**00 38 06.3**	**+0.5**
JCH				*e*S		**Sn**	**00 38 49.3**	**-1.6**
JKK2	**Kamakawa 2**	**3.98**	**264**	P		**Pn**	**00 38 08.2**	**+2.2**
JKA	**Kamikawa-asahi**	**4.05**	**268**	Pn		**Pn**	**00 38 07.9**	**+0.9**
JKA				Sn		**Sn**	**00 38 51.5**	**-1.6**
JKA	**Kamikawa-asahi**	**4.05**	**268**	*e*P		**Pn**	**00 38 08.2**	**+1.2**
ASAJ	**Asahikawa**	**4.05**	**268**	P		**Pn**	**00 38 08.2**	**+1.2**
	comp=N,23nm,0.3s,baz=69,slow=22,SNR=48							
ASAJ				S		**Sn**	**00 38 58.1**	**+4.9**
	comp=N,13nm,0.3s,baz=113,slow=9.3,SNR=1.1							
ASAJ				LR		LR	00 39 49.5	
	comp=N,933nm,21.5s,baz=128,slow=41							
JSE	**Soyaes**	**4.06**	**280**	P		**Pn**	**00 38 08.0**	**+0.8**
JFR	**Furan**	**4.26**	**255**	P		**Pn**	**00 38 12.0**	**+2.1**
ERM	**Erimo**	**4.40**	**239**	*ce*PN		**Pn**	**00 38 14.2**	**+2.4**
ERM				pmax		pmax		
	comp=Z,456nm,1.0s							
ERM	**Erimo**	**4.40**	**239**	Pn		**Pn**	**00 38 13.9**	**+2.1**
ERM				Sn		**Sn**	**00 39 02.4**	**+0.7**
JNBK	**Urakawa-nobuka**	**4.51**	**244**	P		**Pn**	**00 38 13.6**	**+0.2**
JWK2	**Keihoku**	**4.59**	**284**	P		**Pn**	**00 38 16.7**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.61**	**306**	*ke*PN		**Pn**	**00 38 15.2**	**+0.5**
YSS				*e*S		**Sn**	**00 39 08.0**	**+1.1**
YSS				pmax		pmax		
	comp=E,100nm,0.7s							
YSS				pmax		pmax		
	comp=Z,240nm,0.7s							
YSS				pmax		pmax		
	comp=Z,200nm,2.2s							
YSS				pmax		pmax		
	comp=E,300nm,2.4s							
YSS				smax		smax		
	comp=E,100nm,0.9s							
YSS				MLR		MLR		
	comp=Z,900nm,14.0s							
YSS	**Yuzh-Sakhalins**	**4.61**	**306**	Pn		**Pn**	**00 38 15.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.61**	**306**	*e*P		**Pn**	**00 38 15.2**	**+0.5**
YSS				AMB		AMB	00 38 16.1	
	comp=Z,200nm,2.0s							
YSS				AMB		AMB	00 38 17.0	
	comp=Z,250nm,0.5s							
YSS				*e*S		**Sn**	**00 39 07.5**	**+0.6**
YSS				A		A	00 39 12.5	
	comp=Z,30nm,0.5s							
YSS				A		A	00 39 12.5	
	comp=Z,130nm,0.5s							
JHR	**Hokuryu**	**4.73**	**264**	P		**Pn**	**00 38 19.5**	**+3.2**
JRBN	**Rebuntou**	**5.19**	**284**	P		**Pn**	**00 38 24.1**	**+1.5**
JKB	**Kayabe**	**5.82**	**247**	P		**Pn**	**00 38 32.1**	**+0.8**
JKB				*e*S		**Sn**	**00 39 34.4**	**-2.3**
JOT	**Ohata**	**6.07**	**243**	P		**Pn**	**00 38 34.6**	**0.0**
JOT				*e*S		**Sn**	**00 39 40.1**	**-2.6**
UGL	**Uglegorsk**	**6.32**	**320**	*e*PN		**Pn**	**00 38 39.6**	**+1.6**
UGL				*e*S		**Sn**	**00 39 50.5**	**+1.8**
UGL				pmax		pmax		
	comp=Z,160nm,0.9s							
UGL				smax		smax		
	comp=N,60nm,0.5s							
UGL				smax		smax		
	comp=E,120nm,0.5s							
UGL				MLR		MLR		
	comp=E,1μm,16.0s							
UGL				MLR		MLR		
	comp=Z,1μm,13.0s							
UGL	**Uglegorsk**	**6.32**	**320**	*e*P		**Pn**	**00 38 39.6**	**+1.6**
UGL				AMB		AMB	00 38 44.0	
	comp=Z,110nm,0.8s							
UGL				*e*S		**Sn**	**00 39 48.6**	**-0.1**
UGL				A		A	00 39 55.0	
	comp=Z,90nm,0.5s							
UGL				A		A	00 39 55.0	
	comp=Z,90nm,0.5s							
TYV	**Tymovskoe**	**7.49**	**332**	*e*PN		**Pn**	**00 38 56.9**	**+2.9**
TYV				*e*S		**Sn**	**00 40 19.2**	**+1.8**
TYV				pmax		pmax		
	comp=Z,36nm,0.9s							
TYV				pmax		pmax		
	comp=Z,200nm,3.5s							
TYV				smax		smax		
	comp=E,14nm,0.9s							
TYV				smax		smax		
	comp=N,500nm,5.9s							
TYV	**Tymovskoe**	**7.49**	**332**	*e*P		**Pn**	**00 38 55.3**	**+1.3**
TYV				AMB		AMB	00 38 57.4	
	comp=N,40nm,0.9s							
TYV				AMB		AMB	00 38 57.6	
	comp=N,200nm,3.0s							
TYV				*e*S		**Sn**	**00 40 16.4**	**-1.0**
TYV				A		A	00 40 19.6	
	comp=N,500nm,6.0s							
TYV				A		A	00 40 19.6	
	comp=N,890nm,6.0s							
SKR	**Severo-Kuril's**	**8.25**	**37**	*e*PN		**Pn**	**00 39 06.0**	**+1.5**
SKR				*e*S		**Sn**	**00 40 37.6**	**+1.5**
SKR				pmax		pmax		
	comp=Z,25nm,0.6s							
SKR				smax		smax		
	comp=E,34nm,1.1s							
SKR				smax		smax		
	comp=N,26nm,0.9s							
SKR				MLR		MLR		
	comp=Z,100nm,13.0s							
SKR	**Severo-Kuril's**	**8.25**	**37**	*e*P		**Pn**	**00 39 05.2**	**+0.7**
SKR				AMB		AMB	00 39 07.3	
	comp=Z,30nm,0.6s							
SKR				*e*S		**Sn**	**00 40 33.1**	**-3.0**
TEY	**Ternei**	**8.30**	**279**	⇑ *e*PN		**Pn**	**00 39 08.3**	**+3.1**
TEY				pmax		pmax		
	comp=E,20nm,1.0s							
TEY				pmax		pmax		
	comp=Z,10.0nm,1.0s							
TEY	**Ternei**	**8.30**	**279**	*e*P		**Pn**	**00 39 08.3**	**+3.1**
TEY				AMB		AMB	00 39 09.3	
	comp=Z,10.0nm,0.5s							
PAU	**Pauzhetka**	**9.13**	**36**	*e*P		**Pn**	**00 39 17.1**	**+0.7**
PAU				AMB		AMB	00 39 22.8	
	comp=Z,30nm,0.5s							
OKH	**Okha**	**9.80**	**341**	*e*P		**Pn**	**00 39 26.7**	**+1.1**
OKH				AMB		AMB	00 39 28.5	
	comp=Z,120nm,0.5s							
OKH				*e*S		**Sn**	**00 41 15.2**	**+1.2**
JSD	**Sado**	**9.82**	**233**	Pn		**Pn**	**00 39 25.9**	**-0.2**
NKL	**Nikolayevsk**	**10.08**	**333**	*e*P		**Pn**	**00 39 30.6**	**+1.2**
NKL				AMB		AMB	00 39 33.5	
	comp=Z,170nm,0.9s							
GRNR	**Gornyy**	**10.21**	**313**	⇑ *i*	PN	**Pn**	**00 39 34.4**	**+3.2**
GRNR				*e*S		**Sn**	**00 41 31.6**	**+7.6**
GRNR				pmax		pmax		
	comp=N,10.0nm,0.9s							
GRNR				pmax		pmax		
	comp=E,20nm,0.9s							
GRNR				pmax		pmax		
	comp=Z,20nm,0.9s							
GRNR				smax		smax		
	comp=N,1.0nm,0.8s							
GRNR				MLR		MLR		
	comp=N,90nm,15.0s							
GRNR				MLR		MLR		
	comp=E,160nm,15.0s							
GRNR	**Gornyy**	**10.21**	**313**	*e*P		**Pn**	**00 39 34.4**	**+3.2**
GRNR				AMB		AMB	00 39 35.2	
	comp=E,20nm,0.9s							
PEA0B	**Petropavlovsk-**	**10.73**	**32**	‖ *e*PN		**Pn**	**00 39 39.8**	**+1.5**
PEA0B	**Petropavlovsk-**	**10.73**	**32**	Pn		**Pn**	**00 39 36.0**	**-2.3**
PETK	**Petropavlovsk-**	**10.73**	**32**	P		**Pn**	**00 39 38.7**	**+0.4**
	comp=E,1.2nm,0.3s,baz=202,slow=11,SNR=32							
PETK				LR		LR	00 44 16.8	
	comp=E,137nm,18.6s,baz=216,slow=40							
PETK	**Petropavlovsk-**	**10.73**	**32**	Pn		**Pn**	**00 39 36.7**	**-1.6**
MJAR	**Matsushiro Arr**	**10.93**	**228**	P		**Pn**	**00 39 40.3**	**-0.9**
	comp=E,0.4nm,0.3s,baz=30,slow=15,SNR=24							
MJAR				S		**Sn**	**00 41 50.2**	**+8.4**
	comp=E,0.1nm,0.3s,baz=253,slow=31,SNR=1.7							
MJB9	**Matsu-Tunnel**	**10.93**	**228**			**Pn**	**00 39 39.9**	**-1.3**
MAJO	**Matsushiro**	**10.93**	**228**	‖ *i*	PN	**Pn**	**00 39 40.4**	**-0.8**
MAJO				pmax		pmax		
	comp=Z,14nm,0.7s							
MAT	**Matsushiro**	**10.93**	**228**	P		**Pn**	**00 39 40.0**	**-1.2**
MAT				*e*S		**Sn**	**00 41 42.2**	**+0.3**
PET	**Petropavlovsk**	**11.04**	**35**	*e*PN		Pn	00 39 49.7	+7.1
PET				*e*S		**Sn**	**00 41 50.3**	**+6.0**
PET				MLR		MLR		
	comp=Z,200nm,15.0s							
USA0B	**Ussuriysk Arra**	**11.64**	**275**	PN		**Pn**	**00 39 51.4**	**+0.6**
USA0B	**Ussuriysk Arra**	**11.64**	**275**	Pn		**Pn**	**00 39 51.4**	**+0.6**
USRK	**Ussuriysk Ar.**	**11.64**	**275**	P		**Pn**	**00 39 49.6**	**-1.2**
	baz=67,slow=14,SNR=12							
USRK				LR		LR	00 44 13.0	
	comp=Z,194nm,20.0s,baz=68,slow=37							
USRK	**Ussuriysk Ar.**	**11.64**	**275**	Pn		**Pn**	**00 39 48.8**	**-2.0**
VLA	**Vladivostok**	**11.89**	**270**	‖ *e*PN		**Pn**	**00 39 54.8**	**+0.6**
VLA				pmax		pmax		
	comp=Z,23nm,0.9s							
VLA	**Vladivostok**	**11.89**	**270**	*e*P		**Pn**	**00 39 54.8**	**+0.6**
JGF	**Kuroka**	**12.09**	**227**	Pn		**Pn**	**00 39 56.2**	**-0.9**
KLR	**Kul'dur**	**12.28**	**299**	P		**Pn**	**00 39 57.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=4.6,slow=6.9,SNR=2.3							
KLR				LR		LR	00 44 46.6	
	comp=Z,315nm,20.2s,baz=114,slow=38							
KLR	**Kul'dur**	**12.28**	**299**	‖ *e*PN		**Pn**	**00 40 00.9**	**+1.4**
KLR				pmax		pmax		
	comp=Z,29nm,1.2s							
KLR				MLR		MLR		
	comp=Z,78nm,13.0s							
KLR	**Kul'dur**	**12.28**	**299**	*e*P		**Pn**	**00 39 58.8**	**-0.7**
INU	**Inuyama**	**12.46**	**227**	Pn		**Pn**	**00 40 00.2**	**-1.9**
JHJ	**Hachijo jima 2**	**13.03**	**213**	P		**Pn**	**00 40 07.2**	**-2.7**
	comp=Z,2.4nm,0.3s,baz=199,slow=15,SNR=1.6							
JHJ				S		Sn	00 42 18.2	-15
	comp=Z,2.7nm,0.3s,baz=59,slow=14,SNR=1.6							
JHJ				LR		LR	00 45 22.9	
	comp=Z,29nm,19.2s,baz=82,slow=38							
MDJ	**Mudanjiang**	**13.30**	**278**	P		**Pn**	**00 40 14.0**	**+0.5**
MDJ				pmax		pmax		
	comp=Z,15nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,250nm,4.8s							
MDJ	**Mudanjiang**	**13.30**	**278**	Pn		**Pn**	**00 40 13.5**	**0.0**
JWT	**Wachi**	**13.39**	**232**	Pn		**Pn**	**00 40 14.2**	**-0.5**
BNX	**BinXian**	**14.77**	**283**	‖ P		**Pn**	**00 40 34.2**	**+1.2**
BNX				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BNX				pmax		pmax		
	comp=Z,150nm,5.2s							
MA2	**Magadan**	**15.29**	**5**	P		**P**	**00 40 40.7**	**-2.5**
MA2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MA2	**Magadan**	**15.29**	**5**			**P**	**00 40 40.7**	**-2.5**
MA2	**Magadan**	**15.29**	**5**	*e*P		**P**	**00 40 40.7**	**-2.5**
JMN	**Monobe**	**15.39**	**231**	Pn		**Pn**	**00 40 40.6**	**-0.3**
ZEA	**Zeya**	**16.57**	**312**	*e*P		**Pn**	**00 40 55.8**	**+0.1**
ZEA				pmax		pmax		
	comp=E,10.0nm,0.6s							
ZEA				pmax		pmax		
	comp=N,10.0nm,1.2s							
ZEA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ZEA				MLR		MLR		
	comp=Z,100nm,16.0s							
ZEA	**Zeya**	**16.57**	**312**	*e*P		**Pn**	**00 40 54.0**	**-1.7**
ZEA				AMB		AMB	00 40 57.6	
	comp=Z,10.0nm,0.7s							
KSRS	**Korea Array**	**16.81**	**253**	P		**Pn**	**00 40 57.5**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=58,slow=12,SNR=13							
KSRS				LR		LR	00 46 45.6	
	comp=Z,144nm,21.4s,baz=50,slow=34							
KS19	**Wonju Array Si**	**16.83**	**253**			**Pn**	**00 40 59.2**	**+0.1**
KSAR	**Wonju Array Be**	**16.84**	**253**	P		**Pn**	**00 40 59.8**	**+0.5**
KSAR	**Wonju Array Be**	**16.84**	**253**			**Pn**	**00 40 59.8**	**+0.5**
JNU	**Nakatsue**	**17.56**	**236**	P		**Pn**	**00 41 07.3**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=350,slow=4.6,SNR=15							
JNU				LR		LR	00 48 32.9	
	comp=Z,58nm,21.2s,baz=73,slow=39							
JNU	**Nakatsue**	**17.56**	**236**	P		**P**	**00 41 10.7**	**+2.2**
TJN	**Taejon**	**17.76**	**250**	⇑ *e*P		**P**	**00 41 11.6**	**+1.0**
SEY	**Seymchan**	**18.73**	**6**	P		**P**	**00 41 17.7**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=159,slow=10,SNR=12							
SEY	**Seymchan**	**18.73**	**6**	⇑ *e*P		**P**	**00 41 20.6**	**-0.5**
SHEM	**Shemya Is, Ala**	**18.97**	**55**	LR		LR	00 49 23.8	
	comp=Z,56nm,19.1s,baz=209,slow=39							
YAK	**Yakutsk**	**20.73**	**335**	P		**P**	**00 41 40.3**	**-2.5**
	comp=Z,6.3nm,0.3s,baz=136,slow=3.2,SNR=8.4							
YAK				LR		LR	00 49 43.2	
	comp=Z,192nm,20.9s,baz=86,slow=37							
YAK	**Yakutsk**	**20.73**	**335**	*e*P		**P**	**00 41 42.4**	**-0.4**
YAK				*e**PP		**pP**	**00 41 59.9**	**+4.0**
YAK				*e*S		**S**	**00 45 27.8**	**-2.8**
YAK				*e*			00 45 50.9	
YAK				*e**SS		**sS**	**00 45 54.5**	**+2.5**
YAK				*e*			00 53 02.7	
YAK				pmax		pmax		
	comp=Z,17nm,0.9s							
YAK				smax		smax		
	comp=N,102nm,4.1s							
YAK				smax		smax		
	comp=E,69nm,4.3s							
YAK	**Yakutsk**	**20.73**	**335**	*e*P		**P**	**00 41 42.4**	**-0.4**
XLT	**XiLinHaoTe**	**23.00**	**280**	*e*P		**P**	**00 42 05.7**	**-1.6**
XLT				pmax		pmax		
	comp=E,23nm,0.9s							
JOW	**Kunigami**	**23.77**	**229**	P		**P**	**00 42 15.1**	**+0.5**
	comp=E,6.4nm,0.4s,baz=244,slow=7.5,SNR=1.8							
JOW				LR		LR	00 52 05.8

comp=Z,14nm,0.8s
HHC Hu-ho-hao-te 27.06 275 *e*P **P 00 42 45.2 +0.8**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.6s
ULN Ulaanbaatar 28.50 292⇓ *i*P **P 00 42 57.9 +0.7**
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 28.50 292 P **P 00 42 57.4 +0.2**
ULN Ulaanbaatar 28.50 292 *e*P **P 00 42 57.9 +0.7**
TIXI Tiksi 28.90 347 LR LR 00 54 03.2
comp=Z,60nm,18.3s,baz=266,slow=35
SONM Songino Array 28.94 292 P **P 00 43 01.7 +0.6**
comp=Z,4.6nm,0.9s,baz=81,slow=8.6,SNR=18
SONM PcP **PcP 00 46 08.4 -0.2**
comp=Z,0.7nm,0.5s,baz=119,slow=3.0,SNR=3.3
SONM LR LR 00 54 30.9
comp=Z,151nm,21.8s,baz=120,slow=36
SONM Songino Array 28.94 292 P **P 00 43 01.4 +0.3**
LYN LuoYang 29.10 263 *e*P **P 00 43 02.9 +0.4**
H11N2 WAKE ISLAND Hy 29.10 142 T T 01 13 57.9
baz=331,slow=75,SNR=306
H11N1 WAKE ISLAND Hy 29.11 142 T T 01 14 01.9
baz=331,slow=75,SNR=303
H11N3 WAKE ISLAND Hy 29.12 142 T T 01 13 59.9
baz=331,slow=75,SNR=286
WHN Wuhan 30.00 254⇑P **P 00 43 10.6 +0.2**
WHN pmax pmax
comp=Z,28nm,0.6s
H11S1 WAKE ISLAND Hy 30.09 143 T T 01 15 17.4
baz=330,slow=76,SNR=1052
H11S3 WAKE ISLAND Hy 30.10 143 T T 01 15 15.8
baz=330,slow=76,SNR=608
H11S2 WAKE ISLAND Hy 30.11 143 T T 01 15 17.4
baz=330,slow=76,SNR=585
TPUB Ta-pu 30.86 236 P **P 00 43 19.3 +1.1**
XAN Xi'an 31.88 265 P **P 00 43 27.7 +0.6**
XAN pmax pmax
comp=Z,13nm,0.8s
XAN pmax pmax
comp=Z,69nm,4.0s
ANM Nome 32.62 35 P **P 00 43 33.9 +0.7**
ANM pmax pmax
comp=Z,7.0nm,1.2s
ANM Nome 32.62 35 P **P 00 43 33.9 +0.7**
LZH Lanzhou 34.52 272⇓P **P 00 43 51.3 +1.1**
LZH pP pP 00 44 07.6 +2.5
LZH pmax pmax
comp=Z,61nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.3s
GTA Gaotai 35.95 279⇓P **P 00 44 03.2 +0.8**
GTA pP pP 00 44 17.7 +0.3
GTA sP sP 00 44 24.0 -0.4
GTA pmax pmax
comp=Z,8.0nm,1.1s
TTA Tatalina 36.45 40 P **P 00 44 06.9 +0.6**
TTA pmax pmax
comp=Z,48nm,1.8s
TTA Tatalina 36.45 40 P **P 00 44 06.9 +0.6**
TTA IAmb IAmb 00 44 08.9
comp=Z,48nm,1.8s
CD2 Chengdu 37.24 264⇑ *i*P **P 00 44 13.5 +0.1**
CD2 pmax pmax
comp=Z,70nm,0.7s
K20K Telida 37.35 39 P **P 00 44 15.2 +1.3**
J20K Nowinta River 37.36 38 P **P 00 44 14.9 +1.0**
IMAR Indian Mountai 37.68 35 P **P 00 44 17.2 +0.5**
H21K Melozitna Rive 38.04 35 P **P 00 44 19.9 +0.2**
CAST Castle Rocks 38.25 39 P **P 00 44 22.7 +1.2**
KDAK Kodiak Island 38.25 48 P **P 00 44 21.5 +0.1**
comp=Z,9.0nm,0.8s,baz=260,slow=0.8,SNR=4.7
KDAK Kodiak Island 38.25 48 P **P 00 44 21.8 +0.4**
KDAK pmax pmax
comp=Z,237nm,1.8s
KDAK Kodiak Island 38.25 48 P **P 00 44 21.8 +0.4**
BPAW Bear Paw Mtn. 38.74 38 P **P 00 44 25.9 +0.2**
KTH Kantishna Hill 38.77 39 P **P 00 44 25.7 -0.2**
KTH IAmb IAmb 00 44 28.5
comp=Z,28nm,1.2s
MLY Manley 38.87 36 P **P 00 44 27.7 +1.0**
MLY IAmb IAmb 00 45 02.6
comp=Z,26nm,1.8s
NRIK Noril'sk 39.07 331 PcP **PcP 00 46 37.0 +0.1**
comp=Z,2.7nm,0.3s,baz=119,slow=3.4,SNR=6.5
NRIK LR LR 01 01 37.5
comp=Z,100nm,19.1s,baz=140,slow=38
COLD Coldfoot 39.20 33 P **P 00 44 29.1 -0.2**
TOLK Toolik Lake Re 39.54 31 P **P 00 44 31.9 -0.3**
MDM Murphy Dome 39.94 36 P **P 00 44 36.2 +0.7**
COLA College 40.10 37⇓ *e*P **P 00 44 37.9 +1.1**
COLA pmax pmax
comp=Z,13nm,0.8s
POKR Poker Plat Res 40.27 36 P **P 00 44 39.7 +1.4**
IL31 40.51 37 P **P 00 44 40.5 +0.3**
ILAR Eielson Array 40.51 37 P **P 00 44 40.3 +0.1**
comp=Z,3.4nm,0.8s,baz=256,slow=7.3,SNR=21
ILAR Eielson Array 40.51 37 P **P 00 44 40.8 +0.5**
ILAR Eielson Array 40.51 37 P **P 00 44 40.8 +0.5**
DGZ Jazzator, Alta 40.77 300⇑ *e*P **P 00 44 43.2 +0.4**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
GOMU GeErMu 40.92 277 P **P 00 44 44.2 -0.3**
GOMU PcP **PcP 00 46 45.2 +1.3**
GOMU pmax pmax
comp=Z,10.0nm,0.8s
GOMU pmax pmax
comp=Z,120nm,5.0s
FYU Fort Yukon 41.14 34 P **P 00 44 46.4 +1.0**
FYU IAmb IAmb 00 44 47.7
comp=Z,13nm,0.7s
ZAA0 Zalesovo Array 41.23 307 P **P 00 44 45.5 -0.8**
ZALV Zalesovo Beam 41.23 307 P **P 00 44 45.9 -0.5**
comp=Z,1.0nm,0.4s,baz=77,slow=7.6,SNR=9.3
ZALV PcP **PcP 00 46 44.3 +0.2**
comp=Z,7.8nm,0.4s,baz=76,slow=3.7,SNR=35
ZALV LR LR 01 01 09.4
comp=Z,80nm,20.4s,baz=70,slow=35
ZALV Zalesovo Beam 41.23 307 *i* P **P 00 44 46.5 +0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 41.23 307 P **P 00 44 46.1 -0.2**
PZH PanZhiHua 41.25 260 P **P 00 44 47.0 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.4s
BMAR Burnt Mountain 41.38 33 P **P 00 44 47.6 +0.2**
DOT Dot Lake 41.83 38 P **P 00 44 51.1 0.0**
DOT IAmb IAmb 00 44 52.4
comp=Z,16nm,1.2s
DAV Davao City (W) 42.10 215 LR LR 01 01 11.7
comp=Z,18nm,21.4s,baz=358,slow=34
M26K Nabesna, AK 42.46 40 P **P 00 44 57.8 +1.5**
M26K IAmb IAmb 00 44 58.7
comp=Z,18nm,1.1s
WMQ Urumqi 42.58 291 *e*P **P 00 44 58.5 +1.0**
WMQ pP pP 00 45 13.8 +1.0
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,130nm,19.7s
L27K Beaver Creek, 42.90 39 P **P 00 45 01.3 +1.5**
L27K IAmb IAmb 00 45 02.2
comp=Z,15nm,0.7s
BCAR Beaver Creek A 42.92 39 P **P 00 45 01.3 +1.3**
EGAK Eagle 42.96 36 P **P 00 45 00.6 +0.4**
SLVN Son La 43.08 252 P **P 00 45 02.5 +0.6**
DAWY Dawson 43.82 37 P **P 00 45 08.1 +0.9**
MK31 Makanchi Array 44.98 297 *d i*P **P 00 45 16.5 -0.2**
MK31 Makanchi Array 44.98 297 P **P 00 45 16.1 -0.6**
MK31 IAmb IAmb 00 45 18.3
comp=Z,6.8nm,0.7s
MKAR Makanchi Array 44.98 297 P **P 00 45 16.2 -0.4**
comp=Z,6.1nm,0.7s,baz=80,slow=8.0,SNR=58
MKAR PcP **PcP 00 46 57.1 +0.2**
comp=Z,4.6nm,0.6s,baz=68,slow=4.4,SNR=15
MKAR LR LR 01 05 14.3
comp=Z,185nm,18.4s,baz=58,slow=38
MKAR Makanchi Array 44.98 297 *i* P **P 00 45 16.6 -0.1**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 44.98 297 *e*P **P 00 45 16.5 -0.1**
MAKZ Makanchi 45.17 298 P **P 00 45 17.9 -0.3**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
MAKZ Makanchi 45.17 298 P **P 00 45 17.9 -0.3**
MAKZ IAmb IAmb 00 45 19.9
comp=Z,6.9nm,0.8s
INK Inuvik 45.46 31 P **P 00 45 20.4 +0.3**
comp=Z,2.7nm,0.4s,baz=287,slow=8.0,SNR=8.3
INK PcP **PcP 00 46 58.5 +0.4**
comp=Z,0.8nm,0.5s,baz=265,slow=3.6,SNR=1.7
INK Inuvik 45.46 31 P **P 00 45 20.2 +0.1**
KURK Kurchatov 45.81 304 *de*P **P 00 45 22.7 -0.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 45.81 304 P **P 00 45 23.0 -0.2**
KURK IAmb IAmb 00 45 23.5
comp=Z,4.6nm,0.6s
KURK Kurchatov 45.81 304 *e*P **P 00 45 22.7 -0.5**
KURBB Kurchatov Arra 45.90 304 LR LR 01 05 35.2
comp=Z,56nm,19.6s,baz=54,slow=37
LSA Lhasa 46.94 272 P **P 00 45 33.5 +0.6**
LSA pmax pmax
comp=Z,8.0nm,0.9s
LSA Lhasa 46.94 272 P **P 00 45 33.5 +0.6**
LSA IAmb IAmb 00 45 34.9
comp=Z,8.5nm,0.9s
A36M Sachs Harbour 47.47 25 P **P 00 45 35.2 -0.6**
A36M IAmb IAmb 00 45 36.6
comp=Z,7.6nm,0.9s
CHTO Chiang Mai 48.20 254 P **P 00 45 42.8 +0.6**
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 48.20 254 P **P 00 45 42.8 +0.6**
CHTO IAmb IAmb 00 45 44.4
comp=Z,15nm,0.8s
CM31 Chiang Mai Arr 48.45 254 P **P 00 45 44.5 +0.5**
CM31 IAmb IAmb 00 45 46.1
comp=Z,8.2nm,0.8s
CMAR Chiang Mai Arr 48.45 254 P **P 00 45 45.1 +1.0**
comp=Z,4.8nm,0.8s,baz=39,slow=7.3,SNR=41
CMAR LR LR 01 07 51.0
comp=Z,36nm,19.2s,baz=50,slow=38
CMAR Chiang Mai Arr 48.45 254 P **P 00 45 44.9 +0.8**
C36M Paulatuk 48.55 28 P **P 00 45 44.0 -0.2**
C36M IAmb IAmb 00 45 47.6
comp=Z,5.2nm,0.5s
SHL Shillong 48.84 267 P **P 00 45 46.9 -0.4**
SHL pmax pmax
comp=Z,18nm,0.7s
SHL Shillong 48.84 267 P **P 00 45 46.9 -0.4**
DLBC Dease Lake 49.68 43 P **P 00 45 54.7 +1.6**
DLBC IAmb IAmb 00 46 02.0
comp=Z,35nm,1.8s
BRVK Borovoye 49.74 309⇑ *e*P **P 00 45 53.4 -0.2**
BRVK pmax pmax
comp=Z,13nm,3.4s
BRVK Borovoye 49.74 309 P **P 00 45 53.3 -0.2**
BRVK Borovoye 49.74 309 *e*P **P 00 45 53.4 -0.2**
TARG Taragay, Kyrgy 50.05 293 P **P 00 45 57.0 +0.5**
KDJ Kajisay 50.27 294 P **P 00 45 57.9 0.0**
KDJ pmax pmax
comp=Z,6.0nm,0.9s
KDJ Kajisay 50.27 294 P **P 00 45 57.9 0.0**
BOOM Boomskoye usch 50.91 295 P **P 00 46 03.5 +0.8**
BOOM pmax pmax
comp=Z,7.0nm,0.8s
BOOM Boomskoye usch 50.91 295 P **P 00 46 03.5 +0.8**
BOOM IAmb IAmb 00 46 04.2
comp=Z,6.8nm,0.8s
GRNB Grenville Isla 51.54 49 P **P 00 46 08.5 +1.5**
FRU1 Bishkek 51.61 296 P **P 00 46 07.0 -0.8**
FRU1 pmax pmax
comp=Z,8.0nm,0.4s
FRU1 Bishkek 51.61 296 P **P 00 46 07.0 -0.8**
FRU1 IAmb IAmb 00 46 11.3
comp=Z,8.3nm,0.3s
GUN Gumba 51.75 273 *e*P **P 00 46 09.5 +0.1**
comp=Z,55nm,0.5s
AAK Ala-Archa 51.78 296 LR LR 01 10 54.5
comp=Z,55nm,18.4s,baz=60,slow=39
AAK Ala-Archa 51.78 296⇑ *e*P **P 00 46 09.1 -0.1**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 51.78 296 P **P 00 46 09.4 +0.2**
AAK Ala-Archa 51.78 296 *e*P **P 00 46 09.1 -0.1**
KKN Kakani 52.25 274 *e*P **P 00 46 13.3 +0.3**
PKI Pulchoki 52.28 273 *e*P **P 00 46 13.3 -0.1**
PKIN Phulchoki 52.29 273 *e*P **P 00 46 13.2 -0.1**
comp=Z,14nm,0.4s
KSH Kashi 52.35 291 P **P 00 46 17.9 +4.5**
KSH pmax pmax
comp=Z,9.0nm,1.0s
DMN Daman 52.48 274 *e*P **P 00 46 15.0 +0.3**
comp=Z,31nm,0.5s
GKN Gorkha 52.58 274 *e*P **P 00 46 15.5 +0.1**
comp=Z,46nm,0.4s
DANN Dangsing 53.01 275 *e*P **P 00 46 19.1 +0.4**
KOLN Koldanda 53.46 275 *e*P **P 00 46 22.3 +0.4**
PYUN Piuthan 53.70 276 *e*P **P 00 46 23.9 +0.2**
comp=Z,19nm,0.3s
KKAR Karatay Array 54.10 298 P **P 00 46 26.0 -0.1**
KKAR Karatay Array 54.10 298 P **P 00 46 26.0 -0.1**
RES Resolute Bay 54.13 17 P **P 00 46 25.2 -0.6**
RES pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 54.41 317 LR LR 01 12 12.8
comp=Z,97nm,19.6s,baz=86,slow=39
ARU Arti 54.41 317 *c i*P **P 00 46 27.6 -0.5**
ARU 00 47 30.0
ARU S **S 00 54 02.6 +0.8**
ARU SS **SS 00 57 44.1 +0.1**
ARU pmax pmax
comp=Z,18nm,2.1s
ARU Arti 54.41 317 P **P 00 46 27.6 -0.5**
ARU IAmb IAmb 00 46 28.4
comp=Z,6.2nm,0.9s
ARU Arti 54.41 317 *e*P **P 00 46 27.7 -0.4**
YKA Yellowknife Ar 54.84 34 P **P 00 46 31.5 +0.4**
comp=Z,8.5nm,0.8s,baz=298,slow=6.9,SNR=28
YKA Yellowknife Ar 54.84 34 *i* P **P 00 46 31.5 +0.4**
YKA pmax pmax
comp=Z,7.0nm,0.7s
YKA Yellowknife Ar 54.84 34 P **P 00 46 30.7 -0.5**
DRK Karamyk 55.13 294 P **P 00 46 33.0 -1.0**
DRK IAmb IAmb 00 46 43.1
comp=Z,6.2nm,0.8s
BTK Batken 55.47 295 P **P 00 46 35.6 -0.5**
BTK pmax pmax
comp=Z,8.0nm,1.1s
BTK Batken 55.47 295 P **P 00 46 35.6 -0.5**
BTK IAmb IAmb 00 46 37.2
comp=Z,8.0nm,1.1s
KULM Kulim 56.94 241 P **P 00 46 47.9 +1.1**
KULM IAmb IAmb 00 47 17.6
comp=Z,38nm,1.6s
TULEG Thule 57.07 10 *i* P **P 00 46 44.4 -2.5**
TULEG IAmb IAmb 00 46 45.2
comp=Z,7.0nm,0.8s
TULEG Thule 57.07 10 P **P 00 46 45.1 -1.7**
TULEG IAmb IAmb 00 46 46.1
comp=Z,8.5nm,0.7s
ABKAR Akbulak array 57.27 309 P **P 00 46 48.0 -0.6**
ABKAR Akbulak array 57.27 309 P **P 00 46 48.1 -0.6**
ABKAR IAmb IAmb 00 46 49.4
comp=Z,4.5nm,0.7s
CHGR Chuyangaron 57.30 294 P **P 00 46 48.8 -0.4**
NIL Nilore 57.35 287 P **P 00 46 49.8 +0.3**
NIL pmax pmax
comp=Z,28nm,0.7s
NIL Nilore 57.35 287 P **P 00 46 49.8 +0.3**
KIRV Kirov 57.56 322 LR LR 01 13 20.0
comp=Z,120nm,19.4s,baz=46,slow=38
KIRV Kirov 57.56 322⇓ *i*P **P 00 46 50.6 0.0**
AKTO Aktyubinsk 57.70 311 LR LR 01 12 31.3
comp=Z,94nm,18.4s,baz=49,slow=37
NEEM North Greenlan 57.85 5 *i* P **P 00 46 51.0 -1.7**
NEEM IAmb IAmb 00 46 51.7
comp=Z,5.4nm,0.8s
KEV Kevo 58.39 340 P **P 00 46 55.5 -0.7**
KEV pmax pmax
comp=Z,48nm,1.6s
KEV Kevo 58.39 340 P **P 00 46 55.5 -0.7**
ARA0 ARCESS Array S 58.91 340 *e*P **P 00 46 59.5 -0.5**
ARCES ARCESS Array B 58.91 340 P **P 00 46 57.2 -2.7**
comp=Z,1.1nm,0.4s,baz=44,slow=6.6,SNR=9.6
ARCES LR LR 01 16 27.1
comp=Z,53nm,18.6s,baz=55,slow=40
ARCES ARCESS Array B 58.91 340 P **P 00 46 59.4 -0.5**
ARCES pmax pmax
comp=Z,50nm,1.8s
ARCES ARCESS Array B 58.91 340 P **P 00 46 59.4 -0.5**
MTN Manton Dam 59.04 200 P **P 00 47 02.3 +1.0**
KBL Kabul 59.70 290 P **P 00 47 05.1 -1.0**
KBL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 59.70 290 P **P 00 47 05.1 -1.0**
KBL IAmb IAmb 00 47 06.2
comp=Z,13nm,0.8s
KTK1 Kautokeino 59.85 340 *e*P **P 00 47 05.3 -1.1**
PSI Prapat 59.95 241 P **P 00 47 08.0 +0.1**
PSI pmax pmax
comp=Z,11nm,1.1s
RPSI Rantau Prapat 60.03 241 P **P 00 47 08.0 -0.3**
RPSI IAmb IAmb 00 47 09.9
comp=Z,11nm,1.1s
JETT Jettan, Norway 60.12 341 *e*P **P 00 47 08.9 +0.7**
TRO Tromso 60.39 342 *e*P **P 00 47 08.9 -1.1**
BKNI Bangkinang 60.58 237 P **P 00 47 12.2 +0.1**
NEW Newport 61.33 49 P **P 00 47 17.4 +0.6**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 61.33 49 P **P 00 47 17.4 +0.6**
NEW IAmb IAmb 00 47 19.1
comp=Z,5.4nm,0.9s
GSI Gunungsitoli 61.95 241 P **P 00 47 22.2 +0.9**
BELG Belogornoye 61.96 317 *c i*P **P 00 47 20.4 -0.5**
BELG pmax pmax
comp=Z,2.0nm,0.9s
K05A Summer Lake 62.41 56 P **P 00 47 25.6 +1.3**
K05A IAmb IAmb 00 47 58.3
comp=Z,20nm,1.6s
STEI Steigen 62.57 342 *e*P **P 00 47 23.2 -1.5**
WALA Waterton Lakes 62.58 47 P **P 00 47 26.0 +0.8**
FAUS Fauske 63.00 341 *e*P **P 00 47 26.9 -0.6**
SUMG Summit 63.24 2 P **P 00 47 28.5 -1.1**
SUMG pmax pmax
comp=Z,21nm,1.5s
SUMG Summit 63.24 2 *i* P **P 00 47 28.6 -1.1**
SUMG IAmb IAmb 00 47 29.6
comp=Z,4.7nm,0.4s
SUMG Summit 63.24 2 P **P 00 47 28.4 -1.1**
SUMG IAmb IAmb 00 47 31.2
comp=Z,21nm,1.5s
PLID Pearl Lake 63.84 52 P **P 00 47 34.5 +0.7**
PLID IAmb IAmb 00 47 35.2
comp=Z,7.6nm,1.4s
MOR8 Moi Rana 64.19 341 *e*P **P 00 47 33.7 -1.7**
CTAO Charters Tower 64.19 182 P **P 00 47 37.0 +1.1**
CTAO pmax pmax
comp=Z,35nm,1.7s
CTAO Charters Tower 64.19 182 P **P 00 47 37.0 +1.1**
HRA Herat 64.31 294 P **P 00 47 37.1 0.0**
HRA IAmb IAmb 00 47 38.1
comp=Z,9.8nm,0.9s
FIA1 FINESS Array S 64.65 333 P **P 00 47 36.6 -1.9**
FIA1 IAmb IAmb 00 47 58.6
comp=Z,23nm,1.4s
FINES FINESS Array B 64.65 333 P **P 00 47 35.0 -3.5**
comp=Z,2.6nm,0.4s,baz=44,slow=6.2,SNR=30
FINES LR LR 01 20 52.4
comp=Z,70nm,19.0s,baz=46,slow=41
FINES FINESS Array B 64.65 333 P **P 00 47 36.5 -2.0**
FINES FINESS Array B 64.65 333 P **P 00 47 36.5 -2.0**
GEYT Alibeck 64.81 299 P **P 00 47 39.8 -0.3**
comp=Z,5.2nm,0.5s,baz=75,slow=6.3,SNR=14
GEYT LR LR 01 16 50.6
comp=Z,75nm,18.7s,baz=121,slow=37
GEYT Alibeck 64.81 299 P **P 00 47 39.6 -0.4**
GEYT IAmb IAmb 00 47 40.8
comp=Z,9.2nm,1.1s
GYA0B ALIBECK ARRAY 64.81 299 P **P 00 47 39.4 -0.6**
GYA0B IAmb IAmb 00 47 40.7
comp=Z,12nm,1.1s
FCC Fort Churchill 65.08 31 P **P 00 47 41.3 0.0**
FCC pmax pmax
comp=Z,8.0nm,0.6s
FCC Fort Churchill 65.08 31 P **P 00 47 41.2 0.0**
FCC IAmb IAmb 00 47 41.7
comp=Z,8.1nm,0.6s
WB0 Warramunga Arr 65.08 194 P **P 00 47 43.1 +1.4**
WB0 IAmb IAmb 00 47 43.4
comp=Z,9.2nm,1.0s
HRY Holter Researc 65.13 48 P **P 00 47 43.0 +0.9**
OBN Obninsk 65.25 324 LR LR 01 18 08.6
comp=Z,19nm,19.0s,baz=1.0,slow=38
OBN Obninsk 65.25 324⇑ *e*P **P 00 47 41.8 -0.7**
OBN *e* 00 48 14.0
OBN *e* 00 50 07.2
OBN pmax pmax
comp=Z,13nm,1.7s
OBN MLR MLR
comp=Z,57nm,15.0s
OBN Obninsk 65.25 324 *e*P **P 00 47 42.2 -0.3**
WRAB Tennant Creek 65.25 194⇓ *e*P **P 00 47 43.5 +0.6**
WRAB pmax pmax
comp=Z,27nm,1.9s
WRA Warramunga Arr 65.27 194 P **P 00 47 43.3 +0.3**
comp=Z,3.6nm,0.8s,baz=16,slow=6.7,SNR=16
WRA LR LR 01 19 35.4
comp=Z,14nm,18.0s,baz=208,slow=39
WRA Warramunga Arr 65.27 194 *i* P **P 00 47 44.2 +1.2**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 65.27 194 P **P 00 47 43.5 +0.5**
LRM Limekiln Ridge 65.35 49 P **P 00 47 44.7 +1.0**
VRH Novokhopyorsk 65.56 319 *e*P **P 00 47 43.4 -1.2**
VRH pmax pmax
comp=Z,8.0nm,0.6s
LPSR Galich'ya Gora 65.92 321 *e*P **P 00 47 45.1 -1.8**
LPSR pmax pmax
comp=Z,9.0nm,0.5s
BOZ Bozeman (W) 65.94 49 P **P 00 47 48.3 +0.9**
BOZ pmax pmax
comp=Z,7.0nm,1.1s
BOZ Bozeman (W) 65.94 49 P **P 00 47 48.3 +0.9**
BOZ IAmb IAmb 00 47 49.1
comp=Z,7.5nm,1.1s
NSS Namsos 66.13 341 *e*P **P 00 47 48.2 +0.2**
NVAR Mina Array Bea 66.58 59 P **P 00 47 53.0 +1.4**
comp=Z,2.7nm,0.7s,baz=291,slow=6.8,SNR=20
NVAR Mina Array Bea 66.58 59 P **P 00 47 52.9 +1.2**
VSR Storozhevoye 66.75 320 *e*P **P 00 47 51.2 -1.0**
VSR pmax pmax
comp=Z,9.0nm,0.6s
VORD Divnogorie 66.86 319 *e*P **P 00 47 51.1 -1.8**
VORD pmax pmax
comp=Z,10.0nm,0.5s
YHH Holmes Hill 66.88 49 P **P 00 47 54.8 +1.3**
DGMT Dagmar 67.90 43 P **P 00 48 00.3 +0.7**
SFJD Kangerlussuaq 68.02 8 LR LR 01 19 17.4
comp=Z,40nm,18.0s,baz=352,slow=37
FRB Frobisher Bay 68.35 17 P **P 00 47 59.6 -2.4**
FRB pmax pmax
comp=Z,17nm,0.7s
AFI Afiamalu 68.48 138 LR LR 01 11 42.1
comp=Z,34nm,22.0s,baz=346,slow=30
TPNV Topopah Spring 68.78 59 P **P 00 48 06.3 +0.8**
TPNV pmax pmax
comp=Z,2.0nm,1.0s
TPNV Topopah Spring 68.78 59 P **P 00 48 06.3 +0.8**
PD31 Pinedale Array 68.91 50 P **P 00 48 06.8 +0.5**
PDAR Pinedale Array 68.91 50 P **P 00 48 06.8 +0.5**
comp=Z,2.2nm,0.8s,baz=326,slow=1.2,SNR=19
PDAR Pinedale Array 68.91 50 P **P 00 48 06.5 +0.3**
AS31 Alice Springs 68.98 194 P **P 00 48 07.9 +1.5**
ASAR Alice Springs 68.98 194 P **P 00 48 08.0 +1.5**
comp=Z,2.9nm,0.7s,baz=12,slow=6.5,SNR=32
ASAR Alice Springs 68.98 194 P **P 00 48 08.0 +1.5**
GWY Greenwater Val 69.01 60 P **P 00 48 07.7 +0.8**
GWY IAmb IAmb 00 48 08.6
comp=Z,3.4nm,0.7s
NC300 NORSAR Array S 69.04 339 P **P 00 48 05.0 -1.4**
MNK Minsk 69.20 327 *i* P **P 00 48 05.3 -2.2**
MNK *i* *PP **pP 00 48 21.7 -2.2**
MNK *i* 00 48 28.6
MNK *i* 00 50 38.5
MNK *i* PPP PPP 00 52 19.4
MNK *i* S **S 00 57 05.4 -3.2**
MNK *i* *SS **sS 00 57 35.3 -0.9**
MNK *i* 00 58 04.3

MNK *i* SS **SS** **01 01 35.3 +0.5**
MNK pmax pmax
comp=Z,3.0nm,1.2s
MNK pmax pmax
comp=N,13nm,1.1s
MNK MLR MLR
comp=N,131nm,17.0s
MNK MLR MLR
comp=E,14nm,16.0s
MNK MLR MLR
comp=Z,149nm,20.0s
MNK Minsk 69.20 327 *i* P **P** **00 48 05.3 -2.2**
comp=E,3.0nm,1.2s
MNK *i* P **P** **00 48 05.3 -2.2**
comp=N,13nm,1.1s
MNK *i* P **P** **00 48 05.3 -2.2**
comp=Z,4.0nm,0.8s,baz=223
MNK *i* pP **pP** **00 48 21.7 -2.1**
MNK *i* PP **PP** **00 50 38.6 -1.9**
MNK *i* PPP PPP 00 52 19.5
MNK *i* S **S** **00 57 05.4 -3.2**
MNK *i* sS **sS** **00 57 35.3 -0.9**
MNK *i* SS **SS** **01 01 35.3 +0.5**
MNK *i* SSS SSS 01 04 59.3
MNK *i* LQ LQ 01 14 21.2
MNK *i* LR LR 01 17 47.9
MNK *i* LRM MLR 01 21 07.2
comp=N,131nm,16.6s
MNK *i* LRM MLR 01 21 07.3
comp=E,14nm,16.0s
MNK *i* LRM MLR 01 21 30.2
comp=Z,149nm,19.8s
NB2 NORSAR Subarra 69.28 339 P **P** **00 48 06.5 -1.5**
comp=Z,1.1nm,0.5s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.28 339 P **P** **00 48 06.5 -1.5**
baz=31,slow=6.5
NOA NORSAR Array B 69.28 339 P **P** **00 48 06.0 -2.0**
comp=Z,1.2nm,0.5s,baz=31,slow=6.6,SNR=20
NOA LR LR 01 22 07.8
comp=Z,36nm,18.7s,baz=35,slow=39
HFS Hagfors 69.40 338 P **P** **00 48 07.0 -1.6**
comp=Z,1.4nm,0.3s,baz=36,slow=5.0,SNR=21
HFS LR LR 01 22 10.3
comp=Z,46nm,18.5s,baz=46,slow=39
NORES NORESS Array B 69.46 339 P **P** **00 48 08.0 -1.0**
NCK Nalchik 69.73 311‖ *e*P **P** **00 48 13.0 +1.9**
NCK pmax pmax
comp=Z,22nm,1.6s
KVAR Kislovodsk Arr 69.91 312 P **P** **00 48 12.3 +0.1**
comp=Z,6.3nm,0.8s,baz=344,slow=15,SNR=2.9
KIV Kislovodsk 69.91 312‖ *e*P **P** **00 48 12.9 +0.7**
KIV *e* 00 48 33.6
KIV *i* 00 50 50.3
KIV *e*S S 00 57 07.8 -10
KIV pmax pmax
comp=Z,11nm,0.8s
KIV MLR MLR
comp=Z,80nm,19.0s
KIV Kislovodsk 69.91 312 P **P** **00 48 13.0 +0.8**
KIV IAmb IAmb 00 48 14.4
comp=Z,9.6nm,0.7s
KIV Kislovodsk 69.91 312 *e*P **P** **00 48 12.9 +0.7**
KBZ Khabaz 69.95 312 P **P** **00 48 12.8 +0.5**
comp=Z,5.2nm,0.7s,baz=67,slow=7.0,SNR=10
KBZ LR LR 01 23 22.2
comp=Z,122nm,18.9s,baz=58,slow=40
KBZ Khabaz 69.95 312‖ *e*P **P** **00 48 13.3 +1.0**
KBZ pmax pmax
comp=Z,25nm,2.2s
KBZ Khabaz 69.95 312 *e*P **P** **00 48 13.3 +1.0**
RDMU Red Mountain 70.36 52 P **P** **00 48 16.2 +1.0**
RDMU IAmb IAmb 00 48 17.1
comp=Z,7.5nm,0.7s
ONI Oni 70.42 311 P **P** **00 48 15.9 +0.5**
ONI pmax pmax
comp=Z,46nm,1.7s
ONI Oni 70.42 311 P **P** **00 48 15.9 +0.5**
ULM Lac du Bonnet 70.52 38 P **P** **00 48 15.6 -0.2**
comp=Z,3.4nm,0.4s,baz=307,slow=6.4,SNR=4.8
ULM Lac du Bonnet 70.52 38 P **P** **00 48 15.5 -0.2**
ULM IAmb IAmb 00 48 16.0
comp=Z,5.0nm,0.6s
PSA00 Pilbara Seismi 70.59 208 P **P** **00 48 16.8 +0.5**
PSA00 IAmb IAmb 00 48 43.3
comp=Z,6.2nm,1.2s
BORG Borgarnes 70.89 355 P **P** **00 48 18.9 +1.2**
BORG pmax pmax
comp=Z,193nm,1.7s
BORG Borgarnes 70.89 355 P **P** **00 48 18.9 +1.2**
GNI Garni 71.36 308 LR LR 01 22 52.2
comp=Z,38nm,19.1s,baz=74,slow=38
ODD1 Odda 71.39 341 *e*P **P** **00 48 20.5 -0.4**
AKASG Malin Array Be 71.52 324 P **P** **00 48 20.4 -1.4**
comp=Z,1.5nm,0.4s,baz=37,slow=6.0,SNR=22
AKASG LR LR 01 22 52.8
comp=Z,37nm,18.6s,baz=18,slow=38
AKASG Malin Array Be 71.52 324 P **P** **00 48 20.9 -0.8**
AKBB Malin Array Si 71.52 324‖ *e*P **P** **00 48 20.9 -0.8**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 71.52 324 P **P** **00 48 20.6 -1.1**
AKBB IAmb IAmb 00 48 22.1
comp=Z,4.1nm,0.7s
X16A Lo Mia Camp, P 73.39 58 P **P** **00 48 34.4 +1.0**
WSAR Wadi Sarin 73.85 287 LR LR 01 25 23.0
comp=Z,33nm,19.1s,baz=62,slow=39
GURO Guroymak-BITLI 73.98 308 P **P** **00 48 37.5 +0.7**
GURO IAmb IAmb 00 48 39.1
comp=Z,9.2nm,0.9s
UOSS Minazif 74.37 290 P **P** **00 48 38.8 -0.3**
SIRT Sirnak 74.48 307 P **P** **00 48 39.5 -0.1**
ARMA Armidale 74.51 177 P **P** **00 48 42.5 +2.9**
ECSD EROS Data Cent 74.97 43 P **P** **00 48 42.0 -0.3**
ECSD IAmb IAmb 00 48 43.2
comp=Z,7.9nm,0.9s
KWP Kalwaria Pacla 75.00 327 P **P** **00 48 42.3 0.0**
KWP pmax pmax
comp=Z,280nm,1.7s
KWP Kalwaria Pacla 75.00 327 P **P** **00 48 42.3 0.0**
BUR08 Bucovina Ar. S 75.56 324 P **P** **00 48 45.7 0.0**
BURAR Bucovina Array 75.58 324 P **P** **00 48 45.4 -0.3**
OJC Ojcow 75.64 329 P **P** **00 48 45.5 -0.4**
OJC pmax pmax
comp=Z,5.0nm,1.1s
OJC Ojcow 75.64 329 P **P** **00 48 45.5 -0.4**
STKA Stephens Creek 76.14 186 P **P** **00 48 50.1 +1.3**
comp=Z,3.1nm,0.8s,baz=356,slow=8.0,SNR=6.2
STKA LR LR 01 25 15.9
comp=Z,14nm,19.3s,baz=20,slow=38
STKA Stephens Creek 76.14 186 P **P** **00 48 50.4 +1.6**
STKA pmax pmax
comp=Z,2.0nm,1.3s
STKA Stephens Creek 76.14 186 P **P** **00 48 50.4 +1.6**
I37A Lemond, Waseca 76.30 41 P **P** **00 48 50.2 +0.4**
CHVC Chvalec 76.68 331 *e*P **P** **00 48 49.9 -2.0**
SCHQ Schefferville 76.76 20 P **P** **00 48 52.2 0.0**
comp=Z,2.6nm,0.7s,baz=341,slow=4.9,SNR=6.2
SCHQ Schefferville 76.76 20 P **P** **00 48 51.7 -0.5**
DPC Dobruska-Polom 76.79 331 *e*P **P** **00 48 52.4 -0.1**
DPC Dobruska-Polom 76.79 331 *e*P **P** **00 48 52.4 -0.1**
MORC Moravsky Berou 76.83 330 P **P** **00 48 52.0 -0.7**
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 76.83 330 *e*P **P** **00 48 52.4 -0.4**
MORC Moravsky Berou 76.83 330 P **P** **00 48 52.0 -0.7**
KRLC Kraliky 76.86 330 *e*P **P** **00 48 51.9 -1.0**
KRLC Kraliky 76.86 330 *e*P **P** **00 48 51.9 -1.0**
MLR Muntele Rosu 76.93 322 LR LR 01 25 15.5
comp=Z,72nm,18.2s,baz=44,slow=38
MLR Muntele Rosu 76.93 322 P **P** **00 48 53.5 0.0**
MLR pmax pmax
comp=Z,7.0nm,1.2s
MLR Muntele Rosu 76.93 322 P **P** **00 48 53.5 0.0**
MLR IAmb IAmb 00 49 01.7
comp=Z,7.5nm,1.2s
FORT Forrest 77.04 198 P **P** **00 48 55.3 +1.4**
CLL Collm 77.10 333 *i* P **P** **00 48 53.3 -0.9**
CLL *e* 00 49 09.0
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 77.10 333 *i* P **P** **00 48 53.3 -0.9**
comp=Z,7.0nm,0.6s
CLL *ex* x 00 49 09.0
CLL Collm 77.10 333 P **P** **00 48 52.2 -2.0**
CLL IAmb IAmb 00 48 54.0
comp=Z,6.6nm,0.6s
BNN Bunyan 77.15 312 P **P** **00 48 55.4 +0.5**
DRGR 77.27 325 P **P** **00 48 55.1 -0.2**
DRGR pmax pmax
comp=Z,5.0nm,2.0s
VOIR 77.36 323 P **P** **00 48 56.2 +0.4**
VOIR pmax pmax
comp=Z,7.0nm,2.1s
VRAC Vranov 77.56 330 P **P** **00 48 56.1 -0.7**
comp=Z,3.2nm,0.8s,baz=6.1,slow=3.8,SNR=6.4
VRAC LR LR 01 28 03.6
comp=Z,45nm,18.5s,baz=28,slow=40
VRAC Vranov 77.56 330 *e*P **P** **00 48 56.9 +0.1**
BBOO Buckleboo 77.63 190 P **P** **00 48 58.1 +1.0**
BBOO IAmb IAmb 00 49 15.5
comp=Z,19nm,1.3s
BR131 Keskin Array S 77.66 314 P **P** **00 48 57.9 +0.2**
BR131 pmax pmax
comp=Z,15nm,1.3s
BR131 Keskin Array S 77.66 314 P **P** **00 48 57.9 +0.2**
BR131 IAmb IAmb 00 49 13.6
comp=Z,15nm,1.3s
BRTR Keskin Array B 77.66 314 P **P** **00 48 58.0 +0.2**
comp=Z,2.9nm,0.8s,baz=111,slow=1.9,SNR=24
BRTR LR LR 01 28 48.2
comp=Z,53nm,18.4s,baz=58,slow=40
BRTR Keskin Array B 77.66 314 P **P** **00 48 58.0 +0.2**
BRTR Keskin Array B 77.66 314 P **P** **00 48 57.8 0.0**
PRU Pruhonice 77.71 331 *e*P **P** **00 48 55.7 -1.9**
PRU Pruhonice 77.71 331 *e*P **P** **00 48 55.7 -1.9**
EKA Eskdalemuir Ar 77.73 344 P **P** **00 48 56.9 -0.8**
comp=Z,1.8nm,0.3s,baz=17,slow=5.1,SNR=19
EKA LR LR 01 29 09.1
comp=Z,51nm,18.3s,baz=0.0,slow=40
ESK Eskdalemuir 77.75 344 P **P** **00 48 57.1 -0.6**
ESK pmax pmax
comp=Z,93nm,1.6s
ESK Eskdalemuir 77.75 344 P **P** **00 48 57.1 -0.6**
KRUC Moravsky 77.84 330 *e*P **P** **00 48 57.9 -0.5**
ANTO Ankara 77.98 315 P **P** **00 49 00.1 +0.7**
ANTO pmax pmax
comp=Z,13nm,0.8s
ANTO Ankara 77.98 315 P **P** **00 49 00.1 +0.7**
ANTO IAmb IAmb 00 49 00.7
comp=Z,13nm,0.8s
BR231 Keskin MP Arra 78.01 315 P **P** **00 48 59.6 0.0**
BR231 IAmb IAmb 00 49 01.0
comp=Z,12nm,0.8s
MODS Modra-Piesok 78.10 329 *e*P **P** **00 48 59.6 -0.2**
MODS Modra-Piesok 78.10 329 *e*P **P** **00 48 59.6 -0.2**
KHC Kasperske Hory 78.77 332 *e*P **P** **00 49 03.0 -0.5**
KHC Kasperske Hory 78.77 332 *e*P **P** **00 49 03.0 -0.5**
KHC Kasperske Hory 78.77 332 P **P** **00 49 03.5 -0.1**
KHC IAmb IAmb 00 49 04.1
comp=Z,6.0nm,0.7s
CKRC Cesky Krumlov 78.78 331 *e*P **P** **00 49 03.0 -0.6**
MORW Morawa 78.80 208 P **P** **00 49 04.6 +0.9**
MORW IAmb IAmb 00 49 16.4
comp=Z,18nm,1.4s
SOP Sopron 78.94 329 P **P** **00 49 05.0 +0.6**
SOP pmax pmax
comp=Z,8.0nm,2.5s
GEC2 GERESS Array S 78.97 331 P **P** **00 49 03.8 -1.0**
GERES GERESS Array B 78.97 331 P **P** **00 49 04.2 -0.5**
comp=Z,1.5nm,0.5s,baz=41,slow=6.1,SNR=21
GERES LR LR 01 27 30.8
comp=Z,48nm,18.9s,baz=41,slow=38
CONA Conrad Observa 78.99 330 *e*P **P** **00 49 05.2 +0.4**
comp=Z,1.4nm,0.5s
GRA1 Grafenberg Arr 79.07 333 P **P** **00 49 05.0 -0.2**
GRA1 IAmb IAmb 00 49 05.9
comp=Z,11nm,0.9s
GRF Grafenberg Arr 79.07 333 P **P** **00 49 05.0 -0.2**
GRF pmax pmax
comp=Z,11nm,0.9s
GRFO Grafenberg 79.07 333 P **P** **00 49 04.9 -0.2**
GRFO pmax pmax
comp=Z,10.0nm,0.9s
GRFO Grafenberg 79.07 333 P **P** **00 49 04.9 -0.2**
GRFO IAmb IAmb 00 49 05.8
comp=Z,10nm,0.9s
BORA Eskisehir 79.15 316 P **P** **00 49 06.2 +0.3**
BORA IAmb IAmb 00 49 07.5
comp=Z,9.4nm,0.9s
VLDQ Val d'Or 79.53 29 P **P** **00 49 06.4 -1.2**
VLDQ IAmb IAmb 00 49 12.3
comp=Z,39nm,1.8s
MOA Molln 79.62 330 *e*P **P** **00 49 07.9 -0.3**
comp=Z,1.0nm,0.5s
BEBN Eben Emael 79.77 337 P **P** **00 49 08.0 -0.9**
MEM Membach 79.85 337 P **P** **00 49 09.8 +0.5**
BSTI Sart Tilman 79.99 337 P **P** **00 49 10.1 0.0**
BHOU Houvegnez 80.08 337 P **P** **00 49 10.3 -0.2**
T35A Sooner Cattle 80.11 47 P **P** **00 49 11.4 +0.3**
T35A IAmb IAmb 00 49 12.2
comp=Z,7.8nm,0.9s
BCLA Clavier 80.22 337 P **P** **00 49 10.8 -0.5**
BGES Gesves 80.31 337 P **P** **00 49 11.1 -0.7**
P40A Paris 80.39 43 P **P** **00 49 12.3 -0.1**
P40A IAmb IAmb 00 49 14.2
comp=Z,24nm,1.5s
VTS Vitosha 80.39 322 P **P** **00 49 12.6 0.0**
VTS pmax pmax
comp=Z,10.0nm,1.0s
VTS Vitosha 80.39 322 P **P** **00 49 12.6 0.0**
VTS IAmb IAmb 00 49 13.7
comp=Z,9.7nm,1.0s
SNF Seneffe 80.42 338 P **P** **00 49 11.6 -0.7**
BMRD Maredsous 80.47 337 P **P** **00 49 12.2 -0.4**
DIVS Divibare 80.57 325 P **P** **00 49 12.6 -0.8**
DIVS IAmb IAmb 00 49 13.0
comp=Z,16nm,1.6s
KBA Koelnbreinsper 80.61 331 *e*P **P** **00 49 13.9 +0.2**
comp=Z,2.4nm,0.4s
WLF Walferdange 80.65 336 P **P** **00 49 14.1 +0.4**
WLF pmax pmax
comp=Z,58nm,1.7s
WLF Walferdange 80.65 336 P **P** **00 49 14.1 +0.4**
OBKA Obir 80.67 330 *e*P **P** **00 49 13.4 -0.5**
comp=Z,2.5nm,0.7s
WATA Walderalm 81.00 332 *i* P **P** **00 49 15.6 -0.2**
comp=Z,6.9nm,0.7s,SNR=9.1
WTTA Wattenberg 81.04 332 *i* P **P** **00 49 15.9 -0.1**
comp=Z,5.0nm,0.3s,SNR=9.5
RETA Reutte 81.14 332 *i* P **P** **00 49 16.3 -0.2**
comp=Z,5.6nm,1.0s,SNR=4.7
MOTA Moosalm 81.15 332 *i* P **P** **00 49 16.2 -0.3**
comp=Z,6.9nm,0.8s,SNR=7.5
ABTA Abfaltersbach 81.19 331 *e*P **P** **00 49 14.8 -1.9**
comp=Z,15nm,1.7s
SQTA Sankt Quirin 81.22 332 *i* P **P** **00 49 16.6 -0.3**
comp=Z,3.6nm,0.6s,SNR=4.8
R40A Maddies Statio 81.24 44 P **P** **00 49 16.8 -0.2**
R40A IAmb IAmb 00 49 17.7
comp=Z,9.7nm,1.1s
CSS Mathiatis 81.38 311 P **P** **00 49 17.9 +0.1**
CSS IAmb IAmb 00 49 19.4
comp=Z,28nm,1.3s
ASF Jabal al Asfar 81.47 307 P **P** **00 49 19.3 +0.9**
comp=Z,9.0nm,0.8s,baz=46,slow=7.2,SNR=6.8
STAL STALIGIAL 81.54 331 P **P** **00 49 16.9 -1.6**
STAL IAmb IAmb 00 49 28.2
comp=Z,29nm,1.5s
FETA Feichten 81.56 332 *e*P **P** **00 49 18.9 +0.2**
comp=Z,3.0nm,0.9s
DAVA Damuels 81.61 333 *e*P **P** **00 49 18.7 -0.3**
comp=Z,3.4nm,0.7s
ECH Echery 81.65 335 P **P** **00 49 18.7 -0.3**
ECH pmax pmax
comp=Z,17nm,1.7s
ECH Echery 81.65 335 P **P** **00 49 18.7 -0.3**
ECH IAmb IAmb 00 49 24.8
comp=Z,16nm,1.7s
MMAI Mount Meron Ar 81.70 308 P **P** **00 49 20.5 +0.9**
comp=Z,11nm,0.6s,baz=40,slow=6.6,SNR=35
ELL Elmali 81.83 314 P **P** **00 49 20.1 -0.2**
ELL pmax pmax
comp=Z,50nm,0.8s
ELL Elmali 81.83 314 P **P** **00 49 20.1 -0.2**
CCM Cathedral Cave 81.93 43 P **P** **00 49 20.8 +0.2**
CCM pmax pmax
comp=Z,10.0nm,0.9s
CCM Cathedral Cave 81.93 43 P **P** **00 49 20.8 +0.2**
CCM IAmb IAmb 00 49 21.6
comp=Z,10nm,0.9s
PDG Podgorica 82.25 324 P **P** **00 49 21.3 -1.0**
RAYN Ar Rayn 82.43 295 P **P** **00 49 23.3 -0.3**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
RAYN Ar Rayn 82.43 295 P **P** **00 49 23.3 -0.3**
RAYN IAmb IAmb 00 49 24.7
comp=Z,4.3nm,0.8s
P46A Rosedale 82.61 40 P **P** **00 49 24.5 +0.3**
D62A Allapoint, All 83.16 25 P **P** **00 49 26.8 -0.1**
D62A IAmb IAmb 00 49 27.5
comp=Z,14nm,1.1s
FCAR Ozark Folk Cen 83.17 45 P **P** **00 49 26.9 -0.2**
FCAR IAmb IAmb 00 49 27.7
comp=Z,4.4nm,0.7s
SENIN Lac Senin/Sane 83.25 334 P **P** **00 49 27.0 -0.6**
SENIN IAmb IAmb 00 49 53.5
comp=Z,20nm,1.6s
E62A Clayton Lake 83.44 25 P **P** **00 49 28.2 -0.1**
BATG Bathurst New B 83.85 23 P **P** **00 49 30.4 0.0**
WCI Wyandotte Cave 84.16 40 P **P** **00 49 32.5 +0.3**
WCI pmax pmax
comp=Z,8.0nm,0.8s
WCI Wyandotte Cave 84.16 40 P **P** **00 49 32.5 +0.3**
WCI IAmb IAmb 00 49 33.3
comp=Z,8.1nm,0.8s
VLC Villacollemand 84.17 331 P **P** **00 49 32.8 +0.6**
M54A Oil Creek Stat 84.31 34 P **P** **00 49 32.8 -0.1**
NRCA Norcia 84.34 329 P **P** **00 49 32.9 -0.2**
EIL Elat 84.44 307 P **P** **00 49 34.1 +0.4**
comp=Z,13nm,0.8s,baz=16,slow=4.4,SNR=11
F64A Sherman 84.47 25 P **P** **00 49 33.0 -0.6**
SOCY Socotra 84.58 282 P **P** **00 49 33.3 -1.4**
BNI Bardonecchia 84.62 334 P **P** **00 49 34.4 -0.1**
BNI pmax pmax
comp=Z,17nm,1.4s
BNI Bardonecchia 84.62 334 P **P** **00 49 34.4 -0.1**
BNI IAmb IAmb 00 49 53.3
comp=Z,18nm,1.4s
SSB Saint Sauveur 85.08 335 P **P** **00 49 36.6 -0.1**
SSB pmax pmax
comp=Z,28nm,1.6s
SSB Saint Sauveur 85.08 335 P **P** **00 49 36.6 -0.1**
WVT Waverly 85.12 42 P **P** **00 49 37.0 0.0**
WVT pmax pmax
comp=Z,4.0nm,0.8s
WVT Waverly 85.12 42 P **P** **00 49 37.0 0.0**
WVT IAmb IAmb 00 49 38.6
comp=Z,3.9nm,0.8s
ITM Ithomi 85.38 320 P **P** **00 49 37.2 -1.1**
IDI Anoyia 85.49 317 P **P** **00 49 37.5 -1.5**
comp=Z,12nm,0.4s,baz=42,slow=9.0,SNR=17
L59A Walton 85.50 31 P **P** **00 49 38.5 -0.4**
L59A IAmb IAmb 00 49 39.6
comp=Z,14nm,0.9s
O56A Blue Knob Stat 85.80 34 P **P** **00 49 40.2 -0.2**
BG3 Lake Jocassee 88.35 40 P **P** **00 49 52.7 -0.1**
BG3 IAmb IAmb 00 49 54.3
comp=Z,7.1nm,0.7s
KEST Kesra 91.95 328 P **P** **00 50 08.7 -1.0**
comp=Z,2.1nm,0.6s,baz=57,slow=1.8,SNR=7.2
KEST LR LR 01 34 51.1
comp=Z,75nm,18.5s,baz=244,slow=38
ESDC Sonseca Array 92.64 339 P **P** **00 50 11.4 -1.4**
comp=Z,1.2nm,0.7s,baz=16,slow=4.2,SNR=12
ATD Arta Tunnel 92.74 289 LR LR 01 37 32.5
comp=Z,49nm,18.7s,baz=90,slow=39
TORD Torodi Ar. Bea 115.15 324 PKP **PKiKP** **00 55 41.6 -0.8**
comp=Z,0.6nm,0.4s,baz=12,slow=2.4,SNR=12
DBIC Dimbokro 123.68 327 PKP **PKPdf** **00 55 57.7 -1.1**
comp=Z,2.8nm,0.9s,baz=66,slow=1.9,SNR=4.1
LPAZ La Paz 138.49 59 PKP **PKiKP** **00 56 29.3 -0.2**
comp=Z,1.4nm,0.9s,baz=113,slow=14,SNR=2.2
H03N2 Juan Fernandez 142.19 90 T T 03 35 45.3
baz=304,slow=77,SNR=22
H03N3 Juan Fernandez 142.20 90 T T 03 35 51.0
baz=304,slow=77,SNR=30
H03N1 Juan Fernandez 142.20 90 T T 03 35 46.7
baz=304,slow=77,SNR=22
BDFB Brasilia 148.21 31 PKPbc **PKPbc** **00 56 46.9 -0.3**
comp=Z,5.2nm,0.8s,baz=357,slow=27,SNR=6.0
SNAA Sanae 149.30 197 PKPbc **PKPbc** **00 56 48.7 +0.5**
VNA2 Neumayer--Watz 150.82 196 PKPbc **PKiKP** **00 56 52.6 +0.2**
baz=135,slow=2.2
VNA3 Neumayer Olymp 150.99 195 PKPbc **PKPbc** **00 56 52.9 +0.7**
VNA1 Neumayer--Stat 151.21 196 PKPbc **PKPbc** **00 56 53.3 +0.6**
PLCA Paso Flores 151.39 96 PKPbc **PKiKP** **00 56 54.9 +0.3**
comp=Z,3.7nm,0.8s,baz=275,slow=5.2,SNR=6.2
CPUP Villa Florida 152.63 57 PKPbc **PKPbc** **00 56 57.1 -0.2**
comp=Z,1.4nm,0.7s,baz=2.8,slow=2.2,SNR=3.2

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*NEIC **03** 00:39:45.4±1.8, 10°.1S±0°.1×161°.0E±0°.1, h51km±9km, mb4.2/7, Error ellipse: s-maj=23.0km s-min=9.1km az=218.0*
*IDC **03** 00:39:45.9±2.6, 10°.17S×160°.88E, h53km±21km, mb3.4/6, mb1 3.7/7, mb1mx3.5/35, mbtmp3.8/7, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/30, Error ellipse: s-maj=27.9km s-min=19.6km az=63.0*

ISC 03 00:39:45.1±0.7, 10.20S±0°.09×160°.9E±0°.1, h50km, n21, σ1§39/24, mb3.8/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.23**	**308**	P	**Pn**	**00 40 04.9**	**-1.1**
	205nm,0.3s,baz=154,slow=6.8,SNR=56						
HNR				S	**Sn**	**00 40 21.2**	**-0.4**
	567nm,0.3s,baz=54,slow=23,SNR=36						
HNR				LR	LR	00 40 39.6	
	comp=Z,204nm,19.5s,baz=9.5,slow=46						
HNR	**Honiara**	**1.23**	**308**		**Pn**	**00 40 04.7**	**-1.3**
HNR					**Sn**	**00 40 21.9**	**+0.3**
SANVU	**Saraoutou**	**8.04**	**131**		**Pn**	**00 41 39.8**	**+0.5**
LIFNC	**LIFOU**	**12.14**	**151**	Pn	**Pn**	**00 42 36.1**	**+0.7**
DZM	**Mont Dzumac**	**12.93**	**157**	P	**Pn**	**00 42 48.9**	**+2.6**
	0.4nm,0.3s,baz=357,slow=8.7,SNR=18						
DZM				S	**Sn**	**00 45 04.9**	**-4.0**
	0.1nm,0.3s,baz=260,slow=21,SNR=1.4						
DZM				LR	LR	00 47 22.2	
	comp=Z,77nm,18.4s,baz=12,slow=35						
DZM	**Mont Dzumac**	**12.93**	**157**	Pn	**Pn**	**00 42 48.8**	**+2.4**
MARNC	**Mare, Loyalty**	**13.13**	**150**	Pn	**Pn**	**00 42 50.2**	**+1.3**
WB0	**Warramunga Arr**	**27.30**	**247**	P	**P**	**00 45 24.6**	**-0.7**
WB0				IAmb	IAmb	00 45 50.0	
	comp=Z,26nm,1.5s						
WRA	**Warramunga Arr**	**27.40**	**246**	P	**P**	**00 45 26.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=75,slow=9.0,SNR=7.8						
WRA	**Warramunga Arr**	**27.40**	**246**	P	**P**	**00 45 25.2**	**-1.0**
STKA	**Stephens Creek**	**28.03**	**217**	P	**P**	**00 45 32.4**	**+0.8**
STKA				IAmb	IAmb	00 45 57.7	
	comp=Z,1.2nm,1.1s						
ASAR	**Alice Springs**	**29.04**	**239**	P	**P**	**00 45 40.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=64,slow=10,SNR=5.1						
KNRA	**Kununurra**	**31.80**	**257**	P	**P**	**00 46 04.7**	**-0.5**
KNRA				IAmb	IAmb	00 46 28.8	
	comp=Z,19nm,1.3s						
BBOO	**Buckleboo**	**32.11**	**222**	P	**P**	**00 46 08.7**	**+0.9**
SONM	**Songino Array**	**75.24**	**325**	P	**P**	**00 51 22.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=157,slow=5.6,SNR=5.5						
SONM	**Songino Array**	**75.24**	**325**	P	**P**	**00 51 22.2**	**-0.6**
SONM				IAmb	IAmb	00 51 23.7	
	comp=Z,1.1nm,1.0s						
QSPA	**South Pole Qui**	**79.80**	**180**	P	**P**	**00 51 47.7**	**-0.3**
QSPA				IAmb	IAmb	00 52 08.3	
	comp=Z,5.7nm,1.3s						
IMAR	**Indian Mountai**	**82.95**	**17**	P	**P**	**00 52 03.9**	**-0.4**
ILAR	**Eielson Array**	**84.28**	**20**	P	**P**	**00 52 10.6**	**-0.6**
	comp=Z,1.1nm,1.2s,baz=205,slow=4.0,SNR=1.9						
NVAR	**Mina Array Bea**	**89.13**	**51**	P	**P**	**00 52 36.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=298,slow=1.9,SNR=2.2						
MKAR	**Makanchi Array**	**89.69**	**318**	P	**P**	**00 52 39.2**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=86,slow=6.7,SNR=4.4						

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*IDC **03** 00:45:40.6±4.0, 4°.75S×153°.68E, h98km±39km, mb3.3/4, mb1 3.7/6, mb1mx3.3/35, mbtmp3.9/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/27, Error ellipse: s-maj=46.2km s-min=25.1km az=146.0*

ISC 03 00:45:39.5±1.0, 4°.7S±0°.1×153°.6E±0°.1, h85km, n8, σ1§09/8, mb3.3/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.85**	**127**	P	**Pn**	**00 47 31.2**	**+0.2**

11nm,0.3s,baz=251,slow=18,SNR=1.1
PMG Port Moresby 7.94 233 P **Pn 00 47 33.3 +1.1**
3.0nm,0.3s,baz=38,slow=9.8,SNR=8.1
PMG S **Sn 00 48 59.2 -1.3**
1.7nm,0.3s,baz=233,slow=8.9,SNR=1.3
WRA Warramunga Arr 24.13 229 P **P 00 50 48.1 +0.5**
1.1nm,0.6s,baz=54,slow=9.8,SNR=14
ASAR Alice Springs 26.79 223 P **P 00 51 11.0 -0.7**
0.7nm,0.8s,baz=54,slow=9.0,SNR=11
KAPI Kappang 33.74 268 LR LR 01 10 02.8
comp=Z,16nm,18.8s,baz=65,slow=43
MKAR Makanchi Array 80.78 319 P **P 00 57 44.7 +0.9**
0.3nm,0.7s,baz=103,slow=7.3,SNR=5.2
ILAR Eielson Array 81.75 22 P **P 00 57 47.7 -0.8**
0.2nm,0.6s,baz=227,slow=6.5,SNR=1.4
TORD Torodi Ar. Bea 151.04 289 PKPbc **PKPbc 01 05 22.9 -0.9**
0.4nm,0.6s,baz=65,slow=2.2,SNR=2.6

*UCR **03** 01:24:21.7±1.7, 8°.66N×81°.11W, h65km, MW4.3*
ISC 03 01:24:19.9±2.0, 6°.8N±0°.1×82°.84W±0°.10, h35km, n20, σ2§57/26, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDSV	**San Vito**	**2.06**	**356**	*eP*	**Pn**	**01 24 51.3**	**-1.0**
EDSV				*eS*	**Sn**	**01 25 15.1**	**-1.7**
SRBA	**San Rafael, Bu**	**2.52**	**348**	*eP*	**Pn**	**01 24 57.3**	**-1.3**
PEZE	**Perez Zeledon,**	**2.75**	**342**	*eP*	**Pn**	**01 25 01.2**	**-0.5**
RIMA	**Rio Macho**	**3.17**	**341**	*eP*	**Pn**	**01 25 06.9**	**-0.6**
LCR2	**La Lucha 2**	**3.19**	**339**	*eP*	**Pn**	**01 25 07.6**	**-0.2**
HDC	**Heredia**	**3.47**	**339**	*eP*	**Pn**	**01 25 12.3**	**+0.6**
BCIP	**Isla Barro Col**	**3.82**	**51**	*eP*	**Pn**	**01 25 16.9**	**+0.6**
BCIP				*eS*	**Sn**	**01 25 59.7**	**-0.3**
ARE1	**Arenal 1**	**4.13**	**333**	*eP*	**Pn**	**01 25 22.2**	**+1.5**
ACAL	**Aguas Claras**	**4.43**	**331**	*eP*	**Pn**	**01 25 26.5**	**+1.7**
PTEN	**Parque Tenorio**	**4.48**	**332**	*eP*	**Pn**	**01 25 27.0**	**+1.5**
CUI	**Cuipilapa**	**4.52**	**330**	*eP*	**Pn**	**01 25 26.9**	**+1.0**
COLC	**Colonia**	**4.54**	**329**	*eP*	**Pn**	**01 25 27.3**	**+1.0**
HORNC	**Hornillas**	**4.57**	**330**	*eP*	**Pn**	**01 25 28.1**	**+1.3**
LIM1	**Limonal**	**4.59**	**329**	*eP*	**Pn**	**01 25 27.9**	**+0.9**
LAPC	**Finca la Perla**	**4.75**	**327**	*eP*	**Pn**	**01 25 30.7**	**+1.5**
GBS3	**Finca Las Img**	**4.77**	**327**	*eP*	**Pn**	**01 25 30.9**	**+1.5**
BUAI	**Buenos Aires**	**4.79**	**329**	*eP*	**Pn**	**01 25 30.9**	**+1.3**
DBBC	**Dabeiba**	**6.58**	**87**	*eP*	**Pn**	**01 25 56.9**	**+2.5**
DBBC				*eS*	**Sn**	**01 26 59.7**	**-8.7**
DBBC				*i*	**Sn**	**01 27 12.1**	**+3.8**
comp=Z,56nm,0.6s							
PLMC	**San Jos del P**	**6.77**	**105**	*eP*	**Pn**	**01 25 59.4**	**+2.4**
PLMC				*eS*	**Sn**	**01 27 08.8**	**-4.1**
PLMC				*i*		01 27 19.9	
comp=Z,5.8nm,0.3s							
CBOC	**Ciudad Bolivar**	**6.84**	**97**	*eP*	**Pn**	**01 25 59.9**	**+1.9**
CBOC				*eS*	Sn	01 26 58.9	-16
CBOC				*i*	**Sn**	**01 27 17.0**	**+2.3**
comp=Z,4.5nm,0.4s							

*NEIC **03** 01:38:46.4±1.5, 7°.30S±0°.08×128°.59E±0°.08, h171km±7km, mb4.4/29, Error ellipse: s-maj=11.6km s-min=11.0km az=206.0*
*DJA **03** 01:38:46.7±0.2, 7°.S±3°×12°.9E±°, h160km±5km, M4.5/15, mb4.5/15, mB5.2/7, MLv4.4/13, Mw(mB)4.6/7*
*IDC **03** 01:38:47.6±1.6, 7°.30S×128°.50E, h183km±16km, mb3.8/14, mb1 4.0/17, mb1mx3.8/31, mbtmp4.4/17, Error ellipse: s-maj=17.2km s-min=11.8km az=68.0*
ISC 03 01:38:48.3±0.4, 7°.38S±0°.05×128°.55E±0°.05, h200km, n109, σ2§13/111, mb4.3/36, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.80**	**103**	P	**Pn**	**01 39 32.4**	**-3.2**
SAUI	**Saumlaki**	**2.80**	**103**	Pn	**Pn**	**01 39 32.0**	**-3.6**
SAUI	**Saumlaki**	**2.80**	**103**	P	**Pn**	**01 39 34.1**	**-1.5**
MSAI	**Masohi**	**4.02**	**5**	P	**Pn**	**01 39 49.5**	**-1.0**
SOEI	**Soe**	**4.84**	**241**	P	**Pn**	**01 39 59.4**	**-1.5**
SOEI	**Soe**	**4.84**	**241**		**Pn**	**01 39 59.0**	**-1.9**
SOEI	**Soe**	**4.84**	**241**	P	**Pn**	**01 40 00.1**	**-0.8**
DRS	**Darwin Rock St**	**5.53**	**155**	P	**Pn**	**01 40 07.8**	**-1.8**
BATI	**Baumata**	**5.58**	**239**	P	**Pn**	**01 40 09.0**	**-1.3**
20nm,0.3s,baz=129,slow=1.6,SNR=17							
BATI				S	**Sn**	**01 41 08.6**	**-6.4**
18nm,0.3s,baz=134,slow=23,SNR=14							
BATI	**Baumata**	**5.58**	**239**	P	**Pn**	**01 40 08.9**	**-1.3**
0.4nm824nm59nm,0.6s							
FAKI	**Fak Fak**	**5.76**	**40**	P	**Pn**	**01 40 09.5**	**-3.1**
0.7nm1μm32nm,0.5s							
FAKI	**Fak Fak**	**5.76**	**40**	Pn	**Pn**	**01 40 08.9**	**-3.7**
SANI	**Sanana**	**5.87**	**334**	P	**Pn**	**01 40 12.2**	**-1.8**
0.1nm12nm,0.6s							
MTN	**Manton Dam**	**6.00**	**155**	Pn	**Pn**	**01 40 12.9**	**-2.7**
MTN	**Manton Dam**	**6.00**	**155**	P	**Pn**	**01 40 13.6**	**-2.0**
BBSI	**Bau Bau**	**6.23**	**287**	P	**Pn**	**01 40 18.2**	**-0.4**
0.0nm4.9nm,0.7s							
KDU	**Kakadu**	**6.54**	**144**	P	**Pn**	**01 40 20.6**	**-2.0**
EDFI	**Ende, Flores**	**6.92**	**258**	P	**Pn**	**01 40 26.5**	**-1.2**
0.0nm9.4nm,1.1s							
SIJI	**Sorong**	**7.01**	**23**	P	**Pn**	**01 40 26.3**	**-2.5**
13nm,0.3s,baz=296,slow=5.8,SNR=26							
SIJI				S	**Sn**	**01 41 42.4**	**-6.2**
6.0nm,0.3s,baz=255,slow=23,SNR=8.2							
SWI	**Sorong**	**7.01**	**23**	P	**Pn**	**01 40 25.6**	**-3.2**
0.4nm2μm113nm,0.6s							
KNRA	**Kununurra**	**8.25**	**179**		**Pn**	**01 40 42.2**	**-2.7**
KNRA	**Kununurra**	**8.25**	**179**	P	**Pn**	**01 40 42.2**	**-2.7**
FITZ	**Fitzroy Crossi**	**11.03**	**195**	P	**Pn**	**01 41 16.6**	**-4.3**
1.9nm,0.3s,baz=19,slow=9.8,SNR=63							
FITZ				S	Sn	01 43 10.5	-13
1.7nm,0.3s,baz=68,slow=15,SNR=2.5							
WB0	**Warramunga Arr**	**13.56**	**156**	Pn	**Pn**	**01 41 50.2**	**-2.7**
WRA	**Warramunga Arr**	**13.70**	**156**	P	**Pn**	**01 41 51.1**	**-3.5**
2.4nm,0.3s,baz=335,slow=14,SNR=72							
WRA				S	S	01 44 15.7	-12
9.4nm,0.3s,baz=325,slow=23,SNR=12							
WRA	**Warramunga Arr**	**13.70**	**156**	Pn	**Pn**	**01 41 52.3**	**-2.3**
WB2	**Warramunga Arr**	**13.70**	**156**		**Pn**	**01 41 51.8**	**-2.9**
WR0	**Warramunga Arr**	**13.79**	**156**		**Pn**	**01 41 52.4**	**-3.4**
BBKI	**Banjar Baru**	**14.18**	**285**	P	**P**	**01 42 02.1**	**-0.2**
6μm20nm,1.0s							
MTKI	**Muara Teweh, K**	**15.03**	**295**	P	**P**	**01 42 15.5**	**+3.8**
COEN	**Coen**	**15.79**	**116**		**Pn**	**01 42 19.9**	**-0.4**
COEN	**Coen**	**15.79**	**116**	P	**Pn**	**01 42 21.4**	**+1.2**
QIS	**Mount Isa**	**16.92**	**142**	P	**Pn**	**01 42 34.3**	**+0.5**
AS31	**Alice Springs**	**16.99**	**163**	P	**Pn**	**01 42 35.4**	**+0.8**
AS31				IAmb	IAmb	01 42 36.4	
comp=Z,29nm,1.1s							
ASAR	**Alice Springs**	**16.99**	**163**	P	**Pn**	**01 42 35.3**	**+0.7**
comp=Z,9.1nm,0.3s,baz=338,slow=9.9,SNR=803							
ASAR				S	**S**	**01 45 31.9**	**-8.4**
comp=Z,0.5nm,0.3s,baz=319,slow=14,SNR=4.0							
ASAR				ScP	**ScP**	**01 50 25.9**	**+1.6**
comp=Z,0.1nm,0.3s,baz=5.7,slow=1.9,SNR=3.6							
ASAR	**Alice Springs**	**16.99**	**163**	P	**Pn**	**01 42 35.0**	**+0.4**
ASAR					**S**	**01 45 35.8**	**-4.4**
PBKI	**Pangkalan Bun**	**17.43**	**285**	P	**Pn**	**01 42 40.0**	**+0.1**
comp=Z,4μmcomp=Z,96nm,0.5s							
WRKA	**Warakurna**	**17.56**	**181**	P	**Pn**	**01 42 41.1**	**-0.2**
PMG	**Port Moresby**	**18.52**	**98**	P	**Pn**	**01 42 54.8**	**+2.1**
comp=Z,1.3nm,0.3s,baz=278,slow=3.6,SNR=11							
PMG	**Port Moresby**	**18.52**	**98**		**Pn**	**01 42 49.9**	**-2.8**
MTSU	**Mount Surprise**	**18.71**	**126**	P	**Pn**	**01 42 54.3**	**-0.6**
KSM	**Kuching**	**20.21**	**295**	P	**P**	**01 43 07.3**	**-0.8**
CTA	**Charters Tower**	**21.31**	**128**	P	**P**	**01 43 21.8**	**+2.0**
comp=Z,10nm,0.6s,baz=295,slow=14,SNR=15							
CTAO	**Charters Tower**	**21.31**	**128**	P	**P**	**01 43 20.7**	**+0.9**
CTAO				IAmb	IAmb	01 43 22.7	
comp=Z,15nm,0.8s							
CTAO	**Charters Tower**	**21.31**	**128**	P	**P**	**01 43 22.0**	**+2.2**
OOD	**Oodnadatta**	**21.41**	**162**	P	**P**	**01 43 21.8**	**+1.2**
FORT	**Forrest**	**23.29**	**181**	P	**P**	**01 43 38.9**	**+0.7**
FORT	**Forrest**	**23.29**	**181**	P	**P**	**01 43 41.9**	**+3.6**
INKA	**Innaminka**	**23.32**	**152**	P	**P**	**01 43 41.1**	**+2.5**
MULG	**Mulgathing**	**23.37**	**168**	P	**P**	**01 43 42.1**	**+3.1**
LCRK	**Leigh Creek**	**24.68**	**160**	P	**P**	**01 43 53.5**	**+2.6**
BBOO	**Buckleboo**	**26.25**	**166**	P	**P**	**01 44 07.5**	**+2.4**
STKA	**Stephens Creek**	**27.24**	**155**	P	**P**	**01 44 15.3**	**+1.4**
comp=Z,4.5nm,0.8s,baz=334,slow=12,SNR=6.4							
STKA	**Stephens Creek**	**27.24**	**155**	IAmb	IAmb	01 44 16.6	
comp=Z,1.2nm,0.9s							
CMSA	**Cobar Meteorol**	**28.88**	**149**	P	**P**	**01 44 31.1**	**+2.6**
RPSI	**Rantau Prapat**	**31.20**	**288**	P	**P**	**01 44 49.1**	**-0.1**
RPSI				IAmb	IAmb	01 44 52.5	
comp=Z,4.6nm,0.7s							
PSI	**Prapat**	**31.24**	**288**	P	**P**	**01 44 48.8**	**-0.8**
comp=Z,3.9nm,0.7s,baz=233,slow=8.0,SNR=6.1							
ARPS	**Mount Arapiles**	**31.67**	**159**	P	**P**	**01 44 55.9**	**+3.0**
comp=Z,15nm,0.8s							
UBPT	**Khong Chiam**	**32.09**	**315**	P	**P**	**01 44 57.0**	**+0.2**
CAN	**Canberra**	**33.55**	**149**	P	**P**	**01 45 11.5**	**+2.1**
SLVN	**Son La**	**37.41**	**320**	P	**P**	**01 45 42.5**	**+0.1**
CM31	**Chiang Mai Arr**	**38.88**	**312**	P	**P**	**01 45 53.9**	**-0.8**
CM31				IAmb	IAmb	01 45 57.0	
comp=Z,5.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**38.88**	**312**	P	**P**	**01 45 55.3**	**+0.6**
comp=Z,2.9nm,0.8s,baz=146,slow=7.2,SNR=21							
CMAR	**Chiang Mai Arr**	**38.88**	**312**	P	**P**	**01 45 55.0**	**+0.3**
CHTO	**Chiang Mai**	**39.11**	**312**	P	**P**	**01 45 56.3**	**-0.3**
CHTO				IAmb	IAmb	01 45 58.1	
comp=Z,12nm,1.1s							
PZH	**PanZhiHua**	**42.55**	**323**	P	**P**	**01 46 25.1**	**+0.4**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,140nm,5.3s							
KSAR	**Wonju Array Be**	**44.59**	**359**	P	**P**	**01 46 40.3**	**-0.3**
KSRS	**Korea Array**	**44.60**	**359**	P	**P**	**01 46 41.5**	**+0.8**
comp=Z,1.1nm,0.6s,baz=177,slow=9.3,SNR=6.2							
MJAR	**Matsushiro Arr**	**44.62**	**11**	P	**P**	**01 46 40.0**	**-0.9**
comp=Z,2.4nm,0.6s,baz=198,slow=9.4,SNR=4.3							
MAT	**Matsushiro**	**44.62**	**11**	P	**P**	**01 46 39.7**	**-1.2**
CD2	**Chengdu**	**44.87**	**329**	P	**P**	**01 46 44.7**	**+1.7**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
XAN	**Xi'an**	**45.20**	**337**	P	**P**	**01 46 45.6**	**+0.1**
XAN				pmax	pmax		
comp=Z,16nm,1.0s							
XAN				pmax	pmax		
comp=Z,77nm,4.1s							
HNS	**HongShan**	**46.38**	**345**	⇓P	**P**	**01 46 54.8**	**+0.1**
HNS				pmax	pmax		
comp=Z,18nm,1.0s							
SHL	**Shillong**	**48.41**	**314**	P	**P**	**01 47 10.3**	**-0.4**
SHL				IAmb	IAmb	01 47 11.7	
comp=Z,6.5nm,0.8s							
BJT	**Baijiatuau**	**48.53**	**347**	P	**P**	**01 47 11.5**	**+0.3**
BJT				IAmb	IAmb	01 47 12.1	
comp=Z,7.0nm,0.7s							
LZH	**Lanzhou**	**49.08**	**333**	⇑P	**P**	**01 47 16.5**	**+0.9**
LZH				pmax	pmax		
comp=Z,20nm,1.2s							
HHC	**Hu-ho-hao-te**	**50.47**	**343**	*eP*	P	01 47 30.9	+4.9
HHC				pmax	pmax		
comp=Z,11nm,0.9s							
HHC				pmax	pmax		
comp=Z,100nm,6.3s							
QRZ	**Quartz Range**	**51.34**	**138**	P	**P**	**01 47 32.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**51.43**	**3**	P	**P**	**01 47 33.3**	**+0.4**
comp=Z,1.7nm,0.6s,baz=192,slow=4.9,SNR=3.6							
USRK	**Ussuriysk Ar.**	**51.43**	**3**	P	**P**	**01 47 32.5**	**-0.4**
LSA	**Lhasa**	**51.49**	**318**	P	**P**	**01 47 34.3**	**+0.1**
LSA				IAmb	IAmb	01 47 40.8	
comp=Z,3.9nm,0.5s							
XLT	**XiLinHaoTe**	**52.27**	**349**	*eP*	**P**	**01 47 40.0**	**+0.7**
XLT				pmax	pmax		
comp=Z,20nm,0.8s							
XLT				pmax	pmax		
comp=Z,250nm,5.1s							
GTA	**Gaotai**	**53.62**	**332**	⇑P	**P**	**01 47 49.9**	**+0.6**
GTA				pmax	pmax		
comp=Z,15nm,0.9s							
ULN	**Ulaanbaatar**	**58.19**	**343**	P	**P**	**01 48 22.7**	**+1.2**
SONM	**Songino Array**	**58.35**	**343**	P	**P**	**01 48 24.2**	**+1.5**
comp=Z,7.5nm,0.9s,baz=160,slow=8.0,SNR=34							
SONM	**Songino Array**	**58.35**	**343**	P	**P**	**01 48 23.9**	**+1.2**
SONM				IAmb	IAmb	01 48 25.5	
comp=Z,8.1nm,0.9s							
WMQ	**Urumqi**	**62.93**	**328**	*eP*	**P**	**01 48 54.8**	**+1.2**
WMQ				pmax	pmax		
comp=Z,20nm,0.9s							
PETK	**Petropavlovsk-**	**65.14**	**19**	P	**P**	**01 49 08.9**	**+1.3**
comp=Z,5.6nm,0.8s,baz=200,slow=13,SNR=10							
KSH	**Kashi**	**67.33**	**318**	P	**P**	**01 49 23.6**	**+1.6**
KSH				pmax	pmax		
comp=Z,4.0nm,0.8s							
MK31	**Makanchi Array**	**67.76**	**328**	P	**P**	**01 49 25.3**	**+0.9**
MK31				IAmb	IAmb	01 49 26.4	
comp=Z,5.6nm,1.0s							
MKAR	**Makanchi Array**	**67.76**	**328**	P	**P**	**01 49 25.4**	**+0.9**
comp=Z,4.4nm,0.8s,baz=128,slow=8.0,SNR=39							
MAKZ	**Makanchi**	**67.94**	**327**	P	**P**	**01 49 25.7**	**+0.2**
MAKZ				IAmb	IAmb	01 49 27.4	
comp=Z,5.9nm,1.1s							
BOOM	**Boomskoye usch**	**68.92**	**321**	P	**P**	**01 49 33.2**	**+1.3**
AAK	**Ala-Archa**	**69.91**	**320**	P	**P**	**01 49 39.0**	**+1.0**
AAK				IAmb	IAmb	01 49 40.5	
comp=Z,5.1nm,1.1s							
ZAA0	**Zalesovo Array**	**71.29**	**334**	IAmb	IAmb	01 49 46.9	
comp=Z,4.2nm,0.9s							
ZALV	**Zalesovo Beam**	**71.29**	**334**	P	**P**	**01 49 45.9**	**0.0**
comp=Z,3.0nm,0.6s,baz=116,slow=5.2,SNR=17							
KURK	**Kurchatov**	**72.09**	**329**	P	**P**	**01 49 51.1**	**+0.4**
KURK				IAmb	IAmb	01 49 52.6	
comp=Z,9.6nm,0.9s							
KKAR	**Karatay Array**	**72.68**	**319**	P	**P**	**01 49 54.8**	**+0.5**
BRVK	**Borovoye**	**77.69**	**328**	P	**P**	**01 50 23.8**	**+1.0**
TIXI	**Tiksi**	**78.86**	**0**	P	**P**	**01 50 29.4**	**+0.6**
NRIK	**Noril'sk**	**81.58**	**346**	P	**P**	**01 50 43.8**	**+0.5**
comp=Z,4.7nm,0.9s,baz=146,slow=6.5,SNR=8.9							
NRIK	**Noril'sk**	**81.58**	**346**	P	**P**	**01 50 43.6**	**+0.3**
NRIK				IAmb	IAmb	01 50 45.2	
comp=Z,7.3nm,1.1s							
ABKAR	**Akbulak array**	**81.91**	**322**	P	**P**	**01 50 45.9**	**+0.5**
QSPA	**South Pole Qui**	**82.60**	**180**	P	**P**	**01 50 50.6**	**+1.7**
comp=Z,0.7nm,0.8s,baz=267,slow=1.8,SNR=1.5							
ILAR	**Eielson Array**	**94.30**	**25**	P	**P**	**01 51 43.8**	**-0.8**
comp=Z,0.5nm,0.8s,baz=224,slow=5.0,SNR=2.8							
YKA	**Yellowknife Ar**	**108.72**	**26**	PKiKP	**PKiKP**	**01 56 53.9**	**+0.7**
comp=Z,0.3nm,0.7s,baz=290,slow=1.6,SNR=5.9							
PDAR	**Pinedale Array**	**118.18**	**45**	PKP	**PKiKP**	**01 57 13.9**	**+1.7**
comp=Z,0.3nm,0.6s,baz=233,slow=1.5,SNR=3.9							
PDAR	**Pinedale Array**	**118.18**	**45**		**PKiKP**	**01 57 12.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**127.46**	**281**	PKP	**PKiKP**	**01 57 31.4**	**+0.4**
comp=Z,0.6nm,0.7s,baz=55,slow=1.3,SNR=3.8							

TAP 03 01:51:19.2, 23°.74N×121°.39E, h17km±1km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.08**	**152**	*i* P	Pg	01 51 23.2	+0.7
baz=152							
EGFH				*i* S	Sg	01 51 25.5	+0.7
baz=152							
ESL	**Shilin**	**0.09**	**29**	*i* P	Pg	01 51 23.2	+0.6
baz=33							
ESL				*i* S	Sg	01 51 25.7	+0.7
baz=33							
VWDT	**VWDT**	**0.23**	**274**	P	Pb	01 51 25.9	+1.0
baz=273							
VWDT				S	Sb	01 51 29.8	+1.1
baz=273							
EHY	**Hungye**	**0.24**	**195**	*i* P	Pb	01 51 25.3	+0.2
baz=192							
EHY				S	Sb	01 51 28.9	-0.2
baz=192							
ETM	**Tongmen**	**0.25**	**23**	P	Pb	01 51 25.5	+0.2
baz=22							
ETM				*e*S	Sb	01 51 29.0	-0.3
HGSD	**Ruisui**	**0.25**	**172**	P	Pb	01 51 25.6	+0.4
baz=172							
HGSD				S	Sb	01 51 30.7	+1.4
baz=172							
OWD	**Renai**	**0.29**	**318**	P	Pb	01 51 26.4	+0.4
baz=317							
OWD				S	Sb	01 51 31.1	+0.4
baz=317							
WUSB	**Renai**	**0.35**	**316**	P	Pb	01 51 27.6	+0.4
baz=315							
WUSB				S	Sb	01 51 32.4	-0.1
baz=315							
YULB	**Yu-li**	**0.35**	**194**	P	Pb	01 51 27.1	+0.1
baz=193							
YULB				S	Sb	01 51 32.6	+0.2
baz=193							
CHGB	**Renai**	**0.38**	**329**	P	Pb	01 51 28.1	+0.5
baz=328							
CHGB				*e*S	Sg	01 51 32.8	+0.3
baz=328							
TWF1	**Yuli**	**0.39**	**192**	P	Pb	01 51 27.9	+0.2
baz=191							
TWF1				S	Sb	01 51 34.0	+0.5
baz=191							
SSLB	**Suanglung**	**0.40**	**277**	P	Pb	01 51 28.6	+0.7
baz=277							
SSLB				S	Sb	01 51 33.8	+0.1
baz=277							
WHF	**Hehuan Shan**	**0.42**	**345**	*i* P	Pb	01 51 28.5	0.0
baz=345							
WHF				S	Sb	01 51 35.4	+0.6
baz=345							
ETLH	**Xiulin Townshi**	**0.47**	**10**	P	Pb	01 51 29.3	+0.1
baz=10.0							
FUSS	**Fushou**	**0.52**	**345**	*i* P	Pb	01 51 30.4	+0.2
baz=345							
FUSS				*i* S	Sb	01 51 37.6	+0.1
baz=345							
WCS	**Beigang Elemen**	**0.54**	**306**	P	Pb	01 51 30.8	+0.5
baz=306							
WCS				*e*S	Sb	01 51 38.8	+1.0
baz=306							

*IDC **03** 02:00:50.6±0.5, 6°.47S×130°.15E, h0km, mb3.9/1, mb1 4.1/3, mb1mx3.6/33, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=39.1km s-min=2.7km az=69.0*
*NEIC **03** 02:01:06.6±2.2, 7°.17S±0°.08×129°.47E±0°.09, h146km±13km, mb4.4/4, Error ellipse: s-maj=13.5km s-min=11.3km az=105.0*
ISC 03 02:01:07.0±0.8, 7°.16S±0°.07×129°.54E±0°.08, h150km, n27, σ1§43/29, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.93**	**115**	Pn	**Pn**	**02 01 41.7**	**+0.3**
SAUI					**Sn**	**02 02 07.5**	**-0.1**
FAKI	**Fak Fak**	**5.00**	**33**	Pn	**Pn**	**02 02 21.1**	**+0.5**
FAKI					**Sn**	**02 03 16.6**	**-1.3**
DRS	**Darwin Rock St**	**5.41**	**166**	P	**Pn**	**02 02 26.5**	**+0.6**
SOEI	**Soe**	**5.82**	**243**	Pn	**Pn**	**02 02 29.9**	**-1.5**
SOEI	**Soe**	**5.82**	**243**	P	**Pn**	**02 02 32.3**	**+0.8**
MTN	**Manton Dam**	**5.86**	**165**		**Pn**	**02 02 31.6**	**-0.4**
MTN	**Manton Dam**	**5.86**	**165**	P	**Pn**	**02 02 32.2**	**+0.3**
KDU	**Kakadu**	**6.21**	**152**	P	**Pn**	**02 02 36.3**	**-0.2**
KNRA	**Kununurra**	**8.50**	**185**	Pn	**Pn**	**02 03 05.2**	**-2.0**
KNRA	**Kununurra**	**8.50**	**185**	P	**Pn**	**02 03 05.5**	**-1.6**
WB0	**Warramunga Arr**	**13.39**	**160**		**Pn**	**02 04 07.9**	**-3.4**
WRA	**Warramunga Arr**	**13.53**	**160**	Pn	**Pn**	**02 04 10.3**	**-2.8**
0.9nm,0.3s,baz=340,slow=13,SNR=33							
WRA				Sn	Sn	02 06 31.7	-11
1.0nm,0.3s,baz=334,slow=23,SNR=6.4							
WB2	**Warramunga Arr**	**13.54**	**160**	Pn	**Pn**	**02 04 09.8**	**-3.3**
COEN	**Coen**	**15.01**	**118**		**Pn**	**02 04 32.3**	**+0.6**
QIS	**Mount Isa**	**16.51**	**145**	P	**Pn**	**02 04 51.2**	**+1.1**
AS31	**Alice Springs**	**16.94**	**166**	P	**P**	**02 04 54.3**	**-0.5**
ASAR	**Alice Springs**	**16.94**	**166**	P	**Pn**	**02 04 56.0**	**+0.7**
0.5nm,0.3s,baz=341,slow=9.2,SNR=44							
ASAR	**Alice Springs**	**16.94**	**166**	P	**Pn**	**02 04 54.8**	**-0.5**
PSA00	**Pilbara Seismi**	**17.12**	**212**	P	**Pn**	**02 04 56.4**	**-1.0**
PSA00				IAmb	IAmb	02 05 48.5	
comp=Z,28nm,1.4s							
PSA00	**Pilbara Seismi**	**17.12**	**212**	P	**Pn**	**02 04 57.2**	**-0.2**
WRKA	**Warakurna**	**17.82**	**184**	P	**Pn**	**02 05 05.3**	**-0.5**
GIRL	**Giralia**	**21.31**	**222**	P	**P**	**02 05 43.9**	**+1.8**
OOD	**Oodnadatta**	**21.33**	**165**	P	**P**	**02 05 43.1**	**+0.8**
MULG	**Mulgathing**	**23.39**	**170**	P	**P**	**02 06 03.5**	**+1.1**
LCRK	**Leigh Creek**	**24.55**	**162**	P	**P**	**02 06 14.0**	**+1.0**
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**02 11 50.9**	**+0.2**
comp=Z,0.6nm,0.4s,baz=117,slow=7.3,SNR=15							
BTK	**Batken**	**71.58**	**316**	P	**P**	**02 12 11.2**	**-1.0**
BTK				IAmb	IAmb	02 12 19.4	
comp=Z,7.2nm,1.2s							

*NAO **03** 02:01:40.5±1.0, 71°.38N×3°.93W, ML4.6*
*MOS **03** 02:01:41.3±1.3, 71°.51N×3°.62W, h10km, mb4.8/64, MS4.1/8, Error ellipse: s-maj=13.7km s-min=3.5km az=98.0*
*IDC **03** 02:01:42.7±0.5, 71°.43N×3°.46W, h0km, mb4.1/22, mb1 4.3/28, mb1mx4.2/44, mbtmp4.2/28, ML3.9/6, MS3.9/75, Ms1 3.9/75, ms1mx3.8/94, Error ellipse: s-maj=15.8km s-min=9.8km az=44.0*
*NEIC **03** 02:01:44.0±2.0, 71°.40N±0°.07×3°.8W±0°.2, h10km±1km, mb4.6/47, Error ellipse: s-maj=11.6km s-min=9.7km az=173.0*
*GCMT **03** 02:01:43.0±0.3, 71°.47N±0°.03×3°.60W±0°.07, h12km, MW4.8/86, Moment Tensor Solution. s15,c17; s86,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.49±.08; $M_{\theta\theta}

N2IH Innhavet 7.63 107 *eP* **Pn 02 03 33.9 -0.5**
NBB05 Inndyr 7.66 116 *eP* **Pn 02 03 33.4 -1.4**
NBB28 Valnes 7.68 115 *eP* **Pn 02 03 33.6 -1.5**
TRO Tromso 7.75 93 *eP* **Pn 02 03 33.4 -2.5**
TRO IAML 02 06 04.5
comp=Z,8.5nm,1.1s
NBB40 Tonnes 7.75 121 *eP* **Pn 02 03 34.6 -1.4**
NBB40 IAML 02 06 30.7
comp=Z,10.0nm,0.8s
KONS Konsvik 7.79 121 *eP* **Pn 02 03 35.4 -1.1**
KONS *eS* **Sn 02 04 56.0 -8.6**
KONS IAML 02 05 00.0
comp=Z,13nm,0.7s
NBB17 Glomfjord BYr 7.79 118 *eP* **Pn 02 03 35.9 -0.7**
NBB17 IAML 02 06 17.9
comp=Z,34nm,0.1s
FAUS Fauske 7.80 112 *eP* **Pn 02 03 35.6 -1.1**
FAUS IAML 02 06 22.0
comp=Z,5.3nm,0.7s
STOK Stokkvaagen 7.88 122 *eP* **Pn 02 03 37.2 -0.6**
BRBA Barentsburg A 8.11 27 Pn **Pn 02 03 40.5 -0.5**
BRBA Barentsburg A 8.11 27 *eP* **Pn 02 03 40.5 -0.5**
BRBB Barentsburg B 8.13 27 Pn **Pn 02 03 40.6 -0.6**
BRBB Barentsburg B 8.13 27 *eP* **Pn 02 03 40.6 -0.6**
JETT Jettan, Norway 8.25 92 Pn **Pn 02 03 41.4 -1.5**
JETT Sn **Sn 02 05 09.2 -6.8**
MOR8 Moi Rana 8.39 120 *eP* **Pn 02 03 44.0 -0.8**
MOR8 *eS* **Sn 02 05 13.6 -5.9**
MOR8 IAML 02 05 15.9
comp=Z,11nm,0.4s
KBS Kingsbay 8.48 21 P **Pn 02 03 46.0 0.0**
KBS Kingsbay 8.48 21 Pn **Pn 02 03 46.5 +0.5**
KBS Kingsbay 8.48 21 *eP* **Pn 02 03 45.2 -0.8**
KBS Kingsbay 8.48 21 Pn **Pn 02 03 46.0 0.0**
SPA0 Spitsbergen Ar 8.52 29 Pn **Pn 02 03 46.5 0.0**
baz=221,slow=14
SPA0 Spitsbergen Ar 8.52 29 Pn **Pn 02 03 46.5 0.0**
baz=221,slow=14
SPB2 Spitsbergen Ar 8.52 29 Pn **Pn 02 03 46.8 +0.3**
SPITS Spitsbergen Ar 8.52 29 Pn **Pn 02 03 44.9 -1.6**
baz=214,slow=16,SNR=103
SPITS Spitsbergen Ar 8.52 29 P **Pn 02 03 47.0 +0.5**
KIF Kilpisjarvi 8.62 94 Pn **Pn 02 03 46.4 -1.4**
KIF Kilpisjarvi 8.62 94 *eP* **Pn 02 03 47.0 -0.9**
SALU Saltoluokta 8.77 107 *eP* **Pn 02 03 49.3 -0.8**
HAMF Hammerfest 8.91 82 Pn **Pn 02 03 49.3 -2.5**
HAMF Hammerfest 8.91 82 *eP* **Pn 02 03 49.3 -2.5**
NSS Namsos 9.05 132 *eP* **Pn 02 03 53.0 -0.8**
NSS *eS* **Sn 02 05 26.8 -8.8**
NSS IAML 02 05 33.0
comp=Z,14nm,0.4s
BORG Borgarnes 9.36 233 LR LR 02 06 40.7
comp=Z,379nm,21.6s,baz=25,slow=32
KTK1 Kautokeino 9.39 92 *eP* **Pn 02 03 58.1 -0.4**
KTK1 IAML 02 05 40.5
comp=Z,3.7nm,0.6s
TBLU Trondheim 9.78 140 *eP* **Pn 02 04 02.3 -1.5**
TBLU *eS* Sn 02 05 41.3 -12
HEF Hetta 9.82 95 *eP* **Pn 02 04 03.2 -1.2**
ARA0 ARCESS Array S 9.89 87 Pn **Pn 02 04 04.1 -1.3**
baz=289,slow=12
ARA0 ARCESS Array S 9.89 87 Pn **Pn 02 04 04.1 -1.3**
baz=289,slow=12
ARA0 *eP* **Pn 02 04 04.3 -1.0**
ARCES ARCESS Array B 9.89 87 Pn **Pn 02 04 04.2 -1.2**
baz=296,slow=11,SNR=67
ARCES LR LR 02 07 16.3
comp=Z,568nm,21.4s,baz=304,slow=34
ARCES ARCESS Array B 9.89 87 P **Pn 02 04 04.4 -1.0**
ARCES ARCESS Array B 9.89 87 **Pn 02 04 04.4 -1.0**
MOL Molde 9.89 148 *eP* **Pn 02 04 04.5 -0.9**
AKN Aaknes 10.17 150 Pn **Pn 02 04 09.2 0.0**
AKN Sn **Sn 02 05 57.9 -5.3**
AKN Aaknes 10.17 150 *eP* **Pn 02 04 08.8 -0.4**
KEV Kevo 10.28 85 P **Pn 02 04 09.9 -0.7**
KEV Kevo 10.28 85 *eP* **Pn 02 04 09.2 -1.4**
KEV Kevo 10.28 85 **Pn 02 04 09.9 -0.7**
FOO Floro 10.45 156 *eP* **Pn 02 04 11.9 -1.0**
FOO *eS* Sn 02 06 00.4 -9.4
NOR Nord 10.62 350 Pn **Pn 02 04 13.7 -1.5**
NOR Sn **Sn 02 06 05.5 -8.4**
NOR Nord 10.62 350 *i* P **Pn 02 04 12.6 -2.6**
NOR IAML 02 04 17.2
comp=Z,4.1nm,0.8s
NOR Nord 10.62 350 *eP* **Pn 02 04 11.2 -4.0**
NOR Pn Pn 02 04 13.7 -1.5
NOR Sn **Sn 02 06 05.5 -8.4**
DOMB Dombas 10.65 146 *eP* **Pn 02 04 14.8 -1.0**
NOD Norderasen 10.66 129 *eP* **Pn 02 04 16.3 +0.4**
SUMG Summit 10.72 292 P **Pn 02 04 16.5 -0.5**
SUMG Summit 10.72 292 *i* P **Pn 02 04 16.4 -0.5**
SUMG IAML 02 04 27.0
comp=Z,11nm,0.7s
SUMG Summit 10.72 292 Pn **Pn 02 04 16.5 -0.5**
SUE Sulen 10.94 158 *eP* **Pn 02 04 19.9 +0.3**
HYA Hoyanger 11.02 154 *eP* **Pn 02 04 21.1 +0.4**
HYA *eS* Sn 02 06 14.7 -9.2
ASK Askoy 11.55 158 *eP* **Pn 02 04 27.5 -0.5**
BER Bergen 11.66 157 P **Pn 02 04 30.8 +1.3**
BER pmax pmax
comp=Z,119nm,1.0s
BER Bergen 11.66 157 *eP* **Pn 02 04 27.9 -1.6**
NC204 NORSAR Array S 11.68 143 *eP* **Pn 02 04 29.2 -0.6**
NC204 NORSAR Array S 11.68 143 Pn **Pn 02 04 29.9 +0.1**
SKAR Skarslia 11.80 150 *eP* **Pn 02 04 30.1 -1.4**
NC303 NORSAR Array S 11.84 142 **Pn 02 04 32.3 +0.3**
NBO00 NORSAR Array S 11.90 144 **Pn 02 04 31.8 -1.1**
NB2 NORSAR Subarra 11.98 143 Pn **Pn 02 04 33.8 -0.2**
baz=327,slow=14
NB2 NORSAR Subarra 11.98 143 Pn **Pn 02 04 33.8 -0.2**
baz=327,slow=14
NOA NORSAR Array B 11.98 143 Pn **Pn 02 04 33.0 -1.0**
comp=Z,0.1nm,0.3s,baz=335,slow=13,SNR=10
NOA Sn **Sn 02 06 44.0 -3.5**
comp=Z,0.0nm,0.3s,baz=325,slow=23,SNR=2.8
NOA LR LR 02 09 00.5
comp=Z,1μm,21.0s,baz=335,slow=37
NOA NORSAR Array B 11.98 143 P **Pn 02 04 33.0 -1.0**
NB201 NORSAR Array S 11.99 143 **Pn 02 04 34.9 +0.8**
NC405 NORSAR Array S 12.01 142 **Pn 02 04 33.8 -0.5**
NAO01 NORSAR Array S 12.10 144 Pn **Pn 02 04 34.9 -0.6**
ICESG Greenland Ices 12.25 276 *i* P **Pn 02 04 39.8 +1.9**
ICESG IAML 02 04 43.6
comp=Z,8.5nm,0.7s
NC602 NORSAR Array S 12.32 143 **Pn 02 04 40.9 +2.3**
NRA0 NORESS Array S 12.32 143 Pn **Pn 02 04 38.1 -0.5**
baz=332,slow=14
NRA0 NORESS Array S 12.32 143 Pn **Pn 02 04 38.1 -0.5**
baz=332,slow=14
OUL Oulu 12.54 106 P **Pn 02 04 40.0 -1.6**
OUL pmax pmax
comp=Z,45nm,1.2s
BLS5 Blasjo 12.74 156 *eP* **Pn 02 04 43.8 -0.5**
OSL Oslo 12.91 146 *eP* **Pn 02 04 46.4 -0.2**
KONO Kongsberg 12.99 149⇑ *i* P **Pn 02 04 48.7 +1.0**
KONO pmax pmax
comp=Z,64nm,1.0s
KONO Kongsberg 12.99 149 *eP* **Pn 02 04 47.3 -0.3**
KONO Kongsberg 12.99 149 Pn **Pn 02 04 47.5 -0.2**
APA0 Apatity Array 13.23 89 Pn **Pn 02 04 50.2 -0.7**
APA0 Apatity Array 13.23 89 Pn **Pn 02 04 50.2 -0.7**
HFS Hagfors 13.31 139 Pn **Pn 02 04 52.1 +0.1**
comp=Z,2.1nm,0.3s,baz=336,slow=11,SNR=44
HFS Sn **Sn 02 07 13.8 -6.0**
comp=Z,0.4nm,0.3s,baz=342,slow=26,SNR=2.2
HFS LR LR 02 09 41.4
comp=Z,1μm,21.6s,baz=332,slow=36
HFS Hagfors 13.31 139 Pn **Pn 02 04 51.5 -0.5**
baz=330,slow=12
HFS Hagfors 13.31 139 Pn **Pn 02 04 51.5 -0.5**
baz=330,slow=12
APA Apatity 13.39 89⇓ *i P* **Pn 02 04 52.5 -0.5**
APA *i* 02 07 25.0
APA pmax pmax
comp=Z,9.0nm,0.9s
LVZ Lovozero 13.61 86⇓ *eP* **Pn 02 04 55.3 -0.8**
LVZ Lovozero 13.61 86 **Pn 02 04 54.1 -2.0**
NEEM North Greenlan 13.64 317 *i* P **Pn 02 04 54.2 -2.5**
NEEM IAML 02 04 57.9
comp=Z,8.4nm,0.6s
STRU Stroemstad 13.84 146 *eP* **Pn 02 04 59.5 +0.2**
SNART Snartemo 13.89 155 *eP* **Pn 02 04 59.6 -0.3**
AAL Aland 14.73 128 *eP* **Pn 02 05 10.2 -1.2**

FIA0 FINESS Array S 15.33 116 P **Pn 02 05 18.2 -1.2**
baz=335,slow=14
FIA0 FINESS Array S 15.33 116 P **Pn 02 05 18.2 -1.2**
baz=335,slow=14
FIA1 FINESS Array S 15.33 116 Pn **Pn 02 05 18.4 -1.0**
FIA1 IAmb IAmb 02 05 19.6
comp=Z,45nm,1.0s
FINES FINESS Array B 15.33 116 Pn **Pn 02 05 17.9 -1.6**
comp=Z,0.9nm,0.3s,baz=332,slow=7.6,SNR=31
FINES LR LR 02 10 37.9
comp=Z,855nm,19.5s,baz=330,slow=35
FINES FINESS Array B 15.33 116 P **Pn 02 05 18.4 -1.0**
FINES FINESS Array B 15.33 116 Pn **Pn 02 05 18.4 -1.0**
EKA Eskdalemuir Ar 16.16 179 Pn **Pn 02 05 30.2 +0.1**
baz=8.6,slow=11,SNR=14
EKA Sn **Sn 02 08 24.4 -4.8**
baz=2.3,slow=23,SNR=2.9
EKA LR LR 02 10 27.6
comp=Z,578nm,19.9s,baz=5.0,slow=32
ESK Eskdalemuir 16.17 179 P **Pn 02 05 30.3 -0.1**
ESK pmax pmax
comp=Z,50nm,1.0s
ESK Eskdalemuir 16.17 179 Pn **Pn 02 05 30.3 -0.1**
ESK IAmb IAmb 02 05 37.2
comp=Z,50nm,0.9s
VALR Valaam 16.82 109⇑ *eP* **P 02 05 40.4 -0.3**
VALR pmax pmax
comp=Z,147nm,1.0s
SFJD Kangerlussuaq 16.86 278 LR LR 02 11 23.7
comp=Z,543nm,19.5s,baz=40,slow=34
MTSE Matsula 16.98 124 *eP* **P 02 05 42.9 +0.4**
SLIT Slitere, Latvi 17.54 129 *eP* **Pn 02 05 46.4 -1.2**
TULEG Thule 17.74 316 *i* P **Pn 02 05 44.5 -5.4**
TULEG IAML 02 05 53.6
comp=Z,6.6nm,0.9s
TULEG Thule 17.74 316 Pn **Pn 02 05 46.5 -3.4**
PUL Pulkovo 17.92 113⇑ *eP* **P 02 05 54.0 +1.1**
PUL pmax pmax
comp=Z,35nm,0.9s
VSU Vasula 17.99 120 *deP* **Pn 02 05 52.2 -0.9**
VSU pmax pmax
comp=Z,161nm,0.9s
VSU Vasula 17.99 120 *eP* **Pn 02 05 52.7 -0.4**
BSEG Bad Segeberg 18.60 153 P **Pn 02 06 02.7 +2.2**
BSEG pmax pmax
comp=Z,43nm,1.0s
BSEG Bad Segeberg 18.60 153 *eP* **Pn 02 06 02.9 +2.3**
comp=Z,21nm,0.9s,baz=348,slow=10
NRS Narsarsuaq 19.19 259 P **Pn 02 06 08.2 +0.5**
NRS pmax pmax
comp=Z,55nm,0.8s
NRS Narsarsuaq 19.19 259 P **Pn 02 06 08.2 +0.5**
IBBN Ibbenburen 19.86 159 *eP* **Pn 02 06 15.6 -0.1**
comp=Z,16nm,0.9s,baz=348,slow=10
PABE Paberze 19.86 129 *eP* **P 02 06 14.2 0.0**
PABE IAmb IAmb 02 06 30.6
comp=Z,68nm,0.9s
PABE Paberze 19.86 129 P **P 02 06 14.7 +0.6**
NRDL Niedersach Rie 19.97 155 *eP* **Pn 02 06 17.8 +0.8**
comp=Z,20nm,0.8s,baz=348,slow=10
FLTG Flechtingen 20.29 153 *eP* Pn 02 06 20.6 -0.2
comp=Z,17nm,0.9s,baz=348,slow=10
ISAL Salakas 20.35 126 *eP* **P 02 06 20.1 +0.7**
ISAL IAmb IAmb 02 06 25.7
comp=Z,17nm,0.8s
ASSE Asse, Remlinge 20.41 154 *eP* Pn 02 06 21.9 -0.2
comp=Z,19nm,1.0s,baz=348,slow=10
GKP Gorka Klasztor 20.42 142 *eP* Pn 02 06 22.4 0.0
GKP Gorka Klasztor 20.42 142 P Pn 02 06 22.3 0.0
GKP pmax pmax
comp=Z,128nm,0.8s
RUE Ruedersdorf 20.55 148 *eP* Pn 02 06 23.7 -0.1
RUE Ruedersdorf 20.55 148 *eP* Pn 02 06 23.9 +0.1
comp=Z,49nm,1.0s,baz=348,slow=10
IIGN Ignalina 20.57 126 *eP* **P 02 06 22.3 +0.4**
IIGN IAmb IAmb 02 06 27.9
comp=Z,21nm,1.1s
CLZ Clausthal 20.64 155 *eP* Pn 02 06 25.0 -0.1
comp=Z,24nm,0.9s,baz=348,slow=10
BUG Bochum--Univer 20.66 160 *eP* Pn 02 06 25.3 +0.2
comp=Z,7.3nm,0.8s,baz=348,slow=10
GTTG Gottingen 20.88 156 *eP* Pn 02 06 29.6 +1.9
comp=Z,18nm,0.9s,baz=348,slow=10
UCC Uccle 21.02 166 P **P 02 06 26.6 -0.1**
UCC pmax pmax
comp=Z,6.0nm,0.7s
UCC Uccle 21.02 166 P **P 02 06 26.6 -0.1**
SUW Suwalki 21.03 132 *eP* **P 02 06 27.3 +0.5**
SUW *ePcP* **PcP 02 10 33.2 +0.2**
SUW Suwalki 21.03 132 P **P 02 06 27.8 +1.0**
SUW pmax pmax
comp=Z,207nm,0.9s
SUW Suwalki 21.03 132 *eP* **P 02 06 29.3 +2.5**
NACGM Naroch 21.12 126 *i* P **P 02 06 28.3 +0.5**
BEBN Eben Emael 21.14 163 P **P 02 06 29.7 +1.7**
PRGR Permogore 21.25 92 *eP* **P 02 06 27.3 -1.8**
PRGR pmax pmax
comp=Z,91nm,1.5s
SNF Seneffe 21.30 166 P **P 02 06 31.9 +2.1**
BSTI Sart Tilman 21.34 164 P **P 02 06 32.1 +1.9**
MEM Membach 21.35 163 P **P 02 06 32.0 +1.7**
BTNL Ternell 21.39 163 P **P 02 06 32.1 +1.4**
NEUB Neuenburg 21.46 153 *eP* **P 02 06 33.7 +2.3**
comp=Z,60nm,0.8s,baz=348,slow=10
BCLA Clavier 21.48 164 P **P 02 06 33.1 +1.5**
BGES Gesves 21.49 165 P **P 02 06 36.4 +4.6**
AHRW Bad Neuenahr-A 21.53 161 *eP* **P 02 06 34.7 +2.5**
comp=Z,40nm,1.1s,baz=348,slow=10
BMRD Maredsous 21.55 165 P **P 02 06 36.9 +4.5**
BMRD PnPn **PnPn 02 06 54.1 +1.6**
CLL Collm 21.55 151 *i* P **P 02 06 33.7 +1.3**
CLL *i* 02 06 36.7
CLL pmax pmax
comp=Z,29nm,1.2s
CLL Collm 21.55 151 *i* P **P 02 06 33.7 +1.3**
comp=Z,29nm,1.2s
CLL *i* sP **pwP 02 06 36.7 -0.5**
CLL *ex* x 02 06 49.0
CLL *eS* Sn 02 10 36.0 -3.3
CLL Collm 21.55 151 *eP* **P 02 06 34.2 +1.8**
comp=Z,14nm,0.9s,baz=348,slow=10
CLL Collm 21.55 151 P **P 02 06 32.1 -0.4**
CLL IAmb IAmb 02 06 38.8
comp=Z,57nm,1.4s
UBBA Unterbreizbach 21.60 156 *eP* **P 02 06 35.0 +2.1**
comp=Z,84nm,1.5s,baz=348,slow=10
BHOU Houvegnez 21.61 163 P **P 02 06 35.1 +2.0**
RCHB Rochefort 21.73 164 P **P 02 06 37.6 +3.2**
DOU Dourbes 21.74 165 P **P 02 06 35.4 +1.0**
BAIF Baives 21.74 166 *eP* **P 02 06 37.7 +3.2**
BAIF pmax pmax
comp=Z,22nm,1.0s
GIVF Givet 21.75 165 *eP* **P 02 06 39.3 +4.7**
GIVF pmax pmax
comp=Z,41nm,1.1s
MNK Minsk 21.77 125 *i* P **P 02 06 33.8 -0.9**
MNK *i* PPP PPP 02 07 02.6
MNK *i* S **S 02 10 34.8 -0.3**
MNK *i* SSS SSS 02 11 14.7
MNK pmax pmax
comp=Z,60nm,0.9s
MNK pmax pmax
comp=N,57nm,1.1s
MNK pmax pmax
comp=E,5.0nm,1.1s
MNK MLR MLR
comp=N,165nm,14.0s
MNK MLR MLR
comp=Z,112nm,11.0s
MNK MLR MLR
comp=E,18nm,12.0s
MNK Minsk 21.77 125 *i* P **P 02 06 33.9 -0.9**
comp=E,5.0nm,1.1s
MNK *i* P **P 02 06 33.9 -0.9**
comp=N,57nm,1.1s
MNK *i* P **P 02 06 33.9 -0.9**
comp=Z,60nm,0.9s,baz=152
MNK *i* PP **PnPn 02 06 54.9 -0.6**
MNK *i* PPP PPP 02 07 02.7
MNK *i* S **S 02 10 34.8 -0.3**
MNK *i* SS **SnSn 02 11 01.6 +2.3**
MNK *i* SSS SSS 02 11 14.8
MNK *i* LQ LQ 02 12 39.6
MNK *i* LR LR 02 13 44.8
MNK *i* LRM MLR 02 16 17.5
comp=N,165nm,14.1s
MNK *i* LRM MLR 02 16 18.6
comp=Z,112nm,11.2s
MNK *i* LRM MLR 02 16 21.1
comp=E,18nm,11.9s
FBE Freiberg 21.98 150 *eP* **P 02 06 38.8 +1.8**
comp=E,22nm,0.9s,baz=348,slow=10
MOX Moxa 21.99 153 P **P 02 06 39.0 +1.8**
MOX pmax pmax
comp=Z,40nm,1.3s
MOX Moxa 21.99 153 *eP* **P 02 06 39.2 +2.1**
comp=Z,22nm,0.9s,baz=348,slow=10
TNS Taunus Mts 21.99 159 P **P 02 06 39.5 +2.3**
TNS pmax pmax
comp=Z,20nm,1.0s
TNS Taunus Mts 21.99 159 *eP* **P 02 06 39.2 +2.0**
comp=Z,12nm,0.8s,baz=348,slow=10
BRG Berggiesshubel 22.12 149 *eP* **P 02 06 40.0 +1.3**
BRG Amp 02 06 42.7
comp=Z,33nm,1.2s
BRG Berggiesshubel 22.12 149 *eP* **P 02 06 39.9 +1.3**
BRG pmax pmax
comp=Z,33nm,1.2s
BRG Berggiesshubel 22.12 149 *eP* **P 02 06 39.9 +1.3**
comp=Z,15nm,0.9s,baz=348,slow=10
WERD Werda 22.28 152 *eP* **P 02 06 42.6 +2.3**
comp=Z,14nm,0.8s,baz=348,slow=10
WLF Walferdange 22.30 163 P **P 02 06 44.2 +3.6**
TANN Tannenbergstha 22.34 152 *eP* **P 02 06 42.6 +1.7**
comp=Z,26nm,1.2s,baz=348,slow=10
WERN Wernitzgruen 22.45 152 *eP* **P 02 06 44.1 +2.0**
comp=Z,22nm,1.0s,baz=348,slow=10
BEL Belsk 22.51 138 *eP* **P 02 06 45.1 +2.4**
BEL Belsk 22.51 138 P **P 02 06 45.1 +2.4**
BEL pmax pmax
comp=Z,213nm,1.0s
NKC Novy Kostel 22.51 152 *eP* **P 02 06 44.2 +1.4**
NKC Novy Kostel 22.51 152 *eP* **P 02 06 44.2 +1.4**
KSP Ksiaz 22.56 146 *eP* **P 02 06 44.2 +1.0**
KSP Ksiaz 22.56 146 P **P 02 06 44.6 +1.4**
KSP pmax pmax
comp=Z,75nm,1.1s
PVCC Panska Ves 22.56 149 *eP* **P 02 06 49.2 +5.9**
PVCC Panska Ves 22.56 149 *eP* **P 02 06 49.2 +5.9**
MANZ Manzenberg 22.70 153 *eP* **P 02 06 46.3 +1.5**
comp=Z,2.6nm,0.8s,baz=348,slow=10
CHVC Chvalec 22.76 146 *eP* **P 02 06 46.7 +1.3**
FLN La Foliniere 22.79 175 *eP* **P 02 06 45.7 0.0**
FLN pmax pmax
comp=Z,101nm,1.6s
UPC Upice 22.83 146 *eP* **P 02 06 47.9 +1.8**
UPC Upice 22.83 146 *eP* **P 02 06 47.9 +1.8**
GRF Grafenberg Arr 22.86 155 *eP* **P 02 06 48.8 +2.3**
comp=Z,15nm,0.9s,baz=348,slow=10
GRFO Grafenberg 22.86 155 P **P 02 06 46.9 +0.4**
GRFO pmax pmax
comp=Z,68nm,1.4s
GRFO Grafenberg 22.86 155 P **P 02 06 46.9 +0.4**
ROTZ Rotzenmuhle 22.93 153 *eP* **P 02 06 49.2 +2.0**
comp=Z,1.7nm,0.8s,baz=348,slow=10
LDF La Druitiere 22.97 174 *eP* **P 02 06 47.6 0.0**
LDF pmax pmax
comp=Z,149nm,1.8s
PRA Prague 22.98 149 *eP* **P 02 06 50.2 +2.5**
PRA Prague 22.98 149 *eP* **P 02 06 50.2 +2.5**
DPC Dobruska-Polom 23.04 146 *eP* **P 02 06 49.4 +1.1**
DPC Dobruska-Polom 23.04 146 *eP* **P 02 06 49.4 +1.1**
PRU Pruhonice 23.08 149 *eP* **P 02 06 49.7 +1.0**
PRU Pruhonice 23.08 149 *eP* **P 02 06 49.7 +1.0**
GRR Gorron 23.15 175 *eP* **P 02 06 51.4 +2.0**
GRR pmax pmax
comp=Z,56nm,1.4s
KRLC Kraliky 23.38 145 *eP* **P 02 06 52.6 +0.8**
KRLC Kraliky 23.38 145 *eP* **P 02 06 52.6 +0.8**
MOS Moscow 23.46 110 *eP* **P 02 06 52.2 -0.3**
MOS *eS* **S 02 11 03.3 -2.2**
MOS pmax pmax
comp=Z,36nm,1.2s
MOS MLR MLR
comp=Z,1μm,15.0s
STU Stuttgart 23.51 158 P **P 02 06 53.9 +0.9**
STU pmax pmax
comp=Z,26nm,1.3s
STU Stuttgart 23.51 158 P **P 02 06 53.9 +0.9**
STU IAmb IAmb 02 06 57.2
comp=Z,26nm,1.3s
WET Wettzell 23.64 152 *eP* **P 02 06 56.4 +2.1**
comp=Z,6.2nm,1.0s,baz=348,slow=10
CDF Champ du Feu 23.65 162 *eP* **P 02 06 55.3 +0.7**
CDF pmax pmax
comp=Z,41nm,1.5s
OBN Obninsk 23.68 112 P **P 02 06 54.2 -0.4**
comp=Z,4.4nm,0.9s,baz=122,slow=19,SNR=7.8
OBN LR LR 02 15 38.5
comp=Z,171nm,18.6s,baz=352,slow=35
OBN Obninsk 23.68 112 *deP* **P 02 06 55.3 +0.7**
OBN *e* 02 07 25.0
OBN *eS* **S 02 11 07.0 -2.0**
OBN pmax pmax
comp=Z,68nm,2.5s
OBN MLR MLR
comp=Z,617nm,17.0s
OBN Obninsk 23.68 112 P **P 02 06 54.8 +0.2**
KHC Kasperske Hory 23.76 151⇑ *eP* **P 02 06 57.6 +2.1**
KHC pmax pmax
comp=Z,26nm,1.1s
KHC Kasperske Hory 23.76 151 *eP* **P 02 06 57.3 +1.8**
KHC *ex* x 02 07 48.0
KHC Kasperske Hory 23.76 151 IAmb IAmb 02 06 58.3
comp=Z,9.6nm,1.0s
MORC Moravsky Berou 23.81 144 P **P 02 06 57.4 +1.4**
MORC Moravsky Berou 23.81 144 *eP* **P 02 06 56.8 +0.8**
MORC Moravsky Berou 23.81 144 IAmb IAmb 02 07 11.7
comp=Z,12nm,1.1s
OJC Ojcow 23.83 141 *eP* **P 02 06 57.0 +0.8**
ECH Echery 23.83 162 P **P 02 06 58.3 +2.1**
ECH pmax pmax
comp=Z,20nm,1.1s
ECH Echery 23.83 162 P **P 02 06 58.3 +2.1**
ECH IAmb IAmb 02 07 00.4
comp=Z,20nm,1.1s
BFO Black Forest 23.84 160 P **P 02 06 57.2 +0.9**
BFO pmax pmax
comp=Z,45nm,1.3s
BFO Black Forest 23.84 160 *eP* **P 02 06 58.4 +2.1**
comp=Z,14nm,1.0s,baz=348,slow=10
BFO Black Forest 23.84 160 P **P 02 06 57.2 +0.9**
OKC Ostrava-Krasne 23.87 143 *eP* **P 02 06 57.3 +0.8**
OKC Ostrava-Krasne 23.87 143 *eP* **P 02 06 57.3 +0.8**
TREC Trest 23.91 148 *eP* **P 02 06 58.7 +1.8**
TREC Trest 23.91 148 *eP* **P 02 06 58.7 +1.8**
HAU Haudompre 23.96 163 *eP* **P 02 06 59.7 +2.2**
HAU pmax pmax
comp=Z,25nm,1.5s
GEC2 GERESS Array S 24.05 151 *eP* **P 02 07 00.9 +2.5**
comp=Z,11nm,0.9s,baz=348,slow=10
GEC2 GERESS Array S 24.05 151 IAmb IAmb 02 07 01.9
comp=Z,27nm,1.2s
GERES GERESS Array B 24.05 151 P **P 02 06 58.5 +0.1**
comp=Z,9.7nm,1.0s,baz=343,slow=7.0,SNR=39
GERES LR LR 02 16 06.4
comp=Z,288nm,21.2s,baz=354,slow=36
GERES GERESS Array B 24.05 151 P **P 02 06 59.9 +1.5**
GERES GERESS Array B 24.05 151 P **P 02 06 59.9 +1.5**
VRAC Vranov 24.09 146 P **P 02 07 00.0 +1.4**
comp=Z,15nm,1.0s,baz=344,slow=11,SNR=9.3
VRAC LR LR 02 16 42.9
comp=Z,329nm,18.1s,baz=348,slow=37
VRAC Vranov 24.09 146 *eP* **P 02 06 59.9 +1.3**
CKRC Cesky Krumlov 24.17 150 *eP* **P 02 07 00.8 +1.4**
KRUC Moravsky 24.29 147 *eP* **P 02 07 02.0 +1.5**
RES Resolute Bay 24.30 320 P **P 02 07 01.9 +1.6**
comp=Z,0.4nm,0.8s,baz=57,slow=18,SNR=1.7
RES LR LR 02 16 04.9
comp=Z,612nm,19.9s,baz=68,slow=35
FUR Furstenfeldbru 24.37 155 P **P 02 07 04.7 +3.5**
FUR Furstenfeldbru 24.37 155 *eP* **P 02 07 03.1 +1.9**
comp=Z,23nm,0.9s,baz=348,slow=10
LOR Lormes 24.50 168 *eP* **P 02 07 03.1 +0.7**
LOR pmax pmax
comp=Z,15nm,1.0s
FRB Frobisher Bay 24.64 285 P **P 02 07 04.8 +1.4**
comp=Z,2.0nm,1.1s,baz=61,slow=19,SNR=1.9
FRB LR LR 02 16 09.0
comp=Z,409nm,19.4s,baz=37,slow=35

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SSF  Saint Saulge      24.68 168 eP        P        02 07 04.7 +0.7
SSF                          pmax      pmax
     comp=Z,13nm,0.9s
NIE  Niedzica          24.69 141 eP        P        02 07 07.8 +3.7
NIE  Niedzica          24.69 141  P        P        02 07 08.0 +3.9
UBR  Ueberruh          24.69 157 eP        P        02 07 06.6 +2.4
     comp=Z,8.1nm,0.9s,baz=348,slow=10
JAVC Velka Javorina    24.71 145 eP        P        02 07 08.2 +3.8
LANS Liptovska Anna    24.78 142 eP        P        02 07 08.3 +3.4
LANS                         pmax      pmax
     comp=Z,7.0nm,1.0s
LANS Liptovska Anna    24.78 142 eP        P        02 07 08.3 +3.4
KIRV Kirov             24.81  93  P        P        02 07 06.2 +1.1
     comp=Z,16nm,0.9s,baz=333,slow=2.3,SNR=6.7
KIRV                          LR        LR  02 16 06.4
     comp=Z,269nm,21.3s,baz=323,slow=35
KIRV Kirov             24.81  93⇓eP        P        02 07 05.1  0.0
AVF  Avril sur Loir    24.94 168 eP        P        02 07 07.1 +0.8
AVF                          pmax      pmax
     comp=Z,8.0nm,0.9s
RETA Reutte            24.96 156 eP        P        02 07 09.6 +3.0
     comp=Z,13nm,1.0s
RJOB Jochberg          25.00 153 eP        P        02 07 09.8 +2.8
     comp=Z,16nm,0.8s,baz=348,slow=10
KWP  Kalwaria Pacla    25.00 137 eP        P        02 07 08.6 +1.7
KWP  Kalwaria Pacla    25.00 137  P        P        02 07 09.7 +2.8
DAVA Damuels           25.05 158 i P       P        02 07 10.3 +2.8
     comp=Z,32nm,1.1s,SNR=5.5
MOA  Molln             25.11 151 i P       P        02 07 10.2 +2.3
     comp=Z,27nm,1.4s,SNR=5.6
MODS Modra-Piesok      25.11 146 eP        P        02 07 09.7 +1.8
MODS                         pmax      pmax
     comp=Z,36nm,1.3s
MODS Modra-Piesok      25.11 146 eP        P        02 07 09.7 +1.8
SMF  Signal de Mont    25.11 168 eP        P        02 07 09.9 +2.0
SMF                          pmax      pmax
     comp=Z,24nm,1.0s
LVV  L'vov             25.12 135 eP        P        02 07 08.5 +0.6
LVV                          ePPP      PPP  02 07 57.6
LVV                          eS        S    02 11 30.2  -2.1
LVV                          pmax      pmax
     comp=Z,40nm,1.5s
LVV                           MLR       MLR
     comp=E,200nm,8.0s
LVV                           MLR       MLR
     comp=N,600nm,10.0s
LVV                           MLR       MLR
     comp=Z,600nm,9.8s
KOLL Kolacno           25.12 144 eP        P        02 07 10.1 +2.1
BGF  Bois d'Agland     25.14 169 eP        P        02 07 08.9 +0.7
BGF                          pmax      pmax
     comp=Z,16nm,0.8s
MOTA Moosalm           25.15 156 i P       P        02 07 10.7 +2.3
     comp=Z,29nm,1.2s,SNR=5.5
WATA Walderalm         25.22 155 i P       P        02 07 11.1 +2.0
     comp=Z,31nm,1.0s,SNR=8.2
ZST  Bratislava        25.25 146 eP        P        02 07 12.3 +3.2
ZST  Bratislava        25.25 146 eP        P        02 07 12.3 +3.2
SQTA Sankt Quirin      25.28 156 i P       P        02 07 12.3 +2.7
     comp=Z,31nm,1.1s,SNR=6.6
VYHS Vyhne             25.28 143 eP        P        02 07 10.9 +1.4
VYHS                         pmax      pmax
     comp=Z,19nm,1.1s
VYHS Vyhne             25.28 143 eP        P        02 07 10.9 +1.4
CONA Conrad Observa    25.29 148 eP        P        02 07 12.9 +3.3
     comp=Z,42nm,0.9s,SNR=14
WTTA Wattenberg        25.30 155 i P       P        02 07 13.2 +3.4
     comp=Z,54nm,1.1s,SNR=8.1
WTTA Wattenberg        25.30 155  P        P        02 07 13.2 +3.4
CABF La Chapelle       25.32 164 eP        P        02 07 13.8 +3.9
CABF                         pmax      pmax
     comp=Z,50nm,1.7s
TCF  Toulx Ste Croi    25.37 170 eP        P        02 07 11.0 +0.7
TCF                          pmax      pmax
     comp=Z,27nm,1.2s
FETA Feichten          25.42 157 eP        P        02 07 13.8 +2.9
     comp=Z,16nm,1.3s
DAVOX Davos/Dischmat   25.55 158  LR       LR  02 15 54.7
     comp=Z,228nm,20.4s,baz=354,slow=33
AKASG Malin Array Be   25.56 127  P        P        02 07 12.3 +0.4
     comp=Z,12nm,0.7s,baz=335,slow=10.0,SNR=38
AKASG                         LR        LR  02 16 59.0
     comp=Z,597nm,19.2s,baz=320,slow=36
AKBB Malin Array Si    25.56 127ceP        P        02 07 12.0 +0.1
AKBB                         pmax      pmax
     comp=Z,38nm,1.4s
AKBB Malin Array Si    25.56 127  IAmb   IAmb  02 07 14.4
     comp=Z,20nm,0.9s
KECS Kecovo            25.62 141 eP        P        02 07 14.2 +1.7
KECS                         pmax      pmax
     comp=Z,14nm,1.0s
KECS Kecovo            25.62 141 eP        P        02 07 14.2 +1.7
SOP  Sopron            25.65 147  P        P        02 07 18.1 +5.3
SOP  Sopron            25.65 147  P        P        02 07 12.5  -0.2
SENIN Lac Senin/Sane   25.68 162  P        P        02 07 14.7 +1.4
SENIN                         IAmb      IAmb  02 07 18.1
     comp=Z,18nm,0.9s
KBA  Koelnbreinsper    25.72 153 eP        P        02 07 15.8 +2.1
     comp=Z,22nm,1.3s
UZH  Uzhgorod          25.85 138 eP        P        02 07 13.5  -1.1
ARSA Arzberg           25.89 149 i P       P        02 07 19.5 +4.5
     comp=Z,17nm,0.9s,SNR=5.6
PSZ  Piszkesteto       26.04 142  IAmb     IAmb  02 07 33.4
     comp=Z,14nm,1.0s
PSZ  Piszkesteto       26.04 142  P        P        02 07 18.0 +1.6
ZOU  Zoufplan          26.18 153  P        P        02 07 19.6 +1.8
ZOU                          IAmb      IAmb  02 07 23.7
     comp=Z,26nm,1.4s
MPLH Magyarpolny       26.32 146  P        P        02 07 21.1 +2.2
RJF  Les Rejaudoux     26.32 172 eP        P        02 07 19.6 +0.7
RJF                          pmax      pmax
     comp=Z,16nm,0.9s
TRPA Tarpa             26.38 138  P        P        02 07 20.3 +0.9
LPL  La Plagne         26.47 163 eP        P        02 07 22.1 +1.6
LPL                          pmax      pmax
     comp=Z,16nm,1.2s
LPG  La Plagne         26.49 163 eP        P        02 07 25.6 +4.9
LPG                          pmax      pmax
     comp=Z,13nm,1.0s
LPSR Galich'ya Gora    26.55 113 eP        P        02 07 21.4 +0.5
LPSR                         pmax      pmax
     comp=Z,20nm,1.0s
CAF  Calviac           26.72 171 eP        P        02 07 23.6 +1.1
CAF                          pmax      pmax
     comp=Z,16nm,1.0s
ORIF Oris-en-Rattie    26.99 165 eP        P        02 07 30.2 +5.2
ORIF                         pmax      pmax
     comp=Z,20nm,1.2s
BMR  Baia Mare         27.02 137  P        P        02 07 28.9 +3.7
BUR08 Bucovina Ar. S   27.43 135  IAmb     IAmb  02 07 53.4
     comp=Z,6.1nm,0.9s
BURAR Bucovina Array   27.46 135  P        P        02 07 31.4 +2.2
BURAR                        pmax      pmax
     comp=Z,4.0nm,1.0s
BURAR Bucovina Array   27.46 135  P        P        02 07 30.2 +1.0
VSR  Storozhevoye      27.85 114 eP        P        02 07 32.9 +0.4
VSR                          pmax      pmax
     comp=Z,30nm,0.9s
NRIK Noril'sk          27.98  49  LR       LR  02 20 59.9
     comp=Z,115nm,18.0s,baz=318,slow=42
NRIK Noril'sk          27.98  49⇓i P       P        02 07 34.2 +0.7
NRIK                         pmax      pmax
     comp=Z,9.0nm,1.6s
NRIK Noril'sk          27.98  49  P        P        02 07 34.8 +1.2
VORD Divnogorie        28.11 114 eP        P        02 07 34.2  -0.6
VORD                         pmax      pmax
     comp=Z,10.0nm,0.6s
EPF  Esparros          28.54 174 eP        P        02 07 39.7 +0.9
EPF                          pmax      pmax
     comp=Z,12nm,0.9s
DEV  Deva              28.60 139  P        P        02 07 44.8 +5.6
VRH  Novokhopyorsk     28.62 111 eP        P        02 07 39.6 +0.2
VRH                          pmax      pmax
     comp=Z,10.0nm,1.0s
OSSC Osservatorio P    28.92 157  P        P        02 07 43.4 +1.2
BELG Belogornoye       29.39 103  P        P        02 07 47.7 +1.5
     comp=Z,12nm,0.7s,baz=52,slow=0.9,SNR=5.5
BELG                          LR        LR  02 18 59.9
     comp=Z,651nm,18.3s,baz=301,slow=35
BELG Belogornoye       29.39 103⇓eP        P        02 07 48.4 +2.2
BELG                         pmax      pmax
     comp=Z,3.0nm,0.9s
ARU  Arti              29.48  88  P        P        02 07 47.4 +0.4
     comp=Z,1.4nm,0.7s,baz=335,slow=9.0,SNR=5.4
ARU                           LR        LR  02 19 04.5
     comp=Z,272nm,20.3s,baz=0.0,slow=35
ARU  Arti              29.48  88c iP       P        02 07 50.4 +3.4
ARU                                       02 08 44.5
ARU                           S         S    02 12 47.7 +6.8
ARU                           SS        SnSn 02 14 13.3 +5.7
ARU                          pmax      pmax
     comp=Z,4.0nm,0.8s
ARU                           MLR       MLR
     comp=Z,275nm,19.0s
ARU  Arti              29.48  88  P        P        02 07 47.5 +0.5
ARU                           IAmb      IAmb  02 08 16.6
     comp=Z,10.0nm,1.2s
MLR  Muntele Rosu      29.63 135  LR       LR  02 20 14.1
     comp=Z,702nm,18.7s,baz=312,slow=38
SCHQ Schefferville     31.09 272  LR       LR  02 19 33.2
     comp=Z,263nm,18.4s,baz=62,slow=34
ESDC Sonseca Array     31.82 180  P        P        02 08 09.3 +1.4
     comp=Z,4.2nm,1.1s,baz=4.6,slow=9.7,SNR=7.6
ESDC                          LR        LR  02 20 07.0
     comp=Z,177nm,19.3s,baz=349,slow=35
ESDC Sonseca Array     31.82 180  P        P        02 08 08.0 +0.1
ESDC                          IAmb      IAmb  02 08 13.0
     comp=Z,7.8nm,1.4s
PAB  San Pablo         31.95 181  P        P        02 08 11.4 +2.3
PAB                          pmax      pmax
     comp=Z,20nm,1.5s
PAB  San Pablo         31.95 181  P        P        02 08 11.3 +2.3
PMRV Marv??o           32.12 185 eP        P        02 08 13.2 +2.7
PMTG Montargil         32.51 187 eP        P        02 08 15.1 +1.2
PESTR Estremoz         32.69 186 eP        P        02 08 17.7 +2.2
PESTR Estremoz         32.69 186  P        P        02 08 16.4 +1.0
PESTR                         IAmb      IAmb  02 08 26.4
     comp=Z,7.2nm,1.0s
FNA  Florina           33.20 144  P        P        02 08 21.0 +1.1
FNA                          pmax      pmax
     comp=Z,15nm,1.0s
FNA  Florina           33.20 144  P        P        02 08 21.0 +1.1
TIXI Tiksi             33.92  25  LR       LR  02 23 34.3
     comp=Z,52nm,18.3s,baz=303,slow=39
TIXI Tiksi             33.92  25⇓eP        P        02 08 27.5 +1.7
TIXI                         pmax      pmax
     comp=Z,16nm,1.4s
TIXI Tiksi             33.92  25  P        P        02 08 27.6 +1.8
AKTO Aktyubinsk        34.37  94  LR       LR  02 22 18.5
     comp=Z,206nm,18.6s,baz=340,slow=36
SOC  Sochi             34.92 119 eP        P        02 08 29.4  -5.4
SOC                          e                     02 09 49.5
SOC                          ePPP      PPP  02 10 11.2
SOC                          eS        S    02 13 58.1  -7.7
SOC                          eSS       SnSn 02 16 18.4  -1.7
SOC                           MLR       MLR
     comp=Z,314nm,16.0s
VAE  Valguarnera       35.29 155  LR       LR  02 22 35.3
     comp=Z,178nm,18.5s,baz=342,slow=36
KIV  Kislovodsk        35.42 116⇓eP        P        02 08 41.4 +2.2
KIV                          e                     02 09 54.6
KIV                          eS        S    02 14 23.3  +10
KIV                          pmax      pmax
     comp=Z,18nm,1.0s
KIV                           MLR       MLR
     comp=Z,144nm,16.0s
KBZ  Khabaz            35.69 116  P        P        02 08 42.5 +1.1
     comp=Z,9.3nm,1.0s,baz=358,slow=6.4,SNR=6.7
KBZ                           LR        LR  02 23 56.2
     comp=Z,85nm,18.0s,baz=344,slow=37
KBZ  Khabaz            35.69 116⇓i P       P        02 08 43.8 +2.4
KBZ                          pmax      pmax
     comp=Z,20nm,1.2s
ABKAR Akbulak array    36.01  93  P        P        02 08 45.0 +0.9
BRVK Borovoye          36.03  80⇑eP        P        02 08 44.7 +0.5
BRVK                         pmax      pmax
     comp=Z,3.0nm,1.1s
BRVK Borovoye          36.03  80  P        P        02 08 44.1  -0.1
NEY  Neytrino          36.08 116⇑eP        P        02 08 48.2 +3.2
NEY                          pmax      pmax
     comp=Z,8.0nm,1.1s
BVAR Borovoye Array    36.10  80  P        P        02 08 46.1 +1.3
     comp=Z,3.6nm,1.0s,baz=253,slow=4.0,SNR=9.8
NCK  Nalchik           36.11 115⇓i P       P        02 08 47.8 +2.8
NCK                          pmax      pmax
     comp=Z,27nm,1.0s
KEST Kesra             36.41 162  P        P        02 08 49.6 +1.9
     comp=Z,6.2nm,1.0s,baz=331,slow=11,SNR=4.7
KEST                          LR        LR  02 24 12.2
     comp=Z,190nm,19.4s,baz=338,slow=37
KEST Kesra             36.41 162  P        P        02 08 48.6 +0.8
KEST                          IAmb      IAmb  02 08 52.1
     comp=Z,22nm,1.3s
INK  Inuvik            36.58 331  P        P        02 08 51.5 +2.8
     comp=Z,2.3nm,1.0s,baz=22,slow=6.5,SNR=4.5
INK                           PcP       PcP  02 11 11.8 +0.3
     comp=Z,1.8nm,0.8s,baz=40,slow=1.9,SNR=5.0
INK                           LR        LR  02 24 20.8
     comp=Z,103nm,19.9s,baz=53,slow=37
INK  Inuvik            36.58 331  IAmb     IAmb  02 08 55.4
     comp=Z,5.7nm,1.2s
BR131 Keskin Array S   36.91 129  P        P        02 08 53.5 +1.4
BR131                        pmax      pmax
     comp=Z,12nm,1.0s
BR131 Keskin Array S   36.91 129  P        P        02 08 53.5 +1.4
BR131                         IAmb      IAmb  02 09 00.1
     comp=Z,12nm,0.9s
BRTR Keskin Array B    36.92 129  P        P        02 08 52.2 +0.1
     comp=Z,3.7nm,0.9s,baz=339,slow=6.6,SNR=8.3
BRTR                          LR        LR  02 25 50.4
     comp=Z,223nm,18.5s,baz=342,slow=39
BRTR Keskin Array B    36.92 129 i P       P        02 08 54.5 +2.4
BRTR                         pmax      pmax
     comp=Z,4.0nm,0.9s
BRTR Keskin Array B    36.92 129  P        P        02 08 53.5 +1.4
MAK  Makhachkala       37.75 111 eP        P        02 08 54.4  -4.5
MAK                          eS        S    02 14 41.0  -8.0
MAK                          eSS       SnSn 02 17 28.7 +0.2
MAK                          pmax      pmax
     comp=Z,150nm,1.6s
MAK                           MLR       MLR
     comp=Z,372nm,19.0s
YKA  Yellowknife Ar    38.20 315  P        P        02 09 02.6 +0.1
     comp=Z,1.9nm,0.9s,baz=29,slow=8.5,SNR=18
YKA                           PcP       PcP  02 11 17.5 +0.9
     comp=Z,2.3nm,0.8s,baz=22,slow=2.6,SNR=29
YKA                           LR        LR  02 23 47.4
     comp=Z,259nm,21.1s,baz=94,slow=35
YKA  Yellowknife Ar    38.20 315 i P       P        02 09 03.7 +1.2
YKA                          pmax      pmax
     comp=Z,2.0nm,0.9s
YKA  Yellowknife Ar    38.20 315  P        P        02 09 04.1 +1.6
MDT  Midelt            38.67 181  LR       LR  02 23 35.2
     comp=Z,56nm,20.9s,baz=30,slow=34
BMAR Burnt Mountain    38.94 337  P        P        02 09 08.9 +0.2
IDI  Anoyia            39.20 142  LR       LR  02 26 58.2
     comp=Z,153nm,19.1s,baz=2.0,slow=39
MALT Malatya           39.48 124  P        P        02 09 17.0 +3.4
GNI  Garni             39.52 116  LR       LR  02 26 10.0
     comp=Z,199nm,19.2s,baz=326,slow=37
ZALV Zalesovo Beam     39.74  68  LR       LR  02 28 48.2
     comp=Z,58nm,19.7s,baz=323,slow=41
BILL Bilibino          40.62  6⇓eP        P        02 09 23.9 +1.2
BILL                         ePPP      PPP  02 11 27.0
BILL                         eSS       SS   02 19 05.7  +35
BILL                         pmax      pmax
     comp=Z,8.0nm,1.6s
BILL                          MLR       MLR
     comp=Z,100nm,16.0s
KURK Kurchatov         40.67  75⇑eP        P        02 09 23.7 +0.5
KURK                         pmax      pmax
     comp=Z,11nm,1.7s
KURK Kurchatov         40.67  75  P        P        02 09 23.5 +0.3
KURBB Kurchatov Arra   40.72  75  LR       LR  02 27 04.2
     comp=Z,96nm,20.8s,baz=303,slow=37
CSS  Mathiatis         41.36 132  P        P        02 09 29.7 +0.5
CSS                           IAmb      IAmb  02 09 35.0
     comp=Z,24nm,1.2s
ILAR Eielson Array     41.77 337  P        P        02 09 33.2 +1.2
     comp=Z,1.0nm,0.9s,baz=360,slow=7.2,SNR=7.4
ILAR                          PcP       PcP  02 11 28.6 +0.6
     comp=Z,0.8nm,0.9s,baz=322,slow=3.2,SNR=4.7
ILAR                          LR        LR  02 28 21.5
     comp=Z,129nm,20.1s,baz=37,slow=38
ILAR Eielson Array     41.77 337  P        P        02 09 32.9 +0.8
YAK  Yakutsk           42.98  30  LR       LR  02 28 37.0
     comp=Z,43nm,19.5s,baz=78,slow=38
YAK  Yakutsk           42.98  30⇓eP        P        02 09 42.8 +0.9
YAK                          pmax      pmax
     comp=Z,6.0nm,0.6s
MMAI Mount Meron Ar    43.73 130  LR       LR  02 31 04.5
     comp=Z,92nm,18.4s,baz=100,slow=40
SADO Sadowa            43.77 275  LR       LR  02 27 08.1
     comp=Z,225nm,18.6s,baz=355,slow=35
BOD  Bodaibo           43.90  43 eP        P        02 09 49.0  -0.5
BOD                          pmax      pmax
     comp=Z,10.0nm,1.6s
DGZ  Jazzator, Alta    44.25  68⇓eP        P        02 09 53.3 +0.8
DGZ                          pmax      pmax
     comp=Z,5.0nm,1.4s
KKAR Karatay Array     44.86  88  P        P        02 09 58.1 +0.8
KKAR Karatay Array     44.86  88  P        P        02 09 58.0 +0.8
SEY  Seymchan          44.90  15⇑i P       P        02 09 58.7 +1.3
DLBC Dease Lake        45.11 323  LR       LR  02 28 56.7
     comp=Z,501nm,18.8s,baz=337,slow=36
MAKZ Makanchi          45.16  75  P        P        02 09 59.9 +0.2
MAKZ                         pmax      pmax
     comp=Z,2.0nm,0.9s
MAKZ Makanchi          45.16  75  P        P        02 09 59.9 +0.2
MK31 Makanchi Array    45.27  75⇓eP        P        02 10 02.5 +1.9
MK31 Makanchi Array    45.27  75  P        P        02 10 01.0 +0.4
MKAR Makanchi Array    45.27  75  P        P        02 10 00.9 +0.3
     comp=Z,1.1nm,0.9s,baz=347,slow=5.9,SNR=5.6
MKAR                          LR        LR  02 32 55.9
     comp=Z,71nm,18.1s,baz=330,slow=41
MKAR Makanchi Array    45.27  75  P        P        02 10 02.1 +1.5
MKAR Makanchi Array    45.27  75  P        P        02 10 02.1 +1.5
GEYT Alibeck           45.61 103  LR       LR  02 30 49.8
     comp=Z,289nm,18.3s,baz=342,slow=38
GEYT Alibeck           45.61 103  P        P        02 10 04.1 +0.7
GEYT                          IAmb      IAmb  02 10 14.3
     comp=Z,7.9nm,1.4s
AAK  Ala-Archa         46.55  84  LR       LR  02 29 45.2
     comp=Z,102nm,18.3s,baz=332,slow=36
AAK  Ala-Archa         46.55  84⇓eP        P        02 10 12.4 +1.5
AAK                          pmax      pmax
     comp=Z,15nm,1.3s
EIL  Elat              46.81 132  LR       LR  02 31 36.5
     comp=Z,97nm,19.8s,baz=339,slow=38
BOOM Boomskoye usch    47.14  83  P        P        02 10 16.6 +1.1
BOOM                         pmax      pmax
     comp=Z,6.0nm,1.2s
BOOM Boomskoye usch    47.14  83  P        P        02 10 16.6 +1.1
BOOM                          IAmb      IAmb  02 10 22.6
     comp=Z,6.2nm,1.2s
KDAK Kodiak Island     49.24 339  LR       LR  02 31 33.9
     comp=Z,144nm,21.3s,baz=43,slow=36
KSH  Kashi             49.85  85  P        P        02 10 38.0 +1.7
KSH                          sP        pwP  02 10 46.3 +4.9
HRA  Herat             50.16 100  P        P        02 10 39.9 +1.0
ZEA  Zeya              50.41  36 eP        P        02 10 42.0 +1.8
ZEA                          pmax      pmax
     comp=N,10.0nm,0.4s
ZEA                          pmax      pmax
     comp=Z,10.0nm,1.1s
BBB  Bella Bella       50.59 319  LR       LR  02 32 08.0
     comp=Z,226nm,19.6s,baz=26,slow=36
NEW  Newport           51.71 309  LR       LR  02 32 18.0
     comp=Z,267nm,18.3s,baz=11,slow=36
TKL  Tuckaleechee C    53.51 274  LR       LR  02 32 41.4
     comp=Z,145nm,19.5s,baz=28,slow=35
NIL  Nilore            54.35  90  P        P        02 11 11.0 +1.2
NIL                          pmax      pmax
     comp=Z,9.0nm,1.3s
NIL  Nilore            54.35  90  P        P        02 11 11.0 +1.2
NIL                           IAmb      IAmb  02 11 17.3
     comp=Z,9.4nm,1.2s
PDAR Pinedale Array    54.81 300  P        P        02 11 14.6 +1.4
     comp=Z,0.3nm,0.7s,baz=22,slow=5.1,SNR=2.3
PDAR                          LR        LR  02 34 26.3
     comp=Z,278nm,18.4s,baz=31,slow=36
MGMO Mountain Grove    54.83 282  P        P        02 11 13.8 +0.6
MGMO                          IAmb      IAmb  02 11 19.7
     comp=Z,7.5nm,0.8s
PETK Petropavlovsk-    55.06  14  LR       LR  02 32 21.1
     comp=Z,69nm,21.6s,baz=5.1,slow=33
KLR  Kul'dur           55.55  34  LR       LR  02 35 34.0
     comp=Z,90nm,18.8s,baz=274,slow=37
ELK  Elko              58.23 304  LR       LR  02 36 18.9
     comp=Z,159nm,18.2s,baz=14,slow=36
TORD Torodi Ar. Bea    58.34 174  P        P        02 11 38.5 +0.2
     comp=Z,2.6nm,0.8s,baz=351,slow=7.3,SNR=16
TORD Torodi Ar. Bea    58.34 174  IAmb     IAmb  02 11 42.3
     comp=Z,5.2nm,1.1s
HHC  Hu-ho-hao-te      59.10  53 eP        P        02 11 44.2 +0.7
HHC                          pmax      pmax
     comp=Z,12nm,0.9s
HHC                          pmax      pmax
     comp=Z,66nm,5.4s
YBH  Yreka Blue Hor    59.22 310  LR       LR  02 37 21.7
     comp=Z,251nm,18.3s,baz=16,slow=36
WSAR Wadi Sarin        59.43 109  LR       LR  02 41 26.8
     comp=Z,50nm,20.4s,baz=352,slow=40
USRK Ussuriysk Ar.     60.45  35  LR       LR  02 39 10.9
     comp=Z,76nm,18.9s,baz=348,slow=37
ANMO Albuquerque       61.19 294  LR       LR  02 39 58.7
     comp=Z,80nm,21.2s,baz=29,slow=38
NVAR Mina Array Bea    61.22 305  P        P        02 12 00.4 +2.2
     comp=Z,0.1nm,0.3s,baz=324,slow=4.5,SNR=1.6
NVAR                          LR        LR  02 37 59.5
     comp=Z,118nm,18.8s,baz=78,slow=36
ASAJ Asahikawa         62.28  27  LR       LR  02 39 44.9
     comp=Z,65nm,19.1s,baz=120,slow=37
DBIC Dimbokro          64.69 181  LR       LR  02 40 38.8
     comp=Z,59nm,18.4s,baz=2.0,slow=36
PFO  Pinyon Flats O    65.27 302  LR       LR  02 43 15.7
     comp=Z,89nm,19.7s,baz=0.5,slow=38
KSRS Korea Array       66.16  41  LR       LR  02 43 18.2
     comp=Z,56nm,18.6s,baz=345,slow=38
ATD  Arta Tunnel       66.16 129  LR       LR  02 42 28.5
     comp=Z,51nm,18.4s,baz=348,slow=37
MJAR Matsushiro Arr    68.99  32  P        P        02 12 47.8  -0.7
     comp=Z,3.8nm,0.9s,baz=354,slow=4.8,SNR=6.0
MJAR Matsushiro Arr    68.99  32  IAmb     IAmb  02 12 52.7
     comp=Z,5.9nm,1.4s
NJ2  Nanjing           69.27  50 eP        P        02 12 49.9  -0.3
NJ2                          pmax      pmax
     comp=Z,10.0nm,0.5s
PZH  PanZhiHua         69.88  67  P        P        02 12 55.0 +0.8
PZH                          pmax      pmax
     comp=Z,10.0nm,0.5s
PZH                          pmax      pmax
     comp=Z,140nm,4.6s
JNU  Nakatsue          70.95  39  LR       LR  02 47 57.4
     comp=Z,52nm,18.1s,baz=102,slow=39
LPIG La Paz            72.49 293  LR       LR  02 45 45.1
     comp=Z,138nm,19.2s,baz=28,slow=36
MDP  Montagnes des     72.94 232  LR       LR  02 38 16.0
     comp=Z,44nm,18.1s,baz=290,slow=30
CMIG Matias Romero     74.32 277  LR       LR  02 47 46.6
     comp=Z,30nm,18.8s,baz=54,slow=37
MBAR Mbarara           75.26 144  LR       LR  02 49 10.7
     comp=Z,44nm,18.1s,baz=323,slow=38
CMAR Chiang Mai Arr    76.61  72  P        P        02 13 34.4 +0.5
     comp=Z,0.4nm,0.3s,baz=322,slow=6.1,SNR=4.6
CMAR                          LR        LR  02 53 17.5
     comp=Z,14nm,19.5s,baz=320,slow=40
CMAR Chiang Mai Arr    76.61  72 i P       P        02 13 36.5 +2.7
KMBO Kilima Mbogo      77.08 138  LR       LR  02 50 55.6
     comp=Z,32nm,18.1s,baz=86,slow=38
ROSC El Rosal          79.32 253  LR       LR  02 43 51.8
     comp=Z,62nm,20.9s,baz=34,slow=32
PALK Pallekele         81.36  93  LR       LR  02 52 23.9
     comp=Z,76nm,19.6s,baz=81,slow=37
LSZ  Lusaka            89.16 149  LR       LR  02 59 53.8
     comp=Z,53nm,18.3s,baz=334,slow=39
PSI  Prapat            91.37  77  LR       LR  03 00 26.0
     comp=Z,41nm,19.1s,baz=312,slow=38
ATAH Atahualpa         91.89 253  LR       LR  02 53 00.3
     comp=Z,39nm,20.8s,baz=22,slow=34
MATP Matopo            94.26 150  LR       LR  03 01 02.9
     comp=Z,18nm,18.2s,baz=300,slow=38
LBTB Lobatse           98.32 153  LR       LR  03 01 46.3
     comp=Z,29nm,21.3s,baz=13,slow=37
ASAR Alice Springs    126.52  50  PKP      PKPdf 02 20 45.6  -0.3
     comp=Z,0.7nm,1.0s,baz=25,slow=0.9,SNR=4.2
```

ROM 03 02:04:45.1±0.1, 42°.789N±0°.004×13°.279E±0°.009,
h10km, ML1.8/5, 6C-1D, Error ellipse: s-maj=0.6km
s-min=0.4km az=255.0, Central Italy

```
Code  Station Name      Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC   h m s     ISC
NRCA  Norcia                 0.13 290 ⇓i P   Pg    02 04 48.9 +0.7
NRCA                                 S     Sg    02 04 51.4 +0.9
NRCA                                 AML   AML
      comp=E,1205μm,1.0s
```

NRCA			AML	AML		
	comp=N,1120μm,0.2s					
NRCA			AML	AML		
	comp=N,1235μm,0.2s					
NRCA			AML	AML		
	comp=E,1210μm,1.0s					
NRCA			AML	AML		
	comp=N,1120μm,0.2s					
NRCA			AML	AML		
	comp=E,1390μm,1.0s					
SMA1	**SAN MARTINO**	**0.16 165**	⇑*e*P	Pg	02 04 49.5	+0.7
SMA1			S	Sg	02 04 52.3	+0.9
SMA1			AML	AML		
	comp=E,318μm,0.3s					
SMA1			AML	AML		
	comp=E,318μm,0.3s					
SMA1			AML	AML		
	comp=N,372μm,0.1s					
LNSS	**Leonessa**	**0.26 224**	P	Pg	02 04 51.0	+0.6
LNSS			S	Sb	02 04 55.4	-1.0
LNSS			AML	AML		
	comp=E,286μm,0.2s					
LNSS			AML	AML		
	comp=N,200μm,0.1s					
CAMP	**Campotosto**	**0.27 159**	⇑P	Pg	02 04 51.0	+0.3
CAMP			S	Sg	02 04 55.4	+1.0
RM33	**Pellescritta (**	**0.28 190**	*i* P	Pg	02 04 51.4	+0.5
RM33			S	Sb	02 04 56.4	-0.8
FDMO	**Fiordimonte**	**0.28 330**	⇑*i*P	Pg	02 04 51.2	+0.2
FDMO			S	Sg	02 04 55.8	+1.0
FDMO			AML	AML		
	comp=E,172μm,1.4s					
FDMO			AML	AML		
	comp=N,236μm,0.2s					
TERO	**Teramo**	**0.29 125**	P	Pg	02 04 51.2	+0.2
TERO			S	Sg	02 04 55.9	+0.9
TERO			AML	AML		
	comp=E,83μm,1.3s					
TERO			AML	AML		
	comp=N,92μm,1.4s					
TERO			AML	AML		
	comp=E,83μm,1.3s					
CSP1	**Cessapalombo**	**0.31 350**	⇑*i*P	Pg	02 04 51.6	+0.2
CSP1			S	Sg	02 04 56.6	+1.0
OFFI	**Offida**	**0.33 64**	⇑P	Pb	02 04 52.9	-0.3
OFFI			S	Sb	02 04 59.5	+1.0
GIGS	**Gran Sasso**	**0.40 148**	P	Pg	02 04 53.1	0.0
GIGS			S	Sg	02 04 59.1	+0.8
ARRO	**Arrone**	**0.43 241**	P	Pg	02 04 54.2	+0.5
ARRO			S	Sb	02 05 01.1	-0.3
FIAM	**Fiamignano**	**0.53 193**	P	Pg	02 04 55.5	0.0
FIAM			S	Sb	02 05 03.8	-0.6
GUMA	**Gualdo di Mace**	**0.55 60**	⇑P	Pg	02 04 51.4	-4.5
GUMA			S	Sg	02 04 56.4	-6.9
VCEL	**Villa Celiera**	**0.57 133**	P	Pg	02 04 55.9	-0.4
VCEL			S	Sb	02 05 05.3	-0.2
T0110	**Collepietro**	**0.67 146**	P	Pg	02 04 57.9	-0.3
T0110			S	Sb	02 05 08.9	+0.6

UCR 03 02:24:24.9±1.6, 7°.20N×82°.73W, h10km, MW4.2, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**1.34**	**333**	*e*P	Pn	02 24 47.8	-1.9
BRU2	**Volcan**	**1.59**	**1**	*e*P	Pn	02 24 52.6	-0.6
BRU2				*e*S	Sn	02 25 14.3	+0.4
EDSV	**San Vito**	**1.63**	**351**	*e*P	Pn	02 24 53.4	-0.5
EDSV				*e*S	Sg	02 25 17.6	+0.1
EDDO	**Dominical**	**2.33**	**331**	*e*P	Pn	02 25 01.6	-1.7
PEZE	**Perez Zeledon,**	**2.37**	**337**	*e*P	Pn	02 25 03.6	-0.3
RIMA	**Rio Macho**	**2.79**	**336**	*e*P	Pn	02 25 09.7	-0.2
LCR2	**La Lucha 2**	**2.83**	**333**	*e*P	Pn	02 25 09.9	-0.4
HDC	**Heredia**	**3.11**	**334**	*e*P	Pn	02 25 14.5	+0.3
ZANG	**Zanguenga, Cho**	**3.33**	**58**	*e*P	Pn	02 25 17.1	0.0
CAO2	**Cobano, Puntar**	**3.42**	**317**	*e*P	Pn	02 25 16.9	-1.4
BCIP	**Isla Barro Col**	**3.46**	**55**	*e*P	Pn	02 25 18.7	-0.2
ARE1	**Arenal 1**	**3.80**	**329**	*e*P	Pn	02 25 23.8	+0.3
ACAL	**Aguas Claras**	**4.11**	**326**	*e*P	Pn	02 25 28.6	+0.7
GUAI	**GUAI**	**4.11**	**318**	*e*P	Pn	02 25 27.1	-0.7
PTEN	**Parque Tenorio**	**4.15**	**328**	*e*P	Pn	02 25 29.1	+0.7
CUI	**Cuipilapa**	**4.20**	**325**	*e*P	Pn	02 25 29.4	+0.3
COLC	**Colonia**	**4.23**	**325**	*e*P	Pn	02 25 29.7	+0.2
HORNC	**Hornillas**	**4.25**	**325**	*e*P	Pn	02 25 29.9	0.0
GUAB	**Guayabo de Bag**	**4.28**	**325**	*e*P	Pn	02 25 30.7	+0.5
LAPC	**Finca la Perla**	**4.44**	**323**	*e*P	Pn	02 25 32.5	0.0
GBS3	**Finca Las Img**	**4.47**	**323**	*e*P	Pn	02 25 33.2	+0.4
BUAI	**Buenos Aires**	**4.47**	**325**	*e*P	Pn	02 25 32.9	+0.1

*IDC **03** 02:35:05.0±1.2, 52°.08N×169°.71W, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.7/36, mbtmp3.8/15, ML3.6/2, Error ellipse: s-maj=31.6km s-min=17.4km az=160.0*
*NEIC **03** 02:35:07.0±1.7, 51°.87N±0°.04×169°.48W±0°.07, h10km±5km, ML3.5/23(AEIC), Error ellipse: s-maj=7.0km s-min=5.7km az=54.0*
*AEIC **03** 02:35:08.1±1.9, 51°.88N±0°.08×169°.53W±0°.08, h21km±6km, Error ellipse: s-maj=12.0km s-min=7.0km az=162.0*
ISC 03 02:35:08.4±2.4, 51°.9N±0°.1×169°.57W±0°.06, h26km±15km, n41, σ1°38/43, mb3.8/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.86**	**354**		**Pb**	**02 35 24.4**	**-0.1**
CLCO					**Sn**	**02 35 39.5**	**+3.0**
NIKH	**Nikolski High**	**1.12**	**23**		**Pn**	**02 35 28.3**	**-0.2**
OKSP	**Okmok Steeple**	**1.53**	**30**		**Pn**	**02 35 34.2**	**+0.1**
OKCE	**Okmok Cone E**	**1.72**	**29**		**Pn**	**02 35 37.6**	**+1.0**
OKNC	**Okmok New Cone**	**1.76**	**29**		**Pn**	**02 35 38.5**	**+1.3**
OKFG	**Magazine Ridge**	**1.79**	**34**		**Pn**	**02 35 38.5**	**+0.9**
OKFG					**Sn**	**02 36 01.4**	**+2.0**
MAPS	**Pakushin South**	**2.46**	**39**		**Pn**	**02 35 47.6**	**+0.8**
MAPS					**Sn**	**02 36 17.4**	**+1.4**
MSW	**Makushin Switc**	**2.60**	**39**		**Pn**	**02 35 50.2**	**+1.4**
MSW					**Sn**	**02 36 22.3**	**+2.8**
UNV	**Unalaska Valle**	**2.67**	**43**		**Pn**	**02 35 50.7**	**+1.1**
UNV					**Sn**	**02 36 23.3**	**+2.2**
MTBL	**Makushin Table**	**2.68**	**40**		**Pn**	**02 35 51.5**	**+1.5**
KOFP	**Korovin Flat P**	**2.81**	**279**		**Pn**	**02 35 53.0**	**+1.3**
ATKA	**Atka Island**	**2.87**	**277**		**Pn**	**02 35 52.7**	**+0.3**
AKUT	**Akutan**	**3.18**	**45**	Pn	**Pn**	**02 35 57.5**	**+0.8**
GSMY	**Great Sitkin M**	**4.01**	**274**		**Pn**	**02 36 09.0**	**+0.9**
GSTR	**Great Sitkin T**	**4.01**	**275**	Pn	**Pn**	**02 36 08.5**	**+0.3**
GSTD	**Great Sitkin T**	**4.07**	**274**		**Pn**	**02 36 09.7**	**+0.8**
KIWB	**Kanaga Island**	**4.70**	**272**		**Pn**	**02 36 18.9**	**+1.4**
TAPA	**Tanaga Point A**	**5.11**	**272**		**Pn**	**02 36 25.9**	**+2.7**
TAFP	**Tanaga Falls P**	**5.21**	**273**		**Pn**	**02 36 26.2**	**+1.6**
TASE	**Tanaga Southea**	**5.25**	**272**		**Pn**	**02 36 27.1**	**+1.9**
KDAK	**Kodiak Island**	**11.39**	**52**	Pn	**Pn**	**02 37 48.6**	**-0.6**
	0.3nm,0.3s,baz=276,slow=4.8,SNR=3.6						
ILAR	**Eielson Array**	**17.38**	**34**	P	**Pn**	**02 39 06.3**	**-2.4**
	0.1nm,0.3s,baz=226,slow=11,SNR=8.4						
PETK	**Petropavlovsk-**	**19.86**	**286**	P	**P**	**02 39 36.9**	**-0.4**
	2.0nm,0.3s,baz=87,slow=14,SNR=55						
SEY	**Seymchan**	**22.87**	**314**	P	**P**	**02 40 08.0**	**-1.6**
	1.4nm,0.2s,baz=94,slow=10,SNR=5.2						
INK	**Inuvik**	**23.77**	**33**	P	**P**	**02 40 17.4**	**-1.0**
	1.2nm,0.5s,baz=231,slow=7.5,SNR=9.7						
YKA	**Yellowknife Ar**	**30.62**	**48**	P	**P**	**02 41 20.2**	**+0.3**
	0.7nm,0.7s,baz=273,slow=8.4,SNR=11						
H11S1	**WAKE ISLAND Hy**	**38.23**	**218**	T	T	03 23 45.6	
	baz=23,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**38.24**	**218**	T	T	03 23 46.9	
	baz=23,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.24**	**218**	T	T	03 23 46.9	
	baz=23,slow=76,SNR=7.9						
PDAR	**Pinedale Array**	**40.61**	**78**	P	**P**	**02 42 47.1**	**+1.0**
	0.3nm,0.7s,baz=259,slow=0.8,SNR=4.0						
KSRS	**Korea Array**	**45.33**	**277**	P	**P**	**02 43 24.6**	**+0.5**
	1.5nm,0.9s,baz=51,slow=8.7,SNR=5.9						
DAG	**Danmarks Havn**	**50.24**	**8**	*i* P	**P**	**02 44 01.0**	**-0.5**
SONM	**Songino Array**	**51.41**	**301**	P	**P**	**02 44 09.5**	**-1.5**
	0.7nm,0.9s,baz=48,slow=6.6,SNR=3.7						
DBG	**Daneborg**	**52.36**	**10**	*i* P	**P**	**02 44 17.0**	**-0.5**
ARCES	**ARCESS Array B**	**58.34**	**354**	P	**P**	**02 45 00.3**	**-0.3**
	2.4nm,0.9s,baz=0.6,slow=9.0,SNR=3.7						
MKAR	**Makanchi Array**	**64.01**	**313**	P	**P**	**02 45 38.3**	**-1.1**
	0.2nm,0.4s,baz=56,slow=7.4,SNR=4.2						
FINES	**FINESS Array B**	**66.28**	**352**	P	**P**	**02 45 53.9**	**+0.1**
	2.2nm,0.7s,baz=1.1,slow=8.2,SNR=9.9						
NOA	**NORSAR Array B**	**67.37**	**360**	P	**P**	**02 46 01.5**	**+0.7**
	0.7nm,0.7s,baz=0.2,slow=6.4,SNR=2.5						
AKASG	**Malin Array Be**	**76.50**	**348**	P	**P**	**02 46 55.5**	**-0.1**
	0.3nm,0.5s,baz=13,slow=5.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**76.59**	**283**	P	**P**	**02 46 55.9**	**-0.8**
	0.3nm,0.3s,baz=32,slow=7.7,SNR=2.6						
ASAR	**Alice Springs**	**90.02**	**230**	P	**P**	**02 48 06.4**	**+0.9**
	1.0nm,0.6s,baz=26,slow=4.7,SNR=17						

*IDC **03** 02:50:06.4±1.7, 55°.93S×28°.99W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/19, mbtmp4.1/3, MS3.4/7, Ms1 3.4/7, ms1mx3.1/38, Error ellipse: s-maj=73.6km s-min=32.0km az=7.0*
*NEIC **03** 02:50:12.7±1.7, 55°.7S±0°.2×29°.0W±0°.2, h34km±6km, mb4.3/8, Error ellipse: s-maj=24.6km s-min=15.3km az=194.0*
ISC 03 02:50:11.3±0.7, 55°.5S±0°.1×29°.0W±0°.1, h24km, n27, σ1°04/20, mb4.2/5, MS3.3/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.51**	**283**	Pn	**Pn**	**02 51 17.6**	**-0.4**
VNA1	**Neumayer--Stat**	**17.69**	**157**	P	**P**	**02 54 18.2**	**+1.9**
VNA3	**Neumayer Olymp**	**17.85**	**160**	P	**Pn**	**02 54 19.2**	**+1.5**
VNA2	**Neumayer--Watz**	**18.09**	**157**	P	**Pn**	**02 54 20.2**	**-0.4**
	baz=317,slow=11						
SNAA	**Sanae**	**19.66**	**156**	P	**P**	**02 54 37.1**	**-0.9**
SNAA	**Sanae**	**19.66**	**156**	P	**P**	**02 54 37.2**	**-0.9**
SNAA				IAmb	IAmb	02 54 47.1	
	comp=Z,20nm,1.1s						
MG01	**Puerto William**	**21.88**	**255**	P	**P**	**02 55 03.5**	**+1.5**
PLCA	**Paso Flores**	**30.91**	**281**	LR	LR	03 08 03.8	
	comp=Z,48nm,19.4s,baz=144,slow=35						
QSPA	**South Pole Qui**	**34.76**	**180**	P	**P**	**02 56 58.6**	**-0.8**
CPUP	**Villa Florida**	**35.70**	**313**	LR	LR	03 10 01.0	
	comp=Z,28nm,21.5s,baz=131,slow=33						
ZON	**Zonda**	**36.69**	**294**	P	**P**	**02 57 15.6**	**-0.6**
ZON				IAmb	IAmb	02 57 18.9	
	comp=Z,2.6nm,0.7s						
AC02	**Maricunga**	**40.73**	**298**	P	**P**	**02 57 50.8**	**+0.2**
AC02				IAmb	IAmb	02 57 59.4	
	comp=Z,9.6nm,1.4s						
LVC	**Limon Verde**	**44.16**	**302**	LR	LR	03 17 02.7	
	comp=Z,16nm,20.2s,baz=178,slow=36						
BOSA	**Boshof**	**46.82**	**78**	P	**P**	**02 58 39.2**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=210,slow=5.5,SNR=4.0						
BOSA	**Boshof**	**46.82**	**78**	IAmb	IAmb	02 58 40.1	
	comp=Z,1.7nm,0.8s						
LPAZ	**La Paz**	**49.24**	**307**	P	**P**	**02 58 59.1**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=166,slow=3.1,SNR=10.0						
LPAZ				LR	LR	03 21 02.5	
	comp=Z,28nm,18.8s,baz=58,slow=38						
LPAZ	**La Paz**	**49.24**	**307**	P	**P**	**02 58 59.3**	**+0.9**
LPAZ				IAmb	IAmb	02 58 59.9	
	comp=Z,5.9nm,1.2s						
PTGA	**Pitinga**	**60.12**	**324**	LR	LR	03 27 34.5	
	comp=Z,28nm,18.4s,baz=143,slow=37						
SDV	**Santo Domingo**	**72.91**	**317**	P	**P**	**03 01 37.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**73.08**	**31**	P	**P**	**03 01 40.2**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=200,slow=6.3,SNR=18						
TORD	**Torodi Ar. Bea**	**73.08**	**31**	P	**P**	**03 01 40.3**	**+1.0**
ESDC	**Sonseca Array**	**97.17**	**19**	LR	LR	03 43 20.5	
	comp=Z,96nm,20.9s,baz=252,slow=33						
ASAR	**Alice Springs**	**99.81**	**164**	LR	LR	03 48 14.3	
	comp=Z,30nm,18.1s,baz=152,slow=35						
YKA	**Yellowknife Ar**	**135.09**	**319**	PKP	**PKPdf**	**03 09 25.8**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=132,slow=2.0,SNR=8.0						
IL31		**149.00**	**313**	PKPbc	**PKPbc**	**03 09 55.4**	**-0.2**
ILAR	**Eielson Array**	**149.00**	**313**	PKPbc	**PKPbc**	**03 09 55.2**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=124,slow=1.7,SNR=23						
SONM	**Songino Array**	**151.70**	**87**	PKPbc	**PKPbc**	**03 10 01.3**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=231,slow=3.7,SNR=6.0						

*NIED **03** 02:59:42.7, 37°.16N×141°.36E, h49km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.63; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.76; $M_{r\theta}$0.60; $M_{\theta\phi}$-0.15; $M_{\phi r}$0.81; Fault plane solution: $M_0$1.24000×10^{15} NP1:ϕ_s32.00000°, δ74.00000°, λ106.00000°. NP2:ϕ_s166.00000°, δ23.00000°, λ47.00000°.*
*JMA **03** 02:59:42.7±0.1, 37°.16N×141°.36E, h49km±1km, M4.0*
JMA Felt II J1.
*IDC **03** 02:59:43.4±0.5, 37°.11N×141°.38E, h49km±5km, mb3.7/16, mb1 3.9/23, mb1mx3.7/54, mbtmp4.0/23, MS3.0/8, Ms1 3.1/8, ms1mx2.7/89, Error ellipse: s-maj=15.2km s-min=9.6km az=120.0*
*NEIC **03** 02:59:43.7±1.4, 37°.16N±0°.05×141°.3E±0°.1, h50km±8km, mb4.3/17, Error ellipse: s-maj=12.7km s-min=6.8km az=97.0*
ISC 03 02:59:43.1±0.6, 37°.15N±0°.04×141°.40E±0°.06, h47km±5km, n79, σ0°92/84, mb4.0/24, MS2.9/3, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**297**	⇓P	**Pn**	**02 59 53.0**	**-0.8**
JFK				S	**Sn**	**03 00 00.1**	**-1.4**
ONAJ	**Iwakimizuishiy**	**0.48**	**264**	⇓P	**Pn**	**02 59 53.3**	**-0.7**
ONAJ				S	**Sn**	**03 00 00.4**	**-1.4**
JFFD	**Fukushimafurud**	**0.67**	**265**	⇓P	**Pn**	**02 59 55.7**	**-0.7**
JFFD				S	**Sn**	**03 00 04.6**	**-1.4**
JMST	**Minamisoumatoc**	**0.70**	**325**	⇓P	**Pn**	**02 59 55.8**	**-0.9**
JMST				S	**Sn**	**03 00 05.2**	**-1.4**
JHO	**Hitachi**	**0.86**	**231**	⇓P	**Pn**	**02 59 57.7**	**-1.1**
JHO				S	**Sn**	**03 00 08.4**	**-1.9**
JMM	**Marumori**	**0.86**	**326**	⇓P	**Pn**	**02 59 58.1**	**-0.7**
JMM				S	**Sn**	**03 00 08.1**	**-1.3**
JMM	**Marumori**	**0.86**	**326**		**Pn**	**02 59 58.2**	**-0.7**
JFT	**Otama**	**0.92**	**294**	⇓P	**Pn**	**02 59 59.7**	**0.0**
JFT				S	**Sn**	**03 00 11.9**	**0.0**
JIO	**Ouri**	**1.30**	**358**	⇓P	**Pn**	**03 00 04.2**	**-0.6**
JIO				*e*S	**Sn**	**03 00 19.2**	**-1.9**
JYT	**Yasato**	**1.34**	**227**		**Pn**	**03 00 04.5**	**-0.8**
JOU	**Okura**	**1.35**	**334**	⇓P	**Pn**	**03 00 05.1**	**-0.4**
JFY	**Yanaizu**	**1.38**	**281**	⇓P	**Pn**	**03 00 05.8**	**-0.1**
JYS	**Shirataka**	**1.50**	**316**	P	**Pn**	**03 00 08.0**	**+0.4**
JYS				*e*S	**Sn**	**03 00 26.4**	**+0.3**
MJAR	**Matsushiro Arr**	**2.63**	**258**	P	**Pn**	**03 00 23.7**	**+0.6**
	4.5nm,0.3s,baz=82,slow=15,SNR=103						
MJAR				S	**Sn**	**03 00 54.5**	**+0.7**
	2.6nm,0.3s,baz=152,slow=16,SNR=4.9						
MJAR				LR	LR	03 01 43.1	
	comp=Z,308nm,19.4s,baz=74,slow=46						
MJAR	**Matsushiro Arr**	**2.63**	**258**	Pn	**Pn**	**03 00 23.1**	**0.0**
MAJO	**Matsushiro**	**2.63**	**258**		**Pn**	**03 00 23.3**	**+0.2**
MAT	**Matsushiro**	**2.63**	**258**	P	**Pn**	**03 00 24.1**	**+1.0**
MAT				*e*S	**Sn**	**03 00 56.5**	**+2.7**
MJB9	**Matsu-Tunnel**	**2.63**	**258**		**Pn**	**03 00 23.6**	**+0.5**
JSD	**Sado**	**2.65**	**290**		**Pn**	**03 00 22.8**	**-0.5**
JGF	**Kuroka**	**3.61**	**246**		**Pn**	**03 00 36.8**	**+0.2**
JTM	**Tenmabayashi**	**3.64**	**356**	Pn	**Pn**	**03 00 38.2**	**+1.3**
INU	**Inuyama**	**3.97**	**244**	Pn	**Pn**	**03 00 41.9**	**+0.4**
JHJ	**Hachijo jima 2**	**4.24**	**199**	P	**Pn**	**03 00 45.4**	**+0.3**
	37nm,0.3s,baz=322,slow=22,SNR=31						
JHJ				S	**Sn**	**03 01 32.9**	**-0.4**
	46nm,0.3s,baz=284,slow=23,SNR=5.9						
JWT	**Wachi**	**5.20**	**251**	Pn	**Pn**	**03 00 58.8**	**+0.5**
ASAJ	**Asahikawa**	**7.02**	**7**	P	**Pn**	**03 01 22.7**	**-0.5**
	2.2nm,0.3s,baz=234,slow=13,SNR=9.8						
ASAJ				LR	LR	03 04 03.2	
	comp=Z,53nm,18.5s,baz=6.0,slow=37						
JNU	**Nakatsue**	**9.51**	**248**	P	**Pn**	**03 01 58.4**	**+1.0**
	0.2nm,0.3s,baz=90,slow=9.1,SNR=3.6						
USRK	**Ussuriysk Ar.**	**10.03**	**318**	P	**Pn**	**03 02 06.0**	**+1.6**
	baz=139,slow=14,SNR=14						
USRK				LR	LR	03 05 42.1	
	comp=Z,99nm,18.2s,baz=118,slow=36						
USRK	**Ussuriysk Ar.**	**10.03**	**318**		**Pn**	**03 02 03.5**	**-1.0**
KSRS	**Korea Array**	**10.74**	**276**	P	**Pn**	**03 02 16.1**	**+1.9**
	0.2nm,0.3s,baz=93,slow=13,SNR=6.9						
KSRS				LR	LR	03 06 16.2	
	comp=Z,76nm,18.5s,baz=70,slow=36						
KLR	**Kul'dur**	**13.96**	**333**	P	**Pn**	**03 03 00.6**	**+2.5**
	0.1nm,0.3s,baz=180,slow=14,SNR=2.3						
KLR				LR	LR	03 07 43.9	
	comp=Z,59nm,19.6s,baz=277,slow=34						
YAK	**Yakutsk**	**25.95**	**347**	LR	LR	03 15 38.4	
	comp=Z,36nm,19.4s,baz=262,slow=37						
SEY	**Seymchan**	**26.68**	**11**	P	**P**	**03 05 17.8**	**+0.5**
	0.9nm,0.3s,baz=204,slow=10,SNR=4.4						
ULN	**Ulaanbaatar**	**27.28**	**304**	P	**P**	**03 05 23.5**	**+0.3**
ULN				IAmb	IAmb	03 05 27.0	
	comp=Z,3.0nm,0.7s						
ENH	**Enshi**	**27.33**	**265**	P	**P**	**03 05 22.4**	**-1.3**
ENH				IAmb	IAmb	03 05 32.0	
	comp=Z,5.0nm,0.6s						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**03 05 26.8**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=106,slow=8.9,SNR=19						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**03 05 27.1**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	03 35 37.0	
	baz=314,slow=75,SNR=193						
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	03 35 16.4	
	baz=314,slow=75,SNR=251						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	03 35 25.8	
	baz=314,slow=75,SNR=225						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	03 36 31.5	
	baz=315,slow=75,SNR=144						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	03 36 31.7	
	baz=315,slow=75,SNR=130						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	03 36 31.6	
	baz=315,slow=75,SNR=96						
CMAR	**Chiang Mai Arr**	**41.52**	**255**	P	**P**	**03 07 26.8**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=44,slow=6.9,SNR=6.6						
CMAR				LR	LR	03 25 30.5	
	comp=Z,17nm,20.6s,baz=100,slow=37						
CMAR	**Chiang Mai Arr**	**41.52**	**255**	P	**P**	**03 07 24.9**	**-1.1**
ZAA0	**Zalesovo Array**	**41.83**	**312**	P	**P**	**03 07 28.0**	**-0.1**
ZAA0				IAmb	IAmb	03 07 28.9	
	comp=Z,5.9nm,1.3s						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**03 07 27.9**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=87,slow=6.6,SNR=11						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**03 07 27.2**	**-0.9**
MK31	**Makanchi Array**	**44.05**	**302**	P	**P**	**03 07 45.9**	**-0.3**
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**03 07 46.2**	**0.0**
	comp=Z,1.1nm,0.5s,baz=84,slow=12,SNR=19						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**03 07 46.4**	**+0.2**
MAKZ	**Makanchi**	**44.26**	**302**	P	**P**	**03 07 47.8**	**0.0**
SVW2	**Sparrevohn**	**45.44**	**37**	P	**P**	**03 07 55.9**	**-1.2**
KURK	**Kurchatov**	**45.85**	**308**	P	**P**	**03 07 59.5**	**-0.9**
KURK				IAmb	IAmb	03 08 01.7	
	comp=Z,5.6nm,0.7s						
TARG	**Taragay, Kyrgy**	**48.34**	**296**	P	**P**	**03 08 19.3**	**-1.2**
TARG				IAmb	IAmb	03 08 25.7	
	comp=Z,3.4nm,0.7s						
ILAR	**Eielson Array**	**49.40**	**32**	P	**P**	**03 08 28.6**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=268,slow=6.1,SNR=16						
ILAR				pP	**pP**	**03 08 41.6**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=267,slow=6.4,SNR=8.5						
AAK	**Ala-Archa**	**50.42**	**298**	LR	LR	03 30 51.0	
	comp=Z,44nm,18.2s,baz=49,slow=37						
BRVK	**Borovoye**	**50.54**	**312**	P	**P**	**03 08 35.9**	**-0.6**
BRVK				IAmb	IAmb	03 08 37.4	
	comp=Z,4.7nm,1.0s						
KKAR	**Karatay Array**	**53.06**	**300**	P	**P**	**03 08 55.1**	**-0.4**
INK	**Inuvik**	**54.29**	**27**	P	**P**	**03 09 04.4**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=322,slow=6.8,SNR=5.9						
INK	**Inuvik**	**54.29**	**27**	IAmb	IAmb	03 09 19.0	
	comp=Z,3.1nm,1.1s						
ARU	**Arti**	**56.27**	**318**	P	**P**	**03 09 17.9**	**-0.5**
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**03 09 24.4**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=5.9,slow=7.4,SNR=5.2						
WRA				pP	**pP**	**03 09 37.5**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=4.9,slow=7.4,SNR=9.5						
ABKAR	**Akbulak array**	**57.86**	**310**	P	**P**	**03 09 29.6**	**-0.3**
YKA	**Yellowknife Ar**	**63.71**	**30**	P	**P**	**03 10 09.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=301,slow=7.0,SNR=6.9						
YKA				pP	**pP**	**03 10 22.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=299,slow=6.6,SNR=7.1						
FINES	**FINESS Array B**	**68.71**	**332**	P	**P**	**03 10 41.3**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=32,slow=9.0,SNR=6.3						
NB2	**NORSAR Subarra**	**74.08**	**337**	P	**P**	**03 11 13.5**	**-0.4**
	comp=Z,3.7nm,1.1s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.08**	**337**	P	**P**	**03 11 13.1**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=39,slow=5.7,SNR=4.2						
AKASG	**Malin Array Be**	**74.20**	**322**	P	**P**	**03 11 14.3**	**-0.4**
	comp=Z,1.9nm,0.5s,ba

comp=Z,1μm,0.3s
IDAH *e*Pn Pb 03 48 09.1 -2.0
TNSJ Nastanj 2.94 352 *e*Pn Pn 03 48 07.8 +2.0
ISAD Sadrabad 3.02 288 *e*Pn Pn 03 48 09.3 +2.2
IMON Monand 3.07 45 *e*Pn Pn 03 48 10.2 +2.5
IMON *e* 03 48 24.1
comp=Z,1μm,0.3s
ZHSF Zahedan 3.51 113 *e*Pn Pn 03 48 17.0 +3.3
ZHDN Zahedan 3.63 116 *e*Pn Pn 03 48 17.2 +1.9
SHRT Shahrakht 3.76 46 *e*Pn Pn 03 48 19.1 +2.0
NASN Na'in 4.03 297 *e*Pn Pn 03 48 23.6 +2.6
IZEF Zefreh 4.43 296 *e*Pn Pn 03 48 29.2 +2.7
SHRO Shahrood 5.01 350 *e*Pn Pn 03 48 36.1 +1.8

TEH 03 04:00:31.1, 34°.74N×50°.46E, h8km, ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**0.41**	**242**	*e*Pg	Pg	04 00 39.6	+0.5
IQOM	**Qom**	**0.51**	**78**	*e*Pg	Pb	04 00 42.0	-0.5
IQOM				*e*Sg	Sb	04 00 49.7	-0.5
IQOM				*e*		04 00 52.2	
	comp=Z,36μm,0.2s						
GHVR	**GHOM**	**0.73**	**110**	*e*Pg	Pb	04 00 45.8	-0.4
IRAZ	**Razeghan**	**0.79**	**327**	*e*Pg	Pg	04 00 46.7	+0.3
IRAZ				*e*Sg	Sb	04 00 58.4	+0.1
IMHD	**Mahdasht**	**0.96**	**10**	*e*Pg	Pb	04 00 49.9	-0.1
IMHD				*e*		04 00 50.3	
	comp=Z,30μm,0.2s						
IHSB	**Hasanabad**	**0.96**	**44**	*e*Pg	Pb	04 00 50.2	+0.1
IHSB				*e*		04 01 04.5	
	comp=Z,16μm,0.2s						
IVRN	**Varamin**	**1.07**	**76**	*e*Pg	Pb	04 00 52.0	+0.1
IVRN				*e*Sg	Sn	04 01 07.4	-0.2
IVRN				*e*		04 01 08.0	
	comp=Z,15μm,0.3s						
KHMZ	**Khomeyn**	**1.08**	**203**	*e*Pg	Pg	04 00 51.3	-0.6
HAGD	**Aghdareh**	**1.09**	**275**	*e*Pg	Pb	04 00 52.3	-0.1
QABG	**Abgarm-Qazvin**	**1.21**	**324**	*e*Pg	Pg	04 00 52.9	-1.4
THKV	**Tehran--Karaj**	**1.22**	**16**	*e*Pg	Pg	04 00 53.1	-1.5
TEH	**Tehran**	**1.25**	**37**	*e*Pg	Pg	04 00 55.1	0.0
TEH				*e*		04 01 14.1	
	comp=Z,19μm,0.6s						
TEHA	**Amirabad Tehra**	**1.26**	**37**	*e*Pg	Pn	04 00 54.8	-0.3
TEHA				*e*Sg	Sn	04 01 12.7	+0.4
TEHA				*e*		04 01 15.6	
	comp=Z,10μm,0.3s						
QAMS	**Qamsar**	**1.27**	**142**	*e*Pg	Pn	04 00 55.1	-0.2
QAMS				*e*		04 01 13.0	
	comp=Z,23μm,0.3s						
CHTH	**Charan**	**1.29**	**25**	*e*Pg	Pn	04 00 55.5	-0.1
ISFB	**Sefidab**	**1.52**	**104**	*e*Pn	Pn	04 00 58.9	+0.2
ISFB				*e*		04 01 22.8	
	comp=Z,16μm,0.3s						
DAMV	**Damavand**	**1.52**	**54**	*e*Pg	Pn	04 00 59.3	+0.4
IDMV	**Damavand**	**1.53**	**57**	*e*Pg	Pb	04 00 59.7	-0.3
KRSH	**Karshahi**	**1.58**	**119**	*e*Pn	Pb	04 01 00.3	-0.4
KRSH				*e*		04 01 29.1	
	comp=Z,8μm,0.3s						
HSAM	**Samen**	**1.62**	**252**	*e*Pn	Pb	04 01 00.9	-0.6
HSAM				*e*		04 01 25.7	
	comp=Z,3μm,0.4s						
IGZV	**Ghazvin**	**1.65**	**353**	*e*		04 01 03.2	
	comp=Z,11μm,0.3s						
IGZV				*e*Pn	Pb	04 01 02.0	0.0
IKLH	**Kolahrood**	**1.69**	**146**	*e*Pg	Pb	04 01 02.7	0.0
IKLH				*e*		04 01 26.2	
	comp=Z,13μm,0.4s						
QALM	**Alamut, Qazvin**	**1.69**	**5**	*e*Pn	Pb	04 01 02.2	-0.5
JIR1	**Jirandeh**	**2.04**	**345**	*e*Pn	Pb	04 01 07.8	-0.6
IFIR	**Firoozkooh**	**2.08**	**64**	*e*Pn	Pb	04 01 08.6	-0.7
IPIR	**Pirpir**	**2.08**	**170**	*e*		04 01 44.5	
	comp=Z,4μm,0.5s						
IPIR				*e*Pn	Pb	04 01 09.9	+0.6
IDOB	**Doab**	**2.12**	**244**	*e*Pn	Pb	04 01 09.5	-0.4
IPRN	**Peran**	**2.14**	**45**	*e*Pn	Pb	04 01 10.3	+0.1
IPRN				*e*		04 01 42.9	
	comp=Z,7μm,0.5s						
ILAS	**Lasjerd**	**2.15**	**72**	*e*		04 01 41.7	
	comp=Z,5μm,0.2s						
ILAS				*e*Pn	Pb	04 01 09.4	-1.0
IZEF	**Zefreh**	**2.41**	**139**	*e*Pn	Pb	04 01 14.0	-0.9
IZEF				*e*		04 01 48.8	
	comp=Z,2μm,0.5s						
SHK1	**Shahrekord**	**2.43**	**172**	*e*Pn	Pb	04 01 14.7	-0.5
SHK1				*e*		04 01 52.9	
	comp=Z,3μm,0.8s						
LHJ2	**Lahijan - Gila**	**2.44**	**352**	*e*Pn	Pb	04 01 14.3	-1.0
IKFM	**Kafar-mosalman**	**2.48**	**242**	*e*Pn	Pn	04 01 13.8	+2.0
IKFM				*e*		04 02 02.6	
	comp=Z,3μm,0.6s						
ISHM	**Shahmirzad**	**2.55**	**65**	*e*Pn	Pb	04 01 15.2	-2.1
SNGE	**Sanandaj**	**2.58**	**279**	*e*Pn	Pn	04 01 15.5	+2.1
IGAR	**Gharneh**	**2.68**	**150**	*e*Pn	Pb	04 01 17.6	-1.8
NASN	**Na'in**	**2.75**	**134**	*e*Pn	Pb	04 01 18.7	-2.0
IBRJ	**Brojen**	**2.90**	**166**	*e*Pn	Pn	04 01 19.5	+1.6
IANJ	**Anjilo**	**2.92**	**75**	*e*Pn	Pn	04 01 20.1	+2.0
AMIS	**Naft Sefid**	**3.22**	**198**	*e*Pn	Pn	04 01 25.1	+3.1
IGLO	**Ghaloghah**	**3.26**	**56**	*e*Pn	Pn	04 01 25.1	+2.4
IRAM	**Ramesheh**	**3.34**	**151**	*e*Pn	Pn	04 01 25.8	+2.0
KLNJ	**Kolanjah**	**3.84**	**165**	*e*Pn	Pn	04 01 32.5	+1.7
IBST	**Bostanabad**	**4.13**	**317**	*e*Pn	Pn	04 01 36.4	+1.7
ICHK	**Chekchek**	**4.13**	**126**	*e*Pn	Pn	04 01 36.6	+1.9
YZKH	**Yazd**	**4.17**	**123**	*e*Pn	Pn	04 01 37.6	+2.5
GRMI	**Germi**	**4.55**	**334**	*e*Pn	Pn	04 01 43.2	+2.8
SHRO	**Shahrood**	**4.70**	**73**	*e*Pn	Pn	04 01 44.7	+2.2
IMEH	**Mehriz**	**4.83**	**133**	*e*Pn	Pn	04 01 46.2	+1.9
TPRV	**Parvadeh(Tabas**	**5.45**	**107**	*e*Pn	Pn	04 01 54.9	+2.2
TABS	**Tabas**	**5.62**	**99**	*e*Pn	Pn	04 01 57.3	+2.2
AFRZ	**Afriz**	**7.22**	**98**	*e*Pn	Pn	04 02 18.8	+1.8
BSRN	**Basiran**	**7.76**	**108**	*e*Pn	Pn	04 02 27.0	+2.5

IDC 03 04:25:18.7±2.2, 5°.31N×126°.61E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/33, mbtmp3.6/4, Error ellipse: s-maj=198.4km s-min=24.0km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.21**	**163**	P	P	04 30 55.2	-0.2
	0.4nm,0.3s,baz=344,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**29.66**	**166**	P	P	04 31 25.1	-1.2
	0.2nm,0.3s,baz=343,slow=8.0,SNR=4.8						
STKA	**Stephens Creek**	**39.64**	**160**	P	P	04 32 53.3	+1.0
	0.4nm,0.3s,baz=340,slow=12,SNR=3.9						
MKAR	**Makanchi Array**	**56.21**	**325**	P	P	04 35 00.5	-0.1
	0.1nm,0.3s,baz=129,slow=9.0,SNR=4.0						

IDC 03 04:34:31.5±4.8, 24°.21S×67°.08W, h187km±52km, mb3.0/1, mb1 2.9/3, mb1mx2.8/28, mbtmp3.3/3, Error ellipse: s-maj=78.5km s-min=66.5km az=115.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.31**	**313**	P	Pn	04 35 13.9	+1.0
	4.7nm,0.3s,baz=131,slow=7.6,SNR=42						
LVC				S	Sn	04 35 44.9	-0.1
	14nm,0.3s,baz=180,slow=4.5,SNR=44						
LPAZ	**La Paz**	**7.94**	**353**	P	Pn	04 36 25.6	+0.9
	0.2nm,0.3s,baz=180,slow=11,SNR=7.2						
TORD	**Torodi Ar. Bea**	**76.72**	**69**	P	P	04 46 02.0	-0.4
	0.2nm,0.6s,baz=237,slow=5.1,SNR=2.9						
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	PKPbc	04 53 51.0	-0.3
	0.2nm,0.4s,baz=324,slow=3.5,SNR=4.6						

*JMA **03** 04:36:44.1±0.3, 43°.61N×147°.74E, h0km, M3.6*
*SKHL **03** 04:36:45.1±0.8, 43°.90N×148°.00E, h59km±9km, mb3.8/3*
ISC 03 04:36:43.9±3.6, 43°.8N±0°.1×148°.1E±0°.1, h32km±21km, n15, σ0°81/27, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.90**	**274**	*i* P	**Pn**	**04 37 01.1**	**+0.9**
SHO				AMB	AMB	04 37 01.7	
	50nm,0.2s						
SHO				*i* S	**Sb**	**04 37 12.1**	**-0.5**
SHO				A	A	04 37 13.7	
	680nm,0.4s						
SHO				A	A	04 37 13.7	
	630nm,0.4s						
KUR	**Kuril'sk**	**1.42**	**354**	*e*P	**Pn**	**04 37 07.6**	**+0.1**
KUR				AMB	AMB	04 37 08.3	
	40nm,0.3s						
KUR				*e*S	**Sn**	**04 37 24.7**	**-0.4**
KUR				A	A	04 37 27.5	
	280nm,0.3s						
KUR				A	A	04 37 27.5	
	190nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.61**	**279**	*e*P	**Pn**	**04 37 09.9**	**-0.1**
YUK				AMB	AMB	04 37 10.7	
	30nm,0.3s						
YUK				*e*S	**Sn**	**04 37 28.8**	**-0.8**
YUK				A	A	04 37 30.3	
	110nm,0.3s						
YUK				A	A	04 37 30.3	
	240nm,0.3s						
GRPR	**Tuman**	**1.67**	**277**	*e*S	**Sn**	**04 37 30.7**	**-0.4**
NEM2	**Nemuro 2**	**1.75**	**256**	P	**Pn**	**04 37 11.9**	**0.0**
NEM2				*e*S	**Sn**	**04 37 31.9**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.76**	**256**	*i* P	**Pn**	**04 37 12.2**	**+0.2**
NMR				*i* S	**Sn**	**04 37 32.5**	**-0.8**
GLVR	**Golovnino**	**1.85**	**268**	*e*S	**Sn**	**04 37 36.0**	**+0.5**
JNSB	**Nemuroshibetsu**	**2.22**	**270**	P	**Pn**	**04 37 19.6**	**+1.2**
JNSB				*e*S	**Sn**	**04 37 45.1**	**+0.4**
JKHN	**Kushirohamanak**	**2.24**	**252**	P	**Pn**	**04 37 19.2**	**+0.5**
JKHN				*e*S	**Sn**	**04 37 44.6**	**-0.6**
JNK	**Nakash**	**2.44**	**266**	P	**Pn**	**04 37 22.4**	**+1.0**
JNK				*e*S	**Sn**	**04 37 50.0**	**-0.1**
AKK	**Akkeshi**	**2.48**	**252**	*e*P	**Pn**	**04 37 23.1**	**+1.1**
AKK				*e*S	**Sn**	**04 37 50.9**	**-0.3**
JAK	**Akkeshi**	**2.59**	**253**	P	**Pn**	**04 37 23.8**	**+0.3**
JAK				*e*S	**Sn**	**04 37 52.3**	**-1.5**
JAR	**Ashorobuto**	**3.17**	**262**	P	**Pn**	**04 37 32.9**	**+1.5**
JAR				*e*S	**Sn**	**04 38 07.8**	**-0.3**
JCH	**Churui**	**3.64**	**252**	P	**Pn**	**04 37 38.4**	**+0.4**
JCH				*e*S	**Sn**	**04 38 18.8**	**-1.0**
JNBK	**Urakawa-nobuka**	**4.19**	**250**	P	**Pn**	**04 37 46.2**	**+0.7**

*IDC **03** 05:03:14.4±0.7, 11°.68N×85°.95W, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.8/40, mbtmp4.0/10, ML3.7/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/61, Error ellipse: s-maj=53.8km s-min=10.8km az=56.0*
*INET **03** 05:03:14.9±1.3, 10°.75N×86°.79W, h15km±23km, MW4.0*
*UCR **03** 05:03:17.2±1.6, 10°.66N×86°.64W, h20km, MW4.6, mb4.5(NEIC)*
*NEIC **03** 05:03:17.0±1.9, 10°.97N±0°.06×86°.65W±0°.05, h21km±6km, mb4.5/71, Error ellipse: s-maj=10.5km s-min=2.6km az=219.0*
ISC 03 05:03:14.1±0.6, 10°.85N±0°.05×86°.72W±0°.05, h10km, n157, σ1°17/152, mb4.5/43, MS3.5/7, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.12**	**97**	*e*P	**Pg**	**05 03 35.7**	**+0.1**
HZTE				*e*S	**Sb**	**05 03 51.7**	**+1.5**
HZTE	**Horizontes, Gu**	**1.12**	**97**		**Pg**	**05 03 35.8**	**+0.1**
HZTE	**Horizontes, Gu**	**1.12**	**97**	*e*P	**Pg**	**05 03 35.6**	**+0.1**
GBS3	**Finca Las Img**	**1.25**	**93**	*i* P	**Pb**	**05 03 37.5**	**-0.3**
MASN	**Masaya**	**1.26**	**26**	*e*P	**Pn**	**05 03 39.7**	**+1.9**
SAJU	**San Juanillo,**	**1.27**	**128**	*e*P	**Pn**	**05 03 36.5**	**-1.4**
SAJU				*e*S	**Sb**	**05 03 51.3**	**-3.1**
LAPC	**Finca la Perla**	**1.27**	**94**	*i* P	**Pn**	**05 03 37.7**	**-0.3**
LAPC				*i* S	**Sb**	**05 03 54.0**	**-0.6**
BUEV	**Buena Vista**	**1.29**	**92**	*i* P	**Pn**	**05 03 38.5**	**+0.1**
COPN	**Copaltepe**	**1.32**	**6**	*e*P	**Pb**	**05 03 38.9**	**-0.2**
ORTG	**Ortega, Santa**	**1.34**	**111**	*e*P	**Pn**	**05 03 38.4**	**-0.5**
ORTG	**Ortega, Santa**	**1.34**	**111**		**Pn**	**05 03 38.5**	**-0.5**
ORTG	**Ortega, Santa**	**1.34**	**111**	*e*P	**Pn**	**05 03 38.3**	**-0.6**
TISN	**Laguna Tiscapa**	**1.36**	**19**	*e*P	**Pn**	**05 03 39.4**	**+0.3**
BUAI	**Buenos Aires**	**1.37**	**89**	*i* P	**Pn**	**05 03 39.9**	**+0.6**
MGAN	**Managua**	**1.37**	**20**	*e*P	**Pn**	**05 03 39.4**	**+0.1**
MGAN				*e*P	**Pb**	**05 03 39.6**	**-0.2**
GRZA	**Playa Garza**	**1.42**	**131**	*e*P	**Pn**	**05 03 38.6**	**-1.3**
DUNO	**Dulce Nombre,**	**1.43**	**122**		**Pn**	**05 03 39.7**	**-0.5**
LIM1	**Limonal**	**1.46**	**96**	*i* P	**Pn**	**05 03 40.7**	**+0.2**
CUI	**Cuipilapa**	**1.54**	**97**	*e*P	**Pn**	**05 03 42.2**	**+0.4**
MOMN	**Momotombo**	**1.56**	**7**	*e*P	**Pn**	**05 03 41.5**	**-0.4**
HUEN		**1.57**	**20**	*e*P	**Pn**	**05 03 42.3**	**+0.2**
VMAR	**Armenia, Volca**	**1.58**	**91**	*e*P	**Pn**	**05 03 43.4**	**+1.2**
PTEN	**Parque Tenorio**	**1.71**	**94**	*i* P	**Pn**	**05 03 45.1**	**+1.0**
JTS	**Las Juntas de**	**1.83**	**108**	Pn	**Pn**	**05 03 45.2**	**-0.4**
JTS				Lg	Lg	05 04 08.4	
JTS	**Las Juntas de**	**1.83**	**108**	*e*P	**Pn**	**05 03 45.6**	**0.0**
JTS	**Las Juntas de**	**1.83**	**108**		**Pn**	**05 03 45.9**	**+0.3**
JTS	**Las Juntas de**	**1.83**	**108**	*e*P	**Pn**	**05 03 45.7**	**0.0**
CRIN	**San Cristobal**	**1.86**	**350**		**Pn**	**05 03 46.8**	**+0.6**
CRIN	**San Cristobal**	**1.86**	**350**	*e*P	**Pn**	**05 03 46.1**	**-0.1**
ACON	**Acoyapa**	**1.88**	**54**		**Pn**	**05 03 46.1**	**-0.2**
BOAB	**BOACO BROADBAN**	**.90**	**33**		**Pn**	**05 03 45.8**	**-0.8**
CAO2	**Cobano, Puntar**	**1.97**	**126**		**Pn**	**05 03 47.2**	**-0.4**
ARE1	**Arenal 1**	**2.01**	**101**	*e*P	**Pn**	**05 03 50.6**	**+2.5**
LAFE	**Finca La Fe, P**	**2.06**	**120**	*e*P	**Pn**	**05 03 47.8**	**-1.0**
LAFE	**Finca La Fe, P**	**2.06**	**120**	*e*P	**Pn**	**05 03 47.8**	**-1.0**
MATN	**Matagalpa**	**2.21**	**21**		**Pn**	**05 03 49.8**	**-1.2**
MATN	**Matagalpa**	**2.21**	**21**	*e*P	**Pn**	**05 03 49.9**	**-1.0**
COVE	**Coope Vega, Sa**	**2.29**	**93**	*e*P	**Pn**	**05 03 53.4**	**+1.5**
COVE	**Coope Vega, Sa**	**2.29**	**93**		**Pn**	**05 03 52.1**	**+0.2**
HDC	**Heredia**	**2.70**	**108**		**Pn**	**05 03 58.7**	**+0.9**
ESPN	**Las Esperanzas**	**2.73**	**60**	*e*P	**Pn**	**05 04 00.3**	**+2.4**
ESPN	**Las Esperanzas**	**2.73**	**60**		**Pn**	**05 03 58.9**	**+0.9**
ESPN	**Las Esperanzas**	**2.73**	**60**	*e*P	**Pn**	**05 03 56.4**	**-1.5**
LCR2	**La Lucha 2**	**2.90**	**112**	*e*P	**Pn**	**05 04 02.4**	**+1.9**
RIMA	**Rio Macho**	**3.02**	**111**		**Pn**	**05 04 03.5**	**+1.4**
RIMA	**Rio Macho**	**3.02**	**111**	*e*P	**Pn**	**05 04 03.5**	**+1.4**
CVTR	**Volcan Turrial**	**3.03**	**106**		**Pn**	**05 04 04.5**	**+1.9**
COEB	**Comit de Eme**	**3.17**	**326**	*e*P	**Pn**	**05 04 04.4**	**+0.2**
TGUH	**Tegucigalpa,Un**	**3.23**	**351**		**Pn**	**05 04 06.2**	**+1.2**
TGUH	**Tegucigalpa,Un**	**3.23**	**351**	*e*P	**Pn**	**05 04 05.7**	**+0.7**
PEZE	**Perez Zeledon,**	**3.34**	**116**		**Pn**	**05 04 08.2**	**+1.7**
SRBA	**San Rafael, Bu**	**3.68**	**116**		**Pn**	**05 04 13.8**	**+2.5**
SNET	**Serv Nac Est T**	**3.73**	**319**		**Pn**	**05 04 13.1**	**+1.2**
MTO3	**Montecristo**	**4.36**	**324**		**Pn**	**05 04 21.9**	**+1.2**
CDITO	**Canoas**	**4.42**	**120**		**Pn**	**05 04 23.8**	**+2.5**
BRU2	**Volcan**	**4.47**	**117**		**Pn**	**05 04 23.8**	**+1.6**
CMIG	**Matias Romero**	**10.06**	**309**	Pn	**Pn**	**05 05 40.7**	**+2.0**
	0.7nm,0.3s,baz=145,slow=9.7,SNR=6.5						
SJCC	**San Jacinto, C**	**11.40**	**94**	Pn	**Pn**	**05 05 57.6**	**+0.5**
TLIG	**Tlapa**	**13.27**	**301**	Pn	**Pn**	**05 06 23.9**	**+1.0**
URIC	**Uribia, Colomb**	**14.47**	**85**		**Pn**	**05 06 38.2**	**-1.0**
ATAH	**Atahualpa**	**15.70**	**155**	LR	LR	05 14 27.5	
	comp=Z,108nm,18.9s,baz=342,slow=33						
HKT	**Hockley**	**20.81**	**337**	P	**P**	**05 07 56.9**	**+1.2**
342A	**Flagon Creek P**	**21.07**	**347**	P	**P**	**05 07 58.0**	**-0.5**
342A				IAmb	IAmb	05 08 15.8	
	comp=Z,17nm,0.9s						
HUMP	**Col San Antoni**	**21.46**	**68**	P	**P**	**05 08 01.4**	**-1.5**
HUMP				IAmb	IAmb	05 08 25.1	
	comp=Z,29nm,1.4s						
146A	**Union**	**21.79**	**355**	P	**P**	**05 08 06.3**	**+0.1**
146A				IAmb	IAmb	05 08 09.2	
	comp=Z,30nm,1.0s						
152A	**Waverly Hall**	**21.79**	**5**	P	**P**	**05 08 06.9**	**+0.6**
152A				IAmb	IAmb	05 08 09.3	
	comp=Z,18nm,0.8s						
NATX	**Nacogdoches**	**22.06**	**342**	P	**P**	**05 08 06.3**	**-2.9**
NATX				IAmb	IAmb	05 08 10.4	
	comp=Z,15nm,0.9s						
435B	**Jarrell**	**22.25**	**335**	P	**P**	**05 08 10.3**	**-1.0**
Z51A	**Franklin**	**22.40**	**3**	P	**P**	**05 08 11.7**	**-1.2**
Z51A				IAmb	IAmb	05 08 33.6	
	comp=Z,17nm,1.2s						
GOGA	**Godfrey**	**22.65**	**7**	P	**P**	**05 08 14.6**	**-0.9**
237A	**Washetta, Mont**	**22.66**	**340**	P	**P**	**05 08 16.4**	**+0.9**
237A				IAmb	IAmb	05 08 28.8	
	comp=Z,14nm,0.8s						
CZSB	**Cruzeiro do Su**	**23.14**	**142**	P	**P**	**05 08 24.2**	**+3.4**
WHTX	**Lake Whitney,**	**23.26**	**336**	P	**P**	**05 08 21.0**	**-0.8**
WHTX				IAmb	IAmb	05 08 24.7	
	comp=Z,8.6nm,0.8s						
Z38A	**Mt. Pleasant**	**23.56**	**342**	P	**P**	**05 08 25.0**	**+0.2**
Z38A				IAmb	IAmb	05 08 25.7	
	comp=Z,20nm,0.8s						
FPAL	**Fort Paine**	**23.60**	**2**	P	**P**	**05 08 24.8**	**-0.5**
FPAL				IAmb	IAmb	05 08 26.6	
	comp=Z,12nm,0.9s						
SWET	**Sewanee**	**24.26**	**2**	P	**P**	**05 08 30.8**	**-0.8**
W50A	**Signal Mountai**	**24.27**	**3**	P	**P**	**05 08 31.1**	**-0.5**
W50A				IAmb	IAmb	05 08 32.5	
	comp=Z,8.7nm,0.8s						
BG3	**Lake Jocassee**	**24.28**	**8**	P	**P**	**05 08 31.9**	**+0.2**
BG3				IAmb	IAmb	05 08 32.3	
	comp=Z,8.1nm,0.7s						
BIRD	**Birdtown, Kers**	**24.36**	**13**	P	**P**	**05 08 32.3**	**-0.1**
BIRD				IAmb	IAmb	05 08 41.3	
	comp=Z,20nm,1.4s						
Z35A	**Perchaven, San**	**24.37**	**338**	P	**P**	**05 08 32.9**	**+0.4**
MIAR	**Mount Ida**	**24.40**	**346**	P	**P**	**05 08 32.7**	**-0.1**
CPCT	**Cooper Cave**	**24.57**	**4**	P	**P**	**05 08 34.0**	**-0.2**
CPCT				IAmb	IAmb	05 08 37.0	
	comp=Z,10nm,0.7s						
WHAR	**Wooly Hollow**	**24.85**	**349**	P	**P**	**05 08 35.4**	**-1.4**
LOOK	**Love County**	**24.94**	**339**	P	**P**	**05 08 37.9**	**+0.2**
W57A	**Gilead**	**24.95**	**13**	P	**P**	**05 08 37.4**	**-0.3**
W57A				IAmb	IAmb	05 08 37.8	
	comp=Z,9.8nm,0.8s						
V53A	**Saluda**	**24.96**	**8**	P	**P**	**05 08 37.8**	**0.0**
V53A				IAmb	IAmb	05 08 40.2	
	comp=Z,11nm,1.1s						
CLTN	**Cedars of Leba**	**25.13**	**1**	P	**P**	**05 08 38.8**	**-0.5**
CLTN				IAmb	IAmb	05 08 40.9	
	comp=Z,7.4nm,0.7s						
FCAR	**Ozark Folk Cen**	**25.40**	**350**	P	**P**	**05 08 40.9**	**-0.9**
FCAR				IAmb	IAmb	05 08 41.4	
	comp=Z,13nm,1.3s						
U49A	**Red Boiling Sp**	**25.56**	**2**	P	**P**	**05 08 42.6**	**-0.6**
U49A				IAmb	IAmb	05 08 57.3	
	comp=Z,18nm,1.5s						
U54A	**Nelsons Funny**	**25.94**	**9**	P	**P**	**05 08 46.5**	**-0.2**
U54A				IAmb	IAmb	05 08 49.8	
	comp=Z,24nm,1.2s						
LPIG	**La Paz**	**26.01**	**304**	LR	LR	05 19 12.9	
	comp=Z,48nm,18.6s,baz=122,slow=37						
T47A	**Sharon Grove**	**26.02**	**359**	P	**P**	**05 08 46.0**	**-1.4**
FNO	**Franklin**	**26.16**	**340**	P	**P**	**05 08 47.7**	**-1.0**
WMOK	**Wichita Mounta**	**26.20**	**337**		**P**	**05 08 49.7**	**+0.7**
WMOK				IAmb	IAmb	05 08 51.9	
	comp=Z,14nm,0.9s						
TUL1	**Leonard**	**26.27**	**343**		**P**	**05 08 48.4**	**-1.2**
TUL1				IAmb	IAmb	05 08 49.5	
	comp=Z,9.3nm,0.9s						
OK030	**Cody Creek RV**	**26.58**	**342**	P	**P**	**05 08 50.9**	**-1.6**
OK030				IAmb	IAmb	05 08 51.9	
	comp=Z,14nm,0.8s						
OK031	**S. Brethren Rd**	**26.62**	**341**		**P**	**05 08 51.5**	**-1.3**
OK034	**N. Norfolk Rd.**	**26.63**	**342**		**P**	**05 08 51.2**	**-1.7**
QUOK	**Quay**	**26.78**	**342**	P	**P**	**05 08 54.0**	**-0.3**
MSTX	**Muleshoe**	**27.30**	**330**	P	**P**	**05 08 58.1**	**-1.0**
MSTX				IAmb	IAmb	05 09 02.3	
	comp=Z,6.6nm,0.8s						
S39A	**Bolivar**	**27.37**	**349**	P	**P**	**05 08 58.5**	**-1.1**
S39A				IAmb	IAmb	05 08 58.6	
	comp=Z,12nm,1.1s						
AMTX	**Amarillo**	**27.53**	**333**	P	**P**	**05 09 02.2**	**+1.0**
AMTX				IAmb	IAmb	05 09 17.1	
	comp=Z,16nm,1.1s						
Q51A	**Peebles**	**28.22**	**6**	P	**P**	**05 09 06.7**	**-0.4**
Q52A	**Bidwell**	**28.27**	**7**	P	**P**	**05 09 07.3**	**-0.3**
Q54A	**Coxs Mills**	**28.50**	**10**	P	**P**	**05 09 09.3**	**-0.4**
PTGA	**Pitinga**	**28.99**	**112**	LR	LR	05 22 09.7	
	comp=Z,104nm,18.3s,baz=302,slow=40						
O52A	**Adamsville**	**29.46**	**8**	P	**P**	**05 09 17.8**	**-0.5**
P57A	**Homestead Farm**	**29.55**	**14**	P	**P**	**05 09 19.5**	**+0.5**
P57A				IAmb	IAmb	05 09 19.8	
	comp=Z,12nm,0.8s						
O53A	**New Philadelph**	**29.68**	**9**	P	**P**	**05 09 19.3**	**-0.9**
ANMO	**Albuquerque**	**29.97**	**326**	P	**P**	**05 09 24.1**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=135,slow=8.2,SNR=7.2						
N49A	**Columbus Grove**	**30.03**	**4**	P	**P**	**05 09 21.9**	**-1.3**
N53A	**Lisbon**	**30.28**	**9**	P	**P**	**05 09 24.7**	**-0.8**
PAGS	**Pennsylvania G**	**30.57**	**15**	P	**P**	**05 09 27.9**	**0.0**
SSPA	**Standing Stone**	**30.68**	**13**	P	**P**	**05 09 28.5**	**-0.4**
SSPA				IAmb	IAmb	05 09 44.5	
	com

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.94**	**304**	P	**Pn**	**05 18 14.7**	**+0.7**
	86nm,0.3s,baz=149,slow=7.5,SNR=3310						
LVC				S	**Sn**	**05 18 32.1**	**+0.2**
	104nm,0.3s,baz=244,slow=21,SNR=133						
LVC	**Limon Verde**	**0.94**	**304**	*e*P	**Pn**	**05 18 14.2**	**+0.2**
LVC				*i* S	**Sn**	**05 18 32.3**	**+0.4**
PB15	**IPOC Station P**	**1.30**	**267**	*e*P	**Pn**	**05 18 17.6**	**+0.4**
PB15				*i* S	**Sn**	**05 18 37.9**	**+0.3**
PB15				IAML		05 18 38.7	
	comp=E,5μm,0.3s						
PB06	**IPOC Station P**	**1.46**	**287**	*e*P	**Pn**	**05 18 19.3**	**+0.6**
PB06				*i* S	**Sn**	**05 18 40.2**	**-0.2**
PB06				IAML		05 18 42.4	
	comp=N,1μm,0.2s						
PB09	**IPOC Station P**	**1.72**	**320**	*e*P	**Pn**	**05 18 23.2**	**+1.4**
PB09				*i* S	**Sn**	**05 18 46.9**	**+1.1**
PB09				IAML		05 18 48.5	
	comp=E,545nm,0.5s						
PB03	**IPOC Station P**	**1.90**	**304**	*e*P	**Pn**	**05 18 24.3**	**+0.6**
PB03				*i* S	**Sn**	**05 18 48.9**	**-0.5**
PB03				IAML		05 18 49.9	
	comp=E,1μm,0.3s						
PB05	**IPOC Station P**	**1.99**	**278**	*e*P	**Pn**	**05 18 24.6**	**-0.1**
PB05				*i* S	**Sn**	**05 18 49.8**	**-1.4**
PB04	**IPOC Station P**	**2.08**	**292**	*e*P	**Pn**	**05 18 26.2**	**+0.3**
PB04				*i* S	**Sn**	**05 18 52.8**	**-0.5**
PB04				IAML		05 18 54.3	
	comp=E,722nm,0.3s						
PB07	**IPOC Station P**	**2.19**	**309**	*e*P	**Pn**	**05 18 27.8**	**+0.6**
PB07				*i* S	**Sn**	**05 18 55.1**	**-0.5**
PB07				IAML		05 18 56.7	
	comp=E,1μm,0.1s						
PB10	**IPOC Station P**	**2.32**	**260**	*e*P	**Pn**	**05 18 28.4**	**-0.3**
PB10				*i* S	**Sn**	**05 18 56.4**	**-1.7**
PB10				IAML		05 18 57.9	
	comp=N,213nm,0.2s						
PB01	**IPOC Station P**	**2.47**	**327**	*e*P	**Pn**	**05 18 31.1**	**+0.5**
PB01				*i* S	**Sn**	**05 19 01.2**	**-0.3**
PB01				IAML		05 19 05.0	
	comp=E,439nm,0.3s						
PB02	**IPOC Station P**	**2.48**	**316**	*e*P	**Pn**	**05 18 30.9**	**+0.2**
PB02				*i* S	**Sn**	**05 19 00.9**	**-1.0**
PB02				IAML		05 19 07.5	
	comp=E,631nm,0.3s						
PB08	**IPOC Station P**	**3.15**	**341**	*e*P	**Pn**	**05 18 40.9**	**+1.4**
PB08				*i* S	**Sn**	**05 19 18.7**	**+1.2**
PB11	**IPOC Station P**	**3.67**	**336**	*e*P	**Pn**	**05 18 45.7**	**-0.4**
PB11				*i* S	**Sn**	**05 19 27.7**	**-1.6**
LPAZ	**La Paz**	**6.81**	**359**	P	**Pn**	**05 19 29.8**	**+1.4**
	comp=E,0.9nm,0.3s,baz=181,slow=6.5,SNR=27						
SIV	**San Ignacio**	**9.69**	**44**	P	**Pn**	**05 20 04.1**	**-2.2**
	comp=E,0.8nm,0.3s,baz=241,slow=10,SNR=23						
SIV				S	**Sn**	**05 21 48.7**	**-5.0**
	comp=E,0.5nm,0.3s,baz=297,slow=22,SNR=7.4						
PLCA	**Paso Flores**	**17.67**	**186**	P	**P**	**05 21 46.2**	**-0.4**
	comp=E,0.0nm,0.3s,baz=354,slow=9.2,SNR=3.0						
BDFB	**Brasília**	**20.32**	**72**	P	**P**	**05 22 14.8**	**-0.8**
	comp=E,1.7nm,0.4s,baz=230,slow=15,SNR=6.8						
DBIC	**Dimbokro**	**68.46**	**72**	P	**P**	**05 28 38.7**	**+1.1**
	comp=E,1.0nm,0.4s,baz=234,slow=6.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**77.18**	**70**	P	**P**	**05 29 29.9**	**+0.9**
	comp=E,0.8nm,0.4s,baz=260,slow=5.6,SNR=17						
MKAR	**Makanchi Array**	**146.46**	**38**	PKPbc	**PKPab**	**05 37 17.2**	**+1.1**
	comp=E,0.3nm,0.6s,baz=267,slow=2.9,SNR=3.9						

*AZER **03** 05:22:00.7±2.4, 34°.98N×51°.73E, h8km, Error ellipse: s-maj=187.4km s-min=29.8km az=237.0, Hypocentre not reviewed by the ISC*
*TEH **03** 05:22:05.8, 34°.74N×50°.43E, h8km, ML4.0*
*IDC **03** 05:22:05.8±1.7, 34°.19N×50°.30E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/35, mbtmp3.4/5, MS2.9/2, Ms1 2.9/2, ms1mx2.3/55, Error ellipse: s-maj=42.1km s-min=16.6km az=32.0*
ISC 03 05:22:07.3±0.7, 34°.76N±0°.02×50°.42E±0°.02, h10km, n74, σ2§05/74, mb3.3/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**0.40**	**239**	*e*Pg	**Pg**	**05 22 14.9**	**-1.2**
IQOM	**Qom**	**0.53**	**80**	*e*Pg	**Pg**	**05 22 16.9**	**-1.6**
IQOM				*e*Sg	**Sg**	**05 22 24.6**	**-0.9**
IQOM				*e*		05 22 27.5	
	comp=Z,81μm,0.2s						
GHVR	**GHOM**	**0.76**	**111**	*e*Pg	**Pg**	**05 22 21.1**	**-1.7**
IRAZ	**Razeghan**	**0.77**	**327**	*e*Pg	**Pg**	**05 22 21.9**	**-1.3**
IMHD	**Mahdasht**	**0.95**	**11**	*e*Pg	**Pg**	**05 22 25.1**	**-1.4**
IMHD				*e*		05 22 25.6	
	comp=Z,48μm,0.1s						
IMHD				*e*Sg	**Sg**	**05 22 37.9**	**-0.9**
IHSB	**Hasanabad**	**0.97**	**45**	*e*Pg	**Pg**	**05 22 25.2**	**-1.6**
IHSB				*e*		05 22 39.9	
	comp=Z,36μm,0.3s						
HAGD	**Aghdareh**	**1.07**	**274**	*e*Pg	**Pg**	**05 22 26.3**	**-2.5**
IVRN	**Varamin**	**1.08**	**77**	*e*Pg	**Pg**	**05 22 27.2**	**-1.8**
IVRN				*e*		05 22 44.0	
	comp=Z,51μm,0.3s						
KHMZ	**Khomeyn**	**1.09**	**202**	*e*Pg	**Pg**	**05 22 26.5**	**-2.6**
QABG	**Abgarm-Qazvin**	**1.18**	**324**	*e*Pg	**Pb**	**05 22 27.9**	**-3.0**
THKV	**Tehran--Karaj**	**1.21**	**17**	*e*Pg	**Pb**	**05 22 28.4**	**-3.0**
TEH	**Tehran**	**1.25**	**38**	*e*Pg	**Pn**	**05 22 30.5**	**-1.3**
TEH				*e*		05 22 49.4	
	comp=Z,40μm,0.5s						
TEHA	**Amirabad Tehra**	**1.26**	**38**	*e*Pg	**Pn**	**05 22 30.4**	**-1.6**
TEHA				*e*		05 22 54.1	
	comp=Z,24μm,0.4s						
QAMS	**Qamsar**	**1.29**	**142**	*e*Pg	**Pn**	**05 22 30.4**	**-2.1**
DAMV	**Damavand**	**1.53**	**55**	*e*Pg	**Pn**	**05 22 34.4**	**-1.4**
ISFB	**Sefidab**	**1.54**	**105**	*e*Pn	**Pn**	**05 22 34.3**	**-1.5**
IDMV	**Damavand**	**1.54**	**57**	*e*Pg	**Pn**	**05 22 35.1**	**-0.9**
IDMV				*e*		05 23 07.1	
	comp=Z,28μm,0.5s						
KRSH	**Karshahi**	**1.60**	**119**	*e*Pn	**Pn**	**05 22 35.4**	**-1.4**
KRSH				*e*		05 23 04.2	
	comp=Z,26μm,0.3s						
HSAM	**Samen**	**1.61**	**251**	*e*Pg	**Pn**	**05 22 36.1**	**-0.9**
IGZV	**Ghazvin**	**1.64**	**354**	*e*Pg	**Pn**	**05 22 37.2**	**-0.1**
IGZV				*e*		05 22 38.5	
	comp=Z,16μm,0.5s						
QALM	**Alamut, Qazvin**	**1.68**	**6**	*e*Pn	**Pn**	**05 22 37.6**	**-0.3**
QALM				*e*		05 23 13.2	
	comp=Z,25μm,0.5s						
IKLH	**Kolahrood**	**1.71**	**146**	*e*Pg	**Pn**	**05 22 37.9**	**-0.5**
BMDN	**Meydan**	**1.72**	**232**	*e*Pg	**Pn**	**05 22 38.9**	**+0.5**
JIR1	**Jirandeh**	**2.02**	**345**	*e*Pn	**Pn**	**05 22 42.9**	**+0.5**
IFIR	**Firoozkooh**	**2.09**	**64**	*e*Pn	**Pn**	**05 22 44.0**	**+0.5**
IPIR	**Pirpir**	**2.10**	**170**	*e*Pn	**Pn**	**05 22 44.7**	**+1.0**
IPIR				*e*		05 23 19.8	
	comp=Z,12μm,0.6s						
IDOB	**Doab**	**2.11**	**243**	*e*Pn	**Pn**	**05 22 44.4**	**+0.7**
IPRN	**Peran**	**2.15**	**46**	*e*Pn	**Pn**	**05 22 45.5**	**+1.3**
ILAS	**Lasjerd**	**2.16**	**72**	*e*Pn	**Pn**	**05 22 44.2**	**-0.2**
ILAS				*e*		05 23 17.5	
	comp=Z,13μm,0.3s						
LHJ2	**Lahijan - Gila**	**2.43**	**353**	*e*Pn	**Pn**	**05 22 49.1**	**+1.2**
IZEF	**Zefreh**	**2.43**	**139**	*e*Pn	**Pn**	**05 22 48.1**	**-0.1**
IZEF				*e*		05 23 24.1	
	comp=Z,6μm,0.5s						
SHK1	**Shahrekord**	**2.45**	**171**	*e*Pn	**Pn**	**05 22 49.3**	**+0.9**
SHK1				*e*		05 23 28.2	
	comp=Z,8μm,0.8s						
IKFM	**Kafar-mosalman**	**2.48**	**241**	*e*		05 23 37.9	
	comp=Z,6μm,0.6s						
ISHM	**Shahmirzad**	**2.56**	**65**	*e*Pn	**Pn**	**05 22 50.0**	**0.0**
SNGE	**Sanandaj**	**2.56**	**278**	*e*Pn	**Pn**	**05 22 50.2**	**+0.2**
IGAR	**Garneh**	**2.70**	**150**	*e*Pn	**Pn**	**05 22 52.6**	**+0.8**
NASN	**Na'in**	**2.77**	**134**	*e*Pn	**Pn**	**05 22 53.7**	**+0.7**
IBRJ	**Brojen**	**2.92**	**166**	*e*Pn	**Pn**	**05 22 55.9**	**+1.0**
IANJ	**Anjilo**	**2.94**	**75**	*e*Pn	**Pn**	**05 22 55.0**	**-0.1**
AMIS	**Naft Sefid**	**3.23**	**198**	*e*Pn	**Pn**	**05 22 58.5**	**-0.5**
IGLO	**Ghaloghah**	**3.27**	**57**	*e*Pn	**Pn**	**05 23 00.8**	**+1.2**
IRAM	**Ramesheh**	**3.36**	**151**	*e*Pn	**Pn**	**05 23 01.5**	**+0.6**
KLNJ	**Kolanjah**	**3.86**	**165**	*e*Pn	**Pn**	**05 23 08.5**	**+0.6**
ISAD	**Sadrabad**	**3.92**	**135**	*e*Pn	**Pn**	**05 23 09.3**	**+0.5**
IBST	**Bostanabad**	**4.11**	**317**	*e*Pn	**Pn**	**05 23 10.8**	**-0.4**
ICHK	**Chekchek**	**4.15**	**126**	*e*Pn	**Pn**	**05 23 12.3**	**+0.4**
YZKH	**Yazd**	**4.19**	**123**	*e*Pn	**Pn**	**05 23 12.7**	**+0.4**
GRMI	**Germi**	**4.53**	**334**	*e*Pn	**Pn**	**05 23 16.5**	**-0.5**
SHRO	**Shahrood**	**4.71**	**73**	*e*Pn	**Pn**	**05 23 19.8**	**+0.3**
IMEH	**Mehriz**	**4.85**	**133**	*e*Pn	**Pn**	**05 23 21.8**	**+0.4**
TNSJ	**Nastanj**	**5.16**	**97**	*e*Pn	**Pn**	**05 23 25.8**	**+0.2**
MRVT	**Maraveh tapeh**	**5.41**	**56**	*e*Pn	**Pn**	**05 23 28.6**	**-0.4**
TPRV	**Parvadeh(Tabas**	**5.47**	**107**	*e*Pn	**Pn**	**05 23 29.9**	**0.0**
TABS	**Tabas**	**5.64**	**99**	*e*Pn	**Pn**	**05 23 32.5**	**+0.3**
TKDS	**Koohdasht(Taba**	**5.65**	**100**	*e*Pn	**Pn**	**05 23 32.7**	**+0.3**
AHBU	**AHRAM**	**5.92**	**173**	*e*Pn	**Pn**	**05 23 36.7**	**+0.8**
SBZV	**Sabzevar**	**6.07**	**72**	*e*Pn	**Pn**	**05 23 39.2**	**+1.1**
GHIR	**Ghir-Karzin**	**6.80**	**161**	*e*Pn	**Pn**	**05 23 48.3**	**+0.1**
GNI	**Garni**	**7.04**	**322**	LR	LR	05 26 45.7	
	comp=Z,32nm,19.4s,baz=77,slow=38						
AFRZ	**Afriz**	**7.24**	**98**	*e*Pn	**Pn**	**05 23 54.2**	**+0.1**
BSRN	**Basiran**	**7.78**	**109**	*e*Pn	**Pn**	**05 24 02.1**	**+0.5**
SHRT	**Shahrakht**	**8.23**	**95**	*e*Pn	**Pn**	**05 24 08.9**	**+1.1**
AKASG	**Malin Array Be**	**22.17**	**322**	P	**P**	**05 27 08.5**	**+4.3**
	comp=Z,0.2nm,0.4s,baz=135,slow=8.4,SNR=2.3						
MKAR	**Makanchi Array**	**26.76**	**54**	P	**P**	**05 27 51.6**	**+3.5**
	comp=Z,0.3nm,0.7s,baz=255,slow=8.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**30.75**	**41**	P	**P**	**05 28 26.5**	**+3.1**
	comp=Z,0.3nm,0.4s,baz=258,slow=10,SNR=2.2						
CMAR	**Chiang Mai Arr**	**45.86**	**98**	P	**P**	**05 30 30.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=297,slow=7.7,SNR=6.1						
JNU	**Nakatsue**	**64.95**	**66**	LR	LR	06 03 41.9	
	comp=Z,27nm,21.7s,baz=222,slow=38						
YKA	**Yellowknife Ar**	**82.34**	**353**	P	**P**	**05 34 30.4**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=11,slow=6.1,SNR=3.4						

*SFS **03** 06:05:09.0, 36°.70N×9°.50W, h29km, ML3.7, SW. CABO DE SAN VICENTE*
*LDG **03** 06:05:10.9, 36°.76N×9°.49W, h27km*
*INMG **03** 06:05:11.7±1.8, 36°.78N×9°.44W, h31km±15km, MD2.9, ML3.4, Error ellipse: s-maj=10.0km s-min=3.9km az=56.0*
*IGIL **03** 06:05:11.3, 36°.76N×9°.43W, h30km, ML3.5*
*CNRM **03** 06:05:12.1, 36°.61N×9°.12W, h50km, ml3.7*
ISC 03 06:05:08.8±1.1, 36°.73N±0°.03×9°.40W±0°.06, h35km, n92, σ1§88/152, 12C-2D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSVI	**Cabo S. Vicent**	**0.44**	**47⇑**	*i*P	**Pn**	**06 05 20.7**	**+2.1**
PSVI				*e*S	**Sn**	**06 05 27.8**	**+2.5**
PSVI				A	A	06 05 30.2	
	1μm,0.5s						
PFVI	**Vila Bisbo**	**0.61**	**48⇑**	*i*P	**Pn**	**06 05 22.6**	**+1.6**
PFVI				*e*S	**Sn**	**06 05 31.0**	**+1.3**
PFVI				A	A	06 05 31.6	
	527nm,0.2s						
PFVI	**Vila Bisbo**	**0.61**	**48**	P	**Pn**	**06 05 21.9**	**+0.9**
PFVI				S	**Sn**	**06 05 31.7**	**+2.0**
PLAGO	**Lagos**	**0.68**	**57⇑**	*e*P	**Pn**	**06 05 23.7**	**+1.8**
PLAGO				*e*S	**Sn**	**06 05 33.1**	**+1.8**
PALJ	**Aljezur**	**0.76**	**39**	*e*P	**Pn**	**06 05 24.6**	**+1.5**
PALJ				*e*S	**Sn**	**06 05 34.7**	**+1.4**
PPOR	**Portimao**	**0.80**	**59**	*e*S	**Sn**	**06 05 35.8**	**+1.5**
MORF	**Marmelete**	**0.83**	**46**	*e*P	**Pn**	**06 05 25.7**	**+1.6**
MORF				*e*S	**Sn**	**06 05 36.1**	**+0.9**
MORF				IAML		06 05 37.8	
	comp=N,1μm,0.3s						
MORF	**Marmelete**	**0.83**	**46⇑**	*i*P	**Pn**	**06 05 25.7**	**+1.6**
MORF				*e*S	**Sn**	**06 05 36.2**	**+1.0**
MORF				A	A	06 05 37.0	
	comp=N,688nm,0.2s						
PTEO	**Sao Teotonio**	**0.98**	**33⇑**	*i*P	**Pn**	**06 05 27.5**	**+1.4**
PTEO				*e*S	**Sn**	**06 05 39.7**	**+1.0**
PTEO				A	A	06 05 42.9	
	comp=N,413nm,0.4s						
PFARO	**Faro**	**1.22**	**75**	*e*S	**Sn**	**06 05 46.2**	**+1.5**
PFARO				A	A	06 05 46.4	
	comp=N,2μm,0.6s						
PBDV	**Barranco-do-Ve**	**1.28**	**66⇑**	*i*P	**Pn**	**06 05 32.2**	**+1.9**
PBDV				*e*S	**Sn**	**06 05 47.3**	**+1.0**
PBDV				A	A	06 05 51.7	
	comp=N,195nm,0.4s						
PCVE	**Castro Verde**	**1.41**	**50⇑**	*i*P	**Pn**	**06 05 34.0**	**+2.0**
PCVE				*e*S	**Sn**	**06 05 50.9**	**+1.5**
PCVE				A	A	06 05 52.6	
	comp=N,332nm,0.2s						
PTAV	**Tavira**	**1.45**	**74**	*e*S	**Sn**	**06 05 51.5**	**+1.1**
MESJ	**Messejana**	**1.46**	**40**	*e*P	**Pn**	**06 05 34.1**	**+1.5**
MESJ				*e*S	**Sn**	**06 05 50.6**	**+0.2**
MESJ				IAML		06 05 51.7	
	comp=N,265nm,0.2s						
MESJ	**Messejana**	**1.46**	**40**	*e*P	**Pn**	**06 05 34.1**	**+1.5**
MESJ				*e*S	**Sn**	**06 05 50.6**	**+0.2**
MESJ				iAML		06 05 51.7	
PVAQ	**Vaqueiros**	**1.50**	**63⇑**	*i*P	**Pn**	**06 05 35.1**	**+1.8**
PVAQ				*e*S	**Sn**	**06 05 52.7**	**+1.0**
PVAQ				A	A	06 05 55.6	
	comp=N,221nm,0.2s						
PVAQ	**Vaqueiros**	**1.50**	**63**	P	**Pn**	**06 05 34.7**	**+1.4**
PVAQ				S	**Sn**	**06 05 53.3**	**+1.5**
PNCL	**Nicolau / Gran**	**1.55**	**26⇑**	*e*P	**Pn**	**06 05 34.9**	**+1.0**
PNCL				*e*S	**Sn**	**06 05 52.8**	**+0.1**
PNCL				A	A	06 05 53.6	
	comp=N,207nm,0.4s						
PBEJ	**Beja**	**1.78**	**43⇑**	*e*Pn	**Pn**	**06 05 38.4**	**+1.3**
PBEJ				*e*Sn	**Sn**	**06 05 58.9**	**+0.4**
PBEJ				A	A	06 06 10.9	
	comp=N,121nm,0.4s						
LIS	**Lisbon**	**2.00**	**6**	*e*P	**Pn**	**06 05 41.1**	**+1.1**
LIS				*e*S	**Sn**	**06 06 03.3**	**-0.5**
LIS				IAML		06 06 04.2	
	comp=E,826nm,0.5s						
PMST	**Lisbon--Monsan**	**2.01**	**5**	*e*Pn	**Pn**	**06 05 41.5**	**+1.2**
PMST				*e*Sn	**Sn**	**06 06 03.2**	**-1.0**
PMST				A	A	06 06 04.7	
	comp=E,281nm,0.2s						
INMG	**Instituto de M**	**2.06**	**6**	*e*Sn	**Sn**	**06 06 05.4**	**+0.1**
INMG				A	A	06 06 10.8	
	comp=E,662nm,0.3s						
EVO	**Evora**	**2.11**	**31**	P	**Pn**	**06 05 42.5**	**+0.9**
EVO				S	**Sn**	**06 06 05.6**	**-1.1**
ARNO	**Arenosillo**	**2.17**	**79**	P	**Pn**	**06 05 44.1**	**+1.7**
ARNO				S	**Sn**	**06 06 09.7**	**+1.6**
PMAFR	**Mafra**	**2.23**	**2⇓**	*e*Pn	**Pn**	**06 05 44.4**	**+1.2**
PMAFR				*e*Sn	**Sn**	**06 06 08.9**	**-0.6**
PMAFR				A	A	06 06 10.2	
	comp=E,447nm,0.2s						
PBAR	**Barrancos**	**2.37**	**52**	*e*Pn	**Pn**	**06 05 46.6**	**+1.4**
PBAR				*e*Sn	**Sn**	**06 06 14.5**	**+1.5**
PBAR				A	A	06 06 25.8	
	comp=E,86nm,0.5s						
PMTG	**Montargil**	**2.52**	**21⇑**	*e*Pn	**Pn**	**06 05 48.2**	**+1.0**
PMTG				*e*Sn	**Sn**	**06 06 15.7**	**-0.9**
PMTG				A	A	06 06 17.8	
	comp=E,150nm,0.8s						
PESTR	**Estremoz**	**2.57**	**33⇑**	*e*Pn	**Pn**	**06 05 48.7**	**+0.7**
PESTR				*e*Sn	**Sn**	**06 06 17.8**	**-0.3**
PESTR				A	A	06 06 20.3	
	comp=E,61nm,0.5s						
PESTR	**Estremoz**	**2.57**	**33**	P	**Pn**	**06 05 48.8**	**+0.7**
PESTR				S	**Sn**	**06 06 19.8**	**+1.7**
SFS	**San Fernando**	**2.58**	**95**	S	**Sn**	**06 06 20.1**	**+1.8**
CNIL	**Conil**	**2.72**	**97**	P	**Pn**	**06 05 52.0**	**+2.0**
CNIL				S	**Sn**	**06 06 21.0**	**-0.6**
PMRV	**Marv??o**	**3.13**	**30⇓**	*e*Pn	**Pn**	**06 05 56.7**	**+1.1**
PMRV				*e*Sn	**Sn**	**06 06 30.7**	**-1.1**
PMRV				A	A	06 06 33.0	
	comp=E,195nm,0.4s						
LIJA	**Lijar**	**3.21**	**86**	P	**Pn**	**06 05 58.2**	**+1.4**
LIJA				S	**Sn**	**06 06 38.5**	**+4.6**
CEU	**Ceuta**	**3.35**	**103**	P	**Pn**	**06 06 02.0**	**+3.3**
CEU				S	**Sn**	**06 06 37.8**	**+0.5**
PCAS	**Casmilo, Conde**	**3.40**	**12**	*e*Pn	**Pn**	**06 06 00.1**	**+0.8**
PCAS				*e*Sn	**Sn**	**06 06 36.0**	**-2.3**
PCAS				A	A	06 06 42.0	
	comp=E,53nm,0.5s						
PCBR	**Castelo Branco**	**3.46**	**25**	*e*Pn	**Pn**	**06 06 01.1**	**+1.0**
PCBR				*e*Sn	**Sn**	**06 06 38.8**	**-1.0**
PCBR				A	A	06 06 40.4	
	comp=E,78nm,0.4s						
COI	**Coimbra**	**3.56**	**12**	*e*Pn	**Pn**	**06 06 03.5**	**+1.9**
COI				*e*Sn	**Sn**	**06 06 39.5**	**-2.9**
COI				A	A	06 06 44.8	
	comp=E,63nm,0.2s						
CHEFC	**Chefchaouen**	**3.67**	**115**	P	**Pn**	**06 06 05.9**	**+2.8**
CHEFC				S	**Sn**	**06 06 41.6**	**-3.7**
AVE	**Averroes**	**3.79**	**154**	P	**Pn**	**06 06 07.0**	**+2.3**
AVE				S	**Sn**	**06 06 47.4**	**-0.7**
AVE	**Averroes**	**3.79**	**154**	P	**Pn**	**06 06 06.3**	**+1.6**
AVE				S	**Sn**	**06 06 51.9**	**+3.8**
ZHG	**ZHG**	**3.98**	**145**	P	**Pn**	**06 06 08.5**	**+1.1**
ZHG				S	**Sn**	**06 06 52.5**	**-0.3**
EMAL	**Malaga-Limoner**	**3.99**	**88**	P	**Pn**	**06 06 10.3**	**+2.8**
EMAL				S	**Sn**	**06 06 52.8**	**-0.3**
PVIS	**Viseu**	**4.15**	**16**	*e*Pn	**Pn**	**06 06 11.1**	**+1.3**
PVIS				*e*Sn	**Sn**	**06 06 54.8**	**-2.3**
PVIS				A	A	06 06 58.0	
	comp=E,45nm,0.2s						
SICH	**Sidi Chahed**	**4.24**	**127**	P	**Pn**	**06 06 11.0**	**+0.1**
SICH				S	**Sn**	**06 06 58.3**	**-0.9**
PALE	**Palemas**	**4.68**	**107**	P	**Pn**	**06 06 18.1**	**+1.2**
PALE				S	**Sn**	**06 07 08.3**	**-1.7**
PVRL	**Vila Real**	**4.73**	**16**	*e*Pn	**Pn**	**06 06 18.8**	**+1.2**
PVRL				*e*Sn	**Sn**	**06 07 07.6**	**-3.6**
PVRL				A	A	06 07 10.2	
	comp=E,73nm,0.4s						
IFR	**Ifrane**	**4.75**	**131**	P	**Pn**	**06 06 19.1**	**+1.1**
IFR				S	**Sn**	**06 07 09.5**	**-2.4**
LCRM	**LCR**	**4.80**	**128**	P	**Pn**	**06 06 19.6**	**+0.8**
LCRM				S	**Sn**	**06 07 09.0**	**-4.2**
MVO	**Moncorvo**	**4.80**	**22**	*e*Pn	**Pn**	**06 06 19.6**	**+0.9**
MVO				*e*Sn	**Sn**	**06 07 10.7**	**-2.4**
MVO				A	A	06 07 13.0	
	comp=E,44nm,0.5s						
POLO	**Lamas de Olo**	**4.80**	**15**	*e*Pn	**Pn**	**06 06 19.7**	**+0.9**
POLO				*e*Sn	**Sn**	**06 07 10.1**	**-3.1**
POLO				A	A	06 07 13.7	
	comp=E,29nm,0.4s						
PCAB	**Cabril**	**5.09**	**12**	*e*Pn	**Pn**	**06 06 23.5**	**+0.9**
PCAB				*e*Sn	**Sn**	**06 07 16.6**	**-3.5**
PCAB				A	A	06 07 20.0	
	comp=E,35nm,0.2s						
PGAV	**Gavieira, Arco**	**5.30**	**9**	*e*Pn	**Pn**	**06 06 26.5**	**+0.9**
PGAV				*e*Sn	**Sn**	**06 07 20.7**	**-4.8**
PGAV				A	A	06 07 25.3	
	comp=E,50nm,0.2s						
GOG	**Mont Gurugu**	**5.41**	**104**	P	**Pn**	**06 06 27.5**	**+0.5**
GOG				S	**Sn**	**06 07 26.6**	**-1.5**
MD31	**MD31**	**5.42**	**134**	P	**Pn**	**06 06 28.4**	**+1.2**
MD31				S	**Sn**	**06 07 23.9**	**-4.5**
PBRG	**Braganca**	**5.47**	**21**	*e*Pn	**Pn**	**06 06 28.9**	**+1.0**
PBRG				*e*Sn	**Sn**	**06 07 26.2**	**-3.4**
PBRG				A	A	06 07 29.9	
	comp=E,26nm,0.5s						
MDT	**Midelt**	**5.55**	**133**	P	**Pn**	**06 06 30.0**	**+1.0**
MDT				S	**Sn**	**06 07 28.9**	**-2.7**
OUK	**Oukaimeden**	**5.65**	**167**	P	**Pn**	**06 06 31.2**	**+0.5**
CHAS	**Isla Isabel II**	**5.86**	**103**	S	**Sn**	**06 07 34.9**	**-4.2**
UCM	**Universidad Co**	**6.00**	**52**	P	**Pn**	**06 06 37.0**	**+1.8**
UCM				S	**Sn**	**06 07 40.5**	**-2.3**
JBK	**JBK**	**6.06**	**111**	P	**Pn**	**06 06 36.8**	**+0.7**
JBK				S	Sn	06 07 38.3	-6.1
OUZM	**OUZ**	**6.21**	**159**	P	**Pn**	**06 06 39.3**	**+1.2**
OUZM				S	**Sn**	**06 07 45.4**	**-2.4**
GOLM	**Goulmima**	**6.22**	**142**	P	**Pn**	**06 06 40.5**	**+2.2**
GOLM				S	**Sn**	**06 07 48.5**	**+0.3**
TZRR	**Tazzarine**	**6.73**	**151**	P	**Pn**	**06 06 46.8**	**+1.6**
TZRR				S	**Sn**	**06 07 58.8**	**-1.9**
CART	**Cartagena**	**6.76**	**80**	P	**Pn**	**06 06 46.0**	**+0.5**
CART				S	**Sn**	**06 07 57.8**	**-3.5**
ZGR	**Zagora**	**7.31**	**153**	P	**Pn**	**06 06 54.9**	**+1.7**
ZGR				S	**Sn**	**06 08 12.4**	**-2.5**
SJPF	**Ste Jean**	**8.95**	**42**	*e*Pn	**Pn**	**06 07 16.4**	**+0.9**
SJPF				*e*Sn	**Sn**	**06 08 49.6**	**-5.4**
	comp=E,9.5nm,0.5s						
ETSF	**Etsaut**	**9.18**	**45**	*e*Pn	**Pn**	**06 07 19.8**	**+1.1**
ETSF				*e*Sn	**Sn**	**06 08 55.3**	**-5.4**
	comp=E,5.1nm,0.3s						
EPF	**Esparros**	**9.78**	**47**	*e*Pn	**Pn**	**06 07 27.8**	**+0.9**
EPF				*e*Sn	**Sn**	**06 09 09.7**	**-5.7**
	comp=E,7.1nm,0.3s						
MTLF	**Montol

TEH 03 06:34:41.1, 34°.75N×50°.42E, h8km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**0.38**	**238**	*e*Pg	Pb	06 34 49.8	-0.5
IQOM	**Qom**	**0.54**	**80**	*e*Pg	Pg	06 34 52.1	+0.4
IQOM				*e*Sg	Sb	06 35 00.0	-1.1
IRAZ	**Razeghan**	**0.77**	**328**	*e*Pg	Pg	06 34 55.8	-0.1
IRAZ				*e*Sg	Sb	06 35 08.0	+0.5
GHVR	**GHOM**	**0.77**	**110**	*e*Pg	Pg	06 34 56.2	+0.3
IMHD	**Mahdasht**	**0.95**	**12**	*e*Pg	Pb	06 35 00.1	+0.1
IMHD				*e*		06 35 00.6	
	comp=Z,37μm,0.1s						
IHSB	**Hasanabad**	**0.98**	**45**	*e*Pg	Pg	06 34 59.9	-0.1
IHSB				*e*		06 35 14.9	
	comp=Z,12μm,0.3s						
HAGD	**Aghdareh**	**1.06**	**274**	*e*Pg	Pb	06 35 01.9	+0.1
KHMZ	**Khomeyn**	**1.08**	**201**	*e*Pg	Pg	06 35 01.5	-0.3
IVRN	**Varamin**	**1.10**	**77**	*e*Pg	Pb	06 35 02.5	0.0
QABG	**Abgarm-Qazvin**	**1.18**	**325**	*e*Pg	Pg	06 35 02.9	-0.8
THKV	**Tehran--Karaj**	**1.22**	**18**	*e*Pg	Pg	06 35 03.4	-1.2
TEH	**Tehran**	**1.26**	**38**	*e*		06 35 24.4	
	comp=Z,16μm,0.4s						
TEH				*e*Pg	Pg	06 35 05.6	+0.3
TEHA	**Amirabad Tehra**	**1.27**	**38**	*e*Sg	Sn	06 35 23.2	+0.6
TEHA				*e*Pg	Pg	06 35 05.5	0.0
TEHA				*e*		06 35 25.9	
	comp=Z,10μm,0.3s						
QAMS	**Qamsar**	**1.29**	**141**	*e*		06 35 23.5	
	comp=Z,18μm,0.4s						
QAMS				*e*Pg	Pn	06 35 05.5	-0.2
DAMV	**Damavand**	**1.54**	**55**	*e*Pn	Pb	06 35 09.8	-0.3
ISFB	**Sefidab**	**1.55**	**104**	*e*Pn	Pb	06 35 10.1	-0.1
ISFB				*e*		06 35 33.2	
	comp=Z,12μm,0.3s						
IDMV	**Damavand**	**1.56**	**58**	*e*		06 35 43.6	
	comp=Z,5μm,0.6s						
IDMV				*e*Pg	Pn	06 35 09.2	-0.2
HSAM	**Samen**	**1.60**	**251**	*e*Pg	Pb	06 35 11.3	+0.3
HSAM				*e*		06 35 35.7	
	comp=Z,4μm,0.6s						
KRSH	**Karshahi**	**1.62**	**118**	*e*Pn	Pn	06 35 10.7	+0.6
KRSH				*e*		06 35 39.2	
	comp=Z,7μm,0.5s						
IGZV	**Ghazvin**	**1.64**	**354**	*e*Pn	Pg	06 35 12.3	-0.3
IGZV				*e*		06 35 13.5	
	comp=Z,9μm,0.3s						
QALM	**Alamut, Qazvin**	**1.69**	**6**	*e*Pn	Pb	06 35 12.4	-0.2
QALM				*e*		06 35 39.4	
	comp=Z,10μm,0.6s						
BMDN	**Meydan**	**1.71**	**231**	*e*Pn	Pb	06 35 12.8	0.0
IKLH	**Kolahrood**	**1.72**	**146**	*e*Pn	Pb	06 35 13.2	+0.1
IKLH				*e*		06 35 36.6	
	comp=Z,10μm,0.4s						
JIR1	**Jirandeh**	**2.02**	**346**	*e*Pn	Pb	06 35 17.4	-0.7
IDOB	**Doab**	**2.09**	**243**	*e*Pg	Pg	06 35 20.6	-0.6
IPIR	**Pirpir**	**2.10**	**169**	*e*Pn	Pb	06 35 19.7	+0.1
IPIR				*e*		06 35 54.5	
	comp=Z,4μm,0.6s						
IFIR	**Firoozkooh**	**2.11**	**64**	*e*Pn	Pb	06 35 18.9	-0.8
IFIR				*e*		06 35 49.1	
	comp=Z,3μm,0.4s						
IPRN	**Peran**	**2.16**	**46**	*e*Pn	Pb	06 35 19.7	-0.8
IPRN				*e*		06 35 53.2	
	comp=Z,5μm,0.6s						
ILAS	**Lasjerd**	**2.17**	**72**	*e*Pn	Pb	06 35 19.7	-1.2
ILAS				*e*		06 35 52.2	
	comp=Z,2μm,0.3s						
IZEF	**Zefreh**	**2.44**	**139**	*e*Pn	Pb	06 35 23.6	-1.8
IZEF				*e*		06 36 04.7	
	comp=Z,2μm,0.6s						
SHK1	**Shahrekord**	**2.45**	**171**	*e*Pn	Pb	06 35 23.7	-1.8
SHK1				*e*		06 36 03.2	
	comp=Z,2μm,0.8s						
IKFM	**Kafar-mosalman**	**2.46**	**241**	*e*Pn	Pn	06 35 22.7	+1.2
SNGE	**Sanandaj**	**2.55**	**279**	*e*Pn	Pb	06 35 25.2	-2.0
ISHM	**Shahmirzad**	**2.57**	**65**	*e*Pn	Pn	06 35 25.0	+1.6
ISHM				*e*		06 36 03.9	
	comp=Z,3μm,0.4s						
IGAR	**Gharneh**	**2.70**	**150**	*e*Pn	Pb	06 35 29.2	-0.7
NASN	**Na'in**	**2.78**	**134**	*e*Pn	Pb	06 35 29.2	-2.1
IBRJ	**Brojen**	**2.92**	**166**	*e*Pn	Pn	06 35 30.5	+2.4
IANJ	**Anjilo**	**2.95**	**75**	*e*Pn	Pn	06 35 29.5	+1.0
ANAR	**Anarak**	**3.16**	**119**	*e*Pn	Pn	06 35 33.6	+2.3
IGHG	**Ghaleghazi**	**3.21**	**264**	*e*Pn	Pn	06 35 35.2	+3.2
IDHR	**Dehrash**	**3.32**	**270**	*e*Pn	Pn	06 35 36.1	+2.5
IRAM	**Ramesheh**	**3.36**	**150**	*e*Pn	Pn	06 35 36.7	+2.6
ISRB	**Sarab**	**3.79**	**325**	*e*Pn	Pn	06 35 43.2	+3.2
KLNJ	**Kolanjah**	**3.86**	**165**	*e*Pn	Pn	06 35 43.9	+2.8
IBST	**Bostanabad**	**4.10**	**317**	*e*Pn	Pn	06 35 46.6	+3.2
ICHK	**Chekchek**	**4.16**	**126**	*e*Pn	Pn	06 35 47.5	+2.3
YZKH	**Yazd**	**4.20**	**123**	*e*Pn	Pn	06 35 47.8	+2.2
SHRO	**Shahrood**	**4.73**	**73**	*e*Pn	Pn	06 35 55.2	+2.3
TPRV	**Parvadeh(Tabas**	**5.49**	**106**	*e*Pn	Pn	06 36 05.0	+1.8
TABS	**Tabas**	**5.66**	**99**	*e*Pn	Pn	06 36 07.7	+2.1
TKDS	**Koohdasht(Taba**	**5.67**	**100**	*e*Pn	Pn	06 36 07.6	+1.8
BSRN	**Basiran**	**7.79**	**108**	*e*Pn	Pn	06 36 36.9	+1.9

*GUC **03** 06:35:03.6±0.5, 24°.14S×67°.46W, h215km±7km, ML3.9*
*IDC **03** 06:35:04.0±2.8, 24°.07S×67°.04W, h171km±22km, mb3.3/1, mb1 3.4/5, mb1mx3.1/26, mbtmp3.7/5, Error ellipse: s-maj=38.4km s-min=25.1km az=169.0*

ISC 03 06:35:03.5±1.2, 24°.15S±0°.07×67°.3W±0°.1, h183km±13km, n19, σ0°.95/34, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.14**	**315**	P	**Pn**	**06 35 43.5**	**+0.8**
	32nm,0.3s,baz=115,slow=8.1,SNR=492						
LVC				S	**Sn**	**06 36 14.5**	**+1.2**
	18nm,0.3s,baz=290,slow=22,SNR=16						
LVC	**Limon Verde**	**2.14**	**315**	*e*P	**Pn**	**06 35 43.4**	**+0.6**
LVC				*i* S	**Sn**	**06 36 13.9**	**+0.6**
PB15	**IPOC Station P**	**2.22**	**295**	*e*P	**Pn**	**06 35 44.1**	**+0.7**
PB15				*i* S	**Sn**	**06 36 14.9**	**+0.5**
PB06	**IPOC Station P**	**2.55**	**304**	*e*P	**Pn**	**06 35 47.8**	**+0.6**
PB06				*i* S	**Sn**	**06 36 21.1**	**+0.1**
PB06				IAML		06 36 23.8	
	comp=E,234nm,0.2s						
PB09	**IPOC Station P**	**2.96**	**322**	*e*P	**Pn**	**06 35 53.0**	**+1.0**
PB09				*i* S	**Sn**	**06 36 30.3**	**+0.5**
PB09				IAML		06 36 31.6	
	comp=N,111nm,0.5s						
PB05	**IPOC Station P**	**2.98**	**295**	*e*P	**Pn**	**06 35 52.2**	**0.0**
PB05				*i* S	**Sn**	**06 36 28.6**	**-1.5**
PB05				IAML		06 36 30.3	
	comp=E,118nm,0.2s						
PB10	**IPOC Station P**	**3.07**	**281**	*e*P	**Pn**	**06 35 53.3**	**+0.1**
PB10				*i* S	**Sn**	**06 36 30.7**	**-1.1**
PB10				IAML		06 36 34.9	
	comp=N,107nm,0.2s						
PB03	**IPOC Station P**	**3.09**	**312**	*e*P	**Pn**	**06 35 53.9**	**+0.3**
PB03				*i* S	**Sn**	**06 36 31.8**	**-0.9**
PB03				IAML		06 36 32.8	
	comp=E,212nm,0.2s						
AC02	**Maricunga**	**3.15**	**212**	*e*P	**Pn**	**06 35 54.0**	**-0.7**
AC02				*i* S	**Sn**	**06 36 34.8**	**+0.1**
PB04	**IPOC Station P**	**3.20**	**304**	*e*P	**Pn**	**06 35 55.0**	**0.0**
PB04				*i* S	**Sn**	**06 36 34.0**	**-1.1**
PB04				IAML		06 36 35.6	
	comp=N,200nm,0.3s						
PB07	**IPOC Station P**	**3.40**	**315**	*e*P	**Pn**	**06 35 57.7**	**+0.2**
PB07				*i* S	**Sn**	**06 36 38.2**	**-1.4**
PB07				IAML		06 36 41.3	
	comp=E,180nm,0.5s						
PB01	**IPOC Station P**	**3.70**	**326**	*e*P	**Pn**	**06 36 01.0**	**-0.1**
PB01				*i* S	**Sn**	**06 36 44.9**	**-1.3**
PB01				IAML		06 36 49.1	
	comp=E,105nm,0.2s						
PB08	**IPOC Station P**	**4.35**	**336**	*e*P	**Pn**	**06 36 10.2**	**+0.5**
PB08				*i* S	**Sn**	**06 37 01.4**	**0.0**
PB08				IAML		06 37 02.9	
	comp=E,39nm,0.6s						
TA01	**Diego Aracena**	**4.46**	**322**	*e*P	**Pn**	**06 36 09.9**	**-0.7**
TA01				*i* S	**Sn**	**06 37 01.6**	**-1.7**
LPAZ	**La Paz**	**7.86**	**354**	P	**Pn**	**06 36 56.4**	**+0.8**
	comp=E,1.1nm,0.3s,baz=153,slow=5.3,SNR=53						
LPAZ				S	**Sn**	**06 38 23.7**	**-0.6**
	comp=E,0.1nm,0.3s,baz=58,slow=19,SNR=2.0						
SIV	**San Ignacio**	**9.99**	**37**	P	**Pn**	**06 37 21.2**	**-1.8**
	comp=E,0.1nm,0.3s,baz=211,slow=11,SNR=2.2						
BDFB	**Brasilia**	**19.98**	**68**	P	**P**	**06 39 20.8**	**-1.2**
	comp=E,0.2nm,0.3s,baz=243,slow=10,SNR=4.6						
YKA	**Yellowknife Ar**	**94.18**	**340**	P	**P**	**06 48 02.3**	**+1.5**
	comp=E,0.8nm,1.2s,baz=132,slow=4.2,SNR=5.3						
MKAR	**Makanchi Array**	**146.80**	**39**	PKPbc	**PKPbc**	**06 54 24.8**	**+0.9**
	comp=E,0.3nm,0.5s,baz=326,slow=2.7,SNR=5.4						

*FUNV **03** 06:58:32.6, 8°.51N×71°.49W, h5km, MW3.4*

ISC 03 06:58:31.8±1.2, 8°.52N±0°.02×71°.44W±0°.02, h2km±10km, n28, σ1°.09/52, 1C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIGV	**El Vigia**	**0.33**	**13**	*i* P	**Pg**	**06 58 38.6**	**+0.4**
VIGV				*e*S	**Sg**	**06 58 43.0**	**+0.5**
SOCV	**Socops**	**0.62**	**112**	*e*P	**Pg**	**06 58 43.2**	**-0.5**
SOCV	**Socops**	**0.62**	**112**	||*i* P	**Pg**	**06 58 43.4**	**-0.3**
SOCV				*e*S	**Sg**	**06 58 49.0**	**-2.8**
EAV	**Pico El Aguila**	**0.70**	**61**	||*i* P	Pg	06 58 39.9	-5.3
SDV	**Santo Domingo**	**0.88**	**65**	*e*P	**Pg**	**06 58 48.6**	**-0.1**
SDV				*e*S	**Sg**	**06 59 00.2**	**+0.2**
CAPV	**Capacho**	**1.08**	**233**	*e*P	**Pg**	**06 58 52.0**	**-0.5**
CAPV				*e*S	**Sg**	**06 59 06.9**	**+0.4**
TORV	**Torococo**	**1.58**	**49**	*e*P	**Pn**	**06 59 00.2**	**-0.8**
TORV				*e*S	**Sn**	**06 59 19.8**	**-2.4**
PAMC	**Pamplona, Colo**	**1.71**	**227**	*e*P	**Pb**	**06 59 04.0**	**-0.2**
PAMC				*e*S	**Sb**	**06 59 27.0**	**+0.6**
PAMC				*i*		07 00 45.8	
	comp=Z,3.5nm,0.2s						
MCQV	**Machiques**	**1.87**	**325**	*e*P	**Pn**	**06 59 04.9**	**+0.1**
MCQV				*e*S	**Sb**	**06 59 30.7**	**+0.2**
OCAC	**Ocana**	**1.88**	**262**	*e*P	**Pn**	**06 59 05.3**	**+0.2**
OCAC				*e*S	**Sn**	**06 59 28.8**	**-0.6**
OCAC				*i*		06 59 32.9	
	comp=Z,242nm,0.4s						
CURV	**Curarigua**	**2.08**	**44**	*e*P	**Pb**	**06 59 11.3**	**+0.9**
CURV				*e*S	**Sb**	**06 59 36.8**	**0.0**
TAMC	**Tame, Arauca**	**2.10**	**190**	*e*P	**Pn**	**06 59 09.6**	**+1.6**
TAMC				*e*S	**Sb**	**06 59 37.2**	**+0.1**
SANV	**Sanarito**	**2.12**	**62**	*e*P	**Pb**	**06 59 10.6**	**-0.5**
SANV				*e*S	**Sg**	**06 59 39.8**	**-0.1**
ELOV	**Elorza**	**2.46**	**128**	*e*P	**Pb**	**06 59 16.9**	**+0.2**
ELOV				*e*S	**Sn**	**06 59 42.8**	**-0.8**
ELOV	**Elorza**	**2.46**	**128**	*e*P	**Pn**	**06 59 14.6**	**+1.7**
ELOV				*e*S	**Sn**	**06 59 43.9**	**+0.4**
DABV	**Dabajuro**	**2.52**	**18**	*e*P	**Pn**	**06 59 14.7**	**+1.0**
DABV				*e*S	**Sn**	**06 59 46.4**	**+1.3**
BARC	**Barichara**	**2.58**	**222**	*e*P	**Pb**	**06 59 18.8**	**-0.1**
BARC				*e*S	**Sg**	**06 59 54.5**	**-0.1**
BARC				*i*		06 59 55.0	
	comp=Z,53nm,0.5s						
SMLC	**San Martn de**	**2.62**	**276**	*e*P	**Pn**	**06 59 14.9**	**-0.2**
SMLC				*e*S	**Sb**	**06 59 51.8**	**-0.3**
BRRC	**Barranca, Sant**	**2.65**	**238**	*e*P	**Pn**	**06 59 16.8**	**+1.3**
BRRC				*e*S	**Sg**	**06 59 56.8**	**-0.2**
BRRC				*i*		07 00 00.7	
	comp=Z,17nm,0.3s						
SIQV	**Siquisique**	**2.66**	**37**	*e*P	**Pn**	**06 59 17.8**	**+2.1**
SIQV				*e*S	**Sn**	**06 59 46.3**	**-2.4**
CRJC	**Cerrejon, Guaj**	**2.87**	**330**	*e*P	**Pn**	**06 59 18.4**	**-0.2**
CRJC				*e*S	**Sn**	**06 59 52.6**	**-1.2**
CRJC				*i*		07 00 11.3	
	comp=Z,31nm,0.3s						
ARGC	**Ariguani, Magd**	**3.07**	**296**	*e*P	**Pn**	**06 59 22.8**	**+1.4**
ARGC				*e*S	**Sn**	**06 59 56.9**	**-1.9**
ARGC				*i*		07 00 10.6	
	comp=Z,14nm,0.2s						
MAPV	**Macapo**	**3.22**	**66**	*e*P	**Pn**	**06 59 25.4**	**+2.0**
BAUV	**El Baul**	**3.39**	**83**	*e*P	**Pn**	**06 59 26.2**	**+0.5**
BAUV				*e*S	**Sn**	**07 00 05.0**	**-1.5**
ZARC	**Zaragoza, Cauc**	**3.53**	**254**	*e*P	**Pn**	**06 59 27.9**	**+0.2**
ZARC				*e*S	**Sn**	**07 00 11.4**	**+1.3**
SPBC	**San Pablo de B**	**3.86**	**223**	*e*P	**Pn**	**06 59 33.4**	**+1.0**
SPBC				*e*S	**Sn**	**07 00 17.1**	**-1.3**
BENV	**Beln**	**4.05**	**69**	*e*P	**Pn**	**06 59 35.5**	**+0.6**
BENV				*e*S	**Sn**	**07 00 23.7**	**+0.6**
CHIC	**Chingaza**	**4.48**	**211**	*e*P	**Pn**	**06 59 42.1**	**+1.0**
CHIC				*e*S	**Sn**	**07 00 33.5**	**-0.6**
CHIC				*i*		07 00 37.0	
	comp=Z,3.9nm,0.4s						

*IDC **03** 07:06:31.6±1.5, 7°.58N×82°.53W, h0km, mb3.9/6, mb1 4.2/8, mb1mx3.9/29, mbtmp4.0/8, ML3.9/1, MS3.3/8, Ms1 3.3/8, ms1mx2.9/62, Error ellipse: s-maj=77.6km s-min=27.1km az=65.0*
*UCR **03** 07:06:39.8±1.8, 8°.29N×82°.76W, h5km, MW4.7, mb4.3(NEIC)*
*HDC **03** 07:06:39±2.2, 8°.20N±0°.05×82°.83W±0°.06, h8km±5km, Error ellipse: s-maj=9.6km s-min=6.1km az=59.0*
*UPA **03** 07:06:42.2±2.4, 8°.37N×82°.74W, h10km±15km, MW4.0*
*INET **03** 07:06:42.4±2.1, 8°.38N×82°.80W, h13km±32km, MW3.7*
*NEIC **03** 07:06:43.1±1.6, 8°.42N±0°.07×82°.79W±0°.06, h24km±6km, mb4.3/29, Md4.6(HDC), Error ellipse: s-maj=10.4km s-min=7.3km az=210.0*

ISC 03 07:06:41.7±0.9, 8°.32N±0°.06×82°.80W±0°.04, h28km±5km, n121, σ1°.39/121, mb4.2/20, MS3.3/6, 1C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCOL	**Caracol de Cor**	**0.19**	**298**	*i* P	**Pb**	**07 06 46.6**	**-0.9**
CCOL				*e*S	**Sb**	**07 06 51.6**	**0.0**
CDITO	**Canoas**	**0.27**	**345**	P	**Pb**	**07 06 47.6**	**-1.0**
CDITO	**Canoas**	**0.27**	**345**	||*i* P	**Pb**	**07 06 47.5**	**-1.0**
CDITO				*e*S	**Sb**	**07 06 52.8**	**-0.3**
BRU2	**Volcan**	**0.49**	**13**	P	**Pb**	**07 06 51.3**	**-0.7**
BRU2	**Volcan**	**0.49**	**13**	||*i* P	**Pb**	**07 06 51.3**	**-0.7**
BRU2				*e*S	**Sb**	**07 06 58.1**	**-0.8**
EDSV	**San Vito**	**0.53**	**341**	*e*P	**Pb**	**07 06 52.0**	**-0.6**
EDSV				*e*S	**Sb**	**07 07 00.8**	**+0.8**
PIRO	**Carate, Puerto**	**0.54**	**279**	||*i* P	Pn	07 06 59.0	+5.5
PIRO				*e*S	**Sn**	**07 07 01.7**	**+0.1**
CTCR	**Cotoan**	**0.58**	**4**	||*i* P	**Pb**	**07 06 52.6**	**-0.8**
TIG2	**Cerro Tigre, B**	**0.86**	**325**	*e*P	**Pb**	**07 06 56.8**	**-1.3**
SRBA	**San Rafael, Bu**	**1.06**	**329**	*e*P	**Pn**	**07 06 59.7**	**-1.1**
SRBA	**San Rafael, Bu**	**1.06**	**329**		**Pn**	**07 06 59.8**	**-1.1**
PEZE	**Perez Zeledon,**	**1.37**	**321**	*e*P	**Pn**	**07 07 04.6**	**-0.4**
PEZE	**Perez Zeledon,**	**1.37**	**321**		**Pn**	**07 07 04.6**	**-0.4**
PEZE	**Perez Zeledon,**	**1.37**	**321**	*e*P	**Pn**	**07 07 04.4**	**-0.6**
EDDO	**Dominical**	**1.40**	**312**	*e*P	**Pn**	**07 07 06.1**	**+0.7**
CDM	**Cerro de Muert**	**1.55**	**322**	*e*P	**Pn**	**07 07 07.4**	**-0.5**
CDM				*e*S	**Sn**	**07 07 28.2**	**+0.8**
CDM	**Cerro de Muert**	**1.55**	**322**	*e*P	**Pn**	**07 07 07.4**	**-0.5**
CDM				*e*S	**Sb**	**07 07 29.2**	**-0.3**
RIMA	**Rio Macho**	**1.78**	**324**	*e*P	**Pn**	**07 07 11.1**	**+0.2**
RIMA	**Rio Macho**	**1.78**	**324**		**Pn**	**07 07 10.8**	**-0.1**
RIMA	**Rio Macho**	**1.78**	**324**	*e*P	**Pn**	**07 07 11.2**	**+0.4**
RIMA				*e*S	**Sb**	**07 07 35.1**	**-0.8**
LCR2	**La Lucha 2**	**1.85**	**320**	*e*P	**Pn**	**07 07 11.7**	**-0.1**
CVTR	**Volcan Turrial**	**1.94**	**331**		**Pn**	**07 07 13.8**	**+0.7**
OCM	**Ochomogo**	**1.94**	**324**	*e*S	**Sb**	**07 07 40.1**	**-0.4**
HDC3	**Heredia 3**	**2.12**	**322**	*e*P	**Pb**	**07 07 17.8**	**-1.7**
HDC3				*e*S	**Sb**	**07 07 45.5**	**+0.1**
HDC3	**Heredia 3**	**2.12**	**322**	*e*P	**Pb**	**07 07 17.5**	**-1.9**
HDC	**Heredia**	**2.12**	**322**	*e*P	**Pn**	**07 07 16.8**	**+1.4**
HDC	**Heredia**	**2.12**	**322**		**Pn**	**07 07 16.0**	**+0.6**
HDC	**Heredia**	**2.12**	**322**	||*i* P	**Pb**	**07 07 17.9**	**-1.6**
HDC				*e*S	**Sb**	**07 07 45.5**	**0.0**
SRA1	**San Ramn**	**2.42**	**317**	*e*P	**Pn**	**07 07 21.0**	**+1.5**
LAFE	**Finca La Fe, P**	**2.56**	**306**	*e*P	**Pn**	**07 07 21.5**	**+0.1**
LAFE	**Finca La Fe, P**	**2.56**	**306**	*e*P	**Pn**	**07 07 21.4**	**+0.1**
CAO2	**Cobano, Puntar**	**2.65**	**301**		**Pn**	**07 07 22.1**	**-0.6**
CAO2	**Cobano, Puntar**	**2.65**	**301**	*e*P	**Pn**	**07 07 22.3**	**-0.3**
CAO2				*e*S	**Sb**	**07 08 04.7**	**+4.0**
FORC	**Fortuna**	**2.82**	**319**	*i* P	**Pn**	**07 07 27.4**	**+2.4**
ARE1	**Arenal 1**	**2.85**	**319**	*e*P	**Pn**	**07 07 27.5**	**+2.1**
COVE	**Coope Vega, Sa**	**2.86**	**327**	*e*P	**Pn**	**07 07 27.4**	**+1.9**
COVE	**Coope Vega, Sa**	**2.86**	**327**		**Pn**	**07 07 26.5**	**+1.0**
JTS	**Las Juntas de**	**2.89**	**313**	Pn	**Pn**	**07 07 26.9**	**+0.9**
JTS				Sn	**Sb**	**07 08 07.4**	**-0.2**
JTS				LR	LR	07 08 50.7	
	comp=Z,474nm,20.0s,slow=39						
JTS	**Las Juntas de**	**2.89**	**313**	*e*P	**Pn**	**07 07 26.7**	**+0.8**
JTS	**Las Juntas de**	**2.89**	**313**	*e*P	**Pn**	**07 07 26.6**	**+0.6**
ZANG	**Zanguenga, Cho**	**2.97**	**77**	*e*S	**Sb**	**07 08 10.0**	**+0.2**
BCIP	**Isla Barro Col**	**3.05**	**74**		**Pn**	**07 07 28.6**	**+0.4**
BCIP	**Isla Barro Col**	**3.05**	**74**	*e*P	**Pn**	**07 07 28.5**	**+0.4**
DUNO	**Dulce Nombre,**	**3.18**	**304**		**Pn**	**07 07 30.2**	**+0.3**
DUNO	**Dulce Nombre,**	**3.18**	**304**	*e*P	**Pn**	**07 07 30.5**	**+0.5**
PTEN	**Parque Tenorio**	**3.21**	**318**	*i* P	**Pn**	**07 07 32.1**	**+1.7**
GUAI	**GUAI**	**3.30**	**306**	*i* P	**Pn**	**07 07 32.7**	**+1.1**
ORTG	**Ortega, Santa**	**3.32**	**308**		**Pn**	**07 07 33.5**	**+1.6**
ORTG	**Ortega, Santa**	**3.32**	**308**	*e*P	**Pn**	**07 07 33.0**	**+1.2**
SAJU	**San Juanillo,**	**3.36**	**301**	*e*P	**Pn**	**07 07 32.5**	**+0.2**
GUAB	**Guayabo de Bag**	**3.37**	**315**	*i* P	**Pn**	**07 07 35.3**	**+2.7**
LAPC	**Finca la Perla**	**3.56**	**313**	||*i* P	**Pn**	**07 07 37.6**	**+2.4**
GBS3	**Finca Las Img**	**3.58**	**313**	*i* P	**Pn**	**07 07 37.9**	**+2.4**
HZTE	**Horizontes, Gu**	**3.64**	**311**		**Pn**	**07 07 39.3**	**+3.0**
ESPN	**Las Esperanzas**	**4.13**	**339**		**Pn**	**07 07 43.9**	**+0.9**
ACON	**Acoyapa**	**4.32**	**327**		**Pn**	**07 07 47.2**	**+1.6**
BOAB	**BOACO BROADBAN**	**4.98**	**326**		**Pn**	**07 07 55.1**	**+0.4**
PRVC	**Isla de Provid**	**5.22**	**16**	Pn	**Pn**	**07 07 57.8**	**-0.2**
MATN	**Matagalpa**	**5.52**	**326**		**Pn**	**07 08 03.1**	**+1.0**
CRIN	**San Cristobal**	**6.04**	**317**		**Pn**	**07 08 12.2**	**+2.9**
TGUH	**Tegucigalpa,Un**	**7.20**	**323**		**Pn**	**07 08 25.8**	**+0.6**
SJCC	**San Jacinto, C**	**7.69**	**78**		**Pn**	**07 08 32.9**	**+0.9**
ZARC	**Zaragoza, Cauc**	**7.91**	**95**		**Pn**	**07 08 36.0**	**+1.0**
MTO3	**Montecristo**	**8.82**	**314**		**Pn**	**07 08 50.3**	**+2.6**
ROSC	**El Rosal**	**9.11**	**112**	LR	LR	07 12 10.6	
	comp=Z,175nm,18.4s,baz=240,slow=39						
OTAV	**Otavalo**	**9.12**	**151**	Pn	**Pn**	**07 08 53.2**	**+1.2**
CMIG	**Matias Romero**	**14.65**	**308**	Pn	**Pn**	**07 10 08.0**	**+0.8**
	0.5nm,0.3s,baz=138,slow=9.4,SNR=6.4						
GCPR	**Guaynabo City**	**19.04**	**57**	P	**Pn**	**07 11 03.0**	**+0.2**
NNA	**Nana**	**21.02**	**164**	P	P	07 11 07.7	-16
	3.5nm,0.5s,baz=254,slow=16,SNR=2.3						
344A	**Westbrook Farm**	**24.18**	**343**	P	**P**	**07 11 55.4**	**-0.3**
152A	**Waverly Hall**	**24.30**	**356**	P	**P**	**07 11 55.5**	**-1.4**
152A				IAmb	IAmb	07 12 18.1	
	comp=Z,9.8nm,1.1s						
PTGA	**Pitinga**	**24.47**	**110**	LR	LR	07 20 58.9	
	comp=Z,41nm,18.2s,baz=282,slow=36						
342A	**Flagon Creek P**	**24.60**	**340**	P	**P**	**07 11 57.3**	**-2.3**
MACA	**Manacapuru-AM**	**24.83**	**116**	P	**P**	**07 12 03.3**	**+1.4**
MACA				IAmb	IAmb	07 12 09.7	
	comp=Z,12nm,0.9s						
146A	**Union**	**24.89**	**347**	P	**P**	**07 12 04.7**	**+2.5**
GOGA	**Godfrey**	**24.98**	**359**	P	**P**	**07 12 04.5**	**+1.4**
GOGA				IAmb	IAmb	07 12 11.5	
	comp=Z,6.8nm,1.1s						
WLAR	**White Oak Lake**	**26.98**	**341**	P	**P**	**07 12 21.6**	**+0.4**
TKL	**Tuckaleechee C**	**27.23**	**358**	LR	LR	07 22 59.1	
	comp=Z,50nm,18.4s,baz=260,slow=35						
LCAR	**Lake Charles**	**28.66**	**346**	P	**P**	**07 12 36.0**	**-0.1**
LCAR				IAmb	IAmb	07 12 37.0	
	comp=Z,6.0nm,0.9s						
MDP	**Montagnes des**	**30.12**	**94**	LR	LR	07 25 04.4	
	comp=Z,107nm,19.0s,baz=252,slow=37						
SIV	**San Ignacio**	**32.34**	**138**	LR	LR	07 24 30.6	
	comp=Z,48nm,19.7s,baz=48,slow=34						
ANMO	**Albuquerque**	**34.25**	**324**	P	**P**	**07 13 26.0**	**+0.4**
WES	**Weston**	**35.41**	**15**	P	**P**	**07 13 34.7**	**-0.5**
SADO	**Sadowa**	**36.45**	**4**	LR	LR	07 28 36.4	
	comp=Z,51nm,18.5s,baz=151,slow=36						
214A	**Organ Pipe Nat**	**36.47**	**314**	P	**P**	**07 13

DZM Mont Dzumac 18.11 253 P P 07 40 19.6 +1.5
0.1nm,0.3s,baz=79,slow=17,SNR=9.7
DZM LR LR 07 46 10.3
comp=Z,1μm,20.8s,baz=33,slow=33
DZM Mont Dzumac 18.11 253 *e*P **P 07 40 22.9 +4.7**
35nm,1.4s
DZM *e*LR LR 07 44 44.5
comp=Z,2μm,25.0s
DZM Mont Dzumac 18.11 253 Pn 07 40 17.9 +0.1
PAE Paea 24.12 94 *e*T T 08 05 48.8
4.0nm,0.2s
PPT2 Papeete2 24.13 94 *e*LR LR 07 46 49.2
comp=Z,1μm,26.5s
PPT2 Papeete2 24.13 94 *e*T T 08 05 50.4
4.8nm,0.3s
PPT Papeete 24.13 94 LR LR 07 48 06.6
comp=Z,200nm,20.9s,baz=258,slow=30
TBI Tubuai 24.49 108 *e*LR LR 07 46 58.0
comp=Z,1μm,27.8s
TBI Tubuai 24.49 108 *e*T T 08 06 20.0
4.6nm,0.3s
MEH Mehetia 25.55 95 *e*T T 08 07 35.7
24nm,0.2s
NNZ Nelson 25.63 201 P **P 07 41 37.3 +1.8**
HNR Honiara 25.75 285 LR LR 07 50 16.5
comp=Z,577nm,20.3s,baz=134,slow=33
VAH Vaihoa 26.25 89 *e*T T 08 08 26.9
8.4nm,0.2s
LTZ Lake Taylor 27.39 201 P **P 07 41 52.5 +1.0**
TAOE Nuku Hiva Isla 34.87 80 *e*LR LR 07 51 52.3
comp=Z,505nm,27.4s
PMG Port Moresby 37.72 277 LR LR 07 57 05.1
comp=Z,146nm,20.2s,baz=101,slow=33
PMG Port Moresby 37.72 277 P **P 07 43 23.5 +1.4**
PMG IAmb IAmb 07 43 37.7
comp=Z,16nm,1.1s
STKA Stephens Creek 41.73 242 P **P 07 43 55.4 +0.1**
comp=Z,3.2nm,0.9s,baz=45,slow=9.6,SNR=4.3
STKA LR LR 07 59 15.8
comp=Z,137nm,18.2s,baz=33,slow=33
STKA Stephens Creek 41.73 242 P **P 07 43 54.2 -1.1**
BBOO Buckleboo 46.50 241 P **P 07 44 32.0 -1.5**
WR0 Warramunga Arr 47.79 259 P **P 07 44 42.9 -0.9**
WR0 IAmb IAmb 07 45 06.4
comp=Z,7.8nm,1.0s
WB2 Warramunga Arr 47.97 259 P **P 07 44 45.5 +0.2**
WB2 IAmb IAmb 07 44 48.3
comp=Z,6.3nm,0.9s
WRA Warramunga Arr 47.98 259 P **P 07 44 44.3 -1.0**
comp=Z,3.4nm,0.9s,baz=98,slow=8.3,SNR=11
WRA PcP **PcP 07 46 13.5 -0.1**
comp=Z,1.6nm,0.9s,baz=88,slow=4.0,SNR=5.5
WRA LR LR 08 03 31.4
comp=Z,330nm,22.0s,baz=59,slow=34
WRA Warramunga Arr 47.98 259 P **P 07 44 44.4 -0.9**
AS31 Alice Springs 48.10 254 P **P 07 44 45.9 -0.4**
ASAR Alice Springs 48.10 254 P **P 07 44 45.3 -0.9**
comp=Z,9.6nm,0.8s,baz=86,slow=8.4,SNR=56
ASAR PcP **PcP 07 46 13.5 -0.4**
comp=Z,2.6nm,0.9s,baz=100,slow=3.9,SNR=7.5
ASAR LR LR 08 04 04.8
comp=Z,137nm,19.6s,baz=96,slow=35
ASAR Alice Springs 48.10 254 P **P 07 44 45.9 -0.4**
SIJI Sorong 55.44 281 LR LR 08 08 11.0
comp=Z,158nm,20.5s,baz=86,slow=35
BATI Baumata 59.89 268 LR LR 08 13 01.2
comp=Z,119nm,18.0s,baz=138,slow=37
RPN Rapa Nui 60.80 112 LR LR 08 05 04.9
comp=Z,171nm,18.7s,baz=298,slow=29
VNDA Vanda 61.08 186 LR LR 08 09 22.1
comp=Z,16nm,20.9s,baz=283,slow=33
KAPI Kappang 65.02 273 LR LR 08 12 54.7
comp=Z,30nm,21.4s,baz=124,slow=34
MJAR Matsushiro Arr 69.70 321 LR LR 08 13 04.6
comp=Z,30nm,21.4s,baz=147,slow=32
JOW Kunigami 70.64 308 LR LR 08 11 20.8
comp=Z,55nm,20.4s,baz=240,slow=30
JNU Nakatsue 72.26 314 LR LR 08 14 32.1
comp=Z,44nm,20.7s,baz=97,slow=32
QSPA South Pole Qui 72.48 180 LR LR 08 16 35.3
comp=Z,46nm,19.1s,baz=330,slow=34
QSPA South Pole Qui 72.48 180 P **P 07 47 31.9 -0.6**
QSPA IAmb IAmb 07 47 32.9
comp=Z,4.3nm,0.9s
PETK Petropavlovsk- 74.27 343 P **P 07 47 44.0 +0.9**
comp=Z,6.5nm,0.9s,baz=170,slow=9.0,SNR=7.7
PETK LR LR 08 13 43.0
comp=Z,46nm,21.8s,baz=125,slow=30
LPIG La Paz 75.39 59 LR LR 08 12 36.1
comp=Z,95nm,19.6s,baz=246,slow=29
PFO Pinyon Flats O 75.44 47 LR LR 08 11 30.7
comp=Z,105nm,21.4s,baz=262,slow=28
LEM Lembang 76.08 267 LR LR 08 21 43.6
comp=Z,94nm,19.8s,baz=118,slow=36
YBH Yreka Blue Hor 76.19 38 LR LR 08 12 49.3
comp=Z,98nm,19.6s,baz=230,slow=29
QSM Queen of Sheba 76.45 45 P **P 07 47 55.7 -0.3**
QSM IAmb IAmb 07 47 56.9
comp=Z,4.6nm,1.1s
KSRS Korea Array 76.72 317 LR LR 08 18 26.9
comp=Z,39nm,19.5s,baz=130,slow=33
NVAR Mina Array Bea 76.90 42 P **P 07 47 57.5 -1.2**
comp=Z,2.7nm,1.0s,baz=222,slow=8.5,SNR=11
NVAR LR LR 08 13 47.8
comp=Z,102nm,19.6s,baz=271,slow=29
NVAR Mina Array Bea 76.90 42 P **P 07 47 58.2 -0.5**
KDAK Kodiak Island 77.33 12 LR LR 08 17 45.9
comp=Z,86nm,18.5s,baz=221,slow=32
TPH Tonopah 77.39 43 P **P 07 48 01.1 -0.4**
SHPR Sheep Range 77.90 45 P **P 07 48 03.2 -1.1**
SHPR IAmb IAmb 07 48 06.5
comp=Z,3.8nm,1.1s
USRK Ussuriysk Ar. 78.28 324 LR LR 08 16 24.0
comp=Z,80nm,21.1s,baz=133,slow=31
BMN Battle Mountai 78.73 41 P **P 07 48 08.5 -0.3**
BMN IAmb IAmb 07 48 32.6
comp=Z,6.7nm,1.1s
X16A Lo Mia Camp, P 79.42 49 P **P 07 48 13.0 +0.2**
X16A IAmb IAmb 07 48 14.7
comp=Z,3.7nm,1.0s
U15A North Rim 79.83 47 P **P 07 48 15.0 -0.1**
ELK Elko 80.16 42 LR LR 08 16 11.2
comp=Z,106nm,20.4s,baz=256,slow=30
ELK Elko 80.16 42 P **P 07 48 16.0 -0.7**
MSU Marysvale 80.97 45 P **P 07 48 21.8 +0.7**
HLID Hailey 82.21 40 P **P 07 48 27.2 -0.3**
HLID IAmb IAmb 07 48 28.6
comp=Z,5.9nm,1.2s
LENM Lemitar 82.56 51 P **P 07 48 29.1 -0.4**
MNTX Cornudas Mount 82.67 54 P **P 07 48 28.5 -1.4**
PMSA Palmer Station 82.78 156 LR LR 08 15 08.2
comp=Z,58nm,21.7s,baz=112,slow=28
BNM Barren Site 82.81 51 P **P 07 48 30.4 -0.5**
ANMO Albuquerque 83.29 50 LR LR 08 16 35.6
comp=Z,68nm,21.6s,baz=248,slow=29
ANMO Albuquerque 83.29 50 P **P 07 48 33.3 0.0**
ANMO IAmb IAmb 07 48 35.5
comp=Z,6.8nm,1.3s
NEW Newport 83.31 35 LR LR 08 18 01.1
comp=Z,56nm,18.7s,baz=242,slow=30
MCMT McKenzie Canyo 83.84 39 P **P 07 48 36.5 +0.5**
AHID Auburn Hatcher 83.85 42 P **P 07 48 35.7 -0.3**
REDW Red Top Meadow 84.31 41 P **P 07 48 38.0 -0.4**
WRH Wood River Hil 84.35 11 P **P 07 48 37.6 -0.2**
SNOW Snow King Moun 84.42 41 P **P 07 48 38.3 -0.6**
QLMT Earthquake Lak 84.70 40 P **P 07 48 40.7 +0.4**
BW06 Boulder Array 84.83 42 P **P 07 48 39.5 -1.5**
BW06 IAmb IAmb 07 48 42.0
comp=Z,4.5nm,0.9s
PD31 Pinedale Array 84.83 42 P **P 07 48 40.2 -0.8**
PD31 IAmb IAmb 07 48 42.0
comp=Z,4.1nm,0.9s
PDAR Pinedale Array 84.83 42 P **P 07 48 40.2 -0.8**
comp=Z,3.3nm,0.9s,baz=212,slow=3.2,SNR=22
PDAR LR LR 08 20 42.5
comp=Z,69nm,18.7s,baz=260,slow=32
PDAR Pinedale Array 84.83 42 P **P 07 48 40.0 -1.1**
SMCO Snowmass 84.85 46 P **P 07 48 39.8 -1.6**
SMCO IAmb IAmb 07 48 42.6
comp=Z,3.6nm,0.9s
ILAR Eielson Array 84.85 12 P **P 07 48 39.6 -0.7**
comp=Z,2.6nm,0.9s,baz=228,slow=5.0,SNR=12
ILAR LR LR 08 19 34.0
comp=Z,40nm,19.6s,baz=160,slow=31
ILAR Eielson Array 84.85 12 P **P 07 48 40.3 0.0**
YHL Hebgen Lake 84.86 40 P **P 07 48 41.5 +0.2**

USHA Ushuaia 84.92 146 LR LR 08 18 00.1
comp=Z,42nm,20.6s,baz=242,slow=30
BOZ Bozeman (W) 84.98 39 P **P 07 48 41.4 -0.2**
BOZ IAmb IAmb 07 48 43.4
comp=Z,5.6nm,1.2s
H03S2 Juan Fernandez 85.19 124 T T 09 22 23.5
SNR=51
H03S1 Juan Fernandez 85.20 124 T T 09 22 24.5
SNR=55
H03S3 Juan Fernandez 85.21 124 T T 09 22 23.3
SNR=53
H03N2 Juan Fernandez 85.31 123 T T 09 22 26.8
baz=256,slow=73,SNR=18
H03N3 Juan Fernandez 85.31 123 T T 09 22 25.5
baz=256,slow=73,SNR=23
H03N1 Juan Fernandez 85.32 123 T T 09 22 25.7
baz=256,slow=73,SNR=14
HRY Holter Researc 85.44 38 P **P 07 48 43.6 -0.2**
MSTX Muleshoe 85.62 52 P **P 07 48 43.5 -1.5**
DAWY Dawson 85.88 15 P **P 07 48 45.0 -0.5**
CMIG Matias Romero 85.95 71 LR LR 08 18 24.7
comp=Z,96nm,19.7s,baz=232,slow=30
ABTX Abilene, Hawle 87.48 55 P **P 07 48 53.6 -0.5**
PLCA Paso Flores 89.11 133 LR LR 08 19 53.2
comp=Z,42nm,21.1s,baz=215,slow=30
INK Inuvik 90.72 14 LR LR 08 22 02.0
comp=Z,29nm,21.3s,baz=119,slow=30
CMAR Chiang Mai Arr 91.94 289 LR LR 08 28 20.9
comp=Z,28nm,19.9s,baz=110,slow=34
YKA Yellowknife Ar 92.66 24 P **P 07 49 16.9 -0.6**
comp=Z,0.7nm,1.1s,baz=241,slow=4.2,SNR=4.1
JTS Las Juntas de 93.00 80 LR LR 08 21 21.3
comp=Z,48nm,19.4s,slow=29
LCO Las Campanas 93.44 122 P **P 07 49 22.9 +0.4**
NNA Nana 93.94 104 LR LR 08 24 00.9
comp=Z,37nm,19.6s,baz=282,slow=31
ATAH Atahualpa 94.02 99 LR LR 08 21 35.3
comp=Z,73nm,21.3s,baz=252,slow=29
SONM Songino Array 95.51 318 LR LR 08 27 51.5
comp=Z,35nm,20.3s,baz=118,slow=32
TIXI Tiksi 96.71 345 LR LR 08 28 25.7
comp=Z,34nm,20.2s,baz=246,slow=32
LVC Limon Verde 97.35 116 LR LR 08 23 13.5
comp=Z,62nm,21.2s,baz=242,slow=29
KURK Kurchatov 113.82 318 PKiKP 07 54 42.8 -1.9
KURBB Kurchatov Arra 113.88 318 PKP **PKiKP 07 54 42.8 -2.0**
comp=Z,0.7nm,0.9s,baz=103,slow=1.6,SNR=5.7
BVAR Borovoye Array 118.70 321 PKPdf 07 54 52.7 -1.4
comp=Z,1.4nm,0.9s,baz=48,slow=2.4,SNR=5.5
ARCES ARCESS Array B 126.55 351 PKP **PKPdf 07 55 08.0 -0.7**
comp=Z,3.1nm,0.9s,baz=338,slow=2.6,SNR=4.2
KMBO Kilima Mbogo 143.29 243 PKP PKPab 07 55 39.5 +1.9
comp=Z,0.9nm,0.3s,baz=19,slow=3.9,SNR=3.5
FLTG Flechtingen 144.99 353 *e*PKPbc **PKPab 07 55 42.1 -0.4**
baz=8.0,slow=2.9
OJC Ojcow 145.36 343 *e*PKPdf **PKPbc 07 55 43.1 -0.7**
OJC *e*PP PP 07 58 54.2 -8.6
VASR Vaslui 145.48 332 ⇑P **PKPbc 07 55 44.8 +0.5**
CLZ Clausthal 145.56 354 *e*PKPbc **PKPbc 07 55 43.8 -0.6**
baz=8.0,slow=2.9
PRAR RASCA 145.59 334 ⇓P **PKPbc 07 55 45.8 +1.1**
KSP Ksiaz 145.63 347 *e*PKPdf **PKPdf 07 55 45.5 +1.1**
CLL Collm 145.77 351 *i* PKPbc **PKPdf 07 55 44.7 +0.1**
comp=Z,18nm,0.9s
CLL Collm 145.77 351 *e*PKPbc **PKPdf 07 55 45.0 +0.4**
baz=8.0,slow=2.9
BURAR Bucovina Array 145.80 336 ⇓P **PKPdf 07 55 46.5 +1.5**
GTTG Gottingen 145.89 355 *e*PKPbc **PKPdf 07 55 46.4 +1.6**
baz=8.0,slow=2.9
CHVC Chvalec 145.92 348 *e*PKP **PKPdf 07 55 45.8 +0.8**
NIE Niedzica 145.94 342 *e*PKPdf **PKPdf 07 55 45.8 +0.7**
NEUB Neuenburg 146.03 352 *e*PKPbc **PKPdf 07 55 46.7 +1.6**
baz=8.0,slow=2.9
BRG Berggiesshubel 146.04 350 *e*PKPbc **PKPdf 07 55 46.6 +1.5**
baz=8.0,slow=2.9
TESR Tescani 146.08 333 ⇑P **PKPdf 07 55 46.4 +1.1**
FBE Freiberg 146.09 351 *e*PKPbc **PKPdf 07 55 46.7 +1.5**
baz=8.0,slow=2.9
DPC Dobruska-Polom 146.09 347 *e*PKP **PKPdf 07 55 46.4 +1.1**
KRLC Kraliky 146.25 346 *e*PKP **PKPdf 07 55 46.8 +1.2**
PVCC Panska Ves 146.26 349 *e*PKP **PKPdf 07 55 47.1 +1.6**
MORC Moravsky Berou 146.35 345 ⇑P **PKPdf 07 55 47.5 +1.7**
MORC Moravsky Berou 146.35 345 *e*PKP **PKPdf 07 55 47.0 +1.2**
TRPA Tarpa 146.36 339 ⇑P **PKPdf 07 55 47.3 +1.6**
CFR Carcaliu 146.42 330 ⇑P **PKPdf 07 55 48.4 +2.5**
TPGR Topolog 146.52 329 ⇓P **PKPdf 07 55 48.5 +2.4**
VRI Vrincioaia 146.55 332 ⇑P **PKPdf 07 55 46.0 -0.1**
ARCR ARCALIA 146.57 336 ⇓P **PKPbc 07 55 48.8 +1.2**
PLOR Plostina 146.60 332 ⇑P **PKPdf 07 55 46.3 0.0**
MOX Moxa 146.60 352 *e*PKPbc **PKPbc 07 55 49.5 +1.9**
baz=8.0,slow=2.9
TANN Tannenbergstha 146.72 351 *e*PKPbc **PKPdf 07 55 48.6 +2.3**
baz=8.0,slow=2.9
GUNZ Gunzen 146.78 352 *e*PKPbc **PKPdf 07 55 48.9 +2.4**
baz=8.0,slow=2.9
PRU Pruhonice 146.79 349 *e*PKP **PKPdf 07 55 48.0 +1.6**
WERN Wernitzgruen 146.85 351 *e*PKPbc **PKPbc 07 55 50.2 +1.9**
baz=8.0,slow=2.9
BRTR Keskin Array B 146.87 318 PKPbc **PKPdf 07 55 48.9 +1.8**
comp=Z,5.3nm,0.9s,baz=119,slow=2.4,SNR=16
NKC Novy Kostel 146.89 351 *e*PKP **PKPbc 07 55 49.8 +1.3**
VRAC Vranov 147.01 346 ⇑P **PKPdf 07 55 49.3 +2.4**
VRAC Vranov 147.01 346 *e*PKP **PKPbc 07 55 51.1 +2.3**
DOPR Dopca 147.05 334 ⇑P **PKPbc 07 55 50.2 +1.1**
MANZ Manzenberg 147.18 352 *e*PKPbc **PKPbc 07 55 50.4 +1.1**
baz=8.0,slow=2.9
MLR Muntele Rosu 147.19 332 ⇑P **PKPbc 07 55 50.5 +0.9**
KRUC Moravsky 147.29 346 *e*PKP **PKPdf 07 55 49.9 +2.6**
TNS Taunus Mts 147.32 356 *e*PKPbc **PKPbc 07 55 51.2 +1.4**
baz=8.0,slow=2.9
ROTZ Rotzenmuhle 147.38 351 *e*PKPbc **PKPdf 07 55 50.3 +2.9**
baz=8.0,slow=2.9
DRGR 147.44 337 ⇑P **PKPdf 07 55 50.3 +2.6**
VOIR 147.62 333 ⇑P **PKPbc 07 55 52.2 +1.4**
KHC Kasperske Hory 147.79 350 *e*PKP **PKPdf 07 55 51.0 +2.8**
ARR Arges 147.85 334 ⇑P **PKPbc 07 55 52.4 +1.1**
WLF Walferdange 147.98 359 *e*PKPbc **PKPbc 07 55 52.2 +0.7**
baz=8.0,slow=2.9
GEC2 GERESS Array S 148.04 349 *e*PKPbc **PKPbc 07 55 52.3 +0.5**
baz=8.0,slow=2.9
GERES GERESS Array B 148.04 349 PKPbc **PKPdf 07 55 50.8 +2.1**
comp=Z,3.5nm,0.9s,baz=29,slow=3.0,SNR=16
GERES GERESS Array B 148.04 349 PKPbc 07 55 52.3 +0.5
SIRR Siria 148.27 338 ⇑P **PKPdf 07 55 52.5 +3.5**
CONA Conrad Observa 148.47 346 *e*P **PKPbc 07 55 53.5 +0.6**
comp=Z,3.9nm,0.9s
BFO Black Forest 149.22 356 *e*PKPbc **PKPbc 07 55 54.7 -0.1**
baz=8.0,slow=2.9
UBR Uebeerruh 149.70 353 *e*PKPbc **PKPbc 07 55 56.4 +0.4**
baz=8.0,slow=2.9
RETA Reutte 149.81 352 *e*P **PKPbc 07 55 57.2 +0.9**
MOTA Moosalm 149.91 352 *e*P **PKPbc 07 55 57.0 +0.3**
comp=Z,2.6nm,0.7s
WTTA Wattenberg 149.91 351 *i* P **PKPbc 07 55 56.8 +0.1**
comp=Z,3.5nm,0.6s
ABTA Abfaltersbach 150.28 350 *e*P **PKPbc 07 55 57.5 0.0**
comp=Z,4.5nm,0.7s
FETA Feichten 150.28 352 *e*P **PKPbc 07 55 57.3 -0.2**
comp=Z,1.7nm,0.6s
ESDC Sonseca Array 156.62 18 PKPab **PKPab 07 56 30.9 +0.4**
comp=Z,1.5nm,1.0s,baz=322,slow=5.6,SNR=5.7
TORD Torodi Ar. Bea 174.50 143 PKP **PKPdf 07 56 14.3 -2.5**
comp=Z,0.6nm,0.8s,baz=288,slow=2.9,SNR=3.6
TORD PKPab **PKPab 07 57 47.6 -2.1**
comp=Z,0.9nm,0.9s,baz=234,slow=3.6,SNR=3.5
TORD Torodi Ar. Bea 174.50 143 PKPdf 07 56 14.6 -2.3
TORD PKPab **PKPab 07 57 48.5 -1.1**

NNC ***03*** *07:38:54.5±1.2, 46.°04N×82.°04E, h0km, mb3.0, mpv2.2, Error ellipse: s-maj=6.1km s-min=4.8km az=14.0*
SOME ***03*** *07:38:56.2, 46.°08N×81.°72E, h10km*
ISC 03 07:38:54.0±1.6, 46.°02N±0.°05×82.°08E±0.°07, h2km±17km, n8, σ1§47/14, 4C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.79**	**11**	⇓P	**Pb**	**07 39 09.9**	**-0.6**
	0.6nm,0.2s,baz=191,slow=17,SNR=175						
MK31				⇑S	**Sb**	**07 39 20.5**	**-1.1**
	5.1nm,0.5s,baz=193,slow=30,SNR=30						
MAKZ	**Makanchi**	**0.79**	**355**	⇑P	**Pg**	**07 39 09.4**	**+0.2**
	0.6nm,0.3s						
MAKZ				⇑S	**Sb**	**07 39 20.6**	**-1.1**
	11nm,0.6s						
KAPS	**Kapalarasan**	**2.05**	**250**	*e*P	**Pn**	**07 39 30.3**	**+0.8**
	0.4nm,0.1s						
KAPS				*e*S	**Sn**	**07 39 54.7**	**-1.0**
	5.4nm,0.0s						
DJR	**Jarkent**	**2.34**	**225**	*e*P	**Pb**	**07 39 36.5**	**-0.4**
	0.5nm,0.1s						
DJR				*e*S	**Sb**	**07 40 05.3**	**-1.0**
	1.4nm,0.1s						
ZSN	**Zaisan**	**2.39**	**52**	*e*P	**Pg**	**07 39 40.0**	**+0.2**
	1.6nm,0.2s						
ZSN				*e*S	**Sg**	**07 40 10.8**	**0.0**
	3.5nm,0.2s						
ARXS	**Arharly**	**3.51**	**241**	*e*P	**Pb**	**07 39 57.3**	**+0.4**
ARXS				*e*S	**Sb**	**07 40 41.5**	**+1.5**
KURBB	**Kurchatov Arra**	**5.18**	**334**	⇓Pg	**Pg**	**07 40 31.0**	**-2.1**
	0.4nm,0.7s						
KURBB				⇓Lg	Lg	07 41 36.3	
	3.0nm,0.7s						
KURK	**Kurchatov**	**5.23**	**335**	⇑Pg	**Pb**	**07 40 29.2**	**+3.1**
	1.0nm,0.9s						
KURK				⇓Lg	Lg	07 41 35.8	
	3.4nm,1.2s						

TUL ***03*** *07:51:26±1.2, 35.°66N±0.°02×97.°39W±0.°03, h6km±6km, ML2.6, mb_Lg2.2/11(NEIC), Error ellipse: s-maj=3.4km s-min=1.6km az=120.0*
NEIC 03 07:51:26.2±1.0, 35.°682N±0.°005×97.°41W±0.°02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=148.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**185**	Pg	Pg	07 51 28.3	0.0
OK025	**Westminster Rd**	**0.12**	**149**	Pg	Pg	07 51 28.5	-0.1
OK025				Sg	Sg	07 51 30.4	+0.2
OK029	**Liberty Lake**	**0.12**	**343**	Pg	Pg	07 51 29.3	+0.6
OK029				Sg	Sg	07 51 31.8	+1.5
OK001	**Jones High Sch**	**0.16**	**140**	Pg	Pg	07 51 29.3	-0.1
BCOK	**Bluff Creek, N**	**0.16**	**261**	Pg	Pg	07 51 29.8	+0.4
BCOK				Sg	Sg	07 51 32.8	+1.2
OK005	**Luther M Schoo**	**0.18**	**99**	Pg	Pg	07 51 29.9	+0.1
OKCFA	**Oklahoma City**	**0.27**	**187**	Pg	Pg	07 51 31.4	0.0
OKCFA				Sg	Sg	07 51 35.3	+0.4
OKCSW	**OKLAHOMA CITY**	**0.28**	**184**		Pg	07 51 31.6	0.0
OKCSW				Sg	Sg	07 51 35.6	+0.4
FNO	**Franklin**	**0.42**	**179**	Pg	Pg	07 51 34.3	-0.1
FNO				Sg	Sg	07 51 40.2	+0.3
OK031	**S. Brethren Rd**	**0.54**	**60**	Pg	Pg	07 51 36.5	0.0
OK031				Sg	Sg	07 51 44.0	+0.5
OK030	**Cody Creek RV**	**0.57**	**64**		Pg	07 51 36.9	-0.2
OK030				Sg	Sg	07 51 44.9	+0.5
OK034	**N. Norfolk Rd.**	**0.66**	**60**	Pg	Pg	07 51 38.5	-0.3
OK034				IAmb_Lg		07 51 46.6	
	comp=Z,12nm,0.8s						
OK034				Sg	Sg	07 51 47.7	+0.4
W35A	**Tecumseh**	**0.69**	**140**		Pg	07 51 38.8	-0.6
QUOK	**Quay**	**0.75**	**49**	Pg	Pg	07 51 40.4	-0.3
QUOK				Sg	Sg	07 51 50.8	+0.4
CROK	**Carrier**	**0.94**	**331**		Pg	07 51 44.3	0.0
BLOK	**Blackwell**	**1.09**	**8**	Pg	Pg	07 51 47.2	+0.1
X34A	**Smith Ranch, M**	**1.13**	**198**		Pg	07 51 47.5	-0.4
X34A					Sb	07 52 03.7	+0.5
GC02	**Grant County #**	**1.22**	**343**		Pg	07 51 49.2	-0.4
OK032	**Salt Plains WL**	**1.29**	**330**		Pn	07 51 50.2	-0.7
OK032				Sn	Sn	07 52 08.8	+0.1
KAN13	**South Haven SW**	**1.33**	**358**	Pn	Pn	07 51 51.1	-0.3
TUL1	**Leonard**	**1.34**	**80**	Pn	Pn	07 51 49.7	-1.8
KAN14	**Manchester OK**	**1.35**	**341**		Pn	07 51 51.2	-0.4
KAN17	**Caldwell West**	**1.39**	**348**		Pn	07 51 52.1	-0.1
T35A	**Sooner Cattle**	**1.43**	**30**		Pn	07 51 52.3	-0.5
U32A	**Winter Ranch,**	**1.46**	**299**	Pn	Pn	07 51 53.0	-0.2
WMOK	**Wichita Mounta**	**1.46**	**230**		Pn	07 51 52.6	-0.7
LOOK	**Love County**	**1.70**	**173**	Pn	Pn	07 51 56.9	+0.5
X37A	**Clayton**	**2.00**	**123**	Pn	Pn	07 52 01.3	+0.7
X37A				IAmb_Lg		07 52 29.7	
	comp=Z,9.3nm,0.8s						
HHAR	**Hobbs**	**2.88**	**77**	Pn	Pn	07 52 12.8	+0.1
W39A	**Magazine**	**3.00**	**98**	Pn	Pn	07 52 14.1	-0.3
Z38A	**Mt. Pleasant**	**3.14**	**140**	Pn	Pn	07 52 15.6	-0.7
MIAR	**Mount Ida**	**3.34**	**109**	Pn	Pn	07 52 19.7	+0.6
CBKS	**Cedar Bluff**	**3.63**	**330**	IAmb_Lg		07 53 30.5	
	comp=Z,6.9nm,0.8s						
U40A	**Yellville**	**3.76**	**78**	Pn	Pn	07 52 23.9	-0.9
S39A	**Bolivar**	**3.85**	**57**	Pn	Pn	07 52 26.3	+0.2
W41B	**Gary Mavity, V**	**4.25**	**95**	Pn	Pn	07 52 31.0	-0.5
W41B				IAmb_Lg		07 53 43.9	
	comp=Z,8.5nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.30**	**86**	Pn	Pn	07 52 31.5	-0.8
MGMO	**Mountain Grove**	**4.40**	**69**	Pn	Pn	07 52 33.0	-0.6
R40A	**Maddies Statio**	**4.87**	**56**	Pn	Pn	07 52 40.3	+0.2
435B	**Jarrell**	**4.89**	**182**	IAmb_Lg		07 54 05.7	
	comp=Z,7.4nm,0.9s						
P38A	**Dawn**	**5.00**	**37**	Pn	Pn	07 52 41.3	-0.5
X43A	**Marvell**	**5.48**	**100**	Pn	Pn	07 52 47.3	-1.1
JCT	**Junction City**	**5.56**	**202**	Pn	Pn	07 52 49.3	-0.4
T25A	**Trinidad**	**5.83**	**286**	IAmb_Lg		07 54 37.7	
	comp=Z,4.9nm,0.8s						

DJA ***03*** *07:51:59.2±0.9, 6.°N±7.°×12.°6E±.°, h71km±10km, M4.7/10, mb4.7/10, mB5.3/7, MLv4.8/6, Mw(mB)4.7/7, MwMwp5.7/1, Mwp5.8/1*
MAN ***03*** *07:52:00.9, 6.°26N×126.°28E, h49km, mb4.9, ML3.8, MS3.8*
IDC ***03*** *07:52:01.1±1.4, 6.°22N×126.°30E, h74km±15km, mb3.7/8, mb1 3.9/10, mb1mx3.5/51, mbtmp4.1/10, MS3.7/1, Ms1 3.7/1, ms1mx2.4/73, Error ellipse: s-maj=44.3km s-min=12.4km az=70.0*
NEIC ***03*** *07:52:01.9±1.6, 6.°18N±0.°08×126.°1E±0.°1, h76km±9km, mb4.4/16, Error ellipse: s-maj=22.1km s-min=9.9km az=70.0*
ISC 03 07:52:01.0±0.8, 6.°27N±0.°04×126.°28E±0.°07, h71km±8km, n47, σ1§40/56, mb4.3/15, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.67**	**358**	⇑*e*P	**Pn**	**07 52 16.0**	**+0.3**
MATI				*e*S	**Sn**	**07 52 27.3**	**+0.8**
DAV	**Davao City (W)**	**1.05**	**319**	P	**Pn**	**07 52 21.1**	**+0.8**
	186nm,0.3s,baz=278,slow=3.5,SNR=17						
DAV				S	**Sn**	**07 52 36.3**	**+1.7**
	274nm,0.3s,baz=228,slow=23,SNR=11						
DAV				LR	LR	07 53 04.5	
	comp=Z,344nm,21.2s,baz=156,slow=57						
DAV	**Davao City (W)**	**1.05**	**319**		**Pn**	**07 52 20.9**	**+0.6**
GSPH	**General Santos**	**1.33**	**262**	⇓*i*P	**Pn**	**07 52 22.2**	**-1.8**
GSPH				*e*S	**Sn**	**07 52 39.7**	**-1.5**
KCP	**Kidapawan**	**1.39**	**302**	⇑*i*P	**Pn**	**07 52 24.4**	**-0.2**
KCP				*i* S	**Sn**	**07 52 42.2**	**-0.2**
BIPH	**Bislig**	**1.90**	**3**	⇑*i*P	**Pn**	**07 52 32.2**	**+0.8**
BIPH				*i* S	**Sn**	**07 52 55.9**	**+1.4**
BUKP	**Musuan**	**2.00**	**323**	⇓*e*P	**Pn**	**07 52 33.6**	**+0.8**
BUKP				*i* S	**Sn**	**07 52 59.4**	**+2.5**
SGSI	**Sangihe**	**2.68**	**196**	P	**Pn**	**07 52 43.2**	**+1.3**
SGSI				S	**Sn**	**07 53 16.6**	**+3.3**
PAGZ	**Pagadian**	**3.27**	**299**	⇑*e*P	**Pn**	**07 52 52.1**	**+2.1**
TBP	**Tagbilaran**	**4.15**	**325**	*e*P	**Pn**	**07 53 02.8**	**+0.7**
TNTI	**Ternate**	**5.57**	**169**	P	**Pn**	**07 53 20.9**	**-0.5**
	0.3nm2μm57nm,0.5s						
TNTI				S	**Sn**	**07 54 26.2**	**+2.0**
	0.3nm2μm57nm,0.5s						
TNTI	**Ternate**	**5.57**	**169**	Pn	**Pn**	**07 53 20.4**	**-1.1**
RCP	**Roxas**	**6.30**	**327**	⇓*e*P	**Pn**	**07 53 33.3**	**+1.8**
GTOI	**Gorontalo**	**6.48**	**210**	P	**Pn**	**07 53 33.5**	**-0.4**
	0.2nm728nm32nm,0.6s						
MRSI	**Marisa**	**7.20**	**217**	P	**Pn**	**07 53 44.4**	**+0.7**
	0.5nm1μm88nm,0.8s						
TOLI2	**Tolitoli**	**7.51**	**227**	Pn	**Pn**	**07 53 46.4**	**-1.5**
**LUW

KNRA			IAmb	IAmb	07 56 50.8	
	comp=Z,14nm,0.7s					
FITZ	**Fitzroy Crossi**	**24.23 181**	P	**P**	**07 57 10.0**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=30,slow=12,SNR=2.6					
FITZ			LR	LR	08 08 19.3	
	comp=Z,185nm,20.6s,baz=97,slow=40					
COEN	**Coen**	**26.18 140**	P	**P**	**07 57 28.5**	**-0.7**
COEN			IAmb	IAmb	07 57 30.1	
	comp=Z,40nm,1.4s					
WB0	**Warramunga Arr**	**27.08 163**	P	**P**	**07 57 36.0**	**-1.3**
WB0			IAmb	IAmb	07 57 44.1	
	comp=Z,5.4nm,0.6s					
WRA	**Warramunga Arr**	**27.23 163**	P	**P**	**07 57 37.3**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=342,slow=10,SNR=41					
WRA	**Warramunga Arr**	**27.23 163**	P	**P**	**07 57 37.7**	**-0.9**
WB2	**Warramunga Arr**	**27.24 163**	P	**P**	**07 57 37.5**	**-1.1**
WR0	**Warramunga Arr**	**27.31 163**	P	**P**	**07 57 38.7**	**-0.6**
WR0			IAmb	IAmb	07 58 05.3	
	comp=Z,6.7nm,1.1s					
AS31	**Alice Springs**	**30.68 166**	P	**P**	**07 58 08.6**	**-0.6**
ASAR	**Alice Springs**	**30.68 166**	P	**P**	**07 58 08.3**	**-0.8**
	comp=Z,2.3nm,0.5s,baz=340,slow=7.3,SNR=41					
ASAR			PcP	**PcP**	**08 01 05.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=342,slow=2.0,SNR=4.3					
USA0B	**Ussuriysk Arra**	**38.11 7**	P	**P**	**07 59 12.7**	**-0.3**
EIDS	**Eidsvold**	**39.64 143**	P	**P**	**07 59 26.4**	**+0.4**
EIDS			IAmb	IAmb	07 59 26.7	
	comp=Z,3.5nm,0.7s					
BBOO	**Buckleboo**	**39.97 167**	P	**P**	**07 59 28.4**	**-0.3**
STKA	**Stephens Creek**	**40.66 160**	P	**P**	**07 59 34.1**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=342,slow=9.4,SNR=11					
STKA	**Stephens Creek**	**40.66 160**	P	**P**	**07 59 34.2**	**-0.2**
ARMA	**Armidale**	**43.84 148**	P	**P**	**08 00 01.0**	**+0.5**
ARMA			IAmb	IAmb	08 00 11.5	
	comp=Z,16nm,1.4s					
SONM	**Songino Array**	**44.76 341**	P	**P**	**08 00 08.7**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=176,slow=3.9,SNR=2.0					
CAN	**Canberra**	**46.58 154**	P	**P**	**08 00 23.0**	**+1.0**
DZM	**Mont Dzumac**	**48.39 127**	P	**P**	**08 00 36.7**	**+0.4**
DZM			IAmb	IAmb	08 00 55.3	
	comp=Z,4.3nm,1.1s					
MKAR	**Makanchi Array**	**55.23 324**	P	**P**	**08 01 28.3**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=128,slow=8.1,SNR=1.8					
BKZ	**Black Stump Fm**	**64.77 139**	P	**P**	**08 02 32.3**	**0.0**
ABKAR	**Akbulak array**	**69.91 320**	P	**P**	**08 03 05.8**	**+1.2**
ILAR	**Eielson Array**	**83.02 26**	P	**P**	**08 04 17.2**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=238,slow=5.4,SNR=7.2					
FINES	**FINESS Array B**	**89.39 332**	P	**P**	**08 04 48.8**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=101,slow=10,SNR=3.9					

*IDC **03** 07:55:35.5±1.1, 44°.26N×82°.20E, h0km, mb3.7/3, mb1 3.7/8, mb1mx3.4/54, mbtmp3.5/8, ML3.1/5, Error ellipse: s-maj=17.0km s-min=11.9km az=94.0*
*SOME **03** 07:55:37.8, 44°.25N×82°.28E, h10km*
*NNC **03** 07:55:39.8±1.3, 44°.38N×82°.18E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=12.9km s-min=5.4km az=131.0*

ISC 03 07:55:35.7±1.4, 44°.25N±0°.04×82°.39E±0°.04, h1km±11km, n66, σ1°.90/92, mb3.7/3, 11C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.68 242**		*e*P	**Pg**	**07 56 08.7**	**+0.8**
	39nm,0.1s						
KTMS				*e*S	**Sg**	**07 56 30.8**	**+1.2**
	662nm,0.1s						
KTMS	**Ketmen**	**1.68 242**		P	**Pg**	**07 56 08.7**	**+0.8**
	62nm,0.2s						
KTMS				S	**Sg**	**07 56 30.8**	**+1.2**
	631nm,0.4s						
DJR	**Jarkent**	**1.87 273**		*e*P	**Pg**	**07 56 11.5**	**0.0**
	96nm,0.5s						
DJR				*e*S	**Sg**	**07 56 36.1**	**+0.4**
	326nm,0.3s						
DJR	**Jarkent**	**1.87 273**		P	**Pg**	**07 56 11.5**	**0.0**
	96nm,0.5s						
DJR				S	**Sg**	**07 56 36.1**	**+0.4**
	326nm,0.3s						
PDGK	**Podgornoye**	**2.29 247**		Pg	**Pb**	**07 56 19.0**	**+1.0**
	17nm,0.4s						
PDGK				Lg	Lg	07 56 48.3	
	287nm,0.5s						
PDGK	**Podgornoye**	**2.29 247**		⇓Pg	**Pg**	**07 56 24.2**	**+4.6**
	30nm,0.4s						
PDGK				⇑Lg	Lg	07 56 47.9	
	299nm,0.6s						
KNOS	**Konyrlen**	**2.31 274**		*e*P	**Pg**	**07 56 19.2**	**-0.7**
	17nm,0.1s						
KNOS				*e*S	**Sg**	**07 56 48.8**	**-1.0**
	271nm,0.2s						
KAPS	**Kapalarasan**	**2.39 297**		*e*P	**Pb**	**07 56 20.3**	**+0.7**
	12nm,0.2s						
KAPS				*e*S	**Sg**	**07 56 50.8**	**-1.8**
	119nm,0.5s						
KAPS	**Kapalarasan**	**2.39 297**		Pg	**Pb**	**07 56 20.3**	**+0.7**
	12nm,0.2s						
KAPS				Lg	Lg	07 56 50.7	
	119nm,0.5s						
MK31	**Makanchi Array**	**2.54 358**		⇓Pn	**Pn**	**07 56 20.3**	**+2.1**
	3.7nm,0.2s,baz=182,slow=12,SNR=871						
MK31				⇑Lg	Lg	07 56 55.8	
	70nm,0.5s,baz=180,slow=29,SNR=9.0						
MKAR	**Makanchi Array**	**2.54 358**		Pn	**Pn**	**07 56 20.4**	**+2.3**
	8.2nm,0.3s,baz=184,slow=16,SNR=180						
MKAR				Lg	Lg	07 56 55.0	
	37nm,0.3s,baz=178,slow=30,SNR=12						
MAKZ	**Makanchi**	**2.57 354**		⇑Pn	**Pn**	**07 56 20.6**	**+2.1**
	7.8nm,0.3s						
MAKZ				⇑Lg	Lg	07 56 56.3	
	116nm,0.9s						
UZB	**Uzynbulak**	**2.68 247**		*e*P	**Pb**	**07 56 24.8**	**+0.2**
	18nm,0.3s						
UZB				*e*S	**Sb**	**07 56 58.7**	**+0.7**
	164nm,0.6s						
UZB	**Uzynbulak**	**2.68 247**		Pg	**Pb**	**07 56 24.8**	**+0.2**
	18nm,0.3s						
UZB				Lg	Lg	07 56 58.7	
	164nm,0.6s						
KPKS	**Kokpek**	**2.79 255**		*e*P	**Pb**	**07 56 26.3**	**-0.2**
	22nm,0.1s						
KPKS				*e*S	**Sb**	**07 57 01.3**	**+0.1**
	487nm,0.5s						
BLB	**Baldybastay**	**2.82 268**		*e*P	**Pb**	**07 56 27.8**	**+0.9**
	23nm,0.1s						
BLB				*e*S	**Sb**	**07 57 03.4**	**+1.4**
	141nm,0.4s						
BLB	**Baldybastay**	**2.82 268**		Pg	**Pb**	**07 56 27.8**	**+0.9**
	23nm,0.1s						
BLB				Lg	Lg	07 57 03.4	
	141nm,0.4s						
TDK	**Taldyqorghan**	**2.94 286**		*e*P	**Pg**	**07 56 31.2**	**-0.9**
	88nm,0.1s						
TDK				*e*S	**Sg**	**07 57 09.2**	**-0.9**
	324nm,0.4s						
TDK	**Taldyqorghan**	**2.94 286**		Pg	**Pg**	**07 56 31.2**	**-0.9**
	91nm,0.6s						
TDK				Lg	Lg	07 57 09.2	
	324nm,0.4s						
ZHN	**Zhinishke**	**3.06 251**		*e*P	**Pb**	**07 56 32.5**	**+1.3**
	21nm,0.1s						
ZHN				*e*S	**Sg**	**07 57 11.6**	**-2.6**
	191nm,0.1s						
SATY	**Saty**	**3.13 249**		*e*P	**Pb**	**07 56 32.6**	**+0.4**
	10nm,0.2s						
SATY				*e*S	**Sb**	**07 57 11.7**	**+0.8**
	129nm,0.3s						
SATY	**Saty**	**3.13 249**		Pg	**Pb**	**07 56 32.6**	**+0.4**
	10nm,0.2s						
SATY				Lg	Lg	07 57 11.7	
	129nm,0.3s						
ARXS	**Arharly**	**3.28 271**		*e*P	**Pb**	**07 56 35.9**	**+1.1**
	5.7nm,0.1s						
ARXS				*e*S	**Sb**	**07 57 17.3**	**+2.1**
	148nm,0.5s						
ARXS	**Arharly**	**3.28 271**		Pg	**Pb**	**07 56 35.9**	**+1.1**
	5.7nm,0.1s						
ARXS				Lg	Lg	07 57 17.3	
	148nm,0.5s						
ZSN	**Zaisan**	**3.63 28**		*e*P	**Pb**	**07 56 44.1**	**+3.3**
	77nm,0.6s						
ZSN				*e*S	**Sg**	**07 57 31.3**	**-1.1**
	119nm,0.4s						
ZSN	**Zaisan**	**3.63 28**		Pg	**Pb**	**07 56 44.1**	**+3.3**
	77nm,0.6s						
ZSN				Lg	Lg	07 57 31.3	
	119nm,0.4s						
WMQ	**Urumqi**	**3.85 95**		*e*Pn	**Pb**	**07 56 43.2**	**-1.3**
WMQ				Sn	**Sb**	**07 57 29.5**	**-2.2**
WMQ				smax	smax		
	comp=N,88nm,0.9s						
WMQ				smax	smax		
	comp=E,93nm,0.9s						
CHKK	**Chushkaly**	**3.91 266**		*e*P	**Pg**	**07 56 48.7**	**-2.0**
	comp=E,7.6nm,3.2s						
CHKK				*e*S	**Sg**	**07 57 39.8**	**-1.6**
	comp=E,91nm,0.1s						
CHKK	**Chushkaly**	**3.91 266**		Pg	**Pb**	**07 56 46.6**	**+1.1**
	comp=E,4.6nm,0.3s						
CHKK				Lg	Lg	07 57 35.7	
	comp=E,44nm,0.4s						
KOTS	**Kotyrbulak**	**3.96 257**		*e*P	**Pb**	**07 56 49.0**	**+2.7**
	comp=E,7.3nm,0.1s						
KOTS				*e*S	**Sg**	**07 57 40.2**	**-2.5**
	comp=E,128nm,0.5s						
KOTS	**Kotyrbulak**	**3.96 257**		Pg	**Pb**	**07 56 44.8**	**-1.6**
	comp=E,4.2nm,0.3s						
KOTS				Lg	Lg	07 57 32.5	
	comp=E,67nm,0.6s						
MDOK	**Medeo**	**4.02 256**		*e*P	**Pg**	**07 56 51.7**	**-1.1**
	comp=E,16nm,0.5s						
MDOK				*e*S	**Sg**	**07 57 44.6**	**-0.3**
	comp=E,67nm,0.1s						
MDOK	**Medeo**	**4.02 256**		⇑Pg	**Pg**	**07 56 53.2**	**+0.4**
	comp=E,13nm,0.5s						
MDOK				⇓Lg	Lg	07 57 46.3	
	comp=E,53nm,0.5s						
MDOK	**Medeo**	**4.02 256**		Pg	**Pg**	**07 56 52.7**	**-0.1**
	comp=E,16nm,0.5s						
MDOK				Lg	Lg	07 57 46.1	
	comp=E,66nm,0.5s						
KNDC	**Almaty**	**4.06 257**		⇑Pg	**Pg**	**07 56 55.2**	**+1.6**
	comp=E,25nm,0.6s						
KNDC				⇓Lg	Lg	07 57 47.5	
	comp=E,118nm,0.6s						
TNSS	**Tian-Shan**	**4.13 255**		*e*P	**Pg**	**07 56 54.1**	**-0.8**
	comp=E,11nm,0.6s						
TNSS				*e*S	**Sg**	**07 57 48.5**	**0.0**
	comp=E,26nm,0.5s						
TNSS	**Tian-Shan**	**4.13 255**		Pg	**Pg**	**07 56 55.3**	**+0.5**
	comp=E,11nm,0.6s						
TNSS				Lg	Lg	07 57 50.7	
	comp=E,26nm,0.5s						
KTBS	**Karatobe**	**4.15 264**		*e*P	**Pg**	**07 56 53.1**	**-2.2**
	comp=E,4.7nm,0.3s						
KTBS				*e*S	**Sg**	**07 57 46.9**	**-2.2**
	comp=E,64nm,0.6s						
KTBS	**Karatobe**	**4.15 264**		Pg	**Pb**	**07 56 52.4**	**+2.8**
	comp=E,4.7nm,0.3s						
KTBS				Lg	Lg	07 57 45.7	
	comp=E,64nm,0.6s						
IZV	**Izvestkoviy**	**4.37 256**		*e*P	**Pg**	**07 56 57.3**	**-2.0**
	comp=E,7.2nm,0.1s						
IZV				*e*S	**Sg**	**07 57 54.8**	**-1.1**
	comp=E,115nm,0.2s						
IZV	**Izvestkoviy**	**4.37 256**		Pg	**Pb**	**07 56 52.6**	**-0.7**
	comp=E,4.2nm,0.3s						
IZV				Lg	Lg	07 57 45.9	
	comp=E,16nm,0.4s						
KUU	**Kurty**	**4.37 267**		*e*P	**Pg**	**07 56 58.1**	**-1.4**
	comp=E,3.9nm,1.3s						
KUU				*e*S	**Sg**	**07 57 55.8**	**-0.4**
	comp=E,66nm,0.4s						
KUU	**Kurty**	**4.37 267**		Pg	**Pb**	**07 56 54.5**	**+1.2**
	comp=E,2.8nm,0.3s						
KUU				Lg	Lg	07 57 49.3	
	comp=E,38nm,0.4s						
MTBS	**Maitube**	**4.46 257**		*e*P	**Pg**	**07 56 58.4**	**-2.9**
	comp=E,6.9nm,0.3s						
MTBS				*e*S	**Sg**	**07 57 56.0**	**-3.1**
	comp=E,47nm,0.4s						
MTBS	**Maitube**	**4.46 257**		Pg	**Pg**	**07 56 58.5**	**-2.8**
	comp=E,6.9nm,0.3s						
MTBS				Lg	Lg	07 57 56.0	
	comp=E,47nm,0.4s						
KST	**Kastek**	**4.82 258**		*e*P	**Pg**	**07 57 06.2**	**-1.8**
	comp=E,6.3nm,0.3s						
KST				*e*S	**Sg**	**07 58 10.1**	**-0.3**
	comp=E,59nm,0.8s						
KST	**Kastek**	**4.82 258**		Pg	**Pb**	**07 57 02.7**	**+1.7**
	comp=E,6.3nm,0.3s						
KST				Lg	Lg	07 58 03.3	
	comp=E,59nm,0.8s						
KRBS	**Karabastau**	**4.88 266**		*e*P	**Pb**	**07 57 04.8**	**+2.8**
	comp=E,4.1nm,0.3s						
KRBS				*e*S	**Sg**	**07 58 06.9**	**-5.4**
	comp=E,24nm,0.4s						
KRBS	**Karabastau**	**4.88 266**		Pg	**Pg**	**07 57 05.7**	**-3.4**
	comp=E,4.1nm,0.3s						
KRBS				Lg	Lg	07 58 08.5	
	comp=E,24nm,0.4s						
DGS	**Degeres**	**4.90 260**		*e*P	**Pg**	**07 57 07.8**	**-1.8**
	comp=E,7.5nm,0.1s						
DGS				*e*S	**Sg**	**07 58 12.5**	**-0.5**
	comp=E,86nm,0.5s						
DGS	**Degeres**	**4.90 260**		Pg	**Pb**	**07 57 04.2**	**+1.8**
	comp=E,3.9nm,0.4s						
DGS				Lg	Lg	07 58 05.9	
	comp=E,22nm,0.6s						
TKM2	**Tokmak 2**	**5.11 257**		⇑Pg	**Pg**	**07 57 17.1**	**+3.5**
	comp=E,4.9nm,0.5s						
TKM2				⇑Lg	Lg	07 58 19.4	
	comp=E,32nm,0.6s						
AAK	**Ala-Archa**	**5.97 257**		Pn	**Pn**	**07 57 05.7**	**+0.3**
	comp=E,0.3nm,0.3s,baz=69,slow=8.6,SNR=2.5						
AAK				Lg	Lg	07 58 40.5	
	comp=E,0.7nm,0.3s,baz=292,slow=19,SNR=1.3						
AAK	**Ala-Archa**	**5.97 257**		⇓Pg	**Pg**	**07 57 29.2**	**-0.8**
	comp=E,5.0nm,0.6s						
AAK				⇓Lg	Lg	07 58 44.4	
	comp=E,33nm,0.8s						
KSH	**Kashi**	**6.73 228**		Pn	**Pb**	**07 57 35.2**	**+1.6**
KSH				Sn	**Sg**	**07 59 06.0**	**-5.8**
KSH				smax	smax		
	comp=N,11nm,1.3s						
KSH				smax	smax		
	comp=E,14nm,1.0s						
KURBB	**Kurchatov Arra**	**6.89 339**		Pn	**Pn**	**07 57 18.2**	**+0.5**
	comp=E,0.3nm,0.3s,baz=166,slow=12,SNR=28						
KURBB				Lg	Lg	07 59 11.6	
	comp=E,0.8nm,0.3s,baz=165,slow=32,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.89 339**		⇑Pn	**Pn**	**07 57 17.9**	**+0.2**
	comp=E,3.1nm,0.5s						
KURBB				⇓Lg	Lg	07 59 12.6	
	comp=E,64nm,0.6s						
KURK	**Kurchatov**	**6.95 340**		⇓Pn	**Pn**	**07 57 18.5**	**-0.1**
	comp=E,0.9nm,0.5s						
KURK				⇑Lg	Lg	07 59 12.9	
	comp=E,50nm,0.8s						
OTUK	**Ortayu**	**8.03 303**		⇑Lg	Lg	07 59 46.0	
	comp=E,12nm,0.7s						
KK02	**Karatay Array**	**8.69 267**		Lg	Lg	08 00 10.6	
	comp=E,6.5nm,0.7s						
ZALV	**Zalesovo Beam**	**9.83 8**		Pn	**Pn**	**07 57 58.5**	**+0.4**
	comp=E,0.9nm,0.3s,baz=187,slow=13,SNR=16						
ZALV				Sn	**Sn**	**07 59 44.4**	**-4.7**
	comp=E,0.6nm,0.3s,baz=176,slow=24,SNR=3.6						
ZALV				Lg	Lg	08 00 46.8	
	comp=E,0.4nm,0.3s,baz=186,slow=29,SNR=7.8						
BVAR	**Borovoye Array**	**11.82 322**		Pn	**Pn**	**07 58 24.8**	**-0.5**
	comp=E,0.1nm,0.3s,baz=148,slow=17,SNR=2.8						
BVAR				Lg	Lg	08 01 46.5	
	comp=E,0.4nm,0.3s,baz=138,slow=29,SNR=6.5						
GOMU	**GeErMu**	**12.44 126**		P	**Pn**	**07 58 35.5**	**+1.3**
GOMU				pP		07 58 38.8	
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,76nm,5.5s						
TORD	**Torodi Ar. Bea**	**74.31 273**		P	**P**	**08 07 14.8**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=39,slow=4.5,SNR=4.5						
WRA	**Warramunga Arr**	**79.58 131**		P	**P**	**08 07 44.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=326,slow=5.5,SNR=2.9						
ASAR	**Alice Springs**	**82.39 134**		P	**P**	**08 07 59.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=327,slow=4.2,SNR=5.7						

*IDC **03** 07:58:14.7±1.1, 13°.48N×145°.78E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/47, mbtmp3.5/6, Error ellipse: s-maj=24.2km s-min=19.5km az=169.0*

ISC 03 07:58:21.0±1.0, 13°.4N±0°.2×145°.7E±0°.1, h45km, n8, σ0°.78/9, mb3.6/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.81 281**		Pn	**Pn**	**07 58 35.1**	**-1.0**
	44nm,0.3s,baz=121,slow=4.4,SNR=43						
GUMO				Sn	**Sn**	**07 58 47.7**	**+0.6**
	172nm,0.3s,baz=0.0,slow=20,SNR=8.2						
WRA	**Warramunga Arr**	**35.00 199**		P	**P**	**08 05 09.7**	**+0.3**
	0.8nm,0.8s,baz=19,slow=9.0,SNR=4.1						
ASAR	**Alice Springs**	**38.63 197**		P	**P**	**08 05 40.5**	**+0.2**
	0.3nm,0.7s,baz=24,slow=9.2,SNR=2.9						
SONM	**Songino Array**	**47.32 325**		P	**P**	**08 06 51.6**	**+1.2**
	0.2nm,0.5s,baz=105,slow=7.4,SNR=1.7						
MKAR	**Makanchi Array**	**62.15 316**		P	**P**	**08 08 37.9**	**+0.2**
	0.3nm,0.3s,baz=94,slow=8.1,SNR=8.1						
ILAR	**Eielson Array**	**68.36 25**		P	**P**	**08 09 17.6**	**-0.1**
	0.3nm,0.5s,baz=259,slow=5.2,SNR=4.9						
YKA	**Yellowknife Ar**	**82.63 27**		P	**P**	**08 10 39.3**	**-0.1**
	0.1nm,0.4s,baz=286,slow=5.3,SNR=5.4						
FINES	**FINESS Array B**	**91.64 335**		P	**P**	**08 11 22.3**	**-0.9**
	4.7nm,1.1s,baz=68,slow=7.7,SNR=4.5						

*TAP **03** 08:22:51.6, 24°.80N×122°.40E, h16km, ML3.3, C*
*JMA **03** 08:22:53.7, 24°.69N×122°.33E, h43km±3km, M2.7*

ISC 03 08:22:51.5±1.1, 24°.75N±0°.03×122°.41E±0°.02, h8km±10km, n90, σ0°.76/116, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.44 283**		P	**Pb**	**08 23 00.7**	**-0.8**
	baz=276						
TWB1	**Santiao Chiao**	**0.46 305**		*e*P	**Pg**	**08 23 00.6**	**+0.2**
	baz=299						
TWB1				*e*S	**Sg**	**08 23 05.5**	**-0.9**
	baz=299						
TWC	**Suao**	**0.53 255**		*e*P	**Pg**	**08 23 01.6**	**0.0**
	baz=256						
TWC				S	**Sg**	**08 23 09.1**	**+0.6**
	baz=256						
NTC	**Toucheng**	**0.54 282**		P	**Pg**	**08 23 02.1**	**+0.3**
	baz=276						
JYNG	**Yonagunijimaku**	**0.57 121**		P	**Pn**	**08 23 05.9**	**0.0**
JYNG				S	**Sn**	**08 23 14.6**	**-0.9**
TIPB	**Shuangxi**	**0.57 293**		*e*P	**Pg**	**08 23 02.8**	**+0.2**
	baz=288						
TIPB				*e*S	**Sb**	**08 23 11.1**	**-1.0**
	baz=288						
YOJ	**Yonaguni jima**	**0.62 117**		P	**Pn**	**08 23 06.8**	**+0.3**
YOJ				*e*S	**Sn**	**08 23 16.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.62 117**		P	**Pn**	**08 23 06.7**	**+0.2**
	baz=114						
NDS	**Dongshan**	**0.64 260**		*e*P	**Pg**	**08 23 03.6**	**-0.2**
	baz=255						
NDS				*e*S	**Sb**	**08 23 13.0**	**-0.9**
	baz=255						
EWUT	**Wuta**	**0.65 242**		*e*P	**Pb**	**08 23 04.4**	**-0.6**
	baz=247						
EWUT				S	**Sb**	**08 23 14.0**	**-0.2**
	baz=247						
NWF	**Wu-fen Shan**	**0.65 300**		P	**Pb**	**08 23 04.7**	**-0.5**
	baz=295						
NWF				S	**Sb**	**08 23 13.7**	**-0.7**
	baz=295						
WFSB	**Wu-fen Shan**	**0.65 300**		P	**Pb**	**08 23 04.7**	**-0.5**
	baz=295						
WFSB				S	**Sb**	**08 23 13.8**	**-0.7**
	baz=295						
TWE	**Neicheng**	**0.67 268**		*e*P	**Pg**	**08 23 04.4**	**-0.1**
	baz=263						
ENA	**Nanau**	**0.68 243**		P	**Pb**	**08 23 05.3**	**-0.4**
	baz=244						
ENA				S	**Sb**	**08 23 15.0**	**-0.3**
	baz=244						
TNOU	**National Taiwa**	**0.70 305**		P	**Pb**	**08 23 05.5**	**-0.5**
	baz=301						
TNOU				S	**Sb**	**08 23 15.0**	**-0.8**
	baz=301						
ENTT	**Nioudou**	**0.77 262**		P	**Pb**	**08 23 06.7**	**-0.5**
	baz=258						
TWA	**Mucha**	**0.78 287**		*e*P	**Pb**	**08 23 07.7**	**+0.4**
	baz=283						
TWA				S	**Sb**	**08 23 17.4**	**-0.7**
	baz=283						
NWLT	**Wulai**	**0.82 272**		P	**Pb**	**08 23 07.6**	**-0.4**
	baz=268						
NWLT				S	**Sb**	**08 23 19.0**	**-0.3**
	baz=268						
NDT	**Datong Townshi**	**0.83 260**		P	**Pb**	**08 23 07.8**	**-0.2**
	baz=244						
NDT				*e*S	**Sb**	**08 23 19.3**	**0.0**
	baz=244						
NHDH	**Xindian Distri**	**0.83 285**		*e*P	**Pn**	**08 23 08.7**	**-0.7**
	baz=281						
NHDH				S	**Sb**	**08 23 19.0**	**-0.5**
	baz=281						
YM01	**YM01**	**0.86 298**		*e*P	**Pb**	**08 23 08.6**	**0.0**
	baz=294						
YM01				*e*S	**Sb**	**08 23 19.6**	**-0.7**
	baz=294						
YM08	**YM08**	**0.86 301**		P	**Pb**	**08 23 08.2**	**-0.5**
	baz=297						
YM08				*e*S	**Sg**	**08 23 19.1**	**-0.2**
	baz=297						
TATO	**Taipei**	**0.86 285**		*e*P	**Pb**	**08 23 09.1**	**+0.4**
	baz=282						
TATO				*e*S	**Sg**	**08 23 19.6**	**+0.2**
	baz=282						
TAP	**Taipei**	**0.87 290**		*e*P	**Pg**	**08 23 07.9**	**-0.3**
	baz=286						
TAP				*e*S	**Sb**	**08 23 20.2**	**-0.4**
	baz=286						
TWY	**Chenhua**	**0.90 306**		*e*P	**Pb**	**08 23 09.7**	**+0.3**
	baz=303						
TWY				S	**Sb**	**08 23 21.3**	**-0.3**
	baz=303						
ETL	**Fush Village**	**0.92 231**		P	**Pb**	**08 23 09.8**	**+0.1**
	baz=228						
PCYT	**Pengchaiyu**	**0.93 341**		*e*P	**Pb**	**08 23 09.7**	**-0.2**
	baz=340						
NACB	**Ninganchiao**	**0.93 233**		*e*P	**Pg**	**08 23 09.5**	**+0.1**
	baz=229						
YHNB	**Yeheng**	**0.94 266**		P	**Pb**	**08 23 09.7**	**-0.4**
	baz=273						
NSK	**Sanguang**	**0.96 266**		P	**Pg**	**08 23 09.8**	**-0.1**
	baz=272						
NTST	**Danshui**	**0.96 296**		*e*S	**Sb**	**08 23 22.6**	**-0.7**
	baz=292						
TWS1	**Kuangyinshan**	**0.96 292**		S	**Sb**	**08 23 23.0**	**-0.3**
	baz=288						
NNSB	**Datong**	**0.98 251**		*e*P	**Pg**	**08 23 10.4**	**0.0**
	baz=236						
NNS	**Nan Shan**	**0.99 252**		*e*P	**Pb**	**08 23 10.9**	**0.0**
	baz=248						
NNS				S	**Sb**	**08 23 24.1**	**0.0**
	baz=248						
TWD	**Chiawan**	**0.99 228**		P	**Pb**	**08 23 11.0**	**+0.1**
	baz=231						
ETLH	**Xiulin Townshi**	**1.00 238**		*e*P	**Pg**	**08 23 10.8**	**+0.1**
	baz=234			

DPDB	Guoxing	1.52	243	eP		Pg	08 23 20.6	-0.1
	baz=240							
WCS	Beigang Elemen	1.53	244	eP		Pg	08 23 20.6	-0.1
	baz=241							
NSY	Sanyi	1.53	258	eP		Pg	08 23 21.7	+0.8
	baz=272							
HGSD	Ruisui	1.54	216	eP		Pb	08 23 20.4	+0.2
	baz=200							
JKRS	Kuro-shima	1.54	109	P		Pb	08 23 20.4	+0.1
JKRS				eS		Sb	08 23 40.2	+0.1
EHY	Hungye	1.58	219	eP		Pb	08 23 21.3	+0.3
	baz=217							
SMLT	Sun Moon Lake	1.62	238	eP		Pb	08 23 21.8	+0.1
	baz=217							
JIJ	Ishigaki jima	1.63	103	P		Pn	08 23 20.9	+0.5
JIJ				eS		Sn	08 23 40.9	-0.6
SSLB	Suanglung	1.63	235	eP		Pb	08 23 22.2	+0.3
	baz=216							
TYC	Yuchr	1.64	240	eP		Pg	08 23 23.5	+0.5
	baz=220							
YULB	Yu-li	1.69	217	eP		Pn	08 23 22.0	+0.7
	baz=215							
TWF1	Yuli	1.72	216	eP		Pb	08 23 22.8	-0.6
	baz=214							
FULB	Fuli	1.85	214	eP		Pb	08 23 25.7	+0.2
	baz=197							
ALS	Alishan	1.91	230	eP		Pb	08 23 27.3	+0.6
	baz=212							
CHN5	Tsauling	1.95	234	eP		Pg	08 23 28.5	-0.3
	baz=215							
ELDTW	Lidau	2.00	220	eP		Pb	08 23 27.3	-1.0
	baz=204							
WDLH	Douliu	2.00	239	eP		Pb	08 23 28.6	+0.5
	baz=254							
EDH	Donghe	2.03	210	eP		Pn	08 23 27.2	+1.1
	baz=195							
WRL	Guolierlin Hig	2.03	246	eP		Pb	08 23 27.9	-0.8
	baz=244							
JTJ	Tarama	2.09	92	P		Pb	08 23 29.1	-0.5
STYH	Taoyuan	2.17	224	eP		Pb	08 23 30.3	-0.6
	baz=207							
TPUB	Ta-pu	2.17	229	eP		Pb	08 23 31.1	0.0
	baz=211							
WTP	Ta-pu	2.22	228	eP		Pb	08 23 31.7	-0.2
	baz=210							
LDUT	Ludao	2.24	203	eP		Pn	08 23 29.8	+1.0
	baz=201							
TWGBT	Beinan	2.27	213	eP		Pn	08 23 28.1	-1.2
	baz=211							
TWK	Hsinying	2.29	230	eP		Pb	08 23 32.7	-0.4
	baz=212							
CHN1	Nanshi	2.32	228	eP		Pb	08 23 34.0	+0.4
	baz=226							
SGST	Jiashian	2.35	226	eP		Pn	08 23 32.4	+1.9
	baz=208							
SLGT	Liugui	2.38	223	eP		Pb	08 23 33.0	-1.5
	baz=207							
ICHU	Yijhu	2.38	235	eP		Pn	08 23 32.7	+1.8
	baz=216							
SSD	Sandimen	2.57	220	eP		Pb	08 23 36.3	-1.6
	baz=218							
TSMG	Majia	2.59	219	eP		Pb	08 23 36.9	-1.4
	baz=217							
MATB	Ma-tsu	2.63	303	eP		Pn	08 23 35.7	+1.5
	baz=301							
MASBT	Mashibuluo	2.68	218	eP		Pn	08 23 37.4	+2.5
	baz=205							
SCZT	Fangliau	2.88	215	eP		Pb	08 23 41.3	-1.8
	baz=201							
WDGT	Dungji	2.92	240	eP		Pn	08 23 40.0	+1.8
	baz=238							
SLIU	Shizi	2.92	211	eP		Pb	08 23 41.2	-2.6
	baz=199							
XPSS	Dashiqiu	2.95	318	eP		Pn	08 23 40.5	+1.9
	baz=317							
LYJJ	Jianjiangzhen	2.99	307	eP		Pn	08 23 40.2	+1.1
	baz=306							

IDC 03 08:28:39.9±1.8, 4°33S×130°94E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.1/45, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=95.0km s-min=23.7km az=85.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.45	5	Pn	Pn	08 29 35.2	+0.2
	1.9nm,0.3s,baz=156,slow=20,SNR=9.9						
SIJI				Sn	Sn	08 30 17.7	+1.0
	1.3nm,0.3s,baz=217,slow=20,SNR=1.6						
WRA	Warramunga Arr	15.87	168	Pn	Pn	08 32 24.7	-0.2
	0.1nm,0.3s,baz=351,slow=12,SNR=2.4						
ASAR	Alice Springs	19.44	172	P	P	08 33 08.3	+0.1
	0.1nm,0.3s,baz=348,slow=11,SNR=9.3						
MKAR	Makanchi Array	66.54	326	P	P	08 39 31.7	-0.1
	0.3nm,0.8s,baz=117,slow=7.3,SNR=2.3						

SOME 03 08:28:42.7, 40°.95N×72°.67E, h0km
ISU 03 08:28:44, 40°.86N×72°.72E, h5km
KRNET 03 08:28:44.4±0.1, 40°.87N×72°.63E, h14km, mb3.3
NNC 03 08:28:45.9±1.1, 40°.95N×72°.66E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=9.8km s-min=3.9km az=176.0

ISC 03 08:28:44.2±1.0, 40°.91N±0°.02×72°.69E±0°.02, h10km±9km, n68, σ1°42/110, 31C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	Andizhan	0.29	239	P	Pg	08 28 51.0	+0.9
ANR				S	Sb	08 28 56.0	-0.5
OHH	Osh	0.39	169	eP	Pg	08 28 52.0	+0.1
OHH				eS	Sg	08 28 57.0	-0.1
OHH	Osh	0.39	169	⇑iP	Pg	08 28 51.4	-0.5
	baz=61						
OHH				⇑iS	Sg	08 28 56.4	-0.7
	baz=61						
FRG	Fergana	0.87	233	eP	Pg	08 29 01.0	0.0
FRG				S	Sg	08 29 12.0	-0.3
ARK	Arkit	1.04	329	eP	Pb	08 29 04.0	-0.5
ARK				eS	Pb	08 29 04.0	-0.5
ARK	Arkit	1.04	329	⇓iP	Pb	08 29 04.2	-0.3
	baz=32						
ARK				⇓iS	Sn	08 29 19.2	-0.6
	baz=32						
SFK	Sufi-Kurgan	1.09	145	eP	Pg	08 29 04.0	-1.2
SFK				eS	Sg	08 29 19.0	-0.3
SFK	Sufi-Kurgan	1.09	145	⇑eP	Pg	08 29 04.7	-0.5
	baz=42						
SFK				⇑eS	Sg	08 29 19.7	+0.4
	baz=42						
TRKS	Terek-Say	1.32	299	⇑iP	Pg	08 29 07.9	-1.7
	baz=99						
TRKS				⇑iS	Sg	08 29 25.1	-1.7
	baz=99						
AML	Almayashu	1.44	31	P	Pg	08 29 12.9	+1.1
	SNR=74						
ARLS	Aral	1.56	52	⇑iP	Pg	08 29 14.3	+0.2
	baz=52						
ARLS				⇑iS	Sg	08 29 36.0	+1.7
	baz=52						
DRK	Karamyk	1.58	206	⇑iP	Pn	08 29 12.7	+0.1
	baz=5.0						
DRK				⇑iS	Sn	08 29 33.2	-0.1
	baz=5.0						
MNAS	Manas	1.58	355	⇑eP	Pg	08 29 14.4	-0.2
	baz=57						
MNAS				⇑iS	Sg	08 29 36.0	+0.8
	baz=57						
BTK	Batken	1.66	240	⇑iP	Pn	08 29 14.2	+0.7
	baz=40						
BTK				⇑iS	Sn	08 29 35.7	+0.8
	baz=40						
MRKS	Merke	1.88	12	eP	Pg	08 29 20.4	+0.2
	19nm,0.3s						
MRKS				eS	Sg	08 29 47.5	+2.9
	200nm,0.3s						
MRKS	Merke	1.88	12	Pg	Pg	08 29 20.4	+0.2
	19nm,0.3s						
MRKS				Lg	Lg	08 29 47.5	
	200nm,0.3s						
UCH	Uchtor	1.90	45	P	Pg	08 29 21.0	+0.3
	SNR=179						
UCH	Uchtor	1.90	45	⇓iP	Pg	08 29 20.8	+0.1
	baz=46						
UCH				⇓iS	Sg	08 29 47.0	+1.6
	baz=46						
EKS2	Erkin-Say	1.93	25	P	Pg	08 29 21.2	-0.1
	SNR=14						
EKS2	Erkin-Say	1.93	25	⇑iP	Pg	08 29 20.8	-0.5
	baz=25						
EKS2				⇑iS	Sg	08 29 46.9	+0.5
	baz=25						
CHMG	Chimgan	2.12	288	P	Pb	08 29 23.0	+0.2
CHMG				S	Sg	08 29 52.0	-0.3
CHRV	Charvak	2.19	290	eP	Pn	08 29 22.0	+1.2
CHRV				S	Pn	08 29 22.0	+1.2
AAK	Ala-Archa	2.19	37	P	Pb	08 29 25.0	+0.9
	SNR=60						
AAK	Ala-Archa	2.19	37	⇑Pn	Pb	08 29 24.9	+0.9
	34nm,0.9s						
AAK				⇓Lg	Lg	08 29 55.3	
	74nm,0.7s						
AAK	Ala-Archa	2.19	37	⇑iP	Pb	08 29 24.5	+0.4
	baz=38						
AAK				⇑iS	Sg	08 29 53.4	-1.3
	baz=38						
DZA	Taraz	2.23	333	eP	Pb	08 29 24.6	0.0
	168nm,0.1s						
DZA				eS	Sg	08 29 54.8	-1.0
	119nm,0.2s						
DZA	Taraz	2.23	333	Pg	Pb	08 29 24.6	0.0
	168nm,0.1s						
DZA				Lg	Lg	08 29 54.8	
	119nm,0.2s						
IUG	Iuzhnay	2.35	303	eP	Pb	08 29 27.1	+0.4
	346nm,0.1s						
IUG				eS	Sg	08 29 58.9	-0.8
	122nm,0.4s						
IUG	Iuzhnay	2.35	303	Pg	Pb	08 29 27.1	+0.4
	602nm,0.3s						
IUG				Lg	Lg	08 29 58.9	
	122nm,0.4s						
YBZ	Yangibazar	2.38	281	P	Pg	08 29 29.0	-0.8
YBZ				S	Sg	08 30 01.0	+0.4
FRU1	Bishkek	2.39	37	⇓iP	Pb	08 29 27.1	-0.3
	baz=36						
FRU1				⇓iS	Sb	08 29 58.3	+1.3
	baz=36						
KBK	Karagaybulak	2.43	43	P	Pb	08 29 29.3	+1.1
	SNR=18						
KBK	Karagaybulak	2.43	43	⇓iP	Pb	08 29 27.8	-0.4
	baz=43						
KBK				⇓iS	Sb	08 29 59.2	+0.9
	baz=43						
CHMS	Chumysh	2.59	36	⇑iP	Pb	08 29 29.8	-1.1
	baz=36						
CHMS				⇑iS	Sb	08 30 02.9	+0.1
	baz=36						
USP	Ospenovka	2.72	29	P	Pb	08 29 31.8	-1.1
	SNR=5.7						
USP	Ospenovka	2.72	29	⇑eP	Pb	08 29 31.6	-1.3
	baz=30						
USP				⇑iS	Sb	08 30 06.0	-0.3
	baz=30						
KK02	Karatay Array	2.73	324	⇓Pn	Pn	08 29 30.5	+2.3
	5.1nm,0.3s						
KK02				⇑Lg	Lg	08 30 09.9	
	13nm,0.5s						
BOOM	Boomskoye usch	2.90	56	⇑eP	Pb	08 29 34.4	-1.8
	baz=56						
BOOM				⇑iS	Sb	08 30 10.8	-1.1
	baz=56						
SGDS	Sogindy	2.92	29	eP	Pb	08 29 37.7	+1.2
	5.6nm,0.4s						
SGDS				eS	Sg	08 30 16.7	-1.4
	20nm,0.1s						
SGDS	Sogindy	2.92	29	Pg	Pb	08 29 37.7	+1.2
	5.6nm,0.4s						
SGDS				Lg	Lg	08 30 16.7	
	13nm,0.4s						
TKM2	Tokmak 2	2.96	46	P	Pb	08 29 35.8	-1.4
	SNR=12						
TKM2	Tokmak 2	2.96	46	⇑Pn	Pb	08 29 35.5	-1.7
	5.9nm,0.6s						
TKM2				⇑Lg	Lg	08 30 16.9	
	17nm,0.5s						
TKM2	Tokmak 2	2.96	46	⇑eP	Pb	08 29 35.0	-2.2
	baz=46						
TKM2				⇑iS	Sb	08 30 12.0	-1.5
	baz=46						
BRLS	Borolday	3.00	316	eP	Pb	08 29 38.5	+0.6
	18nm,0.3s						
BRLS				eS	Sg	08 30 18.2	-2.5
	21nm,0.2s						
BRLS	Borolday	3.00	316	Pg	Pb	08 29 38.5	+0.6
	18nm,0.3s						
BRLS				Lg	Lg	08 30 18.2	
	21nm,0.4s						
KST	Kastek	3.24	48	eP	Pb	08 29 43.2	+1.2
	6.6nm,0.3s						
KST				eS	Sg	08 30 26.3	-2.0
	10.0nm,0.4s						
KST	Kastek	3.24	48	Pg	Pb	08 29 43.2	+1.2
	6.6nm,0.3s						
KST				Lg	Lg	08 30 26.3	
	10.0nm,0.4s						
DGS	Degeres	3.27	44	eP	Pb	08 29 44.6	+2.1
	12nm,0.2s						
DGS				eS	Sg	08 30 28.8	-0.5
	19nm,0.2s						
DGS	Degeres	3.27	44	Pg	Pb	08 29 44.6	+2.1
	12nm,0.5s						
DGS				Lg	Lg	08 30 28.8	
	19nm,0.5s						
KRBS	Karabastau	3.56	38	eP	Pb	08 29 49.5	+2.1
	4.0nm,0.5s						
KRBS				eS	Sg	08 30 37.1	-1.4
	12nm,0.5s						
KRBS	Karabastau	3.56	38	Pg	Pb	08 29 49.5	+2.1
	4.0nm,0.5s						
KRBS				Lg	Lg	08 30 37.1	
	12nm,0.5s						
MTBS	Maitube	3.56	50	eP	Pg	08 29 50.2	-2.2
	2.4nm,0.4s						
MTBS				eS	Sg	08 30 38.2	-0.5
	10nm,0.3s						
MTBS	Maitube	3.56	50	Pg	Pg	08 29 50.3	-2.2
	2.4nm,0.4s						
MTBS				Lg	Lg	08 30 38.2	
	10nm,0.3s						
IZV	Izvestkoviy	3.62	53	eP	Pb	08 29 51.0	+2.6
	4.3nm,0.4s						
IZV				eS	Sg	08 30 39.4	-1.0
	6.6nm,0.5s						
IZV	Izvestkoviy	3.62	53	Pg	Pb	08 29 51.0	+2.6
	4.3nm,0.4s						
IZV				Lg	Lg	08 30 39.4	
	6.6nm,0.5s						
TNSS	Tian-Shan	3.82	55	eP	Pg	08 29 55.1	-2.4
	1.6nm,0.1s						
TNSS				eS	Sg	08 30 46.4	-0.6
	2.9nm,0.6s						
TNSS	Tian-Shan	3.82	55	Pg	Pg	08 29 55.1	-2.4
	2.9nm,0.3s						
TNSS				Lg	Lg	08 30 46.4	
	2.9nm,0.6s						
MDOK	Medeo	3.95	54	eP	Pg	08 29 57.6	-2.3
	1.9nm,0.3s						
MDOK				eS	Sg	08 30 50.9	-0.3
	4.9nm,0.0s						
MDOK	Medeo	3.95	54	Pg	Pg	08 29 57.6	-2.3
	1.9nm,0.3s						
MDOK				Lg	Lg	08 30 50.9	
	5.5nm,0.6s						
KUU	Kurty	4.03	41	eP	Pg	08 29 58.7	-2.6
	3.5nm,0.3s						
KUU				eS	Sg	08 30 52.7	-0.7
	9.2nm,0.0s						
KUU	Kurty	4.03	41	Pg	Pg	08 29 58.7	-2.6
	3.5nm,0.3s						
KUU				Lg	Lg	08 30 52.7	
	8.8nm,0.6s						
KOTS	Kotyrbulak	4.03	53	eP	Pg	08 29 59.6	-1.8
	6.9nm,0.6s						
KOTS				eS	Sg	08 30 54.2	+0.6
	12nm,0.4s						
KOTS	Kotyrbulak	4.03	53	Pg	Pg	08 29 59.6	-1.8
	6.9nm,0.6s						
KOTS				Lg	Lg	08 30 54.2	
	12nm,0.4s						
KTBS	Karatobe	4.08	45	eP	Pg	08 29 60.0	-2.4
	4.1nm,0.6s						
KTBS				eS	Sg	08 30 55.0	-0.2
	12nm,0.6s						
KTBS	Karatobe	4.08	45	Pg	Pg	08 29 60.0	-2.4
	4.1nm,0.6s						
KTBS				Lg	Lg	08 30 55.0	
	12nm,0.6s						
BTLS	Baital	4.25	13	eP	Pb	08 30 01.6	+2.6
	1.4nm,0.0s						
BTLS				eS	Sg	08 30 57.8	-2.9
	8.8nm,0.4s						
CHKK	Chushkaly	4.34	46	⇑iP	Pg	08 30 05.1	-2.2
	1.8nm,0.0s						
CHKK				eS	Sg	08 31 05.0	+1.5
	8.9nm,0.3s						
CHKK	Chushkaly	4.34	46	Pg	Pg	08 30 05.1	-2.2
	2.5nm,0.3s						
CHKK				Lg	Lg	08 31 05.0	
	8.9nm,0.3s						

SSNC 03 08:44:00.9±1.8, 20°.04N×71°.07W, h7km±26km, MD2.9, ML2.5
OSPL 03 08:44:01.3±0.5, 19°.94N×71°.65W, h0km±7km, ML2.4

ISC 03 08:44:04.5±1.6, 19°.86N±0°.08×71°.40W±0°.06, h35km, n8, σ2°03/10, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	Punta Rusia, P	0.18	93	iP	Pn	08 44 08.9	-2.3
LOPP1				IAML		08 44 18.2	
	comp=Z,904nm,1.2s						
SC01	Santiago de lo	0.76	124	iP	Pn	08 44 19.5	+0.7
SC01				eS	Sn	08 44 32.7	+3.6
SDDR	Presa de Saban	0.88	173	eP	Pn	08 44 19.2	-1.3
SDDR				eS	Sn	08 44 29.8	-2.3
SDDR	Presa de Saban	0.88	173	iP	Pn	08 44 19.2	-1.3
SDDR				IAML		08 44 30.9	
	comp=Z,80nm,0.6s						
LONE2	Loma La Sidra	1.30	183	iP	Pn	08 44 26.2	-0.1
LONE2				IAML		08 44 44.0	
	comp=Z,25nm,1.1s						
GRTK	Grand Turk	1.66	8	eP	Pn	08 44 23.2	-7.9
LGNH	Logne	1.77	221	eP	Pn	08 44 33.4	+0.8
MASC	Masc	2.68	277	eP	Pn	08 44 44.8	-0.4
MASC				eS	Sn	08 45 17.4	+0.9
MASC				IAML		08 45 27.4	
	comp=E,11nm,0.5s						
MASC				IAML		08 45 28.9	
	comp=N,12nm,0.3s						

WEL 03 09:27:30.7±0.8, 35°S±14°×18°0W±2°6, h12km, M3.8/7, ML4.2/14, MLv3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=118.2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	3.41	208	P	Pn	09 28 24.3	+0.7
WMGZ				S	Sn	09 29 06.5	+2.5
PKGZ	Pakihiroa	3.60	211	P	Pn	09 28 26.3	-0.2
PKGZ				S	Sn	09 29 09.6	+0.7
HAZ	Te Kaha	3.63	216	P	Pn	09 28 27.3	+0.6
HAZ				S	Sn	09 29 11.9	+2.4
PUZ	Puketiti	3.69	208	P	Pn	09 28 26.9	-0.6
PUZ				S	Sn	09 29 12.3	+1.3
RUGZ	Raukumara Rang	3.85	215	P	Pn	09 28 30.4	+0.5
TWGZ	Tauwhareparae	3.89	210	P	Pn	09 28 30.5	+0.1
TWGZ				S	Sn	09 29 17.3	+1.3
CNGZ	Carnagh Statio	4.07	206	P	Pn	09 28 32.6	-0.2
TKGZ	Te Karaka	4.17	209	P	Pn	09 28 33.3	-0.7
TKGZ				S	Sn	09 29 23.6	+0.9
MWZ	Matawai	4.21	213	P	Pn	09 28 33.7	-1.1
MWZ				S	Sn	09 29 25.2	+1.3
URZ	Urewera	4.35	217	P	Pn	09 28 36.4	-0.3
URZ				S	Sn	09 29 27.0	-0.3
RAGZ	Rawiri	4.40	213	P	Pn	09 28 36.9	-0.5
RAGZ				S	Sn	09 29 27.7	-0.8
PRGZ	Paritu Road	4.57	206	P	Pn	09 28 38.0	-1.7
SNGZ	Shannon Statio	4.67	211	P	Pn	09 28 40.8	-0.2
SNGZ				S	Sn	09 29 36.6	+1.4
MUGZ	Murupara	4.69	218	P	Pn	09 28 42.1	+0.8
RAHZ	Arahi	4.89	212	P	Pn	09 28 44.2	+0.2
RAHZ				S	Sn	09 29 41.2	+0.6
MTHZ	Maungataniwha	4.95	215	P	Pn	09 28 45.3	+0.4
MTHZ				S	Sn	09 29 41.7	-0.4
NMHZ	Naumai	5.16	213	P	Pn	09 28 47.4	-0.5
NMHZ				S	Sn	09 29 48.1	+0.7
GLKZ	Green Lake	5.72	14	P	Pn	09 28 55.9	+0.4

IDC 03 09:55:19.1±0.5, 52°.70N×172°.50E, h0km, mb4.4/27, mb1 4.5/28, mb1mx4.4/39, mbtmp4.4/28, ML3.4/1, MS3.4/33, Ms1 3.4/33, ms1mx3.2/94, Error ellipse: s-maj=17.6km s-min=7.6km az=179.0
KRSC 03 09:55:20.6±1.0, 52°.58N×172°.24E, h48km±32km, ML4.7
MOS 03 09:55:22.3±0.8, 52°.54N×172°.39E, h35km, mb4.8/36, Error ellipse: s-maj=6.0km s-min=4.8km az=133.2
BJI 03 09:55:22.6±0.0, 52°.91N×172°.52E, h41km, mb4.5/22, mB4.9/10, Ms4.7/1
AEIC 03 09:55:22±1.4, 52°.7N±0°.2×172°.38E±0°.08, h40km±6km, Error ellipse: s-maj=23.1km s-min=7.2km az=179.0
NEIC 03 09:55:25.1±1.4, 52°.7N±0°.2×172°.47E±0°.10, h37km±7km, mb4.7/129, ML4.2(AEIC), Error ellipse: s-maj=22.2km s-min=8.5km az=181.0

ISC 03 09:55:23.4±0.8, 52°.54N±0°.06×172°.41E±0°.04, h33km±3km, n564, σ1°29/566, mb4.7/127, MS3.5/35, 18C-1D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	1.04	79	Pg	Pn	09 55 41.2	-0.4
	656nm,0.3s,baz=255,slow=7.3,SNR=1218						
SHEM				Lg	Lg	09 55 55.6	
	2μm,0.3s,baz=244,slow=19,SNR=32						
SHEM				LR	LR	09 55 56.5	
	comp=Z,292nm,19.5s,baz=247,slow=38						
SMY	Shemya	1.04	79	P	Pn	09 55 41.3	-0.4
SMY	Shemya	1.04	79	Pn	Pn	09 55 41.2	-0.4
SMY	Shemya	1.04	79	eP	Pn	09 55 41.2	-0.4
SMY				eS	Sb	09 55 54.7	-1.6
BKI	Bering	4.65	308	P	Pn	09 56 32.1	+0.9
BKI				S	Sn	09 57 20.8	-3.2
BKI	Bering	4.65	308	eS	Sn	09 57 21.2	-2.8
KIWB	Kanaga Island	6.46	92	Pn	Pn	09 56 57.5	+1.5
MKZ	Mys Kozlova	6.68	292	P	Pn	09 56 59.9	+0.9
MKZ				S	Sn	09 58 08.5	-5.4
MKZ	Mys Kozlova	6.68	292	eP	Pn	09 56 58.8	-0.2
MKZ				eS	Sn	09 58 11.3	-2.6
KBTR	Krutoberegovo	6.70	307	P	Pn	09 57 00.4	+1.1
KBTR	Krutoberegovo	6.70	307	eP	Pn	09 56 59.3	0.0
SPN	Mys Shipunski	7.53	279	P	Pn	09 57 10.7	0.0
SPN				S	Sn	09 58 27.3	-7.6
SPN	Mys Shipunski	7.53	279	eP	Pn	09 57 11.0	+0.3
SPN				S	Sn	09 58 31.4	-3.5
TUMR	Tumrok	7.75	296	P	Pn	09 57 14.0	+0.2
KMNR	Kamenistaya	7.84	299	P	Pn	09 57 18.0	+2.9
KPT	Kopyto	7.92	300	P	Pn	09 57 18.9	+2.7
NLC	Nalytchevo	7.94	280	S	Sn	09 58 40.9	-4.0
KOZ	Kozyrevsk	8.13	301	P	Pn	09 57 21.6	+2.6
ATKA	Atka Island	8.21	87	Pn	Pn	09 57 20.4	+0.4
SDLR	Sedlovina	8.21	281	eP	Pn	09 57 21.2	+1.0
UGLR	Uglovaya	8.25	280	P	Pn	09 57 21.8	+1.1
UGLR	Uglovaya	8.25	280	eP	Pn	09 57 21.6	+0.9
SMAR	Somma	8.27	280	P	Pn	09 57 21.7	+0.7
SMAR	Somma	8.27	280	eP	Pn	09 57 22.0	+1.0
KRER	Koryakskii	8.30	281	P	Pn	09 57 22.7	+1.3
DALK	Dalny	8.30	279	P	Pn	09 57 21.7	+0.5
DALK				S	Sn	09 58 48.4	-5.3
DALK	Dalny	8.30	279	eP	Pn	09 57 20.8	-0.4
DALK				S	Sn	09 58 52.0	-1.7
AVH	Avacha	8.30	280	P	Pn	09 57 22.3	+0.9
AVH	Avacha	8.30	280	eP	Pn	09 57 22.4	+1.0
PET	Petropavlovsk	8.36	279	eP	Pn	09 57 23.3	+1.2
PET				eS	Sn	09 58 51.7	-3.5
PET				pmax	pmax		
	comp=Z,15nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
PET	Petropavlovsk	8.36	279	Pn	Pn	09 57 24.0	+1.9
KOK	Koryaka	8.36	281	P	Pn	09 57 23.0	+0.7
KOK	Koryaka	8.36	281	eP	Pn	09 57 23.2	+0.9
RUS	Russkaya	8.49	275	P	Pn	09 57 24.9	+1.1
RUS	Russkaya	8.49	275	eP	Pn	09 57 24.5	+0.7
OSSR	Ossora	8.53	326	P	Pn	09 57 27.5	+3.2

TILK Tilichiki 8.64 339 P **Pn 09 57 28.5 +2.6**
TILK S **Sn 09 59 01.5 -0.6**
TILK Tilichiki 8.64 339 *e*P **Pn 09 57 28.1 +2.2**
KRMR Karymshinskiy 8.69 278 P **Pn 09 57 27.3 +0.7**
KRMR S **Sn 09 58 56.3 -6.9**
KRMR Karymshinskiy 8.69 278 *e*P **Pn 09 57 27.0 +0.4**
ESO Esso 8.72 298 P Pn 09 57 32.8 +5.8
GRL Gorelyy 8.74 276 P **Pn 09 57 28.8 +1.3**
GRL Gorelyy 8.74 276 *e*P **Pn 09 57 29.2 +1.7**
GNL Ganaly 8.78 283 P **Pn 09 57 30.2 +2.2**
KDTR Khodutka, Kamc 8.84 271 P **Pn 09 57 29.5 +0.8**
ASAK Asacha 8.87 275 P **Pn 09 57 30.6 +1.5**
ASAK Asacha 8.87 275 *e*P **Pn 09 57 30.3 +1.2**
ASAK *e*S **Sn 09 59 03.0 -4.8**
PEA0B Petropavlovsk- 8.93 279 *c*e**P Pn 09 57 31.9 +1.9**
PEA0B Petropavlovsk- 8.93 279 Pn **Pn 09 57 31.6 +1.7**
PETK Petropavlovsk- 8.93 279 Pn **Pn 09 57 31.4 +1.5**
comp=Z,2.1nm,0.3s,baz=103,slow=16,SNR=86
PETK Sn **Sn 09 59 08.6 -0.7**
comp=Z,1.3nm,0.3s,baz=67,slow=13,SNR=2.2
PETK LR LR 10 01 04.0
comp=Z,105nm,21.4s,baz=102,slow=38
APC Apacha 9.27 278 P **Pn 09 57 36.7 +2.2**
MIPR Malaya Ipel'ka 9.57 275 P **Pn 09 57 41.1 +2.3**
PALN Palana 9.59 318 P **Pn 09 57 41.2 +2.4**
PAU Pauzhetka 9.69 270 P **Pn 09 57 41.0 +0.7**
SKR Severo-Kuril's 10.31 266 *e*P **Pn 09 57 49.8 +1.0**
SKR *e*S **Sn 09 59 36.5 -6.5**
SKR pmax pmax
comp=Z,34nm,0.7s
SKR smax smax
comp=E,245nm,0.7s
SKR smax smax
comp=N,144nm,0.6s
SKR MLR MLR
comp=Z,500nm,13.0s
SPIA Saint Paul Isl 11.01 58 Pn **Pn 09 58 00.3 +2.0**
SPIA Saint Paul Isl 11.01 58 P **Pn 09 58 00.2 +1.9**
baz=253
NIKH Nikolski High 11.36 80 Pn **Pn 09 58 04.2 +1.1**
NIKH Nikolski High 11.36 80 P **Pn 09 58 04.3 +1.2**
baz=276
UNV Unalaska Valle 12.70 76 Pn **Pn 09 58 21.8 +0.3**
UNV Unalaska Valle 12.70 76 P **Pn 09 58 22.5 +1.0**
baz=273
AKUT Akutan 13.12 74 Pn **Pn 09 58 28.4 +1.1**
MA2 Magadan 13.95 309 *i* P **Pn 09 58 40.8 +2.4**
MA2 pmax pmax
comp=Z,6.0nm,0.6s
GAMB Gambell 13.98 30 Pn **Pn 09 58 40.7 +1.8**
SEY Seymchan 14.85 322 Pn **P 09 58 52.2 -3.8**
comp=Z,2.1nm,0.3s,baz=6.0,slow=0.2,SNR=45
SEY Seymchan 14.85 322 *i* P **Pn 09 58 51.8 +1.2**
BILL Bilibino 15.83 352 *e*P **P 09 59 04.8 -2.1**
BILL *e*S **Sn 10 02 01.9 +4.4**
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,121nm,20.0s
BILL Bilibino 15.83 352 **P 09 59 06.3 -0.6**
SDPT Sand Point 16.16 69 P **Pn 09 59 05.8 -1.9**
baz=272
TNA Tin City 16.40 30 P **P 09 59 11.3 -1.8**
TNA Tin City 16.40 30 P **Pn 09 59 10.1 -0.5**
baz=227
ANM Nome 16.59 35 P **P 09 59 14.5 -0.9**
ANM pmax pmax
comp=Z,32nm,1.4s
ANM Nome 16.59 35 P **P 09 59 14.5 -0.9**
ANM Nome 16.59 35 P **Pn 09 59 11.8 -1.4**
baz=234
P18K Big Mountain, 19.21 56 P **P 09 59 43.9 -0.5**
baz=264
RDOG Red Dog Mine 19.55 28 P Pn 09 59 58.2 +8.9
baz=230,SNR=14
TTA Tatalina 19.58 46 P **Pn 09 59 49.8 -0.1**
TTA pmax pmax
comp=Z,23nm,1.5s
TTA Tatalina 19.58 46 P **Pn 09 59 49.8 -0.1**
TTA Tatalina 19.58 46 P **P 09 59 47.4 -1.0**
baz=253
N19K Bonanza Creek 19.79 52 P **Pn 09 59 51.2 -1.1**
N19K Bonanza Creek 19.79 52 P **P 09 59 49.8 -0.8**
baz=260
GCSA Galena City Sc 19.86 40 P **Pn 09 59 51.5 -1.5**
baz=247,SNR=18
YSS Yuzh-Sakhalins 19.88 266 *e*P **P 09 59 52.1 +0.5**
Q19K Cape Douglas, 19.98 58 P **Pn 09 59 53.0 -1.5**
Q19K IAmb IAmb 09 59 53.4
comp=Z,56nm,0.8s
Q19K Cape Douglas, 19.98 58 P **P 09 59 52.3 -0.5**
baz=267
OHAK Old Harbor 20.14 63 P **P 09 59 53.3 -1.0**
OHAK Old Harbor 20.14 63 P **P 09 59 53.7 -0.6**
baz=272
L20K Farewell, AK 20.41 48 P Pn 09 59 57.8 -1.8
baz=257
KDAK Kodiak Island 20.51 61 P **P 09 59 56.7 -1.7**
comp=Z,4.9nm,0.4s,baz=293,slow=1.8,SNR=19
KDAK LR LR 10 07 47.4
comp=Z,237nm,20.4s,baz=271,slow=37
KDAK Kodiak Island 20.51 61 P **P 09 59 57.1 -1.2**
KDAK pmax pmax
comp=Z,95nm,1.5s
KDAK Kodiak Island 20.51 61 P **P 09 59 57.1 -1.2**
KDAK IAmb IAmb 10 00 07.0
comp=Z,95nm,1.5s
KDAK Kodiak Island 20.51 61 P **P 09 59 57.2 -1.2**
baz=271
K20K Telida 20.55 45 P Pn 09 59 59.2 -2.0
K20K Telida 20.55 45 P **P 09 59 59.0 +0.1**
baz=254,SNR=8.5
RSO Redoubt South 20.58 54 P **P 09 59 57.8 -1.5**
J20K Nowinta River 20.76 43 P Pn 10 00 01.6 -2.0
J20K IAmb IAmb 10 00 02.8
comp=Z,38nm,0.7s
J20K Nowinta River 20.76 43 P **P 10 00 01.3 +0.3**
baz=252,SNR=23
SPCR Spurr Chakacha 20.94 52 P **P 10 00 03.1 0.0**
baz=262
SPU Mount Spurr 21.02 52 P 10 00 04.8
CNPM China Poot 21.26 56 P **P 10 00 07.2 +0.8**
CNPM IAmb IAmb 10 00 10.0
comp=Z,43nm,1.1s
PPLA Purkeypile 21.26 47 P **P 10 00 04.8 -1.8**
baz=258
ASAJ Asahikawa 21.42 259 P **P 10 00 09.5 +1.2**
comp=Z,10nm,1.1s,baz=90,slow=12,SNR=2.0
ASAJ LR LR 10 07 05.9
comp=Z,68nm,21.6s,baz=162,slow=33
CAST Castle Rocks 21.43 46 P **P 10 00 09.1 +0.8**
CAST Castle Rocks 21.43 46 P **P 10 00 08.4 +0.1**
baz=256
BRLK Bradley Lake 21.45 56 P **P 10 00 10.4 +1.9**
CHUM Lake Minchumin 21.45 44 P **P 10 00 08.4 -0.1**
baz=255
BRSE Bradley Lake S 21.52 56 P **P 10 00 09.4 +0.2**
baz=267
IMAR Indian Mountai 21.55 38 P **P 10 00 09.3 -0.2**
H21K Melozitna Rive 21.79 40 P **P 10 00 12.9 +0.8**
H21K IAmb IAmb 10 00 15.3
comp=Z,28nm,0.9s
H21K Melozitna Rive 21.79 40 P **P 10 00 11.9 -0.2**
baz=250
I21K Tanana 21.96 41 P **P 10 00 13.9 0.0**
I21K Tanana 21.96 41 P **P 10 00 13.0 -0.9**
baz=252
KTH Kantishna Hill 21.97 46 P **P 10 00 15.1 +1.0**
BPAW Bear Paw Mtn. 22.07 44 P **P 10 00 15.8 +0.7**
BPAW Bear Paw Mtn. 22.07 44 P **P 10 00 14.2 -0.9**
baz=256,SNR=5.7
RC01 Rabbit Creek A 22.12 52 P **P 10 00 15.7 0.0**
baz=265
SEW Seward 22.19 55 P **P 10 00 16.0 -0.4**
SEW IAmb IAmb 10 00 30.3
comp=Z,46nm,1.2s
TRF Thorofare Moun 22.23 46 P **P 10 00 18.2 +1.2**
TRF IAmb IAmb 10 00 21.2
comp=Z,28nm,1.1s
TRF Thorofare Moun 22.23 46 P **P 10 00 16.1 -0.9**
baz=258,SNR=5.3
MLY Manley 22.42 42 P **P 10 00 19.0 +0.1**
MLY Manley 22.42 42 P **P 10 00 18.9 0.0**
baz=254,SNR=9.8
PMR Palmer 22.46 51 P **P 10 00 17.5 -1.8**
baz=264
KNK Knik Glacier 22.77 52 P **P 10 00 22.4 -0.2**
KNK IAmb IAmb 10 00 24.7
comp=Z,20nm,0.7s
KNK Knik Glacier 22.77 52 P **P 10 00 21.9 -0.6**
baz=265
PWL Port Wells 22.78 53 P **P 10 00 21.7 -1.1**
baz=267
RND Reindeer 22.85 46 P **P 10 00 23.5 0.0**
RND pmax pmax
comp=Z,8.0nm,0.6s
RND Reindeer 22.85 46 P **P 10 00 23.5 0.0**
SML Sawmill 22.86 51 P **P 10 00 23.3 -0.3**
SML pmax pmax
comp=Z,25nm,0.6s
SML Sawmill 22.86 51 P **P 10 00 23.4 -0.3**
SML IAmb IAmb 10 00 26.9
comp=Z,25nm,0.6s
SML Sawmill 22.86 51 P **P 10 00 22.7 -0.9**
baz=264,SNR=6.5
MCK McKinley 22.88 46 P **P 10 00 23.6 -0.1**
MCK pmax pmax
comp=Z,13nm,0.7s
MCK McKinley 22.88 46 P **P 10 00 23.6 -0.1**
MCK McKinley 22.88 46 P **P 10 00 22.0 -1.7**
baz=259,SNR=5.6
NEA2 Nenana 23.00 43 P **P 10 00 25.2 +0.3**
NEA2 IAmb IAmb 10 00 28.9
comp=Z,16nm,0.9s
NEA2 Nenana 23.00 43 P **P 10 00 23.2 -1.7**
baz=257,SNR=8.6
I23K Minto, Yukon-K 23.02 42 P **P 10 00 24.6 -0.4**
I23K Minto, Yukon-K 23.02 42 P **P 10 00 24.0 -1.0**
baz=255,SNR=8.3
WAT6 Susitna Watana 23.23 49 P **P 10 00 26.0 -1.5**
baz=263,SNR=6.3
A21K Barrow 23.32 25 P **P 10 00 27.3 -0.7**
A21K Barrow 23.32 25 P **P 10 00 26.7 -1.4**
baz=233,SNR=7.7
COLD Coldfoot 23.32 37 P **P 10 00 27.1 -1.1**
COLD Coldfoot 23.32 37 P **P 10 00 27.3 -0.9**
baz=250,SNR=5.3
SCM Sheep Creek Mo 23.34 51 P **P 10 00 27.4 -1.1**
SCM pmax pmax
comp=Z,22nm,0.8s
SCM Sheep Creek Mo 23.34 51 P **P 10 00 27.4 -1.1**
SCM IAmb IAmb 10 00 29.4
comp=Z,22nm,0.8s
SCM Sheep Creek Mo 23.34 51 P **P 10 00 26.9 -1.5**
baz=265
WRH Wood River Hil 23.39 44 P **P 10 00 29.2 +0.4**
MDM Murphy Dome 23.43 43 P **P 10 00 29.1 -0.2**
MDM IAmb IAmb 10 00 32.4
comp=Z,18nm,0.8s
DHY Denali Highway 23.46 48 P **P 10 00 29.2 -0.5**
DHY Denali Highway 23.46 48 P **P 10 00 28.7 -1.0**
baz=262
CCB Clear Creek Bu 23.54 44 P **P 10 00 29.8 -0.5**
CCB IAmb IAmb 10 00 31.3
comp=Z,13nm,0.6s
TCOL CIGO, UAF Yank 23.57 43 P **P 10 00 29.6 -0.9**
TCOL IAmb IAmb 10 00 34.0
comp=Z,29nm,0.7s
TCOL CIGO, UAF Yank 23.57 43 P **P 10 00 30.3 -0.3**
baz=258,SNR=8.1
COLA College 23.57 43 *i* P **P 10 00 30.6 +0.1**
COLA pmax pmax
comp=Z,24nm,0.8s
COLA College 23.57 43 P **P 10 00 30.3 -0.3**
COLA IAmb IAmb 10 00 33.9
comp=Z,28nm,0.7s
COLA College 23.57 43 P **P 10 00 30.0 -0.5**
baz=258
H24K Noodor Dome 23.79 41 P **P 10 00 32.1 -0.6**
H24K IAmb IAmb 10 00 36.8
comp=Z,26nm,1.4s
H24K Noodor Dome 23.79 41 P **P 10 00 32.0 -0.6**
baz=256
POKR Poker Plat Res 23.80 43 P **P 10 00 32.2 -0.6**
POKR IAmb IAmb 10 00 38.7
comp=Z,21nm,0.7s
POKR Poker Plat Res 23.80 43 P **P 10 00 32.1 -0.6**
baz=258,SNR=11
HDA Harding Lake 23.86 44 P **P 10 00 31.9 -1.3**
HDA Harding Lake 23.86 44 P **P 10 00 32.0 -1.3**
baz=260
M24K Tolsona, Glenn 23.91 50 P **P 10 00 34.6 +0.7**
M24K IAmb IAmb 10 00 59.5
comp=Z,25nm,0.8s
M24K Tolsona, Glenn 23.91 50 P **P 10 00 32.6 -1.3**
baz=266
IL31 23.95 43 P **P 10 00 33.1 -1.0**
IL31 IAmb IAmb 10 00 35.3
comp=Z,15nm,0.8s
ILAR Eielson Array 23.95 43 P **P 10 00 32.7 -1.5**
comp=Z,8.8nm,0.8s,baz=248,slow=6.1,SNR=67
ILAR LR LR 10 10 09.1
comp=Z,93nm,19.5s,baz=279,slow=37
ILAR Eielson Array 23.95 43 P **P 10 00 33.8 -0.4**
ILAR Eielson Array 23.95 43 P **P 10 00 33.8 -0.4**
KLU Klutina 23.99 52 P **P 10 00 34.3 -0.3**
KLU IAmb IAmb 10 00 36.9
comp=Z,28nm,1.2s
KLU Klutina 23.99 52 P **P 10 00 33.9 -0.7**
baz=267
EYAK Cordova Ski Ar 24.04 54 P **P 10 00 35.9 +0.9**
EYAK IAmb IAmb 10 01 02.6
comp=Z,24nm,1.0s
EYAK Cordova Ski Ar 24.04 54 P **P 10 00 34.0 -1.0**
baz=270
DIV Divide 24.04 53 P **P 10 00 36.5 +1.4**
DIV IAmb IAmb 10 00 40.7
comp=Z,32nm,1.4s
TOLK Toolik Lake Re 24.07 34 P **P 10 00 35.1 -0.2**
TOLK IAmb IAmb 10 00 38.6
comp=Z,12nm,0.7s
TOLK Toolik Lake Re 24.07 34 P **P 10 00 34.2 -1.1**
baz=247,SNR=20
PAX Paxson 24.31 48 P **P 10 00 37.2 -0.4**
PAX pmax pmax
comp=Z,14nm,0.8s
PAX Paxson 24.31 48 P **P 10 00 37.2 -0.4**
PAX IAmb IAmb 10 00 38.8
comp=Z,14nm,0.8s
PAX Paxson 24.31 48 P **P 10 00 37.4 -0.2**
baz=264,SNR=9.7
HARP HAARP 24.40 50 P **P 10 00 37.2 -1.2**
baz=266
YAK Yakutsk 24.52 310 P **P 10 00 38.5 -0.9**
comp=Z,15nm,0.7s,baz=150,slow=0.3,SNR=12
YAK LR LR 10 10 17.4
comp=Z,66nm,18.6s,baz=86,slow=37
YAK Yakutsk 24.52 310 *e*P **P 10 00 38.1 -1.3**
YAK *e**PP **pwP 10 00 48.0 -3.7**
YAK *e* 10 01 08.7
YAK *e*S **S 10 04 55.3 -2.1**
YAK *e**SS **sS 10 05 14.3 +2.0**
YAK *e* 10 11 38.3
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,110nm,5.1s
YAK pmax pmax
comp=E,60nm,4.7s
YAK pmax pmax
comp=N,96nm,4.7s
YAK smax smax
comp=N,25nm,2.7s
YAK smax smax
comp=E,86nm,3.2s
YAK Yakutsk 24.52 310 P **P 10 00 40.3 +0.9**
BMRM Bremner River 24.61 53 P **P 10 00 40.5 +0.2**
BMRM IAmb IAmb 10 00 42.4
comp=Z,31nm,1.0s
BMRM Bremner River 24.61 53 P **P 10 00 39.9 -0.4**
baz=270
N25K Chitina, Valde 24.62 51 P **P 10 00 40.1 -0.3**
N25K IAmb IAmb 10 00 43.4
comp=Z,14nm,0.7s
N25K Chitina, Valde 24.62 51 P **P 10 00 39.9 -0.5**
baz=268
RIDG Independent Ri 24.67 46 P **P 10 00 40.0 -0.9**
RIDG IAmb IAmb 10 00 41.5
comp=Z,13nm,0.6s
RIDG Independent Ri 24.67 46 P **P 10 00 39.0 -1.9**
baz=263,SNR=6.9
GLB Gilahina Butte 25.00 52 P **P 10 00 42.8 -1.0**
FYU Fort Yukon 25.01 40 P **P 10 00 43.5 -0.2**
DOT Dot Lake 25.01 47 P **P 10 00 44.1 +0.2**
SUCK Suckling Hills 25.03 55 P **P 10 00 43.8 -0.2**
BERG Berg Lake 25.06 54 P **P 10 00 44.9 +0.6**
SCRK Sand Creek 25.08 46 P **P 10 00 44.5 -0.1**
SCRK IAmb IAmb 10 00 47.3
comp=Z,20nm,0.6s
SCRK Sand Creek 25.08 46 P **P 10 00 43.6 -1.0**
baz=264,SNR=16
VRDI Verde Repeater 25.17 52 P **P 10 00 44.8 -0.7**
VRDI IAmb IAmb 10 00 49.1
comp=Z,23nm,0.9s
J26L Joseph Creek 25.32 45 P **P 10 00 45.5 -1.2**
baz=263,SNR=8.6
CRQM Cirque 25.33 53 P **P 10 00 49.0 +2.0**
CRQM IAmb IAmb 10 00 50.7
comp=Z,25nm,0.7s
CRQE Cirque 25.35 54 P **P 10 00 45.9 -1.1**
baz=272
MCARA McCarthy VSAT 25.38 52 P **P 10 00 46.7 -0.5**
MCARA McCarthy VSAT 25.38 52 P **P 10 00 45.5 -1.7**
baz=270,SNR=8.8
M26K Nabesna, AK 25.41 50 P **P 10 00 47.6 +0.1**
M26K Nabesna, AK 25.41 50 P **P 10 00 47.0 -0.5**
baz=268
BMAR Burnt Mountain 25.46 38 P **P 10 00 48.2 +0.2**
WAX Waxell Ridge 25.48 54 P **P 10 00 49.4 +1.3**
KLR Kul'dur 25.62 279 P **P 10 00 50.5 +1.0**
comp=Z,1.7nm,0.6s,baz=64,slow=9.4,SNR=7.8
KLR LR LR 10 10 41.2
comp=Z,62nm,21.5s,baz=61,slow=36
KLR Kul'dur 25.62 279 *i* P **P 10 00 51.3 +1.8**
KLR pmax pmax
comp=Z,1.0nm,0.7s
M27K Edge Creek, AK 25.93 50 P **P 10 00 54.0 +1.7**
M27K IAmb IAmb 10 00 57.1
comp=Z,26nm,1.1s
M27K Edge Creek, AK 25.93 50 P **P 10 00 53.8 +1.5**
baz=269
L27K Beaver Creek, 25.97 48 P **P 10 00 53.5 +0.9**
L27K IAmb IAmb 10 00 55.3
comp=Z,20nm,1.4s
L27K Beaver Creek, 25.97 48 P **P 10 00 51.7 -0.9**
baz=268
BCAR Beaver Creek A 25.99 48 P **P 10 00 53.5 +0.7**
YAH Yahtse 26.03 54 P **P 10 00 53.3 0.0**
YAH IAmb IAmb 10 01 14.6
comp=Z,39nm,1.3s
BARN Barnard Glacie 26.04 53 P **P 10 00 53.7 +0.3**
BARN IAmb IAmb 10 00 57.5
comp=Z,15nm,0.7s
CTGM Chitina Glacie 26.20 53 P **P 10 00 55.0 +0.2**
CTGM IAmb IAmb 10 01 20.4
comp=Z,26nm,1.4s
LOGN Logan Glacier 26.37 53 P **P 10 00 56.0 -0.3**
LOGN IAmb IAmb 10 01 08.0
comp=Z,25nm,1.2s
EGAK Eagle 26.39 44 P **P 10 00 55.0 -1.3**
EGAK IAmb IAmb 10 00 58.0
comp=Z,20nm,0.8s
EGAK Eagle 26.39 44 P **P 10 00 54.7 -1.5**
baz=265,SNR=16
YUK3 Moose Creek 26.60 51 P **P 10 00 57.6 -0.9**
baz=272
ZEA Zeya 26.77 291 *i* P **P 10 01 02.1 +2.2**
TIXI Tiksi 26.97 331 P **P 10 01 00.9 -0.5**
comp=Z,4.7nm,0.8s,baz=116,slow=12,SNR=20
TIXI PcP **PcP 10 04 22.2 +0.1**
comp=Z,2.7nm,0.5s,baz=118,slow=2.7,SNR=7.1
TIXI Tiksi 26.97 331 *c*e*P* **P 10 01 01.3 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 26.97 331 P **P 10 01 01.2 -0.2**
DAWY Dawson 27.10 46 P **P 10 01 02.8 0.0**
DAWY Dawson 27.10 46 P **P 10 01 01.5 -1.3**
baz=268
J29M Klondike Camp 27.63 45 P **P 10 01 05.8 -1.8**
baz=268
I29M Ogilvie Camp, 27.64 43 P **P 10 01 05.8 -1.7**
baz=266
USRK Ussuriysk Ar. 27.81 269 LR LR 10 13 21.2
comp=Z,40nm,18.7s,baz=18,slow=39
EPYK Eagle Plains 28.36 41 P **P 10 01 13.1 -0.9**
EPYK Eagle Plains 28.36 41 P **P 10 01 13.2 -0.7**
baz=266
MJAR Matsushiro Arr 28.81 250 P **P 10 01 20.0 +1.7**
comp=Z,1.9nm,1.0s,baz=43,slow=8.2,SNR=2.5
MJAR LR LR 10 11 50.6
comp=Z,33nm,21.7s,baz=32,slow=34
MJAR Matsushiro Arr 28.81 250 P **P 10 01 20.0 +1.7**
MDJ Mudanjiang 29.05 272 P **P 10 01 21.2 +0.9**
MDJ pmax pmax
comp=Z,3.0nm,0.9s
MDJ pmax pmax
comp=Z,170nm,5.0s
M31M Drury Creek, Y 29.43 50 P **P 10 01 22.9 -0.6**
baz=276
INK Inuvik 29.73 37 P **P 10 01 25.4 -0.7**
comp=Z,4.0nm,0.5s,baz=271,slow=7.2,SNR=27
INK PcP **PcP 10 04 29.2 +0.2**
comp=Z,1.0nm,0.4s,baz=254,slow=4.0,SNR=9.8
INK LR LR 10 15 04.2
comp=Z,88nm,18.2s,baz=228,slow=40
INK Inuvik 29.73 37 P **P 10 01 26.2 +0.1**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 29.73 37 P **P 10 01 26.2 +0.1**
INK Inuvik 29.73 37 P **P 10 01 25.7 -0.3**
baz=266
JHJ Hachijo jima 2 30.43 243 LR LR 10 11 52.5
comp=Z,28nm,20.7s,baz=94,slow=32
P33M Teslin, Yukon 30.46 54 P **P 10 01 32.4 -0.4**
baz=280
CRAG Craig 31.45 63 P **P 10 01 41.4 +0.1**
baz=288
DLBC Dease Lake 32.25 56 LR LR 10 14 49.4
comp=Z,110nm,21.6s,baz=280,slow=36
DLBC Dease Lake 32.25 56 P **P 10 01 49.7 +1.3**
DLBC IAmb IAmb 10 01 50.8
comp=Z,8.2nm,1.1s
A36M Sachs Harbour 32.78 31 P **P 10 01 52.3 -0.6**
baz=268
H11N2 WAKE ISLAND Hy 33.03 190 T T 10 37 24.3
baz=6.2,slow=76,SNR=341
H11N3 WAKE ISLAND Hy 33.04 190 T T 10 37 17.5
baz=6.2,slow=76,SNR=415
H11N1 WAKE ISLAND Hy 33.05 190 T T 10 37 25.6
baz=6.2,slow=76,SNR=454
C36M Paulatuk 33.18 35 P **P 10 01 55.2 -1.2**
baz=279
H11S1 WAKE ISLAND Hy 34.26 190 T T 10 38 48.2
baz=6.2,slow=76,SNR=644
H11S3 WAKE ISLAND Hy 34.27 190 T T 10 38 49.4
baz=6.2,slow=76,SNR=602
H11S2 WAKE ISLAND Hy 34.27 190 T T 10 38 50.5
baz=6.2,slow=76,SNR=518
KSRS Korea Array 34.29 262 LR LR 10 16 10.7
comp=Z,32nm,20.1s,baz=45,slow=36
BBB Bella Bella 35.42 66 LR LR 10 15 56.8
comp=Z,56nm,18.1s,baz=264,slow=35
YKA Yellowknife Ar 38.34 46 P **P 10 02 40.5 -0.1**
comp=Z,11nm,0.7s,baz=289,slow=8.1,SNR=122
YKA PcP **PcP 10 04 53.6 0.0**
comp=Z,1.0nm,0.7s,baz=288,slow=3.5,SNR=8.7
YKA Yellowknife Ar 38.34 46 P **P 10 02 40.9 +0.3**
YKA Yellowknife Ar 38.34 46 P **P 10 02 40.9 +0.3**
A04D Lummi Island 40.09 69 P **P 10 02 54.2 -1.2**
baz=301
D03D Eldon 40.49 70 P **P 10 02 58.3 -0.5**
baz=302
NRIK Noril'sk 40.56 327 *i* P **P 10 02 58.9 -0.1**
NRIK pmax pmax
comp=Z,2.0nm,1.1s
B05A Bryant 40.68 69 P **P 10 02 59.1 -1.2**
baz=302
ULN Ulaanbaatar 40.81 291 *c*e*P* **P 10 03 02.1 +0.5**
ULN pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 40.91 24 LR LR 10 22 38.9
comp=Z,31nm,18.3s,baz=272,slow=40
RES Resolute Bay 40.91 24 P **P 10 03 01.7 -0.1**
RES pmax pmax
comp=Z,4.0nm,1.0s

SONM Songino Array 41.20 291 P **P** **10 03 05.8 +1.0**
comp=Z,1.1nm,0.6s,baz=63,slow=8.6,SNR=7.8
SONM LR LR 10 20 23.4
comp=Z,35nm,21.6s,baz=40,slow=36
SONM Songino Array 41.20 291 P **P** **10 03 05.1 +0.3**
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 41.20 291 P **P** **10 03 05.1 +0.3**
E04D Cinebar 41.32 71 P **P** **10 03 05.1 -0.4**
baz=303
F04D Rainier, OR 41.32 72 P **P** **10 03 05.2 -0.3**
baz=304
G03D McMinnville, O 41.66 73 P **P** **10 03 06.8 -1.5**
baz=304
COR Corvallis 41.99 74 P **P** **10 03 12.4 +1.4**
COR pmax pmax
comp=Z,75nm,1.5s
COR Corvallis 41.99 74 P **P** **10 03 12.4 +1.4**
LTY Liberty 42.03 69 P **P** **10 03 11.6 +0.2**
LTY IAmb IAmb 10 03 13.2
comp=Z,13nm,1.3s
HHC Hu-ho-hao-te 42.13 279 *e*P **P** **10 03 13.6 +1.2**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.0s
B08A Colville Reser 42.19 67 P **P** **10 03 13.0 +0.3**
B08A IAmb IAmb 10 03 13.8
comp=Z,7.9nm,0.8s
H04D Lebanon 42.35 74 P **P** **10 03 13.3 -0.7**
baz=305
I03D Drain, OR 42.47 75 P **P** **10 03 15.1 +0.1**
baz=306
HOOD Mount Hood Mea 42.53 72 P **P** **10 03 16.4 +0.7**
HOOD IAmb IAmb 10 03 17.6
comp=Z,20nm,1.1s
G05D Wamic, OR 42.77 72 P **P** **10 03 16.8 -0.7**
baz=305
I04A Tendick Farm, 42.97 75 P **P** **10 03 18.6 -0.5**
baz=306
C09A Chrisman Ranch 43.09 67 P **P** **10 03 19.5 -0.5**
C09A IAmb IAmb 10 03 20.7
comp=Z,10.0nm,0.8s
HAWA Hanford 43.16 70 P **P** **10 03 20.4 -0.1**
HAWA IAmb IAmb 10 03 21.7
comp=Z,14nm,0.8s
I05D Terrebonne, OR 43.28 73 P **P** **10 03 20.9 -0.7**
baz=306
NJ2 Nanjing 43.43 264 *e*P **P** **10 03 23.7 +0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NEW Newport 43.48 66 P **P** **10 03 23.1 -0.1**
NEW pmax pmax
comp=Z,10.0nm,0.8s
NEW Newport 43.48 66 P **P** **10 03 23.1 -0.1**
NEW IAmb IAmb 10 03 24.0
comp=Z,9.7nm,0.8s
NEW Newport 43.48 66 P **P** **10 03 22.5 -0.7**
baz=304,SNR=11
J05D Fort Rock, OR 43.96 75 P **P** **10 03 27.7 +0.5**
baz=307,SNR=6.3
L04D Klamath Falls 43.96 76 P **P** **10 03 26.6 -0.7**
baz=307
YBH Yreka Blue Hor 44.01 77 P **P** **10 03 28.7 +1.1**
YBH pmax pmax
comp=Z,15nm,1.4s
YBH Yreka Blue Hor 44.01 77 P **P** **10 03 28.7 +1.1**
YBH IAmb IAmb 10 03 33.6
comp=Z,14nm,1.4s
K04D Chiloquin, OR 44.04 76 P **P** **10 03 27.3 -0.5**
baz=307
K05A Summer Lake 44.49 75 P **P** **10 03 32.9 +1.4**
K05A IAmb IAmb 10 03 33.5
comp=Z,10.0nm,1.0s
M04C Macdoel 44.50 77 P **P** **10 03 31.4 -0.2**
baz=308
F10A Beach Ranch, E 44.71 69 P **P** **10 03 32.4 -0.7**
WALA Waterton Lakes 44.82 64 P **P** **10 03 33.8 -0.2**
BMO Blue Mountains 45.32 70 P **P** **10 03 38.6 +0.6**
BMO pmax pmax
comp=Z,6.0nm,1.1s
BMO Blue Mountains 45.32 70 P **P** **10 03 38.5 +0.6**
O03E Paynes Creek 45.44 78 P **P** **10 03 39.1 +0.2**
baz=309
PLID Pearl Lake 45.93 69 P **P** **10 03 42.9 0.0**
WVOR Wild Horse Val 45.99 74 P **P** **10 03 44.1 +0.7**
MSO Missoula 46.07 66 P **P** **10 03 43.6 -0.4**
MSO IAmb IAmb 10 03 44.5
comp=Z,8.5nm,1.0s
NEEM North Greenlan 47.49 12 *i*P **P** **10 03 53.6 -1.3**
NEEM IAmb IAmb 10 03 55.6
comp=Z,13nm,0.6s
EGMT Eagleton 47.68 63 P **P** **10 03 56.0 -0.4**
EGMT IAmb IAmb 10 03 56.8
comp=Z,10nm,0.8s
EGMT Eagleton 47.68 63 P **P** **10 03 55.4 -1.0**
baz=306,SNR=7.7
HLID Hailey 47.76 70 P **P** **10 03 57.0 -0.2**
baz=308,SNR=9.9
BOZ Bozeman (W) 48.09 66 P **P** **10 03 59.6 -0.2**
BOZ pmax pmax
comp=Z,13nm,0.8s
BOZ Bozeman (W) 48.09 66 P **P** **10 03 59.6 -0.2**
BOZ Bozeman (W) 48.09 66 P **P** **10 03 59.3 -0.5**
baz=308,SNR=26
QLMT Earthquake Lak 48.67 67 P **P** **10 04 04.6 +0.3**
NVAR Mina Array Bea 48.71 78 P **P** **10 04 05.0 +0.3**
comp=Z,3.2nm,0.7s,baz=298,slow=7.4,SNR=21
NVAR PcP **PcP** **10 05 30.3 +0.8**
comp=Z,1.1nm,0.6s,baz=303,slow=3.3,SNR=6.8
NVAR Mina Array Bea 48.71 78 P **P** **10 04 05.8 +1.2**
YHL Hebgen Lake 48.80 67 P **P** **10 04 05.4 +0.1**
NV11 Mina Array Sit 48.80 78 P **P** **10 04 05.4 +0.1**
MLAC Mammoth, Mammo 48.92 79 P **P** **10 04 05.9 -0.4**
baz=311
FCC Fort Churchill 48.98 44 P **P** **10 04 05.9 -0.2**
FCC pmax pmax
comp=Z,6.0nm,0.8s
FCC Fort Churchill 48.98 44 P **P** **10 04 05.9 -0.2**
FCC IAmb IAmb 10 04 07.7
comp=Z,6.0nm,0.8s
YMR Madison River 49.03 67 P **P** **10 04 07.5 +0.4**
ELK Elko 49.04 73 LR LR 10 23 09.1
comp=Z,41nm,18.1s,baz=326,slow=34
GCMT Greycliff 49.07 65 P **P** **10 04 07.2 0.0**
YNR Norris Junctio 49.17 67 P **P** **10 04 08.9 +0.8**
YNR IAmb IAmb 10 04 09.6
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 49.17 309 P **P** **10 04 06.8 -0.9**
comp=Z,1.2nm,0.7s,baz=51,slow=10,SNR=3.2
ZALV PcP **PcP** **10 05 30.9 +0.5**
comp=Z,1.2nm,0.7s,baz=57,slow=5.5,SNR=4.2
H17A Grant Village 49.42 67 P **P** **10 04 09.2 -0.9**
baz=309,SNR=11
FLWY Flagg Ranch 49.55 67 P **P** **10 04 11.3 +0.3**
TIN Tinemaha, Big 49.66 79 P **P** **10 04 11.2 -0.6**
baz=312
RLMT Red Lodge 49.70 65 P **P** **10 04 12.0 -0.1**
baz=309,SNR=14
LZH Lanzhou 49.83 279 *e*P **P** **10 04 09.3 -3.9**
LZH pP pwP 10 04 23.2 -2.7
LZH sP sP 10 04 31.0 +4.5
LZH pmax pmax
comp=Z,12nm,1.2s
VES Vestal, Richgr 49.95 81 P **P** **10 04 13.2 -0.6**
baz=312
GTA Gaotai 50.05 285 *e*P **P** **10 04 17.7 +3.0**
GTA pP sP 10 04 28.0 -0.2
GTA sP pP 10 04 32.2 +8.4
GTA pmax pmax
comp=Z,2.0nm,0.9s
AHID Auburn Hatcher 50.15 69 P **P** **10 04 16.0 +0.4**
AHID IAmb IAmb 10 04 16.6
comp=Z,9.3nm,1.1s
CWC Cottonwood Cre 50.16 80 P **P** **10 04 15.1 -0.6**
baz=312
GRAC Grapevine Rang 50.21 79 P **P** **10 04 15.4 -0.6**
baz=312
DGMT Dagmar 50.37 59 P **P** **10 04 15.7 -1.3**
baz=308
R11A Troy Canyon, C 50.38 76 P **P** **10 04 17.5 +0.1**
R11A IAmb IAmb 10 04 18.4
comp=Z,5.7nm,0.8s
R11A Troy Canyon, C 50.38 76 P **P** **10 04 17.0 -0.4**
baz=311,SNR=9.3
LAO LASA Array 50.40 62 P **P** **10 04 17.2 0.0**
baz=309,SNR=9.4
ISA Isabella, Lake 50.44 81 P **P** **10 04 16.7 -1.0**
baz=313
DGZ Jazzator, Alta 50.44 303 *i*P **P** **10 04 18.4 +0.8**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
HWUT Hardware Ranch 50.62 70 P **P** **10 04 19.5 +0.3**
HWUT IAmb IAmb 10 04 20.3
comp=Z,5.6nm,0.7s
DAG Danmarks Havn 50.77 3 *i*P **P** **10 04 17.8 -1.7**
DAG IAmb IAmb 10 04 18.8
comp=Z,2.5nm,0.7s
MPMC Manual Prospec 50.77 80 P **P** **10 04 19.6 -0.7**
baz=312
DUG Dugway, Tooele 50.81 72 P **P** **10 04 21.0 +0.5**
DUG pmax pmax
comp=Z,15nm,1.0s
DUG Dugway, Tooele 50.81 72 P **P** **10 04 20.8 +0.3**
baz=311,SNR=13
FURC Furnace Creek, 50.87 79 P **P** **10 04 21.1 +0.3**
baz=312,SNR=7.9
TPNV Topopah Spring 50.91 78 P **P** **10 04 21.8 +0.4**
TPNV pmax pmax
comp=Z,5.0nm,0.9s
TPNV Topopah Spring 50.91 78 P **P** **10 04 21.8 +0.4**
TPNV IAmb IAmb 10 04 22.6
comp=Z,5.3nm,0.8s
TPNV Topopah Spring 50.91 78 P **P** **10 04 21.2 -0.2**
baz=312,SNR=12
BW06 Boulder Array 51.02 68 P **P** **10 04 21.8 -0.4**
BW06 Boulder Array 51.02 68 P **P** **10 04 22.0 -0.2**
baz=310,SNR=18
PD31 Pinedale Array 51.02 68 P **P** **10 04 22.2 0.0**
PD31 IAmb IAmb 10 04 23.1
comp=Z,11nm,0.8s
PDAR Pinedale Array 51.02 68 P **P** **10 04 22.1 0.0**
comp=Z,13nm,0.8s,baz=304,slow=3.3,SNR=110
PDAR PcP **PcP** **10 05 37.7 -0.2**
comp=Z,0.4nm,0.6s,baz=316,slow=2.5,SNR=1.0
PDAR LR LR 10 23 35.2
comp=Z,44nm,19.2s,baz=329,slow=33
PDAR Pinedale Array 51.02 68 P **P** **10 04 22.1 -0.2**
LRMC Laurel Mtn Rad 51.04 80 P **P** **10 04 22.0 -0.3**
baz=313
EDW2 Edwards Air Fo 51.25 81 P **P** **10 04 23.3 -0.5**
baz=313
DECC Green Verdugo 51.48 82 P **P** **10 04 24.6 -0.9**
baz=313
SHOC Shoshone, Teco 51.60 79 P **P** **10 04 26.5 +0.2**
baz=313,SNR=6.1
GSC Goldstone, Bar 51.69 80 P **P** **10 04 27.0 -0.1**
baz=313,SNR=7.5
BFSC Mount Baldy Ra 51.89 81 P **P** **10 04 28.5 -0.2**
baz=314
CIS Catalina Islan 52.01 83 P **P** **10 04 29.3 -0.2**
baz=314
TUQ Turquoise Moun 52.12 79 P **P** **10 04 30.0 -0.4**
baz=313
MSU Marysvale 52.28 74 P **P** **10 04 32.2 +0.5**
MSU Marysvale 52.28 74 P **P** **10 04 32.2 +0.5**
HEC Hector,Ludlow 52.29 80 P **P** **10 04 31.7 +0.1**
baz=313
BBRC Big Bear Solar 52.32 81 P **P** **10 04 32.7 +0.7**
baz=314
MURC Murrieta 52.61 82 P **P** **10 04 33.6 -0.3**
baz=314
P18A Preston Nutter 52.67 71 P **P** **10 04 35.3 +0.7**
P18A IAmb IAmb 10 04 36.1
comp=Z,6.8nm,0.8s
GMRC Granite Mounta 52.73 80 P **P** **10 04 34.6 -0.3**
baz=314,SNR=8.0
K22A Casper 52.80 66 P **P** **10 04 35.0 -0.4**
baz=311,SNR=7.1
SRU San Rafael Swe 52.85 72 P **P** **10 04 36.6 +0.8**
SRU pmax pmax
comp=Z,16nm,0.7s
SRU San Rafael Swe 52.85 72 P **P** **10 04 36.6 +0.8**
PFO Pinyon Flats O 53.05 81 LR LR 10 23 00.7
comp=Z,38nm,21.8s,baz=282,slow=31
PFO Pinyon Flats O 53.05 81 P **P** **10 04 37.3 0.0**
baz=314
BELC Belle Mtn. Jos 53.06 80 P **P** **10 04 37.1 -0.3**
baz=314,SNR=5.4
DBG Daneborg 53.15 4 *i*P **P** **10 04 35.0 -2.3**
DBG IAmb IAmb 10 04 36.4
comp=Z,4.3nm,0.6s
MDND Maddock 53.15 57 P **P** **10 04 38.0 +0.3**
baz=310,SNR=6.5
RSSD Black Hills 53.22 63 P **P** **10 04 38.5 0.0**
RSSD pmax pmax
comp=Z,10.0nm,0.7s
RSSD Black Hills 53.22 63 P **P** **10 04 38.5 0.0**
RSSD IAmb IAmb 10 04 39.2
comp=Z,10nm,0.7s
RSSD Black Hills 53.22 63 P **P** **10 04 38.1 -0.4**
baz=311
SUMG Summit 53.34 11 *i*P **P** **10 04 38.0 -1.2**
SUMG IAmb IAmb 10 04 40.3
comp=Z,6.7nm,0.7s
ULM Lac du Bonnet 53.46 53 P **P** **10 04 39.8 0.0**
comp=Z,12nm,0.7s,baz=310,slow=7.2,SNR=15
IRM Iron Mountain 53.46 80 P **P** **10 04 40.0 -0.1**
baz=314
O20A White River Ci 53.49 70 P **P** **10 04 40.4 -0.1**
baz=312,SNR=14
MONP2 Monument Peak 53.57 82 P **P** **10 04 40.5 -0.6**
baz=314
BC3 Big Chuckawall 53.62 80 P **P** **10 04 40.6 -0.9**
baz=314
IKP In-Ko-Pah, Jac 53.92 82 P **P** **10 04 43.4 -0.2**
baz=315
WMQ Urumqi 54.05 297 *e*P **P** **10 04 48.7 +4.3**
KURK Kurchatov 54.16 309 *ce*P **P** **10 04 45.0 0.0**
KURK pmax pmax
comp=Z,19nm,1.3s
KURK Kurchatov 54.16 309 P **P** **10 04 44.8 -0.2**
KURK IAmb IAmb 10 04 45.7
comp=Z,12nm,0.8s
N23A Red Feather La 54.29 67 P **P** **10 04 46.9 +0.4**
baz=312,SNR=6.3
GLA Glamis 54.42 80 P **P** **10 04 47.1 -0.1**
baz=314
FRB Frobisher Bay 54.73 28 LR LR 10 30 11.2
comp=Z,25nm,19.5s,baz=48,slow=38
FRB Frobisher Bay 54.73 28 P **P** **10 04 48.1 -0.8**
FRB pmax pmax
comp=Z,10.0nm,0.8s
AGMN Agassiz Nation 54.75 55 P **P** **10 04 48.9 -0.4**
baz=312,SNR=12
WUAZ Wupatki 54.78 76 P **P** **10 04 49.7 -0.2**
baz=314
MKAR Makanchi Array 54.94 303 P **P** **10 04 50.2 -0.5**
comp=Z,1.2nm,0.4s,baz=55,slow=6.8,SNR=28
ISCO Idaho Springs 55.21 68 P **P** **10 04 54.0 +0.8**
ISCO pmax pmax
comp=Z,9.0nm,0.7s
ISCO Idaho Springs 55.21 68 P **P** **10 04 54.0 +0.8**
ISCO IAmb IAmb 10 04 55.1
comp=Z,9.4nm,0.7s
ISCO Idaho Springs 55.21 68 P **P** **10 04 54.2 +1.0**
baz=313,SNR=15
MVCO Mesa Verde 55.31 72 P **P** **10 04 53.2 -0.6**
baz=314,SNR=5.9
SUSD Miller 55.74 60 P **P** **10 04 56.4 -0.1**
baz=313
ARCES ARCESS Array B 55.86 347 P **P** **10 04 56.0 -0.9**
comp=Z,2.2nm,0.7s,baz=29,slow=7.6,SNR=11
ARCES ARCESS Array B 55.86 347 P **P** **10 04 56.7 -0.3**
ARCES pmax pmax
comp=Z,9.0nm,1.4s
ARCES ARCESS Array B 55.86 347 P **P** **10 04 56.7 -0.3**
ARCES IAmb IAmb 10 05 16.4
comp=Z,8.6nm,1.4s
S22A 4UR Ranch, Cre 55.91 71 P **P** **10 04 59.5 +1.3**
S22A 4UR Ranch, Cre 55.91 71 P **P** **10 04 57.7 -0.5**
baz=314,SNR=28
W18A Petrified Fore 56.02 75 P **P** **10 04 58.9 0.0**
baz=314
Q24A Divide 56.04 69 P **P** **10 04 58.2 -0.9**
baz=313,SNR=7.7
BRVK Borovoye 56.37 315 *ce*P **P** **10 05 01.1 +0.2**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
BRVK Borovoye 56.37 315 P **P** **10 05 00.8 0.0**
BRVK IAmb IAmb 10 05 01.6
comp=Z,4.4nm,0.8s
214A Organ Pipe Nat 56.40 80 P **P** **10 05 01.3 -0.1**
baz=315
ICESG Greenland Ices 56.41 13 *i*P **P** **10 04 59.6 -1.8**
ICESG IAmb IAmb 10 05 01.9
comp=Z,5.5nm,0.6s
OGNE Ogallala 56.44 65 P **P** **10 05 01.1 -0.6**
baz=313,SNR=6.6
SFJD Kangerlussuaq 56.45 19 LR LR 10 30 46.6
comp=Z,45nm,21.5s,baz=336,slow=38
SDCO Great Sand Dun 56.68 70 P **P** **10 05 04.3 +0.6**
SDCO IAmb IAmb 10 05 05.6
comp=Z,14nm,1.2s
SDCO Great Sand Dun 56.68 70 P **P** **10 05 04.3 +0.6**
baz=314,SNR=14
EYMN Ely 57.14 53 P **P** **10 05 05.6 -0.9**
baz=314,SNR=6.0
TUC Tucson 57.37 78 P **P** **10 05 08.7 +0.4**
TUC Tucson 57.37 78 P **P** **10 05 08.7 +0.4**
baz=315
KSCO Kaye Shedlock' 57.44 67 P **P** **10 05 09.3 +0.5**
baz=314,SNR=13
ECSD EROS Data Cent 57.45 59 P **P** **10 05 07.9 -0.9**
baz=314,SNR=6.7
T25A Trinidad 57.72 70 P **P** **10 05 12.1 +1.1**
T25A Trinidad 57.72 70 P **P** **10 05 11.5 +0.5**
baz=314,SNR=9.9
PZH PanZhiHua 57.82 272 P **P** **10 05 15.8 +4.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,4.2s
ANMO Albuquerque 58.07 73 LR LR 10 27 37.5
comp=Z,40nm,21.1s,baz=310,slow=33
ANMO Albuquerque 58.07 73 P **P** **10 05 14.6 +1.2**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 58.07 73 P **P** **10 05 13.5 +0.1**
baz=315
BGNE Belgrade 58.25 62 P **P** **10 05 14.1 -0.2**
baz=314
SPMN Marine on St. 58.38 56 P **P** **10 05 14.3 -0.9**
baz=315,SNR=6.4
ARU Arti 58.59 323 *c i*P **P** **10 05 16.5 +0.1**
ARU 10 06 05.5
ARU 10 07 25.5
ARU S **S** **10 13 18.6 +0.8**
ARU SS **SS** **10 17 06.7 -3.1**
ARU pmax pmax
comp=Z,4.0nm,0.8s
121A Cookes Peak, D 58.99 76 P **P** **10 05 19.8 0.0**
baz=316
CBKS Cedar Bluff 59.19 65 P **P** **10 05 20.7 -0.3**
baz=315
N35A Tabor 59.98 61 P **P** **10 05 26.4 +0.1**
KIRV Kirov 59.98 330 *ce*P **P** **10 05 27.3 +1.3**
KSU1 Kansas State U 60.71 63 P **P** **10 05 30.3 -0.9**
baz=316
AMTX Amarillo 60.88 70 P **P** **10 05 32.2 -0.4**
baz=316
MSTX Muleshoe 60.90 71 P **P** **10 05 32.4 -0.4**
baz=316
MNTX Cornudas Mount 61.01 75 P **P** **10 05 34.0 +0.6**
MNTX Cornudas Mount 61.01 75 P **P** **10 05 34.3 +0.9**
baz=316,SNR=16
BOOM Boomskoye usch 61.19 303 P **P** **10 05 36.4 +1.7**
BOOM pmax pmax
comp=Z,2.0nm,1.1s
BOOM Boomskoye usch 61.19 303 P **P** **10 05 36.4 +1.7**
JFWS Jewell Farm 61.32 56 P **P** **10 05 34.3 -1.1**
baz=317
AAK Ala-Archa 61.82 304 LR LR 10 33 27.7
comp=Z,51nm,18.4s,baz=52,slow=37
AAK Ala-Archa 61.82 304 *ce*P **P** **10 05 39.5 +0.5**
AAK pmax pmax
comp=Z,6.0nm,0.8s
SCHQ Schefferville 62.28 34 P **P** **10 05 41.4 -0.2**
comp=Z,19nm,0.7s,baz=334,slow=7.0,SNR=30
SCHQ LR LR 10 33 37.3
comp=Z,68nm,20.0s,baz=86,slow=37
SCHQ Schefferville 62.28 34 P **P** **10 05 41.1 -0.6**
WMOK Wichita Mounta 62.64 68 P **P** **10 05 44.5 +0.1**
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK Wichita Mounta 62.64 68 P **P** **10 05 44.5 +0.1**
WMOK IAmb IAmb 10 05 45.5
comp=Z,5.6nm,0.8s
WMOK Wichita Mounta 62.64 68 P **P** **10 05 44.4 0.0**
baz=317
GLMI Grayling 62.69 51 P **P** **10 05 44.2 -0.4**
baz=318
FINES FINESS Array B 63.24 343 P **P** **10 05 47.5 -0.4**
comp=Z,5.5nm,0.8s,baz=17,slow=8.0,SNR=10
FINES FINESS Array B 63.24 343 *ce*P **P** **10 05 47.2 -0.7**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 63.24 343 P **P** **10 05 47.3 -0.6**
KSH Kashi 63.33 301 P **P** **10 05 53.6 +4.5**
KSH pmax pmax
comp=Z,6.0nm,0.8s
AKTO Aktyubinsk 63.42 319 LR LR 10 33 23.5
comp=Z,57nm,19.6s,baz=3.2,slow=36
KKAR Karatay Array 63.46 307 P **P** **10 05 49.6 -0.1**
KKAR Karatay Array 63.46 307 P **P** **10 05 49.6 -0.1**
VLDQ Val d'Or 63.46 45 P **P** **10 05 47.3 -2.3**
HDIL Hopedale 63.53 57 P **P** **10 05 49.4 -0.8**
baz=318
ABKAR Akbulak array 63.56 317 P **P** **10 05 50.4 +0.2**
ABKAR IAmb IAmb 10 05 51.2
comp=Z,4.8nm,0.6s
ABKAR Akbulak array 63.56 317 P **P** **10 05 50.8 +0.6**
ABTX Abilene, Hawle 63.68 70 P **P** **10 05 51.4 +0.1**
baz=317
CCM Cathedral Cave 64.35 60 P **P** **10 05 54.0 -1.6**
baz=318
SFIN Lafayette 64.78 56 P **P** **10 05 57.0 -1.4**
baz=319
JCT Junction City 65.16 72 P **P** **10 06 00.8 -0.3**
baz=318,SNR=7.8
SADO Sadowa 65.28 48 LR LR 10 35 57.8
comp=Z,52nm,18.3s,baz=8.5,slow=37
PMG Port Moresby 65.39 208 LR LR 10 29 27.1
comp=Z,31nm,20.2s,baz=348,slow=31
FCAR Ozark Folk Cen 65.48 63 P **P** **10 06 02.1 -0.9**
CMAR Chiang Mai Arr 65.54 269 P **P** **10 06 05.0 +1.4**
comp=Z,1.1nm,0.6s,baz=27,slow=7.6,SNR=8.0
CMAR LR LR 10 37 58.4
comp=Z,12nm,18.3s,baz=215,slow=39
NC405 NORSAR Array S 65.65 350 P **P** **10 06 02.8 -0.9**
MIAR Mount Ida 65.69 65 P **P** **10 06 03.8 -0.6**
baz=318
NB201 NORSAR Array S 65.76 350 P **P** **10 06 04.2 -0.3**
NB2 NORSAR Subarra 65.77 350 P **P** **10 06 04.2 -0.4**
comp=Z,3.9nm,0.7s,baz=12,slow=6.5
NOA NORSAR Array B 65.77 350 P **P** **10 06 04.1 -0.4**
comp=Z,4.7nm,0.7s,baz=13,slow=6.5,SNR=20
W41B Gary Mavity, V 65.95 63 P **P** **10 06 04.7 -1.3**
baz=318
NORES NORESS Array B 66.04 350 P **P** **10 06 06.0 -0.2**
HFS Hagfors 66.38 349 LR LR 10 36 55.5
comp=Z,29nm,19.8s,baz=284,slow=38
P49A Miami Univ. Ec 66.62 55 P **P** **10 06 08.9 -1.4**
baz=320
WCI Wyandotte Cave 66.81 57 P **P** **10 06 10.6 -0.8**
baz=320
ERPA Erie 66.94 50 P **P** **10 06 10.5 -1.8**
baz=321
833A Chaparral WMA, 67.00 73 P **P** **10 06 12.3 -0.5**
baz=319
M53A WI Miller and 67.14 51 P **P** **10 06 12.6 -1.0**
baz=321
X43A Marvell 67.18 63 P **P** **10 06 13.2 -0.7**
baz=319,SNR=26
ALLY Alegheny Colle 67.23 51 P **P** **10 06 14.0 -0.2**
M54A Oil Creek Stat 67.56 51 P **P** **10 06 15.6 -0.7**
baz=321
AFI Afiamalu 67.57 163 LR LR 10 30 17.5
comp=Z,47nm,21.4s,baz=256,slow=31
WVT Waverly 67.60 60 P **P** **10 06 16.2 -0.3**
baz=320
O53A New Philadelph 67.80 52 P **P** **10 06 16.7 -1.1**
baz=321
P52A Corning 67.83 53 P **P** **10 06 17.1 -0.8**
baz=321
N54A Moraine State 67.84 51 P **P** **10 06 17.0 -1.0**
baz=321
L56A Greenwood 68.06 49 P **P** **10 06 19.2 -0.2**
CLTN Cedars of Leba 68.42 59 P **P** **10 06 21.9 +0.3**

BINY	**Binghamton**	**68.72**	**48**	P	**P**	**10 06 22.7 -0.8**
	baz=323					
LBNH	**Lisbon**	**68.87**	**44**	P	**P**	**10 06 22.8 -1.6**
	baz=324					
MCWV	**Mont Chateau**	**68.92**	**52**	P	**P**	**10 06 24.2 -0.6**
	baz=322					
O56A	**Blue Knob Stat**	**69.05**	**51**	P	**P**	**10 06 24.6 -1.0**
	baz=322					
SSPA	**Standing Stone**	**69.08**	**50**	P	**P**	**10 06 25.2 -0.6**
SSPA	**Standing Stone**	**69.08**	**50**	P	**P**	**10 06 24.9 -0.8**
	baz=322					
MNK	**Minsk**	**69.32**	**339**	*i* P	**P**	**10 06 26.6 -0.4**
MNK				*i*		10 06 52.5
MNK				*i*		10 08 59.6
MNK				*i* PPP	PPP	10 10 40.4
MNK				*i* S	**S**	**10 15 29.0 -1.9**
MNK				*i*		10 16 24.7
MNK				*i* SS	**SS**	**10 19 58.9 +2.1**
MNK				pmax	pmax	
	comp=Z,11nm,1.0s					
MNK				pmax	pmax	
	comp=E,2.0nm,0.8s					
MNK				pmax	pmax	
	comp=N,16nm,1.1s					
MNK				MLR	MLR	
	comp=E,8.0nm,15.0s					
MNK				MLR	MLR	
	comp=N,109nm,19.0s					
MNK				MLR	MLR	
	comp=Z,54nm,12.0s					
MNK	**Minsk**	**69.32**	**339**	*i* P	**P**	**10 06 26.6 -0.4**
	comp=E,2.0nm,0.8s					
MNK				*i* P	**P**	**10 06 26.6 -0.4**
	comp=N,16nm,1.1s					
MNK				*i* P	**P**	**10 06 26.6 -0.4**
	comp=Z,11nm,1.0s,baz=202					
MNK				*i* PcP	**PcP**	**10 06 52.5 +2.2**
MNK				*i* PP	**PP**	**10 08 59.6 -0.1**
MNK				*i* PPP	PPP	10 10 40.5
MNK				*i* S	**S**	**10 15 29.0 -1.9**
MNK				*i* SS	**SS**	**10 19 59.0 +2.1**
MNK				*i* SSS	SSS	10 23 16.6
MNK				*i* LQ	LQ	10 32 02.8
MNK				*i* LR	LR	10 37 29.4
MNK				*i* LRM	MLR	10 39 27.4
	comp=E,8.0nm,15.5s					
MNK				*i* LRM	MLR	10 39 39.6
	comp=N,109nm,19.4s					
MNK				*i* LRM	MLR	10 39 51.9
	comp=Z,54nm,12.2s					
VSR	**Storozhevoye**	**69.36**	**331**	*e*P	**P**	**10 06 26.4 -0.9**
VSR				pmax	pmax	
	comp=Z,5.0nm,0.8s					
N59A	**State Game Lan**	**69.84**	**49**	P	**P**	**10 06 29.4 -1.0**
	baz=323					
L61B	**Northampton**	**69.99**	**46**	P	**P**	**10 06 29.6 -1.7**
	baz=324					
TKL	**Tuckaleechee C**	**70.07**	**57**	LR	LR	10 37 48.9
	comp=Z,85nm,19.4s,baz=339,slow=36					
HRV	**Adam Dziewonsk**	**70.44**	**45**	P	**P**	**10 06 33.1 -0.9**
	baz=325					
BLA	**Blacksburg**	**70.55**	**54**	P	**P**	**10 06 34.1 -0.8**
	baz=322					
PAL	**Palisades**	**70.61**	**47**	P	**P**	**10 06 34.5 -0.6**
	baz=324					
KMSC	**Kings Mountain**	**71.72**	**56**	P	**P**	**10 06 41.1 -0.8**
	baz=322					
AKASG	**Malin Array Be**	**72.53**	**336**	P	**P**	**10 06 46.2 -0.3**
	comp=Z,2.2nm,0.6s,baz=25,slow=6.1,SNR=8.3					
AKBB	**Malin Array Si**	**72.53**	**336**	*e*P	**P**	**10 06 46.6 +0.1**
AKBB	**Malin Array Si**	**72.53**	**336**	P	**P**	**10 06 45.9 -0.7**
AKBB				IAmb	IAmb	10 06 52.7
	comp=Z,8.7nm,1.4s					
GEYT	**Alibeck**	**73.38**	**311**	P	**P**	**10 06 52.4 +0.6**
	comp=Z,1.7nm,0.5s,baz=32,slow=8.7,SNR=3.7					
GEYT				LR	LR	10 41 47.2
	comp=Z,57nm,18.7s,baz=150,slow=38					
DZM	**Mont Dzumac**	**74.48**	**186**	LR	LR	10 34 06.8
	comp=Z,63nm,20.9s,baz=53,slow=31					
KIV	**Kislovodsk**	**74.59**	**325⇑**	*e*P	**P**	**10 07 00.3 +1.5**
KIV				*e*		10 07 15.1
KIV				*e*S	**S**	**10 16 34.0 +2.1**
KIV				*e*SS	**SS**	**10 21 18.7 +0.7**
KIV				pmax	pmax	
	comp=Z,14nm,1.7s					
KIV				MLR	MLR	
	comp=Z,26nm,15.0s					
KBZ	**Khabaz**	**74.71**	**325**	P	**P**	**10 07 00.6 +1.2**
	comp=Z,4.9nm,0.8s,baz=37,slow=4.3,SNR=6.3					
CHVC	**Chvalec**	**75.32**	**345**	*e*P	**P**	**10 07 03.2 +0.3**
UPC	**Upice**	**75.40**	**345**	*e*P	**P**	**10 07 03.6 +0.3**
UPC	**Upice**	**75.40**	**345**	*e*P	**P**	**10 07 03.6 +0.3**
DPC	**Dobruska-Polom**	**75.50**	**344**	*e*P	**P**	**10 07 04.5 +0.5**
DPC	**Dobruska-Polom**	**75.50**	**344**	*e*P	**P**	**10 07 04.5 +0.5**
KRLC	**Kraliky**	**75.69**	**344**	*e*P	**P**	**10 07 05.5 +0.4**
KRLC	**Kraliky**	**75.69**	**344**	*e*P	**P**	**10 07 05.5 +0.4**
MORC	**Moravsky Berou**	**75.85**	**344**	⇑P	**P**	**10 07 06.8 +0.9**
MORC	**Moravsky Berou**	**75.85**	**344**	*e*P	**P**	**10 07 06.6 +0.6**
LANS	**Liptovska Anna**	**76.11**	**342**	*e*P	**P**	**10 07 09.2 +1.8**
LANS				pmax	pmax	
	comp=Z,6.0nm,1.0s					
LANS	**Liptovska Anna**	**76.11**	**342**	*e*P	**P**	**10 07 09.2 +1.8**
PRU	**Pruhonice**	**76.14**	**345**	*e*P	**P**	**10 07 08.0 +0.5**
PRU	**Pruhonice**	**76.14**	**345**	*e*P	**P**	**10 07 08.0 +0.5**
BUR08	**Bucovina Ar. S**	**76.34**	**338**	P	**P**	**10 07 09.0 +0.2**
BURAR	**Bucovina Array**	**76.36**	**338**	⇑P	**P**	**10 07 09.4 +0.4**
BURAR	**Bucovina Array**	**76.36**	**338**	P	**P**	**10 07 09.2 +0.2**
BURAR				pmax	pmax	
	comp=Z,2.0nm,0.7s					
BURAR	**Bucovina Array**	**76.36**	**338**	P	**P**	**10 07 09.2 +0.2**
VRAC	**Vranov**	**76.47**	**344**	⇑P	**P**	**10 07 10.1 +0.7**
VRAC	**Vranov**	**76.47**	**344**	*e*P	**P**	**10 07 09.7 +0.3**
JAVC	**Velka Javorina**	**76.72**	**343**	*e*P	**P**	**10 07 12.8 +1.9**
KRUC	**Moravsky**	**76.74**	**344**	*e*P	**P**	**10 07 11.5 +0.6**
KHC	**Kasperske Hory**	**77.12**	**346**	*e*P	**P**	**10 07 13.5 +0.4**
KHC	**Kasperske Hory**	**77.12**	**346**	*e*P	**P**	**10 07 13.5 +0.4**
PSZ	**Piszkesteto**	**77.21**	**341**	⇑P	**P**	**10 07 16.1 +2.4**
MODS	**Modra-Piesok**	**77.25**	**343**	*e*P	**P**	**10 07 14.5 +0.6**
MODS	**Modra-Piesok**	**77.25**	**343**	*e*P	**P**	**10 07 14.5 +0.6**
CKRC	**Cesky Krumlov**	**77.31**	**345**	*e*P	**P**	**10 07 14.5 +0.3**
GERES	**GERESS Array B**	**77.38**	**346**	P	**P**	**10 07 15.1 +0.4**
	comp=Z,2.5nm,0.7s,baz=34,slow=5.7,SNR=23					
CJR	**Cluj-Napoca**	**77.58**	**339**	⇑P	**P**	**10 07 16.6 +0.8**
COVR	**Voineasa-Covas**	**77.79**	**337**	⇑P	**P**	**10 07 18.4 +1.5**
CONA	**Conrad Observa**	**77.93**	**344**	*e*P	**P**	**10 07 19.0 +1.3**
	comp=Z,4.8nm,0.8s					
ARSA	**Arzberg**	**78.64**	**344**	*e*P	**P**	**10 07 23.1 +1.5**
	comp=Z,0.9nm,0.4s					
KBA	**Koelnbreinsper**	**79.15**	**346**	*e*P	**P**	**10 07 26.0 +1.4**
	comp=Z,8.0nm,0.6s					
WATA	**Walderalm**	**79.16**	**347**	*e*P	**P**	**10 07 25.4 +0.8**
	comp=Z,3.2nm,0.6s					
WTTA	**Wattenberg**	**79.22**	**347**	*e*P	**P**	**10 07 25.9 +0.9**
	comp=Z,4.3nm,0.5s					
SQTA	**Sankt Quirin**	**79.32**	**347**	*e*P	**P**	**10 07 26.4 +1.0**
	comp=Z,3.1nm,0.5s					
WRA	**Warramunga Arr**	**79.41**	**216**	P	**P**	**10 07 27.0 +1.0**
	comp=Z,0.9nm,0.9s,baz=142,slow=4.8,SNR=4.8					
OBKA	**Obir**	**79.52**	**345**	*e*P	**P**	**10 07 27.8 +1.3**
	comp=Z,6.2nm,0.7s					
FETA	**Feichten**	**79.58**	**347**	*e*P	**P**	**10 07 27.7 +0.7**
	comp=Z,2.4nm,0.6s					
ABTA	**Abfaltersbach**	**79.60**	**346**	*e*P	**P**	**10 07 27.6 +0.6**
	comp=Z,3.6nm,0.8s					
BOVS	**Bovan**	**80.92**	**339**	⇓P	**P**	**10 07 35.0 +1.1**
BRTR	**Keskin Array B**	**81.39**	**329**	P	**P**	**10 07 37.2 +0.5**
	comp=Z,1.4nm,0.7s,baz=51,slow=2.5,SNR=7.4					
ASAR	**Alice Springs**	**82.98**	**215**	P	**P**	**10 07 46.9 +2.0**
	comp=Z,1.4nm,1.0s,baz=13,slow=5.7,SNR=8.6					
PALK	**Pallekele**	**85.33**	**276**	LR	LR	10 52 18.8
	comp=Z,16nm,18.1s,baz=253,slow=40					
SIV	**San Ignacio**	**124.49**	**70**	PKP	**PKPdf**	**10 14 18.6 -0.6**
	comp=Z,0.9nm,0.7s,baz=187,slow=3.7,SNR=4.4					
PLCA	**Paso Flores**	**136.52**	**100**	PKP	**PKPdf**	**10 14 41.9 +0.6**
	comp=Z,1.5nm,1.0s,baz=295,slow=8.2,SNR=3.5					
PLCA	**Paso Flores**	**136.52**	**100**	PKPdf	**PKPdf**	**10 14 42.3 +1.1**
MAW	**Mawson**	**144.06**	**218**	PKP	PKPbc	10 14 52.8 +0.8
	comp=Z,4.8nm,0.7s,baz=202,slow=5.4,SNR=4.0					
MAW	**Mawson**	**144.06**	**218**		PKPbc	10 14 53.4 +1.4
BOSA	**Boshof**	**145.93**	**302**	PKPbc	**PKPbc**	**10 14 59.6 +0.3**
	comp=Z,1.1nm,0.6s,baz=360,slow=3.7,SNR=6.7					
BOSA	**Boshof**	**145.93**	**302**	PKP2	**PKPbc**	**10 14 59.1 -0.2**
BOSA	**Boshof**	**145.93**	**302**		**PKPbc**	**10 14 59.1 -0.2**

ASRS 03 09:56:01.9±0.3, 51°N±2°×9°E±°, h5km, MLh3.4/12, 1D, Error ellipse: s-maj=5.2km s-min=2.2km az=4.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.51**	**83**	⇓Pg			Pn	09 56 16.3	+0.3
KNGR					Sg		Sb	09 56 22.7	+1.4
KZLR	**Kyzyl**	**1.84**	**310**	Pg			Pg	09 56 42.7	+5.5
KZLR					Sg		Sg	09 57 08.4	+7.4
MOY	**Mondy**	**2.92**	**66**	Pg			Pg	09 56 58.1	+0.3
MOY					Sg		Sg	09 57 36.9	+1.4
DJO	**Djoy, Khakassi**	**4.09**	**305**	Pg			Pg	09 57 19.9	-0.4
DJO					Sg		Sg	09 58 18.4	+5.1
ZAK	**Zakamensk**	**4.19**	**90**	Pg			Pg	09 57 19.9	-2.3
ZAK					Sg		Sg	09 58 15.3	-1.2
MINR	**Mina**	**4.62**	**342**	Sg			Sg	09 58 32.9	+2.6
CUR	**Chagan-Uzun**	**5.38**	**268**	Pg			Pg	09 57 46.7	+1.8
CUR					Sg		Sg	09 58 57.4	+2.8
ULGR	**Ulagan, Altay**	**5.58**	**274**	Sg			Sg	09 59 04.3	+3.3
SHRR	**Shira**	**5.63**	**317**	Sg			Sg	09 59 05.2	+2.7
LUZB	**Luzhba, Kemero**	**5.74**	**306**	Sg			Sg	09 59 06.7	+0.6
AKAR	**Aktash**	**5.82**	**271**	Sg			Sg	09 59 09.8	+1.1
CHBI	**Chibit, Altay**	**5.90**	**271**	Sg			Sg	09 59 19.5	+8.4
DGZ	**Jazzator, Alta**	**6.04**	**266**	Sg			Sg	09 59 20.9	+5.4
ARTR	**Artybash**	**6.07**	**286**	Sg			Sg	09 59 24.3	+7.6

ASRS 03 10:02:25.0±0.3, 51°N±2°×9°E±°, h5km, MLh3.5/14, Error ellipse: s-maj=4.7km s-min=2.1km az=4.9, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.52**	**90**	Pg			Pn	10 02 38.2	-1.0
KNGR					Sg		Sb	10 02 44.7	+0.1
KZLR	**Kyzyl**	**1.79**	**309**	Pg			Pg	10 03 04.6	+5.2
KZLR					Sg		Sg	10 03 29.6	+7.0
MOY	**Mondy**	**2.90**	**67**	Pg			Pg	10 03 19.9	-0.7
MOY					Sg		Sg	10 03 59.6	+1.4
DJOS	**Djoyskaya Sosn**	**3.96**	**306**	Sg			Sg	10 04 35.2	+3.1
DJO	**Djoy, Khakassi**	**4.05**	**305**	Pg			Pg	10 03 46.9	+4.3
DJO					Sg		Sg	10 04 39.1	+4.1
ZAK	**Zakamensk**	**4.21**	**91**	Pg			Pb	10 03 42.2	+2.7
ZAK					Sg		Sg	10 04 42.2	+2.2
MINR	**Mina**	**4.56**	**342**	Pg			Pg	10 03 56.1	+3.7
MINR					Sg		Sg	10 04 55.1	+3.6
CUR	**Chagan-Uzun**	**5.37**	**268**	Pg			Pg	10 04 07.6	-0.3
CUR					Sg		Sg	10 05 21.1	+3.6
ULGR	**Ulagan, Altay**	**5.57**	**274**	Pg			Pg	10 04 13.0	+1.4
ULGR					Sg		Sg	10 05 32.1	+8.5
SHRR	**Shira**	**5.58**	**317**	Sg			Sg	10 05 24.6	+0.7
LUZB	**Luzhba, Kemero**	**5.70**	**306**	Sg			Sg	10 05 28.2	+0.4
AKAR	**Aktash**	**5.81**	**271**	Pg			Pg	10 04 13.8	-2.4
AKAR					Sg		Sg	10 05 34.1	+2.6
CHBI	**Chibit, Altay**	**5.88**	**271**	Pg			Pg	10 04 15.4	-2.3
CHBI					Sg		Sg	10 05 40.0	+6.2
DGZ	**Jazzator, Alta**	**6.03**	**265**	Sg			Sg	10 05 43.5	+5.0
ARTR	**Artybash**	**6.04**	**285**	Sg			Sg	10 05 44.6	+5.7
BRCR	**Berchikul'**	**7.13**	**318**	Sg			Sg	10 06 20.0	+6.3

*IDC **03** 11:04:30.2±0.9, 33.00S×69.06W, h0km, mb4.1/7, mb1 4.2/12, mb1mx4.1/31, mbtmp4.1/12, ML3.9/5, MS3.6/11, Ms1 3.5/11, ms1mx3.3/48, Error ellipse: s-maj=26.2km s-min=21.6km az=95.0*

*SJA **03** 11:04:32.0±0.8, 33.03S×69.22W, h28km±3km, ML4.6, MW4.5*

*NEIC **03** 11:04:33.5±2.2, 32.95S±0.04×69.28W±0.05, h10km±1km, mb4.5/14, Md4.5(SJA), ML3.7(GUC), Error ellipse: s-maj=7.5km s-min=7.1km az=246.0*

*GUC **03** 11:04:34.6±0.8, 33.11S×69.39W, h5km±14km, ML3.7*

*VAO **03** 11:04:37.6±0.9, 32.85S×69.20W, h39km, mb4.5*

ISC 03 11:04:30.5±1.9, 33.09S±0.03×69.15W±0.03, h4km±12km, n135, σ1⇓31/156, mb4.4/13, MS3.5/7, 3C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**0.27**	**90**	*e*P			**Pb**	**11 04 40.1**	**+2.0**
ARCO	**CERRO ARCO**	**0.31**	**37**	*e*P			**Pb**	**11 04 40.5**	**+1.8**
ARCO				*e*S			**Sb**	**11 04 45.6**	**+1.5**
ARCO				IAML				11 04 49.8	
	comp=Z,44μm,0.5s								
ASAL	**Salagasta**	**0.56**	**29**	*e*P			**Pb**	**11 04 43.4**	**+0.4**
AUSP	**Uspallata**	**0.88**	**347**	*e*P			**Pb**	**11 04 48.8**	**+0.2**
FCH	**Farellones**	**0.98**	**256⇓**	*e*P			**Pb**	**11 04 50.5**	**+0.1**
FCH				*e*S			**Sb**	**11 05 03.4**	**-0.4**
FCH				IAML				11 05 05.0	
	comp=N,3μm,0.3s								
LMEL	**Las Melosas**	**1.16**	**229⇑**	*e*P			**Pn**	**11 04 54.1**	**+0.3**
LMEL				*e*S			**Sn**	**11 05 09.9**	**-0.3**
LMEL				IAML				11 05 11.1	
	comp=N,2μm,0.1s								
VA03	**San Esteban**	**1.22**	**285⇓**	*i*P			**Pn**	**11 04 54.4**	**-0.1**
VA03				*i* S			**Sb**	**11 05 10.2**	**-0.1**
VA03				IAML				11 05 11.6	
	comp=N,8μm,0.6s								
VA03	**San Esteban**	**1.22**	**285**				**Pn**	**11 04 54.3**	**-0.1**
VA03					Sn		**Sb**	**11 05 10.0**	**-0.3**
VA03	**San Esteban**	**1.22**	**285**	*e*P			**Pn**	**11 04 53.9**	**-0.6**
PEL	**Peldehue**	**1.29**	**267**	*e*P			**Pn**	**11 04 54.8**	**-0.6**
PEL				*i* S			**Sn**	**11 05 12.1**	**-1.0**
PEL				IAML				11 05 13.8	
	comp=N,2μm,0.6s								
PEL	**Peldehue**	**1.29**	**267**				**Pn**	**11 04 55.5**	**+0.2**
PEL					Sn		**Sn**	**11 05 11.4**	**-1.7**
PEL	**Peldehue**	**1.29**	**267**	*e*P			**Pn**	**11 04 55.3**	**-0.1**
RTLS	**Leoncito**	**1.29**	**355**	*e*P			**Pn**	**11 04 55.9**	**+0.2**
RTLS				IAML				11 05 16.1	
	comp=Z,9μm,1.6s								
RTCV	**Cerro Valdivia**	**1.32**	**23**	*e*P			**Pn**	**11 04 56.0**	**+0.2**
MT05	**Renca**	**1.36**	**257**	⇓*i*P			**Pb**	**11 04 57.4**	**+0.8**
MT05				*i* S			**Sb**	**11 05 15.5**	**+1.0**
MT05				IAML				11 05 17.3	
	comp=E,3μm,0.3s								
MT05	**Renca**	**1.36**	**257**				**Pb**	**11 04 57.5**	**+0.8**
BO04	**La Punta**	**1.51**	**233⇑**	*e*P			**Pb**	**11 05 00.1**	**+0.9**
BO04				*e*S			**Sb**	**11 05 19.0**	**+0.2**
BO04				IAML				11 05 22.4	
	comp=N,688nm,0.3s								
ROCH	**El Roble**	**1.56**	**274**	⇓*i*P			**Pb**	**11 05 00.6**	**+0.4**
ROCH				⇓*i*P			**Pn**	**11 04 60.0**	**+0.6**
ROCH				*e*S			**Sn**	**11 05 19.5**	**-0.7**
ROCH				*e*S			**Sb**	**11 05 20.1**	**-0.4**
ROCH				IAML				11 05 22.0	
	comp=N,9μm,0.6s								
ROC1	**El Roble**	**1.57**	**274**	*e*P			**Pb**	**11 05 00.8**	**+0.5**
ZON	**Zonda**	**1.59**	**15**	Pn			**Pb**	**11 05 01.2**	**+0.7**
ZON	**Zonda**	**1.59**	**15**	*e*P			**Pn**	**11 04 56.2**	**-3.3**
MT02	**Curacav**	**1.67**	**264⇓**	*i*P			**Pb**	**11 05 02.3**	**+0.3**
MT02				*e*S			**Sn**	**11 05 22.1**	**-0.4**
MT02				IAML				11 05 26.4	
	comp=N,828nm,0.3s								
MT02	**Curacav**	**1.67**	**264**	Pn			**Pb**	**11 05 02.4**	**+0.5**
MT09	**Talagante**	**1.68**	**245**	*e*P			**Pb**	**11 05 02.7**	**+0.6**
MT09				*e*S			**Sn**	**11 05 22.8**	**-0.2**
MT09	**Talagante**	**1.68**	**245**	Pn			**Pb**	**11 05 02.8**	**+0.7**
RFA	**San Rafael**	**1.77**	**161**	*e*P			**Pn**	**11 04 59.2**	**-2.9**
RFA				IAML				11 05 32.5	
	comp=Z,3μm,1.5s								
VA06	**Catapilco**	**1.88**	**286⇓**	*i*P			**Pb**	**11 05 05.4**	**0.0**
VA06				*e*S			**Sb**	**11 05 28.4**	**-0.9**
VA06				IAML				11 05 33.1	
	comp=N,7μm,0.4s								
MT01	**Popeta**	**1.92**	**246**	Pn			**Pb**	**11 05 06.6**	**+0.5**
BO01	**Tunca**	**2.07**	**230⇑**	*i*P			**Pb**	**11 05 09.7**	**+1.0**
BO01				*e*S			**Sb**	**11 05 34.4**	**-0.4**
BO01	**Tunca**	**2.07**	**230**				**Pb**	**11 05 09.4**	**+0.7**
VA01	**Torpederas**	**2.10**	**271⇓**	*e*P			**Pb**	**11 05 08.8**	**-0.3**
VA01				*e*S			**Sn**	**11 05 33.6**	**+0.7**
VA01				IAML				11 05 37.6	
	comp=N,2μm,0.1s								
VA01	**Torpederas**	**2.10**	**271**	Pn			**Pb**	**11 05 08.6**	**-0.5**
VA05	**Santo Domingo**	**2.14**	**254**	*e*P			**Pb**	**11 05 09.9**	**+0.1**
VA05				*e*S			**Sb**	**11 05 35.3**	**-1.4**
VA05				IAML				11 05 40.9	
	comp=N,2μm,0.4s								
VA05	**Santo Domingo**	**2.14**	**254**	Pn			**Pb**	**11 05 09.1**	**-0.7**
BO02	**Sierra Bellavi**	**2.17**	**218**	Pn			**Pb**	**11 05 12.3**	**+1.8**
AVFE	**Valle Fertil**	**2.82**	**31**	*e*P			**Pn**	**11 05 19.0**	**+2.6**
AVFE				*e*S			**Sg**	**11 05 59.8**	**-1.2**
AVFE				IAML				11 06 01.0	
	comp=Z,2μm,0.4s								
GO05	**Huala**	**3.00**	**229**	Pn			**Pn**	**11 05 21.4**	**+2.5**
GO05	**Huala**	**3.00**	**229**	*e*P			**Pn**	**11 05 16.7**	**-2.2**
GO05				*e*S			**Sb**	**11 06 00.2**	**-1.3**
CO06	**Fray Jorge**	**3.20**	**318**	Pn			**Pn**	**11 05 24.0**	**+2.4**
ML02	**Panimavida**	**3.26**	**214**	Pn			**Pb**	**11 05 27.1**	**-1.9**
CO05	**La Serena**	**3.62**	**330**	Pn			**Pn**	**11 05 30.1**	**+2.7**
TCA	**Tanti**	**4.24**	**67**	*e*P			**Pn**	**11 05 33.2**	**-2.8**
TCA				*e*P			**Pn**	**11 05 34.2**	**-1.8**
TCA				*e*S			**Sb**	**11 06 34.2**	**-3.1**
TCA				IAML				11 06 49.9	
	comp=Z,2μm,0.6s								
LCO	**Las Campanas**	**4.27**	**341**	Pn			**Pn**	**11 05 39.6**	**+3.0**
AC04	**Llanos de Chal**	**5.14**	**341**	Pn			**Pn**	**11 05 50.2**	**+1.9**
GO03	**Copiap**	**5.55**	**350**	Pn			**Pn**	**11 05 56.3**	**+2.3**
LC01	**Cunco**	**6.21**	**200**	Pn			**Pn**	**11 06 06.3**	**+3.4**
PLCA	**Paso Flores**	**7.71**	**188**	Pn			**Pn**	**11 06 26.6**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=4.0								
PLCA				Lg			Lg	11 08 35.4	
	comp=Z,0.5nm,0.3s,baz=292,slow=17,SNR=2.9								
PLCA				LR			LR	11 09 12.9	
	comp=Z,115nm,18.5s,baz=12,slow=36								
PLCA	**Paso Flores**	**7.71**	**188**	Pn			**Pn**	**11 06 27.9**	**+4.2**
PB14	**IPOC Station P**	**8.50**	**352**	Pn			**Pn**	**11 06 34.6**	**-0.2**
LVC	**Limon Verde**	**10.44**	**1**	Pn			**Pn**	**11 07 00.9**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=180,slow=9.4,SNR=9.8								
LVC				Lg			Lg	11 09 55.0	
	comp=Z,1.6nm,0.3s,baz=318,slow=16,SNR=3.4								
LVC				LR			LR	11 11 23.3	
	comp=Z,393nm,21.9s,baz=203,slow=40								
LVC	**Limon Verde**	**10.44**	**1**	Pn			**Pn**	**11 07 01.1**	**-0.3**
PB04	**IPOC Station P**	**10.75**	**355**	Pn			**Pn**	**11 07 03.0**	**-2.4**
ITQB	**Itaqui**	**11.23**	**76**	Pn			**Pn**	**11 07 13.5**	**+1.6**
PB09	**IPOC Station P**	**11.25**	**360**	Pn			**Pn**	**11 07 11.2**	**-1.0**
PB07	**IPOC Station P**	**11.33**	**357**	Pn			**Pn**	**11 07 12.5**	**-1.0**
PB01	**IPOC Station P**	**12.00**	**358**	Pn			**Pn**	**11 07 20.6**	**-1.8**
CPUP	**Villa Florida**	**12.28**	**60**	Pn			**Pn**	**11 07 24.6**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=232,slow=10.0,SNR=5.7								
CPUP				Lg			Lg	11 10 55.7	
	comp=Z,0.4nm,0.3s,baz=139,slow=20,SNR=1.7								
CPUP				LR			LR	11 12 45.6	
	comp=Z,337nm,20.9s,baz=241,slow=41								
CPUP	**Villa Florida**	**12.28**	**60**	Pn			**Pn**	**11 07 23.6**	**-2.6**
PLTB	**Pedras Altas**	**13.20**	**88**	Pn			**P**	**11 07 44.7**	**-4.3**
PB12	**IPOC Station P**	**14.45**	**356**	Pn			**Pn**	**11 07 56.2**	**+0.2**
PB16	**IPOC Station P**	**14.69**	**359**	Pn			**Pn**	**11 07 59.5**	**-0.2**
LPAZ	**La Paz**	**16.75**	**3**	Pn			**Pn**	**11 08 26.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=173,slow=8.4,SNR=41								
LPAZ	**La Paz**	**16.75**	**3**	P			**P**	**11 08 29.3**	**+0.2**
AQDB	**Aquidauana**	**17.36**	**47**	*e*P			**P**	**11 08 34.7**	**-0.4**
TER01	**Tubaro-SC**	**17.79**	**81**	*e*P			**P**	**11 08 41.3**	**+1.5**
SIV	**San Ignacio**	**18.52**	**25**	P			**P**	**11 08 48.0**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=197,slow=8.8,SNR=48								
SIV				LR			LR	11 17 35.1	
	comp=Z,190nm,18.6s,baz=188,slow=43								
PCMB	**Pacaembu**	**19.55**	**59**	*e*P			**Pn**	**11 09 00.1**	**-0.4**
PTLB	**Pontes e Lacer**	**19.77**	**30**	*e*P			**P**	**11 09 02.1**	**+0.4**
PTLB	**Pontes e Lacer**	**19.77**	**30**	P			**Pn**	**11 09 02.7**	**-0.4**
PP1B	**Ponte de Pedra**	**20.07**	**43**	*e*P			Pn	11 09 06.0	-0.8
SALV	**Santo Antonio**	**21.00**	**39**	*e*P			**P**	**11 09 15.6**	**+0.5**
SPB	**Sao Paulo**	**21.30**	**69**	*e*P			**P**	**11 09 19.4**	**+1.2**
ITRB	**Iturama**	**21.43**	**56**	*e*P			**P**	**11 09 19.4**	**-0.2**
VILB	**Vilhena**	**21.65**	**24**	*e*P			**P**	**11 09 22.0**	**0.0**
VILB

CMAR	**Chiang Mai Arr**	**161.94**	**141**	PKP	**PKPdf**	**11 24 34.6**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=122,slow=5.9,SNR=1.7						
CMAR	**Chiang Mai Arr**	**161.94**	**141**		**PKPdf**	**11 24 33.5**	**-0.2**
CMAR				PKPab	**PKPab**	**11 25 20.4**	**+0.9**
SONM	**Songino Array**	**164.89**	**12**	PKPab	**PKPab**	**11 25 30.7**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=352,slow=4.4,SNR=2.3						

*IDC **03** 11:08:33.8±0.7, 10°.83S×70°.77W, h644km±8km, mb3.5/15, mb1 3.7/22, mb1mx3.6/37, mbtmp4.6/22, Error ellipse: s-maj=12.1km s-min=8.9km az=42.0*
*NEIC **03** 11:08:34.5±1.9, 10°.8S±0°.1×70°.8W±0°.1, h633km±7km, mb4.3/33, Error ellipse: s-maj=19.4km s-min=14.8km az=72.0*

ISC 03 11:08:34.2±0.4, 10°.87S±0°.06×70°.83W±0°.07, h650km, n107, σ1§06/114, mb4.2/25, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**3.63**	**329**	*eP*	**P**	**11 09 59.3**	**-1.9**
CZSB	**Cruzeiro do Su**	**3.63**	**329**	P	**P**	**11 09 59.4**	**-1.8**
ETMB	**Extrema**	**4.66**	**77**	P	**P**	**11 10 06.7**	**-1.2**
LPAZ	**La Paz**	**5.99**	**154**	P	**P**	**11 10 18.4**	**-0.3**
	6.8nm,0.3s,baz=345,slow=6.3,SNR=52						
LPAZ				S	**S**	**11 11 41.6**	**-2.3**
	0.5nm,0.3s,baz=160,slow=20,SNR=6.5						
LPAZ	**La Paz**	**5.99**	**154**	*eP*	**P**	**11 10 18.4**	**-0.2**
LPAZ	**La Paz**	**5.99**	**154**	P	**P**	**11 10 17.6**	**-1.0**
NNA	**Nana**	**6.00**	**259**	P	**P**	**11 10 17.9**	**-0.2**
	8.7nm,0.3s,baz=87,slow=8.7,SNR=19						
NNA				S	**S**	**11 11 41.5**	**-1.5**
	1.4nm,0.3s,baz=350,slow=19,SNR=9.6						
NNA	**Nana**	**6.00**	**259**	P	**P**	**11 10 17.4**	**-0.7**
PB12	**IPOC Station P**	**7.71**	**176**	P	**P**	**11 10 31.1**	**-1.7**
ATAH	**Atahualpa**	**8.34**	**296**	P	**P**	**11 10 40.1**	**+1.1**
	2.1nm,0.3s,baz=108,slow=8.1,SNR=33						
ATAH				S	**S**	**11 12 21.2**	**+0.1**
	0.7nm,0.3s,baz=52,slow=17,SNR=3.4						
TA02	**Huaiquique**	**9.37**	**176**	P	**P**	**11 10 46.6**	**-1.3**
TA01	**Diego Aracena**	**9.66**	**176**	P	**P**	**11 10 49.6**	**-1.1**
VILB	**Vilhena**	**10.61**	**102**	P	**P**	**11 10 59.8**	**-0.2**
SIV	**San Ignacio**	**10.77**	**119**	P	**P**	**11 11 00.8**	**-0.7**
	18nm,0.3s,baz=289,slow=9.4,SNR=139						
SIV				S	**S**	**11 13 01.9**	**-0.2**
	baz=285,slow=16,SNR=9.3						
LVC	**Limon Verde**	**11.82**	**171**	P	**P**	**11 11 12.1**	**+0.5**
	8.9nm,0.3s,baz=18,slow=6.9,SNR=10						
LVC				S	**S**	**11 13 21.0**	**+0.9**
	0.5nm,0.3s,baz=342,slow=20,SNR=2.7						
PTLB	**Pontes e Lacer**	**12.26**	**113**	P	**P**	**11 11 15.4**	**+0.1**
FLOC	**Florencia**	**13.27**	**339**	*eP*	**P**	**11 11 22.7**	**-2.0**
OTAV	**Otavalo**	**13.39**	**325**	P	**P**	**11 11 27.1**	**+0.8**
GCUF	**Volcan Galeras**	**13.65**	**331**	*eP*	**P**	**11 11 30.7**	**+1.9**
SOTA	**Rioblanco**	**14.14**	**336**	*eP*	**P**	**11 11 35.1**	**+1.9**
BETC	**Betania**	**14.22**	**341**	*eP*	P	11 11 27.8	-5.8
POPC	**Popayan, Colom**	**14.54**	**336**	*eP*	**P**	**11 11 37.2**	**+0.6**
PTGA	**Pitinga**	**14.76**	**48**	P	**P**	**11 11 39.1**	**+0.6**
	2.5nm,0.3s,baz=225,slow=12,SNR=23						
PTGA				S	**S**	**11 14 09.7**	**+1.1**
	baz=224,slow=17,SNR=1.8						
PRAC	**Prado**	**15.04**	**344**	*eP*	**P**	**11 11 41.5**	**+0.5**
VILC	**Villavicencio,**	**15.15**	**349**	*eP*	**P**	**11 11 43.1**	**+0.9**
CHIC	**Chingaza**	**15.67**	**349**	*eP*	**P**	**11 11 47.6**	**+0.4**
YOTC	**Yotoco, Valle**	**15.74**	**339**	*eP*	**P**	**11 11 47.7**	**+0.2**
ANIL	**Santa Ana**	**15.93**	**343**	*eP*	**P**	**11 11 44.7**	**-4.7**
AC02	**Maricunga**	**15.96**	**174**	P	**P**	**11 11 51.4**	**+1.6**
AC02				IAmb	IAmb	11 11 53.9	
	comp=Z,8.5nm,0.7s						
PLMC	**San Jos del P**	**16.59**	**341**	*eP*	**P**	**11 11 55.4**	**+0.2**
GUY2C	**Guyana, Caldas**	**16.61**	**344**	*eP*	**P**	**11 11 56.7**	**+0.9**
NORC	**Norcasia**	**16.81**	**346**	*eP*	**P**	**11 11 56.8**	**-0.4**
AQDB	**Aquidauana**	**17.40**	**125**	P	**P**	**11 12 03.1**	**+0.7**
CBOC	**Ciudad Bolivar**	**17.41**	**343**	*eP*	**P**	**11 12 02.8**	**0.0**
BARC	**Barichara**	**17.51**	**352**	*eP*	**P**	**11 12 03.8**	**+0.1**
PTBC	**PUERTO BERRIO,**	**17.67**	**348**	*eP*	**P**	**11 12 03.0**	**-2.0**
PAMC	**Pamplona, Colo**	**18.19**	**354**	*eP*	**P**	**11 12 10.1**	**-0.1**
DBBC	**Dabeiba**	**18.56**	**343**	*eP*	**P**	**11 12 13.6**	**+0.5**
ZARC	**Zaragoza, Cauc**	**18.68**	**347**	*eP*	**P**	**11 12 12.3**	**-1.8**
ZARC	**Zaragoza, Cauc**	**18.68**	**347**	P	**P**	**11 12 12.6**	**-1.5**
ZARC				IAmb	IAmb	11 12 14.3	
	comp=Z,15nm,1.0s						
OCAC	**Ocana**	**19.14**	**352**	P	**P**	**11 12 17.0**	**-1.5**
BAUV	**El Baul**	**19.88**	**8**	P	**P**	**11 12 26.1**	**+1.3**
CPUP	**Villa Florida**	**19.98**	**142**	P	**P**	**11 12 25.2**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=316,slow=14,SNR=0.8						
SJCC	**San Jacinto, C**	**21.08**	**348**	P	**P**	**11 12 33.8**	**-1.9**
BIRV	**Birongo**	**21.69**	**12**	P	**P**	**11 12 40.9**	**-0.1**
VA03	**San Esteban**	**21.79**	**179**	P	**P**	**11 12 43.7**	**+1.9**
VA03				IAmb	IAmb	11 12 43.9	
	comp=Z,15nm,0.7s						
BCIP	**Isla Barro Col**	**21.83**	**335**	P	**P**	**11 12 42.5**	**+0.2**
BDFB	**Brasilia**	**22.70**	**105**	P	**P**	**11 12 50.4**	**+0.3**
	comp=Z,5.6nm,0.5s,baz=222,slow=11,SNR=8.8						
BDFB	**Brasilia**	**22.70**	**105**	P	**P**	**11 12 50.5**	**+0.3**
BDFB				IAmb	IAmb	11 12 51.3	
	comp=Z,18nm,1.2s						
MDP	**Montagnes des**	**24.07**	**50**	P	**P**	**11 13 01.5**	**-0.7**
	comp=Z,33nm,1.0s,baz=224,slow=7.4,SNR=5.6						
PLCA	**Paso Flores**	**29.74**	**180**	P	**P**	**11 13 51.0**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=345,slow=12,SNR=1.6						
CMIG	**Matias Romero**	**36.57**	**319**	P	**P**	**11 14 49.2**	**+0.8**
	comp=Z,5.4nm,0.4s,baz=115,slow=5.1,SNR=18						
T47A	**Sharon Grove**	**50.00**	**343**	P	**P**	**11 16 30.3**	**-1.2**
T47A				IAmb	IAmb	11 16 31.1	
	comp=Z,8.5nm,0.6s						
P53A	**Whipple**	**51.05**	**349**	P	**P**	**11 16 39.1**	**+0.2**
P53A				IAmb	IAmb	11 16 39.9	
	comp=Z,12nm,1.1s						
S44A	**Carbondale**	**51.30**	**341**	P	**P**	**11 16 40.1**	**-0.6**
FVM	**French Village**	**51.95**	**340**	P	**P**	**11 16 44.9**	**-0.5**
G65A	**Princeton**	**55.89**	**3**	P	**P**	**11 17 12.8**	**+0.1**
G65A				IAmb	IAmb	11 17 18.5	
	comp=Z,42nm,1.5s						
WUAZ	**Wupatki**	**59.96**	**322**		**P**	**11 17 41.4**	**+0.9**
KNB	**Kanab**	**61.84**	**323**		**P**	**11 17 54.4**	**+1.6**
KNB				IAmb	IAmb	11 17 55.3	
	comp=Z,13nm,0.8s						
P17A	**Butcher Ranch,**	**62.32**	**326**	P	**P**	**11 17 56.9**	**+1.2**
SHPR	**Sheep Range**	**62.93**	**321**	P	**P**	**11 18 01.1**	**+1.3**
TPNV	**Topopah Spring**	**63.88**	**321**	P	**P**	**11 18 07.5**	**+1.7**
BW06	**Boulder Array**	**64.05**	**329**	P	**P**	**11 18 07.3**	**+0.5**
PD31	**Pinedale Array**	**64.05**	**329**	P	**P**	**11 18 07.1**	**+0.2**
PDAR	**Pinedale Array**	**64.05**	**329**	P	**P**	**11 18 07.0**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=123,slow=9.2,SNR=20						
PDAR	**Pinedale Array**	**64.05**	**329**	P	**P**	**11 18 06.8**	**0.0**
ULM	**Lac du Bonnet**	**64.68**	**343**	P	**P**	**11 18 09.0**	**-1.2**
	comp=Z,5.3nm,0.6s,baz=141,slow=4.6						
SCHQ	**Schefferville**	**65.54**	**3**	P	**P**	**11 18 14.2**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=199,slow=5.6,SNR=3.6						
SCHQ	**Schefferville**	**65.54**	**3**	P	**P**	**11 18 14.4**	**-1.1**
SCHQ				IAmb	IAmb	11 18 39.5	
	comp=Z,21nm,1.5s						
NVAR	**Mina Array Bea**	**66.08**	**321**	P	**P**	**11 18 20.1**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=121,slow=6.4,SNR=5.2						
NVAR				PcP	**PcP**	**11 18 43.9**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=132,slow=4.6,SNR=6.1						
NVAR	**Mina Array Bea**	**66.08**	**321**	P	**P**	**11 18 19.3**	**-0.2**
GCMT	**Greycliff**	**66.33**	**331**	P	**P**	**11 18 21.9**	**+1.1**
YHL	**Hebgen Lake**	**66.38**	**330**	P	**P**	**11 18 22.6**	**+1.4**
YHL				IAmb	IAmb	11 18 24.0	
	comp=Z,8.7nm,1.2s						
MFID	**Camas Ranch**	**67.80**	**326**		**P**	**11 18 31.2**	**+1.5**
MFID				IAmb	IAmb	11 18 32.0	
	comp=Z,12nm,0.9s						
DBIC	**Dimbokro**	**67.94**	**78**	P	**P**	**11 18 30.7**	**-0.3**
	comp=Z,5.1nm,0.4s,baz=266,slow=4.9,SNR=20						
DBIC	**Dimbokro**	**67.94**	**78**	P	**P**	**11 18 30.3**	**-0.8**
DBIC				IAmb	IAmb	11 18 31.0	
	comp=Z,6.2nm,0.5s						
MOD	**Modoc Plateau**	**69.40**	**323**	P	**P**	**11 18 40.8**	**+1.4**
MOD				IAmb	IAmb	11 18 41.4	
	comp=Z,6.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.82**	**73**	P	**P**	**11 19 15.9**	**-0.5**
	comp=Z,5.7nm,0.5s,baz=248,slow=4.9,SNR=47						
QSPA	**South Pole Qui**	**79.26**	**180**	P	**P**	**11 19 34.9**	**+0.9**
	comp=Z,6.0nm,0.7s,baz=168,slow=1.7,SNR=38						
QSPA	**South Pole Qui**	**79.26**	**180**	P	**P**	**11 19 34.9**	**+0.9**
QSPA				IAmb	IAmb	11 19 35.8	
	comp=Z,6.9nm,0.8s						
ESDC	**Sonseca Array**	**79.71**	**46**	P	**P**	**11 19 37.2**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=252,slow=4.8,SNR=11						
YKA	**Yellowknife Ar**	**80.60**	**341**	P	**P**	**11 19 40.5**	**-0.2**
	comp=Z,6.5nm,0.7s,baz=137,slow=5.2,SNR=112						
SUMG	**Summit**	**85.91**	**9**	P	**P**	**11 20 07.7**	**+0.4**
SUMG				IAmb	IAmb	11 20 08.5	
	comp=Z,9.2nm,1.0s						
VNDA	**Vanda**	**86.94**	**190**	P	**P**	**11 20 10.6**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=106,slow=7.4,SNR=2.1						
VNDA	**Vanda**	**86.94**	**190**	P	**P**	**11 20 13.0**	**+1.3**
INK	**Inuvik**	**90.37**	**341**	P	**P**	**11 20 27.2**	**-0.4**
INK				IAmb	IAmb	11 20 28.7	
	comp=Z,5.4nm,0.9s						
GERES	**GERESS Array B**	**94.52**	**41**	P	**P**	**11 20 46.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=264,slow=2.0,SNR=5.3						
ABKAR	**Akbulak array**	**124.19**	**37**		**PKiKP**	**11 26 21.6**	**+0.4**
STKA	**Stephens Creek**	**127.37**	**215**	PKP	**PKPdf**	**11 26 27.4**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=336,slow=0.4,SNR=6.6						
STKA	**Stephens Creek**	**127.37**	**215**		**PKPdf**	**11 26 28.0**	**+0.6**
ZAA0	**Zalesovo Array**	**132.85**	**19**		**PKPdf**	**11 26 37.8**	**+0.7**
ZALV	**Zalesovo Beam**	**132.85**	**19**	PKP	**PKPdf**	**11 26 37.5**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=281,slow=2.0,SNR=8.4						
ZALV				SKPbc	**SKPbc**	**11 29 05.2**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=316,slow=4.9,SNR=3.8						
MKAR	**Makanchi Array**	**137.57**	**27**	PKP	**PKPdf**	**11 26 46.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=324,slow=2.0,SNR=5.5						
MKAR				SKPbc	**SKPbc**	**11 29 19.9**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=0.0,slow=1.2,SNR=3.7						
MKAR	**Makanchi Array**	**137.57**	**27**		**PKPdf**	**11 26 46.6**	**+0.4**
ASAR	**Alice Springs**	**138.01**	**215**	PKhKP	PKPpre	11 26 37.1	
	comp=Z,0.6nm,0.8s,baz=135,slow=3.4,SNR=2.1						
ASAR				PKP	**PKPdf**	**11 26 47.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=121,slow=1.8,SNR=14						
ASAR	**Alice Springs**	**138.01**	**215**		**PKPdf**	**11 26 48.2**	**+0.5**
WRA	**Warramunga Arr**	**140.61**	**219**	PKhKP	PKPpre	11 26 46.1	
	comp=Z,1.0nm,0.5s,baz=140,slow=2.8,SNR=13						
WRA				PKP	**PKPdf**	**11 26 51.9**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=131,slow=2.1,SNR=11						
WRA				SKPbc	**SKPbc**	**11 29 29.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=153,slow=2.4,SNR=4.3						
WRA	**Warramunga Arr**	**140.61**	**219**		**PKPdf**	**11 26 53.8**	**+1.3**
SONM	**Songino Array**	**143.08**	**3**	PKP	**PKPdf**	**11 26 55.0**	**-1.1**
	comp=Z,6.8nm,0.7s,baz=328,slow=3.1,SNR=30						
MAJO	**Matsushiro**	**143.39**	**319**		PKPbc	11 26 56.0	+0.1
MJAR	**Matsushiro Arr**	**143.39**	**319**	PKP	PKPab	11 26 55.5	-0.2
	comp=Z,10nm,0.8s,baz=38,slow=1.7,SNR=24						
MJAR	**Matsushiro Arr**	**143.39**	**319**		PKPbc	11 26 56.0	+0.1
PSA00	**Pilbara Seismi**	**146.10**	**198**		**PKPbc**	**11 27 04.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**146.94**	**210**	PKPbc	**PKPbc**	**11 27 06.8**	**+0.3**
	comp=Z,10nm,0.7s,baz=178,slow=3.1,SNR=24						
KSRS	**Korea Array**	**148.62**	**331**	PKP	**PKPdf**	**11 27 05.5**	**-0.1**
	comp=Z,5.7nm,0.8s,baz=346,slow=1.5,SNR=5.2						
KSRS				PKPbc	**PKPbc**	**11 27 10.3**	**+0.2**
	comp=Z,6.1nm,0.8s,baz=17,slow=2.5,SNR=22						
KSAR	**Wonju Array Be**	**148.64**	**331**		**PKPbc**	**11 27 10.3**	**0.0**
CMAR	**Chiang Mai Arr**	**167.56**	**51**	PKP	**PKPdf**	**11 27 27.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=289,slow=2.8,SNR=4.6						

*IDC **03** 11:15:19.0±2.8, 5°.30S×145°.99E, h67km±26km, mb3.8/8, mb1 4.0/12, mb1mx3.7/38, mbtmp4.2/12, MS3.0/5, Ms1 3.0/5, ms1mx2.5/55, Error ellipse: s-maj=25.4km s-min=17.1km az=86.0*
*NEIC **03** 11:15:20.4±1.2, 5°.32S±0°.10×145°.84E±0°.08, h80km±9km, mb4.2/15, Error ellipse: s-maj=14.4km s-min=11.3km az=153.0*

ISC 03 11:15:19.3±0.6, 5°.43S±0°.06×145°.99E±0°.08, h69km, n51, σ1§47/52, mb4.1/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.12**	**164**	P	**Pn**	**11 16 20.9**	**+1.2**
	27nm,0.3s,baz=18,slow=5.8,SNR=80						
PMG				S	**Sn**	**11 17 07.6**	**+0.9**
	48nm,0.3s,baz=288,slow=22,SNR=14						
PMG				LR	LR	11 18 37.4	
	comp=Z,151nm,19.7s,baz=24,slow=47						
PMG	**Port Moresby**	**4.12**	**164**		**Pn**	**11 16 20.6**	**+0.8**
PMG	**Port Moresby**	**4.12**	**164**	P	**Pn**	**11 16 21.2**	**+1.4**
JAY	**Jayapura**	**6.01**	**299**	P	**Pn**	**11 16 45.9**	**+0.1**
	0.7nm,0.3s,baz=139,slow=11,SNR=2.2						
JAY				S	**Sn**	**11 17 57.7**	**+4.4**
	1.2nm,0.3s,baz=122,slow=15,SNR=2.0						
JAY				LR	LR	11 19 43.8	
	comp=Z,93nm,18.2s,baz=100,slow=44						
RABL	**Rabaul**	**6.28**	**79**	Pn	Pn	11 16 56.9	+7.5
RABL	**Rabaul**	**6.28**	**79**	P	Pn	11 16 57.2	+7.8
COEN	**Coen**	**8.91**	**198**		**Pn**	**11 17 26.6**	**+1.2**
COEN	**Coen**	**8.91**	**198**	P	**Pn**	**11 17 27.0**	**+1.6**
MTSU	**Mount Surprise**	**12.73**	**187**	P	**Pn**	**11 18 19.7**	**+2.2**
CTA	**Charters Tower**	**14.57**	**179**	P	**Pn**	**11 18 43.0**	**+1.1**
	0.4nm,0.3s,baz=349,slow=12,SNR=1.8						
CTAO	**Charters Tower**	**14.57**	**179**	Pn	**P**	**11 18 44.2**	**-2.5**
KDU	**Kakadu**	**15.16**	**241**	P	**Pn**	**11 18 48.5**	**-1.1**
SIJI	**Sorong**	**15.38**	**287**	P	**Pn**	**11 18 50.9**	**-1.5**
	0.3nm,0.3s,baz=162,slow=20,SNR=1.3						
MTN	**Manton Dam**	**16.40**	**242**		**P**	**11 19 05.4**	**-1.6**
MTN				IAmb	IAmb	11 19 06.1	
	comp=Z,17nm,0.6s						
MTN	**Manton Dam**	**16.40**	**242**	P	**P**	**11 19 06.0**	**-1.0**
DRS	**Darwin Rock St**	**16.44**	**244**	P	**P**	**11 19 06.8**	**-0.6**
WB0	**Warramunga Arr**	**18.18**	**217**	P	**Pn**	**11 19 26.7**	**-0.4**
WB0				IAmb	IAmb	11 19 27.6	
	comp=Z,5.1nm,1.0s						
WR0	**Warramunga Arr**	**18.23**	**217**	P	**Pn**	**11 19 26.7**	**-1.1**
WR0				IAmb	IAmb	11 19 29.0	
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**18.33**	**217**	P	**Pn**	**11 19 27.9**	**-1.1**
WRAB				IAmb	IAmb	11 19 56.0	
	comp=Z,5.9nm,1.1s						
WRAB	**Tennant Creek**	**18.33**	**217**	P	**Pn**	**11 19 28.6**	**-0.3**
WB2	**Warramunga Arr**	**18.34**	**217**	P	**Pn**	**11 19 28.0**	**-1.0**
WB2				IAmb	IAmb	11 19 48.5	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**18.34**	**217**	P	**P**	**11 19 26.8**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=36,slow=11,SNR=47						
WRA	**Warramunga Arr**	**18.34**	**217**	P	**Pn**	**11 19 27.9**	**-1.2**
KNRA	**Kununurra**	**19.74**	**238**	P	**Pn**	**11 19 43.1**	**-2.6**
AS31	**Alice Springs**	**21.54**	**212**	P	**P**	**11 20 03.8**	**+0.7**
ASAR	**Alice Springs**	**21.54**	**212**	P	**P**	**11 20 02.6**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=40,slow=7.5,SNR=29						
ASAR				S	**S**	**11 23 54.4**	**-3.9**
	comp=Z,0.8nm,1.0s,baz=26,slow=22,SNR=3.5						
ASAR				PcP	**PcP**	**11 24 03.8**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=44,slow=1.4,SNR=4.7						
ASAR				LR	LR	11 27 30.0	
	comp=Z,52nm,21.7s,baz=50,slow=34						
ASAR	**Alice Springs**	**21.54**	**212**	P	**P**	**11 20 02.9**	**-0.2**
INKA	**Innaminka**	**22.74**	**192**	P	**P**	**11 20 17.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**23.53**	**236**	P	**P**	**11 20 24.3**	**+0.7**
	comp=Z,23nm,1.0s,baz=47,slow=9.8,SNR=34						
OOD	**Oodnadatta**	**24.30**	**203**	P	**P**	**11 20 30.5**	**+0.1**
DZM	**Mont Dzumac**	**25.79**	**132**	P	**P**	**11 20 45.4**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=257,slow=18,SNR=2.1						
DZM	**Mont Dzumac**	**25.79**	**132**	P	**P**	**11 20 44.7**	**+0.6**
DZM				IAmb	IAmb	11 20 57.7	
	comp=Z,10nm,1.1s						
WRKA	**Warakurna**	**25.85**	**219**	P	**P**	**11 20 44.5**	**-0.1**
STKA	**Stephens Creek**	**26.63**	**188**	P	**P**	**11 20 53.7**	**+2.2**
	comp=Z,2.3nm,0.7s,baz=3.1,slow=12,SNR=2.8						
STKA				LR	LR	11 31 29.0	
	comp=Z,60nm,19.2s,baz=24,slow=36						
STKA	**Stephens Creek**	**26.63**	**188**	P	**P**	**11 20 54.3**	**+2.8**
MORW	**Morawa**	**36.81**	**227**	P	**P**	**11 22 20.7**	**-0.1**
KSRS	**Korea Array**	**45.87**	**340**	LR	LR	11 42 09.4	
	comp=Z,10nm,18.6s,baz=0.0,slow=35						
PETK	**Petropavlovsk-**	**59.16**	**8**	P	**P**	**11 25 12.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=156,slow=5.1,SNR=6.4						
PETK	**Petropavlovsk-**	**59.16**	**8**	P	**P**	**11 25 11.8**	**-1.0**
SEY	**Seymchan**	**68.35**	**3**	P	**P**	**11 26 12.2**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=210,slow=20,SNR=4.8						
VNDA	**Vanda**	**72.53**	**176**	P	**P**	**11 26 39.1**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=350,slow=6.1,SNR=1.8						
VNDA	**Vanda**	**72.53**	**176**	P	**P**	**11 26 38.8**	**+0.4**
IMAR	**Indian Mountai**	**83.32**	**21**	P	**P**	**11 27 38.2**	**-0.2**
QSPA	**South Pole Qui**	**84.53**	**180**	P	**P**	**11 27 44.9**	**+0.2**
QSPA				IAmb	IAmb	11 27 53.1	
	comp=Z,5.9nm,1.5s						
I23K	**Minto, Yukon-K**	**84.56**	**23**	P	**P**	**11 27 44.5**	**-0.1**
I23K				IAmb	IAmb	11 28 10.6	
	comp=Z,6.2nm,1.4s						
IL31		**85.36**	**23**	P	**P**	**11 27 47.4**	**-1.2**
IL31				IAmb	IAmb	11 27 49.2	
	comp=Z,3.5nm,0.9s						
ILAR	**Eielson Array**	**85.36**	**23**	P	**P**	**11 27 47.0**	**-1.7**
	comp=Z,2.0nm,0.6s,baz=251,slow=5.1,SNR=25						
ILAR	**Eielson Array**	**85.36**	**23**	P	**P**	**11 27 47.4**	**-1.3**
BMAR	**Burnt Mountain**	**87.23**	**21**	P	**P**	**11 27 57.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**143.97**	**285**	PKP	**PKPdf**	**11 34 49.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=90,slow=2.9,SNR=3.7						
DBIC	**Dimbokro**	**150.98**	**274**	PKPbc	**PKPbc**	**11 35 04.9**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=330,slow=1.9,SNR=4.1						

KRSC 03 11:36:00.5±1.9, 55°.43N×166°.05E, h40km±14km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.23**	**191**	*eP*	Pn	11 36 08.5	+0.4
BKI				*eS*	Sn	11 36 13.9	+0.2
KBTR	**Krutoberegovo**	**1.98**	**295**	*eP*	Pn	11 36 32.1	+0.6
KBTR				*eS*	Sn	11 36 55.6	+0.6
KBG	**Krutoberegovo**	**2.06**	**295**	*eS*	Sn	11 36 58.8	+1.9
MKZ	**Mys Kozlova**	**2.64**	**252**	*eP*	Pn	11 36 43.7	+3.3
MKZ				*eS*	Sn	11 37 15.6	+4.5
SMKR	**Semkarok**	**2.82**	**296**	*eP*	Pn	11 36 45.1	+2.1
SMKR				*eS*	Sn	11 37 19.1	+3.3
BDR	**Baidarnaya**	**2.95**	**295**	*eP*	Pn	11 36 48.4	+3.6
TUMD	**Tumrok D**	**3.24**	**268**	*eP*	Pn	11 36 53.0	+4.3
TUMD				*eS*	Sn	11 37 33.5	+7.5
KMNR	**Kamenistaya**	**3.31**	**278**	*eP*	Pn	11 36 55.0	+5.2
TUMR	**Tumrok**	**3.37**	**270**	*eP*	Pn	11 36 55.0	+4.3
KII	**Karymskiy**	**4.07**	**253**	*eP*	Pn	11 37 04.8	+4.6
KII				*eS*	Sn	11 37 51.6	+5.0
SPN	**Mys Shipunski**	**4.23**	**239**	*eP*	Pn	11 37 05.5	+3.1
SPN				*eS*	Sn	11 37 53.4	+2.9
SDLR	**Sedlovina**	**4.71**	**246**	*eP*	Pn	11 37 13.9	+4.8
SDLR				*eS*	Sn	11 38 08.0	+5.5
SMAR	**Somma**	**4.76**	**246**	*eP*	Pn	11 37 14.7	+4.9
KRER	**Koryakskii**	**4.77**	**246**	*eP*	Pn	11 37 15.2	+5.3
KRER				*eS*	Sn	11 38 08.9	+4.9
UGLR	**Uglovaya**	**4.78**	**245**	*eP*	Pn	11 37 14.9	+4.9
UGLR				*eS*	Sn	11 38 10.1	+6.0
AVH	**Avacha**	**4.79**	**246**	*eP*	Pn	11 37 15.4	+5.2
AVH				*eS*	Sn	11 38 10.4	+6.0
KOK	**Koryaka**	**4.83**	**247**	*eP*	Pn	11 37 15.8	+5.1
PET	**Petropavlovsk**	**4.96**	**244**	S	Sn	11 38 12.7	+4.3
GNL	**Ganaly**	**5.03**	**253**	*eP*	Pn	11 37 19.0	+5.6
KRMR	**Karymshinskiy**	**5.33**	**244**	*eP*	Pn	11 37 22.5	+5.0
KRMR				*eS*	Sn	11 38 22.5	+4.9
RUS	**Russkaya**	**5.37**	**239**	*eP*

PB01 eS Sn 12 22 35.5 +1.0
PB01 IAML 12 22 35.9
comp=Z,7μm,0.2s
PB11 IPOC Station P 1.11 311⇑ iP Pn 12 22 21.4 +0.4
PB11 i S Sn 12 22 38.9 +0.2
PB11 IAML 12 22 40.1
comp=N,17μm,0.6s
PB11 IPOC Station P 1.11 311 eP Pn 12 22 21.0 0.0
PB11 eS Sn 12 22 39.5 +0.8
PB11 IAML 12 22 42.5
comp=Z,6μm,0.4s
TA02 Huaiquique 1.30 279⇑ iP Pn 12 22 23.3 +0.5
TA02 i S Sn 12 22 41.8 -0.1
TA02 Huaiquique 1.30 279 Pn 12 22 23.3 +0.5
TA02 Huaiquique 1.30 279 eP Pn 12 22 23.0 +0.2
TA02 eS Sn 12 22 43.2 +1.3
TA02 IAML 12 22 44.9
comp=Z,8μm,0.1s
TA01 Diego Aracena 1.33 266⇑ iP Pn 12 22 23.3 +0.2
TA01 eS Sn 12 22 42.0 -0.6
TA01 IAML 12 22 43.3
comp=E,3μm,0.6s
TA01 Diego Aracena 1.33 266 eP Pn 12 22 23.0 -0.1
TA01 eS Sn 12 22 43.5 +1.0
TA01 IAML 12 22 45.2
comp=Z,2μm,0.2s
PB09 IPOC Station P 1.38 199⇑ iP Pn 12 22 25.1 +1.2
PB09 i S Sn 12 22 45.4 +1.6
PB09 IPOC Station P 1.38 199 eP Pn 12 22 25.0 +1.2
PB09 eS Sn 12 22 46.2 +2.4
PB09 IAML 12 22 48.4
comp=Z,2μm,0.4s
PB07 IPOC Station P 1.62 220⇑ iP Pn 12 22 27.2 +0.6
PB07 i S Sn 12 22 49.0 +0.2
PB07 IAML 12 22 49.4
comp=N,5μm,0.3s
PB07 IPOC Station P 1.62 220 eP Pn 12 22 27.0 +0.4
PB07 eS Sn 12 22 43.5 -5.2
PB07 eS 12 22 50.1
PB07 IAML 12 22 52.6
comp=Z,3μm,0.4s
PB03 IPOC Station P 1.81 211⇑ iP Pn 12 22 29.5 +0.6
PB03 i S Sn 12 22 53.1 +0.4
PB03 IAML 12 22 56.8
comp=E,2μm,0.3s
PB03 IPOC Station P 1.81 211 eP Pn 12 22 29.0 +0.1
PB03 eS Sn 12 22 53.8 +1.1
PB03 IAML 12 22 57.9
comp=Z,2μm,0.6s
LVC Limon Verde 2.12 184 P Pn 12 22 34.4 +1.6
comp=Z,42nm,0.3s,baz=20,slow=12,SNR=181
LVC S Sn 12 23 01.6 +1.7
comp=Z,121nm,0.3s,baz=331,slow=8.0,SNR=25
LVC LR LR 12 23 19.2
comp=Z,144nm,18.6s,baz=334,slow=38
LVC Limon Verde 2.12 184⇑ iP Pn 12 22 34.4 +1.6
LVC i S Sn 12 23 01.4 +1.6
LVC Limon Verde 2.12 184 eP Pn 12 22 34.3 +1.5
LVC Limon Verde 2.12 184 eP Pn 12 22 34.0 +1.1
LVC eS Sn 12 23 03.1 +3.2
PB04 IPOC Station P 2.24 215⇑ iP Pn 12 22 34.5 +0.2
PB04 i S Sn 12 23 01.8 -0.7
PB04 IAML 12 23 09.3
comp=E,2μm,0.6s
PB04 IPOC Station P 2.24 215 eP Pn 12 22 35.0 +0.7
PB04 eS Sn 12 23 02.4 -0.1
PB04 IAML 12 23 15.4
comp=Z,1μm,0.7s
PB16 IPOC Station P 2.25 342⇑ iP Pn 12 22 36.3 +1.4
PB16 i S Sn 12 23 04.8 +1.5
PB16 IAML 12 23 07.6
comp=E,1μm,0.6s
PB16 IPOC Station P 2.25 342 eP Pn 12 22 36.0 +1.1
PB16 eS Sn 12 23 07.3 +4.0
PB16 IAML 12 23 08.9
comp=Z,790nm,0.4s
PB06 IPOC Station P 2.33 199⇑ eP Pn 12 22 36.1 +0.6
PB06 eS Sn 12 23 03.5 -0.9
PB06 IAML 12 23 12.7
comp=E,1μm,0.5s
PB06 IPOC Station P 2.33 199 eP Pn 12 22 36.0 +0.6
PB06 eS Sn 12 23 05.5 +1.1
PB06 IAML 12 23 14.2
comp=Z,829nm,0.5s
PB12 IPOC Station P 2.38 321⇑ iP Pn 12 22 35.5 -0.5
PB12 eS Sn 12 23 04.4 -1.0
PB12 IAML 12 23 11.1
comp=E,3μm,0.4s
PB12 IPOC Station P 2.38 321 eP Pn 12 22 35.0 -1.0
PB12 eS Sn 12 23 06.4 +1.0
PB12 IAML 12 23 13.8
comp=Z,1μm,0.8s
AP01 Chacalluta 2.58 324⇑ eP Pn 12 22 38.2 -0.2
AP01 eS Sn 12 23 07.9 -1.9
AP01 Chacalluta 2.58 324 Pn 12 22 38.3 -0.2
AP01 Chacalluta 2.58 324 eP Pn 12 22 38.0 -0.4
AP01 IAML 12 23 15.5
comp=Z,2μm,0.2s
PB05 IPOC Station P 2.71 209⇑ eP Pn 12 22 40.3 +0.1
PB05 eS Sn 12 23 11.3 -1.7
PB05 IAML 12 23 14.9
comp=E,693nm,0.8s
PB05 IPOC Station P 2.71 209 eP Pn 12 22 35.0 -5.2
PB05 eP Pn 12 22 40.0 -0.2
PB05 eS Sn 12 23 12.4 -0.6
PB05 IAML 12 23 23.6
comp=Z,493nm,0.5s
PB15 IPOC Station P 2.78 194 eP Pn 12 22 42.4 +1.1
PB15 eS Sn 12 23 16.1 +1.1
PB15 IPOC Station P 2.78 194 eP Pn 12 22 42.0 +0.7
PB15 eS Sn 12 23 16.6 +1.6
PB15 IAML 12 23 23.2
comp=Z,2μm,0.3s
PB10 IPOC Station P 3.44 209 eP Pn 12 22 49.1 -0.6
PB10 IPOC Station P 3.44 209 eP Pn 12 22 49.3 -0.4
PB10 eS Sn 12 23 16.0 -14
PB10 eS Sn 12 23 28.0 -2.0
YJA Yavi 3.46 120 eP Pn 12 22 53.0 +2.6
HJA Humahuaca 4.13 132 eP Pn 12 23 02.0 +2.8
LPAZ La Paz 4.22 8 P Pn 12 23 02.4 +1.7
comp=Z,10nm,0.3s,baz=161,slow=6.5,SNR=240
LPAZ S Sn 12 23 44.6 -5.0
comp=Z,2.9nm,0.3s,baz=230,slow=16,SNR=2.0
LPAZ La Paz 4.22 8 eP Pn 12 23 03.0 +2.3
PB14 IPOC Station P 4.39 200 eP Pn 12 23 02.0 -0.6
PB14 eS Sn 12 23 51.1 -2.0
PB14 IAML 12 23 53.7
comp=Z,166nm,0.4s
AZAP Zapla 5.05 138 eP Pn 12 23 13.0 +1.5
SLA San Lorenzo 5.18 145 eP Pn 12 23 15.0 +1.9
ASTB Santa Barbara 5.27 132 eP Pn 12 23 15.0 +0.6
ASTB eP Pn 12 23 15.5 +1.1
ALOL LOMAS DE OLMED 5.53 128 eS Sn 12 24 20.0 -0.2
AC02 Maricunga 6.33 183 Pn Pn 12 23 28.6 -0.3
AC02 Maricunga 6.33 183 eS Sn 12 24 39.7 -0.4
AHML Horco Molle 7.01 154 eP Pn 12 23 40.0 +2.3
GO03 Copiap 7.20 190 Pn 12 23 40.0 -0.2
GO03 Copiap 7.20 190 eS Sn 12 24 56.9 -3.7
SIV San Ignacio 8.57 60 P Pn 12 23 56.2 -2.6
comp=Z,11nm,0.3s,baz=250,slow=9.5,SNR=231
ACLC CERRO LA CRUZ 9.05 170 eP Pn 12 24 04.5 -0.8
ACLC IAML 12 25 58.5
comp=Z,7.9nm,3.7s
AROD Rodeo 9.66 184 eP Pn 12 24 13.0 -0.7
AROD eS Sn 12 25 54.0 -6.5
AROD eS Sn 12 25 54.0 -6.5
ACCO Cerro Coronel 10.06 181 eS Sn 12 26 05.0 -5.3
PTLB Pontes e Lacer 10.44 63 eP Pn 12 24 21.1 -3.0
PTLB Pontes e Lacer 10.44 63 Pn Pn 12 24 21.7 -2.3
VILB Vilhena 11.11 49 eP Pn 12 24 30.8 -2.2
VILB Vilhena 11.11 49 Pn Pn 12 24 31.0 -2.0
NNA Nana 11.47 316 P Pn 12 24 40.2 +2.4
comp=Z,1.1nm,0.3s,baz=80,slow=18,SNR=2.1
NNA S Sn 12 26 44.9 +0.7
comp=Z,1.0nm,0.3s,baz=210,slow=18,SNR=1.8
CPUP Villa Florida 12.00 121 P Pn 12 24 43.8 -0.9
comp=Z,0.8nm,0.3s,baz=309,slow=12,SNR=20
CPUP Villa Florida 12.00 121 Pn 12 24 43.7 -1.0
AQDB Aquidauana 12.25 92 Pn Pn 12 24 46.5 -1.5
MT02 Curacav 12.89 189 Pn 12 24 56.0 -0.4
SALV Santo Antonio 13.23 72 eP Pn 12 24 58.5 -2.4
PP1B Ponte de Pedra 13.44 80 eP Pn 12 25 02.8 -0.8
BO01 Tunca 14.00 188 Pn 12 25 10.4 -0.2
PDRB Porto dos Gac 14.54 54 eP Pn 12 25 17.0 -0.7
ML02 Panimavida 15.39 188 Pn 12 25 28.7 +0.5
ML02 IAmb IAmb 12 25 33.2
comp=Z,27nm,0.8s
TBTG Tabatinga, AM 16.24 356 eP P 12 25 40.0 +0.3
PCMB Pacaembu 16.38 97 eP P 12 25 40.9 -0.3
ITAB Concordia 16.62 117 eP P 12 25 43.9 +0.1
ITAB Concordia 16.62 117 P 12 25 44.4 +0.6
ITRB Iturama 17.31 91 eP Pn 12 25 51.8 0.0
PLTB Pedras Altas 17.62 133 eP P 12 25 54.8 -0.1
FRTB Fartura 18.04 103 eP Pn 12 26 00.2 -0.5
SNDB Serra Nova Dou 18.78 66 eP P 12 26 07.4 -0.1
TIJ01 Guaruva-PR 18.82 109 eP Pn 12 26 09.2 -0.8
TER01 Tubaro-SC 19.56 118 eP P 12 26 15.8 -0.2
IPMB Ipameri, GO 19.57 86 eP P 12 26 15.8 -0.4
RCLB Rio Claro- Sao 19.86 99 eP P 12 26 18.7 -0.6
PET01 Itanhaem-SP 20.22 105 eP P 12 26 23.7 +0.5
PLCA Paso Flores 20.24 184 P P 12 26 24.2 +1.0
comp=Z,7.5nm,0.8s,baz=4.3,slow=12,SNR=15
PLCA Paso Flores 20.24 184 eP Pn 12 26 25.4 -0.9
PLCA Paso Flores 20.24 184 P P 12 26 23.7 +0.5
PLCA IAmb IAmb 12 26 28.7
comp=Z,9.8nm,0.9s
BDFB Brasilia 20.30 80 P P 12 26 21.4 -2.7
comp=Z,5.6nm,0.4s,baz=255,slow=10,SNR=13
BDFB Brasilia 20.30 80 P P 12 26 23.2 -1.0
BDFB IAmb IAmb 12 26 28.0
comp=Z,6.8nm,0.7s
VAO Valinhos 20.40 101 eP P 12 26 24.4 -0.8
PEXB Peixe 21.32 70 eP P 12 26 34.0 -1.0
PTGA Pitinga 21.44 25 P P 12 26 33.1 -3.1
comp=Z,3.2nm,0.4s,baz=213,slow=21,SNR=13
PARB Paraibuna 21.65 102 eP P 12 26 37.4 -1.2
SMTB Santa Maria do 23.49 64 eP P 12 26 55.7 -1.0
DIAM Diamantina, MG 23.76 89 eP P 12 26 58.6 -0.7
MC01 Montes Claros 23.82 85 eP P 12 26 58.9 -0.7
BOAV Boa Vista 24.14 21 P P 12 27 02.5 +0.1
SDBA SAO DESIDERIO 24.23 74 eP P 12 27 02.4 -1.0
SJMB Sao Joao De Ma 26.03 91 eP P 12 27 20.9 +1.2
RIB01 Linhares ES 26.69 92 eP P 12 27 25.4 -0.2
TMAB Tom-Au,PA,Br 27.04 51 eP P 12 27 29.6 +0.9
GUA01 Guaratinga, BA 27.71 87 eP P 12 27 34.8 0.0
ZARC Zaragoza, Cauc 28.44 347 P P 12 27 40.1 -1.0
MDP Montagnes des 29.96 34 P P 12 27 51.8 -2.8
comp=Z,14nm,0.9s,baz=202,slow=11,SNR=1.5
RCBR Riachuelo 35.06 70 P P 12 28 39.1 -0.1
LIC Lamto 67.98 74 eP P 12 32 43.3 -0.8
comp=Z,15nm,0.8s
TIC Toumodi 68.16 74 eP P 12 32 44.7 -0.6
KIC Kosan Boka 68.29 74 eP P 12 32 45.6 -0.5
comp=Z,20nm,0.6s
DBIC Dimbokro 68.32 74 P P 12 32 45.9 -0.3
comp=Z,10nm,0.6s,baz=237,slow=5.5,SNR=21
DBIC Dimbokro 68.32 74 P P 12 32 45.7 -0.5
QSPA South Pole Qui 69.70 180 P P 12 32 56.3 +2.3
QSPA IAmb IAmb 12 33 18.6
comp=Z,9.9nm,1.5s
KOWA Kowa 72.49 67 P P 12 33 10.9 -0.7
KOWA IAmb IAmb 12 33 11.7
comp=Z,4.5nm,0.7s
PDAR Pinedale Array 73.31 330 P P 12 33 16.9 +0.8
comp=Z,0.2nm,0.6s,baz=108,slow=7.7,SNR=2.5
PDAR Pinedale Array 73.31 330 P P 12 33 16.1 0.0
HWUT Hardware Ranch 73.40 328 P P 12 33 17.9 +1.2
HWUT IAmb IAmb 12 33 20.9
comp=Z,2.6nm,0.8s
NVAR Mina Array Bea 74.79 322 P P 12 33 26.0 +1.2
comp=Z,0.6nm,0.7s,baz=153,slow=6.1,SNR=3.9
NVAR pP pP 12 33 57.4 +0.8
comp=Z,0.7nm,0.7s,baz=130,slow=5.6,SNR=4.1
TORD Torodi Ar. Bea 76.89 70 P P 12 33 36.5 -0.5
comp=Z,5.2nm,0.7s,baz=253,slow=5.6,SNR=44
TORD pP pP 12 34 07.1 -1.6
comp=Z,4.3nm,0.9s,baz=256,slow=5.5,SNR=5.5
VNDA Vanda 77.86 190 P P 12 33 44.3 +2.9
VNDA IAmb IAmb 12 34 02.7
comp=Z,9.8nm,1.5s
PLID Pearl Lake 78.15 328 P P 12 33 45.1 +1.4
BOSA Boshof 83.80 118 P P 12 34 14.0 0.0
comp=Z,0.9nm,0.4s,baz=278,slow=5.3,SNR=8.5
BOSA Boshof 83.80 118 P P 12 34 15.1 +1.1
BOSA IAmb IAmb 12 34 16.2
comp=Z,3.3nm,1.1s
YKA Yellowknife Ar 90.28 341 P P 12 34 45.3 +1.1
comp=Z,1.5nm,0.6s,baz=132,slow=4.4,SNR=49
YKA pP pP 12 35 17.1 +0.2
comp=Z,2.9nm,0.9s,baz=138,slow=4.5,SNR=8.1
YKA sP sP 12 35 29.5 -0.6
comp=Z,2.5nm,0.8s,baz=136,slow=4.6,SNR=7.4
YKA Yellowknife Ar 90.28 341 P P 12 34 44.9 +0.6
ASAR Alice Springs 130.87 208 PKP PKPdf 12 40 55.7 +0.2
comp=Z,0.4nm,0.4s,baz=128,slow=1.9,SNR=15
WRA Warramunga Arr 133.89 211 PKP PKPdf 12 41 01.7 +0.5
comp=Z,0.6nm,0.6s,baz=158,slow=1.7,SNR=10.0
WRA Warramunga Arr 133.89 211 PKiK 12 41 02.1 -0.4
ZALV Zalesovo Beam 140.98 25 PKP PKiK 12 41 14.7 -1.2
comp=Z,0.9nm,0.8s,baz=280,slow=2.5,SNR=4.0
KLR Kul'dur 146.97 335 PKPbc PKPbc 12 41 25.6 -0.3
comp=Z,0.7nm,0.5s,baz=210,slow=1.5,SNR=4.1
USRK Ussuriysk Ar. 150.73 329 PKPbc PKiK 12 41 36.8 +0.6
comp=Z,1.8nm,0.6s,baz=145,slow=32,SNR=2.1
USRK Ussuriysk Ar. 150.73 329 PKiK 12 41 36.1 -0.1
MJAR Matsushiro Arr 151.54 310 PKPbc PKiK 12 41 38.7 +0.5
comp=Z,1.4nm,0.8s,baz=50,slow=4.8,SNR=2.4
MJAR Matsushiro Arr 151.54 310 PKPbc 12 41 37.9 +0.1
SONM Songino Array 152.44 7 PKPbc PKiK 12 41 41.0 +1.2
comp=Z,0.4nm,0.6s,baz=301,slow=3.0,SNR=2.2

NNC 03 12:33:48.9±5.8, 36°.71N×70°.77E, h0km, mb3.7, mpv3.4, 1C-5D, Error ellipse: s-maj=47.0km s-min=42.7km az=139.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.39**	**358**	⇓P	Pn	12 35 25.5	+1.3
	0.8nm,0.4s,baz=182,slow=16						
KK02				⇓S	Sn	12 36 39.3	+1.5
	1.0nm,0.5s,baz=184,slow=19						
AAK	**Ala-Archa**	**6.58**	**25**	⇑P	Pn	12 35 26.7	-0.3
	1.5nm,0.4s						
AAK				⇓S	Sn	12 36 43.6	+0.8
	1.7nm,0.9s						
TKM2	**Tokmak 2**	**7.23**	**29**	⇓P	Pn	12 35 35.1	-0.8
	2.7nm,0.8s						
TKM2				⇓S	Sn	12 36 59.7	+0.9
	0.9nm,0.8s						

SOME ***03*** *12:38:28.0, 39°.78N×81°.13E, h20km*
IDC ***03*** *12:38:29.4±0.6, 39°.89N×82°.67E, h0km, mb3.9/17, mb1 4.1/22, mb1mx3.9/52, mbtmp3.9/22, ML3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/91, Error ellipse: s-maj=17.9km s-min=12.8km az=46.0*
MOS ***03*** *12:38:31.9±0.9, 39°.88N×82°.58E, h28km, mb4.4/9, Error ellipse: s-maj=11.8km s-min=5.7km az=111.7*
NNC ***03*** *12:38:34.0±2.8, 40°.10N×82°.57E, h5km±20km, mb4.5, mpv4.3, Error ellipse: s-maj=24.8km s-min=18.4km az=10.0*

ISC 03 12:38:30.7±0.5, 39°.84N±0°.05×82°.59E±0°.04, h10km, n87, σ2S46/114, mb4.1/25, 20C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**4.19**	**327**	P	Pn	12 39 36.1	+1.3
PDGK				S	Sn	12 40 25.1	+1.2
PDGK	**Podgornoye**	**4.19**	**327**	⇑P	Pn	12 39 36.1	+1.3
	33nm,0.5s						
PDGK				⇑S	Sn	12 40 25.2	+1.2
	46nm,0.5s						
UZB	**Uzynbulak**	**4.26**	**322**	eP	Pn	12 39 37.7	+2.0
UZB	**Uzynbulak**	**4.26**	**322**	eP	Pn	12 39 37.4	+1.7
	12nm,0.2s						
UZB				eS	Sn	12 40 27.4	+1.9
	92nm,0.3s						
SATY	**Saty**	**4.50**	**317**	eP	Pn	12 39 40.6	+1.5
	8.6nm,0.0s						
SATY				eS	Sn	12 40 32.5	+1.0
	72nm,0.2s						
ZHN	**Zhinishke**	**4.56**	**318**	eP	Pn	12 39 41.5	+1.6
	38nm,0.2s						
ZHN				eS	Sn	12 40 34.6	+1.6
	310nm,0.3s						
KPKS	**Kokpek**	**4.66**	**322**	eP	Pn	12 39 43.3	+2.1
KPKS	**Kokpek**	**4.66**	**322**	eP	Pn	12 39 42.8	+1.6
	23nm,0.1s						
KPKS				eS	Sn	12 40 36.4	+1.1
	162nm,0.1s						
KSH	**Kashi**	**5.12**	**269**	Pn	Pn	12 39 54.1	+6.6
KSH				sP	Pb	12 40 03.1	+2.7
KSH				Sn	Sb	12 40 55.3	-6.6
KSH				pmax	pmax		
	comp=Z,16nm,0.5s						
KSH				smax	smax		
	comp=N,280nm,0.7s						
KSH				smax	smax		
	comp=E,320nm,0.6s						
BLB	**Baldybastay**	**5.25**	**326**	eP	Pn	12 39 50.3	+1.0
	comp=E,33nm,0.4s						
BLB				eS	Sn	12 40 49.7	-0.2
	comp=E,145nm,0.3s						
TNSS	**Tian-Shan**	**5.31**	**309**	eP	Pn	12 39 51.5	+1.1
	comp=E,3.9nm,0.1s						
TNSS				eS	Sn	12 40 51.5	-0.3
	comp=E,27nm,0.5s						
MDOK	**Medeo**	**5.33**	**310**	P	Pn	12 39 51.2	+0.8
MDOK	**Medeo**	**5.33**	**310**	eP	Pn	12 39 53.6	+3.2
	comp=E,14nm,0.1s						
MDOK				eS	Sn	12 40 54.8	+2.9
	comp=E,141nm,0.5s						
MDOK	**Medeo**	**5.33**	**310**	Pn	Pn	12 39 51.2	+0.8
	comp=E,12nm,0.6s						
MDOK				Lg	Lg	12 41 15.7	
	comp=E,88nm,0.4s						
KOTS	**Kotyrbulak**	**5.33**	**311**	eP	Pn	12 39 52.9	+2.4
	comp=E,27nm,0.3s						
KOTS				eS	Sn	12 40 53.5	+1.5
	comp=E,104nm,0.3s						
WMQ	**Urumqi**	**5.51**	**42**	ePn	Pn	12 39 58.2	+5.3
WMQ				Sn	Sn	12 41 01.4	+5.1
WMQ				smax	smax		
	comp=N,200nm,0.7s						
WMQ				smax	smax		
	comp=E,190nm,0.9s						
ARXS	**Arharly**	**5.63**	**322**	eP	Pn	12 39 55.3	+0.8
ARXS	**Arharly**	**5.63**	**322**	eP	Pn	12 39 59.2	+4.7
	comp=E,8.0nm,0.3s						
ARXS				eS	Sn	12 41 04.9	+5.6
	comp=E,35nm,0.2s						
MTBS	**Maitube**	**5.68**	**307**	eP	Pn	12 39 58.6	+3.4
	comp=E,21nm,0.3s						
MTBS				eS	Sn	12 41 03.3	+2.8
	comp=E,66nm,0.1s						
CHKK	**Chushkaly**	**5.80**	**316**	eP	Pn	12 39 59.1	+2.3
	comp=E,16nm,0.2s						
CHKK				eS	Sn	12 41 04.6	+1.3
	comp=E,54nm,0.3s						
KTBS	**Karatobe**	**5.87**	**313**	eP	Pn	12 39 59.7	+1.9
	comp=E,10nm,0.1s						
KTBS				eS	Sn	12 41 05.4	+0.2
	comp=E,48nm,0.1s						
KST	**Kastek**	**5.92**	**305**	eP	Pn	12 40 00.7	+2.2
	comp=E,28nm,0.5s						
KST				eS	Sn	12 41 06.9	+0.4
	comp=E,79nm,0.5s						
TDK	**Taldyqorghan**	**6.02**	**330**	eP	Pb	12 40 12.4	-3.2
	comp=E,42nm,0.7s						
TDK				eS	Sb	12 41 27.2	-0.5
	comp=E,127nm,0.6s						
TKM2	**Tokmak 2**	**6.10**	**303**	P	Pn	12 40 01.7	+0.7
TKM2	**Tokmak 2**	**6.10**	**303**	⇑Pn	Pn	12 40 01.8	+0.7
	comp=E,5.1nm,0.5s						
TKM2				⇑Lg	Lg	12 41 43.2	
	comp=E,32nm,0.6s						
DGS	**Degeres**	**6.14**	**306**	eP	Pn	12 40 04.4	+2.8
	comp=E,40nm,0.4s						
DGS				eS	Sn	12 41 13.8	+1.8
	comp=E,70nm,0.2s						
AAK	**Ala-Archa**	**6.71**	**297**	Sn	Sn	12 41 22.1	-3.9
	comp=E,2.4nm,0.3s,baz=84,slow=19,SNR=1.8						
AAK				Lg	Lg	12 42 03.4	
	comp=E,2.1nm,0.3s,baz=303,slow=22,SNR=2.1						
AAK	**Ala-Archa**	**6.71**	**297**	*i* P	Pn	12 40 11.6	+2.1
AAK				pmax	pmax		
	comp=Z,11nm,0.3s						
AAK	**Ala-Archa**	**6.71**	**297**	⇑Pg	Pg	12 40 36.7	-2.5
	comp=Z,23nm,0.8s						
AAK				⇑Lg	Lg	12 41 59.9	
	comp=Z,50nm,0.9s						
MK31	**Makanchi Array**	**6.96**	**358**	P	Pn	12 40 13.6	+0.9
MK31						12 41 30.4	
MK31	**Makanchi Array**	**6.96**	**358**	⇑Pn	Pn	12 40 13.6	+0.9
	comp=Z,11nm,0.3s,baz=177,slow=11,SNR=1083						
MK31				⇑Sn	Sn	12 41 29.9	-1.9
	comp=Z,20nm,0.6s,baz=176,slow=17,SNR=5.7						
MKAR	**Makanchi Array**	**6.96**	**358**	Pn	Pn	12 40 13.1	+0.4
	comp=Z,4.0nm,0.3s,baz=180,slow=13,SNR=70						
MKAR				Sn	Sn	12 41 30.4	-1.4
	comp=Z,7.3nm,0.3s,baz=181,slow=24,SNR=9.3						
MKAR				Lg	Lg	12 42 12.5	
	comp=Z,1.1nm,0.3s,baz=188,slow=26,SNR=1.7						
MKAR	**Makanchi Array**	**6.96**	**358**	*i* P	Pn	12 40 13.6	+0.9
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MAKZ	**Makanchi**	**6.98**	**357**	P	Pn	12 40 14.9	+1.9
MAKZ						12 41 30.5	
MAKZ	**Makanchi**	**6.98**	**357**	⇑Pn	Pn	12 40 15.0	+1.9
	comp=Z,17nm,0.3s						
MAKZ				⇑Sn	Sn	12 41 30.5	-1.9
	comp=Z,37nm,0.8s						
GOMU	**GeErMu**	**10.30**	**107**	P	Pn	12 40 59.5	+0.6
GOMU				S	Sn	12 42 53.3	-1.4
GOMU				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GOMU				LR	LR		
	comp=N,120nm,5.0s						
GOMU				LR	LR		
	comp=E,110nm,5.9s						
GOMU				LR	LR		
	comp=Z,80nm,5.0s						
DGZ	**Jazzator, Alta**	**10.44**	**18**	*i* P	Pn	12 41 01.4	+0.8
KURBB	**Kurchatov Arra**	**11.16**	**347**	Pn	Pn	12 41 10.2	+0.1
	comp=Z,0.1nm,0.3s,baz=172,slow=12,SNR=17						
KURBB				Sn	Sn	12 43 10.4	-4.4
	comp=Z,0.1nm,0.3s,baz=172,slow=34,SNR=3.0						
KURBB				Lg	Lg	12 44 27.3	
	comp=Z,0.1nm,0.3s,baz=156,slow=26,SNR=4.4						
KURBB	**Kurchatov Arra**	**11.16**	**347**	P	Pn	12 41 10.8	+0.7
KURBB						12 43 11.2	
KURBB	**Kurchatov Arra**	**11.16**	**347**	⇓Pn	Pn	12 41 10.8	+0.7
	comp=Z,3.2nm,0.7s						
KURBB				⇑Sn	Sn	12 43 11.2	-3.6
OTUK	**Ortayu**	**11.18**	**322**	P	Pn	12 41 08.3	-2.2
OTUK	**Ortayu**	**11.18**	**322**	⇑Pn	Pn	12 41 08.3	-2.2
	comp=Z,5.6nm,0.8s						
OTUK				⇑Lg	Lg	12 44 21.3	
	comp=Z,10.0nm,0.9s						
KURK	**Kurchatov**	**11.23**	**347**	*i* P	Pn	12 41 11.9	+0.8
KURK	**Kurchatov**	**11.23**	**347**	⇑Pn	Pn	12 41 11.8	+0.6
	comp=Z,3.2nm,0.6s						
KURK				⇑Sn	Sn	12 43 15.0	-1.7
	comp=Z,6.0nm,1.1s						
GTA	**Gaotai**	**13.29**	**86**	⇑P	Pn	12 41 38.2	-1.3
GTA				pP	P	12 41 42.7	-6.6
GTA				pmax	pmax		
	comp=Z,12nm,0.5s						
GTA				pmax	pmax		
	comp=Z,59nm,4.9s						
GTA				smax	smax		
	comp=N,14nm,1.0s						
GTA				smax	smax		
	comp=E,9.0nm,1.1s						
GTA				LR	LR		
	comp=N,150nm,11.6s						
GTA				LR	LR		
	comp=E,150nm,11.6s						
GTA				LR	LR		
	comp=Z,130nm,12.4s						
ZALV	**Zalesovo Beam**	**14.20**	**5**	Pn	Pn	12 41 49.3	-2.4
	comp=Z,0.4nm,0.3s,baz=188,slow=13,SNR=26						
ZALV				Sn	Sn	12 44 22.7	-6.4
	comp=Z,0.3nm,0.3s,baz=183,slow=23,SNR=3.1						
ZALV	**Zalesovo Beam**	**14.20**	**5**	*i* P	Pn	12 41 49.7	-2.0
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVAR	**Borovoye Array**	**15.61**	**332**	Pn	P	12 42 15.3	+0.4
	comp=Z,0.4nm,0.3s,baz=156,slow=15,SNR=8.4						
AB31	**Akbulak array**	**18.63**	**308**	eP	P	12 42 47.9	-0.3
SONM	**Songino Array**	**18.89**	**57**	P	P	12 42 51.7	+0.4
	comp=Z,0.8nm,0.3s,baz=255,slow=12,SNR=16						
SONM				S	Sn	12 46 19.1	-4.2

comp=Z,0.1nm,0.3s,baz=254,slow=7.3,SNR=2.2
SONM LR LR 12 51 04.4
comp=Z,43nm,19.2s,baz=105,slow=40
GEYT Alibeck 19.14 272 P **P 12 42 54.5 +0.5**
comp=Z,0.2nm,0.3s,baz=87,slow=9.1,SNR=6.5
ULN Ulaanbaatar 19.32 57 *ce*P **Pn 12 42 58.9 +1.8**
ULN pmax pmax
comp=Z,7.0nm,1.0s
AKTO Aktyubinsk 20.23 310 P **P 12 43 05.1 -0.6**
comp=Z,0.6nm,0.3s,baz=102,slow=11,SNR=2.4
XAN Xi'an 21.79 97 P **P 12 43 24.3 +1.5**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN pmax pmax
comp=Z,100nm,4.5s
SVE Sverdlovsk 22.24 327 *e*P **P 12 43 31.8 +4.4**
SVE pmax pmax
comp=Z,13nm,0.9s
ARU Arti 22.89 324 P **P 12 43 33.2 -1.1**
comp=Z,0.5nm,0.4s,baz=131,slow=19,SNR=1.9
ARU Arti 22.89 324 *d i*P **P 12 43 33.7 -0.6**
ARU S **S 12 47 41.9 -2.0**
ARU pmax pmax
comp=Z,14nm,2.6s
GYA Guiyang 24.08 116 ⇑P **P 12 43 48.1 +1.6**
GYA pmax pmax
comp=Z,10.0nm,1.1s
CMAR Chiang Mai Arr 25.57 142 P **P 12 43 58.5 -1.4**
comp=Z,3.1nm,0.7s,baz=321,slow=9.3,SNR=36
CMAR Chiang Mai Arr 25.57 142 *e*P **P 12 44 00.6 +0.7**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
WSAR Wadi Sarin 26.16 238 P **P 12 44 07.5 +2.3**
comp=Z,3.4nm,0.5s,baz=329,slow=0.5,SNR=2.0
BELG Belogornoye 27.01 309 P **P 12 44 12.8 +0.2**
comp=Z,5.7nm,0.7s,baz=90,slow=1.0,SNR=3.0
BELG Belogornoye 27.01 309 *i*P **P 12 44 13.9 +1.3**
BELG pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 29.66 291 *i*P **P 12 44 35.2 -1.1**
KBZ pmax pmax
comp=Z,7.0nm,1.3s
NRIK Noril'sk 29.68 4 *i*P **P 12 44 35.0 -1.3**
NRIK pmax pmax
comp=Z,6.0nm,1.8s
KIV Kislovodsk 29.78 291 ⇑*e*P **P 12 44 37.0 -0.6**
KIV *e* 12 45 31.8
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,26nm,15.0s
KSRS Korea Array 35.20 79 P **P 12 45 24.7 -0.2**
comp=Z,0.5nm,0.5s,baz=288,slow=9.6,SNR=4.4
KSRS Korea Array 35.20 79 *e*P **P 12 45 25.2 +0.3**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
YAK Yakutsk 35.92 36 *ce*P **P 12 45 32.1 +1.3**
YAK pmax pmax
comp=Z,5.0nm,0.5s
BRTR Keskin Array B 37.24 286 P **P 12 45 42.8 +0.3**
comp=Z,1.0nm,0.7s,baz=81,slow=7.6,SNR=3.8
MNK Minsk 38.94 311 *i*P P 12 45 47.7 -8.8
MNK *i* 12 47 58.3
MNK *i*S S 12 51 42.7 -12
MNK *i*SS **SnSn 12 54 36.1 -9.0**
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK pmax pmax
comp=N,18nm,0.9s
MNK MLR MLR
comp=N,19nm,8.0s
MNK MLR MLR
comp=Z,22nm,8.0s
MNK MLR MLR
comp=E,4.0nm,10.0s
MNK Minsk 38.94 311 *i*P P 12 45 47.8 -8.8
comp=E,2.0nm,1.0s
MNK *i*P P 12 45 47.8 -8.8
comp=N,18nm,0.9s
MNK *i*P P 12 45 47.8 -8.8
comp=Z,5.0nm,0.8s,baz=89
MNK *i*PP **PP 12 47 17.1 -8.5**
MNK *i*PPP PPP 12 47 38.5
MNK *i*S S 12 51 42.7 -12
MNK *i*SS **SnSn 12 54 36.2 -8.9**
MNK *i*SSS SSS 12 54 54.5
MNK *i*LQ LQ 12 58 17.1
MNK *i*LR LR 13 01 17.4
MNK *i*LRM MLR 13 03 32.1
comp=N,19nm,8.2s
MNK *i*LRM MLR 13 03 32.6
comp=Z,22nm,7.7s
MNK *i*LRM MLR 13 03 44.8
comp=E,4.0nm,10.4s
FINES FINESS Array B 40.21 322 P **P 12 46 06.8 -0.2**
comp=E,2.4nm,0.7s,baz=108,slow=6.2,SNR=5.1
FINES FINESS Array B 40.21 322 *e*P **P 12 46 07.6 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 41.89 334 P **P 12 46 22.1 +1.3**
comp=Z,1.3nm,0.6s,baz=101,slow=8.4,SNR=7.1
NB2 NORSAR Subarra 47.38 321 P **P 12 47 05.4 +0.6**
comp=Z,0.7nm,0.5s,baz=82,slow=7.9
NOA NORSAR Array B 47.38 321 P **P 12 47 05.3 +0.6**
comp=Z,1.4nm,0.7s,baz=87,slow=7.6,SNR=5.7
GERES GERESS Array B 48.53 305 P **P 12 47 14.0 +0.1**
comp=Z,0.6nm,0.5s,baz=60,slow=8.4,SNR=4.1
ILAR Eielson Array 68.77 20 P **P 12 49 34.8 +0.3**
comp=Z,0.8nm,0.8s,baz=313,slow=5.0,SNR=11
ILAR Eielson Array 68.77 20 *e*P **P 12 49 35.1 +0.7**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 68.83 14 P **P 12 49 34.8 +0.1**
comp=Z,1.6nm,1.1s,baz=354,slow=4.7,SNR=4.4
TORD Torodi Ar. Bea 74.76 274 P **P 12 50 12.3 +1.0**
comp=Z,0.5nm,0.7s,baz=36,slow=4.7,SNR=2.6
WRA Warramunga Arr 76.58 131 P **P 12 50 21.7 +0.3**
comp=Z,1.1nm,0.5s,baz=315,slow=4.0,SNR=33
WRA Warramunga Arr 76.58 131 *e*P **P 12 50 22.0 +0.6**
WRA pmax pmax
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 77.08 8 P **P 12 50 23.7 0.0**
comp=Z,0.8nm,0.6s,baz=338,slow=5.8,SNR=25
YKA Yellowknife Ar 77.08 8 *e*P **P 12 50 24.0 +0.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 79.25 133 P **P 12 50 36.6 +0.4**
comp=Z,1.1nm,0.5s,baz=321,slow=5.4,SNR=21

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*SOME **03** 12:38:48.7, 40°.73N×72°.65E, h5km*
*NNC **03** 12:38:50.2±2.9, 40°.77N×72°.64E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=24.4km s-min=9.4km az=169.0*
*KRNET **03** 12:38:52.5±0.1, 40°.82N×72°.62E, h22km, mb2.5*
*ISU **03** 12:38:52, 40°.80N×72°.70E, h5km*
ISC 03 12:38:51.2±1.3, 40°.84N±0°.03×72°.70E±0°.03, h9km±12km, n21, σ0°93/37, 15C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.33**	**168**	*e*P	**Pb**	**12 38 59.0**	**-0.3**
OHH				*e*S	**Sb**	**12 39 04.0**	**-0.7**
OHH	**Osh**	**0.33**	**168**	⇑*i*P	**Pb**	**12 38 59.6**	**+0.3**
OHH	baz=57			⇑*i*S	**Sb**	**12 39 04.5**	**-0.2**
SFK	**Sufi-Kurgan**	**1.03**	**143**	⇓*e*P	**Pn**	**12 39 12.3**	**+0.1**
SFK	baz=40			⇓*e*S	**Sn**	**12 39 26.3**	**-0.6**
ARK	**Arkit**	**1.10**	**330**	⇑*i*P	**Pn**	**12 39 13.1**	**+0.1**
ARK	baz=34			⇑*i*S	**Sb**	**12 39 27.7**	**+0.6**
TRKS	**Terek-Say**	**1.36**	**301**	⇑*i*P	**Pn**	**12 39 16.0**	**-0.6**
TRKS	baz=1.0			⇑*i*S	**Sb**	**12 39 32.3**	**-2.3**
DRK	**Karamyk**	**1.52**	**207**	⇑*i*P	**Pb**	**12 39 19.6**	**-0.3**
DRK	baz=5.0			⇑*i*S	**Sn**	**12 39 39.1**	**0.0**
ARLS	**Aral**	**1.59**	**50**	⇑*i*P	**Pg**	**12 39 22.4**	**+0.6**
ARLS	baz=51			⇑*i*S	**Sg**	**12 39 43.7**	**+1.3**
BTK	**Batken**	**1.63**	**242**	*i*P	**Pb**	**12 39 22.0**	**+0.4**
BTK				*i*S	**Sg**	**12 39 44.0**	**+0.3**
BTK	**Batken**	**1.63**	**242**	⇓*e*P	**Pn**	**12 39 20.9**	**+0.6**
BTK	baz=42			⇓*i*S	**Sn**	**12 39 41.9**	**+0.4**
MNAS	**Manas**	**1.65**	**355**	⇑*e*P	**Pg**	**12 39 22.5**	**-0.4**
MNAS	baz=57			⇑*i*S	**Sg**	**12 39 44.6**	**+0.3**
MRKS	**Merke**	**1.94**	**12**	*e*P	**Pg**	**12 39 27.9**	**-0.6**
MRKS	2.1nm,0.2s			*e*S	**Sg**	**12 39 55.3**	**+1.7**
MRKS	**Merke**	**1.94**	**12**	Pg	**Pg**	**12 39 28.0**	**-0.4**
MRKS	2.5nm,0.4s			Lg	Lg	12 39 55.3	
UCH	**Uchtor**	**1.94**	**44**	⇑*e*P	**Pg**	**12 39 27.5**	**-1.0**
UCH	baz=45			⇑*i*S	**Sg**	**12 39 52.5**	**-1.2**
EKS2	**Erkin-Say**	**1.99**	**24**	⇓*e*P	**Pb**	**12 39 27.7**	**0.0**
EKS2	baz=25			⇓*i*S	**Sb**	**12 39 53.1**	**+0.5**
CHMG	**Chimgan**	**2.15**	**290**	*e*S	**Sb**	**12 39 59.0**	**+1.8**
AAK	**Ala-Archa**	**2.24**	**36**	⇑Pg	**Pb**	**12 39 32.1**	**+0.1**
AAK	2.2nm,0.4s			⇓Lg	Lg	12 40 03.3	
IUG	**Iuzhnay**	**2.39**	**304**	*e*P	**Pb**	**12 39 34.3**	**-0.2**
IUG	4.2nm,0.4s 46nm,0.4s			*e*S	**Sb**	**12 40 05.8**	**+1.7**
IUG	**Iuzhnay**	**2.39**	**304**	Pg	**Pb**	**12 39 34.3**	**-0.2**
IUG	52nm,0.1s 103nm,0.5s			Lg	Lg	12 40 05.8	
SGDS	**Sogindy**	**2.98**	**28**	*e*P	**Pg**	**12 39 47.2**	**-1.0**
SGDS	0.8nm,0.2s			*e*S	**Sg**	**12 40 28.2**	**+1.3**
BRLS	**Borolday**	**3.05**	**317**	*e*P	**Pb**	**12 39 44.5**	**-1.3**
BRLS	3.0nm,0.5s 0.5nm,0.3s			*e*S	**Sb**	**12 40 23.2**	**0.0**
BRLS	**Borolday**	**3.05**	**317**	Pg	**Pb**	**12 39 44.5**	**-1.3**
BRLS	6.5nm,0.2s 0.8nm,0.3s			Lg	Lg	12 40 23.2	
	6.6nm,0.4s						

MAN 03 12:54:47.3, 18°.02N×121°.17E, h27km, mb4.2, ML3.0, MS2.6, Luzon

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*IDC **03** 13:11:57.4±2.0, 2°.62N×92°.29E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.3/37, mbtmp3.7/6, ML3.6/3, MS2.5/1, Ms1 2.7/1, ms1mx2.2/83, Error ellipse: s-maj=51.8km s-min=25.9km az=40.0*
ISC 03 13:12:02.4±1.4, 2°.7N±0°.2×92°.39E±0°.10, h35km, n6, σ1°61/7, mb3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.53**	**89**	Pn	**Pn**	**13 13 37.8**	**+1.6**
PSI	1.4nm,0.3s,baz=273,slow=6.2,SNR=12 1.0nm,0.3s,baz=159,slow=5.8,SNR=1.8			Sn	**Sn**	**13 14 46.9**	**-2.6**
PALK	**Pallekele**	**12.51**	**292**	Pn	**Pn**	**13 14 57.2**	**-0.8**
PALK	0.2nm,0.3s,baz=192,slow=14,SNR=1.7 1.4nm,0.3s,baz=357,slow=4.1,SNR=6.5			Sn	Sn	13 17 03.0	-13
CMAR	**Chiang Mai Arr**	**16.95**	**22**	Pn	**Pn**	**13 15 57.4**	**+0.3**
CMAR	0.1nm,0.3s,baz=212,slow=13,SNR=8.0 comp=Z,15nm,18.8s,baz=190,slow=35			LR	LR	13 21 57.8	
MKAR	**Makanchi Array**	**44.82**	**350**	P	**P**	**13 20 13.2**	**+0.2**
	0.6nm,0.8s,baz=172,slow=9.4,SNR=4.9						
WRA	**Warramunga Arr**	**46.90**	**121**	P	**P**	**13 20 29.9**	**+0.1**
	0.4nm,0.8s,baz=300,slow=8.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**51.49**	**354**	P	**P**	**13 21 04.5**	**+0.2**
	0.9nm,0.5s,baz=183,slow=8.8,SNR=4.8						

TAP 03 13:22:54.5, 22°.90N×120°.91E, h8km, ML2.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**0.17**	**116**	P	Pg	13 22 58.0	-0.1
TWGBT	baz=116			S	Sg	13 23 00.7	+0.2
LONT	**Longtian**	**0.20**	**87**	P	Pg	13 22 58.5	-0.2
LONT	baz=86			*e*S	Sg	13 23 01.3	-0.1
TTN	**Taitung**	**0.26**	**123**	*e*P	Pg	13 22 59.8	+0.1
TTN	baz=122			*e*S	Sg	13 23 03.8	+0.7
SSD	**Sandimen**	**0.30**	**240**	P	Pg	13 22 59.8	-0.6
ECL	**Taimali**	**0.30**	**172**	*i*P	Pg	13 23 00.3	-0.1
ECL	baz=170			S	Sg	13 23 05.0	+0.6
STYH	**Taoyuan**	**0.30**	**336**	P	Pg	13 22 59.9	-0.5
STYH	baz=335			*e*S	Sg	13 23 05.1	+0.6
ELDTW	**Lidau**	**0.31**	**18**	P	Pg	13 22 59.8	-0.9
ELDTW	baz=19			*e*S	Sg	13 23 05.3	+0.6
TSMG	**Majia**	**0.31**	**233**	P	Pg	13 23 00.2	-0.5
TSMG	baz=232			*e*S	Sb	13 23 06.2	-1.4
SGST	**Jiashian**	**0.35**	**302**	P	Pg	13 23 00.7	-0.8
SGST	baz=302			S	Sg	13 23 06.0	-0.2
EDH	**Donghe**	**0.37**	**78**	P	Pg	13 23 01.9	+0.1
EDH	baz=78			S	Sg	13 23 07.7	+1.0
MASBT	**Mashibuluo**	**0.38**	**222**	P	Pg	13 23 01.5	-0.4
MASBT	baz=222			S	Sg	13 23 07.0	0.0
SGLT	**Jiouru**	**0.42**	**246**	*e*P	Pg	13 23 02.9	+0.1
SGLT	baz=245			*e*S	Sg	13 23 08.7	+0.4
WTP	**Ta-pu**	**0.44**	**322**	*i*P	Pg	13 23 03.4	+0.2
WTP	baz=322			S	Sg	13 23 09.8	+0.8
CHN1	**Nanshi**	**0.46**	**309**	*e*P	Pg	13 23 03.2	-0.2
CHN1	baz=309			S	Sg	13 23 10.4	+1.0
TWM1	**Shoushan**	**0.46**	**261**	*e*P	Pg	13 23 03.2	-0.2
TWM1	baz=260			*e*S	Sg	13 23 09.8	+0.4
FULB	**Fuli**	**0.46**	**49**	P	Pg	13 23 03.6	+0.1
FULB	baz=49			*e*S	Sg	13 23 10.7	+1.1
CHKT	**Chengkung**	**0.47**	**64**	*e*P	Pg	13 23 03.6	+0.1
CHKT	baz=64			*e*S	Sb	13 23 11.1	-1.0
TPUB	**Ta-pu**	**0.48**	**327**	*i*P	Pg	13 23 04.0	+0.2
TPUB	baz=327			S	Sg	13 23 11.0	+0.9
SNST	**Tainan City**	**0.50**	**310**	*e*P	Pg	13 23 04.3	+0.1
SNST	baz=310			*e*S	Sg	13 23 11.2	+0.4
EAST	**Anshuo**	**0.51**	**187**	P	Pg	13 23 04.3	-0.2
EAST	baz=185			S	Sg	13 23 12.1	+0.9
SSPT	**Xinbi**	**0.52**	**218**	P	Pg	13 23 04.6	0.0
SSPT	baz=217			S	Sg	13 23 12.2	+0.9
CHN3	**Shinhua**	**0.53**	**290**	*e*P	Pg	13 23 04.9	+0.1
CHN3	baz=289			*e*S	Sb	13 23 13.2	-0.8
TAW	**Tawu**	**0.54**	**181**	*e*P	Pg	13 23 04.9	+0.1
TAW	baz=180			*e*S	Sg	13 23 12.4	+0.6
TWK	**Hsinying**	**0.54**	**314**	P	Pg	13 23 04.4	-0.5
TWK	baz=314			S	Sg	13 23 12.3	+0.3
LDUT	**Ludao**	**0.56**	**113**	P	Pg	13 23 05.3	0.0
LDUT	baz=113			S	Sb	13 23 14.1	-0.7
EYUL	**Yuli**	**0.59**	**40**	P	Pg	13 23 05.1	-0.7
EYUL	baz=39			*e*S	Sg	13 23 14.1	+0.6
SCZT	**Fangliau**	**0.59**	**207**	P	Pg	13 23 05.7	-0.1
SCZT	baz=206			S	Sg	13 23 14.1	+0.6
YULB	**Yu-li**	**0.61**	**36**	P	Pg	13 23 05.1	-1.2
YULB	baz=35			*e*S	Sg	13 23 15.2	+0.9
ALS	**Alishan**	**0.62**	**351**	P	Pg	13 23 06.0	-0.6
ALS	baz=351			S	Sg	13 23 15.1	+0.4
SLIU	**Shizi**	**0.68**	**189**	*e*P	Pg	13 23 07.5	-0.2
EHY	**Hungye**	**0.72**	**32**	P	Pg	13 23 07.9	-0.4
EHY	baz=32			*e*S	Sg	13 23 18.0	+0.3
SCLT	**Jiali**	**0.72**	**293**	*e*P	Pg	13 23 08.2	-0.1
SCLT	baz=292			*e*S	Sb	13 23 18.5	-0.8
CHN5	**Tsauling**	**0.73**	**343**	P	Pg	13 23 08.4	-0.2
ICHU	**Yijhu**	**0.74**	**309**	*e*P	Pg	13 23 08.4	-0.4
ICHU	baz=308			*e*S	Sb	13 23 19.3	-0.8
CHY	**Chiayi**	**0.75**	**323**	*e*P	Pg	13 23 08.3	-0.6
HGSD	**Ruisui**	**0.76**	**38**	P	Pg	13 23 08.7	-0.4
HGSD	baz=38			*e*S	Sb	13 23 19.8	-0.7
CHN8	**Yiju**	**0.79**	**305**	*e*P	Pg	13 23 09.0	-0.6
CHN8	baz=305			*e*S	Sg	13 23 20.3	+0.4
WDLH	**Douliu**	**0.86**	**337**	*e*P	Pg	13 23 10.6	-0.5
WDLH	baz=336			*e*S	Sb	13 23 23.1	-0.4
VWDT	**VWDT**	**0.88**	**14**	*e*P	Pg	13 23 10.7	-0.8
VWDT	baz=13			*e*S	Sg	13 23 23.2	+0.3
SSLB	**Suanglung**	**0.89**	**3**	*e*P	Pg	13 23 10.4	-1.3
SSLB	baz=2.0			*e*S	Sg	13 23 23.4	+0.2
HEN	**Hengchun**	**0.90**	**190**	*e*P	Pg	13 23 11.6	-0.3
HEN	baz=189			*e*S	Sg	13 23 23.9	+0.4
EGFH	**Guangfu**	**0.91**	**32**	*e*P	Pg	13 23 10.7	-1.2
EGFH	baz=31			*e*S	Sg	13 23 24.1	+0.4
WTK	**Tuku**	**0.92**	**329**	*e*P	Pg	13 23 11.8	-0.5
WTK	baz=328			*e*S	Sg	13 23 24.7	+0.4
WJS	**Zhushan**	**0.94**	**350**	*e*P	Pg	13 23 11.7	-0.9
WJS	baz=349			*e*S	Sb	13 23 25.4	-0.3
WSF	**Szhu**	**0.97**	**320**	*e*S	Sg	13 23 26.2	+0.3
SMLT	**Sun Moon Lake**	**0.98**	**359**	*e*P	Pg	13 23 12.5	-0.9
SMLT	baz=359			*e*S	Sg	13 23 26.3	+0.1
WNT	**Mingjian**	**1.00**	**348**	*e*P	Pg	13 23 12.9	-0.9
WNT	baz=348			*e*S	Sg	13 23 27.0	+0.3
TYC	**Yuchr**	**1.01**	**357**	*e*P	Pg	13 23 13.2	-0.6
TYC	baz=357			*e*S	Sg	13 23 27.2	+0.3
ESL	**Shilin**	**1.03**	**28**	*e*P	Pg	13 23 13.4	-1.0
ESL	baz=28			*e*S	Sg	13 23 27.4	-0.4
OWD	**Renai**	**1.08**	**13**	*e*P	Pg	13 23 14.2	-1.2
OWD	baz=13			*e*S	Sg	13 23 29.5	+0.1
LYUB	**Lan-yu**	**1.08**	**145**	*e*P	Pg	13 23 14.6	-0.8
LYUB	baz=144			*e*S	Sg	13 23 28.9	-0.5
WRL	**Guolierlin Hig**	**1.11**	**334**	*e*P	Pg	13 23 15.2	-0.8
WRL	baz=333			*e*S	Sg	13 23 30.4	-0.1
WCS	**Beigang Elemen**	**1.16**	**0**	*e*P	Pg	13 23 15.7	-1.0
WCS				*e*S	Sg	13 23 31.5	-0.2
CHGB	**Renai**	**1.19**	**12**	*e*P	Pg	13 23 15.9	-1.4
CHGB	baz=11			*e*S	Sg	13 23 32.1	-0.6
WDGT	**Dungji**	**1.21**	**288**	*e*P	Pb	13 23 16.7	-0.9
WDGT	baz=287			*e*S	Sg	13 23 33.4	-0.1
WHF	**Hehuan Shan**	**1.29**	**15**	*e*P	Pn	13 23 17.7	-1.6
WHF	baz=14			*e*S	Sg	13 23 35.3	-0.7
TWD	**Chiawan**	**1.34**	**28**	*e*P	Pn	13 23 18.4	-1.1
TWD	baz=28			*e*S	Sb	13 23 36.5	-0.6
PHUB	**P'eng-hu**	**1.38**	**297**	*e*P	Pn	13 23 18.8	-1.3
PHUB	baz=296			*e*S	Sb	13 23 37.4	-0.9
WHP	**Taichung City**	**1.38**	**1**	*e*P	Pn	13 23 18.6	-1.5
WHP	baz=1.0			*e*S	Sb	13 23 37.1	-1.3
FUSS	**Fushou**	**1.38**	**13**	*e*P	Pn	13 23 18.9	-1.5
FUSS	baz=12			*e*S	Sb	13 23 37.5	-1.2
VCHM	**Qimei**	**1.40**	**283**	*e*P	Pn	13 23 19.4	-1.0
VCHM	baz=282			*e*S	Sb	13 23 38.1	-0.9
ETLH	**Xiulin Townshi**	**1.41**	**22**	*e*P	Pn	13 23 19.4	-1.2
ETLH	baz=21			*e*S	Sb	13 23 38.2	-1.1
PNG	**Penghu**	**1.42**	**298**	*e*P	Pn	13 23 19.5	-1.1
PNG	baz=298			*e*S	Sb	13 23 38.2	-1.2
NACB	**Ninganchiao**	**1.42**	**26**	*e*P	Pn	13 23 19.5	-1.2
NACB	baz=26			*e*S	Sb	13 23 38.3	-1.2

	baz=26						
TWQ1	**Liyutan**	**1.45**	**355**	*e*P	Pn	13 23 20.2	-0.9
	baz=355						
TWQ1				*e*S	Sn	13 23 39.0	-1.4
	baz=355						
WDJ	**Dajia District**	**1.47**	**350**	*e*P	Pn	13 23 20.2	-1.1
	baz=350						
WDJ				*e*S	Sn	13 23 39.7	-1.1
	baz=350						
NNSB	**Datong**	**1.59**	**16**	*e*P	Pn	13 23 22.0	-1.1
	baz=15						
NNSB				*e*S	Sn	13 23 42.7	-1.2
	baz=15						
NNS	**Nan Shan**	**1.59**	**15**	*e*P	Pn	13 23 22.1	-1.1
	baz=15						
NNS				*e*S	Sn	13 23 42.6	-1.5
	baz=15						
NSTT	**Nanjuang**	**1.73**	**3**	*e*P	Pn	13 23 24.2	-0.8
	baz=2.0						
NSTT				*e*S	Sn	13 23 46.0	-1.3
	baz=2.0						
LIOB	**Emei**	**1.75**	**3**	*e*P	Pn	13 23 24.7	-0.5
	baz=3.0						
LIOB				*e*S	Sn	13 23 46.6	-1.0
	baz=3.0						
YHNB	**Yeheng**	**1.82**	**13**	*e*P	Pn	13 23 25.3	-0.9
	baz=13						
YHNB				*e*S	Sn	13 23 48.2	-1.4
	baz=13						
NSK	**Sanguang**	**1.82**	**13**	*e*P	Pn	13 23 25.9	-0.3
	baz=13						
NSK				*e*S	Sn	13 23 48.9	-0.7
	baz=13						
ENTT	**Nioudou**	**1.84**	**19**	*e*P	Pn	13 23 25.6	-0.8
	baz=19						
ENTT				*e*S	Sn	13 23 48.8	-1.2
	baz=19						
NDS	**Dongshan**	**1.88**	**23**	*e*P	Pn	13 23 26.5	-0.5
	baz=23						
NDS				*e*S	Sn	13 23 49.7	-1.2
	baz=23						
TWE	**Neicheng**	**1.94**	**21**	*e*P	Pn	13 23 26.9	-1.0
	baz=21						
NWLT	**Wulai**	**1.95**	**16**	*e*P	Pn	13 23 27.0	-1.0
	baz=16						
NWLT				*e*S	Sn	13 23 51.3	-1.4
	baz=16						
TIPB	**Shuangxi**	**2.23**	**22**	*e*P	Pn	13 23 31.2	-0.7
	baz=22						

TAP 03 13:23:03.2, 22°.91N×120°.96E, h5km, ML2.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**0.15**	**129**	P	Pg	13 23 06.5	+0.4
	baz=129						
TWGBT				S	Sg	13 23 09.4	+1.3
	baz=129						
LONT	**Longtian**	**0.16**	**91**	*i* P	Pg	13 23 07.1	+0.7
	baz=91						
LONT				*i* S	Sg	13 23 09.9	+1.4
	baz=91						
TTN	**Taitung**	**0.23**	**131**	*e*P	Pg	13 23 09.5	+1.7
	baz=132						
TTN				*e*S	Sg	13 23 13.4	+2.5
	baz=132						
ELDTW	**Lidau**	**0.28**	**11**	*e*P	Pg	13 23 09.5	+0.7
	baz=10.0						
ELDTW				*e*S	Sg	13 23 12.9	+0.3
	baz=10.0						
STYH	**Taoyuan**	**0.31**	**327**	*e*P	Pg	13 23 09.6	+0.4
	baz=325						
STYH				*e*S	Sg	13 23 13.7	+0.4
	baz=325						
ECL	**Taimali**	**0.31**	**180**	*e*P	Pg	13 23 09.9	+0.7
	baz=181						
ECL				*e*S	Sg	13 23 14.5	+1.1
	baz=181						
EDH	**Donghe**	**0.33**	**79**	*e*P	Pb	13 23 10.7	-0.8
	baz=74						
EDH				*e*S	Sb	13 23 16.1	-1.0
	baz=74						
SSD	**Sandimen**	**0.34**	**241**	*e*P	Pb	13 23 11.1	-0.7
	baz=241						
SGST	**Jiashian**	**0.38**	**297**	*e*P	Pb	13 23 11.9	-0.6
	baz=297						
MASBT	**Mashibuluo**	**0.42**	**225**	*e*P	Pb	13 23 12.3	-0.9
	baz=221						
MASBT				*e*S	Sg	13 23 18.1	+1.2
	baz=221						
CHKT	**Chengkung**	**0.42**	**63**	*e*P	Pb	13 23 13.0	-0.2
	baz=63						
CHKT				*e*S	Sb	13 23 19.4	-0.4
	baz=63						
FULB	**Fuli**	**0.42**	**47**	*e*P	Pg	13 23 12.3	+0.9
	baz=30						
FULB				*e*S	Sb	13 23 18.7	-1.3
	baz=30						
SCST	**Cishan**	**0.43**	**267**	*e*P	Pb	13 23 12.8	-0.5
	baz=261						
SCST				*e*S	Sb	13 23 19.9	-0.1
	baz=261						
SGLT	**Jiouru**	**0.47**	**247**	*e*P	Pb	13 23 13.3	-0.6
	baz=247						
CHN1	**Nanshi**	**0.48**	**305**	*e*S	Sb	13 23 21.6	0.0
	baz=309						
TPUB	**Ta-pu**	**0.49**	**322**	*e*S	Sb	13 23 22.3	+0.4
	baz=319						
TWM1	**Shoushan**	**0.50**	**260**	*e*P	Pb	13 23 14.4	-0.1
	baz=253						
TWM1				*e*S	Sb	13 23 22.8	+0.6
	baz=253						
SNST	**Tainan City**	**0.52**	**306**	*e*P	Pb	13 23 14.7	-0.2
	baz=310						
SNST				*e*S	Sb	13 23 23.1	+0.3
	baz=310						
LDUT	**Ludao**	**0.53**	**116**	P	Pb	13 23 14.7	-0.3
	baz=119						
LDUT				S	Sb	13 23 23.2	+0.3
	baz=119						
EAST	**Anshuo**	**0.53**	**191**	*e*P	Pg	13 23 14.1	+0.6
	baz=194						
EAST				*e*S	Sg	13 23 21.1	+0.6
	baz=194						
EYUL	**Yuli**	**0.55**	**37**	*e*P	Pb	13 23 15.3	-0.1
	baz=22						
EYUL				*e*S	Sb	13 23 23.7	+0.1
	baz=22						
SSPT	**Xinbi**	**0.56**	**220**	*e*P	Pb	13 23 15.4	0.0
	baz=214						
SSPT				*e*S	Sb	13 23 24.1	+0.4
	baz=214						
TWK	**Hsinying**	**0.56**	**310**	*e*S	Sb	13 23 23.7	-0.2
	baz=313						
YULB	**Yu-li**	**0.57**	**33**	*e*S	Sg	13 23 22.6	+0.8
	baz=28						
ALS	**Alishan**	**0.61**	**347**	*e*P	Pb	13 23 16.3	-0.3
	baz=344						
ALS				*e*S	Sb	13 23 25.5	-0.2
	baz=344						
SCZT	**Fangliau**	**0.62**	**210**	*e*P	Pb	13 23 16.1	-0.4
	baz=212						
SCZT				*e*S	Sb	13 23 25.8	+0.3
	baz=212						
SLIU	**Shizi**	**0.71**	**192**	*e*P	Pb	13 23 17.9	-0.1
	baz=195						
SLIU				*e*S	Sb	13 23 29.0	+0.9
	baz=195						
HGSD	**Ruisui**	**0.72**	**37**	*e*P	Pb	13 23 18.4	+0.1
	baz=24						
HGSD				*e*S	Sb	13 23 29.3	+0.8
	baz=24						
CHN5	**Tsauling**	**0.73**	**340**	*e*P	Pb	13 23 18.6	+0.1
	baz=336						
CHN5				*e*S	Sb	13 23 29.7	+0.8
	baz=336						
CHY	**Chiayi**	**0.76**	**320**	*e*P	Pb	13 23 19.2	+0.2
	baz=320						
WLCH	**Liuqiu**	**0.77**	**224**	*e*P	Pn	13 23 21.0	+0.2
	baz=217						
WLCH				*e*S	Sn	13 23 32.7	0.0
	baz=217						
VWDT	**VWDT**	**0.86**	**11**	*e*P	Pg	13 23 19.8	+0.1
	baz=7.0						
VWDT				*e*S	Sb	13 23 32.2	-0.2
	baz=7.0						
WDLH	**Douliu**	**0.86**	**334**	*e*P	Pb	13 23 21.4	+0.6
	baz=333						
EGFH	**Guangfu**	**0.87**	**30**	*e*P	Pb	13 23 21.0	+0.1
	baz=21						
SSLB	**Suanglung**	**0.87**	**360**	*e*P	Pb	13 23 20.7	-0.2
	baz=359						
SSLB				*e*S	Sb	13 23 34.1	+1.2
	baz=359						
TYC	**Yuchr**	**0.99**	**355**	*e*P	Pb	13 23 23.2	+0.2
	baz=360						
TYC				*e*S	Sn	13 23 37.9	-0.4
	baz=360						
WNT	**Mingjian**	**0.99**	**346**	*e*S	Sn	13 23 37.9	-0.4
	baz=342						
ESL	**Shilin**	**1.00**	**26**	*e*P	Pb	13 23 23.0	0.0
	baz=37						
OWD	**Renai**	**1.06**	**11**	*e*P	Pb	13 23 24.3	+0.2
	baz=16						
OWD				*e*S	Sb	13 23 39.2	+0.8
	baz=16						
CHGB	**Renai**	**1.16**	**10**	*e*P	Pb	13 23 26.1	+0.2
	baz=14						
CHGB				*e*S	Sn	13 23 42.4	-0.4
	baz=14						
NACB	**Ninganchiao**	**1.39**	**25**	*e*P	Pn	13 23 28.6	-0.7
	baz=32						
NACB				*e*S	Sb	13 23 47.0	-0.7
	baz=32						
PHUB	**P'eng-hu**	**1.41**	**296**	*e*P	Pn	13 23 29.6	+0.1
	baz=293						
PHUB				*e*S	Sg	13 23 48.7	+0.2
	baz=293						
NNSB	**Datong**	**1.56**	**14**	*e*S	Sb	13 23 53.0	+0.1
	baz=18						
NNS	**Nan Shan**	**1.57**	**14**	*e*S	Sn	13 23 52.8	+0.1
	baz=18						

MAN ***03*** *13:24:25.8, 13°.38N×119°.36E, h36km, mb4.8, ML3.7, MS3.7*
IDC ***03*** *13:24:29.5±1.2, 12°.66N×119°.51E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.3/38, mbtmp3.7/5, Error ellipse: s-maj=67.6km s-min=21.0km az=75.0*
ISC 03 13:24:24.4±1.4, 13°.39N±0°.07×119°.4E±0°.1, h10km, n12, σ1§08/12, mb3.6/5, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.92**	**68**	⇑*e*P	**Pg**	**13 24 42.1**	**0.0**
LUBP				*e*S	**Sn**	**13 24 58.2**	**+1.5**
PGP	**Puerto Galera**	**1.55**	**86**	⇓*e*P	**Pn**	**13 24 52.2**	**+0.1**
PGP				*i* S	**Sn**	**13 25 10.8**	**-1.4**
TGY	**Tagaytay City**	**1.68**	**65**	*e*S	**Sn**	**13 25 15.3**	**-0.3**
TGY	**Tagaytay City**	**1.68**	**65**	*e*P	**Pn**	**13 24 54.0**	**0.0**
ENPP	**El Nido**	**2.17**	**178**	⇓*e*P	**Pn**	**13 25 01.4**	**+0.8**
ENPP				*i* S	**Sn**	**13 25 25.8**	**-1.8**
SMPP	**San Manuel, Pa**	**3.03**	**25**	*e*S	**Sn**	**13 25 47.5**	**-1.2**
SMPP	**San Manuel, Pa**	**3.03**	**25**	⇑*e*P	**Pn**	**13 25 12.6**	**+0.2**
KSRS	**Korea Array**	**25.16**	**16**	P	P	13 30 00.9	+11
	0.7nm,0.6s,baz=202,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**36.25**	**156**	P	**P**	**13 31 27.8**	**-0.2**
	0.7nm,0.7s,baz=332,slow=10,SNR=13						
ASAR	**Alice Springs**	**39.48**	**159**	P	**P**	**13 31 56.1**	**+0.9**
	1.1nm,0.6s,baz=336,slow=6.9,SNR=33						
MKAR	**Makanchi Array**	**45.52**	**325**	P	P	13 32 56.1	+12
	0.4nm,0.7s,baz=128,slow=8.0,SNR=4.5						
YKA	**Yellowknife Ar**	**93.56**	**22**	P	P	13 37 51.6	+11
	0.1nm,0.4s,baz=309,slow=4.2,SNR=5.6						

JMA ***03*** *14:01:29.8±0.2, 24°.54N×122°.06E, h74km±3km, M4.0*
NIED ***03*** *14:01:29.9, 24°.54N×122°.06E, h74km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.56; Mθθ=2.03; Mφφ=-1.47; Mrθ=0.65; Mθφ=-1.40; Mφr=-1.58; Fault plane solution: M0=2.86000×10^15 NP1: φs=331.00000°, δ=82.00000°, λ=-39.00000°. NP2: φs=67.00000°, δ=52.00000°, λ=-170.00000°.*
TAP ***03*** *14:01:30.5, 24°.60N×122°.08E, h66km, ML4.9, B*
NEIC ***03*** *14:01:30.3±2.2, 24°.61N±0°.04×122°.11E±0°.07, h70km±5km, mb4.4/54, ML4.6(TAP), Error ellipse: s-maj=9.6km s-min=6.4km az=92.0*
ASIES ***03*** *14:01:30.5, 24°.61N×122°.08E, h59km, MW4.1*
BJI ***03*** *14:01:30.6±0.0, 24°.63N×122°.00E, h57km, mb4.1/26, mB4.4/16, ML3.9/7, Ms3.9/4, Ms7 3.6/2*
IDC ***03*** *14:01:32.7±2.5, 24°.67N×122°.20E, h90km±24km, mb3.7/15, mb1 3.8/19, mb1mx3.6/53, mbtmp4.0/19, MS2.9/9, Ms1 3.0/9, ms1mx2.7/90, Error ellipse: s-maj=16.3km s-min=14.1km az=63.0*
ISC 03 14:01:30.2±0.6, 24°.60N±0°.02×122°.11E±0°.02, h70km±4km, n246, σ1§19/366, mb4.4/42, 40C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.24**	**273**	⇑*i*P	**Pn**	**14 01 41.0**	**0.0**
	baz=274						
TWC				*i* S	**Sn**	**14 01 48.4**	**-0.5**
	baz=274						
EGS		**0.30**	**326**	P	**Pn**	**14 01 41.7**	**+0.3**
	baz=338						
EGS				*e*S	**Sn**	**14 01 48.2**	**-1.3**
	baz=338						
EWUT	**Wuta**	**0.34**	**244**	⇑*i*P	**Pn**	**14 01 42.0**	**+0.3**
	baz=242						
EWUT				*i* S	**Sn**	**14 01 50.5**	**+0.5**
	baz=242						
NDS	**Dongshan**	**0.36**	**276**	⇑*i*P	**Pn**	**14 01 42.3**	**+0.5**
	baz=277						
NDS				*i* S	**Sn**	**14 01 50.1**	**-0.3**
	baz=277						
NTC	**Toucheng**	**0.36**	**315**	P	**Pn**	**14 01 41.8**	**0.0**
	baz=328						
NTC				S	**Sn**	**14 01 49.5**	**-0.8**
	baz=328						
ILA	**Ilan**	**0.37**	**297**	⇑*i*P	**Pn**	**14 01 42.2**	**+0.4**
	baz=300						
ILA				*i* S	**Sn**	**14 01 50.5**	**+0.1**
	baz=300						
ENA	**Nanau**	**0.38**	**244**	⇑*i*P	**Pn**	**14 01 42.2**	**+0.3**
	baz=241						
ENA				*i* S	**Sn**	**14 01 50.7**	**+0.1**
	baz=241						
TWB1	**Santiao Chiao**	**0.42**	**344**	*i* P	**Pn**	**14 01 42.2**	**-0.1**
	baz=345						
TWB1				*i* S	**Sn**	**14 01 50.3**	**-0.9**
	baz=345						
TWE	**Neicheng**	**0.42**	**287**	⇑*i*P	**Pn**	**14 01 42.8**	**+0.4**
	baz=289						
TWE				*i* S	**Sn**	**14 01 51.1**	**-0.1**
	baz=289						
EHP	**Heping Village**	**0.44**	**230**	P	**Pn**	**14 01 42.7**	**+0.2**
	baz=227						
EHP				S	**Sn**	**14 01 52.0**	**+0.5**
	baz=227						
TIPB	**Shuangxi**	**0.46**	**325**	⇑*i*P	**Pn**	**14 01 42.6**	**-0.1**
	baz=334						
TIPB				*i* S	**Sn**	**14 01 50.9**	**-0.9**
	baz=334						
ENTT	**Nioudou**	**0.50**	**275**	⇑*i*P	**Pn**	**14 01 43.6**	**+0.6**
	baz=279						
ENTT				*i* S	**Sn**	**14 01 53.1**	**+0.7**
	baz=279						
NDT	**Datong Townshi**	**0.55**	**271**	⇑*i*P	**Pn**	**14 01 44.1**	**+0.6**
	baz=274						
NDT				*i* S	**Sn**	**14 01 54.1**	**+0.8**
	baz=274						
NWF	**Wu-fen Shan**	**0.56**	**327**	⇑*i*P	**Pn**	**14 01 43.8**	**+0.1**
	baz=330						
NWF				*i* S	**Sn**	**14 01 52.9**	**-0.7**
	baz=330						
WFSB	**Wu-fen Shan**	**0.56**	**327**	⇑*i*P	**Pn**	**14 01 43.8**	**+0.2**
	baz=329						
WFSB				*i* S	**Sn**	**14 01 53.0**	**-0.5**
	baz=329						
NWLT	**Wulai**	**0.58**	**288**	P	**Pn**	**14 01 44.5**	**+0.6**
	baz=299						
NWLT				S	**Sn**	**14 01 54.4**	**+0.4**
	baz=299						
TWA	**Mucha**	**0.61**	**308**	⇑*i*P	**Pn**	**14 01 44.3**	**+0.1**
	baz=319						
TWA				*i* S	**Sn**	**14 01 53.9**	**-0.6**
	baz=319						
ETL	**Fush Village**	**0.62**	**226**	⇓P	**Pn**	**14 01 44.1**	**-0.3**
	baz=216						
ETL				*e*S	**Sn**	**14 01 54.3**	**-0.5**
	baz=216						
TNOU	**National Taiwa**	**0.63**	**331**	P	**Pn**	**14 01 44.2**	**-0.1**
	baz=326						
TNOU				S	**Sn**	**14 01 53.9**	**-0.9**
	baz=326						
NACB	**Ninganchiao**	**0.63**	**228**	⇑*i*P	**Pn**	**14 01 43.9**	**-0.5**
	baz=218						
NACB				S	**Sn**	**14 01 54.1**	**-0.8**
	baz=218						
NACB	**Ninganchiao**	**0.63**	**228**	Pn	**Pn**	**14 01 43.8**	**-0.6**
NACB				Sn	**Sn**	**14 01 54.1**	**-0.8**
NHDH	**Xindian Distri**	**0.65**	**304**	⇑*i*P	**Pn**	**14 01 44.8**	**+0.3**
	baz=313						
NHDH				*i* S	**Sn**	**14 01 54.8**	**-0.3**
	baz=313						
NHY	**Taipei**	**0.66**	**312**	*e*P	**Pn**	**14 01 44.9**	**+0.2**
	baz=323						
NHY				*e*S	**Sn**	**14 01 55.1**	**-0.3**
	baz=323						
YHNB	**Yeheng**	**0.68**	**276**	⇑*i*P	**Pn**	**14 01 45.4**	**+0.4**
	baz=277						
YHNB				S	**Sn**	**14 01 56.0**	**+0.2**
	baz=277						
YHNB	**Yeheng**	**0.68**	**276**	Pn	**Pn**	**14 01 45.3**	**+0.4**
YHNB				Sn	**Sn**	**14 01 55.0**	**-0.7**
TATO	**Taipei**	**0.68**	**304**	*e*P	**Pn**	**14 01 44.9**	**0.0**
	baz=312						
TATO				*e*S	**Sn**	**14 01 54.9**	**-0.8**
	baz=312						
TATO	**Taipei**	**0.68**	**304**	Pn	**Pn**	**14 01 44.9**	**0.0**
TATO				Sn	**Sn**	**14 01 54.6**	**-1.1**
NNSB	**Datong**	**0.69**	**256**	⇑*i*P	**Pn**	**14 01 45.3**	**+0.2**
	baz=249						
NNSB				S	**Sn**	**14 01 56.0**	**-0.1**
	baz=249						
NSK	**Sanguang**	**0.69**	**277**	⇑*i*P	**Pn**	**14 01 45.5**	**+0.4**
	baz=277						
NSK				*i* S	**Sn**	**14 01 56.2**	**+0.1**
	baz=277						
NNS	**Nan Shan**	**0.69**	**257**	⇑*i*P	**Pn**	**14 01 45.4**	**+0.2**
	baz=250						
NNS				*i* S	**Sn**	**14 01 56.0**	**-0.2**
	baz=250						
ETLH	**Xiulin Townshi**	**0.69**	**236**	P	**Pn**	**14 01 45.1**	**-0.1**
	baz=235						
ETLH				S	**Sn**	**14 01 55.9**	**-0.3**
	baz=235						
TWD	**Chiawan**	**0.70**	**223**	⇑*i*P	**Pn**	**14 01 44.8**	**-0.3**
	baz=215						
TWD				*i* S	**Sn**	**14 01 56.1**	**+0.1**
	baz=215						
TAP	**Taipei**	**0.71**	**309**	⇑*i*P	**Pn**	**14 01 45.3**	**+0.1**
	baz=318						
TAP				*i* S	**Sn**	**14 01 55.5**	**-0.7**
	baz=318						
BACT	**New Taipei Cit**	**0.73**	**303**	*e*P	**Pn**	**14 01 45.2**	**-0.2**
	baz=312						
YM01	**YM01**	**0.74**	**318**	⇑*i*P	**Pn**	**14 01 45.5**	**0.0**
	baz=319						
YM01				S	**Sn**	**14 01 56.1**	**-0.9**
	baz=319						
YM08	**YM08**	**0.76**	**321**	*e*P	**Pn**	**14 01 45.5**	**-0.3**
	baz=322						
YM08				*e*S	**Sn**	**14 01 55.7**	**-1.6**
	baz=322						
JYNG	**Yonagunijimaku**	**0.77**	**101**	P	**Pn**	**14 01 46.5**	**+0.6**
JYNG				S	**Sn**	**14 01 58.1**	**+0.6**
HWA	**Hwalien**	**0.77**	**217**	P	**Pn**	**14 01 46.1**	**+0.2**
	baz=207						
HWA				S	**Sn**	**14 01 58.6**	**+1.1**
	baz=207						
ANP	**Anpu**	**0.80**	**318**	P	**Pn**	**14 01 46.2**	**-0.2**
	baz=319						
ANP				S	**Sn**	**14 01 57.0**	**-1.2**
	baz=319						
TWS1	**Kuangyinshan**	**0.81**	**309**	⇓*i*P	**Pn**	**14 01 46.6**	**+0.3**
	baz=315						
TWS1				*i* S	**Sn**	**14 01 58.1**	**-0.1**
	baz=315						
TWY	**Chenhua**	**0.82**	**325**	⇓*i*P	**Pn**	**14 01 46.8**	**+0.2**
	baz=326						
TWY				S	**Sn**	**14 01 58.4**	**-0.1**
	baz=326						
NTST	**Danshui**	**0.83**	**313**	P	**Pn**	**14 01 47.0**	**+0.4**
	baz=320						
NTST				S	**Sn**	**14 01 58.2**	**-0.5**
	baz=320						
YOJ	**Yonaguni jima**	**0.83**	**99**	P	**Pn**	**14 01 47.1**	**+0.5**
YOJ				S	**Sn**	**14 01 59.1**	**+0.4**
YOJ	**Yonaguni jima**	**0.83**	**99**	⇓*i*P	**Pn**	**14 01 47.1**	**+0.5**
	baz=93						
YOJ				S	**Sn**	**14 01 59.1**	**+0.4**
	baz=93						
YOJ	**Yonaguni jima**	**0.83**	**99**	Pn	**Pn**	**14 01 47.1**	**+0.5**
FUSS	**Fushou**	**0.87**	**246**	P	**Pn**	**14 01 47.5**	**+0.2**
	baz=241						
FUSS				S	**Sn**	**14 01 60.0**	**0.0**
	baz=241						
WHF	**Hehuan Shan**	**0.90**	**240**	⇑*i*P	**Pn**	**14 01 47.9**	**+0.1**
	baz=239						
WHF				*i* S	**Sn**	**14 02 00.6**	**-0.2**
	baz=239						
NCU	**National Centr**	**0.92**	**294**	⇓*i*P	**Pn**	**14 01 48.3**	**+0.6**
	baz=295						
NCU				*i* S	**Sn**	**14 02 01.5**	**+0.8**
	baz=295						
NCUH	**Zhongli**	**0.92**	**294**	P	**Pn**	**14 01 48.3**	**+0.6**
	baz=295						
NCUH				S	**Sn**	**14 02 01.7**	**+0.9**
	baz=295						
ESL	**Shilin**	**1.00**	**219**	⇑*i*P	**Pn**	**14 01 48.0**	**-0.7**
	baz=227						
ESL				S	**Sn**	**14 02 01.0**	**-1.4**
	baz=227						
LIOB	**Emei**	**1.00**	**273**	P	**Pn**	**14 01 49.3**	**+0.5**
	baz=274						
LIOB				S	**Sn**	**14 02 03.2**	**+0.7**
	baz=274						
CHGB	**Renai**	**1.01**	**238**	⇑*i*P	**Pn**	**14 01 49.5**	**+0.5**
	baz=230						
CHGB				S	**Sn**	**14 02 03.0**	**0.0**
	baz=230						
NSTT	**Nanjuang**	**1.01**	**272**	⇓P	**Pn**	**14 01 49.2**	**+0.4**
	baz=273						
NSTT				S	**Sn**	**14 02 02.9**	**+0.1**
	baz=273						
PCYT	**Pengchaiyu**	**1.03**	**358**	P	**Pn**	**14 01 49.5**	**+0.4**
	baz=351						
PCYT				*e*S	**Sn**	**14 02 02.7**	**-0.3**
	baz=351						
SBCB	**Hsinchu**	**1.04**	**281**	P	**Pn**	**14 01 49.8**	**+0.5**
	baz=282						
SBCB				S	**Sn**	**14 02 03.8**	**+0.4**
	baz=282						
HSN	**Hsinchu**	**1.06**	**281**	P	**Pn**	**14 01 49.5**	**0.0**
	baz=284						
HSN				S	**Sn**	**14 02 03.4**	**-0.4**
	baz=284						
OWD	**Renai**	**1.07**	**233**	P	**Pn**	**14 01 50.0**	**+0.2**
	baz=226						
OWD				S	**Sn**	**14 02 03.8**	**-0.4**
	baz=226						
WHP	**Taichung City**	**1.11**	**254**	P	**Pn**	**14 01 51.7**	**+1.5**
	baz=254						
WHP				S	**Sn**	**14 02 05.9**	**+0.8**
	baz=254						
EGFH	**Guangfu**	**1.12**	**214**	P	**Pn**	**14 01 49.5**	**-0.7**
	baz=223						
EGFH				*e*S	**Sn**	**14 02 04.2**	**-1.0**
	baz=223						
NMLH	**Miaoli**	**1.21**	**267**	P	**Pn**	**14 01 52.0**	**+0.7**
	baz=268						
NMLH				S	**Sn**	**14 02 07.4**	**+0.3**
	baz=268						
WCS	**Beigang Elemen**	**1.22**	**244**	*e*P	**Pn**	**14 01 51.5**	**-0.1**
	baz=237						
WCS				*e*S	**Sn**	**14 02 08.1**	**+0.6**
	baz=237						
VWDT	**VWDT**	**1.22**	**227**	⇑*i*P	**Pn**	**14 01 52.0**	**+0.5**
	baz=219						
VWDT				S	**Sn**	**14 02 07.1**	**-0.4**
	baz=219						
TWQ1	**Liyutan**	**1.25**	**259**	P	**Pn**	**14 01 52.7**	**+0.8**
	baz=259						
TWQ1				S	**Sn**	**14 02 08.3**	**+0.2**
	baz=259						
HGSD	**Ruisui**	**1.27**	**210**	⇑*i*P	**Pn**	**14 01 51.9**	**-0.2**
	baz=220						
HGSD				*e*S	**Sn**	**14 02 08.6**	**+0.1**
	baz=220						

EHY	Hungye	1.31 214	⇑iP	Pn	14 01 51.5	-1.1
	baz=220					
EHY			eS	Sn	14 02 07.3	-2.1
	baz=220					
SMLT	Sun Moon Lake	1.32 238	⇑iP	Pn	14 01 53.7	+0.8
	baz=230					
SMLT			S	Sn	14 02 12.7	+2.8
	baz=230					
SSLB	Suanglung	1.33 233	⇑iP	Pn	14 01 53.4	+0.4
	baz=227					
SSLB			S	Sn	14 02 11.9	+1.8
	baz=227					
SSLB	Suanglung	1.33 233		Pn	14 01 53.2	+0.2
SSLB			Sn	Sn	14 02 09.2	-0.9
WDJ	Dajia District	1.37 260	eP	Pn	14 01 54.4	+1.0
	baz=260					
WDJ			eS	Sn	14 02 10.7	-0.1
	baz=260					
TCU	Taichung	1.39 251	eP	Pn	14 01 55.1	+1.4
	baz=263					
TCU			S	Sn	14 02 12.0	+0.7
	baz=263					
YULB	Yu-li	1.41 212	P	Pn	14 01 52.9	-1.1
	baz=219					
YULB			eS	Sn	14 02 10.0	-2.0
	baz=219					
YULB	Yu-li	1.41 212	Pn	Pn	14 01 52.8	-1.3
EYUL	Yuli	1.44 210	eP	Pn	14 01 54.4	-0.1
	baz=217					
WJS	Zhushan	1.48 239	eP	Pn	14 01 56.8	+1.8
	baz=253					
WJS			eS	Sn	14 02 15.6	+2.0
	baz=253					
WNT	Mingjian	1.49 242	P	Pn	14 01 56.4	+1.3
	baz=255					
WNT			S	Sn	14 02 15.4	+1.7
	baz=255					
IRIF	Iriomote-Funau	1.50 100	P	Pn	14 01 55.7	+0.6
IRIF			S	Sn	14 02 14.5	+0.6
WCHH	Zhanghua	1.51 250	eP	Pn	14 01 55.8	+0.5
	baz=262					
WCHH			eS	Sn	14 02 15.0	+0.8
	baz=262					
FULB	Fuli	1.58 208	P	Pn	14 01 56.2	-0.1
	baz=217					
FULB			S	Sn	14 02 16.1	+0.1
	baz=217					
ALS	Alishan	1.61 228	⇑iP	Pn	14 01 58.0	+1.1
	baz=219					
ALS			S	Sn	14 02 18.4	+1.3
	baz=219					
HATJ	Hateruma jima	1.63 109	P	Pn	14 01 57.9	+1.0
HATJ			eS	Sn	14 02 17.7	+0.5
CHKT	Chengkung	1.64 205	⇑iP	Pn	14 01 56.2	-0.8
	baz=195					
CHKT			S	Sn	14 02 15.0	-2.4
	baz=195					
CHN5	Tsauling	1.65 233	⇑iP	Pn	14 01 58.6	+1.4
	baz=245					
CHN5			iS	Sn	14 02 19.5	+1.9
	baz=245					
WDLH	Douliu	1.70 238	P	Pn	14 01 59.2	+1.3
	baz=252					
WDLH			S	Sn	14 02 19.5	+0.8
	baz=252					
ELDTW	Lidau	1.73 216	⇑iP	Pn	14 01 57.6	-0.7
	baz=215					
ELDTW			S	Sn	14 02 18.7	-0.8
	baz=215					
WRL	Guolierlin Hig	1.73 247	P	Pn	14 01 58.5	+0.2
	baz=258					
WRL			eS	Sn	14 02 18.8	-0.7
	baz=258					
JKRS	Kuro-shima	1.76 101	P	Pn	14 01 59.7	+1.0
JKRS			S	Sn	14 02 21.5	+1.2
EDH	Donghe	1.78 205	P	Pn	14 01 58.1	-0.8
	baz=197					
EDH			S	Sn	14 02 18.6	-2.1
	baz=197					
WTK	Tuku	1.82 240	eP	Pn	14 02 00.1	+0.7
	baz=241					
WTK			eS	Sn	14 02 21.6	+0.1
	baz=241					
WTCT	Ta-ch'eng	1.83 247	eP	Pn	14 02 00.0	+0.5
	baz=258					
WTCT			eS	Sn	14 02 21.6	-0.2
	baz=258					
CHN2	Minshiung	1.84 235	eP	Pn	14 02 01.1	+1.5
	baz=248					
CHN2			eS	Sn	14 02 24.9	+2.9
	baz=248					
JIJ	Ishigaki jima	1.86 97	P	Pn	14 02 00.4	+0.4
JIJ			S	Sn	14 02 22.6	-0.1
CHN4	Tsaushan	1.86 229	⇑iP	Pn	14 02 01.5	+1.4
	baz=229					
CHN4			S	Sn	14 02 25.6	+2.9
	baz=229					
TPUB	Ta-pu	1.87 227	⇑iP	Pn	14 02 01.4	+1.2
	baz=218					
TPUB			iS	Sn	14 02 24.7	+1.7
	baz=218					
TPUB	Ta-pu	1.87 227	Pn	Pn	14 02 01.4	+1.2
STYH	Taoyuan	1.88 221	P	Pn	14 02 01.0	+0.8
	baz=215					
STYH			eS	Sn	14 02 23.6	+0.7
	baz=215					
CHY	Chiayi	1.89 235	eP	Pn	14 02 01.3	+0.9
	baz=247					
CHY			eS	Sn	14 02 24.5	+1.1
	baz=247					
LONT	Longtian	1.91 208	eP	Pn	14 01 59.4	-1.2
	baz=200					
LONT			eS	Sn	14 02 21.4	-2.4
	baz=200					
WTP	Ta-pu	1.92 226	⇑iP	Pn	14 02 02.0	+1.1
	baz=226					
WTP			S	Sn	14 02 26.4	+2.2
	baz=226					
WSF	Szhu	1.98 241	P	Pn	14 02 02.2	+0.7
	baz=242					
WSF			S	Sn	14 02 25.6	+0.3
	baz=242					
TWK	Hsinying	1.99 229	⇑iP	Pn	14 02 02.9	+1.1
	baz=243					
TWK			S	Sn	14 02 28.1	+2.2
	baz=243					
JISG	Ishigakijimahi	2.00 90	P	Pn	14 02 02.5	+0.7
JISG			S	Sn	14 02 26.7	+0.8
LDUT	Ludao	2.00 197	eP	Pn	14 02 00.6	-1.4
	baz=191					
LDUT			eS	Sn	14 02 23.0	-3.0
	baz=191					
TWG	Pinlang	2.01 209	Pn	Pn	14 02 00.4	-1.6
TWGBT	Beinan	2.01 208	P	Pn	14 02 00.6	-1.4
	baz=201					
TWGBT			eS	Sn	14 02 23.4	-2.8
	baz=201					
SNST	Tainan City	2.02 227	eP	Pn	14 02 03.8	+1.7
	baz=228					
SNST			eS	Sn	14 02 28.2	+1.8
	baz=228					
CHN1	Nanshi	2.02 226	⇑P	Pn	14 02 03.4	+1.2
	baz=226					
CHN1			S	Sn	14 02 28.0	+1.5
	baz=226					
TTN	Taitung	2.04 206	eP	Pn	14 02 02.4	+0.1
	baz=205					
TTN			eS	Sn	14 02 27.7	+0.9
	baz=205					
SGST	Jiashian	2.06 223	⇑iP	Pn	14 02 03.3	+0.6
	baz=223					
SGST			S	Sn	14 02 28.8	+1.3
	baz=223					
ICHU	Yijhu	2.08 234	eP	Pn	14 02 03.3	+0.3
	baz=235					
ICHU			eS	Sn	14 02 30.8	+2.9
	baz=235					
SLGT	Liugui	2.09 220	eP	Pn	14 02 04.5	+1.4
	baz=218					
CHN8	Yiju	2.14 235	eS	Sn	14 02 31.2	+1.9
	baz=236					
CHN3	Shinhua	2.20 227	eP	Pn	14 02 06.6	+2.0
	baz=240					
CHN3			eS	Sn	14 02 34.8	+3.9
	baz=240					
SCLT	Jiali	2.26 232	eP	Pn	14 02 06.5	+1.2
	baz=243					
SCLT			eS	Sn	14 02 33.0	+0.9
	baz=243					
ECL	Taimali	2.26 208	eP	Pn	14 02 04.0	-1.4
	baz=201					
ECL			eS	Sn	14 02 30.9	-1.3
	baz=201					
SSD	Sandimen	2.29 217	P	Pn	14 02 06.7	+0.9
	baz=227					
SSD			eS	Sn	14 02 35.4	+2.4
	baz=227					
TSMG	Majia	2.32 216	eP	Pn	14 02 07.4	+1.2
	baz=227					
TSMG			eS	Sn	14 02 34.4	+0.7
	baz=227					
TAI1	Yung-k'ang	2.32 228	eS	Sn	14 02 36.5	+2.8
	baz=242					
TWM1	Shoushan	2.35 222	eP	Pn	14 02 09.0	+2.3
	baz=218					
JTJ	Tarama	2.36 88	P	Pn	14 02 08.1	+1.4
JTJ			S	Sn	14 02 36.4	+1.8
SGLT	Jiouru	2.38 219	eP	Pn	14 02 09.2	+2.1
	baz=215					
MASBT	Mashibuluo	2.40 215	eP	Pn	14 02 07.7	+0.5
	baz=214					
MASBT			eS	Sn	14 02 37.1	+1.5
	baz=214					
SNJT	Kaohsiung City	2.46 222	eP	Pn	14 02 09.5	+1.5
	baz=219					
EAST	Anshuo	2.49 208	P	Pn	14 02 08.0	-0.6
	baz=200					
MATB	Ma-tsu	2.50 309	eP	Pn	14 02 08.2	-0.3
	baz=298					
MATB			eS	Sn	14 02 36.7	-1.3
	baz=298					
SSPT	Xinbi	2.54 214	eP	Pn	14 02 10.8	+1.7
	baz=210					
PNG	Penghu	2.55 247	eP	Pn	14 02 08.7	-0.6
	baz=248					
PNG			eS	Sn	14 02 37.0	-2.4
	baz=248					
PHUB	P'eng-hu	2.56 246	eP	Pn	14 02 08.6	-0.9
	baz=247					
PHUB			eS	Sn	14 02 36.8	-2.8
	baz=247					
LAY	Lan-yu	2.60 192	eP	Pn	14 02 09.2	-0.9
	baz=190					
LAY			eS	Sn	14 02 38.0	-2.5
	baz=190					
SCZT	Fangliau	2.61 212	eP	Pn	14 02 11.0	+0.9
	baz=226					
SCZT			eS	Sn	14 02 43.7	+3.0
	baz=226					
WDGT	Dungji	2.61 240	eP	Pn	14 02 10.4	+0.2
	baz=241					
WDGT			eS	Sn	14 02 39.4	-1.3
	baz=241					
LYUB	Lan-yu	2.63 191	eP	Pn	14 02 08.8	-1.7
	baz=190					
LYUB			eS	Sn	14 02 36.0	-5.2
	baz=190					
SLIU	Shizi	2.66 207	eP	Pn	14 02 10.6	-0.2
	baz=204					
SLIU			eS	Sn	14 02 41.4	-0.6
	baz=204					
PTMZ	Houxiangcun	2.76 280	eP	Pn	14 02 11.5	-0.6
	baz=280					
JIRB	Irabujima	2.79 85	P	Pn	14 02 14.1	+1.5
JIRB			eS	Sn	14 02 46.2	+1.0
VCHM	Qimei	2.82 241	eP	Pn	14 02 13.2	+0.2
	baz=240					
JIKM	Ikemajima	2.87 83	P	Pn	14 02 15.9	+2.3
JIKM			eS	Sn	14 02 48.7	+1.7
HEN	Hengchun	2.87 206	eP	Pn	14 02 14.2	+0.4
	baz=214					
LYJJ	Jianjiangzhen	2.88 313	eP	Pn	14 02 13.3	-0.5
	baz=312					
XPSS	Dashiqiu	2.90 324	eP	Pn	14 02 13.3	-0.7
	baz=323					
TSEB	Hengchuen, Pin	2.91 203	eP	Pn	14 02 14.1	-0.1
	baz=194					
JMJ2	Miyako jima3	2.93 87	P	Pn	14 02 16.5	+2.1
JMJ2			eS	Sn	14 02 49.7	+1.2
JOGS	Gusukube	3.00 86	P	Pn	14 02 17.9	+2.5
JOGS			eS	Sn	14 02 51.7	+1.5
KNM	Kinmen	3.36 268	eP	Pn	14 02 21.3	+1.0
	baz=268					
KNMB	Chin-men Tao	3.40 269	eP	Pn	14 02 20.0	-0.8
	baz=269					
KNMB	Chin-men Tao	3.40 269	Pn	Pn	14 02 20.0	-0.8
AXDP	Jialang	3.78 275	eP	Pn	14 02 25.4	-0.7
	baz=276					
ZPLA	Ao Xicun	4.04 261	eP	Pn	14 02 28.8	-0.8
	baz=262					
JOW	Kunigami	5.99 67	P	Pn	14 02 56.7	+0.5
	5.9nm,0.3s,baz=98,slow=22,SNR=36					
JOW			S	Sn	14 04 02.2	-1.2
	4.4nm,0.3s,baz=108,slow=24,SNR=5.6					
JOW	Kunigami	5.99 67	Pn	Pn	14 02 56.5	+0.3
HKPS	Hong Kong Po S	7.68 254	Pn	Pn	14 03 20.2	+0.8
WHN	Wuhan	9.08 312	⇑P	Pn	14 03 38.8	+0.3
WHN			sP		14 03 55.5	
WHN			S	Sn	14 05 14.3	-4.9
JNU	Nakatsue	11.45 40	P	Pn	14 04 13.5	+2.7
	0.3nm,0.3s,baz=213,slow=13,SNR=4.6					
JMN	Monobe	13.72 46	Pn	Pn	14 04 39.0	-2.6
KSAR	Wonju Array Be	13.72 20	Pn	Pn	14 04 41.8	+0.3
KSRS	Korea Array	13.74 20	P	Pn	14 04 43.8	+2.0
	1.3nm,0.3s,baz=202,slow=11,SNR=50					
KSRS			LR	LR	14 10 32.9	
	comp=Z,25nm,19.0s,baz=195,slow=40					
GYA	Guiyang	14.07 281	⇓P	Pn	14 04 46.2	-0.2
GYA			pmax	pmax		
	comp=Z,5.0nm,1.0s					
JHS	Saijyo	14.08 40	Pn	Pn	14 04 46.4	+0.1
XAN	Xi'an	14.85 312	P	Pn	14 04 58.3	+1.9
XAN			pP	P	14 05 08.1	+7.6
XAN			pmax	pmax		
	comp=Z,9.0nm,0.7s					
XAN			pmax	pmax		
	comp=Z,71nm,4.1s					
JGF	Kuroka	17.13 47	Pn	Pn	14 05 23.3	-1.7
MAT	Matsushiro	18.24 45	P	P	14 05 35.9	-2.0
MJAR	Matsushiro Arr	18.24 46	P	P	14 05 36.9	-1.0
	0.1nm,0.3s,baz=242,slow=9.8,SNR=5.8					
MJAR			LR	LR	14 12 39.8	
	comp=Z,71nm,20.5s,baz=222,slow=37					
MJAR	Matsushiro Arr	18.24 46	IAmb	IAmb	14 05 44.7	
	comp=Z,4.4nm,1.3s					
HHC	Hu-ho-hao-te	18.45 334	eP	Pn	14 05 41.2	0.0
HHC			pmax	pmax		
	comp=Z,12nm,1.2s					
HHC			pmax	pmax		
	comp=Z,100nm,5.1s					
PZH	PanZhiHua	18.48 280	P	Pn	14 05 42.9	+1.2
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,80nm,5.1s					
CN2	Changchun	19.35 7	eP	P	14 05 50.8	+0.8
CN2			pmax	pmax		
	comp=Z,10.0nm,1.1s					
XLT	XiLinHaoTe	19.88 347	eP	Pn	14 05 57.4	-0.6
XLT			pmax	pmax		
	comp=Z,10.0nm,0.8s					
XLT			pmax	pmax		
	comp=Z,210nm,5.5s					
USRK	Ussuriysk Ar.	21.15 20	P	P	14 06 10.0	+0.5
	comp=Z,1.5nm,0.6s,baz=203,slow=9.2,SNR=4.2					
CMAR	Chiang Mai Arr	22.39 259	P	P	14 06 24.7	+1.7
	comp=Z,1.2nm,0.8s,baz=64,slow=7.3,SNR=9.6					
CMAR			LR	LR	14 14 32.8	
	comp=Z,14nm,20.4s,baz=70,slow=35					
CMAR	Chiang Mai Arr	22.39 259	P	P	14 06 23.2	+0.2
GTA	Gaotai	23.91 313	eP	P	14 06 40.0	+2.3
GTA			pP	pP	14 06 57.8	+3.9
GUMO	Guam	24.09 113	LR	LR	14 14 46.7	
	comp=Z,22nm,21.3s,baz=80,slow=33					
ASAJ	Asahikawa	25.66 36	LR	LR	14 16 51.5	
	comp=Z,36nm,18.1s,baz=146,slow=36					
KLR	Kul'dur	25.72 15	P	P	14 06 55.2	+1.3
	comp=Z,1.9nm,0.5s,baz=202,slow=6.8,SNR=8.6					
KLR			LR	LR	14 16 30.3	
	comp=Z,27nm,19.3s,baz=220,slow=35					
ULN	Ulaanbaatar	26.11 337	P	P	14 06 57.8	+0.2
GOMU	GeErMu	26.14 303	P	P	14 07 02.6	+4.3
GOMU			pmax	pmax		
	comp=Z,1.0nm,0.8s					
GOMU			pmax	pmax		
	comp=Z,46nm,4.3s					
SONM	Songino Array	26.33 336	P	P	14 07 00.1	+0.5
	comp=Z,3.0nm,0.8s,baz=148,slow=9.7,SNR=16					
SONM	Songino Array	26.33 336	P	P	14 06 59.8	+0.3
PSI	Prapat	31.14 230	LR	LR	14 19 00.4	
	comp=Z,33nm,20.2s,baz=64,slow=33					
WMQ	Urumqi	33.99 313	eP	P	14 08 09.0	+1.8
MK31	Makanchi Array	38.64 315	P	P	14 08 46.7	-0.1
MKAR	Makanchi Array	38.64 315	P	P	14 08 46.7	-0.1
	comp=Z,0.7nm,0.5s,baz=100,slow=9.8,SNR=19					
MAKZ	Makanchi	38.84 315	P	P	14 08 48.7	+0.2
MAKZ			IAmb	IAmb	14 09 10.0	
	comp=Z,7.4nm,1.4s					
PETK	Petropavlovsk-	39.05 34	LR	LR	14 24 36.3	
	comp=Z,20nm,21.0s,baz=76,slow=36					
ZALV	Zalesovo Beam	40.37 326	P	P	14 09 00.1	-0.8
	comp=Z,1.8nm,0.7s,baz=121,slow=9.1,SNR=6.7					
ZALV			LR	LR	14 29 05.2	
	comp=Z,42nm,18.3s,baz=358,slow=41					
KURK	Kurchatov	42.33 319	P	P	14 09 17.1	0.0
WB0	Warramunga Arr	45.69 164	P	P	14 09 44.0	-0.3
WB0			IAmb	IAmb	14 09 45.7	
	comp=Z,10nm,1.3s					
WRAB	Tennant Creek	45.84 164	P	P	14 09 45.4	-0.1
WRAB			IAmb	IAmb	14 09 51.0	
	comp=Z,5.0nm,0.9s					
WRA	Warramunga Arr	45.84 164	P	P	14 09 45.8	+0.2
	comp=Z,3.3nm,0.6s,baz=346,slow=8.6,SNR=11					
WRA			PcP	PcP	14 11 21.4	-0.5
	comp=Z,2.1nm,1.1s,baz=345,slow=3.4,SNR=3.8					
WRA	Warramunga Arr	45.84 164	P	P	14 09 45.5	-0.1
WB2	Warramunga Arr	45.85 164	P	P	14 09 44.9	-0.7
WB2			IAmb	IAmb	14 09 46.5	
	comp=Z,5.2nm,0.7s					
KKAR	Karatay Array	45.90 307	P	P	14 09 46.6	+0.8
WR0	Warramunga Arr	45.91 164	P	P	14 09 45.4	-0.7
WR0			IAmb	IAmb	14 09 51.5	
	comp=Z,4.4nm,0.7s					
TIXI	Tiksi	47.24 3	P	P	14 09 54.3	-1.5
TIXI			IAmb	IAmb	14 09 55.4	
	comp=Z,5.4nm,0.8s					
BRVK	Borovoye	47.97 320	P	P	14 10 01.3	-0.4
SMY	Shemya	47.97 40	P	P	14 10 00.4	-1.3
ASAR	Alice Springs	49.32 166	P	P	14 10 14.2	+1.8
	comp=Z,1.1nm,0.7s,baz=341,slow=8.3,SNR=4.6					
ASAR			PcP	PcP	14 11 34.0	-0.2
	comp=Z,0.6nm,0.7s,baz=344,slow=3.1,SNR=3.2					
ABKAR	Akbulak array	53.76 314	P	P	14 10 45.2	-0.1
ARU	Arti	55.29 323	P	P	14 10 53.9	-2.4
ARU			IAmb	IAmb	14 10 56.0	
	comp=Z,5.9nm,1.1s					
GEYT	Alibeck	55.32 300	P	P	14 10 58.9	+1.9
	comp=Z,1.5nm,0.7s,baz=86,slow=1.9,SNR=4.2					
GEYT	Alibeck	55.32 300	P	P	14 10 55.8	-1.1
GEYT			IAmb	IAmb	14 10 59.8	
	comp=Z,2.3nm,0.8s					
ANM	Nome	60.56 28	P	P	14 11 33.3	+0.2
ANM			IAmb	IAmb	14 11 34.5	
	comp=Z,5.2nm,1.4s					
J20K	Nowinta River	65.44 29	P	P	14 12 05.3	-0.1
J20K			IAmb	IAmb	14 12 14.0	
	comp=Z,10nm,1.4s					
K20K	Telida	65.56 29	P	P	14 12 06.5	+0.3
K20K			IAmb	IAmb	14 12 10.3	
	comp=Z,4.8nm,1.1s					
H21K	Melozitna Rive	65.85 27	P	P	14 12 08.1	0.0
H21K			IAmb	IAmb	14 12 09.4	
	comp=Z,3.2nm,0.9s					
I21K	Tanana	66.25 27	P	P	14 12 09.4	-1.2
I21K			IAmb	IAmb	14 12 11.9	
	comp=Z,4.0nm,0.9s					
PPLA	Purkeypile	66.47 30	P	P	14 12 12.1	-0.2
PPLA			IAmb	IAmb	14 12 34.9	
	comp=Z,9.5nm,1.2s					
COLD	Coldfoot	66.70 25	P	P	14 12 13.8	+0.3
TOLK	Toolik Lake Re	66.74 23	P	P	14 12 13.6	-0.1
TOLK			IAmb	IAmb	14 12 15.2	
	comp=Z,3.3nm,0.7s					
KTH	Kantishna Hill	66.94 29	P	P	14 12 13.9	-1.2
KTH			IAmb	IAmb	14 12 17.8	
	comp=Z,5.2nm,1.0s					
I23K	Minto, Yukon-K	67.35 27	P	P	14 12 17.4	-0.2
NEA2	Nenana	67.57 28	P	P	14 12 18.7	-0.3
NEA2			IAmb	IAmb	14 12 20.1	
	comp=Z,4.3nm,0.8s					
H24K	Noodor Dome	67.84 26	P	P	14 12 20.3	-0.4
MDM	Murphy Dome	67.86 27	P	P	14 12 19.8	-1.1
MDM			IAmb	IAmb	14 12 23.6	
	comp=Z,4.9nm,0.9s					
RND	Reindeer	67.88 29	P	P	14 12 19.9	-1.1
PMR	Palmer	68.10 31	P	P	14 12 20.9	-1.5
PMR			IAmb	IAmb	14 12 36.8	
	comp=Z,7.4nm,1.2s					
ILAR	Eielson Array	68.46 27	P	P	14 12 25.1	+0.6
	comp=Z,0.6nm,0.6s,baz=295,slow=7.9,SNR=9.2					
ILAR	Eielson Array	68.46 27	P	P	14 12 23.1	-1.4
HDA	Harding Lake	68.51 28	P	P	14 12 23.4	-1.5
HDA			IAmb	IAmb	14 12 44.9	
	comp=Z,4.9nm,1.2s					
BMAR	Burnt Mountain	68.80 24	P	P	14 12 27.3	+0.6
SCM	Sheep Creek Mo	68.89 31	P	P	14 12 27.0	-0.4
KEV	Kevo	68.91 338	P	P	14 12 26.3	-0.9
M24K	Tolsona, Glenn	69.36 30	P	P	14 12 30.5	+0.3
ARCES	ARCESS Array B	69.47 338	P	P	14 12 29.4	-1.4
	comp=Z,4.0nm,1.0s,baz=55,slow=7.8,SNR=4.8					
ARCES	ARCESS Array B	69.47 338	IAmb	IAmb	14 12 43.9	
	comp=Z,7.2nm,1.2s					
RIDG	Independent Ri	69.56 28	P	P	14 12 31.2	-0.2
KLU	Klutina	69.62 31	P	P	14 12 31.9	-0.1
SCRK	Sand Creek	69.87 28	P	P	14 12 32.5	-1.0
DOT	Dot Lake	69.92 28	P	P	14 12 33.5	-0.2
GLB	Gilahina Butte	70.61 31	P	P	14 12 37.5	-0.4
EGAK	Eagle	70.83 27	P	P	14 12 38.6	-0.5
EGAK			IAmb	IAmb	14 12 52.0	
	comp=Z,8.5nm,1.4s					
L27K	Beaver Creek,	71.05 29	P	P	14 12 41.4	+0.8
L27K			IAmb	IAmb	14 13 04.2	
	comp=Z,7.0nm,1.5s					
BCAR	Beaver Creek A	71.07 29	P	P	14 12 41.5	+0.8
M27K	Edge Creek, AK	71.23 29	P	P	14 12 41.7	-0.1
FINES	FINESS Array B	71.52 330	P	P	14 12 43.3	0.0
	comp=Z,1.8nm,0.8s,baz=93,slow=6.5,SNR=6.7					
BARN	Barnard Glacie	71.72 31	P	P	14 12 44.0	-0.9
DAWY	Dawson	71.78 27	P	P	14 12 44.0	-1.0
DAWY			IAmb	IAmb	14 12 45.9	
	comp=Z,3.3nm,0.8s					
CTGM	Chitina Glacie	71.90 31	P	P	14 12 45.3	-0.5
EPYK	Eagle Plains	72.08 25	P	P	14 12 45.7	-0.9
INK	Inuvik	72.52 22	P	P	14 12 48.3	-0.9
INK			IAmb	IAmb	14 12 49.8	
	comp=Z,2.9nm,0.8s					
A36M	Sachs Harbour	73.48 17	P	P	14 12 53.3	-1.5
A36M			IAmb	IAmb	14 12 55.6	
	comp=Z,4.7nm,1.1s					
WHY	Whitehorse	74.97 30	P	P	14 13 01.7	-2.2
WHY			IAmb	IAmb	14 13 29.7	
	comp=Z,4.5nm,1.1s					
C36M	Paulatuk	75.13 20	P	P	14 13 03.1	-1.3
C36M			IAmb	IAmb	14 13 03.8	
	comp=Z,3.3nm,0.6s					
DLBC	Dease Lake	78.16 31	P	P	14 13 22.7	+0.9
NOA	NORSAR Array B	78.25 332	P	P	14 13 21.1	-1.2
	comp=Z,0.4nm,0.8s,baz=56,slow=7.6,SNR=1.2					
YKA	Yellowknife Ar	82.26 23	P	P	14 13 42.6	-1.0
	comp=Z,1.2nm,0.5s,baz=310,slow=5.2,SNR=62					
NVAR	Mina Array Bea	95.55 43	P	P	14 14 48.2	+0.1
	comp=Z,1.2nm,0.8s,baz=310,slow=4.2,SNR=6.9					

*NEIC **03** 14:03:46.8±1.0, 0.°07S±0.°02×123.°12E±0.°07, h151km×7km, mb4.5/28, Error ellipse: s-maj=10.7km s-min=2.3km az=89.0*

*IDC **03** 14:03:47.3±0.8, 0.°09S×123.°12E, h155km±7km, mb3.5/7, mb1 3.7/10, mb1mx3.3/45, mbtmp4.0/10, Error ellipse: s-maj=16.1km s-min=11.1km az=60.0*

*DJA **03** 14:03:48.0±0.3, 0.°S±3.°×12.°3E±.°, h134km±5km, M4.3/17, mB4.8/3, mb4.5/6, MLv4.3/17, Mw(mB)4.0/3*

ISC 03 14:03:47.3±0.4, 0.°10S±0.°05×123.°15E±0.°05, h162km, n72, σ1§43/87, mb4.5/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.75	349	P	Pn	14 04 10.8	-0.6
GTOI				S	Sn	14 04 28.0	-1.9

LUWI	**Luwuk**	**1.01 202**	P	**Pn**	**14 04 11.8 -1.5**
LUWI			S	**Sn**	**14 04 30.2 -3.1**
LUWI	**Luwuk**	**1.01 202**	Pn	**Pn**	**14 04 11.8 -1.5**
LUWI	**Luwuk**	**1.01 202**	P	**Pn**	**14 04 12.0 -1.3**
KMSI	**Cibinong**	**1.07 51**	P	**Pn**	**14 04 13.0 -0.8**
MRSI	**Marisa**	**1.34 295**	P	**Pn**	**14 04 14.4 -1.8**
MRSI			S	**Sn**	**14 04 34.2 -4.2**
APSI	**Ampana**	**1.70 242**	P	**Pn**	**14 04 19.1 -0.8**
APSI			S	**Sn**	**14 04 42.1 -2.9**
TOLI2	**Tolitoli**	**2.66 297**		**Pn**	**14 04 29.5 -1.5**
TOLI2	**Tolitoli**	**2.66 297**	P	**Pn**	**14 04 32.1 +1.2**
MPSI	**Mapaga**	**3.28 278**	P	**Pn**	**14 04 39.2 +0.5**
MPSI			S	**Sn**	**14 05 18.6 0.0**
SANI	**Sanana**	**3.43 124**	P	**Pn**	**14 04 38.0 -2.6**
SANI			S	**Sn**	**14 05 15.8 -6.2**
SANI	**Sanana**	**3.43 124**	P	**Pn**	**14 04 38.3 -2.3**
TNTI	**Ternate**	**4.30 78**	P	**Pn**	**14 04 51.6 -0.2**
TNTI	**Ternate**	**4.30 78**	Pn	**Pn**	**14 04 50.1 -1.8**
LBMI	**Labuha**	**4.38 97**	P	**Pn**	**14 04 51.6 -1.2**
TTSI	**Tana Toraja**	**4.43 229**	P	**Pn**	**14 04 54.0 +0.5**
BNSI	**Bone**	**5.24 215**	P	**Pn**	**14 05 04.2 +0.1**
	0.1nm34nm,0.5s				
KAPI	**Kappang**	**5.94 215**	P	**Pn**	**14 05 14.9 +1.5**
	2.6nm,0.3s,baz=274,slow=4.6,SNR=7.3				
KAPI			S	**Sn**	**14 06 19.9 -1.0**
	0.8nm,0.3s,baz=95,slow=23,SNR=1.1				
KAPI	**Kappang**	**5.94 215**	Pn	**Pn**	**14 05 11.5 -1.9**
AAI	**Ambon**	**6.17 125**	P	**Pn**	**14 05 16.1 -0.3**
	0.5nm2um99nm,0.5s				
BSSI	**Bau Bau, Buton**	**6.56 204**	P	**Pn**	**14 05 22.4 +0.8**
	0.1nm24nm,0.6s				
MSAI	**Masohi**	**6.61 119**	P	**Pn**	**14 05 24.1 +1.8**
MYLDM	**Lahad Datu**	**7.01 319**	Pn	**Pn**	**14 05 25.5 -2.1**
SIJI	**Sorong**	**8.15 95**	P	**Pn**	**14 05 42.8 +0.1**
	1.6nm,0.3s,baz=62,slow=23,SNR=12				
SIJI			S	**Sn**	**14 07 16.8 +3.1**
	0.6nm,0.3s,baz=208,slow=24,SNR=1.4				
KKM	**Kota Kinabalu**	**9.23 312**	Pn	**Pn**	**14 05 55.0 -2.1**
KKM	**Kota Kinabalu**	**9.23 312**	P	Pn	14 06 03.1 +6.0
	12nm,0.8s				
FAKI	**Fak Fak**	**9.51 107**	Pn	**Pn**	**14 05 59.7 -1.1**
FAKI	**Fak Fak**	**9.51 107**	P	**Pn**	**14 05 59.1 -1.7**
	30nm,1.6s				
MTN	**Manton Dam**	**14.93 148**	P	**P**	**14 07 12.4 +0.4**
KDU	**Kakadu**	**15.55 144**	P	**P**	**14 07 19.1 +0.3**
KNRA	**Kununurra**	**16.44 161**	P	**Pn**	**14 07 29.5 +0.6**
KNRA			IAmb	IAmb	14 07 33.8
	comp=Z,10nm,0.6s				
FITZ	**Fitzroy Crossi**	**18.05 172**	P	**Pn**	**14 07 47.6 -0.4**
	comp=Z,2.1nm,0.3s,baz=5.4,slow=9.1,SNR=51				
MBWA	**Marble Bar**	**21.19 189**	P	**P**	**14 08 20.7 +0.5**
	comp=Z,16nm,0.9s				
PSA00	**Pilbara Seismi**	**21.58 188**	P	**P**	**14 08 24.1 -0.3**
PSA00			IAmb	IAmb	14 08 39.8
	comp=Z,21nm,1.5s				
WB0	**Warramunga Arr**	**22.43 151**	P	**P**	**14 08 33.0 +0.1**
WB0			IAmb	IAmb	14 08 34.1
	comp=Z,13nm,0.4s				
WRAB	**Tennant Creek**	**22.55 152**	P	**P**	**14 08 34.0 0.0**
WRAB			IAmb	IAmb	14 08 35.4
	comp=Z,9.1nm,0.6s				
WRA	**Warramunga Arr**	**22.56 152**	P	**P**	**14 08 34.1 +0.1**
	comp=Z,9.1nm,0.5s,baz=332,slow=10,SNR=224				
WRA			pP	**pP**	**14 09 02.6 -0.9**
	comp=Z,1.6nm,0.8s,baz=331,slow=11,SNR=2.2				
WRA			ScP	**ScP**	**14 15 45.1 +0.5**
	comp=Z,0.5nm,0.9s,baz=330,slow=2.7,SNR=2.2				
WRA	**Warramunga Arr**	**22.56 152**	P	**P**	**14 08 33.1 -0.9**
WB2	**Warramunga Arr**	**22.56 152**	P	**P**	**14 08 34.4 +0.3**
WB2			IAmb	IAmb	14 08 35.4
	comp=Z,9.8nm,0.5s				
WR0	**Warramunga Arr**	**22.67 151**	P	**P**	**14 08 35.2 +0.1**
WR0			IAmb	IAmb	14 08 36.5
	comp=Z,8.2nm,0.6s				
KULM	**Kulim**	**23.10 284**	P	**P**	**14 08 38.3 -0.8**
GIRL	**Giralia**	**24.03 201**	P	**P**	**14 08 48.7 +1.3**
COEN	**Coen**	**24.13 126**	P	**P**	**14 08 48.8 +0.3**
COEN	**Coen**	**24.13 126**	P	**P**	**14 08 48.8 +0.3**
	comp=Z,14nm,1.6s				
YOJ	**Yonaguni jima**	**24.42 360**	P	**P**	**14 08 51.0 +0.1**
WRKA	**Warakurna**	**25.28 169**	P	**P**	**14 08 59.4 +0.6**
	comp=Z,11nm,0.6s				
AS31	**Alice Springs**	**25.64 157**	P	**P**	**14 09 02.5 +0.3**
ASAR	**Alice Springs**	**25.64 157**	P	**P**	**14 09 02.9 +0.7**
	comp=Z,1.2nm,0.4s,baz=332,slow=8.2,SNR=36				
ASAR			pP	**pP**	**14 09 35.6 +0.1**
	comp=Z,1.4nm,0.7s,baz=335,slow=8.3,SNR=5.3				
ASAR			PcP	**PcP**	**14 12 29.2 +0.6**
	comp=Z,0.5nm,0.3s,baz=344,slow=2.1,SNR=8.4				
ASAR			ScP	**ScP**	**14 15 54.3 +1.3**
	comp=Z,0.4nm,0.8s,baz=335,slow=2.7,SNR=2.8				
ASAR	**Alice Springs**	**25.64 157**	P	**P**	**14 09 02.7 +0.5**
QIS	**Mount Isa**	**25.93 143**	P	**P**	**14 09 05.4 +0.7**
	comp=Z,18nm,0.6s				
MEEK	**Meekatharra**	**26.74 189**	P	**P**	**14 09 11.7 -0.2**
	comp=Z,10.0nm,1.0s				
MORW	**Morawa**	**29.59 193**	P	**P**	**14 09 37.0 -0.2**
MORW			IAmb	IAmb	14 10 02.6
	comp=Z,14nm,1.2s				
CMAR	**Chiang Mai Arr**	**30.10 309**	P	**P**	**14 09 44.0 +2.2**
	comp=Z,0.7nm,0.5s,baz=129,slow=7.1,SNR=7.9				
FORT	**Forrest**	**30.86 172**	P	**P**	**14 09 48.3 -0.1**
FORT			IAmb	IAmb	14 10 07.0
	comp=Z,15nm,0.8s				
JCJ	**Chichijima**	**32.66 33**	P	**P**	**14 10 03.1 -1.0**
NWAO	**Narrogin (SRO)**	**33.12 189**	P	**P**	**14 10 08.0 -0.1**
NWAO			IAmb	IAmb	14 10 08.9
	comp=Z,9.9nm,0.7s				
BBOO	**Buckleboo**	**34.73 161**	P	**P**	**14 10 22.2 +0.2**
STKA	**Stephens Creek**	**36.10 153**	P	**P**	**14 10 34.4 +0.8**
	comp=Z,3.5nm,0.5s,baz=327,slow=7.7,SNR=12				
STKA	**Stephens Creek**	**36.10 153**	P	**P**	**14 10 33.9 +0.2**
EIDS	**Eidsvold**	**36.86 135**	P	**P**	**14 10 40.3 0.0**
EIDS			IAmb	IAmb	14 10 54.2
	comp=Z,12nm,1.4s				
JWT	**Wachi**	**37.02 17**	P	**P**	**14 10 40.9 -0.5**
JWT			IAmb	IAmb	14 11 04.7
	comp=Z,17nm,1.2s				
JSD	**Sado**	**40.43 19**	P	**P**	**14 11 10.6 +0.8**
BJT	**Baijiatuau**	**40.44 352**	P	**P**	**14 11 10.2 +0.4**
ARMA	**Armidale**	**40.52 141**	P	**P**	**14 11 12.0 +1.2**
ARMA			IAmb	IAmb	14 11 14.6
	comp=Z,17nm,1.3s				
CAN	**Canberra**	**42.53 148**	P	**P**	**14 11 28.3 +1.3**
CAN			IAmb	IAmb	14 11 56.4
	comp=Z,35nm,1.5s				
DZM	**Mont Dzumac**	**47.48 120**	P	**P**	**14 12 08.2 +1.9**
	comp=Z,2.3nm,0.8s,baz=286,slow=15,SNR=6.3				
SONM	**Songino Array**	**49.92 345**	P	**P**	**14 12 24.3 -0.3**
	comp=Z,0.4nm,0.5s,baz=153,slow=9.0,SNR=3.7				
SONM			pP	**pP**	**14 12 59.8 -1.4**
	comp=Z,0.6nm,0.8s,baz=156,slow=7.6,SNR=3.4				
MKAR	**Makanchi Array**	**58.78 328**	P	**P**	**14 13 28.7 +0.2**
	comp=Z,0.2nm,0.3s,baz=111,slow=6.5,SNR=0.9				
MKAR			pP	**pP**	**14 14 05.1 -1.2**
	comp=Z,0.6nm,0.7s,baz=126,slow=7.4,SNR=2.8				
MKAR			PcP	**PcP**	**14 14 15.6 -0.8**
	comp=Z,0.4nm,0.5s,baz=110,slow=5.6,SNR=3.0				
TUWZ	**Tuamarina**	**61.54 138**	P	**P**	**14 13 47.8 +0.5**
SNZO	**South Karori**	**61.99 138**	P	**P**	**14 13 50.3 0.0**
BKZ	**Black Stump Fm**	**62.27 135**	P	**P**	**14 13 53.3 +1.0**
TORD	**Torodi Ar. Bea**	**120.58 285**	PKP	**PKPdf**	**14 22 20.1 -0.7**
	comp=Z,0.2nm,0.4s,baz=95,slow=1.5,SNR=1.6				

*CNRM **03** 14:09:57.9, 36°.06N×7°.79W, h30km, ml2.6*
*IGIL **03** 14:10:01.8, 36°.25N×7°.62W, h12km, ML1.8*
*INMG **03** 14:10:03.2±1.6, 36°.30N×7°.62W, h16km±6km, ML1.9, Error ellipse: s-maj=6.1km s-min=3.8km az=31.0*
ISC 03 14:09:59.0±1.6, 36°.11N±0°.03×7°.63W±0°.07, h30km±16km, n25, σ1°33/45, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.16 348**		*e*P	**Pb**	**14 10 20.6**	**+0.2**
PBDV				*e*S	**Sn**	**14 10 33.5**	**-0.6**
PBDV				A	A	14 10 37.0	
	12nm,0.2s						
PVAQ	**Vaqueiros**	**1.29 357**		*e*P	**Pb**	**14 10 22.4**	**-0.3**
PVAQ				*e*S	**Sn**	**14 10 36.6**	**-0.8**
PVAQ				A	A	14 10 37.5	
	17nm,0.7s						
PVAQ	**Vaqueiros**	**1.29 357**		P	**Pn**	**14 10 20.8**	**-0.3**
PVAQ				S	**Sn**	**14 10 36.9**	**-0.5**
PFVI	**Vila Bisbo**	**1.40 317**		*e*P	**Pb**	**14 10 24.8**	**+0.2**
MORF	**Marmelete**	**1.45 326**		*e*P	**Pb**	**14 10 24.6**	**-0.8**
MORF				*e*S	**Sn**	**14 10 41.3**	**0.0**
MORF				IAML		14 10 46.5	
	comp=E,16nm,0.1s						
MORF	**Marmelete**	**1.45 326**		*e*P	**Pb**	**14 10 24.6**	**-0.8**
MORF				*e*S	**Sn**	**14 10 41.7**	**+0.4**
MORF				A	A	14 10 46.2	
	comp=E,12nm,0.2s						
PCVE	**Castro Verde**	**1.55 348**		*e*P	**Pb**	**14 10 26.5**	**-0.7**
PCVE				*e*S	**Sn**	**14 10 43.5**	**-0.3**
PCVE				A	A	14 10 44.9	
	comp=E,9.7nm,0.2s						
PTEO	**Sao Teotonio**	**1.68 329**		*e*P	**Pb**	**14 10 28.2**	**-1.1**
PTEO				*e*S	**Sn**	**14 10 47.0**	**+0.1**
PTEO				A	A	14 10 54.7	
	comp=E,12nm,0.8s						
MESJ	**Messejana**	**1.79 345**		*e*S	**Sn**	**14 10 48.7**	**-0.9**
MESJ				IAML		14 10 50.4	
	comp=N,6.7nm,0.2s						
MESJ	**Messejana**	**1.79 345**		*e*S	**Sn**	**14 10 48.7**	**-0.9**
MESJ				iAML		14 10 50.4	
PBEJ	**Beja**	**1.92 354**		*e*Sn	**Sn**	**14 10 52.0**	**-0.9**
PBEJ				A	A	14 11 00.5	
	comp=N,3.8nm,0.3s						
PNCL	**Nicolau / Gran**	**2.12 341**		*e*Pn	**Pn**	**14 10 34.0**	**+1.5**
PNCL				*e*Sn	**Sn**	**14 10 56.6**	**-1.3**
PNCL				A	A	14 11 06.3	
	comp=N,5.9nm,0.5s						
PESTR	**Estremoz**	**2.75 1**		*e*Pn	**Pn**	**14 10 43.3**	**+2.1**
PESTR				*e*Sn	**Sn**	**14 11 12.2**	**-1.2**
PESTR				A	A	14 11 31.7	
	comp=N,2.8nm,0.8s						
PESTR	**Estremoz**	**2.75 1**		P	**Pn**	**14 10 41.6**	**+0.5**
PESTR				S	**Sn**	**14 11 13.2**	**-0.2**
ZHG	**ZHG**	**2.78 163**		P	**Pn**	**14 10 42.6**	**+1.1**
ZHG				S	**Sn**	**14 11 15.5**	**+1.4**
PMTG	**Montargil**	**2.99 351**		*e*Pn	**Pn**	**14 10 46.5**	**+2.1**
PMTG				*e*Sn	**Sn**	**14 11 18.3**	**-1.0**
PMTG				A	A	14 11 35.2	
	comp=N,3.8nm,0.5s						
PMAFR	**Mafra**	**3.13 336**		*e*Pn	**Pn**	**14 10 48.3**	**+2.0**
PMAFR				*e*Sn	**Sn**	**14 11 22.5**	**-0.2**
PMRV	**Marv??o**	**3.32 3**		*e*Pn	**Pn**	**14 10 50.5**	**+1.6**
PMRV				*e*Sn	**Sn**	**14 11 26.2**	**-1.2**
PMRV				A	A	14 11 38.2	
	comp=N,2.4nm,0.7s						
PCBR	**Castelo Branco**	**3.73 2**		*e*Sn	**Sn**	**14 11 36.0**	**-1.4**
PCBR				A	A	14 11 38.2	
	comp=N,1.9nm,0.3s						
MD31	**MD31**	**4.01 143**		P	**Pn**	**14 10 59.8**	**+1.3**
MD31				S	**Sn**	**14 11 44.2**	**-0.3**
MDT	**Midelt**	**4.13 142**		P	**Pn**	**14 11 00.7**	**+0.6**
MDT				S	**Sn**	**14 11 47.2**	**-0.3**
OUK	**Oukaimeden**	**4.89 182**		P	**Pn**	**14 11 12.2**	**+1.3**
OUK				S	**Sn**	**14 12 03.8**	**-2.9**
MVO	**Moncorvo**	**5.07 5**		*e*Pn	**Pn**	**14 11 14.9**	**+1.9**
MVO				*e*Sn	**Sn**	**14 12 08.5**	**-2.1**
OUZM	**OUZ**	**5.24 172**		P	**Pn**	**14 11 15.9**	**+0.5**
OUZM				S	**Sn**	**14 12 15.2**	**+0.3**
TTIG	**Tnine Tigouga,**	**5.59 187**		P	**Pn**	**14 11 19.3**	**-1.0**
TTIG				S	**Sn**	**14 12 19.5**	**-4.0**

NOU 03 14:24:48.4, 19°.14S×169°.57E, h230km, MLv4.2/16, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.73 321**		P	Pn	14 25 26.9	+0.2
DVP	**Devils Point**	**1.92 317**		P	Pn	14 25 29.0	+0.5
LIFNC	**LIFOU**	**2.73 233**		P	Pn	14 25 35.7	-1.0
MARNC	**Mare, Loyalty**	**2.74 212**		P	Pn	14 25 36.3	-0.5
YATNC	**Mamie plateau,**	**3.84 220**		P	Pn	14 25 48.4	-1.0
PINNC	**Pines Island,**	**3.98 210**		P	Pn	14 25 52.5	+1.4
DZM	**Mont Dzumac**	**4.13 225**		P	Pn	14 25 53.2	+0.2
OUENC	**Ouen Island, N**	**4.14 218**		P	Pn	14 25 53.1	+0.1
NOUC	**Port Laguerre**	**4.25 226**		P	Pn	14 25 54.6	+0.3
SANVU	**Saraoutou**	**4.31 328**		P	Pn	14 25 54.6	-0.6
KOUNC	**Koumac, New Ca**	**5.17 253**		P	Pn	14 26 06.6	+0.9

*JMA **03** 14:32:11.7±0.2, 24°.86N×122°.45E, h4km, M2.5*
*TAP **03** 14:32:11.5, 24°.90N×122°.40E, h4km, ML3.3, C*
ISC 03 14:32:11.4±1.1, 24°.89N±0°.03×122°.44E±0°.03, h6km±10km, n79, σ0°48/138, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.43 286**		*i*P	**Pg**	**14 32 20.4**	**+0.7**
	baz=286						
TWB1				*i*S	**Sb**	**14 32 26.8**	**-1.4**
	baz=286						
EGS		**0.47 264**		P	**Pg**	**14 32 21.2**	**+0.8**
	baz=262						
EGS				*i*S	**Sb**	**14 32 28.0**	**-1.2**
	baz=262						
SXI1	**Grass Mountain**	**0.55 291**		P	**Pb**	**14 32 23.2**	**-0.4**
	baz=292						
SXI1				S	**Sb**	**14 32 31.6**	**-0.1**
	baz=292						
NTC	**Toucheng**	**0.56 266**		*i*P	**Pb**	**14 32 23.0**	**-0.6**
	baz=265						
NTC				S	**Sb**	**14 32 31.3**	**-0.5**
	baz=265						
TIPB	**Shuangxi**	**0.56 278**		*i*P	**Pb**	**14 32 23.7**	**-0.1**
	baz=277						
TIPB				*i*S	**Sb**	**14 32 31.5**	**-0.6**
	baz=277						
TWC	**Suao**	**0.61 243**		*i*P	**Pg**	**14 32 23.6**	**+0.5**
	baz=239						
TWC				*i*S	**Sb**	**14 32 33.2**	**-0.1**
	baz=239						
NWF	**Wu-fen Shan**	**0.63 287**	⇑	*i*P	**Pb**	**14 32 24.5**	**-0.3**
	baz=286						
NWF				S	**Sb**	**14 32 33.8**	**-0.1**
	baz=286						
WFSB	**Wu-fen Shan**	**0.63 287**		P	**Pb**	**14 32 24.5**	**-0.2**
	baz=286						
WFSB				S	**Sb**	**14 32 34.7**	**+0.9**
	baz=286						
JYNG	**Yonagunijimaku**	**0.63 134**		P	**Pg**	**14 32 23.6**	**0.0**
JYNG				*e*S	**Sg**	**14 32 31.1**	**-0.7**
ILA	**Ilan**	**0.64 259**		P	**Pb**	**14 32 24.6**	**-0.4**
	baz=257						
ILA				S	**Sb**	**14 32 33.8**	**-0.5**
	baz=257						
TNOU	**National Taiwa**	**0.66 293**		P	**Pb**	**14 32 25.4**	**0.0**
	baz=293						
TNOU				*e*S	**Sb**	**14 32 35.9**	**+1.1**
	baz=293						
YOJ	**Yonaguni jima**	**0.67 130**		P	**Pg**	**14 32 24.3**	**0.0**
YOJ				*e*S	**Sg**	**14 32 32.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.67 130**		P	**Pg**	**14 32 24.4**	**+0.1**
	baz=128						
NDS	**Dongshan**	**0.71 249**		P	**Pb**	**14 32 25.9**	**-0.3**
	baz=246						
NDS				S	**Sb**	**14 32 35.8**	**-0.4**
	baz=246						
TWE	**Neicheng**	**0.72 257**		*i*P	**Pb**	**14 32 25.9**	**-0.5**
	baz=254						
TWE				*i*S	**Sb**	**14 32 36.5**	**-0.2**
	baz=254						
EWUT	**Wuta**	**0.75 234**		P	**Pb**	**14 32 26.9**	**0.0**
	baz=231						
EWUT				S	**Sb**	**14 32 37.4**	**0.0**
	baz=231						
TWA	**Mucha**	**0.78 277**		*i*P	**Pb**	**14 32 27.2**	**-0.3**
	baz=276						
TWA				*i*S	**Sb**	**14 32 38.1**	**-0.3**
	baz=276						
ENA	**Nanau**	**0.79 234**		*i*P	**Pb**	**14 32 27.2**	**-0.3**
	baz=231						
ENA				*i*S	**Sb**	**14 32 38.0**	**-0.5**
	baz=231						
FUSB	**Fushanzhiwuyua**	**0.79 261**		P	**Pg**	**14 32 26.9**	**+0.4**
	baz=259						
FUSB				S	**Sb**	**14 32 38.2**	**-0.3**
	baz=259						
PCYT	**Pengchaiyu**	**0.81 335**		*i*P	**Pg**	**14 32 26.6**	**-0.3**
	baz=338						
PCYT				*i*S	**Sb**	**14 32 39.2**	**+0.2**
	baz=338						
YM01	**YM01**	**0.83 288**		P	**Pg**	**14 32 27.6**	**+0.3**
	baz=287						
YM01				*e*S	**Sb**	**14 32 40.0**	**+0.3**
	baz=287						
ENTT	**Nioudou**	**0.83 253**		*i*P	**Pb**	**14 32 28.2**	**-0.2**
	baz=250						
ENTT				*i*S	**Sb**	**14 32 40.8**	**+0.9**
	baz=250						
NHDH	**Xindian Distri**	**0.84 275**		*i*P	**Pb**	**14 32 28.3**	**0.0**
	baz=274						
NHDH				S	**Sb**	**14 32 40.2**	**+0.3**
	baz=274						
TWY	**Chenhua**	**0.85 297**		*i*P	**Pg**	**14 32 28.0**	**+0.2**
	baz=297						
TWY				S	**Sb**	**14 32 40.6**	**+0.2**
	baz=297						
NWLT	**Wulai**	**0.86 263**		*e*P	**Pb**	**14 32 28.6**	**-0.2**
	baz=261						
NWLT				*e*S	**Sb**	**14 32 40.6**	**0.0**
	baz=261						
EHP	**Heping Village**	**0.86 228**		*e*S	**Sb**	**14 32 41.6**	**+1.0**
	baz=225						
TAP	**Taipei**	**0.86 280**		P	**Pg**	**14 32 28.0**	**+0.1**
	baz=279						
TAP				S	**Sb**	**14 32 41.3**	**+0.7**
	baz=279						
ANP	**Anpu**	**0.89 289**		*i*P	**Pb**	**14 32 29.1**	**-0.1**
	baz=289						
ANP				S	**Sb**	**14 32 41.2**	**-0.2**
	baz=289						
NDT	**Datong Townshi**	**0.89 251**		*i*P	**Pb**	**14 32 29.6**	**+0.2**
	baz=249						
NDT				S	**Sb**	**14 32 41.7**	**+0.2**
	baz=249						
LATG	**Datong**	**0.91 247**		P	**Pg**	**14 32 29.1**	**+0.4**
	baz=245						
LATG				S	**Sb**	**14 32 41.9**	**-0.1**
	baz=245						
NTST	**Danshui**	**0.94 287**		*e*P	**Pg**	**14 32 29.4**	**0.0**
	baz=286						
NTST				*e*S	**Sb**	**14 32 43.8**	**+0.9**
	baz=286						
TWS1	**Kuangyinshan**	**0.95 283**		P	**Pg**	**14 32 29.6**	**-0.1**
	baz=282						
TWS1				S	**Sb**	**14 32 43.8**	**+0.6**
	baz=282						
YHNB	**Yeheng**	**0.99 257**		P	**Pb**	**14 32 31.2**	**+0.1**
	baz=256						
YHNB				S	**Sn**	**14 32 45.8**	**-0.7**
	baz=256						
NSK	**Sanguang**	**1.01 258**		*i*P	**Pb**	**14 32 31.2**	**-0.1**
	baz=256						
NSK				*i*S	**Sn**	**14 32 46.2**	**-0.6**
	baz=256						
ETL	**Fush Village**	**1.04 226**		P	**Pn**	**14 32 32.6**	**0.0**
	baz=223						
ETL				S	**Sn**	**14 32 47.0**	**-0.5**
	baz=223						
NACB	**Ninganchiao**	**1.05 227**		P	**Pb**	**14 32 32.4**	**+0.3**
	baz=225						
NACB				S	**Sb**	**14 32 45.9**	**-0.2**
	baz=225						
NNSB	**Datong**	**1.07 245**		P	**Pg**	**14 32 31.9**	**0.0**
	baz=243						
NNSB				S	**Sb**	**14 32 47.2**	**+0.5**
	baz=243						
NNS	**Nan Shan**	**1.07 245**		*i*P	**Pb**	**14 32 32.5**	**+0.1**
	baz=243						
NNS				*i*S	**Sn**	**14 32 47.9**	**-0.5**
	baz=243						
ETLH	**Xiulin Townshi**	**1.11 232**		P	**Pn**	**14 32 33.5**	**-0.1**
	baz=230						
ETLH				S	**Sn**	**14 32 49.3**	**0.0**
	baz=230						
TWD	**Chiawan**	**1.12 224**		P	**Pg**	**14 32 32.9**	**+0.1**
	baz=221						
TWD				*i*S	**Sn**	**14 32 49.6**	**+0.2**
	baz=221						
NCU	**National Centr**	**1.14 274**		*e*P	**Pg**	**14 32 33.5**	**+0.2**
	baz=273						
NCUH	**Zhongli**	**1.14 274**		*e*S	**Sb**	**14 32 49.1**	**+0.4**
	baz=273						
HWA	**Hwalien**	**1.19 220**		*e*P	**Pn**	**14 32 35.0**	**+0.4**
	baz=217						
HWA				*e*S	**Sn**	**14 32 51.5**	**+0.4**
	baz=217						
FUSS	**Fushou**	**1.27 240**		P	**Pn**	**14 32 36.3**	**+0.4**
	baz=238						
FUSS				S	**Sn**	**14 32 53.6**	**+0.2**
	baz=238						
IRIF	**Iriomote-Funau**	**1.30 115**		P	**Pn**	**14 32 36.3**	**+0.2**
WHF	**Hehuan Shan**	**1.30 235**		*i*P	**Pn**	**14 32 37.0**	**+0.4**
	baz=233						
WHF				*i*S	**Sb**	**14 32 54.0**	**+0.2**
	baz=233						
LIOB	**Emei**	**1.32 260**		P	**Pg**	**14 32 36.0**	**-0.7**
	baz=258						
LIOB				S	**Sn**	**14 32 54.3**	**-0.1**
	baz=258						
SBCB	**Hsinchu**	**1.33 266**		P	**Pn**	**14 32 35.9**	**-0.6**
	baz=265						
SBCB				*e*S	**Sn**	**14 32 54.7**	**+0.2**
	baz=265						
NSTT	**Nanjuang**	**1.34 259**		P	**Pn**	**14 32 36.0**	**-0.6**
	baz=258						
NSTT				S	**Sn**	**14 32 55.1**	**+0.4**
	baz=258						
HSN	**Hsinchu**	**1.34 266**		*e*S	**Sg**	**14 32 54.3**	**-0.2**
	baz=266						
ESL	**Shilin**	**1.41 221**		P	**Pn**	**14 32 38.0**	**+0.2**
	baz=218						
ESL				S	**Sn**	**14 32 57.9**	**+1.3**
	baz=218						
CHGB	**Renai**	**1.42 235**		*e*P	**Pn**	**14 32 38.2**	**+0.2**
	baz=233						
CHGB				S	**Sn**	**14 32 57.7**	**+0.5**
	baz=233						
OWD	**Renai**	**1.48 231**		P	**Pb**	**14 32 39.4**	**-0.1**
	baz=229						
OWD				S	**Sn**	**14 32 58.6**	**0.0**
	baz=229						
WHP	**Taichung City**	**1.49 246**		*e*P	**Pb**	**14 32 39.5**	**-0.1**
	baz=244						
WHP				*e*S	**Sg**	**14 32 59.9**	**+0.5**
	baz=244						
WUSB	**Renai**	**1.50 234**		P	**Pb**	**14 32 39.8**	**0.0**
	baz=232						
WUSB				S	**Sg**	**14 32 59.9**	**+0.2**
	baz=232						
EGFH	**Guangfu**	**1.53 217**		*e*P	**Pn**	**14 32 39.4**	**+0.1**
	baz=215						
EGFH				*e*S	**Sg**	**14 33 00.6**	**0.0**
	baz=215						
NMLH	**Miaoli**	**1.54 257**		*e*P	**Pb**	**14 32 40.5**	**+0.1**
	baz=256						
JKRS	**Kuro-shima**	**1.57 114**		P	**Pn**

YULB	Yu-li	1.82 215	eP	Pn	14 32 43.5	+0.2
	baz=213					
EYUL	Yuli	1.85 214	eP	Pn	14 32 44.0	+0.3
	baz=212					
WNT	Mingjian	1.90 238	eP	Pn	14 32 44.4	+0.1
	baz=236					
FULB	Fuli	1.99 212	eP	Pb	14 32 47.2	-0.8
	baz=210					
ALS	Alishan	2.03 228	eP	Pn	14 32 47.0	+0.6
	baz=227					
CHKT	Chengkung	2.04 209	eP	Pn	14 32 46.8	+0.5
	baz=207					
CHN5	Tsauling	2.06 232	eP	Pn	14 32 48.0	+1.3
	baz=230					
CHN4	Tsaushan	2.28 228	eP	Pn	14 32 50.0	+0.3
	baz=226					
TPUB	Ta-pu	2.29 227	eP	Pn	14 32 50.2	+0.4
	baz=225					
WTP	Ta-pu	2.34 226	eP	Pn	14 32 50.8	+0.3
	baz=224					
TWK	Hsinying	2.41 228	eP	Pn	14 32 52.5	+1.0
	baz=226					
CHN1	Nanshi	2.44 226	eP	Pb	14 32 54.2	-1.6
	baz=225					
CHN1			eS	Sn	14 33 21.9	-0.2
	baz=225					

*MAN **03** 14:32:59.6, 4.˚33N×126.˚95E, h32km, mb4.9, ML3.8, MS3.7*
*NEIC **03** 14:33:09.2±1.9, 4.˚85N±0.˚07×126.˚85E±0.˚05, h81km±8km, mb4.4/30, Error ellipse: s-maj=11.9km s-min=1.9km az=211.0*
*IDC **03** 14:33:09.1±1.4, 4.˚82N×126.˚85E, h84km±13km, mb3.7/13, mb1 3.8/15, mb1mx3.5/59, mbtmp4.1/15, MS3.2/7, Ms1 3.2/7, ms1mx2.7/76, Error ellipse: s-maj=31.7km s-min=8.7km az=65.0*

ISC 03 14:33:08.0±0.4, 4.˚83N±0.˚05×126.˚92E±0.˚07, h76km, n62, σ1§49/62, mb4.3/24, 2C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	2.21 343	⇑	eP	Pn	14 33 41.2	-1.4
MATI				eS	Sn	14 34 13.0	+4.0
GSPH	General Santos	2.33 303	⇓	eP	Pn	14 33 39.2	-5.1
DAV	Davao City (W)	2.60 329		P	Pn	14 33 48.2	+0.4
	75nm,0.3s,baz=301,slow=0.3,SNR=4.2						
DAV				S	Sn	14 34 19.9	+1.4
	57nm,0.3s,baz=277,slow=19,SNR=3.9						
DAV				LR	LR	14 34 33.0	
	comp=Z,101nm,19.7s,baz=27,slow=33						
DAV	Davao City (W)	2.60 329			Pn	14 33 47.8	-0.1
KCP	Kidapawan	2.83 320	⇑	iP	Pn	14 33 46.1	-5.0
KCP				i S	Sn	14 34 27.0	+2.8
BUKP	Musuan	3.55 329	⇓	eP	Pn	14 34 00.1	-0.7
BUKP				i S	Sn	14 34 47.7	+5.9
TNTI	Ternate	4.05 174			Pn	14 34 08.3	+0.6
SIJI	Sorong	7.13 142		P	Pn	14 34 51.1	+1.3
	2.8nm,0.3s,baz=331,slow=21,SNR=11						
SIJI				S	Sn	14 36 11.3	+2.0
	0.9nm,0.3s,baz=320,slow=23,SNR=1.6						
LUWI	Luwuk	7.15 216		Pn	Pn	14 34 51.5	+1.5
TOLI2	Tolitoli	7.15 239		Pn	Pn	14 34 49.7	-0.3
MYLDM	Lahad Datu	8.39 273			Pn	14 35 07.0	0.0
FAKI	Fak Fak	9.36 145		Pn	Pn	14 35 21.7	+1.6
KAPI	Kappang	12.11 216		LR	LR	14 40 37.7	
	comp=Z,33nm,20.0s,baz=60,slow=37						
SBUM	Sibu	14.86 261		P	P	14 36 38.8	+0.8
KSM	Kuching	16.91 259		P	P	14 37 01.5	+0.7
MTN	Manton Dam	18.05 167		P	P	14 37 12.2	-1.1
JAGI	Jajag, Banyuwa	18.34 224		P	Pn	14 37 17.9	+0.5
JAGI				IAmb	IAmb	14 37 58.1	
	comp=Z,24nm,1.1s						
YULB	Yu-li	19.24 344		P	P	14 37 26.9	+0.6
YULB				IAmb	IAmb	14 37 59.9	
	comp=Z,42nm,1.6s						
TPUB	Ta-pu	19.34 342		P	P	14 37 26.4	-1.1
TPUB				IAmb	IAmb	14 37 49.8	
	comp=Z,48nm,1.4s						
YHNB	Yeheng	20.44 345		P	P	14 37 39.3	-0.1
YHNB				IAmb	IAmb	14 38 01.1	
	comp=Z,28nm,1.3s						
KNRA	Kununurra	20.45 175		P	P	14 37 40.3	+0.8
KNRA				IAmb	IAmb	14 38 22.1	
	comp=Z,24nm,1.2s						
FITZ	Fitzroy Crossi	22.81 183		P	P	14 38 05.3	+0.6
	comp=Z,3.8nm,0.6s,baz=3.8,slow=10,SNR=9.0						
WB0	Warramunga Arr	25.52 163		P	P	14 38 30.0	+0.4
WB0				IAmb	IAmb	14 38 32.5	
	comp=Z,9.9nm,0.6s						
WRAB	Tennant Creek	25.67 164		P	P	14 38 31.9	+0.9
WRAB				IAmb	IAmb	14 38 34.0	
	comp=Z,6.8nm,0.7s						
WRA	Warramunga Arr	25.67 164		P	P	14 38 31.4	+0.4
	comp=Z,4.7nm,0.7s,baz=343,slow=10,SNR=44						
WB2	Warramunga Arr	25.68 164		P	P	14 38 30.9	-0.2
WB2				IAmb	IAmb	14 38 34.1	
	comp=Z,6.2nm,0.7s						
WR0	Warramunga Arr	25.75 163		P	P	14 38 31.9	+0.2
AS31	Alice Springs	29.13 167		P	P	14 39 02.0	0.0
ASAR	Alice Springs	29.13 167		P	P	14 39 02.6	+0.7
	comp=Z,0.5nm,0.5s,baz=344,slow=7.1,SNR=13						
ASAR				PcP	PcP	14 42 08.6	+0.4
	comp=Z,0.5nm,0.7s,baz=356,slow=3.1,SNR=2.9						
CMAR	Chiang Mai Arr	30.50 299		P	P	14 39 15.0	+0.8
	comp=Z,0.3nm,0.5s,baz=118,slow=7.6,SNR=2.0						
JMM	Marumori	35.24 19		P	P	14 39 55.4	+0.2
MORW	Morawa	35.28 197		P	P	14 39 54.6	-1.1
FORT	Forrest	35.42 178		P	P	14 39 56.9	0.0
EIDS	Eidsvold	38.10 143		P	P	14 40 16.5	-3.2
BBOO	Buckleboo	38.42 168		P	P	14 40 23.2	+0.9
STKA	Stephens Creek	39.09 160		P	P	14 40 28.3	+0.4
	comp=Z,3.0nm,0.8s,baz=335,slow=8.7,SNR=8.2						
STKA	Stephens Creek	39.09 160		P	P	14 40 28.1	+0.2
SHL	Shillong	39.39 305		P	P	14 40 29.2	-1.6
SHL				IAmb	IAmb	14 40 31.9	
	comp=Z,3.5nm,0.7s						
ARMA	Armidale	42.28 148		P	P	14 40 56.1	+1.7
KLR	Kul'dur	44.44 5		P	P	14 41 11.4	+0.1
	comp=Z,0.5nm,0.4s,baz=180,slow=10,SNR=2.0						
ULN	Ulaanbaatar	46.14 342		P	P	14 41 25.4	+0.4
ULN				IAmb	IAmb	14 42 18.9	
	comp=Z,9.4nm,1.6s						
SONM	Songino Array	46.33 341		P	P	14 41 26.8	+0.3
	comp=Z,0.8nm,0.4s,baz=160,slow=8.0,SNR=11						
SONM				PcP	PcP	14 43 00.9	+0.4
	comp=Z,0.6nm,0.8s,baz=145,slow=5.6,SNR=3.5						
PETK	Petropavlovsk-	54.35 22		P	P	14 42 27.8	+1.1
	comp=Z,1.1nm,0.8s,baz=188,slow=2.9,SNR=4.4						
MK31	Makanchi Array	56.77 325		P	P	14 42 43.0	-1.3
MK31				IAmb	IAmb	14 43 41.6	
	comp=Z,4.6nm,1.4s						
MKAR	Makanchi Array	56.77 325		P	P	14 42 42.9	-1.4
	comp=Z,0.6nm,0.4s,baz=120,slow=7.4,SNR=19						
MAKZ	Makanchi	56.96 325		P	P	14 42 43.6	-2.0
MAKZ				IAmb	IAmb	14 43 41.6	
	comp=Z,9.1nm,1.6s						
ZALV	Zalesovo Beam	59.70 333		P	P	14 43 04.6	0.0
	comp=Z,0.4nm,0.3s,baz=157,slow=7.8,SNR=1.3						
ZALV				LR	LR	15 10 13.4	
	comp=Z,26nm,20.3s,baz=118,slow=37						
KURK	Kurchatov	60.93 327		P	P	14 43 12.4	-0.5
KURK				IAmb	IAmb	14 43 16.4	
	comp=Z,5.3nm,1.3s						
KKAR	Karatay Array	62.57 317		P	P	14 43 23.5	-0.7
BRVK	Borovoye	66.58 327		P	P	14 43 48.3	-1.8
BRVK				IAmb	IAmb	14 44 29.3	
	comp=Z,7.3nm,1.6s						
TIXI	Tiksi	66.75 1		P	P	14 43 50.2	-0.6
NRIK	Noril'sk	69.42 346		LR	LR	15 18 45.1	
	comp=Z,27nm,18.4s,baz=28,slow=39						
ABKAR	Abkulak array	71.43 320		P	P	14 44 18.7	-1.5
SOCY	Socotra	72.33 281		P	P	14 44 23.3	-3.1
SOCY				IAmb	IAmb	14 44 50.6	
	comp=Z,17nm,1.3s						
AKTO	Aktyubinsk	72.92 321		P	P	14 44 28.9	-0.2
	comp=Z,0.7nm,0.5s,baz=82,slow=12,SNR=4.1						
ARU	Arti	74.12 328		P	P	14 44 35.4	-0.6
ARU				IAmb	IAmb	14 46 15.1	
	comp=Z,14nm,1.6s						
ARCES	ARCESS Array B	89.49 340		P	P	14 45 55.3	-1.1
	comp=Z,2.4nm,0.7s,baz=75,slow=5.4,SNR=6.6						
FINES	FINESS Array B	90.96 332		P	P	14 46 05.1	+1.7
	comp=Z,2.7nm,1.0s,baz=60,slow=8.2,SNR=4.2						
AKASG	Malin Array Be	91.17 321		LR	LR	15 28 30.2	
	comp=Z,22nm,20.5s,baz=329,slow=36						
NOA	NORSAR Array B	97.89 334		LR	LR	15 33 32.6	
	comp=Z,16nm,19.6s,baz=290,slow=37						
VRAC	Vranov	99.40 322		LR	LR	15 34 02.6	
	comp=Z,24nm,20.0s,baz=7.0,slow=37						
TORD	Torodi Ar. Bea	122.75 289		PKP	PKPdf	14 51 55.0	-1.3
	comp=Z,0.2nm,0.4s,baz=93,slow=2.2,SNR=2.2						

*GII **03** 14:35:28.5±0.0, 37.˚17N×30.˚90E, h5km*
*ISK **03** 14:35:28.7, 37.˚26N×31.˚36E, h5km, ML3.3/30*
*DDA **03** 14:35:29.1±0.0, 37.˚22N×31.˚32E, h7km±2km, ML2.9*
*NIC **03** 14:35:33.3±0.0, 37.˚18N×31.˚48E, h22km±31km, Ml3.6/5*

ISC 03 14:35:29.1±1.2, 37.˚23N±0.˚02×31.˚37E±0.˚02, h1km±11km, n62, σ1§37/79, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEDI	Konya, Seydise	0.38	55	P	Pb	14 35 37.6	-1.1
SEDI				S	Sb	14 35 43.6	-1.6
KEPZ	Antalya-Kepez	0.38	150	P	Pb	14 35 37.5	-1.2
KEPZ				S	Sg	14 35 42.7	+1.4
KEPZ				i AML	AML	14 35 47.0	
	comp=E,1μm,0.8s						
BUCA	Burdur, Bucak-	0.65	279	P	Pg	14 35 41.3	-0.3
BUCA				S	Sb	14 35 53.0	+0.1
BUCA				i AML	AML	14 35 57.0	
	comp=N,637nm,0.5s						
BUCA				i AML	AML	14 36 01.0	
	comp=E,740nm,0.8s						
ANTB	Antalya	0.66	240	PG	Pb	14 35 43.6	+0.2
ANTB				SG	Sn	14 35 53.7	-2.8
BCK	Bucak	0.66	290	PG	Pg	14 35 41.9	+0.2
KORT	Korkueli	0.84	254	PG	Pg	14 35 45.3	+0.1
KORT				SG	Sb	14 35 58.4	-0.1
BAGO	Egridir - ISPA	0.89	329	P	Pg	14 35 46.2	+0.2
BAGO				S	Sb	14 36 00.2	+0.5
BAGO				i AML	AML	14 36 03.0	
	comp=N,329nm,0.7s						
BAGO				i AML	AML	14 36 05.0	
	comp=E,448nm,0.5s						
DOGA	KONYA_Doganhis	0.91	15	P	Pg	14 35 46.3	-0.1
DOGA				S	Sg	14 35 58.4	+0.2
DOGA				i AML	AML	14 36 03.0	
	comp=E,597nm,1.1s						
DOGA				i AML	AML	14 36 04.0	
	comp=N,605nm,0.3s						
HDMB	Hadim	0.93	106	PG	Pg	14 35 47.2	+0.2
KMER	Konya-Meram	0.96	56	P	Pg	14 35 48.0	+0.6
KMER				S	Sn	14 36 03.1	-1.1
KMER				i AML	AML	14 36 06.0	
	comp=E,314nm,0.3s						
KMER				i AML	AML	14 36 06.0	
	comp=N,414nm,0.5s						
YVAC	Isparta, Yalva	1.04	355	P	Pg	14 35 48.9	-0.2
YVAC				S	Sg	14 36 02.9	+0.3
YVAC				i AML	AML	14 36 06.0	
	comp=N,401nm,0.5s						
YVAC				i AML	AML	14 36 07.0	
	comp=E,390nm,0.8s						
KONT	Konya--Tatoy	1.06	48	PG	Pg	14 35 49.9	+0.4
KONT	Konya--Tatoy	1.06	48	P	Pg	14 35 49.9	+0.4
KONT				i AML	AML	14 36 11.0	
	comp=E,304nm,0.5s						
LADK	Ladik-KONYA	1.25	39	PN	Pn	14 35 53.0	-0.8
GAZI	Gazipasa	1.25	142	PN	Pg	14 35 53.2	+0.1
KKBE	Karaman, Kazim	1.26	90	P	Pn	14 35 52.7	-1.2
KKBE				S	Sn	14 36 11.3	-0.2
ELL	Elmali	1.26	248	PN	Pn	14 35 53.9	-0.1
SHUT	Suhut-Afyon	1.47	334	PN	Pb	14 35 57.1	-0.2
KIZT	Kizilcal	1.69	14	PN	Pb	14 36 00.2	-0.9
AKAS	Kas	1.73	235	PN	Pb	14 36 01.3	-0.4
BERE	Bereket-Mersin	1.73	120	PN	Pb	14 36 01.0	-0.8
TEKE	Tekeli-Mersin	1.78	127	PN	Pb	14 36 01.7	-0.7
CHBY	Cihanbeyli	1.81	41	PN	Pb	14 36 02.4	-0.6
TEVE	Tevekalti-Mers	1.85	115	PN	Pb	14 36 03.0	-0.7
FETY	Fethiye	1.92	253	PN	Pb	14 36 03.8	-1.1
SULT	Sultanhani-AKS	1.96	60	PN	Pb	14 36 04.5	-1.1
YORU	Yoruktepe-Mers	1.96	123	PN	Pb	14 36 04.7	-0.9
OREN	Orenkoy-Mersin	1.97	121	PN	Pb	14 36 04.8	-0.9
YESY	Yesilyurt	1.97	73	PN	Pb	14 36 04.6	-1.2
TEPK	Tepekoy-MERSIN	2.02	119	PN	Pb	14 36 05.6	-1.0
KEBE	Keben-Mersin	2.04	112	PN	Pb	14 36 05.8	-1.1
AKKU	Akkuyu-Mersin	2.06	121	PN	Pb	14 36 06.1	-1.1
AKK1	Akkuyu-Mersin	2.06	121	PN	Pb	14 36 06.1	-1.1
AKK2	Akkuyu-Mersin	2.07	121	PN	Pb	14 36 06.4	-0.9
YESI	Yesilovacik-Me	2.10	119	PN	Pb	14 36 06.8	-1.1
IKL	Isikli	2.11	117	PN	Pb	14 36 07.1	-1.0
CIFT	Cifteler, Eski	2.14	354	PN	Pn	14 36 06.7	+0.7
TISA	Tisan-Mersin	2.14	119	PN	Pb	14 36 07.4	-1.3
KARG	Kargicak-Mersi	2.14	118	PN	Pb	14 36 07.4	-1.3
KULU	Kulu	2.22	35	PN	Pn	14 36 07.9	+0.8
ALFC	Alefka	2.30	154	P	Pn	14 36 07.0	-1.1
ALFC				S	Sn	14 36 37.0	-0.1
ALFC				AML	AML	14 36 39.6	
	1.5nm,0.5s						
ALFC				AML	AML	14 36 39.6	
	1.5nm,0.5s						
ALFC				AML	AML	14 36 48.9	
	1.7nm,0.6s						
ALFC				AML	AML	14 36 48.9	
	1.7nm,0.6s						
AKDN	Akdeniz- Kıbrı	2.32	146	PN	Pb	14 36 10.0	-1.7
AKMS	Akamas	2.34	160	P	Pn	14 36 07.8	-0.9
AKMS				S	Sb	14 36 40.0	-1.6
AKMS				AML	AML	14 36 49.0	
	1.4nm,0.6s						
AKMS				AML	AML	14 36 49.0	
	1.4nm,0.6s						
AKMS				AML	AML	14 36 50.7	
	0.9nm,0.5s						
AKMS				AML	AML	14 36 50.7	
	0.9nm,0.5s						
KIZK	Mersin	2.35	108	PN	Pb	14 36 10.5	-1.7
SERE	Sereflikochisa	2.44	45	PN	Pn	14 36 11.0	+0.9
LEF	Lefka	2.44	149	PN	Pb	14 36 11.4	-2.4
GULA	Gulagac	2.53	63	PN	Pn	14 36 12.8	+1.4
MERS	Mersin	2.55	97	PN	Pb	14 36 13.5	-2.2
LFK	Lefkose	2.62	137	PN	Pb	14 36 14.5	-2.3
CSS	Mathiatis	2.77	144	P	Pn	14 36 15.8	+1.3
CSS				S	Sn	14 36 48.6	0.0
CSS				AML	AML	14 36 56.2	
	0.2nm,0.6s						
CSS				AML	AML	14 36 56.2	
	0.2nm,0.6s						
CSS				AML	AML	14 37 02.8	
	0.2nm,0.7s						
CSS				AML	AML	14 37 02.8	
	0.2nm,0.7s						
KAMT	Kaman	2.82	40	PN	Pn	14 36 17.1	+1.7
EREN	Erenkoy	2.83	126	PN	Pb	14 36 17.5	-2.9
MVOU	Mavrovouni	2.87	140	P	Pn	14 36 16.0	0.0
MVOU				S	Sn	14 36 51.9	+0.7
MVOU				AML	AML	14 36 55.2	
	0.4nm,0.7s						
MVOU				AML	AML	14 36 55.2	
	0.4nm,0.7s						
MVOU				AML	AML	14 36 55.9	
	0.5nm,0.7s						
MVOU				AML	AML	14 36 55.9	
	0.5nm,0.7s						
ASGA	Asgata	2.88	147	P	Pn	14 36 17.4	+1.3
ASGA				S	Sn	14 36 49.6	-1.7
ASGA				AML	AML	14 37 03.7	
	0.5nm,0.6s						
ASGA				AML	AML	14 37 03.7	
	0.5nm,0.6s						
ASGA				AML	AML	14 37 04.1	
	0.8nm,0.8s						
ASGA				AML	AML	14 37 04.1	
	0.8nm,0.8s						
KARA	Karaisali	2.94	88	PN	Pn	14 36 18.8	+1.8
MMC7	Mount Meron ar	5.34	141	Pn	Pn	14 36 52.3	+2.3
MMA0B	Mount Meron ar	5.35	141	Pn	Pn	14 36 51.7	+1.6
MMA0B				Sn	Sn	14 37 56.4	+3.9
OFRI	Ofer	5.48	146	Pn	Pn	14 36 53.4	+1.6
MMLI	Mount Malkishu	5.83	144	Pn	Pn	14 36 58.5	+1.8
HMDT	Nahal Hemdat	6.03	144	Pn	Pn	14 37 01.7	+2.3
HMDT				Sn	Sn	14 38 13.1	+4.0
DSI	Dead Sea	6.55	148	Pn	Pn	14 37 07.3	+0.8
MBRI	Mt Berech	7.99	157	Pn	Pn	14 37 26.6	+0.2

*BJI **03** 14:39:20.5±0.0, 23.˚06N×142.˚91E, h95km, mb4.8/63, mB4.9/31*
*IDC **03** 14:39:28.3±0.4, 23.˚06N×142.˚41E, h134km±3km, mb4.3/35, mb1 4.3/38, mb1mx4.2/49, mbtmp4.7/38, MS3.4/18, Ms1 3.4/18, ms1mx3.1/84, Error ellipse: s-maj=10.0km s-min=7.5km az=89.0*
*NEIC **03** 14:39:28.4±1.5, 23.˚11N±0.˚07×142.˚58E±0.˚09, h130km±5km, mb4.8/184, Error ellipse: s-maj=11.8km s-min=10.8km az=87.0*
*JMA **03** 14:39:30.5±0.1, 23.˚57N×142.˚68E, h179km±2km, M5.3*
JMA Felt I J1.
*GCMT **03** 14:39:31.4±0.4, 23.˚22N±0.˚02×142.˚37E±0.˚03, h118km±3km, MW4.9/63, Moment Tensor Solution. s22,c24; s63,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.14±.09; $M_{\theta\theta}$-0.89±.12; $M_{\phi\phi}$-0.25±.13; $M_{r\theta}$-0.21±.08; $M_{r\phi}$-2.25±.09; $M_{\theta\phi}$0.86±.09; Best double couple: $M_0$2.57800×10^{16} NP1:ϕ_s269.00000°, δ61.00000°, λ157.00000°. NP2:ϕ_s11.00000°, δ70.00000°, λ31.00000°. Principal axes: T 2.2700, Plg36.0000°, Azm232.0000°; N 0.6170, Plg54.0000°, Azm40.0000°; P -2.8860, Plg6.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 14:39:27.7±0.4, 23.˚17N±0.˚04×142.˚62E±0.˚05, h129km±3km, h129km:pP-P, n563, σ1§35/591, mb4.8/194, 6C-5D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	3.48	353	P	Pn	14 40 20.5	0.0
JHH2				S	Sn	14 40 59.2	-2.2
CBIJ	Chichi jima	3.93	354	P	Pn	14 40 26.4	-0.1
CBIJ				S	Sn	14 41 09.5	-2.7
JCJ	Chichijima	3.93	354		Pn	14 40 26.3	-0.3
JCJ	Chichijima	3.93	354	P	Pn	14 40 26.5	0.0
GUMO	Guam	9.76	167	LR	LR	14 44 31.6	
	comp=Z,469nm,18.2s,baz=344,slow=31						
JHJ2	Mitsune	10.21	347	P	Pn	14 41 48.1	-2.7
JHJ2				eS	Sn	14 43 36.4	-7.1
JHJ2	Mitsune	10.21	347	Pn	Pn	14 41 48.2	-2.7
JHJ2	Mitsune	10.21	347	P	Pn	14 41 49.8	-1.0
JHJ	Hachijo jima 2	10.22	346	P	Pn	14 41 48.2	-2.8
	57nm,0.3s,baz=97,slow=22,SNR=32						
JHJ				S	Sn	14 43 37.1	-6.7
	36nm,0.3s,baz=240,slow=21,SNR=2.9						
JMKN	Mikurajimanish	11.01	347	P	Pn	14 41 59.2	-2.3
BSO1	Boso 1	11.54	353	P	Pn	14 42 05.8	-2.1
BSO1				eS	Sn	14 44 07.2	-7.5
JTNC	Tanabenakahech	12.27	331	P	Pn	14 42 16.5	-1.6
JIE	Ise	12.32	336	P	Pn	14 42 16.3	-2.5
JOD2	Odawara 2	12.44	346	P	Pn	14 42 17.3	-3.0
JMN	Monobe	13.02	326	Pn	Pn	14 42 27.1	-0.8
INU	Inuyama	13.08	339	Pn	Pn	14 42 27.2	-1.5
INU	Inuyama	13.08	339	P	Pn	14 42 27.4	-1.2
JYT	Yasato	13.19	351	Pn	Pn	14 42 26.1	-3.9
JRY	Ryogami san	13.21	347	P	Pn	14 42 26.7	-3.6
JRY				eS	Sn	14 44 45.4	-11
JGF	Kuroka	13.21	341		Pn	14 42 27.6	-2.8
JOW	Kunigami	13.51	289	P	Pn	14 42 32.6	-1.6
	1.4nm,0.3s,baz=139,slow=11,SNR=8.1						
JOW				LR	LR	14 46 26.0	
	comp=Z,185nm,20.6s,baz=142,slow=31						
JOW	Kunigami	13.51	289	P	Pn	14 42 34.9	+0.7
JOW	Kunigami	13.51	289		Pn	14 42 32.8	-1.4
JOW	Kunigami	13.51	289	P	Pn	14 42 34.4	+0.2
JWT	Wachi	13.61	334	Pn	Pn	14 42 33.9	-1.6
JSU	Suzuyama	13.62	310		P	14 42 39.8	-0.3
MJAR	Matsushiro Arr	13.87	345	P	Pn	14 42 35.0	-3.7
	1.2nm,0.3s,baz=158,slow=11,SNR=39						
MJAR				S	Sn	14 45 01.1	-11
	0.4nm,0.3s,baz=164,slow=18,SNR=4.5						
MJAR				LR	LR	14 48 09.1	
	comp=Z,74nm,21.4s,baz=144,slow=37						
MJAR	Matsushiro Arr	13.87	345	Pn	Pn	14 42 35.0	-3.7
MAJO	Matsushiro	13.87	345	Pn	Pn	14 42 35.0	-3.8
MAT	Matsushiro	13.87	345	P	Pn	14 42 34.7	-4.0
MAT				S	Sn	14 45 01.8	-10
MJB9	Matsu-Tunnel	13.87	345	Pn	Pn	14 42 34.9	-3.9
JNU	Nakatsue	14.33	316	P	Pn	14 42 43.8	-0.9
	0.2nm,0.3s,baz=150,slow=7.1,SNR=7.4						
JNU	Nakatsue	14.33	316	Pn	Pn	14 42 44.6	0.0
JHS	Saijyo	14.41	327		P	14 42 47.8	-1.1
JMM	Marumori	14.73	354		Pn	14 42 47.0	-2.7
JTM	Tennmabayashi	17.62	356		P	14 43 24.0	-0.1
YOJ	Yonaguni jima	17.99	278	Pn	Pn	14 43 29.3	-0.3
ERM	Erimo	18.80	1	P	P	14 43 36.6	-0.4
KSRS	Korea Array	19.04	322	P	P	14 43 38.6	-1.1
	0.2nm,0.3s,baz=132,slow=11,SNR=14						
KSAR	Wonju Array Be	19.05	322	P	P	14 43 40.2	+0.4
KS19	Wonju Array Si	19.10	322	P	P	14 43 40.4	0.0
KS19				IAmb	IAmb	14 43 45.4	
	comp=Z,50nm,0.9s						
YHNB	Yeheng	19.48	279	Pn	Pn	14 43 46.6	-0.7
YHNB				IAmb	IAmb	14 44 09.8	
	comp=Z,24nm,0.8s						
YULB	Yu-li	19.59	275		Pn	14 43 47.6	-0.9
YULB				IAmb	IAmb	14 43 51.8	
	comp=Z,29nm,0.6s						
JEW	Eniwo	19.64	357		Pn	14 43 48.6	-0.3
TWG	Pinlang	19.84	273	P	P	14 43 49.0	+0.4
TWG				IAmb	IAmb	14 44 13.8	
	comp=Z,52nm,1.3s						
SSLB	Suanglung	19.88	276	P	P	14 43 49.8	+0.7
SSLB				IAmb	IAmb	14 43 54.5	
	comp=Z,51nm,0.6s						
SSLB	Suanglung	19.88	276	P	Pn	14 43 51.5	-0.4
TPUB	Ta-pu	20.21	275	P	P	14 43 53.5	+1.0
TPUB				IAmb	IAmb	14 44 02.0	
	comp=Z,32nm,0.8s						
SSE	Sheshan	20.62	297	P	P	14 43 57.4	+0.5
SSE				S	S	14 47 36.3	-4.0
SSE				pmax	pmax		
	comp=Z,12nm,0.5s						
SSE				pmax	pmax		
	comp=Z,68nm,5.2s						
SSE				LR	LR		
	com

comp=Z,130nm,17.0s
TIA Tai'an 25.59 306 ⇓P **P 14 44 45.0 +0.1**
TIA pmax pmax
comp=Z,59nm,0.9s
BNX BinXian 25.69 335 ⇑P **P 14 44 45.5 -0.1**
BNX pmax pmax
comp=Z,9.0nm,1.3s
BNX pmax pmax
comp=Z,250nm,5.2s
SWI Sorong 26.32 206 P **P 14 44 51.0 -0.6**
comp=Z,22nm,0.8s
SIJI Sorong 26.32 206 P **P 14 44 50.6 -1.0**
comp=Z,14nm,0.8s,baz=356,slow=18,SNR=5.8
SIJI LR LR 14 53 40.4
comp=Z,70nm,19.1s,baz=137,slow=33
KLR Kul'dur 27.39 344 P **P 14 45 01.4 +0.6**
comp=Z,12nm,0.8s,baz=140,slow=8.7,SNR=37
KLR pP **pwP 14 45 30.9 -0.6**
comp=Z,4.7nm,0.6s,baz=176,slow=12,SNR=2.8
KLR LR LR 14 55 41.0
comp=Z,55nm,19.1s,baz=152,slow=35
FAKI Fak Fak 27.83 203 P **P 14 45 03.9 -1.2**
FAKI IAmb IAmb 14 45 14.2
comp=Z,16nm,0.9s
FAKI Fak Fak 27.83 203 P **P 14 45 05.1 0.0**
HNS HongShan 27.84 307 ⇓P **P 14 45 05.1 +0.1**
HNS pmax pmax
comp=Z,24nm,1.1s
LBMI Labuha 27.86 214 P **P 14 45 05.5 +0.1**
comp=Z,32nm,1.0s
LYN LuoYang 28.64 300 *e*P **P 14 45 13.2 +1.1**
LYN S **S 14 49 47.2 -4.1**
LYN SS **SnSn 14 51 30.4 +3.8**
LYN pmax pmax
comp=Z,10.0nm,0.7s
LYN LR LR
comp=Z,200nm,15.1s
LYN LR LR
comp=Z,120nm,14.9s
MYLDM Lahad Datu 29.35 236 P **P 14 45 19.1 +0.6**
GTOI Gorontalo 29.40 223 P **P 14 45 18.0 -1.0**
comp=Z,11nm,1.0s
SANI Sanana 29.85 215 P **P 14 45 20.9 -2.1**
comp=Z,17nm,1.0s
MRSI Marisa 30.20 225 P **P 14 45 26.3 +0.2**
comp=Z,66nm,1.0s
ENH Enshi 30.35 291 P **P 14 45 26.4 -1.0**
ENH IAmb IAmb 14 45 27.6
comp=Z,9.8nm,0.6s
TOLI2 Tolitoli 30.50 227 P **P 14 45 29.3 +0.6**
XAN Xi'an 31.38 298 P **P 14 45 36.3 -0.1**
XAN pP pP 14 45 54.0 -10
XAN S **S 14 50 38.9 +4.6**
XAN pmax pmax
comp=Z,12nm,0.7s
XAN pmax pmax
comp=Z,100nm,4.3s
XAN LR LR
comp=Z,230nm,15.8s
XAN LR LR
comp=Z,260nm,14.8s
XAN LR LR
comp=Z,220nm,16.0s
APSI Ampana 31.45 223 P **P 14 45 36.0 -1.1**
comp=Z,24nm,1.1s
HHC Hu-ho-hao-te 31.46 311 *e*P **P 14 45 38.1 +1.0**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,97nm,5.7s
MPSI Mapaga 31.66 227 P **P 14 45 38.7 -0.3**
comp=Z,9.0nm,1.0s
PETK Petropavlovsk- 32.02 17 P P 14 45 47.4 +5.7
comp=Z,1.6nm,0.7s,baz=207,slow=8.8,SNR=1.8
PETK LR LR 14 59 08.7
comp=Z,22nm,20.1s,baz=195,slow=37
PMG Port Moresby 32.68 172 P **P 14 45 47.4 -0.4**
PMG IAmb IAmb 14 45 48.8
comp=Z,17nm,0.5s
PMG Port Moresby 32.68 172 P **P 14 45 48.1 +0.3**
GYA Guiyang 32.73 283 ⇓P **P 14 45 49.2 +0.8**
GYA S **S 14 50 58.4 +2.6**
GYA ScP **ScP 14 52 02.8 -0.3**
GYA pmax pmax
comp=Z,17nm,0.5s
GYA LR LR
comp=Z,71nm,5.7s
SPSI Sidrap Palu 34.99 222 P **P 14 46 06.9 -1.0**
comp=Z,465nmcomp=Z,53nm,1.1s
BNSI Bone 35.12 222 P **P 14 46 09.1 +0.1**
comp=Z,49nm,1.2s
CD2 Chengdu 35.33 291 P **P 14 46 10.6 -0.1**
CD2 pmax pmax
comp=Z,30nm,0.5s
BKSI Bulukumba 35.84 221 P **P 14 46 14.1 -1.0**
comp=Z,11nm,1.0s
LZH Lanzhou 35.85 300 *e*P **P 14 46 15.9 +0.7**
LZH pmax pmax
comp=Z,14nm,1.3s
LZH LR LR
comp=Z,150nm,16.1s
LZH LR LR
comp=Z,160nm,16.4s
LZH LR LR
comp=Z,160nm,15.6s
SBUM Sibu 35.93 239 P **P 14 46 16.0 0.0**
MTKI Muara Teweh, K 36.08 232 P **P 14 46 16.7 -0.5**
comp=Z,22nm,0.7s
BSSI Bau Bau, Buton 36.28 219 P **P 14 46 18.0 -0.9**
comp=Z,20nm,1.0s
KMI Kunming 36.35 281 ⇓P **P 14 46 20.9 +1.2**
KMI pP pP 14 46 36.9 -11
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI pmax pmax
comp=Z,140nm,5.1s
KMI LR LR
comp=Z,180nm,15.4s
KMI LR LR
comp=Z,100nm,14.1s
KMI LR LR
comp=Z,110nm,16.1s
HNR Honiara 36.57 150 LR LR 14 58 29.9
comp=Z,112nm,19.6s,baz=314,slow=31
KBKI Kotabaru 36.84 228 P **P 14 46 23.6 -0.1**
comp=Z,603nmcomp=Z,23nm,1.1s
COEN Coen 36.90 179 P **P 14 46 23.4 -0.7**
COEN IAmb IAmb 14 46 48.6
comp=Z,20nm,1.1s
COEN Coen 36.90 179 P **P 14 46 25.2 +1.1**
KDU Kakadu 36.99 197 P **P 14 46 23.5 -1.3**
PZH PanZhiHua 37.14 284 P **P 14 46 26.6 +0.4**
PZH pmax pmax
comp=Z,40nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.1s
DRS Darwin Rock St 37.19 199 P **P 14 46 25.6 -0.9**
SOEI Soe 37.33 211 P **P 14 46 26.4 -1.4**
SOEI Soe 37.33 211 P **P 14 46 26.6 -1.2**
SOEI Soe 37.33 211 P **P 14 46 26.6 -1.2**
comp=Z,33nm,0.9s
MMRI Maumere 37.37 215 P **P 14 46 27.2 -0.9**
comp=Z,53nm,0.9s
MMRI Maumere 37.37 215 P **P 14 46 26.9 -1.2**
ULN Ulaanbaatar 37.51 320 P **P 14 46 28.5 -0.6**
ULN IAmb IAmb 14 46 31.2
comp=Z,16nm,1.4s
MTN Manton Dam 37.51 199 P **P 14 46 27.8 -1.4**
MTN IAmb IAmb 14 46 39.9
comp=Z,38nm,1.3s
MTN Manton Dam 37.51 199 P **P 14 46 28.6 -0.6**
EDFI Ende, Flores 37.76 215 P **P 14 46 30.7 -0.8**
comp=Z,328nmcomp=Z,40nm,1.0s
EDFI pP **pP 14 46 59.3 +0.2**
comp=Z,328nmcomp=Z,40nm,1.0s
BBKI Banjar Baru 37.88 229 P **P 14 46 31.7 -0.7**
comp=Z,22nm,1.8s
SONM Songino Array 37.88 320 P **P 14 46 31.6 -0.6**
comp=Z,4.9nm,0.7s,baz=133,slow=7.4,SNR=28
SONM PcP **PcP 14 48 46.5 +0.7**
comp=Z,2.4nm,0.8s,baz=135,slow=3.8,SNR=5.8
SONM Songino Array 37.88 320 P **P 14 46 31.7 -0.6**
BATI Baumata 38.01 211 P **P 14 46 32.6 -0.9**
comp=Z,18nm,0.9s
SHEM Shemya Is, Ala 38.02 31 LR LR 14 59 35.6
comp=Z,58nm,21.6s,baz=235,slow=32

BASI Baing, Sumba 39.58 215 P **P 14 46 45.6 -0.9**
GTA Gaotai 39.61 304 ⇓P **P 14 46 47.0 +0.2**
GTA ScP **ScP 14 52 28.1 -0.1**
GTA S **S 14 52 39.2 -1.0**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,86nm,4.5s
GTA LR LR
comp=Z,170nm,15.6s
GTA LR LR
comp=Z,120nm,16.4s
GTA LR LR
comp=Z,110nm,15.6s
PBKI Pangkalan Bun 39.64 234 P **P 14 46 45.9 -1.2**
comp=Z,82nm,1.2s
YAK Yakutsk 39.84 351 P **P 14 46 47.9 -0.2**
SEY Seymchan 40.29 7 P **P 14 46 53.0 +1.2**
comp=Z,3.0nm,0.7s,baz=208,slow=6.4,SNR=10
CHTO Chiang Mai 40.90 272 P **P 14 46 56.6 -0.8**
KNRA Kununurra 40.92 201 P **P 14 46 56.3 -1.2**
KNRA IAmb IAmb 14 46 59.7
comp=Z,20nm,0.7s
KNRA Kununurra 40.92 201 P **P 14 46 57.2 -0.3**
CMAR Chiang Mai Arr 40.98 272 P **P 14 46 58.5 +0.3**
comp=Z,3.2nm,0.5s,baz=60,slow=8.1,SNR=30
CMAR pP **pP 14 47 27.9 +1.2**
comp=Z,1.3nm,0.9s,baz=55,slow=9.0,SNR=2.3
CMAR PcP **PcP 14 48 57.2 +1.2**
comp=Z,1.6nm,1.0s,baz=62,slow=4.4,SNR=7.2
CMAR Chiang Mai Arr 40.98 272 P **P 14 46 57.8 -0.4**
KMMI Kalianget 41.07 226 P **P 14 46 58.9 +0.1**
comp=Z,53nm,1.3s
MTSU Mount Surprise 41.08 178 P **P 14 46 58.6 -0.3**
ABJI Asem Bagus 41.45 225 P **P 14 47 02.1 +0.2**
comp=Z,50nm,0.9s
BLJI Banyuglugur 41.83 226 P **P 14 47 04.7 -0.3**
comp=Z,77nm,1.0s
JAGI Jajag, Banyuwa 42.00 225 P **P 14 47 05.7 -0.8**
comp=Z,46nm,1.0s
GOMU GeErMu 43.11 299 P **P 14 47 17.5 +1.8**
GOMU pmax pmax
comp=Z,16nm,0.6s
GOMU pmax pmax
comp=Z,120nm,5.8s
CTAO Charters Tower 43.14 175 P **P 14 47 15.0 -0.5**
CTAO IAmb IAmb 14 47 17.0
comp=Z,13nm,0.6s
CTAO Charters Tower 43.14 175 P **P 14 47 16.8 +1.3**
WB0 Warramunga Arr 43.42 191 P **P 14 47 16.8 -1.0**
WB0 IAmb IAmb 14 47 19.4
comp=Z,22nm,0.6s
PPBI Pangkal Pinang 43.55 240 P **P 14 47 18.6 -0.4**
QIS Mount Isa 43.56 184 P **P 14 47 18.4 -0.5**
WR0 Warramunga Arr 43.58 191 P **P 14 47 17.9 -1.2**
WR0 IAmb IAmb 14 47 20.5
comp=Z,35nm,1.1s
WRAB Tennant Creek 43.59 191 P **P 14 47 18.0 -1.1**
WRAB Tennant Creek 43.59 191 P **P 14 47 18.6 -0.6**
WB2 Warramunga Arr 43.60 191 P **P 14 47 18.2 -1.0**
WRA Warramunga Arr 43.60 191 P **P 14 47 18.5 -0.8**
comp=Z,27nm,0.3s,baz=12,slow=8.7,SNR=459
WRA ScP **ScP 14 52 43.6 -0.5**
comp=Z,1.8nm,0.9s,baz=11,slow=4.9,SNR=5.6
WRA S **S 14 53 35.0 -4.1**
comp=Z,1.8nm,0.7s,baz=12,slow=14,SNR=5.4
WRA LR LR 15 04 14.2
comp=Z,71nm,21.5s,baz=86,slow=34
WRA Warramunga Arr 43.60 191 P **P 14 47 18.4 -0.9**
KULM Kulim 44.17 253 P **P 14 47 23.9 -0.2**
KULM IAmb IAmb 14 47 25.9
comp=Z,27nm,1.3s
SANVU Saraoutou 45.29 146 P **P 14 47 32.1 -0.6**
SANVU IAmb IAmb 14 47 40.9
comp=Z,16nm,0.5s
SANVU Saraoutou 45.29 146 P **P 14 47 32.6 -0.1**
comp=Z,30nm,0.6s
LEM Lembang 45.38 233 P **P 14 47 32.6 -1.1**
comp=Z,50nm,1.0s
CBJI Citeko 45.68 234 P **P 14 47 36.2 +0.3**
comp=Z,5μmcomp=Z,95nm,1.0s
DBJI Dramaga 45.84 234 P **P 14 47 36.4 -0.8**
comp=Z,7μmcomp=Z,12nm,0.4s
KLSI 46.20 238 P **P 14 47 38.8 -1.2**
comp=Z,8.9nm,1.4s
LSA Lhasa 46.24 290 P **P 14 47 40.5 -0.2**
LSA IAmb IAmb 14 47 43.4
comp=Z,17nm,0.6s
MDSI Maura Dua 46.51 239 P **P 14 47 41.6 -0.8**
comp=Z,7.6nm,1.2s
LHSI Lahat 46.63 240 P **P 14 47 43.1 -0.2**
comp=Z,34nm,1.0s
CGJI Cibinong 46.68 235 P **P 14 47 41.7 -2.0**
comp=Z,22nm,0.9s
RK1H Rockhampton Ha 46.90 170 P **P 14 47 45.0 -0.2**
NIKH Nikolski High 47.15 38 P **P 14 47 47.2 +0.3**
baz=250
BILL Biiibino 47.19 12 P **P 14 47 47.1 +0.1**
MASI Maura Aman, Be 47.26 242 P **P 14 47 48.0 -0.2**
comp=Z,107nm,1.0s
MNSI Mandailing Nat 47.31 248 P **P 14 47 48.3 -0.4**
comp=Z,18nm,1.1s
AS31 Alice Springs 47.31 191 P **P 14 47 46.9 -1.6**
AS31 IAmb IAmb 14 47 49.7
comp=Z,14nm,0.5s
ASAR Alice Springs 47.32 191 P **P 14 47 47.5 -1.0**
comp=Z,18nm,0.5s,baz=17,slow=13,SNR=279
ASAR S **S 14 54 28.8 -3.6**
comp=Z,0.8nm,0.7s,baz=15,slow=21,SNR=6.5
ASAR LR LR 15 06 30.4
comp=Z,66nm,21.2s,baz=8.5,slow=34
ASAR Alice Springs 47.32 191 P **P 14 47 47.3 -1.2**
SPIA Saint Paul Isl 48.01 32 P **P 14 47 53.7 +0.3**
baz=245
KOUNC Koumac, New Ca 48.32 152 P **P 14 47 57.0 +0.8**
comp=Z,9.5nm,1.2s
GSI Gunungsitoli 48.78 250 P **P 14 47 59.6 -0.3**
comp=Z,36nm,0.7s
GSI Gunungsitoli 48.78 250 P **P 14 47 59.7 -0.3**
GSI IAmb IAmb 14 48 00.5
comp=Z,20nm,0.7s
GSI Gunungsitoli 48.78 250 P **P 14 48 00.3 +0.3**
EIDS Eidsvold 48.94 170 P **P 14 47 59.8 -1.1**
EIDS IAmb IAmb 14 48 01.3
comp=Z,14nm,0.5s
EIDS Eidsvold 48.94 170 P **P 14 48 00.8 -0.1**
TIXI Tiksi 49.14 354 P **P 14 48 01.6 -0.3**
WMQ Urumqi 49.25 309 *e*P **P 14 48 04.8 +1.5**
WMQ pP pP 14 48 32.4 -0.3
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,110nm,4.7s
AKUT Akutan 49.26 37 P **P 14 48 04.2 +1.2**
MBWA Marble Bar 49.38 209 P **P 14 48 04.8 +0.5**
QLP Quilpie 49.48 178 P **P 14 48 04.6 -0.4**
PSA00 Pilbara Seismi 49.70 208 P **P 14 48 05.9 -0.8**
PSA00 IAmb IAmb 14 48 07.6
comp=Z,30nm,1.1s
PSA00 Pilbara Seismi 49.70 208 P **P 14 48 05.8 -0.8**
PSA00 IAmb IAmb 14 48 07.5
comp=Z,16nm,1.1s
RMQ Roma 49.72 173 P **P 14 48 07.0 +0.2**
WRKA Warakurna 49.89 197 P **P 14 48 08.0 -0.2**
DZM Mont Dzumac 50.60 151 LR LR 15 08 53.4
comp=Z,25nm,19.0s,baz=28,slow=35
DZM Mont Dzumac 50.60 151 *e*P **P 14 48 13.1 -0.5**
comp=Z,25nm,1.1s
DZM Mont Dzumac 50.60 151 *e*LR LR 15 02 48.9
comp=Z,166nm,31.4s
DZM Mont Dzumac 50.60 151 P **P 14 48 13.7 +0.1**
DZM IAmb IAmb 14 48 15.5
comp=Z,33nm,1.4s
DZM Mont Dzumac 50.60 151 P **P 14 48 14.4 +0.8**
INKA Innaminka 50.64 182 P **P 14 48 13.2 -0.5**
FALS False Pass 50.79 37 P **P 14 48 15.2 +0.7**
baz=254
OUENC Ouen Island, N 51.08 151 P **P 14 48 16.7 -0.3**
OUENC IAmb IAmb 14 48 17.0
comp=Z,11nm,1.1s
OOD Oodnadatta 51.10 188 P **P 14 48 17.2 0.0**
PKI Pulchoki 51.50 288 *e*P **P 14 48 20.4 -0.3**
comp=Z,11nm,0.3s
PKIN Phulchoki 51.51 288 *e*P **P 14 48 20.2 -0.5**
comp=Z,18nm,0.6s
PINNC Pines Island, 51.52 150 P **P 14 48 20.0 -0.4**

PINNC IAmb IAmb 14 48 32.7
comp=Z,27nm,1.1s
KKN Kakani 51.58 288 *e*P **P 14 48 21.9 +0.7**
comp=Z,9.7nm,0.3s
ZSN Zaisan 51.64 313 *e*P **P 14 48 21.7 +0.6**
comp=Z,4.5nm,0.6s,baz=313
DMN Daman 51.76 288 *e*P **P 14 48 22.5 -0.1**
GKN Gorkha 52.11 288 *e*P **P 14 48 25.1 +0.1**
comp=Z,24nm,0.5s
SDPT Sand Point 52.55 37 P **P 14 48 28.6 +1.0**
ZAA0 Zalesovo Array 52.74 321 P **P 14 48 28.6 -0.5**
ZAA0 IAmb IAmb 14 48 30.0
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 52.74 321 P **P 14 48 29.1 +0.1**
comp=Z,12nm,0.5s,baz=100,slow=7.0,SNR=60
ZALV PcP **PcP 14 49 37.0 0.0**
comp=Z,3.1nm,0.4s,baz=114,slow=2.9,SNR=5.5
ZALV ScP **ScP 14 53 20.1 -2.2**
comp=Z,1.2nm,0.7s,baz=104,slow=6.1,SNR=3.5
ZALV S **S 14 55 45.6 -1.4**
comp=Z,1.8nm,0.9s,baz=112,slow=16,SNR=5.8
ZALV Zalesovo Beam 52.74 321 P **P 14 48 28.8 -0.3**
DANN Dangsing 52.82 289 *e*P **P 14 48 31.0 +0.5**
comp=Z,156nm,0.6s
KOLN Koldanda 53.05 288 *e*P **P 14 48 32.5 +0.4**
comp=Z,14nm,0.5s
GIRL Giralia 53.25 213 P **P 14 48 34.3 +1.2**
ANM Nome 53.31 25 P **P 14 48 35.2 +2.1**
ANM Nome 53.31 25 P **P 14 48 34.8 +1.7**
baz=245
MK31 Makanchi Array 53.33 312 P **P 14 48 33.9 +0.4**
MKAR Makanchi Array 53.33 312 P **P 14 48 34.2 +0.6**
comp=Z,23nm,0.5s,baz=87,slow=9.3,SNR=463
MKAR ScP **ScP 14 53 24.2 -0.9**
comp=Z,0.6nm,0.7s,baz=76,slow=6.1,SNR=4.3
MKAR S **S 14 55 55.1 -0.2**
comp=Z,0.8nm,0.9s,baz=101,slow=21,SNR=5.5
MKAR Makanchi Array 53.33 312 P **P 14 48 34.0 +0.4**
MSVF Nonsavu 53.40 137 P **P 14 48 34.8 +0.4**
LCRK Leigh Creek 53.47 185 P **P 14 48 34.8 +0.2**
PYUN Piuthan 53.53 289 *e*P **P 14 48 35.8 +0.2**
MAKZ Makanchi 53.54 312 P **P 14 48 35.6 +0.5**
MULG Mulgathing 53.77 189 P **P 14 48 36.7 -0.1**
ARMA Armidale 53.98 170 P **P 14 48 37.0 -1.5**
ARMA IAmb IAmb 14 48 56.7
comp=Z,7.9nm,0.9s
ARMA Armidale 53.98 170 P **P 14 48 38.4 0.0**
CMSA Cobar Meteorol 54.47 177 P **P 14 48 42.5 +0.6**
MEEK Meekatharra 54.69 207 P **P 14 48 43.2 -0.4**
STKA Stephens Creek 54.74 181 P **P 14 48 43.0 -0.9**
comp=Z,12nm,0.5s,baz=6.4,slow=7.5,SNR=61
STKA Stephens Creek 54.74 181 P **P 14 48 42.8 -1.0**
STKA Stephens Creek 54.74 181 P **P 14 48 43.9 +0.1**
DHH Diamond Head 54.85 80 P **P 14 48 43.0 -2.0**
SEM Semipalatinsk 54.99 316 *e*P **P 14 48 45.2 -0.5**
comp=Z,6.2nm,0.6s,baz=316
FORT Forrest 55.43 195 P **P 14 48 48.2 -0.6**
FORT Forrest 55.43 195 P **P 14 48 49.4 +0.7**
UZB Uzynbulak 55.52 307 *e*P **P 14 48 49.5 -0.1**
comp=Z,4.3nm,1.0s,baz=307
TDK Taldyqorghan 55.96 310 *e*P **P 14 48 53.2 +0.6**
comp=Z,7.3nm,0.6s,baz=310
SATY Saty 55.98 307 *e*P **P 14 48 53.6 +0.8**
baz=307
PRZ Przheval'sk 55.99 307 P **P 14 48 54.6 +1.6**
BBOO Buckleboo 56.01 187 P **P 14 48 52.2 -0.7**
BBOO Buckleboo 56.01 187 P **P 14 48 53.4 +0.5**
KURK Kurchatov 56.05 316 P **P 14 48 53.1 +0.1**
NAPP Napperby 56.20 185 P **P 14 48 55.6 +1.4**
O18K Koktuh Hills 56.32 32 P **P 14 48 56.6 +1.7**
baz=258
HTT Hallett 56.39 184 P **P 14 48 56.1 +0.5**
NRIK Noril'sk 56.44 340 P **P 14 48 55.7 +0.1**
comp=Z,3.0nm,0.5s,baz=113,slow=5.4,SNR=4.1
NRIK Noril'sk 56.44 340 P **P 14 48 56.1 +0.6**
MGCD Mangrove Creek 56.64 171 P **P 14 48 58.3 +0.9**
comp=Z,20nm,0.9s
TTA Tatalina 56.66 29 P **P 14 48 58.8 +1.5**
baz=255
N19K Bonanza Creek 56.87 31 P **P 14 49 00.6 +1.7**
N19K IAmb IAmb 14 49 07.4
comp=Z,13nm,1.1s
N19K Bonanza Creek 56.87 31 P **P 14 49 00.1 +1.3**
baz=258
KDJ Kajisay 56.91 306 P **P 14 49 00.4 +0.9**
KDJ IAmb IAmb 14 49 02.7
comp=Z,11nm,1.1s
Q19K Cape Douglas, 56.93 34 P **P 14 48 59.8 +0.6**
MDOK Medeo 56.97 307 *e*P **P 14 49 00.4 +0.5**
baz=307
SYDH Sydney Hard Ro 57.14 172 P **P 14 49 02.0 +1.2**
comp=Z,39nm,1.3s
PVM Polavaram 57.20 276 *e*P pP 14 49 30.9 -0.8
KDAK Kodiak Island 57.30 35 P **P 14 49 03.1 +1.3**
comp=Z,4.8nm,0.4s,baz=279,slow=6.7,SNR=8.6
KDAK LR LR 15 10 28.7
comp=Z,47nm,21.8s,baz=212,slow=32
KDAK Kodiak Island 57.30 35 P **P 14 49 03.0 +1.3**
KUU Kurty 57.46 308 *e*P **P 14 49 03.1 0.0**
comp=Z,20nm,1.0s,baz=308
L20K Farewell, AK 57.51 30 P **P 14 49 04.2 +0.9**
baz=258
ULHL Ulahol 57.60 306 P **P 14 49 06.1 +1.7**
SNR=9.7
K20K Telida 57.62 28 P **P 14 49 06.3 +2.3**
K20K Telida 57.62 28 P **P 14 49 05.8 +1.9**
baz=257
RSO Redoubt South 57.64 32 P **P 14 49 06.2 +1.8**
J20K Nowinta River 57.78 28 P **P 14 49 07.2 +2.2**
J20K IAmb IAmb 14 49 14.1
comp=Z,15nm,1.3s
J20K Nowinta River 57.78 28 P **P 14 49 06.9 +1.9**
baz=256
BOOM Boomskoye usch 57.81 307 P **P 14 49 05.9 +0.1**
BOOM IAmb IAmb 14 49 08.2
comp=Z,9.2nm,0.6s
AFI Afiamalu 57.87 125 LR LR 15 07 51.8
comp=Z,35nm,20.2s,baz=252,slow=29
MORW Morawa 57.90 208 P **P 14 49 05.3 -1.0**
MORW IAmb IAmb 14 49 06.7
comp=Z,18nm,0.9s
MORW Morawa 57.90 208 P **P 14 49 06.0 -0.3**
KSH Kashi 57.99 303 P **P 14 49 11.5 +4.4**
KSH pmax pmax
comp=Z,13nm,0.6s
TWOA Tennyson Woods 58.01 184 P **P 14 49 07.4 +0.5**
TKM2 Tokmak 2 58.04 307 P **P 14 49 08.8 +1.3**
SNR=17
MYLAV Mylavaram 58.25 276 *e*P **P 14 49 10.2 +1.2**
PPLA Purkeypile 58.36 29 P **P 14 49 10.2 +0.9**
PPLA IAmb IAmb 14 49 17.5
comp=Z,14nm,1.2s
PPLA Purkeypile 58.36 29 P **P 14 49 10.5 +1.2**
baz=259
IMAR Indian Mountai 58.38 26 P **P 14 49 10.8 +1.6**
BRLK Bradley Lake 58.46 33 P **P 14 49 10.4 +0.6**
CAN Canberra 58.48 174 P **P 14 49 10.2 -0.1**
CAN Canberra 58.48 174 P **P 14 49 10.3 0.0**
comp=Z,45nm,1.9s
CHUM Lake Minchumin 58.50 28 P **P 14 49 11.7 +1.6**
baz=258
CAST Castle Rocks 58.51 29 P **P 14 49 12.0 +1.9**
baz=259
CNB Canberra Magne 58.51 174 P **P 14 49 10.4 -0.1**
comp=Z,29nm,1.6s
KBK Karagaybulak 58.53 307 P **P 14 49 12.2 +1.4**
SNR=8.0
H21K Melozitna Rive 58.68 26 P **P 14 49 12.0 +0.7**
H21K IAmb IAmb 14 49 18.3
comp=Z,9.9nm,1.4s
H21K Melozitna Rive 58.68 26 P **P 14 49 12.7 +1.4**
baz=257
SGDS Sogindy 58.72 308 *e*P **P 14 49 12.3 +0.3**
baz=308
AAK Ala-Archa 58.87 307 P **P 14 49 14.2 +1.0**
SNR=5.5
AAK Ala-Archa 58.87 307 P **P 14 49 13.7 +0.5**
AAK IAmb IAmb 14 49 15.2
comp=Z,12nm,1.4s
RPR Rampur 58.87 279 *e*P **P 14 49 13.5 +0.1**
UCH Uchtor 58.88 306 P **P 14 49 15.3 +1.7**
SNR=11
I21K Tanana 58.91 27 P **P 14 49 15.0 +2.2**
I21K IAmb IAmb 14 49 19.9
comp=Z,7.9nm,1.1s

I21K	Tanana	58.91	27	P	P	14 49 14.7	+1.8
	baz=258						
BLDU	Ballidu	58.97	206	P	P	14 49 13.8	+0.1
A21K	Barrow	58.99	19	P	P	14 49 15.2	+1.9
KTH	Kantishna Hill	59.05	29	P	P	14 49 15.7	+1.8
KTH				IAmb	IAmb	14 49 22.5	
	comp=Z,14nm,1.4s						
BTLS	Baital	59.05	310	eP	P	14 49 14.6	+0.4
	comp=Z,3.7nm,0.5s,baz=310						
BPAW	Bear Paw Mtn.	59.12	28	P	P	14 49 15.1	+0.7
BPAW				IAmb	IAmb	14 49 27.3	
	comp=Z,15nm,1.5s						
BPAW	Bear Paw Mtn.	59.12	28	P	P	14 49 16.2	+1.9
	baz=259						
CUT	Chulitna	59.15	30	P	P	14 49 16.1	+1.6
	baz=261						
SEW	Seward	59.22	33	P	P	14 49 16.0	+1.0
	baz=263						
TRF	Thorofare Moun	59.31	29	P	P	14 49 16.0	+0.2
	baz=260						
MLY	Manley	59.40	27	P	P	14 49 17.4	+1.1
	baz=259						
AML	Almayashu	59.49	306	P	P	14 49 19.7	+1.9
	SNR=12						
PMR	Palmer	59.56	31	P	P	14 49 18.6	+1.2
PMR				IAmb	IAmb	14 49 47.7	
	comp=Z,9.3nm,1.0s						
PMR	Palmer	59.56	31	P	P	14 49 18.9	+1.6
	baz=262						
ARPS	Mount Arapiles	59.62	181	P	P	14 49 18.4	+0.4
GHO	Glory Hole Cre	59.68	31	P	P	14 49 19.3	+0.9
SRSP	Sriramsagar	59.72	279	eP	P	14 49 18.6	-0.5
BRZS	Berezniki	59.83	315	eP	P	14 49 19.5	0.0
	comp=Z,7.7nm,0.8s,baz=316						
PWL	Port Wells	59.85	32	P	P	14 49 20.4	+1.0
KNK	Knik Glacier	59.86	31	P	P	14 49 20.1	+0.7
KNK				IAmb	IAmb	14 49 33.6	
	comp=Z,24nm,1.2s						
KNK	Knik Glacier	59.86	31	P	P	14 49 20.4	+0.9
	baz=263						
RND	Reindeer	59.94	29	P	P	14 49 21.1	+1.1
RND				IAmb	IAmb	14 49 22.3	
	comp=Z,3.7nm,0.6s						
MCK	McKinley	59.95	29	P	P	14 49 21.5	+1.4
MCK				IAmb	IAmb	14 49 50.4	
	comp=Z,15nm,1.2s						
MCK	McKinley	59.95	29	P	P	14 49 21.0	+0.9
	baz=261						
HYB	Hyderabad	59.96	277	eP	P	14 49 20.5	-0.4
HYBB	Hyderabad (bro	59.96	277	eP	P	14 49 21.0	+0.1
SML	Sawmill	59.97	31	P	P	14 49 20.2	0.0
SML				IAmb	IAmb	14 49 22.7	
	comp=Z,12nm,0.9s						
SML	Sawmill	59.97	31	P	P	14 49 20.5	+0.3
	baz=263						
I23K	Minto, Yukon-K	59.99	27	P	P	14 49 20.8	+0.5
I23K				IAmb	IAmb	14 49 41.7	
	comp=Z,8.7nm,1.2s						
I23K	Minto, Yukon-K	59.99	27	P	P	14 49 21.6	+1.4
	baz=260						
NEA2	Nenana	60.02	28	P	P	14 49 21.1	+0.6
NEA2	Nenana	60.02	28	P	P	14 49 21.5	+1.0
	baz=261						
SRLM	Srisailam	60.04	276	eP	P	14 49 21.6	+0.2
COLD	Coldfoot	60.05	24	P	P	14 49 21.4	+0.8
COLD	Coldfoot	60.05	24	P	P	14 49 22.0	+1.4
	baz=258						
WAT6	Susitna Watana	60.33	30	P	P	14 49 23.6	+0.7
	baz=263						
MUN	Mundaring	60.38	206	P	P	14 49 23.2	-0.1
	comp=Z,18nm,2.4s						
BRAT	Ballarat	60.41	179	P	P	14 49 24.3	+1.0
WRH	Wood River Hil	60.42	28	P	P	14 49 23.4	+0.2
MDM	Murphy Dome	60.44	27	P	P	14 49 24.3	+1.0
SCM	Sheep Creek Mo	60.44	31	P	P	14 49 24.4	+0.9
TOO	Toolangi	60.47	177	P	P	14 49 24.1	+0.3
TOO	Toolangi	60.47	177	P	P	14 49 24.0	+0.1
	comp=Z,36nm,1.4s						
DHY	Denali Highway	60.56	29	P	P	14 49 25.6	+1.3
DHY	Denali Highway	60.56	29	P	P	14 49 24.5	+0.2
	baz=263						
CCB	Clear Creek Bu	60.57	28	P	P	14 49 24.9	+0.7
TOLK	Toolik Lake Re	60.57	23	P	P	14 49 26.4	+2.2
TOLK	Toolik Lake Re	60.57	23	P	P	14 49 26.2	+1.9
	baz=258						
TCOL	CIGO, UAF Yank	60.58	27	P	P	14 49 26.2	+1.9
	baz=262						
H24K	Noodor Dome	60.72	26	P	P	14 49 26.6	+1.3
H24K				IAmb	IAmb	14 49 45.8	
	comp=Z,9.7nm,1.3s						
H24K	Noodor Dome	60.72	26	P	P	14 49 26.8	+1.5
	baz=261						
POKR	Poker Plat Res	60.79	27	P	P	14 49 27.0	+1.3
	baz=262						
NWAO	Narrogin (SRO)	60.81	204	P	P	14 49 25.6	-0.6
	comp=Z,22nm,1.2s						
NIL	Nilore	60.91	297	P	P	14 49 27.1	0.0
HDA	Harding Lake	60.91	28	P	P	14 49 26.9	+0.4
HDA				IAmb	IAmb	14 49 31.4	
	comp=Z,12nm,1.4s						
HDA	Harding Lake	60.91	28	P	P	14 49 26.9	+0.4
	baz=263						
IL31		60.98	28	P	P	14 49 27.3	+0.4
IL31				IAmb	IAmb	14 49 28.5	
	comp=Z,6.1nm,0.8s						
ILAR	Eielson Array	60.98	28	P	P	14 49 27.3	+0.3
	comp=Z,2.7nm,0.6s,baz=258,slow=5.6,SNR=21						
ILAR				pP	pwP	14 50 00.3	-1.9
	comp=Z,4.2nm,0.7s,baz=250,slow=5.1,SNR=6.5						
ILAR	Eielson Array	60.98	28	P	P	14 49 26.9	-0.1
M24K	Tolsona, Glenn	61.01	31	P	P	14 49 28.7	+1.4
GEXS	Deakin Univers	61.06	178	P	P	14 49 29.3	+1.5
KLU	Klutina	61.08	31	P	P	14 49 28.8	+1.0
KLU				IAmb	IAmb	14 49 35.3	
	comp=Z,26nm,1.4s						
BRVK	Borovoye	61.29	319	P	P	14 49 29.8	+0.6
PAX	Paxson	61.41	30	P	P	14 49 31.2	+1.1
PAX	Paxson	61.41	30	P	P	14 49 30.6	+0.5
	baz=265						
HARP	HAARP	61.51	30	P	P	14 49 30.6	0.0
	baz=266						
KLRI	Killari	61.55	279	eP	P	14 49 31.4	-0.3
BMRM	Bremner River	61.68	32	P	P	14 49 33.8	+2.0
N25K	Chitina, Valde	61.72	31	P	P	14 49 34.1	+1.9
N25K				IAmb	IAmb	14 49 43.8	
	comp=Z,14nm,1.4s						
KKAR	Karatay Array	61.74	308	P	P	14 49 33.0	+0.4
RIDG	Independent Ri	61.76	29	P	P	14 49 33.2	+0.9
RIDG				IAmb	IAmb	14 49 41.6	
	comp=Z,15nm,1.2s						
RIDG	Independent Ri	61.76	29	P	P	14 49 33.0	+0.7
	baz=265						
BTK	Batken	61.88	304	P	P	14 49 34.0	+0.4
GLB	Gilahina Butte	62.09	31	P	P	14 49 35.2	+0.6
GLB				IAmb	IAmb	14 50 02.8	
	comp=Z,12nm,1.4s						
DOT	Dot Lake	62.10	29	P	P	14 49 35.1	+0.5
DOT				IAmb	IAmb	14 49 41.1	
	comp=Z,19nm,1.4s						
SCRK	Sand Creek	62.16	29	P	P	14 49 35.5	+0.5
SCRK				IAmb	IAmb	14 49 38.3	
	comp=Z,9.1nm,1.0s						
SCRK	Sand Creek	62.16	29	P	P	14 49 35.5	+0.5
	baz=266,SNR=9.7						
IUG	Iuzhnay	62.20	307	eP	P	14 49 35.8	0.0
	baz=307						
MENT	Mentasta	62.21	30	P	P	14 49 36.5	+1.2
BMAR	Burnt Mountain	62.23	25	P	P	14 49 37.1	+1.7
VRDI	Verde Repeater	62.25	32	P	P	14 49 37.0	+1.2
VRDI				IAmb	IAmb	14 49 57.3	
	comp=Z,20nm,1.4s						
J26L	Joseph Creek	62.38	28	P	P	14 49 37.1	+0.6
	baz=266,SNR=6.9						
L26K	Log Cabin Wild	62.38	30	P	P	14 49 37.2	+0.7
	baz=267						
CRQM	Cirque	62.39	32	P	P	14 49 38.3	+1.6
CRQE	Cirque	62.41	32	P	P	14 49 37.3	+0.4
	baz=268						
MCARA	McCarthy VSAT	62.46	32	P	P	14 49 38.5	+1.5
MCARA				IAmb	IAmb	14 49 54.5	
	comp=Z,14nm,1.0s						
WAX	Waxell Ridge	62.52	33	P	P	14 49 39.2	+1.7
TGL	Tana Glacier	62.54	32	P	P	14 49 39.3	+1.7
M27K	Edge Creek, AK	63.03	30	P	P	14 49 41.9	+1.0
M27K				IAmb	IAmb	14 49 48.9	
	comp=Z,13nm,1.4s						
L27K	Beaver Creek,	63.08	30	P	P	14 49 42.0	+0.9
L27K				IAmb	IAmb	14 50 11.5	
	comp=Z,10.0nm,1.3s						
L27K	Beaver Creek,	63.08	30	P	P	14 49 41.4	+0.3
	baz=268						
BCAR	Beaver Creek A	63.09	30	P	P	14 49 42.6	+1.4
BARN	Barnard Glacie	63.12	32	P	P	14 49 42.1	+0.6
CTG	Chitna Glacier	63.27	32	P	P	14 49 42.3	-0.2
	baz=270						
CTGM	Chitina Glacie	63.27	32	P	P	14 49 43.7	+1.2
CTGM				IAmb	IAmb	14 50 11.8	
	comp=Z,21nm,1.4s						
CHGR	Chuyangaron	63.35	303	P	P	14 49 43.9	+0.5
EGAK	Eagle	63.43	28	P	P	14 49 44.7	+1.4
EGAK	Eagle	63.43	28	P	P	14 49 44.0	+0.7
	baz=268						
LOGN	Logan Glacier	63.44	32	P	P	14 49 43.9	+0.2
LOGN				IAmb	IAmb	14 50 06.5	
	comp=Z,16nm,1.3s						
PINM	Pinnacle	63.82	33	P	P	14 49 46.7	+0.7
	baz=271						
GLAD	Gladstone	64.02	175	P	P	14 49 48.2	+0.9
KBL	Kabul	64.18	298	P	P	14 49 49.5	+0.5
KBL				IAmb	IAmb	14 49 50.5	
	comp=Z,13nm,0.7s						
DAWY	Dawson	64.18	29	P	P	14 49 49.5	+1.2
DAWY	Dawson	64.18	29	P	P	14 49 49.2	+0.9
	baz=270						
OUZ	Omahuta	65.07	152	P	P	14 49 55.2	+0.9
OUZ				IAmb	IAmb	14 50 05.8	
	comp=Z,28nm,1.2s						
EPYK	Eagle Plains	65.28	26	P	P	14 49 57.2	+1.8
EPYK				IAmb	IAmb	14 50 02.8	
	comp=Z,12nm,1.0s						
EPYK	Eagle Plains	65.28	26	P	P	14 49 56.7	+1.3
	baz=271						
M30M	Minto, Yukon	65.39	30	P	P	14 49 56.1	-0.1
	baz=273						
TAU	Tasmania Unive	65.89	176	P	P	14 49 59.5	0.0
TAU	Tasmania Unive	65.89	176	P	P	14 49 59.4	0.0
	comp=Z,37nm,1.0s						
N31M	Braeburn, Yuko	65.94	31	P	P	14 50 00.1	+0.4
	baz=274						
SKAG	Skagway	66.34	34	P	P	14 50 03.8	+1.6
SKAG				IAmb	IAmb	14 50 19.5	
	comp=Z,23nm,1.5s						
INK	Inuvik	66.44	24	P	P	14 50 03.5	+0.9
	comp=Z,4.3nm,0.5s,baz=297,slow=5.7,SNR=37						
INK				pP	pwP	14 50 36.9	-1.2
	comp=Z,5.5nm,0.6s,baz=297,slow=3.5,SNR=5.4						
INK	Inuvik	66.44	24	P	P	14 50 03.2	+0.6
INK				IAmb	IAmb	14 50 04.7	
	comp=Z,15nm,1.5s						
INK					pwP	14 50 36.2	-2.0
INK	Inuvik	66.44	24	P	P	14 50 03.4	+0.7
	baz=273						
WHY	Whitehorse	66.45	32	P	P	14 50 03.2	+0.1
	baz=276						
BESE	Bessie Mountai	66.68	34	P	P	14 50 06.6	+2.1
BESE				IAmb	IAmb	14 50 12.9	
	comp=Z,22nm,1.4s						
P33M	Teslin, Yukon	67.51	33	P	P	14 50 11.0	+1.2
	baz=278						
ARU	Arti	67.78	323	P	P	14 50 11.2	-0.2
	comp=Z,8.7nm,0.5s,baz=84,slow=5.2,SNR=34						
ARU	Arti	67.78	323	P	P	14 50 11.1	-0.2
ABKAR	Akbulak array	68.14	316	P	P	14 50 13.7	-0.1
ABKAR				IAmb	IAmb	14 50 15.0	
	comp=Z,9.9nm,0.8s						
ABKAR	Akbulak array	68.14	316	P	P	14 50 13.6	-0.1
H02S1	DAWSON INLET T	68.80	40	T	T	16 05 02.7	
	SNR=18						
A36M	Sachs Harbour	68.83	19	P	P	14 50 18.6	+0.9
A36M				IAmb	IAmb	14 50 27.7	
	comp=Z,9.2nm,0.8s						
A36M	Sachs Harbour	68.83	19	P	P	14 50 18.7	+1.1
	baz=280						
AKTO	Aktyubinsk	69.14	317	P	P	14 50 19.6	-0.4
	comp=Z,6.0nm,0.7s,baz=89,slow=8.6,SNR=22						
URZ	Urewera	69.15	152	LR	LR	15 19 02.7	
	comp=Z,22nm,18.0s,baz=31,slow=34						
URZ	Urewera	69.15	152	P	P	14 50 19.4	-0.6
URZ	Urewera	69.15	152	P	P	14 50 19.9	-0.1
	comp=Z,170nm,2.9s						
DLBC	Dease Lake	69.20	34	P	P	14 50 22.9	+2.6
	comp=Z,2.5nm,0.9s,baz=249,slow=6.2,SNR=5.5						
DLBC				pP	pwP	14 50 55.2	-0.5
	comp=Z,5.9nm,0.9s,baz=216,slow=3.5,SNR=5.5						
DLBC	Dease Lake	69.20	34	IAmb	IAmb	14 50 23.8	
	comp=Z,7.8nm,1.3s						
QRZ	Quartz Range	69.47	156	P	P	14 50 22.1	+0.1
QRZ	Quartz Range	69.47	156	P	P	14 50 23.8	+1.8
	comp=Z,146nm,2.4s						
BKZ	Black Stump Fm	69.64	152	P	P	14 50 22.5	-0.6
BKZ				IAmb	IAmb	14 50 26.1	
	comp=Z,12nm,0.9s						
NNZ	Nelson	70.13	156	P	P	14 50 25.4	-0.6
LTZ	Lake Taylor	71.09	157	P	P	14 50 31.8	-0.1
RPZ	Rata Peaks	71.49	159	P	P	14 50 33.2	-1.0
RPZ	Rata Peaks	71.49	159	P	P	14 50 33.7	-0.5
	comp=Z,153nm,2.2s						
LBZ	Lake Benmore	71.80	160	P	P	14 50 35.4	-0.7
LBZ				IAmb	IAmb	14 50 43.0	
	comp=Z,26nm,1.2s						
DCZ	Deep Cove	71.86	162	P	P	14 50 35.9	-0.4
DCZ				IAmb	IAmb	14 51 00.4	
	comp=Z,51nm,1.5s						
GEYT	Alibeck	71.99	304	P	P	14 50 38.8	+1.3
	comp=Z,2.3nm,0.7s,baz=98,slow=7.0,SNR=4.9						
KIRV	Kirov	72.16	327	P	P	14 50 38.6	+0.5
	comp=Z,16nm,0.5s,baz=79,slow=1.7,SNR=6.9						
KIRV				LR	LR	15 23 56.0	
	comp=Z,41nm,19.3s,baz=249,slow=37						
WHZ	Wether Hill Ro	72.48	162	P	P	14 50 39.9	-0.1
WHZ				IAmb	IAmb	14 50 41.4	
	comp=Z,38nm,1.3s						
ODZ	Otahua Downs	72.54	160	P	P	14 50 40.8	+0.4
	comp=Z,41nm,2.8s						
BELG	Belogornoye	74.93	321	P	P	14 50 54.8	+0.4
	comp=Z,20nm,0.6s,baz=49,slow=3.2,SNR=19						
YKA	Yellowknife Ar	75.41	28	P	P	14 50 57.9	+0.9
	comp=Z,2.8nm,0.3s,baz=292,slow=5.9,SNR=73						
YKA				pP	pwP	14 51 32.3	-0.4
	comp=Z,4.0nm,0.7s,baz=291,slow=5.8,SNR=5.8						
YKA	Yellowknife Ar	75.41	28	P	P	14 50 57.7	+0.8
RES	Resolute Bay	75.77	13	P	P	14 51 00.3	+1.5
	comp=Z,4.6nm,0.9s,baz=327,slow=5.4,SNR=20						
RES				pP	pwP	14 51 34.3	0.0
	comp=Z,8.3nm,0.9s,baz=311,slow=6.9,SNR=8.8						
KEV	Kevo	76.81	341	P	P	14 51 05.4	+0.7
KEV				IAmb	IAmb	14 51 10.4	
	comp=Z,41nm,1.3s						
J01E	Myrtle Point	76.93	49	P	P	14 51 05.9	-0.1
	baz=290						
I03D	Drain, OR	77.15	48	P	P	14 51 08.0	+0.8
	baz=290						
ARCES	ARCESS Array B	77.37	341	P	P	14 51 08.6	+0.6
	comp=Z,3.3nm,0.5s,baz=77,slow=8.3,SNR=29						
ARCES				pP	pP	14 51 41.2	+2.0
	comp=Z,4.1nm,0.6s,baz=60,slow=7.2,SNR=2.9						
ARCES				LR	LR	15 28 51.9	
	comp=Z,29nm,20.0s,baz=84,slow=38						
ARCES	ARCESS Array B	77.37	341	P	P	14 51 08.6	+0.6
ARCES				IAmb	IAmb	14 51 12.7	
	comp=Z,16nm,1.3s						
L02E	Cave Junction	77.50	49	P	P	14 51 10.2	+1.0
	baz=290						
PPT2	Papeete2	77.64	115	eLR	LR	15 15 06.0	
	comp=Z,135nm,34.5s						
F05D	White Salmon	77.67	45	P	P	14 51 10.8	+0.8
	baz=290						
I04A	Tendick Farm,	77.76	48	P	P	14 51 11.3	+0.7
	baz=290						
B08A	Colville Reser	78.14	42	P	P	14 51 13.8	+1.1
YBH	Yreka Blue Hor	78.27	50	P	P	14 51 15.4	+1.8
	comp=Z,3.0nm,0.8s,baz=177,slow=2.4,SNR=5.0						
YBH	Yreka Blue Hor	78.27	50	IAmb	IAmb	14 51 16.8	
	comp=Z,5.7nm,1.1s						
N02D	Trinity Center	78.54	50	P	P	14 51 16.0	+1.0
	baz=291						
J05D	Fort Rock, OR	78.74	48	P	P	14 51 17.2	+1.0
	baz=291						
M04C	Macdoel	78.86	49	P	P	14 51 17.8	+0.9
	baz=291						
O03E	Paynes Creek	79.42	51	P	P	14 51 20.6	+0.7
	baz=291						
NEW	Newport	79.54	42	P	P	14 51 22.3	+2.0
	comp=Z,7.4nm,0.9s,baz=276,slow=3.2,SNR=12						
NEW	Newport	79.54	42	P	P	14 51 21.6	+1.2
NEW	Newport	79.54	42	P	P	14 51 20.9	+0.6
	baz=293						
E09A	Wood Farm, Sta	79.58	44	P	P	14 51 22.0	+1.5
E09A				IAmb	IAmb	14 51 23.5	
	comp=Z,11nm,1.0s						
J08A	Circle Bar Ran	80.58	47	P	P	14 51 27.4	+1.3
J08A				IAmb	IAmb	14 51 29.0	
	comp=Z,12nm,1.1s						
BMO	Blue Mountains	80.77	45	P	P	14 51 28.6	+1.5
WVOR	Wild Horse Val	80.83	48	P	P	14 51 28.7	+1.2
KBZ	Khabaz	80.98	314	P	P	14 51 28.9	+0.8
	comp=Z,16nm,0.8s,baz=85,slow=8.2,SNR=29						
WALA	Waterton Lakes	81.16	40	P	P	14 51 30.8	+1.7
WALA				IAmb	IAmb	14 51 32.4	
	comp=Z,16nm,1.0s						
FINES	FINESS Array B	81.64	334	P	P	14 51 30.5	-0.6
	comp=Z,6.0nm,0.5s,baz=67,slow=4.9,SNR=79						
FINES				pP	pP	14 52 04.2	+1.4
	comp=Z,2.8nm,0.5s,baz=69,slow=4.9,SNR=2.2						
FINES				LR	LR	15 28 23.3	
	comp=Z,19nm,21.6s,baz=36,slow=36						
MFID	Camas Ranch	82.32	46	P	P	14 51 36.4	+1.1
NVAR	Mina Array Bea	82.64	51	P	P	14 51 38.7	+1.5
	comp=Z,4.6nm,0.9s,baz=267,slow=5.9,SNR=22						
NVAR				pP	pwP	14 52 12.2	-1.1
	comp=Z,2.4nm,0.8s,baz=259,slow=5.5,SNR=3.9						
NVAR	Mina Array Bea	82.64	51	P	P	14 51 37.9	+0.8
HLID	Hailey	83.19	46	P	P	14 51 40.5	+0.7
HLID	Hailey	83.19	46	P	P	14 51 40.8	+0.9
	baz=296,SNR=6.0						
HRY	Holter Researc	83.45	42	P	P	14 51 42.4	+1.3
LRM	Limekiln Ridge	83.47	43	P	P	14 51 42.0	+0.7
CWC	Cottonwood Cre	83.60	53	P	P	14 51 42.5	+0.5
	baz=294						
ISA	Isabella, Lake	83.63	54	P	P	14 51 42.4	+0.3
	baz=294						
BOZ	Bozeman (W)	84.08	43	P	P	14 51 45.6	+1.3
BOZ	Bozeman (W)	84.08	43	P	P	14 51 45.3	+1.0
	baz=297,SNR=6.0						
EGMT	Eagleton	84.10	40	P	P	14 51 45.2	+0.9
	baz=298						
MPMC	Manual Prospec	84.20	53	P	P	14 51 45.7	+0.6
	baz=294,SNR=6.6						
LRMC	Laurel Mtn Rad	84.29	54	P	P	14 51 46.9	+1.4
	baz=294						
EDW2	Edwards Air Fo	84.30	55	P	P	14 51 46.8	+1.3
	baz=294						
FURC	Furnace Creek,	84.49	53	P	P	14 51 47.8	+1.5
	baz=295,SNR=5.3						
CIS	Catalina Islan	84.59	56	P	P	14 51 47.5	+0.6
	baz=294						
R11A	Troy Canyon, C	84.62	51	P	P	14 51 48.4	+1.2
	baz=295,SNR=11						
MNK	Minsk	84.66	328	i P	P	14 51 47.4	+0.6
	comp=E,3.0nm,1.2s						
MNK				i P	P	14 51 47.4	+0.6
	comp=N,9.0nm,0.9s						
MNK				i P	P	14 51 47.4	+0.6
	comp=Z,18nm,1.0s,baz=237						
MNK				i pP	pP	14 52 13.5	-5.1
MNK				i PP	PP	14 55 04.0	+0.3
MNK				i PPP	PPP	14 56 57.0	
MNK				i S	S	15 02 00.9	-2.4
MNK				i sS	pS	15 02 48.7	+5.4
MNK				i SS	SS	15 07 40.8	+4.3
MNK				i SSS	SSS	15 11 11.6	
MNK				i LR	LR	15 27 52.5	
MNK				i LRM	MLR	15 31 10.1	
	comp=N,153nm,21.0s						
MNK				i LRM	MLR	15 31 23.8	
	comp=E,8.0nm,15.2s						
MNK				i LRM	MLR	15 31 23.8	
	comp=Z,69nm,15.9s						
QSM	Queen of Sheba	84.69	53	P	P	14 51 47.3	-0.1
QSM				IAmb	IAmb	14 51 50.1	
	comp=Z,11nm,1.1s						
TPNV	Topopah Spring	84.73	52	P	P	14 51 48.1	+0.4
TPNV	Topopah Spring	84.73	52	P	P	14 51 48.3	+0.5
	baz=295,SNR=7.8						
BFSC	Mount Baldy Ra	84.82	55	P	P	14 51 48.9	+0.7
	baz=294						
YMR	Madison River	84.92	43	P	P	14 51 48.5	-0.2
YMR				IAmb	IAmb	14 51 52.2	
	comp=Z,21nm,0.9s						
NACGM	Naroch	84.97	329	i P	P	14 51 49.1	+0.8
GSC	Goldstone, Bar	85.02	54	P	P	14 51 50.2	+1.1
	baz=295,SNR=7.8						
HVU	Hansel Valley	85.06	47	P	P	14 51 49.4	0.0
SHOC	Shoshone, Teco	85.16	53	P	P	14 51 50.7	+0.9
	baz=295						
GCMT	Greycliff	85.21	42	P	P	14 51 50.0	+0.1
BGU	Big Grassy Mou	85.27	47	P	P	14 51 50.5	+0.1
H17A	Grant Village	85.30	44	P	P	14 51 53.9	+3.3
	baz=298,SNR=8.8						
MURC	Murrieta	85.43	55	P	P	14 51 51.2	0.0
	baz=295						
HEC	Hector,Ludlow	85.56	54	P	P	14 51 53.9	+2.0
	baz=295						
TUQ	Turquoise Moun	85.61	53	P	P	14 51 53.2	+1.1
	baz=295						
DUG	Dugway, Tooele	85.75	48	P	P	14 51 52.6	-0.2
DUG				IAmb	IAmb	14 51 55.4	
	comp=Z,12nm,1.0s						
DUG	Dugway, Tooele	85.75	48	P	P	14 51 54.0	+1.2
	baz=297,SNR=12						
RLMT	Red Lodge	85.77	42	P	P	14 51 52.7	-0.1
RLMT				IAmb	IAmb	14 51 56.2	
	comp=Z,14nm,0.9s						
RLMT	Red Lodge	85.77	42	P	P	14 51 55.1	+2.2
	baz=299,SNR=16						
109C	Camp Elliot, M	85.80	56	P	P	14 51 53.9	+0.9
	baz=295						
FCC	Fort Churchill	85.95	26	P	P	14 51 53.1	0.0
PFO	Pinyon Flats O	85.98	55	P	P	14 51 53.6	-0.4
PFO				IAmb	IAmb	14 51 56.5	
	comp=Z,9.1nm,0.9s						
PFO	Pinyon Flats O	85.98	55	P	P	14 51 55.0	+1.0
	baz=295,SNR=12						
TPFO	Pinon Flats	85.99	55	P	P	14 51 55.0	+1.0
	baz=295,SNR=11						
AKASG	Malin Array Be	86.01	324	P	P	14 51 52.7	-0.9
	comp=Z,1.9nm,0.5s,baz=51,slow=4.9,SNR=15						
AKASG				pP	pP	14 52 26.5	+1.0
	comp=Z,1.3nm,0.6s,baz=54,slow=5.1,SNR=3.0						
AKASG	Malin Array Be	86.01	324

NOA pP **pP** **14 52 32.7 +0.5**
comp=Z,1.3nm,0.6s,baz=45,slow=4.7,SNR=3.3
GLA Glamis 87.46 55 P **P** **14 52 02.2 +1.2**
baz=296
P17A Butcher Ranch, 87.50 48 P **P** **14 52 01.3 0.0**
P17A IAmb IAmb 14 52 03.9
comp=Z,8.8nm,1.0s
SRU San Rafael Swe 87.81 48 P **P** **14 52 03.0 +0.1**
SRU IAmb IAmb 14 52 04.9
comp=Z,5.3nm,0.8s
PURM Purcari 87.86 320 ⇑P P 14 52 08.5 +5.9
SORM Soroca 87.88 322 ⇑P **P** **14 52 02.1 -0.5**
O20A White River Ci 88.86 46 P **P** **14 52 08.2 +0.4**
baz=300
WUAZ Wupatki 88.90 52 P **P** **14 52 09.0 +1.0**
baz=298,SNR=6.1
BRTR Keskin Array B 88.96 313 P **P** **14 52 07.1 -1.1**
comp=Z,2.3nm,0.8s,baz=72,slow=3.0,SNR=9.4
BRTR pP **pP** **14 52 41.2 +0.8**
comp=Z,1.6nm,0.8s,baz=83,slow=3.2,SNR=3.8
214A Organ Pipe Nat 89.47 55 P **P** **14 52 11.6 +1.0**
baz=297
RSSD Black Hills 89.50 41 P **P** **14 52 10.8 +0.1**
baz=302
TESR Tescani 89.74 322 ⇑P **P** **14 52 11.3 -0.1**
BUR08 Bucovina Ar. S 89.91 323 P **P** **14 52 12.1 -0.2**
BUR08 IAmb IAmb 14 52 15.7
comp=Z,9.0nm,1.5s
BURAR Bucovina Array 89.92 323 ⇑P **P** **14 52 12.8 +0.4**
BURAR Bucovina Array 89.92 323 P **P** **14 52 11.7 -0.7**
N23A Red Feather La 89.99 45 P **P** **14 52 14.0 +0.9**
baz=301
MVCO Mesa Verde 90.13 49 P **P** **14 52 14.3 +0.5**
baz=300
ISCO Idaho Springs 90.78 46 P **P** **14 52 16.2 -0.6**
ISCO IAmb IAmb 14 52 23.0
comp=Z,6.3nm,1.1s
ISCO Idaho Springs 90.78 46 P **P** **14 52 17.5 +0.7**
baz=301
TUC Tucson 90.83 54 P **P** **14 52 17.7 +0.7**
baz=298
S22A 4UR Ranch, Cre 91.01 48 P **P** **14 52 17.4 -0.5**
S22A IAmb IAmb 14 52 20.7
comp=Z,4.6nm,1.0s
S22A 4UR Ranch, Cre 91.01 48 P **P** **14 52 18.6 +0.7**
baz=301
Q24A Divide 91.52 46 P **P** **14 52 20.8 +0.5**
baz=302
AGMN Agassiz Nation 91.72 35 P **P** **14 52 21.3 +0.7**
baz=308
SDCO Great Sand Dun 91.92 47 P **P** **14 52 21.5 -0.6**
SDCO IAmb IAmb 14 52 24.7
comp=Z,5.1nm,1.0s
SDCO Great Sand Dun 91.92 47 P **P** **14 52 23.0 +0.9**
baz=301
KSP Ksiaz 92.47 329 *e*P **P** **14 52 24.1 0.0**
ANMO Albuquerque 92.69 50 LR LR 15 30 11.4
comp=Z,41nm,19.8s,baz=100,slow=33
ANMO Albuquerque 92.69 50 P **P** **14 52 26.8 +1.2**
baz=301
T25A Trinidad 92.97 47 P **P** **14 52 28.4 +1.4**
baz=302
CLL Collm 93.66 331 *e*pP pP 14 53 03.0 +1.3
ECSD EROS Data Cent 94.12 39 P **P** **14 52 32.0 +0.2**
baz=308
GERES GERESS Array B 95.06 329 P **P** **14 52 35.2 -0.9**
comp=Z,0.4nm,0.5s,baz=34,slow=7.1,SNR=4.6
GERES pP **pP** **14 53 09.2 +0.9**
comp=Z,0.5nm,0.5s,baz=43,slow=6.0,SNR=3.4
MNTX Cornudas Mount 95.12 53 P **P** **14 52 36.8 +0.1**
baz=301
AMTX Amarillo 96.05 48 P **P** **14 52 41.5 +0.6**
baz=304
TORD Torodi Ar. Bea 127.41 309 PKP **PKPdf** **14 58 17.5 -0.6**
comp=Z,3.4nm,1.1s,baz=13,slow=1.3,SNR=8.4
VNA2 Neumayer--Watz 129.16 192 PKPdf **PKiKP** **14 58 20.2 -0.3**
baz=130,slow=1.4
VNA3 Neumayer Olymp 129.32 191 PKPdf **PKiKP** **14 58 21.0 +0.2**
VNA1 Neumayer--Stat 129.55 192 PKPdf **PKPdf** **14 58 20.7 +0.2**
PLCA Paso Flores 147.11 130 PKPbc **PKPbc** **14 58 56.5 +0.7**
comp=Z,15nm,0.6s,baz=241,slow=3.7,SNR=79
LPAZ La Paz 150.30 82 PKPbc **PKiKP** **14 59 05.8 -0.2**
comp=Z,5.9nm,0.5s,baz=317,slow=2.4,SNR=19
LPAZ La Paz 150.30 82 **PKiKP** **14 59 05.9 -0.1**

*ATH **03** 14:42:06.6, 41°.08N×24°.36E, h8km±2km, ML2.1/7, Error ellipse: s-maj=2.2km s-min=0.8km az=177.0*
*THE **03** 14:42:06.6, 41°.07N×24°.36E, h4km±3km, ML2.0/7, Error ellipse: s-maj=3.2km s-min=0.2km az=106.0*
*BEO **03** 14:42:07.0±0.9, 41°.01N×24°.38E, h10km±3km, ML2.5/7*
ISC 03 14:42:06.8±0.8, 41°.05N±0°.02×24°.36E±0°.02, h9km±6km, n33, σ0°.55/57, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KVLA	**Kavala**	**0.12**	**171**	P		**Pg**	**14 42 09.6**	**0.0**
KVLA				S		**Sg**	**14 42 11.6**	**+0.1**
KVLA				AML		AML	14 42 13.7	
	comp=N,1269μm,0.1s							
KVLA				AML		AML	14 42 14.2	
	comp=E,1082μm,0.1s							
KAVA	**Kavala**	**0.13**	**117**	P		**Pg**	**14 42 09.6**	**-0.1**
KAVA				S		**Sg**	**14 42 11.4**	**-0.3**
	comp=E,1μm,0.2s							
KAVA	**Kavala**	**0.13**	**117**	P		**Pg**	**14 42 09.6**	**-0.1**
KAVA				S		**Sg**	**14 42 11.8**	**+0.1**
KAVA				AML		AML	14 42 12.0	
	comp=N,2535μm,0.2s							
KAVA				AML		AML	14 42 13.2	
	comp=E,2675μm,0.2s							
KOKK	**Kokkinochori,**	**0.36**	**230**	P		**Pg**	**14 42 13.7**	**-0.3**
KOKK				S		**Sg**	**14 42 19.2**	**+0.5**
	comp=E,352nm,0.2s							
KOKK	**Kokkinochori,**	**0.36**	**230**	P		**Pg**	**14 42 13.6**	**-0.3**
KOKK				S		**Sg**	**14 42 19.2**	**+0.5**
NVR	**Nevrokopi**	**0.48**	**308**	P		**Pg**	**14 42 15.3**	**-0.8**
NVR				S		**Sg**	**14 42 22.5**	**0.0**
	comp=E,270nm,0.1s							
NVR	**Nevrokopi**	**0.48**	**308**	P		**Pg**	**14 42 15.0**	**-1.1**
NVR				S		**Sg**	**14 42 22.3**	**-0.2**
NVR				AML		AML	14 42 24.1	
	comp=N,522μm,0.1s							
NVR				AML		AML	14 42 25.7	
	comp=E,536μm,0.1s							
THAS	**Thassos island**	**0.52**	**149**	P		**Pg**	**14 42 16.8**	**-0.1**
THAS				S		**Sg**	**14 42 24.7**	**+0.9**
	comp=E,218nm,0.2s							
THAS	**Thassos island**	**0.52**	**149**	P		**Pg**	**14 42 17.0**	**0.0**
THAS				S		**Sb**	**14 42 25.1**	**-0.6**
THAS				AML		AML	14 42 29.0	
	comp=E,400μm,0.2s							
THAS				AML		AML	14 42 29.9	
	comp=N,452μm,0.3s							
SRS	**Serrai**	**0.59**	**276**	P		**Pg**	**14 42 17.5**	**-0.6**
SRS				S		**Sg**	**14 42 26.3**	**+0.5**
	comp=N,160nm,0.1s							
SRS	**Serrai**	**0.59**	**276**	P		**Pg**	**14 42 17.3**	**-0.9**
SRS				S		**Sg**	**14 42 26.1**	**+0.2**
SRS				AML		AML	14 42 30.7	
	comp=E,352μm,0.1s							
SRS				AML		AML	14 42 30.8	
	comp=N,326μm,0.1s							
OUR	**Ouranopolis**	**0.78**	**202**	P		**Pb**	**14 42 22.3**	**-0.1**
OUR				S		**Sb**	**14 42 33.2**	**+0.2**
OUR				AML		AML	14 42 34.9	
	comp=E,835μm,0.2s							
OUR				AML		AML	14 42 35.7	
	comp=N,537μm,0.2s							
SOH	**Sokhos**	**0.80**	**253**	P		**Pg**	**14 42 21.6**	**-0.5**
SOH				S		**Sb**	**14 42 33.5**	**-0.3**
	comp=N,110nm,0.2s							
SOH	**Sokhos**	**0.80**	**253**	P		**Pg**	**14 42 21.6**	**-0.5**
SOH				S		**Sg**	**14 42 32.6**	**+0.1**
RDO	**Rodhopi**	**0.89**	**84**	P		**Pg**	**14 42 23.2**	**-0.7**
RDO	**Rodhopi**	**0.89**	**84**	P		**Pg**	**14 42 23.3**	**-0.7**
RDO				S		**Sb**	**14 42 36.0**	**-0.4**
RDO				AML		AML	14 42 39.7	
	comp=E,516μm,0.2s							
RDO				AML		AML	14 42 39.9	
	comp=N,526μm,0.2s							
PLG	**Polygyros**	**0.97**	**226**	P		**Pg**	**14 42 25.1**	**-0.4**
SMTH	**Samothraki Isl**	**1.06**	**123**	P		**Pg**	**14 42 26.7**	**-0.5**
SMTH				S		**Sn**	**14 42 42.3**	**-0.4**
	comp=N,55nm,0.2s							
SMTH	**Samothraki Isl**	**1.06**	**123**	P		**Pg**	**14 42 27.1**	**-0.1**
PLD	**Plovdiv**	**1.08**	**14**	*e*Pg		**Pb**	**14 42 27.7**	**+0.1**
PLD				*e*Sg		**Sb**	**14 42 42.1**	**+0.3**
KNT	**Kendrikon**	**1.11**	**276**	P		**Pg**	**14 42 27.2**	**-0.9**
THE	**Thessaloniki**	**1.14**	**249**	P		**Pb**	**14 42 28.7**	**0.0**
PAIG	**Paliouri**	**1.24**	**205**	P		**Pn**	**14 42 29.4**	**-0.8**
PAIG				S		**Sb**	**14 42 46.3**	**-0.1**
ALN	**Alexandroupoli**	**1.28**	**96**	P		**Pn**	**14 42 30.5**	**-0.3**
ALN				S		**Sg**	**14 42 47.9**	**-0.2**
VAY	**Valandovo**	**1.38**	**282**	*e*Pg		**Pb**	**14 42 32.7**	**0.0**
VAY				*e*Sg		**Sg**	**14 42 51.5**	**+0.4**
VTS	**Vitosha**	**1.78**	**332**	*e*Pn		**Pn**	**14 42 38.3**	**+0.5**
VTS				*e*Sn		**Sb**	**14 43 02.0**	**0.0**
BOSS	**Bosilegrad**	**2.02**	**316**	*e*Pn		**Pn**	**14 42 41.6**	**+0.7**
BOSS				*e*Sn		**Sb**	**14 43 08.4**	**-0.3**
ZAPS	**Zavoj**	**2.56**	**330**	*e*Pn		**Pn**	**14 42 50.1**	**+1.6**
ZAPS				*e*Sn		**Sn**	**14 43 21.2**	**+1.4**
BARS	**Barje**	**2.59**	**314**	*e*Pn		**Pn**	**14 42 49.4**	**+0.6**
BARS				*e*Sn		**Sn**	**14 43 20.6**	**+0.2**
SELS	**Selova**	**3.24**	**313**	*e*Sn		**Pn**	**14 42 57.8**	**0.0**
SELS	**Selova**	**3.24**	**313**	*e*Pn		**Sn**	**14 43 37.1**	**+0.6**
GRUS	**Gruza**	**3.91**	**318**	*e*Pn		**Pn**	**14 43 07.1**	**+0.1**
DIVS	**Divibare**	**4.43**	**315**	*e*Pn		**Pn**	**14 43 14.3**	**0.0**

*IDC **03** 14:58:03.3±1.1, 17°.85N×40°.19E, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.7/48, mbtmp3.8/15, ML3.6/1, MS3.4/22, Ms1 3.4/22, ms1mx3.1/81, Error ellipse: s-maj=24.2km s-min=19.3km az=154.0*
*NEIC **03** 14:58:05.6±2.6, 17°.8N±0°.1×40°.1E±0°.1, h12km±5km, mb4.2/9, Error ellipse: s-maj=18.1km s-min=15.2km az=192.0*
ISC 03 14:58:07.4±0.7, 17°.82N±0°.09×40°.2E±0°.1, h28km, n41, σ1°.09/22, mb4.0/14, MS3.5/17, Red Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**6.77**	**157**	Pn		**Pn**	**14 59 46.1**	**+1.0**
	1.2nm,0.3s,baz=309,slow=12,SNR=5.4							
ATD				LR		LR	15 02 00.2	
	comp=Z,115nm,20.4s,baz=356,slow=35							
EIL	**Elat**	**12.72**	**339**	LR		LR	15 05 07.0	
	comp=Z,109nm,19.4s,baz=98,slow=33							
LODK	**Lodwar**	**15.07**	**199**	Pn		**Pn**	**15 01 37.6**	**-1.1**
MMAI	**Mount Meron Ar**	**15.72**	**345**	LR		LR	15 07 18.4	
	comp=Z,102nm,18.1s,baz=346,slow=35							
WSAR	**Wadi Sarin**	**18.10**	**70**	LR		LR	15 09 49.8	
	comp=Z,128nm,20.1s,baz=274,slow=39							
KMBO	**Kilima Mbogo**	**19.05**	**189**	LR		LR	15 09 32.9	
	comp=Z,153nm,18.7s,baz=84,slow=36							
MBAR	**Mbarara**	**20.53**	**208**	LR		LR	15 09 55.4	
	comp=Z,40nm,21.4s,baz=356,slow=35							
BR131	**Keskin Array S**	**22.55**	**347**	P		**P**	**15 03 06.9**	**+1.4**
BR131				IAmb		IAmb	15 03 10.9	
	comp=Z,15nm,1.2s							
BRTR	**Keskin Array B**	**22.55**	**347**	P		**P**	**15 03 06.7**	**+1.2**
	comp=Z,4.8nm,1.1s,baz=163,slow=9.9,SNR=13							
BRTR				LR		LR	15 11 52.9	
	comp=Z,46nm,18.5s,baz=148,slow=37							
BRTR	**Keskin Array B**	**22.55**	**347**	P		**P**	**15 03 06.9**	**+1.4**
GNI	**Garni**	**22.60**	**9**	LR		LR	15 12 08.4	
	comp=Z,45nm,20.6s,baz=168,slow=37							
KBZ	**Khabaz**	**25.93**	**5**	LR		LR	15 14 44.8	
	comp=Z,67nm,19.4s,baz=220,slow=39							
AKASG	**Malin Array Be**	**33.95**	**348**	P		**P**	**15 04 47.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=166,slow=7.7,SNR=4.8							
LSZ	**Lusaka**	**34.95**	**200**	LR		LR	15 19 27.8	
	comp=Z,171nm,18.1s,baz=338,slow=37							
BELG	**Belogornoye**	**34.99**	**8**	P		**P**	**15 04 57.2**	**0.0**
	comp=Z,4.2nm,0.6s,baz=191,slow=10,SNR=2.6							
ABKAR	**Akbulak array**	**35.20**	**23**	P		**P**	**15 04 58.4**	**-0.7**
AKTO	**Aktyubinsk**	**35.53**	**20**	P		**P**	**15 05 00.3**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=253,slow=7.1,SNR=2.4							
TORD	**Torodi Ar. Bea**	**37.33**	**268**	P		**P**	**15 05 16.2**	**-1.5**
	comp=Z,3.5nm,1.1s,baz=80,slow=8.2,SNR=9.3							
TORD	**Torodi Ar. Bea**	**37.33**	**268**	IAmb		IAmb	15 05 20.6	
	comp=Z,4.5nm,1.3s							
GERES	**GERESS Array B**	**37.66**	**331**	P		**P**	**15 05 19.9**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=127,slow=6.3,SNR=3.6							
AAK	**Ala-Archa**	**38.20**	**42**	LR		LR	15 23 40.8	
	comp=Z,62nm,18.1s,baz=178,slow=40							
PALK	**Pallekele**	**40.84**	**100**	LR		LR	15 19 18.5	
	comp=Z,32nm,20.6s,baz=51,slow=31							
ARU	**Arti**	**40.96**	**16**	P		**P**	**15 05 47.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=210,slow=16,SNR=3.6							
ARU	**Arti**	**40.96**	**16**	IAmb		IAmb	15 05 49.8	
	comp=Z,10nm,1.4s							
KURBB	**Kurchatov Arra**	**44.74**	**34**	P		**P**	**15 06 17.4**	**-0.9**
	comp=Z,1.6nm,1.0s,baz=238,slow=7.8,SNR=7.9							
LBTB	**Lobatse**	**44.88**	**199**	LR		LR	15 26 10.5	
	comp=Z,26nm,18.7s,baz=35,slow=38							
MKAR	**Makanchi Array**	**45.05**	**41**	P		**P**	**15 06 21.9**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=224,slow=6.0,SNR=2.4							
MKAR				LR		LR	15 27 38.0	
	comp=Z,91nm,18.7s,baz=202,slow=39							
MKAR	**Makanchi Array**	**45.05**	**41**	P		**P**	**15 06 19.9**	**-0.9**
DBIC	**Dimbokro**	**45.26**	**262**	P		**P**	**15 06 24.3**	**+1.4**
	comp=Z,2.5nm,0.8s,baz=98,slow=8.0,SNR=3.6							
DBIC				LR		LR	15 24 31.7	
	comp=Z,94nm,20.4s,baz=62,slow=35							
BOSA	**Boshof**	**48.37**	**198**	LR		LR	15 26 06.0	
	comp=Z,50nm,18.5s,baz=6.5,slow=35							
ZAA0	**Zalesovo Array**	**49.76**	**33**	P		**P**	**15 06 56.8**	**-0.5**
ZALV	**Zalesovo Beam**	**49.76**	**33**	P		**P**	**15 06 56.4**	**-1.0**
	comp=Z,3.2nm,1.0s,baz=268,slow=5.5,SNR=8.2							
ZALV				LR		LR	15 31 43.2	
	comp=Z,47nm,18.2s,baz=183,slow=41							
ZALV	**Zalesovo Beam**	**49.76**	**33**	P		**P**	**15 06 56.5**	**-0.8**
SUR	**Sutherland**	**53.25**	**200**	LR		LR	15 30 17.5	
	comp=Z,121nm,18.1s,baz=344,slow=36							
CMAR	**Chiang Mai Arr**	**55.63**	**80**	P		**P**	**15 07 40.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=291,slow=7.6,SNR=5.9							
CMAR				LR		LR	15 31 59.4	
	comp=Z,6.3nm,21.7s,baz=170,slow=37							
NRIK	**Noril'sk**	**59.11**	**18**	P		**P**	**15 08 06.6**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=242,slow=8.4,SNR=1.8							
NRIK	**Noril'sk**	**59.11**	**18**	IAmb		IAmb	15 08 11.7	
	comp=Z,2.5nm,0.9s							
SONM	**Songino Array**	**61.08**	**45**	P		**P**	**15 08 18.7**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=282,slow=6.8,SNR=4.7							
SONM				LR		LR	15 38 24.9	
	comp=Z,51nm,21.9s,baz=216,slow=40							
SONM	**Songino Array**	**61.08**	**45**	IAmb		IAmb	15 08 29.1	
	comp=Z,2.6nm,1.2s							
MJAR	**Matsushiro Arr**	**85.81**	**53**	LR		LR	15 52 51.6	
	comp=Z,25nm,19.2s,baz=3.0,slow=38							
GUMO	**Guam**	**99.44**	**72**	LR		LR	16 03 33.1	
	comp=Z,6.7nm,18.2s,baz=106,slow=40							

GUC 03 15:13:32.4±0.6, 29°.67S×72°.01W, h36km±6km, ML3.5, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.72**	**111**	⇓*i*P		Pn	15 13 45.9	-0.1
CO05				*e*S		Sn	15 13 56.0	+0.3
CO05				IAML			15 13 57.7	
	comp=E,3μm,0.2s							
CO06	**Fray Jorge**	**1.05**	**162**	⇑*i*P		Pn	15 13 51.3	+0.7
CO06				*i* S		Sn	15 14 05.2	+1.1
CO06				IAML			15 14 12.0	
	comp=E,1μm,0.2s							
GO04	**Tololo Observa**	**1.17**	**116**	⇓*i*P		Pn	15 13 53.5	+1.1
GO04				*e*S		Sn	15 14 09.2	+2.0
LCO	**Las Campanas**	**1.31**	**61**	⇓*i*P		Pn	15 13 55.3	+0.8
LCO				*i* S		Sn	15 14 13.0	+2.1
CO03	**El Pedregal**	**1.63**	**136**	⇑*i*P		Pn	15 14 00.6	+1.9
CO03				*i* S		Sn	15 14 21.4	+2.9
CO03				IAML			15 14 25.0	
	comp=E,829nm,0.3s							
AC04	**Llanos de Chal**	**1.67**	**30**	*e*P		Pn	15 13 59.0	-0.1
GO03	**Copiap**	**2.59**	**37**	*e*P		Pn	15 14 14.1	+2.2
GO03				IAML			15 15 02.1	
	comp=N,247nm,0.6s							
VA06	**Catapilco**	**2.95**	**168**	*e*P		Pn	15 14 18.1	+1.4
VA06				IAML			15 15 15.4	
	comp=E,297nm,0.3s							
VA03	**San Esteban**	**3.33**	**158**	*i* P		Pn	15 14 24.8	+2.7
ROCH	**El Roble**	**3.40**	**166**	*e*P		Pn	15 14 24.9	+1.8
ROCH				*e*S		Sn	15 15 04.1	+1.7
ROCH				IAML			15 15 25.7	
	comp=N,134nm,0.2s							
PEL	**Peldehue**	**3.65**	**162**	*i* P		Pn	15 14 28.7	+2.4
MT02	**Curacav**	**3.66**	**168**	*e*P		Pn	15 14 28.0	+1.6
MT02				*e*S		Sn	15 15 09.4	+1.0
AC02	**Maricunga**	**3.79**	**43**	⇑*i*P		Pn	15 14 30.6	+1.8
MT09	**Talagante**	**4.19**	**168**	⇓*i*P		Pn	15 14 36.1	+2.2
MT01	**Popeta**	**4.24**	**171**	*i* P		Pn	15 14 35.6	+1.2
BO04	**La Punta**	**4.47**	**165**	*i* P		Pn	15 14 39.9	+2.2
BO04				*i* S		Sn	15 15 30.4	+1.9

WEL 03 15:16:31.7±1.0, 34°.S±21°×18°.0E±2°.8, h326km±19km, M3.9/6, ML4.3/14, MLv3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=125.1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.56**	**202**	P		Pn	15 17 37.4	+2.8
HAZ	**Te Kaha**	**3.92**	**206**	P		Pn	15 17 37.8	-0.4
HAZ				S		S	15 18 32.0	+0.1
PKGZ	**Pakihiroa**	**3.94**	**203**	P		Pn	15 17 39.6	+1.0
PKGZ				S		S	15 18 31.3	-1.1
PUZ	**Puketiti**	**4.05**	**200**	P		Pn	15 17 39.3	-0.4
PUZ				S		S	15 18 35.1	+0.5
RUGZ	**Raukumara Rang**	**4.14**	**206**	P		Pn	15 17 40.3	-0.5
RUGZ				S		S	15 18 34.2	-2.3
TWGZ	**Tauwhareparae**	**4.23**	**202**	P		Pn	15 17 42.6	+1.0
TWGZ				S		S	15 18 40.7	+2.7
CNGZ	**Carnagh Statio**	**4.45**	**198**	P		Pn	15 17 46.0	+2.0
MWZ	**Matawai**	**4.52**	**205**	P		Pn	15 17 42.3	-2.6
MWZ				S		S	15 18 44.2	+0.3
URZ	**Urewera**	**4.62**	**209**	P		Pn	15 17 44.9	-0.9
URZ				S		S	15 18 46.7	+1.2
MTHZ	**Maungataniwha**	**5.23**	**208**	P		Pn	15 17 53.2	+0.4
MTHZ				S		S	15 18 58.8	+0.5
TLZ	**Tolley Road**	**5.42**	**220**	P		Pn	15 17 55.9	+1.0
BKZ	**Black Stump Fm**	**5.64**	**209**	P		Pn	15 17 57.0	-0.5
BKZ				S		S	15 19 06.9	0.0
HIZ	**Hauiti**	**5.92**	**223**	P		Pn	15 18 02.5	+1.7
NTVZ	**North Tongarir**	**5.94**	**214**	P		Pn	15 18 01.2	+0.1
OTVZ	**Oturere**	**6.00**	**214**	P		Pn	15 18 01.6	-0.2
SNVZ	**South Ngauruho**	**6.03**	**214**	P		Pn	15 18 02.0	-0.1
BHHZ	**Black Hill Sta**	**6.09**	**210**	P		Pn	15 18 02.1	-0.6
BHHZ				S		S	15 19 17.3	+0.9
KRHZ	**Kereru**	**6.10**	**207**	P		Pn	15 18 01.6	-1.2
MOVZ	**Moawhango**	**6.15**	**212**	P		Pn	15 18 02.5	-1.0
PNHZ	**Pukenui**	**6.40**	**207**	P		Pn	15 18 05.7	-0.6
PNHZ				S		S	15 19 23.2	+0.2
TSZ	**Takapari Road**	**6.62**	**208**	P		Pn	15 18 08.1	-0.7
TSZ				S		S	15 19 29.8	+2.2

IDC 03 15:29:21.9±2.2, 2°.77S×127°.83E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/30, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=143.2km s-min=28.4km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.21**	**160**	P		Pn	15 33 35.1	-1.2
	0.1nm,0.3s,baz=338,slow=11,SNR=10							
ASAR	**Alice Springs**	**21.59**	**165**	P		P	15 34 13.4	-0.1
	0.4nm,0.3s,baz=345,slow=12,SNR=7.5							
MKAR	**Makanchi Array**	**32.63**	**327**	P		P	15 39 54.6	+0.5
	0.2nm,0.8s,baz=119,slow=5.1,SNR=1.5							

*INET **03** 15:31:07.7±1.1, 11°.29N×85°.60W, h212km±17km, MW3.5*
*UCR **03** 15:31:08.9±1.2, 11°.27N×85°.74W, h195km±4km, MW4.0*
*SNET **03** 15:31:10.9±1.0, 11°.00N×85°.91W, h130km±89km, ML3.7*
ISC 03 15:31:09.9±0.9, 11°.31N±0°.06×85°.65W±0°.06, h190km±7km, n68, σ0°.65/79, 14C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BUAI	**Buenos Aires**	**0.53**	**144**	⇑*i*P		**Pn**	**15 31 36.4**	**+0.3**
BUAI				*i* S		**Sn**	**15 31 56.9**	**+0.6**
GBS3	**Finca Las Img**	**0.56**	**160**	⇑*i*P		**Pn**	**15 31 35.9**	**-0.3**
GBS3				*i* S		**Sn**	**15 31 56.8**	**+0.3**
BUEV	**Buena Vista**	**0.56**	**155**	⇑*i*P		**Pn**	**15 31 36.0**	**-0.3**
LAPC	**Finca la Perla**	**0.58**	**159**	⇑*i*P		**Pn**	**15 31 35.8**	**-0.5**
LAPC				*i* S		**Sn**	**15 31 56.4**	**-0.4**
HZTE	**Horizontes, Gu**	**0.60**	**175**	*e*P		**Pn**	**15 31 36.4**	**+0.1**
HZTE				*e*S		**Sn**	**15 31 57.5**	**+0.7**
HZTE	**Horizontes, Gu**	**0.60**	**175**	*e*P		**Pn**	**15 31 36.4**	**+0.1**
LIM1	**Limonal**	**0.72**	**147**	⇑*i*P		**Pn**	**15 31 36.9**	**-0.1**
GUAB	**Guayabo de Bag**	**0.73**	**146**	⇑*i*P		**Pn**	**15 31 37.0**	**0.0**
HORNC	**Hornillas**	**0.75**	**142**	⇑*i*P		**Pn**	**15 31 37.2**	**0.0**
COLC	**Colonia**	**0.78**	**146**	⇑*i*P		**Pn**	**15 31 37.3**	**0.0**
ACON	**Acoyapa**	**0.80**	**35**	*e*P		**Pn**	**15 31 37.3**	**0.0**
CUI	**Cuipilapa**	**0.81**	**144**	⇑*i*P		**Pn**	**15 31 37.7**	**+0.2**
PTEN	**Parque Tenorio**	**0.88**	**132**	⇑*i*P		**Pn**	**15 31 38.1**	**+0.2**
ACAL	**Aguas Claras**	**0.91**	**138**	⇑*i*P		**Pn**	**15 31 38.4**	**+0.3**
ORTG	**Ortega, Santa**	**0.96**	**169**	*e*P		**Pn**	**15 31 38.3**	**-0.3**
GUAI	**GUAI**	**1.04**	**172**	⇑*i*P		**Pn**	**15 31 39.0**	**0.0**
BOAB	**BOACO BROADBAN**	**1.13**	**359**	*e*P		**Pn**	**15 31 39.1**	**-0.5**
HUEN		**1.14**	**333**	*e*P		**Pn**	**15 31 40.5**	**+0.8**
JTS	**Las Juntas de**	**1.22**	**146**	*e*P		**Pn**	**15 31 40.1**	**-0.4**
JTS	**Las Juntas de**	**1.22**	**146**	*e*P		**Pn**	**15 31 39.9**	**-0.5**
SAJU	**San Juanillo,**	**1.24**	**183**	*e*P		**Pn**	**15 31 40.1**	**-0.4**
SAJU				*e*S		**Sn**	**15 32 03.6**	**-0.7**
ARE1	**Arenal 1**	**1.25**	**133**	*e*P		**Pn**

REN ***03*** *15:35:23.9±2.6, 41°.87N±0°.04×119°.60W±0°.07, h11km±6km, ML4.1/5, mb3.8/3(NEIC), ML3.6/70(NEIC), Mwr3.9/63(NEIC), Error ellipse: s-maj=7.1km s-min=5.9km az=94.0*
NEIC ***03*** *15:35:23.9, 41°.87N×119°.60W, h10km, Moment Tension Solution. Moment tensor: Scale 10^14^Nm; Mrr=6.95; Mθθ=1.37; Mφφ=8.32; Mrθ=2.91; Mθφ=3.08; Mφr=3.20; Fault plane solution: Mo=9.37000×10^14^ NP1:φs=357.81000°, δ=34.88000°, λ=-118.76000°. NP2:φs=211.60000°, δ=59.91000°, λ=-71.46000°. Principal axes: T 10.1103, Plg13.0000°, Azm288.0000°; N -1.7126, Plg16.0000°, Azm22.0000°; P -8.3977, Plg69.0000°, Azm161.0000°;*
NEIC ***03*** *15:35:24.5±3.2, 41°.89N±0°.03×119°.64W±0°.06, h5km±5km Error ellipse: s-maj=7.0km s-min=4.4km az=104.0*
ANF ***03*** *15:35:24.4±0.9, 41°.89N×119°.70W, h2km±7km, ML3.9/16, Error ellipse: s-maj=3.5km s-min=3.3km az=179.0*
IDC ***03*** *15:35:25.2±0.6, 41°.86N×119°.75W, h0km, mb3.6/3, mb1 3.9/8, mb1mx3.4/59, mbtmp3.6/8, ML3.6/5, MS3.1/8, Ms1 3.1/8, ms1mx2.8/74, Error ellipse: s-maj=7.9km s-min=5.9km az=16.0*

ISC 03 15:35:24.7±1.2, 41°.92N±0°.03×119°.64W±0°.02, h7km±9km, n94, σ1§43/99, mb3.8/4, MS3.4/4, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.50**	**268**		**Pg**	**15 35 34.6**	**+0.3**
MOD	**Modoc Plateau**	**0.50**	**268**		**Sb**	**15 35 42.2**	**-1.1**
WVOR	**Wild Horse Val**	**0.91**	**55**	Pg	**Pg**	**15 35 41.5**	**-0.6**
WVOR	1μm,0.5s			IAML		15 35 57.9	
WVOR	2μm,0.6s			IAML		15 36 02.5	
WVOR	**Wild Horse Val**	**0.91**	**55**		**Sg**	**15 35 53.9**	**0.0**
K05A	**Summer Lake**	**1.23**	**311**	Pn	**Pg**	**15 35 48.3**	**0.0**
M04C	**Macdoel**	**1.65**	**266**	P	**Pn**	**15 35 53.7**	**-0.5**
M04C	baz=86,SNR=385			Sg	**Sg**	**15 36 17.7**	**+0.1**
M04C	baz=86						
J08A	**Circle Bar Ran**	**1.68**	**30**	Pn	**Pn**	**15 35 54.0**	**-0.5**
J08A	comp=E,852nm,0.5s			IAML		15 36 23.9	
J08A	comp=N,831nm,0.5s			IAML		15 36 24.0	
K04D	**Chiloquin, OR**	**1.72**	**295**	P	**Pn**	**15 35 55.1**	**-0.1**
K04D	baz=115,SNR=113			Sg	**Sg**	**15 36 20.7**	**+0.7**
K04D	baz=115						
J05D	**Fort Rock, OR**	**1.80**	**320**	P	**Pn**	**15 35 56.0**	**-0.3**
J05D	baz=139			Sg	**Sg**	**15 36 24.2**	**+1.6**
J05D	baz=139						
L04D	**Klamath Falls**	**2.01**	**279**	P	**Pn**	**15 35 58.5**	**-0.6**
L04D	baz=99,SNR=522			Sg	**Sg**	**15 36 29.6**	**+0.4**
L04D	baz=99						
PINE	**Pine Mountain**	**2.10**	**333**		**Pn**	**15 36 01.1**	**+0.6**
PINE	comp=N,526nm,0.7s			IAML		15 36 43.5	
I07A	**Izee**	**2.16**	**3**		**Pn**	**15 36 01.9**	**+0.7**
I07A	comp=N,426nm,0.6s			IAML		15 36 35.0	
I07A	comp=E,391nm,0.6s			IAML		15 36 35.3	
PAHR	**Pah Rah Range**	**2.22**	**175**		**Pn**	**15 36 00.8**	**-1.2**
J04D	**Umpqua Nationa**	**2.25**	**307**	P	**Pn**	**15 36 02.6**	**+0.1**
J04D	baz=126			Sg	**Sg**	**15 36 38.1**	**+1.1**
J04D	baz=126						
LOY	**Loyalton**	**2.30**	**192**		**Pn**	**15 36 03.8**	**+0.7**
O03E	**Paynes Creek**	**2.30**	**226**	P	**Pn**	**15 36 02.9**	**-0.2**
O03E	baz=46,SNR=368			Sb	**Sg**	**15 36 37.1**	**-1.6**
O03E	baz=46						
YBH	**Yreka Blue Hor**	**2.30**	**266**	Pn	**Pn**	**15 36 02.3**	**-0.8**
YBH	comp=E,28nm,0.3s,baz=50,slow=12,SNR=333			LR	LR	15 36 30.5	
YBH	comp=E,160nm,18.3s,baz=48,slow=29			Lg	Lg	15 36 36.6	
YBH	comp=E,42nm,0.3s,baz=349,slow=16,SNR=12						
YBH	**Yreka Blue Hor**	**2.30**	**266**		**Pn**	**15 36 02.0**	**-1.1**
YBH	comp=N,307nm,0.7s			IAML		15 36 38.9	
BABR	**Babbit Peak**	**2.34**	**189**		**Pb**	**15 36 06.8**	**-0.6**
BMN	**Battle Mountai**	**2.35**	**128**		**Pn**	**15 36 02.2**	**-1.6**
BMN	comp=N,383nm,0.6s			IAML		15 36 39.4	
BMN	comp=E,376nm,0.7s			IAML		15 36 44.3	
KBF	**Kyburz Flat**	**2.45**	**190**		**Pn**	**15 36 05.3**	**+0.1**
M02C	**Callahan**	**2.47**	**259**	P	**Pn**	**15 36 04.2**	**-1.1**
M02C	baz=78,SNR=24			Sb	**Sb**	**15 36 40.8**	**+0.9**
M02C	baz=78						
N02D	**Trinity Center**	**2.49**	**249**	P	**Pn**	**15 36 04.6**	**-1.0**
N02D	baz=68,SNR=124			Sb	**Sg**	**15 36 42.5**	**-2.2**
N02D	baz=68						
IND	**Independence**	**2.53**	**192**		**Pn**	**15 36 07.8**	**+1.4**
HUMO	**Hull Mountain**	**2.56**	**287**		**Pn**	**15 36 05.6**	**-0.9**
HUMO	comp=E,182nm,0.6s			IAML		15 36 45.9	
HUMO	comp=N,300nm,1.0s			IAML		15 36 52.0	
WDC	**Whiskeytown Da**	**2.56**	**240**		**Pn**	**15 36 05.7**	**-0.9**
WDC	comp=N,244nm,0.9s			IAML		15 36 47.3	
DONR	**Donner Summit**	**2.62**	**192**		**Pn**	**15 36 09.1**	**+1.5**
VCNR	**Virginia City**	**2.62**	**180**	Pn	**Pn**	**15 36 06.7**	**-0.9**
VCNR	comp=E,461nm,0.9s			IAML		15 36 48.7	
I05D	**Terrebonne, OR**	**2.72**	**333**	Pb	**Pb**	**15 36 13.7**	**0.0**
I05D	baz=152			Sb	**Sg**	**15 36 51.7**	**-0.4**
I05D	baz=152						
ORV	**Oroville**	**2.75**	**212**		**Pn**	**15 36 08.8**	**-0.4**
I04A	**Tendick Farm,**	**2.77**	**314**	Pb	**Pb**	**15 36 14.8**	**+0.3**
I04A	baz=132			Sb	**Sg**	**15 36 52.5**	**-1.1**
I04A	baz=132						
PNTR	**Pine Nut**	**2.83**	**179**		**Pn**	**15 36 10.3**	**-0.2**
PNTR	comp=E,287nm,1.0s			IAML		15 36 56.3	
PNTR	comp=N,374nm,1.1s			IAML		15 37 02.0	
YERR	**Yerington**	**2.95**	**174**	Pn	**Pn**	**15 36 11.6**	**-0.5**
YERR	comp=N,318nm,0.9s			IAML		15 37 00.8	
YERR	comp=E,327nm,0.5s			IAML		15 37 01.6	
O02D	**Mt. Diablo Mer**	**2.95**	**235**	P	**Pn**	**15 36 11.1**	**-0.9**
O02D	baz=54,SNR=57			Sb	**Sb**	**15 36 55.6**	**+1.7**
O02D	baz=54						
L02E	**Cave Junction**	**2.96**	**276**	P	**Pn**	**15 36 12.2**	**+0.1**
L02E	baz=94,SNR=95			Sb	**Sb**	**15 36 56.0**	**+1.9**
L02E	baz=94						
BFC	**Buffalo Canyon**	**3.02**	**180**		**Pn**	**15 36 14.4**	**+1.3**
K02D	**Willamette Mer**	**3.08**	**286**	P	**Pn**	**15 36 13.7**	**-0.1**
KVN	**Kaiserville**	**3.10**	**157**		**Pn**	**15 36 13.8**	**-0.3**
KVN	comp=E,163nm,0.6s			IAML		15 37 04.9	
MFID	**Camas Ranch**	**3.18**	**61**		**Pn**	**15 36 14.9**	**-0.4**
KHMM	**Horse Mountain**	**3.25**	**253**	Pn	**Pn**	**15 36 16.2**	**0.0**
KHMM	comp=N,158nm,2.1s			IAML		15 37 16.1	
KHMM	comp=E,153nm,1.2s			IAML		15 37 17.4	
I03D	**Drain, OR**	**3.26**	**304**	P	**Pn**	**15 36 16.8**	**+0.7**
BUCK	**Buck Mountain**	**3.35**	**314**	Pn	**Pn**	**15 36 18.8**	**+1.3**
BUCK	comp=N,122nm,1.4s			IAML		15 37 20.7	
BUCK	comp=E,163nm,1.6s			IAML		15 37 23.1	
BMO	**Blue Mountains**	**3.39**	**29**	Pn	**Pn**	**15 36 19.1**	**+1.1**
RYN	**Ryan**	**3.40**	**165**	Pn	**Pn**	**15 36 17.8**	**-0.5**
RYN	comp=E,167nm,1.0s			IAML		15 37 16.3	
RYN	comp=N,112nm,0.9s			IAML		15 37 17.1	
KBO	**Bosley Butte**	**3.43**	**276**		**Pn**	**15 36 18.9**	**+0.4**
KBO	comp=N,220nm,1.2s			IAML		15 37 20.4	
KBO	comp=E,197nm,0.9s			IAML		15 37 21.5	
JCC	**Jacoby Creek,**	**3.48**	**253**	Pn	**Pn**	**15 36 18.9**	**-0.3**
JCC	comp=E,122nm,1.6s			IAML		15 37 21.4	
JCC	comp=N,154nm,1.3s			IAML		15 37 21.8	
ELK	**Elko**	**3.52**	**108**	Pn	**Pn**	**15 36 23.4**	**+3.5**
ELK	comp=N,17nm,0.3s,baz=292,slow=14,SNR=68			Sn	**Sb**	**15 37 09.8**	**-0.5**
ELK	comp=N,38nm,0.3s,baz=22,slow=22,SNR=12						
ELK	**Elko**	**3.52**	**108**		**Pn**	**15 36 19.4**	**-0.5**
ELK	comp=N,82nm,0.5s			IAML		15 37 16.5	
ELK	**Elko**	**3.52**	**108**		**Sb**	**15 37 09.8**	**-0.5**
NVAR	**Mina Array Bea**	**3.63**	**163**	Pn	**Pn**	**15 36 21.6**	**0.0**
NVAR	comp=N,1.8nm,0.3s,baz=342,slow=12,SNR=28			Pg	**Pb**	**15 36 30.5**	**+1.2**
NVAR	comp=N,9.8nm,0.3s,baz=343,slow=15,SNR=28			Lg	Lg	15 37 18.2	
NVAR	comp=N,21nm,0.3s,baz=344,slow=32,SNR=5.8			LR	LR	15 38 16.2	
NVAR	comp=N,58nm,21.4s,baz=336,slow=47						
NVAR	**Mina Array Bea**	**3.63**	**163**	Pn	**Pn**	**15 36 21.4**	**-0.2**
NV11	**Mina Array Sit**	**3.66**	**161**	Pn	**Pn**	**15 36 19.4**	**-2.5**
NV11	comp=E,96nm,2.4s			IAML		15 37 25.2	
NV11	comp=N,81nm,1.2s			IAML		15 37 32.5	
LHV	**Little Huntoon**	**3.77**	**166**	Pn	**Pn**	**15 36 21.2**	**-1.9**
LHV	comp=E,165nm,1.2s			IAML		15 37 32.7	
COR	**Corvallis**	**3.78**	**316**	Pn	**Pn**	**15 36 22.5**	**-0.8**
COR	comp=E,75nm,1.2s			IAML		15 37 38.3	
COR	comp=E,90nm,0.9s			IAML		15 37 39.2	
CMB	**Columbia Colle**	**3.92**	**189**		**Pn**	**15 36 27.8**	**+2.5**
PLID	**Pearl Lake**	**4.13**	**39**	Pn	**Pn**	**15 36 27.3**	**-1.0**
HLID	**Hailey**	**4.18**	**65**	P	**Pn**	**15 36 29.4**	**+0.3**
ORC	**Owens River**	**4.34**	**170**		**Pn**	**15 36 33.9**	**+2.5**
HAWA	**Hanford**	**4.47**	**1**		**Pn**	**15 36 31.6**	**-1.2**
HAWA	comp=E,43nm,0.9s			IAML		15 38 01.3	
RCCR	**Rock Creek Can**	**4.48**	**171**		**Pn**	**15 36 35.8**	**+2.5**
KCC	**Kaiser Creek**	**4.60**	**177**		**Pn**	**15 36 36.9**	**+2.3**
POCCA	**Poleta Canyon**	**4.67**	**167**		**Pn**	**15 36 37.9**	**+2.2**
E09A	**Wood Farm, Sta**	**4.72**	**13**	Pn	**Pn**	**15 36 35.2**	**-1.0**
DSP	**Deep Springs**	**4.72**	**164**		**Pn**	**15 36 38.7**	**+2.5**
R11A	**Troy Canyon, C**	**4.73**	**138**	P	**Pn**	**15 36 37.9**	**+1.3**
HVU	**Hansel Valley**	**5.13**	**89**		**Pn**	**15 36 39.9**	**-2.1**
S11A	**Rachel**	**5.22**	**144**		**Pn**	**15 36 45.6**	**+2.4**
SPUT	**South Promonto**	**5.42**	**94**		**Pn**	**15 36 44.6**	**-1.5**
DUG	**Dugway, Tooele**	**5.44**	**106**	P	**Pn**	**15 36 47.5**	**+1.2**
TPNV	**Topopah Spring**	**5.61**	**151**	P	**Pn**	**15 36 50.5**	**+1.8**
PAGB	**Antelope Grade**	**6.20**	**185**	Pn	**Pn**	**15 36 53.8**	**-2.8**
SHPR	**Sheep Range**	**6.43**	**146**	Pn	**Pn**	**15 36 58.0**	**-1.8**
NEW	**Newport**	**6.59**	**15**	Pn	Pn	15 37 07.4	+5.5
NEW	comp=E,0.1nm,0.3s,baz=261,slow=4.5,SNR=3.1			Lg	Lg	15 38 52.1	
NEW	comp=E,0.3nm,0.3s,baz=101,slow=20,SNR=3.9						
V12A	**Nelson**	**7.22**	**147**		**Pn**	**15 37 13.2**	**+2.5**
PDAR	**Pinedale Array**	**7.52**	**80**	Pn	Pn	15 37 21.7	+6.8
PDAR	comp=E,0.1nm,0.3s,baz=255,slow=13,SNR=10.0			Pg	**Pb**	**15 37 35.5**	**0.0**
PDAR	comp=E,0.4nm,0.3s,baz=251,slow=13,SNR=7.0			Lg	Lg	15 39 24.0	
PDAR	comp=E,0.1nm,0.3s,baz=240,slow=27,SNR=4.0			LR	LR	15 40 19.6	
PDAR	comp=E,123nm,21.3s,baz=265,slow=39						
PDAR	**Pinedale Array**	**7.52**	**80**		Pn	15 37 21.7	+6.8
PFO	**Pinyon Flats O**	**8.67**	**162**	Lg	Lg	15 39 59.3	
O20A	**White River Ci**	**8.80**	**98**	Pn	**Pn**	**15 37 29.4**	**-3.1**
ANMO	**Albuquerque**	**12.45**	**120**	LR	LR	15 43 31.3	
YKA	**Yellowknife Ar**	**20.82**	**7**	P	**P**	**15 40 07.9**	**+1.5**
YKA	**Yellowknife Ar**	**20.82**	**7**		**P**	**15 40 07.9**	**+1.5**
WHY	**Whitehorse**	**20.95**	**339**	P	**P**	**15 40 07.4**	**-0.5**
WHY	comp=Z,6.4nm,1.1s			IAmb	IAmb	15 40 15.1	
FCC	**Fort Churchill**	**23.23**	**35**	P	**P**	**15 40 31.1**	**-1.0**
FCC	comp=Z,3.9nm,1.4s			IAmb	IAmb	15 40 44.1	
INK	**Inuvik**	**27.47**	**349**	P	**P**	**15 41 13.2**	**+2.2**
INK	**Inuvik**	**27.47**	**349**	P	**P**	**15 41 13.2**	**+2.2**
INK	**Inuvik**	**27.47**	**349**	IAmb	IAmb	15 41 15.7	
ILAR	**Eielson Array**	**27.66**	**335**	P	**P**	**15 41 15.4**	**+2.7**
ILAR	**Eielson Array**	**27.66**	**335**	P	**P**	**15 41 15.4**	**+2.7**
SADO	**Sadowa**	**29.38**	**71**	LR	LR	15 54 54.6	
CMIG	**Matias Romero**	**32.59**	**132**	LR	LR	15 57 08.8	
KLR	**Kul'dur**	**69.73**	**319**	LR	LR	16 16 54.7	
HHC	**Hu-ho-hao-te**	**85.47**	**324**	*e*P	**P**	**15 48 00.0**	**-3.2**
HHC	comp=Z,10.0nm,1.1s			pmax	pmax		
HHC	comp=Z,120nm,5.4s			pmax	pmax		
JOW	**Kunigami**	**87.24**	**304**	LR	LR	16 28 33.0	
WMQ	**Urumqi**	**91.18**	**341**	*e*P	**P**	**15 48 30.5**	**+0.1**

IDC ***03*** *15:38:47.8±21.0, 0°.07N×122°.51E, h131km±212km, mb3.4/8, mb1 3.5/8, mb1mx3.0/48, mbtmp3.8/8, Error ellipse: s-maj=46.1km s-min=28.1km az=90.0*
NEIC ***03*** *15:39:00.6±1.0, 0°.05N±0°.07×122°.55E±0°.09, h255km±8km, mb4.3/13, Error ellipse: s-maj=13.3km s-min=9.1km az=68.0*
DJA ***03*** *15:39:01.3±0.5, 0°S±5°×12°3E±°, h242km±4km, M4.0/10, mB5.5/1, mb4.6/2, MLv3.7/10, Mw(mB)4.9/1*

ISC 03 15:38:59.7±0.6, 0°.01N±0°.06×122°.61E±0°.05, h250km, n47, σ1§13/51, mb3.8/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.74**	**33**	P	**Pn**	**15 39 35.8**	**+2.3**
GTOI				S	**S**	**15 40 01.9**	**+1.8**
MRSI	**Marisa**	**0.81**	**305**	P	**Pn**	**15 39 34.7**	**+0.9**
MRSI				S	**S**	**15 40 01.0**	**+0.5**
LUWI	**Luwuk**	**1.06**	**171**	P	**Pn**	**15 39 36.0**	**+0.9**
LUWI				S	**S**	**15 40 03.7**	**+0.7**
LUWI	**Luwuk**	**1.06**	**171**	Pn	**Pn**	**15 39 36.6**	**+1.5**
LUWI				Sn	**S**	**15 40 03.6**	**+0.6**
LUWI	**Luwuk**	**1.06**	**171**	P	**Pn**	**15 39 36.9**	**+1.8**
APSI	**Ampana**	**1.33**	**226**	P	**Pn**	**15 39 37.9**	**+1.1**
TOLI2	**Tolitoli**	**2.12**	**301**	Pn	**Pn**	**15 39 43.9**	**+0.5**
TOLI2	**Tolitoli**	**2.12**	**301**	P	**Pn**	**15 39 44.4**	**+1.0**
SANI	**Sanana**	**3.95**	**121**	P	**Pn**	**15 40 03.2**	**+0.2**
SANI				S	**S**	**15 40 51.0**	**-2.3**
SANI	**Sanana**	**3.95**	**121**	P	**Pn**	**15 40 03.9**	**+0.9**
TTSI	**Tana Toraja**	**4.12**	**222**	P	**Pn**	**15 40 06.3**	**+1.3**
TNTI	**Ternate**	**4.82**	**81**	Pn	**Pn**	**15 40 15.2**	**+1.8**
TNTI	**Ternate**	**4.82**	**81**	P	**Pn**	**15 40 15.5**	**+2.1**
SPSI	**Sidrap Palu**	**4.86**	**216**	P	**Pn**	**15 40 14.3**	**+0.4**
LBMI	**Labuha**	**4.94**	**98**	P	**Pn**	**15 40 16.6**	**+1.8**
LBMI				S	**S**	**15 41 14.0**	**-0.6**
BNSI	**Bone**	**5.05**	**210**	P	**Pn**	**15 40 17.8**	**+1.7**
KAPI	**Kappang**	**5.75**	**210**	Pn	**Pn**	**15 40 26.0**	**+1.2**
SBUM	**Sibu**	**10.66**	**283**	Pn	**Pn**	**15 41 27.4**	**+0.7**
KSM	**Kuching**	**12.38**	**277**	P	**P**	**15 41 50.0**	**-0.7**
DRS	**Darwin Rock St**	**14.85**	**147**	P	**P**	**15 42 19.6**	**+1.6**
MTN	**Manton Dam**	**15.32**	**147**	P	**P**	**15 42 24.4**	**+1.2**
MTN	**Manton Dam**	**15.32**	**147**	P	**P**	**15 42 24.5**	**+1.3**
KDU	**Kakadu**	**15.97**	**143**	P	**P**	**15 42 31.7**	**+1.4**
KNRA	**Kununurra**	**16.73**	**159**	P	**P**	**15 42 39.1**	**+0.4**
KNRA				IAmb	IAmb	15 42 40.5	
KNRA	**Kununurra**	**16.73**	**159**	P	**P**	**15 42 40.0**	**+1.3**
WB0	**Warramunga Arr**	**22.80**	**150**	P	**P**	**15 43 40.7**	**-0.5**
WB0				IAmb	IAmb	15 44 02.4	
WRAB	**Tennant Creek**	**22.92**	**151**	P	**P**	**15 43 41.4**	**-0.9**
WRAB				IAmb	IAmb	15 43 58.4	
WRA	**Warramunga Arr**	**22.92**	**151**	P	**P**	**15 43 41.6**	**-0.7**
WR0	**Warramunga Arr**	**23.04**	**150**	P	**P**	**15 43 43.7**	**+0.3**
WR0				IAmb	IAmb	15 43 48.8	
JCJ	**Chichijima**	**32.85**	**33**	P	**P**	**15 45 09.9**	**-0.5**
JMN	**Monobe**	**35.17**	**16**	P	**P**	**15 45 30.1**	**-0.1**
JMN				IAmb	IAmb	15 45 37.6	
JWT	**Wachi**	**37.06**	**17**	P	**P**	**15 45 45.3**	**-0.8**
JWT				IAmb	IAmb	15 46 05.2	
MJAR	**Matsushiro Arr**	**39.12**	**20**	P	**P**	**15 46 01.8**	**-1.5**
MJAR	**Matsushiro Arr**	**39.12**	**20**	IAmb	IAmb	15 46 04.0	
JMM	**Marumori**	**41.23**	**22**	P	**P**	**15 46 20.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**44.78**	**10**	P	**P**	**15 46 47.7**	**-1.0**
SONM	**Songino Array**	**49.67**	**346**	P	**P**	**15 47 26.5**	**0.0**
MK31	**Makanchi Array**	**58.40**	**329**	P	**P**	**15 48 28.8**	**-0.5**
MKAR	**Makanchi Array**	**58.40**	**329**	P	**P**	**15 48 29.1**	**-0.1**
MKAR	**Makanchi Array**	**58.40**	**329**	P	**P**	**15 48 28.7**	**-0.6**
MAKZ	**Makanchi**	**58.57**	**328**	P	**P**	**15 48 30.1**	**-0.3**
PETK	**Petropavlovsk-**	**60.43**	**23**	P	**P**	**15 48 43.6**	**+0.7**
KURBB	**Kurchatov Arra**	**62.76**	**330**	P	**P**	**15 48 58.0**	**-0.5**
KURK	**Kurchatov**	**62.77**	**330**	P	**P**	**15 48 58.0**	**-0.6**
KURK	**Kurchatov**	**62.77**	**330**	IAmb	IAmb	15 48 58.6	
BVAR	**Borovoye Array**	**68.27**	**329**	P	**P**	**15 49 33.3**	**-0.4**

IDC ***03*** *15:44:29.5±0.5, 29°.39N×104°.04E, h0km, mb4.2/31, mb1 4.2/32, mb1mx4.1/51, mbtmp4.2/32, ML3.1/1, Error ellipse: s-maj=17.0km s-min=10.8km az=45.0*
BJI ***03*** *15:44:31.2±0.0, 29°.38N×104°.09E, h10km, mb4.2/29, mB4.6/12, ML4.2/28, Ms4.0/13, Ms7 3.7/14*
NEIC ***03*** *15:44:31.6±1.4, 29°.45N±0°.06×104°.12E±0°.06, h10km±1km, mb4.6/56, Error ellipse: s-maj=12.7km s-min=3.4km az=140.0*
MOS ***03*** *15:44:33.1±1.0, 29°.41N×104°.10E, h40km, mb4.7/33, Error ellipse: s-maj=8.0km s-min=4.5km az=121.4*

ISC 03 15:44:31.2±0.3, 29°.43N±0°.03×104°.09E±0°.04, h10km, n240, σ1§56/266, mb4.5/87, 19C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.50**	**349**	⇑*i*Pg	**Pn**	**15 44 58.7**	**+0.4**
CD2				Sg	**Sg**	**15 45 20.6**	**+1.0**
PZH	**PanZhiHua**	**3.58**	**216**	Pn	**Pn**	**15 45 29.4**	**+2.5**
PZH				Sn	**Sn**	**15 46 13.2**	**+3.9**
PZH				Sg	**Sg**	**15 46 26.2**	**+0.1**
PZH	comp=N,460nm,0.9s			smax	smax		
PZH	comp=E,460nm,0.9s			smax	smax		
GYA	**Guiyang**	**3.73**	**142**	⇑Pn	**Pn**	**15 45 29.4**	**+0.4**
GYA				Pg	**Pg**	**15 45 41.2**	**-1.5**
GYA				Sn	**Sn**	**15 46 14.2**	**+1.1**
GYA	comp=N,720nm,0.9s			smax	smax		
GYA	comp=E,530nm,1.4s			smax	smax		
GYA	comp=N,980nm,3.8s			LR	LR		
GYA	comp=E,980nm,3.8s			LR	LR		
KMI	**Kunming**	**4.45**	**196**	⇑Pn	**Pn**	**15 45 40.9**	**+1.9**
KMI				Sn	**Sn**	**15 46 34.0**	**+3.0**
KMI				Sg	**Sg**	**15 46 55.9**	**+1.6**
KMI	comp=N,150nm,1.4s			smax	smax		
KMI	comp=E,100nm,1.3s			smax	smax		
KMI	comp=N,510nm,3.8s			LR	LR		
KMI	comp=E,740nm,3.8s			LR	LR		
KMI	comp=Z,290nm,4.2s			LR	LR		
ENH	**Enshi**	**4.76**	**79**	Pn	**Pn**	**15 45 43.6**	**+0.6**
XAN	**Xi'an**	**6.17**	**41**	Pn	**Pn**	**15 46 04.4**	**+2.0**
XAN				Sn	**Sn**	**15 47 13.2**	**+0.2**
XAN				Sg	**Sg**	**15 47 46.2**	**-3.0**
XAN	comp=N,520nm,1.2s			smax	smax		
XAN	comp=E,520nm,1.2s			smax	smax		
XAN	comp=Z,350nm,4.3s			LR	LR		
LZH	**Lanzhou**	**6.64**	**358**	*e*Pn	**Pn**	**15 46 11.4**	**+2.4**
LZH				Sn	**Sn**	**15 47 24.8**	**-0.1**
LZH				Sg	**Sg**	**15 48 04.6**	**+0.2**
LZH	comp=N,170nm,1.2s			smax	smax		
LZH	comp=E,190nm,1.1s			smax	smax		
LZH	comp=E,470nm,4.9s			LR	LR		
LZH	comp=Z,550nm,7.1s			LR	LR		
GULI	**GuiLin**	**6.94**	**125**	Pn	**Pn**	**15 46 15.2**	**+2.3**
GULI				Sn	**Sn**	**15 47 30.7**	**-1.2**
GULI	comp=Z,410nm,4.1s			LR	LR		
CNSH	**ChangSha**	**7.86**	**97**	⇑P	**Pn**	**15 46 25.1**	**-0.4**
CNSH				S	**Sn**	**15 47 52.9**	**-1.6**
CNSH	comp=N,130nm,1.1s			smax	smax		
CNSH	comp=E,64nm,0.8s			smax	smax		
SLVN	**Son La**	**8.06**	**181**	Pn	**Pn**	**15 46 27.5**	**-1.0**
LYN	**LuoYang**	**8.76**	**52**	*e*P	**Pn**	**15 46 38.5**	**+0.7**
LYN	comp=Z,180nm,4.5s			LR	LR		
WHN	**Wuhan**	**8.97**	**80**	⇑P	**Pn**	**15 46 42.8**	**+2.1**
WHN				S	**Sn**	**15 48 21.4**	**-0.4**
WHN	comp=N,510nm,4.5s			LR	LR		
WHN	comp=Z,650nm,4.3s			LR	LR		
GOMU	**GeErMu**	**10.31**	**313**	P	**Pn**	**15 46 58.1**	**-1.5**
GOMU				S	**Sn**	**15 48 58.2**	**+2.8**
GOMU	comp=N,220nm,8.9s			LR	LR		
GOMU	comp=E,140nm,9.3s			LR	LR		
GOMU	comp=Z,200nm,9.7s			LR	LR		
GTA	**Gaotai**	**10.56**	**342**	*e*P	**Pn**	**15 47 05.4**	**+2.7**
GTA				pP		15 47 14.4	
GTA				sP		15 47 18.7	
GTA	comp=Z,2.0nm,1.2s			pmax	pmax		
LSA	**Lhasa**	**11.27**	**275**	P	**Pn**	**15 47 15.6**	**+2.8**
LSA	**Lhasa**	**11.27**	**275**	P	**Pn**	**15 47 15.6**	**+2.8**
LSA	comp=Z,22nm,0.7s			pmax	pmax		
LSA	**Lhasa**	**11.27**	**275**	Pn	**Pn**	**15 47 15.6**	**+2.8**
CHTO	**Chiang Mai**	**11.56**	**205**	P	**Pn**	**15 47 18.8**	**+2.4**
CHTO	**Chiang Mai**	**11.56**	**205**	Pn	**Pn**	**15 47 18.8**	**+2.4**
QIZ	**Qiongzhong**	**11.60**	**152**	P	**Pn**	**15 47 16.8**	**-0.1**
QIZ				S	**Sn**	**15 49 27.5**	**+0.9**
CM31	**Chiang Mai Arr**	**11.89**	**204**	Pn	**Pn**	**15 47 23.1**	**+2.2**
CMAR	**Chiang Mai Arr**	**11.89**	**204**	Pn	**Pn**	**15 47 22.8**	**+2.0**
CMAR	comp=Z,0.1nm,0.3s,baz=15,slow=12,SNR=8.6			Lg	Lg	15 50 51.7	
CMAR	comp=Z,0.1nm,0.3s,baz=176,slow=20,SNR=1.1			pmax	pmax		
CMAR	**Chiang Mai Arr**	**11.89**	**204**	*i* P	**Pn**	**15 47 23.2**	**+2.4**
CMAR	comp=Z,1.0nm,0.5s			pmax	pmax		
HNS	**HongShan**	**11.90**	**45**	*e*Pn	Pn	15 47 31.5	+11
HNS				Pg		15 48 19.9	
HNS				Sn	Sn	15 49 56.0	+22
HNS				Sg		15 50 49.8	

HNS smax smax
comp=N,54nm,1.3s
HNS smax smax
comp=E,43nm,1.4s
BTO Baotou 12.16 22 *e*P **Pn 15 47 26.0 +1.5**
BTO S **Sn 15 49 47.6 +7.4**
BTO LR LR
comp=E,950nm,4.1s
TIA Tai'an 12.87 55 ⇑P **Pn 15 47 34.8 +0.6**
TIA pmax pmax
comp=E,11nm,1.1s
HHC Hu-ho-hao-te 12.92 26 *e*P **Pn 15 47 38.0 +3.0**
HHC S **Sn 15 49 59.8 +0.9**
HHC pmax pmax
comp=E,13nm,1.0s
HHC pmax pmax
comp=E,94nm,5.1s
NJ2 Nanjing 12.97 75 *e*P **Pn 15 47 35.2 -0.3**
NJ2 pmax pmax
comp=E,14nm,0.5s
UBPT Khong Chiam 14.14 175 Pn 15 47 52.4 +0.8
GUN Gumba 16.06 269 *e*P **Pn 15 48 14.9 -2.6**
comp=E,66nm,1.1s
SSLB Suanglung 16.09 106 Pn **Pn 15 48 18.2 +0.7**
SSLB IAmb IAmb 15 48 24.1
comp=Z,40nm,1.0s
YHNB Yeheng 16.11 103 P **P 15 48 21.3 +0.1**
NACB Ninganchiao 16.48 104 P **P 15 48 24.2 -1.0**
PKI Pulchoki 16.53 268 *e*P **Pn 15 48 21.4 -2.1**
comp=Z,26nm,0.9s
PKIN Phulchoki 16.54 268 *e*P **Pn 15 48 21.1 -2.4**
comp=Z,21nm,0.7s
KKN Kakani 16.60 269 *e*P **Pn 15 48 22.0 -2.3**
DMN Daman 16.79 268 *e*P **Pn 15 48 24.8 -1.9**
comp=Z,15nm,0.8s
GKN Gorkha 17.13 270 *e*P **Pn 15 48 27.6 -3.3**
comp=Z,22nm,0.8s
DANN Dangsing 17.84 272 *e*P **Pn 15 48 36.5 -3.4**
comp=Z,42nm,0.8s
KOLN Koldanda 18.07 270 *e*P **Pn 15 48 38.8 -3.8**
SONM Songino Array 18.46 5 P **Pn 15 48 48.6 +1.4**
comp=Z,0.1nm,0.3s,baz=188,slow=10.0,SNR=11
SONM Songino Array 18.46 5 P **Pn 15 48 47.6 +0.4**
PYUN Piuthan 18.55 271 *e*P **P 15 48 44.7 -3.6**
comp=Z,36nm,0.9s
ULN Ulaanbaatar 18.55 6 *i*P **Pn 15 48 49.7 +1.4**
ULN pmax pmax
comp=Z,6.0nm,1.3s
WMQ Urumqi 19.43 322 *e*P **Pn 15 48 59.1 +0.2**
WMQ pP sP 15 49 05.0 +3.0
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,95nm,3.9s
TJN Taejon 20.70 64 *ce*P Pn 15 49 13.4 -0.5
ZAK Zakamensk 20.94 359 *e*P **P 15 49 14.8 +0.7**
ZAK pmax pmax
comp=Z,16nm,1.3s
KSAR Wonju Array Be 21.37 62 P **P 15 49 18.4 -0.3**
KSAR Wonju Array Be 21.37 62 P **P 15 49 18.4 -0.3**
KS19 Wonju Array Si 21.37 62 P **P 15 49 18.4 -0.4**
KS19 IAmb IAmb 15 49 20.8
comp=Z,13nm,0.8s
KSRS Korea Array 21.40 62 P **P 15 49 18.9 -0.2**
comp=Z,9.0nm,0.7s,baz=241,slow=10,SNR=36
JOW Kunigami 21.48 91 P **P 15 49 21.7 +1.7**
comp=Z,14nm,0.9s,baz=228,slow=21,SNR=2.6
HIA Hailar 23.13 27 *i*P **P 15 49 38.3 +0.9**
HIA pmax pmax
comp=Z,5.0nm,1.3s
JNU Nakatsue 23.16 74 P **P 15 49 39.6 +1.6**
comp=Z,17nm,1.0s,baz=98,slow=1.4,SNR=6.4
ZSN Zaisan 23.36 326 *e*P **P 15 49 40.0 +0.3**
ZSN Zaisan 23.36 326 *e*P **P 15 49 40.0 +0.3**
baz=326
DGZ Jazzator, Alta 23.87 333 *i*P **P 15 49 45.4 +0.5**
DGZ pmax pmax
comp=Z,13nm,0.9s
MK31 Makanchi Array 24.26 322 *i*P **P 15 49 47.9 -0.5**
MK31 Makanchi Array 24.26 322 P **P 15 49 48.1 -0.3**
MKAR Makanchi Array 24.26 322 P **P 15 49 48.7 +0.3**
comp=Z,2.1nm,0.5s,baz=123,slow=11,SNR=18
MKAR ScP **ScP 15 57 05.8 -1.2**
comp=Z,0.7nm,0.7s,baz=112,slow=4.7,SNR=6.4
MKAR Makanchi Array 24.26 322 P **P 15 49 47.9 -0.5**
UZB Uzynbulak 24.30 311 *e*P **P 15 49 48.0 -0.9**
UZB pmax pmax
comp=Z,6.0nm,0.7s
UZB Uzynbulak 24.30 311 *e*P **P 15 49 48.0 -0.9**
comp=Z,5.9nm,0.7s,baz=311
MAKZ Makanchi 24.44 321 P **P 15 49 50.3 +0.2**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 24.44 321 P **P 15 49 50.2 +0.2**
KPKS Kokpek 24.66 312 *e*P **P 15 49 51.8 -0.3**
KPKS Kokpek 24.66 312 *e*P **P 15 49 51.8 -0.3**
baz=311
SATY Saty 24.66 310 *e*P **P 15 49 51.2 -1.0**
SATY pmax pmax
comp=Z,8.0nm,0.9s
SATY Saty 24.66 310 *e*P **P 15 49 51.3 -1.0**
comp=Z,7.8nm,0.9s,baz=310
KDJ Kajisay 25.13 308 P **P 15 49 56.3 -0.2**
KDJ pmax pmax
comp=Z,10.0nm,1.2s
KDJ Kajisay 25.13 308 P **P 15 49 56.3 -0.2**
KDJ IAmb IAmb 15 50 12.6
comp=Z,10nm,1.1s
KSH Kashi 25.18 301 P **P 15 49 59.6 +2.7**
KSH pP sP 15 50 04.4 +3.0
KSH pmax pmax
comp=Z,9.0nm,0.7s
MDJ Mudanjiang 25.24 46 P **P 15 49 57.2 -0.1**
MDJ pmax pmax
comp=Z,7.0nm,0.7s
MDJ pmax pmax
comp=Z,140nm,5.3s
TDK Taldyqorghan 25.54 315 *e*P **P 15 50 00.3 +0.3**
TDK Taldyqorghan 25.54 315 *e*P **P 15 50 00.4 +0.3**
baz=314
MDOK Medeo 25.61 310 *e*P **P 15 50 00.0 -0.8**
MDOK Medeo 25.61 310 *e*P **P 15 50 00.1 -0.8**
baz=310
TNSS Tian-Shan 25.63 309 *e*P **P 15 50 00.9 -0.4**
baz=309
BOOM Boomskoye usch 26.12 308 P **P 15 50 05.1 -0.4**
BOOM pmax pmax
comp=Z,14nm,1.4s
BOOM Boomskoye usch 26.12 308 P **P 15 50 05.1 -0.4**
BOOM IAmb IAmb 15 50 09.2
comp=Z,14nm,1.4s
KUU Kurty 26.38 311 *e*P **P 15 50 07.3 -0.3**
KUU Kurty 26.38 311 *e*P **P 15 50 07.3 -0.3**
baz=311
NIL Nilore 26.57 287 P **P 15 50 08.7 -0.7**
NIL pmax pmax
comp=Z,14nm,0.6s
NIL Nilore 26.57 287 P **P 15 50 08.7 -0.7**
NIL IAmb IAmb 15 50 14.5
comp=Z,14nm,0.6s
USA0B Ussuriysk Arra 26.60 49 P **P 15 50 07.8 -1.8**
USA0B pmax pmax
comp=Z,8.0nm,0.8s
USA0B Ussuriysk Arra 26.60 49 P **P 15 50 07.8 -1.8**
USA0B IAmb IAmb 15 50 09.4
comp=Z,7.9nm,0.8s
JWT Wachi 27.02 69 P **P 15 50 13.4 0.0**
JWT IAmb IAmb 15 50 37.6
comp=Z,14nm,1.2s
AAK Ala-Archa 27.17 307 P **P 15 50 15.0 0.0**
comp=Z,1.8nm,0.8s,baz=130,slow=6.1,SNR=9.3
AAK Ala-Archa 27.17 307 *ce*P **P 15 50 12.9 -2.1**
AAK pmax pmax
comp=Z,12nm,1.3s
SGDS Sogindy 27.36 309 *e*P **P 15 50 15.2 -1.3**
baz=309
SEM Semipalatinsk 27.60 326 *e*P **P 15 50 17.8 -0.9**
SEM Semipalatinsk 27.60 326 *e*P **P 15 50 17.9 -0.9**
baz=326
MYLDM Lahad Datu 27.70 148 P **P 15 50 20.1 +0.4**
MYLDM IAmb IAmb 15 50 23.9
comp=Z,24nm,1.2s
SBUM Sibu 27.92 162 P **P 15 50 21.9 +0.3**
ZAA0 Zalesovo Array 28.23 336 P **P 15 50 24.1 +0.1**
ZAA0 IAmb IAmb 15 50 25.5
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 28.23 336 P **P 15 50 23.7 -0.4**
comp=Z,9.0nm,0.7s,baz=137,slow=9.4,SNR=45
ZALV Zalesovo Beam 28.23 336 *i*P **P 15 50 24.1 0.0**
ZALV pmax pmax
comp=Z,9.0nm,0.7s
ZALV Zalesovo Beam 28.23 336 P **P 15 50 24.0 -0.1**
BTLS Baital 28.34 312 *e*P **P 15 50 24.4 -0.8**
BTLS Baital 28.34 312 *e*P **P 15 50 24.4 -0.8**
baz=312
KSM Kuching 28.42 167 P **P 15 50 26.2 +0.1**
KSM IAmb IAmb 15 50 46.0
comp=Z,24nm,1.5s
KURBB Kurchatov Arra 28.58 325 P **P 15 50 26.6 -0.6**
comp=Z,2.9nm,0.8s,baz=130,slow=9.7,SNR=24
KURK Kurchatov 28.59 325 *ce*P **P 15 50 27.6 +0.2**
KURK pmax pmax
comp=Z,12nm,1.7s
KURK Kurchatov 28.59 325 P **P 15 50 26.9 -0.5**
KURK IAmb IAmb 15 50 28.6
comp=Z,5.9nm,1.0s
KLR Kul'dur 28.88 39 P **P 15 50 30.1 +0.3**
comp=Z,1.2nm,0.7s,baz=256,slow=6.3,SNR=4.3
KLR Kul'dur 28.88 39 *i*P **P 15 50 30.8 +0.9**
KLR pmax pmax
comp=Z,10.0nm,3.0s
MAJO Matsushiro 29.37 67 P **P 15 50 33.7 -0.8**
DZA Taraz 29.46 306 *e*P **P 15 50 35.5 +0.3**
DZA Taraz 29.46 306 *e*P **P 15 50 35.6 +0.3**
baz=306
KBL Karatay 30.06 289 P **P 15 50 40.5 -0.4**
KKAR Karatay Array 30.10 306 P **P 15 50 40.0 -0.9**
KKAR Karatay Array 30.10 306 P **P 15 50 40.0 -0.9**
IUG Iuzhnay 30.20 304 *e*P **P 15 50 41.7 -0.1**
IUG Iuzhnay 30.20 304 *e*P **P 15 50 41.8 -0.1**
baz=304
BVAR Borovoye Array 34.11 323 P **P 15 51 15.3 -0.6**
comp=Z,0.9nm,0.5s,baz=127,slow=9.8,SNR=8.4
BRVK Borovoye 34.18 323 *ce*P **P 15 51 16.1 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 34.18 323 P **P 15 51 16.5 0.0**
LUWI Luwuk 35.17 146 P **P 15 51 24.7 -0.7**
YAK Yakutsk 36.67 20 *i*P **P 15 51 38.6 +0.8**
YAK pmax pmax
comp=Z,2.0nm,0.8s
KAPI Kappang 37.40 154 P **P 15 51 44.2 -0.3**
comp=Z,9.0nm,0.7s,baz=323,slow=10,SNR=5.3
KAPI Kappang 37.40 154 IAmb IAmb 15 51 45.7
comp=Z,15nm,0.9s
GEYT Alibeck 38.86 295 P **P 15 51 57.8 +1.1**
comp=Z,1.5nm,0.7s,baz=176,slow=9.4,SNR=1.7
GEYT Alibeck 38.86 295 P **P 15 51 57.2 +0.5**
GYA0B ALIBECK ARRAY 38.86 295 P **P 15 51 57.1 +0.4**
GYA0B IAmb IAmb 15 51 58.7
comp=Z,9.5nm,1.3s
AKTO Aktyubinsk 40.29 315 P **P 15 52 08.4 0.0**
comp=Z,0.6nm,0.5s,baz=88,slow=6.9,SNR=3.9
SVE Sverdlovsk 40.84 325 *e*P **P 15 52 13.2 +0.3**
SVE pmax pmax
comp=Z,20nm,1.4s
NRIK Noril'sk 41.08 351 P **P 15 52 15.1 +0.6**
comp=Z,4.8nm,0.9s,baz=139,slow=10,SNR=6.9
NRIK Noril'sk 41.08 351 *ce*P **P 15 52 14.1 -0.5**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
NRIK Noril'sk 41.08 351 P **P 15 52 15.2 +0.6**
MMRI Maumere 41.69 152 P **P 15 52 19.4 -0.8**
ARU Arti 41.76 323 P **P 15 52 19.7 -0.7**
comp=Z,3.5nm,0.7s,baz=141,slow=5.0,SNR=14
ARU Arti 41.76 323 *d*P **P 15 52 20.5 +0.1**
ARU S **S 15 58 35.1 -2.3**
ARU SS SS 16 01 29.2 -14
ARU pmax pmax
comp=Z,13nm,0.9s
ARU Arti 41.76 323 P **P 15 52 19.9 -0.5**
ARU IAmb IAmb 15 52 22.2
comp=Z,12nm,0.9s
TIXI Tiksi 44.39 11 P **P 15 52 40.9 -0.6**
comp=Z,1.0nm,0.4s,baz=199,slow=5.4,SNR=4.5
SEY Seymchan 45.56 29 P **P 15 52 51.9 +1.0**
comp=Z,1.3nm,0.6s,baz=264,slow=10,SNR=7.3
SEY Seymchan 45.56 29 *i*P **P 15 52 51.4 +0.5**
BELG Belogornoye 47.03 316 P **P 15 53 02.3 -0.2**
comp=Z,15nm,1.0s,baz=112,slow=8.1,SNR=4.4
KIRV Kirov 47.11 324 P **P 15 53 03.2 +0.1**
comp=Z,12nm,0.6s,baz=116,slow=5.3,SNR=5.0
KIRV Kirov 47.11 324 *ce*P **P 15 53 03.0 -0.1**
SOCY Socotra 49.49 261 P **P 15 53 20.1 -2.1**
SOCY IAmb IAmb 15 53 25.3
comp=Z,12nm,1.2s
VRH Novokhopyorsk 50.62 314 *e*P **P 15 53 28.6 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.4s
KNRA Kununurra 50.78 149 P **P 15 53 31.2 -0.4**
KNRA IAmb IAmb 15 53 32.4
comp=Z,9.0nm,0.9s
VORD Divnogorie 52.15 314 *e*P **P 15 53 39.9 -1.8**
VORD pmax pmax
comp=Z,4.0nm,0.6s
VSR Storozhevoye 52.22 314 *e*P **P 15 53 41.7 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
RAYN Ar Rayn 52.31 278 P **P 15 53 43.0 -0.4**
RAYN pmax pmax
comp=Z,4.0nm,1.0s
RAYN Ar Rayn 52.31 278 P **P 15 53 43.0 -0.4**
RAYN IAmb IAmb 15 53 44.9
comp=Z,4.1nm,0.9s
LPSR Galich'ya Gora 52.35 316 *e*P **P 15 53 41.9 -1.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 52.69 25⇑ *e*P **P 15 53 44.6 -0.9**
BILL *e* 15 54 54.0
BILL *e* 15 55 43.8
BILL *e*S S 16 01 00.2 -13
BILL *e*SS **SS 16 04 53.2 +2.3**
BILL pmax pmax
comp=Z,20nm,3.8s
BILL MLR MLR
comp=Z,25nm,13.0s
PSA00 Pilbara Seismi 52.93 162 P **P 15 53 47.2 -0.5**
PSA00 IAmb IAmb 15 53 48.6
comp=Z,8.9nm,0.8s
PSA00 Pilbara Seismi 52.93 162 P **P 15 53 47.6 -0.1**
PSA00 IAmb IAmb 15 53 48.3
comp=Z,3.7nm,0.8s
OBN Obninsk 53.72 319⇑ *e*P **P 15 53 53.5 +0.3**
OBN *e* 15 55 52.3
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,78nm,19.0s
LVZ Lovozero 55.36 334 *ce*P **P 15 54 03.9 -1.1**
LVZ pmax pmax
comp=Z,77nm,2.5s
PMG Port Moresby 56.67 126 P **P 15 54 15.1 +0.2**
PMG pmax pmax
comp=Z,11nm,0.9s
PMG Port Moresby 56.67 126 P **P 15 54 15.1 +0.2**
PMG IAmb IAmb 15 54 16.9
comp=Z,11nm,0.9s
WB0 Warramunga Arr 56.98 145 P **P 15 54 15.8 -1.2**
WB0 IAmb IAmb 15 54 18.1
comp=Z,16nm,1.1s
WRAB Tennant Creek 57.09 146 *i*P **P 15 54 16.6 -1.3**
WRAB pmax pmax
comp=Z,20nm,0.8s
WRAB Tennant Creek 57.09 146 P **P 15 54 17.0 -0.9**
WRA Warramunga Arr 57.10 146 P **P 15 54 17.0 -0.9**
comp=Z,9.1nm,0.7s,baz=325,slow=5.7,SNR=95
WRA Warramunga Arr 57.10 146 P **P 15 54 16.8 -1.1**
WB2 Warramunga Arr 57.10 146 P **P 15 54 17.1 -0.9**
WR0 Warramunga Arr 57.21 145 P **P 15 54 17.8 -0.9**
WR0 IAmb IAmb 15 54 19.4
comp=Z,11nm,0.8s
COEN Coen 57.30 133 P **P 15 54 19.4 0.0**
BRTR Keskin Array B 57.57 301 P **P 15 54 21.7 +0.4**
comp=Z,1.2nm,1.0s,baz=118,slow=7.3,SNR=4.2
BRTR Keskin Array B 57.57 301 *ce*P **P 15 54 22.2 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 58.53 314 P **P 15 54 26.5 -1.2**
comp=Z,2.6nm,0.8s,baz=70,slow=6.8,SNR=4.8
AKASG Malin Array Be 58.53 314 *ce*P **P 15 54 27.0 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 58.53 314 P **P 15 54 27.2 -0.4**
AKBB Malin Array Si 58.53 314 *ce*P **P 15 54 25.6 -2.0**
AKBB Malin Array Si 58.53 314 P **P 15 54 27.1 -0.6**
AKBB IAmb IAmb 15 54 28.4
comp=Z,5.5nm,0.9s
MNK Minsk 58.78 319 *i*P **P 15 54 27.6 -1.7**
MNK *i* *PP **sP 15 54 41.5 +7.6**
MNK *i* 15 55 16.7
MNK *i* 15 56 38.0
MNK *i* PPP PPP 15 58 00.1
MNK *i* S **S 16 02 29.1 -5.2**
MNK *i* *SS sS 16 02 53.5 +14
MNK *i* 16 04 10.5
MNK *i* SS **SS 16 06 22.6 -4.5**
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=N,12nm,1.0s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK MLR MLR
comp=Z,27nm,9.0s
MNK MLR MLR
comp=E,3.0nm,7.0s
MNK MLR MLR
comp=N,31nm,9.0s
MNK Minsk 58.78 319 *i*P **P 15 54 27.7 -1.6**
comp=E,2.0nm,1.0s
MNK *i*P **P 15 54 27.7 -1.6**
comp=N,12nm,1.0s
MNK *i*P **P 15 54 27.7 -1.6**
comp=Z,12nm,0.9s,baz=263
MNK *i*pP **sP 15 54 41.5 +7.6**
MNK *i*PP **PP 15 56 38.0 -0.9**
MNK *i*PPP PPP 15 58 00.1
MNK *i*S **S 16 02 29.2 -5.2**
MNK *i*sS sS 16 02 53.5 +14
MNK *i*SS **SS 16 06 22.6 -4.5**
MNK *i*SSS SSS 16 09 02.5
MNK *i*LQ LQ 16 14 35.1
MNK *i*LR LR 16 20 10.4
MNK *i*LRM MLR 16 21 52.7
comp=Z,27nm,9.3s
MNK *i*LRM MLR 16 22 15.6
comp=E,3.0nm,7.2s
MNK *i*LRM MLR 16 22 22.4
comp=N,31nm,8.9s
ARCES ARCESS Array B 58.78 336 P **P 15 54 28.9 -0.3**
comp=N,2.5nm,0.8s,baz=104,slow=7.5,SNR=7.1
ARCES ARCESS Array B 58.78 336 P **P 15 54 28.9 -0.3**
ARCES IAmb IAmb 15 54 54.8
comp=Z,12nm,1.4s
FIA1 FINESS Array S 58.95 327 P **P 15 54 30.4 0.0**
FINES FINESS Array B 58.95 327 P **P 15 54 30.2 -0.2**
comp=Z,4.7nm,0.9s,baz=78,slow=7.3,SNR=7.2
FINES FINESS Array B 58.95 327 *ce*P **P 15 54 31.2 +0.8**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 58.95 327 P **P 15 54 30.6 +0.2**
MORW Morawa 59.28 168 P **P 15 54 33.3 +0.3**
IDID Didziasalis 59.32 320 *e*P **P 15 54 33.5 +0.4**
NACGM Naroch 59.35 319 *i*P **P 15 54 25.2 -8.1**
IIGN Ignalina 59.60 320 *e*P **P 15 54 35.0 0.0**
AS31 Alice Springs 60.07 148 P **P 15 54 38.0 -0.6**
ASAR Alice Springs 60.07 148 P **P 15 54 38.0 -0.6**
comp=Z,5.1nm,0.8s,baz=328,slow=6.5,SNR=37
TIRR Tirgusor 60.28 307 P **P 15 54 39.3 -0.5**
TIRR pmax pmax
comp=Z,32nm,0.9s
TIRR Tirgusor 60.28 307 P **P 15 54 39.3 -0.5**
PABE Paberze 60.85 320 P **P 15 54 43.3 -0.2**
BURAR Bucovina Array 61.72 311 P **P 15 54 49.6 -0.1**
BURAR pmax pmax
comp=Z,3.0nm,1.4s
BURAR Bucovina Array 61.72 311 P **P 15 54 49.6 -0.1**
KWP Kalwaria Pacla 62.85 314 *e*P **P 15 54 57.4 +0.2**
DEV Deva 63.70 310 P **P 15 55 03.1 +0.3**
CTAO Charters Tower 63.84 135 P **P 15 55 03.6 -0.4**
CTAO pmax pmax
comp=Z,15nm,1.0s
CTAO Charters Tower 63.84 135 P **P 15 55 03.6 -0.4**
VTS Vitosha 64.40 306 P **P 15 55 08.2 +0.5**
NIE Niedzica 64.42 314 *e*P **P 15 55 09.0 +1.5**
NIE Niedzica 64.42 314 P **P 15 55 09.2 +1.7**
NIE pmax pmax
comp=Z,4.0nm,1.3s
OJC Ojcow 64.51 315 *e*P **P 15 55 07.8 -0.3**
OJC Ojcow 64.51 315 P **P 15 55 07.5 -0.6**
OJC pmax pmax
comp=Z,17nm,1.4s
OJC Ojcow 64.51 315 P **P 15 55 07.5 -0.6**
GRG Griva 65.50 305 P **P 15 55 15.1 +0.4**
GRG pmax pmax
comp=Z,12nm,1.6s
VYHS Vyhne 65.61 313 *e*P **P 15 55 16.4 +1.1**
VYHS Vyhne 65.61 313 *e*P **P 15 55 16.4 +1.1**
MORC Moravsky Berou 66.03 315 P **P 15 55 18.6 +0.6**
MORC Moravsky Berou 66.03 315 *e*P **P 15 55 18.7 +0.7**
NOA NORSAR Array B 66.06 328 P **P 15 55 17.0 -1.0**
comp=Z,1.2nm,0.8s,baz=75,slow=5.4,SNR=3.4
NOA NORSAR Array B 66.06 328 P **P 15 55 17.0 -1.0**
NC204 NORSAR Array S 66.20 328 P **P 15 55 17.7 -1.2**
JAVC Velka Javorina 66.23 314 *e*P **P 15 55 21.2 +1.8**
KRLC Kraliky 66.41 315 P **P 15 55 20.9 +0.5**
KRLC pmax pmax
comp=Z,7.0nm,1.1s
KSP Ksiaz 66.47 316 P **P 15 55 22.0 +1.3**
KSP pmax pmax
comp=Z,8.0nm,1.4s
DPC Dobruska-Polom 66.60 316 P **P 15 55 22.9 +1.2**
VRAC Vranov 66.76 315 P **P 15 55 23.0 +0.3**
VRAC pmax pmax
comp=Z,6.0nm,1.5s
VRAC Vranov 66.76 315 *e*P **P 15 55 23.2 +0.5**
ZST Bratislava 66.80 313 P **P 15 55 24.0 +1.1**
KONO Kongsberg 67.27 327 P **P 15 55 26.4 +0.7**
KONO pmax pmax
comp=Z,49nm,1.5s
KONO Kongsberg 67.27 327 P **P 15 55 26.4 +0.7**
CONA Conrad Observa 67.67 313 *e*P **P 15 55 29.3 +0.8**
comp=Z,3.0nm,0.7s
PRU Pruhonice 67.80 316 P **P 15 55 30.5 +1.3**
CLL Collm 68.28 318 *e*P **P 15 55 33.0 +0.8**
SOKA Soboth 68.63 312 *e*P **P 15 55 34.4 -0.2**
comp=Z,2.4nm,0.6s
GEC2 GERESS Array S 68.71 315 P **P 15 55 35.6 +0.6**
GERES GERESS Array B 68.71 315 P **P 15 55 34.8 -0.3**
comp=Z,1.3nm,0.7s,baz=76,slow=6.1,SNR=11
GERES GERESS Array B 68.71 315 P **P 15 55 35.7 +0.6**
GERES GERESS Array B 68.71 315 P **P 15 55 35.7 +0.6**
ZOU Zoufplan 70.00 313 P **P 15 55 42.5 -0.7**
ZOU IAmb IAmb 15 55 59.6
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 70.52 257 P **P 15 55 48.0 +1.1**
comp=Z,0.8nm,0.3s,baz=54,slow=19,SNR=2.4
WTTA Wattenberg 70.58 314 *e*P **P 15 55 46.7 0.0**
comp=Z,1.2nm,0.4s
STKA Stephens Creek 70.62 147 P **P 15 55 46.7 -0.1**
comp=Z,4.6nm,0.7s,baz=317,slow=6.5,SNR=7.1
STKA Stephens Creek 70.62 147 P **P 15 55 46.2 -0.6**
EIDS Eidsvold 70.73 136 P **P 15 55 47.9 +0.3**
EIDS IAmb IAmb 15 55 49.2
comp=Z,7.8nm,0.9s
SQTA Sankt Quirin 70.87 314 *e*P **P 15 55 48.5 +0.1**
comp=Z,2.7nm,0.4s
MOTA Moosalm 70.88 314 *e*P **P 15 55 49.6 +1.1**
comp=Z,1.5nm,0.6s
RETA Reutte 71.04 314 *i*P **P 15 55 49.4 0.0**
comp=Z,0.4nm,0.2s
FETA Feichten 71.25 314 *e*P **P 15 55 50.9 +0.1**
comp=Z,3.5nm,0.9s
INK Inuvik 73.73 19 P **P 15 56 04.8 -0.1**
comp=Z,0.8nm,0.7s,baz=333,slow=6.4,SNR=5.5
INK Inuvik 73.73 19 P **P 15 56 04.9 -0.1**
INK pmax pmax
comp=Z,5.0nm,1.3s
INK Inuvik 73.73 19 P **P 15 56 04.9 -0.1**
INK IAmb IAmb 15 56 11.2
comp=Z,5.2nm,1.3s
YKA Yellowknife Ar 83.29 17 P **P 15 56 58.0 +0.2**
comp=Z,0.3nm,0.7s,baz=326,slow=5.2,SNR=6.6
YKA Yellowknife Ar 83.29 17 P **P 15 56 58.0 +0.2**

ESDC	Sonseca Array	84.14 312	P	P	15 57 04.2 +1.5
	comp=Z,0.6nm,0.7s,baz=49,slow=8.7,SNR=2.4				
TORD	Torodi Ar. Bea	94.13 287	P	P	15 57 50.8 +0.2
	comp=Z,0.5nm,0.8s,baz=56,slow=3.3,SNR=3.4				

*IDC **03** 16:00:05.3±1.7,24°.31N×121°.81E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.3/36,mbtmp3.5/5,ML3.0/1,MS2.4/1, Ms1 2.4/1,ms1mx2.1/63,Error ellipse: s-maj=69.7km s-min=27.6km az=68.0*
*TAP **03** 16:00:09.3,24°.38N×121°.93E,h30km,ML4.0,B*
*NEIC **03** 16:00:09.3±1.8,24°.33N±0°.04×121°.95E±0°.02,h28km±7km, Error ellipse: s-maj=6.3km s-min=2.0km az=192.0*
*JMA **03** 16:00:09.2±0.1,24°.29N×121°.91E,h39km±2km,M3.0*
ISC 03 16:00:09.1±0.7,24°.34N±0°.02×121°.94E±0°.02,h29km±5km, n143,σ1°.02/208,mb3.5/6,9C-18D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.18	304	⇑iP	Pb	16 00 15.2	+0.3
	baz=295						
EWUT				i S	Sb	16 00 19.2	+0.3
	baz=295						
EHP	Heping Village	0.19	260	eP	Pb	16 00 15.3	+0.3
	baz=246						
EHP				eS	Sb	16 00 20.5	+1.5
	baz=246						
ENA	Nanau	0.20	295	⇑iP	Pb	16 00 15.5	+0.3
	baz=285						
ENA				S	Sb	16 00 20.0	+0.6
	baz=285						
TWC	Suao	0.28	342	⇓iP	Pb	16 00 16.1	0.0
	baz=344						
TWC				S	Sb	16 00 20.7	-0.2
	baz=344						
ETL	Fush Village	0.35	238	eP	Pn	16 00 17.7	-0.5
	baz=232						
NDS	Dongshan	0.36	324	⇓iP	Pb	16 00 17.5	+0.3
	baz=322						
NDS				i S	Sb	16 00 22.8	0.0
	baz=322						
NACB	Ninganchiao	0.36	242	⇓iP	Pb	16 00 17.6	+0.2
	baz=236						
NACB				S	Sn	16 00 24.6	+0.1
	baz=236						
NACB	Ninganchiao	0.36	242		Pb	16 00 17.5	+0.2
TWD	Chiawan	0.41	231	⇓iP	Pn	16 00 18.5	-0.6
	baz=233						
TWD				S	Sn	16 00 25.9	+0.1
	baz=233						
ETLH	Xiulin Townshi	0.44	252	⇓iP	Pb	16 00 19.0	+0.4
	baz=247						
ETLH				S	Sn	16 00 26.3	-0.5
	baz=247						
TWE	Neicheng	0.45	326	⇓iP	Pb	16 00 18.9	+0.2
	baz=325						
TWE				S	Sb	16 00 25.6	+0.3
	baz=325						
ENTT	Nioudou	0.45	311	⇑iP	Pb	16 00 18.9	+0.2
	baz=307						
ENTT				eS	Sb	16 00 25.8	+0.5
	baz=307						
ILA	Ilan	0.46	337	⇓iP	Pb	16 00 19.2	+0.4
	baz=333						
ILA				S	Sb	16 00 26.4	+1.0
	baz=333						
NDT	Datong Townshi	0.47	303	⇑iP	Pb	16 00 19.3	+0.3
	baz=299						
NDT				eS	Sb	16 00 26.1	+0.4
	baz=299						
HWA	Hwalien	0.48	220	⇓iP	Pn	16 00 20.4	+0.3
	baz=216						
HWA				eS	Sn	16 00 30.1	+2.6
	baz=216						
EGS		0.50	359	⇓iP	Pb	16 00 19.8	+0.4
	baz=1.0						
EGS				eS	Sb	16 00 26.9	+0.4
	baz=1.0						
NNSB	Datong	0.52	280	i P	Pb	16 00 20.1	+0.3
	baz=280						
NNSB				S	Sb	16 00 27.3	+0.2
	baz=280						
NTC	Toucheng	0.52	348	⇓iP	Pb	16 00 19.8	0.0
	baz=348						
NTC				i S	Sb	16 00 27.3	+0.2
	baz=348						
NNS	Nan Shan	0.53	281	P	Pb	16 00 20.2	+0.2
	baz=281						
NNS				eS	Sb	16 00 27.9	+0.4
	baz=281						
NWLT	Wulai	0.59	317	⇑P	Pb	16 00 21.1	+0.1
	baz=314						
NWLT				S	Sb	16 00 29.1	+0.1
	baz=314						
YHNB	Yeheng	0.61	302	⇑iP	Pb	16 00 21.5	+0.1
	baz=299						
YHNB				eS	Sb	16 00 29.7	0.0
	baz=299						
YHNB	Yeheng	0.61	302	Pn	Pb	16 00 21.4	+0.1
NSK	Sanguang	0.63	302	i P	Pb	16 00 21.6	0.0
	baz=299						
NSK				i S	Sb	16 00 30.1	0.0
	baz=299						
TIPB	Shuangxi	0.64	350	⇓iP	Pb	16 00 21.8	+0.1
	baz=353						
TIPB				S	Sb	16 00 30.6	+0.3
	baz=353						
FUSS	Fushou	0.65	262	⇓iP	Pn	16 00 22.6	+0.1
	baz=258						
FUSS				eS	Sn	16 00 31.6	-0.3
	baz=258						
WHF	Hehuan Shan	0.65	252	⇓iP	Pn	16 00 22.6	-0.2
	baz=248						
WHF				eS	Sn	16 00 32.1	-0.2
	baz=248						
TWB1	Santiao Chiao	0.66	3	⇓iP	Pb	16 00 22.1	0.0
	baz=4.0						
TWB1				eS	Sb	16 00 30.4	-0.6
	baz=4.0						
ESL	Shilin	0.70	222	P	Pb	16 00 22.7	-0.1
	baz=232						
ESL				eS	Sn	16 00 33.2	+0.1
	baz=232						
TWA	Mucha	0.71	333	⇓iP	Pb	16 00 23.4	+0.4
	baz=325						
TWA				eS	Sb	16 00 32.5	0.0
	baz=325						
NHDH	Xindian Distri	0.73	328	eP	Pn	16 00 23.9	+0.4
	baz=322						
NHDH				eS	Sb	16 00 33.2	+0.4
	baz=322						
NWF	Wu-fen Shan	0.74	348	⇓iP	Pb	16 00 23.9	+0.5
	baz=341						
NWF				eS	Sb	16 00 33.8	+0.5
	baz=341						
TATO	Taipei	0.75	327	Pn	Pn	16 00 24.1	+0.3
CHGB	Renai	0.76	248	⇓iP	Pn	16 00 24.2	+0.2
	baz=236						
CHGB				eS	Sn	16 00 34.8	+0.1
	baz=236						
TAP	Taipei	0.80	330	eP	Pb	16 00 25.1	+0.7
	baz=328						
TAP				eS	Sn	16 00 36.2	+0.8
	baz=328						
OWD	Renai	0.80	241	P	Pb	16 00 24.7	+0.1
	baz=238						
OWD				eS	Sn	16 00 36.1	+0.4
	baz=238						
EGFH	Guangfu	0.82	215	eP	Pb	16 00 24.6	-0.1
	baz=227						
EGFH				eS	Sn	16 00 36.6	+0.7
	baz=227						
YM01	YM01	0.87	337	P	Pb	16 00 26.0	+0.4
	baz=346						
YM01				S	Sn	16 00 37.8	+0.6
	baz=346						
TWS1	Kuangyinshan	0.89	328	⇑iP	Pb	16 00 26.4	+0.4
	baz=325						
TWS1				eS	Sb	16 00 39.9	+2.3
	baz=325						
LIOB	Emei	0.90	290	⇑iP	Pb	16 00 26.9	+0.8
	baz=286						
LIOB				eS	Sb	16 00 39.9	+2.1
	baz=286						
NSTT	Nanjuang	0.91	289	⇑iP	Pb	16 00 26.9	+0.7
	baz=285						
NSTT				eS	Sb	16 00 38.5	+0.5
	baz=285						
WHP	Taichung City	0.91	266	eP	Pb	16 00 27.2	+0.8
	baz=263						
WHP				S	Sb	16 00 40.0	+1.8
	baz=263						
JYNG	Yonagunijimaku	0.92	83	P	Pn	16 00 26.5	+0.4
JYNG				S	Sb	16 00 39.4	+1.1
ANP	Anpu	0.92	335	eP	Pn	16 00 26.5	+0.3
	baz=334						
ANP				eS	Sb	16 00 39.3	+0.7
	baz=334						
NCU	National Centr	0.93	312	eP	Pb	16 00 27.0	+0.4
	baz=309						
NCU				eS	Sb	16 00 40.8	+2.1
	baz=309						
NCUH	Zhongli	0.93	312	eP	Pb	16 00 26.7	+0.1
	baz=308						
NCUH				eS	Sb	16 00 40.9	+2.3
	baz=308						
NTST	Danshui	0.93	331	eP	Pb	16 00 27.0	+0.3
	baz=338						
NTST				eS	Sn	16 00 39.0	+0.3
	baz=338						
VWDT	VWDT	0.94	232	⇓iP	Pb	16 00 26.9	+0.1
	baz=229						
VWDT				eS	Sb	16 00 40.0	+1.1
	baz=229						
HGSD	Ruisui	0.97	209	eP	Pn	16 00 26.8	0.0
	baz=223						
YOJ	Yonaguni jima	0.98	83	P	Pn	16 00 27.6	+0.7
YOJ				eS	Sb	16 00 41.1	+1.1
YOJ	Yonaguni jima	0.98	83	eP	Pn	16 00 27.4	+0.5
	baz=81						
YOJ				eS	Sb	16 00 40.8	+0.8
	baz=81						
YOJ	Yonaguni jima	0.98	83	Pn	Pn	16 00 27.2	+0.3
TWY	Chenhua	0.98	341	i P	Pb	16 00 27.8	+0.4
	baz=349						
TWY				eS	Sb	16 00 40.9	+0.8
	baz=349						
SBCB	Hsinchu	0.98	297	P	Pb	16 00 27.8	+0.3
	baz=294						
SBCB				eS	Sb	16 00 42.6	+2.6
	baz=294						
WCS	Beigang Elemen	0.98	253	eP	Pb	16 00 28.2	+0.7
	baz=244						
HSN	Hsinchu	1.00	297	eP	Pb	16 00 27.9	+0.1
	baz=296						
HSN				eS	Sb	16 00 42.6	+2.1
	baz=296						
EHY	Hungye	1.01	214	eP	Pn	16 00 26.6	-0.7
	baz=213						
SMLT	Sun Moon Lake	1.06	245	eP	Pb	16 00 28.7	-0.1
	baz=235						
SMLT				eS	Sb	16 00 44.9	+2.5
	baz=235						
SSLB	Suanglung	1.06	239	P	Pn	16 00 28.2	+0.2
	baz=230						
SSLB				S	Sb	16 00 42.2	-0.2
	baz=230						
SSLB	Suanglung	1.06	239	Pn	Pb	16 00 28.6	-0.3
TWQ1	Liyutan	1.07	270	eP	Pb	16 00 30.1	+1.1
	baz=267						
TWQ1				eS	Sb	16 00 44.3	+1.7
	baz=267						
NMLH	Miaoli	1.07	281	eP	Pb	16 00 29.7	+0.8
	baz=277						
NMLH				eS	Sb	16 00 45.5	+3.0
	baz=277						
NSY	Sanyi	1.08	274	eP	Pb	16 00 30.4	+1.2
	baz=271						
NSY				eS	Sb	16 00 46.1	+3.1
	baz=271						
TYC	Yuchr	1.08	246	eP	Pb	16 00 29.6	+0.3
	baz=233						
TYC				eS	Sb	16 00 44.1	+1.1
	baz=233						
YULB	Yu-li	1.12	212	eP	Pn	16 00 28.4	-0.5
	baz=212						
YULB	Yu-li	1.12	212	Pn	Pn	16 00 28.3	-0.5
EYUL	Yuli	1.15	210	eP	Pb	16 00 31.1	+0.8
	baz=223						
TCU	Taichung	1.17	261	eP	Pb	16 00 31.9	+1.2
	baz=257						
TCU				eS	Sb	16 00 48.2	+2.7
	baz=257						
WDJ	Dajia District	1.19	270	eP	Pb	16 00 31.5	+0.5
	baz=267						
WDJ				eS	Sb	16 00 47.8	+1.8
	baz=267						
WJS	Zhushan	1.23	245	eP	Pb	16 00 32.7	+1.1
	baz=243						
WJS				eS	Sb	16 00 50.5	+3.4
	baz=243						
WNT	Mingjian	1.24	248	eP	Pb	16 00 33.1	+1.3
	baz=246						
WNT				eS	Sb	16 00 50.4	+2.9
	baz=246						
FULB	Fuli	1.29	208	eP	Pb	16 00 32.2	-0.4
	baz=220						
PCYT	Pengchaiyu	1.29	5	eP	Pn	16 00 30.3	-0.9
	baz=6.0						
WCHH	Zhanghua	1.29	259	eP	Pb	16 00 32.0	-0.8
	baz=256						
ALS	Alishan	1.33	232	eP	Pb	16 00 33.8	+0.2
	baz=221						
CHKT	Chengkung	1.35	203	eP	Pn	16 00 32.7	+0.7
	baz=188						
CHN5	Tsauling	1.38	238	eP	Pb	16 00 35.0	+0.8
	baz=236						
ELDTW	Lidau	1.43	217	eP	Pn	16 00 33.5	+0.3
	baz=206						
WDLH	Douliu	1.44	243	eP	Pb	16 00 36.0	+0.8
	baz=241						
WDLH				eS	Sb	16 00 55.3	+2.1
	baz=241						
EDH	Donghe	1.48	203	eP	Pn	16 00 33.4	-0.5
	baz=192						
WRL	Guolierlin Hig	1.50	253	eP	Pb	16 00 35.8	-0.4
	baz=251						
WRL				eS	Sb	16 00 55.6	+0.7
	baz=251						
WTK	Tuku	1.56	246	eP	Pb	16 00 36.5	-0.9
	baz=244						
STYH	Taoyuan	1.58	223	eP	Pb	16 00 37.2	-0.4
	baz=212						
TPUB	Ta-pu	1.59	230	eP	Pb	16 00 37.7	-0.1
	baz=216						
TPUB	Ta-pu	1.59	230	Pn	Pn	16 00 36.1	+0.8
LONT	Longtian	1.61	208	eP	Pn	16 00 35.4	-0.2
	baz=195						
CHY	Chiayi	1.63	239	eP	Pb	16 00 38.3	-0.1
	baz=253						
IRIF	Iriomote-Funau	1.63	90	P	Pn	16 00 36.5	+0.7
IRIF				S	Sn	16 00 57.1	+1.2
WTP	Ta-pu	1.64	228	eP	Pb	16 00 38.7	+0.1
	baz=228						
TWK	Hsinying	1.71	232	eP	Pb	16 00 39.7	-0.2
	baz=230						
TWGBT	Beinan	1.71	208	eP	Pn	16 00 37.0	0.0
	baz=197						
TWG	Pinlang	1.71	208	Pn	Pn	16 00 36.6	-0.5
LDUT	Ludao	1.72	195	eP	Pn	16 00 36.3	-0.8
	baz=182						
WSF	Szhu	1.73	246	eP	Pb	16 00 39.1	-1.0
	baz=259						
SNST	Tainan City	1.73	230	eP	Pb	16 00 40.3	0.0
	baz=230						
CHN1	Nanshi	1.74	229	eP	Pb	16 00 40.0	-0.3
	baz=228						
SGST	Jiashian	1.77	225	eP	Pb	16 00 39.3	-1.6
	baz=213						
SLGT	Liugui	1.79	222	eP	Pb	16 00 40.5	-0.8
	baz=222						
ICHU	Yijhu	1.81	238	eP	Pb	16 00 41.1	-0.5
	baz=237						
CHN8	Yiju	1.87	238	eP	Pb	16 00 42.1	-0.5
	baz=237						
JKRS	Kuro-shima	1.89	93	P	Pn	16 00 40.7	+1.3
JKRS				S	Sn	16 01 04.0	+1.8
ECL	Taimali	1.96	208	eP	Pn	16 00 41.0	+0.6
	baz=199						
SSD	Sandimen	2.00	217	eP	Pb	16 00 44.0	-0.7
	baz=217						
JIJ	Ishigaki jima	2.00	89	P	Pn	16 00 41.8	+0.8
JIJ				eS	Sn	16 01 05.6	+0.4
TSMG	Majia	2.02	216	eP	Pb	16 00 43.8	-1.4
	baz=217						
MASBT	Mashibuluo	2.10	215	eP	Pn	16 00 43.6	+1.3
	baz=216						
JISG	Ishigakijimahi	2.17	83	P	Pn	16 00 43.9	+0.6
JISG				S	Sn	16 01 10.4	+1.2
EAST	Anshuo	2.20	208	eP	Pb	16 00 47.0	-1.1
	baz=201						
SSPT	Xinbi	2.24	215	eP	Pb	16 00 47.7	-1.2
	baz=202						
SCZT	Fangliau	2.31	212	eP	Pb	16 00 48.5	-1.6
	baz=202						
PNG	Penghu	2.32	251	eP	Pn	16 00 45.9	+0.6
	baz=249						
LAY	Lan-yu	2.32	189	eP	Pn	16 00 44.6	-0.8
	baz=187						
PHUB	P'eng-hu	2.32	250	eP	Pn	16 00 45.3	0.0
	baz=248						
WDGT	Dungji	2.35	243	eP	Pn	16 00 47.1	+1.3
	baz=242						
JTJ	Tarama	2.53	83	P	Pn	16 00 50.4	+2.2
JTJ				S	Sn	16 01 20.2	+2.1
MATB	Ma-tsu	2.55	315	eP	Pn	16 00 48.1	-0.5
	baz=312						
VCHM	Qimei	2.57	244	eP	Pn	16 00 49.4	+0.7
	baz=244						
PTMZ	Houxiangcun	2.66	286	eP	Pn	16 00 50.0	0.0
	baz=282						
LYJJ	Jianjiangzhen	2.95	319	eP	Pn	16 00 53.8	-0.3
	baz=316						
XPSS	Dashiqiu	3.02	329	eP	Pn	16 00 54.5	-0.5
	baz=326						
KNM	Kinmen	3.20	272	eP	Pn	16 00 59.3	+1.8
	baz=268						
KNMB	Chin-men Tao	3.24	273	eP	Pn	16 00 57.5	-0.6
	baz=269						
KNMB	Chin-men Tao	3.24	273	Pn	Pn	16 00 57.8	-0.3
AXDP	Jialang	3.66	280	eP	Pn	16 01 04.0	+0.2
	baz=275						
ZPLA	Ao Xicun	3.85	265	eP	Pn	16 01 06.7	+0.2
	baz=261						
JOW	Kunigami	6.23	65	Pn	Pn	16 01 38.6	-0.5
JSU	Suzuyama	10.37	45	Pn	Pn	16 02 36.5	+0.7
INCN	Inchon	13.70	16	Pn	Pn	16 03 21.9	+0.5
KSRS	Korea Array	14.04	20	Pn	Pn	16 03 27.1	+1.1
	0.1nm,0.3s,baz=203,slow=14,SNR=1.8						
KSRS				LR	LR	16 09 00.9	
	comp=Z,14nm,19.1s,baz=145,slow=38						
DLV	T Lat	17.75	228	Pn	Pn	16 04 11.1	-3.3
DLV				IAmb	IAmb	16 04 11.8	
	comp=Z,29nm,1.2s						
MAJO	Matsushiro	18.53	45	P	P	16 04 21.1	-2.2
MAJO				IAmb	IAmb	16 04 31.6	
	comp=Z,9.2nm,1.3s						
MJB9	Matsu-Tunnel	18.53	45	P	P	16 04 21.3	-2.0
MJB9				IAmb	IAmb	16 04 31.6	
	comp=Z,9.4nm,1.3s						
MJAR	Matsushiro Arr	18.53	45	P	P	16 04 21.0	-2.3
SONM	Songino Array	26.50	336	P	P	16 05 43.9	-0.2
	comp=Z,0.9nm,0.8s,baz=150,slow=8.0,SNR=5.1						
MK31	Makanchi Array	38.71	315	P	P	16 07 31.2	+0.6
MK31				IAmb	IAmb	16 07 48.8	
	comp=Z,2.6nm,1.3s						
MKAR	Makanchi Array	38.71	315	P	P	16 07 30.9	+0.4
	comp=Z,0.3nm,0.4s,baz=99,slow=9.9,SNR=10.0						
MAKZ	Makanchi	38.91	315	P	P	16 07 32.8	+0.5
MAKZ				IAmb	IAmb	16 07 54.1	
	comp=Z,6.4nm,1.5s						
ZALV	Zalesovo Beam	40.49	327	P	P	16 07 44.9	-0.3
	comp=Z,0.5nm,0.5s,baz=127,slow=9.2,SNR=2.9						
WRA	Warramunga Arr	45.64	164	P	P	16 08 27.6	+0.4
	comp=Z,0.3nm,0.8s,baz=345,slow=8.7,SNR=1.2						
KKAR	Karatay Array	45.93	307	P	P	16 08 28.2	-1.1
ABKAR	Akbulak array	53.83	314	P	P	16 09 29.3	0.0
TOLK	Toolik Lake Re	67.03	23	P	P	16 10 59.5	+0.3
BMAR	Burnt Mountain	69.10	24	P	P	16 11 12.4	+0.2
BCAR	Beaver Creek A	71.36	29	P	P	16 11 26.4	+0.2

*TAP **03** 16:13:44.5,24°.94N×122°.45E,h19km,ML3.2,C*
*JMA **03** 16:13:45.4±0.1,24°.83N×122°.43E,h15km±3km,M2.0*
ISC 03 16:13:44.8±1.0,24°.88N±0°.02×122°.45E±0°.02,h15km±8km, n80,σ0°.70/150,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.44	287	P	Pg	16 13 53.4	-0.1
	baz=279						
TWB1				S	Sg	16 13 59.8	+0.3
	baz=279						
EGS		0.47	266	eP	Pb	16 13 54.8	+0.1
	baz=249						
EGS				eS	Sb	16 14 01.3	-0.2
	baz=249						
NTC	Toucheng	0.56	268	P	Pb	16 13 56.2	0.0
	baz=273						
NTC				eS	Sb	16 14 04.3	+0.2
	baz=273						
TIPB	Shuangxi	0.57	279	P	Pb	16 13 56.5	0.0
	baz=273						
TIPB				S	Sb	16 14 04.5	0.0
	baz=273						
TWC	Suao	0.61	244	eP	Pg	16 13 56.6	-0.1
	baz=238						
TWC				eS	Sb	16 14 05.2	-0.1
	baz=238						
JYNG	Yonagunijimaku	0.62	133	P	Pg	16 13 57.1	+0.1
NWF	Wu-fen Shan	0.63	288	P	Pg	16 13 57.4	+0.1
	baz=282						
NWF				eS	Sb	16 14 06.5	+0.2
	baz=282						
ILA	Ilan	0.65	260	eP	Pb	16 13 57.8	+0.1
	baz=254						
ILA				eS	Sb	16 14 07.6	+1.1
	baz=254						
YOJ	Yonaguni jima	0.66	129	P	Pg	16 13 57.7	0.0
YOJ				eS	Sg	16 14 06.0	-0.4
YOJ	Yonaguni jima	0.66	129	P	Pg	16 13 57.6	-0.1
	baz=124						
YOJ				eS	Sg	16 14 06.9	+0.5
	baz=124						
NDS	Dongshan	0.71	250	eP	Pg	16 13 58.8	+0.2
	baz=245						
NDS				eS	Sb	16 14 08.4	+0.1
	baz=245						
TWE	Neicheng	0.73	258	P	Pb	16 13 58.8	-0.3
	baz=252						
TWE				eS	Sg	16 14 08.7	+0.2
	baz=252						
EWUT	Wuta	0.75	235	P	Pb	16 13 59.4	0.0
	baz=230						
EWUT				eS	Sb	16 14 09.3	0.0
	baz=230						
ENA	Nanau	0.78	235	P	Pb	16 14 00.1	0.0
	baz=230						
ENA				S	Sg	16 14 11.0	+0.6
	baz=230						
TWA	Mucha	0.79	277	P	Pb	16 14 00.1	-0.1
	baz=272						
TWA				eS	Sg	16 14 10.8	+0.2
	baz=272						
PCYT	Pengchaiyu	0.82	336	P	Pb	16 13 59.5	-1.3
	baz=317						
PCYT				eS	Sb	16 14 11.1	-0.5
	baz=317						
ENTT	Nioudou	0.84	254	eP	Pb	16 14 00.9	-0.1
	baz=231						
ENTT				eS	Sg	16 14 12.3	+0.3
	baz=231						
YM01	YM01	0.84	289	P	Pb	16 14 00.8	-0.2
	baz=284						
YM01				eS	Sg	16 14 12.5	+0.4
	baz=284						
NHDH	Xindian Distri	0.84	276	P	Pb	16 14 01.1	0.0
	baz=271						
NHDH				S	Sg	16 14 12.6	+0.4
	baz=271						
NWLT	Wulai	0.86	263	P	Pb	16 14 01.4	0.0
	baz=259						
NWLT				eS	Sg	16 14 13.6	+0.6
	baz=259						
TWY	Chenhua	0.86	297	P	Pb	16 14 01.2	-0.3
	baz=293						
TWY				eS	Sg	16 14 13.3	+0.4
	baz=293						
TAP	Taipei	0.87	281	eP	Pb	16 14 01.4	-0.1
	baz=276						
TAP				eS	Sg	16 14 13.3	+0.2
	baz=276						

NDT	**Datong Townshi**	**0.89**	**252**	*eP*	**Pn**	**16 14 02.5**	**-0.3**
	baz=231						
NDT				*eS*	**Sg**	**16 14 14.2**	**+0.3**
	baz=231						
ANP	**Anpu**	**0.90**	**290**	*eP*	**Pb**	**16 14 01.5**	**-0.6**
	baz=274						
ANP				*eS*	**Sg**	**16 14 13.9**	**0.0**
	baz=274						
NTST	**Danshui**	**0.95**	**288**	*eP*	**Pb**	**16 14 02.6**	**-0.2**
	baz=283						
NTST				*eS*	**Sg**	**16 14 15.7**	**+0.1**
	baz=283						
TWS1	**Kuangyinshan**	**0.96**	**283**	*eP*	**Pb**	**16 14 02.8**	**-0.3**
	baz=279						
TWS1				*eS*	**Sg**	**16 14 15.9**	**0.0**
	baz=279						
YHNB	**Yeheng**	**1.00**	**258**	P	**Pb**	**16 14 03.6**	**-0.1**
	baz=267						
YHNB				*eS*	**Sg**	**16 14 17.1**	**0.0**
	baz=267						
NSK	**Sanguang**	**1.01**	**259**	P	**Pb**	**16 14 03.8**	**-0.2**
	baz=267						
NSK				*eS*	**Sb**	**16 14 17.0**	**-0.1**
	baz=267						
ETL	**Fush Village**	**1.04**	**226**	*eP*	**Pb**	**16 14 04.5**	**+0.1**
	baz=233						
ETL				*eS*	**Sg**	**16 14 18.4**	**0.0**
	baz=233						
NACB	**Ninganchiao**	**1.05**	**228**	*eP*	**Pb**	**16 14 04.4**	**-0.2**
	baz=234						
NACB				*eS*	**Sg**	**16 14 18.6**	**-0.1**
	baz=234						
NNSB	**Datong**	**1.07**	**245**	P	**Pb**	**16 14 04.7**	**-0.3**
	baz=231						
NNSB				*eS*	**Sg**	**16 14 19.4**	**0.0**
	baz=231						
NNS	**Nan Shan**	**1.07**	**246**	*eP*	**Pb**	**16 14 04.8**	**-0.2**
	baz=242						
NNS				*eS*	**Sg**	**16 14 19.4**	**-0.1**
	baz=242						
ETLH	**Xiulin Townshi**	**1.10**	**233**	*eP*	**Pb**	**16 14 05.4**	**-0.2**
	baz=242						
ETLH				*eS*	**Sb**	**16 14 20.0**	**+0.2**
	baz=242						
TWD	**Chiawan**	**1.11**	**224**	*eP*	**Pb**	**16 14 05.5**	**-0.2**
	baz=229						
TWD				*eS*	**Sn**	**16 14 20.4**	**-0.3**
	baz=229						
NCUH	**Zhongli**	**1.15**	**275**	*eP*	**Pn**	**16 14 06.0**	**-0.3**
	baz=288						
HWA	**Hwalien**	**1.18**	**221**	*eP*	**Pn**	**16 14 06.4**	**-0.3**
	baz=199						
HWA				*eS*	**Sb**	**16 14 22.1**	**+0.2**
	baz=199						
FUSS	**Fushou**	**1.26**	**240**	*eP*	**Pb**	**16 14 08.5**	**+0.1**
	baz=237						
FUSS				*eS*	**Sn**	**16 14 25.2**	**+0.3**
	baz=237						
IRIF	**Iriomote-Funau**	**1.29**	**115**	P	**Pn**	**16 14 08.4**	**+0.3**
IRIF				*eS*	**Sn**	**16 14 25.1**	**0.0**
WHF	**Hehuan Shan**	**1.30**	**236**	*eP*	**Pb**	**16 14 09.5**	**+0.3**
	baz=232						
WHF				*eS*	**Sg**	**16 14 26.6**	**-0.3**
	baz=232						
LIOB	**Emei**	**1.32**	**260**	*eP*	**Pn**	**16 14 08.4**	**-0.2**
	baz=256						
LIOB				*eS*	**Sn**	**16 14 25.3**	**-0.7**
	baz=256						
SBCB	**Hsinchu**	**1.33**	**267**	*eP*	**Pn**	**16 14 08.6**	**-0.2**
	baz=279						
SBCB				*eS*	**Sn**	**16 14 25.6**	**-0.6**
	baz=279						
NSTT	**Nanjuang**	**1.34**	**260**	*eP*	**Pn**	**16 14 08.7**	**-0.1**
	baz=256						
NSTT				*eS*	**Sn**	**16 14 25.9**	**-0.5**
	baz=256						
ESL	**Shilin**	**1.41**	**221**	*eP*	**Pn**	**16 14 09.9**	**+0.1**
	baz=219						
ESL				*eS*	**Sn**	**16 14 27.8**	**-0.3**
	baz=219						
CHGB	**Renai**	**1.42**	**235**	*eP*	**Pb**	**16 14 11.5**	**+0.5**
	baz=243						
CHGB				*eS*	**Sg**	**16 14 29.9**	**-0.7**
	baz=243						
OWD	**Renai**	**1.48**	**232**	*eP*	**Pn**	**16 14 10.9**	**-0.1**
	baz=240						
OWD				*eS*	**Sb**	**16 14 31.4**	**+0.8**
	baz=240						
WHP	**Taichung City**	**1.49**	**247**	*eP*	**Pb**	**16 14 12.3**	**+0.1**
	baz=233						
WHP				*eS*	**Sb**	**16 14 31.6**	**+0.6**
	baz=233						
NMLH	**Miaoli**	**1.54**	**258**	*eP*	**Pb**	**16 14 13.1**	**0.0**
	baz=267						
JKRS	**Kuro-shima**	**1.56**	**114**	*eS*	**Sb**	**16 14 32.9**	**+0.1**
NSY	**Sanyi**	**1.60**	**254**	*eP*	**Pn**	**16 14 12.1**	**-0.4**
	baz=250						
NSY				*eS*	**Sn**	**16 14 32.5**	**-0.5**
	baz=250						
TWQ1	**Liyutan**	**1.61**	**251**	*eP*	**Pn**	**16 14 13.4**	**+0.7**
	baz=248						
WCS	**Beigang Elemen**	**1.62**	**240**	*eP*	**Pb**	**16 14 13.9**	**-0.5**
	baz=237						
WCS				*eS*	**Sb**	**16 14 34.8**	**+0.2**
	baz=237						
JIJ	**Ishigaki jima**	**1.63**	**108**	P	**Pb**	**16 14 14.7**	**+0.3**
VWDT	**VWDT**	**1.64**	**227**	*eP*	**Pb**	**16 14 13.9**	**-0.7**
	baz=208						
VWDT				*eS*	**Sb**	**16 14 34.7**	**-0.3**
	baz=208						
HGSD	**Ruisui**	**1.67**	**214**	*eP*	**Pn**	**16 14 13.5**	**+0.1**
	baz=199						
HGSD				*eS*	**Sn**	**16 14 34.8**	**+0.3**
	baz=199						
EHY	**Hungye**	**1.71**	**217**	*eP*	**Pn**	**16 14 14.7**	**+0.7**
	baz=215						
EHY				*eS*	**Sn**	**16 14 36.1**	**+0.5**
	baz=215						
SMLT	**Sun Moon Lake**	**1.73**	**235**	*eP*	**Pb**	**16 14 15.8**	**-0.4**
	baz=232						
SMLT				*eS*	**Sb**	**16 14 37.9**	**+0.2**
	baz=232						
WDJ	**Dajia District**	**1.73**	**253**	*eP*	**Pn**	**16 14 14.8**	**+0.6**
	baz=249						
WDJ				*eS*	**Sb**	**16 14 37.1**	**-0.6**
	baz=249						
SSLB	**Suanglung**	**1.74**	**232**	*eP*	**Pn**	**16 14 14.8**	**+0.4**
	baz=214						
SSLB				*eS*	**Sn**	**16 14 36.9**	**+0.5**
	baz=214						
TYC	**Yuchr**	**1.75**	**237**	*eP*	**Pb**	**16 14 16.0**	**-0.5**
	baz=217						
TYC				*eS*	**Sb**	**16 14 39.2**	**+1.0**
	baz=217						
YULB	**Yu-li**	**1.81**	**216**	*eP*	**Pn**	**16 14 15.0**	**-0.4**
	baz=214						
YULB				*eS*	**Sn**	**16 14 37.9**	**-0.3**
	baz=214						
WJS	**Zhushan**	**1.89**	**236**	*eP*	**Pb**	**16 14 19.8**	**+0.9**
	baz=218						
WJS				*eS*	**Sg**	**16 14 44.3**	**-1.3**
	baz=218						
WNT	**Mingjian**	**1.89**	**239**	*eP*	**Pb**	**16 14 17.7**	**-1.2**
	baz=254						
WNT				*eS*	**Sb**	**16 14 43.4**	**+1.0**
	baz=254						
ALS	**Alishan**	**2.03**	**228**	*eP*	**Pb**	**16 14 20.3**	**-1.1**
	baz=211						
ALS				*eS*	**Sb**	**16 14 46.3**	**-0.3**
	baz=211						
CHN5	**Tsauling**	**2.06**	**232**	*eP*	**Pb**	**16 14 21.1**	**-0.7**
	baz=214						
CHN5				*eS*	**Sb**	**16 14 49.2**	**+1.9**
	baz=214						
WDLH	**Douliu**	**2.11**	**236**	*eP*	**Pb**	**16 14 21.6**	**-1.0**
	baz=251						
WDLH				*eS*	**Sb**	**16 14 48.9**	**+0.3**
	baz=251						
ELDTW	**Lidau**	**2.13**	**218**	*eP*	**Pn**	**16 14 20.2**	**+0.3**
	baz=203						
ELDTW				*eS*	**Sn**	**16 14 46.5**	**+0.3**
	baz=203						
TPUB	**Ta-pu**	**2.29**	**227**	*eP*	**Pb**	**16 14 23.9**	**-1.9**
	baz=211						
TPUB				*eS*	**Sb**	**16 14 52.4**	**-1.4**
	baz=211						
WTP	**Ta-pu**	**2.33**	**226**	*eP*	**Pn**	**16 14 23.2**	**+0.6**
	baz=210						
WTP				*eS*	**Sb**	**16 14 53.9**	**-1.4**
	baz=210						
TWK	**Hsinying**	**2.41**	**229**	*eP*	**Pb**	**16 14 25.8**	**-2.0**
	baz=213						
TWK				*eS*	**Sb**	**16 14 56.3**	**-1.0**
	baz=213						
CHN1	**Nanshi**	**2.43**	**227**	*eP*	**Pb**	**16 14 26.3**	**-1.9**
	baz=212						
CHN1				*eS*	**Sb**	**16 14 56.8**	**-1.3**
	baz=212						
SLGT	**Liugui**	**2.50**	**222**	*eP*	**Pn**	**16 14 25.6**	**+0.8**
	baz=221						
SLGT				*eS*	**Sb**	**16 14 57.7**	**-2.1**
	baz=221						
MATB	**Ma-tsu**	**2.59**	**300**	*eP*	**Pn**	**16 14 26.9**	**+0.8**
	baz=296						
MATB				*eS*	**Sn**	**16 14 57.2**	**-0.1**
	baz=296						
SSD	**Sandimen**	**2.70**	**218**	*eP*	**Pn**	**16 14 29.0**	**+1.5**
	baz=205						
SSD				*eS*	**Sn**	**16 15 02.2**	**+2.3**
	baz=205						
MASBT	**Mashibuluo**	**2.80**	**217**	*eP*	**Pn**	**16 14 31.0**	**+1.9**
	baz=204						
MASBT				*eS*	**Sn**	**16 15 05.2**	**+2.6**
	baz=204						
XPSS	**Dashiqiu**	**2.88**	**316**	*eP*	**Pn**	**16 14 30.5**	**+0.4**
	baz=313						
EAST	**Anshuo**	**2.88**	**211**	*eP*	**Pn**	**16 14 30.0**	**-0.2**
	baz=210						
EAST				*eS*	**Sn**	**16 15 04.2**	**-0.5**
	baz=210						
LYJJ	**Jianjiangzhen**	**2.94**	**305**	*eP*	**Pn**	**16 14 31.1**	**+0.2**
	baz=302						
PHUB	**P'eng-hu**	**2.96**	**243**	*eP*	**Pn**	**16 14 31.1**	**0.0**
	baz=242						
PHUB				*eS*	**Sn**	**16 15 05.8**	**-0.5**
	baz=242						
PTMZ	**Houxiangcun**	**3.02**	**274**	*eP*	**Pn**	**16 14 31.9**	**-0.1**
	baz=271						
AXDP	**Jialang**	**4.07**	**271**	*eP*	**Pn**	**16 14 47.6**	**+1.2**
	baz=269						

*ISK **03** 16:40:00.9, 39°.29N×40°.21E, h5km, ML3.5/21*
*DDA **03** 16:40:01.6±0.0, 39°.28N×40°.18E, h14km±2km, MW3.7*
*AZER **03** 16:40:18.8±2.2, 40°.04N×40°.50E, h14km, Error ellipse: s-maj=43.5km s-min=19.6km az=170.0, Hypocentre not reviewed by the ISC*

ISC 03 16:40:01.5±1.1, **39°.29N**±0°.02×**40°.20E**±0°.01, **h6**km±9km, **n64**, σ1§**04**/94, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.31**	**61**	PG	**Pg**	**16 40 08.2**	**+0.5**
YEDI				SG	**Sb**	**16 40 13.4**	**-1.2**
ERZN	**Erzincan**	**0.47**	**309**	PG	**Pb**	**16 40 11.6**	**-0.5**
ERZN				SG	**Sb**	**16 40 19.4**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.54**	**251**	P	**Pg**	**16 40 12.1**	**+0.2**
TNCL				S	**Sg**	**16 40 19.0**	**0.0**
TNCL				*i* AML	AML	16 40 22.0	
	comp=N,3μm,0.3s						
TNCL				*i* AML	AML	16 40 23.0	
	comp=Z,2μm,0.7s						
TNCL				*i* AML	AML	16 40 25.0	
	comp=E,3μm,0.4s						
EUZM	**Uzumlu**	**0.57**	**318**	P	**Pb**	**16 40 13.0**	**-0.7**
EUZM				S	**Sb**	**16 40 21.3**	**-0.7**
EUZM				*i* AML	AML	16 40 24.0	
	comp=N,1μm,0.3s						
EUZM				*i* AML	AML	16 40 24.0	
	comp=E,2μm,0.3s						
EUZM				*i* AML	AML	16 40 27.0	
	comp=Z,809nm,0.6s						
KOVA	**Elazig, Kovanc**	**0.65**	**207**	P	**Pb**	**16 40 14.6**	**-0.5**
KOVA				S	**Sb**	**16 40 24.0**	**-0.4**
KOVA				*i* AML	AML	16 40 25.0	
	comp=N,1μm,0.6s						
KOVA				*i* AML	AML	16 40 25.0	
	comp=E,2μm,0.2s						
KOVA				*i* AML	AML	16 40 25.0	
	comp=Z,1μm,0.2s						
KARO	**Karliova-Bingo**	**0.66**	**88**	PG	**Pg**	**16 40 14.5**	**+0.2**
KARO				SG	**Sb**	**16 40 24.9**	**+0.1**
SLHN	**Bingol, Solhan**	**0.72**	**117**	P	**Pg**	**16 40 15.4**	**-0.1**
SLHN				S	**Sb**	**16 40 26.8**	**+0.3**
SLHN				*i* AML	AML	16 40 29.0	
	comp=N,2μm,0.4s						
SLHN				*i* AML	AML	16 40 31.0	
	comp=E,3μm,0.4s						
SLHN				*i* AML	AML	16 40 35.0	
	comp=Z,1μm,0.5s						
KOPT	**Kop Dagi**	**0.77**	**18**	P	**Pb**	**16 40 17.0**	**-0.2**
KOPT				S	**Sb**	**16 40 27.6**	**-0.3**
KOPT				*i* AML	AML	16 40 33.0	
	comp=N,914nm,0.4s						
KOPT				*i* AML	AML	16 40 35.0	
	comp=Z,447nm,0.4s						
KOPT				*i* AML	AML	16 40 36.0	
	comp=E,788nm,0.4s						
HANI	**Diyarbakir_Han**	**0.89**	**170**	P	**Pb**	**16 40 18.7**	**-0.4**
HANI				S	**Sn**	**16 40 34.2**	**+0.9**
HANI				*i* AML	AML	16 40 40.0	
	comp=N,395nm,0.5s						
HANI				*i* AML	AML	16 40 40.0	
	comp=E,393nm,1.0s						
HANI				*i* AML	AML	16 40 41.0	
	comp=Z,325nm,0.8s						
EMRE	**Erzurum,Aziziy**	**0.95**	**39**	SPECP		16 40 20.0	
EMRE				P	**Pb**	**16 40 20.4**	**0.0**
EMRE				*i* AML	AML	16 40 42.0	
	comp=Z,936nm,0.4s						
BAYB	**BAYBURT**	**0.97**	**3**	P	**Pg**	**16 40 19.3**	**-0.9**
BAYB				S	**Sg**	**16 40 32.6**	**-0.2**
BAYB				*i* AML	AML	16 40 40.0	
	comp=N,399nm,0.4s						
BAYB				*i* AML	AML	16 40 42.0	
	comp=E,373nm,0.6s						
BAYB				*i* AML	AML	16 40 44.0	
	comp=Z,121nm,0.6s						
VRTB	**Varto-Mus**	**0.99**	**97**	PG	**Pg**	**16 40 20.1**	**-0.4**
VRTB	**Varto-Mus**	**0.99**	**97**	SPECP		16 40 19.0	
VRTB				P	**Pg**	**16 40 19.9**	**-0.5**
VRTB				S	**Sn**	**16 40 36.5**	**+0.6**
VRTB				*i* AML	AML	16 40 44.0	
	comp=E,1μm,0.6s						
VRTB				*i* AML	AML	16 40 54.0	
	comp=Z,768nm,0.8s						
VRTB				*i* AML	AML	16 40 57.0	
	comp=N,864nm,0.9s						
EJDE	**Erzurum, Palan**	**1.01**	**57**	P	**Pg**	**16 40 20.1**	**-0.9**
EJDE				S	**Sg**	**16 40 34.0**	**-0.3**
EJDE				*i* AML	AML	16 40 38.0	
	comp=N,3μm,0.7s						
EJDE				*i* AML	AML	16 40 39.0	
	comp=E,2μm,0.5s						
EJDE				*i* AML	AML	16 40 39.0	
	comp=Z,515nm,0.3s						
ERZM	**Erzurum**	**1.09**	**55**	P	**Pb**	**16 40 22.7**	**-0.1**
ERZM				S	**Sn**	**16 40 38.3**	**-0.4**
BAYT	**Aydıntepe-Bayb**	**1.10**	**358**	PN	**Pb**	**16 40 22.9**	**0.0**
KELT	**Kelkit**	**1.12**	**320**	P	**Pn**	**16 40 23.3**	**-0.3**
KELT				S	**Sn**	**16 40 40.3**	**+0.9**
KELT				*i* AML	AML	16 40 44.0	
	comp=N,422nm,0.5s						
KELT				*i* AML	AML	16 40 44.0	
	comp=E,306nm,0.4s						
KELT				*i* AML	AML	16 40 48.0	
	comp=Z,331nm,1.4s						
SVRC	**Sivrice-ELAZID**	**1.14**	**218**	PN	**Pn**	**16 40 23.8**	**-0.1**
KRIK	**Erzurum-spir**	**1.19**	**28**	P	**Pn**	**16 40 25.4**	**+0.8**
KRIK				S	**Sn**	**16 40 43.2**	**+2.1**
KRIK				*i* AML	AML	16 40 48.0	
	comp=N,206nm,0.5s						
KRIK				*i* AML	AML	16 40 50.0	
	comp=E,232nm,0.4s						
KRIK				*i* AML	AML	16 40 50.0	
	comp=Z,134nm,0.7s						
ELZG	**Elazig**	**1.23**	**231**	P	**Pn**	**16 40 24.7**	**-0.4**
ELZG				S	**Sn**	**16 40 41.5**	**-0.4**
ELZG				*i* AML	AML	16 40 44.0	
	comp=E,987nm,0.5s						
ELZG				*i* AML	AML	16 40 47.0	
	comp=N,606nm,0.4s						
ELZG				*i* AML	AML	16 40 48.0	
	comp=Z,408nm,0.7s						
REFA	**Refahiye_ERZN**	**1.27**	**300**	SPECP		16 40 25.0	
REFA				P	**Pg**	**16 40 25.6**	**-0.2**
REFA				S	**Sn**	**16 40 43.8**	**+1.0**
REFA				*i* AML	AML	16 40 48.0	
	comp=Z,136nm,0.5s						
REFA				*i* AML	AML	16 40 49.0	
	comp=N,190nm,0.6s						
REFA				*i* AML	AML	16 40 50.0	
	comp=E,192nm,0.8s						
ILIC	**ilic-Erzincan**	**1.27**	**278**	PN	**Pb**	**16 40 25.4**	**-0.3**
KEMA	**Kemaliye**	**1.32**	**270**	SPECP		16 40 26.0	
KEMA				P	**Pb**	**16 40 26.1**	**-0.5**
KEMA				S	**Sg**	**16 40 43.9**	**-0.1**
KEMA				*i* AML	AML	16 40 48.0	
	comp=E,529nm,0.5s						
KEMA				*i* AML	AML	16 40 50.0	
	comp=N,476nm,0.4s						
KEMA				*i* AML	AML	16 40 50.0	
	comp=Z,397nm,0.4s						
DYBB	**Diyarbakir**	**1.33**	**182**	PN	**Pg**	**16 40 27.9**	**+0.8**
DIYA	**Diyarbakir**	**1.36**	**182**	SPECP		16 40 28.0	
DIYA				P	**Pg**	**16 40 28.8**	**+1.1**
DIYA				S	**Sg**	**16 40 46.8**	**+1.5**
DIYA				*i* AML	AML	16 40 51.0	
	comp=E,248nm,0.3s						
DIYA				*i* AML	AML	16 40 51.0	
	comp=Z,169nm,0.6s						
DIYA				*i* AML	AML	16 40 55.0	
	comp=N,404nm,1.1s						
ARPR	**Arapgir-MALATY**	**1.46**	**263**	PN	**Pg**	**16 40 29.2**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**1.46**	**61**	PN	**Pg**	**16 40 29.2**	**-0.3**
HOMI	**Horasan**	**1.52**	**60**	SPECP		16 40 30.0	
HOMI				P	**Pb**	**16 40 30.0**	**0.0**
HOMI				*i* AML	AML	16 41 02.0	
	comp=N,364nm,0.6s						
HOMI				*i* AML	AML	16 41 02.0	
	comp=E,437nm,0.6s						
HOMI				*i* AML	AML	16 41 09.0	
	comp=Z,208nm,1.0s						
ALUC	**Giresun/Alucra**	**1.52**	**314**	P	**Pg**	**16 40 30.8**	**+0.1**
ALUC				S	**Sg**	**16 40 51.7**	**+1.2**
ALUC				*i* AML	AML	16 40 59.0	
	comp=N,478nm,0.6s						
ALUC				*i* AML	AML	16 41 01.0	
	comp=E,470nm,0.9s						
ALUC				*i* AML	AML	16 41 02.0	
	comp=Z,228nm,0.6s						
GURO	**Guroymak-BITLI**	**1.61**	**117**	PN	**Pb**	**16 40 31.1**	**-0.4**
BTMN	**Batman**	**1.63**	**149**	SPECP		16 40 32.0	
BTMN				P	**Pg**	**16 40 32.1**	**-0.7**
BTMN				S	**Sg**	**16 40 54.6**	**+0.7**
BTMN				*i* AML	AML	16 40 56.0	
	comp=N,534nm,0.5s						
BTMN				*i* AML	AML	16 40 57.0	
	comp=Z,476nm,0.7s						
BTMN				*i* AML	AML	16 40 58.0	
	comp=E,492nm,0.8s						
MACK	**Trabzon**	**1.69**	**349**	SPECP		16 40 33.0	
MACK				P	**Pg**	**16 40 33.8**	**0.0**
MACK				*i* AML	AML	16 41 02.0	
	comp=E,339nm,0.3s						
MACK				*i* AML	AML	16 41 04.0	
	comp=Z,215nm,1.2s						
MACK				*i* AML	AML	16 41 06.0	
	comp=N,272nm,0.3s						
MALT	**Malatya**	**1.69**	**235**	PN	**Pb**	**16 40 32.6**	**-0.2**
KTUT	**Trabzon**	**1.73**	**349**	PN	**Pb**	**16 40 33.6**	**+0.2**
BLIS	**Bitlis-Merkez**	**1.73**	**120**	SPECP		16 40 33.0	
BLIS				P	**Pb**	**16 40 33.7**	**0.0**
BLIS				*i* AML	AML	16 41 01.0	
	comp=E,212nm,0.7s						
BLIS				*i* AML	AML	16 41 04.0	
	comp=N,254nm,0.8s						
BLIS				*i* AML	AML	16 41 04.0	
	comp=Z,129nm,0.9s						
SUSE	**Susehri**	**1.79**	**302**	SPECP		16 40 36.0	
SUSE				P	**Pg**	**16 40 36.7**	**+0.8**
SUSE				S	**Sg**	**16 41 01.4**	**+2.3**
SUSE				*i* AML	AML	16 41 05.0	
	comp=N,230nm,0.6s						
SUSE				*i* AML	AML	16 41 05.0	
	comp=E,134nm,0.8s						
SUSE				*i* AML	AML	16 41 05.0	
	comp=Z,78nm,0.4s						
MLAZ	**Malazgirt-MUS**	**1.83**	**94**	PN	**Pb**	**16 40 35.3**	**-0.1**
EATA	**Eleskirt**	**1.86**	**71**	SPECP		16 40 36.0	
EATA				P	**Pb**	**16 40 36.2**	**+0.2**
EATA				*i* AML	AML	16 41 12.0	
	comp=N,179nm,0.8s						
EATA				*i* AML	AML	16 41 12.0	
	comp=Z,60nm,0.7s						
EATA				*i* AML	AML	16 41 17.0	
	comp=E,116nm,0.8s						
CUZAR	**Zara_SIVAS**	**1.97**	**289**	P	**Pb**	**16 40 37.0**	**-0.6**
CUZAR				S	**Sg**	**16 41 05.9**	**+1.2**
CUZAR				*i* AML	AML	16 41 17.0	
	comp=N,103nm,0.7s						
CUZAR				*i* AML	AML	16 41 17.0	
	comp=E,114nm,0.8s						
CUZAR				*i* AML	AML	16 41 52.0	
	comp=Z,50nm,2.8s						
DDEM	**Demirkent**	**2.00**	**36**	SPECP		16 40 37.0	
DDEM				P	**Pb**	**16 40 37.9**	**-0.2**
DDEM				*i* AML	AML	16 41 10.0	
	comp=Z,81nm,1.1s						
DDEM				*i* AML	AML	16 41 11.0	
	comp=E,178nm,0.7s						
DDEM				*i* AML	AML	16 41 18.0	
	comp=N,258nm,0.5s						
AKCD	**Akcadag**	**2.03**	**242**	SPECP		16 40 38.0	
AKCD				P	**Pb**	**16 40 38.3**	**-0.4**
AKCD				S	**Sg**	**16 41 05.7**	**-1.2**
AKCD				*i* AML	AML	16 41 13.0	
	comp=E,181nm,0.7s						
AKCD				*i* AML	AML	16 41 19.0	
	comp=Z,101nm,0.3s						
AKCD				*i* AML	AML	16 41 21.0	
	comp=N,163nm,0.4s						
DBAD	**Bademkaya**	**2.08**	**33**	SPECP		16 40 38.0	
DBAD				P	**Pb**	**16 40 38.4**	**-1.0**
DBAD				*i* AML	AML	16 41 09.0	
	comp=Z,136nm,0.6s						
DBAD				*i* AML	AML	16 41 11.0	
	comp=N,182nm,0.7s						
DBAD				*i* AML	AML	16 41 13.0	
	comp=E,207nm,0.7s						
SENK	**Senkaya-Erzuru**	**2.09**	**52**	PN	**Pb**	**16 40 38.7**	**-1.0**
MIDY	**Mardin/Midyat-**	**2.10**	**153**	SPECP		16 40 39.0	
MIDY				P	**Pb**	**16 40 39.6**	**-0.3**
MIDY				*i* AML	AML	16 41 13.0	
	comp=E,306nm,0.4s						
MIDY				*i* AML	AML	16 41 17.0	
	comp=N,242nm,0.5s						
MIDY				*i* AML	AML	16 41 17.0	
	comp=Z,194nm,0.4s						
CUKAN	**kangal_SIVAS**	**2.12**	**272**	P	**Pg**	**16 40 40.9**	**-1.2**
CUKAN				S	**Sg**	**16 41 10.1**	**+0.6**
CUKAN				*i* AML	AML	16 41 13.0	
	comp=N,128nm,0.6s						
CUKAN				*i* AML	AML	16 41 14.0	
	comp=E,206nm,0.4s						
CUKAN				*i* AML	AML	16 41 15.0	
	comp=Z,60nm,0.5s						
AGRB	**Hanur-Agry**	**2.19**	**82**	PN	**Pb**	**16 40 39.9**	**-1.4**
DAGI	**Agillar**	**2.22**	**36**	P	**Pb**	**16 40 40.6**	**-1.3**
DAGI				*i* AML	AML	16 41 13.0	
	comp=Z,44nm,0.6s						
DAGI				*i* AML	AML	16 41 14.0	
	comp=N,51nm,0.6s						
DAGI				*i* AML	AML	16 41 22.0	
	comp=E,40nm,1.1s						
DARE	**Darende-Malaty**	**2.23**	**252**	PN	**Pb**	**16 40 40.9**	**-1.2**
PERV	**Siirt/Pervari-**	**2.27**	**125**	P	**Pb**	**16 40 43.0**	**+0.2**
PERV				*i* AML	AML	16 41 20.0	
	comp=E,303nm,0.6s						
PERV				*i* AML	AML	16 41 21.0	
	comp=Z,100nm,0.6s						
PERV				*i* AML	AML	16 41 32.0	
	comp=N,308nm,0.7s						
SANL	**SANLIURFA_Merk**	**2.32**	**205**	SPECP		16 40 42.0	
SANL				P	**Pb**	**16 40 42.4**	**-1.1**
SANL				S	**Sb**	**16 41 13.1**	**+0.8**
SANL				*i* AML	AML	16 41 20.0	
	comp=E,171nm,0.6s						
SANL				*i* AML	AML	16 41 27.0	

comp=N,145nm,0.5s
SANL *i* AML AML 16 41 27.0
comp=Z,103nm,0.6s
CUGUR Gurin_SVAS 2.35 257 P **Pg** **16 40 45.4 -1.1**
CUGUR S **Sg** **16 41 17.1 +0.2**
CUGUR *i* AML AML 16 41 23.0
comp=N,271nm,0.7s
CUGUR *i* AML AML 16 41 28.0
comp=Z,155nm,0.9s
CUGUR *i* AML AML 16 41 30.0
comp=E,327nm,0.5s
AKDM Akdamar-Van 2.38 113 PN **Pb** **16 40 42.9 -1.7**
KOTA Agri, Merkez-K 2.38 77 P **Pb** **16 40 45.5 +0.8**
KOTA *i* AML AML 16 41 30.0
comp=N,58nm,0.8s
KOTA *i* AML AML 16 41 36.0
comp=E,42nm,0.9s
KOTA *i* AML AML 16 41 37.0
comp=Z,19nm,0.8s
SCER sogukcermik 2.44 285 SPECP 16 40 46.0
SCER P **Pg** **16 40 47.0 -1.3**
SCER S **Sg** **16 41 21.6 +1.8**
SCER *i* AML AML 16 41 30.0
comp=Z,46nm,0.7s
SCER *i* AML AML 16 41 31.0
comp=E,136nm,0.7s
SCER *i* AML AML 16 41 38.0
comp=N,118nm,0.7s
RSDY Resadiye-TOKAT 2.47 298 PN **Pb** **16 40 44.5 -1.6**
SIRT Sirnak 2.51 135 PN **Pb** **16 40 44.7 -2.1**
KARS Kars 2.59 58 PN **Pb** **16 40 45.8 -2.4**
CUAYA Sivas-Altinyay 2.68 271 P **Pb** **16 40 49.8 +0.1**
CUAYA *i* AML AML 16 41 32.0
comp=E,108nm,1.0s
CUAYA *i* AML AML 16 41 34.0
comp=Z,65nm,1.0s
CUAYA *i* AML AML 16 41 35.0
comp=N,138nm,0.8s
CUSAR Sarkisla-SIVAS 3.07 274 P **Pb** **16 40 56.4 0.0**
CUSAR *i* AML AML 16 41 53.0
comp=N,41nm,0.7s
CUSAR *i* AML AML 16 41 54.0
comp=Z,23nm,0.8s
CUSAR *i* AML AML 16 42 10.0
comp=E,10nm,0.9s

*EAF **03** 16:40:12.5±1.1,21°.14S×33°.26E, h9km±7km, MD4.1*
BUL 03 16:40:11.6±0.7, 21°.14S×33°.29E, h7km±5km, MD4.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.94**	**216**	*i* P	Pn	16 41 00.0	+1.2
MOPA	**Mopani**	**2.94**	**216**	*i* P	Pn	16 41 00.0	+1.2
MSNA	**Messina**	**3.27**	**248**	*i* P	Pn	16 41 03.2	-0.1
MSNA				*i* Sg	Sb	16 41 53.1	+3.1
MSNA	**Messina**	**3.27**	**248**	*i* P	Pn	16 41 03.2	-0.1
MSNA				*i* Sg	Sb	16 41 53.1	+3.1
MATP	**Matopo**	**4.54**	**278**	*i* P	Pn	16 41 20.5	-0.4
MATP				*i* S	Sn	16 42 10.4	-3.7
MATP	**Matopo**	**4.54**	**278**	*i* P	Pn	16 41 20.5	-0.4
MATP				*i* S	Sn	16 42 10.4	-3.7
CNG	**Changalane**	**5.23**	**191**	*i* P	Pn	16 41 29.8	-0.4
CNG				*i* S	Sn	16 42 26.5	-4.3
CNG	**Changalane**	**5.23**	**191**	*i* P	Pn	16 41 29.8	-0.4
CNG				*i* S	Sn	16 42 26.5	-4.3
LBTB	**Lobatse**	**8.06**	**240**	*i* P	Pn	16 42 06.9	-2.4
LBTB				*i* S	Sn	16 43 32.4	-8.5
LBTB	**Lobatse**	**8.06**	**240**	*i* P	Pn	16 42 06.9	-2.4
LBTB				*i* S	Sn	16 43 32.4	-8.5
BOSA	**Boshof**	**10.42**	**223**	*i* P	Pn	16 42 38.9	-2.7
BOSA				*i* S	Sn	16 44 26.3	-12
BOSA	**Boshof**	**10.42**	**223**	*i* P	Pn	16 42 38.9	-2.7
BOSA				*i* S	Sn	16 44 26.3	-12

NEIC 03 16:47:01.0±0.8, 35°.68N±0°.02×97°.40W±0°.04, h5km±2km, mb_Lg2.7/52, Error ellipse: s-maj=6.2km s-min=3.1km az=109.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**191**	Pg	Pg	16 47 03.1	0.0
OK025	**Westminster Rd**	**0.11**	**153**	Pg	Pg	16 47 03.2	-0.1
OK025				Sg	Sg	16 47 05.1	+0.3
OK029	**Liberty Lake**	**0.12**	**339**	Pg	Pg	16 47 04.1	+0.5
OK033	**Mehan**	**0.52**	**46**	Pg	Pg	16 47 11.3	+0.3
OK031	**S. Brethren Rd**	**0.53**	**59**	Pg	Pg	16 47 11.3	+0.2
OK031				Sg	Sg	16 47 18.5	+0.4
OK030	**Cody Creek RV**	**0.56**	**63**		Pg	16 47 11.7	0.0
OK034	**N. Norfolk Rd.**	**0.65**	**59**	Pg	Pg	16 47 13.3	-0.1
OK032	**Salt Plains WL**	**1.30**	**330**	Pn	Pn	16 47 25.0	-0.8
TUL1	**Leonard**	**1.33**	**80**	Pn	Pn	16 47 24.6	-1.5
KAN13	**South Haven SW**	**1.33**	**357**	Pn	Pn	16 47 26.0	-0.3
KAN14	**Manchester OK**	**1.35**	**341**	Pn	Pn	16 47 26.2	-0.3
KAN17	**Caldwell West**	**1.39**	**348**	Pn	Pn	16 47 26.9	-0.2
T35A	**Sooner Cattle**	**1.43**	**30**		Pn	16 47 27.0	-0.6
WMOK	**Wichita Mounta**	**1.47**	**231**		Pn	16 47 27.1	-1.1
U32A	**Winter Ranch,**	**1.48**	**299**		Pn	16 47 27.9	-0.4
KAN05	**Bluff City Nor**	**1.48**	**345**	Pn	Pn	16 47 28.3	+0.1
KAN01	**Argonia South**	**1.50**	**349**		Pn	16 47 28.5	-0.1
KAN10	**Anthony SW Sta**	**1.55**	**339**		Pn	16 47 29.3	+0.1
KAN06	**Argonia West S**	**1.61**	**347**		Pn	16 47 30.4	+0.3
KAN06				IAmb_Lg		16 47 53.5	
	comp=Z,32nm,1.1s						
KAN08	**Anthony NE Sta**	**1.61**	**344**		Pn	16 47 30.5	+0.4
KAN08				IAmb_Lg		16 47 54.8	
	comp=Z,42nm,0.9s						
KAN16	**Harper SW Stat**	**1.63**	**341**		Pn	16 47 30.6	+0.2
KAN16				IAmb_Lg		16 47 56.7	
	comp=Z,30nm,0.9s						
KAN12	**Harper NE Stat**	**1.69**	**344**		Pn	16 47 31.5	+0.3
U38A	**Gravette**	**2.56**	**72**	IAmb_Lg		16 48 24.5	
	comp=Z,19nm,0.8s						
W39A	**Magazine**	**2.99**	**98**	IAmb_Lg		16 48 41.0	
	comp=Z,18nm,0.7s						
MIAR	**Mount Ida**	**3.33**	**109**	IAmb_Lg		16 48 54.9	
	comp=Z,14nm,0.8s						
KSU1	**Kansas State U**	**3.47**	**10**	Pn	Pn	16 47 56.1	+0.4
KSU1				IAmb_Lg		16 48 58.5	
	comp=Z,20nm,0.7s						
ABTX	**Abilene, Hawle**	**3.57**	**212**	IAmb_Lg		16 49 01.4	
	comp=Z,12nm,0.9s						
AMTX	**Amarillo**	**3.59**	**258**	IAmb_Lg		16 49 00.3	
	comp=Z,15nm,0.9s						
CBKS	**Cedar Bluff**	**3.64**	**330**	Pn	Pn	16 47 57.7	-0.4
CBKS				IAmb_Lg		16 49 00.4	
	comp=Z,22nm,1.0s						
WHTX	**Lake Whitney,**	**3.68**	**181**	Pn	Pn	16 47 56.5	-2.0
U40A	**Yellville**	**3.75**	**78**	IAmb_Lg		16 49 06.4	
	comp=Z,17nm,0.7s						
S39A	**Bolivar**	**3.84**	**57**	IAmb_Lg		16 49 03.0	
	comp=Z,13nm,0.7s						
X40A	**Basin Creek Fa**	**3.93**	**106**	IAmb_Lg		16 49 09.6	
	comp=Z,29nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.29**	**86**	IAmb_Lg		16 49 16.0	
	comp=Z,11nm,0.9s						
MGMO	**Mountain Grove**	**4.39**	**69**	IAmb_Lg		16 49 26.1	
	comp=Z,17nm,0.7s						
R40A	**Maddies Statio**	**4.86**	**56**	IAmb_Lg		16 49 45.0	
	comp=Z,12nm,0.8s						
435B	**Jarrell**	**4.89**	**182**	IAmb_Lg		16 49 45.8	
	comp=Z,8.7nm,0.9s						
P38A	**Dawn**	**4.99**	**37**	IAmb_Lg		16 49 38.2	
	comp=Z,15nm,0.8s						
N33A	**J Bar K, Exete**	**5.05**	**360**	IAmb_Lg		16 49 50.0	
	comp=Z,11nm,0.8s						
LCAR	**Lake Charles**	**5.09**	**84**	IAmb_Lg		16 49 48.5	
	comp=Z,13nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.33**	**310**	IAmb_Lg		16 49 51.9	
	comp=Z,8.3nm,0.8s						
PBMO	**Poplar Bluff**	**5.74**	**77**	IAmb_Lg		16 50 01.3	
	comp=Z,16nm,0.9s						
FVM	**French Village**	**6.05**	**66**	IAmb_Lg		16 50 14.3	
	comp=Z,19nm,1.1s						
S44A	**Carbondale**	**6.84**	**71**	IAmb_Lg		16 50 45.4	
	comp=Z,14nm,0.8s						
N23A	**Red Feather La**	**8.50**	**310**	IAmb_Lg		16 51 51.0	
	comp=Z,9.2nm,1.1s						
K22A	**Casper**	**9.93**	**317**	IAmb_Lg		16 52 34.5	
	comp=Z,4.5nm,0.8s						

*IDC **03** 16:47:30.3±0.9, 35°.74N×67°.74E, h0km, mb3.7/12, mb1 3.9/18, mb1mx3.6/60, mbtmp3.8/18, ML3.6/6, MS3.0/7, Ms1 3.0/7, ms1mx2.7/86, Error ellipse: s-maj=17.8km s-min=15.9km az=175.0*
*BJI **03** 16:47:31.0±0.0, 35°.60N×67°.60E, h20km, mb4.2/9, mB4.7/4, Ms4.2/2*
*NNC **03** 16:47:32.6±2.6, 35°.69N×67°.52E, h56km±26km, mb4.0, mpv4.3, Error ellipse: s-maj=20.3km s-min=16.7km az=18.0*
*NEIC **03** 16:47:32.3±1.7, 35°.65N±0°.06×67°.58E±0°.04, h19km±5km, mb4.1/10, Error ellipse: s-maj=8.3km s-min=4.6km az=183.0*
ISC 03 16:47:35.3±0.6, 35°.85N±0°.06×67°.61E±0°.05, h35km, n87, σ2°.20/97, mb4.1/17, MS3.2/5, 11C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.76**	**138**	Pn	**Pn**	**16 48 00.1**	**-3.4**
KBL				Sn	**Sn**	**16 48 20.7**	**-4.1**
CHGR	**Chuyangaron**	**3.06**	**23**	Pn	**Pn**	**16 48 22.0**	**+0.7**
BTK	**Batken**	**4.91**	**30**	Pn	**Pn**	**16 48 48.4**	**+1.7**
NIL	**Nilore**	**5.14**	**114**	Pn	**Pn**	**16 48 48.5**	**-1.3**
IUG	**Iuzhnay**	**6.56**	**16**	*e*P	**Pn**	**16 49 10.1**	**+0.7**
IUG	baz=16			*e*S	**Sn**	**16 50 26.5**	**+3.5**
BRLS	**Borolday**	**7.37**	**13**	*e*P	**Pn**	**16 49 18.3**	**-2.2**
	baz=12						
KSH	**Kashi**	**7.58**	**59**	Pn	**Pn**	**16 49 19.5**	**-3.8**
KSH				Sn	**Sn**	**16 50 40.0**	**-8.0**
KK02	**Karatay Array**	**7.58**	**16**	⇑P	**Pn**	**16 49 23.6**	**+0.3**
	8.1nm,0.4s						
KK02				⇑S	**Sn**	**16 50 49.7**	**+1.7**
	9.7nm,0.5s						
KKAR	**Karatay Array**	**7.58**	**16**	Pn	**Pn**	**16 49 23.4**	**+0.1**
DZA	**Taraz**	**7.60**	**21**	*e*P	**Pn**	**16 49 24.1**	**+0.6**
	baz=21						
DZA				*e*S	**Sn**	**16 50 51.8**	**+3.4**
	baz=21						
AML	**Almayashu**	**7.86**	**35**	P	**Pn**	**16 49 28.0**	**+0.5**
	SNR=17						
GEYT	**Alibeck**	**7.88**	**288**	Pn	**Pn**	**16 49 27.0**	**-0.4**
	4.5nm,0.3s,baz=114,slow=13,SNR=32						
GEYT				Sn	**Sn**	**16 50 57.0**	**+1.6**
	1.8nm,0.3s,baz=135,slow=9.6,SNR=3.5						
GEYT				Lg	Lg	16 51 52.1	
	baz=26,slow=44,SNR=1.3						
GEYT				LR	LR	16 53 10.3	
	comp=Z,41nm,20.3s,baz=148,slow=42						
GEYT	**Alibeck**	**7.88**	**288**		**Pn**	**16 49 26.3**	**-1.1**
GYA0B	**ALIBECK ARRAY**	**7.88**	**288**	Pn	**Pn**	**16 49 26.0**	**-1.4**
DHRM	**DHARAMSHALA**	**8.06**	**114**	*e*P	**Pn**	**16 49 27.7**	**-2.4**
DHRM				*e*S	**Sn**	**16 51 02.8**	**+2.7**
DHRM				IAML		16 51 05.4	
	comp=N,48nm,1.3s						
EKS2	**Erkin-Say**	**8.31**	**33**	P	Pn	16 49 38.3	+4.9
	SNR=5.3						
UCH	**Uchtor**	**8.33**	**38**	P	**Pn**	**16 49 33.8**	**-0.2**
	SNR=34						
AAK	**Ala-Archa**	**8.63**	**36**	Pn	**Pn**	**16 49 37.1**	**-0.7**
	comp=N,3.0nm,0.3s,baz=217,slow=11,SNR=29						
AAK				Sn	**Sn**	**16 51 15.0**	**+1.1**
	comp=N,0.8nm,0.3s,baz=337,slow=17,SNR=2.5						
AAK				Lg	Lg	16 52 11.5	
	comp=N,0.6nm,0.3s,baz=297,slow=23,SNR=0.9						
AAK				LR	LR	16 53 46.8	
	comp=N,68nm,19.2s,baz=226,slow=44						
AAK	**Ala-Archa**	**8.63**	**36**	P	**Pn**	**16 49 38.0**	**+0.2**
	SNR=14						
AAK	**Ala-Archa**	**8.63**	**36**	⇓P	**Pn**	**16 49 37.7**	**0.0**
	comp=N,8.0nm,0.7s						
AAK				⇓S	**Sn**	**16 51 17.6**	**+3.7**
	comp=N,16nm,0.7s						
AAK	**Ala-Archa**	**8.63**	**36**	Pn	**Pn**	**16 49 37.0**	**-0.8**
FRU1	**Bishkek**	**8.82**	**36**		**Pn**	**16 49 40.8**	**+0.4**
KBK	**Karagaybulak**	**8.86**	**38**	P	**Pn**	**16 49 41.9**	**+0.9**
	SNR=14						
CHMS	**Chumysh**	**9.02**	**36**	P	**Pn**	**16 49 43.1**	**0.0**
	SNR=9.1						
USP	**Ospenovka**	**9.12**	**34**	P	**Pn**	**16 49 45.4**	**+1.0**
	SNR=9.5						
BOOM	**Boomskoye usch**	**9.26**	**42**	Pn	**Pn**	**16 49 46.3**	**-0.2**
ULHL	**Ulahol**	**9.26**	**44**	P	**Pn**	**16 49 47.7**	**+1.2**
	SNR=9.3						
SMLA	**Simla**	**9.27**	**118**	*e*P	**Pn**	**16 49 45.5**	**-1.0**
SMLA				IAML		16 51 32.2	
	comp=N,24nm,0.5s						
SMLA				IAML		16 51 32.6	
	comp=E,24nm,0.5s						
SGDS	**Sogindy**	**9.32**	**33**	*e*P	**Pn**	**16 49 46.6**	**-0.6**
	baz=33						
SGDS				*e*S	**Sn**	**16 51 32.8**	**+2.0**
	baz=33						
SGDS				*i* S	**Sn**	**16 51 32.8**	**+2.0**
	baz=33						
TKM2	**Tokmak 2**	**9.38**	**39**	P	**Pn**	**16 49 48.2**	**0.0**
	SNR=5.8						
TKM2	**Tokmak 2**	**9.38**	**39**	⇑P	**Pn**	**16 49 47.1**	**-1.1**
	comp=E,3.7nm,0.5s						
TKM2				⇑S	**Sn**	**16 51 34.2**	**+1.7**
	comp=E,8.8nm,0.8s						
KDJ	**Kajisay**	**9.73**	**47**	Pn	**Pn**	**16 49 52.9**	**-0.1**
TNSS	**Tian-Shan**	**10.18**	**42**	*e*P	**Pn**	**16 49 59.4**	**+0.1**
	baz=42						
MDOK	**Medeo**	**10.31**	**42**	*e*P	**Pn**	**16 50 01.9**	**+0.9**
	baz=42						
MDOK	**Medeo**	**10.31**	**42**	P	**Pn**	**16 50 00.0**	**-0.9**
	comp=E,13nm,0.9s						
BTLS	**Baital**	**10.40**	**26**	*e*P	**Pn**	**16 50 03.0**	**+1.0**
	baz=26						
PRZ	**Przheval'sk**	**10.68**	**48**	Pn	**Pn**	**16 50 06.1**	**+0.2**
KPKS	**Kokpek**	**11.43**	**45**	*e*P	**Pn**	**16 50 16.0**	**0.0**
	baz=44						
PDGK	**Podgornoye**	**11.81**	**47**	⇓P	**Pn**	**16 50 20.2**	**-1.2**
	comp=E,2.5nm,0.7s						
OTUK	**Ortayu**	**12.87**	**14**	⇑P	**Pn**	**16 50 33.1**	**-2.5**
	comp=E,11nm,1.3s						
AB31	**Akbulak array**	**14.52**	**340**	⇓P	**Pn**	**16 50 56.9**	**-1.2**
	comp=E,2.0nm,0.7s,baz=158,slow=14,SNR=41						
AB31				⇓S	**Sn**	**16 53 35.4**	**-2.4**
	comp=E,1.3nm,0.6s,baz=153,slow=23,SNR=2.8						
ABKAR	**Akbulak array**	**14.52**	**340**	Pn	**Pn**	**16 50 56.9**	**-1.3**
MAKZ	**Makanchi**	**15.35**	**40**	⇑P	**Pn**	**16 51 07.3**	**-1.9**
	comp=E,4.7nm,1.1s						
MAKZ	**Makanchi**	**15.35**	**40**	Pn	**Pn**	**16 51 07.2**	**-2.0**
MAKZ				IAmb	IAmb	16 51 28.4	
	comp=Z,4.3nm,0.8s						
MK31	**Makanchi Array**	**15.50**	**41**	⇓P	**Pn**	**16 51 08.3**	**-2.9**
	comp=Z,1.1nm,0.5s,baz=219,slow=11,SNR=14						
MK31	**Makanchi Array**	**15.50**	**41**		**Pn**	**16 51 10.4**	**-0.8**
MKAR	**Makanchi Array**	**15.50**	**41**	Pn	**Pn**	**16 51 08.2**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=234,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**16.15**	**337**	Pn	**Pn**	**16 51 17.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=164,slow=13,SNR=2.6						
AKTO				Sn	**Sn**	**16 54 11.2**	**-6.0**
	comp=Z,0.1nm,0.3s,baz=87,slow=20,SNR=1.6						
AKTO	**Aktyubinsk**	**16.15**	**337**	⇑P	**P**	**16 51 21.8**	**-0.5**
	comp=Z,3.8nm,0.9s						
AKTO				⇑S	**Sn**	**16 54 17.1**	**-0.1**
	comp=Z,4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**16.74**	**25**	Pn	**Pn**	**16 51 23.5**	**-3.4**
	comp=Z,0.0nm,0.3s,baz=215,slow=11,SNR=10.0						
KURBB	**Kurchatov Arra**	**16.74**	**25**	⇓P	**Pn**	**16 51 23.9**	**-3.1**
	comp=Z,5.2nm,0.7s						
KURK	**Kurchatov**	**16.85**	**25**	⇓P	**Pn**	**16 51 27.0**	**-1.4**
	comp=Z,1.9nm,0.8s						
KURK	**Kurchatov**	**16.85**	**25**	Pn	**Pn**	**16 51 25.6**	**-2.8**
BVAR	**Borovoye Array**	**17.28**	**6**	Pn	**Pn**	**16 51 29.3**	**-4.4**
	comp=Z,0.5nm,0.3s,baz=178,slow=11,SNR=8.1						
BVAR				Sn	**Sn**	**16 54 37.9**	**-6.8**
	comp=Z,0.2nm,0.3s,baz=185,slow=26,SNR=4.3						
ZSN	**Zaisan**	**17.30**	**43**	*e*P	**Pn**	**16 51 34.2**	**+0.3**
	baz=42						
BRVK	**Borovoye**	**17.31**	**5**	⇑P	**Pn**	**16 51 31.6**	**-2.4**
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**17.31**	**5**	Pn	**Pn**	**16 51 32.2**	**-1.8**
BRVK				IAmb	IAmb	16 51 45.6	
	comp=Z,4.0nm,0.7s						
WMQ	**Urumqi**	**17.33**	**57**	*e*P	**P**	**16 51 36.6**	**+1.0**
KBZ	**Khabaz**	**20.50**	**300**	P	Pn	16 52 10.9	-1.6
	comp=Z,1.3nm,0.8s,baz=13,slow=14,SNR=1.2						
ZAA0	**Zalesovo Array**	**21.71**	**28**	⇑P	**P**	**16 52 20.8**	**-2.4**
	comp=Z,0.7nm,0.7s						
ZAA0	**Zalesovo Array**	**21.71**	**28**	P	**P**	**16 52 20.8**	**-2.4**
ZAA0				IAmb	IAmb	16 52 25.6	
	comp=Z,4.7nm,0.7s						
ZALV	**Zalesovo Beam**	**21.71**	**28**	P	**P**	**16 52 22.8**	**-0.4**
	comp=Z,4.7nm,0.6s,baz=224,slow=9.7,SNR=19						
ZALV				LR	LR	17 01 08.4	
	comp=Z,9.3nm,20.4s,baz=218,slow=38						
ZALV	**Zalesovo Beam**	**21.71**	**28**	P	**P**	**16 52 20.4**	**-2.8**
BELG	**Belogornoye**	**21.77**	**326**	P	**P**	**16 52 24.2**	**+0.4**
	comp=Z,6.0nm,0.8s,baz=22,slow=1.8,SNR=4.3						
GTA	**Gaotai**	**25.68**	**72**	*e*P	**P**	**16 53 05.6**	**+3.5**
GTA				pP	pP	16 53 10.6	-2.3
GTA				sP	sP	16 53 14.0	-3.5
BRTR	**Keskin Array B**	**27.02**	**288**	P	**P**	**16 53 17.1**	**+2.9**
	comp=Z,1.3nm,1.0s,baz=81,slow=9.2,SNR=3.6						
PZH	**PanZhiHua**	**30.53**	**98**	P	**P**	**16 53 48.0**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,5.5s						
SONM	**Songino Array**	**30.96**	**55**	LR	LR	17 07 29.2	
	comp=Z,51nm,20.8s,baz=198,slow=39						
KMI	**Kunming**	**31.96**	**100**	⇑P	**P**	**16 53 59.3**	**+1.1**
KMI				pP	pP	16 54 03.0	-6.0
KMI				sP	sP	16 54 07.5	-6.1
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.63**	**114**	P	**P**	**16 54 03.4**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=289,slow=8.3,SNR=2.0						
HHC	**Hu-ho-hao-te**	**34.56**	**68**	*e*P	**P**	**16 54 21.9**	**+1.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,150nm,5.8s						
NRIK	**Noril'sk**	**35.30**	**12**	LR	LR	17 09 06.2	
	comp=Z,42nm,18.3s,baz=22,slow=37						
FINES	**FINESS Array B**	**36.52**	**328**	P	**P**	**16 54 39.1**	**+2.0**
	comp=Z,2.8nm,0.9s,baz=134,slow=9.4,SNR=13						
FINES	**FINESS Array B**	**36.52**	**328**	P	**P**	**16 54 35.4**	**-1.7**
NOA	**NORSAR Array B**	**43.26**	**324**	P	**P**	**16 55 34.2**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=99,slow=8.1,SNR=3.4						
TIXI	**Tiksi**	**47.41**	**22**	P	**P**	**16 56 06.0**	**+0.3**
TIXI				IAmb	IAmb	16 56 09.9	
	comp=Z,2.1nm,0.8s						
JOW	**Kunigami**	**51.87**	**82**	LR	LR	17 21 20.8	
	comp=Z,30nm,18.9s,baz=314,slow=39						
PETK	**Petropavlovsk-**	**62.33**	**43**	LR	LR	17 25 33.9	
	comp=Z,31nm,18.8s,baz=119,slow=37						
TORD	**Torodi Ar. Bea**	**62.95**	**267**	P	**P**	**16 57 58.1**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=69,slow=7.9,SNR=2.4						
A36M	**Sachs Harbour**	**72.08**	**4**	P	**P**	**16 58 56.2**	**+0.9**
TOLK	**Toolik Lake Re**	**72.22**	**13**	P	**P**	**16 58 57.5**	**+1.1**
TOLK				IAmb	IAmb	16 58 58.2	
	comp=Z,2.2nm,0.8s						
FYU	**Fort Yukon**	**74.84**	**13**	P	**P**	**16 59 12.8**	**+1.1**
INK	**Inuvik**	**74.95**	**8**	P	**P**	**16 59 13.6**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=352,slow=7.8,SNR=8.1						
INK	**Inuvik**	**74.95**	**8**	P	**P**	**16 59 13.6**	**+1.3**
INK				IAmb	IAmb	16 59 40.0	
	comp=Z,4.4nm,1.4s						
YKA	**Yellowknife Ar**	**81.98**	**1**	P	**P**	**16 59 52.3**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=353,slow=5.5,SNR=16						
WRA	**Warramunga Arr**	**84.02**	**120**	P	**P**	**17 00 03.1**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=323,slow=4.8,SNR=1.9						
ASAR	**Alice Springs**	**86.18**	**123**	P	**P**	**17 00 12.4**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=312,slow=5.2,SNR=2.5						

*IDC **03** 16:51:50.1±0.7, 14°.66S×168°.10E, h0km, mb4.4/17, mb1 4.5/19, mb1mx4.3/32, mbtmp4.4/19, ML5.0/2, MS3.5/18, Ms1 3.5/18, ms1mx3.2/54, Error ellipse: s-maj=20.6km s-min=17.3km az=113.0*
*NEIC **03** 16:51:54.0±2.0, 14°.89S±0°.07×167°.86E±0°.07, h10km±1km, mb4.7/33, Error ellipse: s-maj=13.8km s-min=6.9km az=135.0*
ISC 03 16:51:52.5±0.5, 14°.80S±0°.05×167°.89E±0°.07, h10km, n88, σ1°.62/78, mb4.6/38, MS3.6/17, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.92**	**226**	Pg	**Pb**	**16 52 10.5**	**-0.1**
SANVU					**Sg**	**16 52 20.3**	**-2.0**
LIFNC	**LIFOU**	**5.98**	**186**	Pn	**Pn**	**16 53 20.7**	**-0.4**
DZM	**Mont Dzumac**	**7.36**	**191**	Pn	**Pn**	**16 53 41.4**	**+1.2**
	21nm,0.3s,baz=13,slow=6.8,SNR=158						
DZM				Sn	**Sn**	**16 55 03.8**	**-0.1**
	2.5nm,0.3s,baz=317,slow=23,SNR=1.6						
DZM				LR	LR	16 56 22.7	
	comp=Z,320nm,18.9s,baz=31,slow=36						
DZM	**Mont Dzumac**	**7.36**	**191**	*e*Pn	**Pn**	**16 53 41.0**	**+0.8**
	120nm,0.4s						
DZM				*e*Sn	**Sn**	**16 54 58.0**	**-5.9**
	57nm,0.5s						
DZM				*e*LR	LR	16 55 17.8	
	comp=Z,320nm,23.1s						
DZM	**Mont Dzumac**	**7.36**	**191**	Pn	**Pn**	**16 53 40.6**	**+0.4**
OUENC	**Ouen Island, N**	**7.64**	**187**	Pn	**Pn**	**16 53 45.1**	**+1.1**
PINNC	**Pines Island,**	**7.79**	**183**		**Pn**	**16 53 46.7**	**+0.8**
HNR	**Honiara**	**9.42**	**304**	Pn	**Pn**	**16 54 09.9**	**+1.6**
	15nm,0.3s,baz=209,slow=7.7,SNR=6.4						
HNR				Sn	**Sn**	**16 55 48.2**	**-6.2**
	22nm,0.3s,baz=206,slow=17,SNR=6.5						
HNR				LR	LR	16 57 35.2	
	comp=Z,257nm,21.5s,baz=126,slow=36						
HNR	**Honiara**	**9.42**	**304**	Pn	**Pn**	**16 54 10.6**	**+2.3**
MSVF	**Nonsavu**	**10.19**	**108**	LR	LR	16 57 25.5	
	comp=Z,528nm,19.9s,baz=315,slow=33						
EIDS	**Eidsvold**	**18.95**	**234**		**P**	**16 56 13.7**	**-0.1**
AFI	**Afiamalu**	**19.72**	**90**	LR	LR	17 02 37.9	
	comp=Z,

comp=Z,11nm,0.8s,baz=102,slow=7.1,SNR=4.1
SIJI LR LR 17 17 14.1
comp=Z,91nm,18.2s,baz=178,slow=39
FORT Forrest 39.78 239 P P 16 59 26.5 +0.7
FORT IAmb IAmb 16 59 28.5
comp=Z,27nm,0.8s
PPT2 Papeete2 40.88 100 *e*LR LR 17 10 59.7
comp=Z,195nm,27.8s
SOEI Soe 42.87 272 P P 16 59 53.4 +1.8
SOEI IAmb IAmb 17 00 02.3
comp=Z,38nm,1.3s
BATI Baumata 43.37 271 LR LR 17 18 28.0
comp=Z,89nm,18.8s,baz=118,slow=37
MMRI Maumere 45.05 273 P P 17 00 09.8 +0.8
PSA00 Pilbara Seismi 46.00 254 P P 17 00 15.6 -0.8
PSA00 IAmb IAmb 17 00 18.1
comp=Z,5.8nm,0.9s
DAV Davao City (W) 47.24 295 LR LR 17 18 55.7
comp=Z,15nm,19.3s,baz=148,slow=34
KAPI Kappang 48.31 277 LR LR 17 19 50.1
comp=Z,26nm,20.4s,baz=134,slow=35
MORW Morawa 49.78 244 P P 17 00 45.8 +0.2
MORW IAmb IAmb 17 00 47.9
comp=Z,10nm,0.9s
UGM Wanagama 56.53 270 P P 17 01 36.2 +0.5
SMRI Semarang 56.80 271 P P 17 01 38.6 +1.1
MJAR Matsushiro Arr 58.24 332 P P 17 01 46.2 -1.0
comp=Z,1.6nm,0.9s,baz=162,slow=5.9,SNR=4.2
MJAR Matsushiro Arr 58.24 332 IAmb IAmb 17 01 54.0
comp=Z,2.9nm,1.1s
VNDA Vanda 62.81 181 P P 17 02 18.7 +0.9
comp=Z,1.9nm,0.9s,baz=1.3,slow=7.0,SNR=2.6
KSRS Korea Array 64.13 325 P P 17 02 26.9 -0.1
comp=Z,1.1nm,0.8s,baz=141,slow=7.9,SNR=5.1
NJ2 Nanjing 66.14 315 *e*P **P 17 02 43.1 +2.8**
NJ2 pmax pmax
comp=Z,12nm,0.5s
SHEM Shemya Is, Ala 67.46 4 LR LR 17 25 34.0
comp=Z,44nm,21.9s,baz=159,slow=30
RPSI Rantau Prapat 70.43 278 P P 17 03 06.7 -0.9
RPSI IAmb IAmb 17 03 08.2
comp=Z,7.3nm,1.0s
LYN LuoYang 71.95 314 ⇑P **P 17 03 16.4 0.0**
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN LR LR
comp=N,280nm,14.9s
LYN LR LR
comp=E,230nm,14.7s
LYN LR LR
comp=Z,290nm,9.7s
HNS HongShan 72.05 318 ⇓P **P 17 03 17.4 +0.5**
HNS pmax pmax
comp=Z,5.0nm,1.3s
XAN Xi'an 74.18 312 P P 17 03 30.1 +0.5
XAN pmax pmax
comp=Z,3.0nm,1.1s
QSPA South Pole Qui 75.23 180 P P 17 03 34.5 -0.8
CM31 Chiang Mai Arr 75.52 294 P P 17 03 38.4 +0.7
CMAR Chiang Mai Arr 75.52 294 P P 17 03 38.6 +0.9
comp=Z,1.9nm,0.8s,baz=126,slow=4.6,SNR=19
CMAR Chiang Mai Arr 75.52 294 P P 17 03 38.1 +0.4
CHTO Chiang Mai 75.65 294 P P 17 03 38.6 +0.1
CHTO IAmb IAmb 17 03 40.0
comp=Z,5.3nm,1.1s
HHC Hu-ho-hao-te 76.03 319 *e*P **P 17 03 43.5 +3.3**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.9s
PZH PanZhiHua 76.24 302 P P 17 03 47.0 +5.2
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,5.3s
ULN Ulaanbaatar 82.55 324 P P 17 04 15.2 -0.5
ULN IAmb IAmb 17 04 16.8
comp=Z,6.2nm,1.1s
SONM Songino Array 82.91 323 P P 17 04 17.2 -0.4
comp=Z,2.7nm,1.0s,baz=137,slow=4.9,SNR=12
SONM Songino Array 82.91 323 IAmb IAmb 17 04 24.8
comp=Z,4.9nm,1.1s
GTA Gaotai 83.15 314 ⇑P **P 17 04 19.2 +0.2**
GTA pP sP 17 04 24.3 +1.8
GTA sP pwP 17 04 27.1 +2.3
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,81nm,5.1s
GTA LR LR
comp=N,210nm,14.5s
GTA LR LR
comp=E,400nm,14.9s
GTA LR LR
comp=Z,200nm,14.5s
ILAR Eielson Array 86.41 18 P P **17 04 32.3 -2.4**
comp=Z,1.1nm,0.7s,baz=239,slow=5.2,SNR=8.8
PFO Pinyon Flats O 86.55 54 LR LR 17 43 04.9
comp=Z,50nm,18.1s,baz=159,slow=36
NVAR Mina Array Bea 86.86 49 P P 17 04 36.8 -1.0
comp=Z,0.4nm,0.6s,baz=256,slow=5.5,SNR=2.3
PRN Pahroc Range 88.92 51 P P 17 04 49.4 +1.8
PRN IAmb IAmb 17 04 51.3
comp=Z,9.4nm,1.4s
PALK Pallekele 89.13 278 LR LR 17 44 12.2
comp=Z,23nm,20.6s,baz=234,slow=35
ELK Elko 89.89 48 LR LR 17 43 52.8
comp=Z,36nm,18.9s,baz=106,slow=35
U15A North Rim 90.70 53 P P 17 04 57.7 +1.5
U15A IAmb IAmb 17 04 59.2
comp=Z,3.9nm,1.0s
WMQ Urumqi 93.20 314 *e*P **P 17 05 10.4 +3.1**
YKA Yellowknife Ar 97.33 27 P P 17 05 22.7 -2.9
comp=Z,0.8nm,0.9s,baz=255,slow=4.6,SNR=9.0
MK31 Makanchi Array 97.67 316 P P 17 05 27.3 -0.2
MKAR Makanchi Array 97.67 316 P P 17 05 27.4 -0.2
comp=Z,2.8nm,0.9s,baz=101,slow=6.3,SNR=14
MKAR Makanchi Array 97.67 316 P P 17 05 27.2 -0.3
ZALV Zalesovo Beam 97.80 324 P P 17 05 26.2 -1.7
comp=Z,0.6nm,0.6s,baz=117,slow=1.7,SNR=3.8
KSH Kashi 100.71 308 P Pdif 17 05 42.5 +1.0
KSH pmax pmax
comp=Z,1.0nm,1.2s
ARCES ARCESS Array B 120.47 346 PKP **PKPdf 17 10 41.9 -1.8**
comp=Z,2.9nm,0.8s,baz=56,slow=4.5,SNR=4.3
BRTR Keskin Array B 133.01 311 PKP **PKPdf 17 11 07.6 -1.1**
comp=Z,0.7nm,0.8s,baz=48,slow=4.7,SNR=2.6
KEST Kesra 151.64 321 PKPbc **PKPbc 17 11 47.5 -0.2**
comp=Z,9.5nm,0.9s,baz=343,slow=5.2,SNR=5.7
KEST Kesra 151.64 321 PKPbc 17 11 47.2 -0.5
TORD Torodi Ar. Bea 166.50 265 PKPab **PKPab 17 13 01.0 -0.1**
comp=Z,1.8nm,0.9s,baz=86,slow=4.1,SNR=7.7

*TAP **03** 16:55:08.4,24°.93N×122°.46E,h14km,ML2.9,C*
*JMA **03** 16:55:09.0±0.2,24°.92N×122°.47E,h11km±5km,M2.0*
ISC 03 16:55:08.8±1.1,24°.92N±0°.03×122°.47E±0°.03,h13km±9km, n62,σ0°48/107,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=279	**0.44**	**281**	*i* P	**Pg**	**16 55 17.9**	**+0.3**
TWB1	baz=279			*i* S	**Sb**	**16 55 24.2**	**-0.8**
EGS	baz=248	**0.49**	**261**	P	**Pg**	**16 55 18.6**	**+0.2**
EGS	baz=248			*i* S	**Sb**	**16 55 25.8**	**-0.6**
NTC	**Toucheng** baz=274	**0.58**	**264**	*e*P	**Pg**	**16 55 20.1**	**-0.1**
NTC	baz=274			*e*S	**Sb**	**16 55 30.2**	**+1.2**
TIPB	**Shuangxi** baz=273	**0.58**	**275**	*i* P	**Pb**	**16 55 20.8**	**-0.1**
TIPB	baz=273			*i* S	**Sb**	**16 55 28.9**	**-0.2**
NWF	**Wu-fen Shan** baz=282	**0.64**	**284**	*i* P	**Pb**	**16 55 21.9**	**0.0**
NWF	baz=282			*i* S	**Sb**	**16 55 31.2**	**+0.5**
WFSB	**Wu-fen Shan** baz=282	**0.64**	**284**	P	**Pb**	**16 55 21.9**	**0.0**
WFSB	baz=282			S	**Sb**	**16 55 31.4**	**+0.7**
JYNG	**Yonagunijimaku**	**0.64**	**137**	P	**Pg**	**16 55 21.3**	**0.0**
JYNG				*e*S	**Sg**	**16 55 30.1**	**+0.4**
TWC	**Suao** baz=239	**0.64**	**241**	*e*P	**Pg**	**16 55 21.3**	**0.0**
TWC	baz=239			*e*S	**Sb**	**16 55 30.6**	**-0.1**
TNOU	**National Taiwa** baz=288	**0.67**	**290**	P	**Pb**	**16 55 22.2**	**-0.1**
TNOU	baz=288			S	**Sb**	**16 55 32.4**	**+0.9**
ILA	**Ilan** baz=255	**0.67**	**257**	P	**Pg**	**16 55 21.6**	**-0.2**
ILA	baz=255			*e*S	**Sb**	**16 55 32.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.68**	**133**	P	**Pg**	**16 55 21.9**	**0.0**
YOJ				*e*S	**Sg**	**16 55 30.7**	**-0.1**
YOJ	**Yonaguni jima** baz=123	**0.68**	**133**	P	**Pg**	**16 55 21.8**	**-0.1**
YOJ	baz=123			S	**Sg**	**16 55 30.8**	**-0.1**
NDS	**Dongshan** baz=246	**0.74**	**247**	P	**Pg**	**16 55 23.0**	**-0.2**
NDS	baz=246			S	**Sb**	**16 55 33.5**	**-0.1**
TWE	**Neicheng** baz=253	**0.75**	**255**	*i* P	**Pg**	**16 55 23.4**	**0.0**
TWE	baz=253			*i* S	**Sb**	**16 55 34.1**	**+0.2**
EWUT	**Wuta** baz=231	**0.79**	**233**	P	**Pb**	**16 55 24.2**	**-0.1**
EWUT	baz=231			S	**Sb**	**16 55 34.9**	**0.0**
PCYT	**Pengchaiyu** baz=333	**0.79**	**333**	*i* P	**Pg**	**16 55 24.0**	**-0.1**
PCYT	baz=333			S	**Sn**	**16 55 36.7**	**-0.7**
TWA	**Mucha** baz=272	**0.80**	**274**	*i* P	**Pg**	**16 55 24.0**	**-0.3**
TWA	baz=272			*i* S	**Sb**	**16 55 36.4**	**+0.9**
ENA	**Nanau** baz=232	**0.82**	**233**	*i* P	**Pg**	**16 55 24.6**	**-0.1**
ENA	baz=232			*i* S	**Sg**	**16 55 35.5**	**0.0**
YM01	**YM01** baz=269	**0.84**	**286**	P	**Pb**	**16 55 25.2**	**-0.1**
YM01	baz=269			S	**Sn**	**16 55 38.2**	**-0.6**
NHDH	**Xindian Distri** baz=271	**0.85**	**273**	*i* P	**Pb**	**16 55 25.7**	**+0.2**
NHDH	baz=271			*i* S	**Sb**	**16 55 37.7**	**+0.8**
TWY	**Chenhua** baz=293	**0.86**	**294**	*i* P	**Pg**	**16 55 25.2**	**-0.2**
TWY	baz=293			S	**Sn**	**16 55 38.3**	**-0.8**
ENTT	**Nioudou** baz=234	**0.86**	**251**	*i* P	**Pg**	**16 55 25.2**	**-0.3**
ENTT	baz=234			*i* S	**Sb**	**16 55 38.0**	**+0.8**
NWLT	**Wulai** baz=259	**0.89**	**261**	*e*P	**Pg**	**16 55 25.7**	**-0.3**
NWLT	baz=259			*e*S	**Sb**	**16 55 37.9**	**0.0**
ANP	**Anpu** baz=272	**0.90**	**287**	*i* P	**Pb**	**16 55 26.6**	**+0.3**
ANP	baz=272			S	**Sb**	**16 55 39.1**	**+0.8**
NDT	**Datong Townshi** baz=230	**0.92**	**250**	*i* P	**Pn**	**16 55 27.6**	**+0.1**
NDT	baz=230			S	**Sb**	**16 55 39.7**	**+0.8**
NTST	**Danshui** baz=283	**0.95**	**285**	P	**Pg**	**16 55 26.7**	**-0.5**
NTST	baz=283			*e*S	**Sn**	**16 55 40.9**	**-0.5**
TWS1	**Kuangyinshan** baz=279	**0.97**	**281**	*i* P	**Pb**	**16 55 27.2**	**-0.3**
TWS1	baz=279			S	**Sb**	**16 55 40.3**	**+0.1**
YHNB	**Yeheng** baz=270	**1.02**	**256**	P	**Pb**	**16 55 28.2**	**-0.2**
YHNB	baz=270			S	**Sn**	**16 55 43.0**	**-0.2**
ETL	**Fush Village** baz=235	**1.08**	**225**	P	**Pn**	**16 55 29.9**	**+0.2**
ETL	baz=235			S	**Sb**	**16 55 43.6**	**+0.2**
NACB	**Ninganchiao** baz=238	**1.09**	**227**	P	**Pb**	**16 55 28.5**	**-1.0**
NACB	baz=238			S	**Sb**	**16 55 43.6**	**0.0**
NNSB	**Datong** baz=242	**1.10**	**244**	P	**Pb**	**16 55 29.4**	**-0.3**
NNSB	baz=242			S	**Sb**	**16 55 43.7**	**-0.4**
NNS	**Nan Shan** baz=243	**1.10**	**244**	*i* P	**Pb**	**16 55 29.4**	**-0.4**
NNS	baz=243			*i* S	**Sg**	**16 55 44.5**	**0.0**
ETLH	**Xiulin Townshi** baz=230	**1.14**	**232**	P	**Pb**	**16 55 30.5**	**0.0**
ETLH	baz=230			S	**Sg**	**16 55 45.8**	**+0.1**
TWD	**Chiawan** baz=231	**1.15**	**224**	P	**Pb**	**16 55 30.2**	**-0.4**
TWD	baz=231			S	**Sg**	**16 55 46.0**	**0.0**
HWA	**Hwalien** baz=198	**1.22**	**220**	*e*P	**Pb**	**16 55 32.0**	**+0.2**
HWA	baz=198			*e*S	**Sb**	**16 55 47.8**	**+0.3**
IRIF	**Iriomote-Funau**	**1.29**	**117**	P	**Pn**	**16 55 32.6**	**+0.1**
FUSS	**Fushou** baz=238	**1.30**	**239**	*e*P	**Pb**	**16 55 33.5**	**+0.3**
FUSS	baz=238			*e*S	**Sg**	**16 55 50.7**	**-0.1**
WHF	**Hehuan Shan** baz=233	**1.34**	**235**	*i* P	**Pb**	**16 55 34.1**	**+0.1**
WHF	baz=233			S	**Sb**	**16 55 51.0**	**-0.3**
LIOB	**Emei** baz=257	**1.35**	**259**	P	**Pn**	**16 55 33.0**	**-0.3**
LIOB	baz=257			*e*S	**Sg**	**16 55 52.2**	**0.0**
NSTT	**Nanjuang** baz=256	**1.36**	**258**	P	**Pn**	**16 55 33.0**	**-0.5**
NSTT	baz=256			S	**Sb**	**16 55 52.0**	**+0.5**
ESL	**Shilin** baz=219	**1.45**	**221**	*e*P	**Pn**	**16 55 34.6**	**-0.2**
ESL	baz=219			*e*S	**Sn**	**16 55 53.5**	**-0.1**
CHGB	**Renai** baz=233	**1.46**	**234**	P	**Pb**	**16 55 35.8**	**-0.1**
CHGB	baz=233			S	**Sg**	**16 55 55.2**	**-0.6**
OWD	**Renai** baz=242	**1.52**	**231**	P	**Pb**	**16 55 37.0**	**0.0**
OWD	baz=242			S	**Sb**	**16 55 56.7**	**+0.5**
WHP	**Taichung City** baz=244	**1.52**	**245**	*e*P	**Pb**	**16 55 37.3**	**+0.3**
WHP	baz=244			*e*S	**Sn**	**16 55 55.9**	**+0.3**
EGFH	**Guangfu** baz=199	**1.57**	**217**	*e*S	**Sb**	**16 55 57.3**	**-0.1**
NMLH	**Miaoli** baz=254	**1.57**	**256**	*e*P	**Pn**	**16 55 36.7**	**+0.3**
NMLH	baz=254			*e*S	**Sn**	**16 55 57.0**	**+0.4**
WCS	**Beigang Elemen** baz=238	**1.66**	**239**	*e*P	**Pb**	**16 55 39.4**	**+0.2**
VWDT	**VWDT** baz=208	**1.68**	**226**	*e*P	**Pb**	**16 55 39.2**	**-0.3**
HGSD	**Ruisui** baz=199	**1.71**	**214**	*e*P	**Pn**	**16 55 39.1**	**+0.7**
HGSD	baz=199			*e*S	**Sn**	**16 56 00.1**	**+0.1**
SMLT	**Sun Moon Lake** baz=233	**1.76**	**234**	*e*P	**Pb**	**16 55 40.3**	**-0.8**
SSLB	**Suanglung** baz=213	**1.78**	**231**	*e*P	**Pb**	**16 55 40.9**	**-0.5**
TYC	**Yuchr** baz=217	**1.78**	**236**	*e*P	**Pb**	**16 55 41.2**	**-0.1**
YULB	**Yu-li** baz=214	**1.86**	**215**	*e*P	**Pn**	**16 55 40.3**	**-0.1**
EYUL	**Yuli** baz=200	**1.89**	**214**	*e*P	**Pn**	**16 55 40.4**	**-0.3**
WNT	**Mingjian** baz=236	**1.93**	**238**	*e*P	**Pn**	**16 55 41.6**	**+0.3**
FULB	**Fuli** baz=196	**2.02**	**212**	*e*P	**Pn**	**16 55 43.0**	**+0.3**
ALS	**Alishan** baz=209	**2.07**	**228**	*e*P	**Pn**	**16 55 44.5**	**+1.0**
CHN5	**Tsauling** baz=212	**2.10**	**231**	*e*P	**Pb**	**16 55 45.4**	**-1.4**
ELDTW	**Lidau** baz=203	**2.17**	**218**	*e*P	**Pn**	**16 55 45.2**	**+0.4**
TPUB	**Ta-pu** baz=209	**2.33**	**226**	*e*P	**Pn**	**16 55 48.1**	**+1.2**
WTP	**Ta-pu** baz=208	**2.38**	**226**	*e*P	**Pn**	**16 55 49.0**	**+1.5**
TWK	**Hsinying** baz=210	**2.44**	**228**	*e*P	**Pn**	**16 55 49.6**	**+1.1**

*TUL **03** 17:02:10.3±1.5,35°.67N±0°.02×97°.38W±0°.03,h4km±7km, ML2.7,mb_Lg2.3/18(NEIC),Error ellipse: s-maj=3.9km s-min=2.3km az=133.0*
NEIC 03 17:02:10.4±1.6,35°.67N±0°.03×97°.39W±0°.03,h7km±5km, Error ellipse: s-maj=4.5km s-min=2.7km az=147.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.09**	**195**		**Pg**	**17 02 12.6**	**+0.1**
OK009				Sg	Sg	17 02 14.1	+0.2
OK025	**Westminster Rd**	**0.10**	**152**	Pg	Pg	17 02 12.7	0.0
OK025				Sg	Sg	17 02 14.4	+0.2
OK029	**Liberty Lake**	**0.14**	**339**	Pg	Pg	17 02 13.4	+0.1
OK033	**Mehan**	**0.53**	**44**	Pg	Pg	17 02 20.6	0.0
OK033				Sg	Sg	17 02 28.1	+0.6
OK031	**S. Brethren Rd**	**0.53**	**58**	Pg	Pg	17 02 20.7	0.0
OK031				Sg	Sg	17 02 28.4	+0.7
OK030	**Cody Creek RV**	**0.56**	**62**		Pg	17 02 21.2	0.0
OK030				Sg	Sg	17 02 29.2	+0.6
OK034	**N. Norfolk Rd.**	**0.65**	**58**	Pg	Pg	17 02 22.8	-0.2
OK034				Sg	Sg	17 02 31.9	+0.4
OK032	**Salt Plains WL**	**1.31**	**330**	Pn	Pn	17 02 34.4	-0.8
TUL1	**Leonard**	**1.32**	**79**		Pn	17 02 33.8	-1.6
KAN14	**Manchester OK**	**1.37**	**341**	Pn	Pn	17 02 35.4	-0.6
T35A	**Sooner Cattle**	**1.44**	**30**	Pn	Pn	17 02 36.5	-0.4
WMOK	**Wichita Mounta**	**1.47**	**231**	Pn	Pn	17 02 36.8	-0.5
U32A	**Winter Ranch,**	**1.48**	**299**	Pn	Pn	17 02 37.4	-0.2
KAN01	**Argonia South**	**1.51**	**349**	Pn	Pn	17 02 38.0	0.0
KAN06	**Argonia West S**	**1.62**	**347**	Pn	Pn	17 02 40.0	+0.5
KAN06				IAmb_Lg		17 03 02.9	
	comp=Z,9.6nm,0.8s						
KAN08	**Anthony NE Sta**	**1.62**	**344**	Pn	Pn	17 02 40.1	+0.6
KAN12	**Harper NE Stat**	**1.70**	**344**	Pn	Pb	17 02 41.3	-0.7
X37A	**Clayton**	**1.98**	**122**	Pn	Pn	17 02 45.2	+0.8
X37A				IAmb_Lg		17 03 12.9	
	comp=Z,13nm,1.0s						
HHAR	**Hobbs**	**2.87**	**77**	IAmb_Lg		17 03 46.7	
	comp=Z,5.5nm,0.7s						
W39A	**Magazine**	**2.99**	**98**	Pn	Pn	17 02 57.6	-0.7
KSU1	**Kansas State U**	**3.48**	**10**	IAmb_Lg		17 04 06.2	
	comp=Z,10nm,0.9s						
X40A	**Basin Creek Fa**	**3.92**	**106**	Pn	Pn	17 03 12.2	+1.2
X40A				IAmb_Lg		17 04 19.1	
	comp=Z,21nm,1.2s						
W41B	**Gary Mavity, V**	**4.23**	**95**	Pn	Pn	17 03 15.4	+0.1
W41B				IAmb_Lg		17 04 35.5	
	comp=Z,8.4nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.29**	**86**	Pn	Pn	17 03 16.0	-0.2
FCAR				IAmb_Lg		17 04 26.4	
	comp=Z,5.7nm,0.8s						
MGMO	**Mountain Grove**	**4.39**	**69**	IAmb_Lg		17 04 35.9	
	comp=Z,7.6nm,0.7s						
P38A	**Dawn**	**5.00**	**37**	IAmb_Lg		17 04 55.7	
	comp=Z,7.1nm,0.8s						
PBMO	**Poplar Bluff**	**5.74**	**77**	IAmb_Lg		17 05 19.0	
	comp=Z,5.5nm,0.8s						
SDCO	**Great Sand Dun**	**6.83**	**290**	Pn	Pn	17 03 53.1	+1.7

*IDC **03** 17:02:23.1±1.0,29°.49S×71°.88W,h0km,mb4.1/5, mb1 4.1/10,mb1mx3.9/31,mbtmp4.0/10,ML3.8/5,MS3.4/6, Ms1 3.4/6,ms1mx3.0/48,Error ellipse: s-maj=33.6km s-min=26.0km az=111.0*
*NEIC **03** 17:02:23.8±1.2,29°.38S±0°.04×72°.00W±0°.04,h10km±1km, mb4.4/5,Mwr4.1/33,ML4.6(GUC),Error ellipse: s-maj=8.3km s-min=3.0km az=220.0*
*NEIC **03** 17:02:23.8,29°.38S×72°.00W,h17km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.57; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-1.55; $M_{r\theta}$0.34; $M_{\theta\phi}$-0.12; $M_{\phi r}$-0.61; Fault plane solution: $M_0$1.71000×10^{15} NP1:φs171.96000°, δ56.44000°,λ76.20000°. NP2:φs15.92000°,δ35.97000°, λ109.78000°. Principal axes: T 1.7544, Plg74.0000°, Azm43.0000°; N -0.0904, Plg11.0000°, Azm180.0000°; P -1.6640, Plg10.0000°, Azm272.0000°;*
*GUC **03** 17:02:26.6±0.7,29°.49S×71°.91W,h31km±7km,ML4.6*
ISC 03 17:02:23.6±1.8,29°.42S±0°.04×72°.00W±0°.07,h9km±11km, n56,σ0°98/57,mb4.3/7,MS3.7/3,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.83**	**127**	⇓*i*P	**Pb**	**17 02 40.4**	**+0.2**
CO05				*i* S	**Sg**	**17 02 50.2**	**-0.1**
CO05	**La Serena**	**0.83**	**127**		**Pb**	**17 02 40.3**	**+0.2**
LCO	**Las Campanas**	**1.20**	**71**	⇓*i*P	**Pg**	**17 02 46.7**	**0.0**
LCO				*i* S	**Sn**	**17 03 02.8**	**-0.7**
LCO	**Las Campanas**	**1.20**	**71**		**Pg**	**17 02 46.7**	**0.0**
GO04	**Tololo Observa**	**1.28**	**126**	⇓*i*P	**Pb**	**17 02 47.9**	**-0.2**
GO04				*e*S	**Sb**	**17 03 03.4**	**-1.4**
GO04				IAML		17 03 09.5	
	comp=N,26μm,0.5s						
GO04	**Tololo Observa**	**1.28**	**126**		**Pn**	**17 02 47.7**	**-0.3**
CO06	**Fray Jorge**	**1.29**	**166**	⇑*i*P	**Pn**	**17 02 47.8**	**0.0**
CO06				*i* S	**Sb**	**17 03 03.3**	**-1.5**
CO06	**Fray Jorge**	**1.29**	**166**		**Pn**	**17 02 47.6**	**-0.2**
AC04	**Llanos de Chal**	**1.45**	**34**	⇑*i*P	**Pb**	**17 02 50.1**	**-0.7**
AC04	**Llanos de Chal**	**1.45**	**34**		**Pb**	**17 02 50.1**	**-0.7**
CO03	**El Pedregal**	**1.81**	**142**	⇑*i*P	**Pn**	**17 02 56.0**	**+0.8**
CO03				*i* S	**Sn**	**17 03 18.1**	**-0.2**
CO03				IAML		17 03 24.7	
	comp=N,4μm,0.3s						
CO03	**El Pedregal**	**1.81**	**142**		**Pn**	**17 02 55.9**	**+0.7**
GO03	**Copiap**	**2.39**	**41**	*e*P	**Pn**	**17 03 03.7**	**+0.7**
GO03				*e*S	**Sb**	**17 03 35.4**	**-1.0**
GO03	**Copiap**	**2.39**	**41**	Pn	**Pn**	**17 03 03.6**	**+0.6**
VA06	**Catapilco**	**3.19**	**169**	*e*P	**Pn**	**17 03 14.7**	**+0.7**
VA06				IAML		17 04 14.8	
	comp=E,1μm,0.5s						
VA03	**San Esteban**	**3.56**	**160**	*e*P	**Pn**	**17 03 21.6**	**+2.5**
VA03				IAML		17 04 19.6	
	comp=E,1μm,0.5s						
VA03	**San Esteban**	**3.56**	**160**		**Pn**	**17 03 19.8**	**+0.7**
VA01	**Torpederas**	**3.61**	**175**	Pn	**Pn**	**17 03 19.9**	**+0.2**
AC02	**Maricunga**	**3.61**	**45**	Pn	**Pn**	**17 03 21.8**	**+1.6**
ROCH	**El Roble**	**3.64**	**167**	⇑*e*P	Pb	17 03 21.4	-6.9
ROCH				*e*P	**Pn**	**17 03 20.8**	**+0.4**
ROCH				IAML		17 04 31.6	
	comp=N,1μm,0.7s						
ROCH				IAML		17 04 31.6	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**3.88**	**164**	*e*P	**Pn**	**17 03 25.0**	**+1.5**
PEL				IAML		17 04 31.4	
	comp=N,637nm,0.7s						
PEL	**Peldehue**	**3.88**	**164**	Pn	**Pn**	**17 03 23.2**	**-0.3**
MT02	**Curacav**	**3.90**	**169**		**Pn**	**17 03 24.2**	**+0.5**
MT05	**Renca**	**4.11**	**165**		**Pn**	**17 03 27.4**	**+0.8**
VA05	**Santo Domingo**	**4.24**	**176**		**Pn**	**17 03 28.3**	**-0.1**
MT09	**Talagante**	**4.43**	**169**		**Pn**	**17 03 32.1**	**+0.9**
MT01	**Popeta**	**4.48**	**172**		**Pn**	**17 03 32.2**	**+0.5**
BO01	**Tunca**	**5.02**	**171**		**Pn**	**17 03 39.5**	**+0.4**
GO05	**Huala**	**5.58**	**179**		**Pn**	**17 03 46.1**	**-0.6**
H03N1	**Juan Fernandez**	**7.14**	**234**	T	T	17 11 54.2	
	baz=64,slow=71,SNR=770						
H03N2	**Juan Fernandez**	**7.16**	**234**	T	T	17 11 57.8	
	baz=64,slow=71,SNR=864						
H03N3	**Juan Fernandez**	**7.16**	**234**	T	T	17 11 56.9	
	baz=64,slow=71,SNR=629						
LVC	**Limon Verde**	**7.33**	**23**	Pn	**Pn**	**17 04 11.1**	**0.0**
	comp=N,0.6nm,0.3s,baz=219,slow=7.9,SNR=3.7						
LVC				Lg	Lg	17 06 03.9	
	comp=N,2.6nm,0.3s,baz=349,slow=6.5,SNR=7.1						
LC01	**Cunco**	**9.46**	**179**		**Pn**	**17 04 38.5**	**-1.5**
PLCA	**Paso Flores**	**11.35**	**174**	Pn	**Pn**	**17 05 05.6**	**-0.5**

comp=N,0.2nm,0.3s,baz=333,slow=13,SNR=12
PLCA Paso Flores 11.35 174 Pn 17 05 05.9 -0.1
CPUP Villa Florida 13.33 80 Pn **Pn 17 05 34.4 +1.3**
comp=N,0.1nm,0.3s,baz=112,slow=15,SNR=1.3
CPUP LR LR 17 10 38.8
comp=N,87nm,21.1s,baz=234,slow=37
LPAZ La Paz 13.54 16 Pn **Pn 17 05 39.6 +3.0**
comp=N,0.3nm,0.3s,baz=173,slow=6.3,SNR=20
LPAZ LR LR 17 10 38.2
comp=N,58nm,21.0s,baz=189,slow=36
SIV San Ignacio 16.72 39 Pn **Pn 17 06 18.6 +0.4**
comp=N,0.3nm,0.3s,baz=236,slow=12,SNR=16
SIV LR LR 17 13 34.2
comp=N,112nm,19.4s,baz=309,slow=40
BDFB Brasilia 25.98 63 P **P 17 07 55.8 -1.2**
comp=N,2.5nm,0.7s,baz=240,slow=10,SNR=6.3
BDFB Brasilia 25.98 63 P **P 17 07 55.8 -1.2**
BDFB IAmb IAmb 17 07 59.8
comp=Z,13nm,1.3s
OTAV Otavalo 30.13 347 P **P 17 08 33.3 -1.0**
VA02 Isla de Pascua 32.95 265 P **P 17 08 58.9 +0.1**
BOAV Boa Vista 33.49 21 P **P 17 09 01.7 -1.7**
BOAV IAmb IAmb 17 09 15.1
comp=Z,7.7nm,1.2s
ROSC El Rosal 34.13 356 LR LR 17 22 33.3
comp=Z,142nm,21.5s,baz=56,slow=35
QSPA South Pole Qui 60.80 180 P **P 17 12 36.3 +0.4**
QSPA IAmb IAmb 17 12 56.1
comp=Z,3.3nm,1.4s
DBIC Dimbokro 73.72 72 P **P 17 13 58.5 +0.1**
comp=Z,2.7nm,0.8s,baz=300,slow=1.1,SNR=4.5
SUR Sutherland 77.04 120 LR LR 17 46 05.8
comp=Z,30nm,18.4s,baz=194,slow=34
PDAR Pinedale Array 79.71 333 P **P 17 14 33.1 +1.2**
comp=Z,0.2nm,0.7s,baz=140,slow=7.1,SNR=1.9
BOSA Boshof 82.18 118 P **P 17 14 46.1 +0.6**
comp=Z,1.4nm,0.8s,baz=186,slow=9.7,SNR=1.9
TORD Torodi Ar. Bea 82.63 71 P **P 17 14 48.8 +1.0**
comp=Z,3.1nm,0.9s,baz=256,slow=4.6,SNR=14
LBTB Lobatse 84.21 115 LR LR 17 47 08.5
comp=Z,33nm,18.6s,baz=182,slow=32
WRA Warramunga Arr 124.74 211 PKP **PKPdf 17 21 24.4 -0.1**
comp=Z,0.3nm,0.6s,baz=147,slow=1.8,SNR=1.4
KURBB Kurchatov Arra 149.38 38 PKPbc **PKiKP 17 22 14.5 +0.7**
comp=Z,1.2nm,0.6s,baz=302,slow=3.2,SNR=13
ZALV Zalesovo Beam 150.25 28 PKP **PKPdf 17 22 08.0 -1.5**
comp=Z,0.5nm,0.6s,baz=204,slow=3.3,SNR=3.9
ZALV PKPbc **PKiKP 17 22 15.8 +0.3**
comp=Z,5.0nm,0.7s,baz=300,slow=3.4,SNR=32
MKAR Makanchi Array 153.53 42 PKPbc **PKiKP 17 22 23.4 +0.8**
comp=Z,0.7nm,0.8s,baz=8.7,slow=1.6,SNR=6.0

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*NEIC **03** 17:07:45.5±3.0, 4°.24S±0°.10×140°.13E±0°.08, h10km±1km, mb4.1/12, Error ellipse: s-maj=17.4km s-min=13.5km az=23.0*
*IDC **03** 17:07:53.9±1.8, 4°.42S×140°.14E, h91km±25km, mb3.4/2, mb1 4.1/6, mb1mx3.5/31, mbtmp4.3/6, Error ellipse: s-maj=26.2km s-min=18.7km az=113.0*
ISC 03 17:07:53.5±0.7, 4°.43S±0°.06×140°.27E±0°.07, h100km, n42, σ2§17/44, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.83**	**357**	P	**Pn**	**17 08 25.3**	**+1.4**
JAY	**Jayapura**	**1.95**	**13**	P	**Pn**	**17 08 25.6**	**0.0**
	13nm,0.3s,baz=86,slow=21,SNR=66						
JAY				S	**Sn**	**17 08 47.6**	**-2.2**
	58nm,0.3s,baz=92,slow=18,SNR=7.8						
MANU	**Manus Island**	**7.47**	**72**	Pn	**Pn**	**17 09 38.0**	**-1.9**
FAKI	**Fak Fak**	**8.14**	**280**	Pn	Pn	17 09 40.1	-8.9
FAKI	**Fak Fak**	**8.14**	**280**	P	**Pn**	**17 09 50.9**	**+1.9**
PMG	**Port Moresby**	**8.44**	**126**	P	**Pn**	**17 09 55.7**	**+2.7**
	2.5nm,0.3s,baz=0.4,slow=4.5,SNR=18						
PMG				S	**Sn**	**17 11 23.0**	**-3.6**
	baz=337,slow=20,SNR=1.1						
PMG	**Port Moresby**	**8.44**	**126**	Pn	Pn	17 09 49.8	-3.2
PMG	**Port Moresby**	**8.44**	**126**	P	**Pn**	**17 09 55.8**	**+2.8**
COEN	**Coen**	**9.89**	**163**	Pn	**Pn**	**17 10 11.5**	**-1.3**
COEN	**Coen**	**9.89**	**163**	P	**Pn**	**17 10 13.6**	**+0.8**
KDU	**Kakadu**	**11.26**	**223**	P	**Pn**	**17 10 29.9**	**-1.4**
DRS	**Darwin Rock St**	**12.21**	**229**	P	**Pn**	**17 10 43.2**	**-0.8**
MTN	**Manton Dam**	**12.30**	**227**	Pn	**Pn**	**17 10 43.8**	**-1.5**
MTN	**Manton Dam**	**12.30**	**227**	P	**Pn**	**17 10 43.9**	**-1.4**
MTSU	**Mount Surprise**	**14.19**	**164**	P	**Pn**	**17 11 12.5**	**+2.6**
	3.2nm,1.1s						
KNRA	**Kununurra**	**15.90**	**225**		**Pn**	**17 11 27.7**	**-4.0**
KNRA				IAmb	IAmb	17 11 35.9	
	comp=Z,22nm,1.1s						
KNRA	**Kununurra**	**15.90**	**225**	P	**Pn**	**17 11 31.3**	**-0.4**
QIS	**Mount Isa**	**16.05**	**182**	P	**Pn**	**17 11 33.8**	**+0.4**
WB0	**Warramunga Arr**	**16.29**	**200**	Pn	**Pn**	**17 11 36.6**	**+0.2**
WB0				IAmb	IAmb	17 11 40.6	
	comp=Z,9.7nm,0.5s						
WR0	**Warramunga Arr**	**16.42**	**199**	P	**Pn**	**17 11 38.4**	**+0.4**
WRAB	**Tennant Creek**	**16.45**	**200**		**Pn**	**17 11 38.5**	**0.0**
WRAB				IAmb	IAmb	17 11 42.5	
	comp=Z,16nm,0.9s						
WRAB	**Tennant Creek**	**16.45**	**200**	P	**Pn**	**17 11 38.4**	**-0.1**
WB2	**Warramunga Arr**	**16.46**	**200**		**Pn**	**17 11 38.6**	**0.0**
WRA	**Warramunga Arr**	**16.47**	**200**	P	**Pn**	**17 11 38.4**	**-0.2**
	comp=Z,4.3nm,0.3s,baz=24,slow=12,SNR=79						
WRA				S	Sn	17 14 27.9	-14
	comp=Z,0.4nm,0.3s,baz=15,slow=22,SNR=2.2						
WRA	**Warramunga Arr**	**16.47**	**200**	Pn	**Pn**	**17 11 36.7**	**-1.9**
CTAO	**Charters Tower**	**16.62**	**160**		**P**	**17 11 44.0**	**+2.7**
SOEI	**Soe**	**16.73**	**251**	P	**Pn**	**17 11 41.4**	**-0.7**
SOEI	**Soe**	**16.73**	**251**	P	**P**	**17 11 42.6**	**-0.1**
BATI	**Baumata**	**17.44**	**250**	P	**Pn**	**17 11 50.9**	**+0.3**
	comp=Z,4.5nm,0.3s,baz=92,slow=2.4,SNR=9.8						
BATI				S	**S**	**17 15 03.9**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=90,slow=24,SNR=1.2						
MMRI	**Maumere**	**18.39**	**256**	P	**P**	**17 11 56.4**	**-4.5**
MMRI				IAmb	IAmb	17 12 12.4	
	comp=Z,12nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.73**	**225**	P	**P**	**17 12 14.7**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=43,slow=9.3,SNR=21						
AS31	**Alice Springs**	**20.09**	**197**	P	**P**	**17 12 20.5**	**+1.3**
AS31				IAmb	IAmb	17 12 24.5	
	comp=Z,3.1nm,0.5s						
ASAR	**Alice Springs**	**20.09**	**197**	P	**P**	**17 12 20.4**	**+1.1**
	comp=Z,5.0nm,0.5s,baz=27,slow=9.6,SNR=150						
ASAR				S	**S**	**17 15 52.0**	**-7.7**
	comp=Z,0.3nm,0.7s,baz=2.0,slow=29,SNR=1.6						
ASAR	**Alice Springs**	**20.09**	**197**	P	**P**	**17 12 20.3**	**+1.0**
INKA	**Innaminka**	**23.19**	**179**	P	**P**	**17 12 52.3**	**+0.7**
EIDS	**Eidsvold**	**23.27**	**155**	P	**P**	**17 12 50.9**	**-1.5**
EIDS				IAmb	IAmb	17 13 07.4	
	comp=Z,3.5nm,1.0s						
WRKA	**Warakurna**	**23.50**	**208**	P	**P**	**17 12 54.1**	**-0.5**
OOD	**Oodnadatta**	**23.64**	**190**	P	**P**	**17 12 56.3**	**+0.5**
MORW	**Morawa**	**33.59**	**220**	P	**P**	**17 14 25.1**	**+0.8**
MKAR	**Makanchi Array**	**72.09**	**322**	P	**P**	**17 19 08.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=101,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**72.09**	**322**	P	**P**	**17 19 07.9**	**+0.9**
QSPA	**South Pole Qui**	**85.53**	**180**	P	**P**	**17 20 23.8**	**+3.5**

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*NEIC **03** 17:11:23.4±0.8, 23°.9S±0°.3×176°.81W±0°.06, h100km±17km, mb4.2/9, Error ellipse: s-maj=36.9km s-min=5.6km az=171.0*
*IDC **03** 17:11:30.8±4.9, 23°.38S×176°.99W, h162km±35km, mb3.9/4, mb1 4.0/7, mb1mx3.5/35, mbtmp4.4/7, Error ellipse: s-maj=45.7km s-min=30.9km az=124.0*
ISC 03 17:11:23.3±0.9, 23°.9S±0°.1×176°.8W±0°.1, h100km, n21, σ2§02/23, mb4.3/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.80**	**321**	P	**Pn**	**17 13 15.0**	**+0.8**
	0.8nm,0.3s,baz=108,slow=20,SNR=6.6						
MSVF	**Nonsavu**	**7.80**	**321**		**Pn**	**17 13 14.0**	**-0.2**
NIUE	**Niue**	**8.02**	**54**	Pn	**Pn**	**17 13 16.7**	**-0.3**
URZ	**Urewera**	**15.21**	**199**	P	**P**	**17 15 01.8**	**+6.5**
	0.4nm,0.3s,baz=120,slow=23,SNR=1.9						
URZ				S	**S**	**17 17 45.7**	**-4.9**
	0.1nm,0.3s,baz=121,slow=23,SNR=1.0						
DZM	**Mont Dzumac**	**15.53**	**273**	P	**P**	**17 14 60.0**	**+0.9**
	0.1nm,0.3s,baz=86,slow=18,SNR=2.3						
DZM	**Mont Dzumac**	**15.53**	**273**		**Pn**	**17 14 56.5**	**-0.3**
DZM				IAmb	IAmb	17 15 05.5	
	comp=Z,12nm,1.1s						
CTA	**Charters Tower**	**34.39**	**269**	P	**P**	**17 18 01.6**	**+0.5**
	comp=Z,8.6nm,0.4s,baz=92,slow=11,SNR=17						
CTAO	**Charters Tower**	**34.39**	**269**	P	**P**	**17 18 02.2**	**+1.0**
TOO	**Toolangi**	**34.90**	**238**	P	**P**	**17 18 03.5**	**-1.9**
AS31	**Alice Springs**	**44.91**	**260**	P	**P**	**17 19 27.2**	**-1.1**
ASAR	**Alice Springs**	**44.91**	**260**	P	**P**	**17 19 28.9**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=101,slow=6.5,SNR=4.6						
ASAR				PcP	**PcP**	**17 21 08.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=110,slow=4.1,SNR=2.1						
ASAR	**Alice Springs**	**44.91**	**260**	P	**P**	**17 19 28.8**	**+0.4**
WR0	**Warramunga Arr**	**45.13**	**265**	P	**P**	**17 19 29.4**	**-0.7**
WR0				IAmb	IAmb	17 19 39.4	
	comp=Z,5.4nm,1.1s						
WB2	**Warramunga Arr**	**45.30**	**265**	P	**P**	**17 19 30.2**	**-1.3**
WB2				IAmb	IAmb	17 19 40.8	
	comp=Z,3.4nm,1.1s						
WRAB	**Tennant Creek**	**45.31**	**265**	P	**P**	**17 19 30.2**	**-1.3**
WRAB				IAmb	IAmb	17 19 32.1	
	comp=Z,5.8nm,0.9s						
WB0	**Warramunga Arr**	**45.31**	**265**	P	**P**	**17 19 31.0**	**-0.5**
WB0				IAmb	IAmb	17 19 32.2	
	comp=Z,4.9nm,0.7s						
WRA	**Warramunga Arr**	**45.31**	**265**	P	**P**	**17 19 31.3**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=94,slow=8.3,SNR=30						
WRA	**Warramunga Arr**	**45.31**	**265**	P	**P**	**17 19 30.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.73**	**265**	P	**P**	**17 20 36.0**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=112,slow=8.3,SNR=15						
AKASG	**Malin Array Be**	**146.51**	**330**	PKPbc	**PKPdf**	**17 30 49.7**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=44,slow=4.3,SNR=11						
GERES	**GERESS Array B**	**153.77**	**344**	PKPbc	**PKPbc**	**17 31 10.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=56,slow=6.0,SNR=1.6						

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*NNC **03** 17:17:42.1±0.9, 43°.22N×78°.62E, h7km±6km, mpv2.5, Error ellipse: s-maj=3.8km s-min=3.4km az=143.0*
*SOME **03** 17:17:43.5, 43°.23N×78°.63E, h5km*
ISC 03 17:17:42.9±1.9, 43°.23N±0°.04×78°.60E±0°.04, h10km±19km, n9, σ0§24/18, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.14**	**242**	*eP*	**Pg**	**17 17 46.2**	**0.0**
	25nm,0.0s						
ZHN				*eS*	**Sg**	**17 17 47.9**	**-0.7**
	205nm,0.0s						
SATY	**Saty**	**0.23**	**220**	*eP*	**Pg**	**17 17 47.8**	**+0.2**
	2.2nm,0.0s						
SATY				*eS*	**Sg**	**17 17 51.0**	**+0.1**
	94nm,0.1s						
SATY	**Saty**	**0.23**	**220**	P	**Pg**	**17 17 47.8**	**+0.2**
	2.2nm,0.2s						
SATY				S	**Sg**	**17 17 51.0**	**+0.1**
	94nm,0.2s						
KPKS	**Kokpek**	**0.24**	**14**	*eP*	**Pg**	**17 17 48.1**	**+0.2**
	8.7nm,0.1s						
KPKS				*eS*	**Sg**	**17 17 51.6**	**+0.3**
	5.3nm,0.1s						
UZB	**Uzynbulak**	**0.32**	**106**	*eP*	**Pg**	**17 17 49.4**	**+0.1**
	2.9nm,0.0s						
UZB				*eS*	**Sg**	**17 17 53.7**	**+0.1**
	13nm,0.0s						
UZB	**Uzynbulak**	**0.32**	**106**	P	**Pg**	**17 17 49.4**	**+0.1**
	4.5nm,0.1s						
UZB				S	**Sg**	**17 17 53.7**	**+0.1**
	15nm,0.1s						
PDGK	**Podgornoye**	**0.65**	**81**	P	**Pg**	**17 17 55.3**	**-0.3**
	0.7nm,0.1s						
PDGK				S	**Sg**	**17 18 04.0**	**-0.2**
	2.6nm,0.2s						
BLB	**Baldybastay**	**0.87**	**354**	*eP*	**Pg**	**17 17 59.6**	**-0.1**
	1.8nm,0.0s						
BLB				*eS*	**Sg**	**17 18 11.1**	**+0.1**
	2.1nm,0.1s						
BLB	**Baldybastay**	**0.87**	**354**	P	**Pg**	**17 17 59.6**	**-0.1**
	1.8nm,0.2s						
BLB				S	**Sg**	**17 18 11.1**	**+0.1**
	2.1nm,0.1s						

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*BJI **03** 17:27:24.8±0.0, 25°.07N×99°.93E, h6km, mb4.1/13, mB4.2/2, ML3.9/10*
*IDC **03** 17:27:25.0±0.8, 25°.25N×100°.21E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.7/50, mbtmp3.7/13, ML4.1/1, MS3.3/7, Ms1 3.3/7, ms1mx2.9/91, Error ellipse: s-maj=28.8km s-min=15.9km az=70.0*
ISC 03 17:27:25.9±0.6, 25°.12N±0°.05×99°.94E±0°.06, h10km, n28, σ1§91/30, mb3.8/13, MS3.1/7, 4C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZH	**PanZhiHua**	**2.13**	**49**	Pn	**Pb**	**17 28 03.4**	**-1.2**
PZH				Pg	**Pg**	**17 28 05.2**	**-1.5**
PZH				Sg	**Sb**	**17 28 32.2**	**+1.1**
PZH				smax	smax		
	comp=N,2μm,0.9s						
PZH				smax	smax		
	comp=E,2μm,0.8s						
GYA	**Guiyang**	**6.20**	**76**	⇑Pn	**Pn**	**17 28 59.9**	**+2.2**
GYA				Sn	**Sn**	**17 30 09.5**	**+0.8**
GYA				Sg	**Sg**	**17 30 47.2**	**+2.1**
GYA				smax	smax		
	comp=N,71nm,0.9s						
GYA				smax	smax		
	comp=E,56nm,0.8s						
CD2	**Chengdu**	**6.68**	**29**	Pg	**Pb**	**17 29 24.3**	**+2.2**
CD2				Sg	**Sg**	**17 30 56.7**	**-3.6**
CD2				smax	smax		
	comp=N,10.0nm,1.9s						
CD2				smax	smax		
	comp=E,80nm,0.9s						
CMAR	**Chiang Mai Arr**	**6.70**	**188**	Pn	**Pn**	**17 29 05.0**	**+0.6**
	0.9nm,0.3s,baz=4.6,slow=12,SNR=40						
CMAR				Pg	**Pg**	**17 29 30.6**	**-3.5**
	4.4nm,0.3s,baz=0.6,slow=17,SNR=17						
CMAR				Sn	**Sn**	**17 30 23.4**	**+2.7**
	baz=8.7,slow=19,SNR=1.4						
CMAR				Lg	Lg	17 30 54.5	
	3.7nm,0.3s,baz=360,slow=30,SNR=12						
XAN	**Xi'an**	**11.83**	**39**	P	**Pn**	**17 30 13.8**	**-0.9**
XAN				pP		17 30 20.8	
XAN				S	**Sn**	**17 32 27.2**	**+0.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WHN	**Wuhan**	**13.84**	**64**	⇓P	**P**	**17 30 46.7**	**-3.9**
GTA	**Gaotai**	**14.25**	**360**	⇑P	**P**	**17 30 57.6**	**+2.4**
GTA				pmax	pmax		
	comp=Z,11nm,1.3s						
GTA				pmax	pmax		
	comp=Z,51nm,4.4s						
GTA				LR	LR		
	comp=N,210nm,13.5s						
GTA				LR	LR		
	comp=E,400nm,12.4s						
GTA				LR	LR		
	comp=Z,190nm,12.4s						
HNS	**HongShan**	**17.55**	**42**	⇑P	**Pn**	**17 31 30.3**	**-0.4**
HNS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TIA	**Tai'an**	**18.43**	**49**	⇑P	**Pn**	**17 31 41.0**	**-0.4**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WMQ	**Urumqi**	**21.17**	**335**	*eP*	**P**	**17 32 13.0**	**+1.7**
WMQ				pP	sP	17 32 16.9	+0.6
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
PSI	**Prapat**	**22.21**	**183**	LR	LR	17 41 35.3	
	comp=Z,52nm,20.2s,baz=350,slow=38						
SONM	**Songino Array**	**23.24**	**11**	P	**P**	**17 32 32.2**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=186,slow=9.3,SNR=7.3						
SONM				LR	LR	17 43 05.0	
	comp=Z,92nm,19.8s,baz=168,slow=41						
JOW	**Kunigami**	**25.51**	**80**	LR	LR	17 43 57.4	
	comp=Z,75nm,18.4s,baz=126,slow=39						
MKAR	**Makanchi Array**	**25.80**	**331**	P	**P**	**17 32 59.1**	**+2.0**
	comp=Z,2.6nm,0.7s,baz=139,slow=11,SNR=19						
KSRS	**Korea Array**	**26.78**	**56**	P	**P**	**17 33 04.3**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=243,slow=11,SNR=2.4						
AAK	**Ala-Archa**	**27.26**	**316**	P	**P**	**17 33 12.8**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=125,slow=12,SNR=1.8						
ZALV	**Zalesovo Beam**	**30.93**	**343**	P	**P**	**17 33 43.4**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=155,slow=11,SNR=6.5						
KAPI	**Kappang**	**35.61**	**145**	LR	LR	17 51 37.7	
	comp=Z,25nm,18.4s,baz=356,slow=41						
BVAR	**Borovoye Array**	**35.63**	**329**	P	**P**	**17 34 24.9**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=131,slow=10,SNR=4.4						
GEYT	**Alibeck**	**37.57**	**300**	LR	LR	17 52 35.2	
	comp=Z,36nm,20.9s,baz=40,slow=40						
GUMO	**Guam**	**43.73**	**97**	LR	LR	17 52 21.2	
	comp=Z,15nm,20.9s,baz=110,slow=34						
NRIK	**Noril'sk**	**44.85**	**354**	P	**P**	**17 35 39.3**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=138,slow=8.6,SNR=2.5						
WRA	**Warramunga Arr**	**55.91**	**140**	P	**P**	**17 37 05.3**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=326,slow=8.1,SNR=4.6						
ASAR	**Alice Springs**	**58.61**	**143**	P	**P**	**17 37 24.1**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=325,slow=6.8,SNR=6.1						
AKASG	**Malin Array Be**	**58.92**	**316**	P	**P**	**17 37 24.7**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=75,slow=6.3,SNR=3.7						
ILAR	**Eielson Array**	**76.78**	**24**	P	**P**	**17 39 16.0**	**-1.4**
	comp=Z,1.4nm,1.2s,baz=225,slow=4.4,SNR=4.3						
YKA	**Yellowknife Ar**	**88.44**	**15**	P	**P**	**17 40 16.9**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=328,slow=5.0,SNR=9.1						
BBB	**Bella Bella**	**92.31**	**27**	LR	LR	18 25 30.2	
	comp=Z,73nm,19.4s,baz=274,slow=38						

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*KRNET **03** 18:03:13.0±0.1, 39°.25N×73°.68E, h21km, mb3.0*
*SOME **03** 18:03:12.2, 39°.38N×73°.05E, h5km*
*NNC **03** 18:03:18.2±2.8, 39°.39N×73°.65E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=21.7km s-min=12.7km az=163.0*
ISC 03 18:03:16.9±1.6, 39°.35N±0°.08×73°.47E±0°.06, h10km, n37, σ2§19/59, 14C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.67**	**2**	⇓*eP*	**Pg**	**18 03 27.7**	**-2.1**
	baz=50						
SFK				⇓*eS*	**Sg**	**18 03 38.8**	**+0.2**
	baz=50						
OHH	**Osh**	**1.29**	**336**	⇓*iP*	**Pn**	**18 03 39.2**	**-1.8**
	baz=32						
OHH				⇓*iS*	**Sb**	**18 03 58.8**	**+0.9**
	baz=32						
DRK	**Karamyk**	**1.30**	**276**	⇑*eP*	**Pn**	**18 03 39.9**	**-1.5**
	baz=80						
DRK				⇑*iS*	**Sn**	**18 03 59.5**	**+0.5**
	baz=80						
BTK	**Batken**	**2.17**	**290**	⇑*iP*	**Pn**	**18 03 52.8**	**-0.3**
	baz=91						
BTK				⇑*iS*	**Sn**	**18 04 22.0**	**+2.0**
	baz=91						
ARK	**Arkit**	**2.70**	**335**	⇑*iP*	**Pn**	**18 04 00.2**	**-0.3**
	baz=33						
ARK				⇑*iS*	**Sn**	**18 04 34.4**	**+1.0**
	baz=33						
TRKS	**Terek-Say**	**2.81**	**322**	⇓*iP*	**Pn**	**18 04 01.1**	**-1.0**
	baz=20						
TRKS				⇓*iS*	**Sn**	**18 04 35.8**	**-0.3**
	baz=20						
MNAS	**Manas**	**3.22**	**347**	⇑*eP*	**Pn**	**18 04 06.8**	**-0.8**
	baz=45						
MNAS				⇑*iS*	**Sn**	**18 04 46.1**	**-0.1**
	baz=45						
AAK	**Ala-Archa**	**3.38**	**13**	⇑Pn	**Pn**	**18 04 12.5**	**+2.7**
	7.6nm,1.0s						
AAK				⇑Lg	Lg	18 05 01.3	
	11nm,0.6s						
MRKS	**Merke**	**3.40**	**357**	*eP*	**Pn**	**18 04 12.9**	**+2.9**
	2.6nm,0.2s						
MRKS				*eS*	**Sb**	**18 04 56.3**	**-2.4**
	3.0nm,0.1s						
MRKS	**Merke**	**3.40**	**357**	Pg	**Pn**	**18 04 12.9**	**+2.9**
	2.9nm,0.7s						
MRKS				Lg	Lg	18 04 56.3	
	3.0nm,0.8s						
IUG	**Iuzhnay**	**3.83**	**318**	*eP*	**Pn**	**18 04 17.7**	**+1.8**
	39nm,0.0s						
IUG				*eS*	**Sn**	**18 05 04.9**	**+3.9**
	41nm,0.2s						
IUG	**Iuzhnay**	**3.83**	**318**	Pg	**Pn**	**18 04 17.7**	**+1.8**
	132nm,0.5s						
IUG				Lg	Lg	18 05 04.9	
	36nm,0.7s						
TKM2	**Tokmak 2**	**3.92**	**24**	⇑Pg	**Pg**	**18 04 29.5**	**-2.3**
	4.4nm,1.1s						
TKM2				⇑Lg	Lg	18 05 19.7	
	7.8nm,0.9s						
KST	**Kastek**	**4.14**	**26**	*eP*	**Pb**	**18 04 31.5**	**+1.5**
	1.2nm,0.1s						
KST				*eS*	**Sg**	**18 05 28.8**	**-1.1**
	7.0nm,0.1s						
KST	**Kastek**	**4.14**	**26**	Pg	**Pb**	**18 04 31.5**	**+1.5**
	1.4nm,0.5s						
KST				Lg	Lg	18 05 28.8	
	6.9nm,0.7s						
SGDS	**Sogindy**	**4.19**	**12**	*eP*	**Pb**	**18 04 31.7**	**+0.9**
	1.1nm,0.1s						
SGDS				*eS*	**Sg**	**18 05 29.2**	**-2.3**
	6.2nm,0.3s						
SGDS	**Sogindy**	**4.19**	**12**	Pg	**Pb**	**18 04 31.7**	**+0.9**
	1.2nm,0.5s						
SGDS				Lg	Lg	18 05 29.2	
	8.6nm,0.7s						
DGS	**Degeres**	**4.26**	**23**	*eP*	**Pb**	**18 04 34.0**	**+2.1**
	3.0nm,0.4s						
DGS				*eS*	**Sg**	**18 05 33.1**	**-0.5**
	5.8nm,0.2s						
DGS	**Degeres**	**4.26**	**23**	Pg	**Pb**	**18 04 34.0**	**+2.1**
	3.0nm,0.8s						
DGS				Lg	Lg	18 05 33.1	
	5.8nm,0.6s						
KK02	**Karatay Array**	**4.37**	**330**	⇑Pn	**Pn**	**18 04 24.4**	**+1.1**
	2.0nm,0.6s,baz=133,slow=12						
KK02				⇑Sn	**Sn**	**18 05 19.4**	**+5.2**
	12nm,1.1s,baz=140,slow=22						
MTBS	**Maitube**	**4.39**	**30**	*eP*	**Pb**	**18 04 36.2**	**+2.1**
	1.3nm,0.3s						
MTBS				*eS*	**Sg**	**18 05 36.6**	**-1.2**
	4.7nm,1.1s						
MTBS	**Maitube**	**4.39**	**30**	Pg	**Pb**	**18 04 36.2**	**+2.1**
	1.3nm,0.3s						
MTBS				Lg	Lg	18 05 36.6	
	4.7nm,1.1s						
TNSS	**Tian-Shan**	**4.53**	**34**	*eP*	**Pb**	**18 04 38.5**	**+1.9**
	2.7nm,0.1s						
TNSS				*eS*	**Sg**	**18 05 40.9**	**-1.2**
	3.1nm,0.3s						
TNSS	**Tian-Shan**	**4.53**	**34**	Pg	**Pb**	**18 04 38.5**	**+1.9

ARXS					Lg	Lg	18 06 21.1	
	3.9nm,0.7s							
BLB	**Baldybastay**	**6.05**	**37**	*e*P		**Pg**	**18 05 08.8**	**-3.9**
	0.8nm,0.0s							
BLB				*e*S		**Sg**	**18 06 32.3**	**+1.4**
	3.2nm,0.1s							

*INET **03** 18:11:18.5±0.4, 12°.60N×87°.88W, h15km±12km, MW3.2*
*SNET **03** 18:11:20.6±1.2, 12°.54N×87°.83W, h51km±20km, ML2.9*
ISC 03 18:11:19.5±1.9, 12°.5N±0°.1×87°.78W±0°.07, h66km±22km, n12, σ0§75/20, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.74**	**73**	*e*P	**Pn**	**18 11 35.4**	**+0.7**
CRIN				*e*S	**Sn**	**18 11 46.2**	**+0.3**
CNCH	**Conchagua**	**0.79**	**356**	*e*P	**Pn**	**18 11 35.0**	**-0.3**
CNCH				*e*S	**Sn**	**18 11 47.2**	**+0.3**
LCND	**La Caada**	**0.82**	**352**	*e*P	**Pn**	**18 11 35.7**	**+0.1**
LCND				*e*S	**Sn**	**18 11 47.1**	**-0.4**
LCND				IAML		18 11 53.2	
	comp=Z,913nm,0.3s						
JUCU	**Jucuarn**	**0.89**	**329**	*e*P	**Pn**	**18 11 35.7**	**-0.8**
JUCU				*e*S	**Sn**	**18 11 47.4**	**-1.6**
JUCU				IAML		18 11 52.4	
	comp=Z,678nm,0.3s						
CNGN	**Cerro Negro**	**1.05**	**89**	*e*P	**Pn**	**18 11 38.9**	**+0.4**
PACA	**Pacayal**	**1.11**	**331**	*e*P	**Pn**	**18 11 39.7**	**+0.3**
PACA				*e*S	**Sn**	**18 11 54.0**	**-0.1**
COPN	**Copaltepe**	**1.20**	**105**	*e*P	**Pn**	**18 11 40.8**	**+0.4**
MOMN	**Momotombo**	**1.21**	**94**	*e*P	**Pn**	**18 11 40.8**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.52**	**323**	*e*P	**Pn**	**18 11 45.1**	**+0.4**
SCLA				*e*S	**Sn**	**18 12 05.0**	**+1.3**
SCLA				IAML		18 12 06.6	
	comp=Z,39nm,0.2s						
TGUH	**Tegucigalpa,Un**	**1.64**	**17**	*e*P	**Pn**	**18 11 46.8**	**+0.5**
TGUH				*e*S	**Sn**	**18 12 06.2**	**-0.3**
LFRS	**El Faro**	**1.68**	**312**	*e*P	**Pn**	**18 11 47.1**	**+0.2**
LFRS				*e*S	**Sn**	**18 12 07.8**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.06**	**91**	*e*P	**Pn**	**18 11 50.4**	**-1.5**

IDC 03 18:15:46.6±3.4, 35°.59N×77°.12E, h0km, mb3.6/2, mb1 3.4/4, mb1mx3.0/37, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=46.5km s-min=39.4km az=35.0, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.32**	**345**	Pn	Pn	18 17 39.6	+4.7
	0.1nm,0.3s,baz=159,slow=17,SNR=1.4						
AAK				Sn	Sn	18 19 00.5	+1.6
	0.0nm,0.3s,baz=162,slow=20,SNR=1.3						
AAK				Lg	Lg	18 19 30.2	
	0.1nm,0.3s,baz=332,slow=16,SNR=1.8						
MKAR	**Makanchi Array**	**11.85**	**18**	Pn	Pn	18 18 40.7	+3.9
	0.1nm,0.3s,baz=201,slow=12,SNR=7.4						
MKAR				Sn	Sn	18 20 49.4	-0.3
	0.1nm,0.3s,baz=209,slow=29,SNR=2.5						
BVAR	**Borovoye Array**	**18.07**	**347**	P	P	18 20 05.3	+5.9
	0.1nm,0.3s,baz=168,slow=8.8,SNR=4.4						
SONM	**Songino Array**	**24.89**	**52**	P	P	18 21 10.3	-0.8
	0.3nm,0.9s,baz=260,slow=8.6,SNR=1.6						
FINES	**FINESS Array B**	**41.03**	**325**	P	P	18 23 31.4	+0.1
	2.3nm,0.9s,baz=111,slow=10,SNR=3.5						

*GUC **03** 18:31:41.5±0.9, 28°.87S×69°.56W, h85km±11km, ML3.9*
*IDC **03** 18:31:44.1±1.0, 28°.67S×69°.41W, h116km±6km, mb3.6/5, mb1 3.7/7, mb1mx3.5/27, mbtmp3.9/7, Error ellipse: s-maj=28.9km s-min=20.2km az=82.0*
ISC 03 18:31:42.3±0.7, 28°.82S±0°.04×69°.67W±0°.05, h113km±6km, n20, σ1§30/30, mb3.9/4, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.92**	**258**	⇑*i*P	**Pn**	**18 32 02.4**	**-0.8**
LCO				*i* S	**Sn**	**18 32 19.0**	**0.0**
VCA	**Vinchina**	**1.29**	**87**	⇑*i*P	**Pn**	**18 32 07.4**	**+0.4**
VCA				*i* S	**Sn**	**18 32 25.6**	**-0.1**
VCA				IAML		18 32 27.2	
	comp=E,1μm,0.3s						
VCA				IAML		18 32 27.3	
	comp=N,3μm,0.3s						
VCA				IAML		18 32 28.1	
	comp=E,1μm,0.4s						
GO03	**Copiap**	**1.32**	**338**	⇓*i*P	**Pn**	**18 32 07.2**	**-0.1**
GO03				*i* S	**Sn**	**18 32 26.3**	**+0.1**
GO03				IAML		18 32 27.4	
	comp=N,2μm,0.4s						
AC04	**Llanos de Chal**	**1.38**	**296**	⇑*i*P	**Pn**	**18 32 07.9**	**0.0**
AC04				*i* S	**Sn**	**18 32 26.7**	**-0.5**
AC04				IAML		18 32 28.3	
	comp=E,2μm,0.1s						
GO04	**Tololo Observa**	**1.67**	**216**	⇑*i*P	**Pn**	**18 32 11.2**	**-0.3**
GO04				*i* S	**Sn**	**18 32 33.3**	**-0.4**
CO05	**La Serena**	**1.75**	**231**	⇑*i*P	**Pn**	**18 32 11.7**	**-0.6**
CO05				*i* S	**Sn**	**18 32 34.0**	**-1.2**
CO05				IAML		18 32 35.4	
	comp=E,4μm,0.2s						
AC02	**Maricunga**	**2.04**	**14**	⇑*i*P	**Pn**	**18 32 17.4**	**+1.0**
AC02				*e*S	**Sn**	**18 32 43.5**	**+1.2**
CO03	**El Pedregal**	**2.19**	**204**	⇑*i*P	**Pn**	**18 32 17.8**	**-0.2**
CO03				*i* S	**Sn**	**18 32 45.0**	**-0.3**
CO03				IAML		18 32 46.5	
	comp=E,2μm,0.6s						
CO06	**Fray Jorge**	**2.51**	**222**	IAML		18 32 52.0	
	comp=N,943nm,0.3s						
LVC	**Limon Verde**	**6.22**	**7**	P	**Pn**	**18 33 10.8**	**-1.2**
	comp=N,0.7nm,0.3s,baz=168,slow=13,SNR=2.0						
LVC				S	**Sn**	**18 34 18.3**	**-3.8**
	comp=N,1.3nm,0.3s,baz=48,slow=21,SNR=2.1						
CPUP	**Villa Florida**	**11.23**	**80**	P	**Pn**	**18 34 16.2**	**-3.2**
	comp=N,0.3nm,0.3s,baz=234,slow=13,SNR=4.6						
DBIC	**Dimbokro**	**71.61**	**71**	P	**P**	**18 42 52.2**	**+0.4**
	comp=N,2.7nm,0.9s,baz=322,slow=1.5,SNR=3.6						
PDAR	**Pinedale Array**	**80.14**	**331**	P	**P**	**18 43 41.9**	**+2.0**
	comp=N,0.2nm,0.7s,baz=138,slow=8.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**80.52**	**69**	P	**P**	**18 43 42.8**	**+0.5**
	comp=N,1.3nm,0.6s,baz=275,slow=5.5,SNR=8.9						
TORD				pP	**pP**	**18 44 12.5**	**+0.2**
	comp=N,0.6nm,0.7s,baz=260,slow=5.9,SNR=2.7						
BOSA	**Boshof**	**80.66**	**117**	P	**P**	**18 43 43.1**	**-0.1**
	comp=N,1.1nm,0.6s,baz=218,slow=3.7,SNR=4.2						
YKA	**Yellowknife Ar**	**97.84**	**341**	P	Pdif	18 45 05.4	+1.1
	comp=N,0.1nm,0.6s,baz=147,slow=3.7,SNR=3.6						
ASAR	**Alice Springs**	**123.09**	**206**	PKP	**PKiKP**	**18 50 26.6**	**+0.2**
	comp=N,0.2nm,0.5s,baz=126,slow=1.4,SNR=6.2						
WRA	**Warramunga Arr**	**126.26**	**208**	PKP	**PKiKP**	**18 50 33.0**	**+0.2**
	comp=N,0.7nm,0.6s,baz=156,slow=1.8,SNR=12						
ZALV	**Zalesovo Beam**	**148.76**	**29**	PKPbc	**PKiKP**	**18 51 17.1**	**-0.2**
	comp=N,2.1nm,0.5s,baz=315,slow=3.8,SNR=13						
ZALV				pPKPbc	**pPKPdf**	**18 51 47.0**	**+2.8**
	comp=N,0.8nm,0.7s,baz=345,slow=3.4,SNR=2.5						
MKAR	**Makanchi Array**	**151.72**	**43**	PKPbc	**PKiKP**	**18 51 24.4**	**+0.7**
	comp=N,1.3nm,0.5s,baz=299,slow=1.6,SNR=21						
MKAR				pPKPbc	**pPKPbc**	**18 51 55.8**	**+0.4**
	comp=N,0.4nm,0.8s,baz=302,slow=3.2,SNR=2.6						

IDC 03 18:37:44.8±3.2, 35°.00S×179°.80W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/31, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=72.9km s-min=46.9km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.10**	**216**	Pn	Pn	18 38 48.6	-0.1
	2.6nm,0.3s,baz=301,slow=24,SNR=32						
URZ				Sn	Sn	18 39 32.0	-5.3
	2.6nm,0.3s,baz=301,slow=24,SNR=23						
ASAR	**Alice Springs**	**41.59**	**273**	P	P	18 45 34.1	-0.5
	0.4nm,0.8s,baz=117,slow=7.2,SNR=8.1						
WRA	**Warramunga Arr**	**42.99**	**278**	P	P	18 45 46.2	+0.1
	0.7nm,0.5s,baz=119,slow=7.7,SNR=14						
FINES	**FINESS Array B**	**148.83**	**336**	PKPbc	PKPbc	18 57 33.0	-0.5
	1.8nm,0.9s,baz=46,slow=4.0,SNR=3.8						

*ARE **03** 18:45:53±3.6, 7°.16S±0°.08×76°.7W±0°.1, h144km±9km, Error ellipse: s-maj=0.0km s-min=0.0km az=184.0*
*NEIC **03** 18:45:53.6±2.9, 7°.15S±0°.08×76°.6W±0°.1, h164km±22km, mb4.3/7, ML4.9(ARE), Error ellipse: s-maj=17.1km s-min=8.5km az=60.0*
*IDC **03** 18:45:54.5±1.8, 7°.14S×76°.67W, h127km±27km, mb3.6/4, mb1 3.5/8, mb1mx3.3/36, mbtmp3.9/8, Error ellipse: s-maj=46.4km s-min=16.0km az=37.0*
ISC 03 18:45:54.2±0.6, 7°.19S±0°.06×76°.66W±0°.08, h150km, n21, σ2§37/24, mb3.8/4, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.72**	**272**	P	**Pn**	**18 46 26.2**	**-0.3**
	23nm,0.3s,baz=32,slow=3.2,SNR=829						
ATAH				LR	LR	18 46 36.2	
	comp=Z,11nm,20.9s,baz=133,slow=24						
ATAH				S	**Sn**	**18 46 48.7**	**-2.6**
	103nm,0.3s,baz=185,slow=22,SNR=16						
CZSB	**Cruzeiro do Su**	**3.96**	**98**		**Pn**	**18 46 53.3**	**-0.7**
NNA	**Nana**	**4.77**	**182**	P	**Pn**	**18 47 05.0**	**+0.3**
	4.6nm,0.3s,baz=6.3,slow=7.2,SNR=20						
NNA				S	**Sn**	**18 47 56.5**	**-3.2**
	42nm,0.3s,baz=256,slow=19,SNR=16						
NNA	**Nana**	**4.77**	**182**	Pn	**Pn**	**18 47 04.7**	**0.0**
OTAV	**Otavalo**	**7.59**	**346**	Pn	**Pn**	**18 47 41.6**	**-1.0**
ETMB	**Extrema**	**10.66**	**105**		**Pn**	**18 48 19.2**	**-3.7**
LPAZ	**La Paz**	**12.30**	**138**	P	**Pn**	**18 48 46.6**	**+1.5**
	0.1nm,0.3s,baz=290,slow=3.2,SNR=1.6						
PB09	**IPOC Station P**	**16.19**	**155**		**Pn**	**18 49 30.6**	**-3.0**
MACA	**Manacapuru-AM**	**16.40**	**77**		**Pn**	**18 49 33.1**	**-2.8**
MACA				IAmb	IAmb	18 49 39.2	
	comp=Z,39nm,0.7s						
SIV	**San Ignacio**	**17.59**	**121**	P	**Pn**	**18 49 51.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=316,slow=9.4,SNR=2.5						
PTGA	**Pitinga**	**17.84**	**70**	P	**Pn**	**18 49 54.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=296,slow=20,SNR=6.1						
BAUV	**El Baul**	**18.18**	**28**	P	**P**	**18 49 53.5**	**-2.1**
BAUV				IAmb	IAmb	18 50 02.2	
	comp=Z,7.3nm,0.7s						
RIMA	**Rio Macho**	**18.31**	**337**	P	**P**	**18 49 54.4**	**-2.8**
RIMA				IAmb	IAmb	18 49 54.7	
	comp=Z,6.7nm,1.1s						
BOAV	**Boa Vista**	**18.71**	**60**	P	**Pn**	**18 50 02.7**	**-0.8**
BOAV				IAmb	IAmb	18 50 09.1	
	comp=Z,6.8nm,1.1s						
ACON	**Acoyapa**	**20.83**	**336**	P	**P**	**18 50 20.8**	**-3.4**
ACON				IAmb	IAmb	18 50 23.5	
	comp=Z,37nm,0.7s						
AC04	**Llanos de Chal**	**21.56**	**166**	P	**P**	**18 50 31.4**	**-0.5**
ULM	**Lac du Bonnet**	**59.59**	**346**	P	**P**	**18 55 43.8**	**+1.8**
	comp=Z,2.3nm,0.6s,baz=192,slow=5.5,SNR=3.1						
DBIC	**Dimbokro**	**72.94**	**81**	P	**P**	**18 57 10.5**	**+2.7**
	comp=Z,1.4nm,0.5s,baz=332,slow=4.1,SNR=4.3						
YKA	**Yellowknife Ar**	**75.33**	**343**	P	**P**	**18 57 23.6**	**+2.9**
	comp=Z,0.3nm,0.5s,baz=139,slow=6.0,SNR=11						
TORD	**Torodi Ar. Bea**	**80.39**	**75**	P	**P**	**18 57 52.6**	**+3.0**
	comp=Z,1.0nm,0.8s,baz=297,slow=6.0,SNR=5.3						
TORD				pP	**pP**	**18 58 24.9**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=287,slow=6.9,SNR=3.4						
WRA	**Warramunga Arr**	**139.29**	**228**	PKP	**PKiKP**	**19 05 09.4**	**+2.6**
	comp=Z,0.6nm,1.1s,baz=118,slow=2.2,SNR=2.0						

*IDC **03** 18:49:42.4±1.3, 7°.06N×77°.36W, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.5/32, mbtmp3.8/3, ML3.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/33, Error ellipse: s-maj=47.9km s-min=27.5km az=37.0*
*RSNC **03** 18:49:46.6±1.2, 6°.99N±0°.03×77°.11W±0°.03, h28km±11km, n34, σ1§75/63, 1C-3D, Near west coast of Colombia*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.71**	**283**	⇓*i*P	**Pb**	**18 50 00.5**	**+0.1**
PTAC				*e*S	**Sn**	**18 50 11.7**	**+0.8**
SOLC	**Bahia Solano**	**0.82**	**202**	⇑*e*P	**Pn**	**18 50 01.9**	**-0.4**
SOLC				*e*S	**Sb**	**18 50 13.1**	**+0.2**
SOLC				*i*		18 50 19.5	
	comp=Z,1μm,0.6s						
DBBC	**Dabeiba**	**0.89**	**88**	⇓*i*P	**Pn**	**18 50 01.8**	**-1.6**
DBBC				*e*S	**Sb**	**18 50 15.0**	**-0.1**
CBOC	**Ciudad Bolivar**	**1.56**	**136**	⇓*e*P	**Pn**	**18 50 11.6**	**-1.0**
CBOC				*e*S	**Sn**	**18 50 29.9**	**-2.2**
CBOC				*i*		18 50 38.3	
	comp=Z,196nm,0.5s						
CAPC	**Capurgana**	**1.65**	**352**	*e*P	**Pn**	**18 50 12.8**	**-0.9**
CAPC				*e*Pg	**Pb**	**18 50 15.7**	**-0.7**
CAPC				*e*S	**Sb**	**18 50 36.8**	**0.0**
CAPC				*i*		18 50 42.8	
	comp=Z,250nm,0.7s						
UREC	**San Jos de Ur**	**1.73**	**64**	*e*P	**Pn**	**18 50 15.0**	**+0.1**
UREC				*e*S	**Sn**	**18 50 35.2**	**-0.9**
UREC				*i*		18 50 40.4	
	comp=Z,204nm,0.2s						
HELC	**Santa Helena**	**1.76**	**117**	*e*P	**Pn**	**18 50 15.7**	**+0.2**
HELC				*e*S	**Sn**	**18 50 36.7**	**-0.5**
HELC				*i*		18 50 41.3	
	comp=Z,145nm,0.6s						
LCBC	**Los crdobas,**	**1.99**	**21**	*e*P	**Pn**	**18 50 19.9**	**+1.5**
LCBC				*e*S	**Sb**	**18 50 44.6**	**-2.0**
LCBC				*i*		18 50 53.0	
	comp=Z,65nm,0.4s						
PLMC	**San Jos del P**	**2.23**	**158**	*e*P	**Pn**	**18 50 20.0**	**-1.7**
PLMC				*e*S	**Sn**	**18 50 46.3**	**-2.2**
PLMC				*i*		18 50 58.3	
	comp=Z,102nm,0.2s						
ZARC	**Zaragoza, Cauc**	**2.29**	**77**	*e*P	**Pn**	**18 50 23.3**	**+0.8**
ZARC				*e*S	**Sn**	**18 50 49.4**	**-0.3**
ZARC				*i*		18 51 00.7	
	comp=Z,414nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.47**	**135**	*e*P	**Pn**	**18 50 26.3**	**+0.9**
GUY2C				*e*S	**Sn**	**18 50 53.2**	**-1.6**
GUY2C				*i*		18 51 06.0	
	comp=Z,95nm,0.5s						
NORC	**Norcasia**	**2.64**	**122**	*e*P	**Pn**	**18 50 29.0**	**+1.7**
NORC				*e*S	**Sn**	**18 50 57.0**	**-1.5**
NORC				*i*		18 51 04.1	
	comp=Z,60nm,0.3s						
PTBC	**PUERTO BERRIO,**	**2.67**	**100**	*e*P	**Pn**	**18 50 29.1**	**+1.3**
PTBC				*e*S	**Sn**	**18 50 58.1**	**-1.1**
PTBC				*i*		18 51 05.4	
	comp=Z,142nm,0.4s						
ANIL	**Santa Ana**	**3.01**	**146**	*e*P	**Pn**	**18 50 35.1**	**+2.4**
ANIL				*e*S	**Sn**	**18 51 07.7**	**-0.3**
YOTC	**Yotoco, Valle**	**3.08**	**166**	*e*P	**Pn**	**18 50 32.4**	**-1.1**
YOTC				*e*S	**Sn**	**18 51 05.9**	**-3.7**
YOTC				*i*		18 51 15.9	
	comp=Z,23nm,0.4s						
SPBC	**San Pablo de B**	**3.30**	**114**	*e*P	**Pn**	**18 50 39.1**	**+2.6**
SPBC				*e*S	**Sn**	**18 51 14.6**	**-0.3**
SPBC				*i*		18 51 36.4	
	comp=Z,26nm,0.5s						
BRRC	**Barranca, Sant**	**3.37**	**88**	*e*P	**Pn**	**18 50 38.1**	**+0.7**
BRRC				*e*S	**Sn**	**18 51 16.2**	**-0.4**
BRRC				*i*		18 51 31.3	
	comp=Z,43nm,0.6s						
SJCC	**San Jacinto, C**	**3.46**	**33**	*e*P	**Pn**	**18 50 39.2**	**+0.6**
SJCC				*e*S	**Sn**	**18 51 18.5**	**-0.3**
BCIP	**Isla Barro Col**	**3.46**	**309**	*e*P	**Pn**	**18 50 39.8**	**+1.1**
BCIP				*e*S	**Sn**	**18 51 19.7**	**+0.9**
BCIP				*i*		18 51 37.9	
	comp=Z,50nm,0.6s						
ROSC	**El Rosal**	**3.50**	**127**	Pn	**Pn**	**18 50 42.9**	**+3.4**
	comp=Z,5.4nm,0.3s,baz=290,slow=15,SNR=5.4						
ROSC				Sn	**Sn**	**18 51 26.3**	**+6.1**
	comp=Z,4.3nm,0.3s,baz=92,slow=24,SNR=1.5						
ROSC	**El Rosal**	**3.50**	**127**	*e*P	**Pn**	**18 50 42.8**	**+3.3**
ROSC				*e*S	**Sn**	**18 51 19.1**	**-1.1**
ROSC				*i*		18 51 48.6	
	comp=Z,29nm,0.5s						
SMLC	**San Martn de**	**3.50**	**59**	*e*P	**Pn**	**18 50 41.0**	**+1.8**
SMLC				*e*S	**Sn**	**18 51 18.8**	**-1.0**
SMLC				*i*		18 51 22.0	
	comp=Z,32nm,0.3s						
ORTC	**Ortega, Tolima**	**3.58**	**149**	*e*P	**Pn**	**18 50 42.6**	**+2.3**
ORTC				*e*S	**Sn**	**18 51 21.1**	**-0.6**
ORTC				*i*		18 51 39.0	
	comp=Z,19nm,0.6s						
BARC	**Barichara**	**3.92**	**96**	*e*P	**Pn**	**18 50 47.8**	**+2.6**
BARC				*e*S	**Sn**	**18 51 27.7**	**-2.6**
BARC				*i*		18 51 48.5	
	comp=Z,54nm,0.6s						
PRAC	**Prado**	**3.94**	**146**	*e*P	**Pn**	**18 50 44.0**	**-1.2**
PRAC				*e*S	**Sn**	**18 51 31.8**	**+1.2**
OCAC	**Ocana**	**3.95**	**71**	*e*P	**Pn**	**18 50 46.2**	**+0.6**
OCAC				*e*S	**Sn**	**18 51 30.6**	**-0.5**
RUSC	**La Rusia**	**4.14**	**105**	*e*P	**Pn**	**18 50 51.2**	**+2.8**
RUSC				*e*S	**Sn**	**18 51 36.4**	**+0.1**
RUSC				*i*		18 52 00.4	
	comp=Z,28nm,0.5s						
PAMC	**Pamplona, Colo**	**4.39**	**85**	*e*P	**Pn**	**18 50 54.1**	**+2.3**
PAMC				*e*S	**Sn**	**18 51 42.1**	**-0.1**
PAMC				*i*		18 52 09.4	
	comp=Z,58nm,0.5s						
POPC	**Popayan, Colom**	**4.44**	**174**	*e*P	**Pn**	**18 50 55.0**	**+2.7**
POPC				*e*S	**Sn**	**18 51 43.3**	**0.0**
JTS	**Las Juntas de**	**8.42**	**293**	LR	LR	18 55 11.8	
	comp=Z,50nm,21.2s,slow=40						
PCRV	**Puerto La Cruz**	**12.73**	**75**	Pn	**Pn**	**18 52 47.5**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=174,slow=17,SNR=1.1						
YKA	**Yellowknife Ar**	**61.79**	**341**	P	**P**	**19 00 01.9**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=133,slow=6.7,SNR=6.6						
ASAR	**Alice Springs**	**145.93**	**237**	PKPbc	**PKPdf**	**19 09 23.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=114,slow=3.7,SNR=8.4						
WRA	**Warramunga Arr**	**146.90**	**244**	PKPbc	**PKPdf**	**19 09 25.3**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=98,slow=3.2,SNR=2.2						

*NEIC **03** 18:51:57.0±1.7, 56°.46N±0°.09×155°.7W±0°.1, h84km±16km, Error ellipse: s-maj=15.1km s-min=7.4km az=216.0*
AEIC 03 18:51:55±1.6, 56°.31N±0°.10×156°.0W±0°.2, h47km±9km, ML3.0, mb3.7/2(NEIC), ML3.3/16(NEIC), Error ellipse: s-maj=14.8km s-min=13.1km az=204.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**1.40**	**353**		Pn	18 52 19.7	+1.6
OHAK	**Old Harbor**	**1.73**	**57**		Pn	18 52 22.2	-0.4
OHAK					Sn	18 52 42.9	-0.7
CAHL	**Cahill**	**1.79**	**11**		Pn	18 52 23.3	-0.1
KDAK	**Kodiak Island**	**2.37**	**50**		Pn	18 52 30.7	-0.6
KAHC	**Katmai Hardscr**	**2.40**	**12**		Pn	18 52 31.8	-0.2
Q19K	**Cape Douglas,**	**2.91**	**24**		Pn	18 52 38.7	-0.1
Q19K	**Cape Douglas,**	**2.91**	**24**	IAML		18 53 33.8	
	comp=N,108nm,2.8s						
Q19K				IAML		18 53 45.6	
	comp=E,156nm,1.5s						
O19K	**Port Alsworth**	**4.00**	**12**		Pn	18 52 54.1	+0.5
O19K	**Port Alsworth**	**4.00**	**12**	IAML		18 53 45.2	
	comp=N,31nm,3.5s						
O19K				IAML		18 53 46.8	
	comp=E,27nm,3.2s						
IVE	**Iliamna Volcan**	**4.03**	**21**		Pn	18 52 54.4	+0.1
CNPM	**China Poot**	**4.09**	**36**		Pn	18 52 54.8	-0.2
CNPM					Sn	18 53 38.9	-2.7
O20K	**Slope Mountain**	**4.18**	**24**		Pn	18 52 56.4	+0.3
BRLK	**Bradley Lake**	**4.39**	**36**		Pn	18 52 58.1	-0.9
BRLK	**Bradley Lake**	**4.39**	**36**		Sn	18 53 44.8	-4.1
BRSE	**Bradley Lake S**	**4.42**	**37**		Pn	18 52 58.9	-0.6
RED	**Redoubt Volcan**	**4.45**	**21**		Pn	18 53 00.1	+0.2
N19K	**Bonanza Creek**	**4.59**	**9**		Pn	18 53 01.6	-0.2
N19K	**Bonanza Creek**	**4.59**	**9**	IAML		18 54 43.5	
	comp=E,30nm,3.8s						
N19K				IAML		18 55 42.5	
	comp=N,28nm,4.0s						
SVW2	**Sparrevohn**	**4.81**	**2**		Pn	18 53 04.1	-0.7
SVW2	**Sparrevohn**	**4.81**	**2**	IAML		18 55 38.1	
	comp=N,22nm,4.2s						
SVW2				IAML		18 56 06.5	
	comp=E,28nm,3.4s						
SPU	**Mount Spurr**	**5.29**	**21**	Pn	Pn	18 53 11.2	-0.2
RC01	**Rabbit Creek A**	**5.79**	**31**	Pn	Pn	18 53 16.1	-2.1
PWL	**Port Wells**	**6.06**	**38**	Pn	Pn	18 53 20.4	-1.5
KNK	**Knik Glacier**	**6.43**	**34**	Pn	Pn	18 53 25.8	-1.2
GHO	**Glory Hole Cre**	**6.57**	**31**	Pn	Pn	18 53 28.3	-0.7
I23K	**Minto, Yukon-K**	**9.43**	**17**	Pn	Pn	18 54 05.8	-2.3
H21K	**Melozitna Rive**	**9.51**	**8**	Pn	Pn	18 54 08.3	-0.8
IL31		**9.58**	**24**	Pn	Pn	18 54 07.5	-2.6
ILAR	**Eielson Array**	**9.58**	**24**	Pn	Pn	18 54 07.3	-2.8
IMAR	**Indian Mountai**	**9.77**	**5**	Pn	Pn	18 54 09.3	-3.3
H24K	**Noodor Dome**	**10.32**	**19**	Pn	Pn	18 54 17.8	-2.5
C36M	**Paulatuk**	**19.24**	**35**	P	P	18 56 09.4	-5.5
C36M				IAmb	IAmb	18 56 23.1	
	comp=Z,4.8nm,0.7s						
A36M	**Sachs Harbour**	**20.25**	**27**	P	P	18 56 25.1	-0.8
A36M				IAmb	IAmb	18 56 29.2	
	comp=Z,3.3nm,1.1s						

*NEIC **03** 19:03:29.8±1.9, 17°.44N±0°.07×145°.6E±0°.3, h346km±13km, mb3.8/8, Error ellipse: s-maj=48.1km s-min=8.1km az=83.0*
*IDC **03** 19:03:30.7±2.1, 17°.45N×145°.54E, h347km±24km, mb2.9/9, mb1 3.1/11, mb1mx3.0/39, mbtmp3.7/11, Error ellipse: s-maj=23.0km s-min=16.9km az=85.0*
ISC 03 19:03:30.0±0.8, 17°.36N±0°.07×145°.5E±0°.2, h350km, n23, σ1§12/24, mb3.4/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.80**	**189**	P	**

comp=Z,29nm,1.0s
GTBY **Guantanamo Bay** 2.08 315 *e*P Pn 19 24 47.5 +0.2
GTBY *e*S Sn 19 25 15.0 +1.6
SDDR **Presa de Saban** 2.20 76 *i* P Pn 19 24 50.9 +1.9
SDDR IAML 19 25 24.3
comp=Z,19nm,1.5s

NEIC ***03*** *20:02:08.8±1.8,51°.50N×0°.02×172°.70W±0°.08, h41km±31km, Error ellipse: s-maj=7.5km s-min=3.3km az=92.0*
AEIC ***03*** *20:02:08.8±1.1,51°.63N±0°.10×172°.68W±0°.08, h40km±10km, ML3.0/11, Error ellipse: s-maj=14.4km s-min=5.8km az=196.0*
IDC ***03*** *20:02:13.8±7.3,51°.68N×172°.57W, h75km±66km, mb3.3/6, mb1 3.6/9, mb1mx3.1/53, mbtmp3.7/9, ML3.7/2, Error ellipse: s-maj=47.7km s-min=21.4km az=169.0*
ISC 03 20:02:08.6±1.0, 51°.6N±0°.1×172°.67W±0°.04, h27km, n18, σ1§04/21, mb3.4/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.13**	**309**		**Pn**	**20 02 28.5**	**-0.1**
ATKA	**Atka Island**	**1.14**	**304**		**Pn**	**20 02 28.1**	**-0.6**
ATKA					**Sn**	**20 02 42.5**	**-0.8**
KOKL	**Mount Kliuchef**	**1.21**	**309**		**Pn**	**20 02 29.9**	**+0.1**
KOKL					**Sb**	**20 02 45.9**	**-0.1**
GSMY	**Great Sitkin M**	**2.15**	**284**		**Pn**	**20 02 43.0**	**+0.4**
CLCO	**Concord Point,**	**2.19**	**55**		**Pn**	**20 02 43.1**	**0.0**
CLCO					**Sn**	**20 03 10.7**	**+1.4**
GSTD	**Great Sitkin T**	**2.21**	**284**		**Pn**	**20 02 43.6**	**+0.1**
NIKH	**Nikolski High**	**2.73**	**58**	Pn	**Pn**	**20 02 49.8**	**-0.9**
MSW	**Makushin Switc**	**4.28**	**54**		**Pn**	**20 03 10.7**	**-1.3**
UNV	**Unalaska Valle**	**4.39**	**56**		**Pn**	**20 03 13.8**	**+0.4**
KDAK	**Kodiak Island**	**13.15**	**54**	P	**Pn**	**20 05 16.4**	**+3.0**
	0.3nm,0.3s,baz=186,slow=9.2,SNR=1.5						
PETK	**Petropavlovsk-**	**18.11**	**287**	P	**P**	**20 06 19.1**	**+1.0**
	0.0nm,0.3s,baz=90,slow=14,SNR=1.2						
ILAR	**Eielson Array**	**18.77**	**35**	P	**P**	**20 06 24.4**	**-0.9**
	0.3nm,0.3s,baz=220,slow=8.9,SNR=26						
INK	**Inuvik**	**25.14**	**34**	P	**P**	**20 07 29.8**	**-1.1**
	1.4nm,0.5s,baz=238,slow=8.2,SNR=13						
YKA	**Yellowknife Ar**	**32.30**	**48**	P	**P**	**20 08 34.0**	**-0.7**
	0.2nm,0.5s,baz=276,slow=7.9,SNR=5.1						
PDAR	**Pinedale Array**	**42.57**	**76**	P	**P**	**20 10 01.9**	**-0.2**
	0.6nm,0.7s,baz=294,slow=4.4,SNR=6.7						
SONM	**Songino Array**	**49.93**	**300**	P	**P**	**20 11 00.6**	**+0.7**
	0.2nm,0.6s,baz=27,slow=7.1,SNR=2.2						
CMAR	**Chiang Mai Arr**	**74.78**	**280**	P	**P**	**20 13 46.4**	**+0.1**
	0.4nm,1.0s,baz=48,slow=6.0,SNR=4.7						
ASAR	**Alice Springs**	**88.33**	**227**	P	**P**	**20 14 56.9**	**-0.7**
	0.3nm,0.3s,baz=32,slow=5.5,SNR=9.7						

IDC ***03*** *20:33:05.1±1.2,58°.55N×154°.21W, h80km±16km, mb3.7/13, mb1 3.8/17, mb1mx3.4/55, mbtmp4.0/17, Error ellipse: s-maj=21.8km s-min=17.5km az=12.0*
NEIC ***03*** *20:33:06.6±1.4,58°.57N±0°.03×154°.07W±0°.07, h97km±6km, Error ellipse: s-maj=5.4km s-min=4.2km az=60.0*
ANF ***03*** *20:33:07.0±0.3,58°.58N×154°.00W, h85km±4km, ML3.7/30, Error ellipse: s-maj=3.6km s-min=2.6km az=63.0*
AEIC ***03*** *20:33:07±1.8,58°.55N±0°.03×154°.11W±0°.04, h84km±5km, ML3.6, mb3.8/3(NEIC), ML3.5/51(NEIC), Error ellipse: s-maj=4.8km s-min=2.7km az=209.0*
ISC 03 20:33:06.4±0.6, 58°.57N±0°.03×154°.01W±0°.03, h96km±5km, n241, σ0§91/254, mb3.9/13, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q19K	**Cape Douglas,**	**0.40**	**28**		**Pn**	**20 33 21.0**	**-0.2**
Q19K	**Cape Douglas,**	**0.40**	**28**		**Sn**	**20 33 31.4**	**-0.7**
Q19K	**Cape Douglas,**	**0.40**	**28**	IAML		20 33 29.6	
	comp=E,665nm,0.7s						
Q19K	**Cape Douglas,**	**0.40**	**28**	P	**Pn**	**20 33 21.0**	**-0.2**
	baz=210,SNR=68						
Q19K				S	**Sn**	**20 33 31.5**	**-0.7**
	baz=210						
KCG	**Knife Ck. Glac**	**0.64**	**246**		**Pn**	**20 33 24.2**	**+1.3**
KCG					**Sn**	**20 33 35.7**	**+0.3**
KABU	**Katmai Buttres**	**0.74**	**246**		**Pn**	**20 33 23.5**	**-0.4**
KABU					**Sn**	**20 33 35.9**	**-1.1**
AUQ	**Augustine Qik'**	**0.84**	**21**		**Pn**	**20 33 25.3**	**+0.4**
AUQ					**Sn**	**20 33 40.5**	**+1.7**
AUW	**Augustine West**	**0.85**	**19**		**Pn**	**20 33 25.5**	**+0.6**
AUL	**Augustine Lava**	**0.86**	**20**		**Pn**	**20 33 25.6**	**+0.5**
AU22	**Augustine Moun**	**0.87**	**23**		**Pn**	**20 33 25.6**	**+0.5**
P18K	**Big Mountain,**	**1.04**	**323**		**Pn**	**20 33 26.3**	**-0.7**
P18K					**Sn**	**20 33 40.6**	**-1.8**
P18K	**Big Mountain,**	**1.04**	**323**	IAML		20 33 41.0	
	comp=E,1μm,0.6s						
P18K	**Big Mountain,**	**1.04**	**323**	P	**Pn**	**20 33 26.3**	**-0.7**
	baz=143,SNR=6.7						
P18K				S	**Sn**	**20 33 40.6**	**-1.8**
	baz=143						
KDAK	**Kodiak Island**	**1.10**	**136**	P	**Pn**	**20 33 27.8**	**+0.2**
	comp=E,339nm,0.3s,baz=347,slow=9.4,SNR=1976						
KDAK				S	**Sn**	**20 33 41.5**	**-2.0**
	comp=E,108nm,0.3s,baz=227,slow=23,SNR=18						
KDAK	**Kodiak Island**	**1.10**	**136**		**Pn**	**20 33 27.8**	**+0.2**
KDAK					**Sn**	**20 33 43.1**	**-0.4**
KDAK	**Kodiak Island**	**1.10**	**136**	P	**Pn**	**20 33 27.8**	**+0.2**
	baz=316						
KDAK				S	**Sn**	**20 33 42.9**	**-0.6**
	baz=316						
OPT	**Oil Point**	**1.15**	**20**		**Pn**	**20 33 29.0**	**+0.7**
OHAK	**Old Harbor**	**1.41**	**164**		**Pn**	**20 33 31.2**	**-0.1**
OHAK					**Sn**	**20 33 48.7**	**-1.4**
OHAK	**Old Harbor**	**1.41**	**164**	IAML		20 33 49.7	
	comp=N,725nm,0.6s						
OHAK				IAML		20 33 50.2	
	comp=E,622nm,0.5s						
OHAK	**Old Harbor**	**1.41**	**164**	P	**Pn**	**20 33 31.2**	**-0.1**
	baz=344,SNR=26						
OHAK				S	**Sn**	**20 33 48.5**	**-1.6**
	baz=344						
O18K	**Koktuh Hills**	**1.43**	**335**		**Pn**	**20 33 31.4**	**-0.1**
O18K					**Sn**	**20 33 49.6**	**-0.9**
O18K	**Koktuh Hills**	**1.43**	**335**	IAML		20 33 50.2	
	comp=N,604nm,0.5s						
O18K	**Koktuh Hills**	**1.43**	**335**	P	**Pn**	**20 33 31.4**	**-0.1**
	baz=155,SNR=31						
O18K				S	**Sn**	**20 33 49.2**	**-1.3**
	baz=155						
IVE	**Iliamna Volcan**	**1.54**	**19**		**Pn**	**20 33 33.5**	**+0.6**
O19K	**Port Alsworth**	**1.63**	**355**		**Pn**	**20 33 34.3**	**+0.2**
O19K					**Sn**	**20 33 54.6**	**-0.5**
O19K	**Port Alsworth**	**1.63**	**355**	P	**Pn**	**20 33 34.2**	**+0.2**
	baz=175,SNR=66						
O19K				S	**Sn**	**20 33 54.6**	**-0.5**
	baz=175						
HOM	**Homer**	**1.64**	**47**		**Pn**	**20 33 35.2**	**+1.2**
HOM	**Homer**	**1.64**	**47**	IAML		20 33 58.6	
	comp=E,709nm,0.9s						
HOM	**Homer**	**1.64**	**47**	P	**Pn**	**20 33 35.3**	**+1.2**
	baz=229,SNR=9.2						
HOM				S	**Sn**	**20 33 56.9**	**+1.8**
	baz=229						
O20K	**Slope Mountain**	**1.67**	**25**		**Pn**	**20 33 35.6**	**+1.0**
O20K					**Sn**	**20 33 57.2**	**+1.1**
O20K	**Slope Mountain**	**1.67**	**25**	P	**Pn**	**20 33 35.6**	**+1.0**
	baz=206,SNR=31						
O20K				S	**Sn**	**20 33 56.8**	**+0.7**
	baz=206						
CNPM	**China Poot**	**1.72**	**55**		**Pn**	**20 33 35.9**	**+0.6**
CNPM	**China Poot**	**1.72**	**55**	IAML		20 34 01.1	
	comp=E,371nm,0.5s						
CNPM				IAML		20 34 01.5	
	comp=N,370nm,0.4s						
RED	**Redoubt Volcan**	**1.96**	**18**		**Pn**	**20 33 39.1**	**+0.8**
RSO	**Redoubt South**	**2.00**	**18**		**Pn**	**20 33 39.4**	**+0.5**
BRLK	**Bradley Lake**	**2.00**	**52**		**Pn**	**20 33 39.1**	**+0.2**
BRLK	**Bradley Lake**	**2.00**	**52**	IAML		20 34 05.0	
	comp=N,285nm,0.1s						
RDWB	**Redoubt West**	**2.01**	**17**		**Pn**	**20 33 39.9**	**+0.8**
BRSE	**Bradley Lake S**	**2.05**	**54**		**Pn**	**20 33 39.7**	**+0.3**
BRSE	**Bradley Lake S**	**2.05**	**54**	P	**Pn**	**20 33 39.8**	**+0.3**
	baz=237,SNR=6.3						
BRSE				S	**Sn**	**20 34 04.7**	**0.0**
	baz=237						
NCT	**North Crescent**	**2.07**	**15**		**Pn**	**20 33 40.7**	**+0.9**
DFR	**Drift River**	**2.13**	**18**		**Pn**	**20 33 41.6**	**+0.9**
N19K	**Bonanza Creek**	**2.26**	**354**		**Pn**	**20 33 42.8**	**+0.6**
N19K					**Sn**	**20 34 09.5**	**-0.2**
N19K	**Bonanza Creek**	**2.26**	**354**	IAML		20 34 10.1	
	comp=E,246nm,0.6s						
N19K	**Bonanza Creek**	**2.26**	**354**	P	**Pn**	**20 33 42.8**	**+0.6**
	baz=174,SNR=22						
N19K				S	**Sn**	**20 34 09.2**	**-0.5**
	baz=174						
CAPN	**Captain Cook N**	**2.63**	**32**	P	**Pn**	**20 33 49.3**	**+2.2**
	baz=215						
SVW2	**Sparrevohn**	**2.65**	**343**		**Pn**	**20 33 47.5**	**+0.1**
SLKM	**Skilak Lake**	**2.74**	**43**		**Pn**	**20 33 48.5**	**0.0**
SPCR	**Spurr Chakacha**	**2.79**	**18**		**Pn**	**20 33 50.0**	**+0.9**
SPCR	**Spurr Chakacha**	**2.79**	**18**	P	**Pn**	**20 33 50.1**	**+0.9**
	baz=200,SNR=11						
SEW	**Seward**	**2.79**	**55**		**Pn**	**20 33 49.0**	**-0.3**
SEW	**Seward**	**2.79**	**55**	P	**Pn**	**20 33 48.9**	**-0.3**
	baz=239						
SEW				S	**Sn**	**20 34 20.6**	**-1.5**
	baz=239						
SPU	**Mount Spurr**	**2.80**	**20**		**Pn**	**20 33 49.9**	**+0.6**
SPCG	**Spurr Capps Gl**	**2.91**	**19**		**Pn**	**20 33 52.0**	**+1.1**
STLK	**Strandline Lak**	**3.13**	**19**		**Pn**	**20 33 54.8**	**+1.0**
RC01	**Rabbit Creek A**	**3.32**	**39**		**Pn**	**20 33 56.6**	**+0.3**
RC01	**Rabbit Creek A**	**3.32**	**39**	IAML		20 34 36.4	
	comp=E,142nm,0.3s						
RC01				IAML		20 34 36.4	
	comp=N,141nm,0.4s						
RC01	**Rabbit Creek A**	**3.32**	**39**	P	**Pn**	**20 33 56.6**	**+0.3**
	baz=222,SNR=14						
RC01				S	**Sn**	**20 34 33.5**	**-1.2**
	baz=222						
L19K	**White Mountain**	**3.64**	**354**		**Pn**	**20 34 01.2**	**+0.5**
L19K	**White Mountain**	**3.64**	**354**	P	**Pn**	**20 34 01.4**	**+0.7**
	baz=173						
PWL	**Port Wells**	**3.68**	**49**		**Pn**	**20 34 01.2**	**+0.2**
PWL	**Port Wells**	**3.68**	**49**	IAML		20 34 43.6	
	comp=E,118nm,0.2s						
PWL	**Port Wells**	**3.68**	**49**	P	**Pn**	**20 34 01.3**	**+0.2**
	baz=234,SNR=8.0						
PWL				S	**Sn**	**20 34 41.3**	**-2.1**
	baz=234						
M22K	**Willow**	**3.73**	**30**	S	**Sn**	**20 34 44.8**	**+0.1**
	baz=213						
PMR	**Palmer**	**3.89**	**37**		**Pn**	**20 34 03.6**	**-0.3**
PMR	**Palmer**	**3.89**	**37**	IAML		20 34 48.3	
	comp=N,59nm,0.4s						
PMR	**Palmer**	**3.89**	**37**	P	**Pn**	**20 34 03.6**	**-0.3**
	baz=221,SNR=12						
PMR				S	**Sn**	**20 34 45.8**	**-2.7**
	baz=221						
L20K	**Farewell, AK**	**3.92**	**1**		**Pn**	**20 34 05.1**	**+0.7**
L20K	**Farewell, AK**	**3.92**	**1**	P	**Pn**	**20 34 04.8**	**+0.4**
	baz=181,SNR=5.3						
KNK	**Knik Glacier**	**3.98**	**42**		**Pn**	**20 34 05.0**	**-0.2**
KNK	**Knik Glacier**	**3.98**	**42**	IAML		20 34 53.2	
	comp=N,84nm,0.4s						
KNK				IAML		20 34 54.4	
	comp=E,89nm,0.7s						
KNK	**Knik Glacier**	**3.98**	**42**	P	**Pn**	**20 34 05.1**	**-0.2**
	baz=227,SNR=6.2						
KNK				S	**Sn**	**20 34 48.6**	**-2.2**
	baz=227						
GHO	**Glory Hole Cre**	**4.09**	**36**		**Pn**	**20 34 06.5**	**-0.3**
GHO	**Glory Hole Cre**	**4.09**	**36**	IAML		20 34 57.7	
	comp=E,94nm,0.4s						
GHO				IAML		20 35 02.7	
	comp=N,81nm,0.5s						
SML	**Sawmill**	**4.31**	**39**		**Pn**	**20 34 09.3**	**-0.3**
SML	**Sawmill**	**4.31**	**39**	IAML		20 35 07.9	
	comp=N,54nm,0.5s						
SML				IAML		20 35 10.7	
	comp=E,49nm,0.8s						
SML	**Sawmill**	**4.31**	**39**	P	**Pn**	**20 34 09.5**	**-0.1**
	baz=224						
SML				S	**Sn**	**20 34 55.9**	**-2.8**
	baz=224						
PPLA	**Purkeypile**	**4.43**	**11**		**Pn**	**20 34 11.8**	**+0.5**
PPLA	**Purkeypile**	**4.43**	**11**	P	**Pn**	**20 34 11.5**	**+0.1**
	baz=193						
TT01	**Tatalina**	**4.46**	**348**		**Pn**	**20 34 12.4**	**+0.8**
TTA	**Tatalina**	**4.48**	**348**		**Pn**	**20 34 12.2**	**+0.2**
TTA	**Tatalina**	**4.48**	**348**	P	**Pn**	**20 34 12.5**	**+0.5**
	baz=167						
EYAK	**Cordova Ski Ar**	**4.64**	**61**		**Pn**	**20 34 14.2**	**0.0**
EYAK	**Cordova Ski Ar**	**4.64**	**61**	P	**Pn**	**20 34 14.1**	**0.0**
	baz=248						
SCM	**Sheep Creek Mo**	**4.67**	**43**		**Pn**	**20 34 14.4**	**-0.2**
SCM	**Sheep Creek Mo**	**4.67**	**43**	P	**Pn**	**20 34 14.7**	**+0.1**
	baz=229,SNR=5.7						
K20K	**Telida**	**4.80**	**360**		**Pn**	**20 34 17.0**	**+0.8**
K20K	**Telida**	**4.80**	**360**	IAML		20 36 40.3	
	comp=N,28nm,4.9s						
K20K	**Telida**	**4.80**	**360**	P	**Pn**	**20 34 16.9**	**+0.6**
	baz=180						
DIV	**Divide**	**4.88**	**55**		**Pn**	**20 34 17.9**	**+0.5**
CAST	**Castle Rocks**	**4.95**	**10**		**Pn**	**20 34 19.6**	**+1.3**
CAST				IAML		20 35 33.1	
	comp=E,30nm,4.3s						
CAST	**Castle Rocks**	**4.95**	**10**	P	**Pn**	**20 34 19.5**	**+1.3**
	baz=192						
WAT7	**Susitna Watana**	**4.97**	**28**		**Pn**	**20 34 19.0**	**+0.3**
KLU	**Klutina**	**5.00**	**51**		**Pn**	**20 34 19.3**	**+0.2**
KLU	**Klutina**	**5.00**	**51**	IAML		20 35 16.4	
	comp=E,45nm,0.3s						
KLU	**Klutina**	**5.00**	**51**	P	**Pn**	**20 34 19.2**	**+0.2**
	baz=238,SNR=23						
WAT6	**Susitna Watana**	**5.07**	**35**		**Pn**	**20 34 19.9**	**-0.1**
WAT6	**Susitna Watana**	**5.07**	**35**	P	**Pn**	**20 34 20.0**	**-0.1**
	baz=220,SNR=16						
GOAT	**Goat Mountain**	**5.13**	**63**		**Pn**	**20 34 21.2**	**+0.4**
KTH	**Kantishna Hill**	**5.22**	**15**		**Pn**	**20 34 22.5**	**+0.5**
KTH	**Kantishna Hill**	**5.22**	**15**	IAML		20 35 57.8	
	comp=E,25nm,4.1s						
KTH				IAML		20 36 50.6	
	comp=N,28nm,4.2s						
TRF	**Thorofare Moun**	**5.22**	**19**		**Pn**	**20 34 22.6**	**+0.5**
TRF	**Thorofare Moun**	**5.22**	**19**	IAML		20 35 24.1	
	comp=E,40nm,0.7s						
TRF	**Thorofare Moun**	**5.22**	**19**	P	**Pn**	**20 34 22.6**	**+0.5**
	baz=202						
M24K	**Tolsona, Glenn**	**5.26**	**44**		**Pn**	**20 34 22.9**	**+0.3**
M24K	**Tolsona, Glenn**	**5.26**	**44**	P	**Pn**	**20 34 22.9**	**+0.3**
	baz=231,SNR=10						
BMRM	**Bremner River**	**5.32**	**59**		**Pn**	**20 34 23.3**	**-0.2**
BMRM	**Bremner River**	**5.32**	**59**	P	**Pn**	**20 34 23.5**	**+0.1**
	baz=247						
CHUM	**Lake Minchumin**	**5.39**	**8**		**Pn**	**20 34 25.0**	**+0.8**
CHUM	**Lake Minchumin**	**5.39**	**8**	P	**Pn**	**20 34 24.9**	**+0.7**
	baz=190						
RND	**Reindeer**	**5.46**	**25**		**Pn**	**20 34 25.4**	**+0.1**
DHY	**Denali Highway**	**5.56**	**33**		**Pn**	**20 34 26.1**	**-0.6**
DHY	**Denali Highway**	**5.56**	**33**	P	**Pn**	**20 34 26.8**	**+0.1**
	baz=219						
BERG	**Berg Lake**	**5.56**	**66**		**Pn**	**20 34 27.0**	**+0.4**
N25K	**Chitina, Valde**	**5.61**	**53**		**Pn**	**20 34 27.6**	**+0.3**
N25K	**Chitina, Valde**	**5.61**	**53**	P	**Pn**	**20 34 27.6**	**+0.3**
	baz=241,SNR=7.3						
J20K	**Nowinta River**	**5.62**	**359**	Pn	**Pn**	**20 34 28.2**	**+0.8**
J20K	**Nowinta River**	**5.62**	**359**	P	**Pn**	**20 34 27.9**	**+0.5**
	baz=180						
GRIN	**Grindle Hills**	**5.72**	**68**		**Pn**	**20 34 29.5**	**+0.8**
MCK	**McKinley**	**5.73**	**23**		**Pn**	**20 34 29.3**	**+0.4**
MCK	**McKinley**	**5.73**	**23**	P	**Pn**	**20 34 29.4**	**+0.6**
	baz=208						
BPAW	**Bear Paw Mtn.**	**5.73**	**13**		**Pn**	**20 34 28.5**	**-0.5**
BPAW	**Bear Paw Mtn.**	**5.73**	**13**	P	**Pn**	**20 34 29.4**	**+0.4**
	baz=196						
KHIT	**Khitrov Hills**	**5.79**	**67**		**Pn**	**20 34 30.1**	**+0.3**
HARP	**HAARP**	**5.82**	**45**		**Pn**	**20 34 30.8**	**+0.7**
HARP	**HAARP**	**5.82**	**45**	P	**Pn**	**20 34 30.6**	**+0.5**
	baz=233						
GLB	**Gilahina Butte**	**5.87**	**56**		**Pn**	**20 34 30.9**	**+0.1**
CRQM	**Cirque**	**5.93**	**64**		**Pn**	**20 34 32.1**	**+0.3**
VRDI	**Verde Repeater**	**5.94**	**59**		**Pn**	**20 34 31.9**	**0.0**
CRQE	**Cirque**	**5.95**	**64**	P	**Pn**	**20 34 32.1**	**+0.1**
	baz=253						
WAX	**Waxell Ridge**	**5.98**	**67**		**Pn**	**20 34 33.0**	**+0.6**
BWN	**Browne**	**6.03**	**19**	Pn	**Pn**	**20 34 33.8**	**+0.9**
TGL	**Tana Glacier**	**6.07**	**64**		**Pn**	**20 34 34.0**	**+0.4**
PAX	**Paxson**	**6.08**	**40**		**Pn**	**20 34 33.7**	**0.0**
PAX	**Paxson**	**6.08**	**40**	P	**Pn**	**20 34 33.6**	**0.0**
	baz=227,SNR=16						
MCARA	**McCarthy VSAT**	**6.19**	**58**		**Pn**	**20 34 35.4**	**+0.2**
MCARA	**McCarthy VSAT**	**6.19**	**58**	P	**Pn**	**20 34 35.7**	**+0.5**
	baz=248						
ISLE	**Juniper Island**	**6.27**	**66**		**Pn**	**20 34 36.9**	**+0.6**
PS10	**TAPS Pump St10**	**6.30**	**36**		**Pn**	**20 34 37.5**	**+0.9**
KIAG	**Kiagna River**	**6.34**	**63**		**Pn**	**20 34 37.5**	**+0.1**
GCSA	**Galena City Sc**	**6.34**	**349**	P	**Pn**	**20 34 37.9**	**+0.7**
	baz=166						
BAGL	**Bagley Icefiel**	**6.36**	**67**		**Pn**	**20 34 38.2**	**+0.7**
MESA	**MESA**	**6.37**	**70**		**Pn**	**20 34 38.9**	**+1.1**
MESA	**MESA**	**6.37**	**70**	P	**Pn**	**20 34 38.5**	**+0.8**
	baz=261						
PTPK	**Patty Peak**	**6.37**	**61**		**Pn**	**20 34 38.3**	**+0.5**
BALM	**Baldy**	**6.38**	**62**		**Pn**	**20 34 37.9**	**+0.1**
NEA2	**Nenana**	**6.48**	**19**		**Pn**	**20 34 38.2**	**-0.9**
NEA2	**Nenana**	**6.48**	**19**	P	**Pn**	**20 34 38.4**	**-0.7**
	baz=204,SNR=10						
YAH	**Yahtse**	**6.50**	**69**		**Pn**	**20 34 40.7**	**+1.1**
WRH	**Wood River Hil**	**6.56**	**23**		**Pn**	**20 34 39.3**	**-0.8**
M26K	**Nabesna, AK**	**6.66**	**50**		**Pn**	**20 34 41.7**	**+0.1**
M26K	**Nabesna, AK**	**6.66**	**50**	P	**Pn**	**20 34 42.0**	**+0.5**
	baz=240						
MLY	**Manley**	**6.66**	**12**		**Pn**	**20 34 41.3**	**-0.2**
MLY	**Manley**	**6.66**	**12**	P	**Pn**	**20 34 41.6**	**+0.1**
	baz=195,SNR=6.5						
MENT	**Mentasta**	**6.67**	**45**		**Pn**	**20 34 42.6**	**+0.8**
I21K	**Tanana**	**6.70**	**7**		**Pn**	**20 34 42.7**	**+0.7**
I21K	**Tanana**	**6.70**	**7**	P	**Pn**	**20 34 42.5**	**+0.5**
	baz=189						
BARN	**Barnard Glacie**	**6.71**	**63**		**Pn**	**20 34 43.0**	**+0.7**
HDA	**Harding Lake**	**6.76**	**27**		**Pn**	**20 34 42.8**	**0.0**
HDA	**Harding Lake**	**6.76**	**27**	P	**Pn**	**20 34 42.8**	**0.0**
	baz=213						
CHX	**Chaix Hills**	**6.77**	**72**		**Pn**	**20 34 44.5**	**+1.4**
CCB	**Clear Creek Bu**	**6.77**	**23**		**Pn**	**20 34 42.0**	**-1.0**
TABL	**Table Mountain**	**6.81**	**69**		**Pn**	**20 34 44.7**	**+1.0**
RIDG	**Independent Ri**	**6.81**	**37**		**Pn**	**20 34 44.4**	**+0.7**
RIDG	**Independent Ri**	**6.81**	**37**	P	**Pn**	**20 34 44.3**	**+0.6**
	baz=225,SNR=13						
CTG	**Chitina Glacier**	**6.83**	**64**	P	**Pn**	**20 34 44.6**	**+0.7**
	baz=255,SNR=6.5						
CTGM	**Chitina Glacie**	**6.83**	**64**		**Pn**	**20 34 44.8**	**+0.8**
L26K	**Log Cabin Wild**	**6.86**	**45**		**Pn**	**20 34 45.6**	**+1.4**
L26K	**Log Cabin Wild**	**6.86**	**45**	P	**Pn**	**20 34 45.7**	**+1.4**
	baz=234,SNR=22						
SAMH	**Samovar Hills**	**6.94**	**71**		**Pn**	**20 34 46.8**	**+1.3**
I23K	**Minto, Yukon-K**	**6.95**	**16**		**Pn**	**20 34 44.9**	**-0.5**
I23K	**Minto, Yukon-K**	**6.95**	**16**	P	**Pn**	**20 34 45.0**	**-0.5**
	baz=201,SNR=7.4						
LOGN	**Logan Glacier**	**6.96**	**66**		**Pn**	**20 34 46.5**	**+0.7**
TCOL	**CIGO, UAF Yank**	**6.96**	**22**		**Pn**	**20 34 44.4**	**-1.2**
TCOL	**CIGO, UAF Yank**	**6.96**	**22**	P	**Pn**	**20 34 45.5**	**0.0**
	baz=208,SNR=7.3						
COLA	**College**	**6.96**	**22**		**Pn**	**20 34 45.4**	**-0.1**
COLA	**College**	**6.96**	**22**	P	**Pn**	**20 34 45.6**	**0.0**
	baz=208						
MDM	**Murphy Dome**	**6.97**	**21**		**Pn**	**20 34 45.2**	**-0.5**
DOT	**Dot Lake**	**7.00**	**39**		**Pn**	**20 34 46.7**	**+0.5**
IL31		**7.08**	**26**		**Pn**	**20 34 46.5**	**-0.7**
ILAR	**Eielson Array**	**7.08**	**26**	P	**Pn**	**20 34 46.6**	**-0.6**
	comp=E,1.7nm,0.3s,baz=212,slow=14,SNR=90						
ILAR				S	**Sn**	**20 36 01.9**	**-4.1**
	comp=E,3.2nm,0.3s,baz=203,slow=20,SNR=5.7						
ILAR	**Eielson Array**	**7.08**	**26**	Pn	**Pn**	**20 34 46.4**	**-0.8**
M27K	**Edge Creek, AK**	**7.09**	**53**		**Pn**	**20 34 47.7**	**+0.2**
M27K	**Edge Creek, AK**	**7.09**	**53**	P	**Pn**	**20 34 48.2**	**+0.7**
	baz=243						
H21K	**Melozitna Rive**	**7.13**	**4**		**Pn**	**20 34 48.8**	**+0.8**
H21K	**Melozitna Rive**	**7.13**	**4**	P	**Pn**	**20 34 48.5**	**+0.6**
	baz=185						
PCA	**Pinnacle**	**7.20**	**72**	Pn	**Pn**	**20 34 49.8**	**+0.9**
PINM	**Pinnacle**	**7.20**	**72**	P	**Pn**	**20 34 49.5**	**+0.6**
	baz=264						
SCRK	**Sand Creek**	**7.25**	**37**		**Pn**	**20 34 49.4**	**-0.3**
SCRK	**Sand Creek**	**7.25**	**37**	P	**Pn**	**20 34 49.4**	**-0.3**
	baz=226,SNR=8.9						
POKR	**Poker Plat Res**	**7.26**	**23**	P	**Pn**	**20 34 50.1**	**+0.4**
	baz=208						
J25K	**Salcha River,**	**7.32**	**31**	P	**Pn**	**20 34 50.0**	**-0.5**
	baz=218						
L27K	**Beaver Creek,**	**7.46**	**48**		**Pn**	**20 34 53.3**	**+0.9**
L27K	**Beaver Creek,**	**7.46**	**48**	P	**Pn**	**20 34 53.4**	**+0.9**
	baz=238						
BCAR	**Beaver Creek A**	**7.48**	**48**	Pn	**Pn**	**20 34 53.6**	**+1.0**
YUK3	**Moose Creek**	**7.48**	**59**	P	**Pn**	**20 34 54.0**	**+1.2**
	baz=251,SNR=8.9						
BCPM	**Bancas

VNDA	Vanda	138.55	193	PKP	PKPdf	20 52 19.3	+0.4
	comp=Z,1.3nm,0.7s,baz=90,slow=3.0,SNR=1.4						
BOSA	Boshof	150.05	1	PKPbc	PKPbc	20 52 45.5	+0.1
	comp=Z,1.2nm,0.9s,baz=14,slow=4.2,SNR=1.5						

IDC 03 20:40:39.1±2.2, 1°48.5S×134°02.E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.5/30, mbtmp3.7/5, ML3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/43, Error ellipse: s-maj=57.4km s-min=24.3km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.82	282	Pn	Pn	20 41 25.6	+0.1
	5.8nm,0.3s,baz=324,slow=21,SNR=29						
SIJI				Sn	Sg	20 42 09.8	0.0
	52nm,0.3s,baz=208,slow=22,SNR=19						
WRA	Warramunga Arr	18.35	179	P	P	20 44 55.7	+0.3
	0.3nm,0.3s,baz=0.3,slow=12,SNR=7.3						
FITZ	Fitzroy Crossi	18.45	206	P	Pn	20 44 54.3	-2.2
	0.2nm,0.3s,baz=32,slow=9.9,SNR=2.7						
FITZ				S	Sn	20 48 08.5	-15
	0.1nm,0.3s,baz=76,slow=21,SNR=1.7						
ASAR	Alice Springs	22.06	180	P	P	20 45 36.1	+0.4
	1.8nm,0.7s,baz=6.2,slow=11,SNR=13						
PALK	Pallekele	53.90	280	LR	LR	21 14 20.6	
	comp=Z,17nm,18.6s,baz=253,slow=38						
MKAR	Makanchi Array	66.00	324	P	P	20 51 27.6	+0.1
	0.3nm,0.5s,baz=110,slow=8.3,SNR=6.3						

TUL 03 20:56:29±1.1, 36°07N±0°02×97°21W±0°03, h10km±7km, ML3.1, mb_Lg2.8/36(NEIC), Error ellipse: s-maj=3.8km s-min=2.7km az=49.0

NEIC 03 20:56:29.0±0.6, 36°11N±0°02×97°21W±0°03, h6km±7km, Error ellipse: s-maj=3.7km s-min=2.3km az=54.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK033	Mehan	0.23	107	Pg	Pg	20 56 33.9	+0.3
OK033				Sg	Sg	20 56 37.2	+0.6
OK031	S. Brethren Rd	0.34	118	Pg	Pg	20 56 35.6	0.0
OK031				Sg	Sg	20 56 40.2	+0.2
OK029	Liberty Lake	0.38	213	Pg	Pg	20 56 35.9	-0.4
OK030	Cody Creek RV	0.39	118	Pg	Pg	20 56 36.5	-0.1
OK030				Sg	Sg	20 56 41.9	+0.2
OK034	N. Norfolk Rd.	0.41	104	Pg	Pg	20 56 37.2	+0.2
OK025	Westminster Rd	0.54	191	Pg	Pg	20 56 38.9	-0.6
KAN13	South Haven SW	0.92	346		Pb	20 56 47.2	-0.3
T35A	Sooner Cattle	0.98	35		Pg	20 56 47.8	0.0
KAN17	Caldwell West	1.03	334		Pg	20 56 49.0	+0.2
KAN14	Manchester OK	1.04	324		Pg	20 56 49.0	0.0
OK032	Salt Plains WL	1.06	311		Pg	20 56 49.2	-0.2
KAN05	Bluff City Nor	1.13	332		Pg	20 56 50.7	+0.1
KAN01	Argonia South	1.13	337		Pg	20 56 50.7	0.0
TUL1	Leonard	1.17	100		Pg	20 56 50.0	-1.4
KAN10	Anthony SW Sta	1.24	325		Pg	20 56 52.5	-0.2
KAN06	Argonia West S	1.25	335		Pb	20 56 52.8	-0.2
KAN08	Anthony NE Sta	1.27	331		Pn	20 56 52.1	-1.2
KAN16	Harper SW Stat	1.31	328	Pn	Pn	20 56 53.8	-0.1
KAN12	Harper NE Stat	1.34	332		Pn	20 56 54.3	0.0
OK035	E0210 Rd and N	1.35	297		Pn	20 56 54.0	-0.4
U32A	Winter Ranch,	1.48	281	Pn	Pn	20 56 55.9	-0.2
WMOK	Wichita Mounta	1.88	224	Pn	Pn	20 57 01.8	+0.1
WMOK				IAmb_Lg		20 57 31.6	
	comp=Z,43nm,0.8s						
X37A	Clayton	2.14	135	Pn	Pn	20 57 05.6	+0.4
X37A				IAmb_Lg		20 57 40.5	
	comp=Z,48nm,1.0s						
W39A	Magazine	2.93	107	IAmb_Lg		20 58 09.1	
	comp=Z,21nm,0.7s						
MIAR	Mount Ida	3.35	117		Pn	20 57 21.7	-0.2
Z38A	Mt. Pleasant	3.38	147	IAmb_Lg		20 58 22.0	
	comp=Z,25nm,0.8s						
AMTX	Amarillo	3.85	253	IAmb_Lg		20 58 38.9	
	comp=Z,13nm,0.7s						
X40A	Basin Creek Fa	3.93	113	IAmb_Lg		20 58 39.0	
	comp=Z,22nm,1.1s						
WHAR	Wooly Hollow	4.09	100		Pn	20 57 31.5	-0.5
WHAR				IAmb_Lg		20 58 47.0	
	comp=Z,16nm,0.8s						
MGMO	Mountain Grove	4.11	74	IAmb_Lg		20 58 38.2	
	comp=Z,16nm,0.8s						
W41B	Gary Mavity, V	4.15	102		Pn	20 57 31.8	-1.0
R40A	Maddies Statio	4.50	60	IAmb_Lg		20 58 52.8	
	comp=Z,17nm,0.8s						
P38A	Dawn	4.55	39	IAmb_Lg		20 58 53.8	
	comp=Z,12nm,0.9s						
T42A	Van Buren	5.00	78	IAmb_Lg		20 59 09.0	
	comp=Z,11nm,0.7s						
CCM	Cathedral Cave	5.15	66	IAmb_Lg		20 59 11.1	
	comp=Z,22nm,0.9s						
P40A	Paris	5.32	49	IAmb_Lg		20 59 32.5	
	comp=Z,9.7nm,0.8s						
PBMO	Poplar Bluff	5.50	81	IAmb_Lg		20 59 29.1	
	comp=Z,20nm,0.8s						
FVM	French Village	5.74	69	IAmb_Lg		20 59 32.7	
	comp=Z,18nm,0.8s						
L34A	Svendsen Farm,	5.88	6	IAmb_Lg		20 59 49.6	
	comp=Z,13nm,0.8s						
N41A	Harden Midland	6.78	45	IAmb_Lg		21 00 06.2	
	comp=Z,17nm,0.8s						

IDC 03 21:07:04.7±12.0, 15°13S×165°63E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/24, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=215.5km s-min=36.7km az=55.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.95	174	Pn	Pn	21 08 47.7	-0.2
	5.7nm,0.3s,baz=353,slow=13,SNR=58						
DZM				Sn	Sn	21 10 08.4	+0.6
	1.1nm,0.3s,baz=169,slow=20,SNR=2.2						
STKA	Stephens Creek	27.54	229	P	P	21 12 53.6	+0.3
	1.5nm,0.5s,baz=59,slow=11,SNR=7.2						
WRA	Warramunga Arr	30.19	256	P	P	21 13 17.0	-0.1
	0.5nm,0.9s,baz=86,slow=9.7,SNR=2.5						
ASAR	Alice Springs	31.05	249	P	P	21 13 24.4	-0.2
	0.3nm,0.4s,baz=79,slow=8.9,SNR=9.1						

ISK 03 21:07:32.2, 37°26N×31°36E, h5km, ML3.3/30
DDA 03 21:07:33.2±0.0, 37°23N×31°35E, h14km±2km, ML3.3
NIC 03 21:07:35.8±0.0, 37°11N×31°50E, h16km±5km, Ml3.6/3
IDC 03 21:07:39.5±1.9, 37°33N×31°55E, h54km±18km, mb3.1/4, mb1 3.4/9, mb1mx3.1/41, mbtmp3.4/9, ML3.1/5, Error ellipse: s-maj=21.1km s-min=10.5km az=90.0

ISC 03 21:07:32.5±1.1, 37°25N±0°02×31°47E±0°02, h3km±8km, n86, σ1.33/124, mb3.4/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEDI	Konya, Seydise	0.31	48	P	Pn	21 07 41.8	-2.3
SEDI				S	Sb	21 07 47.0	+0.7
SEYD	Seydisehir-KON	0.34	62	PG	Pb	21 07 41.1	-0.1
KEPZ	Antalya-Kepez	0.36	162	P	Pb	21 07 41.5	-0.1
KEPZ				S	Sb	21 07 46.7	-0.9
BUCA	Burdur, Bucak-	0.73	277	P	Pg	21 07 45.5	-1.0
BUCA				S	Sg	21 07 56.8	+0.9
BCK	Bucak	0.73	287	PG	Pg	21 07 45.5	-1.0
BCK				SG	Sg	21 07 56.0	0.0
ANTB	Antalya	0.74	242	PG	Pg	21 07 46.6	0.0
HDMB	Hadim	0.86	109	PG	Pn	21 07 51.1	-0.7
DOGA	KONYA_Doganhis	0.87	11	P	Pb	21 07 50.5	+0.1
DOGA				S	Sb	21 08 01.7	-0.9
KMER	Konya-Meram	0.89	54	P	Pn	21 07 52.2	+0.2
KMER				S	Sn	21 08 05.7	+0.2
BAGO	Egridir - ISPA	0.92	324	P	Pg	21 07 50.4	+0.3
BAGO				S	Sb	21 08 03.8	0.0
KORT	Korkueli	0.93	255	PG	Pg	21 07 49.4	-0.9
KORT				SG	Sg	21 08 02.5	+0.3
KORT	Korkueli	0.93	255	P	Pg	21 07 49.3	-0.9
KORT				S	Sg	21 08 03.0	+0.8
ISP	Isparta	0.95	308	PG	Pg	21 07 50.0	-0.6
KEMT	Kemer-ANTALYA	0.97	229	PG	Pg	21 07 51.3	+0.2
KONT	Konya--Tatoy	1.00	45	PG	Pn	21 07 54.0	+0.6
KONT	Konya--Tatoy	1.00	45	P	Pn	21 07 54.1	+0.7
KONT				S	Sn	21 08 08.8	+0.7
YVAC	Isparta, Yalva	1.04	350	P	Pb	21 07 53.0	-0.2
YVAC				S	Sb	21 08 07.3	0.0
KKBE	Karaman, Kazim	1.18	91	P	Pn	21 07 56.9	+0.9
KKBE				S	Sn	21 08 14.3	+1.7
LADK	Ladik-KONYA	1.19	37	PN	Pn	21 07 57.1	+0.9
BRDR	BURDUR-Merkez	1.21	292	P	Pg	21 07 54.6	-1.0
BRDR				S	Sg	21 08 10.7	-0.5
GAZI	Gazipasa	1.22	146	PN	Pn	21 07 57.2	+0.7
GAZI	Gazipasa	1.22	146	P	Pn	21 07 57.1	+0.6
GAZI				S	Sn	21 08 15.2	+1.8
GAZI				*i* AML	AML	21 08 20.0	
	comp=N,485nm,0.9s						
AFYN	Afyon-Dinar-K	1.28	324	P	Pn	21 08 04.3	+6.9
AFYN				S	Sn	21 08 25.9	+11
AFYN				*i* AML	AML	21 08 32.0	
	comp=N,371nm,0.8s						
AFYN				*i* AML	AML	21 08 39.0	
	comp=E,397nm,1.3s						
AKUM	Antalya-Kumluc	1.29	225	P	Pg	21 07 55.7	-1.4
AKUM				S	Sn	21 08 17.3	+2.1
BASM	Basmaki-Afyon	1.31	301	PN	Pg	21 07 56.9	-0.7
ELL	Elmali	1.34	249	PN	Pn	21 07 57.6	-0.7
ELL	Elmali	1.34	249	P	Pn	21 07 57.5	-0.7
ELL				S	Sn	21 08 17.9	+1.2
KDHN	Kadinhani	1.37	22	P	Pb	21 07 59.7	+0.8
KDHN				S	Sn	21 08 19.1	+1.6
KZIL	AFYON_Kizioren	1.46	314	P	Pn	21 07 59.5	-0.4
KZIL				S	Sg	21 08 19.2	-0.2
SHUT	Suhut-Afyon	1.49	331	PN	Pb	21 08 00.7	-0.3
GOLH	Golhisar	1.52	270	P	Pn	21 08 01.4	+0.7
GOLH				S	Sg	21 08 22.8	+1.5
ALIN	Konya, Altinte	1.54	46	P	Pn	21 07 59.8	-1.1
DEMR	Demre-Antalya	1.61	232	PN	Pn	21 08 02.4	+0.6
KIZT	Kizilcal	1.66	11	PN	Pg	21 08 03.8	-0.6
BERE	Bereket-Mersin	1.67	122	PN	Pg	21 08 04.9	+0.4
CAEL	Denizli, Camel	1.72	267	P	Pn	21 08 04.3	+0.9
CAEL				S	Sg	21 08 29.6	+1.9
CAEL				*i* AML	AML	21 08 37.0	
	comp=E,322nm,0.9s						
CAEL				*i* AML	AML	21 08 44.0	
	comp=N,332nm,0.6s						
TEKE	Tekeli-Mersin	1.72	129	PN	Pg	21 08 05.6	+0.1
CHBY	Cihanbeyli	1.75	40	PN	Pg	21 08 05.8	-0.2
CAME	Cameli-Denizli	1.76	261	PN	Pn	21 08 03.8	-0.2
TEVE	Tevekalti-Mers	1.78	116	PN	Pg	21 08 06.1	-0.5
AFYO	Afyonkarahisar	1.79	329	P	Pn	21 08 02.7	-1.7
AFYO				S	Sg	21 08 30.8	+0.6
AFYO				*i* AML	AML	21 08 39.0	
	comp=N,304nm,1.2s						
AFYO				*i* AML	AML	21 08 42.0	
	comp=E,332nm,0.9s						
AKAS	Kas	1.80	236	PN	Pn	21 08 05.2	+0.6
AKAS	Kas	1.80	236	P	Pb	21 08 06.3	+0.1
AKAS				S	Sb	21 08 30.4	+1.0
AKAS				*i* AML	AML	21 08 36.0	
	comp=N,552nm,0.5s						
AKAS				*i* AML	AML	21 08 41.0	
	comp=E,341nm,0.5s						
SULT	Sultanhani-AKS	1.88	59	PN	Pg	21 08 07.9	-0.7
PASA	Karahalli, USA	1.92	306	P	Pn	21 08 05.4	-0.7
PASA				S	Sb	21 08 32.3	-0.2
KEBE	Keben-Mersin	1.97	113	PN	Pg	21 08 09.4	-0.9
GULN	MERSIN_Gulnar	1.98	122	P	Pg	21 08 09.7	-0.7
GULN				S	Sg	21 08 37.4	+1.4
AKKU	Akkuyu-Mersin	2.00	122	PN	Pg	21 08 09.4	-1.3
FETY	Fethiye	2.00	253	PN	Pn	21 08 07.7	+0.4
FETY	Fethiye	2.00	253	P	Pb	21 08 09.5	-0.1
FETY				S	Sb	21 08 35.2	+0.3
IKL	Isikli	2.05	119	PN	Pg	21 08 10.4	-1.3
TAVA	DENIZLI_Tavas	2.05	277	P	Pn	21 08 07.6	-0.3
TAVA				S	Sn	21 08 34.8	+0.7
TISA	Tisan-Mersin	2.08	121	PN	Pg	21 08 10.8	-1.6
KERG	Konya-Eregli	2.13	85	P	Pg	21 08 13.9	+0.7
KKUL	Konya-Kulu	2.24	30	P	Pg	21 08 16.6	+1.3
KKUL				S	Sg	21 08 46.3	+1.9
ALFC	Alefka	2.28	156	P	Pn	21 08 10.4	-0.6
ALFC				S	Sn	21 08 38.2	-1.5
ALFC				AML	AML	21 08 43.2	
	1.5nm,0.5s						
ALFC				AML	AML	21 08 43.2	
	1.5nm,0.5s						
ALFC				AML	AML	21 08 44.9	
	1.4nm,0.4s						
ALFC				AML	AML	21 08 44.9	
	1.4nm,0.4s						
KIZK	Mersin	2.28	109	PN	Pb	21 08 13.9	-0.4
KIZK	Mersin	2.28	109	P	Pg	21 08 16.8	+0.7
AKSY	AKSARAY - Alti	2.29	52	P	Pg	21 08 18.1	+1.7
AKMS	Akamas	2.33	162	P	Pn	21 08 10.9	-0.9
AKMS				AML	AML	21 08 52.8	
	1.6nm,0.5s						
AKMS				AML	AML	21 08 57.6	
	1.0nm,1.1s						
SGAZ	Eskisehir, Sey	2.33	348	P	Pn	21 08 12.9	+1.1
GDZ	Gediz	2.42	320	P	Pn	21 08 12.9	-0.2
USAK	Uak-Merkez	2.43	308	P	Pn	21 08 12.5	-0.7
USAK				S	Sn	21 08 43.6	+0.2
GULA	Gulagac	2.45	63	PN	Pb	21 08 16.2	-1.1
MERS	Mersin	2.47	98	PN	Pb	21 08 16.6	-1.0
MULA	Mugla, Merkez-	2.51	271	P	Pb	21 08 17.9	-0.4
MULA				S	Sn	21 08 46.8	+1.4
ANDZ	Kutahya, Merke	2.57	332	P	Pn	21 08 15.9	+0.7
LFK	Lefkose	2.58	139	PN	Pb	21 08 17.8	-1.6
NATA	Nata	2.62	160	P	Pn	21 08 16.7	+1.0
TURN	Turunc	2.62	261	P	Pn	21 08 17.3	+1.6
TURN				S	Sn	21 08 48.5	+0.4
BBAL	Bala	2.64	29	P	Pb	21 08 19.3	-1.2
GULE	Gulek	2.64	88	P	Pg	21 08 23.1	0.0
GULE				*i* AML	AML	21 09 12.0	
	comp=E,123nm,0.9s						
GULE				*i* AML	AML	21 09 25.0	
	comp=N,122nm,0.7s						
DED	Mersin	2.68	95	P	Pg	21 08 21.9	-2.0
DED				S	Sb	21 08 53.8	-0.6
CSS	Mathiatis	2.73	146	P	Pn	21 08 17.9	+0.5
CSS				S	Sn	21 08 49.9	-1.0
EREN	Erenkoy	2.77	127	P	Pg	21 08 24.1	-1.5
EREN				*i* AML	AML	21 09 22.0	
	comp=N,128nm,0.9s						
EREN				*i* AML	AML	21 09 24.0	
	comp=E,140nm,0.7s						
MVOU	Mavrovouni	2.83	141	P	Pn	21 08 19.2	+0.6
MVOU				S	Sn	21 08 52.3	-0.9
MVOU				AML	AML	21 08 59.4	
	0.5nm,0.7s						
MVOU				AML	AML	21 08 59.4	
	0.5nm,0.7s						
MVOU				AML	AML	21 09 04.2	
	0.4nm,0.5s						
MVOU				AML	AML	21 09 04.2	
	0.4nm,0.5s						
BRTR	Keskin Array B	3.01	34	P	Pb	21 08 23.3	-3.5
	0.5nm,0.3s,baz=210,slow=12,SNR=21						
BRTR				S	Sn	21 08 57.4	-0.4
	0.9nm,0.3s,baz=210,slow=20,SNR=6.0						
OSC1	CSNet OBS 1	3.74	182	S	Sn	21 09 15.1	-0.6
MMAI	Mount Meron Ar	5.31	141	P	Pn	21 08 55.8	+3.0
	3.2nm,0.3s,baz=321,slow=12,SNR=20						
MMAI				S	Sn	21 09 58.6	+4.0
	3.0nm,0.3s,baz=331,slow=31,SNR=5.4						
IDI	Anoyia	5.66	252	P	Pn	21 09 01.3	+3.7
	0.6nm,0.3s,baz=43,slow=18,SNR=2.2						
IDI				S	Sn	21 09 59.8	-3.4
	0.4nm,0.3s,baz=305,slow=21,SNR=0.8						
ASF	Jabal al Asfar	6.75	137	P	Pn	21 09 16.1	+3.5
	0.2nm,0.3s,baz=33,slow=12,SNR=2.2						
ASF				S	Sn	21 10 34.4	+4.2
	0.1nm,0.3s,baz=183,slow=22,SNR=1.3						
EIL	Elat	8.10	158	P	Pn	21 09 34.5	+3.5
	0.6nm,0.3s,baz=0.0,slow=9.1,SNR=5.3						
EIL				S	Sn	21 11 01.6	-1.5
	0.2nm,0.3s,baz=61,slow=20,SNR=1.5						
FINES	FINESS Array B	24.46	354	P	P	21 12 53.3	+1.0
	3.1nm,0.9s,baz=186,slow=8.0,SNR=3.9						
MKAR	Makanchi Array	38.35	59	P	P	21 14 56.0	+1.3
	0.2nm,0.6s,baz=266,slow=8.4,SNR=1.8						
SONM	Songino Array	54.19	53	P	P	21 16 58.5	-0.8
	0.1nm,0.4s,baz=286,slow=5.8,SNR=0.7						
CMAR	Chiang Mai Arr	61.33	88	P	P	21 17 47.4	-2.4
	0.4nm,0.8s,baz=300,slow=9.0,SNR=4.3						

ROM 03 21:08:17.6±0.1, 43°996N±0°006×11°909E±0°009, h23km±1km, ML2.1/13, Error ellipse: s-maj=0.8km s-min=0.2km az=40.0

VIE 03 21:08:18.8±0.9, 44°17N×12°02E, h17km±6km, mb2.6/2, ml2.2/8, Error ellipse: s-maj=3.8km s-min=2.6km az=51.0 45 km NW of San Marino

ISC 03 21:08:17.2±0.9, 44°02N±0°02×11°96E±0°02, h18km±3km, n51, σ0.89/84, 8C-4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	Santa Sofia	0.14	215⇑	*i*P	Pg	21 08 21.7	+0.3
SFI				S	Sg	21 08 25.5	+1.3
LMD	Lutirano	0.19	288⇓	*e*P	Pb	21 08 22.0	+0.2
LMD				S	Sg	21 08 26.2	+0.8
LMD				AML	AML		
	comp=N,1275μm,0.3s						
LMD				AML	AML		
	comp=E,702μm,0.5s						
ASQU	Asqua	0.25	209⇑	*i*P	Pb	21 08 23.2	0.0
ASQU				S	Sg	21 08 27.8	+0.8
ASQU				AML	AML		
	comp=E,789μm,0.3s						
ASQU				AML	AML		
	comp=N,1040μm,0.4s						
CPGN	Carpegna, Ital	0.34	129⇑	*i*P	Pb	21 08 25.6	+0.7
CPGN				S	Sn	21 08 33.1	-0.8
CPGN				AML	AML		
	comp=E,362μm,0.4s						
CPGN				AML	AML		
	comp=N,522μm,0.4s						
BRIS	BRISIGHELLA	0.35	292⇓	*i*P	Pg	21 08 23.5	-1.1
BRIS				S	Sg	21 08 29.0	-0.6
BRIS				AML	AML		
	comp=E,508μm,0.3s						
BRIS				AML	AML		
	comp=N,1345μm,1.5s						
BRIS				AML	AML		
	comp=E,840μm,1.6s						
BRIS				AML	AML		
	comp=N,979μm,1.6s						
RUFI	Rufina	0.37	241⇑	*i*P	Pg	21 08 24.7	-0.2
RUFI				S	Sg	21 08 30.6	+0.4
IMOL	Imola, Italy	0.38	336⇑	*i*P	Pb	21 08 26.4	+1.0
IMOL				S	Sn	21 08 34.7	+0.2
CRE	Caprese Michel	0.40	181	P	Pg	21 08 25.4	-0.2
CRE				S	Sb	21 08 32.0	+0.3
CRE				AML	AML		
	comp=E,276μm,0.8s						
CRE				AML	AML		
	comp=N,580μm,0.3s						
PARC	Parchiule	0.42	151⇑	*e*P	Pg	21 08 26.0	+0.1
PARC				S	Sb	21 08 33.3	+1.1
PARC				AML	AML		
	comp=E,258μm,0.3s						
PARC				AML	AML		
	comp=N,208μm,1.0s						
SEI	Scarperia	0.44	275	P	Pg	21 08 25.9	-0.3
SEI				S	Sg	21 08 32.8	+0.6
SEI				AML	AML		
	comp=N,715μm,0.5s						
SEI				AML	AML		
	comp=E,508μm,1.1s						
SEI				AML	AML		
	comp=N,714μm,0.5s						
SSP9	Sansepolcro	0.46	164	P	Pg	21 08 26.7	+0.1
SSP9				S	Sb	21 08 34.5	+1.2
MTRZ	Monterenzio	0.50	316	⇑P	Pg	21 08 27.6	+0.2
BADI	Badiali	0.55	158	P	Pb	21 08 28.4	+0.1
BADI				S	Sb	21 08 37.4	+1.6
BADI				AML	AML		
	comp=N,176μm,0.9s						
BADI				AML	AML		
	comp=E,189μm,1.0s						
ATMC	Monte Cedrone	0.60	163	P	Pb	21 08 28.8	-0.3
FNVD	Fontana Vidola	0.62	284	⇑P	Pb	21 08 29.2	-0.3
MPPT	Montemurlo	0.63	265	P	Pb	21 08 29.6	-0.1
ATPC	Poggio Castell	0.65	146	P	Pb	21 08 30.1	+0.2
ATPC				S	Sn	21 08 41.0	-0.3
ATPI	Pietralunga -	0.65	150	P	Pb	21 08 30.3	+0.2
ATPI				S	Sn	21 08 40.6	-0.9
ATPI				AML	AML		
	comp=E,146μm,1.4s						
ATPI				AML	AML		
	comp=N,136μm,1.3s						
FSSB	Fossombrone	0.68	119	P	Pb	21 08 30.7	+0.3
FSSB				AML	AML		
	comp=E,279μm,0.5s						
FSSB				AML	AML		
	comp=N,384μm,1.4s						
ATBU	Serra di Buran	0.69	142	P	Pb	21 08 31.1	+0.3
MTCR	Monte La Croce	0.69	271	P	Pb	21 08 30.7	-0.2
MPAG	Monte Paganucc	0.70	124	P	Pb	21 08 30.8	-0.1
ATVO	AVT- Monte Val	0.71	153⇓	*e*P	Pb	21 08 31.1	-0.1
ATVO				AML	AML		
	comp=E,208μm,0.7s						
ATVO				AML	AML		
	comp=N,166μm,0.5s						
OSSC	Osservatorio P	0.71	226	P	Pb	21 08 30.8	-0.3
OSSC				S	Sb	21 08 40.6	0.0
OSSC				AML	AML		
	comp=N,190μm,0.9s						
OSSC				AML	AML		
	comp=E,152μm,0.8s						
ATMI	Monte Miggiano	0.72	162	P	Pg	21 08 31.8	+0.4
CSNT	Castellina Chi	0.73	222	P	Pb	21 08 30.9	-0.5
CSNT				S	Sb	21 08 41.5	+0.5
CSNT				AML	AML		
	comp=N,96μm,0.9s						
CSNT				AML	AML		
	comp=E,78μm,0.4s						
CRMI	Carmignano	0.75	253⇓	*e*P	Pb	21 08 31.0	-0.7
CRMI				S	Sb	21 08 41.2	-0.4
CRMI				AML	AML		
	comp=N,72μm,1.6s						
CRMI				AML	AML		
	comp=E,67μm,1.6s						
ZCCA	Zocca	0.78	296	P	Pn	21 08 33.6	+0.2
ATSC	Scheggia e Pas	0.80	138	P	Pg	21 08 33.4	+0.6
SSFR	Montelago di S	0.83	134	P	Pb	21 08 33.8	+0.6
ATTE	AVT- Monte Tez	0.87	161	P	Pb	21 08 33.4	-0.4
ARVD	Arcevia	0.88	126	P	Pb	21 08 34.2	+0.2
BRJN	Brijuni	1.56	55	*e*Pn	Pn	21 08 43.0	-1.0
BRJN				Sg	Sn	21 09 02.8	-0.9
SMRN	Sveta Marina	1.87	56	*e*Pn	Pn	21 08 46.9	-1.4
SMRN				Sn	Sn	21 09 10.1	-1.3
RABC	Rab	2.15	69	*e*Pn	Pn	21 08 51.2	-1.0
RABC				Sn	Sn	21 09 17.4	-1.0
NVLJ	Novalja	2.16	74	*e*Pn	Pn	21 08 51.5	-0.8
NVLJ				Sn	Sn	21 09 17.8	-0.8
DUGI	Dugi Otok	2.24	90	*e*Pn	Pn	21 08 53.0	-0.4
DUGI				Sn	Sn	21 09 19.4	-1.1
ZIRJ	Zirje	2.69	96	*e*Pn	Pn	21 08 59.0

comp=E,2.3nm,0.5s
RICI Ricice 3.79 96 *e*Pn **Pn 21 09 14.6 -0.1**
RICI Sn **Sn 21 09 56.9 -1.8**

*IDC **03** 21:26:29.7±0.8,4°.18S×129°.48E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.8/36, mbtmp4.0/11, ML3.8/2, MS3.1/14, Ms1 3.1/14, ms1mx2.9/68, Error ellipse: s-maj=33.8km s-min=16.4km az=63.0*
*DJA **03** 21:26:30.9±0.7,4°.S±2°.×13°.0E±°, h11km±5km, M4.1/12, mb4.3/12, MLv4.0/8, MwMwp5.5/1, Mwp5.6/1*
*NEIC **03** 21:26:36.6±2.0,4°.11S±0°.06×129°.8E±0°.1, h59km±11km, mb4.3/17, Error ellipse: s-maj=15.5km s-min=7.4km az=103.0*
ISC 03 21:26:34.5±0.5,4°.19S±0°.05×129°.71E±0°.04, h36km, n69, σ2§21/67, mb4.0/12, MS3.0/8, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.14**	**317**	P	**Pn**	**21 26 50.8**	**-3.2**
MSAI				S	**Sn**	**21 27 06.9**	**-1.5**
AAI	**Ambon**	**1.59**	**288**	P	**Pn**	**21 26 56.5**	**-3.6**
FAKI	**Fak Fak**	**2.83**	**64**	P	**Pn**	**21 27 17.4**	**+0.2**
FAKI				S	**Sn**	**21 27 50.7**	**+0.6**
FAKI	**Fak Fak**	**2.83**	**64**		**Pn**	**21 27 17.6**	**+0.3**
FAKI				Sn	**Sn**	**21 27 49.5**	**-0.6**
SIJI	**Sorong**	**3.65**	**25**	Pn	**Pn**	**21 27 28.1**	**-0.3**
	5.3nm,0.3s,baz=197,slow=11,SNR=32						
SIJI				Sn	**Sn**	**21 28 07.8**	**-2.4**
	5.2nm,0.3s,baz=302,slow=17,SNR=3.6						
SWI	**Sorong**	**3.65**	**25**	P	**Pn**	**21 27 26.8**	**-1.6**
SAUI	**Saumlaki**	**4.09**	**157**	P	**Pn**	**21 27 34.6**	**+0.1**
SAUI	**Saumlaki**	**4.09**	**157**	Pn	**Pn**	**21 27 36.8**	**+2.3**
LBMI	**Labuha**	**4.16**	**328**	P	**Pn**	**21 27 34.6**	**-0.9**
LBMI				S	**Sn**	**21 28 23.2**	**+0.3**
SANI	**Sanana**	**4.28**	**300**	P	**Pn**	**21 27 36.1**	**-1.0**
SANI				S	**Sn**	**21 28 25.8**	**0.0**
BATI	**Baumata**	**8.47**	**225**	LR	LR	21 32 03.7	
	comp=Z,183nm,21.0s,baz=51,slow=40						
APSI	**Ampana**	**8.68**	**292**	P	**Pn**	**21 28 36.3**	**-1.4**
	27nm,1.0s						
MTN	**Manton Dam**	**8.72**	**171**	Pn	**Pn**	**21 28 39.0**	**+0.9**
BNSI	**Bone**	**9.58**	**268**	P	**Pn**	**21 28 54.1**	**+4.2**
BKSI	**Bulukumba**	**9.62**	**263**	P	**Pn**	**21 28 48.6**	**-1.9**
	12nm,1.4s						
SPSI	**Sidrap Palu**	**9.92**	**271**	P	**Pn**	**21 28 53.8**	**-0.8**
	15nm,1.3s						
KAPI	**Kappang**	**9.96**	**265**	LR	LR	21 32 40.5	
	comp=Z,74nm,18.9s,baz=112,slow=38						
KNRA	**Kununurra**	**11.46**	**185**	Pn	**Pn**	**21 29 13.9**	**-1.7**
DAV	**Davao City (W)**	**11.92**	**340**	LR	LR	21 35 04.6	
	comp=Z,60nm,18.5s,baz=128,slow=44						
FITZ	**Fitzroy Crossi**	**14.39**	**196**	Pn	**Pn**	**21 29 51.3**	**-4.4**
	0.1nm,0.3s,baz=13,slow=18,SNR=1.3						
FITZ				LR	LR	21 36 53.2	
	comp=Z,59nm,18.4s,baz=346,slow=44						
SRBI	**Singaraja**	**14.92**	**254**	P	**Pn**	**21 30 01.2**	**-1.7**
KMMI	**Kalianget**	**15.92**	**259**	P	**P**	**21 30 24.5**	**+5.3**
JAGI	**Jajag, Banyuwa**	**16.03**	**254**	P	**Pn**	**21 30 17.1**	**-0.3**
	27nm,1.1s						
WB0	**Warramunga Arr**	**16.14**	**164**	P	**Pn**	**21 30 16.8**	**-2.1**
WB0				IAmb	IAmb	21 30 33.6	
	comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**16.29**	**164**	Pn	**Pn**	**21 30 17.6**	**-3.1**
WRAB				IAmb	IAmb	21 30 35.5	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**16.30**	**164**	Pn	**Pn**	**21 30 16.6**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=351,slow=13,SNR=15						
WRA				Sn	**Sn**	**21 33 12.5**	**-8.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=22,SNR=5.0						
WRA				LR	LR	21 37 12.9	
	comp=Z,81nm,18.4s,baz=330,slow=39						
WRA	**Warramunga Arr**	**16.30**	**164**	P	**Pn**	**21 30 18.5**	**-2.2**
WB2	**Warramunga Arr**	**16.30**	**164**		**Pn**	**21 30 17.1**	**-3.7**
WB2				IAmb	IAmb	21 30 25.3	
	comp=Z,16nm,1.1s						
WR0	**Warramunga Arr**	**16.37**	**164**	P	**Pn**	**21 30 19.9**	**-1.8**
WR0				IAmb	IAmb	21 30 36.2	
	comp=Z,26nm,1.2s						
BLJI	**Banyuglugur**	**16.41**	**257**	P	**P**	**21 30 29.3**	**+4.6**
PMG	**Port Moresby**	**18.08**	**108**	P	**P**	**21 30 44.8**	**+1.6**
	baz=278,slow=14,SNR=1.5						
PMG	**Port Moresby**	**18.08**	**108**	P	**Pn**	**21 30 42.5**	**-0.5**
PMG				IAmb	IAmb	21 30 51.2	
	comp=Z,33nm,1.2s						
SBUM	**Sibu**	**18.68**	**290**		**Pn**	**21 30 50.0**	**-0.4**
PCJI	**Pacitan**	**18.84**	**257**	P	**P**	**21 30 50.6**	**-1.0**
	comp=Z,41nm,1.1s						
WOJI	**Wonogiri, Jawa**	**19.03**	**258**	P	**P**	**21 30 53.2**	**-0.4**
	comp=Z,30nm,1.0s						
PSA00	**Pilbara Seismi**	**19.76**	**208**		**P**	**21 31 02.2**	**+0.7**
PSA00	**Pilbara Seismi**	**19.76**	**208**	P	**Pn**	**21 31 02.8**	**-0.4**
PSA00				IAmb	IAmb	21 31 07.5	
	comp=Z,16nm,0.9s						
AS31	**Alice Springs**	**19.78**	**169**	P	**Pn**	**21 31 04.5**	**+0.9**
ASAR	**Alice Springs**	**19.79**	**169**	P	**P**	**21 31 02.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=349,slow=11,SNR=21						
ASAR				LR	LR	21 39 17.0	
	comp=Z,74nm,18.4s,baz=348,slow=39						
ASAR	**Alice Springs**	**19.79**	**169**		**Pn**	**21 31 03.8**	**+0.2**
KSM	**Kuching**	**20.19**	**286**		**P**	**21 31 05.7**	**-0.6**
KSM				IAmb	IAmb	21 31 11.5	
	comp=Z,12nm,0.8s						
LEM	**Lembang**	**22.14**	**262**	LR	LR	21 42 03.1	
	comp=Z,50nm,18.4s,baz=218,slow=43						
CTA	**Charters Tower**	**22.57**	**136**	P	**P**	**21 31 34.6**	**+2.7**
	comp=Z,8.2nm,0.7s,baz=313,slow=15,SNR=3.5						
CTAO	**Charters Tower**	**22.57**	**136**	P	**P**	**21 31 32.0**	**+0.1**
XMIS	**Christmas Isla**	**24.65**	**254**	P	**P**	**21 31 52.4**	**+0.3**
STKA	**Stephens Creek**	**29.72**	**159**	P	**P**	**21 32 39.7**	**+2.3**
	comp=Z,2.9nm,0.8s,baz=335,slow=14,SNR=2.0						
STKA				LR	LR	21 45 12.9	
	comp=Z,43nm,20.8s,baz=27,slow=38						
JOW	**Kunigami**	**30.87**	**358**	LR	LR	21 43 12.0	
	comp=Z,24nm,21.7s,baz=30,slow=32						
CM31	**Chiang Mai Arr**	**37.76**	**308**	P	**P**	**21 33 46.4**	**-1.0**
CM31				IAmb	IAmb	21 33 53.5	
	comp=Z,5.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**37.76**	**308**	P	**P**	**21 33 47.2**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=143,slow=7.8,SNR=7.0						
CMAR				LR	LR	21 52 48.1	
	comp=Z,12nm,18.0s,baz=5.0,slow=42						
CMAR	**Chiang Mai Arr**	**37.76**	**308**	P	**P**	**21 33 46.3**	**-1.1**
CHTO	**Chiang Mai**	**37.95**	**308**	P	**P**	**21 33 48.7**	**-0.3**
CHTO				IAmb	IAmb	21 33 55.0	
	comp=Z,6.4nm,1.1s						
MJAR	**Matsushiro Arr**	**41.29**	**10**	P	**P**	**21 34 17.6**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=186,slow=9.9,SNR=0.8						
KSRS	**Korea Array**	**41.46**	**358**	LR	LR	21 50 02.0	
	comp=Z,14nm,21.8s,baz=152,slow=34						
XAN	**Xi'an**	**42.79**	**334**	P	**P**	**21 34 31.1**	**+2.3**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAJ	**Asahikawa**	**49.46**	**12**	LR	LR	21 57 13.3	
	comp=Z,18nm,18.8s,baz=14,slow=37						
PALK	**Pallekele**	**50.21**	**283**	LR	LR	21 59 19.0	
	comp=Z,25nm,18.3s,baz=205,slow=39						
GTA	**Gaotai**	**51.39**	**330**	↑P	**P**	**21 35 39.5**	**+3.5**
GTA				pP	pP	21 35 46.2	+0.6
GTA				sP	sP	21 35 49.9	+0.6
GTA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
KLR	**Kul'dur**	**53.23**	**2**	LR	LR	21 56 00.9	
	comp=Z,16nm,21.7s,baz=97,slow=33						
SONM	**Songino Array**	**55.70**	**341**	P	**P**	**21 36 08.0**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=161,slow=11,SNR=3.8						
MK31	**Makanchi Array**	**65.73**	**326**	P	**P**	**21 37 15.3**	**-0.4**
MKAR	**Makanchi Array**	**65.73**	**326**	P	**P**	**21 37 14.8**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=117,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**65.73**	**326**	P	**P**	**21 37 14.9**	**-0.8**
ZALV	**Zalesovo Beam**	**68.95**	**333**	P	**P**	**21 37 34.4**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=103,slow=6.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**68.95**	**333**	P	**P**	**21 37 34.9**	**-0.9**
KURK	**Kurchatov**	**69.98**	**328**	P	**P**	**21 37 42.2**	**-0.1**
NRIK	**Noril'sk**	**78.78**	**346**	P	**P**	**21 38 35.1**	**+2.1**
	comp=Z,0.9nm,0.4s,baz=168,slow=4.4,SNR=4.3						
ABKAR	**Akbulak array**	**80.14**	**321**	P	**P**	**21 38 40.0**	**-1.0**
CPUP	**Villa Florida**	**148.91**	**168**	PKPbc	**PKPbc**	**21 46 17.9**	**-1.4**
	comp=Z,4.7nm,1.0s,baz=223,slow=5.4,SNR=3.3						
LPAZ	**La Paz**	**153.07**	**139**	PKPbc	**PKiKP**	**21 46 31.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=270,slow=2.0,SNR=1.8						

JMA 03 21:31:13.7±0.3,29°.93N×139°.56E, h429km, M3.5,

Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.65**	**140**	*e*S	S	21 33 20.9	-1.0
BSO3	**Boso 3**	**4.92**	**9**	S	S	21 33 41.9	-1.0
JIE	**Ise**	**5.06**	**332**	P	P	21 32 39.1	+1.6
JKN2	**Miekihoku**	**5.12**	**328**	P	P	21 32 38.8	+0.7
JOD2	**Odawara 2**	**5.33**	**356**	P	P	21 32 41.5	+1.3
JNY	**Yasuok**	**5.60**	**346**	P	P	21 32 44.2	+1.2
JHU	**Hanno**	**5.91**	**358**	P	P	21 32 46.4	+0.3
JYT	**Yasato**	**6.30**	**5**	P	P	21 32 50.9	+0.7
JHO	**Hitachi**	**6.72**	**7**	*e*S	S	21 34 14.4	-3.1

*IDC **03** 21:31:11.6±19.0, 29°.66N×50°.20E, h89km±74km, mb3.3/2, mb1 3.4/4, mb1mx2.9/38, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=271.8km s-min=61.4km az=175.0*
*TEH **03** 21:31:21.3, 31°.46N×49°.65E, h17km, ML3.4*
ISC 03 21:31:20.8±0.8, 31°.43N±0°.04×49°.63E±0°.04, h10km, n44, σ1§32/48, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.38**	**309**	*e*Pg	**Pg**	**21 31 28.2**	**-0.1**
AMIS				*e*Sg	**Sb**	**21 31 35.4**	**-0.1**
AHWZ	**Ahwaz**	**0.85**	**264**	*e*Pg	**Pg**	**21 31 37.5**	**+0.3**
AHWZ				*e*Sg	**Sb**	**21 31 51.0**	**+1.9**
ABEH	**Behbahan**	**0.98**	**147**	*e*Pg	**Pg**	**21 31 40.6**	**+0.8**
ABEH				*e*Sg	**Sn**	**21 31 55.3**	**+0.6**
SHK1	**Shahrekord**	**1.40**	**50**	*e*Pg	**Pn**	**21 31 46.6**	**0.0**
IBRJ	**Brojen**	**1.47**	**71**	*e*Pg	**Pb**	**21 31 48.3**	**-0.2**
IBRJ				*e*Sg	**Sg**	**21 32 09.4**	**+1.2**
IBRJ				*e*		21 32 20.8	
	comp=Z,3μm,0.6s						
IPIR	**Pirpir**	**1.65**	**40**	*e*Pg	**Pg**	**21 31 52.1**	**-0.4**
IPIR				*e*		21 32 17.2	
	comp=Z,4μm,0.4s						
KLNJ	**Kolanjah**	**1.73**	**103**	*e*Pn	**Pn**	**21 31 51.8**	**+0.5**
KLNJ				*e*		21 32 20.4	
	comp=Z,4μm,0.3s						
IGAR	**Gharneh**	**2.27**	**64**	*e*Pn	**Pn**	**21 32 00.1**	**+1.5**
IRAM	**Ramesheh**	**2.38**	**80**	*e*		21 32 04.0	
	comp=Z,771nm,0.2s						
IRAM				*e*Pn	**Pn**	**21 32 01.7**	**+1.6**
IKLH	**Kolahrood**	**2.51**	**41**	*e*Pn	**Pn**	**21 32 03.3**	**+1.4**
IKLH				*e*		21 32 44.6	
	comp=Z,2μm,0.4s						
IKFM	**Kafar-mosalman**	**2.58**	**325**	*e*Pn	**Pn**	**21 32 03.6**	**+1.0**
IKFM				*e*		21 32 52.5	
	comp=Z,1μm,0.6s						
IDOB	**Doab**	**2.65**	**333**	*e*Pn	**Pn**	**21 32 04.4**	**+0.5**
IZEF	**Zefreh**	**2.72**	**57**	*e*Pn	**Pn**	**21 32 06.2**	**+1.4**
AHBU	**AHRAM**	**2.94**	**150**	*e*Pn	**Pn**	**21 32 07.6**	**+0.1**
NASN	**Na'in**	**3.02**	**62**	*e*Pn	**Pn**	**21 32 10.8**	**+1.7**
ASAO	**Ashtian**	**3.13**	**6**	*e*Pn	**Pn**	**21 32 12.9**	**+2.4**
KRSH	**Karshahi**	**3.30**	**39**	*e*Pn	**Pn**	**21 32 14.5**	**+1.8**
GHVR	**GHOM**	**3.35**	**24**	*e*Pn	**Pn**	**21 32 15.8**	**+2.5**
HAGD	**Aghdareh**	**3.41**	**353**	*e*Pn	**Pn**	**21 32 15.9**	**+1.6**
IQOM	**Qom**	**3.61**	**19**	*e*Pn	**Pn**	**21 32 17.9**	**+0.8**
ISFB	**Sefidab**	**3.65**	**36**	*e*Pn	**Pn**	**21 32 18.5**	**+1.0**
IGHG	**Ghaleghazi**	**3.87**	**319**	*e*Pn	**Pn**	**21 32 21.1**	**+0.4**
IGHG				*e*		21 33 53.0	
	comp=Z,475nm,0.8s						
ANAR	**Anarak**	**3.89**	**62**	*e*Pn	**Pn**	**21 32 22.0**	**+1.2**
IVRN	**Varamin**	**3.97**	**26**	*e*Pn	**Pn**	**21 32 23.5**	**+1.7**
IRAZ	**Razeghan**	**3.97**	**4**	*e*Pn	**Pn**	**21 32 22.6**	**+0.6**
ICHK	**Chekchek**	**4.15**	**77**	*e*Pn	**Pn**	**21 32 25.2**	**+0.8**
ICHK				*e*		21 32 25.5	
	comp=Z,619nm,0.2s						
IDHR	**Dehrash**	**4.25**	**321**	*e*Pn	**Pn**	**21 32 26.0**	**+0.2**
IDHR				*e*		21 33 20.0	
	comp=Z,996nm,0.3s						
IMEH	**Mehriz**	**4.26**	**89**	*e*Pn	**Pn**	**21 32 27.0**	**+1.0**
IMEH				*e*		21 32 30.4	
	comp=Z,183nm,0.2s						
QABG	**Abgarm-Qazvin**	**4.27**	**360**	*e*Pn	**Pn**	**21 32 27.4**	**+1.3**
GHIR	**Ghir-Karzin**	**4.28**	**136**	*e*Pn	**Pn**	**21 32 25.5**	**-0.7**
YZKH	**Yazd**	**4.33**	**76**	*e*Pn	**Pn**	**21 32 27.5**	**+0.7**
IMHD	**Mahdasht**	**4.33**	**11**	*e*Pn	**Pn**	**21 32 28.1**	**+1.2**
DAMV	**Damavand**	**4.62**	**24**	*e*Pn	**Pn**	**21 32 32.6**	**+1.6**
CHTH	**Charan**	**4.64**	**15**	*e*Pn	**Pn**	**21 32 33.6**	**+2.4**
IFIR	**Firoozkooh**	**4.95**	**31**	*e*Pn	**Pn**	**21 32 36.6**	**+1.1**
QALM	**Alamut, Qazvin**	**5.06**	**9**	*e*Pn	**Pn**	**21 32 38.0**	**+1.0**
TKDS	**Koohdasht(Taba**	**6.69**	**69**	*e*Pn	**Pn**	**21 32 59.6**	**+0.3**
TABS	**Tabas**	**6.70**	**69**	*e*Pn	**Pn**	**21 33 00.2**	**+0.8**
SHRO	**Shahrood**	**7.00**	**48**	*e*Pn	**Pn**	**21 33 05.4**	**+1.9**
SBZV	**Sabzevar**	**8.28**	**51**	*e*Pn	**Pn**	**21 33 22.3**	**+1.2**
GEYT	**Alibeck**	**9.53**	**45**	P	**Pn**	**21 33 39.7**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=221,slow=13,SNR=2.3						
BRTR	**Keskin Array B**	**15.40**	**307**	P	**P**	**21 35 02.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=112,slow=10,SNR=2.4						
AKASG	**Malin Array Be**	**24.50**	**328**	P	**P**	**21 36 37.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=126,slow=7.1,SNR=1.9						
FINES	**FINESS Array B**	**33.74**	**340**	P	**P**	**21 38 00.3**	**-1.9**
	comp=Z,2.0nm,0.9s,baz=145,slow=7.5,SNR=12						

*TUL **03** 21:38:49.2±1.5, 36°.07N±0°.04×97°.21W±0°.04, h5km±7km, ML3.3, mb_Lg2.7/38(NEIC), Error ellipse: s-maj=6.4km s-min=2.5km az=220.0*
NEIC 03 21:38:49.3±0.9, 36°.09N±0°.04×97°.23W±0°.04, h5km±7km, Error ellipse: s-maj=6.6km s-min=2.6km az=222.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK033	**Mehan**	**0.24**	**100**	Pg	Pg	21 38 54.2	+0.3
OK033					Sg	21 38 57.5	+0.5
OK031	**S. Brethren Rd**	**0.34**	**113**	Pg	Pg	21 38 55.9	0.0
OK031				Sg	Sg	21 39 00.6	+0.3
OK029	**Liberty Lake**	**0.34**	**213**	Pg	Pg	21 39 56.1	+0.1
OK029				Sg	Sg	21 39 01.0	+0.5
OK030	**Cody Creek RV**	**0.39**	**114**	Pg	Pg	21 38 56.9	0.0
OK030				Sg	Sg	21 39 02.1	+0.1
OK034	**N. Norfolk Rd.**	**0.42**	**100**	Pg	Pg	21 38 57.3	-0.2
OK025	**Westminster Rd**	**0.51**	**190**	Pg	Pg	21 38 59.1	0.0
OK009	**Oakdale Elemen**	**0.53**	**198**	Pg	Pg	21 38 59.5	0.0
KAN13	**South Haven SW**	**0.95**	**348**	Pg	Pg	21 39 07.4	-0.1
T35A	**Sooner Cattle**	**1.01**	**35**		Pg	21 39 08.3	-0.3
KAN17	**Caldwell West**	**1.05**	**336**	Pg	Pg	21 39 09.2	-0.3
OK032	**Salt Plains WL**	**1.07**	**312**	Pg	Pg	21 39 09.4	-0.4
KAN05	**Bluff City Nor**	**1.15**	**333**	Pg	Pg	21 39 11.0	-0.3
KAN01	**Argonia South**	**1.15**	**338**	Pg	Pg	21 39 11.1	-0.3
TUL1	**Leonard**	**1.18**	**98**	Pg	Pg	21 39 10.2	-1.6
KAN10	**Anthony SW Sta**	**1.25**	**326**	Pg	Pg	21 39 12.8	-0.5
KAN06	**Argonia West S**	**1.27**	**336**		Pg	21 39 13.1	-0.5
KAN08	**Anthony NE Sta**	**1.29**	**332**	Pn	Pg	21 39 13.5	-0.4
KAN16	**Harper SW Stat**	**1.32**	**330**	Pn	Pn	21 39 14.0	-0.5
OK035	**E0210 Rd and N**	**1.35**	**298**	Pn	Pn	21 39 14.4	-0.4
U32A	**Winter Ranch,**	**1.47**	**282**	Pn	Pn	21 39 16.1	-0.4
WMOK	**Wichita Mounta**	**1.85**	**224**	Pn	Pn	21 39 22.0	+0.2
X37A	**Clayton**	**2.13**	**134**	Pn	Pn	21 39 25.7	+0.2
X37A				IAmb_Lg		21 40 01.7	
	comp=Z,34nm,0.8s						
U38A	**Gravette**	**2.32**	**80**	Pn	Pn	21 39 28.5	+0.3
R32A	**Long Quarter,**	**2.62**	**333**	Pn	Pn	21 39 32.4	+0.1
Z35A	**Perchaven, San**	**2.75**	**180**	Pn	Pn	21 39 34.1	0.0
W39A	**Magazine**	**2.94**	**107**	Pn	Pn	21 39 36.9	+0.2
W39A				IAmb_Lg		21 40 26.8	
	comp=Z,18nm,0.7s						
KSU1	**Kansas State U**	**3.05**	**9**	Pn	Pn	21 39 39.6	+1.4
MIAR	**Mount Ida**	**3.36**	**116**	Pn	Pn	21 39 42.3	-0.1
MIAR				IAmb_Lg		21 40 39.4	
	comp=Z,23nm,1.2s						
Z38A	**Mt. Pleasant**	**3.37**	**146**	Pn	Pn	21 39 43.8	+1.1
Z38A				IAmb_Lg		21 40 44.3	
	comp=Z,24nm,0.7s						
CBKS	**Cedar Bluff**	**3.38**	**324**	Pn	Pn	21 39 42.8	+0.1
S39A	**Bolivar**	**3.51**	**62**	Pn	Pn	21 39 44.3	-0.3
X40A	**Basin Creek Fa**	**3.93**	**113**	Pn	Pn	21 39 51.0	+0.7
X40A				IAmb_Lg		21 40 59.0	
	comp=Z,15nm,0.9s						
ABTX	**Abilene, Hawle**	**3.99**	**211**	Pn	Pn	21 39 49.8	-1.4
WHAR	**Wooly Hollow**	**4.10**	**100**	Pn	Pn	21 39 51.8	-0.8
WHAR				IAmb_Lg		21 41 02.7	
	comp=Z,16nm,0.8s						
MGMO	**Mountain Grove**	**4.13**	**74**	Pn	Pn	21 39 51.1	-1.9
MGMO				IAmb_Lg		21 41 04.4	
	comp=Z,16nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.14**	**91**	Pn	Pn	21 39 52.5	-0.7
FCAR				IAmb_Lg		21 41 10.0	
	comp=Z,12nm,1.0s						
R40A	**Maddies Statio**	**4.53**	**59**	Pn	Pn	21 39 58.2	-0.3
R40A				IAmb_Lg		21 41 14.0	
	comp=Z,18nm,0.7s						
P38A	**Dawn**	**4.58**	**38**	Pn	Pn	21 39 59.2	-0.1
P38A				IAmb_Lg		21 41 13.9	
	comp=Z,11nm,0.8s						
N33A	**J Bar K, Exete**	**4.65**	**358**	IAmb_Lg		21 41 22.8	
	comp=Z,9.7nm,0.8s						
LCAR	**Lake Charles**	**4.92**	**88**	IAmb_Lg		21 41 26.8	
	comp=Z,10nm,0.7s						
T42A	**Van Buren**	**5.03**	**77**	IAmb_Lg		21 41 32.8	
	comp=Z,10nm,0.7s						
CCM	**Cathedral Cave**	**5.17**	**66**	IAmb_Lg		21 41 31.5	
	comp=Z,22nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.19**	**306**	Pn	Pn	21 40 07.8	0.0
P40A	**Paris**	**5.35**	**48**	IAmb_Lg		21 41 37.4	
	comp=Z,9.2nm,0.8s						
N38A	**Joes South For**	**5.65**	**32**	IAmb_Lg		21 42 04.1	
	comp=Z,12nm,0.8s						
FVM	**French Village**	**5.76**	**69**	IAmb_Lg		21 41 50.8	
	comp=Z,18nm,0.9s						
L34A	**Svendsen Farm,**	**5.91**	**6**	IAmb_Lg		21 41 57.5	
	comp=Z,18nm,0.9s						
SLM	**Saint Louis**	**6.12**	**63**	IAmb_Lg		21 42 10.4	
	comp=Z,15nm,0.7s						
SDCO	**Great Sand Dun**	**6.83**	**286**	Pn	Pn	21 40 30.5	0.0
O44A	**Mansfield**	**8.01**	**57**	IAmb_Lg		21 43 25.4	
	comp=Z,9.8nm,0.8s						

*AZER **03** 21:57:47.3±0.3, 33°.38N×50°.30E, h8km, Error ellipse: s-maj=9.4km s-min=4.7km az=231.0, Hypocentre not reviewed by the ISC*
*TEH **03** 21:58:01.3, 34°.74N×50°.43E, h8km, ML4.0*
*IDC **03** 21:58:01.5±1.3, 34°.46N×50°.55E, h0km, mb3.4/10, mb1 3.6/12, mb1mx3.4/47, mbtmp3.5/12, ML3.4/2, MS2.7/3, Ms1 2.8/3, ms1mx2.5/51, Error ellipse: s-maj=26.0km s-min=21.6km az=4.0*
ISC 03 21:58:02.4±0.6, 34°.75N±0°.02×50°.40E±0°.02, h10km, n100, σ2§10/103, mb3.4/10, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**0.37**	**239**	*e*Pg	**Pb**	**21 58 10.1**	**-1.2**
IQOM	**Qom**	**0.55**	**79**	*e*Pg	**Pb**	**21 58 12.7**	**-1.6**
IQOM				*e*Sg	**Sb**	**21 58 20.4**	**-2.0**
IQOM				*e*		21 58 22.9	
	comp=Z,22μm,0.2s						
GHVR	**GHOM**	**0.77**	**110**	*e*Pg	**Pb**	**21 58 16.6**	**-1.4**
IRAZ	**Razeghan**	**0.77**	**329**	*e*Pg	**Pg**	**21 58 16.7**	**-0.7**
IRAZ				*e*		21 58 42.3	
	comp=Z,26μm,0.6s						
IMHD	**Mahdasht**	**0.96**	**12**	*e*Pg	**Pb**	**21 58 20.5**	**-0.8**
IMHD				*e*		21 58 21.5	
	comp=Z,43μm,0.1s						
IHSB	**Hasanabad**	**0.99**	**45**	*e*Pg	**Pb**	**21 58 20.8**	**-1.0**
IHSB				*e*		21 58 35.2	
	comp=Z,26μm,0.3s						
HAGD	**Aghdareh**	**1.05**	**275**	*e*Pg	**Pn**	**21 58 22.4**	**-1.1**
KHMZ	**Khomeyn**	**1.07**	**201**	*e*Pg	**Pg**	**21 58 21.8**	**-1.2**
IVRN	**Varamin**	**1.11**	**76**	*e*Pg	**Pn**	**21 58 22.7**	**-1.4**
IVRN				*e*Sg	**Sn**	**21 58 38.0**	**-1.5**
IVRN				*e*		21 58 38.5	
	comp=Z,27μm,0.5s						
QABG	**Abgarm-Qazvin**	**1.18**	**325**	*e*Pn	**Pb**	**21 58 23.1**	**-2.0**
TEH	**Tehran**	**1.27**	**38**	*e*Pg	**Pg**	**21 58 25.7**	**-1.1**
TEH				*e*		21 58 44.8	
	comp=Z,33μm,0.5s						
TEHA	**Amirabad Tehra**	**1.28**	**38**	*e*Pg	**Pg**	**21 58 25.7**	**-1.3**
TEHA				*e*		21 58 46.8	
	comp=Z,21μm,

ITEG	**Tejag**	**7.18 103**	*e*Pn	**Pn**	**21 59 48.8**	**+1.2**
AFRZ	**Afriz**	**7.26 98**	*e*Pn	**Pn**	**21 59 49.9**	**+1.2**
IKOO	**Kooshah**	**7.53 105**	*e*Pn	**Pn**	**21 59 53.9**	**+1.4**
BSRN	**Basiran**	**7.80 108**	*e*Pn	**Pn**	**21 59 57.6**	**+1.5**
TBJM	**Torbat-e-JAM**	**8.15 83**	*e*Pn	**Pn**	**22 00 02.0**	**+1.0**
JRKH	**Jarkhoshk**	**8.20 79**	*e*Pn	**Pn**	**22 00 03.5**	**+1.9**
SHRT	**Shahrakht**	**8.26 95**	*e*Pn	**Pn**	**22 00 04.7**	**+2.4**
WSAR	**Wadi Sarin**	**13.52 146**	Pn	**Pn**	**22 01 11.8**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=335,slow=12,SNR=1.8					
WSAR			LR	LR	22 07 10.3	
	comp=Z,29nm,21.7s,baz=348,slow=42					
AKTO	**Aktyubinsk**	**16.64 17**	Pn	**P**	**22 01 56.5**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=220,slow=14,SNR=4.2					
MLR	**Muntele Rosu**	**21.49 307**	P	**P**	**22 02 54.9**	**+3.6**
	comp=Z,3.2nm,0.8s,baz=157,slow=14,SNR=3.4					
AKASG	**Malin Array Be**	**22.17 322**	P	**P**	**22 03 03.1**	**+4.8**
	comp=Z,0.2nm,0.5s,baz=111,slow=13,SNR=1.9					
ARU	**Arti**	**22.39 12**	P	**P**	**22 03 02.2**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=175,slow=13,SNR=4.1					
BVAR	**Borovoye Array**	**23.13 32**	P	**P**	**22 03 09.3**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=220,slow=8.7,SNR=1.6					
KURBB	**Kurchatov Arra**	**25.84 44**	P	**P**	**22 03 34.5**	**+0.6**
	comp=Z,0.4nm,1.0s,baz=243,slow=10,SNR=2.4					
MKAR	**Makanchi Array**	**26.79 54**	P	**P**	**22 03 43.9**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=232,slow=7.1,SNR=2.3					
ZALV	**Zalesovo Beam**	**30.77 41**	P	**P**	**22 04 21.1**	**+3.3**
	comp=Z,0.8nm,0.8s,baz=260,slow=8.9,SNR=3.5					
CMAR	**Chiang Mai Arr**	**45.88 98**	P	**P**	**22 06 24.7**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=302,slow=9.1,SNR=7.0					
CMAR			LR	LR	22 27 05.6	
	comp=Z,12nm,18.3s,baz=235,slow=38					
TORD	**Torodi Ar. Bea**	**48.89 256**	P	**P**	**22 06 48.0**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=45,slow=9.0,SNR=3.3					
YKA	**Yellowknife Ar**	**82.35 353**	P	P	22 10 28.1	+4.0
	comp=Z,0.3nm,0.8s,baz=7.5,slow=5.8,SNR=5.2					

JMA ***03*** *22:39:39.9±0.3, 43°.08N×147°.09E, h48km, M2.9*
SKHL ***03*** *22:39:40.7±0.1, 43°.00N×147°.00E, h38km±7km, mb4.5/2*
ISC 03 22:39:42.4±3.3, 43°.2N±0°.1×147°.0E±0°.1, h33km±15km, n12, σ9561/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.73**	**353**	*e*P	**Pn**	**22 39 55.7**	**-0.7**
SHO	200nm,0.3s			AMB	AMB	22 39 56.0	
SHO				*e*S	**Sb**	**22 40 06.7**	**+0.3**
SHO	1μm,0.4s			A	A	22 40 07.8	
SHO	1μm,0.4s			A	A	22 40 07.8	
NEM2	**Nemuro 2**	**0.92**	**284**	P	**Pn**	**22 39 58.1**	**-0.8**
NEM2				*e*S	**Sn**	**22 40 11.5**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**1.19**	**318**	*e*P	**Pn**	**22 40 02.2**	**-0.6**
YUK	280nm,0.3s			AMB	AMB	22 40 02.9	
YUK				*e*S	**Sn**	**22 40 17.8**	**0.0**
YUK	800nm,0.6s			A	A	22 40 21.4	
YUK	400nm,0.6s			A	A	22 40 21.4	
JKHN	**Kushirohamanak**	**1.32**	**268**	P	**Pn**	**22 40 04.2**	**-0.3**
JRA	**Rausu**	**1.55**	**301**	P	**Pn**	**22 40 07.4**	**-0.3**
JNSB	**Nemuroshibetsu**	**1.56**	**294**	P	**Pn**	**22 40 07.2**	**-0.6**
JNSB				*e*S	**Sn**	**22 40 27.6**	**+0.8**
JAK	**Akkeshi**	**1.67**	**266**	P	**Pn**	**22 40 08.4**	**-0.8**
JNK	**Nakash**	**1.69**	**286**	P	**Pn**	**22 40 08.8**	**-0.8**
JNK				*e*S	**Sn**	**22 40 30.1**	**-0.1**
KUR	**Kuril'sk**	**2.19**	**17**	*e*P	**Pn**	**22 40 16.4**	**0.0**
JAR	**Ashorobuto**	**2.34**	**275**	P	**Pn**	**22 40 18.1**	**-0.4**
JTKR	**Abashiri--Toko**	**2.37**	**291**	P	**Pn**	**22 40 19.2**	**+0.3**
JCH	**Churui**	**2.70**	**260**	P	**Pn**	**22 40 23.4**	**0.0**
JCH				*e*S	**Sn**	**22 40 55.7**	**+0.8**

IDC ***03*** *22:39:52.8±0.7, 8°.98S×157°.96E, h0km, mb4.2/11, mb1 4.3/13, mb1mx3.9/42, mbtmp4.2/13, ML3.7/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/59, Error ellipse: s-maj=23.5km s-min=18.4km az=137.0*
NEIC ***03*** *22:39:57.6±1.3, 9°.0S±0°.1×157°.92E±0°.04, h28km±5km, mb4.1/10, Error ellipse: s-maj=18.9km s-min=3.4km az=195.0*
ISC 03 22:39:56.2±0.5, 9°.0S±0°.1×157°.95E±0°.06, h23km, n34, σ1900/35, mb4.2/15, MS3.2/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.02**	**102**	Pn	**Pn**	**22 40 27.2**	**-1.7**
HNR	111nm,0.3s,baz=224,slow=10,SNR=9.9			Sn	**Sb**	**22 40 59.3**	**+2.3**
HNR	**Honiara**	**2.02**	**102**		**Pn**	**22 40 27.1**	**-1.7**
HNR				Sn	**Sb**	**22 40 55.5**	**-1.5**
PMG	**Port Moresby**	**10.66**	**267**	LR	LR	22 46 10.4	
	comp=Z,156nm,18.1s,baz=170,slow=35						
SANVU	**Saraoutou**	**11.08**	**126**	Pn	**Pn**	**22 42 34.9**	**+1.5**
COEN	**Coen**	**15.29**	**250**	Pn	**Pn**	**22 43 30.9**	**+0.1**
DZM	**Mont Dzumac**	**15.35**	**149**	Pn	**Pn**	**22 43 31.2**	**-0.4**
	0.1nm,0.3s,baz=322,slow=19,SNR=1.9						
DZM	**Mont Dzumac**	**15.35**	**149**	P	**Pn**	**22 43 30.9**	**-0.7**
DZM				IAmb	IAmb	22 43 39.9	
	comp=Z,15nm,1.2s						
WR0	**Warramunga Arr**	**25.11**	**242**	P	**P**	**22 45 19.7**	**+0.1**
WR0				IAmb	IAmb	22 45 29.1	
	comp=Z,5.3nm,0.9s						
WB0	**Warramunga Arr**	**25.16**	**242**	P	**P**	**22 45 19.8**	**-0.3**
WB0				IAmb	IAmb	22 45 23.5	
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**25.26**	**242**	P	**P**	**22 45 20.6**	**-0.4**
WRAB				IAmb	IAmb	22 45 26.3	
	comp=Z,4.6nm,0.8s						
WB2	**Warramunga Arr**	**25.27**	**242**	P	**P**	**22 45 20.8**	**-0.2**
WB2				IAmb	IAmb	22 45 31.8	
	comp=Z,8.7nm,1.2s						
WRA	**Warramunga Arr**	**25.28**	**242**	P	**P**	**22 45 21.0**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=66,slow=9.4,SNR=14						
WRA				PcP	**PcP**	**22 48 55.0**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=77,slow=2.5,SNR=1.4						
WRA				LR	LR	22 54 22.0	
	comp=Z,62nm,21.6s,baz=254,slow=34						
WRA	**Warramunga Arr**	**25.28**	**242**	P	**P**	**22 45 20.3**	**-0.8**
ASAR	**Alice Springs**	**27.23**	**235**	P	**P**	**22 45 38.0**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=66,slow=9.4,SNR=6.8						
ASAR				PcP	**PcP**	**22 48 59.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=86,slow=2.1,SNR=3.5						
ASAR				LR	LR	22 55 54.7	
	comp=Z,64nm,19.2s,baz=90,slow=35						
STKA	**Stephens Creek**	**27.36**	**211**	P	**P**	**22 45 41.1**	**+1.4**
	comp=Z,2.8nm,0.7s,baz=39,slow=11,SNR=5.1						
STKA				LR	LR	22 55 51.6	
	comp=Z,56nm,19.9s,baz=24,slow=35						
STKA	**Stephens Creek**	**27.36**	**211**	P	**P**	**22 45 40.0**	**+0.2**
BATI	**Baumata**	**33.82**	**265**	LR	LR	23 01 12.0	
	comp=Z,71nm,19.2s,baz=26,slow=38						
PETK	**Petropavlovsk-**	**61.87**	**360**	P	**P**	**22 50 13.5**	**-0.1**
	comp=Z,9.7nm,1.0s,baz=164,slow=7.8,SNR=9.1						
PETK	**Petropavlovsk-**	**61.87**	**360**	P	**P**	**22 50 14.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**64.28**	**295**	P	**P**	**22 50 30.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=129,slow=5.3,SNR=5.7						
CMAR	**Chiang Mai Arr**	**64.28**	**295**	P	**P**	**22 50 28.6**	**-1.7**
SONM	**Songino Array**	**72.61**	**326**	P	**P**	**22 51 23.5**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=129,slow=5.1,SNR=8.4						
SONM	**Songino Array**	**72.61**	**326**	P	**P**	**22 51 22.0**	**0.0**
SONM				IAmb	IAmb	22 51 24.5	
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**80.98**	**180**	P	**P**	**22 52 09.4**	**+0.5**
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**22 52 24.9**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=255,slow=5.1,SNR=18						
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**22 52 25.6**	**+0.2**
MKAR	**Makanchi Array**	**86.84**	**318**	P	**P**	**22 52 39.0**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=93,slow=6.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**87.48**	**326**	P	**P**	**22 52 40.7**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=120,slow=6.2,SNR=2.8						
ZALV	**Zalesovo Beam**	**87.48**	**326**	P	**P**	**22 52 41.4**	**-0.5**
NVAR	**Mina Array Bea**	**90.67**	**51**	P	**P**	**22 52 59.3**	**+1.6**
	comp=Z,2.8nm,0.8s,baz=245,slow=7.3,SNR=9.8						
NVAR	**Mina Array Bea**	**90.67**	**51**	P	**P**	**22 52 57.5**	**-0.2**
YKA	**Yellowknife Ar**	**96.74**	**28**	P	**P**	**22 53 24.6**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=254,slow=4.5,SNR=6.0						
BDFB	**Brasilia**	**144.49**	**133**	PKP	**PKPdf**	**22 59 31.3**	**-0.7**
	comp=Z,7.7nm,0.8s,baz=201,slow=3.7,SNR=12						
BDFB	**Brasilia**	**144.49**	**133**		PKPbc	22 59 30.7	+0.2

ASRS ***03*** *22:47:25.2±0.2, 51°.1N±1°.0×8°.6E±°, h10km, MLh3.4/20, Error ellipse: s-maj=2.9km s-min=1.7km az=61.5*
NNC ***03*** *22:47:29.7±1.5, 51°.01N×86°.13E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=18.2km s-min=9.1km az=100.0*
ISC 03 22:47:26.3±1.2, 51°.03N±0°.03×86°.41E±0°.03, h9km±11km, n32, σ1951/53, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARTR	**Artybash**	**0.94**	**35**	⇓Pg	**Pn**	**22 47 46.6**	**+0.8**
ARTR				Sg	**Sn**	**22 47 59.3**	**0.0**
CHBI	**Chibit, Altay**	**1.00**	**135**	Pg	**Pn**	**22 47 46.1**	**-0.5**
CHBI				Sg	**Sb**	**22 47 59.0**	**-0.1**
UKR	**Ust'-Kan**	**1.04**	**265**	Pg	**Pn**	**22 47 46.6**	**-0.5**
UKR				Sg	**Sn**	**22 47 59.7**	**-2.1**
AKAR	**Aktash**	**1.05**	**132**	Pg	**Pb**	**22 47 46.1**	**-0.5**
AKAR				Sg	**Sg**	**22 48 00.0**	**0.0**
ULGR	**Ulagan, Altay**	**1.06**	**112**	Pg	**Pn**	**22 47 49.0**	**+1.5**
ULGR				Sg	**Sn**	**22 48 02.9**	**+0.4**
DGZ	**Jazzator, Alta**	**1.48**	**153**	Pg	**Pb**	**22 47 53.4**	**-0.7**
DGZ				Sg	**Sn**	**22 48 12.2**	**-0.7**
CUR	**Chagan-Uzun**	**1.55**	**126**	Pg	**Pg**	**22 47 55.5**	**-0.5**
CUR				Sg	**Sg**	**22 48 15.9**	**-0.2**
TASR	**Tashtagol**	**1.96**	**27**	Pg	**Pg**	**22 48 04.2**	**+0.4**
TASR				Sg	**Sg**	**22 48 31.4**	**+2.3**
ELT	**Eltsovka**	**2.24**	**357**	Pg	**Pg**	**22 48 08.4**	**-0.7**
ELT				Sg	**Sg**	**22 48 39.9**	**+1.8**
KOST	**Kostenkovo, Ku**	**2.64**	**5**	Pg	**Pg**	**22 48 16.6**	**-0.2**
KOST				Sg	**Sg**	**22 48 52.2**	**+1.3**
VCHU	**Verkh-Chumysh,**	**2.93**	**0**	Pg	**Pg**	**22 48 22.2**	**-0.2**
VCHU				Sg	**Sg**	**22 48 59.9**	**-0.4**
LUZB	**Luzhba, Kemero**	**3.04**	**29**	Pg	**Pg**	**22 48 24.9**	**+0.4**
LUZB				Sg	**Sg**	**22 49 04.4**	**+0.4**
ZAA0	**Zalesovo Array**	**3.08**	**342**	⇑Pn	**Pb**	**22 48 18.6**	**-2.6**
	1.6nm,0.3s						
ZAA0				⇑Lg	Lg	22 49 06.6	
	2.6nm,0.3s						
ERU	**Erunakovo, Kuz**	**3.17**	**10**	Pg	**Pg**	**22 48 25.0**	**-2.0**
ERU				Sg	**Sg**	**22 49 07.5**	**-0.5**
BJR1	**Bachatsky 1, K**	**3.22**	**356**	Pg	**Pb**	**22 48 24.0**	**+0.3**
BJR1				Sg	**Sg**	**22 49 10.7**	**+1.0**
BJR2	**Bachatsky-2, K**	**3.26**	**357**	Pg	**Pg**	**22 48 26.5**	**-2.2**
BJR2				Sg	**Sg**	**22 49 10.5**	**-0.4**
POMOR	**Pomortsevo, Ku**	**3.38**	**1**	Pg	**Pg**	**22 48 30.3**	**-0.8**
POMOR				Sg	**Sg**	**22 49 15.5**	**+0.6**
SALR	**Pechorkino, Sa**	**3.42**	**353**	Pg	**Pb**	**22 48 25.5**	**-1.5**
SALR				Sg	**Sg**	**22 49 19.3**	**+3.3**
DJO	**Djoy, Khakassi**	**3.46**	**58**	Pg	**Pg**	**22 48 30.7**	**-1.7**
DJO				Sg	**Sg**	**22 49 20.1**	**+2.9**
DJOS	**Djoyskaya Sosn**	**3.56**	**58**	Sg	**Sg**	**22 49 23.4**	**+2.9**
KHAR	**Kharino, NSO,**	**3.98**	**336**	Sg	**Sg**	**22 49 33.0**	**-0.8**
ABNR	**Abakan**	**4.09**	**47**	Sg	**Sg**	**22 49 38.5**	**+0.9**
SHRR	**Shira**	**4.15**	**32**	Pg	**Pg**	**22 48 43.0**	**-2.7**
SHRR				Sg	**Sg**	**22 49 37.8**	**-1.6**
BSTK	**Bystrovka, Nov**	**4.21**	**329**	Pg	**Pg**	**22 48 45.9**	**-1.0**
BSTK				Sg	**Sg**	**22 49 42.8**	**+1.4**
NVS	**Novosibirsk**	**4.27**	**335**	Pg	**Pg**	**22 48 48.1**	**0.0**
NVS				Sg	**Sg**	**22 49 44.8**	**+1.5**
NVSII	**Novosibirsk**	**4.27**	**335**	Pg	**Pg**	**22 48 48.2**	**+0.2**
NVSII				Sg	**Sg**	**22 49 44.7**	**+1.4**
KEM	**Kemerovo**	**4.33**	**358**	Sg	**Sg**	**22 49 45.1**	**+0.1**
NHES	**Novosibirsk, N**	**4.36**	**333**	Sg	**Sg**	**22 49 47.8**	**+1.7**
KURK	**Kurchatov**	**4.94**	**269**	⇑Pn	**Pn**	**22 48 42.9**	**+2.3**
	0.7nm,0.5s						
KURK				⇓Lg	Lg	22 50 00.5	
	5.7nm,0.8s						
KURBB	**Kurchatov Arra**	**5.01**	**268**	⇑Pn	**Pn**	**22 48 44.1**	**+2.5**
	2.3nm,0.3s						
KURBB				⇓Lg	Lg	22 50 01.9	
	25nm,0.8s						
MK31	**Makanchi Array**	**5.04**	**214**	⇓Pn	Pn	22 48 46.4	+4.4
	0.2nm,0.2s,baz=31,slow=12,SNR=25						
MK31				⇑Lg	Lg	22 50 03.1	
	4.0nm,0.5s,baz=32,slow=23,SNR=6.2						
MAKZ	**Makanchi**	**5.14**	**216**	⇑Pn	**Pn**	**22 48 46.2**	**+2.8**
	1.1nm,0.6s						
MAKZ				⇑Lg	Lg	22 50 05.2	
	4.0nm,0.5s						

TUL ***03*** *22:57:03.9±0.5, 35°.66N±0°.02×97°.40W±0°.03, h6km±4km, ML2.7, mb_Lg2.6/31(NEIC), Error ellipse: s-maj=3.7km s-min=1.7km az=123.0*
NEIC 03 22:57:04.0±0.4, 35°.66N±0°.04×97°.40W±0°.04, h9km±4km, Error ellipse: s-maj=6.7km s-min=3.9km az=151.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.08**	**194**	Pg	Pg	22 57 06.3	+0.2
OK009				Sg	Sg	22 57 07.8	+0.1
OK025	**Westminster Rd**	**0.09**	**146**	Pg	Pg	22 57 06.2	-0.1
OK025				Sg	Sg	22 57 08.2	+0.2
OK029	**Liberty Lake**	**0.15**	**342**	Pg	Pg	22 57 07.0	-0.2
OK029				Sg	Sg	22 57 09.5	0.0
OK005	**Luther M Schoo**	**0.17**	**90**	Pg	Pg	22 57 07.7	+0.1
OK005				Sg	Sg	22 57 10.4	+0.3
OK031	**S. Brethren Rd**	**0.54**	**57**	Pg	Pg	22 57 14.2	-0.4
OK031				Sg	Sg	22 57 21.5	-0.2
OK030	**Cody Creek RV**	**0.57**	**61**	Pg	Pg	22 57 14.7	-0.3
OK030				Sg	Sg	22 57 22.6	0.0
OK034	**N. Norfolk Rd.**	**0.66**	**57**	Pg	Pg	22 57 16.4	-0.4
OK034				Sg	Sg	22 57 25.2	-0.2
OK032	**Salt Plains WL**	**1.32**	**330**	Pn	Pn	22 57 27.8	-0.9
TUL1	**Leonard**	**1.33**	**79**		Pn	22 57 27.8	-1.0
KAN13	**South Haven SW**	**1.36**	**357**	Pn	Pn	22 57 29.1	0.0
KAN14	**Manchester OK**	**1.38**	**341**		Pn	22 57 29.0	-0.4
KAN17	**Caldwell West**	**1.42**	**348**	Pn	Pn	22 57 29.9	-0.2
T35A	**Sooner Cattle**	**1.45**	**29**	Pn	Pn	22 57 30.1	-0.3
U32A	**Winter Ranch,**	**1.48**	**300**	Pn	Pn	22 57 31.0	0.0
KAN05	**Bluff City Nor**	**1.50**	**345**		Pn	22 57 31.2	+0.1
KAN01	**Argonia South**	**1.52**	**349**		Pn	22 57 31.5	0.0
KAN10	**Anthony SW Sta**	**1.57**	**339**	Pn	Pn	22 57 31.9	-0.2
KAN06	**Argonia West S**	**1.63**	**347**		Pn	22 57 33.1	+0.1
KAN08	**Anthony NE Sta**	**1.63**	**344**		Pn	22 57 32.9	-0.1
KAN12	**Harper NE Stat**	**1.71**	**344**		Pn	22 57 33.9	-0.1
X37A	**Clayton**	**1.97**	**122**	Pn	Pn	22 57 37.9	+0.2
X37A				IAmb_Lg		22 58 10.0	
	comp=Z,15nm,0.8s						
HHAR	**Hobbs**	**2.88**	**76**	IAmb_Lg		22 58 40.4	
	comp=Z,10nm,0.7s						
W39A	**Magazine**	**2.99**	**98**	Pn	Pn	22 57 52.1	+0.4
W39A				IAmb_Lg		22 58 44.1	
	comp=Z,16nm,0.9s						
MIAR	**Mount Ida**	**3.33**	**108**	IAmb_Lg		22 58 54.2	
	comp=Z,9.6nm,0.9s						
KSU1	**Kansas State U**	**3.50**	**10**	IAmb_Lg		22 59 02.4	
	comp=Z,15nm,0.8s						
CBKS	**Cedar Bluff**	**3.66**	**330**	IAmb_Lg		22 59 04.9	
	comp=Z,12nm,0.7s						
S39A	**Bolivar**	**3.86**	**57**	IAmb_Lg		22 59 14.9	
	comp=Z,7.0nm,0.8s						
W41B	**Gary Mavity, V**	**4.24**	**95**	IAmb_Lg		22 59 23.7	
	comp=Z,15nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.30**	**85**	IAmb_Lg		22 59 21.7	
	comp=Z,12nm,0.7s						
MGMO	**Mountain Grove**	**4.40**	**69**	IAmb_Lg		22 59 24.2	
	comp=Z,14nm,1.1s						
MSTX	**Muleshoe**	**4.73**	**251**	IAmb_Lg		22 59 33.2	
	comp=Z,10.0nm,1.2s						
435B	**Jarrell**	**4.86**	**182**	IAmb_Lg		22 59 43.6	
	comp=Z,18nm,0.9s						
CCAR	**Cane Creek**	**4.95**	**109**	IAmb_Lg		22 59 48.7	
	comp=Z,16nm,0.9s						
P38A	**Dawn**	**5.01**	**37**	Pn	Pn	22 58 19.5	+0.1
JCT	**Junction City**	**5.54**	**202**	IAmb_Lg		23 00 12.9	
	comp=Z,15nm,1.1s						
PBMO	**Poplar Bluff**	**5.75**	**77**		Pn	22 58 29.3	-0.2
T25A	**Trinidad**	**5.84**	**287**	IAmb_Lg		23 00 09.8	
	comp=Z,8.6nm,0.8s						
N38A	**Joes South For**	**6.09**	**31**	IAmb_Lg		23 00 20.9	
	comp=Z,15nm,0.8s						

IDC 03 23:00:37.2±8.0, 25°.88N×141°.85E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/47, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=183.2km s-min=98.3km az=92.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**16.52**	**318**	Pn	Pn	23 04 30.2	-0.1
	0.2nm,0.3s,baz=127,slow=11,SNR=2.4						
USRK	**Ussuriysk Ar.**	**19.95**	**339**	P	P	23 05 11.1	+0.3
	baz=141,slow=9.2,SNR=4.4						
MKAR	**Makanchi Array**	**51.02**	**310**	P	P	23 09 41.5	+0.5
	0.1nm,0.3s,baz=83,slow=10.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**53.68**	**315**	P	P	23 09 59.6	-1.0
	0.2nm,0.3s,baz=89,slow=6.5,SNR=8.1						
BVAR	**Borovoye Array**	**58.73**	**318**	P	P	23 10 37.1	+0.4
	0.5nm,0.5s,baz=122,slow=7.3,SNR=4.4						

IDC ***03*** *23:01:20.6±3.7, 17°.51S×174°.26W, h68km±46km, mb4.0/5, mb1 4.2/6, mb1mx3.5/36, mbtmp4.3/6, ML4.2/1, Error ellipse: s-maj=58.5km s-min=25.4km az=120.0*
NEIC ***03*** *23:01:21.3±1.4, 17°.47S±0°.08×174°.24W±0°.08, h66km±10km, mb4.5/20, Error ellipse: s-maj=11.8km s-min=10.9km az=126.0*
ISC 03 23:01:19.5±0.6, 17°.41S±0°.07×174°.22W±0°.07, h50km, n31, σ1966/32, mb4.5/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.20**	**34**	P	**Pn**	**23 02 23.7**	**+2.5**
	14nm,0.3s,baz=188,slow=3.3,SNR=11						
AFI				S	**Sn**	**23 03 08.3**	**-0.8**
	39nm,0.3s,baz=44,slow=21,SNR=8.5						
NIUE	**Niue**	**4.40**	**113**		**Pn**	**23 02 25.9**	**+2.1**
NIUE					**Sn**	**23 03 10.3**	**-3.5**
MSVF	**Nonsavu**	**7.38**	**266**	Pn	**Pn**	**23 03 06.0**	**+1.3**
RAO	**Raoul Island**	**12.26**	**195**	Pn	**Pn**	**23 04 15.6**	**+4.2**
OUZ	**Omahuta**	**20.79**	**209**	P	**P**	**23 05 55.9**	**-0.6**
MXZ	**Matakaoa Point**	**21.12**	**197**	P	**P**	**23 06 00.1**	**0.0**
URZ	**Urewera**	**22.12**	**198**	P	**P**	**23 06 09.4**	**-1.3**
	6.8nm,0.3s,baz=30,slow=0.9,SNR=7.5						
URZ	**Urewera**	**22.12**	**198**	IAmb	IAmb	23 06 10.9	
	comp=Z,6.6nm,0.6s						
SNZO	**South Karori**	**25.65**	**200**	P	**P**	**23 06 44.2**	**-0.3**
QRZ	**Quartz Range**	**25.98**	**203**	P	**P**	**23 06 47.6**	**+0.1**
QRZ				IAmb	IAmb	23 06 50.0	
	comp=Z,11nm,0.8s						
NNZ	**Nelson**	**26.01**	**202**	P	**P**	**23 06 48.3**	**+0.6**
THZ	**Tophouse**	**26.66**	**202**	P	**P**	**23 06 52.8**	**-0.9**
LTZ	**Lake Taylor**	**27.78**	**202**	P	**P**	**23 07 04.8**	**+1.1**
LTZ				IAmb	IAmb	23 07 05.4	
	comp=Z,9.4nm,0.8s						
OXZ	**Oxford**	**28.34**	**201**	P	**P**	**23 07 09.4**	**+0.8**
OXZ				IAmb	IAmb	23 07 14.1	
	comp=Z,22nm,1.1s						
ARMA	**Armidale**	**33.66**	**241**	P	**P**	**23 07 54.9**	**-0.9**
ARMA				IAmb	IAmb	23 08 02.9	
	comp=Z,7.8nm,1.1s						
CTAO	**Charters Tower**	**37.46**	**260**	P	**P**	**23 08 27.7**	**-0.8**
TOO	**Toolangi**	**40.60**	**232**	P	**P**	**23 08 51.6**	**-2.9**
TOO				IAmb	IAmb	23 08 58.5	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**42.37**	**242**	P	**P**	**23 09 07.8**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=78,slow=14,SNR=3.0						
BBOO	**Buckleboo**	**47.14**	**241**	P	**P**	**23 09 45.3**	**-1.8**
WR0	**Warramunga Arr**	**48.45**	**259**	P	**P**	**23 09 55.7**	**-1.7**
WB0	**Warramunga Arr**	**48.61**	**259**	P	**P**	**23 09 57.3**	**-1.3**
WB0				IAmb	IAmb	23 09 58.4	
	comp=Z,3.8nm,0.7s						
WB2	**Warramunga Arr**	**48.63**	**259**	P	**P**	**23 09 57.1**	**-1.7**
WB2				IAmb	IAmb	23 09 58.3	
	comp=Z,3.3nm,0.6s						
WRAB	**Tennant Creek**	**48.64**	**259**	P	**P**	**23 09 57.3**	**-1.5**
WRAB				IAmb	IAmb	23 09 58.2	
	comp=Z,2.8nm,0.6s						
WRA	**Warramunga Arr**	**48.65**	**259**	P	**P**	**23 09 57.5**	**-1.5**
	comp=Z,1.9nm,0.4s,baz=98,slow=6.3,SNR=70						
WRA	**Warramunga Arr**	**48.65**	**259**	P	**P**	**23 09 57.4**	**-1.5**
AS31	**Alice Springs**	**48.76**	**254**	P	**P**	**23 09 58.4**	**-1.4**
ASAR	**Alice Springs**	**48.76**	**254**	P	**P**	**23 09 58.4**	**-1.4**
	comp=Z,20nm,0.6s

SHL				IAML		23 06 13.4	
	comp=N,672μm,0.8s						
SHL	**Shillong**	**1.72 296**		Pn	**Pn**	**23 05 49.4**	**+0.8**
SHL				Sn	**Sn**	**23 06 11.8**	**+2.2**
JORH	**JORHAT**	**1.99**	**17**	*e*P	**Pn**	**23 05 52.9**	**+0.8**
JORH				*e*x	**Sn**	**23 06 17.4**	**+1.5**
ITAN	**ITANAGAR**	**2.31**	**3**	*e*P	**Pn**	**23 05 57.2**	**+0.7**
ITAN				IAML		23 06 38.1	
	comp=E,377μm,0.6s						
ITAN				IAML		23 06 38.4	
	comp=N,435μm,0.6s						
ITAN				IAML		23 06 45.3	
	comp=E,377μm,1.0s						
ITAN				IAML		23 06 49.1	
	comp=N,374μm,1.4s						
BRDH	**Bariadhala**	**2.80 220**		P	**Pn**	**23 06 04.8**	**+1.6**
	comp=N,20nm,0.3s,baz=56,slow=24,SNR=308						
BRDH				S	**Sn**	**23 06 36.7**	**+1.0**
	comp=N,202nm,0.3s,baz=359,slow=24,SNR=8.1						
LKP	**Lekhapani**	**3.21**	**38**	*e*P	**Pn**	**23 06 10.2**	**+1.4**
SLGI	**Shiliguri**	**5.03 293**		*e*P	**Pn**	**23 06 35.0**	**+1.1**
SLGI				*e*S	**Sn**	**23 07 29.0**	**-1.8**
GTK	**Tadong**	**5.14 300**		*e*P	**Pn**	**23 06 36.1**	**+0.6**
GTK				*e*S	**Sn**	**23 07 35.5**	**+2.0**
LSA	**Lhasa**	**5.32 336**		P	**Pn**	**23 06 40.3**	**+2.1**
LSA	**Lhasa**	**5.32 336**		P	**Pn**	**23 06 40.4**	**+2.2**
LSA				S	**Sn**	**23 07 36.9**	**-1.6**
LSA				LR	LR		
	comp=N,156μm,5.0s						
LSA				LR	LR		
	comp=N,168μm,4.3s						
LSA				LR	LR		
	comp=N,77μm,11.4s						
LSA	**Lhasa**	**5.32 336**		Pn	**Pn**	**23 06 40.3**	**+2.2**
LSA	**Lhasa**	**5.32 336**		P	**Pn**	**23 06 40.4**	**+2.2**
LSA	**Lhasa**	**5.32 336**		P	**Pn**	**23 06 40.5**	**+2.2**
BOK	**Bokaro**	**7.12 263**		*e*P	**Pn**	**23 07 02.5**	**+0.1**
BOK				IAmb	IAmb	23 07 05.5	
	comp=Z,3μm,0.8s						
PZH	**PanZhiHua**	**7.53**	**75**	⇓P	**Pn**	**23 07 11.7**	**+3.5**
PZH				S	**Sn**	**23 08 37.3**	**+5.0**
PZH				ScS	**ScS**	**23 20 47.2**	**-2.5**
PZH				pmax	pmax		
	comp=Z,3μm,1.6s						
PZH				pmax	pmax		
	comp=Z,14μm,5.4s						
PZH				LR	LR		
	comp=Z,110μm,11.4s						
PZH				LR	LR		
	comp=Z,88μm,12.8s						
PZH				LR	LR		
	comp=Z,106μm,15.5s						
GUN	**Gumba**	**7.58 296**		*e*Pn	**Pn**	**23 07 08.0**	**-1.1**
GUN				*e*Sn	**Sn**	**23 08 32.2**	**-1.6**
CHTO	**Chiang Mai**	**7.77 139**		P	**Pn**	**23 07 11.4**	**-0.1**
CHTO				S	**Sn**	**23 08 34.9**	**-3.3**
CHTO	**Chiang Mai**	**7.77 139**		Pn	**Pn**	**23 07 11.4**	**-0.1**
CHTO				Sn	**Sn**	**23 08 34.9**	**-3.3**
CHTO	**Chiang Mai**	**7.77 139**		P	**Pn**	**23 07 15.3**	**+3.8**
CHTO	**Chiang Mai**	**7.77 139**		P	**Pn**	**23 07 11.6**	**+0.1**
PKI	**Pulchoki**	**7.85 292**		*e*Pn	**Pn**	**23 07 11.1**	**-1.7**
KKN	**Kakani**	**8.03 293**		*e*Pn	**Pn**	**23 07 13.2**	**-2.0**
KKN				*e*Sn	**Sn**	**23 08 41.9**	**-2.9**
	comp=Z,27μm,0.5s						
CM31	**Chiang Mai Arr**	**8.05 141**			**Pn**	**23 07 16.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**8.05 141**		P	**Pn**	**23 07 15.3**	**0.0**
	comp=Z,8.9nm,0.3s,baz=316,slow=14,SNR=348						
CMAR	**Chiang Mai Arr**	**8.05 141**		*i* P	**Pn**	**23 07 15.3**	**0.0**
CMAR				pmax	pmax		
	comp=Z,160nm,0.7s						
CMAR	**Chiang Mai Arr**	**8.05 141**		Pn	**Pn**	**23 07 15.0**	**-0.4**
DMN	**Daman**	**8.12 292**		*e*Pn	**Pn**	**23 07 14.3**	**-2.1**
DMN				*e*Sn	**Sn**	**23 08 43.2**	**-3.8**
	comp=Z,16μm,0.6s						
KMI	**Kunming**	**8.29**	**86**	⇓P	**Pn**	**23 07 22.5**	**+3.7**
KMI				sP		23 07 40.8	
KMI				S	**Sn**	**23 08 56.3**	**+5.0**
KMI				pmax	pmax		
	comp=Z,850nm,1.2s						
KMI				pmax	pmax		
	comp=Z,8μm,3.5s						
KMI				LR	LR		
	comp=Z,338μm,26.0s						
KMI				LR	LR		
	comp=Z,98μm,31.5s						
KMI				LR	LR		
	comp=Z,222μm,24.9s						
BWNR	**Bhubaneshwar**	**8.50 239**		*e*P	**Pn**	**23 07 20.2**	**-1.2**
BWNR				*e*S	Sn	23 08 46.6	-9.5
GKN	**Gorkha**	**8.64 293**		*e*Pn	**Pn**	**23 07 21.0**	**-2.5**
GKN				*e*Sn	**Sn**	**23 08 56.3**	**-3.3**
VLK	**Valmikinagar**	**9.10 288**		*e*P	**Pn**	**23 07 29.2**	**-0.4**
KOLN	**Koldanda**	**9.44 290**		*e*Pn	**Pn**	**23 07 31.4**	**-3.1**
DANN	**Dangsing**	**9.48 294**		*e*Pn	**Pn**	**23 07 33.0**	**-2.2**
DANN				*e*Sn	**Sn**	**23 09 16.6**	**-3.9**
	comp=Z,8μm,0.4s						
JHSG	**JHARSUGUGA**	**9.54 253**		*e*P	**Pn**	**23 07 35.5**	**-0.1**
VAR	**Varanasi**	**9.61 275**		*e*P	**Pn**	**23 07 35.0**	**-1.6**
PYUN	**Piuthan**	**10.05 291**		*e*Pn	**Pn**	**23 07 40.3**	**-2.6**
SLVN	**Son La**	**10.10 108**		Pn	**Pn**	**23 07 44.5**	**+1.0**
ALBI	**Allahabad**	**10.71 275**		*e*P	**Pn**	**23 07 49.5**	**-2.1**
PBKT	**Sadao Pong**	**10.72 139**		Pn	**Pn**	**23 07 54.8**	**+2.9**
CD2	**Chengdu**	**10.83**	**54**	⇓*i*P	**Pn**	**23 07 52.1**	**-1.3**
CD2				sP		23 08 10.1	
CD2				S	**Sn**	**23 09 52.6**	**-0.6**
CD2				SS	**SnSn**	**23 10 07.2**	**+1.8**
CD2				pmax	pmax		
	comp=Z,470nm,1.3s						
CD2				LR	LR		
	comp=Z,21μm,28.8s						
CD2				LR	LR		
	comp=Z,176μm,23.5s						
CD2				LR	LR		
	comp=Z,264μm,23.7s						
BLSP	**Bilaspur**	**10.87 258**		*e*P	**Pn**	**23 07 52.6**	**-1.3**
CHLP	**Challavanipeta**	**10.88 237**		*e*P	**Pn**	**23 07 51.1**	**-2.9**
CHLP				IVMs_BB	IVMs_BB	23 12 12.9	
	comp=Z,45μm,15.0s						
RAGD	**RAYAGADA**	**10.93 241**		*e*P	**Pn**	**23 07 53.0**	**-1.7**
BRCI	**Bahraich**	**11.13 287**		*e*P	**Pn**	**23 07 55.6**	**-1.9**
GOMU	**GeErMu**	**11.38**	**5**	P	**Pn**	**23 08 00.0**	**-1.1**
GOMU				S	**Sn**	**23 10 06.6**	**-0.4**
GOMU				pmax	pmax		
	comp=Z,880nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,10μm,4.2s						
GOMU				LR	LR		
	comp=Z,120μm,13.7s						
GOMU				LR	LR		
	comp=Z,52μm,13.8s						
GOMU				LR	LR		
	comp=Z,181μm,14.9s						
GYA	**Guiyang**	**11.89**	**79**	⇑P	**Pn**	**23 08 08.4**	**+0.4**
GYA				sP		23 08 25.8	
GYA				S	**Sn**	**23 10 19.2**	**-0.1**
GYA				pmax	pmax		
	comp=Z,210nm,1.2s						
GYA				pmax	pmax		
	comp=Z,5μm,3.5s						
GYA				LR	LR		
	comp=Z,191μm,19.0s						
GYA				LR	LR		
	comp=Z,125μm,26.6s						
JBP	**Jabalpur**	**12.56 265**		*e*P	**Pn**	**23 08 15.4**	**-1.5**
JBP				⇓*e*x	**Sn**	**23 10 27.0**	**-8.5**
PBA	**Port Blair**	**13.13 184**		*e*P	**Pn**	**23 08 22.4**	**-2.4**
PBA				*e*S	**Sn**	**23 10 43.9**	**-5.5**
PBA	**Port Blair**	**13.13 184**			**Pn**	**23 08 23.3**	**-1.4**
PVM	**Polavaram**	**13.48 238**		*e*P	**Pn**	**23 08 28.1**	**-1.6**
PVM				*e*		23 10 47.8	
PVM				*e*		23 10 53.6	
PVM				*e*Sn	**Sn**	**23 11 00.2**	**+2.1**
PVM				IVMsBB		23 15 03.8	
	comp=Z,31μm,9.3s						
JHNI	**Jhansi**	**13.66 276**		*e*x	Pn	23 08 26.3	-5.7
LZH	**Lanzhou**	**14.27**	**36**	⇓P	**Pn**	**23 08 38.1**	**-2.1**
LZH				pP	P	23 08 51.5	+5.2
LZH				sP		23 08 59.5	
LZH				S	**Sn**	**23 11 18.9**	**+1.8**
LZH				SS	**SnSn**	**23 11 30.7**	**+0.5**
LZH				ScS	**ScS**	**23 21 01.0**	**-1.4**
LZH				pmax	pmax		
	comp=Z,3μm,1.2s						
LZH				pmax	pmax		
	comp=Z,23μm,4.2s						
LZH				LR	LR		
	comp=Z,114μm,14.6s						
LZH				LR	LR		
	comp=Z,123μm,17.9s						
LZH				LR	LR		
	comp=Z,139μm,19.6s						
MYLAV	**Mylavaram**	**14.54 239**		*e*P	**Pn**	**23 08 42.1**	**-1.8**
MYLAV				*e*		23 11 13.7	
MYLAV				IVMs_BB	IVMs_BB	23 14 17.0	
	comp=Z,32μm,9.7s						
RPR	**Rampur**	**14.55 249**		*e*P	**Pn**	**23 08 40.6**	**-3.4**
RPR				*e*		23 11 12.6	
RPR				*e*Sn	**Sn**	**23 11 26.1**	**+2.1**
RPR				IVMsBB		23 16 20.2	
	comp=Z,28μm,11.4s						
UBPT	**Khong Chiam**	**14.64 128**		⇑P	**Pn**	**23 08 42.8**	**-2.3**
UBPT	**Khong Chiam**	**14.64 128**		Pn	**Pn**	**23 08 42.7**	**-2.4**
ASOR	**Ausora**	**14.67 289**		*e*P	**Pn**	**23 08 43.1**	**-2.3**
MERT	**Meerut**	**14.75 290**		*e*P	**Pn**	**23 08 43.3**	**-3.2**
BHPL	**Bhopal**	**14.87 267**		*e*P	**Pn**	**23 08 44.2**	**-4.0**
BHPL				IAmb	IAmb	23 08 49.5	
	comp=Z,3μm,0.7s						
BISR	**Bishrakh**	**14.92 288**		*e*P	**Pn**	**23 08 46.4**	**-2.3**
ENH	**Enshi**	**15.09**	**65**	Pn	**Pn**	**23 08 48.8**	**-2.2**
ENH				IAmb	IAmb	23 09 19.5	
	comp=Z,4μm,1.1s						
ENH	**Enshi**	**15.09**	**65**	P	**Pn**	**23 08 45.6**	**-5.4**
NDI	**New Delhi**	**15.13 288**		*e*x	**Pn**	**23 08 46.1**	**-5.4**
SONA	**Sohna**	**15.17 287**		*e*P	**Pn**	**23 08 49.0**	**-3.1**
AYAN	**Aya Nagar**	**15.17 287**		*e*P	**Pn**	**23 08 48.7**	**-3.3**
GULI	**GuiLin**	**15.20**	**85**	⇓P	**Pn**	**23 08 52.4**	**0.0**
GULI				S	**Sn**	**23 11 37.9**	**-1.8**
GULI				pmax	pmax		
	comp=Z,1μm,2.3s						
GULI				LR	LR		
	comp=Z,180μm,15.2s						
GULI				LR	LR		
	comp=Z,48μm,13.0s						
GULI				LR	LR		
	comp=Z,90μm,16.8s						
SRSP	**Sriramsagar**	**15.33 250**		*e*P	**Pn**	**23 08 50.5**	**-3.6**
SRSP				*e*		23 11 29.3	
SRSP				*e*Sn	**Sn**	**23 11 43.7**	**+0.8**
GTA	**Gaotai**	**15.45**	**18**	⇓P	**Pn**	**23 08 52.5**	**-3.2**
GTA				pP	P	23 09 01.1	+1.7
GTA				sP	pP	23 09 09.5	-1.6
GTA				S	**Sn**	**23 11 40.4**	**-5.5**
GTA				SS	**S**	**23 12 00.0**	**+0.3**
GTA				ScP	**ScP**	**23 17 25.1**	**-1.7**
GTA				ScS	**ScS**	**23 21 04.6**	**-0.6**
GTA				pmax	pmax		
	comp=Z,920nm,2.3s						
GTA				pmax	pmax		
	comp=Z,8μm,4.3s						
GTA				LR	LR		
	comp=Z,84μm,20.7s						
GTA				LR	LR		
	comp=Z,113μm,22.9s						
GTA				LR	LR		
	comp=Z,143μm,22.9s						
ADKI	**Addanki**	**15.59 238**		*e*P	**Pn**	**23 08 55.7**	**-1.9**
ADKI				⇑*e*P	**P**	**23 08 58.1**	**-2.9**
ADKI				IVMs_BB	IVMs_BB	23 14 57.6	
	comp=Z,37μm,16.8s						
CUPL	**Choutuppal**	**15.61 244**		*e*P	**Pn**	**23 08 54.6**	**-3.3**
CUPL				IVMs_BB	IVMs_BB	23 17 30.4	
	comp=Z,34μm,9.6s						
KUDL	**Kundal**	**15.68 286**		*e*P	**Pn**	**23 08 56.3**	**-2.2**
NJS	**Nagarjunasagar**	**15.70 241**		*e*P	**Pn**	**23 08 56.0**	**-3.0**
NJS				*e*		23 11 40.6	
NJS				*e*Sn	**Sn**	**23 11 53.7**	**+1.7**
NJS				IVMsBB		23 15 15.1	
	comp=Z,27μm,7.1s						
KKR	**Kurukshetra**	**15.76 293**		*e*P	**Pn**	**23 08 57.4**	**-2.1**
SMLA	**Simla**	**15.81 297**		*e*P	**Pn**	**23 08 55.8**	**-4.4**
SMLA				IAmb	IAmb	23 09 02.2	
	comp=Z,4μm,1.0s						
AKL	**Akola**	**15.84 258**		*e*P	**Pn**	**23 08 58.2**	**-2.6**
HYB	**Hyderabad**	**15.85 245**		*e*P	**Pn**	**23 08 57.8**	**-3.1**
HYBB	**Hyderabad (bro**	**15.85 245**		*e*P	**Pn**	**23 08 57.6**	**-3.4**
HYBB				*e*		23 11 43.2	
HYBB				*e*Sn	**Sn**	**23 11 56.3**	**+0.6**
HYBB				IVMs_BB	IVMs_BB	23 17 38.2	
	comp=Z,47μm,8.7s						
QIZ	**Qiongzhong**	**16.13 108**		P	**Pn**	**23 09 03.8**	**-0.6**
QIZ				S	**Sn**	**23 12 04.6**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,1μm,4.4s						
QIZ				LR	LR		
	comp=Z,110μm,16.2s						
QIZ				LR	LR		
	comp=Z,81μm,16.2s						
QIZ				LR	LR		
	comp=Z,102μm,16.7s						
QIZ	**Qiongzhong**	**16.13 108**		Pn	**Pn**	**23 09 04.3**	**-0.1**
QIZ	**Qiongzhong**	**16.13 108**		P	**P**	**23 09 08.4**	**+1.5**
QIZ	**Qiongzhong**	**16.13 108**		P	**Pn**	**23 09 02.8**	**-1.6**
QIZ				pP	**pP**	**23 09 15.2**	**-3.2**
XAN	**Xi'an**	**16.18**	**52**	P	**Pn**	**23 09 00.1**	**-4.9**
XAN				pP	P	23 09 10.4	+3.0
XAN				PP	**pP**	**23 09 14.2**	**-5.0**
XAN				sP	sP	23 09 19.8	-5.9
XAN				S	**Sn**	**23 11 53.5**	**-10**
XAN				pmax	pmax		
	comp=Z,860nm,1.0s						
XAN				pmax	pmax		
	comp=Z,16μm,3.6s						
XAN				LR	LR		
	comp=Z,86μm,18.0s						
XAN				LR	LR		
	comp=Z,112μm,19.2s						
XAN				LR	LR		
	comp=Z,233μm,19.9s						
BHK	**Bhakra**	**16.51 297**		*e*P	**Pn**	**23 09 05.6**	**-3.6**
RCLA	**Racherla**	**16.61 239**		*e*P	**Pn**	**23 09 07.6**	**-2.8**
RCLA				*e*		23 12 01.4	
RCLA				*e*Sn	**Sn**	**23 12 15.7**	**+1.8**
RCLA				IVMsBB		23 15 28.7	
	comp=Z,54μm,8.8s						
DHRM	**DHARAMSHALA**	**16.89 300**		*e*P	**Pn**	**23 09 09.6**	**-4.6**
DHRM				*i* x	**P**	**23 09 17.3**	**+1.7**
DHRM				IAmb	IAmb	23 09 22.1	
	comp=Z,10μm,0.9s						
LATR	**Latur**	**17.08 251**		*e*P	**Pn**	**23 09 13.8**	**-2.4**
SRIT	**Nakonsritamara**	**17.13 159**			**Pn**	**23 09 15.1**	**-1.8**
AJM	**Ajmer**	**17.18 280**		*e*P	**Pn**	**23 09 12.9**	**-4.6**
AJM				*i* x	**P**	**23 09 19.8**	**+1.2**
KLRI	**Killari**	**17.19 250**		*e*P	**Pn**	**23 09 14.6**	**-3.1**
KLRI				*e*		23 12 13.6	
KLRI				*e*Sn	**Sn**	**23 12 25.6**	**-2.6**
KLRI				IVMs_BB	IVMs_BB	23 17 36.6	
	comp=Z,39μm,24.0s						
MDRS	**Chennai**	**17.20 230**		*e*x	**Pn**	**23 09 18.6**	**+0.8**
CNSH	**ChangSha**	**17.62**	**75**	⇓P	**Pn**	**23 09 17.9**	**-5.0**
CNSH				S	Sn	23 12 26.5	-12
CNSH				LR	LR		
	comp=Z,167μm,23.5s						
CNSH				LR	LR		
	comp=Z,41μm,18.6s						
URV	**Uravakonda**	**18.23 240**		*e*P	**P**	**23 09 28.5**	**-1.7**
URV				*e*		23 12 39.7	
URV				*e*Sn	**Sn**	**23 12 52.1**	**-1.1**
URV				IVMs_BB	IVMs_BB	23 18 35.1	
	comp=Z,23μm,17.6s						
MCO	**Taipa Grande**	**18.50**	**94**	P	**Pn**	**23 09 38.0**	**+4.3**
HKPS	**Hong Kong Po S**	**19.00**	**93**	P	**P**	**23 09 38.4**	**-0.2**
LYN	**LuoYang**	**19.01**	**55**	⇓*i*P	**P**	**23 09 35.4**	**-3.2**
LYN				pP	pP	23 09 45.7	-4.6
LYN				PP	**PnPn**	**23 09 56.2**	**+2.8**
LYN				S	**S**	**23 13 02.8**	**-9.0**
LYN				SS	**SnSn**	**23 13 34.5**	**+8.1**
LYN				pmax	pmax		
	comp=Z,520nm,1.1s						
LYN				pmax	pmax		
	comp=Z,6μm,8.6s						
LYN				LR	LR		
	comp=Z,109μm,18.2s						
LYN				LR	LR		
	comp=Z,131μm,22.1s						
HKC	**Hong Kong Obse**	**19.02**	**93**	⇑P	**Pn**	**23 09 40.0**	**0.0**
DLV	**T Lat**	**19.05**	**130**	P	**P**	**23 09 38.8**	**-0.5**
DLV	**T Lat**	**19.05**	**130**	P	**Pn**	**23 09 42.5**	**+2.0**
WHN	**Wuhan**	**19.22**	**68**	⇓P	**P**	**23 09 38.3**	**-2.6**
WHN				pP	**pP**	**23 09 52.2**	**-0.4**
WHN				sP	**sP**	**23 10 00.0**	**+1.0**
WHN				S	**S**	**23 13 10.3**	**-5.8**
WHN				pmax	pmax		
	comp=Z,170nm,1.1s						
WHN				pmax	pmax		
	comp=Z,7μm,4.9s						
WHN				LR	LR		
	comp=Z,64μm,8.2s						
WHN				LR	LR		
	comp=Z,104μm,12.3s						
WHN				LR	LR		
	comp=Z,118μm,13.0s						
POO	**Poona**	**19.39 255**		*e*P	**P**	**23 09 42.7**	**-0.2**
POO				IAmb	IAmb	23 09 49.5	
	comp=Z,1μm,0.9s						
WMQ	**Urumqi**	**19.55 347**		⇑P	**Pn**	**23 09 45.7**	**-0.5**
WMQ				pP	sP	23 09 59.9	-2.7
WMQ				sP	pP	23 10 07.9	+12
WMQ				S	**S**	**23 13 20.2**	**-2.5**
WMQ				sS	sS	23 13 36.9	-4.5
WMQ				SS	**SnSn**	**23 13 47.9**	**+8.1**
WMQ				ScP	**ScP**	**23 17 36.6**	**+1.5**
WMQ				ScS	**ScS**	**23 21 16.6**	**-0.6**
WMQ				pmax	pmax		
	comp=Z,4μm,0.9s						
WMQ				pmax	pmax		
	comp=Z,62μm,5.3s						
WMQ				LR	LR		
	comp=Z,117μm,14.5s						
WMQ				LR	LR		
	comp=Z,76μm,15.5s						
WMQ				LR	LR		
	comp=Z,167μm,23.5s						
KAD	**Karad**	**19.59 251**		*e*x	**P**	**23 09 45.6**	**+0.4**
KAD				*i* x	**Pn**	**23 09 50.5**	**+3.7**
SALM	**Salem**	**19.62 231**		⇓*i*P	**Pn**	**23 09 46.4**	**-0.7**
LHMI	**Lhok Sumawe**	**19.75 170**		⇓P	**P**	**23 09 47.5**	**+0.7**
LHMI	**Lhok Sumawe**	**19.75 170**		P	**P**	**23 09 47.5**	**+0.7**
	comp=Z,233μmcomp=Z,249μmcomp=Z,13μm,0.8s						
LHMI				pP	**Pn**	**23 09 53.2**	**+4.5**
	comp=Z,233μmcomp=Z,249μmcomp=Z,13μm,0.8s						
LHMI	**Lhok Sumawe**	**19.75 170**		P	**P**	**23 09 47.0**	**+0.2**
LHMI	**Lhok Sumawe**	**19.75 170**		P	**Pn**	**23 09 49.0**	**+0.3**
NIL	**Nilore**	**19.79 301**		P	**P**	**23 09 47.2**	**0.0**
NIL				pmax	pmax		
	comp=Z,12μm,0.9s						
NIL	**Nilore**	**19.79 301**		P	**P**	**23 09 47.2**	**0.0**
NIL	**Nilore**	**19.79 301**		P	**P**	**23 09 46.8**	**-0.4**
BOM	**Bombay**	**20.17 257**		*e*P	**P**	**23 09 52.4**	**+1.1**
BOM				*e*P	Pn	23 09 53.1	-0.5
JASL	**Jaisalmer**	**20.53 281**		*e*P	**P**	**23 09 55.7**	**+0.5**
JASL				*e*P	Pn	23 09 56.4	-1.4
TIY	**Taiyuan**	**20.54**	**47**	⇓P	**P**	**23 09 54.5**	**-0.8**
TIY				sP	**sP**	**23 10 18.6**	**+5.0**
TIY				PP	**PnPn**	**23 10 19.8**	**+5.4**
TIY				S	**S**	**23 13 38.0**	**-4.4**
TIY				sS	**sS**	**23 13 55.8**	**-5.6**
TIY				SS	**SnSn**	**23 14 07.5**	**+3.5**
TIY				pmax	pmax		
	comp=Z,1μm,1.3s						
TIY				LR	LR		
	comp=Z,48μm,22.0s						
TIY				LR	LR		
	comp=Z,51μm,24.0s						
TIY				LR	LR		
	comp=Z,101μm,23.4s						
KULM	**Kulim**	**20.57 160**		⇓P	**P**	**23 09 54.8**	**-0.9**
KULM	**Kulim**	**20.57 160**		P	**P**	**23 09 55.0**	**-0.8**
KULM	**Kulim**	**20.57 160**		P	**P**	**23 09 56.0**	**+0.3**
GOA	**Goa**	**20.74 247**		*e*P	Pn	23 09 59.1	-1.3
GOA				IAmb	IAmb	23 10 02.6	
	comp=Z,3μm,1.3s						
KSH	**Kashi**	**20.85 319**		P	**P**	**23 09 59.7**	**+1.0**
KSH				pP	pP	23 10 11.8	+1.3
KSH				sP	sP	23 10 19.4	+2.6
KSH				S	**S**	**23 13 46.2**	**-2.5**
KSH				sS	sS	23 14 02.8	-4.9
KSH				pmax	pmax		
	comp=Z,5μm,1.3s						
KSH				LR	LR		
	comp=Z,135μm,19.4s						
KSH				LR	LR		
	comp=Z,83μm,16.0s						
KSH				LR	LR		
	comp=Z,268μm,23.4s						
BTO	**Baotou**	**20.88**	**37**	*e*P	**P**	**23 09 58.6**	**-0.4**
BTO				S	**S**	**23 13 45.6**	**-3.5**
BTO				LR	LR		
	comp=Z,368μm,17.2s						
BTO				LR	LR		
	comp=Z,293μm,15.8s						
MNGI	**Mangalore**	**21.31 240**		*e*P	**P**	**23 10 04.1**	**+0.4**
PALK	**Pallekele**	**21.38 217**		P	**P**	**23 10 05.5**	**+1.0**
	comp=Z,806nm,0.9s,baz=127,slow=12,SNR=93						
PALK				S	**S**	**23 13 51.4**	**-7.9**
	comp=Z,445nm,0.7s,baz=216,slow=23,SNR=8.9						
PALK				LR	LR	23 20 20.9	
	comp=Z,129μm,20.4s,baz=127,slow=42						
PALK	**Pallekele**	**21.38 217**		P	**P**	**23 10 05.6**	**+1.0**
PALK				pmax	pmax		
	comp=Z,23μm,1.8s						
PALK	**Pallekele**	**21.38 217**		⇓P	**P**	**23 10 05.5**	**+1.0**
PALK	**Pallekele**	**21.38 217**		P	**P**	**23 10 05.6**	**+1.0**
PALK	**Pallekele**	**21.38 217**		P	**P**	**23 10 05.4**	**+1.0**
IPM	**Ipoh**	**21.46 159**		P	**P**	**23 10 03.1**	**-2.1**
IPM				IAmb	IAmb	23 10 24.8	
	comp=Z,2μm,0.8s						
IPM	**Ipoh**	**21.46 159**		P	**P**	**23 10 03.0**	**-2.3**
IPM	**Ipoh**	**21.46 159**		P	**P**	**23 10 03.9**	**-1.4**
TPTI		**21.72 170**		P	**P**	**23 10 05.1**	**-2.9**
	comp=Z,43μmcomp=Z,12μmcomp=Z,799nm,0.9s						
TSI	**Tuntungan**	**21.74 167**		P	**P**	**23 10 08.1**	**-0.1**
	comp=Z,139μmcomp=Z,166μmcomp=Z,12μm,1.0s						
UZB	**Uzynbulak**	**21.85 330**		*c i*P	**P**	**23 10 09.8**	**+0.4**
UZB				*i* S	**S**	**23 14 09.6**	**+1.4**
UZB				pmax	pmax		
	comp=Z,4μm,1.9s						
UZB	**Uzynbulak**	**21.85 330**		⇑*i*P	**P**	**23 10 09.9**	**+0.4**
	comp=Z,4μm,1.9s,baz=330						
UZB				*i* S	**S**	**23 14 09.6**	**+1.4**
	baz=330						
HHC	**Hu-ho-hao-te**	**21.91**	**39**	*e*P	**P**	**23 10 10.0**	**0.0**
HHC				sP	sP	23 10 31.6	+3.2
HHC				PP	**PnPn**	**23 10 36.3**	**+3.2**
HHC				S	**S**	**23 14 04.7**	**-4.6**
HHC				sS	Sn	23 14 21.6	+0.1
HHC				pmax	pmax		
	comp=Z,740nm,1.6s						
HHC				pmax	pmax		
	comp=Z,16μm,5.9s						
HHC				LR	LR		
	comp=Z,117μm,19.4s						
HHC				LR	LR		
	comp=Z,92μm,18.6s						
HHC				LR	LR		
	comp=Z,220μm,19.4s						
HNS	**HongShan**	**21.93**	**50**	⇓P	**P**	**23 10 09.2**	**-0.9**
HNS				sP	**sP**	**23 10 27.6**	**-0.9**
HNS				S	**S**	**23 14 06.8**	**-2.7**
HNS				pmax	pmax		
	comp=Z,

comp=Z,3μm,1.1s
KPKS Kokpek 22.25 330 ⇑*i*P **P 23 10 14.2 +0.5**
comp=Z,3μm,1.1s,baz=330
KPKS *e*S **S 23 14 16.8 +1.2**
baz=330
PSI Prapat 22.50 166 P **P 23 10 15.6 -1.0**
comp=Z,298nm,0.6s,baz=325,slow=7.2,SNR=173
PSI S **S 23 14 19.3 -0.9**
comp=Z,62nm,0.9s,baz=212,slow=20,SNR=2.2
PSI LR LR 23 21 24.6
comp=Z,62μm,19.4s,baz=329,slow=43
JRMM Jerantut 22.51 156 P **P 23 10 16.0 -0.5**
KNMB Chin-men Tao 22.52 86 P **P 23 10 14.6 -2.0**
ULHL Ulahol 22.53 325 P **P 23 10 18.0 +1.2**
SNR=797
RPSI Rantau Prapat 22.60 166 IAmb IAmb 23 10 29.7
comp=Z,2μm,0.9s
TNSS Tian-Shan 22.75 327 *i*P **P 23 10 19.7 +0.4**
baz=327
MDOK Medeo 22.79 327 *i*P **P 23 10 20.5 +1.0**
MDOK *e*S **S 23 14 27.0 +2.0**
MDOK MLR MLR
comp=Z,55μm,13.0s
MDOK Medeo 22.79 327 *i*P **P 23 10 20.5 +1.0**
baz=327
MDOK *e*S **S 23 14 27.0 +2.0**
baz=327
MDOK LR LR 23 19 26.0
comp=Z,55μm,13.2s,baz=327
BOOM Boomskoye usch 22.86 325 P **P 23 10 21.0 +0.7**
BOOM pmax pmax
comp=Z,6μm,1.1s
BOOM Boomskoye usch 22.86 325 P **P 23 10 21.0 +0.7**
TIA Tai'an 23.16 55 ⇓P **P 23 10 20.6 -2.5**
TIA pP **sP 23 10 38.5 -3.0**
TIA sP pP 23 10 44.2 +9.0
TIA S **S 23 14 27.8 -3.2**
TIA sS **sS 23 14 52.5 -0.1**
TIA SS Sn 23 15 07.7 +16
TIA pmax pmax
comp=Z,600nm,1.5s
TIA LR LR
comp=Z,83μm,18.2s
TIA LR LR
comp=Z,34μm,15.7s
TIA LR LR
comp=Z,106μm,19.2s
ARXS Arharly 23.22 330 *e*P **P 23 10 24.0 +0.3**
NJ2 Nanjing 23.30 66 ⇓*i*P **P 23 10 20.3 -4.2**
NJ2 pP **pP 23 10 35.0 -1.8**
NJ2 sP **sP 23 10 45.3 +2.3**
NJ2 PP **PnPn 23 10 54.9 +2.8**
NJ2 S **S 23 14 28.5 -4.9**
NJ2 sS Sn 23 14 50.7 -4.2
NJ2 ScP **ScP 23 17 41.3 -3.3**
NJ2 ScS **ScS 23 21 29.4 -1.5**
NJ2 pmax pmax
comp=Z,140nm,1.3s
NJ2 pmax pmax
comp=Z,3μm,3.5s
NJ2 LR LR
comp=Z,59μm,12.8s
NJ2 LR LR
comp=Z,30μm,13.2s
NJ2 LR LR
comp=Z,48μm,16.7s
CHKK Chushkaly 23.34 329 ⇑*i*P **P 23 10 24.8 0.0**
baz=328
TKM2 Tokmak 2 23.35 325 P **P 23 10 26.1 +1.0**
SNR=3117
KBL Kabul 23.38 300 P **P 23 10 25.7 +0.2**
KBL pmax pmax
comp=Z,9μm,1.2s
KBL Kabul 23.38 300 P **P 23 10 25.7 +0.2**
KBL Kabul 23.38 300 P **P 23 10 25.7 +0.2**
UCH Uchtor 23.45 322 P **P 23 10 28.1 +1.6**
SNR=58
KBK Karagaybulak 23.51 324 P **P 23 10 28.0 +1.4**
SNR=1315
TDK Taldyqorghan 23.59 332 *i*P **P 23 10 27.3 +0.1**
TDK *e*S **S 23 14 39.3 +1.4**
TDK pmax pmax
comp=Z,4μm,1.3s
TDK Taldyqorghan 23.59 332 *i*P **P 23 10 27.4 +0.1**
comp=Z,4μm,1.3s,baz=332
TDK *e*S **S 23 14 39.4 +1.4**
baz=332
ZSN Zaisan 23.62 345*c i*P **P 23 10 28.0 +0.6**
ZSN *e*S **S 23 14 40.0 +1.7**
ZSN pmax pmax
comp=Z,2μm,1.5s
ZSN Zaisan 23.62 345 ⇑*i*P **P 23 10 28.0 +0.6**
comp=Z,2μm,1.5s,baz=345
ZSN *e*S **S 23 14 40.0 +1.7**
baz=345
KUU Kurty 23.68 328*c i*P **P 23 10 28.2 +0.2**
KUU *e*S **S 23 14 40.6 +1.3**
KUU pmax pmax
comp=Z,8μm,1.6s
KUU Kurty 23.68 328 ⇑*i*P **P 23 10 28.2 +0.2**
comp=Z,8μm,1.6s,baz=328
KUU *e*S **S 23 14 40.7 +1.3**
baz=328
GSI Gunungsitoli 23.70 170 ⇓P **P 23 10 26.1 -2.3**
GSI Gunungsitoli 23.70 170 P **P 23 10 26.9 -1.5**
comp=Z,120μmcomp=Z,86μmcomp=Z,6μm,0.8s
GSI Gunungsitoli 23.70 170 P **P 23 10 26.0 -2.4**
GSI Gunungsitoli 23.70 170 P **P 23 10 27.8 -0.6**
MK31 Makanchi Array 23.71 340*c i*P **P 23 10 28.2 0.0**
MK31 Makanchi Array 23.71 340 P **P 23 10 28.3 0.0**
MKAR Makanchi Array 23.71 340 P **P 23 10 28.2 -0.1**
comp=Z,544nm,0.5s,baz=147,slow=11,SNR=1465
MKAR P3KPbc 23 43 49.2
comp=Z,8.5nm,0.7s,baz=331,slow=5.3,SNR=31
MKAR Makanchi Array 23.71 340 P **P 23 10 29.1 +0.8**
MKAR Makanchi Array 23.71 340 P **P 23 10 29.1 +0.8**
AAK Ala-Archa 23.74 323 P **P 23 10 30.3 +1.5**
comp=Z,1μm,0.8s,baz=142,slow=7.0,SNR=648
AAK Ala-Archa 23.74 323 P **P 23 10 30.3 +1.5**
SNR=1595
AAK Ala-Archa 23.74 323*ce*P **P 23 10 30.0 +1.2**
AAK MLR MLR
comp=Z,315μm,23.0s
AAK Ala-Archa 23.74 323 ⇑P **P 23 10 30.2 +1.5**
AAK Ala-Archa 23.74 323 P **P 23 10 30.2 +1.5**
AAK Ala-Archa 23.74 323 P **P 23 10 30.3 +1.5**
AAK Ala-Archa 23.74 323 *i*P **P 23 10 30.3 +1.5**
SNR=3664
MAKZ Makanchi 23.82 340 P **P 23 10 29.4 +0.2**
MAKZ pmax pmax
comp=Z,12μm,2.0s
MAKZ Makanchi 23.82 340 P **P 23 10 29.4 +0.2**
MAKZ Makanchi 23.82 340 P **P 23 10 29.5 +0.2**
MAKZ pP **pP 23 10 42.0 0.0**
CHMS Chumysh 23.85 324 P **P 23 10 31.3 +1.7**
SNR=16
AML Almayashu 23.85 321 P **P 23 10 31.8 +1.7**
SNR=79
AML Almayashu 23.85 321 *i*P **P 23 10 31.3 +1.2**
SNR=3040
EKS2 Erkin-Say 24.15 322 P **P 23 10 34.0 +1.6**
SNR=4865
USP Ospenovka 24.16 324 P **P 23 10 33.8 +1.3**
SNR=95
SGDS Sogindy 24.22 325 *e*P **P 23 10 34.0 +0.9**
SGDS pmax pmax
comp=Z,6μm,2.2s
SGDS Sogindy 24.22 325 ⇑*i*P **P 23 10 34.0 +0.9**
comp=Z,6μm,2.2s,baz=325
SGDS *e*S **S 23 14 50.0 +1.8**
baz=325
BJT Baijiatuau 24.24 46 IAmb IAmb 23 10 51.5
comp=Z,2μm,1.1s
BJT Baijiatuau 24.24 46 P **P 23 10 34.1 +1.0**
BJT pP **pP 23 10 48.7 +2.4**
BJI Beijing 24.25 46 P **P 23 10 33.9 +0.6**
BJI pP **pP 23 10 46.0 -0.4**
BJI sP **sP 23 10 52.3 -0.1**
BJI S **S 23 14 48.3 -0.2**
BJI sS **sS 23 15 12.4 +2.1**
BJI pmax pmax
comp=Z,1μm,1.6s
BJI pmax pmax
comp=Z,13μm,4.4s
BJI LR LR
comp=Z,53μm,17.4s
BJI LR LR
comp=Z,35μm,18.4s
BJI LR LR
comp=Z,90μm,27.9s
MNSI Mandailing Nat 24.58 166 P **P 23 10 35.0 -1.4**
comp=Z,88μmcomp=Z,50μmcomp=Z,4μm,0.8s
TPUB Ta-pu 24.71 88 P **P 23 10 38.7 +1.1**
TPUB Ta-pu 24.71 88 P **P 23 10 39.3 +1.6**
SSLB Suanglung 24.93 87 P **P 23 10 42.0 +2.3**
MYKOM Kota Tinggi 24.95 155 ⇓P **P 23 10 39.3 -0.5**
MYKOM Kota Tinggi 24.95 155 IAmb IAmb 23 11 02.0
comp=Z,2μm,1.0s
MYKOM Kota Tinggi 24.95 155 P **P 23 10 41.0 +1.2**
I34MN SONGINO INFRAS 25.07 21 P **P 23 10 45.6 +4.8**
baz=200,slow=8.7,SNR=1.1
I34MN *i* 01 39 40.0
baz=201,slow=337,SNR=0.4
SONM Songino Array 25.10 21 P **P 23 10 42.1 +1.0**
comp=Z,740nm,0.9s,baz=199,slow=9.0,SNR=485
SONM ScP **ScP 23 17 49.1 -0.3**
comp=Z,29nm,1.0s,baz=202,slow=3.1,SNR=3.7
SONM PKiKP **PKiKP 23 21 56.8 +1.5**
comp=Z,7.2nm,0.9s,baz=231,slow=1.4,SNR=6.3
SONM LR LR 23 22 23.8
comp=Z,40μm,20.9s,baz=218,slow=41
SONM P3KPbc 23 43 45.1
comp=Z,2.3nm,0.7s,baz=27,slow=3.9,SNR=10
SSE Sheshan 25.11 69 P **P 23 10 40.0 -1.2**
SSE pP **pP 23 10 55.9 +1.6**
SSE S **S 23 15 02.7 +0.2**
TWG Pinlang 25.19 89 P **P 23 10 42.4 +0.4**
YHNB Yeheng 25.21 84 P **P 23 10 46.2 +4.0**
TATO Taipei 25.28 84 P **P 23 10 43.1 +0.4**
TATO Taipei 25.28 84 P **P 23 10 42.8 0.0**
DGZ Jazzator, Alta 25.29 351*c i*P **P 23 10 42.9 +0.1**
DGZ pmax pmax
comp=Z,2μm,0.9s
DGZ MLR MLR
comp=Z,213μm,27.0s
ULN Ulaanbaatar 25.34 21*ce*P **P 23 10 43.9 +0.7**
ULN pmax pmax
comp=Z,861nm,0.8s
ULN Ulaanbaatar 25.34 21 ⇑P **P 23 10 44.0 +0.7**
ULN Ulaanbaatar 25.34 21 P **P 23 10 44.0 +0.7**
ULN IAmb IAmb 23 10 51.6
comp=Z,1μm,0.9s
ULN Ulaanbaatar 25.34 21 P **P 23 10 44.2 +0.9**
BKNI Bangkinang 25.40 162 ⇓P **P 23 10 42.3 -1.6**
BKNI Bangkinang 25.40 162 P **P 23 10 43.4 -0.5**
comp=Z,92μmcomp=Z,35μmcomp=Z,3μm,1.0s
BKNI Bangkinang 25.40 162 P **P 23 10 43.1 -0.8**
BKNI IAmb IAmb 23 11 28.5
comp=Z,4μm,1.1s
BKNI Bangkinang 25.40 162 P **P 23 10 43.9 0.0**
BTLS Baital 25.64 327*c i*P **P 23 10 46.2 +0.4**
BTLS pmax pmax
comp=Z,2μm,1.2s
BTLS Baital 25.64 327 ⇑*i*P **P 23 10 46.2 +0.4**
comp=Z,2μm,1.2s,baz=327
DZA Taraz 25.69 320*c i*P **P 23 10 47.1 +0.8**
DZA pmax pmax
comp=Z,3μm,2.0s
DZA Taraz 25.69 320 ⇑*i*P **P 23 10 47.2 +0.8**
comp=Z,3μm,2.0s,baz=320
TPRI Tanjung Pinang 26.01 154 P **P 23 10 50.0 +0.6**
comp=Z,18μmcomp=Z,861nm,0.9s
IUG Iuzhnay 26.04 317*c i*P **P 23 10 50.7 +1.1**
IUG Iuzhnay 26.04 317 ⇑*i*P **P 23 10 50.8 +1.1**
baz=317
TAS Tashkent 26.05 315 P **P 23 10 50.8 +1.2**
TAS pmax pmax
comp=Z,6μm,1.5s
KKAR Karatay Array 26.30 320 P **P 23 10 52.2 +0.4**
KKAR Karatay Array 26.30 320 P **P 23 10 52.2 +0.4**
RGRI Rengat 26.42 160 P **P 23 10 53.8 +0.7**
comp=Z,2μmcomp=Z,19μmcomp=Z,1μm,0.9s
XLT XiLinHaoTe 26.43 38 ⇑*i*P **P 23 10 54.3 +1.2**
XLT pP pP 23 11 08.9 +2.6
XLT sP sP 23 11 12.9 +0.5
XLT PP **PnPn 23 11 38.3 +3.5**
XLT S **S 23 15 24.6 +1.3**
XLT sS sS 23 15 46.4 +1.1
XLT SS **SnSn 23 16 35.0 +7.1**
XLT pmax pmax
comp=Z,1μm,1.2s
XLT pmax pmax
comp=Z,12μm,4.2s
XLT LR LR
comp=Z,86μm,20.2s
XLT LR LR
comp=Z,79μm,18.6s
XLT LR LR
comp=Z,156μm,24.5s
SISI Saibi 26.54 168 P **P 23 10 53.8 -0.4**
comp=Z,52μmcomp=Z,38μmcomp=Z,4μm,1.0s
ZAK Zakamensk 26.59 14 *e*P **P 23 10 56.2 +1.7**
ZAK *e* 23 21 39.8
ZAK pmax pmax
comp=Z,2μm,1.2s
BRLS Borolday 26.66 319 *i*P **P 23 10 54.9 -0.2**
BRLS *e*S **S 23 15 27.3 +0.5**
BRLS Borolday 26.66 319 *i*P **P 23 10 55.0 -0.2**
baz=318
BRLS *e*S **S 23 15 27.4 +0.5**
baz=318
YOJ Yonaguni jima 26.71 85 P **P 23 10 55.5 -0.2**
YOJ pmax pmax
comp=Z,726nm,1.0s
YOJ Yonaguni jima 26.71 85 ⇑P **P 23 10 56.6 +0.9**
YOJ Yonaguni jima 26.71 85 P **P 23 10 55.5 -0.2**
YOJ Yonaguni jima 26.71 85 P **P 23 10 57.2 +1.5**
DSRI Dabo 27.31 155 P **P 23 11 00.6 -0.6**
comp=Z,44μmcomp=Z,7μmcomp=Z,477nm,0.9s
MOY Mondy 27.39 10 *e*P **P 23 11 03.1 +1.5**
MOY pmax pmax
comp=Z,1μm,2.2s
LUBP Lubang 27.41 109 ⇓*i*P **P 23 11 03.1 +1.1**
DL2 Dalian 27.50 53 ⇑*i*P **P 23 11 02.6 0.0**
DL2 S **S 23 15 39.9 -0.1**
DL2 ScS **ScS 23 21 44.8 -3.3**
DL2 pmax pmax
comp=Z,3μm,1.0s
DL2 pmax pmax
comp=Z,10μm,11.2s
DL2 LR LR
comp=Z,56μm,19.5s
DL2 LR LR
comp=Z,49μm,18.3s
DL2 LR LR
comp=Z,52μm,22.0s
SEM Semipalatinsk 27.55 341*c i*P **P 23 11 02.7 -0.5**
SEM *e*S **S 23 15 41.4 +0.4**
SEM pmax pmax
comp=Z,961nm,1.9s
SEM Semipalatinsk 27.55 341 ⇑*i*P **P 23 11 02.8 -0.5**
comp=Z,961nm,1.9s,baz=341
SEM *e*S **S 23 15 41.5 +0.4**
baz=341
KRJI Kerinci 27.83 163 P **P 23 11 04.0 -1.9**
comp=Z,75μmcomp=Z,42μmcomp=Z,2μm,0.8s
JMBI JAMBI 28.05 158 P **P 23 11 08.6 +0.9**
comp=Z,58μmcomp=Z,18μmcomp=Z,2μm,0.8s
PGP Puerto Galera 28.12 109 ⇑*e*P **P 23 11 09.0 +0.5**
PPSI Pulau Pagai 28.12 166 P **P 23 11 08.2 -0.2**
comp=Z,75μmcomp=Z,65μmcomp=Z,4μm,1.2s
KURBB Kurchatov Arra 28.26 340 P **P 23 11 09.3 0.0**
comp=Z,445nm,0.9s,baz=153,slow=8.6,SNR=414
KURBB PcP **PcP 23 14 22.1 +0.6**
comp=Z,91nm,0.7s,baz=165,slow=2.2,SNR=4.1
KURBB ScP **ScP 23 18 00.1 +1.6**
comp=Z,46nm,0.9s,baz=149,slow=2.2,SNR=4.3
KURBB LR LR 23 24 30.6
comp=Z,66μm,21.3s,baz=133,slow=41
KSM Kuching 28.28 143 ⇓P **P 23 11 09.7 -0.1**
KSM Kuching 28.28 143 P **P 23 11 09.3 -0.4**
KSM IAmb IAmb 23 11 35.2
comp=Z,2μm,1.5s
KSM Kuching 28.28 143 P **P 23 11 10.0 +0.2**
KSM Kuching 28.28 143 P **P 23 11 10.7 +0.9**
KURK Kurchatov 28.32 340*ce*P **P 23 11 09.7 0.0**
KURK pmax pmax
comp=Z,2μm,2.5s
KURK MLR MLR
comp=Z,173μm,26.0s
KURK Kurchatov 28.32 340 ⇑P **P 23 11 09.8 0.0**
KURK Kurchatov 28.32 340 P **P 23 11 09.8 0.0**
KURK IAmb IAmb 23 11 16.8
comp=Z,1μm,0.9s
KURK Kurchatov 28.32 340 PcP 23 14 22.1 +0.4
KURK Kurchatov 28.32 340 P **P 23 11 10.0 +0.3**
KURK pP **pP 23 11 19.3 -3.6**
LQP Lukban 28.36 107 ⇑*e*P **P 23 11 10.3 -0.4**
IRK Irkutsk 28.55 14 *e*P **P 23 11 14.4 +2.5**
IRK *e* 23 11 33.0
IRK pmax pmax
comp=Z,2μm,2.0s
SBUM Sibu 28.59 138 ⇓P **P 23 11 12.7 +0.1**
SBUM Sibu 28.59 138 P **P 23 11 12.5 -0.1**
SBUM Sibu 28.59 138 P **P 23 11 13.0 +0.4**
KKM Kota Kinabalu 28.61 127 ⇓P **P 23 11 13.1 +0.2**
KKM Kota Kinabalu 28.61 127 P **P 23 11 13.6 +0.7**
KKM Kota Kinabalu 28.61 127 P **P 23 11 14.3 +1.4**
JMJ Miyako jima 2 28.73 83 P **P 23 11 16.9 +3.1**
HRA Herat 28.78 297 IAmb IAmb 23 11 20.2
comp=Z,3μm,1.9s
MASI Maura Aman, Be 29.04 162 P **P 23 11 14.0 -2.6**
comp=Z,51μmcomp=Z,21μmcomp=Z,2μm,1.3s
JCNP Jose Panganiba 29.29 106 ⇑*e*P **P 23 11 19.5 +0.7**
PPBI Pangkal Pinang 29.46 154 P **P 23 11 20.3 0.0**
comp=Z,56μmcomp=Z,18μmcomp=Z,954nm,0.8s
PMBI Palembang 29.65 157 P **P 23 11 22.2 +0.3**
comp=Z,64μmcomp=Z,47μmcomp=Z,2μm,0.8s
PMBI Palembang 29.65 157 P **P 23 11 22.0 +0.1**
PMBI IAmb IAmb 23 11 28.0
comp=Z,1μm,0.8s
PMBI Palembang 29.65 157 P **P 23 11 23.6 +1.7**
SPMM Sapulut 29.71 129 P **P 23 11 24.0 +1.4**
ZALV Zalesovo Beam 29.82 350 P **P 23 11 23.4 +0.4**
comp=Z,199nm,0.5s,baz=172,slow=7.5,SNR=493
ZALV PKiKP **PKiKP 23 21 56.0 -1.8**
comp=Z,6.6nm,0.7s,baz=197,slow=3.4,SNR=4.5
ZALV P3KPbc 23 43 21.8
comp=Z,6.7nm,0.7s,baz=331,slow=4.4,SNR=19
ZALV Zalesovo Beam 29.82 350 *i*P **P 23 11 23.3 +0.3**
ZALV pmax pmax
comp=Z,202nm,0.5s
ZALV Zalesovo Beam 29.82 350 P **P 23 11 23.5 +0.5**
BRZS Berezniki 29.91 332*c i*P **P 23 11 24.8 +0.8**
BRZS *e*S **S 23 16 19.4 +1.7**
BRZS pmax pmax
comp=Z,820nm,0.8s
BRZS Berezniki 29.91 332 ⇑*i*P **P 23 11 24.8 +0.8**
comp=Z,820nm,0.8s,baz=332
BRZS *e*S **S 23 16 19.5 +1.7**
baz=332
SUJ Sinuiju 30.00 52 P **P 23 11 24.2 -0.6**
SNY Shenyang 30.03 48 ⇓P **P 23 11 24.7 -0.4**
SNY S **S 23 16 18.6 -1.3**
SNY pmax pmax
comp=Z,230nm,1.7s
SNY LR LR
comp=Z,36μm,19.9s
SNY LR LR
comp=Z,28μm,28.4s
SNY LR LR
comp=Z,62μm,26.5s
LHSI Lahat 30.07 160 P **P 23 11 24.5 -1.2**
comp=Z,45μmcomp=Z,11μmcomp=Z,1μm,0.8s
STKI Sintang 30.09 142 P **P 23 11 26.2 +0.3**
comp=Z,9μmcomp=Z,802nm,1.3s
HJU Haeju 30.25 56 P **P 23 11 26.3 -0.8**
MNAI Manna 30.41 161 ⇓P **P 23 11 25.2 -3.4**
MNAI Manna 30.41 161 P **P 23 11 26.6 -2.1**
comp=Z,46μmcomp=Z,15μmcomp=Z,1μm,0.9s
MNAI Manna 30.41 161 IAmb IAmb 23 11 53.0
comp=Z,1μm,0.9s
MNAI Manna 30.41 161 P **P 23 11 26.6 -2.1**
PYAG Pyongyang 30.57 55 P **P 23 11 29.2 -0.7**
PYAG pP **pP 23 11 39.3 -3.7**
PYAG S **S 23 16 30.6 +2.3**
PYAG AmB
comp=Z,1000nm,0.8s
PYAG AMS AMS
comp=N,12μm,16.5s
PYAG AMS AMS
comp=E,12μm,17.5s
PYAG AMS AMS
comp=Z,3μm,4.8s
RCP Roxas 30.59 110 ⇑*e*P **P 23 11 31.1 +0.9**
INCN Inchon 30.79 58 P **P 23 11 31.1 -0.8**
INCN pmax pmax
comp=Z,265nm,0.8s
INCN Inchon 30.79 58 ⇓P **P 23 11 30.6 -1.3**
INCN Inchon 30.79 58 P **P 23 11 31.1 -0.8**
INCN Inchon 30.79 58 P **P 23 11 33.0 +1.1**
INCN Inchon 30.79 58 P **P 23 11 30.2 -1.7**
MYLDM Lahad Datu 30.87 125 ⇓P **P 23 11 34.0 +1.2**
MYLDM Lahad Datu 30.87 125 IAmb IAmb 23 11 56.9
comp=Z,1μm,1.3s
MDSI Maura Dua 30.90 159 P **P 23 11 29.9 -3.1**
comp=Z,27μmcomp=Z,7μmcomp=Z,844nm,0.9s
TJN Taejon 31.10 60*de*P **P 23 11 32.4 -2.2**
TJN Taejon 31.10 60 P **P 23 11 34.9 +0.3**
CIT Chita 31.11 24 *e*P **P 23 11 36.3 +1.7**
CIT *e* 23 11 52.0
CIT *e* 23 12 40.6
CIT *e* 23 12 57.1
CIT *e* 23 14 32.1
CIT pmax pmax
comp=Z,1μm,2.4s
JOW Kunigami 31.21 79 P **P 23 11 35.4 -0.4**
comp=Z,108nm,0.4s,baz=275,slow=5.4,SNR=46
JOW ScP **ScP 23 18 07.5 -1.1**
comp=Z,41nm,0.8s,baz=288,slow=5.4,SNR=3.7
JOW LR LR 23 26 16.3
comp=Z,36μm,18.6s,baz=268,slow=40
JOW Kunigami 31.21 79 ⇓P **P 23 11 34.4 -1.4**
JOW Kunigami 31.21 79 P **P 23 11 35.2 -0.5**
KLSI 31.27 158 P **P 23 11 34.6 -1.7**
comp=Z,15μmcomp=Z,6μmcomp=Z,421nm,0.8s
KAAM Kaadhehdhoo 31.35 223 ⇑P **P 23 11 39.9 +2.9**
KAAM Kaadhehdhoo 31.35 223 P **P 23 11 39.4 +2.4**
KAAM IAmb IAmb 23 11 45.0
comp=Z,1μm,1.0s
LWLI Liwa 31.36 160 P **P 23 11 34.6 -2.6**
comp=Z,3μm,0.8s
CNOP Candoni, Negro 31.38 113 ⇑*e*P P 23 11 47.0 +10
KLI Kotabumi 31.48 158 P **P 23 11 36.2 -1.9**
KLI pmax pmax
comp=Z,1μm,1.0s
KLI Kotabumi 31.48 158 P **P 23 11 36.0 -2.1**
comp=Z,45μmcomp=Z,13μmcomp=Z,1μm,0.8s
KSAR Wonju Array Be 31.75 58 P **P 23 11 38.2 -2.1**
KSAR Wonju Array Be 31.75 58 P **P 23 11 38.2 -2.1**
KSRS Korea Array 31.78 58 P **P 23 11 39.0 -1.5**
comp=Z,16nm,0.6s,baz=250,slow=9.2,SNR=38
KSRS PcP **PcP 23 14 31.5 +0.6**
comp=Z,29nm,0.8s,baz=282,slow=4.3,SNR=1.6
KSRS S **S 23 16 44.7 -2.5**
comp=Z,29nm,1.1s,baz=256,slow=10.0,SNR=5.0
KSRS ScP **ScP 23 18 08.5 -1.7**
comp=Z,38nm,0.9s,baz=243,slow=4.0,SNR=8.2
KSRS LR LR 23 26 30.0
comp=Z,56μm,19.7s,baz=250,slow=40
KSRS P3KPbc 23 43 17.7
comp=Z,3.0nm,0.9s,baz=111,slow=3.1,SNR=3.7
HIA Hailar 31.80 33 P **P 23 11 41.6 +0.9**
HIA pmax pmax
comp=Z,3μm,1.9s
HIA Hailar 31.80 33 P **P 23 11 41.6 +0.9**
HIA IAmb IAmb 23 12 07.4
comp=Z,3μm,1.9s
HIA Hailar 31.80 33 P **P 23 11 41.2 +0.5**
WSAR Wadi Sarin 31.93 275 P **P 23 11 42.8 +0.7**
comp=Z,156nm,0.8s,baz=111,slow=8.4,SNR=69
WSAR LR LR 23 27 28.4
comp=Z,38μm,19.7s,baz=108,slow=42
KASI Kota Agung 31.98 159 P **P 23 11 39.1 -3.4**
comp=Z,35μmcomp=Z,10μmcomp=Z,1μm,0.8s
BLSI Bandar Lampung 32.08 158 P **P 23 11 41.4 -2.0**
comp=Z,35μmcomp=Z,12μmcomp=Z,992nm,0.7s
CN2 Changchun 32.12 46 *e*P **P 23 11 42.5 -1.0**
CN2 sP sP 23 11 59.8 -3.1
CN2 PP **PnPn 23 12 49.7 -0.9**
CN2 S **S 23 16 49.8 -2.7**
CN2 SS **SnSn 23 18 44.2 -2.1**
CN2 pmax pmax
comp=Z,240nm,0.7s
CN2 pmax pmax

comp=Z,2μm,4.0s
CN2 LR LR
comp=Z,27μm,20.0s
CN2 LR LR
comp=Z,21μm,20.0s
CN2 LR LR
comp=Z,24μm,22.0s
SNPH Sibulan 32.13 113 *e*P **P 23 11 46.7 +2.7**
HHU Hamhung 32.14 54 P **P 23 11 44.1 +0.4**
HHU pP **pP 23 11 54.2 -2.7**
HHU S **S 23 16 52.8 0.0**
HHU AmB
comp=Z,1μm,1.7s
HHU AMS AMS
comp=N,30μm,19.1s
HHU AMS AMS
comp=E,43μm,27.2s
HHU AMS AMS
comp=Z,28μm,17.7s
LLP Lapu-Lapu 32.24 111 *e*P **P 23 11 46.3 +1.4**
LLP *e*S **PcS 23 18 23.9 +6.2**
JTU Tsushima 32.42 64 ⇓P **P 23 11 45.2 -1.0**
JTU Tsushima 32.42 64 P **P 23 11 48.1 +1.8**
TBP Tagbilaran 32.48 112 *e*P **P 23 11 48.5 +1.6**
TBP *i*S **S 23 16 56.5 -2.1**
PBKI Pangkalan Bun 32.51 145 P **P 23 11 47.6 +0.4**
comp=Z,14μmcomp=Z,734nm,0.8s
DCPH Dipolog City 32.64 115⇑*e*P **P 23 11 50.2 +1.8**
GEYT Alibeck 32.79 302 P **P 23 11 50.8 +1.3**
comp=Z,616nm,1.0s,baz=147,slow=8.3,SNR=138
GEYT LR LR 23 28 25.1
comp=Z,51μm,21.7s,baz=108,slow=42
GEYT Alibeck 32.79 302 P **P 23 11 50.6 +1.1**
MTKI Muara Teweh, K 32.89 138 P **P 23 11 51.4 +0.9**
comp=Z,28μmcomp=Z,10μmcomp=Z,574nm,2.0s
JSU Suzuyama 33.05 70 ⇓P **P 23 11 50.1 -1.7**
PAGZ Pagadian 33.07 116⇑*e*P **P 23 11 53.2 +1.1**
SBJI Serang 33.09 157 P **P 23 11 50.7 -1.5**
comp=Z,10μmcomp=Z,932nm,0.8s
BVAR Borovoye Array 33.15 334 P **P 23 11 53.1 +0.7**
comp=Z,343nm,0.6s,baz=143,slow=11,SNR=452
BRVK Borovoye 33.22 334*ce*P **P 23 11 53.0 0.0**
BRVK pmax pmax
comp=Z,1μm,1.0s
BRVK MLR MLR
comp=Z,175μm,18.0s
BRVK Borovoye 33.22 334 ⇑P **P 23 11 53.0 0.0**
BRVK Borovoye 33.22 334 P **P 23 11 52.9 0.0**
BRVK IAmb IAmb 23 12 00.0
comp=Z,1μm,0.8s
BRVK Borovoye 33.22 334 P **P 23 11 53.2 +0.2**
TNG Tangerang 33.33 156 P **P 23 11 53.7 -0.6**
comp=Z,50μmcomp=Z,30μmcomp=Z,2μm,1.5s
TNG P **P 23 11 53.9 -0.4**
comp=Z,35μmcomp=Z,20μmcomp=Z,1μm,1.5s
CGJI Cibinong 33.40 158 P **P 23 11 50.3 -4.6**
comp=Z,9μmcomp=Z,806nm,0.7s
JNU Nakatsue 33.50 67 LR LR 23 27 45.5
comp=Z,32μm,19.6s,baz=264,slow=40
JNU Nakatsue 33.50 67 ⇓P **P 23 11 54.5 -1.2**
JNU ⇑S **ScP 23 18 15.2 -1.1**
JNU Nakatsue 33.50 67 P **P 23 11 55.1 -0.7**
BANOM Banah 33.65 280 *i*P **P 23 11 57.2 0.0**
SNR=10.0
SOHO SOHO 33.68 277 *i*P **P 23 11 56.6 -0.8**
SNR=28
DBJI Dramaga 33.72 156 P **P 23 11 55.5 -2.2**
comp=Z,18μmcomp=Z,2μm,0.8s
SHME Shamm 33.78 280 *i*P **P 23 11 58.3 +0.1**
SNR=22
MSFE Esma-Masafi 33.84 279 *i*P **P 23 11 59.0 +0.2**
SNR=43
UOSS Minazif 33.86 278 ⇑P **P 23 11 58.3 -0.6**
UOSS Minazif 33.86 278 P **P 23 11 58.8 -0.1**
UOSS Minazif 33.86 278 P **P 23 11 58.4 -0.6**
UOSS Minazif 33.86 278 *i*P **P 23 11 58.3 -0.6**
SNR=16
HATD Hatta, Dubai 33.94 278 *i*P **P 23 12 00.1 +0.4**
SNR=87
SMKI Samarinda 33.97 134 P **P 23 12 00.6 +0.7**
comp=Z,54μmcomp=Z,15μmcomp=Z,633nm,1.0s
SKJI Sukabumi 34.07 157 P **P 23 11 57.0 -3.7**
comp=Z,8μmcomp=Z,1μm,0.6s
BNX BinXian 34.22 44 ⇓P **P 23 12 02.1 +0.3**
BNX pP **pP 23 12 12.9 -2.3**
BNX sP **sP 23 12 17.7 -3.5**
BNX S **S 23 17 24.6 -0.4**
BNX sS **sS 23 17 44.0 -3.2**
BNX pmax pmax
comp=Z,660nm,0.8s
BNX LR LR
comp=Z,60μm,19.7s
BNX LR LR
comp=Z,30μm,16.6s
BNX LR LR
comp=Z,43μm,21.3s
LEM Lembang 34.30 155 P **P 23 12 00.9 -2.0**
comp=Z,117nm,0.7s,baz=314,slow=5.4,SNR=12
LEM LR LR 23 26 54.5
comp=Z,46μm,20.3s,baz=318,slow=38
LEM Lembang 34.30 155 P **P 23 12 02.0 -0.9**
LEM pmax pmax
comp=Z,394nm,0.8s
NAZ Nazwa, Dubai 34.34 278 *i*P **P 23 12 03.5 +0.4**
SNR=25
BKB Balikpapan 34.39 136 ⇓P **P 23 12 03.9 +0.4**
BKB Balikpapan 34.39 136 P **P 23 12 02.9 -0.6**
comp=Z,58μmcomp=Z,24μmcomp=Z,1μm,1.5s
BKB Balikpapan 34.39 136 P **P 23 12 03.4 -0.1**
BKB IAmb IAmb 23 12 44.7
comp=Z,1μm,1.1s
BKB Balikpapan 34.39 136 P **P 23 12 06.5 +3.0**
ALNE Al Ain 34.40 277 *i*P **P 23 12 03.7 +0.1**
SNR=104
FAQ Al Faqa, Dubai 34.44 278 *i*P **P 23 12 04.0 +0.1**
SNR=32
CNJI Cibinong 34.56 156 P **P 23 12 00.7 -4.2**
comp=Z,34μmcomp=Z,8μmcomp=Z,928nm,0.9s
ASUD Al Ashush, Dub 34.69 278 *i*P **P 23 12 06.6 +0.4**
SNR=26
BBKI Banjar Baru 34.88 141 P **P 23 12 08.5 +0.7**
comp=Z,28μmcomp=Z,25μmcomp=Z,2μm,1.3s
KCP Kidapawan 34.94 115 ⇓*i*P **P 23 12 09.1 +0.7**
AJN Ajban 35.01 278 *i*P **P 23 12 09.1 +0.3**
SNR=26
MDJ Mudanjiang 35.18 47 P **P 23 12 10.5 +0.4**
MDJ sP sP 23 12 29.7 +0.2
MDJ S **S 23 17 39.9 +0.1**
MDJ pmax pmax
comp=Z,210nm,1.5s
MDJ pmax pmax
comp=Z,5μm,11.1s
MDJ LR LR
comp=Z,28μm,22.8s
MDJ LR LR
comp=Z,20μm,17.8s
MDJ LR LR
comp=Z,37μm,23.5s
MDJ Mudanjiang 35.18 47 IAmb IAmb 23 12 33.9
comp=Z,1μm,1.3s
MDJ Mudanjiang 35.18 47 P **P 23 12 10.7 +0.6**
MDJ Mudanjiang 35.18 47 P **P 23 12 09.7 -0.3**
MPSI Mapaga 35.21 130 P **P 23 12 10.8 +0.2**
comp=Z,51μmcomp=Z,7μmcomp=Z,170nm,0.8s
KPJI Karang Pucung 35.29 153 P **P 23 12 10.7 -0.5**
comp=Z,25μmcomp=Z,2μm,1.3s
TOLI2 Tolitoli 35.29 128 IAmb IAmb 23 12 46.8
comp=Z,490nm,0.9s
TOLI2 Tolitoli 35.29 128 P **P 23 12 12.1 +0.7**
DAV Davao City (W) 35.31 115 P **P 23 12 11.6 +0.1**
DAV IAmb IAmb 23 12 50.6
comp=Z,2μm,1.4s
DAV Davao City (W) 35.31 115 P **P 23 12 13.4 +1.9**
GSPH General Santos 35.34 117⇓*e*P **P 23 12 15.4 +3.4**
UWJI Ujung Watu 35.36 149 P **P 23 12 12.5 +0.6**
comp=Z,400μmcomp=Z,24μmcomp=Z,2μm,0.8s
CMJI Cimerak 35.50 154 P **P 23 12 09.7 -3.4**
comp=Z,21μmcomp=Z,4μmcomp=Z,356nm,0.9s
JHS Saijyo 35.52 64 P **P 23 12 12.8 -0.4**
KBKI Kotabaru 35.53 139 P **P 23 12 14.8 +1.5**
comp=Z,2μmcomp=Z,12μmcomp=Z,1μm,1.0s
SMRI Semarang 35.68 150 ⇓P **P 23 12 15.8 +1.2**
SMRI Semarang 35.68 150 P **P 23 12 15.7 +1.0**
comp=Z,69μmcomp=Z,44μmcomp=Z,3μm,0.9s
SMRI Semarang 35.68 150 P **P 23 12 16.6 +1.9**
BWJI Bawean 35.70 146 P **P 23 12 15.5 +0.7**
comp=Z,28μmcomp=Z,26μmcomp=Z,2μm,0.9s
ABKAR Akbulak array 35.81 322 ⇑P **P 23 12 16.2 +0.8**
ABKAR Akbulak array 35.81 322 P **P 23 12 16.1 +0.7**
ABKAR Akbulak array 35.81 322 IAmb IAmb 23 12 22.7
comp=Z,2μm,0.9s
SHAO Shalim 35.91 267 *i*P **P 23 12 17.5 +0.8**
SNR=33
JMN Monobe 36.05 66 ⇑P **P 23 12 18.9 +1.1**
BOD Bodaibo 36.05 18 *e*P **P 23 12 17.8 +0.5**
BOD pmax pmax
comp=Z,2μm,1.7s
VLA Vladivostok 36.23 50*d*P **P 23 12 19.0 -0.1**
VLA pmax pmax
comp=Z,967nm,1.0s
VLA MLR MLR
comp=Z,39μm,22.0s
YOGI Yogyakarta 36.30 151 P **P 23 12 19.0 -0.9**
comp=Z,18μmcomp=Z,9μmcomp=Z,591nm,1.1s
UGM Wanagama 36.48 151 P **P 23 12 20.5 -1.0**
comp=Z,44μmcomp=Z,12μmcomp=Z,737nm,0.8s
UGM Wanagama 36.48 151 IAmb IAmb 23 12 59.2
comp=Z,701nm,0.9s
UGM Wanagama 36.48 151 P **P 23 12 21.6 +0.1**
MRSI Marisa 36.56 127 P **P 23 12 22.7 +0.5**
comp=Z,40μmcomp=Z,10μmcomp=Z,846nm,0.8s
WOJI Wonogiri, Jawa 36.60 150 P **P 23 12 21.3 -1.1**
comp=Z,25μmcomp=Z,7μmcomp=Z,230nm,0.9s
USA0B Ussuriysk Arra 36.64 48 IAmb IAmb 23 12 45.8
comp=Z,2μm,1.3s
USRK Ussuriysk Ar. 36.64 48 P **P 23 12 22.2 -0.3**
comp=Z,76nm,0.7s,baz=251,slow=5.8,SNR=89
USRK ScP **ScP 23 18 24.9 -2.5**
comp=Z,16nm,0.8s,baz=252,slow=2.9,SNR=3.6
USRK LR LR 23 29 29.9
comp=Z,23μm,19.7s,baz=233,slow=40
COCO West Island 36.93 175 P **P 23 12 26.1 +0.9**
COCO pmax pmax
comp=Z,3μm,1.4s
COCO West Island 36.93 175 P **P 23 12 26.1 +0.9**
XMI Christmas Isla 36.99 160 ⇓P **P 23 12 24.8 -1.0**
XMI Christmas Isla 36.99 160 P **P 23 12 25.6 -0.3**
XMIS Christmas Isla 37.01 160 P **P 23 12 25.1 -0.9**
XMIS IAmb IAmb 23 12 47.4
comp=Z,1μm,0.9s
XMIS Christmas Isla 37.01 160 P **P 23 12 25.6 -0.4**
PCJI Pacitan 37.03 150 P **P 23 12 24.3 -1.8**
comp=Z,38μmcomp=Z,9μmcomp=Z,257nm,0.6s
SGSI Sangihe 37.22 119 P **P 23 12 28.2 +0.3**
comp=Z,7μmcomp=Z,742nm,0.9s
APSI Ampana 37.32 129 P **P 23 12 29.0 +0.3**
comp=Z,26μmcomp=Z,10μmcomp=Z,483nm,0.7s
KMMI Kalianget 37.38 145 P **P 23 12 28.9 -0.3**
comp=Z,52μmcomp=Z,32μmcomp=Z,2μm,1.2s
JWT Wachi 37.41 64 ⇓P **P 23 12 28.8 -0.4**
JWT ⇑S **ScP 23 18 29.4 -1.0**
JWT Wachi 37.41 64 IAmb IAmb 23 12 40.2
comp=Z,448nm,0.8s
AKTO Aktyubinsk 37.48 322 LR LR 23 30 49.8
comp=Z,37μm,20.6s,baz=127,slow=41
TTSI Tana Toraja 37.63 134 P **P 23 12 32.2 +1.0**
comp=Z,37μmcomp=Z,18μmcomp=Z,893nm,1.7s
BLJI Banyuglugur 37.79 146 P **P 23 12 33.6 +1.0**
comp=Z,33μmcomp=Z,11μmcomp=Z,536nm,0.8s
KMSI Cibinong 38.00 125 P **P 23 12 35.7 +1.3**
comp=Z,1μmcomp=Z,21μmcomp=Z,2μm,0.7s
DGAR Diego Garcia 38.10 215*d i*P **P 23 12 36.0 +0.8**
DGAR pmax pmax
comp=Z,559nm,1.0s
DGAR MLR MLR
comp=Z,65μm,20.0s
DGAR Diego Garcia 38.10 215 ⇓P **P 23 12 37.5 +2.2**
DGAR Diego Garcia 38.10 215 P **P 23 12 34.6 -0.7**
DGAR IAmb IAmb 23 13 01.2
comp=Z,748nm,0.9s
DGAR Diego Garcia 38.10 215 P **P 23 12 34.4 -0.8**
DGAR pP **sP 23 12 52.7 -1.8**
ABJI Asem Bagus 38.16 146 P **P 23 12 36.7 +1.0**
comp=Z,57μmcomp=Z,18μmcomp=Z,921nm,1.1s
GMJI Gumukmas 38.17 147 P **P 23 12 35.3 -0.5**
comp=Z,41μmcomp=Z,9μmcomp=Z,411nm,1.1s
LUWI Luwuk 38.21 128 ⇓P **P 23 12 35.9 -0.3**
LUWI Luwuk 38.21 128 P **P 23 12 36.9 +0.7**
comp=Z,41μmcomp=Z,20μmcomp=Z,2μm,0.9s
LUWI Luwuk 38.21 128 P **P 23 12 35.9 -0.3**
LUWI Luwuk 38.21 128 P **P 23 12 37.4 +1.2**
ZEA Zeya 38.25 32 *e*P **P 23 12 37.4 +1.3**
ZEA *e* 23 12 59.7
ZEA *e* 23 14 25.8
ZEA *e*S **S 23 18 23.3 -3.1**
ZEA pmax pmax
comp=Z,2μm,4.2s
ZEA smax smax
comp=N,8μm,14.6s
ZEA MLR MLR
comp=N,11μm,15.0s
H08S3 Diego Garcia H 38.27 215 P **P 23 12 39.9 +3.5**
baz=14,slow=14,SNR=19
H08S2 Diego Garcia H 38.28 215 P **P 23 12 39.3 +2.9**
baz=14,slow=14,SNR=18
SPSI Sidrap Palu 38.29 135 P **P 23 12 37.7 +0.9**
comp=N,38μmcomp=N,27μmcomp=N,1μm,1.7s
H08S1 Diego Carcia H 38.29 215 P **P 23 12 39.5 +3.0**
baz=14,slow=14,SNR=18
KLR Kul'dur 38.39 41 LR LR 23 30 36.9
comp=N,27μm,20.6s,baz=242,slow=40
KLR Kul'dur 38.39 41*ce*P **P 23 12 37.5 +0.2**
KLR pmax pmax
comp=Z,728nm,0.9s
KLR MLR MLR
comp=Z,59μm,25.0s
JAGI Jajag, Banyuwa 38.69 146 ⇑P **P 23 12 38.8 -1.4**
JAGI Jajag, Banyuwa 38.69 146 P **P 23 12 39.7 -0.5**
comp=Z,40μmcomp=Z,12μmcomp=Z,711nm,1.2s
JAGI Jajag, Banyuwa 38.69 146 IAmb IAmb 23 13 08.7
comp=Z,503nm,0.8s
JAGI Jajag, Banyuwa 38.69 146 P **P 23 12 40.8 +0.6**
INU Inuyama 38.73 64 ⇓P **P 23 12 39.6 -0.8**
INU ⇑S **S 23 18 34.3 +0.2**
INU Inuyama 38.73 64 IAmb IAmb 23 13 16.3
comp=Z,971nm,1.3s
INU **S 23 18 33.3 -0.8**
INU Inuyama 38.73 64 P **P 23 12 40.5 +0.1**
INU Inuyama 38.73 64 P **P 23 12 39.6 -0.8**
INU pP **sP 23 13 03.8 +4.0**
BNSI Bone 38.84 135 P **P 23 12 41.5 +0.1**
comp=Z,43μmcomp=Z,14μmcomp=Z,789nm,1.5s
SRBI Singaraja 38.91 145 P **P 23 12 42.4 +0.4**
comp=Z,46μmcomp=Z,40μmcomp=Z,2μm,1.7s
JGF Kuroka 39.02 64 ⇓P **P 23 12 41.8 -1.1**
JGF Kuroka 39.02 64 **ScP 23 18 34.8 -1.8**
KAPI Kappang 39.08 136 S **S 23 18 36.8 -2.8**
comp=Z,53nm,1.1s,baz=297,slow=4.2,SNR=4.3
KAPI LR LR 23 31 38.9
comp=Z,19μm,18.9s,baz=328,slow=40
KAPI Kappang 39.08 136 P **P 23 12 43.0 -0.5**
KAPI Kappang 39.08 136 P **P 23 12 44.0 +0.6**
KAPI Kappang 39.08 136 P **P 23 12 42.9 -0.6**
DNP Denpasar 39.41 145 P **P 23 12 45.6 -0.6**
DNP Denpasar 39.41 145 P **P 23 12 46.9 +0.7**
comp=Z,52μmcomp=Z,35μmcomp=Z,2μm,0.9s
SOCY Socotra 39.47 259 ⇑P **P 23 12 46.2 -0.7**
SOCY Socotra 39.47 259 P **P 23 12 46.4 -0.5**
SOCY IAmb IAmb 23 13 08.6
comp=Z,685nm,1.0s
IGBI Denpasar 39.49 145 P **P 23 12 45.8 -1.1**
comp=Z,18μmcomp=Z,10μmcomp=Z,881nm,1.0s
BKSI Bulukumba 39.55 136 P **P 23 12 46.9 -0.4**
comp=Z,38μmcomp=Z,10μmcomp=Z,449nm,1.1s
JSG Sagara 39.66 65 ⇓P **P 23 12 48.2 +0.1**
JSG Sagara 39.66 65 IAmb IAmb 23 13 14.2
comp=Z,856nm,0.9s
MJB9 Matsu-Tunnel 39.77 62 IAmb IAmb 23 13 14.6
comp=Z,559nm,0.8s
MAJO Matsushiro 39.77 62 *i*P **P 23 12 47.8 -1.3**
MAJO pmax pmax
comp=Z,499nm,0.9s
MAJO MLR MLR
comp=Z,28μm,20.0s
MAJO Matsushiro 39.77 62 ⇓P **P 23 12 48.1 -1.0**
MAJO Matsushiro 39.77 62 P **P 23 12 48.2 -0.9**
MAJO IAmb IAmb 23 13 14.6
comp=Z,586nm,0.8s
MAJO Matsushiro 39.77 62 P **P 23 12 48.8 -0.3**
MAJO Matsushiro 39.77 62 P **P 23 12 48.2 -0.9**
MAJO pP **pP 23 13 04.5 +2.0**
MAT Matsushiro 39.77 62 P **P 23 12 48.0 -1.1**
MAT S **S 23 18 46.8 -3.0**
MJAR Matsushiro Arr 39.78 62 P **P 23 12 48.4 -0.7**
comp=Z,180nm,0.7s,baz=278,slow=9.9,SNR=102
MJAR ScP **ScP 23 18 37.4 -2.1**
comp=Z,47nm,0.8s,baz=261,slow=2.6,SNR=6.5
MJAR LR LR 23 30 49.5
comp=Z,29μm,21.9s,baz=268,slow=38
MJAR P3KPbc 23 42 42.6
comp=Z,2.4nm,0.8s,baz=109,slow=2.1,SNR=4.5
MJAR Matsushiro Arr 39.78 62 P **P 23 12 48.0 -1.1**
SVE Sverdlovsk 39.83 332*d i*P **P 23 12 50.2 +0.9**
SVE *e* 23 14 19.5
SVE *e*S **S 23 18 48.8 -1.3**
SVE *e* 23 21 36.8
SVE pmax pmax
comp=Z,6μm,0.9s
SVE pmax pmax
comp=Z,6μm,14.2s
SVE MLR MLR
comp=E,79μm,22.0s
SVE MLR MLR
comp=Z,118μm,20.0s
SVE MLR MLR
comp=N,51μm,19.0s
JSD Sado 39.95 60 ⇓P **P 23 12 49.1 -1.3**
JSD Sado 39.95 60 IAmb IAmb 23 12 57.3
comp=Z,744nm,0.8s
TEY Ternei 40.03 49⇑*e*P **P 23 12 51.5 +0.4**
TEY *e*S **S 23 18 49.2 -4.2**
TEY pmax pmax
comp=Z,1μm,3.0s
TEY pmax pmax
comp=N,20nm,1.5s
TEY pmax pmax
comp=E,40nm,1.5s
TEY pmax pmax
comp=Z,100nm,1.5s
LKRN Lenkeran, Azer 40.16 301 P **P 23 12 54.2 +2.0**
BSSI Bau Bau, Buton 40.41 136 P **P 23 12 53.2 -1.3**
comp=Z,23μmcomp=Z,5μmcomp=Z,275nm,1.6s
TNTI Ternate 40.46 121 ⇓P **P 23 12 53.2 -1.8**
TNTI Ternate 40.46 121 P **P 23 12 54.9 0.0**
comp=Z,17μmcomp=Z,8μmcomp=Z,480nm,1.3s
TNTI Ternate 40.46 121 P **P 23 12 54.9 0.0**
TNTI Ternate 40.46 121 P **P 23 12 55.1 +0.2**
comp=Z,478nm,1.4s
ARU Arti 40.49 331 LR LR 23 31 42.9
comp=Z,79μm,19.1s,baz=122,slow=39
ARU Arti 40.49 331*d i*P **P 23 12 54.9 +0.2**
ARU *PP **pP 23 13 07.6 -0.5**
ARU *SP **sP 23 13 14.4 +0.4**
ARU 23 14 29.4
ARU PPP PPP 23 14 55.5
ARU S **S 23 19 02.1 +2.2**
ARU *SS **sS 23 19 22.4 0.0**
ARU SS **SS 23 21 55.0 -5.7**
ARU SSS SSS 23 22 39.6
ARU pmax pmax
comp=Z,4μm,1.8s
ARU pmax pmax
comp=Z,5μm,7.6s
ARU MLR MLR
comp=Z,48μm,14.0s
ARU Arti 40.49 331 ⇑P **P 23 12 55.0 +0.3**
ARU Arti 40.49 331 P **P 23 12 54.1 -0.6**
ARU IAmb IAmb 23 13 01.7
comp=Z,2μm,0.8s
ARU Arti 40.49 331 P **P 23 12 55.0 +0.3**
JHJ Hachijo jima 2 40.97 67 LR LR 23 32 05.7
comp=Z,12μm,19.0s,baz=283,slow=39
JHJ2 Mitsune 40.99 67 ⇑P **P 23 13 01.9 +2.7**
JHJ2 Mitsune 40.99 67 P **P 23 12 59.4 +0.2**
JHJ2 Mitsune 40.99 67 P **P 23 13 00.9 +1.7**
SANI Sanana 41.24 126 ⇓P **P 23 12 59.2 -2.1**
SANI Sanana 41.24 126 P **P 23 12 59.9 -1.4**
comp=Z,29μmcomp=Z,8μmcomp=Z,242nm,1.2s
SANI Sanana 41.24 126 P **P 23 13 00.9 -0.4**
BBSI Bau Bau 41.26 133 P **P 23 13 03.1 +1.6**
comp=Z,2μmcomp=Z,161nm,1.3s
JYT Yasato 41.36 63 ⇑P **P 23 13 00.5 -1.6**
JYT ⇑S **S 23 19 14.8 +1.6**
LBMI Labuha 41.45 123 P **P 23 13 03.5 +0.4**
comp=Z,21μmcomp=Z,10μmcomp=Z,486nm,1.3s
SEKA Sheki 41.69 305 P **P 23 13 06.1 +1.2**
MAK Makhachkala 41.75 307 *e*P **P 23 13 03.6 -1.6**
MAK *e*PP **pP 23 13 16.7 -1.8**
MAK *e*SP **sP 23 13 22.2 -2.2**
MAK *e* 23 14 40.8
MAK *e*S **S 23 19 16.7 -2.2**
MAK *e*SS **sS 23 19 41.1 -0.4**
MAK *e*SS **SS 23 22 26.2 +0.2**
MAK pmax pmax
comp=Z,4μm,2.0s
MAK MLR MLR
comp=Z,40μm,20.0s
GRNR Gornyy 41.77 40 ⇓*i*P **P 23 13 06.0 +0.7**
GRNR *e* 23 15 13.8
GRNR pmax pmax
comp=N,40nm,1.0s
GRNR pmax pmax
comp=E,100nm,1.0s
GRNR pmax pmax
comp=Z,190nm,1.1s
GRNR MLR MLR
comp=E,10μm,15.0s
JMM Marumori 41.93 60 ⇓P **P 23 13 05.7 -1.1**
JMM Marumori 41.93 60 IAmb IAmb 23 13 30.1
comp=Z,2μm,0.9s
GANJ Ganja 42.27 304 P **P 23 13 11.5 +1.9**
JTM Tenmabayashi 42.42 56 ⇓P **P 23 13 09.1 -1.7**
JTM Tenmabayashi 42.42 56 P **P 23 13 09.6 -1.2**
JTM IAmb IAmb 23 13 38.6
comp=Z,3μm,1.8s
LGD Lagodekhi 42.49 306 P **P 23 13 12.0 +0.7**
WBSI Waikabubak, Su 42.50 141 P **P 23 13 09.2 -2.5**
DDFL Dedoflistskaro 42.52 305 P **P 23 13 15.2 +3.5**
NAX Nakhchivan 42.75 302 P **P 23 13 15.3 +1.7**
JEW Eniwo 42.99 53 ⇓P **P 23 13 15.5 +0.1**
JEW Eniwo 42.99 53 IAmb IAmb 23 13 47.5
comp=Z,2μm,0.9s
GROC Groznyy 43.02 307 *e*P **P 23 13 16.6 +1.0**
GROC *e*SP **sP 23 13 32.6 -2.2**
GROC *e* 23 14 58.3
GROC *e* 23 15 03.3
GROC *e*S **S 23 19 36.1 -1.6**
GROC *e* 23 23 14.6
GROC pmax pmax
comp=Z,1μm,0.8s
EDFI Ende, Flores 43.17 137 P **P 23 13 14.2 -3.0**
comp=Z,21μmcomp=Z,6μmcomp=Z,322nm,0.7s
GNI Garni 43.42 303 P **P 23 13 20.7 +1.7**
comp=Z,558nm,1.0s,baz=5.0,slow=4.3,SNR=65
GNI Garni 43.42 303 ⇑P **P 23 13 20.7 +1.7**
GNI Garni 43.42 303 P **P 23 13 20.4 +1.3**
GNI Garni 43.42 303 P **P 23 13 19.8 +0.8**
GNI Garni 43.42 303 P **P 23 13 20.4 +1.3**
MMRI Maumere 43.42 136 ⇓P **P 23 13 16.5 -2.6**
MMRI Maumere 43.42 136 P **P 23 13 17.3 -1.8**
comp=Z,38μmcomp=Z,16μmcomp=Z,1μm,0.7s
MMRI Maumere 43.42 136 P **P 23 13 17.1 -2.1**
MMRI IAmb IAmb 23 14 04.4
comp=Z,2μm,1.2s
MMRI Maumere 43.42 136 P **P 23 13 18.5 -0.6**
JCJ Chichijima 43.52 76 P **P 23 13 22.0 +2.1**
SEAG Tbilisi Sea 43.54 305 P **P 23 13 21.5 +1.6**
BASI Baing, Sumba 43.66 140 P **P 23 13 19.3 -1.7**
comp=Z,16μmcomp=Z,1μm,1.8s
RAYN Ar Rayn 43.72 279 P **P 23 13 21.8 +0.2**
RAYN pmax pmax
comp=Z,3μm,1.6s
RAYN Ar Rayn 43.72 279 ⇑P **P 23 13 21.7 +0.1**
RAYN Ar Rayn 43.72 279 P **P 23 13 21.8 +0.2**
RAYN IAmb IAmb 23 13 26.3
comp=Z,3μm,1.6s
RAYN Ar Rayn 43.72 279 P **P 23 13 21.7 +0.2**
RAYN Ar Rayn 43.72 279 *i*P **P 23 13 21.9 +0.2**
SNR=788
TASB TASBURUN-IGDIR 43.79 303 *e*P **P 23 13 23.3 +1.4**
KZRT Kazreti 43.80 305 P **P 23 13 23.1 +1.1**
AAI Ambon 43.96 125 P **P 23 13 24.2 +0.7**
AAI pmax pmax
comp=Z,1μm,1.7s
AAI Ambon 43.96 125 P **P 23 13 23.5 0.0**
comp=Z,38μmcomp=Z,16μmcomp=Z,1μm,1.7s

CLDR	**Caldiran**	**43.97**	**301**	*i* P	**P**	**23 13 25.0 +1.4**
ASAJ	**Asahikawa**	**44.02**	**51**	P	**P**	**23 13 24.2 +0.6**
	comp=Z,610nm,0.9s,baz=250,slow=8.6,SNR=39					
ASAJ				LR	LR	23 33 01.4
	comp=Z,13μm,19.1s,baz=265,slow=38					
JKA	**Kamikawa-asahi**	**44.02**	**51**	P	**P**	**23 13 24.0 +0.4**
JKA				IAmb	IAmb	23 13 51.9
	comp=Z,2μm,1.2s					
CUKT	**Cukurca**	**44.13**	**299**	*i* P	**P**	**23 13 25.3 +0.5**
ERM	**Erimo**	**44.13**	**55***c*	*i* P	**P**	**23 13 24.7 +0.2**
ERM				pmax	pmax	
	comp=Z,370nm,1.0s					
ERM				MLR	MLR	
	comp=Z,39μm,23.0s					
ERM	**Erimo**	**44.13**	**55**	⇑P	**P**	**23 13 24.7 +0.2**
ERM	**Erimo**	**44.13**	**55**	P	**P**	**23 13 25.1 +0.6**
ERM	**Erimo**	**44.13**	**55**	P	**P**	**23 13 25.9 +1.4**
ERM	**Erimo**	**44.13**	**55**	P	**P**	**23 13 25.0 +0.6**
MSAI	**Masohi**	**44.28**	**124**	P	**P**	**23 13 26.7 +0.6**
	comp=Z,2μmcomp=Z,177nm,1.2s					
VANB	**Van**	**44.35**	**301**	*e*P	**P**	**23 13 27.8 +1.3**
BGD	**Bogdanovka**	**44.39**	**304**	P	**P**	**23 13 28.6 +1.7**
YAK	**Yakutsk**	**44.40**	**23**	P	**P**	**23 13 26.5 +0.2**
YAK				LR	LR	23 34 08.7
	comp=Z,16μm,19.0s,baz=231,slow=39					
YAK	**Yakutsk**	**44.40**	**23**	⇑*i*P	**P**	**23 13 25.9 -0.4**
YAK				*e**PP	**pP**	**23 13 35.8 -4.2**
YAK				*e*		23 15 07.2
YAK				*e*		23 15 13.8
YAK				*e*S	**S**	**23 19 58.4 +1.2**
YAK				*e**SS	**sS**	**23 20 20.8 +0.9**
YAK				*e*		23 23 19.1
YAK				pmax	pmax	
	comp=Z,1μm,1.3s					
YAK				pmax	pmax	
	comp=E,366nm,1.4s					
YAK				pmax	pmax	
	comp=N,236nm,1.3s					
YAK				pmax	pmax	
	comp=Z,408nm,1.1s					
YAK				pmax	pmax	
	comp=N,146nm,1.0s					
YAK				pmax	pmax	
	comp=E,252nm,1.2s					
YAK				smax	smax	
	comp=N,2μm,3.5s					
YAK				smax	smax	
	comp=E,1μm,3.0s					
YAK				MLR	MLR	
	comp=Z,28μm,23.0s					
YAK				MLR	MLR	
	comp=N,11μm,19.0s					
YAK				MLR	MLR	
	comp=E,18μm,25.0s					
YAK	**Yakutsk**	**44.40**	**23**	⇑P	**P**	**23 13 25.9 -0.4**
YAK	**Yakutsk**	**44.40**	**23**	IAmb	IAmb	23 13 47.3
	comp=Z,745nm,0.8s					
YAK	**Yakutsk**	**44.40**	**23**	P	**P**	**23 13 26.2 -0.2**
YAK				pP	**sP**	**23 13 45.5 -0.5**
AKH	**Akhalkalaki**	**44.48**	**305**	⇑P	**P**	**23 13 29.8 +2.2**
AKH	**Akhalkalaki**	**44.48**	**305**	P	**P**	**23 13 29.3 +1.7**
SWI	**Sorong**	**44.52**	**119**	P	**P**	**23 13 27.5 -0.4**
SWI				pmax	pmax	
	comp=Z,695nm,1.1s					
SWI	**Sorong**	**44.52**	**119**	P	**P**	**23 13 27.2 -0.7**
	comp=Z,29μmcomp=Z,9μmcomp=Z,700nm,1.2s					
ONI	**Oni**	**44.64**	**306**	P	**P**	**23 13 30.7 +2.0**
NCK	**Nalchik**	**44.65**	**308***c*	*i* P	**P**	**23 13 29.0 +0.3**
NCK				pmax	pmax	
	comp=Z,3μm,1.2s					
NCK				MLR	MLR	
	comp=Z,42μm,20.0s					
YSS	**Yuzh-Sakhalins**	**44.65**	**48***d*	*i* P	**P**	**23 13 29.1 +0.5**
YSS				*e**PP	**pP**	**23 13 45.0 +2.7**
YSS				*e**SP	**sP**	**23 13 51.8 +3.5**
YSS				*e*		23 15 06.0
YSS				*e*S	**S**	**23 19 58.8 -2.6**
YSS				*e*SS	**ScS**	**23 23 16.0 -5.9**
YSS				pmax	pmax	
	comp=Z,2μm,2.4s					
YSS				pmax	pmax	
	comp=E,900nm,2.3s					
YSS				pmax	pmax	
	comp=Z,1μm,1.2s					
YSS				smax	smax	
	comp=E,8μm,12.9s					
YSS	**Yuzh-Sakhalins**	**44.65**	**48**	⇓P	**P**	**23 13 29.1 +0.5**
YSS	**Yuzh-Sakhalins**	**44.65**	**48**	P	**P**	**23 13 29.2 +0.6**
YSS	**Yuzh-Sakhalins**	**44.65**	**48**	P	**P**	**23 13 29.9 +1.3**
YSS	**Yuzh-Sakhalins**	**44.65**	**48**	P	**P**	**23 13 29.0 +0.5**
NRIK	**Noril'sk**	**44.67**	**357**	P	**P**	**23 13 28.9 +0.4**
	comp=E,527nm,0.9s,baz=164,slow=6.7,SNR=264					
NRIK				LR	LR	23 35 01.4
	comp=E,23μm,19.1s,baz=182,slow=40					
NRIK				PKPPKP	P'P'df	23 45 03.4 -10
	comp=E,0.9nm,0.3s,baz=48,slow=6.2,SNR=5.1					
NRIK	**Noril'sk**	**44.67**	**357***ce*	P	**P**	**23 13 28.6 +0.1**
NRIK				pmax	pmax	
	comp=Z,894nm,0.8s					
NRIK				MLR	MLR	
	comp=Z,60μm,23.0s					
NRIK	**Noril'sk**	**44.67**	**357**	P	**P**	**23 13 28.9 +0.4**
NRIK				IAmb	IAmb	23 13 35.9
	comp=Z,800nm,0.8s					
UGL	**Uglegorsk**	**44.70**	**44**	*e*P	**P**	**23 13 29.8 +0.9**
UGL				*e*		23 15 17.2
UGL				*e*S	**S**	**23 19 58.8 -3.1**
UGL				*e*SS	**SS**	**23 23 24.7 +1.1**
UGL				pmax	pmax	
	comp=Z,500nm,0.9s					
UGL				smax	smax	
	comp=E,13μm,8.9s					
UGL				smax	smax	
	comp=N,16μm,5.3s					
UGL				MLR	MLR	
	comp=N,14μm,15.0s					
AGRB	**Hanur-Agry**	**44.71**	**302**	*e*P	**P**	**23 13 31.2 +1.7**
KARS	**Kars**	**44.72**	**303**	*e*P	**P**	**23 13 31.7 +2.2**
KARS	**Kars**	**44.72**	**303**	P	**P**	**23 13 31.5 +2.0**
KARS				pmax	pmax	
	comp=Z,9μm,1.1s					
KARS	**Kars**	**44.72**	**303**	P	**P**	**23 13 31.5 +2.0**
MLAZ	**Malazgirt-MUS**	**45.03**	**301**	*e*P	**P**	**23 13 33.6 +1.6**
SIRT	**Sirnak**	**45.06**	**299**	*e*P	**P**	**23 13 32.6 +0.4**
NKL	**Nikolayevsk**	**45.08**	**39**	*e*P	**P**	**23 13 33.9 +2.0**
NKL				*e*		23 15 08.6
NKL				*e*S	**S**	**23 20 07.6 +0.2**
NKL				pmax	pmax	
	comp=Z,1μm,2.1s					
NKL				MLR	MLR	
	comp=Z,37μm,26.0s					
KBZ	**Khabaz**	**45.19**	**308**	P	**P**	**23 13 33.2 +0.4**
	comp=Z,427nm,1.0s,baz=97,slow=6.2,SNR=143					
KBZ				LR	LR	23 35 12.4
	comp=Z,52μm,21.4s,baz=87,slow=40					
KBZ	**Khabaz**	**45.19**	**308***ce*	P	**P**	**23 13 33.0 +0.1**
KBZ				pmax	pmax	
	comp=Z,1μm,1.1s					
KBZ				MLR	MLR	
	comp=Z,50μm,20.0s					
NEY	**Neytrino**	**45.25**	**307***c*	*i* P	**P**	**23 13 34.0 +0.3**
NEY				pmax	pmax	
	comp=Z,2μm,2.1s					
NEY				MLR	MLR	
	comp=Z,18μm,19.0s					
SENK	**Senkaya-Erzuru**	**45.27**	**303**	*i* P	**P**	**23 13 35.7 +1.8**
GOF	**Gofitskoye**	**45.27**	**310**	⇑*e*P	**P**	**23 13 34.6 +1.0**
GOF				*e*S	**S**	**23 20 12.3 +1.8**
GOF				pmax	pmax	
	comp=Z,8μm,1.8s					
GOF				smax	smax	
	comp=N,816nm,1.5s					
GOF				smax	smax	
	comp=E,340nm,1.5s					
SHA1	**Shidzhatmaz**	**45.36**	**308***c*	*i* P	**P**	**23 13 34.7 +0.1**
KIV	**Kislovodsk**	**45.37**	**308**	⇑P	**P**	**23 13 35.3 +0.8**
KIV	**Kislovodsk**	**45.37**	**308***c*	*i* P	**P**	**23 13 35.1 +0.6**
KIV				*e*		23 15 13.9
KIV				*e*		23 15 23.0
KIV				*i* S	S	23 20 24.7 +13
KIV				*i* SS	**ScS**	**23 23 27.8 +0.9**
KIV				pmax	pmax	
	comp=Z,2μm,1.2s					
KIV				MLR	MLR	
	comp=Z,43μm,21.0s					
KIV	**Kislovodsk**	**45.37**	**308**	⇑P	**P**	**23 13 35.1 +0.6**
KIV	**Kislovodsk**	**45.37**	**308**	P	**P**	**23 13 34.9 +0.4**
KIV	**Kislovodsk**	**45.37**	**308**	P	**P**	**23 13 34.7 +0.2**
KIV	**Kislovodsk**	**45.37**	**308**	*i* P	**P**	**23 13 35.1 +0.6**
	SNR=554					
GURO	**Guroymak-BITLI**	**45.41**	**300**	*e*P	**P**	**23 13 36.4 +1.4**
GURO	**Guroymak-BITLI**	**45.41**	**300**	P	**P**	**23 13 36.3 +1.3**
BATI	**Baumata**	**45.52**	**136**	P	**P**	**23 13 34.5 -1.4**
	comp=Z,772nm,0.7s					
BATI				S	**S**	**23 20 12.5 -2.1**
	comp=Z,155nm,1.0s,baz=0.7,slow=21,SNR=2.6					
BATI				LR	LR	23 36 00.4
	comp=Z,43μm,21.2s,baz=283,slow=40					
BATI	**Baumata**	**45.52**	**136**	P	**P**	**23 13 33.8 -2.1**
	comp=Z,19μmcomp=Z,9μmcomp=Z,691nm,1.0s					
TYV	**Tymovskoe**	**45.54**	**42**	*e*P	**P**	**23 13 38.1 +2.5**
TYV				*e*S	**S**	**23 20 19.7 +5.7**
TYV				pmax	pmax	
	comp=Z,3μm,2.2s					
TYV				pmax	pmax	
	comp=Z,298nm,1.4s					
TYV				smax	smax	
	comp=N,60nm,2.3s					
TYV				smax	smax	
	comp=E,105nm,2.3s					
TYV				smax	smax	
	comp=N,10μm,6.5s					
TYV				smax	smax	
	comp=E,11μm,6.5s					
SOEI	**Soe**	**45.56**	**135**	⇓P	**P**	**23 13 34.1 -2.2**
SOEI	**Soe**	**45.56**	**135**	P	**P**	**23 13 34.8 -1.5**
	comp=E,40μmcomp=E,40μmcomp=E,3μm,1.6s					
SOEI	**Soe**	**45.56**	**135**	P	**P**	**23 13 35.6 -0.7**
KOPR	**Koprukoy-ERZUR**	**45.61**	**302**	*e*P	**P**	**23 13 38.5 +1.9**
CHVG	**Ch'k'valeri**	**45.66**	**306**	⇑P	**P**	**23 13 38.8 +2.1**
BNDI	**Bandanaira**	**45.79**	**125**	⇑P	**P**	**23 13 38.3 +0.3**
BNDI	**Bandanaira**	**45.79**	**125**	P	**P**	**23 13 39.8 +1.8**
KIRV	**Kirov**	**45.81**	**329**	P	**P**	**23 13 38.0 +0.4**
	comp=E,1μm,0.7s,baz=117,slow=2.6,SNR=173					
KIRV				LR	LR	23 35 08.6
	comp=E,40μm,18.2s,baz=120,slow=39					
KIRV	**Kirov**	**45.81**	**329***ce*P		**P**	**23 13 37.8 +0.2**
VRTB	**Varto-Mus**	**45.88**	**301**	*e*P	**P**	**23 13 40.6 +1.9**
ERZM	**Erzurum**	**45.98**	**302**	*i* P	**P**	**23 13 41.5 +1.9**
EJDE	**Erzurum, Palan**	**46.03**	**302**	*e*P	**P**	**23 13 40.8 +0.7**
KARO	**Karliova-Bingo**	**46.20**	**301**	*e*P	**P**	**23 13 42.8 +1.5**
YUK	**Yuzh-Kuril'sk**	**46.34**	**52***c*	*i* P	**P**	**23 13 39.4 -2.6**
YUK				*e*		23 15 11.5
YUK				*i*		23 15 25.9
YUK				*i* S	**S**	**23 20 26.2 +0.5**
YUK				*e*SSS	SSS	23 24 51.7
YUK				pmax	pmax	
	comp=Z,2μm,1.0s					
YUK				pmax	pmax	
	comp=E,844nm,0.8s					
YUK				pmax	pmax	
	comp=N,395nm,1.0s					
YUK				pmax	pmax	
	comp=Z,2μm,1.7s					
FAKI	**Fak Fak**	**46.56**	**121**	⇓P	**P**	**23 13 42.9 -1.2**
FAKI	**Fak Fak**	**46.56**	**121**	P	**P**	**23 13 42.5 -1.6**
	comp=Z,28μmcomp=Z,12μmcomp=Z,1μm,1.1s					
FAKI	**Fak Fak**	**46.56**	**121**	P	**P**	**23 13 42.4 -1.7**
FAKI				IAmb	IAmb	23 14 06.4
	comp=Z,1μm,1.1s					
FAKI	**Fak Fak**	**46.56**	**121**	P	**P**	**23 13 43.9 -0.2**
YEDI	**Yedisu-Bingol**	**46.60**	**302**	*i* P	**P**	**23 13 45.5 +1.2**
KOPT	**Kop Dagi**	**46.66**	**302**	P	**P**	**23 13 46.2 +1.3**
KOPT				IAmb	IAmb	23 13 50.9
	comp=Z,2μm,1.6s					
DYBB	**Diyarbakir**	**46.89**	**300**	*e*P	**P**	**23 13 47.6 +1.1**
BAYT	**Aydıntepe-Bayb**	**46.94**	**303**	*e*P	**P**	**23 13 48.5 +1.5**
ERZN	**Erzincan**	**47.24**	**302**	*e*P	**P**	**23 13 50.2 +0.9**
KTUT	**Trabzon**	**47.25**	**304**	⇑P	**P**	**23 13 50.1 +0.9**
KTUT	**Trabzon**	**47.25**	**304**	*e*P	**P**	**23 13 50.4 +1.2**
MSEY	**Mahe Island**	**47.26**	**237**	P	**P**	**23 13 50.8 +1.2**
MSEY				pmax	pmax	
	comp=Z,1μm,1.9s					
MSEY	**Mahe Island**	**47.26**	**237**	⇑P	**P**	**23 13 50.5 +0.9**
MSEY	**Mahe Island**	**47.26**	**237**	P	**P**	**23 13 50.8 +1.2**
MSEY				IAmb	IAmb	23 14 13.0
	comp=Z,1μm,1.9s					
MSEY	**Mahe Island**	**47.26**	**237**	P	**P**	**23 13 49.7 0.0**
MSEY				pP	**sP**	**23 14 08.7 -0.3**
MSEY	**Mahe Island**	**47.26**	**237**	*i* P	**P**	**23 13 51.5 +1.9**
	SNR=28					
VRH	**Novokhopyorsk**	**47.35**	**318**	*e*P	**P**	**23 13 50.3 +0.5**
VRH				*e*		23 15 43.4
VRH				*e*S	**S**	**23 20 36.8 -3.2**
VRH				pmax	pmax	
	comp=Z,3μm,0.8s					
VRH				pmax	pmax	
	comp=Z,3μm,0.8s					
VRH				smax	smax	
	comp=N,11μm,9.9s					
SOC	**Sochi**	**47.47**	**307**	*e*P	**P**	**23 13 50.6 -0.2**
SOC				*e**PP	**pP**	**23 14 02.0 -2.3**
SOC				*e**SP	**sP**	**23 14 08.4 -1.8**
SOC				*e*		23 15 41.9
SOC				*e*S	**S**	**23 20 42.9 +1.1**
SOC				*e**SS	**sS**	**23 21 03.5 -1.2**
SOC				pmax	pmax	
	comp=Z,2μm,0.8s					
SOC				pmax	pmax	
	comp=Z,8μm,2.1s					
SOC				MLR	MLR	
	comp=Z,24μm,19.0s					
SVRC	**Sivrice-ELAZID**	**47.55**	**300**	*i* P	**P**	**23 13 52.4 +0.6**
KUR	**Kuril'sk**	**47.89**	**51***d*	*i* P	**P**	**23 13 53.9 -0.2**
KUR				*i*		23 14 17.0
KUR				*i* S	**S**	**23 20 49.1 +1.3**
KUR				*e*		23 23 47.7
KUR				*e*SSS	SSS	23 25 29.7
KUR				pmax	pmax	
	comp=Z,1μm,1.0s					
KUR				pmax	pmax	
	comp=N,390nm,1.1s					
KUR				pmax	pmax	
	comp=E,347nm,1.0s					
KUR				pmax	pmax	
	comp=Z,11μm,16.4s					
KUR				MLR	MLR	
	comp=Z,7μm,13.0s					
KUR				MLR	MLR	
	comp=E,11μm,15.0s					
KUR				MLR	MLR	
	comp=N,6μm,18.0s					
ILIC	**ilic-Erzincan**	**48.13**	**302**	*i* P	**P**	**23 13 57.6 +1.4**
MALT	**Malatya**	**48.24**	**300**	*i* P	**P**	**23 13 58.1 +1.0**
MALT	**Malatya**	**48.24**	**300**	P	**P**	**23 13 57.8 +0.7**
VORD	**Divnogorie**	**48.80**	**317**	*e*P	**P**	**23 14 00.4 -0.6**
VORD				*e*S	**S**	**23 20 55.8 -4.6**
VORD				pmax	pmax	
	comp=Z,820nm,1.0s					
VORD				pmax	pmax	
	comp=Z,2μm,1.4s					
VORD				smax	smax	
	comp=N,2μm,6.5s					
VORD				MLR	MLR	
	comp=Z,2μm,12.0s					
PRGR	**Permogore**	**48.90**	**332**	*e*P	**P**	**23 14 01.7 +0.1**
PRGR				*e*		23 15 54.7
PRGR				*e*S	**S**	**23 21 02.7 +1.2**
PRGR				pmax	pmax	
	comp=Z,501nm,0.9s					
VSR	**Storozhevoye**	**48.93**	**317**	*e*P	**P**	**23 14 01.4 -0.6**
VSR				*e*		23 15 55.1
VSR				pmax	pmax	
	comp=Z,3μm,1.7s					
VSR				pmax	pmax	
	comp=Z,8μm,2.1s					
VSR				MLR	MLR	
	comp=Z,51μm,26.0s					
DARE	**Darende-Malaty**	**48.98**	**300**	*e*P	**P**	**23 14 03.9 +1.2**
RSDY	**Resadiye-TOKAT**	**49.09**	**303**	*i* P	**P**	**23 14 04.5 +1.0**
SRPI	**Serui, Papua**	**49.11**	**116**	P	**P**	**23 14 03.8 -0.1**
	comp=Z,15μmcomp=Z,8μmcomp=Z,175nm,0.7s					
SAUI	**Saumlaki**	**49.12**	**127**	⇑P	**P**	**23 14 04.9 +1.0**
SAUI	**Saumlaki**	**49.12**	**127**	P	**P**	**23 14 03.3 -0.6**
	comp=Z,34μmcomp=Z,26μmcomp=Z,865nm,0.9s					
SAUI	**Saumlaki**	**49.12**	**127**	P	**P**	**23 14 04.1 +0.2**
SAUI				IAmb	IAmb	23 14 36.1
	comp=Z,932nm,1.0s					
SAUI	**Saumlaki**	**49.12**	**127**	P	**P**	**23 14 04.9 +1.0**
GAZ	**Gaziantep**	**49.23**	**299**	*i* P	**P**	**23 14 04.2 -0.5**
GAZ	**Gaziantep**	**49.23**	**299**	IAmb	IAmb	23 14 07.8
	comp=Z,919nm,1.0s					
SVSK	**Karacayir**	**49.34**	**302**	*i* P	**P**	**23 14 06.7 +1.4**
LPSR	**Galich'ya Gora**	**49.35**	**319**	*e*P	**P**	**23 14 04.8 -0.4**
LPSR				*e*		23 16 00.5
LPSR				*e*S	**S**	**23 21 05.3 -2.9**
LPSR				pmax	pmax	
	comp=Z,3μm,0.8s					
LPSR				pmax	pmax	
	comp=Z,3μm,0.8s					
LPSR				smax	smax	
	comp=N,6μm,12.2s					
GUMO	**Guam**	**49.43**	**93**	P	**P**	**23 14 04.7 -1.6**
	comp=N,36nm,0.4s,baz=11,slow=22,SNR=2.0					
GUMO				LR	LR	23 35 21.5
	comp=N,18μm,20.5s,baz=297,slow=36					
GUMO	**Guam**	**49.43**	**93**	P	**P**	**23 14 07.1 +0.8**
GUMO				pmax	pmax	
	comp=Z,737nm,1.2s					
GUMO	**Guam**	**49.43**	**93**	P	**P**	**23 14 07.1 +0.8**
GUMO				IAmb	IAmb	23 14 36.3
	comp=Z,737nm,1.1s					
TOKT	**Tokat**	**49.69**	**303**	*e*P	**P**	**23 14 08.9 +0.8**
ATD	**Arta Tunnel**	**49.74**	**264**	LR	LR	23 34 14.8
	comp=Z,35μm,21.5s,baz=72,slow=35					
ATD	**Arta Tunnel**	**49.74**	**264**	P	**P**	**23 14 10.1 +1.4**
ATD	**Arta Tunnel**	**49.74**	**264**	⇑P	**P**	**23 14 09.8 +1.0**
ATD				S	**S**	**23 21 14.7 0.0**
SARI	**SarD1z-Kayseri**	**49.82**	**300**	*e*P	**P**	**23 14 10.2 +1.0**
KVT	**Kavak**	**50.07**	**304**	*i* P	**P**	**23 14 12.0 +1.1**
KVT	**Kavak**	**50.07**	**304**	P	**P**	**23 14 12.0 +1.1**
TAHT	**Tahtakopru-Hat**	**50.10**	**298**	*e*P	**P**	**23 14 11.8 +0.7**
YAYL	**Yayladag**	**50.18**	**297**	*i* P	**P**	**23 14 12.6 +0.6**
BNN	**Bunyan**	**50.25**	**301**	*i* P	**P**	**23 14 13.2 +0.8**
KOZT	**Kozan**	**50.32**	**299**	*i* P	**P**	**23 14 13.4 +0.6**
CEYT	**Ceyhan**	**50.41**	**298**	*e*P	**P**	**23 14 14.5 +1.0**
HWQ	**Hawqa**	**50.46**	**295**	*e*P	**P**	**23 14 14.7 +0.6**
RCY	**Rachaya**	**50.63**	**294**	*e*P	**P**	**23 14 16.4 +1.1**
YOZ	**Yozgat**	**50.64**	**302**	*e*P	**P**	**23 14 15.2 -0.2**
SNOP	**Sinop**	**50.71**	**305**	P	**P**	**23 14 15.9 +0.3**
SHBL	**Chebaa**	**50.72**	**294**	*e*P	**P**	**23 14 16.9 +0.8**
BHL	**Bhannes**	**50.74**	**294**	*e*P	**P**	**23 14 17.2 +1.1**
MOS	**Moscow**	**50.81**	**323**	*e*P	**P**	**23 14 12.9 -3.2**
MOS				*e**PP	**pP**	**23 14 26.3 -3.6**
MOS				*e*		23 14 36.3
MOS				*e*		23 16 11.1
MOS				*e*S	**S**	**23 21 24.5 -3.8**
MOS				*e**SS	**sS**	**23 21 49.5 -1.9**
MOS				*e*		23 24 00.7
MOS				*e*SS	**SS**	**23 25 03.1 0.0**
MOS				pmax	pmax	
	comp=Z,13μm,2.0s					
MOS				pmax	pmax	
	comp=Z,4μm,1.3s					
MOS				smax	smax	
	comp=E,3μm,3.0s					
MOS				smax	smax	
	comp=N,5μm,3.3s					
MOS				MLR	MLR	
	comp=Z,46μm,18.0s					
DQRL	**Deir Qamar**	**50.83**	**294**	*e*P	**P**	**23 14 18.0 +1.2**
TIXI	**Tiksi**	**50.87**	**14**	P	**P**	**23 14 15.9 -0.4**
	comp=Z,536nm,0.5s,baz=193,slow=4.4,SNR=386					
TIXI				S	**S**	**23 21 28.4 -0.3**
	comp=Z,10nm,0.8s,baz=17,slow=21,SNR=7.2					
TIXI				LR	LR	23 37 25.9
	comp=Z,16μm,18.6s,baz=244,slow=38					
TIXI				PKPPKP	**P'P'df**	**23 45 03.1 -1.6**
	comp=Z,3.6nm,1.0s,baz=92,slow=5.3,SNR=4.1					
TIXI	**Tiksi**	**50.87**	**14***ce*P		**P**	**23 14 15.6 -0.8**
TIXI				pmax	pmax	
	comp=Z,925nm,0.8s					
TIXI				MLR	MLR	
	comp=Z,17μm,20.0s					
TIXI	**Tiksi**	**50.87**	**14**	⇑P	**P**	**23 14 15.8 -0.6**
TIXI	**Tiksi**	**50.87**	**14**	P	**P**	**23 14 15.8 -0.6**
TIXI	**Tiksi**	**50.87**	**14**	P	**P**	**23 14 15.8 -0.6**
TIXI				pP	**sP**	**23 14 35.3 -0.8**
KARA	**Karaisali**	**50.95**	**299**	*i* P	**P**	**23 14 18.2 +0.6**
MMAI	**Mount Meron Ar**	**51.04**	**293**	LR	LR	23 41 33.7
	comp=Z,19μm,21.1s,baz=244,slow=42					
CORM	**Corum**	**51.16**	**303**	*i* P	**P**	**23 14 20.1 +0.9**
OBN	**Obninsk**	**51.26**	**322**	⇑P	**P**	**23 14 19.2 -0.3**
OBN	**Obninsk**	**51.26**	**322**	LR	LR	23 38 54.0
	comp=Z,7μm,21.1s,baz=101,slow=39					
OBN	**Obninsk**	**51.26**	**322***c*	*i* P	**P**	**23 14 19.0 -0.5**
OBN				*e*		23 15 35.1
OBN				*e*		23 16 13.1
OBN				*i* S	**S**	**23 21 29.2 -5.3**
OBN				pmax	pmax	
	comp=Z,3μm,1.7s					
OBN				MLR	MLR	
	comp=Z,33μm,20.0s					
OBN	**Obninsk**	**51.26**	**322**	⇑P	**P**	**23 14 19.2 -0.3**
OBN	**Obninsk**	**51.26**	**322**	P	**P**	**23 14 19.3 -0.3**
OBN	**Obninsk**	**51.26**	**322**	P	**P**	**23 14 19.2 -0.3**
GIRL	**Giralia**	**51.26**	**155**	⇑P	**P**	**23 14 20.2 +0.2**
GIRL	**Giralia**	**51.26**	**155**	P	**P**	**23 14 20.1 +0.2**
GIRL	**Giralia**	**51.26**	**155**	P	**P**	**23 14 20.7 +0.8**
TEND	**Ethiopian Broa**	**51.30**	**265**	*e*P	**P**	**23 14 22.2 +1.7**
MERS	**Mersin**	**51.40**	**298**	*e*P	**P**	**23 14 21.6 +0.6**
GULA	**Gulagac**	**51.53**	**300**	*e*P	**P**	**23 14 21.8 -0.3**
SIM	**Simferopol'**	**51.56**	**309***c*	*i* P	**P**	**23 14 21.1 -0.9**
SIM				*e*		23 15 36.0
SIM				*i*		23 16 19.0
SIM				*i* S	**S**	**23 21 37.3 -1.9**
SIM				*e*PS	PKiKP	23 21 56.0 -21
SIM				pmax	pmax	
	comp=Z,2μm,1.2s					
KIZK	**Mersin**	**51.73**	**298**	*e*P	**P**	**23 14 23.4 0.0**
EREN	**Erenkoy**	**51.79**	**297**	*e*P	**P**	**23 14 24.3 +0.4**
KAMT	**Kaman**	**51.89**	**302**	*i* P	**P**	**23 14 25.1 +0.4**
EIL	**Elat**	**51.90**	**289**	LR	LR	23 40 02.0
	comp=Z,32μm,21.8s,baz=93,slow=40					
EIL	**Elat**	**51.90**	**289**	⇑P	**P**	**23 14 24.8 0.0**
CANT	**Cankiri**	**51.92**	**303**	*i* P	**P**	**23 14 25.6 +0.8**
DRS	**Darwin Rock St**	**51.92**	**131**	P	**P**	**23 14 24.7 -0.3**
BRTR	**Keskin Array B**	**51.93**	**302**	P	**P**	**23 14 24.9 -0.2**
	comp=Z,101nm,0.7s,baz=120,slow=4.9,SNR=254					
BRTR				PKP2bc	**P'P'bc**	**23 45 22.5 +2.6**
	comp=Z,4.1nm,1.1s,baz=214,slow=4.9,SNR=4.0					
BRTR				P4KPbc		23 51 54.9
	comp=Z,1.7nm,0.7s,baz=136,slow=7.2,SNR=10					
BRTR	**Keskin Array B**	**51.93**	**302**	P	**P**	**23 14 25.1 0.0**
YESY	**Yesilyurt**	**51.96**	**300**	*e*P	**P**	**23 14 24.9 -0.3**
SERE	**Sereflikochisa**	**52.03**	**301**	*e*P	**P**	**23 14 25.7 0.0**
KEBE	**Keben-Mersin**	**52.08**	**298**	*i* P	**P**	**23 14 26.2 +0.1**
SULT	**Sultanhani-AKS**	**52.11**	**300**	*e*P	**P**	**23 14 27.3 +1.0**
IKL	**Isikli**	**52.12**	**298**	*i* P	**P**	**23 14 26.0 -0.3**
AKKU	**Akkuyu-Mersin**	**52.24**	**298**	*i* P	**P**	**23 14 26.8 -0.4**
MBWA	**Marble Bar**	**52.30**	**149**	⇓P	**P**	**23 14 26.9 -0.7**
MBWA	**Marble Bar**	**52.30**	**149**	P	**P**	**23 14 28.0 +0.3**
MBWA	**Marble Bar**	**52.30**	**149**	P	**P**	**23 14 27.1 -0.6**

BR231	**Keskin MP Arra**	**52.59 302**	IAmb	IAmb	23 14 37.4	
	comp=Z,842nm,1.0s					
LOD	**Lodumlu**	**52.60 302**	*i* P	**P**	**23 14 30.3**	**+0.4**
PSA00	**Pilbara Seismi**	**52.70 149**	P	**P**	**23 14 29.7**	**-1.0**
PSA00			IAmb	IAmb	23 14 54.2	
	comp=Z,1μm,0.9s					
PSA00	**Pilbara Seismi**	**52.70 149**	P	**P**	**23 14 30.8**	**+0.1**
GENI	**Genyem**	**52.75 114**	⇓P	**P**	**23 14 31.6**	**+0.4**
GENI	**Genyem**	**52.75 114**	P	**P**	**23 14 31.8**	**+0.6**
	comp=Z,24μmcomp=Z,22μmcomp=Z,2μm,1.3s					
GENI	**Genyem**	**52.75 114**	P	**P**	**23 14 31.8**	**+0.6**
	comp=Z,2μm,1.2s					
FITZ	**Fitzroy Crossi**	**52.87 141**	P	**P**	**23 14 31.1**	**-0.9**
	comp=Z,71nm,0.6s,baz=332,slow=5.4,SNR=133					
FITZ			LR	LR	23 39 51.2	
	comp=Z,9μm,20.7s,baz=310,slow=39					
LEF	**Lefka**	**52.88 296**	⇑P	**P**	**23 14 32.1**	**+0.2**
LEF	**Lefka**	**52.88 296**	*i* P	**P**	**23 14 32.1**	**+0.2**
KNRA	**Kununurra**	**52.88 136**	P	**P**	**23 14 31.6**	**-0.5**
LADK	**Ladik-KONYA**	**53.01 300**	*i* P	**P**	**23 14 32.8**	**-0.2**
HDMB	**Hadim**	**53.02 299**	*i* P	**P**	**23 14 32.2**	**-1.0**
KONT	**Konya--Tatoy**	**53.04 300**	*e*P	**P**	**23 14 33.2**	**+0.1**
JAY	**Jayapura**	**53.15 114**	P	**P**	**23 14 34.3**	**0.0**
	comp=Z,17nm,0.5s,baz=238,slow=4.3,SNR=0.8					
JAY			LR	LR	23 38 40.6	
	comp=Z,4μm,18.3s,baz=310,slow=38					
JAY	**Jayapura**	**53.15 114**	P	**P**	**23 14 34.2**	**0.0**
	comp=Z,4μmcomp=Z,161nm,1.7s					
KDU	**Kakadu**	**53.18 130**	⇓P	**P**	**23 14 33.0**	**-1.4**
KDU	**Kakadu**	**53.18 130**	P	**P**	**23 14 33.5**	**-0.8**
GAZI	**Gazipasa**	**53.23 298**	*e*P	**P**	**23 14 33.9**	**-0.6**
ANKE	**Ethiopia-Afar**	**53.31 263**	*e*P	**P**	**23 14 36.8**	**+1.0**
ANKE	**Ethiopia-Afar**	**53.31 263**	*e*P	**P**	**23 14 37.0**	**+1.2**
ANKE			*e*S	**S**	**23 22 08.1**	**+3.6**
ANKE			IAMs_20	IAMs_20	23 31 51.6	
	comp=Z,5μm,43.3s					
KIZT	**Kizilcal**	**53.34 301**	*e*P	**P**	**23 14 35.4**	**-0.1**
GINR	**Hospital, Gini**	**53.45 260**	⇑P	**P**	**23 14 37.5**	**+0.8**
GINR			S	**S**	**23 22 05.0**	**-1.1**
SVRH	**Sivrihisar-ESK**	**53.58 302**	*i* P	**P**	**23 14 37.2**	**0.0**
SILA	**Clinic, Silare**	**53.69 268**	⇑P	**P**	**23 14 39.6**	**+1.2**
SILA			S	S	23 22 20.3	+11
MDUB	**Mudurnu**	**53.77 303**	*i* P	**P**	**23 14 38.9**	**+0.4**
SKR	**Severo-Kuril's**	**53.91 44**	*e*P	**P**	**23 14 40.7**	**+1.5**
SKR			*e*S	**S**	**23 22 12.8**	**+1.9**
SKR			pmax	pmax		
	comp=Z,101nm,1.2s					
SKR			pmax	pmax		
	comp=Z,1μm,6.0s					
SKR			pmax	pmax		
	comp=Z,700nm,11.7s					
SKR			MLR	MLR		
	comp=Z,12μm,18.0s					
CIFT	**Cifteler, Eski**	**53.94 302**	*i* P	**P**	**23 14 39.7**	**-0.1**
SEY	**Seymchan**	**54.07 29**	P	**P**	**23 14 40.3**	**+0.1**
	comp=Z,30nm,0.5s,baz=252,slow=6.6,SNR=60					
SEY			LR	LR	23 39 45.1	
	comp=Z,47μm,21.0s,baz=254,slow=38					
SEY			PKPPKP	**P'P'df**	**23 44 55.0**	**-5.3**
	comp=Z,4.6nm,1.0s,baz=144,slow=2.4,SNR=4.9					
SEY	**Seymchan**	**54.07 29**	*i* P	**P**	**23 14 40.4**	**+0.2**
MERTO	**Secondary Scho**	**54.13 266**	⇑P	**P**	**23 14 43.4**	**+1.6**
MERTO			S	S	23 22 24.9	+9.3
GOND	**University, Go**	**54.24 268**	⇑P	**P**	**23 14 43.9**	**+1.4**
GOND			S	**S**	**23 22 24.9**	**+8.0**
GULT	**Gulveren**	**54.29 303**	*e*P	**P**	**23 14 42.5**	**+0.2**
SHUT	**Suhut-Afyon**	**54.41 301**	*e*P	**P**	**23 14 43.4**	**+0.2**
SAUV	**Serdivan-Sakar**	**54.41 303**	*e*P	**P**	**23 14 43.0**	**-0.1**
BCK	**Bucak**	**54.48 299**	*e*P	**P**	**23 14 42.4**	**-1.3**
ISP	**Isparta**	**54.50 300**	P	**P**	**23 14 43.1**	**-0.8**
ISP			pmax	pmax		
	comp=Z,802nm,1.7s					
ISP	**Isparta**	**54.50 300**	IAmb	IAmb	23 14 46.9	
	comp=Z,1μm,1.3s					
FURI	**Furi**	**54.54 263**	⇓P	**P**	**23 14 47.1**	**+2.3**
FURI	**Furi**	**54.54 263**	P	**P**	**23 14 47.0**	**+2.3**
FURI			IAmb	IAmb	23 14 51.7	
	comp=Z,1μm,1.6s					
FURI	**Furi**	**54.54 263**	P	**P**	**23 14 47.3**	**+2.6**
FURI	**Furi**	**54.54 263**	⇑P	**P**	**23 14 47.3**	**+2.6**
FURI			S	S	23 22 32.5	+11
PURM	**Purcari**	**54.57 311**	⇑P	**P**	**23 14 44.3**	**+0.2**
BAHR	**High School, B**	**54.67 267**	⇑P	**P**	**23 14 47.0**	**+1.4**
BAHR			S	**S**	**23 22 26.4**	**+3.8**
KORT	**Korkueli**	**54.72 299**	*e*P	**P**	**23 14 44.9**	**-0.6**
CAVI	**Cavuskoy**	**54.82 303**	*i* P	**P**	**23 14 46.2**	**+0.1**
ADVT	**Abdulvahap**	**54.88 303**	*e*P	**P**	**23 14 45.1**	**-1.4**
SILT	**Sile**	**54.90 304**	*i* P	**P**	**23 14 46.7**	**+0.1**
HRT	**Hereke**	**54.91 304**	*i* P	**P**	**23 14 46.8**	**+0.1**
SHAW	**Medical Clinic**	**55.00 267**	⇑P	**P**	**23 14 49.1**	**+1.0**
SHAW			S	**S**	**23 22 34.0**	**+6.9**
PEA0B	**Petropavlovsk-**	**55.07 41**	*ce*P	**P**	**23 14 47.7**	**0.0**
PEA0B	**Petropavlovsk-**	**55.07 41**	IAmb	IAmb	23 15 12.9	
	comp=Z,1μm,1.1s					
PETK	**Petropavlovsk-**	**55.07 41**	P	**P**	**23 14 47.8**	**+0.1**
	comp=Z,127nm,0.8s,baz=217,slow=7.2,SNR=70					
PETK			LR	LR	23 41 21.7	
	comp=Z,19μm,20.3s,baz=259,slow=39					
PETK			PKPPKP	**P'P'df**	**23 44 52.6**	**-6.4**
	comp=Z,7.2nm,1.1s,baz=36,slow=5.5,SNR=4.2					
PETK	**Petropavlovsk-**	**55.07 41**	P	**P**	**23 14 47.7**	**0.0**
ELL	**Elmali**	**55.10 299**	*i* P	**P**	**23 14 48.3**	**0.0**
AKASG	**Malin Array Be**	**55.10 316**	P	**P**	**23 14 47.0**	**-0.8**
	comp=Z,360nm,0.6s,baz=80,slow=6.6,SNR=637					
AKASG			PP	**PP**	**23 16 52.4**	**+1.1**
	comp=Z,100nm,0.8s,baz=79,slow=7.6,SNR=5.4					
AKASG			LR	LR	23 41 36.1	
	comp=Z,51μm,21.9s,baz=92,slow=39					
AKASG			PKPPKP	**P'P'df**	**23 44 56.5**	**-2.5**
	comp=Z,1.6nm,0.7s,baz=260,slow=3.8,SNR=6.6					
AKASG			P4KPbc		23 52 07.7	
	comp=Z,3.1nm,0.8s,baz=75,slow=4.4,SNR=13					
AKASG	**Malin Array Be**	**55.10 316**	*i* P	**P**	**23 14 47.0**	**-0.8**
AKASG			pmax	pmax		
	comp=Z,639nm,0.6s					
AKASG	**Malin Array Be**	**55.10 316**	P	**P**	**23 14 47.0**	**-0.8**
AKBB	**Malin Array Si**	**55.10 316**	*ce*P	**P**	**23 14 46.9**	**-1.0**
YLV	**Yalova**	**55.15 303**	*i* P	**P**	**23 14 48.4**	**-0.1**
TVSB	**Tavsanli**	**55.17 302**	*e*P	**P**	**23 14 49.1**	**+0.4**
GEDZ	**Gediz**	**55.25 301**	*e*P	**P**	**23 14 49.4**	**+0.1**
NGLE	**Hospital, Nege**	**55.25 259**	⇑P	**P**	**23 14 50.1**	**+0.3**
NGLE			S	**S**	**23 22 28.2**	**-2.1**
KIS	**Kishinev**	**55.29 311**	⇑*i*P	**P**	**23 14 48.7**	**-0.6**
	comp=Z,2μm,1.0s					
KIS	**Kishinev**	**55.29 311**	*e*PcP	**PcP**	**23 15 53.0**	**+3.4**
KIS	**Kishinev**	**55.29 311**	*e*PP	PP	23 16 52.0	-1.1
KIS			*e*S	**S**	**23 22 25.0**	**-4.6**
KIS			*e*SSS	SSS	23 28 44.0	
KIS			*e*LQ	LQ	23 31 31.0	
	comp=Z,14μm,29.0s					
KIS			LRM	MLR	23 41 46.0	
	comp=Z,1μm,20.0s					
KIS	**Kishinev**	**55.29 311**	⇑P	**P**	**23 14 49.5**	**+0.2**
KIS	**Kishinev**	**55.29 311**	*c i*P	**P**	**23 14 48.7**	**-0.6**
KIS			*e*		23 15 00.0	
KIS			*e*		23 15 53.0	
KIS			*e*		23 16 52.0	
KIS			*e*S	**S**	**23 22 25.0**	**-4.6**
KIS			pmax	pmax		
	comp=Z,3μm,1.9s					
KIS			pmax	pmax		
	comp=E,2μm,1.8s					
MILM	**Milestii Mici**	**55.30 311**	⇑*i*P	**P**	**23 14 48.5**	**-0.8**
	comp=E,6μm,1.4s					
MILM	**Milestii Mici**	**55.30 311**	*e*PcP	**PcP**	**23 15 53.0**	**+3.4**
MILM	**Milestii Mici**	**55.30 311**	*e*PP	PP	23 16 48.0	-5.2
	comp=E,8μm,12.0s					
MILM			*i* S	**S**	**23 22 23.6**	**-6.1**
	comp=E,6μm,10.0s					
MILM	**Milestii Mici**	**55.30 311**	*e*PS	PKiKP	23 22 31.0	+10
MILM			*e*SS	**ScS**	**23 24 30.0**	**-4.3**
MILM			*e*SSS	SSS	23 28 43.0	
MILM			*e*L	L	23 31 12.0	
	comp=E,44μm,36.0s					
MILM			LRM	MLR	23 41 43.0	
	comp=E,30μm,22.0s					
MILM	**Milestii Mici**	**55.30 311**	⇑P	**P**	**23 14 48.9**	**-0.4**
MILM	**Milestii Mici**	**55.30 311**	*c i*P	**P**	**23 14 48.5**	**-0.8**
MILM			*e*		23 15 53.0	
MILM			*i* S	**S**	**23 22 23.6**	**-6.1**
MILM			*e*SS	**ScS**	**23 24 30.0**	**-4.3**
MILM			pmax	pmax		
	comp=Z,6μm,1.4s					
MILM			pmax	pmax		
	comp=E,4μm,1.9s					
MILM			smax	smax		
	comp=E,6μm,10.0s					
GEMT	**Gemlik**	**55.30 303**	*e*P	**P**	**23 14 49.4**	**-0.1**
TLCR		**55.32 309**	⇑P	**P**	**23 14 49.6**	**+0.1**
KAVV	**Kandilli-Istan**	**55.35 304**	*e*P	**P**	**23 14 50.1**	**+0.3**
KLYT	**Kilyos**	**55.35 304**	*e*P	**P**	**23 14 50.3**	**+0.5**
ISK	**Istanbul-Kandi**	**55.35 304**	*e*P	**P**	**23 14 50.1**	**+0.3**
AKAS	**Kas**	**55.40 298**	*e*P	**P**	**23 14 46.8**	**-3.7**
MUKA	**Police Camp, M**	**55.40 268**	⇑P	**P**	**23 14 51.6**	**+0.9**
MUKA			S	**S**	**23 22 34.0**	**+1.8**
PUL	**Pulkovo**	**55.47 327**	*ce*P	**P**	**23 14 50.4**	**+0.1**
PUL			pmax	pmax		
	comp=Z,3μm,1.7s					
PUL			MLR	MLR		
	comp=Z,77μm,21.0s					
PUL	**Pulkovo**	**55.47 327**	*e*P	**P**	**23 14 50.7**	**+0.4**
PUL	**Pulkovo**	**55.47 327**	⇑P	**P**	**23 14 50.6**	**+0.3**
VALR	**Valaam**	**55.49 329**	*i* P	**P**	**23 14 50.5**	**0.0**
VALR			pmax	pmax		
	comp=Z,2μm,0.9s					
VALR			MLR	MLR		
	comp=Z,14μm,12.0s					
EFOR	**EFORIE**	**55.49 308**	⇑P	**P**	**23 14 51.9**	**+1.2**
MANR	**Mangalia**	**55.53 307**	⇑P	**P**	**23 14 51.9**	**+0.8**
MDNY	**Mudanya-Bursa**	**55.54 303**	*e*P	**P**	**23 14 50.2**	**-1.0**
BGKT	**Bogazkoy**	**55.56 304**	*i* P	**P**	**23 14 51.7**	**+0.4**
SIMA	**Simav-Kutahya**	**55.58 302**	*e*P	**P**	**23 14 50.9**	**-0.7**
SORM	**Soroca**	**55.61 313**	⇑P	**P**	**23 14 50.8**	**-0.8**
TPGR	**Topolog**	**55.61 309**	⇑P	**P**	**23 14 51.8**	**+0.1**
TIRR	**Tirgusor**	**55.63 308**	⇑P	**P**	**23 14 52.0**	**+0.2**
TIRR	**Tirgusor**	**55.63 308**	P	**P**	**23 14 52.4**	**+0.6**
TIRR			pmax	pmax		
	comp=Z,2μm,1.8s					
TIRR	**Tirgusor**	**55.63 308**	⇑P	**P**	**23 14 51.5**	**-0.3**
MFTR	**Murfatlar**	**55.64 308**	⇑P	**P**	**23 14 52.6**	**+0.8**
PET	**Petropavlovsk**	**55.64 42**	*e*P	**P**	**23 14 51.4**	**-0.3**
PET			*e*		23 15 52.8	
PET			*e*S	**S**	**23 22 32.7**	**-1.4**
PET			*e*		23 24 33.7	
PET			*e*SS	**SS**	**23 26 14.2**	**-5.3**
PET			pmax	pmax		
	comp=Z,851nm,0.9s					
PET			pmax	pmax		
	comp=Z,9μm,18.5s					
PET			smax	smax		
	comp=N,6μm,20.1s					
PET			MLR	MLR		
	comp=Z,27μm,19.0s					
PET	**Petropavlovsk**	**55.64 42**	⇑P	**P**	**23 14 51.0**	**-0.7**
PET	**Petropavlovsk**	**55.64 42**	P	**P**	**23 14 51.4**	**-0.3**
PET			IAmb	IAmb	23 15 17.4	
	comp=Z,859nm,1.1s					
PET	**Petropavlovsk**	**55.64 42**	P	**P**	**23 14 51.7**	**0.0**
PET	**Petropavlovsk**	**55.64 42**	P	**P**	**23 14 51.4**	**-0.3**
MELAE	**School, Dubaba**	**55.66 268**	⇑P	**P**	**23 14 52.7**	**+0.2**
MELAE			S	**S**	**23 22 35.9**	**+0.4**
LVZ	**Lovozero**	**55.67 337**	*ce*P	**P**	**23 14 51.7**	**-0.1**
LVZ			pmax	pmax		
	comp=Z,1μm,0.9s					
LVZ			MLR	MLR		
	comp=Z,41μm,18.0s					
LVZ	**Lovozero**	**55.67 337**	⇑P	**P**	**23 14 51.5**	**-0.3**
LVZ	**Lovozero**	**55.67 337**	P	**P**	**23 14 51.7**	**-0.1**
LVZ	**Lovozero**	**55.67 337**	P	**P**	**23 14 51.6**	**-0.1**
KALB	**Balgarevo**	**55.68 307**	⇑P	**P**	**23 14 53.5**	**+1.3**
CHGE	**School, Chagni**	**55.69 266**	P	**P**	**23 14 53.8**	**+0.9**
CHGE			S	**S**	**23 22 34.0**	**-2.2**
LEOM	**Leova**	**55.69 310**	⇑P	**P**	**23 14 52.0**	**-0.2**
GIUM	**Giurgiulesti**	**55.74 309**	⇑P	**P**	**23 14 52.8**	**+0.2**
CTKS	**Kestanelik-??a**	**55.75 304**	*e*P	**P**	**23 14 52.6**	**-0.1**
KIRE	**School, Kiremu**	**55.76 265**	⇑P	**P**	**23 14 55.0**	**+1.5**
KIRE			S	**S**	**23 22 40.2**	**+3.0**
FETY	**Fethiye**	**55.77 299**	*e*P	**P**	**23 14 50.3**	**-2.7**
FETY	**Fethiye**	**55.77 299**	P	**P**	**23 14 53.7**	**+0.7**
CFR	**Carcaliu**	**55.80 309**	⇑P	**P**	**23 14 52.9**	**-0.1**
VLDR	**Vladesti**	**55.82 310**	⇑P	**P**	**23 14 53.6**	**+0.5**
TATR	**Tatarca**	**55.85 309**	⇑P	**P**	**23 14 53.9**	**+0.6**
KULA	**Kula-Manisa**	**55.88 301**	*i* P	**P**	**23 14 53.7**	**-0.1**
KULA	**Kula-Manisa**	**55.88 301**	P	**P**	**23 14 52.7**	**-1.1**
SCTR	**Scanteiesti**	**55.88 310**	⇑P	**P**	**23 14 54.0**	**+0.4**
CTYL	**Yalikoy Yolu**	**55.90 304**	*e*P	**P**	**23 14 53.1**	**-0.7**
DILA	**Dilla**	**55.92 261**	*e*P	**P**	**23 14 55.3**	**+0.7**
DILA	**Dilla**	**55.92 261**	*e*P	**P**	**23 14 55.2**	**+0.7**
DILA			*e*S	**S**	**23 22 41.0**	**+1.7**
DILA			AMP		23 30 37.0	
	comp=N,3μm,15.1s					
KCTX	**Karacabey (Bur**	**55.95 303**	*e*P	**P**	**23 14 54.4**	**+0.2**
HARR	**Harsova**	**55.97 308**	⇑P	**P**	**23 14 54.9**	**+0.7**
VARL	**Varlezi**	**55.98 310**	⇑P	**P**	**23 14 55.0**	**+0.7**
VASR	**Vaslui**	**56.00 311**	⇑P	**P**	**23 14 54.5**	**+0.1**
SCHL	**Schela**	**56.01 309**	⇑P	**P**	**23 14 54.8**	**+0.3**
APA	**Apatity**	**56.02 336**	⇓*i*P	**P**	**23 14 52.8**	**-1.4**
APA			*i*		23 15 53.0	
APA			*i*		23 17 04.0	
APA			*i* S	**S**	**23 22 31.0**	**-7.7**
APA			*i* PS	**sS**	**23 23 01.0**	**-0.8**
APA			*i*		23 24 37.0	
APA			*i* SS	**SS**	**23 26 32.0**	**+7.1**
APA			pmax	pmax		
	comp=Z,661nm,0.7s					
SLCR	**Slobozia Conac**	**56.05 309**	⇑P	**P**	**23 14 55.0**	**+0.3**
IZVR	**Izvoarele**	**56.05 309**	⇑P	**P**	**23 14 55.2**	**+0.4**
BIR	**Birlad**	**56.12 310**	⇑P	**P**	**23 14 55.7**	**+0.4**
MNK	**Minsk**	**56.14 320**	*i* P	**P**	**23 14 55.2**	**-0.1**
MNK			*i* *PP	**pP**	**23 15 09.0**	**-0.2**
MNK			*i*		23 15 52.2	
MNK			*i*		23 17 00.9	
MNK			*i* PPP	PPP	23 18 15.5	
MNK			*i* S	**S**	**23 22 41.5**	**+0.8**
MNK			*i* *SS	**sS**	**23 23 05.4**	**+1.5**
MNK			*i*		23 24 39.8	
MNK			*i* SS	**SS**	**23 26 30.2**	**+2.9**
MNK			pmax	pmax		
	comp=Z,1μm,0.8s					
MNK			pmax	pmax		
	comp=E,176nm,0.9s					
MNK			pmax	pmax		
	comp=N,274nm,1.0s					
MNK			MLR	MLR		
	comp=E,6μm,23.0s					
MNK			MLR	MLR		
	comp=Z,46μm,26.0s					
MNK			MLR	MLR		
	comp=N,7μm,19.0s					
MNK	**Minsk**	**56.14 320**	*i* P	**P**	**23 14 55.2**	**0.0**
	comp=E,176nm,0.9s					
MNK			*i* P	**P**	**23 14 55.2**	**0.0**
	comp=N,274nm,1.0s					
MNK			*i* P	**P**	**23 14 55.2**	**0.0**
	comp=Z,1μm,0.8s,baz=274					
MNK			*i* pP	**pP**	**23 15 09.0**	**-0.2**
MNK			*i* PP	**PP**	**23 17 00.9**	**+0.3**
MNK			*i* PPP	PPP	23 18 15.6	
MNK			*i* S	**S**	**23 22 41.6**	**+0.9**
MNK			*i* sS	**sS**	**23 23 05.4**	**+1.6**
MNK			*i* SS	**SS**	**23 26 30.3**	**+3.0**
MNK			*i* SSS	SSS	23 28 46.0	
MNK			*i* LQ	LQ	23 35 06.3	
MNK			*i* LR	LR	23 39 32.7	
MNK			*i* LRM	MLR	23 41 09.8	
	comp=E,6μm,23.2s					
MNK			*i* LRM	MLR	23 41 14.9	
	comp=Z,46μm,25.8s					
MNK			*i* LRM	MLR	23 41 54.5	
	comp=N,7μm,18.9s					
IAS	**Iasi**	**56.15 311**	⇑P	**P**	**23 14 55.1**	**-0.4**
IAS	**Iasi**	**56.15 311**	P	**P**	**23 14 55.0**	**-0.4**
IAS			pmax	pmax		
	comp=Z,3μm,1.0s					
ABMD	**Abulta/Almeha**	**56.21 268**	⇑P	**P**	**23 14 56.9**	**+0.4**
ABMD			S	**S**	**23 22 42.5**	**-0.3**
GHRR		**56.28 310**	⇑P	**P**	**23 14 57.1**	**+0.6**
HARO	**School, Haroo**	**56.31 265**	⇑P	**P**	**23 14 58.6**	**+1.2**
HARO			S	**S**	**23 22 42.5**	**-2.0**
EDC	**Edincik**	**56.31 303**	*e*P	**P**	**23 14 56.4**	**-0.4**
EDC	**Edincik**	**56.31 303**	P	**P**	**23 14 58.8**	**+2.0**
CRLT	**Corlu**	**56.34 304**	*e*P	**P**	**23 14 57.7**	**+0.8**
YER	**Yerkesik**	**56.34 299**	*e*P	**P**	**23 14 57.2**	**+0.1**
YER	**Yerkesik**	**56.34 299**	P	**P**	**23 14 56.3**	**-0.8**
BALB	**Balikesir**	**56.37 302**	*e*P	**P**	**23 14 56.6**	**-0.6**
AMRR	**Amara**	**56.40 308**	⇑P	**P**	**23 14 58.1**	**+0.8**
TURN	**Turunc**	**56.42 299**	*e*P	**P**	**23 14 57.7**	**+0.1**
PRD	**Provadia**	**56.43 307**	*i* P	**P**	**23 14 57.7**	**+0.2**
PHSR	**Pinarhisar**	**56.46 305**	*e*P	**P**	**23 14 58.2**	**+0.4**
MRMT	**Marmara Adasi**	**56.49 303**	*e*P	**P**	**23 14 58.1**	**0.0**
ODBI	**Odobesti**	**56.54 310**	⇑P	**P**	**23 14 59.8**	**+1.5**
RASA	**Rasa**	**56.55 308**	⇑P	**P**	**23 14 58.6**	**+0.3**
MEEK	**Meekatharra**	**56.58 153**	P	**P**	**23 14 58.8**	**+0.1**
DEBR	**School, Debre**	**56.59 266**	⇑P	**P**	**23 15 00.3**	**+0.9**
DEBR			S	**S**	**23 22 46.1**	**-2.3**
ARG	**Arkhangelos**	**56.59 298**	P	**P**	**23 15 00.8**	**+2.0**
ARG	**Arkhangelos**	**56.59 298**	⇑P	**P**	**23 15 00.1**	**+1.3**
ARG	**Arkhangelos**	**56.59 298**	⇑P	**P**	**23 15 00.1**	**+1.3**
GRER		**56.61 309**	⇑P	**P**	**23 15 00.8**	**+2.0**
PGOR	**Pogoanele**	**56.63 309**	⇑P	**P**	**23 15 00.3**	**+1.4**
GUBA	**Police Station**	**56.68 267**	⇑P	**P**	**23 14 59.9**	**+0.1**
GUBA			S	**S**	**23 22 48.5**	**-0.7**
KRBG	**Karabiga-Canak**	**56.74 303**	*e*P	**P**	**23 14 59.8**	**0.0**
VRI	**Vrincioaia**	**56.77 310**	⇑P	**P**	**23 15 00.8**	**+0.9**
VRI	**Vrincioaia**	**56.77 310**	P	**P**	**23 15 00.9**	**+1.0**
VRI			pmax	pmax		
	comp=Z,3μm,1.0s					
LEHL	**Lehliu**	**56.77 308**	⇑P	**P**	**23 15 00.7**	**+0.8**
TESR	**Tescani**	**56.79 311**	⇑P	**P**	**23 15 00.4**	**+0.3**
RKY	**Sarkoy-Tekirda**	**56.80 304**	*e*P	**P**	**23 15 00.3**	**0.0**
NACGM	**Naroch**	**56.81 321**	*i* P	**P**	**23 15 00.1**	**+0.1**
PLOR	**Plostina**	**56.82 310**	⇑P	**P**	**23 15 01.4**	**+1.0**
IDID	**Didziasalis**	**56.86 321**	*e*P	**P**	**23 15 00.9**	**+0.5**
ISR	**Istrita**	**56.93 309**	⇑P	**P**	**23 15 02.9**	**+1.7**
ISR	**Istrita**	**56.93 309**	P	**P**	**23 15 03.3**	**+2.1**
ISR			pmax	pmax		
	comp=Z,3μm,1.6s					
DAT	**Datca**	**56.96 299**	*e*P	**P**	**23 15 01.1**	**-0.4**
DAT	**Datca**	**56.96 299**	P	**P**	**23 15 00.7**	**-0.8**
EDRB	**Edirne**	**57.02 305**	*e*P	**P**	**23 15 01.9**	**+0.1**
EDRB	**Edirne**	**57.02 305**	P	**P**	**23 15 00.4**	**-1.4**
PRAR	**RASCA**	**57.05 312**	⇑P	**P**	**23 15 01.5**	**-0.4**
RAZG	**Razgrad**	**57.05 307**	⇑P	**P**	**23 15 02.4**	**+0.4**
JMB	**Yambol**	**57.09 306**	*i* P	**P**	**23 15 02.7**	**+0.5**
NEHR	**Nehoiu**	**57.09 309**	⇑P	**P**	**23 15 03.6**	**+1.3**
VSU	**Vasula**	**57.12 325**	*i* P	**P**	**23 15 02.1**	**0.0**
VSU			pmax	pmax		
	comp=Z,7μm,1.9s					
VSU			MLR	MLR		
	comp=Z,115μm,17.0s					
VSU	**Vasula**	**57.12 325**	*e*P	**P**	**23 15 01.7**	**-0.4**
VSU	**Vasula**	**57.12 325**	⇑P	**P**	**23 15 01.7**	**-0.4**
BODT	**Bodrum**	**57.12 299**	*e*P	**P**	**23 14 58.7**	**-3.9**
BODT	**Bodrum**	**57.12 299**	P	**P**	**23 15 01.1**	**-1.5**
COVR	**Voineasa-Covas**	**57.13 310**	⇑P	**P**	**23 15 02.9**	**+0.4**
SBV	**Sambava**	**57.13 233**	⇓P	**P**	**23 15 03.6**	**+0.8**
SBV	**Sambava**	**57.13 233**	P	**P**	**23 15 05.8**	**+3.0**
LPK	**Lapseki**	**57.15 303**	*e*P	**P**	**23 15 03.4**	**+0.7**
IIGN	**Ignalina**	**57.15 321**	*e*P	**P**	**23 15 03.2**	**+0.8**
SULR		**57.16 308**	⇑P	**P**	**23 15 04.1**	**+1.4**
BLCB	**Balcova**	**57.16 301**	*i* P	**P**	**23 15 02.9**	**+0.1**
BLCB	**Balcova**	**57.16 301**	P	**P**	**23 15 02.7**	**-0.1**
DKL	**Dikili**	**57.19 302**	*i* P	**P**	**23 15 03.8**	**+0.9**
ISAL	**Salakas**	**57.22 321**	*e*P	**P**	**23 15 03.5**	**+0.6**
MSF	**Maaselka**	**57.25 334**	P	**P**	**23 15 02.9**	**-0.1**
MSF			pmax	pmax		
	comp=Z,1μm,2.0s					
SECR		**57.27 309**	⇑P	**P**	**23 15 04.5**	**+1.0**
PLAR	**PLOIESTI**	**57.31 309**	⇑P	**P**	**23 15 04.9**	**+1.2**
MLR	**Muntele Rosu**	**57.33 309**	⇑P	**P**	**23 15 05.0**	**+1.0**
MLR	**Muntele Rosu**	**57.33 309**	LR	LR	23 43 45.9	
	comp=Z,42μm,21.8s,baz=75,slow=40					
BUC1	**Bucharest**	**57.34 308**	⇑P	**P**	**23 15 05.6**	**+1.6**
GELI	**Tayfur-Gelibol**	**57.37 303**	*e*P	**P**	**23 15 02.8**	**-1.4**
SGRR	**Singureni**	**57.39 308**	⇑P	**P**	**23 15 05.4**	**+1.1**
SHERE	**Police Station**	**57.40 267**	⇑P	**P**	**23 15 05.1**	**+0.2**
SHERE			S	**S**	**23 22 54.4**	**-4.2**
OZUR		**57.41 310**	⇑P	**P**	**23 15 05.2**	**+0.7**
SMG	**Samos**	**57.41 300**	P	**P**	**23 15 04.3**	**-0.3**
MEND	**High School, M**	**57.41 266**	⇑P	**P**	**23 15 06.3**	**+1.2**
MEND			S	**S**	**23 23 00.4**	**+1.3**
SZH	**Strazhica**	**57.49 307**	*i* P	**P**	**23 15 05.0**	**-0.1**
URLA	**Izmir**	**57.51 301**	*i* P	**P**	**23 15 05.6**	**+0.3**
EZN	**Ezine**	**57.54 303**	*i* P	**P**	**23 15 04.2**	**-1.3**
EZN	**Ezine**	**57.54 303**	P	**P**	**23 15 05.5**	**0.0**
ENEZ	**Enez**	**57.57 304**	*i* P	**P**	**23

RER	**Riviere de l'E**	**58.69 222**	P	**P**	**23 15 14.1**	**+0.4**
RER			IAmb	IAmb	23 15 20.1	
comp=Z,409nm,0.8s						
SANT	**Santorini**	**58.70 299**	⇑P	**P**	**23 15 12.9**	**-0.8**
SANT	**Santorini**	**58.70 299**	P	**P**	**23 15 12.4**	**-1.3**
SANT	**Santorini**	**58.70 299**	⇑P	**P**	**23 15 12.8**	**-0.9**
FRMA	**Ierapetra Chan**	**58.70 297**	P	**P**	**23 15 13.3**	**-0.3**
THR2	**Thira island,**	**58.70 299**	P	**P**	**23 15 13.3**	**-0.4**
CMBO	**Columbo, Santo**	**58.72 299**	P	**P**	**23 15 13.3**	**-0.5**
STAX	**Taxiarchis Har**	**58.74 299**	P	**P**	**23 15 12.9**	**-1.0**
THR3	**Thira Island,**	**58.74 299**	P	**P**	**23 15 12.6**	**-1.3**
THR6	**Thira Island,**	**58.75 299**	P	**P**	**23 15 13.6**	**-0.4**
NPS	**Neapolis**	**58.76 297**	P	**P**	**23 15 13.6**	**-0.5**
KAVA	**Kavala**	**58.78 304**	P	**P**	**23 15 13.4**	**-0.7**
PGB	**Panagyurishte**	**58.86 306**	*i* P	**P**	**23 15 14.8**	**+0.1**
KEV	**Kevo**	**58.86 338**	P	**P**	**23 15 14.6**	**+0.4**
KEV			pmax	pmax		
comp=Z,1μm,0.9s						
KEV	**Kevo**	**58.86 338**	⇑P	**P**	**23 15 14.5**	**+0.3**
KEV	**Kevo**	**58.86 338**	P	**P**	**23 15 14.6**	**+0.4**
KEV	**Kevo**	**58.86 338**	P	**P**	**23 15 14.4**	**+0.3**
LOT	**Lotru**	**58.86 309**	⇑P	**P**	**23 15 14.9**	**+0.1**
CJR	**Cluj-Napoca**	**58.88 311**	⇑P	**P**	**23 15 15.6**	**+0.8**
SUW	**Suwalki**	**58.88 319**	*e*P	**P**	**23 15 14.0**	**-0.6**
SUW			*e*S	**PnS**	**23 23 37.7**	**+3.4**
SUW	**Suwalki**	**58.88 319**	P	**P**	**23 15 14.0**	**-0.6**
SUW			pmax	pmax		
comp=Z,4μm,1.1s						
SUW	**Suwalki**	**58.88 319**	*e*P	**P**	**23 15 13.7**	**-0.9**
SUW	**Suwalki**	**58.88 319**	⇑P	**P**	**23 15 12.9**	**-1.7**
BMR	**Baia Mare**	**58.89 312**	⇑P	**P**	**23 15 15.3**	**+0.6**
CBBR	**Cluj-Babes-Bol**	**58.91 311**	⇑P	**P**	**23 15 15.5**	**+0.6**
HRKL	**Herakleio**	**59.16 298**	P	**P**	**23 15 17.0**	**+0.2**
KOKK	**Kokkinochori,**	**59.19 304**	P	**P**	**23 15 16.6**	**-0.3**
KSTL	**Kastelli Herak**	**59.19 298**	P	**P**	**23 15 15.6**	**-1.4**
NVR	**Nevrokopi**	**59.22 305**	P	**P**	**23 15 17.0**	**-0.2**
KARY	**Karystos**	**59.24 301**	P	**P**	**23 15 16.2**	**-1.2**
OUR	**Ouranopolis**	**59.26 304**	P	**P**	**23 15 16.8**	**-0.6**
MMB	**Musomiste**	**59.29 305**	*i* P	**P**	**23 15 17.2**	**-0.5**
MESR	**Meseseni**	**59.29 311**	⇑P	**P**	**23 15 18.3**	**+0.7**
KWP	**Kalwaria Pacla**	**59.29 314**	*e*P	**P**	**23 15 17.9**	**+0.4**
KWP			*e*PP	**PP**	**23 17 29.2**	**+0.5**
KWP			*e*S	**S**	**23 23 20.9**	**-1.3**
KWP			*e*L	L	23 40 36.6	
comp=Z,63μm,32.7s						
KWP	**Kalwaria Pacla**	**59.29 314**	⇑P	**P**	**23 15 17.8**	**+0.2**
BAIL	**Bailesti**	**59.30 308**	⇑P	**P**	**23 15 18.1**	**+0.5**
ARCES	**ARCESS Array B**	**59.33 338**	P	**P**	**23 15 17.8**	**+0.4**
comp=Z,250nm,0.7s,baz=91,slow=7.0,SNR=338						
ARCES			LR	LR	23 43 22.3	
comp=Z,45μm,21.9s,baz=102,slow=38						
ARCES	**ARCESS Array B**	**59.33 338**	P	**P**	**23 15 17.9**	**+0.5**
ARCES			pmax	pmax		
comp=Z,981nm,1.1s						
ARCES	**ARCESS Array B**	**59.33 338**	P	**P**	**23 15 17.9**	**+0.5**
ARCES			IAmb	IAmb	23 15 24.1	
comp=Z,981nm,1.1s						
SRE	**Strehaia**	**59.33 309**	⇑P	**P**	**23 15 17.7**	**-0.2**
IDI	**Anoyia**	**59.34 298**	LR	LR	23 46 01.6	
comp=Z,7μm,21.7s,baz=82,slow=41						
IDI	**Anoyia**	**59.34 298**	P	**P**	**23 15 17.0**	**-1.1**
BLDU	**Ballídu**	**59.41 157**	P	**P**	**23 15 18.1**	**-0.3**
KYMI	**Kymi, Euboea I**	**59.41 302**	P	**P**	**23 15 17.8**	**-0.7**
SLIT	**Slitere, Latvi**	**59.43 324**	*e*P	**P**	**23 15 17.0**	**-1.3**
SLIT	**Slitere, Latvi**	**59.43 324**	⇑P	**P**	**23 15 16.5**	**-1.7**
DEV	**Deva**	**59.43 310**	⇑P	**P**	**23 15 19.3**	**+0.8**
DEV	**Deva**	**59.43 310**	P	**P**	**23 15 19.3**	**+0.8**
DEV			pmax	pmax		
comp=Z,2μm,1.7s						
SRS	**Serrai**	**59.45 304**	P	**P**	**23 15 17.5**	**-1.3**
SRS	**Serrai**	**59.45 304**	P	**P**	**23 15 18.4**	**-0.4**
SRS			pmax	pmax		
comp=Z,523nm,1.8s						
TMBK	**Timbaki Herakl**	**59.47 297**	P	**P**	**23 15 19.0**	**0.0**
DRGR		**59.48 311**	⇑P	**P**	**23 15 19.4**	**+0.4**
DRGR		**59.48 311**	P	**P**	**23 15 19.4**	**+0.4**
DRGR			pmax	pmax		
comp=Z,1μm,1.9s						
MHLO	**Agia Marina, M**	**59.48 299**	P	**P**	**23 15 18.4**	**-0.7**
TRPA	**Tarpa**	**59.50 313**	⇑P	**P**	**23 15 19.4**	**+0.5**
TRPA	**Tarpa**	**59.50 313**	P	**P**	**23 15 19.0**	**+0.1**
WB0	**Warramunga Arr**	**59.50 134**	IAmb	IAmb	23 15 42.8	
comp=Z,919nm,0.9s						
VTS	**Vitosha**	**59.53 306**	⇑P	**P**	**23 15 19.8**	**+0.3**
VTS	**Vitosha**	**59.53 306**	P	**P**	**23 15 19.9**	**+0.4**
VTS			pmax	pmax		
comp=Z,997nm,1.8s						
VTS	**Vitosha**	**59.53 306**	⇑P	**P**	**23 15 19.6**	**+0.2**
VTS	**Vitosha**	**59.53 306**	*i* P	**P**	**23 15 19.5**	**0.0**
PAIG	**Paliouri**	**59.55 303**	P	**P**	**23 15 18.9**	**-0.5**
GZR	**Gura Zlata**	**59.56 309**	⇑P	**P**	**23 15 19.7**	**+0.1**
PUNG	**Punghina**	**59.56 308**	⇑P	**P**	**23 15 19.6**	**+0.1**
WRA	**Warramunga Arr**	**59.59 135**	P	**P**	**23 15 19.1**	**-0.8**
comp=Z,258nm,0.7s,baz=322,slow=7.4,SNR=1105						
WRA			S	**S**	**23 23 25.4**	**-1.3**
comp=Z,26nm,1.2s,baz=312,slow=11,SNR=5.5						
WRA			PKP2bc	**P'P'bc**	**23 44 58.1**	**+1.5**
comp=Z,24nm,1.0s,baz=132,slow=1.9,SNR=11						
WRA			LR	LR	23 46 18.8	
comp=Z,12μm,20.0s,baz=298,slow=41						
WRA			P4KPbc		23 52 27.0	
comp=Z,3.3nm,0.7s,baz=322,slow=4.5,SNR=13						
WRA	**Warramunga Arr**	**59.59 135**	P	**P**	**23 15 19.0**	**-0.9**
WRAB	**Tennant Creek**	**59.59 135**	*ce*P	**P**	**23 15 19.2**	**-0.7**
WRAB			pmax	pmax		
comp=Z,366nm,0.8s						
WRAB	**Tennant Creek**	**59.59 135**	⇓P	**P**	**23 15 19.3**	**-0.7**
WRAB	**Tennant Creek**	**59.59 135**	P	**P**	**23 15 19.2**	**-0.7**
WRAB	**Tennant Creek**	**59.59 135**	P	**P**	**23 15 19.5**	**-0.4**
WRAB	**Tennant Creek**	**59.59 135**	P	**P**	**23 15 19.4**	**-0.6**
WRAB			pP	**pP**	**23 15 35.1**	**+1.1**
PBUR	**Paburge**	**59.60 322**	*e*P	**P**	**23 15 19.4**	**-0.1**
UZH	**Uzhgorod**	**59.63 313**	*e*P	**P**	**23 15 19.0**	**-0.8**
UZH			*e*		23 15 28.6	
UZH			*e*		23 17 30.3	
UZH			*e*S	**S**	**23 23 23.4**	**-3.1**
DION	**Dionisos Attik**	**59.63 301**	P	**P**	**23 15 18.8**	**-1.3**
PRNS	**Prines Rethymn**	**59.63 298**	P	**P**	**23 15 20.5**	**+0.4**
PLG	**Polygyros**	**59.66 304**	P	**P**	**23 15 19.1**	**-1.2**
SOH	**Sokhos**	**59.67 304**	P	**P**	**23 15 19.1**	**-1.2**
SOH	**Sokhos**	**59.67 304**	P	**P**	**23 15 20.1**	**-0.2**
SOH			pmax	pmax		
comp=Z,360nm,1.6s						
PTL	**Penteli**	**59.69 301**	P	**P**	**23 15 19.3**	**-1.2**
KKB	**Krupnik**	**59.74 305**	*i* P	**P**	**23 15 20.4**	**-0.3**
ATHU	**Athens Univers**	**59.76 301**	P	**P**	**23 15 18.8**	**-2.2**
VLY	**Voula,Athens**	**59.77 301**	P	**P**	**23 15 19.7**	**-1.3**
ATH	**Athens Observa**	**59.81 301**	P	**P**	**23 15 19.3**	**-2.0**
LODK	**Lodwar**	**59.86 259**	P	**P**	**23 15 22.7**	**+0.7**
VAM	**Vamos**	**59.87 298**	P	**P**	**23 15 21.6**	**-0.1**
WRKA	**Warakurna**	**59.87 143**	⇑P	**P**	**23 15 21.5**	**-0.3**
WRKA	**Warakurna**	**59.87 143**	P	**P**	**23 15 22.2**	**+0.4**
ZAPS	**Zavoj**	**59.89 307**	*e*P	**P**	**23 15 22.3**	**+0.5**
HORT	**Hortiatis**	**59.89 304**	P	**P**	**23 15 21.2**	**-0.7**
KNT	**Kendrikon**	**59.97 305**	P	**P**	**23 15 21.6**	**-0.7**
LTVH	**Ltavrtes, Hu**	**59.99 312**	⇑P	**P**	**23 15 23.6**	**+1.3**
LTVH	**Ltavrtes, Hu**	**59.99 312**	P	**P**	**23 15 22.7**	**+0.4**
NEO	**Neokhori**	**59.99 302**	P	**P**	**23 15 21.3**	**-1.2**
THE	**Thessaloniki**	**59.99 304**	P	**P**	**23 15 21.5**	**-0.9**
THE	**Thessaloniki**	**59.99 304**	P	**P**	**23 15 21.6**	**-0.9**
THE			pmax	pmax		
comp=Z,1μm,1.3s						
KTK1	**Kautokeino**	**60.03 337**	*e*P	**P**	**23 15 22.4**	**+0.2**
KTK1			IVmB_BB		23 15 26.0	
comp=Z,10μm,0.4s						
KTK1			*e*S	**S**	**23 23 30.1**	**-1.0**
KTK1			IVMs_BB	IVMs_BB	23 42 47.0	
comp=Z,14μm,14.9s						
IMMV	**Iera Moni Meta**	**60.03 298**	P	**P**	**23 15 22.8**	**-0.1**
GVD	**Gavdhos**	**60.06 297**	P	**P**	**23 15 22.5**	**-0.6**
BORR	**Bors**	**60.09 312**	⇑P	**P**	**23 15 24.3**	**+1.2**
VILL	**Villia**	**60.10 301**	P	**P**	**23 15 21.7**	**-1.6**
BOSS	**Bosilegrad**	**60.10 306**	*e*P	**P**	**23 15 23.5**	**+0.3**
ZAGS	**Zajecar**	**60.12 308**	*e*P	**P**	**23 15 22.7**	**-0.6**
HAMF	**Hammerfest**	**60.15 339**	*e*P	**P**	**23 15 23.7**	**+0.7**
HAMF			IVmB_BB		23 15 27.0	
comp=Z,18μm,1.1s						
HAMF			*e*S	**S**	**23 23 30.5**	**-2.0**
HAMF			IVMs_BB	IVMs_BB	23 40 45.8	
comp=Z,12μm,33.7s						
VAY	**Valandovo**	**60.19 305**	⇑*i*P	**P**	**23 15 23.1**	**-0.7**
VAY			*i* S	**S**	**23 23 33.8**	**-0.1**
RODP	**Rodopos**	**60.20 298**	P	**P**	**23 15 25.2**	**+1.2**
KIBK	**Kibwezi**	**60.23 252**	P	**P**	**23 15 24.6**	**0.0**
ATAL	**Atalanti**	**60.24 302**	P	**P**	**23 15 22.7**	**-1.5**
SIRR	**Siria**	**60.26 311**	⇑P	**P**	**23 15 25.0**	**+0.7**
STHS	**Stebnicka Huta**	**60.26 314**	*e*P	**P**	**23 15 24.0**	**-0.2**
STHS	**Stebnicka Huta**	**60.26 314**	*e*P	**P**	**23 15 24.0**	**-0.2**
LKR	**Lokris**	**60.26 302**	P	**P**	**23 15 22.0**	**-2.4**
MTKN	**Mount Kenneth**	**60.29 158**	P	**P**	**23 15 26.0**	**+1.6**
KNDR	**Palaiochora Ch**	**60.31 298**	P	**P**	**23 15 24.9**	**+0.1**
KMBO	**Kilima Mbogo**	**60.32 253**	P	**P**	**23 15 26.1**	**+0.8**
comp=Z,80nm,1.1s,baz=51,slow=7.6,SNR=63						
KMBO			S	**S**	**23 23 38.8**	**+2.0**
comp=Z,0.7nm,0.3s,baz=190,slow=20,SNR=5.9						
KMBO			LR	LR	23 41 17.6	
comp=Z,17μm,20.3s,baz=63,slow=36						
KMBO			PKP2bc	**P'P'bc**	**23 44 56.7**	**-1.4**
comp=Z,2.5nm,0.8s,baz=62,slow=15,SNR=3.4						
KMBO	**Kilima Mbogo**	**60.32 253**	⇑*i*P	**P**	**23 15 26.4**	**+1.0**
KMBO			IAmb	IAmb	23 15 30.9	
comp=Z,2μm,1.9s						
KMBO	**Kilima Mbogo**	**60.32 253**	⇑P	**P**	**23 15 26.0**	**+0.6**
KMBO	**Kilima Mbogo**	**60.32 253**	P	**P**	**23 15 26.0**	**+0.6**
KMBO			IAmb	IAmb	23 15 54.1	
comp=Z,862nm,1.6s						
KMBO				**S**	**23 23 40.5**	**+3.7**
KMBO	**Kilima Mbogo**	**60.32 253**	P	**P**	**23 15 26.1**	**+0.8**
KMBO	**Kilima Mbogo**	**60.32 253**	P	**P**	**23 15 25.7**	**+0.4**
KMBO			S	**S**	**23 23 30.2**	**-6.5**
KMBO	**Kilima Mbogo**	**60.32 253**	*i* P	**P**	**23 15 25.8**	**+0.4**
SNR=52						
EPID	**Epidavros**	**60.34 301**	P	**P**	**23 15 21.6**	**-3.4**
BZS	**Buzias**	**60.35 310**	⇑P	**P**	**23 15 25.0**	**+0.2**
KRND	**KRANIDI**	**60.35 300**	P	**P**	**23 15 22.1**	**-2.9**
GRG	**Griva**	**60.37 304**	P	**P**	**23 15 23.4**	**-1.7**
MDVR	**Moldovita**	**60.38 309**	⇑P	**P**	**23 15 25.7**	**+0.6**
BEL	**Belsk**	**60.39 317**	*e*P	**P**	**23 15 25.2**	**+0.2**
BEL			*e*PP	**PP**	**23 17 41.5**	**+3.2**
BEL			*e*S	**S**	**23 23 36.4**	**+0.2**
BEL			*e*L	L	23 40 08.7	
comp=Z,47μm,35.4s						
BEL	**Belsk**	**60.39 317**	P	**P**	**23 15 25.3**	**+0.3**
BEL			pmax	pmax		
comp=Z,6μm,0.8s						
BEL	**Belsk**	**60.39 317**	⇑P	**P**	**23 15 25.0**	**0.0**
LTK	**Loutraki**	**60.39 301**	P	**P**	**23 15 22.6**	**-2.7**
KUBS	**Kucevo**	**60.45 308**	*e*P	**P**	**23 15 24.8**	**-0.7**
MUN	**Mundaring**	**60.48 158**	P	**P**	**23 15 25.3**	**-0.4**
ANKY	**Antikythira Is**	**60.51 299**	P	**P**	**23 15 22.5**	**-3.6**
BARS	**Barje**	**60.55 307**	*e*P	**P**	**23 15 22.6**	**-3.6**
BARS	**Barje**	**60.55 307**	*e*P	**P**	**23 15 25.8**	**-0.4**
LRSO	**Larissa Observ**	**60.57 303**	P	**P**	**23 15 24.4**	**-2.0**
TIM	**Timisoara**	**60.62 310**	⇑P	**P**	**23 15 27.7**	**+1.0**
KTHA	**Kythira Island**	**60.62 299**	P	**P**	**23 15 25.1**	**-1.8**
THAL	**Thalero**	**60.62 301**	P	**P**	**23 15 24.0**	**-2.8**
VLI	**Veliai**	**60.64 300**	P	**P**	**23 15 24.4**	**-2.6**
AAL	**Aland**	**60.67 327**	*e*P	**P**	**23 15 26.0**	**-0.7**
KTHR	**Kythira**	**60.67 299**	P	**P**	**23 15 24.8**	**-2.4**
KLBR	**Kellerberrin**	**60.67 156**	P	**P**	**23 15 26.7**	**-0.4**
TYRN	**Tyrnavos**	**60.68 303**	P	**P**	**23 15 25.9**	**-1.3**
BANR	**Banloc**	**60.71 310**	⇑P	**P**	**23 15 28.3**	**+1.0**
AGG	**Agios Georgios**	**60.72 302**	P	**P**	**23 15 25.6**	**-1.9**
AGG	**Agios Georgios**	**60.72 302**	⇑P	**P**	**23 15 26.0**	**-1.5**
BILL	**Bilibino**	**60.74 24**	*d i*P	**P**	**23 15 26.5**	**-0.6**
BILL			*e*		23 16 12.1	
BILL			*e*		23 17 43.3	
BILL			*i* S	**S**	**23 23 38.3**	**-1.9**
BILL			*i* SS	**SS**	**23 27 41.4**	**+2.4**
BILL			pmax	pmax		
comp=Z,187nm,0.8s						
BILL			MLR	MLR		
comp=Z,13μm,16.0s						
BILL	**Bilibino**	**60.74 24**	P	**P**	**23 15 27.1**	**0.0**
BILL			IAmb	IAmb	23 15 57.7	
comp=Z,634nm,1.2s						
BILL	**Bilibino**	**60.74 24**	P	**P**	**23 15 27.1**	**0.0**
SVIS	**Svilajnac**	**60.79 308**	*e*P	**P**	**23 15 29.6**	**+1.7**
KECS	**Kecovo**	**60.84 313**	*e*P	**P**	**23 15 28.3**	**+0.2**
KECS			pmax	pmax		
comp=Z,563nm,1.6s						
KECS	**Kecovo**	**60.84 313**	*e*P	**P**	**23 15 28.3**	**+0.2**
THL	**Klokotos Trika**	**60.87 303**	P	**P**	**23 15 25.8**	**-2.7**
MAKR	**Makrakomi, Fth**	**60.87 302**	P	**P**	**23 15 26.4**	**-2.2**
NIE	**Niedzica**	**60.87 314**	*e*P	**P**	**23 15 29.8**	**+1.5**
NIE			*e*PP	**PP**	**23 17 44.7**	**+2.0**
NIE			*e*S	**S**	**23 23 44.5**	**+1.9**
NIE			*e*L	L	23 44 14.3	
comp=Z,36μm,25.7s						
NIE	**Niedzica**	**60.87 314**	P	**P**	**23 15 29.9**	**+1.5**
NIE			pmax	pmax		
comp=Z,822nm,1.1s						
AMBH	**Ambrzfalva**	**60.89 311**	⇑P	**P**	**23 15 29.3**	**+0.8**
AMBH	**Ambrzfalva**	**60.89 311**	P	**P**	**23 15 28.9**	**+0.4**
SKO	**Skopje**	**60.94 306**	⇑*i*P	**P**	**23 15 28.1**	**-0.8**
SKO			*i* S	**S**	**23 23 46.5**	**+3.0**
KZN	**Kozani**	**60.94 304**	P	**P**	**23 15 27.6**	**-1.5**
SELS	**Selova**	**61.00 307**	*e*P	**P**	**23 15 29.0**	**-0.3**
ALIK	**Aliki, Aigiali**	**61.02 301**	P	**P**	**23 15 26.2**	**-3.3**
SERG	**Sergoula**	**61.03 302**	P	**P**	**23 15 27.3**	**-2.4**
HOPEN	**Hopen**	**61.07 346**	*e*P	**P**	**23 15 30.4**	**+1.2**
HOPEN			IVmB_BB		23 15 34.5	
comp=Z,9μm,1.2s						
HOPEN			*e*S	**S**	**23 23 47.4**	**+3.3**
HOPEN			IVMs_BB	IVMs_BB	23 41 19.3	
comp=Z,16μm,30.1s						
BSZH	**Besenyszg**	**61.10 312**	⇑P	**P**	**23 15 30.7**	**+0.8**
BSZH	**Besenyszg**	**61.10 312**	P	**P**	**23 15 30.0**	**+0.1**
ANX	**Ano Chora**	**61.10 302**	P	**P**	**23 15 28.0**	**-2.2**
LAKA	**Lakka**	**61.12 301**	P	**P**	**23 15 26.6**	**-3.7**
OJC	**Ojcow**	**61.13 315**	*e*P	**P**	**23 15 29.9**	**-0.1**
OJC			*e*PP	**PP**	**23 17 45.5**	**+0.6**
OJC			*e*S	**S**	**23 23 43.8**	**-1.9**
OJC			*e*L	L	23 41 25.0	
comp=Z,63μm,37.9s						
OJC	**Ojcow**	**61.13 315**	⇑P	**P**	**23 15 29.7**	**-0.4**
OJC	**Ojcow**	**61.13 315**	⇑P	**P**	**23 15 29.7**	**-0.4**
OJC	**Ojcow**	**61.13 315**	IAmb	IAmb	23 15 35.9	
comp=Z,973nm,1.1s						
EVR	**Evrytania**	**61.14 302**	P	**P**	**23 15 28.2**	**-2.2**
EFP	**Efpalio**	**61.15 302**	P	**P**	**23 15 27.0**	**-3.4**
FNA	**Florina**	**61.16 304**	P	**P**	**23 15 29.4**	**-1.1**
FNA	**Florina**	**61.16 304**	⇑P	**P**	**23 15 29.1**	**-1.4**
FNA	**Florina**	**61.16 304**	⇑P	**P**	**23 15 29.1**	**-1.4**
FNA	**Florina**	**61.16 304**	IAmb	IAmb	23 15 33.3	
comp=Z,858nm,1.1s						
GRUS	**Gruza**	**61.20 308**	*e*P	**P**	**23 15 30.7**	**+0.1**
PSZ	**Piszkesteto**	**61.28 313**	⇑P	**P**	**23 15 31.4**	**+0.1**
PSZ	**Piszkesteto**	**61.28 313**	⇑P	**P**	**23 15 31.0**	**-0.2**
PSZ	**Piszkesteto**	**61.28 313**	⇑P	**P**	**23 15 31.1**	**-0.2**
PSZ	**Piszkesteto**	**61.28 313**	P	**P**	**23 15 30.5**	**-0.7**
KPRO	**Kipourio**	**61.30 303**	P	**P**	**23 15 29.9**	**-1.6**
IZAB	**Izabela**	**61.34 313**	*e*P	**P**	**23 15 32.0**	**+0.5**
IZAB			*e*		23 17 47.3	
ITM	**Ithomi**	**61.35 300**	P	**P**	**23 15 27.1**	**-4.7**
ITM	**Ithomi**	**61.35 300**	⇑P	**P**	**23 15 30.2**	**-1.6**
TRUS	**Trudelj**	**61.37 308**	*e*P	**P**	**23 15 31.9**	**+0.1**
DRO	**Drossia**	**61.38 301**	P	**P**	**23 15 28.5**	**-3.5**
PENT	**Pentalofos**	**61.44 304**	P	**P**	**23 15 30.6**	**-1.9**
LANS	**Liptovska Anna**	**61.44 314**	*e*P	**P**	**23 15 32.7**	**+0.4**
LANS			pmax	pmax		
comp=Z,200nm,1.1s						
LANS	**Liptovska Anna**	**61.44 314**	*e*P	**P**	**23 15 32.7**	**+0.4**
LANS			*e*PP	**PP**	**23 17 48.9**	**+1.2**
NEST	**Nestorio**	**61.47 304**	P	**P**	**23 15 31.1**	**-1.6**
OHR	**Ohrid**	**61.54 305**	*i* P	**P**	**23 15 32.5**	**-0.6**
OHR			*i* S	**S**	**23 23 48.2**	**-3.2**
PYL	**PYLOS**	**61.55 300**	P	**P**	**23 15 29.0**	**-4.1**
RLS	**Riolos of Patr**	**61.55 301**	P	**P**	**23 15 31.4**	**-1.7**
TRO	**Tromso**	**61.62 337**	*e*P	**P**	**23 15 33.1**	**0.0**
TRO			IVmB_BB		23 15 36.6	
comp=Z,9μm,0.5s						
TRO			*e*S	**S**	**23 23 50.9**	**-0.4**
TRO			IVMs_BB	IVMs_BB	23 40 33.1	
comp=Z,13μm,38.9s						
KBN	**Korca**	**61.63 304**	P	**P**	**23 15 31.5**	**-2.2**
IVAS	**Ivanjica**	**61.65 308**	*e*P	**P**	**23 15 33.0**	**-0.8**
FRGS	**Fruska Gora**	**61.67 309**	⇑P	**P**	**23 15 33.4**	**-0.5**
FRGS	**Fruska Gora**	**61.67 309**	⇑*i*P	**P**	**23 15 33.0**	**-0.8**
FRGS	**Fruska Gora**	**61.67 309**	*e*P	**P**	**23 15 33.1**	**-0.8**
DIVS	**Divibare**	**61.69 308**	⇑*i*P	**P**	**23 15 33.7**	**-0.3**
DIVS	**Divibare**	**61.69 308**	⇑P	**P**	**23 15 33.7**	**-0.3**
DIVS	**Divibare**	**61.69 308**	IAmb	IAmb	23 15 37.9	
comp=Z,941nm,1.1s						
DIVS	**Divibare**	**61.69 308**	*e*P	**P**	**23 15 33.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**61.70 157**	P	**P**	**23 15 34.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**61.70 157**	P	**P**	**23 15 34.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**61.70 157**	P	**P**	**23 15 33.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**61.70 157**	P	**P**	**23 15 32.4**	**-1.6**
NWAO			pP	**pP**	**23 15 49.1**	**+1.0**
PHP	**Peshkopia**	**61.72 306**	P	**P**	**23 15 31.2**	**-3.1**
JAN	**Janina**	**61.74 303**	P	**P**	**23 15 32.8**	**-1.6**
VTN	**Vitineika**	**61.80 301**	P	P	23 15 23.3	-11
SJES	**Sjenica**	**61.82 307**	*e*P	**P**	**23 15 35.2**	**+0.2**
COEN	**Coen**	**61.84 123**	⇓P	**P**	**23 15 34.9**	**-0.4**
COEN	**Coen**	**61.84 123**	P	**P**	**23 15 35.3**	**0.0**
LSK	**Leskovik**	**61.85 304**	P	**P**	**23 15 33.0**	**-2.2**
UPP	**Uppsala**	**61.86 326**	*e*P	**P**	**23 15 34.5**	**-0.2**
BUD	**Budapest**	**61.92 312**	P	**P**	**23 15 35.4**	**0.0**
BUD	**Budapest**	**61.92 312**	P	**P**	**23 15 34.9**	**-0.5**
VYHS	**Vyhne**	**61.93 313**	*e*P	**P**	**23 15 35.5**	**0.0**
VYHS			*e*		23 19 22.4	
VYHS			*e*S	**S**	**23 23 55.8**	**-0.1**
VYHS			pmax	pmax		
comp=Z,4μm,2.6s						
VYHS	**Vyhne**	**61.93 313**	*e*P	**P**	**23 15 35.5**	**0.0**
VYHS			*e*PP	**PP**	**23 17 52.4**	**+0.4**
VYHS			*e*		23 19 22.3	
VYHS			*e*S	**S**	**23 23 55.8**	**-0.1**
VYHS			*e*SS	SS	23 28 13.3	+15
VYHS			*e*L	L	23 42 03.4	
PVY	**Plav**	**61.93 307**	*e*P	**P**	**23 15 35.8**	**0.0**
IVA	**Berane**	**61.94 307**	*e*P	**P**	**23 15 35.6**	**-0.2**
TEKS	**Tekeris**	**61.95 309**	⇑*i*P	**P**	**23 15 34.9**	**-0.8**
TEKS	**Tekeris**	**61.95 309**	*e*P	**P**	**23 15 35.0**	**-0.8**
NYDR	**Nydri-Lefkada**	**62.03 302**	P	**P**	**23 15 33.5**	**-2.8**
ASAR	**Alice Springs**	**62.05 138**	P	**P**	**23 15 36.1**	**-0.5**
comp=Z,175nm,0.7s,baz=320,slow=6.5,SNR=848						
ASAR			S	**S**	**23 23 56.8**	**-1.2**
comp=Z,5.8nm,0.9s,baz=332,slow=4.4,SNR=2.1						
ASAR			PKP2bc	**P'P'bc**	**23 44 49.4**	**-0.9**
comp=Z,19nm,1.0s,baz=141,slow=2.3,SNR=8.7						
ASAR			LR	LR	23 47 27.3	
comp=Z,9μm,18.4s,baz=311,slow=41						
ASAR			P4KPbc		23 52 38.2	
comp=Z,2.1nm,0.7s,baz=318,slow=4.7,SNR=12						
ASAR	**Alice Springs**	**62.05 138**	P	**P**	**23 15 36.0**	**-0.6**
EVGI	**Lefkada island**	**62.08 302**	P	**P**	**23 15 33.7**	**-3.0**
BLJ	**Bijeljina**	**62.10 309**	⇑*i*P	**P**	**23 15 37.1**	**+0.4**
LTHK	**Lithakia**	**62.10 301**	P	**P**	**23 15 34.5**	**-2.3**
DRAG	**Dragano-Lefkad**	**62.13 302**	P	**P**	**23 15 33.0**	**-4.0**
BBLS	**Lazići**	**62.14 308**	⇑*i*P	**P**	**23 15 37.1**	**0.0**
BBLS	**Lazići**	**62.14 308**	*e*P	**P**	**23 15 37.3**	**+0.2**
BJO1	**Bjornoya**	**62.15 343**	*e*P	**P**	**23 15 36.2**	**-0.4**
BJO1			*e*S	**S**	**23 23 54.9**	**-3.0**
BJO1			IVMs_BB	IVMs_BB	23 44 41.7	
comp=Z,19μm,20.2s						
IGT	**Igoumenitsa**	**62.16 303**	P	**P**	**23 15 34.4**	**-2.8**
RAC	**Raciborz**	**62.17 315**	*e*P	**P**	**23 15 37.4**	**+0.3**
RAC			*e*S	**S**	**23 24 01.2**	**+2.4**

BRY	**Bratogost**	**62.91 307**	⇑*i*P		**P**	**23 15 41.7**	**-0.6**
BRY	**Bratogost**	**62.91 307**	*e*P		**P**	**23 15 41.8**	**-0.6**
DOB	**Doboj**	**62.93 309**	*e*P		**P**	**23 15 43.1**	**+0.9**
MPLH	**Magyarpolny**	**62.96 312**	P		**P**	**23 15 41.8**	**-0.6**
MODS	**Modra-Piesok**	**62.97 313**	*e*P		**P**	**23 15 41.4**	**-1.1**
MODS			*e*			23 19 31.9	
MODS			*e*S		**S**	**23 24 06.0**	**-3.0**
MODS			*e*SS		**SS**	**23 28 18.1**	**+3.4**
MODS			pmax	pmax			
	comp=Z,7μm,2.8s						
MODS	**Modra-Piesok**	**62.97 313**	*e*P		**P**	**23 15 41.4**	**-1.1**
MODS			*e*PP		**PP**	**23 18 00.5**	**-0.7**
MODS			*e*			23 19 31.9	
MODS			*e*S		**S**	**23 24 06.0**	**-3.0**
MODS			*e*SS		**SS**	**23 28 18.1**	**+3.4**
MODS			*e*L		L	23 42 04.6	
HCY	**Herceg Novi**	**63.02 307**	⇑*i*P		**P**	**23 15 41.3**	**-1.6**
HCY	**Herceg Novi**	**63.02 307**	*e*P		**P**	**23 15 42.0**	**-0.9**
EGYH	**Egyhazaskeszo**	**63.06 312**	P		**P**	**23 15 41.8**	**-1.3**
KRLC	**Kraliky**	**63.07 315**	*e*P		**P**	**23 15 43.2**	**0.0**
KRLC			*e*S		**S**	**23 24 10.8**	**+0.5**
KRLC			MLR	MLR			
	comp=Z,35μm,19.6s						
KRLC	**Kraliky**	**63.07 315**	*e*P		**P**	**23 15 43.2**	**0.0**
KRLC			*e*S		**S**	**23 24 10.8**	**+0.5**
KRLC			AMS	AMS		23 45 20.0	
	comp=Z,35μm,19.6s						
TREB	**Trebinje**	**63.08 307**	⇑*i*P		**P**	**23 15 43.1**	**-0.2**
ZST	**Bratislava**	**63.11 313**	*e*P		**P**	**23 15 43.5**	**+0.1**
ZST			*e*			23 19 34.7	
ZST			*e*S		**S**	**23 24 13.1**	**+2.4**
ZST			pmax	pmax			
	comp=Z,2μm,1.0s						
ZST	**Bratislava**	**63.11 313**	*e*P		**P**	**23 15 43.5**	**+0.1**
ZST			*e*PP		**PP**	**23 18 04.7**	**+2.3**
ZST			*e*			23 19 34.7	
ZST			*e*S		**S**	**23 24 13.1**	**+2.4**
MOR8	**Moi Rana**	**63.19 333**	*e*P		**P**	**23 15 42.9**	**-0.8**
MOR8			IVmB_BB			23 15 46.1	
	comp=Z,13μm,0.9s						
MOR8			*e*S		**S**	**23 24 07.6**	**-3.6**
MOR8			IVMs_BB	IVMs_BB		23 45 02.5	
	comp=Z,26μm,19.0s						
SPB2	**Spitsbergen Ar**	**63.25 347**	IAmb	IAmb		23 15 50.6	
	comp=Z,823nm,0.9s						
SPITS	**Spitsbergen Ar**	**63.25 347**	P		**P**	**23 15 44.2**	**+0.4**
	comp=Z,251nm,0.6s,baz=105,slow=9.6,SNR=67						
SPITS			LR	LR		23 49 14.3	
	comp=Z,25μm,19.6s,baz=198,slow=42						
KSP	**Ksiaz**	**63.29 316**	*e*P		**P**	**23 15 44.8**	**+0.3**
KSP			*e*PP		**PP**	**23 18 07.7**	**+3.8**
KSP			*e*S		**S**	**23 24 13.9**	**+1.1**
KSP			*e*L		L	23 43 20.3	
	comp=Z,52μm,32.2s						
KSP	**Ksiaz**	**63.29 316**	⇑P		**P**	**23 15 44.5**	**0.0**
KSP	**Ksiaz**	**63.29 316**	⇑P		**P**	**23 15 44.5**	**0.0**
VRAC	**Vranov**	**63.29 314**	⇑P		**P**	**23 15 45.1**	**+0.6**
VRAC	**Vranov**	**63.29 314**	LR		LR	23 47 01.4	
	comp=Z,24μm,21.8s,baz=84,slow=40						
VRAC	**Vranov**	**63.29 314**	⇑*i*P		**P**	**23 15 45.2**	**+0.6**
VRAC			*e*PP		**PP**	**23 18 06.1**	**+2.1**
VRAC			*e*			23 19 37.1	
VRAC			*e*S		**S**	**23 24 12.9**	**-0.1**
DPC	**Dobruska-Polom**	**63.33 316**	*e*P		**P**	**23 15 45.1**	**+0.2**
DPC			*e*S		**S**	**23 24 14.6**	**+1.1**
DPC			MLR	MLR			
	comp=Z,40μm,19.3s						
DPC	**Dobruska-Polom**	**63.33 316**	*e*P		**P**	**23 15 45.1**	**+0.2**
DPC			*e*S		**S**	**23 24 14.6**	**+1.1**
DPC			AMS	AMS		23 45 30.0	
	comp=Z,40μm,19.3s						
DPC	**Dobruska-Polom**	**63.33 316**	*ex*		**P'P'ab**	**23 45 06.9**	**+7.5**
DPC	**Dobruska-Polom**	**63.33 316**	*e*PKP		**P'P'df**	**23 44 52.9**	**+6.8**
KRUC	**Moravsky**	**63.46 314**	⇑*i*P		**P**	**23 15 46.0**	**+0.3**
KRUC			*e*PP		**PP**	**23 18 07.5**	**+2.1**
KRUC			*e*			23 19 40.2	
KRUC			*e*S		**S**	**23 24 12.8**	**-2.2**
KOND	**Kondoa**	**63.47 250**	*i* P		**P**	**23 15 46.8**	**+0.4**
KOND			*e*			23 15 49.2	
	baz=58,slow=7.9						
CHVC	**Chvalec**	**63.47 316**	*e*P		**P**	**23 15 46.2**	**+0.4**
CHVC			*e*S		**S**	**23 24 13.5**	**-1.7**
CHVC			AMS	AMS		23 45 30.0	
	comp=Z,44μm,19.7s						
SCTE	**Santa Cesarea**	**63.47 304**	IAmb	IAmb		23 15 50.6	
	comp=Z,1μm,0.9s						
UPC	**Upice**	**63.51 316**	*e*P		**P**	**23 15 46.1**	**+0.1**
UPC			*e*S		**S**	**23 24 14.8**	**-0.8**
UPC			MLR	MLR			
	comp=Z,46μm,19.6s						
UPC	**Upice**	**63.51 316**	*e*P		**P**	**23 15 46.1**	**+0.1**
UPC			*e*S		**S**	**23 24 14.8**	**-0.8**
UPC			AMS	AMS		23 45 40.0	
	comp=Z,46μm,19.6s						
UPC	**Upice**	**63.51 316**	*ex*		P'P'ab	23 45 07.7	+9.1
UPC	**Upice**	**63.51 316**	*e*PKP		P'P'df	23 44 54.2	+8.4
LOF	**Lofoten**	**63.52 336**	*e*P		**P**	**23 15 45.1**	**-0.5**
LOF			IVmB_BB			23 15 46.3	
	comp=Z,8μm,0.6s						
LOF			*e*S		**S**	**23 24 12.6**	**-2.5**
LOF			IVMs_BB	IVMs_BB		23 45 20.0	
	comp=Z,26μm,18.1s						
STON	**Ston**	**63.53 307**	⇑*i*P		**P**	**23 15 45.2**	**-1.0**
QIS	**Mount Isa**	**63.53 131**	P		**P**	**23 15 46.5**	**0.0**
SOP	**Sopron**	**63.55 313**	P		**P**	**23 15 45.8**	**-0.5**
SOP	**Sopron**	**63.55 313**	P		**P**	**23 15 45.3**	**-0.9**
BSD	**Bornholm Skovb**	**63.63 321**	⇑P		**P**	**23 15 45.6**	**-1.0**
BSD	**Bornholm Skovb**	**63.63 321**	*i* P		**P**	**23 15 45.7**	**-0.9**
BSD			IAmb	IAmb		23 15 51.0	
	comp=Z,332nm,0.9s						
BSD	**Bornholm Skovb**	**63.63 321**	*e*P		**P**	**23 15 45.8**	**-0.9**
BSD	**Bornholm Skovb**	**63.63 321**	⇑P		**P**	**23 15 45.6**	**-1.0**
NBB13	**Alf Garage**	**63.63 334**	*e*P		**P**	**23 15 47.4**	**+0.9**
MGRS	**Mrkonjic Grad**	**63.70 309**	⇑*i*P		**P**	**23 15 47.4**	**0.0**
KONS	**Konsvik**	**63.72 334**	*e*P		**P**	**23 15 47.2**	**+0.2**
KONS			*e*S		**S**	**23 24 23.9**	**+6.3**
MRAK	**Mrakovica**	**63.73 310**	⇑*i*P		**P**	**23 15 47.2**	**-0.4**
STOK	**Stokkvaagen**	**63.76 334**	*e*P		**P**	**23 15 47.7**	**+0.3**
HFS	**Hagfors**	**63.82 327**	LR		LR	23 44 45.2	
	comp=Z,27μm,19.3s,baz=86,slow=37						
PRIJ	**Prijedor**	**63.87 310**	⇑*i*P		**P**	**23 15 49.2**	**+0.8**
KOGS	**Kog**	**63.94 311**	*i* P		**P**	**23 15 48.6**	**-0.3**
KOGS			*e*SKSac		**SKSac**	**23 25 41.3**	**+2.8**
CONA	**Conrad Observa**	**63.97 313**	*i* P		**P**	**23 15 49.3**	**+0.1**
	comp=Z,2μm,1.5s,SNR=382						
CONA			*e*P		**P'P'bc**	**23 44 53.0**	**+1.6**
	comp=Z,22nm,1.4s						
TREC	**Trest**	**64.01 315**	*e*P		**P**	**23 15 49.6**	**+0.2**
TREC			*e*S		**S**	**23 24 22.4**	**+0.4**
TREC			MLR	MLR			
	comp=Z,52μm,24.4s						
TREC	**Trest**	**64.01 315**	*e*P		**P**	**23 15 49.6**	**+0.2**
TREC			*e*S		**S**	**23 24 22.4**	**+0.4**
TREC			AMS	AMS		23 45 40.0	
	comp=Z,52μm,24.4s						
AIS	**Amsterdam Isla**	**64.09 194**	⇓P		**P**	**23 15 52.1**	**+2.4**
AIS	**Amsterdam Isla**	**64.09 194**	P		**P**	**23 15 48.4**	**-1.4**
KBS	**Kingsbay**	**64.20 348**	P		**P**	**23 15 51.2**	**+1.2**
KBS			pmax	pmax			
	comp=Z,507nm,1.1s						
KBS	**Kingsbay**	**64.20 348**	*e*P		**P**	**23 15 49.9**	**-0.1**
KBS			*e*S		**S**	**23 24 22.3**	**-1.1**
KBS			IVmB_BB			23 48 20.3	
	comp=Z,13μm,20.6s						
KBS	**Kingsbay**	**64.20 348**	⇑P		**P**	**23 15 50.8**	**+0.8**
KBS	**Kingsbay**	**64.20 348**	P		**P**	**23 15 51.2**	**+1.2**
KBS			IAmb	IAmb		23 15 56.3	
	comp=Z,507nm,1.1s						
KBS	**Kingsbay**	**64.20 348**	P		**P**	**23 15 47.1**	**-2.9**
PATS	**Pohnpei**	**64.22 94**	P		**P**	**23 15 51.3**	**+0.1**
PATS	**Pohnpei**	**64.22 94**	P		**P**	**23 15 52.9**	**+1.7**
ZAG	**Zagreb**	**64.23 311**	⇑*i*P		**P**	**23 15 51.2**	**+0.4**
NSS	**Namsos**	**64.30 332**	*e*P		**P**	**23 15 50.3**	**-0.5**
NSS			IVmB_BB			23 15 51.6	
	comp=Z,5μm,1.3s						
NSS			*e*S		**S**	**23 24 22.8**	**-2.1**
NSS			IVMs_BB	IVMs_BB		23 45 04.4	
	comp=Z,16μm,19.4s						
ARSA	**Arzberg**	**64.31 312**	*i* P		**P**	**23 15 51.2**	**-0.1**
	comp=Z,1μm,2.0s,SNR=171						
ARSA			*e*P		**P'P'bc**	**23 44 51.1**	**+0.7**
	comp=Z,9.1nm,1.5s						
FORT	**Forrest**	**64.39 147**	⇓P		**P**	**23 15 51.5**	**-0.4**
FORT	**Forrest**	**64.39 147**	P		**P**	**23 15 52.2**	**+0.3**
FORT			IAmb	IAmb		23 16 17.6	
	comp=Z,1μm,1.1s						
FORT	**Forrest**	**64.39 147**	P		**P**	**23 15 51.8**	**-0.1**
PVCC	**Panska Ves**	**64.42 316**	*e*P		**P**	**23 15 52.3**	**+0.4**
PVCC			*e*S		**S**	**23 24 23.5**	**-3.4**
PVCC			MLR	MLR			
	comp=Z,38μm,19.9s						
PVCC	**Panska Ves**	**64.42 316**	*e*P		**P**	**23 15 52.3**	**+0.4**
PVCC			*e*S		**S**	**23 24 23.5**	**-3.4**
PVCC			AMS	AMS		23 46 00.0	
	comp=Z,38μm,19.9s						
PRU	**Pruhonice**	**64.52 315**	*e*P		**P**	**23 15 52.9**	**+0.3**
PRU			*e*S		**S**	**23 24 25.1**	**-3.0**
PRU	**Pruhonice**	**64.52 315**	*e*P		**P**	**23 15 52.9**	**+0.3**
PRU			*e*S		**S**	**23 24 25.1**	**-3.0**
PRU			AMS	AMS		23 43 40.0	
	comp=Z,64μm,35.2s						
PRA	**Prague**	**64.57 316**	*e*P		**P**	**23 15 53.3**	**+0.3**
PRA			*e*S		**S**	**23 24 27.8**	**-1.0**
PRA	**Prague**	**64.57 316**	*e*P		**P**	**23 15 53.3**	**+0.3**
PRA			*e*S		**S**	**23 24 27.8**	**-1.0**
PRA			AMS	AMS		23 43 30.0	
	comp=Z,48μm,33.0s						
CRES	**Cresnjev**	**64.59 311**	⇑*i*P		**P**	**23 15 53.2**	**0.0**
RGN	**Rugen**	**64.61 321**	*e*P		**P**	**23 15 53.9**	**+0.8**
RGN	**Rugen**	**64.61 321**	*e*P		**P**	**23 15 53.3**	**+0.2**
	comp=Z,1μm,0.9s,baz=80,slow=6.3						
RGN	**Rugen**	**64.61 321**	⇑P		**P**	**23 15 53.7**	**+0.6**
RGN	**Rugen**	**64.61 321**	IAmb	IAmb		23 15 57.4	
	comp=Z,1μm,0.8s						
RUE	**Ruedersdorf**	**64.62 318**	*e*P		**P**	**23 15 53.2**	**+0.1**
RUE	**Ruedersdorf**	**64.62 318**	*e*P		**P**	**23 15 53.1**	**-0.1**
	comp=Z,3μm,1.4s,baz=80,slow=6.3						
RUE	**Ruedersdorf**	**64.62 318**	⇑P		**P**	**23 15 53.2**	**+0.1**
MATE	**Matera**	**64.68 305**	⇑P		**P**	**23 15 52.7**	**-1.1**
PERS	**Pernice**	**64.69 312**	*i* P		**P**	**23 15 53.7**	**-0.2**
PERS			*e*PP		**PP**	**23 18 19.5**	**+3.2**
PERS			*e*S		**S**	**23 24 29.1**	**-1.4**
SOKA	**Soboth**	**64.73 312**	*i* P		**P**	**23 15 54.1**	**-0.1**
	comp=Z,613nm,1.0s,SNR=226						
BRG	**Berggiesshubel**	**64.76 316**	⇑*i*P		**P**	**23 15 54.5**	**+0.3**
BRG			Amp			23 15 59.2	
	comp=Z,2μm,1.7s						
BRG			PP		**PP**	**23 18 22.0**	**+5.2**
BRG			Amp			23 18 24.8	
	comp=Z,760nm,1.8s						
BRG	**Berggiesshubel**	**64.76 316**	⇑*i*P		**P**	**23 15 54.4**	**+0.3**
BRG						23 18 21.9	
BRG			S		**S**	**23 24 31.0**	**-0.1**
BRG			pmax	pmax			
	comp=Z,2μm,1.7s						
BRG			pmax	pmax			
	comp=Z,760nm,1.8s						
BRG	**Berggiesshubel**	**64.76 316**	*e*P		**P**	**23 15 54.2**	**0.0**
	comp=Z,2μm,1.7s,baz=80,slow=6.3						
NORES	**NORESS Array B**	**64.83 327**	P		**P**	**23 15 53.6**	**-0.8**
CKRC	**Cesky Krumlov**	**64.85 314**	*e*P		**P**	**23 15 54.8**	**0.0**
CKRC			*e*S		S	23 24 22.4	-10
TIP	**Timpagrande**	**64.95 303**	⇑P		**P**	**23 15 55.1**	**-0.6**
TIP	**Timpagrande**	**64.95 303**	⇑P		**P**	**23 15 54.5**	**-1.2**
TIP	**Timpagrande**	**64.95 303**	IAmb	IAmb		23 16 02.0	
	comp=Z,583nm,0.9s						
NB2	**NORSAR Subarra**	**64.95 328**	P		**P**	**23 15 54.6**	**-0.7**
	comp=Z,1μm,1.1s,baz=83,slow=6.5						
NB2	**NORSAR Subarra**	**64.95 328**	P		**P**	**23 15 51.0**	**-4.3**
NB2			pmax	pmax			
	comp=Z,6μm,2.2s						
NB2	**NORSAR Subarra**	**64.95 328**	P		**P**	**23 15 54.6**	**-0.7**
	baz=83,slow=6.5						
NOA	**NORSAR Array B**	**64.95 328**	P		**P**	**23 15 54.6**	**-0.7**
	comp=Z,256nm,0.7s,baz=84,slow=6.4,SNR=391						
NOA			PP		**PP**	**23 18 18.2**	**-0.1**
	comp=Z,48nm,0.8s,baz=86,slow=8.0,SNR=3.7						
NOA			PKP2bc		**P'P'bc**	**23 44 49.7**	**+1.1**
	comp=Z,2.1nm,1.1s,baz=232,slow=2.6,SNR=2.8						
NOA			LR	LR		23 46 33.4	
	comp=Z,41μm,19.7s,baz=80,slow=38						
MRVN	**Minervino Murg**	**64.97 305**	⇑P		**P**	**23 15 54.4**	**-1.4**
SHEM	**Shemya Is, Ala**	**64.99 41**	P		**P**	**23 15 56.0**	**+0.4**
	comp=Z,529nm,0.6s,baz=20,slow=2.6,SNR=37						
SHEM			LR	LR		23 46 22.4	
	comp=Z,8μm,21.8s,baz=270,slow=38						
SMY	**Shemya**	**64.99 41**	P		**P**	**23 15 55.6**	**0.0**
SMY	**Shemya**	**64.99 41**	⇑P		**P**	**23 15 55.9**	**+0.3**
SMY	**Shemya**	**64.99 41**	P		**P**	**23 15 55.6**	**0.0**
VOI	**Vohitsoka**	**65.00 228**	⇓P		**P**	**23 15 55.8**	**-0.4**
VOI	**Vohitsoka**	**65.00 228**	P		**P**	**23 15 55.9**	**-0.4**
VOI	**Vohitsoka**	**65.00 228**	P		**P**	**23 15 56.5**	**+0.3**
MOA	**Molln**	**65.05 313**	*i* P		**P**	**23 15 55.9**	**-0.2**
	comp=Z,671nm,1.0s,SNR=177						
OBKA	**Obir**	**65.09 312**	*i* P		**P**	**23 15 56.5**	**0.0**
	comp=Z,413nm,1.0s,SNR=88						
FBE	**Freiberg**	**65.12 317**	*e*P		**P**	**23 15 56.8**	**+0.3**
	comp=Z,2μm,1.3s,baz=80,slow=6.3						
TBLU	**Trondheim**	**65.16 330**	*e*P		**P**	**23 15 56.1**	**-0.5**
TBLU			IVmB_BB			23 15 59.3	
	comp=Z,14μm,0.8s						
TBLU			*e*S		**S**	**23 24 34.1**	**-1.5**
TBLU			IVMs_BB	IVMs_BB		23 45 51.8	
	comp=Z,15μm,28.2s						
SGRT	**San Giovanni R**	**65.16 306**	IAmb	IAmb		23 16 00.0	
	comp=Z,1μm,1.2s						
LJU	**Ljubljana**	**65.19 311**	⇑*i*P		**P**	**23 15 57.2**	**+0.1**
LJU	**Ljubljana**	**65.19 311**	*i* P		**P**	**23 15 57.0**	**0.0**
LJU			*e*			23 16 26.1	
LJU			*e*PP		**PP**	**23 18 22.7**	**+2.0**
LJU			*e*			23 19 58.0	
LJU			*e*S		**S**	**23 24 35.1**	**-1.5**
LJU			*e*			23 24 60.0	
LJU			*e*SKSac		**ScS**	**23 25 49.6**	**+1.5**
GEC2	**GERESS Array S**	**65.24 314**	*e*P		**P**	**23 15 57.4**	**-0.1**
	comp=Z,1μm,1.0s,baz=80,slow=6.3						
GEC2	**GERESS Array S**	**65.24 314**	IAmb	IAmb		23 16 01.5	
	comp=Z,979nm,0.9s						
GERES	**GERESS Array B**	**65.24 314**	P		**P**	**23 15 57.5**	**+0.1**
	comp=Z,613nm,0.8s,baz=78,slow=5.9,SNR=764						
GERES			PKP2bc		**P'P'bc**	**23 44 48.3**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=224,slow=2.7,SNR=2.1						
GERES			LR	LR		23 48 32.0	
	comp=Z,15μm,20.0s,baz=82,slow=40						
KHC	**Kasperske Hory**	**65.28 315**	*e*P		**P**	**23 15 57.5**	**-0.1**
KHC			*e*			23 18 23.0	
KHC			*e*S		**S**	**23 24 36.6**	**-1.0**
KHC			MLR	MLR			
	comp=Z,57μm,22.7s						
KHC	**Kasperske Hory**	**65.28 315**	*e*P		**P**	**23 15 57.5**	**-0.1**
KHC			*ex*	x		23 16 04.0	
KHC			*e*PP		**PP**	**23 18 23.0**	**+1.6**
KHC			*e*S		**S**	**23 24 36.6**	**-1.0**
KHC			AMS	AMS		23 46 30.0	
	comp=Z,57μm,22.7s						
KHC	**Kasperske Hory**	**65.28 315**	⇑P		**P**	**23 15 57.6**	**-0.1**
KHC	**Kasperske Hory**	**65.28 315**	IAmb	IAmb		23 16 03.7	
	comp=Z,608nm,1.1s						
KHC	**Kasperske Hory**	**65.28 315**	*e*PKP		**P'P'df**	**23 44 42.3**	**-0.6**
KHC	**Kasperske Hory**	**65.28 315**	*ex*		**P'P'ab**	**23 44 55.7**	**+4.1**
CLL	**Collm**	**65.28 317**	⇑*i*P		**P**	**23 15 57.3**	**-0.2**
CLL			*e*S		**S**	**23 24 41.0**	**+3.6**
CLL			pmax	pmax			
	comp=Z,6μm,2.7s						
CLL	**Collm**	**65.28 317**	⇑*i*P		**P**	**23 15 57.3**	**-0.2**
	comp=Z,6μm,2.7s						
CLL			*e*Pmax			23 16 02.0	
CLL			*es*P		**sP**	**23 16 21.0**	**+3.6**
CLL			*i* x		x	23 16 24.8	
CLL			*e*PP		**PP**	**23 18 20.0**	**-1.3**
CLL			*e*PPmax			23 18 26.0	
CLL			*e*PPP		PPP	23 20 00.0	
CLL			*e*S		**S**	**23 24 41.0**	**+3.6**
CLL			*e*PS		**PnS**	**23 25 05.0**	**+3.1**
CLL			*ex*		x	23 28 12.0	
CLL			*e*SS		**SS**	**23 28 54.0**	**+3.5**
CLL			*e*SSS		SSS	23 32 00.0	
CLL			*ex*		x	23 32 36.0	
CLL			*e*PKPPKPbc			23 44 47.0	
CLL			*e*Lmax			23 47 03.0	
CLL			*e*SKPPKPbc			23 48 20.0	
	comp=Z,465nm,3.3s						
CLL	**Collm**	**65.28 317**	*e*P		**P**	**23 15 57.1**	**-0.4**
	comp=Z,951nm,1.3s,baz=80,slow=6.3						
CLL			*e*PP		**PP**	**23 18 19.6**	**-1.7**
CLL	**Collm**	**65.28 317**	IAmb	IAmb		23 16 01.3	
	comp=Z,762nm,1.2s						
MTSU	**Mount Surprise**	**65.30 126**	P		**P**	**23 15 58.1**	**0.0**
CEY	**Cerknica**	**65.32 311**	⇑*i*P		**P**	**23 15 57.7**	**-0.2**
OSL	**Oslo**	**65.32 327**	*e*P		**P**	**23 15 57.8**	**+0.2**
OSL			*e*S		**S**	**23 24 32.3**	**-5.3**
OSL			IVMs_BB	IVMs_BB		23 46 33.2	
	comp=Z,16μm,18.6s						
RIY	**Rijeka**	**65.36 310**	⇑*i*P		**P**	**23 15 57.5**	**-0.6**
MYKA	**Terra Mystica**	**65.69 312**	*i* P		**P**	**23 15 59.6**	**-0.7**
	comp=Z,330nm,1.6s,SNR=70						
MYKA			*e*P		**P'P'bc**	**23 44 47.1**	**+0.4**
	comp=Z,40nm,1.6s						
CADS	**Cadrg**	**65.70 311**	*i* P		**P**	**23 15 59.4**	**-1.0**
WET	**Wettzell**	**65.72 315**	*e*P		**P**	**23 16 00.5**	**0.0**
	comp=Z,3μm,1.8s,baz=80,slow=6.3						
TANN	**Tannenbergstha**	**65.77 316**	*e*P		**P**	**23 16 00.7**	**-0.1**
	comp=Z,2μm,1.8s,baz=80,slow=6.3						
MBAR	**Mbarara**	**65.80 257**	LR		LR	23 45 16.8	
	comp=Z,35μm,21.0s,baz=58,slow=36						
MBAR	**Mbarara**	**65.80 257**	*ce*P		**P**	**23 16 02.1**	**+0.4**
MBAR	**Mbarara**	**65.80 257**	⇑P		**P**	**23 16 02.1**	**+0.4**
MBAR	**Mbarara**	**65.80 257**	P		**P**	**23 16 00.2**	**-1.5**
MBAR	**Mbarara**	**65.80 257**	P		**P**	**23 16 02.1**	**+0.4**
MBAR			pP		**sP**	**23 16 22.8**	**+1.3**
MBAR	**Mbarara**	**65.80 257**	⇑P		**P**	**23 16 01.9**	**+0.3**
MBAR			S		**S**	**23 24 40.6**	**-4.5**
KBA	**Koelnbreinsper**	**65.80 312**	*i* P		**P**	**23 16 00.6**	**-0.6**
	comp=Z,450nm,1.1s,SNR=106						
KBA			*e*P		**P'P'df**	**23 44 42.5**	**+0.3**
	comp=Z,5.9nm,1.5s						
NKC	**Novy Kostel**	**65.81 316**	*e*P		**P**	**23 16 00.9**	**-0.1**
NKC			*e*S		**S**	**23 24 45.1**	**+1.1**
NKC			MLR	MLR			
	comp=Z,44μm,18.3s						
NKC	**Novy Kostel**	**65.81 316**	*e*P		**P**	**23 16 00.9**	**-0.1**
NKC			*e*S		**S**	**23 24 45.1**	**+1.1**
NKC			AMS	AMS		23 47 00.0	
	comp=Z,44μm,18.3s						
NKC	**Novy Kostel**	**65.81 316**	*e*PKP		P'P'ab	23 44 57.3	+7.8
CEL	**Celeste**	**65.81 303**	⇑P		**P**	**23 16 01.1**	**-0.2**
WERN	**Wernitzgruen**	**65.84 316**	*e*P		**P**	**23 16 01.3**	**+0.1**
	comp=Z,811nm,1.1s,baz=80,slow=6.3						
DOMB	**Dombas**	**65.85 329**	*e*P		**P**	**23 16 00.8**	**-0.3**
DOMB			IVmB_BB			23 16 04.1	
	comp=Z,12μm,1.1s						
DOMB			*e*S		**S**	**23 24 39.8**	**-4.4**
DOMB			IVMs_BB	IVMs_BB		23 42 11.8	
	comp=Z,10μm,45.1s						
GUNZ	**Gunzen**	**65.86 316**	*e*P		**P**	**23 16 01.3**	**0.0**
	comp=Z,1μm,1.1s,baz=80,slow=6.3						
WERD	**Werda**	**65.86 316**	*e*P		**P**	**23 16 01.2**	**-0.1**
	comp=Z,974nm,1.1s,baz=80,slow=6.3						
KONO	**Kongsberg**	**65.92 326**	*ce*P		**P**	**23 16 01.6**	**+0.1**
KONO			pmax	pmax			
	comp=Z,2μm,2.5s						
KONO	**Kongsberg**	**65.92 326**	*e*P		**P**	**23 16 01.2**	**-0.3**
KONO			*e*S		**S**	**23 24 44.3**	**-0.7**
KONO			IVMs_BB	IVMs_BB		23 47 00.2	
	comp=Z,18μm,16.6s						
KONO	**Kongsberg**	**65.92 326**	⇑P		**P**	**23 16 01.2**	**-0.3**
KONO	**Kongsberg**	**65.92 326**	P		**P**	**23 16 01.1**	**-0.3**
KONO			IAmb	IAmb		23 16 05.2	
	comp=Z,967nm,1.1s						
KONO	**Kongsberg**	**65.92 326**	P		**P**	**23 16 01.3**	**-0.3**
PTCC	**Patocco-Chiusa**	**65.92 312**	⇑P		**P**	**23 16 00.8**	**-1.1**
PLN	**Plauen**	**65.94 316**	*e*P		**P**	**23 16 01.8**	**-0.1**
	comp=Z,4μm,2.1s,baz=80,slow=6.3						
OVD	**Ostervraa, Den**	**65.95 324**	*i* P		**P**	**23 16 01.8**	**+0.1**
OVD			IAmb	IAmb		23 16 05.3	
	comp=Z,974nm,0.7s						
RJOB	**Jochberg**	**66.04 313**	*e*P		**P**	**23 16 02.1**	**-0.5**
	comp=Z,2μm,1.4s,baz=80,slow=6.3						
ROTZ	**Rotzenmuhle**	**66.04 315**	*e*P		**P**	**23 16 02.9**	**+0.4**
	comp=Z,454nm,1.1s,baz=80,slow=6.3						
NEUB	**Neuenburg**	**66.05 317**	*e*P		**P**	**23 16 02.3**	**-0.2**
	comp=Z,2μm,1.2s,baz=80,slow=6.3						
NEUB			*e*PP		**PP**	**23 18 27.2**	**-0.9**
MANZ	**Manzenberg**	**66.07 316**	*e*P		**P**	**23 16 03.0**	**+0.4**
	comp=Z,2μm,2.4s,baz=80,slow=6.3						
FLTG	**Flechtingen**	**66.18 318**	*e*P		**P**	**23 16 02.7**	**-0.6**
	comp=Z,1μm,1.4s,baz=80,slow=6.3						
FLTG	**Flechtingen**	**66.18 318**	P		**P**	**

MOTA Moosalm 67.24 313 *i* P **P 23 16 09.4 -1.0**
comp=Z,773nm,0.9s,SNR=146
MOTA *eP* **P'P'df 23 44 40.3 +0.5**
comp=Z,29nm,1.4s
TEOL Teolo 67.29 311 IAmb IAmb 23 16 14.0
comp=Z,1μm,0.9s
HYA Hoyanger 67.35 328 *eP* **P 23 16 11.0 +0.5**
HYA *eS* **S 23 25 03.5 +1.3**
SNART Snartemo 67.36 325 *i* P **P 23 16 11.0 +0.3**
SNART Snartemo 67.36 325 *eP* **P 23 16 11.2 +0.6**
ODD1 Odda 67.36 327 *eP* **P 23 16 10.8 0.0**
RETA Reutte 67.44 313 *i* P **P 23 16 10.9 -0.6**
comp=Z,587nm,0.7s,SNR=190
RETA *eP* **P'P'df 23 44 40.2 +0.8**
comp=Z,13nm,1.3s
MGAB Montegabbione 67.54 308 ⇑P **P 23 16 10.8 -1.3**
BLS5 Blasjo 67.54 326 *eP* **P 23 16 12.2 +0.3**
BLS5 *eS* **S 23 25 09.6 +4.9**
BLS5 IVMs_BB IVMs_BB 23 48 00.1
comp=Z,16μm,18.9s
FETA Feichten 67.56 313 *i* P **P 23 16 11.6 -0.8**
comp=Z,413nm,1.0s,SNR=76
FETA *eP* **P'P'df 23 44 39.0 -0.3**
comp=Z,18nm,1.3s
FOO Floro 67.81 329 *eP* **P 23 16 13.5 +0.1**
FOO IVmB_BB 23 16 16.6
comp=Z,5μm,1.1s
FOO *eS* **S 23 25 09.3 +1.7**
FOO IVMs_BB IVMs_BB 23 47 14.8
comp=Z,16μm,19.5s
HLG Helgoland 67.81 321 *eP* **P 23 16 13.9 +0.3**
comp=Z,1μm,1.3s,baz=80,slow=6.3
HLG Helgoland 67.81 321 ⇑P **P 23 16 16.1 +2.5**
UBR Ueberruh 67.83 314 *eP* **P 23 16 13.1 -0.8**
comp=Z,2μm,1.9s,baz=80,slow=6.3
CORL Corleone 67.88 303 IAmb IAmb 23 16 24.6
comp=Z,502nm,1.1s
BER Bergen 67.91 328 *eP* **P 23 16 14.4 +0.3**
BER IVmB_BB 23 16 17.4
comp=Z,9μm,1.2s
BER IVMs_BB IVMs_BB 23 48 02.5
comp=Z,13μm,17.8s
CTA Charters Tower 67.94 126 P **P 23 16 15.2 +0.3**
comp=Z,64nm,0.7s,baz=316,slow=9.9,SNR=33
CTA Charters Tower 67.94 126 P **P 23 16 15.2 +0.3**
CTAO Charters Tower 67.94 126 P **P 23 16 15.0 +0.1**
CTAO pmax pmax
comp=Z,1μm,1.4s
CTAO Charters Tower 67.94 126 ⇑P **P 23 16 14.5 -0.4**
CTAO Charters Tower 67.94 126 P **P 23 16 15.0 +0.1**
CTAO IAmb IAmb 23 16 36.4
comp=Z,1μm,1.4s
CTAO Charters Tower 67.94 126 P **P 23 16 15.2 +0.3**
CTAO Charters Tower 67.94 126 P **P 23 16 15.2 +0.3**
CTAO pP **pP 23 16 30.8 +1.6**
ASK Askoy 67.96 328 *eP* **P 23 16 15.6 +1.2**
ASK IVMs_BB IVMs_BB 23 44 09.5
comp=Z,29μm,45.4s
ZCCA Zocca 68.00 310 IAmb IAmb 23 16 23.9
comp=Z,875nm,1.0s
OSSC Osservatorio P 68.01 309 IAmb IAmb 23 16 20.1
comp=Z,2μm,1.3s
SALO Salr 68.02 311 ⇑P **P 23 16 15.1 -0.1**
CLTB Caltabellotta 68.03 302 ⇑P **P 23 16 14.4 -1.0**
SUE Sulen 68.05 328 *eP* **P 23 16 17.2 +2.2**
SUE IVmB_BB 23 16 20.5
comp=Z,9μm,1.1s
SUE *eS* **S 23 25 12.4 +1.9**
SUE IVMs_BB IVMs_BB 23 43 57.2
comp=Z,9μm,17.6s
DAVA Damuels 68.07 313 *i* P **P 23 16 15.0 -0.6**
comp=Z,684nm,0.9s,SNR=163
DAVA *eP* **P'P'df 23 44 37.2 -1.1**
comp=Z,14nm,1.2s
STU Stuttgart 68.18 315 ⇑P **P 23 16 16.2 +0.1**
STU Stuttgart 68.18 315 *eP* **P 23 16 15.9 -0.1**
comp=Z,4μm,1.1s,baz=80,slow=6.3
STU Stuttgart 68.18 315 ⇑P **P 23 16 16.1 +0.1**
STU Stuttgart 68.18 315 IAmb IAmb 23 16 20.1
comp=Z,1μm,0.9s
DAVOX Davos/Dischmat 68.18 313 LR LR 23 50 48.8
comp=Z,14μm,21.3s,baz=69,slow=40
IBBN Ibbenburen 68.28 319 *eP* **P 23 16 16.6 0.0**
comp=Z,4μm,1.9s,baz=80,slow=6.3
IBBN Ibbenburen 68.28 319 ⇑P **P 23 16 16.8 +0.2**
TNS Taunus Mts 68.33 316 *eP* **P 23 16 16.9 -0.1**
comp=Z,967nm,1.0s,baz=80,slow=6.3
PRMA PARMA 68.36 310 IAmb IAmb 23 17 08.0
comp=Z,674nm,1.0s
VLC Villacollemand 68.46 310 ⇑P **P 23 16 17.8 -0.2**
VLC Villacollemand 68.46 310 P **P 23 16 19.3 +1.3**
VLC IAmb IAmb 23 16 23.0
comp=Z,926nm,1.2s
NOR Nord 68.48 351 ⇑P **P 23 16 16.8 -0.6**
NOR Nord 68.48 351 *i* P **P 23 16 16.2 -1.3**
NOR IAmb IAmb 23 16 22.8
comp=Z,275nm,0.7s
NOR Nord 68.48 351 ⇑P **P 23 16 16.9 -0.6**
TUE Stuetta 68.61 312 ⇑P **P 23 16 18.2 -0.8**
BUG Bochum--Univer 68.77 318 *eP* **P 23 16 19.6 0.0**
comp=Z,1μm,1.4s,baz=80,slow=6.3
BFO Black Forest 68.84 315 P **P 23 16 19.7 -0.6**
BFO pmax pmax
comp=Z,443nm,1.1s
BFO Black Forest 68.84 315 *eP* **P 23 16 19.6 -0.6**
comp=Z,3μm,2.3s,baz=80,slow=6.3
BFO Black Forest 68.84 315 P **P 23 16 19.6 -0.6**
BFO Black Forest 68.84 315 P **P 23 16 19.7 -0.6**
BFO Black Forest 68.84 315 P **P 23 16 18.9 -1.3**
BOB Bobbio (Coli) 68.96 311 ⇑P **P 23 16 21.3 +0.2**
MSSA Maissana 69.03 310 IAmb IAmb 23 16 24.6
comp=Z,1μm,1.5s
AHRW Bad Neuenahr-A 69.11 317 *eP* **P 23 16 21.9 +0.1**
comp=Z,2μm,1.7s,baz=80,slow=6.3
INKA Innaminka 69.24 136 P **P 23 16 23.5 +0.7**
ZOMB Zomba 69.45 241 P **P 23 16 25.1 +0.6**
ZOMB S **S 23 25 20.0 -8.5**
CDF Champ du Feu 69.50 315 *eP* **P 23 16 23.6 -0.8**
CDF pmax pmax
comp=Z,951nm,1.0s
ECH Echery 69.63 315 ⇑P **P 23 16 24.6 -0.5**
ECH Echery 69.63 315 P **P 23 16 24.6 -0.5**
LCRK Leigh Creek 69.63 140 P **P 23 16 25.5 +0.3**
BTNL Ternell 69.68 317 P **P 23 16 25.4 0.0**
comp=Z,416nm,1.0s
BTNL PP **PP 23 19 01.0 +1.4**
MEM Membach 69.75 317 P **P 23 16 25.4 -0.3**
comp=Z,385nm,0.9s
BHOU Houvegnez 69.81 317 P **P 23 16 26.4 +0.2**
comp=Z,223nm,1.0s
WLF Walferdange 69.90 316 *eP* **P 23 16 27.2 +0.5**
comp=Z,3μm,1.1s,baz=80,slow=6.3
WLF Walferdange 69.90 316 ⇑P **P 23 16 27.3 +0.5**
WLF Walferdange 69.90 316 P **P 23 16 27.2 +0.5**
comp=Z,1μm,1.0s
BEBN Eben Emael 69.90 318 P **P 23 16 26.3 -0.4**
comp=Z,344nm,0.9s
BEBN PP **PP 23 19 01.6 +0.1**
HINF Hinteralfeld 69.93 314 *eP* **P 23 16 25.7 -1.3**
HINF pmax pmax
comp=Z,2μm,1.7s
MONC Moncucco Torin 69.93 311 ⇑P **P 23 16 26.3 -0.7**
SENIN Lac Senin/Sane 70.01 313 IAmb IAmb 23 16 35.3
comp=Z,464nm,0.8s
BSTI Sart Tilman 70.03 317 P **P 23 16 27.6 +0.1**
comp=Z,83nm,1.1s
BSTI PP **PP 23 19 01.9 -0.6**
KSMZ Kasama 70.03 248 ⇓*i*P **P 23 16 28.1 -0.2**
KSMZ ⇓*i*P **P 23 16 28.2 -0.1**
KSMZ ⇑*i*P **P 23 16 28.9 +0.7**
KSMZ AMP 23 16 31.2
comp=Z,19μm,1.9s
KSMZ *i* 23 25 33.7
KSMZ *i* 23 25 35.0
KSMZ Kasama 70.03 248 ⇓*i*P **P 23 16 28.1 -0.2**
KSMZ ⇓*i*P **P 23 16 28.2 -0.1**
KSMZ ⇑*i*P **P 23 16 28.9 +0.7**
KSMZ AMP 23 16 31.2
comp=Z,19μm,1.9s
KSMZ *i* 23 25 33.7
KSMZ *i* 23 25 35.0
GAMB Gambell 70.06 28 P **P 23 16 27.3 0.0**
baz=286
GAMB S **S 23 25 33.3 -0.9**
baz=286

BBOO Buckleboo 70.16 143 P **P 23 16 27.5 -1.0**
BBOO IAmb IAmb 23 16 52.6
comp=Z,879nm,0.9s
BBOO Buckleboo 70.16 143 P **P 23 16 28.2 -0.2**
HAU Haudompre 70.20 315 *eP* **P 23 16 27.9 -0.8**
HAU pmax pmax
comp=Z,778nm,1.0s
BCLA Clavier 70.23 317 P **P 23 16 28.6 -0.2**
comp=Z,323nm,1.1s
RCHB Rochefort 70.35 317 P **P 23 16 29.2 -0.2**
comp=Z,311nm,0.9s
BGES Gesves 70.37 317 P **P 23 16 29.5 -0.1**
comp=Z,267nm,0.9s
VSL Villasalto 70.41 305 ⇑P **P 23 16 29.7 -0.4**
KIWB Kanaga Island 70.43 41 P **P 23 16 30.6 +0.7**
BMRD Maredsous 70.59 317 P **P 23 16 30.9 0.0**
comp=Z,317nm,0.8s
BMRD PP **PP 23 19 07.2 -0.2**
SBF Sospel 70.59 310 *eP* **P 23 16 30.4 -0.8**
SBF pmax pmax
comp=Z,958nm,0.8s
JMIC Jan Mayen 70.61 340 LR LR 23 52 29.1
comp=Z,9μm,18.7s,baz=70,slow=40
GIVF Givet 70.61 317 *eP* **P 23 16 30.8 -0.3**
GIVF pmax pmax
comp=Z,775nm,1.0s
LPL La Plagne 70.62 312 *eP* **P 23 16 31.1 -0.4**
LPL pmax pmax
comp=Z,1μm,1.0s
UCC Uccle 70.71 318 P **P 23 16 31.3 -0.3**
comp=Z,64nm,1.0s
QLP Quilpie 70.72 133 ⇓P **P 23 16 32.0 +0.1**
QLP Quilpie 70.72 133 P **P 23 16 32.7 +0.8**
CABF La Chapelle 70.75 313 *eP* **P 23 16 31.5 -0.6**
CABF pmax pmax
comp=Z,1μm,1.4s
DOU Dourbes 70.76 317 P **P 23 16 31.6 -0.3**
comp=Z,181nm,0.8s
DOU PP **PP 23 19 10.1 +1.2**
BNI Bardonecchia 70.78 311 ⇑P **P 23 16 31.4 -1.0**
SNF Seneffe 70.84 317 P **P 23 16 32.1 -0.3**
comp=Z,412nm,0.9s
DAG Danmarks Havn 70.91 347 ⇑P **P 23 16 31.5 -0.8**
DAG Danmarks Havn 70.91 347 *i* P **P 23 16 32.1 -0.3**
DAG IAmb IAmb 23 16 38.0
comp=Z,352nm,0.8s
DAG Danmarks Havn 70.91 347 ⇑P **P 23 16 31.6 -0.8**
BAIF Baives 71.01 317 *eP* **P 23 16 33.2 -0.2**
BAIF pmax pmax
comp=Z,866nm,1.1s
LRW Lerwick 71.12 328 *eP* **P 23 16 34.6 +0.7**
WHYH Whyalla 71.17 142 P **P 23 16 34.5 0.0**
TETE Tete 71.29 242 ⇑*i*P **P 23 16 36.7 +1.1**
TETE IAmb IAmb 23 16 56.7
comp=Z,154nm,1.1s
TETE Tete 71.29 242 *i* P **P 23 16 38.3 +2.7**
TETE Tete 71.29 242 *i* P **P 23 16 38.3 +2.7**
TETE Tete 71.29 242 ⇑P **P 23 16 36.8 +1.3**
TETE S **S 23 25 50.0 +0.2**
TAMR Tamra 71.32 303 ⇑P **P 23 16 35.4 -0.2**
ORIF Oris-en-Rattie 71.37 311 *eP* **P 23 16 35.6 -0.3**
ORIF pmax pmax
comp=Z,492nm,1.1s
KEST Kesra 71.53 301 P **P 23 16 37.1 +0.1**
comp=Z,873nm,0.9s,baz=19,slow=1.8,SNR=110
KEST PKP2bc **P'P'bc 23 44 29.5 +0.8**
comp=Z,2.2nm,1.0s,baz=250,slow=22,SNR=1.1
KEST LR LR 23 53 35.1
comp=Z,7μm,21.6s,baz=24,slow=40
NAPP Napperby 71.60 142 P **P 23 16 37.1 -0.1**
RUSF Rustrel 71.92 311 ⇑P **P 23 16 41.8 +2.6**
ATKA Atka Island 72.08 40 ⇑P **P 23 16 38.5 -1.3**
ATKA Atka Island 72.08 40 P **P 23 16 41.3 +1.5**
ATKA Atka Island 72.08 40 P **P 23 16 40.8 +1.0**
RDOG Red Dog Mine 72.10 23 P P 23 16 49.4 +10
baz=292,SNR=46
RDOG S **S 23 26 06.0 +8.1**
baz=292
SSB Saint Sauveur 72.17 312 P **P 23 16 40.2 -0.4**
SSB pmax pmax
comp=Z,685nm,1.1s
SSB Saint Sauveur 72.17 312 ⇑P **P 23 16 40.2 -0.4**
SSB Saint Sauveur 72.17 312 P **P 23 16 40.2 -0.4**
SSB IAmb IAmb 23 16 46.2
comp=Z,685nm,1.1s
SSB Saint Sauveur 72.17 312 P **P 23 16 40.3 -0.4**
VIVF Saint-Julien-l 72.20 312 *eP* **P 23 16 40.1 -0.7**
VIVF pmax pmax
comp=Z,3μm,1.9s
HTT Hallett 72.22 141 ⇓P **P 23 16 40.3 -0.7**
HTT Hallett 72.22 141 P **P 23 16 40.9 -0.1**
ALE Alert 72.24 357 P **P 23 16 40.7 +0.4**
ELMS Elmsett, Ipswi 72.36 320 *eP* **P 23 16 41.4 -0.1**
ELMS IAmb IAmb 23 16 45.0
comp=Z,1μm,1.0s
DBG Daneborg 72.42 345 *i* P **P 23 16 41.8 +0.3**
DBG IAmb IAmb 23 16 47.2
comp=Z,208nm,0.9s
DBG Daneborg 72.42 345 ⇑P **P 23 16 41.6 +0.1**
ANM Nome 72.44 26 P **P 23 16 42.5 +0.6**
baz=291
ANM S **S 23 26 01.5 -0.3**
baz=291
AVF Avril sur Loir 72.50 314 *eP* **P 23 16 41.0 -1.5**
AVF pmax pmax
comp=Z,1μm,1.1s
GDLE Glaisdale, N Y 72.67 322 *eP* **P 23 16 43.6 +0.3**
STKA Stephens Creek 72.67 139 P **P 23 16 43.4 -0.2**
comp=Z,41nm,0.4s,baz=321,slow=5.3,SNR=82
STKA PKP2bc **P'P'df 23 44 27.1 +2.9**
comp=Z,4.2nm,0.9s,baz=346,slow=3.8,SNR=3.9
STKA LR LR 23 53 01.5
comp=Z,15μm,20.2s,baz=299,slow=39
STKA Stephens Creek 72.67 139 P **P 23 16 42.9 -0.7**
comp=Z,147nm,1.3s
LMK Market Rasen 72.69 321 *eP* **P 23 16 43.9 +0.4**
LMK IAmb IAmb 23 16 47.5
comp=Z,3μm,0.9s
SPIA Saint Paul Isl 72.71 35 P **P 23 16 43.8 +0.3**
baz=289
CMAH Djebel Manchou 72.74 303 P **P 23 16 44.1 -0.1**
MLA1 Latheron 72.75 327 *eP* **P 23 16 45.1 +1.3**
DRUM Mains of Drumt 72.76 325 *eP* **P 23 16 44.8 +0.9**
DRUM IAmb IAmb 23 16 49.7
comp=Z,1μm,1.1s
A21K Barrow 72.77 19 IAmb IAmb 23 16 50.6
comp=Z,862nm,0.8s
A21K Barrow 72.77 19 P **P 23 16 44.1 +0.6**
baz=296,SNR=51
A21K S **S 23 26 04.1 -1.1**
baz=296
ABSA Djebel Ababsia 72.81 302 P **P 23 16 45.3 +0.7**
CLF Chambon-Foret 72.83 315 ⇑P **P 23 16 44.3 -0.1**
CLF Chambon-Foret 72.83 315 IAmb IAmb 23 16 48.2
comp=Z,2μm,1.0s
CLF Chambon-Foret 72.83 315 P **P 23 16 44.2 -0.1**
BGF Bois d'Agland 72.91 314 *eP* **P 23 16 44.2 -0.7**
BGF pmax pmax
comp=Z,590nm,1.0s
MCD Coleburn Disti 72.94 326 *eP* **P 23 16 45.2 +0.3**
BIGH Upper Bighouse 72.96 327 *eP* **P 23 16 45.3 +0.3**
BIGH IAmb IAmb 23 16 50.1
comp=Z,9μm,2.3s
HNR Honiara 73.04 109 P **P 23 16 45.7 -0.4**
comp=Z,91nm,0.5s,baz=188,slow=1.8,SNR=6.1
HNR LR LR 23 47 22.6
comp=Z,5μm,21.5s,baz=285,slow=35
HNR Honiara 73.04 109 P **P 23 16 46.3 +0.2**
HNR pmax pmax
comp=Z,1μm,0.9s
HNR Honiara 73.04 109 ⇓P P 23 16 51.5 +5.3
HNR Honiara 73.04 109 P **P 23 16 46.3 +0.2**
HNR IAmb IAmb 23 17 11.8
comp=Z,1μm,0.9s
HNR Honiara 73.04 109 P **P 23 16 49.6 +3.5**
comp=Z,2μm,0.9s
RK1H Rockhampton Ha 73.07 126 P **P 23 16 46.4 +0.3**
comp=Z,304nm,1.3s
HMNX Herstmonceux 73.13 319 *eP* **P 23 16 46.9 +0.8**
HMNX IAmb IAmb 23 16 50.4
comp=Z,2μm,1.2s
GHSS Government Hou 73.14 143 P **P 23 16 49.2 +2.9**
comp=Z,970nm,0.7s
ESY Stoneypath 73.16 324 *eP* **P 23 16 46.4 +0.2**
EDU Dundee 73.16 325 *eP* **P 23 16 46.0 -0.2**

TWOA Tennyson Woods 73.21 143 P **P 23 16 46.9 +0.2**
comp=Z,576nm,1.2s
HPK Haverah Park 73.26 322 *eP* **P 23 16 47.6 +0.8**
CKFL Kef-Lekhel 73.35 303 P **P 23 16 47.4 -0.5**
EBL Broad Law 73.43 324 *eP* **P 23 16 47.9 0.0**
EDI Edinburgh 73.46 324 *eP* **P 23 16 48.0 0.0**
CWF Charnwood Fore 73.49 321 *eP* **P 23 16 48.2 +0.1**
LBWR Ladybower, Pea 73.50 322 *eP* **P 23 16 48.3 0.0**
LBWR IAmb IAmb 23 16 52.0
comp=Z,1μm,1.0s
MDO Dochfour 73.55 326 *eP* **P 23 16 48.5 +0.1**
CASM Ain Smara 73.57 303 P **P 23 16 49.4 +0.3**
EKA Eskdalemuir Ar 73.64 324 LR LR 23 52 51.8
comp=Z,20μm,18.3s,baz=71,slow=39
EKA Eskdalemuir Ar 73.64 324 P **P 23 16 48.8 -0.3**
ESK Eskdalemuir 73.67 324 *eP* **P 23 16 49.2 0.0**
ESK IAmb IAmb 23 16 53.0
comp=Z,962nm,0.9s
ESK Eskdalemuir 73.67 324 P **P 23 16 49.4 +0.1**
ESK pmax pmax
comp=Z,910nm,0.9s
ESK Eskdalemuir 73.67 324 ⇑P **P 23 16 49.3 0.0**
ESK Eskdalemuir 73.67 324 P **P 23 16 49.4 +0.1**
ESK IAmb IAmb 23 16 53.2
comp=Z,910nm,0.9s
ESK Eskdalemuir 73.67 324 P **P 23 16 49.4 +0.1**
INVG Invergeldie, C 73.74 325 *eP* **P 23 16 49.3 -0.3**
INVG IAmb IAmb 23 16 54.1
comp=Z,3μm,2.1s
RMQ Roma 73.74 130 P **P 23 16 50.7 +0.7**
comp=Z,652nm,1.3s
KESW Keswick, Cumbr 73.87 323 *eP* **P 23 16 50.6 +0.2**
KESW IAmb IAmb 23 16 54.9
comp=Z,2μm,1.3s
STNC Stoke 73.88 321 *eP* **P 23 16 50.3 -0.2**
STNC IAmb IAmb 23 16 55.2
comp=Z,12μm,2.4s
WOL Wolverton 73.91 319 *eP* **P 23 16 50.3 -0.4**
DFRA Djebel Bou Aff 73.94 303 P **P 23 16 51.6 +0.3**
CAF Calviac 73.94 312 *eP* **P 23 16 50.9 -0.2**
CAF pmax pmax
comp=Z,798nm,1.1s
MAHO Mahon 74.05 307 P **P 23 16 50.2 -1.5**
MAHO S **S 23 26 18.3 -2.4**
MAHO Mahon 74.05 307 ⇑P **P 23 16 51.5 -0.2**
SWN1 Swindon 74.18 320 *eP* **P 23 16 52.5 +0.2**
SWN1 IAmb IAmb 23 16 57.0
comp=Z,3μm,1.4s
RJF Les Rejaudoux 74.19 313 *eP* **P 23 16 52.5 0.0**
RJF pmax pmax
comp=Z,3μm,1.4s
KPL Plockton 74.24 326 *eP* **P 23 16 53.2 +0.8**
KPL IAmb IAmb 23 16 56.3
comp=Z,658nm,1.1s
NEWG New Galloway 74.30 324 *eP* **P 23 16 53.0 +0.1**
NEWG IAmb IAmb 23 16 57.4
comp=Z,8μm,2.7s
CHIPN CHIPINGE 74.30 239 *i* P **P 23 16 54.5 +0.9**
CHIPN CHIPINGE 74.30 239 *i* P **P 23 16 54.5 +0.9**
STRD Stroud 74.31 320 *eP* **P 23 16 52.8 -0.2**
STRD IAmb IAmb 23 16 56.4
comp=Z,1μm,0.9s
SET Setif 74.42 303 P **P 23 16 55.0 +0.9**
HLM1 Long Mynd 74.46 321 *eP* **P 23 16 54.0 +0.1**
HLM1 IAmb IAmb 23 16 59.1
comp=Z,802nm,1.0s
LEWI Lewis, Hebride 74.55 327 *eP* **P 23 16 54.2 -0.1**
LEWI IAmb IAmb 23 16 58.5
comp=Z,3μm,1.8s
GAL1 Galloway 74.64 324 *eP* **P 23 16 55.1 +0.2**
GAL1 IAmb IAmb 23 16 58.8
comp=Z,593nm,1.0s
EIDS Eidsvold 74.69 128 ⇓P **P 23 16 55.4 -0.2**
EIDS Eidsvold 74.69 128 IAmb IAmb 23 17 16.7
comp=Z,2μm,1.7s
EIDS Eidsvold 74.69 128 P **P 23 16 55.9 +0.3**
comp=Z,589nm,1.4s
MCH1 Michaelchurch 74.71 320 *eP* **P 23 16 55.0 -0.4**
MCH1 IAmb IAmb 23 16 59.3
comp=Z,667nm,1.1s
MCH1 Michaelchurch 74.71 320 ⇑P **P 23 16 55.6 +0.3**
IOMK Kirk Michael 74.79 323 *eP* **P 23 16 56.3 +0.5**
IOMK IAmb IAmb 23 17 00.3
comp=Z,2μm,1.0s
SCO Scoresbysund 74.83 342 *i* P **P 23 16 55.0 -0.7**
SCO IAmb IAmb 23 17 02.2
comp=Z,137nm,0.9s
SCO Scoresbysund 74.83 342 ⇑P **P 23 16 56.6 +0.9**
SCO Scoresbysund 74.83 342 IAmb IAmb 23 17 01.8
comp=Z,1μm,1.5s
WIM Isle of Man 74.89 323 *eP* **P 23 16 56.8 +0.4**
NIKH Nikolski High 74.90 38 P **P 23 16 57.2 +0.7**
NIKH Nikolski High 74.90 38 P **P 23 16 55.5 -0.9**
baz=291
WME Myndd Eilian 74.95 322 *eP* **P 23 16 56.8 +0.1**
CMSA Cobar Meteorol 74.97 136 P **P 23 16 56.9 -0.1**
comp=Z,697nm,1.3s
YLL Llanberis 74.97 322 *eP* **P 23 16 57.3 +0.5**
WLF1 Llynfaes 75.05 322 *eP* **P 23 16 57.5 +0.3**
WLF1 IAmb IAmb 23 17 01.2
comp=Z,2μm,0.9s
YRC Rhoscolyn 75.16 322 *eP* **P 23 16 57.9 +0.1**
LSZ Lusaka 75.20 245 LR LR 23 50 47.5
comp=Z,31μm,18.2s,baz=64,slow=36
LSZ Lusaka 75.20 245 P **P 23 16 59.6 +0.8**
LSZ pmax pmax
comp=Z,227nm,0.8s
LSZ Lusaka 75.20 245 P **P 23 16 59.6 +0.8**
LSZ Lusaka 75.20 245 P **P 23 16 59.6 +0.8**
LSZ pP **sP 23 17 21.5 +2.6**
LSZ Lusaka 75.20 245 ⇑P **P 23 16 59.3 +0.5**
LSZ S **S 23 26 26.6 -7.9**
JSA Saint Aubin 75.22 318 *eP* **P 23 16 58.8 +0.5**
JSA Saint Aubin 75.22 318 ⇓P **P 23 16 58.6 +0.3**
JVM Valle D.L. Mar 75.23 318 *eP* **P 23 16 58.8 +0.5**
CLGH Cloghs, Cushen 75.31 324 *eP* **P 23 16 59.9 +1.1**
EUNU Eureka 75.33 0 ⇑P **P 23 17 00.7 +2.1**
GCSA Galena City Sc 75.70 25 P **P 23 17 01.0 +0.3**
baz=298
GCSA S **S 23 26 37.8 -0.5**
baz=298
RSBS Rosebush, Pemb 75.74 321 *eP* **P 23 17 01.4 +0.1**
RSBS IAmb IAmb 23 17 05.0
comp=Z,1μm,0.9s
NEEM North Greenlan 75.80 353 *i* P **P 23 17 01.8 +0.2**
NEEM IAmb IAmb 23 17 08.4
comp=Z,3μm,0.8s
NEEM North Greenlan 75.80 353 ⇑P **P 23 17 01.9 +0.3**
DYA Yadsworthy 75.83 319 *eP* **P 23 17 02.3 +0.5**
UNV Unalaska Valle 75.88 37 P **P 23 17 00.7 -1.3**
baz=293,SNR=20
UNV S **S 23 26 38.9 -1.7**
baz=293
UNV Unalaska Valle 75.88 37 P **P 23 17 01.3 -0.7**
HTL Hartland 75.94 320 *eP* **P 23 17 02.4 0.0**
HTL IAmb IAmb 23 17 06.2
comp=Z,562nm,0.8s
AKUT Akutan 76.17 37 ⇓P **P 23 17 02.3 -1.3**
AKUT Akutan 76.17 37 IAmb IAmb 23 17 29.7
comp=Z,623nm,1.1s
TOLK Toolik Lake Re 76.21 20 IAmb IAmb 23 17 27.5
comp=Z,851nm,1.1s
TOLK Toolik Lake Re 76.21 20 P **P 23 17 04.6 +0.9**
baz=303,SNR=571
TOLK S **S 23 26 42.0 -2.0**
baz=303
IMAR Indian Mountai 76.24 23 P **P 23 17 04.1 +0.2**
ARPS Mount Arapiles 76.29 142 P **P 23 17 04.4 -0.1**
comp=Z,768nm,1.0s
QUIF Quistinic 76.29 317 *eP* **P 23 17 04.2 -0.3**
QUIF pmax pmax
comp=Z,524nm,1.1s
CCA1 Carnmenellis 76.69 319 *eP* **P 23 17 07.2 +0.5**
CCA1 IAmb IAmb 23 17 12.4
comp=Z,722nm,1.0s
PAF Port-aux-Franc 76.74 195 P **P 23 17 07.9 +1.2**
PAF pmax pmax
comp=Z,453nm,1.1s
PAF Port-aux-Franc 76.74 195 ⇓P **P 23 17 08.2 +1.5**
PAF Port-aux-Franc 76.74 195 P **P 23 17 07.9 +1.2**
H21K Melozitna Rive 76.74 23 IAmb IAmb 23 17 14.3
comp=Z,574nm,0.8s
H21K Melozitna Rive 76.74 23 P **P 23 17 07.3 +0.6**
baz=301

H21K S **S** **23 26 48.5 -1.3**
baz=301
COLD Coldfoot 76.79 21 P **P** **23 17 07.4 +0.4**
baz=303,SNR=103
COLD S **S** **23 26 48.4 -1.8**
baz=303
SJPF Ste Jean 76.80 311 *e*P **P** **23 17 07.0 -0.5**
SJPF pmax pmax
comp=Z,2µm,1.6s
TTA Tatalina 76.91 26 P **P** **23 17 08.5 +0.7**
TTA Tatalina 76.91 26 P **P** **23 17 08.5 +0.7**
TTA Tatalina 76.91 26 P **P** **23 17 08.1 +0.3**
baz=299,SNR=104
TTA S **S** **23 26 50.3 -1.5**
baz=299
J20K Nowinta River 77.01 25 IAmb IAmb 23 17 14.5
comp=Z,2µm,1.9s
J20K Nowinta River 77.01 25 P **P** **23 17 09.0 +0.7**
baz=300
J20K S **S** **23 26 51.3 -1.5**
baz=300
MOPA Mopani 77.10 236⇑ *i*P **P** **23 17 10.3 +0.9**
MOPA IAmb IAmb 23 17 15.4
comp=Z,10.0nm,0.8s
MOPA Mopani 77.10 236 *i* P **P** **23 17 12.7 +3.3**
MOPA Mopani 77.10 236 *i* P **P** **23 17 12.7 +3.3**
FALS False Pass 77.13 35 IAmb IAmb 23 17 14.5
comp=Z,346nm,0.7s
FALS False Pass 77.13 35 P **P** **23 17 08.6 -0.5**
baz=295
FALS False Pass 77.13 35 P **P** **23 17 09.0 0.0**
comp=Z,617nm,0.8s
I21K Tanana 77.29 23 IAmb IAmb 23 17 17.5
comp=Z,416nm,0.8s
I21K Tanana 77.29 23 P **P** **23 17 10.6 +0.8**
baz=302
I21K S **S** **23 26 55.2 -0.5**
baz=302
EBNR Beni Rached 77.32 304 P **P** **23 17 13.7 +3.1**
BLWY Bulawayo 77.41 241⇑ *i*P **P** **23 17 10.4 -1.0**
BLWY IAmb IAmb 23 17 19.4
comp=Z,2µm,1.7s
K20K Telida 77.46 25 P **P** **23 17 11.6 +0.8**
baz=301,SNR=158
K20K S **S** **23 26 57.7 0.0**
baz=301
ECHA Ech Chlef 77.49 304 P **P** **23 17 13.0 +1.5**
MSNA Messina 77.50 238 *e*P **P** **23 17 12.2 +0.5**
MSNA IAmb IAmb 23 17 17.7
comp=Z,181nm,0.7s
MSNA Messina 77.50 238 *i* P **P** **23 17 14.9 +3.2**
MSNA Messina 77.50 238 *i* P **P** **23 17 14.9 +3.2**
SUMG Summit 77.59 347 *i* P **P** **23 17 11.4 -0.4**
SUMG IAmb IAmb 23 17 17.1
comp=Z,355nm,0.8s
SUMG Summit 77.59 347⇑P **P** **23 17 11.8 0.0**
MATP Matopo 77.65 241 LR LR 23 51 34.4
comp=Z,11µm,18.4s,baz=60,slow=36
MATP Matopo 77.65 241 *i* P **P** **23 17 14.7 +2.1**
MATP Matopo 77.65 241 *i* P **P** **23 17 14.7 +2.1**
BORG Borgarnes 77.70 337 LR LR 23 53 04.8
comp=Z,25µm,21.0s,baz=54,slow=37
BORG Borgarnes 77.70 337 P **P** **23 17 13.7 +1.6**
BORG pmax pmax
comp=Z,461nm,0.9s
BORG Borgarnes 77.70 337⇓P **P** **23 17 14.9 +2.8**
BORG Borgarnes 77.70 337 P **P** **23 17 13.7 +1.6**
BORG IAmb IAmb 23 17 20.6
comp=Z,461nm,0.9s
EANR 'Ain N'Sour 77.77 304 P **P** **23 17 14.4 +1.3**
MLY Manley 77.81 23 IAmb IAmb 23 17 20.2
comp=Z,580nm,0.8s
MLY Manley 77.81 23 P **P** **23 17 13.4 +0.7**
baz=303,SNR=372
MLY S **S** **23 27 00.0 -1.5**
baz=303
CHUM Lake Minchumin 77.85 24 P **P** **23 17 13.9 +1.0**
baz=302,SNR=195
CHUM S **S** **23 27 01.5 -0.4**
baz=302
L20K Farewell, AK 77.98 26 P **P** **23 17 14.5 +0.7**
baz=301
L20K S **S** **23 27 03.4 0.0**
baz=301
BRAT Ballarat 78.02 141 P **P** **23 17 15.0 +0.9**
comp=Z,229nm,1.1s
CNG Changalane 78.10 234⇑ *i*P **P** **23 17 15.3 +0.5**
CNG IAmb IAmb 23 17 20.7
comp=Z,412nm,2.4s
CNG Changalane 78.10 234 *i* P **P** **23 17 15.9 +1.1**
CNG Changalane 78.10 234 *i* P **P** **23 17 15.9 +1.1**
ARMA Armidale 78.16 132⇑P **P** **23 17 16.2 +1.0**
ARMA Armidale 78.16 132 P **P** **23 17 16.8 +1.6**
comp=Z,430nm,1.1s
CAST Castle Rocks 78.19 25 IAmb IAmb 23 17 22.3
comp=Z,730nm,0.9s
CAST Castle Rocks 78.19 25 P **P** **23 17 15.4 +0.6**
baz=302,SNR=258
CAST S **S** **23 27 04.5 -1.0**
baz=302
BPAW Bear Paw Mtn. 78.23 24 IAmb IAmb 23 17 22.2
comp=Z,632nm,0.8s
BPAW Bear Paw Mtn. 78.23 24 P **P** **23 17 15.4 +0.4**
baz=303,SNR=325
BPAW S **S** **23 27 04.4 -1.6**
baz=303
I23K Minto, Yukon-K 78.23 23 P **P** **23 17 15.4 +0.4**
baz=304,SNR=136
I23K S **S** **23 27 04.7 -1.1**
baz=304
TULEG Thule 78.28 356 *i* P **P** **23 17 15.2 0.0**
TULEG IAmb IAmb 23 17 20.9
comp=Z,2µm,0.7s
TULEG Thule 78.28 356⇑P **P** **23 17 15.0 -0.1**
TULEG Thule 78.28 356 P **P** **23 17 15.0 -0.1**
H24K Noodor Dome 78.34 22 P **P** **23 17 16.6 +0.9**
baz=305,SNR=344
H24K S **S** **23 27 05.4 -1.9**
baz=305
PPLA Purkeypile 78.43 25 IAmb IAmb 23 17 22.1
comp=Z,2µm,1.8s
PPLA Purkeypile 78.43 25 P **P** **23 17 16.7 +0.3**
baz=302,SNR=112
PPLA S **S** **23 27 05.5 -3.0**
baz=302
SDPT Sand Point 78.44 34 IAmb IAmb 23 17 21.6
comp=Z,627nm,0.7s
SDPT Sand Point 78.44 34 P **P** **23 17 15.2 -1.1**
baz=297,SNR=22
BMAR Burnt Mountain 78.44 20 P **P** **23 17 17.8 +1.6**
OJBR Djebel Berber 78.47 304 P **P** **23 17 18.0 +1.0**
N19K Bonanza Creek 78.59 28 IAmb IAmb 23 17 24.5
comp=Z,436nm,0.8s
N19K Bonanza Creek 78.59 28 P **P** **23 17 17.5 +0.3**
baz=301
N19K S **S** **23 27 08.7 -1.4**
baz=301
NEA2 Nenana 78.65 23 IAmb IAmb 23 17 24.4
comp=Z,464nm,0.8s
NEA2 Nenana 78.65 23 P **P** **23 17 17.6 +0.3**
baz=305,SNR=219
NEA2 S **S** **23 27 09.0 -1.4**
baz=305
MAGG Maguga Dam 78.65 234 *e*P **P** **23 17 18.6 +0.6**
MAGG IAmb IAmb 23 17 20.1
comp=Z,304nm,1.9s
CART Cartagena 78.72 306 P **P** **23 17 20.0 +1.8**
CART S **S** **23 27 08.8 -3.2**
CART Cartagena 78.72 306⇑P **P** **23 17 17.9 -0.3**
CART Cartagena 78.72 306 IAmb IAmb 23 17 21.9
comp=Z,1µm,1.0s
CART Cartagena 78.72 306 P **P** **23 17 18.6 +0.4**
MDM Murphy Dome 78.73 22 IAmb IAmb 23 17 24.7
comp=Z,862nm,0.8s
BWN Browne 78.75 23 IAmb IAmb 23 17 25.7
comp=Z,591nm,0.9s
FYU Fort Yukon 78.77 20 IAmb IAmb 23 17 24.6
comp=Z,2µm,1.7s
TRF Thorofare Moun 78.85 24 P **P** **23 17 18.3 -0.4**
baz=304,SNR=51
TRF S **S** **23 27 10.1 -2.8**
baz=304
VAL Valentia 78.85 322⇓P **P** **23 17 20.1 +1.4**
LESE Lesego, Limpop 78.86 237 P **P** **23 17 20.2 +1.1**
LESE S **S** **23 27 06.9 -7.0**
SOEG Soedalen 78.88 342 *i* P **P** **23 17 18.4 -0.2**
SOEG IAmb IAmb 23 17 24.4
comp=Z,231nm,0.7s
SOEG Soedalen 78.88 342⇑P **P** **23 17 18.9 +0.4**
TCOL CIGO, UAF Yank 78.91 22 IAmb IAmb 23 17 23.4
comp=Z,861nm,1.3s
TCOL CIGO, UAF Yank 78.91 22 P **P** **23 17 18.8 +0.1**
baz=306,SNR=114
TCOL S **S** **23 27 11.2 -1.9**
baz=306
COLA College 78.92 22 P **P** **23 17 19.0 +0.3**
COLA pmax pmax
comp=Z,854nm,1.3s
COLA College 78.92 22⇑P **P** **23 17 18.9 +0.1**
COLA College 78.92 22 P **P** **23 17 19.0 +0.3**
COLA IAmb IAmb 23 17 23.4
comp=Z,854nm,1.3s
COLA College 78.92 22 P **P** **23 17 18.9 +0.1**
baz=306
COLA S **S** **23 27 11.6 -1.5**
baz=306
COLA College 78.92 22 P **P** **23 17 19.1 +0.3**
POKR Poker Plat Res 78.92 22 IAmb IAmb 23 17 26.1
comp=Z,883nm,0.8s
POKR Poker Plat Res 78.92 22 P **P** **23 17 19.4 +0.6**
baz=306,SNR=286
POKR S **S** **23 27 10.1 -3.2**
baz=306
TOO Toolangi 78.93 140⇓P **P** **23 17 19.8 +0.6**
TOO Toolangi 78.93 140⇓P **P** **23 17 19.8 +0.6**
TOO Toolangi 78.93 140 P **P** **23 17 20.0 +0.8**
comp=Z,512nm,1.4s
ODJA Bouhanifia 78.94 304 P **P** **23 17 22.0 +2.4**
O19K Port Alsworth 78.98 28 P **P** **23 17 19.1 -0.1**
baz=301,SNR=47
O19K S **S** **23 27 12.8 -1.1**
baz=301
P18K Big Mountain, 78.99 29 P **P** **23 17 18.9 -0.5**
baz=300
P18K S **S** **23 27 12.5 -1.8**
baz=300
CHGN Chignik 79.03 33 P **P** **23 17 19.4 -0.1**
baz=298
POGA Pongola 79.05 233 *e*P **P** **23 17 20.8 +0.7**
POGA IAmb IAmb 23 17 26.2
comp=Z,261nm,0.7s
POGA Pongola 79.05 233 P **P** **23 17 21.0 +0.9**
POGA S **S** **23 27 08.7 -7.0**
CHNA Chernabura Isl 79.13 34 P **P** **23 17 19.1 -1.0**
baz=298,SNR=30
CHNA S **S** **23 27 15.7 -0.1**
baz=298
CNBA Chernabura Isl 79.13 34 IAmb IAmb 23 17 25.8
comp=Z,807nm,0.8s
MCK McKinley 79.19 24 IAmb IAmb 23 17 27.2
comp=Z,576nm,0.8s
MCK McKinley 79.19 24 P **P** **23 17 19.9 -0.5**
baz=305,SNR=292
MCK S **S** **23 27 14.3 -1.9**
baz=305
UCM Universidad Co 79.27 309 P **P** **23 17 21.7 +0.4**
UCM S **S** **23 27 16.2 -1.7**
ILAR Eielson Array 79.31 22 P **P** **23 17 19.9 -1.0**
comp=Z,177nm,1.0s,baz=294,slow=2.8,SNR=205
ILAR PP **PP** **23 20 24.9 +4.2**
comp=Z,65nm,0.8s,baz=297,slow=5.3,SNR=8.6
ILAR PKP2bc **P'P'df** **23 44 11.9 -6.1**
comp=Z,2.0nm,1.0s,baz=214,slow=2.7,SNR=5.0
ILAR LR LR 23 57 08.5
comp=Z,11µm,18.8s,baz=314,slow=39
ILAR Eielson Array 79.31 22 P **P** **23 17 20.3 -0.7**
ILAR Eielson Array 79.31 22 P **P** **23 17 20.3 -0.7**
PRP Porcupine Dome 79.32 21 IAmb IAmb 23 17 28.7
comp=Z,556nm,0.8s
PRP Porcupine Dome 79.32 21 P **P** **23 17 22.0 +0.8**
baz=308,SNR=200
PRP S **S** **23 27 15.8 -2.0**
baz=308
SPCR Spurr Chakacha 79.33 27 P **P** **23 17 21.0 -0.2**
baz=302,SNR=38
SPCR S **S** **23 27 16.3 -1.6**
baz=302
RND Reindeer 79.41 24 IAmb IAmb 23 17 26.2
comp=Z,1µm,1.6s
CUT Chulitna 79.44 25 IAmb IAmb 23 17 46.3
comp=Z,758nm,1.1s
CUT Chulitna 79.44 25 P **P** **23 17 21.4 -0.3**
baz=304,SNR=58
CUT S **S** **23 27 14.9 -3.9**
baz=304
HDA Harding Lake 79.50 23 P **P** **23 17 21.1 -1.0**
baz=306
HDA S **S** **23 27 14.1 -5.4**
baz=306
HDA S **S** **23 27 14.1 -5.4**
baz=306
CRLN Carolina, Mapu 79.53 235 *e*P **P** **23 17 23.1 +0.2**
CAN Canberra 79.54 137⇑P **P** **23 17 22.8 +0.2**
CAN Canberra 79.54 137⇓P **P** **23 17 22.9 +0.2**
CAN Canberra 79.54 137 IAmb IAmb 23 17 44.6
comp=Z,1µm,1.4s
CAN Canberra 79.54 137 P **P** **23 17 23.2 +0.6**
comp=Z,850nm,1.3s
CAN Canberra 79.54 137 P **P** **23 17 22.8 +0.2**
CAN pP **pP** **23 17 38.9 +1.6**
MGCD Mangrove Creek 79.54 134 P **P** **23 17 24.7 +2.1**
comp=Z,485nm,1.2s
SYDH Sydney Hard Ro 79.65 135 P **P** **23 17 25.2 +2.0**
comp=Z,326nm,1.4s
TARA Tarawa 79.74 93 P P 23 17 31.4 +7.2
comp=Z,725nm,2.1s
CNB Canberra Magne 79.76 137 P **P** **23 17 24.1 +0.2**
comp=Z,642nm,1.3s
O20K Slope Mountain 79.76 28 P **P** **23 17 23.5 -0.1**
baz=302
A36M Sachs Harbour 79.82 11 P **P** **23 17 24.3 +0.7**
baz=325,SNR=1000
A36M S **S** **23 27 20.9 -1.6**
baz=325
M22K Willow 79.86 26 P **P** **23 17 23.6 -0.4**
baz=304
M22K S **S** **23 27 20.4 -2.9**
baz=304
J25K Salcha River, 79.92 22 P **P** **23 17 23.4 -1.0**
baz=308,SNR=219
J25K S **S** **23 27 20.3 -3.8**
baz=308
Q19K Cape Douglas, 79.93 29 P **P** **23 17 23.4 -1.1**
baz=302,SNR=12
RIV Riverview 79.96 134⇓P P 23 17 31.2 +6.4
CAPN Captain Cook N 80.00 27 P **P** **23 17 24.3 -0.4**
baz=303
ESBB Sonseca Array 80.03 309 IAmb IAmb 23 17 31.2
comp=Z,1µm,1.7s
ESDC Sonseca Array 80.03 309 P **P** **23 17 25.2 -0.2**
comp=Z,184nm,1.0s,baz=53,slow=4.1,SNR=103
ESDC PP **PP** **23 20 27.7 +0.3**
comp=Z,19nm,0.8s,baz=61,slow=8.6,SNR=2.2
ESDC LR LR 23 59 47.2
comp=Z,7µm,19.9s,baz=50,slow=41
ESDC Sonseca Array 80.03 309 P **P** **23 17 25.0 -0.4**
ESDC IAmb IAmb 23 17 31.2
comp=Z,2µm,1.8s
DHY Denali Highway 80.14 24 P **P** **23 17 25.4 -0.3**
baz=306,SNR=63
DHY S **S** **23 27 22.7 -3.9**
baz=306
WAT6 Susitna Watana 80.30 24 P **P** **23 17 26.4 -0.2**
baz=306,SNR=105
WAT6 S **S** **23 27 24.3 -4.0**
baz=306
GHO Glory Hole Cre 80.32 25 IAmb IAmb 23 17 32.1
comp=Z,2µm,2.0s
PMR Palmer 80.34 26 P **P** **23 17 26.2 -0.4**
baz=305,SNR=109
PMR S **S** **23 27 25.3 -3.0**
baz=305
PAB San Pablo 80.35 309 P **P** **23 17 26.2 -1.0**
PAB pmax pmax
comp=Z,1µm,1.6s
PAB San Pablo 80.35 309⇑P **P** **23 17 26.9 -0.3**
PAB San Pablo 80.35 309 P **P** **23 17 26.2 -1.0**
PAB IAmb IAmb 23 17 32.8
comp=Z,1µm,1.6s
PAB San Pablo 80.35 309 P **P** **23 17 27.6 +0.4**
PAB San Pablo 80.35 309 P **P** **23 17 27.0 -0.2**
CRZF Crozet Islands 80.37 208 IAmb IAmb 23 17 52.4
comp=Z,667nm,1.1s
RC01 Rabbit Creek A 80.39 26 IAmb IAmb 23 17 32.8
comp=Z,484nm,0.8s
RC01 Rabbit Creek A 80.39 26 P **P** **23 17 26.5 -0.3**
baz=305,SNR=73
RC01 S **S** **23 27 25.2 -3.7**
baz=305
HOM Homer 80.41 28 IAmb IAmb 23 17 33.7
comp=Z,722nm,0.8s
HOM Homer 80.41 28 P **P** **23 17 26.9 -0.1**
baz=303
ICESG Greenland Ices 80.43 345 *i* P **P** **23 17 26.9 -0.5**
ICESG IAmb IAmb 23 17 34.7
comp=Z,652nm,0.9s
ICESG Greenland Ices 80.43 345⇑P **P** **23 17 27.4 0.0**
UPNV Upernavik 80.51 351 *i* P **P** **23 17 26.9 -0.4**
UPNV IAmb IAmb 23 17 32.3
comp=Z,491nm,0.6s
SML Sawmill 80.53 25 IAmb IAmb 23 17 34.7
comp=Z,935nm,1.0s
SML Sawmill 80.53 25 P **P** **23 17 28.1 +0.4**
baz=306,SNR=158
SML S **S** **23 27 28.3 -2.2**
baz=306
RES Resolute Bay 80.57 2 P **P** **23 17 27.9 +0.3**
comp=Z,430nm,1.0s,baz=11,slow=8.2,SNR=165
RES PKKPbc **PKKPbc** **23 36 10.6 +1.2**
comp=Z,1.8nm,0.8s,baz=294,slow=2.8,SNR=1.9
RES LR LR 23 56 45.8
comp=Z,8µm,20.4s,baz=346,slow=38
NWCL Newcastle 80.60 234⇑ *i*P **P** **23 17 29.4 +0.8**
NWCL IAmb IAmb 23 17 30.9
comp=Z,578nm,1.9s
J26L Joseph Creek 80.61 22 P **P** **23 17 28.3 +0.2**
baz=309,SNR=388
J26L S **S** **23 27 28.7 -2.6**
baz=309
RIDG Independent Ri 80.65 23 IAmb IAmb 23 17 34.6
comp=Z,698nm,0.8s
RIDG Independent Ri 80.65 23 P **P** **23 17 28.0 -0.3**
baz=308,SNR=349
RIDG S **S** **23 27 28.1 -3.5**
baz=308
BRLK Bradley Lake 80.67 28 IAmb IAmb 23 17 33.7
comp=Z,569nm,0.8s
SLR Silverton 80.69 236 *e*P **P** **23 17 30.1 +0.9**
SLR IAmb IAmb 23 17 32.7
comp=Z,184nm,0.9s
KNK Knik Glacier 80.71 26 P **P** **23 17 28.8 +0.2**
baz=306,SNR=92
KNK S **S** **23 27 29.7 -2.7**
baz=306
CHAS Isla Isabel II 80.72 304 P **P** **23 17 27.9 -1.2**
CHAS S **S** **23 27 30.3 -3.0**
BRSE Bradley Lake S 80.74 28 P **P** **23 17 28.4 -0.4**
baz=304,SNR=32
BRSE S **S** **23 27 31.8 -0.9**
baz=304
MILA Mila 80.76 138⇓P **P** **23 17 29.9 +0.7**
SCRK Sand Creek 80.80 22 IAmb IAmb 23 17 36.1
comp=Z,576nm,0.8s
SCRK Sand Creek 80.80 22 P **P** **23 17 29.5 +0.3**
baz=309,SNR=585
SCRK S **S** **23 27 30.1 -3.2**
baz=309
PAX Paxson 80.90 23 P **P** **23 17 30.0 +0.3**
baz=308,SNR=106
PAX S **S** **23 27 30.7 -3.7**
baz=308
SCM Sheep Creek Mo 80.90 25 IAmb IAmb 23 17 36.9
comp=Z,469nm,0.8s
SCM Sheep Creek Mo 80.90 25 P **P** **23 17 30.2 +0.5**
baz=306,SNR=78
SCM S **S** **23 27 32.6 -1.8**
baz=306
INK Inuvik 80.92 16 P **P** **23 17 29.9 +0.4**
comp=Z,282nm,0.6s,baz=329,slow=6.3,SNR=252
INK PKKPbc **PKKPbc** **23 36 08.2 -0.3**
comp=Z,6.9nm,1.2s,baz=289,slow=5.5,SNR=2.7
INK LR LR 23 59 01.1
comp=Z,10µm,21.4s,baz=301,slow=40
INK Inuvik 80.92 16⇑P **P** **23 17 29.9 +0.4**
INK Inuvik 80.92 16 IAmb IAmb 23 17 36.7
comp=Z,697nm,0.8s
INK Inuvik 80.92 16 P **P** **23 17 30.1 +0.6**
baz=318,SNR=737
INK S **S** **23 27 32.3 -1.8**
baz=318
OHAK Old Harbor 81.00 30 IAmb IAmb 23 17 36.1
comp=Z,530nm,0.9s
OHAK Old Harbor 81.00 30 P **P** **23 17 29.6 -0.6**
baz=302,SNR=38
OHAK S **S** **23 27 36.0 +0.6**
baz=302
KDAK Kodiak Island 81.02 30 P **P** **23 17 30.5 +0.3**
comp=Z,360nm,0.7s,baz=308,slow=4.6,SNR=53
KDAK PKKPbc **PKKPbc** **23 36 07.1 -0.9**
comp=Z,9.5nm,1.0s,baz=60,slow=22,SNR=1.1
KDAK LR LR 23 57 04.3
comp=Z,17µm,21.9s,baz=324,slow=38
KDAK Kodiak Island 81.02 30⇓P **P** **23 17 30.1 -0.2**
KDAK Kodiak Island 81.02 30 P **P** **23 17 29.9 -0.4**
KDAK IAmb IAmb 23 17 35.8
comp=Z,444nm,0.8s
KDAK Kodiak Island 81.02 30 P **P** **23 17 29.8 -0.4**
baz=303
KDAK S **S** **23 27 31.7 -3.8**
baz=303
KDAK Kodiak Island 81.02 30 P **P** **23 17 30.0 -0.2**
KDAK pP **pP** **23 17 46.2 +1.2**
PBRG Braganca 81.06 312 *e*P **P** **23 17 30.9 0.0**
comp=Z,1µm,1.7s
PBRG Braganca 81.06 312 *e*PP PP 23 20 36.7 +0.7
SEW Seward 81.07 27 P **P** **23 17 29.9 -0.5**
baz=305,SNR=32
SEW S **S** **23 27 34.4 -1.6**
baz=305
PWL Port Wells 81.08 26 IAmb IAmb 23 17 36.9
comp=Z,721nm,0.8s
PWL Port Wells 81.08 26 P **P** **23 17 30.7 +0.1**
baz=306,SNR=53
PWL S **S** **23 27 32.9 -3.4**
baz=306
GOG Mont Gurugu 81.13 305 P **P** **23 17 32.0 +0.5**
NUUG Nuugaatsiaq 81.16 350 *i* P **P** **23 17 30.1 -0.7**
NUUG IAmb IAmb 23 17 36.1
comp=Z,106nm,0.7s
M24K Tolsona, Glenn 81.17 24 IAmb IAmb 23 17 38.3
comp=Z,882nm,0.8s
M24K Tolsona, Glenn 81.17 24 P **P** **23 17 31.8 +0.7**
baz=307,SNR=110
M24K S **S** **23 27 35.3 -1.9**
baz=307
EGAK Eagle 81.22 21 IAmb IAmb 23 17 36.6
comp=Z,2µm,2.0s
EGAK Eagle 81.22 21 P **P** **23 17 31.5 +0.3**
baz=311,SNR=186
EGAK S **S** **23 27 36.3 -1.1**
baz=311
HRAO HartRAO 81.22 236 *e*P **P** **23 17 32.8 +0.8**
HRAO IAmb IAmb 23 17 39.1
comp=Z,2µm,1.8s
TDRA Tendrara 81.28 302 P **P** **23 17 33.0 +0.6**
HARP HAARP 81.37 24 P **P** **23 17 32.9 +0.8**
baz=308,SNR=82
HARP S **S** **23 27 39.5 +0.3**
baz=308
EPYK Eagle Plains 81.47 18 P **P** **23 17 32.7 +0.1**
baz=315,SNR=190
EPYK S **S** **23 27 38.8 -1.3**
baz=315
MVO Moncorvo 81.53 311 *e*P **P** **23 17 33.8 +0.3**
comp=Z,2µm,2.1s
MVO Moncorvo 81.53 311 *e*PP PP 23 20 45.4 +5.5
MVO *e*S **S** **23 27 43.5 +1.8**
MVO *e*SS SS 23 33 16.1 +18
MVO *e*LQ LQ 23 41 39.4
MVO *e*LR LR 23 45 24.7
comp=Z,10µm,24.0s
EMAL Malaga-Limoner 81.55 306 P **P** **23 17 31.0 -2.5**
EMAL S **S** **23 27 35.0 -6.9**
L26K Log Cabin Wild 81.62 23 IAmb IAmb 23 17 41.3
comp=Z,493nm,0.8s
L26K Log Cabin Wild 81.62 23 P **P** **23 17 34.6 +1.2**
baz=310,SNR=314
L26K S **S** **23 27 40.4 -1.4**
baz=310
KLU Klutina 81.64 25 IAmb IAmb 23 17 40.9

comp=Z,736nm,0.8s
KLU Klutina 81.64 25 P **P 23 17 34.4 +0.8**
baz=308,SNR=196
KLU S **S 23 27 40.5 -1.6**
baz=308
WDLM Western Deep L 81.71 236 *e*P **P 23 17 36.1 +1.4**
WDLM IAmb IAmb 23 17 41.3
comp=Z,80nm,0.7s
I29M Ogilvie Camp, 81.71 19 P **P 23 17 33.8 0.0**
baz=314,SNR=20
I29M S **S 23 27 40.8 -1.7**
baz=314
KSR Koster 81.80 237 *e*P **P 23 17 36.0 +0.9**
KSR IAmb IAmb 23 17 38.6
comp=Z,235nm,0.9s
PALE Palemas 81.83 305 P **P 23 17 36.0 +0.9**
DIV Divide 81.92 25 IAmb IAmb 23 17 42.2
comp=Z,555nm,0.8s
PVRL Vila Real 81.95 312 *e*P **P 23 17 35.7 +0.1**
comp=Z,1µm,1.8s
PVRL Vila Real 81.95 312 *e*PP PP 23 20 50.0 +6.7
POLO Lamas de Olo 81.96 312 *e*P **P 23 17 35.8 +0.1**
comp=Z,446nm,1.6s
POLO Lamas de Olo 81.96 312 *e*PP PP 23 20 37.8 -5.6
PCAB Cabril 81.97 312 *e*P **P 23 17 36.5 +0.8**
comp=Z,2µm,1.7s
PCAB Cabril 81.97 312 *e*PP PP 23 20 47.7 +4.3
PGAV Gavieira, Arco 82.02 313 *e*P **P 23 17 35.7 -0.4**
comp=Z,1µm,1.5s
PGAV Gavieira, Arco 82.02 313 *e*PP PP 23 20 47.5 +3.6
PGAV *e*S **S 23 27 49.6 +2.8**
PGAV *e*SS **SS 23 33 13.7 +7.8**
PGAV *e*LQ LQ 23 41 52.4
PGAV *e*LR LR 23 45 29.0
comp=Z,8µm,22.0s
PRYS Parys 82.03 236 *e*P **P 23 17 36.1 -0.1**
PRYS IAmb IAmb 23 17 47.8
comp=Z,167nm,1.4s
N25K Chitina, Valde 82.07 24 P **P 23 17 36.9 +1.0**
baz=309,SNR=398
N25K S **S 23 27 45.1 -1.4**
baz=309
L27K Beaver Creek, 82.13 22 IAmb IAmb 23 17 44.1
comp=Z,601nm,0.8s
L27K Beaver Creek, 82.13 22 P **P 23 17 37.5 +1.4**
baz=311,SNR=533
L27K S **S 23 27 47.0 0.0**
baz=311
BCAR Beaver Creek A 82.14 22 P **P 23 17 37.3 +1.1**
M26K Nabesna, AK 82.15 23 IAmb IAmb 23 17 45.0
comp=Z,578nm,0.9s
M26K Nabesna, AK 82.15 23 P **P 23 17 37.1 +0.8**
baz=310
M26K S **S 23 27 47.1 -0.1**
baz=310
KOUNC Koumac, New Ca 82.19 117 P **P 23 17 38.9 +1.9**
comp=Z,839nm,1.4s
LIJA Lijar 82.20 307 P **P 23 17 40.0 +2.9**
C36M Paulatuk 82.22 13 P **P 23 17 36.2 -0.2**
baz=326
C36M S **S 23 27 44.7 -2.9**
baz=326
DAWY Dawson 82.26 21 IAmb IAmb 23 17 42.4
comp=Z,1µm,1.8s
DAWY Dawson 82.26 21 P **P 23 17 37.1 +0.3**
baz=313,SNR=191
DAWY S **S 23 27 48.9 +0.5**
baz=313
EYAK Cordova Ski Ar 82.29 25 IAmb IAmb 23 17 44.4
comp=Z,555nm,0.9s
EYAK Cordova Ski Ar 82.29 25 P **P 23 17 37.6 +0.7**
baz=308,SNR=51
EYAK S **S 23 27 48.3 -0.3**
baz=308
PVIS Viseu 82.32 311 *e*P **P 23 17 38.4 +0.8**
comp=Z,2µm,1.6s
PVIS Viseu 82.32 311 *e*PP PP 23 20 50.5 +4.2
LBTB Lobatse 82.35 238 LR LR 23 52 05.9
comp=Z,21µm,21.8s,baz=56,slow=34
LBTB Lobatse 82.35 238⇑*i*P **P 23 17 38.8 +0.8**
LBTB IAmb IAmb 23 17 48.0
comp=Z,244nm,0.7s
LBTB Lobatse 82.35 238 *i*P **P 23 17 39.5 +1.5**
LBTB Lobatse 82.35 238⇑P **P 23 17 38.7 +0.8**
LBTB Lobatse 82.35 238 *i*P **P 23 17 39.5 +1.5**
LBTB Lobatse 82.35 238 P **P 23 17 38.5 +0.5**
LBTB S **S 23 27 45.3 -5.2**
J29M Klondike Camp 82.37 20 P **P 23 17 38.3 +0.9**
baz=314,SNR=257
J29M S **S 23 27 49.4 -0.1**
baz=314
PCBR Castelo Branco 82.41 310 *e*P **P 23 17 38.3 +0.3**
comp=Z,1µm,1.4s
PCBR Castelo Branco 82.41 310 *e*PP PP 23 20 49.8 +2.7
SNKL Senekal, Frees 82.46 234 *e*P **P 23 17 39.1 +0.6**
SNKL IAmb IAmb 23 17 42.5
comp=Z,191nm,0.8s
ANGG Ammassalik, Gr 82.46 342 *i*P **P 23 17 38.1 +0.4**
ANGG IAmb IAmb 23 17 42.9
comp=Z,141nm,0.7s
ANGG Ammassalik, Gr 82.46 342⇑P **P 23 17 37.4 -0.3**
ANGG Ammassalik, Gr 82.46 342 IAmb IAmb 23 17 43.4
comp=Z,3µm,2.0s
BMRM Bremner River 82.47 25 P **P 23 17 38.6 +0.7**
baz=309,SNR=191
BMRM S **S 23 27 49.2 -1.4**
baz=309
CORO Coronation Par 82.50 142 P **P 23 17 40.8 +2.6**
comp=Z,158nm,1.3s
PMRV Marv??o 82.53 310 *e*P **P 23 17 38.5 -0.2**
comp=Z,1µm,2.0s
PMRV Marv??o 82.53 310 *e*PP PP 23 20 49.8 +1.7
PMRV *e*S **S 23 27 52.9 +0.9**
PMRV *e*SS SS 23 33 30.0 +17
PMRV Marv??o 82.53 310 *e*LQ LQ 23 43 38.1
PMRV *e*LR LR 23 46 03.3
comp=Z,9µm,20.0s
M27K Edge Creek, AK 82.57 23 IAmb IAmb 23 17 46.5
comp=Z,623nm,0.8s
M27K Edge Creek, AK 82.57 23 P **P 23 17 39.8 +1.2**
baz=311
M27K S **S 23 27 51.7 -0.1**
baz=311
CEU Ceuta 82.61 306 P **P 23 17 36.1 -2.9**
CEU S **S 23 27 45.2 -7.6**
Q23K Middleton Isla 82.74 26 P **P 23 17 39.7 +0.5**
baz=308
MCARA McCarthy VSAT 82.80 24 IAmb IAmb 23 17 47.4
comp=Z,1µm,1.0s
MCARA McCarthy VSAT 82.80 24 P **P 23 17 40.7 +1.1**
baz=310,SNR=252
MCARA S **S 23 27 52.9 -0.9**
baz=310
ILULI Ilulissat 82.80 348 *i*P **P 23 17 38.3 -1.1**
ILULI IAmb IAmb 23 17 44.8
comp=Z,288nm,0.7s
ILULI Ilulissat 82.80 348 IAmb IAmb 23 17 44.2
comp=Z,2µm,1.7s
RAGM Ragged Mountai 82.81 25 IAmb IAmb 23 17 45.7
comp=Z,2µm,1.7s
PBAR Barrancos 82.83 309 *e*P **P 23 17 41.2 +1.0**
comp=Z,2µm,1.8s
ISOG Isortoq, Green 82.89 342 *i*P **P 23 17 39.1 -0.8**
ISOG IAmb IAmb 23 17 46.7
comp=Z,134nm,0.8s
ISOG Isortoq, Green 82.89 342⇓P **P 23 17 39.5 -0.4**
BVCY Beaver Creek 82.89 22 P **P 23 17 41.5 +1.4**
baz=312,SNR=60
BVCY S **S 23 27 55.7 +0.9**
baz=312
PESTR Estremoz 82.92 309 *e*P **P 23 17 40.7 0.0**
comp=Z,822nm,1.8s
PESTR Estremoz 82.92 309 *e*PP PP 23 20 52.4 +1.1
PESTR Estremoz 82.92 309⇑P **P 23 17 40.1 -0.6**
PESTR Estremoz 82.92 309 P **P 23 17 41.5 +0.8**
CHEFC Chefchaouen 82.92 305 P **P 23 17 42.0 +1.1**
SFS San Fernando 82.97 307 P **P 23 17 39.3 -1.7**
SFS S **S 23 27 55.8 -0.7**
PCAS Casmilo, Conde 83.02 311 *e*P **P 23 17 40.5 -0.7**
comp=Z,734nm,1.6s
PCAS Casmilo, Conde 83.02 311 *e*PP PP 23 20 53.1 +1.0
EKNA AfricaArray - 83.05 271⇑*i*P **P 23 17 43.4 +1.7**
ARNO Arenosillo 83.08 308 P **P 23 17 39.8 -1.7**
ARNO S **S 23 27 58.5 +1.0**
CRQM Cirque 83.16 24 IAmb IAmb 23 18 12.2
comp=Z,865nm,1.2s

LCRM LCR 83.16 304 P **P 23 17 43.0 +0.7**
CRQE Cirque 83.18 24 P **P 23 17 42.5 +0.7**
baz=310
CRQE S **S 23 28 01.1 +3.2**
baz=310
BERG Berg Lake 83.18 25 IAmb IAmb 23 17 49.1
comp=Z,597nm,0.8s
KAIM Kayak Island 83.20 25 IAmb IAmb 23 17 49.4
comp=Z,754nm,0.8s
KAIM Kayak Island 83.20 25 P **P 23 17 43.0 +1.3**
baz=309,SNR=8.7
PMTG Montargil 83.27 310 *e*P **P 23 17 42.1 -0.4**
comp=Z,1µm,1.6s
PMTG Montargil 83.27 310 *e*PP PP 23 20 55.2 +1.1
TGL Tana Glacier 83.27 24 IAmb IAmb 23 17 49.6
comp=Z,1µm,0.8s
MDT Midelt 83.34 303 LR LR 00 01 31.9
comp=Z,6µm,19.5s,baz=68,slow=40
MDT Midelt 83.34 303 P **P 23 17 43.3 +0.2**
SUCK Suckling Hills 83.35 25 IAmb IAmb 23 17 48.9
comp=Z,1µm,1.7s
EVO Evora 83.36 309 P **P 23 17 41.9 -1.1**
EVO S **S 23 27 58.5 -1.8**
IFR Ifrane 83.44 304 P **P 23 17 43.1 -0.6**
IFR S **S 23 28 01.9 +0.2**
YUK3 Moose Creek 83.46 23 P **P 23 17 44.2 +0.9**
baz=312,SNR=87
YUK3 S **S 23 28 01.0 +0.1**
baz=312
WAX Waxell Ridge 83.46 25 IAmb IAmb 23 17 50.9
comp=Z,599nm,0.7s
PBEJ Beja 83.48 309 *e*P **P 23 17 43.9 +0.3**
comp=Z,1µm,1.6s
PBEJ Beja 83.48 309 *e*PP PP 23 21 00.9 +5.0
BARN Barnard Glacie 83.51 24 IAmb IAmb 23 17 51.3
comp=Z,586nm,0.8s
BGLC Bering Glacier 83.51 25 P **P 23 17 44.4 +1.2**
baz=310
ISLE Juniper Island 83.56 24 IAmb IAmb 23 17 51.1
comp=Z,557nm,0.9s
TAU Tasmania Unive 83.58 143 P **P 23 17 44.5 +0.8**
TAU pmax pmax
comp=Z,580nm,1.2s
TAU Tasmania Unive 83.58 143⇑P **P 23 17 44.3 +0.6**
TAU Tasmania Unive 83.58 143 P **P 23 17 44.5 +0.8**
TAU IAmb IAmb 23 18 08.8
comp=Z,580nm,1.2s
TAU Tasmania Unive 83.58 143 P **P 23 17 44.8 +1.1**
comp=Z,438nm,1.2s
PVAQ Vaqueiros 83.65 308 *e*P **P 23 17 44.7 +0.2**
comp=Z,2µm,1.6s
PVAQ Vaqueiros 83.65 308 *e*PP PP 23 20 59.7 +2.4
PVAQ *e*S **S 23 28 01.8 -1.5**
PVAQ *e*SS SS 23 33 52.0 +22
PVAQ *e*LQ LQ 23 43 30.9
PVAQ *e*LR LR 23 47 12.5
comp=Z,6µm,20.0s
PVAQ Vaqueiros 83.65 308 P **P 23 17 45.3 +0.9**
CTG Chitna Glacier 83.69 24 P **P 23 17 45.6 +1.3**
baz=312,SNR=127
CTG S **S 23 28 03.4 +0.3**
baz=312
CTGM Chitina Glacie 83.69 24 IAmb IAmb 23 17 50.0
comp=Z,589nm,1.0s
SWZ Schweizer 83.69 236 *e*P **P 23 17 45.7 +0.8**
SWZ IAmb IAmb 23 17 47.1
comp=Z,795nm,1.9s
PCVE Castro Verde 83.78 309 *e*P **P 23 17 45.3 +0.2**
comp=Z,735nm,1.6s
PCVE Castro Verde 83.78 309 *e*PP PP 23 21 00.3 +2.0
MESJ Messejana 83.82 309 *e*P **P 23 17 45.6 +0.3**
MESJ *e*PP **PP 23 20 59.2 +0.6**
MESJ *e*SKSac **SKSac 23 28 02.7 -1.6**
MESJ IAMs_20 IAMs_20 23 52 50.0
comp=E,16µm,23.8s
MESJ Messejana 83.82 309 *e*P **P 23 17 45.6 +0.3**
MESJ Messejana 83.82 309 *e*P **P 23 17 45.6 +0.3**
MESJ *e* 23 20 59.1
MESJ *e* 23 28 02.7
PNCL Nicolau / Gran 83.91 309 *e*P **P 23 17 46.0 +0.2**
comp=E,1µm,1.7s
PNCL Nicolau / Gran 83.91 309 *e*PP PP 23 21 05.5 +6.1
YAH Yahtse 83.94 24 IAmb IAmb 23 17 53.8
comp=Z,1µm,0.8s
MESA MESA 83.98 24 P **P 23 17 47.5 +1.5**
baz=311,SNR=65
MESA S **S 23 28 07.2 +1.0**
baz=311
PMAFR Mafra 84.06 310 *e*P **P 23 17 47.2 +0.7**
comp=Z,2µm,1.5s
PMAFR Mafra 84.06 310 *e*PP PP 23 21 02.2 +1.6
LIS Lisbon 84.08 310 *e*P **P 23 17 47.0 +0.4**
LIS *e*PP **PP 23 21 01.2 +0.5**
LIS *e*SKSac **SKSac 23 28 04.4 -1.6**
LIS IAMs_20 IAMs_20 23 51 26.0
comp=E,41µm,43.5s
LIS Lisbon 84.08 310 *e*P **P 23 17 46.9 +0.4**
LIS *e* 23 21 01.2
LIS *e* 23 28 04.4
GOLM Goulmima 84.08 302 P **P 23 17 48.0 +1.1**
PMST Lisbon--Monsan 84.09 310 *e*P **P 23 17 47.1 +0.4**
comp=E,2µm,1.6s
PMST Lisbon--Monsan 84.09 310 *e*PP PP 23 21 02.4 +1.6
TABL Table Mountain 84.11 24 IAmb IAmb 23 17 54.1
comp=Z,395nm,0.8s
M30M Minto, Yukon 84.15 21 P **P 23 17 47.2 +0.7**
baz=315,SNR=83
M30M S **S 23 28 08.1 +0.6**
baz=315
PTEO Sao Teotonio 84.31 309 *e*P **P 23 17 48.4 +0.6**
comp=Z,2µm,1.6s
PTEO Sao Teotonio 84.31 309 *e*PP PP 23 21 07.2 +4.6
MORF Marmelete 84.36 308 *e*P **P 23 17 48.5 +0.3**
MORF *e*PP **PP 23 21 03.6 +0.5**
MORF *e*SKSac **SKSac 23 28 06.4 -1.6**
MORF IAMs_20 IAMs_20 23 51 30.8
comp=E,21µm,26.4s
MORF Marmelete 84.36 308 *e*P **P 23 17 48.7 +0.6**
comp=E,2µm,1.6s
MORF Marmelete 84.36 308 *e*PP PP 23 21 07.5 +4.4
MORF Marmelete 84.36 308 *e*P **P 23 17 48.4 +0.3**
MORF *e* 23 21 03.6
MORF *e* 23 28 06.4
BOSA Boshof 84.50 235 P **P 23 17 49.6 +0.7**
comp=E,218nm,0.7s,baz=56,slow=3.3,SNR=331
BOSA PKKPbc **PKKPbc 23 36 00.0 -0.4**
comp=E,2.8nm,0.6s,baz=290,slow=2.0,SNR=9.3
BOSA PKPPKP **P'P'df 23 44 06.3 +1.7**
comp=E,2.2nm,0.8s,baz=42,slow=13,SNR=2.2
BOSA LR LR 23 52 53.9
comp=E,24µm,21.9s,baz=66,slow=34
BOSA Boshof 84.50 235⇑*i*P **P 23 17 49.4 +0.4**
BOSA IAmb IAmb 23 17 52.1
comp=Z,285nm,0.8s
BOSA Boshof 84.50 235 *i*P **P 23 17 50.2 +1.3**
BOSA Boshof 84.50 235⇓P **P 23 17 49.3 +0.3**
BOSA Boshof 84.50 235 *i*P **P 23 17 50.2 +1.3**
BOSA Boshof 84.50 235 IAmb IAmb 23 18 10.9
comp=Z,443nm,0.8s
BOSA Boshof 84.50 235 P **P 23 17 49.7 +0.7**
BOSA S **S 23 28 10.9 -1.2**
NEPA Kaukuwa 84.53 248⇑P **P 23 17 50.3 +1.0**
NEPA S **S 23 28 21.4 +8.7**
PFVI Vila Bisbo 84.57 308 *e*P **P 23 17 49.6 +0.5**
comp=Z,2µm,2.2s
PFVI Vila Bisbo 84.57 308 *e*PP PP 23 21 06.9 +2.2
PFVI Vila Bisbo 84.57 308 IAmb IAmb 23 17 53.4
comp=Z,954nm,1.0s
PFVI Vila Bisbo 84.57 308 P **P 23 17 50.1 +1.0**
SFJD Kangerlussuaq 84.59 347 LR LR 23 59 25.0
comp=Z,21µm,22.0s,baz=30,slow=38
SFJD Kangerlussuaq 84.59 347 P **P 23 17 48.5 -0.1**
SFJD pmax pmax
comp=Z,382nm,0.9s
SFJD Kangerlussuaq 84.59 347 *i*P **P 23 17 48.1 -0.5**
SFJD IAmb IAmb 23 17 53.7
comp=Z,143nm,0.8s
SFJD Kangerlussuaq 84.59 347⇑P **P 23 17 47.6 -1.0**
SFJD Kangerlussuaq 84.59 347 P **P 23 17 48.5 -0.1**
SFJD IAmb IAmb 23 17 54.8
comp=Z,382nm,0.9s
SFJD Kangerlussuaq 84.59 347 P **P 23 17 47.8 -0.8**
ZHG ZHG 84.61 304 P **P 23 17 51.0 +1.5**
PCA Pinnacle 84.67 24 IAmb IAmb 23 17 57.0
comp=Z,537nm,0.8s

PINM Pinnacle 84.67 24 P **P 23 17 50.4 +1.1**
baz=312,SNR=83
PINM S **S 23 28 11.5 -1.3**
baz=312
DZM Mont Dzumac 84.68 117 *e*P **P 23 17 52.3 +2.4**
comp=Z,670nm,1.5s
DZM *e*pP **sP 23 18 08.0 -2.3**
comp=Z,2µm,1.6s
DZM Mont Dzumac 84.68 117 *e*S **S 23 28 15.8 +1.7**
comp=Z,6µm,25.2s
DZM Mont Dzumac 84.68 117 *e*LR LR 23 44 36.1
comp=Z,28µm,30.8s
DZM Mont Dzumac 84.68 117 P P 23 17 54.9 +4.9
DZM pP sP 23 18 07.6 -2.7
LIFNC LIFOU 84.70 116 P **P 23 17 53.1 +3.2**
comp=Z,950nm,1.2s
TZRR Tazzarine 84.95 301 P **P 23 17 52.0 +0.7**
BCPM Bancas Point 85.00 24 IAmb IAmb 23 17 58.4
comp=Z,413nm,0.8s
YATNC Mamie plateau, 85.04 117 P **P 23 17 54.0 +2.4**
comp=Z,853nm,1.3s
OUENC Ouen Island, N 85.17 117 P P 23 17 57.6 +5.3
comp=Z,392nm,1.9s
M31M Drury Creek, Y 85.19 20 P **P 23 17 52.0 +0.2**
baz=317,SNR=195
M31M S **S 23 28 18.4 +0.6**
baz=317
AVE Averroes 85.25 304 P **P 23 17 51.6 -1.1**
AVE S **SKSac 23 28 14.8 +1.1**
AVE Averroes 85.25 304⇑P **P 23 17 52.6 0.0**
AVE Averroes 85.25 304 P **P 23 17 53.4 +0.7**
N31M Braeburn, Yuko 85.26 21 P **P 23 17 53.4 +1.3**
baz=316,SNR=279
N31M S **S 23 28 20.0 +1.4**
baz=316
PNL Peninsula 85.28 24 P **P 23 17 52.8 +0.6**
baz=313,SNR=51
PNL S **S 23 28 19.7 +0.9**
baz=313
ZGR Zagora 85.28 301 P **P 23 17 54.0 +1.0**
OUZM OUZ 85.82 302 P **P 23 17 57.0 +1.3**
WHY Whitehorse 86.17 22 P **P 23 17 57.2 +0.5**
baz=317,SNR=124
WHY S **S 23 28 28.4 +0.8**
baz=317
TORD Torodi Ar. Bea 86.28 283 P **P 23 17 58.4 +0.4**
comp=Z,266nm,0.8s,baz=55,slow=3.3,SNR=319
TORD PP **PP 23 21 17.5 -1.9**
comp=Z,105nm,0.8s,baz=60,slow=7.1,SNR=8.5
TORD PKKPbc **PKKPbc 23 35 55.3 +0.4**
comp=Z,5.9nm,0.9s,baz=272,slow=3.4,SNR=6.4
TORD Torodi Ar. Bea 86.28 283 P **P 23 17 58.5 +0.5**
TORD IAmb IAmb 23 18 04.3
comp=Z,615nm,1.0s
SOE Somerset East 86.46 232 *e*P **P 23 17 60.0 +1.5**
SOE IAmb IAmb 23 18 02.2
comp=Z,211nm,0.8s
SOE Somerset East 86.46 232 P P 23 18 03.7 +5.1
SOE S **S 23 28 31.1 0.0**
OUK Oukaimeden 86.53 303 P **P 23 17 60.0 +0.5**
SKAG Skagway 86.89 23⇑P **P 23 18 01.4 +1.2**
SKAG Skagway 86.89 23 IAmb IAmb 23 18 08.1
comp=Z,510nm,0.8s
SKAG Skagway 86.89 23 P **P 23 18 01.1 +1.0**
baz=317
SKAG S **S 23 28 36.7 +2.3**
baz=317
PKA Prieska 86.92 235 *e*P **P 23 18 02.0 +1.2**
PKA IAmb IAmb 23 18 14.6
comp=Z,4.4nm,0.9s
P33M Teslin, Yukon 87.19 21 P **P 23 18 02.2 +0.4**
baz=319
P33M S **S 23 28 38.5 +1.1**
baz=319
NUUK Nuuk 87.24 346 *i*P **P 23 18 00.9 -0.8**
NUUK IAmb IAmb 23 18 07.0
comp=Z,222nm,0.7s
NUUK Nuuk 87.24 346⇑P **P 23 18 01.9 +0.2**
TTIG Tnine Tigouga, 87.27 302 P **P 23 18 04.1 +1.3**
UPI Upington 87.40 237 *e*P **P 23 18 04.9 +1.7**
UPI IAmb IAmb 23 18 08.6
comp=Z,75nm,1.2s
EAH EAH 87.64 304 P **P 23 18 06.7 +2.3**
BESE Bessie Mountai 87.70 23 IAmb IAmb 23 18 28.3
comp=Z,357nm,1.1s
KROM Kromhout 87.88 231 *e*P **P 23 18 06.5 +1.3**
WIN Windhoek 87.90 244⇑*i*P **P 23 18 07.3 +1.4**
WIN IAmb IAmb 23 18 12.0
comp=Z,116nm,1.2s
WIN Windhoek 87.90 244 P **P 23 18 07.7 +1.9**
WIN S **S 23 28 43.9 -1.8**
ROSN Rosenhof 87.92 231 *e*P **P 23 18 06.5 +1.0**
ROSN IAmb IAmb 23 18 12.1
comp=Z,14µm,1.9s
JIS Juneau Island 88.09 23 IAmb IAmb 23 18 13.9
comp=Z,266nm,0.9s
NRS Narsarsuaq 88.13 341 *i*P **P 23 18 06.2 +0.2**
NRS IAmb IAmb 23 18 10.9
comp=Z,252nm,0.6s
NRS Narsarsuaq 88.13 341 IAmb IAmb 23 18 11.7
comp=Z,391nm,0.8s
SIT Sitka 88.65 24 IAmb IAmb 23 18 16.5
comp=Z,207nm,0.8s
SIT Sitka 88.65 24 P **P 23 18 09.4 +0.9**
baz=317
SIT S **S 23 28 54.2 +3.0**
baz=317
GRAN Grantham 88.69 233 *e*P **P 23 18 10.7 +1.4**
GRAN IAmb IAmb 23 18 13.9
comp=Z,39nm,0.8s
SFNM Sidi Ifni 89.16 302 P **P 23 18 13.0 +1.4**
DLBC Dease Lake 89.47 21 P **P 23 18 13.5 +0.9**
comp=Z,84nm,1.0s,baz=313,slow=5.9,SNR=39
DLBC PP **PP 23 21 45.8 +2.3**
comp=Z,31nm,0.9s,baz=117,slow=25,SNR=1.9
DLBC PKKPbc **PKKPbc 23 35 49.5 +1.2**
comp=Z,3.8nm,0.9s,baz=306,slow=19,SNR=3.0
DLBC LR LR 00 03 36.3
comp=Z,12µm,18.9s,baz=324,slow=39
DLBC Dease Lake 89.47 21 IAmb IAmb 23 18 36.3
comp=Z,353nm,1.3s
SUR Sutherland 89.72 234 LR LR 23 58 37.0
comp=Z,29µm,18.4s,baz=60,slow=36
SUR Sutherland 89.72 234⇓P **P 23 18 16.3 +2.1**
SUR Sutherland 89.72 234 P **P 23 18 16.4 +2.2**
SUR Sutherland 89.72 234 P **P 23 18 18.8 +4.6**
CVNA Calvinia 90.06 235⇑*i*P **P 23 18 17.0 +1.3**
CVNA IAmb IAmb 23 18 20.5
comp=Z,32nm,0.9s
YKA Yellowknife Ar 90.11 13 P **P 23 18 14.9 -0.5**
comp=Z,37nm,0.6s,baz=332,slow=4.5,SNR=233
YKA PP **PP 23 21 48.0 -0.3**
comp=Z,80nm,0.8s,baz=333,slow=8.1,SNR=8.3
YKA PKKPbc **PKKPbc 23 35 45.9 -0.9**
comp=Z,2.0nm,0.6s,baz=152,slow=2.8,SNR=13
YKA PKPPKP 23 43 55.1
comp=Z,1.9nm,0.9s,baz=139,slow=2.1,SNR=7.1
YKA LR LR 00 01 46.8
comp=Z,9µm,21.8s,baz=324,slow=38
YKA Yellowknife Ar 90.11 13 P **P 23 18 15.0 -0.3**
WRAK Wrangell Islan 90.22 24 IAmb IAmb 23 18 23.5
comp=Z,213nm,0.8s
WRAK Wrangell Islan 90.22 24 P **P 23 18 16.7 +0.7**
baz=319
WRAK S **S 23 29 07.4 +1.5**
baz=319
MATJ Matjiesfontein 90.33 233 *e*P **P 23 18 18.4 +1.5**
MATJ IAmb IAmb 23 18 22.6
comp=Z,129nm,1.0s
FRB Frobisher Bay 90.61 352 LR LR 00 02 33.0
comp=Z,14µm,20.9s,baz=20,slow=38
FRB Frobisher Bay 90.61 352⇑P **P 23 18 17.3 -0.3**
FRB Frobisher Bay 90.61 352⇑P **P 23 18 17.3 -0.3**
CRAG Craig 90.65 24 IAmb IAmb 23 18 41.9
comp=Z,220nm,1.0s
CRAG Craig 90.65 24 P **P 23 18 18.2 +0.2**
baz=319
CRAG S **S 23 29 12.2 +2.3**
baz=319
KOWA Kowa 90.73 286⇑P **P 23 18 19.6 +0.4**
KOWA Kowa 90.73 286 P **P 23 18 19.6 +0.4**
KOWA IAmb IAmb 23 18 23.6
comp=Z,516nm,1.2s
KOWA Kowa 90.73 286 P **P 23 18 20.5 +1.3**
KOWA Kowa 90.73 286 P **P 23 18 19.6 +0.4**
KUKU Kukurantumi 91.02 277 P **P 23 18 20.6 0.0**

CER Ceres 91.31 234⇑*i*P P 23 18 23.0 +1.6
CER IAmb IAmb 23 18 26.6
comp=Z,61nm,1.3s
ELIM Elim 91.59 232 *e*P P 23 18 23.5 +0.8
ELIM IAmb IAmb 23 18 24.8
comp=Z,248nm,1.7s
CASY Casey 91.73 173 ⇓P P 23 18 22.9 +0.4
CASY Casey 91.73 173 P **P 23 18 22.9 +0.4**
CASY IAmb IAmb 23 18 48.0
comp=Z,494nm,1.6s
PMPST Porto Santo, M 91.91 308 *e*P P 23 18 25.4 +1.1
comp=Z,1µm,1.4s
PMPS Porto Santo 91.92 308 *e*P P 23 18 25.0 +0.7
comp=Z,1µm,2.0s
PMPS Porto Santo 91.92 308 *e*PP PP 23 22 08.6 +4.9
MSVF Nonsavu 92.44 108 P **P 23 18 28.6 +1.6**
comp=Z,24nm,0.8s,baz=284,slow=15,SNR=5.3
MSVF LR LR 23 58 46.2
comp=Z,4µm,20.1s,baz=287,slow=35
MSVF Nonsavu 92.44 108 ⇑P P 23 18 30.2 +3.1
MSVF ⇑s **sP 23 18 45.1 -2.4**
MSVF ⇑s **sP 23 18 45.2 -2.3**
PMAR Madeira 92.51 308 *e*P P 23 18 28.3 +1.0
comp=Z,1µm,2.0s
PMAR Madeira 92.51 308 *e*PP PP 23 22 07.7 -0.9
FUL Funchal 92.53 308 *e*P P 23 18 28.3 +1.1
comp=Z,652nm,2.5s
FUL Funchal 92.53 308 *e*PP PP 23 22 08.8 +0.3
DIB Dawson Inlet, 92.61 26 IAmb IAmb 23 18 34.1
comp=Z,157nm,0.9s
PMOZ Porto Moniz, M 92.66 308 *e*P P 23 18 28.8 +0.9
comp=Z,910nm,1.4s
PMOZ Porto Moniz, M 92.66 308 *e*SKS SKSac 23 28 58.2 +0.3
PMOZ Porto Moniz, M 92.66 308 *e*LQ LQ 23 45 48.7
PMOZ *e*LR LR 23 51 24.5
comp=Z,9µm,20.0s
PMOZ Porto Moniz, M 92.66 308 ⇓P P 23 18 29.9 +1.9
PMOZ Porto Moniz, M 92.66 308 P **P 23 18 29.6 +1.7**
DBIC Dimbokro 94.85 280 P **P 23 18 38.5 +0.3**
comp=Z,124nm,0.9s,baz=60,slow=4.5,SNR=69
DBIC PP **PP 23 22 24.0 -3.4**
comp=Z,43nm,0.8s,baz=74,slow=7.7,SNR=5.8
DBIC PKKPbc **PKKPbc 23 35 34.9 +1.5**
comp=Z,3.8nm,0.7s,baz=268,slow=2.0,SNR=5.3
DBIC LR LR 00 04 28.5
comp=Z,21µm,20.9s,baz=78,slow=37
DBIC Dimbokro 94.85 280 ⇑*i*P P 23 18 37.9 -0.2
DBIC Dimbokro 94.85 280 ⇑P P 23 18 38.2 0.0
DBIC ⇑P **P 23 18 38.5 +0.3**
DBIC Dimbokro 94.85 280 IAmb IAmb 23 18 42.0
comp=Z,279nm,1.1s
MAW Mawson 94.96 191 P **P 23 18 38.0 +0.7**
comp=Z,40nm,0.9s,baz=17,slow=6.1,SNR=28
MAW PKKPbc **PKKPdf 23 35 35.7 -0.1**
comp=Z,23nm,0.7s,baz=210,slow=4.7,SNR=16
MAW LR LR 23 56 35.3
comp=Z,6µm,21.6s,baz=20,slow=32
MAW Mawson 94.96 191 P **P 23 18 38.1 +0.8**
MAW pmax pmax
comp=Z,44nm,1.1s
MAW Mawson 94.96 191 ⇑P P 23 18 38.7 +1.4
MAW ⇑P **P 23 18 38.7 +1.4**
MAW Mawson 94.96 191 P **P 23 18 38.1 +0.8**
BBB Bella Bella 95.08 24 LR LR 00 05 40.0
comp=Z,8µm,20.6s,baz=324,slow=38
BART Pico Bartolome 95.27 316 *e*P P 23 18 42.6 +2.8
comp=Z,582nm,1.6s
CMLA Cha da Macela 95.50 316 *e*P P 23 18 43.8 +3.0
comp=Z,707nm,1.0s
GRON Grota Negra 95.50 316 *e*P P 23 18 44.3 +3.5
comp=Z,448nm,1.2s
PSMN Pico do Norte, 95.67 315 *e*P P 23 18 43.8 +2.3
PSMA Santa Maria 95.71 315 *e*P P 23 18 39.9 -1.8
comp=Z,730nm,2.1s
ADH Angra Heroismo 96.02 317 *e*P P 23 18 42.1 -1.0
FCC Fort Churchill 96.48 4 IAmb IAmb 23 18 49.1
comp=Z,473nm,1.7s
PMAN Manadas 96.56 318 *e*P P 23 18 44.9 -0.6
TLCB Telegraph Cove 96.87 25 IAmb IAmb 23 19 10.1
comp=Z,192nm,1.1s
PCED Cedros 96.93 318 *e*P P 23 18 47.1 -0.1
LBZ Lake Benmore 98.04 135 pP 23 19 03.7 -3.1
LBZ IAmb IAmb 23 19 16.7
comp=Z,208nm,1.5s
HIZ Hauiti 98.66 128 pP 23 19 12.4 +2.7
SCHQ Schefferville 98.90 349 P **P 23 18 55.5 -0.3**
comp=Z,14nm,0.8s,baz=22,slow=5.2,SNR=13
SCHQ PP **PP 23 22 54.3 -2.5**
comp=Z,25nm,0.8s,baz=354,slow=9.2,SNR=2.5
SCHQ PKKPbc **PKKPbc 23 35 22.4 -1.2**
comp=Z,6.9nm,0.7s,baz=253,slow=2.8,SNR=8.1
SCHQ LR LR 00 08 49.7
comp=Z,16µm,20.4s,baz=22,slow=38
HPAH Hawaii Prepara 99.19 63 IAmb IAmb 23 19 04.1
comp=Z,135nm,0.8s
POHA Pohakuloa 99.47 63 ⇑P Pdif 23 19 03.0 +3.7
AFI Afiamalu 99.83 101 LR LR 23 59 59.4
comp=Z,3µm,21.1s,baz=294,slow=33
A04D Lummi Island 99.90 23 Pdiff **Pdif 23 18 59.6 -0.7**
baz=327
URZ Urewera 100.17 127 P **Pdif 23 19 07.0 +5.4**
comp=Z,12nm,0.9s,baz=120,slow=24,SNR=2.5
B05A Bryant 100.50 23 Pdiff **Pdif 23 19 02.3 -0.7**
baz=327
D03D Eldon 100.75 24 Pdiff **Pdif 23 19 01.1 -3.1**
baz=326
D04E Lakebay 101.17 24 Pdiff **Pdif 23 19 04.5 -1.4**
baz=327
C06D Leavenworth 101.22 23 Pdiff **Pdif 23 19 06.9 +0.6**
baz=328
SYO Syowa Base 101.37 197⇑*e*Pdiff Pdif 23 19 06.4 +0.3
SYO Syowa Base 101.37 197⇓*e*X Pdif 23 19 21.0 +15
SYO Syowa Base 101.37 197⇑*es*Pdiff Pdif 23 19 30.7 +25
SYO Syowa Base 101.37 197⇑*e*X PKiKP 23 23 16.2 -14
SYO Syowa Base 101.37 197⇑*e*Sdiff 23 30 46.0
E04D Cinebar 101.77 25 Pdiff **Pdif 23 19 07.9 -0.8**
baz=327
NEW Newport 102.19 20 PKKPbc PKKPbc 23 35 13.8 -0.3
comp=Z,8.0nm,0.9s,baz=191,slow=1.4,SNR=6.0
NEW Newport 102.19 20 Pdiff **Pdif 23 19 09.7 -0.9**
baz=332
G03D McMinnville, O 102.62 26 Pdiff **Pdif 23 19 10.7 -1.7**
baz=326
F05D White Salmon 102.75 24 Pdiff **Pdif 23 19 12.2 -0.8**
baz=328
G05D Wamic, OR 103.34 25 Pdiff **Pdif 23 19 13.0 -2.7**
baz=328
H04D Lebanon 103.40 26 Pdiff **Pdif 23 19 14.7 -1.3**
baz=326
I03D Drain, OR 103.84 27 Pdiff **Pdif 23 19 16.4 -1.5**
baz=326
J01E Myrtle Point 104.04 27 Pdiff **Pdif 23 19 17.8 -1.1**
baz=325
ICQ Pointe Anglais 104.05 347 ⇑P Pdif 23 19 22.1 +3.4
I05D Terrebonne, OR 104.10 25 Pdiff **Pdif 23 19 17.3 -1.9**
baz=328
I04A Tendick Farm, 104.13 26 Pdiff **Pdif 23 19 18.4 -0.9**
baz=327
EGMT Eagleton 104.50 16 Pdiff **Pdif 23 19 20.6 -0.3**
baz=338
ULM Lac du Bonnet 104.78 6 Pdiff **Pdif 23 19 23.8 +1.8**
comp=Z,13nm,0.8s,baz=348,slow=3.9,SNR=8.9
ULM PP PP 23 23 26.6 -14
comp=Z,33nm,1.0s,baz=355,slow=8.6,SNR=5.4
ULM PKKPbc **PKKPbc 23 35 05.3 -1.2**
comp=Z,7.2nm,0.7s,baz=213,slow=3.7,SNR=6.5
DGMT Dagmar 105.31 12 Pdiff **Pdif 23 19 22.1 -2.4**
baz=343
L04D Klamath Falls 105.49 27 PKiKP **PKiKP 23 23 37.2 -1.6**
baz=326
YBH Yreka Blue Hor 105.73 27 PKKPbc PKKPbc 23 35 03.3 -0.1
comp=Z,2.4nm,0.9s,baz=175,slow=14,SNR=2.2
BOZ Bozeman (W) 106.24 18 PKiKP **PKiKP 23 23 38.3 -1.8**
baz=336
N02D Trinity Center 106.36 28 PKiKP **PKiKP 23 23 37.4 -3.0**
baz=326
LAO LASA Array 106.59 14 PKiKP **PKiKP 23 23 37.6 -3.1**
baz=341
MDND Maddock 106.69 9 PKiKP **PKiKP 23 23 39.1 -1.6**
baz=348
AGMN Agassiz Nation 106.71 7 PKiKP **PKiKP 23 23 39.2 -1.6**
baz=351
HLID Hailey 107.24 21 PKiKP **PKiKP 23 23 41.2 -0.9**
baz=334
O03E Paynes Creek 107.30 28 PKiKP **PKiKP 23 23 41.5 -0.6**
baz=327
RLMT Red Lodge 107.32 17 PKiKP **PKiKP 23 23 41.6 -0.6**
baz=338
EYMN Ely 107.42 4 PKiKP **PKiKP 23 23 41.3 -0.7**
baz=355
BW06 Boulder Array 109.43 18 PKiKP **PKiKP 23 23 45.6 -0.7**
baz=338
PDAR Pinedale Array 109.43 18 Pdiff **Pdif 23 19 44.7 +1.5**
comp=Z,1.4nm,0.8s,baz=64,slow=2.0,SNR=9.6
PDAR PKiKP **PKiKP 23 23 48.4 +2.1**
comp=Z,12nm,0.8s,baz=184,slow=2.9,SNR=19
PDAR PKKPbc **PKKPbc 23 34 50.6 -1.6**
comp=Z,1.2nm,0.4s,baz=134,slow=5.2,SNR=9.5
ELK Elko 109.46 23 PKKPbc PKKPbc 23 34 51.0 -1.0
comp=Z,4.8nm,1.0s,baz=198,slow=4.9,SNR=5.8
RSSD Black Hills 109.50 13 PKiKP **PKiKP 23 23 46.4 0.0**
baz=343
VNDA Vanda 109.53 168 Pdiff **Pdif 23 19 45.2 +2.9**
comp=Z,4.6nm,0.7s,baz=317,slow=9.3,SNR=14
VNDA PKiKP **PKiKP 23 23 46.6 +1.6**
comp=Z,7.6nm,1.0s,baz=305,slow=8.1,SNR=2.3
VNDA PP **PP 23 24 14.7 -1.9**
comp=Z,7.2nm,0.8s,baz=302,slow=8.7,SNR=5.9
VNDA PKKPbc **PKKPbc 23 34 51.2 -1.2**
comp=Z,3.1nm,0.9s,baz=97,slow=4.9,SNR=2.3
LBNH Lisbon 110.00 349 PKiKP **PKiKP 23 23 46.2 -0.8**
baz=14
SPMN Marine on St. 110.04 5 PKiKP **PKiKP 23 23 47.1 +0.1**
baz=354
LONY Lake Ozonia 110.05 351 PKiKP **PKiKP 23 23 46.2 -0.9**
baz=11
SUSD Miller 110.11 10 PKiKP **PKiKP 23 23 46.4 -0.9**
baz=348
NVAR Mina Array Bea 110.32 26 Pdiff **Pdif 23 19 51.9 +4.7**
comp=Z,3.1nm,0.7s,baz=326,slow=3.7,SNR=11
NVAR PKiKP **PKiKP 23 23 49.9 +1.8**
comp=Z,28nm,0.7s,baz=304,slow=1.8,SNR=23
NVAR PKKPbc **PKKPbc 23 34 49.0 -0.2**
comp=Z,4.0nm,0.8s,baz=148,slow=3.6,SNR=3.6
K22A Casper 110.33 16 PKiKP **PKiKP 23 23 47.2 -0.8**
baz=340
GLMI Grayling 110.66 359 PKiKP **PKiKP 23 23 48.1 -0.1**
baz=1.7
DUG Dugway, Tooele 110.78 21 PKiKP **PKiKP 23 23 48.4 -0.4**
baz=334
MLAC Mammoth, Mammo 110.79 27 PKiKP **PKiKP 23 23 47.6 -1.4**
baz=329
ECSD EROS Data Cent 111.13 8 PKiKP **PKiKP 23 23 48.5 -0.6**
baz=350
R11A Troy Canyon, C 111.45 24 PKiKP **PKiKP 23 23 49.4 -0.7**
baz=332
TIN Tinemaha, Big 111.53 27 PKiKP **PKiKP 23 23 49.5 -0.8**
baz=329
HRV Adam Dziewonsk 111.61 348 PKiKP **PKiKP 23 23 49.7 -0.4**
baz=14
VOG Valley Oaks Go 111.67 28 PKiKP **PKiKP 23 23 49.3 -1.1**
baz=328
L61B Northampton 111.87 349 PKiKP **PKiKP 23 23 50.3 -0.3**
baz=13
CWC Cottonwood Cre 112.12 27 PKiKP **PKiKP 23 23 51.2 -0.3**
baz=329
N23A Red Feather La 112.13 16 PKiKP **PKiKP 23 23 50.6 -0.9**
baz=341
VES Vestal, Richgr 112.20 28 PKiKP **PKiKP 23 23 51.2 -0.2**
baz=328
O20A White River Ci 112.24 18 PKiKP **PKiKP 23 23 50.5 -1.1**
baz=339
TPNV Topopah Spring 112.42 26 PKiKP **PKiKP 23 23 50.9 -1.1**
baz=331
JFWS Jewell Farm 112.50 3 PKiKP **PKiKP 23 23 50.9 -0.9**
baz=356
FURC Furnace Creek, 112.59 26 PKiKP **PKiKP 23 23 51.5 -0.6**
baz=330
ISA Isabella, Lake 112.61 28 PKiKP **PKiKP 23 23 51.3 -1.0**
baz=328
BINY Binghamton 112.62 352 PKiKP **PKiKP 23 23 51.5 -0.6**
baz=10
MPMC Manual Prospec 112.69 27 PKiKP **PKiKP 23 23 51.3 -1.3**
baz=330
OGNE Ogallala 112.97 13 PKiKP **PKiKP 23 23 52.0 -0.8**
baz=345
LRMC Laurel Mtn Rad 113.11 27 PKiKP **PKiKP 23 23 52.6 -0.7**
baz=329
ERPA Erie 113.13 355 PKiKP **PKiKP 23 23 52.3 -0.7**
baz=6.3
AAM Ann Arbor 113.16 358 PKiKP **PKiKP 23 23 52.6 -0.4**
baz=2.6
BGNE Belgrade 113.20 10 PKiKP **PKiKP 23 23 52.9 -0.3**
baz=348
ISCO Idaho Springs 113.25 16 PKiKP **PKiKP 23 23 52.9 -0.8**
baz=341
SCIA State Center 113.30 6 PKiKP **PKiKP 23 23 53.6 +0.2**
baz=353
L44A Lake County Fo 113.31 1 PKiKP **PKiKP 23 23 53.8 +0.5**
baz=358
SHOC Shoshone, Teco 113.32 26 PKiKP **PKiKP 23 23 52.4 -1.1**
baz=330
OSI Osito Audit: C 113.40 29 PKiKP **PKiKP 23 23 52.6 -1.2**
baz=328
PAL Palisades 113.48 350 PKiKP **PKiKP 23 23 53.4 -0.3**
baz=12
EDW2 Edwards Air Fo 113.48 28 PKiKP **PKiKP 23 23 53.6 -0.4**
baz=329
GSC Goldstone, Bar 113.62 27 PKiKP **PKiKP 23 23 53.4 -0.9**
baz=330
M54A Oil Creek Stat 113.70 354 PKiKP **PKiKP 23 23 53.2 -0.9**
baz=6.6
N59A State Game Lan 113.85 351 PKiKP **PKiKP 23 23 53.8 -0.6**
baz=10
M53A Wt Miller and 113.85 355 PKiKP **PKiKP 23 23 53.9 -0.5**
baz=5.6
TUQ Turquoise Moun 113.86 26 PKiKP **PKiKP 23 23 54.3 -0.5**
baz=331
DECC Green Verdugo 113.87 29 PKiKP **PKiKP 23 23 54.4 -0.3**
baz=328
RRX Edison Barstow 113.91 27 PKiKP **PKiKP 23 23 53.8 -0.9**
baz=330
Q24A Divide 114.16 16 PKiKP **PKiKP 23 23 54.7 -0.8**
baz=341
BFSC Mount Baldy Ra 114.18 28 PKiKP **PKiKP 23 23 54.7 -0.8**
baz=329
SNCC San Nicolas Is 114.19 30 PKiKP **PKiKP 23 23 54.4 -0.9**
baz=327
HEC Hector,Ludlow 114.22 27 PKiKP **PKiKP 23 23 55.0 -0.5**
baz=330
N54A Moraine State 114.27 355 PKiKP **PKiKP 23 23 54.4 -0.8**
baz=6.3
SSPA Standing Stone 114.39 353 PKiKP **PKiKP 23 23 55.2 -0.2**
baz=8.4
BBRC Big Bear Solar 114.47 28 PKiKP PKPdf 23 23 56.5 +0.4
baz=330
GMRC Granite Mounta 114.54 26 PKiKP PKPdf 23 23 56.1 0.0
baz=331
CIS Catalina Islan 114.56 29 PKiKP PKPdf 23 23 56.2 +0.2
baz=328
QSPA South Pole Qui 114.64 180 Pdiff **Pdif 23 20 12.5 +7.2**
comp=Z,2.4nm,0.7s,baz=173,slow=0.9,SNR=2.4
QSPA PKP **PKiKP 23 23 55.1 0.0**
comp=Z,15nm,1.0s,baz=279,slow=3.0,SNR=3.6
QSPA PKKPbc **PKKPbc 23 34 35.3 -0.5**
comp=Z,25nm,0.7s,baz=142,slow=1.2,SNR=11
QSPA South Pole Qui 114.64 180 PKiKP 23 23 59.8 +4.7
KSCO Kaye Shedlock' 114.70 14 PKiKP **PKiKP 23 23 55.2 -1.1**
baz=344
O56A Blue Knob Stat 114.83 353 PKiKP **PKiKP 23 23 55.8 -0.6**
baz=7.8
S22A 4UR Ranch, Cre 114.86 18 PKiKP **PKiKP 23 23 56.0 -0.8**
baz=340
MVCO Mesa Verde 114.87 19 PKiKP **PKiKP 23 23 55.7 -1.1**
baz=338
HDIL Hopedale 114.89 2 PKiKP **PKiKP 23 23 55.4 -1.1**
baz=357
P60A Greenville 114.91 351 PKiKP PKPdf 23 23 56.4 0.0
baz=11
MURC Murrieta 114.92 28 PKiKP PKPdf 23 23 56.8 0.0
baz=329
O53A New Philadelph 115.08 356 PKiKP **PKiKP 23 23 55.8 -1.0**
baz=5.1
BELC Belle Mtn. Jos 115.08 27 PKiKP **PKiKP 23 23 56.0 -1.1**
baz=330
SFIN Lafayette 115.12 1 PKiKP **PKiKP 23 23 55.9 -0.9**
baz=359
ACSO Alum Creek Sta 115.19 357 PKiKP **PKPdf 23 23 57.1 +0.1**
baz=3.4
SDCO Great Sand Dun 115.22 17 PKiKP **PKiKP 23 23 56.4 -1.2**
baz=341
PFO Pinyon Flats O 115.22 28 PKP **PKPdf 23 23 58.7 +1.3**
comp=Z,16nm,0.7s,baz=325,slow=2.4,SNR=15
PFO PKKPbc **PKKPab 23 34 36.9 -3.5**
comp=Z,7.7nm,1.0s,baz=110,slow=3.5,SNR=4.5
PFO Pinyon Flats O 115.22 28 *i* PKiKP **PKPdf 23 24 01.5 +4.1**
PFO Pinyon Flats O 115.22 28 PKiKP **PKPdf 23 24 01.5 +4.1**
PFO Pinyon Flats O 115.22 28 PKiKP **PKiKP 23 23 56.9 -0.5**
baz=330
TPFO Pinon Flats 115.23 28 PKiKP **PKiKP 23 23 56.8 -0.7**
baz=330
IRM Iron Mountain 115.29 26 PKiKP **PKiKP 23 23 56.9 -0.5**
baz=331
SNAA Sanae 115.37 200 PKPdf **PKPdf 23 23 58.0 +1.6**
SNAA Sanae 115.37 200 PKP **PKPdf 23 23 57.3 +0.9**
comp=Z,12nm,1.1s
SNAA PKKPbc **PKKPbc 23 34 31.8 -1.1**
comp=Z,8.9nm,0.7s,baz=246,slow=7.5,SNR=10
CBKS Cedar Bluff 115.47 12 PKiKP **PKiKP 23 23 57.0 -0.6**
baz=347
WUAZ Wupatki 115.49 22 PKiKP **PKPdf 23 23 57.9 0.0**
baz=335
MCWV Mont Chateau 115.56 354 PKiKP **PKiKP 23 23 57.3 -0.4**
baz=6.5
109C Camp Elliot, M 115.57 28 PKiKP **PKiKP 23 23 57.0 -0.9**
baz=329
BC3 Big Chuckawall 115.60 27 PKiKP **PKPdf 23 23 58.2 0.0**
baz=331
KSU1 Kansas State U 115.69 9 **PKPdf 23 23 58.2 +0.2**
KSU1 Kansas State U 115.69 9 PKiKP **PKiKP 23 23 57.6 -0.4**
baz=350
P52A Corning 115.75 356 PKiKP **PKPdf 23 23 58.1 0.0**
baz=4.2
MONP2 Monument Peak 115.86 28 PKiKP **PKPdf 23 23 58.8 0.0**
baz=330
P49A Miami Univ. Ec 115.95 359 PKiKP **PKiKP 23 23 57.6 -0.9**
baz=1.6
T25A Trinidad 116.07 16 PKiKP **PKiKP 23 23 58.8 -0.3**
baz=342
SWSC Sam W. Stewart 116.08 27 PKiKP **PKPdf 23 23 59.7 +0.8**
baz=330
IKP In-Ko-Pah, Jac 116.20 28 PKiKP **PKPdf 23 24 00.2 +1.0**
baz=330
GLA Glamis 116.38 27 PKiKP **PKiKP 23 24 00.8 +1.2**
baz=331
W18A Petrified Fore 116.41 21 PKiKP **PKPdf 23 23 59.5 -0.3**
baz=336
CBN Corbin Frederi 116.73 352 PKiKP **PKPdf 23 23 59.7 -0.3**
baz=9.1
VNA2 Neumayer--Watz 116.83 201 PKPdf **PKiKP 23 24 00.3 +1.2**
baz=61,slow=2.2
VNA1 Neumayer--Stat 117.13 202 PKPdf **PKiKP 23 24 01.4 +1.7**
WCI Wyandotte Cave 117.27 360 PKIKP **PKPdf 23 23 59.3 -1.8**
WCI Wyandotte Cave 117.27 360 PKPdf **PKPdf 23 23 59.3 -1.8**
WCI Wyandotte Cave 117.27 360 PKiKP **PKPdf 23 24 00.3 -0.8**
baz=0.1
CCM Cathedral Cave 117.28 4 PKIKP **PKPdf 23 24 00.8 -0.3**
CCM Cathedral Cave 117.28 4 PKPdf **PKPdf 23 24 00.8 -0.3**
CCM Cathedral Cave 117.28 4 PKiKP **PKPdf 23 24 00.8 -0.3**
baz=355
VNA3 Neumayer Olymp 117.56 201 PKPdf **PKiKP 23 24 01.3 +0.8**
ANMO Albuquerque 117.58 19 PKKPbc PKKPbc 23 34 24.3 -0.3
comp=Z,2.6nm,0.6s,baz=172,slow=7.0,SNR=4.7
ANMO Albuquerque 117.58 19 PKiKP **PKPdf 23 24 01.7 -0.3**
baz=339
BLA Blacksburg 118.03 355 PKiKP **PKPdf 23 24 02.2 -0.4**
baz=6.1
214A Organ Pipe Nat 118.15 25 PKiKP **PKiKP 23 24 03.4 +0.4**
baz=333
Y22D IRIS PASSCAL I 118.26 19 PKiKP **PKiKP 23 24 03.6 +0.2**
baz=339
TUC Tucson 118.59 23 PKiKP **PKPdf 23 24 03.7 -0.2**
baz=335
U40A Yellville 118.84 6 PKiKP **PKPdf 23 24 03.5 -0.7**
baz=353
AMTX Amarillo 118.87 14 PKiKP **PKPdf 23 24 03.7 -0.7**
baz=344
TZTN Tazewell 118.90 357 PKiKP **PKPdf 23 24 03.7 -0.6**
baz=2.9
TUL1 Leonard 118.94 9 PKiKP **PKPdf 23 24 04.1 -0.2**
baz=350
WVT Waverly 119.35 1 PKIKP **PKPdf 23 24 03.7 -1.4**
WVT Waverly 119.35 1 PKPdf **PKPdf 23 24 03.7 -1.4**
WVT Waverly 119.35 1 PKiKP **PKPdf 23 24 04.8 -0.3**
baz=358
121A Cookes Peak, D 119.42 21 PKiKP **PKiKP 23 24 05.7 0.0**
baz=338
MSTX Muleshoe 119.49 16 PKiKP **PKPdf 23 24 05.1 -0.5**
baz=343
WMOK Wichita Mounta 119.60 12 PKiKP **PKPdf 23 24 04.9 -0.8**
baz=347
CNNC Cliffs of the 119.72 352 PKiKP **PKPdf 23 24 04.9 -1.0**
baz=8.8
W39A Magazine 119.89 7 PKiKP **PKPdf 23 24 05.3 -0.9**
baz=352
W41B Gary Mavity, V 120.07 6 PKiKP **PKPdf 23 24 05.5 -1.0**
baz=354
KMSC Kings Mountain 120.16 355 PKiKP **PKPdf 23 24 05.8 -0.9**
baz=5.2
MIAR Mount Ida 120.56 7 PKiKP **PKPdf 23 24 07.1 -0.4**
baz=352
X40A Basin Creek Fa 120.69 6 PKiKP **PKPdf 23 24 07.4 -0.4**
baz=353
MNTX Cornudas Mount 120.93 19 PKiKP **PKPdf 23 24 08.0 -0.3**
baz=340
PPT Papeete 121.09 96 PKP **PKiKP 23 24 10.2 +1.3**
comp=Z,30nm,0.8s,baz=221,slow=15,SNR=2.2
PPT2 Papeete2 121.09 96 *e*PKiKP **PKPdf 23 24 08.6 -0.3**
comp=Z,123nm,1.3s
PPT2 Papeete2 121.09 96 *e*PP PP 23 25 37.7 -1.7
comp=Z,1µm,28.0s
PPT2 Papeete2 121.09 96 *e*PS PS 23 35 31.0 -1.2
comp=Z,4µm,27.5s
PPT2 *e*SS SS 23 42 09.5 +0.1
comp=Z,10µm,30.2s
PPT2 Papeete2 121.09 96 *e*LQ LQ 23 56 21.0
comp=Z,19µm,32.0s
PPT2 *e*LR LR 00 01 29.8
comp=Z,22µm,29.0s
PAE Paea 121.11 96 *e*PKiKP **PKPdf 23 24 08.4 -0.4**
ABTX Abilene, Hawle 121.48 13 PKiKP **PKPdf 23 24 08.8 -0.6**
baz=346
PMOR Pomariorio Ree 121.76 93 *e*PKiKP **PKPdf 23 24 09.8 -0.3**
comp=Z,125nm,0.8s
Z41A Richland Creek 121.91 6 PKiKP **PKPdf 23 24 09.7 -0.4**
baz=353
GOGA Godfrey 122.01 357 PKiKP **PKPdf 23 24 09.7 -0.6**
baz=3.1
NHSC New Hope 122.08 354 PKiKP **PKPdf 23 24 09.6 -0.8**
baz=6.6
VAH Vaihoa 122.08 93 *e*PKiKP **PKPdf 23 24 10.5 -0.2**
comp=Z,123nm,0.9s
WHTX Lake Whitney, 122.52 11 PKiKP **PKPdf 23 24 11.1 -0.2**
baz=348
TBI Tubuai 122.88 103 *e*PKiKP **PKPdf 23 24 11.8 -0.3**
comp=Z,339nm,1.0s
TBI Tubuai 122.88 103 *e*PP PP 23 25 50.9 -0.5
comp=Z,1µm,30.0s
TBI Tubuai 122.88 103 *e*PS PS 23 35 48.3 +0.6
comp=Z,4µm,41.2s
TBI *e*SS SS 23 42 32.1 +0.2
comp=Z,7µm,30.2s
TBI Tubuai 122.88 103 *e*LQ LQ 23 57 03.2
comp=Z,16µm,36.2s
TBI *e*LR LR 00 02 19.0
comp=Z,12µm,34.8s
VBMS Vicksburg 123.13 4 PKiKP **PKPdf 23 24 12.4 -0.1**
baz=356
NATX Nacogdoches 123.18 8 PKiKP **PKPdf 23 24 12.4 -0.2**
baz=351
JCT Junction City 123.52 14 PKiKP **PKPdf 23 24 12.7 -0.7**
baz=345
435B Jarrell 123.67 12 PKiKP **PKPdf 23 24 13.1 -0.5**
baz=348
TIGA Tifton 123.98 357 PKiKP **PKPdf 23 24 13.8 -0.3**
baz=3.0
BRAL Brewton 124.31 1 PKiKP **PKiKP 23 24 15.1 0.0**
baz=359
833A Chaparral WMA, 125.69 14 PKiKP **PKiKP 23 24 17.8 -0.1**
baz=345
LPIG La Paz 126.12 27 PKP **PKiKP 23 24 19.4 +0.6**
comp=Z,64nm,0.7s,baz=325,slow=1.0,SNR=11
TAOE Nuku Hiva Isla 126.50 82 *e*PKiKP **PKPdf 23 24 18.6 -0.8**
comp=Z,303nm,1.1s
TAOE Nuku Hiva Isla 126.50 82 *e*LQ LQ 23 58 31.0
comp=Z,14µm,44.9s
TAOE *e*LR LR 00 03 49.6
comp=Z,10µm,26.7s
DWPF Disney Wildern 127.15 354 PKiKP **PKPdf 23 24 20.2 -0.1**
baz=5.6
RCBR Riachuelo 128.11 283 *e*P **PKiKP 23 24 23.0 -0.1**
ANWB Willy Bob 131.42 328 *e*P **PKPdf 23 24 27.1 -1.6**

SMRT St. Maarten 131.70 330 eP PKPdf 23 24 29.6 +0.4
ANBD Bethesda, Anti 131.95 328 eP PKiKP 23 24 31.0 +0.4
SEUS St. Eustatius 132.14 329 eP PKiKP 23 24 31.1 +0.1
MAGL Barre de l'ile 132.64 326 eP PKiKP 23 24 34.5 +2.4
CBE Ff, Capester 132.70 327 eP PKiKP 23 24 32.1 -0.1
TBG Guadaloupe-3 132.91 327 eP PKiKP 23 24 34.0 +1.4
SJG San Juan 132.98 333 eP PKiKP 23 24 32.1 -0.6
ILAM Ilet Lapin Mar 133.42 325 eP PKiKP 23 24 36.0 +2.4
FDF Fort de France 133.60 325 eP PKiKP 23 24 36.0 +1.9
MPOM Morne Pois Mar 133.69 325 eP PKiKP 23 24 34.6 +0.4
BIM Bigot 133.74 325 eP PKiKP 23 24 34.8 +0.4
ROSB Rosrio 133.83 291 eP PKiKP 23 24 34.3 -0.3
SLBI Saint Lucia, B 134.10 325 eP PKiKP 23 24 37.2 +2.2
MCLT Moule a Chique 134.35 324 e PKPdf 23 24 30.5 -3.7
GDU01 Guandu, BA 134.64 275 eP PKiKP 23 24 36.6 +0.4
SVB Belmont 134.88 324 eP PKiKP 23 24 38.8 +2.1
CMC01 Camacan, BA 135.16 273 eP PKiKP 23 24 38.1 +0.9
GCMP Grenada, Carri 135.62 324 eP PKiKP 23 24 37.7 -0.5
GUA01 Guaratinga, BA 135.83 271 eP PKiKP 23 24 39.4 +1.0
GRGR Grenville 136.04 324 eP PKPdf 23 24 36.8 -0.6
TOSP Speyside 136.11 322 eP PKiKP 23 24 39.2 0.0
TLIG Tlapa 136.22 17 PKPdf PKiKP 23 24 40.9 +1.4
NAN01 Guarapari, ES 136.51 270 eP PKPdf 23 24 38.7 +0.6
TMAB Tom-Au,PA,Br 136.85 295 eP PKiKP 23 24 40.9 +0.2
TRN Trinidad (W) 137.13 322 eP PKiKP 23 24 42.5 +1.2
RIB01 Linhares ES 137.17 268 eP PKiKP 23 24 40.9 -0.2
PMSA Palmer Station 137.52 194 PKP PKPdf 23 24 36.2 -2.3
comp=Z,109nm,1.1s,baz=102,slow=8.3,SNR=3.9
PMSA Palmer Station 137.52 194 eP PKiKP 23 24 40.9 +0.5
CMIG Matias Romero 137.52 12 PKhKP PKPpre 23 24 32.4
comp=Z,10nm,0.7s,baz=338,slow=6.5,SNR=12
CMIG PKP PKiKP 23 24 42.2 +0.2
comp=Z,71nm,0.8s,baz=5.3,slow=4.6,SNR=9.6
SJMB Sao Joao De Ma 137.72 269 eP PKiKP 23 24 42.3 0.0
PETF Flores 138.37 5 PKPdf PKiKP 23 24 43.5 -0.2
SDBA SAO DESIDERIO 138.94 280 eP PKPdf 23 24 42.7 0.0
PCRV Puerto La Cruz 139.24 326 PKP PKPdf 23 24 42.3 -1.1
comp=Z,34nm,0.5s
MC01 Montes Claros 139.62 273 eP PKiKP 23 24 46.4 0.0
DUB01 Friburgo-RJ 139.65 265 eP PKiKP 23 24 46.4 +0.1
DIAM Diamantina, MG 139.86 271 eP PKiKP 23 24 46.6 -0.2
VAS01 Vassouras-RJ 140.66 265 eP PKiKP 23 24 48.2 -0.1
URIC Uribia, Colomb 141.06 337 eP PKPdf 23 24 41.6 -4.9
MAN01 Angra dos Reis 141.25 264 eP PKPdf 23 24 47.3 +0.5
DABV Dabajuro 141.28 335 eP PKPdf 23 24 41.6 -5.4
TGUH Tegucigalpa,Un 141.34 1 PKPdf PKPdf 23 24 43.7 -3.5
MALB Monte Alegre 141.49 301 eP PKPdf 23 24 46.6 -0.7
BSCB Bom Sucesso 141.58 267 eP PKPdf 23 24 48.8 +1.3
PRVC Isla de Provid 141.71 352 eP PKPdf 23 24 45.5 -2.3
CRJC Cerrejon, Guaj 142.01 338 eP PKPdf 23 24 42.6 -5.8
SMRC Santa Marta, M 142.31 340 eP PKPdf 23 24 45.5 -3.4
PARB Paraibuna 142.84 264 eP PKiKP 23 24 51.2 -1.6
BDFB Brasilia 142.95 277 PKhKP PKPpre 23 24 47.2
comp=Z,46nm,0.6s,baz=76,slow=2.1,SNR=33
BOAV Boa Vista 143.08 313 PKPdf PKPbc 23 24 46.7 -0.4
SDV Santo Domingo 143.13 333 eP PKPab 23 24 46.4 +0.4
SDV Santo Domingo 143.13 333 PKPdf PKPab 23 24 46.6 +0.5
LLSC La Loma 6 Bece 143.34 338 eP PKPdf 23 24 49.3 -1.4
ARGC Ariguani, Magd 143.54 340 eP PKPbc 23 24 49.3 +0.9
LL1C La Loma 1 Cana 143.61 338 eP PKPdf 23 24 50.2 -0.9
SOCV Socops 143.77 333 eP PKPab 23 24 47.4 -1.0
SJCC San Jacinto, C 143.79 341 eP PKPdf 23 24 51.2 -0.4
VAO Valinhos 143.99 265 eP PKPdf 23 24 50.9 -0.8
ITTB Itaituba 144.19 300 eP PKPdf 23 24 51.5 -0.7
ELOV Elorza 144.33 330 eP PKPdf 23 24 52.1 -0.3
RCLB Rio Claro- Sao 144.39 266 eP PKPdf 23 24 52.1 -0.2
SNDB Serra Nova Dou 144.44 285 eP PKPdf 23 24 52.1 -0.5
SMLC San Martn de 144.48 339 eP PKPdf 23 24 54.0 +1.4
PET01 Itanhaem-SP 144.50 262 eP PKPdf 23 24 52.4 0.0
SPB Sao Paulo 144.52 264 eP PKPdf 23 24 54.2 +1.8
OCAC Ocana 144.75 337 eP PKPab 23 24 46.4 -5.7
OCAC eP PKPdf 23 24 54.0 +0.7
PTGA Pitinga 144.97 309 PKPbc PKPab 23 24 52.8 -0.1
comp=Z,112nm,0.8s,baz=326,slow=22,SNR=52
MOTC Monteria, Cord 144.99 341 eP PKPbc 23 24 53.1 +0.2
BB19B Bebedouro 145.00 268 eP PKPdf 23 24 54.2 +0.8
JTS Las Juntas de 145.06 358 PKPbc PKPbc 23 24 51.8 -1.3
LCBC Los crdobas, 145.12 342 eP PKPdf 23 24 55.0 +1.2
PAMC Pamplona, Colo 145.35 336 eP PKPbc 23 24 54.0 -0.6
NPGB Novo Progresso 145.45 296 eP PKPab 23 24 54.8 +0.2
EFI East Falkland 145.57 212 PKP2 PKPbc 23 24 53.5 -0.1
EFI East Falkland 145.57 212 PKPdf PKPbc 23 24 53.5 -0.1
CAPC Capurgana 145.59 344 eP PKPdf 23 24 53.1 -1.5
BCIP Isla Barro Col 145.61 348 eP PKPdf 23 24 54.0 -0.6
TAMC Tame, Arauca 145.82 334 eP PKPdf 23 24 55.0 -0.1
UREC San Jos de Ur 145.93 341 eP PKPdf 23 24 55.0 -0.2
BRRC Barranca, Sant 145.94 337 eP PKPdf 23 24 54.0 -1.2
ZARC Zaragoza, Cauc 145.96 339 eP PKPbc 23 24 55.9 0.0
TIJ01 Guaruva-PR 146.20 261 eP PKPab 23 24 57.5 +0.2
BRU2 Volcan 146.38 353 eP PKPab 23 24 57.8 -0.4
ARAG Araguaiana, MT 146.39 279 eP PKPab 23 24 57.8 -0.3
PTBC PUERTO BERRIO 146.72 338 eP PKPbc 23 24 57.8 -0.4
DBBC Dabeiba 146.82 341 eP PKiKP 23 25 00.7 -0.6
RUSC La Rusia 146.82 335 eP PKPbc 23 24 58.8 -0.3
PTAC Punta Ardita, 147.13 344 eP PKPdf 23 24 57.8 +0.6
MACA Manacapuru-AM 147.17 307 eP PKPbc 23 24 58.4 -1.1
USHA Ushuaia 147.21 199 PKPbc PKPab 23 24 59.5 -0.6
comp=Z,100nm,0.6s,baz=127,slow=4.1,SNR=52
HELC Santa Helena 147.40 340 eP PKPab 23 25 02.6 +0.1
SPBC San Pablo de B 147.41 337 eP PKPbc 23 25 00.7 +0.4
PCMB Pacaembu 147.61 268 eP PKPbc 23 24 59.6 -0.9
NORC Norcasia 147.77 338 eP PKPbc 23 25 01.6 +0.4
CLDB Colider 147.83 290 eP PKPdf 23 24 59.6 +1.3
CBOC Ciudad Bolivar 147.86 340 eP PKiKP 23 25 02.6 -0.9
PTGC Puerto Gaitan, 147.99 332 eP PKPdf 23 24 59.7 +1.1
CHIC Chingaza 148.23 335 eP PKPbc 23 25 03.5 +0.7
ROSC El Rosal 148.25 337 PKPbc PKiKP 23 25 03.7 -0.9
comp=Z,1µm,1.1s,baz=128,slow=5.3,SNR=42
ROSC El Rosal 148.25 337 eP PKiKP 23 25 04.5 -0.1
GUY2C Guyana, Caldas 148.26 339 eP PKPbc 23 25 03.5 +0.5
VILC Villavicencio, 148.69 335 eP PKPdf 23 25 00.7 +0.7
PLMC San Jos del P 148.85 340 eP PKPbc 23 25 03.5 -0.5
PTGB Pitanga 148.88 263 eP PKPbc 23 25 02.3 -1.5
ANIL Santa Ana 148.96 338 eP PKPdf 23 24 59.7 -0.9
PDRB Porto dos Gac 148.99 290 eP PKPdf 23 25 00.7 +0.4
PIZC Pizarro, Choco 149.11 342 eP PKiKP 23 25 05.4 -0.4
ITAB Concordia 149.17 258 eP PKPbc 23 25 02.6 -1.8
GO10 Punta Arenas 149.44 198 PKPab PKPab 23 25 07.7 -1.5
ORTC Ortega, Tolima 149.44 338 eP PKPbc 23 25 03.5 -2.0
PRAC Prado 149.50 337 eP PKPbc 23 25 04.5 -1.2
GUVC San Jose del G 149.68 332 eP PKPbc 23 25 04.5 -1.6
YOTC Yotoco, Valle 149.74 340 eP PKPbc 23 25 04.5 -1.9
PP1B Ponte de Pedra 149.80 278 eP PKPdf 23 25 02.6 +1.2
SALV Santo Antonio 149.94 281 eP PKPdf 23 25 02.1 +0.5
CPSB Cacapava Do Su 150.34 252 eP PKPdf 23 25 02.8 +0.9
PLTB Pedras Altas 150.39 249 eP PKPdf 23 25 03.1 +1.1
PLTB Pedras Altas 150.39 249 PKPdf 23 25 04.3 +2.4
PLTB PKPab PKiKP 23 25 10.8 +2.8
MACC Macarena, Meta 150.55 334 eP PKPdf 23 25 02.6 -0.2
MARP Paez Belalcaza 150.68 338 eP PKiKP 23 25 10.2 +0.7
GARC Garzon, Huila 151.13 337 eP PKPdf 23 25 06.4 +2.4
GARC eP PKPbc 23 25 08.3 -1.5
MG05 Puerto Natales 151.16 198 PKPab PKPab 23 25 13.7 -2.5
POPC Popayan, Colom 151.20 340 eP PKiKP 23 25 11.2 +0.7
PCON Cinco Dias 151.31 339 eP PKiKP 23 25 12.1 +1.0
AQDB Aquidauana 151.38 272 eP PKPdf 23 25 04.3 +0.5
SOTA Rioblanco 151.56 339 eP PKiKP 23 25 14.0 +2.4
FLOC Florencia 151.75 337 eP PKPbc 23 25 09.2 -1.7
VILB Vilhena 152.60 291 eP PKPdf 23 25 07.6 +1.8
PTLC Puerto Leguiza 152.73 334 eP PKPdf 23 25 06.4 +0.3
PTLB Pontes e Lacer 152.81 285 eP PKPdf 23 25 06.5 +0.5
ITOB Itaqui 153.14 253 eP PKPdf 23 25 08.0 +1.9
CPUP Villa Florida 153.76 260 PKP PKPdf 23 25 07.3 +0.2
comp=Z,35nm,0.7s,baz=89,slow=1.8,SNR=26
CPUP PKPbc PKiKP 23 25 16.7 +1.6
comp=Z,99nm,0.7s,baz=73,slow=3.0,SNR=28
CPUP Villa Florida 153.76 260 eP PKPdf 23 25 06.7 -0.4
TBTG Tabatinga, AM 154.06 320 eP PKPdf 23 25 11.2 +3.2
TBTG Tabatinga, AM 154.06 320 eP PKPdf 23 25 08.3 +0.4
SIV San Ignacio 154.72 286 PKP PKPdf 23 25 09.2 +0.4
comp=Z,27nm,0.8s,baz=118,slow=1.4,SNR=39
SIV PKPbc PKiKP 23 25 18.9 +1.5
comp=Z,45nm,0.6s,baz=93,slow=4.2,SNR=23
SIV PP PP 23 29 07.9 -0.4
comp=Z,30nm,0.9s,baz=76,slow=8.5,SNR=5.0
ETMB Extrema 155.68 304 eP PKPdf 23 25 10.6 +0.5
CZSB Cruzeiro do Su 158.54 320 eP PKPdf 23 25 13.0 -0.8
GO07 Milladeo Hill, 158.97 207 PKPdf PKPdf 23 25 15.7 +2.3
RPN Rapa Nui 159.25 101 PKPab PKPab 23 25 52.3 +0.6
comp=Z,289nm,1.2s,baz=215,slow=2.4,SNR=3.4
PLCA Paso Flores 159.34 216 PKP PKPdf 23 25 15.8 +1.8
comp=Z,33nm,0.9s,baz=173,slow=1.2,SNR=27
PLCA PKPab PKPab 23 25 51.4 -0.3
comp=Z,28nm,0.7s,baz=101,slow=0.5,SNR=4.0
PLCA Paso Flores 159.34 216 eP PKPdf 23 25 15.7 +1.7
LL05 Los Muermos 160.28 210 PKPdf PKPdf 23 25 15.5 +0.5
ATAH Atahualpa 160.81 335 PKP PKPdf 23 25 17.9 +1.0
comp=Z,42nm,0.9s,baz=18,slow=1.9,SNR=24
ATAH PKPab PKPab 23 25 60.0 +1.0
comp=Z,252nm,0.8s,baz=345,slow=2.5,SNR=20
ATAH PP PP 23 29 43.3 +2.8
comp=Z,29nm,1.0s,baz=208,slow=4.5,SNR=1.3
LPAZ La Paz 160.92 293 PKP PKPdf 23 25 17.7 +0.5
comp=Z,38nm,0.8s,baz=52,slow=3.8,SNR=35
LPAZ PKPab PKPab 23 26 01.1 +1.2
comp=Z,104nm,0.8s,baz=124,slow=0.9,SNR=11
LPAZ PP PP 23 29 43.5 +0.6
comp=Z,10nm,0.8s,baz=67,slow=10,SNR=4.0
LPAZ La Paz 160.92 293 eP PKPdf 23 25 17.1 -0.1
LVC Limon Verde 163.83 274 PKP PKPdf 23 25 20.0 +0.4
comp=Z,12nm,0.9s,baz=116,slow=1.6,SNR=22
LVC PKPab PKPab 23 26 13.3 +0.9
comp=Z,45nm,0.7s,baz=94,slow=7.1,SNR=11
LVC PP PP 23 29 59.9 +1.6
comp=Z,32nm,1.1s,baz=93,slow=7.1,SNR=6.7
LVC Limon Verde 163.83 274 eP PKPdf 23 25 20.8 +1.2
LVC Limon Verde 163.83 274 PKPdf 23 25 20.3 +0.7
LVC PKPab PKPab 23 26 14.5 +2.1
NNA Nana 164.35 323 PKP PKPdf 23 25 21.3 +1.4
comp=Z,27nm,0.8s,baz=347,slow=1.6,SNR=14
NNA PKPab PKPab 23 26 15.5 +1.4
comp=Z,101nm,0.8s,baz=48,slow=3.2,SNR=12
NNA PP PP 23 30 03.3 +4.0
comp=Z,18nm,0.9s,baz=25,slow=3.8,SNR=1.6
NNA Nana 164.35 323 PKIKP PKPdf 23 25 21.4 +1.5
NNA Nana 164.35 323 PKPdf PKPdf 23 25 21.4 +1.5
PB14 IPOC Station P 165.47 267 PKPab PKPab 23 26 20.7 +1.3

IDC ***03*** *23:15:18.2±1.6, 15°.63S×168°.44E, h0km, mb4.5/10, mb1 4.6/10, mb1mx4.2/50, mbtmp4.5/10, MS6.0/1, Ms1 6.0/1, ms1mx4.3/53 Error ellipse: s-maj=52.6km s-min=29.3km az=138.0*

NOU ***03*** *23:15:43.7, 15°.41S×168°.01E, h192km, MLv5.3/16, Vanuatu Islands*

NEIC ***03*** *23:15:43.4±1.5, 15°.4S±0°.1×168°.0E±0°.1, h191km±6km, mb4.8/18, Error ellipse: s-maj=21.7km s-min=13.6km az=51.0*

ISC 03 23:15:43.8±0.7, 15°.42S±0°.07×167°.9E±0°.1, h200km, n57, σ0878/53, mb4.6/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.69	268		Pn	23 16 10.2	-1.5
SANVU	Saraoutou	0.69	268	P	Pn	23 16 11.2	-0.6
SANVU	Saraoutou	0.69	268	P	Pn	23 16 10.9	-0.9
DVP	Devils Point	2.30	174	P	Pn	23 16 24.7	-0.8
DVP	Devils Point	2.30	174	P	Pn	23 16 25.1	-0.4
RTV	Rentapao	2.40	169	P	Pn	23 16 26.1	-0.5
RTV	Rentapao	2.40	169	P	Pn	23 16 26.2	-0.4
LIFNC	LIFOU	5.36	187	Pn	Pn	23 17 01.4	-1.5
LIFNC	LIFOU	5.36	187	P	Pn	23 17 02.3	-0.6
MARNC	Mare, Loyalty	6.03	179	Pn	Pn	23 17 10.0	-1.4
KOUNC	Koumac, New Ca	6.16	214	P	Pn	23 17 13.8	+0.6
YATNC	Mamie plateau,	6.67	188	P	Pn	23 17 20.8	+1.0
DZM	Mont Dzumac	6.76	192	LR	LR	23 18 35.3	
comp=Z,3µm,19.5s,baz=176,slow=30							
DZM	Mont Dzumac	6.76	192		Pn	23 17 21.3	+0.3
DZM	Mont Dzumac	6.76	192	P	Pn	23 17 21.4	+0.4
NOUC	Port Laguerre	6.82	193	P	Pn	23 17 21.3	-0.4
OUENC	Ouen Island, N	7.03	188	Pn	Pn	23 17 23.8	-0.7
OUENC	Ouen Island, N	7.03	188	P	Pn	23 17 25.1	+0.6
PINNC	Pines Island,	7.17	184	Pn	Pn	23 17 25.8	-0.4
EIDS	Eidsvold	18.61	235	P	P	23 19 46.0	-0.4
BKZ	Black Stump Fm	24.82	164	P	P	23 20 47.8	+0.1
BKZ	Black Stump Fm	24.82	164	P	P	23 20 48.3	+0.6
MSWZ	Moikau Station	26.67	168	P	P	23 21 05.1	+0.9
DCZ	Deep Cove	29.95	181	P	P	23 21 33.4	+0.1
DCZ				IAmb	IAmb	23 21 53.2	
comp=Z,15nm,1.1s							
WRA	Warramunga Arr	32.28	257	P	P	23 21 52.4	-1.6
comp=Z,3.6nm,0.7s,baz=84,slow=8.1,SNR=1.6							
ASAR	Alice Springs	33.03	250	P	P	23 21 59.6	-1.0
comp=Z,3.4nm,0.7s,baz=76,slow=9.8,SNR=1.7							
FAKI	Fak Fak	37.27	286	P	P	23 22 36.5	-0.3
FAKI				IAmb	IAmb	23 22 51.8	
comp=Z,21nm,1.1s							
KNRA	Kununurra	37.69	264	P	P	23 22 38.9	-1.5
FITZ	Fitzroy Crossi	40.51	260	P	P	23 23 03.2	-0.4
comp=Z,14nm,0.9s,baz=192,slow=16,SNR=1.4							
PSA00	Pilbara Seismi	45.86	255	P	P	23 23 45.6	-0.9
GIRL	Giralia	51.04	253	P	P	23 24 25.7	-0.3
GIRL	Giralia	51.04	253	P	P	23 24 26.7	+0.7
MYLDM	Lahad Datu	53.05	289	P	P	23 24 42.4	+1.5
MYLDM				IAmb	IAmb	23 25 00.7	
comp=Z,26nm,1.1s							
KKM	Kota Kinabalu	55.48	289	P	P	23 24 58.9	+0.4
KKM				IAmb	IAmb	23 25 04.2	
comp=Z,13nm,0.8s							
JOW	Kunigami	56.98	317	P	P	23 25 09.5	+0.7
comp=Z,11nm,0.7s,baz=135,slow=10.0,SNR=2.8							
JOW	Kunigami	56.98	317	IAmb	IAmb	23 25 10.4	
comp=Z,26nm,1.1s							
MJAR	Matsushiro Arr	58.81	332	P	P	23 25 20.9	-0.4
comp=Z,5.5nm,0.8s,baz=179,slow=7.8,SNR=6.1							
MAJO	Matsushiro	58.81	332	P	P	23 25 20.7	-0.6
MAT	Matsushiro	58.81	332	P	P	23 25 21.2	-0.1
JMM	Marumori	58.82	335	P	P	23 25 22.0	+0.7
JMM				IAmb	IAmb	23 25 22.8	
comp=Z,12nm,0.8s							
JWT	Wachi	59.11	329	P	P	23 25 23.1	-0.3
JWT				IAmb	IAmb	23 25 34.2	
comp=Z,13nm,1.1s							
JSD	Sado	60.03	333	P	P	23 25 29.8	+0.2
JSD				IAmb	IAmb	23 25 31.1	
comp=Z,17nm,1.0s							
JHS	Saijyo	60.05	327	P	P	23 25 29.8	0.0
TPUB	Ta-pu	60.17	309	P	P	23 25 30.2	-0.6
SSLB	Suanglung	60.21	310	P	P	23 25 30.4	-0.8
SSLB				IAmb	IAmb	23 25 32.1	
comp=Z,20nm,1.1s							
YHNB	Yeheng	60.41	311	P	P	23 25 32.5	0.0
YHNB				IAmb	IAmb	23 25 37.0	
comp=Z,23nm,1.1s							
USRK	Ussuriysk Ar.	67.79	333	P	P	23 26 21.2	+1.2
comp=Z,3.4nm,0.6s,baz=146,slow=6.0,SNR=6.4							
CMAR	Chiang Mai Arr	75.81	294	P	P	23 27 09.0	+0.6
comp=Z,1.7nm,0.8s,baz=138,slow=5.1,SNR=2.6							
SONM	Songino Array	83.43	323	P	P	23 27 49.9	+1.0
comp=Z,6.2nm,0.9s,baz=149,slow=5.3,SNR=8.5							
ILAR	Eielson Array	86.99	18	P	P	23 28 05.2	-0.9
comp=Z,1.3nm,0.9s,baz=229,slow=5.5,SNR=1.4							
SNAA	Sanae	92.89	183	LR	LR	00 08 29.4	
comp=Z,7µm,20.7s,baz=78,slow=34							
MKAR	Makanchi Array	98.14	316	P	Pdif	23 28 58.6	+0.6
comp=Z,1.3nm,0.9s,baz=100,slow=4.7,SNR=1.8							
ARCES	ARCESS Array B	121.08	345	PKP	PKiKP	23 34 12.4	+0.2
comp=Z,1.8nm,0.8s,baz=48,slow=1.3,SNR=4.5							
FINES	FINESS Array B	126.60	338	PKP	PKiKP	23 34 23.9	+0.6
comp=Z,2.9nm,1.0s,baz=108,slow=4.5,SNR=1.7							
AKASG	Malin Array Be	131.66	326	PKP	PKiKP	23 34 33.8	0.0
comp=Z,0.4nm,0.5s,baz=46,slow=2.2,SNR=2.9							
BRTR	Keskin Array B	133.44	311	PKP	PKiKP	23 34 37.8	-0.2
comp=Z,0.5nm,0.6s,baz=146,slow=4.5,SNR=4.1							
KEST	Kesra	152.15	321	PKPbc	PKiKP	23 35 17.1	+0.7
comp=Z,7.5nm,0.8s,baz=117,slow=2.0,SNR=20							

ANF ***03*** *23:48:57.8±1.1, 41°.71N×119°.48W, h0km, ML3.3/11, Error ellipse: s-maj=9.8km s-min=4.4km az=102.0*

REN ***03*** *23:49:00.7±1.7, 41°.85N±0°.03×119°.61W±0°.05, h7km±6km, ML3.1/5, ML3.1/96(NEIC), Error ellipse: s-maj=5.4km s-min=4.7km az=59.0*

NEIC ***03*** *23:49:01.6±1.6, 41°.88N±0°.04×119°.63W±0°.05, h8km±6km, Error ellipse: s-maj=5.4km s-min=4.9km az=59.0*

IDC ***03*** *23:49:01.4±1.1, 41°.81N×119°.70W, h0km, mb2.5/1, mb1 3.0/4, mb1mx3.0/45, mbtmp2.7/4, ML2.9/3, Error ellipse: s-maj=14.3km s-min=7.9km az=14.0*

ISC 03 23:49:01.1±1.2, 41°.85N±0°.02×119°.62W±0°.02, h3km±12km, n71, σ0898/85, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.51	276	Pg	Pg	23 49 11.0	+0.2
MOD				Sg	Sg	23 49 18.3	+0.8
MOD				IAML		23 49 19.3	
comp=E,2µm,0.4s							
WVOR	Wild Horse Val	0.94	51		Pg	23 49 18.4	-0.6
WVOR					Sg	23 49 31.3	+0.2
WVOR				IAML		23 49 39.0	
comp=E,438nm,0.9s							
WVOR				IAML		23 49 41.9	
comp=E,359nm,0.9s							
K05A	Summer Lake	1.28	313	Pn	Pn	23 49 25.1	-1.0
K05A					Sb	23 49 43.1	+0.1
K05A				IAML		23 49 46.3	
comp=E,417nm,1.0s							
K05A				IAML		23 49 49.9	
comp=N,415nm,1.3s							
M04C	Macdoel	1.66	268	P	Pn	23 49 30.2	-0.9
baz=87,SNR=136							
M04C				S	Sb	23 49 54.2	+0.6
baz=87							
J08A	Circle Bar Ran	1.73	29		Pn	23 49 31.1	-1.0
J08A				Sn	Sn	23 49 53.6	-1.0
J08A				IAML		23 49 58.6	
comp=E,210nm,0.7s							
J08A				IAML		23 49 59.3	
comp=N,221nm,0.9s							
K04D	Chiloquin, OR	1.76	297	P	Pn	23 49 31.7	-0.8
baz=115,SNR=75							
K04D				S	Sg	23 49 58.0	+0.4
baz=115							
BMRR	Black Mountain	1.81	196		Pb	23 49 34.3	-0.7
J05D	Fort Rock, OR	1.86	321	Pb	Pb	23 49 35.2	-0.6
baz=140,SNR=185							
J05D				S	Sg	23 50 00.8	-0.1
baz=140							
WVA	Winnemucca Val	1.91	185		Pb	23 49 36.5	-0.1
L04D	Klamath Falls	2.03	281	P	Pn	23 49 35.0	-1.2
baz=99,SNR=89							
L04D				S	Sb	23 50 05.1	+0.8
baz=99							
PAHR	Pah Rah Range	2.15	175		Pn	23 49 37.7	-0.2
PAHR				IAML		23 50 10.4	
comp=E,116nm,0.7s							
PINE	Pine Mountain	2.17	334		Pn	23 49 37.8	-0.4
PINE				IAML		23 50 12.1	
comp=E,178nm,0.6s							
PINE				IAML		23 50 23.5	
comp=N,93nm,0.8s							
I07A	Izee	2.23	2		Pn	23 49 38.2	-0.8
I07A				IAML		23 50 12.7	
comp=N,151nm,0.6s							
I07A				IAML		23 50 21.4	
comp=E,116nm,1.1s							
LOY	Loyalton	2.24	192		Pb	23 49 42.2	0.0
PEAR	Peavine Mounta	2.26	187		Pb	23 49 42.9	+0.4
O03E	Paynes Creek	2.27	227	Pb	Pn	23 49 39.4	0.0
baz=46							
O03E				Sg	Sb	23 50 12.0	+1.0
baz=46							
BABR	Babbit Peak	2.28	189		Pb	23 49 43.0	+0.1
J04D	Umpqua Nationa	2.30	308	Pb	Pb	23 49 43.1	-0.2
baz=126							
BMN	Battle Mountai	2.30	127		Pn	23 49 39.1	-0.9
BMN				IAML		23 50 15.4	
comp=N,84nm,0.6s							
YBH	Yreka Blue Hor	2.31	268	Pn	Pn	23 49 39.0	-1.0
comp=N,2.4nm,0.3s,baz=77,slow=12,SNR=35							
YBH				Lg	Lg	23 50 13.9	
comp=N,14nm,0.3s,baz=342,slow=18,SNR=14							
YBH	Yreka Blue Hor	2.31	268		Pn	23 49 39.2	-0.9
KBF	Kyburz Flat	2.38	191		Pb	23 49 43.0	-1.7
M02C	Callahan	2.47	260	P	Pn	23 49 40.5	-1.6
baz=78,SNR=11							
M02C				Sb	Sb	23 50 18.5	+1.7
baz=78							
IND	Independence	2.47	192		Pb	23 49 46.4	+0.2
N02D	Trinity Center	2.48	250	P	Pn	23 49 40.6	-1.8
baz=68,SNR=10							
N02D				Sb	Sb	23 50 18.0	+0.9
baz=68							
WDC	Whiskeytown Da	2.54	241		Pn	23 49 42.1	-1.0
WDC				IAML		23 50 20.1	
comp=N,53nm,0.8s							
DONR	Donner Summit	2.55	192		Pb	23 49 47.5	-0.1
VCNR	Virginia City	2.55	180		Pb	23 49 48.0	+0.4
VCNR				IAML		23 50 24.7	
comp=N,138nm,0.7s							
MPK	Martis Peak	2.57	187		Pb	23 49 48.3	+0.3
MPK				IAML		23 50 31.0	
comp=E,128nm,1.2s							
MPK				IAML		23 50 33.4	
comp=N,98nm,1.0s							
HUMO	Hull Mountain	2.59	288		Pn	23 49 42.8	-1.0
HUMO				IAML		23 50 31.6	
comp=N,60nm,1.4s							
ORV	Oroville	2.70	212		Pn	23 49 45.2	-0.1
PNTR	Pine Nut	2.76	180	Pg	Pb	23 49 51.5	+0.4
PNTR				IAML		23 50 35.5	
comp=N,116nm,1.0s							
PNTR				IAML		23 50 36.2	
comp=E,102nm,1.0s							
I05D	Terrebonne, OR	2.79	334	Pb	Pb	23 49 50.8	-0.6
baz=152,SNR=14							
I04A	Tendick Farm,	2.82	314	Pb	Pb	23 49 52.0	-0.2
baz=132							
RUBR	Rubicon Trail	2.83	188	Pg	Pb	23 49 52.4	+0.1
RUBR				IAML		23 50 40.1	
comp=E,53nm,0.7s							
RUBR				IAML		23 50 46.0	
comp=N,65nm,1.6s							
YERR	Yerington	2.88	174		Pb	23 49 53.7	+0.6
YERR				IAML		23 50 34.2	
comp=E,91nm,1.0s							
YERR				IAML		23 50 34.5	
comp=N,83nm,0.8s							
EMB	Emerald Bay	2.90	187	Pn	Pn	23 49 46.8	-1.5
EMB					Pb	23 49 54.7	+1.2
EMB				IAML		23 50 35.0	
comp=E,48nm,0.5s							
O02D	Mt. Diablo Mer	2.92	236	Sb	Sb	23 50 29.0	-0.9
baz=54							
DBO	Dodson Butte	2.96	297		Pn	23 49 48.9	-0.1
L02E	Cave Junction	2.98	277	P	Pn	23 49 48.8	-0.4
baz=94				

HLID	**Hailey**	**4.20 64**		**Pn**	**23 50 05.8**	**-0.4**
HLID			IAML		23 51 17.1	
	comp=E,23nm,0.6s					
HLID			IAML		23 51 25.3	
	comp=E,33nm,1.6s					
F10A	**Beach Ranch, E**	**4.47 22**		**Pn**	**23 50 08.9**	**-0.8**
F10A			IAML		23 50 42.6	
	comp=E,20nm,4.8s					
F10A			IAML		23 51 45.4	
	comp=N,14nm,2.5s					
R11A	**Troy Canyon, C**	**4.67 137**	Pn	**Pn**	**23 50 14.8**	**+2.3**
R11A				**Pg**	**23 50 28.8**	**-1.7**
R11A			IAML		23 51 31.0	
	comp=N,9.6nm,1.9s					
R11A			IAML		23 51 44.0	
	comp=E,10nm,4.5s					
SPR3	**Spring Creek 3**	**4.94 123**		**Pn**	**23 50 16.1**	**-0.4**
SPR3			Pg	**Pg**	**23 50 36.0**	**+0.3**
SPR3			IAML		23 51 42.8	
	comp=N,14nm,1.1s					
BGU	**Big Grassy Mou**	**5.04 98**		**Pn**	**23 50 16.1**	**-1.6**
BGU			IAML		23 51 46.7	
	comp=E,17nm,2.6s					
BGU			IAML		23 51 50.6	
	comp=N,15nm,3.2s					
HVU	**Hansel Valley**	**5.12 89**	Pn	**Pn**	**23 50 19.0**	**+0.3**
E03A	**Lebam**	**5.48 330**	Pn	**Pn**	**23 50 22.2**	**-1.3**
MCMT	**McKenzie Canyo**	**5.76 57**	Pn	**Pn**	**23 50 29.1**	**+1.5**
PDAR	**Pinedale Array**	**7.52 80**	Pn	Pn	23 50 56.8	+5.1
	comp=N,0.0nm,0.3s,baz=282,slow=14,SNR=2.4					
PDAR			Pg	**Pb**	**23 51 12.0**	**-0.2**
	comp=N,0.1nm,0.3s,baz=260,slow=14,SNR=3.0					
YKA	**Yellowknife Ar**	**20.89 7**	P	Pn	23 53 45.9	-0.6
	comp=N,0.2nm,0.8s,baz=194,slow=10,SNR=3.8					

WEL ***04*** *00:07:00,40.59S×176.46E,h30km,ML5.1,Mw4.6, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}=9.76; $M_{\theta\theta}$7.24; $M_{\phi\phi}$2.52; $M_{r\theta}$1.80; $M_{\theta\phi}$2.87; $M_{\phi r}$1.30; Fault plane solution: $M_0$9.44000×10^{15} NP1: ϕ_s67.00000°,δ38.00000°,λ-87.00000°. NP2:ϕ_s243.00000°, δ52.00000°,λ-93.00000°. Principal axes: T 885.1500, Plg7.0000°, Azm335.0000°; N 118.0300, Plg2.0000°, Azm244.0000°; P -1003.1800, Plg83.0000°, Azm139.0000°;*

IDC ***04*** *00:07:51.5±0.6,40.53S×176.39E,h0km,mb4.4/8, mb1 4.6/9,mb1mx4.4/23,mbtmp4.4/9,ML4.3/1 Error ellipse: s-maj=25.8km s-min=17.9km az=63.0*

NOU ***04*** *00:07:52.3,40.80S×176.76E,h24km,mb5.2/10,North Island, New Zealand*

NEIC ***04*** *00:07:53.5±1.6,40.69S±0.03×176.55E±0.05,h18km±3km, mb4.6/25,Error ellipse: s-maj=8.0km s-min=4.8km az=154.0*

WEL ***04*** *00:07:55.2±0.6,41°S±3°×17°6E±°,h25km±4km,M5.0/12, ML5.4/12,MLv5.0/12,Error ellipse: s-maj=0.0km s-min=0.0km az=121.3*

ISC 04 00:07:55.0±0.8,40.66S±0.03×176.58E±0.04,h27km±5km, n199,σ1s17/210,mb4.6/19,1C-1D,North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.21**	**337**	⇓P		**Pb**	**00 08 01.1**	**+0.1**
ANWZ				S		**Sb**	**00 08 05.6**	**+0.5**
BFZ	**Birch Farm**	**0.26**	**264**	P		**Pb**	**00 08 02.0**	**+0.4**
BFZ				S		**Sb**	**00 08 06.6**	**+0.5**
BFZ	**Birch Farm**	**0.26**	**264**			**Pb**	**00 08 01.9**	**+0.3**
BFZ						**Sb**	**00 08 05.9**	**-0.2**
BFZ	**Birch Farm**	**0.26**	**264**	P		**Pn**	**00 08 02.1**	**-0.9**
CPWZ	**Castlepoint**	**0.39**	**229**	P		**Pn**	**00 08 05.1**	**+0.3**
CPWZ				S		**Sn**	**00 08 12.5**	**+1.2**
PRHZ	**Porangahau**	**0.39**	**6**	P		**Pn**	**00 08 04.1**	**-0.7**
PRHZ				S		**Sn**	**00 08 10.8**	**-0.6**
PRWZ	**Pori Road**	**0.48**	**282**	P		**Pb**	**00 08 04.8**	**-0.1**
PRWZ				S		**Sb**	**00 08 11.5**	**-0.2**
DVHZ	**Dannevirke**	**0.48**	**318**	P		**Pb**	**00 08 04.2**	**-0.8**
DVHZ				S		**Sb**	**00 08 10.7**	**-1.0**
TIWZ	**Tintock**	**0.54**	**257**	P		**Pb**	**00 08 06.3**	**+0.2**
TIWZ				S		**Sn**	**00 08 14.4**	**-0.9**
WPHZ	**Waipukurau**	**0.60**	**350**	P		**Pn**	**00 08 07.0**	**-0.8**
WPHZ				S		**Sn**	**00 08 15.8**	**-0.8**
PXZ	**Pawanui**	**0.66**	**19**	P		**Pn**	**00 08 07.9**	**-0.6**
POWZ	**Post Office Ro**	**0.68**	**293**	P		**Pb**	**00 08 07.7**	**-0.6**
POWZ				S		**Sb**	**00 08 16.0**	**-1.3**
TMWZ	**Te Maipa**	**0.69**	**229**	P		**Pb**	**00 08 08.5**	**0.0**
TSZ	**Takapari Road**	**0.76**	**321**	P		**Pb**	**00 08 08.8**	**-0.9**
TSZ				S		**Sb**	**00 08 18.7**	**-1.0**
MRZ	**Mangatainoka R**	**0.76**	**269**	P		**Pb**	**00 08 08.8**	**-0.9**
MRZ				S		**Sb**	**00 08 18.6**	**-1.1**
PNHZ	**Pukenui**	**0.80**	**338**	P		**Pb**	**00 08 09.5**	**-0.8**
PNHZ				S		**Sn**	**00 08 20.6**	**-0.9**
HOWZ	**Holdsworth Sta**	**0.85**	**253**	P		**Pb**	**00 08 10.2**	**-0.9**
HOWZ				S		**Sb**	**00 08 21.0**	**-1.1**
KAHZ	**Kahuranaki**	**0.89**	**15**	P		**Pb**	**00 08 11.3**	**-0.5**
MTW	**Mount Morrison**	**0.96**	**238**	P		**Pn**	**00 08 11.5**	**-1.2**
TRWZ	**Traveller**	**1.00**	**222**	P		**Pn**	**00 08 12.3**	**-1.0**
KRHZ	**Kereru**	**1.02**	**351**	P		**Pn**	**00 08 12.9**	**-0.8**
CKHZ	**Cape Kidnapper**	**1.07**	**21**	P		**Pn**	**00 08 13.4**	**-0.7**
OHWZ	**Ohakea**	**1.07**	**295**	P		**Pb**	**00 08 14.2**	**-0.6**
OGWZ	**Otaki Gorge**	**1.08**	**261**	⇑P		**Pn**	**00 08 13.3**	**-1.1**
PAWZ	**Paruwai Farm**	**1.14**	**230**	P		**Pn**	**00 08 14.1**	**-1.1**
MCHZ	**McNeill Hill**	**1.21**	**4**	P		**Pn**	**00 08 16.2**	**0.0**
BHHZ	**Black Hill Sta**	**1.23**	**341**	P		**Pn**	**00 08 16.0**	**-0.5**
CAW	**Cannon Point**	**1.23**	**248**	P		**Pn**	**00 08 15.4**	**-1.0**
KWHZ	**Kaweka Forest**	**1.24**	**354**	P		**Pn**	**00 08 16.1**	**-0.5**
MSWZ	**Moikau Station**	**1.26**	**233**	P		**Pn**	**00 08 15.5**	**-1.4**
MSWZ	**Moikau Station**	**1.26**	**233**			**Pn**	**00 08 15.3**	**-1.5**
KIW	**Kapiti Island**	**1.29**	**260**	P		**Pn**	**00 08 16.3**	**-0.9**
PLWZ	**Palliser**	**1.36**	**227**	P		**Pn**	**00 08 16.5**	**-1.6**
PLWZ	**Palliser**	**1.36**	**227**			**Pn**	**00 08 16.6**	**-1.6**
MOVZ	**Moawhango**	**1.40**	**333**	P		**Pn**	**00 08 18.6**	**-0.2**
ARHZ	**Aropaoanui**	**1.43**	**13**	P		**Pn**	**00 08 18.8**	**-0.3**
BKZ	**Black Stump Fm**	**1.49**	**357**	P		**Pn**	**00 08 19.5**	**-0.5**
BKZ	**Black Stump Fm**	**1.49**	**357**			**Pn**	**00 08 19.5**	**-0.5**
BKZ	**Black Stump Fm**	**1.49**	**357**	P		**Pn**	**00 08 19.8**	**-0.2**
BHW	**Baring Head**	**1.50**	**239**	P		**Pn**	**00 08 18.7**	**-1.4**
BHW	**Baring Head**	**1.50**	**239**			**Pn**	**00 08 18.5**	**-1.6**
WEL	**Wellington**	**1.51**	**245**	P		**Pn**	**00 08 19.1**	**-1.2**
WAZ	**Wanganui**	**1.52**	**306**	P		**Pn**	**00 08 20.8**	**+0.4**
WNVZ	**Wahianoa**	**1.53**	**330**	P		**Pn**	**00 08 20.8**	**+0.1**
MTVZ	**Mangateitei**	**1.53**	**326**	P		**Pb**	**00 08 21.7**	**-1.0**
TUVZ	**Tukino**	**1.56**	**332**	P		**Pn**	**00 08 21.5**	**+0.4**
SNZO	**South Karori**	**1.56**	**245**			**Pn**	**00 08 19.6**	**-1.3**
SNZO	**South Karori**	**1.56**	**245**	P		**Pn**	**00 08 19.8**	**-1.2**
NMHZ	**Naumai**	**1.57**	**6**	P		**Pn**	**00 08 21.2**	**+0.1**
WHVZ	**Whangaehu Hut**	**1.57**	**331**	P		**Pn**	**00 08 21.7**	**+0.3**
TRVZ	**Turoa**	**1.57**	**329**	P		**Pn**	**00 08 21.5**	**+0.2**
DRZ	**Dome Shelter**	**1.59**	**330**	P		**Pn**	**00 08 22.0**	**+0.4**
FWVZ	**Far West T-bar**	**1.61**	**330**	P		**Pn**	**00 08 22.1**	**+0.3**
SNVZ	**South Ngauruho**	**1.64**	**333**	P		**Pn**	**00 08 22.4**	**+0.2**
OTVZ	**Oturere**	**1.65**	**334**	P		**Pn**	**00 08 22.5**	**+0.2**
ETVZ	**East Tongariro**	**1.66**	**336**	P		**Pn**	**00 08 23.1**	**+0.7**
NGZ	**Ngauruhoe**	**1.66**	**333**	P		**Pn**	**00 08 22.7**	**+0.3**
TMVZ	**Te Maari**	**1.68**	**336**	P		**Pn**	**00 08 23.1**	**+0.3**
NNVZ	**North Ngauruho**	**1.69**	**334**	P		**Pn**	**00 08 23.7**	**+0.7**
NTVZ	**North Tongarir**	**1.71**	**336**	P		**Pn**	**00 08 23.5**	**+0.5**
WTVZ	**West Tongariro**	**1.72**	**333**	P		**Pn**	**00 08 23.8**	**+0.6**
KRVZ	**Karewarewa**	**1.72**	**335**	P		**Pn**	**00 08 24.2**	**+0.9**
RITZ	**Rihia Road**	**1.77**	**341**	P		**Pn**	**00 08 24.3**	**+0.4**
RAHZ	**Arahi**	**1.78**	**13**	P		**Pn**	**00 08 23.5**	**-0.5**
HATZ	**Hinemaiaia**	**1.80**	**348**	P		**Pn**	**00 08 24.3**	**0.0**
MTHZ	**Maungataniwha**	**1.81**	**6**	P		**Pn**	**00 08 24.0**	**-0.5**
TWVZ	**Taurewa**	**1.81**	**331**	P		**Pn**	**00 08 24.7**	**+0.1**
KATZ	**Kakaramea**	**1.81**	**338**	P		**Pn**	**00 08 25.5**	**+0.9**
MHGZ	**Mahia Peninsul**	**1.81**	**35**	P		**Pn**	**00 08 23.4**	**-1.0**
MRHZ	**Matea Rd**	**1.82**	**356**	P		**Pn**	**00 08 24.9**	**+0.3**
TCW	**Tory Channel**	**1.83**	**252**	P		**Pn**	**00 08 23.3**	**-1.4**
KNZ	**Kokohu**	**1.84**	**28**	P		**Pn**	**00 08 23.4**	**-1.3**
RATZ	**Rangitukua**	**1.89**	**340**	P		**Pn**	**00 08 25.9**	**+0.3**
SNGZ	**Shannon Statio**	**1.96**	**18**	P		**Pn**	**00 08 26.0**	**-0.5**
PRGZ	**Paritu Road**	**2.00**	**30**	P		**Pn**	**00 08 25.7**	**-1.3**
DUWZ	**D'Urville Isla**	**2.03**	**265**	P		**Pn**	**00 08 26.4**	**-1.0**
WHTZ	**Whakaora**	**2.05**	**346**	P		**Pn**	**00 08 28.1**	**+0.4**
LREZ	**Lake Rotokare**	**2.06**	**305**	P		**Pn**	**00 08 28.6**	**+0.9**
RTZ	**Ruatahuna**	**2.06**	**9**	P		**Pn**	**00 08 27.6**	**-0.3**
VRZ	**Vera Road**	**2.08**	**317**	P		**Pn**	**00 08 28.4**	**+0.3**
CMWZ	**Cape Campbell**	**2.10**	**238**	P		**Pn**	**00 08 27.5**	**-0.8**
CMWZ	**Cape Campbell**	**2.10**	**238**			**Pn**	**00 08 27.4**	**-0.9**
ALRZ	**Allen Road**	**2.10**	**355**	P		**Pn**	**00 08 28.0**	**-0.4**
TUWZ	**Tuamarina**	**2.14**	**248**	P		**Pn**	**00 08 27.2**	**-1.7**
TUWZ	**Tuamarina**	**2.14**	**248**			**Pn**	**00 08 27.2**	**-1.7**
RIGZ	**Rimuhau**	**2.15**	**25**	P		**Pn**	**00 08 28.0**	**-1.1**
WPRZ	**Whakapapatarin**	**2.16**	**351**	P		**Pn**	**00 08 28.6**	**-0.6**
PRRZ	**Plateau Road**	**2.16**	**356**	P		**Pn**	**00 08 28.9**	**-0.3**
MUGZ	**Murupara**	**2.18**	**4**	P		**Pn**	**00 08 29.0**	**-0.5**
KUTZ	**Kaahu Road**	**2.24**	**345**	P		**Pn**	**00 08 30.0**	**-0.3**
RAGZ	**Rawiri**	**2.25**	**17**	P		**Pn**	**00 08 29.8**	**-0.7**
HRRZ	**Handcock Road**	**2.27**	**354**	P		**Pn**	**00 08 30.7**	**-0.2**
PREZ	**Palmer Road**	**2.28**	**304**	P		**Pn**	**00 08 32.3**	**+1.5**
BSWZ	**Blackbirch Sta**	**2.30**	**242**	P		**Pn**	**00 08 29.4**	**-1.8**
BSWZ	**Blackbirch Sta**	**2.30**	**242**			**Pn**	**00 08 29.4**	**-1.8**
RRRZ	**Republican Roa**	**2.31**	**359**	P		**Pn**	**00 08 30.7**	**-0.7**
GRRZ	**Galatos Road**	**2.33**	**351**	P		**Pn**	**00 08 31.6**	**0.0**
MHEZ	**Mangahewa**	**2.35**	**311**	P		**Pn**	**00 08 33.3**	**+1.5**
HSRZ	**Hossack Road**	**2.36**	**354**	P		**Pn**	**00 08 31.4**	**-0.5**
NEZ	**North Egmont**	**2.36**	**305**	P		**Pn**	**00 08 33.2**	**+1.1**
KHEZ	**Kahui Hut**	**2.40**	**304**	P		**Pn**	**00 08 33.5**	**+1.0**
TARZ	**Mount Tarawera**	**2.42**	**359**	P		**Pn**	**00 08 32.7**	**-0.2**
NMEZ	**Namu Road**	**2.42**	**300**	P		**Pn**	**00 08 33.9**	**+1.2**
TKGZ	**Te Karaka**	**2.42**	**24**	P		**Pn**	**00 08 31.4**	**-1.3**
URZ	**Urewera**	**2.43**	**10**	Pn		**Pn**	**00 08 31.7**	**-1.1**
	69nm,0.3s,baz=301,slow=24,SNR=228							
URZ				Sn		**Sn**	**00 08 55.6**	**-6.0**
	290nm,0.3s,baz=26,slow=16,SNR=14							
URZ	**Urewera**	**2.43**	**10**	P		**Pn**	**00 08 31.7**	**-1.1**
URZ	**Urewera**	**2.43**	**10**	Pn		**Pn**	**00 08 31.9**	**-1.0**
URZ	**Urewera**	**2.43**	**10**	P		**Pn**	**00 08 32.0**	**-0.9**
MWZ	**Matawai**	**2.43**	**18**	P		**Pn**	**00 08 31.5**	**-1.4**
TLZ	**Tolley Road**	**2.46**	**340**	P		**Pn**	**00 08 32.7**	**-0.7**
PKE	**Pukeiti**	**2.47**	**305**	P		**Pn**	**00 08 34.7**	**+1.1**
NNZ	**Nelson**	**2.49**	**256**	P		**Pn**	**00 08 32.5**	**-1.2**
NNZ	**Nelson**	**2.49**	**256**	Pn		**Pn**	**00 08 33.0**	**-0.8**
NBEZ	**Newall Road No**	**2.51**	**303**	P		**Pn**	**00 08 35.6**	**+1.7**
CNGZ	**Carnagh Statio**	**2.51**	**31**	P		**Pn**	**00 08 32.7**	**-1.3**
HIZ	**Hauiti**	**2.52**	**328**			**Pn**	**00 08 33.7**	**-0.5**
HIZ	**Hauiti**	**2.52**	**328**	P		**Pn**	**00 08 34.3**	**+0.1**
KHZ	**Kahutara**	**2.88**	**231**	Pn		**Pn**	**00 08 36.8**	**-2.2**
KHZ	**Kahutara**	**2.88**	**231**	P		**Pn**	**00 08 36.9**	**-2.2**
THZ	**Tophouse**	**2.99**	**247**	Pn		**Pn**	**00 08 38.7**	**-2.0**
QRZ	**Quartz Range**	**3.08**	**266**			**Pn**	**00 08 40.7**	**-1.2**
QRZ	**Quartz Range**	**3.08**	**266**	P		**Pn**	**00 08 40.8**	**-1.2**
MXZ	**Matakaoa Point**	**3.37**	**24**	Pn		**Pn**	**00 08 44.4**	**-1.4**
LTZ	**Lake Taylor**	**3.86**	**235**			**Pn**	**00 08 50.4**	**-2.2**
MQZ	**McQueen's Vall**	**4.22**	**222**	Pn		**Pn**	**00 08 55.7**	**-1.8**
OXZ	**Oxford**	**4.31**	**230**			**Pn**	**00 08 56.6**	**-2.2**
RPZ	**Rata Peaks**	**5.12**	**232**	Pn		**Pn**	**00 09 07.8**	**-2.1**
RPZ	**Rata Peaks**	**5.12**	**232**	P		**Pn**	**00 09 07.8**	**-2.1**
FOZ	**Fox Glacier**	**5.80**	**238**	Pn		**Pn**	**00 09 18.0**	**-1.1**
OUZ	**Omahuta**	**5.92**	**336**	Pn		**Pn**	**00 09 21.1**	**+0.2**
OUZ	**Omahuta**	**5.92**	**336**	P		**Pn**	**00 09 21.1**	**+0.2**
LBZ	**Lake Benmore**	**6.02**	**230**	Pn		**Pn**	**00 09 21.2**	**-1.0**
ODZ	**Otahua Downs**	**6.19**	**223**			**Pn**	**00 09 22.7**	**-1.8**
ODZ	**Otahua Downs**	**6.19**	**223**	P		**Pn**	**00 09 21.7**	**-2.8**
WKZ	**Wanaka**	**6.96**	**231**	Pn		**Pn**	**00 09 33.7**	**-1.4**
WHZ	**Wether Hill Ro**	**8.19**	**227**	Pn		**Pn**	**00 09 50.0**	**-1.9**
PYZ	**Puysegur Point**	**9.07**	**229**	Pn		**Pn**	**00 10 03.3**	**-0.7**
PINNC	**Pines Island,**	**19.58**	**334**	P		**P**	**00 12 20.0**	**-0.8**
PINNC				IAmb		IAmb	00 12 37.8	
	comp=Z,39nm,1.1s							
OUENC	**Ouen Island, N**	**19.96**	**333**	P		**P**	**00 12 23.2**	**-1.9**
DZM	**Mont Dzumac**	**20.42**	**332**	P		**P**	**00 12 29.8**	**-0.4**
	comp=Z,10.0nm,0.8s,baz=190,slow=13,SNR=9.2							
DZM	**Mont Dzumac**	**20.42**	**332**	P		**P**	**00 12 30.1**	**-0.1**
DZM				IAmb		IAmb	00 12 46.6	
	comp=Z,17nm,1.0s							
TOO	**Toolangi**	**24.26**	**267**	P		**P**	**00 13 09.4**	**-0.4**
TOO				IAmb		IAmb	00 13 22.8	
	comp=Z,17nm,1.1s							
EIDS	**Eidsvold**	**26.14**	**298**	P		**P**	**00 13 26.7**	**-0.1**
EIDS				IAmb		IAmb	00 13 30.8	
	comp=Z,13nm,1.1s							
STKA	**Stephens Creek**	**29.38**	**276**	P		**P**	**00 13 55.0**	**-0.8**
	comp=Z,5.2nm,0.9s,baz=123,slow=8.9,SNR=4.6							
STKA	**Stephens Creek**	**29.38**	**276**	P		**P**	**00 13 55.1**	**-0.8**
CTAO	**Charters Tower**	**32.99**	**299**	P		**P**	**00 14 27.1**	**-0.6**
CTAO				IAmb		IAmb	00 14 28.4	
	comp=Z,6.8nm,0.8s							
BBOO	**Buckleboo**	**33.18**	**271**	P		**P**	**00 14 28.4**	**-0.9**
BBOO				IAmb		IAmb	00 14 45.0	
	comp=Z,7.1nm,0.8s							
COEN	**Coen**	**39.45**	**303**	P		**P**	**00 15 22.6**	**-0.4**
AS31	**Alice Springs**	**39.48**	**282**	P		**P**	**00 15 22.1**	**-1.2**
ASAR	**Alice Springs**	**39.48**	**282**	P		**P**	**00 15 22.0**	**-1.2**
	comp=Z,2.7nm,0.5s,baz=127,slow=7.2,SNR=53							
FORT	**Forrest**	**40.17**	**268**	P		**P**	**00 15 28.0**	**-0.9**
PMG	**Port Moresby**	**40.60**	**312**	P		**P**	**00 15 32.6**	**+0.1**
WR0	**Warramunga Arr**	**41.26**	**287**	P		**P**	**00 15 36.9**	**-1.0**
WB2	**Warramunga Arr**	**41.41**	**287**	P		**P**	**00 15 38.2**	**-1.0**
WB2				IAmb		IAmb	00 15 52.4	
	comp=Z,10nm,0.6s							
WRAB	**Tennant Creek**	**41.42**	**287**	P		**P**	**00 15 38.1**	**-1.1**
WRAB				IAmb		IAmb	00 15 52.8	
	comp=Z,13nm,1.0s							
WRA	**Warramunga Arr**	**41.42**	**287**	P		**P**	**00 15 37.9**	**-1.4**
	comp=Z,3.2nm,0.4s,baz=125,slow=8.2,SNR=103							
WRA				PcP		**PcP**	**00 17 37.9**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=137,slow=4.2,SNR=2.9							
WRA	**Warramunga Arr**	**41.42**	**287**	P		**P**	**00 15 38.2**	**-1.0**
WB0	**Warramunga Arr**	**41.49**	**287**	IAmb		IAmb	00 15 50.5	
	comp=Z,6.3nm,0.8s							
KNRA	**Kununurra**	**48.21**	**287**	P		**P**	**00 16 33.1**	**-0.3**
MTN	**Manton Dam**	**48.40**	**292**	P		**P**	**00 16 33.6**	**-1.2**
MTN				IAmb		IAmb	00 16 40.6	
	comp=Z,9.1nm,0.9s							
QSPA	**South Pole Qui**	**49.47**	**180**	P		**P**	**00 16 44.8**	**+2.2**
QSPA	**South Pole Qui**	**49.47**	**180**	IAmb		IAmb	00 16 46.5	
	comp=Z,7.9nm,0.7s							
MORW	**Morawa**	**50.12**	**263**	P		**P**	**00 16 45.4**	**-2.4**
MORW				IAmb		IAmb	00 16 55.8	
	comp=Z,5.9nm,0.8s							
PSA00	**Pilbara Seismi**	**51.27**	**274**	P		**P**	**00 16 54.3**	**-2.3**
PSA00	**Pilbara Seismi**	**51.27**	**274**	P		**P**	**00 16 55.0**	**-1.7**
PSA00				IAmb		IAmb	00 17 09.2	
	comp=Z,14nm,1.1s							
GIRL	**Giralia**	**54.93**	**269**	P		**P**	**00 17 22.6**	**-1.0**
MAW	**Mawson**	**61.17**	**204**	P		**P**	**00 18 08.3**	**+1.7**
	comp=Z,2.6nm,0.6s,baz=115,slow=17,SNR=1.7							
SNAA	**Sanae**	**67.98**	**180**	P		**P**	**00 18 52.8**	**+1.7**
VNA3	**Neumayer Olymp**	**68.32**	**178**	P		**P**	**00 18 54.7**	**+1.6**
VNA2	**Neumayer--Watz**	**68.69**	**179**	P		**P**	**00 18 57.4**	**+1.9**
	baz=168,slow=6.7							
VNA2	**Neumayer--Watz**	**68.69**	**179**	PcP		PcP	00 19 06.1	-14
	baz=162,slow=5.7							
VNA1	**Neumayer--Stat**	**68.95**	**178**	P		**P**	**00 18 59.1**	**+2.1**
H03S2	**Juan Fernandez**	**78.39**	**125**	T		T	01 44 42.1	
	SNR=24							
H03S1	**Juan Fernandez**	**78.40**	**125**	T		T	01 44 42.1	
	SNR=26							
H03S3	**Juan Fernandez**	**78.41**	**125**	T		T	01 44 42.1	
	SNR=9.5							
PLCA	**Paso Flores**	**78.63**	**134**	P		**P**	**00 19 56.9**	**+2.5**
	comp=Z,4.2nm,0.8s,baz=232,slow=4.4,SNR=6.5							
PLCA	**Paso Flores**	**78.63**	**134**	IAmb		IAmb	00 19 58.5	
	comp=Z,7.8nm,1.1s							
H03N3	**Juan Fernandez**	**78.64**	**124**	T		T	01 44 50.9	
	baz=229,slow=72,SNR=9.0							
H03N2	**Juan Fernandez**	**78.65**	**124**	T		T	01 44 56.3	
	baz=229,slow=72,SNR=11							
H03N1	**Juan Fernandez**	**78.66**	**124**	T		T	01 44 50.1	
	baz=229,slow=72,SNR=8.7							
KSRS	**Korea Array**	**89.60**	**323**	P		**P**	**00 20 50.4**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=176,slow=19,SNR=2.1							
NJ2	**Nanjing**	**89.88**	**314**	*e*P		**P**	**00 20 53.5**	**+2.3**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**92.85**	**292**	P		**P**	**00 21 05.7**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=122,slow=3.4,SNR=2.4							
PZH	**PanZhiHua**	**96.30**	**300**	P		**P**	**00 21 22.1**	**+0.9**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,6.9s							
XLT	**XiLinHaoTe**	**100.23**	**320**	*e*P		**Pdif**	**00 21 40.1**	**+1.7**
XLT				pP		sPdif	00 21 48.6	-1.7
XLT				pmax		pmax		
	comp=Z,7.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**100.32**	**316**	*e*P		**Pdif**	**00 21 41.5**	**+2.6**
HHC				pmax		pmax		
	comp=Z,14nm,0.9s							
HHC				pmax		pmax		
	comp=Z,320nm,6.7s							
WMQ	**Urumqi**	**115.92**	**306**	*e*P		**PKPdf**	**00 26 34.0**	**-0.8**
YKA	**Yellowknife Ar**	**116.56**	**29**	PKP		**PKPdf**	**00 26 35.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=249,slow=1.5,SNR=8.0							
YKA				PKKPbc		**PKKPab**	**00 37 04.3**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=51,slow=4.1,SNR=5.8							
MKAR	**Makanchi Array**	**120.71**	**307**	PKP		**PKPdf**	**00 26 43.6**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=234,slow=1.0,SNR=2.0							
LIC	**Lamto**	**145.69**	**177**	*e*PKP1		**PKPab**	**00 27 32.2**	**+0.2**
	comp=Z,34nm,1.1s							
KIC	**Kosan Boka**	**145.83**	**178**	*e*PKP1		**PKPab**	**00 27 32.9**	**+0.4**
	comp=Z,6.4nm,0.5s							
KBZ	**Khabaz**	**145.89**	**291**	PKP		**PKPdf**	**00 27 29.6**	**-1.1**
	comp=Z,1.9nm,1.1s,baz=282,slow=22,SNR=1.4							
KBZ				PKPbc		**PKPab**	**00 27 32.8**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=285,slow=23,SNR=1.4							
TIC	**Toumodi**	**146.10**	**177**	*e*PKP1		**PKPbc**	**00 27 33.2**	**+0.2**
DBIC	**Dimbokro**	**146.13**	**177**	PKPbc		**PKPab**	**00 27 33.4**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=177,slow=3.9,SNR=9.8							
ARCES	**ARCESS Array B**	**147.32**	**342**	PKPbc		**PKPbc**	**00 27 35.1**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=65,slow=1.6,SNR=20							
BRTR	**Keskin Array B**	**151.81**	**280**	PKPbc		**PKiKP**	**00 27 47.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=141,slow=4.1,SNR=4.0							
TORD	**Torodi Ar. Bea**	**152.23**	**191**	PKP		**PKPdf**	**00 27 42.0**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=308,slow=2.4,SNR=3.7							
TORD				PKPbc		**PKiKP**	**00 27 49.0**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=161,slow=3.5,SNR=67							
TORD				PKPab		**PKPab**	**00 27 58.5**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=171,slow=3.3,SNR=15							
FINES	**FINESS Array B**	**152.54**	**329**	PKPbc		**PKiKP**	**00 27 48.0**	**0.0**
	comp=Z,2.1nm,0.8s,baz=341,slow=4.6,SNR=5.4							
FINES				PKPab		**pPKPbc**	**00 27 56.8**	**0.0**
	comp=Z,1.8nm,0.6s,baz=132,slow=2.8,SNR=6.0							
GERES	**GERESS

Azm168.0000°; P Plg46.0000°, Azm350.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.37**	**334**	⇓P	Pn	00 30 57.0	-0.2
ONAJ				S	Sn	00 31 06.5	-0.2
JHO	**Hitachi**	**0.38**	**245**	⇓P	Pn	00 30 57.4	+0.2
JHO				S	Sn	00 31 06.7	0.0
JFFD	**Fukushimafurud**	**0.48**	**312**	P	Pn	00 30 58.1	+0.1
JFFD				S	Sn	00 31 08.0	0.0
JHYU	**Hitachinakayam**	**0.54**	**218**	⇓P	Pn	00 30 58.6	+0.1
JHYU				S	Sn	00 31 09.1	+0.2
JFK	**Kawauchi**	**0.60**	**350**	⇑P	Pn	00 30 59.0	-0.2
JFK				S	Sn	00 31 09.6	-0.5
JFT	**Otama**	**0.92**	**325**	⇑P	Pn	00 31 02.7	+0.2
JFT				S	Sn	00 31 16.3	+0.4
JMM	**Marumori**	**1.11**	**351**	⇓P	Pn	00 31 04.6	-0.1
JMM				S	Sn	00 31 19.7	-0.2
JFY	**Yanaizu**	**1.22**	**302**	⇑P	Pn	00 31 06.4	+0.3
JFY				S	Sn	00 31 23.1	+0.7
JAG	**Ashikaga**	**1.29**	**255**	⇑P	Pn	00 31 07.3	+0.3
JAG				S	Sn	00 31 24.1	0.0
JKT	**Katashina**	**1.41**	**270**	P	Pn	00 31 09.1	+0.5
JKT				S	Sn	00 31 27.6	+0.8
JOU	**Okura**	**1.61**	**351**	P	Pn	00 31 10.9	-0.3
JOU				S	Sn	00 31 31.9	+0.4
MAT	**Matsushiro**	**2.26**	**265**	P	Pn	00 31 20.8	+1.1
MAT				S	Sn	00 31 49.0	+2.2

IDC 04 00:32:00.3±9.5, 16°77S×176°24W, h508km±39km, mb2.8/3, mb1 3.1/4, mbmx2.9/25, mbtmp3.7/4 Error ellipse: s-maj=296.2km s-min=36.4km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.54**	**259**	P	P	00 33 32.7	0.0
	1.1nm,0.3s,baz=37,slow=18,SNR=3.6						
WRA	**Warramunga Arr**	**46.88**	**258**	P	P	00 39 43.8	-0.8
	0.2nm,0.3s,baz=95,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**47.09**	**253**	P	P	00 39 46.7	+0.5
	1.4nm,0.7s,baz=88,slow=8.1,SNR=20						
ILAR	**Eielson Array**	**84.34**	**12**	P	P	00 43 38.0	0.0
	0.8nm,1.1s,baz=198,slow=8.4,SNR=2.0						

IDC 04 00:38:59.5±7.8, 20°17S×179°15E, h664km±49km, mb2.6/2, mb1 2.9/3, mb1mx2.2/29, mbtmp3.6/3, Error ellipse: s-maj=274.2km s-min=87.6km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.63**	**337**	P	P	00 40 22.3	-0.1
	3.1nm,0.3s,baz=267,slow=22,SNR=10						
ASAR	**Alice Springs**	**41.99**	**257**	P	P	00 45 55.7	-0.4
	1.0nm,0.7s,baz=102,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**41.99**	**262**	P	P	00 45 56.6	+0.5
	0.3nm,0.3s,baz=94,slow=7.6,SNR=33						
AKASG	**Malin Array Be**	**141.39**	**329**	PKP	PKPdf	00 57 15.9	-0.9
	0.3nm,0.3s,baz=41,slow=4.4,SNR=4.5						

*JMA **04** 00:50:39.1±0.2, 32°46N×137°67E, h425km, M3.6*
*IDC **04** 00:50:42.3±0.8, 32°47N×137°39E, h397km±7km, mb3.1/15, mb1 3.3/19, mb1mx3.2/40, mbtmp3.9/19, Error ellipse: s-maj=15.9km s-min=12.8km az=60.0*
*NEIC **04** 00:50:42.6±1.4, 32°50N±0°09×137°6E±0°1, h410km±7km, mb4.0/23, Error ellipse: s-maj=12.9km s-min=12.3km az=212.0*

ISC 04 00:50:41.4±0.5, 32°48N±0°07×137°57E±0°06, h394km, n79, σ1°31/83, mb3.9/34, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.28**	**1**	P	**Pn**	**00 51 34.2**	**+1.7**
JHJ	**Hachijo jima 2**	**1.97**	**70**	P	**Pn**	**00 51 39.3**	**+2.7**
	22nm,0.3s,baz=87,slow=22,SNR=13						
JHJ				S	**S**	**00 52 25.0**	**+3.9**
	17nm,0.3s,baz=54,slow=21,SNR=2.3						
JHJ2	**Mitsune**	**2.00**	**71**	Pn	**Pn**	**00 51 38.6**	**+1.9**
JIE	**Ise**	**2.04**	**340**	P	**Pn**	**00 51 38.8**	**+1.9**
JTNC	**Tanabenakahech**	**2.12**	**310**	P	**Pn**	**00 51 38.5**	**+1.0**
JWY	**Kouya**	**2.40**	**317**	P	**Pn**	**00 51 40.9**	**+1.4**
INU	**Inuyama**	**2.90**	**351**		**Pn**	**00 51 45.1**	**+1.9**
JAI	**Aioi**	**2.92**	**297**	P	**Pn**	**00 51 44.4**	**+1.0**
JOD2	**Odawara 2**	**3.05**	**24**	P	**Pn**	**00 51 45.3**	**+0.8**
JWT	**Wachi**	**3.33**	**328**	P	**Pn**	**00 51 48.1**	**+1.3**
JWT	**Wachi**	**3.33**	**328**		**Pn**	**00 51 48.3**	**+1.5**
JMN	**Monobe**	**3.34**	**293**	P	**Pn**	**00 51 48.1**	**+1.1**
JMN	**Monobe**	**3.34**	**293**	Pn	**Pn**	**00 51 48.2**	**+1.1**
BSO1	**Boso 1**	**3.58**	**52**	P	**Pn**	**00 51 48.9**	**+0.4**
BSO1				*e*S	**S**	**00 52 43.7**	**+0.7**
JTO	**Tosashimizu**	**4.04**	**277**	P	**Pn**	**00 51 54.0**	**+0.6**
MAJO	**Matsushiro**	**4.09**	**7**		**Pn**	**00 51 55.5**	**+1.7**
MAT	**Matsushiro**	**4.09**	**7**	P	**Pn**	**00 51 55.3**	**+1.4**
MAT				S	**S**	**00 52 51.8**	**-0.9**
MJAR	**Matsushiro Arr**	**4.09**	**7**	P	**Pn**	**00 51 55.3**	**+1.5**
	1.1nm,0.3s,baz=190,slow=10,SNR=57						
MJAR				S	**S**	**00 52 52.4**	**-0.3**
	baz=170,slow=14,SNR=2.0						
MJAR	**Matsushiro Arr**	**4.09**	**7**		**Pn**	**00 51 55.7**	**+1.8**
MJB9	**Matsu-Tunnel**	**4.09**	**7**		**Pn**	**00 51 55.6**	**+1.7**
JYT	**Yasato**	**4.33**	**29**		**Pn**	**00 51 56.7**	**+0.6**
JHS	**Saijyo**	**4.48**	**305**	Pn	**Pn**	**00 51 58.7**	**+1.0**
JSD	**Sado**	**5.58**	**6**	Pn	**Pn**	**00 52 10.1**	**+1.1**
JNU	**Nakatsue**	**5.67**	**278**	P	**Pn**	**00 52 10.3**	**+0.1**
	1.1nm,0.3s,baz=99,slow=0.8,SNR=9.2						
JNU	**Nakatsue**	**5.67**	**278**	Pn	**Pn**	**00 52 10.5**	**+0.3**
JMM	**Marumori**	**5.99**	**25**		**Pn**	**00 52 14.3**	**+0.8**
JCJ	**Chichijima**	**6.70**	**142**	Pn	**P**	**00 52 21.0**	**-1.3**
KSRS	**Korea Array**	**9.34**	**305**	P	**P**	**00 52 53.0**	**+1.3**
	0.8nm,0.3s,baz=119,slow=10.0,SNR=11						
JOW	**Kunigami**	**9.85**	**238**	P	**Pn**	**00 52 58.3**	**+0.6**
TPUB	**Ta-pu**	**17.52**	**243**	P	**P**	**00 54 22.8**	**+1.6**
ULN	**Ulaanbaatar**	**27.70**	**313**	P	**P**	**00 55 55.6**	**+0.3**
ULN				IAmb	IAmb	00 55 56.7	
	comp=Z,14nm,1.6s						
SONM	**Songino Array**	**28.10**	**312**	P	**P**	**00 55 58.7**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=113,slow=7.7,SNR=8.2						
SONM	**Songino Array**	**28.10**	**312**	P	**P**	**00 55 58.5**	**-0.3**
ZAAO	**Zalesovo Array**	**42.82**	**316**	P	**P**	**00 58 02.0**	**-0.1**
ZALV	**Zalesovo Beam**	**42.82**	**316**	P	**P**	**00 58 01.7**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=84,slow=8.2,SNR=10						
ZALV	**Zalesovo Beam**	**42.82**	**316**	P	**P**	**00 58 02.1**	**0.0**
MK31	**Makanchi Array**	**44.02**	**306**	P	**P**	**00 58 11.6**	**-0.2**
MKAR	**Makanchi Array**	**44.02**	**306**	P	**P**	**00 58 11.6**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=86,slow=9.7,SNR=44						
MAKZ	**Makanchi**	**44.23**	**306**	P	**P**	**00 58 13.4**	**-0.1**
MAKZ				IAmb	IAmb	00 58 13.6	
	comp=Z,2.9nm,0.4s						
GUN	**Gumba**	**44.56**	**278**	*e*P	**P**	**00 58 16.3**	**-0.3**
	comp=Z,22nm,0.6s						
PKI	**Pulchoki**	**45.06**	**278**	*e*P	**P**	**00 58 19.6**	**-0.9**
	comp=Z,9.3nm,0.6s						
PKIN	**Phulchoki**	**45.07**	**278**	*e*P	**P**	**00 58 19.4**	**-1.1**
	comp=Z,9.9nm,0.5s						
GKN	**Gorkha**	**45.56**	**279**	*e*P	**P**	**00 58 23.6**	**-0.6**
	comp=Z,11nm,0.4s						
NRIK	**Noril'sk**	**46.18**	**338**	P	**P**	**00 58 28.7**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=38,slow=5.3,SNR=3.5						
DANN	**Dangsing**	**46.18**	**280**	*e*P	**P**	**00 58 28.7**	**-0.4**
	comp=Z,17nm,0.4s						
KURK	**Kurchatov**	**46.39**	**311**	P	**P**	**00 58 29.5**	**-0.5**
KURK				IAmb	IAmb	00 58 30.3	
	comp=Z,4.2nm,0.9s						
COEN	**Coen**	**46.48**	**172**	P	**P**	**00 58 31.9**	**+0.8**
KOLN	**Koldanda**	**46.51**	**279**	*e*P	**P**	**00 58 31.1**	**-0.4**
PYUN	**Piuthan**	**46.91**	**280**	*e*P	**P**	**00 58 34.2**	**-0.4**
	comp=Z,20nm,0.4s						
KNRA	**Kununurra**	**48.62**	**191**	P	**P**	**00 58 47.4**	**+0.2**
KNRA				IAmb	IAmb	00 58 47.7	
	comp=Z,9.9nm,0.8s						
BOOM	**Boomskoye usch**	**48.95**	**300**	P	**P**	**00 58 49.0**	**-0.8**
BOOM				IAmb	IAmb	00 58 50.5	
	comp=Z,12nm,1.8s						
AAK	**Ala-Archa**	**49.98**	**301**	P	**P**	**00 58 56.9**	**-0.5**
TTA	**Tatalina**	**50.96**	**33**	P	**P**	**00 59 01.7**	**-2.6**
TTA				IAmb	IAmb	00 59 05.8	
	comp=Z,9.8nm,1.4s						
K20K	**Telida**	**51.87**	**32**	P	**P**	**00 59 13.1**	**+2.4**
K20K				IAmb	IAmb	00 59 15.5	
	comp=Z,15nm,1.7s						
WB0	**Warramunga Arr**	**52.04**	**184**	P	**P**	**00 59 12.2**	**-0.3**
WB0				IAmb	IAmb	00 59 27.0	
	comp=Z,6.1nm,1.2s						
IMAR	**Indian Mountai**	**52.17**	**29**	P	**P**	**00 59 14.6**	**+1.7**
WRAB	**Tennant Creek**	**52.20**	**184**	P	**P**	**00 59 13.8**	**0.0**
WRAB				IAmb	IAmb	00 59 41.1	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**52.22**	**184**	P	**P**	**00 59 13.8**	**0.0**
	comp=Z,0.9nm,0.3s,baz=359,slow=7.5,SNR=6.3						
WRA	**Warramunga Arr**	**52.22**	**184**	P	**P**	**00 59 13.9**	**+0.1**
KKAR	**Karatay Array**	**52.76**	**302**	P	**P**	**00 59 17.4**	**-0.3**
CHGR	**Chuyangaron**	**54.83**	**297**	P	**P**	**00 59 32.6**	**0.0**
CHGR				IAmb	IAmb	00 59 33.0	
	comp=Z,11nm,0.6s						
ILAR	**Eielson Array**	**55.02**	**30**	P	**P**	**00 59 35.1**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=266,slow=6.1,SNR=4.7						
ASAR	**Alice Springs**	**55.94**	**184**	P	**P**	**00 59 40.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=354,slow=3.5,SNR=4.5						
SCRK	**Sand Creek**	**56.34**	**31**	P	**P**	**00 59 44.9**	**+2.1**
SCRK				IAmb	IAmb	01 00 07.0	
	comp=Z,14nm,1.7s						
ARU	**Arti**	**57.73**	**320**	P	**P**	**00 59 51.8**	**-0.5**
ARU				IAmb	IAmb	00 59 52.7	
	comp=Z,7.6nm,1.4s						
ABKAR	**Akbulak array**	**58.51**	**311**	P	**P**	**00 59 57.5**	**-0.3**
ABKAR				IAmb	IAmb	00 59 57.8	
	comp=Z,14nm,1.8s						
ABKAR	**Akbulak array**	**58.51**	**311**	P	**P**	**00 59 57.8**	**0.0**
RSD	**Rainshed**	**60.88**	**84**	P	**P**	**01 00 11.3**	**-3.2**
ARCES	**ARCESS Array B**	**67.13**	**339**	P	**P**	**01 00 54.2**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=50,slow=8.4,SNR=4.8						
YKA	**Yellowknife Ar**	**69.32**	**28**	P	**P**	**01 01 08.6**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=299,slow=6.5,SNR=3.1						
FINES	**FINESS Array B**	**71.34**	**332**	P	**P**	**01 01 19.6**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=68,slow=5.9,SNR=24						
LTY	**Liberty**	**74.10**	**44**	P	**P**	**01 01 34.6**	**-1.1**
AKASG	**Malin Array Be**	**75.92**	**322**	P	**P**	**01 01 45.2**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=51,slow=6.1,SNR=6.5						
NOA	**NORSAR Array B**	**77.11**	**336**	P	**P**	**01 01 51.2**	**-1.1**
	comp=Z,1.2nm,1.0s,baz=50,slow=7.0,SNR=1.8						
BRTR	**Keskin Array B**	**79.44**	**310**	P	**P**	**01 02 05.7**	**+0.3**
	comp=Z,1.7nm,1.1s,baz=3.3,slow=6.4,SNR=3.8						
BRTR	**Keskin Array B**	**79.44**	**310**	P	**P**	**01 02 05.1**	**-0.4**
NVAR	**Mina Array Bea**	**80.29**	**51**	P	**P**	**01 02 11.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=53,slow=17,SNR=1.9						
PDAR	**Pinedale Array**	**83.13**	**43**	P	**P**	**01 02 26.8**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=258,slow=2.7,SNR=2.2						
SDCO	**Great Sand Dun**	**88.72**	**45**	P	**P**	**01 02 47.9**	**-4.0**

*NEIC **04** 01:11:39.9±2.0, 55°13N±0°09×157°6W±0°1, h18km±5km, Error ellipse: s-maj=15.4km s-min=5.2km az=150.0*

AEIC 04 01:11:40.9±2.8, 55°12N±0°08×157°50W±0°08, h19km±6km, ML3.4/29, mb3.5/3(NEIC), ML3.4/11(NEIC), Error ellipse: s-maj=12.1km s-min=5.3km az=159.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.24**	**257**		Pn	01 12 00.8	-2.4
CNBA					Sb	01 12 16.1	-3.2
CHGN	**Chignik**	**1.29**	**337**	Pn	Pn	01 12 01.9	-2.0
CHGN				IAML		01 12 21.4	
	comp=E,1μm,0.1s						
SDPT	**Sand Point**	**1.72**	**279**	Pn	Pn	01 12 07.5	-2.3
SDPT				Sn	Sn	01 12 28.8	-2.4
SDPT				IAML		01 12 35.3	
	comp=N,228nm,0.7s						
SDPT				IAML		01 12 37.9	
	comp=E,257nm,1.0s						
ANPB	**Aniakchak Plen**	**1.74**	**346**		Pn	01 12 08.7	-1.5
AZAC	**Aniakchak**	**1.82**	**347**		Pn	01 12 09.6	-1.8
ANNW	**Aniakchak Nort**	**1.89**	**348**		Pn	01 12 10.6	-1.7
PS4A	**Pavlof South-4**	**2.51**	**277**		Pn	01 12 19.0	-1.6
DT1	**Dutton Round H**	**2.75**	**272**		Pn	01 12 22.1	-1.8
OHAK	**Old Harbor**	**3.16**	**46**	Pn	Pn	01 12 28.0	-1.5
OHAK				Sn	Sn	01 13 03.2	-3.4
OHAK				IAML		01 13 27.8	
	comp=N,100nm,3.1s						
OHAK				IAML		01 14 33.2	
	comp=E,76nm,4.8s						
CAHL	**Cahill**	**3.18**	**22**		Pn	01 12 29.5	-0.4
FALS	**False Pass**	**3.42**	**268**	Pn	Pn	01 12 30.6	-2.5
ISLZ	**Isanotski Laza**	**3.61**	**266**		Pn	01 12 34.2	-1.5
SSLS	**Shishaldin Sou**	**3.77**	**266**		Pn	01 12 36.5	-1.6
KDAK	**Kodiak Island**	**3.81**	**44**	Pn	Pn	01 12 37.1	-1.4
KDAK	**Kodiak Island**	**3.81**	**44**	IAML		01 13 44.1	
	comp=E,89nm,5.0s						
KDAK				IAML		01 13 58.9	
	comp=E,92nm,3.8s						
WECS	**Westdahl Cape**	**4.25**	**265**		Pn	01 12 43.6	-1.1
Q19K	**Cape Douglas,**	**4.36**	**27**	Pn	Pn	01 12 41.6	-4.4
AKSA	**Akutan Strait**	**4.87**	**262**		Pn	01 12 52.2	-0.8
UNV	**Unalaska Valle**	**5.41**	**260**	Pn	Pn	01 12 57.1	-3.3
IVE	**Iliamna Volcan**	**5.47**	**24**		Pn	01 13 00.7	-0.6
MTBL	**Makushin Table**	**5.47**	**262**		Pn	01 12 59.0	-2.3
MSW	**Makushin Switc**	**5.54**	**261**		Pn	01 13 00.2	-2.1
MREP	**Makushin Rep't**	**5.55**	**260**		Pn	01 13 00.9	-1.6
CNPM	**China Poot**	**5.56**	**35**	Pn	Pn	01 12 59.4	-3.2
MAPS	**Pakushin South**	**5.66**	**260**		Pn	01 13 02.2	-1.8
BRLK	**Bradley Lake**	**5.86**	**35**	Pn	Pn	01 13 03.3	-3.4
N19K	**Bonanza Creek**	**5.93**	**14**	Pn	Pn	01 13 06.1	-1.6
RDWB	**Redoubt West**	**5.93**	**23**		Pn	01 13 06.2	-1.5
SEW	**Seward**	**6.60**	**38**	Pn	Pn	01 13 16.5	-0.3
RC01	**Rabbit Creek A**	**7.25**	**31**	Pn	Pn	01 13 26.5	+0.7
PWL	**Port Wells**	**7.53**	**36**	Pn	Pn	01 13 29.9	+0.3
KNK	**Knik Glacier**	**7.90**	**33**	Pn	Pn	01 13 34.2	-0.4
GHO	**Glory Hole Cre**	**8.04**	**30**	Pn	Pn	01 13 35.6	-0.9
SML	**Sawmill**	**8.24**	**32**	Pn	Pn	01 13 39.1	-0.2
EYAK	**Cordova Ski Ar**	**8.29**	**44**	Pn	Pn	01 13 39.8	-0.2
SCM	**Sheep Creek Mo**	**8.57**	**34**	Pn	Pn	01 13 42.7	-1.2
RAGM	**Ragged Mountai**	**8.64**	**47**	Pn	Pn	01 13 44.9	+0.1
KLU	**Klutina**	**8.82**	**39**	Pn	Pn	01 13 46.3	-1.0
BERG	**Berg Lake**	**9.06**	**49**	Pn	Pn	01 13 50.9	+0.4
M24K	**Tolsona, Glenn**	**9.15**	**35**	Pn	Pn	01 13 52.3	+0.5
CRQM	**Cirque**	**9.48**	**48**	Pn	Pn	01 13 55.7	-0.8
DHY	**Denali Highway**	**9.51**	**29**	Pn	Pn	01 13 57.1	+0.3
GLB	**Gilahina Butte**	**9.58**	**43**	Pn	Pn	01 13 57.4	-0.3
TGL	**Tana Glacier**	**9.62**	**48**	Pn	Pn	01 13 58.2	0.0
ISLE	**Juniper Island**	**9.75**	**50**	Pn	Pn	01 14 01.3	+1.2
TABL	**Table Mountain**	**10.22**	**52**	Pn	Pn	01 14 06.8	+0.3
BARN	**Barnard Glacie**	**10.26**	**48**	Pn	Pn	01 14 08.2	+1.0
PCA	**Pinnacle**	**10.49**	**55**	Pn	Pn	01 14 11.7	+1.5
HDA	**Harding Lake**	**10.71**	**25**	Pn	Pn	01 14 12.2	-0.9
IMAR	**Indian Mountai**	**11.05**	**8**	Pn	Pn	01 14 20.4	+2.7
EPYK	**Eagle Plains**	**15.07**	**33**	P	P	01 15 18.6	+0.8
EPYK				IAmb	IAmb	01 15 35.6	
	comp=Z,6.5nm,1.2s						
INK	**Inuvik**	**17.25**	**31**	Pn	Pn	01 15 39.3	-1.1
INK				IAmb	IAmb	01 15 40.2	
	comp=Z,3.3nm,1.4s						
C36M	**Paulatuk**	**20.71**	**34**	P	P	01 16 19.1	-0.5
C36M				IAmb	IAmb	01 16 47.4	
	comp=Z,1.7nm,0.7s						
YKA	**Yellowknife Ar**	**23.02**	**54**	P	P	01 16 44.7	+0.4

*IDC **04** 01:14:39.3±5.8, 16°42N×92°74W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/37, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=123.3km s-min=39.4km az=178.0*
*MEX **04** 01:14:48.3±0.8, 15°59N×93°85W, h7km±11km, MD3.9*

ISC 04 01:14:46.3±0.9, 15°63N±0°06×93°79W±0°03, h88km±8km, n23, σ1°72/40, mb3.9/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.55**	**82**	*i* P	**Pn**	**01 15 01.6**	**+0.3**
PCIG				*i* S	**Sn**	**01 15 12.1**	**-0.3**
TGIG		**1.31**	**29**	*i* P	**Pn**	**01 15 09.4**	**-0.2**
TGIG				*e*S	**Sn**	**01 15 25.2**	**-2.0**
PATR	**El Naranjo**	**1.58**	**109**	*e*P	**Pn**	**01 15 13.8**	**+0.5**
PATR				*e*S	**Sn**	**01 15 34.0**	**+0.3**
PAVE	**Pavencul**	**1.61**	**105**	*e*P	**Pn**	**01 15 14.2**	**+0.6**
PAVE				*e*S	**Sn**	**01 15 35.6**	**+1.2**
THIG		**1.64**	**116**	*e*P	**Pn**	**01 15 14.3**	**+0.6**
THIG				*i* S	**Sn**	**01 15 35.5**	**+1.0**
CHUJ	**Union Juarez**	**1.71**	**108**	*e*P	**Pn**	**01 15 15.2**	**+0.4**
CHUJ				*e*S	**Sn**	**01 15 37.2**	**+0.7**
UXUV	**UXUV**	**1.71**	**349**	*e*P	**Pn**	**01 15 16.0**	**+1.2**
UXUV				*e*S	**Sn**	**01 15 36.0**	**-0.3**
CCIG	**Comitan**	**1.72**	**68**	*e*P	**Pn**	**01 15 14.8**	**-0.1**
CCIG				*e*S	**Sn**	**01 15 34.2**	**-2.4**
CMIG	**Matias Romero**	**1.79**	**324**	Pn	**Pn**	**01 15 16.8**	**+1.0**
	19nm,0.3s,baz=186,slow=9.2,SNR=206						
CMIG				Sn	**Sn**	**01 15 39.3**	**+1.1**
	130nm,0.3s,baz=44,slow=13,SNR=34						
CMIG	**Matias Romero**	**1.79**	**324**	*e*P	**Pn**	**01 15 16.8**	**+1.0**
CMIG				*e*S	**Sn**	**01 15 39.0**	**+0.8**
HUIG	**Huatulco**	**2.24**	**274**	*e*P	**Pn**	**01 15 22.0**	**+0.3**
HUIG				*i* S	**Sn**	**01 15 46.6**	**-2.1**
VHO	**Vista Hermosa**	**3.17**	**297**	*e*P	**Pn**	**01 15 35.7**	**+1.4**
VHO				*i* S	**Sn**	**01 16 12.4**	**+1.1**
PEIG	**Puerto Escondi**	**3.25**	**277**	*e*P	**Pn**	**01 15 35.8**	**+0.6**
PEIG				*i* S	**Sn**	**01 16 10.5**	**-2.5**
YOIG	**Yosondua**	**3.81**	**289**	*e*P	**Pn**	**01 15 45.4**	**+2.4**
YOIG				*i* S	**Sn**	**01 16 26.5**	**-0.4**
TOIG	**Toxpalan**	**3.98**	**308**	*e*P	**Pn**	**01 15 47.8**	**+2.5**
TOIG				*i* S	**Sn**	**01 16 25.7**	**-5.2**
PNIG	**Pinotepa**	**4.24**	**281**	*e*P	**Pn**	**01 15 48.0**	**-0.7**
PNIG				*e*S	**Sn**	**01 16 34.2**	**-2.9**
HLIG	**Huajuapan de L**	**4.43**	**300**	*e*P	**Pn**	**01 15 54.6**	**+3.3**
HLIG				*e*S	**Sn**	**01 16 41.7**	**-0.1**
FTIG	**Fresnillo de T**	**4.74**	**299**	*e*P	**Pn**	**01 15 59.1**	**+3.6**
FTIG				*e*S	**Sn**	**01 16 48.4**	**-0.9**
PDAR	**Pinedale Array**	**30.24**	**337**	P	**P**	**01 20 49.1**	**+0.1**
	0.1nm,0.3s,baz=318,slow=50,SNR=1.5						
NVAR	**Mina Array Bea**	**31.32**	**321**	P	P	01 21 01.9	+3.2
	0.5nm,0.6s,baz=119,slow=9.4,SNR=4.1						
YKA	**Yellowknife Ar**	**49.06**	**347**	P	**P**	**01 23 24.4**	**+0.1**
	0.8nm,0.5s,baz=152,slow=7.4,SNR=22						
INK	**Inuvik**	**58.40**	**344**	P	**P**	**01 24 32.1**	**-0.2**
	0.8nm,0.8s,baz=104,slow=8.3,SNR=4.0						
ARCES	**ARCESS Array B**	**85.13**	**18**	P	**P**	**01 27 11.8**	**-0.6**
	0.9nm,0.6s,baz=290,slow=5.6,SNR=5.4						

WEL 04 01:22:01.2±0.5, 43°S±2°×17°3E±°, h12km, M3.4/9, ML3.5/11, MLv3.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=107.2, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCZ	**Okains Bay**	**0.35**	**198**	P	Pb	01 22 09.0	-0.4
OKCZ				S	Sb	01 22 14.9	0.0
GVZ	**Greta Valley S**	**0.44**	**343**	P	Pg	01 22 10.3	+0.4
GVZ				S	Sb	01 22 17.3	-0.2
AMCZ	**Amberley**	**0.46**	**297**	P	Pb	01 22 11.3	0.0
AMCZ				S	Sb	01 22 19.0	+1.0
MQZ	**McQueen's Vall**	**0.51**	**232**	P	Pb	01 22 11.8	-0.4
MQZ				S	Sb	01 22 19.3	-0.2
AKCZ	**Akaroa Harbour**	**0.53**	**204**	P	Pb	01 22 12.2	-0.2
AKCZ				S	Sn	01 22 22.1	-1.4
RACZ	**Rakaia**	**0.85**	**246**	P	Pb	01 22 18.1	+0.3
RACZ				S	Sn	01 22 30.4	-0.9
OXZ	**Oxford**	**0.86**	**274**	P	Pb	01 22 18.0	0.0
OXZ				S	Sb	01 22 30.1	+0.7
LTZ	**Lake Taylor**	**0.92**	**311**	P	Pb	01 22 19.3	+0.2
LTZ				S	Sn	01 22 32.3	-0.8
KHZ	**Kahutara**	**1.00**	**14**	P	Pb	01 22 19.8	-0.7
KHZ				S	Sn	01 22 34.9	-0.2
WACZ	**Wakanui South**	**1.14**	**240**	P	Pb	01 22 22.5	-0.3
MHCZ	**Mount Hutt**	**1.20**	**263**	P	Pn	01 22 23.4	-0.5
INZ	**Inchbonnie**	**1.45**	**297**	P	Pn	01 22 27.4	+0.1
ARCZ	**Arundel**	**1.58**	**249**	P	Pn	01 22 28.3	-0.7
RPZ	**Rata Peaks**	**1.60**	**258**	P	Pn	01 22 29.0	-0.3
THZ	**Tophouse**	**1.64**	**352**	P	Pn	01 22 30.2	+0.2
BSWZ	**Blackbirch Sta**	**1.75**	**17**	P	Pn	01 22 30.5	-0.8
WVZ	**Waitaha Valley**	**1.83**	**279**	P	Pn	01 22 31.9

CAW S S 01 28 16.9 -4.8

*MEX **04** 01:51:04.7±1.5, 15°.79N×95°.22W, h54km±28km, MD4.7*
*IDC **04** 01:51:05.0±0.9, 15°.93N×94°.98W, h44km±7km, mb3.6/9, mb1 3.9/10, mb1mx3.5/41, mbtmp3.9/10, Error ellipse: s-maj=21.4km s-min=10.1km az=83.0*
*NEIC **04** 01:51:05.0±2.6, 15°.85N±0°.05×95°.23W±0°.04, h38km±6km, mb4.3/62, Md4.7/59(MEX), Error ellipse: s-maj=7.8km s-min=5.3km az=184.0*

ISC 04 01:51:04.4±0.6, **15°.76N**±0°.04×**95°.22W**±0°.02, **h44**km±6km, **n219**, σ1$**84**/266, **mb4.2**/26, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.86**	**271**		**Pn**	**01 51 19.4**	**-0.7**
HUIG					**Sn**	**01 51 30.4**	**-1.1**
HUIG	**Huatulco**	**0.86**	**271**	*eP*	**Pn**	**01 51 19.4**	**-0.7**
HUIG				*eS*	**Sn**	**01 51 30.4**	**-1.1**
CMIG	**Matias Romero**	**1.36**	**14**	P	**Pn**	**01 51 25.4**	**-1.5**
	636nm,0.3s,baz=195,slow=13						
CMIG				S	**Sn**	**01 51 39.7**	**-4.2**
CMIG	**Matias Romero**	**1.36**	**14**		**Pn**	**01 51 25.5**	**-1.5**
CMIG					**Sn**	**01 51 41.6**	**-2.3**
CMIG	**Matias Romero**	**1.36**	**14**	*eP*	**Pn**	**01 51 25.5**	**-1.5**
CMIG				*i* S	**Sn**	**01 51 41.6**	**-2.3**
PEIG	**Puerto Escondi**	**1.87**	**277**	*eP*	**Pn**	**01 51 33.2**	**-0.8**
PEIG				*i* S	**Sn**	**01 51 54.1**	**-2.3**
OXLC	**Oaxaca**	**1.93**	**312**	*eP*	**Pn**	**01 51 35.7**	**+0.8**
OXLC				*i* S	**Sn**	**01 51 58.4**	**+0.3**
PCIG		**1.93**	**91**		**Pn**	**01 51 33.7**	**-1.0**
PCIG					**Sn**	**01 51 55.9**	**-1.9**
PCIG		**1.93**	**91**	*eP*	**Pn**	**01 51 33.7**	**-1.0**
PCIG				*i* S	**Sn**	**01 51 55.9**	**-1.9**
OXBJ	**Oaxaca**	**1.94**	**312**		**Pn**	**01 51 35.9**	**+0.7**
OXBJ					**Sn**	**01 51 58.7**	**+0.2**
OXBJ	**Oaxaca**	**1.94**	**312**	*i* P	**Pn**	**01 51 35.9**	**+0.7**
OXBJ				*i* S	**Sn**	**01 51 58.7**	**+0.2**
VHO	**Vista Hermosa**	**1.95**	**312**	*eP*	**Pn**	**01 51 36.0**	**+0.7**
VHO				*eS*	**Sn**	**01 51 58.9**	**+0.2**
TGIG		**2.25**	**63**		**Pn**	**01 51 39.3**	**0.0**
TGIG					**Sn**	**01 52 05.7**	**-0.2**
TGIG		**2.25**	**63**	*eP*	**Pn**	**01 51 39.3**	**0.0**
TGIG				*eS*	**Sn**	**01 52 05.7**	**-0.2**
TGBT	**Tuxtla Gutierr**	**2.28**	**63**		**Pn**	**01 51 40.1**	**+0.6**
TGBT					**Sn**	**01 52 06.3**	**-0.1**
TGBT	**Tuxtla Gutierr**	**2.28**	**63**	*i* P	**Pn**	**01 51 40.1**	**+0.6**
TGBT				*i* S	**Sn**	**01 52 06.3**	**-0.1**
TUIG	**Tuzandepetl**	**2.38**	**19**		**Pn**	**01 51 40.4**	**-0.6**
TUIG	**Tuzandepetl**	**2.38**	**19**	*eP*	**Pn**	**01 51 40.4**	**-0.6**
YOIG	**Yosondua**	**2.49**	**296**	*eP*	**Pn**	**01 51 42.5**	**-0.2**
YOIG				*eS*	**Sn**	**01 52 11.4**	**-0.6**
TXIG	**Tlaxiaco**	**2.86**	**302**	*eP*	**Pn**	**01 51 48.6**	**+0.8**
TXIG				*eS*	**Sn**	**01 52 21.4**	**+0.2**
PNIG	**Pinotepa**	**2.87**	**283**		**Pn**	**01 51 47.3**	**-0.4**
PNIG					**Sn**	**01 52 16.0**	**-4.9**
PNIG	**Pinotepa**	**2.87**	**283**	*eP*	**Pn**	**01 51 47.3**	**-0.4**
PNIG				*eS*	**Sn**	**01 52 16.0**	**-4.9**
TOIG	**Toxpalan**	**2.92**	**323**	*eP*	**Pn**	**01 51 50.3**	**+1.8**
TOIG				*i* S	**Sn**	**01 52 23.1**	**+0.8**
CCIG	**Comitan**	**3.01**	**80**		**Pn**	**01 51 49.4**	**-0.4**
HLIG	**Huajuapan de L**	**3.22**	**310**	*eP*	**Pn**	**01 51 54.1**	**+1.4**
HLIG				*eS*	**Sn**	**01 52 30.1**	**+0.2**
FTIG	**Fresnillo de T**	**3.51**	**308**	*eP*	**Pn**	**01 51 58.0**	**+1.4**
FTIG				*eS*	**Sn**	**01 52 36.4**	**-0.7**
HUEH	**Huehuetenango**	**3.61**	**97**	Pn	**Pn**	**01 51 59.3**	**+1.2**
RTAL	**Retalhuleu**	**3.62**	**109**	Pn	**Pn**	**01 51 58.0**	**0.0**
TLIG	**Tlapa**	**3.67**	**300**		**Pn**	**01 52 00.2**	**+1.3**
TLIG	**Tlapa**	**3.67**	**300**	*eP*	**Pn**	**01 52 00.4**	**+1.5**
TLIG				*eS*	**Sn**	**01 52 40.7**	**-0.3**
HMTT	**Tlapaneco**	**3.79**	**303**		**Pn**	**01 52 02.5**	**+2.0**
HMTT					**Sn**	**01 52 43.5**	**-0.3**
HMTT	**Tlapaneco**	**3.79**	**303**	*i* P	**Pn**	**01 52 02.5**	**+2.0**
HMTT				*i* S	**Sn**	**01 52 43.5**	**-0.3**
CRIG	**Cruz Grande**	**3.88**	**285**		**Pn**	**01 52 01.1**	**-0.5**
CRIG					**Sn**	**01 52 40.9**	**-5.0**
CRIG	**Cruz Grande**	**3.88**	**285**	*eP*	**Pn**	**01 52 01.1**	**-0.5**
CRIG				*eS*	**Sn**	**01 52 40.9**	**-5.0**
LVIG	**Laguna Verde**	**4.10**	**344**		**Pn**	**01 52 01.3**	**-3.3**
LVIG					**Sn**	**01 52 44.4**	**-7.0**
LVIG	**Laguna Verde**	**4.10**	**344**	*eP*	**Pn**	**01 52 01.3**	**-3.3**
LVIG				*eS*	**Sn**	**01 52 44.4**	**-7.0**
DAIG	**Los Arroyos**	**4.43**	**287**		**Pn**	**01 52 09.6**	**+0.4**
DAIG					**Sn**	**01 52 54.4**	**-5.2**
DAIG	**Los Arroyos**	**4.43**	**287**	*eP*	**Pn**	**01 52 09.6**	**+0.4**
DAIG				*i* S	**Sn**	**01 52 54.4**	**-5.2**
ACP2	**Acapulco**	**4.62**	**285**		**Pn**	**01 52 12.1**	**+0.4**
ACP2					**Sn**	**01 52 58.3**	**-5.8**
ACP2	**Acapulco**	**4.62**	**285**	*i* P	**Pn**	**01 52 12.1**	**+0.4**
ACP2				*i* S	**Sn**	**01 52 58.3**	**-5.8**
PPM	**Popocatepetl**	**4.62**	**316**	*eP*	**Pn**	**01 52 15.2**	**+3.0**
PPM				*eS*	**Sn**	**01 53 08.6**	**+3.6**
MEIG	**Mezcala**	**4.73**	**298**		**Pn**	**01 52 15.2**	**+1.9**
MEIG					**Sn**	**01 53 04.7**	**-2.3**
MEIG	**Mezcala**	**4.73**	**298**	*eP*	**Pn**	**01 52 15.2**	**+1.9**
MEIG				*eS*	**Sn**	**01 53 04.7**	**-2.3**
YAIG	**Yautepec**	**4.80**	**311**		**Pn**	**01 52 16.8**	**+2.4**
YAIG					**Sn**	**01 53 06.5**	**-2.2**
YAIG	**Yautepec**	**4.80**	**311**	*i* P	**Pn**	**01 52 16.8**	**+2.4**
YAIG				*i* S	**Sn**	**01 53 06.5**	**-2.2**
PLIG	**Platanillo**	**4.86**	**303**		**Pn**	**01 52 17.2**	**+2.0**
PLIG					**Sn**	**01 53 09.1**	**-1.1**
PLIG	**Platanillo**	**4.86**	**303**	*eP*	**Pn**	**01 52 17.2**	**+2.0**
PLIG				*eS*	**Sn**	**01 53 09.1**	**-1.1**
SCIG	**Sabancuy**	**5.00**	**50**		**Pn**	**01 52 15.7**	**-1.3**
SCIG					**Sn**	**01 53 08.5**	**-5.0**
SCIG	**Sabancuy**	**5.00**	**50**	*i* P	**Pn**	**01 52 15.7**	**-1.3**
SCIG				*i* S	**Sn**	**01 53 08.5**	**-5.0**
CAIG	**El Cayaco**	**5.01**	**285**		**Pn**	**01 52 17.6**	**+0.5**
CAIG					Sn	01 53 03.6	-10
CAIG	**El Cayaco**	**5.01**	**285**	*eP*	**Pn**	**01 52 17.6**	**+0.5**
CAIG				*eS*	Sn	01 53 03.6	-10
UNM	**Universidad Na**	**5.18**	**314**	Pn	**Pn**	**01 52 18.7**	**-1.0**
PETF	**Flores**	**5.26**	**77**	Pn	**Pn**	**01 52 19.7**	**-0.9**
ARIG	**Puente Sto Nin**	**5.51**	**298**		**Pn**	**01 52 26.3**	**+2.3**
ARIG					**Sn**	**01 53 20.7**	**-5.4**
ARIG	**Puente Sto Nin**	**5.51**	**298**	*eP*	**Pn**	**01 52 26.3**	**+2.3**
ARIG				*eS*	**Sn**	**01 53 20.7**	**-5.4**
MTO3	**Montecristo**	**5.82**	**103**	Pn	**Pn**	**01 52 28.8**	**+0.4**
MOIG	**Morelia**	**6.89**	**305**	Pn	**Pn**	**01 52 46.0**	**+2.8**
MOIG	**Morelia**	**6.89**	**305**	*eP*	**Pn**	**01 52 46.7**	**+3.5**
MOIG				*eS*	**Sn**	**01 54 04.2**	**+3.7**
TGUH	**Tegucigalpa,Un**	**7.87**	**101**	Pn	**Pn**	**01 52 57.9**	**+1.4**
MATN	**Matagalpa**	**9.44**	**106**		**Pn**	**01 53 19.3**	**+1.4**
ZAIG	**Zacatecas**	**9.83**	**316**		**Pn**	**01 53 26.5**	**+2.9**
HZTE	**Horizontes, Gu**	**10.63**	**117**	Pn	**Pn**	**01 53 34.9**	**+0.7**
ORTG	**Ortega, Santa**	**10.92**	**118**	Pn	**Pn**	**01 53 40.4**	**+2.1**
JTS	**Las Juntas de**	**11.38**	**117**	P	**Pn**	**01 53 45.2**	**+0.6**
JTS	**Las Juntas de**	**11.38**	**117**	Pn	**Pn**	**01 53 45.5**	**+0.9**
RIMA	**Rio Macho**	**12.57**	**117**		**Pn**	**01 54 01.4**	**+0.4**
PEZE	**Perez Zeledon,**	**12.92**	**118**	Pn	**Pn**	**01 54 07.5**	**+1.9**
833A	**Chaparral WMA,**	**13.09**	**344**	Pn	**Pn**	**01 54 09.8**	**+2.1**
833A	**Chaparral WMA,**	**13.09**	**344**	P	**Pn**	**01 54 09.3**	**+1.6**
	baz=162,SNR=12						
SRBA	**San Rafael, Bu**	**13.27**	**118**	Pn	**Pn**	**01 54 12.5**	**+2.1**
SOR	**Soroa**	**13.48**	**57**	Pn	**Pn**	**01 54 12.3**	**-0.8**
435B	**Jarrell**	**15.11**	**352**		**Pn**	**01 54 34.4**	**-0.6**
435B	**Jarrell**	**15.11**	**352**	P	**Pn**	**01 54 36.7**	**+1.7**
	baz=171,SNR=11						
JCT	**Junction City**	**15.24**	**345**	P	**P**	**01 54 38.7**	**-2.2**
JCT				IAmb	IAmb	01 54 50.1	
	comp=Z,15nm,0.7s						
JCT	**Junction City**	**15.24**	**345**	P	**Pn**	**01 54 37.7**	**+0.9**
	baz=163						
237A	**Washetta, Mont**	**16.18**	**358**		**P**	**01 54 49.6**	**-1.7**
237A				IAmb	IAmb	01 55 07.2	
	comp=Z,16nm,0.8s						
WHTX	**Lake Whitney,**	**16.29**	**353**		**P**	**01 54 52.2**	**-0.3**
WHTX	**Lake Whitney,**	**16.29**	**353**	P	**P**	**01 54 51.1**	**-1.4**
	baz=172,SNR=8.2						
ABTX	**Abilene, Hawle**	**17.26**	**347**	Pn	**Pn**	**01 55 01.2**	**-1.1**
ABTX				IAmb	IAmb	01 55 13.6	
	comp=Z,19nm,0.8s						
ABTX	**Abilene, Hawle**	**17.26**	**347**	P	**P**	**01 55 03.0**	**-0.3**
	baz=165,SNR=6.3						
Z41A	**Richland Creek**	**17.56**	**7**	P	**P**	**01 55 06.0**	**-0.5**
Z41A				IAmb	IAmb	01 55 17.6	
	comp=Z,21nm,0.8s						
Z41A	**Richland Creek**	**17.56**	**7**	P	**P**	**01 55 07.3**	**+0.8**
	baz=187						
WLAR	**White Oak Lake**	**17.95**	**6**	P	**P**	**01 55 10.4**	**-0.5**
MNTX	**Cornudas Mount**	**18.37**	**331**	P	**P**	**01 55 14.4**	**-1.1**
MNTX	**Cornudas Mount**	**18.37**	**331**	P	**Pn**	**01 55 15.9**	**0.0**
	baz=147						
MIAR	**Mount Ida**	**18.76**	**4**	P	**P**	**01 55 16.9**	**-2.9**
MIAR				IAmb	IAmb	01 55 30.8	
	comp=Z,9.3nm,0.6s						
MIAR	**Mount Ida**	**18.76**	**4**	P	**P**	**01 55 18.9**	**-0.9**
	baz=185						
X40A	**Basin Creek Fa**	**18.77**	**6**	P	**Pn**	**01 55 21.0**	**+0.3**
	baz=187						
WMOK	**Wichita Mounta**	**19.17**	**351**	P	**P**	**01 55 23.0**	**-1.2**
WMOK				IAmb	IAmb	01 55 50.3	
	comp=Z,11nm,0.7s						
WMOK	**Wichita Mounta**	**19.17**	**351**	P	**P**	**01 55 24.1**	**-0.1**
	baz=169						
W35A	**Tecumseh**	**19.37**	**356**	P	**P**	**01 55 25.5**	**-0.9**
W35A				IAmb	IAmb	01 55 45.0	
	comp=Z,21nm,0.7s						
MSTX	**Muleshoe**	**19.37**	**341**	P	**Pn**	**01 55 27.0**	**-1.0**
	baz=157						
W39A	**Magazine**	**19.40**	**4**	P	**P**	**01 55 25.4**	**-1.3**
W39A				IAmb	IAmb	01 55 52.4	
	comp=Z,11nm,0.7s						
W39A	**Magazine**	**19.40**	**4**	P	**P**	**01 55 25.9**	**-0.8**
	baz=184						
W41B	**Gary Mavity, V**	**19.51**	**7**	P	**P**	**01 55 28.4**	**+0.4**
	baz=188						
AMTX	**Amarillo**	**19.91**	**344**	P	**P**	**01 55 31.2**	**-1.2**
AMTX				IAmb	IAmb	01 55 57.4	
	comp=Z,9.7nm,0.7s						
AMTX	**Amarillo**	**19.91**	**344**	P	**P**	**01 55 32.9**	**+0.5**
	baz=161						
OK029	**Liberty Lake**	**20.05**	**355**	P	**P**	**01 55 33.1**	**-0.8**
OK029				IAmb	IAmb	01 55 44.6	
	comp=Z,26nm,1.0s						
TUL1	**Leonard**	**20.07**	**359**	P	**P**	**01 55 32.6**	**-1.5**
TUL1				IAmb	IAmb	01 55 58.1	
	comp=Z,16nm,0.8s						
TUL1	**Leonard**	**20.07**	**359**	P	**P**	**01 55 33.1**	**-1.0**
	baz=178						
OK030	**Cody Creek RV**	**20.13**	**356**	P	**P**	**01 55 33.4**	**-1.3**
319A	**Douglas**	**20.16**	**323**	P	Pn	01 55 36.8	-0.5
OK031	**S. Brethren Rd**	**20.16**	**356**		**P**	**01 55 33.7**	**-1.3**
OK034	**N. Norfolk Rd.**	**20.21**	**356**	P	**P**	**01 55 34.3**	**-1.3**
121A	**Cookes Peak, D**	**20.22**	**328**	P	**P**	**01 55 36.5**	**+0.5**
121A				IAmb	IAmb	01 55 38.9	
	comp=Z,9.2nm,0.8s						
121A	**Cookes Peak, D**	**20.22**	**328**	P	Pn	01 55 37.3	-0.9
	baz=142,SNR=12						
HHAR	**Hobbs**	**20.47**	**3**	P	**P**	**01 55 37.3**	**-1.2**
GOGA	**Godfrey**	**20.54**	**29**	P	**P**	**01 55 40.0**	**+0.8**
GOGA				IAmb	IAmb	01 55 42.5	
	comp=Z,18nm,1.4s						
U38A	**Gravette**	**20.61**	**2**	P	**P**	**01 55 40.1**	**+0.2**
U38A				IAmb	IAmb	01 55 50.6	
	comp=Z,14nm,0.8s						
U40A	**Yellville**	**20.62**	**5**	P	**P**	**01 55 39.9**	**-0.2**
U40A	**Yellville**	**20.62**	**5**	P	Pn	01 55 41.3	-1.4
	baz=186,SNR=6.0						
BNM	**Barren Site**	**21.00**	**333**	P	**P**	**01 55 45.4**	**+0.9**
T35A	**Sooner Cattle**	**21.10**	**357**		**P**	**01 55 43.5**	**-1.7**
OK032	**Salt Plains WL**	**21.13**	**353**	P	**P**	**01 55 45.5**	**0.0**
LENM	**Lemitar**	**21.16**	**332**	P	**P**	**01 55 47.0**	**+0.9**
WVT	**Waverly**	**21.33**	**17**	P	**P**	**01 55 46.2**	**-1.4**
MGMO	**Mountain Grove**	**21.47**	**6**	P	**P**	**01 55 48.8**	**-0.3**
T42A	**Van Buren**	**21.50**	**9**	P	**P**	**01 55 48.5**	**-1.0**
T42A				IAmb	IAmb	01 55 59.2	
	comp=Z,9.1nm,0.8s						
ANMO	**Albuquerque**	**21.60**	**334**	P	**P**	**01 55 51.0**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=159,slow=12,SNR=6.3						
ANMO	**Albuquerque**	**21.60**	**334**	P	**P**	**01 55 51.2**	**+0.3**
ANMO	**Albuquerque**	**21.60**	**334**	P	**P**	**01 55 51.1**	**+0.3**
	baz=149						
TUC	**Tucson**	**21.71**	**322**	P	**P**	**01 55 53.2**	**+1.3**
TUC				IAmb	IAmb	01 56 16.7	
	comp=Z,12nm,1.2s						
TUC	**Tucson**	**21.71**	**322**	P	**P**	**01 55 53.3**	**+1.4**
	baz=135						
S39A	**Bolivar**	**21.91**	**4**	P	**P**	**01 55 54.1**	**+0.3**
S39A				IAmb	IAmb	01 56 04.0	
	comp=Z,11nm,0.7s						
U49A	**Red Boiling Sp**	**22.31**	**20**	P	**P**	**01 55 56.0**	**-2.2**
CCM	**Cathedral Cave**	**22.48**	**8**	P	**P**	**01 56 00.4**	**+0.4**
	baz=190						
R40A	**Maddies Statio**	**22.59**	**6**	P	**P**	**01 56 00.0**	**-1.2**
R40A				IAmb	IAmb	01 56 12.6	
	comp=Z,15nm,1.2s						
214A	**Organ Pipe Nat**	**22.72**	**318**	P	**P**	**01 56 04.2**	**+1.5**
214A				IAmb	IAmb	01 56 06.3	
	comp=Z,15nm,1.4s						
214A	**Organ Pipe Nat**	**22.72**	**318**	P	**P**	**01 56 04.0**	**+1.3**
	baz=131,SNR=5.8						
R32A	**Long Quarter,**	**22.78**	**353**	P	**P**	**01 56 04.4**	**+1.2**
R32A				IAmb	IAmb	01 56 05.9	
	comp=Z,15nm,1.0s						
T25A	**Trinidad**	**22.80**	**341**	P	**P**	**01 56 04.5**	**+0.8**
T25A				IAmb	IAmb	01 56 26.2	
	comp=Z,9.8nm,0.9s						
T25A	**Trinidad**	**22.80**	**341**	P	**P**	**01 56 04.4**	**+0.7**
	baz=156,SNR=5.7						
KSU1	**Kansas State U**	**23.28**	**357**	P	**P**	**01 56 07.5**	**-0.8**
KSU1	**Kansas State U**	**23.28**	**357**	P	**P**	**01 56 07.9**	**-0.3**
	baz=176						
CBKS	**Cedar Bluff**	**23.31**	**351**	P	**P**	**01 56 08.3**	**-0.3**
	baz=169						
X16A	**Lo Mia Camp, P**	**23.62**	**325**	P	**P**	**01 56 14.9**	**+3.1**
X16A				IAmb	IAmb	01 56 15.7	
	comp=Z,6.6nm,0.8s						
SDCO	**Great Sand Dun**	**23.71**	**339**	P	**P**	**01 56 14.1**	**+1.4**
SDCO				IAmb	IAmb	01 56 33.7	
	comp=Z,12nm,1.4s						
SDCO	**Great Sand Dun**	**23.71**	**339**	P	**P**	**01 56 13.5**	**+0.8**
	baz=154,SNR=5.7						
KSCO	**Kaye Shedlock'**	**24.06**	**346**	P	**P**	**01 56 16.4**	**+0.8**
	baz=162						
S22A	**4UR Ranch, Cre**	**24.18**	**337**	P	**P**	**01 56 17.9**	**+0.8**
	baz=152						
MVCO	**Mesa Verde**	**24.39**	**334**	P	**P**	**01 56 19.8**	**+0.9**
	baz=147						
WUAZ	**Wupatki**	**24.41**	**327**	P	**P**	**01 56 21.2**	**+2.2**
WUAZ				IAmb	IAmb	01 56 23.2	
	comp=Z,10nm,0.9s						
WUAZ	**Wupatki**	**24.41**	**327**	P	**P**	**01 56 20.2**	**+1.2**
	baz=139,SNR=11						
Q24A	**Divide**	**24.70**	**341**	P	**P**	**01 56 22.1**	**+0.3**
	baz=156						
GLA	**Glamis**	**24.73**	**318**	P	**P**	**01 56 22.2**	**+0.5**
GLA				IAmb	IAmb	01 56 46.2	
	comp=Z,11nm,1.1s						
GLA	**Glamis**	**24.73**	**318**	P	**P**	**01 56 23.1**	**+1.3**
	baz=129						
N38A	**Joes South For**	**25.00**	**4**	P	**P**	**01 56 22.7**	**-1.4**
HDIL	**Hopedale**	**25.24**	**11**	P	**P**	**01 56 27.3**	**+1.1**
	baz=193						
SWSC	**Sam W. Stewart**	**25.30**	**316**	P	**P**	**01 56 28.3**	**+1.4**
	baz=127						
IKP	**In-Ko-Pah, Jac**	**25.33**	**315**	P	**P**	**01 56 29.0**	**+1.7**
	baz=126						
P49A	**Miami Univ. Ec**	**25.40**	**19**	P	**P**	**01 56 29.0**	**+1.2**
	baz=204						
SMCO	**Snowmass**	**25.50**	**338**	P	**P**	**01 56 30.6**	**+1.5**
SMCO				IAmb	IAmb	01 56 52.2	
	comp=Z,12nm,1.1s						
BC3	**Big Chuckawall**	**25.52**	**318**	P	**P**	**01 56 30.3**	**+1.3**
	baz=129						
U15A	**North Rim**	**25.59**	**327**	P	**P**	**01 56 31.7**	**+1.9**
ISCO	**Idaho Springs**	**25.61**	**341**	P	**P**	**01 56 30.7**	**+0.7**
ISCO	**Idaho Springs**	**25.61**	**341**	P	**P**	**01 56 30.1**	**+0.1**
	baz=156						
IRM	**Iron Mountain**	**25.64**	**319**	P	**P**	**01 56 31.3**	**+1.3**
	baz=130						
BGNE	**Belgrade**	**25.68**	**355**	P	**P**	**01 56 31.1**	**+0.8**
	baz=173						
MONP2	**Monument Peak**	**25.69**	**315**	P	**P**	**01 56 32.9**	**+2.3**
	baz=126						
NEE2	**Needles Airpor**	**25.72**	**321**	P	**P**	**01 56 32.9**	**+2.2**
	baz=132						
BELC	**Belle Mtn. Jos**	**26.08**	**318**	P	**P**	**01 56 35.8**	**+1.6**
	baz=129						
GMRC	**Granite Mounta**	**26.37**	**320**	P	**P**	**01 56 38.2**	**+1.4**
	baz=131						
MURC	**Murrieta**	**26.63**	**316**	P	**P**	**01 56 41.0**	**+2.0**
	baz=126						
HEC	**Hector,Ludlow**	**26.82**	**319**	P	**P**	**01 56 42.1**	**+1.3**
	baz=130						
JFWS	**Jewell Farm**	**27.39**	**8**	P	**P**	**01 56 44.0**	**-1.7**
	baz=190						
ECSD	**EROS Data Cent**	**27.91**	**358**	P	**P**	**01 56 49.2**	**-1.0**
ECSD				IAmb	IAmb	01 57 02.5	
	comp=Z,5.8nm,0.8s						
ECSD	**EROS Data Cent**	**27.91**	**358**	P	**P**	**01 56 50.0**	**-0.2**
	baz=177						
TPNV	**Topopah Spring**	**28.17**	**322**	P	**P**	**01 56 53.3**	**+0.4**
	baz=133						
MPMC	**Manual Prospec**	**28.33**	**320**	P	**P**	**01 56 54.8**	**+0.4**
	baz=130						
K22A	**Casper**	**28.50**	**342**	P	**P**	**01 56 56.3**	**+0.5**
	baz=156						
SUSD	**Miller**	**28.76**	**354**	P	**P**	**01 56 58.3**	**+0.4**
	baz=172						
DUG	**Dugway, Tooele**	**28.77**	**331**	P	**P**	**01 56 59.5**	**+1.3**
	baz=143						
R11A	**Troy Canyon, C**	**28.77**	**325**	P	**P**	**01 56 58.6**	**+0.3**
	baz=136						
SPMN	**Marine on St.**	**29.44**	**3**	P	**P**	**01 57 01.7**	**-2.2**
	baz=184						
PDAR	**Pinedale Array**	**29.59**	**338**	P	**P**	**01 57 05.2**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=123,slow=4.4,SNR=2.3						
NV11	**Mina Array Sit**	**30.28**	**323**	P	**P**	**01 57 13.4**	**+1.8**
NV11				IAmb	IAmb	01 57 34.3	
	comp=Z,7.6nm,1.1s						
NVAR	**Mina Array Bea**	**30.37**	**322**	P	**P**	**01 57 14.5**	**+2.1**
	comp=Z,2.4nm,0.7s,baz=132,slow=8.7,SNR=14						
NVAR				pP	**pP**	**01 57 26.6**	**+2.2**
	comp=Z,1.6nm,0.6s,baz=134,slow=8.6,SNR=6.6						
NVAR	**Mina Array Bea**	**30.37**	**322**	P	**P**	**01 57 15.1**	**+2.6**
REDW	**Red Top Meadow**	**30.57**	**337**	P	**P**	**01 57 15.3**	**+1.1**
MOOW	**Moose Ponds**	**30.87**	**338**	P	**P**	**01 57 17.3**	**+0.5**
E38A	**The Farm, Brul**	**30.90**	**5**	P	**P**	**01 57 14.8**	**-2.0**
RLMT	**Red Lodge**	**31.57**	**341**	P	**P**	**01 57 22.7**	**-0.3**
	baz=153						
HLID	**Hailey**	**32.18**	**333**	P	**P**	**01 57 28.0**	**-0.2**
	baz=143						
MDND	**Maddock**	**32.20**	**354**	P	**P**	**01 57 27.7**	**-0.5**
	baz=172						
AGMN	**Agassiz Nation**	**32.45**	**359**	P	**P**	**01 57 29.0**	**-1.4**
AGMN	**Agassiz Nation**	**32.45**	**359**	P	**P**	**01 57 29.1**	**-1.2**
	baz=179						
MCMT	**McKenzie Canyo**	**32.58**	**336**	P	**P**	**01 57 33.8**	**+2.0**
LRM	**Limekiln Ridge**	**33.27**	**338**	P	**P**	**01 57 39.2**	**+1.3**
J08A	**Circle Bar Ran**	**33.91**	**329**	P	**P**	**01 57 44.4**	**+1.0**
PLID	**Pearl Lake**	**34.08**	**333**	P	**P**	**01 57 45.6**	**+0.7**
PLID				IAmb	IAmb	01 58 14.0	
	comp=Z,4.0nm,1.1s						
N02D	**Trinity Center**	**34.60**	**322**	P	**P**	**01 57 49.5**	**+0.2**
	baz=128						
F10A	**Beach Ranch, E**	**35.31**	**333**	P	**P**	**01 57 55.7**	**+0.3**
F10A				IAmb	IAmb	01 57 57.0	
	comp=Z,4.7nm,0.9s						
NEW	**Newport**	**37.08**	**336**	P	**P**	**01 58 10.7**	**+0.2**
NEW	**Newport**	**37.08**	**336**	P	**P**	**01 58 10.1**	**-0.3**
	baz=143						
PTGA	**Pitinga**	**38.48**	**112**	P	**P**	**01 58 21.9**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=325,slow=22,SNR=1.4						
A04D	**Lummi Island**	**39.83**	**331**	P	**P**	**01 58 32.9**	**-0.5**
	baz=136						
LPAZ	**La Paz**	**41.58**	**139**	P	**P**	**01 58 48.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=343,slow=2.4,SNR=4.6						
LPAZ	**La Paz**	**41.58**	**139**	P	**P**	**01 58 49.8**	**+0.9**
FCC	**Fort Churchill**	**42.94**	**1**	P	**P**	**01 58 57.7**	**-1.0**
FCC				IAmb	IAmb	01 59 11.2	
	comp=Z,5.9nm,1.1s						
YKA	**Yellowknife Ar**	**48.64**	**348**	P	**P**	**01 59 43.0**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=154,slow=7.4,SNR=20						
YKA				pP	**pP**	**01 59 54.2**	**-1.8**
	comp=Z,2.0nm,0.6s,baz=154,slow=7.0,SNR=20						
YKA	**Yellowknife Ar**	**48.64**	**348**	P	**P**	**01 59 43.4**	**-0.3**
WRAK	**Wrangell Islan**	**49.38**	**334**	P	**P**	**01 59 50.1**	**+0.7**
	baz=130						
C36M	**Paulatuk**	**56.52**	**348**	P	**P**	**02 00 42.

PNIG	Pinotepa	2.84	282	eP	Pn	01 57 12.8	-0.5
PNIG				eS	Sn	01 57 43.4	-2.9
TOIG	Toxpalan	2.88	323	eP	Pn	01 57 14.1	+0.3
TOIG				eS	Sn	01 57 44.0	-3.2
CCIG	Comitan	3.02	81		Pn	01 57 14.1	-1.7
FTIG	Fresnillo de T	3.48	307	eP	Pn	01 57 23.6	+1.6
FTIG				eS	Sn	01 58 01.6	-0.4
HUEH	Huehuetenango	3.63	97	eP	Pn	01 57 25.6	+1.4
HUEH	Huehuetenango	3.63	97	Pn	Pn	01 57 24.8	+0.5
HUEH	Huehuetenango	3.63	97	eP	Pn	01 57 25.6	+1.4
TLIG	Tlapa	3.64	299	Pn	Pn	01 57 25.5	+1.2
RTAL	Retalhuleu	3.65	110	Pn	Pn	01 57 23.2	-1.1
RTAL	Retalhuleu	3.65	110	eS	Sn	01 58 07.4	+1.3
CRIG	Cruz Grande	3.86	284		Pn	01 57 26.8	-0.4
CRIG					Sn	01 58 07.4	-3.8
CRIG	Cruz Grande	3.86	284	eP	Pn	01 57 26.8	-0.4
CRIG				eS	Sn	01 58 07.4	-3.8
MEIG	Mezcala	4.70	297		Pn	01 57 40.7	+1.9
MEIG					Sn	01 58 30.4	-1.7
MEIG	Mezcala	4.70	297	eP	Pn	01 57 40.7	+1.9
MEIG				eS	Sn	01 58 30.4	-1.7
YAIG	Yautepec	4.76	310		Pn	01 57 42.0	+2.3
YAIG					Sn	01 58 30.2	-3.5
YAIG	Yautepec	4.76	310	eP	Pn	01 57 42.0	+2.3
YAIG				eS	Sn	01 58 30.2	-3.5
SCIG	Sabancuy	4.98	50		Pn	01 57 40.8	-1.8
SCIG					Sn	01 58 25.2	-14
SCIG	Sabancuy	4.98	50	e	Pn	01 57 40.8	-1.8
SCIG				e		01 58 25.2	
CAIG	El Cayaco	4.99	285		Pn	01 57 43.0	+0.4
CAIG					Sn	01 58 32.0	-7.0
CAIG	El Cayaco	4.99	285	eP	Pn	01 57 43.0	+0.4
CAIG				eS	Sn	01 58 32.0	-7.0
UNM	Universidad Na	5.14	314	Pn	Pn	01 57 48.3	+3.3
UNM	Universidad Na	5.14	314	i P	Pn	01 57 48.5	+3.5
UNM				eS	Sn	01 58 46.4	+3.1
PETF	Flores	5.27	77		Pn	01 57 46.0	-0.5
ARIG	Puente Sto Nin	5.48	297		Pn	01 57 51.7	+2.3
ARIG					Sn	01 58 54.0	+2.9
ARIG	Puente Sto Nin	5.48	297	e	Pn	01 57 51.7	+2.3
ARIG				e		01 58 54.0	
CEVE	Cerro Verde	5.77	109	eP	Pn	01 57 55.1	+1.4
CEVE				eS	Sn	01 59 01.0	+2.3
CEVE	Cerro Verde	5.77	109	eP	Pn	01 57 55.1	+1.4
CEVE				eS	Sn	01 59 01.0	+2.3
ESQI	Esquipulas	5.82	101	Pn	Pn	01 57 55.7	+1.5
MTO3	Montecristo	5.84	103	eP	Pn	01 57 56.2	+1.6
MTO3	Montecristo	5.84	103	Pn	Pn	01 57 54.1	-0.5
MTO3	Montecristo	5.84	103	eP	Pn	01 57 56.2	+1.6
CEDA	San Andres	5.99	109	eP	Pn	01 57 57.3	+0.9
CEDA				IAML		01 59 22.3	
	comp=Z,610nm,0.5s						
CEDA	San Andres	5.99	109	eP	Pn	01 57 57.3	+0.9
CEDA				IAML		01 59 22.3	
	comp=Z,610nm,0.5s						
LALI	Alcalda de L	6.17	111	eP	Pn	01 57 59.7	+0.8
LALI	Alcalda de L	6.17	111	eP	Pn	01 57 59.7	+0.8
SNET	Serv Nac Est T	6.18	109		Pn	01 58 00.6	+1.6
AEIL	Aeropuerto Ilo	6.28	109	eS	Sn	01 59 13.4	+2.5
AEIL	Aeropuerto Ilo	6.28	109	eS	Sn	01 59 13.4	+2.5
LFRS	El Faro	6.35	109	eP	Pn	01 58 01.5	0.0
LFRS	El Faro	6.35	109	eP	Pn	01 58 01.5	0.0
MOIG	Morelia	6.86	305	Pn	Pn	01 58 11.3	+2.7
MOIG	Morelia	6.86	305	e	Pn	01 58 12.1	+3.5
MOIG				e		01 59 57.6	
COEB	Comit de Eme	6.88	109	eP	Pn	01 58 09.9	+1.2
COEB	Comit de Eme	6.88	109	eP	Pn	01 58 09.9	+1.2
ALJI	Alcalda de J	6.91	110	eS	Sn	01 59 27.1	+0.8
ALJI	Alcalda de J	6.91	110	eS	Sn	01 59 27.1	+0.8
LCND	La Caada	7.53	108	eP	Pn	01 58 17.6	0.0
LCND	La Caada	7.53	108	eP	Pn	01 58 17.6	0.0
CNCH	Conchagua	7.59	108	eP	Pn	01 58 18.8	+0.3
CNCH				eS	Sn	01 59 45.9	+2.5
CNCH	Conchagua	7.59	108	eP	Pn	01 58 18.8	+0.3
CNCH				eS	Sn	01 59 45.9	+2.5
TGUH	Tegucigalpa,Un	7.89	102	Pn	Pn	01 58 22.7	+0.1
CRIN	San Cristobal	8.51	110	Pn	Pn	01 58 32.7	+1.6
MATN	Matagalpa	9.46	106	Pn	Pn	01 58 43.2	-0.9
ZAIG	Zacatecas	9.79	316	Pn	Pn	01 58 50.8	+2.0
BOAB	BOACO BROADBAN	10.86	109	Pn	Pn	01 58 49.1	-0.3
ACON	Acoyapa	10.48	110	Pn	Pn	01 58 57.2	-0.9
HZTE	Horizontes, Gu	10.66	117	Pn	Pn	01 59 01.1	+0.7
ORTG	Ortega, Santa	10.95	118	Pn	Pn	01 59 05.7	+1.2
DUNO	Dulce Nombre,	11.07	120	Pn	Pn	01 59 07.2	+1.2
JTS	Las Juntas de	11.41	117	P	Pn	01 59 11.3	+0.5
JTS	Las Juntas de	11.41	117	Pn	Pn	01 59 11.2	+0.4
CAO2	Cobano, Puntar	11.60	120	Pn	Pn	01 59 14.8	+1.6
COVE	Coope Vega, Sa	11.69	114	Pn	Pn	01 59 14.0	-0.6
HDC	Heredia	12.28	117	Pn	Pn	01 59 23.3	+0.7
CVTR	Volcan Turrial	12.57	116		Pn	01 59 27.5	+0.5
RIMA	Rio Macho	12.61	117	Pn	Pn	01 59 26.7	-0.5
PEZE	Perez Zeledon,	12.96	118	Pn	Pn	01 59 32.4	+0.5
833A	Chaparral WMA,	13.04	344	Pn	Pn	01 59 31.5	-1.4
833A	Chaparral WMA,	13.04	344	P	Pn	01 59 32.5	-0.4
	baz=161						
735A	Kenedy	13.21	350	Pn	Pn	01 59 34.6	-0.5
SRBA	San Rafael, Bu	13.30	118	Pn	Pn	01 59 36.0	-0.7
CDTO	Canoas	14.05	119	Pn	Pn	01 59 47.0	+0.2
HKT	Hockley	14.09	358	Pn	Pn	01 59 44.7	-2.4
HPIG		14.72	321	Pn	Pn	01 59 57.0	+1.3
435B	Jarrell	15.06	352		Pn	01 59 59.4	-0.6
435B	Jarrell	15.06	352	P	Pn	02 00 00.2	+0.2
	baz=171						
JCT	Junction City	15.20	345	Pn	Pn	02 00 02.1	+0.4
JCT				IAmb	IAmb	02 00 14.9	
	comp=Z,44nm,0.7s						
JCT	Junction City	15.20	345	P	Pn	02 00 02.0	+0.2
	baz=162						
NATX	Nacogdoches	15.89	2	Pn	Pn	02 00 09.9	-0.7
NATX				IAmb	IAmb	02 00 24.1	
	comp=Z,43nm,0.9s						
NATX	Nacogdoches	15.89	2	P	Pn	02 00 09.3	-1.3
	baz=182						
344A	Westbrook Farm	16.11	14	Pn	Pn	02 00 11.7	-1.7
237A	Washetta, Mont	16.13	358	Pn	Pn	02 00 13.6	-0.1
237A				IAmb	IAmb	02 00 33.3	
	comp=Z,124nm,1.4s						
WHTX	Lake Whitney,	16.24	353		Pn	02 00 15.9	+0.8
WHTX	Lake Whitney,	16.24	353	P	Pn	02 00 14.4	-0.7
	baz=172,SNR=22						
LPIG	La Paz	16.39	303	P	Pn	02 00 16.6	-0.4
	comp=Z,1.9nm,0.3s,baz=143,slow=8.9,SNR=1.2						
LPIG				LR	LR	02 06 11.8	
	comp=Z,544nm,20.5s,baz=123,slow=35						
VBMS	Vicksburg	16.89	14	P	Pn	02 00 22.9	-0.4
	baz=195						
BRAL	Brewton	17.02	25	P	Pn	02 00 24.8	0.0
	baz=208						
ABTX	Abilene, Hawle	17.22	347	IAmb	IAmb	02 00 41.9	
	comp=Z,67nm,0.8s						
ABTX	Abilene, Hawle	17.22	347	P	Pn	02 00 26.6	-0.7
	baz=165,SNR=27						
Z38A	Mt. Pleasant	17.38	1		Pn	02 00 28.1	-1.2
Z41A	Richland Creek	17.52	7	IAmb	IAmb	02 00 53.0	
	comp=Z,87nm,1.2s						
Z41A	Richland Creek	17.52	7	P	Pn	02 00 30.5	-0.5
	baz=187						
Z35A	Perchaven, San	17.55	354	IAmb	IAmb	02 00 54.0	
	comp=Z,124nm,1.2s						
DWPF	Disney Wildern	17.70	44	P	Pn	02 00 30.8	-2.3
	baz=229						
WLAR	White Oak Lake	17.91	6	P	Pn	02 00 33.9	-1.8
WLAR				IAmb	IAmb	02 00 57.2	
	comp=Z,36nm,0.8s						
352A	Blakely	18.22	29	IAmb	IAmb	02 00 40.7	
	comp=Z,60nm,0.9s						
MNTX	Cornudas Mount	18.33	331	P	P	02 00 40.2	-0.3
MNTX	Cornudas Mount	18.33	331	P	P	02 00 40.0	-0.4
	baz=147,SNR=12						
X37A	Clayton	18.71	360	IAmb	IAmb	02 01 02.6	
	comp=Z,44nm,0.6s						
MIAR	Mount Ida	18.72	4	P	Pn	02 00 45.5	-0.1
MIAR	Mount Ida	18.72	4	P	P	02 00 44.1	-0.6
	baz=185						
X40A	Basin Creek Fa	18.73	6	P	P	02 00 44.1	-0.7
	baz=187						
TIGA	Tifton	18.84	32	P	P	02 00 44.5	-1.6
	baz=217						
X43A	Marvell	19.04	11	P	P	02 00 48.1	-0.2
	baz=193						
WMOK	Wichita Mounta	19.12	351	P	P	02 00 50.2	+1.0
WMOK				IAmb	IAmb	02 01 15.8	
	comp=Z,31nm,0.8s						
WMOK	Wichita Mounta	19.12	351	P	P	02 00 48.8	-0.4
	baz=169,SNR=9.4						
152A	Waverly Hall	19.31	28	IAmb	IAmb	02 01 09.4	
	comp=Z,39nm,1.3s						
MSTX	Muleshoe	19.32	341	P	P	02 00 52.2	+0.8
MSTX				IAmb	IAmb	02 00 53.9	
	comp=Z,32nm,0.7s						
MSTX	Muleshoe	19.32	341	P	P	02 00 51.7	+0.2
	baz=157,SNR=25						
W39A	Magazine	19.36	4	IAmb	IAmb	02 01 10.7	
	comp=Z,58nm,1.2s						
W39A	Magazine	19.36	4	P	P	02 00 51.6	0.0
	baz=184						
W41B	Gary Mavity, V	19.47	7	P	P	02 00 52.3	-0.6
	baz=188						
OK025	Westminster Rd	19.79	355	IAmb	IAmb	02 01 08.0	
	comp=Z,64nm,1.0s						
AMTX	Amarillo	19.86	344	IAmb	IAmb	02 01 18.5	
	comp=Z,29nm,0.9s						
AMTX	Amarillo	19.86	344	P	P	02 00 56.3	-1.0
	baz=161						
OK029	Liberty Lake	20.01	355	IAmb	IAmb	02 01 10.2	
	comp=Z,46nm,0.7s						
TUL1	Leonard	20.03	359	IAmb	IAmb	02 01 25.8	
	comp=Z,54nm,0.8s						
TUL1	Leonard	20.03	359	P	P	02 00 58.3	-0.7
	baz=178						
319A	Douglas	20.12	323	IAmb	IAmb	02 01 07.3	
	comp=Z,39nm,1.0s						
OK031	S. Brethren Rd	20.12	356	P	P	02 00 58.6	-1.4
121A	Cookes Peak, D	20.18	328	IAmb	IAmb	02 01 04.5	
	comp=Z,38nm,0.9s						
121A	Cookes Peak, D	20.18	328	P	P	02 01 01.8	+0.9
	baz=142,SNR=34						
FCAR	Ozark Folk Cen	20.20	7	IAmb	IAmb	02 01 11.9	
	comp=Z,48nm,0.8s						
GOGA	Godfrey	20.51	29	P	P	02 01 03.4	-0.8
	baz=214						
U38A	Gravette	20.57	2	IAmb	IAmb	02 01 16.1	
	comp=Z,42nm,0.8s						
DBBC	Dabeiba	20.57	113	eP	Pn	02 01 07.0	-0.8
U40A	Yellville	20.58	5	P	P	02 01 04.3	-0.7
	baz=186						
U32A	Winter Ranch,	20.77	351	P	P	02 01 06.7	-0.3
Y22D	IRIS PASSCAL I	21.02	332	IAmb	IAmb	02 01 22.4	
	comp=Z,57nm,0.9s						
Y22D	IRIS PASSCAL I	21.02	332	P	P	02 01 09.1	-0.8
	baz=147						
OK035	E0210 Rd and N	21.05	352	IAmb	IAmb	02 01 33.4	
	comp=Z,69nm,1.1s						
T35A	Sooner Cattle	21.06	357	P	P	02 01 09.0	-1.1
OK032	Salt Plains WL	21.08	353	P	P	02 01 11.2	+0.8
OK032				IAmb	IAmb	02 01 34.5	
	comp=Z,41nm,0.8s						
KAN13	South Haven SW	21.22	355	IAmb	IAmb	02 01 34.4	
	comp=Z,60nm,1.0s						
W50A	Signal Mountai	21.26	23	P	P	02 01 12.5	+0.1
KAN17	Caldwell West	21.27	354	IAmb	IAmb	02 01 34.8	
	comp=Z,38nm,0.8s						
CBOC	Ciudad Bolivar	21.29	116	eP	P	02 01 14.7	+1.8
WVT	Waverly	21.29	17	P	P	02 01 11.8	-0.9
WVT	Waverly	21.29	17	P	P	02 01 12.2	-0.4
	baz=200						
PBMO	Poplar Bluff	21.32	11	IAmb	IAmb	02 01 27.4	
	comp=Z,30nm,0.9s						
KAN05	Bluff City Nor	21.35	354	P	P	02 01 11.7	-1.6
KAN05				IAmb	IAmb	02 01 27.9	
	comp=Z,49nm,0.9s						
KAN01	Argonia South	21.38	354	IAmb	IAmb	02 01 28.2	
	comp=Z,51nm,0.9s						
T42A	Van Buren	21.46	9	IAmb	IAmb	02 01 28.0	
	comp=Z,25nm,0.8s						
KAN08	Anthony NE Sta	21.48	354	P	P	02 01 13.6	-1.0
KAN08				IAmb	IAmb	02 01 29.1	
	comp=Z,46nm,0.9s						
HELC	Santa Helena	21.55	114	eP	P	02 01 15.1	-0.9
ANMO	Albuquerque	21.56	334	P	P	02 01 16.8	+1.1
	comp=Z,4.2nm,0.8s,baz=144,slow=11,SNR=20						
ANMO	Albuquerque	21.56	334	P	P	02 01 15.8	+0.1
ANMO	Albuquerque	21.56	334	P	P	02 01 16.3	+0.6
	baz=149						
ZARC	Zaragoza, Cauc	21.58	110	eP	P	02 01 16.1	+0.1
ZARC	Zaragoza, Cauc	21.58	110	P	P	02 01 16.4	+0.5
TUC	Tucson	21.67	322	P	P	02 01 17.7	+0.8
TUC				IAmb	IAmb	02 01 41.6	
	comp=Z,53nm,1.2s						
TUC	Tucson	21.67	322	P	P	02 01 18.1	+1.2
	baz=135						
SMLC	San Martn de	21.80	106	eP	P	02 01 20.2	+2.0
S39A	Bolivar	21.87	4	IAmb	IAmb	02 01 29.6	
	comp=Z,28nm,0.8s						
YOTC	Yotoco, Valle	21.98	120	eP	P	02 01 21.4	+1.1
GUY2C	Guyana, Caldas	22.16	116	eP	P	02 01 24.1	+1.5
TKL	Tuckaleechee C	22.27	25	P	P	02 01 26.1	+3.0
	comp=Z,8.7nm,0.9s,baz=195,slow=13,SNR=4.0						
TKL				S	S	02 05 23.5	-1.6
	comp=Z,1.3nm,0.3s,baz=236,slow=22,SNR=1.5						
U49A	Red Boiling Sp	22.28	20	P	P	02 01 22.5	-0.7
T47A	Sharon Grove	22.30	17	IAmb	IAmb	02 01 37.5	
	comp=Z,16nm,0.8s						
PTBC	PUERTO BERRIO,	22.34	112	eP	P	02 01 24.7	+0.5
NORC	Norcasia	22.43	115	eP	P	02 01 26.2	+1.1
CCM	Cathedral Cave	22.44	8	P	P	02 01 24.3	-0.7
CCM				IAmb	IAmb	02 01 34.3	
	comp=Z,47nm,1.4s						
CCM	Cathedral Cave	22.44	8	P	P	02 01 23.8	-1.2
	baz=190						
ANIL	Santa Ana	22.50	118	eP	P	02 01 28.7	+2.6
POPC	Popayan, Colom	22.53	124	eP	P	02 01 27.7	+1.3
R40A	Maddies Statio	22.55	6	IAmb	IAmb	02 01 38.3	
	comp=Z,21nm,0.8s						
214A	Organ Pipe Nat	22.68	318	P	P	02 01 28.9	+1.3
214A				IAmb	IAmb	02 01 32.0	
	comp=Z,38nm,1.2s						
214A	Organ Pipe Nat	22.68	318	P	P	02 01 28.8	+1.1
	baz=131,SNR=23						
T25A	Trinidad	22.76	341	IAmb	IAmb	02 01 43.9	
	comp=Z,51nm,1.1s						
T25A	Trinidad	22.76	341	P	P	02 01 28.4	-0.1
	baz=156,SNR=26						
SOTA	Rioblanco	22.83	125	eP	P	02 01 31.9	+2.1
X18A	Snowflake	22.86	327	IAmb	IAmb	02 01 33.7	
	comp=Z,28nm,1.0s						
ORTC	Ortega, Tolima	22.94	119	eP	P	02 01 32.1	+1.7
SPBC	San Pablo de B	23.08	114	eP	P	02 01 31.3	-0.6
W18A	Petrified Fore	23.21	329	IAmb	IAmb	02 01 55.3	
	comp=Z,26nm,1.2s						
W18A	Petrified Fore	23.21	329	P	P	02 01 33.8	+0.6
	baz=142						
KSU1	Kansas State U	23.24	357	IAmb	IAmb	02 01 44.5	
	comp=Z,32nm,0.7s						
KSU1	Kansas State U	23.24	357	P	P	02 01 32.6	-0.5
	baz=176						
ROSC	El Rosal	23.25	116	P	P	02 01 37.2	+3.3
	comp=Z,14nm,0.6s,baz=210,slow=6.6,SNR=15						
ROSC				S	S	02 05 39.1	-3.6
	comp=Z,6.6nm,0.4s,baz=143,slow=20,SNR=5.9						
ROSC	El Rosal	23.25	116	eP	P	02 01 37.4	+3.4
ROSC	El Rosal	23.25	116	P	P	02 01 36.1	+2.2
CBKS	Cedar Bluff	23.26	351	IAmb	IAmb	02 01 44.5	
	comp=Z,39nm,1.0s						
CBKS	Cedar Bluff	23.26	351	P	P	02 01 33.7	+0.3
	baz=169,SNR=7.6						
SFX	San Felipe	23.48	314	P	P	02 01 36.3	+0.8
X16A	Lo Mia Camp, P	23.58	325	IAmb	IAmb	02 01 41.4	
	comp=Z,27nm,0.9s						
PAMC	Pamplona, Colo	23.60	108	eP	P	02 01 38.6	+1.2
SDCO	Great Sand Dun	23.67	339	IAmb	IAmb	02 01 59.2	
	comp=Z,46nm,1.4s						
SDCO	Great Sand Dun	23.67	339	P	P	02 01 38.5	+0.9
	baz=154,SNR=20						
WCI	Wyandotte Cave	23.69	18	P	P	02 01 33.9	-3.5
WCI				IAmb	IAmb	02 01 55.5	
	comp=Z,20nm,1.1s						
WCI	Wyandotte Cave	23.69	18	P	P	02 01 34.9	-2.5
	baz=202						
P38A	Dawn	23.78	3	IAmb	IAmb	02 01 49.0	
	comp=Z,24nm,1.1s						
P40A	Paris	23.80	6	IAmb	IAmb	02 01 49.5	
	comp=Z,39nm,1.1s						
RUSC	La Rusia	23.85	112	eP	P	02 01 40.8	+1.1
CHIC	Chingaza	23.87	115	eP	P	02 01 42.5	+2.8
KSCO	Kaye Shedlock'	24.01	346	IAmb	IAmb	02 01 57.4	
	comp=Z,24nm,1.1s						
KSCO	Kaye Shedlock'	24.01	346	P	P	02 01 41.0	+0.5
	baz=162						
Y14A	Wickenburg	24.14	322	IAmb	IAmb	02 02 04.0	
	comp=Z,42nm,1.3s						
S22A	4UR Ranch, Cre	24.14	337	P	P	02 01 41.5	-0.4
	baz=151						
MVCO	Mesa Verde	24.35	334	IAmb	IAmb	02 02 07.0	
	comp=Z,47nm,1.3s						
MVCO	Mesa Verde	24.35	334	P	P	02 01 44.2	+0.5
	baz=147,SNR=10						
WUAZ	Wupatki	24.37	327	P	P	02 01 44.6	+0.8
	baz=139,SNR=42						
Q24A	Divide	24.66	341	P	P	02 01 46.9	+0.2
Q24A				IAmb	IAmb	02 02 09.0	
	comp=Z,49nm,1.5s						
Q24A	Divide	24.66	341	P	P	02 01 46.7	+0.1
	baz=156						
GLA	Glamis	24.69	318	P	P	02 01 47.5	+0.9
	baz=129,SNR=16						
N38A	Joes South For	24.96	4	P	P	02 01 47.5	-1.5
SDV	Santo Domingo	24.98	103	eP	P	02 01 47.4	-2.2
SDV	Santo Domingo	24.98	103	P	P	02 01 48.7	-1.0
SDV				IAmb	IAmb	02 02 11.5	
	comp=Z,14nm,0.9s						
HDIL	Hopedale	25.20	11	P	P	02 01 51.5	+0.4
	baz=193						
RMX	La Rumorosa	25.24	315	IAmb	IAmb	02 02 15.0	
	comp=Z,22nm,1.2s						
SWSC	Sam W. Stewart	25.26	316	P	P	02 01 53.5	+1.8
	baz=127,SNR=6.5						
IKP	In-Ko-Pah, Jac	25.29	315	P	P	02 01 54.2	+2.0
	baz=126						
P49A	Miami Univ. Ec	25.37	19	P	P	02 01 53.1	+0.4
	baz=204						
SMCO	Snowmass	25.46	338	IAmb	IAmb	02 02 19.6	
	comp=Z,48nm,1.4s						
W13A	Hualapai Mount	25.47	322	IAmb	IAmb	02 02 17.8	
	comp=Z,27nm,1.2s						
BC3	Big Chuckawall	25.47	318	P	P	02 01 55.4	+1.5
	baz=129,SNR=16						
SFIN	Lafayette	25.49	15	P	P	02 01 54.7	+1.0
	baz=198						
U15A	North Rim	25.54	327	IAmb	IAmb	02 02 19.1	
	comp=Z,25nm,1.2s						
ISCO	Idaho Springs	25.57	341	IAmb	IAmb	02 02 19.0	
	comp=Z,17nm,1.1s						
ISCO	Idaho Springs	25.57	341	P	P	02 01 56.6	+1.7
	baz=156,SNR=6.3						
IRM	Iron Mountain	25.60	319	P	P	02 01 57.0	+2.1
	baz=130,SNR=14						
BGNE	Belgrade	25.64	355	P	P	02 01 54.8	-0.3
BGNE	Belgrade	25.64	355	P	P	02 01 56.2	+1.1
	baz=173						
MONP2	Monument Peak	25.65	315	P	P	02 01 57.0	+1.4
	baz=126,SNR=5.1						
OGNE	Ogallala	25.74	348	P	P	02 01 57.3	+1.1
	baz=164						
BELC	Belle Mtn. Jos	26.04	318	P	P	02 02 01.0	+2.0
	baz=129,SNR=6.8						
SCIA	State Center	26.07	3	P	P	02 01 57.9	-1.2
L34A	Svendsen Farm,	26.09	358	P	P	02 01 59.4	+0.1
TPFO	Pinon Flats	26.10	317	P	P	02 02 01.0	+1.5
	baz=127						
PFO	Pinyon Flats O	26.10	317	P	P	02 02 00.7	+1.1
	comp=Z,8.4nm,1.1s,baz=95,slow=8.9,SNR=4.5						
PFO				LR	LR	02 12 19.8	
	comp=Z,521nm,20.4s,baz=102,slow=36						
PFO	Pinyon Flats O	26.10	317	P	P	02 02 00.3	+0.7
PFO				IAmb	IAmb	02 02 24.8	
	comp=Z,24nm,1.4s						
PFO	Pinyon Flats O	26.10	317	P	P	02 02 01.5	+1.9
	baz=127						
GMRC	Granite Mounta	26.33	320	P	P	02 02 03.0	+1.4
	baz=130,SNR=11						
MURC	Murrieta	26.59	316	P	P	02 02 05.3	+1.5
	baz=126						
N23A	Red Feather La	26.67	342	P	P	02 02 05.0	+0.2
	baz=156						
O20A	White River Ci	26.76	337	IAmb	IAmb	02 02 30.5	
	comp=Z,18nm,1.1s						
O20A	White River Ci	26.76	337	P	P	02 02 06.0	+0.4
	baz=151						
HEC	Hector,Ludlow	26.78	319	P	P	02 02 06.5	+0.8
	baz=129,SNR=5.8						
BBRC	Big Bear Solar	26.80	317	P	P	02 02 07.3	+1.2
	baz=128						
SZCU	Shurtz Canyon	26.84	327	P	P	02 02 07.5	+1.2
TUQ	Turquoise Moun	26.92	320	P	P	02 02 09.2	+2.2
	baz=131						
Q16A	Castle Valley	26.94	332	P	P	02 02 07.2	0.0
SCI2	San Clemente I	27.16	313	P	P	02 02 10.4	+1.4
	baz=123						
P17A	Butcher Ranch,	27.20	333	IAmb	IAmb	02 02 16.9	
	comp=Z,20nm,1.5s						
O53A	New Philadelph	27.25	24	P	P	02 02 09.9	+0.3
	baz=210						
BFSC	Mount Baldy Ra	27.28	316	P	P	02 02 11.3	+1.1
	baz=126						
CIS	Catalina Islan	27.30	314	P	P	02 02 12.3	+2.0
	baz=124						
MCWV	Mont Chateau	27.31	27	P	P	02 02 09.6	-0.6
	baz=214						
JFWS	Jewell Farm	27.36	8	P	P	02 02 09.2	-1.4
	baz=190						
GSC	Goldstone, Bar	27.38	319	P	P	02 02 12.7	+1.7
	baz=129						
SHOC	Shoshone, Teco	27.44	321	P	P	02 02 13.0	+1.6
	baz=131						
RWWY	Rawlins	27.79	341	P	P	02 02 15.1	+0.3
RWWY				IAmb	IAmb	02 02 28.7	
	comp=Z,16nm,1.0s						
QS

F36A	Milaca	30.00	2	IAmb	IAmb	02 02 45.0
	comp=Z,17nm,1.0s					
NV11	Mina Array Sit	30.24	323	IAmb	IAmb	02 02 60.0
	comp=Z,27nm,1.2s					
ELK	Elko	30.32	329	LR	LR	02 16 52.1
	comp=Z,518nm,18.5s,baz=170,slow=40					
NVAR	Mina Array Bea	30.33	322	P	P	02 02 40.1 +2.8
	comp=Z,10nm,0.9s,baz=138,slow=9.3,SNR=53					
NVAR				LR	LR	02 15 26.9
	comp=Z,507nm,20.2s,baz=108,slow=38					
NVAR	Mina Array Bea	30.33	322	P	P	02 02 38.9 +1.6
REDW	Red Top Meadow	30.53	337	IAmb	IAmb	02 02 53.8
	comp=Z,13nm,1.0s					
SNOW	Snow King Moun	30.58	337	IAmb	IAmb	02 02 54.3
	comp=Z,21nm,0.9s					
RYN	Ryan	30.59	323	IAmb	IAmb	02 02 43.2
	comp=Z,12nm,1.1s					
KVN	Kaiserville	30.63	324	IAmb	IAmb	02 03 02.5
	comp=Z,16nm,1.3s					
LOHW	Long Hollow	30.66	338	IAmb	IAmb	02 02 54.2
	comp=Z,16nm,1.2s					
E28A	Huff	31.02	353	P	P	02 02 41.6 -1.5
YERR	Yerington	31.25	322	IAmb	IAmb	02 02 49.0
	comp=Z,12nm,1.1s					
PNTR	Pine Nut	31.52	322	P	P	02 02 48.5 +0.6
PNTR				IAmb	IAmb	02 02 51.7
	comp=Z,16nm,1.1s					
RLMT	Red Lodge	31.53	341	IAmb	IAmb	02 03 01.6
	comp=Z,11nm,1.2s					
RLMT	Red Lodge	31.53	341	P	P	02 02 48.4 +0.6
	baz=153					
YMR	Madison River	31.70	338	IAmb	IAmb	02 03 03.9
	comp=Z,9.5nm,1.0s					
PAHR	Pah Rah Range	31.80	323	IAmb	IAmb	02 03 12.9
	comp=Z,18nm,1.3s					
YHL	Hebgen Lake	31.94	338	IAmb	IAmb	02 03 10.9
	comp=Z,12nm,1.4s					
LAO	LASA Array	32.13	346	P	P	02 02 53.2 +0.3
	baz=160					
HLID	Hailey	32.13	333	P	P	02 02 53.9 +0.7
HLID				IAmb	IAmb	02 03 15.8
	comp=Z,12nm,1.1s					
HLID	Hailey	32.13	333	P	P	02 02 54.7 +1.5
	baz=143,SNR=11					
MDND	Maddock	32.16	354	P	P	02 02 52.9 -0.1
	baz=172					
EYMN	Ely	32.20	5	P	P	02 02 53.0 -0.4
	baz=186					
CZSB	Cruzeiro do Su	32.32	135	eP	P	02 02 54.9 0.0
AGMN	Agassiz Nation	32.41	359	P	P	02 02 54.0 -1.2
	baz=179					
BOZ	Bozeman (W)	32.74	339	P	P	02 02 59.4 +1.0
	baz=150					
DLMT	Dillon	32.89	337	IAmb	IAmb	02 03 14.9
	comp=Z,16nm,1.0s					
WVOR	Wild Horse Val	33.28	328	IAmb	IAmb	02 03 05.9
	comp=Z,21nm,1.1s					
O03E	Paynes Creek	33.60	322	P	P	02 03 07.5 +1.6
	baz=129					
MOD	Modoc Plateau	33.80	325	P	P	02 03 09.0 +1.4
MOD				IAmb	IAmb	02 03 29.4
	comp=Z,11nm,1.1s					
PLID	Pearl Lake	34.04	333	IAmb	IAmb	02 03 11.9
	comp=Z,16nm,1.0s					
EGMT	Eagleton	34.29	343	IAmb	IAmb	02 03 33.0
	comp=Z,17nm,1.1s					
EGMT	Eagleton	34.29	343	P	P	02 03 12.5 +0.7
	baz=154					
BMO	Blue Mountains	34.43	332	IAmb	IAmb	02 03 14.8
	comp=Z,11nm,1.4s					
YBH	Yreka Blue Hor	35.04	323	LR	LR	02 18 21.2
	comp=Z,489nm,21.4s,baz=144,slow=37					
J05D	Fort Rock, OR	35.24	326	P	P	02 03 20.7 +0.6
	baz=133					
I05D	Terrebonne, OR	36.02	328	P	P	02 03 27.8 +1.2
	baz=134					
E09A	Wood Farm, Sta	36.09	333	IAmb	IAmb	02 03 28.9
	comp=Z,8.5nm,1.0s					
K02D	Willamette Mer	36.20	324	P	P	02 03 29.2 +1.0
	baz=129					
I04A	Tendick Farm,	36.21	326	P	P	02 03 29.5 +1.2
	baz=132					
PKME	Peaks-Kenny Pk	36.59	31	P	P	02 03 33.1 +1.7
	baz=225					
G05D	Wamic, OR	36.64	329	P	P	02 03 32.8 +0.9
	baz=135					
I03D	Drain, OR	36.66	325	P	P	02 03 33.2 +1.2
	baz=130					
H04D	Lebanon	36.88	327	P	P	02 03 34.9 +1.0
	baz=132					
NEW	Newport	37.04	336	LR	LR	02 20 14.2
	comp=Z,237nm,18.6s,baz=202,slow=38					
NEW	Newport	37.04	336	IAmb	IAmb	02 03 37.1
	comp=Z,5.9nm,0.8s					
NEW	Newport	37.04	336	P	P	02 03 36.4 +1.2
	baz=143,SNR=6.9					
C09A	Chrisman Ranch	37.14	334	IAmb	IAmb	02 03 38.0
	comp=Z,11nm,0.9s					
F05D	White Salmon	37.16	329	P	P	02 03 37.6 +1.3
	baz=135					
I02E	Swisshome, OR	37.20	325	P	P	02 03 36.9 +0.3
	baz=130					
G03D	McMinnville, O	37.62	327	P	P	02 03 41.4 +1.3
	baz=132					
LTY	Liberty	37.78	331	IAmb	IAmb	02 03 43.8
	comp=Z,13nm,1.0s					
D05A	Enumclaw	38.35	330	IAmb	IAmb	02 04 04.0
	comp=Z,22nm,1.1s					
ETMB	Extrema	38.39	130	eP	P	02 03 46.9 -0.1
ETMB	Extrema	38.39	130	P	P	02 03 46.5 -0.4
ETMB				IAmb	IAmb	02 03 47.8
	comp=Z,13nm,1.0s					
PTGA	Pitinga	38.51	112	LR	LR	02 21 13.2
	comp=Z,126nm,19.4s,baz=308,slow=39					
D03D	Eldon	39.12	330	P	P	02 03 53.1 +0.3
	baz=134					
B05A	Bryant	39.18	331	P	P	02 03 53.6 +0.4
	baz=136					
A04D	Lummi Island	39.79	331	P	P	02 03 59.2 +1.0
	baz=136					
LPAZ	La Paz	41.62	139	P	P	02 04 14.9 +0.4
	comp=Z,3.0nm,0.6s,baz=326,slow=4.7,SNR=16					
LPAZ				LR	LR	02 21 47.2
	comp=Z,162nm,21.8s,baz=15,slow=36					
PB11	IPOC Station P	43.38	144	IAmb	IAmb	02 04 30.0
	comp=Z,10nm,0.9s					
ITTB	Itaituba	43.93	114	eP	P	02 04 31.8 -0.8
PB08	IPOC Station P	43.96	143	P	P	02 04 34.2 +1.0
PB09	IPOC Station P	45.23	145	IAmb	IAmb	02 04 45.6
	comp=Z,11nm,1.0s					
NPGB	Novo Progresso	45.55	117	eP	P	02 04 44.5 -0.9
LVC	Limon Verde	46.06	145	P	P	02 04 52.2 +2.5
	comp=Z,6.2nm,0.3s,baz=167,slow=7.1,SNR=50					
LVC	Limon Verde	46.06	145	eP	P	02 04 49.8 0.0
LVC	Limon Verde	46.06	145	P	P	02 04 50.6 +0.9
PDRB	Porto dos Gac	46.84	123	eP	P	02 04 54.4 -1.2
CLDB	Colider	47.19	122	eP	P	02 04 57.6 -0.7
PTLB	Pontes e Lacer	47.28	129	eP	P	02 04 57.6 -1.3
YKA	Yellowknife Ar	48.59	348	P	P	02 05 08.4 0.0
	comp=Z,5.6nm,0.8s,baz=154,slow=7.4,SNR=63					
YKA	Yellowknife Ar	48.59	348	P	P	02 05 07.5 -1.0
DLBC	Dease Lake	49.76	337	P	P	02 05 19.3 +1.7
PRPB	Parauapebas	49.99	112	eP	P	02 05 18.6 -1.3
SALV	Santo Antonio	50.16	127	eP	P	02 05 20.6 -0.5
SNDB	Serra Nova Dou	51.50	120	eP	P	02 05 30.4 -0.8
P33M	Teslin, Yukon	52.02	337	P	P	02 05 35.9 +1.4
	baz=132					
AQDB	Aquidauana	52.99	132	eP	P	02 05 40.5 -1.6
WHY	Whitehorse	53.09	337	P	P	02 05 43.7 +1.3
	baz=130					
SMTB	Santa Maria do	53.16	114	eP	P	02 05 42.5 -1.1
ZON	Zonda	53.54	152	IAmb	IAmb	02 05 48.8
	comp=Z,11nm,1.2s					
ROSB	Rosrio	53.84	106	eP	P	02 05 47.1 -1.5
M31M	Drury Creek, Y	53.91	339	P	P	02 05 49.1 +0.7
	baz=131					
N31M	Braeburn, Yuko	53.95	337	P	P	02 05 49.6 +0.9
	baz=129					
PEXB	Peixe	54.09	118	eP	P	02 05 49.4 -1.0
PNL	Peninsula	54.29	334	P	P	02 05 51.3 +0.1
	baz=124					
PINM	Pinnacle	54.89	334	P	P	02 05 56.2 +0.7
	baz=124					
M30M	Minto, Yukon	55.01	338	P	P	02 05 57.8 +1.4
	baz=129					
CPUP	Villa Florida	55.79	138	LR	LR	02 29 50.0
	comp=Z,139nm,19.5s,baz=307,slow=36					
CPUP	Villa Florida	55.79	138	eP	P	02 06 03.4 +1.1
CTG	Chitna Glacier	55.81	335	P	P	02 06 03.0 +0.7
	baz=123					
YUK3	Moose Creek	55.91	336	P	P	02 06 04.4 +1.3
	baz=124					
BDFB	Brasilia	56.12	122	P	P	02 06 05.2 +0.1
	comp=Z,3.9nm,0.9s,baz=294,slow=10,SNR=6.4					
ITRB	Iturama	56.49	127	eP	P	02 06 08.0 +0.4
MCARA	McCarthy VSAT	56.73	335	P	P	02 06 10.5 +1.8
	baz=121					
M27K	Edge Creek, AK	56.79	336	P	P	02 06 10.5 +1.3
	baz=123					
DAWY	Dawson	56.85	339	P	P	02 06 10.6 +1.1
	baz=127					
BCAR	Beaver Creek A	57.15	337	P	P	02 06 12.1 +0.4
L27K	Beaver Creek,	57.16	337	P	P	02 06 12.7 +1.0
	baz=124					
BMRM	Bremner River	57.18	334	P	P	02 06 12.5 +0.6
	baz=119					
Q23K	Middleton Isla	57.21	332	P	P	02 06 13.2 +1.2
	baz=117					
M26K	Nabesna, AK	57.26	336	P	P	02 06 13.0 +0.6
	baz=122					
I29M	Ogilvie Camp,	57.28	340	P	P	02 06 12.7 +0.2
	baz=128					
EPYK	Eagle Plains	57.43	342	P	P	02 06 13.8 +0.3
	baz=131					
N25K	Chitina, Valde	57.49	335	P	P	02 06 14.9 +0.8
	baz=120					
L26K	Log Cabin Wild	57.73	336	P	P	02 06 16.6 +0.9
	baz=122					
INK	Inuvik	57.85	344	P	P	02 06 16.4 0.0
	comp=Z,6.7nm,0.8s,baz=120,slow=7.9,SNR=27					
INK				LR	LR	02 35 15.8
	comp=Z,210nm,21.2s,baz=188,slow=40					
INK	Inuvik	57.85	344	P	P	02 06 16.2 -0.2
INK				IAmb	IAmb	02 06 17.6
	comp=Z,8.8nm,0.8s					
INK	Inuvik	57.85	344	P	P	02 06 16.3 0.0
	baz=135,SNR=10					
EGAK	Eagle	57.89	339	P	P	02 06 15.8 -1.0
	baz=125					
KLU	Klutina	57.99	334	P	P	02 06 16.5 -1.1
	baz=118					
HARP	HAARP	58.12	335	P	P	02 06 19.8 +1.3
	baz=120					
DOT	Dot Lake	58.33	337	IAmb	IAmb	02 06 22.9
	comp=Z,14nm,1.3s					
M24K	Tolsona, Glenn	58.39	335	P	P	02 06 22.0 +1.6
	baz=118					
SCRK	Sand Creek	58.47	337	P	P	02 06 22.4 +1.3
	baz=122					
PAX	Paxson	58.53	336	P	P	02 06 22.3 +0.9
	baz=120					
J26L	Joseph Creek	58.60	338	P	P	02 06 22.7 +0.9
	baz=122,SNR=6.7					
LC01	Cunco	58.64	159	IAmb	IAmb	02 06 23.8
	comp=Z,7.3nm,0.9s					
RIDG	Independent Ri	58.68	337	P	P	02 06 23.9 +1.5
	baz=121					
A36M	Sachs Harbour	58.90	350	P	P	02 06 22.9 -0.7
	baz=146,SNR=6.8					
JANB	Januaria	58.91	119	eP	P	02 06 23.9 -0.8
SEW	Seward	58.92	332	P	P	02 06 26.0 +2.0
	baz=114					
KNK	Knik Glacier	59.04	333	P	P	02 06 26.7 +1.8
	baz=116					
WAT6	Susitna Watana	59.26	335	P	P	02 06 27.6 +1.1
	baz=117					
PMR	Palmer	59.41	333	P	P	02 06 27.9 +0.6
	baz=115					
HDA	Harding Lake	59.81	337	P	P	02 06 30.7 +0.6
	baz=119					
PRP	Porcupine Dome	59.84	338	P	P	02 06 31.2 +0.8
	baz=121					
M22K	Willow	59.90	333	P	P	02 06 31.0 +0.3
	baz=114					
ILAR	Eielson Array	59.97	337	P	P	02 06 31.0 -0.1
	comp=Z,3.8nm,1.0s,baz=134,slow=4.6,SNR=22					
ILAR	Eielson Array	59.97	337	P	P	02 06 30.7 -0.4
CUT	Chulitna	60.24	334	P	P	02 06 32.6 -0.4
	baz=114					
MCK	McKinley	60.27	336	P	P	02 06 33.6 +0.3
	baz=116					
POKR	Poker Flat Res	60.34	337	P	P	02 06 34.2 +0.5
	baz=119					
COLA	College	60.38	337	P	P	02 06 34.3 +0.4
	baz=118					
O20K	Slope Mountain	60.38	331	P	P	02 06 34.5 +0.3
	baz=111					
TCOL	CIGO, UAF Yank	60.38	337	P	P	02 06 34.3 +0.3
	baz=118					
BMAR	Burnt Mountain	60.54	340	P	P	02 06 35.7 +0.6
TRF	Thorofare Moun	60.69	335	P	P	02 06 36.8 +0.5
TRF	Thorofare Moun	60.69	335	P	P	02 06 36.8 +0.5
	baz=115					
NEA2	Nenana	60.71	336	P	P	02 06 36.2 -0.1
	baz=117					
PLCA	Paso Flores	60.74	159	P	P	02 06 37.5 +0.8
	comp=Z,5.8nm,0.9s,baz=337,slow=5.8,SNR=11					
PLCA	Paso Flores	60.74	159	eP	P	02 06 38.5 +1.7
PLCA	Paso Flores	60.74	159	P	P	02 06 37.6 +0.8
PLCA				IAmb	IAmb	02 06 38.8
	comp=Z,10.0nm,1.1s					
TIJ01	Guaruva-PR	60.82	132	eP	P	02 06 37.5 -0.2
H24K	Noodor Dome	60.85	338	IAmb	IAmb	02 06 59.4
	comp=Z,11nm,1.1s					
H24K	Noodor Dome	60.85	338	P	P	02 06 38.1 +0.9
	baz=119					
DIAM	Diamantina, MG	61.04	122	eP	P	02 06 39.2 -0.2
I23K	Minto, Yukon-K	61.07	337	P	P	02 06 39.7 +1.0
	baz=117					
O19K	Port Alsworth	61.22	331	P	P	02 06 39.0 -0.7
	baz=109					
BPAW	Bear Paw Mtn.	61.24	336	P	P	02 06 39.7 -0.2
	baz=115					
CAST	Castle Rocks	61.41	335	P	P	02 06 41.4 +0.4
	baz=113					
PET01	Itanhaem-SP	61.47	130	eP	P	02 06 42.2 +0.2
N19K	Bonanza Creek	61.50	331	P	P	02 06 42.1 +0.3
	baz=110					
MLY	Manley	61.54	337	P	P	02 06 42.4 +0.5
	baz=115,SNR=7.7					
CHUM	Lake Minchumin	61.69	335	P	P	02 06 43.5 +0.7
	baz=113					
L20K	Farewell, AK	61.81	333	P	P	02 06 44.5 +0.7
	baz=111					
PLTB	Pedras Altas	61.89	140	eP	P	02 06 44.9 +0.1
I21K	Tanana	62.09	336	P	P	02 06 46.0 +0.5
	baz=114					
K20K	Telida	62.21	334	P	P	02 06 46.7 +0.3
	baz=111					
TULEG	Thule	62.28	7	P	P	02 06 46.3 -0.4
TULEG				IAmb	IAmb	02 06 46.9
	comp=Z,4.8nm,0.9s					
COLD	Coldfoot	62.33	339	P	P	02 06 47.7 +0.6
	baz=117					
CHNA	Chernabura Isl	62.50	324	P	P	02 06 49.1 +0.7
	baz=102					
J20K	Nowinta River	62.55	335	P	P	02 06 48.7 +0.1
	baz=112					
H21K	Melozitna Rive	62.59	337	P	P	02 06 49.4 +0.5
	baz=114					
TOLK	Toolik Lake Re	62.78	340	P	P	02 06 51.3 +1.1
	baz=118					
TTA	Tatalina	62.89	333	P	P	02 06 51.4 +0.3
	baz=109					
ICESG	Greenland Ices	63.39	19	iP	P	02 06 52.9 -1.7
ICESG				IAmb	IAmb	02 06 54.4
	comp=Z,8.2nm,1.0s					
NEEM	North Greenlan	65.47	10	iP	P	02 07 06.4 -1.5
NEEM				IAmb	IAmb	02 07 09.0
	comp=Z,6.9nm,0.9s					
UNV	Unalaska Valle	66.35	322	P	P	02 07 14.7 +1.1
	baz=95					
ANM	Nome	67.33	334	P	P	02 07 21.2 +1.5
	baz=101					
DAG	Danmarks Havn	71.65	14	iP	P	02 07 45.0 -1.1
DAG				IAmb	IAmb	02 07 45.8
	comp=Z,2.3nm,0.7s					
NOR	Nord	72.79	9	iP	P	02 07 51.5 -1.4
NOR				IAmb	IAmb	02 07 52.8
	comp=Z,1.9nm,0.9s					
BILL	Bilibino	78.62	338	P	P	02 08 27.4 +1.0
BILL				IAmb	IAmb	02 08 28.2
	comp=Z,6.7nm,1.0s					
ESDC	Sonseca Array	81.05	51	P	P	02 08 40.8 +0.6
	comp=Z,2.3nm,1.1s,baz=286,slow=6.7,SNR=6.0					
NB2	NORSAR Subarra	84.04	28	P	P	02 08 55.9 +0.5
	comp=Z,2.5nm,0.8s,baz=292,slow=5.1					
NOA	NORSAR Array B	84.04	28	P	P	02 08 55.8 +0.5
	comp=Z,1.0nm,0.7s,baz=294,slow=5.2,SNR=4.6					
BGES	Gesves	84.40	39	PcP	P	02 08 59.5 +2.2
ARCES	ARCESS Array B	85.39	18	P	P	02 09 03.9 +2.0
	comp=Z,7.2nm,1.1s,baz=287,slow=4.5,SNR=7.2					
SEY	Seymchan	85.81	335	P	P	02 09 05.1 +1.0
	comp=Z,1.1nm,0.4s,baz=70,slow=10,SNR=5.9					
KOWA	Kowa	87.28	76	P	P	02 09 11.0 -1.2
TIXI	Tiksi	87.84	347	P	P	02 09 12.5 -1.3
CLL	Collm	88.76	37	epP	pP	02 09 33.0 -0.4
KHC	Kasperske Hory	89.99	38	eP	P	02 09 37.5 +13
FINES	FINESS Array B	90.17	24	P	P	02 09 23.6 -1.3
	comp=Z,6.1nm,1.0s,baz=297,slow=26,SNR=2.4					
GERES	GERESS Array B	90.18	39	P	P	02 09 24.7 -0.7
	comp=Z,9.9nm,0.9s,baz=343,slow=6.4,SNR=2.7					
TORD	Torodi Ar. Bea	92.98	76	P	P	02 09 39.2 +0.3
	comp=Z,0.6nm,1.1s,baz=280,slow=3.6,SNR=2.2					
NACGM	Naroch	94.23	29	iP	P	02 09 39.9 -4.0
WRA	Warramunga Arr	132.77	257	PKP	PKPdf	02 15 40.8 +0.3
	comp=Z,0.9nm,0.8s,baz=320,slow=0.8,SNR=6.3					
WRA	Warramunga Arr	132.77	257		PKPdf	02 15 39.1 -1.4

WEL ***04*** *02:10:00,40°.62S×176°.49E,h36km,ML4.0,Mw4.2, Moment Tensor Solution. s7 Moment tensor: Scale 10^{15} Nm; M_{rr}0.97; $M_{\theta\theta}$-0.86; $M_{\phi\phi}$-0.11; $M_{r\theta}$-1.48; $M_{\theta\phi}$-0.30; $M_{\phi r}$-1.71; Fault plane solution: $M_0$2.45000×10^{15} NP1: ϕ_s86.00000°,δ14.00000°,λ131.00000°. NP2: ϕ_s224.00000°,δ79.00000°,λ81.00000°. Principal axes: T -234.9000, Plg55.0000°, Azm123.0000°; N -20.4300, Plg9.0000°, Azm225.0000°; P 255.3400, Plg34.0000°, Azm322.0000°;*

NOU ***04*** *02:10:37.4,40°.83S×176°.84E,h21km,MLv4.4/7,North Island, New Zealand*

WEL ***04*** *02:10:41.0±0.5,41°.5±3°.5×17°6E±°,h24km±3km,M4.1/18, ML4.4/18,MLv4.1/18,Error ellipse: s-maj=0.0km s-min=0.0km az=124.9*

IDC ***04*** *02:10:44.1±1.7,39°.70S×175°.64E,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.7/31,mbtmp3.5/2,Error ellipse: s-maj=49.8km s-min=23.0km az=148.0*

ISC 04 02:10:40.7±0.9,40°.64S±0°.03×176°.51E±0°.03,h31km±7km, n135,σ1$09/156,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	Angora Road	0.18	351	P	Pn	02 10 47.1	-0.2
ANWZ				S	Sb	02 10 51.0	+0.1
BFZ	Birch Farm	0.21	258	P	Pn	02 10 48.0	+0.3
BFZ				S	Sb	02 10 52.6	+1.2
BFZ	Birch Farm	0.21	258	P	Pn	02 10 48.0	+0.3
CPWZ	Castlepoint	0.36	221	P	Pn	02 10 51.1	+1.3
CPWZ				S	Sn	02 10 57.6	+1.8
PRHZ	Porangahau	0.38	14	P	Pn	02 10 50.1	0.0
PRHZ				S	Sn	02 10 55.8	-0.7
PRWZ	Pori Road	0.42	281	P	Pn	02 10 50.8	+0.2
PRWZ				S	Sn	02 10 56.7	-0.7
DVHZ	Dannevirke	0.43	322	P	Pn	02 10 50.1	-0.6
DVHZ				S	Sn	02 10 56.5	-1.1
TIWZ	Tintock	0.50	254	P	Pn	02 10 52.3	+0.6
TIWZ				S	Sn	02 11 00.4	+1.2
WPHZ	Waipukurau	0.58	354	P	Pn	02 10 52.9	+0.2
WPHZ				S	Sn	02 11 01.7	+0.6
POWZ	Post Office Ro	0.62	293	P	Pn	02 10 53.6	+0.2
POWZ				S	Sn	02 11 01.8	-0.4
PXZ	Pawanui	0.66	24	P	Pb	02 10 54.1	+0.3
PXZ				S	Sn	02 11 04.5	+1.3
TMWZ	Te Maipa	0.66	225	P	Pn	02 10 54.6	+0.6
MRZ	Mangatainoka R	0.71	268	P	Pn	02 10 54.8	+0.2
MRZ				S	Sn	02 11 04.2	-0.3
TSZ	Takapari Road	0.72	324	P	Pn	02 10 54.7	0.0
TSZ				S	Sn	02 11 04.3	-0.3
PNHZ	Pukenui	0.76	342	P	Pn	02 10 55.5	+0.1
PNHZ				S	Sn	02 11 06.1	+0.2
HOWZ	Holdsworth Sta	0.80	251	P	Pn	02 10 56.2	+0.3
HOWZ				S	Sn	02 11 07.2	+0.5
KAHZ	Kahuranaki	0.89	18	P	Pb	02 10 57.2	-0.4
KAHZ				S	Sn	02 11 09.6	+0.7
MTW	Mount Morrison	0.93	236	P	Pb	02 10 57.6	-0.6
MTW				S	Sb	02 11 10.0	-0.1
TRWZ	Traveller	0.98	219	P	Pn	02 10 58.3	-0.1
KRHZ	Kereru	1.00	354	P	Pb	02 10 58.8	-0.7
KRHZ				S	Sb	02 11 11.2	-1.1
OHWZ	Ohakea	1.01	295	P	Pn	02 11 00.2	+1.5
OHWZ				S	Sn	02 11 13.7	+1.8
OGWZ	Otaki Gorge	1.04	260	P	Pn	02 10 59.5	+0.4
OGWZ				S	Sb	02 11 11.9	-1.4
CKHZ	Cape Kidnapper	1.07	24	P	Pb	02 11 01.0	+0.4
PAWZ	Paruwai Farm	1.11	228	P	Pn	02 11 00.0	-0.1
CAW	Cannon Point	1.19	246	P	Pn	02 11 01.8	+0.6
CAW				S	Sn	02 11 15.2	-1.2
BHHZ	Black Hill Sta	1.20	343	P	Pb	02 11 01.9	-0.9
MCHZ	McNeill Hill	1.20	7	P	Pn	02 11 02.0	+0.7
KWHZ	Kaweka Forest	1.22	357	P	Pn	02 11 01.9	+0.3
MSWZ	Moikau Station	1.23	231	P	Pn	02 11 01.5	-0.3
KIW	Kapiti Island	1.24	259	P	Pn	02 11 02.3	+0.5
PLWZ	Palliser	1.33	225	P	Pn	02 11 02.7	-0.5
MOVZ	Moawhango	1.36	334	P	Pb	02 11 04.6	-0.9
ARHZ	Aropaoanui	1.42	15	P	Pn	02 11 04.8	+0.4
BHW	Baring Head	1.46	238	P	Pn	02 11 04.8	-0.1
WAZ	Wanganui	1.47	307	P	Pb	02 11 06.9	-0.3
WEL	Wellington	1.47	243	P	Pn	02 11 05.2	+0.2
BKZ	Black Stump Fm	1.47	359	P	Pn	02 11 05.5	+0.4
BKZ	Black Stump Fm	1.47	359	P	Pn	02 11 05.6	+0.5
MTVZ	Mangateitei	1.49	327	P	Pb	02 11 08.1	+0.4
WNVZ	Wahianoa	1.49	331	P	Pb	02 11 06.7	-1.0
TUVZ	Tukino	1.52	334	P	Pb	02 11 07.4	-1.0
SNZO	South Karori	1.52	243	P	Pn	02 11 06.2	+0.4
TRVZ	Turoa	1.53	331	P	Pb	02 11 07.5	-1.0
WHVZ	Whangaehu Hut	1.53	332	P	Pb	02 11 07.6	-1.0
DRZ	Dome Shelter	1.54	332	P	Pb	02 11 09.0	+0.2
NMHZ	Naumai	1.56	8	P	Pn	02 11 07.0	+0.7
FWVZ	Far West T-bar	1.57	332	P	Pb	02 11 08.1	-1.1
SNVZ	South Ngauruho	1.60	335	P	Pb	02 11 08.5	-1.1
OTVZ	Oturere	1.61	336	P	Pb	02 11 08.5	-1.4
PKVZ	Pokaka	1.62	326	P	Pb	02 11 09.2	-0.7
NGZ	Ngauruhoe	1.62	334	P	Pb	02 11 09.0	-1.0
ETVZ	East Tongariro	1.62	337	P	Pb	02 11 10.1	0.0
TMVZ	Te Maari	1.64	337	P	Pb	02 11 09.2	-1.1
NNVZ	North Ngauruho	1.66	335	P	Pb	02 11 09.7	-0.9
NTVZ	North Tongarir	1.67	337	P	Pb	02 11 09.8	-1.0
WTVZ	West Tongariro	1.68	335	P	Pb	02 11 10.0	-1.0
KRVZ	Karewarewa	1.68	336	P	Pb	02 11 15.6	+4.5
RITZ

17nm,0.3s,baz=121,slow=23,SNR=73
URZ Sn **Sn** **02 11 40.6 -6.1**
18nm,0.3s,baz=231,slow=11,SNR=12
URZ Urewera 2.42 11 P **Pn** **02 11 17.7 -0.4**
URZ Urewera 2.42 11 P **Pn** **02 11 17.7 -0.4**
TKGZ Te Karaka 2.43 26 P **Pn** **02 11 18.4 +0.2**
TLZ Tolley Road 2.43 342 P **Pn** **02 11 18.5 +0.3**
MWZ Matawai 2.43 19 P **Pn** **02 11 17.8 -0.6**
NNZ Nelson 2.44 255 P **Pn** **02 11 18.8 +0.4**
NBEZ Newall Road No 2.45 303 P **Pb** **02 11 23.2 -0.8**
HIZ Hauiti 2.48 328 P **Pn** **02 11 20.2 +1.3**
HIZ Hauiti 2.48 328 P **Pn** **02 11 20.7 +1.8**
CNGZ Carnagh Statio 2.52 32 P **Pn** **02 11 19.0 -0.5**
EDRZ Edgecumbe 2.54 4 P **Pn** **02 11 21.8 +2.0**
TWGZ Tauwhareparae 2.71 25 P **Pn** **02 11 22.7 +0.6**
OPRZ Ohinepanea 2.79 1 P **Pn** **02 11 24.2 +1.0**
RUGZ Raukumara Rang 2.82 19 P **Pn** **02 11 23.5 -0.2**
KHZ Kahutara 2.85 231 P **Pn** **02 11 22.8 -1.2**
KHZ Kahutara 2.85 231 P **Pn** **02 11 22.7 -1.3**
PUZ Puketiti 2.90 28 P **Pn** **02 11 24.2 -0.5**
THZ Tophouse 2.94 246 P **Pn** **02 11 24.7 -0.6**
TOZ Tahuroa Road 3.01 345 P **Pn** **02 11 26.7 +0.5**
QRZ Quartz Range 3.03 265 P **Pn** **02 11 26.6 +0.1**
QRZ Quartz Range 3.03 265 P **Pn** **02 11 26.9 +0.4**
HAZ Te Kaha 3.04 19 P **Pn** **02 11 26.1 -0.6**
WMGZ Waiomatatini S 3.18 28 P **Pn** **02 11 27.9 -0.6**
GVZ Greta Valley S 3.49 227 P **Pn** **02 11 31.9 -0.9**
LTZ Lake Taylor 3.83 235 P **Pn** **02 11 35.9 -1.6**
ETAZ East Tamaki Re 3.88 341 P **Pn** **02 11 39.2 +1.0**
WIAZ Waiheke Island 3.99 344 P **Pn** **02 11 41.1 +1.4**
OKCZ Okains Bay 4.01 219 P **Pn** **02 11 39.4 -0.6**
AKCZ Akaroa Harbour 4.19 218 P **Pn** **02 11 42.7 +0.2**
MQZ McQueen's Vall 4.20 222 P **Pn** **02 11 41.5 -0.9**
OXZ Oxford 4.28 230 P **Pn** **02 11 42.5 -1.2**
INZ Inchbonnie 4.33 240 P **Pn** **02 11 43.3 -1.1**
RACZ Rakaia 4.48 225 P **Pn** **02 11 45.7 -0.7**
MHCZ Mount Hutt 4.68 230 P **Pn** **02 11 48.0 -1.2**
WACZ Wakanui South 4.79 225 P **Pn** **02 11 49.9 -0.7**
ARCZ Arundel 5.16 228 P **Pn** **02 11 55.0 -0.7**
TMZ Timaru 5.53 226 P **Pn** **02 12 00.1 -0.7**
FOZ Fox Glacier 5.76 238 P **Pn** **02 12 04.9 +0.9**
CTZ Chatham Island 5.97 123 P **Pn** **02 12 07.9 +1.1**
LBZ Lake Benmore 5.99 229 P **Pn** **02 12 06.3 -0.9**
ODZ Otahua Downs 6.16 222 P **Pn** **02 12 07.9 -1.6**
ASAR Alice Springs 39.42 282 P **P** **02 18 08.9 +1.0**
0.5nm,0.5s,baz=122,slow=6.2,SNR=5.6
WRA Warramunga Arr 41.36 287 P **P** **02 18 24.1 +0.2**
0.4nm,0.5s,baz=125,slow=8.2,SNR=12
TORD Torodi Ar. Bea 152.24 191 PKP **PKPbc** **02 30 34.8 +1.1**
0.4nm,0.8s,baz=145,slow=4.2,SNR=2.4
TORD PKPbc **PKPab** **02 30 44.3 +0.9**
0.6nm,0.7s,baz=158,slow=3.3,SNR=3.6

*MOS **04** 02:22:58.4±0.9, 43°.85N×147°.56E, h52km, mb4.7/35, Error ellipse: s-maj=7.5km s-min=5.9km az=86.5*
MOS Felt (III) at Malokuril'skoye.
*JMA **04** 02:22:59.3±0.2, 43°.69N×147°.39E, h20km, M4.6*
*BJI **04** 02:23:00.2±0.0, 44°.50N×147°.58E, h68km, mb4.6/12*
*IDC **04** 02:23:00.6±0.6, 43°.86N×147°.46E, h60km±6km, mb3.9/26, mb1 4.0/31, mb1mx3.9/48, mbtmp4.1/31, Error ellipse: s-maj=14.3km s-min=8.8km az=167.0*
*SKHL **04** 02:23:00.2±0.6, 43°.80N×147°.50E, h63km±7km, mb5.0/12*
*NEIC **04** 02:23:02.8±1.8, 43°.93N±0°.09×147°.5E±0°.1, h68km±7km, mb4.6/113, Error ellipse: s-maj=14.5km s-min=11.9km az=141.0*
ISC 04 02:23:00.1±0.6, **43°.81N**±0°.04×**147°.54E**±0°.04, **h54**km±5km, **n443**, σ1§**10**/468, **mb4.5**/98, **11C-4D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SHO	**Shikotan**	**0.52**	**277**	*c* PN	**Pn**	**02 23 10.5**	**-1.3**
SHO				*i* S	**Sn**	**02 23 18.1**	**-2.2**
SHO	comp=E,2μm,0.3s			pmax	pmax		
SHO	comp=Z,6μm,0.3s			pmax	pmax		
SHO	comp=N,2μm,0.2s			pmax	pmax		
SHO	comp=N,44μm,0.3s			smax	smax		
SHO	comp=E,17μm,0.3s			smax	smax		
SHO	**Shikotan**	**0.52**	**277**	*i* P	**Pn**	**02 23 11.1**	**-0.7**
SHO	comp=E,6μm,0.3s			AMB	AMB	02 23 11.6	
SHO				*i* S	**Sn**	**02 23 18.3**	**-2.0**
SHO	comp=E,44μm,0.3s			A	A	02 23 19.7	
SHO	comp=E,17μm,0.3s			A	A	02 23 19.7	
YUK	**Yuzh-Kuril'sk**	**1.24**	**281**	*d* PN	**Pn**	**02 23 20.0**	**-1.0**
YUK				*i* S	**Sn**	**02 23 34.6**	**-2.1**
YUK	comp=N,2μm,0.1s			pmax	pmax		
YUK	comp=Z,3μm,0.1s			pmax	pmax		
YUK	comp=N,9μm,0.1s			smax	smax		
YUK	comp=E,20μm,0.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**1.24**	**281**	*i* P	**Pn**	**02 23 20.1**	**-1.0**
YUK	comp=E,3μm,0.3s			AMB	AMB	02 23 22.2	
YUK				*i* S	**Sn**	**02 23 34.7**	**-2.0**
YUK	comp=E,8μm,0.4s			A	A	02 23 37.0	
YUK	comp=E,20μm,0.4s			A	A	02 23 37.0	
NEM2	**Nemuro 2**	**1.38**	**252**	P	**Pn**	**02 23 21.7**	**-1.3**
NEM2				*e*S	**Sn**	**02 23 37.8**	**-2.3**
NMR	**Nemuro--Hokkai**	**1.39**	**252**	⇑*i* PN	**Pn**	**02 23 21.8**	**-1.3**
NMR				*i* S	**Sn**	**02 23 38.0**	**-2.4**
NMR	**Nemuro--Hokkai**	**1.39**	**252**	*i* P	**Pn**	**02 23 21.8**	**-1.3**
NMR				*i* S	**Sn**	**02 23 38.4**	**-2.0**
KUR	**Kuril'sk**	**1.45**	**9**	*d* PN	**Pn**	**02 23 23.3**	**-0.6**
KUR				*i* S	**Sn**	**02 23 41.2**	**-0.6**
KUR	comp=Z,704nm,0.6s			pmax	pmax		
KUR	comp=N,319nm,0.3s			pmax	pmax		
KUR	comp=E,257nm,0.2s			pmax	pmax		
KUR	comp=E,3μm,0.4s			smax	smax		
KUR	comp=N,1μm,0.3s			smax	smax		
KUR	**Kuril'sk**	**1.45**	**9**	*i* P	**Pn**	**02 23 23.4**	**-0.5**
KUR	comp=N,500nm,0.3s			AMB	AMB	02 23 26.8	
KUR				*i* S	**Sn**	**02 23 40.7**	**-1.1**
KUR	comp=N,2μm,0.2s			A	A	02 23 42.0	
KUR	comp=N,3μm,0.2s			A	A	02 23 42.0	
GLVR	**Golovnino**	**1.47**	**268**	⇑*i* PN	**Pn**	**02 23 23.8**	**-0.3**
GLVR				*i* S	**Sn**	**02 23 41.2**	**-1.1**
GLVR	comp=Z,2μm,0.4s			pmax	pmax		
GLVR	comp=N,164nm,0.1s			pmax	pmax		
GLVR	comp=E,273nm,0.1s			pmax	pmax		
GLVR	comp=N,26μm,0.3s			smax	smax		
GLVR	comp=E,21μm,0.4s			smax	smax		
GLVR	**Golovnino**	**1.47**	**268**	*i* P	**Pn**	**02 23 23.8**	**-0.3**
GLVR	comp=E,2μm,0.4s			AMB	AMB	02 23 24.4	
GLVR				*i* S	**Sn**	**02 23 41.9**	**-0.4**
GLVR	comp=E,26μm,0.4s			A	A	02 23 42.9	
GLVR	comp=E,21μm,0.4s			A	A	02 23 42.9	
RUSJ	**Misakicho**	**1.69**	**281**	⇓*i* PN	**Pn**	**02 23 27.2**	**+0.1**
RUSJ				*i* S	**Sn**	**02 23 47.5**	**-0.1**
JRA	**Rausu**	**1.76**	**275**	P	**Pn**	**02 23 27.8**	**-0.3**
JRA				*e*S	**Sn**	**02 23 48.6**	**-0.7**
JNSB	**Nemuroshibetsu**	**1.84**	**270**	P	**Pn**	**02 23 29.2**	**0.0**
JNSB				*e*S	**Sn**	**02 23 50.6**	**-0.7**
JKHN	**Kushirohamanak**	**1.88**	**248**	P	**Pn**	**02 23 29.1**	**-0.7**
JNK	**Nakash**	**2.06**	**265**	P	**Pn**	**02 23 31.8**	**-0.4**
JNK				*e*S	**Sn**	**02 23 55.6**	**-1.2**
AKK	**Akkeshi**	**2.12**	**249**	*e*P	**Pn**	**02 23 32.4**	**-0.6**
AKK				*e*S	**Sn**	**02 23 56.9**	**-1.3**
JAK	**Akkeshi**	**2.23**	**250**	P	**Pn**	**02 23 33.6**	**-0.9**
JAK				*e*S	**Sn**	**02 23 58.8**	**-2.0**
JTKR	**Abashiri--Toko**	**2.63**	**275**	P	**Pn**	**02 23 40.5**	**+0.4**
JAR	**Ashorobuto**	**2.79**	**261**	P	**Pn**	**02 23 42.7**	**+0.5**
JAR				*e*S	**Sn**	**02 24 14.7**	**0.0**
JOB	**Onbets**	**2.85**	**253**	P	**Pn**	**02 23 43.1**	**+0.1**
JMP	**Maruseppu**	**3.03**	**275**	P	**Pn**	**02 23 46.4**	**+0.9**
JCH	**Churui**	**3.28**	**250**	P	**Pn**	**02 23 48.5**	**-0.4**
JCH				*e*S	**Sn**	**02 24 25.1**	**-1.6**
JKK2	**Kamakawa 2**	**3.47**	**273**	P	**Pn**	**02 23 53.1**	**+1.6**
JKA	**Kamikawa-asahi**	**3.58**	**277**	Pn	**Pn**	**02 23 53.5**	**+0.4**
JKA	**Kamikawa-asahi**	**3.58**	**277**	*e*P	**Pn**	**02 23 53.5**	**+0.4**
ASAJ	**Asahikawa**	**3.59**	**277**	P	**Pn**	**02 23 54.7**	**+1.6**
ASAJ	comp=E,6.2nm,0.3s,baz=80,slow=14,SNR=33			S	**Sn**	**02 24 35.1**	**+0.9**
ASAJ	**Asahikawa**	**3.59**	**277**	P	**Pn**	**02 23 54.6**	**+1.5**
ASAJ	**Asahikawa**	**3.59**	**277**	PN	**Pn**	**02 23 53.5**	**+0.4**
JFR	**Furan**	**3.66**	**262**	P	**Pn**	**02 23 55.5**	**+1.4**
JFR				*e*S	**Sn**	**02 24 36.8**	**+0.8**
JEM	**Erimo**	**3.69**	**242**	Pn	**Pn**	**02 23 55.9**	**+1.4**
ERM	**Erimo**	**3.69**	**242**	*ce*PN	**Pn**	**02 23 56.3**	**+1.8**
ERM	comp=Z,62nm,0.8s			pmax	pmax		
ERM	**Erimo**	**3.69**	**242**		**Pn**	**02 23 55.9**	**+1.4**
JSE	**Soyaes**	**3.74**	**290**	P	**Pn**	**02 23 55.7**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.83**	**248**	P	**Pn**	**02 23 56.1**	**-0.3**
JEW	**Eniwo**	**4.55**	**260**	Pn	**Pn**	**02 24 08.6**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.62**	**315**	⇓*i* PN	**Pn**	**02 24 07.7**	**+0.5**
YSS				*e*S	**Sn**	**02 24 56.9**	**-2.5**
YSS	comp=Z,100nm,0.8s			pmax	pmax		
YSS	comp=N,40nm,0.8s			smax	smax		
YSS	comp=E,50nm,0.7s			smax	smax		
YSS	**Yuzh-Sakhalins**	**4.62**	**315**	Pn	**Pn**	**02 24 07.6**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.62**	**315**	*i* P	**Pn**	**02 24 07.7**	**+0.5**
YSS	comp=E,100nm,0.8s			AMB	AMB	02 24 08.3	
YSS				*e*S	**Sn**	**02 24 58.2**	**-1.2**
UGL	**Uglegorsk**	**6.49**	**326**	*e*PN	**Pn**	**02 24 34.3**	**+1.4**
UGL	comp=Z,60nm,0.8s			pmax	pmax		
UGL	**Uglegorsk**	**6.49**	**326**	*e*P	**Pn**	**02 24 34.2**	**+1.4**
UGL	comp=Z,60nm,0.7s			AMB	AMB	02 24 36.5	
UGL				*e*S	**Sn**	**02 25 43.5**	**-2.0**
TYV	**Tymovskoe**	**7.80**	**337**	*e*PN	Pn	02 24 55.3	+4.5
TYV				*e*S	**Sn**	**02 26 21.8**	**+4.2**
TYV	comp=Z,7.0nm,0.9s			pmax	pmax		
TYV	comp=Z,200nm,3.4s			pmax	pmax		
TYV	comp=N,5.0nm,0.9s			smax	smax		
TYV	comp=E,7.0nm,0.9s			smax	smax		
TYV	comp=N,200nm,4.1s			smax	smax		
TYV	**Tymovskoe**	**7.80**	**337**	*e*P	**Pn**	**02 24 51.2**	**+0.4**
TYV				AMB	AMB	02 24 54.8	
TYV				*e*S	**Sn**	**02 26 16.4**	**-1.2**
SKR	**Severo-Kuril's**	**9.01**	**37**	*e*PN	**Pn**	**02 25 05.8**	**-1.6**
SKR	comp=Z,283nm,0.8s			pmax	pmax		
SKR	**Severo-Kuril's**	**9.01**	**37**	*e*P	**Pn**	**02 25 08.3**	**+0.9**
SKR	comp=Z,60nm,0.7s			AMB	AMB	02 25 09.3	
SKR				*e*S	**Sn**	**02 26 43.7**	**-3.6**
PAU	**Pauzhetka**	**9.89**	**36**	*e*P	**Pn**	**02 25 21.3**	**+2.0**
PAU				AMB	AMB	02 25 26.8	
PAU	comp=Z,50nm,0.8s						
MJAR	**Matsushiro Arr**	**10.18**	**228**	P	**Pn**	**02 25 24.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=29,slow=13,SNR=2.3						
NKL	**Nikolayevsk**	**10.40**	**336**	*e*P	**Pn**	**02 25 27.2**	**+0.9**
NKL				AMB	AMB	02 25 28.9	
NKL	comp=Z,80nm,0.6s						
PEA0B	**Petropavlovsk-**	**11.48**	**32**	PN	**Pn**	**02 25 40.5**	**-0.6**
PEA0B	**Petropavlovsk-**	**11.48**	**32**	Pn	**Pn**	**02 25 40.5**	**-0.6**
PETK	**Petropavlovsk-**	**11.48**	**32**	P	**Pn**	**02 25 40.5**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=200,slow=11,SNR=28						
PETK	**Petropavlovsk-**	**11.48**	**32**	PN	**Pn**	**02 25 40.7**	**-0.4**
PETK	**Petropavlovsk-**	**11.48**	**32**	Pn	**Pn**	**02 25 40.7**	**-0.4**
PET	**Petropavlovsk**	**11.80**	**35**	*i* PN	**Pn**	**02 25 45.0**	**-0.4**
PET	**Petropavlovsk**	**11.80**	**35**	*e*P	**Pn**	**02 25 45.0**	**-0.4**
KLR	**Kul'dur**	**12.15**	**302**	P	**Pn**	**02 25 53.3**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=106,slow=18,SNR=8.8						
KLR	**Kul'dur**	**12.15**	**302**	*ce*PN	**Pn**	**02 25 52.9**	**+2.6**
KLR	comp=Z,3.0nm,0.9s			pmax	pmax		
KLR	**Kul'dur**	**12.15**	**302**	*e*P	**Pn**	**02 25 51.7**	**+1.4**
KBG	**Krutoberegovo**	**15.77**	**32**	*e*P	**Pn**	**02 26 35.3**	**-3.0**
MA2	**Magadan**	**15.92**	**6**	*i* P	**Pn**	**02 26 39.1**	**-1.1**
MA2	comp=Z,3.0nm,0.9s			pmax	pmax		
MA2	**Magadan**	**15.92**	**6**	*e*P	**Pn**	**02 26 39.1**	**-1.1**
KSRS	**Korea Array**	**16.17**	**254**	P	**P**	**02 26 44.5**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=61,slow=11,SNR=2.2						
ZEA	**Zeya**	**16.61**	**314**	*e*P	**P**	**02 26 55.9**	**+5.2**
ZEA	**Zeya**	**16.61**	**314**	*e*P	**Pn**	**02 26 46.6**	**-2.4**
SEY	**Seymchan**	**19.37**	**7**	P	**P**	**02 27 19.0**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=179,slow=8.0,SNR=12						
SEY	**Seymchan**	**19.37**	**7**	*i* P	**P**	**02 27 20.5**	**-0.4**
YAK	**Yakutsk**	**21.06**	**336**	*i* P		02 27 40.8	
YAK	comp=Z,16nm,0.3s			pmax	pmax		
YAK	**Yakutsk**	**21.06**	**336**	*e*P		02 27 40.8	
BILL	**Bilibino**	**26.23**	**16**	*i* P	**P**	**02 28 29.4**	**-0.1**
BILL				*i*		02 29 08.5	
BILL	comp=Z,2.0nm,1.1s			pmax	pmax		
BILL	**Bilibino**	**26.23**	**16**	*e*P	**P**	**02 28 29.4**	**-0.1**
ULN	**Ulaanbaatar**	**28.27**	**293**	*ce*P	**P**	**02 28 48.9**	**+0.7**
ULN	comp=Z,8.0nm,2.5s			pmax	pmax		
ULN	**Ulaanbaatar**	**28.27**	**293**	*e*P	**P**	**02 28 48.9**	**+0.7**
SONM	**Songino Array**	**28.71**	**293**	P	**P**	**02 28 50.9**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=76,slow=8.2,SNR=7.7						
SONM	**Songino Array**	**28.71**	**293**	P	**P**	**02 28 52.1**	**0.0**
SONM	comp=Z,1.0nm,0.9s			pmax	pmax		
SONM	**Songino Array**	**28.71**	**293**	P	**P**	**02 28 52.1**	**0.0**
H11N2	**WAKE ISLAND Hy**	**28.96**	**140**	T	T	02 59 39.0	
	baz=331,slow=76,SNR=349						
H11N1	**WAKE ISLAND Hy**	**28.97**	**140**	T	T	02 59 40.0	
	baz=331,slow=76,SNR=340						
H11N3	**WAKE ISLAND Hy**	**28.97**	**140**	T	T	02 59 40.3	
	baz=331,slow=76,SNR=288						
H11S1	**WAKE ISLAND Hy**	**29.93**	**141**	T	T	03 00 49.2	
	baz=332,slow=76,SNR=925						
H11S3	**WAKE ISLAND Hy**	**29.94**	**141**	T	T	03 00 53.6	
	baz=332,slow=76,SNR=491						
H11S2	**WAKE ISLAND Hy**	**29.95**	**141**	T	T	03 00 50.5	
	baz=332,slow=76,SNR=703						
FALS	**False Pass**	**33.15**	**53**	P	**P**	**02 29 33.7**	**+2.8**
	baz=271						
GCSA	**Galena City Sc**	**37.00**	**36**	P	**P**	**02 30 04.3**	**+0.5**
	baz=263						
TTA	**Tatalina**	**37.21**	**39**	P	**P**	**02 30 06.8**	**+1.0**
TTA	comp=Z,7.0nm,0.9s			pmax	pmax		
TTA	**Tatalina**	**37.21**	**39**	P	**P**	**02 30 06.8**	**+1.0**
TTA	comp=Z,6.9nm,0.9s			IAmb	IAmb	02 30 07.6	
TTA	**Tatalina**	**37.21**	**39**	P	**P**	**02 30 06.8**	**+1.0**
	baz=266						
P18K	**Big Mountain,**	**37.52**	**45**	P	**P**	**02 30 10.1**	**+1.7**
	baz=272						
N19K	**Bonanza Creek**	**37.87**	**43**	P	**P**	**02 30 12.8**	**+1.4**
	baz=270						
K20K	**Telida**	**38.11**	**38**	P	**P**	**02 30 14.3**	**+1.0**
K20K	**Telida**	**38.11**	**38**	P	**P**	**02 30 14.4**	**+1.0**
	baz=268						
J20K	**Nowinta River**	**38.12**	**37**	P	**P**	**02 30 14.5**	**+1.1**
J20K	**Nowinta River**	**38.12**	**37**	P	**P**	**02 30 14.2**	**+0.8**
	baz=266,SNR=7.5						
IMAR	**Indian Mountai**	**38.44**	**34**	P	**P**	**02 30 16.4**	**+0.4**
OHAK	**Old Harbor**	**38.68**	**48**	P	**P**	**02 30 19.7**	**+1.6**
	baz=276						
H21K	**Melozitna Rive**	**38.80**	**35**	P	**P**	**02 30 19.8**	**+0.7**
H21K				IAmb	IAmb	02 30 21.0	
	comp=Z,6.7nm,0.8s						
H21K	**Melozitna Rive**	**38.80**	**35**	P	**P**	**02 30 19.8**	**+0.7**
	baz=266						
CHUM	**Lake Minchumin**	**38.91**	**38**	P	**P**	**02 30 21.0**	**+1.0**
	baz=268,SNR=5.3						
PPLA	**Purkeypile**	**38.95**	**39**	P	**P**	**02 30 22.2**	**+1.6**
PPLA	**Purkeypile**	**38.95**	**39**	P	**P**	**02 30 21.7**	**+1.2**
	baz=270						
SPCR	**Spurr Chakacha**	**38.97**	**42**	P	**P**	**02 30 21.3**	**+0.7**
	baz=272						
KDAK	**Kodiak Island**	**39.00**	**47**	P	**P**	**02 30 20.8**	**0.0**
	comp=Z,11nm,0.7s,baz=264,slow=6.8,SNR=5.5						
KDAK	**Kodiak Island**	**39.00**	**47**	P	**P**	**02 30 20.9**	**+0.1**
KDAK	comp=Z,84nm,1.5s			pmax	pmax		
KDAK	**Kodiak Island**	**39.00**	**47**	P	**P**	**02 30 20.9**	**+0.1**
CAST	**Castle Rocks**	**39.01**	**38**	P	**P**	**02 30 22.2**	**+1.3**
CAST	**Castle Rocks**	**39.01**	**38**	P	**P**	**02 30 22.3**	**+1.5**
	baz=269,SNR=8.0						
I21K	**Tanana**	**39.11**	**36**	P	**P**	**02 30 22.9**	**+1.2**
I21K				IAmb	IAmb	02 30 24.4	
	comp=Z,12nm,1.3s						
I21K	**Tanana**	**39.11**	**36**	P	**P**	**02 30 22.7**	**+1.0**
	baz=267						
NRIK	**Noril'sk**	**39.34**	**331**	*i* P	**P**	**02 30 24.8**	**+1.3**
NRIK				pmax	pmax		
	comp=Z,11nm,3.0s						
BPAW	**Bear Paw Mtn.**	**39.50**	**37**	P	**P**	**02 30 25.8**	**+0.8**
BPAW				IAmb	IAmb	02 30 26.9	
	comp=Z,5.6nm,0.7s						
BPAW	**Bear Paw Mtn.**	**39.50**	**37**	P	**P**	**02 30 25.8**	**+0.8**
	baz=270						
KTH	**Kantishna Hill**	**39.53**	**38**	P	**P**	**02 30 26.6**	**+1.3**
MLY	**Manley**	**39.63**	**36**	P	**P**	**02 30 27.5**	**+1.5**
MLY				IAmb	IAmb	02 30 28.2	
	comp=Z,7.4nm,0.9s						
MLY	**Manley**	**39.63**	**36**	P	**P**	**02 30 27.1**	**+1.0**
	baz=269,SNR=5.9						
BRSE	**Bradley Lake S**	**39.78**	**44**	P	**P**	**02 30 27.9**	**+0.6**
	baz=275						
TRF	**Thorofare Moun**	**39.81**	**38**	P	**P**	**02 30 28.6**	**+0.9**
TRF	**Thorofare Moun**	**39.81**	**38**	P	**P**	**02 30 28.1**	**+0.3**
	baz=271						
COLD	**Coldfoot**	**39.95**	**32**	P	**P**	**02 30 29.7**	**+1.1**
COLD				IAmb	IAmb	02 30 30.8	
	comp=Z,5.5nm,1.2s						
COLD	**Coldfoot**	**39.95**	**32**	P	**P**	**02 30 29.0**	**+0.3**
	baz=266						
BWN	**Browne**	**40.17**	**37**	P	**P**	**02 30 32.1**	**+1.6**
I23K	**Minto, Yukon-K**	**40.22**	**36**	P	**P**	**02 30 31.8**	**+1.0**
I23K	**Minto, Yukon-K**	**40.22**	**36**	P	**P**	**02 30 31.5**	**+0.7**
	baz=270						
TOLK	**Toolik Lake Re**	**40.30**	**30**	P	**P**	**02 30 31.2**	**-0.3**
TOLK	**Toolik Lake Re**	**40.30**	**30**	P	**P**	**02 30 31.7**	**+0.2**
	baz=265						
NEA2	**Nenana**	**40.34**	**37**	P	**P**	**02 30 33.0**	**+1.1**
NEA2	**Nenana**	**40.34**	**37**	P	**P**	**02 30 32.6**	**+0.7**
	baz=271,SNR=12						
MCK	**McKinley**	**40.41**	**38**	P	**P**	**02 30 33.1**	**+0.5**
MCK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MCK	**McKinley**	**40.41**	**38**	P	**P**	**02 30 33.1**	**+0.5**
MCK				IAmb	IAmb	02 30 34.3	
	comp=Z,8.4nm,0.8s						
MCK	**McKinley**	**40.41**	**38**	P	**P**	**02 30 33.3**	**+0.8**
	baz=272,SNR=5.4						
RND	**Reindeer**	**40.46**	**38**	P	**P**	**02 30 33.3**	**+0.3**
RND				pmax	pmax		
	comp=Z,11nm,0.8s						
RND	**Reindeer**	**40.46**	**38**	P	**P**	**02 30 33.3**	**+0.3**
RND				IAmb	IAmb	02 30 34.0	
	comp=Z,11nm,0.8s						
GOMU	**GeErMu**	**40.52**	**278**	P	**P**	**02 30 34.0**	**-0.1**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DGZ	**Jazzator, Alta**	**40.64**	**300**	*i* P	**P**	**02 30 36.0**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,6.0nm,2.0s						
MDM	**Murphy Dome**	**40.70**	**36**	P	**P**	**02 30 35.9**	**+1.1**
MDM				IAmb	IAmb	02 30 36.6	
	comp=Z,10.0nm,0.7s						
KNK	**Knik Glacier**	**40.76**	**41**	P	**P**	**02 30 35.7**	**+0.2**
	baz=275						
WRH	**Wood River Hil**	**40.77**	**37**	P	**P**	**02 30 36.2**	**+0.9**
WRH				IAmb	IAmb	02 30 38.0	
	comp=Z,5.5nm,0.8s						
SML	**Sawmill**	**40.79**	**41**	P	**P**	**02 30 36.3**	**+0.6**
SML				pmax	pmax		
	comp=Z,11nm,0.8s						
SML	**Sawmill**	**40.79**	**41**	P	**P**	**02 30 36.3**	**+0.6**
SML				IAmb	IAmb	02 30 37.3	
	comp=Z,11nm,0.8s						
SML	**Sawmill**	**40.79**	**41**	P	**P**	**02 30 36.4**	**+0.6**
	baz=274						
H24K	**Noodor Dome**	**40.84**	**35**	P	**P**	**02 30 37.2**	**+1.2**
H24K				IAmb	IAmb	02 30 38.3	
	comp=Z,5.6nm,0.8s						
H24K	**Noodor Dome**	**40.84**	**35**	P	**P**	**02 30 37.0**	**+1.0**
	baz=270,SNR=6.4						
TCOL	**CIGO, UAF Yank**	**40.85**	**36**	P	**P**	**02 30 36.9**	**+0.9**
TCOL	**CIGO, UAF Yank**	**40.85**	**36**	P	**P**	**02 30 37.0**	**+0.9**
	baz=271						
COLA	**College**	**40.86**	**36**	*i* P	**P**	**02 30 36.7**	**+0.6**
COLA				pmax	pmax		
	comp=Z,13nm,0.9s						
COLA	**College**	**40.86**	**36**	P	**P**	**02 30 36.6**	**+0.5**
COLA	**College**	**40.86**	**36**	P	**P**	**02 30 37.2**	**+1.1**
	baz=271						
PWL	**Port Wells**	**40.87**	**42**	P	**P**	**02 30 37.1**	**+0.8**
	baz=276						
WAT6	**Susitna Watana**	**41.01**	**40**	P	**P**	**02 30 38.0**	**+0.3**
	baz=274						
POKR	**Poker Plat Res**	**41.03**	**36**	P	**P**	**02 30 38.6**	**+1.0**
POKR	**Poker Plat Res**	**41.03**	**36**	P	**P**	**02 30 38.8**	**+1.2**
	baz=272,SNR=6.3						
DHY	**Denali Highway**	**41.15**	**39**	P	**P**	**02 30 39.2**	**+0.5**
DHY				IAmb	IAmb	02 30 39.8	
	comp=Z,7.9nm,0.6s						
DHY	**Denali Highway**	**41.15**	**39**	P	**P**	**02 30 38.7**	**0.0**
	baz=274,SNR=5.2						
ZALV	**Zalesovo Beam**	**41.19**	**307**	P	**P**	**02 30 38.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=20,slow=38,SNR=1.6						
ZALV				PcP	**PcP**	**02 32 37.2**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=82,slow=3.1,SNR=9.5						
ZALV				pPcP		02 32 51.7	
	comp=Z,2.3nm,0.6s,baz=80,slow=2.9,SNR=9.8						
HDA	**Harding Lake**	**41.26**	**37**	P	**P**	**02 30 39.4**	**-0.1**
HDA	**Harding Lake**	**41.26**	**37**	P	**P**	**02 30 39.6**	**+0.1**
	baz=273						
SCM	**Sheep Creek

comp=Z,6.9nm,0.6s
SCRK Sand Creek 42.59 37 P P 02 30 50.3 -0.1
SCRK IAmb IAmb 02 30 51.3
comp=Z,10.0nm,0.8s
SCRK Sand Creek 42.59 37 P P 02 30 50.3 -0.1
baz=276,SNR=7.6
BMRM Bremner River 42.67 42 P P 02 30 51.9 +0.9
BMRM IAmb IAmb 02 31 19.2
comp=Z,15nm,1.1s
BMRM Bremner River 42.67 42 P P 02 30 52.2 +1.2
baz=278
J26L Joseph Creek 42.72 37 P P 02 30 51.0 -0.5
baz=276,SNR=5.4
RAGM Ragged Mountai 42.72 43 P P 02 30 52.9 +1.4
KAIM Kayak Island 42.92 43 P P 02 30 55.0 +2.0
baz=280
L26K Log Cabin Wild 42.98 39 P P 02 30 54.9 +1.4
baz=277,SNR=6.6
VRDI Verde Repeater 43.18 41 P P 02 30 56.0 +0.6
VRDI IAmb IAmb 02 31 18.1
comp=Z,22nm,1.5s
M26K Nabesna, AK 43.22 40 P P 02 30 56.9 +1.4
M26K IAmb IAmb 02 30 58.1
comp=Z,10nm,0.9s
M26K Nabesna, AK 43.22 40 P P 02 30 56.9 +1.4
baz=278
MCARA McCarthy VSAT 43.36 41 P P 02 30 58.1 +1.5
baz=279
CRQE Cirque 43.43 42 P P 02 30 58.3 +1.0
baz=280
TGL Tana Glacier 43.56 42 P P 02 30 59.5 +1.2
TGL IAmb IAmb 02 31 01.0
comp=Z,9.6nm,0.9s
L27K Beaver Creek, 43.66 38 P P 02 31 00.6 +1.6
L27K Beaver Creek, 43.66 38 P P 02 31 00.3 +1.3
baz=278,SNR=13
BCAR Beaver Creek A 43.68 38 P P 02 31 00.7 +1.6
EGAK Eagle 43.72 36 P P 02 30 59.8 +0.4
EGAK IAmb IAmb 02 31 00.5
comp=Z,7.5nm,0.7s
EGAK Eagle 43.72 36 P P 02 30 59.6 +0.2
baz=277
M27K Edge Creek, AK 43.74 40 P P 02 31 02.0 +2.2
M27K IAmb IAmb 02 31 02.8
comp=Z,13nm,1.1s
M27K Edge Creek, AK 43.74 40 P P 02 31 00.6 +0.8
baz=279
ISLE Juniper Island 43.82 42 P P 02 31 01.3 +0.8
BARN Barnard Glacie 44.07 41 P P 02 31 03.7 +1.3
BARN IAmb IAmb 02 31 05.2
comp=Z,8.9nm,1.1s
MESA MESA 44.09 43 P P 02 31 04.3 +1.6
MESA MESA 44.09 43 P P 02 31 03.9 +1.2
baz=281
CTG Chitna Glacier 44.24 41 P P 02 31 05.0 +1.2
baz=281
CTGM Chitina Glacie 44.24 41 P P 02 31 04.7 +0.9
CTGM IAmb IAmb 02 31 16.8
comp=Z,14nm,1.1s
YUK3 Moose Creek 44.50 40 P P 02 31 06.9 +0.9
baz=281
DAWY Dawson 44.58 37 P P 02 31 06.8 +0.4
DAWY Dawson 44.58 37 P P 02 31 07.0 +0.7
baz=280
MK31 Makanchi Array 44.81 298 *i* P **P 02 31 07.6 -0.8**
MK31 Makanchi Array 44.81 298 P **P 02 31 07.3 -1.1**
MKAR Makanchi Array 44.81 298 P **P 02 31 07.6 -0.8**
comp=Z,1.3nm,0.5s,baz=76,slow=8.1,SNR=17
MKAR PcP **PcP 02 32 48.2 -1.2**
comp=Z,0.6nm,0.8s,baz=76,slow=5.1,SNR=2.7
MKAR pPcP 02 33 04.7
comp=Z,0.6nm,0.6s,baz=67,slow=4.1,SNR=3.8
MKAR Makanchi Array 44.81 298 *i* P **P 02 31 08.0 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
I29M Ogilvie Camp, 44.84 35 P P 02 31 09.3 +1.0
baz=279,SNR=15
MAKZ Makanchi 45.01 298 P P 02 31 09.8 -0.2
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 45.01 298 P P 02 31 09.8 -0.2
EPYK Eagle Plains 45.32 33 P P 02 31 13.5 +1.3
EPYK Eagle Plains 45.32 33 P P 02 31 13.3 +1.1
baz=279,SNR=5.6
KURK Kurchatov 45.74 304 *i* P **P 02 31 15.1 -0.5**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 45.74 304 *e*P **P 02 31 15.1 -0.5**
KURBB Kurchatov Arra 45.82 304 P **P 02 31 15.2 -1.1**
comp=Z,1.1nm,0.6s,baz=76,slow=8.7,SNR=3.7
KURBB PcP **PcP 02 32 51.5 -1.3**
comp=Z,0.9nm,0.7s,baz=79,slow=3.5,SNR=6.3
KURBB pPcP 02 33 07.5
comp=Z,0.9nm,0.6s,baz=76,slow=3.4,SNR=6.5
M30M Minto, Yukon 46.02 39 P P 02 31 19.3 +1.5
baz=283
INK Inuvik 46.21 30 P P 02 31 19.4 +0.4
comp=Z,4.1nm,0.6s,baz=300,slow=6.7,SNR=35
INK Inuvik 46.21 30 P P 02 31 19.5 +0.4
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 46.21 30 P P 02 31 19.5 +0.4
INK IAmb IAmb 02 31 20.7
comp=Z,4.8nm,0.8s
INK Inuvik 46.21 30 P P 02 31 19.7 +0.6
baz=280,SNR=5.7
N31M Braeburn, Yuko 46.74 40 P P 02 31 24.8 +1.3
baz=285
M31M Drury Creek, Y 47.20 39 P P 02 31 28.1 +1.2
baz=285
WHY Whitehorse 47.39 41 P P 02 31 30.2 +1.7
WHY IAmb IAmb 02 31 30.8
comp=Z,3.6nm,0.8s
WHY Whitehorse 47.39 41 P P 02 31 29.8 +1.3
baz=286
SKAG Skagway 47.51 42 P P 02 31 30.7 +1.4
baz=287
CMAR Chiang Mai Arr 47.81 254 P **P 02 31 31.4 -0.9**
comp=Z,0.5nm,0.3s,baz=55,slow=7.9,SNR=1.5
A36M Sachs Harbour 48.20 25 P **P 02 31 34.9 +0.4**
baz=284
SIT Sitka 48.26 46 P **P 02 31 36.9 +1.8**
baz=289
P33M Teslin, Yukon 48.50 41 P **P 02 31 38.8 +1.7**
baz=288
BVAR Borovoye Array 49.69 309 P **P 02 31 46.0 -0.2**
comp=Z,0.5nm,0.4s
BVAR PcP **PcP 02 33 06.8 +0.1**
comp=Z,0.7nm,0.4s,baz=39,slow=0.5,SNR=4.1
BRVK Borovoye 49.73 310 *i* P **P 02 31 47.1 +0.6**
BRVK pmax pmax
comp=Z,12nm,3.4s
BRVK Borovoye 49.73 310 *e*P **P 02 31 47.1 +0.6**
DLBC Dease Lake 50.44 43 P **P 02 31 53.0 +1.0**
comp=Z,1.9nm,0.6s,baz=258,slow=6.4,SNR=8.2
DLBC Dease Lake 50.44 43 P **P 02 31 53.8 +1.9**
DLBC IAmb IAmb 02 32 20.9
comp=Z,9.7nm,1.3s
BOOM Boomskoye usch 50.71 295 P **P 02 31 54.6 +0.3**
BOOM pmax pmax
comp=Z,5.0nm,0.8s
BOOM Boomskoye usch 50.71 295 P **P 02 31 54.6 +0.3**
BOOM IAmb IAmb 02 31 55.6
comp=Z,5.0nm,0.8s
AAK Ala-Archa 51.59 296 P **P 02 32 00.8 -0.1**
comp=Z,0.9nm,0.7s,baz=122,slow=6.9,SNR=4.6
AAK Ala-Archa 51.59 296 *ce*P **P 02 32 01.0 +0.1**
AAK pmax pmax
comp=Z,19nm,2.5s
AAK Ala-Archa 51.59 296 P **P 02 32 00.8 -0.1**
AAK Ala-Archa 51.59 296 *e*P **P 02 32 01.0 +0.1**
KSH Kashi 52.11 292 P **P 02 32 08.4 +3.7**
KSH pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 53.94 298 P **P 02 32 17.3 -0.7**
KKAR Karatay Array 53.94 298 P **P 02 32 17.3 -0.7**
ARU Arti 54.50 317 *c i* P **P 02 32 22.5 +0.6**
ARU S **S 02 39 59.3 +2.7**
ARU SS **SS 02 43 33.6 -5.4**
ARU pmax pmax
comp=Z,3.0nm,1.2s
ARU Arti 54.50 317 *e*P **P 02 32 22.4 +0.6**
BTK Batken 55.27 295 P **P 02 32 27.3 -0.5**
BTK pmax pmax
comp=Z,4.0nm,0.9s
BTK Batken 55.27 295 P **P 02 32 27.3 -0.5**
BTK IAmb IAmb 02 32 30.8
comp=Z,4.1nm,0.8s
YKA Yellowknife Ar 55.60 34 P **P 02 32 29.9 +0.3**
comp=Z,2.8nm,0.6s,baz=297,slow=6.8,SNR=44
YKA Yellowknife Ar 55.60 34 *i* P **P 02 32 30.0 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 55.60 34 P **P 02 32 29.3 -0.4**
CHGR Chuyangaron 57.10 294 P **P 02 32 40.1 -0.7**
ABKAR Akbulak array 57.25 309 P **P 02 32 41.0 -0.7**
ABKAR IAmb IAmb 02 32 41.6
comp=Z,2.7nm,0.8s
ARCES ARCESS Array B 59.29 340 P **P 02 32 53.5 -2.1**
comp=Z,3.8nm,1.0s,baz=27,slow=6.2,SNR=13
H04D Lebanon 61.02 55 P **P 02 33 08.9 +1.1**
baz=304
I03D Drain, OR 61.12 56 P **P 02 33 08.6 +0.2**
baz=304
EDM Edmonton 61.17 43 P **P 02 33 08.4 -0.3**
EDM pmax pmax
comp=Z,6.0nm,0.8s
EDM Edmonton 61.17 43 P **P 02 33 08.4 -0.3**
G05D Wamic, OR 61.45 54 P **P 02 33 11.7 +1.0**
baz=305
I04A Tendick Farm, 61.62 55 P **P 02 33 13.3 +1.4**
baz=305
NEW Newport 62.08 49 P **P 02 33 12.4 -2.5**
comp=Z,1.8nm,0.7s,baz=286,slow=6.6,SNR=4.7
NEW Newport 62.08 49 P **P 02 33 15.5 +0.6**
baz=306
J04D Umpqua Nationa 62.12 56 P **P 02 33 16.0 +0.6**
baz=305
L04D Klamath Falls 62.59 57 P **P 02 33 19.2 +0.7**
baz=306
J05D Fort Rock, OR 62.61 55 P **P 02 33 19.2 +0.5**
baz=306
N02D Trinity Center 63.07 58 P **P 02 33 22.0 +0.4**
baz=306
M04C Macdoel 63.12 57 P **P 02 33 22.1 0.0**
baz=306
K05A Summer Lake 63.14 56 P **P 02 33 23.6 +1.3**
K05A IAmb IAmb 02 33 24.6
comp=Z,7.5nm,1.2s
WALA Waterton Lakes 63.33 47 P **P 02 33 24.0 +0.7**
WALA IAmb IAmb 02 33 51.1
comp=Z,5.0nm,1.2s
O02D Mt. Diablo Mer 63.48 59 P **P 02 33 24.4 0.0**
baz=306
O03E Paynes Creek 64.02 58 P **P 02 33 27.9 -0.1**
baz=307
WB0 Warramunga Arr 64.40 194 P **P 02 33 30.2 -0.2**
WB0 IAmb IAmb 02 33 47.3
comp=Z,6.9nm,1.3s
WB2 Warramunga Arr 64.58 194 P **P 02 33 32.1 +0.6**
WB2 IAmb IAmb 02 33 32.5
comp=Z,7.8nm,1.3s
WRA Warramunga Arr 64.58 194 P **P 02 33 31.6 +0.1**
comp=Z,1.7nm,0.9s,baz=13,slow=6.6,SNR=8.9
WRA pP **pP 02 33 46.4 +0.1**
comp=Z,1.1nm,0.9s,baz=9.7,slow=6.8,SNR=3.8
WRA Warramunga Arr 64.58 194 *i* P **P 02 33 32.0 +0.4**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 64.58 194 P **P 02 33 31.8 +0.2**
PLID Pearl Lake 64.58 51 P **P 02 33 32.3 +0.6**
GEYT Alibeck 64.66 299 P **P 02 33 31.7 -0.5**
comp=Z,1.2nm,0.4s,baz=44,slow=9.0,SNR=3.0
GEYT Alibeck 64.66 299 P **P 02 33 31.9 -0.3**
GEYT IAmb IAmb 02 33 38.6
comp=Z,7.1nm,1.3s
FIA1 FINESS Array S 64.95 333 P **P 02 33 32.2 -1.4**
FINES FINESS Array B 64.95 333 P **P 02 33 32.1 -1.4**
comp=Z,3.1nm,0.5s,baz=36,slow=8.5,SNR=34
FINES FINESS Array B 64.95 333 *i* P **P 02 33 32.0 -1.6**
FINES pmax pmax
comp=Z,3.0nm,0.5s
OBN Obninsk 65.44 324 *ce*P **P 02 33 37.1 +0.3**
OBN *e* 02 36 01.6
OBN pmax pmax
comp=Z,22nm,1.7s
OBN Obninsk 65.44 324 *e*P **P 02 33 37.1 +0.3**
FCC Fort Churchill 65.83 30 P **P 02 33 39.1 -0.2**
FCC pmax pmax
comp=Z,2.0nm,0.5s
FCC Fort Churchill 65.83 30 P **P 02 33 39.0 -0.2**
FCC IAmb IAmb 02 33 39.6
comp=Z,2.4nm,0.5s
PAHR Pah Rah Range 65.86 58 P **P 02 33 40.6 +0.6**
PAHR IAmb IAmb 02 33 41.8
comp=Z,4.6nm,1.1s
HRY Holter Researc 65.88 48 P **P 02 33 40.8 +0.8**
LRM Limekiln Ridge 66.10 49 P **P 02 33 42.1 +0.5**
EGMT Eagleton 66.15 46 P **P 02 33 40.9 -0.8**
baz=310
CMB Columbia Colle 66.26 60 P **P 02 33 43.8 +1.3**
CMB pmax pmax
comp=Z,3.0nm,0.9s
CMB Columbia Colle 66.26 60 P **P 02 33 43.8 +1.3**
CMB IAmb IAmb 02 33 44.0
comp=Z,3.5nm,0.8s
YERR Yerington 66.39 58 P **P 02 33 44.5 +1.0**
YERR IAmb IAmb 02 33 45.4
comp=Z,8.0nm,1.0s
HLID Hailey 66.42 52 P **P 02 33 44.4 +0.8**
baz=309
BOZ Bozeman (W) 66.69 49 P **P 02 33 45.8 +0.6**
BOZ pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 66.69 49 P **P 02 33 45.8 +0.6**
BOZ IAmb IAmb 02 33 46.8
comp=Z,4.5nm,0.8s
BOZ Bozeman (W) 66.69 49 P **P 02 33 45.8 +0.6**
baz=310
KVN Kaiserville 67.05 57 P **P 02 33 48.8 +1.1**
KVN pmax pmax
comp=Z,6.0nm,0.9s
KVN Kaiserville 67.05 57 P **P 02 33 48.8 +1.1**
KVN IAmb IAmb 02 33 50.0
comp=Z,6.1nm,0.9s
NVAR Mina Array Bea 67.31 58 P **P 02 33 50.1 +0.8**
comp=Z,3.3nm,0.7s,baz=292,slow=6.7,SNR=20
NVAR pP **pP 02 34 05.4 +1.3**
comp=Z,0.5nm,0.7s,baz=299,slow=6.8,SNR=1.7
NVAR Mina Array Bea 67.31 58 P **P 02 33 50.4 +1.1**
YHL Hebgen Lake 67.41 49 P **P 02 33 50.8 +0.8**
H17A Grant Village 68.03 49 P **P 02 33 55.4 +1.6**
baz=310
RLMT Red Lodge 68.27 48 P **P 02 33 56.0 +0.7**
baz=311
ASAR Alice Springs 68.30 193 P **P 02 33 55.6 +0.3**
comp=Z,0.5nm,0.8s,baz=10,slow=5.7,SNR=3.6
ASAR pP **pP 02 34 11.2 +1.1**
comp=Z,0.6nm,0.7s,baz=11,slow=5.0,SNR=4.9
MOOW Moose Ponds 68.36 50 P **P 02 33 57.1 +1.2**
LOHW Long Hollow 68.52 50 P **P 02 33 58.3 +1.4**
DGMT Dagmar 68.66 43 P **P 02 33 58.1 +0.7**
DGMT Dagmar 68.66 43 P **P 02 33 57.7 +0.3**
baz=313
GRAC Grapevine Rang 68.78 59 P **P 02 33 59.6 +1.2**
baz=310
LAO LASA Array 68.84 45 P **P 02 33 58.8 +0.2**
baz=312
R11A Troy Canyon, C 69.02 57 P **P 02 34 00.4 +0.4**
R11A Troy Canyon, C 69.02 57 P **P 02 34 00.7 +0.7**
baz=310
MPMC Manual Prospec 69.30 60 P **P 02 34 02.7 +0.9**
baz=310
SPR3 Spring Creek 3 69.35 56 P **P 02 34 03.6 +1.3**
FURC Furnace Creek, 69.43 59 P **P 02 34 04.0 +1.6**
baz=310
DUG Dugway, Tooele 69.48 54 P **P 02 34 03.5 +0.7**
baz=311
TPNV Topopah Spring 69.50 58 P **P 02 34 04.1 +1.0**
baz=310
NB201 NORSAR Array S 69.62 339 P **P 02 34 01.8 -1.3**
NB2 NORSAR Subarra 69.65 339 P **P 02 34 01.6 -1.8**
comp=Z,1.4nm,0.9s,baz=30,slow=6.2
NOA NORSAR Array B 69.65 339 P **P 02 34 02.4 -1.0**
comp=Z,0.3nm,0.4s,baz=37,slow=5.9,SNR=15
BW06 Boulder Array 69.66 50 P **P 02 34 04.3 +0.3**
BW06 Boulder Array 69.66 50 P **P 02 34 04.1 +0.2**
baz=311
PD31 Pinedale Array 69.66 50 P **P 02 34 03.7 -0.3**
PDAR Pinedale Array 69.66 50 P **P 02 34 03.8 -0.2**
comp=Z,1.5nm,0.7s,baz=262,slow=1.7,SNR=16
PDAR pP **pP 02 34 22.0 +3.0**
comp=Z,0.5nm,0.6s,baz=263,slow=1.8,SNR=3.3
PDAR Pinedale Array 69.66 50 P **P 02 34 04.4 +0.4**
GWY Greenwater Val 69.73 59 P **P 02 34 04.9 +0.5**
GWY IAmb IAmb 02 34 05.8
comp=Z,3.8nm,0.7s
EDW2 Edwards Air Fo 69.73 61 P **P 02 34 04.8 +0.4**
baz=310
QSM Queen of Sheba 69.75 59 P **P 02 34 04.9 +0.6**
QSM IAmb IAmb 02 34 05.6
comp=Z,3.3nm,0.7s
KIV Kislovodsk 69.94 312 *i* P **P 02 34 05.2 -0.3**
KIV *i* 02 34 27.0
KIV pmax pmax
comp=Z,9.0nm,0.8s
KIV Kislovodsk 69.94 312 P **P 02 34 06.5 +1.0**
KIV Kislovodsk 69.94 312 *e*P **P 02 34 05.2 -0.3**
KBZ Khabaz 69.98 312 P **P 02 34 05.7 +0.1**
comp=Z,5.7nm,0.7s,baz=29,slow=1.1,SNR=19
KBZ Khabaz 69.98 312 *ce*P **P 02 34 05.5 -0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 69.98 312 *e*P **P 02 34 05.5 -0.1**
SHA1 Shidzhatmaz 70.10 312 *i* P **P 02 34 06.8 +0.1**
GSC Goldstone, Bar 70.21 60 P **P 02 34 08.1 +0.8**
baz=310
ONI Oni 70.43 311 P **P 02 34 09.4 +0.9**
ONI pmax pmax
comp=Z,15nm,1.3s
ONI Oni 70.43 311 P **P 02 34 09.4 +0.9**
ONI IAmb IAmb 02 34 19.4
comp=Z,15nm,1.3s
SHPR Sheep Range 70.46 58 P **P 02 34 09.9 +1.0**
MSU Marysvale 70.95 55 P **P 02 34 12.7 +0.8**
MSU Marysvale 70.95 55 P **P 02 34 12.7 +0.8**
RDMU Red Mountain 71.10 52 P **P 02 34 13.6 +0.8**
RDMU IAmb IAmb 02 34 14.5
comp=Z,7.0nm,0.8s
GMRC Granite Mounta 71.26 60 P **P 02 34 14.7 +0.9**
baz=311
ULM Lac du Bonnet 71.28 37 P **P 02 34 12.6 -0.9**
comp=Z,2.3nm,0.6s,baz=302,slow=3.4,SNR=3.0
P18A Preston Nutter 71.34 53 P **P 02 34 15.0 +0.6**
K22A Casper 71.40 48 P **P 02 34 14.1 -0.4**
baz=313
SRU San Rafael Swe 71.52 53 P **P 02 34 15.0 -0.3**
SRU pmax pmax
comp=Z,4.0nm,1.0s
SRU San Rafael Swe 71.52 53 P **P 02 34 15.0 -0.3**
SRU IAmb IAmb 02 34 16.7
comp=Z,4.2nm,1.0s
TPFO Pinon Flats 71.53 61 P **P 02 34 15.5 +0.2**
baz=311
BELC Belle Mtn. Jos 71.56 60 P **P 02 34 15.3 -0.2**
baz=311
109C Camp Elliot, M 71.58 62 P **P 02 34 15.8 +0.2**
baz=311
AKASG Malin Array Be 71.70 324 P **P 02 34 15.2 -0.8**
comp=Z,2.0nm,0.4s,baz=40,slow=6.5,SNR=24
AKASG Malin Array Be 71.70 324 P **P 02 34 15.9 -0.1**
AKBB Malin Array Si 71.70 324 *ce*P **P 02 34 15.9 0.0**
AKBB Malin Array Si 71.70 324 P **P 02 34 14.9 -1.1**
AKBB IAmb IAmb 02 34 15.7
comp=Z,3.6nm,0.7s
RSSD Black Hills 71.71 46 P **P 02 34 15.9 -0.5**
RSSD pmax pmax
comp=Z,3.0nm,0.6s
RSSD Black Hills 71.71 46 P **P 02 34 15.9 -0.5**
RSSD Black Hills 71.71 46 P **P 02 34 16.3 -0.2**
baz=314
IRM Iron Mountain 71.99 60 P **P 02 34 18.3 +0.3**
baz=311
BC3 Big Chuckawall 72.13 60 P **P 02 34 19.4 +0.4**
baz=311
O20A White River Ci 72.15 51 P **P 02 34 19.5 +0.5**
baz=313
U15A North Rim 72.26 56 P **P 02 34 21.1 +1.2**
IKP In-Ko-Pah, Jac 72.37 62 P **P 02 34 21.0 +0.7**
baz=311
AGMN Agassiz Nation 72.72 39 P **P 02 34 21.5 -0.6**
baz=318
N23A Red Feather La 72.91 49 P **P 02 34 24.8 +1.1**
N23A IAmb IAmb 02 34 25.0
comp=Z,4.0nm,0.9s
N23A Red Feather La 72.91 49 P **P 02 34 24.5 +0.8**
baz=314
GLA Glamis 72.92 61 P **P 02 34 24.1 +0.5**
baz=312
WUAZ Wupatki 73.42 57 P **P 02 34 26.8 +0.1**
baz=312
ISCO Idaho Springs 73.85 50 P **P 02 34 30.2 +0.9**
ISCO pmax pmax
comp=Z,3.0nm,1.1s
ISCO Idaho Springs 73.85 50 P **P 02 34 30.2 +0.9**
ISCO Idaho Springs 73.85 50 P **P 02 34 30.7 +1.4**
baz=314
MVCO Mesa Verde 73.98 54 P **P 02 34 30.9 +0.9**
baz=313
SUSD Miller 74.07 43 P **P 02 34 30.1 0.0**
baz=317
X16A Lo Mia Camp, P 74.11 58 P **P 02 34 31.9 +1.1**
S22A 4UR Ranch, Cre 74.58 52 P **P 02 34 34.7 +1.1**
baz=314
Q24A Divide 74.69 51 P **P 02 34 35.2 +1.0**
baz=314
214A Organ Pipe Nat 74.92 60 P **P 02 34 35.3 0.0**
baz=313
OGNE Ogallala 74.99 47 P **P 02 34 35.8 +0.2**
OGNE Ogallala 74.99 47 P **P 02 34 36.1 +0.4**
baz=316
KWP Kalwaria Pacla 75.22 326 P **P 02 34 37.1 +0.4**
KWP pmax pmax
comp=Z,80nm,1.1s
KWP Kalwaria Pacla 75.22 326 P **P 02 34 37.1 +0.4**
SDCO Great Sand Dun 75.34 52 P **P 02 34 38.5 +0.6**
SDCO Great Sand Dun 75.34 52 P **P 02 34 37.6 -0.4**
baz=314
ECSD EROS Data Cent 75.73 42 P **P 02 34 39.6 -0.2**
ECSD EROS Data Cent 75.73 42 P **P 02 34 37.6 -2.1**
baz=318
BUR08 Bucovina Ar. S 75.75 324 P **P 02 34 40.0 +0.2**
BUR08 IAmb IAmb 02 34 41.4
comp=Z,5.7nm,1.1s
BURAR Bucovina Array 75.76 324 P **P 02 34 39.8 -0.1**
BURAR pmax pmax
comp=Z,2.0nm,0.7s
BURAR Bucovina Array 75.76 324 P **P 02 34 39.8 -0.1**
TUC Tucson 75.94 59 P **P 02 34 42.0 +0.8**
baz=313
KSCO Kaye Shedlock' 76.05 49 P **P 02 34 41.4 -0.4**
baz=316
T25A Trinidad 76.38 51 P **P 02 34 43.9 +0.1**
baz=315
SPMN Marine on St. 76.42 39 P **P 02 34 42.0 -1.6**
baz=320
BGNE Belgrade 76.68 45 P **P 02 34 44.7 -0.4**
baz=318
ANMO Albuquerque 76.74 54 P **P 02 34 46.5 +0.7**
baz=315
CLL Collm 77.40 333 *i* P **P 02 34 48.5 -0.4**
CLL Collm 77.40 333 *i* P **P 02 34 48.5 -0.4**
SCHQ Schefferville 77.47 20 P **P 02 34 49.0 -0.3**
comp=Z,2.6nm,0.8s,baz=284,slow=6.7,SNR=3.5
SCHQ Schefferville 77.47 20 P **P 02 34 49.2 -0.1**
SCHQ IAmb IAmb 02 35 11.2
comp=Z,12nm,1.4s
G40A Rib Lake 77.55 38 P **P 02 34 49.4 -0.6**
121A Cookes Peak, D 77.63 57 P **P 02 34 52.2 +1.4**
baz=314
BRTR Keskin Array B 77.71 314 P **P 02 34 51.5 +0.3**
comp=Z,0.7nm,0.8s,baz=35,slow=7.8,SNR=2.5
CBKS Cedar Bluff 77.75 48 P **P 02 34 50.8 -0.5**
baz=317
KHC Kasperske Hory 79.05 331 *e*P **P 02 34 55.5 -2.7**
KHC Kasperske Hory 79.05 331 *e*P **P 02 34 55.5 -2.7**
KSU1 Kansas State U 79.18 45 P **P 02 34 58.6 -0.4**
baz=319
GERES GERESS Array B 79.25 331 P **P 02 34 58.6 -0.7**
comp=Z,0.4nm,0.4s,baz=47,slow=6.0,SNR=5.4
GERES GERESS Array B 79.25 331 P **P 02 34 58.9 -0.4**
GERES GERESS Array B 79.25 331 P **P 02 34 58.9 -0.4**
JFWS Jewell Farm 79.37 39 P **P 02 34 58.9 -1.0**
baz=322
AMTX Amarillo 79.54 51 P **P 02 35 01.5 +0.3**
baz=317
MSTX Muleshoe 79.57 53 P **P 02 35 01.3 -0.1**
baz=316

MNTX	Cornudas Mount	79.66	56	P	P	02 35 02.0	+0.2
MNTX	Cornudas Mount	79.66	56	P	P	02 35 02.2	+0.4
	baz=316						
GLMI	Grayling	80.30	35	P	P	02 35 04.5	-0.5
	baz=325						
T35A	Sooner Cattle	80.87	47	P	P	02 35 07.9	-0.3
T35A				IAmb	IAmb	02 35 09.2	
	comp=Z,6.1nm,0.8s						
WMOK	Wichita Mounta	81.27	50	P	P	02 35 09.9	-0.5
	baz=318						
HDIL	Hopedale	81.66	40	P	P	02 35 10.8	-1.5
	baz=322						
R40A	Maddies Statio	82.00	43	P	P	02 35 13.6	-0.5
R40A				IAmb	IAmb	02 35 14.5	
	comp=Z,5.6nm,0.6s						
TUL1	Leonard	82.01	47	P	P	02 35 13.8	-0.4
	baz=319						
ABTX	Abilene, Hawle	82.34	52	P	P	02 35 16.0	-0.1
	baz=318						
CCM	Cathedral Cave	82.69	43	P	P	02 35 17.7	0.0
CCM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CCM	Cathedral Cave	82.69	43	P	P	02 35 17.7	0.0
CCM				IAmb	IAmb	02 35 18.4	
	comp=Z,4.9nm,0.8s						
CCM	Cathedral Cave	82.69	43	P	P	02 35 17.8	0.0
	baz=322						
AAM	Ann Arbor	82.76	36	P	P	02 35 17.8	-0.3
	baz=326						
W39A	Magazine	83.61	46	P	P	02 35 22.6	+0.1
	baz=320						
JCT	Junction City	83.83	53	P	P	02 35 23.1	-0.7
	baz=318						
D62A	Allapoint, All	83.90	24	P	P	02 35 23.3	-0.4
FCAR	Ozark Folk Cen	83.93	45	P	P	02 35 23.7	-0.5
FCAR				IAmb	IAmb	02 35 27.1	
	comp=Z,5.7nm,1.3s						
MIAR	Mount Ida	84.22	47	P	P	02 35 25.7	+0.1
	baz=321						
ERPA	Erie	84.42	33	P	P	02 35 25.6	-0.9
	baz=328						
W41B	Gary Mavity, V	84.43	45	P	P	02 35 26.8	+0.1
	baz=321						
P49A	Miami Univ. Ec	84.57	38	P	P	02 35 26.9	-0.5
	baz=325						
X40A	Basin Creek Fa	84.65	46	P	P	02 35 28.0	+0.2
	baz=321						
WCI	Wyandotte Cave	84.92	40	P	P	02 35 28.5	-0.6
	baz=324						
O53A	New Philadelph	85.49	35	P	P	02 35 31.5	-0.5
	baz=327						
LBNH	Lisbon	85.53	27	P	P	02 35 30.6	-1.5
	baz=333						
WVT	Waverly	85.88	42	P	P	02 35 34.0	0.0
	baz=324						
SSPA	Standing Stone	86.51	33	P	P	02 35 36.5	-0.5
	baz=329						
O56A	Blue Knob Stat	86.56	34	P	P	02 35 36.5	-0.8
	baz=329						
H03N2	Juan Fernandez	142.68	90	T	T	05 21 37.9	
	baz=304,slow=77,SNR=12						
H03N3	Juan Fernandez	142.69	90	T	T	05 21 48.4	
	baz=304,slow=77,SNR=9.6						
H03N1	Juan Fernandez	142.69	90	T	T	05 21 50.9	
	baz=304,slow=77,SNR=13						
PLCA	Paso Flores	151.81	97	PKPbc	PKPbc	02 42 49.1	+0.8
	comp=Z,2.8nm,0.8s,baz=240,slow=5.6,SNR=4.9						
PLCA	Paso Flores	151.81	97	PKIKP	PKPbc	02 42 48.8	+0.5
PLCA	Paso Flores	151.81	97		PKPbc	02 42 48.8	+0.5

*IDC **04** 02:27:54.6±1.6, 11°.75N×92°.77E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.3/46, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=60.5km s-min=22.3km az=63.0*
*NDI **04** 02:27:57.8±3.5, 12°.35N×93°.63E, h59km±999km, ML4.1, mb4.2(NEIC)*
*NEIC **04** 02:28:04.9±0.3, 12°.0N±0°.1×93°.13E±0°.10, h68km±9km, mb4.2/6, Error ellipse: s-maj=16.6km s-min=12.3km az=209.0*

ISC 04 02:28:03.6±0.7, 12°.18N±0°.08×93°.2E±0°.1, h50km, n20, σ2.9±11/21, mb4.2/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	0.69	221	eP	Pn	02 28 17.9	+0.5
PBA				eS	Sn	02 28 31.1	+3.9
PBA				IAML		02 28 33.8	
	comp=E,3μm,0.7s						
PBA				IAML		02 28 34.0	
	comp=N,5μm,0.7s						
PBA	Port Blair	0.69	221		Pn	02 28 17.8	+0.5
CMAR	Chiang Mai Arr	8.34	41	Pn	Pn	02 30 05.0	+3.1
	comp=N,1.4nm,0.3s,baz=232,slow=15,SNR=38						
CHTO	Chiang Mai	8.61	39		Pn	02 30 08.6	+3.0
BWNR	Bhubaneshwar	10.75	320	eP	Pn	02 30 31.1	-3.9
BWNR				eS	Sn	02 32 20.8	-13
BOK	Bokaro	13.49	330	ex	Pn	02 31 14.4	+2.0
KOHI	KOHIMA	13.50	3	eP	Pn	02 31 01.9	-11
MKAR	Makanchi Array	35.71	347	P	P	02 34 57.1	-0.3
	comp=N,0.1nm,0.4s,baz=177,slow=8.4,SNR=1.4						
MKAR	Makanchi Array	35.71	347	P	P	02 34 56.9	-0.5
KURBB	Kurchatov Arra	40.18	346	P	P	02 35 34.6	-0.3
	comp=N,0.1nm,0.3s,baz=165,slow=8.6,SNR=3.0						
ABKAR	Akbulak array	46.05	330	P	P	02 36 22.5	+0.2
WB0	Warramunga Arr	51.49	128	P	P	02 37 02.7	-1.9
WRA	Warramunga Arr	51.55	128	P	P	02 37 03.5	-1.5
	comp=N,1.1nm,0.4s,baz=300,slow=9.8,SNR=34						
WRA				PcP	PcP	02 38 16.9	-1.7
	comp=N,0.3nm,0.5s,baz=320,slow=2.7,SNR=6.9						
WRA	Warramunga Arr	51.55	128	P	P	02 37 03.0	-2.0
WB2	Warramunga Arr	51.56	128	P	P	02 37 03.3	-1.8
WB2				IAmb	IAmb	02 37 04.0	
	comp=Z,3.3nm,0.7s						
WR0	Warramunga Arr	51.72	128	P	P	02 37 04.3	-1.9
WR0				IAmb	IAmb	02 37 28.3	
	comp=Z,4.3nm,1.2s						
ASAR	Alice Springs	53.41	132	P	P	02 37 17.2	-1.5
	comp=Z,1.0nm,0.4s,baz=310,slow=6.9,SNR=27						
ASAR	Alice Springs	53.41	132	P	P	02 37 16.9	-1.9
TIXI	Tiksi	63.23	12	P	P	02 38 25.9	-0.5
TIXI				IAmb	IAmb	02 38 40.6	
	comp=Z,1.8nm,0.8s						
BURAR	Bucovina Array	66.28	317	P	P	02 38 46.5	-0.4
BURAR				IAmb	IAmb	02 38 54.0	
	comp=Z,1.1nm,1.0s						

*IDC **04** 02:34:29.8±0.8, 36°.91S×96°.46W, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.3/29, mbtmp4.3/11, MS4.3/18, Ms1 4.3/18, ms1mx4.0/45, Error ellipse: s-maj=23.5km s-min=22.0km az=2.0*
*NEIC **04** 02:34:32.6±1.5, 36°.8S±0°.1×96°.2W±0°.2, h10km±1km, mb4.6/113, Error ellipse: s-maj=26.5km s-min=21.6km az=275.0*

ISC 04 02:34:31.5±0.6, 36°.9S±0°.1×96°.3W±0°.1, h10km, n159, σ1.9±02/137, mb4.6/62, MS4.3/17, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	14.48	83	T	T	02 53 14.4	
	SNR=762						
H03S1	Juan Fernandez	14.49	83	T	T	02 53 08.8	
	SNR=687						
H03S3	Juan Fernandez	14.49	83	T	T	02 53 12.4	
	SNR=712						
H03N2	Juan Fernandez	14.59	81	T	T	02 53 16.2	
	baz=258,slow=73,SNR=806						
H03N3	Juan Fernandez	14.60	82	T	T	02 53 14.3	
	baz=258,slow=73,SNR=1125						
H03N1	Juan Fernandez	14.61	82	T	T	02 53 20.5	
	baz=258,slow=73,SNR=542						
RPN	Rapa Nui	14.74	308	LR	LR	02 41 55.1	
	comp=Z,1μm,19.7s,baz=152,slow=30						
LL02	Futaleuf	19.69	116	P	P	02 39 00.9	+0.2
GO05	Huala	19.79	92	P	P	02 39 01.9	0.0
VA05	Santo Domingo	20.37	88	P	P	02 39 07.0	-1.2
PLCA	Paso Flores	20.38	109	P	P	02 39 09.3	+1.0
	2.9nm,0.8s,baz=269,slow=14,SNR=6.0						
PLCA				LR	LR	02 45 02.8	
	comp=Z,558nm,20.4s,baz=272,slow=31						
PLCA	Paso Flores	20.38	109	P	P	02 39 07.5	-0.8
BO01	Tunca	20.61	91	P	P	02 39 11.1	+0.3
MT01	Popeta	20.61	89	P	P	02 39 11.5	+0.7
BO02	Sierra Bellavi	20.75	92	P	P	02 39 12.2	-0.3
MT09	Talagante	20.84	89	P	P	02 39 13.7	+0.2
MT09				IAmb	IAmb	02 39 39.9	
	comp=Z,23nm,1.1s						
MT02	Curacav	20.87	87	P	P	02 39 14.8	+1.2
MT05	Renca	21.15	88	P	P	02 39 16.9	+0.1
MT05				IAmb	IAmb	02 39 38.4	
	comp=Z,23nm,0.9s						
PEL	Peldehue	21.26	87	P	P	02 39 19.0	+1.0
CO06	Fray Jorge	21.36	80	P	P	02 39 20.2	+1.2
VA03	San Esteban	21.49	87	P	P	02 39 20.1	-0.3
VA03				IAmb	IAmb	02 39 30.9	
	comp=Z,19nm,1.0s						
CO05	La Serena	21.99	79	P	P	02 39 25.7	+0.1
CO03	El Pedregal	22.05	82	P	P	02 39 26.2	-0.2
LCO	Las Campanas	22.80	77	P	P	02 39 36.9	+2.2
AC04	Llanos de Chal	22.89	75	P	P	02 39 34.6	-0.7
AC04				IAmb	IAmb	02 39 52.5	
	comp=Z,25nm,1.4s						
ZON	Zonda	23.39	85	P	P	02 39 40.8	+0.4
ZON				IAmb	IAmb	02 39 47.0	
	comp=Z,20nm,1.5s						
GO03	Copiap	23.83	75	P	P	02 39 44.1	-0.7
AC02	Maricunga	25.06	74	P	P	02 39 55.8	-0.8
AC02				IAmb	IAmb	02 40 10.4	
	comp=Z,14nm,0.9s						
PB14	IPOC Station P	25.28	68	P	P	02 39 59.3	+0.9
PB14				IAmb	IAmb	02 40 07.5	
	comp=Z,11nm,0.9s						
USHA	Ushuaia	26.14	142	LR	LR	02 48 05.8	
	comp=Z,752nm,19.2s,baz=300,slow=31						
LVC	Limon Verde	27.57	67	P	P	02 40 20.2	+1.1
	comp=Z,1.8nm,0.6s,baz=215,slow=7.6,SNR=4.6						
LVC				LR	LR	02 48 28.2	
	comp=Z,577nm,18.2s,baz=238,slow=30						
LVC	Limon Verde	27.57	67	P	P	02 40 19.4	+0.3
TA01	Diego Aracena	27.94	62	P	P	02 40 23.2	+1.1
TA01				IAmb	IAmb	02 40 51.9	
	comp=Z,12nm,1.2s						
PB01	IPOC Station P	28.12	63	P	P	02 40 23.0	-0.8
PB08	IPOC Station P	28.95	62	P	P	02 40 31.3	-0.1
PB08				IAmb	IAmb	02 40 49.9	
	comp=Z,7.6nm,0.8s						
PB12	IPOC Station P	29.15	58	P	P	02 40 32.1	-0.9
PB16	IPOC Station P	29.91	59	P	P	02 40 39.9	-0.4
NNA	Nana	30.33	40	LR	LR	02 49 40.7	
	comp=Z,1μm,21.7s,baz=204,slow=30						
LPAZ	La Paz	32.27	58	P	P	02 41 01.4	+0.4
	comp=Z,7.5nm,1.0s,baz=220,slow=7.4,SNR=13						
LPAZ	La Paz	32.27	58	P	P	02 41 00.7	-0.4
LPAZ				IAmb	IAmb	02 41 09.8	
	comp=Z,10nm,0.9s						
ATAH	Atahualpa	33.81	33	P	P	02 41 13.5	-0.8
	comp=Z,4.0nm,0.8s,baz=203,slow=14,SNR=4.5						
ATAH				LR	LR	02 51 37.6	
	comp=Z,802nm,21.4s,baz=236,slow=30						
PMSA	Palmer Station	33.83	156	LR	LR	02 50 52.5	
	comp=Z,377nm,21.3s,baz=325,slow=29						
CPUP	Villa Florida	34.58	84	LR	LR	02 53 25.7	
	comp=Z,243nm,18.7s,baz=242,slow=33						
CZSB	Cruzeiro do Su	36.09	42	P	P	02 41 32.0	-1.5
CZSB				IAmb	IAmb	02 41 50.1	
	comp=Z,21nm,1.4s						
SIV	San Ignacio	37.46	66	P	P	02 41 43.9	-1.4
	comp=Z,1.2nm,1.0s,baz=260,slow=9.5,SNR=3.8						
SIV				LR	LR	02 55 03.0	
	comp=Z,248nm,20.0s,baz=266,slow=33						
ETMB	Extrema	38.27	53	P	P	02 41 51.7	-0.3
AQDB	Aquidauana	38.85	76	P	P	02 41 55.9	-1.0
AQDB				IAmb	IAmb	02 42 02.8	
	comp=Z,12nm,1.0s						
OTAV	Otavalo	40.47	28	P	P	02 42 10.0	-0.9
TBTG	Tabatinga, AM	40.55	43	P	P	02 42 11.5	+0.4
TBTG				IAmb	IAmb	02 42 22.1	
	comp=Z,11nm,0.6s						
FLOC	Florencia	42.80	31	P	P	02 42 29.4	-0.2
ROSC	El Rosal	46.30	31	P	P	02 42 57.9	0.0
	comp=Z,7.9nm,0.9s,baz=145,slow=7.3,SNR=4.3						
ROSC				LR	LR	02 59 45.4	
	comp=Z,486nm,18.2s,baz=195,slow=33						
ROSC	El Rosal	46.30	31	P	P	02 42 57.2	-0.7
MACA	Manacapuru-AM	46.86	53	P	P	02 43 00.5	-1.4
BDFB	Brasilia	47.59	77	P	P	02 43 09.9	+2.2
	comp=Z,1.8nm,0.6s,baz=271,slow=8.6,SNR=4.0						
BDFB	Brasilia	47.59	77	P	P	02 43 07.3	-0.4
JTS	Las Juntas de	48.12	15	LR	LR	02 58 19.4	
	comp=Z,536nm,21.7s,slow=30						
JTS	Las Juntas de	48.12	15	P	P	02 43 12.4	+0.8
ZARC	Zaragoza, Cauc	48.50	29	P	P	02 43 13.8	-0.8
ZARC				IAmb	IAmb	02 43 29.5	
	comp=Z,8.3nm,1.1s						
COVE	Coope Vega, Sa	48.65	16	P	P	02 43 16.1	+0.4
PTGA	Pitinga	49.19	51	LR	LR	03 01 31.6	
	comp=Z,328nm,21.1s,baz=261,slow=33						
BAUV	El Baul	52.73	36	P	P	02 43 47.8	+1.3
QSPA	South Pole Qui	53.33	180	P	P	02 43 51.0	+0.4
	comp=Z,3.4nm,0.7s,baz=116,slow=4.0,SNR=4.5						
QSPA	South Pole Qui	53.33	180	P	P	02 43 52.7	+2.1
QSPA				IAmb	IAmb	02 44 01.1	
	comp=Z,11nm,1.2s						
VNA3	Neumayer Olymp	54.48	157	P	P	02 43 58.5	-0.2
VNA2	Neumayer--Watz	55.27	156	P	P	02 44 03.9	-0.5
	baz=295,slow=6.6						
SNAA	Sanae	56.51	158	LR	LR	03 05 13.5	
	comp=Z,109nm,21.4s,baz=129,slow=33						
H06S1	SOCORRO T	57.04	343	T	T	03 46 54.7	
	SNR=13						
MDP	Montagnes des	58.32	54	LR	LR	03 07 02.9	
	comp=Z,326nm,19.7s,baz=188,slow=33						
HPIG		64.10	351	P	P	02 45 06.3	+0.4
URZ	Urewera	66.06	239	LR	LR	03 09 12.0	
	comp=Z,685nm,18.4s,baz=31,slow=32						
JCT	Junction City	67.10	357	P	P	02 45 25.5	+0.4
MNTX	Cornudas Mount	68.76	352	P	P	02 45 35.0	-0.5
319A	Douglas	69.00	348	P	P	02 45 37.7	+0.7
ABTX	Abilene, Hawle	69.23	357	P	P	02 45 38.4	0.0
TUC	Tucson	70.17	347	P	P	02 45 43.3	-0.9
214A	Organ Pipe Nat	70.22	345	P	P	02 45 45.2	+0.7
214A				IAmb	IAmb	02 45 46.8	
	comp=Z,8.1nm,1.2s						
MSTX	Muleshoe	70.76	354	P	P	02 45 47.0	-0.8
LENM	Lemitar	71.39	351	P	P	02 45 52.3	+0.5
AMTX	Amarillo	71.59	355	P	P	02 45 51.5	-1.4
ANMO	Albuquerque	72.10	351	P	P	02 45 56.0	-0.1
ANMO				IAmb	IAmb	02 46 05.1	
	comp=Z,5.1nm,1.2s						
Y14A	Wickenburg	72.17	345	P	P	02 45 56.2	-0.1
Y14A				IAmb	IAmb	02 46 03.1	
	comp=Z,5.1nm,0.9s						
X18A	Snowflake	72.19	348	P	P	02 45 57.4	+0.8
X18A				IAmb	IAmb	02 46 03.7	
	comp=Z,4.6nm,1.0s						
X16A	Lo Mia Camp, P	72.34	347	P	P	02 45 57.0	-0.4
X16A				IAmb	IAmb	02 45 59.9	
	comp=Z,5.9nm,1.3s						
OK034	N. Norfolk Rd.	72.53	360	P	P	02 45 58.9	+0.6
LCAR	Lake Charles	72.75	4	P	P	02 46 00.1	+0.5
MGMO	Mountain Grove	73.77	3	P	P	02 46 06.4	+0.8
MGMO				IAmb	IAmb	02 46 11.9	
	comp=Z,6.2nm,0.8s						
T25A	Trinidad	74.05	353	P	P	02 46 08.2	+0.6
T25A				IAmb	IAmb	02 46 35.0	
	comp=Z,7.6nm,1.2s						
MVCO	Mesa Verde	74.60	350	P	P	02 46 11.4	+0.6
MVCO				IAmb	IAmb	02 46 17.4	
	comp=Z,7.5nm,0.8s						
CCM	Cathedral Cave	74.72	4	P	P	02 46 11.7	+0.6
CCM				IAmb	IAmb	02 46 25.4	
	comp=Z,11nm,1.1s						
SDCO	Great Sand Dun	74.75	352	P	P	02 46 13.7	+1.9
S22A	4UR Ranch, Cre	74.91	351	P	P	02 46 13.0	+0.4
S22A				IAmb	IAmb	02 46 16.8	
	comp=Z,5.1nm,1.1s						
SHPR	Sheep Range	75.10	344	P	P	02 46 15.3	+1.7
SHPR				IAmb	IAmb	02 46 26.6	
	comp=Z,8.8nm,1.4s						
SZCU	Shurtz Canyon	75.73	346	P	P	02 46 19.5	+2.2
CCUT	Cedar City	75.74	346	P	P	02 46 19.0	+1.7
CCUT				IAmb	IAmb	02 46 34.7	
	comp=Z,8.3nm,1.2s						
TPNV	Topopah Spring	75.77	344	P	P	02 46 19.2	+1.7
PRN	Pahroc Range	75.94	345	P	P	02 46 20.0	+1.6
PRN				IAmb	IAmb	02 46 31.8	
	comp=Z,12nm,1.3s						
JSRW	J. Sargeant Re	76.14	15	P	P	02 46 19.1	-0.2
P38A	Dawn	76.18	2	P	P	02 46 20.7	+1.2
SMCO	Snowmass	76.34	351	P	P	02 46 20.1	-0.8
SMCO				IAmb	IAmb	02 46 28.5	
	comp=Z,7.2nm,0.9s						
MVU	Marysvale	76.45	347	P	P	02 46 23.5	+2.1
Q16A	Castle Valley	76.68	348	P	P	02 46 23.3	+0.7
Q16A				IAmb	IAmb	02 46 39.7	
	comp=Z,8.4nm,1.0s						
ISCO	Idaho Springs	76.80	353	P	P	02 46 24.0	+0.6
R11A	Troy Canyon, C	76.96	345	P	P	02 46 25.0	+0.8
TMUT	Trail Mountain	77.05	348	P	P	02 46 25.4	+0.6
TMUT				IAmb	IAmb	02 46 43.7	
	comp=Z,7.2nm,1.0s						
TPH	Tonopah	77.07	343	P	P	02 46 24.9	+0.1
P17A	Butcher Ranch,	77.15	349	P	P	02 46 26.5	+1.3
P17A				IAmb	IAmb	02 46 32.1	
	comp=Z,3.2nm,0.8s						
SPR3	Spring Creek 3	77.33	346	P	P	02 46 26.6	+0.2
SPR3				IAmb	IAmb	02 46 32.8	
	comp=Z,4.3nm,0.8s						
N35A	Tabor	77.38	0	P	P	02 46 26.9	+0.6
O20A	White River Ci	77.44	351	P	P	02 46 28.0	+1.2
O20A				IAmb	IAmb	02 46 37.0	
	comp=Z,6.5nm,1.0s						
LHV	Little Huntoon	77.54	342	P	P	02 46 27.8	+0.7
NV11	Mina Array Sit	77.63	343	P	P	02 46 28.6	+0.7
NV11				IAmb	IAmb	02 46 34.8	
	comp=Z,5.6nm,0.8s						
OGNE	Ogallala	77.64	356	P	P	02 46 28.9	+1.1
NVAR	Mina Array Bea	77.66	342	P	P	02 46 27.8	-0.4
	comp=Z,3.5nm,0.8s,baz=173,slow=5.9,SNR=18						
NVAR	Mina Array Bea	77.66	342	P	P	02 46 28.4	+0.2
CMB	Columbia Colle	77.81	341	P	P	02 46 29.4	+0.6
CMB				IAmb	IAmb	02 46 38.8	
	comp=Z,5.1nm,0.9s						
NLU	North Lily Min	77.84	348	P	P	02 46 30.7	+1.6
NLU				IAmb	IAmb	02 46 36.7	
	comp=Z,4.0nm,1.0s						
RYN	Ryan	77.90	342	P	P	02 46 30.5	+1.1
RYN				IAmb	IAmb	02 46 37.0	
	comp=Z,5.8nm,0.9s						
RDMU	Red Mountain	78.05	350	P	P	02 46 31.8	+1.6
RDMU				IAmb	IAmb	02 46 36.8	
	comp=Z,3.9nm,0.8s						
KVN	Kaiserville	78.20	343	P	P	02 46 30.4	-0.7
KVN				IAmb	IAmb	02 46 38.0	
	comp=Z,5.8nm,0.9s						
DUG	Dugway, Tooele	78.20	347	P	P	02 46 30.8	-0.3
DUG				IAmb	IAmb	02 46 45.5	
	comp=Z,4.7nm,0.9s						
PNTR	Pine Nut	78.61	342	P	P	02 46 33.7	+0.3
PNTR				IAmb	IAmb	02 46 40.6	
	comp=Z,8.1nm,0.9s						
RWWY	Rawlins	78.84	352	P	P	02 46 35.5	+0.8
RWWY				IAmb	IAmb	02 46 47.6	
	comp=Z,10nm,1.2s						
K31A	O'Neill	79.17	358	P	P	02 46 38.6	+2.5
ELK	Elko	79.20	345	P	P	02 46 36.5	-0.1
	comp=Z,2.6nm,0.9s,baz=168,slow=4.9,SNR=11						
ELK	Elko	79.20	345	P	P	02 46 36.5	-0.1
ELK				IAmb	IAmb	02 46 44.3	
	comp=Z,4.8nm,0.9s						
K22A	Casper	79.72	352	P	P	02 46 40.3	+1.0
K22A				IAmb	IAmb	02 46 53.3	
	comp=Z,10.0nm,1.1s						
HVU	Hansel Valley	79.74	348	P	P	02 46 39.3	-0.1
BW06	Boulder Array	80.20	350	P	P	02 46 41.3	-0.8
BW06				IAmb	IAmb	02 46 48.3	
	comp=Z,5.8nm,0.8s						
PD31	Pinedale Array	80.20	350	P	P	02 46 42.5	+0.5
PD31				IAmb	IAmb	02 46 48.3	
	comp=Z,5.2nm,0.8s						
PDAR	Pinedale Array	80.20	350	P	P	02 46 42.5	+0.5
	comp=Z,2.1nm,0.6s,baz=153,slow=5.6,SNR=21						
PDAR	Pinedale Array	80.20	350	P	P	02 46 40.8	-1.2
ECSD	EROS Data Cent	80.25	360	P	P	02 46 43.1	+1.1
ECSD				IAmb	IAmb	02 47 03.8	
	comp=Z,11nm,1.4s						
RSSD	Black Hills	80.94	354	P	P	02 46 47.5	+1.6
RSSD				IAmb	IAmb	02 47 00.3	
	comp=Z,9.3nm,1.0s						
REDW	Red Top Meadow	80.97	349	P	P	02 46 46.5	+0.4
REDW				IAmb	IAmb	02 47 00.2	
	comp=Z,7.3nm,1.0s						
LOHW	Long Hollow	81.18	350	P	P	02 46 48.4	+1.2
FLWY	Flagg Ranch	81.65	350	P	P	02 46 51.0	+1.2
HLID	Hailey	81.76	347	P	P	02 46 50.7	+0.5
HLID				IAmb	IAmb	02 46 57.4	
	comp=Z,6.7nm,0.8s						
YBH	Yreka Blue Hor	81.90	340	P	P	02 46 51.8	+0.9
	comp=Z,2.6nm,0.7s,baz=273,slow=22,SNR=2.7						
YBH	Yreka Blue Hor	81.90	340	P	P	02 46 50.9	0.0
YBH				IAmb	IAmb	02 47 00.5	
	comp=Z,14nm,1.4s						
J08A	Circle Bar Ran	82.39	344	P	P	02 46 54.7	+1.3
J08A				IAmb	IAmb	02 47 01.1	
	comp=Z,5.8nm,0.8s						
RLMT	Red Lodge	82.48	351	P	P	02 46 53.9	-0.1
RLMT				IAmb	IAmb	02 47 00.9	
	comp=Z,4.3nm,0.8s						
I07A	Izee	83.31	343	P	P	02 47 00.6	+2.4
PLID	Pearl Lake	83.53	346	P	P	02 46 59.9	+0.4
PLID				IAmb	IAmb	02 47 13.0	
	comp=Z,5.3nm,1.1s						
LAO	LASA Array	83.68	353	P	P	02 47 00.8	+0.8
G08A	Pilot Rock	84.33	344	P	P	02 47 04.9	+1.4
G08A				IAmb	IAmb	02 47 17.7	
	comp=Z,6.3nm,1.1s						
F10A	Beach Ranch, E	84.62	345	P	P	02 47 05.3	+0.5
F10A				IAmb	IAmb	02 47 22.1	
	comp=Z,5.6nm,1.0s						
STKA	Stephens Creek	92.79	226	LR	LR	03 24 35.7	
	comp=Z,206nm,18.1s,baz=77,slow=32						
BOSA	Boshof	94.81	131	LR	LR	03 22 22.1	
	comp=Z,61nm,21.3s,baz=266,slow=30						
DBIC	Dimbokro	95.08	86	LR	LR	03 25 18.6	
	comp=Z,109nm,18.1s,baz=261,slow=32						
YKA	Yellowknife Ar	100.14	351	P	Pdif	02 48 18.0	+1.4
	comp=Z,0.3nm,1.1s,baz=152,slow=4.2,SNR=1.3						
H01W1	Cape Leeuwin H	103.17	205	T	T	04 44 09.3	
	baz=153,slow=76,SNR=38					

RC01 IAML 02 38 21.0
comp=N,15μm,0.7s
RC01 IAML 02 38 21.2
comp=E,9μm,0.5s
RC01 Rabbit Creek A 0.39 281 P Pb 02 38 14.3 +0.1
baz=98,SNR=139
RC01 S **Sb 02 38 20.7 +0.4**
baz=98
KNK Knik Glacier 0.46 31 Pg **Pb 02 38 14.8 -0.5**
KNK Sg **Sb 02 38 21.3 -0.8**
KNK IAML 02 38 22.6
comp=E,9μm,0.5s
KNK IAML 02 38 22.6
comp=N,11μm,0.3s
KNK Knik Glacier 0.46 31 P **Pb 02 38 14.8 -0.5**
baz=211,SNR=734
KNK S **Sb 02 38 21.8 -0.3**
baz=211
PMR Palmer 0.58 351 Pb 02 38 16.4 -0.8
PMR Sg **Sb 02 38 24.4 -0.8**
PMR IAML 02 38 25.1
comp=N,8μm,0.5s
PMR Palmer 0.58 351 P **Pb 02 38 16.6 -0.6**
baz=170,SNR=438
PMR S **Sb 02 38 24.6 -0.6**
baz=170
FIS Fire Island 0.63 282 Pb 02 38 17.8 -0.2
FIS IAML 02 38 34.0
comp=E,6μm,0.8s
FIS IAML 02 38 34.3
comp=N,6μm,0.6s
GHO Glory Hole Cre 0.75 1 Pb 02 38 19.1 -1.1
GHO Sg **Sb 02 38 28.9 -1.3**
GHO IAML 02 38 30.8
comp=E,3μm,0.4s
GHO IAML 02 38 31.6
comp=N,4μm,0.6s
SLKM Skilak Lake 0.81 231 Pb 02 38 20.4 -0.6
SML Sawmill 0.84 20 Pb 02 38 20.2 -1.4
SML **Sb 02 38 31.8 -0.9**
SML IAML 02 38 33.9
comp=N,3μm,0.9s
SML IAML 02 38 33.0
comp=E,4μm,0.7s
SML Sawmill 0.84 20 P **Pb 02 38 20.6 -1.0**
baz=201,SNR=121
SML S **Sb 02 38 32.0 -0.6**
baz=201
M22K Willow 0.93 323 Pb 02 38 21.6 -1.4
M22K **Sb 02 38 34.3 -0.6**
M22K Willow 0.93 323 P **Pb 02 38 21.6 -1.4**
baz=141
SEW Seward 0.95 195 Pb 02 38 22.2 -1.1
SEW Seward 0.95 195 Sb 02 38 35.6 0.0
SEW Seward 0.95 195 P **Pb 02 38 22.3 -1.1**
baz=15,SNR=23
SEW S **Sb 02 38 36.0 +0.4**
baz=15
CAPN Captain Cook N 1.11 258 Pn **Pb 02 38 26.3 +0.4**
CAPN IAML 02 38 43.5
comp=N,3μm,0.5s
CAPN Captain Cook N 1.11 258 P **Pb 02 38 26.0 +0.1**
baz=75
SCM Sheep Creek Mo 1.13 43 Pn 02 38 24.9 -0.2
SCM IAML 02 38 43.7
comp=E,1μm,0.2s
SCM Sheep Creek Mo 1.13 43 P **Pn 02 38 25.1 -0.1**
baz=224,SNR=192
VMT TAPS Tl Valdez 1.26 86 Pn 02 38 27.2 +0.4
VMT **Sb 02 38 44.0 -0.3**
STLK Strandline Lak 1.47 290 Pn 02 38 30.5 +0.6
SPCG Spurr Capps Gl 1.51 282 Pn 02 38 31.4 +0.9
SPU Mount Spurr 1.52 277 Pn **Pn 02 38 29.5 -0.9**
CUT Chulitna 1.52 336 Pn 02 38 30.2 -0.3
CUT **Sn 02 38 50.3 +1.0**
CUT IAML 02 38 59.8
comp=N,2μm,0.4s
CUT Chulitna 1.52 336 P **Pn 02 38 30.8 +0.3**
baz=155,SNR=58
CUT S **Sb 02 38 50.9 -1.0**
baz=155
KLU Klutina 1.54 71 Pn 02 38 30.5 -0.3
KLU Sn **Sn 02 38 50.6 +0.8**
KLU Klutina 1.54 71 P **Pn 02 38 30.9 +0.1**
baz=254,SNR=62
DIV Divide 1.55 85 Pn 02 38 30.8 -0.1
BRSE Bradley Lake S 1.56 216 Pn 02 38 31.5 +0.4
BRSE Bradley Lake S 1.56 216 P **Pn 02 38 31.5 +0.4**
baz=34,SNR=19
BRLK Bradley Lake 1.58 218 Pn **Pn 02 38 31.4 0.0**
SPCR Spurr Chakacha 1.59 278 Pn 02 38 32.1 +0.5
SPCR Spurr Chakacha 1.59 278 P **Pn 02 38 31.9 +0.4**
baz=95,SNR=34
EYAK Cordova Ski Ar 1.64 105 Pn 02 38 32.0 0.0
EYAK Cordova Ski Ar 1.64 105 Sb 02 38 55.1 -0.2
EYAK Cordova Ski Ar 1.64 105 P **Pn 02 38 32.4 +0.3**
baz=289,SNR=18
WAT6 Susitna Watana 1.67 20 Pn 02 38 33.0 +0.3
WAT6 **Sn 02 38 53.8 +0.7**
WAT6 Susitna Watana 1.67 20 P **Pn 02 38 33.0 +0.3**
baz=200,SNR=158
WAT6 S **Sn 02 38 53.9 +0.7**
baz=200
SPBG Spurr Blockage 1.68 280 Pn 02 38 33.7 +1.0
M24K Tolsona, Glenn 1.72 49 Pn **Pn 02 38 33.8 +0.5**
M24K IAML 02 38 59.5
comp=N,1μm,0.7s
M24K IAML 02 38 59.5
comp=E,964nm,0.7s
M24K Tolsona, Glenn 1.72 49 P **Pn 02 38 34.3 +1.0**
baz=232,SNR=273
WAT7 Susitna Watana 1.82 1 Pn 02 38 35.5 +0.8
WAT7 **Sb 02 38 59.2 -1.3**
DFR Drift River 1.88 258 Pn 02 38 36.3 +0.8
CNPM China Poot 1.88 218 Pn **Pn 02 38 35.7 +0.2**
PS12 TAPS Pump St12 1.90 74 Pn 02 38 36.5 +0.9
HOM Homer 1.91 226 Pn **Pn 02 38 36.6 +0.7**
HOM IAML 02 39 11.3
comp=E,874nm,0.9s
HOM IAML 02 39 13.6
comp=N,928nm,0.7s
HOM Homer 1.91 226 P **Pn 02 38 36.4 +0.6**
baz=43
REF Redoubt East F 1.92 255 Pn 02 38 37.0 +0.9
RSO Redoubt South 1.95 255 Pn **Pn 02 38 36.8 +0.3**
RED Redoubt Volcan 1.97 254 Pn 02 38 37.5 +0.8
PS11 TAPS Pump St11 1.98 56 Pn 02 38 38.2 +1.5
RDWB Redoubt West 1.98 256 Pn 02 38 37.6 +0.6
NCT North Crescent 2.00 258 Pn 02 38 38.4 +1.1
O20K Slope Mountain 2.04 244 Pn 02 38 39.1 +1.3
O20K Slope Mountain 2.04 244 P **Pn 02 38 38.6 +0.8**
baz=61
Q23K Middleton Isla 2.06 140 Pb **Pb 02 38 41.8 -0.2**
baz=322
GOAT Goat Mountain 2.12 100 Pn 02 38 39.0 +0.3
BMRM Bremner River 2.12 90 Pn **Pn 02 38 38.7 -0.1**
BMRM Bremner River 2.12 90 P **Pn 02 38 38.8 +0.1**
baz=274,SNR=20
N25K Chitina, Valde 2.18 72 Pn **Pn 02 38 39.7 0.0**
N25K IAML 02 39 12.2
comp=E,653nm,0.6s
N25K IAML 02 39 12.6
comp=N,869nm,0.7s
N25K Chitina, Valde 2.18 72 P **Pn 02 38 40.0 +0.4**
baz=256,SNR=48
N25K S **Sn 02 39 07.9 +2.3**
baz=256
DHY Denali Highway 2.19 19 Pn **Pn 02 38 40.2 +0.4**
DHY IAML 02 39 13.3
comp=E,733nm,0.6s
DHY IAML 02 39 14.8
comp=N,513nm,0.5s
DHY Denali Highway 2.19 19 P **Pn 02 38 40.6 +0.8**
baz=200,SNR=175
RAGM Ragged Mountai 2.20 105 Pn **Pn 02 38 39.9 +0.1**
IVE Iliamna Volcan 2.25 245 Pn 02 38 41.2 +0.6
HARP HAARP 2.27 51 Pn 02 38 42.4 +1.5
HARP HAARP 2.27 51 P **Pn 02 38 41.2 +0.3**
baz=234,SNR=144
RND Reindeer 2.40 1 Pn **Pn 02 38 43.0 +0.5**
RND IAML 02 39 15.1
comp=E,474nm,0.7s
PPLA Purkeypile 2.42 322 Pn **Pn 02 38 43.3 +0.3**
PPLA Purkeypile 2.42 322 P **Pn 02 38 43.4 +0.3**
baz=139,SNR=28

KAIM Kayak Island 2.50 114 Pn **Pn 02 38 43.1 -0.8**
KAIM IAML 02 39 20.9
comp=E,291nm,2.7s
KAIM IAML 02 39 36.7
comp=N,334nm,1.2s
KAIM Kayak Island 2.50 114 P **Pn 02 38 43.4 -0.5**
baz=298
TRF Thorofare Moun 2.52 346 Pn **Pn 02 38 44.9 +0.6**
TRF IAML 02 39 23.1
comp=N,392nm,0.5s
TRF IAML 02 39 30.0
comp=E,347nm,0.8s
TRF Thorofare Moun 2.52 346 P **Pn 02 38 45.2 +0.9**
baz=165,SNR=44
GLB Gilahina Butte 2.52 78 Pn **Pn 02 38 44.5 +0.2**
PAX Paxson 2.55 38 Pn **Pn 02 38 45.0 +0.3**
PAX Paxson 2.55 38 P **Pn 02 38 45.5 +0.7**
baz=222,SNR=242
BERG Berg Lake 2.66 101 Pn **Pn 02 38 45.8 -0.2**
VRDI Verde Repeater 2.68 83 Pn **Pn 02 38 46.3 -0.2**
VRDI IAML 02 39 25.4
comp=E,403nm,0.5s
KTH Kantishna Hill 2.70 341 Pn **Pn 02 38 47.5 +0.7**
KTH IAML 02 39 25.6
comp=N,372nm,0.6s
KTH IAML 02 39 27.9
comp=E,364nm,0.7s
N19K Bonanza Creek 2.71 268 Pn **Pn 02 38 47.4 +0.4**
MCK McKinley 2.72 0 Pn **Pn 02 38 48.3 +1.3**
MCK IAML 02 39 24.2
comp=E,417nm,0.5s
MCK McKinley 2.72 0 P **Pn 02 38 48.0 +1.0**
baz=180,SNR=46
SUCK Suckling Hills 2.73 108 Pn **Pn 02 38 48.0 +0.9**
SUCK IAML 02 39 30.3
comp=N,551nm,0.4s
SUCK IAML 02 39 30.6
comp=E,309nm,0.4s
L20K Farewell, AK 2.76 304 P **Pn 02 38 48.3 +0.8**
baz=120
Q19K Port Alsworth 2.77 255 Pn **Pn 02 38 48.0 +0.4**
CAST Castle Rocks 2.82 330 Pn **Pn 02 38 47.6 -0.7**
CAST Castle Rocks 2.82 330 P **Pn 02 38 48.7 +0.4**
baz=147,SNR=36
PS10 TAPS Pump St10 2.83 30 Pn 02 38 50.3 +1.8
CRQM Cirque 2.85 93 Pn **Pn 02 38 49.1 +0.2**
KHIT Khitrov Hills 2.86 99 Pn 02 38 49.5 +0.5
GRIN Grindle Hills 2.87 103 Pn 02 38 49.0 0.0
CRQE Cirque 2.88 93 P **Pn 02 38 49.2 0.0**
baz=278
MCARA McCarthy VSAT 2.89 80 Pn **Pn 02 38 49.6 +0.2**
MCARA McCarthy VSAT 2.89 80 P **Pn 02 38 49.7 +0.4**
baz=266,SNR=13
BGLC Bering Glacier 2.94 105 P **Pn 02 38 50.4 +0.5**
baz=291
TGL Tana Glacier 3.00 92 Pn **Pn 02 38 50.7 -0.2**
WAX Waxell Ridge 3.05 98 Pn **Pn 02 38 51.8 +0.3**
MENT Mentasta 3.13 50 Pn **Pn 02 38 54.0 +1.4**
MENT IAML 02 39 43.1
comp=N,272nm,0.5s
MENT IAML 02 39 46.3
comp=E,206nm,0.4s
SNH Sunshine Point 3.13 103 Pn **Pn 02 38 52.0 -0.7**
SNH IAML 02 39 42.5
comp=E,223nm,0.6s
SNH IAML 02 39 59.9
comp=N,274nm,3.3s
PTPK Patty Peak 3.15 84 Pn 02 38 53.8 +0.7
M26K Nabesna, AK 3.15 61 Pn **Pn 02 38 54.1 +1.1**
M26K Nabesna, AK 3.15 61 P **Pn 02 38 53.2 +0.2**
baz=247
Q19K Cape Douglas, 3.16 230 Pn **Pn 02 38 53.2 +0.2**
Q19K IAML 02 39 45.7
comp=N,347nm,0.8s
Q19K Cape Douglas, 3.16 230 P **Pn 02 38 53.7 +0.7**
baz=46
BWN Browne 3.17 356 Pn **Pn 02 38 53.6 +0.4**
BALM Baldy 3.21 87 Pn 02 38 54.5 +0.6
KIAG Kiagna River 3.21 89 Pn 02 38 54.5 +0.6
SVW2 Sparrevohn 3.23 274 Pn **Pn 02 38 54.0 +0.1**
BPAW Bear Paw Mtn. 3.23 344 Pn **Pn 02 38 53.9 -0.1**
BPAW IAML 02 39 48.4
comp=N,152nm,0.9s
BPAW Bear Paw Mtn. 3.23 344 P **Pn 02 38 54.3 +0.3**
baz=162,SNR=14
ISLE Juniper Island 3.27 94 Pn **Pn 02 38 54.8 +0.2**
CHUM Lake Minchumin 3.27 333 Pn 02 38 55.5 +1.0
CHUM Lake Minchumin 3.27 333 P **Pn 02 38 54.9 +0.5**
baz=150,SNR=30
L26K Log Cabin Wild 3.32 50 Pn **Pn 02 38 55.4 +0.1**
L26K IAML 02 39 57.1
comp=N,144nm,0.5s
L26K IAML 02 40 09.9
comp=E,156nm,0.4s
L26K Log Cabin Wild 3.32 50 P **Pn 02 38 55.6 +0.4**
baz=235
RIDG Independent Ri 3.33 33 Pn **Pn 02 38 55.4 0.0**
RIDG IAML 02 39 47.6
comp=N,150nm,0.7s
RIDG IAML 02 39 51.5
comp=E,177nm,0.8s
RIDG Independent Ri 3.33 33 P **Pn 02 38 55.8 +0.4**
baz=217,SNR=59
K20K Telida 3.35 317 Pn **Pn 02 38 54.9 -0.8**
K20K Telida 3.35 317 P **Pn 02 38 55.7 0.0**
baz=132,SNR=30
BAGL Bagley Icefiel 3.41 96 Pn 02 38 56.9 +0.6
DOT Dot Lake 3.49 39 Pn **Pn 02 38 58.3 +0.8**
WRH Wood River Hil 3.49 6 Pn **Pn 02 38 58.3 +0.9**
WRH IAML 02 39 53.5
comp=N,127nm,0.8s
WRH IAML 02 39 54.5
comp=E,139nm,0.6s
HDA Harding Lake 3.52 14 Pn **Pn 02 38 59.0 +1.0**
HDA IAML 02 39 56.1
comp=E,231nm,1.0s
HDA IAML 02 39 58.0
comp=N,258nm,0.5s
HDA Harding Lake 3.52 14 P **Pn 02 38 59.0 +1.0**
baz=196
GRNC Granite Creek 3.53 92 Pn **Pn 02 38 57.7 -0.6**
P18K Big Mountain, 3.53 245 P **Pn 02 38 58.5 +0.3**
baz=60
BARN Barnard Glacie 3.55 86 Pn 02 38 59.7 +1.2
BARN IAML 02 39 50.0
comp=N,212nm,0.6s
BARN IAML 02 39 52.5
comp=E,288nm,0.7s
MESA MESA 3.55 101 Pn **Pn 02 38 58.1 -0.5**
MESA MESA 3.55 101 P **Pn 02 38 58.6 0.0**
baz=287
NEA2 Nenana 3.59 359 Pn **Pn 02 38 59.5 +0.6**
NEA2 IAML 02 39 58.6
comp=N,136nm,1.1s
NEA2 Nenana 3.59 359 P **Pn 02 38 59.7 +0.9**
baz=179
M27K Edge Creek, AK 3.63 65 Pn **Pn 02 38 59.9 +0.4**
M27K Edge Creek, AK 3.63 65 P **Pn 02 38 59.9 +0.4**
baz=252
PS08 TAPS Pump Stn8 3.67 15 Pn 02 39 01.1 +1.2
CCB Clear Creek Bu 3.68 8 Pn **Pn 02 39 00.9 +0.9**
CCB IAML 02 39 59.5
comp=E,127nm,1.1s
CTG Chitna Glacier 3.71 88 P **Pn 02 39 01.2 +0.6**
baz=274
CTGM Chitina Glacie 3.71 88 Pn **Pn 02 39 01.4 +0.7**
CTGM IAML 02 39 56.0
comp=N,162nm,0.5s
KDAK Kodiak Island 3.74 211 Pn **Pn 02 39 00.8 -0.2**
comp=N,3.1nm,0.3s,baz=78,slow=12,SNR=23
KDAK Pg **Pb 02 39 09.8 -0.9**
comp=N,7.1nm,0.3s,baz=32,slow=13,SNR=5.3
KDAK Sn **Sn 02 39 40.8 -3.0**
comp=N,6.0nm,0.3s,baz=129,slow=22,SNR=1.8
KDAK Lg Lg 02 39 57.8
baz=310,slow=19,SNR=1.0
KDAK Kodiak Island 3.74 211 Pn 02 39 00.4 -0.5
KDAK Kodiak Island 3.74 211 Pn **Pn 02 39 00.1 -0.8**
KDAK Kodiak Island 3.74 211 P **Pn 02 39 00.6 -0.4**
baz=28
SCRK Sand Creek 3.75 36 Pn **Pn 02 39 01.4 +0.2**
SCRK IAML 02 40 05.5
comp=E,131nm,0.7s
SCRK Sand Creek 3.75 36 P **Pn 02 39 01.1 -0.2**
baz=220,SNR=66
TT01 Tatalina 3.84 303 Pn 02 39 02.3 +0.1

TTA Tatalina 3.84 303 Pn **Pn 02 39 01.8 -0.6**
TTA Tatalina 3.84 303 P **Pn 02 39 02.3 -0.2**
baz=117
TABL Table Mountain 3.88 95 Pn 02 39 03.6 +0.5
TABL IAML 02 40 04.5
comp=E,151nm,0.8s
TABL IAML 02 40 06.9
comp=N,212nm,0.7s
IL31 3.88 13 Pn **Pn 02 39 03.5 +0.6**
ILAR Eielson Array 3.88 13 Pn **Pn 02 39 03.9 +1.0**
comp=N,6.6nm,0.3s,baz=192,slow=14,SNR=56
ILAR Sn **Sn 02 39 51.9 +4.6**
comp=N,14nm,0.3s,baz=190,slow=23,SNR=8.3
ILAR Eielson Array 3.88 13 Pn **Pn 02 39 02.8 -0.1**
LOGN Logan Glacier 3.88 89 Pn **Pn 02 39 03.7 +0.6**
LOGN IAML 02 40 00.1
comp=N,180nm,0.5s
LOGN IAML 02 40 06.0
comp=E,155nm,0.6s
TCOL CIGO, UAF Yank 3.90 7 Pn **Pn 02 39 03.7 +0.6**
TCOL CIGO, UAF Yank 3.90 7 P **Pn 02 39 04.0 +0.9**
baz=188,SNR=19
COLA College 3.90 7 Pn **Pn 02 39 05.0 +1.9**
COLA College 3.90 7 P **Pn 02 39 04.4 +1.3**
baz=188
L27K Beaver Creek, 3.93 55 Pn **Pn 02 39 04.2 +0.6**
L27K Beaver Creek, 3.93 55 P **Pn 02 39 04.0 +0.4**
baz=242
BC03 3.95 56 Pn 02 39 05.3 +1.6
BCAR Beaver Creek A 3.95 56 Pn **Pn 02 39 03.9 0.0**
MDM Murphy Dome 3.97 4 Pn **Pn 02 39 05.2 +1.1**
MDM IAML 02 40 08.2
comp=E,182nm,0.9s
MDM IAML 02 40 10.1
comp=N,98nm,0.8s
YUK2 White River 3.97 75 Pn 02 39 05.9 +1.6
J20K Nowinta River 3.97 325 Pn 02 39 03.8 -0.4
J20K IAML 02 40 13.6
comp=N,93nm,1.1s
J20K Nowinta River 3.97 325 P **Pn 02 39 04.1 -0.1**
baz=140
BVCY Beaver Creek 4.10 67 Pn 02 39 07.7 +1.8
BVCY Beaver Creek 4.10 67 P **Pn 02 39 06.5 +0.7**
baz=254
MLY Manley 4.11 349 Pn **Pn 02 39 05.7 -0.4**
MLY Manley 4.11 349 P **Pn 02 39 06.7 +0.6**
baz=168,SNR=58
I23K Minto, Yukon-K 4.15 358 Pn **Pn 02 39 07.4 +0.9**
I23K IAML 02 40 16.1
comp=N,75nm,0.7s
I23K IAML 02 40 17.6
comp=E,77nm,1.2s
I23K Minto, Yukon-K 4.15 358 P **Pn 02 39 07.8 +1.3**
baz=177,SNR=29
YUK3 Moose Creek 4.15 76 Pn 02 39 07.8 +0.9
YUK3 Moose Creek 4.15 76 P **Pn 02 39 07.4 +0.6**
baz=263,SNR=6.6
POKR Poker Plat Res 4.17 9 Pn **Pn 02 39 07.6 +0.7**
POKR IAML 02 40 06.9
comp=N,73nm,0.6s
POKR IAML 02 40 22.2
comp=E,71nm,0.8s
POKR Poker Plat Res 4.17 9 P **Pn 02 39 07.7 +0.9**
baz=190
J26L Joseph Creek 4.28 33 Pn 02 39 08.8 +0.3
J26L Joseph Creek 4.28 33 P **Pn 02 39 08.5 0.0**
baz=218,SNR=73
PS07 TAPS Pump Stn7 4.32 4 Pn 02 39 09.9 +1.0
PCA Pinnacle 4.39 98 Pn **Pn 02 39 07.8 -2.2**
I21K Tanana 4.40 343 Pn **Pn 02 39 09.9 0.0**
I21K Tanana 4.40 343 P **Pn 02 39 10.4 +0.5**
baz=160
OHAK Old Harbor 4.42 212 Pn **Pn 02 39 09.1 -1.1**
OHAK IAML 02 39 45.3
comp=E,90nm,4.7s
PRP Porcupine Dome 4.77 17 Pn **Pn 02 39 14.5 -0.8**
PRP IAML 02 40 21.2
comp=E,82nm,0.6s
H24K Noodor Dome 4.86 5 Pn **Pn 02 39 18.2 +1.8**
H24K IAML 02 40 38.7
comp=E,54nm,0.8s
H24K IAML 02 40 43.8
comp=N,50nm,1.2s
H24K Noodor Dome 4.86 5 P **Pn 02 39 17.6 +1.3**
baz=186
PNL Peninsula 4.94 102 Pn 02 39 17.5 +0.1
PNL Peninsula 4.94 102 P **Pn 02 39 17.5 +0.1**
baz=290
H21K Melozitna Rive 4.97 341 Pn **Pn 02 39 17.4 -0.4**
H21K Melozitna Rive 4.97 341 P **Pn 02 39 18.0 +0.2**
baz=158
EGAK Eagle 5.18 40 Pn **Pn 02 39 20.9 +0.1**
EGAK IAML 02 40 50.0
comp=N,69nm,0.9s
EGAK IAML 02 40 58.1
comp=N,46nm,0.8s
EGAK Eagle 5.18 40 P **Pn 02 39 21.3 +0.5**
baz=227
GCSA Galena City Sc 5.21 319 Pn 02 39 21.4 +0.4
GCSA Galena City Sc 5.21 319 P **Pn 02 39 21.3 +0.2**
baz=132
DAWY Dawson 5.37 51 Pn 02 39 24.3 +0.9
DAWY Dawson 5.37 51 P **Pn 02 39 24.2 +0.7**
baz=240
IM03 5.42 339 Pn 02 39 24.2 +0.2
IMAR Indian Mountai 5.42 339 Pn **Pn 02 39 24.1 0.0**
FYU Fort Yukon 5.80 15 Pn **Pn 02 39 29.6 +0.4**
M30M Minto, Yukon 5.97 70 P **Pn 02 39 32.7 +1.1**
baz=260
COLD Coldfoot 6.26 356 Pn **Pn 02 39 36.7 +1.2**
COLD Coldfoot 6.26 356 P **Pn 02 39 36.6 +1.2**
baz=174
BM03 Burnt Mountain 6.70 15 Pn 02 39 41.8 +0.3
BMAR Burnt Mountain 6.71 15 Pn **Pn 02 39 42.2 +0.5**
WHY Whitehorse 6.89 87 Pn **Pn 02 39 44.1 -0.1**
WHY Whitehorse 6.89 87 P **Pn 02 39 44.1 -0.1**
baz=279
SKAG Skagway 6.96 97 Pn **Pn 02 39 46.1 +0.9**
BESE Bessie Mountai 7.52 103 Pn **Pn 02 39 53.5 +0.6**
ANM Nome 8.31 302 Pn **Pn 02 40 05.2 +1.5**
INK Inuvik 9.82 35 Pn **Pn 02 40 26.4 +2.1**
comp=N,0.5nm,0.3s,baz=232,slow=16,SNR=28
INK Sn **Sn 02 42 15.6 +2.3**
comp=N,0.2nm,0.3s,baz=281,slow=11,SNR=1.8
INK Inuvik 9.82 35 Pn **Pn 02 40 25.7 +1.4**
CRAG Craig 10.01 117 Pn **Pn 02 40 26.9 0.0**
A36M Sachs Harbour 14.35 30 Pn **Pn 02 41 25.7 -0.4**
YKA Yellowknife Ar 16.21 70 Pn **Pn 02 41 50.0 -0.5**
comp=N,0.1nm,0.3s,baz=278,slow=10,SNR=12
YKA Yellowknife Ar 16.21 70 Pn 02 41 49.6 -0.9
MKAR Makanchi Array 64.84 324 P P 02 48 48.5 +7.5
comp=N,0.2nm,0.5s,baz=21,slow=7.0,SNR=4.2

*EAF **04** 02:45:28.3±1.4,21°.26S×34°.16E,h10km,MD4.1*
BUL 04 02:45:28.3±1.4,21°.26S×34°.16E,h10km,MD4.4,
Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIPN	**CHIPINGE**	**1.75**	**306**	*i* P	Pn	02 45 52.2	-6.5
CHIPN	**CHIPINGE**	**1.75**	**306**	*i* P	Pn	02 45 52.2	-6.5
MSNA	**Messina**	**3.99**	**254**	*i* P	Pn	02 46 30.1	+0.5
MSNA	**Messina**	**3.99**	**254**	*i* P	Pn	02 46 30.1	+0.5
BLWY	**Bulawayo**	**5.31**	**281**	*i* P	Pn	02 46 46.4	-1.5
BLWY	**Bulawayo**	**5.31**	**281**	*i* P	Pn	02 46 46.4	-1.5
MATP	**Matopo**	**5.36**	**278**	*i* P	Pn	02 46 46.6	-1.9
MATP				*i* S	Sn	02 47 45.9	-4.5
MATP	**Matopo**	**5.36**	**278**	*i* P	Pn	02 46 46.6	-1.9
MATP				*i* S	Sn	02 47 45.9	-4.5

*ATH **04** 02:58:09.8,36°.53N×26°.92E,h220km±8km,ML4.1/7,Error ellipse: s-maj=9.2km s-min=2.2km az=104.0*
*HLW **04** 02:58:19.3,36°.72N×27°.33E,h10km±19km,Md4.4,Ml4.3*
*IDC **04** 02:58:22.2±0.8,36°.53N×26°.89E,h127km±13km,mb3.4/9,mb1 3.5/17,mb1mx3.3/53,mbtmp3.8/17,MS3.5/1,Ms1 3.5/1,ms1mx2.5/51,Error ellipse: s-maj=17.3km s-min=9.8km az=163.0*
*NEIC **04** 02:58:23.1±2.7,36°.46N±0°.08×26°.96E±0°.08,h137km±11km,mb4.4/6,ML3.8(THE),Error ellipse: s-maj=11.4km s-min=9.1km az=181.0*
*DDA **04** 02:58:23.9±0.0,36°.36N×26°.79E,h38km±5km,ML3.4*

*ISK **04** 02:58:23.6, 36°.55N×26°.91E, h130km±1km, ML3.7/25*
*THE **04** 02:58:26.0, 36°.53N×26°.91E, h140km±4km, ML3.8/13,*
Error ellipse: s-maj=4.7km s-min=0.5km az=116.0
*GII **04** 02:58:27.1±0.3, 36°.01N×27°.18E, h31km, mb4.0/3,*
MD3.6/8, Mm3.9/3

ISC 04 02:58:22.4±0.6, **36°.48N**±0°.03×**27°.02E**±0°.04, **h133**km±6km,
n191, σ1§**66**/238, **mb3.6**/11, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.52**	**61**	P	**Pn**	**02 58 43.7**	**+1.7**
DAT	**Datca**	**0.52**	**61**	PG	**Pn**	**02 58 43.9**	**+1.8**
DAT				SG	**Sn**	**02 58 58.1**	**+1.2**
DAT	**Datca**	**0.52**	**61**	P	**Pn**	**02 58 43.8**	**+1.8**
DAT				S	**Sn**	**02 58 58.1**	**+1.2**
BODT	**Bodrum**	**0.63**	**22**	P	**Pn**	**02 58 43.8**	**+1.2**
BODT	**Bodrum**	**0.63**	**22**	PG	**Pn**	**02 58 43.9**	**+1.3**
ARG	**Arkhangelos**	**0.94**	**106**	P	**Pn**	**02 58 47.5**	**+2.6**
ARG				S	**Sn**	**02 59 04.1**	**+2.0**
	3μm,0.2s						
ARG	**Arkhangelos**	**0.94**	**106**	P	**Pn**	**02 58 47.6**	**+2.6**
ARG				AML	AML	02 59 06.2	
	comp=N,5138μm,0.2s						
ARG				AML	AML	02 59 07.6	
	comp=E,8123μm,0.3s						
ARG	**Arkhangelos**	**0.94**	**106**	PG	**Pn**	**02 58 47.5**	**+2.6**
MRSB	**Marmaris-Mugla**	**0.98**	**76**	PG	**Pn**	**02 58 47.3**	**+1.9**
DDIM	**Aydin, Didim**	**0.99**	**10**	P	**Pn**	**02 58 47.1**	**+1.7**
DDIM				S	**Sn**	**02 58 59.2**	**-3.8**
TURN	**Turunc**	**1.03**	**73**	PN	**Pn**	**02 58 47.8**	**+2.0**
TURN				SN	**Sn**	**02 59 04.8**	**+1.2**
TURN	**Turunc**	**1.03**	**73**	P	**Pn**	**02 58 47.7**	**+2.0**
TURN				S	**Sn**	**02 59 02.5**	**-1.1**
TURN				*i* AML	AML	02 59 35.0	
	comp=E,1μm,1.4s						
YER	**Yerkesik**	**1.21**	**57**	P	**Pn**	**02 58 49.9**	**+2.3**
YER				S	**Sn**	**02 59 08.1**	**+1.2**
YER	**Yerkesik**	**1.21**	**57**	PN	**Pn**	**02 58 49.6**	**+2.0**
YER				SN	**Sn**	**02 59 08.2**	**+1.3**
SMG	**Samos**	**1.23**	**353**	P	**Pn**	**02 58 48.4**	**+0.6**
SMG	**Samos**	**1.23**	**353**	P	**Pn**	**02 58 48.5**	**+0.6**
THR8	**Santorini-Mono**	**1.24**	**267**	P	**Pn**	**02 58 48.7**	**+0.8**
THR8	**Santorini-Mono**	**1.24**	**267**	P	**Pn**	**02 58 48.7**	**+0.8**
SANT	**Santorini**	**1.26**	**265**	P	**Pn**	**02 58 49.0**	**+0.8**
SANT	**Santorini**	**1.26**	**265**	P	**Pn**	**02 58 49.0**	**+0.8**
SANT				AML	AML	02 59 07.4	
	comp=N,626μm,0.6s						
SANT				AML	AML	02 59 08.0	
	comp=E,1976μm,0.3s						
SANT	**Santorini**	**1.26**	**265**	PN	**Pn**	**02 58 48.9**	**+0.8**
SANT	**Santorini**	**1.26**	**265**	Pn	**Pn**	**02 58 48.9**	**+0.8**
THR2	**Thira island,**	**1.27**	**269**	P	**Pn**	**02 58 49.1**	**+0.9**
THR2	**Thira island,**	**1.27**	**269**	P	**Pn**	**02 58 49.3**	**+1.0**
SFIR	**Foira Santorin**	**1.28**	**268**	P	**Pn**	**02 58 49.1**	**+0.8**
THT2	**Imerovigli**	**1.29**	**268**	P	**Pn**	**02 58 49.4**	**+1.1**
THT2	**Imerovigli**	**1.29**	**268**	P	**Pn**	**02 58 49.4**	**+1.1**
MULA	**Mugla, Merkez-**	**1.30**	**53**	P	**Pn**	**02 58 50.8**	**+2.2**
MULA				S	**Sn**	**02 59 07.8**	**-0.8**
STAX	**Taxiarchis Har**	**1.30**	**267**	P	**Pn**	**02 58 49.4**	**+0.9**
STAX	**Taxiarchis Har**	**1.30**	**267**	P	**Pn**	**02 58 49.5**	**+0.9**
THR3	**Thira Island,**	**1.30**	**267**	P	**Pn**	**02 58 49.5**	**+1.0**
THR3	**Thira Island,**	**1.30**	**267**	P	**Pn**	**02 58 49.5**	**+1.0**
THR6	**Thira Island,**	**1.31**	**265**	P	**Pn**	**02 58 49.6**	**+1.0**
THR6	**Thira Island,**	**1.31**	**265**	P	**Pn**	**02 58 49.8**	**+1.2**
AYDN	**Tasoluk**	**1.36**	**30**	P	**Pn**	**02 58 51.0**	**+1.7**
AYDN				S	**Sn**	**02 59 07.9**	**-1.9**
STIA	**Sitia Lasithi**	**1.48**	**211**	P	**Pn**	**02 58 51.9**	**+1.4**
STIA				S	**Sn**	**02 59 12.3**	**+0.4**
ZKR	**Zakros**	**1.51**	**206**	P	**Pn**	**02 58 52.8**	**+2.0**
ZKR				S	**Sn**	**02 59 14.0**	**+1.5**
	comp=E,2μm,0.3s						
ZKR	**Zakros**	**1.51**	**206**	P	**Pn**	**02 58 52.9**	**+2.1**
ZKR				AML	AML	02 59 16.3	
	comp=E,5020μm,0.4s						
ZKR				AML	AML	02 59 19.8	
	comp=N,1486μm,0.3s						
ZKR	**Zakros**	**1.51**	**206**	PN	**Pn**	**02 58 53.1**	**+2.3**
ZKR				SN	**Sn**	**02 59 14.0**	**+1.5**
NPS	**Neapolis**	**1.67**	**224**	P	**Pn**	**02 58 53.6**	**+1.0**
NPS				S	**Sn**	**02 59 15.3**	**-0.4**
	comp=N,4μm,0.2s						
NPS	**Neapolis**	**1.67**	**224**	P	**Pn**	**02 58 53.5**	**+1.0**
NPS				AML	AML	02 59 16.6	
	comp=N,5538μm,0.3s						
NPS				AML	AML	02 59 16.7	
	comp=E,10672μm,0.2s						
FETY	**Fethiye**	**1.67**	**84**	PN	**Pn**	**02 58 55.1**	**+2.5**
FETY	**Fethiye**	**1.67**	**84**	P	**Pn**	**02 58 54.8**	**+2.1**
FETY				S	**Sn**	**02 59 15.2**	**-0.6**
FETY				*i* AML	AML	02 59 20.0	
	comp=E,391nm,0.2s						
FETY				*i* AML	AML	02 59 21.0	
	comp=E,347nm,0.2s						
FRMA	**Ierapetra Chan**	**1.80**	**216**	P	**Pn**	**02 58 55.5**	**+1.4**
FRMA				S	**Sn**	**02 59 18.8**	**+0.5**
	comp=E,710nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**1.80**	**347**	P	**Pn**	**02 58 54.4**	**+0.3**
ZEYE				S	**Sn**	**02 59 15.7**	**-2.7**
TAVA	**DENIZLI_Tavas**	**1.81**	**57**	P	**Pn**	**02 58 56.0**	**+1.7**
TAVA				S	**Sn**	**02 59 16.5**	**-2.3**
URLA	**Izmir**	**1.91**	**350**	PN	**Pn**	**02 58 56.2**	**+0.8**
URLA	**Izmir**	**1.91**	**350**	P	**Pn**	**02 58 55.8**	**+0.4**
URLA				S	**Sn**	**02 59 19.1**	**-1.6**
HRKL	**Herakleio**	**1.94**	**234**	P	**Pn**	**02 58 56.8**	**+1.0**
HRKL				S	**Sn**	**02 59 20.8**	**-0.6**
	comp=E,3μm,0.6s						
HRKL	**Herakleio**	**1.94**	**234**	PN	**Pn**	**02 58 56.8**	**+1.0**
CAEL	**Denizli, Camel**	**1.96**	**70**	P	**Pn**	**02 58 58.3**	**+2.2**
CAEL				S	**Sn**	**02 59 20.4**	**-1.5**
CAEL				*i* AML	AML	02 59 28.0	
	comp=E,306nm,0.4s						
CAEL				*i* AML	AML	02 59 29.0	
	comp=E,397nm,0.6s						
CAEL				*i* AML	AML	02 59 31.0	
	comp=E,385nm,0.4s						
KSTL	**Kastelli Herak**	**1.97**	**234**	P	**Pn**	**02 58 55.9**	**-0.2**
KSTL				S	**Sn**	**02 59 19.5**	**-2.4**
	comp=E,825nm,0.3s						
CHOS	**Chios island**	**2.05**	**338**	P	**Pn**	**02 58 57.7**	**+0.6**
CHOS	**Chios island**	**2.05**	**338**	P	**Pn**	**02 58 57.8**	**+0.6**
IDI	**Anoyia**	**2.10**	**236**	P	**Pn**	**02 58 58.3**	**+0.5**
	comp=E,29nm,0.3s,baz=40,slow=4.9,SNR=439						
IDI				S	**Sn**	**02 59 23.0**	**-1.9**
	comp=E,30nm,0.3s,baz=55,slow=12,SNR=15						
IDI	**Anoyia**	**2.10**	**236**	P	**Pn**	**02 58 58.3**	**+0.5**
IDI				S	**Sn**	**02 59 23.1**	**-1.7**
	comp=E,2μm,0.5s						
IDI	**Anoyia**	**2.10**	**236**	P	**Pn**	**02 58 58.3**	**+0.5**
IDI				AML	AML	02 59 24.7	
	comp=E,4099μm,0.4s						
IDI				AML	AML	02 59 27.4	
	comp=N,3452μm,0.3s						
GOLH	**Golhisar**	**2.18**	**69**	P	**Pn**	**02 59 00.5**	**+1.8**
GOLH				S	**Sn**	**02 59 25.2**	**-1.4**
GOLH				*i* AML	AML	02 59 30.0	
	comp=N,220nm,0.5s						
GOLH				*i* AML	AML	02 59 31.0	
	comp=N,208nm,0.3s						
TMBK	**Timbaki Herak**	**2.31**	**233**	P	**Pn**	**02 59 01.9**	**+1.6**
TMBK				S	**Sn**	**02 59 29.3**	**0.0**
	comp=N,888nm,0.5s						
PRNS	**Prines Rethymn**	**2.33**	**242**	P	**Pn**	**02 59 01.6**	**+1.1**
PRNS				S	**Sn**	**02 59 28.9**	**-0.8**
	comp=N,460nm,0.4s						
ELL	**Elmali**	**2.34**	**83**	PN	**Pn**	**02 59 03.6**	**+2.8**
ELL	**Elmali**	**2.34**	**83**	Pn	**Pn**	**02 59 03.3**	**+2.5**
KULA	**Kula-Manisa**	**2.42**	**32**	PN	**Pn**	**02 59 03.2**	**+1.5**
AKHS	**Akhisar**	**2.48**	**15**	P	**Pn**	**02 59 03.1**	**+0.7**
ZEDA	**zmir-Bergama**	**2.48**	**1**	P	**Pn**	**02 59 03.0**	**+0.6**
VAM	**Vamos**	**2.52**	**246**	P	**Pn**	**02 59 03.3**	**+0.3**
VAM	**Vamos**	**2.52**	**246**	P	**Pn**	**02 59 03.2**	**+0.2**
VAM				AML	AML	02 59 34.5	
	comp=N,2476μm,0.2s						
VAM				AML	AML	02 59 41.0	
	comp=E,2246μm,0.3s						
KARY	**Karystos**	**2.58**	**308**	P	**Pn**	**02 59 04.3**	**+0.7**
IMMV	**Iera Moni Meta**	**2.66**	**248**	P	**Pn**	**02 59 05.3**	**+0.5**
IMMV				S	**Sn**	**02 59 35.1**	**-2.3**
	comp=E,1μm,0.3s						
IMMV	**Iera Moni Meta**	**2.66**	**248**	P	**Pn**	**02 59 05.4**	**+0.7**
IMMV				AML	AML	02 59 39.1	
	comp=E,2222μm,0.3s						
IMMV				AML	AML	02 59 41.3	
	comp=N,2696μm,0.3s						
IMMV	**Iera Moni Meta**	**2.66**	**248**	PN	**Pn**	**02 59 06.0**	**+1.2**
AKUM	**Antalya-Kumluc**	**2.69**	**92**	P	**Pn**	**02 59 07.5**	**+2.5**
AKUM				*i* AML	AML	02 59 44.0	
	comp=N,161nm,0.5s						
PASA	**Karahalli, USA**	**2.71**	**46**	P	**Pn**	**02 59 06.9**	**+1.5**
BRDR	**BURDUR-Merkez**	**2.72**	**63**	P	**Pn**	**02 59 07.4**	**+1.9**
BRDR				S	**Sn**	**02 59 37.8**	**-1.0**
KORT	**Korkueli**	**2.73**	**78**	PN	**Pn**	**02 59 08.6**	**+2.9**
KORT	**Korkueli**	**2.73**	**78**	P	**Pn**	**02 59 08.6**	**+2.9**
KORT				*i* AML	AML	02 59 45.0	
	comp=N,195nm,0.5s						
USAK	**Uak-Merkez**	**2.74**	**35**	P	**Pn**	**02 59 07.3**	**+1.6**
RODP	**Rodopos**	**2.80**	**252**	PN	**Pn**	**02 59 07.5**	**+1.0**
PRK	**Paraskevi**	**2.82**	**348**	P	**Pn**	**02 59 08.6**	**+1.8**
SIGR	**SIGRI**	**2.88**	**342**	P	**Pn**	**02 59 07.8**	**+0.4**
GVDS	**Gavdos**	**2.89**	**236**	PN	**Pn**	**02 59 08.8**	**+1.2**
DEMI	**Demirci**	**2.89**	**27**	P	**Pn**	**02 59 09.1**	**+1.4**
GVD	**Gavdhos**	**2.89**	**236**	P	**Pn**	**02 59 09.2**	**+1.5**
GVD	**Gavdhos**	**2.89**	**236**	PN	**Pn**	**02 59 09.1**	**+1.4**
VLY	**Voula,Athens**	**2.92**	**299**	P	**Pn**	**02 59 08.9**	**+1.0**
VLY	**Voula,Athens**	**2.92**	**299**	P	**Pn**	**02 59 08.9**	**+1.0**
DION	**Dionisos Attik**	**2.93**	**304**	P	**Pn**	**02 59 09.0**	**+0.8**
DION	**Dionisos Attik**	**2.93**	**304**	P	**Pn**	**02 59 09.0**	**+0.8**
ANTB	**Antalya**	**2.95**	**81**	PN	**Pn**	**02 59 11.5**	**+3.1**
PTL	**Penteli**	**2.96**	**303**	P	**Pn**	**02 59 09.5**	**+0.9**
BUCA	**Burdur, Bucak-**	**2.96**	**72**	P	**Pn**	**02 59 11.1**	**+2.4**
ATHU	**Athens Univers**	**2.98**	**301**	P	**Pn**	**02 59 09.6**	**+0.9**
KNDR	**Palaiochora Ch**	**2.98**	**246**	PN	**Pn**	**02 59 10.8**	**+2.0**
ATH	**Athens Observa**	**3.02**	**300**	P	**Pn**	**02 59 10.4**	**+1.0**
BCK	**Bucak**	**3.02**	**70**	PN	**Pn**	**02 59 11.9**	**+2.5**
SKY	**Skiros Island**	**3.09**	**321**	P	**Pn**	**02 59 11.1**	**+0.9**
ISP	**Isparta**	**3.10**	**63**	Pn	**Pn**	**02 59 12.0**	**+1.4**
KYMI	**Kymi, Euboea I**	**3.16**	**314**	P	**Pn**	**02 59 11.8**	**+0.7**
KYMI	**Kymi, Euboea I**	**3.16**	**314**	P	**Pn**	**02 59 11.7**	**+0.7**
KTHA	**Kythira Island**	**3.20**	**267**	P	**Pn**	**02 59 12.1**	**+0.4**
KTHA				S	**Sn**	**02 59 46.5**	**-3.2**
	comp=N,385nm,0.5s						
KTHA	**Kythira Island**	**3.20**	**267**	P	**Pn**	**02 59 12.2**	**+0.6**
KRND	**KRANIDI**	**3.23**	**287**	P	**Pn**	**02 59 13.0**	**+1.0**
BALB	**Balikesir**	**3.23**	**12**	Pn	**Pn**	**02 59 12.9**	**+0.9**
KTHR	**Kythira**	**3.25**	**267**	P	**Pn**	**02 59 13.1**	**+0.8**
KTHR				S	**Sn**	**02 59 47.1**	**-3.7**
	comp=N,352nm,0.4s						
VLI	**Velíai**	**3.29**	**275**	P	**Pn**	**02 59 13.1**	**+0.2**
VLI				S	**Sn**	**02 59 49.3**	**-2.5**
	comp=N,160nm,0.5s						
VLI	**Velíai**	**3.29**	**275**	P	**Pn**	**02 59 13.0**	**+0.2**
EPID	**Epidavros**	**3.32**	**291**	P	**Pn**	**02 59 14.0**	**+0.8**
EZN	**Ezine**	**3.38**	**351**	PN	**Pn**	**02 59 15.1**	**+1.1**
VILL	**Villia**	**3.40**	**301**	P	**Pn**	**02 59 15.2**	**+0.9**
SHUT	**Suhut-Afyon**	**3.49**	**53**	PN	**Pn**	**02 59 17.6**	**+2.1**
TVSB	**Tavsanli**	**3.54**	**32**	PN	**Pn**	**02 59 17.8**	**+1.6**
LTK	**Loutraki**	**3.58**	**297**	P	**Pn**	**02 59 17.6**	**+1.0**
KEPZ	**Antalya-Kepez**	**3.71**	**82**	P	**Pn**	**02 59 21.1**	**+2.7**
KEPZ				S	**Sn**	**03 00 00.4**	**-1.4**
YVAC	**Isparta, Yalva**	**3.81**	**61**	P	**Pn**	**02 59 22.3**	**+2.6**
SEDI	**Konya, Seydise**	**3.92**	**74**	P	**Pn**	**02 59 23.5**	**+2.3**
NEO	**Neokhori**	**4.12**	**314**	P	**Pn**	**02 59 24.7**	**+1.0**
ITM	**Ithomi**	**4.14**	**281**	PN	**Pn**	**02 59 25.0**	**+0.9**
ITM	**Ithomi**	**4.14**	**281**	Pn	**Pn**	**02 59 25.2**	**+1.1**
DRO	**Drossia**	**4.48**	**291**	P	**Pn**	**02 59 30.2**	**+1.6**
AGG	**Agios Georgios**	**4.50**	**306**	P	**Pn**	**02 59 30.2**	**+1.4**
AGG	**Agios Georgios**	**4.50**	**306**	Pn	**Pn**	**02 59 29.9**	**+1.1**
EFP	**Efpalio**	**4.51**	**297**	P	**Pn**	**02 59 30.3**	**+1.5**
MAKR	**Makrakomi, Fth**	**4.62**	**305**	P	**Pn**	**02 59 32.1**	**+1.7**
TYRN	**Tyrnavos**	**4.96**	**312**	P	**Pn**	**02 59 36.9**	**+2.0**
THL	**Klokotos Trika**	**5.01**	**309**	P	**Pn**	**02 59 37.1**	**+1.6**
CSS	**Mathiatis**	**5.36**	**105**	Pn	**Pn**	**02 59 40.5**	**+0.2**
BR131	**Keskin Array S**	**6.14**	**56**	Pn	**Pn**	**02 59 53.8**	**+2.9**
BRTR	**Keskin Array B**	**6.14**	**56**	P	**Pn**	**02 59 53.5**	**+2.6**
	comp=N,0.4nm,0.3s,baz=227,slow=15,SNR=15						
BRTR				S	**Sn**	**03 01 01.7**	**+1.6**
	comp=N,0.1nm,0.3s,baz=232,slow=23,SNR=5.5						
BRTR	**Keskin Array B**	**6.14**	**56**	Pn	**Pn**	**02 59 52.4**	**+1.4**
FNA	**Florina**	**6.16**	**316**	Pn	**Pn**	**02 59 55.0**	**+3.9**
HNAT	**Natroun**	**7.47**	**155**	P	**Pn**	**03 00 10.2**	**+1.5**
	baz=157						
HNTI	**Hanita**	**7.52**	**114**	Pn	**Pn**	**03 00 09.4**	**+0.1**
HNTI				Sn	**Sn**	**03 01 30.4**	**-2.7**
BHL	**Bhannes**	**7.52**	**107**	*e*P	**Pn**	**03 00 08.1**	**-1.4**
DQRL	**Deir Qamar**	**7.54**	**109**	*e*P	**Pn**	**03 00 08.9**	**-0.8**
OFRI	**`Ofer**	**7.62**	**118**	Pn	**Pn**	**03 00 11.5**	**+0.8**
SCTE	**Santa Cesarea**	**7.62**	**301**	Pn	**Pn**	**03 00 09.7**	**-0.9**
KOT	**Kottamia**	**7.68**	**147**	P	**Pn**	**03 00 12.8**	**+1.3**
	baz=149						
MMA0B	**Mount Meron ar**	**7.72**	**114**	Pn	**Pn**	**03 00 12.0**	**-0.1**
MMA0B				Sn	**Sn**	**03 01 35.5**	**-2.6**
MMAI	**Mount Meron Ar**	**7.72**	**114**	P	**Pn**	**03 00 12.2**	**+0.1**
	comp=N,16nm,0.3s,baz=297,slow=11,SNR=108						
MMAI				S	**Sn**	**03 01 35.2**	**-2.9**
	comp=N,14nm,0.3s,baz=307,slow=25,SNR=13						
HHAG	**Hagoal**	**7.78**	**145**	S	**Sn**	**03 01 37.1**	**-2.4**
	baz=148						
RCY	**Rachaya**	**7.83**	**110**	*e*P	**Pn**	**03 00 13.7**	**+0.1**
SLTI	**Sal'it**	**7.87**	**120**	Pn	**Pn**	**03 00 14.4**	**+0.4**
SLTI				Sn	**Sn**	**03 01 38.7**	**-2.8**
RYAN	**Fayoum**	**7.87**	**159**	P	**Pn**	**03 00 15.0**	**+0.9**
	baz=161						
GLL	**Jalalah**	**7.93**	**149**	P	**Pn**	**03 00 16.1**	**+1.2**
	baz=151						
MMLI	**Mount Malkishu**	**8.03**	**118**	Pn	**Pn**	**03 00 16.6**	**+0.4**
HMDT	**Nahal Hemdat**	**8.20**	**118**	Pn	**Pn**	**03 00 19.0**	**+0.5**
HMDT				Sn	**Sn**	**03 01 47.2**	**-2.4**
AMAZ	**Amatzia**	**8.21**	**125**	Pn	**Pn**	**03 00 18.9**	**+0.3**
KZIT	**Kziot**	**8.29**	**130**	Pn	**Pn**	**03 00 20.0**	**+0.3**
KZIT				Sn	**Sn**	**03 01 48.4**	**-3.3**
YTIR	**Yattir**	**8.45**	**125**	Pn	**Pn**	**03 00 22.2**	**+0.3**
YTIR				Sn	**Sn**	**03 01 53.1**	**-2.6**
DSI	**Dead Sea**	**8.49**	**123**	Pn	**Pn**	**03 00 22.9**	**+0.5**
TIP	**Timpagrande**	**8.55**	**291**	Pn	**Pn**	**03 00 21.0**	**-2.2**
ZFRI	**Zfri**	**9.02**	**129**	Pn	**Pn**	**03 00 29.3**	**-0.2**
ZFRI				Sn	**Sn**	**03 02 05.0**	**-4.3**
KRMI	**Paran Flat**	**9.05**	**132**	Pn	**Pn**	**03 00 29.6**	**-0.3**
PRNI	**Paran**	**9.05**	**130**	Pn	**Pn**	**03 00 29.9**	**0.0**
PRNI				Sn	**Sn**	**03 02 06.4**	**-3.8**
ASF	**Jabal al Asfar**	**9.23**	**115**	P	**Pn**	**03 00 33.1**	**+0.7**
	comp=N,1.6nm,0.3s,baz=316,slow=3.8,SNR=21						
ASF				S	Sn	03 02 03.5	-11
	comp=N,0.6nm,0.3s,baz=25,slow=5.3,SNR=3.2						
HRFI	**Mount Harif**	**9.29**	**131**	Pn	**Pn**	**03 00 33.3**	**+0.1**
HRFI				Sn	**Sn**	**03 02 12.4**	**-3.7**
MBRI	**Mt Berech**	**9.39**	**133**	Pn	**Pn**	**03 00 34.7**	**+0.1**
MBRI				Sn	**Sn**	**03 02 14.5**	**-4.1**
EIL	**Elat**	**9.51**	**133**	P	**Pn**	**03 00 36.7**	**+0.6**
	comp=N,1.0nm,0.3s,baz=13,slow=2.9,SNR=19						
EIL				S	**Sn**	**03 02 18.0**	**-3.2**
	comp=N,4.5nm,0.3s,baz=78,slow=15,SNR=15						
EIL	**Elat**	**9.51**	**133**	Pn	**Pn**	**03 00 35.7**	**-0.4**
EIL				Sn	**Sn**	**03 02 16.8**	**-4.4**
GRB	**Gharib**	**9.53**	**148**	P	**Pn**	**03 00 38.3**	**+1.9**
	baz=149						
TR2	**Tor 2**	**9.86**	**143**	P	**Pn**	**03 00 41.4**	**+0.7**
	baz=145						
HKAT	**Jabal Katrina**	**9.88**	**141**	P	**Pn**	**03 00 42.3**	**+1.1**
	baz=143						
VAE	**Valguarnera**	**10.13**	**279**	P	**Pn**	**03 00 43.8**	**-0.6**
	comp=N,0.7nm,0.3s,baz=121,slow=5.2,SNR=6.5						
VAE				S	Sn	03 02 26.8	-10
	comp=N,1.5nm,0.3s,baz=351,slow=19,SNR=1.9						
RAFF	**Raffo Rosso**	**10.17**	**278**	Pn	**Pn**	**03 00 42.6**	**-2.2**
SGRT	**San Giovanni R**	**10.22**	**304**	Pn	**Pn**	**03 00 43.5**	**-2.0**
HHRG	**Al Ghardaqah**	**10.78**	**147**	P	**Pn**	**03 00 57.5**	**+4.4**
	baz=149						
NRCA	**Norcia**	**12.44**	**305**	Pn	**Pn**	**03 01 15.3**	**+0.4**
AKASG	**Malin Array Be**	**14.30**	**6**	P	**P**	**03 01 41.3**	**-0.5**
	comp=N,2.7nm,0.3s,baz=195,slow=11,SNR=25						
AKASG	**Malin Array Be**	**14.30**	**6**	P	**P**	**03 01 40.6**	**-1.2**
AKBB	**Malin Array Si**	**14.30**	**6**	P	**P**	**03 01 41.7**	**-0.1**
GNI	**Garni**	**14.39**	**70**	P	**P**	**03 01 42.1**	**-0.9**
	comp=N,0.1nm,0.3s,baz=250,slow=22,SNR=3.8						
GERES	**GERESS Array B**	**15.74**	**326**	P	**P**	**03 01 57.5**	**-0.3**
	comp=N,0.1nm,0.3s,baz=144,slow=11,SNR=6.5						
GERES	**GERESS Array B**	**15.74**	**326**	Pn	**Pn**	**03 01 56.0**	**-0.6**
SENIN	**Lac Senin/Sane**	**17.74**	**310**	P	**Pn**	**03 02 21.8**	**+0.8**
PABE	**Paberze**	**19.14**	**355**	P	**P**	**03 02 35.1**	**+0.1**
PABE				IAmb	IAmb	03 02 45.9	
	comp=Z,24nm,1.2s						
FINES	**FINESS Array B**	**24.99**	**359**	P	**P**	**03 03 32.4**	**-0.9**
	comp=Z,2.2nm,0.4s,baz=147,slow=11,SNR=23						
FINES	**FINESS Array B**	**24.99**	**359**	P	**P**	**03 03 32.3**	**-1.0**
FIA1	**FINESS Array S**	**24.99**	**359**	P	**P**	**03 03 33.0**	**-0.4**
FIA1				IAmb	IAmb	03 03 38.7	
	comp=Z,22nm,1.2s						
HFS	**Hagfors**	**25.17**	**344**	P	**P**	**03 03 34.9**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=150,slow=11,SNR=23						
NC602	**NORSAR Array S**	**26.20**	**343**	P	**P**	**03 03 46.0**	**+1.7**
NOA	**NORSAR Array B**	**26.55**	**343**	P	**P**	**03 03 47.7**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=157,slow=10,SNR=2.7						
TORD	**Torodi Ar. Bea**	**32.49**	**231**	P	**P**	**03 04 41.1**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=30,slow=8.5,SNR=4.9						
ARCES	**ARCESS Array B**	**33.12**	**359**	P	**P**	**03 04 43.9**	**-1.5**
	comp=Z,5.0nm,1.1s,baz=179,slow=8.2,SNR=9.5						
ARCES	**ARCESS Array B**	**33.12**	**359**	P	**P**	**03 04 44.7**	**-0.7**
ARCES				IAmb	IAmb	03 04 59.9	
	comp=Z,13nm,1.2s						
KURBB	**Kurchatov Arra**	**39.12**	**52**	P	**P**	**03 05 37.6**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=271,slow=8.8,SNR=4.2						
MK31	**Makanchi Array**	**41.79**	**58**	P	**P**	**03 05 59.0**	**+0.4**
MK31				IAmb	IAmb	03 06 11.0	
	comp=Z,4.3nm,1.5s						
MKAR	**Makanchi Array**	**41.79**	**58**	P	**P**	**03 06 00.1**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=265,slow=9.0,SNR=8.6						
MKAR	**Makanchi Array**	**41.79**	**58**	P	**P**	**03 05 59.9**	**+1.3**
ZALV	**Zalesovo Beam**	**43.00**	**47**	P	**P**	**03 06 08.4**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=271,slow=8.5,SNR=4.1						
ZALV				LR	LR	03 26 17.9	
	comp=Z,56nm,21.0s,baz=309,slow=39						
ZALV	**Zalesovo Beam**	**43.00**	**47**	P	**P**	**03 06 09.0**	**+0.8**
SONM	**Songino Array**	**57.48**	**52**	P	**P**	**03 07 59.1**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=306,slow=6.5,SNR=1.5						

*WEL **04** 03:04:39.9±0.9, 32°.5S±15°.×17°.8W±3°.7, h133km±46km,*
M4.6/10, mB4.9/7, MLv4.9/10, Mw(mB)4.2/7, Error ellipse:
s-maj=0.1km s-min=0.0km az=112.2
*NEIC **04** 03:04:39.9±1.6, 33°.44S±0°.06×178°.2W±0°.2, h10km±2km,*
mb4.6/9, Error ellipse: s-maj=34.6km s-min=10.4km
az=88.0
*IDC **04** 03:04:47.1±4.7, 33°.03S×178°.34W, h61km±37km, mb4.0/4,*
mb1 4.2/7, mb1mx3.8/31, mbtmp4.3/7, ML4.3/3, MS3.9/9,
Ms1 4.0/9, ms1mx3.4/57, Error ellipse: s-maj=35.2km
s-min=30.8km az=70.0

ISC 04 03:04:42.2±0.9, **32°.73S**±0°.07×**177°.9W**±0°.2, **h35**km, **n62,**
σ1§**86**/70, **mb4.6**/8, **MS3.9**/8, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.46**	**360**	P	**Pn**	**03 05 29.5**	**-4.0**
GLKZ				S	**Sn**	**03 06 08.0**	**-5.3**
RAO	**Raoul Island**	**3.47**	**360**	Pn	Pn	03 05 43.5	+10
MXZ	**Matakaoa Point**	**5.73**	**212**	P	**Pn**	**03 06 04.6**	**-0.1**
MXZ				S	**Sn**	**03 07 08.7**	**-0.5**
WMGZ	**Waiomatatini S**	**5

comp=Z,0.8nm,0.5s,baz=109,slow=1.8,SNR=5.8
BRTR PKPab **PKPab 03 24 51.1 +0.7**
comp=Z,2.7nm,0.8s,baz=124,slow=3.1,SNR=8.0
BRTR Keskin Array B 153.70 294 PKPbc **PKPbc 03 24 36.3 -1.2**
TORD Torodi Ar. Bea 160.50 179 PKPab **PKPab 03 25 21.2 +1.3**
comp=Z,1.0nm,0.9s,baz=177,slow=4.1,SNR=4.7

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*MOS **04** 03:05:44.9±0.9,26°.49N×55°.38E,h11km,mb4.4/25, Error ellipse: s-maj=9.2km s-min=6.6km az=90.7*
*DSN **04** 03:05:46.3±1.3,26°.79N×55°.58E,h10km,ML4.3/10, Error ellipse: s-maj=16.9km s-min=3.4km az=32.0*
*TEH **04** 03:05:47.9,26°.61N×55°.47E,h20km,ML4.2*
*NEIC **04** 03:05:48.1±2.0,26°.61N±0°.02×55°.45E±0°.05,h10km±1km, mb4.4/41,mb_Lg4.2(TEH), Error ellipse: s-maj=8.0km s-min=3.6km az=73.0*
*OMAN **04** 03:05:48.5±1.2,26°.79N×55°.63E,h25km±5km,mb5.4/1, ml4.1/15, Error ellipse: s-maj=16.1km s-min=8.1km az=11.0*
*IDC **04** 03:05:51.4±1.5,26°.58N×55°.44E,h44km±16km,mb3.8/28, mb1 3.9/34,mb1mx3.8/50,mbtmp4.1/34,ML3.5/6,MS3.5/5, Ms1 3.5/5,ms1mx3.0/85, Error ellipse: s-maj=12.5km s-min=9.6km az=36.0*
ISC 04 03:05:47.7±1.2,26°.60N±0°.03×55°.42E±0°.03,h13km±7km, n309,σ1§18/313,mb4.2/62,MS3.3/3,5C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHME	**Shamm**	**0.85**	**130**	*e*Pg	**Pg**	**03 06 02.1**	**-2.0**
SHME	**Shamm**	**0.85**	**130**	P	**Pb**	**03 06 05.2**	**+0.9**
	SNR=26						
SHME				S	**Sn**	**03 06 19.0**	**+1.4**
	SNR=96						
SHME	**Shamm**	**0.85**	**130**	Pg	**Pg**	**03 06 02.1**	**-2.0**
SHME	**Shamm**	**0.85**	**130**	*e*P	**Pg**	**03 06 02.5**	**-1.7**
	SNR=29						
SHME				S	**Sb**	**03 06 16.5**	**+0.9**
BANOM	**Banah**	**1.04**	**130**	*e*Pg	**Pb**	**03 06 08.0**	**+0.5**
BANOM	**Banah**	**1.04**	**130**	P	**Pg**	**03 06 07.0**	**-0.8**
	SNR=612						
BANOM	**Banah**	**1.04**	**130**	*e*P	**Pg**	**03 06 07.2**	**-0.6**
	SNR=644						
BANOM				S	**Sb**	**03 06 21.9**	**+0.8**
GENO	**Geno**	**1.05**	**40**	*e*		03 06 25.4	
	comp=Z,89μm,0.4s						
GENO				*e*Pg	**Pg**	**03 06 06.9**	**-1.0**
UMQ	**Umm Al-Quwin**	**1.09**	**168**	*e*Pg	**Pn**	**03 06 10.4**	**+1.8**
UMQ	**Umm Al-Quwin**	**1.09**	**168**	P	**Pn**	**03 06 10.1**	**+1.5**
	SNR=23						
UMQ	**Umm Al-Quwin**	**1.09**	**168**	*e*P	**Pn**	**03 06 09.7**	**+1.1**
	SNR=14						
IBND	**Bandar-abas**	**1.31**	**50**	*e*Pg	**Pb**	**03 06 12.1**	**-0.1**
IBND				*e*		03 06 39.9	
	comp=Z,10μm,0.4s						
MASF	**Masafi**	**1.39**	**151**	P	**Pb**	**03 06 14.2**	**+0.7**
	SNR=110						
MASF				S	**Sg**	**03 06 33.2**	**+0.6**
MSFE	**Esma-Masafi**	**1.40**	**151**	*e*Pn	**Pn**	**03 06 14.0**	**+1.0**
MSFE	**Esma-Masafi**	**1.40**	**151**	Pn	**Pn**	**03 06 14.0**	**+1.0**
MSFE	**Esma-Masafi**	**1.40**	**151**	*e*P	**Pn**	**03 06 13.9**	**+0.9**
	SNR=94						
LAR1	**LAR**	**1.41**	**319**	*e*Pg	**Pb**	**03 06 14.1**	**+0.1**
LAR1				*e*		03 06 47.7	
	comp=Z,52μm,0.8s						
LAR1	**LAR**	**1.41**	**319**		**Pb**	**03 06 14.1**	**+0.1**
NAZ	**Nazwa, Dubai**	**1.62**	**172**	*e*Pn	**Pb**	**03 06 18.2**	**+0.8**
NAZ	**Nazwa, Dubai**	**1.62**	**172**	P	**Pb**	**03 06 18.4**	**+1.0**
	SNR=19						
NAZ	**Nazwa, Dubai**	**1.62**	**172**	*e*P	**Pb**	**03 06 17.7**	**+0.3**
	SNR=51						
UOSS	**Minazif**	**1.79**	**156**	*e*Pn	**Pn**	**03 06 19.3**	**+1.0**
UOSS	**Minazif**	**1.79**	**156**	P	**Pb**	**03 06 20.8**	**+0.5**
UOSS				S	**Sb**	**03 06 43.1**	**+0.3**
UOSS	**Minazif**	**1.79**	**156**	Pn	**Pn**	**03 06 18.9**	**+0.6**
UOSS	**Minazif**	**1.79**	**156**	*e*P	**Pn**	**03 06 19.3**	**+1.0**
	SNR=91						
FAQ	**Al Faqa, Dubai**	**1.85**	**175**	*e*Pn	**Pb**	**03 06 21.0**	**-0.3**
FAQ	**Al Faqa, Dubai**	**1.85**	**175**	P	**Pb**	**03 06 21.1**	**-0.3**
	SNR=23						
FAQ	**Al Faqa, Dubai**	**1.85**	**175**	*e*P	**Pb**	**03 06 21.1**	**-0.3**
	SNR=23						
HATD	**Hatta, Dubai**	**1.88**	**160**	*e*Pn	**Pn**	**03 06 21.1**	**+1.6**
HATD	**Hatta, Dubai**	**1.88**	**160**	P	**Pn**	**03 06 21.0**	**+1.6**
	SNR=24						
HATD	**Hatta, Dubai**	**1.88**	**160**	Pn	**Pn**	**03 06 21.0**	**+1.6**
HATD	**Hatta, Dubai**	**1.88**	**160**	*e*P	**Pb**	**03 06 21.5**	**-0.4**
	SNR=26						
ASUD	**Al Ashush, Dub**	**1.96**	**182**	*e*Pn	**Pb**	**03 06 23.2**	**0.0**
ASUD	**Al Ashush, Dub**	**1.96**	**182**	P	**Pb**	**03 06 23.3**	**0.0**
	SNR=48						
ASUD	**Al Ashush, Dub**	**1.96**	**182**	Pn	**Pb**	**03 06 23.1**	**-0.2**
ASUD	**Al Ashush, Dub**	**1.96**	**182**	*e*P	**Pb**	**03 06 23.3**	**0.0**
	SNR=48						
AJN	**Ajban**	**2.06**	**191**	*e*Pn	**Pn**	**03 06 23.9**	**+1.9**
AJN	**Ajban**	**2.06**	**191**	P	**Pn**	**03 06 24.2**	**+2.2**
AJN	**Ajban**	**2.06**	**191**	P	**Pn**	**03 06 23.7**	**+1.7**
LMD1	**Lamerd**	**2.14**	**291**	*e*Pn	**Pb**	**03 06 26.7**	**+0.4**
LMD1				*e*		03 07 22.8	
	comp=Z,12μm,0.6s						
LMD1	**Lamerd**	**2.14**	**291**	Pn	**Pb**	**03 06 26.6**	**+0.3**
KHNJ	**Kahnooj**	**2.44**	**56**	*e*Pn	**Pn**	**03 06 27.0**	**-0.3**
KHNJ	**Kahnooj**	**2.44**	**56**	Pn	**Pn**	**03 06 26.9**	**-0.3**
JHRM	**Jahrom**	**2.50**	**320**	*e*Pn	**Pn**	**03 06 29.3**	**+1.1**
JHRM	**Jahrom**	**2.50**	**320**	Pn	**Pn**	**03 06 29.2**	**+1.1**
ALNE	**Al Ain**	**2.55**	**173**	*e*Pn	**Pn**	**03 06 30.4**	**+1.7**
ALNE	**Al Ain**	**2.55**	**173**	Pn	**Pn**	**03 06 30.4**	**+1.7**
GHIR	**Ghir-Karzin**	**2.74**	**308**	*e*Pn	**Pn**	**03 06 32.2**	**+0.8**
GHIR	**Ghir-Karzin**	**2.74**	**308**	Pn	**Pn**	**03 06 32.1**	**+0.7**
QIR1	**Qir**	**2.82**	**312**	*e*Pn	**Pn**	**03 06 33.8**	**+1.4**
QIR1				*e*		03 07 59.1	
	comp=Z,9μm,0.5s						
MZWR	**Madinat Zayed**	**3.15**	**207**	*e*Pn	**Pn**	**03 06 37.7**	**+0.8**
NGRK	**Negar Kerman**	**3.25**	**21**	*e*Pn	**Pn**	**03 06 39.9**	**+1.2**
NGRK				*e*		03 07 36.9	
	comp=Z,3μm,0.4s						
NGRK	**Negar Kerman**	**3.25**	**21**	Pn	**Pn**	**03 06 39.8**	**+1.1**
HOQ	**Hoqain**	**3.46**	**150**	P	**Pn**	**03 06 40.0**	**-1.2**
	SNR=15						
GHWR	**Ruwais**	**3.49**	**222**	*e*Pn	**Pn**	**03 06 42.7**	**+1.1**
KRBR	**Kerman**	**3.57**	**19**	*e*Pn	**Pn**	**03 06 44.5**	**+1.4**
KRBR	**Kerman**	**3.57**	**19**	Pn	**Pn**	**03 06 44.5**	**+1.4**
TVBK	**TV Kerman**	**3.58**	**19**	*e*Pn	**Pn**	**03 06 44.2**	**+1.0**
TVBK				*e*		03 07 35.2	
	comp=Z,4μm,0.6s						
TVBK	**TV Kerman**	**3.58**	**19**	Pn	**Pn**	**03 06 44.2**	**+1.0**
KBAM	**BAM**	**3.69**	**46**	*e*Pn	**Pn**	**03 06 46.3**	**+1.8**
CHMN	**Cheshme madani**	**3.75**	**29**	*e*Pn	**Pn**	**03 06 47.5**	**+1.9**
CHMN				*e*		03 08 06.2	
	comp=Z,2μm,0.6s						
CHMN	**Cheshme madani**	**3.75**	**29**	Pn	**Pn**	**03 06 47.5**	**+1.9**
UMZA	**Um Al Zommool**	**3.87**	**183**	*e*Pn	**Pn**	**03 06 48.2**	**+1.3**
KHGB	**Koh Gabri**	**3.88**	**14**	*e*Pn	**Pn**	**03 06 48.5**	**+1.3**
KHGB				*e*		03 07 49.5	
	comp=Z,2μm,0.5s						
KHGB	**Koh Gabri**	**3.88**	**14**	Pn	**Pn**	**03 06 48.4**	**+1.3**
BIDO	**Bidbid**	**3.93**	**141**	*e*Pn	**Pn**	**03 06 48.2**	**+0.5**
BIDO	**Bidbid**	**3.93**	**141**	P	**Pn**	**03 06 48.0**	**+0.3**
	SNR=5.1						
BIDO	**Bidbid**	**3.93**	**141**	Pn	**Pn**	**03 06 48.1**	**+0.4**
BSY	**Bisya**	**4.17**	**157**	P	**Pn**	**03 06 52.4**	**+1.5**
	SNR=6.3						
SMDO	**Samad**	**4.26**	**145**	P	**Pn**	**03 06 54.0**	**+1.7**
	SNR=12						
SMDO				S	**Sn**	**03 07 42.6**	**+0.7**
WSAR	**Wadi Sarin**	**4.44**	**138**	P	**Pn**	**03 06 55.8**	**+1.1**
	comp=Z,3.8nm,0.3s,baz=323,slow=9.4,SNR=31						
WSAR				S	**Sn**	**03 07 45.9**	**-0.3**
	comp=Z,6.4nm,0.3s,baz=270,slow=20,SNR=6.1						
CHBR	**Chabahar**	**4.66**	**101**	*e*Pn	**Pn**	**03 06 58.2**	**+0.4**
CHBR	**Chabahar**	**4.66**	**101**	Pn	**Pn**	**03 06 58.2**	**+0.4**
IMEH	**Mehriz**	**4.83**	**352**	*e*Pn	**Pn**	**03 07 01.9**	**+1.7**
IMEH	**Mehriz**	**4.83**	**352**	Pn	**Pn**	**03 07 01.8**	**+1.6**
JMDO	**Jabal Madar**	**4.87**	**149**	P	**Pn**	**03 07 01.6**	**+1.0**
	SNR=31						
JMDO				S	**Sn**	**03 07 56.9**	**0.0**
WBK	**Wadi Bani Khal**	**5.12**	**140**	P	**Pn**	**03 07 04.2**	**+0.1**
	SNR=41						
WBK				S	**Sn**	**03 08 04.5**	**+1.4**
NGCH	**Negor - Chabah**	**5.29**	**102**	*e*Pn	**Pn**	**03 07 07.2**	**+0.8**
NGCH	**Negor - Chabah**	**5.29**	**102**	Pn	**Pn**	**03 07 07.1**	**+0.7**
ZHDN	**Zahedan**	**5.53**	**58**	*e*Pn	**Pn**	**03 07 10.4**	**+0.6**
ZHDN	**Zahedan**	**5.53**	**58**	Pn	**Pn**	**03 07 10.3**	**+0.5**
KLNJ	**Kolanjah**	**5.53**	**324**	*e*Pn	**Pn**	**03 07 10.7**	**+0.7**
KLNJ	**Kolanjah**	**5.53**	**324**	Pn	**Pn**	**03 07 10.6**	**+0.6**
ZHSF	**Zahedan**	**5.61**	**56**	*e*Pn	**Pn**	**03 07 12.4**	**+1.5**
ZHSF	**Zahedan**	**5.61**	**56**	Pn	**Pn**	**03 07 12.4**	**+1.5**
ICHK	**Chekchek**	**5.70**	**351**	*e*Pn	**Pn**	**03 07 13.4**	**+1.2**
ICHK	**Chekchek**	**5.70**	**351**	Pn	**Pn**	**03 07 13.3**	**+1.1**
JLN	**Jalan Bani Buh**	**5.73**	**140**	P	**Pn**	**03 07 12.0**	**-0.5**
	SNR=16						
YZKH	**Yazd**	**5.82**	**353**	*e*Pn	**Pn**	**03 07 15.3**	**+1.5**
YZKH	**Yazd**	**5.82**	**353**	Pn	**Pn**	**03 07 15.2**	**+1.5**
IRAM	**Ramesheh**	**5.83**	**334**	*e*Pn	**Pn**	**03 07 15.0**	**+1.0**
IRAM	**Ramesheh**	**5.83**	**334**	Pn	**Pn**	**03 07 15.0**	**+1.0**
BSRN	**Basiran**	**6.25**	**30**	*e*Pn	**Pn**	**03 07 21.8**	**+2.0**
BSRN	**Basiran**	**6.25**	**30**	Pn	**Pn**	**03 07 21.7**	**+2.0**
NHDN	**Nehbandan**	**6.27**	**39**	*e*Pn	**Pn**	**03 07 20.9**	**+0.9**
NHDN	**Nehbandan**	**6.27**	**39**	Pn	**Pn**	**03 07 20.8**	**+0.8**
SRVN	**Saravan**	**6.28**	**81**	*e*Pn	**Pn**	**03 07 20.8**	**+0.6**
SRVN	**Saravan**	**6.28**	**81**	Pn	**Pn**	**03 07 20.7**	**+0.6**
IBRJ	**Brojen**	**6.42**	**327**	*e*Pn	**Pn**	**03 07 23.1**	**+0.9**
IBRJ	**Brojen**	**6.42**	**327**	Pn	**Pn**	**03 07 23.0**	**+0.9**
IGAR	**Garneh**	**6.49**	**334**	*e*Pn	**Pn**	**03 07 24.2**	**+1.1**
IGAR	**Garneh**	**6.49**	**334**	Pn	**Pn**	**03 07 24.2**	**+1.1**
TPRV	**Parvadeh(Tabas**	**6.50**	**9**	*e*Pn	**Pn**	**03 07 25.0**	**+1.9**
TPRV	**Parvadeh(Tabas**	**6.50**	**9**	Pn	**Pn**	**03 07 25.0**	**+1.9**
NASN	**Na'in**	**6.58**	**340**	*e*Pn	**Pn**	**03 07 25.4**	**+1.0**
NASN	**Na'in**	**6.58**	**340**	Pn	**Pn**	**03 07 25.3**	**+0.9**
IKOO	**Kooshah**	**6.59**	**27**	*e*Pn	**Pn**	**03 07 26.6**	**+2.0**
IKOO	**Kooshah**	**6.59**	**27**	Pn	**Pn**	**03 07 26.5**	**+2.0**
ANAR	**Anarak**	**6.73**	**348**	*e*Pn	**Pn**	**03 07 26.9**	**+0.6**
ANAR	**Anarak**	**6.73**	**348**	Pn	**Pn**	**03 07 26.9**	**+0.6**
IZEF	**Zefreh**	**6.83**	**338**	*e*Pn	**Pn**	**03 07 27.8**	**0.0**
IZEF	**Zefreh**	**6.83**	**338**	Pn	**Pn**	**03 07 27.7**	**0.0**
ITEG	**Tejag**	**6.91**	**24**	*e*Pn	**Pn**	**03 07 30.8**	**+2.0**
ITEG	**Tejag**	**6.91**	**24**	Pn	**Pn**	**03 07 30.8**	**+2.0**
SHK1	**Shahrekord**	**6.94**	**326**	*e*Pn	**Pn**	**03 07 29.0**	**-0.3**
TKDS	**Koohdasht(Taba**	**7.15**	**12**	*e*Pn	**Pn**	**03 07 33.3**	**+1.3**
TKDS	**Koohdasht(Taba**	**7.15**	**12**	Pn	**Pn**	**03 07 33.3**	**+1.3**
TABS	**Tabas**	**7.18**	**11**	*e*Pn	**Pn**	**03 07 33.9**	**+1.5**
TABS	**Tabas**	**7.18**	**11**	Pn	**Pn**	**03 07 33.8**	**+1.4**
IPIR	**Pirpir**	**7.23**	**328**	*e*Pn	**Pn**	**03 07 34.1**	**+0.8**
IPIR	**Pirpir**	**7.23**	**328**	Pn	**Pn**	**03 07 34.1**	**+0.8**
AMIS	**Naft Sefid**	**7.36**	**315**	*e*Pn	**Pn**	**03 07 34.8**	**-0.1**
TNSJ	**Nastanj**	**7.41**	**8**	*e*Pn	**Pn**	**03 07 36.5**	**+0.9**
TNSJ	**Nastanj**	**7.41**	**8**	Pn	**Pn**	**03 07 36.5**	**+0.9**
IKLH	**Kolahrood**	**7.48**	**335**	*e*Pn	**Pn**	**03 07 36.4**	**-0.3**
IKLH	**Kolahrood**	**7.48**	**335**	Pn	**Pn**	**03 07 36.4**	**-0.3**
AFRZ	**Afriz**	**7.49**	**24**	*e*Pn	**Pn**	**03 07 38.8**	**+2.1**
AFRZ	**Afriz**	**7.49**	**24**	Pn	**Pn**	**03 07 38.7**	**+2.1**
KRSH	**Karshahi**	**7.88**	**340**	*e*Pn	**Pn**	**03 07 42.5**	**+0.5**
KRSH	**Karshahi**	**7.88**	**340**	Pn	**Pn**	**03 07 42.5**	**+0.5**
QAMS	**Qamsar**	**7.92**	**335**	*e*Pn	**Pn**	**03 07 43.1**	**+0.4**
QAMS	**Qamsar**	**7.92**	**335**	Pn	**Pn**	**03 07 43.1**	**+0.4**
SHRT	**Shahrakht**	**8.19**	**30**	*e*Pn	**Pn**	**03 07 48.6**	**+2.2**
SHRT	**Shahrakht**	**8.19**	**30**	Pn	**Pn**	**03 07 48.5**	**+2.2**
ISFB	**Sefidab**	**8.20**	**341**	*e*Pn	**Pn**	**03 07 46.9**	**+0.5**
ISFB	**Sefidab**	**8.20**	**341**	Pn	**Pn**	**03 07 46.8**	**+0.4**
KHMZ	**Khomeyn**	**8.54**	**328**	*e*Pn	**Pn**	**03 07 51.6**	**+0.4**
KHMZ	**Khomeyn**	**8.54**	**328**	Pn	**Pn**	**03 07 51.6**	**+0.4**
GHVR	**GHOM**	**8.62**	**337**	*e*Pn	**Pn**	**03 07 53.7**	**+1.5**
GHVR	**GHOM**	**8.62**	**337**	Pn	**Pn**	**03 07 53.6**	**+1.4**
IANJ	**Anjilo**	**8.94**	**352**	*e*Pn	**Pn**	**03 07 57.3**	**+0.6**
IANJ	**Anjilo**	**8.94**	**352**	Pn	**Pn**	**03 07 57.2**	**+0.6**
ASAO	**Ashtian**	**9.18**	**331**	*e*Pn	**Pn**	**03 08 00.7**	**+0.6**
ASAO	**Ashtian**	**9.18**	**331**	Pn	**Pn**	**03 08 00.6**	**+0.5**
ISHM	**Shahmirzad**	**9.36**	**349**	*e*Pn	**Pn**	**03 08 03.6**	**+1.1**
ISHM	**Shahmirzad**	**9.36**	**349**	Pn	**Pn**	**03 08 03.5**	**+1.1**
SHRO	**Shahrood**	**9.38**	**3**	*e*Pn	**Pn**	**03 08 00.7**	**-1.9**
SHRO	**Shahrood**	**9.38**	**3**	Pn	**Pn**	**03 08 00.6**	**-2.0**
DAMV	**Damavand**	**9.47**	**343**	*e*Pn	**Pn**	**03 08 04.9**	**+0.8**
DAMV	**Damavand**	**9.47**	**343**	Pn	**Pn**	**03 08 04.9**	**+0.8**
RAYN	**Ar Rayn**	**9.49**	**253**	P	**Pn**	**03 08 02.6**	**-1.6**
RAYN	**Ar Rayn**	**9.49**	**253**	Pn	**Pn**	**03 08 02.6**	**-1.6**
IDOB	**Doab**	**9.51**	**321**	*e*Pn	**Pn**	**03 08 05.2**	**+0.6**
IDOB	**Doab**	**9.51**	**321**	Pn	**Pn**	**03 08 05.2**	**+0.6**
IKFM	**Kafar-mosalman**	**9.52**	**318**	*e*Pn	**Pn**	**03 08 04.6**	**+0.2**
IKFM	**Kafar-mosalman**	**9.52**	**318**	Pn	**Pn**	**03 08 04.6**	**+0.2**
HSAM	**Samen**	**9.60**	**324**	*e*Pn	**Pn**	**03 08 05.2**	**-0.6**
HSAM	**Samen**	**9.60**	**324**	Pn	**Pn**	**03 08 05.1**	**-0.7**
HRA	**Herat**	**9.74**	**36**	Pn	**Pn**	**03 08 07.4**	**-0.2**
HAGD	**Aghdareh**	**9.81**	**328**	*e*Pn	**Pn**	**03 08 08.6**	**-0.1**
HAGD	**Aghdareh**	**9.81**	**328**	Pn	**Pn**	**03 08 08.6**	**-0.1**
IGLO	**Ghaloghah**	**9.97**	**353**	*e*Pn	**Pn**	**03 08 12.9**	**+2.1**
IGLO	**Ghaloghah**	**9.97**	**353**	Pn	**Pn**	**03 08 12.9**	**+2.1**
QALM	**Alamut, Qazvin**	**10.61**	**339**	*e*Pn	**Pn**	**03 08 20.1**	**+0.5**
QALM	**Alamut, Qazvin**	**10.61**	**339**	Pn	**Pn**	**03 08 20.1**	**+0.5**
IGHG	**Ghaleghazi**	**10.84**	**317**	*e*Pn	**Pn**	**03 08 21.1**	**-1.7**
IGHG	**Ghaleghazi**	**10.84**	**317**	Pn	**Pn**	**03 08 21.1**	**-1.7**
IDHR	**Dehrash**	**11.20**	**318**	*e*Pn	**Pn**	**03 08 26.5**	**-1.2**
IDHR	**Dehrash**	**11.20**	**318**	Pn	**Pn**	**03 08 26.5**	**-1.2**
GEYT	**Alibeck**	**11.53**	**11**	LR	LR	03 13 50.9	
	comp=Z,266nm,20.1s,baz=212,slow=42						
KBL	**Kabul**	**14.15**	**53**	P	**Pn**	**03 09 08.3**	**+0.3**
KBL	**Kabul**	**14.15**	**53**	Pn	**Pn**	**03 09 08.3**	**+0.3**
SOCY	**Socotra**	**14.40**	**186**	Pn	Pn	03 09 07.2	-4.2
SIRT	**Sirnak**	**15.45**	**318**	Pn	**Pn**	**03 09 20.1**	**-5.3**
GNI	**Garni**	**16.17**	**329**	P	**P**	**03 09 37.4**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=201,slow=3.7,SNR=7.2						
GNI	**Garni**	**16.17**	**329**	P	**P**	**03 09 38.6**	**+0.6**
GNI				pmax	pmax		
	comp=Z,30nm,1.1s						
GNI	**Garni**	**16.17**	**329**	P	**P**	**03 09 38.6**	**+0.6**
GNI				IAmb	IAmb	03 09 51.0	
	comp=Z,30nm,1.1s						
GURO	**Guroymak-BITLI**	**16.39**	**320**	P	**Pn**	**03 09 36.0**	**-1.5**
CHGR	**Chuyangaron**	**16.67**	**40**	P	**Pn**	**03 09 40.5**	**-0.5**
ASF	**Jabal al Asfar**	**17.06**	**293**	P	**P**	**03 09 49.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=2.0						
EIL	**Elat**	**18.31**	**284**	P	**P**	**03 10 03.9**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=103,slow=14,SNR=1.7						
MMAI	**Mount Meron Ar**	**18.50**	**295**	P	**Pn**	**03 10 05.4**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=96,slow=13,SNR=2.3						
BTK	**Batken**	**18.56**	**40**	P	**P**	**03 10 04.3**	**0.0**
BTK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BTK	**Batken**	**18.56**	**40**	P	**P**	**03 10 04.3**	**0.0**
DRK	**Karamyk**	**18.77**	**43**	P	**Pn**	**03 10 07.7**	**+0.5**
ATD	**Arta Tunnel**	**19.10**	**221**	LR	LR	03 19 00.5	
	comp=Z,145nm,18.8s,baz=47,slow=41						
KBZ	**Khabaz**	**19.88**	**332**	P	**Pn**	**03 10 20.6**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=142,slow=5.3,SNR=26						
KBZ	**Khabaz**	**19.88**	**332**	*i* P	**Pn**	**03 10 19.9**	**-0.3**
SHA1	**Shidzhatmaz**	**19.99**	**332**	*i* P	**Pn**	**03 10 22.0**	**+0.2**
PYA1	**Pyatigorsk**	**20.08**	**333**	*i* P	**P**	**03 10 21.6**	**+0.8**
KIV	**Kislovodsk**	**20.15**	**332**	*i* P	**P**	**03 10 22.7**	**+1.0**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
KIV	**Kislovodsk**	**20.15**	**332**	P	**P**	**03 10 22.4**	**+0.7**
KIV				IAmb	IAmb	03 10 39.3	
	comp=Z,31nm,1.1s						
BNN	**Bunyan**	**20.45**	**312**	P	Pn	03 10 26.7	-0.5
KKAR	**Karatay Array**	**20.55**	**33**	P	**P**	**03 10 26.5**	**+0.6**
KKAR	**Karatay Array**	**20.55**	**33**	P	**P**	**03 10 26.5**	**+0.6**
TOKA	**Tokat**	**20.85**	**316**	P	Pn	03 10 31.9	+0.3
TOKA				IAmb	IAmb	03 10 34.5	
	comp=Z,21nm,1.4s						
GOF	**Gofitskoye**	**20.93**	**335**	*e*P	Pn	03 10 32.6	+0.1
KSH	**Kashi**	**21.45**	**48**	P	**P**	**03 10 30.2**	**-5.6**
KSH				pP	pP	03 10 34.5	-5.1
KSH				sP	sP	03 10 36.6	-4.8
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**22.34**	**39**	P	**P**	**03 10 46.6**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=230,slow=7.3,SNR=6.6						
AAK	**Ala-Archa**	**22.34**	**39**	*e*P	**P**	**03 10 44.7**	**-0.6**
AAK				pmax	pmax		
	comp=Z,21nm,1.7s						
AAK	**Ala-Archa**	**22.34**	**39**	P	**P**	**03 10 45.3**	**-0.1**
BRTR	**Keskin Array B**	**22.37**	**311**	P	**P**	**03 10 46.5**	**+0.8**
	comp=Z,4.0nm,0.9s,baz=136,slow=13,SNR=16						
BRTR	**Keskin Array B**	**22.37**	**311**	P	**P**	**03 10 46.0**	**+0.3**
BRTR	**Keskin Array B**	**22.37**	**311**	P	**P**	**03 10 46.0**	**+0.3**
BR131	**Keskin Array S**	**22.37**	**311**	P	**P**	**03 10 45.0**	**-0.7**
BR131				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BR131	**Keskin Array S**	**22.37**	**311**	P	**P**	**03 10 45.0**	**-0.7**
BR131				IAmb	IAmb	03 11 01.2	
	comp=Z,9.7nm,0.9s						
ABKAR	**Akbulak array**	**22.89**	**8**	P	**P**	**03 10 50.0**	**-0.9**
ANTO	**Ankara**	**23.01**	**311**	P	**P**	**03 10 52.6**	**+0.2**
ANTO				pmax	pmax		
	comp=Z,18nm,0.8s						
ANTO	**Ankara**	**23.01**	**311**	P	**P**	**03 10 52.6**	**+0.2**
BOOM	**Boomskoye usch**	**23.09**	**41**	P	**P**	**03 10 52.7**	**-0.5**
BOOM				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BOOM	**Boomskoye usch**	**23.09**	**41**	P	**P**	**03 10 52.7**	**-0.5**
KDJ	**Kajisay**	**23.63**	**43**	P	**P**	**03 10 59.7**	**+1.0**
KDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KDJ	**Kajisay**	**23.63**	**43**	P	**P**	**03 10 59.7**	**+1.0**
KDJ				IAmb	IAmb	03 11 26.7	
	comp=Z,5.5nm,0.8s						
TARG	**Taragay, Kyrgy**	**23.80**	**45**	P	**P**	**03 11 01.3**	**+0.8**
TARG				IAmb	IAmb	03 11 05.6	
	comp=Z,10nm,1.4s						
AKTO	**Aktyubinsk**	**23.89**	**4**	P	**P**	**03 11 00.2**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=156,slow=10.0,SNR=10						
AKTO				LR	LR	03 22 21.0	
	comp=Z,110nm,21.1s,baz=239,slow=41						
IDI	**Anoyia**	**27.49**	**296**	P	**P**	**03 11 33.6**	**-0.2**
	comp=Z,8.2nm,0.9s,baz=30,slow=14,SNR=1.3						
BRVK	**Borovoye**	**28.67**	**19**	*i* P	**P**	**03 11 44.5**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,14nm,3.7s						
BVAR	**Borovoye Array**	**28.67**	**19**	P	**P**	**03 11 44.0**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=202,slow=11,SNR=6.9						
BVAR				PcP	**PcP**	**03 14 54.4**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=197,slow=4.2,SNR=6.8						
BVAR				ScP	**ScP**	**03 18 31.7**	**-3.8**
	comp=Z,0.9nm,0.9s,baz=151,slow=3.3,SNR=3.9						
MKAR	**Makanchi Array**	**29.27**	**39**	P	**P**	**03 11 48.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=228,slow=8.8,SNR=7.6						
MKAR				PcP	**PcP**	**03 14 54.9**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=251,slow=3.0,SNR=1.8						
MKAR	**Makanchi Array**	**29.27**	**39**	*ce*P	**P**	**03

BOD	**Bodaibo**	**51.25**	**36**	*e*P	P		03 14 45.7	-5.1
BOD				pmax	pmax			
	comp=Z,7.0nm,1.8s							
XLT	**XiLinHaoTe**	**51.33**	**54**	*e*P	**P**		**03 14 49.3**	**-2.5**
XLT				pP	pP		03 14 53.1	-3.0
XLT				sP	sP		03 14 54.6	-3.1
XLT				pmax	pmax			
	comp=Z,4.0nm,1.1s							
XLT				pmax	pmax			
	comp=Z,150nm,4.5s							
MDT	**Midelt**	**51.91**	**292**	P	**P**		**03 14 57.0**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=97,slow=12,SNR=4.1							
TORD	**Torodi Ar. Bea**	**51.92**	**266**	P	**P**		**03 14 55.9**	**-0.5**
	comp=Z,3.9nm,0.7s,baz=65,slow=7.6,SNR=38							
TORD	**Torodi Ar. Bea**	**51.92**	**266**	P	**P**		**03 14 55.9**	**-0.5**
TORD				IAmb	IAmb		03 14 56.8	
	comp=Z,3.8nm,0.8s							
KOWA	**Kowa**	**56.51**	**270**	P	**P**		**03 15 29.4**	**-0.5**
KOWA				IAmb	IAmb		03 15 30.2	
	comp=Z,3.2nm,0.7s							
LBTB	**Lobatse**	**58.83**	**212**	P	**P**		**03 15 46.4**	**+0.3**
LBTB				pmax	pmax			
	comp=Z,10.0nm,1.4s							
LBTB	**Lobatse**	**58.83**	**212**	P	**P**		**03 15 46.4**	**+0.3**
TIXI	**Tiksi**	**59.79**	**21**	*c*eP	**P**		**03 15 52.0**	**0.0**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.2s							
DBIC	**Dimbokro**	**60.50**	**262**	P	**P**		**03 15 57.1**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=76,slow=5.6,SNR=11							
DBIC	**Dimbokro**	**60.50**	**262**	P	**P**		**03 15 57.0**	**-0.8**
DBIC				pmax	pmax			
	comp=Z,7.0nm,1.4s							
DBIC	**Dimbokro**	**60.50**	**262**	P	**P**		**03 15 57.0**	**-0.8**
DBIC				IAmb	IAmb		03 16 18.5	
	comp=Z,7.4nm,1.4s							
KLR	**Kul'dur**	**61.64**	**46**	*i* P	**P**		**03 16 04.4**	**-0.6**
KLR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BOSA	**Boshof**	**62.06**	**210**	P	**P**		**03 16 07.9**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=20,slow=4.7,SNR=8.7							
BOSA	**Boshof**	**62.06**	**210**	P	**P**		**03 16 07.8**	**-0.3**
BOSA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BOSA	**Boshof**	**62.06**	**210**	P	**P**		**03 16 07.8**	**-0.3**
BOSA				IAmb	IAmb		03 16 25.8	
	comp=Z,2.8nm,1.1s							
SUMG	**Summit**	**66.02**	**341**	P	**P**		**03 16 34.3**	**+0.3**
SUMG				pmax	pmax			
	comp=Z,14nm,1.5s							
SUMG	**Summit**	**66.02**	**341**	*i* P	**P**		**03 16 34.0**	**0.0**
SUMG	**Summit**	**66.02**	**341**	P	**P**		**03 16 34.3**	**+0.3**
BILL	**Bilibino**	**72.98**	**22**	*i* P	**P**		**03 17 14.6**	**-1.9**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
RES	**Resolute Bay**	**77.14**	**352**	P	**P**		**03 17 42.8**	**+2.4**
RES				pmax	pmax			
	comp=Z,3.0nm,1.4s							
RES	**Resolute Bay**	**77.14**	**352**	P	**P**		**03 17 42.8**	**+2.4**
RES				IAmb	IAmb		03 17 56.0	
	comp=Z,2.6nm,1.4s							
TOLK	**Toolik Lake Re**	**83.28**	**9**	P	**P**		**03 18 14.1**	**+0.4**
TOLK				IAmb	IAmb		03 18 40.5	
	comp=Z,5.9nm,1.4s							
COLD	**Coldfoot**	**84.50**	**10**	P	**P**		**03 18 21.6**	**+1.8**
COLD				IAmb	IAmb		03 18 25.3	
	comp=Z,1.7nm,1.0s							
WRA	**Warramunga Arr**	**89.38**	**113**	P	**P**		**03 18 43.7**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=314,slow=4.0,SNR=11							
WRA	**Warramunga Arr**	**89.38**	**113**	P	**P**		**03 18 44.2**	**-0.2**
ASAR	**Alice Springs**	**90.80**	**116**	P	**P**		**03 18 50.1**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=303,slow=4.7,SNR=11							
YKA	**Yellowknife Ar**	**90.86**	**355**	P	**P**		**03 18 49.8**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=0.9,slow=4.9,SNR=7.8							
YKA	**Yellowknife Ar**	**90.86**	**355**	*i* P	**P**		**03 18 50.4**	**-0.2**
YKA	**Yellowknife Ar**	**90.86**	**355**	P	**P**		**03 18 50.7**	**+0.1**

NEIC ***04*** *03:07:02.6±1.3, 15°.45N±0°.06×93°.47W±0°.06, h78km±14km, Md4.1/25(MEX), Error ellipse: s-maj=10.6km s-min=6.0km az=216.0*
MEX ***04*** *03:07:03.3±0.7, 15°.39N×93°.48W, h83km±7km, MD4.1*

ISC 04 03:07:02.9±0.8, 15°.38N±0°.05×93°.50W±0°.04, h73km±10km, n37, σ1°30/55, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.42**	**40**		**Pn**	**03 07 15.2**	**0.0**
PCIG					**Sn**	**03 07 24.7**	**+0.4**
PCIG		**0.42**	**40**	*e*P	**Pn**	**03 07 15.2**	**0.0**
PCIG				*e*S	**Sn**	**03 07 24.7**	**+0.4**
PATR	**El Naranjo**	**1.25**	**102**	*e*P	**Pn**	**03 07 24.0**	**-1.0**
PATR				*e*S	**Sn**	**03 07 40.2**	**-1.3**
THIG		**1.28**	**111**		**Pn**	**03 07 24.3**	**-0.8**
THIG					**Sn**	**03 07 41.4**	**-0.4**
THIG		**1.28**	**111**	*e*P	**Pn**	**03 07 24.3**	**-0.8**
THIG				*e*S	**Sn**	**03 07 41.4**	**-0.4**
PAVE	**Pavencul**	**1.29**	**98**	*e*P	**Pn**	**03 07 24.7**	**-0.8**
PAVE				*e*S	**Sn**	**03 07 41.3**	**-1.0**
CHUJ	**Union Juarez**	**1.37**	**102**	*e*P	**Pn**	**03 07 25.6**	**-0.9**
CHUJ				*e*S	**Sn**	**03 07 43.5**	**-0.8**
TGIG		**1.43**	**15**		**Pn**	**03 07 26.3**	**-0.9**
TGIG					**Sn**	**03 07 43.2**	**-2.2**
TGIG		**1.43**	**15**	*e*P	**Pn**	**03 07 26.3**	**-0.9**
TGIG				*i* S	**Sn**	**03 07 43.2**	**-2.2**
TGBT	**Tuxtla Gutierr**	**1.44**	**16**		**Pn**	**03 07 26.2**	**-1.0**
TGBT					**Sn**	**03 07 43.2**	**-2.3**
TGBT	**Tuxtla Gutierr**	**1.44**	**16**	*e*P	**Pn**	**03 07 26.2**	**-1.0**
TGBT				*e*S	**Sn**	**03 07 43.2**	**-2.3**
CCIG	**Comitan**	**1.59**	**56**		**Pn**	**03 07 28.3**	**-1.0**
CCIG	**Comitan**	**1.59**	**56**	*e*P	**Pn**	**03 07 28.5**	**-0.8**
CCIG				*e*S	**Sn**	**03 07 49.3**	**+0.1**
HUEH	**Huehuetenango**	**1.93**	**92**	Pn	**Pn**	**03 07 32.9**	**-1.0**
RTAL	**Retalhuleu**	**1.94**	**116**	Pn	**Pn**	**03 07 33.6**	**-0.2**
UXUV	**UXUV**	**2.02**	**342**	*e*P	**Pn**	**03 07 35.7**	**+0.7**
UXUV				*i* S	**Sn**	**03 07 56.4**	**-2.9**
CMIG	**Matias Romero**	**2.16**	**322**		**Pn**	**03 07 36.9**	**+0.1**
CMIG					**Sn**	**03 08 03.1**	**+0.5**
CMIG	**Matias Romero**	**2.16**	**322**	*e*P	**Pn**	**03 07 36.9**	**+0.1**
CMIG				*i* S	**Sn**	**03 08 03.1**	**+0.5**
HUIG	**Huatulco**	**2.54**	**279**		**Pn**	**03 07 41.5**	**-0.4**
HUIG					**Sn**	**03 08 08.9**	**-3.0**
HUIG	**Huatulco**	**2.54**	**279**	*e*P	**Pn**	**03 07 41.5**	**-0.4**
HUIG				*i* S	**Sn**	**03 08 08.9**	**-3.0**
VHSA	**Villahermosa**	**2.64**	**12**	*i* S	**Sn**	**03 08 14.9**	**+0.7**
NEUV	**Arroyo Zacate**	**3.20**	**317**	*i* P	**Pn**	**03 07 51.5**	**+0.6**
NEUV				*i* S	**Sn**	**03 08 28.3**	**+0.4**
PETF	**Flores**	**3.81**	**66**	Pn	**Pn**	**03 07 57.8**	**-1.4**
MTO3	**Montecristo**	**4.12**	**103**	Pn	**Pn**	**03 08 02.5**	**-1.2**
TLIG	**Tlapa**	**5.32**	**295**	Pn	**Pn**	**03 08 22.0**	**+2.0**
TGUH	**Tegucigalpa,Un**	**6.17**	**102**	Pn	**Pn**	**03 08 31.0**	**-0.5**
MATN	**Matagalpa**	**7.74**	**107**	Pn	**Pn**	**03 08 53.5**	**+0.4**
HZTE	**Horizontes, Gu**	**8.99**	**120**	Pn	**Pn**	**03 09 10.7**	**+0.7**
ORTG	**Ortega, Santa**	**9.29**	**122**	Pn	**Pn**	**03 09 14.1**	**-0.1**
JTS	**Las Juntas de**	**9.75**	**120**	Pn	**Pn**	**03 09 19.8**	**-0.6**
RIMA	**Rio Macho**	**10.94**	**120**	Pn	**Pn**	**03 09 36.4**	**-0.4**
PEZE	**Perez Zeledon,**	**11.29**	**121**	Pn	**Pn**	**03 09 40.9**	**-0.7**
SRBA	**San Rafael, Bu**	**11.64**	**121**	Pn	**Pn**	**03 09 45.4**	**-0.8**
SOR	**Soroa**	**12.35**	**52**	Pn	**Pn**	**03 09 53.9**	**-2.0**
LCCY	**Blossom Villag**	**13.49**	**70**	Pn	**Pn**	**03 10 09.6**	**-1.5**
833A	**Chaparral WMA,**	**13.99**	**338**	P	**Pn**	**03 10 20.0**	**+2.3**
BCIP	**Isla Barro Col**	**14.71**	**113**	P	**P**	**03 10 32.4**	**+1.0**

AUST ***04*** *03:33:00.7±2.0, 32°.43S×138°.86E, h4km±18km, Error ellipse: s-maj=13.4km s-min=9.4km az=45.0*
IDC ***04*** *03:33:05.0±3.3, 31°.68S×139°.01E, h0km, mb1 3.7/4, mb1mx3.2/33, mbtmp3.5/4, ML3.4/4, Error ellipse: s-maj=51.8km s-min=13.9km az=28.0*

ISC 04 03:32:59.7±0.7, 32°.43S±0°.04×138°.75E±0°.04, h10km, n13, σ2°53/25, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**1.01**	**172**	P	**Pg**	**03 33 18.9**	**-0.2**
HTT	baz=1.0,SNR=111			S	**Sg**	**03 33 33.3**	**+1.1**
	baz=1.0						
LCRK	**Leigh Creek**	**2.03**	**347**	P	**Pb**	**03 33 37.3**	**+0.6**
LCRK	baz=2.1,SNR=63			S	**Sb**	**03 34 03.1**	**+1.1**
	baz=2.1,SNR=5.6						
BBOO	**Buckleboo**	**2.30**	**260**	P	**Pb**	**03 33 41.1**	**-0.2**
	baz=2.4,SNR=31						
BBOO				S	**Sg**	**03 34 14.9**	**+1.2**
	baz=2.4,SNR=14						
STKA	**Stephens Creek**	**2.48**	**78**	Pn	**Pn**	**03 33 42.2**	**+2.2**
	7.7nm,0.3s,baz=278,slow=12,SNR=76						
STKA				Pg	**Pg**	**03 33 47.2**	**+0.1**
	38nm,0.3s,baz=252,slow=10,SNR=50						
STKA				Lg	Lg	03 34 14.3	
	29nm,0.3s,baz=323,slow=20,SNR=19						
STKA	**Stephens Creek**	**2.48**	**78**	P	**Pn**	**03 33 41.4**	**+1.4**
	baz=2.4,SNR=129						
STKA				S	**Sn**	**03 34 13.7**	**+3.3**
	baz=2.4						
MULG	**Mulgathing**	**4.55**	**297**	P	**Pn**	**03 34 11.6**	**+3.0**
	baz=4.6,SNR=7.2						
MULG				S	**Sn**	**03 35 02.3**	**+0.8**
	baz=4.6						
INKA	**Innaminka**	**4.98**	**21**	P	**Pn**	**03 34 16.0**	**+1.5**
	baz=5.0,SNR=14						
INKA				S	**Sn**	**03 35 12.4**	**+0.2**
	baz=5.0						
ARPS	**Mount Arapiles**	**5.02**	**150**	P	**Pn**	**03 34 16.2**	**+1.2**
	baz=5.0						
ARPS				S	**Sn**	**03 35 09.9**	**-3.3**
	baz=5.0						
OOD	**Oodnadatta**	**5.33**	**329**	P	**Pn**	**03 34 21.7**	**+2.4**
	baz=5.4,SNR=8.0						
OOD				S	**Sn**	**03 35 23.4**	**+2.7**
	baz=5.4						
CMSA	**Cobar Meteorol**	**5.96**	**83**	P	**Pn**	**03 34 27.9**	**-0.1**
	baz=5.9						
ASAR	**Alice Springs**	**9.72**	**333**	Pn	**Pn**	**03 35 19.4**	**-0.3**
	0.4nm,0.3s,baz=148,slow=14,SNR=14						
ASAR				Sn	**Sn**	**03 37 03.7**	**-5.3**
	0.8nm,0.3s,baz=149,slow=22,SNR=11						
ASAR				Lg	Lg	03 38 03.0	
	baz=166,slow=28,SNR=0.8						
WRA	**Warramunga Arr**	**13.05**	**341**	Pn	**Pn**	**03 36 03.8**	**-1.5**
	0.3nm,0.3s,baz=161,slow=14,SNR=20						
WRA				Sn	**Sn**	**03 38 23.5**	**-7.0**
	0.2nm,0.3s,baz=163,slow=24,SNR=2.8						
WRA				Lg	Lg	03 39 41.4	
	baz=160,slow=33,SNR=2.1						
FITZ	**Fitzroy Crossi**	**18.53**	**317**	P	**P**	**03 37 16.4**	**+0.1**
	0.1nm,0.3s,baz=144,slow=8.7,SNR=1.8						
FITZ				S	**Sn**	**03 40 45.5**	**+1.8**
	0.1nm,0.3s,baz=198,slow=19,SNR=1.4						

IDC ***04*** *03:33:13.5±2.2, 1°.30N×97°.19E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.6/47, mbtmp4.1/8, ML4.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/83, Error ellipse: s-maj=61.6km s-min=29.5km az=54.0*
DJA ***04*** *03:33:17.0±2.8, 1°.N±10°.×9°.7E±1°.7, h19km±10km, M4.1/5, MLv4.1/5*
NEIC ***04*** *03:33:18.1±1.5, 1°.30N±0°.06×97°.11E±0°.09, h29km±7km, mb4.4/14, Error ellipse: s-maj=14.5km s-min=5.3km az=62.0*

ISC 04 03:33:17.4±0.7, 1°.31N±0°.06×97°.10E±0°.06, h28km, n42, σ0°94/42, mb4.2/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.48**	**91**	P	**Pn**	**03 33 28.2**	**-0.2**
GSI				S	**Sb**	**03 33 34.7**	**+0.5**
GSI	**Gunungsitoli**	**0.48**	**91**	P	**Pn**	**03 33 28.5**	**+0.1**
GSI				S	**Sn**	**03 33 37.0**	**+1.1**
GSI	**Gunungsitoli**	**0.48**	**91**	Pn	**Pb**	**03 33 27.9**	**+0.4**
SNSI	**Sinabang, Aceh**	**1.33**	**325**	P	**Pb**	**03 33 44.0**	**+2.1**
PBSI	**Pulau Batu**	**1.80**	**139**	P	**Pn**	**03 33 47.5**	**+0.9**
PBSI				S	**Sn**	**03 34 08.4**	**-0.2**
TPTI		**1.94**	**2**	P	**Pn**	**03 33 47.0**	**-1.5**
RPSI	**Rantau Prapat**	**2.29**	**53**		**Pn**	**03 33 53.8**	**+0.5**
MNSI	**Mandailing Nat**	**2.53**	**102**		**Pn**	**03 33 57.9**	**+1.2**
PPI	**Padang Panjang**	**3.74**	**118**	P	**Pn**	**03 34 14.8**	**+1.5**
IPM	**Ipoh**	**5.03**	**51**	Pn	**Pn**	**03 34 32.4**	**+1.3**
KULM	**Kulim**	**5.31**	**42**	Pn	**Pn**	**03 34 34.6**	**-0.4**
MNAI	**Manna**	**8.12**	**134**	Pn	**Pn**	**03 35 13.9**	**+0.3**
CM31	**Chiang Mai Arr**	**17.14**	**6**	Pn	**Pn**	**03 37 14.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.14**	**6**	Pn	**Pn**	**03 37 13.2**	**-1.9**
	0.4nm,0.3s,baz=186,slow=13,SNR=4.9						
CMAR	**Chiang Mai Arr**	**17.14**	**6**		**Pn**	**03 37 12.9**	**-2.1**
SLVN	**Son La**	**20.98**	**18**	P	**P**	**03 37 58.1**	**-0.6**
SLVN				IAmb	IAmb	03 37 60.0	
	comp=Z,8.7nm,0.8s						
SHL	**Shillong**	**24.63**	**349**	P	**P**	**03 38 35.3**	**-0.6**
H08S2	**Diego Garcia H**	**26.11**	**250**	T	T	04 05 53.4	
	baz=71,slow=75,SNR=780						
H08S3	**Diego Garcia H**	**26.11**	**250**	T	T	04 05 55.7	
	baz=71,slow=75,SNR=1569						
H08S1	**Diego Carcia H**	**26.12**	**250**	T	T	04 05 54.8	
	baz=71,slow=75,SNR=164						
GTA	**Gaotai**	**38.00**	**3**	*e*P	**P**	**03 40 34.4**	**+1.1**
GTA				pP	pP	03 40 38.6	-3.0
GTA				sP	sP	03 40 41.2	-3.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**42.18**	**122**	P	**P**	**03 41 07.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=304,slow=8.8,SNR=3.3						
DRK	**Karamyk**	**44.44**	**332**	P	**P**	**03 41 27.4**	**+0.9**
CHGR	**Chuyangaron**	**45.12**	**329**	P	**P**	**03 41 31.5**	**-0.1**
CHGR				IAmb	IAmb	03 41 43.0	
	comp=Z,11nm,1.3s						
BOOM	**Boomskoye usch**	**45.18**	**338**	P	**P**	**03 41 32.3**	**+0.2**
BOOM				IAmb	IAmb	03 41 53.1	
	comp=Z,4.0nm,1.1s						
KSRS	**Korea Array**	**45.81**	**35**	P	**P**	**03 41 36.9**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=222,slow=7.8,SNR=5.8						
KSRS	**Korea Array**	**45.81**	**35**	P	**P**	**03 41 36.9**	**-0.1**
SONM	**Songino Array**	**47.04**	**9**	P	**P**	**03 41 47.3**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=188,slow=9.9,SNR=14						
SONM	**Songino Array**	**47.04**	**9**	P	**P**	**03 41 46.6**	**0.0**
MK31	**Makanchi Array**	**47.11**	**346**	P	**P**	**03 41 47.3**	**+0.2**
MKAR	**Makanchi Array**	**47.11**	**346**	P	**P**	**03 41 47.8**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=160,slow=8.5,SNR=21						
MKAR	**Makanchi Array**	**47.11**	**346**	P	**P**	**03 41 47.6**	**+0.6**
MAKZ	**Makanchi**	**47.20**	**346**	P	**P**	**03 41 48.7**	**+1.0**
MAKZ				IAmb	IAmb	03 41 49.0	
	comp=Z,3.6nm,1.1s						
KURK	**Kurchatov**	**51.66**	**345**	P	**P**	**03 42 22.2**	**+0.6**
KURK				IAmb	IAmb	03 42 46.6	
	comp=Z,2.7nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.73**	**31**	P	**P**	**03 42 29.2**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=220,slow=8.8,SNR=4.0						
USRK	**Ussuriysk Ar.**	**52.73**	**31**	P	**P**	**03 42 29.8**	**+0.1**
ABPO	**Ambohimpanom**	**52.97**	**245**	P	**P**	**03 42 30.4**	**-1.8**
ZAA0	**Zalesovo Array**	**53.43**	**351**	P	**P**	**03 42 34.2**	**-0.5**
ZAA0				IAmb	IAmb	03 42 35.8	
	comp=Z,3.6nm,0.9s						
ZALV	**Zalesovo Beam**	**53.43**	**351**	P	**P**	**03 42 35.2**	**+0.5**
	comp=Z,3.6nm,0.5s,baz=173,slow=6.7,SNR=18						
ZALV				LR	LR	04 06 34.5	
	comp=Z,67nm,20.3s,baz=351,slow=37						
ZALV	**Zalesovo Beam**	**53.43**	**351**	P	**P**	**03 42 34.6**	**-0.1**
ABKAR	**Abkulak array**	**57.37**	**332**	P	**P**	**03 43 02.6**	**-0.6**
ARCES	**ARCESS Array B**	**82.40**	**340**	P	**P**	**03 45 36.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=104,slow=6.7,SNR=1.0						

DJA ***04*** *03:45:48.8±1.1, 7°.S±9°.×12°.8E±1°.5, h289km±39km, M4.5/5, mb4.2/5, mB4.9/1, MLv4.5/5, Mw(mB)4.2/1*
IDC ***04*** *03:45:49.4±1.5, 7°.04S×127°.77E, h285km±16km, mb2.9/2, mb1 3.2/6, mb1mx2.9/42, mbtmp3.8/6, Error ellipse: s-maj=28.3km s-min=13.9km az=85.0*
NEIC ***04*** *03:45:49.5±0.5, 7°.02S±0°.10×127°.83E±0°.09, h287km±14km, mb4.1/5, Error ellipse: s-maj=14.7km s-min=12.3km az=153.0*

ISC 04 03:45:49.1±0.7, 6°.99S±0°.06×127°.77E±0°.07, h309km, n29, σ2°20/36, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.64**	**106**	Pn	**Pn**	**03 46 50.2**	**-1.7**
SOEI	**Soe**	**4.42**	**231**	P	**Pn**	**03 46 59.9**	**-0.7**
SOEI				S	**S**	**03 47 53.2**	**-4.7**
SOEI	**Soe**	**4.42**	**231**	Pn	**Pn**	**03 47 00.1**	**-0.5**
BATI	**Baumata**	**5.16**	**232**	P	**Pn**	**03 47 08.6**	**-0.4**
	46nm,0.3s,baz=130,slow=5.7,SNR=32						
BATI				S	**S**	**03 48 09.5**	**-3.7**
	33nm,0.3s,baz=75,slow=22,SNR=11						
BATI	**Baumata**	**5.16**	**232**	P	**Pn**	**03 47 08.5**	**-0.4**
	0.5nm2μm123nm,0.6s						
MMRI	**Maumere**	**5.72**	**253**	Pn	**Pn**	**03 47 17.3**	**+1.9**
FAKI	**Fak Fak**	**6.03**	**48**	P	**Pn**	**03 47 18.3**	**-0.8**
	0.2nm18nm,0.5s						
FAKI	**Fak Fak**	**6.03**	**48**	Pn	**Pn**	**03 47 18.2**	**-0.8**
MTN	**Manton Dam**	**6.69**	**151**	Pn	**Pn**	**03 47 26.0**	**-1.0**
SIJI	**Sorong**	**7.01**	**30**	P	**Pn**	**03 47 30.7**	**-0.2**
	2.7nm,0.3s,baz=217,slow=20,SNR=6.1						
SIJI				S	**S**	**03 48 47.4**	**-5.9**
	3.7nm,0.3s,baz=180,slow=20,SNR=5.0						
SWI	**Sorong**	**7.01**	**30**	P	**Pn**	**03 47 30.3**	**-0.6**
	0.2nm30nm,0.7s						
KNRA	**Kununurra**	**8.68**	**174**		**Pn**	**03 47 50.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.23**	**190**	P	**Pn**	**03 48 20.7**	**-1.5**
	0.6nm,0.3s,baz=19,slow=9.3,SNR=12						
FITZ				S	**S**	**03 50 26.7**	**-1.2**
	0.4nm,0.3s,baz=9.5,slow=18,SNR=2.0						
JAGI	**Jajag, Banyuwa**	**13.57**	**263**		**Pn**	**03 48 50.7**	**+0.2**
WB0	**Warramunga Arr**	**14.23**	**154**	P	**Pn**	**03 48 57.8**	**-0.5**
WRA	**Warramunga Arr**	**14.36**	**154**	P	**Pn**	**03 48 59.4**	**-0.5**
	0.3nm,0.3s,baz=330,slow=12,SNR=26						
WRA				S	**S**	**03 51 39.2**	**+2.8**
	0.2nm,0.3s,baz=332,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**14.36**	**154**	P	**Pn**	**03 48 58.6**	**-1.2**
WB2	**Warramunga Arr**	**14.37**	**154**	P	**Pn**	**03 48 59.4**	**-0.5**
WR0	**Warramunga Arr**	**14.47**	**154**	P	**Pn**	**03 49 00.3**	**-0.8**
PSA00	**Pilbara Seismi**	**16.39**	**207**	P	**Pn**	**03 49 22.3**	**-1.2**
PSA00				IAmb	IAmb	03 49 42.6	
	comp=Z,9.7nm,1.1s						
COEN	**Coen**	**16.65**	**116**	P	**Pn**	**03 49 26.0**	**-0.6**
COEN				IAmb	IAmb	03 49 34.5	
	comp=Z,6.5nm,1.1s						
AS31	**Alice Springs**	**17.59**	**161**	P	**Pn**	**03 49 36.0**	**-1.6**
ASAR	**Alice Springs**	**17.59**	**161**	P	**Pn**	**03 49 36.1**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=333,slow=11,SNR=23						
ASAR				S	**S**	**03 52 44.0**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=329,slow=22,SNR=5.5						
ASAR				ScP	**ScP**	**03 57 06.1**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=351,slow=2.8,SNR=2.5						
ASAR	**Alice Springs**	**17.59**	**161**	P	**Pn**	**03 49 35.5**	**-2.1**
GIRL	**Giralia**	**20.30**	**219**	P	**P**	**03 50 04.2**	**+1.5**
MORW	**Morawa**	**24.59**	**205**	P	**P**	**03 50 43.6**	**+1.7**
MORW				IAmb	IAmb	03 50 55.8	
	comp=Z,7.1nm,1.1s						
PETK	**Petropavlovsk-**	**65.03**	**19**	P	**P**	**03 55 59.1**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=190,slow=6.6,SNR=1.1						
MKAR	**Makanchi Array**	**67.03**	**328**	P	**P**	**03 56 13.1**	**+3.6**
	comp=Z,0.1nm,0.4s,baz=118,slow=9.4,SNR=4.5						
MKAR	**Makanchi Array**	**67.03**	**328**	P	**P**	**03 56 11.7**	**+2.2**

IDC ***04*** *03:46:42.6±11.0, 4°.89S×153°.62E, h156km±74km, mb3.3/6, mb1 3.5/7, mb1mx3.3/46, mbtmp3.9/7, MS3.2/1, Ms1 3.2/1, ms1mx2.4/28, Error ellipse: s-maj=120.6km s-min=29.7km az=101.0*
NEIC ***04*** *03:46:45.8±2.0, 4°.7S±0°.1×153°.3E±0°.2, h186km±10km, mb4.2/9, Error ellipse: s-maj=23.6km s-min=17.3km az=124.0*

ISC 04 03:46:42.5±0.8, 4°.9S±0°.1×153°.6E±0°.1, h150km, n21, σ1°85/21, mb3.7/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.58**	**298**		**Pn**	**03 47 15.6**	**+2.6**
PMG	**Port Moresby**	**7.75**	**235**	P	**Pn**	**03 48 33.9**	**+1.2**
	3.3nm,0.3s,baz=34,slow=11,SNR=5.6						
PMG				S	**Sn**	**03 50 00.9**	**+1.7**
	1.1nm,0.3s,baz=32,slow=23,SNR=3.9						
PMG	**Port Moresby**	**7.75**	**235**	Pn	**Pn**	**03 48 33.5**	**+0.9**
TARA	**Tarawa**	**20.32**	**73**	P	**P**	**03 51 09.5**	**+2.4**
EIDS	**Eidsvold**	**20.45**	**186**	P	**P**	**03 51 11.2**	**+2.8**
EIDS				IAmb	IAmb	03 51 32.1	
	comp=Z,9.4nm,1.1s						
WB0	**Warramunga Arr**	**23.79**	**230**	P	**P**	**03 51 38.6**	**-3.0**
WR0	**Warramunga Arr**	**23.79**	**229**	P	**P**	**03 51 40.5**	**-1.1**
WR0				IAmb	IAmb	03 51 43.7	
	comp=Z,6.5nm,0.9s						
WB2	**Warramunga Arr**	**23.92**	**230**	P	**P**	**03 51 38.9**	**-3.9**
WB2				IAmb	IAmb	03 52 04.7	
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**23.93**	**230**	P	**P**	**03 51 43.5**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=53,slow=9.9,SNR=12						
WRA	**Warramunga Arr**	**23.93**

	baz=317						
ILA	**Ilan**	**0.23 224**	*e*P	**Pn**	**04 23 19.4**	**+0.9**	
	baz=237						
ILA			*e*S	**Sn**	**04 23 29.8**	**-0.1**	
	baz=237						
TWA	**Mucha**	**0.31 279**	P	**Pn**	**04 23 19.2**	**+0.3**	
	baz=287						
TWA			*e*S	**Sn**	**04 23 30.0**	**-0.6**	
	baz=287						
TWE	**Neicheng**	**0.32 228**	P	**Pn**	**04 23 19.3**	**+0.4**	
	baz=237						
TWE			*e*S	**Sn**	**04 23 29.9**	**-0.6**	
	baz=237						
TWC	**Suao**	**0.33 192**	*e*P	**Pn**	**04 23 19.0**	**0.0**	
	baz=197						
TWC			*e*S	**Sn**	**04 23 29.8**	**-0.9**	
	baz=197						
NDS	**Dongshan**	**0.35 212**	P	**Pn**	**04 23 20.1**	**+1.0**	
	baz=221						
NDS			*e*S	**Sn**	**04 23 31.8**	**+0.9**	
	baz=221						
NHDH	**Xindian Distri**	**0.36 275**	P	**Pn**	**04 23 19.6**	**+0.5**	
	baz=282						
NHDH			*e*S	**Sn**	**04 23 30.8**	**-0.2**	
	baz=282						
YM01	**YM01**	**0.39 304**	P	**Pn**	**04 23 19.4**	**+0.1**	
	baz=308						
TAP	**Taipei**	**0.39 286**	*e*P	**Pn**	**04 23 19.2**	**0.0**	
	baz=292						
TAP			*e*S	**Sn**	**04 23 30.7**	**-0.6**	
	baz=292						
TATO	**Taipei**	**0.40 276**	*i* P	**Pn**	**04 23 19.8**	**+0.4**	
	baz=283						
TATO			*e*S	**Sn**	**04 23 31.3**	**0.0**	
	baz=283						
NWLT	**Wulai**	**0.41 248**	P	**Pn**	**04 23 19.6**	**+0.2**	
	baz=262						
NWLT			*e*S	**Sn**	**04 23 30.9**	**-0.7**	
	baz=262						
ENTT	**Nioudou**	**0.44 228**	P	**Pn**	**04 23 20.1**	**+0.5**	
	baz=246						
ENTT			*e*S	**Sn**	**04 23 32.0**	**+0.2**	
	baz=246						
ANP	**Anpu**	**0.45 305**	*e*P	**Pn**	**04 23 20.0**	**+0.3**	
	baz=314						
TWY	**Chenhua**	**0.45 319**	*e*P	**Pn**	**04 23 19.9**	**+0.3**	
	baz=322						
NTST	**Danshui**	**0.49 298**	*e*P	**Pn**	**04 23 20.4**	**+0.6**	
	baz=302						
NTST			*e*S	**Sn**	**04 23 33.2**	**+0.9**	
	baz=302						
TWS1	**Kuangyinshan**	**0.49 290**	P	**Pn**	**04 23 20.3**	**+0.4**	
	baz=295						
TWS1			*e*S	**Sn**	**04 23 33.2**	**+1.0**	
	baz=295						
NDT	**Datong Townshi**	**0.50 229**	P	**Pn**	**04 23 20.4**	**+0.5**	
	baz=246						
NDT			*e*S	**Sn**	**04 23 32.5**	**+0.1**	
	baz=246						
EWUT	**Wuta**	**0.50 195**	P	**Pn**	**04 23 20.4**	**+0.5**	
	baz=200						
EWUT			S	**Sn**	**04 23 32.5**	**0.0**	
	baz=200						
ENA	**Nanau**	**0.53 198**	*e*P	**Pn**	**04 23 20.9**	**+0.7**	
	baz=196						
ENA			S	**Sn**	**04 23 33.0**	**+0.2**	
	baz=196						
YHNB	**Yeheng**	**0.56 242**	P	**Pn**	**04 23 20.6**	**+0.1**	
	baz=240						
YHNB			S	**Sn**	**04 23 32.5**	**-0.9**	
	baz=240						
NTY	**Taoyuan**	**0.57 277**	P	**Pn**	**04 23 21.3**	**+0.9**	
	baz=282						
NSK	**Sanguang**	**0.57 244**	P	**Pn**	**04 23 20.6**	**0.0**	
	baz=241						
NSK			*e*S	**Sn**	**04 23 32.5**	**-1.0**	
	baz=241						
NCU	**National Centr**	**0.67 273**	*e*P	**Pn**	**04 23 21.9**	**+0.7**	
	baz=277						
NCU			*e*S	**Sn**	**04 23 35.5**	**+0.8**	
	baz=277						
NCUH	**Zhongli**	**0.67 273**	*e*P	**Pn**	**04 23 21.8**	**+0.5**	
	baz=269						
NCUH			*e*S	**Sn**	**04 23 35.1**	**+0.4**	
	baz=269						
NNS	**Nan Shan**	**0.70 226**	*e*P	**Pn**	**04 23 22.1**	**+0.5**	
	baz=230						
NNS			*e*S	**Sn**	**04 23 36.4**	**+1.0**	
	baz=230						
NNSB	**Datong**	**0.70 225**	P	**Pn**	**04 23 22.0**	**+0.3**	
	baz=229						
NNSB			*e*S	**Sn**	**04 23 35.1**	**-0.3**	
	baz=229						
PCYT	**Pengchaiyu**	**0.71 11**	*e*P	**Pn**	**04 23 22.3**	**+0.8**	
	baz=3.0						
NACB	**Ninganchiao**	**0.81 202**	*e*P	**Pn**	**04 23 21.8**	**-0.7**	
	baz=214						
NACB			*e*S	**Sn**	**04 23 35.7**	**-1.3**	
	baz=214						
ETL	**Fush Village**	**0.82 200**	*e*P	**Pn**	**04 23 22.3**	**-0.4**	
	baz=213						
ETL			*e*S	**Sn**	**04 23 36.3**	**-0.8**	
	baz=213						
ETLH	**Xiulin Townshi**	**0.83 209**	*e*P	**Pn**	**04 23 22.6**	**-0.1**	
	baz=213						
ETLH			*e*S	**Sn**	**04 23 37.0**	**-0.4**	
	baz=213						
SBCB	**Hsinchu**	**0.86 261**	*e*P	**Pn**	**04 23 23.6**	**+0.6**	
	baz=264						
SBCB			*e*S	**Sn**	**04 23 37.6**	**-0.2**	
	baz=264						
LIOB	**Emei**	**0.87 251**	P	**Pn**	**04 23 23.5**	**+0.4**	
	baz=248						
LIOB			*e*S	**Sn**	**04 23 37.2**	**-0.8**	
	baz=248						
HSN	**Hsinchu**	**0.88 262**	*e*P	**Pn**	**04 23 23.1**	**0.0**	
	baz=266						
HSN			*e*S	**Sn**	**04 23 37.9**	**-0.1**	
	baz=266						
NSTT	**Nanjuang**	**0.89 250**	P	**Pn**	**04 23 23.6**	**+0.3**	
	baz=247						
NSTT			*e*S	**Sn**	**04 23 37.8**	**-0.4**	
	baz=247						
TWD	**Chiawan**	**0.90 199**	*e*P	**Pn**	**04 23 22.9**	**-0.5**	
	baz=210						
TWD			*e*S	**Sn**	**04 23 37.4**	**-1.0**	
	baz=210						
FUSS	**Fushou**	**0.92 222**	P	**Pn**	**04 23 24.5**	**+0.7**	
	baz=226						
FUSS			*e*S	**Sn**	**04 23 39.2**	**-0.1**	
	baz=226						
TWT	**Tachien**	**0.96 225**	*e*P	**Pn**	**04 23 25.1**	**+0.9**	
	baz=224						
TWT			*e*S	**Sn**	**04 23 40.5**	**+0.6**	
	baz=224						
TDCB	**Techi**	**0.97 226**	P	**Pn**	**04 23 25.1**	**+0.8**	
	baz=224						
TDCB			*e*S	**Sn**	**04 23 40.0**	**0.0**	
	baz=224						
WHF	**Hehuan Shan**	**0.99 218**	P	**Pn**	**04 23 25.0**	**+0.3**	
	baz=214						
WHF			*e*S	**Sn**	**04 23 40.4**	**-0.4**	
	baz=214						
JYNG	**Yonaguni jima**	**1.04 117**	P	**Pn**	**04 23 24.9**	**+0.1**	
JYNG			*e*S	**Sn**	**04 23 40.4**	**-0.6**	
YOJ	**Yonaguni jima**	**1.09 115**	P	**Pn**	**04 23 25.5**	**+0.1**	
YOJ			*e*S	**Sn**	**04 23 41.7**	**-0.3**	
YOJ	**Yonaguni jima**	**1.09 115**	*e*P	**Pn**	**04 23 25.4**	**+0.1**	
	baz=115						
NMLH	**Miaoli**	**1.10 249**	*e*P	**Pn**	**04 23 25.8**	**+0.3**	
	baz=252						
NMLH			*e*S	**Sn**	**04 23 42.0**	**-0.2**	
	baz=252						
WHP	**Taichung City**	**1.10 234**	P	**Pn**	**04 23 26.2**	**+0.7**	
	baz=237						
WHP			*e*S	**Sn**	**04 23 42.1**	**-0.3**	
	baz=237						
CHGB	**Renai**	**1.10 218**	P	**Pn**	**04 23 26.4**	**+0.6**	
	baz=215						
CHGB			*e*S	**Sn**	**04 23 42.6**	**0.0**	
	baz=215						
NSY	**Sanyi**	**1.18 244**	*e*P	**Pn**	**04 23 27.0**	**+0.7**	
	baz=247						
NSY			*e*S	**Sn**	**04 23 44.1**	**+0.5**	
	baz=247						
OWD	**Renai**	**1.19 215**	*e*P	**Pn**	**04 23 27.1**	**+0.6**	
	baz=214						
OWD			*e*S	**Sn**	**04 23 44.6**	**+0.5**	
	baz=214						
TWQ1	**Liyutan**	**1.20 241**	*e*P	**Pn**	**04 23 27.0**	**+0.5**	
	baz=235						
TWQ1			*e*S	**Sn**	**04 23 43.9**	**-0.2**	
	baz=235						
ESL	**Shilin**	**1.20 202**	*e*P	**Pn**	**04 23 25.5**	**-1.1**	
	baz=203						
WCS	**Beigang Elemen**	**1.27 227**	P	**Pn**	**04 23 27.9**	**+0.6**	
	baz=236						
WCS			*e*S	**Sn**	**04 23 45.3**	**-0.2**	
	baz=236						
WDJ	**Dajia District**	**1.30 244**	*e*P	**Pn**	**04 23 28.4**	**+0.6**	
	baz=240						
WDJ			*e*S	**Sn**	**04 23 46.3**	**+0.1**	
	baz=240						
EGFH	**Guangfu**	**1.34 200**	*e*P	**Pn**	**04 23 28.2**	**+0.1**	
	baz=204						
VWDT	**VWDT**	**1.37 211**	P	**Pn**	**04 23 29.1**	**+0.6**	
	baz=211						
VWDT			*e*S	**Sn**	**04 23 48.2**	**+0.6**	
	baz=211						
TCU	**Taichung**	**1.38 236**	*e*P	**Pn**	**04 23 29.3**	**+0.7**	
	baz=238						
TCU			*e*S	**Sn**	**04 23 48.1**	**+0.4**	
	baz=238						
SMLT	**Sun Moon Lake**	**1.40 222**	P	**Pn**	**04 23 29.6**	**+0.6**	
	baz=231						
SMLT			*e*S	**Sn**	**04 23 49.1**	**+0.7**	
	baz=231						
TYC	**Yuchr**	**1.41 224**	*e*P	**Pn**	**04 23 29.6**	**+0.6**	
	baz=226						
TYC			*e*S	**Sn**	**04 23 48.7**	**+0.3**	
	baz=226						
SSLB	**Suanglung**	**1.44 218**	P	**Pn**	**04 23 29.9**	**+0.5**	
	baz=229						
SSLB			*e*S	**Sn**	**04 23 49.2**	**0.0**	
	baz=229						
HGSD	**Ruisui**	**1.50 198**	P	**Pn**	**04 23 30.1**	**0.0**	
	baz=200						
HGSD			*e*S	**Sn**	**04 23 50.8**	**+0.4**	
	baz=200						
EHY	**Hungye**	**1.52 201**	*e*P	**Pn**	**04 23 30.7**	**+0.4**	
	baz=197						
WNT	**Mingjian**	**1.54 227**	*e*P	**Pn**	**04 23 31.6**	**+1.1**	
	baz=237						
WNT			*e*S	**Sn**	**04 23 51.8**	**+0.6**	
	baz=237						
WJS	**Zhushan**	**1.55 225**	*e*P	**Pn**	**04 23 31.8**	**+1.1**	
	baz=236						
WJS			*e*S	**Sn**	**04 23 52.0**	**+0.5**	
	baz=236						
YULB	**Yu-li**	**1.64 201**	*e*P	**Pn**	**04 23 31.2**	**-0.5**	
	baz=196						
YULB			*e*S	**Sn**	**04 23 52.2**	**-1.1**	
	baz=196						
EYUL	**Yuli**	**1.67 199**	*e*P	**Pn**	**04 23 33.3**	**+1.1**	
	baz=205						
WRL	**Guolierlin Hig**	**1.75 234**	*e*P	**Pn**	**04 23 33.2**	**+0.2**	
	baz=235						
WRL			*e*S	**Sn**	**04 23 54.8**	**-0.8**	
	baz=235						
ALS	**Alishan**	**1.75 216**	*e*P	**Pn**	**04 23 34.0**	**+0.7**	
	baz=226						
ALS			*e*S	**Sn**	**04 23 57.0**	**+0.9**	
	baz=226						
IRIF	**Iriomote-Funau**	**1.75 110**	P	**Pn**	**04 23 33.0**	**0.0**	
IRIF			S	**Sn**	**04 23 55.5**	**-0.2**	
CHN5	**Tsauling**	**1.75 221**	*e*P	**Pn**	**04 23 34.0**	**+0.8**	
	baz=223						
CHN5			*e*S	**Sn**	**04 23 56.4**	**+0.5**	
	baz=223						
WDLH	**Douliu**	**1.77 226**	*e*P	**Pn**	**04 23 34.1**	**+0.8**	
	baz=235						
WDLH			*e*S	**Sn**	**04 23 56.8**	**+0.6**	
	baz=235						
FULB	**Fuli**	**1.82 199**	*e*P	**Pn**	**04 23 34.8**	**+0.8**	
	baz=207						
FULB			*e*S	**Sn**	**04 23 58.2**	**+0.8**	
	baz=207						
CHKT	**Chengkung**	**1.90 196**	*e*S	**Sn**	**04 23 57.8**	**-1.2**	
	baz=198						
HATJ	**Hateruma jima**	**1.92 117**	*e*S	**Sn**	**04 23 59.4**	**-0.2**	
ELDTW	**Lidau**	**1.92 206**	*e*P	**Pn**	**04 23 36.2**	**+0.8**	
	baz=201						
CHY	**Chiayi**	**1.98 224**	*e*P	**Pn**	**04 23 36.2**	**+0.2**	
	baz=233						
CHY			*e*S	**Sn**	**04 24 01.2**	**+0.4**	
	baz=233						
TPUB	**Ta-pu**	**2.01 216**	*e*P	**Pn**	**04 23 36.9**	**+0.5**	
	baz=219						
TPUB			*e*S	**Sn**	**04 24 01.6**	**-0.1**	
	baz=219						
JKRS	**Kuro-shima**	**2.02 110**	P	**Pn**	**04 23 37.2**	**+0.7**	
JKRS			S	**Sn**	**04 24 01.5**	**-0.3**	
EDH	**Donghe**	**2.03 196**	*e*P	**Pn**	**04 23 36.2**	**-0.4**	
	baz=199						
EDH			*e*S	**Sn**	**04 24 01.1**	**-1.0**	
	baz=199						
STYH	**Taoyuan**	**2.04 211**	*e*P	**Pn**	**04 23 37.7**	**+0.9**	
	baz=223						
STYH			*e*S	**Sn**	**04 24 04.2**	**+1.8**	
	baz=223						
WTP	**Ta-pu**	**2.06 216**	*e*P	**Pn**	**04 23 37.5**	**+0.4**	
	baz=218						
WTP			*e*S	**Sn**	**04 24 02.6**	**-0.3**	
	baz=218						
JIJ	**Ishigaki jima**	**2.10 105**	P	**Pn**	**04 23 37.5**	**0.0**	
JIJ			S	**Sn**	**04 24 02.9**	**-0.7**	
TWK	**Hsinying**	**2.12 219**	*e*P	**Pn**	**04 23 38.1**	**+0.4**	
	baz=221						
TWK			*e*S	**Sn**	**04 24 04.4**	**+0.3**	
	baz=221						
CHN1	**Nanshi**	**2.16 217**	*e*P	**Pn**	**04 23 38.8**	**+0.4**	
	baz=219						
CHN1			*e*S	**Sn**	**04 24 05.1**	**0.0**	
	baz=219						
MATB	**Ma-tsu**	**2.16 305**	*e*P	**Pn**	**04 23 38.4**	**+0.2**	
	baz=305						
ICHU	**Yijhu**	**2.17 224**	*e*S	**Sn**	**04 24 04.9**	**-0.4**	
	baz=219						
JISG	**Ishigakijimahi**	**2.20 99**	P	**Pn**	**04 23 39.5**	**+0.8**	
JISG			*e*S	**Sn**	**04 24 05.9**	**+0.1**	
SGST	**Jiashian**	**2.21 214**	*e*S	**Sn**	**04 24 06.3**	**0.0**	
	baz=224						
TWGBT	**Beinan**	**2.24 200**	*e*P	**Pn**	**04 23 40.0**	**+0.6**	
	baz=193						
SLGT	**Liugui**	**2.26 211**	*e*P	**Pn**	**04 23 40.8**	**+1.2**	
	baz=222						
SLGT			*e*S	**Sn**	**04 24 07.9**	**+0.6**	
	baz=222						
LDUT	**Ludao**	**2.29 191**	*e*P	**Pn**	**04 23 39.4**	**-0.6**	
	baz=187						
LDUT			*e*S	**Sn**	**04 24 05.5**	**-2.5**	
	baz=187						
XPSS	**Dashiqiu**	**2.53 322**	*e*P	**Pn**	**04 23 42.8**	**-0.2**	
	baz=323						
LYJJ	**Jianjiangzhen**	**2.53 310**	*e*P	**Pn**	**04 23 43.2**	**+0.2**	
	baz=310						
JTJ	**Tarama**	**2.54 96**	P	**Pn**	**04 23 44.5**	**+1.3**	
JTJ			S	**Sn**	**04 24 14.3**	**+0.5**	
PTMZ	**Houxiangcun**	**2.55 273**	*e*P	**Pn**	**04 23 43.6**	**+0.3**	
	baz=272						
PTMZ			*e*S	**Sn**	**04 24 12.2**	**-1.8**	
	baz=272						
PNG	**Penghu**	**2.55 238**	*e*P	**Pn**	**04 23 42.9**	**-0.5**	
	baz=237						
PNG			*e*S	**Sn**	**04 24 12.6**	**-1.5**	
	baz=237						
PHUB	**P'eng-hu**	**2.57 237**	*e*P	**Pn**	**04 23 42.9**	**-0.7**	
	baz=236						
PHUB			*e*S	**Sn**	**04 24 12.5**	**-2.1**	
	baz=236						
MASBT	**Mashibuluo**	**2.60 207**	*e*P	**Pn**	**04 23 45.1**	**+1.2**	
	baz=208						
WDGT	**Dungji**	**2.66 232**	*e*P	**Pn**	**04 23 44.9**	**+0.2**	
	baz=231						
VCHM	**Qimei**	**2.85 234**	*e*P	**Pn**	**04 23 47.0**	**-0.4**	
	baz=227						
VCHM			*e*S	**Sn**	**04 24 19.5**	**-1.7**	
	baz=227						

*TUL **04** 04:33:09.6±1.3, 36°.73N±0°.01×98°.06W±0°.02, h6km±5km, ML2.7, mb_Lg2.5/25(NEIC), Error ellipse: s-maj=2.3km s-min=1.2km az=137.0*

NEIC 04 04:33:09.6±0.6, 36°.704N±0°.008×98°.04W±0°.02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=13.0,

Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.17**	**306**	Pg	Pg	04 33 12.9	0.0
OK032				Sg	Sg	04 33 15.3	0.0
CROK	**Carrier**	**0.20**	**167**	Pg	Pg	04 33 14.4	+0.8
CROK				Sg	Sg	04 33 18.0	+1.8
GC02	**Grant County #**	**0.21**	**44**	Pg	Pg	04 33 14.0	+0.3
GC02				Sg	Sg	04 33 17.2	+0.8
KAN14	**Manchester OK**	**0.26**	**14**		Pg	04 33 14.5	-0.1
KAN14				Sg	Sg	04 33 18.2	+0.1
KAN17	**Caldwell West**	**0.41**	**33**	Pg	Pg	04 33 17.5	+0.1
KAN17				Sg	Sg	04 33 23.0	+0.3
KAN10	**Anthony SW Sta**	**0.42**	**354**	Pg	Pg	04 33 17.5	-0.2
KAN10				Sg	Sg	04 33 23.3	0.0
KAN05	**Bluff City Nor**	**0.43**	**18**		Pg	04 33 17.8	0.0
KAN05				Sg	Sg	04 33 23.6	+0.2
KAN01	**Argonia South**	**0.50**	**27**		Pg	04 33 19.1	-0.1
KAN01				Sg	Sg	04 33 25.8	0.0
KAN16	**Harper SW Stat**	**0.52**	**358**	Pg	Pg	04 33 19.4	-0.2
KAN16				Sg	Sg	04 33 26.5	0.0
KAN08	**Anthony NE Sta**	**0.53**	**6**		Pg	04 33 19.5	-0.2
KAN08				Sg	Sg	04 33 26.5	0.0
OK035	**E0210 Rd and N**	**0.54**	**271**	Pg	Pg	04 33 19.8	-0.2
OK035				Sg	Sg	04 33 27.3	+0.3
KAN13	**South Haven SW**	**0.55**	**55**	Pg	Pg	04 33 20.1	0.0
KAN06	**Argonia West S**	**0.56**	**15**	Pg	Pg	04 33 20.1	-0.3
KAN12	**Harper NE Stat**	**0.59**	**3**	Pg	Pg	04 33 20.5	-0.5
BLOK	**Blackwell**	**0.67**	**85**	Pg	Pg	04 33 22.4	+0.1
U32A	**Winter Ranch,**	**0.84**	**248**	Pg	Pg	04 33 25.5	-0.2
OK029	**Liberty Lake**	**1.02**	**152**		Pg	04 33 29.3	+0.1
BCOK	**Bluff Creek, N**	**1.10**	**161**	Pg	Pg	04 33 30.6	-0.1
QUOK	**Quay**	**1.20**	**116**	Pg	Pg	04 33 32.4	-0.1
OK031	**S. Brethren Rd**	**1.23**	**127**	Pn	Pg	04 33 32.8	-0.3
T35A	**Sooner Cattle**	**1.24**	**80**	Pn	Pg	04 33 33.0	-0.5
OK025	**Westminster Rd**	**1.26**	**153**		Pg	04 33 33.6	-0.1
OK034	**N. Norfolk Rd.**	**1.27**	**122**	Pn	Pg	04 33 33.6	-0.4
OK030	**Cody Creek RV**	**1.28**	**127**	Pn	Pg	04 33 33.7	-0.3
OKCFA	**Oklahoma City**	**1.37**	**159**	Pn	Pn	04 33 35.0	-0.5
OKCSW	**OKLAHOMA CITY**	**1.38**	**159**	Pn	Pn	04 33 35.5	-0.1
FNO	**Franklin**	**1.53**	**160**	Pn	Pn	04 33 37.9	+0.3
TUL1	**Leonard**	**1.98**	**113**	IAmb_Lg		04 34 13.0	
	comp=Z,19nm,0.8s						
WMOK	**Wichita Mounta**	**2.05**	**197**	Pn	Pn	04 33 45.1	+0.3
KSU1	**Kansas State U**	**2.65**	**25**		Pn	04 33 53.1	+0.2
LOOK	**Love County**	**2.79**	**165**	Pn	Pn	04 33 54.7	-0.2
U38A	**Gravette**	**2.95**	**94**	Pn	Pn	04 33 55.7	-1.5
U38A				IAmb_Lg		04 34 49.1	
	comp=Z,16nm,0.8s						
W39A	**Magazine**	**3.77**	**112**	IAmb_Lg		04 35 14.3	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**3.89**	**74**	Pn	Pn	04 34 10.5	+0.4
S39A				IAmb_Lg		04 35 18.0	
	comp=Z,13nm,1.2s						
P38A	**Dawn**	**4.60**	**49**	IAmb_Lg		04 35 42.5	
	comp=Z,9.9nm,1.1s						
MGMO	**Mountain Grove**	**4.64**	**83**	Pn	Pn	04 34 20.9	+0.5
MGMO				IAmb_Lg		04 35 40.3	
	comp=Z,8.5nm,0.8s						
BGNE	**Belgrade**	**4.70**	**359**	IAmb_Lg		04 35 44.9	
	comp=Z,12nm,0.7s						
X40A	**Basin Creek Fa**	**4.78**	**116**	IAmb_Lg		04 35 46.3	
	comp=Z,9.9nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.85**	**98**	IAmb_Lg		04 35 45.0	
	comp=Z,9.1nm,0.9s						
P40A	**Paris**	**5.50**	**57**	IAmb_Lg		04 36 10.6	
	comp=Z,6.2nm,0.8s						
CCM	**Cathedral Cave**	**5.58**	**74**	IAmb_Lg		04 36 07.4	
	comp=Z,6.0nm,0.8s						
LCAR	**Lake Charles**	**5.59**	**94**	IAmb_Lg		04 36 10.1	
	comp=Z,6.9nm,0.8s						
Q24A	**Divide**	**6.06**	**294**	IAmb_Lg		04 36 23.4	
	comp=Z,5.4nm,0.9s						

*IDC **04** 04:44:02.6±2.9, 20°.31S×178°.42W, h600km±23km, mb3.1/5, mb1 3.3/8, mb1mx3.1/27, mbtmp4.1/8, Error ellipse: s-maj=89.0km s-min=17.6km az=147.0*

*NEIC **04** 04:44:03.5±1.6, 20°.2S±0°.2×178°.40W±0°.08, h607km±15km, mb4.0/12, Error ellipse: s-maj=29.1km s-min=10.4km az=175.0*

ISC 04 04:44:03.2±0.8, 20°.2S±0°.2×178°.5W±0°.1, h600km, n29, σ1§20/29, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.06**	**306**	P	**P**	**04 45 30.4**	**+1.1**
	1.4nm,0.3s,baz=135,slow=23,SNR=1.5						
MSVF	**Nonsavu**	**4.06**	**306**	P	**P**	**04 45 31.6**	**+2.3**
NIUE	**Niue**	**8.15**	**84**	P	**P**	**04 46 04.7**	**+0.7**
AFI	**Afiamalu**	**8.94**	**47**	P	**P**	**04 46 10.1**	**-1.6**
	2.6nm,0.3s,baz=111,slow=13,SNR=1.8						
MARNC	**Mare, Loyalty**	**12.66**	**262**	P	**P**	**04 46 47.6**	**-1.0**
PINNC	**Pines Island,**	**13.32**	**257**	P	**P**	**04 46 53.5**	**-1.7**
OUENC	**Ouen Island, N**	**13.85**	**258**	P	**P**	**04 47 03.6**	**+2.9**
DZM	**Mont Dzumac**	**14.18**	**260**	P	**P**	**04 47 03.6**	**-0.4**
	1.7nm,0.3s,baz=98,slow=21,SNR=24						
DZM	**Mont Dzumac**	**14.18**	**260**	P	**P**	**04 47 04.5**	**+0.5**
WHZ	**Wether Hill Ro**	**27.99**	**200**	P	**P**	**04 49 07.2**	**-0.1**
CTAO	**Charters Tower**	**33.06**	**264**	P	**P**	**04 49 51.3**	**+0.2**
COEN	**Coen**	**37.09**	**273**	P	**P**	**04 50 24.9**	**+0.4**
COEN				IAmb	IAmb	04 50 35.8	
	comp=Z,3.9nm,1.1s						
STKA	**Stephens Creek**	**37.52**	**244**	P	**P**	**04 50 27.7**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=74,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**37.52**	**244**	P	**P**	**04 50 27.6**	**-0.1**
BBOO	**Buckleboo**	**42.28**	**243**	P	**P**	**04 51 05.2**	**-0.5**
WR0	**Warramunga Arr**	**43.99**	**262**	P	**P**	**04 51 18.8**	**-0.4**
WR0				IAmb	IAmb	04 51 27.5	
	comp=Z,3.4nm,1.1s						
AS31	**Alice Springs**	**44.14**	**256**	P	**P**	**04 51 20.0**	**-0.3**
ASAR	**Alice Springs**	**44.14**	**256**	P	**P**	**04 51 19.9**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=90,slow=7.7,SNR=31						
ASAR	**Alice Springs**	**44.14**	**256**	P	**P**	**04 51 19.7**	**-0.6**
WB0	**Warramunga Arr**	**44.16**	**262**	P	**P**	**04 51 19.6**	**-0.9**
WB0				IAmb	IAmb	04 51 20.5	
	comp=Z,4.0nm,0.9s						
WB2	**Warramunga Arr**	**44.17**	**262**	P	**P**	**04 51 19.7**	**-0.8**
WB2				IAmb	IAmb	04 51 20.4	
	comp=Z,6.0nm,1.1s						
WRAB	**Tennant Creek**	**44.17**	**262**	P	**P**	**04 51 19.8**	**-0.8**
WRAB				IAmb	IAmb	04 51 49.1	
	comp=Z,4.2nm,0.6s						
WRA	**Warramunga Arr**	**44.18**	**262**	P	**P**	**04 51 19.9**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=96,slow=7.5,SNR=71						
WRA	**Warramunga Arr**	**44.18**	**262**	P	**P**	**04 51 19.8**	**-0.9**
MTN	**Manton Dam**	**48.69**	**270**	P	**P**	**04 51 54.3**	**-0.3**
MTN				IAmb	IAmb	04 52 17.3	
	comp=Z,9.8nm,1.1s						
ILAR	**Eielson Array**	**88.09**	**13**	P	**P**	**04 55 51.1**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=212,slow=5.2,SNR=8.3						
ILAR	**Eielson Array**	**88.09**	**13**	P	**P**	**04 55 51.3**	**+0.9**
PDAR	**Pinedale Array**	**89.04**	**43**	P	**P**	**04 55 56.2**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=232,slow=5.6,SN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.98**	**282**	⇑*iP*	**Pg**	**05 27 47.2**	**-0.5**
	baz=79						
TRKS				⇑*iS*	**Sg**	**05 28 00.2**	**-0.2**
	baz=79						
MNAS	**Manas**	**1.15**	**3**	⇑*iP*	**Pg**	**05 27 51.2**	**+0.1**
	baz=3.0						
MNAS				⇑*iS*	**Sn**	**05 28 07.4**	**-0.9**
	baz=3.0						
ARLS	**Aral**	**1.52**	**69**	⇑*iP*	**Pn**	**05 27 57.5**	**+0.3**
	baz=69						
ARLS				⇑*iS*	**Sg**	**05 28 18.6**	**+0.6**
	baz=69						
EKS2	**Erkin-Say**	**1.67**	**37**	⇓*iP*	**Pb**	**05 28 00.1**	**-0.2**
	baz=37						
EKS2				⇓*iS*	**Sg**	**05 28 22.9**	**+0.3**
	baz=37						
UCH	**Uchtor**	**1.80**	**60**	⇑*iP*	**Pb**	**05 28 02.8**	**-0.1**
	baz=59						
UCH				⇑*iS*	**Sg**	**05 28 27.5**	**+0.5**
	baz=59						
AAK	**Ala-Archa**	**2.02**	**49**	⇑Pn	**Pb**	**05 28 06.3**	**-0.1**
	2.4nm,0.4s						
AAK				⇑Lg	Lg	05 28 33.9	
	5.0nm,0.5s						
AAK	**Ala-Archa**	**2.02**	**49**	⇑*iP*	**Pb**	**05 28 06.3**	**-0.1**
	baz=49						
AAK				⇑*iS*	**Sg**	**05 28 33.7**	**-0.3**
	baz=49						
KK09	**Karatay Array**	**2.28**	**322**	⇑Pg	**Pb**	**05 28 10.9**	**+0.2**
	0.9nm,0.3s,baz=139,slow=16						
KK09				⇑Lg	Lg	05 28 41.8	
	9.3nm,0.5s,baz=136,slow=29						
KBK	**Karagaybulak**	**2.30**	**54**	⇑*iP*	**Pb**	**05 28 10.2**	**-1.0**
	baz=54						
KBK				⇑*iS*	**Sb**	**05 28 40.5**	**+0.4**
	baz=54						
CHMS	**Chumysh**	**2.40**	**46**	⇓*iP*	**Pb**	**05 28 11.5**	**-1.3**
	baz=45						
CHMS				⇓*iS*	**Sb**	**05 28 42.7**	**-0.1**
	baz=45						
USP	**Ospenovka**	**2.47**	**38**	⇓*iP*	**Pb**	**05 28 12.4**	**-1.6**
	baz=38						
USP				⇓*iS*	**Sb**	**05 28 44.5**	**-0.3**
	baz=38						
TKM2	**Tokmak 2**	**2.85**	**55**	⇑Pn	**Pn**	**05 28 17.4**	**+2.0**
	0.8nm,0.3s						
TKM2				⇓Lg	Lg	05 28 59.1	
	3.0nm,0.6s						
TKM2	**Tokmak 2**	**2.85**	**55**	⇑*iP*	**Pn**	**05 28 17.6**	**+2.2**
	baz=55						
TKM2				⇑*iS*	**Sb**	**05 28 53.5**	**-2.2**
	baz=55						
BOOM	**Boomskoye usch**	**2.87**	**65**	⇑*eP*	**Pn**	**05 28 18.0**	**+2.3**
	baz=65						
BOOM				⇑*iS*	**Sb**	**05 28 54.1**	**-2.3**
	baz=65						

*IDC **04** 05:36:03.8±1.1,36°.42N×139°.35E,h126km±8km,mb3.2/7, mb1 3.4/10,mb1mx3.0/50,mbtmp3.7/10,Error ellipse: s-maj=23.3km s-min=19.2km az=179.0*
*JMA **04** 05:36:04.8±0.1,36°.29N×139°.38E,h125km±1km,M3.4*
ISC 04 05:36:03.8±0.8,36°.39N±0°.06×139°.36E±0°.06,h129km±6km, n20,σ1§61/32,mb3.5/7,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.08**	**66**	P	**Pn**	**05 36 22.0**	**+0.7**
JAG				S	**Sn**	**05 36 35.0**	**+0.5**
JKT	**Katashina**	**0.39**	**347**	P	**Pn**	**05 36 23.4**	**+1.1**
JKT				S	**Sn**	**05 36 37.5**	**+1.2**
JRY	**Ryogami san**	**0.53**	**225**	P	**Pn**	**05 36 23.6**	**+0.7**
JRY				S	**Sn**	**05 36 37.4**	**0.0**
MJAR	**Matsushiro Arr**	**0.94**	**280**	P	**Pn**	**05 36 26.5**	**+0.5**
	6.0nm,0.3s,baz=89,slow=7.2,SNR=187						
MJAR				S	**Sn**	**05 36 42.2**	**-0.8**
	5.1nm,0.3s,baz=99,slow=13,SNR=7.2						
MAT	**Matsushiro**	**0.94**	**280**	P	**Pn**	**05 36 26.8**	**+0.7**
MAT				S	**Sn**	**05 36 43.3**	**+0.4**
MAT	**Matsushiro**	**0.94**	**280**	P	**Pn**	**05 36 26.8**	**+0.7**
MAT				S	**Sn**	**05 36 43.4**	**+0.5**
JYN	**Shimob**	**1.11**	**217**	P	**Pn**	**05 36 27.7**	**0.0**
JYN				S	**Sn**	**05 36 45.6**	**-0.3**
JOD2	**Odawara 2**	**1.15**	**191**	P	**Pn**	**05 36 27.5**	**-0.6**
JOD2				S	**Sn**	**05 36 45.0**	**-1.5**
JFNN	**Fujinakano**	**1.31**	**205**	P	**Pn**	**05 36 30.2**	**+0.4**
JFNN				S	**Sn**	**05 36 49.7**	**+0.2**
JFT	**Otama**	**1.37**	**35**	P	**Pn**	**05 36 32.2**	**+1.8**
JFT				S	**Sn**	**05 36 52.8**	**+2.2**
JHJ	**Hachijo jima 2**	**3.28**	**174**	P	**Pn**	**05 36 53.7**	**-0.4**
	58nm,0.3s,baz=82,slow=13,SNR=24						
JHJ				S	**Sn**	**05 37 30.1**	**-2.8**
	60nm,0.3s,baz=97,slow=22,SNR=14						
JNU	**Nakatsue**	**7.70**	**247**	P	**Pn**	**05 37 54.1**	**+0.9**
	0.6nm,0.3s,baz=111,slow=1.1,SNR=4.5						
ASAJ	**Asahikawa**	**8.10**	**17**	P	**Pn**	**05 37 56.8**	**-1.7**
	1.8nm,0.3s,baz=254,slow=11,SNR=9.2						
ASAJ				S	**Sn**	**05 39 22.2**	**-6.2**
	0.4nm,0.3s,baz=274,slow=34,SNR=2.1						
ZALV	**Zalesovo Beam**	**41.14**	**313**	P	**P**	**05 43 34.0**	**-1.0**
	0.7nm,0.5s,baz=98,slow=9.1,SNR=4.8						
MKAR	**Makanchi Array**	**43.07**	**302**	P	**P**	**05 43 50.5**	**-0.3**
	0.5nm,0.7s,baz=84,slow=11,SNR=5.7						
KURBB	**Kurchatov Arra**	**45.10**	**308**	P	**P**	**05 44 07.2**	**+0.3**
	1.9nm,0.5s,baz=84,slow=7.6,SNR=29						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**05 44 52.2**	**+0.8**
	0.4nm,0.6s,baz=266,slow=4.1,SNR=8.1						
INK	**Inuvik**	**55.70**	**27**	P	**P**	**05 45 26.8**	**+0.5**
	0.7nm,0.8s,baz=284,slow=23,SNR=1.9						
YKA	**Yellowknife Ar**	**65.18**	**29**	P	**P**	**05 46 31.8**	**+1.1**
	0.2nm,0.7s,baz=305,slow=7.0,SNR=4.4						
PDAR	**Pinedale Array**	**79.28**	**44**	P	**P**	**05 47 53.6**	**-1.6**
	0.1nm,0.5s,baz=318,slow=1.2,SNR=2.0						

*IDC **04** 05:39:32.8±0.6,6°.96S×155°.43E,h0km,mb4.5/15, mb1 4.6/15,mb1mx4.1/40,mbtmp4.4/15,MS3.7/28, Ms1 3.7/28,ms1mx3.5/57,Error ellipse: s-maj=25.7km s-min=16.0km az=120.0*
*DJA **04** 05:39:40.8±1.5,7°.S±8°.×15°.6E±1°.6,h31km±5km,M5.2/5, mB5.1/1,mb4.8/5,MLv5.5/1,Mw(mB)4.5/1*
*NEIC **04** 05:39:42.3±1.7,7°.02S±0°.08×155°.43E±0°.08,h64km±5km, mb4.7/56,Error ellipse: s-maj=13.4km s-min=9.9km az=220.0*
ISC 04 05:39:40.3±0.4,7°.01S±0°.06×155°.38E±0°.07,h50km,n128, σ0§99/98,mb4.7/47,MS3.7/28,2C,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.25**	**311**		**Pn**	**05 40 45.6**	**+2.9**
HNR	**Honiara**	**5.12**	**118**	LR	LR	05 42 60.0	
	comp=Z,2μm,19.6s,baz=291,slow=41						
HNR	**Honiara**	**5.12**	**118**	Pn	**Pn**	**05 40 56.3**	**+1.8**
PMG	**Port Moresby**	**8.47**	**253**	LR	LR	05 44 46.3	
	comp=Z,595nm,21.1s,baz=65,slow=37						
PMG	**Port Moresby**	**8.47**	**253**		**Pn**	**05 41 42.7**	**+2.2**
COEN	**Coen**	**13.84**	**239**		**Pn**	**05 42 54.0**	**+0.1**
PATS	**Pohnpei**	**14.07**	**12**	Pn	**Pn**	**05 42 56.4**	**-0.5**
CTAO	**Charters Tower**	**15.72**	**213**	Pn	**Pn**	**05 43 18.4**	**-0.3**
DZM	**Mont Dzumac**	**18.39**	**146**	LR	LR	05 49 57.0	
	comp=Z,220nm,20.8s,baz=232,slow=34						
DZM	**Mont Dzumac**	**18.39**	**146**	*e*P	Pn	05 43 58.5	+6.7
	43nm,1.1s						
DZM				*e*LR	LR	05 48 20.3	
	comp=Z,370nm,25.4s						
DZM	**Mont Dzumac**	**18.39**	**146**	P	**P**	**05 43 50.5**	**-0.9**
EIDS	**Eidsvold**	**18.71**	**192**	P	**P**	**05 43 53.5**	**-1.2**
OUENC	**Ouen Island, N**	**18.89**	**145**	P	**P**	**05 43 56.0**	**-0.7**
GUMO	**Guam**	**22.98**	**333**	LR	LR	05 52 17.3	
	comp=Z,69nm,21.7s,baz=134,slow=33						
ARMA	**Armidale**	**23.55**	**188**	P	**P**	**05 44 47.1**	**+0.7**
ARMA				IAmb	IAmb	05 45 04.1	
	comp=Z,29nm,1.3s						
WR0	**Warramunga Arr**	**23.96**	**235**	P	**P**	**05 44 50.4**	**+0.1**
WB0	**Warramunga Arr**	**23.99**	**236**		**P**	**05 44 51.0**	**+0.4**
WB0				IAmb	IAmb	05 45 01.4	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**24.11**	**236**	P	**P**	**05 44 52.1**	**+0.5**
WRAB				IAmb	IAmb	05 45 02.5	
	comp=Z,26nm,0.8s						
WB2	**Warramunga Arr**	**24.11**	**236**		**P**	**05 44 52.0**	**+0.4**
WB2				IAmb	IAmb	05 45 02.6	
	comp=Z,28nm,0.8s						
WRA	**Warramunga Arr**	**24.12**	**236**	P	**P**	**05 44 51.8**	**+0.1**
	comp=Z,12nm,0.8s,baz=57,slow=9.3,SNR=65						
WRA				LR	LR	05 54 19.7	
	comp=Z,202nm,18.4s,baz=36,slow=37						
WRA	**Warramunga Arr**	**24.12**	**236**		**P**	**05 44 51.3**	**-0.4**
MTN	**Manton Dam**	**24.56**	**254**	P	**P**	**05 44 54.8**	**-0.9**
MTN				IAmb	IAmb	05 45 08.5	
	comp=Z,52nm,1.3s						
SWI	**Sorong**	**24.81**	**283**	P	P	05 45 06.2	+8.2
AS31	**Alice Springs**	**26.44**	**229**	P	**P**	**05 45 12.5**	**-0.3**
ASAR	**Alice Springs**	**26.45**	**229**	P	**P**	**05 45 12.3**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=56,slow=10,SNR=39						
ASAR				ScP	**ScP**	**05 52 16.3**	**+3.1**
	comp=Z,0.5nm,0.8s,baz=57,slow=2.6,SNR=4.2						
ASAR				LR	LR	05 55 30.2	
	comp=Z,217nm,18.7s,baz=118,slow=36						
ASAR	**Alice Springs**	**26.45**	**229**	P	**P**	**05 45 11.1**	**-1.8**
KNRA	**Kununurra**	**27.45**	**249**	P	**P**	**05 45 23.6**	**+1.8**
KNRA				IAmb	IAmb	05 45 31.5	
	comp=Z,12nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.69**	**24**	T	T	06 13 32.3	
	baz=204,slow=75,SNR=55						
H11S2	**WAKE ISLAND Hy**	**27.70**	**24**	T	T	06 13 32.5	
	baz=204,slow=75,SNR=53						
H11S1	**WAKE ISLAND Hy**	**27.71**	**24**	T	T	06 13 33.5	
	baz=204,slow=75,SNR=23						
STKA	**Stephens Creek**	**27.88**	**206**	P	**P**	**05 45 25.4**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=18,slow=9.2,SNR=5.3						
STKA				LR	LR	05 56 39.0	
	comp=Z,324nm,18.3s,baz=25,slow=37						
STKA	**Stephens Creek**	**27.88**	**206**	P	**P**	**05 45 25.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**30.99**	**246**	P	**P**	**05 45 52.9**	**-0.4**
	comp=Z,9.1nm,0.6s,baz=80,slow=6.3,SNR=20						
FITZ				LR	LR	05 58 18.3	
	comp=Z,156nm,19.8s,baz=70,slow=36						
DAV	**Davao City (W)**	**32.85**	**295**	LR	LR	06 00 14.4	
	comp=Z,53nm,18.2s,baz=336,slow=38						
AFI	**Afiamalu**	**32.99**	**105**	LR	LR	05 58 16.3	
	comp=Z,118nm,18.5s,baz=284,slow=34						
FORT	**Forrest**	**34.84**	**224**	P	**P**	**05 46 26.7**	**0.0**
KAPI	**Kappang**	**35.48**	**271**	P	**P**	**05 46 29.2**	**-3.3**
	comp=Z,3.4nm,0.5s,baz=180,slow=20,SNR=2.4						
KAPI	**Kappang**	**35.48**	**271**	P	**P**	**05 46 32.2**	**-0.2**
KAPI				IAmb	IAmb	05 46 43.7	
	comp=Z,14nm,0.9s						
PSA00	**Pilbara Seismi**	**37.23**	**243**	P	**P**	**05 46 47.2**	**-0.1**
BKZ	**Black Stump Fm**	**37.24**	**152**	P	**P**	**05 46 48.9**	**+1.7**
MORW	**Morawa**	**43.05**	**234**	P	**P**	**05 47 36.2**	**+0.7**
YULB	**Yu-li**	**44.97**	**313**	P	**P**	**05 47 51.5**	**+0.6**
JNU	**Nakatsue**	**46.21**	**331**	LR	LR	06 03 13.2	
	comp=Z,13nm,20.2s,baz=310,slow=31						
MJAR	**Matsushiro Arr**	**46.22**	**341**	LR	LR	06 05 06.9	
	comp=Z,33nm,21.3s,baz=174,slow=33						
KSRS	**Korea Array**	**51.13**	**332**	P	**P**	**05 48 37.0**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=144,slow=7.6,SNR=2.1						
ASAJ	**Asahikawa**	**52.19**	**348**	LR	LR	06 09 41.6	
	comp=Z,65nm,19.8s,baz=52,slow=35						
PPT2	**Papeete2**	**54.63**	**107**	*e*LR	LR	06 05 08.4	
	comp=Z,45nm,21.8s						
TBI	**Tubuai**	**55.32**	**113**	*e*LR	LR	06 05 23.0	
	comp=Z,110nm,33.2s						
BNX	**BinXian**	**58.17**	**337**	⇑P	P	05 49 34.6	+5.5
BNX				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BNX				pmax	pmax		
	comp=Z,130nm,4.9s						
KLR	**Kul'dur**	**59.70**	**342**	LR	LR	06 13 17.6	
	comp=Z,32nm,21.4s,baz=138,slow=34						
PEA0B	**Petropavlovsk-**	**59.92**	**2**	P	**P**	**05 49 42.3**	**+1.1**
PETK	**Petropavlovsk-**	**59.92**	**2**	P	**P**	**05 49 41.5**	**+0.4**
	comp=Z,11nm,0.8s,baz=188,slow=10.0,SNR=11						
PETK				LR	LR	06 11 24.3	
	comp=Z,39nm,21.6s,baz=179,slow=32						
PETK	**Petropavlovsk-**	**59.92**	**2**	P	**P**	**05 49 42.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**61.13**	**295**	P	**P**	**05 49 50.9**	**+0.8**
	comp=Z,7.8nm,0.6s,baz=124,slow=5.5,SNR=44						
CMAR				LR	LR	06 16 46.2	
	comp=Z,14nm,19.2s,baz=100,slow=36						
CHTO	**Chiang Mai**	**61.25**	**296**	P	**P**	**05 49 51.3**	**+0.4**
SHEM	**Shemya Is, Ala**	**61.61**	**13**	LR	LR	06 12 13.8	
	comp=Z,98nm,21.3s,baz=234,slow=32						
TAOE	**Nuku Hiva Isla**	**63.82**	**96**	*e*LR	LR	06 09 20.8	
	comp=Z,96nm,23.5s						
LZH	**Lanzhou**	**64.59**	**315**	*e*P	P	05 50 23.4	+10
LZH				pP	pP	05 50 28.2	+1.6
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
MA2	**Magadan**	**66.48**	**357**	P	**P**	**05 50 24.3**	**-0.1**
MA2				IAmb	IAmb	05 50 39.3	
	comp=Z,8.1nm,0.6s						
GTA	**Gaotai**	**69.01**	**317**	*e*P	P	05 50 51.5	+11
GTA				pP	sP	05 51 02.7	+2.4
GTA				sP	PcP	05 51 06.1	+1.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**69.56**	**327**	P	**P**	**05 50 43.5**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=131,slow=6.6,SNR=8.0						
SHL	**Shillong**	**69.63**	**300**	P	**P**	**05 50 45.6**	**+0.5**
SEY	**Seymchan**	**69.78**	**359**	P	**P**	**05 50 45.0**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=187,slow=2.2,SNR=8.1						
YAK	**Yakutsk**	**71.66**	**348**	LR	LR	06 20 59.4	
	comp=Z,22nm,21.1s,baz=102,slow=35						
BILL	**Bilibino**	**75.27**	**4**	P	**P**	**05 51 18.3**	**+0.7**
BILL				IAmb	IAmb	05 51 37.4	
	comp=Z,6.9nm,1.0s						
ANM	**Nome**	**77.14**	**16**	P	**P**	**05 51 29.0**	**+0.7**
ANM				IAmb	IAmb	05 51 32.9	
	comp=Z,5.5nm,0.7s						
J20K	**Nowinta River**	**80.35**	**20**	P	**P**	**05 51 46.8**	**+0.8**
J20K				IAmb	IAmb	05 51 47.7	
	comp=Z,5.8nm,0.8s						
TIXI	**Tiksi**	**80.43**	**352**	LR	LR	06 23 36.6	
	comp=Z,24nm,22.0s,baz=242,slow=33						
CAST	**Castle Rocks**	**80.60**	**21**	P	**P**	**05 51 47.3**	**-0.1**
CAST				IAmb	IAmb	05 51 50.9	
	comp=Z,7.6nm,0.7s						
TRF	**Thorofare Moun**	**81.27**	**22**	P	**P**	**05 51 51.8**	**+0.7**
TRF				IAmb	IAmb	05 51 55.6	
	comp=Z,9.1nm,0.9s						
IMAR	**Indian Mountai**	**81.62**	**19**	P	**P**	**05 51 53.4**	**+0.7**
I21K	**Tanana**	**81.70**	**20**	P	**P**	**05 51 54.1**	**+1.0**
I21K				IAmb	IAmb	05 52 04.8	
	comp=Z,18nm,1.4s						
H21K	**Melozitna Rive**	**81.72**	**19**	P	**P**	**05 51 53.6**	**+0.4**
RND	**Reindeer**	**81.78**	**22**	P	**P**	**05 51 53.5**	**-0.1**
RND				IAmb	IAmb	05 52 04.6	
	comp=Z,8.2nm,0.9s						
MCK	**McKinley**	**81.93**	**22**	P	**P**	**05 51 53.9**	**-0.5**
MLY	**Manley**	**82.04**	**20**	P	**P**	**05 51 55.1**	**+0.2**
MLY				IAmb	IAmb	05 51 58.0	
	comp=Z,11nm,1.3s						
NEA2	**Nenana**	**82.37**	**21**	P	**P**	**05 51 56.2**	**-0.5**
NEA2				IAmb	IAmb	05 51 56.6	
	comp=Z,5.6nm,0.7s						
I23K	**Minto, Yukon-K**	**82.58**	**20**	P	**P**	**05 51 56.6**	**-1.1**
I23K				IAmb	IAmb	05 52 01.3	
	comp=Z,13nm,1.4s						
CCB	**Clear Creek Bu**	**82.85**	**21**	P	**P**	**05 51 58.6**	**-0.6**
CCB				IAmb	IAmb	05 52 16.6	
	comp=Z,12nm,1.4s						
TCOL	**CIGO, UAF Yank**	**82.96**	**21**	P	**P**	**05 51 59.0**	**-0.7**
TCOL				IAmb	IAmb	05 52 05.6	
	comp=Z,8.4nm,0.8s						
COLA	**College**	**82.96**	**21**	P	**P**	**05 51 59.0**	**-0.7**
COLA				IAmb	IAmb	05 52 00.4	
	comp=Z,8.5nm,0.8s						
QSPA	**South Pole Qui**	**82.96**	**180**	P	**P**	**05 51 59.7**	**-0.2**
QSPA				IAmb	IAmb	05 52 09.0	
	comp=Z,12nm,1.1s						
HDA	**Harding Lake**	**83.04**	**22**	P	**P**	**05 51 59.6**	**-0.5**
IL31		**83.25**	**21**	P	**P**	**05 52 00.5**	**-0.7**
IL31				IAmb	IAmb	05 52 10.5	
	comp=Z,7.8nm,1.2s						
ILAR	**Eielson Array**	**83.25**	**21**	P	**P**	**05 52 00.0**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=249,slow=5.3,SNR=35						
ILAR				LR	LR	06 24 16.9	
	comp=Z,96nm,20.3s,baz=246,slow=32						
ILAR	**Eielson Array**	**83.25**	**21**	P	**P**	**05 52 00.8**	**-0.5**
H24K	**Noodor Dome**	**83.48**	**20**	P	**P**	**05 52 02.7**	**+0.3**
BARN	**Barnard Glacie**	**83.48**	**26**	P	**P**	**05 52 03.2**	**+0.5**
CTGM	**Chitina Glacie**	**83.58**	**26**	P	**P**	**05 52 03.4**	**+0.2**
MK31	**Makanchi Array**	**83.67**	**319**	P	**P**	**05 52 03.0**	**-0.8**
MKAR	**Makanchi Array**	**83.67**	**319**	P	**P**	**05 52 03.4**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=104,slow=5.1,SNR=9.1						
MKAR	**Makanchi Array**	**83.67**	**319**	P	**P**	**05 52 03.1**	**-0.7**
L26K	**Log Cabin Wild**	**83.71**	**24**	P	**P**	**05 52 04.1**	**+0.4**
L26K				IAmb	IAmb	05 52 05.0	
	comp=Z,4.2nm,0.7s						
DOT	**Dot Lake**	**83.73**	**23**	P	**P**	**05 52 04.2**	**+0.5**
DOT				IAmb	IAmb	05 52 04.7	
	comp=Z,6.7nm,0.7s						
SCRK	**Sand Creek**	**83.92**	**23**	P	**P**	**05 52 05.1**	**+0.3**
SCRK				IAmb	IAmb	05 52 08.7	
	comp=Z,4.0nm,0.7s						
M27K	**Edge Creek, AK**	**83.99**	**25**	P	**P**	**05 52 05.8**	**+0.5**
ZALV	**Zalesovo Beam**	**84.41**	**326**	P	**P**	**05 52 05.8**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=111,slow=5.3,SNR=2.2						
TOLK	**Toolik Lake Re**	**84.52**	**18**	P	**P**	**05 52 08.0**	**+0.3**
EGAK	**Eagle**	**85.39**	**23**	P	**P**	**05 52 12.5**	**+0.5**
EGAK				IAmb	IAmb	05 52 15.9	
	comp=Z,5.5nm,0.8s						
DAWY	**Dawson**	**85.76**	**24**	P	**P**	**05 52 14.9**	**+0.9**
DAWY				IAmb	IAmb	05 52 32.5	
	comp=Z,12nm,1.5s						
KSH	**Kashi**	**86.31**	**310**	P	**P**	**05 52 19.9**	**+2.5**
KSH				pP	sP	05 52 46.9	+10
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURBB	**Kurchatov Arra**	**87.11**	**322**	P	**P**	**05 52 19.1**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=106,slow=4.0,SNR=4.3						
BBB	**Bella Bella**	**87.31**	**37**	LR	LR	06 25 45.9	
	comp=Z,136nm,18.5s,baz=244,slow=32						
YBH	**Yreka Blue Hor**	**88.62**	**48**	LR	LR	06 28 22.0	
	comp=Z,87nm,18.4s,baz=289,slow=33						
INK	**Inuvik**	**89.60**	**21**	LR	LR	06 27 19.2	
	comp=Z,80nm,20.0s,baz=234,slow=32						
INK	**Inuvik**	**89.60**	**21**	P	**P**	**05 52 31.9**	**-0.3**
RPN	**Rapa Nui**	**91.52**	**117**	LR	LR	06 25 43.9	
	comp=Z,44nm,21.6s,baz=218,slow=30						
PFO	**Pinyon Flats O**	**92.31**	**57**	LR	LR	06 28 51.0	
	comp=Z,53nm,18.5s,baz=264,slow=32						
SYO	**Syowa Base**	**92.43**	**199**	⇑*eP*	**P**	**05 52 45.0**	**-0.4**
C36M	**Paulatuk**	**93.19**	**21**	P	**P**	**05 52 48.6**	**-0.2**
NEW	**Newport**	**93.52**	**42**	LR	LR	06 32 50.5	
	comp=Z,84nm,18.2s,baz=280,slow=34						
YKA	**Yellowknife Ar**	**96.18**	**28**	P	**P**	**05 53 02.6**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=267,slow=4.5,SNR=37						
LPIG	**La Paz**	**96.75**	**67**	LR	LR	06 29 27.6	
	comp=Z,72nm,20.0s,baz=224,slow=31						
PDAR	**Pinedale Array**	**98.43**	**48**	P	**P**	**05 53 12.9**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=233,slow=1.6,SNR=4.4						
PDAR				LR	LR	06 34 38.6	
	comp=Z,55nm,18.6s,baz=284,slow=34						
PLCA	**Paso Flores**	**116.47**	**142**	PKP	**PKPdf**	**05 58 18.8**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=168,slow=1.6,SNR=4.9						
AKASG	**Malin Array Be**	**117.78**	**325**	PKP	**PKPdf**	**05 58 20.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=50,slow=2.6,SNR=5.8						
HFS	**Hagfors**	**119.66**	**339**	PKP	**PKPdf**	**05 58 23.4**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=75,slow=7.6,SNR=4.5						
NB2	**NORSAR Subarra**	**119.84**	**341**	PKPdf	**PKPdf**	**05 58 23.8**	**-1.1**
	comp=Z,2.3nm,1.2s,baz=39,slow=1.9						
NOA	**NORSAR Array B**	**119.84**	**341**	PKP	**PKPdf**	**05 58 24.0**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=45,slow=2.0,SNR=4.4						
GERES	**GERESS Array B**	**127.26**	**329**	PKP	**PKPdf**	**05 58 38.7**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=93,slow=2.7,SNR=6.0						
EKA	**Eskdalemuir Ar**	**128.86**	**344**	PKP	**PKPdf**	**05 58 42.3**	**0.0**
	comp=Z,0.7nm,0.4s,baz=9.3,slow=2.8,SNR=4.4						
LPAZ	**La Paz**	**131.12**	**119**	PKP	**PKiKP**	**05 58 48.9**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=307,slow=3.1,SNR=4.1						
LPAZ	**La Paz**	**131.12**	**119**		**PKPdf**	**05 58 47.7**	**-0.7**
CPUP	**Villa Florida**	**134.11**	**138**	PKP	**PKPdf**	**05 58 53.5**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=62,slow=1.2,SNR=5.5						
BDFB	**Brasilia**	**147.70**	**134**	PKPbc	**PKPbc**	**05 59 20.8**	**+0.1**
	comp=Z,13nm,0.6s,baz=276,slow=2.2,SNR=38						
BDFB	**Brasilia**	**147.70**	**134**	PKPbc	**PKPbc**	**05 59 19.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**153.40**	**285**	PKPbc	**PKPbc**	**05 59 33.6**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=81,slow=1.8,SNR=15						
DBIC	**Dimbokro**	**160.37**	**270**	PKPab	**PKPab**	**06 00 16.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=94,slow=4.7,SNR=4.8						

*IDC **04** 05:41:04.2±1.0,0°.01S×96°.61E,h0km,mb4.0/11, mb1 4.1/12,mb1mx3.7/48,mbtmp4.0/12,ML4.1/1,MS2.

comp=Z,6.7nm,0.7s
AS31 Alice Springs 43.00 126 P **P** **05 49 06.7 +0.2**
ASAR Alice Springs 43.00 126 P **P** **05 49 06.9 +0.3**
comp=Z,0.6nm,0.4s,baz=295,slow=7.7,SNR=7.0
DRK Karamyk 45.34 332 P **P** **05 49 27.0 +1.6**
KSRS Korea Array 46.77 34 P **P** **05 49 37.9 +1.6**
comp=Z,0.8nm,0.3s,baz=212,slow=9.2,SNR=4.6
SONM Songino Array 48.12 9 P **P** **05 49 49.5 +2.7**
comp=Z,0.5nm,0.5s,baz=192,slow=8.3,SNR=2.6
SONM Songino Array 48.12 9 P **P** **05 49 47.3 +0.5**
SONM IAmb IAmb 05 49 59.0
comp=Z,1.6nm,0.8s
MK31 Makanchi Array 48.12 346 P **P** **05 49 46.9 +0.2**
MK31 IAmb IAmb 05 49 58.9
comp=Z,2.4nm,0.7s
MKAR Makanchi Array 48.12 346 P **P** **05 49 47.6 +0.9**
comp=Z,1.2nm,0.5s,baz=159,slow=7.9,SNR=14
MKAR Makanchi Array 48.12 346 P **P** **05 49 47.3 +0.6**
MAKZ Makanchi 48.21 346 P **P** **05 49 47.5 +0.1**
MAKZ IAmb IAmb 05 49 54.7
comp=Z,3.6nm,0.7s
KKAR Karatay Array 48.83 334 P **P** **05 49 51.9 -0.3**
CN2 Changchun 50.26 27 *eP* **P** **05 50 06.9 +3.8**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
STKA Stephens Creek 52.88 131 P **P** **05 50 23.6 +0.7**
comp=Z,2.0nm,0.7s,baz=298,slow=11,SNR=3.3
STKA Stephens Creek 52.88 131 IAmb IAmb 05 50 28.7
comp=Z,2.5nm,1.4s
ZAA0 Zalesovo Array 54.47 351 P **P** **05 50 34.9 +0.7**
ZALV Zalesovo Beam 54.47 351 P **P** **05 50 34.6 +0.4**
comp=Z,3.5nm,0.6s,baz=176,slow=6.6,SNR=22
ZALV Zalesovo Beam 54.47 351 P **P** **05 50 34.8 +0.6**
ABKAR Akbulak array 58.26 332 P **P** **05 51 01.1 -0.2**
ABKAR IAmb IAmb 05 51 01.5
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 69.60 313 P **P** **05 52 15.1 -1.3**
comp=Z,0.8nm,0.7s,baz=141,slow=7.7,SNR=4.9
AKASG Malin Array Be 75.89 323 P **P** **05 52 52.2 -1.0**
comp=Z,0.8nm,0.5s,baz=87,slow=5.1,SNR=7.3
ARCES ARCESS Array B 83.37 340 P **P** **05 53 32.9 -0.7**
comp=Z,4.5nm,0.9s,baz=93,slow=3.9,SNR=3.5
GERES GERESS Array B 85.39 319 P **P** **05 53 43.1 -1.3**
comp=Z,0.2nm,0.5s,baz=65,slow=6.9,SNR=1.9
CPUP Villa Florida 144.14 222 PKP PKPbc 06 00 41.9 +0.5
comp=Z,3.5nm,0.6s,baz=153,slow=3.6,SNR=8.9

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*NOU **04** 05:43:17.5, 39°.70S×174°.57E, h150km, MLv3.7/8, North Island, New Zealand*
*WEL **04** 05:43:21.0±0.5, 40°.5±2°.2×17°.5E±°, h101km±4km, M3.1/46, ML3.2/31, MLv3.1/46, Error ellipse: s-maj=0.0km s-min=0.0km az=87.2*
ISC 04 05:43:17.4±1.6, 39°.73S±0°.04×174°.57E±0°.04, h136km±9km, n99, σ1.9±17/125, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.30**	**335**	P	**Pn**	**05 43 37.3**	**+1.0**
LREZ				S	**Sn**	**05 43 50.4**	**-0.2**
WAZ	**Wanganui**	**0.33**	**95**	P	**Pn**	**05 43 37.5**	**+1.1**
WAZ				S	**Sn**	**05 43 50.5**	**-0.3**
PREZ	**Palmer Road**	**0.50**	**321**	P	**Pn**	**05 43 37.8**	**+0.5**
PREZ				S	**Sn**	**05 43 51.7**	**-0.5**
NEZ	**North Egmont**	**0.58**	**322**	P	**Pn**	**05 43 38.7**	**+0.9**
NEZ				S	**Sn**	**05 43 52.9**	**-0.4**
KHEZ	**Kahui Hut**	**0.61**	**315**	P	**Pn**	**05 43 38.9**	**+0.9**
DREZ	**Durham Road**	**0.61**	**332**	P	**Pn**	**05 43 38.8**	**+0.9**
DREZ				S	**Sn**	**05 43 52.9**	**-0.4**
NMEZ	**Namu Road**	**0.62**	**301**	P	**Pn**	**05 43 38.7**	**+0.8**
NMEZ				S	**Sn**	**05 43 53.1**	**-0.3**
VRZ	**Vera Road**	**0.62**	**14**	P	**Pn**	**05 43 38.6**	**+0.6**
VRZ				S	**Sn**	**05 43 52.0**	**-1.4**
MHEZ	**Mangahewa**	**0.68**	**344**	P	**Pn**	**05 43 39.5**	**+1.2**
PKE	**Pukeiti**	**0.70**	**320**	P	**Pn**	**05 43 39.2**	**+0.8**
PKE				S	**Sn**	**05 43 53.6**	**-0.8**
OHWZ	**Ohakea**	**0.75**	**130**	P	**Pn**	**05 43 38.9**	**+0.2**
OHWZ				S	**Sn**	**05 43 55.3**	**+0.3**
PKVZ	**Pokaka**	**0.75**	**54**	P	**Pn**	**05 43 39.5**	**+0.7**
PKVZ				S	**Sn**	**05 43 53.5**	**-1.7**
MTVZ	**Mangateitei**	**0.78**	**64**	P	**Pn**	**05 43 39.9**	**+0.8**
TRVZ	**Turoa**	**0.87**	**61**	P	**Pn**	**05 43 40.7**	**+0.7**
TRVZ				S	**Sn**	**05 43 56.4**	**-0.8**
WNVZ	**Wahianoa**	**0.90**	**64**	P	**Pn**	**05 43 41.0**	**+0.8**
WNVZ				S	**Sn**	**05 43 55.8**	**-1.6**
DRZ	**Dome Shelter**	**0.90**	**60**	P	**Pn**	**05 43 41.5**	**+1.1**
DRZ				S	**Sn**	**05 43 56.1**	**-1.7**
FWVZ	**Far West T-bar**	**0.90**	**59**	P	**Pn**	**05 43 41.0**	**+0.7**
FWVZ				S	**Sn**	**05 43 56.5**	**-1.2**
WHVZ	**Whangaehu Hut**	**0.91**	**61**	P	**Pn**	**05 43 41.3**	**+0.9**
WHVZ				S	**Sn**	**05 43 57.6**	**-0.1**
TWVZ	**Taurewa**	**0.94**	**46**	P	**Pn**	**05 43 41.1**	**+0.5**
TWVZ				S	**Sn**	**05 43 56.3**	**-1.7**
TUVZ	**Tukino**	**0.96**	**62**	P	**Pn**	**05 43 41.8**	**+1.0**
TUVZ				S	**Sn**	**05 43 57.7**	**-0.7**
MOVZ	**Moawhango**	**0.97**	**71**	P	**Pn**	**05 43 41.3**	**+0.6**
MOVZ				S	**Sn**	**05 43 56.3**	**-2.1**
NGZ	**Ngauruhoe**	**0.97**	**56**	P	**Pn**	**05 43 41.7**	**+0.8**
SNVZ	**South Ngauruho**	**0.99**	**57**	P	**Pn**	**05 43 41.9**	**+0.9**
WTVZ	**West Tongariro**	**1.00**	**53**	P	**Pn**	**05 43 41.9**	**+0.8**
NNVZ	**North Ngauruho**	**1.01**	**54**	P	**Pn**	**05 43 42.0**	**+0.8**
OTVZ	**Oturere**	**1.02**	**57**	P	**Pn**	**05 43 42.3**	**+1.0**
KRVZ	**Karewarewa**	**1.05**	**53**	P	**Pn**	**05 43 42.4**	**+0.9**
KRVZ				S	**Sn**	**05 43 58.1**	**-1.6**
ETVZ	**East Tongariro**	**1.07**	**57**	P	**Pn**	**05 43 43.0**	**+1.4**
TMVZ	**Te Maari**	**1.07**	**56**	P	**Pn**	**05 43 43.0**	**+1.3**
TSZ	**Takapari Road**	**1.12**	**107**	P	**Pn**	**05 43 43.3**	**+1.2**
TSZ				S	**Sn**	**05 43 59.6**	**-1.2**
POWZ	**Post Office Ro**	**1.14**	**126**	P	**Pn**	**05 43 43.6**	**+1.5**
POWZ				S	**Sn**	**05 43 59.3**	**-1.7**
KATZ	**Kakaramea**	**1.16**	**50**	P	**Pn**	**05 43 43.7**	**+1.2**
KIW	**Kapiti Island**	**1.16**	**167**	P	**Pn**	**05 43 43.6**	**+1.2**
KIW				S	**Sn**	**05 43 59.3**	**-2.2**
DUWZ	**D'Urville Isla**	**1.18**	**204**	P	**Pn**	**05 43 43.9**	**+1.3**
DUWZ				S	**Sn**	**05 44 01.8**	**0.0**
OGWZ	**Otaki Gorge**	**1.18**	**157**	P	**Pn**	**05 43 43.9**	**+1.4**
OGWZ				S	**Sn**	**05 44 00.5**	**-1.3**
MRZ	**Mangatainoka R**	**1.21**	**140**	P	**Pn**	**05 43 44.1**	**+1.2**
MRZ				S	**Sn**	**05 44 00.9**	**-1.4**
HIZ	**Hauiti**	**1.24**	**11**	P	**Pn**	**05 43 44.2**	**+1.0**
HIZ	**Hauiti**	**1.24**	**11**	P	**Pn**	**05 43 44.2**	**+1.0**
RITZ	**Rihia Road**	**1.25**	**54**	P	**Pn**	**05 43 45.0**	**+1.7**
RATZ	**Rangitukua**	**1.27**	**48**	P	**Pn**	**05 43 45.3**	**+1.7**
DVHZ	**Dannevirke**	**1.35**	**115**	P	**Pn**	**05 43 45.6**	**+1.2**
PRWZ	**Pori Road**	**1.36**	**128**	P	**Pn**	**05 43 46.0**	**+1.6**
WATZ	**Wairara**	**1.37**	**42**	P	**Pn**	**05 43 46.2**	**+1.6**
HOWZ	**Holdsworth Sta**	**1.37**	**148**	P	**Pn**	**05 43 45.8**	**+1.2**
KRHZ	**Kereru**	**1.40**	**87**	P	**Pn**	**05 43 45.9**	**+1.1**
CAW	**Cannon Point**	**1.43**	**165**	P	**Pn**	**05 43 46.6**	**+1.4**
TIWZ	**Tintock**	**1.45**	**136**	P	**Pn**	**05 43 46.8**	**+1.4**
KWHZ	**Kaweka Forest**	**1.47**	**79**	P	**Pn**	**05 43 47.2**	**+1.6**
WPHZ	**Waipukurau**	**1.48**	**104**	P	**Pn**	**05 43 47.0**	**+1.3**
WPHZ				S	**Sn**	**05 44 06.0**	**-1.4**
TCW	**Tory Channel**	**1.50**	**188**	P	**Pn**	**05 43 47.2**	**+1.4**
WEL	**Wellington**	**1.56**	**174**	P	**Pn**	**05 43 48.0**	**+1.4**
SNZO	**South Karori**	**1.58**	**176**	P	**Pn**	**05 43 48.2**	**+1.4**
TLZ	**Tolley Road**	**1.59**	**29**	P	**Pn**	**05 43 48.3**	**+1.3**
BKZ	**Black Stump Fm**	**1.60**	**70**	P	**Pn**	**05 43 47.9**	**+0.8**
BKZ	**Black Stump Fm**	**1.60**	**70**	P	**Pn**	**05 43 48.0**	**+0.9**
MTW	**Mount Morrison**	**1.60**	**154**	P	**Pn**	**05 43 48.2**	**+1.2**
BFZ	**Birch Farm**	**1.60**	**127**	P	**Pn**	**05 43 48.2**	**+1.2**
BFZ	**Birch Farm**	**1.60**	**127**	P	**Pn**	**05 43 48.3**	**+1.2**
ANWZ	**Angora Road**	**1.64**	**117**	P	**Pn**	**05 43 49.2**	**+1.7**
MCHZ	**McNeill Hill**	**1.67**	**81**	P	**Pn**	**05 43 49.8**	**+1.9**
PRHZ	**Porangahau**	**1.68**	**109**	P	**Pn**	**05 43 49.5**	**+1.6**
BHW	**Baring Head**	**1.69**	**172**	P	**Pn**	**05 43 49.3**	**+1.2**
TMWZ	**Te Maipa**	**1.71**	**144**	P	**Pn**	**05 43 49.7**	**+1.4**
CPWZ	**Castlepoint**	**1.72**	**134**	P	**Pn**	**05 43 50.3**	**+1.9**
NNZ	**Nelson**	**1.74**	**211**	P	**Pn**	**05 43 49.9**	**+1.3**
MSWZ	**Moikau Station**	**1.76**	**163**	P	**Pn**	**05 43 50.2**	**+1.2**
TUWZ	**Tuamarina**	**1.76**	**195**	P	**Pn**	**05 43 50.0**	**+1.1**
PAWZ	**Paruwai Farm**	**1.78**	**159**	P	**Pn**	**05 43 50.3**	**+1.2**
KAHZ	**Kahuranaki**	**1.78**	**93**	P	**Pn**	**05 43 50.7**	**+1.6**
NMHZ	**Naumai**	**1.85**	**71**	P	**Pn**	**05 43 52.2**	**+2.2**
TRWZ	**Traveller**	**1.87**	**153**	P	**Pn**	**05 43 51.4**	**+1.2**
QRZ	**Quartz Range**	**1.90**	**234**	P	**Pn**	**05 43 51.6**	**+1.1**
QRZ	**Quartz Range**	**1.90**	**234**	P	**Pn**	**05 43 51.6**	**+1.1**
PLWZ	**Palliser**	**1.91**	**164**	P	**Pn**	**05 43 51.8**	**+1.1**
ARHZ	**Aropaoanui**	**1.94**	**77**	P	**Pn**	**05 43 52.4**	**+1.5**
MTHZ	**Maungataniwha**	**1.97**	**64**	P	**Pn**	**05 43 52.3**	**+0.9**
BSWZ	**Blackbirch Sta**	**2.05**	**195**	P	**Pn**	**05 43 53.8**	**+1.5**
RAHZ	**Arahi**	**2.12**	**68**	P	**Pn**	**05 43 54.6**	**+1.5**
THZ	**Tophouse**	**2.39**	**211**	P	**Pn**	**05 43 57.7**	**+1.2**
URZ	**Urewera**	**2.47**	**54**	P	**Pn**	**05 43 57.8**	**+0.4**
URZ	**Urewera**	**2.47**	**54**	P	**Pn**	**05 43 58.0**	**+0.6**
MWZ	**Matawai**	**2.70**	**60**	P	**Pn**	**05 44 01.3**	**+0.9**
PRGZ	**Paritu Road**	**2.70**	**74**	P	**Pn**	**05 44 01.1**	**+0.7**
KHZ	**Kahutara**	**2.79**	**196**	P	**Pn**	**05 44 02.8**	**+1.3**
KHZ	**Kahutara**	**2.79**	**196**	P	**Pn**	**05 44 02.8**	**+1.3**
DSZ	**Denniston Nort**	**2.91**	**225**	P	**Pn**	**05 44 04.1**	**+1.1**
TWGZ	**Tauwhareparae**	**3.08**	**61**	P	**Pn**	**05 44 06.8**	**+1.4**
GVZ	**Greta Valley S**	**3.43**	**199**	P	**Pn**	**05 44 10.4**	**+0.5**
LTZ	**Lake Taylor**	**3.50**	**209**	P	**Pn**	**05 44 11.0**	**+0.3**
AMCZ	**Amberley**	**3.73**	**202**	P	**Pn**	**05 44 14.0**	**+0.4**
OXZ	**Oxford**	**4.06**	**207**	P	**Pn**	**05 44 18.3**	**+0.2**
OKCZ	**Okains Bay**	**4.15**	**195**	P	**Pn**	**05 44 19.2**	**0.0**
MQZ	**McQueen's Vall**	**4.22**	**199**	P	**Pn**	**05 44 19.5**	**-0.7**
RACZ	**Rakaia**	**4.39**	**204**	P	**Pn**	**05 44 22.4**	**+0.1**
MHCZ	**Mount Hutt**	**4.41**	**210**	P	**Pn**	**05 44 23.4**	**+0.7**
WACZ	**Wakanui South**	**4.68**	**205**	P	**Pn**	**05 44 26.4**	**+0.2**
TMZ	**Timaru**	**5.35**	**209**	P	**Pn**	**05 44 35.7**	**+0.4**
ODZ	**Otahua Downs**	**6.05**	**207**	P	**Pn**	**05 44 44.9**	**+0.4**
ODZ	**Otahua Downs**	**6.05**	**207**	P	**Pn**	**05 44 44.9**	**+0.4**

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*TUL **04** 05:54:58.5±1.3, 36°.074N±0°.007×97°.21W±0°.02, h8km±7km, ML2.9, mb_Lg2.7/39(NEIC), Error ellipse: s-maj=1.9km s-min=1.0km az=99.0*
NEIC 04 05:54:58.5±1.1, 36°.08N±0°.01×97°.22W±0°.02, h7km, Error ellipse: s-maj=1.9km s-min=1.6km az=96.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.33**	**113**	Pg	Pg	05 55 05.1	+0.1
OK031				Sg	Sg	05 55 09.7	+0.4
OK029	**Liberty Lake**	**0.34**	**214**	Pg	Pg	05 55 05.4	+0.1
OK029				Sg	Sg	05 55 10.1	+0.3
OK030	**Cody Creek RV**	**0.38**	**114**	Pg	Pg	05 55 06.0	+0.1
OK030				Sg	Sg	05 55 11.3	+0.4
OK034	**N. Norfolk Rd.**	**0.41**	**100**	Pg	Pg	05 55 06.6	+0.1
QUOK	**Quay**	**0.42**	**78**	Pg	Pg	05 55 06.8	+0.1
OK025	**Westminster Rd**	**0.51**	**191**	Pg	Pg	05 55 08.3	0.0
OK025				Sg	Sg	05 55 15.7	+0.7
OK001	**Jones High Sch**	**0.52**	**187**	Pg	Pg	05 55 08.6	0.0
OK001				Sg	Sg	05 55 16.1	+0.6
OK009	**Oakdale Elemen**	**0.53**	**199**	Pg	Pg	05 55 07.9	-0.8
OK009				Sg	Sg	05 55 14.3	-1.2
BCOK	**Bluff Creek, N**	**0.53**	**217**	Pg	Pg	05 55 08.8	0.0
BCOK				Sg	Sg	05 55 16.3	+0.6
BLOK	**Blackwell**	**0.68**	**360**	Pg	Pg	05 55 11.6	+0.1
BLOK				Sg	Sg	05 55 21.1	+0.7
OKCFA	**Oklahoma City**	**0.69**	**196**		Pg	05 55 11.7	-0.1
OKCFA					Sg	05 55 21.3	+0.5
OKCSW	**OKLAHOMA CITY**	**0.70**	**195**		Pg	05 55 11.8	-0.1
OKCSW					Sg	05 55 21.6	+0.5
OK011	**Prague**	**0.73**	**144**		Sg	05 55 22.5	+0.3
CROK	**Carrier**	**0.75**	**304**		Pg	05 55 12.9	0.0
CROK					Sg	05 55 23.5	+0.8
FNO	**Franklin**	**0.84**	**190**		Pg	05 55 14.1	-0.5
FNO					Sg	05 55 25.7	+0.3
GC02	**Grant County #**	**0.93**	**326**		Pg	05 55 16.1	-0.2
GC02					Sg	05 55 28.8	+0.4
KAN13	**South Haven SW**	**0.95**	**347**		Pg	05 55 16.5	-0.3
T35A	**Sooner Cattle**	**1.01**	**34**	Pg	Pg	05 55 17.5	-0.4
KAN17	**Caldwell West**	**1.06**	**335**		Pg	05 55 18.5	-0.3
KAN14	**Manchester OK**	**1.06**	**326**		Pg	05 55 18.6	-0.3
OK032	**Salt Plains WL**	**1.08**	**312**	Pg	Pg	05 55 18.7	-0.5
KAN05	**Bluff City Nor**	**1.15**	**333**		Pg	05 55 20.3	-0.4
KAN01	**Argonia South**	**1.16**	**338**		Pg	05 55 20.4	-0.3
TUL1	**Leonard**	**1.17**	**98**	Pg	Pg	05 55 19.4	-1.4
KAN10	**Anthony SW Sta**	**1.26**	**326**	Pn	Pn	05 55 21.9	-0.6
KAN06	**Argonia West S**	**1.27**	**336**	Pn	Pn	05 55 22.1	-0.7
KAN08	**Anthony NE Sta**	**1.29**	**332**	Pn	Pn	05 55 22.8	-0.3
KAN08				IAmb	Lg	05 55 42.5	
comp=Z,35nm,0.9s							
KAN16	**Harper SW Stat**	**1.33**	**329**		Pn	05 55 23.3	-0.2
OK035	**E0210 Rd and N**	**1.36**	**298**		Pn	05 55 23.5	-0.4
U32A	**Winter Ranch,**	**1.48**	**282**		Pn	05 55 25.3	-0.3
X34A	**Smith Ranch, M**	**1.56**	**199**		Pn	05 55 26.9	+0.2
WMOK	**Wichita Mounta**	**1.85**	**224**		Pn	05 55 31.2	+0.5
WMOK				IAmb	Lg	05 56 01.1	
comp=Z,34nm,0.8s							
LOOK	**Love County**	**2.08**	**179**		Pn	05 55 33.9	0.0
LOOK				IAmb	Lg	05 56 06.6	
comp=Z,25nm,1.0s							
X37A	**Clayton**	**2.12**	**134**	Pn	Pn	05 55 32.7	-1.6
X37A				IAmb	Lg	05 56 10.0	
comp=Z,45nm,1.0s							
U38A	**Gravette**	**2.31**	**80**	Pn	Pn	05 55 36.2	-0.8
W39A	**Magazine**	**2.93**	**107**	Pn	Pn	05 55 48.3	+2.8
KSU1	**Kansas State U**	**3.05**	**9**	Pn	Pn	05 55 50.1	+3.0
MIAR	**Mount Ida**	**3.35**	**116**		Pn	05 55 51.3	+0.1
Z38A	**Mt. Pleasant**	**3.36**	**146**	Pn	Pn	05 55 52.1	+0.7
Z38A				IAmb	Lg	05 56 53.0	
comp=Z,24nm,0.9s							
CBKS	**Cedar Bluff**	**3.39**	**324**		Pn	05 55 51.2	-0.6
CBKS				IAmb	Lg	05 56 54.1	
comp=Z,14nm,0.9s							
S39A	**Bolivar**	**3.51**	**62**	IAmb	Lg	05 56 55.3	
comp=Z,14nm,0.9s							
X40A	**Basin Creek Fa**	**3.92**	**113**	Pn	Pn	05 55 59.3	+0.2
X40A				IAmb	Lg	05 57 08.5	
comp=Z,17nm,1.1s							
ABTX	**Abilene, Hawle**	**3.99**	**211**		Pn	05 55 58.5	-1.7
WHAR	**Wooly Hollow**	**4.09**	**100**	Pn	Pn	05 56 00.2	-1.2
WHAR				IAmb	Lg	05 57 12.6	
comp=Z,21nm,1.1s							
MGMO	**Mountain Grove**	**4.12**	**73**	Pn	Pn	05 56 01.2	-0.7
MGMO				IAmb	Lg	05 57 13.5	
comp=Z,13nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.13**	**91**	Pn	Pn	05 56 00.6	-1.4
FCAR				IAmb	Lg	05 57 19.1	
comp=Z,11nm,1.0s							
W41B	**Gary Mavity, V**	**4.15**	**101**		Pn	05 56 01.6	-0.6
W41B				IAmb	Lg	05 57 16.7	
comp=Z,11nm,0.9s							
R40A	**Maddies Statio**	**4.52**	**59**	IAmb	Lg	05 57 22.3	
comp=Z,15nm,0.8s							
P38A	**Dawn**	**4.58**	**38**	IAmb	Lg	05 57 22.5	
comp=Z,11nm,0.9s							
N35A	**Tabor**	**4.93**	**14**	Pn	Pn	05 56 12.7	-0.3
T42A	**Van Buren**	**5.02**	**77**	IAmb	Lg	05 57 36.0	
comp=Z,9.2nm,0.9s							
P40A	**Paris**	**5.35**	**48**	IAmb	Lg	05 58 01.9	
comp=Z,9.0nm,0.8s							
N38A	**Joes South For**	**5.65**	**32**	IAmb	Lg	05 58 09.3	
comp=Z,12nm,0.7s							
FVM	**French Village**	**5.75**	**69**	IAmb	Lg	05 57 59.9	
comp=Z,16nm,0.9s							
L34A	**Svendsen Farm,**	**5.91**	**6**	IAmb	Lg	05 58 08.0	
comp=Z,13nm,0.7s							
SLM	**Saint Louis**	**6.12**	**63**	IAmb	Lg	05 58 11.5	
comp=Z,16nm,0.9s							
O44A	**Mansfield**	**8.00**	**57**	IAmb	Lg	05 59 12.4	
comp=Z,8.7nm,0.7s							

IDC 04 05:55:27.8±3.0, 53°.54N×87°.09E, h0km, mb1 2.7/1, mb1mx2.6/52, mbtmp2.7/1, ML2.4/1, Error ellipse: s-maj=26.9km s-min=15.8km az=75.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**288**	*i*		06 02 35.7	
baz=105,slow=337,SNR=3.1							
ZALV	**Zalesovo Beam**	**1.41**	**288**	Pg	Pn	05 55 54.2	-0.4
0.6nm,0.3s,baz=105,slow=12,SNR=8.8							
ZALV				Lg	Lg	05 56 12.8	
0.7nm,0.3s,baz=107,slow=30,SNR=9.1							
KURBB	**Kurchatov Arra**	**6.03**	**245**	Lg	Lg	05 58 38.2	
baz=59,slow=30,SNR=1.3							
MKAR	**Makanchi Array**	**7.42**	**206**	Pn	Pn	05 57 18.3	+1.1
0.1nm,0.3s,baz=22,slow=14,SNR=1.6							
MKAR				Lg	Lg	05 59 23.2	
baz=19,slow=23,SNR=1.4							

IDC 04 05:59:04.0±3.8, 53°.55N×87°.06E, h0km, mb1 2.7/2, mb1mx2.6/53, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=47.5km s-min=20.8km az=86.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.39**	**287**	Pg	Pg	05 59 29.2	-1.4
0.4nm,0.3s,baz=107,slow=15,SNR=14							
I46RU	**ZALESOVO INFRA**	**1.39**	**287**	*i*		06 06 12.0	
baz=106,slow=339,SNR=16							
KURBB	**Kurchatov Arra**	**6.02**	**244**	Lg	Lg	06 02 12.7	
0.0nm,0.3s,baz=59,slow=22,SNR=1.8							
MKAR	**Makanchi Array**	**7.43**	**206**	Pn	Pn	06 00 54.8	+1.2
0.1nm,0.3s,baz=20,slow=12,SNR=1.5							
BVAR	**Borovoye Array**	**10.00**	**274**	Pn	Pn	06 01 28.2	-0.6
0.1nm,0.3s,baz=70,slow=15,SNR=1.4							

IDC 04 06:11:58.3±3.0, 32°.68S×178°.36W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.7/23, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=71.8km s-min=37.0km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.69**	**212**	Pn	Pn	06 13 37.4	-0.3
0.2nm,0.3s,baz=121,slow=24,SNR=1.7							
URZ				Sn	Sn	06 14 54.0	-0.6
0.6nm,0.3s,baz=119,slow=24,SNR=1.8							
ASAR	**Alice Springs**	**42.73**	**270**	P	P	06 19 57.5	0.0
0.1nm,0.3s,baz=110,slow=7.2,SNR=4.1							
WRA	**Warramunga Arr**	**43.93**	**275**	P	P	06 20 07.2	+0.1
0.6nm,0.3s,baz=114,slow=7.9,SNR=17							
H03S2	**Juan Fernandez**	**79.47**	**123**	T	T	07 49 51.8	
baz=237							
H03S1	**Juan Fernandez**	**79.48**	**123**	T	T	07 49 53.3	
baz=237							
H03S3	**Juan Fernandez**	**79.49**	**123**	T	T	07 49 52.8	
baz=237							
FINES	**FINESS Array B**	**147.16**	**338**	PKPbc	PKPbc	06 31 41.7	-0.9
1.0nm,0.7s,baz=48,slow=2.8,SNR=6.4							

IDC 04 06:32:31.8±2.3, 54°.09N×86°.30E, h0km, mb1 3.0/2, mb1mx2.4/57, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=18.6km s-min=11.7km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**261**	*i*		06 38 02.1	
baz=81,slow=339,SNR=18							
ZALV	**Zalesovo Beam**	**0.89**	**261**	Pg	Pg	06 32 48.0	-0.7
1.3nm,0.3s,baz=78,slow=17,SNR=19							
ZALV				Lg	Lg	06 33 01.4	
1.6nm,0.3s,baz=79,slow=31,SNR=11							
KURBB	**Kurchatov Arra**	**5.89**	**237**	Pn	Pn	06 34 01.3	+1.0
0.1nm,0.3s,baz=54,slow=13,SNR=14							
KURBB				Lg	Lg	06 35 38.0	
0.0nm,0.3s,baz=56,slow=30,SNR=1.8							
MKAR	**Makanchi Array**	**7.74**	**201**	Pn	Pn	06 34 26.5	+0.8
0.2nm,0.3s,baz=22,slow=14,SNR=12							

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*JMA **04** 07:18:12.3±0.1, 24°.47N×122°.70E, h91km±1km, M2.5*
*TAP **04** 07:18:12.2, 24°.49N×122°.73E, h94km, ML3.4, B*
ISC 04 07:18:13.1±1.3, 24°.45N±0°.04×122°.72E±0°.02, h85km±8km, n69, σ0.67/116, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.21**	**89**	P	**Pn**	**07 18 25.6**	**+0.1**
JYNG				S	**Sn**	**07 18 35.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.27**	**87**	P	**Pn**	**07 18 25.9**	**+0.2**
YOJ				S	**Sn**	**07 18 35.7**	**+0.6**
YOJ	**Yonaguni jima**	**0.27**	**87**	P	**Pn**	**07 18 25.9**	**+0.2**
baz=101							
YOJ				S	**Sn**	**07 18 35.8**	**+0.7**
baz=101							
TWC	**Suao**	**0.81**	**282**	P	**Pn**	**07 18 30.1**	**-0.2**
baz=283							
TWC				S	**Sn**	**07 18 42.6**	**-0.5**
baz=283							
EWUT	**Wuta**	**0.86**	**270**	*eP*	**Pn**	**07 18 31.2**	**+0.4**
baz=261							
EWUT				*eS*	**Sn**	**07 18 44.1**	**+0.1**
baz=261							
ENA	**Nanau**	**0.89**	**269**	*eP*	**Pn**	**07 18 31.3**	**+0.1**
baz=261							
NTC	**Toucheng**	**0.90**	**297**

TWS1				*e*S	Sn	07 18 54.2	-0.2
	baz=291						
FUSS	**Fushou**	**1.36 262**		*e*P	Pn	07 18 37.1	0.0
	baz=260						
FUSS				*e*S	Sn	07 18 54.8	-0.3
	baz=260						
WHF	**Hehuan Shan**	**1.36 257**		*e*P	Pn	07 18 37.0	-0.3
	baz=261						
WHF				*e*S	Sn	07 18 55.2	-0.2
	baz=261						
EGFH	**Guangfu**	**1.41 237**		*e*P	Pn	07 18 37.0	-0.5
	baz=232						
EGFH				*e*S	Sn	07 18 55.5	-0.4
	baz=232						
TWT	**Tachien**	**1.42 262**		*e*P	Pn	07 18 38.4	+0.6
	baz=260						
TWT				*e*S	Sn	07 18 56.5	+0.2
	baz=260						
TDCB	**Techi**	**1.44 263**		P	Pn	07 18 38.4	+0.4
	baz=260						
TDCB				*e*S	Sn	07 18 56.3	-0.4
	baz=260						
JISG	**Ishigakijimahi**	**1.46 84**		P	Pn	07 18 37.7	-0.3
JISG				S	Sn	07 18 56.2	-0.7
CHGB	**Renai**	**1.46 255**		*e*P	Pn	07 18 38.3	-0.1
	baz=247						
OWD	**Renai**	**1.49 251**		*e*P	Pn	07 18 38.5	-0.2
	baz=244						
OWD				*e*S	Sn	07 18 57.3	-0.7
	baz=244						
HGSD	**Ruisui**	**1.52 231**		*e*P	Pn	07 18 38.3	-0.6
	baz=227						
LIOB	**Emei**	**1.56 278**		*e*P	Pn	07 18 39.6	+0.1
	baz=276						
LIOB				*e*S	Sn	07 18 59.5	+0.2
	baz=276						
NSTT	**Nanjuang**	**1.57 277**		*e*S	Sn	07 18 59.6	0.0
	baz=275						
VWDT	**VWDT**	**1.60 245**		P	Pn	07 18 40.0	+0.1
	baz=237						
VWDT				S	Sn	07 18 59.9	-0.2
	baz=237						
WHP	**Taichung City**	**1.62 264**		*e*P	Pn	07 18 41.4	+1.0
	baz=262						
WHP				*e*S	Sn	07 19 01.4	+0.5
	baz=262						
YULB	**Yu-li**	**1.67 231**		*e*P	Pn	07 18 40.2	-0.7
	baz=238						
EYUL	**Yuli**	**1.69 230**		*e*P	Pn	07 18 40.9	-0.1
	baz=226						
WCS	**Beigang Elemen**	**1.69 257**		*e*P	Pn	07 18 41.5	+0.4
	baz=252						
TWF1	**Yuli**	**1.70 230**		*e*P	Pn	07 18 40.7	-0.5
	baz=238						
TWF1				*e*S	Sn	07 19 01.7	-0.8
	baz=238						
SSLB	**Suanglung**	**1.74 248**		*e*P	Pn	07 18 41.7	0.0
	baz=240						
SMLT	**Sun Moon Lake**	**1.75 252**		*e*P	Pn	07 18 42.6	+0.6
	baz=244						
TYC	**Yuchr**	**1.78 253**		*e*P	Pn	07 18 42.7	+0.4
	baz=247						
TYC				*e*S	Sn	07 19 05.7	+1.2
	baz=247						
FULB	**Fuli**	**1.80 227**		*e*P	Pn	07 18 42.0	-0.6
	baz=219						
FULB				*e*S	Sn	07 19 03.9	-1.1
	baz=219						
JTJ	**Tarama**	**1.82 84**		P	Pn	07 18 42.6	-0.1
JTJ				*e*S	Sn	07 19 05.1	-0.1
EDH	**Donghe**	**1.96 222**		*e*P	Pn	07 18 43.7	-0.9
	baz=217						
EDH				*e*S	Sn	07 19 06.8	-1.8
	baz=217						
ALS	**Alishan**	**1.98 242**		*e*P	Pn	07 18 45.5	+0.3
	baz=235						
CHN5	**Tsauling**	**2.05 246**		*e*P	Pn	07 18 46.9	+1.0
	baz=238						
CHN5				*e*S	Sn	07 19 12.4	+1.5
	baz=238						
LDUT	**Ludao**	**2.11 213**		*e*S	Sn	07 19 10.1	-1.9
	baz=212						
LONT	**Longtian**	**2.12 224**		*e*P	Pn	07 18 46.2	-0.5
	baz=230						
LONT				*e*S	Sn	07 19 11.6	-0.8
	baz=230						
STYH	**Taoyuan**	**2.19 235**		*e*P	Pn	07 18 48.3	+0.7
	baz=230						
STYH				*e*S	Sn	07 19 14.4	+0.4
	baz=230						
STYT	**Tauyuan**	**2.21 235**		*e*P	Pn	07 18 48.8	+0.9
	baz=227						
TPUB	**Ta-pu**	**2.23 240**		*e*P	Pn	07 18 49.5	+1.3
	baz=231						
TPUB				*e*S	Sn	07 19 16.0	+0.9
	baz=231						
JIRB	**Irabujima**	**2.27 80**		P	Pn	07 18 48.5	-0.1
JIRB				*e*S	Sn	07 19 15.2	-0.6
WTP	**Ta-pu**	**2.27 239**		*e*P	Pn	07 18 50.1	+1.3
	baz=237						
WTP				*e*S	Sn	07 19 18.3	+2.3
	baz=237						
TWK	**Hsinying**	**2.36 240**		*e*P	Pn	07 18 50.7	+0.8
	baz=239						
CHN1	**Nanshi**	**2.37 238**		*e*P	Pn	07 18 50.9	+0.9
	baz=246						
SLGT	**Liugui**	**2.39 233**		*e*P	Pn	07 18 51.7	+1.4
	baz=224						
SLGT				*e*S	Sn	07 19 20.7	+1.8
	baz=224						
SCZT	**Fangliau**	**2.83 223**		*e*P	Pn	07 18 56.5	+0.3
	baz=217						
WDGT	**Dungji**	**3.04 248**		*e*P	Pn	07 18 58.7	-0.4
	baz=246						

MOS ***04*** *07:21:41.3±1.5, 38°.15N×20°.12E, h16km, mb4.3/9, Error ellipse: s-maj=7.2km s-min=3.1km az=78.1*
IDC ***04*** *07:21:42.0±0.8, 38°.32N×20°.39E, h0km, mb4.2/18, mb1 4.2/26, mb1mx4.0/53, mbtmp4.1/26, ML4.0/7, MS3.4/22, Ms1 3.4/22, ms1mx3.1/93, Error ellipse: s-maj=16.9km s-min=13.8km az=16.0*
MED_RC ***04*** *07:21:43.0±0.8, 38°.30N×20°.20E, h10km, MW4.2/7, Moment Tensor Solution. Mantle waves: s7, c7; Duration: 1±0 Moment tensor: Scale 10^15^Nm; M_{rr}=0.76±.35; $M_{\theta\theta}$=1.08±.29; $M_{\phi\phi}$=-1.85±.30; $M_{r\theta}$=-1.38±.69; $M_{\theta\phi}$=1.83±.28; $M_{\phi r}$=0.52±1.14; Best double couple: M_0=2.82000×10^15^ NP1:φ=294.00000°, δ=80.00000°, λ=36.00000°. NP2: φ=197.00000°, δ=55.00000°, λ=168.00000°. Principal axes: T 2.6000, Plg=32.0000°, Azm=162.0000°; N 0.4400, Plg=53.0000°, Azm=308.0000°; P -3.0500, Plg=16.0000°, Azm=61.0000°; nsta=1 refers to body waves. nsta=2 refers to surface waves, cutoff=30s.*
NEIC ***04*** *07:21:44.8±2.4, 38°.30N±0°.06×20°.42E±0°.07, h15km±5km Error ellipse: s-maj=10.2km s-min=5.1km az=223.0*
PDG ***04*** *07:21:44.0±0.9, 38°.35N×20°.25E, h12km±1km, ML4.3/14, Error ellipse: s-maj=1.5km s-min=1.8km az=0.0*
THE ***04*** *07:21:45.6, 38°.32N×20°.42E, h6km±1km, ML4.2/11, Error ellipse: s-maj=1.9km s-min=0.7km az=171.0*
ATH ***04*** *07:21:45.1, 38°.32N×20°.40E, h15km±1km, ML4.0/10, Error ellipse: s-maj=1.8km s-min=0.7km az=270.0*

ISC 04 07:21:44.6±0.7, 38°.36N±0°.02×20°.43E±0°.02, h14km±4km, n358, σ1≥60/416, mb4.2/26, MS3.5/15, 57C-35D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF4	**Livadi, Kephal**	**0.10 183**		P	**Pg**	**07 21 47.8**	**0.0**
KEF4	**Livadi, Kephal**	**0.10 183**		P	**Pg**	**07 21 47.7**	**0.0**
KEF4				S	**Sg**	**07 21 49.8**	**-0.1**
FSK	**Fiskardo**	**0.14 47**		P	**Pb**	**07 21 49.6**	**+0.5**
FSK				S	**Sb**	**07 21 52.6**	**+0.5**
	144μm,0.6s						
FSK	**Fiskardo**	**0.14 47**		P	**Pb**	**07 21 49.6**	**+0.5**
FSK				S	**Sb**	**07 21 52.5**	**+0.4**
FSK				AML	AML	07 21 53.2	
FSK				AML	AML	07 21 53.3	
LXRA	**Lixouri, Kepha**	**0.16 178**		P	**Pg**	**07 21 48.6**	**+0.1**
LXRA				S	**Sg**	**07 21 51.3**	**0.0**
KEF3	**Kipouria, Keph**	**0.17 202**		P	**Pg**	**07 21 48.1**	**-0.6**
KEF3				S	**Sg**	**07 21 50.3**	**-1.2**
	524μm,0.1s						
KEF3	**Kipouria, Keph**	**0.17 202**		P	**Pg**	**07 21 48.1**	**-0.6**
KEF3				S	**Sg**	**07 21 50.4**	**-1.2**
ARGA	**Argostoli. Kep**	**0.19 168**		P	**Pg**	**07 21 49.3**	**+0.3**
ARGA				S	**Sg**	**07 21 52.3**	**+0.4**
ARGA				AML	AML	07 21 53.0	
ARGA				AML	AML	07 21 53.3	
VLS	**Valsamata**	**0.22 146**		P	**Pg**	**07 21 49.6**	**0.0**
VLS				S	**Sg**	**07 21 53.2**	**+0.3**
	94μm,0.1s						
VLS	**Valsamata**	**0.22 146**		P	**Pg**	**07 21 49.6**	**0.0**
VLS				S	**Sg**	**07 21 53.0**	**+0.1**
VLS				AML	AML	07 21 53.3	
VLS				AML	AML	07 21 53.3	
VLS	**Valsamata**	**0.22 146**		P	**Pg**	**07 21 49.6**	**0.0**
VLS				S	**Sg**	**07 21 53.2**	**+0.3**
VLS	**Valsamata**	**0.22 146**		P	**Pg**	**07 21 49.6**	**0.0**
VLS				S	**Sg**	**07 21 53.2**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.28 154**		P	**Pg**	**07 21 50.5**	**+0.1**
PSDA				S	**Sg**	**07 21 54.5**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.28 154**		P	**Pg**	**07 21 50.5**	**+0.1**
EVGI	**Lefkada island**	**0.31 34**		P	**Pb**	**07 21 52.3**	**+0.2**
EVGI				S	**Sb**	**07 21 57.4**	**+0.4**
	109μm,0.1s						
EVGI	**Lefkada island**	**0.31 34**		P	**Pb**	**07 21 52.3**	**+0.2**
EVGI				S	**Sb**	**07 21 58.0**	**+1.0**
DRAG	**Dragano-Lefkad**	**0.34 19**		P	**Pb**	**07 21 52.5**	**0.0**
DRAG				S	**Sb**	**07 21 58.6**	**+0.8**
DRAG	**Dragano-Lefkad**	**0.34 19**		P	**Pb**	**07 21 52.6**	**0.0**
DRAG				S	**Sb**	**07 21 59.2**	**+1.4**
NYDR	**Nydri-Lefkada**	**0.41 31**		P	**Pb**	**07 21 53.7**	**+0.1**
NYDR				S	**Sb**	**07 22 00.2**	**+0.5**
	40μm,0.4s						
NYDR	**Nydri-Lefkada**	**0.41 31**		P	**Pb**	**07 21 53.7**	**+0.1**
NYDR				S	**Sb**	**07 22 00.2**	**+0.5**
LTHK	**Lithakia**	**0.73 154**		P	**Pg**	**07 21 57.9**	**-0.9**
LTHK				S	**Sb**	**07 22 08.8**	**0.0**
	7μm,0.3s						
LTHK	**Lithakia**	**0.73 154**		P	**Pg**	**07 21 57.8**	**-0.9**
LTHK				AML	AML	07 22 09.8	
	comp=E,8143μm,0.5s						
LTHK				AML	AML	07 22 10.1	
	comp=N,12889μm,0.3s						
VTN	**Vitineika**	**0.74 127**		P	**Pb**	**07 21 59.4**	**+0.1**
VTN	**Vitineika**	**0.74 127**		P	**Pb**	**07 21 59.4**	**+0.1**
RLS	**Riolos of Patr**	**0.87 110**		P	**Pb**	**07 22 01.2**	**-0.3**
RLS	**Riolos of Patr**	**0.87 110**		P	**Pb**	**07 22 01.0**	**-0.5**
RLS				AML	AML	07 22 20.8	
	comp=E,4376μm,0.6s						
RLS				AML	AML	07 22 22.3	
	comp=N,8463μm,0.5s						
DRO	**Drossia**	**1.09 112**		P	**Pb**	**07 22 05.3**	**0.0**
DRO	**Drossia**	**1.09 112**		P	**Pg**	**07 22 05.7**	**0.0**
DRO				AML	AML	07 22 31.4	
	comp=N,9856μm,0.6s						
DRO				AML	AML	07 22 31.4	
	comp=E,19156μm,0.7s						
EFP	**Efpalio**	**1.16 86**		P	**Pb**	**07 22 06.5**	**+0.1**
EFP	**Efpalio**	**1.16 86**		P	**Pb**	**07 22 06.6**	**+0.1**
EFP				AML	AML	07 22 30.4	
	comp=N,13007μm,0.5s						
EFP				AML	AML	07 22 32.2	
	comp=E,9809μm,0.6s						
IGT	**Igoumenitsa**	**1.17 356**		P	**Pg**	**07 22 07.5**	**+0.3**
IGT	**Igoumenitsa**	**1.17 356**		P	**Pg**	**07 22 07.5**	**+0.3**
IGT	**Igoumenitsa**	**1.17 356**		P	**Pg**	**07 22 07.5**	**+0.3**
ANX	**Ano Chora**	**1.19 78**		P	**Pg**	**07 22 07.6**	**0.0**
ANX				AML	AML	07 22 32.8	
	comp=E,15576μm,0.4s						
ANX				AML	AML	07 22 33.6	
	comp=N,20200μm,0.5s						
EVR	**Evrytania**	**1.21 62**		P	**Pb**	**07 22 07.6**	**+0.2**
EVR				AML	AML	07 22 31.9	
	comp=E,11426μm,0.7s						
EVR				AML	AML	07 22 34.4	
	comp=N,10876μm,1.1s						
SERG	**Sergoula**	**1.28 87**		P	**Pn**	**07 22 08.3**	**+0.2**
SERG	**Sergoula**	**1.28 87**		P	**Pn**	**07 22 08.4**	**+0.2**
SERG				AML	AML	07 22 33.9	
	comp=N,10652μm,0.5s						
SERG				AML	AML	07 22 36.5	
	comp=E,8997μm,0.5s						
TRIZ	**Trizonia**	**1.29 89**		P	**Pb**	**07 22 08.6**	**-0.1**
TRIZ	**Trizonia**	**1.29 89**		P	**Pb**	**07 22 08.6**	**-0.1**
JAN	**Janina**	**1.33 14**		P	**Pg**	**07 22 10.9**	**+0.6**
JAN	**Janina**	**1.33 14**		P	**Pg**	**07 22 10.9**	**+0.6**
KEK	**Kerkira**	**1.44 340**		P	**Pb**	**07 22 11.4**	**+0.2**
KEK	**Kerkira**	**1.44 340**		P	**Pb**	**07 22 11.4**	**+0.2**
KEK				S	**Sg**	**07 22 32.8**	**+1.9**
MAKR	**Makrakomi, Fth**	**1.48 63**		P	**Pg**	**07 22 12.8**	**-0.3**
SRN	**Sarande**	**1.55 348**		P	**Pb**	**07 22 13.4**	**+0.2**
SRN				S	**Sg**	**07 22 36.7**	**+2.1**
AGG	**Agios Georgios**	**1.63 66**		P	**Pg**	**07 22 15.7**	**-0.2**
AGG	**Agios Georgios**	**1.63 66**		P	**Pg**	**07 22 15.3**	**-0.5**
AGG	**Agios Georgios**	**1.63 66**		P	**Pg**	**07 22 16.0**	**+0.1**
AGG	**Agios Georgios**	**1.63 66**			**Pg**	**07 22 16.0**	**+0.1**
ITM	**Ithomi**	**1.67 134**		P	**Pg**	**07 22 17.5**	**+0.8**
ITM	**Ithomi**	**1.67 134**		Pn	**Pn**	**07 22 13.6**	**+0.1**
THL	**Klokotos Trika**	**1.72 45**		P	**Pg**	**07 22 17.0**	**-0.7**
THL	**Klokotos Trika**	**1.72 45**		P	**Pg**	**07 22 17.0**	**-0.7**
THL	**Klokotos Trika**	**1.72 45**		⇑P	**Pg**	**07 22 17.5**	**-0.2**
THL				AML	AML		
	comp=E,1665μm,0.5s						
THL				AML	AML		
	comp=N,1900μm,0.6s						
KPRO	**Kipourio**	**1.75 24**		P	**Pg**	**07 22 17.9**	**-0.3**
KPRO	**Kipourio**	**1.75 24**		P	**Pg**	**07 22 17.7**	**-0.5**
PYL	**PYLOS**	**1.80 144**		P	**Pb**	**07 22 16.5**	**-0.8**
TYRN	**Tyrnavos**	**1.94 46**		P	**Pb**	**07 22 20.0**	**+0.2**
KZN	**Kozani**	**2.20 28**		P	**Pb**	**07 22 24.6**	**+0.3**
VLO	**Vlora**	**2.23 341**		P	**Pn**	**07 22 22.0**	**+0.9**
VLO	**Vlora**	**2.23 341**			**Pn**	**07 22 22.0**	**+0.9**
KBN	**Korca**	**2.27 7**		P	**Pb**	**07 22 24.7**	**-0.8**
KBN	**Korca**	**2.27 7**			**Pb**	**07 22 24.7**	**-0.8**
SCTE	**Santa Cesarea**	**2.29 319**		⇑P	**Pn**	**07 22 22.9**	**+0.9**
SCTE				S	**Sb**	**07 22 52.9**	**-1.0**
SCTE				AML	AML		
	comp=N,3335μm,0.5s						
SCTE				AML	AML		
	comp=E,3145μm,1.1s						
SCTE	**Santa Cesarea**	**2.29 319**		Pn	**Pn**	**07 22 22.9**	**+0.9**
FNA	**Florina**	**2.53 17**		P	**Pn**	**07 22 27.3**	**+2.0**
FNA	**Florina**	**2.53 17**		Pn	**Pn**	**07 22 27.3**	**+2.0**
OHR	**Ohrid**	**2.76 6**		P	**Pb**	**07 22 31.6**	**-2.2**
OHR	**Ohrid**	**2.76 6**		*i* Pn	**Pb**	**07 22 31.3**	**-2.5**
PAIG	**Paliouri**	**2.97 57**		P	**Pb**	**07 22 37.0**	**-0.3**
TIP	**Timpagrande**	**2.98 287**		⇑P	**Pn**	**07 22 32.9**	**+1.2**
TIP	**Timpagrande**	**2.98 287**		⇑P	**Pn**	**07 22 32.8**	**+1.2**
TIP				AML	AML		
	comp=N,278μm,0.9s						
TIP				AML	AML		
	comp=E,308μm,1.4s						
TIP				AML	AML		
	comp=N,348μm,0.9s						
TIP				AML	AML		
	comp=E,258μm,1.4s						
TIP	**Timpagrande**	**2.98 287**		Pn	**Pn**	**07 22 32.8**	**+1.2**
GRG	**Griva**	**3.00 30**		P	**Pn**	**07 22 34.8**	**+3.0**
SERS	**Sersale**	**3.00 284**		P	**Pn**	**07 22 32.7**	**+0.7**
SERS				AML	AML		
	comp=N,292μm,0.7s						
SERS				AML	AML		
	comp=E,262μm,0.7s						
TIR	**Tirane**	**3.01 352**		⇑P	**Pn**	**07 22 33.8**	**+1.8**
TIR	**Tirane**	**3.01 352**		P	**Pn**	**07 22 33.6**	**+1.7**
TIR	**Tirane**	**3.01 352**		P	**Pn**	**07 22 34.0**	**+2.1**
TIR				AML	AML		
	comp=E,1715μm,1.0s						
TIR				AML	AML		
	comp=N,1665μm,0.8s						
TIR	**Tirane**	**3.01 352**			**Pn**	**07 22 33.6**	**+1.7**
PLG	**Polygyros**	**3.08 48**		P	**Pb**	**07 22 36.3**	**-2.9**
PHP	**Peshkopia**	**3.32 0**		P	**Pn**	**07 22 38.5**	**+2.3**
SOH	**Sokhos**	**3.34 42**		P	**Pn**	**07 22 39.6**	**+3.2**
KNT	**Kendrikon**	**3.38 33**		P	**Pn**	**07 22 39.6**	**+2.6**
VAY	**Valandovo**	**3.38 28**		P	**Pn**	**07 22 39.2**	**+2.2**
VAY	**Valandovo**	**3.38 28**		*i* Pn	**Pn**	**07 22 39.0**	**+1.9**
OUR	**Ouranopolis**	**3.38 53**		P	**Pb**	**07 22 42.3**	**-2.1**
SALB	**San Lorenzo Be**	**3.52 297**		⇓P	**Pn**	**07 22 40.6**	**+1.7**
SALB				AML	AML		
	comp=N,422μm,1.2s						
SALB				AML	AML		
	comp=E,499μm,1.3s						
SALB				AML	AML		
	comp=N,396μm,0.7s						
SALB				AML	AML		
	comp=E,482μm,1.4s						
NOCI	**Noci**	**3.56 314**		⇓P	**Pn**	**07 22 40.2**	**+0.8**
NOCI				S	**Sn**	**07 23 21.3**	**+0.1**
NOCI				AML	AML		
	comp=E,1650μm,0.7s						
NOCI				AML	AML		
	comp=N,1530μm,1.2s						
CEL	**Celeste**	**3.57 270**		Pn	**Pn**	**07 22 39.4**	**-0.3**
LTRZ	**Laterza**	**3.58 310**		P	**Pn**	**07 22 40.7**	**+1.0**
SRS	**Serrai**	**3.67 41**		P	**Pn**	**07 22 38.8**	**-2.2**
MATE	**Matera**	**3.68 310**		⇑P	**Pn**	**07 22 41.9**	**+0.9**
MATE	**Matera**	**3.68 310**		⇑P	**Pn**	**07 22 42.1**	**+1.1**
MATE				AML	AML		
	comp=N,1315μm,1.1s						
MATE				AML	AML		
	comp=E,1046μm,0.6s						
CET2	**Cetraro**	**3.68 290**		P	**Pn**	**07 22 43.1**	**+1.9**
CET2				AML	AML		
	comp=E,965μm,0.8s						
CET2				AML	AML		
	comp=N,755μm,0.8s						
CRAC	**Craco**	**3.69 304**		⇑P	**Pn**	**07 22 43.1**	**+1.9**
CRAC				AML	AML		
	comp=E,1995μm,1.3s						
CRAC				AML	AML		
	comp=N,1735μm,0.7s						
SKO	**Skopje**	**3.69 12**		*i* Pn	**Pn**	**07 22 43.2**	**+2.0**
ULC	**Ulcinj**	**3.71 346**		⇑*i*Pn	**Pn**	**07 22 41.7**	**+0.2**
ULC				*e*Sn	**Sn**	**07 23 24.3**	**-0.8**
ULC	**Ulcinj**	**3.71 346**		⇑*i*Pn	**Pn**	**07 22 41.9**	**+0.4**
ULC				*i* Sn	**Sn**	**07 23 24.9**	**-0.2**
MIGL	**Miglionico**	**3.81 307**		P	**Pn**	**07 22 44.3**	**+1.4**
MIGL				AML	AML		
	comp=N,5015μm,1.1s						
MIGL				AML	AML		
	comp=E,5025μm,1.1s						
AMUR	**Altamura**	**3.90 312**		⇑P	**Pn**	**07 22 44.9**	**+0.8**
AMUR				AML	AML		
	comp=E,898μm,1.5s						
AMUR				AML	AML		
	comp=N,1180μm,1.0s						
DRME	**Dracevica, Mon**	**3.94 346**		⇑*i*Pn	**Pn**	**07 22 45.1**	**+0.5**
DRME	**Dracevica, Mon**	**3.94 346**		⇓*i*Pn	**Pn**	**07 22 45.5**	**+0.9**
DRME				*i* Sn	**Sn**	**07 23 30.8**	**+0.2**
AG11	**Viggiano (PZ)**	**3.99 301**		P	**Pn**	**07 22 47.6**	**+2.1**
MCEL	**Monticello**	**4.09 300**		P	**Pn**	**07 22 48.5**	**+1.7**
MCEL				AML	AML		
	comp=E,478μm,0.9s						
MCEL				AML	AML		
	comp=N,603μm,1.1s						
MCEL				AML	AML		
	comp=E,478μm,0.9s						
MCEL				AML	AML		
	comp=N,605μm,1.1s						
MCSR	**Castroreale**	**4.09 267**		S	**Sn**	**07 23 35.0**	**+0.4**
MMB	**Musomiste**	**4.10 37**		P	**Pn**	**07 22 50.2**	**+3.3**
BUM	**Brajici-Budva**	**4.11 344**		⇑*i*Pn	**Pn**	**07 22 47.1**	**+0.1**
BUM				*i* Sn	**Sn**	**07 23 33.7**	**-1.2**
BUM	**Brajici-Budva**	**4.11 344**		⇓*i*Pn	**Pn**	**07 22 47.3**	**+0.3**
BUM				*i* Sn	**Sn**	**07 23 34.6**	**-0.3**
PDG	**Podgorica**	**4.16 348**		⇑P	**Pn**	**07 22 48.6**	**+0.9**
PDG	**Podgorica**	**4.16 348**		⇑*i*Pn	**Pn**	**07 22 48.0**	**+0.3**
PDG	**Podgorica**	**4.16 348**		P	**Pn**	**07 22 48.6**	**+0.9**
PDG				S	**Sn**	**07 23 37.2**	**+1.1**
PDG				AML	AML		
	comp=E,606μm,0.5s						
PDG				AML	AML		
	comp=N,562μm,1.4s						
PDG				AML	AML		
	comp=E,494μm,0.5s						
PDG				AML	AML		
	comp=N,414μm,0.3s						
PDG	**Podgorica**	**4.16 348**		Pn	**Pn**	**07 22 48.4**	**+0.7**
TTG	**Podgorica**	**4.16 348**		*e*Pn	**Pn**	**07 22 48.0**	**+0.3**
TTG				*e*Sn	**Sn**	**07 23 34.9**	**-1.2**
TTG	**Podgorica**	**4.16 348**		*e*Pn	**Pn**	**07 22 48.6**	**+0.9**
TTG				*i* Sn	**Sn**	**07 23 36.2**	**+0.1**
MGR	**Morigerati**	**4.18 297**		⇓P	**Pn**	**07 22 49.6**	**+1.7**
MGR				AML	AML		
	comp=N,312μm,0.9s						
MGR				AML	AML		
	comp=E,414μm,1.1s						
ACER	**Acerenza**	**4.23 306**		⇓P	**Pn**	**07 22 50.1**	**+1.5**
ACER				AML	AML		
	comp=N,2055μm,0.7s						
ACER				AML	AML		
	comp=N,1995μm,0.8s						
ACER				AML	AML		
	comp=E,1850μm,0.8s						
ACER				AML	AML		
	comp=E,1930μm,0.8s						
MRVN	**Minervino Murg**	**4.23 311**		P	**Pn**	**07 22 49.7**	**+0.9**
MRVN				S	**Sn**	**07 23 38.1**	**+0.1**
MRVN				AML	AML		
	comp=N,547μm,0.7s						
MRVN				AML	AML		
	comp=E,592μm,1.3s						
PVY	**Plav**	**4.24 355**		⇓*i*Pn	**Pn**	**07 22 49.9**	**+1.0**
PVY				*e*Sn	**Sn**	**07 23 37.9**	**-0.4**
PVY	**Plav**	**4.24 355**		⇑*i*Pn	**Pn**	**07 22 50.0**	**+1.0**
PVY				*i* Sn	**Sn**	**07 23 38.5**	**+0.2**
PALZ	**Palazzo San Ge**	**4.31 308**		⇓P	**Pn**	**07 22 51.0**	**+1.3**
PALZ				S	**Sn**	**07 23 39.3**	**-0.5**
PALZ				AML	AML		
	comp=E,3145μm,1.1s						
PALZ				AML	AML		
	comp=N,2640μm,0.9s						
CEME	**Cevo**	**4.34 345**		⇓*i*Pn	**Pn**	**07 22 50.6**	**+0.4**
CEME				*e*Sn	**Sn**	**07 23 39.3**	**-1.2**
CEME	**Cevo**	**4.34 345**		⇑*i*Pn	**Pn**	**07 22 50.6**	**+0.4**
CEME				*i* Sn	**Sn**	**07 23 40.2**	**-0.3**
HCY	**Herceg Novi**	**4.34 341**		*e*Pn	**Pn**	**07 22 49.6**	**-0.6**
HCY	**Herceg Novi**	**4.34 341**		⇓*i*Pn	**Pn**	**07 22 49.9**	**-0.3**
HCY				*i* Sn	**Sn**	**07 23 39.4**	**-1.1**
BOSS	**Bosilegrad**	**4.42 20**		*e*Pn	**Pn**	**07 22 53.1**	**+1.9**
MRLC	**Muro Lucano**	**4.51 304**		⇑P	**Pn**	**07 22 55.0**	**+2.5**
MRLC				AML	AML		
	comp=E,376μm,1.1s						
MRLC				AML	AML		
	comp=N,394μm,1.4s						
MRLC				AML	AML		
	comp=N,436μm,1.3s						
MRLC				AML	AML		
	comp=E,386μm,1.6s						
CAPA	**Cerignola FG**	**4.52 310**		P	**Pn**	**07 22 53.9**	**+1.2**
CAPA				AML	AML		
	comp=N,2705μm,1.2s						
CAPA				AML	AML		
	comp=E,2655μm,1.1s						
IVA	**Berane**	**4.52 355**		⇓*i*Pn	**Pn**	**07 22 54.4**	**+1.6**
IVA				*e*Sn	**Sn**	**07 23 44.0**	**-1.2**
IVA	**Berane**	**4.52 355**		⇓*i*Pn	**Pn**	**07 22 53.9**	**+1.1**
IVA				*

MSAG AML AML
comp=E,858μm,0.8s
VAE Valguarnera 4.84 261 Sn **Sn 07 23 54.4 +1.4**
comp=E,7.0nm,0.3s,baz=180,slow=17,SNR=4.2
SELS Selova 4.88 6 *e*Pn **Pn 07 22 57.9 +0.3**
SJES Sjenica 4.91 356 *e*Pn **Pn 07 22 59.3 +1.2**
SGRT San Giovanni R 4.94 315 ⇑P **Pn 07 22 59.1 +0.6**
SGRT AML AML
comp=E,504μm,0.6s
SGRT AML AML
comp=N,608μm,0.9s
SGRT San Giovanni R 4.94 315 Pn 07 22 58.3 -0.2
UPM Unac-Piva 4.97 347 *e*Pn **Pn 07 22 58.9 -0.1**
UPM Unac-Piva 4.97 347 ⇑*i*Pn **Pn 07 22 59.9 +0.9**
UPM *e*Sn **Sn 07 23 54.7 -1.7**
UPM Unac-Piva 4.97 347 ⇑*i*Pn **Pn 07 22 59.9 +0.9**
UPM *i* Sn **Sn 07 23 55.7 -0.7**
PLE Pljevlja 5.03 351 ⇑*i*Pn **Pn 07 23 00.6 +0.9**
PLE *e*Sn **Sn 07 23 55.9 -1.7**
PLE Pljevlja 5.03 351 ⇑*i*Pn **Pn 07 23 00.8 +1.1**
PLE *i* Sn **Sn 07 23 57.2 -0.4**
ZAPS Zavoj 5.18 18 *e*Pn **Pn 07 23 03.8 +2.0**
IVAS Ivanjica 5.21 358 *e*Pn **Pn 07 23 02.4 +0.2**
PAOL Paolisi 5.25 302 Pn **Pn 07 23 02.8 +0.1**
MELA Melanico ??? S 5.26 311 ⇑P **Pn 07 23 04.3 +1.4**
MELA AML AML
comp=N,1745μm,1.2s
MELA AML AML
comp=N,1680μm,1.2s
MELA AML AML
comp=E,1437μm,1.1s
MELA AML AML
comp=E,1460μm,1.0s
VITU Vitulano (BN) 5.28 304 P **Pn 07 23 05.9 +2.7**
VITU AML AML
comp=E,334μm,0.6s
VITU AML AML
comp=N,266μm,0.5s
RUDO Rudo 5.31 352 *e*Pn **Pn 07 23 02.6 -0.9**
PTRJ Pietraroja 5.44 305 P **Pb 07 23 22.9 +3.4**
BSSO Busso 5.50 307 ⇓P **Pn 07 23 08.9 +2.8**
BSSO AML AML
comp=E,335μm,1.6s
BSSO AML AML
comp=N,138μm,1.6s
BSSO AML AML
comp=E,136μm,1.6s
BSSO AML AML
comp=N,345μm,0.9s
GRUS Gruza 5.53 2 *e*Pn **Pn 07 23 07.1 +0.7**
BBLS Lazići 5.55 352 ⇑*i*Pn **Pn 07 23 06.9 +0.1**
BBLS Lazići 5.55 352 *e*Pn **Pn 07 23 07.0 +0.1**
ZAGS Zajecar 5.61 13 *e*Pn **Pn 07 23 08.3 +0.7**
TRIV Trivento 5.65 309 ⇓P **Pn 07 23 10.4 +2.2**
FRES Fresagrandinar 5.70 311 P **Pn 07 23 11.0 +2.1**
DIVS Divibare 5.74 357 ⇑*i*Pn **Pn 07 23 09.4 0.0**
DIVS Divibare 5.74 357 P **Pn 07 23 09.7 +0.2**
DIVS S **Sn 07 24 14.8 -0.4**
DIVS Divibare 5.74 357 Pn **Pn 07 23 09.5 0.0**
DIVS Divibare 5.74 357 *e*Pn **Pn 07 23 09.5 0.0**
TRUS Trudelj 5.86 360 *e*Pn **Pn 07 23 11.3 +0.3**
CRJA Costa Raja 5.89 267 ⇓P Pn 07 23 18.3 +6.9
LPEL Lama dei Pelig 6.03 310 ⇓P **Pn 07 23 15.7 +2.2**
TEKS Tekeris 6.22 354 *e*Pn **Pn 07 23 14.5 -1.5**
TEKS Tekeris 6.22 354 *e*Pn **Pn 07 23 14.9 -1.1**
T0110 Collepietro 6.38 309 P **Pn 07 23 20.8 +2.5**
FAGN Fagnano 6.52 309 ⇓P **Pn 07 23 23.9 +3.6**
MGRS Mrkonjic Grad 6.55 338 *e*Pn **Pn 07 23 20.8 +0.2**
TERO Teramo 6.72 311 ⇓P **Pn 07 23 24.9 +2.0**
FRGS Fruska Gora 6.81 356 ⇓P **Pn 07 23 23.3 -0.7**
FRGS Fruska Gora 6.81 356 ⇑*i*Pn **Pn 07 23 22.9 -1.1**
FRGS Fruska Gora 6.81 356 *e*Pn **Pn 07 23 22.8 -1.2**
BLY Banja Luka 6.83 340 *e*Pn **Pn 07 23 24.6 +0.3**
BLY Banja Luka 6.83 340 P **Pn 07 23 24.9 +0.6**
SMA1 SAN MARTINO 6.88 310 ⇓P **Pn 07 23 27.5 +2.3**
LNSS Leonessa 7.05 309 ⇓P **Pn 07 23 30.7 +3.2**
NRCA Norcia 7.14 311 ⇓P **Pn 07 23 31.1 +2.5**
NRCA Norcia 7.14 311 Pn 07 23 29.9 +1.2
MRAK Mrakovica 7.15 339 *e*Pn **Pn 07 23 28.5 -0.3**
GZR Gura Zlata 7.24 13 ⇑P **Pn 07 23 32.1 +2.0**
GZR Gura Zlata 7.24 13 P **Pn 07 23 32.0 +2.0**
FDMO Fiordimonte 7.27 312 P **Pn 07 23 32.8 +2.3**
BZS Buzias 7.30 7 ⇓P **Pn 07 23 31.7 +0.8**
BZS Buzias 7.30 7 P **Pn 07 23 33.5 +2.7**
BZS pmax pmax
comp=Z,33nm,1.8s
CING Cingoli 7.42 315 P **Pn 07 23 31.1 -1.4**
LOT Lotru 7.50 18 ⇓P **Pn 07 23 35.5 +1.7**
ARVD Arcevia 7.64 315 P **Pn 07 23 35.0 -0.6**
ARR Arges 7.67 23 ⇑P **Pn 07 23 38.2 +2.3**
MURB Monte Urbino 7.74 312 **Pn 07 23 39.0 +2.1**
FSSB Fossombrone 7.86 315 P **Pn 07 23 40.0 +1.5**
VOIR 7.86 24 ⇑P **Pn 07 23 41.1 +2.5**
VOIR 7.86 24 P **Pn 07 23 40.2 +1.6**
VOIR pmax pmax
comp=Z,16nm,1.1s
ATVO AVT- Monte Val 7.88 312 P **Pn 07 23 41.1 +2.3**
KOVH Kovagotottos 7.91 348 PN **Pn 07 23 37.6 -1.6**
ATPI Pietralunga - 7.92 312 ⇑P **Pn 07 23 42.1 +2.7**
SIRR Siria 7.95 6 ⇑P **Pn 07 23 40.7 +1.0**
MORH Mrgy, Hungar 7.96 351 *e*Pn **Pn 07 23 38.5 -1.3**
BOJS Bojanci 8.11 333 ⇑P **Pn 07 23 42.2 +0.2**
BOJS Bojanci 8.11 333 *i* Pn **Pn 07 23 42.1 +0.2**
BOJS *e*Sn **Sn 07 25 09.4 -4.0**
MLR Muntele Rosu 8.22 28 ⇑P **Pn 07 23 46.1 +2.5**
MLR Muntele Rosu 8.22 28 Pn **Pn 07 23 46.3 +2.8**
comp=Z,0.5nm,0.3s,baz=252,slow=8.0,SNR=5.7
MLR LR LR 07 28 19.3
comp=Z,133nm,18.3s,baz=196,slow=48
MLR Muntele Rosu 8.22 28 P **Pn 07 23 47.7 +4.1**
MLR pmax pmax
comp=Z,34nm,0.9s
PTJ Puntijarka 8.23 338 P **Pn 07 23 43.6 -0.1**
RIY Rijeka 8.25 329 *e*Pn **Pn 07 23 43.3 -0.5**
GBRS Gornja Briga 8.29 331 *i* Pn **Pn 07 23 45.0 +0.5**
CRES Cresnjev 8.32 335 ⇑*i*Pn **Pn 07 23 44.5 -0.4**
CRES Cresnjev 8.32 335 *i* Pn **Pn 07 23 44.5 -0.4**
DOPR Dopca 8.44 24 ⇓P **Pn 07 23 49.3 +2.9**
SFI Santa Sofia 8.52 313 ⇑P **Pn 07 23 50.2 +2.7**
CEY Cerknica 8.62 331 ⇑*i*Pn **Pn 07 23 48.9 0.0**
PLOR Plostina 8.79 30 ⇑P **Pn 07 23 54.0 +2.6**
PLOR Plostina 8.79 30 P **Pn 07 23 53.9 +2.6**
LJU Ljubljana 8.84 332 *e*Pn **Pn 07 23 51.6 -0.3**
VRI Vrincioaia 8.84 30 ⇓P **Pn 07 23 54.9 +3.0**
VRI Vrincioaia 8.84 30 P **Pn 07 23 54.9 +3.0**
SOKA Soboth 9.21 336 Pn **Pn 07 23 56.4 -0.7**
comp=Z,27nm,0.6s,SNR=35
SOKA *e*Sn **Sn 07 25 35.2 -5.4**
comp=Z,3.4nm,0.5s
OBKA Obir 9.23 334 Pn **Pn 07 23 57.9 +0.6**
comp=Z,4.4nm,0.2s,SNR=17
OBKA *e*Sn **Sn 07 25 38.7 -2.2**
comp=Z,24nm,0.4s
KEST Kesra 9.24 257 LR LR 07 28 33.8
comp=Z,122nm,18.1s,baz=281,slow=45
PSZ Piszkesteto 9.56 358 ⇑P **Pn 07 24 01.9 +0.1**
PSZ Piszkesteto 9.56 358 P **Pn 07 24 01.7 -0.2**
PSZ Piszkesteto 9.56 358 Pn **Pn 07 24 01.6 -0.2**
TEOL Teolo 9.57 320 Pn **Pn 07 24 01.1 -0.8**
ARSA Arzberg 9.58 340 Pn **Pn 07 24 01.5 -0.6**
comp=Z,4.3nm,0.4s,SNR=8.2
ARSA *e*Sn **Sn 07 25 44.4 -5.2**
comp=Z,1.4nm,0.4s
MYKA Terra Mystica 9.66 331 Pn **Pn 07 24 03.5 +0.2**
comp=Z,5.9nm,0.4s,SNR=7.2
MYKA *e*Sn **Sn 07 25 46.7 -4.8**
comp=Z,5.0nm,0.5s
STAL STALIGIAL 9.74 327 **Pn 07 24 03.4 -0.9**
ZOU Zoufplan 9.87 328 Pn **Pn 07 24 05.6 -0.6**
BURAR Bucovina Array 9.89 19 ⇑P **Pn 07 24 08.0 +1.6**
BURAR Bucovina Array 9.89 19 P **Pn 07 24 07.9 +1.6**
CTI Castel Tesino 10.06 323 P **Pn 07 24 08.3 -0.5**
CTI Castel Tesino 10.06 323 Pn **Pn 07 24 08.3 -0.5**
CONA Conrad Observa 10.12 342 *e*Pn **Pn 07 24 10.6 +1.0**
comp=Z,0.9nm,0.3s
CONA *e*Sn **Sn 07 25 57.7 -5.2**
comp=Z,1.7nm,0.4s
KBA Koelnbreinsper 10.15 331 *e*Pn **Pn 07 24 10.0 0.0**
comp=Z,3.5nm,0.4s
KBA *e*Sn **Sn 07 25 59.4 -4.2**
comp=Z,14nm,0.7s
KBA Koelnbreinsper 10.15 331 P **Pn 07 24 10.0 0.0**
KBA pmax pmax
comp=Z,13nm,0.9s
VYHS Vyhne 10.19 354 *e*P **Pn 07 24 11.3 +0.8**
VYHS *e* 07 25 59.9
VYHS Vyhne 10.19 354 *e*PN **Pn 07 24 11.2 +0.8**
VYHS *e*SN **Sn 07 25 59.9 -4.6**
ABTA Abfaltersbach 10.21 328 Pn **Pn 07 24 10.7 -0.1**
comp=Z,2.8nm,0.3s,SNR=8.0
ABTA *e*Sn **Sn 07 26 01.6 -3.4**
comp=Z,18nm,0.6s
MODS Modra-Piesok 10.27 348 *e*P **Pn 07 24 11.3 -0.2**
MODS Modra-Piesok 10.27 348 *e*PN **Pn 07 24 11.3 -0.2**
MODS *e*SN **Sn 07 25 59.9 -6.4**
SALO Salr 10.33 318 Pn **Pn 07 24 11.8 -0.7**
UZH Uzhgorod 10.35 7 *e*P Pn 07 24 18.4 +5.8
BRTR Keskin Array B 10.37 78 Pn **Pn 07 24 16.4 +3.4**
comp=Z,0.1nm,0.3s,baz=260,slow=14,SNR=1.8
BRTR LR LR 07 29 14.2
comp=Z,113nm,19.6s,baz=262,slow=44
MOA Molln 10.49 337 Pn **Pn 07 24 14.6 0.0**
comp=Z,5.5nm,0.3s,SNR=19
MOA *e*Sn **Sn 07 26 10.6 -1.3**
comp=Z,3.6nm,0.5s
WTTA Wattenberg 10.99 327 *e*Pn **Pn 07 24 22.0 +0.5**
comp=Z,11nm,0.6s
WTTA *e*Sn **Sn 07 26 22.4 -1.8**
comp=Z,30nm,0.8s
WTTA Wattenberg 10.99 327 P **Pn 07 24 23.3 +1.8**
WTTA pmax pmax
comp=Z,19nm,0.7s
NIE Niedzica 11.05 360 P **Pn 07 24 24.5 +2.2**
NIE pmax pmax
comp=Z,4.0nm,1.1s
WATA Walderalm 11.07 327 *i* Pn **Pn 07 24 23.3 +0.7**
comp=Z,25nm,0.6s,SNR=14
WATA *e*Sn **Sn 07 26 23.7 -2.4**
comp=Z,14nm,0.8s
SQTA Sankt Quirin 11.14 326 *i* Pn **Pn 07 24 25.0 +1.4**
comp=Z,67nm,0.0s,SNR=7.4
SQTA *e*Sn **Sn 07 26 25.8 -2.0**
comp=Z,4.0nm,0.3s
FETA Feichten 11.21 324 *e*Pn **Pn 07 24 26.7 +2.2**
comp=Z,0.9nm,0.4s
FETA *e*Sn **Sn 07 26 24.9 -4.8**
comp=Z,5.4nm,0.7s
MOTA Moosalm 11.28 326 *i* Pn **Pn 07 24 26.7 +1.2**
comp=Z,3.5nm,0.4s,SNR=9.5
MOTA *e*Sn **Sn 07 26 28.0 -3.3**
comp=Z,12nm,0.6s
VRAC Vranov 11.29 347 LR LR 07 29 42.3
comp=Z,213nm,19.1s,baz=169,slow=42
DAVOX Davos/Dischmat 11.45 321 Pn **Pn 07 24 29.0 +1.2**
comp=Z,0.5nm,0.3s,baz=126,slow=17,SNR=7.6
DAVOX LR LR 07 31 00.5
comp=Z,109nm,21.1s,baz=246,slow=49
DAVOX Davos/Dischmat 11.45 321 P **Pn 07 24 29.0 +1.2**
TUE Stuetta 11.51 318 Pn **Pn 07 24 29.8 +1.0**
RETA Reutte 11.54 325 *e*Pn **Pn 07 24 30.1 +1.2**
comp=Z,1.8nm,0.4s
RETA *e*Sn **Sn 07 26 33.9 -3.7**
comp=Z,1.3nm,0.2s
GEC2 GERESS Array S 11.55 337 Pn **Pn 07 24 28.5 -0.7**
GERES GERESS Array B 11.55 337 Pn **Pn 07 24 28.1 -1.0**
comp=Z,1.1nm,0.3s,baz=154,slow=14,SNR=30
GERES Sn **Sn 07 26 34.1 -3.8**
comp=Z,0.9nm,0.3s,baz=151,slow=25,SNR=7.5
DAVA Damuels 11.80 322 *e*Sn Sn 07 26 34.2 -10
comp=Z,2.0nm,0.3s
KHC Kasperske Hory 11.84 338 ⇑*i*P **Pn 07 24 32.4 -0.7**
KHC pmax pmax
comp=Z,18nm,1.3s
KHC Kasperske Hory 11.84 338 *e*PN **Pn 07 24 32.3 -0.8**
KHC *e*SN **Sn 07 26 36.8 -8.2**
KHC Kasperske Hory 11.84 338 Pn **Pn 07 24 32.0 -1.0**
WET Wettzell 12.07 336 P **Pn 07 24 36.4 +0.2**
PRU Pruhonice 12.36 342 P **Pn 07 24 39.9 -0.2**
PRU pmax pmax
comp=Z,8.0nm,1.1s
SENIN Lac Senin/Sane 12.57 314 Pn **Pn 07 24 44.0 +0.8**
MMAI Mount Meron Ar 13.28 109 Pn **Pn 07 24 50.8 -2.1**
comp=Z,1.6nm,0.3s,baz=305,slow=10,SNR=2.3
MOX Moxa 13.78 336 P **Pn 07 24 58.0 -1.5**
MOX pmax pmax
comp=Z,11nm,1.7s
AKASG Malin Array Be 13.82 24 Pn **Pn 07 25 00.1 +0.1**
comp=Z,0.6nm,0.3s,baz=209,slow=12,SNR=7.3
AKASG LR LR 07 31 58.4
comp=Z,109nm,18.1s,baz=204,slow=44
AKBB Malin Array Si 13.82 24⇑*e*P **Pn 07 25 02.9 +2.9**
AKBB Malin Array Si 13.82 24 Pn **Pn 07 25 00.5 +0.5**
CLL Collm 13.96 340 *e*P **P 07 25 12.0 +2.0**
CLL Collm 13.96 340 *e*PP **P 07 25 12.0 +2.0**
CLL *ex* x 07 25 30.0
CLL LmH 07 29 00.0
comp=N,100nm,22.0s
CLL LmH 07 29 00.0
comp=E,200nm,19.8s
SUW Suwalki 15.77 6 P **Pn 07 25 26.3 +0.2**
SUW Suwalki 15.77 6 *e*P **P 07 25 28.2 -1.8**
SUW Suwalki 15.77 6 Pn **Pn 07 25 26.3 +0.2**
KLNR Kaliningrad 16.25 360⇓*e*P **Pn 07 25 30.8 -1.4**
KLNR pmax pmax
comp=Z,37nm,1.0s
MNK Minsk 16.92 15 *i* P **Pn 07 25 38.4 -2.5**
MNK *i* S **Sn 07 28 46.1 -2.5**
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,26nm,0.9s
MNK MLR MLR
comp=N,127nm,14.0s
MNK MLR MLR
comp=Z,99nm,14.0s
MNK MLR MLR
comp=E,9.0nm,14.0s
MNK Minsk 16.92 15 *i* P **Pn 07 25 38.4 -2.5**
comp=E,1.0nm,0.9s
MNK *i* P **Pn 07 25 38.4 -2.5**
comp=N,14nm,0.8s
MNK *i* P **Pn 07 25 38.4 -2.5**
comp=Z,26nm,0.8s,baz=201
MNK *i* S **Sn 07 28 46.2 -2.4**
MNK *i* LR LR 07 31 01.6
MNK *i* LRM MLR 07 32 17.7
comp=N,127nm,14.4s
MNK *i* LRM MLR 07 32 38.9
comp=Z,99nm,13.8s
MNK *i* LRM MLR 07 32 41.1
comp=E,9.0nm,13.8s
NACGM Naroch 17.10 13 *i* P **P 07 25 44.6 -0.1**
BSD Bornholm Skovb 17.17 349 P **P 07 25 46.3 +0.8**
BSD pmax pmax
comp=Z,624nm,1.4s
IIGN Ignalina 17.44 11 *e*P **Pn 07 25 47.1 -0.1**
ISAL Salakas 17.64 11 *e*P **Pn 07 25 49.6 -0.1**
KIV Kislovodsk 17.64 64 *i* P **P 07 25 54.0 +3.0**
KIV pmax pmax
comp=Z,16nm,1.2s
KBZ Khabaz 17.75 65 P **P 07 25 52.4 +0.3**
comp=Z,0.1nm,0.3s,baz=254,slow=8.9,SNR=5.2
KBZ Khabaz 17.75 65⇓*e*P **P 07 25 55.4 +3.4**
KBZ pmax pmax
comp=Z,31nm,3.3s
PYA1 Pyatigorsk 17.95 64⇑*i*P **P 07 25 55.8 +1.5**
NCK Nalchik 18.22 66⇓*e*P **P 07 25 59.9 +2.7**
NCK pmax pmax
comp=Z,5.0nm,0.6s
ZEI Tsey 18.35 69 *e*P **Pn 07 25 57.9 -1.0**
ZEI pmax pmax
comp=Z,4.0nm,1.2s
ESDC Sonseca Array 18.99 282 P **P 07 26 04.5 -1.3**
comp=Z,0.1nm,0.3s,baz=84,slow=11,SNR=1.9
LPSR Galich'ya Gora 19.18 36 *e*P **P 07 26 07.9 +0.3**
LPSR pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 19.99 28⇓*e*P **P 07 26 17.1 +0.6**
OBN *e*S **Sn 07 30 02.5 -0.2**
OBN pmax pmax
comp=Z,18nm,1.3s
OBN MLR MLR
comp=Z,153nm,15.0s
VSU Vasula 20.53 9*c e*P **P 07 26 22.6 +0.3**
VSU pmax pmax
comp=Z,139nm,0.9s
VSU Vasula 20.53 9 *e*P **P 07 26 22.8 +0.5**
MOS Moscow 20.86 28 *e*P **P 07 26 24.7 -1.2**
MDT Midelt 21.07 262 LR LR 07 35 38.5
comp=Z,64nm,19.7s,baz=34,slow=40
HFS Hagfors 22.21 351 P **P 07 26 40.2 -0.2**
comp=Z,14nm,0.8s,baz=157,slow=13,SNR=26
HFS LR LR 07 37 05.4
comp=Z,137nm,21.8s,baz=242,slow=42
NORES NORESS Array B 23.08 349 P **P 07 26 51.0 +1.4**
EKA Eskdalemuir Ar 23.24 325 P **P 07 26 51.2 0.0**
comp=Z,1.3nm,1.1s,baz=126,slow=9.4,SNR=5.0
FINES FINESS Array B 23.37 7 P **P 07 26 51.6 -0.9**
comp=Z,8.0nm,0.6s,baz=169,slow=9.7,SNR=55
FINES LR LR 07 36 10.0
comp=Z,139nm,18.6s,baz=200,slow=37
FIA1 FINESS Array S 23.37 7 P **P 07 26 51.8 -0.7**
FIA1 IAmb IAmb 07 27 06.4
comp=Z,14nm,1.0s
NC405 NORSAR Array S 23.42 349 P **P 07 26 52.0 -1.0**
NB2 NORSAR Subarra 23.42 349 P **P 07 26 52.9 -0.2**
comp=Z,8.4nm,1.1s,baz=153,slow=10
NOA NORSAR Array B 23.42 349 P **P 07 26 52.6 -0.5**
comp=Z,4.3nm,0.9s,baz=159,slow=9.8,SNR=17
NOA LR LR 07 36 20.7
comp=Z,44nm,20.2s,baz=220,slow=38
KIRV Kirov 27.54 33*d e*P **P 07 27 30.1 -0.5**
AKTO Aktyubinsk 29.13 53 LR LR 07 42 16.1
comp=Z,82nm,18.5s,baz=295,slow=42
GEYT Alibeck 29.51 79 P **P 07 27 48.7 +0.2**
comp=Z,2.4nm,0.5s,baz=260,slow=16,SNR=2.9
GEYT Alibeck 29.51 79 IAmb IAmb 07 27 49.8
comp=Z,3.4nm,0.6s
GYA0B ALIBECK ARRAY 29.51 79 P **P 07 27 49.4 +0.9**
GYA0B IAmb IAmb 07 27 49.8
comp=Z,6.6nm,0.5s
TORD Torodi Ar. Bea 30.13 219 P **P 07 27 53.5 -0.6**
comp=Z,1.5nm,0.9s,baz=24,slow=9.0,SNR=8.1
ARU Arti 30.97 42 P **P 07 27 59.4 -1.7**
comp=Z,0.7nm,0.3s,baz=261,slow=13,SNR=3.2
ARU LR LR 07 41 50.9
comp=Z,111nm,18.7s,baz=208,slow=39
ARCES ARCESS Array B 31.35 3 P **P 07 28 03.1 -1.3**
comp=Z,1.7nm,0.6s,baz=180,slow=6.9,SNR=10.0
ARCES LR LR 07 43 27.1
comp=Z,76nm,18.0s,baz=260,slow=42
SVE Sverdlovsk 32.18 42 *e*P **P 07 28 12.2 +0.4**
WSAR Wadi Sarin 35.83 104 LR LR 07 47 31.2
comp=Z,27nm,19.0s,baz=290,slow=43
BRVK Borovoye 36.99 50⇑*e*P **P 07 28 53.5 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,2.5s
BVAR Borovoye Array 37.05 50 P **P 07 28 54.2 +0.3**
comp=Z,1.0nm,0.5s,baz=253,slow=9.1,SNR=8.3
DBIC Dimbokro 38.98 222 LR LR 07 46 21.1
comp=Z,85nm,18.2s,baz=18,slow=38
MBAR Mbarara 39.92 164 LR LR 07 48 02.6
comp=Z,54nm,18.8s,baz=346,slow=40
KURBB Kurchatov Arra 42.18 54 P **P 07 29 35.9 -0.7**
comp=Z,0.8nm,0.5s,baz=279,slow=9.0,SNR=11
KURBB PcP **PcP 07 31 30.8 +0.1**
comp=Z,0.5nm,0.8s,baz=279,slow=4.1,SNR=4.5
KURK Kurchatov 42.22 54⇓*e*P **P 07 29 37.0 0.0**
KURK pmax pmax
comp=Z,1.0nm,1.0s
KURK Kurchatov 42.22 54 P **P 07 29 35.9 -1.1**
KURK Kurchatov 42.22 54 IAmb IAmb 07 29 37.5
comp=Z,4.8nm,1.3s
MK31 Makanchi Array 45.27 59⇓*e*P **P 07 30 01.2 -0.4**
MK31 Makanchi Array 45.27 59 P **P 07 30 01.5 -0.1**
MK31 IAmb IAmb 07 30 22.0
comp=Z,1.9nm,0.8s
MKAR Makanchi Array 45.27 59 P **P 07 30 01.4 -0.2**
comp=Z,2.1nm,0.5s,baz=274,slow=6.9,SNR=19
MKAR Makanchi Array 45.27 59*c e*P **P 07 30 01.3 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 45.27 59 P **P 07 30 01.6 -0.1**
NOR Nord 45.29 353 *i* P **P 07 30 02.0 +0.7**
ZAA0 Zalesovo Array 45.62 48 P **P 07 30 04.3 0.0**
ZALV Zalesovo Beam 45.62 48 P **P 07 30 04.2 0.0**
comp=Z,9.1nm,0.4s,baz=273,slow=8.7,SNR=39
DGZ Jazzator, Alta 47.97 54⇑*e*P **P 07 30 22.1 -0.8**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
SCHQ Schefferville 58.28 317 P **P 07 31 38.2 -0.4**
comp=Z,2.2nm,0.6s,baz=83,slow=7.2,SNR=5.8
SCHQ Schefferville 58.28 317 IAmb IAmb 07 32 03.8
comp=Z,19nm,1.4s
TIXI Tiksi 59.50 20 LR LR 08 01 25.3
comp=Z,190nm,18.2s,baz=264,slow=40
TIXI Tiksi 59.50 20⇑*e*P **P 07 31 47.5 +0.7**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
YAK Yakutsk 64.98 29 LR LR 08 04 49.5
comp=Z,38nm,20.4s,baz=248,slow=40
BOSA Boshof 66.78 175 LR LR 08 03 55.3
comp=Z,45nm,19.3s,baz=6.0,slow=38
CMAR Chiang Mai Arr 69.93 82 P **P 07 32 54.7 -1.0**
comp=Z,0.7nm,0.3s,baz=310,slow=8.3,SNR=6.8
CMAR Chiang Mai Arr 69.93 82*c e*P **P 07 32 55.5 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
SUR Sutherland 70.38 180 LR LR 08 08 56.3
comp=Z,38nm,18.1s,baz=338,slow=40
BILL Bilibino 70.85 13 *i* P **P 07 33 00.7 +0.2**
BILL *i* 07 33 20.4
BILL *i* 07 35 47.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
YKA Yellowknife Ar 73.19 340 P **P 07 33 15.3 +0.7**
comp=Z,0.6nm,0.8s,baz=35,slow=5.6,SNR=11
YKA Yellowknife Ar 73.19 340*c e*P **P 07 33 15.6 +1.0**
YKA pmax pmax
comp=Z,1.0nm,0.8s
KLR Kul'dur 73.78 39 P **P 07 33 18.9 +0.6**
comp=Z,2.7nm,0.5s,baz=312,slow=5.0,SNR=12
KLR Kul'dur 73.78 39⇑*i*P **P 07 33 18.3 0.0**
KLR pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 76.72 354 P **P 07 33 35.6 +0.6**
comp=Z,0.3nm,0.8s,baz=15,slow=3.7,SNR=4.2
USRK Ussuriysk Ar. 77.19 43 P **P 07 33 37.7 -0.3**
comp=Z,4.1nm,0.7s,baz=298,slow=3.6,SNR=5.0
PETK Petropavlovsk- 81.66 24 LR LR 08 15 06.3
comp=Z,40nm,18.3s,baz=307,slow=39
ASAR Alice Springs 122.26 96 PKP **PKPdf 07 40 38.8 -0.6**
comp=Z,0.4nm,0.8s,baz=308,slow=2.2,SNR=3.0

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*IDC **04** 07:25:39.7±3.4, 38°.51N×76°.22E, h0km, mb3.6/3, mb1 3.5/5, mb1mx3.2/55, mbtmp3.3/5, ML2.2/2, MS3.4/2, Ms1 3.4/2, ms1mx2.5/86, Error ellipse: s-maj=65.6km s-min=33.7km az=134.0*
*NNC **04** 07:25:58.4±2.5, 39°.22N×75°.87E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=19.8km s-min=13.0km az=164.0*
ISC 04 07:25:41.7±1.9, **38°.6N**±0°.1×**75°.99E**±0°.06, **h10**km, **n26**, σ2s**07**/26, **mb3.5**/3, **6C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol** SNR=13	**3.69**	**3**	P	**Pg**	**07 26 52.4**	**-0.1**
UCH	**Uchtor** SNR=16	**3.84**	**343**	P	**Pb**	**07 26 46.4**	**-3.3**
AML	**Almayashu** SNR=7.2	**3.98**	**335**	P	**Pb**	**07 26 48.6**	**-3.5**
AAK	**Ala-Archa** SNR=7.0	**4.24**	**345**	P	**Pb**	**07 26 52.2**	**-4.1**
AAK	**Ala-Archa** 1.7nm,0.3s	**4.24**	**345**	⇑Pn	**Pb**	**07 26 54.7**	**-1.6**
AAK	5.2nm,0.3s			⇑Pg	**Pg**	**07 27 02.2**	**-0.7**
AAK	28nm,0.7s			⇓Lg	Lg	07 27 51.9	
TKM2	**Tokmak 2** SNR=7.7	**4.38**	**356**	P	**Pb**	**07 27 00.3**	**+1.6**
TKM2	**Tokmak 2** 3.8nm,0.3s	**4.38**	**356**	⇓Pn	**Pb**	**07 26 58.5**	**-0.2**
TKM2	22nm,0.5s			⇑Lg	Lg	07 27 56.7	
MTBS	**Maitube** 6.3nm,0.4s	**4.59**	**4**	Pg	**Pg**	**07 27 08.5**	**-1.0**
MTBS	40nm,0.3s			Lg	Lg	07 28 05.9	
MDOK	**Medeo** 7.7nm,0.5s	**4.68**	**10**	Pn	**Pb**	**07 27 04.4**	**+0.5**
MDOK				Lg	Lg	07 28 09.2	

	31nm,0.6s							
SATY	**Saty**	**4.86**	**21**	Pg	**Pg**	**07 27 14.5**	**-0.3**
	16nm,0.5s							
SATY				Lg	Lg	07 28 16.0	
	29nm,0.5s							
ZHN	**Zhinishke**	**4.97**	**21**	Pg	**Pg**	**07 27 15.4**	**-1.5**
	15nm,0.2s							
ZHN				Lg	Lg	07 28 17.8	
	42nm,0.4s							
SGDS	**Sogindy**	**5.00**	**349**	Pg	**Pg**	**07 27 17.1**	**-0.4**
	5.1nm,0.5s							
SGDS				Lg	Lg	07 28 20.4	
	26nm,0.6s							
UZB	**Uzynbulak**	**5.13**	**26**	Pg	**Pg**	**07 27 18.9**	**-1.1**
	11nm,0.4s							
UZB				Lg	Lg	07 28 24.2	
	20nm,0.8s							
CHKK	**Chushkaly**	**5.35**	**8**	Pg	**Pg**	**07 27 23.7**	**-0.5**
	5.8nm,0.6s							
CHKK				Lg	Lg	07 28 31.5	
	22nm,0.3s							
PDGK	**Podgornoye**	**5.46**	**28**	Pg	**Pg**	**07 27 25.2**	**-1.0**
	4.5nm,0.8s							
PDGK				Lg	Lg	07 28 34.9	
	11nm,0.8s							
PDGK	**Podgornoye**	**5.46**	**28**	⇑Pn	**Pb**	**07 27 16.8**	**-0.4**
	9.8nm,0.7s							
PDGK				⇑Lg	Lg	07 28 34.3	
	16nm,0.6s							
ARXS	**Arharly**	**5.82**	**13**	Pg	**Pg**	**07 27 31.3**	**-1.9**
	7.3nm,0.7s							
ARXS				Lg	Lg	07 28 44.8	
	16nm,0.8s							
KK09	**Karatay Array**	**6.18**	**319**	⇓Pn	Pn	07 27 20.9	+7.9
	2.6nm,0.4s,baz=130,slow=13							
KK09				⇓Sn	**Sn**	**07 28 29.2**	**+5.5**
	3.7nm,0.6s							
KK09				⇑Lg	Lg	07 28 57.7	
	5.1nm,0.6s,baz=128,slow=29							
DJR	**Jarkent**	**6.44**	**25**	Pg	**Pg**	**07 27 43.9**	**-1.0**
	5.1nm,0.6s							
DJR				Lg	Lg	07 29 06.3	
	7.1nm,0.5s							
BRLS	**Borolday**	**6.46**	**316**	Pg	**Pg**	**07 27 45.3**	**-0.1**
	2.8nm,0.3s							
BRLS				Lg	Lg	07 29 09.7	
	5.2nm,0.5s							
MKAR	**Makanchi Array**	**9.45**	**27**	Pn	**Pn**	**07 27 59.5**	**+1.6**
	0.1nm,0.3s,baz=216,slow=14,SNR=1.2							
KURBB	**Kurchatov Arra**	**12.20**	**8**	Pn	**Pn**	**07 28 34.5**	**-1.0**
	0.0nm,0.3s,baz=192,slow=11,SNR=1.4							
KURBB				Lg	Lg	07 32 06.5	
	0.0nm,0.3s,baz=186,slow=29,SNR=2.6							
AKASG	**Malin Array Be**	**34.86**	**306**	P	**P**	**07 32 35.0**	**+2.2**
	0.4nm,0.5s,baz=81,slow=6.8,SNR=4.7							
AKASG				LR	LR	07 49 10.8	
	comp=Z,55nm,19.6s,baz=293,slow=40							
ARCES	**ARCESS Array B**	**40.84**	**335**	P	**P**	**07 33 21.9**	**-1.3**
	3.7nm,1.0s,baz=99,slow=9.2,SNR=1.8							
YKA	**Yellowknife Ar**	**78.94**	**5**	P	**P**	**07 37 44.2**	**-0.8**
	0.1nm,0.5s,baz=347,slow=5.8,SNR=4.1							
PMG	**Port Moresby**	**81.44**	**109**	LR	LR	08 16 08.8	
	comp=Z,21nm,21.0s,baz=66,slow=37							

NNC 04 07:31:35.7±3.3, 39°.30N×73°.20E, h0km, mb3.9, mpv3.4, 3C-5D, Error ellipse: s-maj=26.1km s-min=13.9km az=1.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.48**	**16**	⇑Pn	Pn	07 32 32.1	+0.8
	8.5nm,0.8s						
AAK				⇓Lg	Lg	07 33 24.9	
	14nm,0.7s						
TKM2	**Tokmak 2**	**4.05**	**26**	⇓Pn	Pn	07 32 40.1	+1.0
	4.5nm,0.6s						
TKM2				⇑Lg	Lg	07 33 43.6	
	13nm,1.2s						
KST	**Kastek**	**4.29**	**28**	Pg	Pg	07 32 55.2	-2.6
	11nm,0.9s						
KST				Lg	Lg	07 34 00.7	
	9.7nm,0.6s						
SGDS	**Sogindy**	**4.29**	**14**	Pg	Pg	07 32 55.1	-2.9
	3.6nm,0.7s						
SGDS				Lg	Lg	07 34 00.7	
	3.9nm,0.6s						
KK09	**Karatay Array**	**4.33**	**333**	⇓Pn	Pn	07 32 41.5	-1.3
	2.4nm,0.6s,baz=144,slow=13						
KK09				⇑Sn	Sn	07 33 34.8	+0.7
	6.9nm,0.7s,baz=144,slow=24						
KK09				⇓Lg	Lg	07 33 56.0	
	7.1nm,0.7s						
DGS	**Degeres**	**4.39**	**25**	Pg	Pg	07 32 57.6	-2.3
	8.3nm,0.5s						
DGS				Lg	Lg	07 34 05.2	
	6.6nm,0.8s						
BRLS	**Borolday**	**4.51**	**327**	Pg	Pb	07 32 53.5	-2.3
	3.1nm,0.8s						
BRLS				Lg	Lg	07 33 57.6	
	6.3nm,0.4s						
IZV	**Izvestkoviy**	**4.54**	**33**	Pg	Pb	07 32 57.5	+1.2
	7.4nm,0.7s						
IZV				Lg	Lg	07 34 04.4	
	10nm,0.9s						
MDOK	**Medeo**	**4.83**	**36**	⇓Pg	Pb	07 33 03.1	+1.8
	3.1nm,0.6s						
MDOK				Lg	Lg	07 34 09.4	
	14nm,0.8s						
KOTS	**Kotyrbulak**	**4.92**	**36**	Pg	Pb	07 33 05.5	+2.7
	7.3nm,0.5s						
KOTS				Lg	Lg	07 34 17.8	
	20nm,0.8s						
CHKK	**Chushkaly**	**5.37**	**31**	Pg	Pb	07 33 12.6	+2.3
	2.9nm,0.5s						
CHKK				Lg	Lg	07 34 30.3	
	4.7nm,0.6s						
UZB	**Uzynbulak**	**5.84**	**47**	Pg	Pb	07 33 21.0	+2.6
	2.9nm,0.7s						
UZB				Lg	Lg	07 34 45.7	
	3.1nm,0.6s						
PDGK	**Podgornoye**	**6.22**	**48**	Pg	Pb	07 33 27.5	+2.7
	1.3nm,0.7s						
PDGK				Lg	Lg	07 34 55.6	
	1.8nm,0.8s						

IDC 04 07:37:59.7±10.0, 51°.01N×178°.51E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/31, mbtmp3.0/3, Error ellipse: s-maj=283.8km s-min=35.7km az=165.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**22.60**	**39**	P	P	07 43 01.5	0.0
	0.3nm,0.5s,baz=255,slow=10,SNR=4.3						
YKA	**Yellowknife Ar**	**36.71**	**46**	P	P	07 45 07.9	-0.1
	0.1nm,0.5s,baz=270,slow=8.6,SNR=1.4						
SONM	**Songino Array**	**45.29**	**296**	P	P	07 46 18.9	-0.1
	0.2nm,0.4s,baz=65,slow=8.1,SNR=1.7						

IDC 04 08:26:06.2±2.9, 54°.25N×86°.04E, h0km, mb1 2.7/1, mb1mx2.6/34, mbtmp2.7/1, ML2.7/1, Error ellipse: s-maj=20.0km s-min=11.9km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**248**	*i*		08 30 40.0	
	baz=68,slow=338,SNR=39						
ZALV	**Zalesovo Beam**	**0.78**	**248**	Pg	Pg	08 26 21.1	0.0
	0.8nm,0.3s,baz=63,slow=17,SNR=18						
ZALV				Lg	Lg	08 26 32.2	
	4.1nm,0.3s,baz=67,slow=30,SNR=13						
MKAR	**Makanchi Array**	**7.83**	**199**	Pn	Pn	08 28 02.4	+1.0
	0.1nm,0.3s,baz=23,slow=11,SNR=7.1						

*JSN **04** 08:36:11.6±0.3, 18°.20N×76°.59W, h21km±7km, MD2.0*
*SSNC **04** 08:36:13.0±1.0, 18°.35N×76°.59W, h5km, MD2.8, ML1.5, MW2.6*

ISC 04 08:36:10.3±1.0, 18°.31N±0°.06×76°.60W±0°.06, h18km, n7, σ0°57/11, 1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.26**	**207**	*i* P	**Pg**	**08 36 16.5**	**+0.1**
CMJ	**Castle Mountai**	**0.28**	**128**	*i* P	**Pg**	**08 36 16.8**	**+0.2**
STH	**Stony Hill**	**0.30**	**220**	*i* P	**Pb**	**08 36 17.3**	**0.0**
STH				*i* S	**Sb**	**08 36 21.5**	**-0.5**
HOJ	**Hope**	**0.34**	**205**	*i* P	**Pb**	**08 36 17.2**	**-0.6**
MTDJ	**Mount Denham**	**0.89**	**265**	*eP*	**Pn**	**08 36 28.6**	**+0.5**
MTDJ				⇓*eS*	**Sn**	**08 36 40.8**	**+0.3**
LMGC	**Las Mercedes**	**1.79**	**348**	*eP*	**Pn**	**08 36 40.7**	**+0.4**
LMGC				*eS*	**Sn**	**08 37 01.7**	**-0.8**
LMGC				IAML		08 37 03.2	
	comp=E,8.1nm,0.1s						
LMGC				IAML		08 37 03.3	
	comp=N,17nm,0.0s						
RCC	**Rio Carpintero**	**1.88**	**27**	*eP*	**Pn**	**08 36 42.3**	**+0.7**
RCC				*eS*	**Sn**	**08 37 04.3**	**-0.6**

*NEIC **04** 08:45:33.5±1.2, 53°.70N±0°.04×159°.3W±0°.1, h11km±6km, Error ellipse: s-maj=10.3km s-min=6.3km az=102.0*

AEIC 04 08:45:34.4±1.4, 53°.64N±0°.09×159°.4W±0°.1, h15km±8km, ML3.2/14, ML3.5/8(NEIC), Error ellipse: s-maj=14.4km s-min=9.5km az=150.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.19**	**355**		Sg	08 46 12.7	-0.3
CNBA	**Chernabura Isl**	**1.19**	**355**	Pn	Pn	08 45 56.0	-0.5
SDPT	**Sand Point**	**1.83**	**340**		Sn	08 46 28.5	+0.5
SDPT	**Sand Point**	**1.83**	**340**	Pn	Pn	08 46 05.2	-0.1
SDPT	**Sand Point**	**1.83**	**340**	IAML		08 46 52.9	
	comp=E,186nm,3.1s						
SDPT				IAML		08 46 58.5	
	comp=N,205nm,4.0s						
DT1	**Dutton Round H**	**2.24**	**312**		Pn	08 46 10.9	0.0
FALS	**False Pass**	**2.66**	**299**		Pn	08 46 16.1	-0.4
ISLZ	**Isanotski Laza**	**2.76**	**295**		Pn	08 46 18.4	+0.4
ISLZ					Sn	08 46 53.0	+2.0
AKSA	**Akutan Strait**	**3.76**	**280**		Pn	08 46 32.0	+0.3
AKUT	**Akutan**	**3.80**	**280**	Pn	Pn	08 46 33.0	+0.7
AKUT				IAML		08 47 30.3	
	comp=N,144nm,3.6s						
AKUT				IAML		08 48 26.6	
	comp=E,130nm,2.8s						
UNV	**Unalaska Valle**	**4.22**	**276**		Pn	08 46 39.2	+1.1
MTBL	**Makushin Table**	**4.33**	**277**		Pn	08 46 40.2	+0.6
MREP	**Makushin Rep't**	**4.37**	**275**		Pn	08 46 40.6	+0.5
MSW	**Makushin Switc**	**4.39**	**277**		Pn	08 46 41.3	+0.9
MSW					Sn	08 47 31.5	+0.3
MAPS	**Pakushin South**	**4.48**	**275**		Pn	08 46 42.3	+0.6
MAPS					Sn	08 47 34.2	+0.7
OHAK	**Old Harbor**	**5.00**	**42**	Pn	Pn	08 46 45.5	-3.4
Q19K	**Cape Douglas,**	**6.20**	**29**	Pn	Pn	08 47 04.7	-0.5
PWL	**Port Wells**	**9.39**	**35**	Pn	Pn	08 47 46.8	-2.3
SCM	**Sheep Creek Mo**	**10.43**	**33**	Pn	Pn	08 48 01.0	-2.3
KLU	**Klutina**	**10.68**	**37**	Pn	Pn	08 48 04.7	-2.0

IDC 04 08:55:14.2±13.0, 39°.29S×78°.13E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/35, mbtmp3.8/3, MS3.6/13, Ms1 3.6/13, ms1mx3.1/65, Error ellipse: s-maj=454.0km s-min=52.8km az=32.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.93**	**93**	T	T	09 31 07.0	
	baz=252,slow=75,SNR=237						
H01W3	**Cape Leeuwin H**	**28.93**	**93**	T	T	09 31 07.5	
	baz=252,slow=75,SNR=254						
H01W1	**Cape Leeuwin H**	**28.95**	**93**	T	T	09 31 08.3	
	baz=252,slow=75,SNR=325						
MAW	**Mawson**	**29.61**	**192**	LR	LR	09 11 23.9	
	comp=Z,81nm,18.3s,baz=62,slow=33						
H08S2	**Diego Garcia H**	**31.91**	**349**	T	T	09 34 19.3	
	baz=171,slow=76,SNR=33						
H08S1	**Diego Garcia H**	**31.91**	**349**	T	T	09 34 19.5	
	baz=171,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**31.93**	**349**	T	T	09 34 20.7	
	baz=171,slow=76,SNR=47						
LEM	**Lembang**	**41.82**	**47**	LR	LR	09 16 24.1	
	comp=Z,63nm,19.5s,baz=145,slow=30						
BOSA	**Boshof**	**44.58**	**267**	LR	LR	09 18 34.6	
	comp=Z,58nm,19.5s,baz=181,slow=31						
LBTB	**Lobatse**	**46.09**	**272**	LR	LR	09 19 37.5	
	comp=Z,85nm,18.3s,baz=120,slow=32						
SUR	**Sutherland**	**46.32**	**260**	LR	LR	09 18 33.9	
	comp=Z,63nm,21.3s,baz=132,slow=30						
PALK	**Pallekele**	**46.38**	**4**	LR	LR	09 18 13.2	
	comp=Z,36nm,21.2s,baz=299,slow=30						
ASAR	**Alice Springs**	**49.31**	**89**	P	P	09 04 05.2	+0.1
	1.2nm,1.0s,baz=229,slow=6.9,SNR=6.5						
LSZ	**Lusaka**	**49.67**	**284**	LR	LR	09 21 55.8	
	comp=Z,59nm,18.4s,baz=163,slow=32						
VNDA	**Vanda**	**50.65**	**164**	LR	LR	09 24 06.7	
	comp=Z,66nm,18.2s,baz=268,slow=34						
QSPA	**South Pole Qui**	**50.87**	**180**	LR	LR	09 24 43.3	
	comp=Z,116nm,18.7s,baz=288,slow=35						
WRA	**Warramunga Arr**	**51.69**	**85**	P	P	09 04 22.9	-0.2
	2.5nm,0.9s,baz=235,slow=7.4,SNR=8.9						
MBAR	**Mbarara**	**57.87**	**300**	LR	LR	09 25 52.4	
	comp=Z,49nm,19.5s,baz=127,slow=32						
AAK	**Ala-Archa**	**81.61**	**357**	LR	LR	09 39 15.1	
	comp=Z,31nm,21.9s,baz=286,slow=32						
MKAR	**Makanchi Array**	**85.78**	**3**	P	P	09 07 54.9	0.0
	0.2nm,0.6s,baz=191,slow=7.0,SNR=2.0						
MKAR				LR	LR	09 43 17.1	
	comp=Z,35nm,20.8s,baz=116,slow=34						
SONM	**Songino Array**	**90.32**	**19**	LR	LR	09 46 55.9	
	comp=Z,54nm,18.0s,baz=338,slow=34						

RSNC 04 08:57:47.6±1.1, 6°.80N×73°.12W, h152km±4km, ML3.1, Mw3.5, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**196**	⇓*i* P	Pn	08 58 08.2	-0.4
BARC				*eS*	Sn	08 58 23.8	-0.7
BARC				*i*		08 58 25.8	
	comp=Z,190nm,0.2s						
BRRC	**Barranca, Sant**	**0.66**	**297**	⇑*eP*	Pn	08 58 10.1	0.0
BRRC				*eS*	Sn	08 58 27.3	0.0
BRRC				*i*		08 58 31.7	
	comp=Z,127nm,0.6s						
PAMC	**Pamplona, Colo**	**0.68**	**38**	*eP*	Pn	08 58 10.9	+0.1
PAMC				*eS*	Sn	08 58 28.3	-0.2
PAMC				*i*		08 58 30.4	
	comp=Z,214nm,0.6s						
RUSC	**La Rusia**	**0.91**	**178**	*eP*	Pn	08 58 12.0	-0.4
RUSC				*eS*	Sn	08 58 30.5	-0.9
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*eP*	Pn	08 58 15.2	-0.7
PTBC				*eS*	Sn	08 58 36.4	-1.1
PTBC				*i*		08 58 43.7	
	comp=Z,231nm,0.4s						
TAMC	**Tame, Arauca**	**1.37**	**105**	*eP*	Pn	08 58 16.2	+0.1
TAMC				*i*		08 58 37.2	
	comp=Z,74nm,0.3s						
TAMC				*eS*	Sn	08 58 37.8	-0.1
OCAC	**Ocana**	**1.44**	**352**	*eP*	Pn	08 58 16.5	-0.4
OCAC				*eS*	Sn	08 58 38.9	-0.6
OCAC				*i*		08 58 44.0	
	comp=Z,274nm,0.3s						
SPBC	**San Pablo de B**	**1.48**	**220**	*eP*	Pn	08 58 17.0	-0.3
SPBC				*eS*	Sn	08 58 39.4	-0.6
SPBC				*i*		08 58 42.5	
	comp=Z,198nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.86**	**292**	*eP*	Pn	08 58 20.4	-0.8
ZARC				*eS*	Sn	08 58 47.0	-0.1
ZARC				*i*		08 58 52.6	
	comp=Z,126nm,0.3s						
NORC	**Norcasia**	**2.13**	**235**	*eP*	Pn	08 58 24.3	-0.2
NORC				*eS*	Sn	08 58 51.4	-1.4
NORC				*i*		08 58 56.8	
	comp=Z,85nm,0.2s						
SMLC	**San Martn de**	**2.20**	**335**	*eP*	Pn	08 58 24.4	-0.8
SMLC				*eS*	Sn	08 58 53.3	-1.0
SMLC				*i*		08 58 57.9	
	comp=Z,96nm,0.1s						
CHIC	**Chingaza**	**2.24**	**196**	*eP*	Pn	08 58 26.0	-0.2
CHIC				*eS*	Sn	08 58 55.3	-0.6
CHIC				*i*		08 59 03.3	
	comp=Z,51nm,0.6s						
ROSC	**El Rosal**	**2.29**	**212**	*eP*	Pn	08 58 27.8	+1.1
ROSC				*eS*	Sn	08 58 57.3	+0.6
ROSC				*i*		08 59 05.8	
	comp=Z,99nm,0.4s						
HELC	**Santa Helena**	**2.47**	**256**	*eP*	Pn	08 58 29.9	+1.1
HELC				*eS*	Sn	08 59 00.2	-0.4
HELC				*i*		08 59 07.9	
	comp=Z,77nm,0.3s						
UREC	**San Jos de Ur**	**2.57**	**292**	*eP*	Pn	08 58 27.9	-1.9
UREC				*eS*	Sn	08 59 00.1	-2.2
UREC				*i*		08 59 10.2	
	comp=Z,75nm,0.2s						
SOCV	**Socops**	**2.68**	**57**	*eP*	Pn	08 58 29.7	-1.5
SOCV				*eS*	Sn	08 59 01.9	-2.9
GUY2C	**Guyana, Caldas**	**2.73**	**235**	*eP*	Pn	08 58 33.0	+0.9
GUY2C				*eS*	Sn	08 59 06.4	-0.1
GUY2C				*i*		08 59 15.2	
	comp=Z,71nm,0.3s						
VILC	**Villavicencio,**	**2.73**	**192**	*eP*	Pn	08 58 31.7	-0.2
VILC				*eS*	Sn	08 59 04.0	-2.2
PTGC	**Puerto Gaitan,**	**2.77**	**159**	*eP*	Pn	08 58 30.8	-1.4
PTGC				*eS*	Sn	08 59 04.3	-2.3
PTGC				*i*		08 59 07.0	
	comp=Z,56nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*eP*	Pn	08 58 35.8	+0.3
CBOC				*eS*	Sn	08 59 10.4	-2.2
CBOC				*i*		08 59 21.7	
	comp=Z,23nm,0.5s						
DBBC	**Dabeiba**	**3.08**	**274**	*eP*	Pn	08 58 35.7	-0.4
DBBC				*eS*	Sn	08 59 10.8	-2.9
DBBC				*i*		08 59 20.3	
	comp=Z,131nm,0.3s						
MOTC	**Monteria, Cord**	**3.20**	**308**	*eP*	Pn	08 58 35.3	-2.3
MOTC				*eS*	Sn	08 59 13.6	-2.7
MOTC				*i*		08 59 30.5	
	comp=Z,22nm,0.6s						
ANIL	**Santa Ana**	**3.23**	**225**	*eP*	Pn	08 58 39.2	+0.9
ANIL				*eS*	Sn	08 59 19.9	+2.3
ANIL				*i*		08 59 24.3	
	comp=Z,126nm,0.4s						
PRAC	**Prado**	**3.54**	**210**	*eP*	Pn	08 58 41.5	-0.5
PRAC				*eS*	Sn	08 59 23.3	-0.9
PRAC				*i*		08 59 27.2	
	comp=Z,34nm,0.6s						
ORTC	**Ortega, Tolima**	**3.57**	**216**	*eP*	Pn	08 58 42.3	-0.2
ORTC				*eS*	Sn	08 59 25.6	+0.6
ORTC				*i*		08 59 31.4	
	comp=Z,36nm,0.6s						
ELOV	**Elorza**	**3.62**	**87**	*eP*	Pn	08 58 42.0	-1.0
ELOV				*eS*	Sn	08 59 23.5	-2.4
PLMC	**San Jos del P**	**3.67**	**239**	*eP*	Pn	08 58 43.7	0.0
PLMC				*i*		08 58 45.7	
	comp=Z,19nm,0.2s						
PLMC				*eS*	Sn	08 59 25.1	-2.1
SJCC	**San Jacinto, C**	**3.69**	**327**	*eP*	Pn	08 58 42.3	-1.6
SJCC				*eS*	Sn	08 59 23.7	-4.1
SJCC				*i*		08 59 28.2	
	comp=Z,28nm,0.5s						
GUVC	**San Jose del G**	**4.26**	**173**	*eP*	Pn	08 58 49.6	-1.7
GUVC				*eS*	Sn	08 59 34.9	-6.1
YOTC	**Yotoco, Valle**	**4.26**	**229**	*eP*	Pn	08 58 50.6	-0.9
MACC	**Macarena, Meta**	**4.68**	**189**	*eP*	Pn	08 58 54.8	-2.2
MACC				*eS*	Sn	08 59 44.2	-6.8
MACC				*i*		08 59 50.6	
	comp=Z,9.0nm,0.7s						

*IDC **04** 09:12:24.2±0.8, 4°.37S×144°.15E, h73km±7km, mb4.0/12, mb1 4.1/14, mb1mx3.9/35, mbtmp4.3/14, MS3.2/13, Ms1 3.2/13, ms1mx2.9/54, Error ellipse: s-maj=20.1km s-min=9.9km az=90.0*
*NEIC **04** 09:12:25.0±1.8, 4°.34S±0°.10×144°.1E±0°.1, h72km±6km, mb4.4/22, Error ellipse: s-maj=17.6km s-min=11.6km az=50.0*
*DJA **04** 09:12:26.6±1.1, 4°S±11°×14°4E±1°1, h78km±10km, M4.9/6, mb4.8/6, mB5.2/3, MLv4.9/2, Mw(mB)4.6/3, MwMwp5.4/1, Mwp5.6/1*

ISC 04 09:12:24.8±0.5, 4°.42S±0°.06×144°.10E±0°.08, h73km, n63, σ1§44/52, mb4.3/18, 1C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**4.32**	**295**	P	**Pn**	**09 13 29.6**	**+1.5**
PMG	**Port Moresby**	**5.81**	**149**	P	**Pn**	**09 13 49.3**	**+0.9**
	12nm,0.3s,baz=357,slow=5.0,SNR=35						
PMG				S	**Sn**	**09 14 53.7**	**0.0**
	11nm,0.3s,baz=128,slow=19,SNR=1.6						
PMG				LR	LR	09 17 05.1	
	comp=Z,251nm,19.7s,baz=250,slow=48						
PMG	**Port Moresby**	**5.81**	**149**		**Pn**	**09 13 48.8**	**+0.4**
COEN	**Coen**	**9.52**	**185**	Pn	**Pn**	**09 14 40.5**	**+1.4**
SIJI	**Sorong**	**13.29**	**285**	LR	LR	09 21 22.1	
	comp=Z,87nm,19.6s,baz=146,slow=40						
MTN	**Manton Dam**	**15.30**	**236**		**Pn**	**09 15 56.2**	**-0.4**
MTN				IAmb	IAmb	09 16 00.6	
	comp=Z,15nm,0.8s						
CTA	**Charters Tower**	**15.71**	**172**	P	**P**	**09 16 05.8**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=4.0,slow=14,SNR=9.2						
CTAO	**Charters Tower**	**15.71**	**172**	Pn	**Pn**	**09 16 01.6**	**-0.2**
HNR	**Honiara**	**16.50**	**108**	LR	LR	09 22 25.0	
	comp=Z,44nm,20.8s,baz=176,slow=36						
GUMO	**Guam**	**17.91**	**2**	LR	LR	09 21 41.5	
	comp=Z,87nm,19.2s,baz=106,slow=31						
WB0	**Warramunga Arr**	**17.95**	**211**	P	**P**	**09 16 28.8**	**-0.3**
WB0				IAmb	IAmb	09 16 32.2	
	comp=Z,13nm,0.8s						
WR0	**Warramunga Arr**	**18.03**	**210**	P	**P**	**09 16 30.0**	**-0.1**
WR0				IAmb	IAmb	09 16 36.9	
	comp=Z,22nm,1.0s						
WRAB	**Tennant Creek**	**18.11**	**211**	P	**P**	**09 16 30.7**	**-0.2**
WRAB				IAmb	IAmb	09 16 35.4	
	comp=Z,13nm,0.7s						
WB2	**Warramunga Arr**	**18.11**	**211**	P	**P**	**09 16 30.9**	**-0.1**
WB2				IAmb	IAmb	09 16 37.3	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**18.12**	**211**	P	**P**	**09 16 30.6**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=30,slow=12,SNR=44						
WRA				S	**Sn**	**09 19 45.5**	**-8.0**
	comp=Z,0.2nm,0.3s,baz=32,slow=24,SNR=2.0						
WRA	**Warramunga Arr**	**18.12**	**211**		**P**	**09 16 30.2**	**-0.8**
KNRA	**Kununurra**	**18.77**	**232**	P	**P**	**09 16 38.5**	**+0.2**
SOEI	**Soe**	**20.37**	**254**	P	Pn	09 16 57.8	-0.7
	comp=Z,6μmcomp=Z,2μmcomp=Z,97nm,1.0s						
SOEI	**Soe**	**20.37**	**254**	P	**P**	**09 16 56.2**	**+0.4**
AS31	**Alice Springs**	**21.51**	**206**	P	**P**	**09 17 08.3**	**+0.4**
ASAR	**Alice Springs**	**21.51**	**206**	P	**P**	**09 17 07.0**	**-0.9**
	comp=Z,3.2nm,0.6s,baz=35,slow=8.0,SNR=44						
ASAR				S	**S**	**09 21 04.4**	**+1.8**
	comp=Z,1.9nm,0.8s,baz=24,slow=26,SNR=7.1						
ASAR	**Alice Springs**	**21.51**	**206**	P	**P**	**09 17 07.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**22.60**	**232**	P	**P**	**09 17 19.5**	**-0.1**

CMAR Chiang Mai Arr 49.96 298 P **P** **09 21 12.2 +0.4**
comp=Z,0.7nm,0.3s,baz=121,slow=6.1,SNR=8.4
XAN Xi'an 50.65 322 P **P** **09 21 17.7 +0.9**
XAN pmax pmax
comp=Z,11nm,1.0s
XAN pmax pmax
comp=Z,52nm,5.7s
PETK Petropavlovsk- 58.46 10 P **P** **09 22 12.7 -0.2**
comp=Z,2.8nm,0.8s,baz=159,slow=8.6,SNR=3.5
PETK pP **pP** **09 22 31.1 -0.7**
comp=Z,2.4nm,0.8s,baz=148,slow=5.5,SNR=3.0
SONM Songino Array 61.65 332 P **P** **09 22 35.0 -0.1**
comp=Z,0.8nm,0.6s,baz=156,slow=6.9,SNR=7.8
SONM Songino Array 61.65 332 IAmb IAmb 09 23 00.9
comp=Z,4.5nm,1.4s
SHEM Shemya Is, Ala 62.34 20 LR LR 09 43 00.2
comp=Z,26nm,21.8s,baz=342,slow=30
PALK Pallekele 64.32 280 LR LR 09 55 13.1
comp=Z,17nm,18.2s,baz=191,slow=40
YAK Yakutsk 67.19 353 LR LR 09 52 47.3
comp=Z,17nm,18.3s,baz=118,slow=36
VNDA Vanda 73.66 176 P **P** **09 23 50.4 +0.4**
comp=Z,1.6nm,0.7s,baz=359,slow=5.7,SNR=2.6
VNDA Vanda 73.66 176 IAmb IAmb 09 23 50.6
comp=Z,4.0nm,1.1s
MKAR Makanchi Array 74.46 321 P **P** **09 23 54.7 -0.6**
comp=Z,2.4nm,0.9s,baz=110,slow=7.0,SNR=14
MKAR pP **pP** **09 24 14.3 -0.4**
comp=Z,0.3nm,0.4s,baz=95,slow=7.8,SNR=2.4
MKAR Makanchi Array 74.46 321 P **P** **09 23 54.5 -0.8**
ZALV Zalesovo Beam 76.16 328 P **P** **09 24 03.4 -1.4**
comp=Z,3.2nm,0.7s,baz=109,slow=6.1,SNR=15
MAW Mawson 82.58 202 P **P** **09 24 39.5 0.0**
comp=Z,5.5nm,0.7s,baz=82,slow=7.4,SNR=15
MAW Mawson 82.58 202 P **P** **09 24 39.8 +0.3**
ILAR Eielson Array 85.19 24 P **P** **09 24 50.9 -2.0**
comp=Z,1.2nm,0.8s,baz=250,slow=4.8,SNR=10
ILAR pP **pP** **09 25 11.6 -1.2**
comp=Z,1.8nm,0.9s,baz=254,slow=5.1,SNR=6.6
ILAR Eielson Array 85.19 24 P **P** **09 24 51.3 -1.6**
YKA Yellowknife Ar 99.12 27 PKKPbc PKKPbc 09 42 21.7 -3.8
comp=Z,0.4nm,0.7s,baz=96,slow=2.8,SNR=8.9
PLCA Paso Flores 125.00 148 PKP **PKiKP** **09 31 17.0 -0.5**
comp=Z,0.8nm,0.7s,baz=300,slow=2.7,SNR=5.0
TORD Torodi Ar. Bea 141.89 286 PKhKP PKPpre 09 31 42.1
comp=Z,0.7nm,0.8s,baz=78,slow=2.4,SNR=3.9
TORD PKP **PKPdf** **09 31 49.4 +0.1**
comp=Z,0.5nm,0.7s,baz=64,slow=3.2,SNR=2.6
LPAZ La Paz 142.06 124 PKhKP PKPpre 09 31 45.2
comp=Z,0.5nm,0.5s,baz=295,slow=4.9,SNR=2.6
DBIC Dimbokro 149.02 276 PKPbc **PKPbc** **09 32 05.0 -0.6**
comp=Z,2.4nm,0.5s,baz=77,slow=5.3,SNR=7.6

TEH 04 09:35:51.4, 32.00N×55.87E, h9km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YZKH	**Yazd**	**1.15**	**290**	*e*Pg	Pg	09 36 13.4	-0.1
IMEH	**Mehriz**	**1.23**	**241**	*e*Pg	Pb	09 36 14.9	-0.1
IMEH				*e*		09 36 31.1	
	comp=Z,11μm,0.2s						
TPRV	**Parvadeh(Tabas**	**1.24**	**34**	*e*Pg	Pg	09 36 16.4	+1.2
TPRV				*e*		09 36 40.3	
	comp=Z,16μm,0.5s						
ICHK	**Chekchek**	**1.26**	**282**	*e*Pg	Pg	09 36 15.6	0.0
ICHK				*e*		09 36 38.8	
	comp=Z,8μm,0.2s						
KHGB	**Koh Gabri**	**1.70**	**162**	*e*Pn	Pb	09 36 23.5	+0.5
KHGB				*e*		09 36 52.0	
	comp=Z,6μm,0.3s						
ISAD	**Sadrabad**	**1.85**	**268**	*e*Pn	Pb	09 36 25.9	+0.2
ISAD				*e*		09 36 54.8	
	comp=Z,4μm,0.4s						
TKDS	**Koohdasht(Taba**	**1.93**	**33**	*e*Pn	Pb	09 36 26.8	0.0
TKDS				*e*		09 37 03.7	
	comp=Z,4μm,0.4s						
TABS	**Tabas**	**1.96**	**32**	*e*Pn	Pb	09 36 27.2	-0.1
TNSJ	**Nastanj**	**2.06**	**17**	*e*Pn	Pb	09 36 28.5	-0.5
TNSJ				*e*		09 37 05.2	
	comp=Z,6μm,0.3s						
TVBK	**TV Kerman**	**2.15**	**159**	*e*Pn	Pb	09 36 30.1	-0.6
TVBK				*e*		09 37 07.1	
	comp=Z,7μm,0.4s						
KRBR	**Kerman**	**2.15**	**159**	*e*Pn	Pb	09 36 30.0	-0.8
ANAR	**Anarak**	**2.16**	**304**	*e*Pn	Pb	09 36 30.3	-0.5
NGRK	**Negar Kerman**	**2.46**	**162**	*e*Pn	Pb	09 36 34.4	-1.7
NGRK				*e*		09 37 12.6	
	comp=Z,4μm,0.5s						
CHMN	**Cheshme madani**	**2.57**	**146**	*e*Pn	Pb	09 36 36.3	-1.6
CHMN				*e*		09 37 19.2	
	comp=Z,3μm,0.3s						
ITEG	**Tejag**	**2.60**	**69**	*e*Pn	Pb	09 36 36.4	-1.9
ITEG				*e*		09 37 24.5	
	comp=Z,4μm,0.3s						
IKOO	**Kooshah**	**2.69**	**80**	*e*Pn	Pb	09 36 37.7	-2.3
NASN	**Na'in**	**2.71**	**288**	*e*Pn	Pb	09 36 38.2	-2.0
BSRN	**Basiran**	**2.77**	**90**	*e*Pn	Pn	09 36 38.5	+2.3
IRAM	**Ramesheh**	**2.97**	**267**	*e*Pn	Pn	09 36 41.8	+2.8
IRAM				*e*		09 37 38.1	
	comp=Z,337nm,0.4s						
AFRZ	**Afriz**	**3.01**	**61**	*e*Pn	Pn	09 36 41.4	+1.9
IZEF	**Zefreh**	**3.12**	**288**	*e*Pn	Pn	09 36 43.8	+2.7
IZEF				*e*		09 37 36.4	
	comp=Z,530nm,0.3s						
IGAR	**Gharneh**	**3.27**	**278**	*e*Pn	Pb	09 36 46.5	-3.2
IMON	**Monand**	**3.42**	**69**	*e*Pn	Pn	09 36 48.3	+3.1
IMON				*e*		09 37 50.7	
	comp=Z,1μm,0.3s						
IDAH	**Dahanechah**	**3.47**	**77**	*e*Pn	Pb	09 36 49.8	-3.3
IDAH				*e*		09 37 51.4	
	comp=Z,885nm,0.6s						
NHDN	**Nehbandan**	**3.62**	**99**	*e*Pn	Pn	09 36 50.8	+3.0
KLNJ	**Kolanjah**	**3.78**	**256**	*e*Pn	Pn	09 36 54.2	+3.9
IANJ	**Anjilo**	**3.82**	**335**	*e*Pn	Pn	09 36 53.0	+2.3
SHRO	**Shahrood**	**3.98**	**2**	*e*Pn	Pn	09 36 55.4	+2.6
SHRT	**Shahrakht**	**4.07**	**65**	*e*Pn	Pn	09 36 58.3	+4.3
IFIR	**Firoozkooh**	**4.46**	**325**	*e*Pn	Pn	09 37 01.6	+2.1
IVRN	**Varamin**	**4.57**	**312**	*e*Pn	Pn	09 37 04.0	+3.2
IDMV	**Damavand**	**4.79**	**319**	*e*Pn	Pn	09 37 07.1	+3.1
ZHSF	**Zahedan**	**4.85**	**118**	*e*Pn	Pn	09 37 06.2	+1.4
MRVT	**Maraveh tapeh**	**5.65**	**2**	*e*Pn	Pn	09 37 18.8	+3.1
BJRD	**Bojnurd**	**5.83**	**12**	*e*Pn	Pn	09 37 21.6	+3.4

*TUL **04** 09:45:04.1±1.1, 36.07N±0.02×97.20W±0.02, h12km±4km, ML3.3, mb_Lg2.8/49(NEIC), Error ellipse: s-maj=2.7km s-min=2.2km az=163.0*

NEIC 04 09:45:04.0±0.8, 36.10N±0.01×97.21W±0.02, h7km±7km, Error ellipse: s-maj=2.0km s-min=1.8km az=208.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.33**	**115**	Pg	Pg	09 45 10.7	+0.2
OK031				Sg	Sg	09 45 15.3	+0.5
OK029	**Liberty Lake**	**0.36**	**214**	Pg	Pg	09 45 11.0	0.0
OK029				Sg	Sg	09 45 15.8	+0.1
OK030	**Cody Creek RV**	**0.38**	**116**	Pg	Pg	09 45 11.7	+0.2
OK030				Sg	Sg	09 45 16.9	+0.4
OK034	**N. Norfolk Rd.**	**0.41**	**102**	Pg	Pg	09 45 12.2	+0.2
OK034				Sg	Sg	09 45 17.8	+0.5
QUOK	**Quay**	**0.41**	**79**	Pg	Pg	09 45 12.4	+0.4
QUOK				Sg	Sg	09 45 18.3	+0.9
OK025	**Westminster Rd**	**0.52**	**192**	Pg	Pg	09 45 14.0	-0.1
OK025				Sg	Sg	09 45 21.0	+0.1
OKCSW	**OKLAHOMA CITY**	**0.71**	**195**	Pg	Pg	09 45 17.3	-0.5
OKCSW				Sg	Sg	09 45 27.0	0.0
CROK	**Carrier**	**0.75**	**303**	Pg	Pg	09 45 18.5	+0.1
CROK				Sg	Sg	09 45 28.2	+0.1
T35A	**Sooner Cattle**	**0.99**	**34**		Pg	09 45 23.1	0.0
KAN17	**Caldwell West**	**1.05**	**335**		Pg	09 45 23.4	-0.7
KAN14	**Manchester OK**	**1.05**	**325**		Pg	09 45 23.8	-0.4
OK032	**Salt Plains WL**	**1.07**	**311**		Pg	09 45 24.2	-0.4
TUL1	**Leonard**	**1.16**	**99**		Pg	09 45 24.9	-1.4
KAN10	**Anthony SW Sta**	**1.25**	**325**		Pb	09 45 27.4	-0.6
KAN08	**Anthony NE Sta**	**1.28**	**332**		Pn	09 45 28.2	-0.3
OK035	**E0210 Rd and N**	**1.36**	**297**	Pn	Pn	09 45 29.2	-0.2
U32A	**Winter Ranch,**	**1.48**	**282**	Pn	Pn	09 45 30.3	-0.8
WMOK	**Wichita Mounta**	**1.87**	**224**	Pn	Pn	09 45 36.9	+0.5
WMOK				IAmb_Lg		09 46 06.7	
	comp=Z,54nm,0.8s						
X37A	**Clayton**	**2.12**	**134**	Pn	Pn	09 45 40.1	+0.1
X37A				IAmb_Lg		09 46 15.6	
	comp=Z,68nm,1.0s						
U38A	**Gravette**	**2.31**	**81**	Pn	Pn	09 45 42.9	+0.4
Z35A	**Perchaven, San**	**2.76**	**181**	Pn	Pn	09 45 48.9	+0.2
W39A	**Magazine**	**2.93**	**107**	Pn	Pn	09 45 50.8	-0.2
KSU1	**Kansas State U**	**3.04**	**9**	Pn	Pn	09 45 51.5	-1.1
MIAR	**Mount Ida**	**3.35**	**116**	Pn	Pn	09 45 56.7	-0.1
S39A	**Bolivar**	**3.50**	**62**	Pn	Pn	09 45 58.6	-0.2
S39A				IAmb_Lg		09 47 00.9	
	comp=Z,20nm,0.9s						
AMTX	**Amarillo**	**3.84**	**253**	IAmb_Lg		09 47 09.3	
	comp=Z,25nm,0.7s						
X40A	**Basin Creek Fa**	**3.92**	**113**	IAmb_Lg		09 47 13.3	
	comp=Z,16nm,0.8s						
WHAR	**Wooly Hollow**	**4.08**	**100**	Pn	Pn	09 46 06.5	-0.4
WHAR				IAmb_Lg		09 47 17.9	
	comp=Z,18nm,0.9s						
MGMO	**Mountain Grove**	**4.11**	**74**	IAmb_Lg		09 47 13.3	
	comp=Z,24nm,0.8s						
W41B	**Gary Mavity, V**	**4.14**	**101**	Pn	Pn	09 46 07.3	-0.4
W41B				IAmb_Lg		09 47 21.9	
	comp=Z,26nm,1.1s						
237A	**Washetta, Mont**	**4.25**	**164**	IAmb_Lg		09 47 20.1	
	comp=Z,23nm,0.9s						
R40A	**Maddies Statio**	**4.51**	**59**	IAmb_Lg		09 47 24.1	
	comp=Z,17nm,0.7s						
P38A	**Dawn**	**4.57**	**38**	Pn	Pn	09 46 13.1	-0.5
P38A				IAmb_Lg		09 47 39.7	
	comp=Z,15nm,0.8s						
NATX	**Nacogdoches**	**4.81**	**153**	IAmb_Lg		09 47 46.8	
	comp=Z,15nm,0.8s						
N35A	**Tabor**	**4.91**	**14**	Pn	Pn	09 46 17.1	-1.2
T42A	**Van Buren**	**5.01**	**77**	IAmb_Lg		09 47 43.6	
	comp=Z,17nm,0.8s						
CCM	**Cathedral Cave**	**5.15**	**66**	IAmb_Lg		09 47 45.7	
	comp=Z,26nm,0.8s						
435B	**Jarrell**	**5.31**	**184**	IAmb_Lg		09 48 00.1	
	comp=Z,13nm,0.8s						
P40A	**Paris**	**5.33**	**48**	IAmb_Lg		09 48 02.9	
	comp=Z,14nm,0.9s						
N38A	**Joes South For**	**5.63**	**32**	IAmb_Lg		09 48 17.8	
	comp=Z,15nm,0.8s						
L34A	**Svendsen Farm,**	**5.90**	**6**	IAmb_Lg		09 48 13.3	
	comp=Z,22nm,1.0s						
MET	**Memphis--Engin**	**6.00**	**97**	IAmb_Lg		09 48 19.9	
	comp=Z,22nm,0.7s						
SLM	**Saint Louis**	**6.10**	**63**	IAmb_Lg		09 48 25.1	
	comp=Z,17nm,0.7s						
OGNE	**Ogallala**	**6.14**	**323**	IAmb_Lg		09 48 34.6	
	comp=Z,12nm,0.8s						
K31A	**O'Neill**	**6.63**	**350**	IAmb_Lg		09 48 47.3	
	comp=Z,18nm,0.9s						
O44A	**Mansfield**	**7.99**	**57**	IAmb_Lg		09 49 29.0	
	comp=Z,12nm,0.7s						
N23A	**Red Feather La**	**8.36**	**308**	IAmb_Lg		09 49 50.2	
	comp=Z,7.4nm,0.8s						

*IDC **04** 09:46:37.8±1.2, 27.20S×178.01W, h0km, mb3.8/3, mb1 4.2/5, mb1mx3.8/27, mbtmp4.0/5, ML5.2/2, MS3.8/32, Ms1 3.8/32, ms1mx3.6/56, Error ellipse: s-maj=33.9km s-min=20.6km az=90.0*

ISC 04 09:46:37.3±0.9, 27.23S±0.06×177.8W±0.2, h10km, n47, σ2.906/13, mb3.6/3, MS4.0/32, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.02**	**184**	Pn	**Pb**	**09 47 13.9**	**-0.2**
	821nm,0.3s,baz=79,slow=7.8,SNR=14						
RAO				LR	LR	09 47 36.1	
	comp=Z,320nm,19.5s,baz=122,slow=28						
RAO				Sn	**Sg**	**09 47 42.7**	**+0.6**
	583nm,0.3s,baz=130,slow=23,SNR=2.4						
MSVF	**Nonsavu**	**10.21**	**337**	Pn	**Pn**	**09 49 04.6**	**+0.5**
	0.7nm,0.3s,baz=281,slow=1.7,SNR=2.6						
MSVF				LR	LR	09 52 36.5	
	comp=Z,475nm,19.2s,baz=153,slow=36						
URZ	**Urewera**	**11.81**	**200**	Pn	**Pn**	**09 49 25.7**	**0.0**
	0.6nm,0.3s,baz=122,slow=24,SNR=2.1						
URZ				Sn	**Sn**	**09 51 37.8**	**+0.2**
	1.0nm,0.3s,baz=127,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**15.25**	**286**	*e*Pn	P	09 50 23.4	+5.6
	49nm,1.5s						
DZM				*e*LR	LR	09 54 15.9	
	comp=Z,555nm,25.1s						
TBI	**Tubuai**	**25.85**	**88**	*e*LR	LR	09 57 43.5	
	comp=Z,461nm,27.5s						
TBI	**Tubuai**	**25.85**	**88**	*e*T	T	10 17 21.2	
	15nm,0.4s						
HNR	**Honiara**	**27.51**	**306**	LR	LR	10 01 50.4	
	comp=Z,103nm,20.0s,baz=154,slow=33						
PAE	**Paea**	**27.68**	**76**	*e*T	T	10 19 31.5	
	6.4nm,0.3s						
PPT2	**Papeete2**	**27.71**	**76**	*e*T	T	10 19 35.0	
	3.2nm,0.3s						
PPT	**Papeete**	**27.72**	**76**	LR	LR	09 59 39.4	
	comp=Z,213nm,21.9s,baz=265,slow=28						
STKA	**Stephens Creek**	**35.51**	**253**	LR	LR	10 07 00.0	
	comp=Z,326nm,19.9s,baz=38,slow=35						
PMG	**Port Moresby**	**37.54**	**291**	LR	LR	10 05 56.0	
	comp=Z,69nm,20.7s,baz=98,slow=31						
TAOE	**Nuku Hiva Isla**	**39.95**	**70**	*e*S	S	09 59 57.3	-20
	57nm,26.2s						
TAOE				*e*LR	LR	10 04 10.3	
	comp=Z,303nm,26.0s,baz=244						
ASAR	**Alice Springs**	**43.58**	**264**	P	**P**	**09 54 42.1**	**+0.3**
	0.4nm,0.4s,baz=98,slow=6.6,SNR=14						
ASAR				LR	LR	10 12 00.2	
	comp=Z,98nm,20.9s,baz=110,slow=35						
WRA	**Warramunga Arr**	**44.28**	**269**	P	**P**	**09 54 47.6**	**+0.1**
	0.3nm,0.3s,baz=103,slow=8.5,SNR=18						
WRA				LR	LR	10 11 41.5	
	comp=Z,124nm,21.4s,baz=116,slow=34						
VNDA	**Vanda**	**51.26**	**186**	LR	LR	10 14 32.7	
	comp=Z,56nm,19.4s,baz=359,slow=33						
GUMO	**Guam**	**54.42**	**313**	LR	LR	10 16 13.3	
	comp=Z,39nm,21.8s,baz=88,slow=33						
BATI	**Baumata**	**57.51**	**275**	LR	LR	10 22 12.1	
	comp=Z,131nm,18.3s,baz=143,slow=37						
QSPA	**South Pole Qui**	**62.87**	**180**	LR	LR	10 21 51.6	
	comp=Z,96nm,19.3s,baz=14,slow=34						
KAPI	**Kappang**	**63.30**	**279**	LR	LR	10 24 26.9	
	comp=Z,30nm,20.7s,baz=168,slow=36						
LEM	**Lembang**	**73.25**	**271**	LR	LR	10 30 31.3	
	comp=Z,110nm,20.4s,baz=144,slow=36						
MAW	**Mawson**	**75.34**	**200**	LR	LR	10 31 39.4	
	comp=Z,118nm,18.8s,baz=64,slow=36						
SHEM	**Shemya Is, Ala**	**79.34**	**355**	LR	LR	10 25 42.4	
	comp=Z,101nm,21.2s,baz=158,slow=29						
SNAA	**Sanae**	**81.30**	**178**	LR	LR	10 31 52.1	
	comp=Z,34nm,21.5s,baz=126,slow=33						
H03S2	**Juan Fernandez**	**82.04**	**124**	T	T	11 29 19.2	
	baz=241						
H03S1	**Juan Fernandez**	**82.05**	**124**	T	T	11 29 16.4	
	baz=241						
H03S3	**Juan Fernandez**	**82.06**	**124**	T	T	11 29 06.3	
	baz=241						
LPIG	**La Paz**	**82.69**	**58**	LR	LR	10 27 01.0	
	comp=Z,63nm,19.3s,baz=222,slow=29						
PFO	**Pinyon Flats O**	**83.91**	**47**	LR	LR	10 27 22.1	
	comp=Z,115nm,20.8s,baz=239,slow=29						
PSI	**Prapat**	**85.33**	**276**	LR	LR	10 37 05.2	
	comp=Z,49nm,21.9s,baz=74,slow=36						
YBH	**Yreka Blue Hor**	**85.42**	**38**	LR	LR	10 34 33.1	
	comp=Z,49nm,18.9s,baz=243,slow=34						
NVAR	**Mina Array Bea**	**85.78**	**43**	LR	LR	10 28 48.7	
	comp=Z,11nm,21.0s,baz=244,slow=29						
KDAK	**Kodiak Island**	**87.29**	**13**	LR	LR	10 31 21.4	
	comp=Z,112nm,20.1s,baz=222,slow=31						
ELK	**Elko**	**89.07**	**42**	LR	LR	10 31 33.1	
	comp=Z,100nm,20.1s,baz=230,slow=30						
BBB	**Bella Bella**	**90.21**	**28**	LR	LR	10 31 00.5	
	comp=Z,62nm,20.2s,baz=248,slow=30						
ANMO	**Albuquerque**	**91.44**	**51**	LR	LR	10 31 42.9	
	comp=Z,84nm,21.6s,baz=254,slow=30						
CMIG	**Matias Romero**	**91.57**	**72**	LR	LR	10 32 01.5	
	comp=Z,28nm,19.5s,baz=233,slow=30						
NEW	**Newport**	**92.69**	**36**	LR	LR	10 32 51.3	
	comp=Z,107nm,21.9s,baz=232,slow=30						
PDAR	**Pinedale Array**	**93.70**	**43**	P	**P**	**09 59 56.4**	**+2.0**
	0.2nm,0.6s,baz=199,slow=2.5,SNR=2.3						
PDAR				LR	LR	10 34 13.7	
	comp=Z,73nm,20.5s,baz=246,slow=30						
ATAH	**Atahualpa**	**95.03**	**101**	LR	LR	10 32 54.3	
	comp=Z,60nm,21.2s,baz=263,slow=29						
LVC	**Limon Verde**	**95.27**	**119**	LR	LR	10 34 25.3	
	comp=Z,21nm,18.9s,baz=242,slow=30						
JTS	**Las Juntas de**	**97.11**	**82**	LR	LR	10 33 46.0	
	comp=Z,40nm,19.1s,slow=29						
FINES	**FINESS Array B**	**142.24**	**342**	PKP	**PKiKP**	**10 06 11.3**	**-1.0**
	4.4nm,1.0s,baz=104,slow=4.4,SNR=4.2						
NB2	**NORSAR Subarra**	**145.66**	**352**	PKP	**PKPdf**	**10 06 09.6**	**-5.8**
	comp=Z,1.5nm,1.0s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**145.66**	**352**	PKhKP	PKPpre	10 06 09.1	
	comp=Z,1.5nm,1.0s,baz=16,slow=3.0,SNR=3.6						
NOA				PKPbc	**PKPab**	**10 06 17.3**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=1.1,slow=4.0,SNR=2.0						
AKASG	**Malin Array Be**	**148.85**	**326**	PKPbc	**PKiKP**	**10 06 26.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=45,slow=4.0,SNR=2.9						
BRTR	**Keskin Array B**	**151.15**	**304**	PKPbc	**PKiKP**	**10 06 32.7**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=100,slow=3.2,SNR=3.7						

*NOU **04** 09:52:17.1, 38.11S×176.21E, h218km, MLv4.5/10, North Island, New Zealand*
*WEL **04** 09:52:25.0±0.7, 38°S±4"×17°6E±°, h147km±5km, M3.4/54, ML3.0/12, MLv3.4/54, Error ellipse: s-maj=0.0km s-min=0.0km az=166.7*

ISC 04 09:52:19.5±1.7, 38.32S±0.05×176.11E±0.05, h190km±9km, n170, σ1.974/181, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.03**	**177**	P	**Pn**	**09 52 45.7**	**+1.1**
HSRZ	**Hossack Road**	**0.11**	**86**	P	**Pn**	**09 52 45.6**	**+1.1**
HRRZ	**Handcock Road**	**0.15**	**117**	P	**Pn**	**09 52 45.7**	**+1.0**
UTU	**Utuhina**	**0.16**	**25**	P	**Pn**	**09 52 45.9**	**+1.2**
HLRZ	**Highlands Stat**	**0.20**	**71**	P	**Pn**	**09 52 46.3**	**+1.6**
WPRZ	**Whakapapatarin**	**0.20**	**168**	P	**Pn**	**09 52 45.8**	**+1.1**
NGRZ	**Ngongotaha**	**0.23**	**16**	P	**Pn**	**09 52 46.0**	**+1.1**
KUTZ	**Kaahu Road**	**0.28**	**233**	P	**Pn**	**09 52 46.0**	**+1.2**
PRRZ	**Plateau Road**	**0.29**	**129**	P	**Pn**	**09 52 45.9**	**+1.0**
OMRZ	**Omania**	**0.30**	**44**	P	**Pn**	**09 52 45.9**	**+0.9**
ALRZ	**Allen Road**	**0.30**	**143**	P	**Pn**	**09 52 46.0**	**+1.1**
ALRZ				S	**S**	**09 53 02.7**	**-2.0**
KARZ	**Kaharoa**	**0.32**	**20**	P	**Pn**	**09 52 46.0**	**+1.0**
RRRZ	**Republican Roa**	**0.32**	**94**	P	**Pn**	**09 52 45.9**	**+1.0**
TARZ	**Mount Tarawera**	**0.32**	**75**	P	**Pn**	**09 52 46.2**	**+1.1**
WHTZ	**Whakaora**	**0.37**	**199**	P	**Pn**	**09 52 46.5**	**+1.4**
TLZ	**Tolley Road**	**0.45**	**268**	P	**Pn**	**09 52 46.7**	**+1.4**
WATZ	**Wairara**	**0.49**	**217**	P	**Pn**	**09 52 46.8**	**+1.4**
KMRZ	**Kaimai**	**0.49**	**344**	P	**Pn**	**09 52 46.7**	**+1.1**
KMRZ				S	**S**	**09 53 03.9**	**-1.7**
EDRZ	**Edgecumbe**	**0.54**	**67**	P	**Pn**	**09 52 46.6**	**+0.9**
MUGZ	**Murupara**	**0.54**	**107**	P	**Pn**	**09 52 46.6**	**+0.9**
MARZ	**Manawahe**	**0.56**	**53**	P	**Pn**	**09 52 46.8**	**+1.0**
MRHZ	**Matea Rd**	**0.57**	**155**	P	**Pn**	**09 52 47.0**	**+1.1**
MRHZ				S	**S**	**09 53 03.3**	**-3.0**
HATZ	**Hinemaiaia**	**0.57**	**181**	P	**Pn**	**09 52 47.1**	**+1.3**
OPRZ	**Ohinepanea**	**0.59**	**37**	P	**Pn**	**09 52 46.8**	**+0.9**
OPRZ				S	**S**	**09 53 04.2**	**-2.0**
TGRZ	**Tauranga**	**0.60**	**12**	P	**Pn**	**09 52 47.0**	**+1.0**
RATZ	**Rangitukua**	**0.61**	**206**	P	**Pn**	**09 52 47.3**	**+1.3**
RITZ	**Rihia Road**	**0.69**	**196**	P	**Pn**	**09 52 48.2**	**+1.8**
KATZ	**Kakaramea**	**0.73**	**206**	P	**Pn**	**09 52 48.2**	**+1.5**
RTZ	**Ruatahuna**	**0.75**	**114**	P	**Pn**	**09 52 48.1**	**+1.4**
RTZ				S	**S**	**09 53 05.9**	**-1.9**
TOZ	**Tahuroa Road**	**0.76**	**321**	P	**Pn**	**09 52 48.2**	**+1.4**
TOZ				S	**S**	**09 53 06.5**	**-1.2**
MTHZ	**Maungataniwha**	**0.78**	**133**	P	**Pn**	**09 52 48.4**	**+1.5**
MTHZ				S	**S**	**09 53 06.1**	**-2.1**
URZ	**Urewera**	**0.79**	**86**	P	**Pn**	**09 52 47.7**	**+0.8**
URZ				S	**S**	**09 53 05.3**	**-2.6**
URZ	**Urewera**	**0.79**	**86**	P	**Pn**	**09 52 47.7**	**+0.8**
NTVZ	**North Tongarir**	**0.85**	**203**	P	**Pn**	**09 52 49.0**	**+1.6**
KRVZ	**Karewarewa**	**0.86**	**205**	P	**Pn**	**09 52 48.9**	**+1.5**
TMVZ	**Te Maari**	**0.86**	**202**	P	**Pn**	**09 52 49.0**	**+1.6**
ETVZ	**East Tongariro**	**0.87**	**201**	P	**Pn**	**09 52 49.2**	**+1.7**
WTVZ	**West Tongariro**	**0.89**	**207**	P	**Pn**	**09 52 49.3**	**+1.6**
BKZ	**Black Stump Fm**	**0.90**	**161**	P	**Pn**	**09 52 49.1**	**+1.5**
BKZ				S	**S**	**09 53 07.3**	**-2.3**
BKZ	**Black Stump Fm**	**0.90**	**161**	P	**Pn**	**09 52 49.1**	**+1.5**
NNVZ	**North Ngauruho**	**0.90**	**205**	P	**Pn**	**09 52 49.4**	**+1.6**
OTVZ	**Oturere**	**0.91**	**202**	P	**Pn**	**09 52 49.7**	**+1.9**
OTVZ				S	**S**	**09 53 09.0**	**-0.9**
TWVZ	**Taurewa**	**0.92**	**215**	P	**Pn**	**09 52 49.5**	**+1.7**
SNVZ	**South Ngauruho**	**0.94**	**203**	P	**Pn**	**09 52 49.7**	**+1.6**
NGZ	**Ngauruhoe**	**0.94**	**205**	P	**Pn**	**09 52 49.7**	**+1.6**
NMHZ	**Naumai**	**0.95**	**145**	P	**Pn**	**09 52 50.4**	**+2.5**
NMHZ				S	**S**	**09 53 09.9**	**-0.2**
RAHZ	**Arahi**

WCZ	Waipu Caves	2.76 329	P	Pn	09 53 08.7 +2.9
TMWZ	Te Maipa	2.79 183	P	Pn	09 53 07.7 +1.6
MTW	Mount Morrison	2.87 189	P	Pn	09 53 08.4 +1.3
CAW	Cannon Point	2.90 196	P	Pn	09 53 08.8 +1.4
DUWZ	D'Urville Isla	3.00 214	P	Pn	09 53 09.9 +1.3
TRWZ	Traveller	3.09 186	P	Pn	09 53 11.1 +1.4
PAWZ	Paruwai Farm	3.10 190	P	Pn	09 53 11.1 +1.2
WEL	Wellington	3.14 199	P	Pn	09 53 11.6 +1.4
MSWZ	Moikau Station	3.16 192	P	Pn	09 53 11.7 +1.1
SNZO	South Karori	3.18 199	P	Pn	09 53 11.9 +1.2
TCW	Tory Channel	3.21 205	P	Pn	09 53 12.4 +1.2
BHW	Baring Head	3.23 197	P	Pn	09 53 12.4 +1.1
PLWZ	Palliser	3.31 191	P	Pn	09 53 13.4 +1.0
TUWZ	Tuamarina	3.52 208	P	Pn	09 53 15.9 +0.9
NNZ	Nelson	3.58 215	P	Pn	09 53 16.5 +1.0
OUZ	Omahuta	3.69 326	P	Pn	09 53 20.8 +3.7
OUZ	Omahuta	3.69 326	P	Pn	09 53 14.5 -2.6
CMWZ	Cape Campbell	3.72 202	P	Pn	09 53 19.2 +1.8
QRZ	Quartz Range	3.73 227	P	Pn	09 53 18.1 +0.6
QRZ	Quartz Range	3.73 227	P	Pn	09 53 18.1 +0.6
BSWZ	Blackbirch Sta	3.80 206	P	Pn	09 53 19.5 +1.1
THZ	Tophouse	4.23 215	P	Pn	09 53 24.6 +0.8
KHZ	Kahutara	4.54 205	P	Pn	09 53 28.7 +1.0
KHZ	Kahutara	4.54 205	P	Pn	09 53 29.0 +1.4
GVZ	Greta Valley S	5.20 206	P	Pn	09 53 37.0 +0.8
LTZ	Lake Taylor	5.33 212	P	Pn	09 53 38.0 +0.1
AMCZ	Amberley	5.52 207	P	Pn	09 53 40.9 +0.7
INZ	Inchbonnie	5.66 217	P	Pn	09 53 41.8 -0.3
OKCZ	Okains Bay	5.87 202	P	Pn	09 53 45.3 +0.4
OXZ	Oxford	5.88 210	P	Pn	09 53 44.4 -0.5
MQZ	McQueen's Vall	5.98 205	P	Pn	09 53 45.9 -0.3
AKCZ	Akaroa Harbour	6.05 203	P	Pn	09 53 47.5 +0.3
RACZ	Rakaia	6.18 208	P	Pn	09 53 48.8 0.0
MHCZ	Mount Hutt	6.24 212	P	Pn	09 53 50.3 +0.6
WVZ	Waitaha Valley	6.26 219	P	Pn	09 53 50.1 +0.2
WACZ	Wakanui South	6.48 208	P	Pn	09 53 53.0 +0.3
RPZ	Rata Peaks	6.61 214	P	Pn	09 53 54.8 +0.4
RPZ	Rata Peaks	6.61 214	P	Pn	09 53 54.8 +0.4
GCSZ	Gaunt Creek Bo	6.64 219	P	Pn	09 53 55.4 +0.5
ARCZ	Arundel	6.74 212	P	Pn	09 53 56.3 +0.1
FOZ	Fox Glacier	7.06 220	P	Pn	09 54 00.4 +0.1
TMZ	Timaru	7.17 211	P	Pn	09 54 01.3 -0.5
ODZ	Otahua Downs	7.86 210	P	Pn	09 54 11.3 +0.5
ODZ	Otahua Downs	7.86 210	P	Pn	09 54 11.8 +1.0
JCZ	Jackson Bay	7.97 222	P	Pn	09 54 12.6 +0.3
WKZ	Wanaka	8.39 217	P	Pn	09 54 17.6 -0.2
EAZ	Earnscleugh	8.57 214	P	Pn	09 54 20.6 +0.5
HHSZ	Highcliff Hill	8.60 207	P	Pn	09 54 21.6 +1.2
MLZ	Mavora Lakes	9.22 218	P	Pn	09 54 29.4 +0.7
WHZ	Wether Hill Ro	9.69 216	P	Pn	09 54 36.1 +1.4

*IDC **04** 10:01:36.0±5.0, 23.°30S×178.°91W, h0km, mb4.4/4, mb1 4.6/4, mb1mx3.7/38, mbtmp4.4/4, Error ellipse: s-maj=179.1km s-min=47.5km az=140.0*

ISC 04 10:02:24.7±2.2, 24.°2S±0.°2×179.°9E±0.°3, h400km, n34, σ0.°94/31, mb3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETAZ	East Tamaki Re	13.45	197	P	Pn	10 05 29.1	+6.5
HAZ	Te Kaha	13.68	187	P	**P**	**10 05 23.3**	**+0.7**
RUGZ	Raukumara Rang	13.90	187	P	**Pn**	**10 05 28.0**	**+0.2**
PUZ	Puketiti	13.95	185	P	**Pn**	**10 05 28.0**	**-0.3**
KMRZ	Kaimai	14.06	193	P	P	10 05 31.8	+4.9
TWGZ	Tauwhareparae	14.08	186	P	**P**	**10 05 27.3**	**+0.2**
URZ	Urewera	14.26	189	P	**P**	**10 05 28.5**	**-0.5**
MWZ	Matawai	14.28	188	P	**P**	**10 05 30.1**	**+0.8**
TKGZ	Te Karaka	14.35	186	P	**P**	**10 05 29.2**	**-0.8**
CNGZ	Carnagh Statio	14.36	185	P	**P**	**10 05 32.5**	**+2.4**
HLRZ	Highlands Stat	14.38	191	P	**P**	**10 05 30.5**	**+0.2**
RIGZ	Rimuhau	14.62	187	P	**P**	**10 05 34.1**	**+1.1**
SNGZ	Shannon Statio	14.75	188	P	**P**	**10 05 34.1**	**-0.2**
HIZ	Hauiti	14.95	195	P	P	10 05 41.2	+4.8
NMHZ	Naumai	15.13	189	P	**P**	**10 05 38.8**	**+0.3**
BKZ	Black Stump Fm	15.24	190	P	**P**	**10 05 39.4**	**-0.4**
OTVZ	Oturere	15.39	192	P	**P**	**10 05 41.6**	**+0.2**
SNVZ	South Ngauruho	15.42	192	P	**P**	**10 05 41.3**	**-0.5**
MCHZ	McNeill Hill	15.49	189	P	**P**	**10 05 42.0**	**-0.3**
KWHZ	Kaweka Forest	15.51	190	P	**P**	**10 05 42.6**	**+0.1**
WNVZ	Wahianoa	15.56	192	P	**P**	**10 05 44.1**	**+0.9**
MOVZ	Moawhango	15.61	192	P	**P**	**10 05 44.0**	**+0.3**
BHHZ	Black Hill Sta	15.63	191	P	**P**	**10 05 42.8**	**-1.1**
KRHZ	Kereru	15.73	190	P	**P**	**10 05 43.7**	**-1.2**
KAHZ	Kahuranaki	15.80	189	P	**P**	**10 05 45.4**	**-0.3**
PXZ	Pawanui	16.04	188	P	**P**	**10 05 47.2**	**-1.0**
TSZ	Takapari Road	16.20	191	P	**P**	**10 05 47.7**	**-2.3**
ANWZ	Angora Road	16.51	189	P	**P**	**10 05 52.8**	**-0.4**
BFZ	Birch Farm	16.77	190	P	**P**	**10 05 54.8**	**-1.2**
STKA	Stephens Creek	34.53	248	P	**P**	**10 08 37.5**	**+0.1**
	1.3nm,0.3s,baz=86,slow=11,SNR=8.4						
ASAR	Alice Springs	41.89	261	P	**P**	**10 09 38.0**	**-0.1**
	1.6nm,0.3s,baz=93,slow=7.8,SNR=83						
WRA	Warramunga Arr	42.28	266	P	**P**	**10 09 41.1**	**-0.1**
	4.0nm,0.3s,baz=101,slow=8.1,SNR=148						
CMAR	Chiang Mai Arr	89.51	290	P	**P**	**10 14 39.2**	**+1.0**
	0.6nm,0.3s,baz=129,slow=3.2,SNR=5.1						
AKASG	Malin Array Be	145.12	327	PKPbc	**PKPdf**	**10 21 13.6**	**-1.4**
	0.6nm,0.4s,baz=44,slow=3.7,SNR=7.6						

*HEL **04** 10:10:57.9±0.1, 64.°72N×30.°50E, h0km, ML2.2, Explosion*
*IDC **04** 10:10:58.7±2.5, 64.°72N×31.°02E, h0km, mb1 3.1/3, mb1mx2.9/34, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=37.1km s-min=8.0km az=102.0*
*UPP **04** 10:10:59.3±2.3, 64.°69N×30.°50E, h0km, ML2.1, Suspected explosion*
*NAO **04** 10:10:59.3±1.5, 64.°84N×30.°54E, ML2.5*
*BER **04** 10:11:01.3±2.4, 64.°80N×30.°17E, h0km, ML2.5(NAO), Suspected explosion*

ISC 04 10:10:59.2±1.0, 64.°80N±0.°03×30.°41E±0.°05, h0km, n45, σ1.°71/72, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	Riekki	1.25	350	PG	**Pg**	**10 11 21.6**	**-1.6**
	baz=169						
KU6				MSG		10 11 38.1	
	comp=Z,16nm,0.2s						
KU6				SG	**Sg**	**10 11 38.5**	**-1.0**
MSF	Maaselka	1.26	333	PG	**Pg**	**10 11 22.2**	**-1.1**
	baz=147						
MSF				SG	**Sg**	**10 11 39.6**	**+0.1**
JOF	Joensuu	1.93	168	PG	**Pn**	**10 11 31.0**	**-2.2**
JOF				SG	**Sn**	**10 11 57.4**	**-0.7**
OUF	Merijarvi	2.49	263	PG	**Pn**	**10 11 42.5**	**+1.6**
OUF				MSG		10 12 12.3	
	comp=Z,16nm,0.2s						
OUF				SG	**Sb**	**10 12 17.2**	**+1.4**
RNF	Rovaniemi	2.57	317	PG	**Pn**	**10 11 43.7**	**+1.6**
RNF				SG	**Sb**	**10 12 18.6**	**+0.3**
OBF0	Syolatti, Pyha	2.67	266	PG	**Pb**	**10 11 46.7**	**-1.2**
SUF	Sumiainen	2.82	224	PG	**Pn**	**10 11 47.1**	**+1.7**
SUF				MSG		10 12 20.0	
	comp=Z,6.7nm,0.2s						
SUF				SG	**Sb**	**10 12 24.2**	**-1.1**
TOF	Tornio	2.85	300	PB	**Pn**	**10 11 47.0**	**+1.2**
TOF				MSG		10 12 23.7	
	comp=Z,7.9nm,0.2s						
TOF				SG	**Sb**	**10 12 26.1**	**-0.1**
VRF	Varrio	2.98	354	PN	**Pn**	**10 11 47.6**	**-0.1**
VRF				MSG		10 12 27.8	
	comp=Z,4.1nm,0.2s						
VRF				SG	**Sb**	**10 12 29.2**	**-0.8**
APA0	Apatity Array	3.01	19	Pn	**Pn**	**10 11 47.3**	**-0.7**
	baz=194,slow=11						
APA0				Sn	**Sn**	**10 12 25.5**	**+0.8**
	baz=209,slow=37						
APA0				Lg	Lg	10 12 31.8	
	baz=191,slow=37						
APA0	Apatity Array	3.01	19	Pn	**Pn**	**10 11 47.3**	**-0.7**
	baz=194,slow=11						
APA0				Sn	**Sn**	**10 12 25.5**	**+0.8**
	baz=209,slow=37						
APA0				Sg	**Sb**	**10 12 31.8**	**+1.0**
	baz=191,slow=37						
KALU	Kalix	3.15	293	P	**Pn**	**10 11 51.2**	**+1.3**
KALU				S	**Sn**	**10 12 28.9**	**+0.8**
KALU	Kalix	3.15	293	PB	**Pn**	**10 11 51.3**	**+1.4**
KAF	Kangasniemi	3.26	216	PB	**Pn**	**10 11 53.5**	**+1.9**
KEF	Keuruu	3.62	226	PB	**Pn**	**10 11 58.2**	**+1.7**
KEF				SB	**Sn**	**10 12 42.5**	**+2.6**
PAJU	Pajala	3.73	310	P	**Pn**	**10 11 58.5**	**+0.4**
PAJU	Pajala	3.73	310	PN	**Pn**	**10 11 59.2**	**+1.1**
PAJU				SG	**Sb**	**10 12 55.7**	**+3.9**
SJUU	Sjulsmark	3.79	285	P	**Pn**	**10 11 59.5**	**+0.8**
SJUU				S	**Sn**	**10 12 44.8**	**+0.9**
ERTU	Ertsjaerv	3.83	301	P	**Pn**	**10 12 00.4**	**+1.0**
ERTU	Ertsjaerv	3.83	301	PN	**Pn**	**10 12 00.4**	**+1.0**
	baz=119						
ERTU				SG	**Sg**	**10 13 00.4**	**-1.7**
VAF	Ylistaro	3.84	246	PB	**Pn**	**10 12 01.4**	**+1.9**
BURU	Burvik	3.89	271	P	**Pn**	**10 12 00.6**	**+0.5**
BURU	Burvik	3.89	271	PN	**Pn**	**10 12 00.7**	**+0.6**
FIA0	FINESS Array S	3.90	212	Pn	**Pn**	**10 12 00.6**	**+0.3**
	baz=30,slow=12						
FIA0				Sn	**Sn**	**10 12 47.7**	**+1.1**
	baz=34,slow=22						
FIA0				Lg	Lg	10 13 01.6	
	baz=26,slow=37						
FIA0	FINESS Array S	3.90	212	Pn	**Pn**	**10 12 00.6**	**+0.3**
	baz=30,slow=12						
FIA0	FINESS Array S	3.90	212	PB	**Pn**	**10 12 00.6**	**+0.3**
	baz=30						
FINES	FINESS Array B	3.90	212	Pn	**Pn**	**10 12 00.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=33,slow=13,SNR=8.0						
FINES				Pg	**Pb**	**10 12 08.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=35,slow=17,SNR=11						
FINES				Sn	**Sn**	**10 12 47.4**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=39,slow=22,SNR=7.9						
FINES				Lg	Lg	10 13 02.0	
	comp=Z,1.9nm,0.3s,baz=36,slow=26,SNR=13						
HARU	Harads	4.17	293	P	**Pn**	**10 12 05.2**	**+1.2**
HARU				S	**Sn**	**10 12 53.8**	**+0.5**
UMAU	Umeaa	4.33	262	P	**Pn**	**10 12 05.7**	**-0.4**
UMAU				S	**Sn**	**10 12 56.6**	**-0.7**
MASU	Masugnsbyn	4.34	312	P	**Pn**	**10 12 07.4**	**+1.1**
HEF	Hetta	4.51	326	PN	**Pn**	**10 12 08.7**	**-0.1**
	baz=139						
HEF				SG	**Sb**	**10 13 19.1**	**+4.9**
LANU	Lannavaara	4.70	318	PN	**Pn**	**10 12 11.9**	**+0.6**
LANU				SG	**Sb**	**10 13 24.9**	**+5.5**
PVF	Pernaja	4.75	208	PB	**Pn**	**10 12 15.3**	**+3.3**
ARA0	ARCESS Array S	5.13	340	Pn	**Pn**	**10 12 16.3**	**-0.8**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**10 13 12.8**	**-4.1**
	baz=159,slow=28						
ARA0				Lg	Lg	10 13 35.0	
	baz=150,slow=37						
ARA0	ARCESS Array S	5.13	340	Pn	**Pn**	**10 12 16.3**	**-0.8**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**10 13 12.8**	**-4.1**
	baz=159,slow=28						
ARA0				Sg	**Sb**	**10 13 35.0**	**+3.3**
	baz=150,slow=37						
ARCES	ARCESS Array B	5.13	340	Pn	**Pn**	**10 12 16.5**	**-0.6**
	baz=154,slow=13,SNR=40						
ARCES				Pg	**Pb**	**10 12 29.7**	**+0.1**
	baz=158,slow=17,SNR=5.2						
ARCES				Sn	**Sn**	**10 13 14.8**	**-2.1**
	baz=154,slow=24,SNR=1.8						
ARCES				Lg	Lg	10 13 35.2	
	baz=149,slow=35,SNR=7.1						
I43RU	DUBNA INFRASON	8.75	155	*i*		11 06 40.0	
	baz=347,slow=333,SNR=2.6						
HFS	Hagfors	9.03	247	Pn	**Pn**	**10 13 09.6**	**-1.1**
	baz=61,slow=14						
HFS	Hagfors	9.03	247	Pn	**Pn**	**10 13 09.6**	**-1.1**
	baz=61,slow=14						
NB2	NORSAR Subarra	9.51	256	Pn	**Pn**	**10 13 16.5**	**-0.8**
	baz=63,slow=14						
NB2	NORSAR Subarra	9.51	256	Pn	**Pn**	**10 13 16.5**	**-0.8**
	baz=63,slow=14						
NOA	NORSAR Array B	9.51	256	Pn	**Pn**	**10 13 16.5**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=58,slow=11,SNR=2.2						
NOA				Sn	**Sn**	**10 15 03.7**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=25,slow=19,SNR=1.2						
NOA				Lg	Lg	10 16 01.9	
	comp=Z,0.0nm,0.3s,baz=81,slow=16,SNR=3.4						
NRA0	NORESS Array S	9.54	253	Pn	**Pn**	**10 13 17.6**	**0.0**
	baz=61,slow=11						
NRA0	NORESS Array S	9.54	253	Pn	**Pn**	**10 13 17.6**	**0.0**
	baz=61,slow=11						
I31KZ	AKTYUBINSK INF	20.41	122	*i*		12 18 10.0	
	baz=324,slow=334,SNR=2.0						

*GUC **04** 10:14:17.5±0.7, 22.°04S×68.°53W, h125km±4km, ML3.6*
*IDC **04** 10:14:17.1±0.8, 22.°14S×68.°24W, h106km±13km, mb3.7/3, mb1 3.7/5, mb1mx3.4/23, mbtmp3.9/5, Error ellipse: s-maj=35.7km s-min=24.8km az=125.0*

ISC 04 10:14:17.5±0.9, 22.°03S±0.°04×68.°51W±0.°08, h119km±8km, n20, σ1.°27/35, mb3.7/3, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.69	212	P	**Pn**	**10 14 36.9**	**-0.2**
	113nm,0.3s,baz=49,slow=7.5,SNR=741						
LVC				S	**Sn**	**10 14 51.4**	**-0.6**
	147nm,0.3s,baz=255,slow=19,SNR=17						
LVC	Limon Verde	0.69	212	*e*P	**Pn**	**10 14 36.4**	**-0.7**
LVC				*e*S	**Sn**	**10 14 50.6**	**-1.3**
PB09	IPOC Station P	0.71	289	⇑*i*P	**Pn**	**10 14 37.6**	**+0.4**
PB09				*i* S	**Sn**	**10 14 52.1**	**+0.3**
PB09				IAML		10 14 54.4	
	comp=E,758nm,0.5s						
PB06	IPOC Station P	1.19	235	⇑*i*P	**Pn**	**10 14 41.8**	**+0.1**
PB06				*e*S	**Sn**	**10 14 59.8**	**0.0**
PB06				IAML		10 15 02.1	
	comp=E,1μm,0.2s						
PB07	IPOC Station P	1.31	283	⇑*i*P	**Pn**	**10 14 43.2**	**+0.3**
PB07				*e*S	**Sn**	**10 15 02.4**	**+0.2**
PB07				IAML		10 15 03.3	
	comp=E,1μm,0.4s						
PB01	IPOC Station P	1.33	317	⇑*i*P	**Pn**	**10 14 43.3**	**+0.1**
PB01				*e*S	**Sn**	**10 15 02.5**	**-0.1**
PB01				IAML		10 15 06.2	
	comp=E,641nm,0.2s						
PB15	IPOC Station P	1.47	217	⇑*i*P	**Pn**	**10 14 45.2**	**+0.4**
PB15				*e*S	**Sn**	**10 15 05.9**	**+0.4**
PB04	IPOC Station P	1.55	258	⇑*i*P	**Pn**	**10 14 45.5**	**-0.1**
PB04				*e*S	**Sn**	**10 15 07.0**	**0.0**
PB04				IAML		10 15 09.8	
	comp=E,872nm,0.3s						
PB05	IPOC Station P	1.77	242	⇑*i*P	**Pn**	**10 14 47.9**	**-0.3**
PB05				*e*S	**Sn**	**10 15 10.7**	**-0.9**
PB05				IAML		10 15 16.8	
	comp=N,536nm,0.3s						
PB08	IPOC Station P	1.97	342	⇑*i*P	**Pn**	**10 14 52.6**	**+1.6**
PB08				*e*S	**Sn**	**10 15 18.1**	**+1.7**
PB08				IAML		10 15 19.9	
	comp=E,413nm,0.5s						
TA01	Diego Aracena	2.13	313	*e*P	**Pn**	**10 14 52.3**	**-0.2**
TA01				*e*S	**Sn**	**10 15 19.0**	**-0.3**
TA01				IAML		10 15 21.8	
	comp=N,1μm,0.3s						
TA02	Huaiquique	2.31	319	*e*P	**Pn**	**10 14 54.4**	**-0.5**
TA02				*i* S	**Sn**	**10 15 23.6**	**+0.1**
TA02				IAML		10 15 28.3	
	comp=E,399nm,0.1s						
PB10	IPOC Station P	2.40	231	*e*P	**Pn**	**10 14 56.1**	**+0.2**
PB10				*e*S	**Sn**	**10 15 23.3**	**-2.2**
PB10				IAML		10 15 35.2	
	comp=E,205nm,0.5s						
PB11	IPOC Station P	2.50	334	⇓*i*P	**Pn**	**10 14 57.5**	**+0.1**
PB11				*e*S	**Sn**	**10 15 27.8**	**-0.2**
PB11				IAML		10 15 29.6	
	comp=E,627nm,0.4s						
PB12	IPOC Station P	3.80	333	*e*P	**Pn**	**10 15 13.1**	**-1.4**
PB12				*e*S	**Sn**	**10 15 54.5**	**-4.1**
LPAZ	La Paz	5.72	4	P	**Pn**	**10 15 42.7**	**+1.9**
	comp=E,0.3nm,0.3s,baz=183,slow=9.1,SNR=9.7						
SIV	San Ignacio	9.25	51	P	**Pn**	**10 16 24.7**	**-3.3**
	comp=E,0.8nm,0.3s,baz=231,slow=12,SNR=42						
DBIC	Dimbokro	68.53	73	P	**P**	**10 25 07.8**	**0.0**
	comp=E,2.3nm,0.8s,baz=246,slow=5.9,SNR=2.3						
TORD	Torodi Ar. Bea	77.19	70	P	**P**	**10 25 58.7**	**-0.1**
	comp=E,0.5nm,0.4s,baz=257,slow=5.3,SNR=7.3						
YKA	Yellowknife Ar	91.80	340	P	**P**	**10 27 12.9**	**+1.4**
	comp=E,0.3nm,0.6s,baz=136,slow=4.3,SNR=8.9						

*NEIC **04** 10:20:58.9±1.0, 36.°08N±0.°04×97.°21W±0.°04, h5km±7km, Error ellipse: s-maj=6.8km s-min=2.7km az=223.0*
*TUL **04** 10:20:59.1±1.2, 36.°07N±0.°03×97.°20W±0.°05, h10km±7km, ML3.4, mb_Lg3.0/61(NEIC), Error ellipse: s-maj=6.0km s-min=4.6km az=101.0*
*ANF **04** 10:20:59.1±0.7, 36.°05N×97.°16W, h3km±5km, ML3.6/7, Error ellipse: s-maj=3.9km s-min=2.8km az=21.0*

ISC 04 10:20:58.9±0.8, 36.°09N±0.°02×97.°21W±0.°02, h4km, n74, σ0.°57/53, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.33	115	Pg	**Pg**	**10 21 05.7**	**+0.3**
OK029	Liberty Lake	0.36	214	Pg	**Pg**	**10 21 06.0**	**+0.2**
OK030	Cody Creek RV	0.38	115	Pg	**Pg**	**10 21 06.6**	**+0.3**
OK034	N. Norfolk Rd.	0.41	101	Pg	**Pg**	**10 21 07.2**	**+0.4**
QUOK	Quay	0.41	79		**Pg**	**10 21 07.5**	**+0.6**
OK025	Westminster Rd	0.52	192	Pg	**Pg**	**10 21 09.0**	**+0.1**
OKCSW	OKLAHOMA CITY	0.71	195		**Pg**	**10 21 12.4**	**-0.2**
CROK	Carrier	0.75	304		**Pg**	**10 21 13.7**	**+0.3**
KAN13	South Haven SW	0.94	347		**Pg**	**10 21 17.3**	**+0.2**
T35A	Sooner Cattle	0.99	34		**Pg**	**10 21 18.1**	**+0.1**
KAN17	Caldwell West	1.05	335		**Pg**	**10 21 19.1**	**0.0**
KAN14	Manchester OK	1.05	325		**Pg**	**10 21 19.1**	**0.0**
OK032	Salt Plains WL	1.07	312		**Pg**	**10 21 19.4**	**-0.2**
KAN05	Bluff City Nor	1.15	332		**Pg**	**10 21 20.9**	**0.0**
KAN01	Argonia South	1.15	337		**Pg**	**10 21 20.9**	**-0.1**
TUL1	Leonard	1.16	99		**Pg**	**10 21 20.1**	**-1.2**
TUL1	Leonard	1.16	99	P	**Pg**	**10 21 20.0**	**-1.2**
	baz=279						
TUL1				S	**Sg**	**10 21 36.0**	**-0.3**
	baz=279						
KAN10	Anthony SW Sta	1.25	326	Pn	**Pg**	**10 21 22.6**	**-0.3**
KAN06	Argonia West S	1.27	336	Pn	**Pg**	**10 21 22.9**	**-0.3**
KAN08	Anthony NE Sta	1.29	332	Pn	**Pg**	**10 21 23.2**	**-0.4**
KAN16	Harper SW Stat	1.32	329		**Pn**	**10 21 23.8**	**-0.4**
OK035	E0210 Rd and N	1.36	297		**Pn**	**10 21 24.1**	**-0.7**
KAN12	Harper NE Stat	1.36	332		**Pn**	**10 21 24.6**	**-0.2**
U32A	Winter Ranch,	1.48	282	Pn	**Pn**	**10 21 25.9**	**-0.4**
WMOK	Wichita Mounta	1.86	224		**Pn**	**10 21 31.9**	**+0.3**
WMOK	Wichita Mounta	1.86	224	P	**Pn**	**10 21 32.0**	**+0.3**
	baz=43						
WMOK				S	**Sb**	**10 21 56.9**	**-0.3**
	baz=43						
X37A	Clayton	2.12	134		**Pn**	**10 21 35.0**	**-0.2**
U38A	Gravette	2.31	81		**Pn**	**10 21 38.9**	**+1.1**
W39A	Magazine	2.93	107		**Pn**	**10 21 45.7**	**-0.6**
KSU1	Kansas State U	3.04	9	Pn	**Pn**	**10 21 47.7**	**-0.2**
KSU1	Kansas State U	3.04	9	Pb	**Pb**	**10 21 55.1**	**+1.5**
	baz=189						
MIAR	Mount Ida	3.35	116		**Pn**	**10 21 52.1**	**+0.1**
MIAR	Mount Ida	3.35	116	P	**Pn**	**10 21 52.6**	**+0.6**
	baz=298						
Z38A	Mt. Pleasant	3.37	146	IAmb_Lg		10 22 53.7	
	comp=Z,56nm,0.7s						
CBKS	Cedar Bluff	3.38	324	Pn	**Pn**	**10 21 53.1**	**+0.6**
CBKS				IAmb_Lg		10 22 54.6	
	comp=Z,39nm,0.9s						
CBKS	Cedar Bluff	3.38	324	P	**Pn**	**10 21 53.4**	**+0.8**
	baz=143						
CBKS				Sb	**Sg**	**10 22 46.6**	**-1.0**
	baz=143						
S39A	Bolivar	3.50	62	IAmb_Lg		10 22 51.2	
	comp=Z,37nm,0.8s						
X40A	Basin Creek Fa	3.92	113	Pn	**Pn**	**10 22 00.0**	**+0.1**
ABTX	Abilene, Hawle	4.00	211	Pb	**Pb**	**10 22 10.8**	**+0.7**
	baz=29						
WHAR	Wooly Hollow	4.08	100	Pn	**Pn**	**10 22 01.6**	**-0.5**
WHAR				IAmb_Lg		10 23 13.2	
	comp=Z,46nm,1.1s						
MGMO	Mountain Grove	4.11	74	IAmb_Lg		10 23 08.2	
	comp=Z,36nm,0.8s						
FCAR	Ozark Folk Cen	4.13	91	Pn	**Pn**	**10 22 01.7**	**-1.1**
FCAR				IAmb_Lg		10 23 10.2	
	comp=Z,34nm,0.7s						
WLAR	White Oak Lake	4.13	124	Pn	**Pn**	**10 22 03.1**	**+0.3**
W41B	Gary Mavity, V	4.14	101		**Pn**	**10 22 02.1**	**-0.9**
W41B	Gary Mavity, V	4.14	101	P	**Pn**	**10 22 02.7**	**-0.3**
	baz=284						
W41B				S	**Sn**	**10 22 51.2**	**-0.7**
	baz=284						
R40A	Maddies Statio	4.51	59	Pn	**Pn**	**10 22 08.4**	**+0.3**
R40A				IAmb_Lg		10 23 22.9	
	comp=Z,35nm,0.8s						
P38A	Dawn	4.57	38	Pn	**Pn**	**10 22 09.1**	**+0.3**
P38A				IAmb_Lg		10 23 24.5	
	comp=Z,27nm,0.8s						
Z41A	Richland Creek	4.60	127	IAmb_Lg		10 23 37.6	
	comp=Z,31nm,1.3s						
N33A	J Bar K, Exete	4.64	358	Pn	**Pn**	**10 22 09.4**	**-0.4**
NATX	Nacogdoches	4.81	153	IAmb_Lg		10 23 44.6	
	comp=Z,24nm,0.8s						
N35A	Tabor	4.92	14	Pn	**Pn**	**10 22 13.6**	**0.0**
KSCO	Kaye Shedlock'	5.20	306	IAmb_Lg		10 23 51.8	
	comp=Z,19nm,0.7s						
435B	Jarrell	5.30	184	IAmb_Lg		10 23 51.8	
	comp=Z,19nm,0.8s

15μm,0.5s
DJR Jarkent 2.47 288 *e*P **Pn 10 27 44.7 -0.3**
baz=286
DJR Jarkent 2.47 288 Pg **Pn 10 27 47.5 +2.5**
3μm,0.6s
DJR Lg Lg 10 28 18.9
15μm,0.5s
PDGK Podgornoye 2.61 265 P **Pn 10 27 46.9 -0.1**
PDGK Podgornoye 2.61 265 Pg **Pn 10 27 49.6 +2.6**
676nm,0.3s
PDGK Lg Lg 10 28 21.9
4μm,0.4s
PDGK Podgornoye 2.61 265 ⇓Pn **Pn 10 27 46.9 -0.1**
2μm,0.8s
PDGK ⇓Lg Lg 10 28 21.5
4μm,0.4s
UZB Uzynbulak 2.98 263 *i*P **Pn 10 27 51.7 -0.3**
UZB pmax pmax
comp=Z,78nm,0.4s
UZB Uzynbulak 2.98 263 *e*P **Pn 10 27 56.2 +4.2**
comp=Z,373nm,0.3s
UZB *e*S **Sb 10 28 33.5 -0.8**
comp=Z,7μm,0.3s
UZB Uzynbulak 2.98 263 *i*P **Pn 10 27 51.7 -0.3**
comp=Z,78nm,0.4s,baz=259
UZB Uzynbulak 2.98 263 Pg **Pn 10 27 56.4 +4.4**
comp=Z,625nm,0.4s
UZB Lg Lg 10 28 33.5
comp=Z,7μm,0.3s
KAPS Kapalarasan 3.14 304 *e*P **Pb 10 28 01.3 +0.8**
comp=Z,2μm,0.6s
KAPS *e*S **Sb 10 28 40.9 +2.0**
comp=Z,4μm,0.4s
KAPS Kapalarasan 3.14 304 Pg **Pb 10 28 01.3 +0.8**
comp=Z,2μm,0.6s
KAPS Lg Lg 10 28 40.9
comp=Z,4μm,0.4s
KPKS Kokpek 3.18 269 *e*P **Pn 10 27 54.3 -0.5**
KPKS Kokpek 3.18 269 *e*P Pn 10 28 00.2 +5.4
comp=Z,390nm,0.5s
KPKS *e*S **Sb 10 28 39.8 -0.4**
comp=Z,9μm,0.5s
KPKS Kokpek 3.18 269 *e*P **Pn 10 27 54.4 -0.5**
baz=266
MK31 Makanchi Array 3.24 351*d i*P **Pn 10 27 56.7 +1.1**
MK31 Makanchi Array 3.24 351 ⇓Pn **Pn 10 27 56.8 +1.3**
comp=Z,746nm,0.6s,baz=177,slow=14
MK31 ⇑Lg Lg 10 28 44.1
comp=Z,4μm,0.6s,baz=172,slow=29,SNR=14
MK31 Makanchi Array 3.24 351 **Pn 10 27 56.6 +1.1**
MKAR Makanchi Array 3.24 351 Pn **Pn 10 27 56.8 +1.2**
comp=Z,28nm,0.3s,baz=178,slow=14,SNR=670
MKAR Pg **Pb 10 28 01.8 -0.4**
comp=Z,106nm,0.3s,baz=170,slow=16,SNR=37
MKAR Sn **Sn 10 28 37.3 +3.1**
comp=Z,719nm,0.3s,baz=182,slow=21,SNR=6.0
MKAR Lg Lg 10 28 44.6
comp=Z,1μm,0.3s,baz=180,slow=30,SNR=13
MKAR Makanchi Array 3.24 351 *i*P **Pn 10 27 56.7 +1.2**
MKAR pmax pmax
comp=Z,137nm,0.6s
MAKZ Makanchi 3.30 347 P **Pn 10 27 57.8 +1.4**
MAKZ Makanchi 3.30 347 ⇓Pn **Pn 10 27 57.2 +0.8**
comp=Z,742nm,0.6s
MAKZ ⇑Lg Lg 10 28 45.1
comp=Z,3μm,0.7s
MAKZ Makanchi 3.30 347 Pn **Pn 10 27 57.8 +1.4**
WMQ Urumqi 3.37 85 *e*Pn **Pn 10 28 00.1 +2.7**
WMQ Sn **Sn 10 28 42.0 +4.5**
WMQ smax smax
comp=Z,3μm,0.7s
WMQ smax smax
comp=Z,3μm,0.9s
ZHN Zhinishke 3.40 264 *i*P **Pn 10 27 57.9 +0.1**
ZHN Zhinishke 3.40 264 *e*P **Pb 10 28 04.7 -0.3**
comp=Z,1μm,0.3s
ZHN *e*S **Sb 10 28 47.9 +1.6**
comp=Z,7μm,0.2s
ZHN Zhinishke 3.40 264 *i*P **Pn 10 27 58.0 +0.1**
baz=261
ZHN Zhinishke 3.40 264 Pg **Pb 10 28 04.7 -0.3**
comp=Z,1μm,0.3s
ZHN Lg Lg 10 28 47.9
comp=Z,7μm,0.2s
SATY Saty 3.44 263 *i*P **Pn 10 27 58.0 -0.3**
SATY Saty 3.44 263 *e*P **Pb 10 28 04.9 -0.7**
comp=Z,526nm,0.3s
SATY *e*S **Sb 10 28 48.1 +0.6**
comp=Z,4μm,0.4s
SATY Saty 3.44 263 *i*P **Pn 10 27 58.1 -0.3**
baz=259
SATY Saty 3.44 263 Pg **Pb 10 28 04.9 -0.7**
comp=Z,526nm,0.3s
SATY Lg Lg 10 28 48.1
comp=Z,4μm,0.4s
PRZ Przheval'sk 3.59 253 P **Pn 10 28 01.6 +1.1**
PRZ Przheval'sk 3.59 253 **Pn 10 28 01.6 +1.1**
TDK Taldygorghan 3.62 294 *e*P **Pb 10 28 09.1 +0.4**
comp=Z,3μm,0.4s
TDK *e*S **Sb 10 28 55.5 +2.8**
comp=Z,18μm,0.8s
TDK Taldygorghan 3.62 294 Pg **Pb 10 28 09.1 +0.4**
comp=Z,3μm,0.4s
TDK Lg Lg 10 28 55.5
comp=Z,18μm,0.8s
ARXS Arharly 3.83 281 *e*P **Pn 10 28 03.9 +0.2**
ZSN Zaisan 4.05 18 *i*P **Pn 10 28 09.0 +2.3**
ZSN Zaisan 4.05 18 *e*P **Pb 10 28 18.6 +2.5**
comp=Z,1μm,0.6s
ZSN *e*S **Sb 10 29 11.8 +6.7**
comp=Z,3μm,1.0s
ZSN Zaisan 4.05 18 *i*P **Pn 10 28 09.1 +2.3**
baz=21
TARG Taragay, Kyrgy 4.30 246 Pn **Pn 10 28 12.5 +2.0**
KOTS Kotyrbulak 4.35 267 *e*P **Pb 10 28 24.1 +2.9**
comp=Z,852nm,0.5s
KOTS *e*S **Sb 10 29 20.5 +6.8**
comp=Z,5μm,0.5s
MDOK Medeo 4.40 266 *e*P **Pn 10 28 11.3 -0.3**
MDOK Medeo 4.40 266 *e*P **Pb 10 28 24.5 +2.3**
comp=Z,273nm,0.4s
MDOK *e*S **Sb 10 29 21.3 +6.0**
comp=Z,2μm,0.6s
MDOK Medeo 4.40 266 *e*P **Pn 10 28 11.3 -0.3**
baz=264
MDOK Medeo 4.40 266 ⇑Pn **Pn 10 28 11.3 -0.3**
comp=Z,89nm,0.4s
MDOK ⇑Pg **Pb 10 28 23.5 +1.4**
comp=Z,321nm,0.5s
MDOK ⇓Lg Lg 10 29 16.8
comp=Z,3μm,0.6s
MDOK Medeo 4.40 266 Pg **Pb 10 28 24.5 +2.3**
comp=Z,273nm,0.4s
MDOK Lg Lg 10 29 21.3
comp=Z,2μm,0.6s
CHKK Chushkaly 4.41 275 *e*P **Pb 10 28 21.5 -0.6**
comp=Z,236nm,0.5s
CHKK *e*S **Sb 10 29 16.0 +0.7**
comp=Z,1μm,0.3s
CHKK Chushkaly 4.41 275 *e*P **Pn 10 28 11.2 -0.4**
baz=274
CHKK Chushkaly 4.41 275 Pg **Pb 10 28 21.5 -0.6**
comp=Z,236nm,0.5s
CHKK Lg Lg 10 29 16.0
comp=Z,1μm,0.3s
KNDC Almaty 4.45 267 P **Pn 10 28 11.6 -0.7**
KNDC Almaty 4.45 267 ⇓Pn **Pn 10 28 12.1 -0.2**
comp=Z,285nm,0.6s
KNDC ⇑Pg **Pb 10 28 23.7 +0.7**
comp=Z,1μm,0.8s
KNDC ⇑Lg Lg 10 29 19.2
comp=Z,5μm,0.8s
TNSS Tian-Shan 4.49 265 *e*P **Pb 10 28 25.7 +1.8**
comp=Z,250nm,0.4s
TNSS *e*S **Sb 10 29 24.2 +6.0**
comp=Z,1μm,0.5s
TNSS Tian-Shan 4.49 265 *e*P **Pn 10 28 13.2 +0.1**
baz=262
TNSS Tian-Shan 4.49 265 Pg **Pb 10 28 25.7 +1.8**
comp=Z,250nm,0.4s
TNSS Lg Lg 10 29 24.2
comp=Z,1μm,0.5s
KDJ Kajisay 4.56 253 P **Pn 10 28 14.6 +0.7**
KDJ Kajisay 4.56 253 Pn **Pn 10 28 14.6 +0.7**
KTBS Karatobe 4.63 274 *e*P **Pb 10 28 25.9 0.0**
comp=Z,207nm,0.5s
KTBS *e*S **Sb 10 29 23.8 +2.1**
comp=Z,5μm,0.7s
IZV Izvestkoviy 4.74 265 *e*P **Pb 10 28 29.6 +1.8**
comp=Z,314nm,0.5s
IZV *e*S **Sb 10 29 30.4 +5.5**
comp=Z,2μm,0.7s
IZV Izvestkoviy 4.74 265 Pg **Pb 10 28 29.6 +1.8**
comp=Z,314nm,0.5s
IZV Lg Lg 10 29 30.4
comp=Z,2μm,0.7s
MTBS Maitube 4.86 267 *e*P **Pb 10 28 32.4 +2.5**
comp=Z,260nm,0.4s
MTBS *e*S **Sb 10 29 35.0 +6.7**
comp=Z,2μm,0.4s
MTBS Maitube 4.86 267 *e*P **Pn 10 28 17.2 -0.6**
baz=264
MTBS Maitube 4.86 267 Pg **Pb 10 28 32.3 +2.5**
comp=Z,260nm,0.4s
MTBS Lg Lg 10 29 35.0
comp=Z,2μm,0.4s
KUU Kurty 4.88 276 *e*P **Pn 10 28 17.4 -0.6**
KUU pmax pmax
comp=Z,32nm,0.5s
KUU Kurty 4.88 276 *e*P **Pb 10 28 32.0 +1.9**
comp=Z,211nm,0.8s
KUU *e*S **Sb 10 29 34.2 +5.4**
comp=Z,2μm,0.4s
KUU Kurty 4.88 276 *e*P **Pn 10 28 17.5 -0.6**
comp=Z,32nm,0.5s,baz=274
KUU Kurty 4.88 276 Pg **Pb 10 28 32.0 +1.9**
comp=Z,211nm,0.8s
KUU Lg Lg 10 29 34.2
comp=Z,2μm,0.4s
ULHL Ulahol 5.18 257 P **Pn 10 28 22.2 -0.2**
SNR=40
KST Kastek 5.21 266 *e*P **Pb 10 28 38.8 +3.0**
comp=Z,561nm,0.5s
KST *e*S **Sb 10 29 45.9 +7.5**
comp=Z,2μm,0.6s
KST Kastek 5.21 266 *e*P **Pn 10 28 22.2 -0.4**
baz=264
KST Kastek 5.21 266 Pg **Pb 10 28 38.8 +3.0**
comp=Z,561nm,0.5s
KST Lg Lg 10 29 45.9
comp=Z,2μm,0.6s
DGS Degeres 5.32 269 *e*P **Pb 10 28 40.3 +2.6**
comp=Z,227nm,0.5s
DGS *e*S **Sb 10 29 48.4 +6.7**
comp=Z,1μm,0.8s
DGS Degeres 5.32 269 Pg **Pb 10 28 40.3 +2.6**
comp=Z,227nm,0.5s
DGS Lg Lg 10 29 48.3
comp=Z,1μm,0.8s
BOOM Boomskoye usch 5.33 260 P **Pn 10 28 24.6 +0.2**
BOOM Boomskoye usch 5.33 260 Pn **Pn 10 28 24.6 +0.2**
KRBS Karabastau 5.36 274 *e*P **Pb 10 28 40.2 +1.9**
comp=Z,130nm,0.6s
KRBS *e*S **Sb 10 29 48.3 +5.6**
comp=Z,868nm,0.4s
KRBS Karabastau 5.36 274 Pg **Pb 10 28 40.2 +1.9**
comp=Z,130nm,0.6s
KRBS Lg Lg 10 29 48.3
comp=Z,868nm,0.4s
TKM2 Tokmak 2 5.49 265 P **Pn 10 28 26.7 +0.1**
SNR=211
TKM2 Tokmak 2 5.49 265 P **Pn 10 28 27.6 +1.0**
TKM2 Tokmak 2 5.49 265 ⇓Pn **Pn 10 28 26.6 -0.1**
comp=Z,86nm,0.7s
TKM2 ⇑Pg **Pb 10 28 43.9 +3.2**
comp=Z,222nm,0.6s
TKM2 ⇑Lg Lg 10 29 52.0
comp=Z,816nm,0.8s
KBK Karagaybulak 6.01 264 P **Pn 10 28 33.7 0.0**
SNR=48
CHMS Chumysh 6.09 267 P **Pn 10 28 34.4 -0.4**
SNR=16
SGDS Sogindy 6.13 272 *e*P **Pn 10 28 35.4 +0.1**
SGDS Sogindy 6.13 272 *e*P **Pb 10 28 54.5 +3.0**
comp=Z,108nm,0.5s
SGDS *e*S **Sb 10 30 13.1 +8.2**
comp=Z,839nm,0.7s
SGDS Sogindy 6.13 272 *e*P **Pn 10 28 34.8 -0.5**
baz=270
SGDS Sogindy 6.13 272 Pg **Pb 10 28 54.5 +3.0**
comp=Z,108nm,0.5s
SGDS Lg Lg 10 30 13.1
comp=Z,839nm,0.7s
FRU1 Bishkek 6.21 266 P **Pn 10 28 39.9 +3.5**
FRU1 Bishkek 6.21 266 **Pn 10 28 39.9 +3.5**
USP Ospenovka 6.24 270 P **Pn 10 28 36.3 -0.5**
SNR=31
AAK Ala-Archa 6.34 264 Pn **Pn 10 28 38.6 +0.3**
comp=Z,9.0nm,0.3s,baz=108,slow=7.0,SNR=96
AAK Pg **Pb 10 28 55.6 +0.5**
comp=Z,10nm,0.3s,baz=98,slow=14,SNR=7.4
AAK Lg Lg 10 30 21.6
comp=Z,54nm,0.3s,baz=152,slow=23,SNR=6.5
AAK Ala-Archa 6.34 264 P **Pn 10 28 38.5 +0.2**
SNR=36
AAK Ala-Archa 6.34 264*d i*P **Pn 10 28 38.2 -0.1**
AAK pmax pmax
comp=Z,29nm,0.6s
AAK Ala-Archa 6.34 264 ⇓Pn **Pn 10 28 38.1 -0.1**
comp=Z,25nm,0.7s
AAK ⇓Pg **Pb 10 28 58.5 +3.4**
comp=Z,109nm,0.5s
AAK ⇓Lg Lg 10 30 19.7
comp=Z,485nm,0.6s
UCH Uchtor 6.42 261 P **Pn 10 28 40.3 +0.7**
SNR=87
BTLS Baital 6.62 286 *e*P **Pn 10 28 41.5 -0.5**
BTLS pmax pmax
comp=Z,9.0nm,0.3s
BTLS Baital 6.62 286 *e*P **Pb 10 29 01.7 +1.9**
comp=Z,64nm,0.4s
BTLS *e*S **Sb 10 30 25.0 +6.0**
comp=Z,287nm,0.6s
BTLS Baital 6.62 286 *e*P **Pn 10 28 41.5 -0.5**
comp=Z,8.8nm,0.3s,baz=285
KSH Kashi 6.70 235 Pn Pn 10 28 50.8 +7.7
KSH Sn Sn 10 30 11.6 +12
KSH LR LR
comp=Z,910nm,8.3s
DGZ Jazzator, Alta 6.80 25*d i*P **Pn 10 28 46.6 +2.0**
EKS2 Erkin-Say 6.85 265 P **Pn 10 28 45.3 0.0**
SNR=22
AML Almayashu 7.03 261 P **Pn 10 28 48.8 +0.7**
SNR=20
MRKS Merke 7.24 267 *e*P Pb 10 29 15.5 +5.1
comp=Z,92nm,0.4s
MRKS *e*S Sg 10 30 48.9 -8.0
comp=Z,343nm,0.6s
MRKS Merke 7.24 267 Pg Pb 10 29 15.5 +5.1
comp=Z,92nm,0.4s
MRKS Lg Lg 10 30 48.9
comp=Z,343nm,0.6s
KURBB Kurchatov Arra 7.67 338 Pn **Pn 10 28 55.7 -0.7**
comp=Z,3.6nm,0.3s,baz=167,slow=12,SNR=318
KURBB Sn **Sn 10 30 20.2 -3.1**
comp=Z,9.1nm,0.3s,baz=156,slow=21,SNR=8.2
KURBB Lg Lg 10 31 02.3
comp=Z,18nm,0.3s,baz=58,slow=24,SNR=7.9
KURBB LR LR 10 32 20.6
comp=Z,523nm,20.1s,baz=135,slow=42
KURBB Kurchatov Arra 7.67 338 P **Pn 10 28 55.2 -1.1**
KURBB Kurchatov Arra 7.67 338 ⇓Pn **Pn 10 28 55.2 -1.1**
comp=Z,166nm,0.7s
KURBB ⇓Sn **Sn 10 30 19.4 -3.8**
comp=Z,582nm,0.7s
KURBB ⇑Lg Lg 10 31 02.6
comp=Z,3μm,0.7s
KURK Kurchatov 7.73 339*c i*P **Pn 10 28 55.7 -1.5**
KURK pmax pmax
comp=Z,41nm,0.7s
KURK Kurchatov 7.73 339 ⇑Pn **Pn 10 28 55.7 -1.5**
comp=Z,51nm,0.6s
KURK ⇑Sn **Sn 10 30 21.3 -3.5**
comp=Z,260nm,0.8s
KURK ⇓Lg Lg 10 31 04.8
comp=Z,1μm,0.7s
KURK Kurchatov 7.73 339 Pn **Pn 10 28 56.3 -0.9**
DZA Taraz 8.59 269 *e*P **Pn 10 29 08.8 -0.2**
DZA Taraz 8.59 269 *e*P **Pn 10 29 08.8 -0.2**
baz=268
OTUK Ortayu 8.79 306 P **Pn 10 29 10.3 -1.5**
OTUK Ortayu 8.79 306 ⇑Pn **Pn 10 29 10.1 -1.7**
comp=Z,26nm,0.6s
OTUK ⇑Lg Lg 10 31 33.9
comp=Z,384nm,0.8s
KKAR Karatay Array 9.16 271 P **Pn 10 29 17.3 +0.5**
KKAR Karatay Array 9.16 271 Pn **Pn 10 29 17.3 +0.5**
KK09 Karatay Array 9.16 271 ⇓Pn **Pn 10 29 15.7 -1.1**
comp=Z,6.3nm,0.6s
KK09 ⇑Lg Lg 10 31 47.4
comp=Z,202nm,0.7s
BRZS Berezniki 9.56 316 *e*P **Pn 10 29 21.4 -0.8**
BRZS pmax pmax
comp=Z,6.0nm,0.3s
BRZS Berezniki 9.56 316 *e*P **Pn 10 29 21.4 -0.8**
comp=Z,6.1nm,0.3s,baz=316
BRLS Boroldy 9.66 271 *e*P **Pn 10 29 25.6 +2.0**
BRLS pmax pmax
comp=Z,2.0nm,0.5s
BRLS Boroldy 9.66 271 *e*P **Pn 10 29 25.6 +2.0**
comp=Z,2.2nm,0.5s,baz=269
IUG Iuzhnay 9.68 266 *e*P **Pn 10 29 23.5 -0.4**
IUG Iuzhnay 9.68 266 *e*P **Pn 10 29 23.6 -0.4**
baz=265
ZAA0 Zalesovo Array 10.42 6 Pn **Pn 10 29 32.8 -1.2**
ZALV Zalesovo Beam 10.42 6 Pn **Pn 10 29 32.9 -1.1**
comp=Z,6.9nm,0.3s,baz=189,slow=13,SNR=115
ZALV Sn **Sn 10 31 27.1 -3.7**
comp=Z,20nm,0.3s,baz=189,slow=26,SNR=10
ZALV Lg Lg 10 32 34.5
comp=Z,6.3nm,0.3s,baz=195,slow=29,SNR=3.5
ZALV LR LR 10 33 48.7
comp=Z,532nm,20.5s,baz=190,slow=39
ZALV Zalesovo Beam 10.42 6 *i*P **Pn 10 29 32.9 -1.1**
ZALV pmax pmax
comp=Z,23nm,0.3s
CHGR Chuyangaron 11.58 249 P **Pn 10 29 49.0 -1.1**
CHGR Chuyangaron 11.58 249 Pn **Pn 10 29 49.0 -1.1**
GOMU GeErMu 11.66 125 P Pn 10 29 49.0 -2.4
GOMU pP 10 29 53.2
GOMU sP 10 29 56.3
GOMU S **Sn 10 31 59.5 -2.3**
GOMU pmax pmax
comp=Z,52nm,0.8s
GOMU LR LR
comp=Z,810nm,13.1s
GOMU LR LR
comp=Z,460nm,13.3s
GOMU LR LR
comp=Z,560nm,13.6s
CHCP Chirah Chowk 12.53 221 P **Pn 10 30 02.2 -0.7**
NIL Nilore 12.54 221 P **Pn 10 30 01.5 -1.6**
NIL Nilore 12.54 221 **Pn 10 30 01.5 -1.6**
BVAR Borovoye Array 12.63 323 Pn **Pn 10 30 02.6 -1.7**
comp=Z,1.6nm,0.3s,baz=135,slow=15,SNR=23
BVAR Sn **Sn 10 32 18.6 -6.3**
comp=Z,4.1nm,0.3s,baz=132,slow=22,SNR=2.9
BVAR Lg Lg 10 33 43.3
comp=Z,9.0nm,0.3s,baz=116,slow=30,SNR=6.0
BRVK Borovoye 12.70 323*ce*P **Pn 10 30 03.5 -1.7**
BRVK pmax pmax
comp=Z,3.0nm,0.5s
BRVK Borovoye 12.70 323 ⇑Pn **Pn 10 30 03.2 -2.0**
comp=Z,32nm,0.8s
BRVK ⇑Lg Lg 10 33 38.6
comp=Z,254nm,0.9s
BRVK Borovoye 12.70 323 Pn **Pn 10 30 03.2 -2.0**
CEP Cherat 13.07 225 P **Pn 10 30 10.1 -0.3**
CEP S **Sn 10 32 29.0 -6.9**
GTA Gaotai 13.24 103 *e*P **Pn 10 30 13.1 +0.4**
GTA pP P 10 30 22.6 -0.1
GTA sP 10 30 26.4
GTA S **Sn 10 32 40.1 +0.1**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,78nm,4.7s
GTA LR LR
comp=Z,460nm,10.5s
GTA LR LR
comp=Z,530nm,10.9s
GTA LR LR
comp=Z,440nm,13.8s
THW Thamme Wali 13.97 223 P **Pn 10 30 20.6 -2.0**
KBL Kabul 14.14 235 P **Pn 10 30 27.7 +2.6**
KBL Kabul 14.14 235 Pn **Pn 10 30 27.6 +2.6**
MOY Mondy 14.51 50 *e*P **P 10 30 38.8 +2.1**
MOY pmax pmax
comp=Z,19nm,1.0s
DANN Dangsing 15.23 178 *e*P **Pn 10 30 36.2 -3.8**
comp=Z,94nm,0.6s
LSA Lhasa 15.30 152 P **Pn 10 30 41.3 +0.1**
LSA pmax pmax
comp=Z,44nm,1.0s
LSA Lhasa 15.30 152 P **Pn 10 30 41.4 +0.2**
LSA pP **P 10 30 47.3 +1.3**
LSA S **Sn 10 33 31.4 +0.5**
LSA pmax pmax
comp=Z,10.0nm,0.4s
LSA LR LR
comp=Z,2μm,13.5s
LSA LR LR
comp=Z,440nm,10.0s
LSA LR LR
comp=Z,2μm,15.7s
LSA Lhasa 15.30 152 P **Pn 10 30 41.2 +0.1**
LSA IAmb IAmb 10 30 48.3
comp=Z,44nm,1.0s
ZAK Zakamensk 15.35 57 *e*P **Pn 10 30 40.7 -0.6**
ZAK pmax pmax
comp=Z,17nm,1.0s
PYUN Piuthan 15.47 180 *e*P Pn 10 30 38.0 -5.1
comp=Z,49nm,0.7s
NDI New Delhi 15.61 199 *e*P Pn 10 30 39.0 -5.7
NDI *e*S Sn 10 33 21.0 -17
GKN Gorkha 15.62 175 *e*P **Pn 10 30 41.8 -3.1**
comp=Z,102nm,0.6s
KOLN Koldanda 15.80 178 *e*P **Pn 10 30 43.3 -4.1**
comp=Z,141nm,1.0s
GUN Gumba 15.82 171 *e*P **Pn 10 30 45.6 -2.2**
comp=Z,67nm,0.5s
KKN Kakani 15.88 173 *e*P **Pn 10 30 45.3 -3.1**
comp=Z,79nm,0.6s
DMN Daman 16.04 173 *e*P **Pn 10 30 47.7 -2.9**
comp=Z,44nm,0.7s
PKIN Phulchoki 16.10 172 *e*P **Pn 10 30 48.4 -2.9**
comp=Z,46nm,0.5s
PKI Pulchoki 16.11 172 *e*P **Pn 10 30 48.3 -3.2**
comp=Z,56nm,0.6s
IRK Irkutsk 16.59 51 *e*P **Pn 10 31 00.2 +3.0**
IRK pmax pmax
comp=Z,48nm,2.1s
SONM Songino Array 16.82 67 Pn **Pn 10 31 00.0 -0.1**
comp=Z,1.0nm,0.3s,baz=257,slow=14,SNR=34
SONM Lg Lg 10 35 58.4
comp=Z,0.2nm,0.3s,baz=256,slow=32,SNR=2.0
SONM LR LR 10 37 35.1
comp=Z,93nm,18.9s,baz=231,slow=38
SONM Songino Array 16.82 67 P **Pn 10 31 00.1 -0.1**
SONM pmax pmax
comp=Z,20nm,0.8s
SONM Songino Array 16.82 67 **Pn 10 31 00.1 -0.1**
AB31 Akbulak array 16.88 298 P **Pn 10 30 58.3 -2.5**
AB31 Akbulak array 16.88 298 ⇓Pn **Pn 10 30 58.4 -2.5**
comp=Z,9.9nm,0.6s,baz=104,slow=15,SNR=148
ABKAR Akbulak array 16.88 298 P **Pn 10 30 57.5 -3.3**
ABKAR Akbulak array 16.88 298 P **Pn 10 30 58.0 -2.8**
ABKAR IAmb IAmb 10 31 14.1
comp=Z,16nm,0.8s
ULN Ulaanbaatar 17.26 67*d i*P **Pn 10 31 05.8 0.0**
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 17.26 67 P **Pn 10 31 05.6 -0.3**
LZH Lanzhou 17.61 108 *e*P **Pn 10 31 09.5 -0.7**
LZH pP P 10 31 15.2 +3.9
LZH sP sP 10 31 21.1 +5.4
LZH S **Sn 10 34 27.0 +0.5**
LZH pmax pmax
comp=Z,31nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.3s
LZH LR LR
comp=Z,690nm,13.0s
LZH LR LR
comp=Z,650nm,12.5s
LZH LR LR
comp=Z,760nm,12.9s
AKTO Aktyubinsk 18.34 301 P **Pn 10 31 17.4 -1.6**
comp=Z,0.5nm,0.3s,baz=105,slow=12,SNR=15
AKTO S Sn 10 34 33.9 -10
comp=Z,1.0nm,0.3s,baz=101,slow=16,SNR=1.9

AKTO Lg Lg 10 36 46.8
comp=Z,0.3nm,0.3s,baz=195,slow=20,SNR=2.6
AKTO LR LR 10 37 55.5
comp=Z,132nm,19.4s,baz=111,slow=36
AKTO Aktyubinsk 18.34 301 ⇑Pn **Pn 10 31 18.1 -0.8**
comp=Z,26nm,0.8s
HRA Herat 18.57 247 **P 10 31 23.5 +1.6**
SVE Sverdlovsk 19.40 321 *eP* **P 10 31 30.5 -0.1**
SVE pmax pmax
comp=Z,39nm,1.0s
SVE MLR MLR
comp=Z,1μm,12.0s
GEYT Alibeck 19.69 262 P **P 10 31 33.7 -0.3**
comp=Z,0.4nm,0.3s,baz=122,slow=5.2,SNR=1.3
GEYT LR LR 10 39 42.7
comp=Z,166nm,20.0s,baz=68,slow=39
GEYT Alibeck 19.69 262 P **Pn 10 31 38.0 +2.7**
ARU Arti 20.17 318 P **P 10 31 38.9 -0.1**
comp=Z,8.2nm,0.5s,baz=139,slow=2.9,SNR=30
ARU LR LR 10 39 55.0
comp=Z,459nm,18.5s,baz=98,slow=38
ARU Arti 20.17 318 *d iP* **P 10 31 38.6 -0.4**
ARU *PP **sP** 10 31 46.9 +3.3
ARU 10 31 54.5
ARU S **S 10 35 24.3 -0.9**
ARU SS Sn 10 35 44.3 +17
ARU pmax pmax
comp=Z,19nm,0.6s
ARU MLR MLR
comp=Z,423nm,16.0s
ARU Arti 20.17 318 **P 10 31 38.6 -0.4**
ARU IAmb IAmb 10 31 47.7
comp=Z,24nm,0.7s
JBP Jabalpur 20.54 188 *eP* **P 10 31 41.8 -1.4**
JBP IAmb IAmb 10 31 44.2
comp=Z,39nm,0.8s
JBP *e*S S 10 35 23.0 -10
CD2 Chengdu 20.72 121 P **P 10 31 45.1 -0.1**
CD2 pP sP 10 31 55.9 +6.2
CD2 S **S 10 35 29.7 -6.8**
CD2 ScP **ScP 10 39 26.8 -4.4**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,130nm,5.5s
CD2 LR LR
comp=Z,310nm,13.7s
CD2 LR LR
comp=Z,490nm,13.7s
HHC Hu-ho-hao-te 21.25 88 *eP* **P 10 31 50.7 -0.2**
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,150nm,4.2s
XAN Xi'an 22.22 107 P **P 10 32 04.4 +3.0**
XAN sP sP 10 32 13.1 +7.2
XAN pmax pmax
comp=Z,25nm,1.0s
XAN pmax pmax
comp=Z,78nm,3.7s
XAN LR LR
comp=Z,310nm,11.5s
XAN LR LR
comp=Z,420nm,11.5s
XAN LR LR
comp=Z,280nm,10.8s
PZH PanZhiHua 22.82 132 P **P 10 32 07.2 -0.7**
PZH S **S 10 36 14.3 -3.0**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,120nm,4.8s
PZH LR LR
comp=Z,400nm,16.0s
PZH LR LR
comp=Z,620nm,17.7s
PZH LR LR
comp=Z,580nm,16.4s
XLT XiLinHaoTe 23.77 78 *eP* **P 10 32 16.5 -0.8**
XLT PP **PnPn 10 32 50.8 +6.0**
XLT S **S 10 36 36.7 +4.0**
XLT sS sS 10 36 42.8 +4.3
XLT SS **SnSn 10 37 20.0 +9.4**
XLT pmax pmax
comp=Z,14nm,1.3s
XLT pmax pmax
comp=Z,190nm,4.6s
XLT LR LR
comp=Z,880nm,13.9s
XLT LR LR
comp=Z,650nm,11.4s
XLT LR LR
comp=Z,830nm,12.2s
BOD Bodaibo 23.95 43 *eP* **P 10 32 18.2 -0.5**
BOD pmax pmax
comp=Z,27nm,0.9s
LYN LuoYang 24.45 102 ⇑P **P 10 32 23.2 -0.4**
LYN sP sP 10 32 30.8 +2.1
LYN S **S 10 36 46.6 +3.1**
LYN pmax pmax
comp=Z,10.0nm,1.3s
LYN LR LR
comp=Z,310nm,11.4s
LYN LR LR
comp=Z,230nm,15.3s
KMI Kunming 24.46 132 ⇑P **P 10 32 24.1 +0.1**
KMI pP sP 10 32 34.1 +5.4
KMI PP **PnPn 10 32 55.8 +1.2**
KMI PcP **PcP 10 36 07.9 +5.3**
KMI S **S 10 36 37.0 -7.2**
KMI sS sS 10 36 54.8 +4.9
KMI pmax pmax
comp=Z,29nm,0.9s
KMI pmax pmax
comp=Z,110nm,3.5s
KMI LR LR
comp=Z,150nm,9.0s
KMI LR LR
comp=Z,100nm,8.7s
KMI LR LR
comp=Z,190nm,11.9s
HNS HongShan 24.75 94 ⇓P **P 10 32 26.5 +0.2**
HNS S **S 10 36 49.0 +0.7**
HNS pmax pmax
comp=Z,20nm,1.0s
HNS LR LR
comp=Z,320nm,16.7s
HNS LR LR
comp=Z,380nm,13.0s
HNS LR LR
comp=Z,210nm,14.1s
BJI Beijing 24.84 87 P **P 10 32 26.5 -0.5**
BJI pmax pmax
comp=Z,12nm,1.1s
BJI LR LR
comp=Z,180nm,8.6s
BJI LR LR
comp=Z,330nm,10.5s
BJI LR LR
comp=Z,420nm,10.5s
ENH Enshi 24.84 114 P **P 10 32 25.9 -1.2**
ENH IAmb IAmb 10 32 28.4
comp=Z,25nm,1.0s
CHLP Challavanipeta 25.03 178 *eP* **P 10 32 27.5 -1.4**
KIRV Kirov 25.55 318 P **P 10 32 33.2 -0.1**
comp=Z,25nm,0.6s,baz=106,slow=2.1,SNR=7.6
KIRV LR LR 10 43 03.4
comp=Z,347nm,20.3s,baz=101,slow=38
KIRV Kirov 25.55 318 *c iP* **P 10 32 32.7 -0.6**
GYA Guiyang 25.67 124 ⇑P **P 10 32 33.6 -1.2**
GYA pP sP 10 32 44.7 +5.2
GYA pmax pmax
comp=Z,82nm,0.7s
GYA pmax pmax
comp=Z,120nm,3.5s
HIA Hailar 25.73 64 P **P 10 32 33.1 -2.0**
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 25.73 64 P **P 10 32 33.1 -2.0**
MAK Makhachkala 25.77 281 *eP* **P 10 32 32.7 -2.7**
MAK *e*S **S 10 37 00.1 -4.4**
MAK pmax pmax
comp=Z,257nm,1.4s
MAK MLR MLR
comp=Z,201nm,15.0s
NRIK Noril'sk 25.91 4 P **P 10 32 35.4 -1.0**
comp=Z,11nm,0.5s,baz=180,slow=7.1,SNR=15
NRIK Noril'sk 25.91 4 *d iP* **P 10 32 34.8 -1.6**
NRIK pmax pmax
comp=Z,32nm,1.3s
NRIK Noril'sk 25.91 4 P **P 10 32 34.5 -1.9**
NRIK IAmb IAmb 10 32 42.6
comp=Z,17nm,0.8s
HYBB Hyderabad (bro 26.38 190 *eP* **P 10 32 40.4 -0.7**
HYB Hyderabad 26.38 190 *eP* **P 10 32 47.0 +5.9**
ADKI Addanki 27.79 186 *eP* **P 10 32 53.9 +0.2**
ADKI *e*S **S 10 37 34.0 -2.6**
WHN Wuhan 27.99 107 ⇑P P 10 33 03.0 +7.5
CHTO Chiang Mai 28.10 147 P **P 10 32 55.8 -0.8**
CHTO pmax pmax
comp=Z,5.0nm,1.1s
RCLA Racherla 28.27 188 *eP* **P 10 32 57.1 -0.9**
CMAR Chiang Mai Arr 28.42 147 P **P 10 32 58.6 -0.9**
comp=Z,4.2nm,0.6s,baz=320,slow=8.9,SNR=29
CMAR LR LR 10 45 50.4
comp=Z,132nm,18.6s,baz=315,slow=40
CMAR Chiang Mai Arr 28.42 147 P **P 10 32 57.7 -1.7**
CMAR Chiang Mai Arr 28.42 147 P **P 10 32 57.7 -1.7**
PRGR Permogore 28.45 322 *eP* **P 10 32 58.8 -0.5**
PRGR pmax pmax
comp=Z,47nm,1.4s
GNI Garni 28.57 276 LR LR 10 45 13.9
comp=Z,64nm,18.5s,baz=66,slow=38
WSAR Wadi Sarin 28.59 233 LR LR 10 47 31.8
comp=Z,64nm,18.5s,baz=326,slow=43
VRH Novokhopyorsk 28.68 300 *eP* **P 10 33 02.7 +1.3**
VRH pmax pmax
comp=Z,20nm,0.4s
ONI Oni 28.75 282 P **P 10 33 03.8 +1.5**
ONI pmax pmax
comp=Z,14nm,0.7s
ONI Oni 28.75 282 P **P 10 33 03.8 +1.5**
ONI IAmb IAmb 10 33 10.2
comp=Z,14nm,0.7s
KBZ Khabaz 28.86 284 P **P 10 33 03.6 +0.5**
comp=Z,3.8nm,1.0s,baz=93,slow=11,SNR=2.7
KBZ LR LR 10 45 09.4
comp=Z,157nm,20.6s,baz=66,slow=38
KBZ Khabaz 28.86 284 ⇑*eP* **P 10 33 02.7 -0.4**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 28.95 285 *i* P **P 10 33 04.1 0.0**
KIV *i* 10 33 52.4
KIV *i* SS SS 10 39 37.2 -20
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,304nm,16.0s
NEY Neytrino 29.10 283 ⇑*eP* **P 10 33 03.3 -2.2**
NEY pmax pmax
comp=Z,2.0nm,1.1s
VSR Storozhevoye 30.28 300 *eP* **P 10 33 13.9 -1.8**
VSR pmax pmax
comp=Z,8.0nm,0.5s
NJ2 Nanjing 30.31 100 *eP* P 10 33 14.0 -2.1
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
LPSR Galich'ya Gora 30.39 303 *eP* **P 10 33 16.4 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.7s
ZEA Zeya 30.43 55 *eP* **P 10 33 17.9 +0.9**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,200nm,12.0s
ZEA MLR MLR
comp=Z,300nm,13.0s
SOC Sochi 31.13 285 *eP* P 10 33 18.6 -4.6
SOC *e* 10 34 19.6
SOC *e*PPP PPP 10 34 33.2
SOC *e*S S 10 38 21.2 -7.5
SOC *e*SS **ScP 10 40 07.1 +6.1**
SOC MLR MLR
comp=Z,334nm,17.0s
MOS Moscow 31.23 309 *eP* **P 10 33 27.7 +3.7**
MOS *e* 10 34 21.8
MOS *e* 10 43 59.4
OBN Obninsk 31.81 308 LR LR 10 46 40.8
comp=Z,64nm,19.9s,baz=68,slow=37
OBN Obninsk 31.81 308 ⇑*eP* **P 10 33 29.5 +0.5**
OBN *e* 10 34 32.0
OBN *e*S **S 10 38 35.0 -4.0**
OBN *e*SS **SnSn 10 40 26.8 +0.7**
OBN pmax pmax
comp=Z,5.0nm,1.1s
OBN MLR MLR
comp=Z,250nm,17.0s
YAK Yakutsk 32.73 39 LR LR 10 47 23.3
comp=Z,156nm,18.3s,baz=266,slow=37
YAK Yakutsk 32.73 39 *eP* **P 10 33 35.6 -1.5**
YAK *e**PP **pP 10 33 43.2 +2.6**
YAK *e* 10 34 43.4
YAK *e*PPP PPP 10 35 00.1
YAK *e* 10 36 20.9
YAK *e*S **S 10 38 53.0 -0.3**
YAK *e*SS **SnSn 10 40 49.8 +1.5**
YAK *e* 10 44 06.4
YAK pmax pmax
comp=Z,5.0nm,0.8s
YAK pmax pmax
comp=N,1.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,42nm,2.2s
YAK pmax pmax
comp=N,33nm,2.9s
YAK pmax pmax
comp=E,42nm,2.0s
YAK smax smax
comp=E,42nm,2.3s
YAK smax smax
comp=N,29nm,2.3s
YAK MLR MLR
comp=Z,218nm,24.0s
YAK MLR MLR
comp=N,237nm,24.0s
YAK MLR MLR
comp=E,61nm,19.0s
QIZ Qiongzhong 33.26 129 P **P 10 33 41.8 -0.3**
QIZ S **S 10 39 03.5 +1.3**
QIZ pmax pmax
comp=E,17nm,1.8s
QIZ LR LR
comp=E,110nm,16.7s
QIZ LR LR
comp=E,220nm,16.2s
QIZ LR LR
comp=E,150nm,15.7s
KLR Kul'dur 33.56 63 P **P 10 33 44.2 -0.2**
comp=E,8.6nm,0.7s,baz=280,slow=9.0,SNR=44
KLR LR LR 10 49 04.3
comp=E,101nm,20.6s,baz=256,slow=39
KLR Kul'dur 33.56 63 *d iP* **P 10 33 44.3 -0.2**
KLR pmax pmax
comp=Z,10.0nm,0.8s
KSRS Korea Array 34.32 85 P **P 10 33 50.1 -1.1**
comp=Z,4.6nm,0.7s,baz=282,slow=8.9,SNR=13
KSRS LR LR 10 49 03.9
comp=Z,34nm,18.9s,baz=265,slow=38
USRK Ussuriysk Ar. 34.85 72 P **P 10 33 55.2 -0.5**
comp=Z,4.7nm,0.7s,baz=296,slow=9.3,SNR=16
LVZ Lovozero 35.06 330 ⇑*eP* **P 10 33 56.1 -1.2**
LVZ pmax pmax
comp=Z,53nm,2.7s
TIXI Tiksi 35.69 23 P **P 10 34 01.6 -1.0**
comp=Z,8.0nm,0.6s,baz=251,slow=4.6,SNR=43
TIXI LR LR 10 50 34.9
comp=Z,80nm,19.5s,baz=242,slow=40
TIXI Tiksi 35.69 23 ⇓*eP* **P 10 34 01.1 -1.5**
TIXI Tiksi 35.69 23 P P 10 33 59.7 -2.9
TIXI IAmb IAmb 10 34 02.4
comp=Z,10nm,0.8s
PALK Pallekele 36.24 184 LR LR 10 50 14.8
comp=Z,83nm,19.0s,baz=133,slow=38
AKASG Malin Array Be 36.58 301 P **P 10 34 09.1 -1.5**
comp=Z,0.3nm,0.4s,baz=64,slow=8.5,SNR=6.9
AKBB Malin Array Si 36.58 301 ⇓*eP* **P 10 34 10.9 +0.4**
BRTR Keskin Array B 36.69 281 P **P 10 34 10.7 -1.0**
comp=Z,1.3nm,0.8s,baz=81,slow=7.6,SNR=3.9
BRTR LR LR 10 52 30.0
comp=Z,98nm,19.5s,baz=70,slow=42
VSU Vasula 37.22 314 ⇑*eP* P 10 34 13.5 -2.3
VSU pmax pmax
comp=Z,19nm,0.9s
FINES FINESS Array B 37.54 319 P **P 10 34 17.8 -0.7**
comp=Z,2.5nm,0.3s,baz=100,slow=8.7,SNR=30
FINES LR LR 10 50 25.3
comp=Z,206nm,19.3s,baz=82,slow=37
SORM Soroca 37.68 297 ⇓P **P 10 34 18.9 -1.0**
SORM Soroca 37.68 297 ⇓P **P 10 34 18.9 -1.0**
JNU Nakatsue 38.46 89 LR LR 10 51 36.0
comp=Z,96nm,18.9s,baz=236,slow=38
ARA0 ARCESS Array S 38.70 332 *eP* **P 10 34 27.9 -0.3**
ARCES ARCESS Array B 38.70 332 P **P 10 34 27.7 -0.6**
comp=Z,7.0nm,0.5s,baz=90,slow=9.1,SNR=66
ARCES LR LR 10 51 07.2
comp=Z,194nm,20.5s,baz=143,slow=37
ARCES ARCESS Array B 38.70 332 P **P 10 34 28.0 -0.3**
ARCES pmax pmax
comp=Z,14nm,0.9s
ARCES ARCESS Array B 38.70 332 P **P 10 34 28.0 -0.3**
ARCES IAmb IAmb 10 34 35.0
comp=Z,14nm,0.8s
HARR Harsova 38.93 291 ⇓P **P 10 34 35.0 +4.6**
HARR Harsova 38.93 291 ⇓P **P 10 34 35.0 +4.6**
HEF Hetta 39.17 330 *eP* **P 10 34 31.7 -0.5**
PLOR Plostina 39.43 294 ⇓P **P 10 34 36.9 +2.2**
PLOR Plostina 39.43 294 ⇓P **P 10 34 36.9 +2.2**
BURAR Bucovina Array 39.86 297 ⇓P **P 10 34 41.4 +3.1**
BURAR Bucovina Array 39.86 297 ⇓P **P 10 34 41.4 +3.1**
MLR Muntele Rosu 40.01 293 ⇓P **P 10 34 39.6 0.0**
MLR Muntele Rosu 40.01 293 LR LR 10 52 04.4
comp=Z,138nm,21.1s,baz=46,slow=38
MLR Muntele Rosu 40.01 293 P **P 10 34 38.0 -1.6**
MLR pmax pmax
comp=Z,9.0nm,0.9s
MLR Muntele Rosu 40.01 293 P **P 10 34 39.0 -0.7**
JOW Kunigami 40.02 100 LR LR 10 53 55.8
comp=Z,55nm,21.6s,baz=245,slow=40
LVV L'vov 40.03 300 *eP* **P 10 34 44.0 +4.5**
DOPR Dopca 40.23 294 ⇓P **P 10 34 41.5 +0.2**
EIL Elat 40.48 266 LR LR 10 53 13.5
comp=Z,54nm,19.2s,baz=92,slow=39
ARCR ARCALIA 40.57 296 ⇓P P 10 34 50.1 +6.0
VOIR 40.62 293 ⇓P **P 10 34 44.7 +0.1**
VOIR 40.62 293 ⇓P **P 10 34 44.7 +0.1**
KWP Kalwaria Pacla 40.91 300 *eP* P 10 34 53.8 +7.0
KWP Kalwaria Pacla 40.91 300 P P 10 34 37.0 -10
KWP pmax pmax
comp=Z,47nm,0.9s
TRPA Tarpa 41.43 298 P P 10 34 57.5 +6.4
UZH Uzhgorod 41.45 299 *eP* **P 10 34 52.6 +1.4**
UZH *e* 10 34 58.4
UZH *e* 10 35 02.0
ASAJ Asahikawa 42.10 68 P **P 10 34 55.1 -1.6**
comp=Z,6.5nm,0.6s,baz=261,slow=9.1,SNR=7.1
ASAJ LR LR 10 54 03.0
comp=Z,133nm,18.3s,baz=146,slow=38
ASAJ Asahikawa 42.10 68 P **P 10 34 55.1 -1.6**
ASAJ pmax pmax
comp=Z,44nm,1.4s
JKA Kamikawa-asahi 42.10 68 P **P 10 34 55.1 -1.6**
JKA Kamikawa-asahi 42.10 68 IAmb IAmb 10 35 03.4
comp=Z,44nm,1.4s
MJAR Matsushiro Arr 42.12 80 P **P 10 34 55.4 -1.6**
comp=Z,3.2nm,0.7s,baz=296,slow=11,SNR=5.7
MJAR LR LR 10 51 53.4
comp=Z,49nm,20.9s,baz=307,slow=35
MJAR Matsushiro Arr 42.12 80 P **P 10 34 55.4 -1.6**
MJAR pmax pmax
comp=Z,4.0nm,1.3s
FAUS Fauske 42.27 328 *eP* **P 10 34 57.4 -0.3**
STEI Steigen 42.28 329 *eP* **P 10 34 57.5 -0.2**
N2TV Tyrnvik 42.33 328 *eP* **P 10 34 58.0 -0.2**
NIE Niedzica 42.47 301 *eP* P 10 35 07.5 +7.8
NIE Niedzica 42.47 301 P **P 10 35 00.7 +1.0**
NIE pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 42.55 302 *eP* **P 10 35 00.3 0.0**
OJC Ojcow 42.55 302 P **P 10 34 59.5 -0.8**
OJC pmax pmax
comp=Z,16nm,0.5s
OJC Ojcow 42.55 302 **P 10 34 59.5 -0.8**
MOR8 Moi Rana 42.65 326 *eP* **P 10 34 59.4 -1.4**
VTS Vitosha 42.85 290 ⇓P **P 10 35 04.1 +1.2**
VTS Vitosha 42.85 290 ⇓P **P 10 35 04.1 +1.2**
SPA0 Spitsbergen Ar 42.97 344 *eP* **P 10 35 03.2 -0.1**
PSI Prapat 43.00 156 LR LR 10 55 29.7
comp=Z,58nm,18.7s,baz=28,slow=40
PSZ Piszkesteto 43.19 299 P P 10 35 13.4 +7.9
SEY Seymchan 43.25 39 P **P 10 35 05.2 -0.6**
comp=Z,1.2nm,0.5s,baz=273,slow=13,SNR=11
BOSS Bosilegrad 43.41 290 *eP* **P 10 35 08.7 +1.4**
KNT Kendrikon 43.65 288 P **P 10 35 09.2 -0.1**
KNT pmax pmax
comp=Z,13nm,0.9s
HFS Hagfors 43.69 317 LR LR 10 54 15.7
comp=Z,241nm,20.2s,baz=72,slow=37
BARS Barje 43.73 291 *eP* P 10 35 07.5 -2.5
BARS Barje 43.73 291 *eP* P 10 35 18.6 +8.6
MORC Moravsky Berou 44.08 302 ⇓P **P 10 35 16.3 +3.7**
MORC Moravsky Berou 44.08 302 ⇓P **P 10 35 16.3 +3.7**
MORC Moravsky Berou 44.08 302 *eP* P 10 35 19.3 +6.7
FRGS Fruska Gora 44.19 295 *eP* **P 10 35 17.5 +3.9**
DIVS Divibare 44.47 294 *eP* P 10 35 06.2 -10
NC405 NORSAR Array S 44.47 319 P **P 10 35 13.9 -1.8**
KSP Ksiaz 44.51 304 *eP* P 10 35 22.3 +6.3
KSP Ksiaz 44.51 304 P **P 10 35 15.7 -0.3**
KSP pmax pmax
comp=Z,12nm,1.9s
IVAS Ivanjica 44.56 293 *eP* **P 10 35 15.8 -0.8**
MORH Mrgy, Hungar 44.57 297 P **P 10 35 18.2 +1.6**
NC303 NORSAR Array S 44.62 319 *eP* **P 10 35 16.6 -0.1**
NC303 NORSAR Array S 44.62 319 P **P 10 35 16.1 -0.7**
NORES NORESS Array B 44.63 318 P **P 10 35 16.2 -0.6**
DPC Dobruska-Polom 44.64 303 P **P 10 35 17.0 -0.2**
DPC pmax pmax
comp=Z,11nm,0.9s
DPC Dobruska-Polom 44.64 303 *eP* P 10 35 22.3 +5.1
MODS Modra-Piesok 44.70 300 *eP* P 10 35 24.4 +6.8
MODS Modra-Piesok 44.70 300 *eP* P 10 35 24.4 +6.8
NB2 NORSAR Subarra 44.73 319 P **P 10 35 17.0 -0.7**
comp=Z,4.2nm,0.6s,baz=77,slow=7.9
NB2 NORSAR Subarra 44.73 319 P **P 10 35 17.0 -0.7**
baz=77,slow=7.9
NOA NORSAR Array B 44.73 319 P **P 10 35 16.3 -1.4**
comp=Z,2.4nm,0.5s,baz=77,slow=7.6,SNR=34
NOA LR LR 10 54 48.6
comp=Z,230nm,18.4s,baz=70,slow=37
CHVC Chvalec 44.73 304 *eP* **P 10 35 22.2 +4.3**
UPC Upice 44.78 303 *eP* P 10 35 22.9 +4.7
UPC Upice 44.78 303 *eP* P 10 35 22.9 +4.7
VRAC Vranov 44.81 302 *eP* P 10 35 25.1 +6.6
FNA Florina 44.86 289 P **P 10 35 18.6 -0.4**
FNA pmax pmax
comp=Z,9.0nm,0.9s
IDI Anoyia 44.87 280 LR LR 10 58 18.6
comp=Z,58nm,18.7s,baz=56,slow=42
JHJ Hachijo jima 2 44.91 84 LR LR 10 54 24.5
comp=Z,88nm,19.0s,baz=93,slow=36
NAO01 NORSAR Array S 44.92 319 *eP* **P 10 35 18.4 -0.8**
KOVH Kovagotottos 44.97 297 P **P 10 35 24.2 +4.4**
KRUC Moravsky 45.02 301 *eP* P 10 35 25.7 +5.6
STRU Stroemstad 45.17 316 *eP* **P 10 35 20.4 -0.7**
SOP Sopron 45.39 299 P P 10 35 31.0 +8.0
DOMB Dombas 45.53 321 *eP* **P 10 35 23.6 -0.5**
PVCC Panska Ves 45.65 304 P **P 10 35 24.8 -0.3**
PVCC pmax pmax
comp=Z,18nm,0.9s
CONA Conrad Observa 45.74 300 *eP* **P 10 35 26.5 +0.6**
comp=Z,9.5nm,1.6s
PRU Pruhonice 45.84 303 P **P 10 35 27.4 +0.8**
PRU pmax pmax
comp=Z,10.0nm,1.1s
PRU Pruhonice 45.84 303 *eP* P 10 35 31.6 +5.0
SKAR Skarslia 46.19 319 *eP* **P 10 35 29.6 +0.3**
ARSA Arzberg 46.20 299 *eP* **P 10 35 27.6 -1.9**
comp=Z,4.9nm,0.8s
CLL Collm 46.33 305 *i* P P 10 35 35.1 +4.7
CLL Collm 46.33 305 *i* Px Px 10 35 35.1
comp=Z,12nm,0.7s
CLL *e*PP **PP 10 37 22.0 +3.0**
SOKA Soboth 46.72 299 *eP* **P 10 35 33.2 -0.5**
comp=Z,6.2nm,0.7s
KHC Kasperske Hory 46.73 302 *eP* **P 10 35 33.6 -0.1**

KHC			*e*			10 35 40.0	
KHC	**Kasperske Hory**	**46.73 302**	*e*P	**P**		**10 35 33.6**	**-0.1**
KHC			pP	**pP**		**10 35 40.0**	**+2.7**
GERES	**GERESS Array B**	**46.76 302**	P	**P**		**10 35 33.7**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=60,slow=7.9,SNR=5.8						
MOA	**Molln**	**46.77 300**	*e*P	**P**		**10 35 34.3**	**+0.3**
	comp=Z,7.1nm,1.2s						
ATD	**Arta Tunnel**	**47.14 240**	LR	LR		10 58 13.8	
	comp=Z,58nm,20.1s,baz=48,slow=40						
WET	**Wettzell**	**47.15 303**	P	**P**		**10 35 36.4**	**-0.6**
WET			pmax	pmax			
	comp=Z,6.0nm,1.0s						
KBA	**Koelnbreinsper**	**47.64 300**	*e*P	P		10 35 38.3	-2.7
	comp=Z,8.8nm,1.1s						
ASK	**Askoy**	**47.73 319**	*e*P	**P**		**10 35 41.0**	**-0.2**
BILL	**Bilibino**	**48.01 30**	*i* P	**P**		**10 35 44.0**	**+0.7**
BILL			*i*			10 37 08.5	
BILL			*i*			10 37 33.8	
BILL			pmax	pmax			
	comp=Z,2.0nm,1.0s						
BILL			MLR	MLR			
	comp=Z,151nm,14.0s						
BILL	**Bilibino**	**48.01 30**	P	**P**		**10 35 42.9**	**-0.4**
ABTA	**Abfaltersbach**	**48.29 300**	*e*P	**P**		**10 35 46.6**	**+0.7**
	comp=Z,5.2nm,0.6s						
PETK	**Petropavlovsk-**	**48.38 51**	P	**P**		**10 35 45.0**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=316,slow=3.4,SNR=11						
PETK			LR	LR		10 57 30.3	
	comp=Z,79nm,18.4s,baz=285,slow=38						
NOR	**Nord**	**48.58 349**	P	**P**		**10 35 47.1**	**-0.4**
NOR			pmax	pmax			
	comp=Z,5.0nm,1.8s						
NOR	**Nord**	**48.58 349**	*i* P	**P**		**10 35 46.5**	**-1.0**
NOR			IAmb	IAmb		10 35 54.5	
	comp=Z,2.0nm,0.5s						
WTTA	**Wattenberg**	**48.64 301**	*e*P	**P**		**10 35 48.2**	**-0.5**
	comp=Z,22nm,0.8s						
WTTA	**Wattenberg**	**48.64 301**	P	**P**		**10 35 48.5**	**-0.2**
WTTA			pmax	pmax			
	comp=Z,28nm,0.8s						
WATA	**Walderalm**	**48.65 301**	*e*P	**P**		**10 35 47.9**	**-0.9**
	comp=Z,1.5nm,0.5s						
SQTA	**Sankt Quirin**	**48.92 301**	*e*P	**P**		**10 35 50.0**	**-0.8**
	comp=Z,5.8nm,0.5s						
MOTA	**Moosalm**	**48.94 301**	*e*P	**P**		**10 35 50.2**	**-0.8**
	comp=Z,16nm,0.8s						
RETA	**Reutte**	**49.09 301**	*e*P	**P**		**10 35 51.7**	**-0.4**
	comp=Z,4.2nm,0.8s						
FETA	**Feichten**	**49.30 301**	*e*P	P		10 35 50.4	-3.4
	comp=Z,12nm,1.4s						
DAVA	**Damuels**	**49.72 301**	*e*P	**P**		**10 35 54.9**	**-2.0**
	comp=Z,1.8nm,0.4s						
DAVOX	**Davos/Dischmat**	**49.93 301**	LR	LR		10 57 40.7	
	comp=Z,140nm,19.7s,baz=66,slow=37						
BFO	**Black Forest**	**50.25 303**	P	**P**		**10 36 00.3**	**-0.5**
BFO			pmax	pmax			
	comp=Z,13nm,2.6s						
SLE	**Schleitheim**	**50.38 302**	P	**P**		**10 36 02.4**	**+0.6**
TUE	**Stuetta**	**50.40 301**	P	**P**		**10 36 01.2**	**-0.9**
DAG	**Danmarks Havn**	**50.60 343**	P	**P**		**10 36 02.0**	**-1.0**
DAG			pmax	pmax			
	comp=Z,13nm,0.7s						
DAG	**Danmarks Havn**	**50.60 343**	*i* P	**P**		**10 36 01.0**	**-2.0**
DAG			*i* P	**P**		**10 36 01.6**	**-1.4**
DAG			IAmb	IAmb		10 36 08.9	
	comp=Z,5.4nm,0.6s						
DBG	**Daneborg**	**51.99 340**	*i* P	**P**		**10 36 12.6**	**-0.8**
DBG			IAmb	IAmb		10 36 19.9	
	comp=Z,2.6nm,0.8s						
DAV	**Davao City (W)**	**52.02 122**	LR	LR		11 01 09.9	
	comp=Z,90nm,18.9s,baz=348,slow=39						
BNI	**Bardonecchia**	**52.70 300**	P	**P**		**10 36 18.3**	**-1.0**
BNI			pmax	pmax			
	comp=Z,20nm,2.6s						
ORIF	**Oris-en-Rattie**	**53.26 300**	P	**P**		**10 36 22.3**	**-1.1**
ORIF			pmax	pmax			
	comp=Z,24nm,0.8s						
EKA	**Eskdalemuir Ar**	**53.75 315**	LR	LR		10 59 59.1	
	comp=Z,167nm,21.6s,baz=351,slow=37						
LEM	**Lembang**	**54.90 150**	LR	LR		11 03 55.3	
	comp=Z,54nm,19.0s,baz=348,slow=40						
NEEM	**North Greenlan**	**55.95 349**	*i* P	**P**		**10 36 43.0**	**+0.3**
NEEM			IAmb	IAmb		10 36 48.4	
	comp=Z,4.9nm,0.5s						
SUMG	**Summit**	**57.26 342**	*e*P	**P**		**10 36 56.4**	**+4.3**
ICESG	**Greenland Ices**	**59.97 340**	*i* P	**P**		**10 37 10.9**	**-0.1**
GUMO	**Guam**	**60.39 100**	LR	LR		11 04 48.1	
	comp=Z,30nm,18.4s,baz=120,slow=38						
TOLK	**Toolik Lake Re**	**61.45 19**	P	**P**		**10 37 20.2**	**-0.6**
ESDC	**Sonseca Array**	**62.22 299**	P	**P**		**10 37 25.2**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=54,slow=6.5,SNR=18						
COLD	**Coldfoot**	**62.37 21**	P	**P**		**10 37 25.7**	**-1.2**
COLD			IAmb	IAmb		10 37 32.9	
	comp=Z,6.8nm,0.8s						
MBAR	**Mbarara**	**64.09 242⇑**	*e*P	**P**		**10 37 37.3**	**-2.0**
COLA	**College**	**64.80 21⇑**	*e*P	**P**		**10 37 41.7**	**-1.2**
COLA			pmax	pmax			
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**65.10 14**	LR	LR		11 09 18.8	
	comp=Z,56nm,19.2s,baz=344,slow=39						
INK	**Inuvik**	**65.10 14**	P	**P**		**10 37 44.8**	**0.0**
INK			pmax	pmax			
	comp=Z,9.0nm,0.9s						
IL31		**65.13 21**	P	**P**		**10 37 43.4**	**-1.7**
IL31			IAmb	IAmb		10 38 09.5	
	comp=Z,6.0nm,0.8s						
ILAR	**Eielson Array**	**65.13 21**	P	**P**		**10 37 43.9**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=321,slow=5.0,SNR=29						
RIDG	**Independent Ri**	**66.50 21**	IAmb	IAmb		10 38 08.5	
	comp=Z,7.3nm,0.8s						
SCRK	**Sand Creek**	**66.53 21**	P	**P**		**10 37 53.2**	**-1.1**
SCRK			IAmb	IAmb		10 37 59.1	
	comp=Z,5.8nm,0.9s						
EGAK	**Eagle**	**66.56 19**	P	**P**		**10 37 53.3**	**-1.0**
EGAK			IAmb	IAmb		10 38 09.1	
	comp=Z,12nm,1.5s						
L27K	**Beaver Creek,**	**67.83 20**	IAmb	IAmb		10 38 21.1	
	comp=Z,5.8nm,0.8s						
FRB	**Frobisher Bay**	**70.65 347**	LR	LR		11 14 19.3	
	comp=Z,101nm,18.0s,baz=2.0,slow=40						
FITZ	**Fitzroy Crossi**	**72.75 138**	P	**P**		**10 38 31.7**	**-1.3**
	comp=Z,5.2nm,0.9s,baz=320,slow=4.8,SNR=4.2						
YKA	**Yellowknife Ar**	**73.31 8**	P	**P**		**10 38 34.3**	**-1.6**
	comp=Z,4.0nm,0.7s,baz=338,slow=5.8,SNR=76						
YKA			LR	LR		11 12 32.5	
	comp=Z,39nm,21.4s,baz=277,slow=37						
YKA	**Yellowknife Ar**	**73.31 8**	P	**P**		**10 38 34.1**	**-1.7**
YKA	**Yellowknife Ar**	**73.31 8**	P	**P**		**10 38 34.1**	**-1.7**
TORD	**Torodi Ar. Bea**	**74.83 274**	P	P		10 38 43.2	-2.3
	comp=Z,3.0nm,0.4s,baz=38,slow=5.2,SNR=49						
TORD	**Torodi Ar. Bea**	**74.83 274**	P	P		10 38 43.1	-2.4
TORD			IAmb	IAmb		10 38 49.8	
	comp=Z,6.4nm,0.6s						
KOWA	**Kowa**	**78.06 279**		P		10 39 01.4	-2.5
PMG	**Port Moresby**	**78.38 115**	LR	LR		11 12 36.9	
	comp=Z,23nm,21.8s,baz=106,slow=35						
SCHQ	**Schefferville**	**78.64 343**	P	**P**		**10 39 04.5**	**-1.9**
	comp=Z,4.3nm,0.9s,baz=12,slow=6.8,SNR=4.1						
WB0	**Warramunga Arr**	**78.67 131**	P	P		10 39 04.6	-2.4
WB0			IAmb	IAmb		10 39 06.2	
	comp=Z,8.0nm,0.8s						
WRAB	**Tennant Creek**	**78.78 132**	*d* *i*P	**P**		**10 39 06.1**	**-1.4**
WRAB			pmax	pmax			
	comp=Z,9.0nm,1.1s						
WRAB	**Tennant Creek**	**78.78 132**	P	**P**		**10 39 06.2**	**-1.4**
WRAB			IAmb	IAmb		10 39 06.9	
	comp=Z,7.0nm,0.8s						
WRA	**Warramunga Arr**	**78.78 132**	P	**P**		**10 39 06.0**	**-1.6**
	comp=Z,3.7nm,0.7s,baz=331,slow=5.5,SNR=35						
WB2	**Warramunga Arr**	**78.79 132**	P	**P**		**10 39 06.1**	**-1.5**
WB2			IAmb	IAmb		10 39 06.5	
	comp=Z,5.9nm,0.7s						
WR0	**Warramunga Arr**	**78.91 131**	P	P		10 39 05.5	-2.7
WR0			IAmb	IAmb		10 39 19.6	
	comp=Z,16nm,1.4s						
ASAR	**Alice Springs**	**81.59 134**	P	**P**		**10 39 20.9**	**-1.7**
	comp=Z,3.0nm,0.7s,baz=324,slow=5.1,SNR=35						
EDM	**Edmonton**	**82.53 10**	IAmb	IAmb		10 39 39.8	
	comp=Z,5.7nm,0.6s						
DBIC	**Dimbokro**	**83.94 273**	P	P		10 39 32.7	-2.5
	comp=Z,1.3nm,0.5s,baz=20,slow=2.4,SNR=4.8						
DBIC	**Dimbokro**	**83.94 273**	P	P		10 39 32.7	-2.5
DBIC			pmax	pmax			
	comp=Z,4.0nm,0.9s						
DBIC	**Dimbokro**	**83.94 273**	IAmb	IAmb		10 40 00.1	
	comp=Z,4.3nm,0.8s						
CTAO	**Charters Tower**	**85.80 123**	P	P		10 39 42.1	-2.2
CTAO			pmax	pmax			
	comp=Z,9.0nm,1.3s						
LBTB	**Lobatse**	**86.24 230**	LR	LR		11 22 19.9	
	comp=Z,22nm,18.6s,baz=6.5,slow=38						
ULM	**Lac du Bonnet**	**86.53 359**	LR	LR		11 20 09.0	
	comp=Z,32nm,19.5s,baz=328,slow=37						
NEW	**Newport**	**86.81 13**	LR	LR		11 23 19.7	
	comp=Z,19nm,18.2s,baz=324,slow=39						
SADO	**Sadowa**	**90.59 347**	LR	LR		11 24 36.2	
	comp=Z,72nm,18.1s,baz=56,slow=38						
YBH	**Yreka Blue Hor**	**91.95 19**	LR	LR		11 23 31.5	
	comp=Z,33nm,18.3s,baz=329,slow=37						
STKA	**Stephens Creek**	**92.21 133**	P	P		10 40 12.2	-2.2
	comp=Z,3.4nm,1.0s,baz=334,slow=6.8,SNR=5.0						
PDAR	**Pinedale Array**	**93.28 9**	P	**P**		**10 40 18.1**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=49,slow=2.4,SNR=6.3						
NVAR	**Mina Array Bea**	**96.09 17**	P	**P**		**10 40 31.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=4.1,slow=3.8,SNR=2.5						

*IDC **04** 10:28:36.0±0.9,24.°99N×125.°35E,h0km,mb4.0/8,*
mb1 4.1/11,mb1mx3.7/53,mbtmp4.0/11,ML3.1/3,MS3.2/5,
Ms1 3.3/5,ms1mx2.7/86,Error ellipse: s-maj=30.4km
s-min=21.0km az=80.0
*NIED **04** 10:28:42.0,25.°02N×125.°61E,h54km,MW4.2,Moment*
Tensor Solution. s3 Moment tensor: Scale 1015Nm;
Mrr0.73; Mθθ-0.28; Mφφ-0.44; Mrθ1.71; Mθφ-0.52; Mφr1.16;
Fault plane solution: M0 2.22000×1015 NP1:φs55.00000°,
δ80.00000°,λ97.00000°. NP2:φs202.00000°,δ12.00000°,
λ58.00000°.
*JMA **04** 10:28:42.0±0.1,25.°02N×125.°61E,h54km±1km,M3.9*
JMA Felt I J1.

ISC 04 10:28:42.5±0.8,25.°02N±0.°10×125.°59E±0.°07,h49km±7km,
n29,σ0s69/34,mb4.0/8,MS3.8/3,Southwestern Ryukyu
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.31**	**212**	P	**Pn**	**10 28 51.6**	**-0.1**
JOGS				S	**Sn**	**10 28 58.6**	**+0.4**
JIKM	**Ikemajima**	**0.33**	**252**	P	**Pn**	**10 28 51.9**	**+0.1**
JIKM				S	**Sn**	**10 28 58.9**	**+0.5**
JMJ2	**Miyako jima3**	**0.37**	**220**	P	**Pn**	**10 28 52.2**	**0.0**
JMJ2				S	**Sn**	**10 28 59.7**	**+0.6**
JIRB	**Irabujima**	**0.42**	**243**	P	**Pn**	**10 28 52.7**	**-0.1**
JIRB				S	**Sn**	**10 29 00.3**	**+0.1**
JTJ	**Tarama**	**0.89**	**245**	P	**Pn**	**10 28 59.0**	**+0.3**
JTJ				S	**Sn**	**10 29 11.6**	**+1.0**
JISG	**Ishigakijimahi**	**1.24**	**250**	P	**Pn**	**10 29 03.3**	**-0.2**
JISG				*e*S	**Sn**	**10 29 19.4**	**+0.3**
JIJ	**Ishigaki jima**	**1.47**	**244**	P	**Pn**	**10 29 06.7**	**+0.1**
JIJ				*e*S	**Sn**	**10 29 25.8**	**+1.1**
JKRS	**Kuro-shima**	**1.64**	**242**	P	**Pn**	**10 29 09.6**	**+0.7**
JKE	**Kume jima 2**	**1.69**	**40**	P	**Pn**	**10 29 09.1**	**-0.5**
IRIF	**Iriomote-Funau**	**1.82**	**248**	P	**Pn**	**10 29 11.4**	**0.0**
IRIF				S	**Sn**	**10 29 34.1**	**+0.7**
HATJ	**Hateruma jima**	**1.89**	**240**	P	**Pn**	**10 29 12.1**	**-0.2**
JAGN	**Aguni-jima**	**2.16**	**43**	P	**Pn**	**10 29 16.5**	**+0.5**
JAGN				*e*S	**Sn**	**10 29 42.4**	**+0.9**
JJT3	**Tamagusuku3**	**2.27**	**60**	P	**Pn**	**10 29 17.6**	**0.0**
JOW	**Kunigami**	**3.02**	**53**	Pn	**Pn**	**10 29 27.7**	**-0.1**
	5.5nm,0.3s,baz=111,slow=21,SNR=34						
JOW				Sn	**Sn**	**10 30 04.6**	**+2.0**
	19nm,0.3s,baz=308,slow=19,SNR=2.0						
JNU	**Nakatsue**	**9.30**	**29**	Pn	**Pn**	**10 30 53.5**	**-0.4**
	0.2nm,0.3s,baz=177,slow=7.3,SNR=2.4						
KSRS	**Korea Array**	**12.55**	**9**	LR	LR	10 36 41.8	
	comp=Z,46nm,18.0s,baz=170,slow=38						
MJAR	**Matsushiro Arr**	**15.77**	**40**	Pn	**P**	**10 32 22.5**	**-2.0**
	0.0nm,0.3s,baz=222,slow=7.2,SNR=3.0						
DAV	**Davao City (W)**	**17.85**	**180**	LR	LR	10 40 22.6	
	comp=Z,27nm,19.5s,baz=346,slow=40						
KAPI	**Kappang**	**30.39**	**192**	LR	LR	10 46 34.6	
	comp=Z,22nm,21.6s,baz=352,slow=36						
WRA	**Warramunga Arr**	**45.50**	**168**	P	**P**	**10 36 57.1**	**-0.1**
	0.6nm,0.7s,baz=350,slow=8.8,SNR=7.2						
ASAR	**Alice Springs**	**49.07**	**170**	P	**P**	**10 37 25.0**	**+0.1**
	0.2nm,0.5s,baz=357,slow=14,SNR=4.2						
ARU	**Arti**	**56.87**	**322**	LR	LR	11 03 30.2	
	comp=Z,70nm,20.2s,baz=51,slow=37						
ILAR	**Eielson Array**	**66.62**	**28**	LR	LR	11 10 02.3	
	comp=Z,68nm,18.4s,baz=334,slow=37						
ARCES	**ARCESS Array B**	**70.25**	**338**	P	**P**	**10 39 49.7**	**-0.4**
	1.4nm,0.6s,baz=23,slow=7.1,SNR=3.7						
FINES	**FINESS Array B**	**72.73**	**330**	P	**P**	**10 40 05.1**	**-0.1**
	0.9nm,0.3s,baz=55,slow=5.9,SNR=6.3						
AKASG	**Malin Array Be**	**74.89**	**319**	P	**P**	**10 40 17.7**	**-0.3**
	1.1nm,0.4s,baz=58,slow=6.0,SNR=6.2						
BRTR	**Keskin Array B**	**75.88**	**307**	P	**P**	**10 40 24.2**	**+0.1**
	3.0nm,0.8s,baz=87,slow=5.6,SNR=8.2						
NOA	**NORSAR Array B**	**79.32**	**333**	P	**P**	**10 40 42.8**	**0.0**
	0.8nm,0.8s,baz=53,slow=4.4,SNR=2.1						
GERES	**GERESS Array B**	**84.70**	**322**	P	**P**	**10 41 12.2**	**+0.9**
	1.0nm,0.8s,baz=60,slow=5.8,SNR=5.5						

*TAP **04** 10:37:25.9,23.°59N×122.°19E,h39km,ML3.3,D*
*JMA **04** 10:37:25.2±0.1,23.°59N×122.°17E,h25km,M2.5*

ISC 04 10:37:25.1±1.1,23.°58N±0.°02×122.°17E±0.°02,h24km±12km,
n106,σ0s59/190,3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.59**	**283**	P	**Pb**	**10 37 37.4**	**+0.5**
	baz=281						
TEGC				S	**Sn**	**10 37 46.4**	**-0.5**
	baz=281						
TEYL	**Yanliau Villag**	**0.60**	**299**	P	**Pb**	**10 37 37.4**	**+0.4**
	baz=306						
TEYL				*e*S	**Sn**	**10 37 46.7**	**-0.3**
	baz=306						
HWA	**Hwalien**	**0.66**	**308**	*i* P	**Pb**	**10 37 38.2**	**+0.3**
	baz=305						
HWA				*i* S	**Sn**	**10 37 47.7**	**-0.6**
	baz=305						
EGFH	**Guangfu**	**0.69**	**278**	*i* P	**Pb**	**10 37 38.7**	**+0.3**
	baz=276						
EGFH				S	**Sn**	**10 37 48.5**	**-0.7**
	baz=276						
HGSD	**Ruisui**	**0.69**	**263**	P	**Pb**	**10 37 38.5**	**0.0**
	baz=262						
HGSD				S	**Sb**	**10 37 48.0**	**+0.3**
	baz=262						
ECBN	**Changbin**	**0.71**	**249**	P	**Pb**	**10 37 39.2**	**+0.4**
	baz=238						
ECBN				S	**Sn**	**10 37 49.2**	**-0.5**
	baz=238						
ESL	**Shilin**	**0.72**	**289**	⇓*i*P	**Pb**	**10 37 38.5**	**-0.5**
	baz=279						
ESL				*i* S	**Sb**	**10 37 48.6**	**+0.2**
	baz=279						
TWD	**Chiawan**	**0.73**	**314**	*i* P	**Pb**	**10 37 38.6**	**-0.5**
	baz=312						
TWD				*i* S	**Sb**	**10 37 48.6**	**-0.1**
	baz=312						
ETM	**Tongmen**	**0.73**	**302**	P	**Pb**	**10 37 38.7**	**-0.5**
	baz=299						
ETL	**Fush Village**	**0.77**	**319**	P	**Pb**	**10 37 39.6**	**-0.3**
	baz=309						
ETL				S	**Sn**	**10 37 50.6**	**-0.6**
	baz=309						
EHY	**Hungye**	**0.78**	**265**	*i* P	**Pb**	**10 37 40.3**	**+0.2**
	baz=263						
EHY				*i* S	**Sn**	**10 37 51.1**	**-0.5**
	baz=263						
NACB	**Ninganchiao**	**0.80**	**318**	⇓P	**Pb**	**10 37 39.6**	**-0.7**
	baz=310						
NACB				S	**Sb**	**10 37 50.1**	**-0.5**
	baz=310						
EYUL	**Yuli**	**0.82**	**254**	*i* P	**Pb**	**10 37 40.6**	**0.0**
	baz=247						
EYUL				S	**Sn**	**10 37 52.7**	**+0.3**
	baz=247						
YULB	**Yu-li**	**0.82**	**257**	P	**Pb**	**10 37 40.8**	**+0.1**
	baz=251						
YULB				S	**Sb**	**10 37 51.7**	**+0.3**
	baz=251						
CHKT	**Chengkung**	**0.88**	**237**	*i* P	**Pb**	**10 37 41.2**	**-0.5**
	baz=228						
CHKT				*i* S	**Sb**	**10 37 52.1**	**-1.0**
	baz=228						
ETLH	**Xiulin Townshi**	**0.89**	**315**	P	**Pb**	**10 37 41.4**	**-0.6**
	baz=313						
ETLH				S	**Sb**	**10 37 53.5**	**+0.1**
	baz=313						
FULB	**Fuli**	**0.89**	**245**	*i* P	**Pb**	**10 37 41.6**	**-0.3**
	baz=235						
FULB				*i* S	**Sb**	**10 37 53.0**	**-0.3**
	baz=235						
ENA	**Nanau**	**0.94**	**335**	*i* P	**Pn**	**10 37 42.6**	**-0.1**
	baz=326						
ENA				*i* S	**Sn**	**10 37 54.9**	**-0.4**
	baz=326						
EWUT	**Wuta**	**0.94**	**337**	*i* P	**Pn**	**10 37 42.7**	**0.0**
	baz=328						
EWUT				*i* S	**Sn**	**10 37 55.8**	**+0.4**
	baz=328						
VWDT	**VWDT**	**0.96**	**281**	⇓P	**Pb**	**10 37 43.1**	**0.0**
	baz=279						
VWDT				S	**Sb**	**10 37 55.2**	**-0.2**
	baz=279						
OWD	**Renai**	**0.99**	**293**	*i* P	**Pn**	**10 37 43.3**	**-0.2**
	baz=290						
OWD				S	**Sn**	**10 37 57.3**	**+0.5**
	baz=290						
EDH	**Donghe**	**1.00**	**233**	*i* P	**Pn**	**10 37 43.0**	**-0.6**
	baz=228						
EDH				*i* S	**Sb**	**10 37 55.6**	**-0.9**
	baz=228						
WHF	**Hehuan Shan**	**1.00**	**304**	*i* P	**Pn**	**10 37 43.5**	**-0.5**
	baz=302						
WHF				S	**Sb**	**10 37 56.7**	**-0.3**
	baz=302						
CHGB	**Renai**	**1.03**	**298**	P	**Pn**	**10 37 44.1**	**-0.2**
	baz=296						
CHGB				S	**Sn**	**10 37 58.4**	**+0.3**
	baz=296						
TWC	**Suao**	**1.07**	**344**	*i* P	**Pb**	**10 37 44.7**	**-0.2**
	baz=352						
TWC				*i* S	**Sn**	**10 37 58.9**	**+0.3**
	baz=352						
FUSS	**Fushou**	**1.08**	**308**	*i* P	**Pn**	**10 37 44.9**	**0.0**
	baz=306						
FUSS				*e*S	**Sb**	**10 37 58.9**	**-0.1**
	baz=306						
LDUT	**Ludao**	**1.11**	**216**	*i* P	**Pn**	**10 37 44.2**	**-0.9**
	baz=216						
LDUT				*i* S	**Sn**	**10 37 58.3**	**-1.3**
	baz=216						
NNSB	**Datong**	**1.11**	**320**	P	**Pn**	**10 37 45.4**	**+0.1**
	baz=318						
NNSB				S	**Sn**	**10 37 59.1**	**-0.8**
	baz=318						
JYNG	**Yonaguni jimaku**	**1.12**	**39**	P	**Pb**	**10 37 45.5**	**-0.3**
JYNG				S	**Sb**	**10 38 00.3**	**+0.3**
NNS	**Nan Shan**	**1.13**	**320**	*i* P	**Pn**	**10 37 45.5**	**0.0**
	baz=318						
NNS				*i* S	**Sn**	**10 37 59.9**	**-0.4**
	baz=318						
ELDTW	**Lidau**	**1.13**	**250**	*i* P	**Pn**	**10 37 45.3**	**-0.2**
	baz=239						
ELDTW				*i* S	**Sn**	**10 37 59.1**	**-1.2**
	baz=239						
NDS	**Dongshan**	**1.13**	**338**	P	**Pb**	**10 37 45.9**	**-0.1**
	baz=337						
NDS				S	**Sb**	**10 38 00.6**	**+0.3**
	baz=337						
TWT	**Tachien**	**1.13**	**307**	*i* P	**Pb**	**10 37 46.0**	**-0.1**
	baz=304						
TWT				S	**Sn**	**10 37 59.8**	**-0.7**
	baz=304						
SSLB	**Suanglung**	**1.14**	**281**	P	**Pn**	**10 37 45.4**	**-0.1**
	baz=279						
SSLB				S	**Sb**	**10 38 01.3**	**+0.8**
	baz=279						
TDCB	**Techi**	**1.15**	**306**	P	**Pn**	**10 37 45.9**	**+0.2**
	baz=304						
TDCB				S	**Sn**	**10 37 59.9**	**-0.9**
	baz=304						
LONT	**Longtian**	**1.17**	**235**	P	**Pn**	**10 37 45.9**	**0.0**
	baz=229						
LONT				S	**Sn**	**10 38 01.0**	**-0.1**
	baz=229						
YOJ	**Yonaguni jima**	**1.17**	**41**	P	**Pn**	**10 37 46.0**	**+0.1**
YOJ				S	**Sn**	**10 37 59.9**	**-1.2**
YOJ	**Yonaguni jima**	**1.17**	**41**	P	**Pn**	**10 37 45.9**	**+0.1**
	baz=50						
YOJ				S	**Sn**	**10 37 59.7**	**-1.4**
	baz=50						
NDT	**Datong Townshi**	**1.19**	**330**	*i* P	**Pb**	**10 37 46.5**	**-0.4**
	baz=328						
NDT				*i* S	**Sb**	**10 38 01.8**	**0.0**
	baz=328						
ENTT	**Nioudou**	**1.20**	**333**	*i* P	**Pb**	**10 37 46.7**	**-0.4**
	baz=331						
ENTT				*i* S	**Sb**	**10 38 02.0**	**-0.1**
	baz=331						
SMLT	**Sun Moon Lake**	**1.21**	**285**	*i* P	**Pb**	**10 37 47.0**	**-0.3**
	baz=290						
SMLT				S	**Sb**	**10 38 02.8**	**+0.3**
	baz=290						
ILA	**Ilan**	**1.25**	**342**	*e*P	**Pn**	**10 37 47.1**	**+0.1**
	baz=341						
ILA				*e*S	**Sn**	**10 38 02.1**	**-0.8**
	baz=341						
TYC	**Yuchr**	**1.25**	**285**	*i* P	**Pn**	**10 37 47.2**	**+0.2**
	baz=291						
TYC				*e*S	**Sb**	**10 38 03.8**	**+0.1**
	baz=291						
TTN	**Taitung**	**1.25**	**229**	*e*P	**Pn**	**10 37 46.5**	**-0.5**
	baz=228						
TTN				*e*S	**Sn**	**10 38 02.1**	**-0.9**
	baz=228						
WCS	**Beigang Elemen**	**1.25**	**293**	*e*P	**Pb**	**10 37 47.9**	**-0.1**
	baz=290						
WCS				*e*S	**Sb**	**10 38 04.1**	**+0.4**
	baz=290						
ALS	**Alishan**	**1.26**	**267**	*i* P	**Pb**	**10 37 48.5**	**+0.2**
	baz=265						
ALS				S	**Sb**	**10 38 04.4**	**+0.3**
	baz=265						
TWGBT	**Beinan**	**1.26**	**233**	P	**Pn**	**10 37 47.1**	**0.0**
	baz=245						
TWGBT				S	**Sn**	**10 38 02.5**	**-0.8**
	baz=245						
EGS		**1.28**	**350**	P	**Pb**	**10 37 48.1**	**-0.5**
	baz=356				

	baz=352						
TPUB	Ta-pu	1.44 259	P	Pb	10 37 51.3	0.0	
	baz=258						
TPUB			eS	Sb	10 38 09.2	0.0	
	baz=258						
WTP	Ta-pu	1.47 257	P	Pb	10 37 52.0	+0.3	
	baz=255						
WTP			S	Sb	10 38 09.8	-0.2	
	baz=255						
TCU	Taichung	1.48 293	eP	Pn	10 37 51.1	+0.8	
	baz=290						
TWQ1	Liyutan	1.49 301	P	Pb	10 37 51.9	-0.2	
	baz=299						
TWQ1			S	Sb	10 38 10.6	0.0	
	baz=299						
TWA	Mucha	1.50 339	P	Pn	10 37 51.2	+0.7	
	baz=338						
TWA			S	Sn	10 38 09.6	+0.3	
	baz=338						
NSTT	Nanjuang	1.50 315	P	Pb	10 37 52.1	-0.1	
	baz=298						
NSTT			S	Sn	10 38 09.7	+0.4	
	baz=298						
LIOB	Emei	1.50 315	P	Pb	10 37 52.0	-0.2	
	baz=298						
LIOB			eS	Sn	10 38 09.2	-0.1	
	baz=298						
NHDH	Xindian Distri	1.50 337	eP	Pn	10 37 50.8	+0.3	
	baz=323						
NHDH			eS	Sn	10 38 09.6	+0.3	
	baz=323						
WDLH	Douliu	1.50 275	eP	Pb	10 37 52.4	+0.1	
	baz=272						
WDLH			eS	Sb	10 38 11.0	0.0	
	baz=272						
SLGT	Liugui	1.52 248	eP	Pb	10 37 52.4	-0.2	
	baz=242						
SLGT			eS	Sb	10 38 11.6	+0.2	
	baz=242						
NWF	Wu-fen Shan	1.53 347	P	Pb	10 37 52.1	-0.7	
	baz=345						
NWF			S	Sn	10 38 10.3	+0.2	
	baz=345						
NSY	Sanyi	1.54 303	eP	Pb	10 37 52.2	-0.7	
	baz=301						
NSY			eS	Sb	10 38 11.0	-1.0	
	baz=301						
SGST	Jiashian	1.54 252	P	Pn	10 37 51.2	+0.1	
	baz=242						
SGST			S	Sb	10 38 11.9	-0.1	
	baz=242						
CHN1	Nanshi	1.56 256	P	Pb	10 37 53.2	-0.1	
	baz=254						
WCHH	Zhanghua	1.56 289	eP	Pb	10 37 52.9	-0.4	
	baz=286						
WCHH			eS	Sb	10 38 11.9	-0.7	
	baz=286						
HATJ	Hateruma jima	1.57 72	P	Pn	10 37 51.7	+0.3	
HATJ			eS	Sn	10 38 10.8	-0.2	
TWK	Hsinying	1.58 259	eP	Pb	10 37 53.6	0.0	
	baz=257						
SNST	Tainan City	1.58 257	eP	Pb	10 37 53.1	-0.5	
	baz=255						
NMLH	Miaoli	1.58 307	eP	Pb	10 37 52.7	-1.0	
	baz=305						
NMLH			eS	Sb	10 38 12.4	-0.9	
	baz=305						
WDJ	Dajia District	1.60 299	eP	Pb	10 37 53.5	-0.4	
	baz=296						
IRIF	Iriomote-Funau	1.61 62	P	Pn	10 37 52.6	+0.6	
SBCB	Hsinchu	1.62 318	eP	Pn	10 37 53.1	+0.9	
	baz=317						
SBCB			eS	Sn	10 38 12.9	+0.5	
	baz=317						
SSD	Sandimen	1.64 240	eP	Pb	10 37 54.6	0.0	
	baz=234						
TSMG	Majia	1.65 239	eP	Pb	10 37 54.4	-0.4	
	baz=233						
NCUH	Zhongli	1.65 327	eP	Pb	10 37 54.2	-0.7	
	baz=325						
NCUH			eS	Sb	10 38 14.0	-1.3	
	baz=325						
YM01	YM01	1.66 341	P	Pn	10 37 53.6	+1.0	
	baz=352						
YM01			S	Sn	10 38 13.8	+0.6	
	baz=352						
LYUB	Lan-yu	1.66 199	eP	Pn	10 37 51.4	-1.3	
	baz=199						
TWS1	Kuangyinshan	1.67 336	eS	Sn	10 38 13.8	+0.4	
	baz=334						
WRL	Guolierlin Hig	1.68 281	eP	Pb	10 37 54.7	-0.5	
	baz=279						
EAST	Anshuo	1.70 226	eP	Pn	10 37 53.4	+0.1	
	baz=232						
MASBT	Mashibuluo	1.71 236	eP	Pn	10 37 54.5	+1.1	
	baz=231						
MASBT			eS	Sn	10 38 14.7	+0.2	
	baz=231						
ICHU	Yijhu	1.75 263	eP	Pn	10 37 54.8	+0.9	
	baz=261						
JKRS	Kuro-shima	1.81 68	P	Pn	10 37 55.3	+0.6	
JKRS			eS	Sn	10 38 17.1	+0.3	
CHN8	Yiju	1.81 263	eP	Pn	10 37 55.6	+0.8	
	baz=261						
SSPT	Xinbi	1.83 234	eP	Pn	10 37 56.2	+1.2	
	baz=229						
SLIU	Shizi	1.85 223	eP	Pn	10 37 56.1	+0.8	
	baz=229						
SCZT	Fangliau	1.87 230	eP	Pn	10 37 57.2	+1.7	
	baz=224						
JIJ	Ishigaki jima	1.97 66	P	Pn	10 37 57.3	+0.4	
JIJ			eS	Sn	10 38 20.4	-0.4	
TWKBT	Hengchun	2.06 218	eP	Pn	10 37 59.5	+1.3	
	baz=224						
TWKBT			eS	Sn	10 38 23.1	+0.1	
	baz=224						
JISG	Ishigakijimahi	2.20 62	P	Pn	10 37 59.9	-0.2	
JISG			eS	Sn	10 38 26.3	-0.2	
WDGT	Dungji	2.33 263	eP	Pn	10 38 03.3	+1.5	
	baz=260						
PHUB	P'eng-hu	2.39 269	eP	Pn	10 38 04.0	+1.3	
	baz=266						
PNG	Penghu	2.40 270	eP	Pn	10 38 04.4	+1.6	
	baz=267						
JTJ	Tarama	2.54 65	P	Pn	10 38 06.1	+1.3	
JTJ			eS	Sn	10 38 35.9	+0.9	
JMJ2	Miyako jima3	3.11 67	P	Pn	10 38 13.3	+0.7	
JMJ2			eS	Sn	10 38 50.5	+1.6	
PTMZ	Houxiangcun	3.14 298	eP	Pn	10 38 13.7	+0.6	
	baz=295						
PTMZ			eS	Sn	10 38 49.4	-0.4	
	baz=295						
MATB	Ma-tsu	3.27 322	eP	Pn	10 38 15.3	+0.5	
	baz=331						

*IDC **04** 10:38:57.9±0.7, 43°.81N×142°.68E, h188km±3km, mb3.1/11, mb1 3.2/12, mb1mx3.0/50, mbtmp3.5/12, Error ellipse: s-maj=19.0km s-min=17.7km az=70.0*
*JMA **04** 10:38:57.4±0.2, 43°.79N×142°.70E, h195km±2km, M3.0*

ISC 04 10:38:57.7±0.7, 43°.72N±0°.05×142°.74E±0°.05, h193km±5km, n33, σ0°86/47, mb3.3/11, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKK2	Kamakawa 2	0.15	3	P	Pn	10 39 23.2	+0.1
JKK2				eS	Sn	10 39 42.7	-0.2
ASAJ	Asahikawa	0.41	346	P	Pn	10 39 23.6	0.0
	43nm,0.3s,baz=190,slow=3.7,SNR=199						
ASAJ				S	Sn	10 39 43.5	-0.4
	2.7nm,0.3s,baz=34,slow=28,SNR=10						
ASAJ	Asahikawa	0.41	346	P	Pn	10 39 23.5	0.0
ASAJ				eS	Sn	10 39 43.0	-0.8
JAB	Ashibetsu	0.43	240	P	Pn	10 39 24.2	+0.5
JAB				eS	Sn	10 39 44.4	+0.7
JMP	Maruseppu	0.53	58	P	Pn	10 39 24.1	0.0
JMP				eS	Sn	10 39 44.2	-0.4
JFR	Furan	0.57	191	P	Pn	10 39 24.8	+0.5
JFR				eS	Sn	10 39 45.3	+0.5
JHR	Hokuryu	0.73	272	P	Pn	10 39 25.2	+0.2
JAR	Ashorobuto	0.86	119	P	Pn	10 39 26.4	+0.6
JAR				eS	Sn	10 39 48.0	+0.5
JTKR	Abashiri--Toko	0.88	73	P	Pn	10 39 26.3	+0.4
JTKR				eS	Sn	10 39 47.6	-0.1
JYG	Yagishiri	1.18	307	P	Pn	10 39 27.3	-0.6
JCH	Churui	1.20	157	P	Pn	10 39 27.8	-0.4
JCH				eS	Sn	10 39 50.3	-1.5
JSE	Soyaes	1.24	355	P	Pn	10 39 27.9	-0.5
JEW	Eniwo	1.29	227	P	Pn	10 39 29.6	+0.7
JNBK	Urakawa-nobuka	1.44	179	P	Pn	10 39 30.5	+0.3
JNBK				eS	Sn	10 39 55.7	+0.3
JAK	Akkeshi	1.60	116	P	Pn	10 39 31.3	-0.4
JAK				eS	Sn	10 39 56.6	-1.4
JWK2	Keihoku	1.70	340	P	Pn	10 39 32.1	-0.5
JRA	Rausu	1.74	82	P	Pn	10 39 33.6	+0.6
JRBN	Rebuntou	2.08	326	P	Pn	10 39 35.1	-1.3
NEM2	Nemuro 2	2.22	98	P	Pn	10 39 38.0	+0.1
NEM2				eS	Sn	10 40 06.4	-2.8
JKB	Kayabe	2.22	215	P	Pn	10 39 38.0	0.0
JKB				eS	Sn	10 40 07.8	-1.5
JOT	Ohata	2.65	209	P	Pn	10 39 42.6	-0.2
JOT				eS	Sn	10 40 15.9	-2.1
KLR	Kul'dur	9.37	310	P	Pn	10 41 07.5	-1.1
	0.1nm,0.3s,baz=119,slow=14,SNR=2.1						
SONM	Songino Array	25.52	292	P	P	10 44 08.5	+0.1
	0.3nm,0.5s,baz=81,slow=8.9,SNR=1.9						
ZALV	Zalesovo Beam	38.45	306	P	P	10 46 00.5	+0.1
	0.5nm,0.4s,baz=112,slow=11,SNR=2.8						
MKAR	Makanchi Array	41.74	296	P	P	10 46 27.7	0.0
	0.3nm,0.5s,baz=82,slow=10,SNR=2.8						
KURBB	Kurchatov Arra	42.95	303	P	P	10 46 37.4	+0.1
	0.7nm,0.5s,baz=72,slow=8.8,SNR=4.4						
ILAR	Eielson Array	43.40	36	P	P	10 46 40.7	0.0
	0.3nm,0.8s,baz=262,slow=4.5,SNR=1.8						
BVAR	Borovoye Array	47.02	308	P	P	10 47 09.5	+0.1
	0.5nm,0.4s,baz=57,slow=9.0,SNR=4.3						
INK	Inuvik	48.03	30	P	P	10 47 16.8	0.0
	0.4nm,0.4s,baz=290,slow=5.7,SNR=4.8						
YKA	Yellowknife Ar	57.57	32	P	P	10 48 27.5	+0.8
	0.2nm,0.6s,baz=306,slow=6.9,SNR=3.7						
FINES	FINESS Array B	63.40	331	P	P	10 49 05.4	-0.7
	2.0nm,0.9s,baz=57,slow=7.0,SNR=4.8						
WRA	Warramunga Arr	63.82	189	P	P	10 49 09.9	+0.6
	0.2nm,0.5s,baz=7.2,slow=6.8,SNR=5.1						
ASAR	Alice Springs	67.54	189	P	P	10 49 34.8	+1.7
	0.4nm,0.7s,baz=357,slow=5.3,SNR=4.6						

TEH 04 10:40:11.0, 34°.78N×50°.46E, h9km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	Ashtian	0.42	237	ePg	Pg	10 40 19.9	+0.5
IQOM	Qom	0.51	83	ePg	Pb	10 40 22.5	+0.2
IQOM				eSg	Sb	10 40 30.1	+0.2
IQOM				e		10 40 32.9	
	comp=Z,848nm,0.3s						
GHVR	GHOM	0.75	113	ePg	Pb	10 40 26.4	+0.1
IRAZ	Razeghan	0.76	325	ePg	Pb	10 40 27.2	+0.6
IMHD	Mahdasht	0.92	11	ePg	Pn	10 40 30.2	-0.1
IMHD				e		10 40 30.7	
	comp=Z,17μm,0.3s						
IHSB	Hasanabad	0.94	45	ePg	Pn	10 40 30.8	+0.3
IHSB				e		10 40 45.0	
	comp=Z,12μm,0.2s						
IVRN	Varamin	1.07	78	ePg	Pn	10 40 32.6	+0.4
IVRN				e		10 40 48.3	
	comp=Z,9μm,0.4s						
HAGD	Aghdareh	1.08	273	ePg	Pn	10 40 32.4	-0.3
KHMZ	Khomeyn	1.11	202	ePg	Pg	10 40 31.9	-0.5
QABG	Abgarm-Qazvin	1.17	323	ePg	Pg	10 40 33.3	-0.2
THKV	Tehran--Karaj	1.19	17	ePg	Pg	10 40 33.6	-0.2
TEH	Tehran	1.22	38	ePg	Pg	10 40 35.5	+1.1
TEH				eSg	Sn	10 40 53.4	+2.2
TEH				e		10 40 55.2	
	comp=Z,15μm,0.4s						
TEHA	Amirabad Tehra	1.23	38	ePg	Pg	10 40 35.6	+1.0
TEHA				eSg	Sn	10 40 53.0	+1.6
TEHA				e		10 40 59.2	
	comp=Z,9μm,0.5s						
CHTH	Charan	1.25	26	ePg	Pg	10 40 35.9	+0.8
QAMS	Qamsar	1.30	143	ePn	Pg	10 40 35.9	0.0
QAMS				e		10 40 53.8	
	comp=Z,22μm,0.3s						
DAMV	Damavand	1.50	55	ePg	Pg	10 40 39.9	0.0
IDMV	Damavand	1.52	58	ePg	Pg	10 40 40.1	0.0
IDMV				e		10 41 05.2	
	comp=Z,6μm,0.4s						
ISFB	Sefidab	1.53	106	ePn	Pg	10 40 40.7	+0.3
KRSH	Karshahi	1.61	120	ePn	Pb	10 40 41.2	+0.2
KRSH				e		10 41 09.5	
	comp=Z,11μm,0.3s						
IGZV	Ghazvin	1.62	353	ePn	Pg	10 40 42.1	+0.1
IGZV				e		10 40 43.7	
	comp=Z,8μm,0.3s						
QALM	Alamut, Qazvin	1.66	5	ePg	Pg	10 40 43.0	+0.2
IKLH	Kolahrood	1.73	147	ePn	Pb	10 40 43.4	+0.3
BMDN	Meydan	1.75	231	ePn	Pg	10 40 44.0	-0.5
BMDN				e		10 41 15.9	
	comp=Z,3μm,0.6s						
IALM	Almabolaq	1.89	273	ePn	Pg	10 40 46.8	-0.4
JIR1	Jirandeh	2.00	345	ePn	Pb	10 40 48.1	+0.5
IFIR	Firoozkooh	2.07	65	ePn	Pb	10 40 48.8	-0.1
IFIR				e		10 41 19.3	
	comp=Z,4μm,0.4s						
IPRN	Peran	2.12	46	ePn	Pb	10 40 50.4	+0.7
IPRN				e		10 41 23.4	
	comp=Z,6μm,0.5s						
IPIR	Pirpir	2.12	170	ePn	Pb	10 40 50.1	+0.3
IPIR				e		10 41 24.8	
	comp=Z,5μm,0.6s						
IDOB	Doab	2.13	243	ePn	Pb	10 40 50.5	+0.6
ILAS	Lasjerd	2.14	73	ePn	Pb	10 40 50.1	0.0
ILAS				e		10 41 22.6	
	comp=Z,3μm,0.3s						
IBZA	Bozab	2.16	263	ePn	Pb	10 40 50.4	-0.1
ZNJK	Zanjan	2.38	323	ePn	Pg	10 40 55.4	-1.2
IZEF	Zefreh	2.44	140	ePn	Pb	10 40 54.8	-0.4
IZEF				e		10 41 35.0	
	comp=Z,2μm,0.5s						
SHK1	Shahrekord	2.47	172	ePn	Pb	10 40 55.2	-0.5
SHK1				e		10 41 36.1	
	comp=Z,2μm,0.5s						
IKFM	Kafar-mosalman	2.50	241	ePn	Pb	10 40 56.3	+0.2
IKFM				e		10 41 42.9	
	comp=Z,3μm,0.7s						
ISHM	Shahmirzad	2.54	65	ePn	Pb	10 40 55.6	-1.3
ISHM				e		10 41 35.3	
	comp=Z,3μm,0.4s						
SNGE	Sanandaj	2.57	278	ePn	Pb	10 40 56.1	-1.4
IGAR	Gharneh	2.71	150	ePn	Pb	10 40 59.4	-0.5
IGAR				e		10 41 41.6	
	comp=Z,1μm,0.5s						
NASN	Na'in	2.78	135	ePn	Pb	10 40 59.5	-1.6
KCHF	Cheshme Sefid,	2.87	261	ePn	Pb	10 41 00.8	-1.6
KCHF				e		10 41 50.6	
	comp=Z,1μm,0.5s						
IANJ	Anjilo	2.92	75	ePn	Pn	10 41 00.4	+2.6
IANJ				e		10 41 57.0	
	comp=Z,1μm,0.7s						
IBRJ	Brojen	2.94	167	ePn	Pb	10 41 01.5	-2.3
ANAR	Anarak	3.15	119	ePn	Pn	10 41 03.8	+2.9
AMIS	Naft Sefid	3.26	198	ePn	Pb	10 41 06.3	-2.7
IDHR	Dehrash	3.35	270	ePn	Pb	10 41 08.1	-2.7
IRAM	Ramesheh	3.37	151	ePn	Pn	10 41 07.4	+3.3
IRAM				e		10 42 04.8	
	comp=Z,877nm,0.8s						
YZKH	Yazd	4.19	123	ePn	Pn	10 41 18.2	+2.9
BSRN	Basiran	7.77	109	ePn	Pn	10 42 07.6	+3.1

IDC 04 10:40:51.7±1.7, 4°.25S×130°.08E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.3/40, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=62.2km s-min=24.5km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.56	19	Pn	Pn	10 41 48.4	+0.1
	1.2nm,0.3s,baz=236,slow=22,SNR=2.1						
SIJI				Sn	Sn	10 42 32.3	+1.2
	1.1nm,0.3s,baz=227,slow=23,SNR=1.9						
WRA	Warramunga Arr	16.14	165	Pn	Pn	10 44 38.1	-2.1
	0.0nm,0.3s,baz=348,slow=13,SNR=2.3						
ASAR	Alice Springs	19.66	170	P	Pn	10 45 23.2	-0.4
	0.3nm,0.3s,baz=352,slow=12,SNR=21						
MKAR	Makanchi Array	65.99	326	P	P	10 51 40.0	-0.1
	0.3nm,0.5s,baz=113,slow=7.7,SNR=1.8						

*NNC **04** 10:48:53.7±2.0, 44°.31N×82°.90E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=17.6km s-min=6.3km az=123.0*
*SOME **04** 10:48:54.9, 44°.30N×82°.82E, h10km*

ISC 04 10:48:54.5±1.7, 44°.32N±0°.07×82°.86E±0°.07, h17km, n19, σ1°90/29, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	2.21	271	eP	Pg	10 49 36.2	-0.7
	5.7nm,0.4s						
DJR				eS	Sg	10 50 06.5	+1.0
	5.7nm,0.3s						
DJR	Jarkent	2.21	271	Pg	Pg	10 49 36.2	-0.7
	5.7nm,0.4s						
DJR				Lg	Lg	10 50 06.6	
	5.7nm,0.3s						
MK31	Makanchi Array	2.51	351	⇑Pg	Pb	10 49 39.4	+0.3
	0.9nm,0.5s,baz=171,slow=17,SNR=9.5						
MK31				⇑Lg	Lg	10 50 11.6	
	0.7nm,0.2s,baz=166,slow=27,SNR=13						
MAKZ	Makanchi	2.57	346	⇓Pg	Pb	10 49 41.6	+1.5
	3.0nm,0.6s						
MAKZ				⇓Lg	Lg	10 50 13.4	
	3.0nm,0.9s						
PDGK	Podgornoye	2.63	249	Pg	Pb	10 49 42.9	+1.6
	1.0nm,0.2s						
PDGK				Lg	Lg	10 50 17.8	
	4.0nm,0.6s						
PDGK	Podgornoye	2.63	249	⇑Pg	Pb	10 49 41.6	+0.2
	0.5nm,0.2s						
PDGK				⇑Lg	Lg	10 50 18.4	
	2.2nm,0.3s						
KNOS	Konyrlen	2.64	272	eP	Pg	10 49 43.9	-1.4
	2.5nm,0.1s						
KNOS				eS	Sg	10 50 19.3	-0.2
	7.8nm,0.2s						
KAPS	Kapalarasan	2.68	292	eP	Pg	10 49 44.5	-1.3
	1.0nm,0.1s						
KAPS				eS	Sg	10 50 20.5	0.0
	4.7nm,0.2s						
KAPS	Kapalarasan	2.68	292	Pg	Pg	10 49 44.5	-1.3
	1.0nm,0.1s						
KAPS				Lg	Lg	10 50 20.5	
	3.3nm,0.4s						
UZB	Uzynbulak	3.02	249	eP	Pb	10 49 49.4	+1.5
	3.4nm,0.2s						
UZB				eS	Sg	10 50 28.9	-2.7
	3.3nm,0.2s						
UZB	Uzynbulak	3.02	249	Pg	Pb	10 49 49.4	+1.5
	3.4nm,0.2s						
UZB				Lg	Lg	10 50 28.9	
	3.3nm,0.2s						
KPKS	Kokpek	3.14	256	eP	Pb	10 49 51.2	+1.3
	2.1nm,0.3s						
KPKS				eS	Sg	10 50 32.2	-3.1
TDK	Taldyqorghan	3.25	284	eP	Pg	10 49 54.9	-2.0
	16nm,0.2s						
TDK				eS	Sg	10 50 37.9	-1.1
	17nm,0.3s						
ZHN	Zhinishke	3.41	252	eP	Pg	10 49 57.9	-2.0
	14nm,0.1s						
ZHN				eS	Sg	10 50 43.1	-0.9
	20nm,0.2s						
ZSN	Zaisan	3.43	23	eP	Pb	10 49 57.3	+2.5
	1.8nm,0.2s						
ZSN				eS	Sg	10 50 42.1	-2.6
	2.4nm,0.4s						
SATY	Saty	3.47	250	eP	Pb	10 49 56.9	+1.4
	1.2nm,0.1s						
SATY				eS	Sb	10 50 41.6	+4.1
	5.4nm,0.3s						
SATY	Saty	3.47	250	Pg	Pb	10 49 56.9	+1.4
	1.2nm,0.1s						
SATY				Lg	Lg	10 50 41.6	
	5.4nm,0.3s						
ARXS	Arharly	3.62	270	eP	Pg	10 50 01.2	-2.6
	1.1nm,0.5s						
ARXS				eS	Sg	10 50 49.4	-1.3
	4.5nm,0.3s						
ARXS	Arharly	3.62	270	Pg	Pg	10 50 01.2	-2.6
	1.1nm,0.5s						
ARXS				Lg	Lg	10 50 49.4	
	4.5nm,0.3s						

*EAF **04** 10:53:13.8±2.9, 25°.91S×29°.24E, h0km±413km, MD3.7*

BUL 04 10:53:13.8±2.9, 25°.91S×29°.24E, h0km±413km, MD3.9, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	3.41	284	i P	Pn	10 54 08.6	+0.3
LBTB				i Sg	Sb	10 55 00.2	+3.0
LBTB	Lobatse	3.41	284	i P	Pn	10 54 08.6	+0.3
LBTB				i Sg	Sb	10 55 00.2	+3.0
BOSA	Boshof	4.45	232	i P	Pn	10 54 23.6	+0.9
BOSA				i Sg	Sb	10 55 29.9	+2.8
BOSA	Boshof	4.45	232	i P	Pn	10 54 23.6	+0.9
BOSA				i Sg	Sb	10 55 29.9	+2.8
MATP	Matopo	5.50	353	i S	Sn	10 55 35.0	-6.3
MATP	Matopo	5.50	353	i S	Sn	10 55 35.0	-6.3

*IDC **04** 11:08:41.7±5.8, 5°.67S×151°.51E, h68km±47km, mb3.6/5, mb1 3.9/6, mb1mx3.3/43, mbtmp4.0/6, ML2.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/48, Error ellipse: s-maj=75.3km s-min=31.5km az=126.0*
*NEIC **04** 11:08:41.7±1.4, 5°.8S±0°.1×151°.9E±0°.2, h70km±15km, mb4.0/10, Error ellipse: s-maj=23.8km s-min=13.9km az=117.0*

ISC 04 11:08:39.1±1.0, 5°.9S±0°.1×151°.9E±0°.1, h50km, n22, σ1°38/22, mb3.9/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.71	8	Pn	Pn	11 09 07.9	+1.3
PMG	Port Moresby	5.88	233	P	Pn	11 10 04.7	+1.0
	12nm,0.3s,baz=76,slow=5.6,SNR=25						
PMG				S	Sn	11 11 07.9	-1.9
	19nm,0.3s,baz=172,slow=19,SNR=7.9						
PMG	Port Moresby	5.88	233		Pn	11 10 06.0	+2.4
MANU	Manus Island	5.96	310	Pn	Pn	11 10 06.7	+1.8
MTN	Manton Dam	21.64	250	P	P	11 13 24.2	-1.2
WB0	Warramunga Arr	21.93	229	P	P	11 13 29.5	+1.0
WB0				IAmb	IAmb	11 13 31.5	
	comp=Z,3.8nm,1.0s						
WR0	Warramunga Arr	21.94	229	P	P	11 13 30.1	+1.5
WR0				IAmb	IAmb	11 13 46.0	
	comp=Z,8.4nm,1.3s						
WRAB	Tennant Creek	22.06	229	P	P	11 13 30.4	+0.4
WRAB				IAmb	IAmb	11 13 32.2	
	comp=Z,3.7nm,0.7s						
WB2	Warramunga Arr	22.07	229	P	P	11 13 31.2	+1.2
WB2				IAmb	IAmb	11 13 32.4	
	comp=Z,3.3nm,0.7s						
WRA	Warramunga Arr	22.08	229	P	P	11 13 28.9	-1.2
	comp=Z,3.6nm,0.8s,baz=53,slow=10.0,SNR=27						
WRA	Warramunga Arr	22.08	229	P	P	11 13 30.2	+0.1
KNRA	Kununurra	24.72	245	P	P	11 13 53.9	-2.1
KNRA				IAmb	IAmb	11 13 59.6	
	comp=Z,14nm,0.9s						
AS31	Alice Springs	24.76	223	P	P	11 13 57.0	+0.7
ASAR	Alice Springs	24.76	223	P	P	11 13 56.9	+0.5
	comp=Z,3.0nm,0.8s,baz=60,slow=8.7,SNR=33						
ASAR	Alice Springs	24.76	223	P	P	11 13 57.0	+0.6
SOEI	Soe	27.67	260	P	P	11 14 23.7	+0.9
FITZ	Fitzroy Crossi	28.39	242	P	P	11 14 27.4	-1.5
	comp=Z,2.1nm,0.3s,baz=61,slow=10,SNR=8.9						
LEM	Lembang	44.05	266	LR	LR	11 37 53.1	
	comp=Z,29nm,19.0s,baz=170,slow=40						
MKAR	Makanchi Array	80.59	319	P	P	11 20 44.6	-1.9
	comp=Z,0.4nm,0.9s,baz=111,slow=8.2,SNR=2.0						
ILAR	Eielson Array	83.50	22	P	P	11 21 01.0	-0.3
	comp=Z,0.6nm,1.0

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.60**	**226**	P	P	11 10 11.2	-0.3
	3.5nm,0.3s,baz=257,slow=22,SNR=18						
AFI	**Afiamalu**	**7.35**	**81**	P	P	11 10 48.4	+0.2
	3.3nm,0.3s,baz=116,slow=2.6,SNR=5.8						
DZM	**Mont Dzumac**	**15.17**	**241**	P	P	11 12 13.7	+1.0
	0.7nm,0.3s,baz=64,slow=17,SNR=10						
STKA	**Stephens Creek**	**39.29**	**238**	P	P	11 15 48.5	+0.3
	1.9nm,0.7s,baz=90,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**44.39**	**257**	P	P	11 16 28.1	-0.8
	0.4nm,0.4s,baz=94,slow=8.1,SNR=6.6						
ASAR	**Alice Springs**	**44.80**	**252**	P	P	11 16 32.0	-0.1
	4.0nm,0.4s,baz=84,slow=8.5,SNR=90						

MAN 04 11:09:09.7, 13°.86N×120°.26E, h23km, mb3.9, ML2.7, MS2.3, Mindoro

*EAF **04** 11:43:15.1±1.6, 23°.38S×26°.94E, h3km±20km, MD4.0*
BUL 04 11:43:15.1±1.6, **23°.38S×26°.94E, h3**km±20km, **MD4.3, Botswana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.04**	**217**	*i* P	Pn	11 43 50.1	-0.4
LBTB				*i* Sg	Sb	11 44 18.2	-0.5
LBTB	**Lobatse**	**2.04**	**217**	*i* P	Pn	11 43 50.1	-0.4
LBTB				*i* Sg	Sb	11 44 18.2	-0.5
MATP	**Matopo**	**3.28**	**26**	*i* P	Pn	11 44 07.3	-0.2
MATP				*i* Sg	Sb	11 44 56.4	+2.0
MATP	**Matopo**	**3.28**	**26**	*i* P	Pn	11 44 07.3	-0.2
MATP				*i* Sg	Sb	11 44 56.4	+2.0
BOSA	**Boshof**	**5.43**	**196**	*i* P	Pn	11 44 37.8	+0.7
BOSA				*i* S	Sn	11 45 34.5	-5.7
BOSA	**Boshof**	**5.43**	**196**	*i* P	Pn	11 44 37.8	+0.7
BOSA				*i* S	Sn	11 45 34.5	-5.7

*MEX **04** 11:44:14.8±0.5, 27°.79N×112°.02W, h69km±7km, MD3.5*
ECX 04 11:44:14.7±0.3, **27°.92N×111°.94W, h5**km±999km, **MD2.5, ML2.5, 2C-1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.66**	**204**	*i* P	Pg	11 44 26.1	-1.2
SRIG				*i* S	Sg	11 44 35.4	-0.4
SRIG	**Santa Rosalia**	**0.66**	**204**	⇓*i* P	Pg	11 44 26.1	-1.2
SRIG				*i* S	Sg	11 44 35.3	-0.5
SRIG				⇑*e*		11 44 36.3	
SRIG				IAML		11 44 36.3	
	comp=E,231nm,0.2s						
SRIG				IAML		11 44 36.4	
	comp=N,233nm,0.3s						
SRIG				⇑*e*		11 44 36.4	
GUYB	**Guaymas**	**0.94**	**91**	*i* P	Pg	11 44 32.1	-0.7
GUYB				*i* S	Sg	11 44 45.6	+0.5
GUYB	**Guaymas**	**0.94**	**91**	*e* P	Pg	11 44 30.9	-1.9
GUYB				*e* S	Sg	11 44 44.0	-1.2
HSIG		**1.40**	**38**	*i* P	Pn	11 44 39.2	-1.7
HSIG				*i* S	Sb	11 44 57.7	-1.8
HSIG		**1.40**	**38**	*e* P	Pn	11 44 39.0	-1.9
HSIG				*e* S	Sb	11 44 57.6	-1.9

*WEL **04** 12:10:18.0, 41°S±6°×17°5E±°, h60km±14km, M2.4/12, ML2.8/22, MLv2.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=94.2*
*NOU **04** 12:10:18.5, 40°.65S×174°.39E, h29km, MLv3.6/6, Cook Strait, New Zealand*
ISC 04 12:10:17.7±1.6, **40°.69S**±0°.04×**174°.53E**±0°.04, **h80**km, **n37, σ1°23/37, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.34**	**121**	P	**Pn**	**12 10 29.1**	**-1.2**
DUWZ	**D'Urville Isla**	**0.47**	**256**	P	**Pn**	**12 10 30.4**	**-0.9**
OGWZ	**Otaki Gorge**	**0.51**	**105**	P	**Pn**	**12 10 30.4**	**-1.2**
TCW	**Tory Channel**	**0.55**	**200**	P	**Pn**	**12 10 32.2**	**+0.2**
CAW	**Cannon Point**	**0.58**	**136**	P	**Pn**	**12 10 31.7**	**-0.5**
WEL	**Wellington**	**0.62**	**163**	P	**Pn**	**12 10 32.4**	**-0.2**
SNZO	**South Karori**	**0.64**	**168**	P	**Pn**	**12 10 32.6**	**-0.1**
HOWZ	**Holdsworth Sta**	**0.78**	**106**	P	**Pn**	**12 10 33.0**	**-1.2**
MRZ	**Mangatainoka R**	**0.80**	**88**	P	**Pn**	**12 10 32.9**	**-1.6**
TUWZ	**Tuamarina**	**0.86**	**211**	P	**Pn**	**12 10 35.6**	**+0.5**
MTW	**Mount Morrison**	**0.88**	**123**	P	**Pn**	**12 10 34.4**	**-0.9**
MSWZ	**Moikau Station**	**0.91**	**143**	P	**Pn**	**12 10 35.4**	**-0.4**
PAWZ	**Paruwai Farm**	**0.97**	**136**	P	**Pn**	**12 10 36.0**	**-0.5**
WAZ	**Wanganui**	**1.00**	**21**	P	**Pn**	**12 10 35.6**	**-1.2**
NNZ	**Nelson**	**1.02**	**238**	P	**Pn**	**12 10 36.9**	**0.0**
PLWZ	**Palliser**	**1.04**	**148**	P	**Pn**	**12 10 36.9**	**-0.4**
TIWZ	**Tintock**	**1.04**	**95**	P	**Pn**	**12 10 35.8**	**-1.4**
PRWZ	**Pori Road**	**1.11**	**83**	P	Pn	12 10 43.5	+5.4
TMWZ	**Te Maipa**	**1.11**	**112**	P	**Pn**	**12 10 37.2**	**-1.0**
TMWZ				P	**Pn**	**12 10 37.6**	**-0.6**
TSZ	**Takapari Road**	**1.27**	**61**	P	**Pn**	**12 10 43.1**	**+3.0**
BFZ	**Birch Farm**	**1.31**	**90**	P	**Pn**	**12 10 38.8**	**-1.7**
PREZ	**Palmer Road**	**1.38**	**348**	P	**Pn**	**12 10 41.3**	**-0.2**
KHEZ	**Kahui Hut**	**1.45**	**344**	P	**Pn**	**12 10 42.3**	**-0.2**
QRZ	**Quartz Range**	**1.52**	**264**	P	**Pn**	**12 10 42.8**	**-0.5**
QRZ	**Quartz Range**	**1.52**	**264**	P	**Pn**	**12 10 42.8**	**-0.5**
PKE	**Pukeiti**	**1.55**	**344**	P	**Pn**	**12 10 42.8**	**-0.9**
VRZ	**Vera Road**	**1.57**	**7**	P	**Pn**	**12 10 42.8**	**-1.2**
THZ	**Tophouse**	**1.63**	**228**	P	**Pn**	**12 10 45.4**	**+0.7**
OTVZ	**Oturere**	**1.76**	**30**	P	**Pn**	**12 10 45.1**	**-1.5**
KHZ	**Kahutara**	**1.88**	**203**	P	**Pn**	**12 10 48.4**	**+0.4**
KHZ	**Kahutara**	**1.88**	**203**	P	**Pn**	**12 10 48.3**	**+0.4**
BKZ	**Black Stump Fm**	**2.15**	**45**	P	**Pn**	**12 10 54.8**	**+3.2**
BKZ	**Black Stump Fm**	**2.15**	**45**	P	**Pn**	**12 10 53.8**	**+2.2**
HIZ	**Hauiti**	**2.19**	**7**	P	**Pn**	**12 10 51.0**	**-1.1**
HIZ	**Hauiti**	**2.19**	**7**	P	**Pn**	**12 10 52.0**	**-0.2**
URZ	**Urewera**	**3.15**	**40**	P	**Pn**	**12 11 06.3**	**+1.3**
URZ	**Urewera**	**3.15**	**40**	P	**Pn**	**12 11 06.2**	**+1.2**

*UCR **04** 12:14:25.7±1.0, 12°.71N×88°.35W, h48km±18km, ML3.6*
*SNET **04** 12:14:25.6±1.0, 12°.70N×88°.35W, h46km±20km, ML3.6*
ISC 04 12:14:23.9±3.4, **12°.6N**±0°.1×**88°.34W**±0°.04, **h31**km±17km, **n40, σ0°40/64, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.77**	**343**	*i* P	**Pn**	**12 14 39.1**	**+0.4**
ALJI				*e* S	**Sb**	**12 14 48.8**	**-0.1**
ALJI				IAML		12 14 49.2	
	comp=Z,2μm,0.1s						
ALJI	**Alcalda de J**	**0.77**	**343**	*i* P	**Pn**	**12 14 39.1**	**+0.4**
ALJI				*e* S	**Sb**	**12 14 48.8**	**-0.1**
ALJI				IAML		12 14 49.2	
	comp=Z,2μm,0.1s						
VSM	**San Miguel**	**0.83**	**4**	*e* P	**Pn**	**12 14 40.5**	**+0.6**
VSM	**San Miguel**	**0.83**	**4**	*e* P	**Pn**	**12 14 40.5**	**+0.6**
LCND	**La Caada**	**0.84**	**31**	*e* P	**Pn**	**12 14 39.7**	**0.0**
LCND				IAML		12 14 41.0	
	comp=Z,2μm,0.4s						
LCND				*e* S	**Sn**	**12 14 50.6**	**-0.4**
LCND	**La Caada**	**0.84**	**31**	*e* P	**Pn**	**12 14 39.7**	**0.0**
LCND				IAML		12 14 41.0	
	comp=Z,2μm,0.4s						
LCND				*e* S	**Sn**	**12 14 50.6**	**-0.4**
LCND				*e* S		12 14 50.9	
CNCH	**Conchagua**	**0.84**	**36**	*e* P	**Pn**	**12 14 40.0**	**+0.1**
CNCH				*e* S	**Sn**	**12 14 51.2**	**0.0**
CNCH	**Conchagua**	**0.84**	**36**	*e* P	**Pn**	**12 14 40.0**	**+0.1**
CNCH				*e* S	**Sn**	**12 14 51.2**	**0.0**
PACA	**Pacayal**	**0.87**	**1**	*e* P	**Pn**	**12 14 40.8**	**+0.5**
PACA				*e* S	**Sn**	**12 14 51.9**	**-0.1**
PACA	**Pacayal**	**0.87**	**1**	*e* P	**Pn**	**12 14 40.8**	**+0.5**
PACA				*e* S	**Sn**	**12 14 51.9**	**-0.1**
CNRM	**Centro Naciona**	**0.89**	**11**	*e* P	**Pn**	**12 14 40.6**	**+0.1**
CNRM				*e* S	**Sn**	**12 14 52.5**	**+0.1**
CNRM	**Centro Naciona**	**0.89**	**11**	*e* P	**Pn**	**12 14 40.6**	**+0.1**
CNRM				*e* S	**Sn**	**12 14 52.5**	**+0.1**
COEB	**Comit de Eme**	**0.92**	**348**	*e* P	**Pn**	**12 14 41.1**	**+0.2**
COEB				*e* S	**Sn**	**12 14 52.8**	**-0.4**
COEB	**Comit de Eme**	**0.92**	**348**	*e* P	**Pn**	**12 14 41.1**	**+0.2**
COEB				*e* S	**Sn**	**12 14 52.8**	**-0.4**
TECO	**Alcaldia de Te**	**1.03**	**335**	*e* P	**Pn**	**12 14 42.5**	**+0.1**
TECO				*e* S	**Sn**	**12 14 54.7**	**-1.2**
TECO	**Alcaldia de Te**	**1.03**	**335**	*e* P	**Pn**	**12 14 42.5**	**+0.1**
TECO				*e* S	**Sn**	**12 14 54.7**	**-1.2**
PQSS	**Presa 15 de Se**	**1.05**	**348**	*e* P	**Pn**	**12 14 42.8**	**+0.2**
PQSS				*e* S	**Sn**	**12 14 55.8**	**-0.4**
PQSS	**Presa 15 de Se**	**1.05**	**348**	*e* P	**Pn**	**12 14 42.8**	**+0.2**
PQSS				*e* S	**Sn**	**12 14 55.8**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.17**	**341**	*e* P	**Pn**	**12 14 44.6**	**+0.4**
SCLA				*e* S	**Sn**	**12 14 59.4**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.17**	**341**	*e* P	**Pn**	**12 14 44.6**	**+0.4**
SCLA				*e* S	**Sn**	**12 14 59.4**	**+0.2**
LFRS	**El Faro**	**1.25**	**326**	*e* P	**Pn**	**12 14 45.2**	**-0.2**
LFRS	**El Faro**	**1.25**	**326**	*e* P	**Pn**	**12 14 45.2**	**-0.2**
PAVA	**Las Pavas**	**1.26**	**332**	*e* P	**Pn**	**12 14 46.1**	**+0.6**
PAVA				*e* S	**Sn**	**12 15 01.5**	**0.0**
PAVA				IAML		12 15 03.7	
	comp=Z,1μm,0.4s						
PAVA	**Las Pavas**	**1.26**	**332**	*e* P	**Pn**	**12 14 46.1**	**+0.6**
PAVA				*e* S	**Sn**	**12 15 01.5**	**0.0**
PAVA				IAML		12 15 03.7	
	comp=Z,1μm,0.4s						
LALI	**Alcalda de L**	**1.31**	**313**	*e* S	**Sn**	**12 15 02.5**	**0.0**
LALI	**Alcalda de L**	**1.31**	**313**	*e* S	**Sn**	**12 15 02.5**	**0.0**
BOQS	**Boqueron**	**1.46**	**321**	*e* P	**Pn**	**12 14 49.1**	**+0.7**
BOQS				*e* S	**Sn**	**12 15 07.0**	**+0.3**
BOQS	**Boqueron**	**1.46**	**321**	*e* P	**Pn**	**12 14 49.1**	**+0.7**
BOQS				*e* S	**Sn**	**12 15 07.0**	**+0.3**
JAYA	**Jayaque - finc**	**1.51**	**314**	*e* P	**Pn**	**12 14 49.0**	**-0.1**
JAYA				*e* S	**Sn**	**12 15 07.3**	**-0.5**
JAYA	**Jayaque - finc**	**1.51**	**314**	*e* P	**Pn**	**12 14 49.0**	**-0.1**
JAYA				*e* S	**Sn**	**12 15 07.3**	**-0.5**
TACO	**Tacachico**	**1.69**	**324**	*e* P	**Pn**	**12 14 52.1**	**+0.7**
TACO	**Tacachico**	**1.69**	**324**	*e* P	**Pn**	**12 14 52.1**	**+0.7**
CEVE	**Cerro Verde**	**1.75**	**315**	IAML		12 15 21.9	
	comp=Z,510nm,0.4s						
CEVE	**Cerro Verde**	**1.75**	**315**	IAML		12 15 21.9	
	comp=Z,510nm,0.4s						
TGUH	**Tegucigalpa,Un**	**1.79**	**35**	*i* P	**Pn**	**12 14 53.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.79**	**35**	*i* P	**Pn**	**12 14 53.0**	**+0.1**
NUBE	**Las Nubes**	**1.92**	**313**	*e* P	**Pn**	**12 14 54.9**	**+0.2**
NUBE				*e* S	**Sn**	**12 15 17.6**	**-0.2**
NUBE	**Las Nubes**	**1.92**	**313**	*e* P	**Pn**	**12 14 54.9**	**+0.2**
NUBE				*e* S	**Sn**	**12 15 17.6**	**-0.2**
MTO3	**Montecristo**	**2.05**	**331**	*e* P	**Pn**	**12 14 56.7**	**+0.1**
MTO3	**Montecristo**	**2.05**	**331**	*e* P	**Pn**	**12 14 56.7**	**+0.1**

*NEIC **04** 12:15:23.6±1.5, 51°.8N±0°.2×177°.58W±0°.07, h94km±5km, mb4.1/49, ML3.5(AEIC), Error ellipse: s-maj=23.0km s-min=5.7km az=175.0*
*AEIC **04** 12:15:24±1.7, 51°.9N±0°.2×177°.59W±0°.08, h87km±5km, Error ellipse: s-maj=22.7km s-min=7.2km az=177.0*
*IDC **04** 12:15:24.8±2.5, 52°.19N×177°.77W, h107km±19km, mb3.4/11, mb1 3.7/13, mb1mx3.5/40, mbtmp3.9/13, MS3.4/1, Ms1 3.4/1, ms1mx2.3/53, Error ellipse: s-maj=29.3km s-min=14.6km az=171.0*
ISC 04 12:15:22.9±0.7, **51°.8N**±0°.1×**177°.67W**±0°.04, **h99**km±5km, **n107, σ1°02/111, mb4.0/20, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPA	**Tanaga Point A**	**0.09**	**262**		**Pn**	**12 15 36.7**	**0.0**
TAPA					**Sn**	**12 15 46.0**	**-1.2**
TAFL	**Tanaga Flats**	**0.16**	**243**		**Pn**	**12 15 37.0**	**+0.1**
TAFP	**Tanaga Falls P**	**0.21**	**290**		**Pn**	**12 15 37.0**	**0.0**
TAFP					**Sn**	**12 15 46.7**	**-0.9**
TASE	**Tanaga Southea**	**0.23**	**272**		**Pn**	**12 15 37.4**	**+0.3**
KIMD	**Kanaga Island**	**0.28**	**104**		**Pn**	**12 15 36.9**	**-0.4**
KICM	**Kanaga Island**	**0.31**	**73**		**Pn**	**12 15 37.4**	**0.0**
KICM					**Sn**	**12 15 47.0**	**-1.2**
KIKV	**Kanaga Island**	**0.31**	**80**		**Pn**	**12 15 37.2**	**-0.2**
KIWB	**Kanaga Island**	**0.32**	**85**		**Pn**	**12 15 37.2**	**-0.3**
GAEA	**Gareloi East**	**0.67**	**267**		**Pn**	**12 15 40.7**	**+0.8**
GALAA	**Gareloi Lava P**	**0.69**	**265**		**Pn**	**12 15 40.8**	**+0.7**
GANO	**Gareloi North**	**0.70**	**270**		**Pn**	**12 15 40.8**	**+0.5**
GANO					**Sn**	**12 15 53.8**	**+0.4**
GASW	**Gareloi Southw**	**0.74**	**267**		**Pn**	**12 15 41.1**	**+0.6**
GSTD	**Great Sitkin T**	**0.97**	**76**		**Pn**	**12 15 42.4**	**-0.6**
GSTD					**Sn**	**12 15 56.6**	**-1.5**
GSMY	**Great Sitkin M**	**1.02**	**77**		**Pn**	**12 15 43.1**	**-0.4**
ATKA	**Atka Island**	**2.18**	**79**		**Pn**	**12 15 57.5**	**-0.2**
ATKA					**Sn**	**12 16 23.4**	**-0.9**
KOKL	**Mount Kliuchef**	**2.20**	**76**		**Pn**	**12 15 57.5**	**-0.5**
KOFP	**Korovin Flat P**	**2.25**	**77**		**Pn**	**12 15 58.4**	**-0.2**
KOSE	**Korovin Southe**	**2.29**	**76**		**Pn**	**12 15 59.0**	**-0.2**
SHEM	**Shemya Is, Ala**	**5.13**	**283**	P	**Pn**	**12 16 37.4**	**+0.1**
	3.9nm,0.3s,baz=92,slow=20,SNR=2.0						
SHEM				S	**Sn**	**12 17 34.4**	**-0.8**
	1.5nm,0.3s,baz=266,slow=20,SNR=1.4						
SMY	**Shemya**	**5.13**	**283**	Pn	**Pn**	**12 16 39.1**	**+1.8**
NIKH	**Nikolski High**	**5.52**	**75**	Pn	**Pn**	**12 16 43.1**	**+0.6**
MAPS	**Pakushin South**	**6.80**	**69**		**Pn**	**12 17 01.2**	**+1.3**
SPIA	**Saint Paul Isl**	**6.88**	**36**		**Pn**	**12 17 00.5**	**-0.5**
MREP	**Makushin Rep't**	**6.91**	**69**		**Pn**	**12 17 02.5**	**+1.0**
UNV	**Unalaska Valle**	**7.06**	**69**		**Pn**	**12 17 05.0**	**+1.6**
FALS	**False Pass**	**9.05**	**65**		**Pn**	**12 17 31.9**	**+1.5**
GAMB	**Gambell**	**12.39**	**12**	Pn	**Pn**	**12 18 16.8**	**+1.4**
ANM	**Nome**	**14.28**	**22**	Pn	**Pn**	**12 18 42.6**	**+2.4**
PETK	**Petropavlovsk-**	**15.05**	**285**	P	**Pn**	**12 18 50.3**	**+0.2**
	0.0nm,0.3s,baz=96,slow=15,SNR=1.3						
KDAK	**Kodiak Island**	**15.59**	**58**	P	**Pn**	**12 18 55.6**	**-1.1**
	1.5nm,0.3s,baz=308,slow=3.2,SNR=9.4						
KDAK	**Kodiak Island**	**15.59**	**58**		**Pn**	**12 18 55.9**	**-0.8**
TTA	**Tatalina**	**16.02**	**38**	P	**P**	**12 19 04.3**	**+0.6**
TTA				IAmb	IAmb	12 19 07.6	
	comp=Z,20nm,1.5s						
K20K	**Telida**	**17.00**	**38**		**P**	**12 19 15.1**	**+0.6**
J20K	**Nowinta River**	**17.42**	**36**	P	**P**	**12 19 21.2**	**+2.2**
PPLA	**Purkeypile**	**17.51**	**41**	P	**Pn**	**12 19 22.0**	**+1.5**
PPLA				IAmb	IAmb	12 19 23.1	
	comp=Z,23nm,1.4s						
SEW	**Seward**	**17.71**	**51**	P	**P**	**12 19 22.6**	**+0.4**
CAST	**Castle Rocks**	**17.80**	**39**	P	**Pn**	**12 19 25.4**	**+1.5**
CUT	**Chulitna**	**18.10**	**44**	P	**Pn**	**12 19 27.7**	**+0.2**
KTH	**Kantishna Hill**	**18.32**	**40**	P	**Pn**	**12 19 31.4**	**+1.2**
KTH				IAmb	IAmb	12 19 34.6	
	comp=Z,12nm,1.0s						
GHO	**Glory Hole Cre**	**18.46**	**46**	P	**P**	**12 19 30.5**	**-0.1**
GHO				IAmb	IAmb	12 19 36.1	
	comp=Z,11nm,1.2s						
BPAW	**Bear Paw Mtn.**	**18.56**	**38**	P	**Pn**	**12 19 34.4**	**+1.4**
BPAW				IAmb	IAmb	12 19 35.3	
	comp=Z,5.3nm,0.5s						
IMAR	**Indian Mountai**	**18.62**	**31**	P	**Pn**	**12 19 33.5**	**-0.2**
H21K	**Melozitna Rive**	**18.74**	**33**	P	**Pn**	**12 19 36.2**	**+1.1**
H21K				IAmb	IAmb	12 19 39.4	
	comp=Z,8.8nm,1.1s						
SML	**Sawmill**	**18.74**	**46**		**Pn**	**12 19 35.6**	**+0.5**
SML				IAmb	IAmb	12 19 51.1	
	comp=Z,15nm,1.1s						
I21K	**Tanana**	**18.75**	**35**	P	**Pn**	**12 19 36.1**	**+0.9**
I21K				IAmb	IAmb	12 19 36.8	
	comp=Z,8.4nm,0.8s						
RND	**Reindeer**	**19.10**	**42**	P	**P**	**12 19 38.1**	**+0.5**
RND				IAmb	IAmb	12 20 02.4	
	comp=Z,13nm,1.3s						
MLY	**Manley**	**19.12**	**36**	P	**P**	**12 19 38.4**	**+0.6**
SCM	**Sheep Creek Mo**	**19.20**	**47**	P	**P**	**12 19 38.9**	**+0.2**
DHY	**Denali Highway**	**19.59**	**43**	P	**P**	**12 19 43.7**	**+0.7**
I23K	**Minto, Yukon-K**	**19.68**	**37**	P	**P**	**12 19 44.9**	**+1.2**
I23K				IAmb	IAmb	12 19 46.6	
	comp=Z,4.2nm,0.5s						
M24K	**Tolsona, Glenn**	**19.80**	**46**	P	**Pn**	**12 19 47.9**	**+0.3**
WRH	**Wood River Hil**	**19.85**	**39**	P	**P**	**12 19 46.1**	**+0.5**
WRH				IAmb	IAmb	12 19 47.5	
	comp=Z,9.1nm,1.2s						
MDM	**Murphy Dome**	**20.02**	**38**	P	**P**	**12 19 48.7**	**+1.2**
CCB	**Clear Creek Bu**	**20.04**	**39**	P	**P**	**12 19 47.5**	**-0.1**
BMRM	**Bremner River**	**20.25**	**50**	P	Pn	12 19 52.9	+0.1
HDA	**Harding Lake**	**20.28**	**40**	P	Pn	12 19 52.6	-0.4
HDA				IAmb	IAmb	12 19 54.7	
	comp=Z,12nm,1.3s						
PAX	**Paxson**	**20.37**	**44**	P	**P**	**12 19 52.6**	**+1.2**
N25K	**Chitina, Valde**	**20.39**	**48**	P	**P**	**12 19 53.4**	**+1.9**
N25K				IAmb	IAmb	12 20 21.5	
	comp=Z,14nm,1.2s						
IL31		**20.45**	**39**	P	**P**	**12 19 52.4**	**+0.3**
ILAR	**Eielson Array**	**20.45**	**39**	P	**P**	**12 19 50.6**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=241,slow=9.3,SNR=17						
ILAR				PcP	**PcP**	**12 23 58.8**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=290,slow=4.0,SNR=4.5						
ILAR				ScP	**ScP**	**12 27 25.8**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=276,slow=4.3,SNR=5.6						
ILAR	**Eielson Array**	**20.45**	**39**	P	**P**	**12 19 52.6**	**+0.5**
COLD	**Coldfoot**	**20.51**	**31**	P	Pn	12 19 55.1	-0.6
H24K	**Noodor Dome**	**20.56**	**36**	P	**P**	**12 19 54.2**	**+0.9**
H24K				IAmb	IAmb	12 19 56.4	
	comp=Z,4.7nm,0.7s						
GLB	**Gilahina Butte**	**20.72**	**49**	P	**P**	**12 19 56.9**	**+1.9**
VRDI	**Verde Repeater**	**20.85**	**50**	P	Pn	12 19 59.1	-0.8
L26K	**Log Cabin Wild**	**21.32**	**45**	P	**P**	**12 20 02.9**	**+1.5**
L26K				IAmb	IAmb	12 20 26.7	
	comp=Z,5.0nm,0.7s						
SCRK	**Sand Creek**	**21.33**	**42**	P	**P**	**12 20 02.6**	**+1.0**
TOLK	**Toolik Lake Re**	**21.54**	**28**	P	**P**	**12 20 04.5**	**+0.7**
TOLK				IAmb	IAmb	12 20 28.7	
	comp=Z,6.9nm,0.8s						
GRNC	**Granite Creek**	**21.58**	**52**	P	**P**	**12 20 05.5**	**+1.1**
BARN	**Barnard Glacie**	**21.67**	**51**	P	**P**	**12 20 07.3**	**+1.9**
BARN				IAmb	IAmb	12 20 23.6	
	comp=Z,7.5nm,1.0s						
A21K	**Barrow**	**21.73**	**18**	P	**P**	**12 20 06.2**	**+0.5**
A21K				IAmb	IAmb	12 20 11.6	
	comp=Z,8.4nm,0.8s						
M27K	**Edge Creek, AK**	**21.81**	**47**	P	**P**	**12 20 08.6**	**+1.8**
M27K				IAmb	IAmb	12 20 32.1	
	comp=Z,16nm,1.4s						
CTGM	**Chitina Glacie**	**21.82**	**51**	P	**P**	**12 20 08.8**	**+2.0**
CTGM				IAmb	IAmb	12 20 29.8	
	comp=Z,14nm,1.2s						
FYU	**Fort Yukon**	**21.85**	**35**	P	**P**	**12 20 07.1**	**+0.2**
FYU				IAmb	IAmb	12 20 35.8	
	comp=Z,13nm,1.2s						
LOGN	**Logan Glacier**	**21.96**	**51**	P	**P**	**12 20 08.6**	**+0.3**
LOGN				IAmb	IAmb	12 20 16.0	
	comp=Z,16nm,1.3s						
L27K	**Beaver Creek,**	**22.00**	**45**	P	**P**	**12 20 08.0**	**-0.6**
BCAR	**Beaver Creek A**	**22.02**	**45**	P	**P**	**12 20 08.4**	**-0.4**
BMAR	**Burnt Mountain**	**22.47**	**33**	P	**P**	**12 20 15.0**	**+1.4**
EGAK	**Eagle**	**22.75**	**41**	P	**P**	**12 20 17.3**	**+1.0**
DAWY	**Dawson**	**23.30**	**44**	P	**P**	**12 20 21.5**	**-0.1**
INK	**Inuvik**	**26.68**	**35**	P	**P**	**12 20 50.6**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=237,slow=8.5,SNR=20						
INK				PcP	**PcP**	**12 24 12.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=323,slow=2.7,SNR=4.9						
INK	**Inuvik**	**26.68**	**35**	P	**P**	**12 20 52.5**	**+0.4**
A36M	**Sachs Harbour**	**30.35**	**29**	P	**P**	**12 21 25.9**	**+1.3**
A36M				IAmb	IAmb	12 21 30.3	
	comp=Z,2.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**34.24**	**206**	T	T	12 58 31.6	
	baz=18,slow=76,SNR=314						
H11N3	**WAKE ISLAND Hy**	**34.25**	**206**	T	T	12 58 30.3	
	baz=18,slow=76,SNR=259						
H11N1	**WAKE ISLAND Hy**	**34.26**	**206**	T	T	12 58 30.9	
	baz=18,slow=76,SNR=234						
YKA	**Yellowknife Ar**	**34.41**	**47**	P	**P**	**12 22 00.1**	**0.0**
	comp=Z,0.8nm,0.4s,baz=274,slow=9.4,SNR=43						
YKA				PcP	**PcP**	**12 24 33.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=288,slow=3.5,SNR=7.2						
YKA				ScP	**ScP**	**12 28 07.8**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=284,slow=3.6,SNR=4.5						
YKA	**Yellowknife Ar**	**34.41**	**47**	P	**P**	**12 21 59.9**	**-0.3**
H11S1	**WAKE ISLAND Hy**	**35.46**	**206**	T	T	12 59 50.9	
	baz=17,slow=76,SNR=242						
H11S2	**WAKE ISLAND Hy**	**35.48**	**206**	T	T	12 59 53.5	
	baz=17,slow=76,SNR=105						
H11S3	**WAKE ISLAND Hy**	**35.48**	**206**	T	T	12 59 55.8	
	baz=17,slow=76,SNR=120						
NVAR	**Mina Array Bea**	**42.80**	**84**	P	**P**	**12 23 12.0**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=302,slow=7.9,SNR=3.6						
NVAR				PcP	**PcP**	**12 25 01.8**	**+1.5**
	com

KAN05 Sb 12 24 01.9 +0.1
KAN01 Argonia South 1.15 337 Pg 12 23 46.2 -0.4
KAN01 Sg Sg 12 24 01.7 +0.1
TUL1 Leonard 1.16 99 Pn Pg 12 23 45.5 -1.3
TUL1 Sg Sg 12 24 01.4 -0.4
TUL1 Leonard 1.16 99 P Pg 12 23 45.5 -1.3
baz=278
TUL1 S Sg 12 24 01.4 -0.4
baz=278
KAN10 Anthony SW Sta 1.25 325 Pg 12 23 47.9 -0.7
KAN10 Sg 12 24 04.9 -0.1
KAN06 Argonia West S 1.27 336 Pg 12 23 48.3 -0.6
KAN06 Sg 12 24 05.3 0.0
KAN08 Anthony NE Sta 1.29 332 Pn 12 23 48.6 -0.4
KAN16 Harper SW Stat 1.33 329 Pn 12 23 49.3 -0.2
KAN12 Harper NE Stat 1.36 332 Pn 12 23 50.0 0.0
OK035 E0210 Rd and N 1.36 297 Pn 12 23 49.6 -0.4
U32A Winter Ranch, 1.48 282 Pn Pn 12 23 51.3 -0.4
WMOK Wichita Mounta 1.87 224 Pn 12 23 57.3 +0.3
WMOK IAmb_Lg 12 24 27.1
comp=Z,149nm,0.7s
WMOK Wichita Mounta 1.87 224 P Pn 12 23 57.0 +0.1
baz=44
WMOK S Sb 12 24 22.3 -0.2
baz=44
X37A Clayton 2.12 135 Pn Pn 12 24 00.8 +0.4
X37A IAmb_Lg 12 24 35.5
comp=Z,138nm,0.9s
U38A Gravette 2.30 81 Pn Pn 12 24 03.8 +0.9
R32A Long Quarter, 2.62 333 Pn Pn 12 24 09.3 +2.0
HHAR Hobbs 2.65 85 Pn Pn 12 24 09.2 +1.6
Z35A Perchaven, San 2.75 181 Pn Pn 12 24 09.4 +0.3
W39A Magazine 2.92 107 Pn Pn 12 24 11.8 +0.3
W39A IAmb_Lg 12 25 01.9
comp=Z,58nm,0.7s
W39A Magazine 2.92 107 P Pn 12 24 12.0 +0.6
baz=288
KSU1 Kansas State U 3.04 9 Pn Pn 12 24 09.7 -3.4
KSU1 Kansas State U 3.04 9 Sb Sb 12 24 59.1 +2.8
baz=189
MIAR Mount Ida 3.34 116 Pn 12 24 17.5 +0.3
MIAR Mount Ida 3.34 116 P Pn 12 24 17.7 +0.5
baz=298
Z38A Mt. Pleasant 3.37 146 Pn 12 24 18.0 +0.5
Z38A IAmb_Lg 12 25 17.9
comp=Z,86nm,0.7s
CBKS Cedar Bluff 3.38 324 Pn 12 24 18.6 +0.8
S39A Bolivar 3.50 62 Pn 12 24 19.8 +0.5
S39A IAmb_Lg 12 25 21.3
comp=Z,50nm,0.9s
U40A Yellville 3.53 84 Pn 12 24 19.5 -0.2
AMTX Amarillo 3.85 253 Pn 12 24 26.2 +2.0
AMTX IAmb_Lg 12 25 29.7
comp=Z,63nm,0.8s
AMTX Amarillo 3.85 253 Sb Sb 12 25 22.6 +3.0
baz=71
X40A Basin Creek Fa 3.92 113 Pn 12 24 25.7 +0.7
X40A Basin Creek Fa 3.92 113 P Pn 12 24 26.0 +0.9
baz=295
ABTX Abilene, Hawle 4.00 211 Pn 12 24 28.9 +2.5
WHAR Wooly Hollow 4.08 100 Pn 12 24 29.4 +2.1
WHAR IAmb_Lg 12 25 44.6
comp=Z,38nm,0.9s
WHTX Lake Whitney, 4.10 183 Pn 12 24 27.5 -0.1
MGMO Mountain Grove 4.11 74 Pn 12 24 28.2 +0.4
MGMO IAmb_Lg 12 25 33.7
comp=Z,58nm,0.8s
FCAR Ozark Folk Cen 4.12 91 Pn 12 24 27.7 -0.3
FCAR IAmb_Lg 12 25 38.7
comp=Z,47nm,0.7s
WLAR White Oak Lake 4.13 124 Pn Pn 12 24 27.0 -1.0
W41B Gary Mavity, V 4.14 101 Pn Pn 12 24 28.1 0.0
W41B IAmb_Lg 12 25 33.7
comp=Z,33nm,0.7s
W41B Gary Mavity, V 4.14 101 P Pn 12 24 27.8 -0.3
baz=284
W41B S Sn 12 25 16.3 -0.5
baz=284
237A Washetta, Mont 4.24 164 Pn Pn 12 24 29.4 -0.2
R40A Maddies Statio 4.51 59 Pn 12 24 33.9 +0.7
R40A IAmb_Lg 12 25 49.0
comp=Z,56nm,0.8s
P38A Dawn 4.57 38 Pn 12 24 35.1 +1.1
P38A IAmb_Lg 12 26 00.1
comp=Z,44nm,0.9s
N33A J Bar K, Exete 4.64 358 Pn Pn 12 24 34.5 -0.6
N33A IAmb_Lg 12 26 01.3
comp=Z,32nm,0.8s
NATX Nacogdoches 4.81 153 IAmb_Lg 12 26 06.8
comp=Z,35nm,0.9s
LCAR Lake Charles 4.90 88 Pn 12 24 37.8 -0.8
N35A Tabor 4.92 14 Pn Pn 12 24 38.6 -0.2
T42A Van Buren 5.01 77 Pn Pn 12 24 41.2 +1.2
T42A IAmb_Lg 12 26 10.2
comp=Z,35nm,0.8s
MSTX Muleshoe 5.04 247 Pn Pn 12 24 41.6 +1.0
CCM Cathedral Cave 5.15 66 Pn 12 24 44.3 +2.3
KSCO Kaye Shedlock' 5.20 306 Pn 12 24 42.0 -0.9
435B Jarrell 5.30 184 IAmb_Lg 12 26 19.7
comp=Z,32nm,0.8s
P40A Paris 5.33 48 Pn 12 24 45.1 +0.5
P40A IAmb_Lg 12 26 15.7
comp=Z,30nm,0.8s
BGNE Belgrade 5.36 352 Pn 12 24 43.8 -1.2
PBMO Poplar Bluff 5.50 81 IAmb_Lg 12 26 24.5
comp=Z,59nm,0.8s
N38A Joes South For 5.63 32 Pn 12 24 47.2 -1.5
N38A IAmb_Lg 12 26 27.3
comp=Z,33nm,0.8s
FVM French Village 5.74 69 Pn Pn 12 24 48.1 -2.0
T25A Trinidad 5.89 282 Pn 12 24 52.2 -0.2
T25A Trinidad 5.89 282 P Pn 12 24 52.4 0.0
baz=98
L34A Svendsen Farm, 5.90 6 Pn 12 24 52.6 +0.2
L34A IAmb_Lg 12 26 45.0
comp=Z,45nm,0.8s
JCT Junction City 6.00 202 Pn 12 24 54.0 +0.1
JCT IAmb_Lg 12 26 45.9
comp=Z,21nm,0.8s
SLM Saint Louis 6.10 63 IAmb_Lg 12 26 37.6
comp=Z,46nm,0.9s
OGNE Ogallala 6.15 323 Pn 12 24 56.4 +0.5
OGNE IAmb_Lg 12 26 55.0
comp=Z,27nm,0.7s
S44A Carbondale 6.57 74 Pn Pn 12 24 59.7 -1.8
SCIA State Center 6.58 27 Pn Pn 12 25 01.5 -0.2
SCIA IAmb_Lg 12 27 05.1
comp=Z,24nm,0.9s
W45A Hickory Valley 6.60 96 IAmb_Lg 12 27 10.9
comp=Z,36nm,0.7s
K31A O'Neill 6.63 350 Pn Pn 12 25 02.3 -0.1
K31A IAmb_Lg 12 27 01.2
comp=Z,34nm,0.9s
Y45A Yeager Farm, C 6.67 107 Pn Pn 12 25 02.9 0.0
N41A Harden Midland 6.79 45 Pn 12 25 03.7 -0.9
SDCO Great Sand Dun 6.85 286 Pn 12 25 07.2 +1.5
Q24A Divide 6.93 297 Pn 12 25 06.5 -0.3
K38A Parkersburg 7.39 26 Pn 12 25 13.1 +0.3
K38A IAmb_Lg 12 27 31.7
comp=Z,22nm,0.9s
L40A Anamosa 7.56 36 Pn Pn 12 25 13.7 -1.5
WVT Waverly 7.59 87 Pn Pn 12 25 14.7 -0.8
ISCO Idaho Springs 7.61 302 Pn 12 25 15.7 -0.4
ANMO Albuquerque 7.63 264 Pn 12 25 17.4 +1.1
ECSD EROS Data Cent 7.65 3 Pn Pn 12 25 15.8 -0.5
HDIL Hopedale 7.65 52 Pn 12 25 14.0 -2.3
OLIL Olney 7.71 67 IAmb_Lg 12 27 38.4
comp=Z,36nm,0.9s
O44A Mansfield 7.99 57 IAmb_Lg 12 27 45.1
comp=Z,23nm,0.8s
MNTX Cornudas Mount 8.09 240 Pn Pn 12 25 23.5 +1.0
N23A Red Feather La 8.36 308 Pn Pn 12 25 27.0 +0.6
N23A IAmb_Lg 12 28 10.6
comp=Z,17nm,0.8s
I37A Lemond, Waseca 8.43 19 IAmb_Lg 12 28 04.6
comp=Z,15nm,0.9s
X48A Hartselle 8.47 98 Pn Pn 12 25 28.0 +0.4
JFWS Jewell Farm 8.68 36 Pn Pn 12 25 30.7 +0.3
SFIN Lafayette 9.03 59 Pn Pn 12 25 34.6 -0.7
I40A Norwalk 9.28 31 IAmb_Lg 12 28 34.1
comp=Z,15nm,1.0s
RSSD Black Hills 9.57 329 Pn Pn 12 25 42.1 -0.8
RSSD IAmb_Lg 12 28 34.7
comp=Z,14nm,1.1s
K22A Casper 9.74 315 IAmb_Lg 12 28 51.8
comp=Z,14nm,0.9s

*WEL **04** 12:31:16.9±0.4,42°S±3°×17°8E±°, h33km, M2.6/18, ML3.3/37, MLv2.6/18, Error ellipse: s-maj=0.0km s-min=0.0km az=134.6*
*NOU **04** 12:31:17.1,41°48S×177°89E, h108km, MLv4.3/7, Off E. Coast of N. Island, N.Z.*
ISC 04 12:31:14.6±1.7, 41°57S±0°04×177°85E±0°04, h29km±16km, n91, σ2=15/117, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPWZ	**Castlepoint**	**1.40**	**297**	P	**Pb**	**12 31 40.5**	**+0.3**
BFZ	**Birch Farm**	**1.50**	**306**	P	**Pb**	**12 31 41.2**	**-0.5**
BFZ	**Birch Farm**	**1.50**	**306**	P	**Pb**	**12 31 43.8**	**+2.0**
ANWZ	**Angora Road**	**1.52**	**316**	P	**Pn**	**12 31 41.3**	**+1.6**
TMWZ	**Te Maipa**	**1.54**	**287**	P	**Pb**	**12 31 42.0**	**-0.5**
PRHZ	**Porangahau**	**1.59**	**324**	P	**Pn**	**12 31 42.5**	**+1.7**
TRWZ	**Traveller**	**1.63**	**275**	P	**Pn**	**12 31 41.8**	**+0.4**
TRWZ				S	**Sn**	**12 32 00.4**	**-1.0**
TIWZ	**Tintock**	**1.68**	**297**	P	**Pb**	**12 31 44.2**	**-0.6**
TIWZ				S	**Sn**	**12 32 02.7**	**0.0**
PXZ	**Pawanui**	**1.71**	**334**	P	**Pn**	**12 31 44.3**	**+1.9**
PRWZ	**Pori Road**	**1.74**	**305**	P	**Pb**	**12 31 45.4**	**-0.5**
DVHZ	**Dannevirke**	**1.79**	**314**	P	**Pn**	**12 31 45.2**	**+1.6**
DVHZ				S	**Sn**	**12 32 03.4**	**-2.0**
MTW	**Mount Morrison**	**1.81**	**282**	P	**Pn**	**12 31 45.0**	**+1.2**
PAWZ	**Paruwai Farm**	**1.83**	**275**	P	**Pn**	**12 31 45.2**	**+1.1**
PAWZ				S	**Sn**	**12 32 04.1**	**-2.2**
WPHZ	**Waipukurau**	**1.84**	**324**	P	**Pb**	**12 31 46.7**	**-0.9**
WPHZ				S	**Sn**	**12 32 05.8**	**-0.8**
HOWZ	**Holdsworth Sta**	**1.88**	**290**	P	**Pn**	**12 31 46.1**	**+1.3**
HOWZ				S	**Sn**	**12 32 05.7**	**-2.0**
KAHZ	**Kahuranaki**	**1.92**	**337**	P	**Pn**	**12 31 47.4**	**+2.0**
MRZ	**Mangatainoka R**	**1.94**	**297**	P	**Pn**	**12 31 47.3**	**+1.7**
PLWZ	**Palliser**	**1.94**	**269**	P	**Pn**	**12 31 46.3**	**+0.5**
PLWZ				S	**Sn**	**12 32 08.1**	**-1.2**
MSWZ	**Moikau Station**	**1.96**	**274**	S	**Sn**	**12 32 08.3**	**-1.2**
POWZ	**Post Office Ro**	**1.96**	**306**	P	**Pb**	**12 31 48.4**	**-1.3**
CKHZ	**Cape Kidnapper**	**1.99**	**343**	P	**Pb**	**12 31 49.5**	**-0.7**
PNHZ	**Pukenui**	**2.07**	**322**	P	**Pn**	**12 31 49.4**	**+1.9**
TSZ	**Takapari Road**	**2.08**	**316**	P	**Pn**	**12 31 49.6**	**+2.0**
CAW	**Cannon Point**	**2.14**	**281**	P	**Pn**	**12 31 49.6**	**+1.2**
CAW				S	**Sn**	**12 32 11.7**	**-2.4**
OGWZ	**Otaki Gorge**	**2.15**	**289**	P	**Pn**	**12 31 49.9**	**+1.3**
OGWZ				S	**Sn**	**12 32 13.1**	**-1.3**
KRHZ	**Kereru**	**2.23**	**329**	P	**Pb**	**12 31 52.5**	**-1.7**
KRHZ				S	**Sn**	**12 32 14.8**	**-1.4**
MCHZ	**McNeill Hill**	**2.29**	**337**	P	**Pn**	**12 31 52.9**	**+2.4**
MCHZ				S	**Sn**	**12 32 17.2**	**-0.5**
KIW	**Kapiti Island**	**2.33**	**287**	P	**Pn**	**12 31 52.8**	**+1.8**
KIW				S	**Sn**	**12 32 16.8**	**-1.7**
KWHZ	**Kaweka Forest**	**2.40**	**333**	P	**Pn**	**12 31 53.9**	**+1.9**
KWHZ				S	**Sn**	**12 32 18.9**	**-1.6**
MHGZ	**Mahia Peninsul**	**2.41**	**1**	P	**Pn**	**12 31 52.8**	**+0.7**
MHGZ				S	**Sn**	**12 32 19.3**	**-1.3**
BHHZ	**Black Hill Sta**	**2.48**	**326**	P	**Pn**	**12 31 55.6**	**+2.4**
KNZ	**Kokohu**	**2.54**	**357**	P	Pn	12 31 53.0	-0.9
KNZ				S	**Sn**	**12 32 22.7**	**-1.2**
NMHZ	**Naumai**	**2.59**	**342**	P	**Pn**	**12 31 56.7**	**+2.0**
NMHZ				S	**Sn**	**12 32 22.3**	**-2.9**
BKZ	**Black Stump Fm**	**2.61**	**336**	P	**Pn**	**12 31 56.7**	**+1.8**
BKZ				S	**Sn**	**12 32 22.6**	**-3.1**
BKZ	**Black Stump Fm**	**2.61**	**336**	P	**Pn**	**12 31 56.6**	**+1.7**
MOVZ	**Moawhango**	**2.68**	**323**	P	**Pn**	**12 31 59.0**	**+3.0**
MOVZ				S	**Sn**	**12 32 26.4**	**-1.1**
RAHZ	**Arahi**	**2.71**	**347**	P	**Pn**	**12 31 58.3**	**+2.0**
RAHZ				S	**Sn**	**12 32 25.7**	**-2.3**
TCW	**Tory Channel**	**2.71**	**276**	P	**Pn**	**12 31 57.3**	**+1.1**
TCW				S	**Sn**	**12 32 26.1**	**-1.9**
SNGZ	**Shannon Statio**	**2.81**	**352**	P	**Pn**	**12 31 59.0**	**+1.4**
MTHZ	**Maungataniwha**	**2.82**	**344**	P	Pn	12 31 57.5	-0.2
MTHZ				S	**Sn**	**12 32 27.9**	**-2.9**
WNVZ	**Wahianoa**	**2.82**	**322**	P	**Pn**	**12 32 01.4**	**+3.5**
WNVZ				S	**Sn**	**12 32 31.8**	**+0.8**
WAZ	**Wanganui**	**2.83**	**309**	P	**Pb**	**12 32 02.1**	**-2.4**
WAZ				S	**Sn**	**12 32 33.1**	**+2.1**
MTVZ	**Mangateitei**	**2.83**	**319**	P	**Pb**	**12 32 02.0**	**-2.5**
MTVZ				S	**Sn**	**12 32 32.8**	**+1.6**
TUVZ	**Tukino**	**2.84**	**323**	P	**Pn**	**12 32 01.6**	**+3.4**
TUVZ				S	**Sn**	**12 32 31.1**	**-0.4**
TRVZ	**Turoa**	**2.87**	**321**	P	**Pn**	**12 32 02.0**	**+3.5**
SNVZ	**South Ngauruho**	**2.91**	**324**	P	**Pn**	**12 32 02.3**	**+3.1**
OTVZ	**Oturere**	**2.92**	**325**	P	**Pn**	**12 32 02.3**	**+3.0**
ETVZ	**East Tongariro**	**2.92**	**325**	P	**Pn**	**12 32 02.5**	**+3.2**
MRHZ	**Matea Rd**	**2.94**	**338**	P	**Pn**	**12 32 02.0**	**+2.5**
NGZ	**Ngauruhoe**	**2.94**	**324**	P	**Pn**	**12 32 02.8**	**+3.2**
TMVZ	**Te Maari**	**2.94**	**326**	P	**Pn**	**12 32 02.4**	**+2.9**
PKVZ	**Pokaka**	**2.97**	**319**	P	**Pn**	**12 32 03.3**	**+3.5**
NNVZ	**North Ngauruho**	**2.97**	**324**	P	**Pn**	**12 32 03.1**	**+3.2**
NTVZ	**North Tongarir**	**2.97**	**325**	P	**Pn**	**12 32 02.9**	**+3.0**
WTVZ	**West Tongariro**	**3.00**	**324**	P	**Pn**	**12 32 03.6**	**+3.4**
RTZ	**Ruatahuna**	**3.02**	**347**	P	**Pn**	**12 32 02.2**	**+1.7**
MUGZ	**Murupara**	**3.19**	**345**	P	**Pn**	**12 32 04.6**	**+1.7**
MWZ	**Matawai**	**3.24**	**356**	P	**Pn**	**12 32 04.2**	**+0.7**
KHZ	**Kahutara**	**3.32**	**254**	P	**Pn**	**12 32 05.2**	**+0.6**
KHZ	**Kahutara**	**3.32**	**254**	P	**Pn**	**12 32 07.6**	**+3.0**
URZ	**Urewera**	**3.35**	**350**	P	**Pn**	**12 32 06.4**	**+1.3**
URZ	**Urewera**	**3.35**	**350**	P	**Pn**	**12 32 06.3**	**+1.3**
NNZ	**Nelson**	**3.38**	**274**	P	**Pn**	**12 32 07.2**	**+1.3**
VRZ	**Vera Road**	**3.39**	**315**	P	**Pn**	**12 32 08.9**	**+3.3**
TARZ	**Mount Tarawera**	**3.48**	**342**	P	**Pn**	**12 32 09.7**	**+2.8**
PREZ	**Palmer Road**	**3.58**	**307**	P	**Pn**	**12 32 13.0**	**+4.7**
RUGZ	**Raukumara Rang**	**3.60**	**358**	P	**Pn**	**12 32 09.5**	**+0.9**
NEZ	**North Egmont**	**3.67**	**307**	P	**Pn**	**12 32 13.7**	**+4.2**
KHEZ	**Kahui Hut**	**3.70**	**307**	P	**Pn**	**12 32 14.6**	**+4.7**
THZ	**Tophouse**	**3.71**	**265**	P	**Pn**	**12 32 11.0**	**+1.0**
WMGZ	**Waiomatatini S**	**3.77**	**7**	P	**Pn**	**12 32 11.6**	**+0.8**
PKE	**Pukeiti**	**3.78**	**308**	P	**Pn**	**12 32 15.5**	**+4.5**
HAZ	**Te Kaha**	**3.81**	**359**	P	**Pn**	**12 32 12.5**	**+1.2**
HIZ	**Hauiti**	**3.82**	**322**	P	**Pn**	**12 32 14.1**	**+2.7**
HIZ	**Hauiti**	**3.82**	**322**	P	**Pn**	**12 32 13.8**	**+2.4**
GVZ	**Greta Valley S**	**3.84**	**247**	P	**Pn**	**12 32 12.5**	**+0.8**
QRZ	**Quartz Range**	**4.08**	**279**	P	**Pn**	**12 32 17.1**	**+2.0**
QRZ				S	**Sn**	**12 33 00.9**	**-0.9**
QRZ	**Quartz Range**	**4.08**	**279**	P	**Pn**	**12 32 17.3**	**+2.3**
OKCZ	**Okains Bay**	**4.14**	**237**	P	**Pn**	**12 32 17.7**	**+1.8**
OKCZ				S	**Sn**	**12 33 02.0**	**-1.3**
LTZ	**Lake Taylor**	**4.32**	**252**	P	**Pn**	**12 32 19.1**	**+0.7**
MQZ	**McQueen's Vall**	**4.39**	**239**	P	**Pn**	**12 32 20.2**	**+0.9**
DSZ	**Denniston Nort**	**4.53**	**266**	P	**Pn**	**12 32 22.8**	**+1.5**
CTZ	**Chatham Island**	**4.62**	**120**	P	**Pn**	**12 32 25.9**	**+3.4**
CTZ				S	**Sn**	**12 33 13.8**	**-1.4**
OXZ	**Oxford**	**4.64**	**246**	P	**Pn**	**12 32 23.2**	**+0.4**
INZ	**Inchbonnie**	**4.90**	**254**	P	**Pn**	**12 32 27.4**	**+1.1**
WACZ	**Wakanui South**	**5.02**	**240**	P	**Pn**	**12 32 29.5**	**+1.6**
MHCZ	**Mount Hutt**	**5.04**	**245**	P	**Pn**	**12 32 29.4**	**+1.2**
TMZ	**Timaru**	**5.75**	**238**	P	**Pn**	**12 32 39.7**	**+1.7**
ODZ	**Otahua Downs**	**6.30**	**234**	P	**Pn**	**12 32 47.5**	**+2.0**
ODZ	**Otahua Downs**	**6.30**	**234**	P	**Pn**	**12 32 48.8**	**+3.3**
EAZ	**Earnscleugh**	**7.22**	**237**	P	**Pn**	**12 33 00.8**	**+2.7**

IDC 04 12:34:18.4±2.2, 13°21N×144°24E, h132km±93km, mb2.9/3, mb1 3.2/3, mb1mx2.5/48, mbtmp3.3/3, Error ellipse: s-maj=278.9km s-min=26.9km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.72**	**58**	P	Pn	12 34 40.7	+1.6
	128nm,0.3s,baz=12,slow=22,SNR=142						
GUMO				S	Sn	12 34 55.4	+0.5
	88nm,0.3s,baz=172,slow=17,SNR=6.1						
WRA	**Warramunga Arr**	**34.35**	**197**	P	P	12 40 53.2	+0.5
	0.9nm,0.7s,baz=21,slow=9.6,SNR=9.1						
ASAR	**Alice Springs**	**38.02**	**195**	P	P	12 41 22.6	-1.3
	0.1nm,0.4s,baz=18,slow=13,SNR=4.9						
MKAR	**Makanchi Array**	**61.34**	**316**	P	P	12 44 20.0	-0.2
	0.1nm,0.5s,baz=96,slow=9.1,SNR=4.1						

*TUL **04** 12:38:45.1±1.1, 36°08N±0°02×97°20W±0°02, h8km±3km, ML2.9, mb_Lg2.6/24(NEIC), Error ellipse: s-maj=3.6km s-min=1.7km az=221.0*
NEIC 04 12:38:44.9±1.1, 36°082N±0°010×97°20W±0°02, h8km±5km, Error ellipse: s-maj=2.8km s-min=1.2km az=69.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.32**	**113**	Pg	Pg	12 38 51.7	+0.4
OK031				Sg	Sg	12 38 56.2	+0.6
OK030	**Cody Creek RV**	**0.37**	**114**	Pg	Pg	12 38 52.6	+0.3
OK030				Sg	Sg	12 38 57.8	+0.7
OK034	**N. Norfolk Rd.**	**0.40**	**100**	Pg	Pg	12 38 53.0	+0.2
OK034				Sg	Sg	12 38 58.8	+0.7
OK025	**Westminster Rd**	**0.51**	**192**	Pg	Pg	12 38 54.9	0.0
OK025				Sg	Sg	12 39 02.1	+0.5
KAN13	**South Haven SW**	**0.95**	**347**		Pg	12 39 03.2	-0.1
KAN13				Sg	Sg	12 39 16.0	+0.3
T35A	**Sooner Cattle**	**1.00**	**34**	Pg	Pg	12 39 04.1	-0.1
T35A				Sg	Sg	12 39 17.2	0.0
KAN17	**Caldwell West**	**1.06**	**335**		Pg	12 39 05.1	-0.2
KAN17				Sg	Sg	12 39 19.1	0.0
KAN14	**Manchester OK**	**1.07**	**325**		Pg	12 39 05.3	-0.1
KAN14					Sg	12 39 19.2	-0.1
OK032	**Salt Plains WL**	**1.09**	**312**		Pg	12 39 05.5	-0.3
OK032				Sg	Sg	12 39 20.0	+0.1
KAN05	**Bluff City Nor**	**1.16**	**332**		Pg	12 39 07.0	-0.2
KAN05				Sg	Sg	12 39 21.7	-0.5
TUL1	**Leonard**	**1.16**	**98**		Pg	12 39 06.2	-0.9
TUL1				Sg	Sg	12 39 21.7	-0.4
KAN01	**Argonia South**	**1.16**	**337**		Pg	12 39 06.8	-0.4
KAN01				Sg	Sg	12 39 22.3	0.0
KAN10	**Anthony SW Sta**	**1.26**	**326**		Pn	12 39 08.6	-0.3
KAN10				Sg	Sb	12 39 25.4	0.0
KAN06	**Argonia West S**	**1.28**	**336**		Pb	12 39 09.2	0.0
KAN06				Sg	Sb	12 39 25.7	-0.1
KAN08	**Anthony NE Sta**	**1.30**	**332**		Pn	12 39 09.5	+0.1
KAN16	**Harper SW Stat**	**1.33**	**329**	Pn	Pn	12 39 09.8	-0.1
OK035	**E0210 Rd and N**	**1.37**	**298**	Pn	Pn	12 39 10.3	0.0
KAN12	**Harper NE Stat**	**1.37**	**332**		Pb	12 39 10.9	+0.1
U32A	**Winter Ranch,**	**1.48**	**282**		Pn	12 39 11.7	-0.2
WMOK	**Wichita Mounta**	**1.86**	**224**	Pn	Pn	12 39 17.9	+0.8
X37A	**Clayton**	**2.11**	**134**		Pn	12 39 21.8	+1.2
U38A	**Gravette**	**2.31**	**80**		Pn	12 39 24.9	+1.7
R32A	**Long Quarter,**	**2.63**	**333**	Pn	Pn	12 39 26.8	-0.9
Z35A	**Perchaven, San**	**2.75**	**181**	Pn	Pn	12 39 30.8	+1.5
MIAR	**Mount Ida**	**3.34**	**116**	Pn	Pn	12 39 35.3	-2.1
Z38A	**Mt. Pleasant**	**3.36**	**146**	Pn	Pn	12 39 37.2	-0.4
Z38A				IAmb_Lg		12 40 38.8	
	comp=Z,21nm,0.8s						
CBKS	**Cedar Bluff**	**3.39**	**324**	IAmb_Lg		12 40 40.9	
	comp=Z,13nm,0.7s						
S39A	**Bolivar**	**3.50**	**62**	IAmb_Lg		12 40 42.3	
	comp=Z,13nm,0.8s						
AMTX	**Amarillo**	**3.84**	**253**		Pn	12 39 43.9	-0.6
AMTX				IAmb_Lg		12 40 50.2	
	comp=Z,15nm,0.8s						
WHAR	**Wooly Hollow**	**4.08**	**100**	Pn	Pn	12 39 44.4	-3.2
MGMO	**Mountain Grove**	**4.11**	**73**	Pn	Pn	12 39 46.6	-1.4
MGMO				IAmb_Lg		12 40 54.2	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.12**	**91**	Pn	Pn	12 39 46.1	-2.1
W41B	**Gary Mavity, V**	**4.14**	**101**	Pn	Pn	12 39 45.9	-2.5
R40A	**Maddies Statio**	**4.51**	**59**		Pn	12 39 53.7	+0.2
R40A				IAmb_Lg		12 41 08.8	
	comp=Z,13nm,0.8s						
P38A	**Dawn**	**4.58**	**38**	Pn	Pn	12 39 56.3	+1.9
P38A				IAmb_Lg		12 41 10.0	
	comp=Z,12nm,0.9s						
T42A	**Van Buren**	**5.01**	**77**	Pn	Pn	12 39 59.0	-1.4
MSTX	**Muleshoe**	**5.03**	**247**	Pn	Pn	12 39 59.8	-1.1
P40A	**Paris**	**5.34**	**48**	Pn	Pn	12 40 04.8	-0.1
BGNE	**Belgrade**	**5.37**	**352**	IAmb_Lg		12 41 50.3	
	comp=Z,14nm,0.7s						
PBMO	**Poplar Bluff**	**5.50**	**81**	IAmb_Lg		12 41 46.1	
	comp=Z,10nm,0.7s						
FVM	**French Village**	**5.74**	**69**	IAmb_Lg		12 41 45.9	
	comp=Z,12nm,0.9s						
T25A	**Trinidad**	**5.89**	**282**	Pn	Pn	12 40 12.7	0.0
JCT	**Junction City**	**6.00**	**202**	IAmb_Lg		12 42 02.3	
	comp=Z,7.4nm,1.0s						
OGNE	**Ogallala**	**6.16**	**324**	IAmb_Lg		12 42 17.0	
	comp=Z,8.5nm,0.8s						
SDCO	**Great Sand Dun**	**6.85**	**286**	Pn	Pn	12 40 28.0	+2.1

*ANF **04** 12:43:02.4±0.2, 36°03N×97°16W, h0km, ML3.4/7, Error ellipse: s-maj=2.6km s-min=1.8km az=11.0*
*TUL **04** 12:43:02.5±1.5, 36°07N±0°02×97°20W±0°02, h9km±4km, ML3.4, mb_Lg3.0/50(NEIC), Error ellipse: s-maj=2.2km s-min=1.9km az=147.0*
NEIC 04 12:43:02.6±1.3, 36°09N±0°02×97°20W±0°01, h5km±7km, Error ellipse: s-maj=2.2km s-min=1.0km az=196.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.33**	**115**	Pg	Pg	12 43 09.1	+0.1
OK031				Sg	Sg	12 43 13.7	+0.4
OK030	**Cody Creek RV**	**0.38**	**116**	Pg	Pg	12 43 10.0	0.0
OK030				Sg	Sg	12 43 15.2	+0.3
OK034	**N. Norfolk Rd.**	**0.41**	**102**	Pg	Pg	12 43 10.6	+0.2
OK034				Sg	Sg	12 43 16.0	+0.2
OK005	**Luther M Schoo**	**0.44**	**179**	Pg	Pg	12 43 10.8	-0.3
OK005				Sg	Sg	12 43 16.7	-0.1
OK025	**Westminster Rd**	**0.52**	**192**	Pg	Pg	12 43 12.3	-0.4
OK025				Sg	Sg	12 43 19.4	0.0
OK001	**Jones High Sch**	**0.54**	**187**	Pg	Pg	12 43 12.3	-0.6
OK001				Sg	Sg	12 43 19.6	-0.3
OK009	**Oakdale Elemen**	**0.54**	**199**	Pg	Pg	12 43 12.6	-0.5
KAN13	**South Haven SW**	**0.94**	**347**	Pg	Pg	12 43 20.5	-0.2
KAN13				Sg	Sg	12 43 33.4	+0.5
T35A	**Sooner Cattle**	**0.99**	**34**		Pg	12 43 21.4	-0.3
T35A				Sg	Sg	12 43 34.6	0.0
KAN17	**Caldwell West**	**1.05**	**335**		Pg	12 43 22.5	-0.3
KAN17				Sg	Sg	12 43 36.4	-0.1
KAN14	**Manchester OK**	**1.06**	**325**		Pg	12 43 22.5	-0.4
KAN14				Sg	Sg	12 43 36.6	0.0
OK032	**Salt Plains WL**	**1.08**	**311**		Pg	12 43 22.6	-0.7
OK032				Sg	Sg	12 43 37.6

CBKS	**Cedar Bluff**	**3.38 324**		Pn	12 43 56.4	+0.3
CBKS	**Cedar Bluff**	**3.38 324**	Pb	Pb	12 44 04.3	+1.3
	baz=143					
CBKS			Sb	Sg	12 44 50.0	-1.3
	baz=143					
S39A	**Bolivar**	**3.50 62**		Pn	12 43 59.2	+1.6
S39A			IAmb_Lg		12 44 54.6	
	comp=Z,31nm,0.8s					
U40A	**Yellville**	**3.53 84**	Pn	Pn	12 43 57.4	-0.7
AMTX	**Amarillo**	**3.85 253**		Pn	12 44 04.1	+1.6
AMTX			IAmb_Lg		12 45 07.7	
	comp=Z,39nm,0.8s					
X40A	**Basin Creek Fa**	**3.92 113**		Pn	12 44 03.9	+0.5
ABTX	**Abilene, Hawle**	**4.01 211**		Pn	12 44 04.1	-0.6
WHAR	**Wooly Hollow**	**4.08 100**		Pn	12 44 05.5	-0.2
WHAR			IAmb_Lg		12 45 16.2	
	comp=Z,20nm,0.8s					
WHTX	**Lake Whitney,**	**4.10 183**	Pn	Pn	12 44 05.8	-0.1
MGMO	**Mountain Grove**	**4.11 74**		Pn	12 44 05.3	-0.8
MGMO			IAmb_Lg		12 45 11.6	
	comp=Z,35nm,0.8s					
FCAR	**Ozark Folk Cen**	**4.12 91**		Pn	12 44 06.5	+0.2
FCAR			IAmb_Lg		12 45 14.0	
	comp=Z,22nm,0.7s					
W41B	**Gary Mavity, V**	**4.14 101**		Pn	12 44 05.9	-0.6
W41B	**Gary Mavity, V**	**4.14 101**	P	Pn	12 44 05.8	-0.7
	baz=284					
237A	**Washetta, Mont**	**4.24 164**	Pn	Pn	12 44 07.6	-0.3
R40A	**Maddies Statio**	**4.51 59**	Pn	Pn	12 44 12.2	+0.6
R40A			IAmb_Lg		12 45 27.0	
	comp=Z,30nm,0.8s					
P38A	**Dawn**	**4.57 38**		Pn	12 44 13.2	+0.9
P38A			IAmb_Lg		12 45 38.0	
	comp=Z,24nm,0.8s					
N33A	**J Bar K, Exete**	**4.64 358**	Pn	Pn	12 44 14.5	+1.1
LCAR	**Lake Charles**	**4.90 89**	Pn	Pn	12 44 16.9	0.0
N35A	**Tabor**	**4.92 14**		Pn	12 44 17.8	+0.7
T42A	**Van Buren**	**5.01 77**		Pn	12 44 17.4	-1.0
T42A			IAmb_Lg		12 45 49.4	
	comp=Z,19nm,0.9s					
MSTX	**Muleshoe**	**5.04 247**		Pn	12 44 20.6	+1.6
435B	**Jarrell**	**5.31 184**	IAmb_Lg		12 46 04.1	
	comp=Z,21nm,0.9s					
P40A	**Paris**	**5.33 48**		Pn	12 44 22.1	-0.8
P40A			IAmb_Lg		12 45 57.4	
	comp=Z,18nm,0.7s					
BGNE	**Belgrade**	**5.36 352**	Pn	Pn	12 44 23.1	-0.2
PBMO	**Poplar Bluff**	**5.50 81**	IAmb_Lg		12 46 00.4	
	comp=Z,32nm,0.7s					
N38A	**Joes South For**	**5.63 32**		Pn	12 44 27.4	+0.4
N38A			IAmb_Lg		12 46 08.5	
	comp=Z,32nm,0.9s					
T25A	**Trinidad**	**5.89 282**	Pn	Pn	12 44 29.7	-1.1
L34A	**Svendsen Farm,**	**5.90 6**	IAmb_Lg		12 46 21.8	
	comp=Z,24nm,0.8s					
JCT	**Junction City**	**6.01 202**	Pn	Pn	12 44 30.8	-1.4
JCT			IAmb_Lg		12 46 19.2	
	comp=Z,22nm,1.1s					
SLM	**Saint Louis**	**6.10 63**	IAmb_Lg		12 46 16.1	
	comp=Z,22nm,0.8s					
OGNE	**Ogallala**	**6.15 323**	IAmb_Lg		12 46 33.0	
	comp=Z,19nm,0.8s					
SCIA	**State Center**	**6.58 27**	IAmb_Lg		12 46 39.9	
	comp=Z,16nm,0.7s					
K31A	**O'Neill**	**6.63 350**	IAmb_Lg		12 46 34.7	
	comp=Z,22nm,0.8s					
SDCO	**Great Sand Dun**	**6.85 286**	Pn	Pn	12 44 44.2	+0.3
Q24A	**Divide**	**6.93 297**	Pn	Pn	12 44 44.4	-0.8
L40A	**Anamosa**	**7.56 36**	Pn	Pn	12 44 53.9	+0.4
ISCO	**Idaho Springs**	**7.60 302**	Pn	Pn	12 44 55.1	+0.7
ECSD	**EROS Data Cent**	**7.64 3**	Pn	Pn	12 44 54.3	-0.4
OLIL	**Olney**	**7.71 67**	IAmb_Lg		12 47 16.3	
	comp=Z,24nm,0.9s					
L42A	**Oliver, Polo**	**8.32 43**	Pn	Pn	12 45 03.2	-0.7
N23A	**Red Feather La**	**8.36 308**	Pn	Pn	12 45 04.4	-0.3
N23A			IAmb_Lg		12 47 35.2	
	comp=Z,15nm,0.9s					
K22A	**Casper**	**9.74 315**	IAmb_Lg		12 48 26.5	
	comp=Z,12nm,1.0s					

*NOU **04** 12:50:22.2, 17°.69S×168°.07E, h47km, MLv4.6/16, Vanuatu Islands*
*NEIC **04** 12:50:23±0.9, 17°.70S±0°.07×167°.83E±0°.10, h44km±9km, mb4.3/10, Error ellipse: s-maj=14.4km s-min=8.5km az=61.0*
*IDC **04** 12:50:24.5±2.6, 17°.84S×167°.88E, h65km±30km, mb3.6/5, mb1 3.9/8, mb1mx3.6/29, mbtmp4.1/8, ML4.9/3, Error ellipse: s-maj=33.2km s-min=19.9km az=115.0*

ISC 04 12:50:23.2±0.7, 17°.74S±0°.05×167°.93E±0°.07, h50km, n36, σ1°28/37, mb4.0/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.24**	**88**	P	**Pn**	**12 50 31.4**	**-0.4**
RTV	**Rentapao**	**0.47**	**97**	P	**Pn**	**12 50 32.9**	**-1.2**
SANVU	**Saraoutou**	**2.38**	**343**		**Pn**	**12 50 58.3**	**-1.5**
SANVU	**Saraoutou**	**2.38**	**343**	P	**Pn**	**12 50 58.2**	**-1.5**
LIFNC	**LIFOU**	**3.10**	**192**		**Pn**	**12 51 07.8**	**-1.7**
MARNC	**Mare, Loyalty**	**3.73**	**179**		**Pn**	**12 51 15.9**	**-2.3**
MARNC	**Mare, Loyalty**	**3.73**	**179**	P	**Pn**	**12 51 16.7**	**-1.5**
YATNC	**Mamie plateau,**	**4.41**	**193**	P	**Pn**	**12 51 26.7**	**-0.9**
KOUNC	**Koumac, New Ca**	**4.44**	**230**	P	**Pn**	**12 51 29.4**	**+1.4**
DZM	**Mont Dzumac**	**4.54**	**198**	P	**Pn**	**12 51 29.4**	**-0.1**
	18nm,0.3s,baz=81,slow=11,SNR=901						
DZM				S	**Sn**	**12 52 19.4**	**-1.5**
	20nm,0.3s,baz=138,slow=22,SNR=15						
DZM	**Mont Dzumac**	**4.54**	**198**	*e*Pn	**Pn**	**12 51 29.3**	**-0.1**
	29nm,0.1s						
DZM				*e*Sn	**Sn**	**12 52 19.6**	**-1.3**
	71nm,0.3s						
DZM	**Mont Dzumac**	**4.54**	**198**	P	**Pn**	**12 51 29.5**	**+0.1**
NOUC	**Port Laguerre**	**4.61**	**199**	P	**Pn**	**12 51 30.9**	**+0.6**
OUENC	**Ouen Island, N**	**4.77**	**192**		**Pn**	**12 51 33.9**	**+1.4**
OUENC	**Ouen Island, N**	**4.77**	**192**	P	**Pn**	**12 51 32.3**	**-0.2**
PINNC	**Pines Island,**	**4.88**	**185**		**Pn**	**12 51 34.3**	**+0.4**
PINNC	**Pines Island,**	**4.88**	**185**	P	**Pn**	**12 51 34.5**	**+0.6**
MSVF	**Nonsavu**	**9.64**	**92**	P	**Pn**	**12 52 42.0**	**+2.6**
	0.5nm,0.3s,baz=13,slow=22,SNR=1.8						
MSVF	**Nonsavu**	**9.64**	**92**		Pn	12 52 46.5	+7.0
HNR	**Honiara**	**11.32**	**316**	P	**Pn**	**12 53 04.0**	**+1.6**
	11nm,0.3s,baz=308,slow=2.8,SNR=4.1						
BKZ	**Black Stump Fm**	**22.62**	**162**	P	**P**	**12 55 19.7**	**-0.1**
BKZ				IAmb	IAmb	12 55 44.5	
	comp=Z,21nm,1.4s						
WR0	**Warramunga Arr**	**31.65**	**261**	P	**P**	**12 56 40.8**	**-1.1**
WR0				IAmb	IAmb	12 56 47.4	
	comp=Z,3.8nm,1.2s						
WB0	**Warramunga Arr**	**31.79**	**261**	P	**P**	**12 56 41.9**	**-1.3**
WB0				IAmb	IAmb	12 56 46.7	
	comp=Z,2.8nm,1.1s						
WB2	**Warramunga Arr**	**31.83**	**261**	P	**P**	**12 56 42.4**	**-1.1**
WB2				IAmb	IAmb	12 57 09.0	
	comp=Z,5.6nm,1.2s						
WRA	**Warramunga Arr**	**31.84**	**261**	P	**P**	**12 56 42.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=80,slow=6.0,SNR=10						
WRA	**Warramunga Arr**	**31.84**	**261**	P	**P**	**12 56 42.2**	**-1.3**
AS31	**Alice Springs**	**32.32**	**254**	P	**P**	**12 56 46.4**	**-1.4**
ASAR	**Alice Springs**	**32.32**	**254**	P	**P**	**12 56 47.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=80,slow=8.7,SNR=35						
ASAR	**Alice Springs**	**32.32**	**254**	P	**P**	**12 56 46.6**	**-1.2**
BBOO	**Buckleboo**	**32.34**	**236**	P	**P**	**12 56 46.6**	**-1.2**
BBOO				IAmb	IAmb	12 56 56.1	
	comp=Z,22nm,1.3s						
MTN	**Manton Dam**	**35.79**	**273**	P	**P**	**12 57 18.9**	**+1.1**
GSI	**Gunungsitoli**	**71.73**	**277**	P	**P**	**13 01 41.4**	**+0.7**
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	**13 01 44.0**	**+0.5**
QSPA				IAmb	IAmb	13 02 00.9	
	comp=Z,5.2nm,1.4s						
CMAR	**Chiang Mai Arr**	**76.76**	**294**	P	**P**	**13 02 10.7**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=116,slow=4.1,SNR=2.6						
SONM	**Songino Array**	**85.28**	**324**	P	**P**	**13 02 53.8**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=98,slow=2.9,SNR=3.1						
MKAR	**Makanchi Array**	**99.80**	**316**	P	**Pdif**	**13 03 59.9**	**-2.2**
	comp=Z,0.4nm,0.8s,baz=112,slow=3.9,SNR=2.2						

*IDC **04** 12:53:22.6±1.1, 0°.99N×121°.54E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/45, mbtmp3.4/5, Error ellipse: s-maj=221.0km s-min=21.3km az=62.0*
*DJA **04** 12:53:29.9±0.3, 0°N±3°×12°0E±°, h55km±6km, M4.0/12, mb3.9/3, MLv4.0/12*

ISC 04 12:53:30.0±1.0, 0°.21N±0°.07×119°.96E±0°.05, h64km±8km, n17, σ1°24/21, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.14**	**335**	P	**Pn**	**12 53 39.4**	**-0.3**
MPSI				S	**Sn**	**12 53 47.4**	**+0.7**
MRSI	**Marisa**	**2.00**	**82**	P	**Pn**	**12 54 01.0**	**-0.5**
MRSI				S	**Sn**	**12 54 23.7**	**-1.8**
APSI	**Ampana**	**2.02**	**123**	P	**Pn**	**12 54 02.1**	**+0.3**
APSI				S	**Sn**	**12 54 26.6**	**+0.6**
SGKI	**Sangatta, Kali**	**2.46**	**253**	P	**Pn**	**12 54 05.7**	**-2.1**
LUWI	**Luwuk**	**3.07**	**114**	P	**Pn**	**12 54 16.0**	**-0.1**
GTOI	**Gorontalo**	**3.08**	**82**	P	**Pn**	**12 54 14.9**	**-1.3**
GTOI				S	**Sn**	**12 54 49.6**	**-2.3**
TTSI	**Tana Toraja**	**3.23**	**182**	P	**Pn**	**12 54 17.8**	**-0.5**
KMSI	**Cibinong**	**4.04**	**85**	P	**Pn**	**12 54 29.5**	**+0.2**
SPSI	**Sidrap Palu**	**4.15**	**183**	P	**Pn**	**12 54 30.7**	**-0.1**
BNSI	**Bone**	**4.58**	**178**	P	**Pn**	**12 54 36.6**	**-0.1**
BKSI	**Bulukumba**	**5.49**	**178**	P	**Pn**	**12 54 49.0**	**-0.3**
	0.1nm10nm,0.7s						
SGSI	**Sangihe**	**6.55**	**58**	P	**Pn**	**12 55 03.8**	**0.0**
WRA	**Warramunga Arr**	**24.48**	**146**	P	**P**	**12 58 41.7**	**-1.6**
	0.2nm,0.6s,baz=325,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**27.32**	**151**	P	**P**	**12 59 09.4**	**+0.5**
	0.3nm,0.8s,baz=346,slow=14,SNR=5.1						
MKAR	**Makanchi Array**	**56.88**	**330**	P	**P**	**13 03 09.8**	**+1.6**
	0.3nm,0.4s,baz=123,slow=8.2,SNR=5.4						
ZALV	**Zalesovo Beam**	**60.91**	**337**	P	**P**	**13 03 37.2**	**+1.3**
	0.3nm,0.4s,baz=139,slow=9.0,SNR=1.9						
KURBB	**Kurchatov Arra**	**61.29**	**331**	P	**P**	**13 03 40.2**	**+1.6**
	0.2nm,0.5s,baz=121,slow=5.7,SNR=4.4						

IDC 04 12:54:35.9±16.0, 10°.19N×93°.72E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.1/50, mbtmp3.2/3, MS3.8/1, Ms1 3.8/1, ms1mx2.5/35, Error ellipse: s-maj=377.9km s-min=44.3km az=94.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.65**	**31**	Pn	Pn	12 56 56.2	+0.1
	baz=222,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**49.96**	**127**	P	P	13 03 31.4	-0.8
	0.5nm,0.9s,baz=309,slow=8.0,SNR=5.2						
ASAR	**Alice Springs**	**51.73**	**131**	P	P	13 03 46.0	+0.5
	0.1nm,0.7s,baz=304,slow=8.0,SNR=5.2						
OPO	**Ambohidratompo**	**54.07**	**238**	LR	LR	13 24 31.9	
	comp=Z,83nm,18.6s,baz=250,slow=33						

*IDC **04** 13:26:24.8±3.1, 14°.02N×90°.23W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/33, mbtmp3.9/6, Error ellipse: s-maj=67.5km s-min=49.3km az=4.0*
*NEIC **04** 13:26:53.8±1.9, 14°.66N±0°.08×90°.56W±0°.08, h206km±7km, mb4.4/47, Error ellipse: s-maj=13.8km s-min=8.7km az=216.0*

ISC 04 13:26:52.2±0.6, 14°.64N±0°.07×90°.58W±0°.08, h200km, n67, σ1°15/66, mb4.4/29, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.09**	**264**	Pn	**Pn**	**13 27 23.2**	**+0.6**
HUEH	**Huehuetenango**	**1.12**	**307**	Pn	**Pn**	**13 27 25.5**	**+2.4**
ESQI	**Esquipulas**	**1.20**	**94**	Pn	**Pn**	**13 27 25.5**	**+1.9**
MTO3	**Montecristo**	**1.20**	**101**	Pn	**Pn**	**13 27 25.2**	**+1.5**
CCIG	**Comitan**	**2.22**	**318**		**Pn**	**13 27 35.6**	**+2.3**
PETF	**Flores**	**2.37**	**17**	Pn	**Pn**	**13 27 36.4**	**+1.8**
TGUH	**Tegucigalpa,Un**	**3.25**	**100**		**Pn**	**13 27 46.5**	**+1.4**
CRIN	**San Cristobal**	**3.93**	**119**	Pn	**Pn**	**13 27 55.1**	**+1.9**
JTS	**Las Juntas de**	**6.99**	**128**	Pn	**Pn**	**13 28 32.7**	**+0.3**
RIMA	**Rio Macho**	**8.15**	**126**	Pn	**Pn**	**13 28 48.8**	**+1.1**
TLIG	**Tlapa**	**8.21**	**292**	Pn	**Pn**	**13 28 50.4**	**+2.0**
PEZE	**Perez Zeledon,**	**8.53**	**127**	Pn	**Pn**	**13 28 53.5**	**+0.9**
SRBA	**San Rafael, Bu**	**8.87**	**126**	Pn	**Pn**	**13 28 57.4**	**+0.4**
SJCC	**San Jacinto, C**	**15.76**	**106**		**P**	**13 30 24.8**	**+1.1**
ZARC	**Zaragoza, Cauc**	**16.97**	**113**	P	**P**	**13 30 35.7**	**-1.3**
JSC	**Jenkinsville**	**21.29**	**22**	P	**P**	**13 31 25.0**	**+1.7**
JSC				IAmb	IAmb	13 31 46.0	
	comp=Z,15nm,1.5s						
WMOK	**Wichita Mounta**	**21.34**	**341**	P	**P**	**13 31 24.5**	**+0.7**
CPCT	**Cooper Cave**	**21.43**	**14**	P	**P**	**13 31 25.4**	**+0.8**
CPCT				IAmb	IAmb	13 31 29.6	
	comp=Z,10nm,1.4s						
MNTX	**Cornudas Mount**	**21.72**	**324**	P	**P**	**13 31 29.3**	**+1.6**
PENMO	**Penman**	**21.74**	**2**	P	**P**	**13 31 26.5**	**-1.3**
TKL	**Tuckaleechee C**	**21.80**	**15**	P	**P**	**13 31 29.7**	**+1.2**
TKL				IAmb	IAmb	13 31 32.9	
	comp=Z,20nm,1.5s						
U49A	**Red Boiling Sp**	**22.20**	**10**	P	**P**	**13 31 32.9**	**+0.6**
U49A				IAmb	IAmb	13 31 33.9	
	comp=Z,6.2nm,0.8s						
T47A	**Sharon Grove**	**22.47**	**7**	P	**P**	**13 31 35.0**	**+0.2**
T47A				IAmb	IAmb	13 31 36.3	
	comp=Z,9.3nm,0.5s						
TZTN	**Tazewell**	**22.70**	**15**	P	**P**	**13 31 37.5**	**+0.7**
TZTN				IAmb	IAmb	13 31 39.7	
	comp=Z,9.6nm,0.9s						
BAUV	**El Baul**	**22.76**	**102**	P	**P**	**13 31 37.8**	**+0.2**
BAUV				IAmb	IAmb	13 31 40.4	
	comp=Z,20nm,1.4s						
S44A	**Carbondale**	**22.99**	**3**	P	**P**	**13 31 41.1**	**+1.7**
S44A				IAmb	IAmb	13 31 42.7	
	comp=Z,4.8nm,0.8s						
S39A	**Bolivar**	**23.09**	**354**	P	**P**	**13 31 40.6**	**+0.3**
S39A				IAmb	IAmb	13 32 08.0	
	comp=Z,7.8nm,1.2s						
S51A	**Beattyville**	**23.73**	**14**	P	**P**	**13 31 47.2**	**+1.0**
S51A				IAmb	IAmb	13 32 14.0	
	comp=Z,12nm,1.2s						
BIRV	**Birongo**	**24.08**	**97**	P	**P**	**13 31 51.0**	**+1.5**
Q51A	**Peebles**	**25.11**	**13**	P	**P**	**13 31 59.8**	**+1.1**
Q51A				IAmb	IAmb	13 32 00.5	
	comp=Z,10nm,0.8s						
Q54A	**Coxs Mills**	**25.73**	**18**	P	**P**	**13 32 05.0**	**+0.8**
Q54A				IAmb	IAmb	13 32 30.5	
	comp=Z,17nm,1.4s						
O53A	**New Philadelph**	**26.80**	**16**	P	**P**	**13 32 14.6**	**+0.8**
N54A	**Moraine State**	**27.80**	**17**	P	**P**	**13 32 24.3**	**+1.6**
N54A				IAmb	IAmb	13 32 25.7	
	comp=Z,10nm,0.8s						
SVB	**Belmont**	**28.48**	**89**	P	**P**	**13 32 30.3**	**+1.3**
MCLT	**Moule a Chique**	**28.74**	**88**	P	P	13 32 36.8	+5.5
F36A	**Milaca**	**31.22**	**356**	P	**P**	**13 32 53.4**	**+0.6**
F36A				IAmb	IAmb	13 33 14.8	
	comp=Z,8.0nm,1.5s						
J58A	**Remsen**	**31.48**	**22**	P	**P**	**13 32 55.5**	**+0.4**
J58A				IAmb	IAmb	13 33 21.1	
	comp=Z,13nm,1.3s						
SADO	**Sadowa**	**31.56**	**16**	P	**P**	**13 32 55.8**	**0.0**
E43A	**Lone Tree Farm**	**31.78**	**5**	P	**P**	**13 32 57.3**	**-0.4**
BRYW	**Bryant College**	**31.78**	**28**	P	**P**	**13 32 57.9**	**+0.1**
E46A	**Sault Ste Mari**	**32.06**	**8**	P	**P**	**13 32 59.8**	**-0.3**
E46A				IAmb	IAmb	13 33 18.3	
	comp=Z,12nm,1.1s						
NCB	**Newcomb**	**32.40**	**22**	P	**P**	**13 33 02.7**	**-0.4**
NCB				IAmb	IAmb	13 33 04.6	
	comp=Z,17nm,1.2s						
EYMN	**Ely**	**33.22**	**359**	P	**P**	**13 33 09.3**	**-0.9**
EYMN				IAmb	IAmb	13 33 21.4	
	comp=Z,13nm,1.2s						
B35A	**Bob, Littlefor**	**33.73**	**356**	P	**P**	**13 33 14.4**	**-0.2**
B35A				IAmb	IAmb	13 33 36.3	
	comp=Z,9.3nm,1.4s						
NVAR	**Mina Array Bea**	**34.07**	**319**	P	**P**	**13 33 19.0**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=128,slow=7.0,SNR=2.1						
H17A	**Grant Village**	**34.19**	**334**	P	**P**	**13 33 19.2**	**+0.2**
ETMB	**Extrema**	**34.26**	**134**	P	**P**	**13 33 20.2**	**+0.6**
SAO	**San Andreas Ge**	**35.23**	**314**	P	**P**	**13 33 28.4**	**+0.7**
ULM	**Lac du Bonnet**	**35.78**	**354**	P	**P**	**13 33 30.0**	**-2.1**
	comp=Z,3.0nm,0.6s,baz=169,slow=10,SNR=3.9						
ULM	**Lac du Bonnet**	**35.78**	**354**	P	**P**	**13 33 31.3**	**-0.7**
FCC	**Fort Churchill**	**44.12**	**357**	P	**P**	**13 34 40.0**	**-0.5**
SCHQ	**Schefferville**	**44.15**	**20**	P	**P**	**13 34 40.5**	**-0.4**
	comp=Z,6.8nm,0.6s,baz=223,slow=6.1,SNR=17						
SCHQ	**Schefferville**	**44.15**	**20**	P	**P**	**13 34 40.3**	**-0.6**
SCHQ				IAmb	IAmb	13 34 41.4	
	comp=Z,6.8nm,0.7s						
AC04	**Llanos de Chal**	**46.59**	**156**	P	**P**	**13 35 00.8**	**+0.4**
AC04				IAmb	IAmb	13 35 11.5	
	comp=Z,26nm,1.4s						
GRNB	**Grenville Isla**	**49.79**	**331**	P	**P**	**13 35 23.8**	**-0.7**
GRNB				IAmb	IAmb	13 35 52.8	
	comp=Z,19nm,1.2s						
YKA	**Yellowknife Ar**	**50.74**	**346**	P	**P**	**13 35 30.2**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=150,slow=7.7,SNR=6.4						
MT01	**Popeta**	**51.63**	**159**	P	**P**	**13 35 38.9**	**+0.4**
WRAK	**Wrangell Islan**	**52.41**	**332**	P	**P**	**13 35 42.8**	**-1.1**
WRAK				IAmb	IAmb	13 35 48.7	
	comp=Z,18nm,1.4s						
ITQB	**Itaqui**	**54.89**	**144**	P	**P**	**13 36 01.2**	**-1.1**
BCAR	**Beaver Creek A**	**60.02**	**336**	P	**P**	**13 36 37.3**	**-0.4**
RES	**Resolute Bay**	**60.09**	**359**	P	**P**	**13 36 36.7**	**-1.1**
INK	**Inuvik**	**60.23**	**343**	P	**P**	**13 36 38.0**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=112,slow=4.1,SNR=4.3						
MENT	**Mentasta**	**60.73**	**335**	P	**P**	**13 36 42.7**	**+0.2**
MENT				IAmb	IAmb	13 36 47.8	
	comp=Z,6.4nm,1.1s						
A36M	**Sachs Harbour**	**60.90**	**348**	P	**P**	**13 36 42.5**	**-0.9**
BMAR	**Burnt Mountain**	**63.17**	**340**	P	**P**	**13 36 58.8**	**+0.1**
EKA	**Eskdalemuir Ar**	**76.64**	**36**	P	**P**	**13 38 18.3**	**-2.5**
	comp=Z,1.3nm,0.7s,baz=280,slow=5.5,SNR=3.5						
WRA	**Warramunga Arr**	**136.89**	**256**	PKP	**PKPdf**	**13 45 50.9**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=90,slow=2.3,SNR=7.4						

*IDC **04** 13:35:58.5±1.2, 35°.62N×22°.98E, h0km, mb3.8/12, mb1 3.8/15, mb1mx3.7/41, mbtmp3.7/15, ML3.6/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/90, Error ellipse: s-maj=25.3km s-min=12.0km az=22.0*
*NEIC **04** 13:36:02.1±1.6, 35°.5N±0°.1×23°.20E±0°.09, h27km±8km, mb4.0/9, ML3.4(THE), Error ellipse: s-maj=15.8km s-min=10.4km az=194.0*
*ATH **04** 13:36:03.2, 35°.40N×23°.19E, h66km±4km, ML3.5/10, Error ellipse: s-maj=7.5km s-min=1.6km az=45.0*
*HLW **04** 13:36:04.7, 35°.55N×24°.05E, h33km±35km, Md4.0*
*THE **04** 13:36:05.3, 35°.33N×23°.10E, h20km±3km, ML3.4/9, Error ellipse: s-maj=3.1km s-min=0.7km az=65.0*
*GII **04** 13:36:12.6±0.0, 34°.40N×24°.05E, h1km, MD3.7/1*

ISC 04 13:36:03.4±0.9, 35°.33N±0°.05×23°.24E±0°.06, h51km±8km, n83, σ2°67/95, mb3.9/15, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.37**	**105**	P	**Pn**	**13 36 14.7**	**+1.4**
KNDR				S	**Sn**	**13 36 21.3**	**+0.9**
	4μm,0.6s						
RODP	**Rodopos**	**0.48**	**61**	P	**Pn**	**13 36 16.3**	**+1.8**
RODP				S	**Sn**	**13 36 25.6**	**+3.2**
	1μm,0.5s						
ANKY	**Antikythira Is**	**0.54**	**5**	P	**Pn**	**13 36 15.6**	**+0.4**
ANKY				S	**Sn**	**13 36 24.8**	**+1.2**
	6μm,0.6s						
ANKY	**Antikythira Is**	**0.54**	**5**	P	**Pn**	**13 36 15.6**	**+0.4**
ANKY				S	**Sn**	**13 36 25.4**	**+1.8**
ANKY				AML	AML	13 36 28.4	
	comp=E,13300μm,0.8s						
ANKY				AML	AML	13 36 29.1	
	comp=N,12014μm,0.5s						
IMMV	**Iera Moni Meta**	**0.62**	**78**	P	**Pn**	**13 36 18.5**	**+2.4**
IMMV				S	**Sn**	**13 36 29.2**	**+3.9**
	comp=N,8μm,0.6s						
IMMV	**Iera Moni Meta**	**0.62**	**78**	P	**Pn**	**13 36 18.7**	**+2.6**
IMMV				S	**Sn**	**13 36 29.6**	**+4.3**
IMMV				AML	AML	13 36 30.1	
	comp=E,12430μm,0.6s						
IMMV				AML	AML	13 36 31.0	
	comp=N,20529μm,0.6s						
VAM	**Vamos**	**0.79**	**84**	P	**Pn**	**13 36 21.4**	**+3.1**
VAM				S	**Sn**	**13 36 34.0**	**+4.8**
	comp=N,3μm,0.8s						
VAM	**Vamos**	**0.79**	**84**	P	**Pn**	**13 36 21.6**	**+3.3**
VAM				AML	AML	13 36 36.3	
	comp=E,5308μm,0.7s						
VAM				AML	AML	13 36 41.0	
	comp=N,7511μm,0.7s						
GVD	**Gavdhos**	**0.85**	**125**	P	**Pn**	**13 36 22.4**	**+3.3**
GVD				S	**Sn**	**13 36 36.3**	**+5.7**
	comp=N,2μm,0.4s						
GVD	**Gavdhos**	**0.85**	**125**	P	**Pn**	**13 36 21.6**	**+2.5**
GVD				AML	AML	13 36 42.8	
	comp=N,4506μm,0.5s						
GVD				AML	AML	13 36 48.3	
	comp=E,3774μm,0.3s						
KTHA	**Kythira Island**	**0.93**	**351**	P	**Pn**	**13 36 21.8**	**+1.5**
KTHA				S	**Sn**	**13 36 34.5**	**+1.8**
	comp=E,6μm,0.5s						
KTHA	**Kythira Island**	**0.93**	**351**	P	**Pn**	**13 36 21.9**	**+1.5**
KTHA				S	**Sn**	**13 36 35.0**	**+2.3**
KTHA				AML	AML	13 36 37.2	
	comp=E,19952μm,0.7s						
KTHA				AML	AML	13 36 38.8	
	comp=N,3205μm,0.4s						
KTHR	**Kythira**	**0.95**	**348**	P	**Pn**

DSI	**Dead Sea**	**10.81 107**	Pn	**Pn**	**13 38 36.8**	**+1.4**
DSI			Sn	**Sn**	**13 40 29.1**	**-5.8**
NRCA	**Norcia**	**10.86 317**	Pn	**Pn**	**13 38 33.8**	**-2.4**
PRNI	**Paran**	**11.06 113**	Sn	Sn	13 40 33.0	-8.3
MBRI	**Mt Berech**	**11.29 116**	Pn	**Pn**	**13 38 42.7**	**+0.7**
MBRI			Sn	**Sn**	**13 40 39.6**	**-7.1**
EIL	**Elat**	**11.38 116**	Pn	**Pn**	**13 38 42.3**	**-0.9**
GERES	**GERESS Array B**	**15.23 335**	Pn	**Pn**	**13 39 32.1**	**-3.0**
comp=E,0.1nm,0.3s,baz=150,slow=12,SNR=1.6						
KHC	**Kasperske Hory**	**15.52 336**	*e*P	**P**	**13 39 43.0**	**+0.7**
AKASG	**Malin Array Be**	**15.96 14**	Pn	**Pn**	**13 39 41.9**	**-2.4**
comp=E,0.5nm,0.3s,baz=205,slow=12,SNR=2.8						
AKASG	**Malin Array Be**	**15.96 14**		**Pn**	**13 39 44.1**	**-0.2**
AKBB	**Malin Array Si**	**15.96 14**	P	**P**	**13 39 46.0**	**-1.1**
AKBB			IAmb	IAmb	13 39 55.2	
comp=Z,4.8nm,1.2s						
GNI	**Garni**	**17.66 68**	LR	LR	13 48 07.5	
comp=Z,28nm,18.6s,baz=36,slow=41						
HFS	**Hagfors**	**25.58 349**	P	**P**	**13 41 25.2**	**-2.1**
comp=Z,2.8nm,0.8s,baz=149,slow=12,SNR=5.1						
FINES	**FINESS Array B**	**26.19 3**	P	**P**	**13 41 31.3**	**-1.5**
comp=Z,1.0nm,0.5s,baz=132,slow=10,SNR=4.8						
NC405	**NORSAR Array S**	**26.83 348**	P	**P**	**13 41 39.3**	**+0.6**
NOA	**NORSAR Array B**	**26.86 347**	P	**P**	**13 41 39.5**	**+0.6**
comp=Z,0.6nm,0.8s,baz=154,slow=11,SNR=1.7						
EKA	**Eskdalemuir Ar**	**27.01 326**	P	**P**	**13 41 40.3**	**+0.1**
comp=Z,2.7nm,0.9s,baz=141,slow=9.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	**29.43 227**	P	**P**	**13 42 04.3**	**+2.1**
comp=Z,0.3nm,0.5s,baz=31,slow=8.2,SNR=2.2						
TORD	**Torodi Ar. Bea**	**29.43 227**	P	**P**	**13 42 03.2**	**+1.0**
ARCES	**ARCESS Array B**	**34.28 1**	P	**P**	**13 42 43.5**	**-0.7**
comp=Z,4.6nm,1.0s,baz=182,slow=8.1,SNR=5.9						
KKAR	**Karatay Array**	**37.03 63**	P	**P**	**13 43 07.4**	**-0.7**
MK31	**Makanchi Array**	**44.99 56**	P	**P**	**13 44 14.2**	**+0.6**
MK31			IAmb	IAmb	13 44 23.5	
comp=Z,3.6nm,1.2s						
MKAR	**Makanchi Array**	**44.99 56**	P	**P**	**13 44 14.3**	**+0.8**
comp=Z,0.5nm,0.4s,baz=267,slow=7.5,SNR=13						
ZAA0	**Zalesovo Array**	**46.02 46**	P	**P**	**13 44 21.4**	**-0.1**
ZAA0			IAmb	IAmb	13 44 22.3	
comp=Z,2.6nm,1.2s						
ZALV	**Zalesovo Beam**	**46.02 46**	P	**P**	**13 44 21.4**	**-0.1**
comp=Z,1.3nm,0.4s,baz=272,slow=8.9,SNR=9.3						
ZALV	**Zalesovo Beam**	**46.02 46**	P	**P**	**13 44 20.8**	**-0.7**
SONM	**Songino Array**	**60.59 50**	P	**P**	**13 46 09.6**	**+0.8**
comp=Z,0.2nm,0.6s,baz=290,slow=7.6,SNR=2.6						
SONM	**Songino Array**	**60.59 50**	IAmb	IAmb	13 46 20.6	
comp=Z,1.0nm,1.2s						
A36M	**Sachs Harbour**	**70.71 350**	P	**P**	**13 47 14.8**	**+1.4**
A36M			IAmb	IAmb	13 47 15.9	
comp=Z,2.7nm,0.9s						
INK	**Inuvik**	**75.22 351**	P	**P**	**13 47 40.8**	**+0.7**
comp=Z,0.3nm,0.3s,baz=267,slow=8.4,SNR=2.0						
YKA	**Yellowknife Ar**	**76.79 341**	P	**P**	**13 47 50.2**	**+1.0**
comp=Z,0.3nm,0.7s,baz=30,slow=5.4,SNR=5.6						
BMAR	**Burnt Mountain**	**77.14 355**	P	**P**	**13 47 52.2**	**+1.1**
IMAR	**Indian Mountai**	**78.98 359**	P	**P**	**13 48 02.0**	**+0.7**
KSRS	**Korea Array**	**79.41 52**	P	**P**	**13 48 05.4**	**+1.3**
comp=Z,0.8nm,0.6s,baz=305,slow=5.4,SNR=2.9						

BJI ***04*** *13:53:11.9±0.0,25°.85N×128°.52E,h21km,mb4.6/45, mB4.7/27,Ms4.6/51,Ms7 4.6/47*

IDC ***04*** *13:53:12.2±0.5,25°.95N×128°.38E,h0km,mb4.4/32, mb1 4.5/35,mb1mx4.5/51,mbtmp4.4/35,ML3.4/3,MS3.9/41, Ms1 3.9/41,ms1mx3.7/87,Error ellipse: s-maj=15.1km s-min=10.1km az=90.0*

MOS ***04*** *13:53:12.3±1.1,25°.92N×128°.36E,h14km,mb5.1/59,Error ellipse: s-maj=7.8km s-min=4.7km az=110.9*

NEIC ***04*** *13:53:14.2±1.4,25°.92N±0°.04×128°.33E±0°.09,h13km±4km, mb4.9/84,Error ellipse: s-maj=11.8km s-min=5.6km az=92.0*

JMA ***04*** *13:53:15.9±0.3,25°.98N×128°.43E,h44km±4km,M4.8*

JMA Felt I J1.

NIED ***04*** *13:53:15.9,25°.98N×128°.43E,h44km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr1.08; Mθθ-0.51; Mφφ-0.57; Mrθ0.29; Mθφ-0.79; Mφr0.24; Fault plane solution: M0 1.26000×10^16^ NP1:φs46.00000°, δ54.00000°,λ93.00000°. NP2:φs221.00000°,δ37.00000°, λ86.00000°.*

GCMT ***04*** *13:53:18.2±0.4,25°.85N±0°.04×128°.54E±0°.04,h23km±1km, MW4.8/58,Moment Tensor Solution. s20,c21; s58,c86; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.93±.20; Mθθ-0.93±.11; Mφφ-1.01±.12; Mrθ0.50±.14; Mθφ-0.79±.05; Mφr0.89±.14; Best double couple: M0 2.10500×10^16^ NP1:φs229.00000°,δ31.00000°,λ100.00000°. NP2: φs37.00000°,δ59.00000°,λ84.00000°. Principal axes: T 2.2010, Plg75.0000°, Azm291.0000°; N -0.1970, Plg5.0000°, Azm40.0000°; P -2.0090, Plg14.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 13:53:15.7±0.7,25°.90N±0°.03×128°.44E±0°.03,h26km±4km, n374,σ1°65/404,mb4.8/133,MS4.1/57,38C-15D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.63**	**293**	P	**Pb**	**13 53 28.2**	**0.0**
JJT3				*e*S	**Sb**	**13 53 37.1**	**+0.4**
JNTH	**Nagotoyohara**	**0.72**	**329**	P	**Pb**	**13 53 28.5**	**-1.1**
JNTH				*e*S	**Sb**	**13 53 37.7**	**-1.4**
JOW	**Kunigami**	**0.94**	**351**	Pn	**Pn**	**13 53 32.0**	**-1.2**
821nm,0.3s,baz=158,slow=18,SNR=2247							
JOW				Sn	**Sn**	**13 53 47.5**	**+1.7**
1μm,0.3s,baz=113,slow=23,SNR=14							
JOW				LR	LR	13 53 58.2	
comp=Z,4μm,18.5s,baz=324,slow=52							
JOW	**Kunigami**	**0.94**	**351**	P	**Pn**	**13 53 32.0**	**-1.2**
JOW				*e*S	**Sb**	**13 53 44.2**	**-1.2**
JOW	**Kunigami**	**0.94**	**351**	Pg	**Pn**	**13 53 32.0**	**-1.2**
JOW				Sg	**Sb**	**13 53 42.9**	**-2.6**
JOW	**Kunigami**	**0.94**	**351**	P	**Pn**	**13 53 32.2**	**-1.0**
JYRO	**Yoronjima**	**1.12**	**1**	P	**Pn**	**13 53 34.2**	**-1.5**
JYRO				*e*S	**Sn**	**13 53 46.7**	**-3.5**
JIH	**Iheya**	**1.21**	**340**	P	**Pn**	**13 53 36.2**	**-0.6**
JIH				S	**Sn**	**13 53 51.5**	**-0.8**
JAGN	**Aguni-jima**	**1.27**	**303**	P	**Pn**	**13 53 37.4**	**-0.3**
JAGN				*e*S	**Sn**	**13 53 53.5**	**-0.4**
JOKE	**Okinoerabujima**	**1.46**	**5**	P	**Pn**	**13 53 39.3**	**-1.1**
JOKE				*e*S	**Sn**	**13 53 56.6**	**-2.1**
JKE	**Kume jima 2**	**1.54**	**286**	P	**Pn**	**13 53 40.7**	**-0.7**
JKE				S	**Sn**	**13 53 59.5**	**-1.1**
JTK	**Tokunoshima**	**1.94**	**14**	P	**Pn**	**13 53 45.7**	**-1.2**
JTK				*e*S	**Sn**	**13 54 07.7**	**-2.6**
JMZ	**Minamidaito 2**	**2.51**	**91**	P	**Pn**	**13 53 52.7**	**-2.1**
JMZ				S	**Sn**	**13 54 20.5**	**-4.0**
JKDJ	**Kitadaitoujima**	**2.58**	**88**	P	**Pn**	**13 53 53.6**	**-2.1**
JKDJ				S	**Sn**	**13 54 22.2**	**-4.0**
JMJ	**Miyako jima 2**	**3.04**	**250**	P	**Pn**	**13 54 02.0**	**0.0**
YOJ	**Yonaguni jima**	**5.12**	**255**	P	**Pn**	**13 54 28.7**	**-1.9**
YOJ	**Yonaguni jima**	**5.12**	**255**	Pn	**Pn**	**13 54 28.7**	**-1.9**
JSU	**Suzuyama**	**5.86**	**17**		**Pn**	**13 54 39.3**	**-1.6**
TATO	**Taipei**	**6.35**	**263**		**Pn**	**13 54 43.8**	**-3.7**
NACB	**Ninganchiao**	**6.44**	**256**		**Pn**	**13 54 46.2**	**-2.5**
YHNB	**Yeheng**	**6.51**	**261**		**Pn**	**13 54 49.6**	**-0.2**
YHNB	**Yeheng**	**6.51**	**261**	P	**Pn**	**13 54 50.2**	**+0.4**
YULB	**Yu-li**	**6.96**	**250**	Pn	**Pn**	**13 54 51.9**	**-4.0**
SSLB	**Suanglung**	**7.11**	**254**		**Pn**	**13 54 55.2**	**-2.9**
SSLB	**Suanglung**	**7.11**	**254**	P	**Pn**	**13 54 55.8**	**-2.3**
TWG	**Pinlang**	**7.38**	**247**		**Pn**	**13 54 57.1**	**-4.6**
JNU	**Nakatsue**	**7.50**	**16**	Pn	**Pn**	**13 55 03.3**	**-0.1**
1.5nm,0.3s,baz=208,slow=7.1,SNR=17							
JNU				Sn	**Sn**	**13 56 25.4**	**-2.3**
0.2nm,0.3s,baz=357,slow=18,SNR=0.7							
JNU	**Nakatsue**	**7.50**	**16**	Pn	**Pn**	**13 55 03.2**	**-0.3**
JNU	**Nakatsue**	**7.50**	**16**	P	**Pn**	**13 55 03.9**	**+0.4**
TPUB	**Ta-pu**	**7.56**	**252**	Pn	**Pn**	**13 55 02.4**	**-1.8**
TPUB	**Ta-pu**	**7.56**	**252**	P	**Pn**	**13 55 02.9**	**-1.3**
SSE	**Sheshan**	**8.21**	**311**	P	**Pn**	**13 55 11.6**	**-1.5**
SSE				S	**Sn**	**13 56 43.4**	**-1.6**
SSE				pmax	pmax		
comp=Z,10.0nm,0.6s							
SSE				pmax	pmax		
comp=Z,32nm,3.5s							
SSE				LR	LR		
comp=N,1μm,12.2s							
SSE				LR	LR		
comp=E,1μm,12.2s							
JMN	**Monobe**	**9.12**	**30**	Pn	**Pn**	**13 55 24.7**	**-1.0**
NJ2	**Nanjing**	**10.39**	**308**	*e*P	Pn	13 55 36.2	-6.7
NJ2				pmax	pmax		
comp=Z,8.0nm,0.5s							
NJ2				LR	LR		
comp=N,2μm,11.9s							
NJ2				LR	LR		
comp=E,4μm,12.8s							
NJ2				LR	LR		
comp=Z,4μm,12.3s							
JWT	**Wachi**	**11.11**	**31**	Pn	**Pn**	**13 55 53.7**	**+0.9**
KSRS	**Korea Array**	**11.53**	**358**	Pn	**Pn**	**13 55 58.2**	**-0.3**
comp=Z,0.2nm,0.3s,baz=177,slow=13,SNR=11							
KSRS				LR	LR	14 00 44.3	
comp=Z,925nm,18.2s,baz=180,slow=39							
INU	**Inuyama**	**11.96**	**36**	Pn	**Pn**	**13 56 06.0**	**+1.5**
WHN	**Wuhan**	**13.25**	**294**	⇑P	**P**	**13 56 33.0**	**+1.4**
WHN				S	**S**	**13 59 06.9**	**-5.7**
WHN				LR	LR		
comp=N,2μm,15.5s							
WHN				LR	LR		
comp=E,4μm,12.3s							
WHN				LR	LR		
comp=Z,6μm,14.3s							
MAJO	**Matsushiro**	**13.50**	**36**	⇑*e*P	**Pn**	**13 56 24.3**	**-1.2**
MJAR	**Matsushiro Arr**	**13.50**	**36**	Pn	**P**	**13 56 35.1**	**+0.7**
comp=Z,0.1nm,0.3s,baz=222,slow=9.5,SNR=7.4							
TIA	**Tai'an**	**14.12**	**319**	P	**P**	**13 56 43.2**	**+1.9**
TIA				S	**S**	**13 59 30.1**	**-0.2**
TIA				pmax	pmax		
comp=Z,8.0nm,0.9s							
TIA				pmax	pmax		
comp=Z,120nm,3.5s							
TIA				LR	LR		
comp=N,1μm,13.5s							
TIA				LR	LR		
comp=E,1μm,12.1s							
TIA				LR	LR		
comp=Z,2μm,13.5s							
LYN	**LuoYang**	**16.26**	**306**	⇑P	**P**	**13 57 05.1**	**0.0**
LYN				PP	**sP**	**13 57 16.5**	**+1.8**
LYN				S	**Sn**	**14 00 04.5**	**+2.7**
LYN				SS	**SnSn**	**14 00 21.2**	**+6.3**
LYN				pmax	pmax		
comp=Z,40nm,0.8s							
LYN				pmax	pmax		
comp=Z,240nm,12.4s							
LYN				LR	LR		
comp=Z,2μm,12.8s							
LYN				LR	LR		
comp=Z,2μm,12.7s							
HNS	**HongShan**	**16.35**	**318**	⇑P	**P**	**13 57 06.2**	**+0.1**
HNS				S	**S**	**14 00 13.4**	**-2.5**
HNS				pmax	pmax		
comp=Z,39nm,0.9s							
HNS				LR	LR		
comp=Z,2μm,13.4s							
HNS				LR	LR		
comp=Z,2μm,12.9s							
HNS				LR	LR		
comp=Z,3μm,13.1s							
SNY	**Shenyang**	**16.39**	**347**	⇑P	**Pn**	**13 57 02.2**	**-1.6**
SNY				pmax	pmax		
comp=Z,270nm,13.0s							
SNY				LR	LR		
comp=Z,1μm,14.5s							
SNY				LR	LR		
comp=Z,820nm,10.8s							
SNY				LR	LR		
comp=Z,2μm,15.4s							
ENH	**Enshi**	**17.27**	**289**	P	**Pn**	**13 57 15.2**	**+0.1**
VLA	**Vladivostok**	**17.41**	**8**	⇑*e*P	**Pn**	**13 57 16.8**	**+0.2**
BJT	**Baijiatuau**	**17.41**	**327**	P	**Pn**	**13 57 15.3**	**-1.4**
BJT				pmax	pmax		
comp=Z,17nm,0.8s							
BJT	**Baijiatuau**	**17.41**	**327**	Pn	**Pn**	**13 57 15.3**	**-1.4**
BJI	**Beijing**	**17.43**	**327**	P	**P**	**13 57 18.0**	**0.0**
BJI				S	**Sn**	**14 00 32.2**	**+2.1**
BJI				pmax	pmax		
comp=Z,20nm,0.9s							
BJI				pmax	pmax		
comp=Z,380nm,10.2s							
BJI				LR	LR		
comp=Z,2μm,13.6s							
BJI				LR	LR		
comp=Z,530nm,14.1s							
BJI				LR	LR		
comp=Z,2μm,14.5s							
TIY	**Taiyuan**	**17.96**	**315**	P	**P**	**13 57 25.7**	**+1.7**
TIY				LR	LR		
comp=Z,1μm,14.1s							
TIY				LR	LR		
comp=Z,870nm,13.5s							
TIY				LR	LR		
comp=Z,2μm,14.1s							
CN2	**Changchun**	**18.03**	**353**	*e*P	**P**	**13 57 24.4**	**-0.1**
CN2				S	**Sn**	**14 00 43.8**	**-0.7**
CN2				pmax	pmax		
comp=Z,10.0nm,0.9s							
CN2				LR	LR		
comp=Z,1μm,11.0s							
CN2				LR	LR		
comp=Z,800nm,11.0s							
CN2				LR	LR		
comp=Z,2μm,12.4s							
QIZ	**Qiongzhong**	**18.48**	**252**	P	**P**	**13 57 28.3**	**-1.5**
QIZ				S	**Sn**	**14 00 54.2**	**-1.7**
QIZ				LR	LR		
comp=Z,1μm,20.0s							
QIZ				LR	LR		
comp=Z,420nm,16.5s							
QIZ				LR	LR		
comp=Z,640nm,19.6s							
USA0B	**Ussuriysk Arra**	**18.49**	**8**	P	**Pn**	**13 57 30.6**	**+0.8**
USA0B				pmax	pmax		
comp=Z,14nm,1.1s							
USA0B	**Ussuriysk Arra**	**18.49**	**8**	P	**Pn**	**13 57 30.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**18.49**	**8**	P	**Pn**	**13 57 30.4**	**+0.6**
baz=205,slow=9.1,SNR=6.3							
USRK	**Ussuriysk Ar.**	**18.49**	**8**	P	**Pn**	**13 57 31.6**	**+1.7**
USRK	**Ussuriysk Ar.**	**18.49**	**8**	P	**Pn**	**13 57 31.6**	**+1.7**
XAN	**Xi'an**	**18.73**	**300**	P	**Pn**	**13 57 33.2**	**+0.2**
XAN				pP	pP	13 57 37.7	-1.3
XAN				sP	pwP	13 57 40.4	-1.6
XAN				S	**S**	**14 01 05.4**	**+1.2**
XAN				pmax	pmax		
comp=Z,35nm,1.1s							
XAN				pmax	pmax		
comp=Z,170nm,5.0s							
XAN				LR	LR		
comp=Z,960nm,11.5s							
XAN				LR	LR		
comp=Z,2μm,13.7s							
XAN				LR	LR		
comp=Z,2μm,14.6s							
DAV	**Davao City (W)**	**18.92**	**189**	LR	LR	14 07 03.2	
comp=Z,104nm,18.1s,baz=355,slow=44							
GYA	**Guiyang**	**19.55**	**276**	⇑P	**Pn**	**13 57 45.1**	**+2.1**
GYA				pmax	pmax		
comp=Z,14nm,1.0s							
GYA				LR	LR		
comp=Z,930nm,18.0s							
GYA				LR	LR		
comp=Z,880nm,17.4s							
GYA				LR	LR		
comp=Z,1μm,16.8s							
GUMO	**Guam**	**19.70**	**125**	LR	LR	14 03 41.9	
comp=Z,66nm,21.0s,baz=298,slow=32							
HHC	**Hu-ho-hao-te**	**20.46**	**321**	*e*P	**P**	**13 57 50.7**	**-0.6**
HHC				S	**S**	**14 01 32.6**	**-6.6**
HHC				SS	**SnSn**	**14 02 05.4**	**+7.1**
HHC				pmax	pmax		
comp=Z,17nm,0.9s							
HHC				pmax	pmax		
comp=Z,96nm,4.8s							
HHC				LR	LR		
comp=Z,1μm,11.4s							
HHC				LR	LR		
comp=Z,1μm,11.7s							
HHC				LR	LR		
comp=Z,2μm,12.1s							
XLT	**XiLinHaoTe**	**20.58**	**334**	*e*P	**P**	**13 57 51.1**	**-1.5**
XLT				pP	Pn	13 57 55.7	+0.8
XLT				PP	**PnPn**	**13 58 11.6**	**+1.1**
XLT				pmax	pmax		
comp=Z,33nm,0.9s							
XLT				pmax	pmax		
comp=Z,380nm,4.1s							
XLT				LR	LR		
comp=Z,1μm,14.7s							
XLT				LR	LR		
comp=Z,1μm,13.5s							
XLT				LR	LR		
comp=Z,2μm,14.7s							
BTO	**Baotou**	**21.20**	**318**	*e*P	**P**	**13 57 58.6**	**-0.8**
BTO				LR	LR		
comp=Z,5μm,13.0s							
BTO				LR	LR		
comp=Z,3μm,14.9s							
ASAJ	**Asahikawa**	**21.50**	**29**	P	**P**	**13 58 03.0**	**+0.6**
comp=Z,5.0nm,0.7s,baz=210,slow=23,SNR=1.5							
CD2	**Chengdu**	**22.25**	**289**	P	**P**	**13 58 09.3**	**-1.4**
CD2				S	**S**	**14 02 13.5**	**-0.8**
CD2				pmax	pmax		
comp=Z,20nm,0.5s							
CD2				pmax	pmax		
comp=Z,140nm,5.5s							
CD2				LR	LR		
comp=Z,2μm,14.1s							
CD2				LR	LR		
comp=Z,2μm,14.9s							
SLVN	**Son La**	**22.92**	**264**	P	**P**	**13 58 17.5**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**22.97**	**34**	*e*P	**P**	**13 58 16.1**	**-1.9**
YUK				*e*		13 58 40.5	
YUK				*e*S	**S**	**14 02 27.1**	**+0.5**
YUK				*e*SS	**SnSn**	**14 02 59.9**	**+0.4**
YUK				pmax	pmax		
comp=Z,136nm,1.5s							
YUK				pmax	pmax		
comp=E,130nm,1.7s							
YUK				pmax	pmax		
comp=N,178nm,1.5s							
YUK				pmax	pmax		
comp=Z,181nm,1.5s							
YUK				MLR	MLR		
comp=Z,154nm,17.0s							
YUK				MLR	MLR		
comp=E,134nm,18.0s							
KMI	**Kunming**	**23.20**	**274**	⇓P	**P**	**13 58 21.4**	**+0.6**
KMI				pP	pP	13 58 24.8	-2.5
KMI				sP	sP	13 58 26.7	-3.7
KMI				S	**S**	**14 02 26.7**	**-4.6**
KMI				pmax	pmax		
comp=E,47nm,1.1s							
KMI				pmax	pmax		
comp=E,140nm,5.8s							
KMI				LR	LR		
comp=E,670nm,16.0s							
KMI				LR	LR		
comp=E,600nm,13.2s							
KMI				LR	LR		
comp=E,660nm,16.0s							
LZH	**Lanzhou**	**23.34**	**302**	*e*P	**P**	**13 58 20.5**	**-1.6**
LZH				pP	pP	13 58 26.4	-2.5
LZH				LR	LR		
comp=E,940nm,12.3s							
LZH				LR	LR		
comp=E,960nm,13.2s							
LZH				LR	LR		
comp=E,890nm,13.5s							
KLR	**Kul'dur**	**23.43**	**5**	P	**P**	**13 58 21.4**	**-1.3**
comp=E,2.3nm,0.9s,baz=204,slow=9.2,SNR=7.3							
YSS	**Yuzh-Sakhalins**	**23.89**	**25**	⇓*e*P	**P**	**13 58 28.5**	**+1.4**
YSS				*e*S	**S**	**14 02 43.4**	**+1.8**
YSS				pmax	pmax		
comp=Z,120nm,1.0s							
YSS	**Yuzh-Sakhalins**	**23.89**	**25**	P	**P**	**13 58 27.5**	**+0.4**
UBPT	**Khong Chiam**	**23.91**	**248**	P	**P**	**13 58 27.1**	**-0.5**
UBPT				IAmb	IAmb	13 58 30.9	
comp=Z,47nm,1.5s							
PZH	**PanZhiHua**	**23.95**	**277**	⇓P	**P**	**13 58 27.9**	**-0.1**
PZH				S	**S**	**14 02 36.2**	**-7.0**
PZH				pmax	pmax		
comp=Z,40nm,1.0s							
PZH				pmax	pmax		
comp=Z,110nm,4.4s							
PZH				LR	LR		
comp=Z,2μm,16.7s							
PZH				LR	LR		
comp=Z,2μm,15.1s							
PZH				LR	LR		
comp=Z,2μm,18.0s							
UGL	**Uglegorsk**	**25.46**	**21**	*e*P	**P**	**13 58 44.4**	**+3.1**
UGL				*e*		13 59 16.1	
UGL				*e*S	**S**	**14 03 07.0**	**+0.2**
UGL				pmax	pmax		
comp=Z,60nm,0.9s							
GRNR	**Gornyy**	**25.58**	**12**	⇑*i*P	**P**	**13 58 43.4**	**+1.0**
GRNR				pmax	pmax		
comp=N,9.0nm,0.8s							
GRNR				pmax	pmax		
comp=Z,10.0nm,0.9s							
GRNR				MLR	MLR		
comp=E,200nm,16.0s							
TOLI2	**Tolitoli**	**25.73**	**198**	P	**P**	**13 58 41.6**	**-2.4**
SIJI	**Sorong**	**26.75**	**174**	LR	LR	14 08 38.5	
comp=E,102nm,20.5s,baz=21,slow=35							
TYV	**Tymovskoe**	**27.21**	**20**	*e*P	**P**	**13 59 02.7**	**+5.6**
TYV				pmax	pmax		
comp=Z,200nm,6.9s							
TYV				pmax	pmax		
comp=Z,14nm,0.8s							
GTA	**Gaotai**	**27.47**	**306**	*e*P	**P**	**13 58 58.6**	**-1.2**
GTA				pP	pP	13 59 06.3	-0.6
GTA				S	**S**	**14 03 37.3**	**-1.8**
GTA				pmax	pmax		
comp=Z,290nm,4.5s							
GTA				LR	LR		
comp=Z,470nm,13.8s							
GTA				LR	LR		
comp=Z,690nm,14.9s							
GTA				LR	LR		
comp=Z,1μm,14.2s							
ULN	**Ulaanbaatar**	**27.63**	**328**	*de*P	**P**	**13 59 00.1**	**-1.1**
ULN				pmax	pmax		
comp=Z,32nm,1.7s							
ULN	**Ulaanbaatar**	**27.63**	**328**	P	**P**	**13 58 58.0**	**-3.2**
ZEA	**Zeya**	**27.82**	**358**	*e*P	**P**	**13 59 01.6**	**-1.0**
ZEA				*e*S	**S**	**14 03 37.8**	**-6.1**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.4s							
ZEA				MLR	MLR		
comp=E,200nm,15.0s							
ZEA				MLR	MLR		
comp=N,500nm,13.0s							
ZEA				MLR	MLR		
comp=Z,300nm,13.0s							
SONM	**Songino Array**	**27.93**	**327**	P	**P**	**13 59 02.5**	**-1.4**
comp=Z,14nm,0.8s,baz=138,slow=10,SNR=51							
SONM				LR	LR	14 11 34.8	
comp=Z,366nm,18.8s,baz=128,slow=40							
SONM	**Songino Array**	**27.93**	**327**	P	**P**	**13 59 01.6**	**-2.2**
SONM				pmax	pmax		
comp=Z,15nm,0.8s							
SONM	**Songino Array**	**27.93**	**327**	P	**P**	**13 59 01.6**	**-2.2**
SONM				IAmb	IAmb	13 59 06.9	
comp=Z,15nm,0.8s							
CHTO	**Chiang Mai**	**28.13**	**262**	P	**P**	**13 59 05.6**	**-0.1**
CHTO				pmax	pmax		
comp=Z,21nm,1.3s							
CHTO	**Chiang Mai**	**28.13**	**262**	P	**P**	**13 59 05.6**	**-0.1**
CHTO				IAmb	IAmb	13 59 09.8	
comp=Z,21nm,1.2s							
CMAR	**Chiang Mai Arr**	**28.25**	**261**	P	**P**	**13 59 07.8**	**+1.0**
comp=Z,2.4nm,0.6s,baz=58,slow=7.3,SNR=18							
CMAR	**Chiang Mai Arr**	**28.25**	**261**	P	**P**	**13 59 05.7**	**-1.1**
CM31	**Chiang Mai Arr**	**28.25**	**261**	P	**P**	**13 59 05.0**	**-1.9**
KAPI	**Kappang**	**31.86**	**197**	LR	LR	14 12 49.3	
comp=Z,68nm,20.0s,baz=30,slow=37							
PETK	**Petropavlovsk-**	**34.88**	**31**	P	**P**	**14 00 05.8**	**+1.1**
comp=Z,4.8nm,0.9s,baz=211,slow=11,SNR=3.6							
PETK				LR	LR	14 15 12.8	
comp=Z,98nm,18.0s,baz=229,slow=38							
PET	**Petrop

YAK				*e*			14 02 38.8	
YAK				*e*S		**S**	**14 05 51.6**	**-1.5**
YAK				*e*			14 10 28.4	
YAK				pmax	pmax			
	comp=Z,23nm,0.9s							
YAK				pmax	pmax			
	comp=N,12nm,1.1s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.2s							
YAK				pmax	pmax			
	comp=Z,157nm,4.9s							
YAK				pmax	pmax			
	comp=N,118nm,4.3s							
YAK				pmax	pmax			
	comp=E,63nm,5.7s							
YAK				smax	smax			
	comp=N,125nm,4.3s							
YAK				smax	smax			
	comp=E,36nm,3.3s							
YAK				MLR	MLR			
	comp=Z,339nm,19.0s							
YAK				MLR	MLR			
	comp=N,267nm,19.0s							
YAK				MLR	MLR			
	comp=E,70nm,17.0s							
YAK	**Yakutsk**	**36.13**	**1**	P	**P**		**14 00 13.9**	**-1.4**
YAK				IAmb	IAmb		14 00 16.1	
	comp=Z,27nm,0.9s							
PSI	**Prapat**	**36.48 236**		P	**P**		**14 00 20.6**	**+1.6**
	comp=Z,2.0nm,0.6s,baz=255,slow=12							
RPSI	**Rantau Prapat**	**36.55 236**		P	**P**		**14 00 20.6**	**+1.1**
WMQ	**Urumqi**	**37.47 309**		*e*P	**P**		**14 00 27.5**	**+0.5**
WMQ				pmax	pmax			
	comp=Z,23nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,190nm,6.5s							
WMQ				LR	LR			
	comp=Z,550nm,14.3s							
WMQ				LR	LR			
	comp=Z,640nm,16.9s							
WMQ				LR	LR			
	comp=Z,260nm,14.3s							
GUN	**Gumba**	**37.87 283**		*e*P	**P**		**14 00 31.2**	**+0.3**
	comp=Z,73nm,1.0s							
PKI	**Pulchoki**	**38.32 282**		*e*P	**P**		**14 00 34.7**	**-0.1**
	comp=Z,84nm,1.0s							
PKIN	**Phulchoki**	**38.33 282**		*e*P	**P**		**14 00 34.7**	**-0.1**
	comp=Z,63nm,0.8s							
KKN	**Kakani**	**38.41 283**		*e*P	**P**		**14 00 35.6**	**+0.2**
	comp=Z,90nm,0.9s							
DMN	**Daman**	**38.58 282**		*e*P	**P**		**14 00 37.3**	**+0.4**
	comp=Z,104nm,1.1s							
MTN	**Manton Dam**	**38.60 176**		P	**P**		**14 00 36.5**	**-0.1**
MTN				IAmb	IAmb		14 00 37.4	
	comp=Z,19nm,0.8s							
GKN	**Gorkha**	**38.95 283**		*e*P	**P**		**14 00 39.9**	**+0.1**
	comp=Z,115nm,0.9s							
PMG	**Port Moresby**	**39.54 150**		LR	LR		14 15 16.2	
	comp=Z,125nm,19.1s,baz=303,slow=33							
DANN	**Dangsing**	**39.67 284**		*e*P	**P**		**14 00 46.5**	**+0.5**
	comp=Z,102nm,0.7s							
VLK	**Valmikinagar**	**39.72 282**		*e*P	P		14 00 55.0	+9.0
KOLN	**Koldanda**	**39.88 283**		*e*P	**P**		**14 00 48.0**	**+0.3**
	comp=Z,108nm,1.0s							
SEY	**Seymchan**	**40.28**	**17**	P	**P**		**14 00 50.6**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=222,slow=6.3,SNR=15							
SEY				LR	LR		14 19 04.2	
	comp=Z,232nm,18.1s,baz=204,slow=39							
SEY	**Seymchan**	**40.28**	**17**	‖*e*P	**P**		**14 00 51.5**	**+1.3**
PYUN	**Piuthan**	**40.38 284**		*e*P	**P**		**14 00 52.4**	**+0.6**
	comp=Z,144nm,1.1s							
KNRA	**Kununurra**	**41.33 180**		P	**P**		**14 01 00.2**	**+0.9**
KNRA				IAmb	IAmb		14 01 09.1	
	comp=Z,33nm,0.8s							
MK31	**Makanchi Array**	**41.89 312**		P	**P**		**14 01 03.2**	**-0.6**
MK31				pmax	pmax			
	comp=Z,18nm,1.5s							
MK31	**Makanchi Array**	**41.89 312**		P	**P**		**14 01 03.2**	**-0.6**
MKAR	**Makanchi Array**	**41.89 312**		P	**P**		**14 01 03.2**	**-0.6**
	comp=Z,4.5nm,0.6s,baz=92,slow=9.6,SNR=7.7							
MKAR				LR	LR		14 20 08.8	
	comp=Z,111nm,18.7s,baz=86,slow=39							
MKAR	**Makanchi Array**	**41.89 312**		P	**P**		**14 01 03.0**	**-0.8**
MKAR	**Makanchi Array**	**41.89 312**		P	**P**		**14 01 03.0**	**-0.8**
MAKZ	**Makanchi**	**42.10 312**		P	**P**		**14 01 04.9**	**-0.6**
MAKZ				pmax	pmax			
	comp=Z,11nm,0.8s							
MAKZ	**Makanchi**	**42.10 312**		P	**P**		**14 01 04.9**	**-0.6**
COEN	**Coen**	**42.14 158**		P	**P**		**14 01 06.1**	**+0.1**
COEN				IAmb	IAmb		14 01 07.2	
	comp=Z,28nm,1.4s							
ZALV	**Zalesovo Beam**	**42.62 323**		P	**P**		**14 01 08.9**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=124,slow=7.6,SNR=3.5							
ZALV				LR	LR		14 20 14.6	
	comp=Z,171nm,18.8s,baz=116,slow=38							
ZALV	**Zalesovo Beam**	**42.62 323**		P	**P**		**14 01 09.0**	**-0.6**
UZB	**Uzynbulak**	**43.54 306**		*e*P	**P**		**14 01 16.9**	**-0.4**
UZB				pmax	pmax			
	comp=Z,15nm,1.4s							
UZB	**Uzynbulak**	**43.54 306**		*e*P	**P**		**14 01 17.0**	**-0.4**
	comp=Z,15nm,1.4s,baz=306							
FITZ	**Fitzroy Crossi**	**43.82 184**		P	**P**		**14 01 20.4**	**+0.9**
	comp=Z,5.0nm,0.8s,baz=15,slow=5.3,SNR=5.5							
KPKS	**Kokpek**	**43.82 307**		*e*P	**P**		**14 01 18.2**	**-1.4**
KPKS				pmax	pmax			
	comp=Z,19nm,1.5s							
KPKS	**Kokpek**	**43.82 307**		*e*P	**P**		**14 01 18.2**	**-1.4**
	comp=Z,19nm,1.5s,baz=307							
ZHN	**Zhinishke**	**43.97 306**		*e*P	**P**		**14 01 20.2**	**-0.5**
ZHN	**Zhinishke**	**43.97 306**		*e*P	**P**		**14 01 20.2**	**-0.5**
	baz=306							
SATY	**Saty**	**43.98 306**		*e*P	**P**		**14 01 19.5**	**-1.3**
SATY				pmax	pmax			
	comp=Z,14nm,1.3s							
SATY	**Saty**	**43.98 306**		*e*P	**P**		**14 01 19.5**	**-1.3**
	comp=Z,14nm,1.3s,baz=306							
SEM	**Semipalatinsk**	**44.10 317**		*e*P	**P**		**14 01 19.8**	**-2.0**
SEM				pmax	pmax			
	comp=Z,19nm,1.4s							
SEM	**Semipalatinsk**	**44.10 317**		*e*P	**P**		**14 01 19.8**	**-2.0**
	comp=Z,19nm,1.4s,baz=317							
TDK	**Taldyqorghan**	**44.22 309**		*e*P	**P**		**14 01 21.4**	**-1.2**
TDK				pmax	pmax			
	comp=Z,50nm,1.4s							
TDK	**Taldyqorghan**	**44.22 309**		*e*P	**P**		**14 01 21.5**	**-1.2**
	comp=Z,50nm,1.4s,baz=309							
KDJ	**Kajisay**	**44.79 305**		P	**P**		**14 01 27.3**	**-0.2**
KDJ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KDJ	**Kajisay**	**44.79 305**		P	**P**		**14 01 27.2**	**-0.2**
MDOK	**Medeo**	**44.98 306**		*e*P	**P**		**14 01 28.0**	**-0.9**
MDOK	**Medeo**	**44.98 306**		*e*P	**P**		**14 01 28.0**	**-0.9**
	baz=306							
TNSS	**Tian-Shan**	**45.04 306**		*e*P	**P**		**14 01 29.5**	**-0.2**
	baz=306							
CHKK	**Chushkaly**	**45.09 307**		*e*P	**P**		**14 01 29.1**	**-0.4**
	baz=307							
KURK	**Kurchatov**	**45.19 317**		*d*i P	**P**		**14 01 29.7**	**-0.5**
KURK				pmax	pmax			
	comp=Z,16nm,1.7s							
KURK	**Kurchatov**	**45.19 317**		P	**P**		**14 01 30.3**	**+0.1**
KURK				IAmb	IAmb		14 01 30.9	
	comp=Z,16nm,1.0s							
KURBB	**Kurchatov Arra**	**45.22 317**		P	**P**		**14 01 30.6**	**+0.2**
	comp=Z,5.9nm,0.7s,baz=104,slow=7.9,SNR=15							
KUU	**Kurty**	**45.56 307**		*e*P	**P**		**14 01 31.9**	**-1.4**
KUU				pmax	pmax			
	comp=Z,12nm,0.8s							
KUU	**Kurty**	**45.56 307**		*e*P	**P**		**14 01 31.9**	**-1.4**
	comp=Z,12nm,0.8s,baz=307							
KSH	**Kashi**	**45.59 301**		P	**P**		**14 01 36.0**	**+2.3**
KSH				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KSH				LR	LR			
	comp=Z,430nm,17.5s							
KSH				LR	LR			
	comp=Z,390nm,15.3s							
KSH				LR	LR			
	comp=Z,490nm,15.1s							
KST	**Kastek**	**45.76 306**		*e*P	**P**		**14 01 34.3**	**-0.8**
	baz=306							
WB0	**Warramunga Arr**	**45.76 172**		P	**P**		**14 01 35.5**	**+0.5**
WB0				IAmb	IAmb		14 01 44.8	
	comp=Z,13nm,0.8s							
TIXI	**Tiksi**	**45.79**	**0**	*c*eP	**P**		**14 01 34.4**	**-0.2**
TIXI	**Tiksi**	**45.79**	**0**	P	**P**		**14 01 33.8**	**-0.8**
WRAB	**Tennant Creek**	**45.92 172**		‖*e*P	**P**		**14 01 37.0**	**+0.7**
WRAB				pmax	pmax			
	comp=Z,9.0nm,0.8s							
WRAB	**Tennant Creek**	**45.92 172**		P	**P**		**14 01 36.4**	**+0.1**
WRAB				IAmb	IAmb		14 01 46.1	
	comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**45.93 172**		P	**P**		**14 01 37.1**	**+0.7**
	comp=Z,7.3nm,0.8s,baz=353,slow=8.4,SNR=55							
WRA				LR	LR		14 21 26.4	
	comp=Z,69nm,19.4s,baz=25,slow=37							
WRA	**Warramunga Arr**	**45.93 172**		P	**P**		**14 01 35.6**	**-0.7**
WB2	**Warramunga Arr**	**45.93 172**		P	**P**		**14 01 36.2**	**-0.2**
WB2				IAmb	IAmb		14 01 46.2	
	comp=Z,15nm,0.8s							
WR0	**Warramunga Arr**	**45.97 172**		P	**P**		**14 01 36.9**	**+0.2**
WR0				IAmb	IAmb		14 01 46.6	
	comp=Z,14nm,1.0s							
HNR	**Honiara**	**46.61 135**		LR	LR		14 18 55.9	
	comp=Z,66nm,20.2s,baz=279,slow=33							
SGDS	**Sogindy**	**46.76 306**		*e*P	**P**		**14 01 43.0**	**+0.1**
	baz=306							
AAK	**Ala-Archa**	**46.81 305**		P	**P**		**14 01 42.1**	**-1.3**
	comp=Z,1.6nm,0.4s,baz=127,slow=10,SNR=2.6							
AAK				LR	LR		14 23 56.4	
	comp=Z,176nm,18.5s,baz=111,slow=40							
AAK	**Ala-Archa**	**46.81 305**		*c*eP	**P**		**14 01 44.6**	**+1.2**
AAK				pmax	pmax			
	comp=Z,22nm,2.5s							
AAK	**Ala-Archa**	**46.81 305**		P	**P**		**14 01 42.1**	**-1.3**
BTLS	**Baital**	**47.30 308**		*e*P	**P**		**14 01 45.9**	**-1.0**
BTLS				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BTLS	**Baital**	**47.30 308**		*e*P	**P**		**14 01 45.9**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=308							
BILL	**Bilibino**	**47.93**	**18**	*i* P	**P**		**14 01 51.9**	**+0.5**
BILL				*i*			14 03 20.0	
BILL				*i*			14 03 46.7	
BILL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,139nm,15.0s							
BILL	**Bilibino**	**47.93**	**18**	P	**P**		**14 01 51.4**	**0.0**
BILL				IAmb	IAmb		14 01 56.0	
	comp=Z,15nm,1.2s							
NIL	**Nilore**	**48.04 293**		P	**P**		**14 01 53.2**	**+0.3**
NIL				pmax	pmax			
	comp=Z,18nm,0.9s							
NIL	**Nilore**	**48.04 293**		P	**P**		**14 01 53.2**	**+0.3**
NIL				IAmb	IAmb		14 02 02.2	
	comp=Z,18nm,0.9s							
BRZS	**Berezniki**	**48.78 315**		*e*P	**P**		**14 01 58.3**	**0.0**
BRZS				pmax	pmax			
	comp=Z,5.0nm,0.6s							
BRZS	**Berezniki**	**48.78 315**		*e*P	**P**		**14 01 58.4**	**0.0**
	comp=Z,5.1nm,0.6s,baz=315							
CTAO	**Charters Tower**	**48.88 158**		P	**P**		**14 01 59.5**	**+0.2**
CTAO				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CTAO	**Charters Tower**	**48.88 158**		P	**P**		**14 01 59.5**	**+0.2**
CTAO				IAmb	IAmb		14 02 01.8	
	comp=Z,8.8nm,0.8s							
DZA	**Taraz**	**49.15 305**		*e*P	**P**		**14 02 00.3**	**-1.0**
DZA	**Taraz**	**49.15 305**		*e*P	**P**		**14 02 00.3**	**-1.0**
	baz=305							
AS31	**Alice Springs**	**49.56 173**		P	**P**		**14 02 04.4**	**0.0**
ASAR	**Alice Springs**	**49.56 173**		P	**P**		**14 02 05.6**	**+1.1**
	comp=Z,4.6nm,0.7s,baz=4.3,slow=8.7,SNR=44							
ASAR				LR	LR		14 23 50.9	
	comp=Z,48nm,18.4s,baz=21,slow=37							
ASAR	**Alice Springs**	**49.56 173**		P	**P**		**14 02 04.5**	**0.0**
ASAR	**Alice Springs**	**49.56 173**		P	**P**		**14 02 04.5**	**0.0**
NRIK	**Noril'sk**	**49.62 342**		P	**P**		**14 02 03.0**	**-1.4**
	comp=Z,3.1nm,0.8s,baz=115,slow=10.0,SNR=2.1							
NRIK				LR	LR		14 25 23.5	
	comp=Z,347nm,18.1s,baz=135,slow=39							
NRIK	**Noril'sk**	**49.62 342**		‖*e*P	**P**		**14 02 04.5**	**+0.1**
NRIK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KKAR	**Karatay Array**	**49.75 306**		P	**P**		**14 02 05.4**	**-0.5**
KKAR	**Karatay Array**	**49.75 306**		P	**P**		**14 02 05.4**	**-0.5**
IUG	**Iuzhnay**	**50.11 304**		*e*P	**P**		**14 02 08.9**	**+0.2**
IUG	**Iuzhnay**	**50.11 304**		*e*P	**P**		**14 02 08.9**	**+0.2**
	baz=304							
BVAR	**Borovoye Array**	**50.64 318**		P	**P**		**14 02 12.9**	**+0.5**
	comp=Z,7.6nm,0.6s,baz=101,slow=7.7,SNR=14							
BRVK	**Borovoye**	**50.71 319**		*c*i P	**P**		**14 02 12.6**	**-0.3**
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
BRVK	**Borovoye**	**50.71 319**		P	**P**		**14 02 12.1**	**-0.8**
BRVK				IAmb	IAmb		14 02 22.1	
	comp=Z,19nm,0.8s							
KBL	**Kabul**	**51.41 295**		P	**P**		**14 02 16.7**	**-2.1**
KBL				pmax	pmax			
	comp=Z,21nm,0.8s							
KBL	**Kabul**	**51.41 295**		P	**P**		**14 02 16.7**	**-2.1**
ANM	**Nome**	**56.71**	**28**	P	**P**		**14 02 58.0**	**+1.3**
ANM				pmax	pmax			
	comp=Z,9.0nm,0.8s							
ANM	**Nome**	**56.71**	**28**	P	**P**		**14 02 58.0**	**+1.3**
ANM				IAmb	IAmb		14 03 04.7	
	comp=Z,8.7nm,0.8s							
ABKAR	**Akbulak array**	**57.01 313**		P	**P**		**14 02 58.5**	**-0.5**
ARU	**Arti**	**57.77 322**		LR	LR		14 30 36.1	
	comp=Z,463nm,18.5s,baz=88,slow=39							
ARU	**Arti**	**57.77 322**		‖*e*P	**P**		**14 03 05.1**	**+0.9**
ARU				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ARU	**Arti**	**57.77 322**		P	**P**		**14 03 04.5**	**+0.2**
ARU				IAmb	IAmb		14 03 05.4	
	comp=Z,9.2nm,0.8s							
AKTO	**Aktyubinsk**	**58.20 315**		LR	LR		14 28 33.5	
	comp=Z,93nm,19.3s,baz=119,slow=36							
STKA	**Stephens Creek**	**58.81 167**		P	**P**		**14 03 11.5**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=336,slow=13,SNR=4.4							
STKA				LR	LR		14 30 13.4	
	comp=Z,43nm,18.5s,baz=20,slow=38							
STKA	**Stephens Creek**	**58.81 167**		P	**P**		**14 03 11.4**	**-0.3**
STKA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
STKA	**Stephens Creek**	**58.81 167**		P	**P**		**14 03 11.4**	**-0.3**
GEYT	**Alibeck**	**59.62 300**		P	**P**		**14 03 18.4**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=220,slow=51,SNR=1.3							
GEYT				LR	LR		14 32 39.6	
	comp=Z,143nm,18.1s,baz=60,slow=40							
DZM	**Mont Dzumac**	**60.26 139**		P	**P**		**14 03 23.6**	**+1.6**
	comp=Z,4.7nm,0.8s,baz=54,slow=18,SNR=3.0							
DZM				LR	LR		14 24 56.3	
	comp=Z,65nm,22.0s,baz=3.5,slow=32							
TTA	**Tatalina**	**60.72**	**31**	P	**P**		**14 03 26.6**	**+1.9**
TTA				pmax	pmax			
	comp=Z,8.0nm,1.3s							
TTA	**Tatalina**	**60.72**	**31**	P	**P**		**14 03 26.6**	**+1.9**
A21K	**Barrow**	**60.88**	**21**	P	**P**		**14 03 26.2**	**+0.7**
J20K	**Nowinta River**	**61.55**	**29**	P	**P**		**14 03 31.0**	**+0.8**
J20K				IAmb	IAmb		14 03 43.9	
	comp=Z,9.2nm,1.1s							
K20K	**Telida**	**61.60**	**30**	P	**P**		**14 03 32.5**	**+1.9**
K20K				IAmb	IAmb		14 03 47.4	
	comp=Z,6.8nm,0.9s							
IMAR	**Indian Mountai**	**61.70**	**27**	P	**P**		**14 03 31.9**	**+0.7**
H21K	**Melozitna Rive**	**62.09**	**27**	P	**P**		**14 03 34.7**	**+0.9**
H21K				IAmb	IAmb		14 03 41.7	
	comp=Z,7.5nm,1.1s							
PPLA	**Purkeypile**	**62.47**	**31**	P	**P**		**14 03 37.6**	**+1.0**
CAST	**Castle Rocks**	**62.49**	**30**	P	**P**		**14 03 37.4**	**+0.9**
CAST				IAmb	IAmb		14 03 45.2	
	comp=Z,8.9nm,1.1s							
KIRV	**Kirov**	**62.62 325**		LR	LR		14 33 26.8	
	comp=Z,256nm,19.1s,baz=89,slow=39							
KIRV	**Kirov**	**62.62 325**		‖*e*P	**P**		**14 03 37.2**	**-0.2**
WSAR	**Wadi Sarin**	**62.84 284**		P	**P**		**14 03 39.2**	**-0.3**
	comp=Z,7.9nm,0.9s,baz=176,slow=7.4,SNR=4.3							
WSAR				LR	LR		14 35 13.9	
	comp=Z,99nm,18.2s,baz=98,slow=40							
TOLK	**Toolik Lake Re**	**63.24**	**24**	P	**P**		**14 03 42.3**	**+0.8**
TOLK				IAmb	IAmb		14 03 49.8	
	comp=Z,11nm,1.3s							
TRF	**Thorofare Moun**	**63.29**	**30**	P	**P**		**14 03 41.4**	**-0.7**
TRF				IAmb	IAmb		14 04 08.3	
	comp=Z,13nm,1.4s							
MCK	**McKinley**	**63.87**	**29**	P	**P**		**14 03 46.1**	**+0.4**
MCK				pmax	pmax			
	comp=Z,12nm,1.1s							
MCK	**McKinley**	**63.87**	**29**	P	**P**		**14 03 46.1**	**+0.4**
MCK				IAmb	IAmb		14 03 55.4	
	comp=Z,12nm,1.1s							
RND	**Reindeer**	**63.94**	**30**	P	**P**		**14 03 46.7**	**+0.5**
RND				pmax	pmax			
	comp=Z,9.0nm,0.8s							
RND	**Reindeer**	**63.94**	**30**	P	**P**		**14 03 46.7**	**+0.5**
RND				IAmb	IAmb		14 03 56.4	
	comp=Z,9.3nm,0.8s							
MDM	**Murphy Dome**	**64.05**	**28**	P	**P**		**14 03 47.4**	**+0.5**
MDM				IAmb	IAmb		14 03 55.3	
	comp=Z,9.1nm,0.7s							
H24K	**Noodor Dome**	**64.11**	**27**	P	**P**		**14 03 48.0**	**+0.8**
WRH	**Wood River Hil**	**64.16**	**29**	P	**P**		**14 03 48.1**	**+0.6**
CCB	**Clear Creek Bu**	**64.26**	**28**	P	**P**		**14 03 48.3**	**+0.1**
SML	**Sawmill**	**64.36**	**32**	P	**P**		**14 03 49.2**	**+0.2**
IL31		**64.64**	**28**	P	**P**		**14 03 49.2**	**-1.5**
ILAR	**Eielson Array**	**64.64**	**28**	P	**P**		**14 03 50.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=266,slow=7.4,SNR=8.8							
ILAR	**Eielson Array**	**64.64**	**28**	P	**P**		**14 03 49.5**	**-1.2**
ILAR	**Eielson Array**	**64.64**	**28**	P	**P**		**14 03 49.5**	**-1.2**
HDA	**Harding Lake**	**64.66**	**29**	P	**P**		**14 03 50.9**	**0.0**
HDA				IAmb	IAmb		14 03 57.9	
	comp=Z,9.4nm,1.0s							
SCM	**Sheep Creek Mo**	**64.83**	**31**	P	**P**		**14 03 50.3**	**-1.8**
SCM				pmax	pmax			
	comp=Z,13nm,1.0s							
SCM	**Sheep Creek Mo**	**64.83**	**31**	P	**P**		**14 03 50.3**	**-1.8**
SCM				IAmb	IAmb		14 04 02.3	
	comp=Z,12nm,1.0s							
BMAR	**Burnt Mountain**	**65.23**	**25**	P	**P**		**14 03 55.7**	**+1.2**
PAX	**Paxson**	**65.52**	**30**	P	**P**		**14 03 57.8**	**+1.3**
PAX				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PAX	**Paxson**	**65.52**	**30**	P	**P**		**14 03 57.8**	**+1.3**
PAX				IAmb	IAmb		14 04 13.3	
	comp=Z,6.4nm,1.0s							
SCRK	**Sand Creek**	**66.00**	**29**	P	**P**		**14 04 00.5**	**+0.7**
SCRK				IAmb	IAmb		14 04 07.8	
	comp=Z,5.7nm,0.8s							
M26K	**Nabesna, AK**	**66.74**	**30**	P	**P**		**14 04 05.5**	**+1.2**
M26K				IAmb	IAmb		14 04 14.6	
	comp=Z,6.2nm,0.9s							
VRDI	**Verde Repeater**	**66.76**	**32**	P	**P**		**14 04 05.7**	**+1.0**
VRDI				IAmb	IAmb		14 04 11.1	
	comp=Z,9.0nm,1.1s							
BCAR	**Beaver Creek A**	**67.15**	**30**	P	**P**		**14 04 08.2**	**+1.2**
M27K	**Edge Creek, AK**	**67.26**	**30**	P	**P**		**14 04 08.3**	**+0.5**
M27K				IAmb	IAmb		14 04 24.1	
	comp=Z,12nm,1.4s							
GROC	**Groznyy**	**67.62 308**		*e*P	**P**		**14 04 08.8**	**-1.4**
GROC				*e*			14 06 36.1	
GROC				pmax	pmax			
	comp=Z,13nm,0.4s							
DAWY	**Dawson**	**67.97**	**28**	P	**P**		**14 04 13.3**	**+1.2**
VRH	**Novokhopyorsk**	**68.27 317**		*e*P	**P**		**14 04 14.2**	**+0.1**
VRH				pmax	pmax			
	comp=Z,8.0nm,0.7s							
ZEI	**Tsey**	**69.07 308**		*e*P	**P**		**14 04 18.7**	**-0.9**
ZEI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
INK	**Inuvik**	**69.12**	**23**	P	**P**		**14 04 19.8**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=310,slow=7.4,SNR=9.9							
INK				LR	LR		14 38 00.5	
	comp=Z,54nm,18.1s,baz=263,slow=39							
INK	**Inuvik**	**69.12**	**23**	P	**P**		**14 04 19.9**	**+0.8**
INK				pmax	pmax			
	comp=Z,10.0nm,1.5s							
INK	**Inuvik**	**69.12**	**23**	P	**P**		**14 04 19.9**	**+0.8**
INK				IAmb	IAmb		14 04 32.6	
	comp=Z,10nm,1.5s							
SPB2	**Spitsbergen Ar**	**69.19 348**		P	**P**		**14 04 19.2**	**-0.2**
SPITS	**Spitsbergen Ar**	**69.19 348**		P	**P**		**14 04 19.8**	**+0.3**
SPITS				pmax	pmax			
	comp=Z,26nm,1.1s							
GNI	**Garni**	**69.22 305**		LR	LR		14 38 14.6	
	comp=Z,104nm,19.0s,baz=77,slow=39							
KBZ	**Khabaz**	**69.51 310**		P	**P**		**14 04 22.8**	**+0.9**
	comp=Z,14nm,0.8s,baz=114,slow=5.6,SNR=22							
KBZ	**Khabaz**	**69.51 310**		*de*P	**P**		**14 04 23.3**	**+1.3**
KBZ				pmax	pmax			
	comp=Z,17nm,0.9s							
KIV	**Kislovodsk**	**69.59 310**		*c*i P	**P**		**14 04 23.1**	**+0.5**
KIV				*i*			14 04 32.5	
KIV				*i*			14 04 46.5	
KIV				*i*			14 06 56.0	
KIV				*i* S	**S**		**14 13 38.0**	**+8.7**
KIV				pmax	pmax			
	comp=Z,29nm,1.3s							
KIV				MLR	MLR			
	comp=Z,119nm,18.0s							
KIV	**Kislovodsk**	**69.59 310**		P	**P**		**14 04 23.8**	**+1.2**
NEY	**Neytrino**	**69.77 309**		‖*e*P	**P**		**14 04 26.0**	**+2.1**
NEY				pmax	pmax			
	comp=Z,3.0nm,0.8s							
VORD	**Divnogorie**	**69.81 318**		*e*P	**P**		**14 04 20.4**	**-3.3**
VORD				pmax	pmax			
	comp=Z,6.0nm,0.7s							
VSR	**Storozhevoye**	**69.82 318**		*e*P	**P**		**14 04 22.4**	**-1.4**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
OBN	**Obninsk**	**70.20 322**		LR	LR		14 37 25.6	
	comp=Z,56nm,19.8s,baz=4.0,slow=38							
OBN	**Obninsk**	**70.20 322**		*c*eP	**P**		**14 04 26.1**	**+0.1**
OBN				*e*S	**S**		**14 13 39.3**	**+3.5**
OBN				pmax	pmax			
	comp=Z,38nm,2.5s							
OBN				MLR	MLR			
	comp=Z,292nm,15.0s							
KARS	**Kars**

MNK				*i* P	**P**	**14 04 54.1**	**-1.2**
	comp=N,14nm,0.9s						
MNK				*i* P	**P**	**14 04 54.1**	**-1.2**
	comp=Z,20nm,0.9s,baz=66						
MNK				*i* PP	**PP**	**14 07 41.9**	**-1.3**
MNK				*i* PPP	PPP	14 09 31.6	
MNK				*i* S	**S**	**14 14 33.1**	**+1.1**
MNK				*i* SS	**SS**	**14 19 23.0**	**+2.3**
MNK				*i* SSS	SSS	14 22 45.3	
MNK				*i* LQ	LQ	14 35 12.1	
MNK				*i* LR	LR	14 36 35.4	
MNK				*i* LRM	MLR	14 41 54.3	
	comp=Z,273nm,17.6s						
MNK				*i* LRM	MLR	14 41 55.9	
	comp=E,30nm,17.7s						
MNK				*i* LRM	MLR	14 42 46.6	
	comp=N,116nm,17.8s						
MTSE	**Matsula**	**75.41**	**329**	*e*P	**P**	**14 04 57.1**	**+0.3**
NACGM	**Naroch**	**75.55**	**324**	*i* P	**P**	**14 04 59.0**	**+1.3**
DAG	**Danmarks Havn**	**75.61**	**353**	*i* P	**P**	**14 04 56.9**	**-0.7**
DAG				*i* P	**P**	**14 04 56.9**	**-0.7**
DAG				IAmb	IAmb	14 05 06.7	
	comp=Z,3.8nm,0.8s						
DAG				IAmb	IAmb	14 05 06.7	
	comp=Z,3.8nm,0.8s						
RES	**Resolute Bay**	**75.84**	**11**	P	**P**	**14 05 00.0**	**+1.0**
RES				pmax	pmax		
	comp=Z,13nm,0.7s						
RES	**Resolute Bay**	**75.84**	**11**	P	**P**	**14 05 00.0**	**+1.0**
RES				IAmb	IAmb	14 05 05.0	
	comp=Z,12nm,0.7s						
AKASG	**Malin Array Be**	**75.90**	**320**	P	**P**	**14 04 60.0**	**+0.2**
	comp=Z,8.9nm,0.6s,baz=57,slow=6.2,SNR=45						
AKASG				LR	LR	14 40 58.6	
	comp=Z,223nm,18.9s,baz=70,slow=38						
AKASG	**Malin Array Be**	**75.90**	**320**	*i* P	**P**	**14 05 00.0**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.6s						
AKASG	**Malin Array Be**	**75.90**	**320**	P	**P**	**14 04 59.9**	**0.0**
AKASG				IAmb	IAmb	14 05 01.4	
	comp=Z,11nm,1.3s						
AKBB	**Malin Array Si**	**75.90**	**320**	*ce*P	**P**	**14 04 59.5**	**-0.3**
AKBB	**Malin Array Si**	**75.90**	**320**	P	**P**	**14 04 59.8**	**0.0**
NEEM	**North Greenlan**	**76.89**	**360**	*i* P	**P**	**14 05 07.7**	**+2.3**
NEEM				*i* P	**P**	**14 05 07.7**	**+2.3**
NEEM				IAmb	IAmb	14 05 14.2	
	comp=Z,5.8nm,0.6s						
NEEM				IAmb	IAmb	14 05 14.2	
	comp=Z,5.8nm,0.6s						
TULEG	**Thule**	**77.24**	**4**	*i* P	**P**	**14 05 06.9**	**-0.1**
TULEG				*i* P	**P**	**14 05 06.9**	**-0.1**
TULEG				IAmb	IAmb	14 05 11.6	
	comp=Z,6.5nm,0.7s						
TULEG				IAmb	IAmb	14 05 11.6	
	comp=Z,6.5nm,0.7s						
BR131	**Keskin Array S**	**77.38**	**308**	P	**P**	**14 05 09.2**	**+0.6**
BR131				pmax	pmax		
	comp=Z,32nm,1.0s						
BR131	**Keskin Array S**	**77.38**	**308**	P	**P**	**14 05 09.2**	**+0.6**
BRTR	**Keskin Array B**	**77.38**	**308**	P	**P**	**14 05 09.8**	**+1.2**
	comp=Z,12nm,0.8s,baz=92,slow=5.9,SNR=30						
BRTR				LR	LR	14 43 04.5	
	comp=Z,60nm,18.9s,baz=84,slow=39						
BRTR	**Keskin Array B**	**77.38**	**308**	P	**P**	**14 05 09.0**	**+0.4**
BRTR	**Keskin Array B**	**77.38**	**308**	P	**P**	**14 05 09.0**	**+0.4**
SORM	**Soroca**	**77.47**	**317**	⇑P	**P**	**14 05 08.7**	**0.0**
SORM	**Soroca**	**77.47**	**317**	⇑P	**P**	**14 05 08.7**	**0.0**
SUW	**Suwalki**	**77.83**	**324**	*e*P	**P**	**14 05 11.5**	**+0.9**
SUW	**Suwalki**	**77.83**	**324**	P	**P**	**14 05 10.9**	**+0.3**
SUW	**Suwalki**	**77.83**	**324**	*e*P	**P**	**14 05 11.1**	**+0.5**
SUW	**Suwalki**	**77.83**	**324**	P	**P**	**14 05 10.9**	**+0.3**
DBG	**Daneborg**	**77.96**	**352**	*i* P	**P**	**14 05 10.0**	**-1.0**
DBG				*i* P	**P**	**14 05 10.0**	**-1.0**
DBG				IAmb	IAmb	14 05 20.1	
	comp=Z,2.5nm,0.8s						
DBG				IAmb	IAmb	14 05 20.1	
	comp=Z,2.5nm,0.8s						
MMAI	**Mount Meron Ar**	**78.72**	**301**	LR	LR	14 45 36.0	
	comp=Z,61nm,18.3s,baz=211,slow=40						
YKA	**Yellowknife Ar**	**78.75**	**25**	P	**P**	**14 05 16.6**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=301,slow=5.5,SNR=26						
YKA	**Yellowknife Ar**	**78.75**	**25**	P	**P**	**14 05 15.7**	**+0.2**
CFR	**Carcaliu**	**78.86**	**315**	⇓P	**P**	**14 05 17.2**	**+0.7**
CFR	**Carcaliu**	**78.86**	**315**	⇓P	**P**	**14 05 17.2**	**+0.7**
HFS	**Hagfors**	**79.20**	**332**	LR	LR	14 44 25.8	
	comp=Z,312nm,18.4s,baz=50,slow=39						
HARR	**Harsova**	**79.20**	**314**	⇑P	**P**	**14 05 19.5**	**+1.1**
HARR	**Harsova**	**79.20**	**314**	⇑P	**P**	**14 05 19.5**	**+1.1**
TESR	**Tescani**	**79.22**	**317**	⇓P	**P**	**14 05 19.2**	**+0.8**
ODBI	**Odobesti**	**79.29**	**316**	⇑P	**P**	**14 05 20.3**	**+1.4**
NC405	**NORSAR Array S**	**79.45**	**334**	P	**P**	**14 05 18.5**	**-1.0**
VRI	**Vrincioaia**	**79.45**	**316**	⇑P	**P**	**14 05 20.8**	**+1.0**
VRI	**Vrincioaia**	**79.45**	**316**	⇑P	**P**	**14 05 20.8**	**+1.0**
PLOR	**Plostina**	**79.51**	**316**	⇑P	**P**	**14 05 20.6**	**+0.5**
PLOR	**Plostina**	**79.51**	**316**	⇑P	**P**	**14 05 20.6**	**+0.5**
CSS	**Mathiatis**	**79.51**	**304**	P	**P**	**14 05 20.5**	**+0.1**
BORA	**Eskisehir**	**79.56**	**309**	P	**P**	**14 05 20.6**	**0.0**
BORA				IAmb	IAmb	14 05 22.1	
	comp=Z,15nm,0.9s						
BUR08	**Bucovina Ar. S**	**79.59**	**318**	P	**P**	**14 05 20.6**	**-0.1**
BURAR	**Bucovina Array**	**79.60**	**318**	⇑P	**P**	**14 05 21.1**	**+0.5**
BURAR	**Bucovina Array**	**79.60**	**318**	⇑P	**P**	**14 05 21.1**	**+0.5**
BURAR	**Bucovina Array**	**79.60**	**318**	P	**P**	**14 05 20.8**	**+0.1**
BISRR	**Bisoca**	**79.60**	**316**	⇑P	**P**	**14 05 22.2**	**+1.5**
NB201	**NORSAR Array S**	**79.65**	**334**	P	**P**	**14 05 20.7**	**+0.1**
NB2	**NORSAR Subarra**	**79.69**	**334**	P	**P**	**14 05 21.0**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**79.69**	**334**	P	**P**	**14 05 20.9**	**0.0**
	comp=Z,4.0nm,0.7s,baz=52,slow=5.5,SNR=15						
NOA				LR	LR	14 47 00.9	
	comp=Z,82nm,19.3s,baz=65,slow=40						
NC204	**NORSAR Array S**	**79.73**	**334**	P	**P**	**14 05 21.0**	**0.0**
NBO00	**NORSAR Array S**	**79.87**	**334**	P	**P**	**14 05 21.2**	**-0.5**
PLWZ	**Palliser**	**79.90**	**146**	P	**P**	**14 05 22.4**	**+0.3**
MLR	**Muntele Rosu**	**80.11**	**316**	⇑P	**P**	**14 05 24.6**	**+1.1**
MLR	**Muntele Rosu**	**80.11**	**316**	LR	LR	14 43 41.9	
	comp=Z,152nm,18.3s,baz=54,slow=38						
MLR	**Muntele Rosu**	**80.11**	**316**	⇑P	**P**	**14 05 24.6**	**+1.1**
KWP	**Kalwaria Pacla**	**80.14**	**321**	*e*P	**P**	**14 05 23.0**	**-0.4**
KWP	**Kalwaria Pacla**	**80.14**	**321**	P	**P**	**14 05 23.3**	**-0.1**
KWP				pmax	pmax		
	comp=Z,211nm,1.0s						
KWP	**Kalwaria Pacla**	**80.14**	**321**	P	**P**	**14 05 23.3**	**-0.1**
DOPR	**Dopca**	**80.24**	**316**	⇑P	**P**	**14 05 25.3**	**+1.3**
TRPA	**Tarpa**	**80.95**	**319**	⇑P	**P**	**14 05 29.2**	**+1.4**
ARR	**Arges**	**80.99**	**316**	⇑P	**P**	**14 05 29.5**	**+1.4**
HUMR	**Humele**	**81.16**	**315**	⇑P	**P**	**14 05 29.7**	**+0.7**
SUMG	**Summit**	**81.38**	**356**	P	**P**	**14 05 30.9**	**+0.8**
SUMG				pmax	pmax		
	comp=Z,22nm,0.8s						
SUMG	**Summit**	**81.38**	**356**	*i* P	**P**	**14 05 34.1**	**+4.0**
SUMG				*i* P	**PcP**	**14 05 34.7**	**-1.5**
SUMG				IAmb	IAmb	14 05 35.4	
	comp=Z,17nm,0.7s						
SUMG				IAmb	IAmb	14 05 35.4	
	comp=Z,17nm,0.7s						
SUMG	**Summit**	**81.38**	**356**	P	**P**	**14 05 30.9**	**+0.8**
OJC	**Ojcow**	**81.49**	**322**	*e*P	**P**	**14 05 31.9**	**+1.3**
OJC	**Ojcow**	**81.49**	**322**	P	**P**	**14 05 28.6**	**-2.0**
OJC				pmax	pmax		
	comp=Z,24nm,1.1s						
LOT	**Lotru**	**81.49**	**316**	⇑P	**P**	**14 05 32.6**	**+1.8**
KSP	**Ksiaz**	**83.07**	**324**	*e*P	**P**	**14 05 40.5**	**+1.7**
VTS	**Vitosha**	**83.18**	**314**	⇓P	**P**	**14 05 41.3**	**+1.5**
VTS	**Vitosha**	**83.18**	**314**	⇓P	**P**	**14 05 41.3**	**+1.5**
DPC	**Dobruska-Polom**	**83.32**	**323**	*e*P	P	14 05 49.7	+9.5
VRAC	**Vranov**	**83.73**	**322**	LR	LR	14 46 19.8	
	comp=Z,270nm,18.3s,baz=58,slow=38						
RAR	**Rarotonga**	**83.90**	**117**	LR	LR	14 33 48.5	
	comp=Z,32nm,21.3s,baz=254,slow=29						
FRGS	**Fruska Gora**	**84.06**	**318**	⇓P	**P**	**14 05 44.7**	**+0.6**
PRU	**Pruhonice**	**84.47**	**324**	*e*P	P	14 05 55.2	+9.1
CLL	**Collm**	**84.53**	**325**	*e*P	**P**	**14 05 48.0**	**+1.7**
CLL				*i*		14 05 55.1	
CLL	**Collm**	**84.53**	**325**	*e*P	**P**	**14 05 48.0**	**+1.7**
	comp=Z,9.0nm,0.9s						
CLL				*i* x	x	14 05 55.1	
	comp=Z,9.0nm,0.7s						
CLL				LmH		14 40 00.0	
	comp=N,400nm,19.4s						
CLL				LmH		14 40 00.0	
	comp=E,400nm,21.3s						
ICESG	**Greenland Ices**	**84.89**	**356**	*i* P	**P**	**14 05 51.6**	**+3.4**
ICESG				*i* P	**PcP**	**14 05 52.6**	**+1.1**
ICESG				IAmb	IAmb	14 05 53.6	
	comp=Z,14nm,0.7s						
ICESG				IAmb	IAmb	14 05 54.0	
	comp=Z,14nm,0.7s						
CONA	**Conrad Observa**	**84.90**	**321**	*e*P	**P**	**14 05 47.3**	**-1.1**
	comp=Z,9.7nm,1.3s						
CKRC	**Cesky Krumlov**	**85.26**	**323**	*e*P	**P**	**14 05 54.4**	**+4.3**
NKC	**Novy Kostel**	**85.44**	**325**	*e*P	**P**	**14 05 55.1**	**+4.2**
NKC	**Novy Kostel**	**85.44**	**325**	*e*P	**P**	**14 05 55.1**	**+4.2**
KHC	**Kasperske Hory**	**85.48**	**323**	⇑*e*P	**P**	**14 05 52.9**	**+1.7**
KHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KHC	**Kasperske Hory**	**85.48**	**323**	*e*P	**P**	**14 05 54.3**	**+3.1**
GERES	**GERESS Array B**	**85.57**	**323**	P	**P**	**14 05 52.2**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=46,slow=5.8,SNR=14						
GERES				LR	LR	14 47 15.8	
	comp=Z,282nm,19.1s,baz=52,slow=38						
MOA	**Molln**	**85.83**	**322**	*e*P	**P**	**14 05 53.2**	**+0.2**
	comp=Z,3.8nm,0.8s						
SOKA	**Soboth**	**86.06**	**321**	*e*P	**P**	**14 05 53.7**	**-0.5**
	comp=Z,2.2nm,0.7s						
SFJD	**Kangerlussuaq**	**87.39**	**360**	LR	LR	14 46 50.0	
	comp=Z,37nm,18.4s,baz=360,slow=37						
ABTA	**Abfaltersbach**	**87.44**	**322**	*e*P	**P**	**14 06 00.3**	**-0.6**
	comp=Z,2.7nm,0.6s						
WATA	**Walderalm**	**87.61**	**323**	*e*P	**P**	**14 06 01.5**	**-0.4**
	comp=Z,0.6nm,0.2s						
DAVOX	**Davos/Dischmat**	**88.87**	**323**	LR	LR	14 49 33.6	
	comp=Z,241nm,20.4s,baz=56,slow=38						
NVAR	**Mina Array Bea**	**90.60**	**46**	P	**P**	**14 06 18.2**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=277,slow=7.2,SNR=2.2						
PPT	**Papeete**	**90.61**	**109**	LR	LR	14 40 00.9	
	comp=Z,48nm,20.2s,baz=288,slow=31						
PDAR	**Pinedale Array**	**93.31**	**39**	P	**P**	**14 06 28.1**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=328,slow=3.2,SNR=2.2						

*IDC **04** 13:56:09.4±0.6, 36.°36N×97.°75E, h0km, mb4.2/17, mb1 4.4/23, mb1mx4.2/58, mbtmp4.2/23, ML4.0/6, MS3.7/5, Ms1 3.7/5, ms1mx3.0/90, Error ellipse: s-maj=19.4km s-min=12.1km az=51.0*

*MOS **04** 13:56:10.3±1.0, 36.°42N×97.°61E, h19km, mb5.0/19, Error ellipse: s-maj=8.3km s-min=6.0km az=102.6*

*BJI **04** 13:56:10.3±0.0, 36.°37N×97.°63E, h10km, mb4.5/28, mB4.9/11, ML4.1/14, Ms4.2/25, Ms7 4.0/24*

*NEIC **04** 13:56:11.8±1.2, 36.°43N±0.°06×97.°6E±0.°1, h14km±2km, mb4.8/74, Error ellipse: s-maj=13.0km s-min=8.8km az=71.0*

ISC 04 13:56:14.9±0.3, 36.°47N±0.°04×97.°66E±0.°03, h35km, n194, σ1§61/207, mb4.6/62, MS4.0/5, 1C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**2.31**	**264**	Pn	**Pn**	**13 56 52.9**	**+2.1**
GOMU				Sn	**Sn**	**13 57 22.8**	**+4.7**
GOMU				smax	smax		
	comp=N,2μm,0.5s						
GOMU				smax	smax		
	comp=E,1μm,0.6s						
GTA	**Gaotai**	**3.40**	**30**	Pn	**Pn**	**13 57 07.8**	**+2.3**
GTA				Pg		13 57 14.8	
GTA				Sn	**Sn**	**13 57 48.9**	**+4.3**
GTA				Sg		13 57 59.2	
GTA				smax	smax		
	comp=N,130nm,1.0s						
GTA				smax	smax		
	comp=E,270nm,1.0s						
GTA				LR	LR		
	comp=N,2μm,9.1s						
GTA				LR	LR		
	comp=E,1μm,9.8s						
GTA				LR	LR		
	comp=Z,1μm,9.8s						
LZH	**Lanzhou**	**5.01**	**93**	Pn	**Pn**	**13 57 27.3**	**-0.5**
LZH				Sn	**Sn**	**13 58 25.1**	**+0.5**
LZH				Sg		13 58 47.2	
LZH				smax	smax		
	comp=N,920nm,1.1s						
LZH				smax	smax		
	comp=E,1μm,1.2s						
LZH				LR	LR		
	comp=N,2μm,7.2s						
LZH				LR	LR		
	comp=E,2μm,7.6s						
LZH				LR	LR		
	comp=Z,2μm,8.0s						
CD2	**Chengdu**	**7.52**	**136**	Pn	**Pn**	**13 58 04.4**	**+2.3**
CD2				smax	smax		
	comp=E,30nm,1.3s						
LSA	**Lhasa**	**8.68**	**221**	P	**Pn**	**13 58 18.3**	**-0.1**
LSA	**Lhasa**	**8.68**	**221**	P	**Pn**	**13 58 19.2**	**+0.8**
LSA				S	**Sn**	**14 00 00.7**	**+5.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
LSA				LR	LR		
	comp=N,990nm,5.0s						
LSA				LR	LR		
	comp=E,1μm,5.0s						
LSA				LR	LR		
	comp=Z,2μm,5.7s						
LSA	**Lhasa**	**8.68**	**221**	Pn	**Pn**	**13 58 18.3**	**-0.1**
XAN	**Xi'an**	**9.53**	**101**	Pn	Pn	13 58 37.1	+7.5
XAN				Pg		13 59 10.2	
XAN				Sn	Sn	14 00 32.5	+17
XAN				Sg		14 01 14.8	
XAN				smax	smax		
	comp=N,68nm,1.2s						
XAN				smax	smax		
	comp=E,49nm,1.0s						
XAN				LR	LR		
	comp=N,570nm,6.7s						
XAN				LR	LR		
	comp=E,520nm,6.0s						
XAN				LR	LR		
	comp=Z,710nm,7.0s						
MOKO	**MOKOCHONG**	**10.47**	**196**	*i* x	**Pn**	**13 58 42.4**	**-0.2**
MOKO				*ex*	x	14 03 45.1	
PZH	**PanZhiHua**	**10.53**	**160**	P	**Pn**	**13 58 42.7**	**-0.7**
PZH				S	**Sn**	**14 00 43.7**	**+3.5**
PZH				pmax	pmax		
	comp=Z,30nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,4.4s						
PZH				LR	LR		
	comp=Z,370nm,11.5s						
PZH				LR	LR		
	comp=Z,660nm,12.2s						
PZH				LR	LR		
	comp=Z,340nm,10.6s						
WMQ	**Urumqi**	**10.58**	**317**	*e*P	**Pn**	**13 58 43.5**	**-0.5**
WMQ				pP		13 58 49.3	
WMQ				PP	**PnPn**	**13 58 56.9**	**+5.3**
WMQ				S	**Sn**	**14 00 41.7**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,39nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,220nm,4.5s						
WMQ				LR	LR		
	comp=Z,820nm,13.5s						
WMQ				LR	LR		
	comp=Z,680nm,12.9s						
KOHI	**KOHIMA**	**11.14**	**197**	*i* x	**Pn**	**13 58 52.4**	**+0.7**
KOHI				*ex*	**Sn**	**14 00 52.3**	**-2.8**
HHC	**Hu-ho-hao-te**	**11.72**	**64**	*e*P	**Pn**	**13 58 59.1**	**-0.5**
HHC				sP		13 59 05.6	
HHC				S	**Sn**	**14 01 14.2**	**+5.1**
HHC				SS	**SnSn**	**14 01 25.3**	**+4.3**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,95nm,4.8s						
HHC				LR	LR		
	comp=Z,1μm,11.1s						
HHC				LR	LR		
	comp=Z,1μm,13.6s						
HHC				LR	LR		
	comp=Z,2μm,12.1s						
SONM	**Songino Array**	**13.06**	**27**	Pn	**Pn**	**13 59 19.3**	**+1.3**
	comp=Z,2.3nm,0.3s,baz=209,slow=15,SNR=34						
SONM				Sn	**Sn**	**14 01 40.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=214,slow=27,SNR=2.6						
ZAK	**Zakamensk**	**14.49**	**15**	*e*P	**Pn**	**13 59 38.2**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,21nm,1.0s						
BJT	**Baijiatuau**	**14.97**	**71**	P	**Pn**	**13 59 42.6**	**-1.2**
BJT	**Baijiatuau**	**14.97**	**71**	Pn	**Pn**	**13 59 42.6**	**-1.2**
BJI	**Beijing**	**14.98**	**71**	P	**Pn**	**13 59 44.0**	**+0.1**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,160nm,9.6s						
MOY	**Mondy**	**15.38**	**8**	*e*P	**P**	**13 59 55.7**	**+2.2**
MOY				pmax	pmax		
	comp=Z,34nm,1.6s						
MK31	**Makanchi Array**	**15.41**	**317**	P	**Pn**	**13 59 46.4**	**-3.2**
MK31				pmax	pmax		
	comp=Z,11nm,0.8s						
MK31	**Makanchi Array**	**15.41**	**317**		**Pn**	**13 59 46.4**	**-3.2**
MKAR	**Makanchi Array**	**15.41**	**317**	Pn	**Pn**	**13 59 47.2**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=120,slow=14,SNR=27						
MKAR				Sn	**Sn**	**14 02 35.1**	**-3.9**
	comp=Z,0.6nm,0.3s,baz=131,slow=25,SNR=4.0						
MKAR	**Makanchi Array**	**15.41**	**317**	P	**Pn**	**13 59 46.7**	**-2.9**
MKAR						14 02 35.1	
MKAR	**Makanchi Array**	**15.41**	**317**	Pn	**Pn**	**13 59 46.7**	**-2.9**
MAKZ	**Makanchi**	**15.59**	**316**	P	**Pn**	**13 59 47.9**	**-4.0**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAKZ	**Makanchi**	**15.59**	**316**	Pn	**Pn**	**13 59 47.9**	**-4.0**
XLT	**XiLinHaoTe**	**15.90**	**57**	*e*P	**P**	**13 59 59.2**	**-0.1**
XLT				pP	Pn	14 00 02.0	+6.1
XLT				sP	pP	14 00 04.8	-4.4
XLT				S	**S**	**14 03 01.8**	**-2.5**
XLT				sS	sS	14 03 06.8	-13
XLT				pmax	pmax		
	comp=Z,12nm,0.9s						
XLT				pmax	pmax		
	comp=Z,110nm,4.8s						
XLT				LR	LR		
	comp=Z,1μm,14.7s						
XLT				LR	LR		
	comp=Z,1μm,12.6s						
XLT				LR	LR		
	comp=Z,2μm,14.3s						
PRZ	**Przheval'sk**	**16.02**	**298**	P	**Pn**	**13 59 53.0**	**-4.7**
PRZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PRZ	**Przheval'sk**	**16.02**	**298**		**Pn**	**13 59 53.0**	**-4.7**
IRK	**Irkutsk**	**16.45**	**14**	*e*P	**Pn**	**14 00 03.9**	**+1.1**
IRK				pmax	pmax		
	comp=Z,36nm,1.9s						
KDJ	**Kajisay**	**16.81**	**296**	P	**Pn**	**14 00 05.4**	**-2.3**
KDJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KDJ	**Kajisay**	**16.81**	**296**	Pn	**Pn**	**14 00 05.4**	**-2.3**
KSH	**Kashi**	**17.36**	**287**	P	**P**	**14 00 18.6**	**+3.1**
KSH				pP	pP	14 00 21.8	-3.6
KSH				S	**S**	**14 03 31.2**	**-3.0**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHTO	**Chiang Mai**	**17.63**	**176**	P	**Pn**	**14 00 16.8**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**17.63**	**176**		**Pn**	**14 00 16.8**	**-0.9**
BOOM	**Boomskoye usch**	**17.79**	**296**	P	**Pn**	**14 00 17.4**	**-2.4**
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BOOM	**Boomskoye usch**	**17.79**	**296**	Pn	**Pn**	**14 00 17.4**	**-2.4**
CM31	**Chiang Mai Arr**	**17.98**	**176**	P	**Pn**	**14 00 20.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**17.98**	**176**	P	**Pn**	**14 00 21.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=351,slow=10.0,SNR=6.0						
CMAR	**Chiang Mai Arr**	**17.98**	**176**	P	**Pn**	**14 00 20.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**17.98**	**176**		**Pn**	**14 00 20.6**	**-1.5**
NJ2	**Nanjing**	**18.06**	**98**	*e*P	**Pn**	**14 00 22.0**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TKM2	**Tokmak 2**	**18.13**	**298**	P	**Pn**	**14 00 22.9**	**-1.2**
	SNR=25						
KBK	**Karagaybulak**	**18.54**	**296**	P	**P**	**14 00 28.4**	**-0.1**
	SNR=5.2						
UCH	**Uchtor**	**18.77**	**295**	P	**Pn**	**14 00 35.1**	**+3.0**
	SNR=8.3						
AAK	**Ala-Archa**	**18.86**	**296**	P	**Pn**	**14 00 33.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=124,slow=8.2,SNR=16						
AAK				LR	LR	14 08 31.7	
	comp=Z,97nm,18.3s,baz=128,slow=39						
AAK	**Ala-Archa**	**18.86**	**296**	P	**Pn**	**14 00 33.9**	**+1.0**
	SNR=9.4						
AAK	**Ala-Archa**	**18.86**	**296**	P	**P**	**14 00 30.3**	**-1.8**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AAK	**Ala-Archa**	**18.86**	**296**		**P**	**14 00 30.3**	**-1.8**
USP	**Ospenovka**	**18.99**	**298**	P	**Pn**	**14 00 35.6**	**+1.3**
	SNR=9.1						
AML	**Almayashu**	**19.36**	**294**	P	**Pn**	**14 00 39.8**	**+0.8**
	SNR=12						
ZAA0	**Zalesovo Array**	**19.62**	**337**		**P**	**14 00 38.3**	**-1.8**
ZALV	**Zalesovo Beam**	**19.62**	**337**	P	**P**	**14 00 41.1**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=147,slow=12,SNR=57						
ZALV				LR	LR	14 08 35.7	
	comp=Z,149nm,18.6s,baz=156,slow=38						
ZALV	**Zalesovo Beam**	**19.62**	**337**	P	**P**	**14 00 39.0**	**-1.1**
ZALV	**Zalesovo Beam**	**19.62**	**337**		**P**	**14 00 39.0**	**-1.1**
KURBB	**Kurchatov Arra**	**19.72**	**322**	P	**P**	**14 00 41.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=132,slow=11,SNR=56						
KURK	**Kurchatov**	**19.74**	**322**	P	**P**	**14 00 41.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KURK	**Kurchatov**	**19.74**	**322**		**P**	**14 00 41.5**	**+0.1**
QIZ	**Qiongzhong**	**20.42**	**145**	P	**P**	**14 00 48.2**	**-0.8**
QIZ				S	Sn	14 04 38.7	-1.7
QIZ				pmax	pmax		
	comp=Z,22nm,1.3s						
QIZ				LR	LR		
	comp=Z,400nm,13.1s						
QIZ				LR	LR		
	comp=Z,490nm,13.3s						
HIA	**Hailar**	**20.54**	**45**	P	**P**	**14 00 49.7**	**-0.4**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**20.54**	**45**	P	**P**	**14 00 49.7**	**-0.4**
KKAR	**Karatay Array**	**21.83**	**296**	P	**P**	**14 01 03.8**	**-0.3**
KKAR	**Karatay Array**	**21.83**	**296**	P

BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 25.32 320 P P 14 01 38.5 +0.4
BRVK IAmb IAmb 14 01 41.4
comp=Z,12nm,0.7s
HYBB Hyderabad (bro 25.41 227 *e*P **P 14 01 37.7 -1.5**
HYBB *e*S **S 14 06 07.7 +3.9**
ADKI Addanki 25.88 222 *e*P **P 14 01 42.2 -1.2**
ADKI *e*S **S 14 06 13.0 +1.9**
SRLM Srisailam 26.26 224 *e*P **P 14 01 46.3 -0.6**
SRLM *e*SnSn **SnSn 14 07 19.1 +0.7**
RCLA Racherla 26.75 223 *e*P **P 14 01 50.4 -0.9**
RCLA *e*SnSn SnSn 14 07 31.0 +0.7
KLR Kul'dur 27.81 52 P P 14 02 00.9 +0.4
comp=Z,2.1nm,0.7s,baz=273,slow=11,SNR=4.6
URV Uravakonda 28.12 226 *e*P **P 14 02 02.8 -0.8**
ABKAR Abkulak array 30.13 307 P **P 14 02 21.9 +0.8**
GEYT Alibeck 31.37 285 LR LR 14 16 20.1
comp=Z,43nm,18.6s,baz=339,slow=38
SVE Sverdlovsk 31.98 321 *e*P **P 14 02 38.5 +1.1**
SVE pmax pmax
comp=Z,14nm,0.9s
YAK Yakutsk 32.42 28 LR LR 14 16 50.3
comp=Z,300nm,18.2s,baz=151,slow=38
ARU Arti 32.90 320 *d i P* **P 14 02 46.5 +1.1**
ARU pmax pmax
comp=Z,18nm,0.8s
ARU Arti 32.90 320 P **P 14 02 46.0 +0.6**
ARU IAmb IAmb 14 02 47.3
comp=Z,16nm,0.8s
MYLDM Lahad Datu 36.55 143 P **P 14 03 17.8 +0.5**
MYLDM IAmb IAmb 14 03 36.0
comp=Z,16nm,1.1s
TIXI Tiksi 38.77 15 P **P 14 03 34.6 -0.8**
TIXI pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 38.77 15 P **P 14 03 34.6 -0.8**
SEY Seymchan 42.34 34 P **P 14 04 05.1 +0.1**
comp=Z,1.9nm,0.7s,baz=53,slow=20,SNR=3.7
MOS Moscow 44.29 315 *e*P **P 14 04 20.1 -0.8**
MOS pmax pmax
comp=Z,27nm,0.7s
LVZ Lovozero 46.66 332 P **P 14 04 39.2 -0.4**
LVZ pmax pmax
comp=Z,56nm,1.5s
LVZ Lovozero 46.66 332 P **P 14 04 39.2 -0.4**
BILL Bilibino 48.78 28 *i* P **P 14 04 54.8 -1.2**
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 48.78 28 P **P 14 04 56.1 +0.1**
BILL IAmb IAmb 14 04 57.5
comp=Z,8.1nm,0.6s
BRTR Keskin Array B 49.53 294 P **P 14 05 03.1 +0.9**
comp=Z,1.5nm,0.7s,baz=92,slow=7.1,SNR=5.5
BRTR Keskin Array B 49.53 294 P **P 14 05 02.9 +0.6**
BRTR Keskin Array B 49.53 294 P **P 14 05 02.9 +0.6**
FINES FINESS Array B 50.10 324 P **P 14 05 07.0 +0.9**
comp=Z,3.2nm,0.6s,baz=94,slow=10,SNR=6.6
FINES FINESS Array B 50.10 324 P **P 14 05 07.0 +0.9**
ARCES ARCESS Array B 50.14 334 P **P 14 05 07.2 +0.8**
comp=Z,1.1nm,0.4s,baz=84,slow=7.9,SNR=12
ARCES ARCESS Array B 50.14 334 P **P 14 05 07.0 +0.7**
ARCES pmax pmax
comp=Z,16nm,1.4s
ARCES ARCESS Array B 50.14 334 P **P 14 05 07.0 +0.7**
ARCES IAmb IAmb 14 05 22.9
comp=Z,16nm,1.4s
BURAR Bucovina Array 53.10 306 P **P 14 05 29.4 +0.5**
BURAR pmax pmax
comp=Z,12nm,0.7s
BURAR Bucovina Array 53.10 306 P **P 14 05 29.4 +0.5**
BURAR IAmb IAmb 14 05 30.8
comp=Z,12nm,0.8s
BUR08 Bucovina Ar. S 53.11 306 P **P 14 05 29.6 +0.7**
BUR08 IAmb IAmb 14 05 30.4
comp=Z,8.6nm,0.8s
ELL Elmali 53.29 292 P **P 14 05 30.7 +0.2**
ELL Elmali 53.29 292 P **P 14 05 30.7 +0.2**
ELL Elmali 53.29 292 pmax pmax
comp=Z,73nm,0.7s
KWP Kalwaria Pacla 54.14 309 P **P 14 05 37.5 +1.1**
KWP pmax pmax
comp=Z,211nm,1.0s
KWP Kalwaria Pacla 54.14 309 P **P 14 05 37.5 +1.1**
SMY Shemya 54.22 47 P **P 14 05 36.4 -0.4**
SMY pmax pmax
comp=Z,247nm,1.4s
SMY Shemya 54.22 47 P **P 14 05 36.4 -0.4**
NC405 NORSAR Array S 56.97 325 P **P 14 05 56.0 -0.4**
NC602 NORSAR Array S 57.16 324 P **P 14 05 58.0 +0.2**
NOA NORSAR Array B 57.22 325 P **P 14 05 58.6 +0.3**
comp=Z,2.1nm,0.8s,baz=74,slow=7.1,SNR=4.1
KNRA Kununurra 59.61 145 P **P 14 06 14.9 -0.4**
KNRA IAmb IAmb 14 06 40.7
comp=Z,16nm,1.1s
FITZ Fitzroy Crossi 60.38 149 P **P 14 06 19.2 -1.4**
baz=340,slow=12
A21K Barrow 60.67 21 P **P 14 06 22.9 +0.9**
A21K IAmb IAmb 14 06 26.5
comp=Z,6.2nm,0.8s
STAL STALIGIAL 61.61 308 P **P 14 06 28.8 0.0**
TOLK Toolik Lake Re 64.13 22 P **P 14 06 45.6 +0.4**
TOLK IAmb IAmb 14 06 47.0
comp=Z,5.1nm,0.9s
IMAR Indian Mountai 64.23 26 P **P 14 06 46.3 +0.4**
BCLA Clavier 64.30 315 PcP **PcP 14 07 20.1 -0.9**
BGES Gesves 64.44 315 PcP **PcP 14 07 21.1 -0.5**
BMRD Maredsous 64.66 315 PcP **PcP 14 07 21.5 -1.0**
COLD Coldfoot 64.73 23 P **P 14 06 49.3 +0.2**
COLD IAmb IAmb 14 06 51.7
comp=Z,6.6nm,1.0s
H21K Melozitna River 64.73 26 P **P 14 06 49.6 +0.4**
H21K IAmb IAmb 14 06 51.4
comp=Z,8.9nm,1.0s
J20K Nowinta River 65.05 27 P **P 14 06 52.2 +1.0**
J20K IAmb IAmb 14 07 08.0
comp=Z,5.9nm,1.2s
K20K Telida 65.52 28 P **P 14 06 55.5 +1.1**
K20K IAmb IAmb 14 07 17.4
comp=Z,8.5nm,1.2s
WB0 Warramunga Arr 65.83 142 P **P 14 06 55.7 -1.1**
WB0 IAmb IAmb 14 06 56.4
comp=Z,4.3nm,0.8s
BNI Bardonecchia 65.94 309 P **P 14 06 57.4 -0.1**
BNI pmax pmax
comp=Z,11nm,1.3s
BNI Bardonecchia 65.94 309 P **P 14 06 57.4 -0.1**
BNI IAmb IAmb 14 07 11.1
comp=Z,11nm,1.3s
WRAB Tennant Creek 65.95 142 P **P 14 06 56.9 -0.7**
WRAB pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 65.95 142 P **P 14 06 56.9 -0.7**
WRAB IAmb IAmb 14 06 57.3
comp=Z,3.9nm,0.7s
WRA Warramunga Arr 65.95 142 P **P 14 06 56.4 -1.2**
comp=Z,2.4nm,0.7s,baz=340,slow=6.6,SNR=22
WRA Warramunga Arr 65.95 142 P **P 14 06 56.7 -0.9**
WRA Warramunga Arr 65.95 142 P **P 14 06 56.7 -0.9**
WB2 Warramunga Arr 65.96 142 P **P 14 06 56.4 -1.2**
WB2 IAmb IAmb 14 06 57.3
comp=Z,3.2nm,0.7s
COEN Coen 66.02 131 P **P 14 06 57.4 -0.7**
COEN IAmb IAmb 14 07 20.3
comp=Z,15nm,1.2s
WR0 Warramunga Arr 66.07 142 P **P 14 06 57.1 -1.2**
BPAW Bear Paw Mtn. 66.25 27 P **P 14 06 57.8 -1.2**
BPAW IAmb IAmb 14 07 00.9
comp=Z,7.9nm,1.2s
BMAR Burnt Mountain 66.36 22 P **P 14 07 01.0 +1.3**
PPLA Purkeypile 66.49 28 P **P 14 07 01.2 +0.5**
MDM Murphy Dome 66.71 25 P **P 14 07 02.1 +0.1**
MDM IAmb IAmb 14 07 12.0
comp=Z,6.7nm,1.2s
BWN Browne 66.75 26 P **P 14 07 02.2 +0.1**
MCK McKinley 67.20 26 P **P 14 07 05.7 +0.6**
MCK pmax pmax
comp=Z,8.0nm,1.4s
MCK McKinley 67.20 26 P **P 14 07 05.7 +0.6**
MCK IAmb IAmb 14 07 06.5
comp=Z,7.6nm,1.4s
ILAR Eielson Array 67.28 25 P **P 14 07 05.2 -0.4**
comp=Z,1.9nm,1.0s,baz=293,slow=5.5,SNR=9.4
ILAR Eielson Array 67.28 25 P **P 14 07 05.5 0.0**
ILAR Eielson Array 67.28 25 P **P 14 07 05.5 0.0**
RND Reindeer 67.42 27 P **P 14 07 07.1 +0.5**
RND pmax pmax
comp=Z,21nm,1.5s
RND Reindeer 67.42 27 P **P 14 07 07.1 +0.5**
RND IAmb IAmb 14 07 16.1
comp=Z,21nm,1.5s
CUT Chulitna 67.50 28 P **P 14 07 07.2 +0.3**
SPU Mount Spurr 67.53 29 P **P 14 07 07.0 -0.2**
A36M Sachs Harbour 67.74 13 P **P 14 07 08.8 +0.6**
DHY Denali Highway 68.16 26 P **P 14 07 11.2 -0.1**
DHY IAmb IAmb 14 07 12.1
comp=Z,17nm,1.4s
PMR Palmer 68.42 28 P **P 14 07 12.4 -0.3**
PMR pmax pmax
comp=Z,19nm,1.4s
PMR Palmer 68.42 28 P **P 14 07 12.3 -0.3**
PMR IAmb IAmb 14 07 32.4
comp=Z,19nm,1.4s
SML Sawmill 68.59 28 P **P 14 07 13.9 0.0**
SML pmax pmax
comp=Z,17nm,1.0s
SML Sawmill 68.59 28 P **P 14 07 13.9 0.0**
KEST Kesra 68.69 299 P **P 14 07 15.3 +0.3**
comp=Z,2.0nm,0.5s,baz=347,slow=14,SNR=2.0
KNK Knik Glacier 68.78 28 P **P 14 07 15.4 +0.4**
KNK IAmb IAmb 14 07 23.8
comp=Z,8.9nm,0.9s
INK Inuvik 68.81 18 P **P 14 07 15.0 0.0**
comp=Z,3.2nm,0.9s,baz=322,slow=8.8,SNR=6.8
INK Inuvik 68.81 18 P **P 14 07 15.0 0.0**
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 68.81 18 P **P 14 07 15.0 0.0**
INK IAmb IAmb 14 07 16.4
comp=Z,3.6nm,0.9s
AS31 Alice Springs 68.91 144 P **P 14 07 15.3 -1.0**
ASAR Alice Springs 68.91 144 P **P 14 07 15.6 -0.7**
comp=Z,1.6nm,0.7s,baz=329,slow=6.2,SNR=24
SCM Sheep Creek Mo 68.95 27 P **P 14 07 16.5 +0.4**
SCM pmax pmax
comp=Z,33nm,1.4s
SCM Sheep Creek Mo 68.95 27 P **P 14 07 16.5 +0.4**
PWL Port Wells 69.17 29 P **P 14 07 17.5 0.0**
M24K Tolsona, Glenn 69.20 27 P **P 14 07 18.1 +0.4**
KDAK Kodiak Island 69.28 33 LR LR 14 39 10.4
comp=Z,189nm,18.1s,baz=199,slow=37
KLU Klutina 69.68 27 P **P 14 07 21.2 +0.5**
N25K Chitina, Valde 70.10 27 P **P 14 07 23.0 -0.2**
N25K IAmb IAmb 14 07 43.8
comp=Z,11nm,1.2s
C36M Paulatuk 70.13 15 P **P 14 07 23.2 0.0**
C36M IAmb IAmb 14 07 24.0
comp=Z,6.2nm,1.0s
M26K Nabesna, AK 70.14 26 P **P 14 07 25.0 +1.5**
M26K IAmb IAmb 14 07 39.1
comp=Z,6.7nm,1.3s
DAWY Dawson 70.20 23 P **P 14 07 23.8 0.0**
DAWY IAmb IAmb 14 07 46.4
comp=Z,8.1nm,1.4s
BMRM Bremner River 70.51 27 P **P 14 07 26.3 +0.5**
MCARA McCarthy VSAT 70.81 26 P **P 14 07 28.6 +1.1**
MCARA IAmb IAmb 14 07 48.1
comp=Z,16nm,1.2s
VOI Vohitsoka 75.35 228 P **P 14 07 54.5 -0.4**
ESDC Sonseca Array 75.46 309 P **P 14 07 56.2 +0.8**
comp=Z,1.7nm,0.7s,baz=42,slow=5.9,SNR=8.6
YKA Yellowknife Ar 78.01 15 P **P 14 08 09.5 +0.2**
comp=Z,1.6nm,0.9s,baz=338,slow=5.8,SNR=8.6
YKA Yellowknife Ar 78.01 15 P **P 14 08 08.9 -0.4**
YKA Yellowknife Ar 78.01 15 P **P 14 08 08.9 -0.4**
STKA Stephens Creek 79.47 143 P **P 14 08 16.6 -1.0**
comp=Z,2.3nm,0.7s,baz=326,slow=6.6,SNR=4.7
STKA Stephens Creek 79.47 143 P **P 14 08 16.8 -0.8**
STKA pmax pmax
comp=Z,1.0nm,0.9s
STKA Stephens Creek 79.47 143 P **P 14 08 16.8 -0.8**
PDAR Pinedale Array 97.32 20 P Pdif 14 09 45.0 +0.2
comp=Z,0.2nm,0.8s,baz=332,slow=7.5,SNR=1.5

*IDC **04** 14:02:27.2±1.2, 25°.90N×128°.34E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.5/45, mbtmp3.6/8, ML3.2/1, Error ellipse: s-maj=44.3km s-min=16.1km az=83.0*
*JMA **04** 14:02:29.5±0.3, 25°.87N×128°.54E, h45km, M3.1*
ISC 04 14:02:30.7±1.9, 25°.88N±0°.06×128°.51E±0°.04, h29km±13km, n20, σ1°.92/32, mb3.5/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.71**	**292**	P	**Pn**	**14 02 43.8**	**-0.9**
JJT3				*e*S	**Sb**	**14 02 54.4**	**+0.5**
JNTH	**Nagotoyohara**	**0.77**	**325**	P	**Pn**	**14 02 44.0**	**-1.6**
JNTH				*e*S	**Sb**	**14 02 55.1**	**-0.7**
JOW	**Kunigami**	**0.97**	**347**	Pn	**Pn**	**14 02 47.5**	**-0.9**
	95nm,0.3s,baz=141,slow=24,SNR=68						
JOW				Sn	**Sb**	**14 03 02.3**	**+0.8**
	178nm,0.3s,baz=96,slow=29,SNR=7.9						
JOW	**Kunigami**	**0.97**	**347**	P	**Pn**	**14 02 47.4**	**-0.9**
JOW				*e*S	**Sn**	**14 03 00.6**	**-0.6**
JYRO	**Yoronjima**	**1.14**	**357**	P	**Pn**	**14 02 50.0**	**-0.7**
JYRO				*e*S	**Sn**	**14 03 04.2**	**-1.2**
JIH	**Iheya**	**1.25**	**337**	P	**Pn**	**14 02 51.9**	**-0.3**
JIH				*e*S	**Sn**	**14 03 07.7**	**-0.3**
JAGN	**Aguni-jima**	**1.34**	**302**	P	**Pn**	**14 02 53.0**	**-0.4**
JAGN				*e*S	**Sn**	**14 03 10.5**	**+0.2**
JOKE	**Okinoerabujima**	**1.48**	**2**	P	**Pn**	**14 02 54.9**	**-0.4**
JOKE				*e*S	**Sn**	**14 03 13.4**	**-0.3**
JKE	**Kume jima 2**	**1.61**	**286**	P	**Pn**	**14 02 56.3**	**-0.9**
JKE				*e*S	**Sn**	**14 03 15.8**	**-1.2**
JTK	**Tokunoshima**	**1.94**	**12**	P	**Pn**	**14 03 01.4**	**-0.3**
JTK				*e*S	**Sn**	**14 03 24.0**	**-1.1**
JMZ	**Minamidaito 2**	**2.44**	**91**	P	**Pn**	**14 03 07.9**	**-0.6**
JMZ				*e*S	**Sn**	**14 03 35.5**	**-1.9**
JKDJ	**Kitadaitoujima**	**2.51**	**88**	P	**Pn**	**14 03 09.1**	**-0.4**
JKDJ				S	**Sn**	**14 03 38.0**	**-1.1**
JNU	**Nakatsue**	**7.51**	**15**	Pn	**Pn**	**14 04 19.2**	**+1.0**
	0.3nm,0.3s,baz=190,slow=11,SNR=7.3						
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**14 08 20.4**	**+1.4**
	0.7nm,0.7s,baz=133,slow=8.6,SNR=4.6						
MKAR	**Makanchi Array**	**41.96**	**312**	P	**P**	**14 10 18.8**	**-0.1**
	0.4nm,0.5s,baz=91,slow=10.0,SNR=8.9						
KURBB	**Kurchatov Arra**	**45.28**	**317**	P	**P**	**14 10 44.2**	**-1.3**
	0.4nm,0.7s,baz=106,slow=8.4,SNR=4.1						
WRA	**Warramunga Arr**	**45.90**	**172**	P	**P**	**14 10 50.7**	**0.0**
	0.4nm,0.6s,baz=353,slow=8.4,SNR=2.7						
ASAR	**Alice Springs**	**49.53**	**173**	P	**P**	**14 11 21.3**	**+2.4**
	0.3nm,0.8s,baz=14,slow=12,SNR=4.3						
BVAR	**Borovoye Array**	**50.70**	**318**	P	**P**	**14 11 28.0**	**+0.5**
	0.4nm,0.4s,baz=69,slow=7.9,SNR=3.8						
AKASG	**Malin Array Be**	**75.96**	**320**	P	**P**	**14 14 14.6**	**-0.2**
	0.8nm,0.6s,baz=64,slow=5.6,SNR=3.8						

*NOU **04** 14:05:04.9, 14°.56S×167°.54E, h153km, MLv4.7/12, Vanuatu Islands*
*NEIC **04** 14:05:08.7±1.6, 14°.88S±0°.10×167°.2E±0°.1, h132km±7km, mb4.0/5, Error ellipse: s-maj=20.9km s-min=13.9km az=102.0*
*IDC **04** 14:05:10.2±13.0, 15°.21S×165°.27E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/35, mbtmp3.9/4, ML4.5/1, Error ellipse: s-maj=227.8km s-min=36.3km az=52.0*
ISC 04 14:05:07.6±1.6, 14°.8S±0°.1×167°.4E±0°.2, h150km, n26, σ1°.91/27, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.67**	**199**		**Pn**	**14 05 28.3**	**-1.7**
SANVU				Sn	**Sn**	**14 05 43.1**	**-3.9**
SANVU	**Saraoutou**	**0.67**	**199**	P	**Pn**	**14 05 28.5**	**-1.5**
DVP	**Devils Point**	**2.99**	**166**	P	**Pn**	**14 05 55.3**	**+0.4**
LIFNC	**LIFOU**	**5.94**	**182**	Pn	**Pn**	**14 06 32.5**	**-1.0**
LIFNC	**LIFOU**	**5.94**	**182**	P	**Pn**	**14 06 32.8**	**-0.7**
KOUNC	**Koumac, New Ca**	**6.45**	**207**	P	**Pn**	**14 06 41.8**	**+1.4**
MARNC	**Mare, Loyalty**	**6.66**	**175**	Pn	**Pn**	**14 06 42.5**	**-0.7**
MARNC	**Mare, Loyalty**	**6.66**	**175**	P	**Pn**	**14 06 42.7**	**-0.5**
	0.6nm,0.7s						
YATNC	**Mamie plateau,**	**7.23**	**184**	P	**Pn**	**14 06 50.5**	**-0.3**
DZM	**Mont Dzumac**	**7.29**	**187**	Pn	**Pn**	**14 06 52.8**	**+1.3**
	8.7nm,0.3s,baz=355,slow=11,SNR=87						
DZM				Sn	**Sn**	**14 08 13.4**	**+0.2**
	4.5nm,0.3s,baz=329,slow=23,SNR=8.3						
DZM	**Mont Dzumac**	**7.29**	**187**	*e*Pn	**Pn**	**14 06 52.9**	**+1.3**
	41nm,1.6s						
DZM				*e*Sn	**Sn**	**14 08 06.8**	**-6.4**
	15nm,0.4s						
DZM				*e*LR	LR	14 21 19.7	
	comp=Z,139nm,24.3s						
DZM	**Mont Dzumac**	**7.29**	**187**		**Pn**	**14 06 52.3**	**+0.7**
NOUC	**Port Laguerre**	**7.33**	**188**	P	**Pn**	**14 06 53.3**	**+1.2**
OUENC	**Ouen Island, N**	**7.59**	**184**		**Pn**	**14 06 56.1**	**+0.5**
PINNC	**Pines Island,**	**7.76**	**180**	Pn	**Pn**	**14 06 59.5**	**+1.7**
PINNC	**Pines Island,**	**7.76**	**180**	P	**Pn**	**14 06 59.6**	**+1.7**
HNR	**Honiara**	**9.06**	**305**	Pn	**Pn**	**14 07 15.0**	**-0.3**
BKZ	**Black Stump Fm**	**25.54**	**164**	P	**P**	**14 10 24.5**	**+2.0**
BKZ				IAmb	IAmb	14 10 51.2	
	comp=Z,32nm,1.4s						
LTZ	**Lake Taylor**	**28.19**	**172**	P	**P**	**14 10 47.7**	**+1.6**
STKA	**Stephens Creek**	**29.06**	**230**	P	**P**	**14 10 55.9**	**+1.9**
	comp=Z,1.6nm,0.4s,baz=59,slow=8.8,SNR=7.9						
STKA	**Stephens Creek**	**29.06**	**230**	IAmb	IAmb	14 10 56.5	
	comp=Z,2.1nm,1.4s						
WRA	**Warramunga Arr**	**31.96**	**256**	P	**P**	**14 11 19.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=82,slow=7.5,SNR=1.6						
WRA	**Warramunga Arr**	**31.96**	**256**	IAmb	IAmb	14 11 27.2	
	comp=Z,0.3nm,1.2s						
AS31	**Alice Springs**	**32.79**	**249**	P	**P**	**14 11 26.3**	**-0.6**
AS31				IAmb	IAmb	14 11 32.9	
	comp=Z,1.9nm,1.4s						
ASAR	**Alice Springs**	**32.79**	**249**	P	**P**	**14 11 26.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=76,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	**32.79**	**249**	P	**P**	**14 11 26.3**	**-0.6**

*IDC **04** 14:05:22.2±1.6, 13°.06N×143°.24E, h187km±15km, mb3.1/7, mb1 3.3/7, mb1mx3.1/41, mbtmp3.6/7, Error ellipse: s-maj=33.0km s-min=15.0km az=98.0*
ISC 04 14:05:23.4±0.8, 13°.0N±0°.1×143°.4E±0°.1, h200km, n9, σ1°.21/10, mb3.3/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.55**	**69**	P	**Pn**	**14 05 57.4**	**-0.1**
	25nm,0.3s,baz=188,slow=2.5,SNR=19						
GUMO				S	**Sn**	**14 06 22.7**	**-1.3**
	54nm,0.3s,baz=180,slow=23,SNR=12						
WRA	**Warramunga Arr**	**33.96**	**195**	P	**P**	**14 11 47.8**	**-0.3**
	0.8nm,0.8s,baz=6.7,slow=9.0,SNR=6.9						
ASAR	**Alice Springs**	**37.64**	**194**	P	**P**	**14 12 19.1**	**-0.2**
	0.4nm,0.7s,baz=19,slow=12,SNR=8.7						
DZM	**Mont Dzumac**	**41.59**	**147**	P	**P**	**14 12 53.9**	**+1.9**
	3.2nm,0.6s,baz=312,slow=7.0,SNR=6.1						
STKA	**Stephens Creek**	**44.69**	**182**	P	**P**	**14 13 15.1**	**-1.5**
	1.5nm,0.8s,baz=0.0,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**60.88**	**316**	P	**P**	**14 15 15.5**	**+0.5**
	0.3nm,0.8s,baz=111,slow=7.0,SNR=2.2						
ILAR	**Eielson Array**	**69.68**	**25**	P	**P**	**14 16 10.8**	**-0.2**
	0.2nm,0.4s,baz=251,slow=5.6,SNR=6.1						
YKA	**Yellowknife Ar**	**84.01**	**27**	P	**P**	**14 17 32.3**	**+1.2**
	0.1nm,0.4s,baz=288,slow=5.2,SNR=4.6						
FINES	**FINESS Array B**	**91.04**	**335**	P	**P**	**14 18 03.8**	**-0.9**
	6.1nm,1.1s,baz=60,slow=6.6,SNR=4.5						

IDC 04 14:06:50.1±59.0, 22°.44S×176°.64W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/30, mbtmp3.9/3, Error ellipse: s-maj=1099.0km s-min=167.3km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.14**	**247**	P	P	14 14 10.2	-1.0
	1.4nm,0.5s,baz=90,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**45.34**	**258**	P	P	14 15 10.2	-0.2
	0.3nm,0.4s,baz=97,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**45.62**	**264**	P	P	14 15 13.1	+0.6
	1.0nm,0.4s,baz=98,slow=8.2,SNR=30						

*NEIC **04** 14:09:55.8±1.6, 28°.7S±0°.1×176°.97W±0°.05, h10km±1km, mb4.3/13, Error ellipse: s-maj=19.8km s-min=6.2km az=166.0*
*IDC **04** 14:09:59.0±3.9, 29°.33S×176°.72W, h44km±28km, mb3.5/3, mb1 3.7/4, mb1mx3.6/25, mbtmp3.8/4, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=35.2km s-min=26.5km az=51.0*
ISC 04 14:09:58.0±1.1, 29°.35S±0°.08×176°.7W±0°.1, h35km, n51, σ2°.26/64, mb4.2/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.07**	**275**	P	**Pn**	**14 10 16.5**	**0.0**
	570nm,0.3s,baz=88,slow=10,SNR=11						
RAO				S	**Sn**	**14 10 31.2**	**+1.1**
	3μm,0.3s,baz=96,slow=18,SNR=14						
RAO	**Raoul Island**	**1.07**	**275**	Pn	**Pn**	**14 10 15.9**	**-0.5**
RAO				Sg	**Sn**	**14 10 28.6**	**-1.5**
GLKZ	**Green Lake**	**1.07**	**274**	P	**Pn**	**14 10 15.9**	**-0.5**
GLKZ				S	**Sn**	**14 10 32.5**	**+2.4**
RIZ	**Raoul Island**	**1.08**	**275**	P	**Pn**	**14 10 16.5**	**-0.1**
RIZ				S	**Sn**	**14 10 32.4**	**+2.0**
WMGZ	**Waiomatatini S**	**9.38**	**204**	P	**Pn**	**14 12 10.1**	**-0.5**
WMGZ				S	**Sn**	**14 13 57.6**	**+2.9**
HAZ	**Te Kaha**	**9.56**	**207**	P	**Pn**	**14 12 13.6**	**+0.5**
HAZ				S	**Sn**	**14 14 02.6**	**+3.3**
PUZ	**Puketiti**	**9.66**	**204**	P	**Pn**	**14 12 12.7**	**-1.7**
PUZ				S	**Sn**	**14 14 01.1**	**-0.6**
RUGZ	**Raukumara Rang**	**9.79**	**207**	P	**Pn**	**14 12 17.7**	**+1.5**
RUGZ				S	**Sn**	**14 14 06.6**	**+1.7**
OUZ	**Omahuta**	**10.08**	**232**	P	Pn	14 12 29.1	+8.9
TKGZ	**Te Karaka**	**10.13**	**205**	P	Pn	14 12 30.4	+9.4
TKGZ				S	**Sn**	**14 14 12.6**	**-0.6**
MWZ	**Matawai**	**10.16**	**207**	P	**Pn**	**14 12 21.1**	**-0.3**
MWZ				S	**Sn**	**14 14 18.7**	**+4.6**
URZ	**Urewera**	**10.27**	**208**	P	**Pn**	**14 12 24.7**	**+1.9**
	0.6nm,0.3s,baz=121,slow=24,SNR=1.5						
URZ				S	**Sn**	**14 14 17.3**	**+0.7**
	1.3nm,0.3s,baz=120,slow=24,SNR=2.6						
URZ	**Urewera**	**10.27**	**208**	P	**Pn**	**14 12 20.0**	**-2.8**
URZ				S	**Sn**	**14 14 15.9**	**-0.6**
URZ	**Urewera**	**10.27**	**208**		**Pn**	**14 12 22.7**	**0.0**
BKZ	**Black Stump Fm**	**11.29**	**208**	P	**Pn**	**14 12 36.3**	**-0.5**
BKZ				S	**Sn**	**14 14 40.4**	**-1.3**
BKZ	**Black Stump Fm**	**11.29**	**208**	Pn	**Pn**	**14 12 36.1**	**-0.8**
OTVZ	**Oturere**	**11.64**	**211**	P	**Pn**	**14 12 45.4**	**+3.7**
OTVZ				S	**Sn**	**14 14 49.6**	**-1.0**
MSVF	**Nonsavu**	**12.52**	**336**	LR	LR	14 16 54.1	
	comp=Z,106nm,18.2s,baz=150,slow=33						
TUWZ	**Tuamarina**	**14.25**	**210**	Pn	**Pn**	**14 13 18.8**	**+1.6**
NNZ	**Nelson**	**14.33**	**212**	P	**Pn**	**14 13 20.8**	**+2.5**
NNZ				S	**Sn**	**14 15 52.0**	**-4.0**
THZ	**Tophouse**	**14.98**	**211**	P	**Pn**	**14 13 26.4**	**-0.7**
THZ				S	**Sn**	**14 16 03.7**	**-8.2**
KHZ	**Kahutara**	**15.23**	**209**	P	**Pn**	**14 13 28.3**	**-2.1**
GVZ	**Greta Valley S**	**15.90**	**209**	P	**Pn**	**14 13 38.6**	**-0.4**
GVZ				S	Sn	14 16 23.5	-11
LTZ	**Lake Taylor**	**16.08**	**211**	P	**Pn**	**14 13 40.7**	**-0.6**
LTZ				S	**Sn**	**14 16 29.6**	**-8.9**
LTZ	**Lake Taylor**	**16.08**	**211**	Pn	**Pn**	**14 13 41.6**	**+0.3**
LTZ				IAmb	IAmb	14 14 04.8	
	comp=Z,30nm,1.5s						
AMCZ	**Amberley**	**16.23**	**209**	P	**P**	**14 13 47.6**	**+1.6**
INZ	**Inchbonnie**	**16.41**	**212**	P	**P**	**14 13 48.4**	**+0.4**
OXZ	**Oxford**	**16.62**	**210**	P	**Pn**	**14 13 46.6**	**-1.5**
MHCZ	**Mount Hutt**	**16.99**	**210**	P	**P**	**14 13 55.0**	**+0.6**
WVZ	**Waitaha Valley**	**17.01**	**213**	P	**P**	**14 13 55.2**	**+0.6**
RPZ	**Rata Peaks**	**17.36**	**211**	P	**P**	**14 14 00.3**	**+1.8**
RPZ	**Rata Peaks**	**17.36**	**211**	Pn	**Pn**	**14 13 57.5**	**0.0**
RPZ				IAmb	IAmb	14 14 06.9	
	comp=Z,32nm,1.5s						
GCSZ	**Gaunt Creek Bo**	**17.39**	**213**	P	**P**	**14 13 60.0**	**+1.1**
ARCZ	**Arundel**	**17.49**	**210**	P	**P**	**14 14 01.9**	**+2.0**
ODZ	**Otahua Downs**	**18.59**	**209**	P	**Pn**	**14 14 13.8**	**+1.3**
ODZ				IAmb	IAmb	14 14 19.8	
	comp=Z,24nm,1.3s						
CTAO

comp=Z,4.6nm,1.2s
WRAB Tennant Creek 45.20 270 P P 14 18 09.7 -2.1
WRA Warramunga Arr 45.20 270 P P 14 18 10.5 -1.4
comp=Z,0.4nm,0.4s,baz=110,slow=7.2,SNR=11
WRA Warramunga Arr 45.20 270 P P 14 18 10.2 -1.7
WB0 Warramunga Arr 45.22 271 P P 14 18 10.1 -2.0
WB0 IAmb IAmb 14 18 13.7
comp=Z,5.3nm,1.2s
FORT Forrest 47.42 254 P P 14 18 28.5 -0.7
QSPA South Pole Qui 60.76 180 P P 14 20 12.2 +6.2
QSPA IAmb IAmb 14 20 30.9
comp=Z,3.1nm,0.8s
FINES FINESS Array B 144.53 341 PKP PKPab 14 29 27.9 -0.5
comp=Z,2.9nm,0.9s,baz=35,slow=5.1,SNR=5.7
NOA NORSAR Array B 147.87 353 PKPbc PKPbc 14 29 38.6 -0.1
comp=Z,0.2nm,0.4s,baz=24,slow=4.9,SNR=1.1
AKASG Malin Array Be 151.12 325 PKPbc PKPbc 14 29 47.2 +0.2
comp=Z,1.0nm,0.4s,baz=45,slow=3.4,SNR=10
AKASG Malin Array Be 151.12 325 PKPbc 14 29 47.0 0.0

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*NEIC **04** 14:32:46.6±1.8, 48°.43N±0°.10×149°.2E±0°.1, h395km±8km, mb4.1/51, Error ellipse: s-maj=14.8km s-min=11.1km az=150.0*
*IDC **04** 14:32:47.2±1.5, 48°.46N×149°.08E, h400km±18km, mb3.2/17, mb1 3.2/25, mb1mx3.1/63, mbtmp4.0/25, Error ellipse: s-maj=15.7km s-min=10.5km az=148.0*
ISC 04 14:32:45.7±0.4, 48°.19N±0°.06×149°.17E±0°.07, h400km, n106, σ1§99/108, mb3.9/38, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**4.51**	**257**	Pn	**Pn**	**14 34 03.7**	**+1.1**
NEM2	**Nemuro 2**	**5.38**	**208**	P	**Pn**	**14 34 09.5**	**-2.2**
NEM2				*e*S	**S**	**14 35 15.2**	**-6.5**
JNK	**Nakash**	**5.55**	**216**	P	**Pn**	**14 34 13.8**	**+0.3**
JTKR	**Abashiri--Toko**	**5.58**	**223**	P	**Pn**	**14 34 15.0**	**+1.2**
JMP	**Maruseppu**	**5.81**	**226**	P	**Pn**	**14 34 17.8**	**+1.5**
JAK	**Akkeshi**	**6.07**	**213**	P	**Pn**	**14 34 17.4**	**-1.6**
JAK				*e*S	**S**	**14 35 29.6**	**-5.4**
JKA	**Kamikawa-asahi**	**6.11**	**231**		**Pn**	**14 34 22.1**	**+2.6**
ASAJ	**Asahikawa**	**6.12**	**231**	P	**Pn**	**14 34 22.1**	**+2.5**
2.8nm,0.3s,baz=59,slow=10,SNR=31							
ASAJ	**Asahikawa**	**6.12**	**231**	P	**Pn**	**14 34 21.9**	**+2.4**
JAR	**Ashorobuto**	**6.18**	**220**	P	**Pn**	**14 34 20.7**	**+0.5**
JOB	**Onbets**	**6.48**	**217**	P	**Pn**	**14 34 22.9**	**-0.6**
JOB				*e*S	**S**	**14 35 38.7**	**-4.6**
JFR	**Furan**	**6.81**	**225**	P	**Pn**	**14 34 28.1**	**+0.8**
JCH	**Churui**	**6.91**	**218**	P	**Pn**	**14 34 27.0**	**-1.3**
JCH				*e*S	**S**	**14 35 46.1**	**-6.0**
JBT2	**Biratori 2**	**7.22**	**224**	P	**Pn**	**14 34 32.4**	**+0.6**
JBT2				*e*S	**S**	**14 35 56.2**	**-2.3**
PEA0B	**Petropavlovsk-**	**7.32**	**45**	Pn	**Pn**	**14 34 31.8**	**-1.0**
PETK	**Petropavlovsk-**	**7.32**	**45**	P	**Pn**	**14 34 30.9**	**-1.8**
0.1nm,0.3s,baz=238,slow=8.3,SNR=1.7							
JNBK	**Urakawa-nobuka**	**7.44**	**220**	P	**Pn**	**14 34 32.8**	**-1.5**
JNBK				*e*S	**S**	**14 35 56.7**	**-6.4**
ERM	**Erimo**	**7.49**	**217**	Pn	**Pn**	**14 34 35.3**	**+0.4**
JEW	**Eniwo**	**7.61**	**228**	P	**P**	**14 34 37.3**	**+0.6**
JEW	**Eniwo**	**7.61**	**228**		**P**	**14 34 37.4**	**+0.7**
JNB	**Noboribetsu**	**8.09**	**228**	P	**Pn**	**14 34 41.6**	**-0.1**
JKB	**Kayabe**	**8.53**	**225**	P	**Pn**	**14 34 45.1**	**-1.6**
JKB				*e*S	**S**	**14 36 18.5**	**-7.5**
JYM2	**Yakumo 2**	**8.69**	**229**	P	**Pn**	**14 34 49.1**	**+0.6**
JTM	**Tenmabayashi**	**9.39**	**221**	*e*S	S	14 36 35.3	-8.8
KLR	**Kul'dur**	**11.56**	**282**	P	**Pn**	**14 35 22.3**	**+0.7**
0.4nm,0.3s,baz=106,slow=8.5,SNR=7.2							
JMM	**Marumori**	**11.99**	**214**	P	**Pn**	**14 35 28.5**	**+1.8**
USRK	**Ussuriysk Ar.**	**12.55**	**258**	P	**Pn**	**14 35 33.6**	**+0.5**
baz=56,slow=11,SNR=1.9							
MDJ	**Mudanjiang**	**13.97**	**262**	P	**P**	**14 35 48.2**	**+1.4**
MJB9	**Matsu-Tunnel**	**14.16**	**219**	P	**P**	**14 35 52.8**	**+3.8**
MAJO	**Matsushiro**	**14.16**	**219**	P	**P**	**14 35 52.9**	**+3.9**
MJAR	**Matsushiro Arr**	**14.16**	**219**	P	**P**	**14 35 53.2**	**+4.1**
0.1nm,0.3s,baz=7.0,slow=21,SNR=4.4							
SEY	**Seymchan**	**14.89**	**6**	P	**P**	**14 35 56.1**	**-0.4**
0.1nm,0.3s,baz=110,slow=14,SNR=6.1							
INU	**Inuyama**	**15.68**	**220**	P	**P**	**14 36 08.0**	**+2.6**
INU				IAmb	IAmb	14 36 28.2	
comp=Z,9.4nm,0.9s							
JWT	**Wachi**	**16.45**	**223**	P	**P**	**14 36 15.5**	**+1.7**
YAK	**Yakutsk**	**17.68**	**329**	P	**P**	**14 36 24.7**	**-1.7**
comp=Z,0.1nm,0.3s,baz=128,slow=3.2,SNR=7.6							
YAK	**Yakutsk**	**17.68**	**329**	P	**P**	**14 36 24.7**	**-1.7**
YAK				IAmb	IAmb	14 36 25.1	
comp=Z,5.8nm,0.5s							
KSRS	**Korea Array**	**18.86**	**243**	P	**P**	**14 36 42.5**	**+3.4**
comp=Z,0.1nm,0.3s,baz=52,slow=9.7,SNR=4.1							
JNU	**Nakatsue**	**20.39**	**229**	P	**P**	**14 36 56.1**	**+2.4**
comp=Z,5.5nm,0.9s,baz=34,slow=7.3,SNR=2.0							
JNU	**Nakatsue**	**20.39**	**229**	IAmb	IAmb	14 36 57.5	
comp=Z,25nm,1.4s							
ATKA	**Atka Island**	**23.63**	**66**	P	**P**	**14 37 21.4**	**-1.3**
TIXI	**Tiksi**	**25.36**	**345**	P	**P**	**14 37 36.2**	**-1.7**
comp=Z,1.3nm,0.3s,baz=140,slow=4.3,SNR=3.1							
SONM	**Songino Array**	**28.35**	**286**	P	**P**	**14 38 05.6**	**+0.8**
comp=Z,0.6nm,0.6s,baz=69,slow=8.5,SNR=7.4							
SONM	**Songino Array**	**28.35**	**286**	IAmb	IAmb	14 38 07.1	
comp=Z,0.9nm,1.2s							
ANM	**Nome**	**29.20**	**39**	P	**P**	**14 38 11.3**	**-0.6**
FALS	**False Pass**	**29.76**	**59**	P	**P**	**14 38 15.9**	**-0.9**
YHNB	**Yeheng**	**32.11**	**233**	P	**P**	**14 38 38.7**	**+0.9**
A21K	**Barrow**	**33.95**	**28**	P	**P**	**14 38 52.8**	**+0.1**
A21K				IAmb	IAmb	14 39 05.7	
comp=Z,5.3nm,1.1s							
IMAR	**Indian Mountai**	**34.22**	**38**	P	**P**	**14 38 55.5**	**+0.3**
H21K	**Melozitna Rive**	**34.60**	**38**	P	**P**	**14 38 58.2**	**-0.2**
KTH	**Kantishna Hill**	**35.45**	**42**	P	**P**	**14 39 04.6**	**-1.0**
KTH				IAmb	IAmb	14 39 32.8	
comp=Z,13nm,1.3s							
TOLK	**Toolik Lake Re**	**35.97**	**33**	P	**P**	**14 39 10.0**	**+0.1**
I23K	**Minto, Yukon-K**	**36.05**	**39**	P	**P**	**14 39 11.1**	**+0.6**
KNK	**Knik Glacier**	**36.80**	**45**	P	**P**	**14 39 16.2**	**-0.7**
DHY	**Denali Highway**	**37.08**	**42**	P	**P**	**14 39 19.2**	**-0.2**
DHY				IAmb	IAmb	14 39 48.2	
comp=Z,13nm,1.4s							
ILAR	**Eielson Array**	**37.12**	**40**	P	**P**	**14 39 20.1**	**+0.6**
comp=Z,0.5nm,0.6s,baz=250,slow=5.9,SNR=3.6							
HDA	**Harding Lake**	**37.13**	**40**	P	**P**	**14 39 19.4**	**-0.1**
HDA				IAmb	IAmb	14 39 32.2	
comp=Z,8.0nm,1.3s							
SCM	**Sheep Creek Mo**	**37.27**	**45**	P	**P**	**14 39 20.1**	**-0.8**
BMAR	**Burnt Mountain**	**37.86**	**35**	P	**P**	**14 39 26.5**	**+0.8**
L27K	**Beaver Creek,**	**39.58**	**42**	P	**P**	**14 39 41.1**	**+1.3**
ZAA0	**Zalesovo Array**	**39.59**	**303**	P	**P**	**14 39 39.3**	**-0.6**
ZALV	**Zalesovo Beam**	**39.59**	**303**	P	**P**	**14 39 39.8**	**-0.1**
comp=Z,1.3nm,0.4s,baz=52,slow=7.1,SNR=8.0							
ZALV	**Zalesovo Beam**	**39.59**	**303**	P	**P**	**14 39 39.3**	**-0.6**
BCAR	**Beaver Creek A**	**39.60**	**42**	P	**P**	**14 39 41.2**	**+1.3**
WAX	**Waxell Ridge**	**39.67**	**46**	P	**P**	**14 39 42.2**	**+1.6**
WAX				IAmb	IAmb	14 40 02.5	
comp=Z,30nm,1.4s							
M27K	**Edge Creek, AK**	**39.70**	**43**	P	**P**	**14 39 42.4**	**+1.5**
M27K				IAmb	IAmb	14 39 48.7	
comp=Z,16nm,1.5s							
BARN	**Barnard Glacie**	**40.09**	**45**	P	**P**	**14 39 42.5**	**-1.6**
BARN				IAmb	IAmb	14 40 01.3	
comp=Z,23nm,1.5s							
CTGM	**Chitina Glacie**	**40.27**	**45**	P	**P**	**14 39 46.5**	**+1.0**
CTGM				IAmb	IAmb	14 39 47.3	
comp=Z,8.3nm,1.0s							
INK	**Inuvik**	**41.88**	**33**	P	**P**	**14 39 58.4**	**+0.2**
comp=Z,1.0nm,0.5s,baz=264,slow=7.2,SNR=12							
INK	**Inuvik**	**41.88**	**33**	IAmb	IAmb	14 40 04.6	
comp=Z,3.3nm,1.4s							
MK31	**Makanchi Array**	**43.91**	**294**	P	**P**	**14 40 14.6**	**+0.1**
MKAR	**Makanchi Array**	**43.91**	**294**	P	**P**	**14 40 14.9**	**+0.4**
comp=Z,2.2nm,0.4s,baz=64,slow=6.7,SNR=69							
MKAR	**Makanchi Array**	**43.91**	**294**	P	**P**	**14 40 14.5**	**0.0**
KURK	**Kurchatov**	**44.33**	**301**	P	**P**	**14 40 17.6**	**-0.2**
KURK				IAmb	IAmb	14 40 18.6	
comp=Z,4.5nm,0.7s							
KURBB	**Kurchatov Arra**	**44.42**	**301**	P	**P**	**14 40 18.5**	**0.0**
comp=Z,3.3nm,0.6s,baz=72,slow=8.6,SNR=34							
C36M	**Paulatuk**	**44.91**	**30**	P	**P**	**14 40 22.6**	**+0.7**
C36M				IAmb	IAmb	14 40 23.7	
comp=Z,2.1nm,0.4s							
BRVK	**Borovoye**	**47.91**	**307**	P	**P**	**14 40 44.9**	**-0.3**
BRVK				IAmb	IAmb	14 40 46.1	
comp=Z,3.1nm,0.6s							
KEKH	**Kekaha**	**48.21**	**104**	P	**P**	**14 40 48.4**	**+0.5**
KDJ	**Kajisay**	**49.42**	**291**	P	**P**	**14 40 57.7**	**+0.8**
KDJ				IAmb	IAmb	14 40 58.7	
comp=Z,3.4nm,0.6s							
BOOM	**Boomskoye usch**	**49.99**	**292**	P	**P**	**14 41 02.5**	**+1.3**
BOOM				IAmb	IAmb	14 41 03.2	
comp=Z,5.0nm,0.6s							
KKM	**Kota Kinabalu**	**50.49**	**225**	P	**P**	**14 41 07.4**	**+2.3**
KKM				IAmb	IAmb	14 41 22.1	
comp=Z,24nm,1.3s							
KBS	**Kingsbay**	**50.65**	**350**	P	**P**	**14 41 03.1**	**-2.1**
AAK	**Ala-Archa**	**50.80**	**293**	P	**P**	**14 41 08.0**	**+0.8**
SLJI	**Sorong**	**51.28**	**203**	P	**P**	**14 41 13.1**	**+2.4**
comp=Z,8.6nm,0.8s,baz=29,slow=10,SNR=5.5							
YKA	**Yellowknife Ar**	**51.36**	**36**	P	**P**	**14 41 10.7**	**+0.1**
comp=Z,0.2nm,0.4s,baz=303,slow=7.0,SNR=5.6							
ARU	**Arti**	**52.12**	**315**	P	**P**	**14 41 15.9**	**-0.4**
ARU				IAmb	IAmb	14 41 16.7	
comp=Z,5.3nm,0.6s							
KKAR	**Karatay Array**	**52.96**	**296**	P	**P**	**14 41 22.9**	**+0.2**
ABKAR	**Akbulak array**	**55.44**	**307**	P	**P**	**14 41 40.3**	**+0.2**
ABKAR				IAmb	IAmb	14 41 40.7	
comp=Z,4.4nm,0.5s							
ARCES	**ARCESS Array B**	**55.59**	**339**	P	**P**	**14 41 40.9**	**0.0**
comp=Z,2.8nm,0.9s,baz=27,slow=6.1,SNR=4.5							
CHGR	**Chuyangaron**	**56.41**	**292**	P	**P**	**14 41 47.8**	**+0.5**
CHGR				IAmb	IAmb	14 41 48.6	
comp=Z,14nm,0.7s							
NIL	**Nilore**	**56.93**	**285**	P	**P**	**14 41 52.2**	**+1.4**
NIL				IAmb	IAmb	14 41 53.8	
comp=Z,11nm,1.0s							
KBL	**Kabul**	**59.06**	**289**	P	**P**	**14 42 05.5**	**-0.1**
KBL				IAmb	IAmb	14 42 06.8	
comp=Z,5.9nm,0.8s							
SCO	**Scoresbysund**	**61.47**	**357**	P	**P**	**14 42 20.7**	**-0.1**
FCC	**Fort Churchill**	**61.49**	**32**	P	**P**	**14 42 20.9**	**-0.3**
FIA1	**FINESS Array S**	**61.56**	**333**	P	**P**	**14 42 21.3**	**-0.4**
FIA1				IAmb	IAmb	14 42 44.1	
comp=Z,16nm,1.2s							
FINES	**FINESS Array B**	**61.57**	**333**	P	**P**	**14 42 21.0**	**-0.7**
comp=Z,1.2nm,0.4s,baz=22,slow=7.5,SNR=9.3							
NVAR	**Mina Array Bea**	**64.10**	**61**	P	**P**	**14 42 40.6**	**+1.7**
comp=Z,0.3nm,0.5s,baz=297,slow=8.0,SNR=3.6							
XMAS	**Kiritimati**	**64.84**	**118**	P	**P**	**14 42 44.9**	**+1.3**
NB201	**NORSAR Array S**	**65.94**	**339**	P	**P**	**14 42 49.4**	**-0.5**
NOA	**NORSAR Array B**	**65.97**	**339**	P	**P**	**14 42 49.6**	**-0.4**
comp=Z,0.5nm,0.6s,baz=28,slow=6.6,SNR=4.2							
PDAR	**Pinedale Array**	**66.02**	**52**	P	**P**	**14 42 52.2**	**+1.3**
comp=Z,0.3nm,0.6s,baz=265,slow=0.0,SNR=4.2							
ULM	**Lac du Bonnet**	**67.14**	**39**	P	**P**	**14 42 57.5**	**-0.1**
comp=Z,1.5nm,0.4s,baz=153,slow=18,SNR=2.1							
ULM	**Lac du Bonnet**	**67.14**	**39**	IAmb	IAmb	14 43 01.0	
comp=Z,3.9nm,1.1s							
AKASG	**Malin Array Be**	**68.83**	**324**	P	**P**	**14 43 06.7**	**-1.2**
comp=Z,0.4nm,0.4s,baz=37,slow=6.0,SNR=4.5							
BUR08	**Bucovina Ar. S**	**72.86**	**324**	P	**P**	**14 43 32.0**	**0.0**
BUR08				IAmb	IAmb	14 43 45.7	
comp=Z,6.4nm,1.4s							
BURAR	**Bucovina Array**	**72.88**	**324**	P	**P**	**14 43 32.4**	**+0.2**
SCHQ	**Schefferville**	**72.97**	**21**	P	**P**	**14 43 31.9**	**-0.6**
SCHQ				IAmb	IAmb	14 43 53.2	
comp=Z,13nm,1.4s							

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*IDC **04** 14:36:11.6±0.4, 19°.03N×121°.26E, h0km, mb4.5/29, mb1 4.6/32, mb1mx4.4/54, mbtmp4.5/32, ML4.3/3, MS4.2/72, Ms1 4.2/72, ms1mx4.1/88, Error ellipse: s-maj=15.3km s-min=9.9km az=90.0*
*MOS **04** 14:36:13.0±1.0, 19°.07N×121°.23E, h21km, mb5.1/63, MS4.3/11, Error ellipse: s-maj=7.3km s-min=4.3km az=100.5*
*NEIC **04** 14:36:13.5±1.3, 19°.14N±0°.07×121°.07E±0°.06, h10km±1km, mb5.2/143, Error ellipse: s-maj=12.6km s-min=9.6km az=171.0*
*BJI **04** 14:36:13.7±0.0, 19°.31N×121°.04E, h11km, mb4.6/73, mB5.0/55, ML4.8/2, Ms4.6/77, Ms7 4.5/71*
*GCMT **04** 14:36:16.5±0.2, 19°.23N±0°.01×120°.86E±0°.02, h31km±1km, MW5.1/94, Moment Tensor Solution. s53,c66; s94,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.89±.18; $M_{\theta\theta}$=0.32±.11; $M_{\phi\phi}$3.21±.12; $M_{r\theta}$0.20±.14; $M_{\theta\phi}$1.73±.08; $M_{\phi r}$3.65±.19; Best double couple: M_0=5.03400×10^{16} NP1:ϕ_S=43.00000°, δ25.00000°, λ-55.00000°. NP2: ϕ_S=186.00000°, δ70.00000°, λ-105.00000°. Principal axes: T 5.3960, Plg23.0000°, Azm288.0000°; N -0.7250, Plg14.0000°, Azm192.0000°; P -4.6710, Plg63.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MAN **04** 14:36:17.5, 19°.01N×121°.43E, h21km, mb3.9, ML2.7, MS2.2*
MAN INTENSITY III - CALAYAN, CAGAYAN.
*KLM **04** 14:36:18, 19°.14N×121°.13E, h47km, mb5.1*
ISC 04 14:36:17.6±0.3, 19°.13N±0°.03×121°.14E±0°.04, h39km, n621, σ1§76/591, mb5.0/178, MS4.3/93, 32C-24D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**1.36**	**209**	⇑*e*P	**Pn**	**14 36 39.4**	**-0.7**
SIPP				*e*S	Sn	14 37 09.4	+12
BBP	**Basco**	**1.52**	**31**	⇓*e*P	**Pn**	**14 36 42.4**	**+0.2**
BBP				*e*S	**Sn**	**14 37 00.9**	**+0.2**
TWG	**Pinlang**	**3.67**	**359**		**Pn**	**14 37 09.6**	**-2.3**
TPUB	**Ta-pu**	**4.18**	**354**	Pn	**Pn**	**14 37 16.8**	**-2.1**
TPUB	**Ta-pu**	**4.18**	**354**	P	**Pn**	**14 37 17.2**	**-1.6**
YULB	**Yu-li**	**4.25**	**2**	Pn	**Pn**	**14 37 17.6**	**-2.2**
SSLB	**Suanglung**	**4.64**	**358**		**Pn**	**14 37 23.7**	**-1.5**
SSLB	**Suanglung**	**4.64**	**358**	P	**Pn**	**14 37 23.8**	**-1.4**
NACB	**Ninganchiao**	**5.04**	**5**		**Pn**	**14 37 29.3**	**-1.4**
YHNB	**Yeheng**	**5.52**	**2**		**Pn**	**14 37 37.1**	**-0.2**
YHNB	**Yeheng**	**5.52**	**2**	P	**Pn**	**14 37 37.7**	**+0.4**
YOJ	**Yonaguni jima**	**5.58**	**18**	P	**Pn**	**14 37 38.2**	**+0.1**
YOJ	**Yonaguni jima**	**5.58**	**18**	Pn	**Pn**	**14 37 38.2**	**+0.1**
YOJ	**Yonaguni jima**	**5.58**	**18**	P	**Pn**	**14 37 39.6**	**+1.5**
TATO	**Taipei**	**5.83**	**3**		**Pn**	**14 37 40.1**	**-1.4**
KNMB	**Chin-men Tao**	**5.89**	**335**		**Pn**	**14 37 38.9**	**-3.5**
JMJ	**Miyako jima 2**	**6.84**	**34**	P	**Pn**	**14 37 54.9**	**-0.5**
HKPS	**Hong Kong Po S**	**7.26**	**297**		**Pn**	**14 37 57.0**	**-4.2**
MCO	**Taipa Grande**	**7.70**	**294**	P	**Pn**	**14 38 04.0**	**-3.2**
TBP	**Tagbilaran**	**9.74**	**164**	*e*P	Pn	14 38 29.3	-5.9
JOW	**Kunigami**	**10.10**	**39**	Pn	**Pn**	**14 38 39.9**	**-0.1**
5.8nm,0.3s,baz=187,slow=14,SNR=22							
JOW				Sn	**Sn**	**14 40 29.4**	**-2.6**
1.1nm,0.3s,baz=109,slow=23,SNR=2.8							
JOW	**Kunigami**	**10.10**	**39**	Pn	**Pn**	**14 38 38.9**	**-1.1**
JOW	**Kunigami**	**10.10**	**39**	P	**Pn**	**14 38 41.1**	**+1.1**
QIZ	**Qiongzhong**	**10.68**	**271**	P	**Pn**	**14 38 44.2**	**-3.9**
QIZ				S	**Sn**	**14 40 45.8**	**-0.7**
QIZ				pmax	pmax		
comp=Z,33nm,1.0s							
QIZ				LR	LR		
comp=N,2μm,15.9s							
QIZ				LR	LR		
comp=E,2μm,18.6s							
QIZ				LR	LR		
comp=Z,2μm,20.1s							
QIZ	**Qiongzhong**	**10.68**	**271**	Pn	**Pn**	**14 38 43.4**	**-4.8**
QIZ	**Qiongzhong**	**10.68**	**271**	P	**Pn**	**14 38 44.5**	**-3.6**
CNSH	**ChangSha**	**11.73**	**322**	S	**Sn**	**14 41 03.6**	**-8.5**
CNSH	**ChangSha**	**11.73**	**322**	smax	smax		
comp=N,140nm,1.2s							
CNSH	**ChangSha**	**11.73**	**322**	LR	LR		
comp=E,2μm,13.9s							
CNSH	**ChangSha**	**11.73**	**322**	LR	LR		
comp=N,2μm,15.0s							
CNSH	**ChangSha**	**11.73**	**322**	smax	smax		
comp=E,140nm,1.0s							
CNSH	**ChangSha**	**11.73**	**322**	⇑P	Pn	14 38 56.0	-6.4
SSE	**Sheshan**	**11.92**	**0**	P	**Pn**	**14 39 03.7**	**-1.2**
SSE				S	**Sn**	**14 41 18.7**	**+2.2**
SSE				pmax	pmax		
comp=E,10.0nm,0.6s							
SSE				pmax	pmax		
comp=E,84nm,4.0s							
SSE				LR	LR		
comp=E,260nm,15.1s							
SSE				LR	LR		
comp=E,310nm,16.3s							
DAV	**Davao City (W)**	**12.74**	**160**	LR	LR	14 44 58.3	
comp=E,2μm,19.0s,baz=7.0,slow=42							
WHN	**Wuhan**	**12.93**	**333**	⇑P	**Pn**	**14 39 15.6**	**-3.1**
WHN				S	**Sn**	**14 41 36.4**	**-4.8**
WHN				pmax	pmax		
comp=E,34nm,0.7s							
WHN				LR	LR		
comp=E,3μm,14.2s							
WHN				LR	LR		
comp=E,3μm,15.3s							
WHN				LR	LR		
comp=E,5μm,16.6s							
NJ2	**Nanjing**	**13.03**	**351**	*e*P	**Pn**	**14 39 16.5**	**-3.7**
NJ2				pmax	pmax		
comp=E,6.0nm,0.6s							
NJ2				LR	LR		
comp=E,1μm,16.6s							
NJ2				LR	LR		
comp=E,1μm,13.6s							
NJ2				LR	LR		
comp=E,2μm,16.2s							
MYLDM	**Lahad Datu**	**14.10**	**191**		**P**	**14 39 42.1**	**+0.3**
JSU	**Suzuyama**	**14.91**	**32**	Pn	**Pn**	**14 39 45.2**	**-0.6**
GYA	**Guiyang**	**15.21**	**301**	⇓P	**Pn**	**14 39 48.3**	**-1.4**
GYA				pP	P	14 39 54.8	+0.6
GYA				S	**Sn**	**14 42 37.0**	**-0.1**
GYA				pmax	pmax		
comp=E,63nm,0.9s							
GYA				pmax	pmax		
comp=E,210nm,3.5s							
GYA				LR	LR		
comp=E,1μm,14.6s							
GYA				LR	LR		
comp=E,2μm,13.8s							
GYA				LR	LR		
comp=E,3μm,12.6s							
ENH	**Enshi**	**15.32**	**319**	Pn	**Pn**	**14 39 47.5**	**-3.6**
ENH				IAmb	IAmb	14 39 52.4	
comp=Z,146nm,1.2s							
UBPT	**Khong Chiam**	**15.45**	**258**	Pn	**Pn**	**14 39 50.1**	**-2.7**
SLVN	**Son La**	**16.33**	**281**		**Pn**	**14 40 00.4**	**-3.7**
JNU	**Nakatsue**	**16.44**	**30**	Pn	**Pn**	**14 40 05.6**	**+0.2**
comp=Z,0.7nm,0.3s,baz=185,slow=6.5,SNR=38							
JNU				LR	LR	14 46 28.9	
comp=Z,1μm,20.6s,baz=206,slow=38							
JNU	**Nakatsue**	**16.44**	**30**	P	**Pn**	**14 40 05.3**	**-0.1**
JNU				IAmb	IAmb	14 40 10.9	
comp=Z,295nm,1.4s							
JNU	**Nakatsue**	**16.44**	**30**	P	**P**	**14 40 06.1**	**-1.6**
LYN	**LuoYang**	**17.19**	**335**	⇑P	**P**	**14 40 15.1**	**-0.9**
LYN				pP	pP	14 40 21.5	-3.4
LYN				pmax	pmax		
comp=Z,20nm,1.2s							
LYN				pmax	pmax		
comp=Z,240nm,6.9s							
LYN				LR	LR		
comp=Z,1μm,20.2s							
LYN				LR	LR		
comp=Z,1μm,15.9s							
TIA	**Tai'an**	**17.38**	**349**	P	**P**	**14 40 19.6**	**+1.5**
TIA				pmax	pmax		
comp=Z,13nm,0.9s							
TIA				pmax	pmax		
comp=Z,160nm,4.3s							
TIA				LR	LR		
comp=Z,840nm,18.5s							
TIA				LR	LR		
comp=Z,330nm,12.3s							
TIA				LR	LR		
comp=Z,1μm,16.4s							
TOLI2	**Tolitoli**	**17.91**	**181**		**Pn**	**14 40 22.6**	**-1.2**
TOLI2	**Tolitoli**	**17.91**	**181**	P	**P**	**14 40 28.3**	**+4.2**
comp=Z,23nm,1.2s							
TJN	**Taejon**	**18.04**	**16**	⇑*e*P	**Pn**	**14 40 24.4**	**-0.8**
KMI	**Kunming**	**18.05**	**293**	⇓P	**P**	**14 40 25.8**	**-0.1**
KMI				pP	Pn	14 40 29.8	+4.0
KMI				sP	pP	14 40 33.2	-1.8
KMI				S	**Sn**	**14 43 41.9**	**-4.5**
KMI				sS	S	14 43 54.8	+3.7
KMI				pmax	pmax		
comp=Z,19nm,1.7s							
KMI				pmax	pmax		
comp=Z,450nm,10.8s							
KMI				LR	LR		
comp=Z,1μm,12.8s							
KMI				LR	LR		
comp=Z,2μm,13.9s							
KMI				LR	LR		
comp=Z,2μm,16.6s							
XAN	**Xi'an**	**18.41**	**326**	P	**P**	**14 40 29.1**	**-0.5**
XAN				pP	Pn	14 40 32.3	+2.4
XAN				sP	pP	14 40 35.7	-2.8
XAN				PP	**sP**	**14 40 43.5**	**+0.2**
XAN				S	**Sn**	**14 43 55.4**	**+0.7**
XAN				sS	S	14 44 01.7	+3.8
XAN				pmax	pmax		
comp=Z,22nm,1.1s							
XAN				pmax	pmax		
comp=Z,810nm,5.2s							
XAN				LR	LR		
comp=Z,2μm,15.8s							
XAN				LR	LR		
comp=Z,1μm,13.7s							
XAN				LR	LR		
comp=Z,2μm,14.6s							
JMN	**Monobe**	**18.45**	**35**	P	**P**	**14 40 29.4**	**-0.6**
GTOI	**Gorontalo**	**18.47**	**174**	P	Pn	14 40 38.9	+8.3
comp=Z,254nmcomp=Z,12nm,0.8s							
MRSI	**Marisa**	**18.55**	**177**	P	Pn	14 40 39.8	+8.2
comp=Z,524nmcomp=Z,28nm,1.2s							

comp=Z,620nm,18.2s
APSI Ampana 19.92 179 P **Pn** **14 40 54.5 +6.5**
comp=Z,38nm,1.1s
TIY Taiyuan 20.02 339 P Pn 14 40 47.8 -1.3
TIY PP **PnPn** **14 41 07.0 +2.9**
TIY S Sn 14 44 31.9 -1.4
TIY SS **SnSn** **14 44 54.9 +6.6**
TIY pmax pmax
comp=Z,360nm,5.1s
TIY LR LR
comp=Z,1μm,14.1s
TIY LR LR
comp=Z,810nm,15.8s
TIY LR LR
comp=Z,1μm,15.1s
LUWI Luwuk 20.11 175 P Pn 14 40 57.7 +7.5
comp=Z,2μmcomp=Z,102nm,1.1s
LUWI Luwuk 20.11 175 P **P** **14 40 46.3 -1.9**
LUWI IAmb IAmb 14 41 04.0
comp=Z,73nm,1.1s
LUWI Luwuk 20.11 175 P Pn 14 40 52.3 +2.1
JWT Wachi 20.45 35 P **P** **14 40 52.1 +0.4**
JWT IAmb IAmb 14 40 55.1
comp=Z,115nm,1.0s
KSM Kuching 20.51 212 P **P** **14 40 52.4 -0.1**
LBMI Labuha 20.61 162 P Pn 14 41 06.3 +10
comp=Z,40nm,1.9s
MTKI Muara Teweh, K 20.87 198 P Pn 14 41 02.2 +3.1
comp=Z,41nm,1.4s
JCJ Chichijima 20.90 64 P **P** **14 40 55.9 -0.7**
JCJ IAmb IAmb 14 41 06.0
comp=Z,122nm,0.8s
CHTO Chiang Mai 21.00 273 P **P** **14 40 56.1 -1.7**
CHTO pmax pmax
comp=Z,85nm,1.3s
CHTO Chiang Mai 21.00 273 P **P** **14 40 56.1 -1.7**
CHTO IAmb IAmb 14 41 02.0
comp=Z,85nm,1.3s
CM31 Chiang Mai Arr 21.03 272 P **P** **14 40 56.0 -2.2**
CMAR Chiang Mai Arr 21.03 272 P **P** **14 40 58.5 +0.3**
comp=Z,21nm,1.1s,baz=81,slow=8.6,SNR=105
CMAR LR LR 14 49 33.5
comp=Z,906nm,18.1s,baz=85,slow=38
CMAR Chiang Mai Arr 21.03 272 P **P** **14 40 56.3 -1.8**
STKI Sintang 21.18 208 P **P** **14 41 04.3 +4.5**
comp=Z,8μmcomp=Z,39nm,1.3s
BJT Baijiatuau 21.26 349 P **P** **14 40 59.5 -0.9**
BJT pmax pmax
comp=Z,59nm,0.9s
BJT Baijiatuau 21.26 349 P **P** **14 40 59.5 -0.9**
BJT IAmb IAmb 14 41 26.0
comp=Z,59nm,0.9s
BJI Beijing 21.28 349 P **P** **14 41 01.4 +0.8**
BJI pP **pP** **14 41 05.0 -4.6**
BJI S **S** **14 44 56.2 +1.4**
BJI pmax pmax
comp=Z,20nm,1.2s
BJI LR LR
comp=Z,780nm,15.7s
BJI LR LR
comp=Z,460nm,20.3s
BJI LR LR
comp=Z,910nm,18.0s
INU Inuyama 21.41 38 P **P** **14 41 02.5 +0.4**
INU IAmb IAmb 14 41 05.8
comp=Z,123nm,0.9s
INU Inuyama 21.41 38 P **P** **14 41 04.0 +2.0**
SANI Sanana 21.58 167 P **P** **14 41 07.3 +3.3**
SANI Sanana 21.58 167 P **P** **14 41 07.8 +3.8**
comp=Z,33nm,0.9s
JHJ Hachijo jima 2 21.73 46 LR LR 14 47 33.3
comp=Z,560nm,21.9s,baz=226,slow=31
JGF Kuroka 21.78 38 P **P** **14 41 04.3 -1.8**
TTSI Tana Toraja 22.07 184 P P 14 41 20.1 +11
comp=Z,1μmcomp=Z,24nm,1.0s
LZH Lanzhou 22.75 321 ⇑P **P** **14 41 17.2 +0.6**
LZH sP pP 14 41 26.0 +0.2
LZH S **S** **14 45 20.7 -2.2**
LZH sS Sn 14 45 29.4 -10
LZH pmax pmax
comp=Z,71nm,1.2s
LZH pmax pmax
comp=Z,500nm,4.9s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,880nm,16.8s
LZH LR LR
comp=Z,1μm,15.7s
MAJO Matsushiro 22.93 37 *de*P **P** **14 41 16.5 -1.8**
MAJO Matsushiro 22.93 37 P **P** **14 41 15.4 -2.9**
MAJO IAmb IAmb 14 41 43.0
comp=Z,65nm,1.2s
MAJO Matsushiro 22.93 37 P **P** **14 41 20.5 +2.2**
MAT Matsushiro 22.93 37 P **P** **14 41 17.5 -0.8**
MAT S **S** **14 45 27.6 +1.9**
MJB9 Matsu-Tunnel 22.93 37 P **P** **14 41 16.1 -2.2**
MJB9 IAmb IAmb 14 41 43.0
comp=Z,68nm,1.3s
MJAR Matsushiro Arr 22.93 37 P **P** **14 41 17.6 -0.7**
comp=Z,21nm,1.1s,baz=219,slow=7.7,SNR=19
MJAR LR LR 14 50 56.0
comp=Z,201nm,18.8s,baz=218,slow=39
MJAR Matsushiro Arr 22.93 37 P **P** **14 41 15.4 -2.9**
MJAR pmax pmax
comp=Z,113nm,1.5s
MJAR Matsushiro Arr 22.93 37 P **P** **14 41 15.4 -2.9**
MJAR IAmb IAmb 14 41 29.7
comp=Z,112nm,1.5s
SPSI Sidrap Palu 22.99 184 P P 14 41 28.9 +10
comp=Z,14nm,1.2s
HHC Hu-ho-hao-te 23.15 341 *e*P **P** **14 41 22.6 +2.0**
HHC S **S** **14 45 28.7 -0.8**
HHC pmax pmax
comp=Z,39nm,0.9s
HHC pmax pmax
comp=Z,340nm,4.8s
HHC LR LR
comp=Z,1μm,13.6s
HHC LR LR
comp=Z,650nm,14.0s
HHC LR LR
comp=Z,2μm,14.6s
BBKI Banjar Baru 23.29 196 P **P** **14 41 23.4 +1.4**
BNSI Bone 23.40 183 P P 14 41 33.9 +11
comp=Z,16nm,1.4s
GUMO Guam 23.41 100 LR LR 14 50 31.4
comp=Z,618nm,19.0s,baz=272,slow=37
BTO Baotou 23.44 338 *e*P **P** **14 41 25.1 +1.7**
AAI Ambon 23.71 162 P P 14 41 36.0 +10
comp=Z,1μmcomp=Z,46nm,1.2s
KAPI Kappang 24.03 183 P **P** **14 41 29.4 +0.4**
comp=Z,5.6nm,0.3s,baz=86,slow=18,SNR=9.0
KAPI LR LR 14 51 33.5
comp=Z,443nm,20.6s,baz=22,slow=38
KAPI Kappang 24.03 183 P **P** **14 41 29.4 +0.4**
KAPI pmax pmax
comp=Z,23nm,1.1s
MYKOM Kota Tinggi 24.16 227 P **P** **14 41 29.5 -0.8**
MYKOM IAmb IAmb 14 41 38.9
comp=Z,47nm,1.3s
KULM Kulim 24.25 238 P **P** **14 41 29.6 -1.6**
KULM IAmb IAmb 14 41 53.6
comp=Z,90nm,1.3s
KULM Kulim 24.25 238 P **P** **14 41 31.0 -0.2**
BKSI Bulukumba 24.32 182 P P 14 41 41.3 +10
comp=Z,15nm,0.9s
IPM Ipoh 24.44 236 P **P** **14 41 31.4 -1.5**
IPM IAmb IAmb 14 41 58.3
comp=Z,50nm,1.1s
IPM Ipoh 24.44 236 P **P** **14 41 32.0 -0.9**
FAKI Fak Fak 24.48 152 P **P** **14 41 32.6 -0.6**
CN2 Changchun 24.86 7 *e*P **P** **14 41 35.0 -1.4**
CN2 S **S** **14 45 54.2 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,600nm,16.0s
BAKI Biak 24.98 142 P P 14 41 49.8 +12
XLT XiLinHaoTe 25.06 351 *e*P **P** **14 41 39.5 +1.2**
XLT pP pP 14 41 46.1 -2.5
XLT sP sP 14 41 49.6 -3.0
XLT PP **PnPn** **14 42 15.3 +2.3**
XLT PcP **PcP** **14 45 14.3 +2.0**
XLT S **S** **14 46 01.7 +1.6**
XLT sS sS 14 46 10.2 -8.0
XLT SS **SnSn** **14 47 00.0 +8.3**
XLT pmax pmax
comp=Z,57nm,1.1s
XLT pmax pmax
comp=Z,370nm,3.5s
XLT LR LR
comp=Z,660nm,14.1s
XLT LR LR
comp=Z,750nm,15.2s
XLT LR LR
comp=Z,840nm,15.2s
JMM Marumori 25.34 38 P **P** **14 41 39.2 -1.6**
JMM IAmb IAmb 14 41 59.6
comp=Z,79nm,1.2s
DSRI Dabo 25.38 222 P **P** **14 41 46.1 +4.7**
comp=Z,550nmcomp=Z,18nm,1.5s
VLA Vladivostok 25.58 18⇑*e*P **P** **14 41 44.3 +1.4**
VLA pmax pmax
comp=Z,56nm,1.1s
PPBI Pangkal Pinang 25.79 216 P **P** **14 41 51.0 +5.9**
BWJI Bawean 26.19 199 P **P** **14 41 54.4 +5.7**
comp=Z,160nm,1.3s
MDJ Mudanjiang 26.38 14 P **P** **14 41 48.2 -1.9**
MDJ S **S** **14 46 24.3 +3.6**
MDJ pmax pmax
comp=Z,240nm,4.0s
MDJ LR LR
comp=Z,450nm,17.6s
MDJ LR LR
comp=Z,490nm,16.2s
MDJ LR LR
comp=Z,530nm,21.3s
USA0B Ussuriysk Arra 26.60 18 P **P** **14 41 51.1 -1.1**
USA0B pmax pmax
comp=Z,17nm,0.9s
USA0B Ussuriysk Arra 26.60 18 P **P** **14 41 51.0 -1.1**
USRK Ussuriysk Ar. 26.60 18 P **P** **14 41 52.2 +0.1**
comp=Z,12nm,0.8s,baz=214,slow=9.0,SNR=11
USRK LR LR 14 53 36.8
comp=Z,421nm,18.4s,baz=191,slow=39
USRK Ussuriysk Ar. 26.60 18 P **P** **14 41 51.2 -0.9**
USRK Ussuriysk Ar. 26.60 18 P **P** **14 41 51.2 -0.9**
KMMI Kalianget 26.96 196 P P 14 42 03.1 +7.5
comp=Z,46nm,1.3s
TSI Tuntungan 26.98 238 P **P** **14 41 57.8 +1.9**
comp=Z,51nm,0.8s
BNX BinXian 27.04 10 ⇑P **P** **14 41 55.3 -0.8**
BNX pmax pmax
comp=Z,12nm,1.1s
BNX pmax pmax
comp=Z,140nm,3.5s
PSI Prapat 27.12 236 P **P** **14 41 57.4 +0.1**
comp=Z,5.6nm,0.8s,baz=6.4,slow=6.7,SNR=9.5
PSI LR LR 14 52 23.9
comp=Z,631nm,19.7s,baz=77,slow=36
PSI Prapat 27.12 236 P **P** **14 41 57.4 +0.1**
PSI pmax pmax
comp=Z,32nm,1.3s
RPSI Rantau Prapat 27.19 236 P **P** **14 41 56.5 -1.3**
RPSI Rantau Prapat 27.19 236 P **P** **14 41 57.4 -0.3**
UWJI Ujung Watu 27.30 203 P **P** **14 42 04.9 +6.2**
comp=Z,48nm,1.3s
GTA Gaotai 27.34 322 ⇑P **P** **14 41 59.5 +0.4**
GTA pP pP 14 42 07.5 -1.5
GTA sP pwP 14 42 11.4 -1.4
GTA S **S** **14 46 40.2 +3.8**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,93nm,5.3s
GTA LR LR
comp=Z,520nm,14.9s
GTA LR LR
comp=Z,520nm,14.5s
GTA LR LR
comp=Z,820nm,15.3s
JTM Tenmabayashi 27.52 34 P **P** **14 41 59.6 -0.9**
EDFI Ende, Flores 27.71 179 P P 14 42 10.9 +8.5
comp=Z,13nm,0.9s
BLJI Banyuglugur 27.72 196 P P 14 42 09.9 +7.5
comp=Z,26nm,1.0s
SHL Shillong 27.77 289 P **P** **14 42 01.4 -1.7**
SHL pmax pmax
comp=Z,27nm,1.0s
SHL Shillong 27.77 289 P **P** **14 42 01.4 -1.7**
SHL IAmb IAmb 14 42 20.2
comp=Z,27nm,1.0s
WOJI Wonogiri, Jawa 28.63 202 P P 14 42 18.9 +8.4
comp=Z,31nm,1.2s
KLSI 28.66 216 P P 14 42 16.6 +5.8
comp=Z,14nm,1.6s
GOMU GeErMu 28.72 312 P **P** **14 42 12.9 +1.2**
GOMU pP pP 14 42 16.4 -5.4
GOMU S **S** **14 47 04.8 +6.1**
GOMU ScS **ScS** **14 52 52.9 -0.8**
GOMU pmax pmax
comp=Z,12nm,1.1s
GOMU LR LR
comp=Z,560nm,15.9s
GOMU LR LR
comp=Z,940nm,15.7s
GOMU LR LR
comp=Z,890nm,15.3s
MDSI Maura Dua 28.80 217 P **P** **14 42 14.8 +2.7**
comp=Z,6.4nm,1.5s
JAY Jayapura 28.86 136 LR LR 14 51 36.5
comp=Z,592nm,21.6s,baz=324,slow=32
PCJI Pacitan 28.87 201 P P 14 42 20.0 +7.3
comp=Z,23nm,1.2s
MASI Maura Aman, Be 28.91 222 P P 14 42 18.1 +5.0
comp=Z,30nm,0.6s
LEM Lembang 29.03 209 LR LR 14 54 18.5
comp=Z,432nm,20.1s,baz=45,slow=38
GSI Gunungsitoli 29.10 235 P **P** **14 42 15.9 +1.1**
comp=Z,27nm,1.0s
GSI Gunungsitoli 29.10 235 P **P** **14 42 13.2 -1.6**
GSI IAmb IAmb 14 42 22.2
comp=Z,29nm,1.1s
JEW Eniwo 29.21 32 P **P** **14 42 15.9 +0.4**
BATI Baumata 29.25 175 P **P** **14 42 15.1 -1.0**
comp=Z,9.9nm,0.3s,baz=270,slow=19,SNR=2.0
ERM Erimo 29.50 35⇑*e*P **P** **14 42 17.9 -0.1**
ERM pmax pmax
comp=Z,80nm,1.0s
HIA Hailar 30.09 358 P **P** **14 42 22.4 -0.8**
HIA pmax pmax
comp=Z,18nm,1.0s
HIA Hailar 30.09 358 P **P** **14 42 22.4 -0.8**
ASAJ Asahikawa 30.71 31 P **P** **14 42 29.4 +0.6**
comp=Z,11nm,0.8s,baz=228,slow=9.9,SNR=11
ASAJ LR LR 14 54 28.3
comp=Z,355nm,21.5s,baz=200,slow=36
ASAJ Asahikawa 30.71 31 P **P** **14 42 28.9 +0.1**
ASAJ pmax pmax
comp=Z,39nm,1.0s
JKA Kamikawa-asahi 30.71 31 P **P** **14 42 28.9 +0.1**
JKA IAmb IAmb 14 42 52.2
comp=Z,39nm,1.0s
ULN Ulaanbaatar 30.87 341 *de*P **P** **14 42 31.5 +1.1**
ULN pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 30.87 341 P **P** **14 42 27.5 -2.9**
SONM Songino Array 31.05 341 P **P** **14 42 32.5 +0.6**
comp=Z,6.4nm,0.8s,baz=159,slow=9.4,SNR=25
SONM PcP **PcP** **14 45 27.9 +1.0**
comp=Z,1.1nm,0.9s,baz=168,slow=3.9,SNR=2.4
SONM LR LR 14 55 59.8
comp=Z,804nm,21.5s,baz=165,slow=38
SONM Songino Array 31.05 341 P **P** **14 42 32.0 +0.1**
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM Songino Array 31.05 341 P **P** **14 42 32.0 +0.1**
KLR Kul'dur 31.22 13 P **P** **14 42 33.1 -0.1**
comp=Z,4.0nm,0.7s,baz=211,slow=7.3,SNR=14
KLR LR LR 14 56 40.7
comp=Z,314nm,19.3s,baz=194,slow=39
KLR Kul'dur 31.22 13 *de*P **P** **14 42 32.6 -0.6**
KLR pmax pmax
comp=Z,25nm,1.7s
YSS Yuzh-Sakhalins 32.92 28 *e*P **P** **14 42 48.5 +0.4**
YSS *e* 14 53 06.0
YSS pmax pmax
comp=Z,40nm,1.0s
GUN Gumba 33.40 292 *e*P **P** **14 42 52.6 -0.4**
comp=Z,78nm,1.0s
PKI Pulchoki 33.77 291 *e*P **P** **14 42 55.2 -1.0**
comp=Z,43nm,1.1s
PKIN Phulchoki 33.78 291 *e*P **P** **14 42 54.8 -1.5**
comp=Z,41nm,1.2s
GRNR Gornyy 33.82 17⇓*i*P **P** **14 42 56.9 +0.9**
GRNR pmax pmax
comp=Z,4.0nm,1.1s
GRNR MLR MLR
comp=Z,200nm,16.0s
KKN Kakani 33.91 292 *e*P **P** **14 42 56.6 -0.7**
comp=Z,47nm,1.1s
DMN Daman 34.04 291 *e*P **P** **14 42 57.0 -1.5**
comp=Z,3.7nm,0.2s
KUR Kuril'sk 34.19 34⇑*e*P **P** **14 42 58.6 -0.6**
KUR pmax pmax
comp=Z,257nm,1.1s
ZAK Zakamensk 34.27 340 *e*P **P** **14 43 00.2 +0.2**
ZAK pmax pmax
comp=Z,13nm,1.1s
GKN Gorkha 34.50 292 *e*P **P** **14 43 01.4 -0.9**
comp=Z,76nm,1.2s
ZEA Zeya 34.87 6 *e*P **P** **14 43 04.8 -0.1**
ZEA *e*S **S** **14 48 30.0 -3.3**
ZEA *e* 14 51 10.6
ZEA pmax pmax
comp=Z,100nm,6.8s
ZEA pmax pmax
comp=Z,30nm,1.1s
ZEA smax smax
comp=N,100nm,13.7s
ZEA MLR MLR
comp=N,400nm,13.0s
ZEA MLR MLR
comp=E,100nm,13.0s
ZEA MLR MLR
comp=Z,300nm,14.0s
DANN Dangsing 35.31 292 *e*P **P** **14 43 08.9 -0.6**
comp=Z,189nm,1.6s
KOLN Koldanda 35.39 291 *e*P **P** **14 43 09.6 -0.5**
comp=Z,80nm,1.1s
IRK Irkutsk 35.59 342 *e*P **P** **14 43 12.5 +1.3**
IRK pmax pmax
comp=Z,43nm,1.4s
PYUN Piuthan 35.96 292 *e*P **P** **14 43 14.5 -0.5**
comp=Z,49nm,1.2s
TYV Tymovskoe 35.96 23 *e*P P 14 43 18.8 +4.4
TYV pmax pmax
comp=Z,11nm,1.1s
TYV pmax pmax
comp=Z,100nm,7.6s
MOY Mondy 36.13 339 *e*P **P** **14 43 17.1 +1.1**
MOY pmax pmax
comp=Z,53nm,1.8s
FITZ Fitzroy Crossi 37.26 173 P **P** **14 43 24.2 -1.5**
comp=Z,1.6nm,0.5s,baz=167,slow=7.9,SNR=11
WMQ Urumqi 37.27 319 *e*P **P** **14 43 26.5 +0.7**
WMQ sP sP 14 43 40.3 -0.2
WMQ S **S** **14 49 17.4 +6.9**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,160nm,3.9s
WMQ LR LR
comp=Z,1μm,13.9s
WMQ LR LR
comp=Z,1μm,14.5s
WMQ LR LR
comp=Z,440nm,14.5s
PMG Port Moresby 38.23 136 LR LR 14 58 44.6
comp=Z,149nm,21.3s,baz=256,slow=36
BOD Bodaibo 38.99 354 *e*P **P** **14 43 40.9 +0.9**
BOD pmax pmax
comp=Z,22nm,1.7s
ADKI Addanki 39.34 272 *e*P **P** **14 43 43.5 0.0**
NJS Nagarjunasagar 39.84 273 *e*P **P** **14 43 47.6 +0.1**
RCLA Racherla 40.38 272 *e*P **P** **14 43 50.9 -1.2**
HYBB Hyderabad (bro 40.41 275 *e*P **P** **14 43 50.9 -1.5**
PSA00 Pilbara Seismi 40.47 182 P **P** **14 43 50.2 -2.4**
DGZ Jazzator, Alta 40.68 326*c i*P **P** **14 43 55.4 +1.1**
DGZ pmax pmax
comp=Z,11nm,0.9s
WB0 Warramunga Arr 40.78 161 P **P** **14 43 52.0 -3.2**
ZSN Zaisan 40.84 322 *e*P **P** **14 43 55.9 +0.4**
ZSN Zaisan 40.84 322 *e*P **P** **14 43 55.9 +0.4**
baz=322
WRAB Tennant Creek 40.92 161⇑*e*P **P** **14 43 54.1 -2.3**
WRAB pmax pmax
comp=Z,12nm,1.7s
WRAB Tennant Creek 40.92 161 P **P** **14 43 53.1 -3.3**
WRA Warramunga Arr 40.93 161 P **P** **14 43 53.2 -3.3**
comp=Z,0.8nm,0.4s,baz=334,slow=10,SNR=24
WRA PcP **PcP** **14 45 56.5 +0.1**
comp=Z,2.0nm,0.5s,baz=346,slow=3.2,SNR=5.6
WRA LR LR 15 02 56.9
comp=Z,124nm,19.5s,baz=230,slow=39
WRA Warramunga Arr 40.93 161 P **P** **14 43 52.9 -3.6**
WB2 Warramunga Arr 40.93 161 P **P** **14 43 53.0 -3.4**
PALK Pallekele 40.99 259 LR LR 15 00 47.9
comp=Z,415nm,19.2s,baz=159,slow=36
WR0 Warramunga Arr 41.01 161 P **P** **14 43 53.8 -3.3**
MK31 Makanchi Array 42.05 320*c i*P **P** **14 44 06.2 +0.8**
MK31 Makanchi Array 42.05 320 P **P** **14 44 05.7 +0.2**
MKAR Makanchi Array 42.05 320 P **P** **14 44 06.5 +1.0**
comp=Z,18nm,1.1s,baz=112,slow=9.3,SNR=39
MKAR LR LR 15 02 43.0
comp=Z,198nm,20.1s,baz=112,slow=38
MKAR Makanchi Array 42.05 320 P **P** **14 44 05.4 -0.1**
UZB Uzynbulak 42.67 314 *e*P **P** **14 44 11.4 +0.7**
UZB Uzynbulak 42.67 314 *e*P **P** **14 44 11.4 +0.7**
baz=313
KPKS Kokpek 43.02 314 *e*P **P** **14 44 14.1 +0.7**
KPKS Kokpek 43.02 314 *e*P **P** **14 44 14.1 +0.7**
baz=314
H11S3 WAKE ISLAND Hy 43.02 83 T T 15 29 55.6
baz=285,slow=74,SNR=168
H11S1 WAKE ISLAND Hy 43.03 83 T T 15 29 56.4
baz=285,slow=74,SNR=91
H11S2 WAKE ISLAND Hy 43.04 83 T T 15 29 55.9
baz=285,slow=74,SNR=58
H11N1 WAKE ISLAND Hy 43.05 81 T T 15 29 51.4
baz=278,slow=75,SNR=144
H11N2 WAKE ISLAND Hy 43.05 81 T T 15 29 51.6
baz=278,slow=75,SNR=64
H11N3 WAKE ISLAND Hy 43.07 81 T T 15 29 52.7
baz=278,slow=75,SNR=94
SATY Saty 43.07 313 *e*P **P** **14 44 14.7 +0.9**
SATY Saty 43.07 313 *e*P **P** **14 44 14.8 +0.9**
baz=313
YAK Yakutsk 43.28 6 P **P** **14 44 14.4 -0.6**
comp=Z,11nm,0.8s,baz=81,slow=1.1,SNR=8.9
YAK LR LR 15 03 38.1
comp=Z,229nm,18.9s,baz=253,slow=38
YAK Yakutsk 43.28 6*d i*P **P** **14 44 14.2 -0.9**
YAK *e**PP **pP** **14 44 25.4 -0.6**
YAK *e* 14 46 03.3
YAK *e*PPP PPP 14 46 27.1
YAK *e*S **S** **14 50 38.7 -0.7**
YAK *e*SS **SS** **14 53 51.3 -2.3**
YAK *e* 14 54 10.6
YAK *e*SSS SSS 14 54 33.0
YAK pmax pmax
comp=Z,28nm,1.5s
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,12nm,1.4s
YAK smax smax
comp=E,52nm,2.8s
YAK smax smax
comp=N,46nm,3.1s
YAK Yakutsk 43.28 6 P **P** **14 44 12.7 -2.3**
YAK IAmb IAmb 14 44 26.0
comp=Z,24nm,0.9s
KDJ Kajisay 43.62 312 P **P** **14 44 14.7 -3.7**
KDJ pmax pmax
comp=Z,16nm,1.3s
KDJ Kajisay 43.62 312 P **P** **14 44 14.7 -3.7**
TDK Taldyqorghan 43.76 316 *e*P **P** **14 44 20.5 +1.2**
TDK pmax pmax
comp=Z,7.0nm,0.8s
TDK Taldyqorghan 43.76 316 *e*P **P** **14 44 20.5 +1.2**

comp=Z,6.6nm,0.8s,baz=316
KSH Kashi 43.78 308 P P 14 44 23.2 +3.5
KSH pP pP 14 44 29.5 -0.4
KSH sP pwP 14 44 32.0 -1.9
KSH S **S 14 50 53.4 +5.7**
KSH SS **SS 14 54 02.6 -1.7**
KSH pmax pmax
comp=Z,23nm,1.0s
KSH LR LR
comp=Z,760nm,16.0s
KSH LR LR
comp=Z,840nm,15.5s
KSH LR LR
comp=Z,1µm,18.5s
MDOK Medeo 44.04 313 *e*P **P 14 44 22.6 +0.9**
MDOK Medeo 44.04 313 *e*P **P 14 44 22.7 +0.9**
baz=313
TNSS Tian-Shan 44.07 313 *i* P **P 14 44 23.1 +0.8**
baz=312
PEA0B Petropavlovsk- 44.13 31*de*P **P 14 44 22.8 +0.7**
PEA0B Petropavlovsk- 44.13 31 P **P 14 44 21.5 -0.6**
PETK Petropavlovsk- 44.13 31 P **P 14 44 21.7 -0.4**
comp=Z,16nm,0.9s,baz=81,slow=26,SNR=12
PETK LR LR 15 04 12.8
comp=Z,163nm,19.7s,baz=223,slow=38
PETK Petropavlovsk- 44.13 31 P **P 14 44 20.7 -1.4**
PETK Petropavlovsk- 44.13 31 P **P 14 44 20.7 -1.4**
CHKK Chushkaly 44.31 314 *e*P **P 14 44 24.1 +0.4**
baz=314
AS31 Alice Springs 44.32 163 P **P 14 44 21.8 -2.2**
ASAR Alice Springs 44.32 163 P **P 14 44 21.8 -2.2**
comp=Z,1.4nm,0.5s,baz=342,slow=6.9,SNR=21
ASAR PcP **PP 14 46 07.8 -0.2**
comp=Z,0.8nm,0.6s,baz=346,slow=4.4,SNR=0.9
ASAR LR LR 15 05 41.2
comp=Z,172nm,19.4s,baz=349,slow=40
ASAR Alice Springs 44.32 163 P **P 14 44 21.3 -2.6**
ASAR Alice Springs 44.32 163 P **P 14 44 21.3 -2.6**
ZAA0 Zalesovo Array 44.52 330 P **P 14 44 25.2 0.0**
ZALV Zalesovo Beam 44.52 330 P **P 14 44 25.4 +0.2**
comp=Z,5.2nm,0.8s,baz=120,slow=7.3,SNR=20
ZALV LR LR 15 04 04.9
comp=Z,503nm,18.3s,baz=131,slow=38
PET Petropavlovsk 44.55 32 *e*P **P 14 44 24.6 -0.8**
PET pmax pmax
comp=Z,53nm,1.4s
PET MLR MLR
comp=Z,300nm,20.0s
PET Petropavlovsk 44.55 32 P **P 14 44 25.3 -0.1**
KST Kastek 44.76 312 *e*P **P 14 44 27.4 -0.1**
baz=312
KUU Kurty 44.76 314 *e*P **P 14 44 27.1 -0.3**
KUU pmax pmax
comp=Z,10.0nm,1.1s
KUU Kurty 44.76 314 *e*P **P 14 44 27.1 -0.3**
comp=Z,9.8nm,1.1s,baz=313
NIL Nilore 44.89 299 P **P 14 44 27.5 -1.0**
NIL pmax pmax
comp=Z,56nm,1.0s
NIL Nilore 44.89 299 P **P 14 44 27.5 -1.0**
SEM Semipalatinsk 44.96 324 *e*P **P 14 44 28.8 -0.2**
SEM Semipalatinsk 44.96 324 *e*P **P 14 44 28.9 -0.2**
baz=323
TKM2 Tokmak 2 44.98 312 P **P 14 44 30.8 +1.5**
SNR=6.0
KBK Karagaybulak 45.36 312 P **P 14 44 34.5 +2.2**
SNR=6.3
UCH Uchtor 45.55 311 P **P 14 44 36.2 +2.1**
SNR=24
CHMS Chumysh 45.59 312 P **P 14 44 35.4 +1.4**
SNR=6.6
AAK Ala-Archa 45.67 311 LR LR 15 06 20.9
comp=Z,450nm,18.1s,baz=98,slow=40
AAK Ala-Archa 45.67 311*ce*P **P 14 44 35.9 +1.1**
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 45.67 311 P **P 14 44 32.8 -2.0**
MA2 Magadan 45.68 21*de*P **P 14 44 34.9 +0.6**
MA2 pmax pmax
comp=Z,26nm,1.7s
MA2 Magadan 45.68 21 P **P 14 44 33.8 -0.5**
MA2 IAmb IAmb 14 44 35.8
comp=Z,22nm,1.1s
SGDS Sogindy 45.81 313 *e*P **P 14 44 36.1 +0.4**
baz=312
USP Ospenovka 45.84 312 P **P 14 44 37.2 +1.3**
SNR=5.3
KURK Kurchatov 46.02 323*c i*P **P 14 44 37.9 +0.8**
KURK pmax pmax
comp=Z,18nm,1.3s
KURK Kurchatov 46.02 323 P **P 14 44 37.3 +0.2**
KURK IAmb IAmb 14 44 58.5
comp=Z,36nm,1.1s
KURBB Kurchatov Arra 46.03 323 P **P 14 44 38.0 +0.8**
comp=Z,13nm,1.0s,baz=121,slow=7.8,SNR=49
AML Almayashu 46.11 311 P **P 14 44 40.3 +1.8**
SNR=24
EKS2 Erkin-Say 46.19 311 P **P 14 44 40.4 +1.6**
SNR=8.1
BTLS Baital 46.68 314 *e*P **P 14 44 42.7 +0.3**
BTLS Baital 46.68 314 *e*P **P 14 44 42.8 +0.3**
baz=314
HNR Honiara 47.63 123 LR LR 15 01 57.3
comp=Z,374nm,21.7s,baz=320,slow=33
BTK Batken 47.77 307 P **P 14 44 51.3 +0.2**
BTK pmax pmax
comp=Z,28nm,1.3s
BTK Batken 47.77 307 P **P 14 44 51.3 +0.2**
BTK IAmb IAmb 14 44 53.5
comp=Z,28nm,1.3s
DZA Taraz 47.99 311 *e*P **P 14 44 53.5 +0.8**
DZA Taraz 47.99 311 *e*P **P 14 44 53.6 +0.8**
baz=311
MORW Morawa 48.17 186 P **P 14 44 53.2 -0.9**
MORW IAmb IAmb 14 45 05.9
comp=Z,19nm,1.1s
KBL Kabul 48.45 299 P **P 14 44 53.7 -2.9**
KBL pmax pmax
comp=Z,23nm,1.0s
KBL Kabul 48.45 299 P **P 14 44 53.7 -2.9**
KBL IAmb IAmb 14 44 58.4
comp=Z,23nm,1.0s
KKAR Karatay Array 48.62 311 P **P 14 44 57.7 +0.1**
KKAR Karatay Array 48.62 311 P **P 14 44 57.7 +0.1**
SEY Seymchan 48.74 18⇓ *e*P **P 14 44 58.4 +0.3**
IUG Iuzhnay 48.76 310 *e*P **P 14 44 59.5 +0.8**
IUG Iuzhnay 48.76 310 *e*P **P 14 44 59.6 +0.8**
baz=310
CHGR Chuyangaron 48.81 305 P **P 14 44 57.8 -1.4**
BRZS Berezniki 49.20 320 *e*P **P 14 45 02.4 +0.6**
BRZS Berezniki 49.20 320 *e*P **P 14 45 02.4 +0.6**
baz=320
BRVK Borovoye 51.69 323*c i*P **P 14 45 21.2 +0.6**
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 51.69 323 P **P 14 45 20.7 0.0**
NWAO Narrogin (SRO) 51.90 184 P **P 14 45 21.5 -0.8**
NWAO pmax pmax
comp=Z,26nm,1.3s
TIXI Tiksi 52.72 3 LR LR 15 09 49.1
comp=Z,405nm,20.7s,baz=223,slow=38
TIXI Tiksi 52.72 3*d i*P **P 14 45 26.9 -1.1**
TIXI pmax pmax
comp=Z,72nm,1.1s
TIXI Tiksi 52.72 3 P **P 14 45 26.8 -1.1**
BBOO Buckleboo 53.58 164 P **P 14 45 33.2 -1.6**
BBOO IAmb IAmb 14 45 48.6
comp=Z,26nm,0.9s
HRA Herat 54.05 299 P **P 14 45 37.1 -1.5**
NRIK Noril'sk 54.26 346 P **P 14 45 40.1 +0.8**
comp=Z,55nm,1.2s,baz=136,slow=6.7,SNR=32
NRIK LR LR 15 10 45.8
comp=Z,586nm,19.0s,baz=147,slow=38
NRIK Noril'sk 54.26 346*d i*P **P 14 45 39.4 +0.1**
NRIK pmax pmax
comp=Z,63nm,1.1s
NRIK Noril'sk 54.26 346 P **P 14 45 38.9 -0.4**
STKA Stephens Creek 54.38 159 P **P 14 45 39.6 -0.9**
comp=Z,3.2nm,0.9s,baz=333,slow=5.2,SNR=4.2
STKA LR LR 15 10 21.5
comp=Z,150nm,21.2s,baz=19,slow=38
STKA Stephens Creek 54.38 159 P **P 14 45 41.0 +0.4**
STKA pmax pmax
comp=Z,2.0nm,1.2s
STKA Stephens Creek 54.38 159 P **P 14 45 41.0 +0.4**
BILL Bilibino 56.45 19*c i*P **P 14 45 54.6 -0.4**
BILL *i* 14 46 51.6
BILL *i* 14 48 00.2
BILL *i* S **S 14 53 44.9 +1.8**
BILL pmax pmax
comp=Z,48nm,1.3s
BILL MLR MLR
comp=Z,142nm,18.0s
BILL Bilibino 56.45 19 P **P 14 45 54.6 -0.4**
BILL IAmb IAmb 14 45 56.0
comp=Z,30nm,0.9s
ABKAR Akbulak array 57.01 317 P **P 14 45 58.8 -0.6**
GEYT Alibeck 57.42 303 P **P 14 46 04.2 +1.6**
comp=Z,4.3nm,0.9s,baz=65,slow=15,SNR=4.9
GEYT LR LR 15 14 05.8
comp=Z,656nm,18.6s,baz=102,slow=40
GEYT Alibeck 57.42 303 P **P 14 46 02.3 -0.2**
WSAR Wadi Sarin 58.05 286 LR LR 15 12 02.2
comp=Z,190nm,21.6s,baz=104,slow=37
SVE Sverdlovsk 58.13 326⇓ *e*P **P 14 46 08.0 +0.9**
SVE pmax pmax
comp=Z,38nm,1.0s
AKTO Aktyubinsk 58.42 318 LR LR 15 12 48.0
comp=Z,181nm,18.3s,baz=98,slow=38
ARU Arti 59.16 325 LR LR 15 14 19.5
comp=Z,491nm,18.8s,baz=76,slow=39
ARU Arti 59.16 325*d i*P **P 14 46 14.1 -0.1**
ARU 14 48 21.7
ARU S **S 14 54 22.1 +3.2**
ARU SS **SS 14 58 10.8 -2.5**
ARU pmax pmax
comp=Z,13nm,0.8s
ARU MLR MLR
comp=Z,526nm,19.0s
ARU Arti 59.16 325 P **P 14 46 13.8 -0.4**
ARU IAmb IAmb 14 46 27.4
comp=Z,27nm,1.0s
DZM Mont Dzumac 60.32 131 LR LR 15 08 44.1
comp=Z,363nm,21.1s,baz=326,slow=32
DZM Mont Dzumac 60.32 131 *e*S **S 14 54 35.3 +0.4**
comp=Z,140nm,26.9s
DZM *e*LR LR 15 04 07.8
comp=Z,544nm,21.9s
TOO Toolangi 60.88 158 P **P 14 46 26.6 +0.3**
TOO pmax pmax
comp=Z,24nm,2.8s
SPIA Saint Paul Isl 62.55 35 P **P 14 46 36.9 -0.4**
baz=263
NIKH Nikolski High 62.94 40 P **P 14 46 39.2 -0.8**
baz=266
GAMB Gambell 62.94 27 P **P 14 46 40.4 +0.6**
GAMB Gambell 62.94 27 P **P 14 46 40.3 +0.6**
baz=258,SNR=5.2
KIRV Kirov 64.36 327 LR LR 15 17 01.4
comp=Z,360nm,18.4s,baz=99,slow=38
KIRV Kirov 64.36 327⇑ *e*P **P 14 46 49.1 -0.1**
UNV Unalaska Valle 64.39 39 P **P 14 46 49.9 +0.4**
baz=268
MAK Makhachkala 65.37 309 *e*P **P 14 46 52.6 -3.5**
MAK *e*S **S 14 55 34.8 -2.8**
MAK pmax pmax
comp=Z,138nm,1.0s
MAK MLR MLR
comp=Z,211nm,16.0s
ANM Nome 65.81 27 P **P 14 46 59.1 +0.6**
ANM pmax pmax
comp=Z,25nm,1.1s
ANM Nome 65.81 27 P **P 14 46 59.1 +0.6**
ANM IAmb IAmb 14 47 00.6
comp=Z,25nm,1.1s
ANM Nome 65.81 27 P **P 14 46 59.4 +0.9**
baz=264,SNR=12
FALS False Pass 66.22 38 P **P 14 47 01.2 -0.1**
baz=270
PRGR Permogore 66.48 330 *e*P **P 14 47 02.2 -0.7**
PRGR pmax pmax
comp=Z,47nm,1.2s
MSVF Nonsavu 66.83 120 LR LR 15 11 43.4
comp=Z,184nm,21.9s,baz=326,slow=32
RDOG Red Dog Mine 67.16 23 P **P 14 47 06.6 -0.5**
baz=264
GNI Garni 67.69 306 LR LR 15 20 43.6
comp=Z,130nm,20.1s,baz=100,slow=39
KBZ Khabaz 68.65 310 P **P 14 47 17.3 +0.4**
comp=Z,5.4nm,1.0s,baz=194,slow=5.0,SNR=4.5
KBZ LR LR 15 21 28.9
comp=Z,271nm,18.2s,baz=68,slow=40
KBZ Khabaz 68.65 310⇓ *i*P **P 14 47 16.8 -0.1**
KBZ pmax pmax
comp=Z,9.0nm,1.2s
VRH Novokhopyorsk 68.75 318 *e*P **P 14 47 16.6 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KVAR Kislovodsk Arr 68.77 311 LR LR 15 21 18.1
comp=Z,269nm,20.3s,baz=210,slow=39
KIV Kislovodsk 68.78 311 *i*P **P 14 47 15.2 -2.7**
KIV 14 47 42.5
KIV *i* S **S 14 56 17.9 -1.0**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,162nm,16.0s
NEY Neytrino 68.83 310⇓ *e*P **P 14 47 15.2 -3.2**
NEY pmax pmax
comp=Z,5.0nm,1.6s
CHGN Chignik 69.03 36 P **P 14 47 18.5 -0.5**
baz=273
GCSA Galena City Sc 69.46 27 P **P 14 47 22.1 +0.6**
baz=271,SNR=6.9
A21K Barrow 69.54 20 P **P 14 47 22.1 +0.2**
A21K Barrow 69.54 20 P **P 14 47 22.6 +0.7**
baz=269,SNR=14
RAYN Ar Rayn 69.85 289 P **P 14 47 23.9 -0.9**
RAYN pmax pmax
comp=Z,10.0nm,1.0s
RAYN Ar Rayn 69.85 289 P **P 14 47 23.9 -0.9**
RAYN IAmb IAmb 14 47 46.9
comp=Z,10nm,0.9s
TTA Tatalina 69.91 29 P **P 14 47 24.9 +0.4**
TTA pmax pmax
comp=Z,24nm,1.1s
TTA Tatalina 69.91 29 P **P 14 47 24.9 +0.4**
TTA IAmb IAmb 14 47 26.1
comp=Z,24nm,1.1s
LPSR Galich'ya Gora 70.35 320 *e*P **P 14 47 27.1 -0.2**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
VSR Storozhevoye 70.35 319 *e*P **P 14 47 27.3 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.2s
P18K Big Mountain, 70.52 33 P **P 14 47 28.1 -0.1**
baz=275
J20K Nowinta River 70.67 28 P **P 14 47 29.7 +0.7**
J20K IAmb IAmb 14 47 31.2
comp=Z,22nm,1.0s
J20K Nowinta River 70.67 28 P **P 14 47 29.7 +0.7**
baz=274
IMAR Indian Mountai 70.72 26 P **P 14 47 29.8 +0.5**
K20K Telida 70.76 28 P **P 14 47 30.7 +1.1**
K20K IAmb IAmb 14 47 31.9
comp=Z,25nm,1.1s
N19K Bonanza Creek 70.77 31 P **P 14 47 30.3 +0.5**
N19K IAmb IAmb 14 47 41.1
comp=Z,20nm,1.1s
N19K Bonanza Creek 70.77 31 P **P 14 47 29.4 -0.4**
baz=275
MOS Moscow 70.79 323 *e*P **P 14 47 26.5 -3.4**
MOS *e* 14 47 47.6
O19K Port Alsworth 70.91 32 P **P 14 47 30.7 +0.3**
baz=275
L20K Farewell, AK 70.92 29 P **P 14 47 30.4 -0.2**
baz=275
SOC Sochi 70.96 311 *e*P **P 14 47 28.4 -2.8**
SOC *e* 14 50 05.6
SOC *e*PPP PPP 14 51 46.2
SOC *e*S **S 14 56 41.6 -2.7**
SOC MLR MLR
comp=Z,167nm,15.0s
H21K Melozitna Rive 71.13 26 P **P 14 47 32.4 +0.6**
H21K Melozitna Rive 71.13 26 P **P 14 47 32.4 +0.6**
baz=275
OBN Obninsk 71.46 323⇑ *e*P **P 14 47 33.4 -0.5**
OBN *i* 14 47 50.3
OBN *e*S **S 14 56 55.2 +5.7**
OBN pmax pmax
comp=Z,7.0nm,1.4s
OBN MLR MLR
comp=Z,208nm,16.0s
CHUM Lake Minchumin 71.50 28 P **P 14 47 34.9 +0.9**
baz=276,SNR=5.2
I21K Tanana 71.52 26 P **P 14 47 34.0 -0.2**
I21K IAmb IAmb 14 47 37.0
comp=Z,26nm,1.1s
I21K Tanana 71.52 26 P **P 14 47 34.1 0.0**
baz=276
CAST Castle Rocks 71.65 28 P **P 14 47 35.1 +0.1**
CAST Castle Rocks 71.65 28 P **P 14 47 35.6 +0.6**
baz=276,SNR=16
PPLA Purkeypile 71.66 29 P **P 14 47 35.5 +0.3**
PPLA Purkeypile 71.66 29 P **P 14 47 34.6 -0.6**
baz=276
OHAK Old Harbor 71.76 35 P **P 14 47 35.4 -0.3**
OHAK Old Harbor 71.76 35 P **P 14 47 35.8 +0.1**
baz=277
SPU Mount Spurr 71.91 31 P **P 14 47 36.2 -0.4**
COLD Coldfoot 72.02 24 P **P 14 47 37.0 -0.1**
COLD IAmb IAmb 14 47 39.2
comp=Z,17nm,1.1s
COLD Coldfoot 72.02 24 P **P 14 47 37.6 +0.5**
baz=276
MLY Manley 72.06 26 P **P 14 47 37.5 0.0**
MLY IAmb IAmb 14 47 39.3
comp=Z,29nm,1.0s
MLY Manley 72.06 26 P **P 14 47 38.0 +0.5**
baz=277
BPAW Bear Paw Mtn. 72.06 27 P **P 14 47 37.7 +0.2**
BPAW Bear Paw Mtn. 72.06 27 P **P 14 47 38.0 +0.5**
baz=277,SNR=9.7
KDAK Kodiak Island 72.06 34 LR LR 15 18 19.7
comp=Z,98nm,21.8s,baz=253,slow=35
KDAK Kodiak Island 72.06 34 P **P 14 47 37.0 -0.5**
baz=278
TOLK Toolik Lake Re 72.10 23 P **P 14 47 37.7 +0.1**
TOLK IAmb IAmb 14 47 39.4
comp=Z,18nm,1.0s
TOLK Toolik Lake Re 72.10 23 P **P 14 47 36.8 -0.8**
baz=277
KTH Kantishna Hill 72.15 28 P **P 14 47 38.2 +0.2**
KTH IAmb IAmb 14 47 40.2
comp=Z,23nm,1.2s
HOM Homer 72.31 32 P **P 14 47 37.4 -1.6**
baz=278
CAPN Captain Cook N 72.40 31 P **P 14 47 37.8 -1.6**
baz=278
TRF Thorofare Moun 72.45 28 P **P 14 47 39.6 -0.4**
baz=278
CUT Chulitna 72.60 29 P **P 14 47 40.1 -0.5**
CUT Chulitna 72.60 29 P **P 14 47 39.5 -1.1**
baz=278
I23K Minto, Yukon-K 72.62 26 P **P 14 47 41.1 +0.5**
I23K IAmb IAmb 14 47 43.2
comp=Z,33nm,1.2s
I23K Minto, Yukon-K 72.62 26 P **P 14 47 41.2 +0.5**
baz=278,SNR=12
BWN Browne 72.71 27 P **P 14 47 41.8 +0.5**
BRSE Bradley Lake S 72.75 32 P **P 14 47 41.9 +0.3**
baz=278
NEA2 Nenana 72.82 27 P **P 14 47 42.1 +0.2**
NEA2 IAmb IAmb 14 47 43.3
comp=Z,28nm,1.0s
NEA2 Nenana 72.82 27 P **P 14 47 41.4 -0.5**
baz=278
MCK McKinley 73.01 28 P **P 14 47 42.9 -0.2**
MCK pmax pmax
comp=Z,51nm,1.1s
MCK McKinley 73.01 28 P **P 14 47 42.9 -0.2**
MCK McKinley 73.01 28 P **P 14 47 42.9 -0.2**
baz=279,SNR=14
RC01 Rabbit Creek A 73.04 31 P **P 14 47 43.3 +0.1**
baz=279
RND Reindeer 73.09 28 P **P 14 47 42.9 -0.8**
RND pmax pmax
comp=Z,51nm,1.0s
RND Reindeer 73.09 28 P **P 14 47 42.9 -0.8**
MDM Murphy Dome 73.12 26 P **P 14 47 44.1 +0.3**
H24K Noodor Dome 73.13 25 P **P 14 47 44.3 +0.5**
H24K IAmb IAmb 14 47 46.0
comp=Z,30nm,1.1s
H24K Noodor Dome 73.13 25 P **P 14 47 44.2 +0.5**
baz=279
PMR Palmer 73.25 30 P **P 14 47 44.0 -0.5**
PMR pmax pmax
comp=Z,24nm,1.0s
PMR Palmer 73.25 30 P **P 14 47 44.0 -0.5**
PMR IAmb IAmb 14 47 45.0
comp=Z,24nm,1.0s
PMR Palmer 73.25 30 P **P 14 47 43.5 -1.0**
baz=279
WRH Wood River Hil 73.26 27 P **P 14 47 44.2 -0.3**
WRH IAmb IAmb 14 47 46.4
comp=Z,18nm,1.0s
TCOL CIGO, UAF Yank 73.29 26 P **P 14 47 43.4 -1.2**
baz=279
COLA College 73.30 26⇑ *i*P **P 14 47 44.4 -0.3**
COLA pmax pmax
comp=Z,19nm,1.4s
COLA College 73.30 26 P **P 14 47 44.3 -0.4**
COLA IAmb IAmb 14 47 46.6
comp=Z,19nm,1.2s
COLA College 73.30 26 P **P 14 47 43.4 -1.3**
baz=279
GHO Glory Hole Cre 73.32 30 P **P 14 47 43.9 -1.2**
GHO IAmb IAmb 14 47 46.2
comp=Z,25nm,1.0s
SEW Seward 73.33 32 P **P 14 47 43.7 -1.3**
baz=279
CCB Clear Creek Bu 73.35 27 P **P 14 47 44.1 -0.9**
CCB IAmb IAmb 14 47 47.3
comp=Z,16nm,1.2s
POKR Poker Plat Res 73.43 26 P **P 14 47 44.4 -1.2**
baz=280
SML Sawmill 73.59 30 P **P 14 47 45.9 -0.7**
SML Sawmill 73.59 30 P **P 14 47 46.4 -0.2**
baz=280,SNR=5.7
KNK Knik Glacier 73.60 30 P **P 14 47 46.2 -0.4**
KNK Knik Glacier 73.60 30 P **P 14 47 45.5 -1.1**
baz=280
IL31 73.72 27 P **P 14 47 45.8 -1.3**
ILAR Eielson Array 73.72 27 P **P 14 47 45.8 -1.5**
comp=Z,4.0nm,0.9s,baz=267,slow=4.0,SNR=23
WAT6 Susitna Watana 73.73 29 P **P 14 47 47.5 -0.1**
baz=280,SNR=11
PWL Port Wells 73.75 31 P **P 14 47 46.5 -1.0**
PWL Port Wells 73.75 31 P **P 14 47 46.3 -1.2**
baz=280
AFI Afiamalu 73.76 111 LR LR 15 13 22.7
comp=Z,104nm,21.8s,baz=302,slow=30
HDA Harding Lake 73.76 27 P **P 14 47 46.0 -1.4**
HDA IAmb IAmb 14 48 05.6
comp=Z,20nm,1.1s
HDA Harding Lake 73.76 27 P **P 14 47 46.0 -1.4**
baz=280
DHY Denali Highway 73.81 28 P **P 14 47 47.1 -0.9**
DHY IAmb IAmb 14 48 00.5
comp=Z,15nm,1.0s
DHY Denali Highway 73.81 28 P **P 14 47 45.8 -2.1**
baz=280
SCM Sheep Creek Mo 74.05 30 P **P 14 47 49.4 +0.1**
SCM pmax pmax
comp=Z,63nm,1.0s
SCM Sheep Creek Mo 74.05 30 P **P 14 47 49.4 +0.1**
SCM Sheep Creek Mo 74.05 30 P **P 14 47 47.7 -1.7**
baz=281,SNR=5.4
FYU Fort Yukon 74.06 25 P **P 14 47 49.9 +0.7**
FYU IAmb IAmb 14 47 51.4
comp=Z,38nm,1.3s
BMAR Burnt Mountain 74.14 24 P **P 14 47 50.5 +0.8**
PRP Porcupine Dome 74.15 26 P **P 14 47 48.3 -1.6**
baz=281
ARCES ARCESS Array B 74.20 339 P **P 14 47 50.6 +0.6**
comp=Z,5.2nm,1.0s,baz=61,slow=7.3,SNR=1.6
ARCES LR LR 15 24 13.1
comp=Z,215nm,19.2s,baz=61,slow=39
ARCES ARCESS Array B 74.20 339 P **P 14 47 49.5 -0.5**
ARCES pmax pmax
comp=Z,27nm,1.4s
ARCES ARCESS Array B 74.20 339 P **P 14 47 49.5 -0.5**
ARCES IAmb IAmb 14 48 14.4
comp=Z,27nm,1.4s
GLI Glacier Island 74.34 31 P **P 14 47 49.9 -1.1**
baz=281
SPITS Spitsbergen Ar 74.39 348 LR LR 15 25 25.0
comp=Z,205nm,18.2s,baz=232,slow=40

M24K	Tolsona, Glenn	74.53	29	P	P	14 47 52.4	+0.3	
M24K	Tolsona, Glenn	74.53	29	P	P	14 47 52.7	+0.6	
	baz=282,SNR=5.0							
PAX	Paxson	74.68	28	P	P	14 47 53.0	0.0	
	baz=282,SNR=7.9							
KLU	Klutina	74.78	30	P	P	14 47 53.7	+0.1	
KLU				IAmb	IAmb	14 47 54.9		
	comp=Z,20nm,1.0s							
KLU	Klutina	74.78	30	P	P	14 47 52.5	-1.1	
	baz=282							
RIDG	Independent Ri	74.79	27	P	P	14 47 52.4	-1.1	
	baz=282							
DIV	Divide	74.92	30	P	P	14 47 54.4	0.0	
HARP	HAARP	74.94	29	P	P	14 47 52.9	-1.5	
	baz=282							
Q23K	Middleton Isla	75.00	32	P	P	14 47 53.2	-1.5	
	baz=282							
EYAK	Cordova Ski Ar	75.06	31	P	P	14 47 54.4	-0.7	
	baz=282							
SCRK	Sand Creek	75.11	27	P	P	14 47 55.1	-0.4	
	baz=283,SNR=8.0							
DOT	Dot Lake	75.16	27	P	P	14 47 55.3	-0.3	
DOT				IAmb	IAmb	14 47 56.4		
	comp=Z,23nm,1.1s							
ATD	Arta Tunnel	75.36	277	LR	LR	15 22 35.8		
	comp=Z,49nm,18.6s,baz=79,slow=37							
N25K	Chitina, Valde	75.37	30	P	P	14 47 57.0	0.0	
N25K				IAmb	IAmb	14 48 14.4		
	comp=Z,26nm,1.2s							
BMRM	Bremner River	75.51	30	P	P	14 47 57.0	-0.8	
	baz=283							
L26K	Log Cabin Wild	75.61	28	P	P	14 47 58.6	+0.4	
L26K				IAmb	IAmb	14 47 59.9		
	comp=Z,15nm,1.1s							
L26K	Log Cabin Wild	75.61	28	P	P	14 47 58.8	+0.5	
	baz=284,SNR=7.1							
GLB	Gilahina Butte	75.78	30	P	P	14 47 59.2	0.0	
FINES	FINESS Array B	75.79	330	P	P	14 47 59.8	+0.6	
	comp=Z,2.8nm,0.8s,baz=57,slow=5.1,SNR=2.1							
FINES				LR	LR	15 24 44.0		
	comp=Z,218nm,18.4s,baz=71,slow=38							
KAIM	Kayak Island	75.84	31	P	P	14 47 57.4	-2.2	
	baz=284							
M26K	Nabesna, AK	75.92	29	P	P	14 48 00.1	0.0	
M26K	Nabesna, AK	75.92	29	P	P	14 47 58.7	-1.4	
	baz=284							
RAO	Raoul Island	75.94	128	LR	LR	15 16 47.4		
	comp=Z,132nm,20.2s,baz=72,slow=32							
EGAK	Eagle	76.11	26	P	P	14 48 00.6	-0.4	
EGAK				IAmb	IAmb	14 48 02.1		
	comp=Z,22nm,1.1s							
EGAK	Eagle	76.11	26	P	P	14 47 59.2	-1.8	
	baz=285							
MCARA	McCarthy VSAT	76.16	30	P	P	14 48 01.8	+0.4	
MCARA				IAmb	IAmb	14 48 03.6		
	comp=Z,33nm,1.1s							
MCARA	McCarthy VSAT	76.16	30	P	P	14 48 00.3	-1.1	
	baz=284							
BRTR	Keskin Array B	76.17	307	P	P	14 48 02.0	-0.1	
	comp=Z,0.4nm,0.6s,baz=116,slow=4.8,SNR=1.8							
BRTR				LR	LR	15 25 56.0		
	comp=Z,77nm,20.0s,baz=95,slow=39							
CRQM	Cirque	76.26	30	P	P	14 48 02.3	+0.1	
L27K	Beaver Creek,	76.27	28	P	P	14 48 02.8	+0.8	
L27K				IAmb	IAmb	14 48 04.1		
	comp=Z,21nm,1.0s							
L27K	Beaver Creek,	76.27	28	P	P	14 48 03.0	+0.9	
	baz=285,SNR=13							
CRQE	Cirque	76.28	30	P	P	14 48 01.2	-1.0	
	baz=285							
BCAR	Beaver Creek A	76.29	28	P	P	14 48 02.5	+0.3	
MMAI	Mount Meron Ar	76.37	300	LR	LR	15 25 15.8		
	comp=Z,113nm,20.6s,baz=212,slow=38							
TGL	Tana Glacier	76.41	30	P	P	14 48 03.0	0.0	
M27K	Edge Creek, AK	76.44	28	P	P	14 48 03.4	+0.3	
M27K	Edge Creek, AK	76.44	28	P	P	14 48 02.5	-0.7	
	baz=285							
MNK	Minsk	76.51	323	*i* P	P	14 48 01.8	-1.7	
MNK				*i*		14 48 14.9		
MNK				*i* PPP	PPP	14 52 40.3		
MNK				*i* S	S	14 57 47.3	+0.8	
MNK				*i*		14 58 30.3		
MNK				pmax	pmax			
	comp=N,5.0nm,1.0s							
MNK				pmax	pmax			
	comp=E,3.0nm,1.0s							
MNK				pmax	pmax			
	comp=Z,12nm,1.0s							
MNK				MLR	MLR			
	comp=E,31nm,20.0s							
MNK				MLR	MLR			
	comp=Z,147nm,17.0s							
MNK				MLR	MLR			
	comp=N,174nm,19.0s							
MNK	Minsk	76.51	323	*i* P	P	14 48 01.8	-1.6	
	comp=E,3.0nm,1.0s							
MNK				*i* P	P	14 48 01.8	-1.6	
	comp=N,5.0nm,1.0s							
MNK				*i* P	P	14 48 01.8	-1.6	
	comp=Z,12nm,1.0s,baz=76							
MNK				*i* PP	PP	14 51 07.4	+12	
MNK				*i* PPP	PPP	14 52 40.3		
MNK				*i* S	S	14 57 47.4	+0.9	
MNK				*i* SS	SS	15 02 02.9	-38	
MNK				*i* SSS	SSS	15 06 15.7		
MNK				*i* LQ	LQ	15 15 20.7		
MNK				*i* LR	LR	15 18 21.1		
MNK				*i* LRM	MLR	15 23 49.0		
	comp=E,31nm,19.6s							
MNK				*i* LRM	MLR	15 23 58.4		
	comp=Z,147nm,17.1s							
MNK				*i* LRM	MLR	15 24 28.7		
	comp=N,174nm,19.0s							
AKASG	Malin Array Be	76.63	319	P	P	14 48 03.2	-1.0	
	comp=N,0.3nm,0.3s,baz=62,slow=5.5,SNR=7.2							
AKASG				LR	LR	15 23 44.4		
	comp=N,134nm,18.2s,baz=78,slow=37							
AKASG	Malin Array Be	76.63	319	*ce*P	P	14 48 06.5	+2.3	
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AKBB	Malin Array Si	76.63	319	‖*e*P	P	14 48 04.9	+0.7	
BVCY	Beaver Creek	76.88	28	P	P	14 48 05.1	-0.4	
	baz=286							
BARN	Barnard Glacie	76.88	30	P	P	14 48 06.3	+0.6	
BARN				IAmb	IAmb	14 48 07.5		
	comp=Z,19nm,1.0s							
MESA	MESA	76.98	31	P	P	14 48 04.8	-1.5	
	baz=286							
NACGM	Naroch	77.03	324	*i* P	P	14 48 06.8	+0.4	
DAWY	Dawson	77.05	26	P	P	14 48 06.2	-0.2	
DAWY				IAmb	IAmb	14 48 08.5		
	comp=Z,35nm,1.2s							
DAWY	Dawson	77.05	26	P	P	14 48 06.8	+0.3	
	baz=287,SNR=20							
CTG	Chitna Glacier	77.06	30	P	P	14 48 07.1	+0.5	
	baz=286,SNR=9.8							
MLZ	Mavora Lakes	77.07	148	P	P	14 48 06.7	0.0	
MLZ				IAmb	IAmb	14 48 17.4		
	comp=Z,36nm,1.3s							
I29M	Ogilvie Camp,	77.11	25	P	P	14 48 06.6	-0.1	
	baz=288							
YUK3	Moose Creek	77.24	29	P	P	14 48 08.3	+0.6	
	baz=287,SNR=8.6							
NOR	Nord	77.34	354	P	P	14 48 08.9	+1.2	
J29M	Klondike Camp	77.42	26	P	P	14 48 09.1	+0.6	
	baz=288							
RPZ	Rata Peaks	77.46	145	P	P	14 48 08.8	0.0	
RPZ				IAmb	IAmb	14 48 32.4		
	comp=Z,22nm,1.1s							
URZ	Urewera	77.54	138	LR	LR	15 20 14.2		
	comp=Z,129nm,21.5s,baz=31,slow=34							
EIL	Elat	77.58	297	LR	LR	15 27 25.2		
	comp=Z,157nm,18.3s,baz=84,slow=40							
PINM	Pinnacle	77.82	30	P	P	14 48 11.7	+0.9	
	baz=287							
INK	Inuvik	77.91	22	LR	LR	15 24 14.8		
	comp=Z,126nm,20.9s,baz=320,slow=37							
INK	Inuvik	77.91	22	P	P	14 48 10.9	-0.1	
INK				pmax	pmax			
	comp=Z,34nm,1.2s							
INK	Inuvik	77.91	22	P	P	14 48 10.9	-0.1	
INK				IAmb	IAmb	14 48 11.9		
	comp=Z,34nm,1.1s							
INK	Inuvik	77.91	22	P	P	14 48 10.4	-0.6	
	baz=291							
PNL	Peninsula	78.36	31	P	P	14 48 13.1	-0.7	
	baz=288							
PLWZ	Palliser	78.43	142	P	P	14 48 14.2	-0.2	
BFZ	Birch Farm	78.47	140	P	P	14 48 14.6	0.0	
BFZ				IAmb	IAmb	14 48 18.9		
	comp=Z,26nm,0.9s							
A36M	Sachs Harbour	78.94	17	P	P	14 48 16.6	-0.1	
A36M	Sachs Harbour	78.94	17	P	P	14 48 16.4	-0.3	
	baz=298,SNR=40							
KALB	Balgarevo	79.03	312	P	P	14 48 22.0	+4.3	
N31M	Braeburn, Yuko	79.45	28	P	P	14 48 20.4	+0.7	
	baz=291,SNR=9.0							
VRI	Vrincioaia	79.50	315	⇑P	P	14 48 20.6	+0.3	
VRI	Vrincioaia	79.50	315	⇑P	P	14 48 20.6	+0.3	
PLOR	Plostina	79.56	315	⇓P	P	14 48 22.1	+1.5	
PLOR	Plostina	79.56	315	⇓P	P	14 48 22.1	+1.5	
M31M	Drury Creek, Y	79.81	27	P	P	14 48 22.0	+0.3	
	baz=292,SNR=10							
EUNU	Eureka	79.92	5	P	P	14 48 21.8	-0.2	
EUNU				IAmb	IAmb	14 48 23.4		
	comp=Z,17nm,1.1s							
BURAR	Bucovina Array	79.99	317	⇑P	P	14 48 23.1	0.0	
BURAR	Bucovina Array	79.99	317	⇑P	P	14 48 23.1	0.0	
BURAR	Bucovina Array	79.99	317	P	P	14 48 22.4	-0.6	
BUR08	Bucovina Ar. S	79.99	317	P	P	14 48 22.1	-0.9	
MLR	Muntele Rosu	80.14	315	⇓P	P	14 48 23.4	-0.5	
MLR	Muntele Rosu	80.14	315	LR	LR	15 27 47.9		
	comp=Z,273nm,21.0s,baz=79,slow=39							
MLR	Muntele Rosu	80.14	315	⇓P	P	14 48 23.4	-0.5	
WHY	Whitehorse	80.15	29	P	P	14 48 23.7	0.0	
WHY				IAmb	IAmb	14 48 25.7		
	comp=Z,34nm,1.1s							
WHY	Whitehorse	80.15	29	P	P	14 48 24.3	+0.6	
	baz=292,SNR=13							
SKAG	Skagway	80.38	30	P	P	14 48 24.3	-0.4	
	baz=291							
C36M	Paulatuk	80.57	19	P	P	14 48 25.0	-0.5	
C36M	Paulatuk	80.57	19	P	P	14 48 25.0	-0.5	
	baz=300,SNR=26							
KWP	Kalwaria Pacla	80.95	319	*e*P	P	14 48 28.1	+0.1	
SIT	Sitka	81.26	33	P	P	14 48 29.5	+0.1	
	baz=292							
P33M	Teslin, Yukon	81.27	29	P	P	14 48 30.0	+0.4	
	baz=293,SNR=9.6							
DAG	Danmarks Havn	81.33	351	P	P	14 48 28.3	-1.2	
DAG				pmax	pmax			
	comp=Z,15nm,1.0s							
DAG	Danmarks Havn	81.33	351	*i* P	P	14 48 26.3	-3.2	
UZH	Uzhgorod	81.53	318	*e*P	P	14 48 32.0	+0.9	
UZH				*e*		14 48 41.4		
HFS	Hagfors	81.95	331	LR	LR	15 26 13.9		
	comp=Z,204nm,21.1s,baz=68,slow=37							
DEV	Deva	82.04	316	P	P	14 48 34.5	+0.6	
DEV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
OJC	Ojcow	82.52	321	*e*P	P	14 48 36.4	+0.1	
OJC	Ojcow	82.52	321	P	P	14 48 36.4	+0.1	
NB2	NORSAR Subarra	82.66	333	P	P	14 48 38.0	+1.1	
	comp=Z,7.5nm,1.0s,baz=63,slow=5.6							
NOA	NORSAR Array B	82.66	333	P	P	14 48 39.1	+2.2	
	comp=Z,3.5nm,1.0s,baz=63,slow=5.2,SNR=4.5							
NOA				LR	LR	15 28 27.8		
	comp=Z,315nm,18.6s,baz=65,slow=38							
VTS	Vitosha	82.89	313	⇑P	P	14 48 38.7	+0.2	
VTS	Vitosha	82.89	313	⇑P	P	14 48 38.7	+0.2	
WRAK	Wrangell Islan	83.02	32	P	P	14 48 38.7	0.0	
	baz=294							
RES	Resolute Bay	83.64	9	LR	LR	15 30 21.4		
	comp=Z,56nm,19.3s,baz=122,slow=39							
RES	Resolute Bay	83.64	9	P	P	14 48 41.5	0.0	
RES				pmax	pmax			
	comp=Z,19nm,1.2s							
JMIC	Jan Mayen	83.68	345	LR	LR	15 30 31.3		
	comp=Z,109nm,18.9s,baz=51,slow=39							
IDI	Anoyia	84.08	305	LR	LR	15 31 14.3		
	comp=Z,57nm,18.2s,baz=74,slow=39							
TULEG	Thule	84.35	2	P	P	14 48 45.0	-0.2	
TULEG				IAmb	IAmb	14 48 46.9		
	comp=Z,8.7nm,0.9s							
KSP	Ksiaz	84.36	322	P	P	14 48 46.3	+0.6	
KSP				pmax	pmax			
	comp=Z,20nm,1.4s							
DPC	Dobruska-Polom	84.54	322	P	P	14 48 47.7	+1.0	
DPC				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KMBO	Kilima Mbogo	84.59	267	P	P	14 48 49.3	+1.4	
	comp=Z,2.1nm,0.9s,baz=284,slow=6.6,SNR=3.3							
KMBO	Kilima Mbogo	84.59	267	*i* P	P	14 48 49.5	+1.6	
KMBO				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MODS	Modra-Piesok	84.74	319	*e*P	P	14 48 48.1	+0.4	
MODS	Modra-Piesok	84.74	319	*e*P	P	14 48 48.1	+0.4	
VRAC	Vranov	84.79	320	LR	LR	15 29 23.8		
	comp=Z,203nm,18.4s,baz=66,slow=38							
VRAC	Vranov	84.79	320	P	P	14 48 48.5	+0.6	
VRAC				pmax	pmax			
	comp=Z,13nm,1.1s							
VRAC	Vranov	84.79	320	*e*P	P	14 48 48.0	+0.1	
BRG	Berggiesshubel	85.71	323	*e*P	P	14 48 57.8	+5.4	
BRG				Amp		14 49 05.8		
	comp=Z,15nm,1.4s							
BRG	Berggiesshubel	85.71	323	P	P	14 48 52.9	+0.4	
BRG				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CLL	Collm	86.06	323	*e*P	P	14 48 55.0	+0.8	
CLL				*ex*	x	14 49 05.0		
	comp=Z,39nm,2.0s							
GERES	GERESS Array B	86.71	321	P	P	14 48 58.1	+0.5	
	comp=Z,0.4nm,0.5s,baz=279,slow=35,SNR=3.8							
GERES				LR	LR	15 32 33.6		
	comp=Z,161nm,18.1s,baz=63,slow=39							
RAR	Rarotonga	87.14	113	LR	LR	15 21 26.5		
	comp=Z,63nm,21.3s,baz=279,slow=31							
SUMG	Summit	87.50	354	P	P	14 49 01.0	-0.3	
SUMG				pmax	pmax			
	comp=Z,11nm,1.1s							
SUMG	Summit	87.50	354	*i* P	P	14 49 02.0	+0.7	
SUMG	Summit	87.50	354	P	P	14 49 01.0	-0.3	
SUMG				IAmb	IAmb	14 49 24.4		
	comp=Z,11nm,1.1s							
YKA	Yellowknife Ar	87.63	23	P	P	14 49 01.6	0.0	
	comp=Z,17nm,0.8s,baz=312,slow=4.7,SNR=178							
YKA				LR	LR	15 33 31.8		
	comp=Z,46nm,18.4s,baz=278,slow=39							
DAVOX	Davos/Dischmat	89.94	320	LR	LR	15 32 39.9		
	comp=Z,254nm,19.1s,baz=78,slow=38							
MBAR	Mbarara	90.58	270	LR	LR	15 28 12.4		
	comp=Z,112nm,20.7s,baz=42,slow=34							
BORG	Borgarnes	91.57	345	LR	LR	15 33 58.9		
	comp=Z,90nm,20.1s,baz=37,slow=38							
EKA	Eskdalemuir Ar	92.13	332	LR	LR	15 36 30.2		
	comp=Z,239nm,20.6s,baz=12,slow=39							
D03D	Eldon	92.23	38	P	P	14 49 24.7	+1.2	
	baz=302,SNR=6.6							
C06D	Leavenworth	93.28	37	P	P	14 49 28.7	+0.4	
	baz=303							
LTY	Liberty	93.77	37	P	P	14 49 30.8	+0.1	
LTY				IAmb	IAmb	14 49 31.6		
	comp=Z,12nm,1.3s							
B08A	Colville Reser	93.90	36	P	P	14 49 31.7	+0.5	
B08A				IAmb	IAmb	14 49 32.9		
	comp=Z,15nm,1.1s							
EDM	Edmonton	94.01	29	P	P	14 49 32.0	+0.4	
EDM				pmax	pmax			
	comp=Z,21nm,1.1s							
EDM	Edmonton	94.01	29	P	P	14 49 32.0	+0.4	
F05D	White Salmon	94.06	38	P	P	14 49 32.6	+0.6	
	baz=303							
I04A	Tendick Farm,	94.61	41	P	P	14 49 34.5	-0.1	
	baz=302							
E07A	Sunnyside	94.62	37	P	P	14 49 34.3	-0.3	
E07A				IAmb	IAmb	14 49 36.7		
	comp=Z,14nm,1.2s							
L02E	Cave Junction	94.71	42	P	P	14 49 35.0	0.0	
	baz=301							
PPT	Papeete	94.96	107	LR	LR	15 22 44.7		
	comp=Z,94nm,20.4s,baz=288,slow=30							
PPT2	Papeete2	94.96	107	*e*LR	LR	15 20 16.7		
	comp=Z,246nm,25.8s,baz=294							
I05D	Terrebonne, OR	94.97	40	P	P	14 49 36.1	-0.1	
	baz=303							
J04D	Umpqua Nationa	95.08	41	P	P	14 49 37.2	+0.2	
	baz=302							
NEW	Newport	95.16	35	P	P	14 49 37.3	+0.3	
NEW	Newport	95.16	35	P	P	14 49 37.2	+0.3	
NEW				IAmb	IAmb	14 49 38.6		
	comp=Z,9.5nm,1.1s							
NEW	Newport	95.16	35	P	P	14 49 37.0	+0.1	
	baz=306							
YBH	Yreka Blue Hor	95.50	42	LR	LR	15 27 49.8		
	comp=Z,41nm,18.6s,baz=308,slow=32							
L04D	Klamath Falls	95.50	42	P	P	14 49 39.3	+0.5	
	baz=302							
M02C	Callahan	95.59	43	P	P	14 49 39.7	+0.6	
	baz=302							
J05D	Fort Rock, OR	95.60	41	P	P	14 49 39.8	+0.5	
	baz=303							
N02D	Trinity Center	95.90	43	P	P	14 49 40.5	0.0	
	baz=302							
M04C	Macdoel	96.03	42	P	P	14 49 41.5	+0.3	
	baz=302							
MAW	Mawson	96.33	199	LR	LR	15 30 10.1		
	comp=Z,55nm,18.9s,baz=58,slow=34							
WALA	Waterton Lakes	96.37	33	P	P	14 49 42.6	+0.1	
TBI	Tubuai	96.85	112	*e*LR	LR	15 21 06.5		
	comp=Z,193nm,34.0s							
MOD	Modoc Plateau	96.93	41	P	P	14 49 44.9	-0.5	
MOD				IAmb	IAmb	14 49 47.6		
	comp=Z,9.9nm,1.1s							
FRB	Frobisher Bay	97.05	4	LR	LR	15 37 47.4		
	comp=Z,94nm,19.9s,baz=1.0,slow=38							
LSZ	Lusaka	97.60	257	LR	LR	15 31 44.0		
	comp=Z,245nm,18.4s,baz=119,slow=34							
WVOR	Wild Horse Val	97.66	40	P	Pdif	14 49 49.7	+1.1	
WVOR				pmax	pmax			
	comp=Z,7.0nm,1.4s							
MATP	Matopo	98.85	251	LR	LR	15 30 33.6		
	comp=Z,129nm,20.7s,baz=72,slow=33							
NRS	Narsarsuaq	99.26	353	P	Pdif	14 49 56.5	+1.4	
NRS				pmax	pmax			
	comp=Z,50nm,0.8s							
VNDA	Vanda	99.32	172	LR	LR	15 34 45.9		
	comp=Z,60nm,20.9s,baz=318,slow=35							
HLID	Hailey	99.50	37	P	Pdif	14 49 56.9	0.0	
	baz=308							
NVAR	Mina Array Bea	100.13	43	P	Pdif	14 50 00.2	+0.4	
	comp=Z,1.7nm,0.9s,baz=284,slow=5.7,SNR=9.2							
TAOE	Nuku Hiva Isla	101.03	96	*e*S	Sdif	15 01 39.0	-1.5	
	comp=Z,98nm,26.0s							
TAOE	Nuku Hiva Isla	101.03	96	*e*LR	LR	15 22 59.1		
	comp=Z,317nm,23.2s							
ISA	Isabella, Lake	101.56	46	P	Pdif	14 50 06.3	+0.3	
	baz=304							
R11A	Troy Canyon, C	101.92	42	P	Pdif	14 50 08.0	+0.2	
	baz=306							
MPMC	Manual Prospec	102.00	45	P	Pdif	14 50 08.0	-0.2	
	baz=305							
SYO	Syowa Base	104.70	202	‖*e*Pdiff	Pdif	14 50 21.6	+2.7	
SYO	Syowa Base	104.70	202	‖*e*PKiKP	PKiKP	14 54 40.0	+5.8	
SYO	Syowa Base	104.70	202	‖*e*PP	PKiKP	14 54 41.0	+6.8	
TORD	Torodi Ar. Bea	112.28	294	PKiKP	PKiKP	14 54 49.1	-1.0	
	comp=Z,0.4nm,0.6s,baz=70,slow=0.5,SNR=2.2							
SJCC	San Jacinto, C	146.97	31	PKPdf	PKPdf	14 55 53.7	-1.4	
ZARC	Zaragoza, Cauc	149.20	32	PKPbc	PKPbc	14 56 01.9	-1.0	
OCAC	Ocana	149.30	29	PKPbc	PKPbc	14 56 02.1	-1.2	
ROSC	El Rosal	151.73	34	PKPbc	PKiKP	14 56 10.5	+0.7	
	comp=Z,14nm,0.7s,baz=321,slow=3.8,SNR=8.4							
ROSC	El Rosal	151.73	34	PKIKP	PKPbc	14 56 09.1	-0.4	
ROSC	El Rosal	151.73	34	PKPbc	PKPbc	14 56 09.1	-0.4	
LPAZ	La Paz	170.72	74	PKP	PKPdf	14 56 23.2	+0.1	
	comp=Z,0.7nm,0.6s,baz=24,slow=3.1,SNR=4.4							

IDC 04 14:37:39.7±10.0, 4°.87S×153°.59E, h144km±68km, mb3.2/3, mb1 3.4/4, mb1mx3.0/44, mbtmp3.7/4, Error ellipse: s-maj=110.3km s-min=41.4km az=104.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.81	234	P	Pn	14 39 30.7	+0.1
	1.6nm,0.3s,baz=21,slow=9.9,SNR=6.2						
PMG				S	Sn	14 40 57.7	0.0
	0.4nm,0.3s,baz=195,slow=22,SNR=1.3						
WRA	Warramunga Arr	23.99	230	P	P	14 42 41.9	+0.7
	1.6nm,0.7s,baz=54,slow=9.9,SNR=19						
ASAR	Alice Springs	26.63	224	P	P	14 43 04.8	-0.4
	0.2nm,0.4s,baz=57,slow=8.9,SNR=11						
MKAR	Makanchi Array	80.90	319	P	P	14 49 38.4	+0.4
	0.5nm,0.8s,baz=104,slow=5.6,SNR=1.9						
TORD	Torodi Ar. Bea	151.08	288	PKPbc	PKPbc	14 57 15.7	-1.1
	0.4nm,0.5s,baz=52,slow=3.5,SNR=2.2						

*NEIC **04** 14:41:58.8±1.7, 22°.5S±0°.2×176°.5W±0°.1, h163km±5km, mb4.1/13, Error ellipse: s-maj=22.2km s-min=17.9km az=179.0*

*IDC **04** 14:42:07.8±18.0, 22°.27S×176°.96W, h239km±124km, mb3.0/3, mb1 3.4/5, mb1mx3.2/35, mbtmp3.8/5, Error ellipse: s-maj=215.8km s-min=26.8km az=138.0*

ISC 04 14:42:07.9±1.0, 22°.3S±0°.1×176°.9W±0°.2, h250km, n23, σ0°89/23, mb3.8/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.58	313	P	Pn	14 43 42.2	-1.1
	1.6nm,0.3s,baz=131,slow=15,SNR=11						
NIUE	Niue	7.25	65	Pn	Pn	14 43 38.0	-14
DZM	Mont Dzumac	15.45	268	P	Pn	14 45 34.5	+0.9
	0.3nm,0.3s,baz=96,slow=16,SNR=4.1						
DZM	Mont Dzumac	15.45	268	IAmb	IAmb	14 45 38.8	
	comp=Z,6.0nm,0.7s						
SANVU	Saraoutou	16.52	292	P	Pn	14 45 45.4	-0.8
LTZ	Lake Taylor	22.35	201	P	P	14 46 42.6	-2.3
CTAO	Charters Tower	34.39	267	P	P	14 48 32.7	+0.9
CTAO				IAmb	IAmb	14 48 48.3	
	comp=Z,12nm,1.4s						
STKA	Stephens Creek	37.99	246	P	P	14 49 02.0	-0.1
AS31	Alice Springs	45.15	258	P	P	14 50 00.7	+0.5
ASAR	Alice Springs	45.15	258	P	P	14 49 59.8	-0.3
	comp=Z,0.5nm,0.5s,baz=93,slow=7.6,SNR=10						
ASAR				PcP	PcP	14 51 37.5	+1.4
	comp=Z,0.2nm,0.4s,baz=108,slow=4.5,SNR=4.8						
ASAR	Alice Springs	45.15	258	P	P	14 50 01.0	+0.8
WR0	Warramunga Arr	45.22	264	P	P	14 50 01.0	+0.2
WR0				IAmb	IAmb	14 50 12.7	
	comp=Z,9.3

TREB				*e*Sg	**Sg**	**14 45 19.2**	**+1.1**
STON	**Ston**	**0.40**	**247**	*e*Pg	**Pg**	**14 45 14.5**	**-0.4**
STON				Sg	**Sg**	**14 45 20.9**	**+0.7**
UPM	**Unac-Piva**	**0.55**	**71**	⇑*i*Pg	**Pg**	**14 45 17.4**	**-0.4**
UPM				*e*Sg	**Sb**	**14 45 26.2**	**-0.6**
UPM	**Unac-Piva**	**0.55**	**71**	⇑*i*Pg	**Pg**	**14 45 17.4**	**-0.4**
UPM				*i* Sg	**Sb**	**14 45 26.4**	**-0.4**
NKME	**Niksic**	**0.61**	**115**	⇓*i*Pg	**Pg**	**14 45 18.2**	**-0.8**
NKME				*i* Sg	**Sg**	**14 45 27.6**	**+0.5**
HCY	**Herceg Novi**	**0.62**	**159**	⇑*i*Pg	**Pg**	**14 45 18.4**	**-0.7**
HCY				*e*Sg	**Sb**	**14 45 28.5**	**-0.1**
HCY	**Herceg Novi**	**0.62**	**159**	⇑*i*Pg	**Pg**	**14 45 18.1**	**-1.0**
HCY				*i* Sg	**Sg**	**14 45 27.3**	**+0.1**
NKY	**Niksic**	**0.62**	**110**	⇓*i*Pg	**Pg**	**14 45 18.5**	**-0.7**
NKY				*i* Sg	**Sg**	**14 45 28.0**	**+0.6**
CEME	**Cevo**	**0.71**	**132**	⇑*i*Pg	**Pg**	**14 45 19.9**	**-1.0**
CEME				*i* Sg	**Sg**	**14 45 30.7**	**+0.4**
BUM	**Brajici-Budva**	**0.89**	**145**	⇑*i*Pg	**Pg**	**14 45 23.0**	**-1.2**
BUM				*i* Sg	**Sg**	**14 45 36.3**	**+0.5**
MAKA	**Makarska**	**0.90**	**287**	*e*Pg	**Pg**	**14 45 23.8**	**-0.7**
MAKA				Sg	**Sg**	**14 45 36.5**	**+0.3**
PLE	**Pljevlja**	**0.92**	**70**	⇑*i*Pg	**Pg**	**14 45 24.5**	**-0.4**
PLE				*i* Sg	**Sn**	**14 45 39.1**	**-0.3**
PDG	**Podgorica**	**0.98**	**127**	*e*Pg	**Pg**	**14 45 24.7**	**-1.2**
PDG				*e*Sg	**Sb**	**14 45 39.2**	**+0.2**
PDG	**Podgorica**	**0.98**	**127**	*e*Pg	**Pg**	**14 45 25.2**	**-0.8**
PDG				*e*Sg	**Sn**	**14 45 41.0**	**+0.3**
TTG	**Podgorica**	**0.98**	**127**	⇑*i*Pg	**Pg**	**14 45 24.8**	**-1.2**
TTG				*i* Sg	**Sb**	**14 45 39.7**	**+0.7**
KOME	**Kolasin**	**0.98**	**100**	*e*Pg	**Pg**	**14 45 25.2**	**-0.8**
KOME				*i* Sg	**Sn**	**14 45 40.4**	**-0.5**
LSTV	**Lastovo**	**0.99**	**255**	*e*Pg	**Pg**	**14 45 25.2**	**-1.1**
LSTV				Sg	**Sg**	**14 45 38.9**	**-0.2**
RUDO	**Rudo**	**1.04**	**55**	*e*Pg	**Pg**	**14 45 26.0**	**-1.1**
RUDO				*e*Sg	**Sg**	**14 45 40.7**	**+0.1**
DRME	**Dracevica, Mon**	**1.11**	**139**	⇑*i*Pg	**Pb**	**14 45 27.6**	**-0.7**
DRME				*e*Sg	**Sn**	**14 45 43.8**	**-0.1**
DRME	**Dracevica, Mon**	**1.11**	**139**	*e*Pg	**Pb**	**14 45 27.0**	**-1.3**
DRME				*i* Sg	**Sn**	**14 45 43.9**	**0.0**
BBLS	**Lazići**	**1.22**	**46**	*e*Pg	**Pb**	**14 45 28.9**	**-1.3**
BBLS				*e*Sg	**Sb**	**14 45 45.1**	**-0.8**
BBLS	**Lazići**	**1.22**	**46**	*e*Pg	**Pg**	**14 45 30.6**	**+0.1**
BBLS				*e*Sg	**Sn**	**14 45 47.8**	**+1.2**
IVA	**Berane**	**1.25**	**97**	⇓*i*Pg	**Pn**	**14 45 30.1**	**-0.6**
IVA				*i* Sg	**Sn**	**14 45 49.6**	**+2.0**
HVAR	**Hvar**	**1.29**	**277**	*e*Pg	**Pn**	**14 45 30.9**	**-0.2**
HVAR				Sg	**Sg**	**14 45 49.1**	**+0.5**
ULC	**Ulcinj**	**1.31**	**144**	⇑*i*Pg	**Pn**	**14 45 30.7**	**-0.7**
ULC				*i* Sg	**Sg**	**14 45 50.6**	**+1.2**
SJES	**Sjenica**	**1.32**	**79**	*e*Pg	**Pb**	**14 45 32.2**	**+0.2**
SJES				*e*Sg	**Sg**	**14 45 51.0**	**+1.4**
PVY	**Plav**	**1.36**	**108**	⇓*i*Pg	**Pn**	**14 45 32.0**	**-0.2**
PVY				*i* Sg	**Sg**	**14 45 52.3**	**+1.2**
IVAS	**Ivanjica**	**1.53**	**68**	*e*Pg	**Pn**	**14 45 34.7**	**+0.3**
IVAS				*e*Sg	**Sg**	**14 45 56.0**	**-0.3**
MGRS	**Mrkonjic Grad**	**1.61**	**330**	*e*Pg	**Pb**	**14 45 36.3**	**-0.5**
MGRS				*e*Sg	**Sg**	**14 45 58.4**	**-0.4**
KIJV	**Kijevo**	**1.63**	**307**	*e*Pn	**Pb**	**14 45 37.0**	**-0.3**
KIJV				Sn	**Sg**	**14 45 59.0**	**-0.5**
DIVS	**Divibare**	**1.69**	**50**	*e*Pn	**Pn**	**14 45 36.6**	**0.0**
DIVS				*e*Sn	**Sn**	**14 45 58.8**	**+0.5**
DIVS	**Divibare**	**1.69**	**50**	*e*Pn	**Pn**	**14 45 36.8**	**+0.2**
DIVS				*e*Sn	**Sb**	**14 45 59.7**	**+0.2**
TEKS	**Tekeris**	**1.80**	**32**	*e*Pn	**Pn**	**14 45 38.8**	**+0.7**
TEKS				*e*Sn	**Sb**	**14 46 02.2**	**-0.5**
BLY	**Banja Luka**	**1.87**	**337**	*e*Pn	**Pn**	**14 45 39.9**	**+0.8**
BLY				*e*Sn	**Sn**	**14 46 03.7**	**+1.0**
BLY	**Banja Luka**	**1.87**	**337**	*e*Pg	**Pn**	**14 45 40.2**	**+1.1**
BLY				*e*Sg	**Sg**	**14 46 06.4**	**-0.9**
ZIRJ	**Zirje**	**1.97**	**289**	*e*Pn	**Pn**	**14 45 41.5**	**+1.1**
ZIRJ				Sn	**Sn**	**14 46 06.1**	**+1.1**
MORI	**Morici**	**2.00**	**296**	*e*Pn	**Pn**	**14 45 42.0**	**+1.2**
MORI				Sn	**Sb**	**14 46 08.0**	**-0.3**
TRUS	**Trudelj**	**2.00**	**53**	*e*Pn	**Pn**	**14 45 40.9**	**0.0**
GRUS	**Gruza**	**2.02**	**64**	*e*Pn	**Pn**	**14 45 41.6**	**+0.4**
GRUS				*e*Sn	**Sn**	**14 46 06.9**	**+0.4**
SELS	**Selova**	**2.15**	**84**	*e*Pn	**Pn**	**14 45 43.1**	**+0.2**
MRAK	**Mrakovica**	**2.20**	**335**	*e*Pn	**Pn**	**14 45 43.9**	**+0.3**
MRAK				*e*Sn	**Sn**	**14 46 11.2**	**+0.4**
UDBI	**Udbina**	**2.31**	**311**	*e*Pn	**Pn**	**14 45 46.2**	**+1.0**
UDBI				Sn	**Sb**	**14 46 16.3**	**-1.3**
FRGS	**Fruska Gora**	**2.43**	**28**	*e*Pn	**Pn**	**14 45 46.8**	**+0.1**
FRGS				*e*Sn	**Sn**	**14 46 17.1**	**+0.7**
FRGS	**Fruska Gora**	**2.43**	**28**	*e*Pn	**Pn**	**14 45 45.5**	**-1.2**
DUGI	**Dugi Otok**	**2.48**	**294**	*e*Pn	**Pn**	**14 45 48.2**	**+0.8**
DUGI				Sn	**Sn**	**14 46 18.7**	**+1.0**
PLIT	**Plitvice**	**2.62**	**316**	*e*Pn	**Pn**	**14 45 50.9**	**+1.4**
PLIT				Sn	**Sn**	**14 46 22.9**	**+1.6**
BARS	**Barje**	**2.67**	**93**	*e*Pn	**Pn**	**14 45 50.9**	**+0.9**
BARS	**Barje**	**2.67**	**93**	*e*Pn	**Pb**	**14 45 53.9**	**-0.9**
MOSL	**Moslavina**	**2.79**	**339**	*e*Pn	**Pn**	**14 45 52.0**	**+0.3**
MOSL				Sn	**Sn**	**14 46 26.5**	**+1.2**
NVLJ	**Novalja**	**2.86**	**304**	*e*Pn	**Pn**	**14 45 53.0**	**+0.4**
NVLJ				Sn	**Sn**	**14 46 28.1**	**+1.1**
RABC	**Rab**	**3.01**	**306**	*e*Pn	**Pn**	**14 45 55.2**	**+0.5**
RABC				Sn	**Sn**	**14 46 32.0**	**+1.3**
ZAGS	**Zajecar**	**3.04**	**74**	*e*Pn	**Pn**	**14 45 56.4**	**+1.2**
BOSS	**Bosilegrad**	**3.20**	**98**	*e*Pn	**Pn**	**14 45 58.8**	**+1.5**
ZAPS	**Zavoj**	**3.25**	**84**	*e*Pn	**Pn**	**14 45 59.5**	**+1.4**
KALN	**Kalnik**	**3.34**	**339**	*e*Pn	**Pn**	**14 45 59.7**	**+0.3**
KALN				Sn	**Sn**	**14 46 40.0**	**+1.0**
CRES	**Cresnjev**	**3.42**	**326**	*e*Pn	**Pn**	**14 46 00.6**	**+0.2**
CRES				*e*Sn	**Sn**	**14 46 40.8**	**-0.1**
LOBO	**Lobor**	**3.48**	**335**	*e*Pn	**Pn**	**14 46 01.8**	**+0.7**
LOBO				Sn	**Sn**	**14 46 43.5**	**+1.1**
SMRN	**Sveta Marina**	**3.54**	**306**	*e*Pn	**Pn**	**14 46 02.6**	**+0.6**
SMRN				Sn	**Sn**	**14 46 44.3**	**+0.5**
BRJN	**Brijuni**	**3.72**	**302**	*e*Pn	**Pn**	**14 46 05.6**	**+1.1**
BRJN				Sn	**Sn**	**14 46 49.3**	**+1.1**
CEY	**Cerknica**	**3.83**	**316**	*e*Pn	**Pn**	**14 46 07.0**	**+1.0**
CEY				*e*Sn	**Sn**	**14 46 50.5**	**-0.5**

TEH 04 14:46:08.8, 34.75N×50.46E, h8km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**0.41**	**242**	*e*Pg	Pg	14 46 17.1	+0.2
IQOM	**Qom**	**0.51**	**79**	*e*Pg	Pb	14 46 19.7	-0.4
GHVR	**GHOM**	**0.73**	**111**	*e*Pg	Pb	14 46 23.5	-0.4
IRAZ	**Razeghan**	**0.79**	**327**	*e*Pg	Pg	14 46 24.3	+0.2
IMHD	**Mahdasht**	**0.95**	**10**	*e*Pg	Pb	14 46 27.4	-0.2
IMHD				*e*		14 46 28.1	
	comp=Z,12μm,0.2s						
IHSB	**Hasanabad**	**0.96**	**44**	*e*Pg	Pb	14 46 27.9	+0.1
IVRN	**Varamin**	**1.07**	**76**	*e*Pg	Pn	14 46 29.9	-0.2
KHMZ	**Khomeyn**	**1.09**	**203**	*e*Pg	Pg	14 46 28.8	-0.9
HAGD	**Aghdareh**	**1.09**	**274**	*e*Pg	Pg	14 46 29.5	-0.3
QABG	**Abgarm-Qazvin**	**1.20**	**323**	*e*Pg	Pg	14 46 30.3	-1.6
THKV	**Tehran--Karaj**	**1.22**	**16**	*e*Pg	Pb	14 46 30.7	-1.5
TEH	**Tehran**	**1.24**	**37**	*e*Pg	Pg	14 46 32.7	0.0
TEHA	**Amirabad Tehra**	**1.25**	**37**	*e*Pg	Pg	14 46 32.9	0.0
TEHA				*e*Sg	Sn	14 46 50.7	+0.8
TEHA				*e*		14 46 56.4	
	comp=Z,6μm,0.4s						
QAMS	**Qamsar**	**1.27**	**142**	*e*Pn	Pn	14 46 32.5	-0.5
QAMS				*e*		14 46 53.0	
	comp=Z,17μm,0.4s						
CHTH	**Charan**	**1.28**	**25**	*e*Pg	Pn	14 46 33.1	-0.1
DAMV	**Damavand**	**1.52**	**54**	*e*Pg	Pb	14 46 37.1	-0.3
ISFB	**Sefidab**	**1.52**	**104**	*e*Pn	Pn	14 46 36.7	+0.4
ISFB				*e*		14 47 00.4	
	comp=Z,12μm,0.2s						
IDMV	**Damavand**	**1.53**	**57**	*e*Pn	Pb	14 46 37.8	+0.2
IDMV				*e*		14 47 02.1	
	comp=Z,5μm,0.4s						
KRSH	**Karshahi**	**1.58**	**119**	*e*Pn	Pn	14 46 37.7	+0.4
KRSH				*e*		14 47 02.1	
	comp=Z,5μm,0.5s						
HSAM	**Samen**	**1.63**	**251**	*e*Pn	Pb	14 46 38.6	-0.6
IGZV	**Ghazvin**	**1.65**	**353**	*e*Pn	Pb	14 46 39.5	-0.1
IGZV				*e*		14 46 40.8	
	comp=Z,4μm,0.4s						
QALM	**Alamut, Qazvin**	**1.69**	**5**	*e*Pn	Pb	14 46 39.8	-0.5
QALM				*e*		14 47 07.9	
	comp=Z,4μm,0.4s						
IKLH	**Kolahrood**	**1.70**	**147**	*e*Pn	Pb	14 46 40.4	0.0
BMDN	**Meydan**	**1.73**	**232**	*e*Pn	Pb	14 46 41.4	+0.5
IALM	**Almabolaq**	**1.89**	**274**	*e*Pg	Pg	14 46 45.4	+0.3
JIR1	**Jirandeh**	**2.03**	**345**	*e*Pn	Pb	14 46 45.2	-0.8
IFIR	**Firoozkooh**	**2.08**	**64**	*e*Pn	Pb	14 46 46.6	-0.3
IPIR	**Pirpir**	**2.09**	**170**	*e*Pn	Pb	14 46 47.2	+0.1
IPIR				*e*		14 47 15.4	
	comp=Z,3μm,0.7s						
IDOB	**Doab**	**2.12**	**244**	*e*Pn	Pb	14 46 47.6	0.0
IPRN	**Peran**	**2.14**	**45**	*e*Pn	Pb	14 46 46.9	-1.0
IPRN				*e*		14 47 20.6	
	comp=Z,4μm,0.5s						
ILAS	**Lasjerd**	**2.14**	**72**	*e*Pn	Pb	14 46 46.6	-1.4
ZNJK	**Zanjan**	**2.41**	**324**	*e*Pn	Pb	14 46 52.9	+0.4
IZEF	**Zefreh**	**2.41**	**139**	*e*Pn	Pb	14 46 51.5	-1.1
IZEF				*e*		14 47 27.4	
	comp=Z,2μm,0.6s						
SHK1	**Shahrekord**	**2.44**	**172**	*e*Pn	Pb	14 46 52.4	-0.6
SHK1				*e*		14 47 33.0	
	comp=Z,1μm,0.6s						
IKFM	**Kafar-mosalman**	**2.49**	**241**	*e*Pn	Pb	14 46 52.5	-1.2
ISHM	**Shahmirzad**	**2.55**	**65**	*e*Pn	Pb	14 46 53.5	-1.4
ISHM				*e*		14 47 32.9	
	comp=Z,3μm,0.4s						
SNGE	**Sanandaj**	**2.58**	**279**	*e*Pn	Pn	14 46 52.8	+1.7
NASN	**Na'in**	**2.75**	**134**	*e*Pn	Pb	14 46 56.3	-2.2
IANJ	**Anjilo**	**2.92**	**75**	*e*Pn	Pn	14 46 57.7	+2.0
ANAR	**Anarak**	**3.13**	**119**	*e*Pn	Pn	14 47 00.8	+2.3
AMIS	**Naft Sefid**	**3.23**	**198**	*e*Pn	Pn	14 47 01.5	+1.8
IDHR	**Dehrash**	**3.36**	**270**	*e*Pn	Pn	14 47 04.8	+3.1
YZKH	**Yazd**	**4.17**	**123**	*e*Pn	Pn	14 47 15.0	+2.2

*IDC **04** 14:49:39.8±1.6, 6.27N×126.68E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/33, mbtmp3.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.6/54, Error ellipse: s-maj=68.3km s-min=16.0km az=55.0*

*MAN **04** 14:49:47.3, 6.24N×126.13E, h19km, mb4.4, ML3.3, MS3.0*

ISC 04 14:49:46.4±2.0, 5.99N±0.09×126.1E±0.1, h44km±24km, n12, σ1§22/17, mb3.6/5, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.15**	**275**	⇓*e*P	**Pn**	**14 50 05.6**	**-0.6**
GSPH				*i* S	**Sn**	**14 50 21.3**	**+0.4**
DAV	**Davao City (W)**	**1.20**	**334**	Pn	**Pn**	**14 50 06.4**	**-0.3**
	106nm,0.3s,baz=292,slow=0.6,SNR=10						
DAV				Sn	**Sn**	**14 50 24.0**	**+2.2**
	206nm,0.3s,baz=95,slow=20,SNR=7.0						
KCP	**Kidapawan**	**1.43**	**315**	⇓*i*P	**Pn**	**14 50 09.1**	**-0.9**
KCP				*i* S	**Sn**	**14 50 27.3**	**-0.3**
BUKP	**Musuan**	**2.15**	**331**	⇑*e*P	**Pn**	**14 50 19.7**	**0.0**
BUKP				*e*S	**Sn**	**14 50 45.6**	**+0.4**
BIPH	**Bislig**	**2.20**	**7**	⇑*e*P	**Pn**	**14 50 20.8**	**+0.3**
BIPH				*e*S	**Sn**	**14 50 44.9**	**-1.5**
PGP	**Puerto Galera**	**9.03**	**326**	⇓*e*P	**Pn**	**14 51 53.1**	**-1.1**
PGP				*i* S		14 51 59.0	
FITZ	**Fitzroy Crossi**	**23.94**	**181**	P	**P**	**14 54 58.4**	**+1.8**
	3.6nm,1.0s,baz=4.5,slow=9.7,SNR=3.0						
WRA	**Warramunga Arr**	**27.01**	**163**	P	**P**	**14 55 25.9**	**+1.4**
	0.2nm,0.4s,baz=344,slow=11,SNR=5.2						
JNU	**Nakatsue**	**27.36**	**9**	LR	LR	15 05 20.9	
	comp=Z,55nm,21.5s,baz=242,slow=35						
ASAR	**Alice Springs**	**30.44**	**166**	P	**P**	**14 55 55.6**	**+0.6**
	0.2nm,0.5s,baz=344,slow=7.7,SNR=6.8						
ASAR				PcP	**PcP**	**14 58 52.9**	**-1.1**
	0.2nm,0.7s,baz=348,slow=2.3,SNR=2.3						
STKA	**Stephens Creek**	**40.45**	**159**	P	**P**	**14 57 19.4**	**-1.4**
	0.7nm,0.6s,baz=343,slow=14,SNR=1.1						
MKAR	**Makanchi Array**	**55.36**	**325**	P	**P**	**14 59 16.7**	**+0.6**
	0.4nm,0.6s,baz=114,slow=6.0,SNR=6.6						

*EAF **04** 14:55:04.0±3.1, 26.19S×29.01E, h0km±511km, MD3.8*

BUL 04 14:55:04.0±3.1, 26.19S×29.01E, h0km±511km, MD4.1, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.30**	**290**	*i* P	Pn	14 55 57.8	+0.8
LBTB				*i* Sg	Sb	14 56 46.8	+2.6
LBTB	**Lobatse**	**3.30**	**290**	*i* P	Pn	14 55 57.8	+0.8
LBTB				*i* Sg	Sb	14 56 46.8	+2.6
BOSA	**Boshof**	**4.12**	**233**	*i* P	Pn	14 56 09.2	+0.8
BOSA				*i* Sg	Sb	14 57 09.9	+2.0
BOSA	**Boshof**	**4.12**	**233**	*i* P	Pn	14 56 09.2	+0.8
BOSA				*i* Sg	Sb	14 57 09.9	+2.0
MATP	**Matopo**	**5.75**	**355**	*i* S	Sn	14 57 30.8	-6.9
MATP	**Matopo**	**5.75**	**355**	*i* S	Sn	14 57 30.8	-6.9

*IDC **04** 14:59:07.2±0.6, 9.60N×70.78W, h0km, mb4.0/10, mb1 4.2/13, mb1mx4.0/31, mbtmp4.0/13, ML3.7/3, MS3.2/6, Ms1 3.2/6, ms1mx2.9/75, Error ellipse: s-maj=21.9km s-min=13.5km az=49.0*

*NEIC **04** 14:59:11.7±2.3, 9.61N±0.04×70.78W±0.05, h18km±4km, mb4.5/60, Error ellipse: s-maj=7.6km s-min=6.4km az=78.0*

*FUNV **04** 14:59:13.6, 9.68N×70.69W, h18km, MW4.2*

*VAO **04** 14:59:14.0±0.3, 9.57N×70.39W, h10km, mb4.4*

ISC 04 14:59:12.4±0.9, 9.64N±0.02×70.63W±0.02, h28km±7km, n188, σ1§60/233, mb4.4/34, MS3.0/3, 1C-1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORV	**Torococo**	**0.40**	**101**	*e*P	**Pb**	**14 59 20.2**	**-1.0**
TORV				*e*S	**Sb**	**14 59 25.5**	**-1.8**
SDV	**Santo Domingo**	**0.75**	**180**	⇑*i*P	**Pb**	**14 59 27.4**	**+0.4**
SDV				*e*S	**Sb**	**14 59 37.7**	**+0.8**
SDV	**Santo Domingo**	**0.75**	**180**	*e*P	**Pb**	**14 59 27.4**	**+0.4**
SDV	**Santo Domingo**	**0.75**	**180**		**Pb**	**14 59 27.2**	**+0.2**
SDV				Sg	**Sb**	**14 59 35.6**	**-1.2**
CURV	**Curarigua**	**0.76**	**60**	*e*P	**Pn**	**14 59 29.8**	**+2.5**
CURV				*e*S	**Sn**	**14 59 40.9**	**+3.0**
VIGV	**El Vigia**	**1.07**	**222**	*e*P	**Pb**	**14 59 32.9**	**+0.5**
VIGV				*e*S	**Sn**	**14 59 48.4**	**+2.7**
DABV	**Dabajuro**	**1.28**	**360**	*e*P	**Pb**	**14 59 35.3**	**-0.5**
DABV				*e*S	**Sb**	**14 59 52.3**	**+0.5**
DABV	**Dabajuro**	**1.28**	**360**	*e*P	**Pb**	**14 59 35.3**	**-0.5**
DABV				*e*S	**Sb**	**14 59 52.0**	**+0.2**
SIQV	**Siquisique**	**1.29**	**39**	*e*P	**Pb**	**14 59 36.4**	**+0.4**
SIQV				*e*S	**Sb**	**14 59 53.8**	**+1.5**
SOCV	**Socops**	**1.36**	**189**	*e*P	**Pb**	**14 59 36.8**	**-0.5**
SOCV				*e*S	**Sb**	**14 59 54.7**	**+0.3**
SOCV	**Socops**	**1.36**	**189**	*e*P	**Pb**	**14 59 36.7**	**-0.5**
SOCV				*e*S	**Sb**	**14 59 55.0**	**+0.6**
MCQV	**Machiques**	**1.92**	**282**	*e*P	**Pn**	**14 59 43.3**	**0.0**
MCQV				*e*S	**Sn**	**15 00 06.4**	**-0.1**
MAPV	**Macapo**	**2.15**	**85**	*e*P	**Pn**	**14 59 49.2**	**+2.8**
MAPV				*e*S	**Sn**	**15 00 15.1**	**+2.9**
JACV	**Jacura**	**2.28**	**51**	*e*P	**Pn**	**14 59 50.5**	**+2.3**
JACV				*e*S	**Sn**	**15 00 17.9**	**+2.4**
MONV	**Montecano**	**2.39**	**16**	*e*P	**Pn**	**14 59 50.1**	**+0.4**
MONV				*e*S	**Sn**	**15 00 18.0**	**-0.2**
CAPV	**Capacho**	**2.42**	**224**	*e*P	**Pb**	**14 59 52.8**	**-2.7**
CAPV				*e*S	**Sn**	**15 00 20.5**	**+1.3**
URIC	**Uribia, Colomb**	**2.45**	**327**	*e*P	**Pn**	**14 59 50.0**	**-0.5**
URIC				*e*S	**Sb**	**15 00 23.8**	**-1.7**
URIC	**Uribia, Colomb**	**2.45**	**327**		**Pn**	**14 59 49.1**	**-1.4**
CRJC	**Cerrejon, Guaj**	**2.61**	**302**	*e*P	**Pn**	**14 59 51.9**	**-0.8**
CRJC				*e*S	**Sb**	**15 00 29.2**	**-1.0**
BAUV	**El Baul**	**2.65**	**105**	*e*P	**Pn**	**14 59 55.1**	**+1.9**
BAUV				*e*S	**Sn**	**15 00 26.2**	**+1.8**
BAUV	**El Baul**	**2.65**	**105**	Pn	**Pn**	**14 59 54.7**	**+1.4**
ELOV	**Elorza**	**2.86**	**156**	*e*P	**Pn**	**14 59 57.9**	**+1.8**
ELOV				*e*S	**Sn**	**15 00 33.7**	**+4.1**
ELOV	**Elorza**	**2.86**	**156**	*e*P	**Pn**	**14 59 57.9**	**+1.8**
ELOV				*e*S	**Sn**	**15 00 32.0**	**+2.4**
TURV	**Turiamo**	**2.86**	**73**	*e*P	**Pn**	**14 59 57.8**	**+1.6**
TURV				*e*S	**Sn**	**15 00 31.4**	**+1.6**
LL1C	**La Loma 1 Cana**	**2.89**	**268**	*e*P	**Pn**	**14 59 56.9**	**+0.4**
LL1C				*e*S	**Sb**	**15 00 41.6**	**+3.5**
AUA1	**Aruba**	**2.91**	**12**	Pn	**Pn**	**14 59 56.9**	**0.0**
OCAC	**Ocana**	**3.00**	**243**	*e*P	**Pn**	**14 59 58.9**	**+0.7**
OCAC				*e*S	**Sb**	**15 00 45.8**	**+4.3**
OCAC	**Ocana**	**3.00**	**243**		**Pn**	**14 59 55.1**	**-3.1**
BENV	**Beln**	**3.00**	**84**	*e*P	**Pn**	**15 00 00.4**	**+2.2**
BENV				*e*S	**Sn**	**15 00 35.3**	**+2.0**
LL5C	**La Loma 5 El P**	**3.05**	**272**	*e*P	Pb	15 00 10.2	+4.2
LL5C				*e*S	**Sb**	**15 00 49.2**	**+6.4**
PAMC	**Pamplona, Colo**	**3.07**	**222**	*e*P	**Pn**	**15 00 00.6**	**+1.2**
PAMC				*e*S	**Sn**	**15 00 34.8**	**-0.7**
TAMC	**Tame, Arauca**	**3.38**	**200**	*e*P	**Pn**	**15 00 05.0**	**+1.6**
TAMC				*e*S	**Sb**	**15 00 52.0**	**-0.4**
ARGC	**Ariguani, Magd**	**3.57**	**274**	⇓*e*P	**Pn**	**15 00 05.9**	**-0.1**
ARGC				*e*S	**Sb**	**15 01 01.3**	**+3.5**
ARGC				*i*		15 01 52.0	
	comp=Z,96nm,0.6s						
SMRC	**Santa Marta, M**	**3.85**	**294**	*e*P	**Pn**	**15 00 10.9**	**+1.2**
SMRC				*e*S	**Sb**	**15 01 10.6**	**+4.8**
FUNV	**FUNVISIS**	**3.85**	**77**	*e*P	**Pn**	**15 00 12.1**	**+2.2**
FUNV				*e*S	**Sn**	**15 00 54.7**	**+0.4**
BRRC	**Barranca, Sant**	**3.95**	**231**	*e*P	**Pn**	**15 00 13.0**	**+1.8**
BRRC				*e*S	**Sn**	**15 00 57.5**	**+0.8**
BRRC				*i*		15 01 29.0	
	comp=Z,164nm,0.5s						
MERV	**Las Mercedes**	**4.29**	**95**	*e*P	**Pn**	**15 00 17.5**	**+1.7**
MERV				*e*S	**Sn**	**15 01 05.2**	**+0.2**
BIRV	**Birongo**	**4.37**	**79**	*e*P	**Pn**	**15 00 18.8**	**+1.8**
BIRV				*e*S	**Sn**	**15 01 06.7**	**-0.4**
BIRV	**Birongo**	**4.37**	**79**	Pn	**Pn**	**15 00 19.1**	**+2.1**
RUSC	**La Rusia**	**4.45**	**213**	*e*P	**Pn**	**15 00 19.3**	**+0.9**
RUSC				*e*S	**Sn**	**15 01 08.5**	**-1.0**
SJCC	**San Jacinto, C**	**4.49**	**274**	*e*P	**Pn**	**15 00 19.2**	**+0.5**
SJCC				*e*S	**Sn**	**15 01 09.8**	**-0.3**
SJCC	**San Jacinto, C**	**4.49**	**274**	Pn	**Pn**	**15 00 18.6**	**-0.1**
CACV	**CAICARA DEL OR**	**4.54**	**117**	*e*P	Pb	15 00 27.1	-4.2
CACV				*e*S	**Sb**	**15 01 22.4**	**-3.2**
ZARC	**Zaragoza, Cauc**	**4.69**	**243**	*e*P	**Pn**	**15 00 21.9**	**+0.5**
ZARC				*e*S	**Sn**	**15 01 14.0**	**-0.9**
ZARC	**Zaragoza, Cauc**	**4.69**	**243**		**Pn**	**15 00 18.8**	**-2.6**
PTBC	**PUERTO BERRIO,**	**4.88**	**231**	*e*P	**Pn**	**15 00 23.7**	**-0.3**
PTBC				*e*S	**Sn**	**15 01 16.5**	**-3.1**
MOTC	**Monteria, Cord**	**5.04**	**261**	Pn	**Pn**	**15 00 25.4**	**-0.8**
PAYV	**Puerto Ayacuch**	**5.12**	**145**	*e*P	**Pn**	**15 00 27.6**	**+0.3**
PAYV				*e*S	**Sn**	**15 01 23.9**	**-1.7**
UREC	**San Jos de Ur**	**5.20**	**249**	*e*P	**Pn**	**15 00 29.8**	**+1.5**
UREC				*e*S	**Sn**	**15 01 27.3**	**-0.1**
SPBC	**San Pablo de B**	**5.23**	**221**	*e*P	**Pn**	**15 00 29.9**	**+1.1**
SPBC				*e*S	**Sn**	**15 01 27.1**	**-1.2**
PTGC	**Puerto Gaitan,**	**5.61**	**196**	*e*P	**Pn**	**15 00 33.1**	**-0.9**
PTGC				*e*S	**Sn**	**15 01 40.2**	**+2.7**
PCRV	**Puerto La Cruz**	**5.93**	**84**	Pn	**Pn**	**15 00 40.4**	**+1.9**
	comp=Z,1.2nm,0.3s,baz=310,slow=3.0,SNR=7.1						
PCRV				Sn	**Sn**	**15 01 47.1**	**+1.6**
	comp=Z,11nm,0.3s,baz=283,slow=15,SNR=6.1						
PCR

WMOK Wichita Mounta 35.87 318 P **P 15 06 09.0 -1.0**
WMOK IAmb IAmb 15 06 09.8
comp=Z,9.6nm,1.4s
P38A Dawn 36.18 329 P **P 15 06 11.5 -1.0**
AC02 Maricunga 36.28 178 P **P 15 06 13.1 -1.1**
AC02 IAmb IAmb 15 06 14.2
comp=Z,7.3nm,1.1s
RCBR Riachuelo 37.86 113 P **P 15 06 29.1 +1.9**
CPUP Villa Florida 38.02 160 P **P 15 06 29.1 +0.8**
CPUP IAmb IAmb 15 06 44.7
comp=Z,8.5nm,1.2s
GDU01 Guandu, BA 38.58 126 *eP* **P 15 06 33.2 0.0**
FRTB Fartura 38.72 148 *eP* **P 15 06 36.5 +2.2**
MNTX Cornudas Mount 38.96 309 P **P 15 06 35.2 -1.1**
CO06 Fray Jorge 40.09 181 P **P 15 06 44.8 -0.8**
CO03 El Pedregal 40.24 180 P **P 15 06 45.3 -1.7**
CO03 IAmb IAmb 15 06 56.1
comp=Z,17nm,1.5s
ANMO Albuquerque 41.27 313 P **P 15 06 55.6 +0.1**
SDCO Great Sand Dun 42.04 317 P **P 15 07 01.2 -0.8**
MT09 Talagante 43.17 180 P **P 15 07 09.7 -1.3**
MT09 IAmb IAmb 15 07 13.8
comp=Z,15nm,1.2s
ULM Lac du Bonnet 45.56 337 P **P 15 07 27.4 -2.3**
comp=Z,1.2nm,0.4s,baz=134,slow=9.3,SNR=3.5
ULM Lac du Bonnet 45.56 337 IAmb IAmb 15 07 29.8
comp=Z,6.0nm,1.2s
U15A North Rim 46.17 312 P **P 15 07 36.0 +0.9**
P18A Preston Nutter 46.19 317 P **P 15 07 35.3 +0.1**
P18A IAmb IAmb 15 07 51.6
comp=Z,5.4nm,1.2s
MTPU Mount Pierson 46.79 314 P **P 15 07 41.0 +0.9**
MTPU IAmb IAmb 15 07 48.6
comp=Z,3.8nm,1.2s
MSU Marysvale 46.99 315 P **P 15 07 41.9 +0.4**
PD31 Pinedale Array 47.36 321 P **P 15 07 43.5 -0.7**
PD31 IAmb IAmb 15 08 07.6
comp=Z,7.5nm,1.4s
PDAR Pinedale Array 47.36 321 P **P 15 07 43.9 -0.4**
comp=Z,1.0nm,0.5s,baz=123,slow=10,SNR=11
BW06 Boulder Array 47.36 321 P **P 15 07 43.8 -0.5**
BW06 IAmb IAmb 15 07 44.6
comp=Z,3.7nm,1.2s
PFO Pinyon Flats O 48.31 307 LR LR 15 30 41.1
comp=Z,24nm,19.0s,baz=279,slow=39
REDW Red Top Meadow 48.48 321 P **P 15 07 52.3 -0.6**
REDW IAmb IAmb 15 08 16.6
comp=Z,4.1nm,1.0s
RLMT Red Lodge 48.49 324 P **P 15 07 52.1 -0.8**
MOOW Moose Ponds 48.62 322 P **P 15 07 53.7 -0.3**
BGU Big Grassy Mou 48.68 317 P **P 15 07 55.0 +0.6**
ELK Elko 50.09 316 P **P 15 08 05.6 +0.3**
PLCA Paso Flores 50.12 180 P **P 15 08 03.4 -1.8**
comp=Z,1.0nm,0.6s,baz=4.3,slow=5.7,SNR=6.6
PLCA Paso Flores 50.12 180 P **P 15 08 02.7 -2.5**
BOZ Bozeman (W) 50.14 323 P **P 15 08 05.3 -0.2**
LL04 Puerto Octay 50.32 182 P **P 15 08 05.4 -1.2**
LL04 IAmb IAmb 15 08 05.4
comp=Z,4.2nm,0.7s
MCMT McKenzie Canyo 50.47 322 P **P 15 08 08.9 +0.8**
HLID Hailey 50.82 320 P **P 15 08 11.6 +0.9**
HRY Holter Researc 50.86 324 P **P 15 08 11.0 +0.2**
NVAR Mina Array Bea 51.36 312 P **P 15 08 15.1 +0.2**
comp=Z,0.5nm,0.6s,baz=119,slow=6.4,SNR=6.8
NVAR Mina Array Bea 51.36 312 P **P 15 08 15.3 +0.4**
KVN Kaiserville 51.44 313 P **P 15 08 15.6 +0.2**
PLID Pearl Lake 52.55 321 P **P 15 08 22.9 -0.8**
PLID IAmb IAmb 15 08 24.1
comp=Z,4.4nm,1.1s
C09A Chrisman Ranch 55.20 323 P **P 15 08 42.4 -0.4**
H04A Detroit Lake 56.36 318 P **P 15 08 51.2 0.0**
LTY Liberty 56.42 321 P **P 15 08 51.4 -0.1**
LTY IAmb IAmb 15 09 02.2
comp=Z,8.1nm,1.4s
DBO Dodson Butte 56.52 316 P **P 15 08 51.5 -0.8**
KBO Bosley Butte 56.90 314 P **P 15 08 55.1 0.0**
YKA Yellowknife Ar 61.52 338 P **P 15 09 25.3 -1.3**
comp=Z,1.0nm,0.7s,baz=125,slow=7.0,SNR=18
DBIC Dimbokro 65.09 87 P **P 15 09 53.2 +2.1**
DBIC IAmb IAmb 15 10 17.1
comp=Z,3.0nm,1.0s
KOWA Kowa 65.14 78 P **P 15 09 51.8 +0.4**
KOWA IAmb IAmb 15 09 52.5
comp=Z,3.8nm,0.8s
SUMG Summit 65.79 10 P **P 15 09 57.6 +2.6**
DLBC Dease Lake 66.08 330 P **P 15 09 57.2 +0.5**
TORD Torodi Ar. Bea 70.78 79 P **P 15 10 25.8 -1.1**
comp=Z,1.7nm,0.7s,baz=292,slow=6.3,SNR=7.5
TORD Torodi Ar. Bea 70.78 79 IAmb IAmb 15 10 28.5
comp=Z,3.6nm,0.8s
M27K Edge Creek, AK 72.84 332 P **P 15 10 39.3 +0.7**
M27K IAmb IAmb 15 11 05.1
comp=Z,7.2nm,1.2s
BCAR Beaver Creek A 72.95 333 P **P 15 10 39.0 -0.1**
BMAR Burnt Mountain 75.01 337 P **P 15 10 50.7 -0.3**
SCM Sheep Creek Mo 75.28 331 P **P 15 10 53.0 +0.2**
ILAR Eielson Array 75.48 335 P **P 15 10 52.6 -1.1**
comp=Z,0.8nm,1.0s,baz=95,slow=6.4,SNR=4.1
SML Sawmill 75.75 331 P **P 15 10 55.7 +0.2**
TOLK Toolik Lake Re 77.05 338 P **P 15 11 01.8 -0.8**
TOLK IAmb IAmb 15 11 25.7
comp=Z,3.2nm,1.1s
CAST Castle Rocks 77.61 333 P **P 15 11 04.8 -1.1**
CAST IAmb IAmb 15 11 25.8
comp=Z,5.4nm,1.3s
IMAR Indian Mountai 78.46 335 P **P 15 11 09.8 -0.6**
J20K Nowinta River 78.56 334 P **P 15 11 10.5 -0.6**
J20K IAmb IAmb 15 11 36.7
comp=Z,6.2nm,1.5s
PZH PanZhiHua 143.32 11 PKP PKPbc 15 18 42.5 +0.4
ASAR Alice Springs 152.73 236 PKPbc **PKPbc 15 19 05.9 -1.6**
comp=Z,1.0nm,0.7s,baz=107,slow=2.4,SNR=17
WRA Warramunga Arr 153.81 244 PKPbc **PKPbc 15 19 07.7 -2.2**
comp=Z,0.6nm,0.8s,baz=109,slow=2.4,SNR=6.1

*IDC **04** 15:16:06.8±1.0,30°.92S×71°.94W,h0km,mb3.5/3,*
mb1 3.8/8,mb1mx3.8/30,mbtmp3.6/8,ML3.5/5,MS3.3/4,
Ms1 3.3/4,ms1mx3.0/32,Error ellipse: s-maj=39.5km
s-min=26.9km az=106.0
*SJA **04** 15:16:06.1±0.8,30°.88S×72°.09W,h10km±3km,ML4.2,*
MW3.8
*GUC **04** 15:16:11.4±0.7,30°.96S×71°.74W,h31km±2km,ML4.3*
*NEIC **04** 15:16:11.2±1.5,30°.87S±0°.05×71°.90W±0°.09,h28km±3km,*
mb4.3/2,ML4.3(GUC),Error ellipse: s-maj=11.4km
s-min=6.6km az=103.0
ISC 04 15:16:10.9±0.9,30°.94S±0°.02×71°.84W±0°.04,h26km±7km,
n108,σ1§90/151,mb3.8/5,3C-2D,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.32**	**34**	*i* P	**Pb**	**15 16 18.7**	**+0.5**
CO06				*i* S	**Sb**	**15 16 23.7**	**+0.5**
CO06				IAML		15 16 24.2	
comp=N,45μm,0.3s							
CO06	**Fray Jorge**	**0.32**	**34**		**Pb**	**15 16 18.8**	**+0.6**
CO06				Sg	**Sb**	**15 16 22.9**	**-0.3**
CO03	**El Pedregal**	**0.99**	**85**	||*i* P	**Pn**	**15 16 28.2**	**-1.1**
CO03				*i* S	**Sb**	**15 16 40.5**	**-1.7**
CO03				IAML		15 16 41.5	
comp=E,10μm,0.4s							
CO03	**El Pedregal**	**0.99**	**85**	Pn	**Pn**	**15 16 28.2**	**-1.1**
CO03				Sn	**Sb**	**15 16 40.5**	**-1.7**
CO03	**El Pedregal**	**0.99**	**85**	*eP*	**Pn**	**15 16 28.0**	**-1.3**
CO05	**La Serena**	**1.14**	**27**	*eP*	**Pn**	**15 16 31.3**	**+0.1**
CO05				*eS*	**Sn**	**15 16 45.0**	**-1.0**
CO05	**La Serena**	**1.14**	**27**	**Pn**	**Pn**	**15 16 31.1**	**-0.1**
GO04	**Tololo Observa**	**1.18**	**50**	||*i* P	**Pn**	**15 16 31.3**	**-0.7**
GO04				*i* S	**Sn**	**15 16 45.8**	**-1.5**
GO04				IAML		15 16 52.6	
comp=N,17μm,0.4s							
GO04	**Tololo Observa**	**1.18**	**50**	Pn	**Pn**	**15 16 31.4**	**-0.5**
GO04	**Tololo Observa**	**1.18**	**50**	*eP*	**Pn**	**15 16 31.4**	**-0.5**
GO04				*eS*	**Sb**	**15 16 46.6**	**-1.0**
VA06	**Catapilco**	**1.68**	**164**	*eP*	**Pn**	**15 16 39.3**	**+0.6**
VA06				*i* S	**Sb**	**15 17 00.2**	**-1.8**
VA06				IAML		15 17 06.3	
comp=E,6μm,0.6s							
VA01	**Torpederas**	**2.09**	**176**	Pn	**Pn**	**15 16 44.5**	**+0.3**
VA01	**Torpederas**	**2.09**	**176**	*eP*	**Pn**	**15 16 44.6**	**+0.4**
VA01				*eS*	**Sb**	**15 17 15.3**	**+1.8**
VA03	**San Esteban**	**2.13**	**149**	||*eP*	**Pb**	**15 16 46.1**	**-2.7**
VA03				*eS*	**Sb**	**15 17 11.8**	**-3.0**
VA03				IAML		15 17 17.0	
comp=E,5μm,0.2s							
VA03	**San Esteban**	**2.13**	**149**		**Pb**	**15 16 46.4**	**-2.5**
VA03	**San Esteban**	**2.13**	**149**	*eP*	**Pn**	**15 16 46.0**	**+1.1**
VA03				*eP*	**Pb**	**15 16 46.3**	**-2.5**
VA03				*eS*	**Sb**	**15 17 15.8**	**+1.0**
VA03				IAML		15 17 24.5	
comp=Z,2μm,0.5s							
ROCH	**El Roble**	**2.15**	**161**	||*eP*	**Pb**	**15 16 46.2**	**-3.0**
ROCH				*eP*	**Pn**	**15 16 45.7**	**+0.4**
ROCH				*eS*	**Sb**	**15 17 13.6**	**-2.0**
ROCH				*eS*	**Sn**	**15 17 14.8**	**+3.6**
ROCH				IAML		15 17 21.7	
comp=N,3μm,0.4s							
ROCH				IAML		15 17 23.9	
comp=N,2μm,0.6s							
ROC1	**El Roble**	**2.15**	**161**	*eP*	**Pn**	**15 16 46.0**	**+0.6**
ROC1				*eS*	**Sb**	**15 17 16.6**	**+0.9**
LCO	**Las Campanas**	**2.16**	**28**	*eP*	**Pn**	**15 16 45.6**	**+0.1**
LCO				*eS*	**Sb**	**15 17 14.1**	**-1.7**
LCO	**Las Campanas**	**2.16**	**28**	Pn	**Pn**	**15 16 45.6**	**+0.1**
LCO	**Las Campanas**	**2.16**	**28**	*eP*	**Pn**	**15 16 46.0**	**+0.5**
AROD	**Rodeo**	**2.18**	**70**	*eP*	**Pb**	**15 16 48.4**	**-1.5**
AROD				*eS*	**Sb**	**15 17 18.7**	**+2.1**
RTLS	**Leoncito**	**2.34**	**112**	*eP*	**Pb**	**15 16 51.0**	**-1.5**
RTLS				*eS*	**Sb**	**15 17 22.1**	**+1.1**
RTLS				*eS*	**Sb**	**15 17 22.2**	**+1.1**
RTLS				IAML		15 17 23.5	
comp=Z,1μm,0.3s							
MT02	**Curacav**	**2.39**	**166**	*eP*	**Pn**	**15 16 48.8**	**+0.4**
MT02				*eS*	**Sb**	**15 17 20.1**	**-2.3**
MT02	**Curacav**	**2.39**	**166**	Pn	**Pn**	**15 16 49.3**	**+0.8**
MT02	**Curacav**	**2.39**	**166**	*eP*	**Pn**	**15 16 49.0**	**+0.6**
MT02				*eS*	**Sb**	**15 17 22.9**	**+0.6**
MT02				*eS*	**Sn**	**15 17 23.6**	**+6.7**
MT02				IAML		15 17 33.9	
comp=Z,634nm,0.4s							
PEL	**Peldehue**	**2.41**	**156**	*eP*	**Pn**	**15 16 50.2**	**+1.5**
PEL				*eS*	**Sb**	**15 17 19.6**	**-3.3**
PEL				IAML		15 17 25.3	
comp=E,2μm,0.4s							
PEL	**Peldehue**	**2.41**	**156**	Pn	**Pn**	**15 16 50.3**	**+1.5**
PEL	**Peldehue**	**2.41**	**156**	*eP*	**Pn**	**15 16 50.0**	**+1.3**
PEL				*eS*	**Sb**	**15 17 23.6**	**+0.7**
ACCO	**Cerro Coronel**	**2.41**	**82**	*eP*	**Pb**	**15 16 52.0**	**-1.8**
ACCO				*eS*	**Sb**	**15 17 19.6**	**-3.7**
AUSP	**Uspallata**	**2.46**	**122**	*eP*	**Pn**	**15 16 47.6**	**-1.9**
AUSP				*eP*	**Pb**	**15 16 52.9**	**-1.6**
AUSP				*eS*	**Sb**	**15 17 26.1**	**+1.6**
ACDV	**Cuesta del Vie**	**2.47**	**73**	*eP*	**Pn**	**15 16 48.6**	**-1.0**
ACDV				*eP*	**Pb**	**15 16 53.9**	**-0.7**
ACDV				*eS*	**Sb**	**15 17 26.7**	**+2.0**
MT05	**Renca**	**2.62**	**159**	*eP*	**Pn**	**15 16 53.1**	**+1.5**
MT05				*eS*	**Sb**	**15 17 24.8**	**-4.2**
MT05				IAML		15 17 34.3	
comp=E,3μm,0.2s							
MT05	**Renca**	**2.62**	**159**	Pn	**Pn**	**15 16 52.7**	**+1.1**
MT05	**Renca**	**2.62**	**159**	*eP*	**Pn**	**15 16 53.4**	**+1.7**
MT05				*eS*	**Sb**	**15 17 27.1**	**-1.9**
MT05				IAML		15 17 33.2	
comp=Z,903nm,0.6s							
VA05	**Santo Domingo**	**2.72**	**176**	Pn	**Pn**	**15 16 52.6**	**-0.3**
ZON	**Zonda**	**2.77**	**103**		**Pb**	**15 16 56.8**	**-3.1**
ZON	**Zonda**	**2.77**	**103**	*eP*	**Pn**	**15 16 52.1**	**-1.6**
ZON				*eP*	**Pb**	**15 16 57.7**	**-2.1**
ZON				*eS*	**Sb**	**15 17 34.1**	**+0.7**
ZON				*eS*	Sn	15 17 36.1	+10
ZON				IAML		15 17 45.3	
comp=Z,542nm,0.5s							
AC04	**Llanos de Chal**	**2.80**	**14**	||*iP*	**Pn**	**15 16 53.9**	**-0.2**
AC04				IAML		15 17 49.0	
comp=E,419nm,0.4s							
AC04	**Llanos de Chal**	**2.80**	**14**	Pn	**Pn**	**15 16 53.5**	**-0.6**
AC04	**Llanos de Chal**	**2.80**	**14**	*eP*	**Pn**	**15 16 53.9**	**-0.2**
AC04				*eS*	**Sn**	**15 17 29.1**	**+2.0**
MT09	**Talagante**	**2.92**	**166**	*eP*	**Pn**	**15 16 57.2**	**+1.4**
MT09				*eS*	**Sn**	**15 17 31.8**	**+1.5**
MT09				IAML		15 17 45.7	
comp=N,1μm,0.4s							
MT09	**Talagante**	**2.92**	**166**		**Pn**	**15 16 56.9**	**+1.1**
MT01	**Popeta**	**2.96**	**170**	*eP*	**Pn**	**15 16 56.9**	**+0.6**
MT01				IAML		15 17 44.9	
comp=E,780nm,0.3s							
MT01	**Popeta**	**2.96**	**170**		**Pn**	**15 16 56.7**	**+0.4**
MT01	**Popeta**	**2.96**	**170**	*eP*	**Pn**	**15 16 52.1**	**-4.2**
MT01				*eP*	Pb	15 16 57.0	-5.9
MT01				*eS*	**Sb**	**15 17 36.1**	**-2.6**
MT01				IAML		15 17 45.0	
comp=Z,559nm,0.8s							
RTCV	**Cerro Valdivia**	**2.97**	**109**	*eP*	**Pb**	**15 17 00.0**	**-3.1**
RTCV				*eS*	**Sb**	**15 17 38.1**	**-0.8**
ASAL	**Salagasta**	**3.04**	**124**	*eP*	**Pb**	**15 17 01.7**	**-2.7**
ASAL				*eS*	**Sb**	**15 17 41.6**	**+0.4**
ARCO	**CERRO ARCO**	**3.12**	**128**	*eP*	**Pb**	**15 17 03.5**	**-2.2**
ARCO				*eS*	**Sb**	**15 17 42.1**	**-1.3**
ARCO				*eS*	Sn	15 17 47.6	+13
ARCO				IAML		15 17 52.6	
comp=Z,619nm,0.9s							
BO04	**La Punta**	**3.22**	**161**	*eP*	**Pn**	**15 17 01.2**	**+1.4**
BO04				*eS*	**Sn**	**15 17 38.6**	**+1.2**
BO04				IAML		15 17 52.9	
comp=E,1μm,0.8s							
LMEL	**Las Melosas**	**3.22**	**155**	*eP*	**Pn**	**15 17 01.7**	**+1.7**
LMEL				*eS*	**Sn**	**15 17 39.5**	**+2.0**
LMEL				IAML		15 17 51.7	
comp=E,807nm,0.3s							
AAGR	**Agrelo**	**3.34**	**131**	*eP*	**Pb**	**15 17 06.0**	**-3.4**
AAGR				*eS*	**Sb**	**15 17 47.6**	**-2.0**
BO01	**Tunca**	**3.50**	**170**	*eP*	**Pn**	**15 17 05.0**	**+1.3**
BO01	**Tunca**	**3.50**	**170**	Pn	**Pn**	**15 17 04.3**	**+0.6**
BO01	**Tunca**	**3.50**	**170**	*eP*	**Pn**	**15 17 05.0**	**+1.3**
BO01				*eS*	**Sb**	**15 17 52.1**	**-2.2**
BO01				*eS*	Sn	15 17 53.4	+9.0
BO01				IAML		15 18 01.4	
comp=Z,215nm,0.9s							
GO03	**Copiap**	**3.61**	**23**	*eP*	**Pn**	**15 17 05.4**	**0.0**
GO03				IAML		15 18 05.3	
comp=E,482nm,0.6s							
GO03	**Copiap**	**3.61**	**23**	Pn	**Pn**	**15 17 05.2**	**-0.1**
GO03	**Copiap**	**3.61**	**23**	*eP*	**Pn**	**15 17 06.0**	**+0.7**
GO03				*eP*	Pb	15 17 06.0	-8.1
GO03				*eS*	**Sn**	**15 17 48.6**	**+1.4**
GO03				*eS*	**Sb**	**15 17 54.1**	**-3.5**
AVFE	**Valle Fertil**	**3.78**	**87**	*eP*	**Pn**	**15 17 10.0**	**+2.4**
AVFE				*eS*	**Sb**	**15 18 01.0**	**-1.4**
AVFE				IAML		15 18 06.0	
comp=Z,379nm,0.4s							
BO02	**Sierra Bellavi**	**3.95**	**167**		**Pn**	**15 17 11.1**	**+1.2**
BO02	**Sierra Bellavi**	**3.95**	**167**	*eP*	**Pn**	**15 17 11.4**	**+1.5**
BO02				*eS*	**Sb**	**15 18 02.1**	**-5.0**
BO02				IAML		15 18 11.2	
comp=Z,463nm,1.1s							
GO05	**Hualá**	**4.06**	**181**	Pn	**Pn**	**15 17 11.0**	**-0.5**
GO05	**Hualá**	**4.06**	**181**	*eP*	**Pn**	**15 17 11.2**	**-0.2**
GO05				*eS*	**Sb**	**15 18 11.6**	**+1.2**
ACHE	**Chepes**	**4.45**	**94**	*eP*	**Pn**	**15 17 18.8**	**+2.0**
ACHE				*eS*	**Sb**	**15 18 15.8**	**-5.8**
AC02	**Maricunga**	**4.73**	**31**		**Pn**	**15 17 21.4**	**+0.3**
AC02	**Maricunga**	**4.73**	**31**	*eP*	**Pn**	**15 17 22.0**	**+1.0**
AC02				IAML		15 18 41.0	
comp=Z,178nm,0.6s							
RFA	**San Rafael**	**4.76**	**144**	*eP*	**Pn**	**15 17 23.6**	**+2.5**
H03N1	**Juan Fernandez**	**6.49**	**246**	Pn	**Pn**	**15 17 46.0**	**+1.4**
baz=116,slow=18,SNR=62							
H03N1				T	T	15 24 37.2	
baz=74,slow=72,SNR=2129							
H03N3	**Juan Fernandez**	**6.51**	**245**	Pn	**Pn**	**15 17 45.9**	**+1.1**
baz=116,slow=18,SNR=31							
H03N3				T	T	15 24 30.6	
baz=74,slow=72,SNR=2612							
H03N2	**Juan Fernandez**	**6.51**	**246**	Pn	**Pn**	**15 17 46.1**	**+1.3**
baz=116,slow=18,SNR=28							
H03N2				T	T	15 24 36.7	
baz=74,slow=72,SNR=2033							
H03S3	**Juan Fernandez**	**6.64**	**242**	Pn	**Pn**	**15 17 46.6**	**0.0**
H03S3				T	T	15 24 59.5	
baz=53							
H03S1	**Juan Fernandez**	**6.64**	**242**	Pn	**Pn**	**15 17 46.3**	**-0.3**
H03S1				T	T	15 25 02.9	
baz=53							
H03S2	**Juan Fernandez**	**6.66**	**242**	Pn	**Pn**	**15 17 46.5**	**-0.3**
SNR=5.4							
H03S2				T	T	15 25 01.8	
baz=53							
AHML	**Horco Molle**	**7.04**	**56**	*eP*	**Pn**	**15 17 54.1**	**+1.7**
PB10	**IPOC Station P**	**7.48**	**9**	Pn	**Pn**	**15 17 57.3**	**-1.1**
LC01	**Cunco**	**7.94**	**180**	Pn	**Pn**	**15 18 03.8**	**-1.0**
PB15	**IPOC Station P**	**7.98**	**16**	Pn	**Pn**	**15 18 05.0**	**-0.4**
PB06	**IPOC Station P**	**8.44**	**14**	Pn	**Pn**	**15 18 10.2**	**-1.6**
LVC	**Limon Verde**	**8.70**	**18**	Pn	**Pn**	**15 18 12.7**	**-2.7**
comp=Z,0.3nm,0.3s,baz=307,slow=3.1,SNR=1.5							
LVC				Sn	**Sn**	**15 20 00.2**	**+7.3**
comp=Z,0.3nm,0.3s,baz=187,slow=20,SNR=1.3							
LVC				LR	LR	15 21 47.4	
comp=Z,135nm,19.7s,baz=201,slow=39							
PB07	**IPOC Station P**	**9.34**	**11**	Pn	**Pn**	**15 18 22.3**	**-1.8**
PB09	**IPOC Station P**	**9.40**	**15**	Pn	**Pn**	**15 18 23.7**	**-1.2**
PLCA	**Paso Flores**	**9.83**	**174**	Pn	**Pn**	**15 18 31.6**	**+0.9**
comp=Z,0.1nm,0.3s,baz=174,slow=6.8,SNR=2.0							
PLCA				LR	LR	15 22 24.9	
comp=Z,119nm,20.6s,baz=345,slow=38							
PLCA	**Paso Flores**	**9.83**	**174**	Pn	**Pn**	**15 18 31.0**	**+0.3**
PB01	**IPOC Station P**	**10.08**	**13**	Pn	**Pn**	**15 18 32.8**	**-1.3**
TA01	**Diego Aracena**	**10.44**	**9**	Pn	**Pn**	**15 18 38.5**	**-0.4**
CPUP	**Villa Florida**	**13.54**	**74**	Pn	**Pn**	**15 19 23.3**	**+1.9**
comp=Z,0.1nm,0.3s,baz=330,slow=17,SNR=1.1							
CPUP	**Villa Florida**	**13.54**	**74**	Pn	**Pn**	**15 19 19.9**	**-1.5**
LPAZ	**La Paz**	**14.97**	**14**	Pn	**Pn**	**15 19 42.3**	**+0.8**
comp=Z,0.1nm,0.3s,baz=182,slow=7.4,SNR=5.8							
LPAZ	**La Paz**	**14.97**	**14**		**Pn**	**15 19 42.8**	**+1.3**
SIV	**San Ignacio**	**17.84**	**36**	P	**Pn**	**15 20 17.2**	**-0.2**
comp=Z,0.1nm,0.3s,baz=194,slow=16,SNR=2.5							
USHA	**Ushuaia**	**24.01**	**175**	LR	LR	15 31 27.5	
comp=Z,91nm,18.3s,baz=42,slow=38							
MDP	**Montagnes des**	**40.26**	**30**	LR	LR	15 42 34.5	
comp=Z,74nm,19.4s,baz=332,slow=39							
SNAA	**Sanae**	**54.36**	**159**	P	**P**	**15 25 35.5**	**+0.4**
SNAA				IAmb	IAmb	15 25 44.2	
comp=Z,3.3nm,1.0s							
QSPA	**South Pole Qui**	**59.29**	**180**	P	**P**	**15 26 11.2**	**+1.0**
QSPA				IAmb	IAmb	15 26 12.4	
comp=Z,2.2nm,0.8s							
PDAR	**Pinedale Array**	**81.12**	**333**	P	**P**	**15 28 23.6**	**-0.5**
comp=Z,0.1nm,0.4s,baz=86,slow=5.0,SNR=2.3							
NVAR	**Mina Array Bea**	**81.48**	**325**	P	**P**	**15 28 26.9**	**+0.8**
comp=Z,0.2nm,0.5s,baz=130,slow=6.5,SNR=2.3							
TORD	**Torodi Ar. Bea**	**83.01**	**70**	P	**P**	**15 28 33.8**	**-0.5**
comp=Z,0.6nm,0.7s,baz=265,slow=5.1,SNR=3.7							
ASAR	**Alice Springs**	**120.36**	**207**	PKP	**PKPdf**	**15 34 59.5**	**-1.0**
comp=Z,0.1nm,0.5s,baz=137,slow=1.4,SNR=1.1							
WRA	**Warramunga Arr**	**123.50**	**210**	PKP	**PKPdf**	**15 35 06.1**	**-0.5**
comp=Z,0.3nm,0.4s,baz=164,slow=1.8,SNR=8.6							
H11S2	**WAKE ISLAND Hyl**	**25.93**	**271**	T	T	17 53 57.0	
baz=116,slow=75,SNR=29							
H11S1	**WAKE ISLAND Hyl**	**25.94**	**271**	T	T	17 53 57.6	
baz=116,slow=75,SNR=42							
H11S3	**WAKE ISLAND Hyl**	**25.95**	**271**	T	T	17 53 58.2	
baz=116,slow=75,SNR=29							
H11N3	**WAKE ISLAND Hyl**	**26.27**	**273**	T	T	17 54 29.0	
baz=117,slow=74							
H11N1	**WAKE ISLAND Hyl**	**26.28**	**273**	T	T	17 54 20.5	
baz=117							
H11N2	**WAKE ISLAND Hyl**	**26.28**	**273**	T	T	17 54 20.8	
baz=117,slow=74							
BVAR	**Borovoye Array**	**144.88**	**40**	PKP	**PKPdf**	**15 35 45.3**	**+0.1**
comp=Z,0.4nm,0.4s,baz=223,slow=46,SNR=2.8							
ZALV	**Zalesovo Beam**	**151.52**	**29**	PKPbc	**PKiKP**	**15 36 02.5**	**-0.1**
comp=Z,1.6nm,0.9s,baz=284,slow=5.8,SNR=6.0							
PZH	**PanZhiHua**	**172.84**	**127**	PKP	**PKPdf**	**15 36 16.8**	**-1.5**

*IDC **04** 15:33:14.1±5.2,18°.21S×178°.20W,h548km±27km,mb3.2/3,*
mb1 3.5/4,mb1mx3.0/27,mbtmp4.0/4,Error ellipse:
s-maj=155.3km s-min=27.4km az=142.0
*NEIC **04** 15:33:16.3±0.7,18°.2S±0°.2×178°.5W±0°.2,h551km±13km,*
mb4.0/13,Error ellipse: s-maj=33.6km s-min=31.1km
az=84.0
ISC 04 15:33:16.1±1.3,18°.0S±0°.2×178°.4W±0°.2,h579km,n20,
σ1§13/22,mb4.0/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.39**	**274**	P	**P**	**15 34 33.7**	**-2.3**
1.2nm,0.3s,baz=160,slow=0.6,SNR=7.5							
MSVF	**Nonsavu**	**3.39**	**274**	P	**P**	**15 34 33.5**	**-2.5**
URZ	**Urewera**	**20.58**	**190**	P	**P**	**15 37 15.0**	**-0.8**
KHZ	**Kahutara**	**25.30**	**194**	P	**P**	**15 37 57.0**	**-0.7**
LTZ	**Lake Taylor**	**25.96**	**196**	P	**P**	**15 38 02.5**	**-1.2**
FOZ	**Fox Glacier**	**27.35**	**199**	P	**P**	**15 38 15.7**	**0.0**
WKZ	**Wanaka**	**28.76**	**199**	P	**P**	**15 38 27.6**	**-0.5**
MLZ	**Mavora Lakes**	**29.53**	**199**	P	**P**	**15 38 35.6**	**+0.9**
CTAO	**Charters Tower**	**33.44**	**261**	P	**P**	**15 39 09.2**	**+0.8**
WR0	**Warramunga Arr**	**44.44**	**260**	P	**P**	**15 40 37.2**	**+0.4**
WR0				IAmb	IAmb	15 41 05.3	
comp=Z,8.6nm,1.4s							
WB0	**Warramunga Arr**	**44.59**	**260**	P	**P**	**15 40 38.5**	**+0.4**
WB0				IAmb	IAmb	15 40 57.5	
comp=Z,9.9nm,1.5s							
WB2	**Warramunga Arr**	**44.62**	**260**	P	**P**	**15 40 38.4**	**+0.2**
WB2				IAmb	IAmb	15 40 52.7	
comp=Z,7.4nm,1.4s							
WRAB	**Tennant Creek**	**44.62**	**260**	P	**P**	**15 40 38.4**	**+0.2**
WRAB				IAmb	IAmb	15 40 43.8	
comp=Z,5.5nm,1.2s							
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**15 40 38.4**	**+0.1**
comp=Z,0.8nm,0.5s,baz=95,slow=8.0

ECSD IAmb_Lg 16 06 16.3
comp=Z,108nm,0.8s
ECSD EROS Data Cent 2.99 41 P Pn 16 05 22.9 +2.8
baz=224,SNR=81
ECSD S **Sb 16 06 01.8 -0.7**
baz=224
R32A Long Quarter, 3.12 171 Pn 16 05 22.3 +0.5
KSU1 Kansas State U 3.17 138 Pn **Pn 16 05 24.9 +2.3**
KSU1 IAmb_Lg 16 06 20.7
comp=Z,107nm,0.9s
KSU1 Kansas State U 3.17 138 P **Pn 16 05 24.6 +2.0**
baz=318
KSU1 S **Sn 16 06 04.0 +3.5**
baz=318
KSCO Kaye Shedlock' 3.55 227 Pn **Pn 16 05 27.8 -0.2**
KSCO Kaye Shedlock' 3.55 227 P **Pn 16 05 27.8 -0.2**
baz=43,SNR=7.1
KAN12 Harper NE Stat 4.33 166 Pn 16 05 40.1 +1.6
KAN12 IAmb_Lg 16 06 59.0
comp=Z,117nm,0.8s
RSSD Black Hills 4.35 309 Pn **Pn 16 05 40.2 +1.3**
RSSD IAmb_Lg 16 06 57.6
comp=Z,120nm,0.8s
RSSD Black Hills 4.35 309 P **Pn 16 05 40.1 +1.1**
baz=127
RSSD Sb **Sb 16 06 44.4 +2.6**
baz=127
KAN16 Harper SW Stat 4.38 167 Pn 16 05 40.8 +1.5
KAN16 IAmb_Lg 16 07 04.0
comp=Z,95nm,0.8s
KAN08 Anthony NE Sta 4.40 166 Pn 16 05 41.0 +1.5
KAN08 IAmb_Lg 16 07 02.6
comp=Z,112nm,0.9s
KAN06 Argonia West S 4.40 165 Pn 16 05 41.0 +1.5
KAN06 IAmb_Lg 16 07 00.4
comp=Z,85nm,0.7s
KAN10 Anthony SW Sta 4.48 167 Pn 16 05 41.8 +1.3
KAN10 IAmb_Lg 16 06 59.0
comp=Z,71nm,0.7s
KAN01 Argonia South 4.51 164 Pn 16 05 42.4 +1.4
KAN05 Bluff City Nor 4.53 165 Pn 16 05 42.7 +1.4
KAN05 IAmb_Lg 16 06 58.3
comp=Z,107nm,0.9s
SCIA State Center 4.58 83 Pn 16 05 45.1 +3.1
SCIA IAmb_Lg 16 07 12.7
comp=Z,78nm,0.7s
SCIA State Center 4.58 83 P **Pn 16 05 44.9 +2.9**
baz=267
SCIA Sb **Sg 16 06 56.8 -3.0**
baz=267
KAN17 Caldwell West 4.62 164 Pn 16 05 43.8 +1.4
N38A Joes South For 4.65 97 Pn 16 05 45.7 +2.8
N38A IAmb_Lg 16 07 11.5
comp=Z,88nm,0.8s
KAN14 Manchester OK 4.66 167 Pn 16 05 44.3 +1.2
KAN14 IAmb_Lg 16 07 10.7
comp=Z,90nm,1.0s
KAN13 South Haven SW 4.71 162 Pn 16 05 45.0 +1.2
KAN13 IAmb_Lg 16 07 04.2
comp=Z,84nm,0.7s
OK032 Salt Plains WL 4.77 169 Pn 16 05 46.0 +1.4
P38A Dawn 4.79 111 Pn **Pn 16 05 47.1 +2.3**
OK035 E0210 Rd and N 4.81 174 Pn 16 05 46.0 +0.8
F33A 5 Mile Ranch, 4.86 26 Pn **Pn 16 05 46.3 +0.6**
F33A IAmb_Lg 16 07 10.1
comp=Z,65nm,0.8s
K38A Parkersburg 5.00 75 Pn 16 05 50.1 +2.4
K38A IAmb_Lg 16 07 16.9
comp=Z,98nm,0.8s
I37A Lemond, Waseca 5.03 58 Pn **Pn 16 05 49.9 +1.9**
N23A Red Feather La 5.04 265 Pn **Pn 16 05 47.3 -1.3**
N23A Red Feather La 5.04 265 P **Pn 16 05 47.2 -1.3**
baz=81,SNR=15
N23A Sb **Sb 16 07 02.8 +1.1**
baz=81
T35A Sooner Cattle 5.07 154 Pn 16 05 49.4 +0.7
ISCO Idaho Springs 5.08 252 Pn **Pn 16 05 47.7 -1.5**
ISCO IAmb_Lg 16 07 15.0
comp=Z,76nm,0.8s
ISCO Idaho Springs 5.08 252 P **Pn 16 05 48.4 -0.8**
baz=68,SNR=20
ISCO Sb **Sb 16 07 03.3 +0.2**
baz=68
U32A Winter Ranch, 5.12 177 Pn **Pn 16 05 50.2 +0.7**
Q24A Divide 5.13 242 Pn 16 05 48.2 -1.6
Q24A IAmb_Lg 16 07 15.1
comp=Z,100nm,0.8s
Q24A Divide 5.13 242 P **Pn 16 05 48.8 -1.1**
baz=58,SNR=17
Q24A Sb **Sb 16 07 05.5 +0.9**
baz=58
E28A Huff 5.16 349 Pn 16 05 51.2 +1.2
E28A IAmb_Lg 16 07 20.5
comp=Z,87nm,0.8s
K22A Casper 5.49 284 IAmb_Lg 16 07 29.3
comp=Z,82nm,0.8s
K22A Casper 5.49 284 Sb **Sb 16 07 16.8 +2.3**
baz=100
OK034 N. Norfolk Rd. 5.85 159 Pn **Pn 16 05 59.6 +0.2**
D32A Dogwood Acres, 5.87 16 IAmb_Lg 16 07 51.9
comp=Z,62nm,0.9s
OK031 S. Brethren Rd 5.87 160 Pn 16 05 60.0 +0.2
P40A Paris 5.88 107 Pn 16 06 02.3 +2.5
P40A IAmb_Lg 16 07 45.0
comp=Z,63nm,0.8s
T25A Trinidad 5.88 224 Pn **Pn 16 05 58.6 -1.4**
T25A Trinidad 5.88 224 P **Pn 16 05 59.4 -0.6**
baz=40
OK030 Cody Creek RV 5.91 160 Pn 16 06 00.8 +0.5
RWWY Rawlins 5.92 274 Pn 16 05 59.2 -1.4
RWWY IAmb_Lg 16 07 53.6
comp=Z,54nm,0.8s
S39A Bolivar 5.99 128 Pn 16 06 03.6 +2.3
SPMN Marine on St. 6.03 50 IAmb_Lg 16 07 49.5
comp=Z,68nm,0.9s
SPMN Marine on St. 6.03 50 P **Pn 16 06 05.4 +3.6**
baz=235
F36A Milaca 6.05 42 Pn 16 06 04.5 +2.4
SDCO Great Sand Dun 6.07 234 Pn 16 06 02.0 -0.7
SDCO IAmb_Lg 16 07 40.8
comp=Z,51nm,1.1s
SDCO Great Sand Dun 6.07 234 P **Pn 16 06 01.7 -1.1**
baz=49
L40A Anamosa 6.08 82 Pn 16 06 04.0 +1.5
L40A IAmb_Lg 16 08 04.9
comp=Z,54nm,0.8s
OK025 Westminster Rd 6.12 165 Pn 16 06 03.0 -0.1
TUL1 Leonard 6.23 153 Pn 16 06 05.2 +0.6
TUL1 Leonard 6.23 153 P **Pn 16 06 05.5 +0.9**
baz=334,SNR=5.4
TUL1 S **Sn 16 07 13.7 -2.2**
baz=334
SMCO Snowmass 6.29 251 Pn 16 06 03.4 -2.5
R40A Maddies Statio 6.30 118 Pn **Pn 16 06 07.8 +2.2**
MDND Maddock 6.34 358 IAmb_Lg 16 08 02.7
comp=Z,62nm,0.8s
U38A Gravette 6.35 141 Pn 16 06 07.9 +1.6
N41A Harden Midland 6.44 94 Pn 16 06 09.2 +1.7
HHAR Hobbs 6.69 139 Pn 16 06 12.9 +1.9
WMOK Wichita Mounta 6.77 176 Pn **Pn 16 06 11.5 -0.6**
WMOK Wichita Mounta 6.77 176 P **Pn 16 06 11.9 -0.2**
baz=356,SNR=15
I40A Norwalk 6.84 67 Pn 16 06 14.3 +1.4
AMTX Amarillo 6.87 196 Pn **Pn 16 06 13.3 -0.1**
AMTX Amarillo 6.87 196 P **Pn 16 06 12.9 -0.6**
baz=14
JFWS Jewell Farm 6.88 75 Pn **Pn 16 06 14.2 +0.7**
JFWS IAmb_Lg 16 08 22.6
comp=Z,43nm,0.7s
JFWS Jewell Farm 6.88 75 P **Pn 16 06 15.3 +1.8**
baz=261
O20A White River Ci 6.91 262 Pn **Pn 16 06 13.1 -1.0**
S22A 4UR Ranch, Cre 6.91 240 Pn **Pn 16 06 13.0 -1.2**
MGMO Mountain Grove 6.98 126 Pn 16 06 17.1 +2.1
MGMO IAmb_Lg 16 08 18.4
comp=Z,50nm,0.7s
CCM Cathedral Cave 7.11 116 Pn 16 06 18.1 +1.4
CCM IAmb_Lg 16 08 32.2
comp=Z,60nm,0.8s
CCM Cathedral Cave 7.11 116 P **Pn 16 06 18.2 +1.6**
baz=301
CCM S **Sn 16 07 37.5 0.0**
baz=301
LAO LASA Array 7.18 319 Pn **Pn 16 06 17.1 -0.6**
LAO IAmb_Lg 16 08 26.7
comp=Z,46nm,0.9s
U40A Yellville 7.20 134 Pn **Pn 16 06 19.8 +1.9**
U40A IAmb_Lg 16 08 30.1
comp=Z,43nm,0.7s
U40A Yellville 7.20 134 P **Pn 16 06 19.4 +1.5**
baz=317
U40A S **Sn 16 07 39.9 +0.2**
baz=317
AGMN Agassiz Nation 7.22 19 Pn 16 06 18.5 +0.3
AGMN Agassiz Nation 7.22 19 P **Pn 16 06 20.3 +2.2**
baz=202
AGMN S **Sn 16 07 41.5 +1.4**
baz=202
L42A Oliver, Polo 7.23 83 IAmb_Lg 16 08 25.1
comp=Z,42nm,0.8s
SLM Saint Louis 7.53 109 IAmb_Lg 16 08 39.7
comp=Z,51nm,0.7s
E38A The Farm, Brul 7.56 45 Pn **Pn 16 06 25.6 +2.7**
E38A IAmb_Lg 16 08 30.3
comp=Z,54nm,0.9s
X37A Clayton 7.57 154 Pn **Pn 16 06 23.5 +0.4**
G40A Rib Lake 7.63 57 Pn **Pn 16 06 25.6 +1.8**
HDIL Hopedale 7.64 94 Pn 16 06 25.5 +1.6
HDIL Hopedale 7.64 94 P **Pn 16 06 26.0 +2.1**
baz=280
W39A Magazine 7.65 144 Pn **Pn 16 06 25.9 +1.7**
W39A Magazine 7.65 144 P **Pn 16 06 25.7 +1.6**
baz=326,SNR=11
W39A S **Sn 16 07 48.9 -2.0**
baz=326
P43A Skaggs, Pawnee 7.69 101 Pn **Pn 16 06 26.2 +1.6**
FVM French Village 7.70 114 Pn **Pn 16 06 26.2 +1.4**
FVM IAmb_Lg 16 08 45.1
comp=Z,41nm,0.7s
BW06 Boulder Array 7.72 283 Pn 16 06 23.6 -1.6
PD31 Pinedale Array 7.72 283 Pn 16 06 23.6 -1.6
PDAR Pinedale Array 7.72 283 Pn **Pn 16 06 23.6 -1.6**
comp=Z,0.9nm,0.3s,baz=102,slow=15,SNR=15
PDAR Pg **Pb 16 06 48.5 +1.9**
comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=6.2
PDAR Lg Lg 16 08 24.8
comp=Z,2.3nm,0.3s,baz=96,slow=32,SNR=4.5
DGMT Dagmar 7.77 335 Pn **Pn 16 06 26.5 +0.7**
T42A Van Buren 7.79 122 Pn **Pn 16 06 27.6 +1.6**
T42A IAmb_Lg 16 08 45.7
comp=Z,43nm,0.9s
RDMU Red Mountain 7.81 267 Pn **Pn 16 06 25.8 -0.7**
B35A Bob, Littlefor 7.92 28 Pn 16 06 30.1 +2.4
B35A IAmb_Lg 16 08 41.9
comp=Z,42nm,1.0s
FCAR Ozark Folk Cen 7.94 133 Pn 16 06 29.8 +1.8
FCAR IAmb_Lg 16 08 51.6
comp=Z,54nm,0.7s
MSTX Muleshoe 8.01 201 Pn **Pn 16 06 28.4 -0.7**
MSTX IAmb_Lg 16 08 56.2
comp=Z,53nm,1.1s
I42A Draeger Farm, 8.02 69 Pn **Pn 16 06 30.1 +0.9**
RLMT Red Lodge 8.11 300 Pn **Pn 16 06 30.2 -0.4**
K43A Burlington 8.26 78 Pn **Pn 16 06 33.4 +1.1**
MIAR Mount Ida 8.29 145 Pn 16 06 33.4 +0.5
MIAR IAmb_Lg 16 09 04.6
comp=Z,43nm,0.9s
MIAR Mount Ida 8.29 145 P **Pn 16 06 33.8 +0.9**
baz=328,SNR=8.4
Q44A Meyer Farm, Va 8.30 105 Pn **Pn 16 06 34.6 +1.6**
WHAR Wooly Hollow 8.30 136 Pn **Pn 16 06 34.5 +1.4**
Z35A Perchaven, San 8.32 168 Pn **Pn 16 06 33.1 -0.3**
PBMO Poplar Bluff 8.36 121 IAmb_Lg 16 09 14.5
comp=Z,49nm,0.8s
LCAR Lake Charles 8.37 128 Pn 16 06 35.3 +1.3
W41B Gary Mavity, V 8.41 136 Pn **Pn 16 06 35.7 +1.1**
W41B IAmb_Lg 16 09 26.1
comp=Z,38nm,0.8s
W41B Gary Mavity, V 8.41 136 P **Pn 16 06 36.0 +1.5**
baz=320,SNR=6.3
M44A Midewin, Midew 8.47 87 Pn **Pn 16 06 36.8 +1.5**
EYMN Ely 8.51 38 Pn **Pn 16 06 37.3 +1.4**
P18A Preston Nutter 8.53 261 Pn 16 06 35.0 -1.5
ANMO Albuquerque 8.63 223 Pn **Pn 16 06 39.1 +1.4**
comp=Z,0.1nm,0.3s,baz=30,slow=9.8,SNR=4.6
ANMO Pg Pg 16 07 09.2 -8.5
comp=Z,1.0nm,0.3s,baz=42,slow=18,SNR=13
ANMO Lg Lg 16 08 57.7
comp=Z,0.9nm,0.3s,baz=308,slow=11,SNR=6.9
X40A Basin Creek Fa 8.67 142 Pn 16 06 39.8 +1.6
X40A IAmb_Lg 16 09 13.8
comp=Z,41nm,0.8s
X40A Basin Creek Fa 8.67 142 P **Pn 16 06 39.3 +1.1**
baz=325,SNR=5.2
COWI Conover 8.67 55 Pn **Pn 16 06 39.5 +1.3**
MOOW Moose Ponds 8.72 289 Pn **Pn 16 06 39.1 +0.2**
ABTX Abilene, Hawle 8.87 182 Pn **Pn 16 06 40.3 -0.6**
Z38A Mt. Pleasant 8.92 156 IAmb_Lg 16 09 36.8
comp=Z,39nm,0.7s
OLIL Olney 9.03 104 Pn 16 06 44.4 +1.4
ULM Lac du Bonnet 9.07 14 Pn **Pn 16 06 43.8 +0.3**
comp=Z,3.8nm,0.3s,baz=197,slow=11,SNR=17
ULM Sn **Sn 16 08 19.7 -5.8**
comp=Z,1.9nm,0.3s,baz=282,slow=19,SNR=2.4
ULM Lg Lg 16 09 10.0
comp=Z,2.7nm,0.3s,baz=117,slow=18,SNR=4.7
ULM Lac du Bonnet 9.07 14 Pn **Pn 16 06 43.2 -0.3**
WLAR White Oak Lake 9.22 146 IAmb_Lg 16 09 26.3
comp=Z,42nm,0.8s
SFIN Lafayette 9.32 93 Pn **Pn 16 06 48.4 +1.4**
P46A Rosedale 9.41 98 Pn **Pn 16 06 50.5 +2.3**
D41A Chassel 9.50 51 Pn **Pn 16 06 51.8 +2.4**
WHTX Lake Whitney, 9.61 170 Pn **Pn 16 06 50.2 -0.9**
Z41A Richland Creek 9.72 146 IAmb_Lg 16 09 52.1
comp=Z,26nm,0.9s
E43A Lone Tree Farm 10.13 57 Pn **Pn 16 06 59.0 +0.9**
N47A Urbana 10.29 89 Pn **Pn 16 07 01.1 +0.9**
NATX Nacogdoches 10.42 158 Pn **Pn 16 07 02.0 0.0**
P48A Milroy 10.78 96 Pn **Pn 16 07 07.1 +0.1**
P49A Miami Univ. Ec 11.29 95 Pn **Pn 16 07 13.9 0.0**
R49A Shelbyville 11.33 102 Pn **Pn 16 07 15.1 +0.6**
N49A Columbus Grove 11.42 88 Pn **Pn 16 07 16.0 +0.3**
O49A Covington 11.43 92 Pn **Pn 16 07 15.5 -0.3**
E46A Sault Ste Mari 11.86 61 Pn **Pn 16 07 21.3 -0.4**
R50A Paris 11.96 101 Pn **Pn 16 07 23.4 +0.3**
Q51A Peebles 12.45 96 Pn **Pn 16 07 29.5 -0.3**
S51A Beattyville 12.73 103 Pn **Pn 16 07 34.2 +0.5**
Q52A Bidwell 13.27 95 Pn **Pn 16 07 40.9 -0.2**
N53A Lisbon 13.94 87 Pn **Pn 16 07 48.8 -1.4**
KVN Kaiserville 14.55 266 Pn **Pn 16 07 57.0 -1.7**
YKA Yellowknife Ar 22.91 342 P **P 16 09 38.5 +2.2**
comp=Z,0.5nm,0.8s,baz=148,slow=10,SNR=7.4

JMA ***04*** *16:12:14.5±0.1,24°.34N×121°.94E,h15km,M2.3*
TAP ***04*** *16:12:15.1,24°.38N×121°.90E,h17km,ML2.9,B*
ISC 04 16:12:14.4±0.9,24°.36N±0°.02×121°.95E±0°.02,h15km±6km,
n91,σ0.68/143,1C-6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.18**	**299**	⇓*i*P		**Pg**	**16 12 19.0**	**+0.3**
baz=302								
EWUT				S		**Sg**	**16 12 21.6**	**0.0**
baz=302								
EHP	**Heping Village**	**0.19**	**256**	*i* P		**Pg**	**16 12 19.2**	**+0.2**
baz=247								
EHP				S		**Sb**	**16 12 22.9**	**-0.3**
baz=247								
ENA	**Nanau**	**0.20**	**290**	⇓*i*P		**Pg**	**16 12 19.3**	**+0.2**
baz=290								
ENA				*i* S		**Sg**	**16 12 22.2**	**0.0**
baz=290								
NDS	**Dongshan**	**0.34**	**323**	P		**Pg**	**16 12 22.0**	**+0.4**
baz=326								
NDS				S		**Sg**	**16 12 26.3**	**-0.1**
baz=326								
ETL	**Fush Village**	**0.36**	**236**	P		**Pg**	**16 12 22.0**	**+0.2**
baz=232								
ETL				S		**Sb**	**16 12 27.5**	**-0.4**
baz=232								
NACB	**Ninganchiao**	**0.37**	**240**	⇑*i*P		**Pg**	**16 12 22.0**	**0.0**
baz=237								
NACB				S		**Sb**	**16 12 27.5**	**-0.8**
baz=237								
TWD	**Chiawan**	**0.42**	**229**	*e*P		**Pg**	**16 12 23.1**	**+0.2**
baz=228								
TWD				*e*S		**Sb**	**16 12 29.1**	**-0.7**
baz=228								
TWE	**Neicheng**	**0.44**	**325**	*e*P		**Pg**	**16 12 23.5**	**+0.2**
baz=329								
TWE				*e*S		**Sg**	**16 12 29.1**	**-0.2**
baz=329								
ILA	**Ilan**	**0.44**	**336**	P		**Pb**	**16 12 23.9**	**-0.1**
baz=340								
ILA				*e*S		**Sg**	**16 12 29.9**	**+0.5**
baz=340								
ENTT	**Nioudou**	**0.45**	**309**	⇓*i*P		**Pb**	**16 12 23.8**	**-0.2**
baz=312								
ENTT				*i* S		**Sg**	**16 12 29.2**	**-0.3**
baz=312								
ETLH	**Xiulin Townshi**	**0.45**	**250**	P		**Pg**	**16 12 23.5**	**0.0**
baz=256								
ETLH				S		**Sg**	**16 12 29.8**	**+0.2**
baz=256								
NDT	**Datong Townshi**	**0.46**	**302**	⇓*i*P		**Pb**	**16 12 24.3**	**-0.1**
baz=304								
NDT				S		**Sg**	**16 12 30.2**	**+0.2**
baz=304								
EGS		**0.48**	**358**	*e*P		**Pg**	**16 12 24.6**	**+0.5**
baz=3.0								
HWA	**Hwalien**	**0.49**	**219**	*e*P		**Pb**	**16 12 25.8**	**+1.0**
baz=221								
NTC	**Toucheng**	**0.51**	**348**	*e*P		**Pg**	**16 12 24.9**	**+0.4**
baz=350								
NTC				*e*S		**Sg**	**16 12 31.9**	**+0.7**
baz=350								
NNSB	**Datong**	**0.52**	**278**	⇓*i*P		**Pb**	**16 12 25.1**	**-0.3**
baz=285								
NNSB				S		**Sg**	**16 12 31.0**	**-0.8**
baz=285								
NNS	**Nan Shan**	**0.53**	**279**	⇓*i*P		**Pb**	**16 12 25.2**	**-0.3**
baz=286								
NNS				*e*S		**Sg**	**16 12 31.9**	**-0.1**
baz=286								
NWLT	**Wulai**	**0.58**	**316**	*e*P		**Pb**	**16 12 26.3**	**0.0**
baz=314								
NWLT				S		**Sg**	**16 12 33.2**	**-0.5**
baz=314								
YHNB	**Yeheng**	**0.60**	**301**	P		**Pb**	**16 12 26.8**	**0.0**
baz=307								
YHNB				S		**Sg**	**16 12 33.9**	**-0.5**
baz=307								
TIPB	**Shuangxi**	**0.62**	**350**	P		**Pg**	**16 12 27.0**	**+0.3**
baz=352								
TIPB				*e*S		**Sg**	**16 12 34.6**	**-0.3**
baz=352								
NSK	**Sanguang**	**0.62**	**301**	P		**Pb**	**16 12 27.1**	**+0.1**
baz=302								
NSK				S		**Sg**	**16 12 34.5**	**-0.5**
baz=302								
TWB1	**Santiao Chiao**	**0.65**	**3**	*e*P		**Pg**	**16 12 27.3**	**+0.1**
baz=357								
TWB1				*e*S		**Sg**	**16 12 35.6**	**-0.1**
baz=357								
FUSS	**Fushou**	**0.65**	**260**	*e*P		**Pb**	**16 12 27.6**	**-0.1**
baz=267								
FUSS				*e*S		**Sg**	**16 12 35.8**	**-0.2**
baz=267								
WHF	**Hehuan Shan**	**0.66**	**251**	P		**Pg**	**16 12 27.5**	**0.0**
baz=259								
WHF				*e*S		**Sg**	**16 12 36.1**	**-0.1**
baz=259								
TWA	**Mucha**	**0.70**	**332**	*e*P		**Pb**	**16 12 28.7**	**+0.3**
baz=324								
TWA				*e*S		**Sg**	**16 12 37.1**	**-0.3**
baz=324								
TWT	**Tachien**	**0.71**	**262**	*e*P		**Pb**	**16 12 29.2**	**+0.6**
baz=262								
TWT				*e*S		**Sb**	**16 12 38.7**	**+0.4**
baz=262								
NHDH	**Xindian Distri**	**0.71**	**328**	*e*P		**Pb**	**16 12 29.4**	**+0.8**
baz=321								
NHDH				*e*S		**Sg**	**16 12 37.6**	**-0.2**
baz=321								
ESL	**Shilin**	**0.72**	**221**	*e*P		**Pg**	**16 12 28.4**	**0.0**
baz=223								
ESL				*e*S		**Sb**	**16 12 39.0**	**+0.8**
baz=223								
NWF	**Wu-fen Shan**	**0.72**	**348**	P		**Pb**	**16 12 29.2**	**+0.4**
baz=342								
NWF				*e*S		**Sg**	**16 12 38.4**	**+0.2**
baz=342								
TDCB	**Techi**	**0.73**	**262**	*e*P		**Pb**	**16 12 29.0**	**+0.1**
baz=262								
TDCB				*e*S		**Sb**	**16 12 38.2**	**-0.5**
baz=262								
CHGB	**Renai**	**0.77**	**247**	*e*P		**Pb**	**16 12 29.5**	**-0.1**
baz=255								
CHGB				*e*S		**Sb**	**16 12 39.7**	**-0.2**
baz=255								
TAP	**Taipei**	**0.79**	**330**	*e*P		**Pg**	**16 12 30.4**	**+0.6**
baz=324								
TAP				*e*S		**Sg**	**16 12 40.2**	**0.0**
baz=324								
OWD	**Renai**	**0.81**	**240**	*e*P		**Pb**	**16 12 30.5**	**+0.2**
baz=240								
OWD				*e*S		**Sb**	**16 12 41.6**	**+0.5**
baz=240								
EGFH	**Guangfu**	**0.83**	**215**	*e*P		**Pn**	**16 12 32.0**	**+0.3**
baz=228								
EGFH				*e*S		**Sn**	**16 12 43.9**	**+0.2**
baz=228								
YM01	**YM01**	**0.86**	**337**	*e*P		**Pn**	**16 12 32.1**	**+0.1**
baz=331								
YM01				*e*S		**Sb**	**16 12 41.9**	**-0.4**
baz=331								
TWS1	**Kuangyinshan**	**0.88**	**327**	*e*P		**Pn**	**16 12 32.7**	**+0.4**
baz=329								
TWS1				*e*S		**Sn**	**16 12 44.1**	**-0.8**
baz=329								
LIOB	**Emei**	**0.90**	**289**	P		**Pn**	**16 12 32.7**	**+0.2**
baz=291								
LIOB				*e*S		**Sn**	**16 12 44.5**	**-0.7**
baz=291								
NSTT	**Nanjuang**	**0.90**	**288**	P		**Pn**	**16 12 32.8**	**+0.2**
baz=281								
NSTT				*e*S		**Sg**	**16 12 43.8**	**-0.1**
baz=281								
ANP	**Anpu**	**0.91**	**335**	*e*P		**Pn**	**16 12 32.8**	**0.0**
baz=336								
JYNG	**Yonaguni jima**	**0.92**	**84**	P		**Pb**	**16 12 31.9**	**-0.1**
JYNG				S		**Sb**	**16 12 43.9**	**-0.1**
WHP	**Taichung City**	**0.92**	**265**	P		**Pn**	**16 12 32.8**	**-0.1**
baz=273								
WHP				*e*S		**Sn**	**16 12 45.0**	**-0.8**
baz=273								
NCUH	**Zhongli**	**0.92**	**311**	*e*P		**Pn**	**16 12 34.0**	**+1.1**
baz=312								
NTST	**Danshui**	**0.92**	**331**	*e*P		**Pn**	**16 12 33.3**	**+0.5**
baz=332								
NTST				*e*S		**Sn**	**16 12 46.3**	**+0.5**
baz=332								
VWDT	**VWDT**	**0.95**	**231**	P		**Pn**	**16 12 33.5**	**+0.2**
baz=237								
VWDT				*e*S		**Sn**	**16 12 46.5**	**0.0**
baz=237								
TWY	**Chenhua**	**0.97**	**341**	P		**Pn**	**16 12 34.0**	**+0.6**
baz=342								
TWY				*e*S		**Sb**	**16 12 45.8**	**+0.3**
baz=342								
YOJ	**Yonaguni jima**	**0.98**	**84**	*e*S		**Sb**	**16 12 46.3**	**+0.6**
YOJ	**Yonaguni jima**	**0.98**	**84**	P		**Pb**	**16 12 33.0**	**0.0**
baz=73								
YOJ				*e*S		**Sb**	**16 12 46.4**	**+0.6**
baz=73								
HGSD	**Ruisui**	**0.99**	**209**	*e*P		**Pn**	**16 12 34.1**	**+0.3**
baz=208								
WCS	**Beigang Elemen**	**0.99**	**253**	P		**Pn**	**16 12 34.0**	**+0.2**
baz=259								
WCS				*e*S		**Sn**	**16 12 47.1**	**-0.5**
baz=259								
EHY	**Hungye**	**1.02**	**214**	*e*P		**Pb**	**16 12 33.6**	**-0.3**
baz=213								
SMLT	**Sun Moon Lake**	**1.07**	**244**	*e*P		**Pg**	**16 12 35.6**	**+0.5**
baz=232								
NMLH	**Miaoli**	**1.07**	**280**	*e*P		**Pg**	**16 12 36.8**	**+1.8**
baz=280								
SSLB	**Suanglung**	**1.07**	**238**	*e*P		**Pg**	**16 12 35.1**	**0.0**
baz=239								
SSLB				*e*S		**Sn**	**16 12 49.6**	**+0.1**
baz=239								
TWQ1	**Liyutan**	**1.07**	**270**	*e*P		**Pg**	**16 12 37.4**	**+2.2**
baz=272								
TWQ1				*e*S		**Sn**	**16 12 50.5**	**+1.0**
baz=272								
NSY	**Sanyi**	**1.08**	**273**	*e*P		**Pg**	**16 12 36.5**	**+1.2**
baz=282								

TYC	**Yuchr**	**1.09 246**	*eP*	**Pg**	**16 12 35.7**	**+0.1**
	baz=253					
TYC			*eS*	**Sg**	**16 12 49.3**	**-0.6**
	baz=253					
YULB	**Yu-li**	**1.13 212**	*eP*	**Pb**	**16 12 35.2**	**-0.5**
	baz=211					
EYUL	**Yuli**	**1.16 210**	*eP*	**Pb**	**16 12 36.5**	**+0.3**
	baz=225					
WDJ	**Dajia District**	**1.19 270**	*eP*	**Pg**	**16 12 39.3**	**+1.9**
	baz=278					
WJS	**Zhushan**	**1.23 245**	*eP*	**Pg**	**16 12 39.2**	**+0.9**
	baz=236					
WNT	**Mingjian**	**1.25 248**	*eP*	**Pg**	**16 12 40.7**	**+2.2**
	baz=239					
FULB	**Fuli**	**1.30 207**	P	**Pg**	**16 12 40.1**	**+0.6**
	baz=223					
ALS	**Alishan**	**1.34 231**	*eP*	**Pg**	**16 12 40.5**	**+0.1**
	baz=232					
ALS			*eS*	**Sg**	**16 12 60.0**	**+2.1**
	baz=232					
CHN5	**Tsauling**	**1.39 237**	*eP*	**Pg**	**16 12 41.2**	**0.0**
	baz=240					
CHN5			*eS*	**Sg**	**16 13 00.1**	**+0.8**
	baz=240					
ELDTW	**Lidau**	**1.44 216**	*eP*	**Pn**	**16 12 40.5**	**+0.3**
	baz=203					
WDLH	**Douliu**	**1.45 243**	*eP*	**Pg**	**16 12 42.1**	**-0.2**
	baz=244					
EDH	**Donghe**	**1.50 203**	*eP*	**Pb**	**16 12 41.7**	**-0.2**
	baz=190					
WRL	**Guolierlin Hig**	**1.50 253**	*eP*	**Pg**	**16 12 43.6**	**+0.3**
	baz=266					
STYH	**Taoyuan**	**1.60 222**	*eP*	**Pb**	**16 12 43.6**	**0.0**
	baz=223					
TPUB	**Ta-pu**	**1.60 229**	*eP*	**Pg**	**16 12 44.6**	**-0.7**
	baz=230					
IRIF	**Iriomote-Funau**	**1.63 90**	P	**Pn**	**16 12 42.4**	**-0.1**
IRIF			*eS*	**Sn**	**16 13 02.7**	**-0.5**
LONT	**Longtian**	**1.63 208**	*eP*	**Pn**	**16 12 42.7**	**+0.1**
	baz=208					
WTP	**Ta-pu**	**1.65 228**	*eP*	**Pg**	**16 12 45.4**	**-0.7**
	baz=230					
WTP			*eS*	**Sg**	**16 13 06.8**	**-0.8**
	baz=230					
TWK	**Hsinying**	**1.72 231**	*eP*	**Pg**	**16 12 46.7**	**-0.8**
	baz=234					
TWK			*eS*	**Sg**	**16 13 10.8**	**+0.8**
	baz=234					
CHN1	**Nanshi**	**1.75 228**	*eP*	**Pb**	**16 12 46.9**	**+0.7**
	baz=229					
SGST	**Jiashian**	**1.78 225**	*eP*	**Pb**	**16 12 46.4**	**-0.4**
	baz=211					
SLGT	**Liugui**	**1.81 222**	*eP*	**Pb**	**16 12 47.1**	**-0.1**
	baz=222					
ICHU	**Yijhu**	**1.82 237**	*eP*	**Pb**	**16 12 48.4**	**+0.9**
	baz=239					
JKRS	**Kuro-shima**	**1.89 93**	S	**Sn**	**16 13 09.5**	**-0.1**
JIJ	**Ishigaki jima**	**2.00 89**	S	**Sn**	**16 13 11.2**	**-1.3**
SSD	**Sandimen**	**2.01 217**	*eP*	**Pb**	**16 12 50.8**	**+0.1**
	baz=230					
TSMG	**Majia**	**2.03 216**	*eP*	**Pb**	**16 12 50.0**	**-1.0**
	baz=229					
MASBT	**Mashibuluo**	**2.12 215**	*eP*	**Pb**	**16 12 52.2**	**-0.3**
	baz=216					
JISG	**Ishigakijimahi**	**2.17 83**	P	**Pn**	**16 12 50.1**	**+0.1**
JISG			*eS*	**Sn**	**16 13 15.9**	**-0.6**
EAST	**Anshuo**	**2.21 207**	*eP*	**Pn**	**16 12 51.6**	**+1.0**
	baz=197					
SSPT	**Xinbi**	**2.25 214**	*eP*	**Pb**	**16 12 55.3**	**+0.4**
	baz=200					
PNG	**Penghu**	**2.33 251**	*eP*	**Pb**	**16 12 54.1**	**-1.9**
	baz=254					
PHUB	**P'eng-hu**	**2.33 249**	*eP*	**Pn**	**16 12 52.6**	**+0.4**
	baz=253					
WDGT	**Dungji**	**2.36 243**	*eP*	**Pb**	**16 12 54.8**	**-1.9**
	baz=246					
PTMZ	**Houxiangcun**	**2.66 285**	*eP*	**Pb**	**16 12 59.2**	**-2.5**
	baz=288					
XPSS	**Dashiqiu**	**3.01 329**	*eP*	**Pn**	**16 13 00.9**	**-0.7**
	baz=329					

*IDC **04** 16:21:09.0±7.1, 4°.40S×144°.18E, h106km±77km, mb3.4/5, mb1 3.6/7, mb1mx3.2/34, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=61.5km s-min=26.7km az=136.0*
*NEIC **04** 16:21:09.1±0.5, 4°.4S±0°.2×144°.2E±0°.1, h106km±13km, mb4.0/14, Error ellipse: s-maj=22.6km s-min=19.3km az=161.0*

ISC 04 16:21:09.2±0.9, 4°.4S±0°.1×144°.2E±0°.1, h110km, n23, σ0.31/23, mb3.7/9, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.76**	**150**	P	**Pn**	**16 22 32.3**	**-0.1**
	1.1nm,0.3s,baz=307,slow=10,SNR=2.3						
SAUI	**Saumlaki**	**13.31**	**254**	P	**P**	**16 24 19.6**	**+0.1**
MTN	**Manton Dam**	**15.39**	**236**	Pn	**Pn**	**16 24 40.3**	**-0.2**
MTN				IAmb	IAmb	16 25 08.6	
	comp=Z,14nm,1.1s						
HNR	**Honiara**	**16.40**	**109**	P	**Pn**	**16 24 53.3**	**+0.2**
WB0	**Warramunga Arr**	**18.01**	**211**	P	**P**	**16 25 11.5**	**-0.1**
WR0	**Warramunga Arr**	**18.09**	**211**	P	**P**	**16 25 12.3**	**-0.1**
WR0				IAmb	IAmb	16 25 16.6	
	comp=Z,2.7nm,0.5s						
WRAB	**Tennant Creek**	**18.17**	**211**	P	**P**	**16 25 13.5**	**+0.2**
WRAB				IAmb	IAmb	16 25 22.8	
	comp=Z,15nm,1.5s						
WB2	**Warramunga Arr**	**18.18**	**211**	P	**P**	**16 25 13.6**	**+0.2**
WB2				IAmb	IAmb	16 25 17.4	
	comp=Z,4.0nm,0.5s						
WRA	**Warramunga Arr**	**18.18**	**211**	P	**P**	**16 25 13.8**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=31,slow=11,SNR=34						
WRA	**Warramunga Arr**	**18.18**	**211**	P	**P**	**16 25 13.4**	**-0.1**
KNRA	**Kununurra**	**18.86**	**233**	P	**P**	**16 25 20.6**	**-0.3**
SOEI	**Soe**	**20.48**	**254**	P	**P**	**16 25 38.8**	**+0.2**
AS31	**Alice Springs**	**21.57**	**206**	P	**P**	**16 25 50.2**	**+0.2**
AS31				IAmb	IAmb	16 25 53.6	
	comp=Z,1.4nm,0.3s						
ASAR	**Alice Springs**	**21.57**	**206**	P	**P**	**16 25 49.9**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=33,slow=7.4,SNR=50						
FITZ	**Fitzroy Crossi**	**22.69**	**232**	P	**P**	**16 26 01.6**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=47,slow=7.3,SNR=19						
MK31	**Makanchi Array**	**74.52**	**321**	P	**P**	**16 32 35.4**	**-0.5**
MK31				IAmb	IAmb	16 33 00.4	
	comp=Z,3.7nm,1.3s						
MKAR	**Makanchi Array**	**74.52**	**321**	P	**P**	**16 32 36.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=96,slow=7.8,SNR=7.0						
MKAR	**Makanchi Array**	**74.52**	**321**	P	**P**	**16 32 35.9**	**0.0**
MAKZ	**Makanchi**	**74.72**	**321**	P	**P**	**16 32 37.6**	**+0.5**
MAKZ				IAmb	IAmb	16 32 39.1	
	comp=Z,4.2nm,1.1s						
ZAA0	**Zalesovo Array**	**76.20**	**328**	P	**P**	**16 32 45.2**	**-0.1**
ZAA0				IAmb	IAmb	16 33 14.4	
	comp=Z,4.3nm,1.5s						
ZALV	**Zalesovo Beam**	**76.20**	**328**	P	**P**	**16 32 45.2**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=111,slow=7.9,SNR=2.7						
KURK	**Kurchatov**	**78.29**	**324**	P	**P**	**16 32 57.0**	**0.0**
ILAR	**Eielson Array**	**85.14**	**24**	P	**P**	**16 33 32.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=254,slow=4.8,SNR=5.0						

MAN 04 16:34:12.1, 13°.62N×120°.35E, h47km, mb4.4, ML3.3, MS3.0, 2C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.15**	**318**	*eP*	Pn	16 34 21.5	+1.7
LUBP				*eS*	Sn	16 34 27.6	+2.3
PGP	**Puerto Galera**	**0.60**	**101**	*eP*	Pn	16 34 24.7	+0.2
PGP				*i* S	Sn	16 34 31.2	-2.2
TGY	**Tagaytay City**	**0.74**	**50**	*eP*	Pn	16 34 26.6	+0.2
TGY				*i* S	Sn	16 34 40.0	+3.3
GQP	**Guinayangan**	**2.06**	**82**	*eP*	Pn	16 34 46.3	+2.0
GQP				*eS*	Sn	16 35 13.6	+4.9
PCPH	**Palayan**	**2.06**	**20**	*eP*	Pn	16 34 45.3	+1.0
PCPH				*eS*	Sn	16 35 10.0	+1.3

NEIC 04 16:49:42.6±0.9, 35°.684N±0°.008×97°.41W±0°.01, h5km±1km, mb_Lg2.3/25, Error ellipse: s-maj=2.9km s-min=2.2km az=234.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**186**	Pg	Pg	16 49 45.0	+0.2
OK009				Sg	Sg	16 49 46.7	+0.5
OK025	**Westminster Rd**	**0.12**	**150**	Pg	Pg	16 49 45.2	+0.1
OK025				Sg	Sg	16 49 47.0	+0.4
OK029	**Liberty Lake**	**0.12**	**342**	Pg	Pg	16 49 46.0	+0.9
OK029				Sg	Sg	16 49 48.5	+1.8
OK001	**Jones High Sch**	**0.16**	**141**	Pg	Pg	16 49 45.9	+0.1
OK001				Sg	Sg	16 49 48.3	+0.5
BCOK	**Bluff Creek, N**	**0.17**	**261**	Pg	Pg	16 49 46.5	+0.6
BCOK				Sg	Sg	16 49 49.4	+1.4
OK005	**Luther M Schoo**	**0.18**	**99**	Pg	Pg	16 49 46.5	+0.3
OK005				Sg	Sg	16 49 49.4	+0.8
OKCFA	**Oklahoma City**	**0.27**	**187**	Pg	Pg	16 49 48.0	+0.2
OKCFA				Sg	Sg	16 49 51.9	+0.5
OKCSW	**OKLAHOMA CITY**	**0.28**	**185**	Pg	Pg	16 49 48.1	+0.1
OKCSW				Sg	Sg	16 49 52.2	+0.6
FNO	**Franklin**	**0.43**	**179**	Pg	Pg	16 49 50.8	0.0
FNO				Sg	Sg	16 49 56.6	+0.3
OK033	**Mehan**	**0.53**	**47**	Pg	Pg	16 49 53.1	+0.4
OK033				Sg	Sg	16 50 00.4	+0.8
OK031	**S. Brethren Rd**	**0.54**	**60**	Pg	Pg	16 49 53.1	+0.2
OK031				Sg	Sg	16 50 00.5	+0.7
OK030	**Cody Creek RV**	**0.56**	**64**	Pg	Pg	16 49 53.6	+0.1
OK030				IAmb_Lg		16 50 00.2	
	comp=Z,20nm,1.0s						
OK034	**N. Norfolk Rd.**	**0.65**	**60**	Pg	Pg	16 49 55.1	0.0
OK034				Sg	Sg	16 50 04.0	+0.4
W35A	**Tecumseh**	**0.69**	**140**	Pg	Pg	16 49 55.4	-0.4
W35A				Sg	Sg	16 50 04.4	-0.3
QUOK	**Quay**	**0.75**	**49**	Pg	Pg	16 49 56.9	-0.1
QUOK				Sg	Sg	16 50 07.3	+0.6
CROK	**Carrier**	**0.94**	**331**		Pg	16 50 01.0	+0.3
BLOK	**Blackwell**	**1.09**	**8**	Pg	Pg	16 50 03.3	-0.2
X34A	**Smith Ranch, M**	**1.13**	**198**		Pg	16 50 04.1	-0.2
GC02	**Grant County #**	**1.22**	**343**	Pn	Pg	16 50 05.8	-0.2
OK032	**Salt Plains WL**	**1.29**	**330**	Pn	Pn	16 50 06.7	-0.6
KAN13	**South Haven SW**	**1.33**	**358**	Pn	Pn	16 50 07.7	-0.1
TUL1	**Leonard**	**1.33**	**80**	Pn	Pn	16 50 06.5	-1.4
TUL1				IAmb_Lg		16 50 25.7	
	comp=Z,13nm,0.9s						
KAN14	**Manchester OK**	**1.35**	**341**		Pn	16 50 08.0	-0.1
KAN17	**Caldwell West**	**1.39**	**348**	Pn	Pn	16 50 08.6	-0.1
T35A	**Sooner Cattle**	**1.43**	**30**	Pn	Pn	16 50 08.8	-0.5
U32A	**Winter Ranch,**	**1.47**	**299**	Pn	Pn	16 50 09.6	-0.2
WMOK	**Wichita Mounta**	**1.47**	**230**	Pn	Pn	16 50 09.0	-0.7
KAN08	**Anthony NE Sta**	**1.60**	**344**	Pn	Pn	16 50 10.9	-0.7
KAN16	**Harper SW Stat**	**1.63**	**341**	Pn	Pn	16 50 12.2	+0.3
LOOK	**Love County**	**1.70**	**174**	IAmb_Lg		16 50 38.2	
	comp=Z,10nm,0.8s						
X37A	**Clayton**	**2.00**	**123**	Pn	Pn	16 50 16.8	-0.2
X37A				IAmb_Lg		16 50 44.1	
	comp=Z,13nm,1.2s						
W39A	**Magazine**	**3.00**	**98**	Pn	Pn	16 50 30.6	-0.1
W39A				IAmb_Lg		16 51 24.5	
	comp=Z,14nm,0.7s						
MIAR	**Mount Ida**	**3.34**	**109**	IAmb_Lg		16 51 33.7	
	comp=Z,8.9nm,0.9s						
ABTX	**Abilene, Hawle**	**3.57**	**212**	IAmb_Lg		16 51 37.6	
	comp=Z,6.2nm,0.8s						
AMTX	**Amarillo**	**3.58**	**258**	IAmb_Lg		16 51 46.1	
	comp=Z,4.4nm,0.8s						
S39A	**Bolivar**	**3.85**	**57**	IAmb_Lg		16 51 46.5	
	comp=Z,5.0nm,0.7s						
WHAR	**Wooly Hollow**	**4.20**	**94**	IAmb_Lg		16 52 00.6	
	comp=Z,15nm,1.3s						
R40A	**Maddies Statio**	**4.87**	**56**	IAmb_Lg		16 52 15.8	
	comp=Z,4.8nm,0.7s						
JCT	**Junction City**	**5.56**	**202**	IAmb_Lg		16 52 47.3	
	comp=Z,8.3nm,0.7s						
T25A	**Trinidad**	**5.83**	**286**	IAmb_Lg		16 52 57.7	
	comp=Z,7.5nm,0.8s						

*NOU **04** 16:59:49.3, 22°.13S×179°.33W, h596km, mb4.5/48, South of Fiji Islands*
*IDC **04** 16:59:49.9±1.6, 22°.05S×179°.49W, h584km±16km, mb3.7/14, mb1 3.8/16, mb1mx3.5/33, mbtmp4.7/16, Error ellipse: s-maj=18.3km s-min=15.2km az=54.0*
*NEIC **04** 16:59:50.4±1.7, 22°.2S±0°.1×179°.5W±0°.1, h593km±7km, mb4.5/54, Error ellipse: s-maj=18.6km s-min=16.1km az=209.0*

ISC 04 16:59:50.0±0.5, 22°.14S±0°.08×179°.50W±0°.09, h592km, n131, σ0.95/130, mb4.5/39, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.96**	**332**	P	**P**	**17 01 22.3**	**0.0**
	66nm,0.3s,baz=252,slow=23,SNR=281						
MSVF	**Nonsavu**	**4.96**	**332**	P	**P**	**17 01 22.1**	**-0.2**
MSVF	**Nonsavu**	**4.96**	**332**	P	**P**	**17 01 22.4**	**+0.1**
TAVE	**Taveuni**	**5.42**	**356**	P	**P**	**17 01 27.3**	**+1.3**
MARNC	**Mare, Loyalty**	**11.61**	**271**	P	**P**	**17 02 24.6**	**-0.1**
PINNC	**Pines Island,**	**12.09**	**265**	P	**P**	**17 02 29.5**	**-0.1**
DZM	**Mont Dzumac**	**13.03**	**268**	P	**P**	**17 02 40.8**	**+1.5**
	1.6nm,0.3s,baz=114,slow=20,SNR=28						
DZM	**Mont Dzumac**	**13.03**	**268**	P	**P**	**17 02 41.0**	**+1.7**
SANVU	**Saraoutou**	**14.24**	**296**	P	**P**	**17 02 50.0**	**-1.5**
SANVU	**Saraoutou**	**14.24**	**296**	P	**P**	**17 02 50.8**	**-0.7**
URZ	**Urewera**	**16.32**	**190**	P	**P**	**17 03 07.7**	**-2.8**
	1.4nm,0.3s,baz=301,slow=24,SNR=11						
URZ	**Urewera**	**16.32**	**190**	IAmb	IAmb	17 03 29.1	
	comp=Z,20nm,1.0s						
URZ	**Urewera**	**16.32**	**190**	P	**P**	**17 03 08.7**	**-1.8**
BKZ	**Black Stump Fm**	**17.31**	**191**	P	**P**	**17 03 16.9**	**-2.6**
BKZ				IAmb	IAmb	17 03 25.1	
	comp=Z,18nm,1.4s						
BKZ	**Black Stump Fm**	**17.31**	**191**	P	**P**	**17 03 17.2**	**-2.4**
QRZ	**Quartz Range**	**19.81**	**198**	P	**P**	**17 03 43.1**	**+0.9**
THZ	**Tophouse**	**20.58**	**196**	P	**P**	**17 03 48.4**	**-0.8**
THZ				IAmb	IAmb	17 03 52.1	
	comp=Z,26nm,1.3s						
KHZ	**Kahutara**	**21.04**	**194**	P	**P**	**17 03 51.1**	**-2.1**
KHZ	**Kahutara**	**21.04**	**194**	P	**P**	**17 03 51.9**	**-1.3**
FOZ	**Fox Glacier**	**23.10**	**200**	P	**P**	**17 04 11.7**	**+0.1**
HNR	**Honiara**	**23.43**	**299**	P	**P**	**17 04 16.0**	**+1.0**
WHZ	**Wether Hill Ro**	**25.81**	**200**	P	**P**	**17 04 36.3**	**+0.8**
WHZ				IAmb	IAmb	17 04 56.9	
	comp=Z,11nm,1.0s						
EIDS	**Eidsvold**	**27.09**	**257**	P	**P**	**17 04 47.3**	**+0.2**
EIDS				IAmb	IAmb	17 05 09.7	
	comp=Z,29nm,1.4s						
ARMA	**Armidale**	**27.11**	**246**	P	**P**	**17 04 48.5**	**+1.2**
CNB	**Canberra Magne**	**30.16**	**237**	P	**P**	**17 05 15.0**	**+1.4**
CAN	**Canberra**	**30.45**	**237**	P	**P**	**17 05 16.9**	**+0.9**
CTA	**Charters Tower**	**31.98**	**267**	P	**P**	**17 05 29.5**	**+0.3**
	1.2nm,0.3s,baz=91,slow=11,SNR=32						
CTAO	**Charters Tower**	**31.98**	**267**	P	**P**	**17 05 29.5**	**+0.3**
CTAO	**Charters Tower**	**31.98**	**267**	P	**P**	**17 05 29.7**	**+0.5**
CMSA	**Cobar Meteorol**	**32.33**	**246**	P	**P**	**17 05 32.6**	**+0.6**
TOO	**Toolangi**	**33.81**	**235**	P	**P**	**17 05 45.3**	**+1.0**
TOO				IAmb	IAmb	17 05 45.6	
	comp=Z,10nm,0.8s						
TOO	**Toolangi**	**33.81**	**235**	P	**P**	**17 05 45.4**	**+1.0**
MLBS	**Spotswood, Mel**	**34.34**	**235**	P	**P**	**17 05 48.8**	**+0.1**
PMG	**Port Moresby**	**34.40**	**286**	P	**P**	**17 05 49.5**	**-0.1**
	comp=Z,20nm,0.7s,baz=70,slow=8.0,SNR=8.3						
PMG	**Port Moresby**	**34.40**	**286**	P	**P**	**17 05 49.6**	**-0.1**
PMG	**Port Moresby**	**34.40**	**286**	P	**P**	**17 05 49.7**	**+0.1**
STKA	**Stephens Creek**	**35.83**	**246**	P	**P**	**17 06 02.0**	**+0.8**
	comp=Z,7.4nm,0.5s,baz=94,slow=11,SNR=30						
STKA	**Stephens Creek**	**35.83**	**246**	P	**P**	**17 06 01.6**	**+0.3**
STKA	**Stephens Creek**	**35.83**	**246**	P	**P**	**17 06 02.0**	**+0.8**
COEN	**Coen**	**36.34**	**277**	P	**P**	**17 06 06.0**	**+0.4**
COEN				IAmb	IAmb	17 06 07.0	
	comp=Z,26nm,1.2s						
INKA	**Innaminka**	**36.37**	**253**	P	**P**	**17 06 06.9**	**+1.2**
QIS	**Mount Isa**	**38.05**	**265**	P	**P**	**17 06 19.0**	**-0.5**
HTT	**Hallett**	**38.24**	**244**	P	**P**	**17 06 21.3**	**+0.4**
LCRK	**Leigh Creek**	**38.62**	**249**	P	**P**	**17 06 24.6**	**+0.6**
TWOA	**Tennyson Woods**	**38.72**	**241**	P	**P**	**17 06 24.7**	**0.0**
NAPP	**Napperby**	**38.86**	**244**	P	**P**	**17 06 26.6**	**+0.8**
BBOO	**Buckleboo**	**40.58**	**245**	P	**P**	**17 06 39.5**	**-0.1**
BBOO				IAmb	IAmb	17 06 49.8	
	comp=Z,14nm,1.1s						
BBOO	**Buckleboo**	**40.58**	**245**	P	**P**	**17 06 39.5**	**-0.1**
OOD	**Oodnadatta**	**40.84**	**253**	P	**P**	**17 06 42.8**	**+1.0**
MULG	**Mulgathing**	**42.21**	**249**	P	**P**	**17 06 52.8**	**+0.3**
AS31	**Alice Springs**	**42.80**	**259**	P	**P**	**17 06 57.2**	**-0.1**
ASAR	**Alice Springs**	**42.80**	**259**	P	**P**	**17 06 57.2**	**-0.1**
	comp=Z,20nm,0.8s,baz=93,slow=8.6,SNR=273						
ASAR				ScP	**ScP**	**17 11 33.0**	**+3.0**
	comp=Z,0.4nm,0.6s,baz=110,slow=5.3,SNR=2.6						
ASAR				S	**S**	**17 12 38.3**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=89,slow=16,SNR=4.9						
ASAR	**Alice Springs**	**42.80**	**259**	P	**P**	**17 06 56.8**	**-0.5**
WR0	**Warramunga Arr**	**42.83**	**264**	P	**P**	**17 06 56.6**	**-0.9**
WB0	**Warramunga Arr**	**43.00**	**264**	P	**P**	**17 06 57.9**	**-0.9**
WB0				IAmb	IAmb	17 06 58.8	
	comp=Z,21nm,1.1s						
WB2	**Warramunga Arr**	**43.01**	**264**	P	**P**	**17 06 58.1**	**-0.7**
WB2				IAmb	IAmb	17 06 59.0	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**43.01**	**264**	P	**P**	**17 06 57.9**	**-0.9**
WRAB				IAmb	IAmb	17 06 58.9	
	comp=Z,15nm,1.0s						
WRAB	**Tennant Creek**	**43.01**	**264**	P	**P**	**17 06 58.3**	**-0.6**
WRA	**Warramunga Arr**	**43.02**	**264**	P	**P**	**17 06 58.2**	**-0.7**
	comp=Z,4.4nm,0.4s,baz=94,slow=8.1,SNR=477						
WRA				ScP	**ScP**	**17 11 32.7**	**+1.8**
	comp=Z,2.4nm,1.0s,baz=98,slow=4.1,SNR=6.9						
WRA	**Warramunga Arr**	**43.02**	**264**	P	**P**	**17 06 57.9**	**-1.0**
JAY	**Jayapura**	**43.28**	**291**	P	**P**	**17 07 01.0**	**-0.1**
	comp=Z,24nm,0.8s,baz=162,slow=6.0,SNR=5.3						
KDU	**Kakadu**	**46.62**	**273**	P	**P**	**17 07 26.1**	**-0.4**
FORT	**Forrest**	**47.38**	**248**	P	**P**	**17 07 31.5**	**-0.5**
FORT	**Forrest**	**47.38**	**248**	P	**P**	**17 07 31.6**	**-0.3**
WRKA	**Warakurna**	**47.69**	**256**	P	**P**	**17 07 34.4**	**-0.1**
MTN	**Manton Dam**	**47.81**	**273**	P	**P**	**17 07 34.3**	**-1.1**
MTN				IAmb	IAmb	17 07 35.8	
	comp=Z,10nm,0.7s						
MTN	**Manton Dam**	**47.81**	**273**	P	**P**	**17 07 35.0**	**-0.4**
DRS	**Darwin Rock St**	**48.16**	**273**	P	**P**	**17 07 38.5**	**+0.5**
KNRA	**Kununurra**	**49.18**	**268**	P	**P**	**17 07 45.1**	**-0.4**
KNRA				IAmb	IAmb	17 07 46.1	
	comp=Z,14nm,0.6s						
KNRA	**Kununurra**	**49.18**	**268**	P	**P**	**17 07 45.3**	**-0.2**
FAKI	**Fak Fak**	**50.55**	**285**	P	**P**	**17 07 56.0**	**+0.4**
FAKI	**Fak Fak**	**50.55**	**285**	P	**P**	**17 07 55.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**51.35**	**264**	P	**P**	**17 08 02.3**	**+0.3**
	comp=Z,3.7nm,0.3s,baz=67,slow=6.4,SNR=51						
SOEI	**Soe**	**55.18**	**273**	P	**P**	**17 08 29.8**	**+1.2**
SOEI				IAmb	IAmb	17 08 30.8	
	comp=Z,35nm,0.8s						
SOEI	**Soe**	**55.18**	**273**	P	**P**	**17 08 30.0**	**+1.4**
BATI	**Baumata**	**55.59**	**273**	P	**P**	**17 08 32.6**	**+1.3**
	comp=Z,21nm,0.5s,baz=148,slow=2.5,SNR=11						
PSA00	**Pilbara Seismi**	**55.95**	**258**	P	**P**	**17 08 33.0**	**-0.6**
PSA00				IAmb	IAmb	17 08 37.0	
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**55.95**	**258**	P	**P**	**17 08 33.4**	**-0.3**
MEEK	**Meekatharra**	**56.07**	**252**	P	**P**	**17 08 34.0**	**-0.5**
MBWA	**Marble Bar**	**56.15**	**259**	P	**P**	**17 08 34.6**	**-0.4**
VNDA	**Vanda**	**56.16**	**185**	P	**P**	**17 08 35.8**	**+1.7**
	comp=Z,1.9nm,0.7s,baz=33,slow=4.5,SNR=6.1						
VNDA	**Vanda**	**56.16**	**185**	P	**P**	**17 08 33.1**	**-1.0**
SANI	**Sanana**	**56.55**	**283**	P	**P**	**17 08 37.3**	**-0.6**
BLDU	**Ballidu**	**57.12**	**247**	P	**P**	**17 08 41.1**	**-0.4**
MMRI	**Maumere**	**57.45**	**274**	P	**P**	**17 08 43.4**	**-0.6**
MMRI				IAmb	IAmb	17 08 49.8	
	comp=Z,69nm,1.5s						
MMRI	**Maumere**	**57.45**	**274**	P	**P**	**17 08 43.7**	**-0.3**
MORW	**Morawa**	**57.92**	**249**	P	**P**	**17 08 46.8**	**-0.2**
MORW	**Morawa**	**57.92**	**249**	P	**P**	**17 08 46.8**	**-0.2**
GIRL	**Giralia**	**60.78**	**256**	P	**P**	**17 09 06.7**	**+0.6**
GIRL	**Giralia**	**60.78**	**256**	P	**P**	**17 09 06.9**	**+0.8**
TOLI2	**Tolitoli**	**62.60**	**283**	P	**P**	**17 09 17.4**	**-0.7**
TOLI2				IAmb	IAmb	17 09 19.8	
	comp=Z,9.4nm,0.5s						
TOLI2	**Tolitoli**	**62.60**	**283**	P	**P**	**17 09 17.6**	**-0.4**
RPN	**Rapa Nui**	**63.23**	**110**	P	**P**	**17 09 22.8**	**+0.9**
JAGI	**Jajag, Banyuwa**	**64.99**	**271**	P	**P**	**17 09 32.1**	**-1.1**
JAGI				IAmb	IAmb	17 09 52.1	
	comp=Z,34nm,1.3s						
JAGI	**Jajag, Banyuwa**	**64.99**	**271**	P	**P**	**17 09 32.2**	**-1.1**
QSPA	**South Pole Qui**	**67.93**	**180**	P	**P**	**17 09 51.6**	**+1.0**
	comp=Z,5.8nm,0.8s,baz=337,slow=0.4,SNR=28						
QSPA	**South Pole Qui**	**67.93**	**180**		**P**	**17 09 51.8**	**+1.2**
UGM	**Wanagama**	**68.55**	**270**	P	**P**	**17 09 54.8**	**-0.3**
UGM	**Wanagama**	**68.55**	**270**	P	**P**	**17 09 55.0**	**-0.1**
KKM	**Kota Kinabalu**	**68.85**	**286**	P	**P**	**17 09 57.1**	**+0.2**
KKM				IAmb	IAmb	17 10 01.7	
	comp=Z,20nm,1.3s						
**JO

KAN13	South Haven SW	0.95 347	Pg	Pg	17 17 15.6	-0.4
W35A	Tecumseh	0.97 163		Pg	17 17 15.0	-1.1
T35A	Sooner Cattle	1.01 34		Pg	17 17 16.6	-0.4
KAN17	Caldwell West	1.06 336	Pg	Pb	17 17 18.0	0.0
KAN14	Manchester OK	1.06 326		Pg	17 17 17.7	-0.3
OK032	Salt Plains WL	1.08 312	Pg	Pg	17 17 17.9	-0.4
KAN05	Bluff City Nor	1.15 333	Pg	Pb	17 17 19.6	0.0
KAN01	Argonia South	1.16 338		Pb	17 17 19.6	-0.1
TUL1	Leonard	1.17 98	Pg	Pb	17 17 18.6	-1.3
KAN10	Anthony SW Sta	1.26 326		Pn	17 17 21.1	-0.1
KAN06	Argonia West S	1.27 336		Pn	17 17 21.0	-0.4
KAN08	Anthony NE Sta	1.29 332		Pb	17 17 21.9	-0.1
KAN16	Harper SW Stat	1.33 329		Pn	17 17 22.4	+0.2
OK035	E0210 Rd and N	1.36 298	Pn	Pn	17 17 22.6	0.0
KAN12	Harper NE Stat	1.37 333		Pn	17 17 22.7	-0.1
U32A	Winter Ranch,	1.47 282		Pn	17 17 24.1	-0.1
X34A	Smith Ranch, M	1.56 199		Pn	17 17 25.4	0.0
WMOK	Wichita Mounta	1.85 224		Pn	17 17 30.3	+0.9
WMOK			IAmb_Lg		17 17 60.0	
	comp=Z,24nm,0.8s					
LOOK	Love County	2.08 179	Pn	Pn	17 17 32.5	0.0
X37A	Clayton	2.12 134	Pn	Pn	17 17 32.8	-0.2
X37A			IAmb_Lg		17 18 09.7	
	comp=Z,40nm,0.8s					
U38A	Gravette	2.32 80	Pn	Pn	17 17 34.4	-1.4
HHAR	Hobbs	2.66 85	Pn	Pn	17 17 40.0	-0.5
W39A	Magazine	2.93 106	IAmb_Lg		17 18 32.2	
	comp=Z,18nm,1.0s					
Z38A	Mt. Pleasant	3.36 146	IAmb_Lg		17 18 50.2	
	comp=Z,23nm,0.8s					
CBKS	Cedar Bluff	3.39 324	IAmb_Lg		17 18 50.8	
	comp=Z,18nm,1.0s					
S39A	Bolivar	3.51 62	IAmb_Lg		17 18 54.9	
	comp=Z,14nm,0.8s					
U40A	Yellville	3.54 84	Pn	Pn	17 17 53.0	+0.4
AMTX	Amarillo	3.83 253	IAmb_Lg		17 19 02.9	
	comp=Z,14nm,0.8s					
WHAR	Wooly Hollow	4.09 100	IAmb_Lg		17 19 07.5	
	comp=Z,10nm,1.0s					
MGMO	Mountain Grove	4.12 73	IAmb_Lg		17 19 07.1	
	comp=Z,18nm,0.8s					
FCAR	Ozark Folk Cen	4.13 91	IAmb_Lg		17 19 09.2	
	comp=Z,9.3nm,0.7s					
W41B	Gary Mavity, V	4.15 101	Pn	Pn	17 18 00.6	-0.3
W41B			IAmb_Lg		17 19 17.2	
	comp=Z,9.7nm,0.8s					
R40A	Maddies Statio	4.53 59	IAmb_Lg		17 19 22.2	
	comp=Z,14nm,0.8s					
P38A	Dawn	4.59 38	IAmb_Lg		17 19 33.4	
	comp=Z,16nm,1.1s					
T42A	Van Buren	5.02 77	IAmb_Lg		17 19 41.1	
	comp=Z,8.2nm,0.7s					
KSCO	Kaye Shedlock'	5.20 306	IAmb_Lg		17 19 52.1	
	comp=Z,9.4nm,0.8s					
FVM	French Village	5.76 69	IAmb_Lg		17 19 58.6	
	comp=Z,15nm,0.9s					
L34A	Svendsen Farm,	5.92 6	IAmb_Lg		17 20 14.7	
	comp=Z,12nm,0.7s					

*JMA **04** 17:19:59.8±0.3,21˚.53N×121˚.54E,h48km,M4.4*
*NEIC **04** 17:19:59.2±2.1,21˚.42N±0˚.07×121˚.42E±0˚.09,h74km±6km, mb4.5/27,Error ellipse: s-maj=11.7km s-min=10.3km az=66.0*
*BJI **04** 17:19:59.0±0.0,21˚.69N×121˚.45E,h32km,mb4.1/21, mB4.4/11,ML4.0/4,Ms3.7/3,Ms7 3.7/3*
*TAP **04** 17:20:00.1,21˚.57N×121˚.39E,h91km,ML4.8,D*
*IDC **04** 17:20:02.6±3.0,21˚.46N×121˚.63E,h113km±28km, mb3.7/20,mb1 3.8/23,mb1mx3.7/40,mbtmp4.1/23, MS3.1/13,Ms1 3.1/13,ms1mx2.8/82,Error ellipse: s-maj=18.2km s-min=10.5km az=74.0*
*MAN **04** 17:20:02.7,21˚.19N×121˚.24E,h16km,mb5.4,ML4.4, MS4.6*

ISC 04 17:20:01.0±0.6,21˚.53N±0˚.03×121˚.42E±0˚.03,h92km±5km, n238,σ1$60/335,mb4.2/43,23C-4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	Lan-yu	0.50	18	eP	Pn	17 20 17.0	+1.1
	baz=23						
LYUB				i S	Sn	17 20 25.9	-1.1
	baz=23						
LAY	Lan-yu	0.52	14	i P	Pn	17 20 14.9	-1.3
	baz=18						
LAY				i S	Sn	17 20 25.8	-1.7
	baz=18						
TSEB	Hengchuen, Pin	0.61	308	⇑iP	Pn	17 20 16.4	-0.5
	baz=300						
TSEB				i S	Sn	17 20 28.5	-0.1
	baz=300						
TWKBT	Hengchun	0.70	306	P	Pn	17 20 17.1	-0.5
	baz=303						
TWKBT				S	Sn	17 20 29.2	-0.9
	baz=303						
TWK1	Hengchun	0.70	306	⇑iP	Pn	17 20 16.9	-0.9
	baz=303						
TWK1				i S	Sn	17 20 29.4	-0.8
	baz=303						
SNW	Nanwan	0.76	305	i P	Pn	17 20 18.3	+0.1
	baz=295						
SNW				i S	Sn	17 20 30.9	-0.1
	baz=295						
HEN	Hengchun	0.79	307	⇑iP	Pn	17 20 18.1	-0.5
	baz=296						
HEN				i S	Sn	17 20 31.0	-0.7
	baz=296						
SLIU	Shizi	0.90	320	P	Pn	17 20 18.6	-1.1
	baz=329						
SLIU				S	Sn	17 20 31.7	-2.0
	baz=329						
TAW	Tawu	0.96	330	P	Pn	17 20 18.8	-1.5
	baz=330						
TAW				i S	Sn	17 20 32.7	-2.2
	baz=330						
EAST	Anshuo	1.00	328	⇑iP	Pn	17 20 19.5	-1.4
	baz=335						
EAST				eS	Sn	17 20 33.6	-2.2
	baz=335						
SCZT	Fangliau	1.12	319	⇑iP	Pn	17 20 21.2	-1.0
	baz=326						
SCZT				i S	Sn	17 20 36.8	-1.3
	baz=326						
LDUT	Ludao	1.14	2	P	Pn	17 20 20.6	-1.9
	baz=7.0						
LDUT				S	Sn	17 20 36.4	-2.2
	baz=7.0						
ECL	Taimali	1.15	338	⇑P	Pn	17 20 20.6	-2.0
	baz=344						
ECL				eS	Sn	17 20 35.6	-3.1
	baz=344						
BBP	Basco	1.20	155	⇓eP	Pn	17 20 20.8	-2.3
BBP				i S	Sn	17 20 37.7	-2.0
SSPT	Xinbi	1.24	321	⇑iP	Pn	17 20 23.1	-0.4
	baz=326						
SSPT				S	Sn	17 20 39.8	-0.8
	baz=326						
TTN	Taitung	1.25	348	P	Pn	17 20 23.3	-0.4
	baz=342						
TTN				S	Sn	17 20 40.4	-0.4
	baz=342						
WLCH	Liuqiu	1.27	311	P	Pn	17 20 24.4	+0.5
	baz=310						
WLCH				S	Sn	17 20 43.0	+1.8
	baz=310						
TWP	Hsiaoliuchiu	1.27	310	i P	Pn	17 20 24.5	+0.5
	baz=310						
TWP				eS	Sn	17 20 42.3	+0.9
	baz=310						
MASBT	Mashibuluo	1.30	326	⇑iP	Pn	17 20 23.5	-0.9
	baz=331						
MASBT				i S	Sn	17 20 39.7	-2.4
	baz=331						
TWGBT	Beinan	1.32	346	⇑iP	Pn	17 20 22.9	-1.8
	baz=342						
TWGBT				i S	Sn	17 20 39.5	-3.0
	baz=342						
TWG	Pinlang	1.33	346		Pn	17 20 22.9	-1.9
TWG				Sn	Sn	17 20 39.1	-3.5
TSMG	Majia	1.38	329	i P	Pn	17 20 24.8	-0.5
	baz=329						
TSMG				S	Sn	17 20 41.5	-2.1
	baz=329						
LONT	Longtian	1.40	349	P	Pn	17 20 24.2	-1.4
	baz=343						
LONT				S	Sn	17 20 41.5	-2.7
	baz=343						
SSD	Sandimen	1.42	329	⇑iP	Pn	17 20 24.9	-0.9
	baz=330						
SSD				S	Sn	17 20 42.9	-1.7
	baz=330						
TSPT	Pingtung City	1.43	323	i P	Pn	17 20 26.4	+0.4
	baz=331						
TSPT				eS	Sn	17 20 45.3	+0.5
	baz=331						
EDH	Donghe	1.44	356	P	Pn	17 20 25.0	-1.2
	baz=349						
EDH				S	Sn	17 20 43.0	-2.2
	baz=349						
KAU	Kaohsiung	1.46	315	P	Pn	17 20 26.8	+0.4
	baz=307						
KAU				S	Sn	17 20 46.2	+0.7
	baz=307						
SGLT	Jiouru	1.47	324	P	Pn	17 20 26.8	+0.3
	baz=331						
SGLT				S	Sn	17 20 46.8	+1.1
	baz=331						
CHKT	Chengkung	1.57	358	⇑iP	Pn	17 20 26.7	-1.0
	baz=352						
CHKT				i S	Sn	17 20 46.5	-1.3
	baz=352						
ECS	Chishang	1.57	353	i P	Pn	17 20 26.9	-0.9
	baz=354						
TWM1	Shoushan	1.59	325	⇑iP	Pn	17 20 28.1	+0.1
	baz=314						
TWM1				S	Sn	17 20 50.2	+1.8
	baz=314						
FULB	Fuli	1.67	356	P	Pn	17 20 28.3	-0.8
	baz=349						
FULB				S	Sn	17 20 49.7	-0.5
	baz=349						
ELDTW	Lidau	1.70	347	⇓iP	Pn	17 20 28.0	-1.5
	baz=350						
ELDTW				S	Sn	17 20 51.0	-0.1
	baz=350						
STYT	Tauyuan	1.74	340	i P	Pn	17 20 29.7	-0.3
	baz=340						
STYT				i S	Sn	17 20 50.6	-1.3
	baz=340						
STYH	Taoyuan	1.74	340	P	Pn	17 20 29.6	-0.3
	baz=341						
STYH				S	Sn	17 20 50.6	-1.2
	baz=341						
EYUL	Yuli	1.81	357	eP	Pn	17 20 30.8	0.0
	baz=349						
EYUL				eS	Sn	17 20 51.9	-1.6
	baz=349						
TWF1	Yuli	1.82	356	P	Pn	17 20 30.8	-0.2
	baz=350						
TWF1				eS	Sn	17 20 51.4	-2.4
	baz=350						
CHN3	Shinhua	1.82	328	eP	Pn	17 20 30.5	-0.5
	baz=318						
CHN3				eS	Sn	17 20 53.8	0.0
	baz=318						
CHN1	Nanshi	1.84	334	⇑iP	Pn	17 20 30.5	-0.8
	baz=334						
CHN1				i S	Sn	17 20 52.5	-1.8
	baz=334						
YULB	Yu-li	1.86	357	P	Pn	17 20 29.7	-1.8
	baz=350						
YULB				eS	Sn	17 20 51.6	-3.0
	baz=350						
YULB	Yu-li	1.86	357	Pn	Pn	17 20 29.8	-1.7
TAI1	Yung-k'ang	1.87	324	eP	Pn	17 20 31.4	0.0
	baz=313						
TAI1				eS	Sn	17 20 53.9	-0.9
	baz=313						
WTP	Ta-pu	1.87	337	⇑iP	Pn	17 20 30.8	-0.8
	baz=337						
WTP				S	Sn	17 20 53.4	-1.5
	baz=337						
SNST	Tainan City	1.89	333	P	Pn	17 20 31.3	-0.5
	baz=343						
SNST				S	Sn	17 20 53.8	-1.5
	baz=343						
TPUB	Ta-pu	1.91	338	⇑iP	Pn	17 20 31.2	-0.9
	baz=338						
TPUB				S	Sn	17 20 53.5	-2.3
	baz=338						
TPUB	Ta-pu	1.91	338	Pn	Pn	17 20 31.2	-0.9
TPUB				Sn	Sn	17 20 52.3	-3.5
TWK	Hsinying	1.93	334	⇓iP	Pn	17 20 31.9	-0.6
	baz=334						
TWK				i S	Sn	17 20 55.0	-1.4
	baz=334						
HGSD	Ruisui	1.96	0	eP	Pn	17 20 31.9	-0.8
	baz=7.0						
HGSD				eS	Sn	17 20 55.7	-1.2
	baz=7.0						
CHN4	Tsaushan	1.97	337	⇑iP	Pn	17 20 32.0	-0.9
	baz=338						
CHN4				S	Sn	17 20 56.0	-1.1
	baz=338						
EHY	Hungye	1.97	357	P	Pn	17 20 31.6	-1.4
	baz=352						
EHY				eS	Sn	17 20 55.4	-1.8
	baz=352						
SCLT	Jiali	1.99	326	eP	Pn	17 20 32.6	-0.6
	baz=316						
SCLT				S	Sn	17 20 56.6	-1.1
	baz=316						
YUS	Yu-Shan	2.00	348	i P	Pn	17 20 33.8	+0.1
	baz=348						
YUS				eS	Sn	17 20 58.4	-0.3
	baz=348						
ALS	Alishan	2.05	344	⇑iP	Pn	17 20 33.8	-0.5
	baz=345						
ALS				i S	Sn	17 20 58.7	-0.9
	baz=345						
ICHU	Yijhu	2.11	330	eP	Pn	17 20 33.9	-0.8
	baz=340						
ICHU				eS	Sn	17 20 58.7	-1.7
	baz=340						
CHN8	Yiju	2.13	329	i P	Pn	17 20 34.2	-0.7
	baz=338						
CHN8				S	Sn	17 20 58.9	-1.9
	baz=338						
EGFH	Guangfu	2.13	0	eP	Pn	17 20 35.8	+0.8
	baz=1.0						
CHY	Chiayi	2.17	335	P	Pn	17 20 34.8	-0.6
	baz=335						
CHY				S	Sn	17 21 00.1	-1.6
	baz=335						
CHN5	Tsauling	2.17	342	⇑iP	Pn	17 20 34.7	-0.9
	baz=342						
CHN5				i S	Sn	17 21 00.8	-1.3
	baz=342						
CHN2	Minshiung	2.18	337	eP	Pn	17 20 35.1	-0.5
	baz=337						
CHN2				eS	Sn	17 21 00.8	-1.2
	baz=337						
VWDT	VWDT	2.23	353	eP	Pn	17 20 36.2	-0.1
	baz=343						
VWDT				eS	Sn	17 21 03.2	-0.1
	baz=343						
ESL	Shilin	2.28	0	eP	Pn	17 20 36.3	-0.6
	baz=355						
ESL				eS	Sn	17 21 03.5	-0.9
	baz=355						
SSLB	Suanglung	2.29	349	P	Pn	17 20 36.8	-0.4
	baz=340						
SSLB				S	Sn	17 21 02.8	-2.0
	baz=340						
SSLB	Suanglung	2.29	349		Pn	17 20 36.6	-0.6
WDLH	Douliu	2.30	339	eP	Pn	17 20 36.4	-0.8
	baz=340						
WDLH				eS	Sn	17 21 03.1	-1.8
	baz=340						
TEYL	Yanliau Villag	2.34	4	eP	Pn	17 20 38.6	+0.9
	baz=10.0						
WTK	Tuku	2.35	336	P	Pn	17 20 36.7	-1.2
	baz=337						
WTK				S	Sn	17 21 04.4	-1.7
	baz=337						
WJS	Zhushan	2.37	345	eP	Pn	17 20 37.6	-0.6
	baz=345						
WJS				eS	Sn	17 21 05.7	-0.9
	baz=345						
WSF	Szhu	2.37	332	P	Pn	17 20 37.0	-1.2
	baz=340						
WSF				S	Sn	17 21 04.5	-2.1
	baz=340						
SMLT	Sun Moon Lake	2.39	349	i P	Pn	17 20 38.2	-0.4
	baz=349						
SMLT				S	Sn	17 21 06.7	-0.6
	baz=349						
TYC	Yuchr	2.42	348	⇑iP	Pn	17 20 38.2	-0.6
	baz=348						
TYC				S	Sn	17 21 07.0	-0.8
	baz=348						
OWD	Renai	2.43	355	eP	Pn	17 20 39.5	+0.4
	baz=355						
ETM	Tongmen	2.43	2	P	Pn	17 20 39.3	+0.3
	baz=357						
WNT	Mingjian	2.44	344	eP	Pn	17 20 38.3	-0.8
	baz=344						
WNT				eS	Sn	17 21 07.0	-1.2
	baz=344						
HWA	Hwalien	2.44	4	eP	Pn	17 20 39.7	+0.5
	baz=11						
HWA				eS	Sn	17 21 08.4	+0.1
	baz=11						
CHGB	Renai	2.53	355	eP	Pn	17 20 41.0	+0.5
	baz=345						
CHGB				eS	Sn	17 21 09.4	-1.4
	baz=345						
DPDB	Guoxing	2.54	350	P	Pn	17 20 40.4	-0.1
	baz=350						
TWD	Chiawan	2.55	4	P	Pn	17 20 40.2	-0.3
	baz=355						
TWD				S	Sn	17 21 09.7	-1.1
	baz=355						
WRL	Guolierlin Hig	2.55	338	eP	Pn	17 20 39.3	-1.3
	baz=346						
WRL				eS	Sn	17 21 08.1	-2.8
	baz=346						
WTCT	Ta-ch'eng	2.55	336	eP	Pn	17 20 39.2	-1.3
	baz=336						
WTCT				eS	Sn	17 21 09.1	-1.8
	baz=336						
WCS	Beigang Elemen	2.56	350	eP	Pn	17 20 40.6	-0.1
	baz=350						
WCS				eS	Sn	17 21 09.2	-1.9
	baz=350						
WWF	Wufeng	2.59	345	i P	Pn	17 20 41.2	+0.2
	baz=346						
WHF	Hehuan Shan	2.61	357	eP	Pn	17 20 42.1	+0.4
	baz=348						
WHF				eS	Sn	17 21 12.6	-0.3
	baz=348						
PHUB	P'eng-hu	2.61	320	P	Pn	17 20 39.6	-1.7
	baz=319						
PHUB				S	Sn	17 21 07.7	-4.6
	baz=319						
ETL	Fush Village	2.63	4	eP	Pn	17 20 41.1	-0.5
	baz=356						
NACB	Ninganchiao	2.64	4	eP	Pn	17 20 41.0	-0.8
	baz=356						
NACB				eS	Sn	17 21 11.2	-1.8
	baz=356						
NACB	Ninganchiao	2.64	4		Pn	17 20 40.9	-0.9
WCHH	Zhanghua	2.66	343	eP	Pn	17 20 41.3	-0.8
	baz=343						
WCHH				eS	Sn	17 21 12.3	-1.3
	baz=343						
PNG	Penghu	2.66	320	⇑iP	Pn	17 20 40.4	-1.6
	baz=320						
PNG				S	Sn	17 21 09.8	-3.7
	baz=320						
ETLH	Xiulin Townshi	2.67	1	eP	Pn	17 20 43.0	+0.8
	baz=2.0						
ETLH				eS	Sn	17 21 12.2	-1.6
	baz=2.0						
TCU	Taichung	2.70	345	eP	Pn	17 20 42.2	-0.3
	baz=346						
TCU				eS	Sn	17 21 13.5	-0.9
	baz=346						
FUSS	Fushou	2.71	357	eP	Pn	17 20 43.3	+0.3
	baz=347						
FUSS				eS	Sn	17 21 14.2	-1.0
	baz=347						
TWT	Tachien	2.72	355	eP	Pn	17 20 44.1	+1.1
	baz=346						
TWT				eS	Sn	17 21 15.2	-0.1
	baz=346						
TDCB	Techi	2.72	355	eP	Pn	17 20 44.6	+1.6
	baz=346						
WHP	Taichung City	2.77	351	eP	Pn	17 20 43.6	0.0
	baz=344						
WHP				eS	Sn	17 21 15.7	-0.6
	baz=344						
TWQ1	Liyutan	2.87	348	eP	Pn	17 20 44.7	-0.1
	baz=349						
TWQ1				eS	Sn	17 21 17.1	-1.4
	baz=349						
NNSB	Datong	2.89	359	eP	Pn	17 20 46.3	+1.1
	baz=5.0						
NNSB				eS	Sn	17 21 17.8	-1.4
	baz=5.0						
WDJ	Dajia District	2.90	346	eP	Pn	17 20 44.7	-0.5
	baz=346						
WDJ				eS	Sn	17 21 17.1	-2.1
	baz=346						
NNS	Nan Shan	2.90	359	eP	Pn	17 20 46.4	+1.0
	baz=7.0						
NNS				eS	Sn	17 21 19.7	+0.3
	baz=7.0						
ENA	Nanau	2.90	6	P	Pn	17 20 44.9	-0.4
	baz=353						
ENA				eS	Sn	17 21 18.3	-1.0
	baz=353						
EWUT	Wuta	2.92	6	eP	Pn	17 20 45.1	-0.5
	baz=13						
EWUT				eS	Sn	17 21 17.9	-2.0
	baz=13						
NMLH	Miaoli	3.05	349	eP	Pn	17 20 46.9	-0.4
	baz=349						
NMLH				eS	Sn	17 21 22.3	-0.6
	baz=349						
NDT	Datong Townshi	3.06	2	eP	Pn	17 20 48.5	+1.1
	baz=7.0						
TWC	Suao	3.09	7	eP	Pn	17 20 48.1	+0.3
	baz=8.0						
TWC				eS	Sn	17 21 23.8	-0.1
	baz=8.0						
ENTT	Nioudou	3.10	2	eP	Pn	17 20 48.5	+0.5
	baz=3.0						
ENTT				eS	Sn	17 21 23.2	-0.9
	baz=3.0						
NDS	Dongshan	3.10	5	eP	Pn	17 20 49.4	+1.4
	baz=354						
NDS				eS	Sn	17 21 23.9	-0.3
	baz=354						
NSTT	Nanjuang	3.11	353	eP	Pn	17 20 47.5	-0.6
	baz=353						
LIOB	Emei	3.13	353	eP	Pn	17 20 48.8	+0.5
	baz=354						
YHNB	Yeheng	3.13	359	eP	Pn	17 20 49.7	+1.3
	baz=351						
YHNB				eS	Sn	17 21 24.0	-0.9
	baz=351						
YHNB	Yeheng	3.13	359		Pn	17 20 49.0	+0.6
NSK	Sanguang	3.13	359	P	Pn	17 20 49.5	+1.1
	baz=351						
NSK				S	Sn	17 21 24.2	-0.8
	baz=351						
TWE	Neicheng	3.19	4	eP	Pn	17 20 49.5	+0.4
	baz=5.0						
TWE				eS	Sn	17 21 25.3	-0.9
	baz=5.0						
JYNG	Yonagunijimaku	3.23	26	P	Pn	17 20 49.2	-0.5
JYNG				eS	Sn	17 21 25.9	-1.4
NWLT	Wulai	3.24	1	eP	Pn	17 20 51.8	+2.0
	baz=2.0						
YOJ	Yonaguni jima	3.27	26	P	Pn	17 20 50.1	-0.1
YOJ				eS	Sn	17 21 27.0	-1.1
YOJ	Yonaguni jima	3.27	26	eP	Pn	17 20 49.4	-0.8
	baz=33						
YOJ				eS	Sn	17 21 25.9	-2.3
	baz=33						
YOJ	Yonaguni jima	3.27	26	Pn	Pn	17 20 50.2	0.0
NTC	Toucheng	3.33	6	eP	Pn	17 20 52.7	+1.7
	baz=355						
HATJ	Hateruma jima	3.34	41	P	Pn	17 20 50.3	-0.9
HATJ				eS	Sn	17 21 28.2	-1.8
NHDH	Xindian Distri	3.42	2	eP	Pn	17 20 54.3	+2.1
	baz=2.0						
TATO	Taipei	3.43	1		Pn	17 20 51.6	-0.8
TWA	Mucha	3.44	3	eP	Pn	17 20 55.8	+3.3
	baz=3.0						
TIPB	Shuangxi	3.45	6	eP	Pn	17 20 54.1	+1.4

baz=355
TIPB eS Sn 17 21 32.2 -0.4
baz=355
TWB1 Santiao Chiao 3.50 8 eP Pn 17 20 54.1 +0.7
baz=19
TWB1 eS Sn 17 21 32.4 -1.4
baz=19
IRIF Iriomote-Funau 3.52 37 P Pn 17 20 52.6 -0.9
IRIF eS Sn 17 21 33.3 -0.8
NWF Wu-fen Shan 3.54 5 P Pn 17 20 55.3 +1.3
baz=354
NWF eS Sn 17 21 34.9 0.0
baz=354
TWS1 Kuangyinshan 3.56 360 eP Pn 17 20 55.1 +1.0
JKRS Kuro-shima 3.60 41 P Pn 17 20 54.0 -0.7
JKRS eS Sn 17 21 34.1 -2.1
SIPP Brgy, Tapao 3.70 194⇑iP Pn 17 20 55.6 -0.4
SIPP iS Sn 17 21 48.9 +10
JIJ Ishigaki jima 3.78 41 P Pn 17 20 55.7 -1.4
JIJ eS Sn 17 21 38.3 -2.2
KNM Kinmen 3.98 317 P Pn 17 20 59.9 +0.1
baz=315
KNM S Sn 17 21 43.0 -2.4
baz=315
KNMB Chin-men Tao 4.04 317 eP Pn 17 20 59.3 -1.3
baz=316
KNMB eS Sn 17 21 42.2 -4.7
baz=316
KNMB Chin-men Tao 4.04 317 Pn Pn 17 20 59.0 -1.6
JISG Ishigakijimahi 4.05 41 P Pn 17 20 59.6 -1.1
JISG eS Sn 17 21 45.6 -1.4
PTMZ Houxiangcun 4.09 329 eP Pn 17 20 59.6 -1.6
baz=329
PTMZ eS Sn 17 21 42.7 -5.2
baz=329
ZPLA Ao Xicun 4.15 306 eP Pn 17 21 00.6 -1.5
baz=305
ZPLA eS Sn 17 21 46.0 -3.4
baz=305
JTJ Tarama 4.33 44 P Pn 17 21 03.9 -0.6
JTJ eS Sn 17 21 51.9 -2.0
AXDP Jialang 4.62 317 eP Pn 17 21 07.4 -1.1
baz=317
AXDP eS Sn 17 21 55.8 -5.1
baz=317
JIRB Irabujima 4.77 46 eS Sn 17 22 02.7 -1.8
MATB Ma-tsu 4.80 344 eP Pn 17 21 09.0 -1.9
baz=344
JMJ2 Miyako jima3 4.81 48 eS Sn 17 22 04.3 -1.4
JOGS Gusukube 4.88 48 eS Sn 17 22 06.5 -0.8
JIKM Ikemajima 4.88 45 S Sn 17 22 06.3 -1.0
LYJJ Jianjiangzhen 5.22 343 eP Pn 17 21 15.6 -1.1
baz=343
LYJJ eS Sn 17 22 10.4 -5.2
baz=343
XPSS Dashiqiu 5.50 348 eP Pn 17 21 18.9 -1.4
baz=348
PCPH Palayan 5.94 183⇑eP Pn 17 21 27.4 +1.0
HKPS Hong Kong Po S 6.80 278 Pn Pn 17 21 36.9 -1.2
JOW Kunigami 8.19 48 P Pn 17 21 55.8 -1.3
0.9nm,0.3s,baz=138,slow=23,SNR=6.6
JOW Kunigami 8.19 48 Pn Pn 17 21 57.6 +0.5
CNSH ChangSha 10.16 312⇓P Pn 17 22 18.2 -5.7
CNSH S Sn 17 24 08.1 -7.9
CNSH smax smax
comp=N,120nm,0.9s
CNSH smax smax
comp=E,72nm,1.2s
GULI GuiLin 10.82 292 P Pn 17 22 36.8 +3.9
GULI S Sn 17 24 43.3 +11
GULI LR LR
comp=E,80nm,6.0s
GULI LR LR
comp=E,190nm,13.1s
ENH Enshi 13.82 312 Pn Pn 17 23 08.6 -4.3
JNU Nakatsue 14.28 34 P Pn 17 23 18.9 +0.1
comp=E,0.3nm,0.3s,baz=243,slow=4.5,SNR=1.6
DAV Davao City (W) 14.92 164 LR LR 17 29 25.1
comp=E,44nm,19.6s,baz=303,slow=38
XAN Xi'an 16.64 321 P P 17 23 50.6 +1.0
XAN pmax pmax
comp=E,10.0nm,1.0s
XAN pmax pmax
comp=E,110nm,4.1s
KSRS Korea Array 16.84 18 P Pn 17 23 50.9 -0.1
comp=E,0.3nm,0.3s,baz=199,slow=11,SNR=9.2
KSRS LR LR 17 31 10.9
comp=E,20nm,18.6s,baz=205,slow=40
HNS HongShan 16.85 341⇑P P 17 23 53.9 +2.1
HNS pmax pmax
comp=E,34nm,1.2s
BJT Baijiatuau 18.97 348 P 17 24 15.2 +0.2
BJT IAmb IAmb 17 24 17.2
comp=Z,27nm,0.7s
INU Inuyama 19.40 41 P Pn 17 24 21.6 -0.2
INU IAmb IAmb 17 24 26.1
comp=Z,18nm,0.9s
GTOI Gorontalo 20.82 176 P P 17 24 35.2 -0.1
comp=Z,11nm,1.1s
MJAR Matsushiro Arr 20.91 41 P P 17 24 36.0 -0.2
comp=Z,1.5nm,0.8s,baz=231,slow=7.7,SNR=3.0
MJAR Matsushiro Arr 20.91 41 IAmb IAmb 17 24 38.2
comp=Z,5.1nm,1.2s
MRSI Marisa 20.93 179 P P 17 24 37.9 +1.5
comp=Z,520nmcomp=Z,37nm,1.3s
LZH Lanzhou 21.11 317 eP P 17 24 45.0 +6.6
LZH pP pP 17 24 49.4 -7.0
LZH sP sP 17 24 52.6 -15
LZH pmax pmax
comp=Z,16nm,1.5s
MPSI Mapaga 21.11 184 P P 17 24 39.2 +0.8
comp=Z,13nm,1.6s
CMAR Chiang Mai Arr 21.34 266 P P 17 24 43.3 +2.5
comp=Z,0.6nm,0.7s,baz=72,slow=8.6,SNR=8.7
APSI Ampana 22.30 179 P P 17 24 52.9 +1.9
comp=Z,420nmcomp=Z,47nm,1.3s
LUWI Luwuk 22.47 176 P P 17 24 54.2 +1.4
comp=Z,31nm,0.9s
LUWI Luwuk 22.47 176 P P 17 24 48.3 -4.5
XLT XiLinHaoTe 22.75 350 eP P 17 24 54.1 -1.5
XLT pmax pmax
comp=Z,24nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.3s
LBMI Labuha 22.82 164 P P 17 24 57.7 +1.3
comp=Z,13nm,0.5s
MTKI Muara Teweh, K 23.22 197 P P 17 25 01.3 +1.0
comp=Z,18nm,1.3s
SANI Sanana 23.85 169 P P 17 25 06.8 +0.8
comp=Z,6.2nm,0.8s
SIJI Sorong 24.25 155 P P 17 25 08.2 -1.4
comp=Z,5.8nm,0.5s,baz=358,slow=10,SNR=8.8
GTA Gaotai 25.67 319 eP P 17 25 24.4 +1.9
GTA pmax pmax
comp=Z,3.0nm,1.2s
KAPI Kappang 26.43 184 LR LR 17 36 08.1
comp=Z,27nm,20.8s,baz=37,slow=37
GOMU GeErMu 27.39 308 P P 17 25 39.8 +1.5
GOMU pmax pmax
comp=Z,2.0nm,1.1s
GOMU pmax pmax
comp=Z,52nm,4.2s
ASAJ Asahikawa 28.55 33 P P 17 25 48.5 +0.4
comp=Z,8.8nm,1.0s,baz=253,slow=11,SNR=1.7
ASAJ LR LR 17 37 01.4
comp=Z,31nm,19.7s,baz=132,slow=36
ULN Ulaanbaatar 28.71 340 P P 17 25 50.1 +0.5
ULN IAmb IAmb 17 25 51.7
comp=Z,5.2nm,0.7s
PSI Prapat 28.73 233 LR LR 17 38 48.0
comp=Z,32nm,18.0s,baz=248,slow=39
KLR Kul'dur 28.84 14 P P 17 25 51.8 +1.2
comp=Z,0.5nm,0.5s,baz=170,slow=6.6,SNR=4.3
KLR LR LR 17 38 29.0
comp=Z,31nm,18.9s,baz=226,slow=38
SONM Songino Array 28.90 339 P P 17 25 51.2 -0.1
comp=Z,4.4nm,0.8s,baz=162,slow=9.6,SNR=25
SONM LR LR 17 37 50.2
comp=Z,68nm,19.9s,baz=79,slow=37
SONM Songino Array 28.90 339 P P 17 25 51.4 +0.1
JAY Jayapura 30.45 139 LR LR 17 39 23.4
comp=Z,13nm,18.1s,baz=76,slow=38
KLSI 30.76 214 P P 17 26 10.5 +2.6
comp=Z,5.0nm,1.1s
WMQ Urumqi 35.68 316 eP P 17 26 59.6 +9.1
FITZ Fitzroy Crossi 39.60 174 LR LR 17 47 45.1
comp=Z,33nm,18.0s,baz=116,slow=42
MK31 Makanchi Array 40.42 318 P P 17 27 31.4 +1.2
MK31 IAmb IAmb 17 27 32.7
comp=Z,4.5nm,1.1s
MKAR Makanchi Array 40.42 318 P P 17 27 31.7 +1.5
comp=Z,1.7nm,0.5s,baz=110,slow=9.7,SNR=47
MKAR Makanchi Array 40.42 318 P P 17 27 31.3 +1.1
YAK Yakutsk 40.88 6 LR LR 17 44 32.3
comp=Z,32nm,19.6s,baz=74,slow=36
H11N1 WAKE ISLAND Hy 42.49 84 T T 18 13 17.7
baz=282,slow=75,SNR=8.6
H11N2 WAKE ISLAND Hy 42.49 84 T T 18 13 18.3
baz=282,slow=75,SNR=9.2
H11N3 WAKE ISLAND Hy 42.50 84 T T 18 13 21.8
baz=282,slow=75,SNR=11
H11S3 WAKE ISLAND Hy 42.53 86 T T 18 13 22.2
baz=283,slow=75,SNR=35
H11S1 WAKE ISLAND Hy 42.54 86 T T 18 13 23.8
baz=283,slow=75,SNR=24
H11S2 WAKE ISLAND Hy 42.55 86 T T 18 13 23.1
baz=283,slow=75,SNR=18
KSH Kashi 42.57 305 P P 17 27 51.0 +3.0
ZAA0 Zalesovo Array 42.60 329 P P 17 27 48.2 +0.4
ZAA0 IAmb IAmb 17 27 50.0
comp=Z,9.7nm,0.8s
ZALV Zalesovo Beam 42.60 329 P P 17 27 48.2 +0.4
comp=Z,6.7nm,0.6s,baz=118,slow=7.7,SNR=34
ZALV LR LR 17 46 04.9
comp=Z,24nm,19.9s,baz=92,slow=36
WB0 Warramunga Arr 42.96 162 P P 17 27 48.4 -2.7
WB0 IAmb IAmb 17 27 49.8
comp=Z,4.8nm,0.7s
WRAB Tennant Creek 43.10 162 P P 17 27 49.8 -2.5
WRAB IAmb IAmb 17 27 51.4
comp=Z,13nm,1.2s
WRA Warramunga Arr 43.11 162 P P 17 27 49.9 -2.5
comp=Z,4.1nm,0.5s,baz=344,slow=9.0,SNR=80
WRA Warramunga Arr 43.11 162 P P 17 27 50.1 -2.2
WB2 Warramunga Arr 43.11 162 P P 17 27 49.8 -2.6
WB2 IAmb IAmb 17 27 51.2
comp=Z,6.0nm,0.6s
WR0 Warramunga Arr 43.18 162 P P 17 27 50.5 -2.5
WR0 IAmb IAmb 17 27 51.7
comp=Z,5.7nm,0.6s
KURK Kurchatov 44.28 322 P P 17 28 02.3 +0.8
KURK IAmb IAmb 17 28 03.7
comp=Z,15nm,1.3s
AAK Ala-Archa 44.32 310 LR LR 17 46 57.5
comp=Z,40nm,18.4s,baz=106,slow=36
AS31 Alice Springs 46.54 164 P P 17 28 17.9 -1.6
ASAR Alice Springs 46.54 164 P P 17 28 18.1 -1.4
comp=Z,0.9nm,0.4s,baz=345,slow=6.7,SNR=44
ASAR Alice Springs 46.54 164 P P 17 28 17.5 -2.0
KKAR Karatay Array 47.28 309 P P 17 28 26.4 +1.1
KBL Kabul 47.54 298 P P 17 28 28.9 +1.4
KBL IAmb IAmb 17 28 30.8
comp=Z,2.9nm,0.7s
BRVK Borovoye 49.95 322 P P 17 28 46.4 +0.9
NRIK Noril'sk 52.02 345 P P 17 29 01.4 +0.8
comp=Z,8.4nm,1.0s,baz=135,slow=9.3,SNR=10
NRIK Noril'sk 52.02 345 P P 17 29 00.5 -0.2
ABKAR Akbulak array 55.46 316 P P 17 29 27.2 +1.1
ABKAR IAmb IAmb 17 29 28.3
comp=Z,5.8nm,1.4s
ABKAR Akbulak array 55.46 316 P P 17 29 26.7 +0.5
STKA Stephens Creek 56.51 159 P P 17 29 32.6 -1.1
comp=Z,2.3nm,0.5s,baz=327,slow=6.2,SNR=12
STKA Stephens Creek 56.51 159 P P 17 29 32.2 -1.5
AKTO Aktyubinsk 56.84 317 LR LR 17 55 23.6
comp=Z,42nm,19.2s,baz=8.2,slow=37
ARU Arti 57.36 324 P P 17 29 39.7 +0.2
IMAR Indian Mountai 68.46 26 P P 17 30 52.7 -0.3
SIRT Sirnak 68.73 303 P P 17 30 55.1 -0.2
H21K Melozitna Rive 68.88 26 P P 17 30 55.8 +0.3
I23K Minto, Yukon-K 70.37 27 P P 17 31 04.9 +0.3
I23K IAmb IAmb 17 31 20.4
comp=Z,7.9nm,1.4s
RND Reindeer 70.87 28 P P 17 31 07.1 -0.7
RND IAmb IAmb 17 31 08.4
comp=Z,7.8nm,0.9s
ILAR Eielson Array 71.47 27 P P 17 31 09.7 -1.7
comp=Z,0.6nm,0.7s,baz=267,slow=5.2,SNR=10.0
BMAR Burnt Mountain 71.85 24 P P 17 31 14.2 +0.5
ARCES ARCESS Array B 72.08 338 P P 17 31 14.6 -0.3
comp=Z,3.2nm,0.8s,baz=65,slow=5.8,SNR=5.0
FINES FINESS Array B 73.84 330 P P 17 31 26.0 +0.5
comp=Z,2.0nm,0.7s,baz=69,slow=6.5,SNR=6.0
FINES FINESS Array B 73.84 330 P P 17 31 26.6 +1.2
BCAR Beaver Creek A 74.06 28 P P 17 31 26.9 +0.1
BRTR Keskin Array B 74.93 307 P P 17 31 32.6 +0.2
comp=Z,1.0nm,1.0s,baz=46,slow=4.6,SNR=1.9
AKASG Malin Array Be 75.00 319 P P 17 31 32.1 -0.3
comp=Z,0.4nm,0.4s,baz=64,slow=5.8,SNR=2.8
EUNU Eureka 77.52 5 P P 17 31 46.2 0.0
EUNU IAmb IAmb 17 32 13.7
comp=Z,3.6nm,1.1s
NOA NORSAR Array B 80.67 332 P P 17 32 02.3 -1.3
comp=Z,0.5nm,0.7s,baz=68,slow=9.6,SNR=3.1
GERES GERESS Array B 85.03 321 P P 17 32 26.6 0.0
comp=Z,0.5nm,0.7s,baz=77,slow=5.8,SNR=4.6
YKA Yellowknife Ar 85.33 23 P P 17 32 26.4 -1.2
comp=Z,0.6nm,0.7s,baz=309,slow=4.4,SNR=9.5

*NNC **04** 17:33:19.0±0.3, 43°.19N×78°.67E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=3.1km s-min=1.7km az=169.0*
*SOME **04** 17:33:19.4, 43°.18N×78°.65E, h5km*
*KRNET **04** 17:33:23.3±0.1, 42°.93N×78°.69E, h25km, mb2.0*
ISC 04 17:33:19.4±0.9, 43°.17N±0°.03×78°.67E±0°.02, h7km±8km, n21, σ0°81/41, 11C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.17**	**268**	*eP*	**Pg**	**17 33 22.5**	**-0.4**
	4.9nm,0.1s						
ZHN				*eS*	**Sg**	**17 33 24.8**	**-0.5**
	79nm,0.1s						
ZHN	**Zhinishke**	**0.17**	**268**	P	**Pg**	**17 33 22.5**	**-0.4**
	4.9nm,0.1s						
ZHN				S	**Sg**	**17 33 24.8**	**-0.5**
	79nm,0.1s						
SATY	**Saty**	**0.22**	**239**	*eP*	**Pg**	**17 33 24.0**	**+0.2**
	2.3nm,0.1s						
SATY				*eS*	**Sg**	**17 33 27.5**	**+0.6**
	39nm,0.1s						
SATY	**Saty**	**0.22**	**239**	P	**Pg**	**17 33 24.0**	**+0.2**
	2.3nm,0.1s						
SATY				S	**Sg**	**17 33 27.5**	**+0.6**
	39nm,0.1s						
UZB	**Uzynbulak**	**0.26**	**96**	*eP*	**Pg**	**17 33 24.5**	**-0.1**
	7.5nm,0.1s						
UZB				*eS*	**Sg**	**17 33 28.3**	**+0.2**
	19nm,0.1s						
UZB	**Uzynbulak**	**0.26**	**96**	P	**Pg**	**17 33 24.5**	**-0.1**
	7.5nm,0.1s						
UZB				S	**Sg**	**17 33 28.3**	**+0.2**
	19nm,0.1s						
KPKS	**Kokpek**	**0.29**	**2**	*eP*	**Pg**	**17 33 24.4**	**-0.8**
	16nm,0.1s						
KPKS				*eS*	**Sg**	**17 33 28.1**	**-0.9**
	65nm,0.2s						
PDGK	**Podgornoye**	**0.62**	**75**	P	**Pg**	**17 33 30.7**	**-0.6**
	0.1nm,0.1s						
PDGK				S	**Sg**	**17 33 39.0**	**-0.5**
	1.3nm,0.3s						
PRZ	**Przheval'sk**	**0.72**	**196**⇑	*iP*	**Pg**	**17 33 32.8**	**-0.4**
	baz=7.0						
PRZ				⇑*iS*	**Sg**	**17 33 39.6**	**-2.9**
	baz=7.0						
ANVS	**Anan'yevo**	**0.83**	**242**⇓	*iP*	**Pn**	**17 33 38.2**	**+0.5**
	baz=60						
ANVS				⇓*iS*	**Sb**	**17 33 48.8**	**+1.1**
	baz=60						
KOTS	**Kotyrbulak**	**1.14**	**274**	*eP*	**Pg**	**17 33 40.4**	**-0.9**
	1.1nm,0.2s						
KOTS				*eS*	**Sg**	**17 33 55.6**	**-0.4**
	9.4nm,0.3s						
KOTS	**Kotyrbulak**	**1.14**	**274**	P	**Pg**	**17 33 40.4**	**-0.9**
	1.1nm,0.2s						
KOTS				S	**Sg**	**17 33 55.6**	**-0.4**
	9.4nm,0.3s						
DJR	**Jarkent**	**1.42**	**35**	*eP*	**Pn**	**17 33 45.9**	**+0.2**
	0.7nm,0.1s						
DJR				*eS*	**Sn**	**17 34 04.8**	**+0.2**
	5.1nm,0.4s						
KDJ	**Kajisay**	**1.51**	**227**⇑	*iP*	**Pb**	**17 33 48.1**	**+0.2**
	baz=35						
KDJ				⇑*iS*	**Sn**	**17 34 06.2**	**-0.9**
	baz=35						
KTBS	**Karatobe**	**1.54**	**291**	*eP*	**Pn**	**17 33 47.7**	**+0.3**
	1.1nm,0.2s						
KTBS				*eS*	**Sn**	**17 34 07.6**	**-0.1**
	6.9nm,0.5s						
KTBS	**Karatobe**	**1.54**	**291**	P	**Pn**	**17 33 47.7**	**+0.3**
	1.1nm,0.2s						
KTBS				S	**Sn**	**17 34 07.6**	**-0.1**
	6.9nm,0.5s						
TARG	**Taragay, Kyrgy**	**1.58**	**204**⇑	*iP*	**Pn**	**17 33 48.7**	**+0.5**
	baz=9.0						
TARG				⇑*iS*	**Sn**	**17 34 07.1**	**-1.9**
	baz=9.0						
ULHL	**Ulahol**	**2.01**	**243**⇓	*iP*	**Pb**	**17 33 57.1**	**+0.7**
	baz=50						
ULHL				⇓*iS*	**Sb**	**17 34 22.0**	**+0.2**
	baz=50						
BOOM	**Boomskoye usch**	**2.12**	**252**⇑	*iP*	**Pb**	**17 33 59.1**	**+0.9**
	baz=59						
BOOM				⇑*iS*	**Sb**	**17 34 25.2**	**+0.4**
	baz=59						
TKM2	**Tokmak 2**	**2.27**	**265**	⇓Pg	**Pb**	**17 34 00.4**	**-0.3**
	3.5nm,1.4s						
TKM2				⇑Lg	Lg	17 34 31.3	
	1.2nm,0.5s						
TKM2	**Tokmak 2**	**2.27**	**265**⇑	*iP*	**Pb**	**17 34 01.8**	**+1.1**
	baz=71						
TKM2				⇑*iS*	**Sb**	**17 34 29.9**	**+0.9**
	baz=71						

IDC 04 17:38:33.8±12.0, 48°.68N×153°.12E, h158km±58km, mb3.1/3, mb1 3.1/4, mb1mx2.8/35, mbtmp3.4/4, Error ellipse: s-maj=180.5km s-min=37.4km az=169.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.30**	**31**	P	Pn	17 39 51.1	-0.1
	0.1nm,0.3s,baz=183,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**46.08**	**296**	P	P	17 46 41.7	+0.2
	0.3nm,0.6s,baz=54,slow=6.7,SNR=2.1						
YKA	**Yellowknife Ar**	**49.39**	**38**	P	P	17 47 06.9	+0.2
	0.1nm,0.4s,baz=297,slow=6.8,SNR=4.0						
FINES	**FINESS Array B**	**62.30**	**334**	P	P	17 48 38.0	-0.4
	1.4nm,0.6s,baz=38,slow=9.3,SNR=4.6						

*IDC **04** 18:00:52.1±0.6, 38°.68N×20°.54E, h0km, mb4.5/21, mb1 4.5/35, mb1mx4.4/46, mbtmp4.4/35, ML4.2/13, MS3.6/31, Ms1 3.6/31, ms1mx3.3/90, Error ellipse: s-maj=11.7km s-min=11.2km az=176.0*
*MOS **04** 18:00:52.5±1.1, 38°.55N×20°.35E, h19km, mb4.8/17, Error ellipse: s-maj=4.9km s-min=2.3km az=80.2*
*MED_RC **04** 18:00:54.0±0.4, 38°.58N×20°.60E, h21km±2km, MW4.5/16, Moment Tensor Solution. Mantle waves: s16, c23; Duration: 1ꝏ Moment tensor: Scale 10^{15}Nm; M_{rr}-2.00±1.04; $M_{\theta\theta}$5.39±.61; $M_{\phi\phi}$-3.39±.58; $M_{r\theta}$0.60±.47; $M_{\theta\phi}$3.06±.52; $M_{\phi r}$-1.99±.72; Best double couple: $M_0$5.96000×10^{15} NP1ϕ_s32.00000°, δ69.00000°, λ-157.00000°. NP2ϕ_s293.00000°, δ69.00000°, λ-22.00000°. Principal axes: T 6.3500, Plg0.0000°, Azm163.0000°; N -0.7900, Plg60.0000°, Azm72.0000°; P -5.5600, Plg30.0000°, Azm253.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*BEO **04** 18:00:55.5±0.8, 38°.69N×20°.35E, h7km±1km, ML4.2/6*
*NEIC **04** 18:00:55.1±2.2, 38°.61N±0°.06×20°.56E±0°.06, h18km±5km, Error ellipse: s-maj=8.3km s-min=7.1km az=192.0*
*THE **04** 18:00:55.3, 38°.58N×20°.60E, h10km±1km, ML4.5/13, Error ellipse: s-maj=1.2km s-min=0.6km az=276.0*
*ATH **04** 18:00:55.1, 38°.60N×20°.59E, h14km±1km, ML4.3/17, Error ellipse: s-maj=2.0km s-min=0.8km az=279.0*
*TIR **04** 18:00:56.0, 38°.63N×20°.39E, h50km±5km, Ml4.5*
*PDG **04** 18:00:56.5±0.3, 38°.79N×20°.41E, h22km±2km, MD4.5/1, ML4.4/12, Error ellipse: s-maj=2.6km s-min=0.9km az=90.0*
ISC 04 18:00:54.6±0.5, 38°.62N±0°.01×20°.56E±0°.02, h16km±3km, n568, σ1ꝏ74/631, mb4.6/56, MS3.7/28, 66C-37D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.06**	**12**	P	**Pg**	**18 00 57.5**	**-0.2**
DRAG				S	**Sg**	**18 00 59.6**	**-0.1**
	655μm,0.4s						
DRAG	**Dragano-Lefkad**	**0.06**	**12**	P	**Pg**	**18 00 57.5**	**-0.2**
DRAG				S	**Sg**	**18 00 59.5**	**-0.3**
EVGI	**Lefkada island**	**0.08**	**92**	P	**Pg**	**18 00 57.5**	**-0.3**
EVGI				S	**Sg**	**18 00 59.4**	**-0.5**
	722μm,0.4s						
EVGI	**Lefkada island**	**0.08**	**92**	P	**Pg**	**18 00 57.5**	**-0.3**
NYDR	**Nydri-Lefkada**	**0.14**	**51**	P	**Pg**	**18 00 58.4**	**0.0**
NYDR				S	**Sg**	**18 01 00.7**	**-0.4**
	412μm,0.7s						
NYDR	**Nydri-Lefkada**	**0.14**	**51**	P	**Pg**	**18 00 58.5**	**0.0**
FSK	**Fiskardo**	**0.17**	**179**	P	**Pg**	**18 00 58.7**	**-0.1**
FSK				S	**Sb**	**18 01 01.7**	**-0.6**
	69μm,0.4s						
FSK	**Fiskardo**	**0.17**	**179**	P	**Pb**	**18 00 58.9**	**-0.4**
FSK				S	**Sb**	**18 01 01.7**	**-0.6**
FSK				AML	AML	18 01 02.5	
	comp=N,89666μm,0.4s						
FSK				AML	AML	18 01 02.7	
TSLK	**Tsoukalades, L**	**0.21**	**21**	P	**Pb**	**18 01 00.0**	**-0.1**
TSLK				S	**Sb**	**18 01 04.3**	**+0.4**
	comp=N,160μm,0.4s						
TSLK	**Tsoukalades, L**	**0.21**	**21**	P	**Pb**	**18 01 00.0**	**-0.1**
TSLK				S	**Sb**	**18 01 04.4**	**+0.6**
TSLK				AML	AML	18 01 04.5	
TSLK				AML	AML	18 01 06.7	
KEF4	**Livadi, Kephal**	**0.38**	**196**	P	**Pg**	**18 01 02.1**	**-0.3**
KEF4				S	**Sb**	**18 01 08.2**	**-0.3**
	comp=N,226μm,0.3s						
KEF4	**Livadi, Kephal**	**0.38**	**196**	P	**Pg**	**18 01 02.2**	**-0.1**
KEF4				S	**Sb**	**18 01 08.3**	**-0.3**
LXRA	**Lixouri, Kepha**	**0.43**	**193**	P	**Pg**	**18 01 03.1**	**-0.2**
LXRA				S	**Sb**	**18 01 10.2**	**+0.1**
VLS	**Valsamata**	**0.45**	**177**	P	**Pg**	**18 01 03.0**	**-0.6**
VLS				S	**Sg**	**18 01 09.0**	**-0.7**
	comp=N,33μm,0.2s						
VLS	**Valsamata**	**0.45**	**177**	P	**Pg**	**18 01 03.1**	**-0.6**
VLS				S	**Sg**	**18 01 09.3**	**-0.4**
VLS				AML	AML	18 01 12.8	
	comp=N,51287μm,0.2s						
VLS				AML	AML	18 01 12.8	
	comp=E,63722μm,0.2s						
VLS	**Valsamata**	**0.45**	**177**	P	**Pg**	**18 01 03.0**	**-0.6**
VLS				S	**Sg**	**18 01 09.0**	**-0.7**
ARGA	**Argostoli. Kep**	**0.45**	**188**	P	**Pb**	**18 01 04.0**	**-0.1**
ARGA				S	**Sb**	**18 01 10.7**	**+0.2**
KEF3	**Kipouria, Keph**	**0.45**	**202**	P	**Pg**	**18 01 02.8**	**-0.8**
KEF3				S	**Sg**	**18 01 09.6**	**-0.2**
	comp=E,69μm,0.5s						
KEF3	**Kipouria, Keph**	**0.45**	**202**	P	**Pg**	**18 01 02.8**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.51**	**178**	P	**Pg**	**18 01 04.1**	**-0.6**
PSDA				S	**Sb**	**18 01 11.8**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.51**	**178**	P	**Pg**	**18 01 04.2**	**-0.5**
RLS	**Riolos of Patr**	**0.91**	**128**	P	**Pb**	**18 01 11.6**	**-0.4**
RLS				S	**Sb**	**18 01 22.9**	**-0.9**
	comp=E,19μm,0.6s						
RLS	**Riolos of Patr**	**0.91**	**128**	P	**Pb**	**18 01 11.5**	**-0.5**
RLS				AML	AML	18 01 30.8	
	comp=N,45787μm,0.7s						
RLS				AML	AML	18 01 32.8	
	comp=E,32868μm,0.6s						
IGT	**Igoumenitsa**	**0.92**	**349**	P	**Pb**	**18 01 12.0**	**-0.2**
IGT				S	**Sn**	**18 01 27.6**	**+1.7**
	comp=E,22μm,0.6s						
IGT	**Igoumenitsa**	**0.92**	**349**	P	**Pb**	**18 01 12.0**	**-0.2**
IGT				AML	AML	18 01 30.1	
	comp=N,26561μm,0.6s						
IGT				AML	AML	18 01 30.3	
	comp=E,59064μm,0.6s						
IGT	**Igoumenitsa**	**0.92**	**349**	P	**Pb**	**18 01 12.0**	**-0.2**
IGT				S	**Sn**	**18 01 27.6**	**+1.7**
IGT	**Igoumenitsa**	**0.92**	**349**	P	**Pb**	**18 01 12.4**	**+0.1**
	baz=357						
IGT				S	**Sn**	**18 01 27.6**	**+1.7**
	baz=357						
LTHK	**Lithakia**	**0.94**	**166**	P	**Pb**	**18 01 11.2**	**-1.3**

LTHK Lithakia 0.94 166 P Pb 18 01 11.2 -1.3
LTHK AML AML 18 01 36.7
comp=E,21169µm,0.5s
LTHK AML AML 18 01 37.1
comp=N,19072µm,0.4s
EVR Evrytania 1.02 73 P Pb 18 01 13.9 0.0
EVR Evrytania 1.02 73 P Pb 18 01 13.6 -0.4
EVR AML AML 18 01 40.6
comp=N,15848µm,0.7s
EVR AML AML 18 01 40.7
comp=E,18786µm,0.5s
UPR University Cam 1.02 109 P Pg 18 01 15.0 +0.6
JAN Janina 1.06 12 P Pg 18 01 15.2 +0.2
JAN S Sn 18 01 32.9 +3.7
comp=E,11µm,0.5s
JAN Janina 1.06 12 P Pg 18 01 15.1 0.0
JAN AML AML 18 01 34.3
comp=E,22400µm,0.6s
JAN AML AML 18 01 34.9
comp=N,20502µm,0.4s
JAN Janina 1.06 12 P Pg 18 01 15.2 +0.2
JAN S Sn 18 01 32.9 +3.7
ANX Ano Chora 1.07 91 P Pb 18 01 14.5 -0.2
ANX S Sn 18 01 30.9 +1.4
comp=N,56µm,0.5s
ANX Ano Chora 1.07 91 P Pb 18 01 14.6 -0.1
ANX AML AML 18 01 37.1
ANX AML AML 18 01 37.5
comp=E,82436µm,0.5s
EFP Efpalio 1.07 100 P Pb 18 01 14.4 -0.4
EFP Efpalio 1.07 100 P Pb 18 01 14.3 -0.5
EFP AML AML 18 01 35.8
comp=N,55568µm,1.0s
EFP AML AML 18 01 36.7
comp=E,43113µm,0.6s
DRO Drossia 1.13 126 P Pb 18 01 15.5 -0.2
DRO S Sg 18 01 31.1 0.0
comp=E,22µm,0.9s
DRO Drossia 1.13 126 P Pb 18 01 15.6 -0.2
DRO AML AML 18 01 43.0
comp=N,30997µm,0.4s
DRO AML AML 18 01 44.5
comp=E,49640µm,0.7s
LAKA Lakka 1.18 109 P Pn 18 01 15.9 -0.5
LAKA Lakka 1.18 109 P Pn 18 01 15.7 -0.7
LAKA AML AML 18 01 39.8
comp=E,68483µm,0.6s
LAKA AML AML 18 01 40.2
comp=N,75755µm,0.7s
SERG Sergoula 1.19 100 P Pn 18 01 16.4 -0.2
SERG Sergoula 1.19 100 P Pn 18 01 16.1 -0.6
SERG AML AML 18 01 39.9
comp=E,36932µm,0.4s
SERG AML AML 18 01 43.6
comp=N,27824µm,0.5s
TRIZ Trizonia 1.22 102 P Pn 18 01 16.5 -0.4
KASA Kassiopi 1.22 337 P Pg 18 01 18.7 +0.5
KEK Kerkira 1.24 332 P Pg 18 01 18.4 -0.1
KEK Kerkira 1.24 332 P Pg 18 01 18.6 +0.2
KEK AML AML 18 01 39.9
comp=N,9190µm,0.6s
KEK AML AML 18 01 43.2
comp=E,9466µm,0.5s
KEK Kerkira 1.24 332 ⇑P Pg 18 01 18.5 +0.1
ALIK Aliki, Aigiali 1.27 106 P Pn 18 01 17.5 -0.2
MAKR Makrakomi, Fth 1.29 72 P Pg 18 01 19.0 -0.4
MAKR Makrakomi, Fth 1.29 72 P Pb 18 01 18.7 +0.2
MAKR AML AML 18 01 44.2
comp=E,20252µm,0.4s
MAKR AML AML 18 01 44.2
comp=N,18998µm,0.7s
SRN Sarande 1.33 341 P Pg 18 01 20.0 -0.2
SRN Sarande 1.33 341 P Pb 18 01 19.7 +0.6
baz=347
SRN S Sg 18 01 37.6 +0.1
baz=347
SRN AMP
comp=N,13nm,0.5s,baz=347
AGG Agios Georgios 1.44 73 *e*P Pb 18 01 21.1 0.0
AGG Agios Georgios 1.44 73 P Pn 18 01 20.4 +0.4
AGG Agios Georgios 1.44 73 ⇑P Pb 18 01 21.0 0.0
AGG Agios Georgios 1.44 73 Pn **Pn 18 01 20.2 +0.2**
AGG **Pn 18 01 20.4 +0.4**
THL Klokotos Trika 1.47 50 P Pb 18 01 22.1 +0.5
LSK Leskovik 1.52 1 P Pg 18 01 23.6 -0.3
LSK Leskovik 1.52 1 P Pg 18 01 23.6 -0.3
baz=5.0
LSK S Sg 18 01 43.4 -0.4
baz=5.0
LSK AMP
comp=E,28nm,0.9s,baz=5.0
ITM Ithomi 1.80 143 *e*P Pb 18 01 27.4 +0.2
ITM Ithomi 1.80 143 P Pb 18 01 27.1 -0.1
ITM AML AML 18 01 58.5
comp=N,9281µm,0.7s
ITM AML AML 18 02 01.1
comp=E,6858µm,1.0s
ITM Ithomi 1.80 143 ⇓P Pb 18 01 27.5 +0.2
ITM Ithomi 1.80 143 Pn **Pb 18 01 26.9 -0.3**
ATAL Atalanti 1.93 87 P Pb 18 01 29.3 0.0
ATAL AML AML 18 02 04.7
comp=N,9568µm,0.9s
ATAL AML AML 18 02 10.9
comp=E,5991µm,0.8s
KBN Korca 2.00 5 P Pb 18 01 30.9 +0.2
KBN Korca 2.00 5 Pb 18 01 30.9 +0.2
KBN Korca 2.00 5 P Pb 18 01 31.2 +0.5
baz=8.0
KBN S **Sb 18 01 55.8 +0.4**
baz=8.0
KBN AMP
comp=N,11nm,0.9s,baz=8.0
VLO Vlora 2.02 336 P Pn 18 01 28.7 +0.8
VLO Vlora 2.02 336 Pn **Pb 18 01 28.7 +0.8**
VLO Vlora 2.02 336 P Pb 18 01 29.9 -0.9
baz=340
VLO S **Sb 18 01 54.9 -0.8**
baz=340
VLO AMP
comp=N,18nm,0.7s,baz=340
SCTE Santa Cesarea 2.17 312 Pn **Pn 18 01 31.2 +1.2**
SCTE Sn **Sn 18 01 56.0 -0.7**
SCTE Santa Cesarea 2.17 312 P Pn 18 01 31.2 +1.2
baz=315
SCTE S **Sn 18 01 57.4 +0.7**
baz=315
FNA Florina 2.25 16 *e*P Pb 18 01 33.8 -1.1
FNA Florina 2.25 16 P Pb 18 01 33.6 -1.3
FNA Florina 2.25 16 ⇑P Pb 18 01 33.7 -1.1
FNA Florina 2.25 16 Pn **Pb 18 01 33.6 -1.3**
FNA Florina 2.25 16 P Pb 18 01 34.0 -0.9
baz=19
FNA S **Sb 18 02 03.0 +0.6**
baz=19
OHR Ohrid 2.49 4 P Pg 18 01 42.4 0.0
OHR Ohrid 2.49 4 *i* Pn **Pb 18 01 37.6 -1.4**
GRG Griva 2.73 31 *e*P Pn 18 01 39.4 +1.6
GRG Griva 2.73 31 P Pn 18 01 39.6 +1.8
THE Thessaloniki 2.73 42 P Pn 18 01 40.0 +2.2
PAIG Paliouri 2.75 61 P Pb 18 01 42.4 -0.9
TIR Tirane 2.77 349 P Pn 18 01 40.3 +2.0
TIR Tirane 2.77 349 P Pn 18 01 39.8 +1.5
TIR Tirane 2.77 349 ⇑P Pn 18 01 40.3 +2.0
TIR Tirane 2.77 349 Pn **Pn 18 01 39.8 +1.5**
TIR Tirane 2.77 349 P Pn 18 01 40.4 +2.0
baz=352
TIR S **Sb 18 02 15.1 -2.4**
baz=352
TIR AMP
comp=E,2.4nm,1.1s,baz=352
HORT Hortiatis 2.78 44 *e*P Pn 18 01 40.2 +1.7
TIP Timpagrande 3.02 282 ⇑P Pn 18 01 43.0 +1.2
TIP Timpagrande 3.02 282 Pn **Pn 18 01 42.7 +0.9**
PHP Peshkopia 3.06 358 P Pn 18 01 44.5 +2.2
PHP S **Sn 18 02 22.4 +3.8**
PHP Peshkopia 3.06 358 P Pn 18 01 44.5 +2.2
baz=0.0
PHP S **Sn 18 02 22.5 +3.8**
baz=0.0
PHP AMP
comp=N,3.3nm,1.1s,baz=0.0
SOH Sokhos 3.08 44 P Pn 18 01 44.9 +2.4
VAY Valandovo 3.10 29 P Pn 18 01 44.4 +1.5
VAY Valandovo 3.10 29 *i* Pn **Pn 18 01 44.8 +1.8**

VAY Valandovo 3.10 29 *e*Pn Pn 18 01 44.7 +1.8
KNT Kendrikon 3.11 35 *e*P Pn 18 01 44.8 +1.8
OUR Ouranopolis 3.15 56 *e*P Pn 18 01 45.9 +2.4
OUR Ouranopolis 3.15 56 P Pb 18 01 49.0 -1.2
STIP Stip 3.31 22 *i* Pn **Pn 18 01 49.2 +3.4**
SKO Skopje 3.41 11 P Pn 18 01 48.9 +1.8
SKO Skopje 3.41 11 *i* Pn **Pn 18 01 49.5 +2.3**
SRS Serrai 3.41 42 P Pn 18 01 48.5 +1.4
ULC Ulcinj 3.48 344 P Pn 18 01 49.1 +1.0
ULC Ulcinj 3.48 344 ⇓*i*Pn Pn 18 01 48.6 +0.5
ULC *i* Sn **Sn 18 02 27.4 -1.6**
MATE Matera 3.60 305 ⇑P Pn 18 01 51.1 +1.5
MATE ⇓S **Sn 18 02 31.7 -0.1**
MATE Matera 3.60 305 ⇑P Pn 18 01 51.7 +2.1
CEL Celeste 3.68 266 ⇑P Pn 18 01 52.0 +1.1
CEL Celeste 3.68 266 Pn **Pn 18 01 51.5 +0.6**
DRME Dracevica, Mon 3.71 344 ⇑*i*Pn Pn 18 01 52.0 +0.8
DRME Dracevica, Mon 3.71 344 ⇓*i*Pn Pn 18 01 51.7 +0.5
DRME *i* Sn **Sn 18 02 32.8 -1.8**
KKB Krupnik 3.77 30 P Pn 18 01 55.1 +3.0
MMB Musomiste 3.83 38 P Pn 18 01 54.4 +1.5
MMB S **Sb 18 02 43.4 -4.6**
BUM Brajici-Budva 3.89 341 ⇑*i*Pn Pn 18 01 54.0 +0.3
BUM *i* Sn **Sn 18 02 37.0 -2.0**
PDG Podgorica 3.93 346 ⇓P Pn 18 01 55.1 +0.9
PDG ⇓S **Sn 18 02 38.9 -1.0**
PDG Podgorica 3.93 346 ⇑*i*Pn Pn 18 01 54.8 +0.6
PDG Podgorica 3.93 346 ⇑P Pn 18 01 54.8 +0.6
PDG Podgorica 3.93 346 Pn **Pn 18 01 54.9 +0.8**
PDG Podgorica 3.93 346 *e*Pn Pn 18 01 55.0 +0.8
PDG *e*Sn **Sn 18 02 39.4 -0.6**
TTG Podgorica 3.93 346 ⇓*i*Pn Pn 18 01 54.7 +0.6
TTG *i* Sn **Sn 18 02 38.0 -2.0**
PVY Plav 3.99 354 ⇑*i*Pn Pn 18 01 55.7 +0.5
PVY *i* Sn **Sn 18 02 39.8 -1.9**
CEME Cevo 4.11 343 ⇑*i*Pn Pn 18 01 57.1 +0.3
CEME *i* Sn **Sn 18 02 42.4 -2.2**
HCY Herceg Novi 4.13 338 *e*Pn Pn 18 01 56.7 -0.3
HCY Herceg Novi 4.13 338 ⇓*i*Pn Pn 18 01 57.3 +0.3
HCY *i* Sn **Sn 18 02 42.6 -2.4**
BOSS Bosilegrad 4.13 20 *e*Pn Pn 18 01 59.0 +1.9
MRVN Minervino Murg 4.15 307 ⇑P Pn 18 01 58.1 +0.8
SIGR SIGRI 4.17 80 *e*P Pn 18 02 00.4 +2.8
IVA Berane 4.27 353 ⇑*i*Pn Pn 18 01 59.5 +0.5
IVA *i* Sn **Sn 18 02 46.6 -2.0**
BARS Barje 4.29 12 *e*Pn Pn 18 02 00.7 +1.4
KOME Kolasin 4.30 350 ⇑*i*Pn Pn 18 01 59.8 +0.4
KOME *i* Sn **Sn 18 02 47.0 -2.2**
CHOS Chios island 4.32 91 *e*P Pn 18 02 01.9 +2.3
NKY Niksic 4.35 345 P Pn 18 02 02.5 +2.4
RZN Rozhen 4.42 45 P Pn 18 02 01.4 +0.3
TREB Trebinje 4.42 338 *e*Pn Pn 18 02 00.9 -0.1
TREB Trebinje 4.42 338 *e*Pn Pn 18 02 00.9 -0.1
TREB *e*Sn **Sn 18 02 50.3 -1.8**
GADA Gvkgeada 4.42 68 *e*P Pn 18 02 03.3 +2.3
BOZC Bozcaada 4.44 72 *e*P Pn 18 02 03.9 +2.7
VTS Vitosha 4.48 26 ⇑P Pn 18 02 03.9 +2.0
VTS Vitosha 4.48 26 P Pn 18 02 03.8 +1.9
VTS Vitosha 4.48 26 ⇑P Pn 18 02 03.7 +1.8
VTS Vitosha 4.48 26 Pn **Pn 18 02 03.8 +1.9**
VTS Vitosha 4.48 26 *e*Pn Pn 18 02 03.9 +1.9
SANT Santorini 4.50 118 Pn **Pn 18 02 01.7 -0.4**
BRY Bratogost 4.54 341 P Pn 18 02 03.2 +0.5
BRY Bratogost 4.54 341 *e*Pn Pn 18 02 02.4 -0.3
BRY Bratogost 4.54 341 ⇓*i*Pn Pn 18 02 02.9 +0.2
BRY *i* Sn **Sn 18 02 52.4 -2.8**
RDO Rodhopi 4.58 55 *e*P Pn 18 02 05.0 +1.8
RDO Rodhopi 4.58 55 ⇑P Pn 18 02 04.9 +1.7
SELS Selova 4.61 5 *e*Pn Pn 18 02 04.4 +0.8
SELS *e*Sn **Sn 18 02 57.0 +0.2**
SJES Sjenica 4.65 355 *e*Pn Pn 18 02 05.7 +1.4
PLD Plovdiv 4.70 41 *e*P Pn 18 02 07.5 +2.7
PLD Plovdiv 4.70 41 P Pn 18 02 08.0 +3.2
GVD Gavdhos 4.72 142 *e*P Pn 18 02 09.9 +4.8
UPM Unac-Piva 4.74 345 *e*Pn Pn 18 02 06.4 +0.8
UPM Unac-Piva 4.74 345 ⇓*i*Pn Pn 18 02 05.7 +0.1
UPM *i* Sn **Sn 18 02 57.4 -2.9**
URLA Izmir 4.74 91 *e*P Pn 18 02 08.8 +3.3
STON Ston 4.77 334 *e*Pn Pn 18 02 05.4 -0.3
STON Ston 4.77 334 *e*Pn Pn 18 02 05.8 +0.1
STON *e*Sn **Sn 18 02 57.9 -2.7**
PLE Pljevlja 4.78 350 P Pn 18 02 08.2 +2.1
PLE Pljevlja 4.78 350 ⇑*i*Pn Pn 18 02 06.4 +0.3
PLE *i* Sn **Sn 18 02 58.6 -2.6**
PGB Panagyurishte 4.79 34 P Pn 18 02 07.9 +1.8
KDZ Kurdzhali 4.79 49 P Pn 18 02 07.4 +1.3
ALN Alexandroupoli 4.80 60 *e*P Pn 18 02 07.9 +1.8
ALN Alexandroupoli 4.80 60 P Pn 18 02 08.0 +1.8
ALN Alexandroupoli 4.80 60 ⇓P Pn 18 02 08.1 +1.9
ALN Alexandroupoli 4.80 60 Pn **Pn 18 02 08.0 +1.8**
IDI Anoyia 4.81 133 Pn **Pn 18 02 08.1 +1.7**
comp=N,3.7nm,0.3s,baz=279,slow=9.8,SNR=19
IDI Sn **Sn 18 03 06.3 +4.5**
comp=N,13nm,0.3s,baz=194,slow=6.4,SNR=7.1
SGRT San Giovanni R 4.83 312 Pn 18 02 07.4 +0.6
ZAPS Zavoj 4.90 18 *e*Pn Pn 18 02 09.5 +1.9
GELI Tayfur-Gelibol 4.91 67 *e*P Pn 18 02 10.4 +2.8
IVAS Ivanjica 4.96 357 *e*Pn Pn 18 02 08.7 +0.3
IVAS *e*Sn **Sn 18 03 04.4 -1.0**
DKL Dikili 4.97 83 *e*P Pn 18 02 12.4 +3.8
VAE Valguarnera 4.99 259 Pn **Pn 18 02 09.3 +0.6**
comp=N,1.8nm,0.3s,baz=186,slow=7.5,SNR=4.7
VAE Sn **Sn 18 03 11.7 +5.5**
comp=N,5.3nm,0.3s,baz=155,slow=23,SNR=4.1
ERIK Erikli-Kesan 5.03 64 *e*P Pn 18 02 11.8 +2.5
RUDO Rudo 5.07 350 *e*Pn Pn 18 02 09.9 0.0
BOVS Bovan 5.08 9 *e*Pn Pn 18 02 10.4 +0.4
RAFF Raffo Rosso 5.09 256 Pn 18 02 10.0 -0.2
LPK Lapseki 5.11 68 *e*P Pn 18 02 12.8 +2.4
DIM Dimitrovgrad 5.11 46 P Pn 18 02 14.1 +3.6
PAOL Paolisi 5.20 299 Pn **Pn 18 02 12.9 +1.2**
GRUS Gruza 5.26 1 *e*Pn Pn 18 02 13.4 +0.9
UKOP Uzunkopru-Edir 5.30 60 *e*P Pn 18 02 15.3 +2.3
BBLS Lazići 5.31 351 ⇑*i*Pn Pn 18 02 13.3 +0.1
BBLS Lazići 5.31 351 *e*Pn Pn 18 02 13.9 +0.7
ZAGS Zajecar 5.33 13 *e*Pn Pn 18 02 14.3 +0.8
DIVS Divibare 5.49 356 ⇑*i*Pn Pn 18 02 15.8 +0.1
DIVS Divibare 5.49 356 ⇑P Pn 18 02 15.9 +0.2
DIVS Divibare 5.49 356 Pn 18 02 16.1 +0.4
DIVS Divibare 5.49 356 *e*Pn Pn 18 02 16.1 +0.4
DIVS *e*Sn **Sn 18 03 17.0 -1.5**
KRBG Karabiga-Canak 5.50 69 *e*P Pn 18 02 18.9 +3.1
RKY Sarkoy-Tekirda 5.51 66 *e*P Pn 18 02 18.8 +2.8
BODT Bodrum 5.57 104 *e*P Pn 18 02 19.8 +3.1
MAR6 Marsite Statio 5.58 66 *e*P Pn 18 02 19.6 +2.7
TRUS Trudelj 5.60 359 *e*Pn Pn 18 02 17.4 +0.3
MAR3 Marsite Statio 5.61 66 *e*P Pn 18 02 20.1 +2.8
SVIS Svilajnac 5.66 5 *e*Pn Pn 18 02 18.9 +1.0
EDRB Edirne 5.72 54 *e*P Pn 18 02 20.6 +1.7
ZKR Zakros 5.73 126 *e*P Pn 18 02 22.9 +3.9
BALB Balikesir 5.78 78 *e*P Pn 18 02 23.2 +3.5
BALB Balikesir 5.78 78 Pn **Pn 18 02 22.6 +2.9**
MRMT Marmara Adasi 5.78 68 *e*P Pn 18 02 23.3 +3.6
KUBS Kucevo 5.84 8 *e*Pn Pn 18 02 21.1 +0.6
CLTB Caltabellotta 5.88 262 Pn **Pn 18 02 22.1 +0.9**
PUNG Punghina 5.92 17 ⇑P Pn 18 02 22.9 +1.4
TEKS Tekeris 5.97 353 *e*Pn Pn 18 02 21.2 -1.0
TEKS Tekeris 5.97 353 *e*Pn Pn 18 02 21.3 -1.0
BEO Beograd 6.18 359 P Pn 18 02 24.5 -0.6
ZIMR 6.20 34 ⇑P Pn 18 02 28.0 +2.6
MGRS Mrkonjic Grad 6.35 337 *e*Pn Pn 18 02 28.4 +0.9
KULA Kula-Manisa 6.35 88 *e*P Pn 18 02 31.3 +3.7
SRE Strehaia 6.35 17 ⇓P Pn 18 02 28.6 +1.2
SRE Strehaia 6.35 17 P Pn 18 02 28.6 +1.2
COPA Copaceanca 6.52 31 ⇑P Pn 18 02 32.7 +2.9
FRGS Fruska Gora 6.55 355 *e*Pn Pn 18 02 29.3 -1.0
FRGS Fruska Gora 6.55 355 *e*Pn Pn 18 02 29.7 -0.6
AQU L'Aquila 6.61 307 P Pn 18 02 32.5 +1.5
AQU L'Aquila 6.61 307 ⇑*i*Pn Pn 18 02 33.6 +2.6
AQU L'Aquila 6.61 307 ⇑P Pn 18 02 34.1 +3.0
AQU L'Aquila 6.61 307 Pn 18 02 32.5 +1.5
BLY Banja Luka 6.62 339 ⇑*i*Pn Pn 18 02 31.2 0.0
BLY Banja Luka 6.62 339 ⇓P Pn 18 02 31.6 +0.4
BLY Banja Luka 6.62 339 *e*Pn Pn 18 02 31.6 +0.4
HUMR Humele 6.76 28 ⇑P Pn 18 02 35.2 +2.0
MRAK Mrakovica 6.94 338 ⇑*i*Pn Pn 18 02 35.0 -0.7
GZR Gura Zlata 6.96 13 ⇓P Pn 18 02 37.0 +1.1
GZR Gura Zlata 6.96 13 P Pn 18 02 37.0 +1.1
AVR AVREN 7.01 48 P Pn 18 02 41.2 +4.6
BZS Buzias 7.03 6 P Pn 18 02 37.0 +0.2

BZS pmax pmax
comp=Z,18nm,0.8s
NRCA Norcia 7.04 309 Pn 18 02 39.3 +2.2
LOT Lotru 7.22 18 ⇑P Pn 18 02 41.1 +1.5
SULR 7.40 33 ⇑P Pn 18 02 44.8 +3.0
MTUR Matau 7.40 26 ⇑P Pn 18 02 44.2 +2.2
DEV Deva 7.46 13 P Pn 18 02 44.9 +2.2
DEV pmax pmax
comp=Z,30nm,1.0s
VOIR 7.58 25 ⇑P Pn 18 02 46.7 +2.2
VOIR 7.58 25 P Pn 18 02 47.1 +2.6
VOIR pmax pmax
comp=Z,29nm,0.8s
MURB Monte Urbino 7.64 310 Pn 18 02 47.7 +2.4
KOVH Kovagotottos 7.68 347 PN **Pn 18 02 44.6 -1.1**
KOVH SN **Sn 18 04 06.6 -5.7**
MGAB Montegabbione 7.71 306 ⇑P Pn 18 02 49.0 +2.9
MORH Mrgy, Hungar 7.72 350 ⇑*i*Pn Pn 18 02 44.8 -1.4
MORH Mrgy, Hungar 7.72 350 PN **Pn 18 02 45.3 -0.9**
MORH SN **Sn 18 04 07.3 -5.9**
AMBH Ambrzfalva 7.72 1 PN **Pn 18 02 46.6 +0.3**
BORA Eskisehir 7.78 78 Pn **Pn 18 02 46.3 -0.9**
ISR Istrita 7.88 33 ⇓P Pn 18 02 52.1 +3.7
ISR Istrita 7.88 33 P Pn 18 02 51.8 +3.4
ISR pmax pmax
comp=Z,136nm,0.7s
MLR Muntele Rosu 7.94 29 ⇓P Pn 18 02 52.9 +3.5
MLR Muntele Rosu 7.94 29 Pn **Pn 18 02 51.5 +2.0**
comp=Z,2.2nm,0.3s,baz=236,slow=5.7,SNR=21
MLR LR LR 18 06 29.7
comp=Z,496nm,21.9s,baz=202,slow=43
MLR Muntele Rosu 7.94 29 P Pn 18 02 50.0 +0.6
MLR Muntele Rosu 7.94 29 Pn 18 02 50.0 +0.6
NEHR Nehoiu 8.03 30 ⇓P Pn 18 02 54.0 +3.5
PTJ Puntijarka 8.03 336 P Pn 18 02 49.9 -0.7
RIY Rijeka 8.08 328 ⇑*i*Pn Pn 18 02 51.2 0.0
GBRS Gornja Briga 8.12 330 *i* Pn **Pn 18 02 52.9 +1.1**
CRES Cresnjev 8.13 334 ⇑*i*Pn Pn 18 02 51.5 -0.3
CRES Cresnjev 8.13 334 *i* Pn **Pn 18 02 51.6 -0.3**
DOPR Dopca 8.16 24 ⇑P Pn 18 02 55.0 +2.6
TIRR Tirgusor 8.28 43 P Pn 18 02 54.9 +0.9
TIRR Tirgusor 8.28 43 Pn **Pn 18 02 54.9 +0.9**
BISRR Bisoca 8.29 31 ⇓P Pn 18 02 57.6 +3.4
CJR Cluj-Napoca 8.39 14 P Pn 18 02 59.6 +4.1
OZUR 8.41 26 ⇓P Pn 18 02 58.1 +2.4
MDUB Mudurnu 8.42 74 Pn 18 02 57.0 +0.9
CEY Cerknica 8.44 329 *e*Pn Pn 18 02 56.0 -0.2
PDKS Podkum 8.49 333 *i* Pn **Pn 18 02 57.0 0.0**
PLOR Plostina 8.52 30 ⇑P Pn 18 03 00.6 +3.4
PLOR Plostina 8.52 30 P Pn 18 03 00.6 +3.4
VRI Vrincioaia 8.56 30 ⇑P Pn 18 03 00.9 +3.1
VRI Vrincioaia 8.56 30 P Pn 18 03 02.0 +4.2
VRI pmax pmax
comp=Z,80nm,0.7s
OSSC Osservatorio P 8.57 308 Pn 18 02 59.6 +1.7
ODBI Odobesti 8.61 32 ⇓P Pn 18 03 02.2 +3.7
CFR Carcaliu 8.65 38 ⇑P Pn 18 03 03.0 +4.0
CFR Carcaliu 8.65 38 P Pn 18 03 02.9 +4.0
LJU Ljubljana 8.65 331 ⇑*i*Pn Pn 18 02 58.5 -0.6
MPLH Magyarpolny 8.82 346 PN **Pn 18 03 00.7 -0.7**
MPLH SN **Sn 18 04 33.5 -6.9**
CSKK Cskako 8.89 350 PN **Pn 18 03 03.3 +0.9**
PERS Pernice 8.95 335 *i* Pn **Pn 18 03 02.6 -0.6**
SOKA Soboth 9.02 335 *i* Pn **Pn 18 03 03.4 -0.7**
comp=Z,48nm,0.6s,SNR=20
SOKA *e*Sn **Sn 18 04 39.8 -5.6**
comp=Z,4.3nm,0.4s
OBKA Obir 9.04 333 *e*Pn Pn 18 03 04.1 -0.3
comp=Z,18nm,0.4s
OBKA *e*Sn **Sn 18 04 44.4 -1.5**
comp=Z,21nm,0.6s
TESR Tescani 9.07 28 ⇑P Pn 18 03 07.8 +3.0
EGYH Egyhazaskeszo 9.10 346 PN **Pn 18 03 06.2 +1.0**
VLDR Vladesti 9.12 35 ⇓P Pn 18 03 08.8 +3.5
ZCCA Zocca 9.19 312 Pn 18 03 08.4 +1.9
BMR Baia Mare 9.29 12 P Pn 18 03 08.4 +0.5
BMR pmax pmax
comp=Z,21nm,0.9s
PSZ Piszkesteto 9.30 357 ⇑P Pn 18 03 08.6 +0.5
PSZ Piszkesteto 9.30 357 P Pn 18 03 08.1 +0.1
PSZ Piszkesteto 9.30 357 ⇑P Pn 18 03 08.2 +0.2
PSZ Piszkesteto 9.30 357 Pn 18 03 08.1 +0.1
PSZ Piszkesteto 9.30 357 PN **Pn 18 03 07.0 -1.1**
SRO Srobarova 9.33 351 P Pn 18 03 10.3 +2.0
SRO pmax pmax
comp=Z,85nm,0.8s
ARSA Arzberg 9.38 338 *i* Pn **Pn 18 03 07.3 -1.7**
comp=Z,8.7nm,0.7s,SNR=7.5
ARSA *e*Sn **Sn 18 04 51.1 -3.0**
comp=Z,7.9nm,1.0s
KEST Kesra 9.40 256 Pn **Pn 18 03 10.7 +1.2**
comp=Z,0.5nm,0.3s,baz=26,slow=5.3,SNR=8.3
KEST Kesra 9.40 256 Pn **Pn 18 03 09.6 +0.1**
PTCC Patocco-Chiusa 9.42 328 ⇓P Pn 18 03 08.9 -0.7
VLC Villacollemand 9.43 309 Pn **Pn 18 03 11.0 +1.3**
TEOL Teolo 9.43 318 Pn 18 03 09.1 -0.6
MYKA Terra Mystica 9.48 330 *e*Pn Pn 18 03 10.4 -0.1
comp=Z,7.1nm,0.4s
MYKA *e*Sn **Sn 18 04 53.3 -3.4**
comp=Z,4.8nm,0.4s
SOP Sopron 9.51 343 P Pn 18 03 12.9 +2.1
SOP pmax pmax
comp=Z,29nm,1.0s
SOP Sopron 9.51 343 PN **Pn 18 03 11.1 +0.3**
STAL STALIGIAL 9.58 325 Pn 18 03 11.3 -0.5
BURAR Bucovina Array 9.61 19 ⇓P Pn 18 03 14.8 +2.5
BURAR Bucovina Array 9.61 19 P Pn 18 03 14.7 +2.5
BURAR Bucovina Array 9.61 19 Pn 18 03 12.9 +0.7
TRPA Tarpa 9.61 8 ⇓P Pn 18 03 12.8 +0.6
TRPA Tarpa 9.61 8 PN **Pn 18 03 12.3 +0.1**
BUR08 Bucovina Ar. S 9.63 19 Pn 18 03 13.2 +0.7
ZOU Zoufplan 9.70 327 Pn 18 03 12.9 -0.6
PRMA PARMA 9.81 312 Pn **Pn 18 03 16.1 +1.1**
KECS Kecovo 9.86 360 *e*P Pn 18 03 17.4 +1.9
KECS Kecovo 9.86 360 *e*PN Pn 18 03 17.3 +1.8
ZST Bratislava 9.89 346 *e*P Pn 18 03 16.3 +0.2
ZST *e* 18 05 03.3
ZST Bratislava 9.89 346 *e*PN Pn 18 03 16.2 +0.2
ZST *e*SN **Sn 18 05 03.3 -3.3**
CONA Conrad Observa 9.91 341 Pn **Pn 18 03 16.1 -0.3**
comp=Z,2.6nm,0.4s,SNR=5.6
CONA *e*Sn **Sn 18 05 03.2 -4.0**
comp=Z,2.7nm,0.6s
CTI Castel Tesino 9.92 321 P Pn 18 03 15.9 -0.7
CTI Castel Tesino 9.92 321 Pn 18 03 15.9 -0.7
VYHS Vyhne 9.95 353 *e*P Pn 18 03 16.9 +0.1
VYHS *e* 18 05 03.4
VYHS Vyhne 9.95 353 *e*PN Pn 18 03 16.9 +0.1
VYHS *e*SN **Sn 18 05 03.4 -4.6**
KBA Koelnbreinsper 9.97 330 Pn **Pn 18 03 17.5 +0.3**
comp=Z,10nm,0.4s,SNR=6.0
KBA *e*Sn **Sn 18 05 04.1 -4.7**
comp=Z,14nm,0.8s
KBA Koelnbreinsper 9.97 330 P Pn 18 03 17.6 +0.3
KBA pmax pmax
comp=Z,32nm,0.7s
MODS Modra-Piesok 10.03 347 *e*P Pn 18 03 17.4 -0.6
MODS *e* 18 05 04.7
MODS Modra-Piesok 10.03 347 *e*PN Pn 18 03 17.4 -0.6
MODS *e*SN **Sn 18 05 04.7 -5.4**
ABTA Abfaltersbach 10.04 327 *i* Pn **Pn 18 03 17.8 -0.4**
comp=Z,13nm,0.5s,SNR=6.6
ABTA *e*Sn **Sn 18 05 06.1 -4.4**
comp=Z,20nm,0.5s
MSSA Maissana 10.05 308 Pn **Pn 18 03 18.7 +0.4**
KOLL Kolacno 10.07 352 *e*PN Pn 18 03 19.1 +0.6
KOLL *e*SN **Sn 18 05 06.1 -5.0**
UZH Uzhgorod 10.08 7 *e*P Pn 18 03 19.4 +0.8
UZH *e*S **Sn 18 05 14.4 +3.1**
UZH MLR MLR
comp=N,100nm,12.0s
UZH MLR MLR
comp=E,100nm,12.0s
UZH MLR MLR
comp=Z,60nm,12.0s
SALO Salr 10.21 316 ⇑P Pn 18 03 20.6 +0.1
SALO Salr 10.21 316 Pn 18 03 20.3 -0.1
BRTR Keskin Array B 10.22 80 Pn **Pn 18 03 23.4 +2.8**
comp=Z,1.1nm,0.3s,baz=260,slow=13,SNR=30
BRTR LR LR 18 07 08.2
comp=Z,46nm,19.0s,baz=246,slow=37
BRTR Keskin Array B 10.22 80 *i* P **Pn 18 03 25.3 +4.6**
BRTR pmax pmax

comp=Z,5.0nm,0.5s
BRTR Keskin Array B 10.22 80 Pn **Pn 18 03 21.3 +0.6**
MOA Molln 10.30 336 *i* Pn **Pn 18 03 21.5 -0.1**
comp=Z,28nm,0.8s,SNR=10
MOA *e*Sn **Sn 18 05 10.6 -6.1**
comp=Z,6.8nm,0.6s
JAVC Velka Javorina 10.44 349 *e*PN **Pn 18 03 24.3 +0.7**
NIE Niedzica 10.79 359 *e*P **Pn 18 03 30.7 +2.3**
NIE Niedzica 10.79 359 P **Pn 18 03 31.1 +2.7**
NIE pmax pmax
comp=Z,15nm,1.1s
WTTA Wattenberg 10.82 326 Pn **Pn 18 03 29.1 +0.1**
comp=Z,11nm,0.3s,SNR=20
WTTA *e*Sn **Sn 18 05 24.5 -5.3**
comp=Z,25nm,0.7s
WTTA Wattenberg 10.82 326 P **Pn 18 03 29.3 +0.3**
WTTA pmax pmax
comp=Z,39nm,0.8s
KRUC Moravsky 10.86 345 P **Pn 18 03 28.3 -0.9**
KRUC pmax pmax
comp=Z,11nm,1.6s
CSS Mathiatis 10.87 106 Pn **Pn 18 03 29.6 0.0**
WATA Walderalm 10.90 326 Pn **Pn 18 03 30.6 +0.5**
comp=Z,17nm,0.4s,SNR=19
WATA *e*Sn **Sn 18 05 27.7 -4.0**
comp=Z,9.3nm,0.6s
SQTA Sankt Quirin 10.98 324 *i* Pn **Pn 18 03 32.2 +1.1**
comp=Z,14nm,0.4s,SNR=12
SQTA *e*Sn **Sn 18 05 29.9 -3.7**
comp=Z,7.6nm,0.4s
VRAC Vranov 11.05 346 Pn **Pn 18 03 31.7 -0.3**
comp=Z,0.5nm,0.3s,baz=169,slow=13,SNR=8.7
VRAC Vranov 11.05 346 P **Pn 18 03 32.0 +0.1**
VRAC pmax pmax
comp=Z,10.0nm,0.9s
VRAC Vranov 11.05 346 *e*PN **Pn 18 03 31.8 -0.1**
FETA Feichten 11.06 322 *e*Pn **Pn 18 03 32.5 +0.3**
comp=Z,7.0nm,1.0s
FETA *e*Sn **Sn 18 05 34.4 -1.2**
comp=Z,3.7nm,0.4s
MOTA Moosalm 11.12 325 *i* Pn **Pn 18 03 33.7 +0.7**
comp=Z,55nm,0.9s,SNR=39
MOTA *e*Sn **Sn 18 05 34.0 -3.1**
comp=Z,21nm,0.9s
CKRC Cesky Krumlov 11.14 338 *e*PN **Pn 18 03 32.8 -0.4**
DAVOX Davos/Dischmat 11.31 320 Sn **Sn 18 05 40.1 -1.7**
comp=Z,2.5nm,0.3s,baz=143,slow=23,SNR=7.8
DAVOX LR LR 18 08 44.9
comp=Z,190nm,20.5s,baz=125,slow=42
OKC Ostrava-Krasne 11.34 352 P **Pn 18 03 37.1 +1.2**
GEC2 GERESS Array S 11.35 336 **Pn 18 03 35.4 -0.7**
GERES GERESS Array B 11.35 336 Pn **Pn 18 03 35.0 -1.1**
comp=Z,1.9nm,0.3s,baz=156,slow=13,SNR=63
GERES Sn **Sn 18 05 37.2 -5.4**
comp=Z,1.1nm,0.3s,baz=156,slow=23,SNR=5.9
GERES GERESS Array B 11.35 336 P **Pn 18 03 34.8 -1.3**
GERES GERESS Array B 11.35 336 **Pn 18 03 34.8 -1.3**
MORC Moravsky Berou 11.36 350 P **Pn 18 03 36.1 0.0**
MORC pmax pmax
comp=Z,10.0nm,0.8s
MORC Moravsky Berou 11.36 350 *e*PN **Pn 18 03 36.7 +0.6**
RETA Reute 11.38 324 *e*Pn **Pn 18 03 37.3 +0.8**
comp=Z,3.0nm,0.5s
RETA *e*Sn **Sn 18 05 39.9 -3.5**
comp=Z,5.4nm,0.4s
TUE Stuetta 11.39 317 ⇑P **Pn 18 03 36.0 -0.7**
TUE Stuetta 11.39 317 **Pn 18 03 36.4 -0.3**
LVV L'vov 11.46 11 *e*P **Pn 18 03 38.1 +0.6**
KHC Kasperske Hory 11.64 337⇓*e*P **Pn 18 03 38.9 -1.1**
KHC pmax pmax
comp=Z,27nm,1.0s
KHC Kasperske Hory 11.64 337 *e*PN **Pn 18 03 39.0 -1.1**
KHC x x 18 03 46.5
KHC *e*SN **Sn 18 05 41.8 -7.8**
KHC Kasperske Hory 11.64 337 ⇓P **Pn 18 03 39.0 -1.1**
KHC Kasperske Hory 11.64 337 **Pn 18 03 38.9 -1.1**
DAVA Damuels 11.66 321 *e*Pn **Pn 18 03 41.9 +1.5**
comp=Z,4.5nm,0.3s
DAVA *e*Sn **Sn 18 05 43.8 -6.4**
comp=Z,24nm,0.6s
WET Wettzell 11.88 335 P **Pn 18 03 42.3 -0.9**
WET pmax pmax
comp=Z,15nm,0.9s
PRU Pruhonice 12.14 341 *e*P **Pn 18 03 46.9 +0.1**
PRU Pruhonice 12.14 341 *e*PN **Pn 18 03 46.9 +0.1**
BNI Bardonecchia 12.17 306 P **Pn 18 03 47.8 +0.4**
BNI Bardonecchia 12.17 306 Pn **Pn 18 03 47.8 +0.4**
SENIN Lac Senin/Sane 12.46 313 **Pn 18 03 52.0 +0.6**
NKC Novy Kostel 12.96 336 P **Pn 18 03 58.9 +0.9**
NKC pmax pmax
comp=Z,17nm,2.5s
STU Stuttgart 13.04 325 P **Pn 18 03 57.8 -1.3**
STU Stuttgart 13.04 325 Pn **Pn 18 03 57.8 -1.3**
BRG Berggiesshubel 13.11 341 Amp 18 04 14.3
comp=Z,18nm,1.8s
BRG Berggiesshubel 13.11 341 *e*P **Pn 18 03 59.7 -0.3**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,18nm,1.8s
BRG Berggiesshubel 13.11 341 *e*P **Pn 18 03 59.7 -0.3**
BRG Berggiesshubel 13.11 341 Amp 18 04 01.5
comp=Z,7.6nm,1.0s
BRG Berggiesshubel 13.11 341 *e*x x 18 04 11.2
BFO Black Forest 13.13 322 P **Pn 18 04 00.8 +0.4**
BFO Black Forest 13.13 322 Pn **Pn 18 04 00.8 +0.4**
MMAI Mount Meron Ar 13.28 110 Pn **Pn 18 04 02.2 -0.2**
comp=Z,2.1nm,0.3s,baz=305,slow=12,SNR=10.0
MMAI Sn **Sn 18 06 23.4 -6.3**
comp=Z,1.6nm,0.3s,baz=318,slow=30,SNR=5.5
AKASG Malin Array Be 13.54 24 Pn **Pn 18 04 05.4 -0.5**
comp=Z,0.9nm,0.3s,baz=211,slow=12,SNR=13
AKASG LR LR 18 10 19.3
comp=Z,400nm,20.2s,baz=206,slow=42
AKASG Malin Array Be 13.54 24*ce*P **Pn 18 04 06.4 +0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 13.54 24 **Pn 18 04 06.1 +0.2**
AKBB Malin Array Si 13.54 24⇑*i*P **Pn 18 04 07.8 +1.9**
AKBB Malin Array Si 13.54 24 **Pn 18 04 05.0 -0.9**
MOX Moxa 13.59 335 P **Pn 18 04 06.2 -0.3**
MOX pmax pmax
comp=Z,15nm,0.8s
ECH Echery 13.65 319 P **Pn 18 04 08.0 +0.6**
ECH Echery 13.65 319 Pn **Pn 18 04 08.0 +0.6**
CLL Collm 13.75 340 P **Pn 18 04 09.9 +1.1**
CLL Collm 13.75 340 *e*PP **P 18 04 18.0 +0.7**
comp=Z,14nm,1.0s
CLL Collm 13.75 340 **Pn 18 04 09.9 +1.1**
ASF Jabal al Asfar 14.79 111 Pn **Pn 18 04 24.2 +1.1**
comp=Z,0.3nm,0.3s,baz=253,slow=19,SNR=1.5
EIL Elat 14.88 123 Pn **Pn 18 04 26.1 +1.8**
comp=Z,0.8nm,0.3s,baz=91,slow=13,SNR=3.5
EIL Sn Sn 18 06 55.4 -13
comp=Z,1.0nm,0.3s,baz=268,slow=17,SNR=3.8
WLF Walferdange 15.10 322 P **Pn 18 04 25.3 -1.7**
WLF pmax pmax
comp=Z,42nm,0.9s
WLF Walferdange 15.10 322 Pn **Pn 18 04 25.3 -1.7**
WLF IAmb IAmb 18 04 36.9
comp=Z,42nm,0.9s
WLF Walferdange 15.10 322 x x 18 04 35.3
SOC Sochi 15.26 65 *e*P **P 18 04 31.9 -2.2**
SOC *e* 18 07 22.8
SOC MLR MLR
comp=Z,510nm,17.0s
SUW Suwalki 15.50 6 *e*P **Pn 18 04 33.6 +1.3**
SUW Suwalki 15.50 6 P **Pn 18 04 31.0 -1.3**
SUW pmax pmax
comp=Z,90nm,0.9s
SUW Suwalki 15.50 6 Pn **Pn 18 04 31.0 -1.3**
BTNL Ternell 15.73 324 x x 18 04 42.2
MEM Membach 15.80 324 x x 18 04 43.2
KLNR Kaliningrad 15.99 359⇑*e*P **P 18 04 41.4 -0.6**
KLNR pmax pmax
comp=Z,66nm,1.0s
BSTI Sart Tilman 15.99 323 x x 18 04 45.6
BCLA Clavier 16.01 322 x x 18 04 45.3
BGES Gesves 16.09 322 x x 18 04 46.2
DOU Dourbes 16.14 320 x x 18 04 45.9
MNK Minsk 16.65 15 *i* P **Pn 18 04 45.9 -1.1**
MNK *i* S **Sn 18 07 49.7 -1.7**
MNK pmax pmax
comp=N,43nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=E,65nm,0.8s
MNK MLR MLR
comp=E,25nm,16.0s
MNK MLR MLR
comp=Z,130nm,16.0s
MNK MLR MLR
comp=N,126nm,16.0s
MNK Minsk 16.65 15 *i* P **Pn 18 04 45.9 -1.1**
comp=E,2.0nm,0.8s
MNK *i* P **Pn 18 04 45.9 -1.1**
comp=N,43nm,0.8s
MNK *i* P **Pn 18 04 45.9 -1.1**
comp=E,65nm,0.8s,baz=201
MNK *i* pP **sP 18 04 55.5 -0.6**
MNK *i* sP pP 18 05 03.1 +9.1
MNK *i* S **Sn 18 07 49.7 -1.7**
MNK *i* LR LR 18 10 47.1
MNK *i* LRM MLR 18 11 25.5
comp=E,25nm,15.8s
MNK *i* LRM MLR 18 11 28.5
comp=Z,130nm,15.8s
MNK *i* LRM MLR 18 12 01.6
comp=N,126nm,15.6s
NACGM Naroch 16.82 12 *i* P **P 18 04 50.9 -0.5**
BSEG Bad Segeberg 16.84 339 P **Pn 18 04 48.5 -1.0**
BSEG pmax pmax
comp=Z,30nm,1.0s
IIGN Ignalina 17.16 11 *e*P **Pn 18 04 53.5 0.0**
IIGN IAmb IAmb 18 05 09.7
comp=Z,9.1nm,0.9s
IDID Didziasalis 17.21 12 *e*P **Pn 18 04 54.3 +0.3**
IDID IAmb IAmb 18 05 11.7
comp=Z,8.7nm,1.1s
ISAL Salakas 17.36 11 *e*P **Pn 18 04 55.5 -0.5**
KIV Kislovodsk 17.44 65 *i* P **P 18 04 58.8 +0.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,64nm,16.0s
KBZ Khabaz 17.55 66 P **P 18 05 00.1 +0.6**
comp=Z,0.2nm,0.3s,baz=286,slow=12,SNR=6.5
KBZ Khabaz 17.55 66*ce*P **P 18 05 00.3 +0.8**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
GOF Gofitskoye 17.92 62⇑*e*P **P 18 05 04.7 +1.2**
NCK Nalchik 18.02 67⇓*e*P **P 18 05 07.2 +2.5**
NCK pmax pmax
comp=Z,6.0nm,0.8s
VORD Divnogorie 18.07 41 *e*P **P 18 05 05.8 +0.6**
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 18.16 40 *e*P **P 18 05 06.4 +0.3**
VSR pmax pmax
comp=Z,30nm,1.1s
GNI Garni 18.75 78 LR LR 18 12 30.6
comp=Z,79nm,18.4s,baz=275,slow=37
LPSR Galich'ya Gora 18.91 36 *e*P **P 18 05 13.9 -0.4**
LPSR pmax pmax
comp=Z,30nm,1.1s
ESDC Sonseca Array 19.04 281 P **P 18 05 16.1 +0.2**
comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=17
NAX Nakhchivan 19.41 81 P **Pn 18 05 22.0 +0.8**
VRH Novokhopyorsk 19.48 43 *e*P **Pn 18 05 22.0 +0.2**
VRH pmax pmax
comp=Z,40nm,1.7s
OBN Obninsk 19.71 28 P **P 18 05 23.4 +0.3**
comp=Z,1.9nm,0.3s,baz=227,slow=21,SNR=5.7
OBN LR LR 18 14 01.9
comp=Z,50nm,19.8s,baz=193,slow=40
OBN Obninsk 19.71 28*c i*P **Pn 18 05 24.5 -0.1**
OBN *e*S **S 18 09 04.3 -0.4**
OBN pmax pmax
comp=Z,21nm,0.7s
OBN MLR MLR
comp=Z,205nm,15.0s
OBN Obninsk 19.71 28 P **P 18 05 22.8 -0.3**
OBN IAmb IAmb 18 05 25.7
comp=Z,36nm,1.0s
GANJ Ganja 19.93 76 P **Pn 18 05 27.6 +0.3**
ZKTA Zakatala 20.13 73 P Pn 18 05 30.0 +0.3
MTSE Matsula 20.22 5 *e*P **P 18 05 28.2 -0.3**
VSU Vasula 20.25 9*c i*P **P 18 05 29.1 +0.2**
VSU pmax pmax
comp=Z,211nm,0.8s
VSU Vasula 20.25 9 *e*P **P 18 05 29.2 +0.3**
VSU Vasula 20.25 9 ⇑P **P 18 05 28.8 -0.2**
MNGR Mingechevir, A 20.50 76 P Pn 18 05 33.8 -0.2
SEKA Sheki 20.57 74 P Pn 18 05 35.8 +0.9
MOS Moscow 20.58 28 *e*P **P 18 05 30.6 -1.9**
MOS *e* 18 05 41.0
MOS *e* 18 06 11.5
MOS pmax pmax
comp=Z,35nm,0.8s
MAK Makhachkala 20.82 69 *e*P Pn 18 05 37.0 -0.7
MAK *e*S **S 18 09 27.7 +0.8**
MAK pmax pmax
comp=Z,114nm,0.8s
UPP Uppsala 21.34 356 *e*P **P 18 05 40.4 -0.2**
AAL Aland 21.58 359 *e*P **P 18 05 42.9 -0.3**
HFS Hagfors 21.96 351 P **P 18 05 46.4 -1.0**
comp=Z,17nm,0.5s,baz=163,slow=11,SNR=62
HFS LR LR 18 16 05.2
comp=Z,131nm,19.7s,baz=201,slow=42
LKRN Lenkeran, Azer 22.00 81 P **P 18 05 50.1 +2.1**
PUL Pulkovo 22.06 13⇓*e*P **P 18 05 47.7 -0.7**
PUL pmax pmax
comp=Z,137nm,0.8s
NC602 NORSAR Array S 22.85 349 P **P 18 05 56.0 -0.8**
NORES NORESS Array B 22.85 349 P **P 18 05 58.7 +1.9**
NAO01 NORSAR Array S 23.05 348 P **P 18 05 58.2 -0.7**
EKA Eskdalemuir Ar 23.08 324 P **P 18 05 59.0 -0.3**
comp=Z,28nm,0.8s,baz=125,slow=11,SNR=33
EKA LR LR 18 16 32.2
comp=Z,119nm,18.8s,baz=179,slow=41
FINES FINESS Array B 23.10 7 P **P 18 05 58.0 -1.4**
comp=Z,32nm,0.7s,baz=172,slow=11,SNR=70
FINES PcP **PcP 18 09 48.6 +0.8**
comp=Z,1.9nm,0.7s,baz=191,slow=3.0,SNR=6.6
FINES LR LR 18 16 13.0
comp=Z,139nm,19.9s,baz=188,slow=40
FINES FINESS Array B 23.10 7 P **P 18 05 58.3 -1.1**
FIA1 FINESS Array S 23.10 7 P **P 18 05 58.3 -1.1**
NC405 NORSAR Array S 23.18 349 P **P 18 05 58.9 -1.4**
NB201 NORSAR Array S 23.18 349 P **P 18 05 59.8 -0.6**
NB2 NORSAR Subarra 23.19 348 P **P 18 05 59.9 -0.5**
comp=Z,6.6nm,0.7s,baz=159,slow=9.3
NOA NORSAR Array B 23.19 348 P **P 18 05 59.8 -0.6**
comp=Z,4.5nm,0.6s,baz=165,slow=11,SNR=26
NOA LR LR 18 16 17.1
comp=Z,104nm,19.6s,baz=165,slow=40
NBO00 NORSAR Array S 23.25 348 P **P 18 06 00.1 -0.9**
NBO00 IAmb IAmb 18 06 01.3
comp=Z,44nm,0.8s
NC303 NORSAR Array S 23.34 349 P **P 18 06 01.2 -0.7**
NC303 IAmb IAmb 18 06 07.8
comp=Z,31nm,1.1s
NC204 NORSAR Array S 23.48 348 P **P 18 06 02.6 -0.7**
NC204 IAmb IAmb 18 06 19.2
comp=Z,52nm,1.3s
KIRV Kirov 27.27 33 P **P 18 06 36.5 -1.4**
comp=Z,7.3nm,0.6s,baz=62,slow=4.0,SNR=3.7
KIRV LR LR 18 18 03.2
comp=Z,147nm,18.4s,baz=235,slow=38
KIRV Kirov 27.27 33*de*P **P 18 06 37.0 -0.8**
PRGR Permogore 27.75 26 *e*P **P 18 06 42.3 +0.2**
PRGR pmax pmax
comp=Z,22nm,0.5s
AKTO Aktyubinsk 28.89 54 P **P 18 06 51.9 -0.6**
comp=Z,1.7nm,0.4s,baz=235,slow=6.5,SNR=9.8
AKTO LR LR 18 19 11.4
comp=Z,71nm,19.4s,baz=284,slow=38
GEYT Alibeck 29.36 79 P **P 18 06 56.4 -0.4**
comp=Z,2.9nm,0.4s,baz=309,slow=5.9,SNR=4.7
GEYT Alibeck 29.36 79 P **P 18 06 55.6 -1.2**
APA Apatity 29.87 10⇓*i*P P 18 07 09.3 +8.4
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,600nm,14.0s
ABKAR Akbulak array 29.97 56 ⇓P **P 18 07 01.8 -0.2**
ABKAR Akbulak array 29.97 56 P **P 18 07 01.4 -0.6**
ABKAR Akbulak array 29.97 56 P **P 18 07 01.0 -1.0**
LVZ Lovozero 30.35 11 P **P 18 07 03.9 -1.4**
LVZ pmax pmax
comp=Z,60nm,1.5s
LVZ Lovozero 30.35 11 P **P 18 07 03.9 -1.4**
TORD Torodi Ar. Bea 30.40 218 P **P 18 07 06.4 +0.3**
comp=Z,2.4nm,0.6s,baz=29,slow=9.6,SNR=23
ARU Arti 30.71 42 LR LR 18 20 01.9
comp=Z,87nm,19.7s,baz=130,slow=38
ARU Arti 30.71 42*c i*P **P 18 07 07.6 -0.8**
ARU 18 08 07.4
ARU S **S 18 12 07.7 -2.7**
ARU SS **ScP 18 13 47.8 0.0**
ARU pmax pmax
comp=Z,9.0nm,1.8s
ARCES ARCESS Array B 31.09 3 P **P 18 07 10.7 -1.0**
comp=Z,4.4nm,0.7s,baz=189,slow=11,SNR=26
ARCES LR LR 18 20 50.5
comp=Z,162nm,18.2s,baz=184,slow=39
ARCES ARCESS Array B 31.09 3 P **P 18 07 11.1 -0.6**
ARCES pmax pmax
comp=Z,12nm,1.2s
ARCES ARCESS Array B 31.09 3 P **P 18 07 11.1 -0.6**
ARCES IAmb IAmb 18 07 32.1
comp=Z,12nm,1.2s
KEV Kevo 31.38 4 P **P 18 07 14.3 0.0**
KEV pmax pmax
comp=Z,35nm,1.3s
KEV Kevo 31.38 4 P **P 18 07 14.3 0.0**
SVE Sverdlovsk 31.92 42 *e*P **P 18 07 19.3 +0.2**
SVE pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 36.75 50*c i*P **P 18 08 01.0 0.0**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 36.75 50 ⇑P **P 18 08 01.2 +0.2**
BRVK Borovoye 36.75 50 P **P 18 08 00.8 -0.2**
BRVK IAmb IAmb 18 08 02.1
comp=Z,8.4nm,0.7s
KKAR Karatay Array 37.59 67 P **P 18 08 08.3 0.0**
KKAR Karatay Array 37.59 67 P **P 18 08 08.3 0.0**
CHGR Chuyangaron 37.60 74 P **P 18 08 08.7 +0.2**
CHGR pmax pmax
comp=Z,15nm,0.8s
CHGR Chuyangaron 37.60 74 P **P 18 08 08.7 +0.2**
CHGR IAmb IAmb 18 08 15.9
comp=Z,15nm,0.8s
DBIC Dimbokro 39.24 222 P **P 18 08 22.2 -0.2**
comp=Z,4.3nm,0.9s,baz=21,slow=9.7,SNR=6.4
DBIC LR LR 18 25 11.7
comp=Z,68nm,19.3s,baz=30,slow=37
DBIC Dimbokro 39.24 222 P **P 18 08 23.0 +0.6**
DBIC pmax pmax
comp=Z,9.0nm,1.2s
DBIC Dimbokro 39.24 222 P **P 18 08 23.0 +0.6**
SPITS Spitsbergen Ar 39.70 359 LR LR 18 26 56.3
comp=Z,153nm,19.8s,baz=136,slow=40
MBAR Mbarara 40.14 164 LR LR 18 25 41.7
comp=Z,88nm,21.8s,baz=344,slow=37
KURK Kurchatov 41.99 54⇓*e*P **P 18 08 44.4 -0.3**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 41.99 54 ⇑P **P 18 08 44.3 -0.4**
KURK ⇓P **P 18 08 44.5 -0.3**
KURK Kurchatov 41.99 54 P **P 18 08 44.4 -0.3**
KSH Kashi 42.45 71 P **P 18 08 49.5 +0.7**
MAKZ Makanchi 44.83 59 P **P 18 09 06.1 -1.7**
MAKZ pmax pmax
comp=Z,7.0nm,1.3s
MAKZ Makanchi 44.83 59 P **P 18 09 06.1 -1.7**
MAKZ IAmb IAmb 18 09 34.7
comp=Z,6.7nm,1.2s
MK31 Makanchi Array 45.04 59*d i*P **P 18 09 09.1 -0.4**
MK31 Makanchi Array 45.04 59 P **P 18 09 09.3 -0.2**
MKAR Makanchi Array 45.04 59 P **P 18 09 09.0 -0.5**
comp=Z,3.2nm,0.4s,baz=281,slow=7.5,SNR=117
MKAR Makanchi Array 45.04 59*ce*P **P 18 09 09.0 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 45.04 59 P **P 18 09 09.1 -0.5**
ZAA0 Zalesovo Array 45.37 48 P **P 18 09 11.4 -0.5**
ZALV Zalesovo Beam 45.37 48 P **P 18 09 11.6 -0.4**
comp=Z,31nm,0.6s,baz=278,slow=8.5,SNR=142
ZALV LR LR 18 30 58.9
comp=Z,67nm,18.1s,baz=300,slow=40
NRIK Noril'sk 46.38 27 P **P 18 09 19.3 -0.4**
comp=Z,4.0nm,0.5s,baz=256,slow=2.9,SNR=6.8
NRIK LR LR 18 31 03.2
comp=Z,113nm,19.7s,baz=234,slow=39
NRIK Noril'sk 46.38 27*c i*P **P 18 09 20.7 +1.0**
NRIK pmax pmax
comp=Z,3.0nm,0.6s
NRIK Noril'sk 46.38 27 P **P 18 09 21.1 +1.4**
NRIK IAmb IAmb 18 09 21.3
comp=Z,4.5nm,0.6s
DGZ Jazzator, Alta 47.74 54⇑*e*P **P 18 09 30.4 -0.3**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
SFJD Kangerlussuaq 47.86 330 LR LR 18 30 34.2
comp=Z,56nm,21.1s,baz=52,slow=37
WMQ Urumqi 49.52 61 *e*P **P 18 09 46.4 +2.0**
PYUN Piuthan 52.30 82 *e*P **P 18 10 04.4 -1.3**
comp=Z,5.8nm,0.5s
DANN Dangsing 52.78 81 *e*P **P 18 10 07.8 -1.6**
GKN Gorkha 53.62 81 *e*P **P 18 10 13.3 -2.1**
comp=Z,3.9nm,0.4s
LSZ Lusaka 54.09 171 LR LR 18 34 43.8
comp=Z,48nm,18.1s,baz=140,slow=38
DMN Daman 54.17 81 *e*P **P 18 10 18.3 -1.3**
comp=Z,8.5nm,0.5s
KKN Kakani 54.22 81 *e*P **P 18 10 17.3 -2.6**
EUNU Eureka 55.08 348 P **P 18 10 26.5 +1.3**
FRB Frobisher Bay 55.79 327 LR LR 18 33 30.5
comp=Z,35nm,21.9s,baz=22,slow=35
ZAK Zakamensk 57.24 49 *e*P **P 18 10 41.5 +0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
GOMU GeErMu 57.49 67 P **P 18 10 45.0 +1.6**
GOMU pP sP 18 10 50.8 +0.3
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,58nm,4.8s
TSUM Tsumeb 57.59 183 LR LR 18 38 06.3
comp=Z,64nm,18.5s,baz=345,slow=39
SCHQ Schefferville 58.15 317 P **P 18 10 47.2 -0.1**
comp=Z,2.9nm,0.5s,baz=71,slow=4.0,SNR=14
SCHQ Schefferville 58.15 317 P **P 18 10 48.3 +0.9**
SCHQ IAmb IAmb 18 11 03.1
comp=Z,20nm,1.4s
TIXI Tiksi 59.22 20 LR LR 18 40 05.4
comp=Z,228nm,18.9s,baz=299,slow=40
TIXI Tiksi 59.22 20⇓*e*P **P 18 10 55.2 +0.8**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
RES Resolute Bay 59.35 344 LR LR 18 36 15.2
comp=Z,1μm,21.1s,baz=344,slow=36
GTA Gaotai 59.59 62 *e*P **P 18 10 57.2 -0.5**
GTA sP sP 18 11 16.3 +11
GTA pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 60.15 51 P **P 18 11 01.3 -0.1**
comp=Z,3.4nm,0.8s,baz=282,slow=8.9,SNR=26
SONM Songino Array 60.15 51 P **P 18 11 00.9 -0.6**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 60.15 51 P **P 18 11 00.9 -0.6**
ULN Ulaanbaatar 60.54 51*c i*P **P 18 11 03.8 -0.3**
ULN pmax pmax
comp=Z,7.0nm,1.3s
ULN Ulaanbaatar 60.54 51 P **P 18 11 03.5 -0.6**
ULN IAmb IAmb 18 11 04.8
comp=Z,4.7nm,0.8s
LBTB Lobatse 63.48 175 LR LR 18 39 54.0
comp=Z,42nm,18.0s,baz=342,slow=37
YAK Yakutsk 64.71 30 LR LR 18 43 16.7
comp=Z,44nm,18.2s,baz=269,slow=39
YAK Yakutsk 64.71 30 *e*P **P 18 11 30.7 -0.7**
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK pmax pmax
comp=N,1.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
HHC Hu-ho-hao-te 66.76 56 *e*P **P 18 11 44.2 -1.0**
HHC pmax pmax
comp=Z,12nm,0.9s

HHC pmax pmax
comp=Z,120nm,5.1s
BOSA Boshof 67.03 176 LR LR 18 41 49.0
comp=Z,64nm,18.2s,baz=356,slow=37
PZH PanZhiHua 67.45 74 P **P 18 11 49.3 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,60nm,4.3s
XLT XiLinHaoTe 67.97 51 *eP* **P 18 11 53.0 +0.2**
XLT PcP **PcP 18 12 20.7 +1.6**
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,140nm,4.6s
XLT LR LR
comp=N,200nm,15.2s
XLT LR LR
comp=E,220nm,17.7s
XAN Xi'an 68.59 63 P **P 18 11 57.2 +0.4**
XAN pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 69.80 82 P **P 18 12 03.5 -0.9**
comp=Z,0.8nm,0.7s,baz=304,slow=7.1,SNR=11
BILL Biiibino 70.58 13 *i P* **P 18 12 08.0 -0.4**
BILL *i* 18 12 16.4
BILL *i* 18 12 25.4
BILL pmax pmax
comp=Z,4.0nm,0.7s
BILL Biiibino 70.58 13 P **P 18 12 08.6 +0.2**
BILL IAmb IAmb 18 12 09.7
comp=Z,4.2nm,0.8s
INK Inuvik 71.63 350 LR LR 18 45 31.0
comp=Z,46nm,18.1s,baz=86,slow=37
SEY Seymchan 71.71 21⇊*eP* **P 18 12 16.2 +0.9**
YKA Yellowknife Ar 72.98 340 P **P 18 12 23.4 +0.4**
comp=Z,0.6nm,0.6s,baz=35,slow=5.4,SNR=12
YKA Yellowknife Ar 72.98 340 *i P* **P 18 12 24.0 +1.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
KLR Kul'dur 73.51 40 LR LR 18 49 54.6
comp=Z,40nm,18.7s,baz=340,slow=40
KLR Kul'dur 73.51 40⇊*eP* **P 18 12 26.8 +0.5**
KLR pmax pmax
comp=Z,4.0nm,0.8s
CN2 Changchun 73.56 47 *eP* **P 18 12 26.7 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
H21K Melozitna Rive 75.92 357 P **P 18 12 42.5 +2.4**
H21K IAmb IAmb 18 12 43.7
comp=Z,13nm,1.2s
DAWY Dawson 76.42 351 P **P 18 12 42.5 -0.4**
ILAR Eielson Array 76.47 355 P **P 18 12 43.1 0.0**
comp=Z,0.8nm,0.8s,baz=6.5,slow=5.3,SNR=6.9
NJ2 Nanjing 76.56 60 *eP* **P 18 12 43.0 -1.2**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
USRK Ussuriysk Ar. 76.94 43 P **P 18 12 46.1 0.0**
comp=Z,4.2nm,0.6s,baz=312,slow=3.9,SNR=7.2
KSRS Korea Array 79.02 51 P **P 18 12 58.0 +0.1**
comp=Z,2.7nm,0.7s,baz=306,slow=4.2,SNR=8.7
KSRS Korea Array 79.02 51 P **P 18 12 58.0 +0.1**
YSS Yuzh-Sakhalins 80.39 36 *eP* **P 18 13 05.9 +0.8**
YSS pmax pmax
comp=Z,20nm,0.8s
PETK Petropavlovsk- 81.38 25 LR LR 18 54 23.8
comp=Z,46nm,18.4s,baz=337,slow=40
ASAJ Asahikawa 82.42 38 LR LR 18 54 23.6
comp=Z,58nm,19.3s,baz=347,slow=39
MJAR Matsushiro Arr 85.65 46 P **P 18 13 32.6 0.0**
comp=Z,5.5nm,0.7s,baz=330,slow=4.6,SNR=11
MJAR Matsushiro Arr 85.65 46 P **P 18 13 32.6 0.0**
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 85.65 46 IAmb IAmb 18 13 34.3
comp=Z,3.2nm,0.8s
YHL Hebgen Lake 86.22 328 P **P 18 13 35.5 -0.1**
YHL IAmb IAmb 18 14 00.4
comp=Z,2.8nm,1.0s
WRA Warramunga Arr 120.53 92 PKP **PKPdf 18 19 45.5 -0.3**
comp=Z,0.3nm,0.5s,baz=320,slow=1.8,SNR=5.6
ASAR Alice Springs 120.53 92 PKP **PKPdf 18 19 48.9 0.0**
comp=Z,0.4nm,0.5s,baz=308,slow=1.8,SNR=7.0

*IDC **04** 18:02:41.6±1.1,34°.20S×179°.50W,h0km,mb4.3/4,*
mb1 4.4/5,mb1mx4.1/24,mbtmp4.3/5,ML4.1/1,MS3.0/7,
Ms1 3.0/7,ms1mx2.8/54,Error ellipse: s-maj=33.8km
s-min=25.8km az=92.0
*WEL **04** 18:02:45.6±1.0,34°.S±.16°.×17°.9W±.2°.1,h33km,M4.6/22,*
mB5.1/10,ML5.1/23,MLv4.8/22,Mw(mB)4.5/10,Error
ellipse: s-maj=0.0km s-min=0.0km az=126.8
*NEIC **04** 18:02:48.9±1.6,34°.6S±.0°.1×179°.7W±.0°.2,h35km±2km,*
mb4.3/10,Error ellipse: s-maj=22.4km s-min=16.4km
az=73.0
ISC 04 18:02:46.9±0.8,34°.30S±.0°.07×179°.3W±.0°.1,h35km,n105,
σ1§90/99,mb4.3/9,MS3.2/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.78**	**210**	P	**Pn**	**18 03 41.3**	**-1.3**
MXZ				S	**Sn**	**18 04 28.3**	**+2.4**
MXZ	**Matakaoa Point**	**3.78**	**210**	Pn	**Pn**	**18 03 38.6**	**-4.0**
WMGZ	**Waiomatatini S**	**3.96**	**207**	P	**Pn**	**18 03 45.1**	**-0.1**
PKGZ	**Pakihiroa**	**4.15**	**210**	P	**Pn**	**18 03 47.7**	**-0.2**
PKGZ				S	**Sn**	**18 04 34.3**	**-1.0**
HAZ	**Te Kaha**	**4.17**	**213**	P	**Pn**	**18 03 48.2**	**+0.1**
HAZ				S	**Sn**	**18 04 38.0**	**+2.5**
PUZ	**Puketiti**	**4.24**	**207**	P	**Pn**	**18 03 48.2**	**-0.9**
PUZ				S	**Sn**	**18 04 36.1**	**-1.3**
WIZ	**White Island**	**4.29**	**220**	P	**Pn**	**18 03 49.7**	**+0.1**
RUGZ	**Raukumara Rang**	**4.39**	**213**	P	**Pn**	**18 03 50.5**	**-0.6**
RUGZ				S	**Sn**	**18 04 40.2**	**-1.0**
TWGZ	**Tauwhareparae**	**4.44**	**209**	P	**Pn**	**18 03 51.3**	**-0.5**
TWGZ				S	**Sn**	**18 04 44.0**	**+1.7**
CNGZ	**Carnagh Statio**	**4.63**	**205**	P	**Pn**	**18 03 55.4**	**+1.1**
WHRZ	**Whale Island**	**4.65**	**219**	S	**Sn**	**18 04 49.9**	**+2.6**
TKGZ	**Te Karaka**	**4.72**	**208**	P	**Pn**	**18 03 56.5**	**+0.9**
MWZ	**Matawai**	**4.76**	**211**	P	**Pn**	**18 03 54.7**	**-1.5**
MWZ				S	**Sn**	**18 04 52.0**	**+1.9**
URZ	**Urewera**	**4.89**	**215**	Pn	**Pn**	**18 03 56.6**	**-1.3**
	7.0nm,0.3s,baz=121,slow=24,SNR=43						
URZ				Sn	**Sn**	**18 04 54.1**	**+0.9**
	15nm,0.3s,baz=293,slow=23,SNR=1.7						
URZ				LR	LR	18 05 20.8	
	comp=Z,51nm,18.3s,baz=31,slow=32						
URZ	**Urewera**	**4.89**	**215**	P	**Pn**	**18 03 56.6**	**-1.3**
URZ	**Urewera**	**4.89**	**215**		**Pn**	**18 03 55.5**	**-2.4**
RAGZ	**Rawiri**	**4.95**	**211**	P	**Pn**	**18 03 57.9**	**-0.8**
EDRZ	**Edgecumbe**	**4.96**	**219**	P	**Pn**	**18 04 01.0**	**+2.1**
RIGZ	**Rimuhau**	**4.99**	**207**	P	**Pn**	**18 03 58.4**	**-0.9**
PRGZ	**Paritu Road**	**5.13**	**205**	P	**Pn**	**18 03 59.6**	**-1.7**
OMRZ	**Omania**	**5.15**	**221**	P	**Pn**	**18 04 01.6**	**0.0**
TARZ	**Mount Tarawera**	**5.18**	**219**	P	**Pn**	**18 04 03.6**	**+1.7**
SNGZ	**Shannon Statio**	**5.22**	**210**	P	**Pn**	**18 04 02.3**	**-0.2**
MUGZ	**Murupara**	**5.23**	**216**	P	**Pn**	**18 04 01.7**	**-0.9**
RTZ	**Ruatahuna**	**5.24**	**214**	P	**Pn**	**18 04 00.7**	**-2.0**
RTZ				S	**Sn**	**18 05 02.0**	**0.0**
MHGZ	**Mahia Peninsul**	**5.33**	**204**	P	**Pn**	**18 04 01.8**	**-2.1**
RAHZ	**Arahi**	**5.44**	**211**	P	**Pn**	**18 04 05.8**	**+0.3**
MTHZ	**Maungataniwha**	**5.49**	**213**	P	**Pn**	**18 04 05.8**	**-0.5**
NMHZ	**Naumai**	**5.71**	**212**	P	**Pn**	**18 04 08.1**	**-1.1**
ARHZ	**Aropaoanui**	**5.77**	**210**	P	**Pn**	**18 04 09.4**	**-0.6**
OUZ	**Omahuta**	**5.90**	**259**		**Pn**	**18 04 10.3**	**-1.5**
BKZ	**Black Stump Fm**	**5.91**	**213**	P	**Pn**	**18 04 10.9**	**-1.1**
BKZ	**Black Stump Fm**	**5.91**	**213**		**Pn**	**18 04 09.6**	**-2.3**
MCHZ	**McNeill Hill**	**6.04**	**211**	P	**Pn**	**18 04 12.8**	**-1.0**
KWHZ	**Kaweka Forest**	**6.15**	**212**	P	**Pn**	**18 04 13.0**	**-2.2**
KATZ	**Kakaramea**	**6.15**	**219**	P	**Pn**	**18 04 17.3**	**+1.9**
TMVZ	**Te Maari**	**6.25**	**218**	P	**Pn**	**18 04 15.2**	**-1.5**
NTVZ	**North Tongarir**	**6.25**	**219**	P	**Pn**	**18 04 15.4**	**-1.3**
ETVZ	**East Tongariro**	**6.26**	**218**	P	**Pn**	**18 04 15.4**	**-1.5**
KRVZ	**Karewarewa**	**6.27**	**219**	P	**Pn**	**18 04 16.5**	**-0.4**
KAHZ	**Kahuranaki**	**6.27**	**208**	P	**Pn**	**18 04 14.0**	**-2.9**
HIZ	**Hauiti**	**6.30**	**226**	Pn	**Pn**	**18 04 14.4**	**-2.9**
OTVZ	**Oturere**	**6.30**	**218**	P	**Pn**	**18 04 16.4**	**-1.1**
NNVZ	**North Ngauruho**	**6.31**	**219**	P	**Pn**	**18 04 17.6**	**0.0**
WTVZ	**West Tongariro**	**6.31**	**219**	P	**Pn**	**18 04 19.1**	**+1.6**
SNVZ	**South Ngauruho**	**6.33**	**218**	P	**Pn**	**18 04 16.6**	**-1.3**
NGZ	**Ngauruhoe**	**6.35**	**218**	P	**Pn**	**18 04 17.4**	**-0.6**
KRHZ	**Kereru**	**6.35**	**212**	P	**Pn**	**18 04 14.8**	**-3.2**
BHHZ	**Black Hill Sta**	**6.36**	**214**	P	**Pn**	**18 04 16.5**	**-1.7**
TUVZ	**Tukino**	**6.39**	**218**	P	**Pn**	**18 04 19.0**	**+0.4**
MOVZ	**Moawhango**	**6.45**	**216**	P	**Pn**	**18 04 17.2**	**-2.2**
WNVZ	**Wahianoa**	**6.46**	**218**	P	**Pn**	**18 04 18.4**	**-1.3**
TRVZ	**Turoa**	**6.47**	**218**	P	**Pn**	**18 04 21.8**	**+2.0**
PRHZ	**Porangahau**	**6.77**	**207**	P	**Pn**	**18 04 20.5**	**-3.3**
TSZ	**Takapari Road**	**6.87**	**212**	P	**Pn**	**18 04 22.2**	**-2.9**
WAZ	**Wanganui**	**7.10**	**218**	P	**Pn**	**18 04 29.2**	**+1.0**
NEZ	**North Egmont**	**7.25**	**225**	P	Pn	18 04 38.1	+7.8
PKE	**Pukeiti**	**7.26**	**226**	P	Pn	18 04 34.7	+4.2
BFZ	**Birch Farm**	**7.28**	**208**	P	**Pn**	**18 04 28.2**	**-2.5**
BFZ	**Birch Farm**	**7.28**	**208**	Pn	**Pn**	**18 04 27.8**	**-2.9**
OGWZ	**Otaki Gorge**	**7.84**	**212**	P	**Pn**	**18 04 34.3**	**-4.1**
CAW	**Cannon Point**	**8.12**	**212**	P	**Pn**	**18 04 37.5**	**-4.8**
PAWZ	**Paruwai Farm**	**8.20**	**209**	P	**Pn**	**18 04 40.3**	**-3.1**
MSWZ	**Moikau Station**	**8.30**	**210**	Pn	**Pn**	**18 04 41.0**	**-3.7**
SNZO	**South Karori**	**8.44**	**212**	Pn	Pn	18 04 41.7	-5.0
TUWZ	**Tuamarina**	**8.89**	**215**	Pn	Pn	18 04 46.7	-6.1
NNZ	**Nelson**	**9.00**	**218**	Pn	**Pn**	**18 04 50.4**	**-4.0**
THZ	**Tophouse**	**9.64**	**217**	Pn	Pn	18 04 57.7	-5.5
KHZ	**Kahutara**	**9.85**	**213**	P	**Pn**	**18 05 02.1**	**-3.8**
KHZ	**Kahutara**	**9.85**	**213**	Pn	**Pn**	**18 05 01.8**	**-4.1**
LTZ	**Lake Taylor**	**10.72**	**215**	Pn	**Pn**	**18 05 13.2**	**-4.7**
DZM	**Mont Dzumac**	**17.46**	**311**	LR	LR	18 12 04.2	
	comp=Z,129nm,20.7s,baz=186,slow=32						
DZM	**Mont Dzumac**	**17.46**	**311**	*e*LR	LR	18 10 51.6	
	comp=Z,251nm,26.9s						
RAR	**Rarotonga**	**21.61**	**58**	LR	LR	18 16 47.7	
	comp=Z,19nm,18.7s,baz=330,slow=39						
SANVU	**Saraoutou**	**22.36**	**324**	P	**P**	**18 07 42.1**	**+0.1**
TBI	**Tubuai**	**28.25**	**75**	*e*LR	LR	18 16 14.8	
	comp=Z,101nm,27.2s						
TBI	**Tubuai**	**28.25**	**75**	*e*T	T	18 38 21.6	
	8.9nm,0.4s						
PAE	**Paea**	**31.30**	**66**	*e*T	T	18 41 54.7	
	1.4nm,0.3s						
PPT2	**Papeete2**	**31.34**	**65**	*e*LR	LR	18 17 34.9	
	comp=Z,80nm,27.0s						
PPT	**Papeete**	**31.36**	**65**	LR	LR	18 20 19.4	
	comp=Z,19nm,19.3s,baz=206,slow=34						
STKA	**Stephens Creek**	**32.70**	**263**	LR	LR	18 21 30.1	
	comp=Z,48nm,19.9s,baz=25,slow=35						
VAH	**Vaihoa**	**34.27**	**64**	*e*T	T	18 45 34.2	
	5.3nm,0.2s						
AS31	**Alice Springs**	**41.95**	**272**	P	**P**	**18 10 33.8**	**-0.7**
AS31				IAmb	IAmb	18 10 36.7	
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**41.95**	**272**	P	**P**	**18 10 32.8**	**-1.7**
	comp=Z,2.1nm,0.5s,baz=113,slow=7.6,SNR=52						
ASAR				LR	LR	18 26 50.0	
	comp=Z,36nm,20.3s,baz=102,slow=35						
WR0	**Warramunga Arr**	**43.12**	**277**	P	**P**	**18 10 43.6**	**-0.4**
WR0				IAmb	IAmb	18 10 53.2	
	comp=Z,5.5nm,1.1s						
WB2	**Warramunga Arr**	**43.28**	**277**	P	**P**	**18 10 44.3**	**-1.1**
WB2				IAmb	IAmb	18 10 45.5	
	comp=Z,4.3nm,0.6s						
WRAB	**Tennant Creek**	**43.29**	**277**	P	**P**	**18 10 44.3**	**-1.1**
WRAB				IAmb	IAmb	18 10 45.2	
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**43.29**	**277**	P	**P**	**18 10 44.4**	**-1.1**
	comp=Z,3.3nm,0.6s,baz=120,slow=7.3,SNR=45						
WRA	**Warramunga Arr**	**43.29**	**277**	P	**P**	**18 10 44.2**	**-1.2**
WB0	**Warramunga Arr**	**43.33**	**277**	P	**P**	**18 10 44.8**	**-1.0**
WB0				IAmb	IAmb	18 10 54.0	
	comp=Z,4.9nm,0.8s						
MTN	**Manton Dam**	**49.63**	**283**	P	**P**	**18 11 34.3**	**-0.9**
QSPA	**South Pole Qui**	**55.82**	**180**	P	**P**	**18 12 21.1**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=3,3,slow=0.9,SNR=14						
QSPA	**South Pole Qui**	**55.82**	**180**	P	**P**	**18 12 21.1**	**+0.7**
QSPA				IAmb	IAmb	18 12 47.9	
	comp=Z,3.8nm,0.8s						
KAPI	**Kappang**	**63.29**	**283**	LR	LR	18 40 18.4	
	comp=Z,24nm,20.2s,baz=238,slow=36						
MAW	**Mawson**	**68.28**	**201**	P	**P**	**18 13 44.5**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=133,slow=12,SNR=1.6						
MAW	**Mawson**	**68.28**	**201**	P	**P**	**18 13 44.4**	**+0.6**
VNA3	**Neumayer Olymp**	**74.50**	**177**	P	**P**	**18 14 23.0**	**+1.7**
VNA2	**Neumayer--Watz**	**74.91**	**177**	P	**P**	**18 14 25.9**	**+2.2**
	baz=172,slow=3.4						
MKAR	**Makanchi Array**	**119.38**	**309**	PKP	**PKPdf**	**18 21 31.4**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=62,slow=3.4,SNR=2.2						
FINES	**FINESS Array B**	**148.35**	**337**	PKPbc	**PKPbc**	**18 22 28.5**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=64,slow=4.4,SNR=9.4						
FINES	**FINESS Array B**	**148.35**	**337**		**PKPbc**	**18 22 28.3**	**-0.4**
NOA	**NORSAR Array B**	**152.39**	**349**	PKPbc	**PKiKP**	**18 22 39.1**	**+0.4**
	comp=Z,1.5nm,1.1s,baz=15,slow=4.6,SNR=3.6						
BRTR	**Keskin Array B**	**153.22**	**291**	PKPbc	**PKPbc**	**18 22 40.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=117,slow=2.8,SNR=2.3						
AKASG	**Malin Array Be**	**153.56**	**317**	PKPbc	**PKPbc**	**18 22 40.8**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=57,slow=2.7,SNR=8.7						
AKASG	**Malin Array Be**	**153.56**	**317**	PKPdf	**PKPdf**	**18 22 35.2**	**+1.6**
AKASG					**PKiKP**	**18 22 41.3**	**-0.1**

PRU 04 18:02:51.9±0.0,50°.19N×19°.04E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**1.05**	**247**	*e*PG	Pb	18 03 12.6	-0.4
MORC				*e*SG	Sb	18 03 26.6	-0.7
VYHS	**Vyhne**	**1.70**	**185**	*e*SN	Sn	18 03 42.8	-2.5
DPC	**Dobruska-Polom**	**1.75**	**276**	*e*PG	Pn	18 03 23.9	+0.3
DPC				*e*SG	Sn	18 03 46.7	+0.1
KRUC	**Moravsky**	**2.06**	**238**	*e*PN	Pb	18 03 29.5	-0.6

*SOME **04** 18:07:18.8,42°.18N×77°.03E,h20km*
*KRNET **04** 18:07:18.5±0.1,42°.19N×77°.01E,h17km,mb3.3*
*NNC **04** 18:07:19.5±0.6,42°.23N×76°.99E,h0km,mb3.6,mpv3.5,*
Error ellipse: s-maj=3.7km s-min=2.5km az=162.0
*KNET **04** 18:07:20.7±0.7,42°.25N×76°.84E,h8km±3km,ml2.3,Error*
ellipse: s-maj=6.3km s-min=4.6km az=18.0
ISC 04 18:07:17.6±0.9,42°.10N±0°.03×77°.03E±0°.02,h12km±6km,
n81,σ1§12/148,43C-20D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.12**	**76**	⇑*iP*	**Pg**	**18 07 21.6**	**+0.7**
	baz=13						
KDJ				⇑*iS*	**Sg**	**18 07 23.9**	**+0.6**
	baz=13						
ULHL	**Ulahol**	**0.60**	**284**	⇓P	**Pb**	**18 07 29.7**	**-0.4**
ULHL				⇑S	**Sg**	**18 07 37.2**	**-0.2**
	383nm,0.1s						
ULHL	**Ulahol**	**0.60**	**284**	⇑*iP*	**Pb**	**18 07 29.5**	**-0.6**
	baz=76						
ULHL				⇑*iS*	**Sg**	**18 07 37.3**	**-0.1**
	baz=76						
TARG	**Taragay, Kyrgy**	**0.69**	**122**	⇑*iP*	**Pn**	**18 07 32.5**	**-1.0**
	baz=27						
TARG				⇑*iS*	**Sn**	**18 07 42.7**	**-1.7**
	baz=27						
ANVS	**Anan'yevo**	**0.83**	**35**	⇑*iP*	**Pb**	**18 07 33.5**	**-0.6**
	baz=39						
ANVS				⇑*iS*	**Sb**	**18 07 44.7**	**-0.5**
	baz=39						
BOOM	**Boomskoye usch**	**0.89**	**296**	⇑*iP*	**Pg**	**18 07 34.6**	**-0.3**
	baz=92						
BOOM				⇑*iS*	**Sg**	**18 07 46.3**	**-0.3**
	baz=92						
TNSS	**Tian-Shan**	**0.94**	**356**	*e*P	**Pg**	**18 07 34.9**	**-0.9**
	7.5nm,0.1s						
TNSS				*e*S	**Sg**	**18 07 46.4**	**-1.7**
	129nm,0.3s						
TNSS	**Tian-Shan**	**0.94**	**356**	P	**Pg**	**18 07 34.9**	**-0.9**
	7.5nm,0.1s						
TNSS				S	**Sg**	**18 07 46.4**	**-1.7**
	129nm,0.3s						
TNSS	**Tian-Shan**	**0.94**	**356**	*e*P	**Pg**	**18 07 34.9**	**-0.9**
	baz=57						
TNSS				*e*S	**Sg**	**18 07 46.4**	**-1.7**
	baz=57						
MDOK	**Medeo**	**1.06**	**1**	*e*P	**Pg**	**18 07 37.1**	**-1.0**
	5.3nm,0.2s						
MDOK				*e*S	**Sg**	**18 07 50.1**	**-1.8**
	69nm,0.5s						
MDOK	**Medeo**	**1.06**	**1**	⇑P	**Pg**	**18 07 36.9**	**-1.1**
	1.6nm,0.4s						
MDOK				⇑S	**Sg**	**18 07 50.1**	**-1.8**
	70nm,0.5s						
MDOK	**Medeo**	**1.06**	**1**	Pg	**Pg**	**18 07 37.1**	**-1.0**
	5.3nm,0.2s						
MDOK				Lg	Lg	18 07 50.1	
	69nm,0.5s						
MDOK	**Medeo**	**1.06**	**1**	*e*P	**Pg**	**18 07 37.1**	**-1.0**
	baz=2.0						
MDOK				*e*S	**Sg**	**18 07 50.1**	**-1.8**
	baz=2.0						
PRZ	**Przheval'sk**	**1.09**	**69**	⇑*iP*	**Pn**	**18 07 39.1**	**+0.3**
	baz=73						
PRZ				⇑*iS*	**Sn**	**18 07 54.0**	**+0.1**
	baz=73						
KNDC	**Almaty**	**1.12**	**358**	⇓P	**Pn**	**18 07 39.4**	**+0.3**
	7.2nm,0.3s						
KNDC				⇑S	**Sg**	**18 07 53.0**	**-0.7**
	255nm,0.5s						
MTBS	**Maitube**	**1.12**	**337**	⇓*eP*	**Pg**	**18 07 38.1**	**-1.1**
	20nm,0.2s						
MTBS				*e*S	**Sg**	**18 07 51.8**	**-1.9**
	65nm,0.3s						
MTBS	**Maitube**	**1.12**	**337**	P	**Pg**	**18 07 38.1**	**-1.1**
	20nm,0.2s						
MTBS				S	**Sg**	**18 07 51.8**	**-1.9**
	65nm,0.3s						
MTBS	**Maitube**	**1.12**	**337**	⇓*eP*	**Pg**	**18 07 38.1**	**-1.1**
	baz=36						
MTBS				⇓*e*S	**Sg**	**18 07 51.8**	**-1.9**
	baz=36						
KOTS	**Kotyrbulak**	**1.13**	**3**	*e*P	**Pg**	**18 07 38.6**	**-0.9**
	8.7nm,0.1s						
KOTS				*e*S	**Sg**	**18 07 52.6**	**-1.7**
	110nm,0.2s						
KOTS	**Kotyrbulak**	**1.13**	**3**	P	**Pg**	**18 07 38.6**	**-0.9**
	8.7nm,0.1s						
KOTS				S	**Sg**	**18 07 52.6**	**-1.7**
	110nm,0.2s						
KOTS	**Kotyrbulak**	**1.13**	**3**	*e*P	**Pg**	**18 07 38.6**	**-0.9**
	baz=4.0						
KOTS				*e*S	**Sg**	**18 07 52.6**	**-1.7**
	baz=4.0						
KST	**Kastek**	**1.23**	**321**	⇓*eP*	**Pg**	**18 07 40.3**	**-0.9**
	31nm,0.2s						
KST				*e*S	**Sg**	**18 07 55.5**	**-1.6**
	21nm,0.2s						
KST	**Kastek**	**1.23**	**321**	P	**Pg**	**18 07 40.2**	**-0.9**
	31nm,0.2s						
KST				S	**Sg**	**18 07 55.5**	**-1.6**
	21nm,0.2s						
KST	**Kastek**	**1.23**	**321**	⇓*eP*	**Pg**	**18 07 40.3**	**-0.9**
	baz=18						
KST				⇓*e*S	**Sg**	**18 07 55.6**	**-1.6**
	baz=18						
TKM2	**Tokmak 2**	**1.34**	**308**	⇓P	**Pn**	**18 07 42.6**	**+0.3**
	12nm,0.1s,SNR=214						
TKM2				⇓S	**Sg**	**18 08 00.3**	**-0.4**
	68nm,0.1s						
TKM2	**Tokmak 2**	**1.34**	**308**	⇑P	**Pn**	**18 07 42.5**	**+0.3**
	3.5nm,0.2s						
TKM2				⇑S	**Sg**	**18 07 59.9**	**-0.8**
	9.1nm,0.3s						
TKM2	**Tokmak 2**	**1.34**	**308**	⇑*iP*	**Pn**	**18 07 42.5**	**+0.3**
	baz=6.0						
TKM2				⇑*iS*	**Sg**	**18 07 59.9**	**-0.8**
	baz=6.0						
SATY	**Saty**	**1.40**	**46**	*e*P	**Pb**	**18 07 44.0**	**+0.3**
	46nm,0.1s						
SATY				*e*S	**Sn**	**18 08 02.2**	**+0.8**
	77nm,0.2s						
SATY	**Saty**	**1.40**	**46**	P	**Pb**	**18 07 44.0**	**+0.3**
	46nm,0.1s						
SATY				S	**Sn**	**18 08 02.2**	**+0.8**
	77nm,0.2s						
SATY	**Saty**	**1.40**	**46**	*e*P	**Pb**	**18 07 44.0**	**+0.3**
	baz=49						
SATY				*e*S	**Sn**	**18 08 02.3**	**+0.8**
	baz=49						
DGS	**Degeres**	**1.47**	**321**	*e*P	**Pn**	**18 07 44.7**	**+0.7**
	12nm,0.1s						
DGS				*e*S	**Sb**	**18 08 03.2**	**-0.3**
	24nm,0.2s						
DGS	**Degeres**	**1.47**	**321**	P	**Pn**	**18 07 44.7**	**+0.7**
	12nm,0.1s						
DGS				S	**Sb**	**18 08 03.2**	**-0.3**
	24nm,0.2s						
DGS	**Degeres**	**1.47**	**321**	*e*P	**Pn**	**18 07 44.7**	**+0.7**
	baz=20						
DGS				*e*S	**Sb**	**18 08 03.2**	**-0.3**
	baz=20						
ZHN	**Zhinishke**	**1.49**	**44**	*e*P	**Pg**	**18 07 45.4**	**-0.8**
	140nm,0.1s						
ZHN				*e*S	**Sn**	**18 08 04.5**	**+0.8**
	43nm,0.1s						
ZHN	**Zhinishke**	**1.49**	**44**	P	**Pg**	**18 07 45.4**	**-0.8**
	140nm,0.1s						
ZHN				S	**Sn**	**18 08 04.5**	**+0.8**
	43nm,0.1s						
ZHN	**Zhinishke**	**1.49**	**44**	*e*P	**Pg**	**18 07 45.4**	**-0.8**
	baz=47						
ZHN				*e*S	**Sn**	**18 08 04.5**	**+0.8**
	baz=47						
KTBS	**Karatobe**	**1.63**	**351**	*e*P	**Pb**	**18 07 47.6**	**0.0**
	4.8nm,0.2s						
KTBS				*e*S	**Sn**	**18 08 07.8**	**+0.8**
	85nm,0.3s						
KTBS	**Karatobe**	**1.63**	**351**	P	**Pb**	**18 07 47.6**	**0.0**
	4.8nm,0.2s						
KTBS				S	**Sn**	**18 08 07.8**	**+0.8**
	85nm,0.3s						
KTBS	**Karatobe**	**1.63**	**351**	*e*P	**Pb**	**18 07 47.6**	**0.0**
	baz=51						
KTBS				*e*S	**Sn**	**18 08 07.9**	**+0.8**
	baz=51						
KBK	**Karagaybulak**	**1.64**	**290**	⇓P	**Pg**	**18 07 48.4**	**-0.7**
	8.4nm,0.2s,SNR=12						
KBK				⇑S	**Sg**	**18 08 10.3**	**0.0**
	32nm,0.2s						
KBK	**Karagaybulak**	**1.64**	**290**	⇑*eP*	**Pb**	**18 07 48.0**	**+0.2**
	baz=88						
KBK				⇑*iS*	**Sb**	**18 08 09.6**	**+1.2**
	baz=88						
CHKK	**Chushkaly**	**1.75**	**359**	*e*P	**Pb**	**18 07 49.8**	**+0.1**
	7.2nm,0.1s						
CHKK				*e*

CHMS				⇑S		**Sb**	**18 08 17.5 +1.5**
	22nm,0.2s						
CHMS	**Chumysh**	**1.91 299**		⇑*iP*		**Pb**	**18 07 52.6 +0.3**
	baz=97						
CHMS				⇑*iS*		**Sb**	**18 08 17.5 +1.5**
	baz=97						
FRU1	**Bishkek**	**1.91 293**		⇑*iP*		**Pb**	**18 07 53.1 +0.7**
	baz=91						
FRU1				⇑*iS*		**Sg**	**18 08 18.1 -0.9**
	baz=91						
AAK	**Ala-Archa**	**1.95 287**		⇓P		**Pb**	**18 07 53.8 +0.7**
	5.6nm,0.2s,SNR=12						
AAK				⇑S		**Sb**	**18 08 19.1 +1.7**
	31nm,0.4s						
AAK	**Ala-Archa**	**1.95 287**		⇑Pn		**Pb**	**18 07 53.7 +0.5**
	2.3nm,0.2s						
AAK				⇑Lg		Lg	18 08 19.8
	13nm,0.4s						
AAK	**Ala-Archa**	**1.95 287**		⇓*iP*		**Pb**	**18 07 53.6 +0.5**
	baz=84						
AAK				⇓*iS*		**Sb**	**18 08 18.9 +1.4**
	baz=84						
ARLS	**Aral**	**2.03 264**		⇑*iP*		**Pb**	**18 07 54.8 +0.3**
	baz=61						
ARLS				⇑*iS*		**Sb**	**18 08 21.3 +1.6**
	baz=61						
ARXS	**Arharly**	**2.19**	**15**	*e*P		**Pb**	**18 07 57.4 +0.2**
	12nm,0.3s						
ARXS				*e*S		**Sb**	**18 08 25.0 +0.8**
	47nm,0.2s						
ARXS	**Arharly**	**2.19**	**15**	Pg		**Pb**	**18 07 57.4 +0.2**
	12nm,0.3s						
ARXS				Lg		Lg	18 08 25.0
	47nm,0.2s						
PDGK	**Podgornoye**	**2.19**	**55**	Pg		**Pb**	**18 07 57.3 +0.1**
	14nm,0.2s						
PDGK				Lg		Lg	18 08 25.1
	17nm,0.6s						
PDGK	**Podgornoye**	**2.19**	**55**	⇑Pn		**Pb**	**18 07 57.3 +0.1**
	9.8nm,0.3s						
PDGK				⇑Lg		Lg	18 08 27.9
	26nm,0.6s						
USP	**Ospenovka**	**2.20 303**		⇓P		**Pb**	**18 07 57.3 0.0**
	17nm,0.3s,SNR=26						
USP	**Ospenovka**	**2.20 303**		⇑*iP*		**Pb**	**18 07 56.7 -0.6**
	baz=1.0						
USP				⇑*iS*		**Sb**	**18 08 24.6 +0.2**
	baz=1.0						
SGDS	**Sogindy**	**2.22 308**		*e*P		**Pb**	**18 07 57.8 +0.1**
	26nm,0.2s						
SGDS				*e*S		**Sb**	**18 08 25.5 +0.3**
	24nm,0.2s						
SGDS	**Sogindy**	**2.22 308**		Pg		**Pb**	**18 07 57.8 +0.1**
	26nm,0.2s						
SGDS				Lg		Lg	18 08 25.5
	24nm,0.2s						
EKS2	**Erkin-Say**	**2.47 284**		⇓P		**Pb**	**18 08 02.6 +0.6**
	7.0nm,0.2s,SNR=11						
EKS2	**Erkin-Say**	**2.47 284**		⇑*iP*		**Pb**	**18 08 00.9 -1.1**
	baz=82						
EKS2				⇑*iS*		**Sb**	**18 08 31.6 -0.8**
	baz=82						
AML	**Almayashu**	**2.48 272**		⇑P		**Pb**	**18 08 03.4 +1.1**
	6.7nm,0.2s,SNR=12						
MRKS	**Merke**	**2.89 284**		*e*P		**Pg**	**18 08 11.6 -1.3**
	5.8nm,0.3s						
MRKS				*e*S		**Sg**	**18 08 49.1 -1.2**
	30nm,0.3s						
MRKS	**Merke**	**2.89 284**		Pg		**Pg**	**18 08 11.6 -1.3**
	5.8nm,0.3s						
MRKS				Lg		Lg	18 08 49.1
	30nm,0.3s						
DJR	**Jarkent**	**3.01**	**41**	*e*P		**Pb**	**18 08 12.1 +1.0**
	4.2nm,0.2s						
DJR				*e*S		**Sb**	**18 08 50.0 +2.1**
	20nm,0.4s						
DJR	**Jarkent**	**3.01**	**41**	Pg		**Pb**	**18 08 12.1 +1.0**
	4.2nm,0.2s						
DJR				Lg		Lg	18 08 49.9
	20nm,0.4s						
TDK	**Taldyqorghan**	**3.07**	**19**	*e*P		**Pb**	**18 08 12.7 +0.6**
	14nm,0.4s						
TDK				*e*S		**Sb**	**18 08 51.1 +1.6**
	29nm,0.8s						
TDK	**Taldyqorghan**	**3.07**	**19**	Pg		**Pb**	**18 08 12.7 +0.6**
	14nm,0.4s						
TDK				Lg		Lg	18 08 51.1
	29nm,0.8s						
KAPS	**Kapalarasan**	**3.60**	**27**	*e*P		**Pb**	**18 08 22.2 +1.0**
	3.6nm,0.4s						
KAPS				*e*S		**Sb**	**18 09 07.6 +2.7**
	21nm,0.5s						
KAPS	**Kapalarasan**	**3.60**	**27**	Pg		**Pb**	**18 08 22.2 +1.0**
	3.6nm,0.4s						
KAPS				Lg		Lg	18 09 07.6
	21nm,0.5s						
KK09	**Karatay Array**	**4.92 284**		⇑Pg		**Pg**	**18 08 47.7 -4.2**
	1.9nm,0.7s,baz=89,slow=15						
KK09				⇓Lg		Lg	18 09 53.2
	2.5nm,0.6s,baz=94,slow=28						

IDC 04 18:18:48.4±6.2, 55°.77S×136°.39W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/35, mbtmp3.8/2, MS3.7/13, Ms1 3.7/13, ms1mx3.4/46, Error ellipse: s-maj=1276.0km s-min=124.5km az=163.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**30.30**	**202**	LR	LR	18 34 05.8	
	comp=Z,60nm,20.4s,baz=82,slow=30						
TBI	**Tubuai**	**33.79**	**338**	*e*LR	LR	18 33 37.3	
	comp=Z,256nm,28.5s						
TBI	**Tubuai**	**33.79**	**338**	*e*T	T	18 59 19.1	
	33nm,0.3s						
QSPA	**South Pole Qui**	**34.40**	**180**	LR	LR	18 39 04.4	
	comp=Z,175nm,18.0s,baz=83,slow=35						
URZ	**Urewera**	**35.41**	**280**	LR	LR	18 36 26.5	
	comp=Z,112nm,19.9s,baz=210,slow=30						
RAR	**Rarotonga**	**38.67**	**324**	LR	LR	18 37 46.1	
	comp=Z,100nm,20.6s,baz=150,slow=29						
PPT2	**Papeete2**	**39.41**	**340**	*e*LR	LR	18 36 24.6	
	comp=Z,239nm,25.8s						
PPT2	**Papeete2**	**39.41**	**340**	*e*T	T	19 06 19.0	
	5.1nm,0.4s						
VAH	**Vaihoa**	**41.37**	**343**	*e*T	T	19 08 43.9	
	12nm,0.3s						
PLCA	**Paso Flores**	**44.60**	**99**	LR	LR	18 41 29.6	
	comp=Z,74nm,20.4s,baz=196,slow=30						
H03S2	**Juan Fernandez**	**44.75**	**85**	T	T	19 14 54.9	
	SNR=25						
H03S1	**Juan Fernandez**	**44.75**	**85**	T	T	19 14 56.2	
	SNR=28						
H03S3	**Juan Fernandez**	**44.76**	**85**	T	T	19 15 00.0	
	SNR=27						
H03N3	**Juan Fernandez**	**45.03**	**85**	T	T	19 15 09.4	
	baz=226,slow=72,SNR=113						
H03N2	**Juan Fernandez**	**45.03**	**85**	T	T	19 15 08.3	
	baz=226,slow=72,SNR=202						
H03N1	**Juan Fernandez**	**45.05**	**85**	T	T	19 15 10.4	
	baz=226,slow=72,SNR=96						
TAOE	**Nuku Hiva Isla**	**46.89**	**355**	*e*LR	LR	18 39 58.8	
	comp=Z,140nm,25.1s						
AFI	**Afiamalu**	**49.88**	**313**	LR	LR	18 44 36.2	
	comp=Z,35nm,20.2s,baz=272,slow=31						
CPUP	**Villa Florida**	**62.60**	**97**	LR	LR	18 53 05.4	
	comp=Z,71nm,18.5s,baz=19,slow=33						
ATAH	**Atahualpa**	**66.48**	**67**	LR	LR	18 51 14.5	
	comp=Z,76nm,18.5s,baz=24,slow=29						
ASAR	**Alice Springs**	**70.61**	**256**	P	P	18 30 05.0	-0.5
	1.1nm,1.1s,baz=136,slow=5.9,SNR=3.1						
ASAR				LR	LR	18 58 23.2	
	comp=Z,40nm,18.4s,baz=132,slow=34						
WRA	**Warramunga Arr**	**73.35**	**259**	P	P	18 30 22.6	+0.6
	0.9nm,1.0s,baz=145,slow=5.7,SNR=3.6						
WRA				LR	LR	18 58 56.2	
	comp=Z,58nm,19.4s,baz=68,slow=33						
SUR	**Sutherland**	**90.06**	**161**	LR	LR	19 07 45.5	
	comp=Z,38nm,20.3s,baz=206,slow=33						
BOSA	**Boshof**	**94.50**	**164**	LR	LR	19 09 20.7	
	comp=Z,46nm,21.6s,baz=187,slow=32						
LBTB	**Lobatse**	**98.09**	**164**	LR	LR	19 11 04.4	
	comp=Z,32nm,21.8s,baz=181,slow=32						
MKAR	**Makanchi Array**	**154.49**	**266**	PKPbc	PKPbc	18 38 49.9	-0.1
	0.2nm,0.7s,baz=107,slow=4.8,SNR=1.3						

*NEIC **04** 18:19:45.2±1.2, 31°.01N±0°.05×116°.91W±0°.08, h5km±8km, Error ellipse: s-maj=10.8km s-min=6.8km az=72.0*
*PAS **04** 18:19:48.5±1.8, 31°.18N±0°.03×116°.86W±0°.07, h6km±1km, Error ellipse: s-maj=10.3km s-min=4.2km az=286.0*
*ANF **04** 18:19:49.1±0.5, 31°.30N×116°.66W, h0km, ML3.3/8, Error ellipse: s-maj=7.1km s-min=3.9km az=83.0*
*MEX **04** 18:19:50.3±11.0, 32°.09N×115°.11W, h20km±999km, MD3.7*
*ECX **04** 18:19:50.0±0.6, 31°.19N×116°.62W, h15km±7km, MD3.3, ML3.7, Fault plane solution: NP1:φs10.00000°, δ39.00000°, λ-162.00000°.*

ISC 04 18:19:47.0±2.2, 31°.11N±0°.08×116°.71W±0°.08, h13km±11km, n41, σ1°17/51, 8C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVX	**San Vicente**	**0.45**	**61**	⇑*e*P	**Pb**	**18 19 56.6**	**-0.3**
SVX				*e*S	**Sg**	**18 20 01.7**	**-0.3**
CCX	**Cicese**	**0.76**	**3**		**Pb**	**18 20 01.9**	**-0.2**
CCX				IAML		18 20 12.2	
	comp=N,2μm,0.6s						
CCX				IAML		18 20 13.4	
	comp=E,2μm,0.4s						
CCX	**Cicese**	**0.76**	**3**	⇑*i*P	**Pb**	**18 20 01.9**	**-0.2**
CCX				*e*S	**Sb**	**18 20 11.3**	**-1.1**
SPIG	**San Pedro Mart**	**1.07**	**93**	*i*P	**Pg**	**18 20 07.7**	**0.0**
SPIG				*i*S	**Sn**	**18 20 21.0**	**-2.0**
SPIG	**San Pedro Mart**	**1.07**	**93**	⇓*e*P	**Pg**	**18 20 07.7**	**0.0**
SPIG				*e*S	**Sn**	**18 20 21.1**	**-1.9**
SPIG				⇑*e*		18 20 24.7	
TJIG	**Tijuana**	**1.32**	**1**	*i*P	**Pn**	**18 20 11.2**	**0.0**
	baz=174,slow=16						
TJIG				*i*S	**Sn**	**18 20 26.9**	**-1.9**
TJX	**Tijuana**	**1.43**	**348**		**Pn**	**18 20 12.4**	**-0.3**
TJX	**Tijuana**	**1.43**	**348**	IAML		18 20 38.3	
	comp=N,1μm,0.8s						
TJX				⇓*e*		18 20 38.3	
TJX				*e*		18 20 38.5	
TJX				IAML		18 20 38.5	
	comp=E,2μm,0.7s						
TKX	**Tecate**	**1.46**	**4**		**Pn**	**18 20 12.9**	**-0.2**
TKX				IAML		18 20 33.1	
	comp=N,832nm,0.2s						
BAR	**Barrett**	**1.57**	**1**		**Pn**	**18 20 14.4**	**-0.2**
BAR				IAML		18 20 35.3	
	comp=E,747nm,0.5s						
BAR	**Barrett**	**1.57**	**1**	⇑*e*P	**Pn**	**18 20 14.6**	**0.0**
BAR				*e*S	**Sn**	**18 20 34.4**	**-0.5**
BAR				IAML		18 20 35.2	
	comp=N,1μm,0.2s						
BAR				⇑*e*		18 20 35.2	
BAR				*e*		18 20 35.3	
BAR				IAML		18 20 35.3	
	comp=E,607nm,0.2s						
RMX	**La Rumorosa**	**1.58**	**20**		**Pn**	**18 20 15.3**	**+0.3**
RMX				IAML		18 20 35.7	
	comp=E,591nm,0.6s						
RMX				IAML		18 20 43.8	
	comp=N,330nm,0.8s						
RMX	**La Rumorosa**	**1.58**	**20**	⇑*e*P	**Pn**	**18 20 15.3**	**+0.3**
SFX	**San Felipe**	**1.60**	**92**		**Pb**	**18 20 16.1**	**-0.2**
SFX				IAML		18 20 38.9	
	comp=E,389nm,0.5s						
SFX				IAML		18 20 40.7	
	comp=N,380nm,0.6s						
SFX	**San Felipe**	**1.60**	**92**	⇑*e*P	**Pb**	**18 20 16.2**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**1.62**	**18**	P	**Pb**	**18 20 16.3**	**-0.6**
IKP				S	**Sb**	**18 20 36.5**	**-0.8**
	baz=204						
YUH2	**Yuha Desert**	**1.68**	**23**	⇑*e*P	**Pb**	**18 20 17.3**	**-0.4**
CPBX	**Cerro Prieto**	**1.77**	**42**		**Pg**	**18 20 20.6**	**-0.4**
MONP2	**Monument Peak**	**1.80**	**8**	P	**Pn**	**18 20 18.6**	**+0.7**
	baz=192						
MONP2				S	**Sb**	**18 20 42.0**	**-0.5**
	baz=192						
109C	**Camp Elliot, M**	**1.81**	**349**		**Pn**	**18 20 17.8**	**0.0**
109C	**Camp Elliot, M**	**1.81**	**349**	S	**Sn**	**18 20 41.6**	**+0.9**
	baz=173						
SWSC	**Sam W. Stewart**	**1.99**	**23**	P	**Pn**	**18 20 21.1**	**+0.7**
	baz=207						
TPFO	**Pinon Flats**	**2.50**	**5**	P	**Pn**	**18 20 28.7**	**+1.1**
	baz=188						
TPFO				Sb	**Sb**	**18 21 02.4**	**-0.3**
	baz=188						
PFO	**Pinyon Flats O**	**2.51**	**5**		**Pn**	**18 20 28.6**	**+1.0**
PFO				IAML		18 21 08.3	
	comp=N,164nm,0.9s						
PFO	**Pinyon Flats O**	**2.51**	**5**	P	**Pn**	**18 20 28.9**	**+1.3**
	baz=188						
PFO				Sb	**Sb**	**18 21 02.6**	**-0.2**
	baz=188						
GLA	**Glamis**	**2.51**	**39**		**Pn**	**18 20 28.2**	**+0.6**
GLA				IAML		18 21 12.6	
	comp=E,132nm,0.7s						
BC3	**Big Chuckawall**	**2.75**	**22**	P	**Pn**	**18 20 32.4**	**+1.4**
	baz=206						
BELC	**Belle Mtn. Jos**	**2.95**	**12**	P	**Pn**	**18 20 35.0**	**+1.3**
	baz=195						
BELC				Sb	**Sb**	**18 21 16.5**	**+1.0**
	baz=195						
214A	**Organ Pipe Nat**	**3.44**	**75**	Pn	**Pn**	**18 20 41.5**	**+1.2**
EDW2	**Edwards Air Fo**	**3.91**	**344**	Sb	**Sb**	**18 21 45.7**	**+2.5**
	baz=165						
GSC	**Goldstone, Bar**	**4.18**	**359**		**Pn**	**18 20 51.0**	**+0.3**
GSC				IAML		18 22 01.5	
	comp=N,51nm,0.7s						
GSC				IAML		18 22 05.4	
	comp=E,58nm,1.1s						
QSM	**Queen of Sheba**	**4.85**	**359**		**Pn**	**18 20 60.0**	**+0.3**
GWY	**Greenwater Val**	**5.07**	**0**		**Pn**	**18 21 05.0**	**+2.1**
X16A	**Lo Mia Camp, P**	**5.53**	**52**		**Pn**	**18 21 11.9**	**+2.6**
SHPR	**Sheep Range**	**5.54**	**13**	Pn	**Pn**	**18 21 10.3**	**+1.0**
TPNV	**Topopah Spring**	**5.84**	**4**		**Pn**	**18 21 15.3**	**+1.8**
LCH	**Last Change Ra**	**6.16**	**353**	Pn	**Pn**	**18 21 17.8**	**-0.1**
PRN	**Pahroc Range**	**6.43**	**12**		**Pn**	**18 21 22.6**	**+1.0**
U15A	**North Rim**	**6.46**	**34**		**Pn**	**18 21 24.5**	**+2.4**
LCMT	**Little Creek M**	**6.55**	**25**		**Pn**	**18 21 25.9**	**+2.6**
W18A	**Petrified Fore**	**7.09**	**54**	Pn	**Pn**	**18 21 31.9**	**+1.3**

*IDC **04** 18:21:08.1±1.5, 4°.53S×145°.61E, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.8/41, mbtmp4.0/7, ML3.8/2, MS3.4/4, Ms1 3.4/4, ms1mx2.7/59, Error ellipse: s-maj=33.8km s-min=25.0km az=103.0*

ISC 04 18:21:13.8±1.4, 4°.7S±0°.1×145°.6E±0°.2, h43km, n9, σ1°00/8, mb3.9/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.96**	**162**	Pn	**Pn**	**18 22 25.9**	**+0.1**
	8.5nm,0.3s,baz=344,slow=7.4,SNR=28						
PMG				Sn	**Sn**	**18 23 20.4**	**-1.5**
	29nm,0.3s,baz=168,slow=14,SNR=13						
PMG				LR	LR	18 24 37.6	
	comp=Z,237nm,20.6s,baz=346,slow=41						
JAY	**Jayapura**	**5.35**	**293**	Pn	**Pn**	**18 22 30.4**	**-0.8**
	0.9nm,0.3s,baz=119,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**18.75**	**215**	P	**Pn**	**18 25 30.0**	**-0.1**
	0.6nm,0.3s,baz=34,slow=11,SNR=56						
WRA				LR	LR	18 33 27.2	
	comp=Z,70nm,19.5s,baz=80,slow=39						
ASAR	**Alice Springs**	**22.02**	**210**	P	**P**	**18 26 06.0**	**+1.2**
	1.3nm,0.7s,baz=44,slow=7.8,SNR=21						
FITZ	**Fitzroy Crossi**	**23.67**	**234**	P	**P**	**18 26 21.8**	**+0.1**
	2.6nm,0.4s,baz=44,slow=11,SNR=23						
STKA	**Stephens Creek**	**27.34**	**187**	P	**P**	**18 26 55.6**	**+0.7**
	2.1nm,0.5s,baz=351,slow=11,SNR=4.9						
ZALV	**Zalesovo Beam**	**77.15**	**328**	LR	LR	19 05 10.4	
	comp=Z,25nm,21.7s,baz=336,slow=34						
ILAR	**Eielson Array**	**84.80**	**23**	P	**P**	**18 33 43.5**	**+0.1**
	0.6nm,0.8s,baz=252,slow=4.2,SNR=5.8						
OPO	**Ambohidratompo**	**96.50**	**251**	LR	LR	19 18 31.8	
	comp=Z,56nm,18.9s,baz=310,slow=36						

*DJA **04** 18:43:42.4±0.5, 0°.N±3°.×9°.7E±°, h10km, M4.3/13, mb4.4/6, mB5.0/2, MLv4.2/13, Mw(mB)4.3/2*
*IDC **04** 18:43:46.4±1.3, 0°.25N×97°.27E, h35km±6km, mb3.5/6, mb1 3.7/8, mb1mx3.4/49, mbtmp3.7/8, ML3.6/2, MS3.2/2, Ms1 3.1/2, ms1mx2.5/70, Error ellipse: s-maj=41.9km s-min=17.9km az=57.0*

ISC 04 18:43:44.2±0.8, 0°.21N±0°.06×97°.13E±0°.10, h22km, n25, σ1°10/28, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.18**	**22**	P	**Pn**	**18 44 04.6**	**-0.7**
GSI				S	**Sn**	**18 44 22.8**	**+2.1**
SISI	**Saibi**	**2.48**	**128**	P	**Pn**	**18 44 23.0**	**-0.3**
SISI				S	**Sn**	**18 44 51.8**	**-1.2**
MNSI	**Mandailing Nat**	**2.52**	**77**	P	**Pn**	**18 44 23.9**	**+0.1**
MNSI				S	**Sn**	**18 44 54.6**	**+0.8**
TPTI		**3.03**	**1**	P	**Pn**	**18 44 28.5**	**-2.3**
PSI	**Prapat**	**3.14**	**35**	Pn	**Pn**	**18 44 30.8**	**-1.6**
	2.3nm,0.3s,baz=178,slow=6.1,SNR=6.1						
PSI				Sn	**Sn**	**18 45 08.3**	**-1.0**
	2.2nm,0.3s,baz=359,slow=17,SNR=5.7						
TSI	**Tuntungan**	**3.57**	**24**	P	**Pn**	**18 44 37.4**	**-0.9**
BKNI	**Bangkinang**	**3.91**	**88**	P	**Pn**	**18 44 42.6**	**-0.4**
PPSI	**Pulau Pagai**	**4.12**	**136**	P	**Pn**	**18 44 45.1**	**-0.8**
KRJI	**Kerinci**	**4.90**	**118**	P	**Pn**	**18 44 57.2**	**+0.6**
LHSI	**Lahat**	**7.54**	**122**	P	**Pn**	**18 45 34.7**	**+1.8**
	0.1nm1μm42nm,0.7s						
MDSI	**Maura Dua**	**8.45**	**124**	P	**Pn**	**18 45 45.7**	**+0.4**
	0.1nm13nm,0.7s						
KLSI		**9.02**	**123**	P	**Pn**	**18 45 53.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**18.22**	**6**	P	**Pn**	**18 47 55.4**	**-0.5**
	0.2nm,0.3s,baz=197,slow=11,SNR=17						
H08S2	**Diego Garcia H**	**25.77**	**252**	T	T	19 16 17.1	
	baz=73,slow=75,SNR=18						
H08S3	**Diego Garcia H**	**25.78**	**252**	T	T	19 16 29.8	
	baz=73,slow=75,SNR=23						
H08S1	**Diego Carcia H**	**25.79**	**252**	T	T	19 16 14.9	
	baz=73,slow=75,SNR=19						
WRA	**Warramunga Arr**	**41.58**	**121**	P	**P**	**18 51 30.3**	**-0.4**
	2.5nm,0.6s,baz=304,slow=8.8,SNR=44						
ASAR	**Alice Springs**	**42.87**	**126**	P	**P**	**18 51 41.1**	**-0.1**
	0.6nm,0.5s,baz=295,slow=7.8,SNR=20						
SONM	**Songino Array**	**48.12**	**8**	P	**P**	**18 52 22.3**	**-0.2**
	0.3nm,0.7s,baz=190,slow=7.3,SNR=1.4						
SONM				pP	**pwP**	**18 52 33.6**	**-0.5**
	0.8nm,0.6s,baz=189,slow=9.3,SNR=7.6						
MKAR	**Makanchi Array**	**48.18**	**346**	P	**P**	**18 52 23.3**	**+0.4**
	0.3nm,0.5s,baz=165,slow=8.3,SNR=7.6						
MKAR				pP	**pwP**	**18 52 33.8**	**-0.3**
	1.1nm,0.5s,baz=160,slow=8.7,SNR=11						
MJAR	**Matsushiro Arr**	**52.47**	**42**	LR	LR	19 15 34.0	
	comp=Z,30nm,21.9s,baz=80,slow=36						
STKA	**Stephens Creek**	**52.75**	**132**	LR	LR	19 18 07.8	
	comp=Z,15nm,18.8s,baz=11,slow=39						
ZALV	**Zalesovo Beam**	**54.52**	**351**	P	**P**	**18 53 10.3**	**+0.1**
	1.0nm,0.5s,baz=170,slow=6.1,SNR=6.0						
ZALV				pP	**pwP**	**18 53 20.6**	**-0.9**
	3.2nm,0.6s,baz=171,slow=6.5,SNR=12						
BRTR	**Keskin Array B**	**69.72**	**313**	P	**P**	**18 54 54.3**	**+1.5**
	0.7nm,1.1s,baz=122,slow=7.6,SNR=1.4						
TXAR	**Lajitas Array**	**144.54**	**32**	PKP	**PKPab**	**19 03 17.6**	**-0.6**
	0.2nm,0.5s,baz=3.2,slow=1.6,SNR=3.7						
TXAR				pPKP	**sPKPdf**	**19 03 29.7**	**+2.0**
	0.4nm,0.5s,baz=231,slow=1.0,SNR=5.5						

*ARE **04** 19:01:50.6±6.0, 9°.74S±0°.07×78°.7W±0°.1, h36km±7km, Error ellipse: s-maj=0.0km s-min=0.0km az=158.0*
*IDC **04** 19:01:52.9±0.9, 9°.83S×78°.59W, h71km±6km, mb3.8/2, mb1 3.9/4, mb1mx3.4/33, mbtmp4.1/4, Error ellipse: s-maj=23.7km s-min=4.2km az=74.0*
*NEIC **04** 19:01:55.0±2.4, 9°.70S±0°.06×78°.1W±0°.2, h65km±11km, mb3.8/4, ML4.6(ARE), Error ellipse: s-maj=25.4km s-min=8.4km az=90.0*

ISC 04 19:01:53.2±1.0, 9°.69S±0°.05×78°.2W±0°.1, h50km, n18, σ2°30/18, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.55**	**355**	P	**Pn**	**19 02 34.2**	**+1.8**
	baz=153,slow=4.5						
ATAH				S	**Sn**	**19 03 06.6**	**+4.1**
	8.0nm,0.3s,baz=305,slow=12,SNR=1.9						
NNA	**Nana**	**2.63**	**150**	P	**Pn**	**19 02 34.7**	**+1.5**
	82nm,0.3s,baz=321,slow=12,SNR=19						
NNA				S	**Sn**	**19 03 07.8**	**+3.9**
	54nm,0.3s,baz=230,slow=17,SNR=5.0						
NNA	**Nana**	**2.63**	**150**		**Pn**	**19 02 35.0**	**+1.7**
NNA					**Sn**	**19 03 03.5**	**-0.5**
CZSB	**Cruzeiro do Su**	**5.74**	**71**	Pn	**Pn**	**19 03 17.0**	**+1.0**
CZSB				Sn	**Sn**	**19 04 20.5**	**-0.1**
ETMB	**Extrema**	**11.79**	**92**	Pn	**Pn**	**19 04 38.1**	**-0.7**
PB16	**IPOC Station P**	**12.02**	**137**	Pn	**Pn**	**19 04 44.5**	**+2.1**
ZARC	**Zaragoza, Cauc**	**17.39**	**11**		**Pn**	**19 05 51.4**	**-1.0**
PTLB	**Pontes e Lacer**	**19.43**	**109**	P	**Pn**	**19 06 16.7**	**-0.5**
PTLB				IAmb	IAmb	19 06 18.3	
	comp=Z,4.0nm,0.9s						
BAUV	**El Baul**	**21.08**	**29**	P	**P**	**19 06 32.7**	**-0.9**
H03N1	**Juan Fernandez**	**23.65**	**182**	T	T	19 31 02.9	
	baz=0.9,slow=75,SNR=20						
H03N2	**Juan Fernandez**	**23.65**	**182**	T	T	19 30 59.4	
	baz=0.9,slow=75,SNR=19						
H03N3	**Juan Fernandez**	**23.66**	**182**	T	T	19 30 56.9	
	baz=0.9,slow=75,SNR=20						
DBIC	**Dimbokro**	**74.82**	**80**	P	**P**	**19 13 29.1**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=271,slow=2.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**82.46**	**75**	P	**P**	**19 14 10.1**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=256,slow=4.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**82.46**	**75**	P	**P**	**19 14 10.3**	**-0.7**
TORD				IAmb	IAmb	19 14 10.9	
	comp=Z,1.7nm,1.1s						
ASAR	**Alice Springs**	**134.37**	**223**	PKP	**PKPdf**	**19 21 02.8**	**-3.8**
	comp=Z,0.2nm,0.7s,baz=107,slow=3.1,SNR=1.6						
ASAR	**Alice Springs**	**134.37**	**223**	PKPpre	PKPpre	19 20 54.1	
WRA	**Warramunga Arr**	**136.51**	**227**	PKP	**PKPdf**	**19 21 06.7**	**-4.0**
	comp=Z,0.6nm,0.8s,baz=124,slow=1.9,SNR=4.9						

*IDC **04** 19:01:52.4±5.2, 21°.91N×142°.77E, h272km±50km, mb3.1/9, mb1 3.2/10, mb1mx2.8/52, mbtmp3.7/10, Error ellipse: s-maj=41.4km s-min=13.4km az=80.0*

**ISC 04 19:01:54.5±1.1, 21°.9N±0°.

s-min=47.1km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.79**	**229**	P	Pn	19 29 07.6	+0.7
	2.4nm,0.3s,baz=52,slow=7.0,SNR=8.7						
PMG				S	Sn	19 30 13.2	-0.2
	5.4nm,0.3s,baz=171,slow=23,SNR=10						
GUMO	**Guam**	**20.22**	**341**	LR	LR	19 40 21.3	
	comp=Z,13nm,19.5s,baz=102,slow=38						
WRA	**Warramunga Arr**	**22.01**	**228**	P	P	19 32 21.9	-0.4
	1.0nm,0.4s,baz=54,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**24.75**	**222**	P	P	19 32 47.9	+0.6
	1.7nm,0.7s,baz=58,slow=8.6,SNR=19						
MSVF	**Nonsavu**	**28.51**	**117**	LR	LR	19 45 09.7	
	comp=Z,43nm,18.2s,baz=336,slow=37						
TORD	**Torodi Ar. Bea**	**149.41**	**286**	PKPbc	PKPbc	19 47 09.8	-1.1
	0.1nm,0.4s,baz=101,slow=3.2,SNR=1.6						

*IDC **04** 19:31:29.4±0.8, 0°.64S×126°.81E, h0km, mb3.1/3, mb1 3.3/4, mb1mx2.9/40, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=18.7km s-min=14.1km az=52.0*
*DJA **04** 19:31:42.1±0.4, 1°.5±3°.3×12°.7E±°, h36km±10km, M4.0/12, mb4.5/6, mB4.8/3, MLv3.7/12, Mw(mB)4.0/3*
ISC 04 19:31:42.1±1.4, 0°.53S±0°.09×127°.13E±0°.06, h35km, n17, σ1§63/16, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.39**	**106**	P	**Pn**	**19 31 52.2**	**+1.1**
LBMI				S	**Sn**	**19 31 57.5**	**+0.1**
TNTI	**Ternate**	**1.32**	**10**	P	**Pn**	**19 32 02.6**	**-1.4**
SANI	**Sanana**	**1.89**	**217**	P	**Pn**	**19 32 11.0**	**-0.9**
SANI				S	**Sn**	**19 32 34.2**	**-0.3**
AAI	**Ambon**	**3.31**	**161**	P	**Pn**	**19 32 30.6**	**-0.8**
KMSI	**Cibinong**	**3.33**	**289**	P	**Pn**	**19 32 33.3**	**+1.5**
SWI	**Sorong**	**4.14**	**95**	P	**Pn**	**19 32 42.8**	**-0.1**
SIJI	**Sorong**	**4.15**	**95**	Pn	**Pn**	**19 32 38.5**	**-4.5**
	0.7nm,0.3s,baz=288,slow=22,SNR=4.0						
LUWI	**Luwuk**	**4.39**	**263**	P	**Pn**	**19 32 46.4**	**+0.2**
MRSI	**Marisa**	**5.29**	**281**	P	**Pn**	**19 32 59.2**	**+0.6**
	0.1nm302nm10nm,0.6s						
APSI	**Ampana**	**5.49**	**266**	P	**Pn**	**19 33 02.2**	**+0.7**
	0.3nm2μm55nm,0.5s						
BNSI	**Bone**	**8.00**	**241**	P	**Pn**	**19 33 35.2**	**-0.7**
	0.0nm6.5nm,0.8s						
SPSI	**Sidrap Palu**	**8.11**	**245**	P	**Pn**	**19 33 39.0**	**+1.6**
	940nm61nm,0.7s						
BKSI	**Bulukumba**	**8.46**	**236**	P	**Pn**	**19 33 43.3**	**+1.1**
SAUI	**Saumlaki**	**8.49**	**151**	P	**Pn**	**19 33 44.0**	**+1.4**
	95nm,1.4s						
WRA	**Warramunga Arr**	**20.54**	**160**	P	P	19 36 09.4	-8.3
	0.3nm,0.5s,baz=341,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**23.92**	**165**	P	P	19 36 45.2	-7.8
	0.2nm,0.3s,baz=342,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**61.28**	**326**	P	P	19 41 46.0	-8.0
	0.2nm,0.4s,baz=115,slow=7.9,SNR=4.9						

*SSNC **04** 19:49:09.9±1.4, 19°.57N×77°.84W, h5km±6km, MD3.2, ML2.6*
*JSN **04** 19:49:13.4±0.3, 19°.59N×77°.79W, h71km±49km, MD3.8*
ISC 04 19:49:07.7±1.4, 19°.63N±0°.03×77°.75W±0°.04, h9km±12km, n12, σ1§56/21, **Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.83**	**58**	*e*P	**Pn**	**19 49 26.7**	**+1.2**
LMGC				*e*S	**Sn**	**19 49 39.2**	**+1.4**
LMGC				IAML		19 49 41.2	
	comp=E,792nm,0.2s						
LMGC				IAML		19 49 41.4	
	comp=N,701nm,0.1s						
CVJ	**Coleyville**	**1.41**	**172**	*i* P	**Pg**	**19 49 36.3**	**+1.5**
MTDJ	**Mount Denham**	**1.41**	**172**	*e*P	**Pg**	**19 49 34.5**	**-0.2**
MTDJ				*e*S	**Sb**	**19 49 51.2**	**-1.2**
CCCC	**Cccc**	**1.56**	**360**	*e*P	**Pg**	**19 49 37.4**	**-0.3**
CCCC				*e*S	**Sb**	**19 49 56.8**	**+0.1**
CCCC				IAML		19 50 01.1	
	comp=N,57nm,0.3s						
CCCC				IAML		19 50 01.2	
	comp=E,74nm,0.3s						
MCJ	**Malvern**	**1.69**	**178**	*i* P	**Pg**	**19 49 39.9**	**-0.3**
MCJ				*i* S	**Sb**	**19 49 59.8**	**-0.7**
STH	**Stony Hill**	**1.78**	**150**	*i* P	**Pg**	**19 49 41.3**	**-0.5**
RCC	**Rio Carpintero**	**1.97**	**79**	*e*P	**Pb**	**19 49 42.5**	**-1.2**
RCC				*e*S	**Sn**	**19 50 06.9**	**+0.9**
RCC				IAML		19 50 08.5	
	comp=N,10nm,0.1s						
RCC				IAML		19 50 08.9	
	comp=E,5.8nm,0.1s						
HLGC	**Holguin**	**2.02**	**51**	*e*P	**Pg**	**19 49 46.6**	**+0.1**
HLGC				*e*S	**Sg**	**19 50 14.2**	**+1.4**
HLGC				IAML		19 50 17.0	
	comp=N,32nm,0.3s						
HLGC				IAML		19 50 17.5	
	comp=E,24nm,0.5s						
GTMO	**Guantanamo**	**2.50**	**79**	*e*P	**Pb**	**19 49 52.0**	**-0.8**
GTBY	**Guantanamo Bay**	**2.50**	**83**	*e*P	**Pb**	**19 49 50.7**	**-2.1**
GTBY				*e*S	**Sb**	**19 50 21.3**	**-2.4**
MGV	**Manicaragua**	**3.23**	**320**	*e*P	**Pn**	**19 49 59.2**	**+0.7**
MGV				*e*S	**Sn**	**19 50 36.6**	**-0.6**
MGV				IAML		19 50 41.2	
	comp=N,8.4nm,0.4s						
MGV				IAML		19 50 41.3	
	comp=E,6.3nm,0.2s						
MASC	**Masc**	**3.36**	**80**	*e*P	**Pn**	**19 50 03.2**	**+2.9**
MASC				*e*S	**Sb**	**19 50 45.3**	**-3.0**

*RSPR **04** 19:49:28.6, 19°.28N×68°.08W, h76km±9km, MD3.4/14*
*NEIC **04** 19:49:28.1±1.0, 19°.24N±0°.06×68°.05W±0°.03, h22km±13km, Error ellipse: s-maj=8.8km s-min=4.0km az=195.0*
*OSPL **04** 19:49:31.6±1.7, 18°.97N×67°.90W, h0km±50km, ML2.8*
ISC 04 19:49:27.1±1.3, 19°.31N±0°.07×68°.02W±0°.04, h21km, n52, σ0§68/62, **11C-3D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.86**	**203**	↓*e*P	**Pb**	**19 49 43.2**	**-0.2**
PCDR	**Punta Cana, DR**	**0.86**	**203**	*e*S	**Sb**	**19 49 54.6**	**+0.1**
PCDR	**Punta Cana, DR**	**0.86**	**203**		**Pb**	**19 49 43.2**	**-0.2**
PCDR					**Sb**	**19 49 54.6**	**+0.1**
PCDR	**Punta Cana, DR**	**0.86**	**203**	*i* P	**Pb**	**19 49 43.2**	**-0.2**
PCDR				IAML		19 49 54.4	
	comp=Z,302nm,0.2s						
IDE	**Isla Desecheo**	**1.05**	**151**	↑*e*P	**Pb**	**19 49 44.6**	**-2.0**
IDE	**Isla Desecheo**	**1.05**	**151**	*e*S	**Sn**	**19 50 01.6**	**+0.9**
AGPR	**Aguadilla, PR**	**1.20**	**134**	↓*e*P	**Pn**	**19 49 48.6**	**0.0**
AGPR	**Aguadilla, PR**	**1.20**	**134**	*e*S	**Sn**	**19 50 04.4**	**+0.1**
AGPR	**Aguadilla, PR**	**1.20**	**134**		**Pn**	**19 49 48.6**	**0.0**
AGPR					**Sn**	**19 50 04.4**	**+0.1**
AGPR	**Aguadilla, PR**	**1.20**	**134**	*i* P	**Pn**	**19 49 47.8**	**-0.8**
AGPR				IAML		19 50 06.4	
	comp=Z,167nm,0.2s						
LSP	**Las Mesas**	**1.43**	**142**	↑*e*P	**Pn**	**19 49 52.4**	**+0.5**
LSP	**Las Mesas**	**1.43**	**142**	*e*S	**Sb**	**19 50 11.3**	**+0.4**
AOPR	**Arecibo Observ**	**1.54**	**128**	↑*e*P	**Pn**	**19 49 54.0**	**+0.7**
AOPR	**Arecibo Observ**	**1.54**	**128**	*e*S	**Sb**	**19 50 13.6**	**-0.2**
AOPR	**Arecibo Observ**	**1.54**	**128**		**Pn**	**19 49 54.0**	**+0.7**
AOPR					**Sb**	**19 50 13.6**	**-0.2**
AOPR	**Arecibo Observ**	**1.54**	**128**	IAML		19 50 24.7	
	comp=N,361nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.56**	**146**	↑*e*P	**Pn**	**19 49 53.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.56**	**146**	*e*S	**Sb**	**19 50 14.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.56**	**146**		**Pn**	**19 49 53.8**	**+0.2**
CRPR					**Sb**	**19 50 14.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.56**	**146**	*i* P	**Pn**	**19 49 53.3**	**-0.2**
CRPR				IAML		19 50 15.1	
	comp=Z,155nm,0.2s						
UUPR	**Utuado, UPR, P**	**1.62**	**130**	↑*e*P	**Pn**	**19 49 55.1**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.62**	**130**	*e*S	**Sn**	**19 50 15.0**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.62**	**130**		**Pn**	**19 49 55.1**	**+0.7**
UUPR					**Sn**	**19 50 15.0**	**+0.4**
MLPR	**Magueyes Islan**	**1.62**	**145**	↑*e*P	**Pn**	**19 49 54.3**	**-0.2**
MLPR	**Magueyes Islan**	**1.62**	**145**	*e*S	**Sn**	**19 50 15.2**	**+0.5**
MLPR	**Magueyes Islan**	**1.62**	**145**		**Pn**	**19 49 54.3**	**-0.2**
MLPR					**Sn**	**19 50 15.2**	**+0.5**
EMPR	**Esperanza - Ma**	**1.64**	**120**	↑*e*P	**Pn**	**19 49 55.7**	**+1.1**
EMPR	**Esperanza - Ma**	**1.64**	**120**	*e*S	**Sb**	**19 50 16.9**	**+0.2**
EMPR	**Esperanza - Ma**	**1.64**	**120**		**Pn**	**19 49 55.7**	**+1.1**
EMPR					**Sb**	**19 50 16.9**	**+0.2**
CELP	**Cerrillos**	**1.84**	**132**	↑*e*P	**Pn**	**19 49 57.9**	**+0.5**
CELP	**Cerrillos**	**1.84**	**132**	*e*S	**Sn**	**19 50 20.7**	**+0.7**
CELP	**Cerrillos**	**1.84**	**132**		**Pn**	**19 49 57.9**	**+0.5**
CELP					**Sn**	**19 50 20.7**	**+0.7**
OBIP	**Obispado Ponce**	**1.84**	**133**	↑*e*P	**Pn**	**19 49 58.6**	**+1.2**
OBIP	**Obispado Ponce**	**1.84**	**133**	*e*S	**Sn**	**19 50 20.5**	**+0.5**
OBIP	**Obispado Ponce**	**1.84**	**133**		**Pn**	**19 49 58.6**	**+1.2**
OBIP					**Sn**	**19 50 20.5**	**+0.5**
GCPR	**Guaynabo City**	**2.09**	**118**	Pn	**Pn**	**19 50 00.9**	**+0.1**
SJG	**San Juan**	**2.14**	**124**	Pn	**Pn**	**19 50 01.3**	**-0.2**
SJG				IAML		19 50 35.1	
	comp=Z,126nm,0.3s						
SJG				IAML		19 50 38.1	
	comp=Z,90nm,0.3s						
PDPR	**Patillas Dam,**	**2.29**	**124**	Pn	**Pn**	**19 50 04.5**	**+0.9**
CBYP	**Canovanas**	**2.29**	**116**	↑*e*P	**Pn**	**19 50 04.1**	**+0.3**
CBYP	**Canovanas**	**2.29**	**116**	*e*S	**Sn**	**19 50 31.9**	**+0.5**
CBYP	**Canovanas**	**2.29**	**116**		**Pn**	**19 50 04.1**	**+0.3**
CBYP					**Sn**	**19 50 31.9**	**+0.5**
HUMP	**Col San Antoni**	**2.36**	**119**	↑*e*P	**Pn**	**19 50 05.6**	**+1.0**
HUMP	**Col San Antoni**	**2.36**	**119**	*e*S	**Sn**	**19 50 33.3**	**+0.3**
HUMP	**Col San Antoni**	**2.36**	**119**		**Pn**	**19 50 05.6**	**+1.0**
HUMP					**Sn**	**19 50 33.3**	**+0.3**
MTP	**Monte Pirata**	**2.63**	**117**	↓*e*P	**Pn**	**19 50 09.1**	**+0.8**
MTP	**Monte Pirata**	**2.63**	**117**		**Pn**	**19 50 09.1**	**+0.8**
CUPR	**Culebra, Puert**	**2.78**	**111**	Pn	**Pn**	**19 50 10.6**	**+0.2**
STVI	**Saint Thomas**	**3.06**	**108**	Pn	**Pn**	**19 50 14.7**	**+0.5**
SDDR	**Presa de Saban**	**3.11**	**264**		**Pn**	**19 50 15.7**	**+0.8**
SDDR				IAML		19 51 15.1	
	comp=Z,97nm,0.8s						
SDDR				IAML		19 51 15.9	
	comp=Z,88nm,0.6s						
SDDR	**Presa de Saban**	**3.11**	**264**	*i* P	**Pb**	**19 50 20.5**	**-1.2**
SDDR				IAML		19 51 18.6	
	comp=Z,42nm,0.5s						
LOBA2	**Hotel Casa Bon**	**3.16**	**248**	*i* P	**Pb**	**19 50 20.5**	**-2.0**
LOBA2				IAML		19 51 12.7	
	comp=Z,34nm,1.9s						
LONE2	**Loma La Sidra**	**3.36**	**258**	*i* P	**Pb**	**19 50 25.6**	**-0.3**
LONE2				IAML		19 51 17.7	
	comp=Z,40nm,0.7s						

WEL 04 19:56:44.2±0.8, 39°.5S±6°.1×18°.0W±°, h33km, M3.3/9, ML3.5/12, MLv3.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=33.6, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**1.67**	**274**	P	Pn	19 57 11.6	+0.5
WMGZ	**Waiomatatini S**	**1.70**	**297**	P	Pn	19 57 11.6	0.0
WMGZ				S	Sn	19 57 32.9	+0.7
PUZ	**Puketiti**	**1.72**	**287**	P	Pn	19 57 11.9	+0.1
PUZ				S	Sn	19 57 31.8	-0.8
TWGZ	**Tauwhareparae**	**1.90**	**282**	P	Pn	19 57 14.8	+0.4
TWGZ				S	Sn	19 57 37.0	-0.2
MXZ	**Matakaoa Point**	**1.91**	**302**	P	Pn	19 57 14.5	0.0
PKGZ	**Pakihiroa**	**1.92**	**291**	P	Pn	19 57 14.7	+0.1
PKGZ				S	Sn	19 57 36.6	-1.0
PRGZ	**Paritu Road**	**1.94**	**260**	P	Pn	19 57 15.6	+0.7
PRGZ				S	Sn	19 57 39.9	+1.7
TKGZ	**Te Karaka**	**1.96**	**274**	P	Pn	19 57 15.4	+0.4
TKGZ				S	Sn	19 57 37.5	-0.9
MHGZ	**Mahia Peninsul**	**1.97**	**253**	P	Pn	19 57 15.7	+0.5
MHGZ				S	Sn	19 57 40.2	+1.3
RIGZ	**Rimuhau**	**2.02**	**266**	P	Pn	19 57 16.6	+0.7
RIGZ				S	Sn	19 57 41.4	+1.4
HAZ	**Te Kaha**	**2.18**	**292**	P	Pn	19 57 18.2	+0.1
RUGZ	**Raukumara Rang**	**2.19**	**286**	P	Pn	19 57 18.3	-0.1
MWZ	**Matawai**	**2.22**	**276**	P	Pn	19 57 19.0	+0.3
MWZ				S	Sn	19 57 42.3	-2.7
RAGZ	**Rawiri**	**2.29**	**272**	P	Pn	19 57 20.2	+0.4
RAGZ				S	Sn	19 57 46.6	-0.2
URZ	**Urewera**	**2.56**	**277**	P	Pn	19 57 24.2	+0.9
URZ				S	Sn	19 57 55.3	+2.1
CTZ	**Chatham Island**	**5.62**	**157**	P	Pn	19 58 08.0	+2.7
CTZ				S	Sn	19 59 05.7	-3.0

*WEL **04** 20:04:00, 41°.60S×174°.17E, h25km, ML3.9, Mw3.8, Moment Tensor Solution. s5 Moment tensor: Scale 10^{14} Nm; M_{rr}-1.74; $M_{\theta\theta}$ 1.61; $M_{\phi\phi}$ 0.13; $M_{r\theta}$ -0.70; $M_{\theta\phi}$ -4.51; $M_{\phi r}$4.36; Fault plane solution: $M_0$6.50000×10^{14} NP1: ϕ_s269.00000°, δ44.00000°, λ-166.00000°. NP2: ϕ_s168.00000°, δ80.00000°, λ-47.00000°. Principal axes: T 68.8400, Plg23.0000°, Azm227.0000°; N -7.6200, Plg42.0000°, Azm338.0000°; P -61.2200, Plg39.0000°, Azm117.0000°;*
*IDC **04** 20:04:53.7±2.0, 41°.41S×174°.05E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/26, mbtmp3.3/3, ML3.0/1 Error ellipse: s-maj=52.6km s-min=29.2km az=151.0*
*WEL **04** 20:04:57.7, 42°.5±3°.×17°.4E±°, h29km±4km, M3.9/15, ML4.2/15, MLv3.9/15, Error ellipse: s-maj=0.0km s-min=0.0km az=124.2*
*NOU **04** 20:04:57.3, 41°.77S×174°.38E, h29km, MLv4.5/9, Cook Strait, New Zealand*
ISC 04 20:04:57.5±1.0, 41°.70S±0°.03×174°.23E±0°.03, h34km±3km, n120, σ1§34/124, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.05**	**192**	P	**Pb**	**20 05 03.6**	**+0.4**
CMWZ				S	**Sb**	**20 05 08.0**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.26**	**267**	P	**Pb**	**20 05 04.8**	**0.0**
BSWZ				S	**Sb**	**20 05 09.8**	**-0.1**
TUWZ	**Tuamarina**	**0.35**	**322**	P	**Pb**	**20 05 04.9**	**-1.0**
TUWZ				S	**Sb**	**20 05 10.0**	**-1.6**
TCW	**Tory Channel**	**0.49**	**4**	P	**Pb**	**20 05 07.0**	**-1.0**
TCW				S	**Sb**	**20 05 13.4**	**-1.8**
SNZO	**South Karori**	**0.53**	**43**	P	**Pb**	**20 05 08.6**	**0.0**
BHW	**Baring Head**	**0.57**	**59**	P	**Pb**	**20 05 09.6**	**+0.5**
BHW				S	**Sb**	**20 05 17.9**	**+0.8**
WEL	**Wellington**	**0.58**	**44**	P	**Pb**	**20 05 09.6**	**+0.1**
WEL				S	**Sb**	**20 05 18.7**	**+1.1**
PLWZ	**Palliser**	**0.78**	**81**	P	**Pb**	**20 05 13.1**	**+0.3**
PLWZ				S	**Sb**	**20 05 24.8**	**+1.7**
NNZ	**Nelson**	**0.80**	**307**	P	**Pn**	**20 05 12.4**	**0.0**
NNZ				S	**Sb**	**20 05 21.6**	**-2.0**
MSWZ	**Moikau Station**	**0.82**	**70**	P	**Pn**	**20 05 13.6**	**+1.0**
MSWZ				S	**Sb**	**20 05 25.3**	**+1.2**
CAW	**Cannon Point**	**0.87**	**47**	P	**Pn**	**20 05 14.2**	**+0.9**
CAW				S	**Sb**	**20 05 26.3**	**+0.8**
KHZ	**Kahutara**	**0.88**	**215**	P	**Pn**	**20 05 15.2**	**+1.7**
KHZ	**Kahutara**	**0.88**	**215**	P	**Pn**	**20 05 15.2**	**+1.7**
DUWZ	**D'Urville Isla**	**0.93**	**346**	P	**Pn**	**20 05 14.2**	**0.0**
PAWZ	**Paruwai Farm**	**0.96**	**71**	P	**Pn**	**20 05 15.2**	**+0.7**
KIW	**Kapiti Island**	**0.99**	**32**	P	**Pn**	**20 05 15.3**	**+0.4**
THZ	**Tophouse**	**0.99**	**266**	P	**Pn**	**20 05 15.8**	**+0.7**
MTW	**Mount Morrison**	**1.10**	**61**	P	**Pn**	**20 05 17.1**	**+0.5**
OGWZ	**Otaki Gorge**	**1.14**	**39**	P	**Pn**	**20 05 18.0**	**+1.0**
TRWZ	**Traveller**	**1.14**	**75**	P	**Pn**	**20 05 17.6**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.26**	**51**	P	**Pn**	**20 05 19.2**	**+0.4**
TMWZ	**Te Maipa**	**1.39**	**65**	P	**Pn**	**20 05 20.7**	**+0.2**
MRZ	**Mangatainoka R**	**1.46**	**45**	P	**Pn**	**20 05 22.0**	**+0.6**
GVZ	**Greta Valley S**	**1.54**	**215**	P	**Pn**	**20 05 23.9**	**+1.3**
QRZ	**Quartz Range**	**1.55**	**304**	P	**Pn**	**20 05 24.5**	**+1.7**
QRZ	**Quartz Range**	**1.55**	**304**	P	**Pn**	**20 05 24.4**	**+1.7**
TIWZ	**Tintock**	**1.56**	**54**	P	**Pn**	**20 05 23.1**	**+0.2**
CPWZ	**Castlepoint**	**1.69**	**63**	P	**Pn**	**20 05 24.9**	**+0.3**
OHWZ	**Ohakea**	**1.71**	**29**	P	**Pn**	**20 05 27.4**	**+2.5**
PRWZ	**Pori Road**	**1.75**	**50**	P	**Pn**	**20 05 25.7**	**+0.3**
POWZ	**Post Office Ro**	**1.75**	**42**	P	**Pn**	**20 05 26.0**	**+0.5**
LTZ	**Lake Taylor**	**1.81**	**233**	P	**Pn**	**20 05 27.6**	**+1.3**
DSZ	**Denniston Nort**	**1.81**	**268**	P	**Pn**	**20 05 28.4**	**+2.0**
BFZ	**Birch Farm**	**1.83**	**57**	P	**Pn**	**20 05 26.2**	**-0.5**
BFZ	**Birch Farm**	**1.83**	**57**	P	**Pn**	**20 05 26.3**	**-0.3**
AMCZ	**Amberley**	**1.88**	**218**	P	**Pn**	**20 05 28.2**	**+0.9**
DVHZ	**Dannevirke**	**2.03**	**47**	P	**Pn**	**20 05 29.0**	**-0.4**
WAZ	**Wanganui**	**2.03**	**17**	P	**Pn**	**20 05 31.9**	**+2.6**
TSZ	**Takapari Road**	**2.10**	**39**	P	**Pn**	**20 05 30.7**	**+0.3**
ANWZ	**Angora Road**	**2.10**	**55**	P	**Pn**	**20 05 29.8**	**-0.5**
OKCZ	**Okains Bay**	**2.19**	**203**	P	**Pn**	**20 05 32.1**	**+0.5**
LREZ	**Lake Rotokare**	**2.24**	**3**	P	Pn	20 05 36.7	+4.4
OXZ	**Oxford**	**2.29**	**224**	P	**Pn**	**20 05 33.1**	**+0.2**
NMEZ	**Namu Road**	**2.30**	**353**	P	**Pb**	**20 05 37.8**	**-0.6**
INZ	**Inchbonnie**	**2.31**	**243**	P	**Pn**	**20 05 34.5**	**+1.4**
MQZ	**McQueen's Vall**	**2.31**	**210**	P	**Pn**	**20 05 32.8**	**-0.4**
PRHZ	**Porangahau**	**2.32**	**53**	P	**Pn**	**20 05 32.6**	**-0.7**
PNHZ	**Pukenui**	**2.33**	**41**	P	**Pn**	**20 05 33.5**	**0.0**
WPHZ	**Waipukurau**	**2.34**	**46**	P	**Pn**	**20 05 33.6**	**0.0**
PREZ	**Palmer Road**	**2.36**	**359**	P	**Pn**	**20 05 38.0**	**+4.1**
AKCZ	**Akaroa Harbour**	**2.38**	**204**	P	**Pn**	**20 05 34.3**	**+0.2**
KHEZ	**Kahui Hut**	**2.41**	**356**	P	**Pn**	**20 05 38.0**	**+3.3**
NEZ	**North Egmont**	**2.43**	**358**	P	Pn	20 05 39.3	+4.4
NBEZ	**Newall Road No**	**2.45**	**353**	P	**Pn**	**20 05 38.3**	**+3.2**
MTVZ	**Mangateitei**	**2.50**	**23**	P	**Pn**	**20 05 38.5**	**+2.6**
DREZ	**Durham Road**	**2.51**	**360**	P	Pn	20 05 40.0	+4.1
PKE	**Pukeiti**	**2.51**	**356**	P	**Pn**	**20 05 38.9**	**+2.9**
RACZ	**Rakaia**	**2.54**	**217**	P	**Pn**	**20 05 36.6**	**+0.2**
PKVZ	**Pokaka**	**2.56**	**20**	P	**Pn**	**20 05 38.8**	**+2.2**
MOVZ	**Moawhango**	**2.57**	**27**	P	**Pn**	**20 05 37.7**	**+0.9**
WNVZ	**Wahianoa**	**2.59**	**24**	P	**Pn**	**20 05 38.9**	**+1.6**
TRVZ	**Turoa**	**2.60**	**23**	P	**Pn**	**20 05 39.3**	**+1.9**
PXZ	**Pawanui**	**2.60**	**51**	P	**Pn**	**20 05 36.1**	**-1.1**
VRZ	**Vera Road**	**2.61**	**9**	P	**Pn**	**20 05 39.8**	**+2.6**
BHHZ	**Black Hill Sta**	**2.62**	**33**	P	**Pn**	**20 05 38.2**	**+0.8**
KRHZ	**Kereru**	**2.62**	**39**	P	**Pn**	**20 05 37.2**	**-0.3**
DRZ	**Dome Shelter**	**2.63**	**23**	P	**Pb**	**20 05 44.7**	**+0.6**
WHVZ	**Whangaehu Hut**	**2.63**	**24**	P	**Pb**	**20 05 43.2**	**-0.9**
FWVZ	**Far West T-bar**	**2.65**	**23**	P	**Pn**	**20 05 40.2**	**+2.2**
TUVZ	**Tukino**	**2.67**	**25**	P	**Pn**	**20 05 39.7**	**+1.5**
MHCZ	**Mount Hutt**	**2.68**	**226**	P	**Pn**	**20 05 38.4**	**0.0**
NGZ	**Ngauruhoe**	**2.73**	**23**	P	**Pn**	**20 05 40.8**	**+1.6**
SNVZ	**South Ngauruho**	**2.73**	**24**	P	**Pn**	**20 05 40.8**	**+1.6**
OTVZ	**Oturere**	**2.76**	**24**	P	**Pn**	**20 05 41.0**	**+1.5**
KAHZ	**Kahuranaki**	**2.77**	**47**	P	**Pn**	**20 05 38.6**	**-0.9**
NNVZ	**North Ngauruho**	**2.78**	**23**	P	**Pn**	**20 05 41.8**	**+2.0**
WTVZ	**West Tongariro**	**2.79**	**22**	P	**Pn**	**20 05 41.9**	**+2.1**
TWVZ	**Taurewa**	**2.79**	**20**	P	**Pn**	**20 05 41.4**	**+1.6**
ETVZ	**East Tongariro**	**2.80**	**24**	P	**Pn**	**20 05 41.6**	**+1.6**
KRVZ	**Karewarewa**	**2.82**	**23**	P	Pn	20 05 45.6	+5.3
TMVZ	**Te Maari**	**2.82**	**24**	P	**Pn**	**20 05 41.9**	**+1.6**
KWHZ	**Kaweka Forest**	**2.83**	**37**	P	**Pn**	**20 05 40.2**	**-0.1**
NTVZ	**North Tongarir**	**2.83**	**24**	P	**Pn**	**20 05 41.9**	**+1.5**
WACZ	**Wakanui South**	**2.84**	**217**	P	**Pn**	**20 05 41.4**	**+0.8**
WVZ	**Waitaha Valley**	**2.93**	**241**	P	**Pn**	**20 05 43.0**	**+1.4**
KATZ	**Kakaramea**	**2.95**	**23**	P	**Pb**	**20 05 48.3**	**-1.1**
RITZ	**Rihia Road**	**3.00**	**25**	P	**Pb**	**20 05 48.8**	**-1.3**
BKZ	**Black Stump Fm**	**3.07**	**35**	P	**Pn**	**20 05 43.5**	**-0.2**
BKZ	**Black Stump Fm**	**3.07**	**35**	P	**Pn**	**20 05 43.8**	**+0.1**
RATZ	**Rangitukua**	**3.07**	**23**	P	**Pb**	**20 05 50.6**	**-0.8**
RPZ	**Rata Peaks**	**3.08**	**228**	P	**Pn**	**20 05 44.0**	**+0.2**
RPZ	**Rata Peaks**	**3.08**	**228**	P	**Pn**	**20 05 44.2**	**+0.4**
ARCZ	**Arundel**	**3.17**	**224**	P	**Pn**	**20 05 45.6**	**+0.5**
HIZ	**Hauiti**	**3.22**	**9**	P	**Pn**	**20 05 48.2**	**+2.4**
HIZ	**Hauiti**	**3.22**	**9**	P	**Pn**	**20 05 47.6**	**+1.9**
GCSZ	**Gaunt Creek Bo**	**3.30**	**239**	P	**Pn**	**20 05 48.5**	**+1.7**
TLZ	**Tolley Road**	**3.52**	**17**	P	**Pn**	**20 05 50.5**	**+0.7**
TMZ	**Timaru**	**3.57**	**220**	P	**Pn**	**20 05 51.0**	**+0.5**
FOZ	**Fox Glacier**	**3.73**	**239**	P	**Pn**	**20 05 53.6**	**+0.9**
LBZ	**Lake Benmore**	**4.00**	**227**	P	**Pn**	**20 05 57.3

CHGR	Chuyangaron	50.09	296	P	P	20 26 18.6	+0.4
WRA	Warramunga Arr	51.97	176	P	P	20 26 32.4	+0.1
	comp=Z,0.4nm,0.7s,baz=355,slow=7.9,SNR=2.5						
ABKAR	Akbulak array	54.57	310	P	P	20 26 51.2	+0.2
ASAR	Alice Springs	55.65	177	P	P	20 26 59.4	+0.3
	comp=Z,0.5nm,0.6s,baz=358,slow=5.8,SNR=12						
FINES	FINESS Array B	68.93	330	P	P	20 28 26.3	-0.9
	comp=Z,1.4nm,0.4s,baz=77,slow=7.3,SNR=2.8						
AKASG	Malin Array Be	72.66	319	P	P	20 28 48.8	-1.1
	comp=Z,0.3nm,0.3s,baz=56,slow=6.0,SNR=4.4						

TRN 04 20:27:15.3, 10°.82N×62°.30W, h69km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.90	101	eP	Pn	20 27 33.4	+0.9
TRN				eS	Sn	20 27 45.8	+0.5
TPP	Pointe-a-Pierr	0.97	121	eP	Pn	20 27 33.6	+0.1
TPP				eS	Sn	20 27 46.6	-0.4
GRFF	Grenada Fort F	1.34	24	eP	Pn	20 27 38.0	-0.2
GRFF				eS	Sn	20 27 55.5	+0.1
GRGR	Grenville	1.45	26	eP	Pn	20 27 40.0	+0.3
GRGR				eS	Sn	20 27 57.0	-1.0
TOSP	Speyside	1.80	74	eP	Pn	20 27 44.6	+0.4
TOSP				eS	Sn	20 28 05.6	-0.6
GCMP	Grenada, Carri	1.87	27	eP	Pn	20 27 45.5	+0.3
GCMP				eS	Sn	20 28 08.1	+0.2
SVB	Belmont	2.65	23	eP	Pn	20 27 56.5	+0.7
SVB				eS	Sn	20 28 26.2	-0.6
SVV	Soufriere Volc	2.70	23	eP	Pn	20 27 56.6	+0.1
SVV				eS	Sn	20 28 28.1	-0.1
MCLT	Moule a Chique	3.17	25	eS	Sn	20 28 38.3	-1.2
SLBI	Saint Lucia, B	3.44	22	eP	Pn	20 28 07.0	+0.4
SLBI				eS	Sn	20 28 44.0	-2.2
BIM	Bigot	3.87	18	eP	Pn	20 28 13.7	+1.2
BIM				eS	Sn	20 28 54.3	-2.4
MPOM	Morne Pois Mar	3.87	21	eP	Pn	20 28 13.2	+0.7
MPOM				eS	Sn	20 28 55.2	-1.4
BAUV	El Baul	5.95	252	eP	Pn	20 28 40.1	-0.9
BAUV	El Baul	5.95	252	eS	Sn	20 29 45.3	-2.5

*DJA **04** 21:05:38.8±1.0, 7°.S±3°.×10°.4E±°, h28km±10km, M4.4/23, mb4.6/12, mB4.7/1, MLv4.3/23, Mw(mB)3.9/1*
*NEIC **04** 21:05:39.2±1.3, 6°.29S±0°.07×103°.71E±0°.08, h29km±2km, mb4.6/33, Error ellipse: s-maj=12.5km s-min=8.9km az=224.0*
*IDC **04** 21:05:41.0±1.0, 6°.24S×103°.77E, h46km±6km, mb4.2/14, mb1 4.3/15, mb1mx3.9/45, mbtmp4.4/15, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/73, Error ellipse: s-maj=30.8km s-min=11.6km az=51.0*

ISC 04 21:05:39.3±0.5, 6°.46S±0°.06×103°.68E±0°.06, h35km, n116, σ1°.29/120, mb4.6/41, MS3.9/4, 1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	1.24	41	P	Pn	21 05 59.6	-0.5
LWLI	Liwa	1.48	15	P	Pn	21 06 03.0	-0.5
LWLI				S	Sn	21 06 23.5	+1.7
BLSI	Bandar Lampung	1.90	55	P	Pn	21 06 09.3	+0.1
BLSI				S	Sn	21 06 35.1	+3.2
KLI	Kotabumi	1.97	37	P	Pn	21 06 10.8	+0.6
CGJI	Cibinong	2.01	94	P	Pn	21 06 10.6	-0.1
MDSI	Maura Dua	2.02	14	P	Pn	21 06 11.2	+0.3
KLSI		2.05	31	P	Pn	21 06 11.3	+0.1
MNAI	Manna	2.21	341	P	Pn	21 06 13.5	+0.1
MNAI	Manna	2.21	341		Pn	21 06 12.2	-1.2
SBJI	Serang	2.46	82	P	Pn	21 06 18.6	+1.7
LHSI	Lahat	2.62	357	P	Pn	21 06 20.7	+1.6
SKJI	Sukabumi	2.91	101	P	Pn	21 06 25.2	+2.1
DBJI	Dramaga	3.06	92	P	Pn	21 06 25.3	+0.2
CBJI	Citeko	3.15	89	P	Pn	21 06 29.8	+3.4
CNJI	Cibinong	3.53	104	P	Pn	21 06 31.5	-0.1
MASI	Maura Aman, Be	3.59	336	P	Pn	21 06 32.7	+0.2
PMBI	Palembang	3.67	17	P	Pn	21 06 34.7	+1.1
LEM	Lembang	3.93	96	P	Pn	21 06 38.6	+1.3
	8.3nm,0.3s,baz=173,slow=18,SNR=6.0						
LEM				LR	LR	21 08 30.8	
	comp=Z,262nm,19.4s,baz=338,slow=44						
XMIS	Christmas Isla	4.45	154	Pn	Pn	21 06 40.5	-3.8
KRJI	Kerinci	4.87	333	P	Pn	21 06 51.4	+1.3
CMJI	Cimerak	4.92	106	P	Pn	21 06 49.8	-0.9
PPSI	Pulau Pagai	5.18	315	P	Pn	21 06 53.9	-0.4
	1.4nm106nm,0.7s						
TPI	Tanjungpandan	5.41	47	P	Pn	21 06 58.8	+1.3
	0.1nm13nm,0.9s						
DSRI	Dabo	6.01	9	P	Pn	21 07 06.2	+0.5
	0.1nm607nm11nm,0.6s						
UGM	Wanagama	6.95	102	P	Pn	21 07 19.7	+1.1
	0.4nm95nm,1.1s						
UGM	Wanagama	6.95	102	Pn	Pn	21 07 20.2	+1.6
PCJI	Pacitan	7.64	104	P	Pn	21 07 29.1	+1.0
	0.3nm69nm,0.7s						
PBKI	Pangkalan Bun	8.80	65	P	Pn	21 07 45.1	+1.1
	16nm,0.6s						
COCO	West Island	8.83	229	Pn	Pn	21 07 46.4	+1.9
ABJI	Asem Bagus	10.56	98	P	Pn	21 08 10.2	+2.0
	80nm,0.8s						
JAGI	Jajag, Banyuwa	10.58	102	Pn	Pn	21 08 08.1	-0.3
SRBI	Singaraja	11.56	99	P	Pn	21 08 22.6	+0.7
	45nm,0.5s						
BKSI	Bulukumba	16.40	87	P	P	21 09 27.9	-1.5
	16nm,0.9s						
EDFI	Ende, Flores	18.00	98	P	Pn	21 09 45.7	-1.3
	5.3nm,0.6s						
MMRI	Maumere	18.53	98		P	21 09 50.4	-2.5
MMRI				IAmb	IAmb	21 09 53.7	
	comp=Z,30nm,0.5s						
TOLI2	Tolitoli	18.66	67	P	P	21 09 53.9	-0.5
MYLDM	Lahad Datu	18.78	52	P	P	21 09 54.5	-1.1
GIRL	Giralia	19.04	149	P	Pn	21 09 59.7	+0.2
MRSI	Marisa	19.49	70	P	P	21 10 03.3	-0.1
	comp=Z,28nm,0.6s						
BATI	Baumata	20.12	102	P	P	21 10 10.8	+0.3
	comp=Z,26nm,0.3s,baz=233,slow=2.3,SNR=9.2						
BATI	Baumata	20.12	102	P	Pn	21 10 12.0	-0.4
	comp=Z,28nm,0.9s						
SOEI	Soe	20.64	100	P	P	21 10 16.2	0.0
SOEI	Soe	20.64	100	P	P	21 10 15.7	-0.5
UBPT	Khong Chiam	21.67	5	P	P	21 10 24.1	-2.9
CM31	Chiang Mai Arr	25.20	349	P	P	21 11 00.5	-1.3
CM31				IAmb	IAmb	21 11 02.3	
	comp=Z,14nm,0.9s						
CMAR	Chiang Mai Arr	25.20	349	P	P	21 11 00.0	-1.8
	comp=Z,10nm,0.7s,baz=181,slow=9.0,SNR=63						
CMAR				pP	pwP	21 11 13.1	-0.4
	comp=Z,3.8nm,0.8s,baz=182,slow=9.3,SNR=4.3						
CMAR	Chiang Mai Arr	25.20	349	P	P	21 10 59.2	-2.5
CHTO	Chiang Mai	25.54	350	P	P	21 11 02.7	-2.2
KNRA	Kununurra	26.24	113	P	P	21 11 07.6	-3.7
KNRA				IAmb	IAmb	21 11 26.3	
	comp=Z,21nm,1.2s						
MTN	Manton Dam	27.78	105	P	P	21 11 24.4	-0.8
MTN				IAmb	IAmb	21 11 30.4	
	comp=Z,14nm,1.1s						
H01W3	Cape Leeuwin H	29.89	163	T	T	21 42 59.9	
	baz=340,slow=76,SNR=14						
H01W2	Cape Leeuwin H	29.90	163	T	T	21 43 02.2	
	baz=340,slow=76,SNR=16						
H01W1	Cape Leeuwin H	29.90	163	T	T	21 42 59.4	
	baz=340,slow=76,SNR=13						
WB0	Warramunga Arr	32.63	117	P	P	21 12 07.8	-0.3
WRA	Warramunga Arr	32.64	117	P	P	21 12 08.8	+0.6
	comp=Z,1.9nm,0.6s,baz=287,slow=11,SNR=10						
WRAB	Tennant Creek	32.65	117	P	P	21 12 07.8	-0.5
WRAB				IAmb	IAmb	21 12 09.3	
	comp=Z,3.8nm,0.7s						
WB2	Warramunga Arr	32.65	117	P	P	21 12 08.4	+0.1
PZH	PanZhiHua	32.82	357	P	P	21 12 11.4	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,60nm,4.5s						
WR0	Warramunga Arr	32.83	117	P	P	21 12 09.5	-0.3
ASAR	Alice Springs	33.71	124	P	P	21 12 18.1	+0.7
	comp=Z,1.7nm,0.8s,baz=306,slow=7.7,SNR=18						
ASAR				pP	pwP	21 12 29.1	+1.8
	comp=Z,0.9nm,0.4s,baz=301,slow=7.8,SNR=8.9						
ASAR	Alice Springs	33.71	124	P	P	21 12 17.9	+0.4
AS31	Alice Springs	33.71	124	P	P	21 12 17.5	0.0
ENH	Enshi	36.94	8	P	P	21 12 43.7	-1.4
ENH				IAmb	IAmb	21 12 44.4	
	comp=Z,5.4nm,0.6s						
CD2	Chengdu	37.16	0	P	P	21 12 47.6	+0.6
CD2				LR	LR		
	comp=N,20nm,15.7s						
CD2				LR	LR		
	comp=E,210nm,16.9s						
CD2				LR	LR		
	comp=Z,200nm,14.7s						
LSA	Lhasa	37.91	342	P	P	21 12 53.7	-0.2
LSA				IAmb	IAmb	21 12 54.8	
	comp=Z,5.3nm,0.7s						
PKI	Pulchoki	38.16	333	eP	P	21 12 55.3	-0.6
PKIN	Phulchoki	38.17	333	eP	P	21 12 55.1	-0.8
	comp=Z,9.0nm,0.5s						
GUN	Gumba	38.25	334	eP	P	21 12 56.5	-0.1
	comp=Z,56nm,0.5s						
KKN	Kakani	38.41	333	eP	P	21 12 57.4	-0.4
	comp=Z,22nm,0.6s						
GKN	Gorkha	38.88	333	eP	P	21 13 01.4	-0.3
	comp=Z,14nm,0.5s						
KOLN	Koldanda	39.17	331	eP	P	21 13 04.1	-0.1
	comp=Z,34nm,0.8s						
DANN	Dangsing	39.58	332	eP	P	21 13 07.3	-0.4
	comp=Z,43nm,0.5s						
PYUN	Piuthan	39.74	331	eP	P	21 13 08.8	-0.1
	comp=Z,14nm,0.5s						
NJ2	Nanjing	40.94	20	eP	P	21 13 20.6	+2.1
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
STKA	Stephens Creek	43.47	131	P	P	21 13 40.6	+1.3
	comp=Z,3.7nm,0.5s,baz=316,slow=7.4,SNR=15						
STKA				pP	sP	21 13 53.6	+0.4
	comp=Z,6.4nm,0.7s,baz=275,slow=7.0,SNR=6.9						
STKA	Stephens Creek	43.47	131	P	P	21 13 39.7	+0.4
GTA	Gaotai	45.78	356	⇓P	P	21 13 57.2	-0.4
GTA				pP	pP	21 14 05.4	-2.1
GTA				sP	pwP	21 14 10.0	+0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,53nm,4.2s						
GTA				LR	LR		
	comp=N,76nm,16.0s						
GTA				LR	LR		
	comp=E,81nm,16.7s						
GTA				LR	LR		
	comp=Z,63nm,15.3s						
HHC	Hu-ho-hao-te	47.63	8	eP	P	21 14 15.6	+3.5
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,4.1s						
KSRS	Korea Array	49.20	26	P	P	21 14 21.8	-2.3
	comp=Z,3.1nm,0.7s,baz=219,slow=7.6,SNR=10.0						
KSRS				pP	pwP	21 14 36.0	-0.3
	comp=Z,1.8nm,0.7s,baz=222,slow=7.8,SNR=3.5						
JHS	Saijyo	49.71	32	P	P	21 14 26.8	-1.3
JWT	Wachi	51.15	34	P	P	21 14 37.1	-1.9
XLT	XiLinHaoTe	51.36	11	eP	P	21 14 39.5	-1.0
XLT				pP	pP	21 14 50.2	-0.2
XLT				sP	pwP	21 14 53.1	+0.3
XLT				PcP	PcP	21 15 55.0	+0.1
XLT				sS	sS	21 22 21.7	+7.6
XLT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,160nm,4.6s						
XLT				LR	LR		
	comp=N,190nm,16.4s						
XLT				LR	LR		
	comp=E,170nm,13.9s						
XLT				LR	LR		
	comp=Z,150nm,13.9s						
WMQ	Urumqi	52.09	345	eP	P	21 14 47.8	+1.9
KSH	Kashi	52.43	333	P	P	21 14 47.3	-1.3
KSH				sP	sP	21 15 01.6	-0.9
KSH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KDJ	Kajisay	54.06	336	P	P	21 15 01.0	+0.4
SONM	Songino Array	54.11	2	P	P	21 15 00.5	-0.3
	comp=Z,5.8nm,0.7s,baz=180,slow=9.1,SNR=58						
SONM				pScP		21 20 07.1	
	comp=Z,0.6nm,0.5s,baz=148,slow=5.7,SNR=7.1						
SONM	Songino Array	54.11	2	P	P	21 15 00.2	-0.6
SONM				IAmb	IAmb	21 15 01.3	
	comp=Z,6.7nm,0.8s						
ULN	Ulaanbaatar	54.17	3	P	P	21 15 01.0	-0.3
ULN				IAmb	IAmb	21 15 01.5	
	comp=Z,3.1nm,0.8s						
BOOM	Boomskoye usch	54.88	335	P	P	21 15 05.7	-0.8
BOOM				IAmb	IAmb	21 15 32.5	
	comp=Z,7.6nm,1.1s						
CHGR	Chuyangaron	55.14	327	P	P	21 15 07.5	-0.9
CHGR				IAmb	IAmb	21 15 24.4	
	comp=Z,5.4nm,0.8s						
BTK	Batken	55.32	330	P	P	21 15 09.6	-0.1
BTK				IAmb	IAmb	21 15 24.2	
	comp=Z,3.4nm,0.8s						
AAK	Ala-Archa	55.61	334	P	P	21 15 11.4	-0.4
MK31	Makanchi Array	56.32	342	P	P	21 15 16.0	-0.6
MK31				IAmb	IAmb	21 15 17.1	
	comp=Z,2.8nm,0.6s						
MKAR	Makanchi Array	56.32	342	P	P	21 15 15.7	-0.9
	comp=Z,3.1nm,0.5s,baz=149,slow=9.1,SNR=80						
MKAR				LR	LR	21 42 49.6	
	comp=Z,42nm,18.6s,baz=62,slow=40						
MKAR	Makanchi Array	56.32	342	P	P	21 15 15.8	-0.8
MAKZ	Makanchi	56.43	342	P	P	21 15 16.0	-1.3
USRK	Ussuriysk Ar.	56.52	24	P	P	21 15 16.6	-1.5
	comp=Z,4.7nm,0.6s,baz=198,slow=4.9,SNR=9.4						
USRK	Ussuriysk Ar.	56.52	24	P	P	21 15 16.8	-1.2
KKAR	Karatay Array	57.78	332	P	P	21 15 26.0	-1.0
KURK	Kurchatov	60.92	342	P	P	21 15 48.0	-0.5
KURK				IAmb	IAmb	21 15 49.3	
	comp=Z,3.4nm,0.8s						
ZAA0	Zalesovo Array	62.24	348	P	P	21 15 56.0	-1.3
ZALV	Zalesovo Beam	62.24	348	P	P	21 15 56.3	-1.0
	comp=Z,2.9nm,0.4s,baz=144,slow=5.3,SNR=21						
ZALV				pP	pwP	21 16 09.7	+2.1
	comp=Z,1.4nm,0.4s,baz=145,slow=5.4,SNR=5.6						
ZALV	Zalesovo Beam	62.24	348	P	P	21 15 56.2	-1.2
BRVK	Borovoye	65.69	339	P	P	21 16 19.1	-0.9
BRVK				IAmb	IAmb	21 16 19.9	
	comp=Z,3.1nm,0.7s						
ABKAR	Akbulak array	67.29	331	P	P	21 16 29.6	-0.8
ARU	Arti	72.74	336	P	P	21 17 03.4	-0.3
ARU				IAmb	IAmb	21 17 03.9	
	comp=Z,3.9nm,0.6s						
KBZ	Khabaz	74.06	319	P	P	21 17 11.4	-0.3
	comp=Z,4.6nm,0.9s,baz=109,slow=4.9,SNR=5.3						
BRTR	Keskin Array B	79.02	312	P	P	21 17 40.2	+0.1
	comp=Z,0.6nm,0.5s,baz=130,slow=5.3,SNR=2.5						
BRTR	Keskin Array B	79.02	312	P	P	21 17 40.7	+0.6
AKASG	Malin Array Be	85.23	322	P	P	21 18 12.1	-0.1
	comp=Z,0.9nm,0.6s,baz=88,slow=4.7,SNR=9.1						
BUR08	Bucovina Ar. S	87.02	318	P	P	21 18 23.1	+1.8
BUR08				IAmb	IAmb	21 18 24.0	
	comp=Z,2.9nm,0.8s						
FINES	FINESS Array B	89.74	332	P	P	21 18 33.6	-0.1
	comp=Z,1.6nm,0.8s,baz=131,slow=8.6,SNR=4.0						
FINES	FINESS Array B	89.74	332	P	P	21 18 33.9	+0.2
YKA	Yellowknife Ar	117.46	19	PKP	PKPdf	21 24 20.7	-0.3
	comp=Z,0.3nm,0.8s,baz=312,slow=2.2,SNR=3.6						
YKA	Yellowknife Ar	117.46	19		PKPdf	21 24 20.4	-0.6
TXAR	Lajitas Array	145.61	45	PKPbc	PKPab	21 25 15.5	+0.2
	comp=Z,4.1nm,0.8s,baz=276,slow=0.9,SNR=34						

*IDC **04** 21:05:53.6±0.7, 6°.91N×72°.84W, h145km±7km, mb3.7/12, mb1 4.0/15, mb1mx3.8/33, mbtmp4.2/15, Error ellipse: s-maj=13.9km s-min=11.6km az=103.0*
*NEIC **04** 21:05:55.3±2.2, 6°.82N±0°.06×73°.03W±0°.07, h147km±7km, mb4.4/75, Error ellipse: s-maj=10.3km s-min=9.4km az=110.0*
*RSNC **04** 21:05:56.0±0.9, 6°.78N×73°.14W, h153km±3km, ML4.3, Mw4.3, Fault plane solution: NP1:φ±28.00000°, δ47.00000°, λ-62.00000°.*

ISC 04 21:05:55.3±0.5, 6°.81N±0°.03×73°.11W±0°.03, h158km±4km, n190, σ1°.81/239, mb4.4/50, 12C-15D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	199	⇓iP	Pn	21 06 16.7	-0.2
BARC				eS	Sn	21 06 31.4	-2.1
BARC				i		21 06 34.5	
	comp=Z,4μm,0.3s						
BRRC	Barranca, Sant	0.67	297	⇓iP	Pn	21 06 18.6	+0.2
BRRC				eS	Sn	21 06 35.7	-0.5
BRRC				i		21 06 43.5	
	comp=Z,2μm,0.2s						
PAMC	Pamplona, Colo	0.67	38	⇑iP	Pn	21 06 19.6	+0.5
PAMC				eS	Sn	21 06 36.7	-0.6
PAMC				i		21 06 39.0	
	comp=Z,2μm,0.2s						
RUSC	La Rusia	0.91	178	⇓iP	Pn	21 06 20.6	-0.2
RUSC				eS	Sn	21 06 38.9	-1.2
RUSC				i		21 06 42.4	
	comp=Z,2μm,0.4s						
TAMC	Tame, Arauca	1.36	106	⇑iP	Pn	21 06 24.8	+0.7
TAMC				i		21 06 45.8	
	comp=Z,2μm,0.3s						
TAMC				eS	Sn	21 06 46.2	0.0
PTBC	PUERTO BERRIO,	1.36	259	⇓iP	Pn	21 06 23.2	-0.9
PTBC				eS	Sn	21 06 44.8	-1.5
PTBC				i		21 06 52.5	
	comp=Z,5μm,0.5s						
OCAC	Ocana	1.44	352	eP	Pn	21 06 24.7	-0.3
OCAC				eS	Sn	21 06 47.8	-0.2
OCAC				i		21 06 53.4	
	comp=Z,6μm,0.3s						
OCAC	Ocana	1.44	352	Pn	Pn	21 06 24.6	-0.3
SPBC	San Pablo de B	1.49	220	⇓iP	Pn	21 06 25.5	0.0
SPBC				eS	Sn	21 06 47.5	-1.2
SPBC				i		21 06 55.1	
	comp=Z,5μm,0.3s						
ZARC	Zaragoza, Cauc	1.86	292	⇑iP	Pn	21 06 28.8	-0.6
ZARC				eS	Sn	21 06 55.3	-0.3
ZARC				i		21 07 01.6	
	comp=Z,3μm,0.5s						
ZARC	Zaragoza, Cauc	1.86	292	Pn	Pn	21 06 28.7	-0.6
NORC	Norcasia	2.14	235	⇓iP	Pn	21 06 32.3	-0.3
NORC				eS	Sn	21 07 00.9	-0.5
NORC				i		21 07 04.5	
	comp=Z,2μm,0.2s						
SMLC	San Martn de	2.20	334	eP	Pn	21 06 32.7	-0.5
SMLC				eS	Sn	21 07 01.7	-0.9
SMLC				i		21 07 04.5	
	comp=Z,2μm,0.1s						
CHIC	Chingaza	2.25	196	⇓iP	Pn	21 06 34.3	0.0
CHIC				eS	Sn	21 07 03.7	-0.6
CHIC				i		21 07 12.0	
	comp=Z,829nm,0.4s						
ROSC	El Rosal	2.29	212	P	Pn	21 06 36.2	+1.4
	comp=Z,604nm,0.3s,baz=44,slow=5.1,SNR=297						
ROSC				S	Sn	21 07 08.2	+3.1
	comp=Z,338nm,0.3s,baz=101,slow=19,SNR=6.3						
ROSC	El Rosal	2.29	212	⇓iP	Pn	21 06 36.2	+1.4
ROSC				eS	Sn	21 07 04.7	-0.5
ROSC				i		21 07 14.5	
	comp=Z,3μm,0.4s						
ROSC	El Rosal	2.29	212	Pn	Pn	21 06 36.1	+1.3
HELC	Santa Helena	2.48	256	eP	Pn	21 06 36.7	-0.2
HELC				eS	Sn	21 07 08.0	-1.0
HELC				i		21 07 16.0	
	comp=Z,1μm,0.3s						
UREC	San Jos de Ur	2.58	291	⇑iP	Pn	21 06 36.2	-1.6
UREC				eS	Sn	21 07 06.8	-3.9
UREC				i		21 07 17.6	
	comp=Z,1μm,0.3s						
SOCV	Socops	2.67	57	eP	Pn	21 06 37.9	-1.1
SOCV				eS	Sn	21 07 09.6	-3.1
GUY2C	Guyana, Caldas	2.74	235	eP	Pn	21 06 40.6	+0.4
GUY2C				eS	Sn	21 07 13.6	-1.3
GUY2C				i		21 07 27.2	
	comp=Z,2μm,0.6s						
VILC	Villavicencio,	2.74	192	⇓iP	Pn	21 06 39.7	-0.2
VILC				eS	Sn	21 07 12.4	-2.0
LL1C	La Loma 1 Cana	2.75	351	⇑eP	Pn	21 06 41.4	+1.5
LL1C				eS	Sn	21 07 16.1	+1.6
LL1C				i		21 07 24.5	
	comp=Z,3μm,0.1s						
PTGC	Puerto Gaitan,	2.77	159	⇓iP	Pn	21 06 39.5	-0.6
PTGC				eS	Sn	21 07 12.8	-2.0
PTGC				i		21 07 21.1	
	comp=Z,611nm,0.3s						
LL6C	La Loma 6 Bece	2.91	357	eP	Pn	21 06 41.4	-0.6
LL6C				eS	Sn	21 07 13.6	-4.6
LL6C				e		21 07 13.6	
LL6C				i		21 07 23.2	
	comp=N,759nm,0.4s						
CBOC	Ciudad Bolivar	3.03	252	⇑eP	Pn	21 06 43.8	+0.2
CBOC				eS	Sn	21 07 19.0	-1.9
CBOC				i		21 07 32.6	
	comp=Z,499nm,0.6s						
DBBC	Dabeiba	3.08	274	⇑iP	Pn	21 06 44.1	0.0
DBBC				eS	Sn	21 07 18.0	-3.9
DBBC				i		21 07 34.0	
	comp=Z,3μm,0.6s						
MOTC	Monteria, Cord	3.20	308	Pn	Pn	21 06 43.7	-1.8
SDV	Santo Domingo	3.21	50	⇑iP	Pn	21 06 45.8	0.0
SDV				eS	Sn	21 07 22.7	-2.2
SDV				i		21 07 25.4	
	comp=Z,423nm,0.4s						
SDV	Santo Domingo	3.21	50	Pn	Pn	21 06 45.9	+0.1
ARGC	Ariguani, Magd	3.23	340	eP	Pn	21 06 46.8	+0.9
ARGC				eS	Sn	21 07 24.9	-0.5
ARGC				i		21 07 37.6	
	comp=Z,517nm,0.5s						
ANIL	Santa Ana	3.24	225	eP	Pn	21 06 47.0	+0.7
ANIL				eS	Sn	21 07 24.5	-1.3
ANIL				i		21 07 31.0	
	comp=Z,3μm,0.3s						
PRAC	Prado	3.54	210	⇓eP	Pn	21 06 49.4	-0.6
PRAC				eS	Sn	21 07 30.9	-1.6
PRAC				i		21 07 37.7	
	comp=Z,982nm,0.5s						
ORTC	Ortega, Tolima	3.58	217	⇓eP	Pn	21 06 50.3	-0.1
ORTC				eS	Sn	21 07 32.4	-0.9
ORTC				i		21 07 38.4	
	comp=Z,728nm,0.4s						
PLMC	San Jos del P	3.68	239	⇑eP	Pn	21 06 52.0	+0.3
PLMC				eS	Sn	21 07 29.8	-5.8
PLMC				i		21 07 47.3	
	comp=Z,551nm,0.5s						
SJCC	San Jacinto, C	3.69	326	⇑eP	Pn	21 06 50.3	-1.5
SJCC				eS	Sn	21 07 31.7	-4.1
SJCC				i		21 07 36.9	
	comp=Z,382nm,0.3s						
SJCC	San Jacinto, C

BETC *eS* **Sn** **21 07 53.8 -5.9**
BETC *i* 21 08 20.7
comp=Z,128nm,0.7s
MARP Paez Belalcaza 4.85 216 *eP* **Pn** **21 07 06.7 -0.5**
MARP *eS* **Sn** **21 07 59.6 -3.7**
MARP *i* 21 08 10.2
comp=Z,45nm,0.2s
URIC Uribia, Colomb 4.99 13⇓ *eP* **Pn** **21 07 06.9 -1.8**
URIC *eS* Sn 21 07 52.5 -14
URIC *i* 21 08 09.5
comp=Z,98nm,0.3s
URIC Uribia, Colomb 4.99 13 **Pn** **21 07 06.8 -1.9**
GARC Garzon, Huila 5.17 207 *eP* **Pn** **21 07 10.6 -0.7**
GARC *eS* **Sn** **21 08 07.6 -3.2**
GARC *i* 21 08 11.4
comp=Z,216nm,0.2s
BAUV El Baul 5.45 67 Pn **Pn** **21 07 12.3 -2.5**
PCON Cinco Dias 5.53 217 *eP* **Pn** **21 07 17.1 +0.7**
PCON *eS* Sn 21 08 10.3 -9.3
PCON *i* 21 08 23.8
comp=Z,64nm,0.5s
POPC Popayan, Colom 5.53 220⇑ *eP* **Pn** **21 07 16.1 0.0**
POPC *eS* **Sn** **21 08 14.5 -4.8**
POPC *i* 21 08 25.5
comp=Z,46nm,0.3s
FLOC Florencia 5.78 206 *eP* **Pn** **21 07 18.3 -0.8**
FLOC *eS* **Sn** **21 08 22.7 -2.2**
FLOC *i* 21 08 34.9
comp=Z,72nm,0.4s
FLOC Florencia 5.78 206 Pn **Pn** **21 07 18.7 -0.5**
SOTA Rioblanco 5.80 217 *eP* **Pn** **21 07 20.7 +0.7**
SOTA *eS* Sn 21 08 17.5 -8.7
SOTA *i* 21 08 36.2
comp=Z,87nm,0.6s
BBAC Balboa, Cauca 6.29 221 *eP* **Pn** **21 07 26.9 +0.7**
BBAC *eS* **Sn** **21 08 33.4 -4.0**
BBAC *i* 21 08 39.2
comp=N,204nm,0.5s
AUA1 Aruba 6.43 28 Pn **Pn** **21 07 28.9 +1.1**
HATO Hato, Curacao 6.73 37 Pn **Pn** **21 07 32.6 +0.8**
PTLC Puerto Leguiza 6.80 194 *eP* Pn 21 07 37.9 +5.1
PTLC *eS* Sn 21 09 09.0 +20
PTLC *i* 21 09 48.6
comp=Z,49nm,0.5s
GCUF Volcan Galeras 6.97 217 *eP* **Pn** **21 07 36.5 +1.1**
GCUF *eS* **Sn** **21 08 49.3 -4.7**
GCUF *i* 21 09 00.1
comp=Z,37nm,0.7s
BCIP Isla Barro Col 7.06 290 Pn **Pn** **21 07 34.2 -2.0**
BIRV Birongo 7.68 61 **Pn** **21 07 42.1 -2.4**
PCRV Puerto La Cruz 9.03 68 Pn **Pn** **21 07 58.8 -3.6**
comp=Z,6.2nm,0.3s,baz=269,slow=4.8,SNR=18
PLCV Puerto La Cruz 9.06 68 **Pn** **21 07 58.8 -4.0**
BRU2 Volcan 9.70 282 Pn **Pn** **21 08 12.2 +0.9**
SRBA San Rafael, Bu 10.43 284 Pn **Pn** **21 08 21.8 +0.8**
PEZE Perez Zeledon, 10.77 284 Pn **Pn** **21 08 27.5 +2.0**
RIMA Rio Macho 11.04 286 Pn **Pn** **21 08 29.7 +0.6**
MTDJ Mount Denham 12.14 340 Pn **Pn** **21 08 44.4 +1.1**
JTS Las Juntas de 12.21 287 Pn **Pn** **21 08 47.3 +3.2**
CRPR Cabo Rojo, PR 12.58 27 Pn **Pn** **21 08 48.8 0.0**
ORTG Ortega, Santa 12.71 287 P **P** **21 08 57.1 +1.5**
CELP Cerrillos 12.88 29 Pn **Pn** **21 08 50.0 -2.8**
GTBY Guantanamo Bay 13.19 352 **P** **21 09 00.0 -0.8**
GTBY Guantanamo Bay 13.19 352 *eP* **P** **21 08 59.0 -1.8**
GTBY IVmB_BB 21 09 00.7
comp=Z,572nm,0.3s
BOAV Boa Vista 13.29 109 Pn **Pn** **21 08 56.4 -1.5**
GCPR Guaynabo City 13.33 30 Pn **Pn** **21 08 57.6 -0.7**
MASC Masc 13.33 355 *eP* **P** **21 09 00.6 -1.8**
MASC IVmB_BB 21 09 01.7
comp=Z,138nm,0.3s
GTMO Guantanamo 13.34 352 *eP* **Pn** **21 09 00.6 +2.0**
RCC Rio Carpintero 13.35 349 *eP* **Pn** **21 08 59.9 +1.3**
RCC IVmB_BB 21 09 03.3
comp=Z,1μm,0.3s
MTP Monte Pirata 13.43 33 Pn **Pn** **21 08 58.8 -0.9**
LMGC Las Mercedes 13.71 344 *eP* **Pn** **21 09 04.7 +1.5**
CUPR Culebra, Puert 13.74 33 Pn **Pn** **21 09 02.9 -0.7**
HLGC Holguin 14.29 349 *eP* **P** **21 09 15.7 +2.7**
CZSB Cruzeiro do Su 14.45 178 **Pn** **21 09 13.9 +1.4**
GRTK Grand Turk 14.74 7 P **P** **21 09 17.4 -0.7**
CCCC Cccc 15.00 343 *eP* **Pn** **21 09 20.1 +0.7**
CCCC IAmb IAmb 21 09 27.4
comp=Z,11nm,0.4s
PTGA Pitinga 15.10 119 P **Pn** **21 09 19.2 -1.5**
comp=Z,0.5nm,0.3s,baz=322,slow=20,SNR=1.9
MGV Manicaragua 16.60 337 *eP* Pn 21 09 47.6 +8.8
ETMB Extrema 17.89 157 P **P** **21 09 52.6 -0.2**
LPAZ La Paz 23.47 168 P **P** **21 10 53.4 +2.0**
comp=Z,0.9nm,0.5s,baz=321,slow=14,SNR=2.3
LPAZ pP **pP** **21 11 21.5 -0.6**
comp=Z,6.8nm,0.7s,baz=341,slow=13,SNR=13
SIV San Ignacio 25.60 152 P **P** **21 11 08.6 -1.4**
comp=Z,0.5nm,0.2s,baz=351,slow=13,SNR=3.7
SIV pP **pP** **21 11 39.7 -3.8**
comp=Z,2.7nm,0.6s,baz=321,slow=9.9,SNR=3.9
HODGE Hodges 28.57 344 P **P** **21 11 38.2 +1.8**
HODGE IAmb IAmb 21 11 38.4
comp=Z,6.4nm,0.7s
PB04 IPOC Station P 29.11 174 P **P** **21 11 45.6 +4.2**
PB04 IAmb IAmb 21 11 58.3
comp=Z,8.8nm,1.0s
Y49A Blount Mountai 29.60 337 P **P** **21 11 46.9 +1.3**
Y49A IAmb IAmb 21 11 47.9
comp=Z,7.8nm,0.8s
FPAL Fort Paine 29.91 339 P **P** **21 11 49.6 +1.3**
FPAL IAmb IAmb 21 11 50.6
comp=Z,9.7nm,1.1s
T59A Double "B" Far 30.30 353 P **P** **21 11 52.6 +1.0**
T59A IAmb IAmb 21 12 00.2
comp=Z,10nm,1.1s
CPCT Cooper Cave 30.38 341 P **P** **21 11 54.3 +1.9**
CPCT IAmb IAmb 21 11 54.5
comp=Z,7.5nm,0.8s
WVT Waverly 32.15 337 P **P** **21 12 09.0 +1.1**
WHAR Wooly Hollow 33.38 331 P **P** **21 12 19.3 +0.7**
WHAR IAmb IAmb 21 12 20.0
comp=Z,11nm,0.9s
LCAR Lake Charles 33.49 333 P **P** **21 12 20.5 +1.0**
LCAR IAmb IAmb 21 12 21.2
comp=Z,11nm,1.2s
PBMO Poplar Bluff 33.77 335 P **P** **21 12 23.3 +1.4**
FCAR Ozark Folk Cen 33.79 332 P **P** **21 12 22.5 +0.4**
O52A Adamsville 34.08 348 P **P** **21 12 26.1 +1.6**
O52A IAmb IAmb 21 12 27.0
comp=Z,7.5nm,0.7s
T42A Van Buren 34.26 334 P **P** **21 12 26.8 +0.6**
T42A IAmb IAmb 21 12 27.6
comp=Z,16nm,1.1s
U40A Yellville 34.51 331 P **P** **21 12 29.2 +0.8**
KSPA Keystone Colle 34.69 356 P **P** **21 12 31.3 +1.6**
KSPA IAmb IAmb 21 12 32.5
comp=Z,7.8nm,0.7s
CCM Cathedral Cave 35.19 335 P **P** **21 12 34.8 +0.6**
BINY Binghamton 35.34 356 P **P** **21 12 36.7 +1.3**
BINY IAmb IAmb 21 12 42.2
comp=Z,5.1nm,0.8s
L56A Greenwood 35.41 354 P **P** **21 12 37.4 +1.4**
L56A IAmb IAmb 21 13 02.5
comp=Z,3.7nm,0.8s
WVNY West Valley, N 35.79 353 P **P** **21 12 41.0 +1.8**
WVNY IAmb IAmb 21 12 55.6
comp=Z,6.1nm,0.9s
R40A Maddies Statio 35.83 334 P **P** **21 12 39.8 +0.2**
R40A IAmb IAmb 21 12 40.3
comp=Z,7.7nm,0.6s
TX31 Lajitas Ar. Si 36.48 312 P **P** **21 12 46.1 +0.7**
TX31 IAmb IAmb 21 12 46.6
comp=Z,5.4nm,0.8s
TX32 Lajitas Array 36.48 312 P **P** **21 12 45.9 +0.5**
TXAR Lajitas Array 36.48 312 P **P** **21 12 46.1 +0.7**
comp=Z,0.8nm,0.4s,baz=130,slow=8.7,SNR=8.5
TXAR PcP **PcP** **21 15 07.2 +1.2**
comp=Z,0.2nm,0.5s,baz=149,slow=2.6,SNR=3.5
WMOK Wichita Mounta 36.50 323 P **P** **21 12 45.2 -0.2**
WMOK IAmb IAmb 21 12 45.8
comp=Z,4.1nm,0.7s
J57A Williamstown 36.55 356 P **P** **21 12 46.6 +1.1**
HDIL Hopedale 36.59 339 P **P** **21 12 46.0 -0.1**
P40A Paris 36.77 335 P **P** **21 12 48.0 +0.4**
DELO Deloro Mine 37.77 355 P **P** **21 12 56.6 +0.7**
DELO IAmb IAmb 21 12 57.5
comp=Z,12nm,0.9s
L42A Oliver, Polo 38.01 340 P **P** **21 12 57.5 -0.5**

SADO Sadowa 38.18 353 P **P** **21 13 00.3 +1.0**
SADO IAmb IAmb 21 13 26.2
comp=Z,8.6nm,1.0s
G65A Princeton 38.55 6 P **P** **21 13 03.6 +1.2**
MNTX Cornudas Mount 38.99 314 P **P** **21 13 07.3 +0.9**
MNTX IAmb IAmb 21 13 08.7
comp=Z,4.4nm,0.7s
JFWS Jewell Farm 39.01 340 P **P** **21 13 06.7 +0.4**
G45A Suttons Bay 39.62 346 P **P** **21 13 12.6 +1.2**
E62A Clayton Lake 39.79 4 P **P** **21 13 13.7 +1.0**
E62A IAmb IAmb 21 13 14.5
comp=Z,11nm,1.0s
D62A Allapoint, All 40.28 4 P **P** **21 13 18.1 +1.4**
D62A IAmb IAmb 21 13 18.7
comp=Z,12nm,0.8s
E43A Lone Tree Farm 41.20 345 P **P** **21 13 24.8 +0.5**
E43A IAmb IAmb 21 13 44.6
comp=Z,11nm,1.1s
ECSD EROS Data Cent 42.16 334 P **P** **21 13 31.6 -0.6**
ECSD IAmb IAmb 21 13 32.5
comp=Z,6.6nm,1.0s
D41A Chassel 42.24 344 P **P** **21 13 33.6 +0.8**
SDCO Great Sand Dun 42.57 321 P **P** **21 13 36.9 +1.0**
S22A 4UR Ranch, Cre 43.40 320 P **P** **21 13 44.2 +1.6**
EYMN Ely 43.89 342 P **P** **21 13 45.9 0.0**
PV02 Paradox Valley 44.90 319 P **P** **21 13 55.7 +1.3**
PV02 IAmb IAmb 21 13 56.7
comp=Z,5.1nm,0.7s
PV13 Radium Mtn., P 44.92 319 P **P** **21 13 55.8 +1.2**
PV13 IAmb IAmb 21 13 56.8
comp=Z,5.7nm,0.8s
PV12 Saucer Basin, 45.00 320 P **P** **21 13 57.6 +2.4**
PV12 IAmb IAmb 21 13 59.7
comp=Z,6.8nm,1.1s
AGMN Agassiz Nation 45.64 339 P **P** **21 13 59.9 0.0**
AGMN IAmb IAmb 21 14 00.6
comp=Z,7.4nm,0.6s
U15A North Rim 46.34 315 P **P** **21 14 07.4 +1.6**
ULM Lac du Bonnet 47.30 340 P **P** **21 14 12.3 -0.4**
comp=Z,7.4nm,0.4s,baz=149,slow=8.2,SNR=11
ULM Lac du Bonnet 47.30 340 P **P** **21 14 11.7 -1.1**
BW06 Boulder Array 48.10 324 P **P** **21 14 19.6 +0.3**
PD31 Pinedale Array 48.10 324 P **P** **21 14 19.5 +0.2**
PDAR Pinedale Array 48.10 324 P **P** **21 14 19.6 +0.3**
comp=Z,1.3nm,0.5s,baz=128,slow=9.1,SNR=17
PDAR Pinedale Array 48.10 324 P **P** **21 14 19.5 +0.2**
SCHQ Schefferville 48.16 5 P **P** **21 14 19.5 +0.2**
comp=Z,9.0nm,0.7s,baz=187,slow=6.5,SNR=21
SCHQ Schefferville 48.16 5 P **P** **21 14 19.6 +0.4**
SCHQ IAmb IAmb 21 14 20.5
comp=Z,8.9nm,0.7s
LAO LASA Array 48.85 330 P **P** **21 14 24.4 -0.4**
SPR3 Spring Creek 3 49.02 317 P **P** **21 14 27.2 +0.7**
REDW Red Top Meadow 49.21 324 P **P** **21 14 28.3 +0.6**
REDW IAmb IAmb 21 14 29.3
comp=Z,5.4nm,0.6s
LOHW Long Hollow 49.22 324 P **P** **21 14 29.0 +1.2**
LOHW IAmb IAmb 21 14 29.3
comp=Z,3.1nm,0.6s
MOOW Moose Ponds 49.38 324 P **P** **21 14 28.8 -0.3**
R11A Troy Canyon, C 49.56 316 P **P** **21 14 31.5 +1.1**
GCMT Greycliff 50.04 327 P **P** **21 14 34.8 +0.9**
YHH Holmes Hill 50.07 325 P **P** **21 14 35.9 +1.6**
MCMT McKenzie Canyo 51.24 324 P **P** **21 14 43.7 +0.7**
NVAR Mina Array Bea 51.50 315 P **P** **21 14 46.2 +1.2**
comp=Z,0.8nm,0.5s,baz=116,slow=7.8,SNR=7.2
FCC Fort Churchill 54.29 347 P **P** **21 15 04.3 -0.4**
FCC IAmb IAmb 21 15 05.2
comp=Z,8.1nm,1.1s
F10A Beach Ranch, E 54.44 323 P **P** **21 15 06.1 -0.2**
F10A IAmb IAmb 21 15 06.7
comp=Z,3.1nm,0.6s
G08A Pilot Rock 55.13 322 P **P** **21 15 12.1 +0.7**
G08A IAmb IAmb 21 15 12.7
comp=Z,9.5nm,1.2s
PINE Pine Mountain 55.67 319 P **P** **21 15 17.0 +1.7**
YBH Yreka Blue Hor 55.96 317 P **P** **21 15 16.5 -0.7**
KBO Bosley Butte 57.19 317 P **P** **21 15 27.1 +1.2**
YKA Yellowknife Ar 63.28 340 P **P** **21 16 06.7 -0.1**
comp=Z,5.9nm,0.6s,baz=132,slow=6.7,SNR=146
SUMG Summit 69.00 11 *i P* **P** **21 16 42.9 -0.7**
SUMG IAmb IAmb 21 16 43.7
comp=Z,8.3nm,0.6s
SUMG Summit 69.00 11 P **P** **21 16 43.5 -0.1**
NEEM North Greenlan 71.56 5 *i P* **P** **21 16 58.8 -0.2**
NEEM IAmb IAmb 21 16 59.5
comp=Z,6.2nm,0.5s
INK Inuvik 73.05 340 P **P** **21 17 07.9 +0.4**
TORD Torodi Ar. Bea 73.73 78 P **P** **21 17 09.9 -2.7**
comp=Z,0.2nm,0.3s,baz=280,slow=7.2,SNR=5.4
M27K Edge Creek, AK 74.22 333 P **P** **21 17 16.3 +1.6**
DAG Danmarks Havn 75.67 11 *i P* **P** **21 17 21.3 -1.2**
DAG IAmb IAmb 21 17 22.1
comp=Z,1.7nm,0.7s
ILAR Eielson Array 76.98 335 P **P** **21 17 30.2 0.0**
comp=Z,0.6nm,0.5s,baz=89,slow=4.5,SNR=4.0
ILAR Eielson Array 76.98 335 P **P** **21 17 29.6 -0.6**
RND Reindeer 77.57 333 P **P** **21 17 34.8 +1.2**
RND IAmb IAmb 21 17 35.4
comp=Z,6.0nm,0.7s
PPLA Purkeypile 79.00 333 P **P** **21 17 41.7 +0.2**
PPLA IAmb IAmb 21 17 59.0
comp=Z,12nm,1.2s
K20K Telida 79.90 333 P **P** **21 17 46.2 0.0**
J20K Nowinta River 80.00 334 P **P** **21 17 46.8 0.0**
L19K White Mountain 80.16 332 P **P** **21 17 47.5 -0.2**
TTA Tatalina 80.75 333 P **P** **21 17 50.6 -0.3**
GERES GERESS Array B 82.83 42 P **P** **21 18 01.3 -0.8**
comp=Z,0.3nm,0.4s,baz=286,slow=1.7,SNR=2.6
ARCES ARCESS Array B 86.68 20 P **P** **21 18 19.9 -0.9**
comp=Z,3.7nm,0.9s,baz=257,slow=3.6,SNR=4.2
MKAR Makanchi Array 122.33 20 PKP **PKPdf** **21 24 30.9 -0.9**
comp=Z,0.3nm,0.4s,baz=302,slow=2.6,SNR=10
PZH PanZhiHua 146.51 8 PKPbc **PKPdf** **21 25 18.1 +0.9**
ASAR Alice Springs 149.11 234 PKPbc **PKPdf** **21 25 24.8 +3.4**
comp=Z,0.6nm,0.5s,baz=114,slow=3.7,SNR=18
ASAR pPKPbc **pPKPdf** **21 26 03.1 -0.7**
comp=Z,0.5nm,0.5s,baz=117,slow=3.7,SNR=2.6
WRA Warramunga Arr 150.34 241 PKPbc **PKPbc** **21 25 27.9 -0.9**
comp=Z,0.9nm,0.4s,baz=109,slow=2.8,SNR=25
WRA pPKPbc **pPKPbf** **21 26 05.5 -0.3**
comp=Z,0.5nm,0.5s,baz=111,slow=2.4,SNR=2.1
WRA Warramunga Arr 150.34 241 **PKPdf** **21 25 27.2 +3.8**
CMAR Chiang Mai Arr 153.70 17 PKPbc **PKPbc** **21 25 35.6 -0.8**
comp=Z,1.1nm,0.4s,baz=322,slow=2.7,SNR=5.4
CMAR Chiang Mai Arr 153.70 17 PKPdf **PKPdf** **21 25 28.1 -0.4**
CMAR **PKPbc** **21 25 35.1 -1.3**

*IDC **04** 21:07:17.1±4.7, 6°.34S×103°.63E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/45, mbtmp3.8/5, MS3.7/3, Ms1 3.7/3, ms1mx2.8/73, Error ellipse: s-maj=190.6km s-min=26.7km az=52.0*
*NEIC **04** 21:07:21.6±1.7, 6°.6S±0°.1×103°.5E±0°.2, h35km±2km, mb4.2/5, Error ellipse: s-maj=32.9km s-min=14.2km az=231.0*
ISC 04 21:07:20.1±1.1, **6°.8S**±0°.1×**103°.4E**±0°.2, **h35**km, **n22,**
σ0**98**/19, **mb3.9**/7, **MS3.9**/3, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.41**	**349**	Pn	**Pn**	**21 07 57.2**	**0.0**
XMIS	**Christmas Isla**	**4.32**	**149**	Pn	**Pn**	**21 08 23.1**	**-0.4**
JAGI	**Jajag, Banyuwa**	**10.79**	**100**	Pn	**Pn**	**21 09 52.8**	**+0.6**
SOEI	**Soe**	**20.86**	**100**	P	**P**	**21 11 58.5**	**-0.9**
SOEI				IAmb	IAmb	21 12 01.1	
comp=Z,22nm,1.0s							
FITZ	**Fitzroy Crossi**	**24.43**	**120**	LR	LR	21 21 19.5	
comp=Z,55nm,21.2s,baz=281,slow=34							
CMAR	**Chiang Mai Arr**	**25.43**	**350**	P	**P**	**21 12 43.7**	**-1.0**
comp=Z,1.5nm,0.5s,baz=182,slow=9.0,SNR=4.8							
WRA	**Warramunga Arr**	**32.75**	**117**	P	**P**	**21 13 51.7**	**+1.7**
comp=Z,0.5nm,0.8s,baz=285,slow=13							
WB2	**Warramunga Arr**	**32.76**	**117**	P	**P**	**21 13 51.8**	**+1.7**
WR0	**Warramunga Arr**	**32.94**	**117**	P	**P**	**21 13 49.9**	**-1.7**
JAY	**Jayapura**	**37.40**	**85**	LR	LR	21 31 26.5	
comp=Z,215nm,19.8s,slow=39							
KDJ	**Kajisay**	**54.22**	**336**	P	**P**	**21 16 43.9**	**+1.3**
SONM	**Songino Array**	**54.41**	**2**	P	**P**	**21 16 42.8**	**-1.0**
comp=Z,0.9nm,0.7s,baz=184,slow=9.2,SNR=4.0							
SONM	**Songino Array**	**54.41**	**2**	P	**P**	**21 16 43.2**	**-0.6**
MK31	**Makanchi Array**	**56.51**	**343**	P	**P**	**21 16 58.9**	**+0.1**
MK31				IAmb	IAmb	21 17 11.3	
comp=Z,2.4nm,1.4s							
MKAR	**Makanchi Array**	**56.51**	**343**	P	**P**	**21 16 58.8**	**-0.1**
comp=Z,0.6nm,0.5s,baz=148,slow=9.1,SNR=7.0							
MKAR	**Makanchi Array**	**56.51**	**343**	P	**P**	**21 16 58.9**	**+0.1**
ZAA0	**Zalesovo Array**	**62.46**	**348**	P	**P**	**21 17 39.3**	**-0.4**
ZAA0				IAmb	IAmb	21 17 40.1	
comp=Z,2.5nm,1.3s							
ZALV	**Zalesovo Beam**	**62.46**	**348**	P	**P**	**21 17 39.2**	**-0.5**
comp=Z,0.8nm,0.3s,baz=147,slow=5.5,SNR=4.4							
ZALV	**Zalesovo Beam**	**62.46**	**348**	P	**P**	**21 17 39.4**	**-0.3**
ABKAR	**Akbulak array**	**67.41**	**331**	P	**P**	**21 18 12.8**	**+0.8**
SUR	**Sutherland**	**80.19**	**238**	LR	LR	21 52 17.3	
comp=Z,50nm,18.2s,baz=107,slow=34							
TXAR	**Lajitas Array**	**146.00**	**45**	PKPbc	**PKPab**	**21 26 58.4**	**+0.8**
comp=Z,0.6nm,0.6s,baz=241,slow=0.9,SNR=3.8							

*NOU **04** 21:07:30.7, 18°.76S×168°.54E, h5km, MLv5.1/13, Vanuatu Islands*
*IDC **04** 21:07:33.9±5.9, 18°.65S×168°.57E, h92km±70km, mb3.7/3, mb1 4.0/5, mb1mx3.5/37, mbtmp4.2/5, ML4.9/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/53, Error ellipse: s-maj=128.8km s-min=21.4km az=151.0*
ISC 04 21:07:33.6±0.9, **18°.66S**±0°.06×**168°.5E**±0°.1, **h100**km, **n18,**
σ2**15**/19, **mb3.8**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**0.87**	**353**	P	**Pn**	**21 07 49.5**	**-3.2**
DVP	**Devils Point**	**0.99**	**340**	P	**Pn**	**21 07 51.1**	**-2.8**
LIFNC	**LIFOU**	**2.44**	**210**	P	**Pn**	**21 08 08.8**	**-3.0**
MARNC	**Mare, Loyalty**	**2.84**	**190**	P	**Pn**	**21 08 14.4**	**-2.9**
DZM	**Mont Dzumac**	**3.92**	**210**	P	**Pn**	**21 08 30.6**	**-1.2**
40nm,0.3s,baz=68,slow=9.9,SNR=681							
DZM				S	**Sn**	**21 09 14.3**	**-2.6**
40nm,0.3s,baz=340,slow=23,SNR=3.4							
DZM				LR	LR	21 09 30.2	
comp=Z,46nm,18.1s,baz=94,slow=30							
DZM	**Mont Dzumac**	**3.92**	**210**	*e*Pn	**Pn**	**21 08 30.8**	**-1.0**
93nm,0.2s							
DZM				*e*Sn	**Sn**	**21 09 13.6**	**-3.3**
376nm,0.8s							
DZM	**Mont Dzumac**	**3.92**	**210**	P	**Pn**	**21 08 31.0**	**-0.8**
NOUC	**Port Laguerre**	**4.01**	**211**	P	**Pn**	**21 08 32.6**	**-0.4**
OUENC	**Ouen Island, N**	**4.06**	**203**	P	**Pn**	**21 08 32.6**	**-1.0**
KOUNC	**Koumac, New Ca**	**4.43**	**244**	P	**Pn**	**21 08 38.5**	**-0.1**
MSVF	**Nonsavu**	**9.08**	**86**	P	**Pn**	**21 09 43.6**	**+1.7**
0.7nm,0.3s,baz=265,slow=11,SNR=7.0							
STKA	**Stephens Creek**	**27.60**	**236**	P	**P**	**21 13 13.8**	**+2.1**
1.7nm,0.6s,baz=76,slow=12,SNR=3.5							
ASAR	**Alice Springs**	**32.63**	**255**	P	**P**	**21 13 57.8**	**+1.6**
3.0nm,0.6s,baz=83,slow=8.5,SNR=30							
MJAR	**Matsushiro Arr**	**61.94**	**333**	LR	LR	21 41 38.8	
comp=Z,24nm,21.6s,baz=183,slow=33							
ILAR	**Eielson Array**	**89.88**	**18**	P	**P**	**21 20 20.7**	**-0.1**
0.1nm,0.4s,baz=236,slow=4.9,SNR=4.7							
YKA	**Yellowknife Ar**	**100.46**	**27**	P	**Pdif**	**21 21 10.0**	**+0.9**
0.2nm,0.5s,baz=258,slow=4.7,SNR=4.6							
MKAR	**Makanchi Array**	**100.87**	**316**	P	**Pdif**	**21 21 13.7**	**+2.4**
0.1nm,0.5s,baz=95,slow=7.1,SNR=2.2							
ARCES	**ARCESS Array B**	**124.34**	**345**	PKP	**PKiKP**	**21 26 20.7**	**+0.2**
6.9nm,1.2s,baz=66,slow=2.3,SNR=5.1							

*IDC **04** 21:08:57.7±0.8, 2°.22N×96°.18E, h0km, mb4.2/16, mb1 4.3/18, mb1mx4.1/48, mbtmp4.2/18, ML4.3/2, MS3.5/12, Ms1 3.5/12, ms1mx3.1/78, Error ellipse: s-maj=28.9km s-min=14.0km az=47.0*
*DJA **04** 21:09:01.1±0.8, 2°.N±3°.×9°.6E±°, h12km±4km, M4.6/14, mB5.1/6, mb4.8/14, MLv4.6/14, Mw(mB)4.5/6*
*BJI **04** 21:09:02.4±0.0, 2°.36N×96°.30E, h38km, mb4.6/47, mB4.8/23, Ms4.2/13, Ms7 3.9/14*
*NEIC **04** 21:09:02.5±1.1, 2°.25N±0°.05×96°.25E±0°.08, h27km±6km, mb4.6/46, Error ellipse: s-maj=11.1km s-min=7.5km az=80.0*
ISC 04 21:09:02.3±0.7, **2°.27N**±0°.05×**96°.26E**±0°.05, **h29**km±4km,
n139, σ0**99**/138, **mb4.6**/55, **MS3.8**/16, **3C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.15**	**27**	P	**Pb**	**21 09 06.8**	**-1.1**
TPTI		**1.35**	**43**	P	**Pn**	**21 09 24.1**	**-1.1**
TPTI				S	**Sb**	**21 09 44.0**	**+0.2**
GSI	**Gunungsitoli**	**1.63**	**126**	P	**Pn**	**21 09 28.5**	**-0.6**
GSI	**Gunungsitoli**	**1.63**	**126**		**Pn**	**21 09 28.5**	**-0.6**
TSI	**Tuntungan**	**2.61**	**62**	P	**Pn**	**21 09 44.2**	**+1.6**
TSI				S	**Sb**	**21 10 23.4**	**+3.3**
RPSI	**Rantau Prapat**	**2.70**	**81**		**Pn**	**21 09 44.4**	**+0.6**
RPSI	**Rantau Prapat**	**2.70**	**81**		**Pn**	**21 09 44.5**	**+0.6**
PSI	**Prapat**	**2.72**	**79**	Pn	**Pn**	**21 09 44.5**	**+0.3**
20nm,0.3s,baz=326,slow=9.5,SNR=109							
PSI				Sn	**Sn**	**21 10 11.8**	**-4.4**
14nm,0.3s,baz=242,slow=8.2,SNR=8.0							
PSI				LR	LR	21 10 35.3	
comp=Z,251nm,21.6s,baz=298,slow=35							
LHMI	**Lhok Sumawe**	**3.02**	**13**	P	**Pn**	**21 09 48.7**	**+0.5**
LHMI	**Lhok Sumawe**	**3.02**	**13**		**Pn**	**21 09 48.7**	**+0.5**
MNSI	**Mandailing Nat**	**3.63**	**114**	P	**Pn**	**21 09 57.1**	**+0.5**
SISI	**Saibi**	**4.56**	**142**	P	**Pn**	**21 10 09.3**	**-0.1**
BKNI	**Bangkinang**	**5.16**	**112**	P	**Pn**	**21 10 18.2**	**+0.5**
0.8nm147nm,0.9s							
IPM	**Ipoh**	**5.24**	**65**	Pn	**Pn**	**21 10 19.3**	**+0.4**
KULM	**Kulim**	**5.31**	**56**	Pn	**Pn**	**21 10 20.1**	**+0.4**
PPSI	**Pulau Pagai**	**6.25**	**143**	P	**Pn**	**21 10 33.3**	**+0.6**
0.4nm75nm,0.9s							
KRJI	**Kerinci**	**6.77**	**130**	P	**Pn**	**21 10 40.9**	**+0.9**
0.7nm221nm,0.7s							
SRIT	**Nakonsritamara**	**7.11**	**28**	Pn	**Pn**	**21 10 44.9**	**+0.4**
MASI	**Maura Aman, Be**	**8.04**	**132**	P	**Pn**	**21 10 58.2**	**+0.8**
68nm,0.8s							
TPRI	**Tanjung Pinang**	**8.38**	**99**	P	**Pn**	**21 11 02.9**	**+1.0**
4μm65nm,0.9s							
MNAI	**Manna**	**9.39**	**135**	P	**Pn**	**21 11 15.6**	**-0.2**
129nm,1.0s							
MNAI	**Manna**	**9.39**	**135**	Pn	**Pn**	**21 11 15.8**	**-0.1**
MDSI	**Maura Dua**	**10.38**	**130**	P	**Pn**	**21 11 29.5**	**+0.1**
281nm19nm,0.7s							
KLSI		**10.93**	**129**	P	**Pn**	**21 11 36.5**	**-0.4**
201nm7.1nm,0.8s							
LEM	**Lembang**	**14.50**	**129**	LR	LR	21 19 06.7	
comp=Z,220nm,19.0s,baz=264,slow=42							
STKI	**Sintang**	**15.37**	**98**	P	**P**	**21 12 44.0**	**+2.2**
UBPT	**Khong Chiam**	**15.80**	**35**		**Pn**	**21 12 44.2**	**+1.3**
PALK	**Pallekele**	**16.27**	**288**	LR	LR	21 18 17.5	
comp=Z,130nm,19.7s,baz=213,slow=34							
CM31	**Chiang Mai Arr**	**16.30**	**9**		**P**	**21 12 51.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**16.30**	**9**	Pn	**Pn**	**21 12 49.8**	**+0.5**
0.7nm,0.3s,baz=194,slow=11,SNR=16							
CMAR				LR	LR	21 19 51.4	
comp=Z,233nm,19.0s,baz=205,slow=40							
CMAR	**Chiang Mai Arr**	**16.30**	**9**	Pn	**Pn**	**21 12 49.2**	**-0.1**
CHTO	**Chiang Mai**	**16.65**	**9**		**Pn**	**21 12 54.0**	**+0.2**
GMJI	**Gumukmas**	**20.09**	**122**	P	**P**	**21 13 33.7**	**-0.1**
25nm,1.4s							
KKM	**Kota Kinabalu**	**20.25**	**79**		**P**	**21 13 35.9**	**+0.2**
KKM				IAmb	IAmb	21 13 38.8	
comp=Z,25nm,0.9s							
SLVN	**Son La**	**20.36**	**21**	P	**P**	**21 13 35.7**	**-1.0**
PVM	**Polavaram**	**20.69**	**317**	*e*P	**P**	**21 13 40.9**	**+0.5**
BKB	**Balikpapan**	**20.93**	**99**	P	**P**	**21 13 44.1**	**+1.1**
ADKI	**Addanki**	**20.96**	**311**	*e*P	**P**	**21 13 44.0**	**+0.8**
ADKI	

SHL IAmb IAmb 21 14 11.3
comp=Z,30nm,0.9s
KMI Kunming 23.56 15 ⇓P **P 21 14 11.6 +0.8**
KMI pP sP 21 14 23.3 +0.8
KMI sP pP 21 14 29.1 +10
KMI pmax pmax
comp=Z,15nm,0.7s
KMI LR LR
comp=Z,96nm,13.4s
KMI LR LR
comp=Z,220nm,17.6s
KMI LR LR
comp=Z,170nm,15.5s
SRSP Sriramsagar 24.12 315 *e*P **P 21 14 15.9 0.0**
SRSP *e*pP **pP 21 14 24.1 0.0**
SRSP *e*sP **sP 21 14 27.6 -0.3**
TOLI2 Tolitoli 24.54 92 P **P 21 14 18.9 -0.9**
TOLI2 IAmb IAmb 21 14 28.1
comp=Z,15nm,0.9s
PZH PanZhiHua 24.66 12 P **P 21 14 21.3 +0.4**
PZH S **S 21 18 38.3 -2.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,40nm,4.5s
PZH LR LR
comp=Z,310nm,16.5s
PZH LR LR
comp=Z,490nm,18.6s
PZH LR LR
comp=Z,430nm,15.9s
KLRI Killari 24.87 310 *e*P **P 21 14 22.2 -0.5**
BKSI Bulukumba 25.00 108 P **P 21 14 26.8 +2.8**
H08S2 Diego Garcia H 25.67 247 T T 21 41 01.8
baz=69,slow=76,SNR=116
H08S3 Diego Garcia H 25.68 247 T T 21 41 04.1
baz=69,slow=76,SNR=296
H08S1 Diego Carcia H 25.69 247 T T 21 41 04.7
baz=69,slow=76,SNR=76
GYA Guiyang 26.04 22 ⇑P **P 21 14 33.6 +0.2**
GYA pP sP 21 14 46.0 +0.7
GYA pmax pmax
comp=Z,21nm,1.0s
GYA LR LR
comp=Z,160nm,12.6s
GYA LR LR
comp=Z,190nm,13.7s
GYA LR LR
comp=Z,200nm,12.3s
PKI Pulchoki 27.21 339 *e*P **P 21 14 45.1 +0.9**
comp=Z,29nm,0.9s
PKIN Phulchoki 27.23 339 *e*P **P 21 14 45.4 +1.2**
comp=Z,12nm,0.7s
GUN Gumba 27.36 340 *e*P **P 21 14 46.1 +0.6**
comp=Z,42nm,0.8s
DMN Daman 27.36 338 *e*P **P 21 14 46.6 +1.1**
comp=Z,11nm,0.9s
KKN Kakani 27.46 339 *e*P **P 21 14 46.9 +0.6**
comp=Z,44nm,1.1s
LSA Lhasa 27.71 350 P **P 21 14 49.2 +0.4**
LSA pmax pmax
comp=Z,49nm,0.9s
LSA Lhasa 27.71 350 P **P 21 14 49.2 +0.4**
LSA IAmb IAmb 21 14 50.3
comp=Z,11nm,0.9s
GKN Gorkha 27.89 338 *e*P **P 21 14 50.5 +0.4**
comp=Z,37nm,0.8s
KOLN Koldanda 28.10 336 *e*P **P 21 14 53.2 +1.2**
comp=Z,27nm,0.8s
BATI Baumata 29.97 115 LR LR 21 28 51.0
comp=Z,195nm,21.0s,baz=280,slow=40
ENH Enshi 30.54 23 P **P 21 15 11.8 -1.7**
ENH IAmb IAmb 21 15 13.5
comp=Z,13nm,1.2s
XAN Xi'an 33.75 19 P **P 21 15 40.6 -0.9**
XAN pmax pmax
comp=Z,32nm,1.0s
XAN pmax pmax
comp=Z,80nm,4.0s
GOMU GeErMu 33.78 358 P **P 21 15 42.1 -0.1**
GOMU pmax pmax
comp=Z,4.0nm,1.1s
GOMU pmax pmax
comp=Z,63nm,4.3s
LZH Lanzhou 34.37 11 *e*P **P 21 15 46.8 -0.3**
LZH pP pP 21 15 53.0 -2.6
LZH pmax pmax
comp=Z,13nm,1.3s
LZH LR LR
comp=Z,160nm,14.8s
LZH LR LR
comp=Z,120nm,14.9s
LZH LR LR
comp=Z,120nm,15.2s
FITZ Fitzroy Crossi 35.32 126 P **P 21 15 54.3 -0.9**
comp=Z,3.7nm,0.8s,baz=202,slow=8.9,SNR=3.7
LYN LuoYang 35.49 23 ⇓*i*P **P 21 15 57.0 +0.4**
LYN pmax pmax
comp=Z,20nm,0.8s
LYN LR LR
comp=Z,210nm,14.5s
LYN LR LR
comp=Z,140nm,14.9s
NJ2 Nanjing 36.47 33 *e*P **P 21 16 07.1 +2.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
GTA Gaotai 37.11 5 ⇑P **P 21 16 09.7 -0.8**
GTA pP pP 21 16 17.0 -2.0
GTA sP sP 21 16 20.8 -1.7
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,65nm,5.3s
GTA LR LR
comp=Z,41nm,15.6s
GTA LR LR
comp=Z,100nm,14.2s
GTA LR LR
comp=Z,100nm,14.2s
NIL Nilore 37.91 328 P **P 21 16 16.4 -0.8**
NIL IAmb IAmb 21 16 17.9
comp=Z,10nm,0.6s
HNS HongShan 38.86 24 ⇓P **P 21 16 25.7 +0.6**
HNS pmax pmax
comp=Z,18nm,1.0s
H01W3 Cape Leeuwin H 40.59 157 T T 21 59 46.5
baz=333,slow=76,SNR=160
H01W2 Cape Leeuwin H 40.60 157 T T 21 59 47.4
baz=333,slow=76,SNR=148
H01W1 Cape Leeuwin H 40.60 157 T T 21 59 48.0
baz=333,slow=76,SNR=111
KSH Kashi 41.41 336 P **P 21 16 46.1 -0.3**
KSH pmax pmax
comp=Z,4.0nm,0.7s
BJT Baijiatuau 41.69 23 P **P 21 16 48.8 +0.2**
WMQ Urumqi 42.07 351 *e*P **P 21 16 54.4 +2.8**
TARG Taragay, Kyrgy 42.64 340 P **P 21 16 57.1 +0.3**
TARG IAmb IAmb 21 17 00.4
comp=Z,9.1nm,0.7s
DRK Karamyk 43.21 332 P **P 21 17 02.5 +1.2**
KDJ Kajisay 43.22 339 P **P 21 17 02.2 +1.0**
KDJ IAmb IAmb 21 17 04.9
comp=Z,11nm,0.8s
WB0 Warramunga Arr 43.37 122 P **P 21 17 00.4 -2.1**
WB0 IAmb IAmb 21 17 24.2
comp=Z,9.0nm,1.4s
WRA Warramunga Arr 43.40 122 P **P 21 17 02.6 -0.1**
comp=Z,1.7nm,0.6s,baz=301,slow=9.2,SNR=9.9
WRA LR LR 21 36 14.1
comp=Z,72nm,20.9s,baz=334,slow=38
WRAB Tennant Creek 43.41 122 P **P 21 17 02.6 -0.2**
WRAB IAmb IAmb 21 17 20.0
comp=Z,8.8nm,1.2s
WB2 Warramunga Arr 43.41 122 P **P 21 17 01.7 -1.2**
WB2 IAmb IAmb 21 17 21.6
comp=Z,11nm,1.2s
WR0 Warramunga Arr 43.58 122 P **P 21 17 02.5 -1.7**
WR0 IAmb IAmb 21 17 23.0
comp=Z,7.8nm,1.1s
CHGR Chuyangaron 43.87 329 P **P 21 17 06.1 -0.2**
CHGR IAmb IAmb 21 17 07.2
comp=Z,11nm,0.7s
BOOM Boomskoye usch 43.98 338 P **P 21 17 07.6 +0.3**
BOOM IAmb IAmb 21 17 12.5
comp=Z,6.5nm,0.9s
BTK Batken 44.13 332 P **P 21 17 08.6 +0.2**
BTK IAmb IAmb 21 17 15.0
comp=Z,6.4nm,0.7s
JNU Nakatsue 44.65 43 LR LR 21 36 30.9
comp=Z,36nm,20.5s,baz=276,slow=37
AAK Ala-Archa 44.65 337 P **P 21 17 14.5 +1.8**
FORT Forrest 44.70 140 P **P 21 17 13.9 +0.9**
AS31 Alice Springs 44.79 127 P **P 21 17 13.2 -0.7**
ASAR Alice Springs 44.79 127 P **P 21 17 13.7 -0.3**
comp=Z,1.7nm,0.7s,baz=299,slow=8.0,SNR=19
ASAR Alice Springs 44.79 127 P **P 21 17 13.1 -0.8**
XLT XiLinHaoTe 45.03 20 *e*P **P 21 17 15.9 +0.3**
XLT pP pP 21 17 24.5 +0.3
XLT sP sP 21 17 28.9 +1.2
XLT PcP **PcP 21 18 56.9 +0.7**
XLT S **S 21 23 50.5 -2.1**
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.0s
XLT LR LR
comp=Z,290nm,16.4s
XLT LR LR
comp=Z,350nm,15.6s
XLT LR LR
comp=Z,260nm,15.2s
KSRS Korea Array 45.52 36 P **P 21 17 18.8 -0.7**
comp=Z,1.1nm,0.5s,baz=228,slow=7.1,SNR=4.5
KSRS LR LR 21 37 50.8
comp=Z,56nm,18.9s,baz=50,slow=38
MK31 Makanchi Array 45.98 347 P **P 21 17 22.9 -0.1**
MK31 IAmb IAmb 21 17 25.5
comp=Z,12nm,1.1s
MKAR Makanchi Array 45.98 347 P **P 21 17 23.1 +0.2**
comp=Z,7.2nm,0.7s,baz=158,slow=9.0,SNR=50
MKAR Makanchi Array 45.98 347 P **P 21 17 23.0 0.0**
MAKZ Makanchi 46.07 346 P **P 21 17 23.6 -0.1**
MAKZ IAmb IAmb 21 17 25.5
comp=Z,9.1nm,0.9s
SONM Songino Array 46.23 9 P **P 21 17 24.9 -0.1**
comp=Z,2.8nm,0.4s,baz=191,slow=8.9,SNR=30
SONM PcP **PcP 21 19 01.2 +0.8**
comp=Z,1.9nm,0.6s,baz=185,slow=3.3,SNR=8.1
SONM Songino Array 46.23 9 P **P 21 17 24.7 -0.3**
SONM IAmb IAmb 21 17 26.4
comp=Z,4.9nm,0.8s
ULN Ulaanbaatar 46.37 10 P **P 21 17 26.0 -0.2**
ULN IAmb IAmb 21 17 27.4
comp=Z,2.7nm,0.8s
KKAR Karatay Array 46.69 334 P **P 21 17 28.9 +0.3**
GUMO Guam 49.34 74 LR LR 21 38 02.2
comp=Z,15nm,21.9s,baz=84,slow=35
GEYT Alibeck 49.79 320 P **P 21 17 53.5 +0.9**
comp=Z,2.6nm,0.7s,baz=224,slow=8.3,SNR=3.7
GEYT Alibeck 49.79 320 P **P 21 17 52.8 +0.2**
GEYT IAmb IAmb 21 18 13.5
comp=Z,3.0nm,0.7s
KURK Kurchatov 50.52 346 P **P 21 17 57.4 -0.5**
KURK IAmb IAmb 21 17 59.3
comp=Z,7.4nm,1.4s
MJAR Matsushiro Arr 51.55 43 P **P 21 18 06.6 +0.6**
comp=Z,1.5nm,0.8s,baz=202,slow=5.2,SNR=4.7
MJAR Matsushiro Arr 51.55 43 P **P 21 18 05.6 -0.4**
ZAA0 Zalesovo Array 52.36 351 P **P 21 18 11.5 -0.1**
ZALV Zalesovo Beam 52.36 351 P **P 21 18 11.7 +0.1**
comp=Z,9.7nm,0.4s,baz=165,slow=6.9,SNR=48
ZALV Zalesovo Beam 52.36 351 P **P 21 18 11.4 -0.2**
JMM Marumori 54.00 43 P **P 21 18 23.4 -0.5**
STKA Stephens Creek 54.77 132 P **P 21 18 30.6 +0.9**
comp=Z,2.5nm,0.7s,baz=283,slow=7.7,SNR=4.2
STKA LR LR 21 44 06.8
comp=Z,35nm,20.5s,baz=23,slow=38
STKA Stephens Creek 54.77 132 P **P 21 18 30.2 +0.6**
BRVK Borovoye 55.00 341 P **P 21 18 30.7 -0.3**
BRVK IAmb IAmb 21 18 31.3
comp=Z,4.4nm,0.6s
ABKAR Akbulak array 56.13 332 P **P 21 18 38.8 -0.4**
YAK Yakutsk 64.67 17 P **P 21 19 36.1 -1.1**
NRIK Noril'sk 67.21 357 P **P 21 19 53.7 +0.2**
comp=Z,2.0nm,0.4s,baz=120,slow=6.0,SNR=4.1
BRTR Keskin Array B 67.70 312 P **P 21 19 56.9 -0.5**
comp=Z,0.8nm,0.8s,baz=134,slow=10,SNR=3.6
BRTR Keskin Array B 67.70 312 P **P 21 19 57.0 -0.3**
AKASG Malin Array Be 73.84 322 P **P 21 20 33.5 -0.8**
comp=Z,0.7nm,0.4s,baz=88,slow=5.1,SNR=8.5
BURAR Bucovina Array 75.60 319 P **P 21 20 44.9 +0.2**
BUR08 Bucovina Ar. S 75.62 319 P **P 21 20 45.7 +0.8**
FINES FINESS Array B 78.62 333 P **P 21 21 01.1 -0.2**
comp=Z,1.4nm,0.5s,baz=104,slow=6.2,SNR=10
FINES FINESS Array B 78.62 333 P **P 21 21 01.2 0.0**
CEL Celeste 81.03 308 P **P 21 21 14.9 0.0**
ARCES ARCESS Array B 81.22 340 P **P 21 21 15.9 +0.8**
comp=Z,1.2nm,0.4s,baz=95,slow=5.5,SNR=27
ARCES ARCESS Array B 81.22 340 P **P 21 21 15.6 +0.4**
GERES GERESS Array B 83.39 319 P **P 21 21 27.2 +0.1**
comp=Z,0.6nm,0.7s,baz=131,slow=5.5,SNR=4.1
URZ Urewera 84.22 129 LR LR 22 03 04.8
comp=Z,39nm,18.1s,baz=300,slow=38
SPITS Spitsbergen Ar 85.72 348 LR LR 22 05 02.9
comp=Z,51nm,21.9s,baz=153,slow=39
TXAR Lajitas Array 143.23 30 PKP PKPbc 21 28 32.2 +0.6
comp=Z,0.7nm,0.7s,baz=253,slow=1.3,SNR=5.8

NEIC ***04*** *21:14:49.2±2.0,24°.00S±0°.07×66°.80W±0°.09,h183km±6km, mb4.3/35,Md4.1(SJA),ML4.3(GUC),Error ellipse: s-maj=12.6km s-min=9.8km az=83.0*
IDC ***04*** *21:14:49.1±1.0,24°.00S×66°.80W,h186km±8km,mb3.9/10, mb1 4.0/16,mb1mx3.8/37,mbtmp4.3/16,MS2.4/1, Ms1 2.4/1,ms1mx2.2/54,Error ellipse: s-maj=13.8km s-min=11.8km az=28.0*
GUC ***04*** *21:14:50.0±0.7,23°.99S×66°.96W,h207km±6km,ML4.5*
SJA ***04*** *21:14:51.6±1.1,24°.04S×66°.97W,h175km,ML4.1,MW4.1*
VAO ***04*** *21:14:51.1±0.6,23°.95S×67°.08W,h227km±6km,mb4.7*
ISC 04 21:14:49.7±0.6,24°.00S±0°.04×66°.97W±0°.04,h197km±6km, n152,σ1≥41/191,mb4.3/24,14C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.51**	**118**	⇓*i*P	**Pn**	**21 15 24.5**	**+1.0**
SLA				*i* S	**Sn**	**21 15 50.1**	**+0.3**
SLA	**San Lorenzo**	**1.51**	**118**	*e*P	**Pn**	**21 15 24.6**	**+1.1**
SLA				*e*P		21 15 24.6	
SLA				*e*S	**Sn**	**21 15 50.9**	**+1.2**
HJA	**Humahuaca**	**1.63**	**61**	*e*P	**Pn**	**21 15 25.6**	**+0.8**
HJA				*e*P		21 15 26.6	
HJA				*e*S	Sn	21 15 41.4	-11
AZAP	**Zapla**	**1.75**	**98**	*e*P	**Pn**	**21 15 26.6**	**+0.8**
AZAP				*e*P		21 15 26.6	
AZAP				IAML		21 15 56.9	
comp=Z,682nm,0.9s							
YJA	**Yavi**	**2.26**	**37**	*i* P	**Pn**	**21 15 32.1**	**+0.8**
YJA				*e*P		21 15 32.5	
YJA				*e*S	**Sn**	**21 16 04.7**	**+1.1**
LVC	**Limon Verde**	**2.26**	**307**	P	**Pn**	**21 15 32.3**	**+1.0**
comp=Z,48nm,0.3s,baz=154,slow=5.4,SNR=414							
LVC				S	**Sn**	**21 16 03.8**	**+0.3**
comp=Z,53nm,0.3s,baz=316,slow=17,SNR=35							
LVC				LR	LR	21 16 22.4	
comp=Z,82nm,19.5s,baz=36,slow=39							
LVC	**Limon Verde**	**2.26**	**307**	⇑*i*P	**Pn**	**21 15 32.4**	**+1.0**
LVC				*i* S	**Sn**	**21 16 04.2**	**+0.7**
LVC	**Limon Verde**	**2.26**	**307**	*e*P	**Pn**	**21 15 32.2**	**+1.0**
LVC	**Limon Verde**	**2.26**	**307**		**Pn**	**21 15 32.6**	**+1.3**
LVC	**Limon Verde**	**2.26**	**307**	*e*P	**Pn**	**21 15 32.6**	**+1.3**
LVC				*e*S	**Sn**	**21 16 05.4**	**+1.9**
FSA	**Cafayete**	**2.28**	**157**	*e*P	**Pn**	**21 15 31.7**	**+0.5**
FSA				*e*S	**Sn**	**21 15 58.4**	**-5.3**
ASTB	**Santa Barbara**	**2.30**	**89**	*e*P	**Pn**	**21 15 31.7**	**+0.3**
ASTB				*e*S	Sn	21 15 44.5	-19
PB15	**IPOC Station P**	**2.43**	**289**	⇑*i*P	**Pn**	**21 15 34.3**	**+1.4**
PB15				*i* S	**Sn**	**21 16 07.0**	**+0.5**
PB15	**IPOC Station P**	**2.43**	**289**	Pn	**Pn**	**21 15 34.1**	**+1.1**
PB15	**IPOC Station P**	**2.43**	**289**	*e*P	**Pn**	**21 15 34.4**	**+1.4**
PB15				*e*S	**Sn**	**21 16 07.7**	**+1.2**
PB15				IAML		21 16 08.9	
comp=Z,2μm,0.3s							
PB06	**IPOC Station P**	**2.72**	**298**	⇑*i*P	**Pn**	**21 15 37.3**	**+1.2**
PB06				*i* S	**Sn**	**21 16 12.0**	**-0.3**
PB06				IAML		21 16 15.3	
comp=N,890nm,0.7s							
PB06	**IPOC Station P**	**2.72**	**298**	Pn	**Pn**	**21 15 37.1**	**+0.9**
PB06	**IPOC Station P**	**2.72**	**298**	*i* P	**Pn**	**21 15 37.4**	**+1.2**
PB06				*e*S	**Sn**	**21 16 12.6**	**+0.2**
PB06				IAML		21 16 14.5	
comp=Z,351nm,0.3s							
ALOL	**LOMAS DE OLMED**	**2.74**	**87**	*e*P	**Pn**	**21 15 36.6**	**+0.4**
PB09	**IPOC Station P**	**3.04**	**316**	⇑*i*P	**Pn**	**21 15 41.2**	**+1.3**
PB09				*i* S	**Sn**	**21 16 19.5**	**+0.4**
PB09				IAML		21 16 20.8	
comp=N,552nm,0.8s							
PB09	**IPOC Station P**	**3.04**	**316**	Pn	**Pn**	**21 15 41.1**	**+1.2**
PB09	**IPOC Station P**	**3.04**	**316**	*e*P	**Pn**	**21 15 41.4**	**+1.5**
PB09				*e*S	**Sn**	**21 16 19.9**	**+0.8**
PB09				IAML		21 16 20.2	
comp=Z,529nm,0.6s							
AHML	**Horco Molle**	**3.14**	**152**	*e*P	**Pn**	**21 15 41.3**	**+0.4**
AHML				*e*S	**Sn**	**21 16 20.1**	**-1.0**
PB05	**IPOC Station P**	**3.19**	**290**	⇑*i*P	**Pn**	**21 15 42.1**	**+0.5**
PB05				*i* S	**Sn**	**21 16 20.4**	**-1.7**
PB05	**IPOC Station P**	**3.19**	**290**	*e*P	**Pn**	**21 15 42.3**	**+0.7**
PB05				*e*S	**Sn**	**21 16 21.7**	**-0.4**
PB05				IAML		21 16 26.4	
comp=Z,259nm,0.7s							
PB14	**IPOC Station P**	**3.20**	**258**	*e*P	**Pn**	**21 15 42.5**	**+0.6**
PB14				*e*S	**Sn**	**21 16 21.2**	**-1.5**
PB14	**IPOC Station P**	**3.20**	**258**	Pn	**Pn**	**21 15 42.5**	**+0.6**
PB14	**IPOC Station P**	**3.20**	**258**	*e*P	**Pn**	**21 15 42.9**	**+1.0**
PB14				*e*S	**Sn**	**21 16 21.7**	**-0.9**
PB14				IAML		21 16 23.6	
comp=Z,345nm,0.6s							
PB03	**IPOC Station P**	**3.22**	**307**	⇑*i*P	**Pn**	**21 15 42.8**	**+0.7**
PB03				*i* S	**Sn**	**21 16 21.5**	**-1.5**
PB03	**IPOC Station P**	**3.22**	**307**	*e*P	**Pn**	**21 15 42.8**	**+0.7**
PB03				*e*S	**Sn**	**21 16 22.8**	**-0.2**
PB03				IAML		21 16 25.6	
comp=Z,494nm,0.3s							
PB10	**IPOC Station P**	**3.32**	**278**	⇑*i*P	**Pn**	**21 15 44.0**	**+0.9**
PB10				*i* S	**Sn**	**21 16 23.2**	**-1.6**
PB10	**IPOC Station P**	**3.32**	**278**		**Pn**	**21 15 43.9**	**+0.7**
PB10	**IPOC Station P**	**3.32**	**278**	*e*P	**Pn**	**21 15 44.0**	**+0.9**
PB10				*e*S	**Sn**	**21 16 24.7**	**-0.2**
PB10				*e*S		21 16 25.2	
PB10				IAML		21 16 28.9	
comp=Z,247nm,0.6s							
PB04	**IPOC Station P**	**3.37**	**299**	⇑*i*P	**Pn**	**21 15 44.4**	**+0.6**
PB04				*e*S	**Sn**	**21 16 24.2**	**-1.9**
PB04	**IPOC Station P**	**3.37**	**299**	Pn	**Pn**	**21 15 44.2**	**+0.4**
PB04	**IPOC Station P**	**3.37**	**299**	*e*P	**Pn**	**21 15 44.5**	**+0.6**
PB04				*e*P		21 15 44.6	
PB04				*e*S	**Sn**	**21 16 25.9**	**-0.2**
PB04				IAML		21 16 27.5	
comp=Z,674nm,0.7s							
AC02	**Maricunga**	**3.43**	**214**	⇑*i*P	**Pn**	**21 15 45.9**	**+1.0**
AC02				*e*S	**Sn**	**21 16 29.0**	**+0.9**
AC02	**Maricunga**	**3.43**	**214**		**Pn**	**21 15 45.9**	**+1.0**
AC02	**Maricunga**	**3.43**	**214**	*e*P	**Pn**	**21 15 45.9**	**+1.0**
AC02				*e*S	**Sn**	**21 16 33.3**	**+5.2**
PB07	**IPOC Station P**	**3.52**	**310**	⇑*i*P	**Pn**	**21 15 46.2**	**+0.5**
PB07				*i* S	**Sn**	**21 16 27.5**	**-2.0**
PB07	**IPOC Station P**	**3.52**	**310**		**Pn**	**21 15 45.8**	**+0.1**
PB07	**IPOC Station P**	**3.52**	**310**	*e*P	**Pn**	**21 15 46.2**	**+0.5**
PB07				*e*S	**Sn**	**21 16 28.8**	**-0.7**
PB07				IAML		21 16 32.4	
comp=Z,364nm,0.3s							
PB01	**IPOC Station P**	**3.76**	**321**	⇑*i*P	**Pn**	**21 15 48.7**	**+0.1**
PB01				*i* S	**Sn**	**21 16 32.6**	**-2.0**
PB01	**IPOC Station P**	**3.76**	**321**		**Pn**	**21 15 48.7**	**+0.1**
PB01	**IPOC Station P**	**3.76**	**321**	*e*P	**Pn**	**21 15 49.1**	**+0.5**
PB01				*e*S	**Sn**	**21 16 33.5**	**-1.2**
PB01				*e*S		21 16 33.9	
PB01				IAML		21 16 35.7	
comp=Z,150nm,0.3s							
PB02	**IPOC Station P**	**3.80**	**314**	⇑*i*P	**Pn**	**21 15 49.1**	**0.0**
PB02	**IPOC Station P**	**3.80**	**314**	*e*P	**Pn**	**21 15 49.2**	**+0.1**
PB02				*e*S	**Sn**	**21 16 34.1**	**-1.5**
PB02				IAML		21 16 40.1	
comp=Z,562nm,0.2s							
PB08	**IPOC Station P**	**4.35**	**332**	⇑*i*P	**Pn**	**21 15 57.0**	**+0.7**
PB08				*i* S	**Sn**	**21 16 47.8**	**-0.6**
PB08	**IPOC Station P**	**4.35**	**332**	Pn	**Pn**	**21 15 56.9**	**+0.7**
PB08	**IPOC Station P**	**4.35**	**332**	*e*P	**Pn**	**21 15 57.0**	**+0.7**
PB08				*e*S	**Sn**	**21 16 49.1**	**+0.7**
PB08				IAML		21 16 54.3	
comp=Z,153nm,0.7s							
TA01	**Diego Aracena**	**4.54**	**318**	*e*P	**Pn**	**21 15 57.2**	**-1.0**
TA01				*i* S	**Sn**	**21 16 45.4**	**-6.7**
TA01	**Diego Aracena**	**4.54**	**318**	Pn	**Pn**	**21 15 57.6**	**-0.6**
TA01	**Diego Aracena**	**4.54**	**318**	*e*P	**Pn**	**21 15 57.7**	**-0.5**
TA01				*e*S	**Sn**	**21 16 50.7**	**-1.4**
TA01				IAML		21 17 07.3	
comp=Z,109nm,0.7s							
GO03	**Copiap**	**4.63**	**219**	⇑*i*P	**Pn**	**21 15 58.5**	**-0.9**
GO03				*i* S	**Sn**	**21 16 50.1**	**-4.2**
GO03	**Copiap**	**4.63**	**219**	Pn	**Pn**	**21 15 58.3**	**-1.2**
TA02	**Huaiquique**	**4.73**	**321**	Pn	**Pn**	**21 16 00.3**	**-0.4**
PB11	**IPOC Station P**	**4.91**	**329**	Pn	**Pn**	**21 16 00.7**	**-2.4**
AC04	**Llanos de Chal**	**5.58**	**221**	Pn	**Pn**	**21 16 09.8**	**-1.7**
PB16	**IPOC Station P**	**6.12**	**337**	Pn	**Pn**	**21 16 18.0**	**-1.1**
PB16	**IPOC Station P**	**6.12**	**337**	*e*P	**Pn**	**21 16 19.2**	**+0.1**
PB12	**IPOC Station P**	**6.21**	**329**	Pn	**Pn**	**21 16 17.1**	**-2.7**
GO04	**Tololo Observa**	**7.03**	**208**	Pn	**Pn**	**21 16 29.2**	**-1.3**
CO03	**El Pedregal**	**7.57**	**205**	Pn	**Pn**	**21 16 35.3**	**-2.1**
ZON	**Zonda**	**7.67**	**191**	Pn	**Pn**	**21 16 36.8**	**-1.8**
LPAZ	**La Paz**	**7.75**	**352**	P	**Pn**	**21 16 40.6**	**+0.2**
comp=Z,1.0nm,0.3s,baz=98,slow=5.0,SNR=16							
LPAZ				S	**Sn**	**21 18 07.4**	**-0.9**
comp=Z,0.3nm,0.3s,baz=15,slow=21,SNR=6.1							
LPAZ	**La Paz**	**7.75**	**352**	*e*P	**Pn**	**21 16 40.5**	**+0.1**
LPAZ	**La Paz**	**7.75**	**352**	Pn	**Pn**	**21 16 39.6**	**-0.9**
CO06	**Fray Jorge**	**7.83**	**211**	Pn	**Pn**	**21 16 36.7**	**-4.1**
CPUP	**Villa Florida**	**9.03**	**107**	P	**Pn**	**21 16 54.2**	**-2.2**
comp=Z,0.3nm,0.3s,baz=292,slow=12,SNR=9.5							
CPUP	**Villa Florida**	**9.03**	**107**	*e*P	**Pn**	**21 16 58.5**	**+2.0**
SIV	**San Ignacio**	**9.71**	**36**	P	**Pn**	**21 17 03.0**	**-2.3**
comp=Z,2.2nm,0.3s,baz=238,slow=7.9,SNR=15							
MT02	**Curacav**	**9.92**	**201**	Pn	**Pn**	**21 17 04.9**	**-3.0**
MT09	**Talagante**	**10.35**	**199**	Pn	**Pn**	**21 17 11.2**	**-2.4**
MT01	**Popeta**	**10.52**	**200**	Pn	**Pn**	**21 17 14.6**	**-1.0**
BO02	**Sierra Bellavi**	**11.25**	**196**	Pn	**Pn**	**21 17 25.3**	**+0.1**
PTLB	**Pontes e Lacer**	**11.26**	**42**	Pn	**Pn**	**21 17 24.1**	**-1.2**
PTGB	**Pitanga**	**13.60**	**96**	*e*P	**P**	**21 17 57.9**	**+0.4**
ITAB	**Concordia**	**13.77**	**107**		**Pn**	**21 17 56.2**	**-0.7**
PLTB	**Pedras Altas**	**14.11**	**126**	Pn	**Pn**	**21 17 59.0**	**-2.1**
PCMB	**Pacaembu**	**14.68**	**84**	*e*P	**P**	**21 18 09.9**	**+0.5**
LC01	**Cunco**	**15.42**	**195**	P	**P**	**21 18 17.8**	**+0.4**
PDRB	**Porto dos Gac**	**15.70**	**40**	*e*P	**P**	**21 18 19.9**	**-0.8**
FRTB	**Fartura**	**15.96**	**91**	*e*P	**P**	**21 18 23.4**	**-0.1**
ITRB	**Iturama**	**16.00**	**78**	*e*P	**P**	**21 18 23.1**	**-0.3**
ARAG	**Araguaiana, MT**	**16.46**	**63**	*e*P	**P**	**21 18 28.9**	**-0.2**
CLDB	**Colider**	**16.84**	**41**	*e*P	**P**	**21 18 32.4**	**-0.9**
PLCA	**Paso Flores**	**16.95**	**189**	P	**P**	**21 18 35.0**	**+0.7**
comp=Z,0.8nm,0.3s,baz=3.6,slow=8.9,SNR=28							
PLCA				PcP	**PcP**	**21 23 10.3**	**+0.8**
comp=Z,0.1nm,0.3s,baz=316,slow=3.5,SNR=3.2							
PLCA	**Paso Flores**	**16.95**	**189**	P	**P**	**21 18 34.7**	**+0.5**
PLCA				IAmb	IAmb	21 18 42.4	
comp=Z,8.9nm,0.7s							
PLCA					**PcP**	**21 23 10.8**	**+1.3**
LL04	**Puerto Octay**	**17.46**	**194**	P	**P**	**21 18 39.9**	**+0.1**
LL03	**Petrohue**	**17.68**	**194**	P	**P**	**21 18 42.9**	**+0.7**
RCLB	**Rio Claro- Sao**	**17.94**	**89**	*e*P	**P**	**21 18 44.8**	**-0.4**
VAO	**Valinhos**	**18.37**	**91**	*e*P	**P**	**21 18 48.7**	**-1.2**
IPMB	**Ipameri, GO**	**18.50**	**75**	*e*P	**P**	**21 18 50.0**	**-1.3**
SNDB	**Serra Nova Dou**	**19.09**	**54**	*e*P	**P**	**21 18 56.6**	**-1.1**
LL07	**Hotel Espejo d**	**19.54**	**194**	P	**P**	**21 19 03.1**	**+0.9**
LL02	**Futaleuf**	**19.56**	**191**	P	**P**	**21 19 03.2**	**+0.7**
LL02				IAmb	IAmb	21 19 06.5	
comp=Z,16nm,0.8s							
BDFB	**Brasilia**	**19.66**	**68**	P	**P**	**21 19 02.9**	**-1.1**
comp=Z,6.0nm,0.3s,baz=244,slow=11,SNR=69							
BDFB	**Brasilia**	**19.66**	**68**	P	**P**	**21 19 03.1**	**-0.8**
GO07	**Milladeo Hill,**	**19.85**	**195**	P	**P**	**21 19 06.2**	**+0.6**
SMTB	**Santa Maria do**	**23.87**	**54**	*e*P	**P**	**21 19 44.0**	**-1.4**
SDBA	**SAO DESIDERIO**	**23.88**	**65**	*e*P	**P**	**21 19 44.4**	**-1.2**
PTGA	**Pitinga**	**24.11**	**17**	P	**P**	**21 19 47.8**	**+0.2**
comp=Z,1.5nm,0.3s,baz=241,slow=19,SNR=1.8							
PRPB	**Parauapebas**	**24.21**	**46**	*e*P	**P**	**21 19 47.7**	**-0.8**
ALF01	**Guarapari-ES**	**24.50**	**87**	*e*P	**P**	**21 19 49.9**	**-1.2**
EFI	**East Falkland**	**28.46**	**168**	P	**P**	**21 20 25.7**	**-0.5**
EFI				IAmb	IAmb	21 20 27.4	
comp=Z,12nm,1.1s			

comp=Z,8.0nm,0.6s
VNA3 Neumayer Olymp 57.14 161 P P 21 24 16.3 +0.9
VNA1 Neumayer--Stat 57.33 160 P P 21 24 17.0 +0.3
VNA2 Neumayer--Watz 57.70 160 P P 21 24 19.9 +0.6
baz=275,slow=6.5
SNAA Sanae 59.34 161 P P 21 24 31.3 +0.7
SNAA Sanae 59.34 161 P P 21 24 30.6 -0.1
comp=Z,3.9nm,0.6s,baz=27,slow=20,SNR=15
SNAA Sanae 59.34 161 P P 21 24 31.5 +0.9
SNAA IAmb IAmb 21 24 32.3
comp=Z,5.0nm,0.8s
833A Chaparral WMA, 60.69 327 P P 21 24 41.7 +1.5
SWET Sewanee 61.58 342 P P 21 24 46.4 +0.2
SWET IAmb IAmb 21 24 47.0
comp=Z,10nm,1.1s
WVT Waverly 62.98 341 P P 21 24 54.9 -0.5
TXAR Lajitas Array 63.70 324 P P 21 25 01.8 +1.4
comp=Z,0.6nm,0.7s,baz=148,slow=8.9,SNR=8.4
S39A Bolivar 66.18 337 P P 21 25 12.8 -3.4
S39A IAmb IAmb 21 25 17.5
comp=Z,5.8nm,0.8s
MNTX Cornudas Mount 66.47 325 P P 21 25 19.0 +0.9
DBIC Dimbokro 67.77 72 P P 21 25 26.1 -0.6
comp=Z,2.1nm,0.5s,baz=237,slow=5.7,SNR=6.4
DBIC Dimbokro 67.77 72 P P 21 25 25.8 -0.9
DBIC IAmb IAmb 21 25 34.1
comp=Z,4.1nm,1.0s
P38A Dawn 67.99 338 P P 21 25 27.6 +0.1
P38A IAmb IAmb 21 25 28.4
comp=Z,7.6nm,0.7s
F64A Sherman 69.54 359 P P 21 25 37.0 +0.2
F64A IAmb IAmb 21 25 43.1
comp=Z,6.1nm,1.0s
JFWS Jewell Farm 69.96 342 P P 21 25 40.1 +0.6
SDCO Great Sand Dun 71.31 329 P P 21 25 49.1 +1.0
KOWA Kowa 72.41 65 P P 21 25 54.8 0.0
KOWA IAmb IAmb 21 25 57.0
comp=Z,4.4nm,0.7s
F36A Milaca 73.60 341 P P 21 26 01.0 -0.1
F36A IAmb IAmb 21 26 01.7
comp=Z,3.4nm,0.8s
SRU San Rafael Swe 74.84 326 P P 21 26 10.5 +1.8
SRU IAmb IAmb 21 26 11.0
comp=Z,3.5nm,0.6s
P18A Preston Nutter 75.09 327 P P 21 26 12.1 +1.8
P18A IAmb IAmb 21 26 15.0
comp=Z,3.4nm,0.9s
CCUT Cedar City 75.18 323 P P 21 26 13.8 +3.0
CCUT IAmb IAmb 21 26 14.5
comp=Z,3.5nm,0.8s
TORD Torodi Ar. Bea 76.54 69 P P 21 26 18.6 0.0
comp=Z,3.4nm,0.5s,baz=262,slow=5.6,SNR=43
SPR3 Spring Creek 3 76.75 324 P P 21 26 21.8 +2.0
BW06 Boulder Array 77.17 329 P P 21 26 22.9 +1.1
PD31 Pinedale Array 77.17 329 P P 21 26 22.9 +1.0
PDAR Pinedale Array 77.17 329 P P 21 26 23.2 +1.4
comp=Z,0.7nm,0.5s,baz=130,slow=6.9,SNR=7.1
PDAR Pinedale Array 77.17 329 P P 21 26 22.9 +1.0
SPUT South Promonto 77.47 327 P P 21 26 24.4 +0.9
SPUT IAmb IAmb 21 26 26.0
comp=Z,2.7nm,0.8s
ULM Lac du Bonnet 78.24 342 P P 21 26 27.4 +0.2
comp=Z,3.8nm,0.6s,baz=162,slow=6.4,SNR=4.8
ULM Lac du Bonnet 78.24 342 P P 21 26 27.7 +0.4
ULM IAmb IAmb 21 26 28.1
comp=Z,4.9nm,0.7s
NVAR Mina Array Bea 78.56 321 P P 21 26 31.3 +1.7
comp=Z,0.5nm,0.5s,baz=199,slow=7.8,SNR=3.5
NVAR Mina Array Bea 78.56 321 P P 21 26 30.8 +1.2
RLMT Red Lodge 78.86 331 P P 21 26 32.8 +1.7
RLMT IAmb IAmb 21 26 33.6
comp=Z,2.6nm,0.6s
PLID Pearl Lake 82.00 327 P P 21 26 49.4 +1.6
PLID IAmb IAmb 21 26 50.3
comp=Z,3.7nm,0.7s
K05A Summer Lake 82.92 323 P P 21 26 55.3 +2.7
DBO Dodson Butte 84.48 322 P P 21 27 02.4 +2.1
YKA Yellowknife Ar 94.14 340 P P 21 27 46.0 +0.7
comp=Z,1.4nm,0.5s,baz=134,slow=4.5,SNR=38
ASAR Alice Springs 128.47 205 PKP PKPdf 21 33 34.2 +0.4
comp=Z,2.0nm,0.7s,baz=134,slow=1.9,SNR=24
ASAR Alice Springs 128.47 205 PKPdf 21 33 34.0 +0.3
WRA Warramunga Arr 131.64 207 PKP PKPdf 21 33 40.4 +0.5
comp=Z,1.1nm,0.3s,baz=154,slow=2.0,SNR=45
WRA SKPbc SKPbc 21 36 47.6 +0.7
comp=Z,0.7nm,0.8s,baz=148,slow=3.5,SNR=6.0
WRA Warramunga Arr 131.64 207 PKPdf PKPdf 21 33 40.2 +0.4
ZALV Zalesovo Beam 143.38 28 PKP PKPbc 21 33 58.6 +0.6
comp=Z,2.1nm,0.6s,baz=300,slow=4.3,SNR=13
MKAR Makanchi Array 146.51 40 PKPbc PKPdf 21 34 06.8 +0.9
comp=Z,3.7nm,0.6s,baz=329,slow=1.9,SNR=46

*MAN **04** 21:46:22.0,6°.34N×126°.89E,h69km,mb4.5,ML3.3,MS3.1*
*IDC **04** 21:46:23.7±4.9,5°.44N×125°.19E,h67km±51km,mb3.3/4,*
mb1 3.5/4,mb1mx3.2/36,mbtmp3.6/4,Error ellipse:
s-maj=85.4km s-min=17.7km az=75.0
ISC 04 21:46:26.1±1.1,5°.9N±0°.1×126°.3E±0°.1,h100km,n7,
σ1§46/11,mb3.3/4,2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.36**	**279**	⇓*iP*	**Pn**	**21 46 49.7**	**-1.1**
GSPH				*e*S	**Sn**	**21 47 11.5**	**+2.1**
DAV	**Davao City (W)**	**1.38**	**329**	P	**Pn**	**21 46 50.0**	**-0.9**
	76nm,0.3s,baz=330,slow=1.7,SNR=10						
DAV				S	**Sn**	**21 47 11.6**	**+2.0**
	69nm,0.3s,baz=313,slow=24,SNR=12						
DAV				LR	LR	21 47 52.0	
	comp=Z,118nm,19.1s,baz=135,slow=53						
KCP	**Kidapawan**	**1.64**	**313**	⇓*iP*	**Pn**	**21 46 53.3**	**-0.9**
KCP				*i* S	**Sn**	**21 47 14.2**	**-1.4**
WRA	**Warramunga Arr**	**26.86**	**163**	P	**P**	**21 51 57.8**	**+0.2**
	0.5nm,0.6s,baz=341,slow=10,SNR=7.1						
ASAR	**Alice Springs**	**30.30**	**166**	P	**P**	**21 52 27.7**	**-0.4**
	0.2nm,0.3s,baz=340,slow=7.3,SNR=4.8						
MKAR	**Makanchi Array**	**55.56**	**325**	P	**P**	**21 55 50.4**	**-0.8**
	0.2nm,0.5s,baz=112,slow=7.5,SNR=7.6						
MKAR				PcP	**PcP**	**21 56 49.4**	**-0.5**
	0.5nm,0.6s,baz=125,slow=4.2,SNR=4.2						
ARCES	**ARCESS Array B**	**88.29**	**340**	P	**P**	**21 59 07.9**	**+1.8**
	1.5nm,0.7s,baz=83,slow=7.4,SNR=4.9						

IDC 04 21:53:13.5±1.7,4°.20S×129°.69E,h0km,mb3.4/1,
mb1 3.5/4,mb1mx3.3/30,mbtmp3.4/4,ML3.0/3,Error
ellipse: s-maj=51.6km s-min=24.7km az=91.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.66**	**25**	Pn	Pn	21 54 12.4	+1.0
	1.9nm,0.3s,baz=208,slow=22,SNR=17						
SIJI				Sn	Sn	21 54 55.0	-0.4
	1.9nm,0.3s,baz=238,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**16.29**	**164**	Pn	Pn	21 57 02.6	-1.3
	0.0nm,0.3s,baz=349,slow=13,SNR=1.3						
ASAR	**Alice Springs**	**19.78**	**169**	P	P	21 57 45.9	+0.4
	0.1nm,0.3s,baz=346,slow=10,SNR=9.4						
MKAR	**Makanchi Array**	**65.73**	**326**	P	P	22 03 60.0	-0.2
	0.4nm,0.8s,baz=117,slow=7.5,SNR=2.7						

*IDC **04** 22:56:46.6±0.9,21°.37S×67°.08W,h176km±15km,mb3.1/1,*
mb1 3.4/5,mb1mx3.2/27,mbtmp3.8/5,Error ellipse:
s-maj=22.4km s-min=11.6km az=114.0
*GUC **04** 22:56:48.6±0.6,21°.38S×67°.49W,h216km±7km,ML3.9*
*SCB **04** 22:56:49.4±2.4,21°.42S×67°.33W,h157km±23km,ML3.5/4,*
Error ellipse: s-maj=9.0km s-min=5.5km az=0.0
ISC 04 22:56:46.8±0.9,21°.36S±0°.04×67°.26W±0°.05,h190km±9km,
n41,σ1§74/64,3C-8D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.51**	**86**	P	**Pn**	**22 57 22.0**	**+1.7**
MOCB				S	**Sn**	**22 57 44.3**	**-1.8**
MOCB				IAML		22 57 47.6	
	343nm,0.4s						
YJA	**Yavi**	**1.81**	**117**	P	**Pn**	**22 57 25.1**	**+1.9**
PB09	**IPOC Station P**	**1.90**	**256**	*e*P	**Pn**	**22 57 25.4**	**+1.6**
PB09				*i* S	**Sn**	**22 57 53.1**	**+0.7**
PB09				IAML		22 57 56.9	
	comp=E,190nm,0.3s						
PB09	**IPOC Station P**	**1.90**	**256**	P	**Pn**	**22 57 25.4**	**+1.6**
PB09				S	**Sn**	**22 57 49.9**	**-2.5**
PB09				IAML		22 57 55.6	
	comp=E,153nm,0.3s						
LVC	**Limon Verde**	**1.98**	**231**	P	**Pn**	**22 57 25.9**	**+1.2**
	comp=E,12nm,0.3s,baz=47,slow=8.6,SNR=250						
LVC				S	**Sn**	**22 57 54.5**	**+0.2**
	comp=E,17nm,0.3s,baz=218,slow=18,SNR=56						
LVC	**Limon Verde**	**1.98**	**231**	*e*P	**Pn**	**22 57 25.6**	**+0.9**
LVC				*i* S	**Sn**	**22 57 54.4**	**+0.1**
LVC	**Limon Verde**	**1.98**	**231**	P	**Pn**	**22 57 26.1**	**+1.3**
PB01	**IPOC Station P**	**2.11**	**278**	⇓*iP*	**Pn**	**22 57 26.4**	**+0.5**
PB01				*i* S	**Sn**	**22 57 56.2**	**+0.1**
PB01				IAML		22 57 57.2	
	comp=N,273nm,0.2s						
PB01	**IPOC Station P**	**2.11**	**278**	P	**Pn**	**22 57 27.5**	**+1.7**
PB08	**IPOC Station P**	**2.15**	**304**	⇓*iP*	**Pn**	**22 57 28.2**	**+1.6**
PB08				*i* S	**Sn**	**22 57 58.5**	**+1.0**
PB08				IAML		22 58 04.4	
	comp=E,91nm,0.3s						
PB08	**IPOC Station P**	**2.15**	**304**	P	**Pn**	**22 57 28.5**	**+1.8**
PB03	**IPOC Station P**	**2.42**	**253**	*e*P	**Pn**	**22 57 29.7**	**+0.3**
PB03				*i* S	**Sn**	**22 58 01.5**	**-1.0**
PB03				IAML		22 58 02.0	
	comp=E,525nm,0.2s						
PB03	**IPOC Station P**	**2.42**	**253**	P	**Pn**	**22 57 30.5**	**+1.1**
PB03				S	**Sn**	**22 57 59.5**	**-3.0**
PB03				IAML		22 58 01.9	
	comp=E,400nm,0.2s						
PB02	**IPOC Station P**	**2.46**	**270**	⇓*iP*	**Pn**	**22 57 30.2**	**+0.4**
PB02				*i* S	**Sn**	**22 58 01.9**	**-1.3**
PB02				IAML		22 58 02.9	
	comp=N,1μm,0.4s						
PB02	**IPOC Station P**	**2.46**	**270**	P	**Pn**	**22 57 30.6**	**+0.8**
PB07	**IPOC Station P**	**2.48**	**261**	*e*P	**Pn**	**22 57 30.6**	**+0.5**
PB07				*i* S	**Sn**	**22 58 02.4**	**-1.3**
PB07				IAML		22 58 03.3	
	comp=N,529nm,0.3s						
PB07	**IPOC Station P**	**2.48**	**261**	P	**Pn**	**22 57 31.0**	**+1.0**
PB06	**IPOC Station P**	**2.53**	**238**	⇑*iP*	**Pn**	**22 57 31.3**	**+0.6**
PB06				*i* S	**Sn**	**22 58 04.5**	**-0.3**
PB06				IAML		22 58 06.0	
	comp=E,434nm,0.3s						
PB06	**IPOC Station P**	**2.53**	**238**	P	**Pn**	**22 57 31.5**	**+0.8**
PB11	**IPOC Station P**	**2.75**	**305**	⇓*iP*	**Pn**	**22 57 33.8**	**+0.6**
PB11				*i* S	**Sn**	**22 58 08.4**	**-0.9**
PB11				IAML		22 58 10.1	
	comp=E,341nm,0.2s						
PB11	**IPOC Station P**	**2.75**	**305**	P	**Pn**	**22 57 33.9**	**+0.7**
PB15	**IPOC Station P**	**2.76**	**228**	⇑*iP*	**Pn**	**22 57 34.1**	**+0.8**
PB15				*i* S	**Sn**	**22 58 09.5**	**-0.1**
PB15	**IPOC Station P**	**2.76**	**228**	P	**Pn**	**22 57 34.3**	**+1.0**
TA01	**Diego Aracena**	**2.84**	**286**	⇓*iP*	**Pn**	**22 57 34.0**	**-0.2**
TA01				*i* S	**Sn**	**22 58 08.6**	**-2.4**
TA01				IAML		22 58 09.5	
	comp=E,145nm,0.2s						
PB04	**IPOC Station P**	**2.86**	**250**	⇓*iP*	**Pn**	**22 57 34.8**	**+0.3**
PB04				*i* S	**Sn**	**22 58 09.6**	**-2.0**
PB04				IAML		22 58 12.8	
	comp=N,282nm,0.1s						
PB04	**IPOC Station P**	**2.86**	**250**	P	**Pn**	**22 57 35.3**	**+0.8**
PB05	**IPOC Station P**	**3.11**	**241**	⇑*iP*	**Pn**	**22 57 37.9**	**+0.5**
PB05				*i* S	**Sn**	**22 58 14.6**	**-2.3**
PB05				IAML		22 58 15.9	
	comp=N,194nm,0.3s						
PB05	**IPOC Station P**	**3.11**	**241**	P	**Pn**	**22 57 38.0**	**+0.5**
PB16	**IPOC Station P**	**3.68**	**324**	⇓*iP*	**Pn**	**22 57 46.6**	**+1.7**
PB16				*i* S	**Sn**	**22 58 31.4**	**+1.2**
PB16	**IPOC Station P**	**3.68**	**324**	P	**Pn**	**22 57 46.8**	**+1.9**
PB10	**IPOC Station P**	**3.73**	**234**	⇓*iP*	**Pn**	**22 57 44.8**	**-0.1**
PB10				*i* S	**Sn**	**22 58 27.3**	**-3.1**
PB10	**IPOC Station P**	**3.73**	**234**	P	**Pn**	**22 57 45.2**	**+0.3**
PB10				S	**Sn**	**22 58 25.6**	**-4.8**
PB10				IAML		22 58 32.1	
	comp=N,59nm,0.5s						
PB12	**IPOC Station P**	**3.98**	**313**	*e*P	**Pn**	**22 57 47.0**	**-1.1**
PB12				*i* S	**Sn**	**22 58 32.3**	**-3.8**
BBOE	**La Paz, Chanca**	**4.57**	**351**	P	**Pn**	**22 57 58.6**	**+2.5**
BBOD	**La Paz, Gloria**	**4.86**	**345**	P	**Pn**	**22 58 02.5**	**+2.6**
LPAZ	**La Paz**	**5.11**	**351**	P	**Pn**	**22 58 04.2**	**+1.0**
	comp=N,1.3nm,0.3s,baz=165,slow=6.2,SNR=34						
LPAZ				S	**Sn**	**22 59 03.7**	**+0.7**
	comp=N,0.4nm,0.3s,baz=70,slow=23,SNR=7.8						
LPAZ	**La Paz**	**5.11**	**351**	P	**Pn**	**22 58 04.9**	**+1.8**
SIV	**San Ignacio**	**7.93**	**49**	P	**Pn**	**22 58 37.9**	**-1.3**
	comp=N,3.1nm,0.3s,baz=230,slow=10,SNR=35						
SIV				S	**Sn**	**23 00 03.0**	**-5.5**
	comp=N,1.4nm,0.3s,baz=271,slow=10,SNR=6.4						
CPUP	**Villa Florida**	**10.34**	**121**	P	**Pn**	**22 59 10.1**	**-0.6**
	comp=N,0.5nm,0.3s,baz=276,slow=9.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**75.86**	**70**	P	**P**	**23 08 13.0**	**+0.2**
	comp=N,0.3nm,0.7s,baz=254,slow=5.1,SNR=2.3						
MKAR	**Makanchi Array**	**144.60**	**37**	PKP	**PKPab**	**23 16 01.0**	**+1.2**
	comp=N,0.2nm,0.5s,baz=311,slow=3.0,SNR=6.0						

JMA 04 23:48:22.4±0.2,38°.37N×144°.49E,h43km,M3.5,Off east
coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.32**	**289**	P	Pn	23 48 59.5	+1.5
JIKH	**Ishinomakikobu**	**2.38**	**270**	P	Pn	23 49 00.1	+1.2
JIKH				S	Sn	23 49 27.8	+1.0
JKMT	**Kesennumamotoy**	**2.40**	**281**	P	Pn	23 49 00.5	+1.3
MIYJ	**Miyakonagasawa**	**2.41**	**301**	P	Pn	23 49 00.4	+1.2
MIYJ				S	Sn	23 49 28.7	+1.2
JMK	**Ichinoseki**	**2.62**	**284**	P	Pn	23 49 04.0	+1.7
JOM	**Ohasama**	**2.73**	**295**	P	Pn	23 49 05.5	+1.8
JANG	**Nango**	**3.05**	**312**	P	Pn	23 49 09.2	+1.1
JYK	**Kaneyama**	**3.28**	**281**	P	Pn	23 49 13.8	+2.5
JFT	**Otama**	**3.39**	**257**	P	Pn	23 49 15.2	+2.4
JFT				S	Sn	23 49 54.2	+2.4
JCH	**Churui**	**4.33**	**349**	P	Pn	23 49 26.0	+0.4
JCH				S	Sn	23 50 12.9	-1.8
JRY	**Ryogami san**	**5.04**	**244**	P	Pn	23 49 36.8	+1.3
JRY				S	Sn	23 50 32.3	-0.2
NEM2	**Nemuro 2**	**5.08**	**10**	P	Pn	23 49 33.5	-2.4
NEM2				S	Sn	23 50 27.2	-6.1
JTKR	**Abashiri--Toko**	**5.61**	**356**	P	Pn	23 49 43.1	-0.1
JTKR				*e*S	Sn	23 50 42.8	-3.6

*NIC **04** 23:48:54.5±0.0,36°.72N×35°.47E,h25km±2km,MI3.5/2*
*DDA **04** 23:48:55.3±0.0,36°.86N×35°.46E,h7km±5km,MW3.7*
*ISK **04** 23:48:55.3,36°.92N×35°.41E,h23km,ML3.9/32*
*GII **04** 23:48:58.4±0.0,36°.61N×35°.19E,h7km,MD2.7/6,Mm3.2/3*
ISC 04 23:48:55.8±0.9,36°.88N±0°.02×35°.43E±0°.02,h31km±7km,
n79,σ1§08/106,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.17**	**107**	SPECP		23 49 01.0	
YURE				P	**Pn**	**23 49 01.8**	**-0.5**
YURE				S	**Sb**	**23 49 06.9**	**+1.0**
YURE				*i* AML	AML	23 49 08.0	
	comp=N,8μm,0.4s						
YURE				*i* AML	AML	23 49 08.0	
	comp=E,1μm,0.7s						
KRTD	**Karatas-Adana**	**0.28**	**182**	PG	**Pn**	**23 49 03.8**	**0.0**
CEYT	**Ceyhan**	**0.29**	**63**	PG	**Pb**	**23 49 02.6**	**-0.5**
CEYT				SG	**Sb**	**23 49 07.7**	**-0.4**
KARA	**Karaisali**	**0.48**	**322**	PG	**Pb**	**23 49 05.6**	**-0.4**
KARA				SG	**Sb**	**23 49 12.2**	**-0.8**
DED	**Mersin**	**0.51**	**280**	SPECP		23 49 06.0	
DED				P	**Pb**	**23 49 06.1**	**-0.4**
DED				S	**Sb**	**23 49 13.7**	**0.0**
DED				*i* AML	AML	23 49 14.0	
	comp=N,3μm,0.4s						
DED				*i* AML	AML	23 49 17.0	
	comp=E,2μm,0.3s						
AKO	**Adana**	**0.58**	**1**	SPECP		23 49 07.0	
AKO				P	**Pb**	**23 49 07.1**	**-0.5**
AKO				*i* AML	AML	23 49 16.0	
	comp=N,4μm,0.4s						
AKO				*i* AML	AML	23 49 16.0	
	comp=E,3μm,0.3s						
AKO				S	**Sb**	**23 49 16.2**	**+0.5**
ASUZ	**Hatay-Arsuz**	**0.65**	**154**	SPECP		23 49 07.0	
ASUZ				P	**Pb**	**23 49 07.4**	**-1.2**
ASUZ				S	**Sn**	**23 49 17.8**	**-0.3**
ASUZ				*i* AML	AML	23 49 22.0	
	comp=N,2μm,0.3s						
ASUZ				*i* AML	AML	23 49 23.0	
	comp=E,2μm,0.3s						
GULE	**Gulek**	**0.66**	**308**	SPECP		23 49 09.0	
GULE				P	**Pb**	**23 49 09.1**	**+0.1**
GULE				S	**Sn**	**23 49 18.9**	**+0.3**
GULE				*i* AML	AML	23 49 21.0	
	comp=N,1μm,0.4s						
GULE				*i* AML	AML	23 49 21.0	
	comp=E,2μm,0.5s						
KOZT	**Kozan**	**0.68**	**28**	PG	**Pb**	**23 49 08.0**	**-1.2**
KOZT				SG	**Sb**	**23 49 18.2**	**-0.2**
MERS	**Mersin**	**0.73**	**269**	PG	**Pb**	**23 49 09.8**	**-0.2**
MERS				SG	**Sn**	**23 49 20.4**	**+0.3**
CMRD	**Camardi-Nigde**	**0.86**	**336**	PG	**Pb**	**23 49 11.4**	**-0.9**
CMRD				SG	**Sb**	**23 49 23.0**	**-0.5**
YAYL	**Yayladag**	**1.00**	**147**	PG	**Pn**	**23 49 14.6**	**+0.7**
YAYL	**Yayladag**	**1.00**	**147**	SPECP		23 49 14.0	
YAYL				P	**Pn**	**23 49 14.6**	**+0.7**
YAYL				S	**Sn**	**23 49 28.4**	**+1.4**
ANDN	**Andirin**	**1.01**	**46**	SPECP		23 49 12.0	
ANDN				P	**Pb**	**23 49 12.9**	**-1.9**
ANDN				*i* AML	AML	23 49 29.0	
	comp=N,1μm,0.5s						
ANDN				*i* AML	AML	23 49 30.0	
	comp=E,1μm,0.5s						
KAMA	**Osmaniye**	**1.04**	**72**	SPECP		23 49 14.0	
KAMA				P	**Pb**	**23 49 14.6**	**-0.6**
KAMA				S	**Sn**	**23 49 28.3**	**+0.5**
KAMA				*i* AML	AML	23 49 29.0	
	comp=E,573nm,0.2s						
KAMA				*i* AML	AML	23 49 30.0	
	comp=N,487nm,0.3s						
KIZK	**Mersin**	**1.11**	**249**	PN	**Pn**	**23 49 15.7**	**+0.6**
KIZK	**Mersin**	**1.11**	**249**	SPECP		23 49 15.0	
KIZK				P	**Pn**	**23 49 15.7**	**+0.6**
KIZK				*i* AML	AML	23 49 34.0	
	comp=N,2μm,0.3s						
KIZK				*i* AML	AML	23 49 36.0	
	comp=E,1μm,0.3s						
KERG	**Konya-Eregli**	**1.17**	**298**	SPECP		23 49 17.0	
KERG				P	**Pb**	**23 49 17.3**	**-0.2**
KERG				*i* AML	AML	23 49 34.0	
	comp=E,2μm,0.3s						
KERG				*i* AML	AML	23 49 35.0	
	comp=N,1μm,0.7s						
SAIM	**ADANA**	**1.21**	**25**	SPECP		23 49 16.0	
SAIM				P	**Pn**	**23 49 16.1**	**-0.6**
SAIM				*i* AML	AML	23 49 41.0	
	comp=N,700nm,0.3s						
SAIM				*i* AML	AML	23 49 44.0	
	comp=E,1μm,0.5s						
YAHY	**KAYSERI_Yahyal**	**1.22**	**358**	SPECP		23 49 16.0	
YAHY				P	**Pn**	**23 49 16.8**	**0.0**
YAHY				*i* AML	AML	23 49 43.0	
	comp=N,344nm,0.5s						
YAHY				*i* AML	AML	23 49 48.0	
	comp=E,497nm,0.5s						
NIDE	**Nigde/Merkez-G**	**1.23**	**335**	SPECP		23 49 18.0	
NIDE				P	**Pn**	**23 49 18.1**	**+1.0**
NIDE				*i* AML	AML	23 49 35.0	
	comp=E,3μm,0.4s						
NIDE				*i* AML	AML	23 49 36.0	
	comp=N,2μm,0.3s						
SLFK	**Silifke-Mersin**	**1.29**	**248**	PN	**Pn**	**23 49 18.2**	**+0.6**
KUZU	**Kuzuini**	**1.32**	**94**	SPECP		23 49 18.0	
KUZU				P	**Pn**	**23 49 18.5**	**+0.3**
KUZU				*i* AML	AML	23 49 36.0	
	comp=N,858nm,0.5s						
KUZU				*i* AML	AML	23 49 44.0	
	comp=E,1μm,0.3s						
NIG	**Nigde**	**1.39**	**332**	PN	**Pn**	**23 49 19.5**	**+0.2**
KAHM	**Kahramanmaras,**	**1.40**	**62**	SPECP		23 49 19.0	
KAHM				P	**Pn**	**23 49 19.4**	**+0.2**
KAHM				*i* AML	AML	23 49 40.0	
	comp=N,303nm,0.6s						
KAHM				*i* AML	AML	23 49 42.0	
	comp=E,336nm,0.4s						
KEBE	**Keben-Mersin**	**1.45**	**253**	PN	**Pn**	**23 49 20.8**	**+0.9**
GAZ	**Gaziantep**	**1.46**	**78**	PN	**Pn**	**23 49 19.3**	**-0.7**
GAZ	**Gaziantep**	**1.46**	**78**	P	**Pn**	**23 49 19.3**	**-0.7**
GAZ				S	**Sn**	**23 49 38.5**	**+0.3**
GAZ				AML	AML	23 49 40.4	
	2.1nm,0.5s						
GAZ				AML	AML	23 49 40.4	
	2.1nm,0.5s						
GAZ				AML	AML	23 49 43.8	
	2.0nm,0.6s						
GAZ				AML	AML	23 49 43.8	
	2.0nm,0.6s						
IKL	**Isikli**	**1.54**	**246**	PN	**Pn**	**23 49 21.9**	**+0.8**
TISA	**Tisan-Mersin**	**1.58**	**244**	PN	**Pn**	**23 49 22.1**	**+0.5**
YESI	**Yesilovacik-Me**	**1.59**	**245**	PN	**Pn**	**23 49 21.9**	**+0.1**
YESY	**Yesilyurt**	**1.62**	**304**	PN	**Pn**	**23 49 22.9**	**+0.6**
TEPK	**Tepekoy-MERSIN**	**1.65**	**247**	PN	**Pn**	**23 49 23.6**	**+0.9**
TEVE	**Tevekalti-Mers**	**1.66**	**255**	PN	**Pn**	**23 49 23.8**	**+1.0**
AKKU	**Akkuyu-Mersin**	**1.67**	**245**	PN	**Pn**	**23 49 24.0**	**+1.1**
AKK2	**Akkuyu-Mersin**	**1.69**	**245**	PN	**Pn**	**23 49 24.2**	**+1.1**
EREN	**Erenkoy**	**1.69**	**217**	PN	**Pb**	**23 49 24.5**	**-1.6**
AKK1	**Akkuyu-Mersin**	**1.69**	**245**	PN	**Pn**	**23 49 24.2**	**+1.1**
SARI	**SarD1z-Kayseri**	**1.72**	**27**	PN	**Pn**	**23 49 24.7**	**+1.0**
OREN	**Orenkoy-Mersin**	**1.72**	**248**	PN	**Pn**	**23 49 24.5**	**+0.9**
GULA	**Gulagac**	**1.74**	**327**	PN	**Pn**	**23 49 24.5**	**+0.5**
YORU	**Yoruktepe-Mers**	**1.78**	**247**	PN	**Pn**	**23 49 25.6**	**+1.1**
BERE	**Bereket-Mersin**	**1.85**	**254**	PN	**Pn**	**23 49 26.5**	**+1.0**
BNN	**Bunyan**	**2.00**	**9**	PN	**Pn**	**23 49 28.3**	**+0.7**
TEKE	**Tekeli-Mersin**	**2.00**	**249**	PN	**Pn**	**23 49 28.7**	**+1.2**
SULT	**Sultanhani-AKS**	**2.01**	**312**	PN	**Pn**	**23 49 28.5**	**+0.8**
PARAL	**Paralimni**	**2.19**	**211**	S	**Sn**	**23 49 53.8**	**-2.4**
LFK	**Lefkose**	**2.21**	**224**	PN	**Pn**	**23 49 31.8**	**+1.4**
DARE	**Darende-Malaty**	**2.35**	**43**	PN	**Pn**	**23 49 33.7**	**+1.4**
HDMB	**Hadim**	**2.36**	**273**	PN	**Pn**	**23 49 33.6**	**+1.0**
MVOU	**Mavrovouni**	**2.36**	**219**	P	**Pn**	**23 49 30.1**	**-2.3**
MVOU				S	**Sn**	**23 49 57.5**	**-2.8**
KOZK	**Kozakli-Nevseh**	**2.37**	**349**	PN	**Pn**	**23 49 33.7**	**+1.1**
ATHAL	**Athalassa**	**2.39**	**224**	S	**Sn**	**23 49 59.7**	**-1.3**
SERE	**Sereflikochisa**	**2.54**	**325**	PN	**Pn**	**23 49 36.0**	**+1.1**
CSS	**Mathi

$M_0$0.60; Fault plane solution: $M_0$1.11000×10^{16} NP1: ϕ_s98.00000°, δ42.00000°, λ47.00000°. NP2:ϕ_s330.00000°, δ61.00000°, λ122.00000°. Principal axes: T -1086.0000, Plg60.0000°, Azm289.0000°; N -55.6100, Plg28.0000°, Azm133.0000°; P 1141.6100, Plg11.0000°, Azm38.0000°;

NOU **04** *23:57:44.3, 38.37S×177.72E, h90^{km}, mB5.7/48, North Island, New Zealand*

NEIC **04** *23:57:45.6±2.4, 38.32S±0.07×177.47E±0.06, h98^{km}±4^{km}, mb5.0/32, Mwr4.7/15, Error ellipse: s-maj=9.6km s-min=6.5km az=172.0*

IDC **04** *23:57:45.7±0.7, 38.23S×177.15E, h97^{km}±3^{km}, mb4.5/7, mb1 4.6/8, mb1mx4.0/38, mbtmp4.8/8, MS3.4/11, Ms1 3.4/11, ms1mx3.1/49, Error ellipse: s-maj=21.1km s-min=16.8km az=32.0*

NEIC **04** *23:57:45.8, 38.32S×177.51E, h111^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.56; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-0.08; $M_{r\theta}$-0.10; $M_{\phi\theta}$0.80; $M_{\phi r}$1.05; Fault plane solution: $M_0$1.42000×10^{16} NP1:ϕ_s343.33000°, δ75.79000°, λ124.33000°. NP2:ϕ_s93.09000°, δ36.82000°, λ24.18000°. Principal axes: T 1.4249, Plg48.0000°, Azm290.0000°; N -0.0130, Plg33.0000°, Azm154.0000°; P -1.4119, Plg23.0000°, Azm48.0000°;*

WEL **04** *23:57:47.7±0.6, 38.S±3.×17.7E±.°, h71^{km}±5^{km}, M4.7/42, ML5.0/42, MLv4.7/42 Error ellipse: s-maj=0.0km s-min=0.0km az=23.0*

ISC 04 23:57:46.4±0.5, 38.16S±0.04×177.39E±0.04, h103^{km}±4^{km}, n270, σ1§48/275, mb5.0/34, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.20**	**147**	P	**Pn**	**23 58 00.5**	**-0.5**
MWZ				S	**Sn**	**23 58 10.6**	**-1.3**
URZ	**Urewera**	**0.24**	**246**	P	**Pn**	**23 57 59.7**	**-1.3**
URZ	1μm,0.3s,baz=121,slow=23			S	**Sn**	**23 58 09.5**	**-2.5**
URZ	baz=342,slow=20 **Urewera**	**0.24**	**246**	P	**Pn**	**23 58 00.0**	**-1.0**
URZ				S	**Sn**	**23 58 09.8**	**-2.2**
URZ	**Urewera**	**0.24**	**246**	Pn	**Pn**	**23 57 60.0**	**-1.0**
URZ					**Sn**	**23 58 09.9**	**-2.0**
URZ	**Urewera**	**0.24**	**246**	P	**Pn**	**23 58 00.1**	**-1.0**
RUGZ	**Raukumara Rang**	**0.30**	**50**	P	**Pn**	**23 57 60.0**	**-1.5**
RAGZ	**Rawiri**	**0.33**	**176**	P	**Pn**	**23 58 01.4**	**-0.2**
RAGZ				S	**Sn**	**23 58 12.5**	**-0.5**
WHRZ	**Whale Island**	**0.45**	**313**	P	**Pn**	**23 58 01.2**	**-0.9**
WHRZ				S	**Sn**	**23 58 13.0**	**-0.9**
TKGZ	**Te Karaka**	**0.46**	**127**	P	**Pn**	**23 58 02.0**	**-0.2**
TKGZ				S	**Sn**	**23 58 13.1**	**-0.9**
TWGZ	**Tauwhareparae**	**0.47**	**92**	P	**Pn**	**23 58 02.1**	**-0.2**
TWGZ				S	**Sn**	**23 58 14.7**	**+0.5**
HAZ	**Te Kaha**	**0.51**	**38**	P	**Pn**	**23 58 01.3**	**-1.2**
HAZ				S	**Sn**	**23 58 11.9**	**-2.7**
EDRZ	**Edgecumbe**	**0.51**	**276**	P	**Pn**	**23 58 01.9**	**-0.8**
EDRZ				S	**Sn**	**23 58 13.4**	**-1.5**
RTZ	**Ruatahuna**	**0.55**	**215**	P	**Pn**	**23 58 02.4**	**-0.6**
RTZ				S	**Sn**	**23 58 14.2**	**-1.2**
MUGZ	**Murupara**	**0.58**	**237**	P	**Pn**	**23 58 02.6**	**-0.5**
MARZ	**Manawahe**	**0.59**	**287**	P	**Pn**	**23 58 02.3**	**-0.9**
PKGZ	**Pakihiroa**	**0.61**	**64**	P	**Pn**	**23 58 02.7**	**-0.7**
PKGZ				S	**Sn**	**23 58 14.4**	**-1.7**
RIGZ	**Rimuhau**	**0.62**	**152**	P	**Pn**	**23 58 03.7**	**+0.3**
RIGZ				S	**Sn**	**23 58 17.2**	**+1.0**
SNGZ	**Shannon Statio**	**0.62**	**183**	P	**Pn**	**23 58 03.7**	**+0.2**
SNGZ				S	**Sn**	**23 58 15.9**	**-0.3**
WIZ	**White Island**	**0.65**	**346**	P	**Pn**	**23 58 02.2**	**-1.5**
WIZ				S	**Sn**	**23 58 14.2**	**-2.4**
WSRZ	**White Island S**	**0.66**	**346**	P	**Pn**	**23 58 02.5**	**-1.2**
PUZ	**Puketiti**	**0.69**	**83**	P	**Pn**	**23 58 03.4**	**-0.6**
PUZ				S	**Sn**	**23 58 15.9**	**-1.4**
TARZ	**Mount Tarawera**	**0.70**	**264**	P	**Pn**	**23 58 03.9**	**-0.2**
RRRZ	**Republican Roa**	**0.71**	**255**	P	**Pn**	**23 58 03.8**	**-0.3**
CNGZ	**Carnagh Statio**	**0.72**	**117**	P	**Pn**	**23 58 04.7**	**+0.5**
MKRZ	**Makatiti**	**0.72**	**272**	P	**Pn**	**23 58 04.2**	**-0.1**
OPRZ	**Ohinepanea**	**0.73**	**296**	P	**Pn**	**23 58 03.3**	**-1.0**
OPRZ				S	**Sn**	**23 58 15.2**	**-2.6**
RAHZ	**Arahi**	**0.79**	**197**	P	**Pn**	**23 58 05.3**	**+0.4**
OMRZ	**Omania**	**0.80**	**274**	P	**Pn**	**23 58 04.6**	**-0.4**
LIRZ	**Lichensteins R**	**0.81**	**281**	P	**Pn**	**23 58 04.7**	**-0.4**
MTHZ	**Maungataniwha**	**0.81**	**212**	P	**Pn**	**23 58 05.0**	**-0.2**
HLRZ	**Highlands Stat**	**0.82**	**263**	P	**Pn**	**23 58 05.1**	**-0.2**
PRRZ	**Plateau Road**	**0.85**	**246**	P	**Pn**	**23 58 05.2**	**-0.3**
PRGZ	**Paritu Road**	**0.85**	**153**	P	**Pn**	**23 58 05.6**	**0.0**
WMGZ	**Waiomatatini S**	**0.88**	**68**	P	**Pn**	**23 58 05.3**	**-0.5**
KNZ	**Kokohu**	**0.89**	**165**	P	**Pn**	**23 58 06.0**	**+0.2**
HRRZ	**Handcock Road**	**0.90**	**255**	P	**Pn**	**23 58 05.7**	**-0.2**
HSRZ	**Hossack Road**	**0.91**	**260**	P	**Pn**	**23 58 06.2**	**+0.1**
ALRZ	**Allen Road**	**0.91**	**244**	P	**Pn**	**23 58 06.0**	**-0.1**
KARZ	**Kaharoa**	**0.91**	**279**	P	**Pn**	**23 58 05.6**	**-0.5**
UTU	**Utuhina**	**0.94**	**269**	P	**Pn**	**23 58 06.6**	**+0.2**
MXZ	**Matakaoa Point**	**0.94**	**51**	P	**Pn**	**23 58 06.1**	**-0.3**
MXZ	**Matakaoa Point**	**0.94**	**51**	Pn	**Pn**	**23 58 06.1**	**-0.3**
NGRZ	**Ngongotaha**	**0.95**	**273**	P	**Pn**	**23 58 06.6**	**+0.1**
TGRZ	**Tauranga**	**0.99**	**296**	P	**Pn**	**23 58 06.2**	**-0.7**
MRHZ	**Matea Rd**	**1.01**	**228**	P	**Pn**	**23 58 07.0**	**-0.2**
GRRZ	**Galatos Road**	**1.02**	**259**	P	**Pn**	**23 58 07.5**	**+0.2**
WPRZ	**Whakapapatarin**	**1.03**	**249**	P	**Pn**	**23 58 07.4**	**+0.1**
NMHZ	**Naumai**	**1.04**	**206**	P	**Pn**	**23 58 08.3**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.07**	**158**	P	**Pn**	**23 58 08.5**	**+0.5**
ARHZ	**Aropaoanui**	**1.14**	**195**	P	**Pn**	**23 58 09.1**	**+0.5**
KMRZ	**Kaimai**	**1.18**	**285**	P	**Pn**	**23 58 08.7**	**-0.4**
BKZ	**Black Stump Fm**	**1.22**	**215**	P	**Pn**	**23 58 09.6**	**0.0**
BKZ	**Black Stump Fm**	**1.22**	**215**	Pn	**Pn**	**23 58 09.4**	**-0.1**
BKZ	**Black Stump Fm**	**1.22**	**215**	P	**Pn**	**23 58 09.7**	**+0.1**
WHTZ	**Whakaora**	**1.23**	**245**	P	**Pn**	**23 58 10.1**	**+0.4**
HATZ	**Hinemaiaia**	**1.25**	**234**	P	**Pn**	**23 58 09.7**	**-0.1**
MYRZ	**Mayor Island**	**1.26**	**314**	P	**Pn**	**23 58 09.5**	**-0.5**
KUTZ	**Kaahu Road**	**1.27**	**255**	P	**Pn**	**23 58 10.3**	**+0.2**
MCHZ	**McNeill Hill**	**1.39**	**203**	P	**Pn**	**23 58 11.9**	**+0.4**
RATZ	**Rangitukua**	**1.45**	**240**	P	**Pn**	**23 58 12.4**	**+0.2**
RITZ	**Rihia Road**	**1.45**	**235**	P	**Pn**	**23 58 12.6**	**+0.4**
TLZ	**Tolley Road**	**1.46**	**263**	P	**Pn**	**23 58 12.6**	**+0.2**
KWHZ	**Kaweka Forest**	**1.47**	**211**	P	**Pn**	**23 58 12.5**	**+0.1**
CKHZ	**Cape Kidnapper**	**1.51**	**189**	P	**Pn**	**23 58 12.9**	**-0.1**
TOZ	**Tahuroa Road**	**1.55**	**286**	P	**Pn**	**23 58 13.4**	**0.0**
KATZ	**Kakaramea**	**1.55**	**238**	P	**Pn**	**23 58 13.6**	**+0.1**
TMVZ	**Te Maari**	**1.62**	**234**	P	**Pn**	**23 58 14.6**	**+0.1**
ETVZ	**East Tongariro**	**1.63**	**233**	P	**Pn**	**23 58 14.6**	**+0.1**
NTVZ	**North Tongarir**	**1.63**	**235**	P	**Pn**	**23 58 14.7**	**+0.1**
KRVZ	**Karewarewa**	**1.65**	**235**	P	**Pn**	**23 58 14.9**	**+0.2**
KAHZ	**Kahuranaki**	**1.68**	**194**	P	**Pn**	**23 58 14.9**	**-0.1**
KRHZ	**Kereru**	**1.68**	**208**	P	**Pn**	**23 58 14.7**	**-0.3**
OTVZ	**Oturere**	**1.68**	**233**	P	**Pn**	**23 58 15.2**	**+0.1**
BHHZ	**Black Hill Sta**	**1.68**	**218**	P	**Pn**	**23 58 14.9**	**-0.2**
NNVZ	**North Ngauruho**	**1.69**	**235**	P	**Pn**	**23 58 15.5**	**+0.2**
WTVZ	**West Tongariro**	**1.70**	**235**	P	**Pn**	**23 58 15.5**	**+0.1**
SNVZ	**South Ngauruho**	**1.71**	**233**	P	**Pn**	**23 58 15.6**	**+0.1**
NGZ	**Ngauruhoe**	**1.73**	**234**	P	**Pn**	**23 58 15.8**	**+0.1**
TUVZ	**Tukino**	**1.75**	**230**	P	**Pn**	**23 58 16.0**	**0.0**
TWVZ	**Taurewa**	**1.78**	**239**	P	**Pn**	**23 58 16.3**	**0.0**
MOVZ	**Moawhango**	**1.78**	**225**	P	**Pn**	**23 58 16.0**	**-0.3**
WHVZ	**Whangaehu Hut**	**1.80**	**231**	P	**Pn**	**23 58 16.6**	**-0.1**
FWVZ	**Far West T-bar**	**1.80**	**232**	P	**Pn**	**23 58 16.7**	**-0.1**
DRZ	**Dome Shelter**	**1.81**	**231**	P	**Pn**	**23 58 16.8**	**-0.1**
WNVZ	**Wahianoa**	**1.82**	**230**	P	**Pn**	**23 58 16.8**	**-0.1**
TRVZ	**Turoa**	**1.83**	**231**	P	**Pn**	**23 58 17.0**	**-0.2**
PXZ	**Pawanui**	**1.91**	**192**	P	**Pn**	**23 58 17.1**	**-0.8**
MTVZ	**Mangateitei**	**1.93**	**230**	P	**Pn**	**23 58 18.1**	**-0.1**
KUZ	**Kuaotunu**	**1.94**	**316**	P	**Pn**	**23 58 17.5**	**-0.7**
PKVZ	**Pokaka**	**1.95**	**234**	P	**Pn**	**23 58 18.4**	**-0.1**
PNHZ	**Pukenui**	**1.98**	**207**	P	**Pn**	**23 58 18.1**	**-0.7**
HIZ	**Hauiti**	**2.02**	**259**	P	**Pn**	**23 58 20.1**	**+0.9**
HIZ	**Hauiti**	**2.02**	**259**		**Pn**	**23 58 19.9**	**+0.6**
HIZ	**Hauiti**	**2.02**	**259**	P	**Pn**	**23 58 20.2**	**+0.9**
WPHZ	**Waipukurau**	**2.04**	**201**	P	**Pn**	**23 58 18.7**	**-0.8**
PRHZ	**Porangahau**	**2.18**	**195**	P	**Pn**	**23 58 20.5**	**-0.9**
TSZ	**Takapari Road**	**2.19**	**210**	P	**Pn**	**23 58 20.6**	**-1.0**
WIAZ	**Waiheke Island**	**2.25**	**307**	P	**Pn**	**23 58 22.5**	**+0.2**
VRZ	**Vera Road**	**2.27**	**244**	P	**Pn**	**23 58 23.1**	**+0.5**
ETAZ	**East Tamaki Re**	**2.29**	**301**	P	**Pn**	**23 58 23.6**	**+0.7**
DVHZ	**Dannevirke**	**2.33**	**204**	P	**Pn**	**23 58 21.9**	**-1.5**
ANWZ	**Angora Road**	**2.40**	**197**	P	**Pn**	**23 58 23.2**	**-1.0**
MBAZ	**Motutapu North**	**2.42**	**304**	P	**Pn**	**23 58 25.0**	**+0.5**
AWAZ	**Awhitu Peninsu**	**2.44**	**296**	P	**Pn**	**23 58 25.3**	**+0.6**
GRZ	**Great Barrier**	**2.45**	**321**	P	**Pn**	**23 58 24.7**	**-0.2**
WAZ	**Wanganui**	**2.46**	**229**	P	**Pn**	**23 58 25.1**	**+0.1**
EPAZ	**Eden Park BICE**	**2.46**	**301**	P	**Pn**	**23 58 26.4**	**+1.3**
HBAZ	**Herne Bay Bore**	**2.48**	**301**	P	**Pn**	**23 58 26.3**	**+1.0**
WTAZ	**Waiatarua**	**2.55**	**298**	P	**Pn**	**23 58 27.1**	**+0.9**
POWZ	**Post Office Ro**	**2.56**	**209**	P	**Pn**	**23 58 24.9**	**-1.4**
ABAZ	**Army Bay**	**2.56**	**307**	P	**Pn**	**23 58 27.1**	**+0.7**
OHWZ	**Ohakea**	**2.60**	**218**	P	**Pn**	**23 58 26.6**	**-0.2**
PRWZ	**Pori Road**	**2.63**	**204**	P	**Pn**	**23 58 25.9**	**-1.4**
RVAZ	**Riverhead Bore**	**2.63**	**301**	P	**Pn**	**23 58 29.1**	**+1.8**
BFZ	**Birch Farm**	**2.67**	**199**	P	**Pn**	**23 58 26.1**	**-1.7**
BFZ	**Birch Farm**	**2.67**	**199**		**Pn**	**23 58 26.0**	**-1.7**
BFZ	**Birch Farm**	**2.67**	**199**	P	**Pn**	**23 58 26.3**	**-1.5**
LREZ	**Lake Rotokare**	**2.67**	**240**	P	**Pn**	**23 58 28.3**	**+0.6**
DREZ	**Durham Road**	**2.69**	**247**	P	**Pn**	**23 58 29.5**	**+1.3**
PREZ	**Palmer Road**	**2.79**	**244**	P	**Pn**	**23 58 30.5**	**+1.2**
NEZ	**North Egmont**	**2.80**	**246**	P	**Pn**	**23 58 30.8**	**+1.2**
PKE	**Pukeiti**	**2.85**	**248**	P	**Pn**	**23 58 31.1**	**+0.8**
TIWZ	**Tintock**	**2.86**	**204**	P	**Pn**	**23 58 28.6**	**-1.7**
MRZ	**Mangatainoka R**	**2.86**	**209**	P	**Pn**	**23 58 28.4**	**-1.9**
KHEZ	**Kahui Hut**	**2.87**	**246**	P	**Pn**	**23 58 31.4**	**+0.9**
CPWZ	**Castlepoint**	**2.89**	**198**	P	**Pn**	**23 58 29.5**	**-1.2**
NBEZ	**Newall Road No**	**2.96**	**247**	P	**Pn**	**23 58 33.0**	**+1.3**
NMEZ	**Namu Road**	**3.01**	**244**	P	**Pn**	**23 58 33.0**	**+0.6**
HOWZ	**Holdsworth Sta**	**3.09**	**207**	P	**Pn**	**23 58 31.1**	**-2.3**
OGWZ	**Otaki Gorge**	**3.16**	**212**	P	**Pn**	**23 58 32.2**	**-2.1**
TMWZ	**Te Maipa**	**3.16**	**201**	P	**Pn**	**23 58 32.0**	**-2.3**
WCZ	**Waipu Caves**	**3.29**	**311**	P	**Pn**	**23 58 36.6**	**+0.5**
KIW	**Kapiti Island**	**3.31**	**215**	P	**Pn**	**23 58 34.1**	**-2.1**
MSWZ	**Moikau Station**	**3.64**	**206**		**Pn**	**23 58 37.3**	**-3.5**
SNZO	**South Karori**	**3.76**	**212**		**Pn**	**23 58 39.1**	**-3.2**
SNZO	**South Karori**	**3.76**	**212**	P	**Pn**	**23 58 39.6**	**-2.7**
BHW	**Baring Head**	**3.78**	**210**		**Pn**	**23 58 39.2**	**-3.3**
PLWZ	**Palliser**	**3.78**	**205**		**Pn**	**23 58 39.1**	**-3.5**
TUWZ	**Tuamarina**	**4.21**	**218**		**Pn**	**23 58 45.1**	**-3.3**
OUZ	**Omahuta**	**4.23**	**313**	P	**Pn**	**23 58 49.6**	**+1.0**
OUZ	**Omahuta**	**4.23**	**313**	Pn	**Pn**	**23 58 49.1**	**+0.4**
OUZ	**Omahuta**	**4.23**	**313**	P	**Pn**	**23 58 49.7**	**+1.0**
CMWZ	**Cape Campbell**	**4.33**	**213**		**Pn**	**23 58 47.2**	**-2.8**
NNZ	**Nelson**	**4.34**	**224**	Pn	**Pn**	**23 58 46.7**	**-3.5**
BSWZ	**Blackbirch Sta**	**4.46**	**216**		**Pn**	**23 58 48.6**	**-3.1**
QRZ	**Quartz Range**	**4.60**	**233**		**Pn**	**23 58 50.6**	**-3.1**
QRZ	**Quartz Range**	**4.60**	**233**	P	**Pn**	**23 58 50.7**	**-3.0**
THZ	**Tophouse**	**4.98**	**222**	Pn	**Pn**	**23 58 55.3**	**-3.5**
KHZ	**Kahutara**	**5.17**	**213**	Pn	**Pn**	**23 58 57.4**	**-4.0**
KHZ	**Kahutara**	**5.17**	**213**	P	**Pn**	**23 58 57.3**	**-4.0**
LTZ	**Lake Taylor**	**6.04**	**219**	Pn	**Pn**	**23 59 08.5**	**-4.7**
OXZ	**Oxford**	**6.56**	**217**		Pn	23 59 15.3	-5.0
MQZ	**McQueen's Vall**	**6.59**	**211**	Pn	Pn	23 59 15.7	-5.0
CTZ	**Chatham Island**	**7.18**	**143**	P	**Pn**	**23 59 28.6**	**-0.1**
RPZ	**Rata Peaks**	**7.33**	**219**	Pn	**Pn**	**23 59 26.7**	**-4.0**
RPZ	**Rata Peaks**	**7.33**	**219**	P	**Pn**	**23 59 26.7**	**-4.0**
FOZ	**Fox Glacier**	**7.85**	**225**		**Pn**	**23 59 33.6**	**-4.1**
LBZ	**Lake Benmore**	**8.25**	**219**	Pn	**Pn**	**23 59 38.9**	**-4.3**
WKZ	**Wanaka**	**9.15**	**221**	Pn	**Pn**	**23 59 53.0**	**-2.5**
MLZ	**Mavora Lakes**	**9.98**	**221**	Pn	**Pn**	**00 00 05.4**	**-1.4**
WHZ	**Wether Hill Ro**	**10.43**	**219**		**Pn**	**00 00 11.3**	**-1.5**
DCZ	**Deep Cove**	**10.56**	**223**	Pn	**Pn**	**00 00 10.9**	**-3.6**
PYZ	**Puysegur Point**	**11.27**	**221**		**Pn**	**00 00 21.4**	**-2.7**
LHI	**Lord Howe Isla**	**16.43**	**288**	Pn	**Pn**	**00 01 29.8**	**-0.9**
LHI				IAmb	IAmb	00 01 33.1	
OUENC	comp=Z,85nm,1.1s **Ouen Island, N**	**18.12**	**327**	P	**Pn**	**00 01 51.9**	**+0.5**
OUENC	**Ouen Island, N**	**18.12**	**327**	P	**Pn**	**00 01 52.9**	**+1.6**
DZM	**Mont Dzumac**	**18.60**	**326**	P	**P**	**00 01 55.4**	**-0.3**
DZM	comp=Z,0.4nm,0.3s,baz=149,slow=11,SNR=12			LR	LR	00 07 58.1	
DZM	comp=Z,98nm,18.1s,baz=134,slow=33 **Mont Dzumac**	**18.60**	**326**	*e*P	**P**	**00 01 57.2**	**+1.5**
DZM	comp=Z,24nm,0.9s			*e*LR	LR	00 06 38.2	
DZM	comp=Z,238nm,26.1s **Mont Dzumac**	**18.60**	**326**	P	**P**	**00 01 56.9**	**+1.3**
DZM	**Mont Dzumac**	**18.60**	**326**	P	**Pn**	**00 01 57.7**	**+0.6**
LIFNC	**LIFOU**	**19.42**	**330**	P	**Pn**	**00 02 06.5**	**-0.2**
LIFNC				IAmb	IAmb	00 02 18.2	
MSVF	comp=Z,110nm,1.0s **Nonsavu**	**20.36**	**2**	P	**P**	**00 02 15.9**	**+1.1**
MSVF	comp=Z,11nm,0.7s,baz=191,slow=9.4,SNR=5.7 **Nonsavu**	**20.36**	**2**	P	Pn	00 02 16.9	-0.9
KOUNC	**Koumac, New Ca**	**20.90**	**323**	P	Pn	00 02 24.6	+0.7
ARMA	**Armidale**	**22.59**	**282**	P	**P**	**00 02 40.5**	**+2.0**
TAU	**Tasmania Unive**	**23.27**	**249**	P	**P**	**00 02 45.5**	**+0.7**
TAU				IAmb	IAmb	00 02 47.1	
MOO	comp=Z,17nm,0.7s **Moorlands**	**23.36**	**250**	P	**P**	**00 02 47.8**	**+2.2**
CORO	comp=Z,41nm,1.1s **Coronation Par**	**23.41**	**252**	P	**P**	**00 02 48.7**	**+2.7**
TOO	comp=Z,44nm,0.7s **Toolangi**	**25.12**	**261**	P	**P**	**00 03 02.1**	**+0.4**
TOO				IAmb	IAmb	00 03 05.0	
TOO	comp=Z,16nm,0.8s **Toolangi**	**25.12**	**261**	P	**P**	**00 03 02.8**	**+1.1**
EIDS	**Eidsvold**	**25.65**	**292**	P	**P**	**00 03 07.8**	**+1.3**
CMSA	**Cobar Meteorol**	**26.75**	**275**	P	**P**	**00 03 19.9**	**+3.5**
STKA	**Stephens Creek**	**29.84**	**271**	P	**P**	**00 03 43.7**	**-0.2**
STKA	comp=Z,12nm,0.8s,baz=105,slow=11,SNR=23			LR	LR	00 14 27.7	
STKA	comp=Z,68nm,20.5s,baz=21,slow=34 **Stephens Creek**	**29.84**	**271**	P	**P**	**00 03 45.7**	**+1.8**
STKA	**Stephens Creek**	**29.84**	**271**	P	**P**	**00 03 46.8**	**+2.9**
QLP	**Quilpie**	**30.13**	**283**	P	**P**	**00 03 48.2**	**+1.7**
TBI	**Tubuai**	**31.89**	**72**	*e*T	T	00 35 38.1	
NAPP	comp=Z,12nm,0.4s **Napperby**	**32.09**	**267**	P	**P**	**00 04 05.8**	**+2.1**
INKA	**Innaminka**	**32.27**	**278**	P	**P**	**00 04 07.5**	**+2.2**
CTAO	comp=Z,47nm,1.2s **Charters Tower**	**32.40**	**295**	P	**P**	**00 04 07.4**	**+0.8**
CTAO				IAmb	IAmb	00 04 10.0	
WHYH	comp=Z,13nm,1.1s **Whyalla**	**32.60**	**267**	P	**P**	**00 04 10.9**	**+2.9**
HNR	comp=Z,21nm,1.1s **Honiara**	**32.63**	**327**	LR	LR	00 15 00.7	
LCRK	comp=Z,52nm,18.0s,baz=130,slow=32 **Leigh Creek**	**33.07**	**272**	P	**P**	**00 04 14.1**	**+1.9**
BBOO	**Buckleboo**	**33.87**	**266**	P	**P**	**00 04 19.4**	**+0.2**
BBOO				IAmb	IAmb	00 04 20.7	
MTSU	comp=Z,16nm,0.9s **Mount Surprise**	**35.06**	**295**	P	**P**	**00 04 32.3**	**+2.7**
PAE	comp=Z,9.8nm,0.7s **Paea**	**35.35**	**64**	*e*T	T	00 40 02.7	
PPT2	comp=Z,3.4nm,0.3s **Papeete2**	**35.40**	**64**	*e*LR	LR	00 12 59.6	
PPT2	comp=Z,214nm,33.2s **Papeete2**	**35.40**	**64**	*e*T	T	00 40 07.1	
OOD	comp=Z,10nm,0.4s **Oodnadatta**	**36.21**	**274**	P	**P**	**00 04 41.1**	**+1.8**
MULG	**Mulgathing**	**36.41**	**269**	P	**P**	**00 04 42.0**	**+1.0**
QIS	**Mount Isa**	**37.00**	**287**	P	**P**	**00 04 47.7**	**+1.6**
COEN	**Coen**	**38.71**	**299**	P	**P**	**00 05 00.4**	**0.0**
COEN				IAmb	IAmb	00 05 03.2	
COEN	comp=Z,33nm,1.0s **Coen**	**38.71**	**299**	P	**P**	**00 05 02.0**	**+1.6**
PMG	**Port Moresby**	**39.47**	**309**	LR	LR	00 22 08.5	
PMG	comp=Z,32nm,18.0s,baz=26,slow=37 **Port Moresby**	**39.47**	**309**	P	**P**	**00 05 05.7**	**-1.1**
PMG				IAmb	IAmb	00 05 12.4	
AS31	comp=Z,23nm,1.1s **Alice Springs**	**39.64**	**279**	IAmb	IAmb	00 05 09.7	
ASAR	comp=Z,18nm,0.5s **Alice Springs**	**39.64**	**279**	P	**P**	**00 05 08.0**	**-0.3**
ASAR	comp=Z,31nm,0.6s,baz=123,slow=8.3,SNR=578			PcP	**PcP**	**00 07 10.0**	**-3.3**
ASAR	comp=Z,1.6nm,0.5s,baz=126,slow=4.1,SNR=4.4			ScP	**ScP**	**00 10 49.0**	**-3.5**
ASAR	comp=Z,0.7nm,0.7s,baz=128,slow=3.7,SNR=4.6			S	**S**	**00 11 00.8**	**-3.1**
ASAR	comp=Z,0.7nm,0.7s,baz=129,slow=15,SNR=5.5			LR	LR	00 20 39.4	
ASAR	comp=Z,28nm,18.3s,baz=103,slow=35 **Alice Springs**	**39.64**	**279**	P	**P**	**00 05 08.5**	**+0.2**
FORT	**Forrest**	**40.93**	**265**	P	**P**	**00 05 18.9**	**+0.2**
FORT	**Forrest**	**40.93**	**265**	P	**P**	**00 05 19.8**	**+1.0**
WR0	**Warramunga Arr**	**41.20**	**284**	P	**P**	**00 05 21.2**	**+0.1**
WR0				IAmb	IAmb	00 05 22.7	
WB2	comp=Z,18nm,0.8s **Warramunga Arr**	**41.35**	**284**	P	**P**	**00 05 22.4**	**+0.1**
WB2				IAmb	IAmb	00 05 23.4	
WRAB	comp=Z,24nm,0.7s **Tennant Creek**	**41.36**	**284**	P	**P**	**00 05 21.5**	**-0.9**
WRAB				IAmb	IAmb	00 05 23.4	
WRAB	comp=Z,25nm,0.7s **Tennant Creek**	**41.36**	**284**	P	**P**	**00 05 22.7**	**+0.3**
WRA	**Warramunga Arr**	**41.36**	**284**	P	**P**	**00 05 22.1**	**-0.3**
WRA	comp=Z,22nm,0.8s,baz=127,slow=7.0,SNR=150			LR	LR	00 22 08.7	
WB0	comp=Z,59nm,20.9s,baz=336,slow=36 **Warramunga Arr**	**41.42**	**284**	P	**P**	**00 05 22.9**	**0.0**
WB0				IAmb	IAmb	00 05 23.9	
WRKA	comp=Z,25nm,0.9s **Warakurna**	**43.34**	**273**	P	**P**	**00 05 38.2**	**-0.3**
CASY	**Casey**	**46.52**	**211**	P	**P**	**00 06 04.4**	**+1.4**
CASY				IAmb	IAmb	00 06 05.4	
MTN	comp=Z,26nm,0.9s **Manton Dam**	**48.12**	**289**	P	**P**	**00 06 16.6**	**+0.5**
KNRA	**Kununurra**	**48.15**	**284**	P	**P**	**00 06 16.5**	**+0.3**
KNRA	**Kununurra**	**48.15**	**284**	P	**P**	**00 06 18.0**	**+1.7**
DRS	**Darwin Rock St**	**48.56**	**289**	P	**P**	**00 06 21.0**	**+1.6**
KLBR	comp=Z,23nm,1.0s **Kellerberrin**	**48.63**	**259**	P	**P**	**00 06 19.9**	**0.0**
JAY	**Jayapura**	**48.82**	**308**	LR	LR	00 27 43.5	
MUN	comp=Z,35nm,18.3s,baz=206,slow=37 **Mundaring**	**49.66**	**258**	P	**P**	**00 06 28.4**	**+0.7**
BLDU	comp=Z,62nm,0.9s **Ballidu**	**49.86**	**259**	P	**P**	**00 06 29.7**	**+0.5**
MEEK	**Meekatharra**	**50.19**	**265**	P	**P**	**00 06 31.8**	**0.0**
MORW	**Morawa**	**51.07**	**261**	P	**P**	**00 06 37.8**	**-0.6**
MORW	**Morawa**	**51.07**	**261**	P	**P**	**00 06 38.9**	**+0.5**
PSA00	**Pilbara Seismi**	**51.78**	**271**	P	**P**	**00 06 43.1**	**-0.5**
PSA00	**Pilbara Seismi**	**51.78**	**271**	P	**P**	**00 06 42.5**	**-1.2**
PSA00				IAmb	IAmb	00 06 43.8	
PSA00	comp=Z,13nm,0.7s **Pilbara Seismi**	**51.78**	**271**	P	**P**	**00 06 43.2**	**-0.5**
QSPA	**South Pole Qui**	**51.96**	**180**	P	**P**	**00 06 44.2**	**-0.4**
MBWA	comp=Z,4.5nm,0.7s,baz=21,slow=1.5,SNR=15 **Marble Bar**	**52.09**	**272**	P	**P**	**00 06 45.7**	**-0.3**
FAKI	**Fak Fak**	**54.09**	**299**	P	**P**	**00 06 59.9**	**-0.9**
FAKI				IAmb	IAmb	00 07 00.9	
SOEI	comp=Z,20nm,0.8s **Soe**	**55.26**	**286**	P	**P**	**00 07 09.8**	**+0.5**
SOEI	**Soe**	**55.26**	**286**	P	**P**	**00 07 11.0**	**+1.7**
BATI	**Baumata**	**55.43**	**285**	LR	LR	00 32 49.9	
GIRL	comp=Z,62nm,18.9s,baz=230,slow=38 **Giralia**	**55.64**	**267**	P	**P**	**00 07 12.0**	**+0.2**
MMRI	**Maumere**	**57.51**	**286**	P	**P**	**00 07 26.0**	**+0.9

0.6nm,0.5s,baz=84,slow=6.6,SNR=3.2
FINES FINESS Array B 37.34 326 P **P 00 11 17.4 +1.8**
1.6nm,0.8s,baz=125,slow=12,SNR=1.7
ARCES ARCESS Array B 41.01 338 P **P 00 11 48.3 +2.3**
3.1nm,1.0s,baz=120,slow=8.4,SNR=6.2
NOA NORSAR Array B 44.23 323 P **P 00 12 13.5 +1.4**
0.4nm,0.6s,baz=102,slow=7.7,SNR=1.9
TORD Torodi Ar. Bea 65.60 269 P **P 00 14 45.0 -0.9**
0.2nm,0.4s,baz=50,slow=5.8,SNR=4.8
YKA Yellowknife Ar 81.16 3 P **P 00 16 17.2 +1.4**
0.4nm,0.3s,baz=350,slow=5.6,SNR=10
WRA Warramunga Arr 82.14 122 P **P 00 16 20.4 -1.2**
0.2nm,0.6s,baz=327,slow=4.9,SNR=1.8
ASAR Alice Springs 84.40 125 P **P 00 16 31.9 -1.2**
0.5nm,0.6s,baz=312,slow=4.8,SNR=7.2

*ASRS **05** 00:10:28.0±0.3,52°N±1°×9°6E±°,h5km,MLh4.3/17,Error ellipse: s-maj=3.5km s-min=2.8km az=52.5*
*IDC **05** 00:10:33.0±1.9,51°85N×96°12E,h0km,mb3.4/2, mb1 3.2/7,mb1mx2.9/62,mbtmp3.3/7,ML2.8/5,MS3.4/1, Ms1 3.4/1,ms1mx2.3/65,Error ellipse: s-maj=35.1km s-min=19.2km az=15.0*
*NNC **05** 00:10:40.8±2.1,51°96N×95°09E,h0km,mb3.6,mpv2.9, Error ellipse: s-maj=20.1km s-min=15.0km az=70.0*
ISC 05 00:10:33.5±0.8,51°93N±0°04×96°07E±0°04,h10km,n42, σ2§87/55,8C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**1.03**	**258**	Pg	**Pg**	**00 10 49.8**	**-3.5**
KZLR				Sg	**Sg**	**00 11 02.3**	**-4.3**
KNGR	**Kungurtug, Tuv**	**1.61**	**145**	⇑Pg	**Pn**	**00 11 00.8**	**-1.3**
KNGR				Sg	**Sn**	**00 11 20.9**	**-2.1**
DJOS	**Djoyskaya Sosn**	**2.99**	**289**	Pg	**Pn**	**00 11 23.3**	**+2.4**
DJOS				Sg	**Sb**	**00 12 01.7**	**-1.7**
DJO	**Djoy, Khakassi**	**3.09**	**288**	Pg	**Pn**	**00 11 23.8**	**+1.4**
DJO				Sg	**Sb**	**00 12 07.5**	**+1.2**
MINR	**Mina**	**3.17**	**340**	Pg	**Pb**	**00 11 30.6**	**+0.5**
MINR				Sg	**Sg**	**00 12 12.9**	**-2.6**
ABNR	**Abakan**	**3.33**	**304**	Sg	**Sg**	**00 12 17.6**	**-2.9**
ABNR	**Abakan**	**3.33**	**304**	Pg	**Pn**	**00 11 27.3**	**+1.6**
TBTR	**Tabat**	**3.42**	**289**	Pg	**Pn**	**00 11 26.7**	**-0.2**
TBTR	**Tabat**	**3.42**	**289**	Sg	**Sn**	**00 12 09.8**	**+2.3**
SHRR	**Shira**	**4.38**	**308**	Sg	**Sb**	**00 12 46.9**	**+3.6**
SHRR	**Shira**	**4.38**	**308**	Pg	**Pn**	**00 11 42.0**	**+2.0**
LUZB	**Luzhba, Kemero**	**4.68**	**295**	Sg	**Sb**	**00 12 56.7**	**+4.7**
TASR	**Tashtagol**	**5.09**	**283**	Pg	**Pb**	**00 12 03.4**	**+0.8**
TASR				Sg	**Sg**	**00 13 11.9**	**-4.8**
CUR	**Chagan-Uzun**	**5.20**	**252**	Pg	**Pb**	**00 12 07.3**	**+2.7**
CUR				Sg	**Sb**	**00 13 09.5**	**+2.2**
ULGR	**Ulagan, Altay**	**5.25**	**259**	Pg	**Pg**	**00 12 11.6**	**-2.5**
ULGR				Sg	**Sb**	**00 13 11.1**	**+2.5**
ARTR	**Artybash**	**5.45**	**272**	Pg	**Pb**	**00 12 10.4**	**+1.8**
ARTR				Sg	**Sb**	**00 13 18.6**	**+4.6**
AKAR	**Aktash**	**5.56**	**256**	Pg	**Pb**	**00 12 12.8**	**+2.2**
AKAR				Sg	**Sb**	**00 13 19.7**	**+2.4**
CHBI	**Chibit, Altay**	**5.63**	**257**	Pg	**Pg**	**00 12 17.0**	**-4.3**
CHBI				Sg	**Sb**	**00 13 24.4**	**+4.9**
ERU	**Erunakovo, Kuz**	**5.68**	**296**	Sg	**Sg**	**00 13 30.1**	**-5.8**
KOST	**Kostenkovo, Ku**	**5.87**	**291**	Sg	**Sg**	**00 13 40.7**	**-1.0**
BRCR	**Berchikul'**	**5.90**	**312**	Pg	**Pb**	**00 12 19.5**	**+3.0**
BRCR				Sg	**Sg**	**00 13 37.6**	**-5.3**
DGZ	**Jazzator, Alta**	**5.91**	**251**	Sg	**Sb**	**00 13 31.8**	**+4.3**
ELT	**Eltsovka**	**6.13**	**286**	Pg	**Pb**	**00 12 19.9**	**-0.5**
ELT				Sg	**Sb**	**00 13 38.5**	**+4.7**
VCHU	**Verkh-Chumysh,**	**6.16**	**293**	Sg	**Sg**	**00 13 49.1**	**-2.0**
POMOR	**Pomortsevo, Ku**	**6.25**	**297**	Sg	**Sg**	**00 13 50.8**	**-3.2**
BJR2	**Bachatsky-2, K**	**6.43**	**295**	Sg	**Sg**	**00 13 54.5**	**-5.2**
BJR1	**Bachatsky 1, K**	**6.47**	**295**	Sg	**Sg**	**00 13 57.9**	**-3.1**
SALR	**Pechorkino, Sa**	**6.71**	**296**	Pg	**Pb**	**00 12 33.5**	**+3.4**
SALR				Sg	Sg	00 13 59.6	-9.0
ZAA0	**Zalesovo Array**	**7.09**	**291**	⇑Pn	**Pn**	**00 12 18.5**	**+1.3**
	0.7nm,0.7s						
ZAA0				⇓Pg	**Pb**	**00 12 38.6**	**+1.9**
	0.6nm,0.6s						
ZAA0				⇑Lg	Lg	00 14 09.4	
	8.5nm,1.1s						
ZALV	**Zalesovo Beam**	**7.09**	**291**	Pn	**Pn**	**00 12 19.0**	**+1.7**
	0.6nm,0.3s,baz=97,slow=12,SNR=11						
ZALV				Pg	**Pb**	**00 12 38.2**	**+1.5**
	1.4nm,0.3s,baz=108,slow=16,SNR=11						
ZALV				Lg	Lg	00 14 10.1	
	1.5nm,0.3s,baz=110,slow=25,SNR=7.3						
SONM	**Songino Array**	**7.83**	**118**	Pn	**Pn**	**00 12 28.1**	**+0.6**
	0.0nm,0.3s,baz=304,slow=14,SNR=2.0						
SONM				Pg	**Pb**	**00 12 50.3**	**+1.0**
	0.9nm,0.3s,baz=304,slow=18,SNR=24						
SONM				Lg	Lg	00 14 38.9	
	2.0nm,0.3s,baz=298,slow=27,SNR=9.9						
MK31	**Makanchi Array**	**10.35**	**246**	⇑Pn	**Pn**	**00 13 03.9**	**+2.0**
	0.4nm,0.5s,baz=59,slow=14,SNR=8.8						
MK31				⇑Lg	Lg	00 15 53.0	
	14nm,1.1s,baz=75,slow=33,SNR=4.8						
MKAR	**Makanchi Array**	**10.35**	**246**	Pn	**Pn**	**00 13 02.8**	**+0.9**
	0.1nm,0.3s,baz=50,slow=16,SNR=7.2						
MKAR				Lg	Lg	00 16 00.2	
	0.4nm,0.3s,baz=74,slow=31,SNR=7.7						
MAKZ	**Makanchi**	**10.52**	**246**	⇑Pn	**Pn**	**00 13 04.9**	**+0.7**
	2.9nm,1.1s						
MAKZ				⇓Lg	Lg	00 15 57.4	
	25nm,1.4s						
KURK	**Kurchatov**	**10.99**	**271**	⇑Lg	Lg	00 16 11.1	
	12nm,0.9s						
KURBB	**Kurchatov Arra**	**11.06**	**270**	Pn	**Pn**	**00 13 12.5**	**+0.8**
	0.1nm,0.3s,baz=77,slow=15,SNR=5.0						
KURBB				Lg	Lg	00 16 20.9	
	0.0nm,0.3s,baz=73,slow=29,SNR=4.7						
KURBB	**Kurchatov Arra**	**11.06**	**270**	⇑Pn	**Pn**	**00 13 11.2**	**-0.5**
	5.9nm,1.2s						
KURBB				⇓Lg	Lg	00 16 13.0	
	26nm,0.8s						
BVAR	**Borovoye Array**	**15.66**	**284**	Pn	**Pn**	**00 14 14.0**	**0.0**
	0.1nm,0.3s,baz=77,slow=15,SNR=2.4						
ARU	**Arti**	**22.21**	**297**	P	**P**	**00 15 30.3**	**+0.5**
	0.5nm,0.6s,baz=82,slow=12,SNR=3.1						
AKTO	**Aktyubinsk**	**23.72**	**282**	P	**P**	**00 15 46.0**	**+0.5**
	2.2nm,0.8s,baz=71,slow=7.2,SNR=6.8						
KLMR	**Klimovskoe**	**31.59**	**309**	*e*	P	00 17 07.2	+11
KLMR				AMP		00 17 11.5	
	comp=Z,24nm,1.2s						
MMAI	**Mount Meron Ar**	**47.10**	**271**	LR	LR	00 41 49.3	
	comp=Z,38nm,18.1s,baz=56,slow=40						

*IDC **05** 00:13:37.1±2.2,6°89S×129°72E,h130km±24km,mb3.4/1, mb1 3.8/6,mb1mx3.2/45,mbtmp4.2/6,Error ellipse: s-maj=27.4km s-min=19.2km az=111.0*
ISC 05 00:13:37.4±0.8,6°88S±0°06×129°67E±0°08,h139km,n18, σ2§75/22,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.95**	**124**	P	**Pn**	**00 14 15.5**	**+4.2**
FAKI	**Fak Fak**	**4.69**	**33**	P	**Pn**	**00 14 47.8**	**+1.2**
DRS	**Darwin Rock St**	**5.65**	**168**	P	**Pn**	**00 15 01.9**	**+2.5**
MTN	**Manton Dam**	**6.10**	**166**	P	**Pn**	**00 15 07.2**	**+1.8**
SIJI	**Sorong**	**6.17**	**15**	P	**Pn**	**00 15 06.0**	**-0.5**
	3.9nm,0.3s,baz=245,slow=8.6,SNR=10						
SIJI				S	**Sn**	**00 16 12.6**	**-3.5**
	4.5nm,0.3s,baz=239,slow=22,SNR=3.0						
KDU	**Kakadu**	**6.40**	**155**	P	**Pn**	**00 15 11.0**	**+1.6**
BATI	**Baumata**	**6.80**	**240**	P	**Pn**	**00 15 16.2**	**+1.4**
	9.4nm,0.3s,baz=130,slow=3.8,SNR=7.0						
BATI				S	**Sn**	**00 16 31.4**	**+0.3**
	12nm,0.3s,baz=80,slow=24,SNR=7.2						
KNRA	**Kununurra**	**8.79**	**186**	P	**Pn**	**00 15 41.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.83**	**199**	P	**Pn**	**00 16 20.8**	**-1.1**
	1.2nm,0.3s,baz=24,slow=10,SNR=38						
FITZ				S	Sn	00 18 22.3	-10
	12nm,0.3s,baz=35,slow=0.2,SNR=72						
WRA	**Warramunga Arr**	**13.76**	**161**	P	**Pn**	**00 16 45.3**	**-1.4**
	0.9nm,0.3s,baz=343,slow=12,SNR=24						
WRA				S	**Sn**	**00 19 11.8**	**-7.2**
	1.7nm,0.3s,baz=334,slow=24,SNR=7.5						
COEN	**Coen**	**15.02**	**119**	P	**P**	**00 17 05.9**	**+1.1**
QIS	**Mount Isa**	**16.66**	**146**	P	**P**	**00 17 24.4**	**+1.5**
ASAR	**Alice Springs**	**17.18**	**167**	P	**Pn**	**00 17 30.2**	**+1.0**
	0.7nm,0.3s,baz=344,slow=10,SNR=45						
ASAR				S	**S**	**00 20 35.5**	**-5.3**
	0.3nm,0.3s,baz=353,slow=28,SNR=5.4						
PSA00	**Pilbara Seismi**	**17.43**	**212**	P	**Pn**	**00 17 33.2**	**+1.1**
WRKA	**Warakurna**	**18.11**	**184**	P	**Pn**	**00 17 41.0**	**+0.8**
OOD	**Oodnadatta**	**21.57**	**165**	P	**P**	**00 18 18.5**	**+2.4**
MULG	**Mulgathing**	**23.65**	**171**	P	**P**	**00 18 37.9**	**+1.8**
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**00 24 22.2**	**+0.9**
	0.3nm,0.4s,baz=117,slow=8.0,SNR=15						

*UPP **05** 00:28:07.7±0.0,67°85N×20°20E,h0km,ML2.3,Explosion*
*NAO **05** 00:28:07.4±0.9,67°83N×20°28E,ML2.6*
*HEL **05** 00:28:08.2±0.0,67°85N×20°21E,h0km,ML2.1, ML2.3(UPP),Explosion*
*BER **05** 00:28:09.4±3.2,67°80N×20°08E,h0km,ML2.6(NAO), Suspected explosion*
*IDC **05** 00:28:09.2±1.1,67°78N×20°62E,h0km,mb1 3.2/4, mb1mx2.7/63,mbtmp3.2/4,ML2.1/4,Error ellipse: s-maj=18.7km s-min=8.3km az=117.0*
ISC 05 00:28:07.1±0.7,67°82N±0°02×20°22E±0°02,h0km,n53, σ1§29/83,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.24**	**271**	P	**Pg**	**00 28 12.4**	**+0.7**
RATU				S	**Sg**	**00 28 15.6**	**+0.9**
RATU	**Laukkuluspa**	**0.24**	**271**	*i* P	**Pg**	**00 28 12.4**	**+0.7**
RATU				*i* S	**Sg**	**00 28 15.6**	**+0.9**
KOVU	**Salmi**	**0.40**	**357**	P	**Pg**	**00 28 14.9**	**0.0**
KOVU				S	**Sg**	**00 28 20.1**	**+0.1**
KOVU	**Salmi**	**0.40**	**357**	*i* P	**Pg**	**00 28 14.9**	**0.0**
KOVU				*i* S	**Sg**	**00 28 20.1**	**+0.1**
NIKU	**Nikkaluokta**	**0.45**	**276**	P	**Pg**	**00 28 16.2**	**+0.4**
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	**Pg**	**00 28 16.2**	**+0.4**
LANU	**Lannavaara**	**0.71**	**70**	P	**Pg**	**00 28 21.1**	**+0.4**
LANU	**Lannavaara**	**0.71**	**70**	*e*P	**Pg**	**00 28 20.8**	**+0.1**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**00 28 21.6**	**+0.8**
DUNU	**Dundret**	**0.72**	**169**	*i* P	**Pg**	**00 28 21.6**	**+0.8**
MASU	**Masugnsbyn**	**0.77**	**117**	P	**Pg**	**00 28 22.6**	**+0.7**
MASU	**Masugnsbyn**	**0.77**	**117**	*i* P	**Pg**	**00 28 22.6**	**+0.7**
SALU	**Saltoluokta**	**0.79**	**237**	P	**Pg**	**00 28 22.8**	**+0.5**
SALU	**Saltoluokta**	**0.79**	**237**	*i* P	**Pg**	**00 28 22.8**	**+0.5**
KIF	**Kilpisjarvi**	**1.21**	**10**	Pg	**Pg**	**00 28 30.6**	**+0.4**
KIF				Lg	Lg	00 28 46.1	
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**00 28 30.4**	**+0.2**
KIF				Sg	**Sg**	**00 28 46.1**	**+0.2**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	**Pg**	**00 28 30.4**	**+0.2**
	baz=190						
KIF				MSG		00 28 45.5	
	comp=Z,23nm,0.2s						
KIF				*e*SB	**Sg**	**00 28 46.3**	**+0.4**
PAJU	**Pajala**	**1.38**	**124**	P	**Pg**	**00 28 33.3**	**-0.2**
PAJU	**Pajala**	**1.38**	**124**	*e*P	**Pg**	**00 28 33.3**	**-0.2**
HEF	**Hetta**	**1.42**	**64**	Pg	**Pn**	**00 28 33.5**	**-0.7**
HEF				Lg	Lg	00 28 51.8	
HEF	**Hetta**	**1.42**	**64**	*e*P	**Pn**	**00 28 34.0**	**-0.2**
HEF				Sg	**Sg**	**00 28 51.8**	**-0.8**
HEF	**Hetta**	**1.42**	**64**	*e*P	**Pn**	**00 28 33.5**	**-0.7**
	baz=246						
HEF				MSG		00 28 50.4	
	comp=Z,13nm,0.2s						
HEF				*e*SB	**Sg**	**00 28 52.2**	**-0.4**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**00 28 35.4**	**+0.3**
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*PG	**Pn**	**00 28 35.3**	**+0.2**
ERTU				*e*SN	**Sn**	**00 28 55.9**	**+0.7**
N2IH	**Innhavet**	**1.63**	**277**	*e*P	**Pn**	**00 28 37.6**	**+0.6**
KTK1	**Kautokeino**	**1.64**	**42**	Pn	**Pn**	**00 28 37.2**	**0.0**
KTK1				Sn	**Sg**	**00 29 00.6**	**+1.0**
KTK1	**Kautokeino**	**1.64**	**42**	Pn	**Pn**	**00 28 37.2**	**0.0**
KTK1				Sn	**Sg**	**00 29 00.6**	**+1.0**
HARU	**Harads**	**1.69**	**169**	P	**Pn**	**00 28 39.0**	**+1.2**
HARU	**Harads**	**1.69**	**169**	*e*P	**Pn**	**00 28 39.0**	**+1.2**
JETT	**Jettan, Norway**	**1.74**	**2**	Pn	**Pn**	**00 28 39.0**	**+0.4**
JETT				Sn	**Sn**	**00 29 01.4**	**-0.2**
KALU	**Kalix**	**2.33**	**146**	*e*P	**Pn**	**00 28 48.5**	**+1.9**
KALU				*e*SB	**Sb**	**00 29 19.2**	**0.0**
TOF	**Tornio**	**2.38**	**135**	*e*PB	**Pn**	**00 28 49.6**	**+2.3**
TOF				MSG		00 29 18.9	
	comp=Z,13nm,0.2s						
TOF				*e*SG	**Sb**	**00 29 21.6**	**+0.9**
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB	**Pn**	**00 28 52.1**	**+2.2**
RNF				*e*SG	**Sb**	**00 29 26.9**	**+0.9**
ARA0	**ARCESS Array S**	**2.59**	**46**	Pn	**Pn**	**00 28 51.3**	**+1.1**
	baz=232,slow=14						
ARA0				Sn	**Sn**	**00 29 24.6**	**+2.2**
	baz=230,slow=28						
ARA0	**ARCESS Array S**	**2.59**	**46**	Pn	**Pn**	**00 28 51.3**	**+1.1**
	baz=232,slow=14						
ARA0				Sn	**Sn**	**00 29 24.6**	**+2.2**
	baz=230,slow=28						
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P	**Pn**	**00 28 51.3**	**+1.1**
	baz=228						
ARA0				*e*SB	**Sb**	**00 29 25.4**	**-1.3**
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn	**Pn**	**00 28 51.2**	**+1.0**
	baz=226,slow=15,SNR=26						
ARCES				Sn	**Sb**	**00 29 25.0**	**-1.7**
	baz=223,slow=25,SNR=18						
HAMF	**Hammerfest**	**3.09**	**22**	*e*P	**Pn**	**00 28 58.7**	**+1.6**
KEV	**Kevo**	**3.14**	**49**	*e*PB	**Pb**	**00 29 01.8**	**-1.9**
	baz=235						
KEV				*e*S	**Sn**	**00 29 37.1**	**+1.2**
KEV				MSG		00 29 39.9	
	comp=Z,6.1nm,0.2s						
VRF	**Varrio**	**3.57**	**87**	*e*P	**Pn**	**00 29 06.2**	**+2.5**
VRF				*e*SG	**Sg**	**00 29 58.8**	**-2.8**
MSF	**Maaselka**	**3.98**	**115**	*e*P	**Pn**	**00 29 11.3**	**+2.0**
	baz=302						
KU6	**Riekki**	**4.21**	**111**	*e*P	**Pn**	**00 29 14.0**	**+1.5**
	baz=304						
KU6				*e*S	**Sn**	**00 29 59.2**	**-3.1**
APA0	**Apatity Array**	**4.87**	**87**	Pn	**Pn**	**00 29 21.4**	**-0.1**
	baz=264,slow=14						
APA0				Sn	**Sn**	**00 30 17.9**	**-0.6**
	baz=282,slow=22						
APA0				Lg	Lg	00 30 35.7	
	baz=276,slow=22						
APA0	**Apatity Array**	**4.87**	**87**	Pn	**Pn**	**00 29 21.4**	**-0.1**
	baz=264,slow=14						
APA0				Sn	**Sn**	**00 30 17.9**	**-0.6**
	baz=282,slow=22						
APA0				Sg	**Sb**	**00 30 35.7**	**+3.5**
	baz=276,slow=22						
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**00 29 49.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=343,slow=13,SNR=2.9						
FINES				Sn	**Sn**	**00 31 07.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=341,slow=25,SNR=2.0						
FINES				Lg	Lg	00 31 42.0	
	comp=Z,0.3nm,0.3s,baz=347,slow=28,SNR=2.0						
NB2	**NORSAR Subarra**	**7.83**	**214**	Pn	**Pn**	**00 30 03.7**	**+1.4**
NB2	**NORSAR Subarra**	**7.83**	**214**	Pn	**Pn**	**00 30 03.7**	**+1.4**
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**00 30 03.7**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=15,slow=12,SNR=1.9						
NOA				Lg	Lg	00 32 15.4	
	comp=Z,0.0nm,0.3s,baz=102,slow=7.2,SNR=5.2						
NRA0	**NORESS Array S**	**8.04**	**212**	Pn	**Pn**	**00 30 05.6**	**+0.5**
	baz=38,slow=16						
NRA0				Sn	**Sn**	**00 31 35.7**	**-0.9**
	baz=29,slow=18						
NRA0				Lg	Lg	00 32 20.4	
	baz=22,slow=28						
NRA0	**NORESS Array S**	**8.04**	**212**	Pn	**Pn**	**00 30 05.6**	**+0.5**
	baz=38,slow=16						
NRA0				Sn	**Sn**	**00 31 35.7**	**-0.9**
	baz=29,slow=18						
NRA0				Sg	**Sg**	**00 32 20.4**	**-4.7**
	baz=22,slow=28						
HFS	**Hagfors**	**8.23**	**203**	Pn	**Pn**	**00 30 07.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=24,slow=14,SNR=2.8						
HFS				Sn	**Sn**	**00 31 40.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=21,slow=29,SNR=2.1						
HFS	**Hagfors**	**8.23**	**203**	Pn	**Pn**	**00 30 06.7**	**-0.9**
	baz=9.5,slow=12						
HFS	**Hagfors**	**8.23**	**203**	Pn	**Pn**	**00 30 06.7**	**-0.9**
	baz=9.5,slow=12						

*IDC **05** 00:30:51.5±0.9,24°72N×127°95E,h0km,mb3.8/11, mb1 3.9/13,mb1mx3.5/60,mbtmp3.8/13,ML3.4/2,MS3.3/8, Ms1 3.4/8,ms1mx2.8/84,Error ellipse: s-maj=35.6km s-min=15.8km az=79.0*
*NEIC **05** 00:30:53.4±1.5,24°74N±0°07×127°93E±0°10,h10km±1km, mb4.3/9,Error ellipse: s-maj=16.7km s-min=10.3km az=122.0*
*NIED **05** 00:30:55.0,24°82N×127°88E,h78km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=8.68; $M_{\theta\theta}$6.08; $M_{\phi\phi}$2.60; $M_{r\theta}$2.26; $M_{\theta\phi}$4.87; $M_{\phi r}$-1.17;*
Fault plane solution: $M_0$9.47000×10^{14} NP1: ϕ_s249.00000°,δ51.00000°,λ-71.00000°. NP2:ϕ_s40.00000°, δ43.00000°,λ-112.00000°.
*JMA **05** 00:30:55.0±0.2,24°82N×127°88E,h78km,M3.6*
ISC 05 00:30:52.3±0.6,24°68N±0°05×127°97E±0°04,h10km,n58, σ1§84/66,mb3.9/16,MS3.5/7,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.47**	**353**	P	**Pn**	**00 31 18.6**	**-0.2**
JJT3				S	**Sn**	**00 31 35.5**	**-2.6**
JNTH	**Nagotoyohara**	**1.83**	**1**	P	**Pn**	**00 31 23.0**	**-0.8**
JNTH				*e*S	**Sn**	**00 31 44.2**	**-2.9**
JKE	**Kume jima 2**	**1.96**	**327**	P	**Pn**	**00 31 25.0**	**-0.6**
JKE				*e*S	**Sn**	**00 31 46.9**	**-3.3**
JAGN	**Aguni-jima**	**2.01**	**341**	P	**Pn**	**00 31 26.1**	**-0.2**
JAGN				S	**Sn**	**00 31 48.3**	**-3.2**
JOW	**Kunigami**	**2.16**	**7**	Pn	**Pn**	**00 31 28.1**	**-0.2**
	22nm,0.3s,baz=173,slow=14,SNR=66						
JOW				Sn	**Sn**	**00 31 50.7**	**-4.6**
	32nm,0.3s,baz=113,slow=28,SNR=13						
JOW	**Kunigami**	**2.16**	**7**	P	**Pn**	**00 31 27.7**	**-0.7**
JOW				*e*S	**Sn**	**00 31 53.0**	**-2.2**
JOGS	**Gusukube**	**2.33**	**272**	S	**Sn**	**00 31 57.9**	**-1.6**
JIH	**Iheya**	**2.34**	**360**	P	**Pn**	**00 31 30.6**	**-0.3**
JYRO	**Yoronjima**	**2.37**	**10**	P	**Pn**	**00 31 30.5**	**-0.8**
JYRO				S	**Sn**	**00 31 58.0**	**-2.5**
JMJ2	**Miyako jima3**	**2.41**	**272**	P	**Pn**	**00 31 32.1**	**+0.4**
JMJ2				*e*S	**Sn**	**00 31 59.5**	**-1.8**
JIKM	**Ikemajima**	**2.49**	**276**	P	**Pn**	**00 31 32.8**	**-0.1**
JIKM				S	**Sn**	**00 32 01.1**	**-2.2**
JIRB	**Irabujima**	**2.55**	**274**	P	**Pn**	**00 31 33.7**	**0.0**
JOKE	**Okinoerabujima**	**2.72**	**11**	P	**Pn**	**00 31 35.9**	**-0.2**
JTJ	**Tarama**	**2.98**	**270**	P	**Pn**	**00 31 39.3**	**-0.3**
JTJ				S	**Sn**	**00 32 11.4**	**-3.9**
JMZ	**Minamidaito 2**	**3.15**	**68**	P	**Pn**	**00 31 40.0**	**-2.0**
JMZ				S	**Sn**	**00 32 15.9**	**-3.8**
JTK	**Tokunoshima**	**3.21**	**16**	P	**Pn**	**00 31 43.0**	**+0.1**
JTK				*e*S	**Sn**	**00 32 18.5**	**-2.8**
JKDJ	**Kitadaitoujima**	**3.26**	**67**	P	**Pn**	**00 31 42.0**	**-1.5**
JKDJ				*e*S	**Sn**	**00 32 18.7**	**-3.7**
JIJ	**Ishigaki jima**	**3.50**	**266**	P	**Pn**	**00 31 46.2**	**-0.6**
JIJ				S	**Sn**	**00 32 22.9**	**-5.5**
JKRS	**Kuro-shima**	**3.64**	**264**	P	**Pn**	**00 31 48.9**	**+0.2**
JKRS				*e*S	**Sn**	**00 32 27.1**	**-4.6**
JAMN	**Amaminishikomi**	**3.71**	**17**	P	**Pn**	**00 31 50.2**	**+0.6**
HATJ	**Hateruma jima**	**3.85**	**262**	P	**Pn**	**00 31 51.9**	**+0.3**
JAM	**Amami Oshima**	**3.99**	**21**	P	**Pn**	**00 31 53.8**	**+0.2**
JZK	**Kikaishima**	**4.04**	**26**	P	**Pn**	**00 31 55.1**	**+0.9**
JTAJ	**Takarajima**	**4.59**	**14**	P	**Pn**	**00 32 01.9**	**+0.2**
NACB	**Ninganchiao**	**5.83**	**266**	Pn	**Pn**	**00 32 17.6**	**-1.3**
YHNB	**Yeheng**	**6.00**	**271**	Pn	**Pn**	**00 32 21.1**	**-0.2**
YULB	**Yu-li**	**6.24**	**259**		**Pn**	**00 32 22.3**	**-2.2**
SSLB	**Suanglung**	**6.47**	**264**	Pn	**Pn**	**00 32 26.1**	**-1.5**
TPUB	**Ta-pu**	**6.85**	**260**	Pn	**Pn**	**00 32 32.9**	**-0.1**
JNU	**Nakatsue**	**8.79**	**16**	Pn	**Pn**	**00 33 00.5**	**+1.1**
	0.3nm,0.3s,baz=167,slow=13,SNR=3.8						
JMN	**Monobe**	**10.48**	**28**	Pn	**Pn**	**00 33 21.6**	**+0.3**
KSRS	**Korea Array**	**12.73**	**360**	LR	LR	00 39 28.3	
	comp=Z,39nm,18.1s,baz=145,slow=41						
ASAJ	**Asahikawa**	**22.77**	**28**	LR	LR	00 45 20.1	
	comp=Z,32nm,20.5s,baz=76,slow=38						
KLR	**Kul'dur**	**24.68**	**6**	P	**P**	**00 36 12.9**	**-0.4**
	1.5nm,1.1s,baz=215,slow=10,SNR=1.7						
CMAR	**Chiang Mai Arr**	**27.66**	**263**	LR	LR	00 49 24.4	
	comp=Z,25nm,18.2s,baz=85,slow=40						
SONM	**Songino Array**	**28.74**	**329**	P	**P**	**00 36 50.2**	**+0.2**
	0.3nm,0.7s,baz=139,slow=9.2,SNR=2.3						
SONM				LR	LR	00 49 46.7	
	comp=Z,65nm,19.9s,baz=68,slow=40						
SONM	**Songino Array**	**28.74**	**329**	IAmb	IAmb	00 36 54.7	
	comp=Z,2.3nm,1.5s						
COEN	**Coen**

LUWI Luwuk 6.60 21 P **P 00 43 12.4 +0.4**
0.5nm113nm,0.9s
LUWI Luwuk 6.60 21 P **P 00 43 10.5 -1.6**
MPSI Mapaga 7.53 356 P **P 00 43 20.0 -0.6**
0.6nm2μm153nm,1.0s
SANI Sanana 7.60 48 P **P 00 43 20.7 -0.5**
0.7nm1μm180nm,0.7s
SANI Sanana 7.60 48 P **P 00 43 20.9 -0.3**
MRSI Marisa 7.81 12 P **P 00 43 22.4 -0.8**
0.7nm2μm262nm,0.8s
GTOI Gorontalo 8.24 19 P **P 00 43 27.2 -0.1**
636nm70nm,0.9s
TOLI2 Tolitoli 8.30 3 P **P 00 43 26.1 -1.7**
TOLI2 Tolitoli 8.30 3 P **P 00 43 26.4 -1.4**
WOJI Wonogiri, Jawa 9.39 266 P **P 00 43 39.1 +0.7**
LBMI Labuha 9.66 48 P **P 00 43 42.8 +1.7**
31nm,0.8s
TNTI Ternate 10.57 42 P **P 00 43 49.7 -0.5**
KNRA Kununurra 11.74 136 P **P 00 44 01.1 -0.6**
KNRA Kununurra 11.74 136 P **P 00 44 00.9 -0.9**
FITZ Fitzroy Crossi 11.96 155 P **P 00 44 03.0 -0.9**
2.7nm,0.3s,baz=350,slow=7.9,SNR=46
FITZ S **S 00 46 11.8 -2.1**
0.1nm,0.3s,baz=168,slow=20,SNR=4.9
MTN Manton Dam 11.97 119 P **P 00 44 03.6 -0.5**
MTN Manton Dam 11.97 119 P **P 00 44 03.5 -0.5**
MYLDM Lahad Datu 12.47 351 P **P 00 44 08.4 -0.7**
SIJI Sorong 12.56 60 P **P 00 44 08.5 -1.6**
2.3nm,0.3s,baz=283,slow=4.4,SNR=5.3
KKM Kota Kinabalu 13.83 342 P **P 00 44 18.8 -4.2**
KKM Kota Kinabalu 13.83 342 P **P 00 44 21.5 -1.5**
MBWA Marble Bar 13.86 183 P **P 00 44 21.4 -1.7**
PSA00 Pilbara Seismi 14.27 182 P **P 00 44 24.7 -2.3**
PSA00 Pilbara Seismi 14.27 182 P **P 00 44 25.1 -1.9**
PSA00 Pilbara Seismi 14.27 182 P **P 00 44 25.5 -1.5**
GIRL Giralia 16.43 200 P **P 00 44 47.4 +0.6**
GIRL Giralia 16.43 200 P **P 00 44 47.0 +0.2**
WB0 Warramunga Arr 18.45 134 P **P 00 45 06.4 +1.1**
WB0 IAmb IAmb 00 45 08.2
comp=Z,4.6nm,0.6s
WRA Warramunga Arr 18.52 134 P **P 00 45 06.7 +0.7**
comp=Z,0.8nm,0.3s,baz=288,slow=12,SNR=46
WRA S **S 00 48 04.6 -0.2**
comp=Z,0.2nm,0.3s,baz=310,slow=16,SNR=5.4
WRA PcP **PcP 00 49 05.0 +0.4**
comp=Z,0.0nm,0.3s,baz=324,slow=1.4,SNR=1.7
WRA Warramunga Arr 18.52 134 P **P 00 45 07.6 +1.5**
WRAB Tennant Creek 18.52 134 P **P 00 45 07.1 +1.1**
WB2 Warramunga Arr 18.53 134 P **P 00 45 07.3 +1.2**
WR0 Warramunga Arr 18.68 134 P **P 00 45 08.7 +1.3**
WR0 IAmb IAmb 00 45 09.6
comp=Z,6.1nm,0.9s
WRKA Warakurna 19.26 158 P **P 00 45 13.4 +0.7**
MEEK Meekatharra 19.37 185 P **P 00 45 13.3 -0.4**
AS31 Alice Springs 20.87 143 P **P 00 45 28.0 +0.8**
AS31 IAmb IAmb 00 45 29.3
comp=Z,1.9nm,0.6s
ASAR Alice Springs 20.88 143 P **P 00 45 28.0 +0.7**
comp=Z,3.7nm,0.4s,baz=319,slow=8.2,SNR=61
ASAR S **S 00 48 42.3 +0.2**
comp=Z,1.5nm,0.9s,baz=312,slow=15,SNR=4.9
ASAR PcP **PcP 00 49 10.2 +1.2**
comp=Z,1.5nm,0.5s,baz=332,slow=1.5,SNR=12
ASAR Alice Springs 20.88 143 P **P 00 45 27.9 +0.6**
MORW Morawa 22.10 190 P **P 00 45 37.9 -0.2**
MORW Morawa 22.10 190 P **P 00 45 37.9 -0.2**
COEN Coen 23.37 109 P **P 00 45 50.2 +0.6**
COEN IAmb IAmb 00 45 51.0
comp=Z,7.9nm,1.1s
BLDU Ballidu 23.52 188 P **P 00 45 50.3 -0.3**
KLBR Kellerberrin 24.36 185 P **P 00 45 58.0 -0.1**
FORT Forrest 24.51 164 P **P 00 46 00.2 +0.8**
FORT Forrest 24.51 164 P **P 00 45 59.8 +0.4**
OOD Oodnadatta 25.07 146 P **P 00 46 05.3 +0.9**
MULG Mulgathing 26.28 152 P **P 00 46 15.7 +0.7**
LCRK Leigh Creek 28.52 146 P **P 00 46 35.6 +1.1**
BBOO Buckleboo 29.33 152 P **P 00 46 42.3 +0.8**
BBOO Buckleboo 29.33 152 P **P 00 46 42.2 +0.7**
HTT Hallett 31.22 149 P **P 00 46 59.3 +1.5**
STKA Stephens Creek 31.51 144 P **P 00 47 01.7 +1.5**
comp=Z,3.1nm,0.4s,baz=322,slow=8.7,SNR=13
STKA PcP **PcP 00 49 35.1 +0.9**
comp=Z,1.9nm,0.4s,baz=310,slow=3.6,SNR=6.2
STKA S **S 00 51 28.4 +1.0**
comp=Z,2.6nm,0.9s,baz=148,slow=18,SNR=3.8
STKA Stephens Creek 31.51 144 P **P 00 47 01.7 +1.5**
STKA Stephens Creek 31.51 144 P **P 00 47 01.7 +1.5**
CMAR Chiang Mai Arr 33.15 321 PcP **PcP 00 49 40.0 +1.0**
comp=Z,0.9nm,0.6s,baz=174,slow=2.5,SNR=4.9
ARPS Mount Arapiles 35.32 149 P **P 00 47 33.8 +1.8**
GUN Gumba 48.29 318 *eP* **P 00 49 13.9 -0.3**
comp=Z,9.6nm,0.6s
PKI Pulchoki 48.38 317 *eP* **P 00 49 14.3 -0.6**
comp=Z,6.9nm,0.5s
PKIN Phulchoki 48.39 317 *eP* **P 00 49 14.2 -0.7**
comp=Z,7.5nm,0.4s
HHC Hu-ho-hao-te 48.52 351 *eP* P 00 49 21.7 +6.3
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,78nm,7.1s
GKN Gorkha 49.18 317 *eP* **P 00 49 20.0 -0.6**
comp=Z,7.6nm,0.4s
KOLN Koldanda 49.74 316 *eP* **P 00 49 24.3 -0.4**
comp=Z,7.0nm,0.6s
DANN Dangsing 50.00 317 *eP* **P 00 49 26.2 -0.5**
comp=Z,32nm,0.5s
PYUN Piuthan 50.37 316 *eP* **P 00 49 28.7 -0.6**
comp=Z,12nm,0.5s
SONM Songino Array 56.20 349 P **P 00 50 10.9 +0.8**
comp=Z,1.1nm,0.5s,baz=158,slow=7.6,SNR=9.8
SONM PcP **PcP 00 50 59.9 +1.2**
comp=Z,0.4nm,0.6s,baz=175,slow=3.5,SNR=2.9
SONM Songino Array 56.20 349 P **P 00 50 10.8 +0.8**
RPZ Rata Peaks 57.18 138 P **P 00 50 18.1 +1.4**
WMQ Urumqi 58.79 333 *eP* **P 00 50 29.4 +1.8**
BKZ Black Stump Fm 59.43 131 P **P 00 50 33.3 +1.4**
BKZ IAmb IAmb 00 50 47.6
comp=Z,5.6nm,1.2s
KSH Kashi 62.03 322 P **P 00 50 50.1 +1.1**
KSH pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 63.53 332 IAmb IAmb 00 51 00.0
comp=Z,3.1nm,0.8s
MKAR Makanchi Array 63.53 332 P **P 00 50 59.2 +0.8**
comp=Z,3.6nm,0.5s,baz=146,slow=7.2,SNR=82
MKAR Makanchi Array 63.53 332 P **P 00 50 59.1 +0.7**
MAKZ Makanchi 63.69 332 P **P 00 50 60.0 +0.6**
KBL Kabul 63.82 314 P **P 00 51 00.3 -0.5**
KBL IAmb IAmb 00 51 01.2
comp=Z,3.1nm,0.7s
BOOM Boomskoye usch 63.91 325 P **P 00 51 01.6 +0.5**
AAK Ala-Archa 64.83 324 P **P 00 51 07.4 +0.6**
AAK IAmb IAmb 00 51 08.2
comp=Z,2.3nm,0.7s
ZAA0 Zalesovo Array 67.90 338 P **P 00 51 25.1 -0.2**
ZAA0 IAmb IAmb 00 51 25.9
comp=Z,5.5nm,0.9s
ZALV Zalesovo Beam 67.90 338 P **P 00 51 25.1 -0.1**
comp=Z,4.8nm,0.3s,baz=144,slow=5.3,SNR=37
KURK Kurchatov 68.04 333 P **P 00 51 26.8 +0.6**
KURK IAmb IAmb 00 51 27.6
comp=Z,4.4nm,0.8s
VNDA Vanda 73.52 171 P **P 00 51 59.4 +1.5**
comp=Z,1.8nm,0.8s,baz=312,slow=7.1,SNR=7.7
RAYN Ar Rayn 79.16 296 P **P 00 52 30.6 +0.7**
RAYN IAmb IAmb 00 52 31.4
comp=Z,4.1nm,0.9s
BOSA Boshof 91.05 241 P **P 00 53 28.1 +0.4**
comp=Z,2.0nm,1.0s,baz=126,slow=2.3,SNR=5.1
SNAA Sanae 93.06 195 P **P 00 53 37.0 +1.1**
comp=Z,0.9nm,0.9s,baz=222,slow=2.4,SNR=6.8
YKA Yellowknife Ar 112.03 24 PKiKP **PKiKP 00 58 54.1 +0.8**
comp=Z,0.5nm,0.4s,baz=296,slow=1.8,SNR=18
NVAR Mina Array Bea 118.85 50 PKP **PKiKP 00 59 08.6 +1.1**
comp=Z,0.2nm,0.5s,baz=264,slow=0.9,SNR=2.1
TORD Torodi Ar. Bea 119.48 281 PKP **PKiKP 00 59 09.3 +0.3**
comp=Z,0.7nm,0.6s,baz=74,slow=2.0,SNR=6.6
PDAR Pinedale Array 123.70 43 PKP **PKiKP 00 59 18.1 +1.1**
comp=Z,0.1nm,0.4s,baz=326,slow=0.3,SNR=2.0
TXAR Lajitas Array 133.13 56 PKP **PKiKP 00 59 35.3 -0.8**
comp=Z,0.5nm,0.8s,baz=336,slow=2.0,SNR=4.5
CPUP Villa Florida 146.56 184 PKPbc **PKPbc 01 00 01.2 -0.3**
comp=Z,2.5nm,0.8s,baz=170,slow=6.1,SNR=2.4

*TUL **05** 00:50:07.7±1.2, 36°.74N±0°.01×98°.06W±0°.01, h6km±5km, ML2.9, mb_Lg2.6/31(NEIC), Error ellipse: s-maj=1.9km s-min=1.2km az=188.0*

NEIC 05 00:50:07.1±1.1, 36°.71N±0°.02×98°.05W±0°.02, h11km±4km, Error ellipse: s-maj=3.0km s-min=2.0km az=124.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.16**	**307**	Pg	Pg	00 50 10.4	-0.4
OK032					Sg	00 50 12.7	-0.6
GC02	**Grant County #**	**0.21**	**47**	Pg	Pg	00 50 11.4	-0.1
GC02				Sg	Sg	00 50 14.5	-0.1
CROK	**Carrier**	**0.21**	**165**	Pg	Pg	00 50 11.9	+0.3
CROK				Sg	Sg	00 50 15.5	+0.9
KAN14	**Manchester OK**	**0.26**	**16**		Pg	00 50 12.1	-0.3
KAN14				Sg	Sg	00 50 15.6	-0.4
KAN17	**Caldwell West**	**0.41**	**34**	Pg	Pg	00 50 15.0	-0.2
KAN17				Sg	Sg	00 50 20.4	-0.1
KAN10	**Anthony SW Sta**	**0.42**	**355**	Pg	Pg	00 50 15.0	-0.3
KAN10				Sg	Sg	00 50 20.6	-0.3
KAN05	**Bluff City Nor**	**0.42**	**20**		Pg	00 50 15.3	-0.2
KAN05				Sg	Sg	00 50 20.9	-0.2
KAN01	**Argonia South**	**0.50**	**28**		Pg	00 50 16.5	-0.4
KAN01				Sg	Sg	00 50 23.3	-0.3
KAN16	**Harper SW Stat**	**0.52**	**359**	Pg	Pg	00 50 16.8	-0.4
KAN16				Sg	Sg	00 50 24.0	-0.1
KAN08	**Anthony NE Sta**	**0.52**	**7**		Pg	00 50 16.9	-0.4
KAN08				Sg	Sg	00 50 23.9	-0.3
OK035	**E0210 Rd and N**	**0.53**	**270**	Pg	Pg	00 50 17.3	-0.2
OK035				Sg	Sg	00 50 24.7	+0.2
KAN13	**South Haven SW**	**0.55**	**56**	Pg	Pg	00 50 17.5	-0.3
KAN12	**Harper NE Stat**	**0.59**	**4**	Pg	Pg	00 50 18.2	-0.4
BLOK	**Blackwell**	**0.67**	**85**	Pg	Pg	00 50 19.9	-0.2
U32A	**Winter Ranch,**	**0.83**	**247**	Pg	Pg	00 50 23.0	-0.2
OK029	**Liberty Lake**	**1.03**	**152**		Pb	00 50 27.0	0.0
BCOK	**Bluff Creek, N**	**1.11**	**161**		Pb	00 50 28.0	-0.3
QUOK	**Quay**	**1.21**	**116**		Pn	00 50 29.9	-0.1
T35A	**Sooner Cattle**	**1.25**	**80**		Pn	00 50 30.5	-0.1
OK025	**Westminster Rd**	**1.26**	**153**		Pb	00 50 31.0	+0.1
OK034	**N. Norfolk Rd.**	**1.28**	**122**		Pn	00 50 31.1	+0.1
OK030	**Cody Creek RV**	**1.28**	**127**		Pn	00 50 31.1	+0.1
OKCFA	**Oklahoma City**	**1.38**	**159**	Pn	Pn	00 50 32.4	+0.1
OKCSW	**OKLAHOMA CITY**	**1.39**	**159**		Pb	00 50 33.0	-0.2
R32A	**Long Quarter,**	**1.79**	**343**	Pn	Pb	00 50 39.6	-0.4
TUL1	**Leonard**	**1.99**	**113**		Pb	00 50 42.7	-0.6
TUL1				IAmb_Lg		00 51 14.8	
	comp=Z,26nm,0.8s						
WMOK	**Wichita Mounta**	**2.05**	**197**	Pn	Pb	00 50 43.3	-1.1
X34A	**Smith Ranch, M**	**2.11**	**175**		Pb	00 50 44.0	-1.4
X34A				IAmb_Lg		00 51 15.9	
	comp=Z,17nm,0.7s						
CBKS	**Cedar Bluff**	**2.49**	**328**		Pn	00 50 49.1	+1.5
KSU1	**Kansas State U**	**2.65**	**25**	Pn	Pn	00 50 51.2	+1.4
LOOK	**Love County**	**2.80**	**165**		Pn	00 50 52.7	+0.8
U38A	**Gravette**	**2.96**	**94**	Pn	Pn	00 50 55.5	+1.4
U38A				IAmb_Lg		00 51 46.5	
	comp=Z,20nm,0.8s						
Z35A	**Perchaven, San**	**3.43**	**169**	Pn	Pn	00 51 02.0	+1.4
AMTX	**Amarillo**	**3.47**	**239**	Pg	Pb	00 51 10.1	+1.5
AMTX				IAmb_Lg		00 51 56.7	
	comp=Z,9.9nm,0.7s						
W39A	**Magazine**	**3.77**	**112**	IAmb_Lg		00 52 14.2	
	comp=Z,18nm,0.8s						
S39A	**Bolivar**	**3.90**	**74**		Pn	00 51 07.8	+0.8
S39A				IAmb_Lg		00 52 10.4	
	comp=Z,8.3nm,0.7s						
U40A	**Yellville**	**4.20**	**93**	Pn	Pn	00 51 12.0	+0.9
MIAR	**Mount Ida**	**4.24**	**119**	Pn	Pn	00 51 13.6	+2.0
MIAR				IAmb_Lg		00 52 22.5	
	comp=Z,9.5nm,0.9s						
P38A	**Dawn**	**4.60**	**49**	Pn	Pn	00 51 17.2	+0.6
MGMO	**Mountain Grove**	**4.65**	**83**	Pn	Pn	00 51 18.0	+0.7
MGMO				IAmb_Lg		00 52 39.0	
	comp=Z,11nm,0.7s						
WHTX	**Lake Whitney,**	**4.73**	**174**	Pn	Pn	00 51 18.9	+0.5
WHTX				IAmb_Lg		00 52 42.8	
	comp=Z,11nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.86**	**98**	IAmb_Lg		00 52 46.4	
	comp=Z,16nm,1.3s						
R40A	**Maddies Statio**	**4.86**	**69**	Pn	Pn	00 51 21.4	+1.2
R40A				IAmb_Lg		00 52 54.1	
	comp=Z,7.5nm,0.7s						
T25A	**Trinidad**	**5.12**	**277**	IAmb_Lg		00 52 58.0	
	comp=Z,14nm,0.8s						
P40A	**Paris**	**5.51**	**57**	IAmb_Lg		00 53 08.2	
	comp=Z,8.2nm,0.8s						
N38A	**Joes South For**	**5.55**	**41**	IAmb_Lg		00 53 05.6	
	comp=Z,10nm,0.7s						
CCM	**Cathedral Cave**	**5.58**	**74**	IAmb_Lg		00 53 08.9	
	comp=Z,12nm,1.0s						
LCAR	**Lake Charles**	**5.60**	**94**	IAmb_Lg		00 53 07.5	
	comp=Z,8.9nm,0.8s						
PBMO	**Poplar Bluff**	**6.12**	**87**	IAmb_Lg		00 53 21.9	
	comp=Z,11nm,0.7s						

IDC 05 01:00:34.0±7.2, 23°.22S×177°.47W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/20, mbtmp3.9/3, MS3.8/2, Ms1 3.8/2, ms1mx2.8/59, Error ellipse: s-maj=282.0km s-min=58.4km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.44**	**259**	P	P	01 08 46.7	-0.3
	0.8nm,0.5s,baz=91,slow=7.2,SNR=12						
ASAR				LR	LR	01 26 55.2	
	comp=Z,79nm,18.2s,baz=359,slow=36						
WRA	**Warramunga Arr**	**44.77**	**265**	P	P	01 08 49.5	-0.2
	0.7nm,0.6s,baz=103,slow=8.4,SNR=19						
ILAR	**Eielson Array**	**90.85**	**13**	LR	LR	01 50 03.0	
	comp=Z,50nm,18.6s,baz=154,slow=33						
CMAR	**Chiang Mai Arr**	**91.48**	**289**	P	P	01 13 43.7	+0.8
	0.6nm,0.3s,baz=135,slow=3.6,SNR=6.4						
AKASG	**Malin Array Be**	**145.61**	**330**	PKPbc	PKPdf	01 20 12.7	-1.4
	0.5nm,0.6s,baz=35,slow=3.8,SNR=2.8						

*NNC **05** 01:05:11.8±0.5, 45°.29N×80°.32E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=7.3km s-min=3.4km az=130.0*
*SOME **05** 01:05:12.1, 45°.27N×80°.32E, h10km*

ISC 05 01:05:10.9±0.8, 45°.29N±0°.03×80°.46E±0°.03, h10km, n53, σ1§48/80, 7C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**0.78**	**270**	*eP*	**Pg**	**01 05 25.4**	**-0.6**
	8.2nm,0.1s						
KAPS				*eS*	**Sg**	**01 05 34.9**	**-1.3**
	40nm,0.1s						
KAPS	**Kapalarasan**	**0.78**	**270**	P	**Pg**	**01 05 24.6**	**-1.4**
	8.2nm,0.1s						
KAPS				S	**Sg**	**01 05 33.7**	**-2.5**
	40nm,0.1s						
DJR	**Jarkent**	**1.07**	**207**	*eP*	**Pg**	**01 05 31.3**	**-0.2**
	5.0nm,0.1s						
DJR				*eS*	**Sg**	**01 05 44.7**	**-0.7**
	66nm,0.2s						
DJR	**Jarkent**	**1.07**	**207**	P	**Pg**	**01 05 31.0**	**-0.5**
	5.0nm,0.1s						
DJR				S	**Sg**	**01 05 44.7**	**-0.7**
	66nm,0.2s						
KNOS	**Konyrlen**	**1.30**	**225**	*eP*	**Pn**	**01 05 35.3**	**-0.1**
	14nm,0.1s						
KNOS				*eS*	**Sb**	**01 05 51.9**	**-0.7**
TDK	**Taldyqorghan**	**1.48**	**260**	*eP*	**Pn**	**01 05 38.1**	**+0.4**
	29nm,0.1s						
TDK				*eS*	**Sb**	**01 05 57.7**	**+0.2**
	30nm,0.2s						
TDK	**Taldyqorghan**	**1.48**	**260**	P	**Pn**	**01 05 38.1**	**+0.4**
	33nm,0.2s						
TDK				S	**Sn**	**01 05 56.8**	**-0.3**
	30nm,0.2s						
KTMS	**Ketmen**	**1.85**	**183**	*eP*	**Pb**	**01 05 45.3**	**+0.4**
	6.7nm,0.1s						
KTMS				*eS*	**Sb**	**01 06 08.5**	**+0.5**
	24nm,0.2s						
KTMS	**Ketmen**	**1.85**	**183**	P	**Pb**	**01 05 44.9**	**+0.1**
	6.7nm,0.1s						
KTMS				S	**Sb**	**01 06 08.6**	**+0.5**
	24nm,0.2s						
MAKZ	**Makanchi**	**1.85**	**34**	⇑P	**Pg**	**01 05 46.0**	**-0.4**
	1.7nm,0.4s						
MAKZ				⇓S	**Sg**	**01 06 10.1**	**-0.2**
	14nm,0.3s						
BLB	**Baldybastay**	**1.85**	**231**	*eP*	**Pb**	**01 05 45.4**	**+0.5**
	42nm,0.1s						
BLB				*eS*	**Sb**	**01 06 09.4**	**+1.2**
	62nm,0.2s						
BLB	**Baldybastay**	**1.85**	**231**	P	**Pb**	**01 05 45.4**	**+0.5**
	42nm,0.1s						
BLB				S	**Sb**	**01 06 09.4**	**+1.2**
	62nm,0.2s						
MK31	**Makanchi Array**	**1.97**	**40**	⇑P	**Pg**	**01 05 47.8**	**-0.9**
	0.7nm,0.2s,baz=108,slow=14,SNR=155						
MK31				S	**Sg**	**01 06 13.6**	**-0.6**
	2.1nm,0.2s,baz=217,slow=26,SNR=19						
PDGK	**Podgornoye**	**2.08**	**200**	Pg	**Pb**	**01 05 49.0**	**+0.2**
	2.4nm,0.1s						
PDGK				Lg	Lg	01 06 15.7	
	11nm,0.1s						
PDGK	**Podgornoye**	**2.08**	**200**	⇓Pn	**Pb**	**01 05 49.0**	**+0.2**
	2.0nm,0.5s						
PDGK				⇑Sn	**Sb**	**01 06 15.4**	**+0.6**
	33nm,0.6s						
ARXS	**Arharly**	**2.17**	**241**	*eP*	**Pb**	**01 05 50.6**	**+0.3**
	45nm,0.3s						
ARXS				*eS*	**Sb**	**01 06 18.2**	**+1.0**
	38nm,0.2s						
ARXS	**Arharly**	**2.17**	**241**	Pg	**Pb**	**01 05 49.6**	**-0.7**
	45nm,0.3s						
ARXS				Lg	Lg	01 06 16.7	
	38nm,0.2s						
KPKS	**Kokpek**	**2.23**	**216**	*eP*	**Pb**	**01 05 51.7**	**+0.4**
	18nm,0.1s						
KPKS				*eS*	**Sb**	**01 06 20.2**	**+1.3**
	84nm,0.2s						
UZB	**Uzynbulak**	**2.38**	**206**	*eP*	**Pb**	**01 05 54.2**	**+0.2**
	5.3nm,0.1s						
UZB				*eS*	**Sb**	**01 06 24.7**	**+1.2**
	38nm,0.4s						
UZB	**Uzynbulak**	**2.38**	**206**	Pg	**Pb**	**01 05 54.1**	**+0.1**
	5.3nm,0.1s						
UZB				Lg	Lg	01 06 24.3	
	38nm,0.4s						
ZHN	**Zhinishke**	**2.58**	**215**	*eP*	**Pb**	**01 05 57.9**	**+0.6**
	9.7nm,0.2s						
ZHN				*eS*	**Sb**	**01 06 30.7**	**+1.7**
	103nm,0.2s						
ZHN	**Zhinishke**	**2.58**	**215**	Pg	**Pb**	**01 05 57.8**	**+0.6**
	9.7nm,0.2s						
ZHN				Lg	Lg	01 06 30.6	
	103nm,0.2s						
SATY	**Saty**	**2.68**	**214**	*eP*	**Pb**	**01 05 59.7**	**+0.7**
	5.1nm,0.1s						
SATY				*eS*	**Sb**	**01 06 34.2**	**+2.3**
	37nm,0.2s						
SATY	**Saty**	**2.68**	**214**	Pg	**Pb**	**01 05 59.7**	**+0.7**
	5.1nm,0.1s						
SATY				Lg	Lg	01 06 34.0	
	37nm,0.2s						
CHKK	**Chushkaly**	**2.87**	**241**	*eP*	**Pb**	**01 06 02.7**	**+0.4**
	2.6nm,0.2s						
CHKK				*eS*	**Sb**	**01 06 39.3**	**+1.9**
	19nm,0.1s						
CHKK	**Chushkaly**	**2.87**	**241**	Pg	**Pb**	**01 06 02.6**	**+0.4**
	2.6nm,0.2s						
CHKK				Lg	Lg	01 06 39.1	
	19nm,0.1s						
KTBS	**Karatobe**	**3.13**	**241**	*eP*	**Pb**	**01 06 06.5**	**-0.2**
	3.2nm,0.2s						
KTBS				*eS*	**Sb**	**01 06 45.8**	**+0.8**
	16nm,0.5s						
KTBS	**Karatobe**	**3.13**	**241**	Pg	**Pb**	**01 06 06.5**	**-0.2**
	3.2nm,0.2s						
KTBS				Lg	Lg	01 06 45.6	
	16nm,0.5s						
KOTS	**Kotyrbulak**	**3.17**	**231**	*eP*	**Pb**	**01 06 08.5**	**+1.1**
	4.0nm,0.1s						
KOTS				*eS*	**Sb**	**01 06 49.5**	**+3.4**
	43nm,0.5s						
KOTS	**Kotyrbulak**	**3.17**	**231**	Pg	**Pb**	**01 06 08.0**	**+0.6**
	4.0nm,0.1s						
KOTS				Lg	Lg	01 06 48.3	
	43nm,0.5s						
MDOK	**Medeo**	**3.25**	**230**	*eP*	**Pb**	**01 06 09.0**	**+0.3**
	3.5nm,0.1s						
MDOK				*eS*	**Sb**	**01 06 50.3**	**+1.9**
	9.2nm,0.5s						
MDOK	**Medeo**	**3.25**	**230**	Pg	**Pb**	**01 06 08.8**	**+0.1**
MDOK				Lg	Lg	01 06 51.8	
MDOK	**Medeo**	**3.25**	**230**	Pg	**Pb**	**01 06 09.1**	**+0.3**
	3.5nm,0.1s						
MDOK				Lg	Lg	01 06 50.1	
	9.2nm,0.5s						
KUU	**Kurty**	**3.26**	**246**	*eP*	**Pb**	**01 06 09.1**	**+0.2**
	3.8nm,0.2s						
KUU				*eS*	**Sb**	**01 06 49.7**	**+1.0**
	11nm,0.2s						
KUU	**Kurty**	**3.26**	**246**	Pg	**Pb**	**01 06 09.1**	**+0.2**
	3.8nm,0.2s						
KUU				Lg	Lg	01 06 50.3	
	11nm,0.2s						
TNSS	**Tian-Shan**	**3.39**	**230**	*eP*	**Pb**	**01 06 12.6**	**+1.3**
	2.4nm,0.2s						
TNSS				*eS*	**Sb**	**01 06 55.8**	**+3.1**
	4.6nm,0.2s						
TNSS	**Tian-Shan**	**3.39**	**230**	Pg	**Pb**	**01 06 11.7**	**+0.4**
	2.4nm,0.2s						
TNSS				Lg	Lg	01 06 54.8	
	4.6nm,0.2s						
MTBS	**Maitube**	**3.62**	**235**	*eP*	**Pb**	**01 06 15.6**	**+0.6**
	2.4nm,0.3s						
MTBS				*eS*	**Sb**	**01 07 01.1**	**+2.1**
	16nm,0.4s						
MTBS	**Maitube**	**3.62**	**235**	Pg	**Pb**	**01 06 15.6**	**+0.6**
	2.4nm,0.3s						
MTBS				Lg	Lg	01 07 01.3	
	16nm,0.4s						
ZSN	**Zaisan**	**3.73**	**53**	*eP*	**Pb**	**01 06 18.2**	**+1.3**
	2.3nm,0.3s						
ZSN				*eS*	**Sg**	**01 07 06.6**	**-4.3**
	4.9nm,0.2s						
ZSN	**Zaisan**	**3.73**	**53**	Pg	**Pb**	**01 06 18.2**	**+1.3**
	2.3nm,0.3s						
ZSN				Lg	Lg	01 07 06.1	
	4.9nm,0.2s						
KRBS	**Karabastau**	**3.78**	**247**	*eP*	**Pb**	**01 06 20.4**	**+2.6**
	2.5nm,0.2s						
KRBS				*eS*	**Sg**	**01 07 09.0**	**-3.3**
	4.0nm,0.3s						
KRBS	**Karabastau**	**3.78**	**247**	P	**Pb**	**01 06 18.7**	**+1.0**
	2.5nm,0.2s						
KST				*eS*	**Sb**	**01 07 11.2**	**+2.9**
	3.2nm,0.2s						
KST	**Kastek**	**3.94**	**237**	*eP*	**Pb**	**01 06 21.6**	**+1.0**
	5.6nm,0.3s						
KST				*eS*	**Sb**	**01 07 11.2**	**+2.9**
	3.2nm,0.2s						
KST	**Kastek**	**3.94**	**237**	Pg	**Pb**	**01 06 22.0**	**+1.5**
	5.6nm,0.3s						
KST				Lg	Lg	01 07 12.2	
	3.2nm,0.2s						
DGS	**Degeres**	**3.94**	**240**	*eP*	**Pb**	**01 06 21.3**	**+0.7**
	4.6nm,0.2s						
DGS				*eS*	**Sb**	**01 07 11.1**	**+2.8**
DGS	**Degeres**	**3.94**	**240**	P	**Pb**	**01 06 21.9**	**+1.3**
	4.6nm,0.2s						
TKM2	**Tokmak 2**	**4.23**	**238**	⇑Pg	**Pb**	**01 06 28.3**	**+2.8**
	4.7nm,0.9s						
TKM2				⇓Lg	Lg	01 07 23

*NEIC **05** 01:18:49.2±1.6, 18°.54N±0°.07×145°.63E±0°.10, h204km±5km, mb4.5/105, Error ellipse: s-maj=13.8km s-min=9.5km az=75.0*

ISC 05 01:18:48.7±0.5, **18°.59N**±0°.04×**145°.71E**±0°.07, **h206**km±4km, **h206**Km:**pP-P, n232,** σ1°.10/251, **mb4.6**/112, **1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.04**	**189**	P	**Pn**	**01 20 06.3**	**+2.5**
	33nm,0.3s,baz=350,slow=6.0,SNR=4.9						
GUMO				S	**S**	**01 21 02.5**	**-0.1**
	25nm,0.3s,baz=344,slow=23,SNR=2.3						
GUMO				LR	LR	01 21 06.8	
	comp=Z,104nm,19.3s,baz=32,slow=27						
GUMO	**Guam**	**5.04**	**189**	Pn	**Pn**	**01 20 03.4**	**-0.4**
JCJ	**Chichijima**	**9.07**	**340**	Pn	**Pn**	**01 20 55.6**	**-0.2**
JOW	**Kunigami**	**18.05**	**300**	P	**Pn**	**01 22 47.3**	**+0.4**
	6.2nm,0.3s,baz=146,slow=11,SNR=12						
JOW	**Kunigami**	**18.05**	**300**	Pn	**Pn**	**01 22 46.9**	**-0.1**
JYT	**Yasato**	**18.24**	**346**	P	**P**	**01 22 46.8**	**+0.2**
JGF	**Kuroka**	**18.49**	**338**	P	**P**	**01 22 49.8**	**+0.4**
JGF				IAmb	IAmb	01 22 52.9	
	comp=Z,10nm,0.8s						
MJAR	**Matsushiro Arr**	**19.07**	**341**	P	**P**	**01 22 55.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=169,slow=10.0,SNR=9.0						
MJAR	**Matsushiro Arr**	**19.07**	**341**	P	**P**	**01 22 54.7**	**-0.9**
MAJO	**Matsushiro**	**19.07**	**341**	P	**P**	**01 22 55.0**	**-0.6**
MAJO				IAmb	IAmb	01 23 12.5	
	comp=Z,17nm,1.1s						
MAT	**Matsushiro**	**19.07**	**341**	P	**P**	**01 22 55.3**	**-0.3**
MJB9	**Matsu-Tunnel**	**19.07**	**341**	P	**P**	**01 22 55.0**	**-0.7**
MJB9				IAmb	IAmb	01 23 13.1	
	comp=Z,16nm,1.1s						
JMM	**Marumori**	**19.68**	**348**	P	**P**	**01 23 03.7**	**+1.5**
JMM				IAmb	IAmb	01 23 14.0	
	comp=Z,26nm,0.9s						
MANU	**Manus Island**	**20.57**	**175**	P	**P**	**01 23 11.9**	**0.0**
GENI	**Genyem**	**21.74**	**195**	P	**P**	**01 23 24.6**	**+0.6**
	comp=Z,147nm,0.8s						
JTM	**Tenmabayashi**	**22.48**	**351**	P	**P**	**01 23 30.9**	**+0.1**
YULB	**Yu-li**	**23.28**	**286**	P	**P**	**01 23 36.8**	**-1.4**
YULB				IAmb	IAmb	01 23 39.5	
	comp=Z,8.7nm,0.8s						
WAMI	**Wamena**	**23.37**	**198**	P	P	01 23 26.6	-12
YHNB	**Yeheng**	**23.40**	**289**	P	**P**	**01 23 39.3**	**0.0**
YHNB				IAmb	IAmb	01 23 47.7	
	comp=Z,19nm,0.8s						
SSLB	**Suanglung**	**23.64**	**287**	P	**P**	**01 23 41.1**	**-0.4**
SWI	**Sorong**	**23.99**	**218**	P	**P**	**01 23 46.5**	**+1.9**
	comp=Z,27nm,0.9s						
SIJI	**Sorong**	**23.99**	**218**	P	**P**	**01 23 45.1**	**+0.5**
	comp=Z,9.5nm,0.4s,baz=16,slow=7.7,SNR=8.7						
KSRS	**Korea Array**	**24.41**	**324**	P	**P**	**01 23 48.4**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=144,slow=8.8,SNR=5.8						
KSRS				pP	**pP**	**01 24 26.4**	**-0.3**
	comp=Z,6.5nm,0.9s,baz=146,slow=8.9,SNR=5.3						
FAKI	**Fak Fak**	**25.15**	**213**	P	**P**	**01 23 54.8**	**-0.4**
FAKI	**Fak Fak**	**25.15**	**213**	P	**P**	**01 23 54.2**	**-1.0**
JKA	**Kamikawa-asahi**	**25.59**	**355**	P	**P**	**01 23 59.8**	**+1.0**
ASAJ	**Asahikawa**	**25.59**	**355**	P	**P**	**01 24 00.8**	**+2.0**
	comp=Z,10nm,0.6s,baz=159,slow=11,SNR=5.7						
NJ2	**Nanjing**	**27.64**	**304**	*e*P	**P**	**01 24 19.3**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
MYLDM	**Lahad Datu**	**29.71**	**247**	P	**P**	**01 24 37.2**	**+1.4**
TOLI2	**Tolitoli**	**30.00**	**237**	P	**P**	**01 24 38.1**	**-0.3**
TOLI2				IAmb	IAmb	01 24 39.6	
	comp=Z,17nm,0.8s						
APSI	**Ampana**	**30.58**	**233**	P	**P**	**01 24 43.9**	**+0.5**
	comp=Z,724nmcomp=Z,21nm,0.6s						
WHN	**Wuhan**	**30.80**	**299**	⇓P	**P**	**01 24 48.7**	**+3.5**
MPSI	**Mapaga**	**31.16**	**237**	P	**P**	**01 24 50.4**	**+1.8**
	comp=Z,2μmcomp=Z,17nm,0.9s						
KKM	**Kota Kinabalu**	**31.33**	**250**	P	**P**	**01 24 50.0**	**-0.2**
KKM	**Kota Kinabalu**	**31.33**	**250**	P	**P**	**01 24 50.5**	**+0.3**
SPMM	**Sapulut**	**31.72**	**248**	P	**P**	**01 24 54.0**	**+0.5**
COEN	**Coen**	**32.44**	**185**	P	**P**	**01 24 59.0**	**-0.6**
TTSI	**Tana Toraja**	**33.35**	**232**	P	**P**	**01 25 08.9**	**+1.3**
	comp=Z,1μmcomp=Z,100nm,0.8s						
SPSI	**Sidrap Palu**	**33.99**	**231**	P	**P**	**01 25 13.6**	**+0.5**
	comp=Z,50nm,0.9s						
BNSI	**Bone**	**34.03**	**230**	P	**P**	**01 25 15.5**	**+2.0**
	comp=Z,50nm,1.4s						
MTN	**Manton Dam**	**34.38**	**206**	P	**P**	**01 25 16.3**	**-0.1**
BKB	**Balikpapan**	**34.52**	**238**	P	**P**	**01 25 17.2**	**-0.5**
	comp=Z,91nm,1.2s						
BKSI	**Bulukumba**	**34.65**	**229**	P	**P**	**01 25 19.7**	**+0.9**
	comp=Z,21nm,0.7s						
KAPI	**Kappang**	**34.71**	**230**	P	**P**	**01 25 17.5**	**-1.8**
KAPI				IAmb	IAmb	01 25 20.8	
	comp=Z,19nm,0.8s						
BSSI	**Bau Bau, Buton**	**34.96**	**228**	P	**P**	**01 25 22.1**	**+0.6**
	comp=Z,545nmcomp=Z,54nm,0.7s						
SOEI	**Soe**	**35.23**	**219**	P	**P**	**01 25 22.0**	**-1.8**
SOEI				IAmb	IAmb	01 25 35.4	
	comp=Z,23nm,0.8s						
BATI	**Baumata**	**35.94**	**219**	P	**P**	**01 25 29.4**	**-0.4**
	comp=Z,24nm,0.8s						
MTKI	**Muara Teweh, K**	**35.97**	**241**	P	**P**	**01 25 30.3**	**+0.2**
EDFI	**Ende, Flores**	**36.05**	**223**	P	**P**	**01 25 30.1**	**-0.7**
	comp=Z,7.6nm,0.8s						
KBKI	**Kotabaru**	**36.32**	**236**	P	**P**	**01 25 33.2**	**+0.2**
	comp=Z,23nm,0.8s						
SBUM	**Sibu**	**36.51**	**248**	P	**P**	**01 25 34.6**	**0.0**
HHC	**Hu-ho-hao-te**	**36.69**	**315**	*e*P	**P**	**01 25 38.9**	**+2.9**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,80nm,5.7s						
KNRA	**Kununurra**	**37.92**	**207**	P	**P**	**01 25 45.5**	**-0.9**
KNRA	**Kununurra**	**37.92**	**207**	P	**P**	**01 25 46.7**	**+0.3**
CTAO	**Charters Tower**	**38.44**	**179**	P	**P**	**01 25 50.7**	**0.0**
CTAO				IAmb	IAmb	01 25 51.6	
	comp=Z,8.0nm,0.7s						
CTAO	**Charters Tower**	**38.44**	**179**	P	**P**	**01 25 50.4**	**-0.3**
KSM	**Kuching**	**38.65**	**248**	P	**P**	**01 25 52.0**	**-0.6**
WB0	**Warramunga Arr**	**39.70**	**197**	P	**P**	**01 26 01.3**	**+0.1**
WR0	**Warramunga Arr**	**39.84**	**197**	P	**P**	**01 26 02.2**	**-0.1**
WRAB	**Tennant Creek**	**39.87**	**197**	P	**P**	**01 26 02.6**	**0.0**
WRAB	**Tennant Creek**	**39.87**	**197**	P	**P**	**01 26 03.1**	**+0.6**
WB2	**Warramunga Arr**	**39.88**	**197**	P	**P**	**01 26 02.9**	**+0.2**
WRA	**Warramunga Arr**	**39.88**	**197**	P	**P**	**01 26 02.6**	**0.0**
	comp=Z,19nm,0.4s,baz=21,slow=8.7,SNR=368						
WRA				PcP	**PcP**	**01 28 03.8**	**-0.4**
	comp=Z,3.4nm,0.5s,baz=12,slow=3.2,SNR=6.2						
WRA				ScP	**ScP**	**01 31 31.3**	**-2.2**
	comp=Z,0.9nm,0.9s,baz=14,slow=4.1,SNR=5.0						
WRA	**Warramunga Arr**	**39.88**	**197**	P	**P**	**01 26 01.4**	**-1.2**
WRA				PcP	**PcP**	**01 28 03.2**	**-1.0**
WRA				ScP	**ScP**	**01 31 31.0**	**-2.5**
SANVU	**Saraoutou**	**39.90**	**147**	P	**P**	**01 26 02.6**	**-0.2**
SRBI	**Singaraja**	**40.10**	**231**	P	**P**	**01 26 06.0**	**+1.5**
	comp=Z,46nm,0.8s						
DNP	**Denpasar**	**40.49**	**231**	P	**P**	**01 26 08.6**	**+0.9**
	comp=Z,243nm,0.5s						
ABJI	**Asem Bagus**	**40.64**	**233**	P	**P**	**01 26 09.8**	**+0.9**
	comp=Z,30nm,1.0s						
BWJI	**Bawean**	**40.64**	**236**	P	**P**	**01 26 09.9**	**+0.9**
BLJI	**Banyuglugur**	**41.09**	**233**	P	**P**	**01 26 13.7**	**+1.1**
	comp=Z,1μmcomp=Z,41nm,0.8s						
PZH	**PanZhiHua**	**41.21**	**289**	P	**P**	**01 26 13.8**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
UWJI	**Ujung Watu**	**42.34**	**237**	P	**P**	**01 26 23.6**	**+0.8**
	comp=Z,453μmcomp=Z,4μmcomp=Z,44nm,0.7s						
PCJI	**Pacitan**	**43.23**	**235**	P	**P**	**01 26 30.4**	**+0.5**
	comp=Z,82nm,0.8s						
SONM	**Songino Array**	**43.24**	**321**	P	**P**	**01 26 29.1**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=135,slow=8.5,SNR=24						
SONM	**Songino Array**	**43.24**	**321**	P	**P**	**01 26 28.8**	**-0.9**
AS31	**Alice Springs**	**43.55**	**196**	P	**P**	**01 26 33.0**	**+0.6**
ASAR	**Alice Springs**	**43.55**	**196**	P	**P**	**01 26 32.0**	**-0.3**
	comp=Z,4.2nm,0.4s,baz=18,slow=7.1,SNR=56						
ASAR				PcP	**PcP**	**01 28 16.1**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=18,slow=4.8,SNR=7.0						
ASAR				ScP	**ScP**	**01 31 45.7**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=31,slow=3.0,SNR=4.8						
UGM	**Wanagama**	**43.57**	**236**	P	**P**	**01 26 32.6**	**-0.1**
	comp=Z,89nm,1.3s						
UGM	**Wanagama**	**43.57**	**236**	P	**P**	**01 26 31.7**	**-1.0**
UGM	**Wanagama**	**43.57**	**236**	P	**P**	**01 26 32.9**	**+0.2**
YOGI	**Yogyakarta**	**43.69**	**236**	P	**P**	**01 26 33.7**	**+0.1**
	comp=Z,99nm,0.6s						
EIDS	**Eidsvold**	**44.00**	**173**	P	**P**	**01 26 34.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**44.25**	**278**	P	**P**	**01 26 38.8**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=64,slow=6.9,SNR=12						
CMAR	**Chiang Mai Arr**	**44.25**	**278**	P	**P**	**01 26 36.2**	**-1.8**
GTA	**Gaotai**	**44.63**	**308**	*e*P	**P**	**01 26 41.6**	**+0.7**
GTA				PcP	**PcP**	**01 28 20.0**	**0.0**
GTA				ScS	ScS	01 36 19.4	+2.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
RMQ	**Roma**	**44.90**	**176**	P	**P**	**01 26 42.3**	**-0.7**
NOUC	**Port Laguerre**	**45.18**	**153**	P	**P**	**01 26 45.4**	**+0.2**
DZM	**Mont Dzumac**	**45.21**	**152**	*e*P	**P**	**01 26 45.7**	**+0.1**
	comp=Z,96nm,1.0s						
DZM	**Mont Dzumac**	**45.21**	**152**	P	**P**	**01 26 45.9**	**+0.3**
DZM	**Mont Dzumac**	**45.21**	**152**	P	**P**	**01 26 46.9**	**+1.3**
OUENC	**Ouen Island, N**	**45.69**	**152**	P	**P**	**01 26 50.4**	**+1.1**
OUENC	**Ouen Island, N**	**45.69**	**152**	P	**P**	**01 26 49.9**	**+0.7**
KULM	**Kulim**	**45.88**	**259**	P	**P**	**01 26 51.3**	**+0.3**
KULM				IAmb	IAmb	01 26 53.1	
	comp=Z,12nm,0.6s						
PINNC	**Pines Island,**	**46.13**	**152**	P	**P**	**01 26 52.1**	**-0.6**
PINNC				IAmb	IAmb	01 26 54.2	
	comp=Z,26nm,0.7s						
KLSI		**46.53**	**244**	P	**P**	**01 26 55.9**	**-0.1**
	comp=Z,12nm,0.7s						
WRKA	**Warakurna**	**46.56**	**202**	P	**P**	**01 26 56.3**	**+0.3**
CGJI	**Cibinong**	**46.74**	**241**	P	**P**	**01 26 55.8**	**-1.7**
	comp=Z,2μmcomp=Z,97nm,0.7s						
MDSI	**Maura Dua**	**46.90**	**245**	P	**P**	**01 26 59.2**	**+0.4**
	comp=Z,7.9nm,0.9s						
OOD	**Oodnadatta**	**47.12**	**192**	P	**P**	**01 27 00.4**	**+0.2**
LHSI	**Lahat**	**47.14**	**246**	P	**P**	**01 27 00.9**	**+0.2**
	comp=Z,4μmcomp=Z,30nm,0.9s						
KASI	**Kota Agung**	**47.16**	**243**	P	**P**	**01 27 01.4**	**+0.6**
PSA00	**Pilbara Seismi**	**47.27**	**214**	P	**P**	**01 27 01.4**	**-0.2**
PSA00				IAmb	IAmb	01 27 02.2	
	comp=Z,15nm,1.1s						
PSA00	**Pilbara Seismi**	**47.27**	**214**	P	**P**	**01 27 00.8**	**-0.6**
PSA00				IAmb	IAmb	01 27 09.3	
	comp=Z,5.8nm,1.1s						
PSA00	**Pilbara Seismi**	**47.27**	**214**	P	**P**	**01 27 01.3**	**-0.2**
	comp=Z,14nm,1.2s						
GOMU	**GeErMu**	**47.92**	**302**	P	**P**	**01 27 08.5**	**+1.6**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,87nm,5.0s						
RPSI	**Rantau Prapat**	**48.43**	**257**	P	**P**	**01 27 10.1**	**-0.5**
RPSI				IAmb	IAmb	01 27 12.7	
	comp=Z,11nm,1.0s						
MNSI	**Mandailing Nat**	**48.58**	**254**	P	**P**	**01 27 12.8**	**+1.1**
XMIS	**Christmas Isla**	**48.95**	**237**	P	**P**	**01 27 12.6**	**-1.9**
ARMA	**Armidale**	**49.05**	**173**	P	**P**	**01 27 14.8**	**-0.3**
LCRK	**Leigh Creek**	**49.28**	**189**	P	**P**	**01 27 16.6**	**-0.1**
CMSA	**Cobar Meteorol**	**49.84**	**180**	P	**P**	**01 27 20.7**	**-0.2**
MULG	**Mulgathing**	**49.87**	**193**	P	**P**	**01 27 21.4**	**+0.3**
SISI	**Saibi**	**49.91**	**252**	P	**P**	**01 27 21.7**	**-0.1**
	comp=Z,19nm,0.7s						
GSI	**Gunungsitoli**	**50.21**	**256**	P	**P**	**01 27 25.2**	**+1.1**
	comp=Z,41nm,1.0s						
GSI	**Gunungsitoli**	**50.21**	**256**	P	**P**	**01 27 22.6**	**-1.4**
STKA	**Stephens Creek**	**50.33**	**185**	P	**P**	**01 27 23.8**	**-0.8**
	comp=Z,3.8nm,0.6s,baz=2.6,slow=8.5,SNR=12						
STKA	**Stephens Creek**	**50.33**	**185**	P	**P**	**01 27 23.8**	**-0.8**
STKA	**Stephens Creek**	**50.33**	**185**	P	**P**	**01 27 24.0**	**-0.6**
SNSI	**Sinabang, Aceh**	**50.94**	**258**	P	**P**	**01 27 34.1**	**+4.6**
	comp=Z,16μmcomp=Z,328nm,0.7s						
BILL	**Bilibino**	**51.13**	**10**	P	**P**	**01 27 30.1**	**0.0**
GIRL	**Giralia**	**51.24**	**218**	P	**P**	**01 27 32.9**	**+1.4**
BBOO	**Buckleboo**	**51.93**	**190**	P	**P**	**01 27 36.4**	**-0.1**
BBOO				IAmb	IAmb	01 27 40.6	
	comp=Z,11nm,0.6s						
BBOO	**Buckleboo**	**51.93**	**190**	P	**P**	**01 27 35.6**	**-0.9**
FORT	**Forrest**	**51.94**	**199**	P	**P**	**01 27 37.3**	**+0.8**
NAPP	**Napperby**	**51.98**	**188**	P	**P**	**01 27 37.3**	**+0.5**
MEEK	**Meekatharra**	**52.09**	**211**	P	**P**	**01 27 37.4**	**-0.4**
CNB	**Canberra Magne**	**53.72**	**176**	P	**P**	**01 27 50.0**	**+0.4**
WMQ	**Urumqi**	**54.39**	**311**	*e*P	**P**	**01 27 56.9**	**+2.4**
ARPS	**Mount Arapiles**	**55.18**	**184**	P	**P**	**01 28 00.0**	**0.0**
GUN	**Gumba**	**55.30**	**291**	*e*P	**P**	**01 28 02.6**	**+1.0**
	comp=Z,7.7nm,0.4s						
MORW	**Morawa**	**55.37**	**212**	P	**P**	**01 28 01.4**	**-0.1**
MORW				IAmb	IAmb	01 28 02.5	
	comp=Z,12nm,0.8s						
PKI	**Pulchoki**	**55.74**	**291**	*e*P	**P**	**01 28 05.3**	**+0.6**
	comp=Z,5.4nm,0.4s						
PKIN	**Phulchoki**	**55.75**	**291**	*e*P	**P**	**01 28 05.2**	**+0.5**
	comp=Z,9.2nm,0.4s						
BLDU	**Ballidu**	**56.32**	**210**	P	**P**	**01 28 08.4**	**+0.2**
GKN	**Gorkha**	**56.38**	**292**	*e*P	**P**	**01 28 09.8**	**+0.7**
	comp=Z,11nm,0.4s						
KLBR	**Kellerberrin**	**56.65**	**209**	P	**P**	**01 28 10.7**	**+0.2**
DANN	**Dangsing**	**57.13**	**292**	*e*P	**P**	**01 28 15.3**	**+0.8**
	comp=Z,38nm,0.6s						
KOLN	**Koldanda**	**57.32**	**291**	*e*P	**P**	**01 28 16.3**	**+0.6**
	comp=Z,35nm,1.0s						
PYUN	**Piuthan**	**57.83**	**292**	*e*P	**P**	**01 28 19.4**	**+0.2**
	comp=Z,8.2nm,0.6s						
ZAA0	**Zalesovo Array**	**58.11**	**323**	P	**P**	**01 28 20.0**	**-0.4**
ZALV	**Zalesovo Beam**	**58.11**	**323**	P	**P**	**01 28 19.1**	**-1.4**
	comp=Z,1.9nm,0.4s,baz=112,slow=8.0,SNR=18						
ZALV				pP	**pP**	**01 29 03.9**	**-2.2**
	comp=Z,1.5nm,0.4s,baz=100,slow=7.5,SNR=1.8						
ZALV				PcP	**PcP**	**01 29 07.8**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=125,slow=4.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**58.11**	**323**	P	**P**	**01 28 19.5**	**-1.0**
MK31	**Makanchi Array**	**58.55**	**314**	P	**P**	**01 28 23.6**	**-0.1**
MKAR	**Makanchi Array**	**58.55**	**314**	P	**P**	**01 28 23.0**	**-0.7**
	comp=Z,4.3nm,0.5s,baz=90,slow=8.0,SNR=93						
MKAR				PcP	**pP**	**01 29 09.1**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=78,slow=4.7,SNR=8.0						
MKAR	**Makanchi Array**	**58.55**	**314**	P	**P**	**01 28 23.4**	**-0.3**
MAKZ	**Makanchi**	**58.76**	**314**	P	**P**	**01 28 25.1**	**-0.1**
MAKZ				IAmb	IAmb	01 28 26.2	
	comp=Z,8.3nm,0.5s						
CAST	**Castle Rocks**	**61.19**	**27**	P	**P**	**01 28 42.8**	**+1.5**
CAST				IAmb	IAmb	01 28 46.5	
	comp=Z,7.6nm,0.7s						
IMAR	**Indian Mountai**	**61.31**	**24**	P	**P**	**01 28 43.7**	**+1.6**
KURK	**Kurchatov**	**61.36**	**318**	P	**P**	**01 28 42.0**	**-0.7**
H21K	**Melozitna Rive**	**61.57**	**24**	P	**P**	**01 28 45.5**	**+1.7**
RC01	**Rabbit Creek A**	**61.64**	**30**	P	**P**	**01 28 45.5**	**+1.1**
NRIK	**Noril'sk**	**61.72**	**340**	P	**P**	**01 28 44.0**	**-0.8**
	comp=Z,9.6nm,0.5s,baz=108,slow=8.6,SNR=28						
NRIK	**Noril'sk**	**61.72**	**340**	P	**P**	**01 28 44.4**	**-0.4**
NRIK				IAmb	IAmb	01 28 44.9	
	comp=Z,9.8nm,0.6s						
I23K	**Minto, Yukon-K**	**62.81**	**25**	P	**P**	**01 28 53.8**	**+1.8**
I23K				IAmb	IAmb	01 28 55.8	
	comp=Z,5.9nm,0.7s						
KSH	**Kashi**	**62.94**	**305**	P	**P**	**01 28 56.9**	**+3.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MDM	**Murphy Dome**	**63.22**	**26**	P	**P**	**01 28 56.5**	**+1.7**
MDM				IAmb	IAmb	01 28 57.1	
	comp=Z,5.3nm,0.6s						
H24K	**Noodor Dome**	**63.58**	**25**	P	**P**	**01 28 58.6**	**+1.5**
H24K				IAmb	IAmb	01 28 59.2	
	comp=Z,3.4nm,0.6s						
TOLK	**Toolik Lake Re**	**63.69**	**22**	P	**P**	**01 28 59.7**	**+1.9**
TOLK				IAmb	IAmb	01 29 00.0	
	comp=Z,4.9nm,0.6s						
IL31		**63.74**	**26**	P	**P**	**01 28 58.2**	**+0.1**
ILAR	**Eielson Array**	**63.74**	**26**	P	**P**	**01 28 57.7**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=251,slow=5.3,SNR=36						
ILAR				PcP	**PcP**	**01 29 31.6**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=278,slow=4.5,SNR=5.6						
ILAR				pP	**pP**	**01 29 44.2**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=253,slow=5.0,SNR=2.8						
ILAR	**Eielson Array**	**63.74**	**26**	P	**P**	**01 28 58.0**	**-0.2**
URZ	**Urewera**	**63.77**	**153**	P	**P**	**01 28 58.0**	**-0.6**
	comp=Z,8.0nm,0.7s,baz=301,slow=24,SNR=7.3						
URZ	**Urewera**	**63.77**	**153**	P	**P**	**01 28 57.6**	**-1.0**
URZ				IAmb	IAmb	01 29 14.2	
	comp=Z,23nm,1.2s						
PAX	**Paxson**	**64.00**	**28**	P	**P**	**01 29 01.3**	**+1.3**
PAX				IAmb	IAmb	01 29 05.1	
	comp=Z,10nm,1.4s						
BKZ	**Black Stump Fm**	**64.27**	**154**	P	**P**	**01 29 00.9**	**-1.1**
SCRK	**Sand Creek**	**64.83**	**27**	P	**P**	**01 29 06.5**	**+1.1**
SCRK				IAmb	IAmb	01 29 07.6	
	comp=Z,3.2nm,0.6s						
NIL	**Nilore**	**65.60**	**299**	P	**P**	**01 29 10.6**	**-0.2**
NIL				IAmb	IAmb	01 29 13.5	
	comp=Z,9.1nm,0.6s						
BRVK	**Borovoye**	**66.63**	**320**	P	**P**	**01 29 16.5**	**-0.5**
BRVK				IAmb	IAmb	01 29 17.8	
	comp=Z,12nm,0.6s						
DAWY	**Dawson**	**66.84**	**27**	P	**P**	**01 29 19.3**	**+1.2**
KKAR	**Karatay Array**	**66.85**	**310**	P	**P**	**01 29 18.3**	**-0.2**
CHGR	**Chuyangaron**	**68.30**	**305**	P	**P**	**01 29 27.7**	**-0.1**
CHGR				IAmb	IAmb	01 29 28.5	
	comp=Z,12nm,0.6s						
SKAG	**Skagway**	**68.58**	**33**	P	**P**	**01 29 30.9**	**+1.9**
SKAG				IAmb	IAmb	01 29 40.0	
	comp=Z,14nm,0.8s						
KBL	**Kabul**	**68.94**	**301**	P	**P**	**01 29 31.6**	**-0.4**
KBL					**pP**	**01 30 17.6**	**-1.6**
INK	**Inuvik**	**69.47**	**23**	P	**P**	**01 29 34.9**	**+0.6**
INK				IAmb	IAmb	01 29 35.8	
	comp=Z,5.8nm,0.8s						
A36M	**Sachs Harbour**	**72.18**	**19**	P	**P**	**01 29 51.0**	**+0.4**
A36M				IAmb	IAmb	01 29 52.3	
	comp=Z,8.9nm,0.8s						
C36M	**Paulatuk**	**72.85**	**22**	P	**P**	**01 29 55.1**	**+0.6**
C36M				IAmb	IAmb	01 29 55.4	
	comp=Z,7.3nm,0.5s						
ARU	**Arti**	**73.16**	**325**	P	**P**	**01 29 56.0**	**-0.7**
ARU				IAmb	IAmb	01 29 56.9	
	comp=Z,8.7nm,0.5s						
ABKAR	**Akbulak array**	**73.43**	**317**	P	**P**	**01 29 57.0**	**-1.3**
ABKAR	**Akbulak array**	**73.43**	**317**	P	**P**	**01 29 57.1**	**-1.3**
ABKAR				IAmb	IAmb	01 29 58.1	
	comp=Z,7.9nm,0.5s						
HRA	**Herat**	**74.49**	**301**	P	**P**	**01 30 05.0**	**-0.1**
EUNU	**Eureka**	**77.83**	**8**	P	**P**	**01 30 23.4**	**+0.5**
EUNU				IAmb	IAmb	01 30 24.3	
	comp=Z,10nm,0.8s						
YKA	**Yellowknife Ar**	**78.08**	**28**	P	**P**	**01 30 24.8**	**+0.4**
	comp=Z,4.5nm,0.6s,baz=288,slow=5.5,SNR=75						
YKA				pP	**pP**	**01 31 10.5**	**-2.4**
	comp=Z,1.6nm,0.8s,baz=290,slow=5.4,SNR=2.3						
YKA	**Yellowknife Ar**	**78.08**	**28**	P	**P**	**01 30 24.0**	**-0.4**
B08A	**Colville Reser**	**79.55**	**43**	P	**P**	**01 30 32.7**	**-0.1**
B08A				IAmb	IAmb	01 30 34.8	
	comp=Z,8.1nm,1.0s						
E07A	**Sunnyside**	**79.70**	**44**	P	**P**	**01 30 34.9**	**+1.2**
E07A				IAmb	IAmb	01 30 37.2	
	comp=Z,6.6nm,0.8s						
PINE	**Pine Mountain**	**79.72**	**47**	P	**P**	**01 30 35.2**	**+1.2**
PINE				IAmb	IAmb	01 30 36.8	
	comp=Z,10nm,0.8s						
HAWA	**Hanford**	**79.97**	**44**	P	**P**	**01 30 35.9**	**+0.9**
HAWA				IAmb	IAmb	01 30 37.8	
	comp=Z,4.8nm,0.8s						
D08A	**Wollman Farm,**	**80.18**	**44**	P	**P**	**01 30 37.7**	**+1.5**
D08A				IAmb	IAmb	01 30 38.8	
	comp=Z,4.5nm,0.6s						
C09A	**Chrisman Ranch**	**80.39**	**43**	P	**P**	**01 30 38.6**	**+1.4**
C09A				IAmb	IAmb	01 30 40.3	
	comp=Z,4.6nm,0.6s						
E09A	**Wood Farm, Sta**	**80.85**	**44**	P	**P**	**01 30 40.7**	**+1.0**
NEW	**Newport**	**80.99**	**42**	P	**P**	**01 30 40.1**	**-0.3**
J08A	**Circle Bar Ran**	**81.57**	**47**	P	**P**	**01 30 44.2**	**+0.5**
J08A				IAmb	IAmb	01 30 45.9	
	comp=Z,5.4nm,1.0s						
WVOR	**Wild Horse Val**	**81.73**	**48**	P	**P**	**01 30 45.2**	**+0.7**
CMB	**Columbia Colle**	**81.75**	**53**	P	**P**	**01 30 45.7**	**+1

NOV	**Novara**	**0.31 196**	P	Pn	01 21 47.6	-0.5
AIO	**Antillo**	**0.35 181**	P	Pn	01 21 48.6	+0.3
MTTG	**Motta San Giov**	**0.48 132**	⇑P	Pn	01 21 49.0	+0.3
MTTG			S	Sn	01 22 06.3	+0.2
CEL	**Celeste**	**0.52 97**	P	Pn	01 21 49.3	+0.4
CEL			S	Sn	01 22 06.5	+0.1
MSFR	**San Fratello**	**0.59 241**	P	Pn	01 21 49.5	+0.2
SOI	**Samo**	**0.69 111**	⇑P	Pn	01 21 50.0	+0.3
SOI			S	Sn	01 22 06.8	-1.2
SOI			AML	AML		
	comp=N,103μm,1.6s					
SOI			AML	AML		
	comp=E,102μm,0.7s					
PLAC	**Placanica**	**0.95 82**	⇑P	Pn	01 21 51.9	+0.4
PLAC			S	Sn	01 22 11.0	-0.2
HAGA	**Augusta**	**1.04 184**	P	Pn	01 21 52.9	+0.7
CET2	**Cetraro**	**1.32 25**	P	Pn	01 21 54.9	+0.1
TIP	**Timpagrande**	**1.46 54**	P	Pn	01 21 56.6	+0.6
TDS	**Terranova Siba**	**1.58 32**	P	Pn	01 21 57.6	+0.4
SALB	**San Lorenzo Be**	**1.77 29**	P	Pn	01 22 00.4	+1.0
PAOL	**Paolisi**	**2.75 349**	S	Sn	01 22 51.0	+5.4
VITU	**Vitulano (BN)**	**2.89 351**	P	Pn	01 22 19.1	+6.6
CPGN	**Carpegna, Ital**	**5.90 339**	P	Pn	01 22 59.9	+8.5

*VIE **05** 01:21:56.6±0.4, 46°.65N×10°.29E, h10km±5km, mb1.9/1, ml1.2/5, Error ellipse: s-maj=2.0km s-min=1.2km az=159.0 20 km W of Glorenza*

ZUR 05 01:21:56.9, 46°.64N×10°.28E, h8km±1km, MLh1.0/10, 4C-2D, Error ellipse: s-maj=2.1km s-min=0.8km az=174.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STSP	**Tschierv**	**0.04**	**103**	⇓Pg	Pg	01 21 59.0	+0.3
STSP				⇓Pg	Pg	01 21 59.0	+0.3
	0.8nm,SNR=6.3						
STSP				Sg	Sg	01 22 00.1	+0.2
SCUC	**Scuol-Clozza**	**0.16**	**6**	⇑Pg	Pg	01 22 00.7	+0.3
SCUC				⇑Pg	Pg	01 22 00.7	+0.3
	0.5nm,SNR=2.9						
SCUC				Sg	Sg	01 22 03.0	+0.2
BRMO	**Bormio**	**0.17**	**158**	Pg	Pg	01 22 00.8	+0.2
	0.1nm,SNR=1.1						
BRMO				Pg	Pg	01 22 00.8	+0.2
BRMO				Sg	Sg	01 22 03.5	+0.5
MOSI	**Grossmontoni**	**0.19**	**96**	⇑Pg	Pg	01 22 01.1	+0.3
MOSI				⇑Pg	Pg	01 22 01.1	+0.3
	0.2nm,SNR=1.3						
MOSI				Sg	Sg	01 22 04.2	+0.7
BERNI	**Berninapass**	**0.28**	**219**	Pg	Pg	01 22 03.1	+0.4
BERNI				Pg	Pg	01 22 03.1	+0.4
	0.1nm,SNR=1.4						
BERNI				Sg	Sg	01 22 06.9	+0.5
DAVOX	**Davos/Dischmat**	**0.31**	**298**	Pg	Pg	01 22 03.3	+0.2
	0.1nm,SNR=0.8						
DAVOX				Pg	Pg	01 22 03.3	+0.2
DAVOX				Sg	Sg	01 22 07.7	+0.4
FETA	**Feichten**	**0.49**	**38**	Pg	Pg	01 22 06.6	0.0
FETA				Pg	Pg	01 22 06.6	0.0
	0.1nm,SNR=2.4						
FETA				Sg	Sg	01 22 13.2	+0.2
FETA	**Feichten**	**0.49**	**38**	*e*Pg	Pg	01 22 06.6	+0.1
	0.1nm,0.0s						
FETA				*e*Sg	Sg	01 22 13.3	+0.3
	1.0nm,0.1s						
SQTA	**Sankt Quirin**	**0.86**	**47**	*e*Pg	Pg	01 22 13.3	-0.2
	0.1nm,0.1s						
SQTA				*e*Sg	Sg	01 22 24.5	-0.3
	0.7nm,0.2s						
MOTA	**Moosalm**	**0.91**	**38**	*e*Pg	Pg	01 22 14.0	-0.4
	0.1nm,0.1s						
MOTA				*e*Sg	Sg	01 22 26.4	+0.2
	0.3nm,0.2s						

*IDC **05** 01:33:19.2±2.9, 32°.81S×178°.40W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/29, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=67.3km s-min=35.4km az=118.0*

*NEIC **05** 01:33:25.8±0.9, 33°.1S±0°.1×178°.5W±0°.3, h38km±12km, mb4.5/11, Error ellipse: s-maj=32.8km s-min=10.5km az=111.0*

ISC 05 01:33:23.8±1.5, 33°.0S±0°.1×178°.3W±0°.2, h32km, n21, σ0°.94/22, mb4.4/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.46**	**214**	Pn	**Pn**	**01 34 56.9**	**+0.2**
	1.5nm,0.3s,baz=120,slow=23,SNR=9.7						
URZ				Sn	**Sn**	**01 36 10.8**	**+1.6**
	7.4nm,0.3s,baz=156,slow=19,SNR=10						
URZ	**Urewera**	**6.46**	**214**	Pn	**Pn**	**01 34 56.6**	**0.0**
BKZ	**Black Stump Fm**	**7.47**	**213**	Pn	**Pn**	**01 35 10.0**	**-0.7**
SNZO	**South Karori**	**10.01**	**212**	Pn	**Pn**	**01 35 44.7**	**-0.6**
LTZ	**Lake Taylor**	**12.29**	**214**	Pn	**Pn**	**01 36 17.8**	**+1.2**
SANVU	**Saraoutou**	**21.82**	**320**	P	**P**	**01 38 14.8**	**+1.3**
SANVU				IAmb	IAmb	01 38 15.6	
	comp=Z,20nm,0.7s						
FUNA	**Funafuti**	**24.42**	**354**	P	**P**	**01 38 40.7**	**+1.1**
TAU	**Tasmania Unive**	**28.68**	**240**	P	**P**	**01 39 16.6**	**-1.1**
TOO	**Toolangi**	**29.77**	**251**	P	**P**	**01 39 25.6**	**-1.9**
TOO				IAmb	IAmb	01 39 45.4	
	comp=Z,9.9nm,1.2s						
CTAO	**Charters Tower**	**34.02**	**283**	P	**P**	**01 40 06.1**	**+1.1**
CTAO				IAmb	IAmb	01 40 13.6	
	comp=Z,10.0nm,1.2s						
BBOO	**Buckleboo**	**38.07**	**257**	P	**P**	**01 40 38.9**	**-0.7**
BBOO				IAmb	IAmb	01 40 58.8	
	comp=Z,4.9nm,0.8s						
COEN	**Coen**	**39.77**	**289**	P	**P**	**01 40 53.9**	**0.0**
COEN				IAmb	IAmb	01 40 54.4	
	comp=Z,23nm,1.4s						
ASAR	**Alice Springs**	**42.75**	**270**	P	**P**	**01 41 18.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=110,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**42.75**	**270**	P	**P**	**01 41 18.4**	**0.0**
WB2	**Warramunga Arr**	**43.96**	**275**	P	**P**	**01 41 27.5**	**-0.7**
WB2				IAmb	IAmb	01 41 28.0	
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**43.97**	**275**	P	**P**	**01 41 27.8**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=114,slow=7.9,SNR=30						
WRA	**Warramunga Arr**	**43.97**	**275**	P	**P**	**01 41 27.7**	**-0.5**
WB0	**Warramunga Arr**	**44.01**	**275**	P	**P**	**01 41 27.9**	**-0.6**
WB0				IAmb	IAmb	01 41 45.2	
	comp=Z,7.0nm,1.2s						
MAW	**Mawson**	**69.82**	**201**	P	**P**	**01 44 31.2**	**+0.5**
FINES	**FINESS Array B**	**147.43**	**338**	PKPbc	**PKPbc**	**01 53 02.8**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=54,slow=3.3,SNR=11						
FINES	**FINESS Array B**	**147.43**	**338**	PKPdf	**PKPdf**	**01 53 01.2**	**+0.1**

*IDC **05** 01:58:16.3±0.6, 15°.29N×95°.15W, h0km, mb4.6/25, mb1 4.8/26, mb1mx4.6/42, mbtmp4.6/26, ML4.6/1, MS4.2/19, Ms1 4.2/19, ms1mx4.0/65, Error ellipse: s-maj=22.6km s-min=9.8km az=61.0*

*GCMT **05** 01:58:18.6±0.5, 15°.30N±0°.03×95°.21W±0°.03, h20km±1km, MW4.9/59, Moment Tensor Solution. s24,c31; s59,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.35±.25; $M_{\theta\theta}$-0.47±.15; $M_{\phi\phi}$2.83±.16; $M_{r\theta}$-0.13±.35; $M_{\theta\phi}$-1.36±.12; $M_{\phi r}$-1.57±.26; Best double couple: $M_0$3.28200×10^{16} NP1:ϕ_s140.00000°, δ35.00000°, λ-121.00000°. NP2: ϕ_s356.00000°, δ61.00000°, λ-70.00000°. Principal axes: T 3.6650, Plg14.0000°, Azm72.0000°; N -0.7580, Plg17.0000°, Azm167.0000°; P -2.9000, Plg68.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MEX **05** 01:58:18.9±1.5, 15°.18N×95°.48W, h27km±22km, MD4.9*

*NEIC **05** 01:58:19.6±1.6, 15°.38N±0°.05×95°.35W±0°.05, h19km±4km, mb5.0/347, Md4.9/53(MEX), Error ellipse: s-maj=8.2km s-min=6.2km az=200.0*

*BGR **05** 01:58:23.2±0.0, 14°.50N×94°.50W, h33km, mb4.9*

ISC 05 01:58:17.8±0.6, 15°.21N±0°.04×95°.44W±0°.03, h15km±3km, h17km:pP-P, n657, σ1s74/573, mb5.0/203, MS4.1/19, 5C-3D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.85**	**311**		**Pb**	**01 58 32.1**	**-2.1**
HUIG					**Sb**	**01 58 43.1**	**-2.4**
HUIG	**Huatulco**	**0.85**	**311**	*e*P	**Pb**	**01 58 32.1**	**-2.1**
HUIG				*e*S	**Sb**	**01 58 43.1**	**-2.4**
PEIG	**Puerto Escondi**	**1.82**	**296**	*e*P	**Pn**	**01 58 46.4**	**-2.2**
PEIG				*e*S	**Sn**	**01 59 06.8**	**-4.5**
CMIG	**Matias Romero**	**1.94**	**16**	Pn	**Pn**	**01 58 48.2**	**-2.0**
	56nm,0.3s,baz=192,slow=11,SNR=608						
CMIG				Sn	**Sn**	**01 59 12.9**	**-1.6**
	622nm,0.3s,baz=196,slow=22,SNR=17						
CMIG				LR	LR	01 59 28.6	
	comp=Z,3μm,20.9s,baz=328,slow=40						
CMIG	**Matias Romero**	**1.94**	**16**		**Pn**	**01 58 48.3**	**-2.0**
CMIG					**Sn**	**01 59 12.0**	**-2.4**
CMIG	**Matias Romero**	**1.94**	**16**	*e*P	**Pn**	**01 58 48.3**	**-2.0**
CMIG				*e*S	**Sn**	**01 59 12.0**	**-2.4**
PCIG		**2.20**	**77**		**Pn**	**01 58 50.8**	**-3.1**
PCIG					**Sn**	**01 59 13.8**	**-6.9**
PCIG		**2.20**	**77**	*e*P	**Pn**	**01 58 50.8**	**-3.1**
PCIG				*e*S	**Sn**	**01 59 13.8**	**-6.9**
OXLC	**Oaxaca**	**2.20**	**327**	*e*P	**Pn**	**01 58 54.1**	**0.0**
OXLC				*e*S	**Sn**	**01 59 18.9**	**-2.3**
OXBJ	**Oaxaca**	**2.22**	**326**		**Pn**	**01 58 53.8**	**-0.5**
OXBJ					**Sn**	**01 59 20.2**	**-1.3**
OXBJ	**Oaxaca**	**2.22**	**326**	*e*P	**Pn**	**01 58 53.8**	**-0.5**
OXBJ				*i* S	**Sn**	**01 59 20.2**	**-1.3**
VHO	**Vista Hermosa**	**2.23**	**326**	*e*P	**Pn**	**01 58 54.0**	**-0.4**
VHO				*e*S	**Sn**	**01 59 18.4**	**-3.4**
UXUV	**UXUV**	**2.44**	**31**	*e*P	**Pn**	**01 58 55.3**	**-1.8**
UXUV				*i* S	**Sn**	**01 59 24.9**	**-1.7**
UXUV				*i* S	**Sn**	**01 59 25.0**	**-1.7**
YOIG	**Yosondua**	**2.60**	**309**	*e*P	**Pn**	**01 58 57.5**	**-2.0**
YOIG				*i* S	**Sn**	**01 59 27.4**	**-3.6**
TGIG		**2.72**	**55**		**Pn**	**01 58 59.5**	**-1.6**
TGIG					**Sn**	**01 59 32.4**	**-1.3**
TGIG		**2.72**	**55**	*e*P	**Pn**	**01 58 59.5**	**-1.6**
TGIG				*e*S	**Sn**	**01 59 32.4**	**-1.3**
PNIG	**Pinotepa**	**2.84**	**295**		**Pn**	**01 59 01.4**	**-1.2**
PNIG	**Pinotepa**	**2.84**	**295**	*e*P	**Pn**	**01 59 01.4**	**-1.2**
TUIG	**Tuzandepetl**	**2.97**	**19**		**Pn**	**01 59 02.5**	**-1.9**
TUIG					**Sb**	**01 59 47.3**	**+0.7**
TUIG	**Tuzandepetl**	**2.97**	**19**	*e*P	**Pn**	**01 59 02.5**	**-1.9**
TUIG				*e*S	**Sb**	**01 59 47.3**	**+0.7**
TXIG	**Tlaxiaco**	**3.02**	**313**	*e*P	**Pn**	**01 59 06.0**	**+0.7**
PATR	**El Naranjo**	**3.10**	**91**	*e*P	**Pn**	**01 59 03.5**	**-3.0**
PATR				*i* S	**Sn**	**01 59 37.3**	**-6.0**
PAVE	**Pavencul**	**3.15**	**90**	*e*P	**Pn**	**01 59 04.8**	**-2.4**
PAVE				*i* S	**Sn**	**01 59 38.6**	**-6.0**
CHUJ	**Union Juarez**	**3.22**	**92**	*e*P	**Pn**	**01 59 05.8**	**-2.4**
CHUJ				*i* S	Sn	01 59 35.7	-11
TOIG	**Toxpalan**	**3.26**	**332**	*e*P	**Pn**	**01 59 10.4**	**+1.9**
TOIG				*e*S	**Sn**	**01 59 45.3**	**-1.8**
CCIG	**Comitan**	**3.36**	**71**	Pn	**Pn**	**01 59 08.8**	**-1.1**
CCIG				Sn	**Sn**	**01 59 47.8**	**-1.8**
CCIG	**Comitan**	**3.36**	**71**	*e*P	**Pn**	**01 59 08.4**	**-1.5**
CCIG				*e*S	**Sn**	**01 59 47.5**	**-2.1**
HLIG	**Huajuapan de L**	**3.45**	**319**	*e*P	**Pn**	**01 59 12.3**	**+1.0**
HLIG				*e*S	**Sn**	**01 59 50.3**	**-1.6**
RTAL	**Retalhuleu**	**3.69**	**100**	Pn	**Pn**	**01 59 16.0**	**+1.7**
FTIG	**Fresnillo de T**	**3.72**	**316**	*e*P	**Pn**	**01 59 15.9**	**+1.0**
TLIG	**Tlapa**	**3.80**	**308**	Pn	**Pn**	**01 59 16.5**	**+0.5**
HUEH	**Huehuetenango**	**3.80**	**88**	Pn	**Pn**	**01 59 16.0**	**-0.1**
CRIG	**Cruz Grande**	**3.86**	**294**		**Pn**	**01 59 15.8**	**-0.8**
CRIG					**Sn**	**01 59 55.9**	**-5.8**
CRIG	**Cruz Grande**	**3.86**	**294**	*e*P	**Pn**	**01 59 15.8**	**-0.8**
CRIG				*e*S	**Sn**	**01 59 55.9**	**-5.8**
DAIG	**Los Arroyos**	**4.43**	**295**		**Pn**	**01 59 24.2**	**-0.3**
DAIG					**Sn**	**02 00 09.8**	**-6.0**
DAIG	**Los Arroyos**	**4.43**	**295**	*e*P	**Pn**	**01 59 24.2**	**-0.3**
DAIG				*i* S	**Sn**	**02 00 09.8**	**-6.0**
LVIG	**Laguna Verde**	**4.58**	**348**		**Pn**	**01 59 27.5**	**+1.0**
LVIG					**Sn**	**02 00 15.0**	**-4.6**
LVIG	**Laguna Verde**	**4.58**	**348**	*e*P	**Pn**	**01 59 27.5**	**+1.0**
LVIG				*e*S	**Sn**	**02 00 15.0**	**-4.6**
MEIG	**Mezcala**	**4.83**	**305**		**Pn**	**01 59 30.4**	**+0.3**
MEIG	**Mezcala**	**4.83**	**305**	*e*P	**Pn**	**01 59 30.4**	**+0.3**
PPM	**Popocatepetl**	**4.89**	**322**	*e*P	**Pn**	**01 59 36.0**	**+4.7**
CAIG	**El Cayaco**	**4.98**	**292**		**Pn**	**01 59 31.8**	**-0.3**
CAIG					**Sn**	**02 00 22.3**	**-7.2**
CAIG	**El Cayaco**	**4.98**	**292**	*e*P	**Pn**	**01 59 31.8**	**-0.3**
CAIG				*i* S	**Sn**	**02 00 22.3**	**-7.2**
PLIG	**Platanillo**	**5.01**	**310**		**Pn**	**01 59 34.5**	**+1.9**
PLIG					**Sn**	**02 00 27.7**	**-2.6**
PLIG	**Platanillo**	**5.01**	**310**	*e*P	**Pn**	**01 59 34.5**	**+1.9**
PLIG				*i* S	**Sn**	**02 00 27.7**	**-2.6**
SCIG	**Sabancuy**	**5.52**	**47**		**Pn**	**01 59 36.5**	**-3.0**
SCIG	**Sabancuy**	**5.52**	**47**	*e*P	**Pn**	**01 59 36.5**	**-3.0**
PETF	**Flores**	**5.62**	**72**	Pn	**Pn**	**01 59 38.8**	**-2.2**
ESQI	**Esquipulas**	**5.93**	**96**	Pn	**Pn**	**01 59 44.7**	**-0.6**
MTO3	**Montecristo**	**5.94**	**97**	Pn	**Pn**	**01 59 45.6**	**+0.1**
SNET	**Serv Nac Est T**	**6.21**	**103**	Pn	**Pn**	**01 59 50.1**	**+1.1**
ZIIG	**Zihuatanejo**	**6.25**	**293**		**Pn**	**01 59 50.6**	**+1.0**
ZIIG					**Sn**	**02 01 00.1**	**-0.6**
ZIIG	**Zihuatanejo**	**6.25**	**293**	*e*P	**Pn**	**01 59 50.6**	**+1.0**
ZIIG				*i* S	**Sn**	**02 01 00.1**	**-0.6**
MOIG	**Morelia**	**7.06**	**310**	Pn	**Pn**	**02 00 02.7**	**+1.8**
TGUH	**Tegucigalpa,Un**	**7.99**	**97**	Pn	**Pn**	**02 00 14.0**	**+0.4**
CRIN	**San Cristobal**	**8.52**	**106**	Pn	**Pn**	**02 00 22.3**	**+1.5**
MATN	**Matagalpa**	**9.51**	**103**	Pn	**Pn**	**02 00 32.9**	**-1.5**
BOAB	**BOACO BROADBAN**	**9.88**	**105**	Pn	**Pn**	**02 00 40.5**	**+1.0**
ZAIG	**Zacatecas**	**10.09**	**319**	Pn	**Pn**	**02 00 42.3**	**-0.2**
ACON	**Acoyapa**	**10.49**	**107**	Pn	**Pn**	**02 00 48.6**	**+0.9**
HZTE	**Horizontes, Gu**	**10.59**	**114**	Pn	**Pn**	**02 00 50.4**	**+1.3**
ORTG	**Ortega, Santa**	**10.86**	**115**	Pn	**Pn**	**02 00 54.1**	**+1.2**
DUNO	**Dulce Nombre,**	**10.97**	**117**	Pn	**Pn**	**02 00 55.9**	**+1.6**
JTS	**Las Juntas de**	**11.34**	**114**	Pn	**Pn**	**02 01 01.1**	**+1.7**
CAO2	**Cobano, Puntar**	**11.49**	**117**		**Pn**	**02 01 02.1**	**+0.7**
COVE	**Coope Vega, Sa**	**11.65**	**111**		**Pn**	**02 01 04.0**	**+0.3**
CVTR	**Volcan Turrial**	**12.51**	**113**		**Pn**	**02 01 16.3**	**+0.4**
RIMA	**Rio Macho**	**12.53**	**114**	Pn	**Pn**	**02 01 16.8**	**+0.9**
PEZE	**Perez Zeledon,**	**12.87**	**115**	Pn	**Pn**	**02 01 21.4**	**+0.9**
SRBA	**San Rafael, Bu**	**13.22**	**115**	Pn	**Pn**	**02 01 25.8**	**+0.6**
833A	**Chaparral WMA,**	**13.55**	**345**	P	**Pn**	**02 01 29.4**	**-0.1**
	baz=162						
BRU2	**Volcan**	**14.01**	**116**	Pn	**Pn**	**02 01 36.9**	**+0.8**
HKT	**Hockley**	**14.67**	**359**	Pn	**Pn**	**02 01 42.7**	**-2.2**
LCCY	**Blossom Villag**	**15.31**	**71**	Pn	**Pn**	**02 01 50.7**	**-2.7**
435B	**Jarrell**	**15.62**	**353**	IAmb	IAmb	02 02 22.4	
	comp=Z,100nm,0.8s						
435B	**Jarrell**	**15.62**	**353**	P	**Pn**	**02 01 57.5**	**-0.1**
	baz=171,SNR=14						
JCT	**Junction City**	**15.71**	**346**	Pn	**Pn**	**02 01 58.5**	**-0.2**
JCT	**Junction City**	**15.71**	**346**	P	**Pn**	**02 01 57.7**	**-1.0**
	baz=163,SNR=9.7						
TXAR	**Lajitas Array**	**15.97**	**333**	Pn	**Pn**	**02 02 03.5**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=151,slow=14,SNR=112						
TXAR				LR	LR	02 08 02.8	
	comp=Z,332nm,18.9s,baz=148,slow=37						
TXAR	**Lajitas Array**	**15.97**	**333**	P	**Pn**	**02 02 03.6**	**+1.4**
TXAR					**PcP**	**02 06 59.4**	**-0.1**
TX31	**Lajitas Ar. Si**	**15.97**	**333**	IAmb	IAmb	02 02 25.5	
	comp=Z,115nm,1.1s						
NATX	**Nacogdoches**	**16.49**	**2**	Pn	**Pn**	**02 02 06.5**	**-2.1**
NATX				IAmb	IAmb	02 02 36.3	
	comp=Z,96nm,1.1s						
NATX	**Nacogdoches**	**16.49**	**2**	P	**Pn**	**02 02 07.9**	**-0.8**
	baz=182						
LPIG	**La Paz**	**16.55**	**305**	LR	LR	02 07 47.2	
	comp=Z,1μm,18.7s,baz=124,slow=34						
237A	**Washetta, Mont**	**16.72**	**359**	Pn	**Pn**	**02 02 09.7**	**-1.8**
237A				IAmb	IAmb	02 02 15.4	
	comp=Z,73nm,0.8s						
WHTX	**Lake Whitney,**	**16.80**	**354**	IAmb	IAmb	02 02 28.4	
	comp=Z,177nm,1.0s						
WHTX	**Lake Whitney,**	**16.80**	**354**	P	**Pn**	**02 02 11.8**	**-0.8**
	baz=172,SNR=19						
VBMS	**Vicksburg**	**17.51**	**14**	P	**Pn**	**02 02 20.1**	**-1.4**
	baz=195						
BRAL	**Brewton**	**17.64**	**24**	P	**Pn**	**02 02 21.9**	**-1.2**
	baz=207						
ABTX	**Abilene, Hawle**	**17.75**	**348**	IAmb	IAmb	02 02 28.2	
	comp=Z,119nm,0.9s						
ABTX	**Abilene, Hawle**	**17.75**	**348**	P	**Pn**	**02 02 23.7**	**-0.7**
	baz=166,SNR=70						
Z38A	**Mt. Pleasant**	**17.97**	**1**		**Pn**	**02 02 25.2**	**-1.9**
Z35A	**Perchaven, San**	**18.11**	**355**	IAmb	IAmb	02 02 41.7	
	comp=Z,85nm,1.1s						
Z41A	**Richland Creek**	**18.12**	**7**	IAmb	IAmb	02 02 51.9	
	comp=Z,80nm,0.9s						
Z41A	**Richland Creek**	**18.12**	**7**	P	**Pn**	**02 02 27.9**	**-1.1**
	baz=188						
DWPF	**Disney Wildern**	**18.26**	**43**	P	**Pn**	**02 02 29.4**	**-1.3**
	baz=228						
146A	**Union**	**18.29**	**17**	IAmb	IAmb	02 02 46.2	
	comp=Z,142nm,1.4s						
WLAR	**White Oak Lake**	**18.51**	**6**	IAmb	IAmb	02 02 43.5	
	comp=Z,94nm,1.1s						
MNTX	**Cornudas Mount**	**18.75**	**333**	P	**Pn**	**02 02 37.1**	**+0.4**
	baz=148,SNR=17						
LOOK	**Love County**	**18.76**	**356**	P	**P**	**02 02 35.5**	**-0.8**
LOOK				IAmb	IAmb	02 03 08.7	
	comp=Z,161nm,1.1s						
352A	**Blakely**	**18.83**	**29**	IAmb	IAmb	02 02 46.7	
	comp=Z,177nm,1.2s						
Z47A	**Carrollton**	**19.11**	**19**	IAmb	IAmb	02 02 54.7	
	comp=Z,89nm,1.2s						
X37A	**Clayton**	**19.29**	**0**	IAmb	IAmb	02 02 50.0	
	comp=Z,75nm,0.8s						
MIAR	**Mount Ida**	**19.32**	**5**	P	**P**	**02 02 40.9**	**-1.6**
MIAR	**Mount Ida**	**19.32**	**5**	P	**P**	**02 02 40.8**	**-1.7**
	baz=185,SNR=31						
X40A	**Basin Creek Fa**	**19.34**	**7**	P	**P**	**02 02 41.1**	**-1.5**
	baz=187,SNR=5.4						
X34A	**Smith Ranch, M**	**19.43**	**354**	IAmb	IAmb	02 03 06.0	
	comp=Z,142nm,0.9s						
TIGA	**Tifton**	**19.45**	**32**	P	**P**	**02 02 42.5**	**-1.4**
	baz=216						
WMOK	**Wichita Mounta**	**19.67**	**352**	P	**P**	**02 02 45.9**	**-0.5**
	baz=170,SNR=20						
MSTX	**Muleshoe**	**19.82**	**342**	IAmb	IAmb	02 02 51.2	
	comp=Z,80nm,0.8s						
MSTX	**Muleshoe**	**19.82**	**342**	P	**P**	**02 02 47.8**	**-0.2**
	baz=158,SNR=36						
152A	**Waverly Hall**	**19.93**	**27**	IAmb	IAmb	02 02 59.8	
	comp=Z,95nm,1.6s						
W39A	**Magazine**	**19.95**	**4**	IAmb	IAmb	02 02 55.9	
	comp=Z,51nm,0.8s						
W39A	**Magazine**	**19.95**	**4**	P	**P**	**02 02 48.2**	**-1.2**
	baz=184,SNR=16						
W41B	**Gary Mavity, V**	**20.08**	**8**	P	**P**	**02 02 49.8**	**-1.0**
	baz=188,SNR=13						
OKCSW	**OKLAHOMA CITY**	**20.19**	**355**		**P**	**02 02 50.6**	**-1.3**
WHAR	**Wooly Hollow**	**20.19**	**7**	P	**P**	**02 02 51.0**	**-0.9**
WHAR				IAmb	IAmb	02 03 14.5	
	comp=Z,86nm,1.4s						
OKCFA	**Oklahoma City**	**20.20**	**355**	P	**P**	**02 02 51.7**	**-0.4**
Y49A	**Blount Mountai**	**20.28**	**22**	IAmb	IAmb	02 03 11.2	
	comp=Z,96nm,1.9s						
OK025	**Westminster Rd**	**20.35**	**356**		**P**	**02 02 53.1**	**-0.6**
AMTX	**Amarillo**	**20.38**	**345**	IAmb	IAmb	02 03 15.4	
	comp=Z,52nm,0.9s						
AMTX	**Amarillo**	**20.38**	**345**	P	**P**	**02 02 54.7**	**+0.6**
	baz=162						
SJCC	**San Jacinto, C**	**20.47**	**103**	P	**P**	**02 02 53.4**	**-1.8**
319A	**Douglas**	**20.47**	**324**	IAmb	IAmb	02 03 17.6	
	comp=Z,176nm,1.7s						
DBBC	**Dabeiba**	**20.54**	**111**	*e*P	Pn	02 02 57.7	-0.5
121A	**Cookes Peak, D**	**20.57**	**329**	IAmb	IAmb	02 03 09.4	
	comp=Z,112nm,1.1s						
121A	**Cookes Peak, D**	**20.57**	**329**	P	Pn	02 02 58.0	-0.6
	baz=143,SNR=34						
TUL1	**Leonard**	**20.61**	**359**	IAmb	IAmb	02 02 60.0	
	comp=Z,66nm,0.8s						
TUL1	**Leonard**	**20.61**	**359**	P	**P**	**02 02 55.0**	**-1.6**
	baz=178,SNR=23						
FCAR	**Ozark Folk Cen**	**20.80**	**8**	IAmb	IAmb	02 02 58.6	
	comp=Z,52nm,0.8s						
UREC	**San Jos de Ur**	**20.86**	**109**	*e*P	**P**	**02 02 59.1**	**-0.3**
GOGA	**Godfrey**	**21.12**	**29**	P	**P**	**02 03 00.9**	**-1.1**
	baz=214						
U38A	**Gravette**	**21.16**	**2**	P	**P**	**02 03 01.1**	**-1.4**
U40A	**Yellville**	**21.18**	**6**	IAmb	IAmb	02 03 07.1	
	comp=Z,60nm,0.8s						
U40A	**Yellville**	**21.18**	**6**	P	**P**	**02 03 00.8**	**-1.9**
	baz=186,SNR=8.9						
FPAL	**Fort Paine**	**21.18**	**23**	IAmb	IAmb	02 03 25.4	
	comp=Z,89nm,1.6s						
CBOC	**Ciudad Bolivar**	**21.22**	**114**	*e*P	**P**	**02 03 03.5**	**0.0**
Y52A	**Lilburn**	**21.23**	**27**	IAmb	IAmb	02 03 15.1	
	comp=Z,54nm,1.1s						
PLMC	**San Jos del P**	**21.44**	**117**	*e*P	**P**	**02 03 05.6**	**-0.2**
Y22D	**IR

baz=169,SNR=12
KSU1 Kansas State U 23.82 358 P **P 02 03 29.1 -1.1**
baz=177,SNR=12
RUSC La Rusia 23.83 110 eP **P 02 03 30.9 -0.2**
VILC Villavicencio, 24.08 115 eP **P 02 03 36.8 +3.7**
SDCO Great Sand Dun 24.15 340 P **P 02 03 35.2 +1.5**
baz=155,SNR=29
Q44A Meyer Farm, Va 24.27 12 IAmb IAmb 02 03 56.4
comp=Z,33nm,0.8s
OLIL Olney 24.31 14 IAmb IAmb 02 03 34.7
comp=Z,39nm,0.9s
WCI Wyandotte Cave 24.31 18 P **P 02 03 31.7 -3.1**
WCI IAmb IAmb 02 03 36.8
comp=Z,24nm,0.8s
WCI Wyandotte Cave 24.31 18 P **P 02 03 32.8 -2.0**
baz=201
P38A Dawn 24.38 4 IAmb IAmb 02 03 41.8
comp=Z,88nm,1.2s
P40A Paris 24.41 6 IAmb IAmb 02 03 36.6
comp=Z,62nm,0.8s
Y14A Wickenburg 24.48 323 IAmb IAmb 02 03 48.8
comp=Z,52nm,1.4s
KSCO Kaye Shedlock' 24.54 346 P **P 02 03 37.6 +0.6**
baz=162,SNR=7.4
S22A 4UR Ranch, Cre 24.61 338 P **P 02 03 39.2 +1.3**
baz=152,SNR=8.2
R49A Shelbyville 24.71 20 IAmb IAmb 02 04 07.2
comp=Z,36nm,1.3s
WUAZ Wupatki 24.75 328 P **P 02 03 40.9 +1.9**
baz=140,SNR=26
MVCO Mesa Verde 24.79 335 IAmb IAmb 02 03 50.8
comp=Z,97nm,1.4s
MVCO Mesa Verde 24.79 335 P **P 02 03 40.8 +1.3**
baz=148,SNR=25
TAMC Tame, Arauca 24.79 108 eP **P 02 03 41.4 +1.9**
P43A Skaggs, Pawnee 24.88 11 IAmb IAmb 02 03 39.7
comp=Z,29nm,0.8s
MACC Macarena, Meta 24.95 119 eP **P 02 03 41.8 +1.0**
U56A King 24.97 30 IAmb IAmb 02 04 02.6
comp=Z,40nm,1.3s
GLA Glamis 24.99 319 P **P 02 03 41.3 +0.2**
GLA IAmb IAmb 02 03 54.4
comp=Z,82nm,1.2s
GLA Glamis 24.99 319 P **P 02 03 42.6 +1.5**
baz=130,SNR=18
SOCV Socops 25.02 103 eP **P 02 03 41.7 +0.2**
SDV Santo Domingo 25.05 102 eP **P 02 03 41.7 -0.3**
SDV Santo Domingo 25.05 102 eP **P 02 03 42.9 +1.0**
SDV Santo Domingo 25.05 102 P **P 02 03 41.5 -0.5**
SDV IAmb IAmb 02 03 56.3
comp=Z,32nm,0.8s
BLO Bloomington 25.12 16 IAmb IAmb 02 03 41.4
comp=Z,41nm,0.8s
Q24A Divide 25.15 342 IAmb IAmb 02 03 58.1
comp=Z,79nm,1.8s
Q24A Divide 25.15 342 P **P 02 03 44.1 +1.3**
baz=157,SNR=10
PTLC Puerto Leguiza 25.29 124 eP **P 02 03 47.0 +3.1**
P46A Rosedale 25.36 15 IAmb IAmb 02 03 44.8
comp=Z,49nm,0.8s
PTGC Puerto Gaitan, 25.41 113 eP **P 02 03 48.0 +2.9**
SWSC Sam W. Stewart 25.55 317 P **P 02 03 47.5 +1.4**
baz=128
O44A Mansfield 25.58 12 IAmb IAmb 02 04 32.0
comp=Z,42nm,1.2s
PV01 Paradox Valley 25.61 336 IAmb IAmb 02 03 58.3
comp=Z,64nm,1.2s
PV13 Radium Mtn., P 25.73 335 IAmb IAmb 02 04 03.6
comp=Z,44nm,1.1s
PV02 Paradox Valley 25.74 335 IAmb IAmb 02 03 59.5
comp=Z,71nm,1.3s
PV15 Paradox Valley 25.75 336 IAmb IAmb 02 04 14.0
comp=Z,45nm,1.2s
BC3 Big Chuckawall 25.78 319 P **P 02 03 49.2 +0.8**
baz=130,SNR=14
HDIL Hopedale 25.81 11 P **P 02 03 46.3 -2.1**
HDIL IAmb IAmb 02 03 48.4
comp=Z,27nm,0.8s
HDIL Hopedale 25.81 11 P **P 02 03 46.0 -2.4**
baz=193,SNR=5.2
PV03 Paradox Valley 25.82 335 IAmb IAmb 02 04 00.2
comp=Z,39nm,1.1s
PV18 Skein Mesa, Pa 25.84 335 IAmb IAmb 02 04 10.5
comp=Z,47nm,1.2s
PV11 David Mesa, Pa 25.87 335 IAmb IAmb 02 04 00.8
comp=Z,39nm,1.1s
PV17 East Wray Mesa 25.89 335 IAmb IAmb 02 04 08.7
comp=Z,41nm,1.1s
PV16 Nyswonger Mesa 25.90 335 IAmb IAmb 02 04 14.5
comp=Z,46nm,1.2s
PV07 Paradox Valley 25.90 336 IAmb IAmb 02 04 03.9
comp=Z,39nm,1.1s
IRM Iron Mountain 25.92 320 P **P 02 03 51.3 +1.8**
baz=131,SNR=11
PV19 Morning Glory 25.93 335 IAmb IAmb 02 04 05.4
comp=Z,54nm,1.5s
U15A North Rim 25.93 328 IAmb IAmb 02 04 35.5
comp=Z,52nm,1.6s
SMCO Snowmass 25.93 339 P **P 02 03 48.9 -1.1**
SMCO IAmb IAmb 02 04 22.5
comp=Z,31nm,1.3s
PV20 West Nyswonger 25.95 335 IAmb IAmb 02 04 11.7
comp=Z,28nm,1.1s
P49A Miami Univ. Ec 25.99 19 IAmb IAmb 02 04 35.6
comp=Z,59nm,1.4s
P49A Miami Univ. Ec 25.99 19 P **P 02 03 47.6 -2.4**
baz=204
PV14 Lion Creek, Pa 26.00 335 IAmb IAmb 02 04 20.1
comp=Z,65nm,1.4s
PV10 Paradox Valley 26.01 335 IAmb IAmb 02 04 08.4
comp=Z,41nm,1.1s
PV23 Carpenter Ridg 26.06 335 IAmb IAmb 02 04 12.9
comp=Z,45nm,1.1s
ISCO Idaho Springs 26.06 342 IAmb IAmb 02 04 02.6
comp=Z,91nm,1.9s
ISCO Idaho Springs 26.06 342 P **P 02 03 51.5 +0.5**
baz=156,SNR=11
SFIN Lafayette 26.11 15 P **P 02 03 49.6 -1.4**
baz=198
PV21 Cone Mtn., Par 26.14 335 IAmb IAmb 02 04 08.1
comp=Z,32nm,1.2s
BGNE Belgrade 26.21 355 P **P 02 03 52.0 -0.1**
baz=174,SNR=6.4
OGNE Ogallala 26.27 349 P **P 02 03 54.1 +1.4**
baz=165
BELC Belle Mtn. Jos 26.35 319 P **P 02 03 55.0 +1.5**
baz=129
PFO Pinyon Flats O 26.40 318 P **P 02 03 57.8 +3.9**
comp=Z,8.4nm,1.1s,baz=142,slow=5.6,SNR=4.1
PFO LR LR 02 14 39.3
comp=Z,815nm,19.5s,baz=134,slow=37
PFO Pinyon Flats O 26.40 318 P **P 02 03 53.7 -0.3**
PFO IAmb IAmb 02 04 08.1
comp=Z,40nm,1.4s
PFO Pinyon Flats O 26.40 318 P **P 02 03 55.2 +1.2**
baz=128
GMRC Granite Mounta 26.65 321 P **P 02 03 57.3 +1.1**
baz=131,SNR=5.9
SCIA State Center 26.67 4 P **P 02 03 54.8 -1.4**
baz=184,SNR=30
O49A Covington 26.71 19 IAmb IAmb 02 04 17.4
comp=Z,26nm,0.8s
ELOV Elorza 26.72 105 eP **P 02 03 56.3 -0.6**
L40A Anamosa 27.00 7 IAmb IAmb 02 03 59.4
comp=Z,49nm,1.1s
HEC Hector,Ludlow 27.10 320 P **P 02 04 01.9 +1.7**
baz=130,SNR=5.8
N23A Red Feather La 27.17 342 P **P 02 04 01.6 +0.6**
baz=157
O20A White River Ci 27.23 338 IAmb IAmb 02 04 25.2
comp=Z,36nm,1.3s
O20A White River Ci 27.23 338 P **P 02 04 02.5 +1.0**
baz=152
SRU San Rafael Swe 27.25 334 P **P 02 03 59.6 -2.0**
TUQ Turquoise Moun 27.25 321 P **P 02 04 03.7 +2.1**
baz=132,SNR=8.3
BAUV El Baul 27.49 100 IAmb IAmb 02 04 13.5
comp=Z,47nm,0.9s
MVU Marysvale 27.51 331 IAmb IAmb 02 04 19.9
comp=Z,59nm,1.2s
P18A Preston Nutter 27.56 335 IAmb IAmb 02 04 19.8
comp=Z,41nm,1.5s
BFSC Mount Baldy Ra 27.57 317 P **P 02 04 06.5 +2.0**
baz=127
TMUT Trail Mountain 27.70 333 P **P 02 04 05.1 -0.7**
GSC Goldstone, Bar 27.70 320 P **P 02 04 07.6 +2.0**
baz=130

ATAH Atahualpa 27.90 142 P **P 02 04 07.6 -0.3**
comp=Z,14nm,0.8s,baz=341,slow=7.5,SNR=11
ATAH LR LR 02 13 21.9
comp=Z,469nm,18.3s,baz=321,slow=33
JFWS Jewell Farm 27.96 8 P **P 02 04 06.2 -1.5**
baz=190,SNR=34
K43A Burlington 28.07 11 IAmb IAmb 02 04 08.0
comp=Z,28nm,0.8s
RDMU Red Mountain 28.10 337 IAmb IAmb 02 04 22.6
comp=Z,36nm,1.6s
PRN Pahroc Range 28.13 325 IAmb IAmb 02 04 21.1
comp=Z,31nm,1.5s
EDW2 Edwards Air Fo 28.18 318 P **P 02 04 11.9 +2.0**
baz=128
GWY Greenwater Val 28.20 322 IAmb IAmb 02 04 24.9
comp=Z,31nm,1.6s
RWWY Rawlins 28.28 341 P **P 02 04 11.2 +0.3**
RWWY IAmb IAmb 02 04 18.9
comp=Z,28nm,1.1s
LRMC Laurel Mtn Rad 28.36 319 P **P 02 04 13.6 +2.0**
baz=129
ECSD EROS Data Cent 28.44 358 P **P 02 04 09.7 -2.4**
ECSD EROS Data Cent 28.44 358 P **P 02 04 11.6 -0.5**
baz=177,SNR=22
TPNV Topopah Spring 28.47 323 IAmb IAmb 02 04 27.2
comp=Z,39nm,2.0s
TPNV Topopah Spring 28.47 323 P **P 02 04 14.5 +1.9**
baz=133
FURC Furnace Creek, 28.50 322 P **P 02 04 14.7 +2.0**
baz=132
MPMC Manual Prospec 28.61 321 P **P 02 04 15.3 +1.4**
baz=130,SNR=6.7
I37A Lemond, Waseca 28.76 3 IAmb IAmb 02 05 13.3
comp=Z,66nm,1.3s
ARVC Arvin 28.87 318 P **P 02 04 18.4 +2.5**
baz=127
I40A Norwalk 28.88 7 IAmb IAmb 02 04 16.4
comp=Z,38nm,0.8s
SPR3 Spring Creek 3 28.93 329 P **P 02 04 16.1 -0.7**
K22A Casper 28.96 343 P **P 02 04 16.7 -0.1**
K22A Casper 28.96 343 P **P 02 04 18.4 +1.5**
baz=157
R11A Troy Canyon, C 29.10 326 P **P 02 04 19.0 +0.8**
baz=136,SNR=10
I42A Draeger Farm, 29.12 10 IAmb IAmb 02 04 24.2
comp=Z,57nm,1.4s
DUG Dugway, Tooele 29.14 332 IAmb IAmb 02 04 29.0
comp=Z,41nm,1.9s
DUG Dugway, Tooele 29.14 332 P **P 02 04 20.1 +1.6**
baz=143
GRAC Grapevine Rang 29.16 322 P **P 02 04 20.8 +2.2**
baz=132
CWC Cottonwood Cre 29.22 321 P **P 02 04 20.5 +1.2**
baz=130
VES Vestal, Richgr 29.47 319 P **P 02 04 23.9 +2.6**
baz=127
TIN Tinemaha, Big 29.71 321 P **P 02 04 24.9 +1.4**
baz=130
RSSD Black Hills 29.73 347 P **P 02 04 22.7 -1.0**
RSSD Black Hills 29.73 347 P **P 02 04 25.0 +1.3**
baz=162
TPH Tonopah 29.81 324 P **P 02 04 24.1 -0.4**
H43A Windswept, Lux 29.88 11 IAmb IAmb 02 04 24.7
comp=Z,33nm,1.0s
SPMN Marine on St. 30.00 4 IAmb IAmb 02 04 26.9
comp=Z,41nm,0.9s
SPMN Marine on St. 30.00 4 P **P 02 04 24.5 -1.3**
baz=185,SNR=19
BW06 Boulder Array 30.02 339 P **P 02 04 27.7 +1.4**
baz=151
PDAR Pinedale Array 30.02 339 P **P 02 04 27.4 +1.1**
comp=Z,1.5nm,0.8s,baz=145,slow=7.5,SNR=14
PDAR LR LR 02 18 01.9
comp=Z,248nm,18.3s,baz=172,slow=40
G40A Rib Lake 30.29 7 IAmb IAmb 02 04 28.6
comp=Z,26nm,1.1s
HVU Hansel Valley 30.42 334 P **P 02 04 29.6 -0.2**
MLAC Mammoth, Mammo 30.46 322 P **P 02 04 32.5 +2.3**
baz=130
NV11 Mina Array Sit 30.59 323 P **P 02 04 31.6 +0.2**
NV11 IAmb IAmb 02 04 44.9
comp=Z,24nm,1.1s
F36A Milaca 30.60 3 P **P 02 04 29.6 -1.5**
F36A IAmb IAmb 02 04 31.7
comp=Z,20nm,1.1s
LHV Little Huntoon 30.67 323 P **P 02 04 32.4 +0.6**
LHV IAmb IAmb 02 04 52.5
comp=Z,26nm,1.1s
NVAR Mina Array Bea 30.67 323 P **P 02 04 35.0 +2.9**
comp=Z,5.0nm,0.7s,baz=129,slow=8.3,SNR=14
NVAR PcP **PcP 02 07 31.6 +1.5**
comp=Z,3.1nm,0.9s,baz=153,slow=3.3,SNR=4.9
NVAR LR LR 02 16 45.7
comp=Z,773nm,18.8s,baz=138,slow=36
NVAR Mina Array Bea 30.67 323 P **P 02 04 32.0 -0.2**
ELK Elko 30.72 330 P **P 02 04 34.8 +2.3**
comp=Z,3.1nm,0.9s,baz=145,slow=6.8,SNR=7.0
ELK LR LR 02 16 59.6
comp=Z,775nm,18.4s,baz=145,slow=36
N59A State Game Lan 30.79 30 P **P 02 04 31.9 -1.0**
baz=219
RYN Ryan 30.93 323 IAmb IAmb 02 04 48.0
comp=Z,23nm,1.3s
REDW Red Top Meadow 31.00 338 P **P 02 04 34.4 -0.6**
REDW IAmb IAmb 02 04 44.5
comp=Z,43nm,1.4s
SNOW Snow King Moun 31.05 338 P **P 02 04 36.0 +0.6**
SNOW IAmb IAmb 02 04 44.3
comp=Z,28nm,0.9s
COWI Conover 31.24 8 IAmb IAmb 02 04 36.8
comp=Z,26nm,0.8s
MOOW Moose Ponds 31.29 338 P **P 02 04 36.9 -0.6**
E38A The Farm, Brul 31.47 5 P **P 02 04 37.1 -1.6**
BMN Battle Mountai 31.48 327 P **P 02 04 40.1 +0.8**
FLWY Flagg Ranch 31.57 339 IAmb IAmb 02 05 31.6
comp=Z,23nm,1.4s
YERR Yerington 31.59 323 IAmb IAmb 02 04 54.4
comp=Z,49nm,1.9s
TBTG Tabatinga, AM 31.80 125 eP **P 02 04 43.1 +1.1**
E43A Lone Tree Farm 31.86 11 IAmb IAmb 02 04 43.3
comp=Z,23nm,0.8s
PNTR Pine Nut 31.87 323 IAmb IAmb 02 05 10.5
comp=Z,22nm,1.1s
RLMT Red Lodge 32.02 341 P **P 02 04 43.4 -0.5**
RLMT IAmb IAmb 02 04 53.0
comp=Z,35nm,1.6s
RLMT Red Lodge 32.02 341 P **P 02 04 43.8 -0.2**
baz=154,SNR=7.2
CZSB Cruzeiro do Su 32.05 134 eP **P 02 04 46.1 +1.8**
CZSB Cruzeiro do Su 32.05 134 P **P 02 04 45.6 +1.3**
PAHR Pah Rah Range 32.16 324 P **P 02 04 45.0 -0.1**
YMR Madison River 32.17 339 P **P 02 04 44.4 -0.9**
YMR IAmb IAmb 02 04 54.4
comp=Z,20nm,1.2s
YHL Hebgen Lake 32.41 339 IAmb IAmb 02 05 08.2
comp=Z,30nm,1.5s
SADO Sadowa 32.54 22 LR LR 02 20 20.1
comp=Z,422nm,19.7s,baz=192,slow=41
HLID Hailey 32.57 334 P **P 02 04 49.1 +0.4**
baz=144,SNR=14
LAO LASA Array 32.65 346 P **P 02 04 47.4 -1.8**
LAO IAmb IAmb 02 04 56.9
comp=Z,34nm,1.5s
LAO LASA Array 32.65 346 P **P 02 04 49.5 +0.3**
baz=160,SNR=7.0
NNA Nana 32.70 145 LR LR 02 15 40.6
comp=Z,361nm,18.5s,baz=342,slow=32
NNA Nana 32.70 145 P **P 02 04 51.0 +1.0**
NNA IAmb IAmb 02 05 07.4
comp=Z,43nm,1.6s
MDND Maddock 32.72 355 P **P 02 04 49.0 -0.8**
MDND Maddock 32.72 355 P **P 02 04 50.1 +0.3**
baz=172
GCMT Greycliff 32.75 341 P **P 02 04 48.5 -1.7**
BCYI Bear Canyon 32.77 336 P **P 02 04 50.3 -0.3**
EYMN Ely 32.80 5 P **P 02 04 49.2 -1.3**
baz=187
AGMN Agassiz Nation 32.99 359 IAmb IAmb 02 04 53.4
comp=Z,29nm,0.8s
AGMN Agassiz Nation 32.99 359 P **P 02 04 51.1 -1.0**
baz=179,SNR=13
B35A Bob, Littlefor 33.08 2 IAmb IAmb 02 04 53.5
comp=Z,21nm,0.8s
BOZ Bozeman (W) 33.21 339 IAmb IAmb 02 05 06.5
comp=Z,28nm,1.9s
BOZ Bozeman (W) 33.21 339 P **P 02 04 55.0 +0.7**
baz=150,SNR=6.3

ORV Oroville 33.29 322 IAmb IAmb 02 05 05.7
comp=Z,52nm,1.9s
DLMT Dillon 33.35 338 IAmb IAmb 02 05 05.5
comp=Z,43nm,1.2s
WVOR Wild Horse Val 33.67 328 P **P 02 04 58.8 +0.5**
WVOR IAmb IAmb 02 05 11.0
comp=Z,24nm,1.2s
DGMT Dagmar 33.94 350 IAmb IAmb 02 06 11.4
comp=Z,13nm,0.8s
DGMT Dagmar 33.94 350 P **P 02 05 01.4 +1.0**
baz=164
O03E Paynes Creek 33.94 323 P **P 02 05 02.5 +1.9**
baz=129
MOD Modoc Plateau 34.17 326 P **P 02 05 03.2 +0.5**
MOD IAmb IAmb 02 05 15.8
comp=Z,25nm,1.4s
HRY Holter Researc 34.26 340 P **P 02 05 03.5 +0.2**
J08A Circle Bar Ran 34.27 330 P **P 02 05 03.5 +0.1**
J08A IAmb IAmb 02 05 16.7
comp=Z,32nm,1.2s
PLID Pearl Lake 34.47 334 P **P 02 05 04.4 -1.0**
PLID IAmb IAmb 02 05 15.6
comp=Z,21nm,1.2s
EGMT Eagleton 34.79 343 P **P 02 05 08.1 +0.2**
baz=155,SNR=7.8
BMO Blue Mountains 34.86 332 IAmb IAmb 02 05 17.4
comp=Z,40nm,1.9s
ULM Lac du Bonnet 34.95 360 P **P 02 05 08.9 -0.2**
comp=Z,13nm,1.0s,baz=186,slow=8.8,SNR=9.8
ULM LR LR 02 20 54.0
comp=Z,165nm,20.3s,baz=197,slow=39
ULM Lac du Bonnet 34.95 360 IAmb IAmb 02 05 15.4
comp=Z,39nm,1.2s
MSO Missoula 35.09 338 P **P 02 05 10.1 -0.5**
MSO IAmb IAmb 02 05 18.8
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 35.39 324 LR LR 02 19 53.0
comp=Z,455nm,20.4s,baz=152,slow=36
K04D Chiloquin, OR 35.45 326 P **P 02 05 16.0 +2.4**
baz=132
F10A Beach Ranch, E 35.70 334 P **P 02 05 15.3 -0.5**
F10A IAmb IAmb 02 05 25.9
comp=Z,29nm,1.0s
JTMT Jette 36.00 338 P **P 02 05 17.9 -0.5**
JTMT IAmb IAmb 02 05 26.4
comp=Z,16nm,1.1s
I05D Terrebonne, OR 36.41 328 P **P 02 05 22.3 +0.5**
baz=134
I04A Tendick Farm, 36.59 327 P **P 02 05 24.8 +1.5**
baz=132
BOAV Boa Vista 36.70 107 eP **P 02 05 25.4 +0.8**
WALA Waterton Lakes 36.99 340 IAmb IAmb 02 06 01.1
comp=Z,44nm,1.9s
G05D Wamic, OR 37.04 329 P **P 02 05 28.6 +1.5**
baz=135
H04A Detroit Lake 37.08 328 P **P 02 05 27.0 -0.6**
H04D Lebanon 37.26 327 P **P 02 05 30.6 +1.6**
baz=132
NEW Newport 37.49 336 P **P 02 05 31.5 +0.6**
comp=Z,3.9nm,0.6s,baz=145,slow=7.2,SNR=15
NEW Newport 37.49 336 P **P 02 05 30.8 -0.2**
NEW Newport 37.49 336 P **P 02 05 31.3 +0.4**
baz=144,SNR=6.6
F05D White Salmon 37.57 330 P **P 02 05 33.5 +1.9**
baz=136
C09A Chrisman Ranch 37.58 335 P **P 02 05 30.4 -1.2**
C09A IAmb IAmb 02 05 34.6
comp=Z,66nm,1.9s
ETMB Extrema 38.17 129 eP **P 02 05 36.6 -0.5**
ETMB Extrema 38.17 129 P **P 02 05 36.6 -0.5**
ETMB IAmb IAmb 02 05 37.8
comp=Z,38nm,1.1s
B08A Colville Reser 38.46 334 P **P 02 05 39.5 +0.3**
PTGA Pitinga 38.48 111 P **P 02 05 39.3 -0.3**
comp=Z,9.1nm,0.9s,baz=323,slow=21,SNR=8.5
PTGA LR LR 02 23 51.4
comp=Z,244nm,19.5s,baz=323,slow=40
C06D Leavenworth 38.80 333 P **P 02 05 43.8 +1.9**
baz=138
MACA Manacapuru-AM 38.95 115 eP **P 02 05 43.4 -0.3**
MACA Manacapuru-AM 38.95 115 P **P 02 05 41.9 -1.8**
A04D Lummi Island 40.21 332 P **P 02 05 55.5 +1.9**
baz=136
EDM Edmonton 40.47 343 P **P 02 05 56.1 +0.3**
LPAZ La Paz 41.31 138 P **P 02 06 03.9 0.0**
comp=Z,7.6nm,0.9s,baz=343,slow=12,SNR=19
LPAZ LR LR 02 21 19.1
comp=Z,269nm,21.8s,baz=306,slow=34
LPAZ La Paz 41.31 138 eP **P 02 06 04.1 +0.3**
LPAZ La Paz 41.31 138 P **P 02 06 03.6 -0.2**
PB16 IPOC Station P 42.00 142 P **P 02 06 10.6 +1.2**
PB11 IPOC Station P 43.02 143 P **P 02 06 17.9 +0.7**
PB11 IAmb IAmb 02 06 18.9
comp=Z,29nm,1.0s
MDP Montagnes des 43.23 99 LR LR 02 24 55.8
comp=Z,425nm,21.6s,baz=315,slow=37
TA01 Diego Aracena 43.36 144 IAmb IAmb 02 06 21.8
comp=Z,35nm,1.1s
FCC Fort Churchill 43.49 1 P **P 02 06 17.8 -2.5**
FCC IAmb IAmb 02 06 30.7
comp=Z,47nm,1.4s
PB08 IPOC Station P 43.61 143 P **P 02 06 22.8 +0.6**
ITTB Itaituba 43.88 113 eP **P 02 06 22.5 -1.5**
MALB Monte Alegre 44.12 109 eP **P 02 06 25.8 -0.3**
PB07 IPOC Station P 44.45 145 P **P 02 06 29.5 +0.8**
PB07 IAmb IAmb 02 06 30.7
comp=Z,16nm,1.0s
VILB Vilhena 44.72 127 eP **P 02 06 29.9 -0.9**
VILB Vilhena 44.72 127 P **P 02 06 30.2 -0.6**
VILB IAmb IAmb 02 06 37.8
comp=Z,30nm,1.0s
PB09 IPOC Station P 44.87 144 P **P 02 06 32.2 +0.1**
PB09 IAmb IAmb 02 06 34.4
comp=Z,22nm,1.0s
SCHQ Schefferville 45.33 23 P **P 02 06 33.3 -1.8**
comp=Z,10nm,0.8s,baz=247,slow=9.1,SNR=11
SCHQ LR LR 02 28 06.2
comp=Z,422nm,18.4s,baz=236,slow=40
SCHQ Schefferville 45.33 23 P **P 02 06 32.2 -2.9**
SCHQ IAmb IAmb 02 06 39.8
comp=Z,32nm,1.4s
LVC Limon Verde 45.70 145 LR LR 02 24 34.1
comp=Z,174nm,18.2s,baz=316,slow=35
LVC Limon Verde 45.70 145 eP **P 02 06 40.2 +1.4**
LVC Limon Verde 45.70 145 P **P 02 06 39.6 +0.8**
LVC IAmb IAmb 02 06 40.8
comp=Z,15nm,1.1s
SIV San Ignacio 45.97 131 P **P 02 06 40.1 -0.6**
comp=Z,14nm,1.0s,baz=302,slow=8.7,SNR=43
SIV PP **PP 02 08 29.1 +0.4**
comp=Z,3.9nm,0.8s,baz=308,slow=4.1,SNR=3.7
SIV LR LR 02 25 04.9
comp=Z,275nm,18.4s,baz=306,slow=35
PDRB Porto dos Gac 46.69 123 eP **P 02 06 45.1 -1.3**
CLDB Colider 47.05 121 eP **P 02 06 49.9 +0.7**
PTLB Pontes e Lacer 47.06 129 eP **P 02 06 48.7 -0.6**
PTLB Pontes e Lacer 47.06 129 P **P 02 06 48.9 -0.4**
PTLB IAmb IAmb 02 07 05.0
comp=Z,17nm,1.0s
AC02 Maricunga 48.99 148 P **P 02 07 04.5 -0.1**
AC02 IAmb IAmb 02 07 06.8
comp=Z,21nm,1.1s
YKA Yellowknife Ar 49.13 348 P **P 02 07 04.7 +0.1**
comp=Z,3.6nm,0.7s,baz=154,slow=7.3,SNR=48
YKA PP **PP 02 09 00.5 +2.2**
comp=Z,2.1nm,0.9s,baz=144,slow=10,SNR=5.4
CRAG Craig 49.50 333 P **P 02 07 09.5 +2.0**
baz=129
PRPB Parauapebas 49.95 112 eP **P 02 07 10.9 -0.8**
SALV Santo Antonio 49.97 127 eP **P 02 07 11.0 -0.7**
TMAB Tom-Au,PA,Br 49.99 106 eP **P 02 07 11.6 -0.4**
LCO Las Campanas 50.05 151 P **P 02 07 14.1 +1.7**
LCO IAmb IAmb 02 07 14.4
comp=Z,24nm,1.2s
DLBC Dease Lake 50.22 337 P **P 02 07 12.8 -0.3**
DLBC IAmb IAmb 02 07 17.1
comp=Z,14nm,1.1s
TAOE Nuku Hiva Isla 50.34 245 eS **S 02 14 35.7 +8.2**
comp=Z,96nm,24.4s
TAOE eLR LR 02 21 17.6
comp=Z,365nm,26.8s
TAOE Nuku Hiva Isla 50.34 245 eT T 03 01 15.8
comp=Z,16nm,0.2s
SNDB Serra Nova Dou 51.38 119 eP **P 02 07 22.0 -0.4**
PP1B Ponte de Pedra 51.60 128 eP **P 02 07 23.7 -0.2**
CO03 El Pedregal 51.61 153 IAmb IAmb 02 07 25.9

comp=Z,21nm,1.0s
P33M Teslin, Yukon 52.48 338 P P 02 07 32.0 +1.9
baz=132
AQDB Aquidauana 52.75 131 eP P 02 07 31.6 -0.8
AQDB Aquidauana 52.75 131 P P 02 07 31.6 -0.8
AQDB IAmb IAmb 02 07 49.2
comp=Z,26nm,1.4s
ARAG Araguaiana, MT 52.93 124 eP P 02 07 33.1 -0.7
SMTB Santa Maria do 53.11 114 eP P 02 07 35.2 -0.1
VA03 San Esteban 53.32 154 P P 02 07 38.1 +1.5
WHY Whitehorse 53.55 337 P P 02 07 39.2 +1.3
baz=130
ROSB Rosrio 53.88 105 eP P 02 07 42.1 +1.2
PEXB Peixe 53.99 118 eP P 02 07 41.6 -0.1
M31M Drury Creek, Y 54.39 339 P P 02 07 45.0 +1.0
baz=131
N31M Braeburn, Yuko 54.42 338 P P 02 07 45.0 +0.8
baz=129
BO01 Tunca 54.50 155 P P 02 07 46.3 +1.2
BO01 IAmb IAmb 02 07 47.0
comp=Z,22nm,1.0s
GO05 Huala 54.71 156 P P 02 07 47.0 +0.4
M30M Minto, Yukon 55.48 338 P P 02 07 53.1 +1.2
baz=129
CPUP Villa Florida 55.49 138 P P 02 07 51.4 -0.9
comp=Z,9.1nm,1.1s,baz=322,slow=6.6,SNR=4.8
CPUP Villa Florida 55.49 138 eP P 02 07 51.5 -0.8
CPUP Villa Florida 55.49 138 P P 02 07 51.6 -0.8
CPUP IAmb IAmb 02 07 52.3
comp=Z,17nm,1.2s
BDFB Brasília 55.99 121 P P 02 07 56.0 -0.3
comp=Z,16nm,0.9s,baz=285,slow=7.5,SNR=18
BDFB Brasília 55.99 121 P P 02 07 55.8 -0.4
ITRB Iturama 56.30 127 eP P 02 07 58.0 -0.3
YUK3 Moose Creek 56.37 336 P P 02 07 59.7 +1.3
baz=124
BVCY Beaver Creek 56.89 337 P P 02 08 03.4 +1.5
baz=124
IPMB Ipameri, GO 57.05 124 eP P 02 08 03.3 -0.4
SDBA SAO DESIDERIO 57.06 116 eP P 02 08 03.7 -0.2
DAWY Dawson 57.33 339 P P 02 08 06.0 +1.0
baz=127
BCAR Beaver Creek A 57.61 337 P P 02 08 07.8 +0.8
L27K Beaver Creek, 57.62 337 P P 02 08 08.7 +1.6
baz=124
M26K Nabesna, AK 57.71 336 P P 02 08 08.3 +0.6
M26K IAmb IAmb 02 08 16.8
comp=Z,13nm,1.1s
M26K Nabesna, AK 57.71 336 P P 02 08 09.4 +1.7
baz=122
N25K Chitina, Valde 57.94 335 P P 02 08 10.7 +1.4
baz=120
PTGB Pitanga 58.01 133 eP P 02 08 12.8 +2.4
LC01 Cunco 58.17 158 P P 02 08 11.6 +0.4
L26K Log Cabin Wild 58.18 337 P P 02 08 12.4 +1.4
baz=122
ITQB Itaqui 58.25 140 eP P 02 08 11.4 -0.5
INK Inuvik 58.36 344 P P 02 08 12.3 +0.2
INK IAmb IAmb 02 08 13.7
comp=Z,8.7nm,0.8s
INK Inuvik 58.36 344 P P 02 08 12.2 +0.2
baz=135,SNR=12
KLU Klutina 58.43 334 P P 02 08 13.6 +0.8
baz=119
BB19B Bebedouro 58.48 127 eP P 02 08 13.3 -0.5
JANB Januaria 58.80 118 eP P 02 08 15.5 -0.6
SCRK Sand Creek 58.94 337 P P 02 08 16.9 +0.5
SCRK IAmb IAmb 02 08 28.6
comp=Z,14nm,1.2s
SCRK Sand Creek 58.94 337 P P 02 08 17.4 +1.0
baz=122
PAX Paxson 58.98 336 P P 02 08 17.0 +0.3
PAX IAmb IAmb 02 08 24.9
comp=Z,19nm,1.2s
PAX Paxson 58.98 336 P P 02 08 17.5 +0.9
baz=120
J26L Joseph Creek 59.07 338 P P 02 08 18.1 +0.9
baz=123
A36M Sachs Harbour 59.44 350 P P 02 08 18.8 -0.7
A36M IAmb IAmb 02 08 36.6
comp=Z,19nm,1.2s
A36M Sachs Harbour 59.44 350 P P 02 08 19.2 -0.3
baz=146,SNR=7.0
ITAB Concordia 59.55 135 eP P 02 08 20.6 -0.4
SML Sawmill 59.59 334 P P 02 08 22.5 +1.6
baz=116
WAT6 Susitna Watana 59.70 335 P P 02 08 22.9 +1.1
baz=117
DHY Denali Highway 59.79 335 P P 02 08 23.4 +1.1
baz=118
PLCA Paso Flores 60.27 158 P P 02 08 26.4 +0.6
comp=Z,30nm,1.0s,baz=336,slow=8.0,SNR=39
PLCA Paso Flores 60.27 158 eP P 02 08 26.3 +0.6
PLCA Paso Flores 60.27 158 P P 02 08 26.7 +1.0
HDA Harding Lake 60.27 337 P P 02 08 26.4 +0.9
baz=119
PRP Porcupine Dome 60.32 338 P P 02 08 26.4 +0.5
baz=121
IL31 60.43 337 P P 02 08 27.1 +0.7
IL31 IAmb IAmb 02 08 41.5
comp=Z,33nm,1.6s
ILAR Eielson Array 60.43 337 P P 02 08 26.9 +0.4
comp=Z,3.3nm,0.7s,baz=140,slow=5.9,SNR=33
RND Reindeer 60.54 335 P P 02 08 28.4 +1.0
MCK McKinley 60.72 336 P P 02 08 29.6 +1.0
baz=117
CPSB Cacapava Do Su 60.76 139 eP P 02 08 28.6 -0.6
O20K Slope Mountain 60.80 331 P P 02 08 30.0 +0.9
baz=111
POKR Poker Plat Res 60.80 338 P P 02 08 30.1 +1.0
baz=119
COLA College 60.84 337 P P 02 08 30.1 +0.9
baz=118
TCOL CIGO, UAF Yank 60.84 337 P P 02 08 30.2 +1.0
baz=118
DIAM Diamantina, MG 60.91 121 eP P 02 08 30.8 +0.2
BMAR Burnt Mountain 61.03 341 P P 02 08 31.1 +0.5
SPCR Spurr Chakacha 61.03 332 P P 02 08 30.9 +0.1
baz=112
BWN Browne 61.13 336 P P 02 08 31.6 +0.4
TRF Thorofare Moun 61.13 335 P P 02 08 32.3 +0.8
TRF Thorofare Moun 61.13 335 P P 02 08 32.5 +1.0
baz=115
H24K Noodor Dome 61.32 338 P P 02 08 33.5 +0.9
H24K IAmb IAmb 02 08 51.3
comp=Z,26nm,1.6s
H24K Noodor Dome 61.32 338 P P 02 08 33.4 +0.9
baz=119
GO07 Milladeo Hill, 61.39 162 P P 02 08 34.4 +1.2
BSCB Bom Sucesso 61.39 125 eP P 02 08 34.5 +0.7
I23K Minto, Yukon-K 61.53 337 IAmb IAmb 02 08 36.7
comp=Z,15nm,0.8s
I23K Minto, Yukon-K 61.53 337 P P 02 08 34.7 +0.7
baz=117,SNR=13
CLL Collm 61.63 331 P P 02 08 35.9 +1.2
baz=110
O19K Port Alsworth 61.63 331 P P 02 08 35.9 +1.2
baz=110
BPAW Bear Paw Mtn. 61.70 336 P P 02 08 36.0 +0.9
baz=115
P18K Big Mountain, 61.79 330 P P 02 08 36.9 +1.0
baz=108
CAST Castle Rocks 61.85 335 P P 02 08 36.4 +0.2
CAST IAmb IAmb 02 08 50.2
comp=Z,29nm,1.4s
CAST Castle Rocks 61.85 335 P P 02 08 36.2 0.0
baz=114,SNR=5.5
N19K Bonanza Creek 61.92 332 P P 02 08 36.8 0.0
N19K Bonanza Creek 61.92 332 P P 02 08 37.6 +0.8
baz=110
MLY Manley 62.00 337 P P 02 08 38.6 +1.4
MLY IAmb IAmb 02 08 39.7
comp=Z,10nm,0.7s
MLY Manley 62.00 337 P P 02 08 38.2 +1.0
baz=116
LL02 Futaleuf 62.02 161 P P 02 08 38.5 +1.1
L20K Farewell, AK 62.25 333 P P 02 08 39.7 +0.8
baz=111
PPT2 Papeete2 62.54 241 eS S 02 17 14.9 +5.9
comp=Z,78nm,27.0s
PPT2 eLR LR 02 26 58.0
comp=Z,312nm,28.5s,baz=76
I21K Tanana 62.54 337 P P 02 08 41.6 +0.8
baz=114
RCBR Riachuelo 62.58 105 eP P 02 08 42.6 +0.7
RCBR Riachuelo 62.58 105 P P 02 08 41.2 -0.6
K20K Telida 62.65 334 P P 02 08 42.1 +0.6
K20K Telida 62.65 334 P P 02 08 42.2 +0.6
baz=112
TULEG Thule 62.89 7 P P 02 08 42.1 -0.8
TULEG IAmb IAmb 02 08 52.9
comp=Z,26nm,1.3s
J20K Nowinta River 62.99 335 P P 02 08 44.4 +0.6
J20K Nowinta River 62.99 335 P P 02 08 44.5 +0.7
baz=112
CMC01 Camacan, BA 63.05 116 eP P 02 08 44.9 0.0
H21K Melozitna Rive 63.05 337 P P 02 08 44.3 +0.1
H21K IAmb IAmb 02 08 45.2
comp=Z,21nm,1.6s
H21K Melozitna Rive 63.05 337 P P 02 08 44.3 +0.1
baz=114
SJMB Sao Joao De Ma 63.17 120 eP P 02 08 46.6 +1.0
TOLK Toolik Lake Re 63.26 341 P P 02 08 46.3 +0.8
TOLK IAmb IAmb 02 09 09.7
comp=Z,34nm,1.8s
TOLK Toolik Lake Re 63.26 341 P P 02 08 46.4 +0.9
baz=118
TTA Tatalina 63.33 334 P P 02 08 46.5 +0.4
baz=109
ICESG Greenland Ices 64.01 19 i P P 02 08 49.9 -0.9
ICESG IAmb IAmb 02 08 53.4
comp=Z,21nm,0.8s
RIB01 Linhares ES 64.11 121 eP P 02 08 52.3 +0.4
CAM01 Campos-RJ 64.31 124 eP P 02 08 54.0 +0.9
EUNU Eureka 65.00 2 P P 02 08 57.3 +0.5
SUMG Summit 65.98 16 i P P 02 09 03.0 -0.6
SUMG IAmb IAmb 02 09 02.3
comp=Z,8.7nm,0.7s
SUMG Summit 65.98 16 P P 02 09 03.4 -0.2
NEEM North Greenlan 66.08 10 i P P 02 09 04.0 -0.1
NEEM IAmb IAmb 02 09 14.2
comp=Z,12nm,0.8s
UNV Unalaska Valle 66.69 322 P P 02 09 09.7 +1.7
baz=96
ANM Nome 67.77 334 P P 02 09 16.3 +1.6
baz=101
DBG Daneborg 71.46 16 i P P 02 09 35.7 -1.6
DBG IAmb IAmb 02 09 42.1
comp=Z,2.3nm,0.7s
DAG Danmarks Havn 72.27 14 i P P 02 09 41.0 -1.1
DAG IAmb IAmb 02 09 52.1
comp=Z,6.7nm,1.0s
NOR Nord 73.40 9 i P P 02 09 48.6 -0.2
NOR IAmb IAmb 02 09 49.6
comp=Z,3.7nm,0.7s
POLO Lamas de Olo 78.37 50 ePcP PcP 02 10 27.1 -0.2
POLO A A 02 10 35.2
comp=Z,48nm,1.7s
PVIS Viseu 78.41 51 eP P 02 10 19.3 +1.1
comp=Z,91nm,1.5s
PVIS Viseu 78.41 51 ePcP PcP 02 10 27.1 -0.3
EVO Evora 78.71 53 eP P 02 10 18.7 -1.1
comp=Z,58nm,1.9s
EVO Evora 78.71 53 ePcP PcP 02 10 30.4 +1.7
PCBR Castelo Branco 78.88 52 eP P 02 10 21.9 +1.2
comp=Z,68nm,1.3s
EKA Eskdalemuir Ar 78.93 36 P P 02 10 20.1 -0.6
comp=Z,4.4nm,0.6s,baz=286,slow=5.3,SNR=16
PESTR Estremoz 78.98 53 eP P 02 10 20.6 -0.7
PMRV Marv??o 79.02 52 ePcP PcP 02 10 30.5 +0.4
PMRV A A 02 10 31.0
comp=Z,81nm,1.6s
PBRG Braganca 79.07 50 ePcP PcP 02 10 30.4 +0.1
BILL Bilibino 79.09 338 P P 02 10 21.4 +0.1
BILL IAmb IAmb 02 10 30.4
comp=Z,30nm,1.3s
ESDC Sonseca Array 81.57 51 P P 02 10 35.1 -0.2
comp=Z,4.8nm,0.8s,baz=287,slow=4.5,SNR=22
ESDC Sonseca Array 81.57 51 P P 02 10 34.9 -0.4
ESDC IAmb IAmb 02 10 45.3
comp=Z,34nm,1.4s
ESBB Sonseca Array 81.57 51 P P 02 10 35.5 +0.2
NB2 NORSAR Subarra 84.66 28 P P 02 10 51.3 +0.5
comp=Z,21nm,1.1s,baz=295,slow=4.8
NB2 NORSAR Subarra 84.66 28 P P 02 10 51.3 +0.5
baz=295,slow=4.8
NOA NORSAR Array B 84.66 28 P P 02 10 51.6 +0.7
comp=Z,4.1nm,0.8s,baz=292,slow=4.8,SNR=10
NB201 NORSAR Array S 84.69 28 P P 02 10 51.4 +0.4
NC405 NORSAR Array S 84.86 28 P P 02 10 51.1 -0.7
BGES Gesves 84.99 39 PcP P 02 10 54.4 +1.8
BGES pP pwP 02 11 02.4 -0.1
BCLA Clavier 85.11 39 P P 02 10 52.8 -0.4
BCLA pP pwP 02 11 04.0 +0.9
MEM Membach 85.47 39 pP pP 02 11 05.0 +6.3
BHOU Houvegnez 85.56 39 PcP P 02 10 57.9 +2.4
BHOU pP pwP 02 11 05.5 +0.1
WLF Walferdange 85.86 40 PcP P 02 10 58.4 +1.3
IBBN Ibbenburen 85.96 37 eP P 02 11 01.3 +3.9
comp=Z,6.4nm,0.7s,baz=291,slow=4.7
ARCES ARCESS Array B 86.01 18 P P 02 10 59.3 +1.9
comp=Z,3.3nm,0.9s,baz=307,slow=4.4,SNR=6.1
AHRW Bad Neuenahr-A 86.14 39 eP P 02 11 00.1 +1.7
comp=Z,11nm,0.8s,baz=291,slow=4.7
TNS Taunus Mts 87.08 39 eP P 02 11 07.0 +3.9
comp=Z,15nm,0.9s,baz=291,slow=4.7
GTTG Gottingen 87.51 37 eP P 02 11 09.3 +4.3
comp=Z,8.2nm,0.8s,baz=291,slow=4.7
KOWA Kowa 87.62 76 P P 02 11 06.3 +0.1
CLZ Clausthal 87.63 37 eP P 02 11 07.7 +2.0
baz=291,slow=4.7
BFO Black Forest 87.66 40 eP P 02 11 08.5 +2.6
comp=Z,7.1nm,1.0s,baz=291,slow=4.7
SENIN Lac Senin/Sane 87.67 43 P P 02 11 06.0 -0.3
SENIN IAmb IAmb 02 11 15.9
comp=Z,16nm,1.0s
ASSE Asse, Remlinge 87.70 36 eP P 02 11 08.5 +2.7
comp=Z,4.3nm,0.7s,baz=291,slow=4.7
FLTG Flechtingen 87.94 36 eP P 02 11 10.1 +3.0
comp=Z,4.2nm,0.8s,baz=291,slow=4.7
STU Stuttgart 88.04 40 eP P 02 11 11.6 +4.0
comp=Z,21nm,0.8s,baz=291,slow=4.7
TIXI Tiksi 88.36 347 P P 02 11 07.8 -0.9
NEUB Neuenburg 88.68 37 eP P 02 11 15.6 +5.0
comp=Z,7.2nm,0.9s,baz=291,slow=4.7
MOX Moxa 88.81 38 eP P 02 11 15.7 +4.4
comp=Z,3.7nm,0.8s,baz=291,slow=4.7
DBIC Dimbokro 88.84 83 P P 02 11 10.8 -1.3
comp=Z,3.4nm,0.8s,baz=308,slow=11,SNR=3.2
DBIC Dimbokro 88.84 83 P P 02 11 10.8 -1.3
UBR Ueberruh 89.01 41 eP P 02 11 16.2 +3.8
comp=Z,6.2nm,0.8s,baz=291,slow=4.7
DAVA Damuels 89.01 41 i P P 02 11 14.0 +1.6
comp=Z,7.8nm,0.8s,SNR=5.3
GUNZ Gunzen 89.34 38 eP P 02 11 19.1 +5.3
comp=Z,3.9nm,0.8s,baz=291,slow=4.7
CLL Collm 89.35 37 eP P 02 11 14.0 +0.2
CLL epP sP 02 11 19.0 +0.4
CLL i (sP) pwP 02 11 26.2 +2.6
CLL eS sS 02 22 12.0 +1.7
CLL Collm 89.35 37 eP P 02 11 19.2 +5.4
comp=Z,3.4nm,0.8s,baz=291,slow=4.7
TANN Tannenbergstha 89.39 38 eP P 02 11 18.4 +4.3
comp=Z,3.1nm,0.9s,baz=291,slow=4.7
WERN Wernitzgruen 89.39 38 eP P 02 11 18.9 +4.9
comp=Z,5.8nm,0.9s,baz=291,slow=4.7
NKC Novy Kostel 89.46 38 eP P 02 11 17.7 +3.4
RETA Reutte 89.49 41 i P P 02 11 14.8 +0.2
comp=Z,16nm,1.2s,SNR=5.4
FETA Feichten 89.64 41 eP P 02 11 15.6 +0.1
comp=Z,3.6nm,0.7s
MOTA Moosalm 89.76 41 i P P 02 11 17.1 +1.2
comp=Z,27nm,1.7s,SNR=6.5
SQTA Sankt Quirin 89.87 41 eP P 02 11 16.5 +0.1
comp=Z,14nm,1.5s
WATA Walderalm 90.06 41 eP P 02 11 18.5 +1.2
comp=Z,13nm,1.5s
BRG Berggiesshubel 90.07 37 eP P 02 11 24.1 +7.0
BRG Amp 02 11 26.3
comp=Z,13nm,1.4s
BRG Berggiesshubel 90.07 37 eP P 02 11 18.4 +1.2
baz=291,slow=4.7
WTTA Wattenberg 90.12 41 eP P 02 11 18.4 +0.7
comp=Z,12nm,1.3s
WET Wettzell 90.15 39 eP P 02 11 18.3 +0.7
comp=Z,4.7nm,0.9s,baz=291,slow=4.7
KHC Kasperske Hory 90.58 38 eP P 02 11 20.3 +0.7
GEC2 GERESS Array S 90.77 39 eP P 02 11 21.6 +1.1
comp=Z,3.8nm,1.0s,baz=291,slow=4.7
GERES GERESS Array B 90.77 39 P P 02 11 21.1 +0.6
comp=Z,1.8nm,0.7s,baz=316,slow=3.7,SNR=11
GERES GERESS Array B 90.77 39 P P 02 11 20.2 -0.3
PRU Pruhonice 90.79 37 eP P 02 11 21.7 +1.2
ABTA Abfaltersbach 90.88 41 eP P 02 11 20.6 -0.5
comp=Z,16nm,1.6s
KBA Koelnbreinsper 91.27 40 eP P 02 11 21.8 -1.2
comp=Z,11nm,1.4s
CHVC Chvalec 91.41 36 eP P 02 11 23.1 -0.3
MOA Molln 91.52 39 eP P 02 11 24.7 +0.7
comp=Z,2.9nm,0.9s
MYKA Terra Mystica 91.64 41 eP P 02 11 24.7 +0.1
comp=Z,1.5nm,0.4s
DPC Dobruska-Porom 91.67 37 eP P 02 11 25.5 +0.9
OBKA Obir 92.26 41 eP P 02 11 24.9 -2.6
comp=Z,7.6nm,1.1s
CONA Conrad Observa 92.46 39 eP P 02 11 28.2 -0.2
comp=Z,9.9nm,1.5s
SOKA Soboth 92.49 40 eP P 02 11 27.8 -0.8
comp=Z,6.9nm,1.4s
MORC Moravsky Berou 92.63 37 ⇓P P 02 11 36.3 +7.2
KEST Kesra 92.80 52 P P 02 11 30.1 -0.2
comp=Z,4.4nm,0.8s,baz=55,slow=1.0,SNR=5.0
MODS Modra-Piesok 93.11 38 eP P 02 11 36.2 +4.9
TORD Torodi Ar. Bea 93.32 76 P P 02 11 32.9 0.0
comp=Z,0.7nm,0.6s,baz=298,slow=5.8,SNR=6.5
TORD PKKPbc **PKKPbc 02 28 41.6 +1.8**
comp=Z,0.8nm,0.9s,baz=81,slow=3.1,SNR=3.7
TORD Torodi Ar. Bea 93.32 76 IAmb IAmb 02 11 53.5
comp=Z,12nm,2.0s
PSZ Piszkesteto 94.87 38 ⇑P P 02 11 44.9 +5.4
TRPA Tarpa 96.31 37 ⇑P P 02 11 49.6 +3.7
SIRR Siria 96.73 38 P P 02 11 48.6 +0.7
BZS Buzias 97.03 39 ⇓P Pdif 02 11 50.4 +1.1
DRGR 97.09 38 ⇑P Pdif 02 11 50.1 +0.4
MDVR Moldovita 97.51 40 P P 02 11 47.6 -3.9
ZALV Zalesovo Beam 111.12 360 PP PP 02 17 27.9 -0.7
comp=Z,0.8nm,0.8s,baz=357,slow=5.1,SNR=2.8
MKAR Makanchi Array 118.25 2 PKP PKPdf 02 17 03.8 -0.9
comp=Z,0.2nm,0.5s,baz=27,slow=1.6,SNR=3.0
MKAR PP **PP 02 18 19.1 +0.1**
comp=Z,0.9nm,1.0s,baz=0.0,slow=4.3,SNR=2.5
HHC Hu-ho-hao-te 118.85 337 eP PKiKP 02 17 06.3 +0.1
SYO Syowa Base 119.30 163⇑ ePdiff Pdif 02 13 28.4 +0.7
SYO Syowa Base 119.30 163⇑ ePdiff pPdif 02 13 35.4 +3.9
WMQ Urumqi 121.19 357 eP PKiKP 02 17 11.8 +1.2
WMQ pmax pmax
comp=Z,130nm,6.1s
NJ2 Nanjing 122.65 325 eP PKiKP 02 17 14.8 +1.1
NJ2 pmax pmax
comp=Z,14nm,0.5s
BOSA Boshof 123.89 114 PKP PKPdf 02 17 16.0 -0.1
comp=Z,3.5nm,1.0s,baz=15,slow=2.9,SNR=3.7
BOSA Boshof 123.89 114 PKPdf 02 17 15.7 -0.5
STKA Stephens Creek 125.73 242 PKP PKiKP 02 17 20.0 +0.2
comp=Z,6.4nm,0.8s,baz=134,slow=1.2,SNR=10.0
WRA Warramunga Arr 132.44 257 PKP PKiKP 02 17 33.1 -0.5
comp=Z,4.9nm,1.0s,baz=90,slow=2.1,SNR=18
WRA Warramunga Arr 132.44 257 PKPdf PKPdf 02 17 30.9 -1.6
ASAR Alice Springs 132.90 252 PKP PKPdf 02 17 33.5 +0.1
comp=Z,2.8nm,0.9s,baz=98,slow=1.9,SNR=16
ASAR Alice Springs 132.90 252 PKPdf PKPdf 02 17 33.0 -0.3
PZH PanZhiHua 135.29 338 PKP PKPdf 02 17 36.3 -1.6
KMI Kunming 136.16 336 ⇓PKP PKiKP 02 17 40.7 -0.7
UBPT Khong Chiam 143.32 325 PKPbc 02 17 50.5 +1.0
CMAR Chiang Mai Arr 143.66 337 PKhKP PKPpre 02 17 50.4
comp=Z,1.0nm,0.3s,baz=346,slow=3.4,SNR=15

WEL 05 02:06:53.4±0.8, 36°S±4°×17°9E±°, h33km, M3.3/25, ML3.7/33, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=94.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.28**	**196**	P	Pn	02 07 13.5	-1.5
MXZ				S	Sn	02 07 31.5	+0.5
WMGZ	**Waiomatatini S**	**1.51**	**190**	P	Pn	02 07 19.5	+1.3
HAZ	**Te Kaha**	**1.62**	**208**	P	Pn	02 07 19.8	+0.1
PKGZ	**Pakihiroa**	**1.65**	**199**	P	Pn	02 07 20.4	+0.4
PKGZ				S	Sb	02 07 42.3	-1.4
PUZ	**Puketiti**	**1.79**	**192**	P	Pn	02 07 22.4	+0.5
RUGZ	**Raukumara Rang**	**1.85**	**207**	P	Pn	02 07 20.5	-2.3
RUGZ				S	Sb	02 07 48.3	-1.1
TWGZ	**Tauwhareparae**	**1.95**	**198**	P	Pn	02 07 23.2	-1.0
TWGZ				S	Sb	02 07 49.9	-2.2
CNGZ	**Carnagh Statio**	**2.20**	**191**	P	Pn	02 07 28.0	+0.4
CNGZ				S	Sn	02 07 56.1	+2.5
MWZ	**Matawai**	**2.23**	**205**	P	Pn	02 07 27.8	-0.2
TKGZ	**Te Karaka**	**2.23**	**198**	P	Pn	02 07 28.1	+0.2
TKGZ				S	Sn	02 07 56.5	+2.2
OPRZ	**Ohinepanea**	**2.32**	**228**	P	Pn	02 07 29.1	-0.1
URZ	**Urewera**	**2.33**	**214**	P	Pn	02 07 26.6	-2.7
URZ				S	Sn	02 07 55.8	-1.0
RAGZ	**Rawiri**	**2.41**	**206**	P	Pn	02 07 30.6	+0.1
RAGZ				S	Sn	02 08 00.4	+1.4
KUZ	**Kuaotunu**	**2.47**	**259**	P	Pn	02 07 31.0	-0.4
RIGZ	**Rimuhau**	**2.50**	**198**	P	Pn	02 07 31.2	-0.6
RIGZ				S	Sn	02 08 01.7	+0.5
MKRZ	**Makatiti**	**2.57**	**224**	P	Pn	02 07 33.4	+0.7
TARZ	**Mount Tarawera**	**2.61**	**222**	P	Pn	02 07 33.7	+0.4
KARZ	**Kaharoa**	**2.62**	**229**	P	Pn	02 07 34.0	+0.6
MUGZ	**Murupara**	**2.66**	**216**	P	Pn	02 07 33.7	-0.3
MUGZ				S	Sn	02 08 05.1	0.0
PRGZ	**Paritu Road**	**2.68**	**195**	P	Pn	02 07 33.1	-1.2
RTZ	**Ruatahuna**	**2.68**	**211**	P	Pn	02 07 32.0	-2.3
RTZ				S	Sn	02 08 05.0	-0.7
SNGZ	**Shannon Statio**	**2.69**	**204**	P	Pn	02 07 34.3	-0.1
SNGZ				S	Sn	02 08 06.7	+0.8
KMRZ	**Kaimai**	**2.71**	**235**	P	Pn	02 07 35.2	+0.6
RAHZ	**Arahi**	**2.90**	**207**	P	Pn	02 07 36.4	-0.8
RAHZ				S	Sn	02 08 11.2	+0.2
MTHZ	**Maungataniwha**	**2.94**	**210**	P	Pn	02 07 36.8	-1.0
MTHZ				S	Sn	02 08 11.3	-0.7
WIAZ	**Waiheke Island**	**2.95**	**260**	P	Pn	02 07 38.1	+0.3
NMHZ	**Naumai**	**3.17**	**208**	P	Pn	02 07 41.7	+0.7
NMHZ				S	Sn	02 08 16.3	-1.3
BKZ	**Black Stump Fm**	**3.35**	**212**	P	Pn	02 07 41.6	-1.8
BKZ				S	Sn	02 08 20.4	-1.8
KWHZ	**Kaweka Forest**	**3.60**	**210**	P	Pn	02 07 44.7	-2.2
TMVZ	**Te Maari**	**3.68**	**220**	P	Pn	02 07 49.9	+1.8
NTVZ	**North Tongarir**	**3.69**	**220**	P	Pn	02 07 49.8	+1.7
OTVZ	**Oturere**	**3.74**	**220**	P	Pn	02 07 46.6	-2.3
WTVZ	**West Tongariro**	**3.74**	**221**	P	Pn	02 07 52.0	+3.1
KAHZ	**Kahuranaki**	**3.76**	**203**	P	Pn	02 07 46.9	-2.3
SNVZ	**South Ngauruho**	**3.77**	**220**	P	Pn	02 07 49.6	+0.3
NGZ	**Ngauruhoe**	**3.78**	**220**	P	Pn	02 07 52.0	+2.5
HIZ	**Hauiti**	**3.79**	**234**	P	Pn	02 07 50.2	+0.7
TWVZ	**Taurewa**	**3.79**	**223**	P	Pn	02 07 51.4	+1.8
KRHZ	**Kereru**	**3.81**	**209**	P	Pn	02 07 49.2	-0.5
TUVZ	**Tukino**	**3.82**	**219**	P	Pn	02 07 51.7	+1.6
MOVZ	**Moawhango**	**3.88**	**217**	P	Pn	02 07 52.3	+1.5
WNVZ	**Wahianoa**	**3.90**	**219**	P	Pn	02 07 52.6	+1.5
TSZ	**Takapari Road**	**4.33**	**210**	P	Pn	02 07 56.6	-0.3

*BJI **05** 02:21:08.0±0.0, 30°.49N×132°.83E, h5km, mb5.3/81, mB5.8/72, Ms5.9/93, Ms7 5.6/86*
*IDC **05** 02:21:10.0±0.4, 30°.62N×132°.75E, h0km, mb5.1/33, mb1 5.2/38, mb1mx5.1/50, mbtmp5.1/38, ML5.0/5, MS5.3/78, Ms1 5.3/78, ms1mx5.2/94, Error ellipse: s-maj=12.2km s-min=11.3km az=89.0*
*KEA **05** 02:21:10.6, 30°.12N×132°.60E, h19km, MS5.4/3*
*JMA **05** 02:21:11.6±0.1, 30°.53N×132°.89E, h58km, M5.6*
JMA Felt II J1.
*MOS **05** 02:21:11.0±0.9, 30°.63N×132°.78E, h17km, mb5.8/88, MS5.6/54, Error ellipse: s-maj=5.7km s-min=3.4km az=109.3*
*NIED **05** 02:21:11.7, 30°.53N×132°.89E, h58km, MW5.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr-4.53; Mθθ-2.24; Mφφ6.77; Mrθ3.27; Mrφ1.94; Mθφ2.81; Fault plane solution: M0 7.55000×10^17 NP1: φs218.00000°, δ67.00000°, λ-59.00000°. NP2: φs341.00000°, δ38.00000°, λ-140.00000°.*
*NEIC **05** 02:21:11.3±1.0, 30°.61N±0°.02×132°.73E±0°.06, h5km±3km, mb5.8/379, Ms_20 5.4/194, Mwb5.8/41, Mww5.8 Error ellipse: s-maj=8.2km s-min=0.8km az=68.0*
*NEIC **05** 02:21:12.6, 30°.64N×132°.80E, h5km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-2.65; Mθθ-2.34; Mφφ5.00; Mrθ-1.77; Mrφ2.35; Mθφ3.18; Fault plane solution: M0 6.13000×10^17 NP1: φs53.65000°, δ44.95000°, λ-24.92000°. NP2: φs161.85000°, δ72.68000°, λ-132.15000°. Principal axes: T 6.4618, Plg17.0000°, Azm282.0000°; N -0.7403, Plg40.0000°, Azm177.0000°;*

P -5.7215, Plg45.0000°, Azm29.0000°;
GCMT ***05*** *02:21:13.8±0.1,30.57°N±0.01°×132.83°E,h13km, MW5.9/152,Moment Tensor Solution. s134,c263; s152,c459; Duration: 2s1 Moment tensor: Scale 10^18 Nm; Mrr=0.38±.01; Mθθ=0.44±.01; Mφφ0.82±.01; Mrθ=0.05±.01; Mrφ0.25±.01; Mθφ0.36±.02; Best double couple: M0:0.78000×10^18 NP1:φs52.00000°,δ50.00000°, λ-22.00000°. NP2:φs157.00000°,δ73.00000°, λ-138.00000°. Principal axes: T 0.9640, Plg14.0000°, Azm280.0000°; N -0.3680, Plg45.0000°, Azm175.0000°; P -0.5950, Plg41.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
BGR ***05*** *02:21:15.1±0.0,30.65°N×132.78°E,h10km,mb6.0*
NEIC ***05*** *02:21:17,30.54°N×132.92°E,h12km,Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^17Nm; Mrr=4.32; Mθθ=2.64; Mφφ6.96; Mrθ=0.92; Mφ1.79; Mφr=0.57; Fault plane solution: M0=6.44000×10^17 NP1: φs167.00000°,δ47.00000°,λ-124.00000°. NP2: φs32.00000°,δ53.00000°,λ-59.00000°. Principal axes: T 7.3317, Plg4.0000°, Azm101.0000°; N -2.6035, Plg24.0000°, Azm192.0000°; P -4.7282, Plg65.0000°, Azm3.0000°;*
DSN ***05*** *02:21:19.4±3.5,30.79N×131.70E,h10km,mb6.1/16 Error ellipse: s-maj=79.7km s-min=48.5km az=102.0*
ISC 05 02:21:13.2±0.3,30.64N±0.03×132.82E±0.03,h19km±1km, h19km;pP-P,n1490,σ1s76/1412,mb5.7/413,MS5.5/236, 142C-146D,Fault plane solution: NP1:φs83.82226°, δ65.48126°,λ-14.25133°. **NP2:φs179.83928°,δ77.05727°,** λ-154.79813°. **Principal axes:** T Plg7.7625°, Azm310.0587°; N Plg61.8634°, Azm205.2907°; P Plg26.8604°, Azm44.0175°; **Fault plane solution: NP1:φs63.37947°,δ27.64071°,λ6.52440°. NP2:** φs327.59430°,δ86.97830°,λ117.48799°. **Principal axes:** T Plg41.5813°, Azm263.4637°; N Plg27.4466°, Azm146.0232°; P Plg36.0955°, Azm33.7714°; **Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.58**	**271**		⇑P	**Pn**	**02 21 38.7**	**-1.6**
JTN					*e*S	**Sn**	**02 21 58.2**	**-2.1**
JNAR	**Kushima--Naru**	**1.59**	**304**		⇑P	**Pn**	**02 21 40.0**	**-0.4**
JNAR					*e*S	**Sn**	**02 22 00.1**	**-0.4**
JNKG	**Nichinankitago**	**1.60**	**310**		⇑P	**Pn**	**02 21 40.2**	**-0.3**
JMTN	**Minamitane**	**1.67**	**262**		⇑P	**Pn**	**02 21 39.9**	**-1.6**
JMTN					*e*S	**Sn**	**02 21 59.1**	**-3.3**
JTSR	**Tashiro 2**	**1.71**	**288**		⇑P	**Pn**	**02 21 41.0**	**-1.1**
JTZ	**Takazaki**	**1.94**	**311**		⇑P	**Pn**	**02 21 44.6**	**-0.7**
JTZ					*e*S	**Sn**	**02 22 08.5**	**-0.7**
JTSN	**Tsuno**	**1.96**	**325**		⇑P	**Pn**	**02 21 44.8**	**-0.6**
JSU	**Suzuyama**	**2.20**	**294**			**Pn**	**02 21 48.2**	**-0.7**
JTO	**Tosashimizu**	**2.21**	**360**		⇓P	**Pn**	**02 21 47.5**	**-1.5**
JTO					*e*S	**Sn**	**02 22 11.9**	**-4.0**
JKC	**Kuchinoerabu**	**2.27**	**266**		⇑P	**Pn**	**02 21 48.0**	**-1.7**
JSKE	**Saikikamae**	**2.29**	**340**		⇓P	**Pn**	**02 21 48.8**	**-1.2**
JIU3	**Izumi3**	**2.56**	**319**		⇑P	**Pn**	**02 21 53.7**	**0.0**
JUS	**Usuki**	**2.58**	**340**		⇓P	**Pn**	**02 21 53.7**	**-0.4**
JNN	**Nakanoshima**	**2.67**	**253**		P	**Pn**	**02 21 53.7**	**-1.5**
JNN					*e*S	**Sn**	**02 22 24.3**	**-2.7**
JKU	**Kubokawa**	**2.67**	**4**		⇓P	**Pn**	**02 21 54.6**	**-0.7**
JSJ	**Shimokoshiki**	**2.85**	**292**		⇑P	**Pn**	**02 21 56.1**	**-1.7**
JSJ					*e*S	**Sn**	**02 22 30.2**	**-1.4**
JHD	**Hondo**	**2.92**	**309**		⇑P	**Pn**	**02 21 58.2**	**-0.5**
JNA	**Nagahama**	**2.92**	**354**		⇓P	**Pn**	**02 21 58.3**	**-0.5**
JNA					*e*S	**Sn**	**02 22 31.1**	**-2.3**
JBEP	**Beppuamama**	**2.94**	**336**		⇓P	**Pn**	**02 21 59.5**	**+0.4**
JNU	**Nakatsue**	**2.98**	**327**		Pn	**Pn**	**02 21 59.8**	**+0.3**
	565nm,0.3s,baz=171,slow=2.4,SNR=696							
JNU					Sn	**Sn**	**02 22 35.2**	**+0.6**
	503nm,0.3s,baz=220,slow=21,SNR=9.8							
JNU	**Nakatsue**	**2.98**	**327**		⇑P	**Pn**	**02 21 59.6**	**+0.1**
JNU	**Nakatsue**	**2.98**	**327**			**Pn**	**02 21 59.3**	**-0.2**
JNU	**Nakatsue**	**2.98**	**327**		P	**Pn**	**02 22 00.3**	**+0.8**
JTA	**Tamana**	**3.03**	**321**		⇑P	**Pn**	**02 21 59.8**	**-0.3**
JKI	**Kunimi**	**3.17**	**341**		⇓P	**Pn**	**02 22 02.1**	**0.0**
JMN	**Monobe**	**3.21**	**16**		⇓P	**Pn**	**02 22 01.9**	**-0.8**
JMN					*e*S	**Sn**	**02 22 36.4**	**-4.1**
JMN	**Monobe**	**3.21**	**16**		Pn	**Pn**	**02 22 01.7**	**-1.0**
NGSJ	**Nagasakinomoza**	**3.25**	**308**		⇑P	**Pn**	**02 22 02.4**	**-0.8**
JAI	**Aioi**	**3.44**	**23**		⇓P	**Pn**	**02 22 05.1**	**-0.7**
JAI					*e*S	**Sn**	**02 22 41.6**	**-4.4**
JFI	**Itaya**	**3.46**	**324**		⇑P	**Pn**	**02 22 05.9**	**-0.3**
JTAJ	**Takarajima**	**3.47**	**246**		⇑P	**Pn**	**02 22 04.8**	**-1.4**
JTAJ					*e*S	**Sn**	**02 22 44.5**	**-2.3**
JKD	**Kudamatsu**	**3.50**	**347**		P	**Pn**	**02 22 06.6**	**0.0**
JHM	**Kurahashi**	**3.50**	**356**		⇓P	**Pn**	**02 22 06.7**	**+0.1**
JFA	**Akaike**	**3.51**	**331**		⇓P	**Pn**	**02 22 06.5**	**-0.3**
JJS	**Sakaide**	**3.84**	**14**		⇓P	**Pn**	**02 22 11.1**	**-0.3**
JTY	**Toyota**	**3.91**	**338**		⇓P	**Pn**	**02 22 12.1**	**-0.1**
JTNC	**Tanabenakahech**	**3.96**	**36**		P	**Pn**	**02 22 11.9**	**-1.1**
JAMN	**Amaminishikomi**	**3.97**	**234**		P	**Pn**	**02 22 11.2**	**-1.9**
JFU	**Fukue jima 2**	**4.01**	**301**		⇑P	**Pn**	**02 22 12.6**	**-1.1**
JHT	**Toyohira**	**4.03**	**355**		⇓P	**Pn**	**02 22 13.9**	**0.0**
JHS	**Saijyo**	**4.36**	**3**		⇓P	**Pn**	**02 22 18.3**	**-0.2**
JHS					S	**Sn**	**02 23 05.7**	**-3.0**
JHS	**Saijyo**	**4.36**	**3**		Pn	**Pn**	**02 22 18.2**	**-0.2**
TTO1	**TONANKAI O.B.S**	**4.49**	**47**		P	**Pn**	**02 22 20.3**	**+0.3**
JTSM	**Tsushimamitsus**	**4.69**	**323**		P	**Pn**	**02 22 22.4**	**-0.6**
JTU	**Tsushima**	**4.83**	**324**		Pn	**Pn**	**02 22 24.2**	**-0.7**
JKDJ	**Kitadaitoujima**	**4.86**	**196**		⇓P	**Pn**	**02 22 22.9**	**-2.4**
JMZ	**Minamidaito 2**	**5.00**	**197**		⇓P	**Pn**	**02 22 25.1**	**-2.2**
JWT	**Wachi**	**5.12**	**24**		Pn	**Pn**	**02 22 28.8**	**-0.1**
JOW	**Kunigami**	**5.50**	**228**		Pn	**Pn**	**02 22 31.4**	**-2.8**
	186nm,0.3s,baz=83,slow=19,SNR=106							
JOW					Sn	**Sn**	**02 23 28.7**	**-8.3**
	96nm,0.3s,baz=64,slow=9.2,SNR=4.8							
JOW	**Kunigami**	**5.50**	**228**		Pn	**Pn**	**02 22 31.2**	**-3.0**
JOW	**Kunigami**	**5.50**	**228**		P	**Pn**	**02 22 32.9**	**-1.3**
JFM	**Mihama**	**5.55**	**28**		P	**Pn**	**02 22 34.9**	**0.0**
INU	**Inuyama**	**5.88**	**36**		Pn	**Pn**	**02 22 38.7**	**-0.6**
INU	**Inuyama**	**5.88**	**36**		P	**Pn**	**02 22 40.3**	**+1.0**
HMMJ	**Hamamatsu 2**	**5.89**	**43**		P	**Pn**	**02 22 40.0**	**+0.4**
JAO	**Obara**	**5.94**	**38**		P	**Pn**	**02 22 40.7**	**+0.5**
JSG	**Sagara**	**6.06**	**47**		P	**Pn**	**02 22 42.9**	**+1.1**
JSG	**Sagara**	**6.06**	**47**		Pn	**Pn**	**02 22 42.2**	**+0.5**
JGF	**Kuroka**	**6.24**	**36**			**Pn**	**02 22 44.4**	**-0.1**
JJT3	**Tamagusuku3**	**6.30**	**226**		S	**Sn**	**02 23 51.0**	**-5.6**
SHZ3	**Shizuoka 3**	**6.33**	**44**		P	**Pn**	**02 22 46.1**	**+0.5**
JKG	**Kaga**	**6.34**	**27**		P	**Pn**	**02 22 47.1**	**+1.4**
JHJ	**Hachijo jima 2**	**6.42**	**66**		Pn	**Pn**	**02 22 46.9**	**+0.1**
	92nm,0.3s,baz=301,slow=22,SNR=22							
JHJ					Sn	**Sn**	**02 23 56.8**	**-2.8**
	107nm,0.3s,baz=94,slow=15,SNR=11							
JHJ					LR	LR	02 24 52.8	
	comp=Z,21μm,21.3s,baz=278,slow=34							
JHJ2	**Mitsune**	**6.44**	**66**		Pn	**Pn**	**02 22 46.8**	**-0.3**
JHJ2	**Mitsune**	**6.44**	**66**		P	**Pn**	**02 22 47.4**	**+0.3**
JIZS	**Izushimoda**	**6.53**	**50**		⇑P	**Pn**	**02 22 48.3**	**0.0**
JTHY	**Toshimahigashi**	**6.70**	**53**		P	**Pn**	**02 22 51.3**	**+0.7**
JHTM	**Izuhatsuma**	**6.76**	**49**		⇑P	**Pn**	**02 22 52.0**	**+0.5**
JKE	**Kume jima 2**	**6.83**	**232**		P	**Pn**	**02 22 49.5**	**-2.9**
AJI	**Ajiro2**	**6.87**	**49**		P	**Pn**	**02 22 53.4**	**+0.5**
JIM2	**Oshima 3**	**6.90**	**52**		P	**Pn**	**02 22 54.4**	**+1.0**
JOD2	**Odawara 2**	**7.00**	**47**		P	**Pn**	**02 22 55.4**	**+0.6**
JJH	**Hakui**	**7.08**	**27**		P	**Pn**	**02 22 56.7**	**+0.8**
JNG	**Nsakai**	**7.25**	**36**		P	**Pn**	**02 22 59.0**	**+0.8**
TJN	**Taejon**	**7.31**	**323**	*de*	P	**Pn**	**02 22 59.8**	**+0.8**
TJN	**Taejon**	**7.31**	**323**		P	**Pn**	**02 22 59.6**	**+0.6**
MAJO	**Matsushiro**	**7.41**	**36**	*d*	*i*P	**Pn**	**02 23 01.1**	**+0.7**
MAJO	**Matsushiro**	**7.41**	**36**		Pn	**Pn**	**02 23 00.9**	**+0.6**
MAJO	**Matsushiro**	**7.41**	**36**		P	**Pn**	**02 23 01.3**	**+0.9**
MAT	**Matsushiro**	**7.41**	**36**		P	**Pn**	**02 23 00.6**	**+0.2**
MAT					S	**Sn**	**02 24 23.1**	**-0.8**
MAT	**Matsushiro**	**7.41**	**36**		P	**Pn**	**02 23 00.7**	**+0.3**
MJAR	**Matsushiro Arr**	**7.41**	**36**		Pn	**Pn**	**02 23 01.1**	**+0.8**
	18nm,0.3s,baz=204,slow=11,SNR=396							
MJAR	**Matsushiro Arr**	**7.41**	**36**		Pn	**Pn**	**02 23 00.1**	**-0.3**
MJB9	**Matsu-Tunnel**	**7.41**	**36**		Pn	**Pn**	**02 23 00.7**	**+0.3**
KSRS	**Korea Array**	**7.92**	**330**		Pn	**Pn**	**02 23 07.3**	**-0.1**
	5.0nm,0.3s,baz=147,slow=14,SNR=43							
KSAR	**Wonju Array Be**	**7.92**	**330**		P	**Pn**	**02 23 06.9**	**-0.5**
KSAR	**Wonju Array Be**	**7.92**	**330**		Pn	**Pn**	**02 23 06.9**	**-0.5**
JHG	**Hegura jima**	**7.95**	**24**		P	**Pn**	**02 23 09.2**	**+1.4**
KS19	**Wonju Array Si**	**7.98**	**330**		Pn	**Pn**	**02 23 07.4**	**-0.8**
JAG	**Ashikaga**	**8.00**	**42**		⇓P	**Pn**	**02 23 10.2**	**+1.7**
JYT	**Yasato**	**8.31**	**46**		Pn	**Pn**	**02 23 12.9**	**+0.2**
INCN	**Inchon**	**8.54**	**325**		P	**Pn**	**02 23 15.1**	**-0.7**
INCN	**Inchon**	**8.54**	**325**		Pn	**Pn**	**02 23 15.1**	**-0.7**
INCN	**Inchon**	**8.54**	**325**		P	**Pn**	**02 23 17.1**	**+1.2**
JSD	**Sado**	**8.64**	**30**		Pn	**Pn**	**02 23 17.3**	**+0.1**
JHO	**Hitachi**	**8.79**	**45**		P	**Pn**	**02 23 20.1**	**+0.8**
JCJ	**Chichijima**	**8.94**	**111**		Pn	**Pn**	**02 23 21.6**	**+0.2**
HJU	**Haeju**	**9.43**	**323**		P	**Pn**	**02 23 30.5**	**+2.5**
JMM	**Marumori**	**9.77**	**40**		Pn	**Pn**	**02 23 32.9**	**+0.2**
SSE	**Sheshan**	**10.01**	**276**		P	**Pn**	**02 23 36.3**	**+0.3**
SSE					S	**Sn**	**02 25 28.4**	**+0.7**
SSE					pmax	pmax		
	comp=Z,120nm,1.8s							
SSE					pmax	pmax		
	comp=Z,2μm,9.6s							
PYAG	**Pyongyang**	**10.20**	**327**		P	**Pn**	**02 23 41.0**	**+2.4**
PYAG					pP		02 23 44.8	
PYAG					S	**Sn**	**02 25 40.1**	**+7.8**
PYAG					AMS	AMS		
	comp=N,2μm,2.6s							
PYAG					AMS	AMS		
	comp=E,3μm,4.0s							
PYAG					AMS	AMS		
	comp=Z,2μm,2.6s							
HHU	**Hamhung**	**10.22**	**336**		P	**Pn**	**02 23 41.0**	**+2.1**
HHU					S	Sn	02 25 42.8	+10
HHU					AMS	AMS		
	comp=N,21μm,12.7s							
HHU					AMS	AMS		
	comp=E,24μm,14.8s							
HHU					AMS	AMS		
	comp=Z,19μm,11.4s							
YOJ	**Yonaguni jima**	**10.65**	**237**		P	**Pn**	**02 23 42.0**	**-2.9**
YOJ	**Yonaguni jima**	**10.65**	**237**		Pn	**Pn**	**02 23 42.0**	**-2.9**
TATO	**Taipei**	**11.50**	**243**		Pn	**Pn**	**02 23 55.0**	**-1.5**
SUJ	**Sinuiju**	**11.63**	**327**		P	**Pn**	**02 24 00.4**	**+2.3**
SUJ					pP		02 24 04.8	
SUJ					S	**Sn**	**02 26 12.3**	**+5.0**
SUJ					AMS	AMS		
	comp=N,19μm,3.8s							
SUJ					AMS	AMS		
	comp=E,79μm,16.0s							
SUJ					AMS	AMS		
	comp=Z,46μm,9.4s							
YHNB	**Yeheng**	**11.75**	**242**		Pn	**Pn**	**02 23 57.7**	**-2.3**
YHNB	**Yeheng**	**11.75**	**242**		P	**Pn**	**02 23 59.4**	**-0.6**
NACB	**Ninganchiao**	**11.86**	**240**			**Pn**	**02 23 59.1**	**-2.3**
NJ2	**Nanjing**	**12.02**	**280**	⇑	*i*P	**Pn**	**02 24 01.4**	**-2.2**
NJ2					pP	P	02 24 04.5	-12
NJ2					sP		02 24 08.6	
NJ2					PP	**PnPn**	**02 24 13.0**	**+1.7**
NJ2					S	**Sn**	**02 26 22.9**	**+5.8**
NJ2					SS	**SnSn**	**02 26 31.0**	**+2.0**
NJ2					pmax	pmax		
	comp=Z,150nm,0.8s							
NJ2					pmax	pmax		
	comp=Z,4μm,6.4s							
NJ2					LR	LR		
	comp=Z,52μm,12.9s							
NJ2					LR	LR		
	comp=Z,23μm,13.7s							
NJ2					LR	LR		
	comp=Z,25μm,13.4s							
JTM	**Tenmabayashi**	**12.14**	**31**		Pn	**Pn**	**02 24 02.9**	**-2.2**
DL2	**Dalian**	**12.35**	**315**		P	**Pn**	**02 24 08.4**	**+0.4**
DL2					S	**Sn**	**02 26 24.3**	**-0.7**
DL2					pmax	pmax		
	comp=Z,52nm,1.2s							
DL2					pmax	pmax		
	comp=Z,2μm,8.6s							
DL2					LR	LR		
	comp=Z,15μm,16.2s							
DL2					LR	LR		
	comp=Z,21μm,20.6s							
DL2					LR	LR		
	comp=Z,17μm,21.6s							
VLA	**Vladivostok**	**12.48**	**357**	*d*	*i*P	**Pn**	**02 24 11.6**	**+1.8**
YULB	**Yu-li**	**12.54**	**238**		Pn	**Pn**	**02 24 09.9**	**-0.8**
SSLB	**Suanglung**	**12.56**	**240**		Pn	Pn	02 24 04.8	-6.3
TWG	**Pinlang**	**13.06**	**236**		Pn	Pn	02 24 11.0	-6.8
TPUB	**Ta-pu**	**13.09**	**239**		Pn	**Pn**	**02 24 13.5**	**-4.7**
TPUB	**Ta-pu**	**13.09**	**239**		P	**Pn**	**02 24 16.1**	**-2.1**
SNY	**Shenyang**	**13.42**	**329**	⇑	P	**Pn**	**02 24 25.6**	**+3.0**
SNY					S	**Sn**	**02 26 56.8**	**+5.7**
SNY					pmax	pmax		
	comp=Z,120nm,1.6s							
SNY					LR	LR		
	comp=Z,42μm,15.6s							
SNY					LR	LR		
	comp=Z,36μm,14.9s							
SNY					LR	LR		
	comp=Z,37μm,11.6s							
USA0B	**Ussuriysk Arra**	**13.55**	**357**		P	**Pn**	**02 24 25.6**	**+1.2**
USA0B	**Ussuriysk Arra**	**13.55**	**357**			**Pn**	**02 24 25.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**13.55**	**357**		Pn	**Pn**	**02 24 26.2**	**+1.7**
	baz=182,slow=13,SNR=26							
USRK	**Ussuriysk Ar.**	**13.55**	**357**		P	**Pn**	**02 24 25.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**13.55**	**357**		Pn	**Pn**	**02 24 25.6**	**+1.2**
JEW	**Eniwo**	**14.00**	**27**		Pn	**Pn**	**02 24 31.0**	**+0.5**
ERM	**Erimo**	**14.07**	**33**	⇓	*e*P	**Pn**	**02 24 32.2**	**+0.7**
ERM					pmax	pmax		
	comp=Z,95nm,0.7s							
ERM	**Erimo**	**14.07**	**33**		Pn	**Pn**	**02 24 32.0**	**+0.5**
MDJ	**Mudanjiang**	**14.18**	**351**		P	**Pn**	**02 24 34.7**	**+1.6**
MDJ					S	**Sn**	**02 27 11.8**	**+1.9**
MDJ					pmax	pmax		
	comp=Z,4μm,7.4s							
MDJ					LR	LR		
	comp=Z,12μm,15.7s							
MDJ					LR	LR		
	comp=Z,13μm,21.4s							
MDJ					LR	LR		
	comp=Z,14μm,19.3s							
MDJ	**Mudanjiang**	**14.18**	**351**		Pn	**Pn**	**02 24 33.1**	**0.0**
MDJ	**Mudanjiang**	**14.18**	**351**		P	**Pn**	**02 24 35.9**	**+2.8**
KNMB	**Chin-men Tao**	**14.19**	**248**		Pn	**Pn**	**02 24 31.3**	**-2.0**
TIA	**Tai'an**	**14.23**	**297**		P	**Pn**	**02 24 33.6**	**-0.2**
TIA					S	**Sn**	**02 27 08.5**	**-2.6**
TIA					pmax	pmax		
	comp=Z,100nm,2.6s							
TIA					LR	LR		
	comp=Z,67μm,16.7s							
TIA					LR	LR		
	comp=Z,36μm,16.7s							
CN2	**Changchun**	**14.38**	**338**	⇑	*i*P	**Pn**	**02 24 38.7**	**+2.9**
CN2					sP	P	02 24 45.6	+3.0
CN2					S	**Sn**	**02 27 19.2**	**+4.5**
CN2					pmax	pmax		
	comp=Z,410nm,1.0s							
CN2					LR	LR		
	comp=Z,23μm,13.0s							
CN2					LR	LR		
	comp=Z,50μm,13.0s							
CN2					LR	LR		
	comp=Z,20μm,14.0s							
TEY	**Ternei**	**14.68**	**11**	⇓	*i*P	**P**	**02 24 42.9**	**-3.0**
TEY					pmax	pmax		
	comp=E,2μm,3.2s							
TEY					pmax	pmax		
	comp=Z,6μm,3.2s							
TEY					pmax	pmax		
	comp=Z,260nm,3.1s							
TEY					pmax	pmax		
	comp=N,310nm,2.9s							
TEY					pmax	pmax		
	comp=E,70nm,2.9s							
TEY					pmax	pmax		
	comp=N,8μm,2.9s							
TEY					MLR	MLR		
	comp=E,8μm,12.0s							
TEY					MLR	MLR		
	comp=N,5μm,13.0s							
TEY					MLR	MLR		
	comp=Z,7μm,15.0s							
ASAJ	**Asahikawa**	**15.52**	**27**		Pn	**Pn**	**02 24 48.2**	**-2.8**
	comp=Z,1.7nm,0.3s,baz=223,slow=14,SNR=12							
ASAJ					LR	LR	02 30 46.0	
	comp=Z,12μm,20.6s,baz=223,slow=37							
ASAJ	**Asahikawa**	**15.52**	**27**		P	**Pn**	**02 24 49.1**	**-1.9**
ASAJ					pmax	pmax		
	comp=Z,378nm,1.4s							
JKA	**Kamikawa-asahi**	**15.52**	**27**		Pn	**Pn**	**02 24 49.1**	**-1.9**
BNX	**BinXian**	**15.66**	**346**	⇓	P	**Pn**	**02 24 53.4**	**+0.6**
BNX					pP	**P**	**02 24 57.9**	**+1.1**
BNX					sP	**pP**	**02 25 00.0**	**-0.8**
BNX					PP	**pwP**	**02 25 06.3**	**-0.6**
BNX					S	**Sn**	**02 27 47.2**	**+1.4**
BNX					sS	**S**	**02 27 53.8**	**-6.9**
BNX					pmax	pmax		
	comp=Z,57nm,2.2s							
BNX					pmax	pmax		
	comp=Z,1μm,4.6s							
BNX					LR	LR		
	comp=Z,23μm,12.3s							
BNX					LR	LR		
	comp=Z,26μm,14.7s							
BNX					LR	LR		
	comp=Z,21μm,12.4s							
WHN	**Wuhan**	**15.91**	**274**	⇓	*i*P	**Pn**	**02 24 55.8**	**-0.3**
WHN					pP	**P**	**02 25 00.9**	**+1.3**
WHN					S	**Sn**	**02 27 53.1**	**+1.2**
WHN					pmax	pmax		
	comp=Z,440nm,1.1s							
WHN					pmax	pmax		
	comp=Z,5μm,2.7s							
WHN					LR	LR		
	comp=Z,50μm,12.6s							
WHN					LR	LR		
	comp=Z,11μm,11.8s							
WHN					LR	LR		
	comp=Z,22μm,12.7s							
HNS	**HongShan**	**16.45**	**299**	⇑	P	**Pn**	**02 25 01.8**	**-1.1**
HNS					S	**Sn**	**02 28 07.7**	**+2.7**
HNS					SS	**SnSn**	**02 28 27.3**	**+9.2**
HNS					pmax	pmax		
	comp=Z,69nm,1.0s							
HNS					pmax	pmax		
	comp=Z,5μm,5.7s							
HNS					LR	LR		
	comp=Z,72μm,17.8s							
HNS					LR	LR		
	comp=Z,32μm,17.3s							
HNS					LR	LR		
	comp=Z,14μm,16.3s							
BJT	**Baijiatuau**	**16.48**	**309**		P	**Pn**	**02 25 02.6**	**-0.7**
BJT					pmax	pmax		
	comp=Z,245nm,1.1s							
BJT	**Baijiatuau**	**16.48**	**309**		P	**Pn**	**02 25 02.6**	**-0.7**
BJI	**Beijing**	**16.48**	**309**		P	**Pn**	**02 25 03.0**	**-0.4**
BJI					S	**S**	**02 28 12.3**	**-5.2**
BJI					pmax	pmax		
	comp=Z,40nm,2.5s							
BJI					pmax	pmax		
	comp=Z,5μm,11.6s							
BJI					LR	LR		
	comp=Z,41μm,20.6s							
BJI					LR	LR		
	comp=Z,23μm,20.2s							
BJI					LR	LR		
	comp=Z,13μm,23.9s							
YUK	**Yuzh-Kuril'sk**	**16.89**	**34**	*e*	P	**P**	**02 25 09.9**	**-0.6**
YUK				*e*	S	**Sn**	**02 28 18.1**	**+2.4**
YUK					pmax	pmax		
	comp=E,108nm,0.9s							
YUK					pmax	pmax		
	comp=Z,156nm,0.9s							
YUK					pmax	pmax		
	comp=Z,2μm,1.8s							
YUK					MLR	MLR		
	comp=Z,11μm,17.0s							
YUK					MLR	MLR		
	comp=N,5μm,13.0s							
YUK					MLR	MLR		
	comp=E,8μm,14.0s							
LYN	**LuoYang**	**17.58**	**288**	⇑	*i*P	**Pn**	**02 25 16.1**	**-1.1**
LYN					PP	**PnPn**	**02 25 29.9**	**+2.3**
LYN					S	**Sn**	**02 28 32.8**	**+0.2**
LYN					SS	**S**	**02 28 48.7**	**+8.6**
LYN					pmax	pmax		
	comp=E,200nm,2.1s							
LYN					pmax	pmax		
	comp=E,5μm,12.2s							
LYN					LR	LR		
	comp=E,34μm,15.3s							
LYN					LR	LR		
	comp=E,36μm,15.5s							
LYN					LR	LR		
	comp=E,26μm,16.3s							
YSS	**Yuzh-Sakhalins**	**18.01**	**22**	*de*	P	**Pn**	**02 25 20.4**	**-2.0**
YSS				*e*	S	**Sn**	**02 28 38.7**	**-4.1**
YSS					pmax	pmax		
	comp=Z,150nm,1.5s							
YSS					pmax	pmax		
	comp=Z,2μm,4.2s							
YSS					MLR	MLR		
	comp=Z,12μm,16.0s							
YSS					MLR	MLR		
	comp=N,13μm,15.0s							
YSS	**Yuzh-Sakhalins**	**18.01**	**22**		Pn	**Pn**	**02 25 20.1**	**-2.4**
TIY	**Taiyuan**	**18.26**	**298**		P	**P**	**02 25 26.3**	**+0.5**
TIY					S	**S**	**02 28 51.7**	**-2.3**
TIY					pmax	pmax		
	comp=N,130nm,1.0s							
TIY					pmax	pmax		
	comp=N,5μm,4.2s							
TIY					LR	LR		
	comp=N,57μm,16.4s							
TIY					LR	LR		
	comp=N,21μm,16.8s							
TIY					LR	LR		
	comp=N,14μm,14.8s							
KLR	**Kul'dur**	**18.59**	**358**		LR	LR	02 32 45.8	
	comp=N,7μm,19.5s,baz=172,slow=37							
HKPS	**Hong Kong Po S**	**18.66**	**248**		P	**P**	**02 25 30.1**	**-0.1**
XLT	**XiLinHaoTe**	**18.73**	**320**	⇑	*i*P	**P**	**02 25 30.8**	**-0.1**
XLT					pP	pP	02 25 34.1	-0.9
XLT					sP	sP	02 25 38.0	+1.0
XLT					PP	**PnPn**	**02 25 46.9**	**+3.4**
XLT					S	**Sn**	**02 28 59.5**	**-0.9

HHC				pmax	pmax	
	comp=Z,72nm,1.6s					
HHC				pmax	pmax	
	comp=Z,3μm,5.9s					
HHC				LR	LR	
	comp=Z,45μm,17.9s					
HHC				LR	LR	
	comp=Z,36μm,18.0s					
HHC				LR	LR	
	comp=Z,24μm,17.5s					
ENH	**Enshi**	**20.11 275**		P	**P**	**02 25 45.2 -0.8**
ENH				IAMs_20	IAMs_20	02 33 26.9
	comp=Z,16μm,22.0s					
GUMO	**Guam**	**20.28 144**		P	Pn	02 25 50.0 0.0
	comp=Z,763nm,1.2s,baz=305,slow=1.5,SNR=8.2					
GUMO	**Guam**	**20.28 144**		P	**P**	**02 25 48.1 +0.2**
GUMO				pmax	pmax	
	comp=Z,1μm,1.3s					
GUMO	**Guam**	**20.28 144**		P	**P**	**02 25 48.1 +0.2**
GUMO	**Guam**	**20.28 144**		P	Pn	02 25 51.4 +1.5
GRNR	**Gornyy**	**20.29**	**7**	⇓*i*P	**P**	**02 25 46.8 -1.0**
GRNR				*e*S	Sn	02 29 37.1 -0.6
GRNR				smax	smax	
	comp=N,2.0nm,0.9s					
GRNR				MLR	MLR	
	comp=E,7μm,12.0s					
GRNR				MLR	MLR	
	comp=N,6μm,15.0s					
GRNR				MLR	MLR	
	comp=Z,9μm,13.0s					
XAN	**Xi'an**	**20.46 286**		P	**P**	**02 25 49.0 -0.8**
XAN				pP	pP	02 25 53.1 -1.0
XAN				sP	pwP	02 25 57.1 -2.2
XAN				PP	**PnPn**	**02 26 12.0 +4.8**
XAN				S	**S**	**02 29 38.5 +0.3**
XAN				sS	sS	02 29 45.3 -0.5
XAN				pmax	pmax	
	comp=Z,200nm,1.2s					
XAN				pmax	pmax	
	comp=Z,3μm,4.5s					
XAN				LR	LR	
	comp=Z,30μm,14.3s					
XAN				LR	LR	
	comp=Z,21μm,14.3s					
XAN				LR	LR	
	comp=Z,25μm,13.6s					
BTO	**Baotou**	**20.98 305**		*e*P	**P**	**02 25 56.3 +0.9**
BTO				S	**S**	**02 29 45.6 -2.8**
BTO				LR	LR	
	comp=Z,202μm,18.6s					
BTO				LR	LR	
	comp=Z,114μm,19.1s					
HIA	**Hailar**	**21.08 336**		*d*iP	**P**	**02 25 56.7 +0.4**
HIA				pmax	pmax	
	comp=Z,139nm,1.1s					
HIA				MLR	MLR	
	comp=Z,16μm,15.0s					
HIA	**Hailar**	**21.08 336**		P	**P**	**02 25 56.5 +0.1**
HIA				IAmb	IAmb	02 26 11.6
	comp=Z,667nm,1.6s					
TYV	**Tymovskoe**	**21.50**	**17**	*e*P	**P**	**02 26 02.1 +1.3**
TYV				*e*S	Sn	02 30 04.3 -2.4
TYV				pmax	pmax	
	comp=Z,4μm,7.2s					
TYV				pmax	pmax	
	comp=Z,133nm,1.2s					
TYV				MLR	MLR	
	comp=N,9μm,14.0s					
TYV				MLR	MLR	
	comp=Z,10μm,14.0s					
NKL	**Nikolayevsk**	**23.22**	**12**	*e*P	**P**	**02 26 18.6 -0.3**
NKL				*e*S	S	02 30 18.8 -11
NKL				pmax	pmax	
	comp=Z,458nm,1.2s					
NKL				smax	smax	
	comp=N,23nm,4.8s					
NKL				smax	smax	
	comp=E,23nm,4.8s					
NKL				MLR	MLR	
	comp=Z,5μm,15.0s					
GYA	**Guiyang**	**23.33 266**		⇑P	**P**	**02 26 18.9 -1.6**
GYA				sP	pwP	02 26 28.1 -2.4
GYA				S	**S**	**02 30 29.1 -3.3**
GYA				pmax	pmax	
	comp=Z,120nm,0.9s					
GYA				pmax	pmax	
	comp=Z,3μm,4.7s					
GYA				LR	LR	
	comp=Z,20μm,16.3s					
GYA				LR	LR	
	comp=Z,8μm,18.9s					
GYA				LR	LR	
	comp=Z,12μm,22.3s					
ZEA	**Zeya**	**23.43 352**		*e*P	**P**	**02 26 19.0 -2.1**
ZEA				*e*S	**S**	**02 30 33.9 +0.5**
ZEA				pmax	pmax	
	comp=N,90nm,1.2s					
ZEA				pmax	pmax	
	comp=Z,150nm,1.0s					
ZEA				pmax	pmax	
	comp=N,500nm,4.8s					
ZEA				pmax	pmax	
	comp=E,200nm,4.8s					
ZEA				pmax	pmax	
	comp=Z,900nm,6.5s					
ZEA				smax	smax	
	comp=N,2μm,12.0s					
ZEA				MLR	MLR	
	comp=E,7μm,11.0s					
ZEA				MLR	MLR	
	comp=N,6μm,15.0s					
ZEA				MLR	MLR	
	comp=Z,6μm,14.0s					
QIZ	**Qiongzhong**	**23.79 246**		P	**P**	**02 26 26.6 +1.7**
QIZ				S	**S**	**02 30 40.2 +0.5**
QIZ				pmax	pmax	
	comp=Z,100nm,1.7s					
QIZ				pmax	pmax	
	comp=Z,2μm,4.5s					
QIZ				LR	LR	
	comp=Z,14μm,14.1s					
QIZ				LR	LR	
	comp=Z,8μm,13.3s					
QIZ				LR	LR	
	comp=Z,9μm,12.9s					
QIZ	**Qiongzhong**	**23.79 246**		P	**P**	**02 26 24.8 -0.1**
QIZ				IAmb	IAmb	02 26 35.7
	comp=Z,279nm,1.4s					
QIZ	**Qiongzhong**	**23.79 246**		P	**P**	**02 26 26.1 +1.2**
DAV	**Davao City (W)**	**24.41 198**		LR	LR	02 35 52.9
	comp=Z,3μm,19.7s,baz=18,slow=36					
LZH	**Lanzhou**	**24.75 290**		⇑P	**P**	**02 26 32.5 -1.4**
LZH				pP	pP	02 26 37.5 -0.9
LZH				sP	sP	02 26 40.5 +0.6
LZH				PP	**PnPn**	**02 27 11.0 +5.0**
LZH				S	**S**	**02 30 52.0 -3.3**
LZH				sS	sS	02 31 04.6 +2.1
LZH				SS	**SnSn**	**02 31 48.5 +6.4**
LZH				pmax	pmax	
	comp=Z,54nm,1.3s					
LZH				pmax	pmax	
	comp=Z,1μm,4.9s					
LZH				LR	LR	
	comp=Z,30μm,14.1s					
LZH				LR	LR	
	comp=Z,20μm,13.7s					
LZH				LR	LR	
	comp=Z,18μm,14.6s					
CD2	**Chengdu**	**24.94 278**		⇓*i*P	**P**	**02 26 34.7 -0.8**
CD2				pP	pP	02 26 37.6 -2.2
CD2				sP	sP	02 26 40.2 -1.4
CD2				S	**S**	**02 30 58.0 -0.2**
CD2				sS	sS	02 31 04.8 -0.6
CD2				PcS	**PcS**	**02 33 50.3 -0.8**
CD2				pmax	pmax	
	comp=Z,210nm,1.9s					
CD2				pmax	pmax	
	comp=Z,3μm,5.0s					
CD2				LR	LR	
	comp=Z,4μm,21.7s					
CD2				LR	LR	
	comp=Z,21μm,14.5s					
CD2				LR	LR	
	comp=Z,21μm,10.6s					
CIT	**Chita**	**25.65 332**		*e*P	**P**	**02 26 42.4 +0.7**
CIT				*e*		02 27 14.4
CIT				*e*		02 27 30.2
CIT				*e*S	**S**	**02 31 16.4 +7.3**
CIT				*e*		02 37 33.4
CIT				pmax	pmax	
	comp=Z,393nm,1.6s					
ULN	**Ulaanbaatar**	**26.16 318**		*c*eP	**P**	**02 26 46.1 -0.4**
ULN				pmax	pmax	
	comp=Z,213nm,1.3s					
ULN				MLR	MLR	
	comp=Z,15μm,19.0s					
ULN	**Ulaanbaatar**	**26.16 318**		P	**P**	**02 26 46.0 -0.5**
ULN				IAmb	IAmb	02 27 02.0
	comp=Z,370nm,1.4s					
ULN	**Ulaanbaatar**	**26.16 318**		IAMs_20	IAMs_20	02 38 17.9
	comp=Z,16μm,20.0s					
SKR	**Severo-Kuril's**	**26.51**	**34**	*e*P	**P**	**02 26 49.5 +0.1**
SKR				*e*S	**S**	**02 31 26.4 +3.9**
SKR				pmax	pmax	
	comp=Z,400nm,4.2s					
SKR				pmax	pmax	
	comp=Z,1μm,6.3s					
SKR				pmax	pmax	
	comp=Z,168nm,1.3s					
SKR				MLR	MLR	
	comp=Z,4μm,16.0s					
SONM	**Songino Array**	**26.52 318**		P	**P**	**02 26 49.1 -0.6**
	comp=Z,21nm,0.9s,baz=132,slow=9.8,SNR=51					
SONM				LR	LR	02 38 41.7
	comp=Z,18μm,20.1s,baz=120,slow=40					
SONM				P3KPbc		02 59 38.2
	comp=Z,0.3nm,0.8s,baz=310,slow=7.6,SNR=3.6					
SONM	**Songino Array**	**26.52 318**		P	**P**	**02 26 49.0 -0.8**
SONM				IAmb	IAmb	02 27 06.0
	comp=Z,180nm,1.4s					
KMI	**Kunming**	**27.10 266**		⇑P	**P**	**02 26 53.7 -1.6**
KMI				pP	pP	02 26 59.5 -0.1
KMI				sP	sP	02 27 01.8 +0.4
KMI				PcP	**PcP**	**02 30 15.3 -0.7**
KMI				S	**S**	**02 31 31.0 -1.8**
KMI				PcS	**PcS**	**02 33 54.8 -3.1**
KMI				pmax	pmax	
	comp=Z,27nm,0.8s					
KMI				pmax	pmax	
	comp=Z,1μm,7.3s					
KMI				LR	LR	
	comp=Z,7μm,12.7s					
KMI				LR	LR	
	comp=Z,11μm,13.9s					
KMI				LR	LR	
	comp=Z,8μm,15.6s					
SLVN	**Son La**	**27.53 257**		P	**P**	**02 26 58.8 -0.1**
SLVN				IAMs_20	IAMs_20	02 39 35.8
	comp=Z,9μm,18.0s					
PZH	**PanZhiHua**	**27.55 269**		P	**P**	**02 26 58.0 -1.2**
PZH				sP	**sP**	**02 27 04.6 -0.7**
PZH				PP	**PnPn**	**02 27 44.8 +0.5**
PZH				S	**S**	**02 31 38.5 -1.2**
PZH				sS	**sS**	**02 31 49.6 +2.6**
PZH				SS	**SnSn**	**02 32 51.1 +0.4**
PZH				pmax	pmax	
	comp=Z,50nm,0.9s					
PZH				pmax	pmax	
	comp=Z,1μm,7.0s					
PZH				LR	LR	
	comp=Z,12μm,16.5s					
PZH				LR	LR	
	comp=Z,9μm,17.1s					
PZH				LR	LR	
	comp=Z,7μm,18.4s					
GTA	**Gaotai**	**28.28 297**		⇑P	**P**	**02 27 04.1 -1.5**
GTA				pP	pP	02 27 08.6 -1.5
GTA				sP	sP	02 27 11.0 -0.7
GTA				S	**S**	**02 31 49.7 -1.3**
GTA				sS	sS	02 31 56.8 -1.4
GTA				pmax	pmax	
	comp=Z,11nm,1.2s					
GTA				pmax	pmax	
	comp=Z,660nm,5.6s					
GTA				LR	LR	
	comp=Z,36μm,18.5s					
GTA				LR	LR	
	comp=Z,10μm,17.4s					
GTA				LR	LR	
	comp=Z,10μm,18.2s					
MYLDM	**Lahad Datu**	**28.69 211**		P	**P**	**02 27 09.2 0.0**
MYLDM				IAmb	IAmb	02 28 05.5
	comp=Z,145nm,1.2s					
PEA0B	**Petropavlovsk-**	**28.84**	**32**	*de*P	**P**	**02 27 10.6 +0.3**
PEA0B	**Petropavlovsk-**	**28.84**	**32**	P	**P**	**02 27 11.2 +1.0**
PEA0B				IAmb	IAmb	02 27 27.0
	comp=Z,206nm,1.1s					
PETK	**Petropavlovsk-**	**28.84**	**32**	P	**P**	**02 27 10.8 +0.6**
	comp=Z,23nm,0.8s,baz=218,slow=9.4,SNR=21					
PETK				PcP	**PcP**	**02 30 18.7 -0.8**
	comp=Z,2.8nm,0.8s,baz=114,slow=1.8,SNR=4.3					
PETK				LR	LR	02 40 53.3
	comp=Z,4μm,18.2s,baz=218,slow=41					
PETK	**Petropavlovsk-**	**28.84**	**32**	P	**P**	**02 27 10.8 +0.6**
PETK				PcP	**PcP**	**02 30 21.2 +1.8**
DLV	**T Lat**	**29.21 236**		P	**P**	**02 27 13.6 -0.5**
DLV				IAmb	IAmb	02 27 33.4
	comp=Z,207nm,1.3s					
DLV	**T Lat**	**29.21 236**		P	**P**	**02 27 16.4 +2.3**
PET	**Petropavlovsk**	**29.23**	**33**	*b*iP	**P**	**02 27 14.9 +1.3**
PET				*e*S	**S**	**02 32 04.1 -1.1**
PET				pmax	pmax	
	comp=Z,96nm,1.7s					
PET				pmax	pmax	
	comp=Z,1μm,14.3s					
PET				pmax	pmax	
	comp=Z,900nm,12.5s					
PET				MLR	MLR	
	comp=Z,9μm,20.0s					
PET	**Petropavlovsk**	**29.23**	**33**	P	**P**	**02 27 14.1 +0.5**
PET				IAmb	IAmb	02 27 30.5
	comp=Z,103nm,1.1s					
PET				IAMs_20	IAMs_20	02 39 51.4
	comp=Z,7μm,19.0s					
UBPT	**Khong Chiam**	**29.35 245**		P	**P**	**02 27 15.0 -0.1**
UBPT				IAmb	IAmb	02 27 29.5
	comp=Z,198nm,1.3s					
ZAK	**Zakamensk**	**29.59 320**		*e*P	**P**	**02 27 15.7 -1.3**
ZAK				pmax	pmax	
	comp=Z,49nm,1.3s					
SPMM	**Sapulut**	**30.05 214**		P	**P**	**02 27 22.0 +0.7**
IRK	**Irkutsk**	**30.07 324**		*e*P	**P**	**02 27 23.0 +1.8**
IRK				pmax	pmax	
	comp=Z,161nm,2.4s					
BOD	**Bodaibo**	**30.12 340**		*e*P	**P**	**02 27 22.1 +0.6**
BOD				pmax	pmax	
	comp=Z,206nm,1.9s					
TNTI	**Ternate**	**30.15 191**		P	**P**	**02 27 22.3 +0.1**
	comp=Z,2μmcomp=Z,3μmcomp=Z,163nm,1.2s					
TNTI	**Ternate**	**30.15 191**		P	**P**	**02 27 21.1 -1.1**
TNTI				IAmb	IAmb	02 27 47.7
	comp=Z,177nm,1.0s					
TNTI	**Ternate**	**30.15 191**		P	**P**	**02 27 23.3 +1.1**
KMSI	**Cibinong**	**31.05 197**		P	**P**	**02 27 29.4 -0.7**
GTOI	**Gorontalo**	**31.26 199**		P	**P**	**02 27 31.3 -0.6**
	comp=Z,732nmcomp=Z,28nm,1.7s					
SWI	**Sorong**	**31.36 183**		P	**P**	**02 27 32.1 -0.7**
SWI				pmax	pmax	
	comp=Z,66nm,1.1s					
SWI	**Sorong**	**31.36 183**		P	**P**	**02 27 32.9 +0.1**
	comp=Z,2μmcomp=Z,66nm,1.1s					
SIJI	**Sorong**	**31.37 183**		LR	LR	02 38 04.7
	comp=Z,4μm,21.4s,baz=5.5,slow=32					
MA2	**Magadan**	**31.37**	**18**	*de*P	**P**	**02 27 32.8 +0.2**
MA2				pmax	pmax	
	comp=Z,93nm,0.7s					
MA2				MLR	MLR	
	comp=Z,3μm,19.0s					
MA2	**Magadan**	**31.37**	**18**	P	**P**	**02 27 32.4 -0.1**
MA2				IAmb	IAmb	02 27 35.0
	comp=Z,108nm,0.8s					
MA2	**Magadan**	**31.37**	**18**	P	**P**	**02 27 33.6 +1.0**
YAK	**Yakutsk**	**31.47 357**		P	**P**	**02 27 33.1 -0.3**
	comp=Z,68nm,0.7s,baz=158,slow=1.2,SNR=39					
YAK				LR	LR	02 39 47.2
	comp=Z,7μm,20.8s,baz=157,slow=36					
YAK	**Yakutsk**	**31.47 357**		*d*iP	**P**	**02 27 33.0 -0.3**
YAK				*e**PP	**pP**	**02 27 35.7 -2.1**
YAK				*e*PPP	PPP	02 28 40.3
YAK				*e*		02 30 31.2
YAK				*e*S	**S**	**02 32 38.8 -1.4**
YAK				*e**SS	**sS**	**02 32 46.6 -1.3**
YAK				*e*SSS	SSS	02 34 57.6
YAK				*e*		02 38 10.0
YAK				pmax	pmax	
	comp=N,6.0nm,0.6s					
YAK				pmax	pmax	
	comp=Z,84nm,0.8s					
YAK				smax	smax	
	comp=E,604nm,3.3s					
YAK				smax	smax	
	comp=N,1μm,3.5s					
YAK				MLR	MLR	
	comp=Z,8μm,15.0s					
YAK				MLR	MLR	
	comp=N,5μm,14.0s					
YAK				MLR	MLR	
	comp=E,4μm,11.0s					
YAK	**Yakutsk**	**31.47 357**		P	**P**	**02 27 33.3 0.0**
YAK				IAMs_20	IAMs_20	02 39 35.1
	comp=Z,7μm,21.0s					
MOY	**Mondy**	**31.48 321**		*e*P	**P**	**02 27 36.1 +2.3**
MOY				pmax	pmax	
	comp=Z,82nm,2.2s					
TOLI2	**Tolitoli**	**31.51 204**		P	**P**	**02 27 33.6 -0.5**
TOLI2				IAmb	IAmb	02 27 48.5
	comp=Z,173nm,1.3s					
TOLI2	**Tolitoli**	**31.51 204**		P	**P**	**02 27 34.6 +0.4**
LBMI	**Labuha**	**31.51 190**		P	**P**	**02 27 34.8 +0.6**
	comp=Z,2μmcomp=Z,144nm,1.1s					
MRSI	**Marisa**	**31.73 201**		P	**P**	**02 27 36.3 +0.3**
	comp=Z,2μmcomp=Z,161nm,1.4s					
GOMU	**GeErMu**	**32.06 290**		P	**P**	**02 27 38.4 -0.9**
GOMU				pP	pP	02 27 41.3 -2.6
GOMU				sP	sP	02 27 43.4 -2.0
GOMU				PcP	**PcP**	**02 30 31.3 +2.6**
GOMU				S	**S**	**02 32 56.1 +5.3**
GOMU				ScS	**ScS**	**02 38 03.1 -7.2**
GOMU				pmax	pmax	
	comp=Z,12nm,1.1s					
GOMU				pmax	pmax	
	comp=Z,300nm,5.5s					
GOMU				LR	LR	
	comp=Z,6μm,18.5s					
GOMU				LR	LR	
	comp=Z,4μm,19.1s					
GOMU				LR	LR	
	comp=Z,3μm,18.9s					
LKP	**Lekhapani**	**32.41 274**		*e*P	**P**	**02 27 40.3 -1.8**
MPSI	**Mapaga**	**32.54 205**		P	**P**	**02 27 43.4 +0.2**
	comp=Z,117nm,1.7s					
H11N2	**WAKE ISLAND Hy**	**32.58 101**		T	T	03 02 00.4
	baz=296,slow=75,SNR=101					
H11N1	**WAKE ISLAND Hy**	**32.58 101**		T	T	03 01 58.9
	baz=296,slow=75,SNR=21					
H11N3	**WAKE ISLAND Hy**	**32.60 101**		T	T	03 02 00.9
	baz=296,slow=75,SNR=21					
CHTO	**Chiang Mai**	**32.82 257**		P	**P**	**02 27 45.4 -0.3**
CHTO				pmax	pmax	
	comp=Z,96nm,1.0s					
CHTO				MLR	MLR	
	comp=Z,5μm,19.0s					
CHTO	**Chiang Mai**	**32.82 257**		P	**P**	**02 27 45.4 -0.3**
CHTO				IAmb	IAmb	02 27 48.3
	comp=Z,96nm,0.9s					
CHTO	**Chiang Mai**	**32.82 257**		P	**P**	**02 27 46.4 +0.7**
LUWI	**Luwuk**	**32.92 199**		P	**P**	**02 27 46.3 -0.3**
	comp=Z,197nm,1.3s					
LUWI	**Luwuk**	**32.92 199**		P	**P**	**02 27 44.5 -2.1**
LUWI	**Luwuk**	**32.92 199**		P	**P**	**02 27 47.8 +1.2**
CM31	**Chiang Mai Arr**	**32.98 256**		P	**P**	**02 27 46.7 -0.4**
CM31				IAmb	IAmb	02 27 50.0
	comp=Z,331nm,2.0s					
CMAR	**Chiang Mai Arr**	**32.98 256**		P	**P**	**02 27 47.2 0.0**
	comp=Z,13nm,0.7s,baz=48,slow=7.6,SNR=74					
CMAR				LR	LR	02 42 28.3
	comp=Z,4μm,18.4s,baz=55,slow=39					
CMAR	**Chiang Mai Arr**	**32.98 256**		*i* P	**P**	**02 27 48.5 +1.3**
CMAR				pmax	pmax	
	comp=Z,15nm,0.7s					
CMAR	**Chiang Mai Arr**	**32.98 256**		P	**P**	**02 27 46.0 -1.2**
APSI	**Ampana**	**33.13 201**		P	**P**	**02 27 48.5 +0.2**
	comp=Z,1μmcomp=Z,126nm,1.0s					
SANI	**Sanana**	**33.15 193**		P	**P**	**02 27 46.4 -2.1**
	comp=Z,2μmcomp=Z,117nm,1.0s					
SANI	**Sanana**	**33.15 193**		P	**P**	**02 27 49.6 +1.1**
FAKI	**Fak Fak**	**33.37 181**		P	**P**	**02 27 50.4 -0.1**
	comp=Z,6μmcomp=Z,617nm,1.0s					
FAKI	**Fak Fak**	**33.37 181**		P	**P**	**02 27 50.0 -0.5**
FAKI	**Fak Fak**	**33.37 181**		P	**P**	**02 27 51.1 +0.6**
PCI	**Palu**	**33.71 204**		P	P	02 27 47.3 -6.2
GENI	**Genyem**	**33.78 167**		P	**P**	**02 27 54.4 +0.4**
	comp=Z,4μmcomp=Z,147nm,1.1s					
GENI	**Genyem**	**33.78 167**		P	**P**	**02 27 56.9 +2.9**
JAY	**Jayapura**	**33.82 166**		LR	LR	02 38 43.1
	comp=Z,5μm,21.7s,baz=360,slow=31					
JAY	**Jayapura**	**33.82 166**		P	**P**	**02 27 54.3 -0.1**
	comp=Z,703nmcomp=Z,40nm,2.1s					
MOKO	**MOKOCHONG**	**33.83 272**		*ex*	x	02 27 49.2
MSAI	**Masohi**	**34.00 187**		P	**P**	**02 27 55.8 -0.1**
	comp=Z,23nm,1.2s					
SBUM	**Sibu**	**34.15 219**		P	**P**	**02 27 56.7 -0.5**
SBUM	**Sibu**	**34.15 219**		P	**P**	**02 27 58.0 +0.8**
ITAN	**ITANAGAR**	**34.29 274**		*e*P	**P**	**02 27 56.8 -1.7**
ITAN				IAmb	IAmb	02 28 11.5
	comp=Z,134nm,1.2s					
AAI	**Ambon**	**34.42 188**		P	**P**	**02 27 59.6 0.0**
	comp=Z,3μmcomp=Z,375nm,0.8s					
SEY	**Seymchan**	**34.67**	**16**	LR	LR	02 42 45.3
	comp=Z,4μm,19.8s,baz=208,slow=37					
SEY	**Seymchan**	**34.67**	**16**	⇓*e*P	**P**	**02 28 01.8 +0.5**
BNDI	**Bandanaira**	**35.07 185**		P	**P**	**02 28 06.9 +1.7**
BKB	**Balikpapan**	**35.16 208**		P	**P**	**02 28 06.9 +0.9**
	comp=Z,4μmcomp=Z,226nm,1.1s					
TTSI	**Tana Toraja**	**35.72 203**		P	**P**	**02 28 10.8 0.0**
	comp=Z,60nm,1.5s					
MTKI	**Muara Teweh, K**	**35.74 212**		P	**P**	**02 28 13.9 +2.9**
LSA	**Lhasa**	**35.89 279**		P	**P**	**02 28 12.1 -0.7**
LSA				pmax	pmax	
	comp=Z,42nm,1.1s					
LSA				MLR	MLR	
	comp=Z,6μm,22.0s					
LSA	**Lhasa**	**35.89 279**		P	**P**	**02 28 12.2 -0.6**
LSA				pP	**sP**	**02 28 19.5 +0.6**
LSA				PP	**PP**	**02 29 35.1 +0.8**
LSA				pmax	pmax	
	comp=Z,47nm,1.3s					
LSA				pmax	pmax	
	comp=Z,3μm,9.3s					
LSA				LR	LR	
	comp=Z,12μm,15.0s					
LSA				LR	LR	
	comp=Z,13μm,16.4s					
LSA				LR	LR	
	comp=Z,13μm,12.8s					
LSA	**Lhasa**	**35.89 279**		P	**P**	**02 28 12.1 -0.6**
LSA				IAMs_20	IAMs_20	02 43 22.4
	comp=Z,6μm,22.0s					
KSM	**Kuching**	**36.01 221**		P	**P**	**02 28 11.8 -1.5**
KSM	**Kuching**	**36.01 221**		P	**P**	**02 28 16.0 +2.7**
KSM	**Kuching**	**36.01 221**		P	**P**	**02 28 13.9 +0.6**
SHL	**Shillong**	**36.32 272**		P	**P**	**02 28 15.0 -1.1**
SHL				pmax	pmax	
	comp=Z,372nm,2.0s					
SHL	**Shillong**	**36.32 272**		⇑*i*P	**P**	**02 28 14.0 -2.1**
SHL				IAmb	IAmb	02 28 30.7
	comp=Z,40nm,0.8s					
SHL	**Shillong**	**36.32 272**		P	**P**	**02 28 15.0 -1.1**
SHL				IAmb	IAmb	02 28 31.6
	comp=Z,372nm,2.0s					
SPSI	**Sidrap Palu**	**36.60 202**		P	**P**	**02 28 17.7 -0.6**
	comp=Z,747nmcomp=Z,42nm,1.0s					
BNSI	**Bone**	**36.90 201**		P	**P**	**02 28 20.8 -0.1**
	comp=Z,2μmcomp=Z,112nm,1.2s					
BBSI	**Bau Bau**	**37.24 197**		P	**P**	**02 28 24.0 +0.3**
	comp=Z,14nm,1.2s					
KBKI	**Kotabaru**	**37.30 208**		P	**P**	**02 28 24.6 +0.3**
	comp=Z,62nm,1.3s					
KAPI	**Kappang**	**37.59 202**		P	**P**	**02 28 26.5 -0.3**
KAPI				pmax	pmax	
	comp=Z,130nm,1.2s					
KAPI				MLR	MLR	
	comp=Z,2μm,21.0s					
KAPI	**Kappang**	**37.59 202**		P	**P**	**02 28 26.5 -0.3**
KAPI				IAmb	IAmb	02 28 34.7
	comp=Z,130nm,1.1s					
KAPI	**Kappang**	**37.59 202**		P	**P**	**02 28 28.4 +1.7**

BKSI	**Bulukumba**	**37.76 201**	P	**P**	**02 28 28.0**	**-0.2**
	comp=Z,1μmcomp=Z,96nm,1.1s					
WMQ	**Urumqi**	**37.81 303**	⇑P	**P**	**02 28 30.2**	**+1.7**
WMQ			pP	sP	02 28 35.5	+0.9
WMQ			PP	**PnPn**	**02 29 58.4**	**+2.4**
WMQ			S	**S**	**02 34 19.9**	**+1.4**
WMQ			pmax	pmax		
	comp=Z,86nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,940nm,5.1s					
WMQ			LR	LR		
	comp=Z,33μm,16.3s					
WMQ			LR	LR		
	comp=Z,16μm,18.7s					
WMQ			LR	LR		
	comp=Z,14μm,22.1s					
SRIT	**Nakonsritamara**	**37.97 242**	P	**P**	**02 28 29.5**	**-0.5**
BBKI	**Banjar Baru**	**38.01 210**	P	**P**	**02 28 31.6**	**+1.3**
	comp=Z,159nm,1.1s					
BSSI	**Bau Bau, Buton**	**38.43 200**	P	**P**	**02 28 33.0**	**-0.8**
	comp=Z,2μmcomp=Z,72nm,0.9s					
DGZ	**Jazzator, Alta**	**38.86 313**	*c*eP	**P**	**02 28 37.7**	**+0.4**
DGZ			pmax	pmax		
	comp=Z,55nm,1.7s					
DGZ			MLR	MLR		
	comp=Z,11μm,18.0s					
JRMM	**Jerantut**	**39.08 233**	P	**P**	**02 28 41.0**	**+1.7**
RABL	**Rabaul**	**39.26 149**	P	**P**	**02 28 39.1**	**-1.8**
RABL			IAmb	IAmb	02 28 45.8	
	comp=Z,167nm,0.9s					
RABL	**Rabaul**	**39.26 149**	P	**P**	**02 28 42.7**	**+1.8**
KULM	**Kulim**	**39.38 237**	P	**P**	**02 28 40.7**	**-1.2**
KULM			IAmb	IAmb	02 28 49.6	
	comp=Z,130nm,0.7s					
KULM	**Kulim**	**39.38 237**	P	**P**	**02 28 43.0**	**+1.1**
IPM	**Ipoh**	**39.67 235**	P	**P**	**02 28 44.0**	**-0.3**
IPM			IAmb	IAmb	02 29 01.8	
	comp=Z,337nm,1.4s					
IPM	**Ipoh**	**39.67 235**	P	**P**	**02 28 45.0**	**+0.7**
IPM	**Ipoh**	**39.67 235**	P	**P**	**02 28 44.8**	**+0.5**
MYKOM	**Kota Tinggi**	**39.70 229**	P	**P**	**02 28 43.1**	**-1.4**
ZSN	**Zaisan**	**40.16 309**	*e*P	**P**	**02 28 47.6**	**-0.5**
ZSN			*e*S	**S**	**02 34 55.2**	**+1.4**
ZSN	**Zaisan**	**40.16 309**	*e*P	**P**	**02 28 47.7**	**-0.5**
	baz=308					
ZSN			*e*S	**S**	**02 34 55.2**	**+1.4**
	baz=308					
MMRI	**Maumere**	**40.35 196**	P	**P**	**02 28 50.4**	**+0.6**
	comp=Z,118nm,1.3s					
MMRI	**Maumere**	**40.35 196**	P	**P**	**02 28 50.1**	**+0.2**
MMRI			IAmb	IAmb	02 29 02.4	
	comp=Z,394nm,1.7s					
MMRI	**Maumere**	**40.35 196**	P	**P**	**02 28 50.9**	**+1.1**
EDFI	**Ende, Flores**	**40.59 197**	P	**P**	**02 28 50.3**	**-1.7**
	comp=Z,1μmcomp=Z,37nm,1.5s					
GUN	**Gumba**	**40.81 278**	*e*P	**P**	**02 28 54.2**	**+0.2**
	comp=Z,424nm,0.8s					
DSRI	**Dabo**	**40.97 226**	P	**P**	**02 28 55.5**	**+0.5**
	comp=Z,1μmcomp=Z,25nm,1.0s					
TPI	**Tanjungpandan**	**40.98 220**	P	**P**	**02 28 55.4**	**+0.3**
	comp=Z,1μmcomp=Z,42nm,1.4s					
SOEI	**Soe**	**40.99 193**	P	**P**	**02 28 54.4**	**-0.9**
	comp=Z,4μmcomp=Z,378nm,1.1s					
SOEI	**Soe**	**40.99 193**	P	**P**	**02 28 53.8**	**-1.5**
SOEI	**Soe**	**40.99 193**	P	**P**	**02 28 56.2**	**+0.9**
BWJI	**Bawean**	**41.10 211**	P	**P**	**02 28 57.2**	**+1.2**
	comp=Z,6μmcomp=Z,392nm,1.2s					
TIXI	**Tiksi**	**41.12 358**	P	**P**	**02 28 54.7**	**-0.9**
	comp=Z,33nm,0.8s,baz=139,slow=6.5,SNR=50					
TIXI			LR	LR	02 46 54.0	
	comp=Z,11μm,18.8s,baz=167,slow=38					
TIXI	**Tiksi**	**41.12 358**	*d i*P	**P**	**02 28 55.1**	**-0.5**
TIXI			pmax	pmax		
	comp=Z,79nm,1.0s					
TIXI			MLR	MLR		
	comp=Z,9μm,18.0s					
TIXI	**Tiksi**	**41.12 358**	P	**P**	**02 28 55.4**	**-0.3**
PKI	**Pulchoki**	**41.30 278**	*e*P	**P**	**02 28 59.0**	**+0.9**
	comp=Z,88nm,1.1s					
PKIN	**Phulchoki**	**41.31 278**	*e*P	**P**	**02 28 58.8**	**+0.7**
	comp=Z,197nm,1.0s					
KKN	**Kakani**	**41.35 278**	*e*P	**P**	**02 28 58.9**	**+0.5**
	comp=Z,140nm,0.8s					
PPBI	**Pangkal Pinang**	**41.36 223**	P	**P**	**02 28 59.6**	**+1.4**
	comp=Z,59nm,1.2s					
ZAA0	**Zalesovo Array**	**41.42 318**	P	**P**	**02 28 58.1**	**-0.1**
ZALV	**Zalesovo Beam**	**41.42 318**	P	**P**	**02 28 57.3**	**-1.0**
	comp=Z,9.8nm,0.6s,baz=101,slow=8.0,SNR=28					
ZALV			PcP	**PcP**	**02 30 55.4**	**-0.6**
	comp=Z,23nm,0.8s,baz=103,slow=3.4,SNR=5.7					
ZALV			LR	LR	02 48 03.2	
	comp=Z,8μm,18.7s,baz=106,slow=39					
ZALV	**Zalesovo Beam**	**41.42 318**	*i* P	**P**	**02 28 58.2**	**-0.1**
ZALV			pmax	pmax		
	comp=Z,10.0nm,0.6s					
ZALV	**Zalesovo Beam**	**41.42 318**	P	**P**	**02 28 58.2**	**-0.1**
DMN	**Daman**	**41.55 278**	*e*P	**P**	**02 29 01.4**	**+1.4**
	comp=Z,174nm,1.1s					
BATI	**Baumata**	**41.55 194**	LR	LR	02 44 47.6	
	comp=Z,1μm,21.9s,baz=16,slow=34					
BATI	**Baumata**	**41.55 194**	P	**P**	**02 28 58.4**	**-1.4**
	comp=Z,2μmcomp=Z,143nm,0.9s					
PBA	**Port Blair**	**41.59 252**	*e*P	**P**	**02 28 59.5**	**-0.7**
KMMI	**Kalianget**	**41.60 209**	P	**P**	**02 28 59.7**	**-0.5**
	comp=Z,2μmcomp=Z,94nm,1.4s					
GKN	**Gorkha**	**41.84 279**	*e*P	**P**	**02 29 02.9**	**+0.6**
	comp=Z,161nm,1.1s					
MK31	**Makanchi Array**	**41.85 307**	*c i*P	**P**	**02 29 00.8**	**-1.2**
MK31			pmax	pmax		
	comp=Z,79nm,1.0s					
MK31	**Makanchi Array**	**41.85 307**	P	**P**	**02 29 01.0**	**-1.0**
MKAR	**Makanchi Array**	**41.85 307**	P	**P**	**02 29 01.2**	**-0.8**
	comp=Z,27nm,0.9s,baz=94,slow=9.6,SNR=68					
MKAR			PcP	**PcP**	**02 30 57.4**	**-0.2**
	comp=Z,18nm,0.9s,baz=92,slow=3.1,SNR=11					
MKAR			LR	LR	02 47 15.2	
	comp=Z,7μm,20.8s,baz=91,slow=37					
MKAR	**Makanchi Array**	**41.85 307**	*c*eP	**P**	**02 29 01.6**	**-0.4**
MKAR			pmax	pmax		
	comp=Z,27nm,0.9s					
MKAR	**Makanchi Array**	**41.85 307**	P	**P**	**02 29 01.7**	**-0.3**
SRBI	**Singaraja**	**42.04 207**	P	**P**	**02 29 03.7**	**-0.1**
	comp=Z,2μmcomp=Z,97nm,1.5s					
BOK	**Bokaro**	**42.05 272**	⇑*i*P	**P**	**02 29 03.7**	**-0.2**
BOK			IAmb	IAmb	02 29 13.4	
	comp=Z,29nm,0.7s					
MAKZ	**Makanchi**	**42.06 307**	P	**P**	**02 29 03.4**	**-0.3**
MAKZ			pmax	pmax		
	comp=Z,71nm,1.2s					
MAKZ			MLR	MLR		
	comp=Z,8μm,20.0s					
MAKZ	**Makanchi**	**42.06 307**	P	**P**	**02 29 03.4**	**-0.3**
MAKZ			IAMs_20	IAMs_20	02 47 10.6	
	comp=Z,8μm,20.0s					
PMG	**Port Moresby**	**42.13 159**	LR	LR	02 44 25.6	
	comp=Z,3μm,20.8s,baz=352,slow=33					
PMG	**Port Moresby**	**42.13 159**	P	**P**	**02 29 03.8**	**-0.7**
PMG			pmax	pmax		
	comp=Z,84nm,1.3s					
PMG	**Port Moresby**	**42.13 159**	P	**P**	**02 29 03.8**	**-0.7**
PMG	**Port Moresby**	**42.13 159**	P	**P**	**02 29 05.8**	**+1.3**
PMG	**Port Moresby**	**42.13 159**	P	**P**	**02 29 05.9**	**+1.4**
LHMI	**Lhok Sumawe**	**42.14 240**	P	**P**	**02 29 07.7**	**+3.0**
	comp=Z,3μmcomp=Z,5μmcomp=Z,324nm,1.2s					
LHMI	**Lhok Sumawe**	**42.14 240**	P	**P**	**02 29 05.0**	**+0.3**
ABJI	**Asem Bagus**	**42.17 208**	P	**P**	**02 29 04.7**	**-0.1**
	comp=Z,2μmcomp=Z,157nm,1.1s					
KIWB	**Kanaga Island**	**42.17 45**	P	**P**	**02 29 04.7**	**+0.2**
BILL	**Bilibino**	**42.24 18**	*c i*P	**P**	**02 29 05.4**	**+0.5**
BILL			*e**SP	**sP**	**02 29 11.1**	**-0.2**
BILL			*i*		02 29 13.2	
BILL			*i*		02 30 45.1	
BILL			*e*		02 31 01.8	
BILL			*e*PPP	PPP	02 31 10.9	
BILL			*i* S	**S**	**02 35 26.0**	**+1.9**
BILL			*e*		02 35 33.7	
BILL			*i* SSS	SSS	02 39 03.6	
BILL			pmax	pmax		
	comp=Z,343nm,2.5s					
BILL			MLR	MLR		
	comp=Z,3μm,16.0s					
BILL	**Bilibino**	**42.24 18**	P	**P**	**02 29 05.7**	**+0.9**
BILL			IAmb	IAmb	02 29 20.8	
	comp=Z,165nm,0.9s					
BILL			IAMs_20	IAMs_20	02 48 39.8	
	comp=Z,4μm,20.0s					
PSI	**Prapat**	**42.34 236**	LR	LR	02 48 06.2	
	comp=Z,1μm,19.4s,baz=42,slow=38					
PSI	**Prapat**	**42.34 236**	P	**P**	**02 29 05.4**	**-1.0**
PSI			pmax	pmax		
	comp=Z,53nm,0.8s					
BLJI	**Banyuglugur**	**42.38 209**	P	**P**	**02 29 08.9**	**+2.3**
	comp=Z,3μmcomp=Z,52nm,1.1s					
UWJI	**Ujung Watu**	**42.39 213**	P	**P**	**02 29 07.7**	**+1.1**
	comp=Z,4μmcomp=Z,266nm,1.3s					
RPSI	**Rantu Prapat**	**42.41 236**	P	**P**	**02 29 05.4**	**-1.4**
DANN	**Dangsing**	**42.49 280**	*e*P	**P**	**02 29 08.4**	**+0.6**
	comp=Z,428nm,1.1s					
BKNI	**Bangkinang**	**42.65 231**	P	**P**	**02 29 10.6**	**+1.8**
	comp=Z,2μmcomp=Z,3μmcomp=Z,157nm,1.1s					
BKNI	**Bangkinang**	**42.65 231**	P	**P**	**02 29 08.2**	**-0.5**
BKNI			IAmb	IAmb	02 29 17.8	
	comp=Z,196nm,1.1s					
BKNI	**Bangkinang**	**42.65 231**	P	**P**	**02 29 09.5**	**+0.7**
KOLN	**Koldanda**	**42.79 279**	*e*P	**P**	**02 29 10.6**	**+0.5**
	comp=Z,319nm,1.3s					
JAGI	**Jajag, Banyuwa**	**42.81 208**	P	**P**	**02 29 09.8**	**-0.3**
	comp=Z,1μmcomp=Z,59nm,1.9s					
JAGI	**Jajag, Banyuwa**	**42.81 208**	P	**P**	**02 29 08.8**	**-1.3**
JAGI	**Jajag, Banyuwa**	**42.81 208**	P	**P**	**02 29 11.0**	**+0.9**
GMJI	**Gumukmas**	**42.92 209**	P	**P**	**02 29 08.8**	**-2.1**
	comp=Z,60nm,1.4s					
KDU	**Kakadu**	**43.08 180**	P	**P**	**02 29 11.6**	**-0.5**
SMRI	**Semarang**	**43.18 214**	P	**P**	**02 29 13.6**	**+0.6**
	comp=Z,4μmcomp=Z,200nm,1.3s					
SMRI	**Semarang**	**43.18 214**	P	**P**	**02 29 12.1**	**-0.9**
SMRI			IAmb	IAmb	02 29 28.2	
	comp=Z,149nm,0.9s					
SMRI	**Semarang**	**43.18 214**	P	**P**	**02 29 15.8**	**+2.8**
PYUN	**Piuthan**	**43.21 280**	*e*P	**P**	**02 29 14.5**	**+0.9**
	comp=Z,607nm,1.2s					
MTN	**Manton Dam**	**43.26 182**	P	**P**	**02 29 12.6**	**-1.0**
MTN			IAmb	IAmb	02 29 26.4	
	comp=Z,215nm,1.0s					
MTN	**Manton Dam**	**43.26 182**	P	**P**	**02 29 12.7**	**-0.9**
TPTI		**43.28 238**	P	**P**	**02 29 13.6**	**-0.3**
	comp=Z,4μmcomp=Z,255nmcomp=Z,22nm,1.1s					
MNSI	**Mandailing Nat**	**43.30 233**	P	**P**	**02 29 14.5**	**+0.5**
	comp=Z,137nm,0.8s					
SEM	**Semipalatinsk**	**43.54 312**	*e*P	**P**	**02 29 14.5**	**-1.4**
SEM	**Semipalatinsk**	**43.54 312**	*e*P	**P**	**02 29 14.6**	**-1.4**
	baz=312					
WOJI	**Wonogiri, Jawa**	**43.64 212**	P	**P**	**02 29 17.0**	**+0.3**
	comp=Z,71nm,1.7s					
PDGK	**Podgornoye**	**43.75 302**	P	**P**	**02 29 16.4**	**-1.2**
SHLS	**Shalkode**	**43.78 302**	*e*P	**P**	**02 29 14.5**	**-3.3**
SHLS	**Shalkode**	**43.78 302**	*e*P	**P**	**02 29 14.5**	**-3.3**
	baz=302					
PCJI	**Pacitan**	**43.84 212**	P	**P**	**02 29 17.5**	**-0.8**
	comp=Z,1μmcomp=Z,49nm,1.6s					
UGM	**Wanagama**	**43.89 213**	P	**P**	**02 29 18.8**	**0.0**
	comp=Z,3μmcomp=Z,259nm,1.0s					
UGM	**Wanagama**	**43.89 213**	P	**P**	**02 29 18.0**	**-0.8**
UGM	**Wanagama**	**43.89 213**	P	**P**	**02 29 19.2**	**+0.4**
YOGI	**Yogyakarta**	**43.92 213**	P	**P**	**02 29 18.2**	**-0.8**
	comp=Z,2μmcomp=Z,153nm,1.7s					
UZB	**Uzynbulak**	**44.10 302**	*e*P	**P**	**02 29 19.6**	**-0.8**
UZB			*i* S	**S**	**02 35 53.0**	**+0.8**
UZB			pmax	pmax		
	comp=Z,63nm,1.6s					
UZB	**Uzynbulak**	**44.10 302**	*e*P	**P**	**02 29 19.6**	**-0.8**
	comp=Z,63nm,1.6s,baz=302					
UZB			*i* S	**S**	**02 35 53.1**	**+0.8**
	baz=302					
KRJI	**Kerinci**	**44.18 228**	P	**P**	**02 29 22.7**	**+1.5**
	comp=Z,253nm,1.9s					
KLSI		**44.22 222**	P	**P**	**02 29 23.1**	**+1.7**
	comp=Z,7μmcomp=Z,1μmcomp=Z,61nm,1.5s					
LHSI	**Lahat**	**44.24 224**	P	**P**	**02 29 22.5**	**+0.9**
	comp=Z,5μmcomp=Z,198nm,0.9s					
KLI	**Kotabumi**	**44.28 222**	P	**P**	**02 29 23.0**	**+1.1**
	comp=Z,5μmcomp=Z,416nm,0.9s					
KPKS	**Kokpek**	**44.33 302**	*e*P	**P**	**02 29 21.4**	**-0.8**
KPKS			*e*S	**S**	**02 35 56.6**	**+1.0**
KPKS	**Kokpek**	**44.33 302**	*e*P	**P**	**02 29 21.4**	**-0.8**
	baz=302					
KPKS			*e*S	**S**	**02 35 56.7**	**+1.0**
	baz=302					
GSI	**Gunungsitoli**	**44.34 236**	P	**P**	**02 29 21.8**	**-0.6**
GSI	**Gunungsitoli**	**44.34 236**	P	**P**	**02 29 22.9**	**+0.5**
MDSI	**Maura Dua**	**44.38 223**	P	**P**	**02 29 23.3**	**+0.6**
	comp=Z,812nmcomp=Z,2μmcomp=Z,83nm,1.7s					
LEM	**Lembang**	**44.39 217**	LR	LR	02 48 05.2	
	comp=Z,809nm,20.7s,baz=2.5,slow=36					
BLSI	**Bandar Lampung**	**44.47 221**	P	**P**	**02 29 25.6**	**+2.1**
MASI	**Maura Aman, Be**	**44.49 226**	P	**P**	**02 29 24.8**	**+1.1**
	comp=Z,5μmcomp=Z,586nm,1.0s					
TDK	**Taldyqorghan**	**44.50 305**	*e*P	**P**	**02 29 23.1**	**-0.4**
TDK			*e*S	**S**	**02 35 59.0**	**+1.2**
TDK			MLR	MLR		
	comp=Z,5μm,14.0s					
TDK	**Taldyqorghan**	**44.50 305**	*e*P	**P**	**02 29 23.1**	**-0.4**
	baz=304					
TDK			*e*S	**S**	**02 35 59.0**	**+1.2**
	baz=304					
TDK			LR	LR	02 49 23.7	
	comp=Z,5μm,14.1s,baz=304					
ZHN	**Zhinishke**	**44.53 302**	*e*P	**P**	**02 29 23.2**	**-0.6**
ZHN			*e*S	**S**	**02 35 59.3**	**+0.8**
ZHN	**Zhinishke**	**44.53 302**	*e*P	**P**	**02 29 23.2**	**-0.6**
	baz=302					
ZHN			*e*S	**S**	**02 35 59.3**	**+0.8**
	baz=302					
SATY	**Saty**	**44.55 302**	*e*P	**P**	**02 29 23.3**	**-0.7**
SATY			*e*S	**S**	**02 36 00.2**	**+1.3**
SATY			pmax	pmax		
	comp=Z,112nm,2.0s					
SATY	**Saty**	**44.55 302**	*e*P	**P**	**02 29 23.4**	**-0.7**
	comp=Z,112nm,2.0s,baz=302					
SATY			*e*S	**S**	**02 36 00.2**	**+1.3**
	baz=302					
PRZ	**Przheval'sk**	**44.59 301**	P	**P**	**02 29 24.4**	**0.0**
PRZ			pmax	pmax		
	comp=Z,273nm,1.1s					
PRZ	**Przheval'sk**	**44.59 301**	P	**P**	**02 29 24.4**	**0.0**
SBJI	**Serang**	**44.60 219**	P	**P**	**02 29 26.5**	**+2.1**
	comp=Z,6μmcomp=Z,359nm,1.3s					
KURK	**Kurchatov**	**44.60 313**	*c i*P	**P**	**02 29 23.5**	**-0.6**
KURK			pmax	pmax		
	comp=Z,101nm,1.7s					
KURK			MLR	MLR		
	comp=Z,11μm,18.0s					
KURK	**Kurchatov**	**44.60 313**	P	**P**	**02 29 24.1**	**0.0**
KURK			IAmb	IAmb	02 29 31.8	
	comp=Z,92nm,1.0s					
DBJI	**Dramaga**	**44.62 218**	P	**P**	**02 29 26.0**	**+1.3**
	comp=Z,401nm,1.3s					
KURBB	**Kurchatov Arra**	**44.65 313**	LR	LR	02 49 45.8	
	comp=Z,10μm,18.6s,baz=70,slow=38					
KURBB	**Kurchatov Arra**	**44.65 313**	P	**P**	**02 29 23.6**	**-0.9**
LWLI	**Liwa**	**44.87 223**	P	**P**	**02 29 28.5**	**+1.7**
	comp=Z,116nm,0.9s					
ARXS	**Arharly**	**44.93 303**	*e*P	**P**	**02 29 26.5**	**-0.5**
KASI	**Kota Agung**	**45.03 222**	P	**P**	**02 29 29.1**	**+1.2**
	comp=Z,881nmcomp=Z,93nm,1.0s					
CNJI	**Cibinong**	**45.06 217**	P	**P**	**02 29 29.8**	**+1.7**
	comp=Z,2μmcomp=Z,181nm,1.1s					
TARG	**Taragay, Kyrgy**	**45.08 300**	P	**P**	**02 29 27.6**	**-0.9**
SISI	**Saibi**	**45.17 232**	P	**P**	**02 29 28.8**	**-0.3**
	comp=Z,1μmcomp=Z,94nm,0.7s					
CGJI	**Cibinong**	**45.25 220**	P	**P**	**02 29 28.2**	**-1.4**
	comp=Z,2μmcomp=Z,87nm,0.9s					
COEN	**Coen**	**45.44 166**	P	**P**	**02 29 31.0**	**-0.1**
COEN	**Coen**	**45.44 166**	P	**P**	**02 29 31.5**	**+0.4**
KDJ	**Kajisay**	**45.51 301**	P	**P**	**02 29 31.5**	**-0.3**
KDJ			pmax	pmax		
	comp=Z,444nm,2.0s					
KDJ	**Kajisay**	**45.51 301**	P	**P**	**02 29 31.5**	**-0.3**
MDOK	**Medeo**	**45.54 302**	*e*P	**P**	**02 29 31.4**	**-0.5**
MDOK			*e*S	**S**	**02 36 14.3**	**+1.1**
MDOK			MLR	MLR		
	comp=Z,4μm,16.0s					
MDOK	**Medeo**	**45.54 302**	*e*P	**P**	**02 29 31.5**	**-0.5**
	baz=302					
MDOK			*e*S	**S**	**02 36 14.4**	**+1.1**
	baz=302					
MDOK			LR	LR	02 48 35.4	
	comp=Z,4μm,15.8s,baz=302					
CHKK	**Chushkaly**	**45.55 303**	*e*P	**P**	**02 29 31.2**	**-0.6**
	baz=303					
PPSI	**Pulau Pagai**	**45.63 229**	P	**P**	**02 29 33.5**	**+0.8**
	comp=Z,2μmcomp=Z,171nm,1.6s					
CHLP	**Challavanipeta**	**45.64 266**	*e*P	**P**	**02 29 33.2**	**+0.4**
CHLP			IVmB_BB		02 29 35.8	
	comp=Z,729nm,2.6s					
CHLP			IVMs_BB	IVMs_BB	02 52 58.9	
	comp=Z,633nm,17.6s					
KUU	**Kurty**	**46.02 303**	*e*P	**P**	**02 29 35.1**	**-0.4**
KUU			*e*S	**S**	**02 36 20.8**	**+1.1**
KUU			pmax	pmax		
	comp=Z,26nm,0.7s					
KUU	**Kurty**	**46.02 303**	*e*P	**P**	**02 29 35.1**	**-0.4**
	comp=Z,26nm,0.7s,baz=303					
KUU			*e*S	**S**	**02 36 20.8**	**+1.1**
	baz=303					
KNRA	**Kununurra**	**46.21 185**	P	**P**	**02 29 36.6**	**-0.6**
KNRA	**Kununurra**	**46.21 185**	P	**P**	**02 29 37.4**	**+0.3**
KST	**Kastek**	**46.34 302**	*e*P	**P**	**02 29 37.9**	**-0.4**
	baz=302					
KST			*e*S	**S**	**02 36 26.1**	**+1.5**
	baz=302					
NRIK	**Noril'sk**	**46.42 340**	P	**P**	**02 29 36.8**	**-1.5**
	comp=Z,52nm,0.8s,baz=118,slow=9.4,SNR=67					
NRIK			LR	LR	02 50 55.3	
	comp=Z,9μm,18.4s,baz=126,slow=38					
NRIK	**Noril'sk**	**46.42 340**	*c i*P	**P**	**02 29 36.5**	**-1.7**
NRIK			pmax	pmax		
	comp=Z,151nm,1.3s					
NRIK			MLR	MLR		
	comp=Z,7μm,14.0s					
NRIK	**Noril'sk**	**46.42 340**	P	**P**	**02 29 37.6**	**-0.6**
NRIK			IAmb	IAmb	02 29 55.5	
	comp=Z,119nm,1.1s					
TKM2	**Tokmak 2**	**46.62 302**	P	**P**	**02 29 41.1**	**+0.6**
	SNR=34					
TKM2	**Tokmak 2**	**46.62 302**	*i* P	**P**	**02 29 40.7**	**+0.2**
TKM2			pmax	pmax		
	comp=Z,213nm,1.0s					
KSH	**Kashi**	**46.69 297**	P	**P**	**02 29 44.5**	**+3.5**
KSH			pP	pwP	02 29 49.0	-1.9
KSH			sP	sP	02 29 51.3	+3.9
KSH			S	**S**	**02 36 34.8**	**+5.1**
KSH			sS	sS	02 36 40.3	+3.2
KSH			SS	**SS**	**02 39 53.6**	**-2.2**
KSH			pmax	pmax		
	comp=Z,11nm,0.9s					
KSH			pmax	pmax		
	comp=Z,1μm,5.3s					
KSH			LR	LR		
	comp=Z,13μm,15.8s					
KSH			LR	LR		
	comp=Z,12μm,17.7s					
KSH			LR	LR		
	comp=Z,13μm,21.6s					
KBK	**Karagaybulak**	**47.12 302**	P	**P**	**02 29 44.8**	**+0.4**
	SNR=21					
CHMS	**Chumysh**	**47.23 302**	P	**P**	**02 29 45.4**	**+0.3**
	SNR=11					
SGDS	**Sogindy**	**47.28 303**	*e*P	**P**	**02 29 45.0**	**-0.5**
	baz=302					
SGDS			*e*S	**S**	**02 36 39.7**	**+1.7**
	baz=302					
SMLA	**Simla**	**47.32 286**	⇑*i*P	**P**	**02 29 44.9**	**-1.0**
SMLA			IAmb	IAmb	02 29 52.5	
	comp=Z,673nm,1.9s					
FRU1	**Bishkek**	**47.34 302**	P	**P**	**02 29 45.5**	**-0.4**
FRU1			pmax	pmax		
	comp=Z,132nm,1.0s					
FRU1	**Bishkek**	**47.34 302**	P	**P**	**02 29 45.5**	**-0.4**
USP	**Ospenovka**	**47.39 302**	P	**P**	**02 29 46.5**	**+0.1**
	SNR=14					
AAK	**Ala-Archa**	**47.45 302**	LR	LR	02 53 08.5	
	comp=Z,9μm,18.0s,baz=69,slow=40					
AAK	**Ala-Archa**	**47.45 302**	P	**P**	**02 29 47.6**	**+0.6**
	SNR=13					
AAK	**Ala-Archa**	**47.45 302**	*c i*P	**P**	**02 29 46.7**	**-0.3**
AAK			pmax	pmax		
	comp=Z,199nm,1.0s					
AAK			MLR	MLR		
	comp=Z,24μm,16.0s					
AAK	**Ala-Archa**	**47.45 302**	P	**P**	**02 29 46.7**	**-0.3**
AAK			IAmb	IAmb	02 29 55.6	
	comp=Z,59nm,0.9s					
AAK	**Ala-Archa**	**47.45 302**	*i* P	**P**	**02 29 46.7**	**-0.3**
	SNR=11					
UCH	**Uchtor**	**47.48 301**	P	**P**	**02 29 48.4**	**+0.9**
	SNR=21					
HNR	**Honiara**	**47.60 142**	LR	LR	02 49 18.0	
	comp=Z,1μm,19.0s,baz=334,slow=35					
DHRM	**DHARAMSHALA**	**47.76 287**	⇑*i*P	**P**	**02 29 48.9**	**-0.7**
GAMB	**Gambell**	**47.83 30**	P	**P**	**02 29 49.8**	**+0.4**
GAMB	**Gambell**	**47.83 30**	P	**P**	**02 29 50.4**	**+1.1**
	baz=253					
EKS2	**Erkin-Say**	**47.98 302**	P	**P**	**02 29 51.5**	**+0.5**
	SNR=12					
AML	**Almayashu**	**48.09 301**	P	**P**	**02 29 55.0**	**+2.8**
	SNR=34					
AML	**Almayashu**	**48.09 301**	*i* P	**P**	**02 29 52.0**	**-0.2**
	SNR=23					
PVM	**Polavaram**	**48.27 266**	*e*P	**P**	**02 29 53.9**	**+0.5**
PVM			IVmB_BB		02 29 55.2	
	comp=Z,811nm,2.0s					
PVM			IVMs_BB	IVMs_BB	02 54 15.7	
	comp=Z,524nm,16.3s					
BRZS	**Berezniki**	**48.37 311**	*e*P	**P**	**02 29 53.0**	**-0.8**
BRZS			pmax	pmax		
	comp=Z,79nm,1.9s					
BRZS	**Berezniki**	**48.37 311**	*e*P	**P**	**02 29 53.0**	**-0.8**
	comp=Z,79nm,1.9s,baz=311					
XMIS	**Christmas Isla**	**48.51 217**	P	**P**	**02 29 54.1**	**-0.9**
XMIS			IAmb	IAmb	02 30 08.2	
	comp=Z,123nm,1.1s					
OTUK	**Ortayu**	**48.62 309**	P	**P**	**02 29 55.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**48.94 189**	LR	LR	02 49 53.2	
	comp=Z,693nm,20.9s,baz=23,slow=35					
MYLAV	**Mylavaram**	**49.34 266**	*e*P	**P**	**02 30 02.5**	**+0.9**
MYLAV			IVmB_BB		02 30 03.7	
	comp=Z,765nm,2.0s					
MYLAV			IVMs_BB	IVMs_BB	02 53 19.1	
	comp=Z,562nm,16.3s					
BHPL	**Bhopal**	**49.52 276**	⇑*i*P	**P**	**02 30 01.5**	**-1.4**
BHPL			IAmb	IAmb	02 30 10.4	
	comp=Z,123nm,

WRA LR LR 02 50 59.7
comp=Z,2μm,20.1s,baz=357,slow=36
WRA P4KPbc 03 07 40.8
comp=Z,0.5nm,0.9s,baz=356,slow=5.6,SNR=4.6
WRA Warramunga Arr 50.31 178 P **P** **02 30 07.9 -0.9**
WRA pmax pmax
comp=Z,10.0nm,1.1s
WRA Warramunga Arr 50.31 178 P **P** **02 30 07.9 -0.9**
WB2 Warramunga Arr 50.31 178 P **P** **02 30 08.1 -0.7**
WB2 IAmb IAmb 02 30 18.2
comp=Z,75nm,0.9s
ADKI Addanki 50.31 265 *e*P **P** **02 30 09.2 +0.2**
ADKI IVmBBB 02 30 12.6
comp=Z,791nm,2.7s
ADKI IVMs_BB IVMs_BB 02 51 52.3
comp=Z,579nm,19.5s
WR0 Warramunga Arr 50.33 178 P **P** **02 30 08.2 -0.7**
WR0 IAmb IAmb 02 30 21.8
comp=Z,129nm,1.0s
SRSP Sriramsagar 50.39 270 *e*P **P** **02 30 09.5 0.0**
BTK Batken 50.53 299 P **P** **02 30 10.2 -0.3**
BTK pmax pmax
comp=Z,84nm,1.1s
BTK Batken 50.53 299 P **P** **02 30 10.2 -0.3**
BTK IAmb IAmb 02 30 24.5
comp=Z,84nm,1.1s
NJS Nagarjunasagar 50.57 267 *e*P **P** **02 30 11.2 +0.2**
NJS IVmBBB 02 30 13.9
comp=Z,810nm,2.4s
NJS IVMs_BB IVMs_BB 02 55 15.4
comp=Z,666nm,19.0s
CUPL Choutuppal 50.58 268 *e*P **P** **02 30 11.3 +0.2**
CUPL IVmB_BB 02 30 13.8
comp=Z,778nm,2.4s
CUPL IVMs_BB IVMs_BB 02 53 19.9
comp=Z,560nm,20.3s
ANM Nome 50.71 29 P **P** **02 30 12.3 +0.9**
ANM pmax pmax
comp=Z,88nm,1.3s
ANM MLR MLR
comp=Z,2μm,21.0s
ANM Nome 50.71 29 P **P** **02 30 12.3 +0.9**
ANM Nome 50.71 29 P **P** **02 30 12.5 +1.1**
baz=259
IUG Iuzhnay 50.79 301 *i* P **P** **02 30 12.4 0.0**
IUG *e*S **S** **02 37 29.2 +1.8**
IUG Iuzhnay 50.79 301 *i* P **P** **02 30 12.5 0.0**
baz=301
IUG *e*S **S** **02 37 29.2 +1.8**
baz=301
HYBB Hyderabad (bro 50.84 268 *e*P **P** **02 30 12.9 -0.1**
HYBB IVmB_BB 02 30 15.7
comp=Z,780nm,2.4s
HYBB IVMs_BB IVMs_BB 02 53 17.6
comp=Z,639nm,17.6s
QIS Mount Isa 51.32 172 P **P** **02 30 15.7 -0.7**
RCLA Racherla 51.36 266 *e*P **P** **02 30 16.9 +0.1**
RCLA IVmB_BB 02 30 19.8
comp=Z,1μm,6.9s
RCLA IVMs_BB IVMs_BB 02 52 19.8
comp=Z,961nm,21.9s
TAS Tashkent 51.46 300 P **P** **02 30 16.4 -1.0**
TAS pmax pmax
comp=Z,141nm,1.1s
TAS Tashkent 51.46 300 P **P** **02 30 16.4 -1.0**
TAS IAmb IAmb 02 30 40.9
comp=Z,140nm,1.1s
CHGR Chuyangaron 52.06 297 P **P** **02 30 21.1 -0.9**
CTA Charters Tower 52.06 164 P **P** **02 30 22.3 +0.4**
CTAO Charters Tower 52.06 164 P **P** **02 30 21.8 -0.2**
CTAO pmax pmax
comp=Z,138nm,1.2s
CTAO Charters Tower 52.06 164 P **P** **02 30 21.8 -0.2**
CTAO IAmb IAmb 02 30 35.5
comp=Z,138nm,1.2s
CTAO Charters Tower 52.06 164 IAMs_20 IAMs_20 02 50 14.4
comp=Z,3μm,18.0s
CTAO Charters Tower 52.06 164 P **P** **02 30 21.7 -0.2**
KLRI Killari 52.25 270 *e*P **P** **02 30 23.6 0.0**
KLRI IVmB_BB 02 30 24.9
comp=Z,1μm,2.2s
KLRI IVMs_BB IVMs_BB 02 58 46.2
comp=Z,633nm,15.3s
RDOG Red Dog Mine 52.37 25 IAMs_20 IAMs_20 02 55 05.1
comp=Z,3μm,19.0s
RDOG Red Dog Mine 52.37 25 P P 02 30 35.1 +11
baz=259
MBWA Marble Bar 53.01 195 P **P** **02 30 28.8 -0.1**
URV Uravakonda 53.05 266 *e*P **P** **02 30 29.8 +0.3**
URV IVmB_BB 02 30 31.1
comp=Z,706nm,2.6s
URV IVMs_BB IVMs_BB 02 58 20.8
comp=Z,419nm,17.0s
KBL Kabul 53.09 292 P **P** **02 30 29.3 -0.5**
KBL pmax pmax
comp=Z,629nm,2.0s
KBL Kabul 53.09 292 P **P** **02 30 29.3 -0.5**
PSA00 Pilbara Seismi 53.39 195 P **P** **02 30 30.9 -0.8**
PSA00 IAmb IAmb 02 30 43.9
comp=Z,94nm,1.1s
PSA00 Pilbara Seismi 53.39 195 P **P** **02 30 30.4 -1.3**
PSA00 IAmb IAmb 02 30 45.1
comp=Z,52nm,1.1s
PSA00 Pilbara Seismi 53.39 195 P **P** **02 30 32.1 +0.4**
PALK Pallekele 53.92 256 LR LR 02 53 57.4
comp=Z,3μm,22.0s,baz=155,slow=36
PALK Pallekele 53.92 256 P **P** **02 30 34.0 -1.9**
PALK pmax pmax
comp=Z,120nm,1.2s
PALK MLR MLR
comp=Z,3μm,22.0s
PALK Pallekele 53.92 256 P **P** **02 30 34.0 -1.9**
PALK IAmb IAmb 02 30 49.5
comp=Z,120nm,1.2s
PALK Pallekele 53.92 256 IAMs_20 IAMs_20 02 53 24.2
comp=Z,3μm,22.0s
AS31 Alice Springs 54.00 179 P **P** **02 30 35.4 -0.8**
ASAR Alice Springs 54.01 179 P **P** **02 30 35.3 -0.9**
comp=Z,19nm,0.7s,baz=10,slow=13,SNR=159
ASAR LR LR 02 53 34.5
comp=Z,1μm,19.8s,baz=18,slow=36
ASAR PKP2bc 03 01 09.6
comp=Z,1.8nm,0.9s,baz=159,slow=2.2,SNR=6.9
GCSA Galena City Sc 54.36 30 P **P** **02 30 38.8 +0.5**
baz=267
POO Poona 54.43 272 ⇑ *i*P **P** **02 30 38.8 -0.8**
TTA Tatalina 54.68 32 P **P** **02 30 40.7 -0.1**
TTA pmax pmax
comp=Z,31nm,1.3s
TTA Tatalina 54.68 32 P **P** **02 30 40.7 -0.1**
TTA Tatalina 54.68 32 P **P** **02 30 41.2 +0.4**
baz=269
SVW2 Sparrevohn 54.87 34 P **P** **02 30 42.9 +0.7**
A21K Barrow 55.08 22 P **P** **02 30 43.7 +0.2**
A21K IAmb IAmb 02 30 57.4
comp=Z,142nm,1.1s
A21K Barrow 55.08 22 P **P** **02 30 43.8 +0.4**
baz=262,SNR=6.9
P18K Big Mountain, 55.09 36 P **P** **02 30 44.2 +0.4**
baz=272
SVE Sverdlovsk 55.35 320 *c*e*P* **P** **02 30 46.3 +0.7**
SVE *e*S **S** **02 38 28.9 +0.1**
SVE pmax pmax
comp=Z,377nm,1.7s
SVE MLR MLR
comp=Z,10μm,16.0s
SVE MLR MLR
comp=E,7μm,15.0s
N19K Bonanza Creek 55.41 35 P **P** **02 30 46.5 +0.3**
N19K IAmb IAmb 02 31 01.9
comp=Z,103nm,1.6s
N19K Bonanza Creek 55.41 35 P **P** **02 30 46.9 +0.7**
baz=272
O19K Port Alsworth 55.52 35 P **P** **02 30 47.1 +0.3**
O19K IAmb IAmb 02 30 56.8
comp=Z,76nm,0.8s
O19K Port Alsworth 55.52 35 P **P** **02 30 47.4 +0.6**
baz=272,SNR=8.5
J20K Nowinta River 55.53 31 P **P** **02 30 47.4 +0.5**
J20K IAmb IAmb 02 31 01.4
comp=Z,73nm,1.1s
J20K Nowinta River 55.53 31 P **P** **02 30 48.4 +1.6**
baz=270
WRKA Warakurna 55.53 185 P **P** **02 30 47.3 0.0**
K20K Telida 55.56 32 P **P** **02 30 47.4 +0.3**
K20K IAmb IAmb 02 31 01.8
comp=Z,81nm,1.1s
K20K Telida 55.56 32 P **P** **02 30 48.5 +1.4**
baz=270,SNR=19
L20K Farewell, AK 55.66 33 P **P** **02 30 48.9 +1.0**
baz=271
IMAR Indian Mountai 55.72 28 P **P** **02 30 48.9 +0.7**
GOA Goa 55.76 268 ⇑ *i*P **P** **02 30 49.3 +0.1**
GIRL Giralia 55.90 201 P **P** **02 30 51.1 +1.2**
H21K Melozitna Rive 56.10 29 P **P** **02 30 51.4 +0.4**
H21K IAmb IAmb 02 31 05.5
comp=Z,78nm,1.2s
H21K IAMs_20 IAMs_20 02 58 10.8
comp=Z,2μm,19.0s
H21K Melozitna Rive 56.10 29 P **P** **02 30 52.2 +1.2**
baz=270
RSO Redoubt South 56.28 35 P **P** **02 30 52.4 -0.2**
CHUM Lake Minchumin 56.34 31 P **P** **02 30 53.3 +0.7**
baz=272,SNR=16
PPLA Purkeypile 56.43 32 P **P** **02 30 54.6 +1.2**
baz=272,SNR=6.3
I21K Tanana 56.45 29 P **P** **02 30 54.1 +0.7**
I21K IAmb IAmb 02 31 10.1
comp=Z,96nm,1.0s
I21K IAMs_20 IAMs_20 02 58 23.1
comp=Z,3μm,18.0s
I21K Tanana 56.45 29 P **P** **02 30 54.8 +1.4**
baz=271,SNR=18
CAST Castle Rocks 56.46 31 P **P** **02 30 54.1 +0.6**
CAST Castle Rocks 56.46 31 P **P** **02 30 54.3 +0.8**
baz=272,SNR=14
SPCR Spurr Chakacha 56.51 34 P **P** **02 30 54.8 +0.9**
baz=274,SNR=6.2
SANVU Saraoutou 56.52 139 P **P** **02 30 54.2 -0.2**
SANVU IAmb IAmb 02 31 12.3
comp=Z,144nm,1.1s
SANVU Saraoutou 56.52 139 P **P** **02 30 56.5 +2.1**
ARU Arti 56.53 320 LR LR 02 57 42.6
comp=Z,7μm,19.8s,baz=80,slow=39
ARU Arti 56.53 320 *d i*P **P** **02 30 54.1 0.0**
ARU 02 31 48.0
ARU 02 32 54.8
ARU S **S** **02 38 46.2 +1.7**
ARU SSS SSS 02 44 37.3
ARU pmax pmax
comp=Z,132nm,0.8s
ARU MLR MLR
comp=Z,8μm,23.0s
ARU Arti 56.53 320 P **P** **02 30 53.9 -0.2**
KDAK Kodiak Island 56.58 38 P **P** **02 30 54.4 +0.1**
comp=Z,19nm,0.7s,baz=295,slow=4.6,SNR=11
KDAK LR LR 02 55 54.9
comp=Z,478nm,20.0s,baz=272,slow=37
KDAK Kodiak Island 56.58 38 P **P** **02 30 54.5 +0.1**
KDAK pmax pmax
comp=Z,462nm,1.7s
KDAK Kodiak Island 56.58 38 P **P** **02 30 54.5 +0.1**
KDAK Kodiak Island 56.58 38 P **P** **02 30 54.7 +0.2**
baz=275
SPU Mount Spurr 56.58 34 P **P** **02 30 55.0 +0.5**
AB31 Akbulak array 56.68 311 *i* P **P** **02 30 54.6 -0.7**
ABKAR Akbulak array 56.68 311 P **P** **02 30 55.2 -0.1**
ABKAR Akbulak array 56.68 311 P **P** **02 30 55.4 +0.1**
ABKAR IAmb IAmb 02 31 01.6
comp=Z,130nm,1.1s
BPAW Bear Paw Mtn. 56.91 31 P **P** **02 30 57.4 +0.6**
BPAW IAmb IAmb 02 31 13.2
comp=Z,127nm,1.7s
BPAW Bear Paw Mtn. 56.91 31 P **P** **02 30 57.6 +0.8**
baz=273,SNR=10
KTH Kantishna Hill 56.97 31 P **P** **02 30 57.4 +0.1**
MLY Manley 56.98 29 P **P** **02 30 58.1 +0.8**
MLY IAMs_20 IAMs_20 02 58 50.1
comp=Z,2μm,20.0s
MLY Manley 56.98 29 P **P** **02 30 58.0 +0.8**
baz=272
CNPM China Poot 57.12 36 P **P** **02 30 58.4 +0.1**
CNPM IAmb IAmb 02 31 08.6
comp=Z,78nm,0.9s
COLD Coldfoot 57.13 27 P **P** **02 30 58.7 +0.4**
baz=271,SNR=14
TRF Thorofare Moun 57.26 31 P **P** **02 30 58.0 -1.4**
TRF Thorofare Moun 57.26 31 P **P** **02 31 00.0 +0.6**
baz=274
BRLK Bradley Lake 57.27 36 P **P** **02 30 59.8 +0.4**
CUT Chulitna 57.34 33 P **P** **02 31 00.1 +0.3**
CUT IAmb IAmb 02 31 39.0
comp=Z,139nm,1.2s
CUT Chulitna 57.34 33 P **P** **02 31 00.1 +0.3**
baz=274
BRSE Bradley Lake S 57.34 36 P **P** **02 31 01.2 +1.3**
baz=276
TOLK Toolik Lake Re 57.35 25 P **P** **02 31 00.4 +0.6**
TOLK IAmb IAmb 02 31 14.1
comp=Z,109nm,1.1s
TOLK Toolik Lake Re 57.35 25 P **P** **02 31 00.8 +1.0**
baz=271,SNR=23
M22K Willow 57.47 33 P **P** **02 31 00.9 +0.3**
baz=275
I23K Minto, Yukon-K 57.56 29 P **P** **02 31 02.4 +1.2**
I23K IAmb IAmb 02 32 10.6
comp=Z,159nm,1.8s
I23K IAMs_20 IAMs_20 02 59 08.3
comp=Z,2μm,18.0s
I23K Minto, Yukon-K 57.56 29 P **P** **02 31 02.2 +1.0**
baz=273,SNR=12
BWN Browne 57.58 30 P **P** **02 31 02.5 +1.1**
AKTO Aktyubinsk 57.70 313 LR LR 02 57 32.8
comp=Z,8μm,18.3s,baz=82,slow=38
AKTO Aktyubinsk 57.70 313 P **P** **02 31 02.3 -0.2**
RC01 Rabbit Creek A 57.71 34 P **P** **02 31 03.2 +0.8**
RC01 IAmb IAmb 02 31 18.2
comp=Z,82nm,1.0s
RC01 Rabbit Creek A 57.71 34 P **P** **02 31 03.0 +0.6**
baz=276
NEA2 Nenana 57.72 30 P **P** **02 31 03.3 +0.8**
NEA2 IAmb IAmb 02 31 18.5
comp=Z,101nm,0.9s
NEA2 Nenana 57.72 30 P **P** **02 31 03.3 +0.8**
baz=274,SNR=17
MCK McKinley 57.84 31 P **P** **02 31 03.7 +0.4**
MCK pmax pmax
comp=Z,106nm,1.3s
MCK McKinley 57.84 31 P **P** **02 31 03.7 +0.4**
MCK IAmb IAmb 02 31 19.0
comp=Z,106nm,1.3s
MCK McKinley 57.84 31 P **P** **02 31 03.7 +0.4**
baz=275,SNR=12
RND Reindeer 57.91 31 P **P** **02 31 03.9 +0.1**
RND pmax pmax
comp=Z,86nm,0.8s
RND Reindeer 57.91 31 P **P** **02 31 03.9 +0.1**
RND IAmb IAmb 02 31 19.0
comp=Z,86nm,0.8s
QLP Quilpie 57.94 168 P **P** **02 31 03.5 -0.8**
PMR Palmer 57.95 34 P **P** **02 31 04.7 +0.7**
PMR pmax pmax
comp=Z,127nm,1.1s
PMR Palmer 57.95 34 P **P** **02 31 04.7 +0.7**
PMR IAmb IAmb 02 31 19.2
comp=Z,127nm,1.1s
PMR Palmer 57.95 34 P **P** **02 31 03.8 -0.2**
baz=276,SNR=12
SEW Seward 57.95 35 P **P** **02 31 04.4 +0.4**
baz=276
GHO Glory Hole Cre 58.03 33 P **P** **02 31 05.5 +0.7**
GHO IAmb IAmb 02 31 21.7
comp=Z,92nm,1.0s
MDM Murphy Dome 58.05 29 IAMs_20 IAMs_20 02 59 15.3
comp=Z,3μm,19.0s
H24K Noodor Dome 58.13 28 P **P** **02 31 06.1 +0.8**
baz=274
OOD Oodnadatta 58.17 177 P **P** **02 31 05.8 -0.1**
TCOL CIGO, UAF Yank 58.22 30 P **P** **02 31 06.6 +0.8**
TCOL IAmb IAmb 02 31 22.3
comp=Z,44nm,0.7s
TCOL CIGO, UAF Yank 58.22 30 P **P** **02 31 06.0 +0.2**
baz=275
COLA College 58.22 30 ⇑ *i*P **P** **02 31 06.7 +0.8**
COLA pmax pmax
comp=Z,31nm,0.9s
COLA MLR MLR
comp=Z,2μm,18.0s
COLA College 58.22 30 P **P** **02 31 06.8 +1.0**
COLA IAmb IAmb 02 31 22.3
comp=Z,44nm,0.8s
COLA College 58.22 30 P **P** **02 31 06.4 +0.5**
baz=275
CCB Clear Creek Bu 58.26 30 P **P** **02 31 06.7 +0.5**
KNK Knik Glacier 58.29 34 P **P** **02 31 07.0 +0.5**
KNK IAmb IAmb 02 31 22.0
comp=Z,97nm,0.9s
KNK Knik Glacier 58.29 34 P **P** **02 31 06.6 +0.1**
baz=276,SNR=7.4
SML Sawmill 58.30 33 IAmb IAmb 02 31 20.2
comp=Z,80nm,1.0s
SML Sawmill 58.30 33 P **P** **02 31 07.1 +0.5**
baz=276
EIDS Eidsvold 58.37 161 P **P** **02 31 08.9 +1.5**
POKR Poker Plat Res 58.38 29 IAmb IAmb 02 31 14.9
comp=Z,90nm,0.9s
POKR IAMs_20 IAMs_20 02 59 24.9
comp=Z,3μm,18.0s
POKR Poker Plat Res 58.38 29 P **P** **02 31 07.8 +0.8**
baz=275,SNR=26
PWL Port Wells 58.41 34 P **P** **02 31 08.0 +0.7**
PWL Port Wells 58.41 34 P **P** **02 31 07.2 -0.2**
baz=277
WAT6 Susitna Watana 58.49 32 P **P** **02 31 08.1 0.0**
baz=276,SNR=9.7
INKA Innaminka 58.54 172 P **P** **02 31 10.2 +1.7**
MEEK Meekatharra 58.55 195 P **P** **02 31 09.8 +1.2**
DHY Denali Highway 58.61 32 P **P** **02 31 08.7 -0.1**
DHY Denali Highway 58.61 32 P **P** **02 31 08.2 -0.6**
baz=276,SNR=8.4
IL31 Eielson Array 58.64 30 P **P** **02 31 08.8 0.0**
ILAR Eielson Array 58.64 30 P **P** **02 31 08.6 -0.3**
comp=Z,9.6nm,0.7s,baz=271,slow=5.7,SNR=66
ILAR LR LR 02 58 01.7
comp=Z,1μm,18.8s,baz=290,slow=38
ILAR PKP2bc 03 00 54.3
comp=Z,1.2nm,1.1s,baz=162,slow=2.6,SNR=4.2
ILAR Eielson Array 58.64 30 P **P** **02 31 09.0 +0.2**
ILAR Eielson Array 58.64 30 P **P** **02 31 09.0 +0.2**
HDA Harding Lake 58.65 30 P **P** **02 31 08.7 -0.2**
HDA IAmb IAmb 02 31 17.1
comp=Z,67nm,0.9s
HDA Harding Lake 58.65 30 P **P** **02 31 08.6 -0.3**
baz=276
SCM Sheep Creek Mo 58.78 33 P **P** **02 31 10.7 +0.7**
SCM pmax pmax
comp=Z,184nm,1.1s
SCM Sheep Creek Mo 58.78 33 P **P** **02 31 10.7 +0.7**
SCM Sheep Creek Mo 58.78 33 P **P** **02 31 10.4 +0.5**
baz=277
RMQ Roma 58.81 163 P **P** **02 31 12.5 +2.0**
GLI Glacier Island 59.01 34 P **P** **02 31 12.6 +1.1**
GLI IAmb IAmb 02 31 26.5
comp=Z,85nm,0.9s
GLI Glacier Island 59.01 34 P **P** **02 31 11.7 +0.2**
baz=278
PRP Porcupine Dome 59.13 29 P **P** **02 31 12.9 +0.4**
baz=277
KOUNC Koumac, New Ca 59.21 145 IAMs_20 IAMs_20 02 50 39.7
comp=Z,3μm,21.0s
KOUNC Koumac, New Ca 59.21 145 P **P** **02 31 14.4 +1.2**
M24K Tolsona, Glenn 59.28 33 P **P** **02 31 14.3 +0.9**
M24K IAmb IAmb 02 31 33.0
comp=Z,86nm,0.9s
M24K Tolsona, Glenn 59.28 33 P **P** **02 31 14.0 +0.6**
baz=278
BMAR Burnt Mountain 59.30 26 P **P** **02 31 14.1 +0.7**
PAX Paxson 59.48 32 P **P** **02 31 15.0 +0.2**
baz=278
KLU Klutina 59.49 33 P **P** **02 31 15.3 +0.4**
KLU IAmb IAmb 02 31 30.1
comp=Z,52nm,1.0s
KLU Klutina 59.49 33 P **P** **02 31 15.2 +0.3**
baz=279
HARP HAARP 59.71 32 P **P** **02 31 17.4 +1.1**
baz=279,SNR=7.9
EYAK Cordova Ski Ar 59.72 34 P **P** **02 31 17.0 +0.7**
baz=279
SCRK Sand Creek 59.99 30 P **P** **02 31 18.2 -0.1**
SCRK IAmb IAmb 02 31 26.4
comp=Z,80nm,1.1s
SCRK Sand Creek 59.99 30 P **P** **02 31 18.0 -0.4**
baz=279,SNR=27
J26L Joseph Creek 60.09 30 P **P** **02 31 18.6 -0.5**
baz=279
N25K Chitina, Valde 60.09 33 IAmb IAmb 02 31 45.0
comp=Z,56nm,1.1s
N25K Chitina, Valde 60.09 33 P **P** **02 31 19.5 +0.4**
baz=280,SNR=5.3
BMRM Bremner River 60.20 34 P **P** **02 31 20.1 +0.3**
baz=280,SNR=15
RAGM Ragged Mountai 60.27 35 P **P** **02 31 20.1 -0.2**
MENT Mentasta 60.28 32 IAmb IAmb 02 31 33.9
comp=Z,85nm,0.9s
L26K Log Cabin Wild 60.43 31 P **P** **02 31 22.1 +0.9**
L26K IAmb IAmb 02 31 37.5
comp=Z,61nm,1.1s
L26K IAMs_20 IAMs_20 02 59 35.3
comp=Z,2μm,21.0s
L26K Log Cabin Wild 60.43 31 P **P** **02 31 21.9 +0.6**
baz=280
GLB Gilahina Butte 60.49 33 IAmb IAmb 02 31 37.7
comp=Z,59nm,1.0s
MULG Mulgathing 60.60 179 P **P** **02 31 21.0 -1.6**
GEYT Alibeck 60.64 299 P **P** **02 31 24.2 +1.1**
comp=Z,18nm,0.8s,baz=70,slow=4.9,SNR=13
GEYT LR LR 02 59 07.7
comp=Z,7μm,20.1s,baz=90,slow=38
GEYT Alibeck 60.64 299 IAmb IAmb 02 31 30.1
comp=Z,118nm,1.6s
GYA0 ALIBECK ARRAY 60.64 299 P **P** **02 31 23.7 +0.5**
GYA0B ALIBECK ARRAY 60.64 299 IAmb IAmb 02 31 30.0
comp=Z,137nm,1.6s
M26K Nabesna, AK 60.70 32 IAmb IAmb 02 31 37.2
comp=Z,68nm,0.9s
M26K Nabesna, AK 60.70 32 P **P** **02 31 23.2 0.0**
baz=280
VRDI Verde Repeater 60.70 33 IAmb IAmb 02 31 37.2
comp=Z,88nm,1.1s
MCARA McCarthy VSAT 60.88 33 IAmb IAmb 02 31 40.4
comp=Z,98nm,0.9s
MCARA McCarthy VSAT 60.88 33 P **P** **02 31 24.6 +0.3**
baz=281
CRQM Cirque 60.95 34 IAmb IAmb 02 31 40.9
comp=Z,92nm,1.1s
LCRK Leigh Creek 60.97 175 P **P** **02 31 26.6 +1.5**
CRQE Cirque 60.97 34 P **P** **02 31 25.7 +0.6**
baz=281
KIRV Kirov 61.06 324 LR LR 03 02 41.0
comp=Z,4μm,19.2s,baz=83,slow=41
KIRV Kirov 61.06 324 *d i*P **P** **02 31 25.0 -0.5**
L27K Beaver Creek, 61.10 31 IAmb IAmb 02 31 42.2
comp=Z,79nm,1.4s
L27K Beaver Creek, 61.10 31 P **P** **02 31 26.7 +0.8**
baz=281
WAX Waxell Ridge 61.15 34 IAmb IAmb 02 31 47.8
comp=Z,64nm,0.9s
M27K Edge Creek, AK 61.22 32 IAmb IAmb 02 31 40.7
comp=Z,64nm,1.1s
M27K IAMs_20 IAMs_20 02 55 45.2
comp=Z,3μm,19.0s
M27K Edge Creek, AK 61.22 32 P **P** **02 31 26.9 +0.1**
baz=282
FORT Forrest 61.25 185 P **P** **02 31 26.8 -0.3**
FORT Forrest 61.25 185 P **P** **02 31 28.2 +1.2**
ISLE Juniper Island 61.36 34 IAmb IAmb 02 31 48.0
comp=Z,41nm,0.8s
MORW Morawa 61.49 197 P **P** **02 31 27.9 -0.9**
MORW IAmb IAmb 02 31 41.8
comp=Z,119nm,1.4s
MORW Morawa 61.49 197 P **P** **02 31 28.6 -0.1**
NOUC Port Laguerre 61.51 144 P **P** **02 31 31.0 +2.0**
DZM Mont Dzumac 61.56 144 LR LR 02 54 05.4
comp=Z,2μm,21.5s,baz=354,slow=32
DZM Mont Dzumac 61.56 144 *e*P **P** **02 31 30.0 +0.6**
comp=Z,312nm,1.3s
DZM *e*S **S** **02 39 56.8 +6.2**
comp=Z,7μm,29.6s
DZM *e*LQ LQ 02 47 25.0
comp=Z,7μm,29.1s
DZM *e*LR LR 02 50 02.1
comp=Z,6μm,27.5s
DZM Mont Dzumac 61.56 144 P **P** **02 31 29.8 +0.3**
DZM Mont Dzumac 61.56 144 P **P** **02 31 30.0 +0.6**
BARN Barnard Glacie 61.59 33 IAmb IAmb 02 31 44.7
comp=Z,47nm,1.0s
BVCY Beaver Creek 61.67 32 P **P** **02 31 30.3 +0.6**
baz=282
CTG Chitna Glacier 61.76 34 P **P** **02 31 30.9 +0.4**

baz=283
MARNC **Mare, Loyalty** 61.88 142 P P 02 31 31.1 -0.4
LOGN **Logan Glacier** 61.95 34 P P 02 31 32.5 +0.7
DAWY **Dawson** 61.96 30 P P 02 31 32.0 +0.3
baz=283,SNR=9.8
YUK3 **Moose Creek** 62.00 33 P P 02 31 32.5 +0.3
baz=283,SNR=10
OUENC **Ouen Island, N** 62.05 144 P P 02 31 32.2 -0.4
OUENC **Ouen Island, N** 62.05 144 P P 02 31 34.5 +1.9
I29M **Ogilvie Camp,** 62.13 28 P P 02 31 33.4 +0.6
baz=283
PRGR **Permogore** 62.24 327 *e*P P 02 31 33.1 -0.4
PRGR pmax pmax
comp=Z,28nm,0.8s
J29M **Klondike Camp** 62.38 29 P P 02 31 35.1 +0.7
baz=284,SNR=17
PINM **Pinnacle** 62.49 34 P P 02 31 35.4 +0.2
baz=284
STKA **Stephens Creek** 62.73 172 P P 02 31 36.5 -0.4
comp=Z,29nm,0.7s,baz=345,slow=6.7,SNR=87
STKA LR LR 03 00 02.8
comp=Z,974nm,18.3s,baz=348,slow=37
STKA **Stephens Creek** 62.73 172 P P 02 31 37.0 0.0
BLDU **Ballidu** 62.81 196 P P 02 31 36.9 -0.7
PNL **Peninsula** 63.01 35 P P 02 31 39.4 +0.7
baz=285
CMSA **Cobar Meteorol** 63.03 168 P P 02 31 38.6 -0.4
BBOO **Buckleboo** 63.18 177 P P 02 31 39.3 -0.7
BBOO IAmb IAmb 02 31 52.9
comp=Z,61nm,1.1s
BBOO **Buckleboo** 63.18 177 P P 02 31 39.3 -0.7
INK **Inuvik** 63.24 25 P P 02 31 40.0 +0.1
comp=Z,15nm,0.7s,baz=291,slow=6.6,SNR=68
INK LR LR 03 02 31.8
comp=Z,2μm,18.4s,baz=272,slow=39
INK **Inuvik** 63.24 25 IAmb IAmb 02 31 53.6
comp=Z,52nm,1.0s
INK **Inuvik** 63.24 25 P P 02 31 40.0 +0.1
baz=286,SNR=18
ARMA **Armidale** 63.30 162 IAmb IAmb 02 31 54.8
comp=Z,68nm,1.1s
ARMA **Armidale** 63.30 162 P P 02 31 42.5 +1.5
M30M **Minto, Yukon** 63.47 31 P P 02 31 41.8 +0.1
baz=286,SNR=9.7
KLBR **Kellerberrin** 63.52 194 P P 02 31 41.3 -1.0
HTT **Hallett** 63.98 174 P P 02 31 46.9 +1.6
KAAM **Kaadhehdhoo** 64.05 254 IAms_20 IAms_20 03 01 23.6
comp=Z,2μm,18.0s
N31M **Braeburn, Yuko** 64.23 32 P P 02 31 47.4 +0.7
baz=287
MUN **Mundaring** 64.24 196 P P 02 31 47.6 +0.6
KHLU **Kahalu`u** 64.55 81 P P 02 31 50.1 +0.5
M31M **Drury Creek, Y** 64.65 31 P P 02 31 50.3 +0.8
baz=288,SNR=9.6
A36M **Sachs Harbour** 64.76 20 P P 02 31 50.5 +0.6
baz=291,SNR=139
MSVF **Nonsavu** 64.85 132 LR LR 02 57 00.3
comp=Z,635nm,20.0s,baz=329,slow=33
MSVF **Nonsavu** 64.85 132⇑ *e*P P 02 31 51.7 +0.3
MSVF pmax pmax
comp=Z,171nm,1.1s
MSVF **Nonsavu** 64.85 132 P P 02 31 51.4 +0.1
WHY **Whitehorse** 64.90 33 P P 02 31 51.7 +0.5
baz=288,SNR=10
HMH **Humu'ula Sheep** 64.90 81 P P 02 31 52.9 +0.8
NWAO **Narrogin (SRO)** 64.92 194 P P 02 31 53.7 +2.3
NWAO **Narrogin (SRO)** 64.92 194 P P 02 31 53.4 +2.0
DGTI **Dogotuki** 64.92 129 P P 02 31 53.7 +2.0
SKAG **Skagway** 65.06 34 P P 02 31 52.7 +0.6
SKAG IAmb IAmb 02 32 10.1
comp=Z,55nm,1.0s
SKAG **Skagway** 65.06 34 P P 02 31 53.0 +1.0
baz=288
KLMR **Klimovskoe** 65.30 327 *e*P P 02 31 51.7 -1.9
KLMR *e* 02 34 14.5
KLMR *e*S S 02 40 34.0 -2.1
KLMR pmax pmax
comp=Z,161nm,1.3s
KLMR MLR MLR
comp=Z,6μm,16.0s
KLMR **Klimovskoe** 65.30 327 *e*P P 02 31 51.8 -1.9
KLMR AMP 02 32 00.0
comp=Z,161nm,1.3s
KLMR *e*PP PP 02 34 14.6 -2.3
KLMR *e*S S 02 40 34.1 -2.1
KLMR *e*S S 02 40 34.1 -2.1
KLMR *e*SSS SSS 02 47 50.7
KLMR *e*SSS SSS 02 47 50.7
KLMR LQ LQ 02 54 17.6
KLMR LQ LQ 02 54 17.6
KLMR LR LR 02 59 39.9
KLMR AMP 03 04 17.8
comp=Z,6μm,15.5s
SPITS **Spitsbergen Ar** 65.35 348 P P 02 31 54.0 +0.2
comp=Z,24nm,1.0s,baz=102,slow=26,SNR=3.6
SPITS LR LR 03 02 06.3
comp=Z,3μm,20.8s,baz=258,slow=38
SPITS **Spitsbergen Ar** 65.35 348 P P 02 31 54.0 +0.2
WSAR **Wadi Sarin** 65.48 283 LR LR 03 03 12.5
comp=Z,2μm,21.6s,baz=76,slow=39
APA **Apatity** 65.53 335⇓ *i*P P 02 31 54.2 -0.8
APA *i* PPP PPP 02 35 51.0
APA *i* S S 02 40 35.0 -3.9
APA *i* SSS SSS 02 47 45.0
APA pmax pmax
comp=Z,22nm,0.8s
APA MLR MLR
comp=Z,4μm,16.0s
KBS **Kingsbay** 65.67 350 *e*P P 02 31 55.6 -0.1
KBS **Kingsbay** 65.67 350 IAms_20 IAms_20 03 02 55.0
comp=Z,3μm,18.0s
MGCD **Mangrove Creek** 65.82 163 P P 02 31 58.6 +1.4
P33M **Teslin, Yukon** 66.01 33 P P 02 31 59.0 +0.7
baz=290,SNR=6.2
C36M **Paulatuk** 66.13 22 P P 02 31 58.5 -0.3
C36M **Paulatuk** 66.13 22 P P 02 31 58.7 -0.1
baz=293,SNR=100
HSPB **Hornsund (broa** 66.14 347 *e*P P 02 32 00.5 +1.6
HSPB *e*L L 03 02 54.0
comp=Z,3μm,19.1s
HSPB **Hornsund (broa** 66.14 347 *e*P P 02 31 59.7 +0.9
BANOM **Banah** 66.33 287 P P 02 32 02.1 +1.2
SHME **Shamm** 66.41 287 *i*P P 02 32 02.5 +1.1
SNR=7.7
MAK **Makhachkala** 66.67 307 *e*P P 02 31 59.2 -3.5
MAK *e*S S 02 40 48.5 -4.9
MAK pmax pmax
comp=Z,390nm,1.5s
MAK MLR MLR
comp=Z,4μm,14.0s
MSFE **Esma-Masafi** 66.67 287 P P 02 32 02.8 -0.4
UOSS **Minazif** 66.81 286 P P 02 32 03.2 -0.8
KEV **Kevo** 66.82 339 P P 02 32 03.0 -0.3
KEV pmax pmax
comp=Z,44nm,0.9s
KEV MLR MLR
comp=Z,3μm,19.0s
KEV **Kevo** 66.82 339 P P 02 32 03.0 -0.3
KEV IAmb IAmb 02 32 18.4
comp=Z,44nm,0.9s
KEV IAms_20 IAms_20 03 05 09.4
comp=Z,3μm,19.0s
ALE **Alert** 66.83 2 IAms_20 IAms_20 03 01 43.6
comp=Z,2μm,20.0s
NOR **Nord** 66.90 355 *i*P P 02 32 02.5 -1.1
NOR IAmb IAmb 02 32 10.3
comp=Z,4.4nm,0.9s
HATD **Hatta, Dubai** 66.92 286 *i*P P 02 32 05.3 +0.6
SNR=10.0
ASHO **Ashiyiah** 67.03 286 *i*P P 02 32 05.6 +0.1
SNR=7.0
NAZ **Nazwa, Dubai** 67.24 286 P P 02 32 06.9 +0.2
LKRN **Lenkeran, Azer** 67.30 302 P P 02 32 10.5 +3.6
CAN **Canberra** 67.35 166 IAms_20 IAms_20 02 59 58.3
comp=Z,3μm,20.0s
ARA0 **ARCESS Array S** 67.39 339 *e*P P 02 32 04.2 -2.7
ARCES **ARCESS Array B** 67.39 339 P P 02 32 06.1 -0.8
comp=Z,7.7nm,0.7s,baz=62,slow=7.6,SNR=19
ARCES LR LR 03 07 25.7
comp=Z,4μm,18.8s,baz=66,slow=41
ARCES **ARCESS Array B** 67.39 339 IAmb IAmb 02 32 31.1
comp=Z,143nm,1.7s
FAQ **Al Faqa, Dubai** 67.39 286 *i*P P 02 32 07.9 +0.2
SNR=9.3
HAMF **Hammerfest** 67.43 340 *e*P P 02 32 07.1 0.0

VRH **Novokhopyorsk** 67.43 317 *e*P P 02 32 07.4 0.0
VRH *e*S S 02 40 52.6 -10
VRH pmax pmax
comp=Z,90nm,0.9s
VRH smax smax
comp=N,940nm,9.8s
VRH MLR MLR
comp=Z,6μm,17.0s
SEKA **Sheki** 67.51 305 P P 02 32 11.5 +3.2
ALNE **Al Ain** 67.55 285 *i*P P 02 32 10.3 +1.6
SNR=11
ARPS **Mount Arapiles** 67.59 172 P P 02 32 10.4 +2.0
ASUD **Al Ashush, Dub** 67.66 286 P P 02 32 10.2 +0.9
GROC **Groznyy** 67.75 308 *e*P P 02 32 10.8 +1.2
GROC *e* 02 32 35.9
GROC *e* 02 34 38.6
GROC *e*S S 02 41 09.1 +2.6
GROC pmax pmax
comp=Z,9.0nm,0.6s
ZKTA **Zakatala** 67.76 306 P P 02 32 12.7 +2.9
LGD **Lagodekhi** 67.95 306 P P 02 32 13.5 +2.6
DLBC **Dease Lake** 67.99 34 P P 02 32 12.2 +1.3
comp=Z,5.2nm,0.6s,baz=294,slow=7.3,SNR=10
DLBC LR LR 03 04 37.1
comp=Z,1μm,18.7s,baz=302,slow=38
MOS **Moscow** 68.03 323 *e*P P 02 32 08.9 -2.3
MOS *e* 02 32 33.0
MOS *e*S S 02 41 07.7 -1.7
MOS pmax pmax
comp=Z,300nm,1.7s
MOS pmax pmax
comp=Z,180nm,1.3s
MOS MLR MLR
comp=E,7μm,15.0s
MOS MLR MLR
comp=Z,7μm,15.0s
NFK **Norfolk Island** 68.14 147 P P 02 32 14.0 +1.9
DDFL **Dedoflistskaro** 68.18 306 P P 02 32 17.8 +5.3
GANJ **Ganja** 68.34 305 P P 02 32 16.9 +3.5
KTK1 **Kautokeino** 68.35 339 *e*P P 02 32 11.5 -1.4
LPSR **Galich'ya Gora** 68.52 319 *e*P P 02 32 13.5 -0.8
LPSR *e*S S 02 41 10.7 -4.6
LPSR pmax pmax
comp=Z,70nm,0.8s
LPSR smax smax
comp=N,670nm,9.1s
LPSR MLR MLR
comp=Z,3μm,19.0s
OBN **Obninsk** 68.83 322 LR LR 03 05 23.7
comp=Z,853nm,18.6s,baz=70,slow=39
OBN **Obninsk** 68.83 322*d* *i*P P 02 32 15.7 -0.4
OBN *i* *SP **pP** 02 32 21.1 +0.3
OBN *e* 02 32 27.0
OBN *e* 02 32 37.0
OBN *i* S S 02 41 16.5 -2.4
OBN *e*PS PnS 02 41 39.3 -4.7
OBN *e* 02 42 00.4
OBN SS SS 02 45 44.0 +0.7
OBN pmax pmax
comp=Z,167nm,1.7s
OBN MLR MLR
comp=Z,3μm,15.0s
OBN **Obninsk** 68.83 322 P P 02 32 16.1 0.0
OBN IAms_20 IAms_20 03 04 35.3
comp=Z,3μm,20.0s
TOO **Toolangi** 68.88 169 IAmb IAmb 02 32 29.4
comp=Z,65nm,1.1s
TOO **Toolangi** 68.88 169 P P 02 32 18.5 +1.9
VSR **Storozhevoye** 68.92 318 *e*P P 02 32 16.4 -0.4
VSR *e*S S 02 41 11.7 -8.4
VSR pmax pmax
comp=Z,70nm,0.9s
VSR smax smax
comp=N,790nm,9.5s
VSR MLR MLR
comp=Z,6μm,19.0s
VORD **Divnogorie** 68.94 317 *e*P P 02 32 16.3 -0.6
VORD *e*S S 02 41 09.8 -11
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD smax smax
comp=N,120nm,5.5s
VALR **Valaam** 68.99 330*c* *i*P P 02 32 16.1 -0.9
VALR pmax pmax
comp=Z,49nm,0.9s
VALR MLR MLR
comp=Z,2μm,15.0s
DGAR **Diego Garcia** 69.04 247 IAms_20 IAms_20 03 04 12.9
comp=Z,2μm,19.0s
NCK **Nalchik** 69.13 309⇑ *e*P P 02 32 18.2 -0.1
NCK pmax pmax
comp=Z,68nm,1.4s
NCK MLR MLR
comp=Z,7μm,19.0s
ZEI **Tsey** 69.19 308 *e*P P 02 32 17.9 -1.0
ZEI pmax pmax
comp=Z,28nm,0.8s
AFI **Afiamalu** 69.27 121 LR LR 02 55 48.6
comp=Z,884nm,21.5s,baz=304,slow=30
TRO **Tromso** 69.34 340 *e*P P 02 32 18.6 -0.5
NAX **Nakhchivan** 69.49 304 P P 02 32 24.2 +3.5
KBZ **Khabaz** 69.50 309 P P 02 32 20.9 +0.3
comp=Z,46nm,0.8s,baz=90,slow=2.8,SNR=45
KBZ LR LR 03 03 55.8
comp=Z,7μm,19.6s,baz=80,slow=37
KBZ **Khabaz** 69.50 309*c* *i*P P 02 32 21.2 +0.7
KBZ pmax pmax
comp=Z,124nm,0.9s
KBZ MLR MLR
comp=Z,6μm,18.0s
KIV **Kislovodsk** 69.55 310*c* *i*P P 02 32 22.0 +1.0
KIV *i* *SP **sP** 02 32 27.0 -0.5
KIV *i* 02 32 29.7
KIV *e* 02 32 43.6
KIV *i* S S 02 41 26.5 -1.6
KIV *e* 02 41 48.1
KIV SS SS 02 45 49.0 -6.3
KIV pmax pmax
comp=Z,66nm,1.1s
KIV MLR MLR
comp=Z,6μm,20.0s
KIV **Kislovodsk** 69.55 310 P P 02 32 20.8 -0.3
KIV **Kislovodsk** 69.55 310 *i*P P 02 32 20.9 -0.1
SNR=11
ONI **Oni** 69.58 308 P P 02 32 24.6 +3.5
ONI **Oni** 69.58 308 IAmb IAmb 02 32 36.8
comp=Z,68nm,1.1s
GNI **Garni** 69.64 305 IAms_20 IAms_20 03 05 17.4
comp=Z,3μm,20.0s
GNI **Garni** 69.64 305 P P 02 32 23.6 +1.9
NEY **Neytrino** 69.81 309⇑ *e*P P 02 32 23.1 +0.4
NEY pmax pmax
comp=Z,14nm,0.9s
NEY MLR MLR
comp=Z,3μm,18.0s
PUL **Pulkovo** 69.94 328*c*e*P P 02 32 22.9 0.0
PUL pmax pmax
comp=Z,128nm,1.0s
PUL MLR MLR
comp=Z,4μm,15.0s
BGD **Bogdanovka** 70.00 307 P P 02 32 27.8 +3.8
AKH **Akhalkalaki** 70.01 307 ⇑P P 02 32 25.3 +1.3
RES **Resolute Bay** 70.44 12 P P 02 32 25.7 -0.1
comp=Z,27nm,0.7s,baz=309,slow=6.2,SNR=128
RES LR LR 03 06 59.4
comp=Z,1μm,18.7s,baz=290,slow=39
FIA1 **FINESS Array S** 71.01 331 IAmb IAmb 02 32 36.7
comp=Z,60nm,0.8s
FINES **FINESS Array B** 71.01 331 P P 02 32 28.6 -0.8
comp=Z,14nm,0.5s,baz=68,slow=5.7,SNR=50
FINES LR LR 03 06 19.3
comp=Z,4μm,20.9s,baz=66,slow=38
DAG **Danmarks Havn** 71.39 353 P P 02 32 31.0 -0.5
DAG **Danmarks Havn** 71.39 353 *i*P P 02 32 29.6 -1.9
DAG IAmb IAmb 02 32 44.1
comp=Z,16nm,1.0s
STEI **Steigen** 71.42 339 *e*P P 02 32 31.2 -0.5
BBB **Bella Bella** 71.58 40 LR LR 03 03 25.0
comp=Z,572nm,20.2s,baz=299,slow=35
SOC **Sochi** 71.67 310 *e*P P 02 32 25.5 -8.3
SOC *e* 02 35 09.6
SOC *e*PPP PPP 02 36 55.9
SOC *e*SS SS 02 46 24.6 -3.0
SOC MLR MLR
comp=Z,4μm,18.0s

FAUS **Fauske** 71.73 339 *e*P P 02 32 33.0 -0.7
NEEM **North Greenlan** 72.14 1 *i*P P 02 32 36.0 -0.4
NEEM IAmb IAmb 02 32 38.5
comp=Z,26nm,0.8s
VSU **Vasula** 72.19 328*c*e*P P 02 32 36.6 0.0
VSU pmax pmax
comp=Z,56nm,1.0s
VSU MLR MLR
comp=Z,8μm,16.0s
VSU **Vasula** 72.19 328 *e*P P 02 32 39.0 +2.4
TULEG **Thule** 72.23 5 *i*P P 02 32 35.0 -1.5
TULEG IAmb IAmb 02 32 50.0
comp=Z,24nm,0.7s
TULEG **Thule** 72.23 5 IAmb IAmb 02 32 49.5
comp=Z,86nm,1.2s
TULEG IAms_20 IAms_20 03 07 27.1
comp=Z,2μm,18.0s
YKA **Yellowknife Ar** 72.81 27 P P 02 32 39.8 -0.4
comp=Z,11nm,0.8s,baz=299,slow=5.6,SNR=111
YKA LR LR 03 06 05.9
comp=Z,784nm,21.8s,baz=289,slow=37
YKA **Yellowknife Ar** 72.81 27*c*e*P P 02 32 39.7 -0.6
YKA pmax pmax
comp=Z,11nm,0.8s
MTSE **Matsula** 73.38 329 *e*P P 02 32 44.3 +0.7
MNK **Minsk** 73.60 324 *i*P P 02 32 46.0 +1.0
MNK *i* 02 35 29.8
MNK *i* PPP PPP 02 37 19.5
MNK *i* S **SKiKP** 02 42 16.4 +2.2
MNK *i* SS **SS** 02 46 58.4 +1.9
MNK pmax pmax
comp=N,63nm,1.5s
MNK pmax pmax
comp=Z,129nm,1.5s
MNK pmax pmax
comp=E,24nm,1.4s
MNK MLR MLR
comp=Z,3μm,27.0s
MNK MLR MLR
comp=N,2μm,14.0s
MNK MLR MLR
comp=E,509nm,18.0s
MNK **Minsk** 73.60 324 *i*P P 02 32 46.0 +1.0
comp=E,24nm,1.4s
MNK *i*P P 02 32 46.0 +1.0
comp=N,63nm,1.6s
MNK *i*P P 02 32 46.0 +1.0
comp=Z,129nm,1.5s,baz=241
MNK *i* PP **PP** 02 35 29.9 +1.1
MNK *i* PPP PPP 02 37 19.5
MNK *i* S **SKiKP** 02 42 16.4 +2.3
MNK *i* SS **SS** 02 46 58.5 +2.0
MNK *i* SSS SSS 02 50 22.1
MNK *i* LQ LQ 02 59 31.7
MNK *i* LR LR 03 04 57.7
MNK *i* LRM MLR 03 06 58.6
comp=Z,3μm,26.7s
MNK *i* LRM MLR 03 07 14.6
comp=N,2μm,14.4s
MNK *i* LRM MLR 03 07 19.0
comp=E,509nm,17.7s
IDID **Didziasalis** 73.76 325 *e*P P 02 32 47.4 +1.4
DBG **Daneborg** 73.81 353 *i*P P 02 32 44.7 -1.2
DBG IAmb IAmb 02 32 51.0
comp=Z,3.7nm,0.9s
ISAL **Salakas** 73.93 326 *e*P P 02 32 48.5 +1.6
NACGM **Naroch** 73.95 325 *i*P P 02 32 43.6 -3.5
IIGN **Ignalina** 74.00 325 *e*P P 02 32 49.0 +1.6
SOCY **Socotra** 74.36 275 P P 02 32 47.8 -2.5
SOCY IAms_20 IAms_20 03 07 04.9
comp=Z,2μm,21.0s
TAU **Tasmania Unive** 74.39 169 P P 02 32 49.7 +0.1
TAU pmax pmax
comp=Z,53nm,0.9s
TAU **Tasmania Unive** 74.39 169 P P 02 32 49.6 +0.1
TAU IAmb IAmb 02 33 03.7
comp=Z,53nm,0.9s
NSS **Namsos** 74.57 337 *e*P P 02 32 49.6 -0.9
SLIT **Slitere, Latvi** 74.64 329 *e*P P 02 32 53.1 +2.0
SIM **Simferopol'** 74.67 313 *e*P P 02 32 50.4 -1.1
SIM pmax pmax
comp=Z,18nm,0.4s
AKASG **Malin Array Be** 74.78 320 P P 02 32 51.6 -0.4
comp=Z,31nm,0.6s,baz=54,slow=6.3,SNR=154
AKASG LR LR 03 07 31.4
comp=Z,6μm,19.0s,baz=63,slow=37
AKASG **Malin Array Be** 74.78 320*c*e*P P 02 32 51.5 -0.4
AKASG pmax pmax
comp=Z,34nm,0.6s
AKASG **Malin Array Be** 74.78 320 IAmb IAmb 02 32 57.7
comp=Z,77nm,1.1s
AKBB **Malin Array Si** 74.78 320*d* *i*P P 02 32 50.9 -1.1
MALT **Malatya** 74.86 306 P P 02 32 54.9 +2.0
PABE **Paberze** 75.01 326 *e*P P 02 32 54.8 +1.5
PABE **Paberze** 75.01 326 IAmb IAmb 02 33 01.0
comp=Z,82nm,1.4s
JMIC **Jan Mayen** 75.02 348 LR LR 03 09 40.4
comp=Z,854nm,18.1s,baz=51,slow=39
UPP **Uppsala** 75.37 332 *e*P P 02 32 57.1 +1.9
CLRS **Cowichan Lake** 75.41 42 IAmb IAmb 02 33 11.7
comp=Z,144nm,1.6s
PBUR **Paburge** 75.69 327 *e*P P 02 32 58.6 +1.5
RAO **Raoul Island** 75.82 137 LR LR 03 03 10.3
comp=Z,754nm,18.6s,baz=342,slow=33
SUW **Suwalki** 76.21 325 *e*P P 02 33 00.5 +0.4
SUW *e*S S 02 42 39.7 -3.5
SUW *e*L L 03 06 34.3
comp=Z,3μm,25.6s
SUW **Suwalki** 76.21 325 *e*P P 02 33 00.2 +0.1
RAYN **Ar Rayn** 76.21 289 P P 02 33 00.1 -0.7
RAYN pmax pmax
comp=Z,114nm,1.2s
RAYN MLR MLR
comp=Z,4μm,20.0s
RAYN **Ar Rayn** 76.21 289 P P 02 33 00.1 -0.7
RAYN IAmb IAmb 02 33 07.9
comp=Z,114nm,1.1s
RAYN **Ar Rayn** 76.21 289 *i*P P 02 33 01.4 +0.6
SNR=77
GAZ **Gaziantep** 76.24 305 IAmb IAmb 02 33 09.4
comp=Z,75nm,0.8s
PURM **Purcari** 76.50 316 ⇓P P 02 33 02.5 +0.7
SORM **Soroca** 76.57 318 ⇑P P 02 33 02.1 -0.2
D03D **Eldon** 76.66 42 P P 02 33 03.5 +0.7
baz=301,SNR=6.4
UPNV **Upernavik** 76.67 3 *i*P P 02 33 01.6 -0.8
UPNV IAmb IAmb 02 33 18.6
comp=Z,25nm,0.9s
HFS **Hagfors** 76.76 333 LR LR 03 11 10.1
comp=Z,3μm,18.1s,baz=50,slow=39
B05A **Bryant** 76.86 41 P P 02 33 03.9 0.0
baz=301
KIS **Kishinev** 76.88 317 *e*P P 02 33 04.0 -0.1
KIS *e*S S 02 42 44.0 -6.9
KIS **Kishinev** 76.88 317 *e*P P 02 33 04.0 -0.1
KIS *e*S S 02 42 44.0 -6.9
KIS *e*PS PnS 02 43 18.0 -12
KIS smax smax
comp=N,500nm,7.0s
SUMG **Summit** 76.89 357 *i*P P 02 33 04.0 -0.2
SUMG IAmb IAmb 02 33 19.0
comp=Z,46nm,0.9s
MILM **Milestii Mici** 76.92 317⇑ *i*P P 02 33 03.8 -0.5
comp=Z,240nm,2.0s
MILM **Milestii Mici** 76.92 317 *e*PcP PcP 02 33 12.0 -3.4
MILM *e*S S 02 42 44.0 -7.4
comp=Z,740nm,9.1s
MILM **Milestii Mici** 76.92 317 ⇓P P 02 33 04.3 0.0
MILM **Milestii Mici** 76.92 317*c* *i*P P 02 33 03.8 -0.5
MILM *e* 02 33 12.0
MILM *e*S S 02 42 44.0 -7.4
MILM *e*PS PnS 02 43 18.0 -13
MILM pmax pmax
comp=Z,240nm,2.0s
MILM smax smax
comp=N,740nm,9.1s
NB2 **NORSAR Subarra** 77.11 335 P P 02 33 04.0 -1.2
comp=Z,85nm,1.2s,baz=50,slow=5.9
NB2 **NORSAR Subarra** 77.11 335 P P 02 33 04.0 -1.2
baz=50,slow=5.9
NOA **NORSAR Array B** 77.11 335 P P 02 33 03.5 -1.7
comp=Z,6.5nm,0.7s,baz=47,slow=5.5,SNR=21
NOA LR LR 03 10 34.3
comp=Z,3μm,19.1s,baz=50,slow=38
NORES **NORESS Array B** 77.19 334 P P 02 33 06.1 +0.6

KLNR	Kaliningrad	77.31	327	⇓P	*e*P	P	02 33 07.1 +0.8
KLNR					pmax	pmax	
	comp=Z,47nm,0.8s						
KLNR					MLR	MLR	
	comp=Z,8μm,17.0s						
NAO01	NORSAR Array S	77.36	335		IAmb	IAmb	02 33 27.9
	comp=Z,152nm,1.4s						
E04D	Cinebar	77.47	43		P	P	02 33 07.1 -0.3
	baz=301						
BRTR	Keskin Array B	77.48	309		P	P	02 33 07.4 -0.4
	comp=Z,29nm,0.8s,baz=101,slow=4.4,SNR=60						
BRTR					LR	LR	03 09 41.9
	comp=Z,4μm,20.9s,baz=60,slow=38						
BRTR	Keskin Array B	77.48	309	*ce*	P	P	02 33 07.6 -0.2
BRTR					pmax	pmax	
	comp=Z,29nm,0.8s						
IAS	Iasi	77.51	318	⇑	P	P	02 33 07.7 +0.1
SCO	Scoresbysund	77.55	352	*i*	P	P	02 33 07.5 +0.1
SCO					IAmb	IAmb	02 33 21.4
	comp=Z,23nm,1.0s						
SCO	Scoresbysund	77.55	352		IAmb	IAmb	02 33 22.0
	comp=Z,126nm,1.2s						
VASR	Vaslui	77.67	317	⇓	P	P	02 33 09.3 +0.8
AKN	Aaknes	77.81	337	*es*	P	sP	02 33 14.3 -1.1
TLCR		77.82	315	⇓	P	P	02 33 09.2 -0.2
F04A	Amboy	77.89	44		IAmb	IAmb	02 33 25.4
	comp=Z,68nm,1.1s						
VLDR	Vladesti	77.92	316	⇓	P	P	02 33 10.0 +0.1
I02E	Swisshome, OR	77.97	46		P	P	02 33 10.2 0.0
	baz=301						
ANTO	Ankara	77.98	309		P	P	02 33 10.4 -0.1
ANTO					pmax	pmax	
	comp=Z,96nm,1.1s						
ANTO	Ankara	77.98	309		P	P	02 33 10.4 -0.1
ANTO					IAmb	IAmb	02 33 16.9
	comp=Z,96nm,1.1s						
ANTO					IAMs_20	IAMs_20	03 14 12.8
	comp=Z,3μm,18.0s						
BR231	Keskin MP Arra	78.00	309		IAmb	IAmb	02 33 17.1
	comp=Z,80nm,1.1s						
VARL	Varlezi	78.02	316	⇓	P	P	02 33 11.4 +0.9
GIUM	Giurgiulesti	78.03	316	⇓	P	P	02 33 10.8 +0.2
COR	Corvallis	78.05	45		P	P	02 33 11.1 +0.4
COR					pmax	pmax	
	comp=Z,190nm,1.2s						
COR	Corvallis	78.05	45		P	P	02 33 11.1 +0.4
SCTR	Scanteiesti	78.06	316	⇓	P	P	02 33 11.9 +1.3
TATR	Tatarca	78.06	316	⇓	P	P	02 33 11.7 +1.0
LVV	L'vov	78.08	321	*e*	P	P	02 33 10.7 -0.1
LVV				*e*	S	S	02 43 01.6 -2.2
LVV				*e*	PS	PnS	02 43 43.5 -1.7
LVV				*e*	SS	SS	02 48 09.5 +5.0
LVV				*e*	SSS	SSS	02 51 25.3
LVV					pmax	pmax	
	comp=Z,400nm,1.7s						
PRAR	RASCA	78.19	318	⇓	P	P	02 33 12.2 +0.7
GHRR		78.20	317	⇑	P	P	02 33 12.5 +1.0
TPGR	Topolog	78.23	315	⇑	P	P	02 33 12.2 +0.6
CFR	Carcaliu	78.23	316	⇓	P	P	02 33 11.6 -0.1
SLCR	Slobozia Conac	78.23	316	⇓	P	P	02 33 12.1 +0.4
IZVR	Izvoarele	78.26	316	⇑	P	P	02 33 12.2 +0.4
J01E	Myrtle Point	78.40	47		P	P	02 33 12.7 +0.1
	baz=301						
SKAR	Skarslia	78.40	336	*e*	P	P	02 33 12.6 +0.2
TESR	Tescani	78.41	317	⇓	P	P	02 33 12.7 +0.1
H04D	Lebanon	78.43	45		P	P	02 33 14.0 +1.2
	baz=302						
TIRR	Tirgusor	78.44	315	⇓	P	P	02 33 13.5 +0.7
TIRR	Tirgusor	78.44	315		P	P	02 33 18.9 +6.1
F05D	White Salmon	78.48	43		P	P	02 33 13.8 +0.7
	baz=302						
I03D	Drain, OR	78.49	46		P	P	02 33 14.0 +0.9
	baz=301						
ODBI	Odobesti	78.57	317	⇑	P	P	02 33 15.2 +1.7
HARR	Harsova	78.61	315	⇓	P	P	02 33 14.6 +0.9
TLBR	Topalu	78.62	315	⇓	P	P	02 33 14.5 +0.7
BUR08	Bucovina Ar. S	78.63	319		IAmb	IAmb	02 33 29.3
	comp=Z,83nm,1.0s						
BEL	Belsk	78.63	324	*e*	P	P	02 33 14.4 +0.6
BURAR	Bucovina Array	78.63	319	⇑	P	P	02 33 14.7 +0.7
BURAR	Bucovina Array	78.63	319		IAmb	IAmb	02 33 29.6
	comp=Z,74nm,0.9s						
HOOD	Mount Hood Mea	78.67	44		IAmb	IAmb	02 33 30.1
	comp=Z,115nm,1.1s						
VRI	Vrincioaia	78.70	317	⇓	P	P	02 33 15.6 +1.2
VRI	Vrincioaia	78.70	317		P	P	02 33 16.5 +2.2
EDM	Edmonton	78.71	34		P	P	02 33 14.0 -0.2
EDM					pmax	pmax	
	comp=Z,117nm,1.2s						
EDM	Edmonton	78.71	34		P	P	02 33 14.0 -0.2
EDM					IAmb	IAmb	02 33 27.9
	comp=Z,117nm,1.2s						
PLOR	Plostina	78.76	317	⇓	P	P	02 33 15.6 +1.0
K02D	Willamette Mer	78.81	47		P	P	02 33 15.6 +0.5
	baz=301						
GRER		78.82	316	⇑	P	P	02 33 16.5 +1.6
DBO	Dodson Butte	78.85	46		P	P	02 33 15.9 +0.6
DBO					IAmb	IAmb	02 33 31.4
	comp=Z,61nm,1.1s						
BISRR	Bisoca	78.89	317	⇓	P	P	02 33 16.9 +1.5
KWP	Kalwaria Pacla	78.90	322	*e*	P	P	02 33 15.7 +0.4
KWP				*e*	S	S	02 43 11.3 -1.3
KWP				*e*	SS	SS	02 48 15.6 -1.2
G05D	Wamic, OR	78.91	44		P	P	02 33 15.9 +0.5
	baz=302						
AMRR	Amara	79.01	315	⇓	P	P	02 33 16.7 +0.8
I04A	Tendick Farm,	79.01	46		P	P	02 33 16.7 +0.6
	baz=302						
COVR	Voineasa-Covas	79.03	317	⇓	P	P	02 33 16.0 -0.1
E07A	Sunnyside	79.06	42		IAmb	IAmb	02 33 31.1
	comp=Z,186nm,2.0s						
PGOR	Pogoanele	79.07	316	⇓	P	P	02 33 17.5 +1.2
L02E	Cave Junction	79.13	47		P	P	02 33 17.0 +0.3
	baz=302						
ISR	Istrita	79.22	316	⇑	P	P	02 33 18.5 +1.3
C09A	Chrisman Ranch	79.27	40		IAmb	IAmb	02 33 33.0
	comp=Z,87nm,1.4s						
HUMO	Hull Mountain	79.30	47		P	P	02 33 17.5 -0.2
HUMO					IAmb	IAmb	02 33 34.0
	comp=Z,160nm,1.8s						
D08A	Wollman Farm,	79.32	41		P	P	02 33 17.9 +0.2
MLR	Muntele Rosu	79.37	317	⇑	P	P	02 33 19.9 +1.8
MLR	Muntele Rosu	79.37	317		LR	LR	03 11 49.4
	comp=Z,10μm,21.0s,baz=60,slow=38						
MLR	Muntele Rosu	79.37	317		P	P	02 33 18.0 -0.1
MLR					pmax	pmax	
	comp=Z,156nm,1.5s						
MLR					MLR	MLR	
	comp=Z,11μm,21.0s						
MLR	Muntele Rosu	79.37	317		P	P	02 33 18.0 -0.1
MLR					IAmb	IAmb	02 33 25.4
	comp=Z,156nm,1.5s						
I05D	Terrebonne, OR	79.38	45		P	P	02 33 18.4 +0.3
	baz=303						
ARCR	ARCALIA	79.42	319	⇓	P	P	02 33 19.5 +1.3
DOPR	Dopca	79.44	317	⇑	P	P	02 33 19.4 +1.1
J04D	Umpqua Nationa	79.49	46		P	P	02 33 18.7 -0.2
	baz=302						
GKP	Gorka Klasztor	79.52	327	*e*	P	P	02 33 15.7 -2.9
ODD1	Odda	79.54	336	*e*	P	P	02 33 19.4 +0.7
MMAI	Mount Meron Ar	79.54	302		LR	LR	03 11 01.4
	comp=Z,2μm,19.8s,baz=214,slow=38						
SECR		79.55	316	⇓	P	P	02 33 20.1 +1.2
BMR	Baia Mare	79.57	320	⇓	P	P	02 33 20.1 +1.1
SULR		79.63	316	⇓	P	P	02 33 20.6 +1.2
ASK	Askoy	79.63	337	*e*	P	P	02 33 19.7 +0.7
PLAR	PLOIESTI	79.64	316	⇓	P	P	02 33 20.8 +1.4
NEW	Newport	79.65	40		P	P	02 33 19.7 +0.3
	comp=Z,4.8nm,0.9s,baz=268,slow=5.6,SNR=8.0						
NEW					LR	LR	03 08 26.2
	comp=Z,609nm,20.7s,baz=304,slow=36						
NEW	Newport	79.65	40		P	P	02 33 19.4 0.0
	baz=305						
UZH	Uzhgorod	79.69	321	*e*	P	P	02 33 21.0 +1.4
UZH				*e*			02 33 26.1
UZH				*e*			02 33 30.9
UZH				*e*			02 36 21.2
UZH				*e*			02 38 10.9
UZH				*e*	S	S	02 43 21.8 +0.8
UZH				*e*			02 43 31.3
UZH				*e*			02 51 56.7
PRD	Provadia	79.73	314	*e*	P	P	02 33 25.0 +5.1
STHS	Stebnicka Huta	79.80	322	*e*	P	P	02 33 22.1 +1.9
STHS	Stebnicka Huta	79.80	322	*e*	P	P	02 33 22.1 +1.9
TRPA	Tarpa	79.84	320	⇓	P	P	02 33 21.4 +1.0
TRPA	Tarpa	79.84	320		P	P	02 33 20.5 +0.1
L04D	Klamath Falls	79.92	47		P	P	02 33 21.6 +0.5
	baz=302,SNR=7.0						
YBH	Yreka Blue Hor	79.92	47		P	P	02 33 22.0 +0.9
	comp=Z,5.2nm,1.0s,baz=265,slow=6.5,SNR=7.9						
YBH					LR	LR	03 04 23.7
	comp=Z,368nm,20.7s,baz=301,slow=32						
YBH	Yreka Blue Hor	79.92	47		P	P	02 33 22.0 +0.9
VOIR		79.93	317	⇓	P	P	02 33 21.6 +0.5
M02C	Callahan	80.01	48		P	P	02 33 21.6 0.0
	baz=302						
J05D	Fort Rock, OR	80.01	45		P	P	02 33 22.2 +0.5
	baz=303,SNR=13						
K04D	Chiloquin, OR	80.04	46		P	P	02 33 22.1 +0.2
	baz=303						
CBBR	Cluj-Babes-Bol	80.05	319	⇓	P	P	02 33 22.5 +0.9
CJR	Cluj-Napoca	80.05	319	⇓	P	P	02 33 22.9 +1.2
OJC	Ojcow	80.09	323	*e*	P	P	02 33 22.1 +0.4
OJC				*e*	PcP	sP	02 33 28.4 +0.1
OJC				*e*	S	S	02 43 17.6 -7.6
OJC				*e*	SS	SS	02 48 32.1 -2.5
OJC				*e*	L	L	03 10 13.1
OJC	Ojcow	80.09	323		P	P	02 33 22.1 +0.4
OJC					pmax	pmax	
	comp=Z,412nm,1.6s						
OJC	Ojcow	80.09	323		P	P	02 33 22.1 +0.4
MESR	Meseseni	80.17	319	⇓	P	P	02 33 23.2 +0.9
ARR	Arges	80.21	317	⇑	P	P	02 33 23.6 +1.0
G08A	Pilot Rock	80.28	43		P	P	02 33 23.1 0.0
NIE	Niedzica	80.30	322	*e*	P	P	02 33 24.5 +1.5
NIE				*e*	PcP	PcP	02 33 30.2 +0.1
NIE				*e*	S	S	02 43 29.4 +1.8
N02D	Trinity Center	80.33	48		P	P	02 33 23.7 +0.4
	baz=302						
ICESG	Greenland Ices	80.41	357	*i*	P	P	02 33 23.4 -0.2
ICESG					IAmb	IAmb	02 33 29.1
	comp=Z,14nm,0.7s						
M04C	Macdoel	80.44	47		P	P	02 33 24.2 +0.2
	baz=303						
HUMR	Humele	80.47	316	⇓	P	P	02 33 24.9 +1.0
RGN	Rugen	80.51	329	*e*	P	P	02 33 26.3 +2.4
	comp=Z,195nm,1.0s,baz=50,slow=4.1						
DRGR		80.51	319	⇑	P	P	02 33 25.1 +0.9
K05A	Summer Lake	80.52	46		P	P	02 33 25.1 +0.6
K05A					IAmb	IAmb	02 33 40.7
	comp=Z,161nm,1.4s						
KMY	Karmoy	80.53	336	*e*	P	P	02 33 25.1 +1.2
ISP	Isparta	80.54	308		IAMs_20	IAMs_20	03 11 58.7
	comp=Z,2μm,20.0s						
SZH	Strazhica	80.59	315	*e*	P	P	02 33 25.0 +0.4
LTVH	Ltavrtes, Hu	80.62	320		P	P	02 33 25.3 +0.6
JMB	Yambol	80.63	314	*e*	P	P	02 33 30.0 +5.2
WDC	Whiskeytown Da	80.64	48		IAmb	IAmb	02 33 40.5
	comp=Z,99nm,1.4s						
LOT	Lotru	80.67	318	⇓	P	P	02 33 26.2 +1.1
O02D	Mt. Diablo Mer	80.69	49		P	P	02 33 25.6 +0.3
	baz=302						
KECS	Kecovo	80.75	321	*e*	P	P	02 33 26.4 +1.0
KECS				*e*			02 36 28.0
KECS	Kecovo	80.75	321	*e*	P	P	02 33 26.4 +1.0
KECS				*e*	PP	PP	02 36 28.0 -0.9
BORR	Bors	80.86	320	⇓	P	P	02 33 27.2 +1.3
DEV	Deva	80.92	318	⇓	P	P	02 33 27.1 +0.8
RAC	Raciborz	81.00	324	*e*	P	P	02 33 26.6 0.0
RAC					LMZ	LR	03 13 13.5
	comp=Z,7.0nm,19.4s						
RAC	Raciborz	81.00	324	*e*	P	P	02 33 26.6 0.0
RAC					MLR	MLR	
	comp=Z,7μm,19.4s						
VLAD	Vladila	81.11	316	⇓	P	P	02 33 27.4 +0.1
IZAB	Izabela	81.12	322	*e*	P	P	02 33 28.8 +1.5
OKC	Ostrava-Krasne	81.17	323	*e*	P	P	02 33 31.7 +4.2
OKC				*e*	S	S	02 43 33.1 -3.4
OKC					MLR	MLR	
	comp=Z,5μm,13.3s						
OKC	Ostrava-Krasne	81.17	323	*e*	P	P	02 33 31.7 +4.2
OKC				*e*	S	S	02 43 33.1 -3.4
OKC					AMS	AMS	03 14 10.0
	comp=Z,5μm,13.3s						
O03E	Paynes Creek	81.27	48		P	P	02 33 28.2 -0.2
	baz=303						
GZR	Gura Zlata	81.27	318	⇓	P	P	02 33 28.6 +0.3
MOD	Modoc Plateau	81.34	46		IAmb	IAmb	02 33 44.5
	comp=Z,134nm,1.5s						
SIRR	Siria	81.41	319	⇓	P	P	02 33 29.7 +0.8
PSZ	Piszkesteto	81.41	321	⇓	P	P	02 33 29.6 +0.7
PSZ	Piszkesteto	81.41	321		P	P	02 33 29.6 +0.7
PSZ	Piszkesteto	81.41	321		P	P	02 33 29.1 +0.2
KSP	Ksiaz	81.48	325	*e*	P	P	02 33 29.5 +0.4
KSP				*e*	PcP	sP	02 33 35.2 -0.4
KSP				*e*	S	S	02 43 36.8 -3.0
KSP				*e*	L	L	03 11 52.1
	comp=Z,4μm,20.3s						
BMO	Blue Mountains	81.49	43		IAmb	IAmb	02 33 44.1
	comp=Z,138nm,1.9s						
DIM	Dimitrovgrad	81.51	314	*e*	P	P	02 33 34.0 +4.5
MORC	Moravsky Berou	81.52	324	⇑	P	P	02 33 29.8 +0.4
MORC	Moravsky Berou	81.52	324	*e*	P	P	02 33 29.7 +0.2
MSEY	Mahe Island	81.53	259		IAMs_20	IAMs_20	03 10 24.9
	comp=Z,1μm,20.0s						
EIL	Elat	81.54	299		LR	LR	03 12 50.0
	comp=Z,2μm,20.2s,baz=100,slow=38						
BSZH	Besenyszg	81.57	321	⇑	P	P	02 33 30.9 +1.2
BSZH	Besenyszg	81.57	321		P	P	02 33 30.8 +1.1
VYHS	Vyhne	81.63	322	*e*	P	P	02 33 31.2 +1.2
VYHS					pmax	pmax	
	comp=Z,386nm,2.0s						
VYHS	Vyhne	81.63	322	*e*	P	P	02 33 31.2 +1.2
RUE	Ruedersdorf	81.64	327	*e*	P	P	02 33 31.1 +1.1
RUE	Ruedersdorf	81.64	327	*e*	P	P	02 33 30.4 +0.4
	comp=Z,330nm,1.8s,baz=50,slow=4.1						
J08A	Circle Bar Ran	81.65	44		IAmb	IAmb	02 33 45.5
	comp=Z,143nm,1.7s						
KRLC	Kraliky	81.72	324	*e*	P	P	02 33 30.7 +0.2
KRLC				*e*	S	S	02 43 40.4 -1.9
KRLC					MLR	MLR	
	comp=Z,8μm,15.3s						
KRLC	Kraliky	81.72	324	*e*	P	P	02 33 30.7 +0.2
KRLC				*e*	S	S	02 43 40.4 -1.9
KRLC					AMS	AMS	03 14 30.0
	comp=Z,8μm,15.3s						
BAIL	Bailesti	81.73	317	⇓	P	P	02 33 31.3 +0.7
CHVC	Chvalec	81.76	325	*e*	P	P	02 33 31.2 +0.5
CHVC					AMS	AMS	03 14 30.0
	comp=Z,6μm,16.0s						
DPC	Dobruska-Polom	81.78	325	*e*	P	P	02 33 31.6 +0.8
DPC				*e*	S	S	02 43 40.5 -2.4
DPC					MLR	MLR	
	comp=Z,8μm,16.6s						
DPC	Dobruska-Polom	81.78	325	*e*	P	P	02 33 31.6 +0.8
DPC				*e*	S	S	02 43 40.5 -2.4
DPC					AMS	AMS	03 14 40.0
	comp=Z,8μm,16.6s						
KDZ	Kurdzhali	81.80	314	*e*	P	P	02 33 37.0 +5.9
KOLL	Kolacno	81.81	322	*e*	P	P	02 33 32.0 +1.1
BZS	Buzias	81.81	319	⇓	P	P	02 33 30.8 -0.3
PUNG	Punghina	81.82	317	⇑	P	P	02 33 31.9 +0.8
UPC	Upice	81.83	325	*e*	S	S	02 43 45.8 +2.4
UPC					AMS	AMS	03 14 30.0
	comp=Z,7μm,15.4s						
DJES	Djerdap	81.84	317	⇓	P	P	02 33 32.6 +1.3
DJES	Djerdap	81.84	317	*e*	P	P	02 33 33.9 +2.7
ORV	Oroville	81.86	49		IAmb	IAmb	02 33 46.3
	comp=Z,60nm,1.2s						
MPEP	Malo Peshtene	81.87	316	*e*	P	P	02 33 32.0 +0.6
AMBH	Ambrzfalva	81.88	320		P	P	02 33 31.8 +0.5
JAVC	Velka Javorina	82.02	323	*e*	P	P	02 33 33.6 +1.5
WVOR	Wild Horse Val	82.07	45		IAmb	IAmb	02 33 53.7
	comp=Z,124nm,1.8s						
BUD	Budapest	82.14	321		P	P	02 33 33.5 +0.8
RZN	Rozhen	82.22	314	*e*	P	P	02 33 38.0 +4.5
BANR	Banloc	82.22	319	⇓	P	P	02 33 33.8 +0.6
BSEG	Bad Segeberg	82.23	330	*e*	P	P	02 33 32.9 -0.1
	comp=Z,66nm,1.2s,baz=50,slow=4.1						
MDVR	Moldovita	82.24	318	⇑	P	P	02 33 33.2 -0.2
VRAC	Vranov	82.29	324	⇑	P	P	02 33 34.6 +1.1
VRAC	Vranov	82.29	324		LR	LR	03 13 59.5
	comp=Z,4μm,18.4s,baz=60,slow=38						
VRAC	Vranov	82.29	324	*e*	P	P	02 33 34.2 +0.7
SRO	Srobarova	82.32	322	*e*	P	P	02 33 35.1 +1.5
SRO					pmax	pmax	
	comp=Z,369nm,2.3s						
SRO	Srobarova	82.32	322	*e*	P	P	02 33 35.1 +1.5
KUBS	Kucevo	82.48	318	*e*	P	P	02 33 33.9 -0.7
ZAGS	Zajecar	82.50	317	*e*	P	P	02 33 36.3 +1.6
MODS	Modra-Piesok	82.52	323	*e*	P	P	02 33 35.3 +0.6
MODS					pmax	pmax	
	comp=Z,463nm,1.7s						
MODS	Modra-Piesok	82.52	323	*e*	P	P	02 33 35.3 +0.6
PVCC	Panska Ves	82.53	325	*e*	P	P	02 33 35.0 +0.3
PVCC					MLR	MLR	
	comp=Z,6μm,15.9s						
PVCC	Panska Ves	82.53	325	*e*	P	P	02 33 35.0 +0.3
PVCC					AMS	AMS	03 15 30.0
	comp=Z,6μm,15.9s						
KRUC	Moravsky	82.55	324	*e*	P	P	02 33 35.2 +0.4
ZAPS	Zavoj	82.58	316	*e*	P	P	02 33 36.0 +0.8
VTS	Vitosha	82.59	315		P	P	02 33 37.5 +2.1
VTS	Vitosha	82.59	315		IAmb	IAmb	02 33 42.4
	comp=Z,76nm,1.3s						
VTS	Vitosha	82.59	315	*e*	P	P	02 33 38.0 +2.6
BRG	Berggiesshubel	82.61	326	*i*	P	P	02 33 35.4 +0.2
BRG					Amp		02 33 38.7
	comp=Z,27nm,1.1s						
BRG				*ex*		x	02 33 41.3
BRG					Amp		02 33 43.4
	comp=Z,257nm,1.9s						
BRG				*ex*		x	02 33 54.0
BRG					Amp		02 33 57.9
	comp=Z,47nm,1.3s						
BRG					PP	PP	02 36 45.8 +1.7
BRG					Amp		02 37 01.6
	comp=Z,30nm,1.6s						
BRG	Berggiesshubel	82.61	326		SS	SS	02 49 17.0 +5.0
BRG					Amp		03 14 54.0
	comp=Z,4.1nm,15.0s						
BRG					Amp		03 14 58.0
	comp=N,1.1nm,19.0s						
BRG					Amp		03 15 09.0
	comp=E,2.5nm,19.0s						
BRG	Berggiesshubel	82.61	326	*i*	P	P	02 33 35.3 +0.2
BRG				*e*			02 33 41.2
BRG							02 36 45.8
BRG					S	S	02 43 54.0 +2.7
BRG					SS	SS	02 49 17.0 +5.0
BRG					pmax	pmax	
	comp=Z,27nm,1.2s						
BRG					pmax	pmax	
	comp=Z,257nm,1.9s						
BRG					pmax	pmax	
	comp=Z,47nm,1.3s						
BRG					pmax	pmax	
	comp=Z,30nm,1.6s						
BRG					pmax	pmax	
	comp=Z,4μm,15.0s						
BRG					MLR	MLR	
	comp=N,1μm,19.0s						
BRG	Berggiesshubel	82.61	326	*e*	P	P	02 33 35.5 +0.4
	comp=N,256nm,1.9s,baz=50,slow=4.1						
CSKK	Cskako	82.62	321		P	P	02 33 35.3 0.0
SFJD	Kangerlussuaq	82.64	1		LR	LR	03 13 09.9
	comp=N,986nm,18.1s,baz=350,slow=38						
SFJD	Kangerlussuaq	82.64	1	*i*	P	P	02 33 33.9 -1.1
SFJD					IAmb	IAmb	02 33 47.3
	comp=Z,10nm,0.9s						
ZST	Bratislava	82.72	323	*e*	P	P	02 33 37.3 +1.6
ZST					pmax	pmax	
	comp=Z,854nm,1.8s						
ZST	Bratislava	82.72	323	*e*	P	P	02 33 37.3 +1.6
RAR	Rarotonga	82.73	120		LR	LR	03 02 56.1
	comp=Z,766nm,21.7s,baz=298,slow=30						
CLL	Collm	82.78	327	*e*	P	P	02 33 35.0 -0.9
CLL				*i*			02 33 41.2
CLL				*es*	S	S	02 43 48.0 -5.0
CLL					pmax	pmax	
	comp=Z,507nm,2.2s						
CLL					MLR	MLR	
	comp=Z,5μm,17.9s						
CLL	Collm	82.78	327	*e*	P	P	02 33 35.0 -0.9
	comp=Z,37nm,1.0s						
CLL				*i*	Pmax		02 33 41.2
	comp=Z,507nm,2.2s						
CLL				*e*	PP	PP	02 36 43.0 -2.4
CLL				*es*	S	S	02 43 48.0 -5.0
CLL				*es*	SS	SS	02 49 16.0 +1.6
CLL				*ex*		x	02 54 04.0
CLL				*es*	SSSS		02 55 24.0
CLL					Lmax		03 15 00.0
CLL	Collm	82.78	327	*e*	P	P	02 33 35.9 0.0
	comp=Z,507nm,2.2s,baz=50,slow=4.1						
CLL	Collm	82.78	327		IAmb	IAmb	02 33 43.9
	comp=Z,95nm,1.1s						
SVIS	Svilajnac	82.83	318	*e*	P	P	02 33 40.1 +3.7
FBE	Freiberg	82.86	326	*e*	P	P	02 33 37.0 +0.6
	comp=Z,519nm,1.9s,baz=50,slow=4.1						
TREC	Trest	82.86	324	*e*	P	P	02 33 37.0 +0.5
TREC					MLR	MLR	
	comp=Z,9μm,16.1s						
TREC	Trest	82.86	324	*e*	P	P	02 33 37.0 +0.5
TREC					AMS	AMS	03 15 20.0
	comp=Z,9μm,16.1s						
MMB	Musomiste	82.88	314	*e*	P	P	02 33 37.0 +0.2
PRU	Pruhonice	82.89	325	*e*	P	P	02 33 36.7 +0.1
PRU				*es*	S	S	02 43 46.5 -7.7
PRU					MLR	MLR	
	comp=Z,7μm,15.4s						
PRU	Pruhonice	82.89	325	*e*	P	P	02 33 36.7 +0.1
PRU				*es*	S	S	02 43 46.5 -7.7
PRU					AMS	AMS	03 15 50.0
	comp=Z,7μm,15.4s						
FLTG	Flechtingen	82.91	328	*e*	P	P	02 33 36.1 -0.5
	comp=Z,281nm,2.0s,baz=50,slow=4.1						
BOVS	Bovan	82.92	317	⇑	P	P	02 33 38.0 +1.1
BOVS	Bovan	82.92	317	*e*	P	P	02 33 37.7 +0.9
EGYH	Egyhazaskeszo	83.09	322		P	P	02 33 37.9 +0.3
FRGS	Fruska Gora	83.11	319	⇑	P	P	02 33 38.1 +0.3
FRGS	Fruska Gora	83.11	319	*e*	P	P	02 33 36.6 -1.2
FRGS	Fruska Gora	83.11	319	*e*	P	P	02 33 38.1 +0.3
MORH	Mrgy, Hungar	83.12	320	*e*	P	P	02 33 36.7 -1.1
MPLH	Magyarpolny	83.13	322		P	P	02 33 37.5 -0.4
PAHR	Pah Rah Range	83.14	48		IAm

baz=310,SNR=15
VAY Valandovo 83.75 315 *i* P **P 02 33 42.5 +1.3**
VAY Valandovo 83.75 315 *eP* **P 02 33 41.5 +0.3**
WERN Wernitzgruen 83.75 326 *eP* **P 02 33 41.4 +0.3**
comp=Z,424nm,2.1s,baz=50,slow=4.1
NKC Novy Kostel 83.75 326 *eP* **P 02 33 41.4 +0.4**
NKC MLR MLR
comp=Z,7µm,15.5s
NKC Novy Kostel 83.75 326 *eP* **P 02 33 41.4 +0.4**
NKC AMS AMS 03 15 50.0
comp=Z,7µm,15.5s
CKRC Cesky Krumlov 83.76 324 *eP* **P 02 33 41.5 +0.4**
CKRC *eS* **S 02 43 55.5 -7.7**
STIP Stip 83.77 315 *i* P **P 02 33 39.9 -1.4**
IVAS Ivanjica 83.86 318 *eP* **P 02 33 41.7 -0.1**
MOX Moxa 83.87 327 *eP* **P 02 33 41.8 +0.2**
comp=Z,276nm,2.1s,baz=50,slow=4.1
KHC Kasperske Hory 83.92 325 *ceP* **P 02 33 42.3 +0.3**
KHC pmax pmax
comp=Z,30nm,0.9s
KHC Kasperske Hory 83.92 325 *eP* **P 02 33 42.1 +0.1**
KHC *epP* **pP 02 33 47.0 +0.2**
KHC *eS* **S 02 44 05.2 +0.4**
KHC AMS AMS 03 16 00.0
comp=Z,9µm,16.0s
KHC Kasperske Hory 83.92 325 IAmb IAmb 02 33 50.3
comp=Z,73nm,1.3s
HLID Hailey 83.93 42 P **P 02 33 41.6 -0.7**
baz=307,SNR=17
GTTG Gottingen 84.03 328 *eP* **P 02 33 42.5 +0.1**
comp=Z,91nm,1.1s,baz=50,slow=4.1
GEC2 GERESS Array S 84.05 325 *eP* **P 02 33 42.6 -0.1**
comp=Z,195nm,2.1s,baz=50,slow=4.1
GERES GERESS Array B 84.05 325 P **P 02 33 42.8 0.0**
comp=Z,7.4nm,0.7s,baz=51,slow=5.3,SNR=67
GERES PKKPbc **PKKPbc 02 51 56.0 -1.0**
comp=Z,0.1nm,0.3s,baz=174,slow=4.9,SNR=2.0
GERES LR LR 03 15 24.4
comp=Z,5µm,19.4s,baz=60,slow=39
SKO Skopje 84.05 316 *i* P **P 02 33 45.0 +2.2**
MANZ Manzenberg 84.08 326 *eP* **P 02 33 43.0 +0.3**
comp=Z,83nm,2.3s,baz=50,slow=4.1
BMN Battle Mountai 84.09 46 IAmb IAmb 02 33 59.1
comp=Z,113nm,1.4s
BBLS Lazići 84.12 318 *eP* **P 02 33 42.9 -0.2**
BBLS Lazići 84.12 318 *eP* **P 02 33 43.7 +0.6**
ARSA Arzberg 84.15 323 *i* P **P 02 33 43.8 +0.7**
SNR=19
SJES Sjenica 84.16 317 *eP* **P 02 33 44.4 +1.0**
ROTZ Rotzenmuhle 84.18 326 *eP* **P 02 33 43.7 +0.5**
comp=Z,112nm,2.0s,baz=50,slow=4.1
ATD Arta Tunnel 84.19 280 LR LR 03 11 47.6
comp=Z,1µm,21.8s,baz=41,slow=36
BOZ Bozeman (W) 84.26 40 IAmb IAmb 02 33 58.6
comp=Z,70nm,1.7s
BOZ Bozeman (W) 84.26 40 P **P 02 33 43.2 -0.7**
baz=309,SNR=29
WET Wettzell 84.26 325 *eP* **P 02 33 44.1 +0.4**
comp=Z,150nm,1.8s,baz=50,slow=4.1
KOGS Kog 84.27 322 *i* P **P 02 33 43.0 -0.7**
RUDO Rudo 84.29 318 *eP* **P 02 33 42.8 -1.1**
RYN Ryan 84.30 48 IAmb IAmb 02 33 59.9
comp=Z,88nm,1.3s
MOA Molln 84.41 324 *i* P **P 02 33 45.8 +1.3**
comp=Z,29nm,1.2s,SNR=9.8
FRB Frobisher Bay 84.42 9 LR LR 03 14 08.7
comp=Z,2µm,19.4s,baz=332,slow=38
IVA Berane 84.44 317 *eP* **P 02 33 47.2 +2.4**
MQOL MQOL 84.44 291 *i* P **P 02 33 47.2 +2.1**
MQOL AMP 02 33 59.7
comp=E,133nm,1.7s
PLE Pljevlja 84.45 318 *eP* **P 02 33 47.3 +2.4**
IBBN Ibbenburen 84.48 330 *eP* **P 02 33 44.2 -0.4**
baz=50,slow=4.1
UBBA Unterbreizbach 84.51 328 *eP* **P 02 33 44.9 +0.2**
comp=E,156nm,1.7s,baz=50,slow=4.1
NVAR Mina Array Bea 84.56 48 P **P 02 33 45.6 -0.1**
comp=E,12nm,0.7s,baz=299,slow=5.1,SNR=94
OMMB Old Mammoth Mi 84.57 49 IAmb IAmb 02 34 01.2
comp=Z,74nm,1.4s
NV11 Mina Array Sit 84.65 48 IAmb IAmb 02 34 01.4
comp=Z,44nm,1.2s
KOME Kolasin 84.67 317 *eP* **P 02 33 48.2 +2.2**
GRF Grafenberg Arr 84.70 326 *eP* **P 02 33 46.4 +0.5**
comp=Z,660nm,2.1s,baz=50,slow=4.1
GRFO Grafenberg 84.70 326 P **P 02 33 45.9 0.0**
GRFO pmax pmax
comp=Z,178nm,1.4s
GRFO MLR MLR
comp=Z,4µm,18.0s
GRFO Grafenberg 84.70 326 P **P 02 33 45.9 0.0**
PERS Pernice 84.75 322 *i* P **P 02 33 46.8 +0.6**
SOKA Soboth 84.77 322 *i* P **P 02 33 46.8 +0.4**
comp=Z,160nm,1.4s,SNR=26
FNA Florina 84.80 315 IAmb IAmb 02 33 52.8
comp=Z,94nm,1.5s
UPM Unac-Piva 84.81 318 *eP* **P 02 33 49.9 +3.1**
UPM Unac-Piva 84.81 318 *eP* **P 02 33 49.7 +2.9**
MRAK Mrakovica 84.82 320 *eP* **P 02 33 46.6 -0.1**
BLY Banja Luka 84.83 320 *eP* **P 02 33 47.4 +0.8**
NKME Niksic 85.05 317 *eP* **P 02 33 50.3 +2.5**
PDG Podgorica 85.08 317 ⇑P **P 02 33 48.1 +0.2**
PDG Podgorica 85.08 317 *eP* **P 02 33 48.0 +0.2**
PDG Podgorica 85.08 317 *eP* **P 02 33 48.5 +0.6**
TTG Podgorica 85.08 317 *eP* **P 02 33 50.7 +2.8**
CRES Cresnjev 85.09 321 *eP* **P 02 33 44.3 -3.6**
MGRS Mrkonjic Grad 85.09 320 *eP* **P 02 33 49.1 +1.1**
ELK Elko 85.13 45 LR LR 03 08 14.8
comp=Z,454nm,21.0s,baz=304,slow=33
OBKA Obir 85.14 322 *eP* **P 02 33 48.8 +0.5**
comp=Z,36nm,0.9s
CEME Cevo 85.20 317 *eP* **P 02 33 51.4 +2.8**
BRY Bratogost 85.21 318 *eP* **P 02 33 49.0 +0.3**
BRY Bratogost 85.21 318 *eP* **P 02 33 50.9 +2.2**
YMR Madison River 85.21 40 IAmb IAmb 02 34 05.0
comp=Z,109nm,1.7s
RJOB Jochberg 85.24 324 *eP* **P 02 33 49.0 +0.4**
comp=Z,62nm,1.3s,baz=50,slow=4.1
AGG Agios Georgios 85.24 313 IAmb IAmb 02 34 01.1
comp=Z,68nm,1.1s
DRME Dracevica, Mon 85.27 317 *eP* **P 02 33 48.6 -0.3**
DRME Dracevica, Mon 85.27 317 *eP* **P 02 33 51.8 +2.9**
BUG Bochum--Univer 85.31 329 *eP* **P 02 33 48.3 -0.5**
comp=Z,65nm,1.2s,baz=50,slow=4.1
BUM Brajici-Budva 85.37 317 *eP* **P 02 33 52.5 +3.1**
KBA Koelnbreinsper 85.39 323 *eP* **P 02 33 49.8 +0.2**
comp=Z,11nm,0.9s
TIN Tinemaha, Big 85.39 49 P **P 02 33 49.6 -0.1**
baz=305
YFT Old Faithful 85.42 40 IAmb IAmb 02 34 09.3
comp=Z,116nm,1.7s
TREB Trebinje 85.43 318 *eP* **P 02 33 49.3 -0.4**
NUUK Nuuk 85.43 2 *i* P **P 02 33 47.9 -1.3**
NUUK IAmb IAmb 02 34 02.5
comp=Z,22nm,0.9s
LJU Ljubljana 85.45 322 *eP* **P 02 33 49.3 -0.4**
HCY Herceg Novi 85.51 317 *eP* **P 02 33 52.9 +2.8**
VES Vestal, Richgr 85.52 51 P **P 02 33 49.7 -0.5**
baz=305
MYKA Terra Mystica 85.53 323 *eP* **P 02 33 51.0 +0.8**
comp=Z,10nm,0.8s
PKM Mcpherson Peak 85.57 52 P **P 02 33 50.4 -0.3**
baz=304
LKWY Lake 85.58 40 IAmb IAmb 02 34 08.2
comp=Z,52nm,1.2s
H17A Grant Village 85.59 40 IAmb IAmb 02 34 08.3
comp=Z,71nm,1.2s
H17A Grant Village 85.59 40 P **P 02 33 51.3 +0.5**
baz=310,SNR=15
YMP Mirror Lake Pl 85.61 40 IAmb IAmb 02 34 19.4
comp=Z,101nm,1.6s
TNS Taunus Mts 85.64 328 *eP* **P 02 33 50.5 -0.1**
comp=Z,40nm,1.1s,baz=50,slow=4.1
LCH Last Change Ra 85.67 49 IAmb IAmb 02 34 06.5
comp=Z,80nm,1.3s
CEY Cerknica 85.70 322 *eP* **P 02 33 51.2 +0.2**
FUR Furstenfeldbru 85.71 325 *eP* **P 02 33 51.2 +0.3**
comp=Z,469nm,2.0s,baz=50,slow=4.1
STON Ston 85.71 318 *eP* **P 02 33 50.4 -0.6**
STON Ston 85.71 318 *eP* **P 02 33 51.1 +0.1**
IDI Anoyia 85.72 309 LR LR 03 16 15.4
comp=Z,2µm,20.4s,baz=56,slow=39
RLMT Red Lodge 85.85 39 P **P 02 33 52.3 +0.3**
baz=310,SNR=8.3
CWC Cottonwood Cre 85.85 50 P **P 02 33 52.2 +0.1**
baz=305

HVU Hansel Valley 85.97 43 IAmb IAmb 02 34 08.7
comp=Z,123nm,1.9s
GRAC Grapevine Rang 85.99 49 P **P 02 33 52.6 -0.1**
baz=306
AHRW Bad Neuenahr-A 86.03 329 *eP* **P 02 33 52.1 -0.4**
comp=Z,83nm,1.4s,baz=50,slow=4.1
ISA Isabella, Lake 86.03 51 P **P 02 33 52.6 -0.3**
baz=305
ABTA Abfaltersbach 86.04 323 *i* P **P 02 33 52.1 -0.6**
comp=Z,29nm,1.1s,SNR=6.3
WATA Walderalm 86.12 324 *eP* **P 02 33 53.5 +0.3**
comp=Z,27nm,1.5s
WTTA Wattenberg 86.14 324 *eP* **P 02 33 53.5 +0.2**
comp=Z,56nm,1.7s
DGMT Dagmar 86.20 34 IAMs_20 IAMs_20 03 10 57.1
comp=Z,1µm,20.0s
DGMT Dagmar 86.20 34 P **P 02 33 52.5 -0.9**
baz=314,SNR=7.5
STAL STALIGIAL 86.26 323 IAmb IAmb 02 34 09.4
comp=Z,67nm,1.2s
STU Stuttgart 86.30 326 P **P 02 33 58.0 +4.2**
STU Stuttgart 86.30 326 *eP* **P 02 33 53.6 -0.2**
comp=Z,563nm,2.1s,baz=50,slow=4.1
R11A Troy Canyon, C 86.34 47 IAmb IAmb 02 34 10.1
comp=Z,138nm,2.0s
R11A Troy Canyon, C 86.34 47 P **P 02 33 54.3 -0.2**
baz=307,SNR=24
MOTA Moosalm 86.35 325 *eP* **P 02 33 54.3 0.0**
comp=Z,19nm,1.0s
BGU Big Grassy Mou 86.35 44 IAmb IAmb 02 34 10.5
comp=Z,112nm,2.0s
SQTA Sankt Quirin 86.38 324 *eP* **P 02 33 53.5 -1.0**
comp=Z,23nm,1.7s
LAO LASA Array 86.41 36 IAmb IAmb 02 34 10.2
comp=Z,66nm,1.0s
LAO LASA Array 86.41 36 P **P 02 33 54.3 -0.3**
baz=312,SNR=16
RETA Reutte 86.42 325 *eP* **P 02 33 54.2 -0.4**
comp=Z,19nm,1.2s
EKA Eskdalemuir Ar 86.44 337 LR LR 03 15 34.2
comp=Z,3µm,19.4s,baz=42,slow=38
EKA Eskdalemuir Ar 86.44 337 P **P 02 33 53.5 -0.9**
MPMC Manual Prospec 86.46 50 P **P 02 33 54.4 -0.7**
baz=306,SNR=13
UBR Ueberruh 86.61 325 *eP* **P 02 33 55.1 -0.4**
comp=Z,74nm,1.5s,baz=50,slow=4.1
FURC Furnace Creek, 86.63 49 P **P 02 33 56.0 +0.3**
baz=306,SNR=9.9
LRMC Laurel Mtn Rad 86.67 50 P **P 02 33 56.0 -0.1**
baz=306
TPNV Topopah Spring 86.74 49 P **P 02 33 56.3 -0.2**
baz=306,SNR=21
FETA Feichten 86.76 325 *eP* **P 02 33 54.3 -2.0**
comp=Z,28nm,1.9s
HWUT Hardware Ranch comp=Z,109nm,1.4s **86.79 43** IAmb IAmb 02 34 12.6
EDW2 Edwards Air Fo 86.80 51 P **P 02 33 56.8 +0.2**
baz=306
QSM Queen of Sheba 86.92 50 IAmb IAmb 02 34 12.3
comp=Z,77nm,1.2s
GWY Greenwater Val 86.92 49 IAmb IAmb 02 34 12.4
comp=Z,74nm,1.2s
DUG Dugway, Tooele 86.93 44 IAmb IAmb 02 34 04.9
comp=Z,77nm,1.6s
DUG Dugway, Tooele 86.93 44 P **P 02 33 57.8 +0.5**
baz=308,SNR=25
DAVA Damuels 87.00 325 *eP* **P 02 33 57.3 -0.2**
comp=Z,40nm,1.2s
BFO Black Forest 87.02 327 *eP* **P 02 33 56.9 -0.5**
comp=Z,85nm,1.4s,baz=50,slow=4.1
WLF Walferdange 87.08 329 *eP* **P 02 33 59.0 +1.4**
comp=Z,154nm,1.7s,baz=50,slow=4.1
BW06 Boulder Array 87.20 41 P **P 02 33 58.2 -0.5**
baz=310,SNR=13
PDAR Pinedale Array 87.20 41 P **P 02 33 58.2 -0.5**
comp=Z,2.9nm,0.7s,baz=304,slow=1.2,SNR=33
DAVOX Davos/Dischmat 87.35 325 LR LR 03 16 27.0
comp=Z,7µm,19.8s,baz=46,slow=38
SHOC Shoshone, Teco 87.35 49 P **P 02 33 59.4 +0.2**
baz=306
GSC Goldstone, Bar 87.35 50 IAmb IAmb 02 34 14.5
comp=Z,48nm,1.2s
GSC Goldstone, Bar 87.35 50 P **P 02 33 59.1 -0.2**
baz=306,SNR=14
BFSC Mount Baldy Ra 87.40 51 P **P 02 34 00.2 +0.5**
baz=306
SHPR Sheep Range 87.71 48 IAmb IAmb 02 34 22.1
comp=Z,79nm,1.9s
SALO Salr 87.82 324 IAmb IAmb 02 34 06.8
comp=Z,51nm,0.9s
TUE Stuetta 87.82 325 IAmb IAmb 02 34 09.0
comp=Z,66nm,1.3s
TUQ Turquoise Moun 87.85 50 P **P 02 34 01.9 +0.1**
baz=307
HEC Hector,Ludlow 87.94 50 P **P 02 34 02.9 +0.7**
baz=306,SNR=6.5
GMRC Granite Mounta 88.41 50 P **P 02 34 05.1 +0.6**
baz=307
AQU L'Aquila 88.48 320 *eP* **P 02 34 03.4 -1.1**
PFO Pinyon Flats O 88.58 51 LR LR 03 07 29.5
comp=Z,803nm,21.7s,baz=292,slow=31
PFO Pinyon Flats O 88.58 51 P **P 02 34 05.6 +0.3**
baz=306
TPFO Pinon Flats 88.58 51 P **P 02 34 05.7 +0.4**
baz=306
PMOR Pomariorio Ree 88.61 108 *eT* T 04 11 55.1
comp=Z,10nm,0.2s
PPT Papeete 88.61 111 LR LR 03 06 16.8
comp=Z,554nm,21.1s,baz=291,slow=30
PPT2 Papeete2 88.62 111 *eS* **S 02 44 52.0 +0.6**
comp=Z,2µm,26.8s
PPT2 Papeete2 88.62 111 *eLR* LR 03 02 33.0
comp=Z,4µm,28.0s,baz=300
P17A Butcher Ranch, 88.62 44 IAmb IAmb 02 34 13.1
comp=Z,109nm,1.5s
MTPU Mount Pierson 88.65 46 IAmb IAmb 02 34 27.4
comp=Z,94nm,1.9s
ULM Lac du Bonnet 88.65 29 P **P 02 34 05.0 -0.1**
comp=Z,9.8nm,0.7s,baz=314,slow=5.2,SNR=12
ULM Lac du Bonnet 88.65 29 IAmb IAmb 02 34 20.1
comp=Z,80nm,1.2s
BELC Belle Mtn. Jos 88.65 51 P **P 02 34 05.5 -0.2**
baz=307
P18A Preston Nutter 88.82 44 IAmb IAmb 02 34 14.2
comp=Z,84nm,1.4s
KNB Kanab 88.89 47 IAmb IAmb 02 34 22.8
comp=Z,67nm,1.4s
K22A Casper 88.97 39 P **P 02 34 06.7 -0.3**
baz=312
MONP2 Monument Peak 89.03 52 P **P 02 34 07.2 -0.3**
baz=306
FURI Furi 89.06 280 IAMs_20 IAMs_20 03 20 47.5
comp=Z,2µm,20.0s
IRM Iron Mountain 89.13 50 P **P 02 34 08.0 +0.3**
baz=307
BC3 Big Chuckawall 89.22 51 P **P 02 34 08.4 +0.1**
baz=307
RWWY Rawlins 89.23 40 IAmb IAmb 02 34 14.5
comp=Z,126nm,1.9s
RSSD Black Hills 89.29 37 P **P 02 34 08.5 -0.1**
RSSD pmax pmax
comp=Z,173nm,1.9s
RSSD Black Hills 89.29 37 P **P 02 34 08.5 -0.1**
RSSD Black Hills 89.29 37 P **P 02 34 08.2 -0.4**
baz=314
O20A White River Ci 89.67 42 P **P 02 34 10.1 -0.2**
baz=311,SNR=5.8
AGMN Agassiz Nation comp=Z,1µm,18.0s **90.15 30** IAMs_20 IAMs_20 03 21 25.0
AGMN Agassiz Nation 90.15 30 P **P 02 34 12.1 -0.1**
baz=320
PV21 Cone Mtn., Par 90.26 44 IAmb IAmb 02 34 29.1
comp=Z,58nm,1.0s
PV23 Carpenter Ridg 90.31 44 IAmb IAmb 02 34 29.4
comp=Z,76nm,1.1s
PV14 Lion Creek, Pa 90.36 44 IAmb IAmb 02 34 29.5
comp=Z,94nm,1.2s
PV16 Nyswonger Mesa 90.46 44 IAmb IAmb 02 34 30.0
comp=Z,77nm,1.3s
N23A Red Feather La 90.47 40 IAmb IAmb 02 34 30.3
comp=Z,63nm,1.2s
N23A Red Feather La 90.47 40 P **P 02 34 14.3 +0.2**
baz=313,SNR=6.1
PV18 Skein Mesa, Pa 90.51 44 IAmb IAmb 02 34 30.1
comp=Z,80nm,1.2s
PV12 Saucer Basin, comp=Z,52nm,1.1s **90.53 44** IAmb IAmb 02 34 33.1
PV03 Paradox Valley 90.54 44 IAmb IAmb 02 34 30.2
comp=Z,69nm,1.2s
PV07 Paradox Valley 90.54 44 IAmb IAmb 02 34 30.3
comp=Z,105nm,1.8s
PV13 Radium Mtn., P 90.62 44 IAmb IAmb 02 34 30.5
comp=Z,74nm,1.2s
PV02 Paradox Valley 90.64 44 IAmb IAmb 02 34 30.7
comp=Z,39nm,1.1s
PV15 Paradox Valley 90.70 44 IAmb IAmb 02 34 31.0
comp=Z,55nm,1.3s
WUAZ Wupatki 90.74 47 IAmb IAmb 02 34 31.1
comp=Z,59nm,1.4s
WUAZ Wupatki 90.74 47 P **P 02 34 15.8 +0.4**
baz=309,SNR=8.5
PV01 Paradox Valley 90.78 44 IAmb IAmb 02 34 31.4
comp=Z,82nm,1.3s
JAWL J.Aulia 90.95 288 *i* P **P 02 34 19.7 +3.2**
JAWL *i* 02 34 27.7
baz=350,slow=22
B35A Bob, Littlefor 91.00 29 IAmb IAmb 02 34 31.4
comp=Z,86nm,1.3s
SMCO Snowmass 91.03 42 IAmb IAmb 02 34 38.2
comp=Z,93nm,1.6s
VAE Valguarnera 91.08 316 LR LR 03 17 51.7
comp=Z,3µm,20.6s,baz=40,slow=37
ISCO Idaho Springs 91.39 41 P **P 02 34 18.7 +0.1**
baz=313,SNR=11
MVCO Mesa Verde 91.43 44 IAmb IAmb 02 34 34.3
comp=Z,37nm,1.2s
MVCO Mesa Verde 91.43 44 P **P 02 34 18.3 -0.4**
baz=311
TBI Tubuai 91.80 116 *eLR* LR 03 03 38.0
comp=Z,5µm,35.5s
TAOE Nuku Hiva Isla 91.92 99 *eS* **S 02 45 21.0 -1.2**
comp=Z,2µm,23.6s
TAOE Nuku Hiva Isla 91.92 99 *eLR* LR 03 03 23.5
comp=Z,4µm,32.6s,baz=295
214A Organ Pipe Nat 92.02 51 P **P 02 34 21.6 +0.3**
baz=308
W18A Petrified Fore 92.02 47 IAmb IAmb 02 34 37.4
comp=Z,58nm,1.8s
S22A 4UR Ranch, Cre 92.07 43 IAmb IAmb 02 34 37.9
comp=Z,62nm,1.6s
S22A 4UR Ranch, Cre 92.07 43 P **P 02 34 22.0 +0.2**
baz=312
Q24A Divide 92.23 41 P **P 02 34 22.2 -0.2**
baz=313
EYMN Ely 92.25 28 IAMs_20 IAMs_20 03 20 10.5
comp=Z,1µm,20.0s
EYMN Ely 92.25 28 P **P 02 34 21.8 -0.2**
baz=323
X18A Snowflake 92.27 47 IAmb IAmb 02 34 29.9
comp=Z,69nm,1.8s
OGNE Ogallala 92.57 38 P **P 02 34 24.2 +0.5**
baz=315
SDCO Great Sand Dun 92.85 42 IAmb IAmb 02 34 41.1
comp=Z,42nm,1.7s
SDCO Great Sand Dun 92.85 42 P **P 02 34 25.0 -0.3**
baz=313,SNR=6.8
TUC Tucson 93.14 49 P **P 02 34 27.0 +0.5**
TUC pmax pmax
comp=Z,36nm,1.2s
TUC Tucson 93.14 49 P **P 02 34 26.9 +0.5**
TUC IAmb IAmb 02 34 42.2
comp=Z,36nm,1.2s
TUC Tucson 93.14 49 P **P 02 34 27.0 +0.5**
baz=310
SCHQ Schefferville 93.21 11 P **P 02 34 26.2 -0.1**
comp=Z,2.9nm,0.7s,baz=325,slow=6.5,SNR=5.8
SCHQ LR LR 03 19 29.7
comp=Z,1µm,20.5s,baz=340,slow=38
ECSD EROS Data Cent 93.27 33 IAmb IAmb 02 34 33.5
comp=Z,54nm,1.8s
ECSD EROS Data Cent 93.27 33 IAMs_20 IAMs_20 03 21 35.9
comp=Z,1µm,20.0s
ECSD EROS Data Cent 93.27 33 P **P 02 34 27.1 +0.3**
baz=319,SNR=5.4
E38A The Farm, Brul 93.30 29 IAmb IAmb 02 34 41.9
comp=Z,26nm,1.0s
ANMO Albuquerque 94.16 45 LR LR 03 13 54.5
comp=Z,542nm,19.4s,baz=324,slow=34
ANMO Albuquerque 94.16 45 P **P 02 34 31.0 -0.3**
ANMO pmax pmax
comp=Z,30nm,1.4s
ANMO Albuquerque 94.16 45 P **P 02 34 31.0 -0.3**
ANMO Albuquerque 94.16 45 P **P 02 34 31.7 +0.4**
baz=312
BNM Barren Site 94.59 46 P **P 02 34 33.0 -0.3**
LODK Lodwar 94.68 277 IAMs_20 IAMs_20 03 25 22.6
comp=Z,1µm,19.0s
319A Douglas 94.72 49 IAmb IAmb 02 34 49.3
comp=Z,37nm,1.1s
121A Cookes Peak, D 94.93 48 P **P 02 34 35.6 +0.7**
baz=311,SNR=6.0
KEST Kesra 95.27 317 LR LR 03 22 16.7
comp=Z,2µm,18.4s,baz=354,slow=38
KMBO Kilima Mbogo 95.36 272 PP **PP 02 38 28.5 +0.8**
comp=Z,2.6nm,0.9s,baz=54,slow=8.0,SNR=7.5
KMBO Kilima Mbogo 95.36 272 IAMs_20 IAMs_20 03 26 09.9
comp=Z,1µm,20.0s
ABPO Ambohimpanom 95.83 251 IAMs_20 IAMs_20 03 15 38.7
comp=Z,2µm,22.0s
KSU1 Kansas State U 96.76 37 IAMs_20 IAMs_20 03 19 08.6
comp=Z,1µm,22.0s
JFWS Jewell Farm 96.81 30 IAMs_20 IAMs_20 03 17 37.3
comp=Z,1µm,22.0s
MNTX Cornudas Mount 97.01 47 P Pdif 02 34 44.7 +0.5
baz=313
AMTX Amarillo 97.05 42 P Pdif 02 34 45.0 +0.5
baz=315
VOI Vohitsoka 97.62 249 IAMs_20 IAMs_20 03 17 03.6
comp=Z,2µm,21.0s
P38A Dawn 97.90 34 IAmb IAmb 02 35 00.9
comp=Z,22nm,1.3s
L44A Lake County Fo 98.41 29 IAMs_20 IAMs_20 03 20 14.6
comp=Z,1µm,21.0s
LPIG La Paz 98.64 56 LR LR 03 20 00.4
comp=Z,280nm,18.0s,baz=313,slow=36
HQIL Hanson Quary C 98.75 30 IAMs_20 IAMs_20 03 23 06.5
comp=Z,2µm,20.0s
OK031 S. Brethren Rd 98.99 39 IAMs_20 IAMs_20 03 28 30.0
comp=Z,1µm,20.0s
OK034 N. Norfolk Rd. 99.02 39 IAMs_20 IAMs_20 03 28 28.6
comp=Z,1µm,19.0s
OK030 Cody Creek RV 99.04 39 IAMs_20 IAMs_20 03 28 25.3
comp=Z,1µm,18.0s
ESDC Sonseca Array 99.34 328 LR LR 03 25 19.2
comp=Z,2µm,18.3s,baz=34,slow=39
SADO Sadowa 99.50 22 LR LR 03 25 13.0
comp=Z,926nm,18.5s,baz=357,slow=39
TXAR Lajitas Array 99.70 48 P **Pdif 02 34 56.3 0.0**
comp=Z,1.3nm,0.6s,baz=288,slow=2.7,SNR=15
TXAR PKKPbc **PKKPbc 02 51 16.1 -0.6**
comp=Z,0.2nm,0.8s,baz=82,slow=1.9,SNR=1.7
TXAR LR LR 03 14 25.5
comp=Z,594nm,21.6s,baz=324,slow=32
CCM Cathedral Cave 100.23 34 IAMs_20 IAMs_20 03 24 17.3
comp=Z,959nm,21.0s
MBAR Mbarara 100.70 276 IAMs_20 IAMs_20 03 27 20.2
comp=Z,2µm,20.0s
U40A Yellville 100.77 36 IAMs_20 IAMs_20 03 25 15.8
comp=Z,962nm,19.0s
LONY Lake Ozonia 101.04 20 IAMs_20 IAMs_20 03 23 56.5
comp=Z,1µm,20.0s
W39A Magazine 101.19 37 IAMs_20 IAMs_20 03 24 05.0
comp=Z,1µm,20.0s
ERPA Erie 101.55 24 IAMs_20 IAMs_20 03 23 45.2
comp=Z,2µm,20.0s
MIAR Mount Ida 101.80 38 IAMs_20 IAMs_20 03 24 36.1
comp=Z,1µm,19.0s
VT1 Waterbury 101.82 18 IAMs_20 IAMs_20 03 26 49.3
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 102.06 27 IAMs_20 IAMs_20 03 24 58.0
comp=Z,1µm,19.0s
M54A Oil Creek Stat 102.20 24 IAMs_20 IAMs_20 03 24 04.4
comp=Z,2µm,19.0s
X40A Basin Creek Fa 102.23 37 IAMs_20 IAMs_20 03 24 46.5
comp=Z,1µm,19.0s
WCI Wyandotte Cave 102.37 31 IAMs_20 IAMs_20 03 20 06.5
comp=Z,896nm,20.0s
HNH Hanover 102.53 18 IAMs_20 IAMs_20 03 23 07.7
comp=Z,1µm,20.0s
N54A Moraine State 102.56 25 IAMs_20 IAMs_20 03 27 41.1
comp=Z,2µm,18.0s
O53A New Philadelph 102.73 26 IAMs_20 IAMs_20 03 27 00.6
comp=Z,1µm,20.0s
BINY Binghamton 102.82 22 IAMs_20 IAMs_20 03 23 23.6
comp=Z,1µm,22.0s
FFD Franklin Falls 102.92 18 IAMs_20 IAMs_20 03 23 19.0

	comp=Z,2μm,21.0s							
TRY	Troy	103.04	20	IAMs_20	IAMs_20	03 23 37.3		
	comp=Z,1μm,20.0s							
WVT	Waverly	103.40	33	IAMs_20	IAMs_20	03 27 04.9		
	comp=Z,1μm,20.0s							
SSPA	Standing Stone	103.59	24	IAMs_20	IAMs_20	03 27 29.3		
	comp=Z,1μm,20.0s							
MCWV	Mont Chateau	103.76	25	IAMs_20	IAMs_20	03 25 12.8		
	comp=Z,1μm,21.0s							
HRV	Adam Dziewonsk	103.84	18	IAMs_20	IAMs_20	03 23 57.4		
	comp=Z,1μm,21.0s							
WES	Weston	104.01	18	IAMs_20	IAMs_20	03 23 18.1		
	comp=Z,2μm,21.0s							
N59A	State Game Lan	104.05	22	IAMs_20	IAMs_20	03 24 12.2		
	comp=Z,2μm,22.0s							
PAL	Palisades	104.55	21	IAMs_20	IAMs_20	03 21 43.4		
	comp=Z,1μm,21.0s							
YLE	Yale	104.55	20	IAMs_20	IAMs_20	03 26 01.4		
	comp=Z,1μm,20.0s							
TZTN	Tazewell	104.97	30	IAMs_20	IAMs_20	03 27 54.2		
	comp=Z,1μm,20.0s							
P60A	Greenville	105.09	22	IAMs_20	IAMs_20	03 24 45.8		
	comp=Z,1μm,22.0s							
GOGA	Godfrey	107.65	31	IAMs_20	IAMs_20	03 28 08.3		
	comp=Z,1μm,20.0s							
CNNC	Cliffs of the	108.38	26	IAMs_20	IAMs_20	03 22 13.2		
	comp=Z,1μm,22.0s							
NHSC	New Hope	109.33	29	IAMs_20	IAMs_20	03 35 56.7		
	comp=Z,1μm,18.0s							
DWPF	Disney Wildern	113.06	33	IAMs_20	IAMs_20	03 31 58.7		
	comp=Z,1μm,19.0s							
TORD	Torodi Ar. Bea	115.95	305	PKP	PKPdf	02 39 54.3	-1.2	
	comp=Z,1.7nm,0.7s,baz=28,slow=1.8,SNR=10							
TORD				PP	PP	02 40 59.5	+0.6	
	comp=Z,3.9nm,0.9s,baz=34,slow=6.9,SNR=6.3							
TORD				PKKPbc	PKKPbc	02 50 25.7	+0.2	
	comp=Z,0.6nm,0.8s,baz=226,slow=2.8,SNR=5.5							
BOSA	Boshof	118.05	252	PKP	PKiKP	02 40 00.2	+0.9	
	comp=Z,2.4nm,0.7s,baz=58,slow=1.3,SNR=9.0							
KOWA	Kowa	118.86	311	PKPdf	PKPdf	02 40 00.6	-0.6	
SYO	Syowa Base	119.37	204	ePdiff	Pdif	02 36 23.0	+0.5	
QSPA	South Pole Qui	120.40	180		PKPdf	02 40 02.2	-0.3	
QSPA	South Pole Qui	120.40	180	IAMs_20	IAMs_20	03 28 49.1		
	comp=Z,1μm,22.0s							
TSUM	Tsumeb	120.86	265	IAMs_20	IAMs_20	03 32 54.2		
	comp=Z,1μm,20.0s							
MTDJ	Mount Denham	123.32	35	IAMs_20	IAMs_20	03 38 30.8		
	comp=Z,1μm,20.0s							
DBIC	Dimbokro	125.06	305	PKP	PKPdf	02 40 12.5	-0.5	
	comp=Z,5.3nm,0.7s,baz=112,slow=1.6,SNR=9.5							
TIC	Toumodi	125.19	305	ePKIKP	PKPdf	02 40 12.5	-0.9	
KIC	Kosan Boka	125.20	305	ePKIKP	PKPdf	02 40 12.5	-0.8	
	comp=Z,31nm,0.8s							
SDDR	Presa de Saban	125.49	28	IAMs_20	IAMs_20	03 38 46.5		
	comp=Z,980nm,20.0s							
LIC	Lamto	125.49	305	ePKIKP	PKPdf	02 40 13.1	-0.8	
	comp=Z,86nm,1.0s							
SJG	San Juan	128.21	23	IAMs_20	IAMs_20	03 39 36.2		
	comp=Z,700nm,21.0s							
SMRT	St. Maarten	129.24	20	IAMs_20	IAMs_20	03 35 44.1		
	comp=Z,1μm,22.0s							
SEUS	St. Eustatius	129.79	20	IAMs_20	IAMs_20	03 35 57.8		
	comp=Z,1μm,18.0s							
SJCC	San Jacinto, C	131.55	38	eP	PKPpre	02 40 18.5		
URIC	Uribia, Colomb	131.62	33	eP	PKiKP	02 40 32.9	+6.4	
CRJC	Cerrejon, Guaj	131.78	35	eP	PKiKP	02 40 30.0	+3.1	
ARGC	Ariguani, Magd	132.07	37	eP	PKPpre	02 40 17.5		
SNAA	Sanae	132.53	197	PKPdf	PKPpre	02 40 17.0		
SNAA	Sanae	132.53	197	IAMs_20	IAMs_20	03 39 05.7		
	comp=Z,703nm,22.0s							
HATO	Hato, Curacao	132.56	29	IAMs_20	IAMs_20	03 37 53.9		
	comp=Z,798nm,21.0s							
SMLC	San Martn de	133.06	38	eP	PKiKP	02 40 30.0	+0.6	
UREC	San Jos de Ur	133.14	40	eP	PKPdf	02 40 28.1	-0.4	
DBBC	Dabeiba	133.36	41	eP	PKiKP	02 40 32.9	+2.7	
ZARC	Zaragoza, Cauc	133.72	40	eP	PKPdf	02 40 30.0	+0.5	
OCAC	Ocana	133.92	37	eP	PKPdf	02 40 28.1	-2.0	
VNA2	Neumayer--Watz	134.16	197	PKPdf	PKPpre	02 40 16.5		
	baz=124,slow=3.8							
CBOC	Ciudad Bolivar	134.40	42	eP	PKPdf	02 40 28.1	-2.9	
HELC	Santa Helena	134.42	41	eP	PKPdf	02 40 30.0	-1.3	
VNA3	Neumayer Olymp	134.50	196	PKPdf	PKPpre	02 40 18.0		
VNA1	Neumayer--Stat	134.56	197	PKPdf	PKPpre	02 40 20.1		
BRRC	Barranca, Sant	134.67	39	eP	PKPdf	02 40 28.1	-3.2	
SDV	Santo Domingo	134.71	34	eP	PKPdf	02 40 31.0	-0.7	
SDV	Santo Domingo	134.71	34	eP	PKiKP	02 40 33.2	+0.2	
SDV	Santo Domingo	134.71	34	PKPdf	PKPdf	02 40 30.0	-1.6	
SDV	Santo Domingo	134.71	34	IAMs_20	IAMs_20	03 48 36.6		
	comp=Z,654nm,20.0s							
PTBC	PUERTO BERRIO	134.73	40	eP	PKPdf	02 40 28.1	-3.4	
PLMC	San Jos del P	135.02	43	eP	PKPdf	02 40 31.0	-1.1	
SOCV	Socops	135.13	34	eP	PKPdf	02 40 32.9	+0.7	
GUY2C	Guyana, Caldas	135.30	42	eP	PKPdf	02 40 31.0	-2.1	
NORC	Norcasia	135.30	41	eP	PKPdf	02 40 32.9	+0.3	
SPBC	San Pablo de B	135.68	40	eP	PKPdf	02 40 32.9	-0.4	
YOTC	Yotoco, Valle	135.71	44	eP	PKPdf	02 40 31.0	-2.5	
ANIL	Santa Ana	135.87	43	eP	PKPdf	02 40 32.9	-1.0	
ORTC	Ortega, Tolima	136.43	43	eP	PKPdf	02 40 34.8	+0.2	
POPC	Popayan, Colom	136.65	46	eP	PKPdf	02 40 31.9	-3.4	
CHIC	Chingaza	136.71	41	eP	PKPpre	02 40 25.2		
PRAC	Prado	136.79	43	eP	PKiKP	02 40 36.7	-0.4	
PCON	Cinco Dias	136.99	46	eP	PKiKP	02 40 43.5	+5.3	
FLOC	Florencia	138.03	45	eP	PKPdf	02 40 36.7	-0.9	
MACC	Macarena, Meta	138.66	43	eP	PKPdf	02 40 32.9	-5.9	
PTLC	Puerto Leguiza	139.66	46	eP	PKPdf	02 40 40.6	0.0	
ATAH	Atahualpa	142.57	58	PKP	PKPdf	02 40 47.4	+1.1	
	comp=Z,8.7nm,0.8s,baz=336,slow=6.5,SNR=12							
PMSA	Palmer Station	144.25	168	eP	PKiKP	02 40 49.9	-0.7	
BOAV	Boa Vista	144.77	24	eP	PKiKP	02 40 53.0	-0.4	
BOAV	Boa Vista	144.77	24	PKPdf	PKPab	02 40 47.1	-1.3	
TBTG	Tabatinga, AM	146.06	44	eP	PKPdf	02 40 50.2	-1.7	
TBTG	Tabatinga, AM	146.06	44	eP	PKiKP	02 40 54.8	-1.3	
NNA	Nana	146.88	62	PKPbc	PKPbc	02 40 54.4	-0.7	
	comp=Z,27nm,0.7s,baz=293,slow=5.7,SNR=9.2							
NNA	Nana	146.88	62c	iPKP2	PKiKP	02 40 57.8	+0.1	
NNA				pmax	pmax			
	comp=Z,115nm,1.3s							
NNA	Nana	146.88	62	PKPdf	PKPdf	02 40 52.7	-0.5	
NNA				IAMs_20	IAMs_20	03 32 23.2		
	comp=Z,603nm,21.0s							
CZSB	Cruzeiro do Su	146.99	52	eP	PKPbc	02 40 55.4	0.0	
PTGA	Pitinga	147.88	25	PKPbc	PKPbc	02 40 57.5	-0.3	
	comp=Z,15nm,0.7s,baz=345,slow=2.0,SNR=26							
MACA	Manacapuru-AM	149.84	28	eP	PKPbc	02 41 00.5	-2.3	
TMAB	Tom-Au,PA,Br	151.87	2	eP	PKPdf	02 41 03.6	+2.4	
ROSB	Rosrio	152.26	353	eP	PKPdf	02 41 04.5	+2.7	
ITTB	Itaituba	152.65	19	eP	PKPdf	02 41 04.5	+2.1	
ETMB	Extrema	152.74	45	eP	PKPdf	02 41 05.1	+2.7	
ETMB	Extrema	152.74	45		PKPdf	02 41 01.9	-0.6	
RCBR	Riachuelo	153.14	334	eP	PKPdf	02 41 05.7	+2.6	
RCBR	Riachuelo	153.14	334	IAMs_20	IAMs_20	03 53 49.6		
	comp=Z,886nm,20.0s							
NPGB	Novo Progresso	155.31	20	eP	PKPdf	02 41 08.7	+2.6	
PRPB	Parauapebas	155.54	6	eP	PKPdf	02 41 10.2	+3.8	
LPAZ	La Paz	156.12	58	PKPab	PKPab	02 41 35.7	+0.4	
	comp=Z,13nm,1.0s,baz=288,slow=4.0,SNR=7.0							
LPAZ	La Paz	156.12	58	eP	PKPdf	02 41 09.6	+1.8	
PB16	IPOC Station P	156.33	64	IAMs_20	IAMs_20	03 42 35.0		
	comp=Z,593nm,20.0s							
PB11	IPOC Station P	157.01	67	IAMs_20	IAMs_20	03 40 53.0		
	comp=Z,692nm,19.0s							
LL04	Puerto Octay	157.18	124		PKPab	02 41 38.4	-0.2	
PB01	IPOC Station P	157.80	70	IAMs_20	IAMs_20	03 53 30.5		
	comp=Z,845nm,20.0s							
PLCA	Paso Flores	158.57	124	PKPab	PKPab	02 41 45.6	+0.9	
	comp=Z,4.1nm,0.8s,baz=236,slow=6.1,SNR=7.5							
PLCA	Paso Flores	158.57	124	PKIKP	PKPdf	02 41 09.5	-0.1	
PLCA	Paso Flores	158.57	124	PKPdf	PKPdf	02 41 09.5	-0.1	
PB15	IPOC Station P	158.82	75	IAMs_20	IAMs_20	04 07 52.7		
	comp=Z,608nm,21.0s							
LVC	Limon Verde	159.02	73	eP	PKPdf	02 41 13.3	+2.3	
PDRB	Porto dos Gac	159.10	27	eP	PKPdf	02 41 14.2	+3.3	
SIV	San Ignacio	160.66	44	PKP	PKPdf	02 41 12.8	+0.2	
	comp=Z,4.4nm,0.7s,baz=328,slow=0.7,SNR=15							
SIV				PKPab	PKPab	02 41 52.9	-1.3	
	comp=Z,7.4nm,0.9s,baz=294,slow=5.1,SNR=6.7							
SNDB	Serra Nova Dou	161.04	12	eP	PKPdf	02 41 15.1	+2.1	
PTLB	Pontes e Lacer	161.33	39	eP	PKPdf	02 41 16.6	+3.4	
PEXB	Peixe	161.53	3	eP	PKPdf	02 41 16.6	+3.1	
JANB	Januaria	164.27	350	eP	PKPdf	02 41 19.4	+3.1	
ARAG	Araguaiana, MT	164.54	17	eP	PKPdf	02 41 19.9	+3.6	
BDFB	Brasilia	165.05	3	PKPab	PKPab	02 42 12.5	-0.9	
	comp=Z,4.6nm,0.7s,baz=47,slow=3.8,SNR=4.8							
SJMB	Sao Joao De Ma	166.93	334	eP	PKPdf	02 41 21.8	+3.5	
AQDB	Aquidauana	167.30	39	eP	PKPdf	02 41 22.4	+3.9	
IPMB	Ipameri, GO	167.37	4	eP	PKPdf	02 41 21.5	+2.8	

MOS ***05*** *02:21:32.9±1.0, 44°.80N×147°.61E, h109km, mb4.1/1 Error ellipse: s-maj=26.4km s-min=10.8km az=48.8*
SKHL ***05*** *02:21:33.1±0.3, 44°.60N×147°.90E, h104km±6km, mb4.9/4, msha5.8/4*
NEIC ***05*** *02:21:34.4±1.3, 44°.8N±0°.1×147°.7E±0°.2, h105km±5km, mb4.5/8, Error ellipse: s-maj=28.8km s-min=12.7km az=128.0*
JMA ***05*** *02:21:34.7±0.5, 44°.56N×147°.68E, h95km, M3.6*
IDC ***05*** *02:21:36.5±3.0, 45°.07N×147°.40E, h118km±29km, mb3.4/6, mb1 3.7/9, mb1mx3.4/45, mbtmp3.8/9, Error ellipse: s-maj=56.1km s-min=25.9km az=157.0*
ISC 05 02:21:33.3±0.7,**44°.64N**±0°.06×**147°.73E**±0°.07,**h105**km±6km,
n62,σ1°.25/72,**mb4.0**/10,**1C**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.60	10c	iPN	Pn	02 21 50.7	+0.3
KUR				iS	Sn	02 22 03.3	+0.1
KUR				pmax	pmax		
	comp=N,33nm,0.3s						
KUR				pmax	pmax		
	comp=E,57nm,0.3s						
KUR				pmax	pmax		
	comp=Z,240nm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.5s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
KUR	Kuril'sk	0.60	10	iP	Pn	02 21 50.5	+0.1
KUR				AMB	AMB	02 21 51.1	
	comp=N,240nm,0.3s						
KUR				iS	Sn	02 22 03.3	+0.1
KUR				A	A	02 22 04.0	
	comp=N,960nm,0.3s						
KUR				A	A	02 22 04.0	
	comp=N,3μm,0.3s						
SHO	Shikotan	1.00	220	ePN	Pn	02 21 54.6	+0.5
SHO				eS	Sn	02 22 09.6	-0.1
SHO				pmax	pmax		
	comp=N,261nm,0.3s						
SHO				pmax	pmax		
	comp=E,179nm,0.3s						
SHO				pmax	pmax		
	comp=Z,625nm,0.3s						
SHO				smax	smax		
	comp=N,1μm,0.3s						
SHO				smax	smax		
	comp=E,2μm,0.3s						
SHO	Shikotan	1.00	220	eP	Pn	02 21 54.6	+0.5
SHO				AMB	AMB	02 21 54.8	
	comp=E,630nm,0.3s						
SHO				eS	Sn	02 22 09.6	-0.1
SHO				A	A	02 22 10.0	
	comp=E,1μm,0.3s						
SHO				A	A	02 22 10.0	
	comp=E,2μm,0.3s						
YUK	Yuzh-Kuril'sk	1.47	246	ePN	Pn	02 22 00.2	+0.8
YUK				eS	Sn	02 22 17.9	-1.3
YUK				pmax	pmax		
	comp=Z,327nm,0.3s						
YUK				smax	smax		
	comp=N,713nm,0.5s						
YUK				smax	smax		
	comp=E,828nm,0.5s						
YUK	Yuzh-Kuril'sk	1.47	246	eP	Pn	02 22 00.1	+0.7
YUK				AMB	AMB	02 22 04.2	
	comp=E,330nm,0.4s						
YUK				eS	Sn	02 22 19.0	-0.2
YUK				A	A	02 22 24.5	
	comp=E,710nm,0.4s						
YUK				A	A	02 22 24.5	
	comp=E,830nm,0.4s						
GLVR	Golovnino	1.82	241	ePN	Pn	02 22 04.0	+0.2
GLVR				eS	Sn	02 22 26.4	-0.6
GLVR				pmax	pmax		
	comp=Z,187nm,0.3s						
GLVR				pmax	pmax		
	comp=N,100nm,0.2s						
GLVR				pmax	pmax		
	comp=E,168nm,0.4s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
GLVR				smax	smax		
	comp=N,861nm,0.2s						
GLVR	Golovnino	1.82	241	eP	Pn	02 22 04.3	+0.5
GLVR				AMB	AMB	02 22 06.1	
	comp=N,190nm,0.3s						
GLVR				eS	Sn	02 22 26.4	-0.6
GLVR				A	A	02 22 31.9	
	comp=N,860nm,0.3s						
GLVR				A	A	02 22 31.9	
	comp=N,1μm,0.3s						
RUSJ	Misakicho	1.85	254	ePN	Pn	02 22 04.7	+0.5
RUSJ				eS	Sn	02 22 27.1	-0.6
NEM2	Nemuro 2	1.91	229	P	Pn	02 22 05.1	+0.2
NEM2				eS	Sn	02 22 27.8	-1.3
NMR	Nemuro--Hokkai	1.92	229	ePN	Pn	02 22 05.0	0.0
NMR				eS	Sn	02 22 29.1	-0.1
NMR	Nemuro--Hokkai	1.92	229	eP	Pn	02 22 05.0	0.0
NMR				eS	Sn	02 22 27.8	-1.4
JRA	Rausu	2.00	250	P	Pn	02 22 06.8	+0.8
JNSB	Nemuroshibetsu	2.14	247	P	Pn	02 22 09.1	+1.3
JNK	Nakash	2.41	245	P	Pn	02 22 12.5	+1.2
JKHN	Kushirohamanak	2.42	231	P	Pn	02 22 12.4	+0.9
AKK	Akkeshi	2.64	233	eP	Pn	02 22 14.7	+0.3
AKK				eS	Sn	02 22 46.1	+0.2
JAK	Akkeshi	2.74	234	P	Pn	02 22 16.5	+0.8
JAK				eS	Sn	02 22 48.0	-0.2
JTKR	Abashiri--Toko	2.82	258	P	Pn	02 22 17.5	+0.8
JTKR				eS	Sn	02 22 50.7	+0.5
JAR	Ashorobuto	3.15	246	P	Pn	02 22 23.0	+1.8
JKK2	Kamakawa 2	3.66	260	P	Pn	02 22 29.1	+1.2
JSE	Soyaes	3.67	277	P	Pn	02 22 28.7	+0.6
JKA	Kamikawa-asahi	3.71	264		Pn	02 22 29.8	+1.2
JKA	Kamikawa-asahi	3.71	264	eP	Pn	02 22 30.0	+1.4
ASAJ	Asahikawa	3.71	264	P	Pn	02 22 30.0	+1.3
	comp=N,3.7nm,0.3s,baz=73,slow=24,SNR=10						
JCH	Churui	3.76	239	P	Pn	02 22 30.5	+1.2
JCH				eS	Sn	02 23 13.2	+0.6
JWK2	Keihoku	4.19	281	P	Pn	02 22 37.3	+2.2
ERM	Erimo	4.24	233	PN	Pn	02 22 37.6	+1.9
ERM	Erimo	4.24	233	Pn	Pn	02 22 37.6	+1.9
JNBK	Urakawa-nobuka	4.32	239	P	Pn	02 22 37.1	+0.3
JKB	Kayabe	5.61	243	P	Pn	02 22 54.3	+0.1
JKB				eS	Sn	02 23 54.4	-2.9
TYV	Tymovskoe	7.10	333	eP	Pn	02 23 16.5	+2.0
JMM	Marumori	8.54	220	Pn	Pn	02 23 34.8	+0.7
PETK	Petropavlovsk-	10.71	34	P	Pn	02 24 03.7	+0.2
	comp=N,0.3nm,0.3s,baz=184,slow=11,SNR=5.1						
PETK	Petropavlovsk-	10.71	34		Pn	02 24 03.2	-0.3
PET	Petropavlovsk	11.05	37	eP	Pn	02 24 03.7	-4.3
USRK	Ussuriysk Ar.	11.27	273	P	Pn	02 24 10.6	-0.4
	baz=82,slow=15,SNR=3.9						
H11N2	WAKE ISLAND Hy	29.52	141	T	T	02 58 30.0	
	baz=336,slow=74,SNR=7.8						
H11N1	WAKE ISLAND Hy	29.53	141	T	T	02 58 35.3	
	baz=336						
H11N3	WAKE ISLAND Hy	29.53	141	T	T	02 58 32.7	
	baz=336,slow=74,SNR=8.2						
H11S1	WAKE ISLAND Hy	30.50	143	T	T	02 59 44.2	
	baz=333,slow=76,SNR=8.4						
H11S3	WAKE ISLAND Hy	30.51	143	T	T	02 59 42.7	
	baz=333,slow=76,SNR=6.1						
H11S2	WAKE ISLAND Hy	30.52	143	T	T	02 59 47.7	
	baz=333,slow=76,SNR=16						
J20K	Nowinta River	37.38	38	P	P	02 28 35.7	+0.2
J20K				IAmb	IAmb	02 28 52.4	
	comp=Z,8.8nm,1.5s						
IMAR	Indian Mountai	37.68	35	P	P	02 28 38.0	0.0
OHAK	Old Harbor	38.03	49	P	P	02 28 40.8	-0.2
H21K	Melozitna Rive	38.04	35	P	P	02 28 40.0	-1.0
H21K				IAmb	IAmb	02 28 56.2	
	comp=Z,4.8nm,1.4s						
CAST	Castle Rocks	38.28	39	P	P	02 28 42.3	-0.7
KTH	Kantishna Hill	38.80	39	P	P	02 28 47.9	+0.5
KTH				IAmb	IAmb	02 28 57.1	
	comp=Z,7.6nm,1.2s						
BWN	Browne	39.43	38	P	P	02 28 55.0	+2.4
BWN				IAmb	IAmb	02 28 56.0	
	comp=Z,30nm,1.3s						
TOLK	Toolik Lake Re	39.51	31	P	P	02 28 52.6	-0.7
ILAR	Eielson Array	40.53	37	P	P	02 29 00.7	-0.9
	comp=Z,0.4nm,0.6s,baz=288,slow=8.4,SNR=4.9						
MKAR	Makanchi Array	44.55	297	ScP	ScP	02 34 54.3	-3.8
	comp=Z,1.0nm,0.9s,baz=60,slow=3.5,SNR=3.7						
YKA	Yellowknife Ar	54.84	34	P	P	02 30 52.5	+0.5
	comp=Z,1.1nm,0.9s,baz=302,slow=7.0,SNR=11						
YKA	Yellowknife Ar	54.84	34	P	P	02 30 51.3	-0.8
FINES	FINESS Array B	64.27	333	P	P	02 31 55.2	-1.6
	comp=Z,2.3nm,0.9s,baz=29,slow=12,SNR=1.8						
WB2	Warramunga Arr	65.42	194	P	P	02 32 06.5	+1.8
NVAR	Mina Array Bea	66.76	59	P	P	02 32 15.3	+1.8
	comp=Z,0.4nm,0.6s,baz=297,slow=5.9,SNR=4.2						
NVAR	Mina Array Bea	66.76	59	P	P	02 32 14.3	+0.8
PDAR	Pinedale Array	69.02	50	P	P	02 32 28.7	+1.0
	comp=Z,0.3nm,0.6s,baz=312,slow=1.6,SNR=5.8						
BLY	Banja Luka	80.76	327	eP	P	02 33 40.1	+5.2
TXAR	Lajitas Array	81.81	57	P	P	02 33 42.1	+1.2
	comp=Z,0.9nm,0.6s,baz=300,slow=3.6,SNR=12						

TAP ***05*** *02:24:00.7, 24°.71N×121°.88E, h81km, ML3.5, B*
JMA ***05*** *02:24:01.6±0.2, 24°.72N×121°.94E, h73km±3km, M2.8*
ISC 05 02:24:00.3±1.3,**24°.74N**±0°.03×**121°.90E**±0°.03,**h87**km±5km,
n102,σ0°.82/188,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.11	17	eP	Pn	02 24 10.4	-2.2
	baz=36						
EGS				eS	Sn	02 24 21.8	+0.1
	baz=36						
NTC	Toucheng	0.13	332	iP	Pn	02 24 12.8	+0.2
	baz=354						
NTC				iS	Sn	02 24 21.5	-0.4
	baz=354						
TWC	Suao	0.14	199	iP	Pn	02 24 13.2	+0.5
	baz=189						
TWC				iS	Sn	02 24 21.9	+0.1
	baz=189						
ILA	Ilan	0.14	281	S	Sn	02 24 23.0	+1.1
	baz=305						
NDS	Dongshan	0.20	238	P	Pn	02 24 13.6	+0.7
	baz=250						
NDS				S	Sn	02 24 22.8	+0.6
	baz=250						
TWE	Neicheng	0.21	265	iP	Pn	02 24 13.5	+0.6
	baz=280						
TWE				S	Sn	02 24 22.1	-0.2
	baz=280						
TIPB	Shuangxi	0.24	344	iP	Pn	02 24 13.3	+0.2
	baz=351						
TIPB				iS	Sn	02 24 22.1	-0.6
	baz=351						
TWB1	Santiao Chiao	0.28	17	iP	Pn	02 24 13.4	+0.1
	baz=25						
TWB1				iS	Sn	02 24 22.2	-0.6
	baz=25						
EWUT	Wuta	0.31	200	P	Pn	02 24 13.7	+0.2
	baz=194						
EWUT				S	Sn	02 24 23.3	+0.2
	baz=194						
ENTT	Nioudou	0.32	252	iP	Pn	02 24 14.1	+0.7
	baz=268						
ENTT				iS	Sn	02 24 23.4	+0.2
	baz=268						
ENA	Nanau	0.34	205	iP	Pn	02 24 14.0	+0.4
	baz=198						
ENA				iS	Sn	02 24 23.9	+0.5
	baz=198						
NWF	Wu-fen Shan	0.35	342	iP	Pn	02 24 13.9	+0.1
	baz=353						
NWF				iS	Sn	02 24 23.4	-0.3
	baz=353						
WFSB	Wu-fen Shan	0.35	342	iS	Sn	02 24 23.4	-0.1
	baz=353						
NWLT	Wulai	0.36	276	iP	Pn	02 24 13.7	-0.1
	baz=291						
NWLT				iS	Sn	02 24 23.6	-0.2
	baz=291						
TWA	Mucha	0.37	310	iP	Pn	02 24 14.2	+0.4
	baz=320						
TWA				iS	Sn	02 24 23.7	-0.1
	baz=320						
NDT	Datong Townshi	0.38	249	iP	Pn	02 24 14.2	+0.4
	baz=262						
NDT				iS	Sn	02 24 23.8	0.0
	baz=262						
NHDH	Xindian Distri	0.41	303	iP	Pn	02 24 14.4	+0.4
	baz=302						
NHDH				iS	Sn	02 24 24.2	+0.1
	baz=302						
TAP	Taipei	0.46	310	iS	Sn	02 24 25.1	+0.2
	baz=321						
YHNB	Yeheng	0.48	262	P	Pn	02 24 14.5	-0.2
	baz=265						
YHNB				S	Sn	02 24 24.4	-0.9
	baz=265						
NSK	Sanguang	0.49	263	iP	Pn	02 24 14.7	0.0
	baz=266						
NSK				iS	Sn	02 24 24.4	-1.1
	baz=266						
YM01	YM01	0.50	324	P	Pn	02 24 15.0	+0.2
	baz=333						
YM01				S	Sn	02 24 25.4	-0.2
	baz=333						
NNSB	Datong	0.56	237	P	Pn	02 24 15.7	+0.3
	baz=243						
NNSB	

TWT			*i* S		**Sn**	**02 24 31.5**	**+0.4**
	baz=228						
NSTT	**Nanjuang**	**0.82 263**	*i* P		**Pn**	**02 24 17.7**	**-0.1**
	baz=264						
NSTT			*i* S		**Sn**	**02 24 30.4**	**-0.5**
	baz=264						
WHF	**Hehuan Shan**	**0.83 224**	*i* P		**Pn**	**02 24 18.5**	**+0.2**
	baz=218						
WHF			*i* S		**Sn**	**02 24 31.5**	**-0.2**
	baz=218						
TDCB	**Techi**	**0.83 234**	P		**Pn**	**02 24 18.9**	**+0.9**
	baz=228						
TDCB			S		**Sn**	**02 24 31.2**	**-0.1**
	baz=228						
SBCB	**Hsinchu**	**0.83 274**	P		**Pn**	**02 24 18.3**	**+0.5**
	baz=276						
SBCB			S		**Sn**	**02 24 30.9**	**-0.1**
	baz=276						
HSN	**Hsinchu**	**0.84 274**	*i* P		**Pn**	**02 24 17.7**	**-0.3**
	baz=279						
HSN			*i* S		**Sn**	**02 24 30.5**	**-0.7**
	baz=279						
PCYT	**Pengchaiyu**	**0.90 10**	*i* P		**Pn**	**02 24 19.1**	**+0.4**
	baz=4.0						
PCYT			S		**Sn**	**02 24 32.5**	**+0.1**
	baz=4.0						
CHGB	**Renai**	**0.94 224**	P		**Pn**	**02 24 19.9**	**+0.5**
	baz=218						
CHGB			S		**Sn**	**02 24 34.0**	**+0.4**
	baz=218						
WHP	**Taichung City**	**0.98 242**	*i* P		**Pn**	**02 24 20.2**	**+0.6**
	baz=251						
WHP			*i* S		**Sn**	**02 24 34.5**	**+0.4**
	baz=251						
JYNG	**Yonagunijimaku**	**1.00 106**	P		**Pn**	**02 24 19.8**	**+0.1**
JYNG			*e*S		**Sn**	**02 24 33.6**	**-0.7**
ESL	**Shilin**	**1.01 205**	P		**Pn**	**02 24 19.1**	**-0.8**
	baz=203						
ESL			S		**Sn**	**02 24 32.9**	**-1.8**
	baz=203						
OWD	**Renai**	**1.02 220**	*i* P		**Pn**	**02 24 20.6**	**+0.4**
	baz=215						
OWD			*e*S		**Sn**	**02 24 35.0**	**0.0**
	baz=215						
NMLH	**Miaoli**	**1.03 259**	*i* P		**Pn**	**02 24 20.3**	**+0.2**
	baz=260						
NMLH			*i* S		**Sn**	**02 24 34.4**	**-0.5**
	baz=260						
YOJ	**Yonaguni jima**	**1.05 105**	P		**Pn**	**02 24 20.5**	**+0.2**
YOJ			*e*S		**Sn**	**02 24 34.9**	**-0.5**
YOJ	**Yonaguni jima**	**1.05 105**	P		**Pn**	**02 24 20.3**	**0.0**
	baz=103						
YOJ			S		**Sn**	**02 24 35.8**	**+0.4**
	baz=103						
NSY	**Sanyi**	**1.08 253**	*i* P		**Pn**	**02 24 21.4**	**+0.6**
	baz=253						
NSY			*i* S		**Sn**	**02 24 35.8**	**-0.3**
	baz=253						
TWQ1	**Liyutan**	**1.09 249**	*i* P		**Pn**	**02 24 21.1**	**+0.2**
	baz=250						
TWQ1			*i* S		**Sn**	**02 24 36.3**	**-0.1**
	baz=250						
WCS	**Beigang Elemen**	**1.13 233**	P		**Pn**	**02 24 21.7**	**+0.5**
	baz=241						
WCS			S		**Sn**	**02 24 36.8**	**-0.2**
	baz=241						
EGFH	**Guangfu**	**1.15 202**	P		**Pn**	**02 24 21.4**	**-0.1**
	baz=205						
EGFH			S		**Sn**	**02 24 36.5**	**-1.0**
	baz=205						
VWDT	**VWDT**	**1.20 215**	P		**Pn**	**02 24 23.4**	**+1.3**
	baz=209						
VWDT			S		**Sn**	**02 24 39.3**	**+0.8**
	baz=209						
WDJ	**Dajia District**	**1.21 251**	*i* P		**Pn**	**02 24 22.6**	**+0.4**
	baz=252						
WDJ			*i* S		**Sn**	**02 24 38.7**	**0.0**
	baz=252						
SMLT	**Sun Moon Lake**	**1.25 227**	P		**Pn**	**02 24 23.5**	**+0.6**
	baz=235						
SMLT			*i* S		**Sn**	**02 24 40.9**	**+1.1**
	baz=235						
TCU	**Taichung**	**1.26 242**	P		**Pn**	**02 24 22.7**	**-0.1**
	baz=251						
TCU			*i* S		**Sn**	**02 24 39.2**	**-0.7**
	baz=251						
TYC	**Yuchr**	**1.26 229**	*i* P		**Pn**	**02 24 23.6**	**+0.7**
	baz=236						
TYC			*i* S		**Sn**	**02 24 40.9**	**+1.0**
	baz=236						
SSLB	**Suanglung**	**1.28 222**	P		**Pn**	**02 24 23.8**	**+0.7**
	baz=221						
SSLB			S		**Sn**	**02 24 41.2**	**+0.8**
	baz=221						
HGSD	**Ruisui**	**1.31 199**	P		**Pn**	**02 24 24.2**	**+0.7**
	baz=205						
HGSD			S		**Sn**	**02 24 42.5**	**+1.4**
	baz=205						
EHY	**Hungye**	**1.33 203**	*i* P		**Pn**	**02 24 23.0**	**-0.9**
	baz=201						
EHY			*e*S		**Sn**	**02 24 40.8**	**-0.8**
	baz=201						
WCHH	**Zhanghua**	**1.39 242**	*i* P		**Pn**	**02 24 24.8**	**+0.3**
	baz=250						
WCHH			*i* S		**Sn**	**02 24 42.6**	**-0.1**
	baz=250						
WNT	**Mingjian**	**1.40 232**	*e*S		**Sn**	**02 24 43.5**	**+0.5**
	baz=241						
WJS	**Zhushan**	**1.40 230**	P		**Pn**	**02 24 26.5**	**+1.8**
	baz=239						
WJS			S		**Sn**	**02 24 44.0**	**+0.9**
	baz=239						
YULB	**Yu-li**	**1.45 202**	P		**Pn**	**02 24 24.3**	**-1.0**
	baz=201						
YULB			*e*S		**Sn**	**02 24 43.7**	**-0.4**
	baz=201						
EYUL	**Yuli**	**1.48 201**	*e*P		**Pn**	**02 24 25.5**	**-0.2**
	baz=204						
EYUL			*e*S		**Sn**	**02 24 43.1**	**-1.8**
	baz=204						
ALS	**Alishan**	**1.58 219**	*i* P		**Pn**	**02 24 28.6**	**+1.4**
	baz=227						
ALS			*i* S		**Sn**	**02 24 49.4**	**+1.9**
	baz=227						
CHN5	**Tsauling**	**1.59 225**	P		**Pn**	**02 24 28.7**	**+1.6**
	baz=232						
CHN5			*i* S		**Sn**	**02 24 47.6**	**+0.2**
	baz=232						
WRL	**Guolierlin Hig**	**1.62 239**	P		**Pn**	**02 24 27.6**	**+0.2**
	baz=239						
WRL			S		**Sn**	**02 24 47.4**	**-0.6**
	baz=239						
WDLH	**Douliu**	**1.62 230**	*e*P		**Pn**	**02 24 26.9**	**-0.6**
	baz=239						
WDLH			S		**Sn**	**02 24 48.8**	**+0.7**
	baz=239						
FULB	**Fuli**	**1.63 200**	*i* P		**Pn**	**02 24 28.4**	**+0.8**
	baz=204						
FULB			S		**Sn**	**02 24 50.0**	**+1.7**
	baz=204						
IRIF	**Iriomote-Funau**	**1.72 103**	P		**Pn**	**02 24 28.8**	**+0.1**
IRIF			*e*S		**Sn**	**02 24 49.9**	**-0.3**
WTK	**Tuku**	**1.73 233**	P		**Pn**	**02 24 29.1**	**+0.2**
	baz=232						
WTK			*i* S		**Sn**	**02 24 50.4**	**-0.2**
	baz=232						
ELDTW	**Lidau**	**1.74 208**	P		**Pn**	**02 24 29.4**	**+0.2**
	baz=197						
ELDTW			*e*S		**Sn**	**02 24 52.3**	**+1.4**
	baz=197						
CHN4	**Tsaushan**	**1.82 221**	P		**Pn**	**02 24 31.5**	**+1.4**
	baz=219						
CHN4			S		**Sn**	**02 24 55.1**	**+2.3**
	baz=219						
CHY	**Chiayi**	**1.83 228**	*e*P		**Pn**	**02 24 29.6**	**-0.5**
	baz=226						
CHY			S		**Sn**	**02 24 53.0**	**+0.2**
	baz=226						
EDH	**Donghe**	**1.84 197**	*i* P		**Pn**	**02 24 29.4**	**-1.0**
	baz=195						
EDH			*i* S		**Sn**	**02 24 52.1**	**-1.0**
	baz=195						
TPUB	**Ta-pu**	**1.84 219**	P		**Pn**	**02 24 32.6**	**+2.2**
	baz=217						
TPUB			S		**Sn**	**02 24 55.4**	**+2.2**
	baz=217						
HATJ	**Hateruma jima**	**1.87 111**	*e*S		**Sn**	**02 24 54.2**	**+0.5**
WSF	**Szhu**	**1.88 235**	S		**Sn**	**02 24 54.5**	**+0.4**
	baz=233						
WTP	**Ta-pu**	**1.89 219**	*e*P		**Pn**	**02 24 31.3**	**+0.3**
	baz=227						
WTP			S		**Sn**	**02 24 56.5**	**+2.0**
	baz=227						
TWK	**Hsinying**	**1.95 222**	P		**Pn**	**02 24 33.0**	**+1.2**
	baz=219						
TWK			S		**Sn**	**02 24 57.1**	**+1.3**
	baz=219						
JKRS	**Kuro-shima**	**1.99 104**	P		**Pn**	**02 24 33.1**	**+0.9**
JKRS			S		**Sn**	**02 24 57.5**	**+0.9**
CHN1	**Nanshi**	**1.99 219**	P		**Pn**	**02 24 32.8**	**+0.5**
	baz=217						
CHN1			S		**Sn**	**02 24 57.4**	**+0.8**
	baz=217						
ICHU	**Yijhu**	**2.02 227**	S		**Sn**	**02 24 57.6**	**+0.3**
	baz=226						
TWGBT	**Beinan**	**2.05 202**	P		**Pn**	**02 24 32.9**	**-0.3**
	baz=189						
TWGBT			*e*S		**Sn**	**02 24 56.7**	**-1.5**
	baz=189						
JIJ	**Ishigaki jima**	**2.08 100**	P		**Pn**	**02 24 34.0**	**+0.6**
SLGT	**Liugui**	**2.08 214**	*e*P		**Pn**	**02 24 34.8**	**+1.3**
	baz=222						
SLGT			*e*S		**Sn**	**02 24 59.1**	**+0.3**
	baz=222						
LDUT	**Ludao**	**2.09 191**	P		**Pn**	**02 24 32.5**	**-1.1**
	baz=183						
LDUT			S		**Sn**	**02 24 57.4**	**-1.7**
	baz=183						
MATB	**Ma-tsu**	**2.26 309**	P		**Pn**	**02 24 35.5**	**-0.3**
	baz=310						
MATB			*e*S		**Sn**	**02 25 02.6**	**-0.3**
	baz=310						
MASBT	**Mashibuluo**	**2.41 209**	*e*P		**Pn**	**02 24 39.7**	**+1.7**
	baz=221						
PHUB	**P'eng-hu**	**2.45 241**	P		**Pn**	**02 24 38.0**	**-0.4**
	baz=239						
PHUB			S		**Sn**	**02 25 05.5**	**-2.0**
	baz=239						
WDGT	**Dungji**	**2.52 235**	*e*S		**Sn**	**02 25 07.1**	**-2.2**
	baz=233						
PTMZ	**Houxiangcun**	**2.54 277**	*e*P		**Pn**	**02 24 39.3**	**-0.2**
	baz=276						
LYJJ	**Jianjiangzhen**	**2.64 314**	*e*P		**Pn**	**02 24 41.3**	**+0.4**
	baz=313						
XPSS	**Dashiqiu**	**2.67 325**	P		**Pn**	**02 24 41.4**	**+0.1**
	baz=325						
LAY	**Lan-yu**	**2.71 187**	*e*P		**Pn**	**02 24 41.3**	**-0.6**
	baz=181						
LAY			S		**Sn**	**02 25 12.3**	**-1.4**
	baz=181						
VCHM	**Qimei**	**2.72 236**	S		**Sn**	**02 25 12.3**	**-1.8**
	baz=235						
KNMB	**Chin-men Tao**	**3.21 266**	*e*P		**Pn**	**02 24 47.7**	**-0.8**
	baz=264						
AXDP	**Jialang**	**3.57 273**	*e*P		**Pn**	**02 24 53.4**	**-0.1**
	baz=271						

ARE ***05*** *02:25:17.7±3.5, 8.°05S±0.°07×74.°48W±0.°06, h182km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=49.0*
IDC ***05*** *02:25:19.2±2.1, 8.°09S×74.°30W, h150km±24km, mb3.8/7, mb1 4.0/12, mb1mx3.7/44, mbtmp4.3/12, Error ellipse: s-maj=31.3km s-min=13.4km az=35.0*
NEIC ***05*** *02:25:20.8±1.9, 8.°18S±0.°07×74.°42W±0.°06, h164km±7km, mb4.3/33, ML5.0(ARE), Error ellipse: s-maj=10.7km s-min=8.5km az=148.0*
VAO ***05*** *02:25:24.1±0.7, 8.°14S×74.°07W, h153km±5km, mbR4.3*

ISC 05 02:25:18.7±0.4, **8.°20S**±0.°05×**74.°44W**±0.°05, **h151**km, **n102,**
$\sigma 2^{\circ}$**26**/108, **mb4.1**/15, **Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.78**	**75**	*e*P		**Pn**	**02 25 53.7**	**+2.3**
CZSB	**Cruzeiro do Su**	**1.78**	**75**	Pn		**Pn**	**02 25 53.7**	**+2.3**
CZSB				Sn		**Sn**	**02 26 19.6**	**+3.2**
ATAH	**Atahualpa**	**4.06**	**285**	P		**Pn**	**02 26 21.4**	**+1.1**
	102nm,0.3s,baz=70,slow=4.7,SNR=881							
ATAH				S		**Sn**	**02 27 07.4**	**-0.6**
	27nm,0.3s,baz=296,slow=17,SNR=11							
NNA	**Nana**	**4.45**	**212**	P		**Pn**	**02 26 27.6**	**+2.7**
	8.8nm,0.3s,baz=1.4,slow=6.3,SNR=16							
NNA				S		**Sn**	**02 27 16.3**	**-0.3**
	16nm,0.3s,baz=0.1,slow=8.5,SNR=6.9							
NNA	**Nana**	**4.45**	**212**	Pn		**Pn**	**02 26 27.4**	**+2.5**
NNA				Sn		**Sn**	**02 27 17.3**	**+0.8**
TBTG	**Tabatinga, AM**	**6.01**	**49**	*e*P		**Pn**	**02 26 45.8**	**+0.1**
TBTG	**Tabatinga, AM**	**6.01**	**49**	Pn		**Pn**	**02 26 45.7**	**+0.1**
ETMB	**Extrema**	**8.28**	**102**	*e*P		**Pn**	**02 27 15.1**	**-0.8**
ETMB	**Extrema**	**8.28**	**102**	Pn		**Pn**	**02 27 14.8**	**-1.1**
LPAZ	**La Paz**	**10.13**	**143**	P		**Pn**	**02 27 41.8**	**+0.7**
	0.6nm,0.3s,baz=318,slow=7.7,SNR=13							
LPAZ	**La Paz**	**10.13**	**143**	*e*P		**Pn**	**02 27 42.0**	**+0.9**
LPAZ	**La Paz**	**10.13**	**143**	Pn		**Pn**	**02 27 41.2**	**+0.2**
PB01	**IPOC Station P**	**13.64**	**160**			**P**	**02 28 29.3**	**-0.5**
PB09	**IPOC Station P**	**14.42**	**160**	P		**P**	**02 28 42.2**	**+3.6**
MACA	**Manacapuru-AM**	**14.57**	**71**			**Pn**	**02 28 36.0**	**-1.8**
VILB	**Vilhena**	**14.77**	**110**	*e*P		**P**	**02 28 41.0**	**-1.4**
VILB	**Vilhena**	**14.77**	**110**	Pn		**P**	**02 28 41.2**	**-1.2**
SIV	**San Ignacio**	**15.18**	**122**	P		**P**	**02 28 46.3**	**-0.7**
	1.8nm,0.3s,baz=293,slow=11,SNR=49							
SIV				S		**Sn**	**02 31 28.9**	**-5.5**
	0.4nm,0.3s,baz=33,slow=23,SNR=4.4							
LVC	**Limon Verde**	**15.28**	**160**	P		**P**	**02 28 51.4**	**+3.0**
	0.6nm,0.3s,baz=314,slow=15,SNR=2.3							
LVC	**Limon Verde**	**15.28**	**160**			**P**	**02 28 51.0**	**+2.6**
ZARC	**Zaragoza, Cauc**	**15.59**	**358**	P		**P**	**02 28 51.4**	**-0.1**
PTGA	**Pitinga**	**16.21**	**63**	P		**Pn**	**02 28 57.4**	**-0.8**
	2.5nm,0.3s,baz=248,slow=16,SNR=21							
OCAC	**Ocana**	**16.37**	**4**	P		**P**	**02 29 00.7**	**+0.4**
PTLB	**Pontes e Lacer**	**16.61**	**117**	*e*P		**Pn**	**02 29 04.0**	**+1.1**
PTLB	**Pontes e Lacer**	**16.61**	**117**	P		**Pn**	**02 29 03.7**	**+0.8**
PTLB				IAmb		IAmb	02 29 06.3	
	comp=Z,13nm,1.1s							
SDV	**Santo Domingo**	**17.39**	**13**	*e*P		**Pn**	**02 29 15.2**	**+2.7**
BOAV	**Boa Vista**	**17.41**	**53**	*e*P		**Pn**	**02 29 13.2**	**+0.5**
BOAV	**Boa Vista**	**17.41**	**53**	P		**Pn**	**02 29 13.1**	**+0.4**
BOAV				IAmb		IAmb	02 29 15.8	
	comp=Z,19nm,1.3s							
PDRB	**Porto dos Gac**	**17.77**	**102**	*e*P		**Pn**	**02 29 17.1**	**+0.2**
SJCC	**San Jacinto, C**	**17.99**	**358**	P		**P**	**02 29 18.8**	**+0.8**
SJCC				IAmb		IAmb	02 29 21.0	
	comp=Z,20nm,1.2s							
BAUV	**El Baul**	**18.18**	**21**	P		**P**	**02 29 20.7**	**+0.7**
BAUV				IAmb		IAmb	02 29 38.6	
	comp=Z,8.4nm,0.7s							
CLDB	**Colider**	**18.57**	**100**	*e*P		**Pn**	**02 29 25.4**	**-1.0**
NPGB	**Novo Progresso**	**18.95**	**88**	*e*P		**P**	**02 29 28.6**	**+0.2**
ITTB	**Itaituba**	**18.97**	**80**	*e*P		**Pn**	**02 29 29.8**	**-1.2**
AC02	**Maricunga**	**19.21**	**165**	P		**Pn**	**02 29 33.2**	**-0.9**
SRBA	**San Rafael, Bu**	**19.46**	**333**	P		**Pn**	**02 29 36.0**	**-0.9**
SALV	**Santo Antonio**	**19.85**	**114**	*e*P		**Pn**	**02 29 39.4**	**-1.9**
URIC	**Uribia, Colomb**	**19.92**	**7**	P		**P**	**02 29 37.5**	**-1.3**
URIC				IAmb		IAmb	02 29 43.1	
	comp=Z,21nm,1.2s							
BIRV	**Birongo**	**20.25**	**24**	P		**P**	**02 29 43.4**	**+1.0**
BIRV				IAmb		IAmb	02 29 52.6	
	comp=Z,21nm,1.1s							
MALB	**Monte Alegre**	**21.05**	**74**	*e*P		**P**	**02 29 51.1**	**+0.1**
PP1B	**Ponte de Pedra**	**21.21**	**118**	*e*P		**P**	**02 29 55.0**	**+2.3**
AQDB	**Aquidauana**	**21.84**	**126**	*e*P		**P**	**02 30 01.5**	**+2.2**
SNDB	**Serra Nova Dou**	**23.09**	**101**	*e*P		**P**	**02 30 11.2**	**-0.2**
ARAG	**Araguaiana, MT**	**23.34**	**111**	*e*P		**P**	**02 30 14.6**	**+0.9**
MCPB	**Macapa, AP**	**23.62**	**72**	*e*P		**P**	**02 30 16.6**	**+0.3**
CPUP	**Villa Florida**	**24.28**	**140**	P		**P**	**02 30 22.6**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=331,slow=11,SNR=10							
CPUP	**Villa Florida**	**24.28**	**140**	P		**P**	**02 30 22.4**	**+0.4**
CPUP				IAmb		IAmb	02 30 22.9	
	comp=Z,4.4nm,0.7s							
PRPB	**Paraauapebas**	**24.51**	**87**	*e*P		**P**	**02 30 25.5**	**+1.2**
ITRB	**Iturama**	**25.97**	**119**	*e*P		**P**	**02 30 40.2**	**+2.7**
PCMB	**Pacaembu**	**26.01**	**123**	*e*P		**P**	**02 30 41.8**	**+3.9**
PEXB	**Peixe**	**26.01**	**101**	*e*P		**P**	**02 30 39.8**	**+1.8**
SMTB	**Santa Maria do**	**26.56**	**93**	*e*P		**P**	**02 30 44.4**	**+1.5**
TMAB	**Tom-Au,PA,Br**	**26.85**	**79**	*e*P		**P**	**02 30 47.1**	**+1.7**
BDFB	**Brasilia**	**26.87**	**108**	P		**P**	**02 30 45.9**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=269,slow=9.9,SNR=4.9							
BDFB	**Brasilia**	**26.87**	**108**	P		**P**	**02 30 45.9**	**+0.2**
BDFB				IAmb		IAmb	02 30 49.6	
	comp=Z,6.7nm,1.2s							
PTGB	**Pitanga**	**26.95**	**130**	*e*P		**P**	**02 30 49.6**	**+3.3**
ITQB	**Itaqui**	**27.13**	**144**	*e*P		**P**	**02 30 49.1**	**+1.4**
ITQB	**Itaqui**	**27.13**	**144**	P		**P**	**02 30 48.5**	**+0.7**
ITQB				IAmb		IAmb	02 30 59.1	
	comp=Z,8.6nm,1.0s							
IPMB	**Ipameri, GO**	**27.30**	**113**	*e*P		**P**	**02 30 51.6**	**+2.2**
ITAB	**Concordia**	**28.36**	**135**	P		**P**	**02 30 58.6**	**-0.1**
SDBA	**SAO DESIDERIO**	**29.34**	**101**	*e*P		**P**	**02 31 09.5**	**+1.8**
SPB	**Sao Paulo**	**30.06**	**124**	*e*P		**P**	**02 31 14.7**	**+0.9**
PLCA	**Paso Flores**	**32.58**	**175**	*e*P		**P**	02 31 41.3	+5.4
DUB01	**Friburgo-RJ**	**33.79**	**118**	*e*P		**P**	**02 31 48.7**	**+2.1**
T57A	**Hurt**	**45.18**	**355**	P		**P**	**02 33 20.8**	**+0.2**
T57A				IAmb		IAmb	02 33 33.2	
	comp=Z,22nm,1.4s							
TX31	**Lajitas Ar. Si**	**46.74**	**324**	P		**P**	**02 33 32.8**	**-0.3**
TX31				IAmb		IAmb	02 33 42.8	
	comp=Z,3.7nm,0.7s							
TX32	**Lajitas Array**	**46.74**	**324**	P		**P**	**02 33 34.2**	**+1.2**
TXAR	**Lajitas Array**	**46.74**	**324**	P		**P**	**02 33 34.1**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=150,slow=8.8,SNR=28							
TXAR	**Lajitas Array**	**46.74**	**324**	P		**P**	**02 33 32.8**	**-0.2**
K57A	**Scipio Center**	**50.72**	**358**	P		**P**	**02 34 03.0**	**+0.1**
214A	**Organ Pipe Nat**	**54.19**	**319**	P		**P**	**02 34 27.3**	**-1.5**
SPUT	**South Promonto**	**60.37**	**328**	P		**P**	**02 35 11.7**	**-0.4**
YHL	**Hebgen Lake**	**62.31**	**331**	P		**P**	**02 35 27.5**	**+2.2**
BCYI	**Bear Canyon**	**63.00**	**330**	P		**P**	**02 35 31.4**	**+1.6**
MFID	**Camas Ranch**	**63.63**	**327**	P		**P**	**02 35 35.3**	**+1.4**
MSO	**Missoula**	**65.07**	**331**	P		**P**	**02 35 44.0**	**+0.9**
I07A	**Izee**	**66.07**	**326**	P		**P**	**02 35 51.1**	**+1.5**
I07A				IAmb		IAmb	02 35 53.0	
	comp=Z,4.7nm,1.0s							
G08A	**Pilot Rock**	**66.56**	**327**	P		**P**	**02 35 53.6**	**+1.0**
G08A				IAmb		IAmb	02 36 10.1	
	comp=Z,3.8nm,1.2s							
WALA	**Waterton Lakes**	**66.68**	**333**	P		**P**	**02 35 53.6**	**+0.3**
WALA				IAmb		IAmb	02 36 03.8	
	comp=Z,3.4nm,0.9s							
EDM	**Edmonton**	**69.52**	**336**	P		**P**	**02 36 11.1**	**+0.3**
DBIC	**Dimbokro**	**70.93**	**80**	P		**P**	**02 36 19.9**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=276,slow=2.3,SNR=15							
DBIC	**Dimbokro**	**70.93**	**80**	P		**P**	**02 36 19.8**	**-0.5**
DBIC				IAmb		IAmb	02 36 20.5	
	comp=Z,6.3nm,1.2s							
KOWA	**Kowa**	**73.38**	**72**	P		**P**	**02 36 34.4**	**-0.4**
KOWA				IAmb		IAmb	02 36 35.1	
	comp=Z,2.3nm,0.6s							
SNAA	**Sanae**	**76.51**	**162**	P		**P**	**02 36 52.3**	**+0.5**
YKA	**Yellowknife Ar**	**76.95**	**342**	P		**P**	**02 36 54.2**	**0.0**
	comp=Z,0.7nm,0.4s,baz=140,slow=6.0,SNR=15							
TORD	**Torodi Ar. Bea**	**78.51**	**75**	P		**P**	**02 37 03.2**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=259,slow=4.4,SNR=22							
TORD	**Torodi Ar. Bea**	**78.51**	**75**	P		**P**	**02 37 03.4**	**-0.5**
DLBC	**Dease Lake**	**79.99**	**334**	P		**P**	**02 37 11.3**	**+0.2**
DLBC				IAmb		IAmb	02 37 13.9	
	comp=Z,13nm,1.5s							
ILAR	**Eielson Array**	**90.00**	**336**	P		**P**	**02 38 01.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=138,slow=4.7,SNR=5.5							
MKAR	**Makanchi Array**	**136.70**	**23**	PKP		**PKPdf**	**02 44 24.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=308,slow=2.7,SNR=4.2							
MKAR	**Makanchi Array**	**136.70**	**23**			**PKPdf**	**02 44 22.8**	**-0.5**
ASAR	**Alice Springs**	**137.93**	**221**	PKP		**PKPdf**	**02 44 27.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=117,slow=2.2,SNR=7.0							
ASAR	**Alice Springs**	**137.93**	**221**			**PKPdf**	**02 44 26.6**	**+0.3**
WRA	**Warramunga Arr**	**140.20**	**225**	PKP		**PKiKP**	**02 44 31.7**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=121,slow=2.3,SNR=15							
SRSP	**Sriramsagar**	**151.51**	**65**	*e*PKPab		**PKiKP**	**02 44 57.8**	**+1.5**
HYBB	**Hyderabad (bro**	**152.15**	**68**	*e*PKPbc		**PKPdf**	**02 44 50.8**	**+0.2**
HYBB				*e*SKSdf		SKSdf	02 51 33.0	-11
RPR	**Rampur**	**152.39**	**65**	*e*PKPdf		**PKPdf**	**02 44 43.3**	**-7.6**
RCLA	**Racherla**	**153.00**	**72**	*e*PKPdf		**PKPdf**	**02 44 44.2**	**-7.6**
RCLA				*e*PKPab		**PKiKP**	**02 45 04.2**	**+4.8**
NJS	**Nagarjunasagar**	**153.07**	**70**	*e*PKPab		**PKPab**	**02 45 05.3**	**-6.1**
NJS				*e*pPKPbc		**pPKPbc**	**02 45 40.0**	**+0.7**
ADKI	**Addanki**	**153.86**	**71**	*e*PKPab		**PKiKP**	**02 45 07.2**	**+6.1**
MYLAV	**Mylavaram**	**154.24**	**68**	*e*PKPab		**PKPab**	**02 45 10.1**	**-6.2**
CHLP	**Challavanipeta**	**156.73**	**62**	*e*PKPab		**PKPab**	**02 45 19.3**	**-7.7**

IDC ***05*** *02:28:20.0±4.7, 45.°59N×25.°36W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/55, mbtmp3.6/3, ML4.4/1, Error ellipse: s-maj=114.4km s-min=47.0km az=78.0*
LDG ***05*** *02:28:28.6±0.4, 46.°09N×24.°47W, h10km, Ml3.4/2, Error ellipse: s-maj=9.7km s-min=7.1km az=106.0*
INMG ***05*** *02:28:37.2, 45.°31N×23.°87W, h31km*

ISC 05 02:28:27.1±1.4, **45.°29N**±0.°10×**24.°54W**±0.°09, **h10**km, **n66,**
$\sigma 2^{\circ}$**26**/71, **mb3.5**/4, **1D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**6.76**	**203**	*e*P		**Pn**	**02 30 06.3**	**0.0**
PAGU	**Agualva, Azore**	**6.81**	**198**	‖*e*P		**Pn**	**02 30 06.4**	**-0.6**
PAGU				*e*S		**Sn**	**02 31 24.8**	**+0.2**
PSCM	**Serra do Cume**	**6.86**	**197**	*e*P		**Pn**	**02 30 06.9**	**-0.8**
PSCM				*e*S		**Sn**	**02 31 23.9**	**-1.9**
ADH	**Angra Heroismo**	**6.93**	**198**	*e*P		**Pn**	**02 30 07.6**	**-1.0**
AD

baz=270
SMF Signal de Mont 19.73 76 *e*Pn **Pn 02 32 59.4 +1.1**
LASF Ste Croix 20.19 83 *e*P Pn 02 33 04.8 +1.1
1.8nm,0.3s
MEZF Maizieres J'vi 20.41 70 *e*P **P 02 33 05.1 +0.9**
baz=273
SAVF Savonnieres en 20.46 70 *e*P **P 02 33 04.2 -0.4**
CABF La Chapelle 21.27 75 *e*P **P 02 33 15.5 +1.9**
1.1nm,0.3s
HAU Haudompre 21.30 72 *e*P **P 02 33 15.1 +1.2**
2.4nm,0.3s
SMRF Simiane la Rot 21.41 83 *e*P **P 02 33 17.7 +2.6**
HINF Hinteralfeld 21.66 72 *e*P **P 02 33 18.7 +1.0**
TORD Torodi Ar. Bea 39.02 137 P **P 02 35 53.4 -0.5**
0.7nm,0.7s,baz=331,slow=8.9,SNR=6.5
H10N2 ASCENSION HYDR 53.64 168 T T 03 36 15.6
baz=346
H10N3 ASCENSION HYDR 53.65 168 T T 03 36 28.6
baz=346
H10N1 ASCENSION HYDR 53.66 168 T T 03 36 18.2
baz=346
MKAR Makanchi Array 68.02 45 P P 02 39 22.1 -4.3
0.3nm,0.7s,baz=312,slow=1.8,SNR=1.8

*IDC **05** 02:35:46.1±14.0, 30.°92S×179.°97E, h253km±156km, mb3.2/3, mb1 3.4/4, mb1mx3.2/24, mbtmp3.9/4, Error ellipse: s-maj=171.2km s-min=41.9km az=179.0*
*WEL **05** 02:35:58.9±0.9, 32.°S±12.°×17.°9E±2.°9, h165km±44km, M4.1/13, mB4.5/7, ML4.7/16, MLv4.5/13, Mw(mB)3.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.3*
ISC 05 02:35:54.1±1.1, 31.°37S±0.°08×178.°3E±0.°1, h200km, n31, σ2s11/52, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.89**	**58**	P	**Pn**	**02 36 54.5**	**0.0**
GLKZ				S	**Sn**	**02 37 41.6**	**-0.3**
MXZ	**Matakaoa Point**	**6.18**	**180**	P	**Pn**	**02 37 26.2**	**+2.6**
MXZ				S	**Sn**	**02 38 33.2**	**-1.3**
HAZ	**Te Kaha**	**6.39**	**184**	P	**Pn**	**02 37 28.4**	**+2.1**
HAZ				S	**Sn**	**02 38 39.4**	**0.0**
WMGZ	**Waiomatatini S**	**6.44**	**179**	P	**Pn**	**02 37 29.6**	**+2.7**
WMGZ				S	**Sn**	**02 38 39.7**	**-0.8**
PKGZ	**Pakihiroa**	**6.51**	**182**	P	**Pn**	**02 37 30.2**	**+2.3**
PKGZ				S	**Sn**	**02 38 41.0**	**-1.4**
RUGZ	**Raukumara Rang**	**6.60**	**184**	P	**Pn**	**02 37 32.0**	**+2.8**
RUGZ				S	**Sn**	**02 38 42.6**	**-2.1**
PUZ	**Puketiti**	**6.69**	**180**	P	**Pn**	**02 37 33.0**	**+2.7**
PUZ				S	**Sn**	**02 38 43.9**	**-2.6**
TWGZ	**Tauwhareparae**	**6.80**	**182**	P	**Pn**	**02 37 34.8**	**+3.1**
TWGZ				S	**Sn**	**02 38 46.2**	**-3.0**
URZ	**Urewera**	**6.94**	**188**	P	**Pn**	**02 37 35.2**	**+1.7**
2.6nm,0.3s,baz=121,slow=23,SNR=20							
URZ				S	**Sn**	**02 38 52.5**	**0.0**
2.0nm,0.3s,baz=300,slow=24,SNR=3.6							
URZ	**Urewera**	**6.94**	**188**	P	**Pn**	**02 37 36.0**	**+2.5**
URZ				S	**Sn**	**02 38 53.1**	**+0.6**
MWZ	**Matawai**	**6.98**	**185**	P	**Pn**	**02 37 37.2**	**+3.1**
MWZ				S	**Sn**	**02 38 52.5**	**-0.8**
TKGZ	**Te Karaka**	**7.06**	**183**	P	**Pn**	**02 37 36.5**	**+1.4**
TKGZ				S	**Sn**	**02 38 53.8**	**-1.5**
CNGZ	**Carnagh Statio**	**7.10**	**181**	P	**Pn**	**02 37 37.5**	**+1.9**
CNGZ				S	**Sn**	**02 38 55.0**	**-1.2**
RAGZ	**Rawiri**	**7.15**	**186**	P	**Pn**	**02 37 36.8**	**+0.6**
RAGZ				S	**Sn**	**02 38 56.6**	**-0.8**
MUGZ	**Murupara**	**7.20**	**190**	P	**Pn**	**02 37 39.5**	**+2.6**
MUGZ				S	**Sn**	**02 39 00.3**	**+1.7**
RTZ	**Ruatahuna**	**7.31**	**188**	P	**Pn**	**02 37 40.3**	**+2.0**
RTZ				S	**Sn**	**02 38 58.9**	**-2.4**
MTHZ	**Maungataniwha**	**7.56**	**189**	P	**Pn**	**02 37 43.4**	**+1.8**
RAHZ	**Arahi**	**7.60**	**187**	P	**Pn**	**02 37 43.9**	**+1.8**
RAHZ				S	**Sn**	**02 39 06.2**	**-1.7**
MRHZ	**Matea Rd**	**7.61**	**191**	P	**Pn**	**02 37 45.1**	**+3.0**
MRHZ				S	**Sn**	**02 39 10.2**	**+2.0**
NMHZ	**Naumai**	**7.81**	**189**	P	**Pn**	**02 37 47.3**	**+2.4**
NMHZ				S	**Sn**	**02 39 12.1**	**-0.9**
ARHZ	**Aropaoanui**	**7.95**	**187**	P	**Pn**	**02 37 48.2**	**+1.6**
ARHZ				S	**Sn**	**02 39 14.7**	**-1.5**
OTVZ	**Oturere**	**8.07**	**195**	P	**Pn**	**02 37 51.5**	**+3.2**
SNVZ	**South Ngauruho**	**8.10**	**195**	P	**Pn**	**02 37 51.9**	**+3.2**
KWHZ	**Kaweka Forest**	**8.18**	**190**	P	**Pn**	**02 37 50.9**	**+1.2**
KWHZ				S	**Sn**	**02 39 19.5**	**-2.3**
BHHZ	**Black Hill Sta**	**8.30**	**192**	P	**Pn**	**02 37 51.9**	**+0.6**
BHHZ				S	**Sn**	**02 39 21.6**	**-3.1**
KAHZ	**Kahuranaki**	**8.49**	**187**	P	**Pn**	**02 37 53.6**	**0.0**
KAHZ				S	**Sn**	**02 39 24.8**	**-4.3**
STKA	**Stephens Creek 31.16 259**			P	**P**	**02 41 55.1**	**+0.8**
0.9nm,0.4s,baz=110,slow=10,SNR=3.3
ASAR Alice Springs 39.90 270 P **P 02 43 07.2 -1.6**
0.4nm,0.4s,baz=106,slow=7.2,SNR=10.0
WRA Warramunga Arr 40.98 275 P **P 02 43 16.0 -1.7**
0.5nm,0.3s,baz=112,slow=7.8,SNR=15
KBZ Khabaz 142.97 302 PKhKP PKPpre 02 54 44.6
1.7nm,1.0s,baz=123,slow=1.3,SNR=3.7
FINES FINESS Array B 144.88 337 PKPbc PKPbc 02 54 51.7 -14
4.2nm,0.9s,baz=107,slow=1.5,SNR=5.3

*JMA **05** 02:35:55.7±0.1, 24.°41N×121.°87E, h29km±4km, M3.0*
*TAP **05** 02:35:55.3, 24.°45N×121.°90E, h23km, ML3.6, B*
ISC 05 02:35:55.5±0.9, 24.°45N±0.°01×121.°92E±0.°02, h18km±2km, n96, σ0s63/153, 11C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.13**	**269**	⇓*i*P	**Pg**	**02 35 59.9**	**+0.4**
baz=269
EWUT S **Sg 02 36 02.8 +0.6**
baz=269
ENA Nanau 0.17 263 ⇓*i*P **Pg 02 36 00.2 +0.2**
baz=261
ENA S **Sg 02 36 03.2 +0.2**
baz=261
TWC Suao 0.17 338 ⇑*i*P **Pg 02 36 00.6 +0.5**
baz=348
TWC *i* S **Sg 02 36 03.8 +0.6**
baz=348
EHP Heping Village 0.21 230 P **Pg 02 36 00.8 +0.1**
baz=226
EHP S **Sg 02 36 04.5 +0.2**
baz=226
NDS Dongshan 0.26 315 ⇑*i*P **Pb 02 36 01.8 +0.3**
baz=318
NDS S **Sg 02 36 05.6 +0.1**
baz=318
ILA Ilan 0.35 333 *e*P **Pb 02 36 03.4 +0.2**
baz=330
TWE Neicheng 0.36 320 ⇑*i*P **Pb 02 36 03.2 -0.1**
baz=324
TWE S **Sg 02 36 08.2 +0.1**
baz=324
ENTT Nioudou 0.38 301 ⇑*i*P **Pg 02 36 03.5 +0.1**
baz=303
ENTT S **Sg 02 36 08.9 +0.2**
baz=303
EGS 0.40 1 *e*P **Pb 02 36 04.3 +0.3**
baz=9.0
EGS *e*S **Sg 02 36 09.3 0.0**
baz=9.0
ETL Fush Village 0.40 224 P **Pg 02 36 03.5 -0.2**
baz=225
ETL *e*S **Sb 02 36 10.0 +0.2**
baz=225
NDT Datong Townshi 0.40 293 ⇑*i*P **Pb 02 36 04.0 -0.1**
baz=294
NDT S **Sg 02 36 09.6 +0.1**
baz=294
NACB Ninganchiao 0.40 228 ⇓*i*P **Pg 02 36 03.5 -0.4**
baz=226
NACB S **Sg 02 36 09.6 0.0**
baz=226
NTC Toucheng 0.41 348 ⇑*i*P **Pg 02 36 04.2 +0.1**
NTC *e*S **Sg 02 36 10.0 +0.2**
ETLH Xiulin Townshi 0.47 239 *i* P **Pg 02 36 04.6 -0.4**
baz=242
ETLH *e*S **Sg 02 36 10.9 -0.6**
baz=242
TWD Chiawan 0.47 219 P **Pg 02 36 04.8 -0.3**
baz=217
TWD *e*S **Sb 02 36 12.6 +0.8**
baz=217
NNSB Datong 0.49 268 P **Pg 02 36 05.3 -0.2**
baz=274
NNSB *e*S **Sg 02 36 11.9 -0.3**
baz=274
NNS Nan Shan 0.50 269 *e*P **Pg 02 36 05.5 -0.1**
baz=270
NNS *e*S **Sg 02 36 12.3 -0.1**
baz=270
NWLT Wulai 0.50 311 ⇑P **Pg 02 36 05.5 -0.1**
baz=313
NWLT S **Sg 02 36 12.3 -0.2**
baz=313
TIPB Shuangxi 0.53 351 ⇑*i*P **Pb 02 36 06.2 0.0**
baz=358
TIPB S **Sg 02 36 13.3 0.0**
baz=358
YHNB Yeheng 0.54 294 ⇑*i*P **Pg 02 36 06.3 -0.1**
baz=296
YHNB S **Sg 02 36 13.2 -0.6**
baz=296
HWA Hwalien 0.55 212 *e*P **Pg 02 36 07.3 +0.8**
baz=217
HWA *e*S **Sn 02 36 15.8 -1.3**
baz=217
NSK Sanguang 0.56 294 ⇑*i*P **Pb 02 36 06.5 -0.2**
baz=296
NSK S **Sg 02 36 13.6 -0.7**
baz=296
TWB1 Santiao Chiao 0.56 6 *i* P **Pg 02 36 06.8 +0.1**
baz=4.0
TWB1 *e*S **Sb 02 36 14.3 0.0**
baz=4.0
TWA Mucha 0.61 330 *e*P **Pb 02 36 07.4 -0.2**
baz=323
TWA *e*S **Sg 02 36 16.8 +0.9**
baz=323
NHDH Xindian Distri 0.63 325 *e*P **Pg 02 36 08.1 +0.1**
baz=320
NHDH *e*S **Sg 02 36 16.5 +0.2**
baz=320
NWF Wu-fen Shan 0.63 348 ⇑*i*P **Pg 02 36 08.3 +0.3**
baz=343
NWF *e*S **Sb 02 36 16.5 0.0**
baz=343
FUSS Fushou 0.65 252 *e*P **Pb 02 36 08.3 0.0**
baz=257
FUSS *e*S **Sb 02 36 16.4 -0.7**
baz=257
WHF Hehuan Shan 0.67 243 ⇓*i*P **Pb 02 36 08.3 -0.5**
baz=249
WHF *e*S **Sb 02 36 17.9 0.0**
baz=249
TAP Taipei 0.70 327 *e*P **Pn 02 36 10.1 -0.3**
baz=323
TAP *e*S **Sg 02 36 19.5 +0.9**
baz=323
TWT Tachien 0.71 254 *e*P **Pg 02 36 09.7 +0.2**
baz=254
TWT *e*S **Sb 02 36 18.1 -0.6**
baz=254
TDCB Techi 0.72 255 P **Pb 02 36 09.4 -0.2**
baz=250
TDCB *e*S **Sb 02 36 18.7 -0.5**
baz=250
YM01 YM01 0.77 335 *e*P **Pg 02 36 10.8 +0.3**
baz=337
YM01 *e*S **Sb 02 36 20.0 -0.3**
baz=337
ESL Shilin 0.77 215 *e*P **Pb 02 36 10.2 -0.2**
baz=219
CHGB Renai 0.78 241 ⇓*i*P **Pb 02 36 10.4 -0.3**
baz=246
CHGB *e*S **Sn 02 36 22.4 -0.8**
baz=246
TWS1 Kuangyinshan 0.80 325 *e*P **Pg 02 36 11.1 +0.1**
baz=323
TWS1 *e*S **Sn 02 36 23.2 +0.1**
baz=323
ANP Anpu 0.82 334 P **Pg 02 36 11.5 0.0**
baz=335
ANP *e*S **Sg 02 36 22.8 +0.3**
baz=335
NTST Danshui 0.83 329 *e*P **Pn 02 36 12.6 +0.4**
baz=341
NTST *e*S **Sn 02 36 23.9 -0.1**
baz=341
OWD Renai 0.84 234 *e*P **Pb 02 36 11.7 +0.1**
baz=240
OWD *e*S **Sn 02 36 24.1 -0.3**
baz=240
NCU National Centr 0.85 308 *e*P **Pn 02 36 12.6 +0.1**
baz=313
NCU *e*S **Sn 02 36 24.5 +0.1**
baz=313
NCUH Zhongli 0.85 308 *e*P **Pn 02 36 12.4 -0.1**
baz=295
NCUH *e*S **Sn 02 36 24.8 +0.4**
baz=295
LIOB Emei 0.85 284 *e*P **Pn 02 36 12.7 +0.2**
baz=288
NSTT Nanjuang 0.86 282 *e*P **Pg 02 36 12.1 -0.1**
baz=283
NSTT S **Sb 02 36 23.2 +0.2**
baz=283
TWY Chenhua 0.88 341 P **Pn 02 36 12.7 -0.1**
baz=342
TWY *e*S **Sb 02 36 22.8 -0.7**
baz=342
EGFH Guangfu 0.90 210 *e*P **Pb 02 36 12.1 -0.4**
baz=223
WHP Taichung City 0.91 259 *e*P **Pn 02 36 13.6 +0.2**
baz=260
WHP *e*S **Sg 02 36 25.0 -0.2**
baz=260
SBCB Hsinchu 0.92 292 *e*P **Pg 02 36 13.3 -0.1**
baz=283
SBCB *e*S **Sn 02 36 26.8 +0.6**
baz=283
JYNG Yonaguni jima 0.93 90 P **Pb 02 36 13.0 -0.1**
JYNG S **Sg 02 36 25.7 -0.3**
HSN Hsinchu 0.94 292 *e*P **Pb 02 36 12.8 -0.3**
baz=296
HSN *e*S **Sb 02 36 25.4 +0.2**
baz=296
VWDT VWDT 0.99 226 *e*P **Pb 02 36 14.2 +0.1**
baz=225
YOJ Yonaguni jima 0.99 89 P **Pg 02 36 15.2 +0.4**
YOJ S **Sb 02 36 27.3 +0.5**
YOJ Yonaguni jima 0.99 89 *e*P **Pb 02 36 13.8 -0.3**
baz=81
WCS Beigang Elemen 1.00 247 *e*P **Pg 02 36 14.9 0.0**
baz=253
NMLH Miaoli 1.03 275 *e*P **Pg 02 36 16.2 +0.6**
baz=276
TWQ1 Liyutan 1.05 265 *e*P **Pg 02 36 17.0 +1.1**
baz=265
TWQ1 *e*S **Sn 02 36 29.5 0.0**
baz=265
HGSD Ruisui 1.05 206 *e*P **Pn 02 36 15.4 +0.1**
baz=194
HGSD *e*S **Sg 02 36 32.4 +2.6**
baz=194
NSY Sanyi 1.06 269 *e*P **Pg 02 36 16.3 +0.3**
baz=280
EHY Hungye 1.09 210 *e*P **Pb 02 36 14.3 -1.4**
baz=209
SMLT Sun Moon Lake 1.09 239 *e*P **Pn 02 36 16.3 +0.4**
baz=247
SMLT *e*S **Sb 02 36 30.0 +0.2**
baz=247
SSLB Suanglung 1.10 234 *e*P **Pn 02 36 15.8 -0.3**
baz=233
TYC Yuchr 1.11 241 *e*P **Pg 02 36 16.6 -0.4**
baz=232
WDJ Dajia District 1.17 265 *e*P **Pg 02 36 19.0 +0.8**
baz=261
WDJ *e*S **Sg 02 36 35.1 +1.6**
baz=261
PCYT Pengchaiyu 1.18 7 *e*P **Pn 02 36 16.3 -0.8**
baz=8.0
YULB Yu-li 1.20 209 *e*P **Pn 02 36 15.8 -1.5**
baz=208
EYUL Yuli 1.23 207 *e*P **Pn 02 36 17.8 +0.1**
baz=218
WJS Zhushan 1.26 241 *e*P **Pg 02 36 20.2 +0.4**
baz=233
WNT Mingjian 1.27 244 *e*P **Pg 02 36 20.7 +0.8**
baz=243
WNT *e*S **Sg 02 36 39.3 +2.8**
baz=243
FULB Fuli 1.37 205 *e*P **Pb 02 36 20.3 -0.3**
baz=218
ALS Alishan 1.38 228 *e*P **Pb 02 36 20.8 -0.1**
baz=215
ALS *e*S **Sg 02 36 40.5 +0.2**
baz=215
CHN5 Tsauling 1.42 234 *e*P **Pg 02 36 22.3 -0.6**
baz=233
CHN5 *e*S **Sg 02 36 42.8 +1.4**
baz=233
ELDTW Lidau 1.50 214 *e*P **Pn 02 36 21.0 -0.6**
baz=200
WRL Guolierlin Hig 1.51 249 *e*P **Pb 02 36 22.9 -0.1**
baz=250
WTK Tuku 1.59 242 *e*P **Pb 02 36 24.2 -0.1**
baz=243
CHN4 Tsaushan 1.63 228 *e*P **Pb 02 36 25.7 +0.7**
baz=229
TPUB Ta-pu 1.64 226 *e*P **Pb 02 36 25.5 +0.3**
baz=212
IRIF Iriomote-Funau 1.65 94 P **Pn 02 36 23.3 -0.2**
IRIF S **Sn 02 36 44.1 -0.2**
WTP Ta-pu 1.69 225 *e*P **Pb 02 36 26.8 +0.7**
baz=225
TWK Hsinying 1.76 228 *e*P **Pb 02 36 27.1 -0.2**
baz=228
HATJ Hateruma jima 1.76 102 *e*S **Sn 02 36 45.8 -1.2**
CHN1 Nanshi 1.79 226 *e*P **Pb 02 36 27.6 -0.1**
baz=226
TWGBT Beinan 1.80 206 *e*P **Pn 02 36 24.6 -1.0**
baz=190
ICHU Yijhu 1.85 235 *e*P **Pn 02 36 27.3 +1.0**
baz=235
SLGT Liugui 1.86 219 *e*P **Pb 02 36 29.0 +0.1**
baz=220
JKRS Kuro-shima 1.92 96 P **Pn 02 36 28.1 +1.0**
JKRS S **Sn 02 36 51.0 +0.2**
JIJ Ishigaki jima 2.03 92 P **Pn 02 36 28.4 -0.3**
JIJ S **Sn 02 36 52.1 -1.4**
TSMG Majia 2.09 214 *e*P **Pb 02 36 32.4 -0.5**
baz=198
MASBT Mashibuluo 2.18 213 *e*P **Pn 02 36 32.4 +1.7**
baz=197
JISG Ishigakijimahi 2.18 86 P **Pn 02 36 30.5 -0.3**
JISG S **Sn 02 36 57.9 +0.6**
WDGT Dungji 2.38 241 *e*P **Pn 02 36 34.6 +1.0**
baz=241
LAY Lan-yu 2.42 188 *e*P **Pn 02 36 32.8 -1.4**
baz=176
SLIU Shizi 2.45 205 *e*P **Pn 02 36 33.7 -0.9**
baz=194
MATB Ma-tsu 2.46 314 *e*P **Pn 02 36 34.3 -0.4**
baz=314
JTJ Tarama 2.54 85 P **Pn 02 36 36.3 +0.6**
JTJ S **Sn 02 37 06.7 +0.5**
VCHM Qimei 2.59 242 *e*P **Pn 02 36 36.6 +0.1**
baz=242
PTMZ Houxiangcun 2.62 284 *e*P **Pn 02 36 36.2 -0.6**
baz=284
LYJJ Jianjiangzhen 2.86 317 *e*P **Pn 02 36 39.3 -0.8**
baz=317
KNMB Chin-men Tao 3.22 271 *e*P **Pn 02 36 43.9 -1.2**
baz=272

*GUC **05** 02:39:40.2±0.7, 19.°32S×69.°26W, h105km±3km, ML3.0*
ISC 05 02:39:39.9±1.7, 19.°36S±0.°04×69.°34W±0.°09, h110km±13km, n13, σ0s84/24, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.50**	**216**	⇓*i*P	**Pn**	**02 39 56.7**	**-0.2**
PB11 *e*S **Sn 02 40 09.8 +0.1**
PB11 IAML 02 40 10.5
comp=N,617nm,0.2s
PB08 IPOC Station P 0.80 167 ⇓*i*P **Pn 02 39 59.4 -0.1**
PB08 *i* S **Sn 02 40 14.6 +0.3**
PB08 IAML 02 40 15.6
comp=E,624nm,0.1s
PB16 IPOC Station P 1.03 351 ⇑*i*P **Pn 02 40 02.0 +0.1**
PB16 *e*S **Sn 02 40 18.6 0.0**
PB16 IAML 02 40 21.0
comp=N,208nm,0.5s
TA02 Huaiquique 1.17 219 *e*P **Pn 02 40 03.0 +0.1**
TA02 *e*S **Sn 02 40 20.7 +0.4**
TA02 IAML 02 40 22.4
comp=N,645nm,0.1s
PB12 IPOC Station P 1.19 308 ⇑*i*P **Pn 02 40 02.9 -0.3**
PB12 *e*S **Sn 02 40 20.3 -0.5**
PB12 IAML 02 40 22.1
comp=E,372nm,0.2s
AP01 Chacalluta 1.36 316 *e*P **Pn 02 40 05.2 +0.1**
AP01 *e*S **Sn 02 40 24.6 +0.5**
AP01 IAML 02 40 28.6
comp=N,528nm,0.4s
TA01 Diego Aracena 1.44 213 ⇓*i*P **Pn 02 40 06.0 +0.1**
TA01 *i* S **Sn 02 40 25.8 +0.1**
TA01 IAML 02 40 29.5
comp=N,147nm,0.3s
PB01 IPOC Station P 1.68 185 ⇓*i*P **Pn 02 40 09.0 0.0**
PB01 *e*S **Sn 02 40 31.6 +0.4**
PB01 IAML 02 40 34.4
comp=N,172nm,0.3s
PB07 IPOC Station P 2.41 192 *e*P **Pn 02 40 18.9 +0.5**
PB07 *e*S **Sn 02 40 46.8 -1.0**
PB07 IAML 02 40 57.4
comp=E,72nm,0.3s
PB09 IPOC Station P 2.43 178 *i* P **Pn 02 40 19.0 +0.5**
PB09 *i* S **Sn 02 40 48.5 +0.4**
PB09 IAML 02 40 55.8
comp=E,53nm,0.6s
PB03 IPOC Station P 2.71 188 *e*P **Pn 02 40 22.8 +0.7**
PB03 *e*S **Sn 02 40 51.5 -3.2**
PB04 IPOC Station P 3.06 194 *i* P **Pn 02 40 27.7 +0.9**
LPAZ La Paz 3.26 21 *e*P **Pn 02 40 30.0 0.0**

IDC 05 02:52:44.5±3.8, 17.°87S×177.°97E, h504km±45km, mb3.1/3, mb1 3.3/3, mb1mx3.0/22, mbtmp4.1/3, Error ellipse: s-maj=144.9km s-min=7.3km az=33.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**0.15**	**30**	P	P	02 53 45.1	+0.1
0.5nm,0.3s,baz=213,slow=20,SNR=1.4
STKA Stephens Creek 35.65 240 P P 02 58 59.3 -0.3
0.9nm,0.5s,baz=86,slow=8.8,SNR=4.8
WRA Warramunga Arr 41.24 260 P P 02 59 45.2 -0.1
0.5nm,0.4s,baz=91,slow=8.0,SNR=26
ASAR Alice Springs 41.48 254 P P 02 59 47.1 -0.1
4.8nm,0.6s,baz=88,slow=8.4,SNR=77

*NEIC **05** 02:52:59.6±0.9, 18.°86N±0.°06×67.°36W±0.°04, h31km±11km, Error ellipse: s-maj=8.2km s-min=4.9km az=188.0*
*RSPR **05** 02:52:59.3, 18.°97N×67.°43W, h18km±5km, MD3.2/17*
*OSPL **05** 02:53:00.8±0.8, 18.°85N×67.°31W, h26km±6km, ML3.3*
ISC 05 02:52:59.2±1.2, 18.°88N±0.°06×67.°36W±0.°03, h27km, n63, σ0s43/74, 14C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.47**	**151**	⇑*e*P	**Pb**	**02 53 09.3**	**+0.2**
AGPR Aguadilla, PR 0.47 151 *e*S **Sb 02 53 16.6 +0.9**
AGPR Aguadilla, PR 0.47 151 **Pb 02 53 09.3 +0.2**
AGPR **Sb 02 53 16.6 +0.9**
AGPR Aguadilla, PR 0.47 151 IAML 02 53 16.8
comp=E,5μm,0.4s
AGPR Aguadilla, PR 0.47 151 *i* P **Pb 02 53 09.3 +0.2**
AGPR *e*S **Sb 02 53 15.1 -0.6**
AGPR IAML 02 53 16.4
comp=Z,3μm,0.5s
IDE Isla Desecheo 0.51 193 ⇑*e*P **Pb 02 53 09.7 0.0**
IDE Isla Desecheo 0.51 193 *e*S **Sn 02 53 17.8 -0.6**
PRSN Puerto Rico Se 0.69 163 **Pb 02 53 12.6 -0.1**
LSP Las Mesas 0.75 160 ⇑*e*P **Pb 02 53 13.7 +0.1**
LSP Las Mesas 0.75 160 *e*S **Sn 02 53 24.7 +0.2**
AOPR Arecibo Observ 0.78 133 ⇑*e*P **Pb 02 53 13.6 -0.6**
AOPR Arecibo Observ 0.78 133 *e*S **Sn 02 53 25.4 +0.1**
AOPR Arecibo Observ 0.78 133 **Pb 02 53 13.6 -0.6**
AOPR **Sn 02 53 25.4 +0.1**
AOPR Arecibo Observ 0.78 133 IAML 02 53 30.8
comp=E,4μm,0.3s
UUPR Utuado, UPR, P 0.87 136 ⇓*e*P **Pb 02 53 14.9 -0.8**
UUPR Utuado, UPR, P 0.87 136 *e*S **Sn 02 53 27.9 +0.4**

UUPR	**Utuado, UPR, P**	**0.87 136**			**Pb**	**02 53 14.9**	**-0.8**
UUPR					**Sn**	**02 53 27.9**	**+0.4**
EMPR	**Esperanza - Ma**	**0.88 117**	⇑	*e*P	**Pn**	**02 53 15.3**	**-0.5**
EMPR	**Esperanza - Ma**	**0.88 117**		*e*S	**Sb**	**02 53 27.6**	**+0.4**
EMPR	**Esperanza - Ma**	**0.88 117**			**Pn**	**02 53 15.3**	**-0.5**
EMPR					**Sb**	**02 53 27.6**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.90 165**	⇑	*e*P	**Pn**	**02 53 15.8**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.90 165**		*e*S	**Sn**	**02 53 28.2**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.90 165**			**Pn**	**02 53 15.8**	**-0.3**
CRPR					**Sn**	**02 53 28.2**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.90 165**	IAML			02 53 28.9	
	comp=N,980nm,0.3s						
CRPR	**Cabo Rojo, PR**	**0.90 165**		*i* P	**Pn**	**02 53 16.1**	**0.0**
CRPR				*e*S	**Sb**	**02 53 26.6**	**-1.2**
CRPR			IAML			02 53 28.7	
	comp=Z,1μm,0.3s						
MLPR	**Magueyes Islan**	**0.95 162**	⇑	*e*P	**Pn**	**02 53 16.6**	**-0.2**
MLPR	**Magueyes Islan**	**0.95 162**		*e*S	**Sb**	**02 53 29.5**	**+0.1**
MLPR	**Magueyes Islan**	**0.95 162**			**Pn**	**02 53 16.6**	**-0.2**
MLPR					**Sb**	**02 53 29.5**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.01 153**	⇓	*e*P	**Pn**	**02 53 17.6**	**0.0**
GBPR	**Guanica, Bosqu**	**1.01 153**		*e*S	**Sn**	**02 53 31.4**	**+0.5**
PCDR	**Punta Cana, DR**	**1.04 250**			**Pn**	**02 53 18.0**	**0.0**
PCDR	**Punta Cana, DR**	**1.04 250**		*i* P	**Pn**	**02 53 18.1**	**+0.1**
PCDR				*e*S	**Sb**	**02 53 32.2**	**+0.4**
PCDR			IAML			02 53 37.3	
	comp=Z,544nm,0.4s						
CELP	**Cerrillos**	**1.09 137**	⇑	*e*P	**Pn**	**02 53 18.4**	**-0.3**
CELP	**Cerrillos**	**1.09 137**		*e*S	**Sb**	**02 53 33.3**	**+0.1**
CELP	**Cerrillos**	**1.09 137**			**Pn**	**02 53 18.4**	**-0.3**
CELP					**Sb**	**02 53 33.3**	**+0.1**
CELP	**Cerrillos**	**1.09 137**	IAML			02 53 39.0	
	comp=N,724nm,0.2s						
CELP			IAML			02 53 43.0	
	comp=E,600nm,0.3s						
OBIP	**Obispado Ponce**	**1.09 139**	⇓	*e*P	**Pn**	**02 53 18.8**	**0.0**
OBIP	**Obispado Ponce**	**1.09 139**		*e*S	**Sn**	**02 53 33.3**	**+0.3**
OBIP	**Obispado Ponce**	**1.09 139**			**Pn**	**02 53 18.8**	**0.0**
OBIP					**Sn**	**02 53 33.3**	**+0.3**
GCPR	**Guaynabo City**	**1.33 115**	⇑	*e*P	**Pn**	**02 53 21.6**	**-0.4**
GCPR	**Guaynabo City**	**1.33 115**		*e*S	**Sn**	**02 53 39.5**	**+0.6**
GCPR	**Guaynabo City**	**1.33 115**			**Pn**	**02 53 21.6**	**-0.4**
GCPR					**Sn**	**02 53 39.5**	**+0.6**
SJG	**San Juan**	**1.38 124**			**Pn**	**02 53 22.4**	**-0.3**
SJG			IAML			02 53 41.3	
	comp=E,633nm,0.4s						
SJG			IAML			02 53 45.8	
	comp=E,575nm,0.2s						
PDPR	**Patillas Dam,**	**1.53 124**			**Pn**	**02 53 24.7**	**-0.1**
PDPR			IAML			02 53 50.7	
	comp=E,520nm,0.3s						
CBYP	**Canovanas**	**1.54 113**			**Pn**	**02 53 24.4**	**-0.6**
HUMP	**Col San Antoni**	**1.61 117**	⇑	*e*P	**Pn**	**02 53 25.5**	**-0.3**
HUMP	**Col San Antoni**	**1.61 117**		*e*S	**Sn**	**02 53 46.4**	**+0.8**
HUMP	**Col San Antoni**	**1.61 117**			**Pn**	**02 53 25.5**	**-0.3**
HUMP					**Sn**	**02 53 46.4**	**+0.8**
HUMP	**Col San Antoni**	**1.61 117**	IAML			02 53 57.5	
	comp=N,453nm,0.2s						
MTP	**Monte Pirata**	**1.88 114**	⇑	*e*P	**Pn**	**02 53 29.2**	**-0.3**
MTP	**Monte Pirata**	**1.88 114**		*e*S	**Sn**	**02 53 52.4**	**0.0**
MTP	**Monte Pirata**	**1.88 114**			**Pn**	**02 53 29.2**	**-0.3**
MTP					**Sn**	**02 53 52.4**	**0.0**
MTP	**Monte Pirata**	**1.88 114**	IAML			02 54 07.1	
	comp=E,232nm,0.3s						
CUPR	**Culebra, Puert**	**2.05 106**	⇑	*e*P	**Pn**	**02 53 31.9**	**0.0**
CUPR	**Culebra, Puert**	**2.05 106**		*e*S	**Sn**	**02 53 56.8**	**+0.2**
CUPR	**Culebra, Puert**	**2.05 106**			**Pn**	**02 53 31.9**	**0.0**
CUPR					**Sn**	**02 53 56.8**	**+0.2**
STVI	**Saint Thomas**	**2.34 103**	⇑	*e*P	**Pn**	**02 53 35.7**	**-0.2**
STVI	**Saint Thomas**	**2.34 103**		*e*S	**Sn**	**02 54 03.9**	**+0.2**
STVI	**Saint Thomas**	**2.34 103**			**Pn**	**02 53 35.7**	**-0.2**
STVI					**Sn**	**02 54 03.9**	**+0.2**
CDVI	**St. Croix**	**2.70 114**	⇑	*e*P	**Pn**	**02 53 41.0**	**+0.1**
CDVI	**St. Croix**	**2.70 114**		*e*S	**Sn**	**02 54 13.4**	**+0.7**
CDVI	**St. Croix**	**2.70 114**			**Pn**	**02 53 41.0**	**+0.1**
CDVI					**Sn**	**02 54 13.4**	**+0.7**
SC01	**Santiago de lo**	**3.23 280**	Pn		**Pn**	**02 53 47.8**	**-0.4**
SC01			IAML			02 54 52.3	
	comp=E,235nm,0.5s						
SC01			IAML			02 54 52.8	
	comp=N,290nm,0.7s						

IDC ***05*** *03:10:44.6±0.6, 15°.57N×147°.85E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.1/50, mbtmp4.3/20, ML4.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/82, Error ellipse: s-maj=20.5km s-min=13.7km az=93.0*

BJI ***05*** *03:10:50.0±0.0, 15°.85N×147°.73E, h30km, mb4.6/39, mB5.3/15, Ms4.7/4, Ms7 4.3/4*

NEIC ***05*** *03:10:50.4±1.6, 15°.47N±0°.09×147°.83E±0°.09, h35km±5km, mb4.6/36, Error ellipse: s-maj=12.7km s-min=11.6km az=214.0*

ISC 05 03:10:48.9±0.5, 15°.42N±0°.06×147°.84E±0°.09, h29km, n92, σ1§23/89, mb4.5/46, 1C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.41**	**238**	Pn	**Pn**	**03 11 39.6**	**-0.5**
	43nm,0.3s,baz=169,slow=6.8,SNR=5.7						
GUMO				Sn	**Sn**	**03 12 17.8**	**-1.9**
	105nm,0.3s,baz=159,slow=19,SNR=7.0						
GUMO	**Guam**	**3.41**	**238**	Pn	**Pn**	**03 11 39.5**	**-0.7**
H11S3	**WAKE ISLAND Hy**	**18.28**	**78**	T	T	03 33 28.2	
	baz=272						
H11S1	**WAKE ISLAND Hy**	**18.30**	**78**	T	T	03 33 33.6	
	baz=272						
H11S2	**WAKE ISLAND Hy**	**18.30**	**78**	T	T	03 33 31.0	
	baz=272						
H11N1	**WAKE ISLAND Hy**	**18.65**	**74**	T	T	03 34 06.8	
	baz=260,slow=74,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**18.66**	**74**	T	T	03 33 59.7	
	baz=260,slow=74,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**18.67**	**74**	T	T	03 34 04.0	
	baz=260						
JOW	**Kunigami**	**21.46**	**305**	P	**P**	**03 15 34.9**	**-0.3**
	14nm,0.5s,baz=151,slow=7.7,SNR=5.7						
JOW	**Kunigami**	**21.46**	**305**	P	**P**	**03 15 34.8**	**-0.3**
JOW				IAmb	IAmb	03 15 38.1	
	comp=Z,18nm,0.7s						
JMN	**Monobe**	**22.17**	**328**	P	**P**	**03 15 41.2**	**-1.5**
JMN				IAmb	IAmb	03 15 44.6	
	comp=Z,49nm,1.5s						
JGF	**Kuroka**	**22.18**	**337**	P	**P**	**03 15 42.7**	**-0.1**
JGF				IAmb	IAmb	03 15 43.8	
	comp=Z,18nm,0.8s						
JWT	**Wachi**	**22.71**	**333**	P	**P**	**03 15 47.8**	**-0.6**
JWT				IAmb	IAmb	03 16 04.7	
	comp=Z,31nm,1.1s						
MJAR	**Matsushiro Arr**	**22.72**	**340**	P	**P**	**03 15 45.7**	**-2.8**
	comp=Z,5.6nm,0.8s,baz=156,slow=8.3,SNR=3.8						
MJAR	**Matsushiro Arr**	**22.72**	**340**	P	**P**	**03 15 46.0**	**-2.5**
MAJO	**Matsushiro**	**22.72**	**340**	P	**P**	**03 15 48.7**	**+0.2**
MJB9	**Matsu-Tunnel**	**22.72**	**340**	P	**P**	**03 15 48.9**	**+0.3**
JMM	**Marumori**	**23.21**	**346**	P	**P**	**03 15 53.3**	**-0.2**
JNU	**Nakatsue**	**23.38**	**322**	P	**P**	**03 15 55.5**	**+0.2**
JNU				IAmb	IAmb	03 16 11.5	
	comp=Z,15nm,1.1s						
JHS	**Saijyo**	**23.55**	**329**	P	**P**	**03 15 57.3**	**+0.3**
JHS				IAmb	IAmb	03 16 08.7	
	comp=Z,54nm,1.5s						
FAKI	**Fak Fak**	**23.88**	**222**	P	**P**	**03 16 00.3**	**0.0**
FAKI				IAmb	IAmb	03 16 17.4	
	comp=Z,15nm,0.9s						
JSD	**Sado**	**24.06**	**341**	P	**P**	**03 16 01.4**	**-0.3**
PMG	**Port Moresby**	**24.68**	**182**	LR	LR	03 24 30.5	
	comp=Z,137nm,19.4s,baz=326,slow=33						
JTM	**Tenmabayashi**	**25.95**	**348**	P	**P**	**03 16 20.4**	**+1.6**
YULB	**Yu-li**	**26.23**	**292**	P	**P**	**03 16 21.5**	**-0.1**
YULB				IAmb	IAmb	03 16 26.5	
	comp=Z,10nm,0.9s						
YHNB	**Yeheng**	**26.47**	**295**	P	**P**	**03 16 23.4**	**-0.5**
YHNB				IAmb	IAmb	03 16 27.2	
	comp=Z,42nm,1.4s						
SSLB	**Suanglung**	**26.62**	**292**	P	**P**	**03 16 25.0**	**-0.2**
SSLB				IAmb	IAmb	03 16 26.6	
	comp=Z,15nm,1.0s						
KSRS	**Korea Array**	**28.16**	**325**	P	**P**	**03 16 36.8**	**-1.9**
	comp=Z,2.8nm,0.6s,baz=144,slow=9.3,SNR=10						
COEN	**Coen**	**29.56**	**189**	P	**P**	**03 16 51.7**	**+0.3**
COEN				IAmb	IAmb	03 16 59.4	
	comp=Z,16nm,1.2s						
NJ2	**Nanjing**	**31.14**	**307**	*e*P	**P**	**03 17 06.1**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
USRK	**Ussuriysk Ar.**	**31.69**	**338**	P	**P**	**03 17 09.2**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=156,slow=9.2,SNR=6.2						
USRK	**Ussuriysk Ar.**	**31.69**	**338**	P	**P**	**03 17 10.5**	**+0.6**
KLR	**Kul'dur**	**36.19**	**342**	P	**P**	**03 17 48.8**	**-0.1**
	comp=Z,5.7nm,0.8s,baz=141,slow=6.4,SNR=18						
WB0	**Warramunga Arr**	**37.39**	**201**	P	**P**	**03 18 00.7**	**+1.3**
WB0				IAmb	IAmb	03 18 01.0	
	comp=Z,7.6nm,0.9s						
WR0	**Warramunga Arr**	**37.52**	**201**	P	**P**	**03 18 01.1**	**+0.6**
WR0				IAmb	IAmb	03 18 02.2	
	comp=Z,8.5nm,0.8s						
WRAB	**Tennant Creek**	**37.56**	**201**	P	**P**	**03 18 02.0**	**+1.2**
WRAB				IAmb	IAmb	03 18 03.0	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**37.57**	**201**	P	**P**	**03 18 01.9**	**+1.0**
WB2				IAmb	IAmb	03 18 03.1	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**37.57**	**201**	P	**P**	**03 18 01.5**	**+0.5**
	comp=Z,7.4nm,0.8s,baz=24,slow=9.3,SNR=53						
WRA				PcP	**PcP**	**03 20 19.7**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=20,slow=3.3,SNR=6.7						
WRA	**Warramunga Arr**	**37.57**	**201**	P	**P**	**03 18 01.6**	**+0.5**
WRA					**PcP**	**03 20 18.5**	**-0.1**
XAN	**Xi'an**	**39.62**	**305**	P	**P**	**03 18 18.0**	**-0.2**
XAN				pP	sP	03 18 28.2	+0.9
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**40.36**	**316**	*e*P	**P**	**03 18 25.4**	**+1.1**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,260nm,5.1s						
AS31	**Alice Springs**	**41.17**	**200**	P	**P**	**03 18 31.1**	**+0.1**
ASAR	**Alice Springs**	**41.17**	**200**	P	**P**	**03 18 31.7**	**+0.7**
	comp=Z,4.3nm,0.7s,baz=18,slow=5.8,SNR=38						
ASAR	**Alice Springs**	**41.17**	**200**	P	**P**	**03 18 31.2**	**+0.2**
KMI	**Kunming**	**43.23**	**290**	⇓ P	**P**	**03 18 49.8**	**+1.7**
KMI				pP	sP	03 18 57.1	-0.1
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LZH	**Lanzhou**	**44.20**	**306**	⇓ P	**P**	**03 18 56.7**	**+1.0**
LZH				pP	sP	03 19 07.3	+1.7
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
PZH	**PanZhiHua**	**44.23**	**292**	P	**P**	**03 18 56.4**	**+0.3**
ARMA	**Armidale**	**45.72**	**175**	P	**P**	**03 19 07.1**	**-0.6**
ARMA				IAmb	IAmb	03 19 15.9	
	comp=Z,9.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**46.77**	**281**	P	**P**	**03 19 16.4**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=68,slow=6.4,SNR=14						
SONM	**Songino Array**	**46.97**	**322**	P	**P**	**03 19 17.0**	**-0.5**
	comp=Z,3.7nm,1.0s,baz=132,slow=8.7,SNR=19						
SONM	**Songino Array**	**46.97**	**322**	P	**P**	**03 19 17.1**	**-0.3**
STKA	**Stephens Creek**	**47.41**	**187**	P	**P**	**03 19 21.0**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=10,slow=9.2,SNR=3.1						
STKA	**Stephens Creek**	**47.41**	**187**	P	**P**	**03 19 21.1**	**+0.2**
SEY	**Seymchan**	**47.56**	**3**	P	**P**	**03 19 23.6**	**+2.1**
	comp=Z,2.5nm,0.8s,baz=166,slow=4.2,SNR=4.7						
GTA	**Gaotai**	**48.18**	**309**	⇑ P	**P**	**03 19 26.6**	**-0.4**
GTA				pP	pP	03 19 33.2	-0.3
GTA				sP	sP	03 19 37.5	+0.6
GTA				PcP	**PcP**	**03 21 00.6**	**+6.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				LR	LR		
	comp=Z,380nm,16.4s						
GTA				LR	LR		
	comp=Z,310nm,16.4s						
GTA				LR	LR		
	comp=Z,390nm,15.6s						
BBOO	**Buckleboo**	**49.27**	**193**	P	**P**	**03 19 35.5**	**+0.4**
FORT	**Forrest**	**49.72**	**202**	P	**P**	**03 19 38.1**	**-0.5**
GOMU	**GeErMu**	**51.35**	**304**	P	**P**	**03 19 52.0**	**+0.6**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MORW	**Morawa**	**53.86**	**215**	P	**P**	**03 20 08.1**	**-1.4**
MORW				IAmb	IAmb	03 20 12.2	
	comp=Z,6.3nm,1.0s						
TIXI	**Tiksi**	**57.34**	**353**	P	**P**	**03 20 32.6**	**-1.4**
	comp=Z,2.1nm,0.4s,baz=151,slow=0.6,SNR=5.9						
WMQ	**Urumqi**	**58.01**	**312**	*e*P	**P**	**03 20 41.2**	**+2.0**
WMQ				pP	sP	03 20 51.0	+1.8
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.5s						
GUN	**Gumba**	**58.38**	**293**	*e*P	**P**	**03 20 42.7**	**+0.2**
DANN	**Dangsing**	**60.24**	**294**	*e*P	**P**	**03 20 55.1**	**-0.1**
	comp=Z,17nm,0.6s						
KOLN	**Koldanda**	**60.41**	**293**	*e*P	**P**	**03 20 56.0**	**-0.3**
PYUN	**Piuthan**	**60.93**	**294**	*e*P	**P**	**03 20 59.6**	**-0.3**
BFZ	**Birch Farm**	**61.73**	**156**	P	**P**	**03 21 04.6**	**0.0**
ZALV	**Zalesovo Beam**	**61.85**	**323**	P	**P**	**03 21 04.4**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=105,slow=7.5,SNR=7.3						
MK31	**Makanchi Array**	**62.21**	**315**	P	**P**	**03 21 08.9**	**+1.0**
MK31				IAmb	IAmb	03 21 23.0	
	comp=Z,3.1nm,0.8s						
MKAR	**Makanchi Array**	**62.21**	**315**	P	**P**	**03 21 07.7**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=92,slow=8.3,SNR=44						
MKAR	**Makanchi Array**	**62.21**	**315**	P	**P**	**03 21 08.5**	**+0.5**
MAKZ	**Makanchi**	**62.42**	**315**	P	**P**	**03 21 09.6**	**+0.3**
RC01	**Rabbit Creek A**	**63.39**	**29**	P	**P**	**03 21 12.9**	**-2.6**
KURK	**Kurchatov**	**65.07**	**319**	P	**P**	**03 21 26.2**	**-0.4**
ILAR	**Eielson Array**	**65.69**	**25**	P	**P**	**03 21 28.8**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=154,slow=9.6,SNR=7.8						
KKAR	**Karatay Array**	**70.44**	**311**	P	**P**	**03 22 01.3**	**+0.6**
INK	**Inuvik**	**71.58**	**23**	P	**P**	**03 22 04.8**	**-2.2**
	comp=Z,1.6nm,0.9s,baz=229,slow=9.3,SNR=3.7						
INK	**Inuvik**	**71.58**	**23**	P	**P**	**03 22 04.9**	**-2.1**
ABKAR	**Abkulak array**	**77.12**	**318**	P	**P**	**03 22 39.6**	**-0.1**
ABKAR	**Abkulak array**	**77.12**	**318**	P	**P**	**03 22 39.7**	**-0.1**
YKA	**Yellowknife Ar**	**79.91**	**28**	P	**P**	**03 22 54.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=285,slow=5.4,SNR=11						
NVAR	**Mina Array Bea**	**83.53**	**52**	P	**P**	**03 23 15.7**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=264,slow=5.8,SNR=5.6						
NVAR	**Mina Array Bea**	**83.53**	**52**	P	**P**	**03 23 12.6**	**-2.2**
KLMR	**Klimovskoe**	**85.30**	**332**	*e*P	**P**	**03 23 22.4**	**-0.5**
KLMR				AMP		03 23 37.3	
	comp=Z,11nm,1.3s						
ARCES	**ARCESS Array B**	**86.22**	**343**	P	**P**	**03 23 26.8**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=46,slow=3.5,SNR=4.9						
FINES	**FINESS Array B**	**90.70**	**336**	P	**P**	**03 23 47.8**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=87,slow=5.3,SNR=9.0						
FINES	**FINESS Array B**	**90.70**	**336**	P	**P**	**03 23 48.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**136.09**	**309**	PKP	**PKiKP**	**03 30 10.2**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=30,slow=1.2,SNR=6.0						
DBIC	**Dimbokro**	**145.16**	**307**	PKPbc	**PKPbc**	**03 30 24.7**	**+0.4**
	comp=Z,5.7nm,0.8s,baz=77,slow=1.9,SNR=9.6						
KIC	**Kosan Boka**	**145.27**	**307**	*e*PKP1	**PKPbc**	**03 30 25.0**	**+0.4**
	comp=Z,19nm,0.8s						
TIC	**Toumodi**	**145.31**	**307**	*e*PKP1	**PKPbc**	**03 30 25.0**	**+0.2**
LPAZ	**La Paz**	**145.41**	**96**	PKPbc	**PKPab**	**03 30 27.4**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=26,slow=5.6,SNR=10						
LIC	**Lamto**	**145.58**	**307**	*e*PKP1	**PKPdf**	**03 30 25.9**	**+0.4**
	comp=Z,28nm,0.8s						

LDG ***05*** *03:17:47.4±0.7, 51°.63N×16°.33E, h1km, Ml3.0/4, Error ellipse: s-maj=16.6km s-min=5.5km az=22.0, Suspected Mining induced.*

IPEC ***05*** *03:17:48.9±0.4, 51°.59N×16°.22E, h0km±1km, ML2.6/3, Error ellipse: s-maj=3.5km s-min=1.8km az=59.0*

PRU ***05*** *03:17:49.6±0.0, 51°.56N×16°.10E, h0km*

IDC ***05*** *03:17:50.0±1.0, 51°.52N×16°.04E, h0km, mb1 3.4/4, mb1mx2.9/42, mbtmp3.3/4, ML2.9/4, Error ellipse: s-maj=19.4km s-min=9.0km az=128.0*

BGR ***05*** *03:17:50.5±0.5, 51°.53N×16°.12E, h1km, ML2.9/11, Error ellipse: s-maj=5.6km s-min=2.2km az=28.0*

VIE ***05*** *03:17:54.4±0.5, 51°.23N×15°.77E, h0km, mb2.8/12, ml2.5/16, Error ellipse: s-maj=3.3km s-min=2.2km az=179.0 68 km NE of Liberec Suspected Mining induced.*

ISC 05 03:17:48.1±0.8, 51°.56N±0°.03×16°.10E±0°.02, h0km, n66, σ1§52/134, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**170**	*i* Pg	**Pb**	**03 18 03.7**	**0.0**
KSP				*e*Sg	**Sb**	**03 18 13.4**	**-0.8**
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pb**	**03 18 03.7**	**0.0**
KSP				*e*Sg	**Sb**	**03 18 13.6**	**-0.5**
CHVC	**Chvalec**	**0.97**	**182**	*e*PG	**Pg**	**03 18 07.8**	**+1.0**
CHVC				*e*SG	**Sb**	**03 18 21.0**	**-0.3**
	comp=Z,86nm,0.6s						
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pg**	**03 18 09.4**	**+1.1**
UPC				*e*SG	**Sb**	**03 18 23.7**	**+0.1**
	comp=Z,97nm,0.4s						
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	**Pg**	**03 18 12.3**	**+0.8**
DPC				*e*SG	**Sg**	**03 18 28.2**	**+1.0**
	comp=Z,116nm,0.8s						
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*Pg	**Pb**	**03 18 12.5**	**+0.5**
DPC				*e*Sg	**Sb**	**03 18 28.4**	**0.0**
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pb**	**03 18 16.2**	**+0.8**
PVCC				*e*SG	**Sn**	**03 18 35.8**	**+1.4**
	comp=Z,181nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**244**	Pg	**Pg**	**03 18 18.4**	**+1.1**
BRG				Sg	**Sn**	**03 18 39.0**	**+2.0**
BRG				Amp		03 18 42.5	
	comp=Z,92nm,0.5s						
BRG	**Berggiesshubel**	**1.52**	**244**	*e*Pn	**Pg**	**03 18 18.3**	**+1.1**
BRG				*e*Pg	**Pb**	**03 18 18.7**	**+1.6**
BRG				*e*Sg	**Sn**	**03 18 39.1**	**+2.1**
KRLC	**Kraliky**	**1.55**	**163**	*e*PG	**Pn**	**03 18 17.5**	**+0.5**
KRLC				*e*SG	**Sg**	**03 18 38.2**	**+0.4**
	comp=Z,60nm,0.4s						
PRA	**Prague**	**1.83**	**216**	*e*PG	**Pn**	**03 18 21.8**	**+1.0**
PRA				*e*SG	**Sg**	**03 18 47.8**	**+1.0**
FBE	**Freiberg**	**1.84**	**251**	*e*Pn	**Pg**	**03 18 23.9**	**+0.6**
FBE				*e*Sg	**Sg**	**03 18 48.9**	**+1.7**
PRU	**Pruhonice**	**1.86**	**213**	*e*PG	**Pb**	**03 18 23.4**	**+0.5**
PRU				*e*SG	**Sg**	**03 18 48.6**	**+0.9**
	comp=Z,54nm,0.8s						
CLL	**Collm**	**1.95**	**264**	*i* Pn	**Pn**	**03 18 22.8**	**+0.3**
CLL				*i* Pg	**Pg**	**03 18 26.4**	**+0.8**
CLL				*i* x	x	03 18 29.7	
CLL				*i* Sg	**Sg**	**03 18 52.1**	**+1.2**
	comp=Z,34nm,0.4s						
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**03 18 22.9**	**+0.3**
CLL				*e*Pg	**Pg**	**03 18 26.3**	**+0.7**
CLL				*e*Sg	**Sg**	**03 18 53.0**	**+2.1**
RAC	**Raciborz**	**1.99**	**137**	*e*PG	**Pg**	**03 18 27.3**	**+1.1**
RAC				*e*SG	**Sg**	**03 18 52.6**	**+0.6**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**03 18 23.7**	**+0.5**
	baz=336						
MORC				*e*Sg	**Sb**	**03 18 51.9**	**+0.9**
	comp=Z,37nm,0.6s,baz=336						
MORC	**Moravsky Berou**	**2.01**	**152**	*e*PN	**Pn**	**03 18 23.8**	**+0.5**
MORC				*e*SG	**Sb**	**03 18 52.0**	**+0.9**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**03 18 23.8**	**+0.5**
MORC				*e*Sg	**Sg**	**03 18 53.3**	**+0.7**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PG	**Pb**	**03 18 28.4**	**+0.3**
OKC				*e*SG	**Sb**	**03 18 56.8**	**+1.4**
	comp=Z,66nm,0.5s						
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*Pg	**Pg**	**03 18 31.0**	**+1.5**
OKC				*e*Sg	**Sb**	**03 18 57.0**	**+1.6**
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**03 18 28.2**	**+1.2**
	baz=354						
VRAC				*e*Sg	**Sg**	**03 19 00.9**	**-0.3**
	comp=Z,32nm,0.6s,baz=354						
TREC	**Trest**	**2.30**	**190**	*e*PN	**Pn**	**03 18 28.1**	**+0.8**
TREC				*e*SG	**Sg**	**03 19 01.8**	**-0.2**
	comp=Z,41nm,0.8s						
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**03 18 31.5**	**+1.4**
	baz=358						
KRUC				*e*Sg	**Sg**	**03 19 08.2**	**-0.4**
	comp=Z,37nm,1.0s,baz=358						
TANN	**Tannenbergstha**	**2.57**	**245**	*e*Pn	**Pn**	**03 18 32.1**	**+1.1**
TANN				*e*Pg	**Pg**	**03 18 39.4**	**+2.0**
TANN				*e*Sg	**Sg**	**03 19 11.5**	**+1.0**
WERD	**Werda**	**2.64**	**247**	*e*Pg	**Pg**	**03 18 40.0**	**+1.2**
WERD				*e*Sg	**Sg**	**03 19 14.0**	**+1.1**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**03 18 33.6**	**+1.3**
NKC				*e*PG	**Pb**	**03 18 37.4**	**+0.7**
NKC				*e*SG	**Sg**	**03 19 15.6**	**

DAVA	**Damuels**	5.89	226	*e*Pn		**Pn**	03 19 17.3 +0.5
	comp=Z,0.5nm,0.2s						
DAVA				*e*Sg		**Sg**	03 20 56.2 -1.1
	comp=Z,7.5nm,0.8s						
CDF	**Champ du Feu**	6.50	244	*e*Pn		**Pn**	03 19 25.5 +0.4
CDF	**Champ du Feu**	6.50	244	*e*Pg		**Pg**	03 19 52.1 -0.5
CDF				*e*Sn		**Sn**	03 20 35.9 -4.1
	comp=Z,0.8nm,0.3s						
CDF				*e*Sg		**Sg**	03 21 16.9 +0.1
	comp=Z,7.6nm,0.7s						
HINF	**Hinteralfeld**	7.07	242	*e*Pn		**Pn**	03 19 32.6 -0.2
HINF	**Hinteralfeld**	7.07	242	*e*Pg		**Pg**	03 20 02.6 -0.9
HINF				*e*Sg		**Sg**	03 21 34.7 -0.3
	comp=Z,1.4nm,0.4s						
HAU	**Haudompre**	7.24	244	*e*Pn		**Pn**	03 19 34.9 -0.3
HAU	**Haudompre**	7.24	244	*e*P		**Pn**	03 19 39.3 +4.1
HAU	**Haudompre**	7.24	244	*e*Pg		**Pg**	03 20 05.5 -1.3
HAU				*e*Sg		**Sg**	03 21 40.2 -0.4
	comp=Z,2.4nm,0.4s						
BAIF	**Baives**	7.68	263	*e*Pg		**Pg**	03 20 13.3 -1.9
AKASG	**Malin Array Be**	8.30	91	Pn		**Pn**	03 19 48.2 -1.6
	comp=Z,0.8nm,0.3s,baz=279,slow=12,SNR=7.0						
FINES	**FINESS Array B**	11.32	25	Pn		**Pn**	03 20 29.6 -1.3
	comp=Z,0.2nm,0.3s,baz=204,slow=11,SNR=6.9						
ARCES	**ARCESS Array B**	18.58	10	Pn		**P**	03 22 02.3 -4.0
	baz=190,slow=16,SNR=0.9						

IDC 05 03:19:33.4±70.0, 16°21'S×177°01'W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.4/38, mbtmp4.1/3, Error ellipse: s-maj=1292.0km s-min=186.5km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.63**	**240**	P	P	03 27 15.6	+0.2
	0.7nm,0.3s,baz=42,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**46.28**	**258**	P	P	03 28 01.1	-0.1
	0.4nm,0.3s,baz=90,slow=7.8,SNR=26						
ASAR	**Alice Springs**	**46.56**	**253**	P	P	03 28 03.0	-0.4
	3.5nm,0.5s,baz=88,slow=8.5,SNR=53						

*IDC **05** 03:43:35.4±12.0, 7°07'S×128°87'E, h75km±137km, mb3.4/3, mb1 3.4/6, mb1mx3.1/26, mbtmp3.6/6, ML3.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/28, Error ellipse: s-maj=107.9km s-min=62.1km az=36.0*

ISC 05 03:43:42.0±1.2, 7°.4S±0°.1×128°.7E±0°.1, h150km, n8, σ1°43/8, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.69**	**240**	P		**Pn**	03 45 06.0 +1.4
	13nm,0.3s,baz=160,slow=4.7,SNR=4.3						
BATI				S		**Sn**	03 46 07.6 -1.6
	10nm,0.3s,baz=154,slow=13,SNR=2.3						
FITZ	**Fitzroy Crossi**	**11.02**	**195**	P		**Pn**	03 46 14.6 -1.0
	0.2nm,0.3s,baz=16,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**13.60**	**157**	P		**Pn**	03 46 48.0 -1.0
	0.2nm,0.3s,baz=342,slow=12,SNR=14						
ASAR	**Alice Springs**	**16.91**	**163**	P		**Pn**	03 47 31.8 +1.8
	0.1nm,0.3s,baz=338,slow=9.9,SNR=11						
LEM	**Lembang**	**20.92**	**270**	LR		LR	03 58 05.7
	comp=Z,103nm,18.3s,baz=345,slow=41						
SONM	**Songino Array**	**58.44**	**343**	P		**P**	03 53 21.6 -0.6
	0.5nm,0.7s,baz=168,slow=7.4,SNR=2.6						
MKAR	**Makanchi Array**	**67.87**	**328**	P		**P**	03 54 24.7 +0.5
	0.3nm,0.4s,baz=130,slow=7.6,SNR=14						
ZALV	**Zalesovo Beam**	**71.39**	**334**	P		**P**	03 54 45.4 -0.2
	0.3nm,0.3s,baz=122,slow=9.4,SNR=2.2						

*GUC **05** 03:58:06.8±0.8, 34°.21S×72°.44W, h37km±2km, ML3.7*
*IDC **05** 03:58:09.6±3.5, 34°.27S×72°.44W, h40km±39km, mb3.3/2, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, ML3.4/2, MS3.3/1, Ms1 3.3/1, ms1mx3.1/18, Error ellipse: s-maj=46.8km s-min=28.8km az=45.0*

ISC 05 03:58:06.2±1.6, 34°24S±0°.04×72°38W±0°.05, h15km±10km, n25, σ0°69/40, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.86**	**154**	*e*P		**Pg**	03 58 23.4 +0.5
GO05				*i* S		**Sn**	03 58 35.6 -0.5
GO05				IAML			03 58 36.7
	comp=E,12μm,0.2s						
VA05	**Santo Domingo**	**0.86**	**48**	*e*P		**Pn**	03 58 23.5 -0.3
VA05				*i* S		**Sn**	03 58 35.3 -0.7
VA05				IAML			03 58 40.2
	comp=N,5μm,0.6s						
MT01	**Popeta**	**1.01**	**69**	*e*P		**Pb**	03 58 25.5 +0.1
MT01				*i* S		**Sn**	03 58 39.3 -0.5
MT01				IAML			03 58 42.9
	comp=N,1μm,0.2s						
BO01	**Tunca**	**1.08**	**99**	*e*P		**Pb**	03 58 26.3 -0.4
BO01				*i* S		**Sg**	03 58 41.9 +0.5
MT09	**Talagante**	**1.24**	**69**	*e*P		**Pn**	03 58 29.0 -0.2
MT09				*i* S		**Sg**	03 58 46.6 +0.1
MT09				IAML			03 58 52.3
	comp=N,2μm,0.3s						
MT02	**Curacav**	**1.42**	**47**	*e*P		**Pn**	03 58 31.1 -0.4
MT02				IAML			03 59 00.3
	comp=N,458nm,0.6s						
BO02	**Sierra Bellavi**	**1.43**	**113**	*e*P		**Pb**	03 58 32.5 -0.2
BO02				*i* S		**Sg**	03 58 52.1 -0.4
BO02				IAML			03 58 58.0
	comp=N,4μm,0.2s						
BO04	**La Punta**	**1.49**	**81**	*e*P		**Pb**	03 58 33.1 -0.5
BO04				*i* S		**Sg**	03 58 53.2 -1.1
BO04				IAML			03 59 01.1
	comp=N,2μm,0.5s						
MT05	**Renca**	**1.61**	**59**	*e*P		**Pb**	03 58 34.8 -0.8
MT05				*i* S		**Sb**	03 58 56.1 +0.4
MT05				IAML			03 59 05.7
	comp=E,2μm,0.4s						
ROCH	**El Roble**	**1.70**	**43**	*e*P		**Pn**	03 58 35.8 +0.2
ROCH				*e*P		**Pn**	03 58 35.0 -0.5
ROCH				*i* S		**Sb**	03 58 57.9 -0.7
ROCH				*i* S		**Sn**	03 58 58.8 +1.6
ROCH				IAML			03 59 11.9
	comp=E,1μm,0.6s						
ML02	**Panimavida**	**1.72**	**153**	*e*P		**Pb**	03 58 36.6 -0.9
ML02				*i* S		**Sb**	03 58 59.4 +0.5
ML02				IAML			03 59 07.1
	comp=N,4μm,0.7s						
PEL	**Peldehue**	**1.79**	**53**	*e*P		**Pn**	03 58 37.2 +0.6
PEL				*i* S		**Sb**	03 59 00.7 -0.2
PEL				IAML			03 59 10.5
	comp=E,857nm,0.5s						
LMEL	**Las Melosas**	**1.85**	**79**	*e*P		**Pb**	03 58 38.7 -1.2
LMEL				*i* S		**Sb**	03 59 02.7 -0.1
LMEL				IAML			03 59 13.2
	comp=N,1μm,0.4s						
FCH	**Farellones**	**1.96**	**63**	*e*P		**Pn**	03 58 40.0 +0.7
FCH				*i* S		**Sb**	03 59 06.3 +0.1
FCH				IAML			03 59 15.9
	comp=E,674nm,0.2s						
H03S1	**Juan Fernandez**	**5.43**	**272**	P		**Pn**	03 59 26.1 -0.3
H03S1				T		T	04 05 32.4
	baz=80,SNR=550						
H03S3	**Juan Fernandez**	**5.44**	**272**	P		**Pn**	03 59 26.0 -0.5
	SNR=3.6						
H03S3				T		T	04 05 26.0
	baz=80,SNR=568						
H03S2	**Juan Fernandez**	**5.45**	**272**	P		**Pn**	03 59 25.9 -0.7
	SNR=3.7						
H03S2				T		T	04 05 22.2
	baz=80,SNR=804						
H03N1	**Juan Fernandez**	**5.49**	**276**	P		**Pn**	03 59 27.9 +0.6
	baz=114,slow=74,SNR=5.4						
H03N1				T		T	04 05 38.9
	baz=102,slow=80,SNR=31						
H03N3	**Juan Fernandez**	**5.50**	**276**	P		**Pn**	03 59 27.9 +0.5
	baz=275,slow=74,SNR=3.5						
H03N3				T		T	04 05 33.8
	baz=102,slow=80,SNR=34						
H03N2	**Juan Fernandez**	**5.51**	**276**	P		**Pn**	03 59 28.4 +0.9
H03N2				T		T	04 05 36.6
	baz=102,slow=80,SNR=31						
PLCA	**Paso Flores**	**6.65**	**168**	P		**Pn**	03 59 44.8 +1.4
	comp=E,0.3nm,0.3s,baz=335,slow=10.0,SNR=11						
PLCA				LR		LR	04 02 24.3
	comp=E,280nm,21.3s,baz=64,slow=38						
LPAZ	**La Paz**	**18.28**	**13**	P		**P**	04 02 21.2 +1.1
	comp=E,0.0nm,0.3s,baz=193,slow=11,SNR=4.6						

TXAR	**Lajitas Array**	**69.80**	**331**	P		**P**	04 09 16.3 +0.2
	comp=E,0.2nm,0.7s,baz=170,slow=5.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**84.56**	**70**	P		**P**	04 10 38.7 -0.5
	comp=E,0.9nm,0.9s,baz=246,slow=6.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**154.58**	**32**	PKPbc		**PKiKP**	04 18 05.8 -0.1
	comp=E,1.0nm,0.7s,baz=286,slow=5.2,SNR=2.9						

*SOME **05** 04:04:23.7, 38°.37N×73°.00E, h10km*
*IDC **05** 04:04:24.4±1.1, 38°.09N×72°.88E, h0km, mb3.6/7, mb1 3.8/11, mb1mx3.6/48, mbtmp3.7/11, ML3.4/4, Error ellipse: s-maj=26.2km s-min=18.6km az=139.0*
*NNC **05** 04:04:29.7±1.3, 38°.55N×73°.01E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=9.8km s-min=6.0km az=0.0*

ISC 05 04:04:25.4±0.7, 38°.05N±0°.05×72°.71E±0°.04, h10km, n54, σ2°10/67, mb3.6/7, 9C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.58**	**334**	*e*P		**Pb**	04 05 45.3 -0.7
	1μm,0.5s						
IUG				*e*S		**Sb**	04 06 44.4 +3.1
	224nm,0.4s						
IUG	**Iuzhnay**	**4.58**	**334**	Pg		**Pb**	04 05 45.3 -0.7
	1μm,0.5s						
IUG				Lg		Lg	04 06 44.4
	224nm,0.4s						
MRKS	**Merke**	**4.71**	**5**	*e*P		**Pb**	04 05 44.5 -3.6
	20nm,0.4s						
MRKS				*e*S		**Sb**	04 06 43.0 -1.9
	31nm,0.5s						
MRKS	**Merke**	**4.71**	**5**	Pg		**Pb**	04 05 44.5 -3.6
	20nm,0.4s						
MRKS				Lg		Lg	04 06 43.0
	31nm,0.5s						
AAK	**Ala-Archa**	**4.79**	**16**	Pn		**Pn**	04 05 41.0 +3.3
	2.0nm,0.3s,baz=191,slow=7.7,SNR=18						
AAK				Sn		**Sn**	04 06 38.0 +4.8
	2.0nm,0.3s,baz=70,slow=19,SNR=8.3						
AAK	**Ala-Archa**	**4.79**	**16**	⇑Pn		**Pn**	04 05 36.5 -1.2
AAK				⇓Lg		Lg	04 06 44.1
	51nm,0.8s						
DZA	**Taraz**	**4.96**	**348**	*e*P		**Pb**	04 05 49.5 -2.7
	101nm,0.1s						
DZA				*e*S		**Sb**	04 06 51.4 -0.4
	92nm,0.1s						
DZA	**Taraz**	**4.96**	**348**	Pg		**Pb**	04 05 49.5 -2.7
	101nm,0.1s						
DZA				Lg		Lg	04 06 51.4
	92nm,0.1s						
KK02	**Karatay Array**	**5.32**	**342**	⇑Pn		**Pn**	04 05 46.2 +1.3
	6.1nm,0.5s						
KK02				⇑Sn		**Sn**	04 06 44.1 -2.2
	14nm,0.6s						
TKM2	**Tokmak 2**	**5.34**	**23**	⇓Pn		**Pn**	04 05 44.4 -1.0
	1.4nm,0.5s						
TKM2				⇓Pg		**Pb**	04 05 57.9 -1.1
	11nm,0.8s						
TKM2				⇑Lg		Lg	04 07 01.9
	29nm,0.9s						
BRLS	**Borolday**	**5.44**	**337**	*e*P		**Pb**	04 05 57.2 -3.3
	3.4nm,0.3s						
BRLS				*e*S		**Sb**	04 07 05.0 -0.8
	29nm,0.4s						
BRLS	**Borolday**	**5.44**	**337**	Pg		**Pb**	04 05 57.2 -3.3
	3.4nm,0.3s						
BRLS				Lg		Lg	04 07 05.0
	29nm,0.4s						
KST	**Kastek**	**5.57**	**25**	*e*P		**Pb**	04 05 59.8 -3.0
	13nm,0.4s						
KST				*e*S		**Sb**	04 07 09.3 -0.4
	36nm,1.0s						
KST	**Kastek**	**5.57**	**25**	Pg		**Pb**	04 05 59.8 -3.0
	13nm,0.4s						
KST				Lg		Lg	04 07 09.3
	36nm,1.0s						
DGS	**Degeres**	**5.69**	**23**	*e*P		**Pb**	04 06 02.7 -2.1
	12nm,0.8s						
DGS				*e*S		**Sb**	04 07 14.4 +1.3
	17nm,0.4s						
DGS	**Degeres**	**5.69**	**23**	Pg		**Pb**	04 06 02.7 -2.1
	12nm,0.8s						
DGS				Lg		Lg	04 07 14.4
	17nm,0.4s						
TNSS	**Tian-Shan**	**5.94**	**32**	*e*P		**Pb**	04 06 06.4 -2.8
	7.7nm,0.3s						
TNSS				*e*S		**Sb**	04 07 21.0 +0.5
	8.7nm,0.6s						
TNSS	**Tian-Shan**	**5.94**	**32**	Pg		**Pb**	04 06 06.4 -2.8
	7.7nm,0.3s						
TNSS				Lg		Lg	04 07 21.0
	8.7nm,0.6s						
KRBS	**Karabastau**	**6.08**	**21**	*e*P		**Pb**	04 06 09.5 -1.8
	6.6nm,0.7s						
KRBS				*e*S		**Sb**	04 07 26.1 +2.0
	19nm,0.7s						
KRBS	**Karabastau**	**6.08**	**21**	Pg		**Pb**	04 06 09.5 -1.8
	6.6nm,0.7s						
KRBS				Lg		Lg	04 07 26.1
	19nm,0.7s						
MDOK	**Medeo**	**6.08**	**31**	*e*P		**Pb**	04 06 09.7 -1.8
	7.7nm,0.3s						
MDOK				*e*S		**Sb**	04 07 26.4 +1.9
	24nm,0.9s						
MDOK	**Medeo**	**6.08**	**31**	⇑Pg		**Pb**	04 06 11.5 -0.1
	11nm,0.7s						
MDOK				⇑Lg		Lg	04 07 25.8
	51nm,1.1s						
MDOK	**Medeo**	**6.08**	**31**	Pg		**Pb**	04 06 09.7 -1.8
	7.7nm,0.3s						
MDOK				Lg		Lg	04 07 26.4
	24nm,0.9s						
KOTS	**Kotyrbulak**	**6.17**	**31**	*e*P		**Pb**	04 06 11.5 -1.5
	10.0nm,0.6s						
KOTS				*e*S		**Sb**	04 07 29.7 +2.8
	51nm,0.6s						
KOTS	**Kotyrbulak**	**6.17**	**31**	Pg		**Pb**	04 06 11.5 -1.5
	10.0nm,0.6s						
KOTS				Lg		Lg	04 07 29.7
	51nm,0.6s						
KTBS	**Karatobe**	**6.41**	**27**	Pg		**Pb**	04 06 15.5 -1.5
	5.6nm,0.6s						
KTBS				Lg		Lg	04 07 36.3
	20nm,0.4s						
KUU	**Kurty**	**6.45**	**24**	Pg		**Pb**	04 06 15.6 -2.2
	3.8nm,0.6s						
KUU				Lg		Lg	04 07 36.6
	23nm,0.5s						
SATY	**Saty**	**6.62**	**39**	Pg		**Pb**	04 06 19.4 -1.3
	12nm,0.5s						
SATY				Lg		Lg	04 07 42.8
	23nm,0.7s						
UZB	**Uzynbulak**	**7.00**	**41**	Pg		**Pb**	04 06 26.1 -1.0
	4.0nm,0.4s						
UZB				Lg		Lg	04 07 54.6
	11nm,0.8s						
BTLS	**Baital**	**7.06**	**8**	Pg		**Pb**	04 06 28.1 +0.1
	2.5nm,1.1s						
BTLS				Lg		Lg	04 07 58.1
	6.9nm,0.5s						
PDGK	**Podgornoye**	**7.37**	**42**	⇓Pn		**Pn**	04 06 12.5 -0.7
	8.6nm,1.1s						
PDGK				⇑Lg		Lg	04 08 08.2
	26nm,1.0s						
DJR	**Jarkent**	**8.24**	**38**	Pg		**Pb**	04 06 49.4 +1.2
	4.3nm,0.7s						
DJR				Lg		Lg	04 08 34.5
	8.3nm,0.8s						
KAPS	**Kapalarasan**	**8.78**	**32**	Pg		Pg	04 06 59.2 -14
	4.1nm,0.8s						
KAPS				Lg		Lg	04 08 51.6
	8.8nm,0.6s						
MK31	**Makanchi Array**	**11.24**	**36**	Pn		**Pn**	04 07 05.4 -0.7
	3.7nm,1.1s,baz=212,slow=14,SNR=8.4						
MKAR	**Makanchi Array**	**11.24**	**36**	Pn		**Pn**	04 07 06.4 +0.4
	0.1nm,0.3s,baz=213,slow=14,SNR=7.0						
GEYT	**Alibeck**	**11.52**	**274**	Pn		**Pn**	04 07 13.0 +3.0
	1.3nm,0.3s,baz=97,slow=13,SNR=5.3						
PYUN	**Piuthan**	**13.13**	**136**	*e*P		**Pn**	04 07 30.8 -1.3
DANN	**Dangsing**	**13.37**	**133**	*e*P		**Pn**	04 07 33.6 -1.9
AB31	**Akbulak array**	**14.50**	**325**	⇑Pn		**Pn**	04 07 52.5 +1.9
	0.9nm,0.5s,baz=132,slow=13,SNR=34						
AB31				⇑Sn		**Sn**	04 10 27.7 -3.7
	2.9nm,0.9s,baz=138,slow=22,SNR=4.3						
KKN	**Kakani**	**14.68**	**130**	*e*P		**Pn**	04 07 50.5 -2.8
PKI	**Pulchoki**	**14.92**	**131**	*e*P		**Pn**	04 07 53.9 -2.8
GUN	**Gumba**	**14.96**	**129**	*e*P		**Pn**	04 07 53.8 -3.4
BVAR	**Borovoye Array**	**15.07**	**355**	Pn		**Pn**	04 07 57.9 -0.3
	0.2nm,0.3s,baz=168,slow=10,SNR=2.8						
AKTO	**Aktyubinsk**	**16.22**	**324**	Pn		**P**	04 08 14.8 -1.5
	0.3nm,0.3s,baz=119,slow=13,SNR=14						
AKTO	**Aktyubinsk**	**16.22**	**324**	⇓Pn		**P**	04 08 15.9 -0.4
	7.9nm,0.9s						
ZALV	**Zalesovo Beam**	**17.95**	**24**	P		**Pn**	04 08 32.9 -1.9
	0.3nm,0.3s,baz=225,slow=12,SNR=5.7						
SONM	**Songino Array**	**26.34**	**57**	P		**P**	04 10 01.6 +0.1
	1.8nm,1.0s,baz=261,slow=8.6,SNR=7.6						
FINES	**FINESS Array B**	**36.99**	**325**	P		**P**	04 11 36.3 +1.7
	0.8nm,0.5s,baz=119,slow=12,SNR=1.2						
NB2	**NORSAR Subarra**	**43.99**	**322**	P		**P**	04 12 33.4 +0.8
	comp=Z,0.5nm,0.6s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**43.99**	**322**	P		**P**	04 12 32.9 +0.3
	comp=Z,0.8nm,0.7s,baz=92,slow=7.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**67.12**	**269**	P		**P**	04 15 20.7 +1.2
	comp=Z,0.2nm,0.5s,baz=49,slow=6.5,SNR=6.7						
ILAR	**Eielson Array**	**72.92**	**17**	P		**P**	04 15 54.7 +0.3
	comp=Z,0.4nm,0.7s,baz=322,slow=5.7,SNR=2.7						
YKA	**Yellowknife Ar**	**79.63**	**3**	P		**P**	04 16 33.0 +0.5
	comp=Z,0.2nm,0.5s,baz=348,slow=5.3,SNR=7.6						
WRA	**Warramunga Arr**	**81.67**	**123**	P		**P**	04 16 43.9 -0.2
	comp=Z,0.4nm,0.7s,baz=321,slow=5.2,SNR=5.0						

IDC 05 04:14:00.7±2.1, 2°41N×127°93E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/32, mbtmp3.9/3, Error ellipse: s-maj=165.0km s-min=23.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.08**	**164**	P	P	04 19 08.5	+0.3
	0.8nm,0.3s,baz=344,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.56**	**168**	P	P	04 19 40.1	-0.5
	0.8nm,0.6s,baz=357,slow=8.3,SNR=22						
MKAR	**Makanchi Array**	**59.32**	**325**	P	P	04 24 04.6	+0.1
	0.7nm,0.4s,baz=115,slow=8.0,SNR=24						

*IDC **05** 04:16:43.2±2.7, 30°.42N×132°.62E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.4/40, mbtmp3.9/4, ML3.5/1, MS3.7/2, Ms1 3.7/2, ms1mx2.8/93, Error ellipse: s-maj=82.6km s-min=43.5km az=43.0*
*JMA **05** 04:16:47.3±0.2, 30°.57N×132°.76E, h72km, M3.5*

ISC 05 04:16:47.0±1.3, 30°.59N±0°.08×132°.72E±0°.07, h25km, n17, σ1°37/19, mb3.8/3, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.50**	**273**	P	**Pb**	04 17 13.1	-1.1
JTN				S	**Sb**	04 17 32.7	-0.1
JNAR	**Kushima--Naru**	**1.55**	**307**	P	**Pb**	04 17 14.2	-0.9
JNAR				*e*S	**Sb**	04 17 33.8	-0.5
JNKG	**Nichinankitago**	**1.57**	**313**	P	**Pb**	04 17 14.4	-1.0
JMTN	**Minamitane**	**1.58**	**263**	P	**Pb**	04 17 14.3	-1.3
JTSR	**Tashiro 2**	**1.65**	**291**	P	**Pb**	04 17 15.3	-1.4
JTZ	**Takazaki**	**1.91**	**314**	P	**Pb**	04 17 18.7	-2.5
JTO	**Tosashimizu**	**2.26**	**2**	P	**Pn**	04 17 21.2	-1.7
JNN	**Nakanoshima**	**2.57**	**254**	*e*S	**Sn**	04 17 56.9	-0.7
JSJ	**Shimokoshiki**	**2.79**	**294**	P	**Pn**	04 17 30.4	+0.3
JSJ				*e*S	**Sn**	04 18 02.2	-0.9
JNA	**Nagahama**	**2.97**	**356**	P	**Pn**	04 17 32.1	-0.4
JNU	**Nakatsue**	**2.97**	**329**	Pn	**Pn**	04 17 33.9	+1.3
	8.5nm,0.3s,baz=194,slow=7.1,SNR=76						
JNU				Sn	**Sn**	04 18 10.0	+2.6
	4.5nm,0.3s,baz=177,slow=4.5,SNR=4.2						
JAI	**Aioi**	**3.52**	**24**	P	**Pn**	04 17 39.0	-1.1
JAY	**Jayapura**	**33.79**	**166**	LR	LR	04 35 57.0	
	comp=Z,78nm,18.6s,baz=12,slow=34						
FINES	**FINESS Array B**	**71.01**	**331**	P	**P**	04 28 02.5	+0.2
	2.1nm,0.9s,baz=72,slow=4.5,SNR=4.4						
YKA	**Yellowknife Ar**	**72.90**	**27**	P	**P**	04 28 15.0	+1.4
	0.5nm,1.0s,baz=293,slow=4.7,SNR=4.0						
AKASG	**Malin Array Be**	**74.76**	**320**	P	**P**	04 28 25.8	+1.0
	0.4nm,0.4s,baz=54,slow=6.0,SNR=5.1						
ATD	**Arta Tunnel**	**84.12**	**280**	LR	LR	05 08 45.3	
	comp=Z,62nm,18.1s,baz=57,slow=37						

*IDC **05** 04:26:57.2±0.8, 20°.57N×122°.07E, h0km, mb4.0/12, mb1 4.2/14, mb1mx4.0/40, mbtmp4.0/14, ML4.2/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/88, Error ellipse: s-maj=30.1km s-min=17.3km az=70.0*
*MAN **05** 04:26:58.8, 20°.66N×121°.60E, h2km, mb4.3, ML3.1, MS2.8*
*JMA **05** 04:27:02.8±0.5, 20°.83N×121°.90E, h64km, M4.1*
*NEIC **05** 04:27:03.2±1.9, 20°.70N±0°.06×122°.1E±0°.1, h35km±4km, mb4.4/12, Error ellipse: s-maj=14.5km s-min=9.2km az=91.0*

ISC 05 04:27:01.5±0.9, 20°.64N±0°.04×122°.02E±0°.07, h26km±7km, n67, σ1°31/75, mb4.2/18, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.21**	**195**	⇓*e*P	**Pb**	04 27 06.9	-0.5
BBP				*i* S	**Sb**	04 27 11.9	+0.5
TWG	**Pinlang**	**2.34**	**338**	Pn	**Pn**	04 27 37.2	-1.2
TWG				Sn	**Sn**	04 28 05.7	-0.5
YULB	**Yu-li**	**2.82**	**346**	Pn	**Pn**	04 27 43.5	-1.4
YULB				Sn	**Sn**	04 28 15.9	-2.2
APYP	**Conner**	**2.86**	**195**	⇓*e*P	**Pn**	04 27 46.1	+0.6
APYP				*e*S	**Sn**	04 28 20.9	+1.7
TPUB	**Ta-pu**	**2.94**	**334**		**Pn**	04 27 47.3	+0.7
TPUB				Sn	**Sn**	04 28 21.0	-0.1
SSLB	**Suanglung**	**3.28**	**343**		**Pn**	04 27 52.1	+0.8
NACB	**Ninganchiao**	**3.54**	**354**		**Pn**	04 27 53.2	-1.6
SAMP	**Sagada Mountai**	**3.70**	**197**	⇑*e*P	**Pn**	04 27 58.9	+1.9
SAMP				*e*S	**Sn**	04 28 33.4	-6.4
HATJ	**Hateruma jima**	**3.78**	**26**	P	**Pn**	04 27 58.6	+0.5
HATJ				S	**Sn**	04 28 40.4	-1.3
JYNG	**Yonagunijimaku**	**3.88**	**13**

comp=Z,0.5nm,0.4s,baz=344,slow=9.2,SNR=12
WRA Warramunga Arr 42.10 163 P **P** **04 34 51.2 -0.4**
WB2 Warramunga Arr 42.10 163 P **P** **04 34 50.2 -1.4**
ZAA0 Zalesovo Array 43.64 329 P **P** **04 35 04.5 +0.8**
ZALV Zalesovo Beam 43.64 329 P **P** **04 35 04.1 +0.4**
comp=Z,5.7nm,0.4s,baz=116,slow=8.0,SNR=34
ZALV Zalesovo Beam 43.64 329 P **P** **04 35 04.3 +0.6**
KURK Kurchatov 45.32 322 P **P** **04 35 18.1 +0.9**
KURK IAmb IAmb 04 35 18.9
comp=Z,5.3nm,1.1s
ASAR Alice Springs 45.54 165 P **P** **04 35 18.8 -0.4**
comp=Z,0.4nm,0.4s,baz=351,slow=7.7,SNR=8.8
ASAR Alice Springs 45.54 165 P **P** **04 35 19.1 -0.1**
BRVK Borovoye 50.99 322 P **P** **04 36 00.9 -0.1**
BRVK IAmb IAmb 04 36 02.9
comp=Z,2.9nm,0.7s
NRIK Noril'sk 53.01 345 LR LR 05 00 55.5
comp=Z,91nm,20.2s,baz=282,slow=38
ABKAR Akbulak array 56.49 316 P **P** **04 36 42.1 +0.8**
ABKAR PcP **PcP** **04 37 37.1 -0.8**
ABKAR Akbulak array 56.49 316 P **P** **04 36 42.2 +0.9**
ABKAR IAmb IAmb 04 36 51.4
comp=Z,5.3nm,1.5s
ABKAR PcP **PcP** **04 37 36.9 -1.0**
ARU Arti 58.41 324 P **P** **04 36 54.8 +0.1**
J20K Nowinta River 68.95 28 P **P** **04 38 04.4 +0.2**
IMAR Indian Mountai 69.00 26 P **P** **04 38 04.7 +0.3**
K20K Telida 69.04 29 P **P** **04 38 04.7 -0.1**
H21K Melozitna Rive 69.41 26 P **P** **04 38 08.5 +1.5**
CAST Castle Rocks 69.93 29 P **P** **04 38 11.3 +1.1**
CAST IAmb IAmb 04 38 13.0
comp=Z,7.1nm,1.3s
ILAR Eielson Array 72.00 27 P **P** **04 38 21.8 -1.0**
comp=Z,0.3nm,0.4s,baz=270,slow=5.0,SNR=6.9
FINES FINESS Array B 74.89 330 P **P** **04 38 40.2 +0.5**
comp=Z,5.8nm,1.1s,baz=97,slow=8.1,SNR=4.3
BRTR Keskin Array B 75.91 307 P **P** **04 38 46.6 +0.3**
comp=Z,0.7nm,0.6s,baz=113,slow=3.1,SNR=10
BRTR Keskin Array B 75.91 307 P **P** **04 38 46.4 +0.2**
AKASG Malin Array Be 76.03 319 P **P** **04 38 45.9 -0.7**
comp=Z,0.8nm,0.6s,baz=61,slow=5.6,SNR=5.2
NOA NORSAR Array B 81.71 333 P **P** **04 39 17.6 +0.1**
comp=Z,0.4nm,0.7s,baz=58,slow=4.2,SNR=1.4
YKA Yellowknife Ar 85.92 23 P **P** **04 39 39.5 +0.5**
comp=Z,0.8nm,0.6s,baz=309,slow=4.6,SNR=17
GERES GERESS Array B 86.06 321 P **P** **04 39 40.5 +0.3**
comp=Z,0.2nm,0.4s,baz=57,slow=4.9,SNR=4.3
GERES GERESS Array B 86.06 321 P **P** **04 39 39.8 -0.4**

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*IDC **05** 04:43:47.1±3.4, 37.°80N×50.°48E, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.5/45, mbtmp3.8/9, ML3.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/86, Error ellipse: s-maj=52.3km s-min=29.2km az=25.0*
*TEH **05** 04:43:47.8, 37.°32N×50.°49E, h5km, ML3.5*
*AZER **05** 04:43:50.8±1.4, 37.°57N×49.°81E, h20km, Error ellipse: s-maj=13.0km s-min=8.9km az=33.0, Hypocentre not reviewed by the ISC*
*NNC **05** 04:43:51.2±6.8, 38.°28N×50.°68E, h0km, mb3.8, Error ellipse: s-maj=130.2km s-min=31.7km az=91.0*

ISC 05 04:43:45.9±0.7, 37.°52N±0.°03×50.°27E±0.°04, h22km±5km, n70, σ2°23/85, mb3.8/7, 2C-3D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LHJ2	**Lahijan - Gila**	**0.45**	**206**	*e*Pg	**Pg**		**04 43 55.0**	**+0.8**
LHJ2				*e*Sg	**Sg**		**04 44 01.3**	**+1.2**
JIR1	**Jirandeh**	**0.95**	**206**	*e*Pg	**Pg**		**04 44 03.2**	**-0.6**
CSN1	**Caspian**	**0.97**	**270**	*e*Pg	Pn		04 44 11.0	+5.9
QALM	**Alamut, Qazvin**	**1.16**	**167**	*e*			04 44 23.1
QALM	comp=Z,18μm,0.4s			*e*Pg	**Pb**		**04 44 06.1**	**-1.7**
IGZV	**Ghazvin**	**1.18**	**184**	*e*Sg	**Sg**		**04 44 21.8**	**-1.7**
IGZV				*e*Pg	**Pb**		**04 44 06.9**	**-1.2**
IGZV				*e*			04 44 24.9
	comp=Z,31μm,0.6s						
ZNJK	**Zanjan**	**1.58**	**236**	*e*Pg	**Pn**		**04 44 13.3**	**-0.4**
THKV	**Tehran--Karaj**	**1.71**	**164**	*e*Pg	Pn		04 44 14.1	-1.4
CHTH	**Charan**	**1.78**	**158**	*e*Pg	Pn		04 44 16.4	-0.1
IMHD	**Mahdasht**	**1.90**	**171**	*e*Pg	**Pn**		**04 44 19.1**	**+1.1**
IMHD				*e*			04 44 55.2
	comp=Z,5μm,0.3s						
TEHA	**Amirabad Tehra**	**2.01**	**154**	*e*Pn	**Pn**		**04 44 19.4**	**-0.2**
TEHA				*e*			04 44 54.3
	comp=Z,5μm,0.8s						
TEH	**Tehran**	**2.02**	**154**	*e*Pn	**Pn**		**04 44 19.7**	**0.0**
TEH				*e*			04 44 49.9
	comp=Z,6μm,0.6s						
IPRN	**Peran**	**2.10**	**129**	*e*Pn	**Pn**		**04 44 20.5**	**-0.3**
IRAZ	**Razeghan**	**2.18**	**188**	*e*Pn	**Pn**		**04 44 22.0**	**0.0**
IHSB	**Hasanabad**	**2.26**	**160**	*e*Pn	**Pn**		**04 44 24.9**	**+1.9**
DAMV	**Damavand**	**2.35**	**145**	*e*Pn	**Pn**		**04 44 25.7**	**+1.3**
IDMV	**Damavand**	**2.42**	**145**	*e*Pn	**Pn**		**04 44 26.8**	**+1.4**
IBST	**Bostanabad**	**2.72**	**274**	*e*Pn	**Pg**		**04 44 38.3**	**+0.7**
IFIR	**Firoozkooh**	**2.75**	**134**	*e*Pn	**Pn**		**04 44 31.2**	**+1.3**
IFIR				*e*			04 45 12.6
	comp=Z,1μm,0.4s						
IVRN	**Varamin**	**2.81**	**156**	*e*Pn	**Pn**		**04 44 31.8**	**+1.3**
HAGD	**Aghdareh**	**2.90**	**199**	*e*Pn	**Pn**		**04 44 35.1**	**+3.2**
ISHM	**Shahmirzad**	**2.97**	**125**	*e*Pn	**Pn**		**04 44 35.1**	**+2.2**
IGLO	**Ghaloghah**	**3.01**	**110**	*e*Pn	**Pn**		**04 44 36.0**	**+2.6**
ASAO	**Ashtian**	**3.02**	**184**	*e*Pn	**Pn**		**04 44 33.2**	**-0.4**
ILAS	**Lasjerd**	**3.05**	**135**	*e*Pn	**Pn**		**04 44 35.8**	**+1.8**
SNGE	**Sanandaj**	**3.44**	**225**	*e*Pn	**Pn**		**04 44 39.5**	**+0.2**
ISFB	**Sefidab**	**3.57**	**153**	*e*Pn	**Pn**		**04 44 42.0**	**+1.0**
IANJ	**Anjilo**	**3.58**	**125**	*e*Pn	**Pn**		**04 44 43.5**	**+2.2**
IANJ				*e*			04 45 38.0
	comp=Z,804nm,0.3s						
KRSH	**Karshahi**	**3.88**	**157**	*e*Pn	**Pn**		**04 44 46.3**	**+0.9**
BMDN	**Meydan**	**4.07**	**198**	*e*Pn	**Pn**		**04 44 50.0**	**+2.0**
IDOB	**Doab**	**4.15**	**205**	*e*Pn	**Pn**		**04 44 53.0**	**+3.9**
IKLH	**Kolahrood**	**4.36**	**166**	*e*Pn	**Pn**		**04 44 53.6**	**+1.5**
MRVT	**Maraveh tapeh**	**4.59**	**87**	*e*Pn	**Pn**		**04 44 55.7**	**+0.7**
SHRO	**Shahrood**	**4.84**	**107**	*e*Pn	**Pn**		**04 44 59.9**	**+1.4**
IZEF	**Zefreh**	**4.95**	**160**	*e*Pn	**Pn**		**04 45 01.7**	**+1.6**
ANAR	**Anarak**	**5.18**	**146**	*e*Pn	**Pn**		**04 45 04.5**	**+1.3**
GEYT	**Alibeck**	**6.20**	**84**	Pn	**Pn**		**04 45 17.2**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=242,slow=22,SNR=4.2						
TPRV	**Parvadeh(Tabas**	**6.90**	**129**	*e*Pn	**Pn**		**04 45 28.2**	**+1.4**
BRTR	**Keskin Array B**	**13.21**	**285**	LR	LR		04 53 07.0
	comp=Z,98nm,18.3s,baz=322,slow=42						
AB31	**Akbulak array**	**13.61**	**22**	Pn	Pn		04 46 54.6	-3.8
	comp=Z,0.8nm,0.8s,baz=208,slow=13,SNR=9.4						
AB31				⇑Sn	Sn		04 49 20.8	-8.7
	comp=Z,0.8nm,0.5s,baz=206,slow=25,SNR=7.7						
AKTO	**Aktyubinsk**	**14.00**	**21**	Pn	**Pn**		**04 47 00.3**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=201,slow=14,SNR=5.9						
AKTO	**Aktyubinsk**	**14.00**	**21**	⇓Pn	Pn		04 46 58.1	-5.7
AKTO	comp=Z,1.6nm,0.6s			⇑Sn	Sn		04 49 28.0	-11
	comp=Z,3.8nm,0.9s						
ARU	**Arti**	**19.66**	**14**	Pn	**P**		**04 48 11.8**	**-2.5**
	comp=Z,0.0nm,0.3s,baz=181,slow=9.5,SNR=5.8						
BRVK	**Borovoye**	**20.80**	**35**	⇓P	**P**		**04 48 26.8**	**+0.1**
	comp=Z,3.3nm,0.8s						
BVAR	**Borovoye Array**	**20.83**	**36**	P	**P**		**04 48 27.3**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=226,slow=10,SNR=21						
KIRV	**Kirov**	**21.04**	**359**	P	**P**		**04 48 29.6**	**+0.4**
	comp=Z,11nm,0.7s,baz=152,slow=6.7,SNR=5.6						
KURBB	**Kurchatov Arra**	**23.93**	**48**	P	**P**		**04 49 00.5**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=252,slow=9.4,SNR=12						
MAKZ	**Makanchi**	**25.07**	**58**	⇓P	**P**		**04 49 12.1**	**+2.1**
	comp=Z,3.5nm,0.8s						
MK31	**Makanchi Array**	**25.28**	**58**	P	**P**		**04 49 12.9**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=249,slow=6.7,SNR=9.5						
MKAR	**Makanchi Array**	**25.28**	**58**	P	**P**		**04 49 13.1**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=250,slow=6.8,SNR=16						
ZALV	**Zalesovo Beam**	**28.75**	**44**	P	**P**		**04 49 43.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=231,slow=9.1,SNR=2.1						
NOA	**NORSAR Array B**	**33.85**	**327**	P	**P**		**04 50 29.8**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=108,slow=7.9,SNR=3.8						

IDC 05 05:15:14.8±10.0, 4.°79S×153.°93E, h116km±72km, mb3.5/3, mb1 3.8/4, mb1mx3.2/45, mbtmp4.0/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/38, Error ellipse: s-maj=108.7km s-min=60.1km az=91.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.55**	**128**	LR	LR		05 20 30.1
	comp=Z,97nm,19.9s,baz=147,slow=42						
PMG	**Port Moresby**	**8.13**	**235**	P	Pn		05 17 10.4	+0.2
	8.1nm,0.3s,baz=39,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	**24.30**	**230**	P	P		05 20 21.9	+0.2
	2.3nm,0.7s,baz=55,slow=10.0,SNR=25						
ASAR	**Alice Springs**	**26.93**	**224**	P	P		05 20 45.1	-0.4
	0.6nm,0.7s,baz=57,slow=8.2,SNR=6.4						
STKA	**Stephens Creek**	**29.32**	**202**	P	P		05 21 06.6	0.0
	1.3nm,0.6s,baz=35,slow=12,SNR=3.0						
JHJ	**Hachijo jima 2**	**40.02**	**341**	LR	LR		05 36 23.7
	comp=Z,123nm,21.4s,baz=93,slow=32						
TORD	**Torodi Ar. Bea**	**151.37**	**289**	PKPbc	PKPbc		05 34 55.9	-0.1
	0.3nm,0.6s,baz=82,slow=3.1,SNR=2.5						

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*NNC **05** 05:20:26.9±3.3, 54.°22N×86.°97E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=21.0km s-min=15.0km az=68.0, Suspected Mining explosion.*
*IDC **05** 05:20:27.9±3.1, 54.°34N×86.°87E, h0km, mb1 2.6/2, mb1mx2.6/49, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=28.6km s-min=17.0km az=54.0*

ISC 05 05:20:23.0±2.3, 52.°76N±0.°05×86.°2E±0.°2, h0km, n8, σ0°56/8, 5C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**327**	*i*			05 27 19.8
	baz=72,slow=334,SNR=4.4						
ZAA0	**Zalesovo Array**	**1.44**	**327**	⇑P	**Pg**		**05 20 50.5**	**0.0**
	0.2nm,0.2s,baz=72,slow=16						
ZAA0				⇑S	**Sg**		**05 21 09.0**	**0.0**
	1.7nm,0.9s,baz=80,slow=30						
ZALV	**Zalesovo Beam**	**1.44**	**327**	Pg	**Pb**		**05 20 50.6**	**0.0**
	1.2nm,0.3s,baz=72,slow=16,SNR=25						
ZALV				Lg	Lg		05 21 09.1
	0.9nm,0.3s,baz=68,slow=28,SNR=6.7						
KURK	**Kurchatov**	**5.11**	**249**	⇓Pn	**Pg**		**05 22 00.6**	**-0.3**
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**5.20**	**249**	Pn	**Pg**		**05 22 03.3**	**+0.6**
	0.0nm,0.3s,baz=54,slow=13,SNR=4.7						
KURBB	**Kurchatov Arra**	**5.20**	**249**	⇑Pn	**Pg**		**05 22 02.3**	**-0.3**
	0.8nm,0.5s						
KURBB				⇑Lg	Lg		05 23 47.7
	3.3nm,0.8s						
MK31	**Makanchi Array**	**6.48**	**204**	⇑Pn	**Pg**		**05 22 26.3**	**-0.7**
	0.2nm,0.5s,baz=26,slow=13,SNR=12						
MKAR	**Makanchi Array**	**6.48**	**204**	Pn	**Pg**		**05 22 27.7**	**+0.7**
	0.1nm,0.3s,baz=25,slow=14,SNR=10.0						
MKAR				Lg	Lg		05 24 43.7
	baz=28,slow=28,SNR=4.6						

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*BJI **05** 05:28:26.3±0.0, 6.°22S×130.°84E, h135km, mb5.3/69, mB5.0/36*
*IDC **05** 05:28:27.9±0.7, 6.°00S×130.°51E, h109km±5km, mb4.7/19, mb1 4.8/23, mb1mx4.6/30, mbtmp5.1/23, MS3.5/8, Ms1 3.5/8, ms1mx3.1/60, Error ellipse: s-maj=14.8km s-min=9.2km az=71.0*
*MOS **05** 05:28:29.8±0.9, 5.°93S×130.°65E, h145km, mb5.2/45, Error ellipse: s-maj=9.5km s-min=5.0km az=120.3*
*DJA **05** 05:28:30.1±0.2, 6.°S±2.°×13.°1E±.°, h138km±3km, M4.9/76, mB5.4/52, mb5.2/76, MLv5.7/13, Mw(mB)4.8/52, MwMwp4.7/3, Mwp5.1/3*
*NEIC **05** 05:28:30.3±1.8, 5.°96S±0.°06×130.°60E±0.°07, h129km±5km, mb5.2/86, Error ellipse: s-maj=10.4km s-min=8.1km az=78.0*
*DSN **05** 05:28:32.2±1.6, 5.°82S×130.°49E, h137km, mb5.6/14, Error ellipse: s-maj=45.6km s-min=18.0km az=96.0*
*GCMT **05** 05:28:33.3±0.3, 6.°03S±0.°02×130.°70E±0.°02, h156km±3km, MW5.0/90, Moment Tensor Solution. s29,c31; s90,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.47±.16; $M_{\theta\theta}$-0.06±.19; $M_{\phi\phi}$-1.41±.22; $M_{r\theta}$-0.68±.11; $M_{\theta\phi}$-0.43±.21; $M_{\phi r}$4.01±.14; Best double couple: $M_0$4.33200×10^{16} NP1:ϕ_s214.00000°, δ12.00000°, λ130.00000°. NP2: ϕ_s352.00000°, δ81.00000°, λ82.00000°. Principal axes: T 4.4330, Plg54.0000°, Azm253.0000°; N -0.2000, Plg8.0000°, Azm354.0000°; P -4.2310, Plg35.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 05:28:29.5±0.4, 6.°04S±0.°03×130.°65E±0.°04, h131km±3km, h132km; pP-P, n495, σ1°43/528, mb5.2/138, 24C-11D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.68**	**334**	P	**Pn**		**05 29 01.7**	**+1.9**
SAUI	**Saumlaki**	**2.03**	**162**	P	**Pn**		**05 29 05.4**	**+1.5**
SAUI	**Saumlaki**	**2.03**	**162**	Pn	**Pn**		**05 29 06.2**	**+2.3**
SAUI	**Saumlaki**	**2.03**	**162**	P	**Pn**		**05 29 06.4**	**+2.5**
MSAI	**Masohi**	**3.18**	**327**	P	**Pn**		**05 29 18.8**	**+0.3**
AAI	**Ambon**	**3.39**	**314**	P	**Pn**		**05 29 22.9**	**+1.7**
AAI	**Ambon**	**3.39**	**314**	P	**Pn**		**05 29 21.8**	**+0.6**
FAKI	**Fak Fak**	**3.49**	**27**	P	**Pn**		**05 29 21.9**	**-0.6**
FAKI	**Fak Fak**	**3.49**	**27**		**Pn**		**05 29 22.0**	**-0.6**
FAKI	**Fak Fak**	**3.49**	**27**	P	**Pn**		**05 29 22.0**	**-0.6**
SIJI	**Sorong**	**5.18**	**7**	P	**Pn**		**05 29 43.9**	**-1.1**
	109nm,0.3s,baz=314,slow=23,SNR=242						
SIJI				S	**Sn**		**05 30 37.6**	**-6.2**
	263nm,0.3s,baz=196,slow=23,SNR=6.8						
SIJI				LR	LR		05 32 13.8
	comp=Z,408nm,18.6s,baz=244,slow=44						
SWI	**Sorong**	**5.18**	**7**	P	**Pn**		**05 29 44.0**	**-1.1**
SWI				pmax	pmax		
	comp=Z,376nm,0.6s						
SWI	**Sorong**	**5.18**	**7**	P	**Pn**		**05 29 43.9**	**-1.1**
	comp=Z,18nmcomp=Z,85μmcomp=Z,413nm,0.7s						
SANI	**Sanana**	**6.11**	**310**	P	**Pn**		**05 29 58.4**	**+0.8**
	comp=Z,1.0nmcomp=Z,4μmcomp=Z,3μmcomp=Z,257nm,0.8s						
SANI	**Sanana**	**6.11**	**310**	P	**Pn**		**05 29 59.1**	**+1.5**
LBMI	**Labuha**	**6.22**	**330**	P	**Pn**		**05 30 00.6**	**+1.6**
	comp=Z,2.4nmcomp=Z,3μmcomp=Z,297nm,1.1s						
DRS	**Darwin Rock St**	**6.35**	**178**	P	**Pn**		**05 30 01.3**	**+0.5**
MTN	**Manton Dam**	**6.78**	**176**	P	**Pn**		**05 30 06.2**	**-0.2**
	baz=6.8,SNR=267						
MTN				S	**Sn**		**05 31 19.9**	**-2.4**
	baz=6.8						
MTN	**Manton Dam**	**6.78**	**176**	Pn	**Pn**		**05 30 07.0**	**+0.5**
MTN	**Manton Dam**	**6.78**	**176**	P	**Pn**		**05 30 07.1**	**+0.6**
KDU	**Kakadu**	**6.84**	**165**	P	**Pn**		**05 30 06.5**	**-0.9**
	baz=6.9,SNR=368						
KDU				S	**Sn**		**05 31 18.9**	**-5.0**
	baz=6.9						
KDU	**Kakadu**	**6.84**	**165**	P	**Pn**		**05 30 07.3**	**-0.1**
SRPI	**Serui, Papua**	**6.95**	**54**	P	**Pn**		**05 30 08.9**	**+0.1**
	comp=Z,5.8nmcomp=Z,7μmcomp=Z,290nm,0.6s						
SRPI				S	**Sn**		**05 31 21.7**	**-4.8**
	comp=Z,5.8nmcomp=Z,7μmcomp=Z,290nm,0.6s						
BAKI	**Biak**	**7.27**	**49**	P	**Pn**		**05 30 14.4**	**+1.2**
	comp=Z,18μmcomp=Z,2μm,1.0s						
SOEI	**Soe**	**7.32**	**239**	P	**Pn**		**05 30 15.7**	**+1.8**
	comp=Z,5.3nmcomp=Z,4μmcomp=Z,5μmcomp=Z,552nm,1.1s						
SOEI	**Soe**	**7.32**	**239**	Pn	**Pn**		**05 30 15.3**	**+1.4**
SOEI	**Soe**	**7.32**	**239**	P	**Pn**		**05 30 15.6**	**+1.7**
TNTI	**Ternate**	**7.52**	**334**	P	**Pn**		**05 30 18.5**	**+2.0**
	comp=Z,0.3nmcomp=Z,76nm,0.8s						
BATI	**Baumata**	**8.06**	**239**	P	**Pn**		**05 30 24.1**	**+0.3**
	comp=Z,56nm,0.3s,baz=136,slow=1.0,SNR=29						
BATI				S	**Sn**		**05 31 50.7**	**-2.8**
	comp=Z,81nm,0.3s,baz=245,slow=23,SNR=15						
BATI	**Baumata**	**8.06**	**239**	P	**Pn**		**05 30 24.4**	**+0.6**
	comp=Z,3μmcomp=Z,233nm,0.6s						
BBSI	**Bau Bau**	**8.06**	**274**	P	**Pn**		**05 30 26.0**	**+2.2**
	comp=Z,465nmcomp=Z,54nm,1.0s						
KDI	**Kendari**	**8.26**	**284**	P	**Pn**		**05 30 29.0**	**+2.5**
	comp=Z,9μmcomp=Z,358nm,1.4s						
MMRI	**Maumere**	**8.73**	**252**	P	**Pn**		**05 30 35.7**	**+2.9**
	comp=Z,160nm,0.5s						
MMRI	**Maumere**	**8.73**	**252**	Pn	**Pn**		**05 30 34.6**	**+1.7**
MMRI	**Maumere**	**8.73**	**252**	P	**Pn**		**05 30 35.5**	**+2.7**
EDFI	**Ende, Flores**	**9.28**	**253**	P	**Pn**		**05 30 43.1**	**+2.8**
	comp=Z,1μmcomp=Z,59nm,0.4s						
LUWI	**Luwuk**	**9.30**	**302**	P	**Pn**		**05 30 42.0**	**+1.5**
	comp=Z,1μmcomp=Z,131nm,1.2s						
LUWI	**Luwuk**	**9.30**	**302**	Pn	**Pn**		**05 30 40.8**	**+0.4**
LUWI	**Luwuk**	**9.30**	**302**	P	**Pn**		**05 30 41.8**	**+1.3**
KNRA	**Kununurra**	**9.75**	**191**	P	**Pn**		**05 30 44.9**	**-1.6**
	baz=9.8,SNR=564						
KNRA				S	**Sn**		**05 32 27.0**	**-7.4**
	baz=9.8						
KNRA	**Kununurra**	**9.75**	**191**	Pn	**Pn**		**05 30 45.1**	**-1.4**
GENI	**Genyem**	**10.09**	**71**	P	**Pn**		**05 30 50.5**	**-0.6**
	comp=Z,4μmcomp=Z,182nm,0.9s						
GENI	**Genyem**	**10.09**	**71**	P	**Pn**		**05 30 52.2**	**+1.1**
BSSI	**Bau Bau, Buton**	**10.10**	**269**	P	**Pn**		**05 30 54.1**	**+2.8**
	comp=Z,792nmcomp=Z,88nm,0.9s						
APSI	**Ampana**	**10.33**	**299**	P	**Pn**		**05 30 57.3**	**+3.0**
	comp=Z,1μmcomp=Z,81nm,0.9s						
BKSI	**Bulukumba**	**10.50**	**273**	P	**Pn**		**05 30 59.6**	**+3.0**
	comp=Z,1μmcomp=Z,165nm,0.7s						
JAY	**Jayapura**	**10.62**	**71**	P	**Pn**		**05 30 57.2**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=228,slow=6.0,SNR=13						
JAY				S	**Sn**		**05 32 53.2**	**-2.3**
	comp=Z,3.0nm,0.3s,baz=125,slow=20,SNR=1.6						
JAY				LR	LR		05 36 17.7
	comp=Z,345nm,20.8s,baz=178,slow=44						
JAY	**Jayapura**	**10.62**	**71**	P	**Pn**		**05 30 57.7**	**-0.5**
	comp=Z,50nm,0.9s						
BNSI	**Bone**	**10.63**	**278**	P	**Pn**		**05 31 01.3**	**+3.1**
	comp=Z,1μmcomp=Z,171nm,0.9s						
BASI	**Baing, Sumba**	**10.80**	**247**	P	**Pn**		**05 31 01.2**	**+0.6**
	comp=Z,2μmcomp=Z,194nm,0.7s						
MRSI	**Marisa**	**10.84**	**306**	P	**Pn**		**05 31 02.1**	**+1.0**
	comp=Z,1μmcomp=Z,125nm,1.1s						
KAPI	**Kappang**	**10.90**	**275**	P	**Pn**		**05 31 02.7**	**+0.8**
KAPI	**Kappang**	**10.90**	**275**	Pn	**Pn**		**05 31 02.7**	**+0.8**
SPSI	**Sidrap Palu**	**11.03**	**280**	P	**Pn**		**05 31 07.0**	**+3.3**
	comp=Z,844nmcomp=Z,95nm,0.9s						
TTSI	**Tana Toraja**	**11.20**	**285**	P	**Pn**		**05 31 09.0**	**+3.1**
	comp=Z,2μmcomp=Z,142nm,0.9s						
TOLI2	**Tolitoli**	**12.15**	**305**	Pn	**Pn**		**05 31 18.3**	**0.0**
MPSI	**Mapaga**	**12.46**	**300**	P	**Pn**		**05 31 24.6**	**+2.1**
	comp=Z,733nmcomp=Z,48nm,0.8s						
FITZ	**Fitzroy Crossi**	**12.94**	**202**	P	**Pn**		**05 31 25.3**	**-3.3**
	baz=37,slow=12						
WB0	**Warramunga Arr**	**14.12**	**165**		**Pn**		**05 31 40.4**	**-3.4**
WRAB	**Tennant Creek**	**14.27**	**166**	*c i*P	**Pn**		**05 31 42.9**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,27nm,0.7s						
WRAB	**Tennant Creek**	**14.27**	**166**	Pn	**Pn**		**05 31 43.4**	**-2.2**
WRA	**Warramunga Arr**	**14.28**	**166**	P	**Pn**		**05 31 42.1**	**-3.6**
	comp=Z,5.4nm,0.3s,baz=343,slow=13,SNR=103						
WRA				S	Sn		05 34 12.5	-11
	comp=Z,20nm,0.3s,baz=348,slow=22,SNR=7.5						
WRA				LR	LR		05 38 20.0
	comp=Z,309nm,21.1s,baz=10.0,slow=41						
WRA	**Warramunga Arr**	**14.28**	**166**	*i* P	**Pn**		**05 31 42.7**	**-3.0**
WRA				pmax	pmax		
	comp=Z,23nm,0.6s						
WRA	**Warramunga Arr**	**14.28**	**166**	Pn	**Pn**		**05 31 45.1**	**-0.7**
WB2	**Warramunga Arr**	**14.28**	**166**	Pn	**Pn**		**05 31 43.6**	**-2.1**
WR0	**Warramunga Arr**	**14.34**	**165**	Pn	**Pn**		**05 31 45.2**	**-1.4**
BKB	**Balikpapan**	**14.52**	**289**	P	**P**		**05 31 52.7**	**+0.9**
	comp=Z,4μmcomp=Z,197nm,1.0s						
BKB	**Balikpapan**	**14.52**	**289**	P	**Pn**		**05 31 48.6**	**-0.3**
COEN	**Coen**	**14.62**	**123**	Pn	**Pn**		**05 31 49.7**	**-0.4**
KBKI	**Kotabaru**	**14.69**	**280**	P	**P**		**05 31 53.4**	**-0.2**
	comp=Z,134nm,0.9s						
SRBI	**Singaraja**	**15.45**	**262**	P	**P**		**05 32 01.5**	**-0.6**
	comp=Z,1μmcomp=Z,165nm,1.0s						
BBKI	**Banjar Baru**	**15.96**	**279**	P	**P**		**05 32 09.4**	**+1.6**
	comp=Z,8μmcomp=Z,394nm,0.9s						
ABJI	**Asem Bagus**	**16.39**	**263**	P	**P**		**05 32 14.1**	**+1.6**
	comp=Z,158nm,0.8s						
MYLDM	**Lahad Datu**	**16.48**	**312**	P	**P**		**05 32 13.4**	**0.0**
MTKI	**Muara Teweh, K**	**16.52**	**287**	P	**P**		**05 32 14.8**	**+0.9**
	comp=Z,163nm,0.8s						
JAGI	**Jajag, Banyuwa**	**16.54**	**261**	P	**Pn**		**05 32 13.6**	**-0.4**
	comp=Z,2μmcomp=Z,133nm,1.0s						
JAGI	**Jajag, Banyuwa**	**16.54**	**261**	P	**Pn**		**05 32 11.2**	**-2.8**
JAGI				IAmb	IAmb		05 32 17.6
	comp=Z,105nm,0.5s						
JAGI	**Jajag, Banyuwa**	**16.54**	**261**	P	**Pn**		**05 32 13.6**	**-0.4**
	comp=Z,133nm,1.0s				

SKJI	Sukabumi	23.96 266	P	P	05 33 32.6	+0.7
	comp=Z,2μmcomp=Z,222nm,0.8s					
QLP	Quilpie	24.19 149	P	P	05 33 35.5	+1.7
	baz=24,SNR=9.6					
MULG	Mulgathing	24.32 173	P	P	05 33 36.3	+1.3
FORT	Forrest	24.73 185	P	P	05 33 39.6	+1.0
	baz=25,SNR=23					
FORT	Forrest	24.73 185	P	P	05 33 38.1	-0.5
FORT			IAmb	IAmb	05 34 01.2	
	comp=Z,88nm,0.7s					
FORT	Forrest	24.73 185	P	P	05 33 39.8	+1.1
PPBI	Pangkal Pinang	24.75 278	P	P	05 33 39.4	+0.3
	comp=Z,18μmcomp=Z,65nm,0.7s					
CGJI	Cibinong	24.81 267	P	P	05 33 39.5	-0.1
	comp=Z,3μmcomp=Z,162nm,0.9s					
RK1H	Rockhampton Ha	25.74 134	P	P	05 33 49.5	+1.6
KLSI		25.84 272	P	P	05 33 50.5	+1.5
	comp=Z,232nmcomp=Z,24nm,0.8s					
KASI	Kota Agung	26.02 270	P	P	05 33 51.2	+0.6
	comp=Z,56nm,1.4s					
MDSI	Maura Dua	26.40 272	P	P	05 33 54.8	+0.8
	comp=Z,9.2nm,0.7s					
DSRI	Dabo	26.60 281	P	P	05 33 56.9	+1.1
RMQ	Roma	26.68 142	P	P	05 33 59.6	+3.3
	baz=27,SNR=4.1					
MORW	Morawa	26.75 209	P	P	05 33 57.4	+0.4
	baz=27,SNR=14					
MORW	Morawa	26.75 209	P	P	05 33 56.0	-0.9
MORW	Morawa	26.75 209	P	P	05 33 57.3	+0.4
BBOO	Buckleboo	27.11 170	P	P	05 34 00.7	+0.6
	baz=27,SNR=11					
BBOO	Buckleboo	27.11 170	P	P	05 34 00.7	+0.6
EIDS	Eidsvold	27.42 137	P	P	05 34 03.8	+0.8
STKA	Stephens Creek	27.67 160	P	P	05 34 06.1	+1.0
	comp=Z,9.1nm,0.4s,baz=339,slow=8.3,SNR=54					
STKA			LR	LR	05 47 30.9	
	comp=Z,80nm,18.2s,baz=346,slow=41					
STKA	Stephens Creek	27.67 160	P	P	05 34 06.2	+1.0
	baz=28,SNR=43					
STKA	Stephens Creek	27.67 160	P	P	05 34 06.1	+1.0
STKA	Stephens Creek	27.67 160	P	P	05 34 06.1	+1.0
BLDU	Ballidu	27.73 207	P	P	05 34 06.3	+0.6
	baz=28,SNR=21					
BLDU	Ballidu	27.73 207	P	P	05 34 06.3	+0.6
KLBR	Kellerberrin	28.14 204	P	P	05 34 10.2	+0.9
	baz=28,SNR=32					
KLBR	Kellerberrin	28.14 204	P	P	05 34 10.4	+1.1
HTT	Hallett	28.32 165	P	P	05 34 13.0	+2.1
	baz=28,SNR=6.2					
DLV	T Lat	28.38 309	P	P	05 34 11.1	-0.8
DLV			IAmb	IAmb	05 34 13.2	
	comp=Z,99nm,1.5s					
DLV	T Lat	28.38 309	P	P	05 34 12.8	+1.0
	comp=Z,46nm,1.3s					
CMSA	Cobar Meteorol	29.01 153	P	P	05 34 18.7	+1.7
	baz=29,SNR=8.7					
CMSA	Cobar Meteorol	29.01 153	P	P	05 34 18.8	+1.7
MUN	Mundaring	29.12 206	P	P	05 34 18.9	+0.9
	baz=29,SNR=5.0					
MUN	Mundaring	29.12 206	P	P	05 34 19.5	+1.5
	comp=Z,52nm,1.4s					
NWAO	Narrogin (SRO)	29.52 203	P	P	05 34 24.0	+2.4
NWAO	Narrogin (SRO)	29.52 203	P	P	05 34 22.7	+1.1
TPUB	Ta-pu	30.76 342	P	P	05 34 32.0	-0.6
SSLB	Suanglung	31.12 343	P	P	05 34 36.9	+1.1
	comp=Z,14nm,1.3s					
ARMA	Armidale	31.26 143	P	P	05 34 37.2	+0.1
	baz=31,SNR=6.0					
ARMA	Armidale	31.26 143	P	P	05 34 38.7	+1.6
ARMA			IAmb	IAmb	05 35 13.6	
	comp=Z,76nm,1.6s					
IPM	Ipoh	31.37 289	P	P	05 34 40.0	+1.9
	comp=Z,21nm,0.9s					
MNSI	Mandailing Nat	31.75 281	P	P	05 34 39.8	-1.7
	comp=Z,65nm,0.8s					
YHNB	Yeheng	31.84 344	P	P	05 34 42.3	+0.2
KULM	Kulim	32.00 290	P	P	05 34 42.2	-1.3
KULM	Kulim	32.00 290	P	P	05 34 43.0	-0.6
ARPS	Mount Arapiles	32.25 163	P	P	05 34 47.6	+2.1
	baz=32,SNR=6.4					
QIZ	Qiongzhong	32.27 321	IAmb	IAmb	05 34 46.9	
	comp=Z,35nm,1.1s					
QIZ	Qiongzhong	32.27 321	P	P	05 34 46.9	+1.1
UBPT	Khong Chiam	32.73 311	IAmb	IAmb	05 34 51.0	
	comp=Z,44nm,0.9s					
JOW	Kunigami	32.76 356	P	P	05 34 51.3	+1.2
JOW	Kunigami	32.76 356	P	P	05 34 51.4	+1.4
CAN	Canberra	33.68 152	P	P	05 35 00.1	+2.0
CAN			pmax	pmax		
	comp=Z,96nm,1.7s					
CAN	Canberra	33.68 152	P	P	05 35 00.1	+2.0
CAN			IAmb	IAmb	05 36 16.5	
	comp=Z,96nm,1.7s					
GSI	Gunungsitoli	33.82 281	P	P	05 34 57.2	-2.3
	comp=Z,86nm,0.9s					
GSI	Gunungsitoli	33.82 281	P	P	05 35 01.7	+2.2
SRIT	Nakonsritamara	34.20 295	P	P	05 35 01.8	-0.9
TPTI		34.68 285	P	P	05 35 08.2	+1.3
	comp=Z,7.6nm,0.8s					
LHMI	Lhok Sumawe	35.46 288	P	P	05 35 15.2	+1.6
	comp=Z,150nm,0.8s					
LHMI	Lhok Sumawe	35.46 288	P	P	05 35 11.1	-2.5
LHMI	Lhok Sumawe	35.46 288	P	P	05 35 15.1	+1.5
	comp=Z,150nm,0.9s					
SANVU	Saraoutou	37.05 108	P	P	05 35 28.0	+0.9
SANVU	Saraoutou	37.05 108	P	P	05 35 29.2	+2.1
	comp=Z,86nm,1.2s					
JSU	Suzuyama	37.34 360	P	P	05 35 29.3	0.0
JSU			IAmb	IAmb	05 35 31.2	
	comp=Z,28nm,0.8s					
SLVN	Son La	37.80 317	P	P	05 35 31.5	-1.9
SLVN			IAmb	IAmb	05 35 35.1	
	comp=Z,64nm,1.8s					
NOUC	Port Laguerre	37.95 118	P	P	05 35 36.0	+1.4
DZM	Mont Dzumac	38.06 118	P	P	05 35 37.0	+1.3
	comp=Z,10nm,0.7s,baz=272,slow=9.1,SNR=9.1					
DZM	Mont Dzumac	38.06 118	*e*P	P	05 35 36.3	+0.7
	comp=Z,41nm,1.1s					
DZM	Mont Dzumac	38.06 118	P	P	05 35 35.8	+0.2
DZM	Mont Dzumac	38.06 118	P	P	05 35 37.1	+1.5
JNU	Nakatsue	38.95 0	P	P	05 35 43.2	+0.5
	comp=Z,30nm,0.8s,baz=185,slow=3.1,SNR=14					
JNU	Nakatsue	38.95 0	P	P	05 35 42.5	-0.2
JNU			IAmb	IAmb	05 35 44.0	
	comp=Z,36nm,0.9s					
JNU	Nakatsue	38.95 0	P	P	05 35 43.7	+0.9
	comp=Z,45nm,1.0s					
NJ2	Nanjing	39.52 344	⇑P	P	05 35 46.1	-1.3
NJ2			pmax	pmax		
	comp=Z,40nm,0.7s					
WHN	Wuhan	39.59 338	⇑P	P	05 35 49.1	+1.0
WHN			pmax	pmax		
	comp=Z,120nm,0.8s					
CM31	Chiang Mai Arr	39.63 309	P	P	05 35 47.8	-0.8
CM31			IAmb	IAmb	05 35 50.2	
	comp=Z,78nm,1.3s					
CMAR	Chiang Mai Arr	39.63 309	P	P	05 35 48.8	+0.2
	comp=Z,19nm,0.8s,baz=142,slow=7.5,SNR=107					
CMAR			PcP	PcP	05 37 55.0	+1.7
	comp=Z,9.6nm,0.8s,baz=163,slow=3.1,SNR=14					
CMAR			ScP	ScP	05 41 30.1	+0.1
	comp=Z,2.7nm,0.3s,baz=162,slow=3.4,SNR=14					
CMAR	Chiang Mai Arr	39.63 309	*ce*P	P	05 35 49.0	+0.4
CMAR			pmax	pmax		
	comp=Z,20nm,0.8s					
CMAR	Chiang Mai Arr	39.63 309	P	P	05 35 48.7	+0.1
CHTO	Chiang Mai	39.83 309	P	P	05 35 50.1	-0.2
CHTO			pmax	pmax		
	comp=Z,42nm,0.8s					
CHTO	Chiang Mai	39.83 309	P	P	05 35 50.1	-0.2
CHTO			IAmb	IAmb	05 35 51.7	
	comp=Z,42nm,0.8s					
CHTO	Chiang Mai	39.83 309	P	P	05 35 51.6	+1.3
KMI	Kunming	41.19 320	⇑P	P	05 36 02.4	+0.8
KMI			pP	pP	05 36 31.2	+1.1
KMI			pmax	pmax		
	comp=Z,32nm,0.8s					
JWT	Wachi	41.35 6	P	P	05 36 02.8	+0.3
JWT			IAmb	IAmb	05 36 04.1	
	comp=Z,38nm,0.7s					
ENH	Enshi	41.42 332	P	P	05 36 02.6	-0.6
ENH			IAmb	IAmb	05 36 04.0	
	comp=Z,70nm,0.9s					
TJN	Taejon	42.31 356	*ce*P	P	05 36 10.7	+0.5
PZH	PanZhiHua	42.80 320	⇑P	P	05 36 14.3	-0.3
PZH			pmax	pmax		
	comp=Z,40nm,0.9s					
PZH			pmax	pmax		
	comp=Z,120nm,4.7s					
MJAR	Matsushiro Arr	42.95 9	P	P	05 36 14.4	-1.0
	comp=Z,14nm,0.8s,baz=189,slow=9.3,SNR=21					
MJAR			pP	pP	05 36 41.2	-1.8
	comp=Z,4.1nm,0.7s,baz=189,slow=8.9,SNR=2.4					
MJAR			sP	pwP	05 36 53.3	+1.3
	comp=Z,9.2nm,0.7s,baz=186,slow=8.6,SNR=4.6					
MJAR	Matsushiro Arr	42.95 9	P	P	05 36 15.2	-0.3
MJAR			pmax	pmax		
	comp=Z,7.0nm,0.9s					
MJAR	Matsushiro Arr	42.95 9	P	P	05 36 15.2	-0.3
MAJO	Matsushiro	42.95 9	*d i*P	P	05 36 14.8	-0.7
MAJO			pmax	pmax		
	comp=Z,22nm,0.9s					
MAJO	Matsushiro	42.95 9	P	P	05 36 13.2	-2.3
MAJO	Matsushiro	42.95 9	P	P	05 36 15.4	-0.1
	comp=Z,28nm,0.9s					
MAT	Matsushiro	42.95 9	P	P	05 36 14.7	-0.8
MJB9	Matsu-Tunnel	42.95 9	P	P	05 36 14.1	-1.4
KSAR	Wonju Array Be	43.34 357	P	P	05 36 17.8	-0.7
KSAR	Wonju Array Be	43.34 357	P	P	05 36 17.8	-0.7
KSRS	Korea Array	43.34 357	P	P	05 36 19.3	+0.7
	comp=Z,7.5nm,0.6s,baz=176,slow=9.5,SNR=25					
KSRS			PcP	PcP	05 38 06.0	+1.0
	comp=Z,3.0nm,0.8s,baz=173,slow=2.3,SNR=5.4					
KSRS			LR	LR	05 53 25.3	
	comp=Z,24nm,21.9s,baz=185,slow=35					
KS19	Wonju Array Si	43.40 357	P	P	05 36 18.9	-0.1
KS19			IAmb	IAmb	05 37 26.4	
	comp=Z,51nm,1.5s					
LYN	LuoYang	43.88 338	⇑P	P	05 36 23.1	+0.2
LYN			pmax	pmax		
	comp=Z,30nm,0.8s					
TIA	Tai'an	43.91 344	⇑P	P	05 36 22.6	-0.5
TIA			pmax	pmax		
	comp=Z,17nm,0.9s					
CD2	Chengdu	44.85 327	P	P	05 36 42.2	+11
CD2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
XAN	Xi'an	44.85 334	P	P	05 36 31.0	+0.2
XAN			pP	pwP	05 37 03.5	+1.2
XAN			sP	sP	05 37 19.2	+4.5
XAN			S	S	05 42 59.5	+0.9
XAN			sS	sS	05 43 51.8	+4.5
XAN			pmax	pmax		
	comp=Z,79nm,0.7s					
XAN			pmax	pmax		
	comp=Z,190nm,3.6s					
HNS	HongShan	45.71 342	⇑P	P	05 36 37.3	0.0
HNS			pmax	pmax		
	comp=Z,63nm,0.9s					
BJT	Baijiatuau	47.74 345	IAmb	IAmb	05 36 54.3	
	comp=Z,46nm,0.7s					
BJI	Beijing	47.76 345	P	P	05 36 53.4	+0.1
BJI			S	S	05 43 39.4	-0.3
BJI			pmax	pmax		
	comp=Z,75nm,0.7s					
LZH	Lanzhou	48.88 331	*e*P	P	05 37 03.0	+0.8
LZH			pP	pP	05 37 33.1	+1.3
LZH			PcP	PcP	05 38 26.5	+1.8
LZH			ScP	ScP	05 42 08.2	+0.5
LZH			pmax	pmax		
	comp=Z,77nm,1.3s					
LZH			pmax	pmax		
	comp=Z,120nm,5.4s					
SHL	Shillong	49.04 312	P	P	05 37 02.4	-1.2
SHL			pmax	pmax		
	comp=Z,51nm,1.0s					
SHL	Shillong	49.04 312	P	P	05 37 02.4	-1.2
SHL			IAmb	IAmb	05 37 04.0	
	comp=Z,51nm,1.0s					
ERM	Erimo	49.17 12	⇑*e*P	P	05 37 03.2	-0.8
ERM			pmax	pmax		
	comp=Z,90nm,1.2s					
CN2	Changchun	49.83 355	*e*P	P	05 37 09.1	0.0
CN2			PcP	PcP	05 38 28.5	+0.7
CN2			pmax	pmax		
	comp=Z,30nm,0.6s					
HHC	Hu-ho-hao-te	49.85 341	*e*P	P	05 37 13.5	+4.1
HHC			pmax	pmax		
	comp=Z,17nm,0.9s					
HHC			pmax	pmax		
	comp=Z,77nm,5.0s					
USRK	Ussuriysk Ar.	50.02 1	P	P	05 37 10.8	+0.4
	comp=Z,11nm,0.6s,baz=189,slow=7.9,SNR=13					
USRK	Ussuriysk Ar.	50.02 1	P	P	05 37 10.4	-0.1
MDJ	Mudanjiang	50.44 359	P	P	05 37 14.4	+0.9
MDJ			pP	pwP	05 37 46.7	-3.1
MDJ			ScP	ScP	05 42 11.1	-2.8
MDJ			PcS	PcS	05 42 27.2	0.0
MDJ			S	S	05 44 20.5	+3.5
MDJ			sS	sS	05 45 16.5	+10
MDJ			ScS	ScS	05 46 51.3	0.0
MDJ			pmax	pmax		
	comp=Z,28nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,88nm,3.6s					
MDJ	Mudanjiang	50.44 359	IAmb	IAmb	05 37 15.2	
	comp=Z,18nm,0.7s					
MDJ	Mudanjiang	50.44 359	P	P	05 37 14.5	+0.9
	comp=Z,29nm,0.8s					
XLT	XiLinHaoTe	51.42 347	*e*P	P	05 37 21.4	+0.3
XLT			pP	pP	05 37 50.7	0.0
XLT			sP	sP	05 38 03.8	-1.1
XLT			pmax	pmax		
	comp=Z,31nm,0.8s					
XLT			pmax	pmax		
	comp=Z,130nm,5.2s					
LSA	Lhasa	51.97 315	P	P	05 37 26.3	+0.4
LSA			pmax	pmax		
	comp=Z,33nm,0.8s					
LSA	Lhasa	51.97 315	P	P	05 37 26.7	+0.8
LSA			pmax	pmax		
	comp=Z,140nm,1.0s					
LSA	Lhasa	51.97 315	P	P	05 37 26.3	+0.4
LSA			IAmb	IAmb	05 37 27.7	
	comp=Z,33nm,0.8s					
LSA	Lhasa	51.97 315	P	P	05 37 26.7	+0.8
TUWZ	Tuamarina	52.17 139	P	P	05 37 27.3	+0.6
GTA	Gaotai	53.46 330	⇑P	P	05 37 36.8	+0.5
GTA			pP	pP	05 38 05.0	-1.7
GTA			sP	sP	05 38 21.5	+0.5
GTA			PcP	PcP	05 38 43.2	+1.5
GTA			ScP	ScP	05 42 27.0	-0.3
GTA			ScS	ScS	05 47 11.7	-1.2
GTA			pmax	pmax		
	comp=Z,50nm,0.9s					
GTA			pmax	pmax		
	comp=Z,120nm,4.0s					
GOMU	GeErMu	53.80 324	P	P	05 37 39.0	-0.1
GOMU			pmax	pmax		
	comp=Z,7.0nm,1.0s					
MYLAV	Mylavaram	54.39 295	*e*P	P	05 37 43.3	+0.1
MYLAV			*es*P	sP	05 38 28.2	+1.1
MYLAV			*e*PcP	PcP	05 38 46.9	+1.4
ADKI	Addanki	54.68 294	*e*P	P	05 37 45.4	0.0
ADKI			*ep*P	pP	05 38 15.3	+0.1
GUN	Gumba	54.82 310	*e*P	P	05 37 46.2	-0.4
	comp=Z,262nm,0.7s					
PKI	Pulchoki	55.01 310	*e*P	P	05 37 47.5	-0.5
	comp=Z,68nm,0.7s					
PKIN	Phulchoki	55.02 310	*e*P	P	05 37 47.5	-0.5
	comp=Z,70nm,0.7s					
KLR	Kul'dur	55.05 1	P	P	05 37 48.4	+0.9
	comp=Z,7.9nm,0.8s,baz=205,slow=4.5,SNR=24					
KLR			PcP	PcP	05 38 47.8	+0.5
	comp=Z,4.4nm,0.9s,baz=150,slow=3.6,SNR=4.2					
KLR	Kul'dur	55.05 1	*de*P	P	05 37 48.1	+0.7
KKN	Kakani	55.22 310	*e*P	P	05 37 49.2	-0.1
	comp=Z,110nm,0.7s					
DMN	Daman	55.26 310	*e*P	P	05 37 49.8	+0.1
	comp=Z,141nm,0.8s					
RCLA	Racherla	55.48 293	*e*P	P	05 37 50.0	-1.1
RCLA			*ep*P	pP	05 38 21.6	+0.6
RCLA			*e*S	S	05 45 25.7	-0.7
NJS	Nagarjunasagar	55.52 295	*e*P	P	05 37 50.5	-0.9
NJS			⇓*ep*P	pP	05 38 21.5	+0.2
NJS			*e*PP	PP	05 39 56.7	-0.2
SRLM	Srisailam	55.74 294	*e*P	P	05 37 52.2	-0.8
SRLM			*ep*P	pP	05 38 23.8	+0.8
GKN	Gorkha	55.81 310	*e*P	P	05 37 53.4	-0.1
	comp=Z,211nm,0.7s					
HIA	Hailar	55.90 351	*de*P	P	05 37 54.0	+0.5
HIA			pmax	pmax		
	comp=Z,6.0nm,0.8s					
HYB	Hyderabad	56.48 295	*e*P	P	05 37 57.5	-0.8
HYBB	Hyderabad (bro	56.48 295	*e*P	P	05 37 57.0	-1.3
HYBB			*es*P	sP	05 38 43.3	+0.9
HYBB			*e*PP	PP	05 40 05.8	+0.3
HYBB			*e*S	S	05 45 38.5	-1.2
KOLN	Koldanda	56.50 309	*e*P	P	05 37 58.6	+0.2
	comp=Z,179nm,0.8s					
DANN	Dangsing	56.66 310	*e*P	P	05 37 59.7	0.0
	comp=Z,102nm,0.7s					
URV	Uravakonda	56.88 292	*e*P	P	05 38 00.2	-0.9
PYUN	Piuthan	57.13 309	*e*P	P	05 38 03.1	+0.2
	comp=Z,292nm,0.9s					
SRSP	Sriramsagar	57.19 297	*e*P	P	05 38 02.1	-1.1
SRSP			*ep*P	pP	05 38 34.2	+1.0
SRSP			*es*S	S	05 45 45.6	-3.3
ULN	Ulaanbaatar	57.56 341	*c i*P	P	05 38 06.4	+0.9
ULN			pmax	pmax		
	comp=Z,58nm,0.7s					
ULN	Ulaanbaatar	57.56 341	P	P	05 38 06.5	+1.0
SONM	Songino Array	57.75 341	P	P	05 38 07.8	+1.0
	comp=Z,22nm,0.7s,baz=162,slow=6.7,SNR=166					
SONM	Songino Array	57.75 341	P	P	05 38 07.2	+0.5
SONM			IAmb	IAmb	05 38 08.7	
	comp=Z,23nm,0.6s					
ZEA	Zeya	59.63 358	*e*P	P	05 38 19.9	+0.5
ZEA			pmax	pmax		
	comp=N,10.0nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,20nm,0.7s					
SKR	Severo-Kuril's	60.62 18	*e*P	P	05 38 34.8	+8.5
SKR			*e*		05 40 44.2	
SKR			*e*S	S	05 46 47.0	+15
SKR			pmax	pmax		
	comp=Z,100nm,5.0s					
SKR			MLR	MLR		
	comp=Z,100nm,17.0s					
ZAK	Zakamensk	60.98 340	*e*P	P	05 38 29.0	+0.1
ZAK			*e*		05 39 08.9	
ZAK			pmax	pmax		
	comp=Z,14nm,1.1s					
ZAK			pmax	pmax		
	comp=Z,11nm,1.0s					
POO	Poona	61.08 295	*ex*	P	05 38 25.0	-5.1
CASY	Casey	61.74 189	P	P	05 38 33.1	-0.5
CASY			IAmb	IAmb	05 38 35.6	
	comp=Z,27nm,0.9s					
MOY	Mondy	62.84 340	*e*P	P	05 38 42.4	+1.1
MOY			pmax	pmax		
	comp=Z,44nm,1.5s					
WMQ	Urumqi	62.95 326	P	P	05 38 43.7	+1.5
WMQ			pP	pP	05 39 11.0	-2.4
WMQ			sP	sP	05 39 30.3	+2.7
WMQ			pmax	pmax		
	comp=Z,150nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,300nm,5.3s					
PETK	Petropavlovsk-	63.22 18	P	P	05 38 44.8	+1.1
	comp=Z,6.7nm,0.6s,baz=168,slow=2.4,SNR=22					
PETK			sP	pwP	05 39 22.9	+0.2
	comp=Z,8.3nm,0.7s,baz=200,slow=7.9,SNR=4.0					
PETK			LR	LR	06 05 19.3	
	comp=Z,28nm,21.1s,baz=124,slow=35					
BOD	Bodaibo	65.06 350	*e*P	P	05 38 55.8	+0.2
BOD			pmax	pmax		
	comp=Z,22nm,1.0s					
ZSN	Zaisan	66.80 328	*e*P	P	05 39 06.5	-0.4
ZSN			pmax	pmax		
	comp=Z,17nm,0.7s					
ZSN	Zaisan	66.80 328	*e*P	P	05 39 06.6	-0.4
	comp=Z,16nm,0.7s,baz=328					
DGZ	Jazzator, Alta	66.98 331	*c i*P	P	05 39 09.0	+0.8
DGZ			pmax	pmax		
	comp=Z,44nm,1.1s					
NIL	Nilore	67.09 310	P	P	05 39 08.8	-0.3
NIL			pmax	pmax		
	comp=Z,30nm,0.8s					
NIL	Nilore	67.09 310	P	P	05 39 08.8	-0.3
NIL			IAmb	IAmb	05 39 10.3	
	comp=Z,30nm,0.8s					
SHLS	Shalkode	67.36 322	*e*P	P	05 39 09.2	-1.6
SHLS			pmax	pmax		
	comp=Z,30nm,0.8s					
SHLS	Shalkode	67.36 322	*e*P	P	05 39 09.2	-1.6
	comp=Z,30nm,0.8s,baz=322					
UZB	Uzynbulak	67.63 322	*e*P	P	05 39 12.4	0.0
UZB			pmax	pmax		
	comp=Z,30nm,0.8s					
UZB	Uzynbulak	67.63 322	*e*P	P	05 39 12.4	0.0
	comp=Z,30nm,0.8s,baz=322					
TARG	Taragay, Kyrgy	67.65 320	IAmb	IAmb	05 39 24.8	
	comp=Z,45nm,1.2s					
KSH	Kashi	67.76 317	P	P	05 39 15.3	+2.0
KSH			pP	pP	05 39 45.5	+0.8
KSH			pmax	pmax		
	comp=Z,43nm,0.8s					
MK31	Makanchi Array	67.79 326	*c i*P	P	05 39 13.9	+0.7
MK31			pmax	pmax		
	comp=Z,73nm,0.5s					
MK31	Makanchi Array	67.79 326	P	P	05 39 13.8	+0.7
MKAR	Makanchi Array	67.79 326	P	P	05 39 14.2	+0.9
	comp=Z,119nm,0.4s,baz=114,slow=8.4,SNR=1881					
MKAR			pP	PcP	05 39 39.4	+0.5
	comp=Z,14nm,0.7s,baz=88,slow=3.9,SNR=2.3					
MKAR			S	S	05 48 00.5	-0.2
	comp=Z,1.1nm,1.0s,baz=138,slow=11,SNR=4.8					
MKAR	Makanchi Array	67.79 326	*ce*P	P	05 39 14.1	+0.9
MKAR			pmax	pmax		
	comp=Z,124nm,0.4s					
YAK	Yakutsk	67.88 360	*c i*P	P	05 39 13.5	+0.1
YAK			pmax	pmax		
	comp=Z,69nm,0.8s					
YAK			pmax	pmax		
	comp=E,3.0nm,0.8s					
YAK			pmax	pmax		
	comp=N,14nm,1.0s					
YAK	Yakutsk	67.88 360	P	P	05 39 12.9	-0.4
SATY	Saty	67.97 321	*e*P	P	05 39 14.5	0.0
SATY			pmax	pmax		
	comp=Z,45nm,0.8s					
SATY	Saty	67.97 321	*e*P	P	05 39 14.6	0.0
	comp=Z,45nm,0.8s,baz=321					
MAKZ	Makanchi	67.97 326	P	P	05 39 14.9	+0.6
MAKZ			pmax	pmax		
	comp=Z,124nm,0.6s					
MAKZ	Makanchi	67.97 326	P	P	05 39 14.9	+0.6
ZHN	Zhinishke	68.00 321	*e*P	P	05 39 14.8	+0.1
ZHN	Zhinishke	68.00 321	*e*P	P	05 39 14.8	+0.1
	baz=322					
KPKS	Kokpek	68.01 322	*e*P	P	05 39 14.6	-0.1
KPKS			pmax	pmax		
	comp=Z,47nm,0.8s					
KPKS	Kokpek	68.01 322	*e*P	P	05 39 14.6	-0.1
	comp=Z,47nm,0.8s,baz=322					
KDJ	Kajisay	68.26 320	P	P	05 39 17.1	+0.7
KDJ			pmax	pmax		
	comp=Z,60nm,0.8s					
KDJ	Kajisay	68.26 320	P	P	05 39 17.1	+0.7
TNSS	Tian-Shan	68.87 321	*e*P	P	05 39 21.1	+0.6
	baz=321					
MDOK	Medeo	68.87 321	P	P	05 39 20.7	+0.5
MDOK	Medeo	68.87 321	*e*P	P	05 39 20.1	-0.1
	baz=321					
ARXS	Arharly	68.93 322	*e*P	P	05 39 20.8	+0.3
TDK	Taldyqorghan	69.00 323	*e*P	P	05 39 20.8	0.0
TDK			pmax	pmax		
	comp=Z,59nm,0.7s					
TDK	Taldyqorghan	69.00 323	*e*P	P	05 39 20.8	0.0
	comp=Z,59nm,0.7s,baz=323					
BOOM	Boomskoye usch	69.23 320	P	P	05 39 22.8	+0.3
BOOM			pmax	pmax		
	comp=Z,65nm,0.9s					
BOOM	Boomskoye usch	69.23 320	P	P	05 39 22.8	+0.3
CHKK	Chushkaly	69.26 321	*e*P	P	05 39 22.4	0.0
	baz=322					
KST	Kastek	69.49 320	*e*P	P	05 39 24.0	0.0
	baz=320					
TKM2	Tokmak 2	69.67 320	P	P	05 39 26.2	+1.0
	SNR=77					
TKM2	Tokmak 2	69.67 320

KUU pmax pmax
comp=Z,109nm,0.7s
KUU Kurty 69.68 321 *eP* **P 05 39 24.9 -0.2**
comp=Z,109nm,0.7s,baz=321
KBK Karagaybulak 69.95 320 P **P 05 39 28.2 +1.3**
SNR=30
UCH Uchtor 70.03 319 P **P 05 39 29.2 +1.5**
SNR=85
FRU1 Bishkek 70.23 320 P **P 05 39 29.4 +0.9**
FRU1 pmax pmax
comp=Z,28nm,0.7s
FRU1 Bishkek 70.23 320 P **P 05 39 29.4 +0.9**
FRU1 IAmb IAmb 05 39 30.5
comp=Z,28nm,0.7s
AAK Ala-Archa 70.24 319 P **P 05 39 29.9 +1.3**
SNR=49
AAK Ala-Archa 70.24 319*c i P* **P 05 39 29.6 +1.0**
AAK pmax pmax
comp=Z,159nm,0.8s
AAK Ala-Archa 70.24 319 P **P 05 39 29.9 +1.3**
AAK Ala-Archa 70.24 319 P **P 05 39 29.8 +1.2**
CHMS Chumysh 70.24 320 P **P 05 39 29.3 +0.8**
SNR=17
AML Almayashu 70.52 319 P **P 05 39 32.4 +1.7**
SNR=8.9
AML Almayashu 70.52 319 *i P* **P 05 39 32.0 +1.4**
SNR=102
USP Ospenovka 70.53 320 P **P 05 39 31.2 +0.9**
SNR=102
SGDS Sogindy 70.54 320 *eP* **P 05 39 29.6 -0.7**
comp=Z,12nm,0.5s,baz=320
KBL Kabul 70.65 310 P **P 05 39 30.8 -0.5**
KBL pmax pmax
comp=Z,58nm,1.0s
KBL Kabul 70.65 310 P **P 05 39 30.8 -0.5**
KBL IAmb IAmb 05 39 32.8
comp=Z,58nm,1.0s
EKS2 Erkin-Say 70.71 319 P **P 05 39 32.9 +1.5**
SNR=49
SEY Seymchan 70.75 10⇑*iP* **P 05 39 31.8 +0.7**
SEM Semipalatinsk 71.02 329 *eP* **P 05 39 31.8 -1.4**
SEM Semipalatinsk 71.02 329 *eP* **P 05 39 31.8 -1.4**
baz=329
ZAA0 Zalesovo Array 71.02 333 P **P 05 39 31.8 -1.0**
ZAA0 IAmb IAmb 05 39 33.6
comp=Z,35nm,0.9s
ZALV Zalesovo Beam 71.02 333 P **P 05 39 32.4 -0.5**
comp=Z,26nm,0.7s,baz=113,slow=4.6,SNR=102
ZALV Zalesovo Beam 71.02 333 *i P* **P 05 39 32.7 -0.2**
ZALV pmax pmax
comp=Z,26nm,0.7s
BTK Batken 71.55 316 P **P 05 39 36.4 -0.1**
BTK pmax pmax
comp=Z,41nm,0.8s
BTK Batken 71.55 316 P **P 05 39 36.4 -0.1**
BTK IAmb IAmb 05 39 38.3
comp=Z,41nm,0.8s
BTLS Baital 71.68 321 *eP* **P 05 39 36.3 -0.7**
BTLS pmax pmax
comp=Z,13nm,0.6s
BTLS Baital 71.68 321 *eP* **P 05 39 36.4 -0.7**
comp=Z,13nm,0.6s,baz=322
KURBB Kurchatov Arra 72.04 328 P **P 05 39 39.3 +0.2**
KURK Kurchatov 72.05 328*c i P* **P 05 39 39.4 +0.3**
KURK pmax pmax
comp=Z,86nm,1.3s
KURK Kurchatov 72.05 328 P **P 05 39 39.1 0.0**
KURK IAmb IAmb 05 39 40.6
comp=Z,56nm,0.9s
CHGR Chuyangaron 72.15 314 P **P 05 39 40.4 +0.3**
CHGR pmax pmax
comp=Z,157nm,0.8s
CHGR Chuyangaron 72.15 314 P **P 05 39 40.4 +0.3**
IUG Iuzhnay 72.97 317 *eP* **P 05 39 44.8 -0.1**
IUG Iuzhnay 72.97 317 *eP* **P 05 39 44.8 -0.1**
baz=317
KKAR Karatay Array 73.05 318 P **P 05 39 45.2 -0.1**
KKAR Karatay Array 73.05 318 P **P 05 39 45.2 -0.1**
TAS Tashkent 73.12 316 P **P 05 39 47.2 +1.4**
TAS pmax pmax
comp=Z,180nm,0.8s
TAS Tashkent 73.12 316 P **P 05 39 47.1 +1.4**
VNDA Vanda 73.31 173 P **P 05 39 47.6 +1.5**
comp=Z,7.5nm,0.8s,baz=311,slow=6.0,SNR=12
VNDA LR LR 06 11 42.3
comp=Z,57nm,19.4s,baz=336,slow=35
VNDA Vanda 73.31 173 P **P 05 39 46.6 +0.4**
OTUK Ortayu 74.25 324 P **P 05 39 52.6 +0.4**
BRZS Berezniki 74.89 325 *eP* **P 05 39 55.1 -0.7**
BRZS pmax pmax
comp=Z,10.0nm,0.5s
BRZS Berezniki 74.89 325 *eP* **P 05 39 55.1 -0.7**
comp=Z,10.0nm,0.5s,baz=326
HRA Herat 75.88 308 P **P 05 40 02.3 +0.2**
WSAR Wadi Sarin 76.03 296 LR LR 06 18 19.4
comp=Z,20nm,18.1s,baz=136,slow=39
MAW Mawson 76.07 201 P **P 05 40 03.4 +1.3**
comp=Z,22nm,0.8s,baz=79,slow=5.1,SNR=16
MAW Mawson 76.07 201 P **P 05 40 02.2 0.0**
baz=76,SNR=15
MAW Mawson 76.07 201 P **P 05 40 02.5 +0.3**
TIXI Tiksi 77.55 359⇓*eP* **P 05 40 09.8 -0.6**
TIXI pmax pmax
comp=Z,18nm,0.8s
TIXI Tiksi 77.55 359 P **P 05 40 09.7 -0.6**
BRVK Borovoye 77.68 328 P **P 05 40 11.6 +0.2**
BRVK pmax pmax
comp=Z,41nm,0.8s
BRVK Borovoye 77.68 328 P **P 05 40 11.6 +0.2**
BRVK IAmb IAmb 05 40 12.8
comp=Z,41nm,0.8s
SHAO Shalim 77.74 290 P **P 05 40 13.2 +0.6**
SOHO SOHO 78.10 296 *i P* **P 05 40 14.6 +0.2**
SNR=11
SOCY Socotra 78.32 284 P **P 05 40 15.5 -0.4**
SOCY IAmb IAmb 05 40 16.8
comp=Z,46nm,0.8s
UOSS Minazif 78.57 297 P **P 05 40 17.0 0.0**
HATD Hatta, Dubai 78.61 297 *i P* **P 05 40 17.3 +0.1**
SNR=5.9
ASHO Ashiyiah 78.64 297 *i P* **P 05 40 17.6 +0.1**
SNR=6.2
BANOM Banah 78.69 298 P **P 05 40 18.5 +0.8**
MSFE Esma-Masafi 78.69 297 *i P* **P 05 40 18.7 +1.0**
SNR=7.8
ALNE Al Ain 78.79 296 P **P 05 40 19.0 +0.8**
SHME Shamm 78.86 298 P **P 05 40 19.2 +0.7**
NAZ Nazwa, Dubai 79.06 297 P **P 05 40 20.1 +0.4**
FAQ Al Faqa, Dubai 79.07 297 *i P* **P 05 40 20.0 +0.2**
SNR=10
ASUD Al Ashush, Dub 79.28 296 P **P 05 40 21.8 +0.9**
GEYT Alibeck 80.09 310 P **P 05 40 25.8 +0.7**
comp=Z,20nm,0.7s,baz=183,slow=6.5,SNR=19
GYA0 ALIBECK ARRAY 80.09 310 P **P 05 40 25.7 +0.6**
GYA0B ALIBECK ARRAY 80.09 310 IAmb IAmb 05 40 26.9
comp=Z,27nm,0.8s
NRIK Noril'sk 80.79 346 P **P 05 40 28.6 +0.6**
comp=Z,28nm,0.9s,baz=135,slow=7.9,SNR=27
NRIK Noril'sk 80.79 346*c i P* **P 05 40 28.4 +0.4**
NRIK pmax pmax
comp=Z,36nm,0.9s
NRIK Noril'sk 80.79 346 P **P 05 40 28.6 +0.6**
NRIK IAmb IAmb 05 40 31.3
comp=Z,30nm,0.8s
VOI Vohitsoka 82.09 249 P **P 05 40 35.4 -0.7**
VOI IAmb IAmb 05 40 37.5
comp=Z,39nm,0.7s
VOI Vohitsoka 82.09 249 P **P 05 40 36.9 +0.8**
AB31 Akbulak array 82.17 321 *i P* **P 05 40 35.1 -0.6**
ABKAR Akbulak array 82.17 321 P **P 05 40 35.4 -0.3**
AKTO Aktyubinsk 83.72 322 P **P 05 40 43.4 -0.3**
QSPA South Pole Qui 83.93 180 P **P 05 40 45.2 +0.5**
QSPA IAmb IAmb 05 40 46.0
comp=Z,21nm,0.8s
SVE Sverdlovsk 84.29 329*c i P* **P 05 40 47.0 +0.6**
SVE pmax pmax
comp=Z,69nm,0.9s
SYO Syowa Base 84.78 201⇑*eP* **P 05 40 49.8 +1.1**
SYO Syowa Base 84.78 201⇓*ePcP* **PcP 05 40 54.6 +2.7**
ARU Arti 85.24 328*c i P* **P 05 40 49.8 -1.4**
ARU S **S 05 51 01.4 -8.9**
ARU SS **SS 05 56 49.7 +2.0**
ARU pmax pmax
comp=Z,32nm,0.9s
ARU Arti 85.24 328 P **P 05 40 51.2 0.0**

ARU IAmb IAmb 05 40 52.1
comp=Z,42nm,1.1s
TTA Tatalina 87.85 26 P **P 05 41 05.4 +1.5**
baz=252
RAYN Ar Rayn 87.95 294 P **P 05 41 04.8 -0.4**
RAYN pmax pmax
comp=Z,55nm,1.0s
RAYN Ar Rayn 87.95 294 P **P 05 41 04.8 -0.4**
RAYN Ar Rayn 87.95 294 *i P* **P 05 41 05.2 0.0**
SNR=44
K20K Telida 88.82 26 P **P 05 41 09.6 +1.3**
baz=254
J20K Nowinta River 89.01 25 P **P 05 41 10.0 +0.8**
J20K IAmb IAmb 05 42 54.8
comp=Z,48nm,2.0s
J20K Nowinta River 89.01 25 P **P 05 41 10.2 +1.0**
baz=254
SPCR Spurr Chakacha 89.10 28 P **P 05 41 10.8 +1.0**
baz=256
CAST Castle Rocks 89.70 26 P **P 05 41 13.4 +0.9**
baz=256
CHUM Lake Minchumin 89.71 26 P **P 05 41 13.7 +1.3**
baz=256
H21K Melozitna Rive 89.96 24 P **P 05 41 13.9 +0.2**
baz=255
M22K Willow 90.20 28 P **P 05 41 13.9 -0.9**
baz=258
KIRV Kirov 90.56 329⇓*eP* **P 05 41 15.3 -1.2**
I23K Minto, Yukon-K 91.24 25 P **P 05 41 20.0 +0.5**
baz=258
COLD Coldfoot 91.34 22 P **P 05 41 20.9 +0.9**
baz=258
ZEI Tsey 91.68 313 *eP* **P 05 41 23.8 +1.4**
ZEI pmax pmax
comp=Z,5.0nm,1.3s
TOLK Toolik Lake Re 91.87 21 P **P 05 41 23.4 +0.9**
baz=258
H24K Noodor Dome 91.98 24 P **P 05 41 23.7 +0.7**
baz=260
ILAR Eielson Array 92.21 25 P **P 05 41 22.8 -1.3**
comp=Z,2.2nm,0.7s,baz=268,slow=4.4,SNR=26
ILAR sP **pwP 05 42 03.5 -0.7**
comp=Z,1.6nm,0.8s,baz=273,slow=4.6,SNR=4.0
KIBK Kibwezi 92.34 267 P **P 05 41 25.6 -0.3**
GURO Guroymak-BITLI 92.64 308 P **P 05 41 27.3 +0.4**
GURO IAmb IAmb 05 41 28.8
comp=Z,19nm,0.9s
KIV Kislovodsk 92.68 314⇓*eP* P 05 41 38.4 +12
KIV pmax pmax
comp=Z,9.0nm,1.2s
KIV MLR MLR
comp=Z,28nm,16.0s
KMBO Kilima Mbogo 93.26 269 P **P 05 41 31.4 +1.0**
comp=Z,6.6nm,0.9s,baz=61,slow=5.3,SNR=11
KMBO Kilima Mbogo 93.26 269 P **P 05 41 30.9 +0.6**
BMAR Burnt Mountain 93.52 23 P **P 05 41 30.3 +0.2**
J26L Joseph Creek 93.59 26 P **P 05 41 30.9 +0.3**
baz=264
VRH Novokhopyorsk 93.99 321 *eP* **P 05 41 29.5 -3.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
L27K Beaver Creek, 94.22 27 P **P 05 41 34.2 +0.9**
baz=265
SOC Sochi 94.80 313 *eP* **P 05 41 39.6 +3.2**
SOC *e* 05 45 28.7
SOC *e*PPP PPP 05 47 35.1
SOC *e*SS SS 05 59 00.1 -6.2
DAWY Dawson 95.37 26 P **P 05 41 39.3 +0.7**
baz=267
VORD Divnogorie 95.50 321 *eP* **P 05 41 36.8 -2.6**
VORD pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 95.59 321 *eP* **P 05 41 36.6 -3.3**
VSR pmax pmax
comp=Z,7.0nm,0.8s
KLMR Klimovskoe 95.78 331 *eP* **P 05 41 37.9 -2.6**
KLMR pmax pmax
comp=Z,29nm,1.2s
KLMR Klimovskoe 95.78 331 *eP* **P 05 41 38.0 -2.6**
KLMR AMP 05 41 39.6
comp=Z,29nm,1.2s
LPSR Galich'ya Gora 95.80 322 *eP* **P 05 41 39.2 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
I29M Ogilvie Camp, 95.89 25 P **P 05 41 41.4 +0.5**
baz=268
SNAA Sanae 96.74 193 P **P 05 41 46.0 +1.2**
SNAA Sanae 96.74 193*de* **P 05 41 46.0 +1.2**
SNAA pmax pmax
comp=Z,6.0nm,0.8s
OBN Obninsk 97.25 325⇓*eP* **P 05 41 46.2 -1.1**
OBN SS SS 05 59 36.0 -4.3
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,42nm,12.0s
INK Inuvik 97.73 22 P **P 05 41 48.8 -0.4**
baz=273
VNA2 Neumayer--Watz 98.30 193 P Pdif 05 41 52.6 +0.8
baz=92,slow=0.9
APA Apatity 98.32 337⇓*iP* P 05 41 45.7 -6.1
APA pmax pmax
comp=Z,7.0nm,1.0s
VNA3 Neumayer Olymp 98.55 192 P Pdif 05 41 54.8 +1.9
BRTR Keskin Array B 99.22 309 P **Pdif 05 41 55.5 -1.2**
comp=Z,2.1nm,0.9s,baz=139,slow=5.0,SNR=8.8
ARCES ARCESS Array B 100.91 340 P **Pdif 05 42 02.9 -0.5**
comp=Z,3.2nm,1.0s,baz=80,slow=5.4,SNR=6.3
ARCES PKiKP **PKiKP 05 46 28.7 +0.5**
comp=Z,5.1nm,1.1s,baz=96,slow=2.7,SNR=4.5
C36M Paulatuk 101.00 20 P **Pdif 05 42 03.7 0.0**
baz=282
AKASG Malin Array Be 101.89 320 P **Pdif 05 42 06.9 -1.1**
comp=Z,1.2nm,0.6s,baz=68,slow=4.8,SNR=4.6
FINES FINESS Array B 102.24 332 P **Pdif 05 42 08.3 -1.1**
comp=Z,5.4nm,0.8s,baz=79,slow=7.5,SNR=6.7
YKA Yellowknife Ar 106.61 26 Pdiff **Pdif 05 42 29.5 +0.7**
comp=Z,0.3nm,0.7s,baz=291,slow=4.8,SNR=5.9
YKA PKiKP **PKiKP 05 46 38.7 0.0**
comp=Z,0.8nm,0.6s,baz=292,slow=1.7,SNR=29
YKA PKKPbc **PKKPbc 05 57 58.4 -2.6**
comp=Z,1.1nm,0.8s,baz=107,slow=2.9,SNR=14
YKA PKKPab **PKKPab 05 58 13.6 -1.0**
comp=Z,1.0nm,0.8s,baz=106,slow=5.0,SNR=11
DPC Dobruska-Polom 110.05 322 *e*PKP **PKiKP 05 46 45.4 -0.2**
NVAR Mina Array Bea 110.20 51 PKKPbc PKKPbc 05 57 49.7 +0.5
comp=Z,0.4nm,0.6s,baz=109,slow=4.5,SNR=4.4
NVAR PKKPab **PKKPab 05 57 60.0 +0.6**
comp=Z,1.3nm,0.7s,baz=110,slow=5.1,SNR=10
CONA Conrad Observa 110.97 319 *eP* **PKiKP 05 46 45.5 -1.9**
comp=Z,4.2nm,1.5s
PRU Pruhonice 111.25 322 *e*PKiKP **PKiKP 05 46 48.4 +0.6**
PRU Pruhonice 111.25 322 *e*PKP **PKiKP 05 46 48.4 +0.6**
SOKA Soboth 111.83 318 *eP* **PKiKP 05 46 48.6 -0.5**
comp=Z,3.8nm,0.9s
KHC Kasperske Hory 112.09 321 *e*PKiKP **PKiKP 05 46 49.7 +0.2**
KHC Kasperske Hory 112.09 321 *e*PKP **PKiKP 05 46 49.7 +0.2**
GERES GERESS Array B 112.10 321 PKiKP **PKiKP 05 46 49.7 +0.1**
comp=Z,2.7nm,0.6s,baz=72,slow=1.8,SNR=29
GERES SKP 05 50 12.1
comp=Z,0.7nm,0.5s,baz=142,slow=1.3,SNR=6.6
KBA Koelnbreinsper 112.84 319 *eP* **PKiKP 05 46 50.5 -0.7**
comp=Z,1.9nm,0.5s
ABTA Abfaltersbach 113.48 319 *eP* **PKiKP 05 46 51.6 -0.7**
comp=Z,4.5nm,0.6s
WTTA Wattenberg 113.90 319 *eP* **PKiKP 05 46 53.2 0.0**
comp=Z,17nm,0.6s
WATA Walderalm 113.91 319 *eP* **PKiKP 05 46 53.1 -0.1**
comp=Z,4.6nm,0.6s
SQTA Sankt Quirin 114.19 319 *eP* PKPdf 05 46 53.5 -0.2
comp=Z,4.4nm,0.7s
MOTA Moosalm 114.22 320 *eP* PKPdf 05 46 53.7 -0.1
comp=Z,4.8nm,0.6s
RETA Reutte 114.39 320 *eP* **PKiKP 05 46 54.1 +0.1**
comp=Z,1.4nm,0.5s
FETA Feichten 114.56 319 *eP* **PKiKP 05 46 54.7 +0.3**
comp=Z,2.3nm,0.5s
DAVA Damuels 115.02 320 *i P* **PKPdf 05 46 55.6 +0.2**
comp=Z,7.2nm,0.5s,SNR=6.0
PDAR Pinedale Array 115.76 45 PKP **PKiKP 05 46 57.6 +0.6**
comp=Z,0.4nm,0.6s,baz=90,slow=1.5,SNR=5.1
PDAR SKP 05 50 20.1
comp=Z,0.6nm,0.9s,baz=328,slow=5.3,SNR=4.5
PDAR PKKPbc **PKKPbc 05 57 29.4 -1.3**
comp=Z,0.7nm,0.7s,baz=108,slow=3.7,SNR=7.0
PDAR PKKPab **PKKPab 05 57 34.8 +0.1**
comp=Z,0.7nm,0.9s,baz=121,slow=6.3,SNR=7.7

KEST Kesra 118.77 308 PKP **PKiKP 05 47 03.3 +0.5**
comp=Z,3.6nm,0.8s,baz=22,slow=7.0,SNR=3.6
MNTX Cornudas Mount 121.89 56 P **PKiKP 05 47 10.0 +1.0**
baz=284
TXAR Lajitas Array 123.88 59 PKP **PKiKP 05 47 14.0 +0.9**
comp=Z,0.6nm,0.9s,baz=147,slow=2.5,SNR=6.7
TXAR PKKPbc **PKKPbc 05 57 00.4 +0.3**
comp=Z,0.4nm,0.7s,baz=112,slow=6.5,SNR=6.4
S39A Bolivar 129.16 45 P **PKPdf 05 47 22.5 0.0**
TORD Torodi Ar. Bea 129.25 282 PKP **PKPdf 05 47 23.4 +0.1**
comp=Z,5.7nm,0.8s,baz=65,slow=2.0,SNR=29
TORD SKPbc SKPab 05 50 30.9 -1.2
comp=Z,2.9nm,0.8s,baz=65,slow=4.0,SNR=7.3
TORD Torodi Ar. Bea 129.25 282 PKPpre 05 47 14.6
PLCA Paso Flores 129.54 159 PKP **PKiKP 05 47 25.3 +1.2**
comp=Z,1.4nm,0.6s,baz=217,slow=2.1,SNR=6.6
PLCA SKPbc SKPbc 05 50 33.2 -0.2
comp=Z,6.0nm,1.1s,baz=192,slow=3.6,SNR=8.3
KIC Kosan Boka 135.66 273 *e*PKIKP **PKiKP 05 47 37.3 +0.2**
comp=Z,8.8nm,0.6s
DBIC Dimbokro 135.79 273 PKP **PKiKP 05 47 37.3 0.0**
comp=Z,4.7nm,0.6s,baz=61,slow=1.2,SNR=8.6
DBIC SKPbc **SKPbc 05 50 54.4 -0.9**
comp=Z,4.2nm,0.8s,baz=99,slow=2.2,SNR=5.6
LIC Lamto 135.94 273 *e*PKIKP **PKiKP 05 47 37.8 +0.2**
comp=Z,23nm,0.9s
TIC Toumodi 135.95 273 *e*PKIKP **PKiKP 05 47 37.8 +0.1**
AC02 Maricunga 142.12 151 **PKPdf 05 47 45.4 -2.2**
PB14 IPOC Station P 143.26 147 PKPbc 05 47 48.0 +1.3
CPUP Villa Florida 146.90 167 PKPbc **PKPab 05 47 58.5 -0.3**
comp=Z,11nm,0.9s,baz=174,slow=2.4,SNR=10
CPUP SKPbc **SKPbc 05 51 23.7 0.0**
comp=Z,3.7nm,1.1s,baz=115,slow=3.1,SNR=3.1
CPUP Villa Florida 146.90 167 PKIKP **PKPdf 05 47 55.1 -0.1**
CPUP Villa Florida 146.90 167 PKPdf **PKPdf 05 47 55.1 -0.1**
PB11 IPOC Station P 147.49 143 **PKPdf 05 47 57.6 +1.1**
PB08 IPOC Station P 147.50 144 **PKPbc 05 47 58.9 -0.7**
LPAZ La Paz 151.06 140 PKPbc **PKiKP 05 48 10.7 +1.3**
comp=Z,5.5nm,0.4s,baz=352,slow=0.9,SNR=57

IDC 05 05:58:01.4±5.8,**24°.48N**×**93°.51E**,**h0**km,**mb3.3**/3,
mb1 3.6/3,**mb1mx2.8**/63,**mbtmp3.4**/3,**Error ellipse:**
s-maj=473.1km s-min=29.7km az=60.0,Myanmar-India
border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.01**	**341**	P	P	P	06 03 17.9	-0.1
0.4nm,0.7s,baz=155,slow=8.8,SNR=5.4								
WRA	**Warramunga Arr**	**59.41**	**134**	P	P	P	06 08 05.8	-0.3
0.7nm,1.0s,baz=321,slow=7.5,SNR=5.4								
ASAR	**Alice Springs**	**61.85**	**138**	P	P	P	06 08 23.1	+0.4
0.2nm,0.5s,baz=327,slow=6.6,SNR=1.6								

IDC ***05*** *06:07:26.9*±*2.7,36°.62N*×*139°.44E,h0*km*,mb3.4/1,*
mb1 3.6/2,mb1mx2.7/70,mbtmp3.4/2,ML3.3/1,Error
ellipse: s-maj=32.3km s-min=16.5km az=14.0
JMA ***05*** *06:07:28.1,36°.65N*×*139°.49E,h7*km*,M2.9*
JMA Felt I J1.
ISC 05 06:07:28.4±1.1,**36°.65N**±0°.03×**139°.46E**±0°.04,**h10**km±9km,
n9,σ1°.**03**/15,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.21**	**306**	P	**Pg**		**06 07 32.9**	**+0.1**
JKT				S	**Sg**		**06 07 36.1**	**+0.4**
JAG	**Ashikaga**	**0.22**	**181**	P	**Pg**		**06 07 32.8**	**-0.1**
JAG				*e*S	**Sg**		**06 07 35.9**	**-0.1**
JSB	**Shiboa**	**0.49**	**49**	P	**Pg**		**06 07 37.8**	**-0.2**
JSB				S	**Sg**		**06 07 43.9**	**-0.6**
JRY	**Ryogami san**	**0.77**	**216**	P	**Pg**		**06 07 43.0**	**-0.3**
JRY				S	**Sb**		**06 07 54.0**	**-0.5**
JFY	**Yanaizu**	**0.79**	**15**	P	**Pg**		**06 07 43.0**	**-0.6**
JFY				S	**Sg**		**06 07 53.0**	**-0.8**
MJAR	**Matsushiro Arr**	**1.01**	**265**	Pg	**Pg**		**06 07 45.7**	**-2.1**
2.4nm,0.3s,baz=81,slow=18,SNR=50								
MJAR				Lg	Lg		06 07 58.3	
4.2nm,0.3s,baz=69,slow=28,SNR=16								
MAT	**Matsushiro**	**1.01**	**265**	P	**Pg**		**06 07 47.5**	**-0.4**
MAT				S	**Sg**		**06 08 00.4**	**-0.6**
KSRS	**Korea Array**	**9.26**	**278**	Pn	**Pn**		**06 09 44.1**	**+2.1**
0.3nm,0.3s,baz=89,slow=16,SNR=2.3								
WRA	**Warramunga Arr**	**56.49**	**186**	P	**P**		**06 17 10.1**	**-0.6**
0.4nm,0.9s,baz=0.8,slow=7.5,SNR=5.0								

NNC ***05*** *06:13:43.7*±*1.4,53°.92N*×*86°.81E,h0*km*,mb2.4,mpv2.3,*
Error ellipse: s-maj=8.4km s-min=6.0km az=84.0,
Suspected Mining explosion.
IDC 05 06:13:48.0±2.4,**53°.92N**×**86°.50E**,**h0**km,**mb1 2.7**/2,
mb1mx2.1/54,**mbtmp2.7**/2,**ML2.5**/2,**2C-2D**,**Error ellipse:**
s-maj=20.7km s-min=12.4km az=64.0,Southwestern
Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**272**	*i*			06 19 39.2	
baz=90,slow=333,SNR=6.9								
ZAA0	**Zalesovo Array**	**0.99**	**272**	⇓P		Pg	06 14 05.9	-1.1
0.3nm,1.0s,baz=88,slow=17								
ZAA0				⇑S		Sb	06 14 22.2	+0.6
1.5nm,0.9s,baz=92,slow=29								
ZALV	**Zalesovo Beam**	**0.99**	**272**	Pg		Pg	06 14 05.7	-1.3
0.6nm,0.3s,baz=88,slow=17,SNR=8.4								
ZALV				Lg		Lg	06 14 21.4	
1.6nm,0.3s,baz=94,slow=33,SNR=9.4								
KURBB	**Kurchatov Arra**	**5.90**	**239**	Pn		Pn	06 15 17.3	+0.8
0.1nm,0.3s,baz=56,slow=13,SNR=8.0								
KURBB	**Kurchatov Arra**	**5.90**	**239**	⇓Pn		Pn	06 15 14.6	-2.0
0.8nm,0.6s								
KURBB				⇑Lg		Lg	06 16 56.0	
2.6nm,0.9s								
MK31	**Makanchi Array**	**7.63**	**202**	Pn		Pn	06 15 37.7	-2.6
0.1nm,0.2s,baz=28,slow=13,SNR=8.7								
MKAR	**Makanchi Array**	**7.63**	**202**	Pn		Pn	06 15 41.5	+1.2
0.1nm,0.3s,baz=24,slow=12,SNR=8.5								

NOU ***05*** *06:24:25.8,18°.22S*×*177°.49W,h646*km*,mb4.6/16,Fiji*
Islands Region
IDC ***05*** *06:24:27.3*±*1.1,18°.36S*×*177°.81W,h628*km±*13*km*,*
mb3.6/13,mb1 3.8/16,mb1mx3.6/37,mbtmp4.5/16,Error
ellipse: s-maj=21.2km s-min=10.6km az=149.0
NEIC ***05*** *06:24:27.0*±*1.5,18°.4S*±*0°.1*×*177°.7W*±*0°.1,h626*km±*9km,*
mb4.5/30,Error ellipse: s-maj=20.4km s-min=14.1km
az=109.0
ISC 05 06:24:26.9±0.6,**18°.4S**±0°.1×**177°.75W**±0°.10,**h626**km,**n87**,
σ0°.**84**/87,**mb4.5**/26,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**2.63**	**308**	P	**P**		**06 25 48.0**	**+1.6**
DGTI	**Dogotuki**	**3.15**	**310**	P	**P**		**06 25 50.0**	**+0.8**
MSVF	**Nonsavu**	**4.04**	**278**	P	**P**		**06 25 55.8**	**+1.1**
8.6nm,0.3s,baz=138,slow=2.0,SNR=43								
MSVF	**Nonsavu**	**4.04**	**278**	P	**P**		**06 25 55.6**	**+1.0**
MSVF	**Nonsavu**	**4.04**	**278**	P	**P**		**06 25 56.2**	**+1.5**
AFI	**Afiamalu**	**7.25**	**53**	P	**P**		**06 26 19.6**	**-0.9**
9.7nm,0.3s,baz=32,slow=1.3,SNR=13								
MARNC	**Mare, Loyalty**	**13.73**	**255**	P	**P**		**06 27 22.2**	**-0.1**
PINNC	**Pines Island,**	**14.50**	**251**	P	**P**		**06 27 29.5**	**0.0**
SANVU	**Saraoutou**	**14.69**	**279**	P	**P**		**06 27 30.5**	**-0.8**
OUENC	**Ouen Island, N**	**15.00**	**252**	P	**P**		**06 27 33.8**	**-0.2**
OUENC				IAmb	IAmb		06 27 35.7	
comp=Z,15nm,0.9s								
DZM	**Mont Dzumac**	**15.29**	**253**	P	**P**		**06 27 36.9**	**+0.1**
comp=Z,1.1nm,0.3s,baz=206,slow=4.3,SNR=13								
DZM	**Mont Dzumac**	**15.29**	**253**	P	**P**		**06 27 36.8**	**+0.1**
KOUNC	**Koumac, New Ca**	**17.08**	**260**	P	**P**		**06 27 52.9**	**-0.2**
URZ	**Urewera**	**20.33**	**192**	P	**P**		**06 28 22.0**	**-0.2**
comp=Z,7.8nm,0.3s,baz=301,slow=23,SNR=20								
URZ	**Urewera**	**20.33**	**192**	IAmb	IAmb		06 28 22.9	
comp=Z,36nm,1.4s								
URZ	**Urewera**	**20.33**	**192**	P	**P**		**06 28 22.1**	**-0.1**
BKZ	**Black Stump Fm**	**21.33**	**192**	P	**P**		**06 28 29.2**	**-2.0**
BKZ				IAmb	IAmb		06 28 57.8	
comp=Z,32nm,1.5s								
OTVZ	**Oturere**	**21.50**	**194**	P	**P**		**06 28 31.7**	**-1.2**
WNVZ	**Wahianoa**	**21.68**	**194**	P	**P**		**06 28 34.1**	**-0.4**
BHHZ	**Black Hill Sta**	**21.73**	**193**	P	**P**		**06 28 33.3**	**-1.5**
TSZ	**Takapari Road**	**22.30**	**193**	P	**P**		**06 28 40.0**	**+0.2**

BFZ	Birch Farm	22.84	192	P	P	06 28 43.2	-1.3
MRZ	Mangataiinoka R	22.95	193	P	P	06 28 44.7	-0.9
DUWZ	D'Urville Isla	23.48	196	P	P	06 28 49.8	-0.6
PLWZ	Palliser	23.89	193	P	P	06 28 53.7	-0.2
QRZ	Quartz Range	23.90	198	P	P	06 28 55.0	+1.1
QRZ	Quartz Range	23.90	198	P	P	06 28 54.7	+0.8
QRZ	Quartz Range	23.90	198	P	P	06 28 55.0	+1.1
NNZ	Nelson	24.02	197	P	P	06 28 54.7	-0.3
NNZ	Nelson	24.02	197	P	P	06 28 54.7	-0.3
NNZ				IAmb	IAmb	06 28 57.8	
	comp=Z,22nm,1.1s						
TUWZ	Tuamarina	24.07	195	P	P	06 28 55.8	+0.3
THZ	Tophouse	24.66	197	P	P	06 29 01.4	+0.7
THZ	Tophouse	24.66	197	P	P	06 29 00.3	-0.4
THZ				IAmb	IAmb	06 29 06.1	
	comp=Z,5.1nm,0.7s						
KHZ	Kahutara	25.10	195	P	P	06 29 03.9	-0.6
EIDS	Eidsvold	29.70	251	P	P	06 29 44.8	-0.1
EIDS				IAmb	IAmb	06 29 45.5	
	comp=Z,15nm,0.7s						
EIDS	Eidsvold	29.70	251	P	P	06 29 45.2	+0.4
ARMA	Armidale	30.26	241	P	P	06 29 50.7	+1.1
ARMA				IAmb	IAmb	06 29 51.6	
	comp=Z,14nm,0.8s						
ARMA	Armidale	30.26	241	P	P	06 29 50.9	+1.3
MGCD	Mangrove Creek	31.55	236	P	P	06 30 02.4	+1.9
CNB	Canberra Magne	33.65	233	P	P	06 30 19.5	+1.3
CAN	Canberra	33.93	233	P	P	06 30 21.2	+0.7
CAN	Canberra	33.93	233	P	P	06 30 21.6	+1.1
CTA	Charters Tower	33.99	261	P	P	06 30 21.2	+0.1
	comp=Z,14nm,0.6s,baz=93,slow=12,SNR=17						
CTAO	Charters Tower	33.99	261	P	P	06 30 21.1	+0.1
CTAO	Charters Tower	33.99	261	P	P	06 30 21.2	+0.1
CMSA	Cobar Meteorol	35.48	241	P	P	06 30 34.1	+0.9
QLP	Quilpie	35.96	250	P	P	06 30 37.6	+0.3
MTSU	Mount Surprise	35.98	264	P	P	06 30 37.7	+0.1
TOO	Toolangi	37.38	232	P	P	06 30 49.1	+0.4
TOO				IAmb	IAmb	06 30 50.5	
	comp=Z,11nm,0.8s						
COEN	Coen	37.73	271	P	P	06 30 52.4	+0.6
STKA	Stephens Creek	38.96	242	P	P	06 31 02.5	+1.0
	comp=Z,11nm,0.7s,baz=91,slow=9.5,SNR=20						
STKA	Stephens Creek	38.96	242	P	P	06 31 02.2	+0.6
JAY	Jayapura	43.63	286	P	P	06 31 38.6	+0.1
	comp=Z,13nm,0.6s,baz=185,slow=4.5,SNR=4.9						
BBOO	Buckleboo	43.74	242	P	P	06 31 39.4	+0.4
BBOO				IAmb	IAmb	06 31 39.7	
	comp=Z,14nm,0.7s						
WR0	Warramunga Arr	44.98	260	P	P	06 31 47.9	-0.8
WR0				IAmb	IAmb	06 31 49.1	
	comp=Z,7.5nm,0.6s						
WB0	Warramunga Arr	45.13	260	P	P	06 31 49.3	-0.6
WB2	Warramunga Arr	45.15	260	P	P	06 31 49.5	-0.5
WRAB	Tennant Creek	45.16	260	P	P	06 31 49.4	-0.7
WRAB				IAmb	IAmb	06 31 50.1	
	comp=Z,18nm,0.6s						
WRA	Warramunga Arr	45.17	260	P	P	06 31 49.3	-0.9
	comp=Z,18nm,0.6s,baz=97,slow=7.1,SNR=464						
WRA	Warramunga Arr	45.17	260	P	P	06 31 49.1	-1.0
AS31	Alice Springs	45.27	255	P	P	06 31 51.0	+0.1
AS31				IAmb	IAmb	06 31 51.5	
	comp=Z,6.7nm,0.8s						
ASAR	Alice Springs	45.27	255	P	P	06 31 50.9	-0.1
	comp=Z,30nm,0.7s,baz=91,slow=7.8,SNR=351						
ASAR				PcP	PcP	06 33 16.9	-0.1
	comp=Z,2.1nm,0.6s,baz=106,slow=3.6,SNR=5.3						
ASAR				S	S	06 37 46.1	-1.3
	comp=Z,0.5nm,0.6s,baz=93,slow=16,SNR=4.3						
MTN	Manton Dam	49.41	269		P	06 32 20.8	-1.0
MTN				IAmb	IAmb	06 32 22.3	
	comp=Z,16nm,0.8s						
FORT	Forrest	50.38	245	P	P	06 32 28.2	-0.4
FORT				IAmb	IAmb	06 32 28.5	
	comp=Z,19nm,0.6s						
KNRA	Kununurra	51.06	264	P	P	06 32 33.1	-0.7
KNRA				IAmb	IAmb	06 32 34.1	
	comp=Z,15nm,0.8s						
SOEI	Soe	56.70	270	P	P	06 33 14.0	+0.6
PSA00	Pilbara Seismi	58.40	256	P	P	06 33 23.8	-0.9
MORW	Morawa	60.87	246	P	P	06 33 40.1	-0.8
PETK	Petropavlovsk-	74.27	345	P	P	06 35 01.3	-0.3
	comp=Z,2.0nm,0.8s,baz=134,slow=8.5,SNR=4.9						
NVAR	Mina Array Bea	79.32	43	P	P	06 35 30.8	+1.2
	comp=Z,0.9nm,0.7s,baz=223,slow=8.5,SNR=8.4						
U15A	North Rim	82.36	48	P	P	06 35 46.1	+0.8
TX31	Lajitas Ar. Si	85.71	57	P	P	06 36 02.1	+0.5
TX31				IAmb	IAmb	06 36 04.7	
	comp=Z,6.5nm,0.9s						
TX32	Lajitas Array	85.71	57	P	P	06 36 02.7	+1.0
TXAR	Lajitas Array	85.71	57	P	P	06 36 03.6	+2.0
	comp=Z,1.9nm,0.8s,baz=220,slow=6.1,SNR=25						
ILAR	Eielson Array	86.19	13	P	P	06 36 01.7	-1.2
	comp=Z,0.6nm,0.5s,baz=216,slow=4.9,SNR=12						
PDAR	Pinedale Array	87.25	43	P	P	06 36 09.2	+0.5
	comp=Z,0.8nm,0.7s,baz=217,slow=1.5,SNR=7.9						
CMAR	Chiang Mai Arr	89.62	289	P	P	06 36 21.3	+1.3
	comp=Z,1.5nm,0.3s,baz=124,slow=3.4,SNR=5.0						
YKA	Yellowknife Ar	94.48	25	P	P	06 36 40.9	-0.4
	comp=Z,0.3nm,0.6s,baz=244,slow=4.4,SNR=7.3						
MKAR	Makanchi Array	109.89	314	PKiKP	PKiKP	06 41 47.4	-1.0
	comp=Z,0.3nm,0.5s,baz=208,slow=0.8,SNR=5.4						
BVAR	Borovoye Array	117.59	321	PKP	PKPdf	06 42 02.1	-0.8
	comp=Z,0.5nm,0.4s,baz=132,slow=2.2,SNR=4.0						
ARCES	ARCESS Array B	126.87	350	PKP	PKPdf	06 42 19.7	-0.5
	comp=Z,1.0nm,0.7s,baz=25,slow=3.2,SNR=7.6						
AKASG	Malin Array Be	141.25	333	PKhKP	PKPpre	06 42 41.7	
	comp=Z,0.4nm,0.4s,baz=42,slow=4.0,SNR=6.0						
BRTR	Keskin Array B	145.54	315	PKPbc	PKPbc	06 42 57.0	-0.2
	comp=Z,1.6nm,0.8s,baz=130,slow=4.3,SNR=6.9						
CLL	Collm	146.03	348	*i* PKPbc	PKPbc	06 42 57.8	-0.2
	comp=Z,10.0nm,0.8s						
GERES	GERESS Array B	148.20	346	PKPbc	PKPbc	06 43 03.9	0.0
	comp=Z,1.6nm,0.6s,baz=42,slow=3.2,SNR=12						
WTTA	Wattenberg	150.16	347	*eP*	PKPbc	06 43 08.2	-0.5
	comp=Z,3.8nm,0.5s						
ABTA	Abfaltersbach	150.45	346	*eP*	PKPbc	06 43 08.3	-1.0
	comp=Z,8.3nm,1.2s						

NNC 05 06:25:43.8±8.3, 37°.15N×70°.05E, h174km±140km, mb3.0, mpv3.7, 5C-2D, Error ellipse: s-maj=80.7km s-min=49.5km az=15.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	5.96	3	⇑P	Pn	06 27 12.3	+2.3
	0.8nm,0.3s						
KK02				⇑S	Sn	06 28 16.8	-1.1
	7.3nm,0.7s						
AAK	Ala-Archa	6.46	31	⇓P	Pn	06 27 15.3	-1.5
	1.8nm,0.3s						
AAK				⇑S	Sn	06 28 31.9	+1.9
	7.7nm,0.7s						
TKM2	Tokmak 2	7.16	35	⇓P	Pn	06 27 24.9	-1.2
	7.2nm,0.5s						
TKM2				⇑S	Sn	06 28 47.4	+0.5
	3.0nm,0.7s						
AB31	Akbulak array	14.15	332	P	Pn	06 28 56.0	-0.3
	1.4nm,0.5s,baz=150,slow=12,SNR=35						
AKTO	Aktyubinsk	15.84	331	⇑P	P	06 29 17.8	+0.4
	5.2nm,0.8s						

*NNC **05** 06:30:35.0±1.7, 54°.33N×87°.10E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=12.5km s-min=9.2km az=9.0, Suspected Mining explosion.*
*IDC **05** 06:30:39.5±3.0, 54°.26N×86°.74E, h0km, mb1 3.1/2, mb1mx2.9/40, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=26.6km s-min=15.4km az=53.0*

ISC 05 06:30:42.9±3.4, 54°.1N±0°.2×86°.5E±0°.2, h0km, n9, σ1§61/10, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.01	261	*i*		06 37 30.0	
	baz=74,slow=331,SNR=31						
ZAA0	Zalesovo Array	1.01	261	⇑P	Pg	06 31 00.5	-1.7
	0.7nm,0.2s,baz=73,slow=17						
ZAA0				⇓S	Sn	06 31 20.1	+0.9
	5.2nm,0.9s						
ZALV	Zalesovo Beam	1.01	261	Pg	Pg	06 31 00.7	-1.6
	7.7nm,0.3s,baz=72,slow=17,SNR=85						
ZALV				Lg	Lg	06 31 18.5	
	2.3nm,0.3s,baz=77,slow=29,SNR=6.2						
ZALV				Rg	Rg	06 31 24.1	
	3.2nm,0.3s,baz=78,slow=27,SNR=11						
KURK	Kurchatov	5.90	238	⇑Lg	Lg	06 33 55.6	
	8.2nm,1.4s						
KURBB	Kurchatov Arra	6.01	238	Pn	Pn	06 32 13.0	0.0
	0.2nm,0.3s,baz=54,slow=13,SNR=9.7						
KURBB	Kurchatov Arra	6.01	238	⇑Pn	Pn	06 32 12.1	-0.9
	0.9nm,0.3s						
KURBB				⇓Sn	Sn	06 33 24.6	+2.2
	2.1nm,0.8s						
KURBB				⇑Lg	Lg	06 33 58.1	
	7.9nm,1.2s						
MK31	Makanchi Array	7.80	202	⇓Pn	Pn	06 32 35.8	-1.9
	0.1nm,0.3s,baz=28,slow=14,SNR=19						
MK31				⇓Sn	Sn	06 34 07.5	+0.7
	0.2nm,0.4s						
MKAR	Makanchi Array	7.80	202	Pn	Pn	06 32 38.1	+0.4
	0.2nm,0.3s,baz=26,slow=14,SNR=13						
MKAR				Lg	Lg	06 34 54.1	
	0.1nm,0.3s,baz=24,slow=32,SNR=5.1						
BVAR	Borovoye Array	9.65	270	Pn	Pn	06 33 04.4	+1.4
	0.2nm,0.3s,baz=69,slow=14,SNR=2.7						

*NNC **05** 06:40:46.0±0.9, 54°.52N×86°.54E, h0km, mb2.3, mpv2.3, Error ellipse: s-maj=18.5km s-min=6.3km az=157.0, Suspected Mining explosion.*

IDC 05 06:40:50.7±2.7, 54°.08N×86°.49E, h0km, mb1 2.9/2, mb1mx2.8/37, mbtmp2.9/2, ML2.8/2, 4C-2D, Error ellipse: s-maj=23.7km s-min=13.9km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	263	*i*		06 46 25.3	
	baz=82,slow=333,SNR=8.9						
ZAA0	Zalesovo Array	1.00	263	⇑P	Pg	06 41 07.9	-1.8
	0.2nm,0.5s						
ZAA0				⇓S	Sb	06 41 24.1	-0.3
	1.4nm,0.6s						
ZALV	Zalesovo Beam	1.00	263	Pg	Pg	06 41 08.2	-1.5
	1.0nm,0.3s,baz=84,slow=18,SNR=13						
ZALV				Lg	Lg	06 41 24.4	
	2.1nm,0.3s,baz=91,slow=29,SNR=9.8						
ZALV				Rg	Rg	06 41 27.4	
	2.7nm,0.3s,baz=78,slow=30,SNR=8.7						
KURBB	Kurchatov Arra	5.98	238	Pn	Pn	06 42 21.4	+1.1
	0.1nm,0.3s,baz=56,slow=14,SNR=6.8						
KURBB	Kurchatov Arra	5.98	238	⇑Pn	Pn	06 42 20.0	-0.4
	0.8nm,0.3s						
KURBB				⇑Lg	Lg	06 44 04.3	
	2.3nm,0.6s						
MK31	Makanchi Array	7.77	202	⇑Pn	Pn	06 42 46.0	+1.1
	baz=26,slow=13,SNR=24						
MK31				⇓Lg	Lg	06 45 06.2	
	1.2nm,0.9s						
MKAR	Makanchi Array	7.77	202	Pn	Pn	06 42 46.0	+1.1
	0.2nm,0.3s,baz=26,slow=14,SNR=18						

*RSPR **05** 06:41:33.2, 19°.70N×68°.17W, h74km±21km, MD3.7/11*
*OSPL **05** 06:41:35.4±0.8, 19°.50N×67°.92W, h0km±14km, ML3.3*
*NEIC **05** 06:41:36.2±2.1, 19°.6N±0°.1×67°.99W±0°.08, h35km±22km, Error ellipse: s-maj=20.8km s-min=8.7km az=161.0*
*IDC **05** 06:41:38.6±2.0, 20°.16N×67°.99W, h0km, mb3.2/4, mb1 3.7/4, mb1mx3.4/37, mbtmp3.2/4, Error ellipse: s-maj=94.5km s-min=31.5km az=31.0*

ISC 05 06:41:32.2±1.6, 19°.72N±0°.07×68°.07W±0°.05, h25km±18km, n63, σ1§49/61, mb3.2/4, 17C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	1.24	194	⇑*eP*	Pn	06 41 54.5	+0.6
PCDR	Punta Cana, DR	1.24	194	*eS*	Sb	06 42 10.7	+0.3
PCDR	Punta Cana, DR	1.24	194	Pn	Pn	06 41 54.5	+0.6
PCDR				IAML		06 42 15.1	
	comp=E,672nm,0.4s						
PCDR	Punta Cana, DR	1.24	194	*i* P	Pn	06 41 54.5	+0.6
PCDR				*eS*	Sn	06 42 08.8	-1.0
PCDR				IAML		06 42 16.8	
	comp=Z,763nm,0.5s						
IDE	Isla Desecheo	1.45	157	⇑*eP*	Pn	06 41 55.2	-1.6
IDE	Isla Desecheo	1.45	157	*eS*	Sn	06 42 11.1	-3.9
AGPR	Aguadilla, PR	1.54	144	⇓*eP*	Pn	06 41 57.5	-0.6
AGPR	Aguadilla, PR	1.54	144	*eS*	Sn	06 42 17.1	-0.3
AGPR	Aguadilla, PR	1.54	144		Pn	06 41 57.6	-0.5
AGPR				Sn	Sn	06 42 16.8	-0.6
AGPR				IAML		06 42 17.6	
	comp=N,691nm,0.6s						
AGPR	Aguadilla, PR	1.54	144	*i* P	Pn	06 41 57.6	-0.5
AGPR				*eS*	Sn	06 42 15.6	-1.8
AGPR				IAML		06 42 22.2	
	comp=Z,268nm,0.6s						
PRSN	Puerto Rico Se	1.74	149	Pn	Pn	06 42 02.4	+1.6
PRSN				Sn	Sn	06 42 22.3	+0.1
LSP	Las Mesas	1.80	149	⇑*eP*	Pn	06 42 01.4	-0.3
LSP	Las Mesas	1.80	149	*eS*	Sn	06 42 25.3	+1.6
AOPR	Arecibo Observ	1.85	137	⇑*eP*	Pn	06 42 02.8	+0.3
AOPR	Arecibo Observ	1.85	137	Pn	Pn	06 42 02.2	-0.2
AOPR				IAML		06 42 40.8	
	comp=N,383nm,0.7s						
EMPR	Esperanza - Ma	1.92	130	⇑*eP*	Pn	06 42 04.6	+1.3
EMPR	Esperanza - Ma	1.92	130	*eS*	Sb	06 42 29.4	-0.4
EMPR	Esperanza - Ma	1.92	130	Pn	Pn	06 42 04.5	+1.3
EMPR	Esperanza - Ma	1.92	130		Sb	06 42 29.4	-0.4
EMPR	Esperanza - Ma	1.92	130	IAML		06 42 34.2	
	comp=N,344nm,0.8s						
EMPR				IAML		06 42 44.5	
	comp=E,456nm,0.6s						
CRPR	Cabo Rojo, PR	1.94	152	⇑*eP*	Pn	06 42 03.5	-0.1
CRPR	Cabo Rojo, PR	1.94	152	*eS*	Sn	06 42 27.5	+0.5
CRPR	Cabo Rojo, PR	1.94	152	Pn	Pn	06 42 03.9	+0.4
CRPR				Sn	Sn	06 42 28.4	+1.4
CRPR				IAML		06 42 37.9	
	comp=N,429nm,0.8s						
CRPR	Cabo Rojo, PR	1.94	152	*i* P	Pn	06 42 04.0	+0.5
CRPR				IAML		06 42 33.4	
	comp=Z,463nm,1.0s						
MLPR	Magueyes Islan	2.00	151	⇑*eP*	Pn	06 42 04.3	-0.1
MLPR	Magueyes Islan	2.00	151	*eS*	Sn	06 42 28.3	-0.2
MLPR	Magueyes Islan	2.00	151	Pn	Pn	06 42 04.0	-0.4
MLPR				Sn	Sn	06 42 29.0	+0.4
MLPR				IAML		06 42 30.3	
	comp=N,289nm,0.6s						
MLPR				IAML		06 42 30.5	
	comp=E,435nm,0.7s						
GBPR	Guanica, Bosqu	2.07	147	⇑*eP*	Pn	06 42 06.6	+1.2
GBPR	Guanica, Bosqu	2.07	147	*eS*	Sn	06 42 31.6	+1.2
CELP	Cerrillos	2.17	139	⇑*eP*	Pn	06 42 07.5	+0.8
CELP	Cerrillos	2.17	139	*eS*	Sn	06 42 33.4	+0.7
CELP	Cerrillos	2.17	139	Pn	Pn	06 42 07.2	+0.5
CELP	Cerrillos	2.17	139		Sn	06 42 33.4	+0.7
CELP	Cerrillos	2.17	139	IAML		06 42 40.6	
	comp=N,246nm,0.5s						
CELP				IAML		06 42 45.5	
	comp=E,196nm,0.6s						
OBIP	Obispado Ponce	2.17	140	Pn	Pn	06 42 07.7	+0.9
OBIP				IAML		06 42 41.8	
	comp=N,250nm,0.9s						
GCPR	Guaynabo City	2.35	126	⇑*eP*	Pn	06 42 10.0	+0.8
GCPR	Guaynabo City	2.35	126		Pn	06 42 10.0	+0.8
SJG	San Juan	2.42	131	Pn	Pn	06 42 11.0	+0.7
SJG				IAML		06 42 47.4	
	comp=N,174nm,0.6s						
SJG				IAML		06 42 50.6	
	comp=N,183nm,0.7s						
CBYP	Canovanas	2.55	124	⇑*eP*	Pn	06 42 12.6	+0.6
CBYP	Canovanas	2.55	124		Pn	06 42 12.6	+0.6
CBYP	Canovanas	2.55	124	IAML		06 42 39.1	
	comp=N,218nm,0.2s						
CBYP				IAML		06 42 52.3	
	comp=E,213nm,0.2s						
PDPR	Patillas Dam,	2.58	131	Pn	Pn	06 42 13.0	+0.7
HUMP	Col San Antoni	2.63	126	⇑*eP*	Pn	06 42 13.8	+0.8
HUMP	Col San Antoni	2.63	126		Pn	06 42 13.8	+0.8
MTP	Monte Pirata	2.88	124	⇑*eP*	Pn	06 42 17.1	+0.6
MTP	Monte Pirata	2.88	124		Pn	06 42 17.1	+0.6
CUPR	Culebra, Puert	2.99	118	⇑*eP*	Pn	06 42 18.5	+0.4
CUPR	Culebra, Puert	2.99	118		Sn	06 42 50.9	-2.3
CUPR	Culebra, Puert	2.99	118		Pn	06 42 18.5	+0.4
STVI	Saint Thomas	3.25	114	⇑*eP*	Pn	06 42 22.6	+1.0
STVI	Saint Thomas	3.25	114	*eS*	Sn	06 42 55.3	-4.3
STVI	Saint Thomas	3.25	114		Pn	06 42 22.6	+1.0
STVI					Sn	06 42 55.3	-4.3
STVI	Saint Thomas	3.25	114	IAML		06 42 58.8	
	comp=N,54nm,0.3s						
GRTK	Grand Turk	3.37	302	*i* P	Pb	06 42 31.0	-0.2
GRTK				IAML		06 43 17.1	
	comp=Z,58nm,2.5s						
TBVI	Tortola	3.52	111	⇑*eP*	Pn	06 42 26.2	+0.9
CDVI	St. Croix	3.70	121	⇑*eP*	Pn	06 42 30.5	+2.8
CDVI	St. Croix	3.70	121	*eS*	Sn	06 43 14.9	+4.4
CDVI	St. Croix	3.70	121		Pn	06 42 30.5	+2.8
H05N1	Guadeloupe/Mar	7.49	116	Pn	Pn	06 43 31.0	+11
TXAR	Lajitas Array	33.65	293	P	P	06 48 20.3	+9.0
	comp=Z,0.2nm,0.7s,baz=118,slow=11,SNR=4.1						
PDAR	Pinedale Array	41.70	313	P	P	06 49 26.7	+7.4
	comp=Z,0.3nm,0.5s,baz=100,slow=9.2,SNR=5.4						
NVAR	Mina Array Bea	47.08	304	P	P	06 50 12.1	+10
	comp=Z,0.4nm,0.7s,baz=89,slow=11,SNR=3.5						
YKA	Yellowknife Ar	53.27	335	P	P	06 50 56.3	+7.7
	comp=Z,0.2nm,0.8s,baz=111,slow=7.2,SNR=4.6						

IDC 05 06:51:35.6±2.6, 14°.15S×178°.27W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/28, mbtmp4.3/4, ML4.5/1, Error ellipse: s-maj=154.7km s-min=30.9km az=172.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.30	89	Pn	Pn	06 53 10.0	+0.1
	10nm,0.3s,baz=279,slow=19,SNR=16						
STKA	Stephens Creek	40.66	237	P	P	06 59 16.8	-1.1
	1.5nm,0.4s,baz=76,slow=12,SNR=7.4						
WRA	Warramunga Arr	45.56	256	P	P	06 59 58.2	+0.5
	0.3nm,0.3s,baz=86,slow=8.1,SNR=21						
ASAR	Alice Springs	46.05	251	P	P	07 00 01.5	0.0
	6.8nm,0.5s,baz=85,slow=8.1,SNR=173						

THE 05 06:56:26.9, 38°.79N×20°.60E, h9km±1km, ML1.6/3, Error ellipse: s-maj=1.8km s-min=0.6km az=72.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	Tsoukalades, L	0.06	54	P	Pg	06 56 28.8	-0.1
TSLK				S	Sg	06 56 30.4	+0.1
	422nm,0.1s						
DRAG	Dragano-Lefkad	0.11	189	P	Pg	06 56 29.5	0.0
DRAG				S	Sg	06 56 31.3	-0.1
	1μm,0.2s						
NYDR	Nydri-Lefkada	0.11	134	P	Pg	06 56 29.4	-0.1
NYDR				S	Sg	06 56 31.4	0.0
EVGI	Lefkada island	0.18	164	P	Pg	06 56 30.6	0.0
EVGI				S	Sg	06 56 33.7	+0.6
	175nm,0.2s						

ATH 05 06:56:36.4, 38°.76N×22°.81E, h15km±7km, ML2.0/1, Error ellipse: s-maj=10.7km s-min=1.2km az=44.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAL	Atalanti	0.18	112	P	Pg	06 56 40.7	-0.1
ATAL				S	Sb	06 56 44.3	-0.5
LKR	Lokris	0.19	126	P	Pg	06 56 40.3	-0.6
LKR				S	Sg	06 56 43.9	+0.1
LKR				AML	AML	06 56 44.6	
	comp=N,1051μm,0.2s						
LKR				AML	AML	06 56 44.9	
	comp=E,1684μm,0.2s						
AGG	Agios Georgios	0.46	305	P	Pg	06 56 45.0	-0.5
AGG				S	Sg	06 56 52.1	+0.3
VIL2	Platees	0.66	146	P	Pn	06 56 50.5	-0.7
VIL2				S	Sb	06 56 59.8	+1.3

*IDC **05** 07:08:36.8±2.3, 43°.39N×126°.66W, h0km, mb3.2/3, mb1 3.5/7, mb1mx3.4/58, mbtmp3.2/7, ML3.3/4, Error ellipse: s-maj=34.7km s-min=16.7km az=61.0*
*ANF **05** 07:08:37.1±0.9, 43°.21N×126°.94W, h20km±18km, ML3.4/7, Error ellipse: s-maj=17.9km s-min=3.8km az=72.0*
*NEIC **05** 07:08:39.4±2.2, 43°.37N±0°.05×126°.7W±0°.1, h10km±2km, ML3.1/42, Error ellipse: s-maj=18.4km s-min=3.1km az=242.0*

ISC 05 07:08:38.6±1.5, 43°.30N±0°.06×126°.9W±0°.1, h14km, n74, σ1§14/80, mb3.2/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.90	102	Pn	Pn	07 09 08.2	-2.5
KEBM				IAML		07 09 48.4	
	comp=N,116nm,1.7s						
KEBM				IAML		07 10 03.3	
	comp=E,149nm,2.2s						
K02D	Willamette Mer	2.42	103	P	Pn	07 09 15.6	-2.3
	baz=287,SNR=101						
K02D				S	Sn	07 09 45.1	-2.2
	baz=287						
I03D	Drain, OR	2.59	80	P	Pn	07 09 18.2	-1.8
	baz=263,SNR=141						
I03D				S	Sn	07 09 50.1	-1.1
	baz=263						
DBO	Dodson Butte	2.65	93		Pn	07 09 19.2	-1.8
L02E	Cave Junction	2.66	114	P	Pn	07 09 19.1	-1.9
	baz=298,SNR=21						
L02E				S	Sn	07 09 52.0	-1.1
	baz=298						
COR	Corvallis	2.87	62		Pn	07 09 23.0	-0.9
COR				IAML		07 10 42.6	
	comp=E,49nm,2.3s						
COR				IAML		07 10 43.5	
	comp=E,44nm,3.9s						
HEBO	Mount Hebo	2.94	48	Pn	Pn	07 09 23.3	-1.6
BUCK	Buck Mountain	2.95	71		Pn	07 09 24.6	-0.4
BUCK				IAML		07 09 47.0	
	comp=N,45nm,4.6s						
BUCK				IAML		07 11 03.7	
	comp=E,60nm,4.7s						
HUMO	Hull Mountain	2.95	102	Pn	Pn	07 09 23.5	-1.5
G03D	McMinnville, O	3

WISH	Wishkah	4.39	29	Pn	Pn	07 09 44.0	-0.8
K05A	Summer Lake	4.42	95	Pn	Pn	07 09 45.0	-0.3
K05A				IAML		07 10 41.5	
	comp=N,20nm,4.7s						
K05A				IAML		07 12 00.3	
	comp=E,22nm,4.8s						
G05D	Wamic, OR	4.43	62	P	Pn	07 09 45.0	-0.3
	baz=246,SNR=7.7						
E04D	Cinebar	4.46	42	P	Pn	07 09 45.2	-0.5
	baz=224,SNR=54						
E04D				S	Sn	07 10 38.4	+1.0
	baz=224						
NLWA	Neilton Lookou	4.60	26	Pn	Pn	07 09 46.8	-0.9
NLWA				IAML		07 10 39.6	
	comp=E,27nm,2.8s						
NLWA				IAML		07 12 18.5	
	comp=E,26nm,2.4s						
F05D	White Salmon	4.64	54	P	Pn	07 09 48.2	0.0
	baz=238,SNR=27						
F05D				S	Sn	07 10 43.4	+1.5
	baz=238						
D04E	Lakebay	4.83	35	P	Pn	07 09 50.1	-0.8
	baz=218,SNR=7.4						
C03A	Quillayute Air	4.92	18	Pn	Pn	07 09 51.0	-1.0
D03D	Eldon	5.00	31	P	Pn	07 09 51.8	-1.3
	baz=213,SNR=12						
D03D				S	Sn	07 10 48.4	-2.2
	baz=213						
D05A	Enumclaw	5.19	40	Pn	Pn	07 09 56.1	+0.4
B04A	Port Angeles	5.30	25	Pn	Pn	07 09 56.8	-0.6
I07A	Izee	5.39	79		Pn	07 09 58.8	+0.2
I07A				IAML		07 11 20.3	
	comp=N,8.0nm,4.0s						
I07A				IAML		07 12 47.9	
	comp=E,12nm,4.7s						
ORV	Oroville	5.50	131	Pn	Pn	07 10 02.3	+2.3
CLRS	Cowichan Lake	5.84	18	Pn	Pn	07 10 03.3	-1.3
PGC	Sidney	5.85	23	Pn	Pn	07 10 04.1	-0.7
LTY	Liberty	5.89	46		Pn	07 10 05.8	+0.3
E07A	Sunnyside	5.94	54		Pn	07 10 06.0	-0.1
B05A	Bryant	5.98	32	P	Pn	07 10 05.4	-1.1
	baz=215						
B05A				S	Sn	07 11 14.1	-0.6
	baz=215						
G08A	Pilot Rock	6.01	68		Pn	07 10 05.9	-1.2
HAWA	Hanford	6.06	57	Pn	Pn	07 10 07.8	+0.1
WVOR	Wild Horse Val	6.11	95	Pn	Pn	07 10 07.3	-1.1
J08A	Circle Bar Ran	6.12	87	Pn	Pn	07 10 07.7	-1.0
A04D	Lummi Island	6.14	27	P	Pn	07 10 08.5	-0.2
	baz=209						
C06D	Leavenworth	6.23	40	S	Sn	07 11 22.3	+1.2
	baz=224						
E08A	Dider Farm, El	6.39	57		Pn	07 10 12.4	+0.1
B06A	Marblemount	6.42	34	Pn	Pn	07 10 12.0	-0.6
D08A	Wollman Farm,	6.75	53		Pn	07 10 17.3	+0.1
BMO	Blue Mountains	7.05	74	Pn	Pn	07 10 20.8	-0.6
YERR	Yerington	7.19	124	Pn	Pn	07 10 24.9	+1.5
B08A	Colville Reser	7.29	44	Pn	Pn	07 10 23.9	-0.8
F10A	Beach Ranch, E	7.37	65	Pn	Pn	07 10 25.3	-0.5
C09A	Chrisman Ranch	7.52	50	Pn	Pn	07 10 27.6	-0.1
PLID	Pearl Lake	8.01	73	Pn	Pn	07 10 35.1	+0.5
NVAR	Mina Array Bea	8.11	124		Pn	07 10 36.1	+0.1
	comp=E,0.1nm,0.3s,baz=305,slow=14,SNR=2.7						
NEW	Newport	8.42	51	Pn	Pn	07 10 39.5	-0.6
	comp=E,0.4nm,0.3s,baz=245,slow=14,SNR=6.9						
NEW	Newport	8.42	51	Pn	Pn	07 10 39.1	-1.0
NEW	Newport	8.42	51	P	Pn	07 10 39.4	-0.8
	baz=237						
MSO	Missoula	9.80	64	Pn	Pn	07 10 59.6	+0.5
LRM	Limekiln Ridge	10.59	71	Pn	Pn	07 11 09.0	-1.0
WALA	Waterton Lakes	10.66	53	Pn	Pn	07 11 10.7	-0.2
PDAR	Pinedale Array	12.68	86	Pn	Pn	07 11 40.3	+1.8
	comp=E,0.0nm,0.3s,baz=291,slow=12,SNR=3.6						
YKA	Yellowknife Ar	20.53	16	P	P	07 13 15.0	-1.2
	comp=E,0.8nm,0.8s,baz=204,slow=10,SNR=8.3						
ULM	Lac du Bonnet	22.22	61	P	P	07 13 34.4	0.0
	comp=E,3.9nm,0.8s,baz=263,slow=8,8,SNR=4.1						
TXAR	Lajitas Array	23.22	119	P	P	07 13 47.9	+2.6
	comp=E,0.2nm,0.8s,baz=309,slow=12,SNR=3.0						
ILAR	Eielson Array	24.30	339	P	P	07 13 55.2	0.0
	comp=E,0.5nm,0.8s,baz=152,slow=9.6,SNR=5.5						
H11N3	WAKE ISLAND Hy	59.57	269	T	T	08 23 07.4	
	baz=50,slow=75,SNR=26						
H11N2	WAKE ISLAND Hy	59.57	269	T	T	08 23 02.8	
	baz=50,slow=75,SNR=24						
H11N1	WAKE ISLAND Hy	59.59	269	T	T	08 23 06.7	
	baz=50,slow=75,SNR=25						
H11S1	WAKE ISLAND Hy	60.49	268	T	T	08 24 11.4	
	baz=50,slow=75,SNR=127						
H11S2	WAKE ISLAND Hy	60.50	268	T	T	08 24 17.6	
	baz=50,slow=75,SNR=102						
H11S3	WAKE ISLAND Hy	60.51	268	T	T	08 24 13.7	
	baz=50,slow=75,SNR=62						

HLW ***05*** *07:17:12.0, 34°.37N×32°.76E, h10km±19km, Md4.7*
ISK ***05*** *07:17:12.7, 34°.18N×32°.74E, h69km, ML4.4/30*
DDA ***05*** *07:17:12.9±0.0, 34°.27N×32°.69E, h6km±4km, MW4.3*
NEIC ***05*** *07:17:14±1.9, 34°.30N±0°.05×32°.73E±0°.07, h20km±6km, mb4.2/19, ML4.5(NIC), Error ellipse: s-maj=10.3km s-min=3.0km az=130.0*
IDC ***05*** *07:17:15.2±2.0, 34°.30N×32°.69E, h39km±21km, mb3.7/11, mb1 4.0/15, mb1mx3.6/49, mbtmp4.0/15, ML4.4/6, MS3.2/9, Ms1 3.2/9, ms1mx2.8/84, Error ellipse: s-maj=17.8km s-min=12.7km az=21.0*
NIC ***05*** *07:17:15.1±0.0, 34°.30N×32°.69E, h32km±30km, Ml4.5/8*
MED_RC ***05*** *07:17:15.0±0.5, 34°.25N×32°.72E, h40km±1km, MW4.4/8, Moment Tensor Solution.Mantle waves: s8,c9; Duration: 1±0 Moment tensor: Scale 1015Nm; Mrr3.06±.62; Mθθ-3.37±2.95; Mφφ0.32±3.06; Mrθ-1.20±.21; Mrφ4.16±1.06; Mθφ-1.07±.22; Best double couple: M=5.35000×1015 NP1:φ=268.00000°, δ62.00000°, λ38.00000°. NP2:φ=159.00000°, δ57.00000°, λ146.00000°. Principal axes: T 4.6000, Plg45.0000°, Azm125.0000°; N 1.5000, Plg44.0000°, Azm300.0000°; P -6.1000, Plg3.0000°, Azm33.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
GII ***05*** *07:17:16.7±0.0, 34°.27N×32°.69E, h31km, mb4.4/7, MD4.2/8, Mm3.6/14*
THE ***05*** *07:17:17.0, 34°.26N×32°.43E, h17km±24km, ML4.5/4, Error ellipse: s-maj=30.3km s-min=2.0km az=120.0*
GRAL ***05*** *07:17:18.2±0.3, 34°.38N×33°.00E, h31km±14km, MD4.1*
ISC 05 07:17:14.6±0.9, 34°.26N±0°.02×32.70E±0°.03, h30km±7km, n240, σ1§12/288, mb4.2/22, MS3.1/5, 3C-3D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NATA	Nata	0.53	348	⇑P		Pn		07 17 26.0	-0.2
NATA				S		Sn		07 17 35.8	+1.6
NATA				AML		AML		07 17 36.6	
	88nm,1.1s								
NATA				AML		AML		07 17 36.6	
	88nm,1.1s								
NATA				AML		AML		07 17 37.1	
	186nm,0.6s								
NATA				AML		AML		07 17 37.1	
	186nm,0.6s								
ASGA	Asgata	0.69	40	⇓P		Pb		07 17 28.0	-0.3
ASGA				S		Sn		07 17 38.2	+0.1
ASGA				AML		AML		07 17 39.6	
	248nm,0.7s								
ASGA				AML		AML		07 17 39.6	
	248nm,0.7s								
ASGA				AML		AML		07 17 42.8	
	121nm,0.4s								
ASGA				AML		AML		07 17 42.8	
	121nm,0.4s								
AKMS	Akamas	0.81	338	⇑P		Pn		07 17 29.5	-0.7
AKMS				S		Sb		07 17 41.1	+0.1
AKMS				AML		AML		07 17 41.5	
	105nm,0.5s								
AKMS				AML		AML		07 17 41.5	
	105nm,0.5s								
AKMS				AML		AML		07 17 41.9	
	64nm,0.6s								
AKMS				AML		AML		07 17 41.9	
	64nm,0.6s								
CSS	Mathiatis	0.87	36	PG		Pn		07 17 30.1	-0.8
CSS				SG		Sb		07 17 43.2	+0.6
CSS	Mathiatis	0.87	36	⇓P		Pn		07 17 30.2	-0.8
CSS				S		Sn		07 17 42.3	-0.3
CSS				AML		AML		07 17 43.5	
	23nm,0.8s								
CSS				AML		AML		07 17 43.5	
	23nm,0.8s								
CSS	Mathiatis	0.87	36			Pn		07 17 29.9	-1.0
CSS				Sg		Sn		07 17 40.5	-2.1
CSS	Mathiatis	0.87	36	Pg		Pn		07 17 29.6	-1.3
CSS				Sg		Sn		07 17 40.9	-1.7
LEF	Lefka	0.87	10	PG		Pn		07 17 30.8	-0.1
LEF				SG		Sb		07 17 44.1	+1.5
ALFC	Alefka	0.90	355	⇑P		Pn		07 17 30.4	-0.9
ALFC				S		Sn		07 17 42.4	-0.9
ALFC				AML		AML		07 17 43.5	
	116nm,0.4s								
ALFC				AML		AML		07 17 43.5	
	116nm,0.4s								
ALFC				AML		AML		07 17 48.0	
	96nm,0.5s								
ALFC				AML		AML		07 17 48.0	
	96nm,0.5s								
AKIN	Akıncılar- Kıb	0.98	40	PG		Pn		07 17 29.9	-2.5
ATHAL	Athalassa	1.05	33	P		Pn		07 17 33.7	+0.4
ATHAL				AML		AML		07 17 53.1	
	90nm,0.7s								
ATHAL				AML		AML		07 17 54.1	
	78nm,0.6s								
AKDN	Akdeniz- Kıbrı	1.06	12	PN		Pn		07 17 33.9	+0.5
AKDN				SN		Sb		07 17 48.5	+0.6
MVOU	Mavrovouni	1.07	45	P		Pn		07 17 33.3	-0.4
MVOU				S		Sb		07 17 49.6	+1.3
MVOU				AML		AML		07 17 49.9	
	27nm,0.3s								
MVOU				AML		AML		07 17 49.9	
	27nm,0.3s								
MVOU				AML		AML		07 17 51.4	
	46nm,0.6s								
MVOU				AML		AML		07 17 51.4	
	46nm,0.6s								
LFK	Lefkose	1.22	34	PN		Pn		07 17 36.4	+0.6
LFK				SN		Sb		07 17 52.4	-0.3
OSC2	CSNet OBS 4	1.24	197	P		Pb		07 17 36.8	-0.6
OSC2				S		Sb		07 17 54.9	+1.9
PARAL	Paralimni	1.32	56	P		Pn		07 17 37.3	+0.2
PARAL				AML		AML		07 18 05.8	
	21nm,0.8s								
PARAL				AML		AML		07 18 07.3	
	23nm,0.8s								
OSC1	CSNet OBS 1	1.41	238	⇓P		Pn		07 17 38.3	0.0
OSC1				S		Sn		07 17 56.7	+0.9
EREN	Erenkoy	1.75	43	PN		Pn		07 17 42.8	-0.1
EREN	Erenkoy	1.75	43	SPECP				07 17 43.0	
EREN				P		Pn		07 17 43.7	+0.8
TEKE	Tekeli-Mersin	1.91	10	PN		Pn		07 17 45.6	+0.5
YORU	Yoruktepe-Mers	1.97	17	PN		Pn		07 17 46.1	0.0
GAZI	Gazipasa	2.00	351	PN		Pn		07 17 46.5	+0.1
GAZI	Gazipasa	2.00	351	P		Pn		07 17 45.0	-1.4
GAZI				S		Sn		07 18 09.3	-1.0
AKK2	Akkuyu-Mersin	2.00	20	PN		Pn		07 17 46.5	+0.2
AKK1	Akkuyu-Mersin	2.00	20	PN		Pn		07 17 46.7	+0.3
AKKU	Akkuyu-Mersin	2.02	20	PN		Pn		07 17 46.6	0.0
GULN	MERSIN_Gulnar	2.04	19	P		Pn		07 17 47.2	+0.2
OREN	Orenkoy-Mersin	2.04	17	PN		Pn		07 17 46.7	-0.2
TISA	Tisan-Mersin	2.06	23	PN		Pn		07 17 47.4	+0.2
TEPK	Tepekoy-MERSIN	2.08	19	PN		Pn		07 17 47.6	+0.1
YESI	Yesilovacik-Me	2.08	21	PN		Pn		07 17 47.3	-0.2
KARG	Kargicak-Mersi	2.10	23	PN		Pn		07 17 48.5	+0.6
BERE	Bereket-Mersin	2.12	11	PN		Pn		07 17 48.6	+0.3
IKL	Isikli	2.13	22	PN		Pn		07 17 48.5	+0.3
TEVE	Tevekalti-Mers	2.25	15	PN		Pn		07 17 50.8	+0.8
SILI	Silifke-Mersin	2.33	25	PN		Pn		07 17 51.2	+0.3
KEBE	Keben-Mersin	2.33	20	PN		Pn		07 17 51.8	+0.8
BEYL	Beirut	2.35	99	*e*P		Pn		07 17 51.4	+0.2
SLFK	Silifke-Mersin	2.36	25	PN		Pn		07 17 51.9	+0.6
HNTI	Hanita	2.37	119	Pn		Pn		07 17 51.4	-0.1
HNTI				Sn		Sn		07 18 18.7	-0.9
DQRL	Deir Qamar	2.44	102	*e*P		Pn		07 17 52.5	-0.1
DQRL				*e*S		Sn		07 18 17.8	-3.7
BHL	Bhannes	2.47	97	*e*P		Pn		07 17 52.6	-0.4
BHL				*e*S		Sn		07 18 18.1	-4.2
KIZK	Mersin	2.51	28	PN		Pn		07 17 53.9	+0.5
KIZK	Mersin	2.51	28	SPECP				07 17 54.0	
KIZK				P		Pn		07 17 54.5	+1.1
KIZK				S		Sn		07 18 23.0	0.0
OFRI	`Ofer	2.51	130	Pn		Pn		07 17 53.7	+0.2
OFRI				Sn		Sn		07 18 22.5	-0.6
MMA0B	Mount Meron ar	2.57	118	Pn		Pn		07 17 54.4	+0.1
MMA0B				Sn		Sn		07 18 24.5	-0.1
MMAI	Mount Meron Ar	2.57	118	Pn		Pn		07 17 54.6	+0.3
	381nm,0.3s,baz=307,slow=12,SNR=750								
MMAI				Sn		Sn		07 18 24.6	-0.1
	429nm,0.3s,baz=304,slow=28,SNR=27								
MMAI				LR		LR		07 19 14.5	
	comp=Z,395nm,20.4s,baz=103,slow=46								
BLGI	Bet Lehem HaGe	2.58	126	Pn		Pn		07 17 54.4	+0.1
BLGI				Sn		Sn		07 18 24.1	-0.6
GEM	Giv'at Ha'Em	2.68	112	Pn		Pn		07 17 55.8	+0.1
GEM				Sn		Sn		07 18 27.1	-0.1
HWQ	Hawqa	2.69	89	*e*P		Pn		07 17 55.3	-0.6
HDMB	Hadim	2.70	356	PN		Pn		07 17 57.3	+1.0
RCY	Rachaya	2.71	105	*e*P		Pn		07 17 56.3	-0.1
RCY				*e*S		Sn		07 18 24.6	-3.6
KEPZ	Antalya-Kepez	2.78	342	SPECP		P		07 17 57.0	-0.2
KEPZ				P		P		07 17 57.0	-0.2
KEPZ				S		Sn		07 18 29.0	-0.9
SLTI	Sal'it	2.81	135	Pn		Pn		07 17 57.7	+0.2
SLTI				Sn		Sn		07 18 29.8	-0.6
AKUM	Antalya-Kumluc	2.82	317	SPECP				07 17 57.0	
AKUM				P		Pn		07 17 57.5	-0.2
KSHT	Keshet	2.89	115	Pn		Pn		07 17 59.6	+0.9
MMLI	Mount Malkishu	2.91	128	Pn		Pn		07 17 59.4	+0.4
MMLI				Sn		Sn		07 18 32.8	-0.2
KKBE	Karaman, Kazim	2.96	4	P		Pn		07 18 02.6	+2.9
KKBE				S		Sn		07 18 36.1	+1.9
MERS	Mersin	2.99	29	PN		Pn		07 18 00.6	+0.5
DEMR	Demre-Antalya	3.02	312	PN		Pn		07 18 00.5	+0.1
HMDT	Nahal Hemdat	3.10	129	Pn		Pn		07 18 02.0	+0.5
HMDT				Sn		Sn		07 18 37.6	+0.1
DED	Mersin	3.19	32	P		Pn		07 18 03.4	+0.6
SEYD	Seydisehir-KON	3.22	348	PN		Pn		07 18 04.2	+1.0
ASUZ	Hatay-Arsuz	3.23	50	P		Pn		07 18 03.1	-0.2
UJAP	Al Uja	3.27	134	Pn		Pn		07 18 04.7	+0.9
UJAP				Sn		Sn		07 18 41.3	-0.3
SEDI	Konya, Seydise	3.28	347	SPECP				07 18 06.0	
SEDI				P		Pn		07 18 06.2	+2.0
SEDI				S		Sn		07 18 43.4	+1.3
AMAZ	Amatzia	3.30	145	Pn		Pn		07 18 04.8	+0.5
AMAZ				Sn		Sn		07 18 42.4	0.0
YAYL	Yayladag	3.30	57	PN		Pn		07 18 03.6	-0.8
KORT	Korkueli	3.34	326	PN		Pn		07 18 05.6	+0.7
KORT	Korkueli	3.34	326	SPECP				07 18 06.0	
KORT				P		Pn		07 18 07.0	+2.0
KERG	Konya-Eregli	3.35	20	SPECP				07 18 06.0	
KERG				P		Pn		07 18 06.6	+1.5
ELL	Elmali	3.37	318	PN		Pn		07 18 05.6	+0.2
ELL	Elmali	3.37	318			Pn		07 18 05.2	-0.1
GULE	Gulek	3.46	29	SPECP				07 18 07.0	
GULE				P		Pn		07 18 07.9	+1.3
YURE	YUREGIR	3.50	42	SPECP				07 18 06.0	
YURE				P		Pn		07 18 06.5	-0.6
DSI	Dead Sea	3.50	139	Pn		Pn		07 18 08.0	+0.9
DSI				Sn		Sn		07 18 47.8	+0.3
KMER	Konya-Meram	3.51	356	SPECP				07 18 08.0	
KMER				P		Pn		07 18 08.4	+1.1
BUCA	Burdur, Bucak-	3.52	331	SPECP				07 18 08.0	
BUCA				P		Pn		07 18 08.5	+1.1
YTIR	Yattir	3.53	144	Pn		Pn		07 18 08.4	+0.8
YTIR				Sn		Sn		07 18 48.5	+0.1
TAHT	Tahtakopru-Hat	3.54	52	PN		Pn		07 18 07.6	0.0
KARA	Karaisali	3.55	32	PN		Pn		07 18 08.5	+0.7
YESY	Yesilyurt	3.61	13	PN		Pn		07 18 09.7	+1.0
BCK	Bucak	3.63	332	PN		Pn		07 18 09.4	+0.6
KZIT	Kziot	3.64	156	Pn		Pn		07 18 09.6	+0.7
KZIT				Sn		Sn		07 18 50.1	-0.8
KONT	Konya--Tatoy	3.69	356	PN		Pn		07 18 10.7	+1.1
KONT	Konya--Tatoy	3.69	356	P		Pn		07 18 11.3	+1.7
MDBI	Mazsada	3.69	142	Pn		Pn		07 18 10.7	+1.1
MDBI				Sn		Sn		07 18 51.5	-0.6
MSBI	Mazada	3.69	142	Pn		Pn		07 18 10.9	+1.3
MSBI				Sn		Sn		07 18 53.2	+1.1
CEYT	Ceyhan	3.70	41	PN		Pn		07 18 09.6	-0.1
FETY	Fethiye	3.79	310	P		Pn		07 18 11.0	-0.1
FETY	Fethiye	3.79	310	PN		Pn		07 18 10.9	-0.1
FETY	Fethiye	3.79	310	P		Pn		07 18 10.9	-0.1
CAME	Cameli-Denizli	3.85	315	PN		Pn		07 18 12.3	+0.3
CMRD	Camardi-Nigde	3.87	28	PN		Pn		07 18 13.3	+1.1
AKO	Adana	3.89	34	P		Pn		07 18 12.9	+0.5
GOLH	Golhisar	3.92	320	SPECP				07 18 14.0	
GOLH				P		Pn		07 18 14.6	+1.8
CAEL	Denizli, Camel	3.97	317	SPECP				07 18 14.0	
CAEL				P		Pn		07 18 14.3	+0.7
ISP	Isparta	3.97	334	PN		Pn		07 18 14.4	+0.8
ISP	Isparta	3.97	334			Pn		07 18 13.4	-0.2
ISP	Isparta	3.97	334	Pn		Pn		07 18 14.1	+0.5
ISP				Sn		Sn		07 18 58.6	-0.6
SULT	Sultanhani-AKS	3.98	9	PN		Pn		07 18 14.8	+1.0
BAGO	Egridir - ISPA	4.03	338	SPECP				07 18 15.0	
BAGO				P		Pn		07 18 15.4	+0.9
BRDR	BURDUR-Merkez	4.04	329	P		Pn		07 18 16.0	+1.4
RMNI	Mount Ramon	4.05	154	Pn		Pn		07 18 15.1	+0.5
ASF	Jabal al Asfar	4.08	119	Pn		Pn		07 18 16.5	+1.3
	80nm,0.3s,baz=314,slow=4.1,SNR=311								
ASF				Sn		Sn		07 19 02.0	0.0
	18nm,0.3s,baz=136,slow=8.7,SNR=5.7								
NIDE	Nigde/Merkez-G	4.09	24	SPECP				07 18 17.0	
NIDE				P		Pn		07 18 17.2	+1.9
KOZT	Kozan	4.09	37	PN		Pn		07 18 14.9	-0.3
NIG	Nigde	4.14	21	PN		Pn		07 18 16.9	+0.8
YVAC	Isparta, Yalva	4.17	344	SPECP				07 18 17.0	
YVAC				P		Pn		07 18 17.1	+0.7
ARG	Arkhangelos	4.22	299	P		Pn		07 18 15.9	-1.1
ARG				S		Sn		07 19 02.6	-2.7
	2μm,0.7s								
ZFRI	Zfri	4.25	150	Pn		Pn		07 18 17.4	+0.1
GULA	Gulagac	4.26	16	PN		Pn		07 18 18.9	+1.3
KDHN	Kadinhani	4.28	354	SPECP				07 18 17.0	
KDHN				P		Pn		07 18 17.2	-0.6
HHAG	Hagoal	4.33	187	P		Pn		07 18 19.4	+1.0
	baz=188								
HHAG				S		Sn		07 19 07.8	0.0
	baz=188								
PRNI	Paran	4.36	153	Pn		Pn		07 18 19.2	+0.4
KOT	Kottamia	4.38	190	P		Pn		07 18 20.3	+1.0
	baz=191								
KRMI	Paran Flat	4.47	157	Pn		Pn		07 18 20.7	+0.3
KRMI				Sn		Sn		07 19 11.0	-0.5
KZIL	AFYON_Kizioren	4.49	333	P		Pn		07 18 21.2	+0.4
HLW	Helwan	4.54	195	S		Sn		07 19 13.3	+0.3
	baz=196								
YER	Yerkesik	4.60	310	P		Pn		07 18 22.5	+0.3
HRFI	Mount Harif	4.65	154	Pn		Pn		07 18 23.5	+0.6
HRFI				Sn		Sn		07 19 15.7	-0.3
GAZ	Gaziantep	4.68	50			Pn		07 18 21.1	-2.2
HSAF	As Saff	4.73	192	P		Pn		07 18 24.2	+0.2
	baz=193								
HMYD	Mayadein	4.74	200	P		Pn		07 18 25.3	+1.3
	baz=201								
GLL	Jalalah	4.75	191	P		Pn		07 18 24.8	+0.6
	baz=191								
MBRI	Mt Berech	4.83	157	Pn		Pn		07 18 25.9	+0.5
MBRI				Sn		Sn		07 19 20.7	+0.3
DAT	Datca	4.85	302	P		Pn		07 18 25.1	-0.6
ZNM	Zenema	4.87	178	P		Pn		07 18 26.6	+0.7
	baz=178								
HNAT	Natroun	4.94	202	P		Pn		07 18 27.9	+1.0
	baz=202								
HNAT				S		Sn		07 19 22.9	-0.2
	baz=202								
EIL	Elat	4.96	157	Pn		Pn		07 18 27.6	+0.5
	16nm,0.3s,baz=207,slow=1.5,SNR=109								
EIL				Sn		Sn		07 19 21.9	-1.5
	33nm,0.3s,baz=274,slow=22,SNR=7.8								
EIL	Elat	4.96	157	PN		Pn		07 18 24.9	-2.2
EIL	Elat	4.96	157	Pn		Pn		07 18 27.6	+0.5
EIL				Sn		Sn		07 19 22.6	-0.9
BODT	Bodrum	5.21	304	P		Pn		07 18 30.2	-0.3
BNN	Bunyan	5.23	28	Pn		Pn		07 18 30.6	-0.4
KULA	Kula-Manisa	5.35	324	P		Pn		07 18 32.0	-0.6
BRTR	Keskin Array B	5.50	8	Pn		Pn		07 18 35.6	+0.9
	1.3nm,0.3s,baz=188,slow=15,SNR=32								
BRTR				LR		LR		07 21 17.5	
	comp=Z,239nm,18.2s,baz=199,slow=44								
BRTR	Keskin Array B	5.50	8	Pn		Pn		07 18 35.8	+1.1
BR131	Keskin Array S	5.51	8			Pn		07 18 35.6	+0.9
HKAT	Jabal Katrina	5.83	169	P		Pn		07 18 39.4	+0.2
	baz=169								
HKAT				S		Sn		07 19 44.1	-1.0
	baz=169								
SMG	Samos	5.87	308	P		Pn		07 18 38.4	-1.2
BORA	Eskisehir	5.89	343	Pn		Pn		07 18 39.5	-0.4
NPS	Neapolis	5.92	282	P		Pn		07 18 39.6	-0.7
NPS				S		Sn		07 19 43.7	-3.5
	670nm,0.4s								
IDI	Anoyia	6.51	281	Pn		Pn		07 18 47.2	-1.2
	4.6nm,0.3s,baz=25,slow=5.0,SNR=36								
IDI				Sn		Sn	

comp=Z,9.1nm,0.8s
GERES GERESS Array B 20.28 322 P **P 07 21 47.4 -0.5**
comp=Z,2.9nm,0.6s,baz=129,slow=10,SNR=21
GERES LR LR 07 31 52.3
comp=Z,92nm,19.2s,baz=252,slow=43
CHVC Chvalec 20.35 328 *e*P **P 07 21 47.2 -1.3**
WTTA Wattenberg 20.50 316 *e*Pn Pn 07 21 53.2 +0.6
comp=Z,13nm,0.8s
KHC Kasperske Hory 20.52 322 *e*P **P 07 21 49.4 -1.0**
KHC Kasperske Hory 20.52 322 P **P 07 21 49.6 -0.8**
KHC IAmb IAmb 07 21 51.0
comp=Z,6.9nm,0.7s
WATA Walderalm 20.57 316 *e*Pn Pn 07 21 52.5 -0.8
comp=Z,8.2nm,0.6s
PRU Pruhonice 20.61 325 *e*P Pn 07 21 59.1 +5.4
SQTA Sankt Quirin 20.72 315 *e*Pn **P 07 21 53.0 +0.4**
comp=Z,7.9nm,0.9s
GEYT Alibeck 20.84 73 P **P 07 21 54.7 +0.8**
comp=Z,9.6nm,0.8s,baz=344,slow=4.9,SNR=8.6
GEYT Alibeck 20.84 73 P **P 07 21 53.0 -0.9**
GEYT IAmb IAmb 07 21 57.7
comp=Z,9.6nm,0.8s
GYA0B ALIBECK ARRAY 20.84 73 P **P 07 21 52.9 -1.0**
GYA0B IAmb IAmb 07 21 57.7
comp=Z,12nm,0.9s
MOTA Moosalm 20.85 315 *e*Pn **P 07 21 55.3 +1.3**
comp=Z,12nm,1.2s
FETA Feichten 20.90 314 *e*Pn **P 07 21 55.1 +0.4**
comp=Z,15nm,1.2s
NACGM Naroch 21.05 350 *i* P **P 07 21 54.6 -1.4**
RETA Reutte 21.12 315 *e*Pn **P 07 21 56.6 -0.3**
comp=Z,4.3nm,0.5s
BRG Berggiesshubel 21.50 326 *e*P **P 07 22 01.1 +0.3**
BRG Amp 07 22 04.6
comp=Z,4.4nm,0.9s
BRG *ex* x 07 22 12.5
BRG Amp 07 22 13.6
comp=Z,7.5nm,0.9s
DAVA Damuels 21.54 314 *e*Pn **P 07 21 59.9 -1.6**
comp=Z,3.2nm,0.5s
CLL Collm 22.23 326 *e*P **P 07 22 11.0 +2.3**
CLL *i* sP **pwP 07 22 18.7 -0.4**
comp=Z,9.0nm,1.0s
UOSS Minazif 22.40 108 P **P 07 22 12.9 +2.2**
SENIN Lac Senin/Sane 22.73 310 P **P 07 22 14.0 -0.3**
SENIN IAmb IAmb 07 22 20.3
comp=Z,7.2nm,0.8s
BFO Black Forest 22.96 315 P **P 07 22 17.0 +0.5**
BFO IAmb IAmb 07 22 22.7
comp=Z,11nm,1.1s
ATD Arta Tunnel 24.45 155 LR LR 07 30 48.2
comp=Z,46nm,20.8s,baz=39,slow=33
AKTO Aktyubinsk 24.55 41 P **P 07 22 29.9 -1.7**
comp=Z,3.4nm,0.7s,baz=250,slow=9.9,SNR=12
ABKAR Akbulak array 25.07 45 P **P 07 22 36.3 0.0**
ABKAR IAmb IAmb 07 22 58.7
comp=Z,3.9nm,1.1s
ABKAR Akbulak array 25.07 45 P **P 07 22 36.3 0.0**
WSAR Wadi Sarin 25.18 109 LR LR 07 33 24.4
comp=Z,60nm,19.5s,baz=317,slow=38
KLMR Klimovskoe 26.97 7 *e* **P 07 22 54.3 +0.9**
KLMR AMP 07 23 11.8
comp=Z,20nm,1.1s
FINES FINESS Array B 27.53 353 P **P 07 22 56.6 -1.8**
comp=Z,1.1nm,0.5s,baz=150,slow=11,SNR=7.6
FINES FINESS Array B 27.53 353 P **P 07 22 57.5 -0.9**
FIA1 FINESS Array S 27.53 353 P **P 07 22 58.1 -0.3**
ESDC Sonseca Array 29.65 291 P **P 07 23 17.4 -0.2**
comp=Z,0.6nm,0.8s,baz=70,slow=8.9,SNR=5.0
NOA NORSAR Array B 30.16 339 LR LR 07 37 28.4
comp=Z,26nm,20.3s,baz=355,slow=40
KKAR Karatay Array 30.59 62 P **P 07 23 25.0 -0.8**
TORD Torodi Ar. Bea 35.10 241 P **P 07 24 05.4 0.0**
comp=Z,1.3nm,0.7s,baz=57,slow=6.3,SNR=8.7
ARCES ARCESS Array B 35.55 356 P **P 07 24 08.0 -0.8**
comp=Z,0.5nm,0.5s,baz=158,slow=7.8,SNR=5.2
ARCES ARCESS Array B 35.55 356 P **P 07 24 10.5 +1.7**
KURK Kurchatov 36.98 49 P **P 07 24 21.8 +0.7**
KURK IAmb IAmb 07 24 32.9
comp=Z,4.7nm,1.3s
MK31 Makanchi Array 39.10 56 P **P 07 24 39.2 +0.1**
MKAR Makanchi Array 39.10 56 P **P 07 24 38.8 -0.3**
comp=Z,1.1nm,0.7s,baz=265,slow=6.2,SNR=12
MKAR Makanchi Array 39.10 56 P **P 07 24 39.0 -0.1**
ZALV Zalesovo Beam 41.18 45 P **P 07 24 56.5 +0.2**
comp=Z,0.5nm,0.4s,baz=264,slow=8.5,SNR=2.6
ZALV Zalesovo Beam 41.18 45 P **P 07 24 56.8 +0.6**
WMQ Urumqi 43.06 60 *e*P **P 07 25 13.9 +2.1**
PYUN Piuthan 43.11 84 *e*P **P 07 25 12.8 +0.3**
comp=Z,15nm,0.7s
DANN Dangsing 43.65 83 *e*P **P 07 25 17.8 +0.8**
comp=Z,47nm,0.7s
GKN Gorkha 44.50 83 *e*P **P 07 25 24.0 +0.3**
comp=Z,19nm,0.6s
KKN Kakani 45.10 83 *e*P **P 07 25 28.9 +0.3**
comp=Z,21nm,0.6s
PKIN Phulchoki 45.28 84 *e*P **P 07 25 28.8 -1.2**
comp=Z,15nm,0.8s
PKI Pulchoki 45.29 84 *e*P **P 07 25 29.8 -0.4**
comp=Z,20nm,0.8s
GUN Gumba 45.55 83 *e*P **P 07 25 31.7 -0.6**
SONM Songino Array 55.19 52 LR LR 07 53 42.2
comp=Z,315nm,18.2s,baz=48,slow=40
CMAR Chiang Mai Arr 60.45 87 P **P 07 27 20.9 -1.0**
comp=Z,0.8nm,0.3s,baz=293,slow=7.7,SNR=8.3
CMAR Chiang Mai Arr 60.45 87 P **P 07 27 21.5 -0.4**
HHC Hu-ho-hao-te 60.89 58 *e*P **P 07 27 26.2 +1.6**
HHC pmax pmax
comp=Z,11nm,1.2s
HHC pmax pmax
comp=Z,160nm,5.0s
EUNU Eureka 61.20 350 P **P 07 27 27.7 +1.6**
IMAR Indian Mountai 79.95 3 P **P 07 29 20.8 +0.3**
YKA Yellowknife Ar 80.06 345 P **P 07 29 19.3 -1.7**
comp=Z,0.7nm,0.8s,baz=27,slow=6.2,SNR=3.6

*IDC **05** 07:20:43.9±0.7, 52.°07N×169.°76W, h0km, mb4.5/34, mb1 4.6/36, mb1mx4.4/48, mbtmp4.5/36, ML4.0/2, MS4.0/45, Ms1 4.0/45, ms1mx3.8/96, Error ellipse: s-maj=19.4km s-min=11.6km az=174.0*
*AEIC **05** 07:20:47.8±2.6, 51.°98N±0.°07×169.°63W±0.°05, h29km±4km, Error ellipse: s-maj=10.0km s-min=4.5km az=171.0*
*NEIC **05** 07:20:49.6±2.5, 52.°02N±0.°06×169.°64W±0.°09, h40km±6km, mb4.6/109, ML4.2/35(AEIC), Error ellipse: s-maj=9.4km s-min=7.3km az=153.0*

ISC 05 07:20:47.7±0.7, 51.°99N±0.°06×169.°67W±0.°04, h24km±3km, h24km:pP-P, n460, σ1°08/441, mb4.7/103, MS4.1/59, 3C-3D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.79**	**358**		**Pn**	**07 21 02.9**	**-0.5**
CLCO					**Sn**	**07 21 16.3**	**+1.9**
CLES	**Cleveland East**	**0.84**	**351**		**Pb**	**07 21 03.3**	**-0.3**
NIKH	**Nikolski High**	**1.10**	**27**	Pn	**Pn**	**07 21 06.8**	**-0.8**
NIKH	**Nikolski High**	**1.10**	**27**		**Sn**	**07 21 22.7**	**+0.7**
NIKH	**Nikolski High**	**1.10**	**27**	P	**Pn**	**07 21 06.9**	**-0.7**
	baz=206,SNR=39						
OKSP	**Okmok Steeple**	**1.52**	**33**		**Pn**	**07 21 13.1**	**-0.3**
OKSO	**Okmok South**	**1.65**	**33**		**Pn**	**07 21 15.0**	**-0.1**
OKSO					**Sn**	**07 21 35.3**	**-0.2**
OKNC	**Okmok New Cone**	**1.74**	**32**		**Pn**	**07 21 17.1**	**+0.7**
OKFG	**Magazine Ridge**	**1.78**	**36**		**Pn**	**07 21 16.8**	**-0.1**
MAPS	**Pakushin South**	**2.46**	**41**		**Pn**	**07 21 26.6**	**+0.4**
MAPS					**Sn**	**07 21 56.0**	**+0.5**
MSW	**Makushin Switc**	**2.60**	**41**		**Pn**	**07 21 28.7**	**+0.5**
MNAT	**Makushin Natee**	**2.62**	**43**		**Pn**	**07 21 29.1**	**+0.6**
UNV	**Unalaska Valle**	**2.67**	**45**	Pn	**Pn**	**07 21 29.5**	**+0.4**
UNV	**Unalaska Valle**	**2.67**	**45**	P	**Pn**	**07 21 29.0**	**-0.1**
	baz=226,SNR=22						
MTBL	**Makushin Table**	**2.68**	**41**		**Pn**	**07 21 29.7**	**+0.3**
KOFP	**Korovin Flat P**	**2.74**	**278**		**Pn**	**07 21 30.7**	**+0.5**
ATKA	**Atka Island**	**2.80**	**276**		**Pn**	**07 21 31.0**	**+0.1**
KOKL	**Mount Kliuchef**	**2.81**	**279**		**Pn**	**07 21 32.3**	**+1.2**
AKRB	**Akutan Reef Bi**	**3.05**	**44**		**Pn**	**07 21 35.8**	**+1.4**
AKBBA	**Akutan Broad B**	**3.09**	**45**		**Pn**	**07 21 35.6**	**+0.7**
AKUT	**Akutan**	**3.18**	**46**	Pn	**Pn**	**07 21 37.2**	**+1.1**
AKSA	**Akutan Strait**	**3.22**	**47**		**Pn**	**07 21 37.3**	**+0.6**
WESP	**Westdahl Peak**	**3.89**	**48**		**Pn**	**07 21 47.0**	**+1.1**
GSMY	**Great Sitkin M**	**3.94**	**273**		**Pn**	**07 21 47.4**	**+0.8**
GSTR	**Great Sitkin T**	**3.94**	**274**		**Pn**	**07 21 47.6**	**+0.9**
GSTD	**Great Sitkin T**	**4.00**	**273**		**Pn**	**07 21 47.9**	**+0.5**
SSLS	**Shishaldin Sou**	**4.36**	**49**		**Pn**	**07 21 53.1**	**+0.8**
KIWB	**Kanaga Island**	**4.63**	**271**	Pn	**Pn**	**07 21 56.8**	**+0.7**
KIMD	**Kanaga Island**	**4.69**	**270**		**Pn**	**07 21 57.5**	**+0.6**
FALS	**False Pass**	**4.71**	**50**	P	**Pn**	**07 21 58.1**	**+0.9**
	baz=235						
TAFP	**Tanaga Falls P**	**5.14**	**272**		**Pn**	**07 22 04.4**	**+1.3**
TASE	**Tanaga Southea**	**5.18**	**272**		**Pn**	**07 22 04.6**	**+0.9**
SPIA	**Saint Paul Isl**	**5.20**	**357**	Pn	**Pn**	**07 22 06.4**	**+2.5**
SPIA	**Saint Paul Isl**	**5.20**	**357**	P	**Pn**	**07 22 05.0**	**+1.0**
	baz=176						
GAEA	**Gareloi East**	**5.62**	**271**		**Pn**	**07 22 11.2**	**+1.5**
GALAA	**Gareloi Lava P**	**5.64**	**271**		**Pn**	**07 22 11.6**	**+1.7**
SDPT	**Sand Point**	**6.41**	**55**	Pn	**Pn**	**07 22 22.3**	**+1.8**
SDPT	**Sand Point**	**6.41**	**55**	P	**Pn**	**07 22 19.3**	**-1.2**
	baz=242						
CNBA	**Chernabura Isl**	**6.66**	**61**	Pn	**Pn**	**07 22 24.4**	**+0.5**
CHNA	**Chernabura Isl**	**6.66**	**61**	P	**Pn**	**07 22 24.1**	**+0.1**
	baz=249						
CHGN	**Chignik**	**7.89**	**52**	Pn	Pn	07 22 34.5	-6.3
CHGN	**Chignik**	**7.89**	**52**	P	**Pn**	**07 22 41.3**	**+0.5**
	baz=241						
P18K	**Big Mountain,**	**11.00**	**42**	P	**Pn**	**07 23 22.6**	**-0.7**
	baz=234						
O18K	**Koktuh Hills**	**11.29**	**40**	P	**Pn**	**07 23 27.5**	**+0.3**
	baz=232						
KDAK	**Kodiak Island**	**11.40**	**53**	Pn	**Pn**	**07 23 27.9**	**-0.9**
	1.6nm,0.3s,baz=278,slow=8.1,SNR=8.3						
KDAK	**Kodiak Island**	**11.40**	**53**		**Pn**	**07 23 27.1**	**-1.8**
Q19K	**Cape Douglas,**	**11.43**	**46**	Pn	**Pn**	**07 23 29.4**	**+0.2**
O19K	**Port Alsworth**	**11.85**	**40**	P	**Pn**	**07 23 34.3**	**-0.6**
	baz=233						
GAMB	**Gambell**	**11.86**	**356**	Pn	**Pn**	**07 23 38.4**	**+3.3**
GAMB	**Gambell**	**11.86**	**356**	P	**Pn**	**07 23 35.0**	**-0.1**
	baz=174						
N19K	**Bonanza Creek**	**12.17**	**38**	P	**Pn**	**07 23 39.4**	**0.0**
	baz=230						
ANM	**Nome**	**12.80**	**8**	P	**Pn**	**07 23 48.5**	**+0.5**
	baz=192						
TTA	**Tatalina**	**13.16**	**28**	Pn	P	07 23 57.7	-5.1
TTA	**Tatalina**	**13.16**	**28**	P	**Pn**	**07 23 50.5**	**-2.4**
	baz=220						
L20K	**Farewell, AK**	**13.50**	**33**	P	**Pn**	**07 23 58.1**	**+0.6**
	baz=226						
TNA	**Tin City**	**13.64**	**3**		**Pn**	**07 24 00.6**	**+1.3**
TNA	**Tin City**	**13.64**	**3**	P	**Pn**	**07 23 58.5**	**-0.8**
	baz=184						
SEW	**Seward**	**13.87**	**46**	Pn	**Pn**	**07 24 01.1**	**-1.4**
K20K	**Telida**	**14.07**	**30**	P	**Pn**	**07 24 06.1**	**+0.9**
	baz=223						
RC01	**Rabbit Creek A**	**14.22**	**42**	Pn	**Pn**	**07 24 06.5**	**-0.8**
PPLA	**Purkeypile**	**14.36**	**34**	P	**Pn**	**07 24 09.1**	**-0.2**
	baz=228						
GCSA	**Galena City Sc**	**14.39**	**22**	P	**Pn**	**07 24 10.5**	**+0.8**
	baz=213						
J20K	**Nowinta River**	**14.65**	**28**		**Pn**	**07 24 11.1**	**-2.1**
J20K	**Nowinta River**	**14.65**	**28**	P	**Pn**	**07 24 14.7**	**+1.5**
	baz=221						
PWL	**Port Wells**	**14.71**	**45**	Pn	**Pn**	**07 24 11.6**	**-2.3**
PWL	**Port Wells**	**14.71**	**45**	P	**Pn**	**07 24 13.6**	**-0.3**
	baz=242						
PMR	**Palmer**	**14.73**	**41**	Pn	**Pn**	**07 24 13.0**	**-1.2**
PMR	**Palmer**	**14.73**	**41**	P	**Pn**	**07 24 15.5**	**+1.3**
	baz=238						
CAST	**Castle Rocks**	**14.74**	**32**		**Pn**	**07 24 16.7**	**+2.3**
CAST	**Castle Rocks**	**14.74**	**32**	P	**Pn**	**07 24 15.9**	**+1.5**
	baz=227						
KNK	**Knik Glacier**	**14.92**	**43**	Pn	**Pn**	**07 24 14.9**	**-1.9**
KNK	**Knik Glacier**	**14.92**	**43**	P	**Pn**	**07 24 17.4**	**+0.6**
	baz=240						
CHUM	**Lake Minchumin**	**14.99**	**31**	P	**Pn**	**07 24 19.3**	**+1.5**
	baz=225						
SML	**Sawmill**	**15.17**	**41**	P	**Pn**	**07 24 21.7**	**+1.5**
	baz=239						
BPAW	**Bear Paw Mtn.**	**15.57**	**32**	Pn	**Pn**	**07 24 25.5**	**+0.2**
BPAW				IAmb	IAmb	07 24 29.9	
	comp=Z,63nm,1.2s						
BPAW	**Bear Paw Mtn.**	**15.57**	**32**	P	**Pn**	**07 24 25.0**	**-0.4**
	baz=227,SNR=20						
SCM	**Sheep Creek Mo**	**15.60**	**42**		**Pn**	**07 24 24.5**	**-1.2**
SCM				IAmb	IAmb	07 24 28.8	
	comp=Z,97nm,1.2s						
SCM	**Sheep Creek Mo**	**15.60**	**42**	P	**Pn**	**07 24 24.3**	**-1.4**
	baz=241						
EYAK	**Cordova Ski Ar**	**15.73**	**48**	P	**Pn**	**07 24 27.4**	**0.0**
	baz=248						
WAT6	**Susitna Watana**	**15.81**	**39**	P	**Pn**	**07 24 28.4**	**-0.2**
	baz=238						
RND	**Reindeer**	**15.86**	**36**		**Pn**	**07 24 29.0**	**-0.1**
MCK	**McKinley**	**16.02**	**35**	P	**Pn**	**07 24 31.3**	**+0.1**
MCK	**McKinley**	**16.02**	**35**	P	**Pn**	**07 24 31.4**	**+0.1**
	baz=232						
I21K	**Tanana**	**16.03**	**28**	P	**Pn**	**07 24 32.0**	**+0.8**
I21K				IAmb	IAmb	07 24 35.9	
	comp=Z,46nm,1.2s						
I21K	**Tanana**	**16.03**	**28**	P	**Pn**	**07 24 31.3**	**+0.1**
	baz=223,SNR=10						
KLU	**Klutina**	**16.03**	**44**	P	**Pn**	**07 24 29.3**	**-2.1**
KLU				IAmb	IAmb	07 24 53.7	
	comp=Z,47nm,1.2s						
KLU	**Klutina**	**16.03**	**44**	P	**Pn**	**07 24 29.0**	**-2.4**
	baz=244						
H21K	**Melozitna Rive**	**16.16**	**26**	P	**Pn**	**07 24 32.4**	**-0.5**
	baz=220						
IMAR	**Indian Mountai**	**16.17**	**24**	P	**P**	**07 24 37.4**	**+1.3**
M24K	**Tolsona, Glenn**	**16.20**	**42**		**Pn**	**07 24 33.0**	**-0.5**
M24K	**Tolsona, Glenn**	**16.20**	**42**	P	**Pn**	**07 24 33.1**	**-0.4**
	baz=242						
DHY	**Denali Highway**	**16.22**	**38**	P	**Pn**	**07 24 33.0**	**-0.8**
DHY	**Denali Highway**	**16.22**	**38**	P	**Pn**	**07 24 33.6**	**-0.2**
	baz=237						
MLY	**Manley**	**16.29**	**29**	P	**P**	**07 24 36.2**	**-1.2**
MLY				IAmb	IAmb	07 24 38.9	
	comp=Z,61nm,1.3s						
MLY	**Manley**	**16.29**	**29**	P	**P**	**07 24 36.3**	**-1.1**
	baz=226						
BMRM	**Bremner River**	**16.41**	**47**	P	**Pn**	**07 24 35.6**	**-0.5**
BMRM				IAmb	IAmb	07 24 54.3	
	comp=Z,48nm,1.1s						
BMRM	**Bremner River**	**16.41**	**47**	P	**Pn**	**07 24 34.4**	**-1.7**
	baz=248						
BERG	**Berg Lake**	**16.62**	**49**	P	**Pn**	**07 24 38.6**	**-0.2**
BERG				IAmb	IAmb	07 24 43.5	
	comp=Z,66nm,1.2s						
N25K	**Chitina, Valde**	**16.66**	**45**		**Pn**	**07 24 39.0**	**-0.3**
N25K	**Chitina, Valde**	**16.66**	**45**	P	**Pn**	**07 24 38.9**	**-0.5**
	baz=246						
HARP	**HAAARP**	**16.76**	**42**	P	**Pn**	**07 24 40.5**	**-0.1**
	baz=243						
WRH	**Wood River Hil**	**16.77**	**34**	P	**Pn**	**07 24 40.0**	**-0.6**
I23K	**Minto, Yukon-K**	**16.79**	**31**	P	**Pn**	**07 24 41.6**	**+0.7**
I23K				IAmb	IAmb	07 25 00.3	
	comp=Z,34nm,1.2s						
I23K	**Minto, Yukon-K**	**16.79**	**31**	P	**Pn**	**07 24 39.9**	**-1.0**
	baz=228,SNR=6.9						
PAX	**Paxson**	**16.91**	**40**	P	**Pn**	**07 24 42.0**	**-0.5**
	baz=240						
GLB	**Gilahina Butte**	**16.94**	**46**	P	**Pn**	**07 24 41.5**	**-1.3**
CCB	**Clear Creek Bu**	**16.98**	**33**	P	**Pn**	**07 24 41.9**	**-1.3**
CRQM	**Cirque**	**17.00**	**49**	P	**Pn**	**07 24 42.9**	**-0.9**
CRQM				IAmb	IAmb	07 24 54.2	
	comp=Z,86nm,1.5s						
VRDI	**Verde Repeater**	**17.02**	**47**	P	**Pn**	**07 24 42.0**	**-2.0**
CRQE	**Cirque**	**17.02**	**49**	P	**Pn**	**07 24 41.9**	**-2.1**
	baz=251						
MDM	**Murphy Dome**	**17.03**	**32**	P	**Pn**	**07 24 43.0**	**-1.0**
WAX	**Waxell Ridge**	**17.04**	**50**	P	**Pn**	**07 24 44.3**	**+0.2**
WAX				IAmb	IAmb	07 24 48.9	
	comp=Z,55nm,1.0s						
TCOL	**CIGO, UAF Yank**	**17.10**	**33**	P	**Pn**	**07 24 43.3**	**-1.4**
	baz=231						
COLA	**College**	**17.10**	**33**	P	**Pn**	**07 24 44.3**	**-0.4**
COLA	**College**	**17.10**	**33**	P	**Pn**	**07 24 43.3**	**-1.5**
	baz=231						
HDA	**Harding Lake**	**17.13**	**35**	P	**Pn**	**07 24 44.1**	**-1.1**
	baz=234						
TGL	**Tana Glacier**	**17.15**	**49**	P	**Pn**	**07 24 45.1**	**-0.4**
TGL				IAmb	IAmb	07 24 54.0	
	comp=Z,41nm,1.1s						
MCARA	**McCarthy VSAT**	**17.27**	**47**	P	**Pn**	**07 24 46.2**	**-0.8**
MCARA				IAmb	IAmb	07 25 04.6	
	comp=Z,33nm,0.9s						
MCARA	**McCarthy VSAT**	**17.27**	**47**	P	**Pn**	**07 24 44.6**	**-2.3**
	baz=249						
ISLE	**Juniper Island**	**17.33**	**50**	P	**Pn**	**07 24 47.1**	**-0.7**
ISLE				IAmb	IAmb	07 25 13.5	
	comp=Z,28nm,0.9s						
IL31		**17.37**	**34**	P	**Pn**	**07 24 47.3**	**-0.8**
ILAR	**Eielson Array**	**17.37**	**34**	P	**Pn**	**07 24 46.1**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=226,slow=11,SNR=15						
ILAR	**Eielson Array**	**17.37**	**34**	P	**Pn**	**07 24 47.3**	**-0.8**
MESA	**MESA**	**17.39**	**51**	P	**Pn**	**07 24 48.6**	**0.0**
MESA				IAmb	IAmb	07 25 12.4	
	comp=Z,72nm,0.9s						
MESA	**MESA**	**17.39**	**51**	P	**P**	**07 24 49.7**	**-0.1**
	baz=254						
YAH	**Yahtse**	**17.54**	**51**	P	**Pn**	**07 24 50.6**	**+0.1**
YAH				IAmb	IAmb	07 24 54.9	
	comp=Z,40nm,0.8s						
MENT	**Mentasta**	**17.60**	**41**	P	**Pn**	**07 24 50.6**	**-0.5**
M26K	**Nabesna, AK**	**17.67**	**44**	P	**Pn**	**07 24 50.0**	**-2.0**
M26K				IAmb	IAmb	07 25 20.2	
	comp=Z,32nm,1.1s						
M26K	**Nabesna, AK**	**17.67**	**44**	P	**Pn**	**07 24 51.8**	**-0.2**
	baz=246						
H24K	**Noodor Dome**	**17.71**	**30**	P	**Pn**	**07 24 52.4**	**-0.1**
H24K	**Noodor Dome**	**17.71**	**30**	P	**Pn**	**07 24 51.5**	**-0.9**
	baz=229						
BARN	**Barnard Glacie**	**17.79**	**48**	P	**Pn**	**07 24 53.4**	**-0.1**
BARN				IAmb	IAmb	07 25 22.4	
	comp=Z,18nm,0.6s						
L26K	**Log Cabin Wild**	**17.79**	**41**	P	**P**	**07 24 53.6**	**-0.5**
L26K	**Log Cabin Wild**	**17.79**	**41**	P	**P**	**07 24 53.6**	**-0.5**
	baz=244						
DOT	**Dot Lake**	**17.80**	**39**	P	**P**	**07 24 53.8**	**-0.2**
TABL	**Table Mountain**	**17.85**	**51**	P	**P**	**07 24 54.7**	**-0.1**
TABL				IAmb	IAmb	07 24 57.7	
	comp=Z,32nm,0.8s						
CTG	**Chitna Glacier**	**17.90**	**49**	P	**Pn**	**07 24 53.7**	**-1.2**
	baz=252						
CTGM	**Chitina Glacie**	**17.91**	**49**	P	**Pn**	**07 24 54.5**	**-0.5**
SCRK	**Sand Creek**	**17.99**	**38**		**Pn**	**07 24 54.9**	**-1.0**
SCRK	**Sand Creek**	**17.99**	**38**	P	**Pn**	**07 24 54.6**	**-1.3**
	baz=240						
LOGN	**Logan Glacier**	**18.02**	**49**	P	**Pn**	**07 24 55.8**	**-0.6**
LOGN				IAmb	IAmb	07 25 07.8	
	comp=Z,35nm,1.0s						
COLD	**Coldfoot**	**18.03**	**25**	P	**P**	**07 24 56.7**	**+0.1**
	baz=222						
M27K	**Edge Creek, AK**	**18.14**	**44**	P	**P**	**07 24 57.9**	**0.0**
M27K				IAmb	IAmb	07 25 19.4	
	comp=Z,23nm,0.9s						
M27K	**Edge Creek, AK**	**18.14**	**44**	P	**P**	**07 24 58.1**	**+0.2**
	baz=248						
PCA	**Pinnacle**	**18.19**	**52**	P	**Pn**	**07 24 57.9**	**-0.5**
PCA				IAmb	IAmb	07 25 21.7	
	comp=Z,46nm,0.9s						
PINM	**Pinnacle**	**18.19**	**52**	P	**P**	**07 24 58.6**	**+0.1**
	baz=256						
J26L	**Joseph Creek**	**18.41**	**37**	P	**P**	**07 24 59.7**	**-1.2**
	baz=239						
L27K	**Beaver Creek,**	**18.43**	**42**	P	**P**	**07 25 00.6**	**-0.5**
L27K	**Beaver Creek,**	**18.43**	**42**	P	**P**	**07 25 00.7**	**-0.5**
	baz=246						
BCAR	**Beaver Creek A**	**18.45**	**42**	P	**P**	**07 25 00.6**	**-0.7**
PNL	**Peninsula**	**18.52**	**54**	P	**P**	**07 25 01.1**	**-1.0**
	baz=259						
YUK3	**Moose Creek**	**18.56**	**47**	P	**P**	**07 25 02.4**	**-0.3**
	baz=251						
BVCY	**Beaver Creek**	**18.60**	**45**	P	**Pn**	**07 25 03.1**	**-0.1**
	baz=249						
TOLK	**Toolik Lake Re**	**19.26**	**22**	P	**Pn**	**07 25 11.0**	**-0.3**
TOLK	**Toolik Lake Re**	**19.26**	**22**	P	**P**	**07 25 09.5**	**-0.7**
	baz=220,SNR=8.9						
BMAR	**Burnt Mountain**	**19.75**	**29**	P	**P**	**07 25 15.0**	**-0.5**
PEA0B	**Petropavlovsk-**	**19.78**	**286**	P	**P**	**07 25 16.0**	**+0.1**
PETK	**Petropavlovsk-**	**19.78**	**286**	P	**P**	**07 25 15.4**	**-0.5**
	comp=Z,3.7nm,0.3s,baz=88,slow=14,SNR=97						
PETK	**Petropavlovsk-**	**19.78**	**286**	P	**P**	**07 25 14.8**	**-1.1**
DAWY	**Dawson**	**19.84**	**41**	P	**P**	**07 25 16.0**	**-0.5**
DAWY				IAmb	IAmb	07 25 19.6	
	comp=Z,21nm,1.2s						
DAWY	**Dawson**	**19.84**	**41**	P	**P**	**07 25 15.7**	**-0.7**
	baz=247,SNR=6.6						
J29M	**Klondike Camp**	**20.46**	**40**	P	Pn	07 25 24.9	-0.5
	baz=247						
SKAG	**Skagway**	**20.54**	**55**	P	Pn	07 25 26.7	+0.4
SKAG				IAmb	IAmb	07 25 29.3	
	comp=Z,31nm,0.6s						
SKAG	**Skagway**	**20.54**	**55**	P	**P**	**07 25 24.3**	**+0.3**
	baz=264						
N31M	**Braeburn, Yuko**	**20.64**	**49**	P	**P**	**07 25 24.7**	**-0.4**
	baz=258,SNR=10						
I29M	**Ogilvie Camp,**	**20.79**	**38**	P	**P**	**07 25 25.8**	**-1.0**
	baz=245,SNR=9.7						
WHY	**Whitehorse**	**20.92**	**52**	P	**P**	**07 25 28.1**	**-0.2**
	baz=261,SNR=9.9						
JIS	**Juneau Island**	**20.94**	**59**	P	**P**	**07 25 29.5**	**+1.1**
JIS				IAmb	IAmb	07 25 57.1	
	comp=Z,36nm,1.1s						
M31M	**Drury Creek, Y**	**21.43**	**48**	P	**P**	**07 25 33.6**	**-0.1**
	baz=258						
EPYK	**Eagle Plains**	**21.81**	**36**	P	**P**	**07 25 37.0**	**-0.8**
EPYK				IAmb	IAmb	07 25 50.9	
	comp=Z,30nm,0.8s						
EPYK	**Eagle Plains**	**21.81**	**36**	P	**P**	**07 25 36.5**	**-1.2**
	baz=245						
P33M	**Teslin, Yukon**	**21.88**	**53**	P	**P**	**07 25 39.1**	**+0.5**
	baz=264						
SEY	**Seymchan**	**22.79**	**313**	P	**P**	**07 25 47.3**	**-0.8**
	comp=Z,8.0nm,0.8s,baz=103,slow=10,SNR=17						
SEY				LR	LR	07 35 05.1	
	comp=Z,544nm,18.8s,baz=80,slow=38						
MA2	**Magadan**	**23.20**	**305**	P	**P**	**07 25 52.1**	**-0.3**
MA2				IAmb	IAmb	07 25 54.0	
	comp=Z,19nm,1.0s						
DLBC	**Dease Lake**	**23.24**	**58**	P	**P**	**07 25 56.1**	**+3.2**
	comp=Z,22nm,1.2s,baz=264,slow=16,SNR

NVAR ScP **ScP** **07 34 03.6 -0.6**
comp=Z,1.3nm,1.0s,baz=325,slow=1.8,SNR=4.2
BOZ Bozeman (W) 37.87 76 P **P** **07 28 02.4 -0.1**
BOZ IAmb IAmb 07 28 29.2
comp=Z,9.6nm,1.4s
BOZ Bozeman (W) 37.87 76 P **P** **07 28 02.5 -0.1**
baz=301
H11S1 WAKE ISLAND Hy 38.23 218 T T 08 09 23.3
baz=23,slow=76,SNR=48
H11S2 WAKE ISLAND Hy 38.24 218 T T 08 09 21.3
baz=23,slow=76,SNR=27
H11S3 WAKE ISLAND Hy 38.25 218 T T 08 09 26.1
baz=23,slow=76,SNR=25
ELK Elko 38.35 85 LR LR 07 41 53.6
comp=Z,219nm,19.7s,baz=316,slow=33
YMR Madison River 38.76 77 P **P** **07 28 10.8 +0.7**
YMR IAmb IAmb 07 28 24.9
comp=Z,11nm,1.1s
USRK Ussuriysk Ar. 38.79 282 LR LR 07 43 32.6
comp=Z,282nm,21.7s,baz=55,slow=35
YNR Norris Junctio 38.91 77 P **P** **07 28 11.2 -0.3**
YNR IAmb IAmb 07 28 26.6
comp=Z,9.2nm,1.0s
H17A Grant Village 39.14 77 P **P** **07 28 15.4 +2.0**
H17A IAmb IAmb 07 28 29.8
comp=Z,14nm,1.4s
H17A Grant Village 39.14 77 P **P** **07 28 14.5 +1.1**
baz=303
ISA Isabella, Lake 39.49 94 P **P** **07 28 18.6 +2.4**
baz=311
MJAR Matsushiro Arr 39.49 268 P **P** **07 28 16.3 +0.2**
comp=Z,2.3nm,0.8s,baz=29,slow=10,SNR=2.9
MJAR LR LR 07 44 17.3
comp=Z,263nm,20.8s,baz=56,slow=36
RLMT Red Lodge 39.53 75 P **P** **07 28 17.1 +0.5**
RLMT IAmb IAmb 07 28 35.5
comp=Z,8.8nm,1.1s
RLMT Red Lodge 39.53 75 P **P** **07 28 17.4 +0.8**
baz=302
R11A Troy Canyon, C 39.58 88 P **P** **07 28 18.8 +1.8**
baz=308
FURC Furnace Creek, 39.97 92 P **P** **07 28 19.3 -0.7**
baz=310
TPNV Topopah Spring 40.04 90 P **P** **07 28 22.6 +1.7**
TPNV Topopah Spring 40.04 90 P **P** **07 28 22.7 +1.9**
baz=310
DUG Dugway, Tooele 40.17 84 P **P** **07 28 22.0 +0.2**
DUG IAmb IAmb 07 28 40.0
comp=Z,8.5nm,1.1s
DUG Dugway, Tooele 40.17 84 P **P** **07 28 22.6 +0.7**
baz=307
LAO LASA Array 40.51 71 P **P** **07 28 24.2 -0.2**
LAO IAmb IAmb 07 28 45.5
comp=Z,12nm,1.2s
LAO LASA Array 40.51 71 P **P** **07 28 23.1 -1.4**
baz=302
BW06 Boulder Array 40.66 78 P **P** **07 28 26.6 +0.6**
BW06 IAmb IAmb 07 28 40.5
comp=Z,9.0nm,1.0s
BW06 Boulder Array 40.66 78 P **P** **07 28 24.9 -1.1**
baz=305
PD31 Pinedale Array 40.66 78 P **P** **07 28 26.4 +0.4**
PD31 IAmb IAmb 07 28 40.5
comp=Z,7.8nm,1.0s
PDAR Pinedale Array 40.66 78 P **P** **07 28 25.0 -1.0**
comp=Z,3.4nm,0.8s,baz=296,slow=4.7,SNR=23
PDAR Pinedale Array 40.66 78 P **P** **07 28 25.7 -0.3**
SHOC Shoshone, Teco 40.70 92 P **P** **07 28 26.9 +0.8**
baz=310
DGMT Dagmar 40.76 68 P **P** **07 28 23.8 -2.7**
baz=300
FCC Fort Churchill 41.32 50 P **P** **07 28 31.4 +0.4**
FCC IAmb IAmb 07 28 46.4
comp=Z,15nm,0.8s
MURC Murrieta 41.65 95 P **P** **07 28 34.5 +0.6**
baz=313
RDMU Red Mountain 41.93 81 P **P** **07 28 37.8 +1.4**
RDMU IAmb IAmb 07 28 51.2
comp=Z,19nm,1.1s
PFO Pinyon Flats O 42.09 94 LR LR 07 43 32.6
comp=Z,142nm,20.9s,baz=332,slow=32
K22A Casper 42.56 77 P **P** **07 28 41.6 +0.2**
baz=305
CN2 Changchun 42.93 286 *e*P **P** **07 28 43.3 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,300nm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
O20A White River Ci 43.00 81 P **P** **07 28 45.6 +0.5**
O20A IAmb IAmb 07 29 04.8
comp=Z,12nm,0.8s
O20A White River Ci 43.00 81 P **P** **07 28 44.4 -0.7**
baz=307
RSSD Black Hills 43.20 73 P **P** **07 28 46.1 -0.6**
baz=305
MDND Maddock 43.71 66 P **P** **07 28 51.6 +1.1**
N23A Red Feather La 43.94 78 P **P** **07 28 52.5 -0.3**
baz=307
WUAZ Wupatki 43.98 88 P **P** **07 28 53.8 +0.8**
baz=311
ULM Lac du Bonnet 44.49 62 P **P** **07 28 56.4 -0.3**
comp=Z,3.8nm,0.8s,baz=306,slow=11,SNR=3.5
ULM LR LR 07 48 50.4
comp=Z,297nm,18.9s,baz=300,slow=38
MVCO Mesa Verde 44.66 84 P **P** **07 28 58.2 -0.4**
baz=310
ISCO Idaho Springs 44.81 79 P **P** **07 28 59.2 -0.6**
baz=308
W18A Petrified Fore 45.25 87 P **P** **07 29 04.9 +1.7**
baz=311
KSRS Korea Array 45.26 277 P **P** **07 29 03.2 +0.2**
comp=Z,8.5nm,1.0s,baz=59,slow=7.7,SNR=13
KSAR Wonju Array Be 45.29 277 P **P** **07 29 02.8 -0.4**
S22A 4UR Ranch, Cre 45.35 83 P **P** **07 29 04.2 +0.1**
baz=309
NEEM North Greenlan 45.40 16 *i* P **P** **07 29 02.5 -1.5**
NEEM IAmb IAmb 07 29 03.9
comp=Z,9.6nm,0.6s
AGMN Agassiz Nation 45.56 64 P **P** **07 29 04.5 -0.8**
AGMN Agassiz Nation 45.56 64 P **P** **07 29 04.0 -1.2**
baz=304
NOR Nord 45.86 5 *i* P **P** **07 29 04.6 -2.6**
NOR IAmb IAmb 07 29 07.0
comp=Z,2.7nm,0.9s
SDCO Great Sand Dun 46.16 82 P **P** **07 29 10.6 +0.1**
SDCO IAmb IAmb 07 29 25.2
comp=Z,6.8nm,1.1s
SDCO Great Sand Dun 46.16 82 P **P** **07 29 10.6 +0.1**
baz=310
TUC Tucson 46.48 91 P **P** **07 29 13.8 +1.0**
baz=313
NRIK Noril'sk 46.66 332 P **P** **07 29 13.2 -0.5**
comp=Z,4.8nm,0.8s,baz=77,slow=4.7,SNR=8.5
NRIK LR LR 07 51 27.0
comp=Z,193nm,18.0s,baz=70,slow=40
NRIK Noril'sk 46.66 332 P **P** **07 29 13.5 -0.1**
NRIK IAmb IAmb 07 29 14.4
comp=Z,15nm,1.2s
KSCO Kaye Shedlock' 47.11 78 P **P** **07 29 17.9 +0.2**
baz=309
T25A Trinidad 47.22 81 P **P** **07 29 18.8 +0.2**
baz=310
ANMO Albuquerque 47.39 85 LR LR 07 47 15.8
comp=Z,125nm,20.2s,baz=310,slow=34
ANMO Albuquerque 47.39 85 P **P** **07 29 19.0 -0.9**
baz=312
ECSD EROS Data Cent 47.78 69 P **P** **07 29 21.7 -1.0**
ECSD IAmb IAmb 07 29 23.0
comp=Z,9.4nm,1.2s
ECSD EROS Data Cent 47.78 69 P **P** **07 29 20.2 -2.5**
baz=307
EYMN Ely 48.17 62 P **P** **07 29 25.6 0.0**
baz=306
121A Cookes Peak, D 48.18 89 P **P** **07 29 27.0 +0.8**
baz=313
XLT XiLinHaoTe 48.36 291 *e*P **P** **07 29 27.8 +0.5**
XLT pP sP 07 29 36.1 -0.2
XLT sP pwP 07 29 40.7 +2.6
XLT pmax pmax
comp=Z,13nm,0.6s
XLT pmax pmax
comp=Z,170nm,4.6s
XLT LR LR
comp=N,370nm,16.7s
XLT LR LR
comp=E,370nm,17.9s
XLT LR LR
comp=Z,440nm,17.1s
FRB Frobisher Bay 49.39 35 LR LR 07 53 24.4
comp=Z,430nm,19.5s,baz=331,slow=40
SPITS Spitsbergen Ar 50.04 358 P **P** **07 29 38.8 -0.8**
comp=Z,12nm,0.9s,baz=41,slow=5.7,SNR=4.4
SPITS LR LR 07 51 40.6
comp=Z,143nm,18.8s,baz=308,slow=37
DAG Danmarks Havn 50.19 8 *i* P **P** **07 29 39.0 -1.7**
DAG IAmb IAmb 07 29 40.5
comp=Z,11nm,0.9s
MNTX Cornudas Mount 50.24 88 P **P** **07 29 41.5 -0.2**
baz=314
MSTX Muleshoe 50.30 83 P **P** **07 29 42.7 +0.4**
baz=312
AMTX Amarillo 50.36 82 P **P** **07 29 42.7 0.0**
baz=312
KSU1 Kansas State U 50.67 74 P **P** **07 29 44.8 -0.1**
baz=310
ULN Ulaanbaatar 50.96 301 P **P** **07 29 46.3 -0.8**
ULN IAmb IAmb 07 29 48.3
comp=Z,9.8nm,1.2s
SUMG Summit 51.20 17 *i* P **P** **07 29 48.0 -0.8**
SUMG IAmb IAmb 07 29 51.8
comp=Z,12nm,0.8s
SUMG Summit 51.20 17 P **P** **07 29 48.6 -0.2**
SONM Songino Array 51.33 301 P **P** **07 29 49.4 -0.4**
comp=Z,11nm,1.2s,baz=50,slow=6.8,SNR=18
SONM Songino Array 51.33 301 P **P** **07 29 49.0 -0.9**
SONM IAmb IAmb 07 29 50.8
comp=Z,11nm,1.2s
JFWS Jewell Farm 51.93 67 P **P** **07 29 53.3 -0.9**
baz=310
WMOK Wichita Mounta 52.23 80 P **P** **07 29 56.7 +0.1**
WMOK IAmb IAmb 07 30 10.5
comp=Z,5.2nm,0.9s
WMOK Wichita Mounta 52.23 80 P **P** **07 29 57.6 +1.0**
baz=312
DBG Daneborg 52.31 10 *i* P **P** **07 29 54.6 -2.0**
DBG IAmb IAmb 07 29 56.2
comp=Z,11nm,0.9s
LPIG La Paz 52.62 98 LR LR 07 47 34.0
comp=Z,51nm,18.9s,baz=314,slow=31
TIA Tai'an 52.64 283 *e*P **P** **07 29 59.0 -0.6**
TIA pmax pmax
comp=Z,14nm,1.2s
TIA LR LR
comp=N,220nm,15.9s
TIA LR LR
comp=E,230nm,16.3s
TIA LR LR
comp=Z,320nm,16.2s
HHC Hu-ho-hao-te 52.88 291 *e*P **P** **07 30 01.7 +0.3**
HHC S **S** **07 37 28.3 -0.5**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.6s
HHC LR LR
comp=N,220nm,17.1s
HHC LR LR
comp=E,250nm,14.3s
HHC LR LR
comp=Z,280nm,20.8s
TX31 Lajitas Ar. Si 52.94 88 P **P** **07 30 02.7 +0.7**
TX32 Lajitas Array 52.94 88 P **P** **07 30 02.7 +0.7**
TX32 IAmb IAmb 07 30 18.7
comp=Z,6.6nm,0.8s
TXAR Lajitas Array 52.94 88 P **P** **07 30 02.6 +0.6**
comp=Z,4.5nm,0.9s,baz=298,slow=4.9,SNR=39
TXAR LR LR 07 51 24.8
comp=Z,114nm,20.3s,baz=322,slow=35
ABTX Abilene, Hawle 53.14 82 P **P** **07 30 03.5 +0.2**
baz=314
HNS HongShan 53.30 286 ⇓P **P** **07 30 05.5 +1.1**
HNS S **S** **07 37 37.5 +3.2**
HNS pmax pmax
comp=Z,34nm,1.2s
HNS LR LR
comp=N,360nm,16.3s
HNS LR LR
comp=Z,360nm,24.5s
ICESG Greenland Ices 53.79 20 *i* P **P** **07 30 06.6 -1.3**
ICESG IAmb IAmb 07 30 10.9
comp=Z,12nm,0.8s
BTO Baotou 53.93 292 *e*P **P** **07 30 09.9 +0.8**
HDIL Hopedale 54.00 68 P **P** **07 30 09.0 -0.5**
baz=311
NJ2 Nanjing 54.41 278 *e*P **P** **07 30 11.8 -0.8**
NJ2 pmax pmax
comp=Z,14nm,0.6s
JCT Junction City 54.52 84 P **P** **07 30 11.5 -2.0**
baz=315
WHTX Lake Whitney, 54.91 81 P **P** **07 30 17.0 +0.8**
WHTX Lake Whitney, 54.91 81 P **P** **07 30 15.8 -0.4**
baz=314
SFIN Lafayette 55.38 67 P **P** **07 30 17.6 -1.8**
baz=312
MIAR Mount Ida 55.51 76 P **P** **07 30 19.9 -0.6**
baz=313
SCO Scoresbysund 55.63 13 *i* P **P** **07 30 19.5 -1.3**
SCO IAmb IAmb 07 30 23.9
comp=Z,6.2nm,0.7s
SCHQ Schefferville 55.84 43 P **P** **07 30 23.1 +0.4**
comp=Z,5.8nm,0.9s,baz=278,slow=10.0,SNR=4.1
SCHQ Schefferville 55.84 43 P **P** **07 30 22.6 0.0**
W41B Gary Mavity, V 55.88 75 P **P** **07 30 20.9 -2.2**
baz=313
833A Chaparral WMA, 56.30 86 P **P** **07 30 26.6 +0.4**
baz=316
LYN LuoYang 56.56 285 *e*P **P** **07 30 27.4 -0.6**
LYN pmax pmax
comp=Z,20nm,1.2s
LYN LR LR
comp=N,240nm,20.0s
LYN LR LR
comp=Z,160nm,17.3s
JMIC Jan Mayen 56.58 7 LR LR 07 56 07.6
comp=Z,89nm,18.5s,baz=310,slow=38
ZALV Zalesovo Beam 57.57 318 P **P** **07 30 34.3 -0.6**
comp=Z,0.9nm,0.7s,baz=35,slow=5.3,SNR=5.7
ZALV LR LR 07 57 58.5
comp=Z,153nm,18.0s,baz=0.0,slow=39
ZALV Zalesovo Beam 57.57 318 P **P** **07 30 33.7 -1.2**
WHN Wuhan 58.22 280 ⇑P **P** **07 30 39.7 -0.1**
WHN pmax pmax
comp=Z,66nm,1.1s
M53A WI Miller and 58.24 62 P **P** **07 30 38.5 -1.3**
baz=313
ARCES ARCESS Array B 58.27 354 P **P** **07 30 38.4 -1.3**
comp=Z,7.9nm,1.0s,baz=13,slow=6.6,SNR=7.2
ARCES LR LR 07 55 11.6
comp=Z,132nm,21.7s,baz=22,slow=36
ARCES ARCESS Array B 58.27 354 P **P** **07 30 39.0 -0.6**
P52A Corning 58.68 65 P **P** **07 30 41.0 -1.9**
baz=314
O53A New Philadelph 58.77 63 P **P** **07 30 42.2 -1.3**
baz=314
XAN Xi'an 59.03 287 P **P** **07 30 45.9 +0.5**
XAN pP pwP 07 30 58.4 +2.0
XAN sP sP 07 31 02.6 +8.1
XAN pmax pmax
comp=Z,20nm,1.2s
XAN pmax pmax
comp=Z,120nm,4.6s
XAN LR LR
comp=N,260nm,15.5s
XAN LR LR
comp=E,280nm,14.8s
XAN LR LR
comp=Z,370nm,17.9s
MCWV Mont Chateau 59.93 63 P **P** **07 30 50.9 -0.6**
baz=314
O56A Blue Knob Stat 60.21 62 P **P** **07 30 53.1 -0.4**
baz=315
BINY Binghamton 60.24 59 P **P** **07 30 53.5 -0.1**
baz=315
SSPA Standing Stone 60.32 61 P **P** **07 30 53.9 -0.2**
SSPA Standing Stone 60.32 61 P **P** **07 30 54.5 +0.3**
baz=315
GTA Gaotai 60.48 297 *e*P **P** **07 30 55.1 -0.4**
GTA pP sP 07 31 03.2 -1.4
GTA sP pwP 07 31 07.2 +0.7
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,5.5s
GTA LR LR
comp=N,230nm,17.8s
GTA LR LR
comp=E,300nm,17.5s
GTA LR LR
comp=Z,410nm,17.8s
TKL Tuckaleechee C 60.52 69 LR LR 07 57 24.3
comp=Z,196nm,20.1s,baz=328,slow=36
LZH Lanzhou 60.55 292 ⇓P **P** **07 30 56.5 +0.4**
LZH pP pwP 07 31 09.0 +2.0
LZH sP sP 07 31 17.3 +12
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=N,300nm,16.3s
LZH LR LR
comp=E,280nm,16.3s
LZH LR LR
comp=Z,290nm,16.8s
BLA Blacksburg 61.33 65 P **P** **07 31 00.3 -0.9**
baz=315
P60A Greenville 62.12 60 P **P** **07 31 04.1 -2.2**
baz=316
ZSN Zaisan 62.27 312 *e*P **P** **07 31 06.5 -0.8**
comp=Z,6.6nm,1.3s,baz=312
KURK Kurchatov 62.53 318 P **P** **07 31 08.2 -0.7**
KURBB Kurchatov Arra 62.64 318 LR LR 07 59 26.4
comp=Z,183nm,21.1s,baz=44,slow=37
WMQ Urumqi 63.61 308 *e*P **P** **07 31 18.0 +1.6**
BRVK Borovoye 63.91 324 P **P** **07 31 18.1 0.0**
MK31 Makanchi Array 63.93 313 P **P** **07 31 17.3 -1.0**
MKAR Makanchi Array 63.93 313 P **P** **07 31 16.8 -1.5**
comp=Z,1.7nm,0.9s,baz=58,slow=6.1,SNR=10
MKAR Makanchi Array 63.93 313 P **P** **07 31 17.6 -0.8**
MAKZ Makanchi 64.06 314 P **P** **07 31 18.2 -1.0**
MAKZ IAmb IAmb 07 31 19.1
comp=Z,7.4nm,1.4s
ARU Arti 64.87 333 P **P** **07 31 23.5 -0.8**
comp=Z,3.0nm,0.8s,baz=13,slow=8.5,SNR=14
ARU LR LR 08 04 10.3
comp=Z,170nm,18.2s,baz=48,slow=40
ARU Arti 64.87 333 P **P** **07 31 22.8 -1.4**
KLMR Klimovskoe 65.10 345 *e*P **P** **07 31 23.3 -2.4**
KLMR AMP 07 31 25.8
comp=Z,23nm,1.3s
KIRV Kirov 65.28 339 P **P** **07 31 26.7 -0.2**
comp=Z,13nm,0.8s,baz=106,slow=3.1,SNR=6.0
BRZS Berezniki 65.48 321 *e*P **P** **07 31 27.1 -1.3**
comp=Z,8.7nm,1.6s,baz=321
GOMU GeErMu 65.54 298 P **P** **07 31 28.6 -0.8**
GOMU pP pP 07 31 30.6 -5.5
GOMU pmax pmax
comp=Z,3.0nm,1.0s
GOMU pmax pmax
comp=Z,87nm,6.4s
TAOE Nuku Hiva Isla 65.70 148 *e*S **S** **07 40 16.4 +1.6**
comp=Z,36nm,23.8s
TAOE Nuku Hiva Isla 65.70 148 *e*LR LR 07 51 09.0
comp=Z,89nm,20.8s
GYA Guiyang 65.83 282 ⇓P **P** **07 31 31.6 +0.5**
GYA pP pwP 07 31 42.7 +0.6
GYA pmax pmax
comp=Z,23nm,0.9s
FINES FINESS Array B 66.21 352 P **P** **07 31 32.0 -0.9**
comp=Z,3.8nm,0.7s,baz=359,slow=7.4,SNR=9.9
FINES LR LR 08 03 07.0
comp=Z,97nm,18.9s,baz=20,slow=38
FINES FINESS Array B 66.21 352 P **P** **07 31 31.8 -1.1**
TDK Taldyqorghan 67.04 314 *e*P **P** **07 31 37.8 -0.7**
baz=314
NC204 NORSAR Array S 67.08 360 P **P** **07 31 38.5 +0.1**
NB2 NORSAR Subarra 67.31 360 P **P** **07 31 39.6 -0.4**
comp=Z,2.3nm,0.8s,baz=0.6,slow=6.5
NOA NORSAR Array B 67.31 360 P **P** **07 31 39.4 -0.6**
comp=Z,6.2nm,0.9s,baz=0.9,slow=6.4,SNR=8.6
NOA LR LR 08 03 52.8
comp=Z,42nm,18.0s,baz=0.0,slow=38
SHLS Shalkode 68.01 312 *e*P **P** **07 31 42.7 -2.0**
baz=312
KPKS Kokpek 68.12 313 *e*P **P** **07 31 44.6 -0.7**
comp=Z,6.7nm,1.3s,baz=313
HFS Hagfors 68.19 358 P **P** **07 31 44.8 -0.7**
comp=Z,2.9nm,0.4s,baz=0.0,slow=3.0,SNR=11
HFS LR LR 08 03 06.5
comp=Z,82nm,18.2s,baz=360,slow=37
UZB Uzynbulak 68.21 313 *e*P **P** **07 31 45.3 -0.8**
baz=313
CHKK Chushkaly 68.57 314 *e*P **P** **07 31 47.4 -0.7**
baz=314
PZH PanZhiHua 68.75 286 ⇑P **P** **07 31 50.2 +0.6**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.0s
KUU Kurty 68.82 315 *e*P **P** **07 31 48.2 -1.5**
comp=Z,8.2nm,1.3s,baz=315
BTLS Baital 68.89 317 *e*P **P** **07 31 49.1 -0.9**
comp=Z,6.2nm,1.2s,baz=317
MDOK Medeo 69.09 314 *e*P **P** **07 31 50.1 -1.4**
baz=314
AAA Alma-Ata 69.11 314 *e*P **P** **07 31 50.4 -1.1**
baz=314
KMI Kunming 69.18 284 ⇑P **P** **07 31 53.0 +0.6**
KMI pmax pmax
comp=Z,18nm,1.0s
KST Kastek 69.67 315 *e*P **P** **07 31 54.2 -0.8**
baz=314
SGDS Sogindy 69.92 316 *e*P **P** **07 31 56.1 -0.4**
baz=316
TKM2 Tokmak 2 69.92 315 P **P** **07 31 57.1 +0.4**
SNR=6.6
USP Ospenovka 70.12 316 P **P** **07 31 58.1 +0.3**
SNR=8.0
AKTO Aktyubinsk 70.24 330 P **P** **07 31 58.1 -0.2**
comp=Z,12nm,1.0s,baz=39,slow=6.9,SNR=27
AKTO LR LR 08 07 08.2
comp=Z,154nm,18.1s,baz=30,slow=40
MSVF Nonsavu 70.25 192 LR LR 07 56 18.8
comp=Z,78nm,21.3s,baz=307,slow=30
KBK Karagaybulak 70.42 315 P **P** **07 31 59.9 +0.2**
SNR=5.5
AAK Ala-Archa 70.63 315 LR LR 08 05 42.4
comp=Z,190nm,19.2s,baz=28,slow=38
AAK Ala-Archa 70.63 315 P **P** **07 32 01.6 +0.5**
SNR=7.5
AAK Ala-Archa 70.63 315 P **P** **07 32 00.9 -0.2**
AAK IAmb IAmb 07 32 02.2
comp=Z,12nm,1.1s
ABKAR Akbulak array 70.65 328 P **P** **07 32 00.7 -0.2**
ABKAR Akbulak array 70.65 328 P **P** **07 32 00.6 -0.2**
EKS2 Erkin-Say 70.92 316 P **P** **07 32 03.0 +0.2**
SNR=5.6
OBN Obninsk 71.06 344 P **P** **07 32 02.3 -0.9**
comp=Z,2.2nm,0.3s,baz=15,slow=20,SNR=3.3
OBN LR LR 08 06 48.6
comp=Z,32nm,18.9s,baz=0.5,slow=39
AML Almayashu 71.39 315 P **P** **07 32 06.4 +0.5**
SNR=6.3
PPT2 Papeete2 71.47 160 *e*LR LR 07 53 38.5
comp=Z,190nm,32.8s
PMG Port Moresby 71.50 225 LR LR 07 58 04.0
comp=Z,52nm,21.3s,baz=344,slow=31
KKAR Karatay Array 71.94 318 P **P** **07 32 08.3 -0.5**
LSA Lhasa 72.44 296 P **P** **07 32 13.7 +1.2**
KSH Kashi 72.49 312 P **P** **07 32 16.2 +4.0**
KSH pmax pmax
comp=Z,15nm,1.2s
KSH LR LR
comp=N,170nm,15.1s
KSH LR LR
comp=E,230nm,13.9s
KSH LR LR
comp=Z,270nm,18.9s
NACGM Naroch 72.59 350 *i* P **P** **07 32 11.0 -1.4**
MNK Minsk 72.87 349 *i* P **P** **07 32 14.1 0.0**
MNK *i* P **P** **07 32 14.1 0.0**
MNK *i* P **P** **07 32 14.1 0.0**
comp=Z,26nm,1.1s,baz=191
MNK *i* PP **PP** **07 34 58.3 +2.8**
MNK *i* PPP PPP 07 36 41.9
MNK *i* S **S** **07 41 39.0 +0.6**
MNK *i* SS **SS** **07 46 20.8 +3.5**

MNK			*i* SSS	SSS	07 49 41.9	
MNK			*i* LQ	LQ	07 58 29.3	
MNK			*i* LR	LR	08 03 26.4	
MNK			*i* LRM	MLR	08 06 39.9	
	comp=Z,155nm,26.2s					
MNK			*i* LRM	MLR	08 06 48.5	
	comp=E,61nm,23.3s					
MNK			*i* LRM	MLR	08 06 48.5	
	comp=N,369nm,19.7s					
IUG	**luzhnay**	**72.93 318**	*e*P	**P**	**07 32 14.2**	**-0.6**
	baz=316					
RAR	**Rarotonga**	**73.41 170**	LR	LR	07 58 57.6	
	comp=N,73nm,20.8s,baz=320,slow=31					
BTK	**Batken**	**74.33 316**	P	**P**	**07 32 23.0**	**0.0**
UBPT	**Khong Chiam**	**74.97 276**	P	**P**	**07 32 27.0**	**+0.1**
UBPT			IAmb	IAmb	07 32 28.0	
	comp=Z,9.7nm,1.1s					
SHL	**Shillong**	**75.21 292**	P	**P**	**07 32 28.0**	**-0.4**
CHGR	**Chuyangaron**	**76.21 316**	P	**P**	**07 32 34.0**	**+0.1**
AKASG	**Malin Array Be**	**76.43 348**	P	**P**	**07 32 33.5**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=15,slow=5.7,SNR=16					
AKASG			LR	LR	08 12 08.2	
	comp=Z,74nm,18.2s,baz=12,slow=40					
AKASG	**Malin Array Be**	**76.43 348**	P	**P**	**07 32 34.1**	**-0.6**
AKBB	**Malin Array Si**	**76.43 348**	P	**P**	**07 32 34.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**76.52 283**	P	**P**	**07 32 35.9**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=27,slow=5.5,SNR=19					
CMAR			LR	LR	08 10 48.9	
	comp=Z,96nm,18.1s,baz=25,slow=39					
CMAR	**Chiang Mai Arr**	**76.52 283**	P	**P**	**07 32 36.2**	**+0.5**
DZM	**Mont Dzumac**	**76.66 203**	LR	LR	08 00 05.9	
	comp=Z,106nm,19.5s,baz=32,slow=31					
CLL	**Collm**	**77.05 358**	*e*P	**P**	**07 32 38.0**	**-0.2**
	comp=Z,10.0nm,1.3s					
CLL			*e*pP	**PcP**	**07 32 51.0**	**+1.9**
CLL			*e*PP	**PP**	**07 35 35.0**	**+4.1**
BRG	**Berggiesshubel**	**77.46 358**	*e*P	**P**	**07 32 41.2**	**+0.6**
BRG			Amp		07 32 43.4	
	comp=Z,17nm,1.6s					
DPC	**Dobruska-Polom**	**77.91 356**	*e*P	**P**	**07 32 43.4**	**+0.3**
DPC			*e*pP	**pwP**	**07 32 55.0**	**+0.7**
BMRD	**Maredsous**	**77.97 4**	P	**P**	**07 32 44.0**	**+0.6**
KRLC	**Kraliky**	**78.16 356**	*e*P	**P**	**07 32 44.6**	**+0.1**
OKC	**Ostrava-Krasne**	**78.33 355**	*e*P	**P**	**07 32 46.2**	**+0.8**
PRU	**Pruhonice**	**78.33 357**	*e*P	**P**	**07 32 46.1**	**+0.7**
MORC	**Moravsky Berou**	**78.42 355**	*e*P	**P**	**07 32 46.4**	**+0.4**
NIL	**Nilore**	**78.54 311**	P	**P**	**07 32 47.6**	**+0.7**
VRAC	**Vranov**	**78.93 356**	LR	LR	08 09 16.1	
	comp=Z,53nm,18.4s,baz=6.0,slow=37					
VRAC	**Vranov**	**78.93 356**	*e*P	**P**	**07 32 49.4**	**+0.6**
KRUC	**Moravsky**	**79.19 356**	*e*P	**P**	**07 32 50.6**	**+0.5**
KHC	**Kasperske Hory**	**79.21 358**	*e*P	**P**	**07 32 50.9**	**+0.6**
KHC			*e*pP	**pwP**	**07 33 02.3**	**+0.7**
KHC	**Kasperske Hory**	**79.21 358**	P	**P**	**07 32 51.2**	**+0.9**
KHC			IAmb	IAmb	07 32 52.6	
	comp=Z,14nm,1.3s					
JAVC	**Velka Javorina**	**79.33 355**	*e*P	**P**	**07 32 52.6**	**+1.6**
GERES	**GERESS Array B**	**79.50 358**	P	**P**	**07 32 52.2**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=9.1,slow=3.4,SNR=11					
GERES	**GERESS Array B**	**79.50 358**	P	**P**	**07 32 52.3**	**+0.4**
CKRC	**Cesky Krumlov**	**79.51 357**	*e*P	**P**	**07 32 53.0**	**+1.1**
VYHS	**Vyhne**	**79.63 354**	*e*P	**P**	**07 32 53.0**	**+0.4**
CVTR	**Volcan Turrial**	**79.67 87**	P	**P**	**07 32 53.6**	**-0.2**
KBL	**Kabul**	**79.72 314**	P	**P**	**07 32 52.6**	**-0.9**
MODS	**Modra-Piesok**	**79.83 355**	*e*P	**P**	**07 32 54.4**	**+0.7**
ZST	**Bratislava**	**80.02 355**	*e*P	**P**	**07 32 56.1**	**+1.4**
CONA	**Conrad Observa**	**80.34 356**	*e*P	**P**	**07 32 57.5**	**+0.9**
	comp=Z,14nm,1.2s					
MOA	**Molln**	**80.48 357**	*i* P	**P**	**07 32 58.0**	**+0.8**
	comp=Z,8.7nm,1.4s,SNR=5.4					
KBZ	**Khabaz**	**80.58 337**	P	**P**	**07 32 59.2**	**+1.4**
	comp=Z,4.6nm,0.9s,baz=45,slow=1.4,SNR=4.3					
RETA	**Reutte**	**80.90 360**	*e*P	**P**	**07 33 01.7**	**+2.2**
	comp=Z,6.3nm,1.2s					
ARSA	**Arzberg**	**81.03 356**	*e*P	**P**	**07 33 01.6**	**+1.5**
	comp=Z,7.0nm,0.9s					
MOTA	**Moosalm**	**81.04 359**	*e*P	**P**	**07 33 01.3**	**+1.0**
	comp=Z,20nm,1.3s					
WATA	**Walderalm**	**81.04 359**	*e*P	**P**	**07 33 01.5**	**+1.1**
	comp=Z,18nm,1.4s					
WTTA	**Wattenberg**	**81.11 359**	*e*P	**P**	**07 33 01.6**	**+0.7**
	comp=Z,20nm,1.6s					
SQTA	**Sankt Quirin**	**81.16 359**	*e*P	**P**	**07 33 02.2**	**+1.2**
	comp=Z,18nm,1.5s					
GEYT	**Alibeck**	**81.22 324**	P	**P**	**07 33 01.6**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=34,slow=10,SNR=6.3					
GEYT			LR	LR	08 12 39.7	
	comp=Z,109nm,18.8s,baz=62,slow=38					
GEYT	**Alibeck**	**81.22 324**	P	**P**	**07 33 02.4**	**+1.0**
GEYT			IAmb	IAmb	07 33 02.9	
	comp=Z,9.2nm,1.0s					
KBA	**Koelnbreinsper**	**81.27 358**	*i* P	**P**	**07 33 03.1**	**+1.4**
	comp=Z,23nm,1.0s,SNR=5.3					
FETA	**Feichten**	**81.36 360**	*e*P	**P**	**07 33 03.1**	**+1.0**
	comp=Z,17nm,1.2s					
DAVOX	**Davos/Dischmat**	**81.60 0**	P	**P**	**07 33 04.4**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=328,slow=9.2,SNR=6.5					
ABTA	**Abfaltersbach**	**81.62 358**	*i* P	**P**	**07 33 04.0**	**+0.6**
	comp=Z,20nm,1.4s,SNR=4.4					
SOKA	**Soboth**	**81.62 357**	*i* P	**P**	**07 33 04.2**	**+0.8**
	comp=Z,19nm,1.4s,SNR=6.9					
MYKA	**Terra Mystica**	**81.71 358**	*e*P	**P**	**07 33 05.1**	**+1.3**
	comp=Z,9.3nm,1.1s					
OBKA	**Obir**	**81.81 357**	*e*P	**P**	**07 33 05.3**	**+0.9**
	comp=Z,7.3nm,1.1s					
MLR	**Muntele Rosu**	**81.97 349**	LR	LR	08 12 36.0	
	comp=Z,150nm,20.7s,baz=354,slow=38					
TEOL	**Teolo**	**83.02 359**	P	**P**	**07 33 11.0**	**+0.4**
BRTR	**Keskin Array B**	**86.42 342**	LR	LR	08 17 07.3	
	comp=Z,74nm,19.2s,baz=17,slow=39					
WRA	**Warramunga Arr**	**86.62 231**	P	**P**	**07 33 28.0**	**-1.0**
	comp=Z,2.8nm,1.0s,baz=41,slow=5.5,SNR=10					
WRA	**Warramunga Arr**	**86.62 231**	P	**P**	**07 33 28.6**	**-0.4**
ESDC	**Sonseca Array**	**87.86 11**	P	**P**	**07 33 35.4**	**+0.5**
	comp=Z,4.7nm,1.1s,baz=3.1,slow=4.3,SNR=6.1					
SRSP	**Sriramsagar**	**88.03 299**	*e*P	**P**	**07 33 35.1**	**-0.9**
MYLAV	**Mylavaram**	**88.54 296**	*e*P	**P**	**07 33 38.2**	**-0.1**
MYLAV			*e*pP	**sP**	**07 33 46.6**	**-1.0**
HYBB	**Hyderabad (bro**	**89.15 298**	*e*P	**P**	**07 33 40.8**	**-0.5**
HYB	**Hyderabad**	**89.15 298**	*e*P	**P**	**07 33 40.5**	**-0.8**
NJS	**Nagarjunasagar**	**89.44 296**	*e*P	**P**	**07 33 42.1**	**-0.5**
NJS			*es*P	**pwP**	**07 33 54.8**	**+0.9**
ADKI	**Addanki**	**89.64 296**	*e*P	**P**	**07 33 42.8**	**-0.7**
ADKI			*es*P	**pwP**	**07 33 56.3**	**+1.5**
AS31	**Alice Springs**	**90.01 230**	P	**P**	**07 33 45.2**	**+0.2**
AS31			IAmb	IAmb	07 33 45.7	
	comp=Z,2.1nm,0.9s					
ASAR	**Alice Springs**	**90.01 230**	P	**P**	**07 33 44.7**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=36,slow=4.3,SNR=40					
ASAR	**Alice Springs**	**90.01 230**	P	**P**	**07 33 44.5**	**-0.4**
SRLM	**Srisailam**	**90.03 297**	*e*P	**P**	**07 33 44.2**	**-1.3**
RCLA	**Racherla**	**90.52 296**	*e*P	**P**	**07 33 46.8**	**-0.8**
URV	**Uravakonda**	**91.88 297**	*e*P	**P**	**07 33 53.4**	**-0.6**
URV			*es*P	**pwP**	**07 34 06.4**	**+1.2**
ASF	**Jabal al Asfar**	**93.01 338**	LR	LR	08 21 07.6	
	comp=Z,2μm,18.5s,baz=108,slow=39					
STKA	**Stephens Creek**	**93.79 220**	LR	LR	08 11 17.9	
	comp=Z,79nm,20.1s,baz=20,slow=32					
WSAR	**Wadi Sarin**	**94.01 316**	LR	LR	08 22 23.9	
	comp=Z,90nm,18.0s,baz=64,slow=39					
RPN	**Rapa Nui**	**94.80 129**	LR	LR	08 08 32.7	
	comp=Z,39nm,18.8s,baz=190,slow=30					
PALK	**Pallekele**	**96.15 290**	LR	LR	08 21 19.3	
	comp=Z,62nm,20.8s,baz=153,slow=38					

IDC 05 07:51:58.1±67.0, 18°.49S×178°.86E, h0^{km}, mb4.0/3, mb1 4.2/3, mb1mx3.4/37, mbtmp4.0/3, Error ellipse: s-maj=1201.0km s-min=35.7km az=80.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.07 314**		Pn	Pb	07 52 19.7	0.0
	1.2nm,0.3s,baz=150,slow=6.5,SNR=5.8						
STKA	**Stephens Creek**	**36.08 241**		P	P	07 58 59.7	-2.0
	1.0nm,0.4s,baz=90,slow=11,SNR=6.5						
WRA	**Warramunga Arr**	**41.97 261**		P	P	07 59 52.7	+1.4
	0.6nm,0.3s,baz=96,slow=8.1,SNR=29						
ASAR	**Alice Springs**	**42.13 255**		P	P	07 59 52.8	+0.2
	3.1nm,0.7s,baz=86,slow=7.8,SNR=32						

*ANF **05** 07:53:59.1±0.7, 43°.21N×126°.19W, h0^{km}, ML3.2/8, Error ellipse: s-maj=6.8km s-min=5.0km az=49.0*
NEIC 05 07:53:59.2±2.0, 43°.34N±0°.07×126°.5W±0°.1, h10^{km}±2^{km},

ML3.1/46, Error ellipse: s-maj=16.7km s-min=10.8km az=248.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.63**	**106**	Pn	Pn	07 54 25.6	-2.4
KEBM				IAML		07 54 55.4	
	comp=E,183nm,0.9s						
KEBM				IAML		07 54 56.0	
	comp=N,207nm,0.7s						
J01E	**Myrtle Point**	**1.86**	**95**	P	Pn	07 54 28.9	-2.2
	baz=276						
J01E				S	Sn	07 54 52.3	-2.3
	baz=276						
KBO	**Bosley Butte**	**2.00**	**124**	Pn	Pn	07 54 32.4	-0.7
KBO				IAML		07 54 47.4	
	comp=N,151nm,2.1s						
KBO				IAML		07 55 33.9	
	comp=E,148nm,3.2s						
K02D	**Willamette Mer**	**2.15**	**106**	P	Pn	07 54 32.8	-2.4
	baz=288,SNR=83						
K02D				Sb	Sn	07 55 00.9	-1.1
	baz=288						
I03D	**Drain, OR**	**2.29**	**80**	P	Pn	07 54 35.6	-1.5
	baz=262,SNR=110						
I03D				Sb	Sn	07 55 06.2	+0.8
	baz=262						
DBO	**Dodson Butte**	**2.36**	**94**		Pn	07 54 37.1	-1.1
L02E	**Cave Junction**	**2.42**	**118**	P	Pn	07 54 36.6	-2.2
	baz=300,SNR=55						
L02E				Sb	Sn	07 55 08.5	+0.1
	baz=300						
COR	**Corvallis**	**2.60**	**60**		Pn	07 54 40.9	-0.4
COR				IAML		07 55 17.2	
	comp=E,69nm,0.7s						
BUCK	**Buck Mountain**	**2.66**	**70**		Pn	07 54 42.2	-0.1
BUCK				IAML		07 55 30.8	
	comp=N,58nm,4.8s						
BUCK				IAML		07 55 34.4	
	comp=E,52nm,2.4s						
HUMO	**Hull Mountain**	**2.67**	**105**	Pn	Pn	07 54 41.0	-1.4
HEBO	**Mount Hebo**	**2.70**	**45**	Pn	Pn	07 54 42.1	-0.7
HEBO				IAML		07 56 25.2	
	comp=N,99nm,1.7s						
H04D	**Lebanon**	**2.94**	**65**	P	Pn	07 54 45.7	-0.3
	baz=248,SNR=29						
H04D				Sb	Sb	07 55 26.4	-1.3
	baz=248						
G03D	**McMinnville, O**	**2.96**	**50**	P	Pn	07 54 45.8	-0.6
	baz=232,SNR=45						
G03D				S	Sn	07 55 23.0	+1.1
	baz=232						
I04A	**Tendick Farm,**	**2.98**	**80**	P	Pn	07 54 46.2	-0.4
	baz=263,SNR=19						
YBH	**Yreka Blue Hor**	**3.20**	**119**	Pn	Pn	07 54 49.1	-0.6
H04A	**Detroit Lake**	**3.37**	**65**	Pn	Pn	07 54 52.2	+0.3
H04A				IAML		07 55 38.6	
	comp=E,41nm,0.5s						
H04A				IAML		07 55 45.4	
	comp=N,44nm,0.4s						
E03A	**Lebam**	**3.81**	**32**	Pn	Pn	07 54 57.3	-0.7
E03A				IAML		07 55 32.7	
	comp=E,41nm,1.9s						
E03A				IAML		07 55 51.6	
	comp=N,44nm,2.6s						
J05D	**Fort Rock, OR**	**3.82**	**89**	P	Pn	07 54 58.2	0.0
	baz=273						
I05D	**Terrebonne, OR**	**3.84**	**73**	P	Pn	07 54 57.8	-0.6
	baz=257,SNR=12						
F04A	**Amboy**	**3.88**	**47**	Pn	Pn	07 54 59.4	+0.5
HOOD	**Mount Hood Mea**	**3.98**	**58**		Pn	07 55 00.9	+0.5
WDC	**Whiskeytown Da**	**4.02**	**132**	Pn	Pn	07 55 00.4	-0.4
PINE	**Pine Mountain**	**4.04**	**82**	Pn	Pn	07 55 01.1	-0.2
PINE				IAML		07 56 20.5	
	comp=E,35nm,4.8s						
PINE				IAML		07 57 05.5	
	comp=N,24nm,5.0s						
K05A	**Summer Lake**	**4.13**	**97**	Pn	Pn	07 55 02.2	-0.3
K05A				IAML		07 56 01.2	
	comp=N,39nm,5.0s						
K05A				IAML		07 56 26.4	
	comp=E,27nm,4.8s						
G05D	**Wamic, OR**	**4.16**	**61**	P	Pn	07 55 03.0	+0.3
	baz=245,SNR=77						
WISH	**Wishkah**	**4.23**	**26**	Pn	Pn	07 55 03.3	-0.4
E04D	**Cinebar**	**4.24**	**39**	P	Pn	07 55 03.4	-0.5
	baz=222,SNR=19						
F05D	**White Salmon**	**4.39**	**53**	P	Pn	07 55 06.2	+0.3
	baz=236,SNR=21						
NLWA	**Neilton Lookou**	**4.45**	**23**	Pn	Pn	07 55 06.4	-0.4
NLWA				IAML		07 56 38.3	
	comp=E,26nm,3.2s						
NLWA				IAML		07 56 52.7	
	comp=E,24nm,4.2s						
C03A	**Quillayute Air**	**4.80**	**15**	Pn	Pn	07 55 10.3	-1.2
D05A	**Enumclaw**	**4.98**	**38**		Pn	07 55 14.4	+0.4
I07A	**Izee**	**5.10**	**79**		Pn	07 55 15.9	+0.1
I07A				IAML		07 57 33.2	
	comp=N,12nm,5.0s						
I07A				IAML		07 58 33.9	
	comp=E,12nm,4.4s						
ORV	**Oroville**	**5.31**	**134**	Pn	Pn	07 55 20.1	+1.5
ORV				IAML		07 56 51.3	
	comp=N,11nm,4.2s						
ORV				IAML		07 56 53.2	
	comp=E,12nm,4.1s						
LTY	**Liberty**	**5.66**	**44**		Pn	07 55 24.3	+0.9
E07A	**Sunnyside**	**5.69**	**53**		Pn	07 55 24.6	+0.8
PGC	**Sidney**	**5.71**	**20**	Pn	Pn	07 55 22.6	-1.4
CLRS	**Cowichan Lake**	**5.72**	**16**	Pn	Pn	07 55 22.5	-1.6
G08A	**Pilot Rock**	**5.73**	**67**		Pn	07 55 24.9	+0.5
HAWA	**Hanford**	**5.79**	**56**	Pn	Pn	07 55 25.8	+0.6
WVOR	**Wild Horse Val**	**5.82**	**96**		Pn	07 55 24.9	-0.8
J08A	**Circle Bar Ran**	**5.83**	**87**	Pn	Pn	07 55 24.5	-1.3
E08A	**Dider Farm, El**	**6.13**	**56**		Pn	07 55 30.0	+0.2
D08A	**Wollman Farm,**	**6.50**	**52**		Pn	07 55 35.8	+1.0
E09A	**Wood Farm, Sta**	**6.70**	**59**	Pn	Pn	07 55 36.9	-0.8
BMO	**Blue Mountains**	**6.77**	**74**	Pn	Pn	07 55 37.8	-0.8
YERR	**Yerington**	**6.97**	**126**	Pn	Pn	07 55 43.1	+1.6
B08A	**Colville Reser**	**7.07**	**42**	Pn	Pn	07 55 43.2	+0.5
F10A	**Beach Ranch, E**	**7.09**	**65**		Pn	07 55 43.0	-0.2
C09A	**Chrisman Ranch**	**7.27**	**49**	Pn	Pn	07 55 45.7	+0.2
PLID	**Pearl Lake**	**7.72**	**73**	Pn	Pn	07 55 52.8	+1.0
NEW	**Newport**	**8.17**	**50**		Pn	07 55 57.9	0.0
BCYI	**Bear Canyon**	**9.49**	**80**	Pn	Pn	07 56 17.7	+1.5
LRM	**Limekiln Ridge**	**10.30**	**71**	Pn	Pn	07 56 28.1	+0.8
WALA	**Waterton Lakes**	**10.41**	**52**	Pn	Pn	07 56 30.5	+1.9
BOZ	**Bozeman (W)**	**10.84**	**73**	Pn	Pn	07 56 35.2	+0.6

*NNC **05** 07:56:55.5±3.9, 54°.44N×86°.23E, h0^{km}, mb3.4, mpv2.6, Error ellipse: s-maj=121.8km s-min=21.6km az=153.0, Suspected Mining explosion.*
IDC 05 07:56:58.0±2.4, 54°.16N×86°.30E, h0^{km}, mb1 2.9/2, mb1mx2.3/46, mbtmp2.9/2, ML2.6/2, 1C-3D, Error ellipse: s-maj=19.3km s-min=11.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**257**	*i*		08 02 20.0	
	baz=74,slow=332,SNR=14						
ZAA0	**Zalesovo Array**	**0.90**	**257**	⇓P	Pg	07 57 13.8	-1.4
ZAA0	0.2nm,0.2s			⇑S	Sg	07 57 27.5	+0.6
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**0.90**	**257**	Pg	Pg	07 57 13.9	-1.3
	1.4nm,0.3s,baz=75,slow=17,SNR=20						
ZALV				Lg	Lg	07 57 28.3	
	5.6nm,0.3s,baz=78,slow=31,SNR=41						
ZALV				Rg	Rg	07 57 32.5	
	5.9nm,0.4s,baz=85,slow=26,SNR=8.2						
KURBB	**Kurchatov Arra**	**5.93**	**236**	Pn	Pn	07 58 28.1	+1.1
	0.1nm,0.3s,baz=53,slow=13,SNR=9.4						
KURBB	**Kurchatov Arra**	**5.93**	**236**	⇓Pn	Pn	07 58 28.3	+1.3
	1.0nm,0.3s						
KURBB				Lg	Lg	08 00 06.2	
	2.4nm,0.7s						
MK31	**Makanchi Array**	**7.80**	**201**	⇓Pn	Pn	07 58 53.8	+1.0
	0.1nm,0.2s,baz=28,slow=15,SNR=16						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	07 58 53.7	+0.9
	0.2nm,0.3s,baz=25,slow=13,SNR=13						

IDC 05 08:09:14.0±4.2, 19°.05S×177°.90W, h589^{km}±32^{km},

mb2.7/3, mb1 3.0/4, mb1mx2.8/31, mbtmp3.6/4, Error ellipse: s-maj=150.7km s-min=25.8km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.06**	**288**	P	P	08 10 39.3	+0.1
	1.8nm,0.3s,baz=74,slow=20,SNR=8.6						
WRA	**Warramunga Arr**	**44.91**	**261**	P	P	08 16 37.5	-0.2
	0.4nm,0.4s,baz=95,slow=8.0,SNR=15						
ASAR	**Alice Springs**	**44.96**	**255**	P	P	08 16 37.9	-0.2
	0.6nm,0.4s,baz=86,slow=8.2,SNR=22						
TXAR	**Lajitas Array**	**86.20**	**57**	P	P	08 20 53.9	-0.4
	0.3nm,0.7s,baz=216,slow=6.2,SNR=4.8						
GERES	**GERESS Array B**	**148.83**	**345**	PKPbc	PKPbc	08 27 56.1	0.0
	0.3nm,0.6s,baz=46,slow=7.0,SNR=3.9						

*IDC **05** 08:16:49.2±1.4, 25°.99N×128°.44E, h0^{km}, mb3.5/3, mb1 3.7/3, mb1mx3.4/32, mbtmp3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/67, Error ellipse: s-maj=76.3km s-min=15.5km az=79.0*
*JMA **05** 08:16:52.1±0.4, 25°.92N×128°.49E, h45^{km}, M3.2*
ISC 05 08:16:51.0±1.6, 25°.92N±0°.06×128°.53E±0°.04, h17^{km}±10^{km}, n16, σ1°.02/26, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.71**	**288**	P	**Pb**	**08 17 05.6**	**+0.7**
JJT3				*e*S	**Sb**	**08 17 15.7**	**+1.3**
JNTH	**Nagotoyohara**	**0.75**	**323**	P	**Pg**	**08 17 05.7**	**0.0**
JNTH				S	**Sg**	**08 17 15.4**	**-0.3**
JOW	**Kunigami**	**0.94**	**346**	Pn	**Pg**	**08 17 09.2**	**0.0**
	101nm,0.3s,baz=151,slow=20,SNR=209						
JOW				Sn	**Sg**	**08 17 21.5**	**-0.1**
	198nm,0.3s,baz=128,slow=26,SNR=9.4						
JOW	**Kunigami**	**0.94**	**346**	P	**Pg**	**08 17 09.2**	**0.0**
JOW				*e*S	**Sg**	**08 17 21.6**	**0.0**
JYRO	**Yoronjima**	**1.10**	**356**	P	**Pb**	**08 17 11.5**	**-0.1**
JYRO				*e*S	**Sg**	**08 17 25.7**	**-1.1**
JIH	**Iheya**	**1.22**	**336**	P	**Pn**	**08 17 13.5**	**+0.2**
JIH				*e*S	**Sb**	**08 17 28.7**	**-0.4**
JAGN	**Aguni-jima**	**1.33**	**300**	P	**Pn**	**08 17 14.7**	**-0.2**
JAGN				*e*S	**Sb**	**08 17 31.7**	**-0.7**
JOKE	**Okinoerabujima**	**1.44**	**1**	P	**Pn**	**08 17 16.8**	**+0.5**
JKE	**Kume jima 2**	**1.62**	**285**	P	**Pn**	**08 17 18.0**	**-0.8**
JKE				*e*S	**Sn**	**08 17 36.7**	**-2.6**
JTK	**Tokunoshima**	**1.90**	**11**	P	**Pn**	**08 17 23.2**	**+0.6**
JTK				*e*S	**Sn**	**08 17 46.7**	**+0.6**
JMZ	**Minamidaito 2**	**2.43**	**92**	P	**Pn**	**08 17 29.7**	**-0.2**
JMZ				S	**Sn**	**08 17 57.0**	**-2.2**
JKDJ	**Kitadaitoujima**	**2.49**	**89**	P	**Pn**	**08 17 30.8**	**0.0**
JKDJ				*e*S	**Sn**	**08 17 59.4**	**-1.4**
KSRS	**Korea Array**	**11.51**	**358**	LR	LR	08 24 21.7	
	comp=Z,45nm,18.1s,baz=10.0,slow=40						
MKAR	**Makanchi Array**	**41.94**	**312**	P	**P**	**08 24 40.6**	**-0.2**
	0.4nm,0.4s,baz=93,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**45.94**	**172**	P	**P**	**08 25 14.1**	**+1.0**
	0.6nm,0.6s,baz=354,slow=8.5,SNR=7.6						
ASAR	**Alice Springs**	**49.57**	**174**	P	**P**	**08 25 42.9**	**+1.6**
	0.4nm,0.9s,baz=358,slow=8.5,SNR=4.9						

*SOME **05** 08:44:35.9, 42°.32N×77°.53E, h10^{km}*
*NNC **05** 08:44:35.5±0.8, 42°.27N×77°.59E, h0^{km}, mb3.6, mpv3.5, Error ellipse: s-maj=6.3km s-min=3.3km az=3.0*
*KRNET **05** 08:44:36.3±0.1, 42°.33N×77°.57E, h19^{km}, mb3.5*
*KNET **05** 08:44:38.0±0.3, 42°.38N×77°.42E, h8^{km}±1^{km}, ml2.9, Error ellipse: s-maj=3.2km s-min=1.7km az=177.0*
ISC 05 08:44:34.5±1.2, 42°.30N±0°.03×77°.57E±0°.02, h6^{km}±10^{km}, n76, σ0°.88/140, 41C-21D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.33**	**240**	*i* P	**Pb**	**08 44 43.1**	**+0.1**
	baz=35						
KDJ				*i* S	**Sb**	**08 44 48.2**	**-0.4**
	baz=35						
ANVS	**Anan'yevo**	**0.49**	**8**	⇑*i*P	**Pb**	**08 44 45.3**	**-0.4**
	baz=9.0						
ANVS				⇑*i*S	**Sb**	**08 44 52.0**	**-1.2**
	baz=9.0						
PRZ	**Przheval'sk**	**0.64**	**73**	⇑*i*P	**Pb**	**08 44 48.7**	**+0.5**
	baz=74						
PRZ				⇑*i*S	**Sb**	**08 44 57.3**	**-0.2**
	baz=74						
TNSS	**Tian-Shan**	**0.87**	**328**	⇑*e*P	**Pb**	**08 44 52.0**	**-0.2**
	61nm,0.4s						
TNSS				*e*S	**Sb**	**08 45 03.6**	**-0.7**
	36nm,0.4s						
TNSS	**Tian-Shan**	**0.87**	**328**	P	**Pb**	**08 44 52.1**	**-0.2**
	61nm,0.4s						
TNSS				S	**Sb**	**08 45 03.6**	**-0.7**
	36nm,0.4s						
TNSS	**Tian-Shan**	**0.87**	**328**	⇑*e*P	**Pb**	**08 44 52.1**	**-0.2**
	baz=27						
TNSS				⇑*e*S	**Sb**	**08 45 03.7**	**-0.7**
	baz=27						
MDOK	**Medeo**	**0.95**	**336**	⇑*e*P	**Pb**	**08

BOOM	Boomskoye usch	1.22	280	⇑iP	Pn	08 44 59.1	+0.8
	baz=78							
BOOM				⇑iS	Sn	08 45 15.3	+0.1
	baz=78							
UZB	Uzynbulak	1.37	51	eP	Pg	08 45 00.9	+0.2
	5.8nm,0.2s							
UZB				eS	Sn	08 45 18.7	0.0
	58nm,0.1s							
UZB	Uzynbulak	1.37	51	P	Pg	08 45 00.9	+0.2
	5.8nm,0.2s							
UZB				S	Sn	08 45 19.1	+0.3
	58nm,0.1s							
UZB	Uzynbulak	1.37	51	eP	Pg	08 45 00.9	+0.2
	baz=52							
UZB				eS	Sn	08 45 18.7	0.0
	baz=52							
KST	Kastek	1.40	303	eP	Pg	08 45 01.8	+0.5
	158nm,0.2s							
KST				eS	Sg	08 45 20.5	+1.0
	75nm,0.5s							
KST	Kastek	1.40	303	P	Pg	08 45 01.8	+0.5
	158nm,0.2s							
KST				S	Sg	08 45 20.5	+1.0
	75nm,0.5s							
KST	Kastek	1.40	303	eP	Pg	08 45 01.8	+0.5
	baz=2.0							
KST				eS	Sg	08 45 20.4	+1.0
	baz=2.0							
KPKS	Kokpek	1.43	35	eP	Pg	08 45 02.1	+0.2
	50nm,0.1s							
KPKS				eS	Sg	08 45 20.9	+0.5
	149nm,0.3s							
KPKS	Kokpek	1.43	35	eP	Pg	08 45 02.1	+0.2
	baz=35							
KPKS				eS	Sg	08 45 20.9	+0.5
	baz=35							
KTBS	Karatobe	1.56	336	eP	Pg	08 45 04.4	+0.1
	10nm,0.3s							
KTBS				eS	Sg	08 45 24.9	+0.4
	82nm,0.2s							
KTBS	Karatobe	1.56	336	P	Pg	08 45 04.4	+0.1
	10nm,0.3s							
KTBS				S	Sg	08 45 25.4	+0.9
	82nm,0.2s							
KTBS	Karatobe	1.56	336	eP	Pg	08 45 04.4	+0.1
	baz=35							
KTBS				eS	Sg	08 45 24.9	+0.4
	baz=35							
TKM2	Tokmak 2	1.58	294	⇓P	Pg	08 45 05.4	+0.5
	24nm,0.1s,SNR=96							
TKM2				⇑S	Sg	08 45 26.6	+1.2
	108nm,0.2s							
TKM2	Tokmak 2	1.58	294	⇓P	Pg	08 45 05.0	+0.1
	26nm,0.5s							
TKM2				⇑S	Sg	08 45 26.6	+1.2
	50nm,0.3s							
TKM2	Tokmak 2	1.58	294	⇓iP	Pg	08 45 05.4	+0.5
	baz=93							
TKM2				⇓iS	Sg	08 45 26.0	+0.6
	baz=93							
CHKK	Chushkaly	1.61	345	eP	Pg	08 45 05.4	0.0
	29nm,0.4s							
CHKK				eS	Sg	08 45 26.5	+0.2
	235nm,0.3s							
CHKK	Chushkaly	1.61	345	eP	Pg	08 45 05.4	0.0
	baz=45							
CHKK				eS	Sg	08 45 26.5	+0.2
	baz=45							
DGS	Degeres	1.63	306	eP	Pg	08 45 05.7	0.0
	17nm,0.2s							
DGS				eS	Sg	08 45 27.2	+0.4
	94nm,0.4s							
DGS	Degeres	1.63	306	P	Pg	08 45 05.7	0.0
	17nm,0.2s							
DGS				S	Sg	08 45 27.2	+0.4
	94nm,0.4s							
DGS	Degeres	1.63	306	eP	Pg	08 45 05.7	0.0
	baz=5.0							
DGS				eS	Sg	08 45 27.2	+0.4
	baz=5.0							
SHLS	Shalkode	1.64	58	eP	Pg	08 45 11.3	+5.4
	18nm,0.2s							
SHLS				eS	Sg	08 45 36.9	+10
	146nm,0.4s							
SHLS	Shalkode	1.64	58	P	Pg	08 45 11.3	+5.4
	18nm,0.2s							
SHLS				S	Sg	08 45 36.9	+10
	146nm,0.4s							
PDGK	Podgornoye	1.75	53	P	Pg	08 45 07.5	-0.5
	3.5nm,0.3s							
PDGK				S	Sg	08 45 30.5	-0.2
	56nm,0.3s							
PDGK	Podgornoye	1.75	53	⇑Pn	Pg	08 45 07.5	-0.5
	8.9nm,0.7s							
PDGK				⇑Sn	Sg	08 45 31.2	+0.5
	59nm,0.4s							
KUU	Kurty	1.83	331	eP	Pg	08 45 09.2	-0.4
	16nm,0.2s							
KUU				eS	Sg	08 45 33.2	-0.1
	73nm,0.3s							
KUU	Kurty	1.83	331	P	Pg	08 45 09.2	-0.4
	16nm,0.2s							
KUU				S	Sg	08 45 33.6	+0.3
	73nm,0.3s							
KUU	Kurty	1.83	331	eP	Pg	08 45 09.2	-0.4
	baz=31							
KUU				eS	Sg	08 45 33.2	-0.1
	baz=31							
BLB	Baldybastay	1.92	20	⇑eP	Pg	08 45 10.8	-0.4
	136nm,0.4s							
BLB				eS	Sg	08 45 35.5	-0.6
	334nm,0.3s							
ARXS	Arharly	1.92	6	eP	Pg	08 45 10.8	-0.6
	27nm,0.3s							
ARXS				eS	Sg	08 45 35.8	-0.5
	115nm,0.4s							
KRBS	Karabastau	1.97	316	eP	Pg	08 45 11.8	-0.5
	43nm,0.2s							
KRBS				eS	Sg	08 45 38.0	+0.2
	224nm,0.5s							
KRBS	Karabastau	1.97	316	Pg	Pg	08 45 11.7	-0.5
	43nm,0.2s							
KRBS				Lg	Lg	08 45 38.0	
	224nm,0.5s							
KBK	Karagaybulak	1.97	281	⇑P	Pg	08 45 12.5	+0.2
	30nm,0.2s,SNR=48							
KBK				⇓S	Sg	08 45 39.1	+1.3
	87nm,0.3s							
KBK	Karagaybulak	1.97	281	⇑iP	Pg	08 45 11.9	-0.4
	baz=81							
KBK				⇑iS	Sg	08 45 36.9	-1.0
	baz=81							
CHMS	Chumysh	2.19	290	⇓P	Pb	08 45 15.6	+1.0
	10nm,0.2s,SNR=11							
CHMS				⇑S	Sg	08 45 44.8	-0.2
	67nm,0.3s							
CHMS	Chumysh	2.19	290	⇑iP	Pb	08 45 14.8	+0.2
	baz=89							
CHMS				⇑iS	Sb	08 45 42.1	+0.1
	baz=89							
UCH	Uchtor	2.27	269	⇑P	Pg	08 45 17.5	-0.5
	7.6nm,0.2s,SNR=16							
UCH				⇓S	Sg	08 45 48.3	+0.9
	25nm,0.3s							
UCH	Uchtor	2.27	269	⇑eP	Pb	08 45 15.8	-0.3
	baz=69							
UCH				⇑iS	Sb	08 45 43.8	-0.8
	baz=69							
AAK	Ala-Archa	2.30	280	⇓P	Pg	08 45 17.7	-0.9
	35nm,0.3s,SNR=22							
AAK				⇓S	Sg	08 45 48.4	+0.1
	37nm,0.2s							
AAK	Ala-Archa	2.30	280	⇑Pn	Pn	08 45 14.8	+1.7
	11nm,0.3s							
AAK				⇑Sn	Sg	08 45 47.5	-0.9
	29nm,0.3s							
AAK	Ala-Archa	2.30	280	⇓iP	Pb	08 45 16.1	-0.4
	baz=79							
AAK				⇓iS	Sb	08 45 44.5	-0.7
	baz=79							
KTMS	Ketmen	2.35	60	eP	Pg	08 45 19.6	+0.1
	9.5nm,0.3s							
KTMS				eS	Sg	08 45 51.1	+1.3
	68nm,0.2s							
KTMS	Ketmen	2.35	60	Pg	Pg	08 45 19.6	+0.1
	9.5nm,0.3s							
KTMS				Lg	Lg	08 45 51.1	
	68nm,0.2s							
ARLS	Aral	2.46	261	⇑iP	Pb	08 45 18.2	-0.9
	baz=60							
ARLS				⇑iS	Sb	08 45 48.8	-0.9
	baz=60							
USP	Ospenovka	2.46	294	⇓P	Pb	08 45 19.7	+0.6
	58nm,0.2s,SNR=40							
DJR	Jarkent	2.60	38	eP	Pb	08 45 22.4	+0.9
	5.8nm,0.7s							
DJR				eS	Sg	08 45 55.7	-2.3
	48nm,0.4s							
EKS2	Erkin-Say	2.83	279	⇑iP	Pb	08 45 23.7	-1.8
	baz=78							
EKS2				⇑iS	Sn	08 45 57.2	+2.4
	baz=78							
MRKS	Merke	3.24	279	eP	Pg	08 45 35.2	-1.4
	4.8nm,0.4s							
MRKS				eS	Sg	08 46 17.4	-1.2
	42nm,0.3s							
MRKS	Merke	3.24	279	Pg	Pg	08 45 35.2	-1.4
	4.8nm,0.4s							
MRKS				Lg	Lg	08 46 17.4	
	42nm,0.3s							
KAPS	Kapalarasan	3.25	23	eP	Pb	08 45 34.3	+1.6
	7.4nm,0.5s							
KAPS				eS	Sg	08 46 16.0	-3.0
	67nm,0.8s							
BTLS	Baital	3.75	318	eP	Pb	08 45 42.8	+1.7
	4.9nm,0.6s							
BTLS				eS	Sg	08 46 31.1	-3.7
	3.5nm,0.6s							
KK02	Karatay Array	5.26	281	⇑Pg	Pg	08 46 12.9	-2.4
	2.0nm,0.6s							
KK02				⇓Lg	Lg	08 47 23.8	
	5.2nm,0.7s							
MAKZ	Makanchi	5.50	33	⇑Pn	Pn	08 45 58.8	+1.8
	2.3nm,1.1s							
MAKZ				⇓Lg	Lg	08 47 30.0	
	5.4nm,1.0s							
MK31	Makanchi Array	5.62	35	⇑Pn	Pn	08 46 00.6	+2.0
	0.2nm,0.2s,baz=208,slow=15,SNR=32							
MK31				⇑Lg	Lg	08 47 34.5	
	0.7nm,0.4s,baz=218,slow=27,SNR=4.3							

IDC 05 08:44:49.0±618.0, 53°.85N×1°.75E, h0km, Error ellipse: s-maj=337.0km s-min=171.1km az=109.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	9.00	119	i		09 43 10.0	
	baz=309,slow=332,SNR=1.9						
I43RU	DUBNA INFRASON	20.26	67	i		10 49 50.0	
	baz=277,slow=329,SNR=0.9						
I31KZ	AKTYUBINSK INF	33.95	72	i		12 13 50.0	
	baz=293,slow=340,SNR=1.6						

NNC 05 08:59:09.5±2.3, 54°.60N×86°.07E, h0km, mb3.6, mpv2.8, 3C-3D, Error ellipse: s-maj=89.0km s-min=14.0km az=140.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	0.98	229	⇑P	Pg	08 59 28.0	-0.3
	0.3nm,0.6s						
ZAA0				⇓S	Sb	08 59 42.1	-0.8
	3.0nm,0.8s						
KURK	Kurchatov	5.97	232	⇑Pn	Pn	09 00 40.9	+1.8
	1.6nm,1.0s						
KURK				⇑Lg	Lg	09 02 19.7	
	4.7nm,1.2s						
KURBB	Kurchatov Arra	6.08	232	⇓Pn	Pn	09 00 42.2	+1.7
	3.4nm,0.8s						
KURBB				⇓Lg	Lg	09 02 22.6	
	5.1nm,0.7s						
MK31	Makanchi Array	8.18	199	Pn	Pn	09 01 10.2	+0.9
	1.1nm,0.7s,baz=27,slow=12,SNR=11						

PGC 05 09:26:47.6±0.3, 48°.76N×129°.69W, h10km, MLSn2.9/19, Mw3.5/19, 270km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	NEPTUNE Canada	0.91	154	P	Pg	09 27 01.0	-4.0
EDB	Eliza Dome	2.02	56	Pn	Pn	09 27 19.4	-2.3
EDB				Sn	Sn	09 27 43.4	-3.5
HOLB	Holberg	2.13	28	Pn	Pn	09 27 21.9	-1.4
HOLB				Sn	Sn	09 27 45.9	-4.0
PACB	Port Alice, BC	2.20	40	Pn	Pn	09 27 22.2	-2.0
PACB				Sn	Sn	09 27 47.0	-4.5
MAYB	Maynard	2.32	44	Pn	Pn	09 27 24.0	-2.0
MAYB				Sn	Sn	09 27 50.7	-4.0
PHC	Port Hardy	2.44	36	Pn	Pn	09 27 26.7	-0.7
PHC				Sn	Sn	09 27 53.4	-3.8
WOSB	Woss	2.47	54	Pn	Pn	09 27 26.7	-1.3
TOFB	Tofino	2.53	80	Pn	Pn	09 27 26.9	-1.7
TOFB				Sn	Sn	09 27 56.1	-3.4
TLCB	Telegraph Cove	2.58	45	Pn	Pn	09 27 28.0	-1.3
TLCB				Sn	Sn	09 27 57.4	-3.3
GDR	Gold River	2.60	66	Pn	Pn	09 27 28.2	-1.6
GDR				Sn	Sn	09 27 56.7	-4.7
BTB	Buttle Lake	2.83	74	Pn	Pn	09 27 31.8	-1.3
BTB				Sn	Sn	09 28 04.6	-2.7
SPLB	Strathcona Par	2.87	65	Pn	Pn	09 27 32.8	-0.7
SPLB				Sn	Sn	09 28 06.1	-2.0
NCRB	Newcastle Ridg	2.88	54	Pn	Pn	09 27 32.9	-0.8
BFSB	Bamfield	3.01	87	Pn	Pn	09 27 33.7	-1.7
BFSB				Sn	Sn	09 28 08.1	-3.4
B928	Bamfield	3.02	87	Pn	Pn	09 27 33.7	-1.7
B928				Sn	Sn	09 28 08.1	-3.4
CBB	Campbell River	3.10	64	Pn	Pn	09 27 35.8	-0.8
CBB				Sn	Sn	09 28 10.6	-3.1
B927	Port Alberni	3.25	80	Sn	Sn	09 28 14.4	-2.8
MGB	Mount Grey	3.31	84	Pn	Pn	09 27 37.8	-1.8
MGB				Sn	Sn	09 28 15.1	-3.9
PFB	Port Renfrew	3.49	91	Pn	Pn	09 27 41.1	-0.9
PFB				Sn	Sn	09 28 19.4	-3.9
BBB	Bella Bella	3.57	16	Pn	Pn	09 27 41.7	-1.3
BBB				Sn	Sn	09 28 21.6	-3.5
TXB	Texada	3.57	73	Pn	Pn	09 27 42.7	-0.4
TXB				Sn	Sn	09 28 22.9	-2.4
GHNB	Nanoose	3.63	79	Pn	Pn	09 27 43.9	+0.1
GHNB				Sn	Sn	09 28 25.0	-1.7
B926	Mesachie Lake	3.68	87	Pn	Pn	09 27 43.6	-0.9
B926				Sn	Sn	09 28 25.0	-2.9
CLRS	Cowichan Lake	3.68	87	Pn	Pn	09 27 43.1	-1.4
CLRS				Sn	Sn	09 28 24.8	-3.1
NLLB	Nanaimo Lost L	3.79	81	Pn	Pn	09 27 45.7	-0.3
NLLB				Sn	Sn	09 28 28.7	-1.9
SHB	Sechelt	3.91	75	Pn	Pn	09 27 47.4	-0.3
SHB				Sn	Sn	09 28 32.1	-1.6
WPB	Watts Point	4.34	76	Pn	Pn	09 27 53.7	+0.1
BUTB	Butedale	4.37	10	Pn	Pn	09 27 53.3	-0.8
BUTB				Sn	Sn	09 28 41.0	-4.2
WSLR	Whistler	4.62	70	Pn	Pn	09 27 57.4	-0.2
HNBB	Haney	4.71	81	Pn	Pn	09 27 58.9	+0.2
HNBB				Sn	Sn	09 28 52.2	-1.3
VDB	Vedder Mountai	5.01	84	Pn	Pn	09 28 02.9	0.0
LLLB	Lillooet	5.40	67	Pn	Pn	09 28 08.7	+0.5
LTY	Liberty	6.24	101	Pn	Pn	09 28 20.7	+0.9
FSJB	Fort St James	6.62	28	Pn	Pn	09 28 25.5	+0.6
FSB	Fort Saint Jam	6.62	28	Pn	Pn	09 28 25.4	+0.4

NNC 05 09:28:19.1±23.0, 37°.05N×70°.26E, h151km±517km, mb2.8, mpv3.6, 4C-2D, Error ellipse: s-maj=241.0km s-min=164.8km az=20.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	6.05	2	⇓P	Pn	09 29 46.6	+0.2
	1.3nm,0.3s,baz=174,slow=12						
KK03	Karatay Array	6.05	2	⇑S	Sn	09 30 54.3	-0.4
	2.5nm,0.7s						
AAK	Ala-Archa	6.46	29	⇑P	Pn	09 29 51.5	-0.5
	1.2nm,0.3s						
AAK				⇓S	Sn	09 31 06.6	+1.8
	6.8nm,0.5s						
TKM2	Tokmak 2	7.15	33	⇑P	Pn	09 29 59.9	-1.4
	3.2nm,0.5s						
AB31	Akbulak array	14.32	332	⇑P	Pn	09 31 34.8	0.0
	0.5nm,0.4s,baz=263,slow=36,SNR=30						

IDC 05 09:33:12.3±978.0, 54°.55N×3°.59E, h0km, Error ellipse: s-maj=413.2km s-min=159.2km az=117.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	8.49	128	i		10 28 30.0	
	baz=316,slow=332,SNR=1.2						
I43RU	DUBNA INFRASON	18.99	70	i		11 27 54.7	
	baz=279,slow=332,SNR=0.6						
I31KZ	AKTYUBINSK INF	32.71	74	i		12 53 19.3	
	baz=295,slow=338,SNR=8.4						

*IDC **05** 09:34:11.7±0.5, 54°.44S×136°.77W, h0km, mb4.8/12, mb1 4.9/12, mb1mx4.6/28, mbtmp4.8/12, MS5.7/48, Ms1 5.6/48, ms1mx5.6/52, Error ellipse: s-maj=25.1km s-min=15.7km az=172.0*

*NEIC **05** 09:34:14.6±1.4, 54°.3S±0°.1×136°.3W±0°.2, h10km±1km, mb5.4/85, Ms_20 5.9/325, Mwb5.9/37, Mww6.0, Error ellipse: s-maj=22.0km s-min=17.1km az=355.0*

*NEIC **05** 09:34:15.2, 54°.31S×136°.14W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.40; $M_{\theta\theta}$7.49; $M_{\phi\phi}$-6.09; $M_{r\theta}$1.27; $M_{\theta\phi}$5.27; $M_{\phi r}$-1.12; Fault plane solution: $M_0$8.84000×10^{17} NP1:ϕ_s295.43000°, δ84.56000°, λ-11.97000°. NP2:ϕ_s26.58000°, δ78.09000°, λ-174.44000°. Principal axes: T 9.3603, Plg5.0000°, Azm341.0000°; N -1.1486, Plg77.0000°, Azm91.0000°; P -8.2117, Plg12.0000°, Azm250.0000°;*

*GCMT **05** 09:34:18.6±0.1, 54°.46S×136°.56W, h12km, MW6.0/146, Moment Tensor Solution. s146,c309; s146,c521; Duration: 2&3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.07±.01; $M_{\theta\theta}$0.80±.01; $M_{\phi\phi}$-0.73±.01; $M_{r\theta}$-0.01±.01; $M_{\theta\phi}$0.78±.01; $M_{\phi r}$0.05±.01; Best double couple: $M_0$1.09500×10^{18} NP1:ϕ_s112.00000°, δ88.00000°, λ-2.00000°. NP2:ϕ_s202.00000°, δ88.00000°, λ-178.00000°. Principal axes: T 1.1270, Plg0.0000°, Azm337.0000°; N -0.0650, Plg87.0000°, Azm239.0000°; P -1.0620, Plg3.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 09:34:23, 54°.44S×137°.17W, h16km, Moment Tensor Solution. Duration: 16&0 Moment tensor: Scale 10^{18}Nm; M_{rr}0.03; $M_{\theta\theta}$0.67; $M_{\phi\phi}$-0.71; $M_{r\theta}$0.05; $M_{\theta\phi}$0.76; $M_{\phi r}$0.49; Fault plane solution: $M_0$1.14000×10^{18} NP1: ϕ_s110.00000°, δ65.00000°, λ-3.00000°. NP2:ϕ_s201.00000°, δ86.00000°, λ-155.00000°. Principal axes: T 1.0745, Plg15.0000°, Azm333.0000°; N 0.1224, Plg65.0000°, Azm209.0000°; P -1.1969, Plg20.0000°, Azm68.0000°;*

ISC 05 09:34:15.5±0.7, 54°.25S±0°.07×136°.23W±0°.06, h16km±3km, h16km:pP-P, n526, σ1^{s}76/326, mb5.4/50, MS5.8/210, 2C-2D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	30.80	200	P	P	09 40 29.8	0.0
SBA				IAmb	IAmb	09 40 43.2	
	comp=Z,121nm,1.7s						
VNDA	Vanda	31.75	201	LR	LR	09 50 08.4	
	comp=Z,9μm,21.6s,baz=82,slow=30						
VNDA	Vanda	31.75	201	P	P	09 40 39.8	+1.7
TBI	Tubuai	32.42	337	eS	S	09 45 57.0	-1.2
	comp=Z,2μm,26.0s						
TBI				eLR	LR	09 49 01.6	
	comp=Z,63μm,28.2s,baz=165						
TBI	Tubuai	32.42	337	eT	T	10 14 31.6	
	comp=Z,168nm,0.3s						
RPN	Rapa Nui	33.52	47	LR	LR	09 51 10.9	
	comp=Z,11μm,19.6s,baz=211,slow=30						
SMAI	San Martin Ant	34.00	141	P	P	09 40 58.1	+0.2
SMAI				IAmb	IAmb	09 41 28.1	
	comp=Z,68nm,1.8s						
BFZ	Birch Farm	34.19	274	IAMs_20	IAMs_20	09 51 06.2	
	comp=Z,14μm,19.0s						
MSWZ	Moikau Station	34.31	272	P	P	09 41 02.1	+1.1
MQZ	McQueen's Vall	34.45	266	IAMs_20	IAMs_20	09 51 10.6	
	comp=Z,15μm,19.0s						
KHZ	Kahutara	34.70	269	IAMs_20	IAMs_20	09 51 06.4	
	comp=Z,14μm,22.0s						
ODZ	Otahua Downs	34.84	263	IAMs_20	IAMs_20	09 52 05.1	
	comp=Z,29μm,19.0s						
BKZ	Black Stump Fm	35.03	276	P	P	09 41 07.9	+0.6
BKZ				IAmb	IAmb	09 41 31.4	
	comp=Z,57nm,1.4s						
BKZ				IAMs_20	IAMs_20	09 52 03.4	
	comp=Z,18μm,19.0s						
MXZ	Matakaoa Point	35.05	280	IAMs_20	IAMs_20	09 53 08.1	
	comp=Z,12μm,18.0s						
LTZ	Lake Taylor	35.22	267	P	P	09 41 08.2	-0.6
LTZ				IAMs_20	IAMs_20	09 51 54.2	
	comp=Z,15μm,20.0s						
URZ	Urewera	35.27	278	LR	LR	09 52 09.7	
	comp=Z,18μm,20.3s,baz=211,slow=31						
URZ	Urewera	35.27	278	IAMs_20	IAMs_20	09 51 47.9	
	comp=Z,18μm,20.0s						
RPZ	Rata Peaks	35.38	265	IAMs_20	IAMs_20	09 51 30.2	
	comp=Z,22μm,20.0s						
THZ	Tophouse	35.47	269	P	P	09 41 09.6	-1.5
THZ				IAMs_20	IAMs_20	09 51 42.9	
	comp=Z,16μm,21.0s						
LBZ	Lake Benmore	35.49	264	IAMs_20	IAMs_20	09 52 25.2	
	comp=Z,32μm,19.0s						
WKZ	Wanaka	35.91	262	IAMs_20	IAMs_20	09 51 39.4	
	comp=Z,27μm,22.0s						
QSPA	South Pole Qui	35.92	180	P	P	09 41 12.6	-2.2
	comp=Z,12nm,1.0s,baz=99,slow=1.4,SNR=15						
QSPA				LR	LR	09 54 12.1	
	comp=Z,22μm,18.4s,baz=71,slow=34						
QSPA	South Pole Qui	35.92	180	P	P	09 41 14.6	-0.2
QSPA				IAmb	IAmb	09 41 26.4	
	comp=Z,86nm,1.4s						
QSPA	South Pole Qui	35.92	180	IAMs_20	IAMs_20	09 53 51.8	
	comp=Z,21μm,19.0s						
WHZ	Wether Hill Ro	35.93	260	IAMs_20	IAMs_20	09 53 37.7	
	comp=Z,15μm,18.0s						
PMSA	Palmer Station	36.05	136	LR	LR	09 52 02.4	
	comp=Z,13μm,20.1s,baz=246,slow=30						
PMSA	Palmer Station	36.05	136	IAMs_20	IAMs_20	09 51 41.2	
	comp=Z,13μm,21.0s						
MLZ	Mavora Lakes	36.13	261	IAMs_20	IAMs_20	09 51 46.0	
	comp=Z,19μm,22.0s						
FOZ	Fox Glacier	36.21	265	IAMs_20	IAMs_20	09 52 29.2	
	comp=Z,30μm,20.0s						
QRZ	Quartz Range	36.28	270	P	P	09 41 19.6	+1.7
QRZ				IAmb	IAmb	09 41 38.4	
	comp=Z,83nm,1.3s						
HIZ	Hauiti	36.42	275	P	P	09 41 21.0	+1.9
HIZ				IAmb	IAmb	09 41 32.3	
	comp=Z,87nm,1.1s						
MEH	Mehetia	37.43	341	eT	T	10 20 56.0	
	comp=Z,36nm,0.2s						
RAR	Rarotonga	37.51	322	LR	LR	09 53 30.2	
	comp=Z,12μm,18.1s,baz=174,slow=31						
RAR	Rarotonga	37.51	322	IAMs_20	IAMs_20	09 53 09.0	
	comp=Z,18μm,20.0s						
TVO	Taravao	37.76	339	eT	T	10 21 21.4	
	comp=Z,0.2nm,0.2s						
USHA	Ushuaia	37.94	119	LR	LR	09 52 41.0	
	comp=Z,6μm,21.5s,baz=243,slow=29						
PAE	Paea	37.94	339	eT	T	10 21 20.0	
	comp=Z,8.1nm,0.2s						
TIAR	Tiarei	37.99	339	eT	T	10 21 22.5	
	comp=Z,4.8nm,0.2s						
PPTF	Pamatai, Papee	38.01	339	IAMs_20	IAMs_20	09 52 30.6	
	comp=Z,17μm,20.0s						
PPT2	Papeete2	38.01	339	eS	S	09 47 21.4	-3.1
	comp=Z,3μm,26.5s						
PPT2				eLQ	LQ	09 50 14.6	
	comp=Z,3μm,24.5s						
PPT2				eLR	LR	09 51 49.9	
	comp=Z,57μm,25.8s,baz=175						
PPT2	Papeete2	38.01	339	eT

VAH	Vaihoa	39.93	343	eT		T		10 23 58.4	
	comp=Z,107nm,0.2s								
PMOR	Pomariorio Ree	40.21	342	eT		T		10 24 23.0	
	comp=Z,15nm,0.3s								
LL04	Puerto Octay	43.58	99	P		P		09 42 19.3	+0.8
H03S2	Juan Fernandez	44.55	87	T		T		10 30 23.9	
	baz=222,SNR=288								
H03S1	Juan Fernandez	44.56	87	T		T		10 30 44.4	
	baz=222,SNR=232								
H03S3	Juan Fernandez	44.57	87	T		T		10 30 29.4	
	baz=222,SNR=231								
PLCA	Paso Flores	44.77	100	P		P		09 42 28.8	+0.7
	comp=Z,8.8nm,1.0s,baz=234,slow=10,SNR=13								
PLCA				LR		LR		09 56 36.1	
	comp=Z,8μm,19.8s,baz=230,slow=30								
PLCA	Paso Flores	44.77	100	eP		P		09 42 30.2	+2.1
PLCA	Paso Flores	44.77	100	P		P		09 42 28.4	+0.2
H03N3	Juan Fernandez	44.82	86	T		T		10 30 48.1	
	baz=226,slow=72,SNR=229								
H03N2	Juan Fernandez	44.83	86	T		T		10 30 47.0	
	baz=226,slow=72,SNR=5710								
H03N1	Juan Fernandez	44.84	86	T		T		10 30 46.4	
	baz=226,slow=72,SNR=3670								
LC01	Cunco	45.21	98	P		P		09 42 31.6	0.0
TAOE	Nuku Hiva Isla	45.38	355	eS		S		09 49 07.0	-6.5
	comp=Z,2μm,26.7s								
TAOE				eLQ		LQ		09 53 14.0	
	comp=Z,25μm,26.4s								
TAOE				eLR		LR		09 55 09.6	
	comp=Z,30μm,24.7s,baz=192								
TAOE	Nuku Hiva Isla	45.38	355	eT		T		10 30 45.6	
	comp=Z,23nm,0.2s								
BO02	Sierra Bellavi	48.66	94	P		P		09 42 57.9	-0.7
BO02				IAmb		IAmb		09 43 03.8	
	comp=Z,26nm,0.8s								
BO01	Tunca	48.76	94	P		P		09 42 59.1	-0.2
BO01				IAmb		IAmb		09 44 16.9	
	comp=Z,99nm,1.9s								
AFI	Afiamalu	48.92	312	LR		LR		09 59 59.7	
	comp=Z,7μm,18.5s,baz=150,slow=32								
VNA3	Neumayer Olymp	49.23	160	P		P		09 43 02.4	-0.1
MT09	Talagante	49.25	93	P		P		09 43 03.1	-0.1
MT09				IAmb		IAmb		09 43 08.1	
	comp=Z,51nm,1.1s								
TAU	Tasmania Unive	49.44	250	IAMs_20		IAMs_20		09 59 42.8	
	comp=Z,15μm,18.0s								
MT02	Curacav	49.53	93	P		P		09 43 04.5	-0.8
CASY	Casey	49.70	209	IAMs_20		IAMs_20		10 01 42.9	
	comp=Z,7μm,19.0s								
VNA2	Neumayer--Watz	49.94	160	P		P		09 43 08.4	+0.5
	baz=216,slow=8.0								
VNA1	Neumayer--Stat	49.98	160	P		P		09 43 06.0	-2.2
SNAA	Sanae	50.17	163	P		P		09 43 09.8	+0.1
SNAA	Sanae	50.17	163	LR		LR		10 01 52.9	
	comp=Z,7μm,21.3s,baz=244,slow=33								
SNAA	Sanae	50.17	163	P		P		09 43 09.2	-0.5
SNAA				IAMs_20		IAMs_20		10 01 20.0	
	comp=Z,8μm,22.0s								
VA03	San Esteban	50.23	93	P		P		09 43 10.3	-0.4
VA03				IAmb		IAmb		09 43 18.7	
	comp=Z,71nm,1.1s								
MSVF	Nonsavu	50.53	298	LR		LR		09 59 17.3	
	comp=Z,7μm,21.7s,baz=149,slow=30								
MSVF	Nonsavu	50.53	298	IAMs_20		IAMs_20		09 59 17.3	
	comp=Z,7μm,20.0s								
CO06	Fray Jorge	51.10	90	P		P		09 43 17.4	+0.3
CO03	El Pedregal	51.54	91	P		P		09 43 20.6	0.0
ZON	Zonda	52.20	93	P		P		09 43 24.5	-1.0
AC04	Llanos de Chal	53.25	88	P		P		09 43 32.7	-0.5
HOPE	Hope Point	53.30	134	IAMs_20		IAMs_20		10 01 35.3	
	comp=Z,8μm,20.0s								
DZM	Mont Dzumac	53.39	283	LR		LR		10 01 02.4	
	comp=Z,8μm,21.9s,baz=149,slow=30								
DZM	Mont Dzumac	53.39	283	eP		P		09 43 33.0	-1.3
	comp=Z,72nm,1.5s								
DZM				eS		S		09 51 10.7	+4.9
	comp=Z,4μm,28.1s								
DZM				eLQ		LQ		09 56 59.3	
	comp=Z,11μm,25.7s								
DZM				eLR		LR		09 59 17.5	
	comp=Z,15μm,22.5s,baz=140								
DZM	Mont Dzumac	53.39	283	P		P		09 43 33.9	-0.5
CAN	Canberra	53.69	258	IAMs_20		IAMs_20		10 03 27.9	
	comp=Z,7μm,18.0s								
TOO	Toolangi	54.10	254	P		P		09 43 39.2	-0.2
TOO				IAmb		IAmb		09 43 43.9	
	comp=Z,77nm,1.4s								
GO03	Copiap	54.20	88	P		P		09 43 39.9	-0.3
AC02	Maricunga	55.42	89	P		P		09 43 49.0	-0.6
AC02				IAmb		IAmb		09 43 58.3	
	comp=Z,56nm,1.2s								
ARMA	Armidale	55.71	264	P		P		09 43 50.3	-0.8
ARMA				IAmb		IAmb		09 43 55.6	
	comp=Z,49nm,1.3s								
PB14	IPOC Station P	56.34	86	P		P		09 43 55.5	-0.5
PB14				IAmb		IAmb		09 44 03.6	
	comp=Z,43nm,1.1s								
SYO	Syowa Base	57.02	178⇑	eP		P		09 43 56.6	-3.2
SYO	Syowa Base	57.02	178⇓	epP		P		09 44 01.1	+1.3
SYO	Syowa Base	57.02	178⇓	ePcP		PcP		09 44 52.0	-2.6
MAW	Mawson	57.63	189	LR		LR		10 07 58.9	
	comp=Z,5μm,18.6s,baz=158,slow=35								
PB15	IPOC Station P	57.97	86	P		P		09 44 07.7	+0.3
PB15				IAmb		IAmb		09 44 15.6	
	comp=Z,67nm,1.2s								
PB04	IPOC Station P	58.25	84	P		P		09 44 09.1	-0.2
PB04				IAmb		IAmb		09 44 17.3	
	comp=Z,45nm,1.1s								
PB06	IPOC Station P	58.30	85	P		P		09 44 09.6	0.0
LVC	Limon Verde	58.76	86	LR		LR		10 04 43.7	
	comp=Z,2μm,20.4s,baz=216,slow=31								
LVC	Limon Verde	58.76	86	eP		P		09 44 12.6	-0.5
LVC	Limon Verde	58.76	86	P		P		09 44 12.4	-0.7
LVC				IAmb		IAmb		09 44 21.7	
	comp=Z,59nm,1.2s								
PB07	IPOC Station P	58.87	84	P		P		09 44 13.4	-0.3
PB09	IPOC Station P	59.20	85	P		P		09 44 15.9	0.0
TA01	Diego Aracena	59.60	83	P		P		09 44 19.1	+0.6
STKA	Stephens Creek	60.43	256	LR		LR		10 06 24.5	
	comp=Z,6μm,19.7s,baz=141,slow=32								
STKA	Stephens Creek	60.43	256	P		P		09 44 21.9	-2.2
PB08	IPOC Station P	60.53	84	P		P		09 44 24.9	-0.5
PB08				IAmb		IAmb		09 44 33.6	
	comp=Z,27nm,1.2s								
ITQB	Itaqui	60.60	101	eP		P		09 44 26.2	+1.0
ITQB	Itaqui	60.60	101	P		P		09 44 24.5	-0.8
PLTB	Pedras Altas	60.77	105	eP		P		09 44 26.6	+0.2
PB12	IPOC Station P	61.05	82	P		P		09 44 27.7	-0.8
PB12				IAmb		IAmb		09 44 37.3	
	comp=Z,60nm,1.6s								
PB16	IPOC Station P	61.74	82	P		P		09 44 33.1	-0.7
CPSB	Cacapava Do Su	61.88	104	eP		P		09 44 34.0	+0.1
NNA	Nana	62.65	71	LR		LR		10 05 06.0	
	comp=Z,9μm,19.1s,baz=212,slow=29								
NNA	Nana	62.65	71	IAMs_20		IAMs_20		10 04 42.9	
	comp=Z,10μm,21.0s								
CPUP	Villa Florida	62.70	98	P		P		09 44 39.6	+0.1
	comp=Z,11nm,0.8s,baz=248,slow=5.1,SNR=8.3								
CPUP				LR		LR		10 07 29.1	
	comp=Z,9μm,20.5s,baz=222,slow=32								
CPUP	Villa Florida	62.70	98	eP		P		09 44 39.8	+0.3
CPUP	Villa Florida	62.70	98	P		P		09 44 39.4	-0.1
CPUP				IAmb		IAmb		09 44 47.8	
	comp=Z,42nm,1.2s								
LPAZ	La Paz	64.16	82	P		P		09 44 50.0	+0.1
	comp=Z,70nm,1.4s,baz=214,slow=4.5,SNR=34								
LPAZ				LR		LR		10 06 28.7	
	comp=Z,3μm,21.8s,baz=200,slow=30								
LPAZ	La Paz	64.16	82	eP		P		09 44 49.4	-0.5
LPAZ	La Paz	64.16	82	eP		P		09 44 50.4	+0.5
LPAZ	La Paz	64.16	82	P		P		09 44 49.4	-0.5
ITAB	Concordia	65.02	102	eP		P		09 44 54.1	-0.6
PAYG	Puerto Ayora	65.32	52	IAMs_20		IAMs_20		10 06 02.0	
	comp=Z,5μm,21.0s								
TER01	Tubaro-SC	65.74	105	eP		P		09 44 59.5	+0.1
ATAH	Atahualpa	65.80	67	LR		LR		10 06 56.2	
	comp=Z,7μm,21.9s,baz=221,slow=30								
PTGB	Pitanga	66.99	101	eP		P		09 45 06.9	-0.6
AQDB	Aquidauana	68.16	95	eP		P		09 45 16.3	+1.5
CZSB	Cruzeiro do Su	68.44	73	eP		P		09 45 18.0	+1.3
CZSB	Cruzeiro do Su	68.44	73	P		P		09 45 16.9	+0.3
SIV	San Ignacio	68.52	88	LR		LR		10 11 51.9	
	comp=Z,2μm,18.7s,baz=230,slow=33								
FRTB	Fartura	69.49	102	eP		P		09 45 22.9	-0.2
PCMB	Pacaembu	69.86	99	eP		P		09 45 25.8	+0.4
PET01	Itanhaem-SP	70.06	104	eP		P		09 45 27.9	+1.2
PTLB	Pontes e Lacer	70.08	89	eP		P		09 45 27.0	+0.2
PTLB	Pontes e Lacer	70.08	89	P		P		09 45 26.9	+0.2
ETMB	Extrema	70.44	79	eP		P		09 45 28.7	-0.3
ETMB	Extrema	70.44	79	P		P		09 45 28.3	-0.7
ETMB				IAmb		IAmb		09 45 35.6	
	comp=Z,30nm,1.3s								
SPB	Sao Paulo	70.52	103	eP		P		09 45 29.5	+0.1
SPB	Sao Paulo	70.52	103	IAMs_20		IAMs_20		10 13 02.7	
	comp=Z,9μm,19.0s								
PP1B	Ponte de Pedra	70.88	94	eP		P		09 45 32.8	+1.1
AS31	Alice Springs	71.07	256	P		P		09 45 29.3	-3.6
ASAR	Alice Springs	71.07	256	P		P		09 45 28.8	-4.1
	comp=Z,14nm,1.0s,baz=138,slow=5.9,SNR=26								
ASAR				LR		LR		10 13 27.2	
	comp=Z,9μm,18.5s,baz=146,slow=33								
ASAR	Alice Springs	71.07	256	P		P		09 45 28.5	-4.3
RCLB	Rio Claro- Sao	71.38	103	eP		P		09 45 35.2	+0.5
VILB	Vilhena	71.43	86	eP		P		09 45 35.2	+0.2
VILB	Vilhena	71.43	86	P		P		09 45 34.2	-0.8
SALV	Santo Antonio	71.74	92	eP		P		09 45 37.3	+0.4
BB19B	Bebedouro	71.86	101	eP		P		09 45 38.1	+0.5
ITRB	Iturama	71.87	99	eP		P		09 45 38.5	+0.9
OTAV	Otavalo	71.97	63	P		P		09 45 38.9	+0.1
OTAV				IAmb		IAmb		09 45 47.5	
	comp=Z,53nm,1.4s								
CUSE	Cuicocha Este	72.05	63	eP		P		09 45 39.0	-0.3
H01W1	Cape Leeuwin H	72.60	234	T		T		11 05 31.3	
	baz=143,slow=76,SNR=58								
H01W2	Cape Leeuwin H	72.60	234	T		T		11 05 38.5	
	baz=143,slow=76,SNR=60								
H01W3	Cape Leeuwin H	72.61	234	T		T		11 05 38.6	
	baz=143,slow=76,SNR=63								
NWAO	Narrogin (SRO)	72.69	238	IAMs_20		IAMs_20		10 09 16.1	
	comp=Z,7μm,22.0s								
TULM	Tun-Chalpat	72.72	63	eP		P		09 45 43.8	+0.5
TBTG	Tabatinga, AM	72.92	73	eP		P		09 45 43.8	-0.1
TBTG	Tabatinga, AM	72.92	73	eP		P		09 45 43.5	-0.4
TBTG	Tabatinga, AM	72.92	73	P		P		09 45 43.5	-0.4
TBTG				IAmb		IAmb		09 45 50.5	
	comp=Z,44nm,1.1s								
COEN	Coen	73.31	269	P		P		09 45 46.3	+0.1
WR0	Warramunga Arr	73.61	259	P		P		09 45 46.4	-1.6
WR0				IAmb		IAmb		09 45 54.3	
	comp=Z,75nm,1.9s								
WRA	Warramunga Arr	73.74	258	P		P		09 45 44.6	-4.2
	comp=Z,10nm,0.9s,baz=141,slow=5.3,SNR=23								
WRA				LR		LR		10 15 18.7	
	comp=Z,11μm,18.5s,baz=148,slow=34								
ARAG	Araguaiana, MT	74.17	95	eP		P		09 45 52.9	+1.6
IPMB	Ipameri, GO	74.47	99	eP		P		09 45 53.8	+0.6
PDRB	Porto dos Gac	74.53	88	eP		P		09 45 53.3	-0.1
SOTA	Rioblanco	74.54	63	eP		P		09 45 52.6	-1.4
FLOC	Florencia	74.58	65	eP		P		09 45 52.6	-1.1
PMG	Port Moresby	74.60	275	LR		LR		10 14 59.6	
	comp=Z,4μm,18.8s,baz=150,slow=33								
PMG	Port Moresby	74.60	275	IAMs_20		IAMs_20		10 13 49.5	
	comp=Z,5μm,19.0s								
PCON	Cinco Dias	74.81	64	eP		P		09 45 59.4	+3.7
POPC	Popayan, Colom	74.84	63	eP		P		09 45 55.5	0.0
CLDB	Colider	75.67	89	eP		P		09 45 59.9	-0.1
H06S1	SOCORRO T	75.85	25	T		T		11 09 18.0	
	SNR=21								
H06E1	SOCORRO T-PHAS	75.90	25	T		T		11 09 19.8	
	SNR=42								
MACC	Macarena, Meta	76.01	66	eP		P		09 46 02.3	+0.4
YOTC	Yotoco, Valle	76.24	63	eP		P		09 46 02.3	-1.0
BDFB	Brasilia	76.44	98	P		P		09 46 04.1	-0.4
	comp=Z,11nm,0.8s,baz=189,slow=4.3,SNR=10								
BDFB				LR		LR		10 16 34.3	
	comp=Z,4μm,20.4s,baz=210,slow=33								
BDFB	Brasilia	76.44	98	P		P		09 46 04.2	-0.3
BDFB				IAmb		IAmb		09 46 11.9	
	comp=Z,32nm,1.2s								
ALF01	Guarapari-ES	76.66	107	eP		P		09 46 05.3	-0.3
ORTC	Ortega, Tolima	76.75	64	eP		P		09 46 06.2	+0.1
PRAC	Prado	76.78	64	eP		P		09 46 03.3	-3.0
DIAM	Diamantina, MG	76.84	103	eP		P		09 46 06.1	-0.7
PLMC	San Jos del P	77.05	62	eP		P		09 46 06.2	-1.7
ANIL	Santa Ana	77.16	63	eP		P		09 46 09.1	+0.4
BRU2	Volcan	77.19	55	P		P		09 46 08.8	+0.1
PEZE	Perez Zeledon,	77.23	53	P		P		09 46 09.0	+0.2
PEZE				IAmb		IAmb		09 46 21.4	
	comp=Z,42nm,1.4s								
SRBA	San Rafael, Bu	77.25	54	P		P		09 46 09.6	+0.6
SRBA				IAmb		IAmb		09 46 17.3	
	comp=Z,51nm,1.4s								
JTS	Las Juntas de	77.43	52	LR		LR		10 12 46.2	
	comp=Z,5μm,19.4s,slow=30								
JTS	Las Juntas de	77.43	52	P		P		09 46 11.0	+1.2
JTS				IAmb		IAmb		09 46 17.6	
	comp=Z,46nm,1.4s								
JTS	Las Juntas de	77.43	52	IAMs_20		IAMs_20		10 11 55.0	
	comp=Z,6μm,22.0s								
SNDB	Serra Nova Dou	77.43	93	eP		P		09 46 10.6	+0.6
RIMA	Rio Macho	77.48	53	P		P		09 46 11.4	+1.0
RIMA				IAmb		IAmb		09 46 17.9	
	comp=Z,38nm,1.5s								
HDC	Heredia	77.57	53	IAMs_20		IAMs_20		10 12 02.6	
	comp=Z,8μm,22.0s								
GUY2C	Guyana, Caldas	77.80	63	eP		P		09 46 13.0	+0.5
RIB01	Linhares ES	77.89	106	eP		P		09 46 13.1	+0.6
CBOC	Ciudad Bolivar	78.00	62	eP		P		09 46 11.0	-2.2
ROSC	El Rosal	78.02	64	P		P		09 46 15.0	+1.3
	comp=Z,17nm,0.8s,baz=148,slow=4.2,SNR=14								
ROSC				LR		LR		10 13 58.7	
	comp=Z,4μm,21.7s,baz=216,slow=30								
ROSC	El Rosal	78.02	64	eP		P		09 46 13.0	-0.7
ROSC	El Rosal	78.02	64	P		P		09 46 14.3	+0.7
CHIC	Chingaza	78.16	65	eP		P		09 46 11.0	-3.4
NORC	Norcasia	78.35	63	eP		P		09 46 13.9	-1.1
TLIG	Tlapa	78.44	37	P		P		09 46 15.9	+0.4
TLIG				IAmb		IAmb		09 46 23.7	
	comp=Z,40nm,1.2s								
HELC	Santa Helena	78.53	62	eP		P		09 46 19.8	+3.3
PTGC	Puerto Gaitan,	78.65	66	eP		P		09 46 12.0	-4.7
DBBC	Dabeiba	78.88	61	eP		P		09 46 18.8	+0.8
BCIP	Isla Barro Col	78.89	57	eP		P		09 46 31.4	+13
BCIP	Isla Barro Col	78.89	57	IAMs_20		IAMs_20		10 12 40.5	
	comp=Z,5μm,20.0s								
NPGB	Novo Progresso	78.99	87	eP		P		09 46 18.8	+0.2
BOAB	BOACO BROADBAN	79.00	50	IAMs_20		IAMs_20		10 13 37.7	
	comp=Z,5μm,22.0s								
MACA	Manacapuru-AM	79.01	80	eP		P		09 46 18.0	-0.7
MACA	Manacapuru-AM	79.01	80	P		P		09 46 17.0	-1.7
JANB	Januaria	79.05	100	eP		P		09 46 20.1	+1.1
PEXB	Peixe	79.08	95	eP		P		09 46 20.1	+1.0
CMIG	Matias Romero	79.34	40	LR		LR		10 14 14.5	
	comp=Z,719nm,20.1s,baz=208,slow=30								
PTBC	PUERTO BERRIO,	79.39	63	eP		P		09 46 18.8	-1.9
RUSC	La Rusia	79.56	64	eP		P		09 46 19.8	-2.5
TGUH	Tegucigalpa,Un	79.71	48	P		P		09 46 24.0	+1.5
TGUH				IAmb		IAmb		09 46 43.6	
	comp=Z,33nm,0.9s								
UREC	San Jos de Ur	79.85	61	eP		P		09 46 21.7	-1.5
ZARC	Zaragoza, Cauc	79.98	62	eP		P		09 46 22.7	-1.2
ZARC	Zaragoza, Cauc	79.98	62	P		P		09 46 23.1	-0.8
ZARC				IAmb		IAmb		09 46 31.0	
	comp=Z,41nm,1.2s								
BARC	Barichara	80.10	64	eP		P		09 46 22.7	-2.2
FITZ	Fitzroy Crossi	80.15	253	P		P		09 46 22.1	-2.7
	comp=Z,10nm,1.1s,baz=169,slow=6.2,SNR=7.5								
FITZ				LR		LR		10 18 36.2	
	comp=Z,9μm,18.8s,baz=137,slow=33								
GUA01	Guaratinga, BA	80.41	105	eP		P		09 46 27.1	+0.8
SDBA	SAO DESIDERIO	80.82	98	eP		P		09 46 28.3	-0.3
ITTB	Itaituba	80.92	85	eP		P		09 46 29.1	+0.1
MBWA	Marble Bar	80.93	246	IAMs_20		IAMs_20		10 18 18.5	
	comp=Z,5μm,19.0s								
LPIG	La Paz	81.17	24	LR		LR		10 13 36.1	
	comp=Z,3μm,21.2s,baz=200,slow=29								
PTGA	Pitinga	81.40	79	LR		LR		10 16 42.9	
	comp=Z,6μm,21.1s,baz=210,slow=31								
SMLC	San Martn de	81.50	62	eP		P		09 46 20.7	-11
SJCC	San Jacinto, C	81.86	61	eP		P		09 46 32.4	-1.5
SJCC	San Jacinto, C	81.86	61	P		P		09 46 33.4	-0.5
ZAIG	Zacatecas	81.99	31	P		P		09 46 35.3	+0.6
ZAIG				IAmb		IAmb		09 46 43.0	
	comp=Z,34nm,1.3s								
SMTB	Santa Maria do	82.09	94	eP		P		09 46 36.1	+0.9
ARGC	Ariguani, Magd	82.30	61	eP		P		09 46 36.3	+0.1
ELOV	Elorza	82.42	67	eP		P		09 46 35.3	-1.5
SOCV	Socops	82.75	65	eP		P		09 46 33.4	-5.2
PRPB	Parauapebas	82.94	91	eP		P		09 46 41.4	+1.8
SDV	Santo Domingo	83.38	65	eP		P		09 46 39.2	-2.8
SDV	Santo Domingo	83.38	65	eP		P		09 46 42.3	+0.2
SDV	Santo Domingo	83.38	65	P		P		09 46 41.3	-0.8
SDV				IAmb		IAmb		09 46 47.7	
	comp=Z,43nm,1.4s								
BOAV	Boa Vista	83.62	77	eP		P		09 46 42.7	-0.4
BOAV	Boa Vista	83.62	77	P		P		09 46 42.0	-1.1
MALB	Monte Alegre	83.80	85	eP		P		09 46 44.7	+0.7
JAY	Jayapura	83.91	274	LR		LR		10 21 41.7	
	comp=Z,1μm,19.7s,baz=116,slow=34								
CRJC	Cerrejon, Guaj	83.99	62	eP		P		09 46 40.2	-4.9
BAUV	El Baul	84.81	67	P		P		09 46 48.1	-1.0
SAUI	Saumlaki	85.03	263	IAMs_20		IAMs_20		10 22 46.2	
	comp=Z,8μm,19.0s								
HPIG		85.05	27	P		P		09 46 50.8	+0.6
HPIG				IAmb		IAmb		09 46 57.6	
	comp=Z,37nm,1.3s								
MCPB	Macapa, AP	86.30	85	eP		P		09 46 57.5	+0.9
TMAB	Tom-Au,PA,Br	87.00	90	eP		P		09 47 01.6	+1.5
H11S2	WAKE ISLAND Hy	87.27	307	T		T		11 23 08.7	
	baz=148,slow=76,SNR=65								
H11S3	WAKE ISLAND Hy	87.28	307	T		T		11 23 20.2	
	baz=148,slow=76,SNR=48								
H11S1	WAKE ISLAND Hy	87.29	307	T		T		11 23 21.5	
	baz=148,slow=76,SNR=32								
BATI	Baumata	87.64	256	LR		LR		10 24 54.9	
	comp=Z,8μm,18.2s,baz=153,slow=35								
PCRV	Puerto La Cruz	87.69	69	LR		LR		10 22 17.3	
	comp=Z,6μm,18.5s,slow=33								
MTDJ	Mount Denham	87.81	54	IAMs_20		IAMs_20		10 19 53.0	
	comp=Z,3μm,18.0s								
TX31	Lajitas Ar. Si	87.86	28	P		P		09 47 04.6	+0.7
TX32	Lajitas Array	87.86	28	P		P		09 47 04.3	+0.5
TX32				IAmb		IAmb		09 47 52.0	
	comp=Z,42nm,2.0s								
TXAR	Lajitas Array	87.86	28	P		P		09 47 04.1	+0.3
	comp=Z,3.4nm,1.0s,baz=189,slow=7.1,SNR=10								
TXAR	Lajitas Array	87.86	28	P		P		09 47 04.6	+0.7
833A	Chaparral WMA,	88.17	32	P		P		09 47 04.1	-1.1
833A	Chaparral WMA,	88.17	32	P		P		09 47 07.4	+2.2
	baz=200								
H11N3	WAKE ISLAND Hy	88.24	308	T		T		11 24 31.7	
	baz=148,slow=76,SNR=19								
H11N1	WAKE ISLAND Hy	88.24	308	T		T		11 24 29.3	
	baz=148,slow=76,SNR=26								
H11N2	WAKE ISLAND Hy	88.26	308	T		T		11 24 26.9	
	baz=148,slow=76,SNR=20								
319A	Douglas	88.40	23	P		P		09 47 05.7	-0.7
FAKI	Fak Fak	88.54	267	IAMs_20		IAMs_20		10 27 29.6	
	comp=Z,2μm,19.0s								
GLA	Glamis	88.89	18	P		P		09 47 10.7	+2.2
	baz=192								
ROSB	Rosrio	88.91	93	eP		P		09 47 10.6	+1.5
TUC	Tucson	88.96	21	P		P		09 47 09.8	+0.8
TUC				IAmb		IAmb		09 47 20.0	
	comp=Z,18nm,1.1s								
TUC	Tucson	88.96	21	IAMs_20		IAMs_20		10 17 52.8	
	comp=Z,3μm,19.0s								
TUC	Tucson	88.96	21	P		P		09 47 10.6	+1.6
	baz=194								
PFO	Pinyon Flats O	89.15	16	LR		LR		10 18 37.1	
	comp=Z,5μm,18.9s,baz=200,slow=30								
PFO	Pinyon Flats O	89.15	16	P		P		09 47 10.4	+0.5
PFO	Pinyon Flats O	89.15	16	IAMs_20		IAMs_20		10 18 12.9	
	comp=Z,6μm,20.0s								
PASC	Pasadena Art C	89.43	15	IAMs_20		IAMs_20		10 17 12.2	
	comp=Z,5μm,20.0s								
EPT	El Paso	89.44	25	IAMs_

comp=Z,686nm,21.6s,baz=140,slow=30
MSU Marysvale 94.68 19 P **P 09 47 36.3 +0.8**
TCRU Three Creeks R 94.73 18 P **P 09 47 37.5 +1.7**
WDC Whiskeytown Da 95.18 10 IAMs_20 IAMs_20 10 22 09.7
comp=Z,5μm,19.0s
SDCO Great Sand Dun 95.37 24 IAMs_20 IAMs_20 10 23 41.4
comp=Z,5μm,18.0s
N02D Trinity Center 95.56 10 P P 09 47 45.5 +6.3
baz=188
LUWI Luwuk 95.58 260 IAMs_20 IAMs_20 10 30 13.8
comp=Z,3μm,18.0s
BOSA Boshof 95.94 164 P **P 09 47 39.5 -2.2**
comp=Z,1.4nm,0.6s,baz=225,slow=4.3,SNR=3.1
BOSA LR LR 10 24 58.7
comp=Z,7μm,22.0s,baz=189,slow=32
BOSA Boshof 95.94 164 IAmb IAmb 09 48 06.4
comp=Z,26nm,1.6s
DUG Dugway, Tooele 96.20 18 IAMs_20 IAMs_20 10 23 22.4
comp=Z,4μm,19.0s
YBH Yreka Blue Hor 96.30 10 LR LR 10 21 29.7
comp=Z,4μm,20.5s,baz=166,slow=29
YBH Yreka Blue Hor 96.30 10 IAMs_20 IAMs_20 10 20 48.4
comp=Z,5μm,19.0s
ELK Elko 96.32 16 LR LR 10 22 47.4
comp=Z,3μm,20.3s,baz=199,slow=30
ELK Elko 96.32 16 IAMs_20 IAMs_20 10 24 15.7
comp=Z,3μm,18.0s
SMCO Snowmass 96.40 22 IAMs_20 IAMs_20 10 23 37.5
comp=Z,3μm,19.0s
MOD Modoc Plateau 96.74 12 IAMs_20 IAMs_20 10 22 08.0
comp=Z,3μm,20.0s
UGM Wanagama 96.82 246 IAMs_20 IAMs_20 10 31 39.6
comp=Z,3μm,18.0s
HUMO Hull Mountain 97.15 10 IAMs_20 IAMs_20 10 21 55.7
comp=Z,3μm,19.0s
ISCO Idaho Springs 97.30 23 IAMs_20 IAMs_20 10 24 05.4
comp=Z,3μm,19.0s
WVOR Wild Horse Val 97.48 13 IAMs_20 IAMs_20 10 22 28.4
comp=Z,5μm,20.0s
SMRI Semarang 97.58 247 IAMs_20 IAMs_20 10 27 45.8
comp=Z,4μm,20.0s
HWUT Hardware Ranch 97.80 18 IAMs_20 IAMs_20 10 22 43.6
comp=Z,2μm,20.0s
CBKS Cedar Bluff 97.86 28 IAMs_20 IAMs_20 10 23 59.2
comp=Z,3μm,20.0s
TOLI2 Tolitoli 98.48 260 IAMs_20 IAMs_20 10 27 31.5
comp=Z,3μm,22.0s
RWWY Rawlins 98.75 22 IAMs_20 IAMs_20 10 23 35.8
comp=Z,3μm,21.0s
PHWY Pilot Hill 98.77 23 IAMs_20 IAMs_20 10 25 08.5
comp=Z,3μm,19.0s
BKB Balikpapan 98.78 255 IAMs_20 IAMs_20 10 34 16.3
comp=Z,3μm,18.0s
MFID Camas Ranch 98.84 15 IAMs_20 IAMs_20 10 23 54.3
comp=Z,5μm,19.0s
COR Corvallis 99.07 9 IAMs_20 IAMs_20 10 23 06.7
comp=Z,4μm,19.0s
HLID Hailey 99.20 16 IAMs_20 IAMs_20 10 24 09.0
comp=Z,5μm,20.0s
OGNE Ogallala 99.26 26 IAMs_20 IAMs_20 10 24 04.1
comp=Z,3μm,21.0s
LEM Lembang 99.28 245 LR LR 10 27 24.7
comp=Z,2μm,20.4s,baz=149,slow=32
BW06 Boulder Array 99.30 20 IAMs_20 IAMs_20 10 24 18.4
comp=Z,4μm,20.0s
PDAR Pinedale Array 99.30 20 LR LR 10 24 59.6
comp=Z,3μm,19.6s,baz=209,slow=31
LBTB Lobatse 99.52 163 LR LR 10 27 15.8
comp=Z,3μm,21.6s,baz=181,slow=32
BMO Blue Mountains 100.03 14 IAMs_20 IAMs_20 10 24 22.0
comp=Z,3μm,20.0s
COCO West Island 100.08 233 IAMs_20 IAMs_20 10 23 15.3
comp=Z,2μm,19.0s
H10S3 ASCENSION HYDR 100.28 121 T T 11 41 06.6
baz=203,slow=74,SNR=9.6
H10S2 ASCENSION HYDR 100.28 121 T T 11 41 22.1
baz=17,slow=74,SNR=6.7
PLID Pearl Lake 100.45 14 IAMs_20 IAMs_20 10 24 02.0
comp=Z,3μm,20.0s
HAWA Hanford 101.26 12 IAMs_20 IAMs_20 10 28 10.6
comp=Z,4μm,18.0s
H10N3 ASCENSION HYDR 101.31 121 T T 11 42 46.1
baz=209,slow=74,SNR=20
H10N1 ASCENSION HYDR 101.31 121 T T 11 41 56.8
baz=209,SNR=20
H10N2 ASCENSION HYDR 101.33 121 T T 11 42 51.3
baz=209,slow=74,SNR=18
RLMT Red Lodge 101.62 19 IAMs_20 IAMs_20 10 25 21.9
comp=Z,3μm,20.0s
BOZ Bozeman (W) 101.65 17 IAMs_20 IAMs_20 10 27 00.6
comp=Z,3μm,19.0s
RSSD Black Hills 101.77 23 IAMs_20 IAMs_20 10 25 10.8
comp=Z,2μm,21.0s
MYLDM Lahad Datu 103.09 261 IAMs_20 IAMs_20 10 31 57.8
comp=Z,4μm,21.0s
ECSD EROS Data Cent 103.30 28 IAMs_20 IAMs_20 10 27 08.0
comp=Z,4μm,21.0s
TSUM Tsumeb 103.47 155 IAMs_20 IAMs_20 10 28 21.5
comp=Z,5μm,22.0s
LAO LASA Array 103.73 21 IAMs_20 IAMs_20 10 27 00.7
comp=Z,3μm,20.0s
MNAI Manna 103.81 242 IAMs_20 IAMs_20 10 35 07.9
comp=Z,2μm,19.0s
PMBI Palembang 104.07 244 IAMs_20 IAMs_20 10 32 49.0
comp=Z,2μm,20.0s
EGMT Eagleton 104.33 18 IAMs_20 IAMs_20 10 29 14.5
comp=Z,3μm,19.0s
KSM Kuching 104.73 251 IAMs_20 IAMs_20 10 30 11.6
comp=Z,3μm,22.0s
CBN Corbin Frederi 105.04 44 IAMs_20 IAMs_20 10 30 36.7
comp=Z,3μm,19.0s
DGMT Dagmar 105.86 22 IAMs_20 IAMs_20 10 28 03.8
comp=Z,2μm,20.0s
AGMN Agassiz Nation 107.70 27 IAMs_20 IAMs_20 10 29 03.6
comp=Z,2μm,20.0s
N59A State Game Lan 108.00 44 IAMs_20 IAMs_20 10 31 32.9
comp=Z,2μm,20.0s
MYKOM Kota Tinggi 108.53 246 IAMs_20 IAMs_20 10 34 47.9
comp=Z,2μm,20.0s
EYMN Ely 108.61 30 IAMs_20 IAMs_20 10 31 28.4
comp=Z,3μm,19.0s
BKNI Bangkinang 108.78 243 IAMs_20 IAMs_20 10 35 50.7
comp=Z,2μm,20.0s
BINY Binghamton 108.99 43 IAMs_20 IAMs_20 10 33 01.2
comp=Z,3μm,19.0s
GSI Gunungsitoli 111.39 240 IAMs_20 IAMs_20 10 36 00.9
comp=Z,2μm,18.0s
LONY Lake Ozonia 111.58 43 IAMs_20 IAMs_20 10 32 32.6
comp=Z,2μm,20.0s
Q19K Cape Douglas, 113.69 350 IAMs_20 IAMs_20 10 29 07.1
comp=Z,5μm,21.0s
P18K Big Mountain, 114.31 349 IAMs_20 IAMs_20 10 30 53.5
comp=Z,4μm,20.0s
O19K Port Alsworth 115.00 350 IAMs_20 IAMs_20 10 42 43.8
comp=Z,4μm,18.0s
SACV Santiago Islan 115.22 100 IAMs_20 IAMs_20 10 37 26.4
comp=Z,2μm,19.0s
MAJO Matsushiro 116.32 296 IAMs_20 IAMs_20 10 31 54.8
comp=Z,2μm,22.0s
YKA Yellowknife Ar 117.63 11 PKP **PKPdf 09 52 58.8 -0.4**
comp=Z,1.4nm,1.1s,baz=190,slow=2.6,SNR=7.5
YKA PKKPbc **PKKPbc 10 03 21.0 -0.1**
comp=Z,0.6nm,0.9s,baz=360,slow=3.6,SNR=10
ERM Erimo 117.94 304 IAMs_20 IAMs_20 10 31 27.6
comp=Z,2μm,22.0s
KTH Kantishna Hill 118.02 353 IAMs_20 IAMs_20 10 33 08.5
comp=Z,5μm,21.0s
MBO M'Bour 118.56 106 IAMs_20 IAMs_20 10 38 23.6
comp=Z,2μm,20.0s
WRH Wood River Hil 118.74 354 IAMs_20 IAMs_20 10 32 37.5
comp=Z,4μm,21.0s
NEA2 Nenana 118.92 354 IAMs_20 IAMs_20 10 37 07.3
comp=Z,4μm,19.0s
ILAR Eielson Array 118.97 355 PKP **PKPdf 09 53 01.4 -0.3**
comp=Z,1.1nm,0.8s,baz=205,slow=1.2,SNR=9.9
ILAR PKKPbc **PKKPbc 10 03 18.1 +1.8**
comp=Z,0.7nm,0.9s,baz=293,slow=2.9,SNR=4.7
COLA College 119.12 354 IAMs_20 IAMs_20 10 36 48.7
comp=Z,4μm,19.0s
QIZ Qiongzhong 119.18 262 PKP **PKiKP 09 53 04.2 +0.6**
QIZ PP **PP 09 54 24.7 +0.6**
QIZ SS SS 10 10 48.5 +3.7
QIZ LR LR
comp=Z,730nm,20.0s
QIZ LR LR
comp=Z,650nm,19.2s
QIZ LR LR
comp=Z,1μm,24.5s

I23K Minto, Yukon-K 119.49 354 IAMs_20 IAMs_20 10 37 45.4
comp=Z,4μm,18.0s
PET Petropavlovsk 119.74 321 IAMs_20 IAMs_20 10 35 59.2
comp=Z,2μm,20.0s
H21K Melozitna Rive 120.24 352 IAMs_20 IAMs_20 10 36 08.3
comp=Z,4μm,19.0s
MSEY Mahe Island 120.48 194 IAMs_20 IAMs_20 10 41 38.5
comp=Z,3μm,18.0s
KAAM Kaadhehdhoo 121.27 215 IAMs_20 IAMs_20 10 32 31.0
comp=Z,2μm,21.0s
TOLK Toolik Lake Re 122.97 354 P **PKiKP 09 53 10.7 +1.1**
baz=171
INCN Inchon 123.27 289 IAMs_20 IAMs_20 10 35 52.6
comp=Z,2μm,22.0s
C36M Paulatuk 123.60 5 IAMs_20 IAMs_20 10 35 41.5
comp=Z,4μm,22.0s
NJ2 Nanjing 123.77 279 *e*PKP **PKiKP 09 53 13.0 +0.8**
NJ2 SS SS 10 11 47.6 +4.1
NJ2 LR LR
comp=Z,970nm,23.8s
NJ2 LR LR
comp=Z,810nm,24.2s
NJ2 LR LR
comp=Z,1μm,24.9s
MBAR Mbarara 124.28 164 IAMs_20 IAMs_20 10 41 04.7
comp=Z,4μm,22.0s
SLVN Son La 124.42 259 IAMs_20 IAMs_20 10 44 21.7
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 124.55 172 IAMs_20 IAMs_20 10 44 43.8
comp=Z,3μm,19.0s
PALK Pallekele 124.56 226 IAMs_20 IAMs_20 10 35 28.7
comp=Z,3μm,21.0s
CHTO Chiang Mai 125.24 252 IAMs_20 IAMs_20 10 41 43.2
comp=Z,2μm,21.0s
A21K Barrow 126.10 352 IAMs_20 IAMs_20 10 39 11.2
comp=Z,4μm,21.0s
A36M Sachs Harbour 126.17 4 IAMs_20 IAMs_20 10 38 01.4
comp=Z,3μm,20.0s
A36M Sachs Harbour 126.17 4 P **PKPdf 09 53 15.3 0.0**
baz=188
MDJ Mudanjiang 126.67 297 IAMs_20 IAMs_20 10 39 00.7
comp=Z,2μm,21.0s
DL2 Dalian 127.07 287 *e*PKP PKiKP 09 53 27.4 +8.8
DL2 PP **PP 09 55 18.9 +1.5**
DL2 Dalian 127.07 287 SS SS 10 12 28.7 +3.9
DL2 AMB AMB
comp=Z,130nm,4.7s
DL2 LR LR
comp=N,620nm,25.5s
DL2 LR LR
comp=E,550nm,21.8s
DL2 LR LR
comp=Z,1μm,29.4s
TORD Torodi Ar. Bea 127.40 125 PKP **PKPdf 09 53 17.4 -2.1**
comp=Z,2.9nm,0.8s,baz=225,slow=1.2,SNR=11
MA2 Magadan 127.56 322 IAMs_20 IAMs_20 10 40 28.0
comp=Z,3μm,20.0s
KMI Kunming 128.03 260 ⇑PKP **PKiKP 09 53 23.0 +1.7**
CN2 Changchun 128.31 294 *e*PKP **PKiKP 09 53 25.8 +4.9**
CN2 PP PP 09 55 35.7 +10
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,800nm,19.0s
CN2 LR LR
comp=Z,900nm,21.0s
LODK Lodwar 128.87 169 IAMs_20 IAMs_20 10 44 37.3
comp=Z,3μm,21.0s
BILL Bilibino 129.17 336 IAMs_20 IAMs_20 10 38 59.6
comp=Z,3μm,22.0s
PZH PanZhiHua 129.66 261 PKP **PKPdf 09 53 23.6 0.0**
PZH PP **PP 09 55 34.0 -0.5**
PZH SS SS 10 12 59.6 +2.4
PZH AMB AMB
comp=Z,140nm,12.0s
PZH LR LR
comp=Z,810nm,22.6s
PZH LR LR
comp=Z,690nm,23.5s
PZH LR LR
comp=Z,1μm,21.6s
CD2 Chengdu 131.77 266 PKP **PKiKP 09 53 30.6 +2.2**
CD2 LR LR
comp=Z,810nm,23.5s
CD2 LR LR
comp=Z,1μm,23.0s
XLT XiLinHaoTe 133.50 288 *e*PKP **PKiKP 09 53 34.9 +3.4**
XLT PP **PP 09 56 06.8 +7.5**
XLT SS SS 10 13 51.7 +7.7
XLT LR LR
comp=Z,790nm,17.4s
XLT LR LR
comp=Z,1μm,20.9s
XLT LR LR
comp=Z,2μm,23.7s
HHC Hu-ho-hao-te 134.09 282 *e*PKP **PKPdf 09 53 29.7 -1.8**
HIA Hailar 134.82 296 IAMs_20 IAMs_20 11 06 40.4
comp=Z,1μm,18.0s
LZH Lanzhou 135.39 271 *e*PKP PKPdf 09 53 25.6 -8.6
LZH sPKP 09 53 48.5
LZH PP **PP 09 56 12.0 +0.6**
LZH Lanzhou 135.39 271 SS SS 10 14 08.1 +1.1
LZH AMB AMB
comp=Z,300nm,6.5s
LZH LR LR
comp=N,890nm,19.0s
LZH LR LR
comp=E,650nm,17.9s
LZH LR LR
comp=Z,930nm,19.0s
YAK Yakutsk 137.20 316 IAMs_20 IAMs_20 10 46 31.0
comp=Z,2μm,20.0s
TULEG Thule 137.25 19 IAMs_20 IAMs_20 10 52 24.7
comp=Z,3μm,18.0s
SOCY Socotra 137.27 195 IAMs_20 IAMs_20 10 46 13.2
comp=Z,4μm,22.0s
GTA Gaotai 139.99 272 *e*PKP **PKiKP 09 53 45.3 +0.4**
GTA PP **PP 09 56 45.4 +5.4**
GTA SS SS 10 15 07.3 +5.9
GTA AMB AMB
comp=Z,140nm,7.3s
GTA LR LR
comp=Z,470nm,20.6s
GTA LR LR
comp=Z,730nm,22.9s
GTA LR LR
comp=Z,1μm,21.8s
TIXI Tiksi 141.62 329 IAMs_20 IAMs_20 10 47 31.2
comp=Z,1μm,21.0s
SUMG Summit 142.75 30 *i* P **PKPdf 09 53 40.6 -6.2**
ESDC Sonseca Array 145.04 95 PKPbc **PKPbc 09 53 50.7 -0.1**
comp=Z,13nm,1.2s,baz=224,slow=2.9,SNR=17
ESDC Sonseca Array 145.04 95 **PKPbc 09 53 49.8 -1.0**
JLN Jalan Bani Buh 145.84 206 P **PKPdf 09 53 50.0 -3.2**
SNR=11
JMDO Jabal Madar 146.38 204 P **PKPdf 09 53 54.8 +0.7**
SNR=9.1
WBK Wadi Bani Khal 146.39 206 P **PKPdf 09 53 54.7 +0.6**
SNR=8.5
SMLA Simla 146.79 240 *e*P **PKPdf 09 53 53.8 -0.7**
BSY Bisya 146.95 203 P **PKPbc 09 53 58.1 +1.1**
SMDO Samad 147.05 205 P **PKPdf 09 53 56.9 +1.5**
WSAR Wadi Sarin 147.08 206 P **PKPbc 09 53 56.9 -0.5**
UMZA Um Al Zommool 147.36 200 P **PKPab 09 54 00.5 +0.6**
BIDO Bidbid 147.48 205 P **PKPbc 09 53 57.9 -0.5**
SNR=8.2
NOR Nord 147.50 14 *i* P **PKPbc 09 53 56.7 -0.2**
ARQ Araqi 147.68 202 P **PKPbc 09 53 58.9 -0.1**
SNR=16
HOQ Hoqain 147.74 204 P **PKPbc 09 54 00.1 +1.0**
SNR=6.4
DBG Daneborg 148.12 28 *i* P **PKPbc 09 53 58.0 -0.6**
DHRM DHARAMSHALA 148.13 240 *e*P **PKPdf 09 53 55.1 -1.9**
DAG Danmarks Havn 148.26 23 *i* P **PKPdf 09 53 57.0 +1.4**
SOHO SOHO 148.45 203 P **PKPdf 09 53 59.3 +1.8**
ASHO Ashiyiah 149.08 202 P **PKPbc 09 54 02.1 -0.6**
ASUD Al Ashush, Dub 149.18 201 P **PKPbc 09 54 01.7 -1.2**
HATD Hatta, Dubai 149.20 202 P **PKPbc 09 54 02.3 -0.6**
SNR=6.2
SLWR Sila 149.28 194 P **PKPdf 09 53 59.9 +1.0**
RAYN Ar Rayn 149.29 183 **PKPbc 09 54 02.1 -1.2**
RAYN Ar Rayn 149.29 183 IAMs_20 IAMs_20 10 55 27.6
comp=Z,3μm,22.0s
UOSS Minazif 149.30 203 IAMs_20 IAMs_20 10 52 53.9
comp=Z,3μm,22.0s
WMQ Urumqi 149.84 268 *e*PKPbc **PKPdf 09 54 00.6 +1.4**

WMQ LR LR
comp=Z,860nm,17.9s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,1μm,18.9s
KEST Kesra 149.84 114 PKPbc **PKPbc 09 54 04.1 -0.2**
comp=Z,14nm,1.1s,baz=103,slow=6.2,SNR=5.1
KEST Kesra 149.84 114 **PKPbc 09 54 04.0 -0.3**
TRNA Turayna 150.01 194 P **PKPdf 09 54 02.5 +2.6**
NIL Nilore 150.78 237 IAMs_20 IAMs_20 11 00 40.9
comp=Z,1μm,20.0s
KBS Kingsbay 152.97 13 IAMs_20 IAMs_20 11 01 08.4
comp=Z,3μm,18.0s
KBL Kabul 153.52 232 **PKPbc 09 54 11.8 -1.2**
KSH Kashi 153.80 249 PKPbc **PKPdf 09 54 01.6 -3.8**
KSH LR LR
comp=Z,920nm,19.2s
KSH LR LR
comp=Z,850nm,18.6s
KSH LR LR
comp=Z,2μm,25.1s
MKAR Makanchi Array 154.66 269 PKPbc **PKPbc 09 54 13.7 -1.1**
comp=Z,1.0nm,0.8s,baz=94,slow=4.3,SNR=6.4
MKAR PP **PP 09 58 06.4 +0.4**
comp=Z,2.6nm,0.9s,baz=116,slow=5.5,SNR=6.7
MKAR Makanchi Array 154.66 269 **PKPbc 09 54 12.2 -2.5**
MAKZ Makanchi 154.85 269 IAMs_20 IAMs_20 11 10 43.9
comp=Z,1μm,19.0s
CEL Celeste 155.19 119 IAMs_20 IAMs_20 11 11 17.0
comp=Z,1μm,21.0s
ZALV Zalesovo Beam 156.16 286 PKPab **PKPab 09 54 33.0 -2.8**
comp=Z,20nm,1.1s,baz=123,slow=5.2,SNR=9.8
VLC Villacollemand 156.18 101 IAMs_20 IAMs_20 11 16 54.1
comp=Z,2μm,19.0s
TIP Timpagrande 156.33 118 IAMs_20 IAMs_20 11 16 59.1
comp=Z,2μm,21.0s
AAK Ala-Archa 156.74 253 IAMs_20 IAMs_20 11 18 48.3
comp=Z,2μm,19.0s
AQU L'Aquila 156.75 108 IAMs_20 IAMs_20 11 20 44.0
comp=Z,2μm,22.0s
BFO Black Forest 157.24 90 IAMs_20 IAMs_20 11 10 54.5
comp=Z,2μm,21.0s
DAVA Damuels 157.63 94 *e*P **PKPdf 09 54 10.9 +0.6**
comp=Z,15nm,1.5s
DAVA *e*P **sPKPab 09 54 49.9 +1.5**
comp=Z,25nm,1.8s
DAVA *e*P **PP 09 58 24.7 +2.1**
comp=Z,8.4nm,1.5s
FETA Feichten 157.99 96 *e*P **PKPdf 09 54 16.3 +5.5**
comp=Z,15nm,1.8s
FETA *e*P **PKPab 09 54 44.6 +0.4**
comp=Z,13nm,1.1s
FETA *e*P **PP 09 58 26.2 +1.6**
comp=Z,12nm,2.0s
RETA Reutte 158.25 95 *e*P **PKPdf 09 54 13.3 +2.4**
comp=Z,14nm,1.6s
RETA *e*P **pPKPab 09 54 48.2 -1.3**
comp=Z,16nm,1.3s
RETA *e*P **PP 09 58 28.3 +2.4**
comp=Z,13nm,1.6s
SQTA Sankt Quirin 158.37 96 *e*P **PKPdf 09 54 12.5 +1.3**
comp=Z,5.7nm,0.9s
SQTA *e*P **PKPab 09 54 44.2 -1.6**
comp=Z,17nm,1.4s
SQTA *e*P **PP 09 58 29.5 +2.9**
comp=Z,7.4nm,1.4s
MOTA Moosalm 158.38 95 *e*P **PKPdf 09 54 15.8 +4.6**
comp=Z,14nm,1.4s
MOTA *e*P **PKPab 09 54 46.2 +0.4**
comp=Z,25nm,1.8s
MOTA *e*P **PP 09 58 27.1 +0.4**
comp=Z,13nm,1.5s
KURK Kurchatov 158.62 275 IAMs_20 IAMs_20 11 19 52.7
comp=Z,3μm,19.0s
WTTA Wattenberg 158.64 96 *e*P **PKPdf 09 54 12.9 +1.4**
comp=Z,8.4nm,1.2s
WTTA *e*P **pPKPab 09 54 50.4 -1.0**
comp=Z,26nm,1.5s
WTTA *e*P **PP 09 58 28.4 +0.2**
comp=Z,14nm,1.7s
WATA Walderalm 158.65 96 *e*P **PKPdf 09 54 17.1 +5.7**
comp=Z,8.7nm,1.1s
WATA *e*P **PKPab 09 54 48.1 +1.1**
comp=Z,13nm,1.6s
WATA *e*P **PP 09 58 27.8 -0.4**
comp=Z,6.3nm,1.3s
ABTA Abfaltersbach 158.88 98 *e*P **PKPdf 09 54 12.9 +1.2**
comp=Z,5.9nm,1.0s
ABTA *e*P **PKPab 09 54 48.9 +0.9**
comp=Z,17nm,1.1s
ABTA *e*P **PP 09 58 33.6 +4.2**
comp=Z,9.0nm,1.5s
CSS Mathiatis 159.38 155 IAMs_20 IAMs_20 11 02 05.7
comp=Z,2μm,22.0s
MYKA Terra Mystica 159.47 99 *e*P **PKPdf 09 54 14.4 +2.1**
comp=Z,13nm,1.4s
MYKA *e*P **PKPab 09 54 52.1 +1.6**
comp=Z,19nm,1.7s
MYKA *e*P **PP 09 58 33.6 +1.1**
comp=Z,6.6nm,1.2s
TIR Tirane 159.53 119 IAMs_20 IAMs_20 11 18 51.7
comp=Z,3μm,21.0s
KBA Koelnbreinsper 159.54 98 *e*P **PKPdf 09 54 11.8 -0.8**
comp=Z,6.2nm,1.2s
KBA *e*P **sPKPab 09 54 56.5 -0.3**
comp=Z,12nm,1.6s
KBA *e*P **PP 09 58 35.3 +2.2**
comp=Z,5.2nm,1.0s
GRFO Grafenberg 159.55 89 IAMs_20 IAMs_20 11 15 00.7
comp=Z,2μm,19.0s
GRA1 Grafenberg Arr 159.55 89 IAMs_20 IAMs_20 11 15 00.8
comp=Z,2μm,18.0s
OBKA Obir 159.93 101 *e*P **PKPdf 09 54 14.0 +1.0**
comp=Z,11nm,1.3s
OBKA *e*P **pPKPab 09 54 55.6 -1.3**
comp=Z,14nm,1.2s
OBKA *e*P **PP 09 58 34.2 -0.9**
comp=Z,7.7nm,1.3s
PDG Podgorica 159.99 116 IAMs_20 IAMs_20 11 12 10.2
comp=Z,2μm,22.0s
SOKA Soboth 160.31 101 *e*P **PKPdf 09 54 13.6 +0.3**
comp=Z,22nm,1.4s
SOKA *e*P **sPKPab 09 55 00.8 +0.8**
comp=Z,13nm,1.7s
SOKA *e*P **PP 09 58 37.4 +0.4**
comp=Z,8.8nm,1.5s
MOA Molln 160.48 97 *e*P **PKPdf 09 54 15.1 +1.7**
comp=Z,9.4nm,1.6s
MOA *e*P **PKPab 09 54 55.8 +1.0**
comp=Z,12nm,1.5s
MOA *e*P **PP 09 58 41.8 +3.9**
comp=Z,7.0nm,1.5s
GERES GERESS Array B 160.63 94 PKP **PKPdf 09 54 12.2 -1.5**
comp=Z,1.2nm,0.9s,baz=150,slow=2.9,SNR=8.2
KHC Kasperske Hory 160.69 93 *e*PKPDF **PKPdf 09 54 20.0 +6.4**
KHC *ex* x 09 55 02.0
ARSA Arzberg 160.90 100 *e*P **PKPdf 09 54 13.9 0.0**
comp=Z,0.5nm,0.4s
ARSA *e*P **pPKPab 09 54 58.5 -2.4**
comp=Z,14nm,1.3s
ARSA *e*P **PP 09 58 40.1 0.0**
comp=Z,8.2nm,1.5s
CLL Collm 161.23 86 *e*PKPdf **PKPdf 09 54 15.0 +1.0**
CLL *i* PKPab **PKPab 09 54 58.9 +0.9**
comp=Z,40nm,1.8s
CLL *i* pPKPab **sPKPab 09 55 04.2 +0.4**
comp=Z,35nm,1.5s
CLL *e*PP **PP 09 58 43.0 +1.1**
CLL *ex* x 09 59 46.0
CLL *e*PPP PPP 10 02 12.0
CLL *e*PS 10 09 09.0
CLL *e*PPS PPS 10 12 15.0
CLL *e*SS SS 10 18 48.0 -8.8
CLL *e*SSS SSS 10 24 48.0
CLL *e*SSSS 10 29 37.0
CLL LmH 11 13 00.0
comp=N,700nm,20.9s
CLL LmH 11 13 00.0
comp=E,1μm,21.5s
CLL LmV 11 19 00.0
comp=Z,1μm,19.5s
CONA Conrad Observa 161.44 98 *e*P **PKPdf 09 54 14.8 +0.3**
comp=Z,10nm,1.5s
CONA *e*P **PKPab 09 55 00.5 +1.3**
comp=Z,10nm,1.3s
CONA *e*P **PP 09 58 36.8 -6.4**
comp=Z,8.6nm,1.8s

BRG	Berggiesshubel	161.62	88	Amp		11 04 09.0	
	comp=N,0.6nm,20.6s						
BRG	Berggiesshubel	161.62	88	*e*PKP	PKPab	09 55 01.8	+2.1
BRG	Berggiesshubel	161.62	88	Amp		09 55 05.3	
	comp=Z,9.4nm,1.2s						
BRG	Berggiesshubel	161.62	88	*ex*	x	10 19 04.0	
BRG	Berggiesshubel	161.62	88	Amp		11 03 57.0	
	comp=E,1.2nm,20.6s						
BRG	Berggiesshubel	161.62	88	Amp		11 04 00.0	
	comp=Z,2.0nm,22.5s						
KRUC	Moravsky	162.30	96	*e*PP	PP	09 58 49.6	+1.9
MODS	Modra-Piesok	162.49	99	*e*PKP	PKPdf	09 54 15.8	+0.3
VRAC	Vranov	162.53	95	*e*PP	PP	09 58 50.3	+1.4
ARCES	ARCESS Array B	162.54	22	PKPab	PKPab	09 55 02.8	-0.4
	comp=Z,2.7nm,0.9s,baz=332,slow=6.9,SNR=4.9						
DPC	Dobruska-Polom	162.82	92	*e*PKPDF	PKPdf	09 54 17.6	+1.8
DPC				*ex*	x	09 55 11.9	
MORC	Moravsky Berou	163.29	95	*e*PP	PP	09 58 55.3	+2.3
BRTR	Keskin Array B	163.94	151	PKP	PKPdf	09 54 15.7	-1.6
	comp=Z,2.5nm,1.0s,baz=199,slow=3.1,SNR=3.3						
BRTR				PKPab	PKPab	09 55 09.3	-0.9
	comp=Z,2.7nm,0.7s,baz=182,slow=7.4,SNR=4.5						
MLR	Muntele Rosu	165.58	120	PKPab	PKPab	09 55 17.2	-0.2
	comp=Z,2.2nm,0.7s,baz=292,slow=12,SNR=3.8						
MLR				PP	PP	09 59 04.4	-0.5
	comp=Z,2.7nm,0.6s,baz=111,slow=3.7,SNR=3.2						
NACGM	Naroch	170.11	79	*i* PKP	PKPdf	09 54 27.6	+6.5
AKASG	Malin Array Be	170.44	106	PKP	PKPdf	09 54 21.4	-0.1
	comp=Z,0.1nm,0.3s,baz=347,slow=1.6,SNR=5.7						
AKASG				PKPab	PKPab	09 55 37.2	-1.4
	comp=Z,0.3nm,0.4s,baz=247,slow=5.5,SNR=4.2						
KLMR	Klimovskoe	172.99	17	*e*	PKPab	09 55 37.9	-12
KLMR				AMP		09 55 52.8	
	comp=Z,21nm,1.5s						

*IDC **05** 09:36:17.9±2.3, 5.92S×130.15E, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.5/27, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=99.3km s-min=28.7km az=76.0*

ISC 05 09:36:19.0±1.1, 5.79S±0.09×130.3E±0.1, h10km, n11, σ2§18/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	3.47	35	P	Pg	09 37 25.7	+0.1
DRS	Darwin Rock St	6.63	175	P	Pn	09 37 59.6	+3.1
MTN	Manton Dam	7.06	173	P	Pn	09 38 05.2	+2.7
KDU	Kakadu	7.19	162	P	Pn	09 38 06.7	+2.4
KNRA	Kununurra	9.93	188	P	Pn	09 38 42.9	+1.0
FITZ	Fitzroy Crossi	13.04	200	Pn	Pn	09 39 23.4	-1.1
FITZ				Sn	Sn	09 41 35.0	-15
	0.2nm,0.3s,baz=146,slow=17,SNR=2.4						
WRA	Warramunga Arr	14.61	165	Pn	Pn	09 39 44.1	-2.0
	0.4nm,0.3s,baz=346,slow=13,SNR=23						
WRA				Sn	Sn	09 42 12.5	-16
	0.3nm,0.3s,baz=342,slow=22,SNR=4.0						
COEN	Coen	15.08	124	P	P	09 39 56.1	-1.6
ASAR	Alice Springs	18.11	169	P	Pn	09 40 29.8	-1.2
	0.2nm,0.3s,baz=348,slow=9.6,SNR=16						
WRKA	Warakurna	19.23	185	P	P	09 40 41.3	-2.2
MKAR	Makanchi Array	67.37	326	P	P	09 47 15.3	+0.8
	0.3nm,0.6s,baz=120,slow=8.3,SNR=4.9						

*UCR **05** 09:39:15.5±1.9, 6.82N×82.14W, h34km±999km, MW3.9*
*UPA **05** 09:39:20.2±2.2, 7.71N×81.95W, h0km±6km, MW3.5*

ISC 05 09:39:18.8±1.6, 7.57N±0.07×82.02W±0.03, h6km±11km, n20, σ1§14/31, 2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REME3	Remedios, Chir	0.68	16	*e*P	Pg	09 39 32.6	+0.7
GMAL	Guarumal, Vera	0.80	76	*e*P	Pg	09 39 34.3	0.0
GMAL				*e*S	Sg	09 39 45.5	+0.8
RSUS3	Rio de Jesus,	0.95	64	*e*P	Pg	09 39 36.9	-0.1
RSUS3				*e*S	Sg	09 39 49.8	+0.5
DVD	David	0.96	334	*e*P	Pb	09 39 38.3	+0.4
MARI3	Mariato, Verag	1.02	85	*e*P	Pb	09 39 39.0	+0.1
MARI3				*e*S	Sn	09 39 54.8	+0.4
PTPM	Petroterminale	1.06	307	*e*P	Pb	09 39 39.5	-0.1
PTPM				*e*S	Sn	09 39 54.5	-0.8
CACAO	El Cacao, Vera	1.17	101	*e*P	Pn	09 39 41.6	-0.1
CACAO				*e*S	Sn	09 39 58.6	+0.7
SFRA3	San Francisco,	1.24	57⇑	*i*P	Pn	09 39 41.7	-1.0
SFRA3				*e*S	Sg	09 39 56.7	-2.0
BCO2	Palmira	1.25	336	*e*S	Sg	09 39 59.5	+0.3
CDITO	Canoas	1.31	320	*e*P	Pg	09 39 44.1	+0.2
BRU2	Volcan	1.39	331	*e*P	Pg	09 39 46.0	+0.5
BRU2				*e*S	Sn	09 40 04.6	+0.9
PIRO	Carate, Puerto	1.55	303	*e*P	Pn	09 39 45.8	-1.1
TOSI3	Tonosi	1.57	96⇑	*e*P	Pg	09 39 49.1	+0.1
TOSI3				*e*S	Sg	09 40 09.2	-0.2
CHIT3	Chitre	1.63	76	*e*P	Pn	09 39 48.1	0.0
CHIT3				*e*S	Sb	09 40 10.9	+0.7
AZU	Azuero	1.74	82	*e*P	Pn	09 39 50.2	+0.6
PNME	Penonome	1.91	61	*e*P	Pn	09 39 47.6	-4.3
SRBA	San Rafael, Bu	2.12	321	*e*P	Pn	09 39 55.9	+1.0
PEZE	Perez Zeledon,	2.44	318	*e*P	Pb	09 40 02.1	-1.0
PEZE				*e*S	Sg	09 40 36.3	-1.0
BCIP	Isla Barro Col	2.68	53	*e*P	Pn	09 40 04.2	+1.6
BCIP				*e*S	Sn	09 40 34.9	-0.4
LCR2	La Lucha 2	2.92	318	*e*P	Pn	09 40 06.5	+0.5

MAN 05 09:41:31.4, 9.80N×123.98E, h7km, mb4.4, ML3.2, MS3.0, 5C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	Tagbilaran	0.15	227⇑	*i*P	Pg	09 41 35.6	+1.0
TBP				*i* S	Sg	09 41 38.6	+1.8
LLP	Lapu-Lapu	0.52	359⇑	*i*P	Pg	09 41 41.2	-0.2
LLP				*i* S	Sg	09 41 48.6	+0.4
SNPH	Sibulan	0.86	238⇑	*i*P	Pg	09 41 48.1	+0.2
SNPH				*i* S	Sb	09 42 00.3	-0.2
CNOP	Candoni, Negro	1.32	271⇑	*e*P	Pn	09 41 56.1	-0.2
CNOP				*e*S	Sn	09 42 15.1	+1.0
DCPH	Dipolog City	1.35	207⇓	*e*P	Pn	09 41 55.8	-1.0
DCPH				*e*S	Sb	09 42 14.8	+0.1
PAGZ	Pagadian	2.02	197⇓	*i*P	Pn	09 42 06.9	+0.9
RCP	Roxas	2.13	325⇑	*e*P	Pn	09 42 07.4	-0.1
RCP				*e*S	Sb	09 42 35.8	-1.2
BUKP	Musuan	2.19	151⇓	*e*P	Pn	09 42 09.8	+1.5
BUKP				*i* S	Sb	09 42 39.6	+0.8

IDC 05 09:57:35.1±1.9, 55.44S×137.09W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/28, mbtmp3.8/2, Error ellipse: s-maj=213.2km s-min=50.4km az=175.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	45.12	86	T	T	10 53 47.7	
	baz=218,SNR=5.6						
H03S1	Juan Fernandez	45.12	86	T	T	10 53 50.6	
	baz=218,SNR=6.6						
H03S3	Juan Fernandez	45.13	86	T	T	10 53 49.0	
	baz=218,SNR=4.9						
H03N3	Juan Fernandez	45.40	86	T	T	10 54 02.8	
	baz=226,slow=72,SNR=59						
H03N2	Juan Fernandez	45.40	86	T	T	10 54 01.7	
	baz=226,slow=72,SNR=73						
H03N1	Juan Fernandez	45.41	86	T	T	10 54 03.0	
	baz=226,slow=72,SNR=38						
ASAR	Alice Springs	70.30	257	P	P	10 08 49.9	-0.4
	0.8nm,0.8s,baz=137,slow=6.0,SNR=3.4						
H01W1	Cape Leeuwin H	71.50	235	T	T	11 28 49.5	
	baz=143,slow=76,SNR=4.4						
H01W2	Cape Leeuwin H	71.50	235	T	T	11 28 55.1	
	baz=143,slow=76,SNR=6.6						
H01W3	Cape Leeuwin H	71.52	235	T	T	11 28 45.3	
	baz=143,slow=76,SNR=6.7						
WRA	Warramunga Arr	73.02	260	P	P	10 09 07.0	+0.3
	0.8nm,0.9s,baz=141,slow=5.5,SNR=6.4						
ESDC	Sonseca Array	145.40	97	PKPbc	PKPbc	10 17 13.3	-0.9
	0.6nm,0.6s,baz=230,slow=2.6,SNR=4.1						
ZALV	Zalesovo Beam	156.00	284	PKPab	PKPab	10 17 57.0	-0.4
	0.3nm,0.3s,baz=101,slow=3.0,SNR=3.6						

*UPA **05** 10:11:51.0±1.6, 7.56N×82.06W, h0km±7km, MW4.9*
*UCR **05** 10:11:52.7±2.1, 7.40N×82.13W, h17km±17km, MW4.4*

ISC 05 10:11:51.4±1.6, 7.58N±0.07×82.00W±0.04, h5km±11km, n25, σ1§03/38, 1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REME3	Remedios, Chir	0.66	14⇓	*i*P	Pg	10 12 04.7	+0.5
GMAL	Guarumal, Vera	0.78	76	*e*P	Pg	10 12 06.4	0.0
GMAL				*e*S	Sb	10 12 17.6	-0.7
RSUS3	Rio de Jesus,	0.92	64	*e*P	Pg	10 12 09.0	-0.2
RSUS3				*e*S	Sb	10 12 21.9	-0.6
DVD	David	0.96	332	*e*P	Pg	10 12 09.4	-0.5
DVD				*e*S	Sb	10 12 23.9	+0.4
MARI3	Mariato, Verag	1.00	86	*e*P	Pb	10 12 11.6	+0.3
MARI3				*e*S	Sn	10 12 26.7	+0.1
CACAO	El Cacao, Vera	1.15	102	*e*P	Pg	10 12 13.7	+0.2
CACAO				*e*S	Sn	10 12 31.1	+0.8
BCO2	Palmira	1.25	335	*e*P	Pg	10 12 14.7	-0.7
BCO2				*e*S	Sn	10 12 33.2	+0.3
CHGR2	Aguacate	1.36	354	*e*P	Pg	10 12 16.7	-0.7
BRU2	Volcan	1.39	330	*e*P	Pn	10 12 18.1	+0.5
BRU2				*e*S	Sn	10 12 37.0	+0.6
TOSI3	Tonosi	1.55	96	*e*P	Pn	10 12 19.7	0.0
PIRO	Carate, Puerto	1.56	302	*e*P	Pn	10 12 18.0	-1.8
EDSV	San Vito	1.56	322	*e*P	Pn	10 12 20.1	+0.1
EDSV				*e*S	Sg	10 12 43.1	+1.3
CHIT3	Chitre	1.61	76	*e*P	Pn	10 12 20.8	+0.3
CHIT3				*e*S	Sg	10 12 43.8	+0.6
AZU	Azuero	1.72	83	*e*P	Pn	10 12 22.4	+0.4
AZU				*e*S	Sg	10 12 46.4	-0.4
ACHO3	Achotines, Los	1.82	95	*e*P	Pb	10 12 25.0	-0.1
ACHO3				*e*S	Sg	10 12 50.4	+0.6
SRBA	San Rafael, Bu	2.12	321	*e*P	Pn	10 12 27.9	+0.2
PEZE	Perez Zeledon,	2.44	317	*e*P	Pn	10 12 32.2	+0.2
CHOR3	La Chorrera	2.57	59	*e*P	Pb	10 12 36.5	-1.5
CHOR3				*e*S	Sb	10 13 08.1	-1.8
BCIP	Isla Barro Col	2.66	53	*e*P	Pn	10 12 37.0	+2.2
BCIP				*e*S	Sb	10 13 09.9	-2.5
RIMA	Rio Macho	2.85	320	*e*P	Pn	10 12 38.8	+1.1
LCR2	La Lucha 2	2.92	317	*e*P	Pn	10 12 39.4	+0.6
SRA1	San Ramn	3.50	316	*e*P	Pn	10 12 48.5	+2.0
ARE1	Arenal 1	3.93	317	*e*P	Pn	10 12 54.2	+1.8
JTS	Las Juntas de	3.97	313	*e*P	Pn	10 12 54.0	+1.0
SAJU	San Juanillo,	4.42	304	*e*P	Pn	10 12 59.1	-0.1

*JSN **05** 10:16:44.7±0.6, 18.11N×76.64W, h0km±6km, MD2.5*
*SSNC **05** 10:16:45.5±0.9, 18.20N×76.86W, h20km±17km, MD2.7, ML1.3*

ISC 05 10:16:43.3±1.1, 18.24N±0.07×76.72W±0.07, h18km, n7, σ1§48/10, 2C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	Greenwich	0.17	183⇑	*i*P	Pg	10 16 46.7	-1.2
STH	Stony Hill	0.19	208⇓	*i*P	Pg	10 16 47.8	-0.2
HOJ	Hope	0.24	187	*i* P	Pg	10 16 47.7	-1.1
CMJ	Castle Mountai	0.34	108⇑	*i*P	Pg	10 16 50.1	-0.5
MCJ	Malvern	0.97	251	*i* P	Pn	10 17 03.6	+1.4
LMGC	Las Mercedes	1.83	352	*e*P	Pn	10 17 14.4	+0.5
LMGC				*e*S	Sn	10 17 35.8	-0.9
LMGC				IAML		10 17 38.0	
	comp=N,7.9nm,0.1s						
LMGC				IAML		10 17 38.0	
	comp=E,8.2nm,0.1s						
RCC	Rio Carpintero	1.99	29	*e*P	Pn	10 17 17.8	+1.7
RCC				*e*S	Sb	10 17 41.6	-2.0
RCC				*e*Sg	Sn	10 17 42.2	+1.6
RCC				IAML		10 17 42.6	
	comp=E,0.8nm,0.1s						
RCC				IAML		10 17 43.6	
	comp=N,0.8nm,0.1s						

IDC 05 10:31:56.4±0.9, 6.74S×129.13E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.5/27, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=33.7km s-min=8.5km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.06	159	Pn	Pn	10 35 17.0	0.0
	0.3nm,0.3s,baz=334,slow=9.4,SNR=20						
WRA				Sn	Sn	10 37 37.7	-16
	1.4nm,0.3s,baz=330,slow=21,SNR=11						
ASAR	Alice Springs	17.44	165	P	Pn	10 36 01.3	+0.1
	0.4nm,0.3s,baz=338,slow=11,SNR=32						
ASAR				S	Sn	10 39 00.2	-16
	0.3nm,0.3s,baz=324,slow=22,SNR=8.0						
MKAR	Makanchi Array	67.54	327	P	P	10 42 54.6	0.0
	0.2nm,0.4s,baz=112,slow=7.6,SNR=5.9						

*SNET **05** 10:31:59.4±1.1, 13.09N×89.01W, h49km±8km, ML3.9*
*INET **05** 10:31:59.0±0.7, 13.05N×89.00W, h54km±10km, MW3.3*
*UCR **05** 10:31:59.5±1.0, 13.08N×89.02W, h48km±8km, ML3.9*
*GCG **05** 10:32:04.8±0.3, 13.54N×89.23W, h4km±8km, MD3.9*

ISC 05 10:32:00.5±1.6, 13.08N±0.08×88.99W±0.03, h40km±18km, n91, σ0§84/113, 2C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.48	59	*e*P	Pn	10 32 10.8	-0.2
ALJI				IAML		10 32 11.7	
	comp=Z,7μm,0.2s						
ALJI				*e*S	Sn	10 32 19.2	+0.8
ALJI	Alcalda de J	0.48	59	*e*P	Pn	10 32 10.8	-0.2
ALJI				IAML		10 32 11.7	
	comp=Z,7μm,0.2s						
ALJI				*e*S	Sn	10 32 19.2	+0.8
TECO	Alcaldia de Te	0.50	24⇓	*e*P	Pn	10 32 11.0	-0.4
TECO				*e*S	Sn	10 32 19.1	+0.2
TECO	Alcaldia de Te	0.50	24⇓	*e*P	Pn	10 32 11.0	-0.4
TECO				*e*S	Sn	10 32 19.1	+0.2
LALI	Alcalda de L	0.52	322	*e*P	Pn	10 32 10.7	-0.8
LALI				*e*S	Sn	10 32 18.9	-0.3
LALI				IAML		10 32 19.5	
	comp=Z,1μm,0.2s						
LALI	Alcalda de L	0.52	322	*e*P	Pn	10 32 10.7	-0.8
LALI	Alcalda de L	0.52	322	*e*P	Pn	10 32 10.7	-0.8
LALI				*e*S	Sn	10 32 18.9	-0.3
LALI				IAML		10 32 19.5	
	comp=Z,1μm,0.2s						
LFRS	El Faro	0.55	353	*e*P	Pn	10 32 11.2	-0.8
LFRS	El Faro	0.55	353	*e*P	Pn	10 32 11.2	-0.8
COEG	Centro de Oper	0.55	11	*e*P	Pn	10 32 11.6	-0.5
COEG				*e*S	Sn	10 32 21.1	+0.9
COEG				IAML		10 32 25.3	
	comp=Z,8μm,0.5s						
COEG	Centro de Oper	0.55	11	*e*P	Pn	10 32 11.6	-0.5
COEG				*e*S	Sn	10 32 21.1	+0.9
COEG				IAML		10 32 25.3	
	comp=Z,8μm,0.5s						
COEB	Comit de Eme	0.61	47⇓	*e*P	Pn	10 32 12.6	-0.4
COEB	Comit de Eme	0.61	47	*e*P	Pn	10 32 12.5	-0.4
COEB	Comit de Eme	0.61	47⇓	*e*P	Pn	10 32 12.6	-0.4
AEIL	Aeropuerto Ilo	0.63	349	*e*P	Pn	10 32 12.4	-0.6
AEIL				IAML		10 32 25.2	
	comp=Z,7μm,0.3s						
AEIL	Aeropuerto Ilo	0.63	349	*e*P	Pn	10 32 12.4	-0.6
AEIL				IAML		10 32 25.2	
	comp=Z,7μm,0.3s						
PAVA	Las Pavas	0.64	5⇓	*e*P	Pn	10 32 12.7	-0.5
PAVA				*e*S	Sn	10 32 23.2	+1.0
PAVA				IAML		10 32 25.7	
	comp=Z,4μm,0.2s						
PAVA	Las Pavas	0.64	5	*e*P	Pn	10 32 12.7	-0.5
PAVA				*e*S	Sn	10 32 23.3	+1.1
PAVA	Las Pavas	0.64	5⇓	*e*P	Pn	10 32 12.7	-0.5
PAVA				*e*S	Sn	10 32 23.2	+1.0
PAVA				IAML		10 32 25.7	
	comp=Z,4μm,0.2s						
SNET	Serv Nac Est T	0.65	339	*e*P	Pn	10 32 12.5	-0.8
SNET				*e*S	Sn	10 32 21.0	-1.6
SNET				IAML		10 32 24.0	
	comp=Z,4μm,0.3s						
SNET	Serv Nac Est T	0.65	339	*e*P	Pn	10 32 12.6	-0.8
SNET	Serv Nac Est T	0.65	339	*e*P	Pn	10 32 12.5	-0.8
SNET				*e*S	Sn	10 32 21.0	-1.6
SNET				IAML		10 32 24.0	
	comp=Z,4μm,0.3s						
UTEC	Universidad Te	0.65	342	*e*P	Pn	10 32 12.7	-0.7
UTEC	Universidad Te	0.65	342	*e*P	Pn	10 32 12.7	-0.7
UDBS	Universidad Do	0.66	346	*e*P	Pn	10 32 12.6	-0.8
UDBS				IAML		10 32 28.2	
	comp=Z,4μm,0.3s						
UDBS	Universidad Do	0.66	346	*e*P	Pn	10 32 12.6	-0.8
UDBS				IAML		10 32 28.2	
	comp=Z,4μm,0.3s						
ITCA	Escuela Especi	0.66	335	*e*P	Pn	10 32 12.5	-1.0
ITCA	Escuela Especi	0.66	335	*e*P	Pn	10 32 12.5	-1.0
IGN	Direccin Gen	0.66	345	*e*P	Pn	10 32 12.7	-0.8
IGN	Direccin Gen	0.66	345	*e*P	Pn	10 32 12.7	-0.8
LBRS	Las Brisas	0.66	356	*e*P	Pn	10 32 13.0	-0.5
LBRS				*e*S	Sn	10 32 23.0	+0.2
LBRS	Las Brisas	0.66	356	*e*P	Pn	10 32 13.0	-0.5
LBRS				*e*S	Sn	10 32 23.0	+0.2
OPAM	Oficina de Pla	0.66	343	*e*P	Pn	10 32 12.9	-0.7
OPAM				IAML		10 32 24.5	
	comp=Z,5μm,0.2s						
OPAM	Oficina de Pla	0.66	343	*e*P	Pn	10 32 12.9	-0.7
OPAM				IAML		10 32 24.5	
	comp=Z,5μm,0.2s						
SEMO	Seminario San	0.66	340	*e*P	Pn	10 32 12.4	-1.1
UESS	Universidad de	0.67	342	*e*P	Pn	10 32 13.0	-0.6
UESS				IAML		10 32 26.6	
	comp=Z,7μm,0.2s						
UESS	Universidad de	0.67	342	*e*P	Pn	10 32 13.0	-0.6
UESS				IAML		10 32 26.6	
	comp=Z,7μm,0.2s						
SCLA	Alcaldia de Sa	0.67	22	*e*P	Pn	10 32 13.5	-0.1
SCLA	Alcaldia de Sa	0.67	22	*e*P	Pn	10 32 13.5	-0.1
LFU	La Fuente	0.68	350	*e*P	Pn	10 32 13.1	-0.6
LFU				*e*S	Sn	10 32 23.8	+0.5
LFU	La Fuente	0.68	350	*e*P	Pn	10 32 13.1	-0.6
LFU				*e*S	Sn	10 32 23.8	+0.5
UEES	Universidad Ev	0.68	339	*e*P	Pn	10 32 12.9	-0.9
UEES				IAML		10 32 27.0	
	comp=Z,4μm,0.2s						
UEES	Universidad Ev	0.68	339	*e*P	Pn	10 32 12.9	-0.9
UEES				IAML		10 32 27.0	
	comp=Z,4μm,0.2s						
PQSS	Presa 15 de Se	0.69	38⇑	*i*P	Pn	10 32 13.6	-0.2
PQSS				IAML		10 32 26.3	
	comp=Z,8μm,0.2s						
PQSS	Presa 15 de Se	0.69	38⇑	*i*P	Pn	10 32 13.6	-0.2
PQSS				IAML		10 32 26.3	
	comp=Z,8μm,0.2s						
PMON	Piamonte	0.71	334	*e*P	Pn	10 32 27.5	+13
BOQS	Boqueron	0.71	337	*e*P	Pn	10 32 13.6	-0.7
BOQS	Boqueron	0.71	337	*e*P	Pn	10 32 13.6	-0.7
JAYA	Jayaque - finc	0.73	322	*e*P	Pn	10 32 13.3	-1.2
JAYA				IAML		10 32 25.2	
	comp=Z,13μm,0.2s						
JAYA	Jayaque - finc	0.73	322	*e*P	Pn	10 32 13.3	-1.2
JAYA				IAML		10 32 25.2	
	comp=Z,13μm,0.2s						
PACA	Pacayal	0.76	59	*e*P	Pn	10 32 14.9	+0.1
PACA				*e*S	Sn	10 32 26.1	+0.9
PACA				IAML		10 32 28.7	
	comp=Z,3μm,0.3s						
PACA	Pacayal	0.76	59	*e*P	Pn	10 32 14.9	+0.1
PACA				*e*S	Sn	10 32 26.1	+0.9
PACA				IAML		10 32 28.7	
	comp=Z,3μm,0.3s						
LCY	Lacayo	0.76	63	*e*P	Pn	10 32 14.4	-0.5
LCY				*e*S	Sn	10 32 25.8	+0.5
LCY	Lacayo	0.76	63	*e*P	Pn	10 32 14.4	-0.5
LCY				*e*S	Sn	10 32 25.8	+0.5
VSM	San Miguel	0.78	63	*e*P	Pn	10 32 14.8	-0.6
VSM	San Miguel	0.78	63	*e*P	Pn	10 32 14.8	-0.6
CEDA	San Andres	0.82	332	*e*P	Pn	10 32 13.9	-1.8
CEDA				IAML		10 32 30.3	
	comp=Z,5μm,0.2s						
CEDA	San Andres	0.82	332	*e*P	Pn	10 32 14.7	-0.9
CEDA	San Andres	0.82	332	*e*P	Pn	10 32 13.9	-1.8
CEDA				IAML		10 32 30.3	
	comp=Z,5μm,0.2s						
TACO	Tacachico	0.96	338	*e*P	Pn	10 32 16.6	-0.9
TACO				IAML		10 32 32.2	
	comp=Z,498nm,0.3s						
TACO	Tacachico	0.96	338	*e*P	Pn	10 32 16.6	-0.9
TACO				IAML		10 32 32.2	
	comp=Z,498nm,0.3s						
CEVE	Cerro Verde	0.97	321	*e*P	Pn	10 32 17.1	-0.7
CEVE				IAML		10 32 34.0	
	comp=Z,4μm,0.3s						
CEVE	Cerro Verde	0.97	321	*e*P	Pn	10 32 17.1	-0.7
CEVE				IAML		10 32 34.0	
	comp=Z,4μm,0.3s						
SBLS	San Blas	0.98	321	*e*P	Pn	10 32 16.9	-1.0
SBLS	San Blas	0.98	321	*e*P	Pn	10 32 16.9	-1.0
SNJE	San Jose	0.99	323	*e*P	Pn	10 32 17.1	-0.9
SNJE	San Jose	0.99	323	*e*P	Pn	10 32 17.1	-0.9
RTR	El Retiro	1.03	322	*e*P	Pn	10 32 18.1	-0.6
RTR	El Retiro	1.03	322	*e*P	Pn	10 32 18.1	-0.6
UNIC	Universidad Ca	1.05	329	*e*P	Pn	10 32 18.0	-0.8
UNIC	Universidad Ca	1.05	329	*e*P	Pn	10 32 18.0	-0.8
LLGN	La Laguna	1.08	2	*e*P	Pn	10 32 18.5	-0.8
LLGN	La Laguna	1.08	2	*e*P	Pn	10 32 18.5	-0.8
LCND	La Caada	1.10	78	*e*P	Pn	10 32 18.5	-0.9
LCND				*e*S	Sn	10 32 32.9	-0.5
LCND				IAML		10 32 35.8	
	comp=Z,2μm,0.3s						
LCND	La Caada	1.10	78	*e*P	Pn	10 32 18.5	-0.9
LCND				*e*S	Sn	10 32 32.9	-0.5
LCND				IAML		10 32 35.8	
	comp=Z,2μm,0.3s						
NUBE	Las Nubes	1.12	317	*e*P	Pn	10 32 18.9	-1.0
NUBE	Las Nubes	1.12

comp=Z,12nm,0.6s,baz=208,slow=1.9,SNR=143
QSPA PcP **PcP** **10 42 47.1 -0.2**
comp=Z,5.5nm,0.8s,baz=202,slow=1.7,SNR=4.5
QSPA South Pole Qui 31.20 180 P **P** **10 39 54.3 +0.8**
QSPA IAmb IAmb 10 39 55.8
comp=Z,16nm,0.6s
PLTB Pedras Altas 33.19 313 P **P** **10 40 09.4 -1.6**
PLCA Paso Flores 33.48 283 P **P** **10 40 13.6 -0.1**
comp=Z,5.5nm,0.8s,baz=128,slow=7.3,SNR=16
PLCA PcP **PcP** **10 42 53.9 0.0**
comp=Z,1.1nm,0.9s,baz=135,slow=1.4,SNR=3.1
PLCA Paso Flores 33.48 283 P **P** **10 40 13.7 0.0**
LL04 Puerto Octay 34.29 281 P **P** **10 40 21.2 +0.7**
LC01 Cunco 35.54 284 P **P** **10 40 31.6 +0.2**
LC01 IAmb IAmb 10 40 33.9
comp=Z,11nm,0.8s
BO02 Sierra Bellavi 38.22 289 P **P** **10 40 53.7 -0.5**
GO05 Huala 38.60 288 P **P** **10 40 57.1 -0.4**
GO05 IAmb IAmb 10 41 01.1
comp=Z,16nm,0.8s
BO01 Tunca 38.69 289 P **P** **10 40 57.9 -0.1**
BO01 IAmb IAmb 10 41 01.4
comp=Z,35nm,1.4s
MT09 Talagante 39.14 290 P **P** **10 41 02.1 +0.1**
MT01 Popeta 39.19 289 P **P** **10 41 01.9 -0.4**
MT01 IAmb IAmb 10 41 05.9
comp=Z,21nm,0.7s
PEL Peldehue 39.50 291 P **P** **10 41 05.7 +0.8**
MT02 Curacav 39.63 290 P **P** **10 41 06.3 +0.4**
VA03 San Esteban 39.75 291 P **P** **10 41 07.4 +0.3**
VA03 IAmb IAmb 10 41 11.7
comp=Z,20nm,0.7s
CO03 El Pedregal 41.40 293 P **P** **10 41 21.5 +0.7**
CO03 IAmb IAmb 10 41 39.3
comp=Z,11nm,0.9s
CO06 Fray Jorge 41.99 292 P **P** **10 41 26.2 +0.8**
LCO Las Campanas 42.93 294 P **P** **10 41 33.7 +0.3**
LCO IAmb IAmb 10 41 34.0
comp=Z,11nm,0.8s
SBA Scott Base 43.14 184 P **P** **10 41 37.3 +3.1**
VNDA Vanda 43.61 182 P **P** **10 41 38.8 +0.8**
comp=Z,8.9nm,0.6s,baz=191,slow=6.5,SNR=34
VNDA Vanda 43.61 182 P **P** **10 41 39.8 +1.8**
VNDA IAmb IAmb 10 41 40.9
comp=Z,10nm,0.7s
AC04 Llanos de Chal 43.79 294 P **P** **10 41 40.2 +0.2**
AC04 IAmb IAmb 10 41 44.3
comp=Z,21nm,0.8s
AC02 Maricunga 44.05 298 P **P** **10 41 42.9 +0.2**
BOSA Boshof 45.95 71 P **P** **10 41 57.5 +0.1**
comp=Z,2.1nm,0.7s,baz=204,slow=7.4,SNR=5.1
BOSA Boshof 45.95 71 P **P** **10 41 57.7 +0.3**
BDFB Brasilia 46.41 329 P **P** **10 42 01.9 +0.9**
comp=Z,2.5nm,0.4s,baz=141,slow=14,SNR=4.4
LVC Limon Verde 47.60 301 P **P** **10 42 10.7 +0.2**
PB04 IPOC Station P 48.39 300 P **P** **10 42 16.3 -0.2**
PB04 IAmb IAmb 10 42 31.9
comp=Z,27nm,1.3s
PB09 IPOC Station P 48.46 301 P **P** **10 42 17.6 +0.6**
PB09 IAmb IAmb 10 42 33.6
comp=Z,9.3nm,1.0s
PB07 IPOC Station P 48.80 300 P **P** **10 42 18.8 -0.9**
PB07 IAmb IAmb 10 42 20.9
comp=Z,7.2nm,0.7s
LBTB Lobatse 49.13 69 P **P** **10 42 21.5 -0.6**
comp=Z,1.1nm,0.6s,baz=162,slow=4.4,SNR=3.6
LBTB Lobatse 49.13 69 IAmb IAmb 10 42 37.3
comp=Z,4.8nm,0.8s
PB01 IPOC Station P 49.23 301 P **P** **10 42 22.8 0.0**
PB01 IAmb IAmb 10 42 38.7
comp=Z,9.3nm,1.1s
TSUM Tsumeb 50.47 57 P **P** **10 42 32.7 +0.4**
H10S2 ASCENSION HYDR 50.66 14 T T 11 37 07.5
baz=33,slow=74,SNR=12
H10S3 ASCENSION HYDR 50.66 14 T T 11 37 06.7
baz=187,slow=74,SNR=19
PB16 IPOC Station P 51.62 303 P **P** **10 42 41.2 -0.2**
H10N1 ASCENSION HYDR 51.78 14 T T 11 38 31.5
baz=187,slow=75,SNR=10.0
H10N3 ASCENSION HYDR 51.78 14 T T 11 38 29.0
baz=187,slow=75,SNR=17
H10N2 ASCENSION HYDR 51.79 14 T T 11 38 32.8
baz=187,slow=75,SNR=15
LPAZ La Paz 52.85 305 P **P** **10 42 50.1 -0.5**
comp=Z,1.4nm,0.4s,baz=136,slow=4.6,SNR=12
LPAZ La Paz 52.85 305 P **P** **10 42 50.0 -0.7**
LIC Lamto 67.10 22 *eP* **P** **10 44 28.2 +0.6**
comp=Z,27nm,0.8s
BOAV Boa Vista 67.20 322 P **P** **10 44 26.6 -1.7**
KIC Kosan Boka 67.29 22 *eP* **P** **10 44 29.2 +0.4**
comp=Z,11nm,0.7s
TIC Toumodi 67.51 22 *eP* **P** **10 44 30.8 +0.5**
DBIC Dimbokro 67.57 22 P **P** **10 44 31.3 +0.7**
comp=Z,4.6nm,0.6s,baz=198,slow=8.3,SNR=10
DBIC Dimbokro 67.57 22 P **P** **10 44 31.6 +1.1**
DBIC IAmb IAmb 10 44 32.1
comp=Z,6.9nm,0.8s
TORD Torodi Ar. Bea 75.27 27 P **P** **10 45 18.1 +1.0**
comp=Z,22nm,0.6s,baz=197,slow=6.2,SNR=149
TORD Torodi Ar. Bea 75.27 27 P **P** **10 45 18.2 +1.2**
TORD IAmb IAmb 10 45 18.9
comp=Z,13nm,0.7s
KOWA Kowa 75.35 22 P **P** **10 45 18.3 +0.8**
KOWA IAmb IAmb 10 45 34.6
comp=Z,16nm,1.4s
BIRV Birongo 76.67 319 P **P** **10 45 24.5 -0.6**
LTZ Lake Taylor 77.47 193 P **P** **10 45 30.1 +0.7**
TAU Tasmania Unive 78.23 175 P **P** **10 45 33.8 +0.3**
QRZ Quartz Range 79.36 194 P **P** **10 45 38.6 -1.2**
QRZ IAmb IAmb 10 45 50.0
comp=Z,31nm,1.5s
URZ Urewera 81.24 198 P **P** **10 45 50.9 +1.0**
comp=Z,4.6nm,0.7s,baz=121,slow=23,SNR=1.7
URZ Urewera 81.24 198 IAmb IAmb 10 45 55.5
comp=Z,21nm,1.3s
STKA Stephens Creek 88.78 169 P **P** **10 46 28.4 +0.6**
comp=Z,4.4nm,0.7s,baz=130,slow=5.6,SNR=9.7
STKA Stephens Creek 88.78 169 P **P** **10 46 28.0 +0.1**
ASAR Alice Springs 95.85 161 P **P** **10 47 00.3 -0.3**
comp=Z,2.7nm,0.6s,baz=183,slow=4.1,SNR=40
ASAR PP **PP** **10 50 51.0 -0.9**
comp=Z,0.4nm,0.9s,baz=203,slow=8.5,SNR=4.2
ASAR PKKPbc **PKKPbc** **11 03 48.2 +1.7**
comp=Z,1.2nm,0.7s,baz=15,slow=2.1,SNR=14
WRA Warramunga Arr 99.57 161 P **Pdif** **10 47 16.4 -1.0**
comp=Z,0.5nm,0.8s,baz=193,slow=4.2,SNR=4.7
WRA PKKPbc **PKKPbc** **11 03 38.0 +1.7**
comp=Z,0.9nm,0.8s,baz=353,slow=2.8,SNR=8.2
TXAR Lajitas Array 108.94 295 PKiKP **PKiKP** **10 52 02.1 -1.0**
comp=Z,0.7nm,1.0s,baz=169,slow=2.6,SNR=3.8
AKASG Malin Array Be 118.10 36 PKP **PKPdf** **10 52 18.9 -0.8**
comp=Z,0.8nm,0.5s,baz=222,slow=1.3,SNR=6.0
SCHQ Schefferville 118.27 334 PKP **PKPdf** **10 52 19.7 -0.3**
comp=Z,2.4nm,0.6s,baz=117,slow=4.5,SNR=4.2
PDAR Pinedale Array 122.66 300 PKP **PKPdf** **10 52 27.7 -1.4**
comp=Z,0.6nm,0.5s,baz=120,slow=5.6,SNR=17
ULM Lac du Bonnet 123.01 314 PKP **PKPdf** **10 52 28.4 -0.9**
comp=Z,5.1nm,0.5s,baz=138,slow=2.3,SNR=6.8
NOA NORSAR Array B 123.11 20 PKP **PKPdf** **10 52 28.6 -0.5**
comp=Z,2.3nm,1.0s,baz=196,slow=1.8,SNR=4.7
CMAR Chiang Mai Arr 123.16 111 PKP **PKPdf** **10 52 30.8 +0.2**
comp=Z,2.1nm,0.7s,baz=230,slow=3.7,SNR=9.8
NVAR Mina Array Bea 123.34 290 PKP **PKiKP** **10 52 31.8 +1.0**
comp=Z,1.3nm,0.6s,baz=136,slow=3.4,SNR=12
FINES FINESS Array B 126.62 28 PKP **PKPdf** **10 52 35.8 0.0**
comp=Z,3.4nm,0.5s,baz=165,slow=1.6,SNR=28
KSH Kashi 128.48 76 PKP **PKiKP** **10 52 41.7 +0.8**
PZH PanZhiHua 131.33 108 PKP **PKPdf** **10 52 46.0 -0.1**
ARCES ARCESS Array B 133.40 22 PKP **PKPdf** **10 52 48.5 0.0**
comp=Z,1.0nm,0.4s,baz=208,slow=1.7,SNR=20
BVAR Borovoye Array 135.59 59 PKP **PKPdf** **10 52 53.2 +0.2**
comp=Z,2.5nm,0.8s,baz=194,slow=4.1,SNR=10
MKAR Makanchi Array 136.94 73 PKhKP PKPpre 10 52 44.4
comp=Z,0.5nm,0.7s,baz=214,slow=0.9,SNR=5.4
MKAR PKP **PKPdf** **10 52 56.0 +0.1**
comp=Z,1.1nm,0.8s,baz=251,slow=0.8,SNR=7.3
YKA Yellowknife Ar 138.97 315 PKhKP PKPpre 10 52 48.6
comp=Z,0.2nm,0.4s,baz=125,slow=3.2,SNR=16
YKA PKP **PKPdf** **10 52 58.9 0.0**
comp=Z,11nm,0.6s,baz=128,slow=2.4,SNR=137
SPITS Spitsbergen Ar 139.32 12 PKhKP PKPpre 10 52 51.1
comp=Z,17nm,1.2s,baz=228,slow=2.1,SNR=5.1
SPITS PKP **PKPdf** **10 52 58.8 -0.5**
comp=Z,2.1nm,0.5s,baz=134,slow=4.7,SNR=6.5
RES Resolute Bay 140.98 337 PKhKP PKPpre 10 52 55.7
comp=Z,1.3nm,0.6s,baz=127,slow=12,SNR=7.5

ZALV Zalesovo Beam 142.81 66 PKhKP PKPpre 10 53 02.2
comp=Z,1.5nm,0.5s,baz=241,slow=3.8,SNR=7.3
INK Inuvik 148.66 317 PKPbc **PKPbc** **10 53 19.0 -0.5**
comp=Z,16nm,0.7s,baz=76,slow=1.7,SNR=22
INK Inuvik 148.66 317 **PKPbc** **10 53 19.3 -0.2**
SONM Songino Array 149.91 90 PKPbc **PKPbc** **10 53 23.0 -0.5**
comp=Z,4.2nm,0.6s,baz=237,slow=2.6,SNR=13
XLT XiLinHaoTe 152.17 106 *e*PKP **PKPbc** **10 53 28.8 0.0**
KSRS Korea Array 152.41 130 PKPbc **PKPbc** **10 53 28.5 -0.9**
comp=Z,0.7nm,0.6s,baz=161,slow=2.0,SNR=4.4
ILAR Eielson Array 152.72 307 PKPbc **PKPbc** **10 53 28.9 -0.4**
comp=Z,8.2nm,0.8s,baz=152,slow=1.9,SNR=47
KDAK Kodiak Island 152.84 291 PKPbc **PKPbc** **10 53 29.6 -0.1**
comp=Z,28nm,1.1s,baz=108,slow=6.4,SNR=5.0

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*IDC **05** 10:51:25.7±1.2, 5°.73N×125°.59E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.1/42, mbtmp3.4/4, Error ellipse: s-maj=73.4km s-min=13.5km az=84.0*
*MAN **05** 10:51:30.8, 6°.12N×126°.25E, h41km, mb4.4, ML3.2, MS3.0*
ISC 05 10:51:30.0±1.2, 5°.80N±0°.09×126°.2E±0°.1, h35km, n8, σ1°.71/10, mb3.3/4, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.25**	**284**	‖ *i* P		**Pn**	**10 51 51.0**	**0.0**
GSPH				*i* S		**Sn**	**10 52 07.0**	**+0.3**
DAV	**Davao City (W)**	**1.40**	**335**	Pg		**Pn**	**10 51 51.7**	**-1.3**
	21nm,0.3s,baz=25,slow=2.8,SNR=1.2							
DAV				Lg		Lg	10 52 08.1	
	75nm,0.3s,baz=89,slow=17,SNR=1.9							
KCP	**Kidapawan**	**1.61**	**318**	‖ *eP*		**Pn**	**10 51 55.0**	**-1.1**
BUKP	**Musuan**	**2.34**	**332**	‖ *eP*		**Pn**	**10 52 06.5**	**+0.4**
BUKP				*i* S		**Sn**	**10 52 36.5**	**+2.7**
FITZ	**Fitzroy Crossi**	**23.75**	**181**	P		**P**	**10 56 40.0**	**+0.8**
	0.8nm,0.5s,baz=12,slow=11,SNR=1.2							
WRA	**Warramunga Arr**	**26.81**	**163**	P		**P**	**10 57 09.7**	**+2.6**
	0.3nm,0.4s,baz=342,slow=10,SNR=6.1							
ASAR	**Alice Springs**	**30.24**	**166**	P		**P**	**10 57 37.7**	**0.0**
	0.2nm,0.3s,baz=344,slow=7.0,SNR=6.1							
MKAR	**Makanchi Array**	**55.55**	**325**	P		**P**	**11 01 00.4**	**-1.6**
	0.1nm,0.5s,baz=126,slow=8.0,SNR=2.2							

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*EAF **05** 11:14:52.6±2.6, 26°.25S×28°.64E, h5km±50km, MD4.3*
BUL 05 11:14:52.6±2.6, 26°.25S×28°.64E, h5km±50km, MD4.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.01**	**293**	*i* P		Pn	11 15 41.5	+0.4
LBTB				*i* Sg		Sb	11 16 26.6	+2.7
LBTB	**Lobatse**	**3.01**	**293**	*i* P		Pn	11 15 41.5	+0.4
LBTB				*i* Sg		Sb	11 16 26.6	+2.7
BOSA	**Boshof**	**3.82**	**231**	*i* P		Pn	11 15 53.2	+0.9
BOSA				*i* Sg		Sb	11 16 49.7	+2.4
BOSA	**Boshof**	**3.82**	**231**	*i* P		Pn	11 15 53.2	+0.9
BOSA				*i* Sg		Sb	11 16 49.7	+2.4
MATP	**Matopo**	**5.80**	**359**	*i* P		Pn	11 16 19.1	-0.3
MATP				*i* S		Sn	11 17 19.5	-6.9
MATP	**Matopo**	**5.80**	**359**	*i* P		Pn	11 16 19.1	-0.3
MATP				*i* S		Sn	11 17 19.5	-6.9

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*EAF **05** 11:37:21.2±2.9, 21°.41S×32°.51E, h10km, MD3.7*
BUL 05 11:37:21.1±1.1, 21°.49S×32°.51E, h10km, MD4.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.27**	**207**	*i* P		Pb	11 38 01.7	-0.4
MOPA				*i* S		Sb	11 38 30.1	-0.2
MOPA	**Mopani**	**2.27**	**207**	*i* P		Pb	11 38 01.7	-0.4
MOPA				*i* S		Sb	11 38 30.1	-0.2
MSNA	**Messina**	**2.46**	**249**	*i* P		Pn	11 38 02.3	+0.9
MSNA				*i* S		Sn	11 38 29.8	-1.8
MSNA	**Messina**	**2.46**	**249**	*i* P		Pn	11 38 02.3	+0.9
MSNA				*i* S		Sn	11 38 29.8	-1.8
MATP	**Matopo**	**3.90**	**285**	*i* P		Pn	11 38 20.6	-0.6
MATP				*i* S		Sn	11 39 03.9	-3.2
MATP	**Matopo**	**3.90**	**285**	*i* P		Pn	11 38 20.6	-0.6
MATP				*i* S		Sn	11 39 03.9	-3.2
CNG	**Changalane**	**4.79**	**183**	*i* P		Pn	11 38 32.8	-0.5
CNG				*i* S		Sn	11 39 24.7	-4.2
CNG	**Changalane**	**4.79**	**183**	*i* P		Pn	11 38 32.8	-0.5
CNG				*i* S		Sn	11 39 24.7	-4.2
TETE	**Tete**	**5.41**	**11**	*i* P		Pn	11 38 41.7	-0.2
TETE				*i* S		Sn	11 39 38.6	-5.6
TETE	**Tete**	**5.41**	**11**	*i* P		Pn	11 38 41.7	-0.2
TETE				*i* S		Sn	11 39 38.6	-5.6
LBTB	**Lobatse**	**7.26**	**240**	*i* P		Pn	11 39 06.4	-1.0
LBTB				*i* S		Sn	11 40 23.1	-6.9
LBTB	**Lobatse**	**7.26**	**240**	*i* P		Pn	11 39 06.4	-1.0
LBTB				*i* S		Sn	11 40 23.1	-6.9
BOSA	**Boshof**	**9.67**	**221**	*i* P		Pn	11 39 37.8	-2.6
BOSA				*i* S		Sn	11 41 19.1	-10
BOSA	**Boshof**	**9.67**	**221**	*i* P		Pn	11 39 37.8	-2.6
BOSA				*i* S		Sn	11 41 19.1	-10

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*IDC **05** 11:54:26.2±4.0, 15°.14N×94°.74W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/36, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=107.1km s-min=45.6km az=98.0*
*MEX **05** 11:54:31.9±1.4, 15°.21N×95°.41W, h16km±20km, MD4.0*
ISC 05 11:54:23.4±1.6, 15°.25N±0°.06×95°.30W±0°.03, h2km±11km, n22, σ1°.75/35, mb3.7/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.93**	**304**	*eP*		**Pn**	**11 54 45.2**	**+1.7**
HUIG				*i* S		**Sn**	**11 54 56.0**	**-1.4**
CMIG	**Matias Romero**	**1.87**	**12**	Pn		**Pg**	**11 55 01.3**	**+2.0**
	15nm,0.3s,baz=190,slow=11,SNR=70							
CMIG				Sn		**Sg**	**11 55 25.4**	**+1.8**
	117nm,0.3s,baz=16,slow=23,SNR=19							
CMIG	**Matias Romero**	**1.87**	**12**	*eP*		**Pg**	**11 55 00.8**	**+1.5**
CMIG				*eS*		**Sg**	**11 55 23.8**	**+0.2**
PEIG	**Puerto Escondi**	**1.93**	**293**	*eP*		**Pb**	**11 54 59.5**	**+0.3**
PEIG				*i* S		**Sn**	**11 55 20.1**	**-2.0**
PCIG		**2.06**	**77**	*i* P		**Pg**	**11 55 03.1**	**+0.2**
PCIG				*i* S		**Sg**	**11 55 28.2**	**-1.4**
VHO	**Vista Hermosa**	**2.27**	**323**	*eP*		**Pg**	**11 55 07.7**	**+0.7**
VHO				*i* S		**Sb**	**11 55 33.8**	**-0.2**
UXUV	**UXUV**	**2.33**	**28**	*eP*		**Pg**	**11 55 07.9**	**-0.3**
UXUV				*i* S		**Sb**	**11 55 33.8**	**-1.7**
NEUV	**Arroyo Zacate**	**2.49**	**349**	*eP*		**Pb**	**11 55 07.0**	**-1.9**
NEUV				*eS*		**Sb**	**11 55 37.8**	**-2.3**
TGIG		**2.59**	**54**	*eP*		**Pg**	**11 55 12.4**	**-0.7**
TGIG				*i* S		**Sb**	**11 55 42.4**	**-0.6**
PNIG	**Pinotepa**	**2.94**	**293**	*eP*		**Pb**	**11 55 14.7**	**-2.0**
PNIG				*eS*		**Sn**	**11 55 44.8**	**-2.5**
PATR	**El Naranjo**	**2.97**	**92**	*eP*		**Pb**	**11 55 17.3**	**+0.1**
PATR				*i* S		**Sn**	**11 55 48.9**	**+0.7**
PAVE	**Pavencul**	**3.02**	**91**	*eP*		**Pb**	**11 55 18.4**	**+0.3**
PAVE				*i* S		**Sb**	**11 55 51.7**	**-3.8**
CHUJ	**Union Juarez**	**3.09**	**93**	*eP*		**Pb**	**11 55 18.8**	**-0.5**
CHUJ				*i* S		**Sn**	**11 55 51.1**	**0.0**
CCIG	**Comitan**	**3.22**	**71**	*eP*		**Pb**	**11 55 22.0**	**+0.7**
CCIG				*i* S		**Sg**	**11 56 04.8**	**-2.0**
HLIG	**Huajuapan de L**	**3.51**	**317**	*i* P		**Pb**	**11 55 23.3**	**-3.1**
HLIG				*i* S		**Sn**	**11 56 02.3**	**+0.8**
FTIG	**Fresnillo de T**	**3.79**	**315**	*eP*		**Pb**	**11 55 30.1**	**-1.0**
FTIG				*eS*		**Sn**	**11 56 09.4**	**+1.3**
JAUV	**Jalcomulco**	**4.33**	**341**	*eP*		**Pb**	**11 55 38.3**	**-2.1**
JAUV				*i* S		**Sn**	**11 56 20.7**	**-0.9**
TXAR	**Lajitas Array**	**16.00**	**333**	Pn		**P**	**11 58 17.1**	**+3.6**
	0.1nm,0.3s,baz=149,slow=12,SNR=6.6							
PDAR	**Pinedale Array**	**30.03**	**339**	P		P	12 00 39.6	+5.5
	0.3nm,0.7s,baz=134,slow=5.2,SNR=2.4							
NVAR	**Mina Array Bea**	**30.72**	**323**	P		P	12 00 47.7	+7.5
	0.6nm,0.7s,baz=145,slow=9.6,SNR=4.0							
YKA	**Yellowknife Ar**	**49.12**	**348**	P		P	12 03 17.6	+5.4
	0.7nm,0.8s,baz=153,slow=7.4,SNR=10							
ILAR	**Eielson Array**	**60.45**	**337**	P		P	12 04 38.5	+4.2
	1.0nm,0.8s,baz=122,slow=4.5,SNR=8.0							

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*IDC **05** 11:57:54.0±4.5, 15°.27N×94°.84W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/36, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=110.6km s-min=44.4km az=103.0*
*NEIC **05** 11:57:54.6±2.3, 15°.24N±0°.06×95°.41W±0°.04, h9km±9km, mb4.3/7, Md3.9/38(MEX), Error ellipse: s-maj=9.8km s-min=4.6km az=208.0*
*MEX **05** 11:57:56.9±0.9, 15°.18N×95°.40W, h16km±12km, MD3.9*
ISC 05 11:57:54.3±3.3, 15°.13N±0°.06×95°.39W±0°.03, h11km±22km, n39, σ2°.34/63, mb3.7/5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.94**	**313**			**Pb**	**11 58 10.9**	**-1.7**
HUIG						**Sb**	**11 58 22.1**	**-3.0**
HUIG	**Huatulco**	**0.94**	**313**	*eP*		**Pb**	**11 58 10.9**	**-1.7**
HUIG				*i* S		**Sb**	**11 58 22.1**	**-3.0**
PEIG	**Puerto Escondi**	**1.90**	**297**	*eP*		**Pn**	**11 58 25.4**	**-1.3**
PEIG				*i* S		**Sn**	**11 58 45.8**	**-4.8**
CMIG	**Matias Romero**	**2.01**	**14**	Pn		**Pn**	**11 58 27.1**	**-1.0**
	11nm,0.3s,baz=193,slow=12,SNR=21							
CMIG				Sn		**Sn**	**11 58 50.8**	**-2.5**
	22nm,0.3s,baz=203,slow=9.6,SNR=9.4							
CMIG	**Matias Romero**	**2.01**	**14**			**Pn**	**11 58 26.4**	**-1.7**
CMIG						**Sn**	**11 58 49.3**	**-4.0**
CMIG	**Matias Romero**	**2.01**	**14**	*eP*		**Pn**	**11 58 26.4**	**-1.7**
CMIG				*eS*		**Sn**	**11 58 49.3**	**-4.0**
PCIG		**2.17**	**74**			**Pn**	**11 58 28.8**	**-1.5**
PCIG						**Sn**	**11 58 55.2**	**-2.0**
PCIG		**2.17**	**74**	*eP*		**Pn**	**11 58 28.8**	**-1.5**
PCIG				*i* S		**Sn**	**11 58 55.2**	**-2.0**
VHO	**Vista Hermosa**	**2.32**	**326**	*eP*		**Pn**	**11 58 33.7**	**+1.0**
VHO				*i* S		**Sn**	**11 58 58.8**	**-2.5**
UXUV	**UXUV**	**2.48**	**29**	*eP*		**Pn**	**11 58 33.7**	**-1.0**
UXUV				*i* S		**Sn**	**11 59 03.6**	**-1.3**
NEUV	**Arroyo Zacate**	**2.60**	**351**	*eP*		**Pn**	**11 58 37.6**	**+1.4**
NEUV				*i* S		**Sn**	**11 59 08.1**	**+0.3**
YOIG	**Yosondua**	**2.69**	**310**	*eP*		**Pn**	**11 58 40.4**	**+2.6**
YOIG				*i* S		**Sn**	**11 59 07.4**	**-3.2**
TGIG		**2.73**	**53**			**Pn**	**11 58 37.9**	**-0.2**
TGIG						**Sn**	**11 59 08.6**	**-2.5**
TGIG		**2.73**	**53**	*eP*		**Pn**	**11 58 37.9**	**-0.2**
TGIG				*eS*		**Sn**	**11 59 08.6**	**-2.5**
PNIG	**Pinotepa**	**2.92**	**296**			**Pn**	**11 58 40.4**	**-0.3**
PNIG						**Sn**	**11 59 10.7**	**-5.1**
PNIG	**Pinotepa**	**2.92**	**296**	*i* P		**Pn**	**11 58 40.4**	**-0.3**
PNIG				*eS*		**Sn**	**11 59 10.7**	**-5.1**
PATR	**El Naranjo**	**3.05**	**90**	*eP*		**Pn**	**11 58 42.5**	**-0.2**
PATR				*i* S		**Sn**	**11 59 17.4**	**-1.9**
PAVE	**Pavencul**	**3.10**	**88**	*eP*		**Pn**	**11 58 42.6**	**-0.8**
PAVE				*i* S		**Sn**	**11 59 17.5**	**-3.2**
CHUJ	**Union Juarez**	**3.17**	**90**	*eP*		**Pn**	**11 58 44.4**	**0.0**
CHUJ				*i* S		**Sn**	**11 59 20.9**	**-1.3**
CCIG	**Comitan**	**3.34**	**69**			**Pn**	**11 58 47.8**	**+1.2**
CCIG						**Sn**	**11 59 23.1**	**-3.2**
CCIG	**Comitan**	**3.34**	**69**	*eP*		**Pn**	**11 58 47.8**	**+1.2**
CCIG				*eS*		**Sn**	**11 59 23.1**	**-3.2**
TOIG	**Toxpalan**	**3.36**	**332**	*eP*		**Pn**	**11 58 50.0**	**+3.2**
TOIG				*i* S		**Sn**	**11 59 24.8**	**-2.0**
HLIG	**Huajuapan de L**	**3.55**	**320**	*eP*		**Pn**	**11 58 51.1**	**+1.6**
HLIG				*i* S		**Sn**	**11 59 29.6**	**-1.9**
FTIG	**Fresnillo de T**	**3.81**	**317**	*eP*		**Pn**	**11 58 56.4**	**+3.3**
FTIG				*eS*		**Sn**	**11 59 35.1**	**-3.0**
TLIG	**Tlapa**	**3.89**	**309**	Pn		**Pn**	**11 58 55.5**	**+1.3**
JAUV	**Jalcomulco**	**4.42**	**342**	*eP*		**Pn**	**11 59 04.6**	**+3.2**
JAUV				*i* S		Sn	11 59 42.2	-11
PETF	**Flores**	**5.60**	**71**	Pn		**Pn**	**11 59 17.2**	**-0.3**
TXAR	**Lajitas Array**	**16.07**	**333**	Pn		**Pn**	**12 01 43.1**	**+2.7**
	0.1nm,0.3s,baz=148,slow=11,SNR=5.2							
TX31	**Lajitas Ar. Si**	**16.07**	**333**			**P**	**12 01 43.8**	**+0.1**
OK030	**Cody Creek RV**	**20.75**	**357**	P		**P**	**12 02 34.7**	**-0.4**
OK030				IAmb		IAmb	12 02 56.4	
	comp=Z,13nm,1.0s							
OK031	**S. Brethren Rd**	**20.78**	**357**	P		**P**	**12 02 34.9**	**-0.5**
OK031				IAmb		IAmb	12 02 48.0	
	comp=Z,8.5nm,0.8s							
OK034	**N. Norfolk Rd.**	**20.83**	**357**	P		**P**	**12 02 35.1**	**-0.8**
QUOK	**Quay**	**20.99**	**357**	P		**P**	**12 02 37.2**	**-0.4**
QUOK				IAmb		IAmb	12 02 48.5	
	comp=Z,28nm,1.4s							
ZARC	**Zaragoza, Cauc**	**21.50**	**108**	P		**P**	**12 02 44.6**	**+1.3**
ZARC				IAmb		IAmb	12 02 46.8	
	comp=Z,8.5nm,1.5s							
BLOK	**Blackwell**	**21.61**	**356**	P		**P**	**12 02 43.5**	**-0.8**
BLOK				IAmb		IAmb	12 02 48.3	
	comp=Z,17nm,0.9s							
LENM	**Lemitar**	**21.65**	**333**	P		**P**	**12 02 43.7**	**-1.3**
NVAR	**Mina Array Bea**	**30.77**	**323**	P		**P**	**12 04 13.7**	**+3.6**
	comp=Z,0.6nm,0.9s,baz=136,slow=8.4,SNR=2.4							
YKA	**Yellowknife Ar**	**49.22**	**348**	P		**P**	**12 06 42.9**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=154,slow=7.4,SNR=5.3							
ILAR	**Eielson Array**	**60.53**	**337**	P		**P**	**12 08 06.5**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=134,slow=6.4,SNR=4.9							

TAP 05 12:07:56.8, 24°.71N×121°.54E, h56km, ML2.1, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FUSB	**Fushanzhiwuyua**	**0.07**	**42**	*eP*		Pn	12 08 05.0	-0.3
	baz=42							
FUSB				*eS*		Sn	12 08 12.0	+0.5
	baz=42							
ENTT	**Nioudou**	**0.07**	**157**	*i* P		Pn	12 08 05.5	+0.2
	baz=153							
ENTT				*i* S		Sn	12 08 12.2	+0.8
	baz=153							
NWLT	**Wulai**	**0.08**	**337**	*eP*		Pn	12 08 05.4	+0.1
	baz=336							
NWLT				*eS*		Sn	12 08 12.2	+0.8
	baz=336							

baz=309
NCU eS Sn 12 08 15.6 +0.4
baz=309
NCUH Zhongli 0.41 309 eP Pn 12 08 08.1 +0.6
baz=309
NCUH eS Sn 12 08 16.2 +1.0
baz=309
NWF Wu-fen Shan 0.43 32 eP Pn 12 08 07.9 +0.1
baz=31
NWF eS Sn 12 08 16.7 +1.1
baz=31
LIOB Emei 0.48 263 eP Pn 12 08 08.7 +0.5
baz=262
LIOB eS Sn 12 08 17.6 +1.2
baz=262
NSTT Nanjuang 0.49 261 eP Pn 12 08 08.6 +0.2
baz=260
NSTT eS Sn 12 08 17.3 +0.6
baz=260
TWB1 Santiao Chiao 0.51 54 eP Pn 12 08 09.6 +1.0
baz=54
TWB1 eS Sn 12 08 18.2 +1.2
baz=54
HSN Hsinchu 0.52 281 eP Pn 12 08 08.8 +0.1
baz=284
HSN eS Sn 12 08 17.5 +0.2
baz=284
FUSS Fushou 0.53 210 eP Pn 12 08 09.0 0.0
baz=210
ETL Fush Village 0.55 172 eP Pn 12 08 09.4 +0.3
baz=171
TDCB Techi 0.57 217 eP Pn 12 08 09.8 +0.4
baz=217
WHF Hehuan Shan 0.61 204 eP Pn 12 08 10.2 0.0
baz=203

*IDC **05** 12:23:18.9±0.6, 30°.54N×132°.84E, h0km, mb4.1/14, mb1 4.2/19, mb1mx4.0/43, mbtmp4.1/19, ML3.7/6, MS3.5/3, Ms1 3.5/3, ms1mx2.8/93, Error ellipse: s-maj=21.7km s-min=14.0km az=79.0*
*NEIC **05** 12:23:21.5±1.4, 30°.56N±0°.07×132°.80E±0°.08, h10km±1km, mb4.5/17, Error ellipse: s-maj=12.2km s-min=11.0km az=150.0*
*JMA **05** 12:23:22.8±0.1, 30°.52N×132°.71E, h74km, M4.0*
ISC 05 12:23:22.7±4.0, **30°.56N**±0°.04×**132°.81E**±0°.05, **h24**km±29km, **n68**, σ1§**50**/80, **mb4.3**/20, **Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.58**	**274**	P	**Pn**	**12 23 48.0**	**-1.2**
JTN				S	**Sn**	**12 24 06.7**	**-2.1**
JNAR	**Kushima--Naru**	**1.63**	**307**	P	**Pn**	**12 23 49.7**	**-0.2**
JNAR				eS	**Sn**	**12 24 08.9**	**-1.2**
JNKG	**Nichinankitago**	**1.64**	**312**	P	**Pn**	**12 23 49.9**	**-0.2**
JNKG				S	**Sn**	**12 24 09.9**	**-0.6**
JMTN	**Minamitane**	**1.65**	**265**	P	**Pn**	**12 23 49.2**	**-1.0**
JMTN				eS	**Sn**	**12 24 09.1**	**-1.6**
JTSR	**Tashiro 2**	**1.73**	**291**	P	**Pn**	**12 23 50.6**	**-0.7**
JTSR				eS	**Sn**	**12 24 11.1**	**-1.5**
JTZ	**Takazaki**	**1.99**	**313**	P	**Pn**	**12 23 54.4**	**-0.4**
JTZ				S	**Sn**	**12 24 18.0**	**-0.9**
JYAK	**Yakushimahirau**	**2.01**	**261**	P	**Pn**	**12 23 53.8**	**-1.3**
JYAK				S	**Sn**	**12 24 17.6**	**-1.9**
JSU	**Suzuyama**	**2.23**	**296**		**Pn**	**12 23 57.7**	**-0.4**
JTO	**Tosashimizu**	**2.29**	**360**	P	**Pn**	**12 23 57.6**	**-1.4**
JTO				eS	**Sn**	**12 24 21.5**	**-5.0**
JNN	**Nakanoshima**	**2.64**	**255**	P	**Pn**	**12 24 03.1**	**-0.6**
JNN				eS	**Sn**	**12 24 32.9**	**-2.1**
JSJ	**Shimokoshiki**	**2.87**	**294**	P	**Pn**	**12 24 05.7**	**-1.3**
JSJ				eS	**Sn**	**12 24 38.7**	**-2.1**
JNA	**Nagahama**	**3.00**	**355**	P	**Pn**	**12 24 08.2**	**-0.5**
JNA				eS	**Sn**	**12 24 40.2**	**-3.7**
JNU	**Nakatsue**	**3.03**	**328**	Pn	**Pn**	**12 24 09.5**	**+0.3**
	24nm,0.3s,baz=188,slow=5.3,SNR=259						
JNU				Sn	**Sn**	**12 24 44.8**	**0.0**
	15nm,0.3s,baz=326,slow=4.1,SNR=5.1						
JMN	**Monobe**	**3.29**	**16**	P	**Pn**	**12 24 12.1**	**-0.6**
JMN				eS	**Sn**	**12 24 48.0**	**-3.1**
JMN	**Monobe**	**3.29**	**16**		**Pn**	**12 24 12.4**	**-0.3**
JTAJ	**Takarajima**	**3.43**	**247**	P	**Pn**	**12 24 14.1**	**-0.5**
JTAJ				eS	**Sn**	**12 24 52.5**	**-2.0**
JAI	**Aioi**	**3.51**	**23**	P	**Pn**	**12 24 15.2**	**-0.6**
JAI				eS	**Sn**	**12 24 51.0**	**-5.5**
JHS	**Saijyo**	**4.43**	**3**		**Pn**	**12 24 28.5**	**0.0**
JWT	**Wachi**	**5.19**	**24**	Pn	**Pn**	**12 24 39.3**	**+0.5**
JOW	**Kunigami**	**5.44**	**228**	Pn	**Pn**	**12 24 41.4**	**-1.0**
	10nm,0.3s,baz=94,slow=17,SNR=84						
JOW				Sn	**Sn**	**12 25 39.6**	**-4.7**
	5.6nm,0.3s,baz=222,slow=28,SNR=8.9						
JOW	**Kunigami**	**5.44**	**228**		**Pn**	**12 24 41.8**	**-0.6**
INU	**Inuyama**	**5.94**	**35**		**Pn**	**12 24 50.2**	**+1.0**
JGF	**Kuroka**	**6.31**	**36**	Pn	**Pn**	**12 24 55.0**	**+0.8**
JHJ	**Hachijo jima 2**	**6.46**	**65**	Pn	**Pn**	**12 24 55.7**	**-0.6**
	13nm,0.3s,baz=68,slow=15,SNR=6.1						
JHJ				LR	LR	12 27 08.7	
	comp=Z,196nm,20.9s,baz=209,slow=36						
MAT	**Matsushiro**	**7.48**	**36**	P	**Pn**	**12 25 11.5**	**+1.3**
MJAR	**Matsushiro Arr**	**7.48**	**36**	Pn	**Pn**	**12 25 09.9**	**-0.4**
	0.6nm,0.3s,baz=205,slow=12,SNR=16						
MJAR	**Matsushiro Arr**	**7.48**	**36**		**Pn**	**12 25 11.3**	**+1.0**
MJB9	**Matsu-Tunnel**	**7.48**	**36**		**Pn**	**12 25 11.5**	**+1.2**
KSRS	**Korea Array**	**7.98**	**331**	Pn	**Pn**	**12 25 17.1**	**0.0**
	0.1nm,0.3s,baz=150,slow=14,SNR=2.6						
JMM	**Marumori**	**9.84**	**40**		**Pn**	**12 25 45.5**	**+2.9**
KLR	**Kul'dur**	**18.66**	**358**	P	**P**	**12 27 39.3**	**+0.5**
	0.1nm,0.3s,baz=178,slow=6.7,SNR=5.4						
ENH	**Enshi**	**20.11**	**275**	P	**P**	**12 27 55.3**	**+0.5**
ENH				IAmb	IAmb	12 28 06.2	
	comp=Z,18nm,0.8s						
ULN	**Ulaanbaatar**	**26.21**	**319**	P	**P**	**12 28 56.5**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**32.58**	**101**	T	T	13 04 07.0	
	baz=296,slow=74,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**32.58**	**101**	T	T	13 04 07.1	
	baz=296,slow=74,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**32.59**	**101**	T	T	13 04 09.6	
	baz=296,slow=74,SNR=7.9						
FAKI	**Fak Fak**	**33.30**	**181**	P	**P**	**12 29 59.4**	**+0.7**
ZAA0	**Zalesovo Array**	**41.47**	**318**	P	**P**	**12 31 08.1**	**+0.6**
ZAA0				IAmb	IAmb	12 31 37.2	
	comp=Z,11nm,2.0s						
ZALV	**Zalesovo Beam**	**41.47**	**318**	P	**P**	**12 31 08.4**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=100,slow=7.5,SNR=2.6						
ZALV				PcP	**PcP**	**12 33 04.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=113,slow=3.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**41.47**	**318**	P	**P**	**12 31 07.3**	**-0.1**
MK31	**Makanchi Array**	**41.89**	**307**	P	**P**	**12 31 11.5**	**+0.4**
MKAR	**Makanchi Array**	**41.89**	**307**	P	**P**	**12 31 12.5**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=87,slow=9.9,SNR=9.5						
MKAR				PcP	**PcP**	**12 33 06.7**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=101,slow=2.0,SNR=6.1						
MKAR				LR	LR	12 49 55.8	
	comp=Z,71nm,19.0s,baz=1.0,slow=38						
KNRA	**Kununurra**	**46.13**	**185**	P	**P**	**12 31 45.7**	**+0.5**
NRIK	**Noril'sk**	**46.49**	**340**	P	**P**	**12 31 47.4**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=117,slow=8.9,SNR=4.1						
BRVK	**Borovoye**	**49.94**	**316**	P	**P**	**12 32 15.8**	**+1.4**
BRVK				IAmb	IAmb	12 32 16.8	
	comp=Z,4.4nm,1.1s						
WB0	**Warramunga Arr**	**50.06**	**178**	P	**P**	**12 32 15.7**	**+0.1**
WB0				IAmb	IAmb	12 33 06.9	
	comp=Z,16nm,1.9s						
WRA	**Warramunga Arr**	**50.23**	**178**	P	**P**	**12 32 16.3**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=353,slow=8.6,SNR=13						
WRA	**Warramunga Arr**	**50.23**	**178**	P	**P**	**12 32 17.0**	**0.0**
PSA00	**Pilbara Seismi**	**53.31**	**195**	P	**P**	**12 32 39.7**	**-0.1**
PSA00				IAmb	IAmb	12 33 48.6	
	comp=Z,8.9nm,1.4s						
AS31	**Alice Springs**	**53.93**	**179**	P	**P**	**12 32 44.9**	**+0.4**
ASAR	**Alice Springs**	**53.93**	**179**	P	**P**	**12 32 44.3**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=12,slow=11,SNR=22						
ARU	**Arti**	**56.58**	**320**	P	**P**	**12 33 02.4**	**-0.8**
ARU				IAmb	IAmb	12 33 04.5	
	comp=Z,7.2nm,0.8s						
ABKAR	**Abkulak array**	**56.72**	**312**	P	**P**	**12 33 04.3**	**0.0**
BWN	**Browne**	**57.65**	**30**	P	**P**	**12 33 11.3**	**+0.6**
FORT	**Forrest**	**61.17**	**185**	P	**P**	**12 33 35.9**	**+0.7**
STKA	**Stephens Creek**	**62.66**	**172**	P	**P**	**12 33 45.5**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=330,slow=8.4,SNR=8.1						
STKA	**Stephens Creek**	**62.66**	**172**	IAmb	IAmb	12 35 21.9	
	comp=Z,5.3nm,1.9s						
A36M	**Sachs Harbour**	**64.83**	**20**	P	**P**	**12 34 00.3**	**+1.2**
A36M				IAmb	IAmb	12 34 05.4	
	comp=Z,5.0nm,0.8s						

ARCES	**ARCESS Array B**	**67.45**	**339**	LR	LR	13 08 20.7
	comp=Z,40nm,18.5s,baz=74,slow=40					
KBZ	**Khabaz**	**69.54**	**309**	P	**P**	**12 34 30.0** **+0.5**
	comp=Z,5.1nm,0.8s,baz=122,slow=4.3,SNR=5.8					
FINES	**FINESS Array B**	**71.07**	**331**	P	**P**	**12 34 38.5** **0.0**
	comp=Z,2.2nm,0.5s,baz=89,slow=7.0,SNR=10.0					
YKA	**Yellowknife Ar**	**72.89**	**27**	P	**P**	**12 34 49.2** **-0.1**
	comp=Z,0.9nm,0.9s,baz=302,slow=5.5,SNR=9.8					
AKASG	**Malin Array Be**	**74.83**	**320**	P	**P**	**12 35 01.1** **+0.2**
	comp=Z,2.6nm,0.5s,baz=54,slow=6.2,SNR=23					
AKASG	**Malin Array Be**	**74.83**	**320**	IAmb	IAmb	12 35 02.2
	comp=Z,1.6nm,0.8s					
NOA	**NORSAR Array B**	**77.17**	**335**	P	**P**	**12 35 12.7** **-1.5**
	comp=Z,0.4nm,0.6s,baz=48,slow=5.8,SNR=2.1					
BRTR	**Keskin Array B**	**77.52**	**309**	P	**P**	**12 35 15.8** **-0.9**
	comp=Z,2.2nm,0.8s,baz=90,slow=4.9,SNR=5.1					
GERES	**GERESS Array B**	**84.11**	**325**	P	**P**	**12 35 51.3** **-0.4**
	comp=Z,0.2nm,0.3s,baz=58,slow=5.0,SNR=5.7					
NVAR	**Mina Array Bea**	**84.62**	**48**	P	**P**	**12 35 55.1** **+0.5**
	comp=Z,0.8nm,0.8s,baz=279,slow=4.9,SNR=4.5					

*DDA **05** 12:24:06.4±0.0, 41°.41N×43°.95E, h28km±2km, MW3.4*
*TIF **05** 12:24:07.7, 41°.35N×43°.94E, h13km*
*NORS **05** 12:24:08.3±0.0, 41°.47N×43°.84E, h5km, MPVA3.9*
*ISK **05** 12:24:08.4, 41°.32N×43°.90E, h7km, ML3.2/8*
*NSSP **05** 12:24:08.1, 41°.32N×43°.88E, h10km, Ms3.1*
*MOS **05** 12:24:08.3±1.8, 41°.34N×43°.90E, h8km, mb4.0/1, Error ellipse: s-maj=5.8km s-min=4.2km az=76.5*
*AZER **05** 12:24:11.5±0.2, 41°.35N×44°.26E, h2km, Error ellipse: s-maj=3.3km s-min=1.2km az=292.0, Hypocentre not reviewed by the ISC*
ISC 05 12:24:08.8±0.9, **41°.35N**±0°.01×**43°.94E**±0°.01, **h6**km±8km, **n122**, σ1§**22**/212, **1C-2D, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.19**	**98**	P	**Pg**	**12 24 12.8**	**0.0**
DMNI				S	**Sg**	**12 24 15.8**	**+0.2**
DMNI	**Dmanisi**	**0.19**	**98**	PG	**Pg**	**12 24 12.8**	**0.0**
TRLG	**Trialeti**	**0.22**	**34**	P	**Pg**	**12 24 13.3**	**0.0**
TRLG				S	**Sg**	**12 24 16.8**	**+0.3**
TRLG	**Trialeti**	**0.22**	**34**	PG	**Pg**	**12 24 13.3**	**0.0**
BGD	**Bogdanovka**	**0.27**	**250**	P	**Pg**	**12 24 14.0**	**-0.3**
BGD				S	**Sg**	**12 24 18.3**	**+0.4**
BGD	**Bogdanovka**	**0.27**	**250**	PG	**Pg**	**12 24 14.0**	**-0.3**
BGD				S	**Sg**	**12 24 18.3**	**+0.4**
BRNG	**Burnasheti**	**0.28**	**343**	P	**Pg**	**12 24 14.6**	**+0.2**
BRNG				S	**Sb**	**12 24 19.6**	**-1.4**
AKH	**Akhalkalaki**	**0.34**	**279**	P	**Pg**	**12 24 15.3**	**-0.2**
AKH				S	**Sg**	**12 24 20.2**	**+0.2**
AKH	**Akhalkalaki**	**0.34**	**279**	PG	**Pg**	**12 24 15.3**	**-0.2**
AKH				S	**Sg**	**12 24 20.2**	**+0.2**
AKH	**Akhalkalaki**	**0.34**	**279**	PG	**Pg**	**12 24 15.2**	**-0.2**
AKH				SG	**Sg**	**12 24 20.0**	**0.0**
KZRT	**Kazreti**	**0.35**	**85**	P	**Pg**	**12 24 15.4**	**-0.3**
KZRT				S	**Sg**	**12 24 20.2**	**-0.1**
KZRT	**Kazreti**	**0.35**	**85**	PG	**Pg**	**12 24 15.4**	**-0.3**
KZRT				S	**Sg**	**12 24 20.2**	**-0.1**
KZRT	**Kazreti**	**0.35**	**85**	P	**Pg**	**12 24 15.4**	**-0.3**
KZRT				S	**Sg**	**12 24 20.0**	**-0.3**
STE	**Stepanavan**	**0.48**	**137**	*i* P	**Pg**	**12 24 18.1**	**-0.1**
STE				*i* S	**Sg**	**12 24 24.9**	**+0.4**
BTNK	**Botanikuri**	**0.73**	**63**	P	**Pg**	**12 24 19.0**	**-3.8**
BTNK				S	**Sg**	**12 24 29.4**	**-2.8**
BTNK	**Botanikuri**	**0.73**	**63**	PG	**Pg**	**12 24 19.0**	**-3.8**
BTNK				S	**Sg**	**12 24 29.4**	**-2.8**
BTNK	**Botanikuri**	**0.73**	**63**	P	**Pg**	**12 24 18.9**	**-3.8**
BTNK				S	**Sg**	**12 24 29.5**	**-2.8**
SEAG	**Tbilisi Sea**	**0.77**	**58**	P	**Pg**	**12 24 23.1**	**-0.5**
SEAG				S	**Sg**	**12 24 34.0**	**+0.4**
SEAG	**Tbilisi Sea**	**0.77**	**58**	PG	**Pg**	**12 24 23.1**	**-0.5**
SEAG				S	**Sg**	**12 24 34.0**	**+0.4**
EPOS	**Posof**	**0.92**	**280**	SPECP		12 24 25.0	
EPOS				P	**Pg**	**12 24 25.5**	**-0.9**
EPOS				S	**Sg**	**12 24 38.0**	**-0.4**
ABS	**Abastumani**	**0.93**	**296**	P	**Pg**	**12 24 25.9**	**-0.8**
ABS				S	**Sb**	**12 24 38.9**	**-0.9**
ABS	**Abastumani**	**0.93**	**296**	PG	**Pg**	**12 24 25.9**	**-0.8**
ABS				S	**Sb**	**12 24 38.9**	**-0.9**
KARS	**Kars**	**0.97**	**222**	PG	**Pg**	**12 24 26.8**	**-0.7**
KARS				S	**Sg**	**12 24 39.3**	**-0.9**
KARS	**Kars**	**0.97**	**222**	PG	**Pg**	**12 24 26.9**	**-0.6**
KARS				SG	**Sg**	**12 24 39.8**	**-0.4**
DIGO	**Kars**	**1.03**	**205**	SPECP		12 24 27.0	
DIGO				P	**Pg**	**12 24 27.2**	**-1.4**
DIGO				S	**Sg**	**12 24 41.7**	**-0.3**
DGRG	**David-gareji**	**1.08**	**85**	P	**Pg**	**12 24 28.9**	**-0.7**
DGRG				S	**Sg**	**12 24 43.1**	**-0.5**
DGRG	**David-gareji**	**1.08**	**85**	PG	**Pg**	**12 24 28.9**	**-0.7**
DGRG				S	**Sg**	**12 24 43.2**	**-0.5**
GUDG	**Gudauri**	**1.18**	**20**	P	**Pg**	**12 24 30.6**	**-0.8**
GUDG				S	**Sb**	**12 24 47.1**	**+0.2**
GUDG	**Gudauri**	**1.18**	**20**	PG	**Pg**	**12 24 30.6**	**-0.8**
GUDG				S	**Sb**	**12 24 47.1**	**+0.2**
KAPZ	**Kaputan**	**1.18**	**150**	*i* P	**Pg**	**12 24 30.8**	**-0.7**
KAPZ				*i* S	**Sg**	**12 24 46.9**	**0.0**
METS	**Metsamor**	**1.21**	**175**	*i* P	**Pn**	**12 24 32.1**	**+0.1**
METS				*i* S	**Sn**	**12 24 49.1**	**+0.7**
TKB	**Tkibuli**	**1.22**	**325**	P	**Pg**	**12 24 31.3**	**-0.9**
TKB				S	**Sn**	**12 24 48.1**	**-0.6**
TKB	**Tkibuli**	**1.22**	**325**	PG	**Pg**	**12 24 31.3**	**-0.9**
TKB				S	**Sn**	**12 24 48.1**	**-0.6**
VNNZ	**Vanand**	**1.25**	**184**	*i* P	**Pg**	**12 24 31.6**	**-1.3**
VNNZ				*i* S	**Sb**	**12 24 49.4**	**+0.5**
ONI	**Oni**	**1.28**	**344**	P	**Pn**	**12 24 32.2**	**-0.8**
ONI				S	**Sn**	**12 24 50.1**	**-0.3**
ONI	**Oni**	**1.28**	**344**	PG	**Pn**	**12 24 32.2**	**-0.8**
ONI				S	**Sn**	**12 24 50.1**	**-0.3**
GNI	**Garni**	**1.35**	**153**	*i* P	**Pn**	**12 24 33.6**	**-0.4**
GNI				*i* S	**Sg**	**12 24 52.3**	**+0.1**
GNI	**Garni**	**1.35**	**153**	PN	**Pn**	**12 24 33.8**	**-0.2**
GNI				SN	**Sn**	**12 24 52.5**	**+0.4**
PNSH	**Pansheti**	**1.38**	**21**	P	**Pn**	**12 24 34.1**	**-0.2**
PNSH				S	**Sn**	**12 24 53.0**	**+0.2**
PNSH	**Pansheti**	**1.38**	**21**	PG	**Pn**	**12 24 34.1**	**-0.2**
PNSH				S	**Sn**	**12 24 53.0**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.39**	**170**	PN	**Pn**	**12 24 33.6**	**-0.8**
TASB				SN	**Sb**	**12 24 53.1**	**+0.3**
MTEO	**Meteo**	**1.40**	**18**	P	**Pn**	**12 24 34.8**	**0.0**
ZEI	**Tsey**	**1.43**	**359**	‖*i*PG	**Pb**	**12 24 35.5**	**-0.3**
ZEI				eS	**Sg**	**12 24 55.2**	**+0.4**
ZEI	**Tsey**	**1.43**	**359**	*i* Pg	**Pb**	**12 24 35.5**	**-0.3**
ZEI				eSg	**Sg**	**12 24 55.2**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.44**	**237**	PN	**Pn**	**12 24 34.9**	**-0.3**
NRKZ	**NAREK**	**1.46**	**158**	*i* P	**Pb**	**12 24 36.4**	**+0.2**
NRKZ				*i* S	**Sg**	**12 24 56.1**	**+0.4**
IGDI	**IGDIR**	**1.49**	**176**	SPECP		12 24 34.0	
IGDI				P	**Pn**	**12 24 34.9**	**-0.9**
IGDI				S	**Sn**	**12 24 54.8**	**-0.6**
LACR	**Lac**	**1.49**	**10**	*e*PG	**Pb**	**12 24 36.2**	**-0.6**
LACR				pmax	pmax		
	comp=Z,32nm,0.2s						
LACR	**Lac**	**1.49**	**10**	*e*Pg	**Pb**	**12 24 36.4**	**-0.4**
LACR				eSg	**Sg**	**12 24 57.7**	**+0.9**
DAGI	**Agillar**	**1.55**	**260**	P	**Pn**	**12 24 36.5**	**-0.2**
DAGI				S	**Sg**	**12 24 57.8**	**-0.8**
DIGR	**Digorskoe uzhe**	**1.56**	**350**	‖*i*PG	**Pb**	**12 24 37.6**	**-0.4**
DIGR				eS	**Sg**	**12 24 59.7**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.56**	**350**	*i* Pg	**Pb**	**12 24 37.6**	**-0.4**
DIGR				eSg	**Sg**	**12 24 59.7**	**+0.6**
DDFL	**Dedoflistskaro**	**1.64**	**86**	P	**Pg**	**12 24 40.8**	**+0.5**
DDFL	**Dedoflistskaro**	**1.64**	**86**	PN	**Pg**	**12 24 40.8**	**+0.5**
DDFL	**Dedoflistskaro**	**1.64**	**86**	P	**Pg**	**12 24 40.8**	**+0.5**
DDFL				S	**Sg**	**12 25 05.5**	**+3.9**
KOTA	**Agri, Merkez-K**	**1.65**	**200**	P	**Pb**	**12 24 39.8**	**+0.3**
KOTA				S	**Sg**	**12 25 04.8**	**+3.1**
BATM	**Batumi**	**1.70**	**279**	PN	**Pg**	**12 24 39.2**	**+0.5**
BATM	**Batumi**	**1.70**	**279**	PN	**Pn**	**12 24 39.0**	**+0.3**
DDEM	**Demirkent**	**1.71**	**255**	SPECP		12 24 39.0	
DDEM				P	**Pb**	**12 24 39.6**	**-0.9**
DDEM				S	**Sb**	**12 25 02.0**	**-0.2**
DBAD	**Bademkaya**	**1.73**	**259**	P	**Pn**	**12 24 39.2**	**+0.1**
DBAD				S	**Sb**	**12 25 02.2**	**-0.3**
KORR	**Kora**	**1.73**	**3**	*e*PN	**Pg**	**12 24 41.3**	**-0.6**
KORR				pmax	pmax		
	comp=Z,54nm,0.3s						
KORR	**Kora**	**1.73**	**3**	*e*Pg	**Pg**	**12 24 41.4**	**-0.6**
KORR				eSg	**Sg**	**12 25 07.3**	**+2.9**
VLKR	**Vladikavkaz**	**1.78**	**18**	*e*PN	**Pg**	**12 24 43.2**	**+0.4**
VLKR				eS	**Sg**	**12 25 07.7**	**+1.8**
VLKR	**Vladikavkaz**	**1.78**	**18**	*e*Pg	**Pg**	**12 24 43.2**	**+0.4**
VLKR				eSg	**Sg**	**12 25 07.7**	**+1.8**
LGD	**Lagodekhi**	**1.79**	**74**	P	**Pn**	**12 24 40.5**	**+0.6**
LGD				S	**Sb**	**12 25 05.0**	**+0.6**
LGD	**Lagodekhi**	**1.79**	**74**	PN	**Pn**	**12 24 40.5**	**+0.6**
LGD				S	**Sb**	**12 25 05.0**	**+0.6**
DYDN	**Diyadin**	**1.82**	**186**	P	**Pb**	**12 24 42.3**	**-0.1**
KMGR	**Komgaron**	**1.83**	**22**	*e*PN	**Pg**	**12 24 43.3**	**-0.6**
KMGR				eS	**Sg**	**12 25 09.9**	**+2.2**
KMGR	**Komgaron**	**1.83**	**22**	*e*Pg	**Pg**	**12 24 43.3**	**-0.6**
KMGR				eSg	**Sg**	**12 25 09.9**	**+2.2**
ARNR	**Ardon**	**1.84**	**8**	*e*PN	**Pg**	**12 24 44.0**	**0.0**
ARNR				eS	**Sg**	**12 25 10.4**	**+2.4**
ARNR	**Ardon**	**1.84**	**8**	*e*Pg	**Pg**	**12 24 44.0**	**0.0**
ARNR				eSg	**Sg**	**12 25 10.4**	**+2.4**
HOPA	**Hopa-Artvin**	**1.87**	**272**	PN	**Pn**	**12 24 41.7**	**+0.7**
GANJ	**Ganja**	**1.94**	**111**	PN	**Pn**	**12 24 42.2**	**+0.3**
ZKTA	**Zakatala**	**2.04**	**81**	PN	**Pn**	**12 24 43.8**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**2.09**	**230**	PN	**Pn**	**12 24 44.2**	**+0.1**
NEY	**Neytrino**	**2.10**	**335**	*e*PN	**Pn**	**12 24 42.8**	**-1.4**
NEY				pmax	pmax		
	comp=Z,9.0nm,0.1s						
NEY	**Neytrino**	**2.10**	**335**	*e*Pg	**Pb**	**12 24 46.8**	**-0.3**
NEY				eSg	**Sg**	**12 25 14.6**	**-1.5**
BTLR	**Botlikh**	**2.15**	**52**	*e*PN	**Pb**	**12 24 47.6**	**-0.2**
BTLR				eS	**Sb**	**12 25 15.8**	**+1.2**
BTLR	**Botlikh**	**2.15**	**52**	*e*Pg	**Pb**	**12 24 47.6**	**-0.2**
BTLR				eSg	**Sb**	**12 25 15.8**	**+1.2**
NCK	**Nalchik**	**2.15**	**353**	*i* PN	**Pn**	**12 24 44.2**	**-0.7**
DVE	**Vedeno**	**2.28**	**45**	*e*PN	**Pb**	**12 24 50.7**	**+0.5**
DVE				eS	**Sg**	**12 25 20.6**	**-1.5**
DVE	**Vedeno**	**2.28**	**45**	*e*Pn	**Pb**	**12 24 50.7**	**+0.5**
DVE				eSn	**Sg**	**12 25 20.6**	**-1.5**
GROC	**Groznyy**	**2.31**	**36**	*e*PN	**Pb**	**12 24 50.4**	**-0.1**
GROC				eS	**Sg**	**12 25 24.1**	**+1.3**
GROC	**Groznyy**	**2.31**	**36**	*e*Pn	**Pb**	**12 24 50.4**	**-0.1**
GROC				eSn	**Sg**	**12 25 24.1**	**+1.3**
CHOM	**Cayeli-Rize**	**2.41**	**265**	PN	**Pn**	**12 24 49.1**	**+0.7**
ERZM	**Erzurum**	**2.43**	**234**	PN	**Pn**	**12 24 49.1**	**+0.1**
ERZM	**Erzurum**	**2.43**	**234**	P	**Pn**	**12 24 50.7**	**+1.7**
ERZM				S	**Sg**	**12 25 26.2**	**-0.8**
MNGR	**Mingechevir, A**	**2.45**	**103**	PN	**Pb**	**12 24 52.1**	**-0.9**
SEKA	**Sheki**	**2.46**	**92**	PN	**Pn**	**12 24 50.7**	**+1.5**
NAX	**Nakhchivan**	**2.48**	**151**	PN	**Pb**	**12 24 54.4**	**+0.8**
GNBR	**Gunib**	**2.49**	**64**	*e*PN	**Pb**	**12 24 52.3**	**-1.3**
GNBR				eS	**Sg**	**12 25 26.8**	**-1.8**
GNBR	**Gunib**	**2.49**	**64**	*e*Pn	**Pb**	**12 24 52.3**	**-1.3**
GNBR				eSn	**Sg**	**12 25 26.8**	**-1.8**
KBZ	**Khabaz**	**2.49**	**342**	*i* PN	**Pn**	**12 24 48.0**	**-1.5**
SHA1	**Shidzhatmaz**	**2.56**	**339**	*i* PN	**Pn**	**12 24 50.8**	**+0.1**
KIV	**Kislovodsk**	**2.76**	**341**	‖*e*PN	**Pn**	**12 24 53.6**	**+0.4**
KIV				*e*		12 25 00.4	
KIV				S	**Sn**	**12 25 29.0**	**+2.3**
KIV				*e*		12 25 36.3	
KIV				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KIV				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KIV				smax	smax		
	comp=E,23nm,1.7s						
KIV				MLR	MLR		
	comp=Z,42nm,3.0s						
KIV	**Kislovodsk**	**2.76**	**341**	PN	**Pn**	**12 24 54.8**	**+1.6**
PYA1	**Pyatigorsk**	**2.77**	**347**	*i* PN	**Pn**	**12 24 54.2**	**+0.8**
AKT	**Akhty**	**2.86**	**86**	*i* PN	**Pn**	**12 24 53.9**	**-0.7**
BAYB	**BAYBURT**	**3.00**	**250**	P	**Pb**	**12 25 00.9**	**-1.6**
KELT	**Kelkit**	**3.75**	**253**	P	**Pb**	**12 25 15.1**	**-0.3**
KELT				S	**Sb**	**12 26 04.8**	**+3.7**
KURK	**Kurchatov**	**25.63**	**57**	*i* P	**P**	**12 29 38.5**

baz=294
ENA Nanau 0.79 263 *i* P **Pn 12 42 37.6 +0.1**
baz=261
ENA *i* S **Sn 12 42 51.2 +0.5**
baz=261
NDS Dongshan 0.81 277 *e*P **Pn 12 42 38.0 +0.1**
baz=276
NDS *e*S **Sn 12 42 50.8 -0.4**
baz=276
TIPB Shuangxi 0.83 302 *e*P **Pn 12 42 37.6 -0.4**
baz=301
TIPB *e*S **Sn 12 42 50.1 -1.4**
baz=301
SXI1 Grass Mountain 0.86 310 *e*P **Pn 12 42 39.4 +0.9**
baz=310
SXI1 *e*S **Sn 12 42 52.4 +0.1**
baz=310
TWE Neicheng 0.87 283 P **Pn 12 42 38.0 -0.3**
baz=282
TWE *i* S **Sn 12 42 51.7 -0.5**
baz=282
NWF Wu-fen Shan 0.92 306 *e*P **Pn 12 42 39.0 -0.1**
baz=305
NWF S **Sn 12 42 53.3 +0.1**
baz=305
ENTT Nioudou 0.95 277 *i* P **Pn 12 42 39.5 +0.2**
baz=276
ENTT *i* S **Sn 12 42 54.1 +0.4**
baz=276
FUSB Fushanzhiwuyua 0.95 284 P **Pn 12 42 39.2 -0.2**
baz=283
FUSB S **Sn 12 42 52.9 -0.9**
baz=283
ETL Fush Village 0.97 248 P **Pn 12 42 39.7 +0.2**
baz=246
ETL *e*S **Sn 12 42 54.5 +0.3**
baz=246
LATG Datong 0.98 270 P **Pn 12 42 40.1 +0.4**
baz=269
LATG S **Sn 12 42 54.7 +0.2**
baz=269
NACB Ninganchiao 0.98 249 *e*P **Pn 12 42 39.6 -0.1**
baz=247
NACB S **Sn 12 42 54.0 -0.4**
baz=247
NDT Datong Townshi 0.99 274 P **Pn 12 42 40.2 +0.4**
baz=273
NDT S **Sn 12 42 55.0 +0.4**
baz=273
TWD Chiawan 1.02 244 P **Pn 12 42 39.7 -0.4**
baz=242
TWD *i* S **Sn 12 42 55.2 +0.1**
baz=242
TWA Mucha 1.03 296 S **Sn 12 42 54.7 -0.6**
baz=295
NWLT Wulai 1.03 284 *e*P **Pn 12 42 40.2 0.0**
baz=283
NWLT *e*S **Sn 12 42 54.5 -0.9**
baz=283
IRIF Iriomote-Funau 1.05 101 P **Pn 12 42 40.3 -0.1**
IRIF *e*S **Sn 12 42 56.4 +0.7**
HWA Hwalien 1.06 239 *e*P **Pn 12 42 40.4 -0.1**
baz=237
HWA *e*S **Sn 12 42 56.2 +0.2**
baz=237
ETLH Xiulin Townshi 1.07 253 P **Pn 12 42 40.0 -0.7**
baz=251
ETLH S **Sn 12 42 56.3 0.0**
baz=251
NNSB Datong 1.11 265 P **Pn 12 42 41.3 0.0**
baz=264
NNSB S **Sn 12 42 56.4 -0.9**
baz=264
NNS Nan Shan 1.12 266 P **Pn 12 42 41.1 -0.3**
baz=264
NNS *i* S **Sn 12 42 57.3 -0.1**
baz=264
YHNB Yeheng 1.12 277 P **Pn 12 42 41.2 -0.1**
baz=276
YHNB S **Sn 12 42 57.2 -0.2**
baz=276
NSK Sanguang 1.14 277 *i* P **Pn 12 42 41.4 -0.1**
baz=276
NSK *i* S **Sn 12 42 57.1 -0.6**
baz=276
PCYT Pengchaiyu 1.19 336 *e*P **Pn 12 42 41.2 -0.9**
baz=337
PCYT *e*S **Sn 12 42 59.3 +0.6**
baz=337
FUSS Fushou 1.27 257 P **Pn 12 42 43.6 +0.3**
baz=256
FUSS S **Sn 12 43 01.2 +0.5**
baz=256
WHF Hehuan Shan 1.28 253 *i* P **Pn 12 42 43.3 -0.3**
baz=251
WHF *i* S **Sn 12 43 00.9 -0.3**
baz=251
ESL Shilin 1.28 236 *i* P **Pn 12 42 42.7 -0.5**
baz=235
ESL S **Sn 12 43 00.3 -0.4**
baz=235
JKRS Kuro-shima 1.32 103 P **Pn 12 42 44.0 +0.4**
JKRS S **Sn 12 43 02.6 +1.2**
TDCB Techi 1.34 258 P **Pn 12 42 44.5 +0.4**
baz=257
TDCB S **Sn 12 43 02.1 -0.1**
baz=257
NCU National Centr 1.36 289 P **Pn 12 42 45.1 +1.0**
baz=288
NCU *e*S **Sn 12 43 02.8 +0.5**
baz=288
EGFH Guangfu 1.37 232 *e*P **Pn 12 42 44.7 +0.4**
baz=230
EGFH *e*S **Sn 12 43 03.0 +0.3**
baz=230
CHGB Renai 1.38 250 P **Pn 12 42 44.5 -0.1**
baz=249
CHGB *e*S **Sn 12 43 03.0 -0.2**
baz=249
JIJ Ishigaki jima 1.42 96 P **Pn 12 42 44.5 -0.3**
JIJ S **Sn 12 43 02.8 -0.7**
OWD Renai 1.42 246 *i* P **Pn 12 42 44.9 -0.1**
baz=245
OWD *i* S **Sn 12 43 03.7 -0.2**
baz=245
LIOB Emei 1.45 275 P **Pn 12 42 45.0 -0.2**
baz=274
LIOB S **Sn 12 43 03.7 -0.6**
baz=274
WUSB Renai 1.46 249 P **Pn 12 42 45.4 0.0**
baz=247
WUSB S **Sn 12 43 04.9 +0.3**
baz=247
NSTT Nanjuang 1.46 274 P **Pn 12 42 44.9 -0.4**
baz=273
NSTT *i* S **Sn 12 43 04.1 -0.4**
baz=273
HGSD Ruisui 1.49 226 P **Pn 12 42 45.7 0.0**
baz=225
HGSD S **Sn 12 43 05.7 +0.5**
baz=225
WHP Taichung City 1.53 261 *i* P **Pn 12 42 47.2 +0.9**
baz=260
WHP S **Sn 12 43 07.2 +0.9**
baz=260
VWDT VWDT 1.54 240 P **Pn 12 42 46.6 +0.2**
baz=239
VWDT S **Sn 12 43 06.4 0.0**
baz=239
EHY Hungye 1.55 229 P **Pn 12 42 45.8 -0.7**
baz=228
EHY *e*S **Sn 12 43 07.1 +0.4**
baz=228
JISG Ishigakijimahi 1.56 88 P **Pn 12 42 46.3 -0.3**
JISG *e*S **Sn 12 43 06.0 -0.7**
WCS Beigang Elemen 1.61 253 *e*P **Pn 12 42 47.7 +0.4**
baz=252
WCS *e*S **Sn 12 43 08.7 +0.8**
baz=252
YULB Yu-li 1.65 227 P **Pn 12 42 47.1 -0.7**
baz=225
YULB *e*S **Sn 12 43 07.4 -1.4**
baz=225
NMLH Miaoli 1.65 271 *e*P **Pn 12 42 48.3 +0.6**
baz=269
NMLH *e*S **Sn 12 43 08.8 0.0**
baz=269
EYUL Yuli 1.66 225 *e*P **Pn 12 42 48.1 +0.2**
baz=224
EYUL *e*S **Sn 12 43 08.3 -0.8**
baz=224
SSLB Suanglung 1.68 244 P **Pn 12 42 48.5 +0.4**
baz=243
SSLB S **Sn 12 43 09.5 0.0**
baz=243
SMLT Sun Moon Lake 1.68 248 *i* P **Pn 12 42 48.9 +0.6**
baz=246
SMLT *e*S **Sn 12 43 09.7 0.0**
baz=246
TYC Yuchr 1.71 249 P **Pn 12 42 49.3 +0.8**
baz=247
TYC S **Sn 12 43 11.0 +0.8**
baz=247
FULB Fuli 1.79 222 *e*P **Pn 12 42 50.2 +0.7**
baz=221
FULB *e*S **Sn 12 43 11.8 -0.2**
baz=221
WJS Zhushan 1.85 248 *e*P **Pn 12 42 51.4 +1.0**
baz=247
WNT Mingjian 1.87 250 *e*P **Pn 12 42 52.1 +1.5**
baz=249
WNT *e*S **Sn 12 43 13.4 -0.4**
baz=249
JTJ Tarama 1.92 86 S **Sn 12 43 14.3 -0.6**
WCHH Zhanghua 1.92 257 *e*P **Pn 12 42 51.6 +0.4**
baz=256
WCHH *e*S **Sn 12 43 15.8 +0.8**
baz=256
ALS Alishan 1.93 239 P **Pn 12 42 52.4 +0.7**
baz=237
ALS *e*S **Sn 12 43 14.7 -1.1**
baz=237
EDH Donghe 1.96 218 *e*P **Pn 12 42 51.4 -0.3**
baz=216
EDH *e*S **Sn 12 43 15.2 -0.7**
baz=216
ELDTW Lidau 1.97 228 *e*P **Pn 12 42 51.3 -0.8**
baz=226
ELDTW *e*S **Sn 12 43 15.5 -1.0**
baz=226
CHN5 Tsauling 1.99 242 *e*P **Pn 12 42 53.0 +0.8**
baz=241
CHN5 *e*S **Sn 12 43 16.4 -0.4**
baz=241
LONT Longtian 2.11 220 *e*P **Pn 12 42 53.2 -0.5**
baz=219
LDUT Ludao 2.12 210 *e*P **Pn 12 42 53.2 -0.7**
baz=208
LDUT *e*S **Sn 12 43 18.7 -1.1**
baz=208
STYH Taoyuan 2.15 231 *e*P **Pn 12 42 54.7 +0.4**
baz=230
STYH *e*S **Sn 12 43 19.7 -0.8**
baz=230
TPUB Ta-pu 2.18 236 *e*P **Pn 12 42 55.1 +0.4**
baz=235
WTP Ta-pu 2.22 235 *e*P **Pn 12 42 56.3 +1.0**
baz=234
CHN1 Nanshi 2.32 235 *e*P **Pn 12 42 58.0 +1.5**
baz=234
SLGT Liugui 2.36 230 *e*P **Pn 12 42 58.7 +1.6**
baz=229

IDC 05 13:28:28.4±0.7, 6°.76S×131°.11E, h0km, mb3.4/1, mb1 3.4/5, mb1mx3.3/24, mbtmp3.3/5, ML2.9/4, Error ellipse: s-maj=29.6km s-min=8.1km az=81.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.86**	**2**	Pn	Pn	13 29 57.0	+0.4
	0.8nm,0.3s,baz=221,slow=23,SNR=1.3						
SIJI				Sn	Sn	13 30 58.0	-6.5
	0.6nm,0.3s,baz=226,slow=23,SNR=5.9						
FITZ	**Fitzroy Crossi**	**12.46**	**205**	Pn	Pn	13 31 27.6	+0.4
	0.1nm,0.3s,baz=22,slow=12,SNR=1.2						
FITZ				Sn	Sn	13 33 40.2	-6.7
	0.1nm,0.3s,baz=235,slow=5.4,SNR=2.0						
WRA	**Warramunga Arr**	**13.47**	**167**	Pn	Pn	13 31 41.7	+0.7
	0.1nm,0.3s,baz=351,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**17.02**	**171**	P	Pn	13 32 26.5	-1.6
	0.0nm,0.3s,baz=353,slow=14,SNR=1.9						
MKAR	**Makanchi Array**	**68.64**	**326**	P	P	13 39 33.5	-0.1
	0.2nm,0.4s,baz=115,slow=10,SNR=9.1						

*NNC **05** 14:17:33.6±0.4, 43°.14N×78°.40E, h4km±4km, mb2.9, mpv2.6, Error ellipse: s-maj=4.5km s-min=1.8km az=167.0, Suspected Mining explosion.*
*KRNET **05** 14:17:34.5±0.1, 43°.15N×78°.41E, h18km, mb2.6*
*SOME **05** 14:17:35.3, 43°.15N×78°.35E, h10km*
ISC 05 14:17:35.5±0.8, 43°.15N±0°.02×78°.37E±0°.02, h10km, n30, σ1°77/59, 16C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.05**	**73**	*e*P	**Pg**	**14 17 35.9**	**-1.8**
	57nm,0.0s						
ZHN				*e*S	**Sg**	**14 17 36.7**	**-2.6**
	4μm,0.1s						
SATY	**Saty**	**0.10**	**165**	⇑*e*P	**Pg**	**14 17 36.8**	**-1.4**
	51nm,0.1s						
SATY				*e*S	**Sg**	**14 17 37.9**	**-2.2**
	896nm,0.1s						
SATY	**Saty**	**0.10**	**165**	P	**Pg**	**14 17 36.7**	**-1.4**
	51nm,0.1s						
SATY				S	**Sg**	**14 17 37.9**	**-2.2**
	896nm,0.1s						
SATY	**Saty**	**0.10**	**165**	⇑*e*P	**Pg**	**14 17 36.8**	**-1.4**
	baz=80						
SATY				⇑*e*S	**Sg**	**14 17 37.9**	**-2.2**
	baz=80						
KPKS	**Kokpek**	**0.39**	**36**	*e*P	**Pg**	**14 17 42.0**	**-1.1**
	7.2nm,0.1s						
KPKS				*e*S	**Sg**	**14 17 47.3**	**-1.0**
	24nm,0.1s						
KPKS	**Kokpek**	**0.39**	**36**	*e*P	**Pg**	**14 17 42.1**	**-1.1**
	baz=32						
KPKS				*e*S	**Sg**	**14 17 47.4**	**-1.0**
	baz=32						
UZB	**Uzynbulak**	**0.48**	**91**	*e*P	**Pg**	**14 17 43.5**	**-1.4**
	3.8nm,0.1s						
UZB				*e*S	**Sg**	**14 17 49.5**	**-1.6**
	26nm,0.1s						
UZB	**Uzynbulak**	**0.48**	**91**	P	**Pg**	**14 17 43.5**	**-1.4**
	5.2nm,0.0s						
UZB				S	**Sg**	**14 17 49.6**	**-1.6**
	26nm,0.1s						
UZB	**Uzynbulak**	**0.48**	**91**	*e*P	**Pg**	**14 17 43.5**	**-1.4**
	baz=90						
UZB				*e*S	**Sg**	**14 17 49.6**	**-1.6**
	baz=90						
ANVS	**Anan'yevo**	**0.64**	**235**	⇑*i*P	**Pg**	**14 17 47.2**	**-0.6**
	baz=37						
ANVS				⇑*i*S	**Sb**	**14 17 56.5**	**-1.3**
	baz=37						
PRZ	**Przheval'sk**	**0.67**	**178**	⇑*i*P	**Pg**	**14 17 47.0**	**-1.5**
	baz=80						
PRZ				⇑*i*S	**Sg**	**14 17 56.0**	**-1.3**
	baz=80						
SHLS	**Shalkode**	**0.80**	**89**	*e*P	**Pn**	**14 17 55.1**	**+2.1**
	1.2nm,0.1s						
SHLS				*e*S	**Sn**	**14 18 09.5**	**+4.5**
	2.7nm,0.3s						
SHLS	**Shalkode**	**0.80**	**89**	P	**Pn**	**14 17 55.1**	**+2.1**
	1.2nm,0.1s						
SHLS				S	**Sn**	**14 18 09.5**	**+4.5**
	2.7nm,0.3s						
SHLS	**Shalkode**	**0.80**	**89**	*e*P	**Pn**	**14 17 55.1**	**+2.1**
	baz=89						
SHLS				*e*S	**Sn**	**14 18 09.5**	**+4.5**
	baz=89						
PDGK	**Podgornoye**	**0.84**	**78**	P	**Pg**	**14 17 49.9**	**-1.8**
	0.6nm,0.2s						
PDGK				S	**Sg**	**14 18 00.7**	**-1.9**
	1.6nm,0.3s						
PDGK	**Podgornoye**	**0.84**	**78**	⇑P	**Pg**	**14 17 49.9**	**-1.8**
	1.1nm,0.6s						
PDGK				⇑S	**Sg**	**14 18 00.7**	**-1.9**
	4.3nm,0.9s						
BLB	**Baldybastay**	**0.95**	**5**	*e*P	**Pb**	**14 17 52.9**	**-1.2**
	2.9nm,0.1s						
BLB				*e*S	**Sg**	**14 18 05.0**	**-1.0**
	8.3nm,0.1s						
BLB	**Baldybastay**	**0.95**	**5**	P	**Pg**	**14 17 52.4**	**-1.3**
BLB				S	**Sg**	**14 18 05.0**	**-1.0**
MDOK	**Medeo**	**0.97**	**271**	⇑P	**Pg**	**14 17 53.2**	**-1.0**
	1.1nm,0.4s						
MDOK				⇓S	**Sg**	**14 18 05.9**	**-0.9**
	2.1nm,0.4s						
TNSS	**Tian-Shan**	**1.05**	**264**	*e*P	**Pg**	**14 17 54.6**	**-1.1**
	1.4nm,0.1s						
TNSS				*e*S	**Sb**	**14 18 09.1**	**-0.9**
TNSS	**Tian-Shan**	**1.05**	**264**	P	**Pb**	**14 17 55.1**	**-0.9**
	1.2nm,0.1s						
TNSS				S	**Sb**	**14 18 09.4**	**-0.5**
	3.1nm,0.2s						
TNSS	**Tian-Shan**	**1.05**	**264**	*e*P	**Pb**	**14 17 55.1**	**-0.9**
	baz=65						
TNSS				*e*S	**Sb**	**14 18 09.5**	**-0.5**
	baz=65						
ARXS	**Arharly**	**1.13**	**340**	*e*P	**Pb**	**14 17 55.9**	**-1.3**
	0.4nm,0.1s						
ARXS				*e*S	**Sg**	**14 18 10.8**	**-1.2**
	2.9nm,0.1s						
KDJ	**Kajisay**	**1.35**	**221**	⇑*i*P	**Pg**	**14 18 00.2**	**-1.2**
	baz=22						
KDJ				⇑*i*S	**Sg**	**14 18 18.2**	**-0.7**
	baz=22						
TARG	**Taragay, Kyrgy**	**1.48**	**197**	⇑*i*P	**Pb**	**14 18 02.5**	**-0.9**
	baz=98						
TARG				⇑*i*S	**Sg**	**14 18 22.4**	**-0.9**
	baz=98						
DJR	**Jarkent**	**1.56**	**41**	*e*P	**Pb**	**14 18 03.5**	**-1.1**
	0.7nm,0.1s						
DJR				*e*S	**Sg**	**14 18 23.9**	**-1.9**
	5.6nm,0.2s						
DJR	**Jarkent**	**1.56**	**41**	P	**Pb**	**14 18 03.5**	**-1.1**
	0.7nm,0.1s						
DJR				S	**Sg**	**14 18 23.9**	**-1.9**
	5.6nm,0.2s						
ULHL	**Ulahol**	**1.81**	**241**	⇑*i*P	**Pb**	**14 18 08.3**	**-0.6**
	baz=41						
ULHL				⇑*i*S	**Sg**	**14 18 32.2**	**-1.6**
	baz=41						
BOOM	**Boomskoye usch**	**1.91**	**250**	⇓*i*P	**Pb**	**14 18 09.5**	**-1.0**
	baz=51						
BOOM				⇓*i*S	**Sb**	**14 18 34.5**	**+0.1**
	baz=51						
AAK	**Ala-Archa**	**2.90**	**261**	⇓Pg	**Pb**	**14 18 26.9**	**-0.4**
	3.0nm,1.2s						
AAK				⇓Lg	Lg	14 19 05.4	
	2.3nm,0.8s						

*MAN **05** 14:33:00.4, 5°.78N×124°.65E, h5km, mb4.0, ML2.8, MS2.4*
*IDC **05** 14:33:03.8±5.8, 5°.69N×124°.50E, h47km±67km, mb3.2/5, mb1 3.4/5, mb1mx2.9/53, mbtmp3.4/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/25, Error ellipse: s-maj=59.8km s-min=17.6km az=79.0*
ISC 05 14:33:02.9±1.1, 5°.66N±0°.08×124°.60E±0°.08, h35km, n10, σ1°26/13, mb3.2/5, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.55**	**40**	⇓*i*P	**Pn**	**14 33 13.5**	**-0.9**
GSPH				*i* S	**Sn**	**14 33 22.2**	**-0.2**
KCP	**Kidapawan**	**1.43**	**20**	⇑*i*P	**Pn**	**14 33 25.3**	**-1.1**
KCP				*i* S	**Sn**	**14 33 43.7**	**-0.3**
DAV	**Davao City (W)**	**1.71**	**35**	P	**Pn**	**14 33 31.7**	**+1.6**
	87nm,0.3s,baz=183,slow=3.9,SNR=8.2						
DAV				S	**Sn**	**14 33 52.9**	**+2.1**
	132nm,0.3s,baz=245,slow=23,SNR=8.6						
DAV				LR	LR	14 34 29.6	
	comp=Z,356nm,19.7s,baz=162,slow=49						
PAGZ	**Pagadian**	**2.48**	**331**	⇓*e*P	**Pn**	**14 33 41.1**	**+0.2**
PAGZ				*e*S	**Sn**	**14 34 11.1**	**+1.2**
KAPI	**Kappang**	**11.66**	**205**	LR	LR	14 40 47.4	
	comp=Z,53nm,18.4s,baz=50,slow=40						
FITZ	**Fitzroy Crossi**	**23.63**	**178**	P	**P**	**14 38 12.8**	**+1.8**
	1.5nm,0.5s,baz=350,slow=3.0,SNR=8.0						
WRA	**Warramunga Arr**	**27.19**	**160**	P	**P**	**14 38 43.1**	**-0.3**
	0.2nm,0.5s,baz=330,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**30.53**	**163**	P	**P**	**14 39 12.5**	**-0.7**
	0.3nm,0.7s,baz=338,slow=6.9,SNR=6.5						
MKAR	**Makanchi Array**	**54.77**	**326**	P	**P**	**14 42 28.4**	**-0.8**
	0.3nm,0.5s,baz=121,slow=6.8,SNR=5.5						
KURBB	**Kurchatov Arra**	**58.98**	**328**	P	**P**	**14 42 57.8**	**-1.1**
	0.1nm,0.5s,baz=118,slow=6.7,SNR=1.6						

*NEIC **05** 14:33:40.8±2.0, 10°.99N±0°.06×62°.00W±0°.06, h107km±5km, mb4.7/187, Error ellipse: s-maj=9.6km s-min=7.9km az=131.0*
*TRN **05** 14:33:41.7, 10°.97N×62°.00W, h103km, MD4.6*
TRN Felt in Trinidad MMI IV, III; GrenadaMMI I V, III; St. Vincent MMI III.
*IDC **05** 14:33:42.2±1.5, 11°.13N×62°.16W, h120km±14km, mb4.2/24, mb1 4.3/25, mb1mx4.2/35, mbtmp4.5/25, MS3.5/9, Ms1 3.5/9, ms1mx3.1/76, Error ellipse: s-maj=12.1km s-min=9.7km az=85.0*
*VAO **05** 14:33:42.5±1.3, 10°.92N×61°.97W, h111km±11km, mb4.5*
*FUNV **05** 14:33:42.3, 10°.92N×61°.92W, h99km, MW4.6*
ISC 05 14:33:40.6±0.6, 10°.99N±0°.03×62°.06W±0°.03, h108km±6km, n439, σ1°29/454, mb4.6/130, 1C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.73**	**117**	*e*P	**Pn**	**14 33 59.4**	**+0.4**
TRN				*e*S	**Sn**	**14 34 11.1**	**-1.8**
TPP	**Pointe-a-Pierr**	**0.90**	**138**	⇑*i*P	**Pn**	**14 34 01.9**	**+1.3**
TBH	**Brigand Hill**	**1.10**	**117**	*e*P	**Pn**	**14 34 03.4**	**+0.7**
TBH	**Brigand Hill**	**1.10**	**117**	*e*	Pn	14 34 15.3	+13
TBH				*e*S	**Sn**	**14 34 19.7**	**+0.4**
GRFF	**Grenada Fort F**	**1.10**	**17**	*e*P	**Pn**	**14 34 03.3**	**+0.5**
GRFF	**Grenada Fort F**	**1.10**	**17**	*e*	Pn	14 34 10.3	+7.6
GRFF				*e*S	**Sn**	**14 34 19.9**	**+0.4**
CRUV	**Carupano**	**1.20**	**255**	*e*P	**Pn**	**14 34 05.7**	**+2.0**
CRUV				*e*S	**Sn**	**14 34 22.4**	**+1.1**
GRGR	**Grenville**	**1.21**	**19**	*e*P	**Pn**	**14 34 04.5**	**+0.6**
GRGR	**Grenville**	**1.21**	**19**	*e*	Pn	14 34 10.9	+7.0
GRGR				*e*S	**Sn**	**14 34 21.5**	**0.0**
GRGR	**Grenville**	**1.21**	**19**	Pn	**Pn**	**14 34 04.4**	**+0.6**
BOT	**Bacolet**	**1.33**	**82**	*e*P	**Pn**	**14 34 05.1**	**-0.2**
TOSP	**Speyside**	**1.53**	**78**	⇓*i*P	**Pn**	**14 34 07.0**	**-0.6**
TOSP	**Speyside**	**1.53**	**78**	*e*	Pn	14 34 20.3	+13
TOSP				*e*S	**Sn**	**14 34 26.4**	**-1.7**
TOSP	**Speyside**	**1.53**	**78**	Pn	**Pn**	**14 34 06.9**	**-0.8**
GCMP	**Grenada, Carri**	**1.61**	**23**	*e*P	**Pn**	**14 34 08.9**	**+0.2**
GCMP	**Grenada, Carri**	**1.61**	**23**	*e*	Pn	14 34 15.2	+6.5
GCMP				*e*S	**Sn**	**14 34 29.4**	**-0.6**
SVOC	**Richmond Hill,**	**2.31**	**21**	*e*P	**Pn**	**14 34 18.0**	**+0.6**
SVOC				*e*S	**Sn**	**14 34 45.8**	**+0.1**
SVB	**Belmont**	**2.41**	**19**	*e*P	**Pn**	**14 34 19.4**	**+0.7**
SVB				*e*S	**Sn**	**14 34 47.5**	**-0.5**
SVB	**Belmont**	**2.41**	**19**	Pn	**Pn**	**14 34 18.9**	**+0.2**
SVV	**Soufriere Volc**	**2.46**	**20**	*e*P	**Pn**	**14 34 21.8**	**+2.3**
PLCV	**Puerto La Cruz**	**2.62**	**252**		**Pn**	**14 34 22.9**	**+1.4**
PCRV	**Puerto La Cruz**	**2.66**	**253**	P	**Pn**	**14 34 22.9**	**+0.8**
	57nm,0.3s,baz=100,slow=3.8,SNR=113						
PCRV				S	**Sn**	**14 34 55.2**	**+1.3**
	60nm,0.3s,baz=201,slow=20,SNR=5.4						
PCRV	**Puerto La Cruz**	**2.66**	**253**	*e*P	**Pn**	**14 34 23.5**	**+1.5**
PCRV				*e*S	**Sn**	**14 34 54.2**	**+0.3**
MCLT	**Moule a Chique**	**2.92**	**22**	*e*P	**Pn**	**14 34 26.8**	**+1.2**
MCLT				*e*S	**Sn**	**14 35 00.3**	**+0.2**
MCLT	**Moule a Chique**	**2.92**	**22**	Pn	**Pn**	**14 34 24.7**	**-0.8**
BCHC	**Barbados, Cave**	**3.19**	**48**	*e*P	**Pn**	**14 34 30.4**	**+1.3**
BCHC				*e*S	**Sn**	**14 35 05.8**	**-0.8**
SLBI	**Saint Lucia, B**	**3.20**	**19**	*e*P	**Pn**	**14 34 29.3**	**+0.1**
SLBI				*e*S	**Sn**	**14 35 06.0**	**-0.7**
BBGH	**Gun Hill**	**3.25**	**49**	*e*P	**Pn**	**14 34 31.3**	**+1.4**
BBGH				*e*S	**Sn**	**14 35 05.0**	**-3.1**
BBGH	**Gun Hill**	**3.25**	**49**	Pn	**Pn**	**14 34 30.8**	**+0.9**
BBSP	**Saint Philip**	**3.30**	**50**	*e*P	**Pn**	**14 34 31.7**	**+1.1**
BBSP				*e*S	**Sn**	**14 35 07.8**	**-1.4**
PRGV	**PARIAGUAN**	**3.37**	**229**	*e*P	**Pn**	**14 34 32.9**	**+1.4**
PRGV				*e*S	**Sn**	**14 35 10.4**	**-0.5**
MPOM	**Morne Pois Mar**	**3.63**	**19**	*e*P	**Pn**	**14 34 36.0**	**+1.1**
MPOM				*e*S	**Sn**	**14 35 15.7**	**-1.4**
MPOM	**Morne Pois Mar**	**3.63**	**19**	Pn	**Pn**	**14 34 35.4**	**+0.4**
BIM	**Bigot**	**3.64**	**15**	*e*P	**Pn**	**14 34 35.8**	**+0.7**
BIM				*e*S	**Sn**	**14 35 16.9**	**-0.5**
BIM	**Bigot**	**3.64**	**15**	Pn	**Pn**	**14 34 35.4**	**+0.3**
TRMF	**Trois Ilets**	**3.66**	**16**	*e*P	**Pn**	**14 34 36.2**	**+0.8**
ZAM	**Aeronautique**	**3.70**	**16**	⇓*e*P	**Pn**	**14 34 36.6**	**+0.7**

LPMF Morne Lapointe 3.72 17 eP Pn 14 34 37.0 +0.7
MVM Montagne Vaucl 3.72 18 eP Pn 14 34 37.1 +0.8
FDF Fort de France 3.83 13 i P Pn 14 34 38.3 +0.6
FDF eS Sn 14 35 21.9 0.0
FDF Fort de France 3.83 13 Pn 14 34 38.0 +0.3
PML Morne Lenard 3.87 13 eP Pn 14 34 39.3 +1.1
GBMF Grand Be 3.89 13 eP Pn 14 34 39.4 +0.9
PCM Pelee Case Pet 3.90 12 eP Pn 14 34 39.3 +0.7
PCM Pelee Case Pet 3.90 12 eP Pn 14 34 39.6 +1.1
BAMF Morne Balai 3.91 13 eP Pn 14 34 39.8 +1.0
SVN Savane Anatole 3.93 13 eP Pn 14 34 39.8 +0.8
SVN Savane Anatole 3.93 13 Pn 14 34 39.4 +0.4
ILAM Ilet Lapin Mar 3.94 17 eP Pn 14 34 40.3 +1.2
ILAM eS Sn 14 35 24.3 -0.1
ILAM Ilet Lapin Mar 3.94 17 Pn 14 34 39.0 -0.1
BIRV Birongo 4.17 263 eP Pn 14 34 44.1 +2.0
BIRV eS Sn 14 35 30.2 +0.2
BIRV Birongo 4.17 263 Pn Pn 14 34 44.5 +2.4
MDN Morne-Daniel 4.36 9 eP Pn 14 34 45.6 +0.9
MDN Morne-Daniel 4.36 9 eS Sn 14 35 32.4 -2.0
DLPL La Plaine 4.39 10 eP Pn 14 34 46.5 +1.3
DLPL La Plaine 4.39 10 eS Sn 14 35 34.2 -1.2
DLPL La Plaine 4.39 10 Pn 14 34 45.7 +0.4
DSLB Salisbury 4.47 8 eP Pn 14 34 47.3 +1.1
DSLB Salisbury 4.47 8 eS Sn 14 35 35.4 -1.9
MERV Las Mercedes 4.51 248 eP Pn 14 34 47.8 +1.0
MERV eS Sn 14 35 37.5 -0.9
MDCT Cottage Hill, 4.64 7 eP Pn 14 34 49.6 +1.0
MDVC Dominica, Viel 4.64 8 eP Pn 14 34 50.3 +1.7
MDVC Dominica, Viel 4.64 8 eS Sn 14 35 40.5 -0.9
CARV Caracas 4.81 265 eP Pn 14 34 52.8 +1.8
CARV eS Sn 14 35 45.1 -0.5
TDBA Terre de Bas, 4.85 5 eP Pn 14 34 52.4 +1.0
TBG Guadaloupe-3 4.85 5 eP Pn 14 34 52.3 +0.8
MAGL Barre de l'ile 4.99 9 eP Pn 14 34 54.5 +1.2
MAGL Barre de l'ile 4.99 9 eS Sn 14 35 48.9 -1.0
LUEV Luepa 5.14 173 eP Pn 14 34 54.2 -1.3
LUEV eS Sn 14 35 47.8 -6.1
H05N1 Guadeloupe/Mar 5.39 10 P Pn 14 34 58.8 +0.1
H05N1 S Sn 14 35 59.8 +0.3
SNR=308
BENV Beln 5.54 260 eP Pn 14 35 01.5 +0.7
BENV eS Sn 14 36 01.6 -1.7
CACV CAICARA DEL OR 5.58 233 eP Pn 14 34 56.7 -4.6
CACV eS Sn 14 35 52.0 -12
TURV Turiamo 5.70 265 eP Pn 14 35 04.3 +1.4
TURV eS Sn 14 36 05.0 -2.1
ANBD Bethesda, Anti 6.03 3 eP Pn 14 35 08.4 +1.1
ANBD Bethesda, Anti 6.03 3 eS Sn 14 36 12.4 -2.7
BAUV El Baul 6.23 252 eP Pn 14 35 11.6 +1.5
BAUV El Baul 6.23 252 eS Sn 14 36 18.4 -1.6
BAUV El Baul 6.23 252 eP Pn 14 35 10.2 +0.1
BAUV eS Sn 14 36 16.7 -3.3
BAUV El Baul 6.23 252 Pn Pn 14 35 09.8 -0.3
SKI Saint Kitts 6.34 354 eP Pn 14 35 13.7 +2.0
SKI Saint Kitts 6.34 354 eS Sn 14 36 20.2 -2.5
MAPV Macapo 6.40 260 eP Pn 14 35 13.1 +0.8
MAPV eS Sn 14 36 20.9 -3.2
SEUS St. Eustatius 6.53 352 e Pn 14 35 17.5 +3.4
SEUS St. Eustatius 6.53 352 Pn 14 35 14.4 +0.2
JACV Jacura 6.65 272 eP Pn 14 35 16.8 +1.1
JACV eS Sn 14 36 26.9 -3.2
ANWB Willy Bob 6.65 2 eP Pn 14 35 17.8 +2.1
ANWB Willy Bob 6.65 2 eS Sn 14 36 26.1 -4.0
ANWB Willy Bob 6.65 2 Pn Pn 14 35 17.6 +1.8
SABA Saba 6.69 350 e Pn 14 35 20.5 +3.6
SABA Saba 6.69 350 Pn Pn 14 35 17.6 +1.2
SMRT St. Maarten 7.09 352 eP Pn 14 35 23.9 +2.1
SMRT St. Maarten 7.09 352 Pn 14 35 23.8 +2.1
CDVI St. Croix 7.22 339 eP Pn 14 35 24.5 +1.0
CDVI St. Croix 7.22 339 Pn Pn 14 35 24.8 +1.3
SIQV Siquisique 7.62 268 eP Pn 14 35 29.6 +0.7
SIQV eS Sn 14 36 49.2 -4.5
MONV Montecano 7.81 278 eP Pn 14 35 32.5 +0.9
MONV eS Sn 14 36 53.4 -5.0
PAYV Puerto Ayacuch 7.83 225 eP Pn 14 35 32.1 +0.3
PAYV eS Sn 14 36 51.9 -6.8
MTP Monte Pirata 7.83 335 Pn 14 35 33.0 +1.2
STVI Saint Thomas 7.84 339 Pn Pn 14 35 33.5 +1.7
CUPR Culebra, Puert 7.92 337 Pn Pn 14 35 34.4 +1.4
PDPR Patillas Dam, 7.97 332 Pn Pn 14 35 34.0 +0.3
HUMP Col San Antoni 8.00 333 Pn 14 35 34.9 +0.7
CBYP Canovanas 8.12 334 Pn 14 35 36.9 +1.2
TORV Torococo 8.16 261 eP Pn 14 35 38.2 +1.7
TORV eS Sn 14 37 04.0 -3.1
GCPR Guaynabo City 8.25 332 Pn Pn 14 35 38.5 +0.9
OBIP Obispado Ponce 8.28 328 Pn 14 35 39.0 +1.1
CELP Cerrillos 8.29 329 Pn Pn 14 35 38.5 +0.4
ELOV Elorza 8.33 242 eP Pn 14 35 38.3 -0.3
ELOV eS Sn 14 37 04.2 -6.9
MLPR Magueyes Islan 8.45 326 Pn 14 35 40.9 +0.7
CRPR Cabo Rojo, PR 8.52 326 Pn 14 35 42.3 +1.2
EMPR Esperanza - Ma 8.61 330 Pn Pn 14 35 44.0 +1.6
AOPR Arecibo Observ 8.61 329 eP Pn 14 35 44.8 +2.4
AOPR Arecibo Observ 8.61 329 Pn 14 35 43.5 +1.1
BOAV Boa Vista 8.67 170 Pn Pn 14 35 40.8 -2.5
SDV Santo Domingo 8.70 257 eP Pn 14 35 45.6 +1.8
EAV Pico El Aguila 8.89 257 eP Pn 14 35 46.2 -0.5
EAV eS Sn 14 37 18.3 -7.1
AGPR Aguadilla, PR 8.90 327 Pn 14 35 47.2 +1.0
SOCV Socops 9.08 254 eP Pn 14 35 45.2 -3.6
SOCV Socops 9.08 254 eP Sn 14 35 47.3 -1.5
SOCV eS Sn 14 37 21.7 -7.6
VIGV El Vigia 9.41 258 eP Pn 14 35 52.8 -0.5
VIGV eS Sn 14 37 29.4 -8.0
URIC Uribia, Colomb 9.77 275 eP Pn 14 36 02.4 +4.3
CAPV Capacho 10.58 254 eP Pn 14 36 08.4 -1.0
CAPV eS Sn 14 37 56.3 -10
MDP Montagnes des 11.01 121 P Pn 14 36 10.7 -4.3
5.7nm,0.3s,baz=324,slow=14,SNR=21
MDP S Sn 14 38 03.3 -13
22nm,0.3s,baz=35,slow=20,SNR=24
PAMC Pamplona, Colo 11.11 252 eP Pn 14 36 14.8 -2.0
PTGA Pitinga 11.83 170 P Pn 14 36 23.9 -1.9
12nm,0.3s,baz=355,slow=15,SNR=22
PTGA S Sn 14 38 26.1 -10
16nm,0.3s,baz=282,slow=15,SNR=20
PTGA LR LR 14 42 00.5
comp=Z,52nm,19.8s,baz=75,slow=42
SDDR Presa de Saban 11.94 313 Pn 14 36 30.8 +3.4
RUSC La Rusia 12.02 246 eP Pn 14 36 33.8 +4.9
SMLC San Martn de 12.03 261 eP Pn 14 36 30.9 +2.4
SJCC San Jacinto, C 12.95 266 eP Pn 14 36 40.5 -0.2
SPBC San Pablo de B 13.01 247 eP Pn 14 36 33.8 -7.7
PTBC PUERTO BERRIO, 13.02 251 eP Pn 14 36 41.4 -0.2
ZARC Zaragoza, Cauc 13.10 256 eP Pn 14 36 43.3 +0.7
VILC Villavicencio, 13.40 240 eP P 14 36 54.8 +2.6
ROSC El Rosal 13.59 244 LR LR 14 42 23.5
comp=Z,139nm,20.1s,baz=106,slow=38
GRTK Grand Turk 13.61 321 P P 14 36 53.4 -0.9
UREC San Jos de Ur 13.67 258 eP P 14 36 59.5 +4.4
NORC Norcasia 13.77 248 eP Pn 14 36 49.0 -2.3
MACA Manacapuru-AM 14.12 174 Pn Pn 14 36 54.4 -1.5
GUY2C Guyana, Caldas 14.36 248 eP Pn 14 36 59.5 +0.2
DBBC Dabeiba 14.52 255 eP P 14 37 06.2 +1.6
PRAC Prado 14.62 241 eP P 14 37 07.1 +1.4
PLMC San Jos del P 15.32 248 eP P 14 37 15.7 +2.2
ITTB Itaituba 16.50 157 eP Pn 14 37 22.6 -3.1
SOTA Rioblanco 16.91 240 eP P 14 37 35.7 +4.2
TBTG Tabatinga, AM 16.98 208 eP P 14 37 31.5 -0.3
NPGB Novo Progresso 19.12 159 eP P 14 37 55.6 +0.4
TMAB Tom-Au,PA,Br 19.21 133 eP P 14 37 56.5 +0.3
PRPB Parauapebas 20.96 144 eP P 14 38 16.1 +0.9
ETMB Extrema 21.08 191 eP P 14 38 17.8 +1.4
ETMB Extrema 21.08 191 P P 14 38 17.0 +0.6
CZSB Cruzeiro do Su 21.40 210 eP P 14 38 21.1 +1.3
BBSR BB Station 21.42 354 P P 14 38 22.0 +2.1
ROSB Rosrio 22.56 127 eP P 14 38 32.3 +0.3
CLDB Colider 22.59 164 eP P 14 38 33.3 +1.0
PDRB Porto dos Gac 23.07 167 eP P 14 38 37.8 +0.8
SOR Soroa 23.19 303 P P 14 38 38.6 +0.5
VILB Vilhena 23.86 176 eP P 14 38 44.3 +0.1
ATAH Atahualpa 24.26 223 P P 14 38 50.9 +2.6
19nm,0.7s,baz=9.3,slow=4.5,SNR=10
SMTB Santa Maria do 24.42 143 eP P 14 38 49.2 -0.1
SNDB Serra Nova Dou 25.19 155 eP P 14 38 56.5 +0.2
PTLB Pontes e Lacer 26.43 174 eP P 14 39 07.4 +0.1
PEXB Peixe 26.70 149 eP P 14 39 10.0 +0.1
SIV San Ignacio 26.82 178 P P 14 39 12.8 +1.8
5.2nm,0.8s,baz=6.6,slow=8.2,SNR=21
SIV LR LR 14 50 26.1
comp=Z,59nm,19.0s,baz=284,slow=37
NNA Nana 27.14 213 P P 14 39 15.3 +1.5
8.0nm,0.4s,baz=239,slow=19,SNR=4.7
NNA LR LR 14 50 11.3
comp=Z,60nm,21.7s,baz=16,slow=36
SALV Santo Antonio 27.45 167 eP P 14 39 16.4 -0.2
LPAZ La Paz 27.76 193 P P 14 39 22.0 +2.0
3.0nm,0.8s,baz=5.3,slow=10,SNR=11
LPAZ La Paz 27.76 193 eP P 14 39 19.3 -0.7
LPAZ La Paz 27.76 193 P P 14 39 20.5 +0.5
ARAG Araguaiana, MT 28.40 159 eP P 14 39 25.0 0.0
SDBA SAO DESIDERIO 28.82 143 eP P 14 39 28.9 0.0
PP1B Ponte de Pedra 29.28 166 eP P 14 39 32.9 +0.1
BDFB Brasilia 29.89 152 P P 14 39 39.8 +1.4
5.0nm,0.8s,baz=310,slow=7.5,SNR=6.8
PB16 IPOC Station P 30.05 194 P P 14 39 39.4 -0.9
V53A Saluda 30.95 326 P P 14 39 48.4 +0.8
V53A IAmb IAmb 14 40 17.5
comp=Z,14nm,1.0s
U54A Nelsons Funny 31.06 328 P P 14 39 49.3 +0.7
U54A IAmb IAmb 14 40 00.8
comp=Z,28nm,1.4s
PB11 IPOC Station P 31.46 194 P P 14 39 51.1 -1.1
PB11 IAmb IAmb 14 39 52.8
comp=Z,13nm,0.9s
PB08 IPOC Station P 31.71 193 P P 14 39 54.6 -0.1
PB08 IAmb IAmb 14 39 55.8
comp=Z,11nm,1.0s
Y49A Blount Mountai 31.85 319 P P 14 39 55.8 +0.3
Y49A IAmb IAmb 14 40 18.7
comp=Z,13nm,1.2s
TZTN Tazewell 32.00 326 P P 14 39 56.9 +0.2
W50A Signal Mountai 32.06 322 P P 14 39 57.8 +0.6
ITRB Iturama 32.60 159 eP P 14 40 02.0 -0.1
PB01 IPOC Station P 32.66 193 P P 14 40 02.7 +0.1
PB01 IAmb IAmb 14 40 04.7
comp=Z,7.4nm,0.7s
S51A Beattyville 32.84 327 P P 14 40 04.2 +0.2
S51A IAmb IAmb 14 40 05.2
comp=Z,17nm,0.8s
M57A Sunshine Farm, 33.01 339 P P 14 40 05.9 +0.5
M57A IAmb IAmb 14 40 09.2
comp=Z,18nm,1.2s
T50A Nancy 33.06 325 P P 14 40 06.0 +0.1
T50A IAmb IAmb 14 40 07.4
comp=Z,13nm,0.9s
PB09 IPOC Station P 33.33 192 P P 14 40 08.7 +0.1
PB09 IAmb IAmb 14 40 10.5
comp=Z,7.5nm,0.9s
PB07 IPOC Station P 33.41 193 P P 14 40 09.1 -0.2
PB07 IAmb IAmb 14 40 10.4
comp=Z,12nm,1.0s
HAL Halifax 33.56 358 P P 14 40 10.5 +0.4
PLAL Pickwick Lake 33.63 319 P P 14 40 11.0 +0.1
PLAL IAmb IAmb 14 40 11.7
comp=Z,9.3nm,0.8s
M55A Ridgway 33.73 337 P P 14 40 11.5 -0.1
M55A IAmb IAmb 14 40 22.6
comp=Z,26nm,1.3s
L56A Greenwood 33.87 339 P P 14 40 13.1 +0.2
L56A IAmb IAmb 14 40 14.1
comp=Z,17nm,1.2s
LVC Limon Verde 34.06 191 LR LR 14 55 27.9
comp=Z,60nm,20.3s,baz=348,slow=38
LVC Limon Verde 34.06 191 P P 14 40 15.3 +0.3
WVT Waverly 34.20 321 P P 14 40 15.4 -0.4
WVT IAmb IAmb 14 40 16.4
comp=Z,14nm,0.7s
DIAM Diamantina, MG 34.29 148 eP P 14 40 16.5 -0.5
T47A Sharon Grove 34.34 323 P P 14 40 17.7 +0.7
T47A IAmb IAmb 14 40 18.2
comp=Z,17nm,0.8s
CMC01 Camacan, BA 34.41 139 eP P 14 40 17.5 -0.3
WVNY West Valley, N 34.48 338 P P 14 40 18.2 +0.1
NCB Newcomb 34.51 344 P P 14 40 18.4 0.0
NCB IAmb IAmb 14 40 45.8
comp=Z,22nm,1.5s
P49A Miami Univ. Ec 34.83 329 P P 14 40 21.3 +0.1
G62A West of Eustis 34.88 350 P P 14 40 22.3 +0.8
O49A Covington 35.14 330 P P 14 40 24.5 +0.7
O49A IAmb IAmb 14 40 24.8
comp=Z,12nm,1.2s
F64A Sherman 35.17 352 P P 14 40 24.3 +0.4
E62A Clayton Lake 36.07 351 P P 14 40 32.3 +0.5
E62A IAmb IAmb 14 40 58.8
comp=Z,17nm,1.2s
S44A Carbondale 36.09 322 P P 14 40 31.9 -0.1
BATG Bathurst New B 36.33 355 P P 14 40 34.2 +0.4
N47A Urbana 36.34 329 P P 14 40 34.5 +0.5
D62A Allapoint, All 36.46 352 P P 14 40 35.3 +0.4
D62A IAmb IAmb 14 40 50.9
comp=Z,22nm,1.4s
SADO Sadowa 36.73 340 LR LR 14 57 25.5
comp=Z,85nm,19.0s,baz=324,slow=39
Q44A Meyer Farm, Va 36.74 324 P P 14 40 37.3 -0.2
T42A Van Buren 36.81 320 P P 14 40 37.3 -0.9
T42A IAmb IAmb 14 40 53.3
comp=Z,12nm,1.5s
FCAR Ozark Folk Cen 36.81 317 P P 14 40 37.3 -0.9
FCAR IAmb IAmb 14 40 38.1
comp=Z,8.4nm,0.7s
FVM French Village 36.99 321 P P 14 40 39.0 -0.6
FVM IAmb IAmb 14 40 39.9
comp=Z,8.7nm,0.6s
O44A Mansfield 37.28 326 P P 14 40 42.1 +0.1
CPUP Villa Florida 37.38 173 P P 14 40 43.2 +0.2
comp=Z,6.4nm,0.8s,baz=354,slow=9.3,SNR=8.9
CPUP Villa Florida 37.38 173 P P 14 40 43.4 +0.4
CPUP IAmb IAmb 14 40 44.6
comp=Z,7.1nm,0.8s
P43A Skaggs, Pawnee 37.52 324 P P 14 40 44.0 -0.1
CCM Cathedral Cave 37.53 321 P P 14 40 43.5 -0.8
CCM IAmb IAmb 14 40 44.2
comp=Z,6.9nm,0.7s
W39A Magazine 37.56 315 P P 14 40 44.4 -0.2
W39A IAmb IAmb 14 40 44.8
comp=Z,6.1nm,0.8s
MGMO Mountain Grove 37.64 319 P P 14 40 44.9 -0.3
AC02 Maricunga 38.22 190 P P 14 40 50.5 -0.1
AC02 IAmb IAmb 14 40 52.9
comp=Z,8.6nm,1.1s
DRLN Deer Lake 38.34 5 P P 14 40 51.2 +0.4
S39A Bolivar 38.63 319 P P 14 40 52.3 -1.3
P40A Paris 38.94 322 P P 14 40 54.9 -1.1
833A Chaparral WMA, 38.95 302 P P 14 40 55.8 -0.5
833A IAmb IAmb 14 40 56.5
comp=Z,14nm,0.8s
L42A Oliver, Polo 39.22 327 P P 14 40 57.9 -0.3
G45A Suttons Bay 39.51 334 P P 14 41 01.3 +0.6
AC04 Llanos de Chal 39.92 192 P P 14 41 04.4 +0.1
AC04 IAmb IAmb 14 41 31.8
comp=Z,14nm,1.2s
JCT Junction City 40.01 305 P P 14 41 04.5 -0.7
L40A Anamosa 40.10 326 P P 14 41 04.2 -1.4
JFWS Jewell Farm 40.16 327 P P 14 41 05.4 -0.7
JFWS IAmb IAmb 14 41 09.5
comp=Z,32nm,1.4s
X34A Smith Ranch, M 40.16 312 P P 14 41 05.4 -0.9
I42A Draeger Farm, 40.17 330 P P 14 41 05.6 -0.5
N38A Joes South For 40.44 323 P P 14 41 07.4 -1.0
ABTX Abilene, Hawle 40.69 308 P P 14 41 09.3 -1.4
WMOK Wichita Mounta 40.92 311 P P 14 41 10.7 -1.8
K38A Parkersburg 41.35 325 P P 14 41 15.3 -0.6
G40A Rib Lake 41.80 330 P P 14 41 18.5 -1.0
G40A IAmb IAmb 14 41 21.7
comp=Z,26nm,1.4s
U32A Winter Ranch, 41.83 313 P P 14 41 19.0 -0.9
CPSB Cacapava Do Su 41.98 169 eP P 14 41 20.9 -0.2
TXAR Lajitas Array 42.83 301 P P 14 41 27.4 -0.8
comp=Z,1.3nm,0.4s,baz=119,slow=11,SNR=19
TXAR PcP PcP 14 43 17.8 +0.2
comp=Z,1.6nm,0.7s,baz=126,slow=6.9,SNR=7.9
TXAR ScP ScP 14 46 57.5 -1.4
comp=Z,0.5nm,0.8s,baz=116,slow=5.8,SNR=4.0
TXAR Lajitas Array 42.83 301 P P 14 41 28.0 -0.3
TX31 Lajitas Ar. Si 42.83 301 P P 14 41 28.1 -0.1
TX31 IAmb IAmb 14 41 30.2
comp=Z,7.5nm,0.8s
TX32 Lajitas Array 42.83 301 P P 14 41 28.1 -0.2
PLTB Pedras Altas 43.27 169 eP P 14 41 31.2 -0.3
MSTX Muleshoe 43.62 308 P P 14 41 33.7 -0.9
MSTX IAmb IAmb 14 41 34.4
comp=Z,21nm,0.9s
F36A Milaca 43.89 328 P P 14 41 34.8 -1.5
SCHQ Schefferville 43.90 356 P P 14 41 36.2 -0.1
comp=Z,9.6nm,0.6s,baz=181,slow=6.9,SNR=26
SCHQ Schefferville 43.90 356 P P 14 41 36.6 +0.3
SCHQ IAmb IAmb 14 41 37.6
comp=Z,20nm,1.1s
ECSD EROS Data Cent 44.22 324 P P 14 41 38.5 -0.5
ECSD IAmb IAmb 14 41 39.4
comp=Z,11nm,0.7s
MT02 Curacav 44.84 191 P P 14 41 44.4 +0.4
MT02 IAmb IAmb 14 41 45.6
comp=Z,11nm,0.8s
MNTX Cornudas Mount 44.93 304 P P 14 41 44.3 -0.6
MT09 Talagante 45.32 190 P P 14 41 48.2 +0.3
MT09 IAmb IAmb 14 42 05.1
comp=Z,8.4nm,1.1s
B35A Bob, Littlefor 45.70 331 P P 14 41 48.9 -1.7
B35A IAmb IAmb 14 42 03.0
comp=Z,18nm,1.3s
MACI Morro de la Ar 45.91 61 P P 14 41 54.3 +1.4
T25A Trinidad 46.07 312 P P 14 41 52.9 -1.2
BO02 Sierra Bellavi 46.27 190 P P 14 41 56.0 +0.7
BO02 IAmb IAmb 14 41 57.1
comp=Z,14nm,0.7s
PMOZ Porto Moniz, M 46.52 55 eP P 14 41 59.6 +2.1
BNM Barren Site 46.69 307 P P 14 41 58.9 -0.1
AGMN Agassiz Nation 46.70 329 P P 14 41 56.9 -1.6
AGMN IAmb IAmb 14 41 57.5
comp=Z,7.4nm,0.6s
ANMO Albuquerque 46.82 308 P P 14 41 59.5 -0.4
LENM Lemitar 46.97 307 P P 14 42 01.4 +0.4
SDCO Great Sand Dun 47.11 312 P P 14 42 01.0 -1.2
121A Cookes Peak, D 47.13 304 P P 14 42 02.2 -0.2
ISCO Idaho Springs 48.01 314 P P 14 42 08.3 -0.9
ULM Lac du Bonnet 48.02 331 P P 14 42 06.5 -2.1
comp=Z,4.7nm,0.4s,baz=131,slow=7.6,SNR=6.4
ULM LR LR 15 03 26.6
comp=Z,78nm,18.4s,baz=274,slow=37
ULM Lac du Bonnet 48.02 331 P P 14 42 06.6 -2.1
ULM IAmb IAmb 14 42 06.8
comp=Z,5.4nm,0.5s
S22A 4UR Ranch, Cre 48.08 311 P P 14 42 09.1 -0.7
W18A Petrified Fore 49.42 307 P P 14 42 19.8 -0.1
PV01 Paradox Valley 49.51 311 P P 14 42 20.4 -0.2
PV01 IAmb IAmb 14 42 21.3
comp=Z,7.2nm,0.9s
PV15 Paradox Valley 49.51 312 P P 14 42 20.4 -0.2
PV15 IAmb IAmb 14 42 21.3
comp=Z,9.0nm,0.9s
PV02 Paradox Valley 49.66 311 P P 14 42 21.6 -0.1
PV02 IAmb IAmb 14 42 22.4
comp=Z,8.4nm,0.7s
PV13 Radium Mtn., P 49.70 311 P P 14 42 21.8 -0.3
PV13 IAmb IAmb 14 42 22.7
comp=Z,6.9nm,0.9s
PV12 Saucer Basin, 49.74 311 P P 14 42 22.1 -0.3
PV12 IAmb IAmb 14 42 23.0
comp=Z,6.7nm,0.9s
PV03 Paradox Valley 49.75 311 P P 14 42 21.9 -0.5
PV03 IAmb IAmb 14 42 23.0
comp=Z,5.5nm,1.0s
PV16 Nyswonger Mesa 49.82 311 P P 14 42 22.5 -0.5
PV16 IAmb IAmb 14 42 23.3
comp=Z,8.5nm,1.3s
PV14 Lion Creek, Pa 49.92 311 P P 14 42 23.1 -0.7
PV14 IAmb IAmb 14 42 23.9
comp=Z,5.9nm,0.8s
LC01 Cunco 50.46 190 P P 14 42 27.6 +0.2
LC01 IAmb IAmb 14 42 29.3
comp=Z,14nm,1.1s
WUAZ Wupatki 50.82 307 P P 14 42 30.4 -0.1
WUAZ IAmb IAmb 14 42 31.6
comp=Z,4.9nm,0.8s
H10N3 ASCENSION HYDR 50.89 110 T T 15 37 55.0
baz=293,slow=75,SNR=144
H10N2 ASCENSION HYDR 50.90 110 T T 15 37 55.5
baz=293,slow=75,SNR=97
H10N1 ASCENSION HYDR 50.91 110 T T 15 37 54.2
baz=293,slow=75,SNR=97
H10S3 ASCENSION HYDR 51.14 111 T T 15 38 18.3
baz=295,slow=75,SNR=234
H10S2 ASCENSION HYDR 51.16 111 T T 15 38 19.6
baz=285,slow=75,SNR=85
DGMT Dagmar 51.25 325 P P 14 42 33.0 -0.3
P18A Preston Nutter 51.25 312 P P 14 42 33.0 -0.8
P18A IAmb IAmb 14 42 34.1
comp=Z,8.1nm,0.9s
SRU San Rafael Swe 51.28 312 P P 14 42 32.9 -1.0
SRU IAmb IAmb 14 42 34.0
comp=Z,4.4nm,0.7s
LAO LASA Array 51.52 322 P P 14 42 34.7 -0.7
LAO IAmb IAmb 14 42 35.4
comp=Z,7.0nm,0.8s
P17A Butcher Ranch, 51.56 312 P P 14 42 34.6 -1.3
P17A IAmb IAmb 14 42 35.8
comp=Z,3.9nm,0.6s
U15A North Rim 51.79 308 P P 14 42 37.2 -0.6
TMUT Trail Mountain 51.84 312 P P 14 42 37.3 -0.9
TMUT IAmb IAmb 14 42 38.4
comp=Z,3.8nm,0.7s
BW06 Boulder Array 51.93 316 P P 14 42 36.9 -1.8
BW06 IAmb IAmb 14 42 38.1
comp=Z,4.1nm,0.8s
PD31 Pinedale Array 51.93 316 P P 14 42 36.8 -1.9
PDAR Pinedale Array 51.93 316 P P 14 42 37.2 -1.5
comp=Z,3.3nm,0.6s,baz=114,slow=9.4,SNR=39
PDAR LR LR 15 07 10.7
comp=Z,141nm,18.6s,baz=310,slow=39
PDAR Pinedale Array 51.93 316 P P 14 42 36.9 -1.8
PLCA Paso Flores 52.05 188 P P 14 42 40.4 +1.1
comp=Z,7.4nm,0.9s,baz=4.3,slow=7.8,SNR=25
PLCA Paso Flores 52.05 188 eP P 14 42 40.5 +1.1
PLCA Paso Flores 52.05 188 P P 14 42 40.0 +0.6
PLCA IAmb IAmb 14 42 41.4
comp=Z,7.7nm,0.9s
MTPU Mount Pierson 52.17 310 P P 14 42 40.2 -0.6
MTPU IAmb IAmb 14 42 41.4
comp=Z,6.6nm,1.2s
MSU Marysvale 52.31 310 P P 14 42 41.0 -0.6
MVU Marysvale 52.33 310 P P 14 42 41.3 -0.5
MVU IAmb IAmb 14 42 42.6
comp=Z,9.8nm,1.0s
JLU Jordanelle 52.45 313 P P 14 42 41.9 -0.7
LCMT Little Creek M 52.69 308 P P 14 42 44.1 -0.2
RLMT Red Lodge 52.70 319 P P 14 42 43.9 -0.5
RLMT IAmb IAmb 14 42 44.2
comp=Z,8.2nm,1.2s
AHID Auburn Hatcher 52.98 316 P P 14 42 44.6 -1.8
AHID IAmb IAmb 14 42 45.7
comp=Z,4.9nm,0.8s
REDW Red Top Meadow 53.03 317 P P 14 42 45.9 -1.0
GCMT Greycliff 53.24 320 P P 14 42 47.0 -1.2
DUG Dugway, Tooele 53.30 312 P P 14 42 47.6 -1.1
DUG IAmb IAmb 14 42 48.8
comp=Z,4.7nm,0.8s
FCC Fort Churchill 53.45 340 P P 14 42 47.1 -2.2
FCC IAmb IAmb 14 42 48.4
comp=Z,7.1nm,1.1s
BGU Big Grassy Mou 53.69 313 P P 14 42 50.4 -1.2
BGU IAmb IAmb 14 42 51.5
comp=Z,6.7nm,0.9s
HVU Hansel Valley 53.79 314 P P 14 42 50.4 -1.9
SPR3 Spring Creek 3 54.06 310 P P 14 42 53.9 -0.6
SPR3 IAmb IAmb 14 42 56.5
comp=Z,9.9nm,1.5s
EGMT Eagleton 54.27 322 P P 14 42 54.7 -0.9
BOZ Bozeman (W) 54.41 319 P P 14 42 55.5 -1.3
PNCL Nicolau / Gran 54.78 51 eP P 14 43 02.3 +3.0
MCMT McKenzie Canyo 54.92 318 P P 14 42 60.0 -0.6
HRY Holter Researc 54.99 320 P P 14 42 59.9 -1.0
TPNV Topopah Spring 55.00 308 P P 14 43 00.9 -0.2
ELK Elko 55.23 312 LR LR 15 10 24.4
comp=Z,71nm,19.2s,baz=302,slow=40
ELK Elko 55.23 312 P P 14 43 02.1 -0.8
PMTG Montargil 55.26 50 eP P 14 43 04.6 +1.8
PCAS Casmilo, Conde 55.32 49 eP P 14 43 04.3 +1.1
HLID Hailey 55.53 316 P P 14 43 03.7 -1.2
HLID IAmb IAmb 14 43 05.1
comp=Z,3.6nm,0.8s
PVIS Viseu 55.95 48 eP P 14 43 09.5 +1.8
PMRV Marv??o 55.97 50 eP P 14 43 10.8 +2.9
PCBR Castelo Branco 56.02 49 eP P 14 43 10.1 +1.9
PVRL Vila Real 56.23 47 eP P 14 43 11.4 +1.6
DY2G Dye2 56.45 8 i P P 14 43 10.2 -0.8

DY2G IAmb IAmb 14 43 12.1
comp=Z,35nm,0.7s
SFJD Kangerlussuaq 56.47 5 P **P 14 43 10.6 -0.3**
SFJD IAmb IAmb 14 43 12.2
comp=Z,12nm,0.9s
BMN Battle Mountai 56.60 311 P **P 14 43 11.6 -0.9**
KOWA Kowa 56.60 80 P **P 14 43 13.5 +0.7**
KOWA IAmb IAmb 14 43 14.6
comp=Z,6.8nm,0.9s
DBIC Dimbokro 56.62 89 P **P 14 43 13.4 +0.5**
comp=Z,1.0nm,0.4s,baz=259,slow=2.9,SNR=4.5
DBIC Dimbokro 56.62 89 P **P 14 43 12.8 -0.1**
MVO Moncorvo 56.70 48 *e*P **P 14 43 15.7 +2.6**
NV11 Mina Array Sit 56.81 309 P **P 14 43 13.4 -0.7**
NVAR Mina Array Bea 56.92 309 P **P 14 43 14.1 -0.9**
comp=Z,0.8nm,0.6s,baz=95,slow=5.7,SNR=4.2
PLID Pearl Lake 57.10 317 P **P 14 43 14.5 -1.6**
WALA Waterton Lakes 57.21 322 P **P 14 43 15.3 -1.4**
WALA IAmb IAmb 14 43 15.6
comp=Z,13nm,1.5s
J08A Circle Bar Ran 58.28 314 P **P 14 43 23.9 -0.3**
PAB San Pablo 58.29 50 P **P 14 43 25.9 +1.6**
ILULI Ilulissat 58.60 5 P **P 14 43 26.3 +0.5**
ESDC Sonseca Array 58.61 50 P **P 14 43 27.2 +0.8**
comp=Z,9.1nm,0.8s,baz=262,slow=7.5,SNR=30
ESDC Sonseca Array 58.61 50 P **P 14 43 28.1 +1.6**
ESDC IAmb IAmb 14 43 29.3
comp=Z,6.6nm,0.9s
ESBB Sonseca Array 58.61 50 P **P 14 43 27.9 +1.4**
ESBB IAmb IAmb 14 43 28.7
comp=Z,9.9nm,0.8s
EDM Edmonton 58.63 327 P **P 14 43 24.9 -1.4**
NEW Newport 58.89 320 P **P 14 43 27.0 -1.3**
I07A Izee 59.20 315 P **P 14 43 29.7 -0.9**
I07A IAmb IAmb 14 43 30.4
comp=Z,7.2nm,1.0s
ICESG Greenland Ices 59.83 9 *i* P **P 14 43 33.9 -0.8**
ICESG IAmb IAmb 14 43 35.8
comp=Z,22nm,0.9s
K05A Summer Lake 59.84 313 P **P 14 43 34.5 -0.6**
B08A Colville Reser 60.32 320 P **P 14 43 37.0 -1.1**
LTY Liberty 60.85 318 P **P 14 43 41.3 -0.5**
LTY IAmb IAmb 14 43 41.9
comp=Z,6.3nm,0.7s
YBH Yreka Blue Hor 60.93 312 P **P 14 43 40.8 -1.7**
YBH IAmb IAmb 14 43 42.3
comp=Z,12nm,1.5s
KBO Bosley Butte 62.14 312 P **P 14 43 50.5 0.0**
TORD Torodi Ar. Bea 62.24 81 P **P 14 43 51.1 -0.4**
comp=Z,1.1nm,0.4s,baz=288,slow=6.5,SNR=11
TORD Torodi Ar. Bea 62.24 81 IAmb IAmb 14 43 52.6
comp=Z,1.7nm,1.0s
PGC Sidney 63.03 319 P **P 14 43 55.4 -0.8**
PGC IAmb IAmb 14 44 15.3
comp=Z,15nm,1.1s
SUMG Summit 63.15 8 *i* P **P 14 43 57.8 +0.8**
SUMG IAmb IAmb 14 43 58.3
comp=Z,14nm,0.8s
SUMG Summit 63.15 8 P **P 14 43 57.5 +0.4**
CLRS Cowichan Lake 63.51 319 P **P 14 43 57.7 -1.6**
YKA Yellowknife Ar 63.58 336 P **P 14 43 57.2 -2.3**
comp=Z,3.7nm,0.7s,baz=111,slow=7.3,SNR=32
YKA Yellowknife Ar 63.58 336 P **P 14 43 57.4 -2.1**
SET Setif 65.43 55 P **P 14 44 12.0 -0.3**
TULEG Thule 65.64 358 P **P 14 44 11.6 -1.1**
TULEG IAmb IAmb 14 44 12.8
comp=Z,7.8nm,0.7s
NEEM North Greenlan 66.69 3 *i* P **P 14 44 18.7 -1.1**
NEEM IAmb IAmb 14 44 20.1
comp=Z,11nm,0.6s
DBG Daneborg 67.59 11 *i* P **P 14 44 25.3 +0.2**
DBG IAmb IAmb 14 44 26.8
comp=Z,9.1nm,0.8s
KEST Kesra 68.60 56 P **P 14 44 33.0 +0.7**
comp=Z,5.2nm,0.8s,baz=171,slow=4.6,SNR=4.6
KEST Kesra 68.60 56 P **P 14 44 31.4 -0.9**
KEST IAmb IAmb 14 44 37.4
comp=Z,8.1nm,0.9s
DLBC Dease Lake 69.22 329 P **P 14 44 35.3 -0.4**
DLBC IAmb IAmb 14 44 38.1
comp=Z,17nm,1.5s
MSSA Maissana 69.23 47 P **P 14 44 36.6 +0.6**
DAG Danmarks Havn 69.60 10 *i* P **P 14 44 35.1 -2.5**
DAG IAmb IAmb 14 44 37.7
comp=Z,1.9nm,0.8s
DAVA Damuels 69.76 44 *i* P **P 14 44 40.2 +0.8**
comp=Z,14nm,0.9s
EUNU Eureka 70.00 356 P **P 14 44 39.8 -0.3**
EUNU IAmb IAmb 14 44 41.2
comp=Z,6.4nm,0.8s
CASP Castiglione de 70.10 48 P **P 14 44 41.6 +0.3**
CASP IAmb IAmb 14 44 51.0
comp=Z,24nm,1.1s
ZCCA Zocca 70.28 47 P **P 14 44 42.8 +0.3**
FETA Feichten 70.31 44 *i* P **P 14 44 43.5 +0.7**
comp=Z,8.1nm,0.7s
RETA Reutte 70.38 43 *i* P **P 14 44 43.6 +0.6**
comp=Z,11nm,1.2s
MOTA Moosalm 70.60 44 *e*P **P 14 44 44.8 +0.4**
comp=Z,8.0nm,0.9s,SNR=5.2
SQTA Sankt Quirin 70.66 44 *e*P **P 14 44 45.4 +0.6**
comp=Z,11nm,0.8s,SNR=5.6
CTI Castel Tesino 70.87 45 P **P 14 44 45.8 -0.3**
WATA Walderalm 70.92 44 *i* P **P 14 44 46.9 +0.5**
comp=Z,4.8nm,0.7s
WTTA Wattenberg 70.95 44 *i* P **P 14 44 46.7 +0.1**
comp=Z,7.9nm,0.9s
MURB Monte Urbino 71.34 48 P **P 14 44 48.6 -0.3**
MURB IAmb IAmb 14 45 09.2
comp=Z,13nm,1.0s
ABTA Abfaltersbach 71.51 44 *i* P **P 14 44 50.3 +0.4**
comp=Z,5.8nm,0.9s,SNR=5.0
ZOU Zoufplan 71.82 45 P **P 14 44 51.6 -0.3**
ZOU IAmb IAmb 14 44 52.9
comp=Z,9.4nm,1.0s
KBA Koelnbreinsper 72.10 44 *i* P **P 14 44 53.9 +0.4**
comp=Z,11nm,0.9s
NBO00 NORSAR Array S 72.16 29 P **P 14 44 53.6 +0.2**
CLL Collm 72.17 40 *e*P **P 14 44 54.0 +0.4**
NAO01 NORSAR Array S 72.18 29 P **P 14 44 54.4 +0.9**
NC204 NORSAR Array S 72.19 29 P **P 14 44 53.9 +0.2**
MYKA Terra Mystica 72.28 45 *i* P **P 14 44 54.6 +0.1**
comp=Z,7.8nm,1.2s
NB2 NORSAR Subarra 72.37 29 P **P 14 44 55.8 +1.1**
comp=Z,0.8nm,0.3s,baz=262,slow=6.5
NOA NORSAR Array B 72.37 29 P **P 14 44 55.1 +0.4**
comp=Z,4.7nm,0.7s,baz=262,slow=6.0,SNR=15
GEC2 GERESS Array S 72.44 42 P **P 14 44 55.1 -0.4**
GEC2 IAmb IAmb 14 44 56.7
comp=Z,7.0nm,0.9s
GERES GERESS Array B 72.44 42 P **P 14 44 55.7 +0.3**
comp=Z,4.0nm,0.8s,baz=259,slow=4.9,SNR=26
GERES GERESS Array B 72.44 42 P **P 14 44 55.3 -0.1**
NC303 NORSAR Array S 72.47 29 P **P 14 44 55.7 +0.4**
NC303 IAmb IAmb 14 45 02.0
comp=Z,18nm,1.4s
NC405 NORSAR Array S 72.62 29 P **P 14 44 56.4 +0.3**
NC405 IAmb IAmb 14 45 18.6
comp=Z,10nm,1.2s
OBKA Obir 72.90 45 *e*P **P 14 44 58.6 +0.4**
comp=Z,4.7nm,0.7s
NOR Nord 73.22 6 *i* P **P 14 44 57.8 -1.5**
NOR IAmb IAmb 14 44 59.3
comp=Z,4.0nm,0.8s
DAWY Dawson 74.65 334 P **P 14 45 06.9 -1.0**
MODS Modra-Piesok 74.80 43 *e*P **P 14 45 09.4 +0.3**
CTGM Chitina Glacie 75.26 330 P **P 14 45 12.1 +0.4**
CTGM IAmb IAmb 14 45 12.4
comp=Z,8.0nm,0.9s
M27K Edge Creek, AK 75.61 332 P **P 14 45 13.3 -0.4**
M27K IAmb IAmb 14 45 14.0
comp=Z,7.1nm,0.9s
BCAR Beaver Creek A 75.62 332 P **P 14 45 12.9 -0.6**
L27K Beaver Creek, 75.64 332 P **P 14 45 13.1 -0.6**
SCRK Sand Creek 76.66 333 P **P 14 45 18.4 -1.1**
N25K Chitina, Valde 76.86 331 P **P 14 45 20.0 -0.6**
SPB2 Spitsbergen Ar 76.95 12 P **P 14 45 21.6 +0.8**
BMAR Burnt Mountain 77.05 337 P **P 14 45 20.3 -1.3**
IL31 77.93 334 P **P 14 45 24.8 -1.6**
ILAR Eielson Array 77.93 334 P **P 14 45 24.7 -1.8**
comp=Z,1.9nm,0.6s,baz=89,slow=4.5,SNR=29
ILAR Eielson Array 77.93 334 P **P 14 45 24.5 -2.0**
H24K Noodor Dome 78.34 335 P **P 14 45 27.5 -1.3**
MDM Murphy Dome 78.50 334 P **P 14 45 28.4 -1.3**
MDM IAmb IAmb 14 45 29.1
comp=Z,8.0nm,0.8s
RND Reindeer 78.82 333 P **P 14 45 30.9 -0.6**
RND IAmb IAmb 14 45 35.3
comp=Z,16nm,1.4s
NEA2 Nenana 78.88 334 P **P 14 45 30.1 -1.6**
NEA2 IAmb IAmb 14 45 31.1
comp=Z,9.5nm,0.7s
ARCES ARCESS Array B 78.94 21 P **P 14 45 32.1 +0.2**
comp=Z,12nm,0.7s,baz=266,slow=4.9,SNR=34
ARCES ARCESS Array B 78.94 21 P **P 14 45 32.4 +0.5**
TOLK Toolik Lake Re 78.94 338 P **P 14 45 30.6 -1.4**
I23K Minto, Yukon-K 78.98 335 P **P 14 45 30.9 -1.3**
KEV Kevo 79.45 21 P **P 14 45 35.4 +0.7**
KEV IAmb IAmb 14 45 36.2
comp=Z,19nm,0.9s
FINES FINESS Array B 79.55 29 P **P 14 45 36.1 +0.8**
comp=Z,5.6nm,0.6s,baz=264,slow=3.1,SNR=33
FINES FINESS Array B 79.55 29 P **P 14 45 35.9 +0.6**
FIA1 FINESS Array S 79.55 29 P **P 14 45 35.9 +0.6**
BPAW Bear Paw Mtn. 79.73 333 P **P 14 45 35.1 -1.3**
BPAW IAmb IAmb 14 45 36.4
comp=Z,16nm,1.3s
BUR08 Bucovina Ar. S 80.14 43 P **P 14 45 40.1 +1.1**
BUR08 IAmb IAmb 14 45 41.7
comp=Z,15nm,1.2s
KDAK Kodiak Island 81.08 327 P **P 14 45 43.0 -0.6**
comp=Z,8.3nm,0.7s,baz=143,slow=18
AKASG Malin Array Be 82.41 40 P **P 14 45 50.1 -0.6**
comp=Z,0.2nm,0.4s,baz=259,slow=4.8,SNR=5.5
AKASG Malin Array Be 82.41 40 IAmb IAmb 14 45 51.9
comp=Z,27nm,1.3s
BRTR Keskin Array B 87.40 50 P **P 14 46 16.4 +0.2**
comp=Z,3.2nm,0.8s,baz=238,slow=4.2,SNR=4.6
LZH Lanzhou 131.33 15 *e*PKP **PKPdf 14 52 41.4 +0.5**
PZH PanZhiHua 139.55 23 PKP **PKPdf 14 52 55.3 -1.1**
CMAR Chiang Mai Arr 145.25 33 PKPbc **PKPdf 14 53 06.8 +0.3**
comp=Z,15nm,0.9s,baz=315,slow=5.4,SNR=116
CMAR Chiang Mai Arr 145.25 33 **PKPbc 14 53 06.4 -0.1**
STKA Stephens Creek 149.85 223 PKPbc **PKPbc 14 53 18.2 -0.5**
comp=Z,2.1nm,0.6s,baz=354,slow=4.0,SNR=3.2
ASAR Alice Springs 160.25 228 PKP **PKPdf 14 53 27.8 -0.4**
comp=Z,0.4nm,0.8s,baz=103,slow=1.1,SNR=7.6
ASAR Alice Springs 160.25 228 **PKPdf 14 53 27.4 -0.8**
WRA Warramunga Arr 161.87 239 PKP **PKPdf 14 53 28.2 -1.7**
comp=Z,1.4nm,0.9s,baz=160,slow=0.3,SNR=9.3
WRA Warramunga Arr 161.87 239 **PKPdf 14 53 29.4 -0.6**

ANF ***05*** *14:41:20.5±0.3,48°.28N×122°.08W,h19km±1km,ML2.4/6, Error ellipse: s-maj=3.2km s-min=2.4km az=41.0*
IASPEI ***05*** *14:41:20.8±0.8,48°.31N±0°.02×122°.09W±0°.02,h18km±4km, Error ellipse: s-maj=2.7km s-min=2.4km az=35.3,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
NEIC ***05*** *14:41:21.1±1.5,48°.31N±0°.02×122°.09W±0°.02,h19km±2km, Error ellipse: s-maj=3.2km s-min=1.7km az=163.0*
PGC ***05*** *14:41:22.1±0.1,48°.31N×122°.10W,h4km,ML2.6,ML2.0/22, 81km Nne of Seattle, Wa Washington*
PNSN ***05*** *14:41:22.0,48°.30N×122°.07W,h13km,MD2.6, Fault plane solution: NP1:φ5220.00000°,δ60.00000°,λ110.00000°.*
SEA ***05*** *14:41:22±1.9,48°.30N±0°.01×122°.07W±0°.01,h14km±3km, ML2.6/72,ML2.4/26(NEIC), Error ellipse: s-maj=2.1km s-min=0.7km az=139.0*
ISC 05 14:41:21.4±0.9,48°.30N±0°.02×122°.12W±0°.01,h18km±3km, n116,σ1$32/158,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B05A	**Bryant**	**0.04**	**160**		**Pg**	**14 41 24.1**	**-0.5**
B05A					Sg	14 41 26.1	-0.7
B05A	**Bryant**	**0.04**	**160**	P	**Pg**	**14 41 24.1**	**-0.5**
	baz=27,SNR=512						
B05A				S	**Sg**	**14 41 26.1**	**-0.7**
	baz=27						
CMW	**Cultus Mountai**	**0.12**	**359**		**Pg**	**14 41 24.9**	**-0.6**
CMW	**Cultus Mountai**	**0.12**	**359**	P	**Pg**	**14 41 25.0**	**-0.6**
JCW	**Jim Creek**	**0.16**	**131**		**Pg**	**14 41 25.4**	**-0.5**
JCW					**Sg**	**14 41 28.1**	**-0.8**
JCW	**Jim Creek**	**0.16**	**131**	P	**Pg**	**14 41 25.4**	**-0.5**
SVOH	**Skagit Valley**	**0.35**	**268**		**Pg**	**14 41 28.9**	**+0.2**
SVOH					**Sg**	**14 41 34.6**	**+1.0**
SVOH	**Skagit Valley**	**0.35**	**268**	P	**Pg**	**14 41 28.9**	**+0.2**
SVOH				S	**Sg**	**14 41 33.8**	**+0.2**
RPW	**Rockport**	**0.43**	**69**		**Pg**	**14 41 29.5**	**-0.7**
RPW					**Sg**	**14 41 35.3**	**-0.9**
RPW	**Rockport**	**0.43**	**69**	P	**Pg**	**14 41 29.5**	**-0.7**
RPW				S	**Sg**	**14 41 35.2**	**-0.9**
MBPA	**Monroe Substat**	**0.43**	**159**		**Pg**	**14 41 30.0**	**-0.2**
MBPA					**Sg**	**14 41 35.9**	**-0.2**
B06A	**Marblemount**	**0.47**	**62**		**Pg**	**14 41 30.1**	**-0.8**
B06A					**Sg**	**14 41 36.7**	**-0.7**
B06A	**Marblemount**	**0.47**	**62**	IAML		14 41 37.0	
	comp=N,851nm,0.4s						
B06A				IAML		14 41 37.2	
	comp=E,774nm,0.3s						
B06A	**Marblemount**	**0.47**	**62**	P	**Pg**	**14 41 30.2**	**-0.8**
B06A				S	**Sg**	**14 41 36.5**	**-1.0**
HTW	**Haystack Looko**	**0.55**	**155**		**Pg**	**14 41 31.8**	**-0.6**
A04D	**Lummi Island**	**0.57**	**317**		**Pg**	**14 41 32.5**	**-0.4**
A04D	**Lummi Island**	**0.57**	**317**	P	**Pg**	**14 41 32.4**	**-0.4**
	baz=134,SNR=20						
A04D				S	**Sg**	**14 41 41.2**	**+0.6**
	baz=134						
SHUK	**Shuksan-Mt. Ba**	**0.62**	**28**		**Pg**	**14 41 33.1**	**-0.7**
SQM	**Sequim**	**0.66**	**250**		**Pg**	**14 41 34.6**	**+0.1**
C05A	**Tolt Reservoir**	**0.67**	**155**		**Pg**	**14 41 34.0**	**-0.6**
C05A					**Sg**	**14 41 42.9**	**-0.7**
C05A	**Tolt Reservoir**	**0.67**	**155**	P	**Pg**	**14 41 33.8**	**-0.8**
C05A				S	**Sg**	**14 41 42.8**	**-0.7**
GPW	**Glacier Peak**	**0.68**	**105**		**Pg**	**14 41 33.7**	**-1.1**
GPW	**Glacier Peak**	**0.68**	**105**	P	**Pg**	**14 41 33.8**	**-1.1**
GPW				S	**Sg**	**14 41 42.2**	**-1.7**
A05A	**Maple Falls**	**0.70**	**2**	P	**Pg**	**14 41 34.6**	**-0.5**
A05A				S	**Sg**	**14 41 44.2**	**-0.2**
B013	**Quilcene**	**0.72**	**228**		**Pg**	**14 41 35.0**	**-0.6**
B013	**Quilcene**	**0.72**	**228**		**Pg**	**14 41 35.0**	**-0.6**
VDB	**Vedder Mountai**	**0.73**	**1**		**Pg**	**14 41 34.9**	**-0.7**
VDB	**Vedder Mountai**	**0.73**	**1**	P	**Pg**	**14 41 35.0**	**-0.7**
VDB				S	**Sg**	**14 41 44.4**	**-1.0**
VGZ	**Gonzales**	**0.81**	**279**		**Pg**	**14 41 36.1**	**-1.2**
VGZ	**Gonzales**	**0.81**	**279**	P	**Pg**	**14 41 36.0**	**-1.3**
VGZ				S	**Sg**	**14 41 47.5**	**-0.5**
C04A	**Brinnon**	**0.82**	**225**		**Pg**	**14 41 36.8**	**-0.6**
SNB	**Saturna Island**	**0.85**	**305**		**Pg**	**14 41 37.1**	**-0.9**
SNB	**Saturna Island**	**0.85**	**305**	P	**Pg**	**14 41 37.0**	**-0.9**
GMW	**Gold Mountain**	**0.88**	**211**		**Pg**	**14 41 37.5**	**-1.0**
GNW	**Green Mountain**	**0.88**	**213**		**Pg**	**14 41 37.5**	**-1.0**
GNW	**Green Mountain**	**0.88**	**213**	P	**Pg**	**14 41 37.4**	**-1.0**
GNW				S	**Sg**	**14 41 49.1**	**-0.9**
RATT	**Rattlesnake La**	**0.90**	**166**		**Pg**	**14 41 38.1**	**-0.8**
C06D	**Leavenworth**	**0.90**	**114**		**Pg**	**14 41 37.4**	**-1.5**
C06D	**Leavenworth**	**0.90**	**114**	P	**Pg**	**14 41 37.2**	**-1.7**
	baz=296,SNR=6.5						
C06D				S	**Sg**	**14 41 48.8**	**-2.0**
	baz=296						
HDW	**Hoodsport**	**0.91**	**224**		**Pg**	**14 41 38.1**	**-1.0**
HDW	**Hoodsport**	**0.91**	**224**	P	**Pg**	**14 41 38.1**	**-1.0**
HDW				S	**Sg**	**14 41 50.2**	**-0.8**
B011	**North Saanich**	**0.95**	**292**		**Pg**	**14 41 38.2**	**-1.7**
B011	**North Saanich**	**0.95**	**292**	P	**Pg**	**14 41 38.2**	**-1.7**
B011				S	**Sg**	**14 41 51.0**	**-1.5**
PA01	**PA01 North**	**0.95**	**292**	P	**Pg**	**14 41 38.4**	**-1.5**
PA12	**PA12 Sannich**	**0.95**	**292**	P	**Pg**	**14 41 38.2**	**-1.7**
B009	**North Saanich**	**0.95**	**292**	P	**Pg**	**14 41 38.3**	**-1.7**
B009				S	**Sg**	**14 41 51.1**	**-1.4**
B010	**North Saanich**	**0.95**	**292**	P	**Pg**	**14 41 38.2**	**-1.7**
B010				S	**Sg**	**14 41 51.0**	**-1.6**
PGC	**Sidney**	**0.95**	**292**	Pg	**Pg**	**14 41 38.0**	**-1.9**
PGC				IAML		14 41 53.4	
	comp=N,81nm,0.1s						
PGC				IAML		14 41 54.7	
	comp=E,60nm,0.1s						
PGC	**Sidney**	**0.95**	**292**	P	**Pg**	**14 41 38.4**	**-1.6**
PGC				S	**Sg**	**14 41 51.1**	**-1.4**
B04A	**Port Angeles**	**0.96**	**256**		**Pg**	**14 41 38.8**	**-1.2**
B04A	**Port Angeles**	**0.96**	**256**		**Pg**	**14 41 38.4**	**-1.7**
B04A				IAML		14 41 52.9	
	comp=E,130nm,0.5s						
B04A				IAML		14 41 53.5	
	comp=N,86nm,0.2s						
D03D	**Eldon**	**1.01**	**221**		**Pg**	**14 41 39.5**	**-1.4**
D03D	**Eldon**	**1.01**	**221**	P	**Pg**	**14 41 39.5**	**-1.4**
	baz=41,SNR=12						
D03D				S	**Sg**	**14 41 52.9**	**-1.2**
	baz=41						
HNBB	**Haney**	**1.03**	**343**	P	**Pg**	**14 41 39.7**	**-1.7**
HNBB				S	**Sg**	**14 41 53.0**	**-2.1**
STW	**Striped Peak**	**1.05**	**262**	P	**Pg**	**14 41 40.0**	**-1.7**
D05A	**Enumclaw**	**1.12**	**176**	Pn	**Pg**	**14 41 42.0**	**-1.0**
D05A				IAML		14 41 58.0	
	comp=N,113nm,0.5s						
D05A	**Enumclaw**	**1.12**	**176**	P	**Pg**	**14 41 42.0**	**-1.0**
D05A				S	**Sg**	**14 41 56.0**	**-1.6**
GSM	**Grass Mountain**	**1.12**	**169**		**Pg**	**14 41 41.8**	**-1.3**
GOBB	**Galiano Island**	**1.13**	**306**	P	**Pg**	**14 41 41.4**	**-1.9**
GOBB				S	**Sg**	**14 41 56.4**	**-1.7**
SLFW	**Sugar Loaf**	**1.20**	**116**		**Pg**	**14 41 42.8**	**-1.8**
D04E	**Lakebay**	**1.21**	**202**	Sg	**Sg**	**14 42 01.0**	**+0.5**
	baz=23						
NLW	**Nelson Butte**	**1.21**	**100**		**Pg**	**14 41 43.2**	**-1.7**
OBC	**Olympics--Boni**	**1.34**	**259**		**Pn**	**14 41 45.5**	**+0.2**
OBC	**Olympics--Boni**	**1.34**	**259**	P	**Pn**	**14 41 45.4**	**+0.2**
BIB	**Bowen Island**	**1.36**	**325**	P	**Pn**	**14 41 45.1**	**-0.2**
BIB				S	**Sb**	**14 42 02.3**	**-1.0**
ETW	**Entiat**	**1.39**	**119**		**Pn**	**14 41 45.9**	**0.0**
FMW	**Mount Fremont**	**1.40**	**167**		**Pn**	**14 41 46.2**	**0.0**
FMW	**Mount Fremont**	**1.40**	**167**	P	**Pn**	**14 41 46.2**	**0.0**
FMW				S	**Sg**	**14 42 03.7**	**-3.0**
OBSR	**Observation Ro**	**1.42**	**172**		**Pn**	**14 41 46.8**	**+0.3**
LTY	**Liberty**	**1.43**	**136**		**Pn**	**14 41 46.3**	**-0.1**
LTY				IAML		14 42 06.3	
	comp=N,51nm,0.6s						
LTY	**Liberty**	**1.43**	**136**	P	**Pn**	**14 41 46.7**	**+0.2**
LTY				S	**Sb**	**14 42 04.8**	**-0.5**
CLRS	**Cowichan Lake**	**1.44**	**292**	Pn	**Pn**	**14 41 45.5**	**-1.0**
CLRS	**Cowichan Lake**	**1.44**	**292**	P	**Pn**	**14 41 45.7**	**-0.8**
CLRS				S	**Sb**	**14 42 04.4**	**-1.1**
B926	**Mesachie Lake**	**1.44**	**292**	P	**Pn**	**14 41 45.8**	**-0.6**
B926				S	**Sb**	**14 42 04.0**	**-1.5**
RCS	**Mount Rainier-**	**1.45**	**170**		**Pn**	**14 41 47.4**	**+0.3**
CBSW	**Chelan Butte S**	**1.48**	**109**		**Pn**	**14 41 47.9**	**+0.8**
PANH	**Panhandle Gap,**	**1.48**	**167**		**Pn**	**14 41 47.7**	**+0.5**
NLWA	**Neilton Lookou**	**1.49**	**233**	Pn	**Pn**	**14 41 47.4**	**+0.1**
NLWA				IAML		14 42 13.4	
	comp=N,30nm,2.9s						
NLWA				IAML		14 42 15.8	
	comp=N,34nm,2.9s						
REMR	**Mount Rainier-**	**1.49**	**173**		**Pn**	**14 41 48.7**	**+1.3**
TBM	**Table Mountain**	**1.53**	**137**		**Pn**	**14 41 49.0**	**+1.2**
WPB	**Watts Point**	**1.54**	**332**	P	**Pn**	**14 41 47.7**	**-0.2**
WPB				S	**Sn**	**14 42 07.0**	**-0.4**
NLLB	**Nanaimo Lost L**	**1.55**	**308**		**Pn**	**14 41 48.0**	**0.0**
NLLB	**Nanaimo Lost L**	**1.55**	**308**	P	**Pn**	**14 41 47.9**	**-0.2**
NLLB				S	**Sn**	**14 42 07.8**	**+0.1**
LON	**Longmire**	**1.56**	**172**		**Pn**	**14 41 48.9**	**+0.6**
WTV	**Waterville**	**1.57**	**112**		**Pn**	**14 41 49.9**	**+1.5**
PFB	**Port Renfrew**	**1.57**	**281**	P	**Pn**	**14 41 48.2**	**-0.2**
PFB				S	**Sn**	**14 42 07.9**	**-0.3**
DHW2	**Dyer Hill 2**	**1.60**	**100**		**Pn**	**14 41 50.6**	**+1.8**
WPW	**White Pass**	**1.65**	**166**		**Pn**	**14 41 50.8**	**+1.3**
EBG	**Ellensburg**	**1.74**	**142**		**Pn**	**14 41 53.0**	**+2.3**
SHB	**Sechelt**	**1.74**	**319**		**Pn**	**14 41 51.4**	**+0.6**
SHB	**Sechelt**	**1.74**	**319**	P	**Pn**	**14 41 50.7**	**-0.1**
SHB				S	**Sn**	**14 42 12.6**	**+0.1**
E04D	**Cinebar**	**1.77**	**190**		**Pn**	**14 41 52.9**	**+1.8**
E04D	**Cinebar**	**1.77**	**190**	Pb	**Pn**	**14 41 52.2**	**+1.2**
	baz=11						
E04D				Sb	**Sn**	**14 42 15.3**	**+2.2**
	baz=11						
NAC	**Naches**	**1.79**	**150**		**Pn**	**14 41 54.0**	**+2.6**
MGB	**Mount Grey**	**1.85**	**293**	P	**Pn**	**14 41 52.5**	**+0.3**
MGB				S	**Sn**	**14 42 15.9**	**+0.8**
B08A	**Colville Reser**	**1.86**	**87**	Pn	**Pn**	**14 41 51.8**	**-0.5**
B08A	**Colville Reser**	**1.86**	**87**	P	**Pn**	**14 41 54.3**	**+1.9**
B08A				S	**Sn**	**14 42 17.0**	**+1.6**
WSLR	**Whistler**	**1.90**	**344**		**Pn**	**14 41 55.0**	**+2.0**
WSLR	**Whistler**	**1.90**	**344**	P	**Pn**	**14 41 54.3**	**+1.3**
WSLR				S	**Sn**	**14 42 18.2**	**+1.7**
PNT	**Penticton**	**1.94**	**57**	S	**Sn**	**14 42 19.8**	**+2.4**
B201	**Coldwater, Mou**	**2.00**	**183**		**Pn**	**14 41 56.2**	**+1.9**
ERK	**Elk Rock**	**2.00**	**184**		**Pn**	**14 41 56.1**	**+1.7**
E03A	**Lebam**	**2.01**	**210**	Pn	**Pn**	**14 41 54.7**	**+0.3**
E03A				IAML		14 42 55.2	
	comp=N,47nm,2.3s						
TXB	**Texada**	**2.07**	**313**	P	**Pn**	**14 41 56.0**	**+0.8**
TXB				S	**Sn**	**14 42 23.1**	**+2.6**
B928	**Bamfield**	**2.08**	**286**	P	**Pn**	**14 41 56.7**	**+1.5**
BFSB	**Bamfield**	**2.08**	**286**	P	**Pn**	**14 41 56.5**	**+1.3**
FHE	**Frenchman Hill**	**2.23**	**126**		**Pb**	**14 42 01.5**	**+0.4**
LLLB	**Lillooet**	**2.32**	**4**	P	**Pn**	**14 42 00.6**	**+1.9**
F04A	**Amboy**	**2.38**	**185**	Pn	**Pn**	**14 41 59.9**	**+0.5**
F04A				IAML		14 42 33.1	
	comp=N,28nm,0.7s						
F04A				IAML		14 42 34.9	
	comp=E,32nm,1.1s						
LOCW	**Locke Island**	**2.41**	**130**		**Pb**	**14 42 04.8**	**+0.6**
BTB	**Buttle Lake**	**2.53**	**299**	P	**Pn**	**14 42 04.0**	**+2.3**
BTB				S	**Sn**	**14 42 36.5**	**+4.3**
HAWA	**Hanford**	**2.59**	**136**	Pn	**Pn**	**14 42 02.0**	**-0.4**
HAWA				IAML		14 42 42.2	
	comp=E,14nm,0.7s						
HAWA				IAML		14 42 44.2	
	comp=E,15nm,1.0s						
C09A	**Chrisman Ranch**	**2.62**	**100**	Pn	**Pn**	**14 42 02.4**	**-0.5**
C09A				IAML		14 42 49.5	
	comp=E,30nm,0.3s						
NCRB	**Newcastle Ridg**	**3.33**	**311**	P	**Pn**	**14 42 16.6**	**+4.1**
WOSB	**Woss**	**3.46**	**304**	P	**Pn**	**14 42 18.6**	**+4.2**
TLCB	**Telegraph Cove**	**3.81**	**308**	Pn	**Pn**	**14 42 19.5**	**+0.4**

EAF ***05*** *15:07:18.7±2.5,24°.51S×25°.26E,h37km±44km,MD3.9*
BUL 05 15:07:13.8±7.1,24°.48S×24°.95E,h10km±148km,MD4.1, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**0.79**	**132**	*i* P	Pn	15 07 31.4	+0.2
LBTB	**Lobatse**	**0.79**	**132**	*i* P	Pn	15 07 31.4	+0.2
BOSA	**Boshof**	**4.13**	**176**	*i* P	Pn	15 08 19.3	+2.3
BOSA				*i* Sg	Sb	15 09 17.5	+0.9
BOSA	**Boshof**	**4.13**	**176**	*i* P	Pn	15 08 19.3	+2.3
BOSA				*i* Sg	Sb	15 09 17.5	+0.9
MATP	**Matopo**	**5.20**	**40**	*i* P	Pn	15 08 32.3	+0.5
MATP				*i* S	Sn	15 09 23.5	-8.4
MATP	**Matop

INDI	Punta indio, G	4.08	302	eP	Pn	15 22 51.9	-0.7
PTAC	Punta Ardita,	4.19	97	eP	Pn	15 22 51.9	-2.2
SAJU	San Juanillo,	4.36	303	eP	Pn	15 22 55.8	-0.7
PIZC	Pizarro, Choco	5.34	120	eP	Pb	15 23 26.2	+2.9
DBBC	Dabeiba	5.78	96	eP	Pn	15 23 15.7	-0.3
CBOC	Ciudad Bolivar	6.21	107	eP	Pn	15 23 18.6	-3.5
PLMC	San Jos del P	6.32	116	eP	Pn	15 23 20.5	-2.9
UREC	San Jos de Ur	6.41	89	eP	Pg	15 23 52.4	+0.5
HELC	Santa Helena	6.59	103	eP	Pn	15 23 27.1	-0.3
YOTC	Yotoco, Valle	6.72	123	eP	Pn	15 23 28.1	-0.9
GUY2C	Guyana, Caldas	7.03	110	eP	Pn	15 23 38.6	+5.0
ZARC	Zaragoza, Cauc	7.08	91	eP	Pn	15 23 37.6	+3.8
SJCC	San Jacinto, C	7.08	71	eP	Pn	15 23 35.7	+1.8
POPC	Popayan, Colom	7.37	134	eP	Pn	15 23 36.7	-1.3
NORC	Norcasia	7.39	106	eP	Pn	15 23 40.6	+2.5
ORTC	Ortega, Tolima	7.69	119	eP	Pn	15 23 48.1	+5.8
SOTA	Rioblanco	7.70	136	eP	Pn	15 23 45.0	+2.2
PCON	Cinco Dias	7.71	133	eP	Pn	15 23 44.3	+1.2
PRAC	Prado	8.10	119	eP	Pn	15 23 48.1	+0.2
BETC	Betania	8.21	127	eP	Pn	15 23 50.0	+0.6
OCAC	Ocana	8.61	86	eP	Pn	15 23 48.1	-6.9
CHIC	Chingaza	8.76	110	eP	Pn	15 23 59.5	+2.2
VILC	Villavicencio,	8.99	113	eP	Pn	15 24 02.4	+2.2
PAMC	Pamplona, Colo	9.22	92	eP	Pn	15 24 06.2	+2.5

IDC 05 15:27:58.1±8.3, 25°.94S×28°.53E, h0km, mb1 2.6/1, mb1mx2.6/26, mbtmp2.6/1, ML2.2/1, Error ellipse: s-maj=78.2km s-min=56.5km az=137.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	3.95	227	Pn	Pn	15 28 59.8	-0.3
	0.1nm,0.3s,baz=50,slow=14,SNR=1.7						
BOSA				Pg	Pb	15 29 10.5	+1.9
	0.2nm,0.3s,baz=49,slow=16,SNR=5.2						
BOSA				Lg	Lg	15 30 03.6	
	0.9nm,0.3s,baz=144,slow=15,SNR=11						
I47ZA	BOSHOF INFRASO	3.97	227	i		15 53 30.0	
	baz=49,slow=301,SNR=4.3						
I35NA	TSUMEB INFRASO	12.14	301	i		16 39 40.0	
	baz=127,slow=307,SNR=4.7						

IDC 05 15:31:23.4±12.0, 28°.51S×69°.43W, h0km, mb3.5/1, mb1 3.5/1, mb1mx3.3/31, mbtmp3.5/1, MS3.5/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=829.7km s-min=125.7km az=3.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	23.57	62	LR	LR	15 46 54.5	
	comp=Z,130nm,21.7s,baz=311,slow=40						
TORD	Torodi Ar. Bea	80.21	69	P	P	15 43 36.3	0.0
	1.0nm,1.2s,baz=226,slow=5.1,SNR=2.1						
ZALV	Zalesovo Beam	148.38	29	PKPbc	PKPbc	15 51 10.7	-0.7
	0.7nm,0.5s,baz=318,slow=1.9,SNR=3.6						
MKAR	Makanchi Array	151.34	43	PKPbc	PKPbc	15 51 18.8	-0.2
	0.6nm,0.6s,baz=319,slow=1.4,SNR=9.9						

WEL 05 15:35:14.9±0.9, 34°.S±5°.×17°.9E±1°.2, h33km, M4.0/12, ML4.2/19, MLv4.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=97.8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.29	194	P	Pn	15 36 04.9	+0.8
MXZ				S	Sn	15 36 45.8	+3.6
WMGZ	Waiomatatini S	3.52	191	P	Pn	15 36 08.1	+0.8
WMGZ				S	Sn	15 36 51.9	+4.1
HAZ	Te Kaha	3.60	199	P	Pn	15 36 09.4	+1.0
HAZ				S	Sn	15 36 52.1	+2.3
PKGZ	Pakihiroa	3.65	195	P	Pn	15 36 09.6	+0.4
PKGZ				S	Sn	15 36 52.3	+1.1
KUZ	Kuaotunu	3.76	230	P	Pn	15 36 11.7	+1.1
PUZ	Puketiti	3.79	192	P	Pn	15 36 10.6	-0.5
PUZ				S	Sn	15 36 57.3	+2.6
RUGZ	Raukumara Rang	3.83	200	P	Pn	15 36 12.1	+0.5
TWGZ	Tauwhareparae	3.95	195	P	Pn	15 36 13.4	+0.1
TWGZ				S	Sn	15 37 00.7	+2.2
OPRZ	Ohinepanea	4.12	212	P	Pn	15 36 16.4	+0.8
CNGZ	Carnagh Statio	4.21	192	P	Pn	15 36 16.2	-0.5
MWZ	Matawai	4.21	199	P	Pn	15 36 16.6	-0.2
MWZ				S	Sn	15 37 05.8	+0.9
TKGZ	Te Karaka	4.23	196	P	Pn	15 36 16.1	-1.0
TKGZ				S	Sn	15 37 06.6	+1.2
URZ	Urewera	4.27	204	P	Pn	15 36 17.5	-0.1
URZ				S	Sn	15 37 07.4	+1.1
WCZ	Waipu Caves	4.35	247	P	Pn	15 36 19.1	+0.4
RAGZ	Rawiri	4.39	200	P	Pn	15 36 19.5	+0.1
RAGZ				S	Sn	15 37 09.4	-0.1
KARZ	Kaharoa	4.41	213	P	Pn	15 36 21.1	+1.6
RIGZ	Rimuhau	4.51	195	P	Pn	15 36 19.7	-1.2
RIGZ				S	Sn	15 37 11.4	-0.8
TOZ	Tahuroa Road	4.55	221	P	Pn	15 36 25.8	+4.2
MUGZ	Murupara	4.58	206	P	Pn	15 36 21.1	-0.9
MUGZ				S	Sn	15 37 14.7	+0.6
RTZ	Ruatahuna	4.64	203	P	Pn	15 36 20.4	-2.3
RTZ				S	Sn	15 37 14.2	-1.2
SNGZ	Shannon Statio	4.68	199	P	Pn	15 36 22.2	-1.1
SNGZ				S	Sn	15 37 15.8	-0.7
PRGZ	Paritu Road	4.69	194	P	Pn	15 36 23.1	-0.3
MRHZ	Matea Rd	5.03	207	P	Pn	15 36 27.3	-0.7
NMHZ	Naumai	5.13	202	P	Pn	15 36 28.4	-1.1
NMHZ				S	Sn	15 37 24.7	-2.9
ARHZ	Aropaoanui	5.23	200	P	Pn	15 36 28.4	-2.3
ARHZ				S	Sn	15 37 27.7	-2.2

*PRU **05** 16:41:15.5±0.0, 51°.49N×16°.10E, h0km*
*VIE **05** 16:41:17.4±0.9, 51°.38N×16°.34E, h0km, mb2.5/2, ml2.4/2, Error ellipse: s-maj=17.9km s-min=5.2km az=98.0 56 km NW of Wroclaw Suspected Mining induced.*

ISC 05 16:41:15.4±1.2, 51°.45N±0°.06×16°.13E±0°.03, h0km, n19, σ0°.79/40, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	170	ePg	Pb	16 41 28.2	-0.9
KSP				eSg	Sb	16 41 37.3	-1.1
CHVC	Chvalec	0.87	183	ePG	Pb	16 41 32.7	-0.7
CHVC				eSG	Sb	16 41 45.4	-0.1
	comp=Z,26nm,0.7s						
UPC	Upice	0.95	184	ePG	Pb	16 41 34.2	-0.6
UPC				eSG	Sb	16 41 47.4	-0.5
	comp=Z,20nm,0.3s						
DPC	Dobruska-Polom	1.11	174	ePG	Pg	16 41 37.0	+0.3
DPC				eSG	Sb	16 41 52.1	-0.5
	comp=Z,13nm,0.6s						
PVCC	Panska Ves	1.35	227	ePG	Pg	16 41 41.3	0.0
PVCC				eSG	Sn	16 42 00.3	+0.1
	comp=Z,40nm,0.2s						
KRLC	Kraliky	1.44	163	ePG	Pn	16 41 42.7	-0.1
KRLC				eSG	Sn	16 42 02.5	+0.1
	comp=Z,15nm,0.6s						
BRG	Berggiesshubel	1.49	248	Pg	Pn	16 41 43.5	0.0
BRG				Sg	Sn	16 42 03.9	+0.2
BRG				Amp		16 42 05.1	
	comp=Z,18nm,0.3s						
PRU	Pruhonice	1.78	215	ePG	Pn	16 41 47.5	+0.1
PRU				eSG	Sg	16 42 12.9	+0.4
	comp=Z,12nm,0.7s						
MORC	Moravsky Berou	1.90	151	ePN	Pn	16 41 48.7	-0.5
MORC				eSG	Sg	16 42 16.1	-0.5
CLL	Collm	1.96	267	ePg	Pb	16 41 52.0	0.0
CLL				ex	x	16 41 55.0	
CLL				eSg	Sb	16 42 17.0	-0.1
	comp=Z,9.0nm,0.8s						
OKC	Ostrava-Krasne	2.07	141	ePG	Pb	16 41 52.9	-0.9
OKC				eSG	Sg	16 42 21.2	-0.6
	comp=Z,7.5nm,0.7s						
VRAC	Vranov	2.17	172	ePN	Pn	16 41 53.6	+0.8
VRAC				eSG	Sg	16 42 25.0	0.0
KRUC	Moravsky	2.40	176	ePN	Pn	16 41 57.1	+1.1
KRUC				eSG	Sg	16 42 32.2	-0.3
NKC	Novy Kostel	2.63	244	ePN	Pn	16 41 59.4	+0.2
NKC				ePG	Pb	16 42 03.0	-0.5
NKC				eSG	Sg	16 42 39.5	-0.5
	comp=Z,16nm,0.3s						
OJC	Ojcow	2.63	117	ePg	Pg	16 42 06.1	+0.2
OJC				eSg	Sg	16 42 41.4	+1.4
KHC	Kasperske Hory	2.84	216	ePN	Pn	16 42 01.8	-0.3
KHC				ePG	Pb	16 42 07.0	0.0
KHC				eSN	Sn	16 42 37.1	+0.1
KHC				eSG	Sg	16 42 45.9	-0.8
	comp=Z,2.2nm,0.5s						
CKRC	Cesky Krumlov	2.88	205	ePN	Pn	16 42 03.1	+0.5
CKRC				eSG	Sg	16 42 47.6	-0.4
CONA	Conrad Observa	3.53	183	i Pn	Pn	16 42 12.6	+1.0
	comp=Z,0.3nm,0.1s						
CONA				eSg	Sg	16 43 10.2	+1.3
	comp=Z,2.6nm,0.4s						
ARSA	Arzberg	4.22	186	Sg	Sg	16 43 34.2	+3.1
	comp=Z,1.2nm,0.3s						

IDC 05 16:46:46.6±6.8, 12°.32N×142°.36E, h130km±87km, mb3.2/4, mb1 3.4/5, mb1mx3.0/48, mbtmp3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.4/30, Error ellipse: s-maj=90.0km s-min=26.0km az=84.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.75	62	P	Pn	16 47 29.8	-0.2
	3.8nm,0.3s,baz=212,slow=22,SNR=1.3						
GUMO				S	Sn	16 48 04.1	+0.6
	17nm,0.3s,baz=132,slow=19,SNR=2.3						
WRA	Warramunga Arr	33.02	194	P	P	16 53 09.4	-0.2
	0.8nm,0.7s,baz=15,slow=9.1,SNR=9.3						
ASAR	Alice Springs	36.71	193	P	P	16 53 41.7	+0.4
	0.3nm,0.6s,baz=20,slow=10,SNR=11						
STKA	Stephens Creek	43.95	181	P	P	16 54 40.0	-0.7
	1.7nm,0.8s,baz=349,slow=10,SNR=3.0						
PSI	Prapat	44.02	261	LR	LR	17 16 30.7	
	comp=Z,42nm,18.1s,baz=146,slow=40						
MKAR	Makanchi Array	60.72	317	P	P	16 56 44.5	0.0
	0.2nm,0.5s,baz=104,slow=7.7,SNR=1.9						

IDC 05 16:51:48.6±4.4, 17°.09S×178°.95W, h602km±19km, mb3.0/4, mb1 3.2/5, mb1mx2.7/39, mbtmp4.0/5, Error ellipse: s-maj=121.5km s-min=79.9km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.93	257	P	P	16 53 07.6	0.0
	2.3nm,0.3s,baz=127,slow=10,SNR=12						
STKA	Stephens Creek	38.57	240	P	P	16 58 20.6	-1.1
	0.9nm,0.5s,baz=95,slow=11,SNR=3.1						
WRA	Warramunga Arr	44.27	259	P	P	16 59 06.7	0.0
	0.7nm,0.5s,baz=89,slow=8.1,SNR=30						
ASAR	Alice Springs	44.52	253	P	P	16 59 08.4	0.0
	4.5nm,0.6s,baz=87,slow=8.8,SNR=133						
ASAR				PcP	PcP	17 00 37.8	-0.6
	0.1nm,0.5s,baz=98,slow=4.0,SNR=1.3						
FITZ	Fitzroy Crossi	52.65	260	P	P	17 00 09.1	+0.6
	2.7nm,1.1s,baz=90,slow=8.1,SNR=1.9						

*IDC **05** 17:19:11.2±6.8, 29°.95N×133°.03E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.0/42, mbtmp3.5/3, ML2.8/1, Error ellipse: s-maj=147.3km s-min=16.0km az=152.0*
*JMA **05** 17:19:17.9±0.2, 30°.55N×132°.79E, h63km, M3.2*

ISC 05 17:19:19.8±1.5, 30°.63N±0°.09×132°.78E±0°.07, h35km, n15, σ1°.31/21, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	1.55	271	P	Pn	17 19 43.9	-1.0
JTN				eS	Sn	17 20 03.1	-0.7
JNAR	Kushima--Naru	1.57	305	P	Pn	17 19 45.1	-0.1
JNAR				eS	Sn	17 20 04.9	+0.6
JNKG	Nichinankitago	1.58	311	P	Pn	17 19 45.3	-0.1
JNKG				S	Sn	17 20 05.2	+0.6
JMTN	Minamitane	1.64	262	P	Pn	17 19 44.9	-1.2
JTSR	Tashiro 2	1.68	289	P	Pn	17 19 46.1	-0.7
JTZ	Takazaki	1.92	312	P	Pn	17 19 49.8	-0.3
JTZ				S	Sn	17 20 13.4	+0.4
JTO	Tosashimizu	2.22	1	P	Pn	17 19 52.9	-1.3
JTO				S	Sn	17 20 16.4	-4.0
JNN	Nakanoshima	2.63	253	S	Sn	17 20 29.1	-1.4
JSJ	Shimokoshiki	2.82	292	P	Pn	17 20 01.6	-0.9
JSJ				S	Sn	17 20 34.9	-0.4
JNA	Nagahama	2.93	355	P	Pn	17 20 03.6	-0.3
JMN	Monobe	3.23	17	P	Pn	17 20 07.5	-0.6
JAI	Aioi	3.46	24	P	Pn	17 20 10.1	-1.1
MJAR	Matsushiro Arr	7.43	36	Pn	Pn	17 21 07.1	+1.3
	0.1nm,0.3s,baz=222,slow=12,SNR=5.3						
MKAR	Makanchi Array	41.83	307	P	P	17 27 07.5	+1.3
	0.3nm,0.6s,baz=97,slow=9.6,SNR=5.0						
AKASG	Malin Array Be	74.76	320	P	P	17 30 56.7	+0.6
	0.8nm,0.6s,baz=56,slow=5.7,SNR=4.4						

*NEIC **05** 17:22:59.7±1.8, 21°.8S±0°.2×176°.5W±0°.1, h123km±9km, mb4.6/22, Error ellipse: s-maj=31.1km s-min=15.9km az=169.0*
*IDC **05** 17:23:06.6±5.0, 21°.94S×176°.63W, h189km±34km, mb3.6/3, mb1 3.8/5, mb1mx3.2/28, mbtmp4.2/5, Error ellipse: s-maj=53.2km s-min=36.1km az=89.0*

ISC 05 17:23:03.5±0.7, 21°.8S±0°.1×176°.09W±0°.08, h200km, n42, σ1°.56/41, mb4.4/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.36	66	Pn	Pn	17 24 36.9	+1.4
NIUE				Sn	Sn	17 25 45.2	-3.1
MSVF	Nonsavu	6.82	305	P	Pn	17 24 40.9	-0.6
	3.3nm,0.3s,baz=128,slow=14,SNR=20						
MSVF	Nonsavu	6.82	305		Pn	17 24 41.4	-0.2
SANVU	Saraoutou	17.03	289		P	17 26 46.5	-2.3
SANVU				IAmb	IAmb	17 26 55.9	
	comp=Z,24nm,0.8s						
URZ	Urewera	17.46	198	P	P	17 26 53.1	-0.2
	comp=Z,2.1nm,0.3s,baz=121,slow=24,SNR=15						
URZ	Urewera	17.46	198	P	P	17 26 52.0	-1.3
URZ				IAmb	IAmb	17 26 54.6	
	comp=Z,30nm,1.2s						
TIWZ	Tintock	20.14	198	P	pP	17 27 50.4	-4.7
MSWZ	Moikau Station	20.92	199	P	P	17 27 29.8	-0.8
SNZO	South Karori	20.99	200	P	P	17 27 29.1	-2.1
QRZ	Quartz Range	21.32	204	P	P	17 27 34.2	-0.5
QRZ	Quartz Range	21.32	204	P	P	17 27 32.6	-2.1
NNZ	Nelson	21.34	202	P	P	17 27 33.2	-1.8
NNZ	Nelson	21.34	202	P	P	17 27 32.9	-2.1
NNZ				IAmb	IAmb	17 27 41.9	
	comp=Z,64nm,1.4s						
THZ	Tophouse	21.99	202	P	P	17 27 40.2	-1.4
KHZ	Kahutara	22.36	201	P	P	17 27 44.6	-0.3
KHZ	Kahutara	22.36	201	P	P	17 27 43.3	-1.6
KHZ				IAmb	IAmb	17 27 50.2	
	comp=Z,30nm,1.3s						
DSZ	Denniston Nort	22.38	204	P	P	17 27 46.6	+1.4
GVZ	Greta Valley S	23.02	201	P	P	17 27 52.3	+1.4
LTZ	Lake Taylor	23.11	202	P	P	17 27 53.0	+1.2
LTZ	Lake Taylor	23.11	202	P	P	17 27 52.1	+0.3
AMCZ	Amberley	23.33	201	P	P	17 27 57.7	+4.0
INZ	Inchbonnie	23.36	204	P	P	17 27 56.5	+2.5
OXZ	Oxford	23.67	202	P	P	17 27 58.1	+1.2
OXZ	Oxford	23.67	202	P	P	17 27 57.3	+0.5
OXZ				IAmb	IAmb	17 28 02.4	
	comp=Z,46nm,1.2s						
FOZ	Fox Glacier	24.68	205	P	P	17 28 06.1	+0.2
FOZ				IAmb	IAmb	17 28 09.8	
	comp=Z,26nm,1.2s						
EIDS	Eidsvold	30.27	257	P	P	17 28 55.5	-0.5
EIDS				IAmb	IAmb	17 29 11.3	
	comp=Z,22nm,1.6s						
CTAO	Charters Tower	35.16	266	P	P	17 29 39.9	+1.4
CTAO				IAmb	IAmb	17 29 40.3	
	comp=Z,5.0nm,0.7s						
TOO	Toolangi	36.63	236	P	P	17 29 49.9	-1.0
STKA	Stephens Creek	38.88	246	P	P	17 30 10.0	+0.3
	comp=Z,1.6nm,0.5s,baz=93,slow=11,SNR=5.8						
BBOO	Buckleboo	43.61	245	P	P	17 30 47.7	-0.5
BBOO				IAmb	IAmb	17 31 03.2	
	comp=Z,30nm,1.4s						
AS31	Alice Springs	45.98	258	P	P	17 31 07.4	+0.3
ASAR	Alice Springs	45.98	258	P	P	17 31 06.9	-0.2
	comp=Z,2.7nm,0.7s,baz=97,slow=7.9,SNR=40						
ASAR				PcP	PcP	17 32 43.6	+3.2
	comp=Z,0.8nm,0.7s,baz=111,slow=4.7,SNR=6.7						
WR0	Warramunga Arr	46.02	263	P	P	17 31 06.5	-0.8
WR0				IAmb	IAmb	17 31 14.9	
	comp=Z,11nm,1.6s						
WB0	Warramunga Arr	46.19	263	P	P	17 31 08.3	-0.4
WB0				IAmb	IAmb	17 31 09.4	
	comp=Z,4.5nm,0.9s						
WB2	Warramunga Arr	46.20	263	P	P	17 31 08.0	-0.7
WRA	Warramunga Arr	46.21	263	P	P	17 31 08.1	-0.7
	comp=Z,1.6nm,0.7s,baz=100,slow=8.1,SNR=16						
WRA	Warramunga Arr	46.21	263	IAmb	IAmb	17 31 09.7	
	comp=Z,0.2nm,0.8s						
FORT	Forrest	50.45	247	P	P	17 31 41.5	+0.4
KNRA	Kununurra	52.36	267	P	P	17 31 56.2	+0.7
QSPA	South Pole Qui	68.32	180	P	P	17 33 48.1	+5.2
QSPA				IAmb	IAmb	17 33 48.3	
	comp=Z,14nm,1.6s						
AKASG	Malin Array Be	144.97	332	PKP	PKiKP	17 42 19.4	-1.0
	comp=Z,0.1nm,0.4s,baz=41,slow=3.7,SNR=4.8						
CLL	Collm	149.67	349	ePKPbc	PKPab	17 42 37.0	+2.0

MAN 05 17:27:48.7, 11°.55N×125°.73E, h29km, mb4.5, ML3.4, MS3.2, Samar

MAN 05 17:29:34.7, 11°.54N×125°.63E, h18km, mb3.8, ML5.5, MS2.0, Samar

MAN 05 17:30:54.9, 11°.51N×125°.52E, h27km, mb3.7, ML2.4, MS1.9, Samar

IDC 05 17:44:30.6±53.0, 29°.70S×176°.30W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.7/35, mbtmp3.6/3, Error ellipse: s-maj=981.4km s-min=200.6km az=97.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.08	256	P	P	17 51 34.0	-0.1
	0.6nm,0.4s,baz=99,slow=12,SNR=2.9						
ASAR	Alice Springs	44.63	265	P	P	17 52 44.7	-0.4
	0.2nm,0.4s,baz=100,slow=7.7,SNR=5.1						
WRA	Warramunga Arr	45.56	271	P	P	17 52 52.7	+0.2
	0.4nm,0.4s,baz=112,slow=7.5,SNR=5.0						

*NEIC **05** 17:45:54.9±1.9, 20°.07S±0°.04×69°.27W±0°.07, h102km±5km, mb4.2/5, ML4.1(GUC), Error ellipse: s-maj=10.1km s-min=5.6km az=83.0*
*IDC **05** 17:45:55.2±1.4, 20°.00S×68°.93W, h110km±14km, mb3.6/8, mb1 3.8/12, mb1mx3.7/29, mbtmp4.0/12, Error ellipse: s-maj=21.9km s-min=13.0km az=104.0*
*GUC **05** 17:45:55.2±0.8, 20°.01S×69°.15W, h101km±3km, ML4.1*
*VAO **05** 17:45:57.1±0.7, 20°.06S×69°.05W, h129km±5km, mb4.1*

ISC 05 17:45:53.7±0.6, 20°.04S±0°.03×69°.20W±0°.05, h104km±5km, n79, σ1°.39/97, mb3.9/7, 8C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.11	158	⇓iP	Pn	17 46 09.4	+0.8
PB08				i S	Sn	17 46 20.6	+0.9
PB08				IAML		17 46 22.7	
	comp=E,10μm,0.2s						
PB08	IPOC Station P	0.11	158		Pn	17 46 09.4	+0.8
PB08				Sn	Sn	17 46 20.1	+0.3
PB11	IPOC Station P	0.51	303	⇑iP	Pn	17 46 10.9	+0.7
PB11				i S	Sn	17 46 23.3	+0.8
PB11				IAML		17 46 23.8	
	comp=N,20μm,0.2s						
PB11	IPOC Station P	0.51	303	Pn	Pn	17 46 10.8	+0.6
PB11				Sn	Sn	17 46 23.1	+0.6
TA02	Huaiquique	0.91	255	⇑iP	Pn	17 46 14.4	+1.1
TA02				IAML		17 46 31.1	
	comp=E,13μm,0.2s						
TA02	Huaiquique	0.91	255		Pn	17 46 14.3	+0.9
TA02				Sn	Sn	17 46 28.8	+0.6
PB01	IPOC Station P	1.03	195	⇑iP	Pn	17 46 16.3	+1.4
PB01				i S	Sn	17 46 32.6	+1.8
PB01				IAML		17 46 33.5	
	comp=N,10μm,0.2s						
PB01	IPOC Station P	1.03	195		Pn	17 46 15.3	+0.4
PB01				Sn	Sn	17 46 32.4	+1.6
TA01	Diego Aracena	1.06	240	⇑iP	Pn	17 46 15.9	+0.9
TA01				i S	Sn	17 46 32.4	+1.3
TA01				IAML		17 46 33.3	
	comp=E,3μm,0.3s						
TA01	Diego Aracena	1.06	240		Pn	17 46 15.7	+0.7
TA01				Sn	Sn	17 46 31.8	+0.7
PB16	IPOC Station P	1.72	350	⇓iP	Pn	17 46 25.3	+1.8
PB16				i S	Sn	17 46 48.3	+2.3
PB16	IPOC Station P	1.72	350		Pn	17 46 24.8	+1.3
PB16				Sn	Sn	17 46 48.0	+2.0
PB09	IPOC Station P	1.75	181	⇑eP	Pn	17 46 25.2	+1.8
PB09				i S	Sn	17 46 48.5	+2.5
PB09				IAML		17 46 54.0	
	comp=N,970nm,0.7s						
PB09	IPOC Station P	1.75	181	Pn	Pn	17 46 24.9	+1.5
PB09				Sn	Sn	17 46 48.2	+2.2
PB12	IPOC Station P	1.77	323	⇑iP	Pn	17 46 24.2	+0.5
PB12				i S	Sn	17 46 45.7	-0.7
PB12				IAML		17 46 54.0	
	comp=E,2μm,0.1s						
PB12	IPOC Station P	1.77	323	Pn	Pn	17 46 24.0	+0.3
PB12				Sn	Sn	17 46 45.5	-0.9
PB07	IPOC Station P	1.80	201	⇑iP	Pn	17 46 25.1	+1.1
PB07				i S	Sn	17 46 47.8	+0.7
PB07				IAML		17 46 56.5	
	comp=E,1μm,0.4s						
PB07	IPOC Station P	1.80	201		Pn	17 46 24.8	+0.8
PB07				Sn	Sn	17 46 47.0	-0.1
AP01	Chacalluta	1.98	327	eP	Pn	17 46 27.1	+0.9
AP01				eS	Sn	17 46 52.0	+1.1
AP01				IAML		17 47 00.4	
	comp=N,3μm,0.4s						
AP01	Chacalluta	1.98	327		Pn	17 46 26.9	+0.8
AP01				Sn	Sn	17 46 50.9	-0.1
PB03	IPOC Station P	2.06	194	⇑iP	Pn	17 46 28.4	+1.0
PB03				i S	Sn	17 46 52.8	-0.4
PB03				IAML		17 47 02.8	
	comp=E,832nm,0.4s						
PB04	IPOC Station P	2.45	201	Pn	Pn	17 46 33.4	+1.0
PB04				Sn	Sn	17 46 58.1	-4.0
LVC	Limon Verde	2.57	174	P	Pn	17 46 36.6	+2.4
	comp=E,15nm,0.3s,baz=24,slow=8.0,SNR=93						
LVC				S	Sn	17 47 07.7	+2.5
	comp=E,37nm,0.3s,baz=350,slow=6.1,SNR=4.1						
LVC	Limon Verde	2.57

comp=Z,2.7nm,0.3s,baz=289,slow=14,SNR=3.7
PLCA Paso Flores 20.66 183 P Pn 17 50 27.4 -1.0
comp=Z,1.5nm,0.7s,baz=1.3,slow=12,SNR=6.3
PLCA Paso Flores 20.66 183 P **P 17 50 25.8 +0.6**
PLCA IAmb IAmb 17 50 28.0
comp=Z,11nm,1.6s
PET01 Itanhaem-SP 20.73 106 *e*P **P 17 50 25.3 -0.7**
PTGA Pitinga 21.21 26 P **P 17 50 28.8 -2.4**
comp=Z,1.6nm,0.3s,baz=319,slow=23,SNR=6.0
PEXB Peixe 21.56 72 *e*P **P 17 50 34.6 -0.4**
BSCB Bom Sucesso 22.89 97 *e*P **P 17 50 48.0 -0.9**
BOAV Boa Vista 23.87 22 *e*P **P 17 50 58.0 +0.3**
BOAV Boa Vista 23.87 22 P **P 17 50 57.8 +0.1**
BOAV IAmb IAmb 17 51 05.6
comp=Z,23nm,1.7s
DIAM Diamantina, MG 24.17 90 *e*P **P 17 51 00.3 -0.4**
JANB Januaria 24.23 82 *e*P **P 17 51 00.4 -0.7**
SDBA SAO DESIDERIO 24.51 76 *e*P **P 17 51 02.9 -0.8**
NBLA Lagarto - SE 31.52 78 *e*P **P 17 52 05.6 -0.6**
NBMA Muriti-CE 32.07 71 *e*P **P 17 52 11.0 0.0**
NBPB Pedra_Branca-C 32.19 67 *e*P **P 17 52 11.9 -0.1**
TXAR Lajitas Array 59.28 325 P **P 17 55 45.2 +0.4**
comp=Z,0.2nm,0.5s,baz=137,slow=9.4,SNR=3.4
DBIC Dimbokro 68.59 74 P **P 17 56 45.4 -0.5**
comp=Z,2.7nm,0.7s,baz=259,slow=3.7,SNR=5.3
DBIC Dimbokro 68.59 74 IAmb IAmb 17 56 49.1
comp=Z,12nm,1.6s
QSPA South Pole Qui 70.14 180 P **P 17 56 57.3 +2.5**
PDAR Pinedale Array 72.72 330 P **P 17 57 12.7 +2.0**
comp=Z,0.2nm,0.5s,baz=123,slow=4.4,SNR=2.4
TORD Torodi Ar. Bea 77.13 71 P **P 17 57 35.9 -0.5**
comp=Z,1.1nm,0.6s,baz=258,slow=5.7,SNR=12
YKA Yellowknife Ar 89.73 341 P **P 17 58 41.0 +1.2**
comp=Z,2.8nm,0.7s,baz=134,slow=4.7,SNR=55
H11S2 WAKE ISLAND Hyl 27.42 278 T T 20 24 36.1
baz=101,slow=74,SNR=17
H11S1 WAKE ISLAND Hyl 27.42 278 T T 20 24 35.2
baz=101,slow=74,SNR=12
H11S3 WAKE ISLAND Hyl 27.43 278 T T 20 24 35.4
baz=101,slow=74,SNR=12
ASAR Alice Springs 131.07 208 PKP **PKiKP 18 04 55.0 -0.1**
comp=Z,0.2nm,0.5s,baz=125,slow=1.6,SNR=4.9
WRA Warramunga Arr 134.06 212 PKP **PKiKP 18 05 00.7 -0.4**
comp=Z,0.2nm,0.5s,baz=158,slow=1.9,SNR=1.6
MKAR Makanchi Array 144.60 34 PKP **PKPdf 18 05 17.9 -0.3**
comp=Z,0.3nm,0.4s,baz=328,slow=2.5,SNR=13
SONM Songino Array 152.04 6 PKPbc **PKiKP 18 05 37.6 +0.3**
comp=Z,1.4nm,0.6s,baz=302,slow=1.6,SNR=6.3

*IDC **05** 17:46:21.2±1.4, 3°.14N×126°.79E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.6/38, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=65.7km s-min=18.6km az=58.0*
ISC 05 17:46:26.8±1.2, 3°.2N±0°.2×127°.0E±0°.3, h44km, n7, σ0°59/7, mb3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.93**	**133**	Pn	**Pn**	**17 47 52.6**	**+0.4**
	1.8nm,0.3s,baz=337,slow=21,SNR=8.2						
FITZ	**Fitzroy Crossi**	**21.23**	**183**	P	**P**	**17 51 08.9**	**-0.2**
	1.6nm,0.8s,baz=7.0,slow=13,SNR=1.6						
WRA	**Warramunga Arr**	**24.14**	**163**	P	**P**	**17 51 38.4**	**-0.5**
	0.7nm,0.4s,baz=339,slow=11,SNR=12						
ASAR	**Alice Springs**	**27.57**	**166**	P	**P**	**17 52 09.7**	**-0.3**
	0.3nm,0.3s,baz=338,slow=9.8,SNR=9.4						
CMAR	**Chiang Mai Arr**	**31.31**	**301**	P	**P**	**17 52 43.9**	**+0.7**
	0.3nm,0.8s,baz=126,slow=5.2,SNR=4.4						
STKA	**Stephens Creek**	**37.58**	**159**	P	**P**	**17 53 37.2**	**0.0**
	2.6nm,0.8s,baz=323,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**58.09**	**325**	P	**P**	**17 56 15.2**	**-0.6**
	0.4nm,0.6s,baz=120,slow=7.2,SNR=7.1						

IDC 05 17:51:19.2±1.1, 0°.54S×126°.59E, h0km, mb3.1/3, mb1 3.3/4, mb1mx3.2/32, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=16.9km s-min=14.5km az=149.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.69**	**94**	Pn	Pn	17 52 31.4	0.0
	0.5nm,0.3s,baz=91,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**20.73**	**159**	P	P	17 56 01.6	+0.1
	0.5nm,0.8s,baz=339,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**24.07**	**163**	P	P	17 56 36.4	-0.1
	0.3nm,0.5s,baz=340,slow=11,SNR=7.2						
MKAR	**Makanchi Array**	**60.99**	**327**	P	P	18 01 34.4	-0.1
	0.1nm,0.4s,baz=121,slow=7.4,SNR=2.7						

*UCR **05** 17:52:59.7±0.9, 13°.26N×87°.86W, h3km±3km, ML3.9*
*SNET **05** 17:52:59.5±1.0, 13°.26N×87°.86W, h2km±5km, ML3.7*
ISC 05 17:52:59.6±1.5, 13°.3N±0°.1×87°.86W±0°.05, h6km±6km, n16, σ0°39/22, 2C-6D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.03**	**49**	⇓*i*P	**Pg**	**17 53 00.9**	**-0.1**
CNCH				*e*S	**Sg**	**17 53 02.0**	**+0.1**
CNCH	**Conchagua**	**0.03**	**49**	⇓*i*P	**Pg**	**17 53 00.9**	**-0.1**
CNCH				*e*S	**Sg**	**17 53 02.0**	**+0.1**
LCND	**La Caada**	**0.06**	**328**	⇓*i*P	**Pg**	**17 53 00.8**	**-0.4**
LCND				*e*S	**Sg**	**17 53 03.0**	**+0.6**
LCND				IAML		17 53 03.0	
	comp=Z,64μm,0.5s						
LCND	**La Caada**	**0.06**	**328**	⇓*i*P	**Pg**	**17 53 00.8**	**-0.4**
LCND				*e*S	**Sg**	**17 53 03.0**	**+0.6**
LCND				IAML		17 53 03.0	
	comp=Z,64μm,0.5s						
PACA	**Pacayal**	**0.50**	**295**	*e*P	**Pb**	**17 53 10.5**	**-0.4**
PACA				*e*S	**Sb**	**17 53 18.3**	**-0.2**
PACA	**Pacayal**	**0.50**	**295**	*e*P	**Pb**	**17 53 10.5**	**-0.4**
PACA				*e*S	**Sb**	**17 53 18.3**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.96**	**298**	⇓*i*P	**Pg**	**17 53 18.0**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.96**	**298**	⇓*i*P	**Pg**	**17 53 18.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**0.98**	**35**	⇑*i*P	**Pg**	**17 53 18.3**	**-0.1**
TGUH	**Tegucigalpa,Un**	**0.98**	**35**	⇑*i*P	**Pg**	**17 53 18.3**	**-0.1**
JAYA	**Jayaque - finc**	**1.60**	**284**	*e*P	**Pn**	**17 53 29.0**	**+0.4**
JAYA	**Jayaque - finc**	**1.60**	**284**	*e*P	**Pn**	**17 53 29.0**	**+0.4**
TACO	**Tacachico**	**1.62**	**296**	*e*P	**Pn**	**17 53 28.5**	**-0.2**
TACO	**Tacachico**	**1.62**	**296**	*e*P	**Pn**	**17 53 28.5**	**-0.2**
MTO3	**Montecristo**	**1.85**	**308**	*e*P	**Pn**	**17 53 32.7**	**+0.6**
MTO3	**Montecristo**	**1.85**	**308**	*e*P	**Pn**	**17 53 32.7**	**+0.6**

IDC 05 17:56:18.6±7.8, 49°.50S×124°.22E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/25, mbtmp3.4/2, MS3.5/2, Ms1 3.4/2, ms1mx2.8/29, Error ellipse: s-maj=516.5km s-min=77.8km az=97.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.37**	**329**	T	T	18 16 32.9	
	baz=157,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**16.37**	**329**	T	T	18 16 40.5	
	baz=157,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**16.39**	**329**	T	T	18 16 39.3	
	baz=157,slow=75,SNR=14						
STKA	**Stephens Creek**	**21.90**	**43**	LR	LR	18 08 00.6	
	comp=Z,46nm,21.0s,baz=204,slow=32						
ASAR	**Alice Springs**	**26.89**	**20**	P	P	18 02 01.4	+0.2
	0.5nm,0.7s,baz=200,slow=9.3,SNR=10						
WRA	**Warramunga Arr**	**30.58**	**19**	P	P	18 02 33.8	-0.3
	0.2nm,0.6s,baz=192,slow=12,SNR=2.3						
HNR	**Honiara**	**49.78**	**49**	LR	LR	18 23 22.3	
	comp=Z,142nm,21.9s,baz=122,slow=33						
YKA	**Yellowknife Ar**	**145.92**	**45**	PKPbc	PKPdf	18 15 57.7	-0.2
	0.2nm,0.6s,baz=275,slow=3.3,SNR=3.1						

WEL 05 18:03:28.8±0.5, 39°S±3°×17°E±°, h24km±5km, M3.2/15, ML3.5/15, MLv3.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=139.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHHZ	**Waihua**	**0.18**	**288**	P	Pn	18 03 42.5	+6.3
WHHZ				S	Sb	18 03 47.8	+10
KNZ	**Kokohu**	**0.20**	**56**	P	Pb	18 03 35.2	+0.8
KNZ				S	Sb	18 03 39.5	+1.4
MHGZ	**Mahia Peninsul**	**0.35**	**93**	P	Pb	18 03 37.4	+0.9
RAHZ	**Arahi**	**0.36**	**307**	P	Pb	18 03 37.6	+0.9
SNGZ	**Shannon Statio**	**0.36**	**345**	P	Pn	18 03 37.7	-0.9
SNGZ				S	Sn	18 03 45.0	-0.1
ARHZ	**Aropaoanui**	**0.38**	**250**	P	Pn	18 03 38.0	-0.8
ARHZ				S	Sn	18 03 45.6	+0.2
PRGZ	**Paritu Road**	**0.39**	**58**	P	Pn	18 03 38.2	-0.9
PRGZ				S	Sn	18 03 46.2	+0.4
RIGZ	**Rimuhau**	**0.49**	**29**	P	Pn	18 03 39.7	-0.7
RIGZ				S	Sn	18 03 48.7	+0.5
NMHZ	**Naumai**	**0.51**	**274**	P	Pn	18 03 40.0	-0.7
NMHZ				S	Sn	18 03 49.0	+0.2
MTHZ	**Maungataniwha**	**0.56**	**300**	P	Pb	18 03 40.3	+0.4
MTHZ				S	Sn	18 03 49.4	-0.5
CKHZ	**Cape Kidnapper**	**0.60**	**209**	P	Pb	18 03 41.2	+0.5
CKHZ				S	Sn	18 03 51.4	+0.5
RTZ	**Ruatahuna**	**0.64**	**324**	P	Pb	18 03 41.7	+0.4
RTZ				S	Sn	18 03 51.9	0.0
RAGZ	**Rawiri**	**0.64**	**357**	P	Pb	18 03 41.9	+0.5
RAGZ				S	Sn	18 03 52.4	+0.5
MCHZ	**McNeill Hill**	**0.67**	**242**	P	Pn	18 03 42.7	-0.1
MCHZ				S	Sn	18 03 53.5	+0.9
BKZ	**Black Stump Fm**	**0.75**	**267**	P	Pb	18 03 43.4	+0.2
BKZ				S	Sn	18 03 54.6	-0.1
TKGZ	**Te Karaka**	**0.76**	**24**	P	Pb	18 03 43.2	-0.2
TKGZ				S	Sn	18 03 54.9	+0.1
KAHZ	**Kahuranaki**	**0.80**	**214**	P	Pb	18 03 43.9	-0.1
MWZ	**Matawai**	**0.80**	**4**	P	Pb	18 03 43.8	-0.3
MWZ				S	Sn	18 03 55.6	-0.3
MUGZ	**Murupara**	**0.85**	**321**	P	Pb	18 03 45.0	+0.2
MUGZ				S	Sn	18 03 57.0	0.0
KWHZ	**Kaweka Forest**	**0.85**	**250**	P	Pb	18 03 44.9	-0.1
MRHZ	**Matea Rd**	**0.86**	**290**	P	Pb	18 03 45.3	+0.2
MRHZ				S	Sn	18 03 57.5	0.0
URZ	**Urewera**	**0.92**	**343**	P	Pb	18 03 45.8	-0.2
KRHZ	**Kereru**	**0.98**	**239**	P	Pb	18 03 46.8	-0.4
TWGZ	**Tauwhareparae**	**1.04**	**23**	P	Pn	18 03 47.4	-0.6
ALRZ	**Allen Road**	**1.04**	**303**	P	Pb	18 03 48.8	+0.6
PRRZ	**Plateau Road**	**1.05**	**307**	P	Pb	18 03 49.0	+0.8
RRRZ	**Republican Roa**	**1.08**	**317**	P	Pb	18 03 49.5	+0.6
HATZ	**Hinemaiaia**	**1.09**	**282**	P	Pb	18 03 49.0	-0.1
BHHZ	**Black Hill Sta**	**1.14**	**251**	P	Pn	18 03 48.8	-0.6
TARZ	**Mount Tarawera**	**1.17**	**320**	P	Pn	18 03 50.0	+0.3
EDRZ	**Edgecumbe**	**1.17**	**331**	P	Pb	18 03 51.3	+0.9
RUGZ	**Raukumara Rang**	**1.18**	**8**	P	Pn	18 03 49.0	-0.9
HRRZ	**Handcock Road**	**1.18**	**309**	P	Pb	18 03 51.6	+1.1
WPRZ	**Whakapapatarin**	**1.18**	**301**	P	Pb	18 03 51.8	+1.2
WPHZ	**Waipukurau**	**1.22**	**220**	P	Pn	18 03 49.1	-1.2
PUZ	**Puketiti**	**1.23**	**31**	P	Pn	18 03 49.0	-1.6
PNHZ	**Pukenui**	**1.25**	**231**	P	Pn	18 03 49.8	-1.0
HSRZ	**Hossack Road**	**1.25**	**311**	P	Pb	18 03 52.8	+1.0
MKRZ	**Makatiti**	**1.26**	**322**	P	Pb	18 03 54.1	+2.2
PRHZ	**Porangahau**	**1.30**	**209**	P	Pn	18 03 49.6	-1.8
GRRZ	**Galatos Road**	**1.31**	**306**	P	Pb	18 03 54.6	+1.8
OMRZ	**Omania**	**1.33**	**320**	P	Pb	18 03 53.8	+0.6
RATZ	**Rangitukua**	**1.34**	**281**	P	Pn	18 03 52.4	+0.3
MOVZ	**Moawhango**	**1.35**	**258**	P	Pn	18 03 52.6	+0.3
ETVZ	**East Tongariro**	**1.36**	**269**	P	Pb	18 03 53.2	-0.4
TMVZ	**Te Maari**	**1.36**	**270**	P	Pn	18 03 52.4	-0.1
KATZ	**Kakaramea**	**1.38**	**276**	P	Pb	18 03 53.4	-0.6
NTVZ	**North Tongarir**	**1.39**	**271**	P	Pn	18 03 52.7	-0.1
OTVZ	**Oturere**	**1.39**	**268**	P	Pn	18 03 53.5	+0.6
HAZ	**Te Kaha**	**1.40**	**11**	P	Pn	18 03 52.1	-0.8
TUVZ	**Tukino**	**1.41**	**264**	P	Pb	18 03 54.2	-0.3
KRVZ	**Karewarewa**	**1.41**	**271**	P	Pn	18 03 53.4	+0.2
SNVZ	**South Ngauruho**	**1.41**	**267**	P	Pn	18 03 53.1	-0.1
NNVZ	**North Ngauruho**	**1.43**	**270**	P	Pb	18 03 56.0	+1.0
NGZ	**Ngauruhoe**	**1.44**	**268**	P	Pb	18 03 55.7	+0.6
WTVZ	**West Tongariro**	**1.45**	**270**	P	Pb	18 03 55.3	+0.1
WNVZ	**Wahianoa**	**1.46**	**262**	P	Pn	18 03 53.7	-0.2
WHVZ	**Whangaehu Hut**	**1.46**	**264**	P	Pb	18 03 56.8	+1.4
OPRZ	**Ohinepanea**	**1.47**	**331**	P	Pb	18 03 53.4	-0.4
TSZ	**Takapari Road**	**1.48**	**231**	P	Pn	18 03 52.9	-1.2
FWVZ	**Far West T-bar**	**1.48**	**265**	P	Pn	18 03 54.9	+0.7
TRVZ	**Turoa**	**1.49**	**263**	P	Pb	18 03 56.8	+0.8
WMGZ	**Waiomatatini S**	**1.51**	**30**	P	Pn	18 03 53.1	-1.3
DVHZ	**Dannevirke**	**1.53**	**220**	P	Pn	18 03 53.1	-1.6
TWVZ	**Taurewa**	**1.57**	**272**	P	Pb	18 03 58.4	+1.1
PKVZ	**Pokaka**	**1.65**	**264**	P	Pn	18 03 57.1	+0.8
BFZ	**Birch Farm**	**1.80**	**211**	P	Pn	18 03 56.0	-2.5
POWZ	**Post Office Ro**	**1.81**	**226**	P	Pn	18 03 57.7	-0.8
PRWZ	**Pori Road**	**1.82**	**218**	P	Pn	18 03 57.2	-1.5
MRZ	**Mangatainoka R**	**2.10**	**223**	P	Pn	18 04 00.5	-2.0
TMWZ	**Te Maipa**	**2.31**	**211**	P	Pn	18 04 02.3	-3.1
HOWZ	**Holdsworth Sta**	**2.31**	**220**	P	Pn	18 04 02.8	-2.6
OGWZ	**Otaki Gorge**	**2.43**	**226**	P	Pn	18 04 05.0	-2.1
MTW	**Mount Morrison**	**2.52**	**216**	P	Pn	18 04 04.8	-3.4
KIW	**Kapiti Island**	**2.61**	**228**	P	Pn	18 04 08.0	-1.5
NEZ	**North Egmont**	**2.62**	**266**	P	Pn	18 04 11.7	+2.0
CAW	**Cannon Point**	**2.69**	**222**	P	Pn	18 04 08.0	-2.6
PKE	**Pukeiti**	**2.70**	**268**	P	Pn	18 04 12.8	+2.0
KHZ	**Kahutara**	**4.43**	**221**	P	Pn	18 04 32.1	-2.4
LTZ	**Lake Taylor**	**5.36**	**225**	P	Pn	18 04 44.0	-3.3
CTZ	**Chatham Island**	**6.40**	**138**	P	Pn	18 04 59.7	-1.9

*TEH **05** 18:05:50.8, 27°.12N×54°.04E, h7km, ML3.4*
*DSN **05** 18:05:50.6±1.3, 27°.22N×54°.05E, h10km, ML3.2/5, Error ellipse: s-maj=15.5km s-min=12.3km az=70.0*
ISC 05 18:05:52.6±1.0, 27°.17N±0°.06×54°.05E±0°.06, h19km, n27, σ1°67/30, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.58**	**30**	*e*Pg	**Pb**	**18 06 01.9**	**-2.2**
LAR1				*e*		18 06 21.5	
	comp=Z,32μm,0.3s						
LMD1	**Lamerd**	**0.81**	**283**	*e*Sg	**Sb**	**18 06 17.5**	**-1.0**
LMD1				*e*Pg	**Pg**	**18 06 07.6**	**-0.8**
LMD1				*e*		18 06 38.0	
	comp=Z,19μm,0.4s						
JHRM	**Jahrom**	**1.40**	**343**	*e*Pg	**Pg**	**18 06 18.9**	**-0.8**
JHRM				*e*		18 06 48.6	
	comp=Z,10μm,0.4s						
GHIR	**Ghir-Karzin**	**1.46**	**320**	*e*Pg	**Pg**	**18 06 19.7**	**-1.1**
QIR1	**Qir**	**1.58**	**326**	*e*Pg	**Pg**	**18 06 21.9**	**-1.2**
QIR1				*e*Sg	**Sg**	**18 06 45.2**	**+1.5**
QIR1				*e*		18 06 55.7	
	comp=Z,7μm,0.3s						
GENO	**Geno**	**1.91**	**83**	*e*Pn	**Pb**	**18 06 25.4**	**-1.5**
GENO				*e*		18 06 55.7	
	comp=Z,2μm,0.4s						
SHME	**Shamm**	**2.18**	**120**	P	**Pn**	**18 06 26.8**	**-1.1**
IBND	**Bandar-abas**	**2.24**	**82**	*e*Pn	**Pb**	**18 06 30.2**	**-2.2**
IBND				*e*		18 07 13.8	
	comp=Z,3μm,0.4s						
BANOM	**Banah**	**2.37**	**121**	P	**Pn**	**18 06 31.0**	**+0.5**
UOSS	**Minazif**	**2.94**	**138**	P	**Pn**	**18 06 37.9**	**-0.5**
HATD	**Hatta, Dubai**	**2.99**	**141**	P	**Pn**	**18 06 37.8**	**-1.3**
ASHO	**Ashiyiah**	**3.06**	**143**	P	**Pn**	**18 06 39.8**	**-0.3**
ASHO				S	**Sn**	**18 07 18.1**	**+1.8**
KRBR	**Kerman**	**3.68**	**40**	*e*Pn	**Pn**	**18 06 47.8**	**-1.0**
TVBK	**TV Kerman**	**3.69**	**40**	*e*Pn	**Pn**	**18 06 50.7**	**+1.8**
TVBK				*e*		18 07 55.7	
	comp=Z,413nm,0.4s						
CHMN	**Cheshme madani**	**4.08**	**48**	*e*Pn	**Pn**	**18 06 57.3**	**+2.9**
CHMN				*e*		18 07 03.1	
	comp=Z,192nm,0.3s						
IMEH	**Mehriz**	**4.24**	**7**	*e*Pn	**Pn**	**18 06 58.4**	**+2.0**
KBAM	**BAM**	**4.36**	**62**	*e*Pn	**Pn**	**18 07 00.7**	**+2.8**
KBAM				*e*		18 07 04.5	
	comp=Z,364nm,0.3s						
IRAM	**Ramesheh**	**4.85**	**343**	*e*Pn	**Pn**	**18 07 06.6**	**+1.8**
YZKH	**Yazd**	**5.23**	**5**	*e*Pn	**Pn**	**18 07 10.9**	**+1.0**
NASN	**Na'in**	**5.71**	**349**	*e*Pn	**Pn**	**18 07 18.2**	**+1.4**
IZEF	**Zefreh**	**5.90**	**346**	*e*Pn	**Pn**	**18 07 20.0**	**+0.7**
IPIR	**Pirpir**	**6.14**	**334**	*e*Pn	**Pn**	**18 07 24.0**	**+1.3**
BSRN	**Basiran**	**6.51**	**42**	*e*Pn	**Pn**	**18 07 27.3**	**-0.3**
SRVN	**Saravan**	**7.43**	**86**	*e*Pn	**Pn**	**18 07 42.2**	**+1.9**
KHMZ	**Khomeyn**	**7.44**	**333**	*e*Pn	**Pn**	**18 07 42.3**	**+1.9**
ASAO	**Ashtian**	**8.13**	**336**	*e*Pn	**Pn**	**18 07 51.6**	**+1.7**
SNGE	**Sanandaj**	**9.76**	**326**	*e*Pn	**Pn**	**18 08 14.6**	**+2.3**

*IDC **05** 18:07:17.1±11.0, 24°.91N×141°.08E, h220km±116km, mb3.1/5, mb1 3.2/6, mb1mx3.0/31, mbtmp3.6/6, Error ellipse: s-maj=35.0km s-min=16.5km az=86.0*
*JMA **05** 18:07:18.7±0.1, 25°.19N×140°.50E, h171km, M4.7*
ISC 05 18:07:15.5±1.0, 24°.9N±0°.1×140°.9E±0°.2, h200km, n10, σ1°32/11, mb3.4/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.05**	**34**	P	**Pn**	**18 07 56.4**	**+1.9**
JHH2				*e*S	**Sn**	**18 08 25.1**	**+0.1**
CBIJ	**Chichi jima**	**2.45**	**28**	P	**Pn**	**18 08 00.4**	**+1.6**
CBIJ				*e*S	**Sn**	**18 08 32.5**	**-0.2**
JAG	**Ashikaga**	**11.52**	**354**	P	**Pn**	**18 09 52.4**	**-1.8**
JAG				*e*S	Sn	18 11 53.1	-9.5
JHO	**Hitachi**	**11.64**	**359**	*e*S	Sn	18 11 55.1	-10
KSRS	**Korea Array**	**16.67**	**322**	P	**Pn**	**18 10 59.0**	**+1.3**
	0.1nm,0.3s,baz=136,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**45.06**	**189**	P	**P**	**18 15 10.8**	**-0.9**
	0.5nm,0.3s,baz=8.2,slow=8.6,SNR=19						
ASAR	**Alice Springs**	**48.78**	**189**	P	**P**	**18 15 41.0**	**+0.6**
	0.1nm,0.3s,baz=11,slow=6.2,SNR=1.2						
MKAR	**Makanchi Array**	**50.97**	**311**	P	**P**	**18 15 57.3**	**+0.6**
	1.5nm,0.4s,baz=88,slow=9.6,SNR=55						
ILAR	**Eielson Array**	**60.16**	**28**	P	**P**	**18 17 00.6**	**-1.2**
	0.9nm,0.8s,baz=246,slow=5.6,SNR=6.4						
YKA	**Yellowknife Ar**	**74.59**	**28**	P	**P**	**18 18 31.8**	**-0.5**
	0.2nm,0.4s,baz=294,slow=5.7,SNR=4.1						

*IDC **05** 18:23:25.8±1.0, 12°.71N×145°.50E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/43, Error ellipse: s-maj=31.8km s-min=17.2km az=80.0*
ISC 05 18:23:30.9±1.0, 12°.7N±0°.1×145°.5E±0°.2, h35km, n8, σ0°34/8, mb3.4/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.05**	**327**	Pn	**Pn**	**18 23 48.9**	**-0.3**
	114nm,0.3s,baz=23,slow=20,SNR=25						
GUMO				Sn	**Sn**	**18 24 03.0**	**+0.3**
	239nm,0.3s,baz=29,slow=20,SNR=8.1						
HNR	**Honiara**	**26.28**	**146**	LR	LR	18 38 03.5	
	comp=Z,53nm,19.5s,baz=221,slow=33						
WRA	**Warramunga Arr**	**34.23**	**199**	P	**P**	**18 30 13.4**	**-0.2**
	0.4nm,0.6s,baz=25,slow=9.8,SNR=8.7						
ASAR	**Alice Springs**	**37.87**	**197**	P	**P**	**18 30 45.0**	**+0.3**
	0.2nm,0.6s,baz=24,slow=10,SNR=8.5						
MKAR	**Makanchi Array**	**62.52**	**316**	P	**P**	**18 33 51.3**	**+0.1**
	0.2nm,0.6s,baz=90,slow=8.0,SNR=3.1						
ILAR	**Eielson Array**	**69.12**	**25**	P	**P**	**18 34 33.7**	**+0.4**
	0.9nm,0.5s,baz=252,slow=6.0,SNR=19						
YKA	**Yellowknife Ar**	**83.38**	**27**	P	**P**	**18 35 53.9**	**-0.3**
	0.3nm,0.8s,baz=284,slow=5.7,SNR=5.0						
DBIC	**Dimbokro**	**144.78**	**301**	PKP	**PKPdf**	**18 43 05.1**	**-0.1**
	1.0nm,0.4s,baz=58,slow=5.3,SNR=5.8						

*TIR **05** 18:38:06.3, 38°.92N×20°.69E, h4km±1km, Md3.5, Ml3.7*
*IDC **05** 18:38:07.1±1.3, 39°.03N×20°.71E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/48, mbtmp3.5/8, ML3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/59, Error ellipse: s-maj=26.9km s-min=19.9km az=68.0*
*THE **05** 18:38:08.8, 38°.98N×20°.59E, h16km, ML3.5/11, Error ellipse: s-maj=0.9km s-min=0.4km az=253.0*
*ATH **05** 18:38:08.7, 38°.96N×20°.61E, h13km±2km, ML3.3/18, Error ellipse: s-maj=3.2km s-min=0.8km az=266.0*
ISC 05 18:38:09.1±0.9, 38°.96N±0°.01×20°.63E±0°.02, h14km±6km, n109, σ1°48/142, mb3.5/6, 9C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.14**	**170**	P	**Pg**	**18 38 12.8**	**+0.1**
TSLK				S	**Sb**	**18 38 16.5**	**+0.2**
	26μm,0.3s						
NYDR	**Nydri-Lefkada**	**0.25**	**167**	P	**Pg**	**18 38 14.6**	**+0.1**
NYDR				S	**Sb**	**18 38 19.1**	**-0.5**
DRAG	**Dragano-Lefkad**	**0.28**	**188**	P	**Pg**	**18 38 14.9**	**-0.1**
DRAG				S	**Sb**	**18 38 20.4**	**0.0**
	23μm,0.3s						
EVGI	**Lefkada island**	**0.34**	**176**	P	**Pg**	**18 38 15.9**	**-0.2**
EVGI				S	**Sg**	**18 38 21.2**	**+0.4**
	9μm,0.2s						
FSK	**Fiskardo**	**0.50**	**186**	P	**Pg**	**18 38 18.8**	**-0.2**
FSK				S	**Sg**	**18 38 25.4**	**-0.4**
FSK	**Fiskardo**	**0.50**	**186**	P	**Pg**	**18 38 18.8**	**-0.2**
FSK				S	**Sg**	**18 38 25.4**	**-0.4**
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comp=E,0.8nm,0.5s,baz=276,slow=7.9,SNR=4.2

DJA ***05*** *18:40:21.7±2.4,4˚N±9˚×9˚5E±2˚1,h106km±13km,M4.7/15, mB4.9/4,mb4.7/15,MLv4.9/8,Mw(mB)4.2/4*
BJI ***05*** *18:40:22.3±0.0,4˚01N×95˚34E,h64km,mb4.5/47, mB4.9/20,Ms4.1/12,Ms7 3.9/11*
NEIC ***05*** *18:40:24.8±2.7,4˚21N±0˚05×95˚48E±0˚07,h44km±6km, mb4.9/70,Error ellipse: s-maj=9.5km s-min=7.8km az=80.0*
IDC ***05*** *18:40:26.2±2.0,4˚43N×95˚63E,h57km±18km,mb4.1/30, mb1 4.2/31,mb1mx4.0/58,mbtmp4.3/31,ML4.0/1,MS3.6/32, Ms1 3.6/32,ms1mx3.4/87,Error ellipse: s-maj=17.5km s-min=11.1km az=54.0*
ISC 05 18:40:25.0±0.3,4˚19N±0˚04×95˚50E±0˚04,h51km,n230, σ1§44/222,mb4.7/78,MS3.7/33,10C-7D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.78**	**55**	P	**Pn**	**18 40 55.9**	**+2.6**
LHMI	**Lhok Sumawe**	**1.78**	**55**		**Pn**	**18 40 55.3**	**+2.0**
LHMI				Sn	**Sn**	**18 41 16.6**	**+1.9**
LHMI	**Lhok Sumawe**	**1.78**	**55**	P	**Pn**	**18 40 56.3**	**+3.0**
TSI	**Tuntungan**	**3.14**	**103**	P	**Pn**	**18 41 15.3**	**+3.4**
GSI	**Gunungsitoli**	**3.54**	**144**	Pn	**Pn**	**18 41 17.9**	**+0.4**
GSI				Sn	**Sn**	**18 41 56.7**	**-1.4**
GSI	**Gunungsitoli**	**3.54**	**144**	P	**Pn**	**18 41 18.4**	**+0.9**
PSI	**Prapat**	**3.69**	**112**	P	**Pn**	**18 41 22.8**	**+3.1**
PSI	11nm,0.3s,baz=326,slow=8.1,SNR=40			LR	LR	18 42 29.8	
	comp=Z,121nm,18.1s,baz=256,slow=33						
RPSI	**Rantau Prapat**	**3.73**	**113**		**Pn**	**18 41 22.8**	**+2.7**
KULM	**Kulim**	**5.25**	**78**	Pn	**Pn**	**18 41 42.2**	**+1.3**
KULM				Sn	**Sn**	**18 42 38.6**	**-1.7**
IPM	**Ipoh**	**5.52**	**87**		**Pn**	**18 41 46.0**	**+1.3**
IPM				Sn	**Sn**	**18 42 47.3**	**+0.4**
IPM	**Ipoh**	**5.52**	**87**	P	**Pn**	**18 41 46.3**	**+1.6**
SRIT	**Nakonsritamara**	**5.98**	**43**		**Pn**	**18 41 52.3**	**+1.3**
SRIT				Sn	**Sn**	**18 42 55.6**	**-2.6**
SISI	**Saibi**	**6.55**	**147**	P	**Pn**	**18 41 59.5**	**+0.7**
	0.1nm28nm,0.9s						
BKNI	**Bangkinang**	**6.74**	**125**	P	**Pn**	**18 42 03.4**	**+2.0**
	0.5nm925nm70nm,0.8s						
BKNI	**Bangkinang**	**6.74**	**125**		**Pn**	**18 42 00.4**	**-1.0**
BKNI	**Bangkinang**	**6.74**	**125**	P	**Pn**	**18 42 00.6**	**-0.8**
PBA	**Port Blair**	**7.90**	**340**	Pn	**Pn**	**18 42 16.8**	**-0.4**
PPSI	**Pulau Pagai**	**8.25**	**147**	P	**Pn**	**18 42 23.1**	**+1.0**
	75nm,0.9s						
KRJI	**Kerinci**	**8.63**	**136**	P	**Pn**	**18 42 29.2**	**+1.8**
	2µm148nm,0.8s						
MYKOM	**Kota Tinggi**	**8.68**	**106**		**Pn**	**18 42 29.5**	**+1.6**
MASI	**Maura Aman, Be**	**9.93**	**137**	P	**Pn**	**18 42 47.2**	**+2.1**
	63nm,1.0s						
MNAI	**Manna**	**11.30**	**139**	P	**Pn**	**18 43 04.0**	**+0.1**
	97nm,0.8s						
MNAI	**Manna**	**11.30**	**139**	Pn	**Pn**	**18 43 03.6**	**-0.3**
MNAI	**Manna**	**11.30**	**139**	P	**Pn**	**18 43 04.0**	**+0.1**
LHSI	**Lahat**	**11.30**	**135**	P	**Pn**	**18 43 04.9**	**+1.0**
	44nm,0.7s						
MDSI	**Maura Dua**	**12.23**	**135**	P	**Pn**	**18 43 17.3**	**+0.8**
	14nm,0.7s						
KLSI		**12.77**	**134**	P	**Pn**	**18 43 24.5**	**+0.6**
	12nm,0.9s						
KASI	**Kota Agung**	**13.19**	**137**	P	**Pn**	**18 43 30.3**	**+0.6**
	26nm,0.8s						
CM31	**Chiang Mai Arr**	**14.57**	**13**	P	**Pn**	**18 43 49.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**14.57**	**13**	P	**Pn**	**18 43 50.0**	**+1.7**
	0.4nm,0.3s,baz=206,slow=12,SNR=38						
CMAR				LR	LR	18 49 45.6	
	comp=Z,210nm,18.9s,baz=195,slow=39						
CMAR				ScP	**ScP**	**18 52 30.4**	**+1.0**
	0.1nm,0.3s,baz=231,slow=3.4,SNR=8.4						
CMAR	**Chiang Mai Arr**	**14.57**	**13**	Pn	**Pn**	**18 43 47.0**	**-1.3**
CMAR					**ScP**	**18 52 29.8**	**+0.3**
CGJI	**Cibinong**	**14.79**	**136**	P	**Pn**	**18 43 50.2**	**-1.0**
CHTO	**Chiang Mai**	**14.92**	**13**		**Pn**	**18 43 53.5**	**+0.7**
DLV	**T Lat**	**14.98**	**58**	P	**P**	**18 43 56.8**	**-1.6**
PALK	**Pallekele**	**15.03**	**282**	P	**P**	**18 43 59.7**	**+1.0**
	0.5nm,0.3s,baz=198,slow=8.7,SNR=11						
PALK				S	Sn	18 46 25.9	-14
	0.7nm,0.3s,baz=301,slow=23,SNR=3.3						
PALK				LR	LR	18 49 17.3	
	comp=Z,104nm,19.9s,baz=210,slow=35						
PALK	**Pallekele**	**15.03**	**282**		**P**	**18 43 58.0**	**-0.8**
KSM	**Kuching**	**15.04**	**100**	P	**Pn**	**18 43 56.3**	**+1.9**
LEM	**Lembang**	**16.32**	**132**	LR	LR	18 50 21.6	
	comp=Z,107nm,20.6s,baz=232,slow=36						
COCO	**West Island**	**16.33**	**175**		**P**	**18 44 12.6**	**-0.5**
COCO				IAmb	IAmb	18 44 17.6	
	comp=Z,154nm,1.2s						
SBUM	**Sibu**	**16.79**	**95**	P	**Pn**	**18 44 15.3**	**-1.4**
XMIS	**Christmas Isla**	**17.74**	**145**	P	**Pn**	**18 44 26.9**	**-1.6**
CHLP	**Challavanipeta**	**18.10**	**323**	*eP*	**P**	**18 44 30.2**	**-2.4**
CHLP				*eP*	**Pn**	**18 44 34.6**	**+1.9**
CHLP				*ePn*	**Pn**	**18 44 34.6**	**+1.9**
PVM	**Polavaram**	**18.80**	**315**	*eP*	**P**	**18 44 40.1**	**-0.2**
SLVN	**Son La**	**18.90**	**25**	P	**Pn**	**18 44 41.7**	**-0.8**
ADKI	**Addanki**	**19.16**	**308**	*ePn*	**P**	**18 44 44.9**	**+0.6**
MYLAV	**Mylavaram**	**19.19**	**312**	*eP*	**P**	**18 44 44.4**	**-0.3**
MYLAV				*epP*	**pP**	**18 44 55.0**	**-1.0**
RCLA	**Racherla**	**19.75**	**306**	*ePn*	**Pn**	**18 44 52.4**	**-0.3**
NJS	**Nagarjunasagar**	**20.09**	**309**	*eP*	**P**	**18 44 54.0**	**-0.4**
NJS				*epP*	**pP**	**18 45 04.9**	**-0.7**
SRLM	**Srisailam**	**20.15**	**307**	*ePn*	**P**	**18 44 56.4**	**+1.1**
SRLM				*eS*	**S**	**18 48 39.3**	**+0.4**
QIZ	**Qiongzhong**	**20.34**	**42**	P	Pn	18 44 58.7	-0.9
QIZ				S	Sn	18 48 44.5	-3.7
QIZ				LR	LR		
	comp=Z,140nm,15.9s						
QIZ				LR	LR		
	comp=Z,200nm,13.1s						
QIZ				LR	LR		
	comp=Z,180nm,22.0s						
KKM	**Kota Kinabalu**	**20.72**	**84**	P	**P**	**18 45 00.9**	**-0.6**
KKM				IAmb	IAmb	18 45 24.4	
	comp=Z,58nm,1.3s						
KKM	**Kota Kinabalu**	**20.72**	**84**	P	Pn	18 45 04.4	+0.2
URV	**Uravakonda**	**20.89**	**302**	*eP*	**P**	**18 45 02.5**	**-0.8**
URV				*eS*	**S**	**18 48 55.1**	**+1.5**
HYBB	**Hyderabad (bro**	**21.18**	**310**	*eP*	**P**	**18 45 05.8**	**-0.5**
HYBB				*epP*	**pP**	**18 45 17.1**	**-0.6**
HYBB				*eS*	**S**	**18 48 59.8**	**+0.6**
KOHI	**KOHIMA**	**21.45**	**357**	*eP*	**P**	**18 45 04.2**	**-5.0**
KOHI				IAmb	IAmb	18 45 10.1	
SHL	**Shillong**	**21.53**	**351**	*eP*	**P**	**18 45 05.6**	**-4.5**
BOK	**Bokaro**	**21.58**	**335**	*eP*	**P**	**18 45 10.7**	**+0.2**
BOK				IAmb	IAmb	18 45 24.4	
	comp=Z,15nm,0.4s						
KMI	**Kunming**	**21.95**	**18**	⇑P	**P**	**18 45 16.7**	**+2.1**
KMI				pmax	pmax		
	comp=Z,12nm,0.9s						
KMI				LR	LR		
	comp=Z,190nm,21.1s						
KMI				LR	LR		
	comp=Z,140nm,15.7s						
KMI				LR	LR		
	comp=Z,220nm,19.9s						
MOKO	**MOKOCHONG**	**22.02**	**358**	*eP*	**P**	**18 45 11.8**	**-3.5**
MOKO				IAmb	IAmb	18 45 14.5	
	comp=Z,7.3nm,0.6s						
BLSP	**Bilaspur**	**22.04**	**325**	*eP*	**P**	**18 45 15.4**	**-0.1**
SRSP	**Sriramsagar**	**22.25**	**313**	*eP*	**P**	**18 45 19.8**	**+2.0**
KAAM	**Kaadhehdhoo**	**22.78**	**261**	P	**P**	**18 45 25.1**	**+1.8**
MYLDM	**Lahad Datu**	**22.95**	**87**	P	**P**	**18 45 26.1**	**+1.0**
MYLDM				IAmb	IAmb	18 45 39.6	
	comp=Z,24nm,1.0s						
PZH	**PanZhiHua**	**22.98**	**14**	P	**P**	**18 45 24.4**	**-1.1**
PZH				S	**S**	**18 49 36.2**	**+4.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
PZH				LR	LR		
	comp=Z,370nm,22.0s						
PZH				LR	LR		
	comp=Z,310nm,21.1s						
PZH				LR	LR		
	comp=Z,550nm,21.6s						
GYA	**Guiyang**	**24.59**	**25**	⇑P	**P**	**18 45 42.2**	**+1.7**
GYA				pP	pP	18 45 52.8	-0.8
GYA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PKI	**Pulchoki**	**25.16**	**339**	*eP*	**P**	**18 45 45.5**	**-0.5**
	comp=Z,11nm,0.5s						
PKIN	**Phulchoki**	**25.17**	**339**	*eP*	**P**	**18 45 45.6**	**-0.4**
	comp=Z,13nm,0.5s						
GUN	**Gumba**	**25.30**	**340**	*eP*	**P**	**18 45 46.9**	**-0.4**
	comp=Z,38nm,0.8s						
DMN	**Daman**	**25.31**	**338**	*eP*	**P**	**18 45 46.9**	**-0.3**
KKN	**Kakani**	**25.41**	**339**	*eP*	**P**	**18 45 47.7**	**-0.4**
	comp=Z,22nm,0.6s						
TOLI2	**Tolitoli**	**25.44**	**96**	P	**P**	**18 45 48.2**	**-0.1**
TOLI2				IAmb	IAmb	18 45 52.7	
	comp=Z,13nm,0.7s						
LSA	**Lhasa**	**25.70**	**351**	P	**P**	**18 45 50.5**	**-0.5**
LSA				pmax	pmax		
	comp=Z,56nm,0.7s						
LSA	**Lhasa**	**25.70**	**351**	P	**P**	**18 45 49.4**	**-1.6**
DGAR	**Diego Garcia**	**25.72**	**243**	P	**P**	**18 45 49.4**	**-1.4**
H08S2	**Diego Garcia H**	**25.79**	**243**	T	T	19 11 53.4	
	baz=64,slow=75,SNR=146						
H08S3	**Diego Garcia H**	**25.79**	**243**	T	T	19 11 58.2	
	baz=64,slow=75,SNR=284						
H08S1	**Diego Carcia H**	**25.80**	**243**	T	T	19 11 55.6	
	baz=64,slow=75,SNR=30						
GKN	**Gorkha**	**25.84**	**338**	*eP*	**P**	**18 45 51.4**	**-0.5**
KAPI	**Kappang**	**25.90**	**110**	LR	LR	18 56 19.7	
	comp=Z,80nm,19.3s,baz=297,slow=37						
KAPI	**Kappang**	**25.90**	**110**	P	**P**	**18 45 51.3**	**-1.1**
KOLN	**Koldanda**	**26.05**	**335**	*eP*	**P**	**18 45 53.6**	**-0.3**
DANN	**Dangsing**	**26.49**	**336**	*eP*	**P**	**18 45 57.8**	**-0.2**
PYUN	**Piuthan**	**26.59**	**335**	*eP*	**P**	**18 45 58.4**	**-0.4**
SOEI	**Soe**	**31.84**	**116**	P	**P**	**18 46 42.2**	**-3.2**
SOEI				IAmb	IAmb	18 47 03.0	
	comp=Z,38nm,1.5s						
SMLA	**Simla**	**31.87**	**329**	*eP*	**P**	**18 46 45.9**	**+0.6**
SMLA				IAmb	IAmb	18 46 51.1	
	comp=Z,11nm,0.8s						
XAN	**Xi'an**	**32.22**	**21**	P	**P**	**18 46 47.7**	**-0.8**
XAN				pP	pP	18 46 59.7	-1.9
XAN				pmax	pmax		
	comp=Z,21nm,0.7s						
XAN				pmax	pmax		
	comp=Z,120nm,4.3s						
GIRL	**Giralia**	**32.35**	**146**	P	**P**	**18 46 50.2**	**+0.5**
DHRM	**DHARAMSHALA**	**33.21**	**329**	*eP*	**P**	**18 46 57.1**	**-0.2**
DHRM				IAmb	IAmb	18 46 58.9	
	comp=Z,25nm,0.4s						
PSA00	**Pilbara Seismi**	**34.99**	**138**	P	**P**	**18 47 13.5**	**+0.8**
PSA00				IAmb	IAmb	18 47 14.4	
	comp=Z,40nm,1.6s						
PSA00	**Pilbara Seismi**	**34.99**	**138**	P	**P**	**18 47 12.2**	**-0.5**
PSA00				IAmb	IAmb	18 47 14.4	
	comp=Z,5.4nm,1.0s						
GTA	**Gaotai**	**35.28**	**6**	*eP*	**P**	**18 47 14.2**	**-0.9**
GTA				pP	pP	18 47 27.8	-0.5
GTA				sP	sP	18 47 36.8	+2.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,110nm,5.6s						
GTA				LR	LR		
	comp=Z,91nm,16.4s						
GTA				LR	LR		
	comp=Z,99nm,15.3s						
GTA				LR	LR		
	comp=Z,96nm,16.4s						
NJ2	**Nanjing**	**35.33**	**36**	*eP*	**P**	**18 47 16.7**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**37.07**	**128**	P	**P**	**18 47 30.6**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=311,slow=6.2,SNR=8.0						
FAKI	**Fak Fak**	**37.40**	**100**	P	**P**	**18 47 31.9**	**-1.5**
FAKI				IAmb	IAmb	18 47 53.8	
	comp=Z,9.5nm,0.8s						
HNS	**HongShan**	**37.44**	**26**	⇑P	**P**	**18 47 33.7**	**+0.3**
HNS				pmax	pmax		
	comp=Z,19nm,0.8s						
SAUI	**Saumlaki**	**37.71**	**109**	P	P	18 47 31.1	-4.9
KNRA	**Kununurra**	**38.39**	**122**	P	**P**	**18 47 41.4**	**-0.4**
	baz=38,SNR=7.9						
KNRA	**Kununurra**	**38.39**	**122**	P	**P**	**18 47 41.3**	**-0.4**
KNRA				IAmb	IAmb	18 48 17.9	
	comp=Z,42nm,1.4s						
MORW	**Morawa**	**38.51**	**150**	P	**P**	**18 47 43.5**	**+0.9**
MORW				IAmb	IAmb	18 47 46.2	
	comp=Z,11nm,1.0s						
JOW	**Kunigami**	**38.57**	**51**	LR	LR	19 05 21.0	
	comp=Z,49nm,19.3s,baz=192,slow=39						
JOW	**Kunigami**	**38.57**	**51**	P	**P**	**18 47 43.4**	**+0.3**
MTN	**Manton Dam**	**39.24**	**116**	P	**P**	**18 47 50.8**	**+2.0**
	baz=39,SNR=4.1						
MTN	**Manton Dam**	**39.24**	**116**	P	**P**	**18 47 49.3**	**+0.5**
MTN				IAmb	IAmb	18 48 30.1	
	comp=Z,21nm,1.4s						
HHC	**Hu-ho-hao-te**	**39.25**	**19**	*eP*	**P**	**18 47 49.4**	**+0.7**
HHC				pP	sP	18 48 07.3	-0.8
HHC				S	**S**	**18 53 53.6**	**+7.7**
HHC				sS	sS	18 54 12.9	+4.9
HHC				pmax	pmax		
	comp=Z,17nm,1.2s						
HHC				pmax	pmax		
	comp=Z,99nm,4.8s						
HHC				LR	LR		
	comp=Z,230nm,16.1s						
HHC				LR	LR		
	comp=Z,140nm,16.1s						
HHC				LR	LR		
	comp=Z,210nm,17.1s						
KSH	**Kashi**	**39.36**	**336**	P	**P**	**18 47 48.3**	**-1.4**
KSH				pP	pP	18 48 03.3	+0.3
KSH				sP	sP	18 48 11.0	+2.0
KSH				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ	**Urumqi**	**40.06**	**351**	*eP*	**P**	**18 47 56.5**	**+1.1**
BJI	**Beijing**	**40.28**	**25**	P	**P**	**18 47 57.2**	**+0.1**
BJI				pmax	pmax		
	comp=Z,13nm,0.7s						
KDU	**Kakadu**	**40.38**	**115**	P	**P**	**18 47 60.0**	**+1.6**
	baz=40,SNR=5.1						
MUN	**Mundaring**	**41.02**	**153**	P	**P**	**18 48 05.7**	**+2.4**
	baz=41,SNR=4.8						
KDJ	**Kajisay**	**41.16**	**339**	P	**P**	**18 48 03.7**	**-0.9**
KDJ				IAmb	IAmb	18 48 16.2	
	comp=Z,28nm,1.1s						
DRK	**Karamyk**	**41.17**	**332**	P	**P**	**18 48 04.5**	**-0.3**
CHGR	**Chuyangaron**	**41.84**	**329**	P	**P**	**18 48 09.8**	**-0.3**
BOOM	**Boomskoye usch**	**41.92**	**338**	P	**P**	**18 48 10.6**	**-0.3**
BOOM				IAmb	IAmb	18 48 20.8	
	comp=Z,12nm,0.8s						
BTK	**Batken**	**42.09**	**331**	P	**P**	**18 48 12.3**	**+0.2**
BTK				IAmb	IAmb	18 48 28.7	
	comp=Z,38nm,0.9s						
AAK	**Ala-Archa**	**42.60**	**337**	LR	LR	19 08 00.5	
	comp=Z,66nm,19.6s,baz=148,slow=39						
AAK	**Ala-Archa**	**42.60**	**337**	P	**P**	**18 48 15.8**	**-0.6**
AAK				IAmb	IAmb	18 48 32.1	
	comp=Z,9.6nm,0.8s						
H01W3	**Cape Leeuwin H**	**42.64**	**157**	T	T	19 32 26.7	
	baz=333,slow=76,SNR=3.6						
H01W2	**Cape Leeuwin H**	**42.66**	**157**	T	T	19 32 20.9	
	baz=333,slow=76,SNR=3.3						
H01W1	**Cape Leeuwin H**	**42.66**	**157**	T	T	19 32 23.7	
	baz=333,slow=76,SNR=3.5						
FRU1	**Bishkek**	**42.69**	**337**	P	**P**	**18 48 17.0**	**0.0**
FRU1				IAmb	IAmb	18 48 33.3	
	comp=Z,12nm,0.8s						
WRKA	**Warakurna**	**43.12**	**134**	P	**P**	**18 48 21.7**	**+1.1**
	baz=43,SNR=4.9						
XLT	**XiLinHaoTe**	**43.52**	**22**	*eP*	**P**	**18 48 23.7**	**0.0**
XLT				pP	pP	18 48 38.9	+1.7
XLT				sP	sP	18 48 45.1	+1.9
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
XLT				pmax	pmax		
	comp=Z,170nm,6.0s						
JNU	**Nakatsue**	**43.79**	**45**	LR	LR	19 07 52.1	
	comp=Z,63nm,19.1s,baz=210,slow=38						
JNU	**Nakatsue**	**43.79**	**45**	P	**P**	**18 48 25.0**	**-0.9**
JNU				IAmb	IAmb	18 48 48.2	
	comp=Z,54nm,1.6s						
TAS	**Tashkent**	**43.80**	**331**	P	**P**	**18 48 24.8**	**-1.0**
MK31	**Makanchi Array**	**43.95**	**347**	P	**P**	**18 48 25.3**	**-1.7**
MKAR	**Makanchi Array**	**43.95**	**347**	P	**P**	**18 48 25.7**	**-1.3**
	comp=Z,3.3nm,0.5s,baz=157,slow=7.7,SNR=44						
MKAR				LR	LR	19 10 25.1	
	comp=Z,38nm,18.0s,baz=186,slow=41						
KPRO	**Kipourio**	**1.15**	**30**	P	**Pb**	**18 38 29.8**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.18**	**87**	P	**Pg**	**18 38 30.6**	**-1.2**
MAKR	**Makrakomi, Fth**	**1.18**	**87**	P	**Pg**	**18 38 30.6**	**-1.2**
MAKR				AML	AML	18 38 54.5	
	comp=N,3931µm,1.1s						
MAKR				AML	AML	18 38 56.5	
	comp=E,2352µm,0.7s						
LSK	**Leskovik**	**1.19**	**359**	P	**Pg**	**18 38 31.8**	**-0.2**
	baz=357						
LSK				S	**Sn**	**18 38 49.5**	**+2.2**
	baz=357						
LSK				AMP			
	comp=N,9.5nm,0.7s,baz=357						
THL	**Klokotos Trika**	**1.24**	**60**	P	**Pg**	**18 38 31.7**	**-1.2**
THL	**Klokotos Trika**	**1.24**	**60**	P	**Pg**	**18 38 31.7**	**-1.2**
THL				AML	AML	18 38 54.3	
	comp=E,1656µm,0.5s						
THL				AML	AML	18 38 54.7	
	comp=N,1558µm,0.7s						
SERG	**Sergoula**	**1.25**	**116**	P	**Pn**	**18 38 31.3**	**-0.8**
SERG	**Sergoula**	**1.25**	**116**	P	**Pn**	**18 38 31.3**	**-0.8**
SERG				AML	AML	18 38 57.4	
	comp=N,3535µm,0.5s						
SERG				AML	AML	18 39 03.7	
	comp=E,2696µm,0.4s						
LTHK	**Lithakia**	**1.26**	**172**	P	**Pn**	**18 38 31.5**	**-0.7**
LTHK	**Lithakia**	**1.26**	**172**	P	**Pn**	**18 38 31.5**	**-0.7**
TRIZ	**Trizonia**	**1.28**	**117**	P	**Pn**	**18 38 31.8**	**-0.7**
TRIZ	**Trizonia**	**1.28**	**117**	P	**Pn**	**18 38 31.8**	**-0.7**
LAKA	**Lakka**	**1.28**	**124**	P	**Pn**	**18 38 31.6**	**-1.0**
LAKA	**Lakka**	**1.28**	**124**	P	**Pn**	**18 38 31.6**	**-1.0**
LAKA				AML	AML	18 38 56.7	
	comp=E,5133µm,0.5s						
LAKA				AML	AML	18 39 00.4	
	comp=N,5528µm,0.9s						
PENT	**Pentalofos**	**1.30**	**18**	P	**Pg**	**18 38 32.8**	**-1.3**
DRO	**Drossia**	**1.32**	**139**	P	**Pn**	**18 38 32.4**	**-0.7**
DRO	**Drossia**	**1.32**	**139**	P	**Pn**	**18 38 32.4**	**-0.7**
DRO				AML	AML	18 38 57.9	
	comp=E,5403µm,0.4s						
DRO				AML	AML	18 39 09.2	
	comp=N,3955µm,0.8s						
AGG	**Agios Georgios**	**1.33**	**87**	P	**Pg**	**18 38 33.2**	**-1.5**
AGG	**Agios Georgios**	**1.33**	**87**	P	**Pg**	**18 38 33.2**	**-1.5**
AGG				AML	AML	18 38 58.5	
	comp=E,2859µm,0.4s						
AGG				AML	AML	18 38 58.9	
	comp=N,2693µm,0.5s						
NEST	**Nestorio**	**1.49**	**13**	P	**Pb**	**18 38 36.0**	**-0.6**
KZN	**Kozani**	**1.61**	**33**	P	**Pb**	**18 38 37.9**	**-0.7**
KZN				AML	AML	18 39 15.9	
	comp=E,876µm,0.5s						
KZN				AML	AML	18 39 18.4	
	comp=N,784µm,0.6s						
KBN	**Korca**	**1.67**	**4**	P	**Pg**	**18 38 40.1**	**-1.0**
	baz=2.0						
KBN				S	**Sg**	**18 39 04.7**	**+1.9**
	baz=2.0						
KBN				AMP			
	comp=E,2.7nm,0.9s,baz=2.0						
VLO	**Vlora**	**1.74**	**330**	P	**Pg**	**18 38 42.9**	**+0.4**
	baz=330						
VLO				S	**Sg**	**18 39 08.4**	**+3.3**
	baz=330						
ATAL	**Atalanti**	**1.89**	**97**	P	**Pb**	**18 38 42.6**	**-0.7**
ATAL				AML	AML	18 39 14.7	
	comp=N,475µm,0.8s						
ATAL				AML	AML	18 39 18.7	
	comp=E,379µm,0.5s						
FNA	**Florina**	**1.91**	**17**	P	**Pg**	**18 38 44.1**	**-1.7**
	baz=15						
FNA				S	**Sg**	**18 39 11.6**	**+1.1**
	baz=15						
XOR	**Xorichti**	**2.04**	**78**	P	**Pb**	**18 38 45.4**	**-0.5**
XOR				AML	AML	18 39 17.5	
	comp=E,528µm,1.1s						
XOR				AML	AML	18 39 20.6	
	comp=N,1235µm,0.5s						
OHR	**Ohrid**	**2.15**	**3**	*i* Pn	**Pg**	**18 38 49.9**	**-0.5**
OHR				*i* Sn	**Sg**	**18 39 19.7**	**+1.4**
OHR	**Ohrid**	**2.15**	**3**	*e*Pn	**Pg**	**18 38 50.5**	**+0.1**
TIR	**Tirane**	**2.45**	**347**	⇑P	**Pb**	**18 38 50.8**	**-2.1**
TIR				⇓S	**Sn**	**18 39 19.7**	**+1.3**
TIR	**Tirane**	**2.45**	**347**	P	**Pb**	**18 38 52.4**	**-0.6**
	baz=346						
TIR				S	**Sg**	**18 39 26.9**	**-1.0**
	baz=346						
PHP	**Peshkopia**	**2.73**	**357**	P	**Pb**	**18 38 54.5**	**-3.1**
	baz=357						
PHP				S	**Sg**	**18 39 34.5**	**-2.1**
	baz=357						
PHP				AMP			
	comp=N,0.7nm,0.9s,baz=357						
VAY	**Valandovo**	**2.79**	**32**	*i* Pn	**Pb**	**18 38 56.0**	**-2.7**
VAY				*i* Sn	**Sb**	**18 39 31.7**	**-1.0**
STIP	**Stip**	**2.98**	**23**	*i* Pn	**Pb**	**18 38 59.9**	**-2.1**
TIP	**Timpagrande**	**3.02**	**275**	⇑P	**Pn**	**18 38 57.6**	**+1.1**
TIP				⇓S	**Sn**	**18 39 31.7**	**-0.8**
SKO	**Skopje**	**3.07**	**11**	*i* Pn	**Pb**	**18 39 00.9**	**-2.6**
DRME	**Dracevica, Mon**	**3.40**	**342**	*e*Pn	**Pn**	**18 39 01.4**	**-0.3**
BCI	**Bajram Curri**	**3.43**	**353**	P	**Pn**	**18 39 04.5**	**+2.4**
	baz=353						
BCI				S	**Sb**	**18 39 51.4**	**+0.3**
	baz=353						
BCI				AMP			
	comp=E,0.7nm,1.7s,baz=353						
MATE	**Matera**	**3.46**	**300**	⇓P	**Pn**	**18 39 03.4**	**+0.9**
MATE				⇓S	**Sn**	**18 39 43.0**	**-0.2**
PDG	**Podgorica**	**3.62**	**344**	⇓P	**Pn**	**18 39 05.3**	**+0.7**
PDG				⇓S	**Sn**	**18 39 49.4**	**+2.3**
PDG	**Podgorica**	**3.62**	**344**	*e*Pn	**Pn**	**18 39 04.9**	**+0.2**
PDG	**Podgorica**	**3.62**	**344**	*e*Pn	**Pn**	**18 39 05.2**	**+0.5**
BOSS	**Bosilegrad**	**3.80**	**21**	*e*Pn	**Pn**	**18 39 09.4**

MKAR Makanchi Array 43.95 347 P **P 18 48 24.8 -2.3**
MAKZ Makanchi 44.04 347 P **P 18 48 26.0 -1.7**
KS19 Wonju Array Si 44.44 37 P **P 18 48 29.6 -1.5**
KSRS Korea Array 44.45 38 P **P 18 48 29.8 -1.3**
comp=Z,2.2nm,0.8s,baz=219,slow=8.9,SNR=8.4
KSRS LR LR 19 09 14.7
comp=Z,23nm,18.1s,baz=235,slow=39
SONM Songino Array 44.48 10 P **P 18 48 30.0 -1.3**
comp=Z,1.2nm,0.7s,baz=190,slow=9.3,SNR=5.0
SONM Songino Array 44.48 10 P **P 18 48 29.3 -2.0**
KKAR Karatay Array 44.64 334 P **P 18 48 32.0 -0.5**
WB0 Warramunga Arr 45.04 123 P **P 18 48 36.4 +0.3**
WB0 IAmb IAmb 18 48 37.7
comp=Z,15nm,0.5s
WRA Warramunga Arr 45.08 124 P **P 18 48 37.2 +0.8**
comp=Z,10.0nm,0.7s,baz=302,slow=9.0,SNR=72
WRA Warramunga Arr 45.08 124 P **P 18 48 37.4 +1.1**
WRAB Tennant Creek 45.08 124 P **P 18 48 36.8 +0.4**
WRAB IAmb IAmb 18 48 54.6
comp=Z,18nm,0.8s
WB2 Warramunga Arr 45.09 124 P **P 18 48 36.8 +0.4**
WB2 IAmb IAmb 18 48 54.6
comp=Z,20nm,0.8s
WR0 Warramunga Arr 45.25 123 P **P 18 48 38.2 +0.5**
WR0 IAmb IAmb 18 48 56.0
comp=Z,23nm,0.8s
JMN Monobe 46.24 46 P **P 18 48 45.3 0.0**
JHS Saijyo 46.37 44 P **P 18 48 47.3 +0.9**
AS31 Alice Springs 46.56 128 P **P 18 48 48.6 +0.5**
ASAR Alice Springs 46.56 128 P **P 18 48 49.0 +0.9**
comp=Z,13nm,0.7s,baz=297,slow=8.0,SNR=112
ASAR PcP **PcP 18 50 22.8 +1.1**
comp=Z,1.8nm,0.7s,baz=314,slow=3.3,SNR=4.9
ASAR Alice Springs 46.56 128 P **P 18 48 48.6 +0.5**
FORT Forrest 46.65 140 P **P 18 48 50.2 +1.6**
CN2 Changchun 47.48 29 *eP* **P 18 48 53.8 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
GEYT Alibeck 47.84 320 P **P 18 48 58.8 +1.0**
comp=Z,4.1nm,0.6s,baz=180,slow=13,SNR=4.3
GEYT Alibeck 47.84 320 P **P 18 48 57.5 -0.3**
GEYT IAmb IAmb 18 49 05.0
comp=Z,4.3nm,0.7s
GYA0B ALIBECK ARRAY 47.84 320 P **P 18 48 58.1 +0.3**
GYA0B IAmb IAmb 18 49 05.0
comp=Z,6.1nm,0.7s
KURBB Kurchatov Arra 48.42 346 P **P 18 49 01.1 -0.9**
comp=Z,3.2nm,0.6s,baz=165,slow=6.9,SNR=32
KURBB ScP **ScP 18 54 19.3 +0.9**
comp=Z,0.5nm,0.7s,baz=166,slow=3.7,SNR=3.5
KURBB LR LR 19 11 47.5
comp=Z,97nm,21.9s,baz=150,slow=39
KURK Kurchatov 48.49 346 P **P 18 49 01.2 -1.3**
QIS Mount Isa 49.78 121 P **P 18 49 14.3 +1.3**
baz=50,SNR=7.7
JHJ Hachijo jima 2 50.31 50 LR LR 19 09 28.0
comp=Z,19nm,21.6s,baz=130,slow=35
ZAA0 Zalesovo Array 50.36 352 P **P 18 49 15.3 -1.4**
ZAA0 IAmb IAmb 18 49 16.7
comp=Z,14nm,1.4s
ZALV Zalesovo Beam 50.36 352 P **P 18 49 15.5 -1.3**
comp=Z,4.0nm,0.5s,baz=187,slow=6.4,SNR=22
ZALV S **S 18 56 24.2 -1.9**
comp=Z,0.5nm,0.6s,baz=171,slow=9.9,SNR=3.6
ZALV Zalesovo Beam 50.36 352 P **P 18 49 15.2 -1.6**
COEN Coen 50.62 112 P **P 18 49 18.8 -0.5**
COEN IAmb IAmb 18 50 05.1
comp=Z,12nm,1.2s
MJAR Matsushiro Arr 50.71 45 LR LR 19 12 02.5
comp=Z,54nm,20.4s,baz=236,slow=38
USRK Ussuriysk Ar. 51.16 33 LR LR 19 13 03.2
comp=Z,78nm,19.4s,baz=206,slow=38
RAYN Ar Rayn 51.88 297 P **P 18 49 28.8 +0.1**
RAYN IAmb IAmb 18 49 30.9
comp=Z,6.4nm,0.9s
BVAR Borovoye Array 52.89 341 P **P 18 49 34.8 -0.8**
comp=Z,1.7nm,0.6s,baz=145,slow=11,SNR=19
BVAR S **S 18 56 58.4 -2.4**
comp=Z,0.7nm,0.7s,baz=138,slow=16,SNR=4.4
BRVK Borovoye 52.95 341 P **P 18 49 35.0 -1.1**
JMM Marumori 53.16 45 P **P 18 49 35.7 -2.2**
BBOO Buckleboo 53.21 137 P **P 18 49 37.0 -1.3**
BBOO IAmb IAmb 18 49 42.2
comp=Z,16nm,1.1s
PMG Port Moresby 53.23 105 P **P 18 49 38.1 -0.7**
PMG IAmb IAmb 18 50 15.4
comp=Z,22nm,1.2s
ABKAR Akbulak array 54.09 332 P **P 18 49 43.8 -0.7**
ABKAR PcP **PcP 18 50 47.3 -1.5**
ABKAR Akbulak array 54.09 332 P **P 18 49 44.1 -0.4**
ABKAR IAmb IAmb 18 49 46.2
comp=Z,15nm,0.9s
ABKAR PcP **PcP 18 50 47.2 -1.6**
KLR Kul'dur 54.40 28 LR LR 19 17 43.4
comp=Z,26nm,19.3s,baz=176,slow=41
HTT Hallett 55.53 136 P **P 18 49 56.9 +1.6**
baz=56,SNR=3.7
AKTO Aktyubinsk 55.81 332 P **P 18 49 56.4 -0.5**
comp=Z,2.3nm,0.4s,baz=103,slow=8.4,SNR=8.8
AKTO LR LR 19 14 22.4
comp=Z,34nm,18.1s,baz=88,slow=37
STKA Stephens Creek 56.62 133 P **P 18 50 03.6 +0.6**
comp=Z,2.7nm,0.7s,baz=262,slow=13,SNR=4.9
STKA LR LR 19 16 27.8
comp=Z,28nm,20.2s,baz=207,slow=38
STKA Stephens Creek 56.62 133 P **P 18 50 04.2 +1.2**
baz=57,SNR=4.1
ASAJ Asahikawa 57.36 39 LR LR 19 15 07.0
comp=Z,56nm,19.5s,baz=92,slow=36
KIBK Kibwezi 57.77 265 P **P 18 50 12.2 +0.6**
KMBO Kilima Mbogo 58.44 266 P **P 18 50 18.7 +2.3**
comp=Z,4.5nm,0.8s,baz=63,slow=11,SNR=13
KMBO Kilima Mbogo 58.44 266 P **P 18 50 17.3 +0.9**
KMBO IAmb IAmb 18 50 19.9
comp=Z,4.9nm,0.9s
CMSA Cobar Meteorol 59.51 130 P **P 18 50 24.9 +1.6**
baz=60,SNR=14
ARU Arti 59.78 337 P **P 18 50 23.6 -1.1**
comp=Z,1.0nm,0.5s,baz=172,slow=4.7,SNR=9.3
ARU LR LR 19 18 19.2
comp=Z,64nm,18.9s,baz=64,slow=38
ARU Arti 59.78 337 P **P 18 50 23.3 -1.3**
KBZ Khabaz 60.71 319 P **P 18 50 32.1 +0.8**
comp=Z,2.4nm,0.9s,baz=103,slow=19,SNR=3.1
EIL Elat 62.44 301 P **P 18 50 44.5 +1.2**
comp=Z,2.5nm,0.7s,baz=96,slow=9.2,SNR=3.8
YAK Yakutsk 63.06 17 LR LR 19 20 43.7
comp=Z,136nm,18.6s,baz=268,slow=38
BNN Bunyan 63.97 311 P **P 18 50 52.3 -1.0**
MBAR Mbarara 64.88 267 LR LR 19 18 43.7
comp=Z,39nm,18.1s,baz=94,slow=35
KIRV Kirov 64.90 335 P **P 18 50 58.0 -0.7**
comp=Z,4.1nm,0.4s,baz=42,slow=21,SNR=4.4
KIRV LR LR 19 21 42.1
comp=Z,54nm,19.2s,baz=88,slow=38
NRIK Noril'sk 65.26 357 P **P 18 51 00.2 -0.8**
comp=Z,1.5nm,0.6s,baz=126,slow=7.8,SNR=3.7
NRIK LR LR 19 21 47.4
comp=Z,60nm,20.3s,baz=102,slow=38
BRTR Keskin Array B 65.86 312 P **P 18 51 05.4 -0.2**
comp=Z,2.7nm,0.7s,baz=115,slow=8.3,SNR=5.6
ANTO Ankara 66.52 312 ⇓P P 18 51 18.6 +8.8
LSZ Lusaka 69.37 252 LR LR 19 17 49.8
comp=Z,93nm,19.7s,baz=138,slow=32
PETK Petropavlovsk- 70.22 35 LR LR 19 24 23.7
comp=Z,53nm,18.8s,baz=174,slow=38
KLMR Klimovskoe 70.33 334 *eP* **P 18 51 31.6 -1.5**
KLMR AMP 18 51 33.3
comp=Z,8.0nm,0.7s
KLMR *e*PP **PP 18 54 07.7 -1.5**
TIXI Tiksi 70.57 11 LR LR 19 25 32.8
comp=Z,67nm,20.1s,baz=251,slow=38
TIXI Tiksi 70.57 11 P **P 18 51 31.8 -2.5**
TIXI IAmb IAmb 18 51 34.0
comp=Z,28nm,1.8s
SORM Soroca 71.73 319 ⇓P **P 18 51 41.5 -0.3**
AKASG Malin Array Be 71.86 322 P **P 18 51 41.6 -0.9**
comp=Z,0.1nm,0.3s,baz=90,slow=5.0,SNR=7.1
VRI Vrincioaia 72.28 317 ⇓P **P 18 51 45.8 +0.6**
PLOR Plostina 72.33 317 ⇓P **P 18 51 45.9 +0.4**
TESR Tescani 72.48 318 ⇓P **P 18 51 47.2 +0.9**
MLR Muntele Rosu 72.74 316 ⇑P **P 18 51 48.8 +0.7**
MLR Muntele Rosu 72.74 316 P **P 18 51 49.0 +1.0**
comp=Z,7.1nm,1.0s,baz=345,slow=3.0,SNR=6.1
MLR Muntele Rosu 72.74 316 IAmb IAmb 18 52 02.0
comp=Z,35nm,1.6s

PRAR RASCA 72.94 318 ⇑P **P 18 51 51.5 +2.4**
VOIR 73.34 316 ⇑P **P 18 51 51.6 0.0**
BURAR Bucovina Array 73.67 318 ⇓P **P 18 51 54.0 +0.5**
BUR08 Bucovina Ar. S 73.69 318 P **P 18 51 53.6 +0.1**
BUR08 IAmb IAmb 18 52 10.0
comp=Z,18nm,1.4s
LBTB Lobatse 73.71 243 LR LR 19 22 23.9
comp=Z,80nm,18.1s,baz=112,slow=34
BOSA Boshof 74.82 239 P **P 18 52 01.8 +1.2**
comp=Z,1.8nm,0.7s,baz=90,slow=6.1,SNR=5.6
BOSA Boshof 74.82 239 IAmb IAmb 18 52 25.0
comp=Z,12nm,1.3s
TRPA Tarpa 75.54 319 ⇑P **P 18 52 05.5 +1.4**
SIRR Siria 75.82 317 ⇑P **P 18 52 06.6 +0.7**
FINES FINESS Array B 76.58 332 P **P 18 52 09.2 -0.5**
comp=Z,2.5nm,0.7s,baz=106,slow=6.2,SNR=7.9
MORH Mrgy, Hungar 77.89 316 ⇑P **P 18 52 18.0 +0.6**
ARCES ARCESS Array B 79.16 340 P **P 18 52 23.9 -0.2**
comp=Z,1.2nm,0.5s,baz=91,slow=6.1,SNR=13
ARCES LR LR 19 30 28.3
comp=Z,46nm,18.1s,baz=350,slow=38
SHEM Shemya Is, Ala 79.78 37 LR LR 19 29 58.7
comp=Z,31nm,19.2s,baz=147,slow=37
GERES GERESS Array B 81.46 319 P **P 18 52 37.8 +0.9**
comp=Z,2.0nm,0.9s,baz=94,slow=6.0,SNR=13
HFS Hagfors 82.30 330 P **P 18 52 40.4 -0.5**
comp=Z,4.4nm,0.8s,baz=151,slow=3.4,SNR=6.3
SYO Syowa Base 82.31 198⇓*e*PcP **PcP 18 52 46.0 +0.1**
NOA NORSAR Array B 83.58 331 LR LR 19 33 21.0
comp=Z,20nm,18.6s,baz=5.0,slow=38
DAVOX Davos/Dischmat 83.96 316 P **P 18 52 50.7 +0.6**
comp=Z,2.6nm,0.6s,baz=123,slow=16,SNR=5.5
KEST Kesra 84.45 305 P **P 18 52 53.5 +0.8**
comp=Z,6.2nm,0.9s,baz=196,slow=2.5,SNR=5.4
TORD Torodi Ar. Bea 92.75 283 P **P 18 53 33.4 +0.9**
comp=Z,1.0nm,0.7s,baz=87,slow=4.1,SNR=5.7
QSPA South Pole Qui 94.12 180 LR LR 19 30 13.1
comp=Z,68nm,19.1s,baz=292,slow=32
ESDC Sonseca Array 94.61 310 P **P 18 53 40.9 +0.2**
comp=Z,0.8nm,0.8s,baz=59,slow=5.0,SNR=2.0
DBIC Dimbokro 99.77 277 LR LR 19 36 26.0
comp=Z,31nm,20.1s,baz=166,slow=34
N23A Red Feather La 131.03 22 SKPbc **SKPbc 19 02 51.0 -1.1**
KNB Kanab 131.24 30 SKPbc **SKPbc 19 02 52.8 -0.1**
TXAR Lajitas Array 141.93 28 PKhKP PKPpre 18 59 48.0
comp=Z,0.2nm,0.5s,baz=135,slow=2.0,SNR=3.6
TXAR SKPbc **SKiKP 19 03 26.3 -0.9**
comp=Z,0.4nm,0.8s,baz=292,slow=3.9,SNR=4.3
JCT Junction City 142.55 22 SKPbc **SKPbc 19 03 26.9 -0.1**
CPUP Villa Florida 145.92 227 PKPbc **PKPbc 18 59 59.7 +0.1**
comp=Z,4.6nm,1.0s,baz=151,slow=4.7,SNR=4.0

NEIC ***05*** *18:40:36.1±1.6,3°.37N±0°.10×127°.04E±0°.09,h52km±10km, mb4.2/13,Error ellipse: s-maj=15.7km s-min=10.9km az=218.0*
IDC ***05*** *18:40:40.1±8.0,1°.85N×126°.39E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.4/43,mbtmp3.8/4,ML3.6/1,MS3.5/2, Ms1 3.5/2,ms1mx2.5/73,Error ellipse: s-maj=129.2km s-min=50.3km az=180.0*
ISC 05 18:40:34.2±0.8,3°.38N±0°.09×127°.0E±0°.1,h35km,n25, σ1°65/24,mb4.0/8,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.62**	**171**	Pn	**Pn**	**18 41 15.4**	**+1.3**
SIJI	**Sorong**	**6.02**	**134**	Pn	**Pn**	**18 42 02.9**	**+2.0**
	1.7nm,0.3s,baz=155,slow=22,SNR=6.6						
SIJI				Sn	**Sn**	**18 43 11.0**	**+2.4**
	0.8nm,0.3s,baz=160,slow=22,SNR=1.8						
TOLI2	**Tolitoli**	**6.59**	**250**	Pn	**Pn**	**18 42 11.3**	**+2.7**
FAKI	**Fak Fak**	**8.18**	**140**	Pn	**Pn**	**18 42 31.2**	**+0.7**
SOEI	**Soe**	**13.33**	**192**	Pn	**Pn**	**18 43 37.5**	**-3.6**
MTN	**Manton Dam**	**16.64**	**166**	Pn	**Pn**	**18 44 23.0**	**-1.9**
MTN				IAmb	IAmb	18 44 24.9	
	comp=Z,25nm,1.6s						
KNRA	**Kununurra**	**19.02**	**175**	P	**P**	**18 44 52.3**	**-0.9**
KNRA				IAmb	IAmb	18 44 58.1	
	comp=Z,28nm,1.2s						
YULB	**Yu-li**	**20.64**	**345**	P	**P**	**18 45 09.3**	**-1.5**
TPUB	**Ta-pu**	**20.73**	**343**	P	**P**	**18 45 11.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.39**	**183**	P	**P**	**18 45 19.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=15,slow=14,SNR=7.4						
PMG	**Port Moresby**	**23.79**	**122**	LR	LR	18 55 57.9	
	comp=Z,48nm,19.5s,baz=52,slow=39						
WB0	**Warramunga Arr**	**24.13**	**163**	P	**P**	**18 45 46.0**	**-1.0**
WB0				IAmb	IAmb	18 46 06.7	
	comp=Z,13nm,1.6s						
WRAB	**Tennant Creek**	**24.28**	**163**	P	**P**	**18 45 47.6**	**-0.8**
WRAB				IAmb	IAmb	18 46 11.2	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**24.28**	**163**	P	**P**	**18 45 47.6**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=336,slow=11,SNR=33						
WRA	**Warramunga Arr**	**24.28**	**163**	P	**P**	**18 45 46.4**	**-2.0**
WB2	**Warramunga Arr**	**24.29**	**163**	P	**P**	**18 45 47.5**	**-1.0**
WB2				IAmb	IAmb	18 46 09.1	
	comp=Z,14nm,1.5s						
WR0	**Warramunga Arr**	**24.36**	**163**	P	**P**	**18 45 48.0**	**-1.1**
ASAR	**Alice Springs**	**27.72**	**166**	P	**P**	**18 46 19.0**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=342,slow=7.4,SNR=9.8						
MORW	**Morawa**	**33.93**	**197**	P	**P**	**18 47 15.1**	**+0.9**
STKA	**Stephens Creek**	**37.72**	**159**	P	**P**	**18 47 46.6**	**0.0**
	comp=Z,1.9nm,0.6s,baz=338,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**37.72**	**159**	P	**P**	**18 47 46.0**	**-0.7**
MK31	**Makanchi Array**	**57.98**	**325**	P	**P**	**18 50 24.6**	**+1.3**
MK31				IAmb	IAmb	18 50 31.9	
	comp=Z,1.3nm,1.0s						
MKAR	**Makanchi Array**	**57.98**	**325**	P	**P**	**18 50 25.6**	**+2.2**
MIDW	**Midway**	**58.36**	**59**	P	**P**	**18 50 25.1**	**-1.2**
SPITS	**Spitsbergen Ar**	**90.86**	**349**	LR	LR	19 38 22.3	
	comp=Z,47nm,21.4s,baz=329,slow=38						

TAP ***05*** *18:49:29.4,24°.83N×122°.87E,h114km,ML2.8,C*
JMA ***05*** *18:49:29.6±0.1,24°.82N×122°.92E,h104km±2km,M2.0*
ISC 05 18:49:30.1±1.6,24°.75N±0°.06×122°.93E±0°.03, h104km±10km,n59,σ0°72/110,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.29**	**177**	P	**Pn**	**18 49 45.1**	**-0.1**
JYNG				S	**Sn**	**18 49 56.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.29**	**165**	*eP*	**Pn**	**18 49 46.2**	**+0.9**
	baz=158						
YOJ				*e*S	**Sn**	**18 49 58.6**	**+2.1**
	baz=158						
IRIF	**Iriomote-Funau**	**0.84**	**119**	P	**Pn**	**18 49 49.1**	**-0.1**
IRIF				S	**Sn**	**18 50 03.0**	**-0.6**
TWC	**Suao**	**0.99**	**262**	*eP*	**Pn**	**18 49 50.7**	**-0.1**
	baz=256						
TWC				*e*S	**Sn**	**18 50 05.6**	**-0.7**
	baz=256						
NTC	**Toucheng**	**1.00**	**276**	*eP*	**Pn**	**18 49 50.6**	**-0.3**
	baz=267						
NTC				*e*S	**Sn**	**18 50 06.3**	**-0.3**
	baz=267						
TIPB	**Shuangxi**	**1.02**	**283**	*eP*	**Pn**	**18 49 50.8**	**-0.4**
	baz=271						
TIPB				*e*S	**Sn**	**18 50 06.6**	**-0.5**
	baz=271						
HATJ	**Hateruma jima**	**1.05**	**130**	P	**Pn**	**18 49 51.8**	**+0.3**
HATJ				S	**Sn**	**18 50 08.6**	**+1.0**
EWUT	**Wuta**	**1.09**	**254**	*eP*	**Pn**	**18 49 52.0**	**+0.2**
	baz=243						
EWUT				*e*S	**Sn**	**18 50 08.1**	**-0.1**
	baz=243						
NWF	**Wu-fen Shan**	**1.09**	**288**	*eP*	**Pn**	**18 49 51.7**	**-0.3**
	baz=277						
NWF				*e*S	**Sn**	**18 50 07.7**	**-0.7**
	baz=277						
NDS	**Dongshan**	**1.11**	**264**	*eP*	**Pn**	**18 49 52.0**	**-0.1**
	baz=262						
NDS				*e*S	**Sn**	**18 50 08.2**	**-0.3**
	baz=262						
JKRS	**Kuro-shima**	**1.11**	**117**	P	**Pn**	**18 49 52.3**	**+0.2**
JKRS				S	**Sn**	**18 50 09.0**	**+0.4**
ENA	**Nanau**	**1.12**	**254**	*eP*	**Pn**	**18 49 52.3**	**+0.1**
	baz=243						
ENA				*e*S	**Sn**	**18 50 08.9**	**0.0**
	baz=243						
TWE	**Neicheng**	**1.15**	**269**	*eP*	**Pn**	**18 49 52.0**	**-0.4**
	baz=264						
TWE				*e*S	**Sn**	**18 50 09.0**	**-0.3**
	baz=264						
JIJ	**Ishigaki jima**	**1.17**	**109**	P	**Pn**	**18 49 52.7**	**-0.1**
JIJ				S	**Sn**	**18 50 09.2**	**-0.7**
ENTT	**Nioudou**	**1.24**	**265**	P	**Pn**	**18 49 54.0**	**+0.5**
	baz=257						
ENTT				S	**Sn**	**18 50 11.5**	**+0.2**
	baz=257						
JISG	**Ishigakijimahi**	**1.27**	**97**	P	**Pn**	**18 49 53.6**	**-0.3**
JISG				S	**Sn**	**18 50 10.9**	**-0.9**
NDT	**Datong Townshi**	**1.29**	**264**	*eP*	**Pn**	**18 49 54.4**	**+0.2**
	baz=258						
NDT				*e*S	**Sn**	**18 50 12.6**	**+0.3**
	baz=258						
NWLT	**Wulai**	**1.29**	**272**	*eP*	**Pn**	**18 49 54.1**	**-0.1**
	baz=267						
NWLT				*e*S	**Sn**	**18 50 11.7**	**-0.7**
	baz=267						
NACB	**Ninganchiao**	**1.34**	**245**	*eP*	**Pn**	**18 49 54.1**	**-0.6**
	baz=240						
NACB				*e*S	**Sn**	**18 50 12.3**	**-1.1**
	baz=240						
TWD	**Chiawan**	**1.38**	**242**	*e*S	**Sn**	**18 50 13.0**	**-1.2**
	baz=231						
YHNB	**Yeheng**	**1.41**	**267**	*eP*	**Pn**	**18 49 55.7**	**0.0**
	baz=263						
YHNB				*e*S	**Sn**	**18 50 14.6**	**-0.4**
	baz=263						
ETLH	**Xiulin Townshi**	**1.42**	**248**	*eP*	**Pn**	**18 49 56.0**	**+0.3**
	baz=244						
ETLH				*e*S	**Sn**	**18 50 15.2**	**0.0**
	baz=244						
NSK	**Sanguang**	**1.43**	**268**	*eP*	**Pn**	**18 49 56.4**	**+0.6**
	baz=263						
NSK				*e*S	**Sn**	**18 50 14.9**	**-0.4**
	baz=263						
NNSB	**Datong**	**1.44**	**258**	*eP*	**Pn**	**18 49 56.0**	**0.0**
	baz=247						
NNSB				*e*S	**Sn**	**18 50 14.7**	**-1.0**
	baz=247						
NNS	**Nan Shan**	**1.45**	**258**	*eP*	**Pn**	**18 49 56.6**	**+0.5**
	baz=248						
NNS				*e*S	**Sn**	**18 50 15.2**	**-0.5**
	baz=248						
FUSS	**Fushou**	**1.61**	**252**	*eP*	**Pn**	**18 49 58.2**	**-0.1**
	baz=243						
FUSS				*e*S	**Sn**	**18 50 19.0**	**-0.5**
	baz=243						
JTJ	**Tarama**	**1.62**	**93**	P	**Pn**	**18 49 57.8**	**-0.3**
JTJ				S	**Sn**	**18 50 19.0**	**-0.3**
WHF	**Hehuan Shan**	**1.63**	**249**	*eP*	**Pn**	**18 49 58.5**	**-0.1**
	baz=245						
WHF				*e*S	**Sn**	**18 50 18.8**	**-1.4**
	baz=245						
ESL	**Shilin**	**1.65**	**236**	*eP*	**Pn**	**18 49 58.2**	**-0.3**
	baz=232						
ESL				*e*S	**Sn**	**18 50 18.2**	**-1.7**
	baz=232						
TWT	**Tachien**	**1.67**	**253**	*e*S	**Sn**	**18 50 20.4**	**-0.3**
	baz=243						
CHGB	**Renai**	**1.74**	**247**	*eP*	**Pn**	**18 49 59.9**	**+0.1**
	baz=238						
CHGB				*e*S	**Sn**	**18 50 21.0**	**-1.3**
	baz=238						
EGFH	**Guangfu**	**1.74**	**232**	*eP*	**Pn**	**18 49 58.9**	**-0.7**
	baz=229						
EGFH				*e*S	**Sn**	**18 50 20.7**	**-1.2**
	baz=229						
LIOB	**Emei**	**1.74**	**267**	*eP*	**Pn**	**18 50 00.2**	**+0.6**
	baz=263						
LIOB				*e*S	**Sn**	**18 50 22.3**	**+0.3**
	baz=263						
NSTT	**Nanjuang**	**1.75**	**267**	*eP*	**Pn**	**18 50 00.3**	**+0.5**
	baz=263						
NSTT				*e*S	**Sn**	**18 50 22.4**	**+0.1**
	baz=263						
OWD	**Renai**	**1.78**	**244**	*eP*	**Pn**	**18 50 00.1**	**-0.1**
	baz=236						
OWD				*e*S	**Sn**	**18 50 22.2**	**-0.9**
	baz=236						
HGSD	**Ruisui**	**1.85**	**228**	*eP*	**Pn**	**18 50 01.0**	**0.0**
	baz=224						
HGSD				*e*S	**Sn**	**18 50 24.7**	**+0.1**
	baz=224						
WHP	**Taichung City**	**1.86**	**256**	*eP*	**Pn**	**18 50 02.2**	**+1.0**
	baz=249						
WHP				*e*S	**Sn**	**18 50 25.0**	**0.0**
	baz=249						
VWDT	**VWDT**	**1.90**	**239**	*eP*	**Pn**	**18 50 01.6**	**0.0**
	baz=231						
VWDT				*e*S	**Sn**	**18 50 24.6**	**-1.1**
	baz=231						
EHY	**Hungye**	**1.92**	**230**	*eP*	**Pn**	**18 50 01.5**	**-0.3**
	baz=227						
EHY				*e*S	**Sn**	**18 50 25.1**	**-0.9**
	baz=227						
WCS	**Beigang Elemen**	**1.96**	**250**	*eP*	**Pn**	**18 50 03.2**	**+0.8**
	baz=246						
WCS				*e*S	**Sn**	**18 50 27.4**	**+0.4**
	baz=246						
YULB	**Yu-li**	**2.01**	**228**	*eP*	**Pn**	**18 50 02.5**	**-0.5**
	baz=231						
YULB				*e*S	**Sn**	**18 50 26.4**	**-1.7**
	baz=231						
EYUL	**Yuli**	**2.02**	**227**	*eP*	**Pn**	**18 50 03.8**	**+0.6**
	baz=231						
EYUL				*e*S	**Sn**	**18 50 28.9**	**+0.4**
	baz=231						
SSLB	**Suanglung**	**2.04**	**242**	*eP*	**Pn**	**18 50 03.5**	**+0.1**
	baz=236						
SSLB				*e*S	**Sn**	**18 50 27.9**	**-0.9**
	baz=236						
SMLT	**Sun Moon Lake**	**2.04**	**246**	*eP*	**Pn**	**18 50 04.2**	**+0.7**
	baz=236						
SMLT				*e*S	**Sn**	**18 50 29.1**	**+0.1**
	baz=236						
JIRB	**Irabujima**	**2.04**	**87**	*e*S	**Sn**	**18 50 28.9**	**0.0**
TYC	**Yuchr**	**2.06**	**246**	*eP*	**Pn**	**18 50 04.6**	**+0.9**
	baz=239						
TYC				*e*S	**Sn**	**18 50 29.9**	**+0.5**
	baz=239						
FULB	**Fuli**	**2.14**	**224**	*eP*	**Pn**	**18 50 04.4**	**-0.4**
	baz=216						
FULB				*e*S	**Sn**	**18 50 30.5**	**-0.7**
	baz=216						
WJS	**Zhushan**	**2.21**	**246**	*eP*	**Pn**	**18 50 06.9**	**+1.4**
	baz=236						
WJS				*e*S	**Sn**	**18 50 35.1**	**+2.5**
	baz=236						
WNT	**Mingjian**	**2.22**	**248**	*e*S	**Sn**	**18 50 33.4**	**+0.4**
	baz=253						
ALS	**Alishan**	**2.29**	**238**	*eP*	**Pn**	**18 50 07.8**	**+0.8**
	baz=230						
ALS				*e*S	**Sn**	**18 50 35.1**	**0.0**
	baz=230						
EDH	**Donghe**	**2.31**	**220**	*e*S	**Sn**	**18 50 33.8**	**-1.1**
	baz=212						
ELDTW	**Lidau**	**2.33**	**229**	*eP**	**Pn**	**18 50 07.8**	**+0.5**
	baz=226						
ELDTW				*e*S	**Sn**	**18 50 35.2**	**-0.6**
	baz=226						
CHN5	**Tsauling**	**2.35**	**241**	*eP*	**Pn**	**18 50 08.4**	**+0.9**
	baz=232						
CHN5				*e*S	**Sn**	**18 50 36.6**	**+0.5**
	baz=232						
STYH	**Taoyuan**	**2.52**	**232**	*e*S	**Sn**	**18 50 39.9**	**+0.1**
	baz=228						
TPUB	**Ta-pu**	**2.54**	**236**	*eP*	**Pn**	**18 50 10.8**	**+0.8**
	baz=233						
TPUB				*e*S	**Sn**	**18 50 40.9**	**+0.3**
	baz=233						
WTP	**Ta-pu**	**2.59**	**235**	*eP*	**Pn**	**18 50 11.2**	**+0.6**
	baz=232						
WTP				*e*S	**Sn**	**18 50 41.6**	**-0.1**
	baz=232						
CHN1	**Nanshi**	**2.69**	**235**	*eP*	**Pn**	**18 50 12.8**	**+0.9**
	baz=233						
CHN1				*e*S	**Sn**	**18 50 44.2**	**+0.2**
	baz=233						
SLGT	**Liugui**	**2.72**	**231**	*e*S	**Sn**	**18 50 46.1**	**+1.4**
	baz=233						
LAY	**Lan-yu**	**2.98**	**205**	*e*S	**Sn**	**18 50 49.7**	**-1.1**
	baz=198						

IDC ***05*** *19:00:21.8±1.1,11°.03N×138°.85E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.3/39,mbtmp3.6/7,Error ellipse: s-maj=37.6km s-min=20.8km az=88.0*
ISC 05 19:00:26.5±1.0,11°.0N±0°.1×138°.8E±0°.2,h31km,n8, σ0°55/8,mb3.7/8,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.06**	**188**	P	**P**	**19 06 41.4**	**-0.5**
	0.2nm,0.6s,baz=13,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**34.78**	**188**	P	**P**	**19 07 14.8**	**+0.4**
	0.3nm,0.4s,baz=16,slow=12,SNR=25						
KLR	**Kul'dur**	**38.57**	**353**	P	**P**	**19 07 46.4**	**0.0**
	0.7nm,0.6s,baz=164,slow=10,SNR=3.8						
CMAR	**Chiang Mai Arr**	**39.22**	**286**	P	**P**	**19 07 52.5**	**+0.2**
	0.6nm,0.7s,baz=95,slow=6.4,SNR=5.5						
MKAR	**Makanchi Array**	**59.36**	**318**	P	**P**	**19 10 25.9**	**+0.1**
	0.5nm,0.7s,baz=98,slow=9.4,SNR=6.8						
KURBB	**Kurchatov Arra**	**62.87**	**322**	P	**P**	**19 10 49.0**	**-0.6**
	0.7nm,0.8s,baz=105,slow=6.8,SNR=6.9						
ILAR	**Eielson Array**	**73.43**	**25**	P	**P**	**19 11 55.0**	**-0.5**
	696nm,0.3s,baz=261,slow=5.4,SNR=2.2						
YKA	**Yellowknife Ar**	**87.83**	**26**	P	**P**	**19 13 13.3**	**+0.7**
	0.4nm,0.7s,baz=292,slow=5.0,SNR=5.4						

IDC 05 19:14:54.8±7.4, 6°.15S×149°.70E, h56km±59km, mb3.0/2, mb1 3.5/3, mb1mx3.2/37, mbtmp3.5/3, ML1.8/1, Error ellipse: s-maj=114.3km s-min=46.7km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.09**	**218**	P	Pn	19 15 54.9	+0.1
	4.0nm,0.3s,baz=61,slow=6.1,SNR=18						
PMG				S	Sn	19 16 42.2	+0.7
	14nm,0.3s,baz=178,slow=21,SNR=23						
WRA	**Warramunga Arr**	**20.26**	**226**	P	P	19 19 25.9	+0.1
	1.1nm,0.5s,baz=52,slow=11,SNR=15						
ASAR	**Alice Springs**	**23.11**	**219**	P	P	19 19 56.4	+0.2
	0.4nm,0.4s,baz=53,slow=9.5,SNR=11						
TORD	**Torodi Ar. Bea**	**147.72**	**285**	PKPbc	PKPbc	19 34 33.5	-0.9
	0.7nm,0.4s,baz=65,slow=3.0,SNR=8.9						

*NEIC **05** 19:18:28.4±1.7, 6°.71N±0°.07×127°.13E±0°.08, h69km±9km, mb4.2/14, Error ellipse: s-maj=11.9km s-min=8.7km az=61.0*
*IDC **05** 19:18:29.3±2.9, 6°.57N×127°.01E, h80km±25km, mb3.6/6, mb1 3.8/7, mb1mx3.5/42, mbtmp4.0/7, MS2.5/1, Ms1 2.5/1, ms1mx2.1/63, Error ellipse: s-maj=50.9km s-min=11.4km az=53.0*
*MAN **05** 19:18:29.8, 6°.47N×126°.79E, h49km, mb4.9, ML3.8, MS3.8*
ISC 05 19:18:29.5±0.7, 6°.49N±0°.07×126°.93E±0°.08, h74km, n35, σ1°.53/38, mb4.0/13, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.46**	**293**	P	**Pn**	**19 18 54.9**	**+0.8**
	246nm,0.3s,baz=68,slow=1.3,SNR=15						
DAV				S	**Sn**	**19 19 13.9**	**+1.2**
	265nm,0.3s,baz=205,slow=3.6,SNR=9.8						
DAV				LR	LR	19 19 29.4	
	comp=Z,212nm,19.9s,baz=319,slow=40						
DAV	**Davao City (W)**	**1.46**	**293**		**Pn**	**19 18 54.9**	**+0.8**
DAV				Sn	**Sn**	**19 19 14.9**	**+2.2**
BIPH	**Bislig**	**1.78**	**341**	⇓*e*P	**Pn**	**19 18 60.0**	**+1.7**
BIPH				*e*S	**Sn**	**19 19 20.9**	**+0.7**
KCP	**Kidapawan**	**1.90**	**286**	⇓*i*P	**Pn**	**19 18 58.9**	**-1.1**
KCP				*i* S	**Sn**	**19 19 20.7**	**-2.5**
GSPH	**General Santos**	**2.01**	**259**	⇓*e*P	Pn	19 18 58.0	-3.5
GSPH				*i* S	Sn	19 19 18.8	-7.1
SCPH	**Surigao**	**3.57**	**336**	⇑*e*P	**Pn**	**19 19 25.3**	**+2.8**
PAGZ	**Pagadian**	**3.77**	**291**	⇑*i*P	**Pn**	**19 19 27.0**	**+1.7**
TNTI	**Ternate**	**5.70**	**176**	Pn	**Pn**	**19 19 54.9**	**+3.3**
TOLI2	**Tolitoli**	**8.14**	**229**	Pn	Pn	19 20 21.1	-3.8
MYLDM	**Lahad Datu**	**8.49**	**262**		**Pn**	**19 20 30.7**	**+1.0**
SIJI	**Sorong**	**8.49**	**149**	P	**Pn**	**19 20 31.7**	**+1.9**
	4.1nm,0.3s,baz=327,slow=18,SNR=14						
SIJI				S	**Sn**	**19 22 01.9**	**-2.2**
	0.3nm,0.3s,baz=230,slow=21,SNR=0.8						
LUWI	**Luwuk**	**8.56**	**209**	Pn	**Pn**	**19 20 33.1**	**+2.4**
KKM	**Kota Kinabalu**	**10.66**	**268**	Pn	**Pn**	**19 21 01.1**	**+1.6**
FAKI	**Fak Fak**	**10.75**	**150**	Pn	**Pn**	**19 21 02.4**	**+1.8**
SAUI	**Saumlaki**	**15.02**	**163**	Pn	**Pn**	**19 21 59.3**	**+1.5**
SBUM	**Sibu**	**15.21**	**255**	P	**P**	**19 22 03.5**	**0.0**
SBUM				IAmb	IAmb	19 22 04.6	
	comp=Z,4.2nm,0.8s						
KNRA	**Kununurra**	**22.10**	**175**	P	**P**	**19 23 19.3**	**+0.5**
KNRA				IAmb	IAmb	19 23 31.5	
	comp=Z,50nm,1.6s						
WB0	**Warramunga Arr**	**27.10**	**164**	P	**P**	**19 24 04.8**	**-0.8**
WB0				IAmb	IAmb	19 24 07.6	
	comp=Z,12nm,1.6s						
WRA	**Warramunga Arr**	**27.26**	**165**	P	**P**	**19 24 06.2**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=346,slow=11,SNR=7.4						
WRA	**Warramunga Arr**	**27.26**	**165**	P	**P**	**19 24 05.2**	**-1.8**
WB2	**Warramunga Arr**	**27.26**	**165**	P	**P**	**19 24 05.7**	**-1.3**
WB2				IAmb	IAmb	19 24 42.6	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**27.33**	**164**	P	**P**	**19 24 07.2**	**-0.4**
WR0				IAmb	IAmb	19 24 30.2	
	comp=Z,4.7nm,1.3s						
AS31	**Alice Springs**	**30.73**	**167**	P	**P**	**19 24 37.5**	**-0.3**
ASAR	**Alice Springs**	**30.73**	**167**	P	**P**	**19 24 37.4**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=350,slow=7.2,SNR=16						
ASAR				PcP	**PcP**	**19 27 33.4**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=352,slow=2.5,SNR=6.8						
KSRS	**Korea Array**	**30.84**	**2**	LR	LR	19 41 05.5	
	comp=Z,7.5nm,18.0s,baz=25,slow=44						
FORT	**Forrest**	**37.07**	**178**	P	**P**	**19 25 32.5**	**-0.1**
BBOO	**Buckleboo**	**40.03**	**168**	P	**P**	**19 25 57.1**	**-0.3**
STKA	**Stephens Creek**	**40.63**	**161**	P	**P**	**19 26 02.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=322,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**40.63**	**161**	P	**P**	**19 26 02.5**	**+0.1**
MK31	**Makanchi Array**	**55.44**	**324**	P	**P**	**19 27 55.5**	**-1.0**
MK31				IAmb	IAmb	19 28 08.4	
	comp=Z,2.1nm,1.6s						
MKAR	**Makanchi Array**	**55.44**	**324**	P	**P**	**19 27 55.5**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=122,slow=7.2,SNR=17						
MAKZ	**Makanchi**	**55.63**	**324**	P	**P**	**19 27 56.3**	**-1.6**
MAKZ				IAmb	IAmb	19 28 33.4	
	comp=Z,4.0nm,1.4s						
ZALV	**Zalesovo Beam**	**58.25**	**332**	P	**P**	**19 28 14.6**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=99,slow=7.4,SNR=2.5						
KURK	**Kurchatov**	**59.55**	**327**	P	**P**	**19 28 24.1**	**-1.1**
KURK				IAmb	IAmb	19 28 25.5	
	comp=Z,4.0nm,1.2s						
ARCES	**ARCESS Array B**	**87.95**	**340**	P	**P**	**19 31 09.0**	**-1.8**
	comp=Z,4.1nm,1.0s,baz=68,slow=8.0,SNR=3.9						

*NNC **05** 19:25:18.1±4.2, 36°.91N×70°.90E, h169km±77km, mb2.8, mpv3.8, Error ellipse: s-maj=44.6km s-min=26.4km az=38.0*
ISC 05 19:25:18.5±3.4, 36°.9N±0°.2×71°.0E±0°.1, h200km, n9, σ0°.41/12, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.59**	**21**	P	**Pn**	**19 26 39.8**	**-1.0**
	SNR=130						
UCH	**Uchtor**	**5.94**	**26**	P	**Pn**	**19 26 45.1**	**-0.2**
	SNR=8.9						
EKS2	**Erkin-Say**	**6.11**	**20**	P	**Pn**	**19 26 46.9**	**-0.2**
	SNR=22						
KK02	**Karatay Array**	**6.16**	**357**	⇓P	**Pn**	**19 26 47.6**	**-0.1**
	4.1nm,0.4s						
KK02				⇑S	**Sn**	**19 27 58.3**	**-0.2**
	3.0nm,0.6s						
AAK	**Ala-Archa**	**6.30**	**24**	P	**Pn**	**19 26 49.9**	**+0.2**
	SNR=8.4						
AAK	**Ala-Archa**	**6.30**	**24**	⇑P	**Pn**	**19 26 49.7**	**0.0**
	2.7nm,0.5s						
AAK				⇑S	**Sn**	**19 28 02.3**	**+0.3**
	4.1nm,0.6s						
CHMS	**Chumysh**	**6.71**	**24**	P	**Pn**	**19 26 55.2**	**+0.4**
	SNR=5.4						
USP	**Ospenovka**	**6.87**	**22**	P	**Pn**	**19 26 56.7**	**-0.2**
	SNR=11						
AB31	**Akbulak array**	**14.69**	**330**	⇓P	**P**	**19 28 37.8**	**+0.2**
	0.3nm,0.5s,baz=156,slow=11,SNR=16						
AB31				S	**Sn**	**19 31 20.9**	**+0.1**
	0.3nm,0.4s,baz=149,slow=23,SNR=5.0						

*IDC **05** 19:26:02.1±4.2, 11°.07N×85°.60W, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.1/29, mbtmp3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/34, Error ellipse: s-maj=142.7km s-min=81.5km az=64.0*

*INET **05** 19:26:31.3±0.9, 12°.24N×86°.52W, h148km±4km, MW3.1*
ISC 05 19:26:28.9±1.0, 12°.21N±0°.09×86°.58W±0°.09, h162km±6km, n18, σ2°.13/22, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.03**	**203**	*e*P	**Pn**	**19 26 50.7**	**+0.2**
MOMN	**Momotombo**	**0.20**	**11**	*e*P	**Pn**	**19 26 51.0**	**+0.3**
MOMN				*e*S	**Sn**	**19 27 06.5**	**-1.0**
CNGN	**Cerro Negro**	**0.31**	**338**	*e*P	**Pn**	**19 26 51.2**	**+0.2**
MGAN	**Managua**	**0.33**	**101**	*e*P	**Pn**	**19 26 51.4**	**+0.5**
MGAN				*e*S	**Sn**	**19 27 07.5**	**-0.3**
HUEN		**0.42**	**72**	*e*P	**Pn**	**19 26 52.2**	**+0.9**
CRIN	**San Cristobal**	**0.67**	**317**	*e*P	**Pn**	**19 26 53.6**	**+1.0**
CRIN				*e*S	**Sn**	**19 27 11.4**	**+0.6**
BOAB	**BOACO BROADBAN**	**0.92**	**75**	*e*P	**Pn**	**19 26 54.3**	**+0.1**
BOAB				*e*S	**Sn**	**19 27 12.3**	**-1.3**
MATN	**Matagalpa**	**0.96**	**42**	*e*P	**Pn**	**19 26 54.9**	**+0.3**
MATN				*e*S	**Sn**	**19 27 13.6**	**-0.7**
ACON	**Acoyapa**	**1.40**	**100**	*e*P	**Pn**	**19 26 59.3**	**+1.0**
HZTE	**Horizontes, Gu**	**1.77**	**147**	*e*P	**Pn**	**19 27 03.5**	**+1.2**
ESPN	**Las Esperanzas**	**2.23**	**90**	*e*P	**Pn**	**19 27 08.9**	**+1.5**
JTS	**Las Juntas de**	**2.49**	**140**	*e*P	**Pn**	**19 27 11.6**	**+1.1**
LAFE	**Finca La Fe, P**	**2.90**	**145**	*e*P	**Pn**	**19 27 17.0**	**+1.5**
TXAR	**Lajitas Array**	**23.30**	**320**	P	**P**	**19 31 26.0**	**+3.5**
	1.0nm,0.7s,baz=134,slow=11,SNR=10						
YKA	**Yellowknife Ar**	**54.07**	**344**	P	**P**	**19 35 38.0**	**+1.7**
	0.1nm,0.3s,baz=137,slow=7.3,SNR=2.4						
PLCA	**Paso Flores**	**54.73**	**165**	LR	LR	19 52 45.6	
	comp=Z,39nm,19.6s,baz=164,slow=30						
ASAR	**Alice Springs**	**139.97**	**248**	PKP	**PKPdf**	**19 45 33.6**	**-5.2**
	0.3nm,0.7s,baz=108,slow=3.2,SNR=2.4						
WRA	**Warramunga Arr**	**140.02**	**254**	PKP	**PKPdf**	**19 45 33.9**	**-5.0**
	0.2nm,0.7s,baz=90,slow=3.0,SNR=8.9						

IDC 05 19:31:28.4±4.1, 5°.39S×151°.74E, h0km, mb3.2/2, mb1 3.5/2, mb1mx2.8/38, mbtmp3.2/2, Error ellipse: s-maj=172.6km s-min=53.2km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.27**	**228**	P	P	19 36 27.4	+0.2
	0.5nm,0.6s,baz=52,slow=9.9,SNR=3.3						
ASAR	**Alice Springs**	**25.01**	**222**	P	P	19 36 54.1	-0.1
	0.4nm,0.7s,baz=57,slow=8.7,SNR=6.8						
TORD	**Torodi Ar. Bea**	**149.48**	**287**	PKPbc	PKPbc	19 51 20.2	-0.5
	0.4nm,0.8s,baz=75,slow=4.6,SNR=4.1						

*IDC **05** 19:46:06.9±0.6, 37°.36N×144°.71E, h0km, mb4.2/16, mb1 4.4/21, mb1mx4.1/51, mbtmp4.2/21, ML3.8/5, MS3.3/24, Ms1 3.3/24, ms1mx3.1/88, Error ellipse: s-maj=17.3km s-min=13.3km az=129.0*
*JMA **05** 19:46:11.3±0.2, 37°.59N×144°.45E, h52km, M5.0*
*NEIC **05** 19:46:11.3±2.3, 37°.56N±0°.07×144°.58E±0°.09, h25km±5km, mb4.6/68, Error ellipse: s-maj=11.4km s-min=7.9km az=130.0*
*BJI **05** 19:46:11.6±0.0, 37°.74N×144°.41E, h28km, mb4.2/41, mB4.8/25, Ms3.9/10, Ms7 3.8/10*
ISC 05 19:46:11.6±1.0, 37°.55N±0°.04×144°.56E±0°.05, h31km±6km, n183, σ1°.95/195, mb4.5/61, MS3.5/18, 9C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.56**	**288**	⇑P	**Pn**	**19 46 50.2**	**-0.9**
JIKH				S	**Sn**	**19 47 18.9**	**-2.3**
JIO	**Ouri**	**2.69**	**291**	⇑P	**Pn**	**19 46 52.1**	**-0.8**
JIO				S	**Sn**	**19 47 22.4**	**-2.0**
JKMT	**Kesennumamotoy**	**2.74**	**298**	⇑P	**Pn**	**19 46 52.7**	**-0.8**
JKMT				S	**Sn**	**19 47 23.5**	**-2.1**
OFUJ	**Ofunato**	**2.74**	**305**	⇑P	**Pn**	**19 46 52.6**	**-0.9**
OFUJ				*e*S	**Sn**	**19 47 23.3**	**-2.4**
MIYJ	**Miyakonagasawa**	**2.96**	**314**	⇑P	**Pn**	**19 46 55.3**	**-1.2**
JMK	**Ichinoseki**	**2.98**	**299**	P	**Pn**	**19 46 56.2**	**-0.6**
JMK				*e*S	**Sn**	**19 47 29.8**	**-1.7**
JMM	**Marumori**	**3.00**	**277**		**Pn**	**19 46 56.3**	**-0.9**
JMM				Sn	**Sn**	**19 47 28.8**	**-3.4**
JTH	**Tanohata**	**3.19**	**319**	⇑P	**Pn**	**19 46 58.5**	**-1.2**
JOM	**Ohasama**	**3.21**	**308**	S	**Sn**	**19 47 35.5**	**-1.6**
JHO	**Hitachi**	**3.33**	**255**	P	**Pn**	**19 46 59.8**	**-1.8**
JFT	**Otama**	**3.36**	**271**	P	**Pn**	**19 47 01.8**	**-0.2**
JFT				*e*S	**Sn**	**19 47 39.4**	**-1.5**
JKZ	**Kuzumaki**	**3.51**	**315**	⇑P	**Pn**	**19 47 03.7**	**-0.4**
JYK	**Kaneyama**	**3.58**	**294**	P	**Pn**	**19 47 05.4**	**+0.3**
JYK				*e*S	**Sn**	**19 47 45.8**	**-0.5**
JYT	**Yasato**	**3.74**	**251**		**Pn**	**19 47 05.5**	**-1.8**
JYT				Sn	**Sn**	**19 47 45.9**	**-4.3**
BSO1	**Boso 1**	**4.09**	**226**	P	**Pn**	**19 47 09.2**	**-2.4**
BSO1				*e*S	**Sn**	**19 47 55.7**	**-2.5**
JTM	**Tenmabayashi**	**4.22**	**321**		**Pn**	**19 47 13.6**	**-0.3**
JTM				Sn	**Sn**	**19 47 58.6**	**-3.5**
ERM	**Erimo**	**4.59**	**347**		**Pn**	**19 47 17.8**	**-1.2**
ERM				Sn	**Sn**	**19 48 06.5**	**-4.7**
JEM	**Erimo**	**4.59**	**347**	Pn	**Pn**	**19 47 17.5**	**-1.4**
JOT	**Ohata**	**4.70**	**326**	P	**Pn**	**19 47 19.9**	**-0.5**
JRY	**Ryogami san**	**4.79**	**253**	⇓P	**Pn**	**19 47 20.5**	**-1.3**
JRY				S	**Sn**	**19 48 12.3**	**-4.0**
JOD2	**Odawara 2**	**4.97**	**244**	P	**Pn**	**19 47 22.4**	**-1.7**
JOD2				*e*S	**Sn**	**19 48 16.1**	**-4.4**
JSD	**Sado**	**5.01**	**278**		**Pn**	**19 47 25.9**	**+1.2**
JKB	**Kayabe**	**5.12**	**329**	P	**Pn**	**19 47 25.7**	**-0.5**
JKB				*e*S	**Sn**	**19 48 19.5**	**-4.7**
JCH	**Churui**	**5.15**	**350**	P	**Pn**	**19 47 24.7**	**-1.9**
JCH				S	**Sn**	**19 48 20.3**	**-4.6**
MJAR	**Matsushiro Arr**	**5.18**	**261**	Pn	**Pn**	**19 47 27.3**	**+0.2**
	3.8nm,0.3s,baz=90,slow=15,SNR=110						
MJAR				Sn	**Sn**	**19 48 25.4**	**-0.3**
	2.2nm,0.3s,baz=92,slow=29,SNR=8.4						
MJAR				LR	LR	19 50 11.3	
	comp=Z,270nm,18.7s,baz=64,slow=46						
MJAR	**Matsushiro Arr**	**5.18**	**261**	Pn	**Pn**	**19 47 27.9**	**+0.8**
MAJO	**Matsushiro**	**5.18**	**261**		**Pn**	**19 47 27.7**	**+0.6**
MAT	**Matsushiro**	**5.18**	**261**	P	**Pn**	**19 47 27.6**	**+0.5**
MAT				S	**Sn**	**19 48 23.5**	**-2.3**
MAT	**Matsushiro**	**5.18**	**261**	P	**Pn**	**19 47 27.7**	**+0.6**
MJB9	**Matsu-Tunnel**	**5.18**	**261**	Pn	**Pn**	**19 47 26.9**	**-0.2**
JNT	**Takato**	**5.42**	**254**	P	**Pn**	**19 47 30.6**	**+0.1**
JEW	**Eniwo**	**5.80**	**337**		**Pn**	**19 47 35.1**	**-0.5**
JHJ2	**Mitsune**	**5.88**	**223**	P	**Pn**	**19 47 33.2**	**-3.5**
JHJ2	**Mitsune**	**5.88**	**223**	Pn	**Pn**	**19 47 33.8**	**-2.9**
NEM2	**Nemuro 2**	**5.88**	**8**	P	**Pn**	**19 47 32.8**	**-3.9**
NEM2				*e*S	**Sn**	**19 48 34.5**	**-8.5**
JHJ	**Hachijo jima 2**	**5.89**	**223**	Pn	**Pn**	**19 47 33.5**	**-3.4**
	48nm,0.3s,baz=335,slow=16,SNR=19						
JHJ				Sn	**Sn**	**19 48 35.9**	**-7.5**
	224nm,0.3s,baz=79,slow=21,SNR=11						
JHJ				LR	LR	19 50 11.9	
	comp=Z,40nm,19.1s,baz=278,slow=42						
JOSM	**Okushiri--Mats**	**5.99**	**321**	P	**Pn**	**19 47 38.1**	**0.0**
JYZW	**Yoshizawa**	**6.07**	**247**	P	**Pn**	**19 47 39.3**	**0.0**
JGF	**Kuroka**	**6.11**	**254**		**Pn**	**19 47 41.0**	**+1.1**
JTKR	**Abashiri--Toko**	**6.44**	**356**	P	**Pn**	**19 47 42.3**	**-2.0**
JTKR				*e*S	**Sn**	**19 48 50.2**	**-6.5**
INU	**Inuyama**	**6.46**	**252**		**Pn**	**19 47 45.3**	**+0.6**
JHR	**Hokuryu**	**6.56**	**342**	P	**Pn**	**19 47 46.1**	**+0.2**
JHR				*e*S	**Sn**	**19 48 57.0**	**-2.6**
JKA	**Kamikawa-asahi**	**6.73**	**348**		**Pn**	**19 47 47.3**	**-1.0**
ASAJ	**Asahikawa**	**6.73**	**348**	Pn	**Pn**	**19 47 47.2**	**-1.1**
	12nm,0.3s,baz=181,slow=11,SNR=19						
ASAJ				LR	LR	19 50 48.1	
	comp=Z,56nm,20.4s,baz=160,slow=40						
JIE	**Ise**	**7.10**	**246**	P	**Pn**	**19 47 53.1**	**-0.4**
JWT	**Wachi**	**7.72**	**256**		**Pn**	**19 48 02.0**	**+0.1**
JWK2	**Keihoku**	**8.02**	**346**	P	**Pn**	**19 48 06.1**	**+0.2**
JTNC	**Tanabenakahech**	**8.18**	**246**	P	**Pn**	**19 48 07.6**	**-0.6**
JMN	**Monobe**	**9.49**	**250**	Pn	**Pn**	**19 48 25.9**	**-0.4**
YSS	**Yuzh-Sakhalins**	**9.50**	**352**	Pn	**Pn**	**19 48 24.7**	**-1.6**
JHS	**Saijyo**	**9.58**	**258**	Pn	**Pn**	**19 48 28.0**	**+0.5**
USA0B	**Ussuriysk Arra**	**11.60**	**309**	Pn	**Pn**	**19 48 51.9**	**-3.2**
USRK	**Ussuriysk Ar.**	**11.60**	**309**	Pn	**Pn**	**19 48 55.9**	**+0.8**
	baz=108,slow=16,SNR=8.3						
USRK				LR	LR	19 53 32.5	
	comp=Z,110nm,19.0s,baz=99,slow=38						
USRK	**Ussuriysk Ar.**	**11.60**	**309**	Pn	**Pn**	**19 48 52.1**	**-2.9**
JNU	**Nakatsue**	**12.01**	**253**	Pn	**Pn**	**19 49 01.1**	**+0.4**
	0.6nm,0.3s,baz=97,slow=3.9,SNR=6.8						
JNU				LR	LR	19 54 44.4	
	comp=Z,65nm,18.3s,baz=22,slow=43						
KSRS	**Korea Array**	**13.22**	**275**	Pn	**Pn**	**19 49 19.0**	**+1.9**
	0.2nm,0.3s,baz=94,slow=13,SNR=3.3						
KSRS				LR	LR	19 54 33.4	
	comp=Z,51nm,19.1s,baz=90,slow=38						
MDJ	**Mudanjiang**	**13.31**	**307**	Pn	**Pn**	**19 49 18.4**	**0.0**
KLR	**Kul'dur**	**14.91**	**326**	Pn	**Pn**	**19 49 39.6**	**-0.6**
	0.2nm,0.3s,baz=130,slow=12,SNR=6.4						
KLR				LR	LR	19 54 54.1	
	comp=Z,111nm,20.9s,baz=141,slow=35						
CN2	**Changchun**	**15.78**	**299**	*e*P	**Pn**	**19 49 50.4**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
JOW	**Kunigami**	**17.41**	**237**	LR	LR	19 57 37.4	
	comp=Z,36nm,18.4s,baz=183,slow=40						
PETK	**Petropavlovsk-**	**18.05**	**26**	LR	LR	19 56 33.7	
	comp=Z,73nm,21.9s,baz=236,slow=34						
PETK	**Petropavlovsk-**	**18.05**	**26**		**Pn**	**19 50 19.5**	**-0.5**
NJ2	**Nanjing**	**21.78**	**263**	*e*P	**P**	**19 51 01.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJI	**Beijing**	**22.23**	**285**	P	**P**	**19 51 07.7**	**+2.0**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XLT	**XiLinHaoTe**	**22.43**	**295**	*e*P	**P**	**19 51 08.1**	**+0.2**
XLT				pP	pP	19 51 12.5	-2.0
XLT				sP	sP	19 51 17.9	+0.3
XLT				S	**S**	**19 55 10.3**	**-2.2**
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
XLT				pmax	pmax		
	comp=Z,170nm,4.7s						
SSLB	**Suanglung**	**24.42**	**243**	P	**P**	**19 51 25.7**	**-1.9**
SSLB				IAmb	IAmb	19 51 33.3	
	comp=Z,18nm,1.0s						
SHEM	**Shemya Is, Ala**	**25.54**	**44**	LR	LR	19 59 08.3	
	comp=Z,45nm,20.3s,baz=308,slow=30						
HHC	**Hu-ho-hao-te**	**25.70**	**288**	*e*P	**P**	**19 51 40.1**	**+1.0**
HHC				pP	sP	19 51 49.1	0.0
HHC				S	**S**	**19 56 06.0**	**+0.1**
HHC				sS	sS	19 56 15.9	-1.2
HHC				pmax	pmax		
	comp=Z,13nm,1.2s						
HHC				pmax	pmax		
	comp=Z,96nm,4.7s						
HHC				LR	LR		
	comp=Z,130nm,14.3s						
HHC				LR	LR		
	comp=Z,240nm,12.0s						
HHC				LR	LR		
	comp=Z,180nm,11.7s						
SEY	**Seymchan**	**25.86**	**8**	P	**P**	**19 51 42.0**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=175,slow=7.7,SNR=9.2						
YAK	**Yakutsk**	**26.19**	**344**	LR	LR	20 02 14.2	
	comp=Z,76nm,21.6s,baz=94,slow=37						
H11N2	**WAKE ISLAND Hy**	**26.34**	**126**	T	T	20 19 02.4	
	baz=317,slow=76,SNR=220						
H11N1	**WAKE ISLAND Hy**	**26.34**	**126**	T	T	20 18 55.8	
	baz=317,slow=76,SNR=142						
H11N3	**WAKE ISLAND Hy**	**26.35**	**126**	T	T	20 19 08.8	
	baz=317,slow=76,SNR=157						
H11S1	**WAKE ISLAND Hy**	**27.11**	**128**	T	T	20 20 02.5	
	baz=319,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**27.12**	**128**	T	T	20 20 07.5	
	baz=319,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**27.13**	**128**	T	T	20 19 42.8	
	baz=319,slow=76,SNR=22						
XAN	**Xi'an**	**29.01**	**274**	P	P	19 52 16.2	+7.3
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**29.17**	**303**	P	**P**	**19 52 09.9**	**-0.3**
SONM	**Songino Array**	**29.61**	**303**	P	**P**	**19 52 14.4**	**+0.3**
BILL	**Bilibino**	**32.86**	**15**	P	**P**	**19 52 41.4**	**-0.9**
GYA	**Guiyang**	**33.78**	**262**	⇑P	**P**	**19 52 51.5**	**+0.6**
GYA				pP	pP	19 52 59.3	+1.3
GYA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CD2	**Chengdu**	**34.18**	**271**	P	P	19 52 49.2	-5.1
CD2				LR	LR		
	comp=N,10.0nm,15.7s						
CD2				LR	LR		
	comp=E,160nm,19.6s						
CD2				LR	LR		

TOLK IAmb IAmb 19 54 50.8
comp=Z,4.2nm,0.8s
TOLK PcP **PcP** **19 56 12.6 +1.7**
TOLK PP **PP** **19 56 22.3 -6.5**
SML Sawmill 47.09 37 P **P** **19 54 39.4 -1.1**
MDM Murphy Dome 47.15 32 P **P** **19 54 40.2 -0.6**
MDM IAmb IAmb 19 55 00.8
comp=Z,6.0nm,0.9s
H24K Noodor Dome 47.32 31 P **P** **19 54 41.5 -0.7**
H24K IAmb IAmb 19 54 46.4
comp=Z,11nm,1.3s
KURK Kurchatov 47.59 308 P **P** **19 54 45.1 +0.7**
KURK IAmb IAmb 19 54 55.7
comp=Z,5.5nm,0.6s
ILAR Eielson Array 47.72 33 P **P** **19 54 45.3 +0.1**
comp=Z,2.3nm,0.8s,baz=261,slow=6.0,SNR=20
ILAR Eielson Array 47.72 33 P **P** **19 54 44.2 -1.0**
KSM Kuching 47.76 229 P **P** **19 54 45.7 -0.4**
KSM IAmb IAmb 19 54 48.7
comp=Z,6.8nm,0.7s
EYAK Cordova Ski Ar 48.40 38 P **P** **19 54 51.8 +1.3**
FYU Fort Yukon 48.41 30 P **P** **19 54 53.1 +2.6**
BMAR Burnt Mountain 48.67 29 P **P** **19 54 52.1 -0.5**
BMAR PcP **PcP** **19 56 18.7 +1.2**
VRDI Verde Repeater 49.46 37 P **P** **19 54 58.6 -0.2**
M26K Nabesna, AK 49.56 36 P **P** **19 55 01.7 +2.2**
M26K IAmb IAmb 19 55 18.9
comp=Z,14nm,1.6s
L27K Beaver Creek, 50.03 35 P **P** **19 55 03.7 +0.7**
BCAR Beaver Creek A 50.05 35 P **P** **19 55 04.2 +1.1**
COEN Coen 51.24 182 P **P** **19 55 11.7 -0.9**
COEN IAmb IAmb 19 55 12.4
comp=Z,6.4nm,0.7s
KULM Kulim 51.26 242 P **P** **19 55 12.8 0.0**
KULM IAmb IAmb 19 55 48.7
comp=Z,16nm,1.3s
BOOM Boomskoye usch 51.49 298 P **P** **19 55 15.5 +1.1**
BOOM IAmb IAmb 19 55 19.0
comp=Z,5.9nm,0.8s
EPYK Eagle Plains 51.83 30 P **P** **19 55 18.3 +1.8**
EPYK IAmb IAmb 19 55 28.5
comp=Z,13nm,1.0s
BRVK Borovoye 52.13 313 P **P** **19 55 19.9 +1.0**
BRVK IAmb IAmb 19 55 47.1
comp=Z,3.8nm,0.9s
AAK Ala-Archa 52.45 299 LR LR 20 19 23.3
comp=Z,27nm,18.1s,baz=73,slow=38
AAK Ala-Archa 52.45 299 P **P** **19 55 21.9 +0.3**
KSH Kashi 52.48 295 P P 19 55 26.8 +5.0
KSH pP sP 19 55 33.7 +1.6
KSH sP pwP 19 55 37.8 +0.7
KSH pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 52.78 28 P **P** **19 55 24.5 +1.1**
comp=Z,3.5nm,0.8s,baz=248,slow=7.3,SNR=6.6
INK Inuvik 52.78 28 P **P** **19 55 24.1 +0.7**
INK IAmb IAmb 19 55 34.9
comp=Z,3.6nm,0.7s
UWE Uwekahuna 54.97 92 P **P** **19 55 40.0 -0.2**
KKAR Karatay Array 55.03 301 P **P** **19 55 40.7 +0.4**
C36M Paulatuk 55.90 25 P **P** **19 55 47.1 +1.0**
C36M IAmb IAmb 19 55 57.3
comp=Z,4.0nm,0.7s
NIL Nilore 56.83 289 P **P** **19 55 54.4 +1.0**
NIL IAmb IAmb 19 55 55.8
comp=Z,4.7nm,0.8s
ARU Arti 57.63 319 LR LR 20 22 53.4
comp=Z,70nm,18.5s,baz=40,slow=38
CHGR Chuyangaron 57.70 296 P **P** **19 55 58.4 -1.1**
WRA Warramunga Arr 57.98 191 P **P** **19 55 59.9 -1.5**
comp=Z,24nm,0.8s,baz=13,slow=7.4,SNR=21
ABKAR Akbulak array 59.52 311 P **P** **19 56 10.4 -1.4**
ABKAR IAmb IAmb 19 56 23.3
comp=Z,2.7nm,0.7s
ASAR Alice Springs 61.70 191 P **P** **19 56 25.5 -1.4**
comp=Z,8.3nm,0.6s,baz=8.4,slow=7.3,SNR=17
YKA Yellowknife Ar 62.09 31 P **P** **19 56 29.5 +0.4**
comp=Z,1.0nm,1.0s,baz=298,slow=6.6,SNR=7.3
STKA Stephens Creek 69.12 183 P **P** **19 57 13.9 -0.8**
comp=Z,1.7nm,0.4s,baz=11,slow=8.9,SNR=4.5
FINES FINESS Array B 69.51 333 LR LR 20 29 47.8
comp=Z,50nm,19.2s,baz=29,slow=38
FORT Forrest 69.70 195 P **P** **19 57 17.4 -0.9**
PLID Pearl Lake 70.37 48 P **P** **19 57 22.6 -0.2**
PLID IAmb IAmb 19 57 24.3
comp=Z,11nm,1.6s
LRM Limekiln Ridge 72.01 46 P **P** **19 57 33.1 +0.4**
KBZ Khabaz 72.45 312 P **P** **19 57 37.2 +2.1**
comp=Z,5.1nm,1.0s,baz=55,slow=8.1,SNR=4.0
BOZ Bozeman (W) 72.61 46 P **P** **19 57 36.7 +0.5**
BOZ IAmb IAmb 19 57 39.9
comp=Z,3.2nm,0.8s
NVAR Mina Array Bea 72.66 55 P **P** **19 57 38.2 +1.5**
comp=Z,1.1nm,0.7s,baz=279,slow=6.3,SNR=5.3
MOOW Moose Ponds 74.22 47 P **P** **19 57 45.9 +0.1**
HFS Hagfors 74.63 337 LR LR 20 35 06.1
comp=Z,32nm,18.6s,baz=64,slow=39
NB2 NORSAR Subarra 74.66 338 P **P** **19 57 48.1 +0.3**
comp=Z,11nm,1.2s,baz=38,slow=5.9
NOA NORSAR Array B 74.66 338 P **P** **19 57 48.3 +0.5**
comp=Z,2.8nm,0.9s,baz=38,slow=5.8,SNR=7.3
NOA LR LR 20 34 55.0
comp=Z,33nm,20.4s,baz=335,slow=39
AKASG Malin Array Be 75.40 324 P **P** **19 57 52.9 +0.7**
comp=Z,2.0nm,0.5s,baz=44,slow=5.9,SNR=22
AKASG LR LR 20 36 40.5
comp=Z,25nm,18.5s,baz=344,slow=40
BW06 Boulder Array 75.50 47 P **P** **19 57 52.3 -0.9**
PD31 Pinedale Array 75.50 47 P **P** **19 57 52.9 -0.4**
PDAR Pinedale Array 75.50 47 P **P** **19 57 53.5 +0.2**
comp=Z,2.1nm,0.8s,baz=266,slow=1.9,SNR=16
LCMT Little Creek M 76.74 53 P **P** **19 57 60.0 -0.3**
LCMT IAmb IAmb 19 58 02.5
comp=Z,4.2nm,1.0s
RDMU Red Mountain 76.85 49 P **P** **19 58 00.9 0.0**
RDMU IAmb IAmb 19 58 02.9
comp=Z,7.7nm,0.8s
SRU San Rafael Swe 77.17 50 P **P** **19 58 03.0 +0.3**
SRU IAmb IAmb 19 58 04.4
comp=Z,5.7nm,0.8s
TKX Tecate 77.17 59 P **P** **19 58 02.2 -0.4**
PV21 Cone Mtn., Par 78.46 50 P **P** **19 58 09.9 0.0**
PV21 IAmb IAmb 19 58 14.3
comp=Z,7.3nm,0.8s
PV10 Paradox Valley 78.53 50 P **P** **19 58 10.1 -0.3**
PV14 Lion Creek, Pa 78.55 50 P **P** **19 58 09.9 -0.6**
PV14 IAmb IAmb 19 58 14.7
comp=Z,10nm,1.0s
PV20 West Nyswonger 78.60 50 P **P** **19 58 09.6 -1.1**
PV20 IAmb IAmb 19 58 30.6
comp=Z,7.3nm,0.7s
PV19 Morning Glory 78.61 50 P **P** **19 58 09.6 -1.1**
PV17 East Wray Mesa 78.64 50 P **P** **19 58 09.8 -1.1**
PV16 Nyswonger Mesa 78.65 50 P **P** **19 58 10.2 -0.8**
PV16 IAmb IAmb 19 58 13.3
comp=Z,7.9nm,1.0s
PV05 Paradox Valley 78.69 51 P **P** **19 58 11.4 +0.2**
PV05 IAmb IAmb 19 58 13.2
comp=Z,9.4nm,0.9s
PV03 Paradox Valley 78.73 50 P **P** **19 58 11.4 0.0**
PV03 IAmb IAmb 19 58 23.2
comp=Z,6.0nm,1.0s
PV13 Radium Mtn., P 78.81 50 P **P** **19 58 11.8 0.0**
PV13 IAmb IAmb 19 58 23.6
comp=Z,8.4nm,0.8s
BUR08 Bucovina Ar. S 79.42 323 P **P** **19 58 15.1 +0.1**
BUR08 IAmb IAmb 19 58 26.6
comp=Z,4.1nm,0.9s
CLL Collm 81.87 332 *e*P **P** **19 58 28.0 +0.2**
CLL *i* sP **sP** **19 58 38.7 +0.3**
CLL Collm 81.87 332 P **P** **19 58 28.4 +0.7**
CLL IAmb IAmb 19 58 39.2
comp=Z,4.2nm,0.7s
RAYN Ar Rayn 82.76 294 P **P** **19 58 32.9 -0.1**
RAYN IAmb IAmb 19 59 05.6
comp=Z,4.1nm,1.4s
GERES GERESS Array B 83.57 330 P **P** **19 58 37.7 +0.9**
comp=Z,0.4nm,0.6s,baz=21,slow=4.9,SNR=3.8
TXAR Lajitas Array 87.80 54 P **P** **19 58 58.5 +0.3**
comp=Z,1.3nm,1.0s,baz=317,slow=3.6,SNR=6.5
ESDC Sonseca Array 97.89 336 LR LR 20 49 49.3
comp=Z,47nm,18.1s,baz=326,slow=39
LPAZ La Paz 144.25 63 PKP **PKPdf** **20 05 45.0 -0.7**
comp=Z,1.2nm,0.5s,baz=218,slow=2.6,SNR=5.9
PLCA Paso Flores 152.69 108 PKPbc **PKiKP** **20 06 05.3 0.0**
comp=Z,2.0nm,0.9s,baz=301,slow=2.3,SNR=3.7

IDC ***05*** *19:48:05.1±2.0,6.38S×147.22E,h75km±19km,mb4.3/20, mb1 4.4/23,mb1mx4.3/41,mbtmp4.6/23,MS3.4/8, Ms1 3.4/8,ms1mx2.9/59,Error ellipse: s-maj=19.6km s-min=11.5km az=79.0*
DJA ***05*** *19:48:07.7±0.5,7.3S±4.4×14.7E±.1,h105km±6km,M4.6/31, mb4.8/31,mB5.1/10,MLv4.8/2,Mw(mB)4.4/10, MwMwp5.2/1,Mwp5.4/1*
NEIC ***05*** *19:48:07±2.0,6.47S±0.06×147.12E±0.09,h87km±6km, mb4.7/67,Error ellipse: s-maj=13.1km s-min=8.8km az=91.0*
ISC 05 19:48:07.8±0.4,6.49S±0.05×147.09E±0.06,h100km,n166, σ1.9 07/168,mb4.7/63,1C,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**2.90**	**179**	P	P	**Pn**	**19 48 51.5**	**-0.8**
	94nm,0.3s,baz=352,slow=5.8,SNR=258							
PMG					S	**Sn**	**19 49 25.9**	**-0.6**
	51nm,0.3s,baz=200,slow=21,SNR=6.6							
PMG					LR	LR	19 49 59.5	
	comp=Z,600nm,20.9s,baz=45,slow=38							
PMG	**Port Moresby**	**2.90**	**179**	Pn	Pn	**Pn**	**19 48 51.4**	**-0.9**
PMG					Sn	**Sn**	**19 49 22.6**	**-3.9**
PMG	**Port Moresby**	**2.90**	**179**	P	P	**Pn**	**19 48 51.7**	**-0.6**
MANU	**Manus Island**	**4.42**	**4**			**Pn**	**19 49 11.4**	**-1.4**
RABL	**Rabaul**	**5.54**	**66**			**Pn**	**19 49 27.1**	**-0.8**
RABL	**Rabaul**	**5.54**	**66**	P	Pn	**Pn**	**19 49 27.7**	**-0.2**
JAY	**Jayapura**	**7.49**	**301**	LR	LR		19 53 34.1	
	comp=Z,154nm,18.4s,baz=176,slow=44							
COEN	**Coen**	**8.36**	**207**	Pn	Pn	**Pn**	**19 50 05.9**	**-0.5**
COEN					Sn	**Sn**	**19 51 35.5**	**-3.7**
COEN	**Coen**	**8.36**	**207**	P	Pn	**Pn**	**19 50 06.8**	**+0.4**
MTSU	**Mount Surprise**	**11.89**	**193**	P	Pn	**Pn**	**19 50 54.7**	**+0.6**
CTA	**Charters Tower**	**13.54**	**183**	P	Pn	**Pn**	**19 51 18.8**	**+2.8**
	1.2nm,0.3s,baz=4.0,slow=15,SNR=13							
CTAO	**Charters Tower**	**13.54**	**183**	Pn	Pn	**Pn**	**19 51 17.2**	**+1.2**
FAKI	**Fak Fak**	**15.21**	**283**	P	P	**Pn**	**19 51 39.4**	**-0.7**
	29nm,1.0s							
FAKI	**Fak Fak**	**15.21**	**283**			**Pn**	**19 51 38.7**	**+1.3**
KDU	**Kakadu**	**15.67**	**246**	P	Pn	**Pn**	**19 51 42.9**	**-0.3**
SAUI	**Saumlaki**	**15.74**	**264**			**Pn**	**19 51 44.7**	**+0.7**
SAUI					IAmb	IAmb	19 51 48.3	
	comp=Z,46nm,0.7s							
QIS	**Mount Isa**	**15.76**	**207**	P	Pn	**Pn**	**19 51 44.4**	**+0.2**
SIJI	**Sorong**	**16.75**	**289**	P	Pn	**Pn**	**19 51 56.2**	**-0.3**
	comp=Z,2.9nm,0.3s,baz=102,slow=8.2,SNR=26							
SIJI					LR	LR	19 59 36.7	
	comp=Z,97nm,18.9s,baz=36,slow=41							
SWI	**Sorong**	**16.75**	**289**	P	Pn	**Pn**	**19 51 56.2**	**-0.4**
	comp=Z,956nmcomp=Z,144nm,0.7s							
MTN	**Manton Dam**	**16.95**	**247**			**Pn**	**19 51 59.0**	**+0.1**
MTN					IAmb	IAmb	19 52 04.0	
	comp=Z,22nm,0.5s							
MTN	**Manton Dam**	**16.95**	**247**	P	P	**Pn**	**19 51 59.9**	**+0.6**
DRS	**Darwin Rock St**	**17.03**	**249**	P	P	**Pn**	**19 52 00.8**	**+0.7**
WB0	**Warramunga Arr**	**18.07**	**222**			**P**	**19 52 11.8**	**+0.1**
WR0	**Warramunga Arr**	**18.11**	**221**	P	P	**P**	**19 52 11.7**	**-0.4**
WR0					IAmb	IAmb	19 52 19.5	
	comp=Z,30nm,0.9s							
WRAB	**Tennant Creek**	**18.22**	**222**	P	P	**P**	**19 52 13.4**	**+0.2**
WRAB	**Tennant Creek**	**18.22**	**222**	P	P	**P**	**19 52 13.6**	**+0.4**
WB2	**Warramunga Arr**	**18.22**	**222**			**P**	**19 52 13.3**	**0.0**
WB2					IAmb	IAmb	19 52 23.0	
	comp=Z,22nm,0.8s							
WRA	**Warramunga Arr**	**18.23**	**222**	P	P	**P**	**19 52 13.5**	**+0.1**
	comp=Z,3.0nm,0.3s,baz=43,slow=12,SNR=158							
WRA					LR	LR	20 00 19.0	
	comp=Z,190nm,18.3s,baz=64,slow=40							
WRA	**Warramunga Arr**	**18.23**	**222**			**P**	**19 52 12.4**	**-1.0**
AAI	**Ambon**	**19.03**	**277**	P	Pn	**P**	**19 52 23.4**	**-0.6**
	comp=Z,75nm,0.7s							
EIDS	**Eidsvold**	**19.16**	**169**	P	P	**P**	**19 52 23.6**	**+0.1**
EIDS					IAmb	IAmb	19 52 50.3	
	comp=Z,56nm,1.6s							
KNRA	**Kununurra**	**20.16**	**242**	P	P	**P**	**19 52 33.5**	**-0.9**
KNRA					IAmb	IAmb	19 53 06.6	
	comp=Z,32nm,0.8s							
KNRA	**Kununurra**	**20.16**	**242**	P	P	**P**	**19 52 34.9**	**+0.5**
QLP	**Quilpie**	**20.17**	**187**	P	P	**P**	**19 52 35.7**	**+1.3**
LBMI	**Labuha**	**20.39**	**286**	P	Pn	**P**	**19 52 39.0**	**-0.9**
	comp=Z,34nm,0.8s							
AS31	**Alice Springs**	**21.27**	**215**	P	P	**P**	**19 52 46.6**	**+0.2**
ASAR	**Alice Springs**	**21.27**	**215**	P	P	**P**	**19 52 46.9**	**+0.5**
	comp=Z,12nm,0.3s,baz=45,slow=8.8,SNR=256							
ASAR					LR	LR	20 01 30.6	
	comp=Z,88nm,21.5s,baz=34,slow=38							
ASAR	**Alice Springs**	**21.27**	**215**	P	P	**P**	**19 52 46.5**	**+0.1**
SANI	**Sanana**	**21.50**	**281**	P	P	**P**	**19 52 48.3**	**-0.5**
	comp=Z,32nm,0.7s							
SANI	**Sanana**	**21.50**	**281**	P	P	**P**	**19 52 51.6**	**+2.8**
SANVU	**Saraoutou**	**21.64**	**116**	P	P	**P**	**19 52 49.6**	**-0.6**
SANVU					IAmb	IAmb	19 52 55.3	
	comp=Z,32nm,0.7s							
INKA	**Innaminka**	**21.98**	**195**	P	P	**P**	**19 52 54.3**	**+0.5**
SOEI	**Soe**	**22.83**	**260**	P	P	**P**	**19 53 03.7**	**+0.9**
SOEI					IAmb	IAmb	19 53 37.4	
	comp=Z,23nm,0.8s							
BATI	**Baumata**	**23.47**	**259**	P	P	**P**	**19 53 11.1**	**+2.3**
	comp=Z,19nm,0.6s,baz=144,slow=4.8,SNR=7.3							
BATI					LR	LR	20 05 22.7	
	comp=Z,84nm,19.8s,baz=84,slow=44							
BATI	**Baumata**	**23.47**	**259**	P	P	**P**	**19 53 11.3**	**+2.5**
	comp=Z,13nm,0.6s							
OOD	**Oodnadatta**	**23.80**	**206**	P	P	**P**	**19 53 12.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**23.89**	**239**	P	P	**P**	**19 53 12.7**	**+0.2**
	comp=Z,17nm,0.5s,baz=55,slow=12,SNR=73							
KMSI	**Cibinong**	**24.11**	**286**	P	P	**P**	**19 53 15.6**	**+1.1**
	comp=Z,1μmcomp=Z,149nm,0.6s							
ARMA	**Armidale**	**24.18**	**170**	P	P	**P**	**19 53 14.7**	**-0.5**
ARMA					IAmb	IAmb	19 53 49.2	
	comp=Z,42nm,1.4s							
DZM	**Mont Dzumac**	**24.27**	**132**	P	P	**P**	**19 53 16.4**	**+0.4**
	comp=Z,6.6nm,0.6s,baz=312,slow=21,SNR=5.4							
DZM	**Mont Dzumac**	**24.27**	**132**	P	P	**P**	**19 53 16.2**	**+0.2**
BBSI	**Bau Bau**	**24.41**	**271**	P	P	**P**	**19 53 18.6**	**+1.4**
	comp=Z,170nmcomp=Z,2.1nm,0.8s							
MMRI	**Maumere**	**24.73**	**263**	P	P	**P**	**19 53 20.5**	**+0.3**
	comp=Z,52nm,0.6s							
MMRI	**Maumere**	**24.73**	**263**	P	P	**P**	**19 53 20.5**	**+0.3**
MMRI	**Maumere**	**24.73**	**263**	P	P	**P**	**19 53 20.8**	**+0.6**
LUWI	**Luwuk**	**24.86**	**282**	P	P	**P**	**19 53 23.6**	**+2.3**
	comp=Z,707nmcomp=Z,86nm,1.0s							
LUWI	**Luwuk**	**24.86**	**282**	P	P	**P**	**19 53 21.6**	**+0.3**
LUWI	**Luwuk**	**24.86**	**282**	P	P	**P**	**19 53 24.2**	**+2.9**
LCRK	**Leigh Creek**	**25.25**	**198**	P	P	**P**	**19 53 25.6**	**+0.9**
EDFI	**Ende, Flores**	**25.28**	**263**	P	P	**P**	**19 53 24.5**	**-0.8**
	comp=Z,11nm,0.6s							
WRKA	**Warakurna**	**25.77**	**222**	P	P	**P**	**19 53 29.9**	**+0.4**
STKA	**Stephens Creek**	**25.78**	**191**	P	P	**P**	**19 53 29.8**	**+0.3**
	comp=Z,7.1nm,0.6s,baz=0.4,slow=8.4,SNR=19							
STKA					LR	LR	20 03 27.6	
	comp=Z,61nm,19.7s,baz=25,slow=36							
STKA	**Stephens Creek**	**25.78**	**191**	P	P	**P**	**19 53 28.8**	**-0.7**
STKA	**Stephens Creek**	**25.78**	**191**	P	P	**P**	**19 53 31.0**	**+1.5**
APSI	**Ampana**	**25.98**	**281**	P	P	**P**	**19 53 32.3**	**+0.8**
	comp=Z,24nm,1.0s							
MRSI	**Marisa**	**26.04**	**284**	P	P	**P**	**19 53 33.4**	**+1.4**
	comp=Z,13nm,0.5s							
BSSI	**Bau Bau, Buton**	**26.44**	**269**	P	P	**P**	**19 53 36.1**	**+0.4**
	comp=Z,6.7nm,0.6s							
BNSI	**Bone**	**26.94**	**273**	P	P	**P**	**19 53 41.9**	**+1.7**
	comp=Z,6.5nm,1.5s							
TOLI2	**Tolitoli**	**27.33**	**285**	P	P	**P**	**19 53 42.6**	**-1.0**
TOLI2					IAmb	IAmb	19 54 21.4	
	comp=Z,15nm,1.0s							
NAPP	**Napperby**	**27.83**	**196**	P	P	**P**	**19 53 48.5**	**+0.6**
WHYH	**Whyalla**	**27.86**	**197**	P	P	**P**	**19 53 50.7**	**+2.6**
BBOO	**Buckleboo**	**28.13**	**200**	P	P	**P**	**19 53 50.7**	**+0.2**
FORT	**Forrest**	**30.05**	**214**	P	P	**P**	**19 54 07.4**	**-0.2**
FORT					IAmb	IAmb	19 54 50.6	
	comp=Z,26nm,0.8s							
PSA00	**Pilbara Seismi**	**30.31**	**238**	P	P	**P**	**19 54 10.1**	**0.0**
PSA00	**Pilbara Seismi**	**30.31**	**238**	P	P	**P**	**19 54 10.2**	**+0.2**
PSA00					IAmb	IAmb	19 54 46.2	
	comp=Z,35nm,1.6s							
MYLDM	**Lahad Datu**	**30.81**	**291**	P	P	**P**	**19 54 15.6**	**+1.1**
MYLDM					IAmb	IAmb	19 54 26.9	
	comp=Z,16nm,0.9s							
JAGI	**Jajag, Banyuwa**	**32.72**	**264**	P	P	**P**	**19 54 29.1**	**-2.2**
KKM	**Kota Kinabalu**	**33.24**	**291**	P	P	**P**	**19 54 35.4**	**-0.5**
SBUM	**Sibu**	**35.93**	**283**	P	P	**P**	**19 55 00.0**	**+1.0**
MORW	**Morawa**	**36.92**	**229**	P	P	**P**	**19 55 08.0**	**+0.8**
MORW					IAmb	IAmb	19 55 11.8	
	comp=Z,21nm,1.4s							
JOW	**Kunigami**	**37.81**	**332**	P	P	**P**	**19 55 14.7**	**-0.1**
	comp=Z,21nm,0.4s,baz=138,slow=14,SNR=14							
JOW	**Kunigami**	**37.81**	**332**	P	P	**P**	**19 55 14.5**	**-0.2**
YULB	**Yu-li**	**38.95**	**321**	P	P	**P**	**19 55 23.2**	**-1.1**
TPUB	**Ta-pu**	**39.31**	**320**	P	P	**P**	**19 55 26.0**	**-1.4**
JMN	**Monobe**	**41.91**	**343**	P	P	**P**	**19 55 47.9**	**-0.7**
THZ	**Tophouse**	**41.95**	**151**	P	P	**P**	**19 55 47.2**	**-1.7**
BKZ	**Black Stump Fm**	**41.96**	**145**	P	P	**P**	**19 55 47.2**	**-1.9**
BKZ					IAmb	IAmb	19 56 01.8	
	comp=Z,21nm,1.4s							
JNU	**Nakatsue**	**42.30**	**340**	P	P	**P**	**19 55 50.9**	**-0.9**
	comp=Z,11nm,0.7s,baz=93,slow=1.9,SNR=9.8							
JNU	**Nakatsue**	**42.30**	**340**	P	P	**P**	**19 55 50.6**	**-1.2**
JNU					IAmb	IAmb	19 56 02.4	
	comp=Z,25nm,1.3s							
LTZ	**Lake Taylor**	**42.44**	**152**	P	P	**P**	**19 55 53.7**	**+0.9**
LTZ					IAmb	IAmb	19 55 57.7	
	comp=Z,36nm,1.6s							
BFZ	**Birch Farm**	**42.87**	**147**	P	P	**P**	**19 55 57.1**	**+0.7**
JWT	**Wachi**	**42.98**	**346**	P	P	**P**	**19 55 56.1**	**-1.1**
PLWZ	**Palliser**	**42.98**	**149**	P	P	**P**	**19 55 57.0**	**-0.3**
JHS	**Saijyo**	**43.32**	**343**	P	P	**P**	**19 55 59.3**	**-0.7**
JHS					IAmb	IAmb	19 56 20.7	
	comp=Z,34nm,1.3s							
MJAR	**Matsushiro Arr**	**43.61**	**350**	P	P	**P**	**19 56 00.7**	**-1.6**
	comp=Z,2.8nm,0.6s,baz=182,slow=8.8,SNR=10							
MJAR	**Matsushiro Arr**	**43.61**	**350**	P	P	**P**	**19 56 01.6**	**-0.7**
MAJO	**Matsushiro**	**43.61**	**350**	P	P	**P**	**19 56 01.4**	**-0.9**
MAJO					IAmb	IAmb	19 56 32.4	
	comp=Z,40nm,1.8s							
MAT	**Matsushiro**	**43.61**	**350**	P	P	**P**	**19 56 00.8**	**-1.5**
MJB9	**Matsu-Tunnel**	**43.61**	**350**	P	P	**P**	**19 56 01.7**	**-0.6**
MJB9					IAmb	IAmb	19 56 32.3	
	comp=Z,37nm,1.8s							
JMM	**Marumori**	**44.51**	**353**	P	P	**P**	**19 56 09.1**	**-0.3**
UBPT	**Khong Chiam**	**46.57**	**298**	P	P	**P**	**19 56 27.0**	**+1.0**
NJ2	**Nanjing**	**46.84**	**327**	*e*P	P	**P**	**19 56 30.2**	**+2.4**
NJ2					pmax	pmax		
	comp=Z,6.0nm,0.5s							
PPI	**Padang Panjang**	**46.97**	**275**	P	P	**P**	**19 56 29.4**	**+0.2**
	comp=Z,11nm,0.6s							
KSRS	**Korea Array**	**47.24**	**339**	P	P	**P**	**19 56 30.6**	**-0.3**
	comp=Z,8.6nm,0.8s,baz=155,slow=9.0,SNR=24							
KSAR	**Wonju Array Be**	**47.24**	**339**	P	P	**P**	**19 56 30.1**	**-0.8**
IPM	**Ipoh**	**47.26**	**282**			**P**	**19 56 31.9**	**+0.3**
IPM					IAmb	IAmb	19 56 33.8	
	comp=Z,14nm,0.7s							
KS19	**Wonju Array Si**	**47.30**	**339**	P	P	**P**	**19 56 30.4**	**-1.0**
KULM	**Kulim**	**47.81**	**283**			**P**	**19 56 35.2**	**-0.6**
KULM					IAmb	IAmb	19 56 37.4	
	comp=Z,14nm,0.6s							
SRIT	**Nakonsritamara**	**49.66**	**287**	P	P	**P**	**19 56 50.1**	**+0.2**
SRIT					IAmb	IAmb	19 56 52.0	
	comp=Z,12nm,0.9s							
GSI	**Gunungsitoli**	**50.03**	**277**	P	P	**P**	**19 56 52.3**	**-0.4**
TPTI		**50.77**	**280**	P	P	**P**	**19 56 58.3**	**0.0**
LHMI	**Lhok Sumawe**	**51.39**	**282**	P	P	**P**	**19 57 03.5**	**+0.6**
USA0B	**Ussuriysk Arra**	**52.26**	**346**	P	P	**P**	**19 57 09.0**	**+0.1**
USA0B					IAmb	IAmb	19 57 40.8	
	comp=Z,7.5nm,0.7s							
USRK	**Ussuriysk Ar.**	**52.26**	**346**	P	P	**P**	**19 57 08.4**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=172,slow=9.4,SNR=12							
USRK	**Ussuriysk Ar.**	**52.26**	**346**	P	P	**P**	**19 57 08.6**	**-0.3**
CM31	**Chiang Mai Arr**	**53.56**	**298**	P	P	**P**	**19 57 19.9**	**+1.0**
CM31					IAmb	IAmb	19 57 21.8	
	comp=Z,7.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**53.56**	**298**	P	P	**P**	**19 57 20.0**	**+1.0**
	comp=Z,4.5nm,0.6s,baz=123,slow=5.8,SNR=36							
CMAR	**Chiang Mai Arr**	**53.56**	**298**	P	P	**P**	**19 57 19.2**	**+0.3**
CMAR					PcP	**PcP**	**19 58 26.0**	**+1.5**
CHTO	**Chiang Mai**	**53.70**	**299**	P	P	**P**	**19 57 20.5**	**+0.6**
CHTO					IAmb	IAmb	19 57 22.4	
	comp=Z,3.7nm,0.8s							
CHTO					PcP	**PcP**	**19 58 26.0**	**+1.0**
KLR	**Kul'dur**	**57.08**	**348**	P	P	**P**	**19 57 43.6**	**0.0**
	comp=Z,1.6nm,0.4s,baz=190,slow=6.7,SNR=9.6							
KLR					PcP	**PcP**	**19 58 36.9**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=169,slow=5.2,SNR=3.7							
HHC	**Hu-ho-hao-te**	**57.29**	**328**	*e*P	P	**P**	**19 57 47.1**	**+1.7**
HHC					pmax	pmax		
	comp=Z,6.0nm,1.1s							
HHC					pmax	pmax		
	comp=Z,110nm,5.6s							
SHL	**Shillong**	**62.36**	**303**	P	P	**P**	**19 58 20.2**	**-0.3**
SHL					IAmb	IAmb	19 58 22.6	
	comp=Z,5.6nm,0.7s							
GTA	**Gaotai**	**63.17**	**320**	*e*P	P	**P**	**19 58 25.6**	**0.0**
GTA					pP	pP	19 58 47.4	-3.6
GTA					sP	PcP	19 58 56.8	-5.4
GTA					pmax	pmax		
	comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**64.58**	**331**	P	P	**P**	**19 58 34.2**	**-0.5**
LSA	**Lhasa**	**64.61**	**307**	P	P	**P**	**19 58 35.5**	**-0.1**
SONM	**Songino Array**	**64.87**	**331**	P	P	**P**	**19 58 36.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=126,slow=7.3,SNR=2.6							
GUN	**Gumba**	**68.21**	**303**	*e*P	P	**P**	**19 58 58.7**	**+0.2**
	comp=Z,28nm,0.8s							
PKI	**Pulchoki**	**68.49**	**303**	*e*P	P	**P**	**19 59 00.1**	**-0.1**
PKIN	**Phulchoki**	**68.50**	**303**	*e*P	P	**P**	**19 59 00.0**	**-0.2**
	comp=Z,4.0nm,0.5s							
KKN	**Kakani**	**68.67**	**303**	*e*P	P	**P**	**19 59 01.3**	**+0.1**
DMN	**Daman**	**68.75**	**303**	*e*P	P

KIC	Kosan Boka	152.01 271	*e*PKIKP	PKiKP	20 07 53.5	+0.6
	comp=Z,4.0nm,0.5s					
DBIC	Dimbokro	152.14 272	PKPbc	PKiKP	20 07 53.9	+0.8
	comp=Z,2.5nm,0.5s,baz=59,slow=2.5,SNR=7.1					
LIC	Lamto	152.29 271	*e*PKIKP	PKiKP	20 07 53.7	+0.2
	comp=Z,8.6nm,0.5s					
TIC	Toumodi	152.30 272	*e*PKIKP	PKiKP	20 07 53.6	+0.1
BDFB	Brasilia	153.40 146	PKPbc	PKiKP	20 07 56.3	+0.5
	comp=Z,2.1nm,0.4s,baz=236,slow=4.7,SNR=3.7					

NEIC ***05*** *19:48:10.1±1.4, 12°.9S±0°.1×169°.1E±0°.1, h623km±8km, mb4.6/120, Error ellipse: s-maj=14.9km s-min=14.3km az=172.0*
IDC ***05*** *19:48:11.0±1.5, 12°.95S×168°.99E, h629km±21km, mb3.7/24, mb1 3.8/27, mb1mx3.5/45, mbtmp4.7/27, Error ellipse: s-maj=13.4km s-min=12.4km az=86.0*

ISC 05 19:48:10.1±0.4, 12°.95S±0°.06×168°.99E±0°.07, h625km, n203, σ1§07/203, mb4.5/90, 4C-1D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	3.03 215			P	19 49 30.9	-0.6
SANVU				S	S	19 50 33.8	-4.1
MARNC	Mare, Loyalty	8.54 186		P	P	19 50 15.7	+0.5
DZM	Mont Dzumac	9.39 195		P	P	19 50 25.1	+1.5
	0.9nm,0.3s,baz=290,slow=15,SNR=9.6						
HNR	Honiara	9.54 291		P	P	19 50 25.4	+0.4
	10.0nm,0.3s,baz=205,slow=4.4,SNR=6.9						
HNR	Honiara	9.54 291		P	P	19 50 24.6	-0.4
OUENC	Ouen Island, N	9.64 192		P	P	19 50 24.7	-1.1
PINNC	Pines Island,	9.72 188		P	P	19 50 27.2	+0.6
MSVF	Nonsavu	9.95 120		P	P	19 50 30.8	+1.8
	1.4nm,0.3s,baz=283,slow=13,SNR=9.3						
MSVF	Nonsavu	9.95 120		P	P	19 50 29.9	+0.9
EIDS	Eidsvold	20.92 231		P	P	19 52 10.7	-0.3
EIDS				IAmb	IAmb	19 52 19.0	
	comp=Z,44nm,1.6s						
CTA	Charters Tower	22.91 249		P	P	19 52 29.0	+0.2
	comp=Z,2.1nm,0.4s,baz=65,slow=11,SNR=3.8						
CTAO	Charters Tower	22.91 249		P	P	19 52 29.2	+0.5
CTAO				IAmb	IAmb	19 52 30.3	
	comp=Z,14nm,0.9s						
RMQ	Roma	23.28 232		P	P	19 52 33.6	+1.6
ARMA	Armidale	23.66 220		P	P	19 52 36.6	+1.3
COEN	Coen	25.13 265		P	P	19 52 47.2	-1.2
COEN				IAmb	IAmb	19 52 50.2	
	comp=Z,14nm,0.7s						
TOZ	Tahuroa Road	25.36 168		P	P	19 52 50.8	+0.8
MXZ	Matakaoa Point	25.89 163		P	P	19 52 53.8	-0.9
HIZ	Hauiti	25.99 169		P	P	19 52 58.1	+2.5
HIZ	Hauiti	25.99 169		P	P	19 52 56.5	+0.9
URZ	Urewera	26.22 165		P	P	19 52 58.2	+0.5
	comp=Z,10nm,0.6s,baz=121,slow=24,SNR=9.0						
URZ	Urewera	26.22 165		P	P	19 52 58.1	+0.5
URZ	Urewera	26.22 165		P	P	19 52 57.7	0.0
URZ				IAmb	IAmb	19 52 58.7	
	comp=Z,22nm,1.0s						
MUGZ	Murupara	26.35 166		P	P	19 52 60.0	+1.2
RTZ	Ruatahuna	26.53 166		P	P	19 53 00.9	+0.4
KATZ	Kakaramea	26.60 168		P	P	19 53 03.6	+2.6
NEZ	North Egmont	26.60 171		P	P	19 53 08.6	+7.5
TWVZ	Taurewa	26.64 169		P	P	19 53 03.7	+2.3
NTVZ	North Tongarir	26.71 168		P	P	19 53 05.2	+3.1
TMVZ	Te Maari	26.73 168		P	P	19 53 06.5	+2.2
ETVZ	East Tongariro	26.75 168		P	P	19 53 04.6	+2.2
OTVZ	Oturere	26.77 168		P	P	19 53 04.8	+2.2
SNGZ	Shannon Statio	26.77 165		P	P	19 53 02.8	+0.3
SNVZ	South Ngauruho	26.79 168		P	P	19 53 05.1	+2.3
RIGZ	Rimuhau	26.81 165		P	P	19 53 02.8	0.0
FWVZ	Far West T-bar	26.84 169		P	P	19 53 05.9	+2.6
RAHZ	Arahi	26.84 166		P	P	19 53 03.8	+0.7
TRVZ	Turoa	26.88 169		P	P	19 53 06.3	+2.6
BKZ	Black Stump Fm	26.95 167		P	P	19 53 04.4	+0.4
BKZ	Black Stump Fm	26.95 167		P	P	19 53 04.4	+0.4
NMHZ	Naumai	26.95 167		P	P	19 53 05.3	+1.2
BHHZ	Black Hill Sta	27.17 168		P	P	19 53 06.7	+0.7
KWHZ	Kaweka Forest	27.18 167		P	P	19 53 06.9	+0.8
QRZ	Quartz Range	27.94 174		P	P	19 53 14.5	+1.9
BFZ	Birch Farm	28.35 168		P	P	19 53 15.8	-0.4
NNZ	Nelson	28.42 173		P	P	19 53 18.3	+1.6
CAN	Canberra	28.68 216		P	P	19 53 19.2	0.0
SNZO	South Karori	28.69 171		P	P	19 53 19.0	-0.1
TUWZ	Tuamarina	28.70 172		P	P	19 53 19.6	+0.5
BHW	Baring Head	28.82 171		P	P	19 53 19.9	-0.2
MSWZ	Moikau Station	28.88 170		P	P	19 53 20.4	-0.4
THZ	Tophouse	28.91 174		P	P	19 53 21.5	+0.5
BSWZ	Blackbirch Sta	28.98 172		P	P	19 53 21.9	+0.4
PLWZ	Palliser	29.03 170		P	P	19 53 21.3	-0.8
CMWZ	Cape Campbell	29.05 172		P	P	19 53 23.2	+1.1
KHZ	Kahutara	29.62 173		P	P	19 53 27.2	+0.2
KHZ				IAmb	IAmb	19 53 28.3	
	comp=Z,21nm,1.0s						
LTZ	Lake Taylor	29.86 175		P	P	19 53 29.9	+0.7
LTZ				IAmb	IAmb	19 54 02.0	
	comp=Z,25nm,1.6s						
OXZ	Oxford	30.38 176		P	P	19 53 34.2	+0.6
OXZ				IAmb	IAmb	19 53 43.1	
	comp=Z,13nm,1.0s						
FOZ	Fox Glacier	30.48 179		P	P	19 53 35.1	+0.7
FOZ				IAmb	IAmb	19 53 36.3	
	comp=Z,11nm,0.5s						
RPZ	Rata Peaks	30.71 177		P	P	19 53 36.2	-0.2
RPZ				IAmb	IAmb	19 53 38.4	
	comp=Z,20nm,0.9s						
MQZ	McQueen's Vall	30.81 175		P	P	19 53 37.6	+0.4
RAR	Rarotonga	30.92 110		P	P	19 53 37.7	-0.8
LBZ	Lake Benmore	31.35 178		P	P	19 53 41.7	0.0
LBZ				IAmb	IAmb	19 53 51.9	
	comp=Z,35nm,1.5s						
STKA	Stephens Creek	31.42 229		P	P	19 53 43.8	+1.2
	comp=Z,10nm,0.5s,baz=51,slow=8.8,SNR=15						
STKA	Stephens Creek	31.42 229		P	P	19 53 43.4	+0.8
WKZ	Wanaka	31.77 180		P	P	19 53 46.4	+1.1
ODZ	Otahua Downs	32.02 178		P	P	19 53 46.5	-0.9
TOO	Toolangi	32.27 216		P	P	19 53 49.7	0.0
TOO				IAmb	IAmb	19 54 08.4	
	comp=Z,12nm,1.1s						
MLZ	Mavora Lakes	32.32 181		P	P	19 53 49.5	-0.5
MLZ				IAmb	IAmb	19 53 56.5	
	comp=Z,18nm,1.3s						
DCZ	Deep Cove	32.45 182		P	P	19 53 51.6	+0.7
DCZ				IAmb	IAmb	19 54 22.2	
	comp=Z,40nm,1.5s						
WR0	Warramunga Arr	33.72 253		P	P	19 54 01.2	-0.9
WR0				IAmb	IAmb	19 54 02.6	
	comp=Z,22nm,1.2s						
WB0	Warramunga Arr	33.84 254		P	P	19 54 03.1	0.0
WB2	Warramunga Arr	33.90 254		P	P	19 54 03.4	-0.2
WRAB	Tennant Creek	33.90 254		P	P	19 54 02.6	-1.0
WRAB				IAmb	IAmb	19 54 04.0	
	comp=Z,28nm,0.9s						
WRA	Warramunga Arr	33.91 254		P	P	19 54 03.4	-0.3
	comp=Z,18nm,0.5s,baz=84,slow=8.7,SNR=12						
WRA	Warramunga Arr	33.91 254		P	P	19 54 03.1	-0.6
AS31	Alice Springs	34.88 247		P	P	19 54 12.2	+0.4
AS31				IAmb	IAmb	19 54 12.5	
	comp=Z,14nm,0.5s						
ASAR	Alice Springs	34.89 247		P	P	19 54 11.9	+0.1
	comp=Z,48nm,0.7s,baz=72,slow=9.4,SNR=29						
BBOO	Buckleboo	35.99 231		P	P	19 54 21.1	+0.5
BBOO				IAmb	IAmb	19 54 22.4	
	comp=Z,27nm,0.8s						
MTN	Manton Dam	36.88 266		P	P	19 54 28.0	-0.2
MTN				IAmb	IAmb	19 54 30.0	
	comp=Z,17nm,0.7s						
FAKI	Fak Fak	37.68 282		P	P	19 54 34.6	-0.1
FAKI				IAmb	IAmb	19 54 35.5	
	comp=Z,18nm,0.8s						
KNRA	Kununurra	39.04 261		P	P	19 54 45.1	-0.5
SIJI	Sorong	39.25 285		P	P	19 54 47.8	+0.4
	comp=Z,22nm,0.6s,baz=69,slow=7.7,SNR=9.5						
PPTF	Pamatai, Papee	40.19 102		P	P	19 54 55.3	+0.5
FORT	Forrest	41.65 238		P	P	19 55 06.5	+0.5
FITZ	Fitzroy Crossi	42.01 257		P	P	19 55 09.5	+0.4
	comp=Z,5.2nm,0.6s,baz=88,slow=7.9,SNR=3.9						
SOEI	Soe	43.92 269		P	P	19 55 23.1	-1.1
SOEI				IAmb	IAmb	19 55 26.1	
	comp=Z,24nm,0.8s						
SOEI				PcP	PcP	19 56 53.6	-2.2
BATI	Baumata	44.45 269		P	P	19 55 29.8	+1.8
	comp=Z,83nm,0.5s,baz=149,slow=2.2,SNR=24						
MMRI	Maumere	46.08 270		P	P	19 55 40.2	-0.1
MMRI				IAmb	IAmb	19 55 41.4	
	comp=Z,27nm,0.9s						
LUWI	Luwuk	47.28 281		P	P	19 55 49.6	+0.3
PSA00	Pilbara Seismi	47.55 253		P	P	19 55 51.7	+0.4
PSA00				PcP	PcP	19 57 08.8	+0.3
PSA00	Pilbara Seismi	47.55 253		P	P	19 55 51.4	+0.1
PSA00				IAmb	IAmb	19 55 52.1	
	comp=Z,11nm,0.7s						
JCJ	Chichijima	47.56 327		P	P	19 55 50.1	-1.0
KAPI	Kappang	49.20 275		P	P	19 56 04.2	+0.7
	comp=Z,5.2nm,0.6s,baz=196,slow=6.3,SNR=4.4						
KAPI	Kappang	49.20 275		IAmb	IAmb	19 56 05.0	
	comp=Z,12nm,1.0s						
TOLI2	Tolitoli	49.82 283		P	P	19 56 07.5	-0.5
TOLI2				IAmb	IAmb	19 56 08.6	
	comp=Z,14nm,0.8s						
MORW	Morawa	51.55 243		P	P	19 56 19.9	-0.5
MYLDM	Lahad Datu	53.29 287		P	P	19 56 32.5	-0.4
MYLDM				IAmb	IAmb	19 56 36.6	
	comp=Z,36nm,1.4s						
JAGI	Jajag, Banyuwa	53.99 269		P	P	19 56 35.7	-2.2
JAGI				IAmb	IAmb	19 56 37.6	
	comp=Z,15nm,0.6s						
KKM	Kota Kinabalu	55.72 287		P	P	19 56 49.8	-0.2
KKM				IAmb	IAmb	19 57 00.3	
	comp=Z,41nm,1.2s						
JOW	Kunigami	55.92 315		P	P	19 56 51.1	+0.1
JOW				IAmb	IAmb	19 56 56.3	
	comp=Z,68nm,1.3s						
JGF	Kuroka	56.81 329		P	P	19 56 57.1	+0.2
MJAR	Matsushiro Arr	57.15 331		P	P	19 56 59.1	0.0
	comp=Z,6.9nm,0.8s,baz=166,slow=7.7,SNR=9.0						
MJAR	Matsushiro Arr	57.15 331		P	P	19 56 58.7	-0.5
MAJO	Matsushiro	57.15 331		P	P	19 56 58.8	-0.4
MAT	Matsushiro	57.15 331		P	P	19 56 59.2	0.0
MJB9	Matsu-Tunnel	57.15 331		P	P	19 56 58.6	-0.6
JWT	Wachi	57.56 328		P	P	19 57 01.9	0.0
UGM	Wanagama	57.62 269		P	P	19 57 02.7	-0.2
UGM				IAmb	IAmb	19 57 07.3	
	comp=Z,137nm,1.8s						
JSD	Sado	58.33 332		P	P	19 57 07.4	+0.4
JSD				IAmb	IAmb	19 57 36.8	
	comp=Z,85nm,1.2s						
SBUM	Sibu	58.38 281		P	P	19 57 09.0	+1.1
JNU	Nakatsue	58.49 323		P	P	19 57 08.4	+0.1
	comp=Z,10nm,0.8s,baz=102,slow=3.5,SNR=4.7						
JNU	Nakatsue	58.49 323		P	P	19 57 08.1	-0.3
JHS	Saijyo	58.57 326		P	P	19 57 08.7	-0.1
JHS				IAmb	IAmb	19 57 31.1	
	comp=Z,40nm,1.5s						
TPUB	Ta-pu	59.47 307		P	P	19 57 13.5	-1.5
TPUB				IAmb	IAmb	19 57 30.9	
	comp=Z,62nm,1.6s						
SSLB	Suanglung	59.48 308		P	P	19 57 14.1	-0.9
YHNB	Yeheng	59.64 309		P	P	19 57 15.8	-0.3
YHNB				IAmb	IAmb	19 57 17.1	
	comp=Z,24nm,0.9s						
KSM	Kuching	59.94 279		P	P	19 57 17.4	-0.9
ASAJ	Asahikawa	61.67 339		P	P	19 57 30.6	+1.7
	comp=Z,18nm,1.0s,baz=265,slow=5.0,SNR=3.6						
KSRS	Korea Array	63.25 324		P	P	19 57 40.2	+0.9
	comp=Z,2.8nm,0.8s,baz=142,slow=6.9,SNR=5.6						
VNDA	Vanda	64.68 182		P	P	19 57 48.5	+0.9
	comp=Z,1.6nm,0.6s,baz=11,slow=6.7,SNR=9.7						
VNDA	Vanda	64.68 182		P	P	19 57 48.0	+0.4
NJ2	Nanjing	65.61 314	*e*P	P	P	19 57 55.8	+1.6
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	Ussuriysk Ar.	66.09 332		P	P	19 57 58.1	+1.2
	comp=Z,7.1nm,0.8s,baz=193,slow=7.8,SNR=7.3						
PET	Petropavlovsk	66.30 353		P	P	19 57 56.4	-1.6
PET				IAmb	IAmb	19 58 15.5	
	comp=Z,56nm,1.5s						
PEA0B	Petropavlovsk-	66.50 353		P	P	19 57 58.1	-1.1
PEA0B				IAmb	IAmb	19 58 29.9	
	comp=Z,45nm,1.2s						
PETK	Petropavlovsk-	66.50 353		P	P	19 58 00.1	+0.9
	comp=Z,6.9nm,0.8s,baz=182,slow=8.9,SNR=12						
PETK	Petropavlovsk-	66.50 353		P	P	19 57 58.3	-1.0
MDJ	Mudanjiang	67.53 331		P	P	19 58 06.5	+0.8
MDJ				IAmb	IAmb	19 58 08.3	
	comp=Z,20nm,1.1s						
WHN	Wuhan	68.03 311	⇑P	P	P	19 58 10.0	+1.0
UBPT	Khong Chiam	68.83 292		P	P	19 58 14.8	+0.7
IPM	Ipoh	69.67 280		P	P	19 58 19.1	-0.2
IPM				IAmb	IAmb	19 58 20.6	
	comp=Z,16nm,1.1s						
UNV	Unalaska Valle	69.74 15		P	P	19 58 18.6	-0.1
KLR	Kul'dur	70.08 335		P	P	19 58 22.2	+1.3
	comp=Z,2.3nm,0.6s,baz=139,slow=4.8,SNR=6.9						
KULM	Kulim	70.25 280		P	P	19 58 23.1	+0.4
LYN	LuoYang	71.45 313	⇑P	P	P	19 58 30.5	+1.3
LYN				pmax	pmax		
	comp=Z,20nm,0.8s						
ENH	Enshi	71.56 308		P	P	19 58 30.2	+0.2
ENH				IAmb	IAmb	19 58 31.2	
	comp=Z,11nm,0.8s						
BJI	Beijing	71.96 320		P	P	19 58 33.2	+1.2
BJI				S	SKiKP	20 07 02.4	-0.8
BJI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,86nm,5.7s						
GYA	Guiyang	72.11 303	⇑P	P	P	19 58 34.3	+0.9
GYA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GSI	Gunungsitoli	72.21 276		P	P	19 58 34.1	0.0
GSI				IAmb	IAmb	19 58 35.7	
	comp=Z,23nm,0.8s						
SLVN	Son La	72.40 297		P	P	19 58 35.6	+0.6
CHGN	Chignik	74.16 18		P	P	19 58 43.3	-0.9
KMI	Kunming	74.82 301	⇓P	P	P	19 58 51.2	+2.3
KMI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
HHC	Hu-ho-hao-te	75.34 319	*e*P	P	P	19 58 54.3	+3.0
HHC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,80nm,5.4s						
CMAR	Chiang Mai Arr	75.78 293		P	P	19 58 55.4	+1.4
	comp=Z,7.5nm,0.9s,baz=116,slow=4.1,SNR=17						
CMAR	Chiang Mai Arr	75.78 293		P	P	19 58 54.1	+0.1
CHTO	Chiang Mai	75.89 293		P	P	19 58 54.8	+0.1
PZH	PanZhiHua	76.17 302		P	P	19 58 56.2	0.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,6.3s						
SEY	Seymchan	76.74 352		P	P	19 58 59.1	+0.8
	comp=Z,3.6nm,0.7s,baz=136,slow=6.9,SNR=20						
LZH	Lanzhou	78.39 311	⇑P	P	P	19 59 10.0	+2.0
LZH				pP	pwP	20 01 18.5	-0.9
LZH				pmax	pmax		
	comp=Z,14nm,1.6s						
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
BILL	Bilibino	80.79 359		P	P	19 59 19.6	0.0
YAK	Yakutsk	80.83 342		P	P	19 59 20.6	+0.7
	comp=Z,2.9nm,0.5s,baz=152,slow=1.0,SNR=4.4						
YAK	Yakutsk	80.83 342		P	P	19 59 20.5	+0.6
YAK				IAmb	IAmb	19 59 21.9	
	comp=Z,9.2nm,0.7s						
PWL	Port Wells	80.98 20		P	P	19 59 21.0	+0.2
KNK	Knik Glacier	81.36 19		P	P	19 59 23.0	+0.3
KNK				IAmb	IAmb	19 59 55.5	
	comp=Z,69nm,1.8s						
PPLA	Purkeypile	81.37 17		P	P	19 59 22.2	-0.7
PPLA				IAmb	IAmb	19 59 38.0	
	comp=Z,57nm,1.8s						
SML	Sawmill	81.69 19		P	P	19 59 23.7	-0.7
SML				IAmb	IAmb	19 59 37.3	
	comp=Z,56nm,1.6s						
ULN	Ulaanbaatar	81.71 323		P	P	19 59 25.2	+0.2
CAST	Castle Rocks	81.81 17		P	P	19 59 24.2	-0.8
CAST				IAmb	IAmb	19 59 25.6	
	comp=Z,11nm,0.7s						
J20K	Nowinta River	81.87 15		P	P	19 59 24.5	-0.6
HMT	Hamilton	82.00 21		P	P	19 59 25.4	-0.6
SCM	Sheep Creek Mo	82.03 19		P	P	19 59 25.3	-0.9
SONM	Songino Array	82.08 323		P	P	19 59 26.9	+0.1
	comp=Z,1.8nm,0.5s,baz=138,slow=5.9,SNR=5.8						
SONM	Songino Array	82.08 323		P	P	19 59 26.6	-0.2
BERG	Berg Lake	82.24 22		P	P	19 59 26.8	-0.3
KTH	Kantishna Hill	82.25 17		P	P	19 59 26.5	-0.7
KTH				IAmb	IAmb	19 59 29.1	
	comp=Z,29nm,1.8s						
KLU	Klutina	82.25 20		P	P	19 59 26.8	-0.5
KLU				IAmb	IAmb	19 59 42.0	
	comp=Z,37nm,1.6s						
WAX	Waxell Ridge	82.59 22		P	P	19 59 30.0	+1.1
GTA	Gaotai	82.66 313	*e*P	P	P	19 59 30.7	+0.8
GTA				pP	pP	20 01 38.5	-2.1
GTA				sP	sP	20 02 28.9	-14
GTA				pmax	pmax		
	comp=Z,14nm,0.9s						
RND	Reindeer	82.73 18		P	P	19 59 29.0	-0.6
RND				IAmb	IAmb	19 59 45.4	
	comp=Z,30nm,1.6s						
N25K	Chitina, Valde	82.78 20		P	P	19 59 30.3	+0.4
N25K				IAmb	IAmb	19 59 36.8	
	comp=Z,34nm,1.8s						
TGL	Tana Glacier	82.80 22		P	P	19 59 29.5	-0.6
TGL				IAmb	IAmb	19 59 51.4	
	comp=Z,22nm,1.2s						
ISLE	Juniper Island	82.88 22		P	P	19 59 30.5	0.0
ISLE				IAmb	IAmb	19 59 34.1	
	comp=Z,20nm,1.2s						
VRDI	Verde Repeater	82.91 21		P	P	19 59 30.6	-0.1
VRDI				IAmb	IAmb	19 59 58.6	
	comp=Z,30nm,1.6s						
DHY	Denali Highway	82.93 18		P	P	19 59 30.4	-0.3
DHY				IAmb	IAmb	19 59 34.1	
	comp=Z,16nm,1.6s						
MCK	McKinley	82.96 17		P	P	19 59 30.8	+0.1
MCK				IAmb	IAmb	19 59 34.3	
	comp=Z,25nm,1.7s						
TABL	Table Mountain	83.21 22		P	P	19 59 32.1	-0.2
TABL				IAmb	IAmb	19 59 32.9	
	comp=Z,30nm,1.3s						
I21K	Tanana	83.23 16		P	P	19 59 33.1	+1.2
I21K				IAmb	IAmb	19 59 40.5	
	comp=Z,29nm,1.8s						
H21K	Melozitna Rive	83.40 15		P	P	19 59 33.9	+1.1
IMAR	Indian Mountai	83.43 14		P	P	19 59 32.4	-0.5
BARN	Barnard Glacie	83.43 22		P	P	19 59 32.8	-0.5
BARN				IAmb	IAmb	19 59 48.9	
	comp=Z,12nm,1.2s						
CTGM	Chitina Glacie	83.49 22		P	P	19 59 33.7	+0.2
CTGM				IAmb	IAmb	19 59 42.6	
	comp=Z,17nm,1.2s						
LOGN	Logan Glacier	83.52 22		P	P	19 59 34.5	+0.8
LOGN				IAmb	IAmb	19 59 49.9	
	comp=Z,42nm,1.8s						
CRAG	Craig	83.56 29		P	P	19 59 31.5	-2.3
CCB	Clear Creek Bu	83.97 17		P	P	19 59 33.6	-2.0
HDA	Harding Lake	84.05 18		P	P	19 59 35.7	-0.3
MDM	Murphy Dome	84.08 17		P	P	19 59 35.9	-0.3
SHL	Shillong	84.21 298		P	P	19 59 37.7	-0.2
SHL				IAmb	IAmb	19 59 39.1	
	comp=Z,11nm,0.9s						
M27K	Edge Creek, AK	84.23 21		P	P	19 59 37.5	+0.4
M27K				IAmb	IAmb	20 00 00.3	
	comp=Z,22nm,1.7s						
IL31		84.33 17		P	P	19 59 36.2	-1.1
ILAR	Eielson Array	84.33 17		P	P	19 59 36.9	-0.5
	comp=Z,2.5nm,0.7s,baz=236,slow=5.1,SNR=34						
ILAR	Eielson Array	84.33 17			P	19 59 36.6	-0.7
K05A	Summer Lake	84.61 44		P	P	19 59 36.6	-2.9
K05A				IAmb	IAmb	19 59 47.3	
	comp=Z,19nm,1.6s						
SCRK	Sand Creek	84.64 19		P	P	19 59 38.3	-0.8
L27K	Beaver Creek,	84.72 20		P	P	19 59 39.5	+0.2
TIXI	Tiksi	88.57 348		P	P	19 59 58.3	+1.1
	comp=Z,1.0nm,0.3s,baz=139,slow=1.1,SNR=7.2						
TIXI	Tiksi	88.57 348		P	P	19 59 57.8	+0.6
YKA	Yellowknife Ar	95.21 27		P	P	20 00 28.0	+0.1
	comp=Z,1.0nm,0.7s,baz=252,slow=4.7,SNR=12						
MKAR	Makanchi Array	97.08 316		P	P	20 00 37.2	+0.4
	comp=Z,3.1nm,0.8s,baz=101,slow=5.6,SNR=8.4						
LPAZ	La Paz	116.50 116			PKPdf	20 05 44.4	-1.6
ARCES	ARCESS Array B	118.95 346		PKP	PKiKP	20 05 48.5	0.0
	comp=Z,0.5nm,0.3s,baz=54,slow=2.3,SNR=24						
PTLB	Pontes e Lacer	124.65 119			PKPdf	20 05 58.5	-2.3
NB2	NORSAR Subarra	129.33 346		SKPa	SKPab	20 08 34.5	+1.7
	comp=Z,5.2nm,1.0s,baz=30,slow=4.3						
DAVOX	Davos/Dischmat	141.97 337		PKhKP	PKPpre	20 06 29.6	
	comp=Z,1.3nm,0.5s,baz=0.7,slow=4.0,SNR=5.9						

TAP 05 19:51:16.1, 23°.18N×121°.35E, h20km±1km, ML1.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FULB	Fuli	0.05 293		P	Pb	19 51 20.3	+0.5
	baz=293						
FULB				*e*S	Sb	19 51 23.0	+0.6
	baz=293						
CHKT	Chengkung	0.08 167		*e*P	Pb	19 51 20.4	+0.3
	baz=162						
CHKT				*e*S	Sb	19 51 23.3	+0.7
	baz=162						
ECBN	Changbin	0.17 35		*e*P	Pb	19 51 21.0	-0.7
	baz=35						
ECBN				*e*S	Sb	19 51 24.7	-0.9
	baz=35						
EYUL	Yuli	0.17 352		*e*P	Pb	19 51 21.7	-0.1
	baz=351						
EYUL				*e*S	Sb	19 51 25.6	0.0
	baz=351						
TWF1	Yuli	0.18 345		P	Pb	19 51 21.5	-0.3
	baz=347						
TWF1				S	Sb	19 51 25.5	-0.1
	baz=347						
YULB	Yu-li	0.22 348		*e*P	Pb	19 51 21.9	0.0
	baz=348						
YULB				*e*S	Sb	19 51 26.2	+0.2
	baz=348						
ELDTW	Lidau	0.30 272		P	Pb	19 51 23.3	+0.3
	baz=271						
ELDTW				*e*S	Sb	19 51 28.1	+0.5
	baz=271						
HGSD	Ruisui	0.32 13		*e*P	Pn	19 51 24.6	-1.1
	baz

OCM	Ochomogo	0.29 182	⇓eP	Pb	20 15 06.5	+0.1
VTCV	VTCV, Calle Va	0.30 133	eP	Pb	20 15 07.2	+0.7
RIMA	Rio Macho	0.43 168	⇓eP	Pb	20 15 08.8	+0.2
RIMA			eS	Sb	20 15 14.9	0.0
RIMA	Rio Macho	0.43 168	eP	Pb	20 15 08.8	+0.2
LCR2	La Lucha 2	0.45 187	⇓eP	Pb	20 15 09.0	0.0
MRVA	Moravia de Chi	0.62 126	⇑eP	Pn	20 15 12.4	-1.2
CDM	Cerro de Muert	0.66 164	⇓eP	Pb	20 15 12.9	+0.2
CDM	Cerro de Muert	0.66 164	eP	Pb	20 15 12.8	+0.2
CDM			eS	Sb	20 15 22.3	+0.5
COVE	Coope Vega, Sa	0.69 320	⇓eP	Pg	20 15 12.8	-0.1
CEDE	Laguna Cedeo	0.80 292	eP	Pg	20 15 15.1	+0.2
ARE1	Arenal 1	0.80 290	eP	Pg	20 15 15.2	+0.2
JACO	JACO, Garabito	0.87 233	eP	Pg	20 15 16.3	0.0
JTS	Las Juntas de	0.99 276	⇑eP	Pb	20 15 18.1	-0.1
JTS	Las Juntas de	0.99 276	eP	Pb	20 15 18.0	-0.1
LAFE	Finca La Fe, P	1.02 248	⇑eP	Pb	20 15 19.0	+0.4
LAFE	Finca La Fe, P	1.02 248	eP	Pb	20 15 19.0	+0.4
SRBA	San Rafael, Bu	1.11 148	eP	Pg	20 15 20.5	-0.4
CUI	Cuipilapa	1.28 292	eP	Pn	20 15 22.9	+0.3
INDI	Punta indio, G	1.56 258	eP	Pb	20 15 27.6	-0.2
HZTE	Horizontes, Gu	1.70 288	eP	Pb	20 15 29.8	-0.4
SAJU	San Juanillo,	1.74 266	eP	Pb	20 15 30.6	-0.2
ESPN	Las Esperanzas	2.02 350	eP	Pn	20 15 33.1	+0.3
ACON	Acoyapa	2.14 326	eP	Pn	20 15 34.4	0.0

*IDC **05** 20:23:29.6±7.2, 36°.12N×141°.67E, h52km±51km, mb3.4/6, mb1 3.6/8, mb1mx3.3/54, mbtmp3.7/8, ML3.5/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/52, Error ellipse: s-maj=72.0km s-min=16.2km az=76.0*

ISC 05 20:23:27.1±1.5, 36°.15N±0°.09×141°.9E±0°.1, h35km, n19, σ0§81/11, mb3.8/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	3.00	279	P	Pn	20 24 12.9	+0.8
	2.0nm,0.3s,baz=105,slow=10,SNR=89						
MJAR				LR	LR	20 25 42.5	
	comp=Z,256nm,18.0s,baz=178,slow=47						
MAT	Matsushiro	3.00	279	P	Pn	20 24 13.4	+1.3
MAT				S	Sn	20 24 46.0	-0.9
JHJ	Hachijo jima 2	3.49	210	P	Pn	20 24 18.9	+0.1
	41nm,0.3s,baz=253,slow=23,SNR=13						
JHJ				S	Sn	20 24 58.8	-0.1
	46nm,0.3s,baz=90,slow=22,SNR=6.7						
JNU	Nakatsue	9.56	255	LR	LR	20 29 36.0	
	comp=Z,128nm,19.8s,baz=50,slow=39						
USRK	Ussuriysk Ar.	11.04	320	LR	LR	20 30 09.9	
	comp=Z,69nm,19.3s,baz=94,slow=36						
KSRS	Korea Array	11.28	281	LR	LR	20 30 33.2	
	comp=Z,118nm,18.7s,baz=105,slow=38						
H11N2	WAKE ISLAND Hy	27.37	120	T	T	20 57 39.5	
	baz=313,slow=75,SNR=9.0						
H11N1	WAKE ISLAND Hy	27.38	120	T	T	20 57 48.4	
	baz=313,slow=75,SNR=8.8						
H11N3	WAKE ISLAND Hy	27.39	120	T	T	20 57 41.5	
	baz=313,slow=75,SNR=7.1						
H11S1	WAKE ISLAND Hy	28.06	122	T	T	20 58 29.3	
	baz=314,slow=76,SNR=7.0						
H11S3	WAKE ISLAND Hy	28.06	122	T	T	20 58 30.9	
	baz=314,slow=76,SNR=7.0						
H11S2	WAKE ISLAND Hy	28.08	122	T	T	20 58 31.2	
	baz=314,slow=76,SNR=7.0						
SONM	Songino Array	28.60	305	P	P	20 29 19.1	-0.9
	1.1nm,0.5s,baz=112,slow=11,SNR=5.5						
ZALV	Zalesovo Beam	42.80	313	P	P	20 31 21.1	0.0
	0.5nm,0.4s,baz=99,slow=9.5,SNR=3.9						
MKAR	Makanchi Array	44.92	303	P	P	20 31 38.3	0.0
	1.3nm,0.8s,baz=88,slow=9.4,SNR=14						
KURBB	Kurchatov Arra	46.85	309	P	P	20 31 53.0	-0.4
	0.7nm,0.4s,baz=83,slow=7.7,SNR=9.8						
FITZ	Fitzroy Crossi	56.10	199	LR	LR	20 57 22.6	
	comp=Z,125nm,18.9s,baz=64,slow=36						
WRA	Warramunga Arr	56.24	189	P	P	20 33 03.7	-0.2
	0.4nm,0.7s,baz=12,slow=7.6,SNR=3.0						
ASAR	Alice Springs	59.97	188	P	P	20 33 31.0	+1.0
	0.8nm,1.0s,baz=4.8,slow=12,SNR=4.4						

*MOS **05** 20:31:17.4±1.0, 10°.02N×126°.15E, h29km, mb5.0/20, Error ellipse: s-maj=12.5km s-min=6.3km az=103.0*
*DJA **05** 20:31:18.6±1.9, 10°.N±8°×12°.7E±°, h32km±13km, M4.8/24, mB5.1/6, mb4.5/24, MLv5.3/1, Mw(mB)4.4/6*
*BJI **05** 20:31:19.2±0.0, 9°.91N×126°.35E, h55km, mb4.4/50, mB4.8/27, Ms4.3/10, Ms7 4.1/10*
*NEIC **05** 20:31:20.9±2.0, 10°.10N±0°.06×126°.21E±0°.08, h35km±1km, mb5.0/120, Error ellipse: s-maj=13.8km s-min=9.9km az=269.0*
*MAN **05** 20:31:20.1, 10°.09N×126°.31E, h13km, mb5.2, ML4.1, MS4.2*
MAN INTENSITY II - SURIGAO CITY, SURIGAO DEL NORTE.
*IDC **05** 20:31:20.6±6.2, 10°.04N×126°.11E, h33km±47km, mb4.2/22, mb1 4.3/22, mb1mx4.2/35, mbtmp4.4/22, Error ellipse: s-maj=23.8km s-min=11.0km az=80.0*

ISC 05 20:31:21.3±0.6, 10°.11N±0°.04×126°.31E±0°.05, h42km±5km, n272, σ1§51/284, mb4.8/108, MS4.3/4, 16C-12D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.87	248	⇓eP	Pn	20 31 36.1	-1.1
SCPH				eS	Sn	20 31 47.6	-1.1
BIPH	Bislig	1.92	178	⇑eP	Pn	20 31 53.0	+1.4
BIPH				eS	Sn	20 32 16.2	+1.7
LLP	Lapu-Lapu	2.31	275	⇓iP	Pn	20 31 58.9	+1.9
LLP				i S	Sn	20 32 27.7	+3.4
TBP	Tagbilaran	2.45	260	⇓eP	Pn	20 32 00.5	+1.7
TBP				eS	Sn	20 32 30.4	+2.9
DAV	Davao City (W)	3.11	193	Pn	Pn	20 32 11.2	+3.3
	78nm,0.3s,baz=33,slow=4.4,SNR=3.4						
DAV	Davao City (W)	3.11	193		Pn	20 32 10.5	+2.5
SNPH	Sibulan	3.12	256	⇑eP	Pn	20 32 10.5	+2.3
SNPH				eS	Sn	20 32 49.6	+5.3
DCPH	Dipolog City	3.29	243	⇓eP	Pn	20 32 12.1	+1.8
DCPH				eS	Sn	20 32 50.7	+2.5
KCP	Kidapawan	3.31	201	⇓eP	Pn	20 32 12.8	+2.0
KCP				i S	Sn	20 32 52.8	+3.9
CNOP	Candoni, Negro	3.62	266	⇓eP	Pn	20 32 17.2	+2.2
CNOP				eS	Sn	20 32 59.9	+3.3
PAGZ	Pagadian	3.66	232	⇓eP	Pn	20 32 18.0	+2.5
PAGZ				eS	Sn	20 33 02.3	+4.8
RCP	Roxas	3.78	293	⇓eP	Pn	20 32 20.0	+2.8
GSPH	General Santos	4.22	199	⇑eP	Pn	20 32 25.3	+2.0
JAP	San Jose, Anti	4.34	279	⇑eP	Pn	20 32 28.7	+3.9
JCNP	Jose Panganiba	5.45	320	⇓eP	Pn	20 32 40.7	+0.6
PGP	Puerto Galera	6.23	303	⇑eP	Pn	20 32 53.9	+3.0
MYLDM	Lahad Datu	9.16	238	Pn	Pn	20 33 29.6	-1.3
TNTI	Ternate	9.34	173	Pn	Pn	20 33 32.4	-1.1
GTOI	Gorontalo	9.97	199	P	Pn	20 33 43.1	+1.0
	18nm,0.9s						
MRSI	Marisa	10.51	205	P	Pn	20 33 51.7	+2.2
	17nm,1.0s						
LBMI	Labuha	10.75	174	P	Pn	20 33 55.3	+2.5
	14nm,0.8s						
KKM	Kota Kinabalu	10.78	249	Pn	Pn	20 33 49.4	-3.9
LUWI	Luwuk	11.63	198	P	Pn	20 34 08.8	+4.0
	925nm50nm,0.9s						
LUWI	Luwuk	11.63	198	Pn	Pn	20 34 00.6	-4.2
APSI	Ampana	11.89	203	P	Pn	20 34 12.8	+4.4
	20nm,1.4s						
SANI	Sanana	12.09	182	P	Pn	20 34 12.8	+1.7
	19nm,0.9s						
AAI	Ambon	13.84	172	P	Pn	20 34 34.9	-0.1
	13nm,0.6s						
YULB	Yu-li	14.05	341		P	20 34 43.0	-1.8
FAKI	Fak Fak	14.23	155	Pn	Pn	20 34 41.1	+0.7
SSLB	Suanglung	14.53	340	Pn	Pn	20 34 44.9	+0.6
TTSI	Tana Toraja	14.58	207	P	Pn	20 34 46.9	+1.8
	274nm24nm,1.0s						
BKB	Balikpapan	14.68	220	Pn	Pn	20 34 44.4	-2.0
NACB	Ninganchiao	14.69	343	Pn	Pn	20 34 46.0	-0.4
YHNB	Yeheng	15.22	343	Pn	Pn	20 34 53.7	+0.2
YHNB				IAmb	IAmb	20 35 13.7	
	comp=Z,87nm,1.6s						
SPSI	Sidrap Palu	15.43	205	P	P	20 34 59.6	-0.5
	comp=Z,12nm,1.1s						
BNSI	Bone	15.69	203	P	P	20 35 03.0	0.0
	comp=Z,18nm,1.1s						
SBUM	Sibu	15.93	242	P	P	20 35 06.2	+0.5
JMZ	Minamidaito 2	16.30	16	Pn	Pn	20 35 07.3	0.0
KAPI	Kappang	16.39	204	P	Pn	20 35 07.0	-1.4
KAPI				pmax	pmax		
	comp=Z,22nm,1.2s						
KAPI	Kappang	16.39	204	Pn	Pn	20 35 08.0	-0.5
KBKI	Kotabaru	16.72	218	P	P	20 35 18.3	+3.8
	comp=Z,402nmcomp=Z,20nm,0.9s						
BBKI	Banjar Baru	17.67	221	P	P	20 35 29.5	+4.5
	comp=Z,8.4nm,0.9s						
MMRI	Maumere	19.06	192	P	Pn	20 35 42.8	+1.4
	comp=Z,852nmcomp=Z,29nm,0.4s						
MMRI	Maumere	19.06	192	P	P	20 35 39.1	-1.2
EDFI	Ende, Flores	19.29	194	P	Pn	20 35 47.3	+3.0
	comp=Z,7.7nm,0.6s						
SOEI	Soe	19.84	186	P	Pn	20 35 51.5	+0.7
	comp=Z,31nm,0.7s						
SOEI	Soe	19.84	186	P	P	20 35 47.3	-1.6
SOEI				IAmb	IAmb	20 36 43.0	
	comp=Z,63nm,1.3s						
BATI	Baumata	20.36	188	P	Pn	20 35 57.3	+0.6
	comp=Z,27nm,0.5s,baz=27,slow=2.7,SNR=11						
BATI	Baumata	20.36	188	P	Pn	20 35 57.4	+0.6
	comp=Z,35nm,0.7s						
JSU	Suzuyama	21.63	10	P	P	20 36 10.3	+2.3
JSU				IAmb	IAmb	20 36 22.9	
	comp=Z,88nm,1.6s						
JCJ	Chichijima	22.58	39		P	20 36 19.4	+1.1
JCJ				IAmb	IAmb	20 36 20.9	
	comp=Z,63nm,0.8s						
NJ2	Nanjing	22.90	344	eP	P	20 36 22.6	+1.1
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
JNU	Nakatsue	23.28	10	P	P	20 36 25.9	+0.4
	comp=Z,15nm,1.0s,baz=167,slow=8.7,SNR=4.9						
JNU	Nakatsue	23.28	10	P	P	20 36 25.6	+0.1
MTN	Manton Dam	23.30	168	P	P	20 36 25.7	0.0
JMN	Monobe	24.51	15	P	P	20 36 37.2	+0.3
JMN				IAmb	IAmb	20 36 41.0	
	comp=Z,57nm,1.3s						
ENH	Enshi	25.46	324	P	P	20 36 44.2	-1.3
JHS	Saijyo	25.54	13	P	P	20 36 47.1	+0.9
JHS				IAmb	IAmb	20 36 52.2	
	comp=Z,76nm,1.8s						
KNRA	Kununurra	25.74	175	P	P	20 36 47.8	-0.2
KNRA				IAmb	IAmb	20 36 53.9	
	comp=Z,22nm,0.7s						
MDSI	Maura Dua	26.39	238	P	P	20 36 56.1	+2.1
	comp=Z,693nmcomp=Z,3.6nm,0.8s						
JWT	Wachi	26.39	17	P	P	20 36 54.9	+1.0
JWT				IAmb	IAmb	20 36 59.1	
	comp=Z,166nm,2.0s						
KSRS	Korea Array	27.26	3	P	P	20 37 02.6	+1.0
	comp=Z,1.3nm,0.4s,baz=184,slow=10,SNR=6.4						
MASI	Maura Aman, Be	27.35	242	P	P	20 37 06.2	+3.4
	comp=Z,22nm,0.8s						
CM31	Chiang Mai Arr	27.75	290	P	P	20 37 05.6	-0.8
CMAR	Chiang Mai Arr	27.75	290	P	P	20 37 06.0	-0.3
	comp=Z,2.4nm,0.8s,baz=103,slow=7.2,SNR=23						
CMAR				PcP	PcP	20 40 23.2	+0.8
	comp=Z,1.1nm,0.6s,baz=69,slow=0.9,SNR=7.7						
CMAR	Chiang Mai Arr	27.75	290	P	P	20 37 05.2	-1.2
CMAR						20 40 22.8	
CMAR	Chiang Mai Arr	27.75	290	P	P	20 37 05.2	-1.2
CMAR					PcP	20 40 22.8	+0.5
CHTO	Chiang Mai	27.84	291	P	P	20 37 06.0	-1.1
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	Chiang Mai	27.84	291	P	P	20 37 06.0	-1.1
FITZ	Fitzroy Crossi	28.04	181	P	P	20 37 08.7	-0.1
	comp=Z,5.8nm,0.6s,baz=22,slow=7.2,SNR=19						
PZH	PanZhiHua	28.37	308	P	P	20 37 11.0	-0.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,4.5s						
XAN	Xi'an	28.66	329	P	P	20 37 14.0	-0.3
XAN				pP	pwP	20 37 26.9	-2.8
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
XAN				pmax	pmax		
	comp=Z,120nm,4.6s						
HNS	HongShan	29.11	341	⇑P	P	20 37 18.7	+0.5
HNS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
COEN	Coen	29.19	145	P	P	20 37 18.2	-0.8
CD2	Chengdu	29.45	318	P	P	20 37 30.9	+10
CD2				LR	LR		
	comp=N,90nm,18.4s						
CD2				LR	LR		
	comp=E,900nm,15.3s						
CD2				LR	LR		
	comp=Z,1μm,20.0s						
WB0	Warramunga Arr	30.74	165	P	P	20 37 31.2	-1.6
WRAB	Tennant Creek	30.89	165	i P	P	20 37 32.3	-1.8
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WRA	Warramunga Arr	30.89	165	P	P	20 37 33.1	-1.0
	comp=Z,1.5nm,0.8s,baz=346,slow=8.4,SNR=13						
WRA	Warramunga Arr	30.89	165	P	P	20 37 32.6	-1.5
WRA	Warramunga Arr	30.89	165	P	P	20 37 32.6	-1.5
WB2	Warramunga Arr	30.90	165	P	P	20 37 32.0	-2.1
WR0	Warramunga Arr	30.96	165	P	P	20 37 33.3	-1.4
BJT	Baijiatuau	31.12	345	P	P	20 37 36.4	+0.5
BJT				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BJT	Baijiatuau	31.12	345	P	P	20 37 36.4	+0.5
BJI	Beijing	31.14	345	P	P	20 37 36.7	+0.7
BJI				S	S	20 42 39.3	+0.4
BJI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
PATS	Pohnpei	31.81	93	P	P	20 37 40.4	-1.9
PSA00	Pilbara Seismi	32.12	191	P	P	20 37 43.5	-1.4
PSA00				IAmb	IAmb	20 37 58.4	
	comp=Z,26nm,1.2s						
PSA00	Pilbara Seismi	32.12	191	P	P	20 37 43.8	-1.1
PSA00				IAmb	IAmb	20 37 56.4	
	comp=Z,10.0nm,1.3s						
LZH	Lanzhou	32.93	325	eP	P	20 37 53.1	+1.1
LZH				pP	pP	20 38 02.9	+0.7
LZH				sP	sP	20 38 09.8	+3.1
LZH				pmax	pmax		
	comp=Z,9.0nm,1.4s						
HHC	Hu-ho-hao-te	33.28	339	eP	P	20 37 56.9	+1.9
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,78nm,5.4s						
USRK	Ussuriysk Ar.	34.32	7	P	P	20 38 05.1	+1.3
	comp=Z,3.9nm,0.7s,baz=89,slow=10,SNR=5.6						
USRK	Ussuriysk Ar.	34.32	7	P	P	20 38 02.5	-1.3
USRK	Ussuriysk Ar.	34.32	7	P	P	20 38 02.5	-1.3
AS31	Alice Springs	34.38	168	P	P	20 38 03.2	-1.4
ASAR	Alice Springs	34.38	168	P	P	20 38 04.0	-0.6
	comp=Z,0.9nm,0.4s,baz=351,slow=7.1,SNR=39						
ASAR				PcP	PcP	20 40 40.1	+0.3
	comp=Z,0.9nm,0.7s,baz=349,slow=2.1,SNR=6.2						
ASAR	Alice Springs	34.38	168	P	P	20 38 03.2	-1.5
ASAR	Alice Springs	34.38	168	P	P	20 38 03.2	-1.5
CTAO	Charters Tower	35.86	147	P	P	20 38 16.9	-0.5
CTAO				pmax	pmax		
	comp=Z,34nm,1.8s						
CTAO	Charters Tower	35.86	147	P	P	20 38 16.9	-0.5
CTAO				IAmb	IAmb	20 38 27.6	
	comp=Z,34nm,1.8s						
SHL	Shillong	36.05	300	P	P	20 38 17.2	-2.0
SHL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SHL	Shillong	36.05	300	P	P	20 38 17.2	-2.0
GTA	Gaotai	37.53	325	eP	P	20 38 31.7	+0.1
GTA				pP	pwP	20 38 44.4	-3.2
GTA				sP	sP	20 38 49.1	+2.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,42nm,4.3s						
GTA				LR	LR		
	comp=Z,88nm,15.3s						
GTA				LR	LR		
	comp=Z,87nm,16.0s						
GTA				LR	LR		
	comp=Z,290nm,16.0s						
GOMU	GeErMu	38.58	317	P	P	20 38 45.0	+4.2
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,66nm,4.9s						
KLR	Kul'dur	39.26	6	P	P	20 38 47.1	+1.3
	comp=Z,1.5nm,0.6s,baz=237,slow=4.9,SNR=5.4						
KLR	Kul'dur	39.26	6	ceP	P	20 38 45.1	-0.7
KLR				pmax	pmax		
	comp=Z,7.0nm,1.8s						
YSS	Yuzh-Sakhalins	39.28	18	eP	P	20 38 47.5	+1.5
MORW	Morawa	40.19	194	P	P	20 38 53.6	-0.2
MORW				IAmb	IAmb	20 39 14.8	
	comp=Z,69nm,1.9s						
H11N1	WAKE ISLAND Hy	40.27	71	T	T	21 22 13.4	
	baz=265,slow=74,SNR=118						
H11N2	WAKE ISLAND Hy	40.28	71	T	T	21 22 14.3	
	baz=265,slow=74,SNR=72						
H11N3	WAKE ISLAND Hy	40.29	71	T	T	21 22 17.3	
	baz=265,slow=74,SNR=100						
FORT	Forrest	40.69	178	P	P	20 38 58.4	+0.5
FORT				IAmb	IAmb	20 39 07.8	
	comp=Z,25nm,0.6s						
ULN	Ulaanbaatar	40.98	340	ceP	P	20 39 00.8	+0.5
ULN				pmax	pmax		
	comp=Z,16nm,1.0s						
ULN	Ulaanbaatar	40.98	340	P	P	20 39 00.8	+0.5
ULN				IAmb	IAmb	20 39 02.3	
	comp=Z,12nm,0.6s						
SONM	Songino Array	41.18	340	P	P	20 39 02.7	+0.8
	comp=Z,4.1nm,0.6s,baz=159,slow=9.5,SNR=9.4						
SONM	Songino Array	41.18	340	P	P	20 39 02.9	+1.0
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	Songino Array	41.18	340	P	P	20 39 02.9	+1.0
BBOO	Buckleboo	43.69	168	P	P	20 39 22.2	0.0
BBOO				IAmb	IAmb	20 39 23.4	
	comp=Z,20nm,0.8s						
STKA	Stephens Creek	44.24	161	P	P	20 39 26.9	+0.2
	comp=Z,3.9nm,0.6s,baz=337,slow=6.7,SNR=13						
STKA	Stephens Creek	44.24	161	P	P	20 39 27.1	+0.4
STKA				pmax	pmax		
	comp=Z,7.0nm,1.9s						
STKA	Stephens Creek	44.24	161	P	P	20 39 27.1	+0.4
ZAK	Zakamensk	44.42	339	eP	P	20 39 27.6	-0.5
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MOY	Mondy	46.30	338	eP	P	20 39 43.9	+0.9
MOY				pmax	pmax		
	comp=Z,17nm,1.5s						
ARMA	Armidale	47.08	150	P	P	20 39 51.4	+2.0
WMQ	Urumqi	47.37	322	eP	P	20 39 52.3	+0.9
WMQ				LR	LR		
	comp=Z,620nm,19.7s						
WMQ				LR	LR		
	comp=Z,620nm,15.5s						
WMQ				LR	LR		
	comp=Z,390nm,16.7s						
BOD	Bodaibo	48.53	351	eP	P	20 40 01.3	+1.3
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PEA0B	Petropavlovsk-	49.77	24	P	P	20 40 09.5	-0.1
PEA0B				pmax	pmax		
	comp=Z,76nm,1.5s						
PEA0B	Petropavlovsk-	49.77	24	P	P	20 40 09.5	-0.1
PETK	Petropavlovsk-	49.77	24	P	P	20 40 11.3	+1.7
	comp=Z,4.5nm,0.6s,baz=198,slow=5.3,SNR=6.8						
PETK	Petropavlovsk-	49.77	24	P	P	20 40 10.1	+0.5
PETK	Petropavlovsk-	49.77	24	P	P	20 40 10.1	+0.5
DZM	Mont Dzumac	50.72	129	P	P	20 40 19.2	+1.9
DZM				IAmb	IAmb	20 40 19.8	
	comp=Z,8.8nm,0.9s						
DGZ	Jazzator, Alta	50.92	328	i P	P	20 40 17.7	-0.9
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.7s						
YAK	Yakutsk	51.88	2	P	P	20 40 26.5	+1.2
	comp=Z,4.8nm,0.5s,baz=178,slow=1.5,SNR=10						
YAK	Yakutsk	51.88	2	eP	P	20 40 26.5	+1.2
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK	Yakutsk	51.88	2	P	P	20 40 25.6	+0.2
YAK				IAmb	IAmb	20 40 27.2	
	comp=Z,19nm,0.8s						
MK31	Makanchi Array	52.17	323	c iP	P	20 40 27.3	-0.5
MK31	Makanchi Array	52.17	323	P	P	20 40 27.0	-0.8
MK31				PcP	PcP	20 41 38.7	-0.4
MKAR	Makanchi Array	52.17	323	P	P	20 40 27.6	-0.3
	comp=Z,7.1nm,0.7s,baz=121,slow=8.3,SNR=90						
MKAR				PcP	PcP	20 41 39.3	+0.2
	comp=Z,2.3nm,0.7s,baz=105,slow=5.6,SNR=4.7						
MKAR	Makanchi Array	52.17	323	P	P	20 40 26.9	-1.0
MKAR				PcP	PcP	20 41 38.9	-0.3
MAKZ	Makanchi	52.37	323	P	P	20 40 28.5	-0.8
MAKZ						20 41 39.0	
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAKZ	Makanchi	52.37	323	P	P	20 40 28.4	-0.8
MAKZ				PcP	PcP	20 41 39.0	-0.8
MNCI	Minicoy	52.55	273	P	P	20 40 30.8	-0.3
MA2	Magadan	52.68	15	P	P	20 40 31.7	+0.4
MA2				pmax	pmax		
	comp=Z,29nm,1.5s						
MA2	Magadan	52.68	15	P	P	20 40 31.7	+0.4
MA2				IAmb	IAmb	20 41 51.4	
	comp=Z,29nm,1.5s						
KSH	Kashi	53.36	312	P	P	20 40 39.2	+2.3
ZAA0	Zalesovo Array	54.78	331	P	P	20 40 44.9	-1.8
ZALV	Zalesovo Beam	54.78	331	P	P	20 40 46.0	-0.8
	comp=Z,2.4nm,0.5s,baz=123,slow=6.7,SNR=11						
ZALV				PcP	PcP	20 41 47.8	-1.0
	comp=Z,1.5nm,0.5s,baz=126,slow=3.8,SNR=3.8						
ZALV	Zalesovo Beam	54.78	331	i P	P	20 40 46.0	-0.8
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	Zalesovo Beam	54.78	331	P	P	20 40 45.5	-1.3
ZALV				PcP	PcP	20 41 47.0	-1.8
AAK	Ala-Archa	55.46	315	i P	P	20 40 51.2	-0.9
AAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KURK	Kurchatov	56.22	326	ceP	P	20 40 56.6	-0.6
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURK	Kurchatov	56.22	326	P	P	20 40 56.5	-

ABKAR PcP **PcP** **20 42 36.5 -1.7**
THZ Tophouse 67.02 144 P **P** **20 42 10.4 +0.2**
LBZ Lake Benmore 67.21 147 P **P** **20 42 12.6 +1.3**
RPZ Rata Peaks 67.23 146 P **P** **20 42 10.0 -1.4**
LTZ Lake Taylor 67.30 145 P **P** **20 42 13.5 +1.5**
LTZ IAmb IAmb 20 43 57.3
comp=Z,21nm,1.3s
BKZ Black Stump Fm 67.64 140 P **P** **20 42 14.9 +0.8**
BKZ IAmb IAmb 20 42 16.9
comp=Z,19nm,0.8s
KHZ Kahutara 67.80 144 P **P** **20 42 13.2 -1.8**
UOSS Minazif 67.83 293 P **P** **20 42 13.5 -2.1**
PLWZ Palliser 68.29 142 P **P** **20 42 18.6 +0.5**
UNV Unalaska Valle 68.49 36 P **P** **20 42 18.1 -1.1**
ARU Arti 69.38 327 *c iP* **P** **20 42 23.4 -1.3**
ARU 20 42 47.1
ARU 20 44 55.3
ARU S **S** **20 51 28.1 -0.4**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 69.38 327 P **P** **20 42 23.0 -1.7**
ARU IAmb IAmb 20 42 24.2
comp=Z,6.7nm,0.5s
SOCY Socotra 70.79 279 P **P** **20 42 32.5 -1.7**
SDPT Sand Point 72.21 35 P **P** **20 42 42.8 +0.9**
WMR Waimanalo Ridg 73.44 71 P **P** **20 42 49.1 -0.7**
KIRV Kirov 74.60 328 *ceP* **P** **20 42 55.1 -0.8**
CHIR Chirikof Islan 75.00 35 P **P** **20 42 58.5 +0.3**
OHAK Old Harbor 76.37 33 P **P** **20 43 07.8 +1.7**
J20K Nowinta River 76.40 26 P **P** **20 43 07.8 +1.7**
J20K IAmb IAmb 20 44 31.9
comp=Z,45nm,1.9s
IMAR Indian Mountai 76.73 24 P **P** **20 43 09.3 +1.3**
KDAK Kodiak Island 76.77 33 P **P** **20 43 09.8 +1.5**
KDAK pmax pmax
comp=Z,125nm,1.5s
KDAK Kodiak Island 76.77 33 P **P** **20 43 09.8 +1.5**
H21K Melozitna Rive 77.09 25 P **P** **20 43 11.6 +1.5**
H21K IAmb IAmb 20 43 53.2
comp=Z,26nm,1.9s
CAST Castle Rocks 77.27 27 P **P** **20 43 11.8 +0.8**
CAST IAmb IAmb 20 43 53.1
comp=Z,20nm,1.7s
I21K Tanana 77.41 25 P **P** **20 43 13.1 +1.3**
I21K IAmb IAmb 20 43 23.5
comp=Z,18nm,1.4s
RAYN Ar Rayn 77.66 292 P **P** **20 43 12.3 -1.8**
RAYN pmax pmax
comp=Z,9.0nm,1.1s
RAYN Ar Rayn 77.66 292 P **P** **20 43 12.3 -1.8**
RAYN IAmb IAmb 20 43 14.4
comp=Z,8.6nm,1.1s
BPAW Bear Paw Mtn. 77.78 26 P **P** **20 43 14.3 +0.3**
BPAW IAmb IAmb 20 43 17.4
comp=Z,20nm,1.6s
KTH Kantishna Hill 77.79 27 P **P** **20 43 13.2 -0.9**
KTH IAmb IAmb 20 44 10.2
comp=Z,41nm,1.8s
COLD Coldfoot 78.22 23 P **P** **20 43 16.4 +0.1**
COLD IAmb IAmb 20 43 19.7
comp=Z,12nm,1.3s
KIV Kislovodsk 78.48 313 P **P** **20 43 17.3 -1.0**
KIV IAmb IAmb 20 44 13.6
comp=Z,9.6nm,1.1s
TOLK Toolik Lake Re 78.51 22 P **P** **20 43 19.5 +1.6**
I23K Minto, Yukon-K 78.51 25 P **P** **20 43 17.6 -0.3**
I23K IAmb IAmb 20 43 24.1
comp=Z,16nm,1.4s
MCK McKinley 78.68 27 P **P** **20 43 19.0 +0.1**
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 78.68 27 P **P** **20 43 19.0 +0.1**
MCK IAmb IAmb 20 43 23.0
comp=Z,8.7nm,0.8s
RND Reindeer 78.72 27 P **P** **20 43 18.9 -0.3**
RND pmax pmax
comp=Z,34nm,1.7s
RND Reindeer 78.72 27 P **P** **20 43 18.9 -0.3**
RND IAmb IAmb 20 46 10.4
comp=Z,34nm,1.7s
SML Sawmill 78.97 29 P **P** **20 43 20.0 -0.6**
SML Sawmill 78.97 29 P **P** **20 43 20.0 -0.6**
PWL Port Wells 78.98 30 P **P** **20 43 20.4 -0.3**
MDM Murphy Dome 78.99 26 P **P** **20 43 18.0 -2.6**
MDM IAmb IAmb 20 44 42.1
comp=Z,30nm,1.9s
WRH Wood River Hil 79.05 26 P **P** **20 43 19.3 -1.6**
WRH IAmb IAmb 20 44 32.4
comp=Z,31nm,1.9s
H24K Noodor Dome 79.13 25 P **P** **20 43 19.5 -1.9**
H24K IAmb IAmb 20 44 57.5
comp=Z,23nm,1.9s
CCB Clear Creek Bu 79.17 26 P **P** **20 43 22.1 +0.6**
CCB IAmb IAmb 20 44 00.4
comp=Z,36nm,2.0s
GURO Guroymak-BITLI 79.32 307 P **P** **20 43 23.3 +0.1**
GURO IAmb IAmb 20 43 24.5
comp=Z,10.0nm,0.7s
POKR Poker Plat Res 79.33 25 P **P** **20 43 23.6 +1.2**
DHY Denali Highway 79.39 28 P **P** **20 43 23.9 +0.9**
DHY IAmb IAmb 20 45 35.4
comp=Z,19nm,1.6s
SCM Sheep Creek Mo 79.44 29 P **P** **20 43 23.2 0.0**
SCM pmax pmax
comp=Z,113nm,1.8s
SCM Sheep Creek Mo 79.44 29 P **P** **20 43 23.1 0.0**
HDA Harding Lake 79.55 26 P **P** **20 43 23.4 -0.2**
HDA IAmb IAmb 20 46 11.1
comp=Z,38nm,2.0s
IL31 79.56 26 P **P** **20 43 23.8 +0.2**
IL31 IAmb IAmb 20 43 35.3
comp=Z,22nm,1.8s
ILAR Eielson Array 79.56 26 P **P** **20 43 23.9 +0.2**
comp=Z,1.1nm,0.7s,baz=231,slow=5.3,SNR=14
ILAR Eielson Array 79.56 26 P **P** **20 43 23.7 0.0**
ILAR Eielson Array 79.56 26 P **P** **20 43 23.7 0.0**
KLMR Klimovskoe 79.68 330 *eP* P 20 43 19.3 -5.1
KLMR pmax pmax
comp=Z,9.0nm,1.2s
KLMR Klimovskoe 79.68 330 *eP* P 20 43 19.3 -5.1
KLMR AMP 20 43 20.2
comp=Z,9.0nm,1.2s
KLU Klutina 80.13 29 P **P** **20 43 27.3 +0.4**
FYU Fort Yukon 80.19 24 P **P** **20 43 27.3 +0.3**
FYU IAmb IAmb 20 45 11.6
comp=Z,34nm,1.6s
PAX Paxson 80.26 28 P **P** **20 43 28.9 +1.2**
PAX pmax pmax
comp=Z,49nm,2.0s
PAX Paxson 80.26 28 P **P** **20 43 28.9 +1.2**
PAX IAmb IAmb 20 44 38.8
comp=Z,49nm,2.0s
BMAR Burnt Mountain 80.40 23 P **P** **20 43 28.7 +0.5**
LPSR Galich'ya Gora 80.46 322 *eP* **P** **20 43 27.3 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
N25K Chitina, Valde 80.75 29 P **P** **20 43 32.3 +2.0**
N25K IAmb IAmb 20 44 31.3
comp=Z,39nm,1.6s
DOT Dot Lake 80.85 27 P **P** **20 43 30.0 -0.7**
DOT IAmb IAmb 20 44 14.3
comp=Z,28nm,1.7s
SCRK Sand Creek 80.86 27 P **P** **20 43 30.9 0.0**
SCRK IAmb IAmb 20 43 49.0
comp=Z,20nm,1.8s
OBN Obninsk 81.64 325 ⇓*eP* **P** **20 43 34.4 -0.6**
OBN *PP **pP** **20 43 44.0 -2.7**
OBN *SP **sP** **20 43 50.0 -1.2**
OBN S **S** **20 53 44.0 -0.2**
OBN pmax pmax
comp=Z,3.0nm,0.5s
OBN MLR MLR
comp=Z,77nm,15.0s
TGL Tana Glacier 81.68 30 P **P** **20 43 37.7 +2.5**
TGL IAmb IAmb 20 45 46.8
comp=Z,31nm,1.4s
WAX Waxell Ridge 81.70 30 P **P** **20 43 36.5 +1.2**
L27K Beaver Creek, 81.91 27 P **P** **20 43 36.4 +0.1**
BCAR Beaver Creek A 81.93 27 P **P** **20 43 36.2 -0.2**
ISLE Juniper Island 81.94 30 P **P** **20 43 36.3 -0.4**
BARN Barnard Glacie 82.22 29 P **P** **20 43 37.9 -0.3**
BARN IAmb IAmb 20 43 47.0
comp=Z,48nm,1.8s
CTGM Chitina Glacie 82.39 29 P **P** **20 43 40.3 +1.3**
CTGM IAmb IAmb 20 43 42.5
comp=Z,22nm,1.2s
TABL Table Mountain 82.54 30 P **P** **20 43 40.3 +0.4**
LOGN Logan Glacier 82.56 30 P **P** **20 43 38.9 -1.1**
LOGN IAmb IAmb 20 43 55.5
comp=Z,24nm,1.2s
DAWY Dawson 82.87 26 P **P** **20 43 40.7 -0.6**
DAWY IAmb IAmb 20 44 58.2
comp=Z,26nm,1.9s
PCA Pinnacle 83.03 30 P **P** **20 43 41.8 -0.4**
SPB2 Spitsbergen Ar 84.17 349 P **P** **20 43 48.1 +0.4**
SPITS Spitsbergen Ar 84.18 349 P **P** **20 43 48.4 +0.6**
SPITS pmax pmax
comp=Z,34nm,1.2s
ARCES ARCESS Array B 84.35 340 P **P** **20 43 49.3 +0.5**
comp=Z,2.2nm,0.6s,baz=84,slow=5.5,SNR=16
ARCES ARCESS Array B 84.35 340 P **P** **20 43 49.1 +0.3**
ARCES pmax pmax
comp=Z,72nm,2.0s
ARCES ARCESS Array B 84.35 340 P **P** **20 43 49.1 +0.3**
INK Inuvik 84.42 22 P **P** **20 43 49.7 +0.6**
INK pmax pmax
comp=Z,12nm,1.4s
INK Inuvik 84.42 22 P **P** **20 43 49.7 +0.6**
INK IAmb IAmb 20 43 51.5
comp=Z,12nm,1.4s
KBS Kingsbay 84.69 350 P **P** **20 43 50.7 +0.4**
KBS pmax pmax
comp=Z,91nm,1.7s
KBS Kingsbay 84.69 350 P **P** **20 43 50.7 +0.4**
BRTR Keskin Array B 85.66 309 P **P** **20 43 54.7 -1.4**
comp=Z,2.2nm,0.7s,baz=107,slow=4.1,SNR=4.6
FINES FINESS Array B 86.05 332 P **P** **20 43 56.9 -0.4**
comp=Z,3.5nm,0.6s,baz=83,slow=5.9,SNR=15
A36M Sachs Harbour 86.05 17 P **P** **20 43 58.4 +1.2**
A36M IAmb IAmb 20 44 00.2
comp=Z,18nm,0.8s
AKASG Malin Array Be 86.71 321 P **P** **20 43 59.7 -1.2**
comp=Z,0.5nm,0.4s,baz=63,slow=5.1,SNR=6.9
C36M Paulatuk 87.38 20 P **P** **20 44 04.4 +0.7**
C36M IAmb IAmb 20 44 10.2
comp=Z,7.7nm,0.6s
EUNU Eureka 88.41 5 P **P** **20 44 09.3 +0.7**
EUNU IAmb IAmb 20 45 30.6
comp=Z,11nm,1.5s
BUR08 Bucovina Ar. S 89.99 318 P **P** **20 44 16.0 -0.7**
BUR08 IAmb IAmb 20 45 22.9
comp=Z,36nm,1.9s
DAG Danmarks Havn 90.91 352 P **P** **20 44 20.5 +0.3**
RES Resolute Bay 91.64 10 P **P** **20 44 25.3 +1.7**
RES pmax pmax
comp=Z,12nm,2.5s
YKA Yellowknife Ar 93.89 24 P **P** **20 44 35.3 +1.1**
comp=Z,3.1nm,0.7s,baz=300,slow=4.5,SNR=57
GERES GERESS Array B 96.84 322 P **P** **20 44 47.9 -0.2**
comp=Z,0.7nm,0.7s,baz=52,slow=5.2,SNR=6.1
SYO Syowa Base 98.19 201 ⇓*eP*Pdiff Pdif 20 44 54.2 +0.7
SYO Syowa Base 98.19 201 ⇓*eP*P pP 20 45 06.0 +0.9
TXAR Lajitas Array 117.90 49 PKP **PKiKP** **20 50 05.9 +1.6**
comp=Z,0.4nm,0.6s,baz=140,slow=0.1,SNR=5.1
TORD Torodi Ar. Bea 120.36 292 PKP **PKPdf** **20 50 08.5 -0.7**
comp=Z,1.4nm,0.7s,baz=43,slow=1.7,SNR=10
PLCA Paso Flores 146.05 157 PKPbc **PKPab** **20 50 58.4 +0.7**
comp=Z,2.8nm,0.7s,baz=299,slow=4.2,SNR=11

TAP 05 20:34:34.4, 22.80N×120.82E, h44km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen** baz=253	**0.18**	**254**	P	Pn	20 34 42.4	+0.5
SSD	baz=253			*eS*	Sn	20 34 47.9	+0.7
TSMG	**Majia** baz=240	**0.18**	**240**	*eP*	Pn	20 34 41.9	0.0
SLGT	**Liugui** baz=322	**0.25**	**322**	*eP*	Pn	20 34 43.6	+1.1
SLGT	baz=322			*eS*	Sn	20 34 49.5	+1.3
LONT	**Longtian** baz=77	**0.31**	**69**	*eP*	Pn	20 34 44.1	+1.0
LONT	baz=77			*eS*	Sn	20 34 50.3	+1.1
SGST	**Jiashian** baz=324	**0.36**	**323**	*eP*	Pn	20 34 44.4	+0.8
SGST	baz=324			*eS*	Sn	20 34 50.1	0.0
STYH	**Taoyuan** baz=354	**0.38**	**354**	*eP*	Pn	20 34 44.2	+0.4
ELDTW	**Lidau** baz=26	**0.43**	**25**	*eP*	Pn	20 34 44.4	-0.2
CHN1	**Nanshi** baz=326	**0.47**	**326**	*eP*	Pn	20 34 45.7	+0.8
EDH	**Donghe** baz=78	**0.48**	**69**	*eS*	Sn	20 34 53.7	+1.0
WTP	**Ta-pu** baz=338	**0.49**	**338**	*eP*	Pn	20 34 45.7	+0.6
TPUB	**Ta-pu** baz=330	**0.53**	**341**	*eP*	Pn	20 34 46.0	+0.2
TPUB	**Ta-pu**	**0.53**	**341**	P	Pn	20 34 45.8	0.0
TWK	**Hsinying** baz=328	**0.56**	**327**	*eP*	Pn	20 34 46.9	+0.8
ALS	**Alishan** baz=348	**0.71**	**359**	*eP*	Pn	20 34 48.1	-0.2
CHN5	**Tsauling** baz=351	**0.81**	**351**	*eP*	Pn	20 34 49.2	-0.2

BJI ***05*** *20:36:10.2±0.0, 9°.64N×126°.41E, h20km, mb4.8/68, mB5.0/43, Ms4.5/53, Ms7 4.4/52*
MOS ***05*** *20:36:15.1±0.9, 10°.02N×126°.07E, h28km, mb5.2/47, MS4.1/7, Error ellipse: s-maj=10.0km s-min=4.6km az=113.6*
DJA ***05*** *20:36:16.9±0.9, 10°N±7°×12°7E±°, h43km±6km, M4.8/56, mB5.2/28, mb4.9/56, MLv5.7/1, Mw(mB)4.6/28*
MAN ***05*** *20:36:16.6, 10°.14N×126°.34E, h10km, mb5.8, ML4.8, MS5.2*
MAN INTENSITY III - BURGOS, SURIGAO DEL NORTE; INTENSITY II SURIGAO CITY, SURIGAO DEL NORTE; INTENSITY I - MAINIT, SURIGAO DEL NORTE.
IDC ***05*** *20:36:17.6±2.9, 10°.07N×126°.11E, h28km±19km, mb4.6/28, mb1 4.7/30, mb1mx4.7/34, mbtmp4.8/30, ML4.4/1, MS4.1/56, Ms1 4.1/56, ms1mx4.1/75, Error ellipse: s-maj=17.4km s-min=9.4km az=73.0*
NEIC ***05*** *20:36:17.6±1.7, 10°.12N±0°.06×126°.18E±0°.08, h25km±3km, mb5.2/130, Error ellipse: s-maj=12.1km s-min=9.3km az=83.0*
GCMT ***05*** *20:36:18.6±0.3, 10°.15N±0°.02×126°.46E±0°.02, h31km, MW5.0/79, Moment Tensor Solution. s42,c50; s79,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.59±.16; $M_{\theta\theta}$0.60±.09; $M_{\phi\phi}$-3.20±.11; $M_{r\theta}$1.54±.13; $M_{\theta\phi}$-0.45±.08; $M_{\phi r}$0.24±.14; Best double couple: $M_0$3.35700×10^{16} NP1:ϕ_s161.00000°, δ47.00000°, λ50.00000°. NP2: ϕ_s32.00000°, δ56.00000°, λ125.00000°. Principal axes: T 3.4290, Plg61.0000°, Azm0.0000°; N -0.1530, Plg28.0000°, Azm191.0000°; P -3.2840, Plg4.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 20:36:17.8±0.4, 10°.05N±0°.03×126°.22E±0°.03, h32km±2km, h32km:pP-P, n598, σ1§59/608, mb5.0/160, MS4.2/76, 42C-15D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.77**	**249**	⇓*eP*	**Pb**	**20 36 33.6**	**+0.8**
SCPH				*eS*	**Sn**	**20 36 45.1**	**+2.1**
BIPH	**Bislig**	**1.86**	**176**	⇑*iP*	**Pb**	**20 36 50.1**	**-1.2**
BIPH				*i* S	**Sb**	**20 37 12.7**	**-1.5**
LLP	**Lapu-Lapu**	**2.23**	**277**	⇓*iP*	**Pb**	**20 36 56.3**	**-1.3**
LLP				*i* S	**Sb**	**20 37 25.6**	**+0.8**
TBP	**Tagbilaran**	**2.35**	**261**	⇓*iP*	**Pb**	**20 36 58.0**	**-1.6**
TBP				*i* S	**Sb**	**20 37 29.0**	**+0.8**
SNPH	**Sibulan**	**3.02**	**257**	⇓*eP*	**Pb**	**20 37 07.5**	**-3.5**
SNPH				*eS*	**Sb**	**20 37 43.9**	**-3.7**
DAV	**Davao City (W)** 147nm,0.3s,baz=265,slow=3.7,SNR=9.7	**3.03**	**192**	Pn	**Pb**	**20 37 08.1**	**-3.0**
DAV	comp=Z,8μm,18.9s,baz=42,slow=47			LR	LR	20 38 40.0	
DAV	**Davao City (W)**	**3.03**	**192**		**Pn**	**20 37 07.0**	**+3.4**
DCPH	**Dipolog City**	**3.19**	**243**	⇑*eP*	**Pb**	**20 37 09.8**	**-3.9**
DCPH				*eS*	**Sb**	**20 37 47.6**	**-4.5**
KCP	**Kidapawan**	**3.23**	**200**	⇑*iP*	**Pn**	**20 37 09.8**	**+3.5**
KCP				*i* S	**Sb**	**20 37 50.5**	**-2.9**
CNOP	**Candoni, Negro**	**3.53**	**267**	⇓*iP*	**Pn**	**20 37 14.7**	**+4.2**
CNOP				*eS*	**Sb**	**20 37 57.6**	**-4.5**
PAGZ	**Pagadian**	**3.56**	**232**	⇑*eP*	**Pn**	**20 37 15.4**	**+4.5**
PAGZ				*eS*	**Sb**	**20 37 58.6**	**-4.3**
RCP	**Roxas**	**3.73**	**294**	⇓*eP*	**Pn**	**20 37 16.9**	**+3.7**
GSPH	**General Santos**	**4.14**	**198**	⇑*eP*	**Pn**	**20 37 22.7**	**+3.8**
GSPH				*i* S	**Sb**	**20 38 14.8**	**-4.9**
JAP	**San Jose, Anti**	**4.26**	**280**	⇓*eP*	Pn	20 37 25.8	+5.3
JCNP	**Jose Panganiba**	**5.44**	**321**	⇑*eP*	**Pn**	**20 37 38.3**	**+1.6**
JCNP				*eS*	**Sn**	**20 38 41.0**	**+2.8**
PGP	**Puerto Galera**	**6.19**	**304**	⇑*iP*	**Pn**	**20 37 51.6**	**+4.5**
SGSI	**Sangihe** 2.4nm364nm,0.8s	**6.36**	**186**	P	**Pn**	**20 37 53.1**	**+3.6**
I39PW	**PALAU INFRASON** baz=285,slow=309,SNR=1.8	**8.60**	**106**	*i*		21 31 40.0	
MYLDM	**Lahad Datu**	**9.05**	**238**	Pn	**Pn**	**20 38 29.2**	**+2.9**
TNTI	**Ternate** 1μm71nm,0.8s	**9.29**	**173**	P	**Pn**	**20 38 33.7**	**+4.0**
TNTI	**Ternate**	**9.29**	**173**		**Pn**	**20 38 29.8**	**+0.1**
KMSI	**Cibinong** 2μm114nm,0.9s	**9.68**	**193**	P	**Pn**	**20 38 39.0**	**+4.1**
GTOI	**Gorontalo** 430nm57nm,0.9s	**9.89**	**199**	P	**Pn**	**20 38 39.9**	**+2.1**
TOLI2	**Tolitoli**	**10.40**	**212**	Pn	**Pn**	**20 38 45.0**	**+0.1**
MRSI	**Marisa** 45nm,1.0s	**10.42**	**204**	P	**Pn**	**20 38 48.8**	**+3.6**
KKM	**Kota Kinabalu**	**10.68**	**249**		**Pn**	**20 38 48.1**	**-0.7**
KKM	**Kota Kinabalu**	**10.68**	**249**	P	Pn	20 39 02.1	+13
LBMI	**Labuha** 695nm56nm,1.2s	**10.70**	**173**	P	**Pn**	**20 38 52.8**	**+3.8**
LUWI	**Luwuk** 2μm215nm,1.0s	**11.54**	**197**	P	Pn	20 39 05.5	+5.0
APSI	**Ampana** 746nm59nm,0.9s	**11.80**	**203**	P	Pn	20 39 08.9	+4.8
SWI	**Sorong**	**11.95**	**155**	P	**Pn**	**20 39 06.7**	**+0.6**
SWI				pmax	pmax		
	comp=Z,37nm,0.8s						
SWI	**Sorong** comp=Z,37nm,0.8s	**11.95**	**155**	P	**Pn**	**20 39 05.8**	**-0.3**
SIJI	**Sorong** comp=Z,2.1nm,0.3s,baz=331,slow=17,SNR=5.6	**11.96**	**155**	Pn	**Pn**	**20 39 08.6**	**+2.3**
MSAI	**Masohi** comp=Z,447nmcomp=Z,22nm,1.0s	**13.58**	**168**	P	**P**	**20 39 32.9**	**-4.1**
AAI	**Ambon** comp=Z,53nm,1.3s	**13.79**	**172**	P	**Pn**	**20 39 34.6**	**+3.3**
YULB	**Yu-li**	**14.07**	**341**	P	**P**	**20 39 39.9**	**-2.5**
TPUB	**Ta-pu**	**14.21**	**339**	P	**P**	**20 39 43.4**	**-0.6**
FAKI	**Fak Fak** comp=Z,1μmcomp=Z,82nm,1.0s	**14.22**	**155**	P	**Pn**	**20 39 39.0**	**+1.9**
FAKI	**Fak Fak**	**14.22**	**155**	Pn	**Pn**	**20 39 38.3**	**+1.2**
TTSI	**Tana Toraja** comp=Z,703nmcomp=Z,64nm,1.1s	**14.49**	**206**	P	**P**	**20 39 46.5**	**-0.6**
SSLB	**Suanglung**	**14.55**	**340**		**P**	**20 39 47.2**	**-0.6**
YHNB	**Yeheng**	**15.25**	**343**	P	**P**	**20 39 53.9**	**-1.7**
SPSI	**Sidrap Palu** comp=Z,978nmcomp=Z,38nm,0.9s	**15.34**	**205**	P	**P**	**20 39 56.9**	**+0.4**
BNSI	**Bone** comp=Z,2μmcomp=Z,71nm,1.2s	**15.60**	**203**	P	**P**	**20 39 59.1**	**-0.3**
MTKI	**Muara Teweh, K**	**15.70**	**227**	P	**P**	**20 40 02.7**	**+2.2**
SBUM	**Sibu**	**15.82**	**242**		**P**	**20 40 02.5**	**+0.6**
BBSI	**Bau Bau** comp=Z,74nmcomp=Z,5.9nm,1.0s	**15.86**	**193**	P	**P**	**20 40 02.0**	**-0.3**
KAPI	**Kappang** comp=Z,0.7nm,0.3s,baz=47,slow=6.3,SNR=8.8	**16.30**	**204**	Pn	**P**	**20 40 07.2**	**+0.1**
KAPI				LR	LR	20 46 50.5	
	comp=Z,711nm,20.1s,baz=26,slow=39						
KAPI	**Kappang**	**16.30**	**204**	P	**P**	**20 40 06.2**	**-1.0**
KAPI	comp=Z,44nm,1.0s			pmax	pmax		
KAPI	**Kappang**	**16.30**	**204**		**P**	**20 40 06.2**	**-1.0**
BKSI	**Bulukumba** comp=Z,471nmcomp=Z,24nm,1.6s	**16.44**	**202**	P	**P**	**20 40 09.7**	**+1.0**
KBKI	**Kotabaru** comp=Z,645nmcomp=Z,68nm,1.0s	**16.62**	**218**	P	**P**	**20 40 15.2**	**+4.5**
JOW	**Kunigami** comp=Z,830nm,22.0s,baz=155,slow=33	**16.80**	**6**	LR	LR	20 45 33.3	
JOW	**Kunigami**	**16.80**	**6**		**Pn**	**20 40 10.4**	**-0.4**
JOW	comp=Z,172nm,1.2s			IAmb	IAmb	20 40 17.7	
BSSI	**Bau Bau, Buton** comp=Z,328nmcomp=Z,26nm,1.3s	**17.07**	**200**	P	**P**	**20 40 19.5**	**+3.7**
DLV	**T Lat**	**17.51**	**278**	P	**Pn**	**20 40 20.0**	**+0.1**
BBKI	**Banjar Baru** comp=Z,27nm,1.1s	**17.57**	**221**	P	**P**	**20 40 26.6**	**+5.3**
STKI	**Sintang** comp=Z,38nm,1.2s	**17.71**	**237**	P	**P**	**20 40 27.2**	**+4.4**
KSM	**Kuching**	**17.97**	**243**	P	**P**	**20 40 27.1**	**+1.5**
QIZ	**Qiongzhong**	**18.18**	**301**	P	**P**	**20 40 28.9**	**+1.0**
QIZ				S	**Sn**	**20 43 50.1**	**+0.1**
QIZ				pmax	pmax		
	comp=Z,14nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,200nm,6.9s						
QIZ				LR	LR		
	comp=Z,510nm,15.9s						
QIZ				LR	LR		
	comp=Z,900nm,16.9s						
QIZ				LR	LR		
	comp=Z,1μm,17.7s						
QIZ	**Qiongzhong**	**18.18**	**301**	P	**P**	**20 40 28.2**	**+0.3**
GUMO	**Guam** comp=Z,689nm,20.6s,baz=258,slow=31	**18.59**	**77**	LR	LR	20 45 55.3	
SAUI	**Saumlaki** comp=Z,185nm,1.4s	**18.62**	**164**	P	**P**	**20 40 32.4**	**-0.4**
SAUI	**Saumlaki**	**18.62**	**164**	P	**P**	**20 40 31.9**	**-1.0**
SAUI	comp=Z,152nm,1.0s			IAmb	IAmb	20 40 41.6	
SAUI	**Saumlaki**	**18.62**	**164**	P	**P**	**20 40 28.1**	**-4.7**
GENI	**Genyem** comp=Z,3μmcomp=Z,104nm,1.5s	**18.73**	**131**	P	**P**	**20 40 31.8**	**-2.3**
MMRI	**Maumere** comp=Z,963nmcomp=Z,80nm,0.9s	**18.98**	**192**	P	**Pn**	**20 40 40.5**	**+2.8**
MMRI	**Maumere**	**18.98**	**192**		**Pn**	**20 40 39.5**	**+1.8**
MMRI	comp=Z,104nm,1.1s			IAmb	IAmb	20 41 01.0	
JAY	**Jayapura**	**19.08**	**130**	P	**P**	**20 40 38.3**	**+0.3**
EDFI	**Ende, Flores** comp=Z,18nm,0.9s	**19.22**	**194**	P	**Pn**	**20 40 42.6**	**+2.0**
PBKI	**Pangkalan Bun** comp=Z,1μmcomp=Z,124nm,1.1s	**19.25**	**230**	P	**Pn**	**20 40 45.1**	**+4.2**
SOEI	**Soe** comp=Z,2μmcomp=Z,127nm,0.8s	**19.77**	**186**	P	**Pn**	**20 40 50.2**	**+2.9**
SOEI	**Soe**	**19.77**	**186**		**Pn**	**20 40 48.5**	**+1.2**
SOEI	comp=Z,198nm,1.2s			IAmb	IAmb	20 41 40.5	
SOEI	**Soe**	**19.77**	**186**	P	**P**	**20 40 44.1**	**-1.5**
BATI	**Baumata** comp=Z,100nm,0.7s,baz=35,slow=1.0,SNR=26	**20.29**	**187**	P	Pn	20 40 54.6	+1.4
BATI	**Baumata** comp=Z,1μmcomp=Z,131nm,1.0s	**20.29**	**187**	P	Pn	20 40 54.0	+0.8
BWJI	**Bawean** comp=Z,178nm,1.2s	**20.79**	**221**	P	Pn	20 41 01.1	+2.1
UBPT	**Khong Chiam**	**20.89**	**287**	P	**P**	**20 40 58.4**	**+0.7**
SRBI	**Singaraja** comp=Z,34nm,0.9s	**21.09**	**212**	P	**P**	**20 41 05.4**	**+5.7**
JAGI	**Jajag, Banyuwa** comp=Z,44nm,1.1s	**21.98**	**214**	P	**P**	**20 41 14.5**	**+5.2**
GMJI	**Gumukmas** comp=Z,49nm,1.4s	**22.21**	**215**	P	**P**	**20 41 15.3**	**+3.5**
UWJI	**Ujung Watu** comp=Z,4μmcomp=Z,106nm,1.1s	**22.34**	**224**	P	**P**	**20 41 18.2**	**+5.0**
JCJ	**Chichijima**	**22.68**	**39**	P	**P**	**20 41 15.2**	**-1.5**
NJ2	**Nanjing**	**22.93**	**344**	⇑P	**P**	**20 41 17.8**	**-1.4**
NJ2				pP	**sP**	**20 41 29.3**	**-1.1**
NJ2				sP	**pP**	**20 41 34.1**	**+6.5**
NJ2				S	**S**	**20 45 27.2**	**0.0**
NJ2				sS	**sS**	**20 45 42.4**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,81nm,1.0s						
SMRI	**Semarang** comp=Z,111nm,1.2s	**23.14**	**223**	P	**P**	**20 41 25.8**	**+4.2**
SMRI	**Semarang**	**23.14**	**223**	P	**P**	**20 41 21.7**	**0.0**
WHN	**Wuhan**	**23.19**	**333**	⇑P	**P**	**20 41 21.9**	**0.0**
WHN				pP	**pP**	**20 41 26.0**	**-4.2**
WHN				S	**S**	**20 45 30.4**	**-1.3**
WHN				LR	LR		
	comp=Z,1μm,14.5s						
MTN	**Manton Dam**	**23.27**	**168**	P	**P**	**20 41 22.1**	**-0.7**
MTN	comp=Z,62nm,1.1s			IAmb	IAmb	20 41 24.7	
JNU	**Nakatsue**	**23.36**	**10**	P	**P**	**20 41 23.8**	**+0.2**

comp=Z,43nm,1.0s,baz=159,slow=5.7,SNR=14
JNU LR LR 20 51 47.2
comp=Z,179nm,18.7s,baz=169,slow=40
JNU Nakatsue 23.36 10 P P 20 41 22.7 -0.9
JNU IAmb IAmb 20 41 25.7
comp=Z,59nm,1.0s
KDU Kakadu 23.43 164 P P 20 41 22.8 -1.6
MYKOM Kota Tinggi 23.70 251 P P 20 41 28.9 +1.9
DSRI Dabo 23.94 245 P P 20 41 29.6 +0.2
comp=Z,497nmcomp=Z,19nm,1.1s
SLVN Son La 24.20 300 P P 20 41 31.0 -0.8
JMN Monobe 24.59 15 P P 20 41 35.5 +0.3
JMN IAmb IAmb 20 41 38.2
comp=Z,92nm,1.0s
GYA Guiyang 24.66 314⇑ iP P 20 41 37.2 +1.2
GYA S S **20 45 59.2 +3.5**
GYA pmax pmax
comp=Z,11nm,1.1s
GYA LR LR
comp=Z,710nm,16.7s
GYA LR LR
comp=Z,830nm,14.4s
GYA LR LR
comp=Z,1μm,16.4s
CBJI Citeko 25.30 230 P P 20 41 46.2 +4.5
comp=Z,2μmcomp=Z,48nm,1.1s
ENH Enshi 25.45 325 P P 20 41 42.2 -0.8
ENH **PcP 20 45 14.3 -0.4**
IPM Ipoh 25.59 259 P P 20 41 43.4 -1.0
JHS Saijyo 25.62 13 P P 20 41 44.0 -0.4
JHS IAmb IAmb 20 41 50.0
comp=Z,94nm,1.6s
KNRA Kununurra 25.69 174 P P 20 41 45.2 0.0
KNRA IAmb IAmb 20 41 49.4
comp=Z,71nm,0.8s
KULM Kulim 25.77 261 P P 20 41 46.5 +0.4
KLI Kotabumi 25.93 236 P P 20 41 50.1 +2.6
comp=Z,2μmcomp=Z,51nm,0.9s
JHJ Hachijo jima 2 26.14 27 LR LR 20 52 12.9
comp=Z,354nm,19.1s,baz=229,slow=36
MDSI Maura Dua 26.28 238 P P 20 41 53.1 +2.5
comp=Z,376nmcomp=Z,12nm,1.2s
JWT Wachi 26.47 17 P P 20 41 51.7 -0.4
JWT IAmb IAmb 20 42 12.6
comp=Z,146nm,1.9s
LWLI Liwa 26.67 237 P P 20 41 55.8 +1.5
comp=Z,77nm,0.8s
KMI Kunming 26.86 307 ⇓P P 20 41 58.2 +2.1
KMI S S **20 46 32.6 +1.6**
KMI PcS **PcS 20 48 57.6 -2.4**
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI pmax pmax
comp=Z,43nm,4.0s
KMI LR LR
comp=Z,430nm,18.9s
KMI LR LR
comp=Z,390nm,21.2s
KMI LR LR
comp=Z,650nm,19.5s
MASI Maura Aman, Be 27.24 242 P P 20 41 59.2 -0.2
comp=Z,35nm,1.0s
KSAR Wonju Array Be 27.31 3 P P 20 41 59.1 -0.5
KSAR Wonju Array Be 27.31 3 P P 20 41 59.1 -0.5
TIA Tai'an 27.32 344 ⇑P P 20 42 00.0 +0.2
TIA S S **20 46 34.5 -2.9**
TIA pmax pmax
comp=Z,15nm,1.1s
TIA LR LR
comp=Z,280nm,21.1s
TIA LR LR
comp=Z,150nm,9.3s
TIA LR LR
comp=Z,380nm,19.6s
KSRS Korea Array 27.32 3 P P 20 42 00.0 +0.3
comp=Z,10nm,1.0s,baz=178,slow=10,SNR=21
KSRS LR LR 20 55 17.0
comp=Z,251nm,18.4s,baz=180,slow=42
LYN LuoYang 27.44 335 eP P 20 42 01.7 +0.9
LYN S S **20 46 39.1 -0.2**
LYN pmax pmax
comp=Z,110nm,5.7s
LYN LR LR
comp=Z,350nm,20.8s
LYN LR LR
comp=Z,360nm,16.7s
LYN LR LR
comp=Z,440nm,16.9s
CM31 Chiang Mai Arr 27.69 291 P P 20 42 03.5 +0.2
CM31 IAmb IAmb 20 42 14.2
comp=Z,31nm,0.9s
CMAR Chiang Mai Arr 27.69 291 P P 20 42 03.4 0.0
comp=Z,12nm,1.0s,baz=103,slow=7.1,SNR=73
CMAR PcP **PcP 20 45 20.6 +0.6**
comp=Z,3.1nm,0.8s,baz=88,slow=1.0,SNR=10
CMAR ScP **ScP 20 48 57.8 -0.8**
comp=Z,0.7nm,0.8s,baz=86,slow=1.6,SNR=5.3
CMAR Chiang Mai Arr 27.69 291 P P 20 42 03.2 -0.1
CMAR Chiang Mai Arr 27.69 291 P P 20 42 03.2 -0.1
CMAR **PcP 20 45 20.9 +0.9**
PPI Padang Panjang 27.73 249 P P 20 42 05.4 +1.7
CHTO Chiang Mai 27.78 291 P P 20 42 04.1 0.0
CHTO pmax pmax
comp=Z,19nm,1.0s
CHTO Chiang Mai 27.78 291 P P 20 42 03.7 -0.4
CHTO **PcP 20 45 19.2 -1.0**
FITZ Fitzroy Crossi 27.98 181 P P 20 42 06.1 +0.3
comp=Z,34nm,0.9s,baz=11,slow=7.5,SNR=25
MNSI Mandailing Nat 28.04 252 P P 20 42 07.6 +1.1
comp=Z,40nm,0.5s
PZH PanZhiHua 28.33 309 P P 20 42 11.2 +2.1
PZH S S **20 46 52.9 -1.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.2s
PZH LR LR
comp=Z,840nm,18.2s
PZH LR LR
comp=Z,1μm,17.4s
PZH LR LR
comp=Z,2μm,18.2s
PMG Port Moresby 28.43 132 P P 20 42 10.4 +0.5
comp=Z,22nm,1.0s,baz=323,slow=11,SNR=5.3
PMG Port Moresby 28.43 132 P P 20 42 10.4 +0.5
PMG pmax pmax
comp=Z,31nm,1.1s
PMG Port Moresby 28.43 132 IAmb IAmb 20 42 24.1
comp=Z,31nm,1.1s
MJAR Matsushiro Arr 28.52 21 P P 20 42 09.1 -1.4
comp=Z,6.0nm,0.9s,baz=198,slow=9.1,SNR=7.8
MJAR PcP **PcP 20 45 22.4 +0.7**
comp=Z,3.8nm,0.9s,baz=150,slow=3.0,SNR=4.7
MJAR LR LR 20 51 35.5
comp=Z,459nm,21.5s,baz=208,slow=32
MJAR Matsushiro Arr 28.52 21 P P 20 42 09.1 -1.4
MJAR pmax pmax
comp=Z,13nm,1.5s
XAN Xi'an 28.66 329 P P 20 42 11.6 -0.3
XAN pP pwP 20 42 22.2 -0.9
XAN sP sP 20 42 25.7 +2.0
XAN PP **PnPn 20 43 03.1 +0.2**
XAN S **S 20 46 57.7 -1.0**
XAN sS sS 20 47 17.6 +4.5
XAN SS **SnSn 20 48 28.8 +8.2**
XAN pmax pmax
comp=Z,47nm,1.1s
XAN pmax pmax
comp=Z,220nm,3.7s
XAN LR LR
comp=Z,350nm,14.9s
XAN LR LR
comp=Z,370nm,14.4s
XAN LR LR
comp=Z,440nm,16.3s
HNS HongShan 29.14 341 ⇑P P 20 42 16.2 +0.2
HNS S **S 20 47 06.4 +0.4**
HNS pmax pmax
comp=Z,23nm,1.0s
HNS LR LR
comp=Z,470nm,18.4s
HNS LR LR
comp=Z,500nm,17.3s
HNS LR LR
comp=Z,630nm,17.7s
COEN Coen 29.19 145 P P 20 42 16.3 -0.3
COEN IAmb IAmb 20 42 17.8
comp=Z,23nm,0.8s
COEN Coen 29.19 145 P P 20 42 17.0 +0.3
SISI Saibi 29.28 249 P P 20 42 18.0 +0.5
comp=Z,18nm,0.8s
CD2 Chengdu 29.44 318 P P 20 42 28.5 +10
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GSI Gunungsitoli 29.77 255 P P 20 42 25.8 +3.9
comp=Z,38nm,1.1s
WRAB Tennant Creek 30.86 165⇑ iP P 20 42 29.9 -1.4
WRAB pmax pmax
comp=Z,15nm,1.1s
WRAB Tennant Creek 30.86 165 P P 20 42 30.7 -0.6
WRA Warramunga Arr 30.86 165 P P 20 42 30.2 -1.2
comp=Z,12nm,1.1s,baz=343,slow=9.7,SNR=21
WRA Warramunga Arr 30.86 165 *i* P **P 20 42 30.7 -0.7**
WRA pmax pmax
comp=Z,12nm,1.1s
WR0 Warramunga Arr 30.93 165 P P 20 42 31.0 -1.0
BJT Baijiatuau 31.15 345 P P 20 42 33.2 -0.5
BJT pmax pmax
comp=Z,21nm,1.1s
BJT Baijiatuau 31.15 345 P P 20 42 33.2 -0.5
BJI Beijing 31.17 345 P P 20 42 33.6 -0.3
BJI S **S 20 47 37.9 +0.1**
BJI pmax pmax
comp=Z,20nm,1.2s
BJI pmax pmax
comp=Z,190nm,7.1s
BJI LR LR
comp=Z,170nm,15.1s
BJI LR LR
comp=Z,220nm,17.8s
BJI LR LR
comp=Z,370nm,19.0s
PSA00 Pilbara Seismi 32.05 191 P P 20 42 42.4 +0.6
PSA00 IAmb IAmb 20 42 43.4
comp=Z,25nm,0.7s
PSA00 Pilbara Seismi 32.05 191 P P 20 42 41.5 -0.2
PSA00 IAmb IAmb 20 42 43.8
comp=Z,9.8nm,0.8s
PSA00 Pilbara Seismi 32.05 191 P P 20 42 43.2 +1.4
LZH Lanzhou 32.92 325 *e*P **P 20 42 48.4 -1.2**
LZH pP sP 20 43 02.8 +0.2
LZH ScP **ScP 20 49 16.4 +0.9**
LZH pmax pmax
comp=Z,36nm,1.4s
LZH pmax pmax
comp=Z,110nm,4.3s
LZH LR LR
comp=Z,440nm,15.7s
LZH LR LR
comp=Z,540nm,16.8s
LZH LR LR
comp=Z,380nm,15.7s
QIS Mount Isa 33.15 157 P P 20 42 51.6 +0.1
HHC Hu-ho-hao-te 33.30 340 *e*P **P 20 42 52.6 -0.1**
HHC pP sP 20 43 06.0 +1.3
HHC S **S 20 48 10.0 -1.3**
HHC sS sS 20 48 30.4 +5.0
HHC pmax pmax
comp=Z,38nm,1.0s
HHC pmax pmax
comp=Z,130nm,4.8s
HHC LR LR
comp=Z,530nm,16.1s
HHC LR LR
comp=Z,150nm,15.7s
HHC LR LR
comp=Z,640nm,15.2s
AS31 Alice Springs 34.34 167 P P 20 43 01.4 -0.5
ASAR Alice Springs 34.35 167 P P 20 43 01.3 -0.6
comp=Z,4.4nm,0.6s,baz=352,slow=7.0,SNR=44
ASAR PcP **PcP 20 45 38.0 +0.4**
comp=Z,2.8nm,0.7s,baz=355,slow=2.2,SNR=6.5
ASAR Alice Springs 34.35 167 P P 20 43 01.1 -0.8
ASAR Alice Springs 34.35 167 P P 20 43 01.1 -0.8
USA0B Ussuriysk Arra 34.38 7 P P 20 43 03.0 +1.1
USA0B pmax pmax
comp=Z,35nm,1.3s
USA0B Ussuriysk Arra 34.38 7 P P 20 43 03.0 +1.1
USA0B IAmb IAmb 20 43 04.0
comp=Z,35nm,1.2s
USRK Ussuriysk Ar. 34.38 7 P P 20 43 03.1 +1.1
comp=Z,10nm,0.9s,baz=197,slow=8.6,SNR=12
USRK LR LR 20 55 55.1
comp=Z,247nm,21.6s,baz=166,slow=34
USRK Ussuriysk Ar. 34.38 7 P P 20 43 02.6 +0.6
USRK Ussuriysk Ar. 34.38 7 P P 20 43 02.6 +0.6
MDJ Mudanjiang 34.56 4 P P 20 43 02.4 -1.0
MDJ IAmb IAmb 20 43 06.0
comp=Z,39nm,1.2s
XLT XiLinHaoTe 34.85 347 *e*P **P 20 43 06.6 +0.5**
XLT pP pwP 20 43 18.9 -0.1
XLT sP sP 20 43 22.2 +4.0
XLT S **S 20 48 33.7 -1.4**
XLT pmax pmax
comp=Z,33nm,0.9s
XLT pmax pmax
comp=Z,240nm,5.3s
XLT LR LR
comp=Z,300nm,17.1s
XLT LR LR
comp=Z,250nm,16.9s
XLT LR LR
comp=Z,300nm,21.6s
WRKA Warakurna 34.94 177 P P 20 43 07.9 +0.9
BNX BinXian 35.57 1 ⇓P P 20 43 12.6 +0.4
BNX pmax pmax
comp=Z,5.0nm,0.5s
BNX pmax pmax
comp=Z,170nm,5.0s
CTAO Charters Tower 35.86 147 P P 20 43 15.6 +0.6
CTAO pmax pmax
comp=Z,17nm,1.0s
CTAO Charters Tower 35.86 147 P P 20 43 15.6 +0.6
CTAO IAmb IAmb 20 43 17.2
comp=Z,17nm,0.9s
SHL Shillong 36.01 300 P P 20 43 15.2 -1.2
SHL pmax pmax
comp=Z,16nm,0.8s
SHL Shillong 36.01 300 P P 20 43 15.2 -1.2
SHL IAmb IAmb 20 43 25.9
comp=Z,16nm,0.8s
ASAJ Asahikawa 36.79 20 LR LR 20 59 58.4
comp=Z,234nm,18.0s,baz=163,slow=39
MEEK Meekatharra 37.21 191 P P 20 43 27.3 +0.9
GTA Gaotai 37.53 326 ⇑P P 20 43 29.1 -0.1
GTA pP sP 20 43 42.1 -0.1
GTA PcP **PcP 20 45 48.1 +1.2**
GTA S **S 20 49 14.2 -2.1**
GTA ScP **ScP 20 49 32.3 +0.2**
GTA pmax pmax
comp=Z,20nm,1.1s
GTA pmax pmax
comp=Z,80nm,5.5s
GTA LR LR
comp=Z,310nm,17.1s
GTA LR LR
comp=Z,350nm,17.8s
GTA LR LR
comp=Z,580nm,17.4s
YUK Yuzh-Kuril'sk 37.90 23 *e*P **P 20 43 32.4 +0.4**
LSA Lhasa 38.11 306 P P 20 43 34.2 -0.4
LSA pmax pmax
comp=Z,11nm,1.0s
GOMU GeErMu 38.56 317 P P 20 43 38.2 0.0
GOMU pP pP 20 43 47.4 +0.1
GOMU pmax pmax
comp=Z,7.0nm,1.2s
GOMU LR LR
comp=Z,240nm,18.2s
GOMU LR LR
comp=Z,240nm,18.9s
GOMU LR LR
comp=Z,480nm,18.7s
OOD Oodnadatta 38.73 167 P P 20 43 39.8 +0.7
HNR Honiara 38.75 119 LR LR 20 57 22.8
comp=Z,185nm,21.5s,baz=300,slow=33
KLR Kul'dur 39.32 6 LR LR 20 58 18.3
comp=Z,163nm,21.9s,baz=185,slow=34
KLR Kul'dur 39.32 6*ce*P **P 20 43 44.4 +0.5**
KLR pmax pmax
comp=Z,21nm,1.5s
YSS Yuzh-Sakhalins 39.37 18 *e*P **P 20 43 44.4 +0.1**
YSS pmax pmax
comp=Z,30nm,1.1s
H11S3 WAKE ISLAND Hy 40.03 73 T T 21 26 53.9
baz=261,slow=72,SNR=30
H11S1 WAKE ISLAND Hy 40.04 73 T T 21 26 46.0
baz=261,slow=72,SNR=25
H11S2 WAKE ISLAND Hy 40.05 73 T T 21 26 51.1
baz=261,slow=72,SNR=22
MORW Morawa 40.12 194 P P 20 43 50.6 -0.1
H11N1 WAKE ISLAND Hy 40.37 71 T T 21 27 11.4
baz=264,slow=74,SNR=12
H11N2 WAKE ISLAND Hy 40.38 71 T T 21 27 18.2
baz=264,slow=74,SNR=35
H11N3 WAKE ISLAND Hy 40.39 71 T T 21 27 11.4
baz=264,slow=74,SNR=20
FORT Forrest 40.64 178 P P 20 43 53.8 -1.2
FORT Forrest 40.64 178 P P 20 43 56.2 +1.2
MULG Mulgathing 40.81 170 P P 20 43 57.2 +0.8
ULN Ulaanbaatar 41.01 340*ce*P **P 20 43 58.9 +0.8**
ULN pmax pmax
comp=Z,35nm,0.9s
ULN Ulaanbaatar 41.01 340 P P 20 43 58.4 +0.3
ULN IAmb IAmb 20 44 00.1
comp=Z,28nm,0.8s
SONM Songino Array 41.20 340 P P 20 44 00.1 +0.4
comp=Z,11nm,0.7s,baz=158,slow=8.0,SNR=23
SONM PcP **PcP 20 45 58.2 -0.1**
comp=Z,4.4nm,0.8s,baz=147,slow=4.3,SNR=4.7
SONM LR LR 21 03 44.8
comp=Z,295nm,18.9s,baz=170,slow=40
SONM Songino Array 41.20 340 P P 20 43 59.3 -0.4
SONM pmax pmax
comp=Z,37nm,1.4s
SONM Songino Array 41.20 340 P P 20 43 59.3 -0.4
BLDU Ballidu 41.45 192 P P 20 44 02.8 +1.0
GRNR Gornyy 41.45 10⇑ iP P 20 44 03.1 +1.5
GRNR pmax pmax
comp=E,3.0nm,1.0s
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=N,80nm,14.0s
GRNR MLR MLR
comp=Z,240nm,15.0s
CHLP Challavanipeta 41.63 287 *e*P **P 20 44 04.4 +1.0**
CHLP *ep*P **pP 20 44 11.0 -1.8**
GUN Gumba 41.83 301 *e*P **P 20 44 05.1 -0.3**
comp=Z,14nm,0.7s
LCRK Leigh Creek 41.89 164 P P 20 44 06.4 +1.1
PKI Pulchoki 42.13 300 *e*P **P 20 44 07.0 -0.9**
comp=Z,7.3nm,0.7s
KLBR Kellerberrin 42.20 191 P P 20 44 08.8 +1.0
KKN Kakani 42.31 300 *e*P **P 20 44 08.4 -0.7**
DMN Daman 42.40 300 *e*P **P 20 44 09.9 -0.1**
TYV Tymovskoe 42.88 15 *e*P **P 20 44 14.9 +1.8**
TYV pmax pmax
comp=Z,11nm,1.4s
TYV pmax pmax
comp=Z,200nm,3.5s
GKN Gorkha 42.91 300 *e*P **P 20 44 13.4 -0.6**
comp=Z,7.7nm,0.7s
CIT Chita 43.10 349 *e*P **P 20 44 16.2 +1.2**
CIT *e* 20 44 22.1
CIT *e* 20 44 30.8
CIT pmax pmax
comp=Z,109nm,1.4s
ZEA Zeya 43.57 1 *e*P **P 20 44 19.0 +0.3**
ZEA *e* 20 46 07.2
ZEA *e* 20 54 08.6
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA MLR MLR
comp=Z,100nm,15.0s
NWAO Narrogin (SRO) 43.59 191 P P 20 44 19.7 +0.6
NWAO pmax pmax
comp=Z,25nm,0.7s
BBOO Buckleboo 43.65 168 P P 20 44 19.3 -0.3
KOLN Koldanda 43.73 300 *e*P **P 20 44 20.2 -0.5**
comp=Z,30nm,0.8s
DANN Dangsing 43.75 301 *e*P **P 20 44 20.2 -0.7**
comp=Z,19nm,0.7s
PVM Polavaram 43.84 284 *e*P **P 20 44 21.5 +0.1**
STKA Stephens Creek 44.22 161 P P 20 44 24.8 +0.7
comp=Z,16nm,0.8s,baz=338,slow=7.9,SNR=22
STKA Stephens Creek 44.22 161 P P 20 44 23.4 -0.7
STKA pmax pmax
comp=Z,4.0nm,0.9s
STKA Stephens Creek 44.22 161 P P 20 44 23.4 -0.7
PYUN Piuthan 44.34 300 *e*P **P 20 44 24.2 -1.3**
comp=Z,20nm,0.8s
ZAK Zakamensk 44.45 339 *e*P **P 20 44 25.2 -0.7**
ZAK *e* 20 46 08.5
ZAK pmax pmax
comp=Z,15nm,1.1s
ZAK pmax pmax
comp=Z,9.0nm,1.0s
MYLAV Mylavaram 44.76 284 *e*P **P 20 44 28.6 -0.2**
ADKI Addanki 45.37 282 *e*P **P 20 44 34.1 +0.5**
IRK Irkutsk 45.70 341 *e*P **P 20 44 31.6 -4.1**
IRK pmax pmax
comp=Z,46nm,2.8s
NJS Nagarjunasagar 46.03 283 *e*P **P 20 44 38.6 -0.2**
NJS *es*P **pP 20 44 48.8 +0.4**
MOY Mondy 46.33 338 *e*P **P 20 44 41.6 +0.8**
MOY pmax pmax
comp=Z,45nm,2.1s
RCLA Racherla 46.34 282 *e*P **P 20 44 41.6 +0.3**
RCLA *ep*P **pP 20 44 48.5 -2.4**
RCLA *e*S **S 20 51 27.4 +0.5**
CUPL Choutuppal 46.42 284 *e*P **P 20 44 41.5 -0.5**
CUPL *ep*P **pP 20 44 49.5 -1.4**
HYB Hyderabad 46.78 284 *e*P **P 20 44 45.0 +0.2**
HYBB Hyderabad (bro 46.78 284 *e*P **P 20 44 44.8 0.0**
SRSP Sriramsagar 47.06 286 *e*P **P 20 44 47.0 0.0**
SRSP *ep*P **pP 20 44 53.9 -2.0**
SRSP *e*S **S 20 51 36.9 -0.2**
WMQ Urumqi 47.36 322 *e*P **P 20 44 49.8 +0.8**
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,180nm,4.7s
WMQ LR LR
comp=Z,780nm,18.5s
WMQ LR LR
comp=Z,610nm,14.9s
WMQ LR LR
comp=Z,310nm,17.3s
URV Uravakonda 47.97 281 *e*P **P 20 44 53.9 -0.2**
URV *ep*P **pP 20 45 01.9 -1.4**
BOD Bodaibo 48.58 351 *e*P **P 20 44 59.0 +1.0**
BOD pmax pmax
comp=Z,34nm,1.2s
KLRI Killari 48.67 285 *e*P **P 20 44 58.4 -1.1**
KLRI *e*P pP 20 44 59.3 -9.1
PEA0B Petropavlovsk- 49.85 24 *i* P **P 20 45 09.2 +1.3**
PETK Petropavlovsk- 49.85 24 P P 20 45 09.4 +1.6
comp=Z,11nm,0.7s,baz=178,slow=2.9,SNR=12
PETK PcP **PcP 20 46 28.5 +0.3**
comp=Z,9.1nm,0.9s,baz=216,slow=7.3,SNR=4.2
PETK LR LR 21 04 27.7
comp=Z,175nm,21.6s,baz=221,slow=34
PETK Petropavlovsk- 49.85 24 P P 20 45 07.2 -0.7
PETK Petropavlovsk- 49.85 24 P P 20 45 07.2 -0.7
PETK PcP **PcP 20 46 28.4 +0.3**
PET Petropavlovsk 50.18 25 *e*P **P 20 45 11.3 +0.9**
PET *e*S **S 20 52 20.5 +0.4**
PET pmax pmax
comp=Z,59nm,1.5s
PET pmax pmax
comp=Z,200nm,9.4s
PET MLR MLR
comp=Z,200nm,19.0s
PET Petropavlovsk 50.18 25 P P 20 45 10.9 +0.5
TOO Toolangi 50.70 160 P P 20 45 14.9 +0.4
TOO pmax pmax
comp=Z,36nm,1.1s
TOO Toolangi 50.70 160 P P 20 45 14.9 +0.4
TOO IAmb IAmb 20 45 17.1
comp=Z,36nm,1.1s
DZM Mont Dzumac 50.75 129 LR LR 21 07 41.1
comp=Z,74nm,18.8s,baz=274,slow=37
DZM Mont Dzumac 50.75 129 *e*P **P 20 45 16.0 +0.7**

comp=Z,68nm,1.3s
DZM Mont Dzumac 50.75 129 *e*LR LR 20 59 50.0
comp=Z,228nm,26.6s
DZM Mont Dzumac 50.75 129 P **P** **20 45 15.9 +0.7**
DZM IAmb IAmb 20 45 17.8
comp=Z,26nm,1.0s
DGZ Jazzator, Alta 50.92 328 *i* P **P** **20 45 15.7 -0.5**
DGZ pmax pmax
comp=Z,8.0nm,1.6s
OUENC Ouen Island, N 51.25 129 P **P** **20 45 18.9 +0.1**
POO Poona 51.30 286 *ex* x 20 45 16.0
YAK Yakutsk 51.95 2 LR LR 21 10 04.3
comp=Z,118nm,18.7s,baz=266,slow=39
YAK Yakutsk 51.95 2*c i*P **P** **20 45 23.6 +0.2**
YAK *e* 20 46 35.7
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=E,12nm,1.3s
YAK pmax pmax
comp=N,27nm,1.1s
YAK Yakutsk 51.95 2 P **P** **20 45 23.1 -0.3**
YAK PcP **PcP** **20 46 35.4 -0.2**
MK31 Makanchi Array 52.17 323⇑ *i*P **P** **20 45 25.0 -0.4**
MK31 Makanchi Array 52.17 323 P **P** **20 45 24.8 -0.7**
MK31 IAmb IAmb 20 45 26.6
comp=Z,15nm,0.8s
MK31 PcP **PcP** **20 46 35.9 -1.0**
MKAR Makanchi Array 52.17 323 P **P** **20 45 25.1 -0.3**
comp=Z,18nm,0.8s,baz=122,slow=8.2,SNR=130
MKAR PcP **PcP** **20 46 36.5 -0.4**
comp=Z,6.2nm,0.8s,baz=110,slow=3.9,SNR=4.4
MKAR ScP **ScP** **20 50 30.5 -1.2**
comp=Z,0.6nm,0.9s,baz=197,slow=2.5,SNR=4.2
MKAR LR LR 21 09 19.6
comp=Z,297nm,20.8s,baz=120,slow=38
SHLS Shalkode 52.27 318 *e*P **P** **20 45 23.3 -3.1**
SHLS Shalkode 52.27 318 *e*P **P** **20 45 23.3 -3.1**
baz=318
MAKZ Makanchi 52.36 323 P **P** **20 45 25.4 -1.5**
MAKZ pmax pmax
comp=Z,17nm,1.0s
MAKZ Makanchi 52.36 323 P **P** **20 45 25.4 -1.5**
MAKZ IAmb IAmb 20 45 27.5
comp=Z,17nm,0.9s
UZB Uzynbulak 52.56 317 *e*P **P** **20 45 27.5 -1.1**
UZB pmax pmax
comp=Z,5.0nm,0.8s
UZB Uzynbulak 52.56 317 *e*P **P** **20 45 27.5 -1.1**
comp=Z,5.4nm,0.8s,baz=318
MA2 Magadan 52.76 15*ce*P **P** **20 45 30.1 +0.6**
MA2 pmax pmax
comp=Z,12nm,0.7s
MA2 Magadan 52.76 15 P **P** **20 45 29.8 +0.3**
MA2 IAmb IAmb 20 45 31.4
comp=Z,20nm,0.9s
KPKS Kokpek 52.91 318 *e*P **P** **20 45 30.0 -1.1**
KPKS pmax pmax
comp=Z,5.0nm,0.8s
KPKS Kokpek 52.91 318 *e*P **P** **20 45 30.1 -1.1**
comp=Z,5.1nm,0.8s,baz=318
SATY Saty 52.93 317 *e*P **P** **20 45 30.2 -1.1**
SATY pmax pmax
comp=Z,7.0nm,1.0s
SATY Saty 52.93 317 *e*P **P** **20 45 30.3 -1.1**
comp=Z,7.3nm,1.0s,baz=317
ZHN Zhinishke 52.96 317 *e*P **P** **20 45 30.2 -1.2**
ZHN Zhinishke 52.96 317 *e*P **P** **20 45 30.3 -1.2**
baz=317
KSH Kashi 53.34 312 P **P** **20 45 35.8 +1.4**
KSH pmax pmax
comp=Z,5.0nm,1.3s
KSH LR LR
comp=Z,500nm,17.3s
KSH LR LR
comp=Z,480nm,18.9s
KSH LR LR
comp=Z,660nm,21.0s
TDK Taldyqorghan 53.74 319 *e*P **P** **20 45 36.2 -0.8**
TDK pmax pmax
comp=Z,9.0nm,0.7s
TDK Taldyqorghan 53.74 319 *e*P **P** **20 45 36.3 -0.8**
comp=Z,9.3nm,0.7s,baz=319
MDOK Medeo 53.89 317 *e*P **P** **20 45 37.7 -0.7**
MDOK Medeo 53.89 317 *e*P **P** **20 45 37.7 -0.7**
baz=317
TNSS Tian-Shan 53.91 317 *e*P **P** **20 45 38.2 -0.6**
baz=317
CHKK Chushkaly 54.20 318 *e*P **P** **20 45 38.8 -1.6**
baz=318
KST Kastek 54.58 316 *e*P **P** **20 45 42.7 -0.7**
baz=316
KUU Kurty 54.65 317 *e*P **P** **20 45 42.6 -1.1**
KUU pmax pmax
comp=Z,22nm,0.9s
KUU Kurty 54.65 317 *e*P **P** **20 45 42.7 -1.1**
comp=Z,22nm,0.9s,baz=317
ZAA0 Zalesovo Array 54.79 331 P **P** **20 45 43.3 -1.2**
ZAA0 PcP **PcP** **20 46 44.6 -2.0**
ZALV Zalesovo Beam 54.79 331 P **P** **20 45 43.3 -1.2**
comp=Z,6.2nm,0.7s,baz=116,slow=6.8,SNR=25
ZALV PcP **PcP** **20 46 45.6 -1.1**
comp=Z,5.2nm,0.8s,baz=139,slow=3.9,SNR=5.1
ZALV LR LR 21 11 43.8
comp=Z,303nm,18.2s,baz=138,slow=39
ZALV Zalesovo Beam 54.79 331 *i* P **P** **20 45 43.7 -0.8**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 54.79 331 P **P** **20 45 43.3 -1.2**
ZALV PcP **PcP** **20 46 44.8 -1.9**
KBK Karagaybulak 55.14 315 P **P** **20 45 47.8 +0.3**
SNR=9.4
SEM Semipalatinsk 55.16 326 *e*P **P** **20 45 45.7 -1.8**
SEM Semipalatinsk 55.16 326 *e*P **P** **20 45 45.7 -1.8**
baz=326
UCH Uchtor 55.29 315 P **P** **20 45 49.0 +0.1**
SNR=18
CHMS Chumysh 55.39 316 P **P** **20 45 48.9 -0.2**
SNR=5.6
AAK Ala-Archa 55.44 315 LR LR 21 12 24.2
comp=Z,505nm,19.1s,baz=92,slow=39
AAK Ala-Archa 55.44 315 *i* P **P** **20 45 49.2 -0.5**
AAK pmax pmax
comp=Z,19nm,1.5s
AAK Ala-Archa 55.44 315 P **P** **20 45 49.1 -0.6**
USP Ospenovka 55.66 316 P **P** **20 45 50.6 -0.5**
SNR=7.7
AML Almayashu 55.83 314 P **P** **20 45 52.5 -0.2**
SNR=8.4
EKS2 Erkin-Say 55.95 315 P **P** **20 45 53.5 +0.2**
SNR=9.9
SEY Seymchan 56.04 14 *i* P **P** **20 45 55.2 +1.9**
KURK Kurchatov 56.22 326*ce*P **P** **20 45 54.4 -0.4**
KURK pmax pmax
comp=Z,48nm,1.3s
KURK Kurchatov 56.22 326 P **P** **20 45 54.0 -0.8**
KURK IAmb IAmb 20 45 55.4
comp=Z,30nm,0.9s
KURBB Kurchatov Arra 56.22 325 LR LR 21 12 50.2
comp=Z,285nm,18.4s,baz=106,slow=39
DRK Karamyk 56.40 311 P **P** **20 45 55.7 -1.1**
BTLS Baital 56.60 318 *e*P **P** **20 45 56.3 -1.3**
BTLS Baital 56.60 318 *e*P **P** **20 45 56.4 -1.3**
baz=318
SHEM Shemya Is, Ala 57.36 32 LR LR 21 05 44.0
comp=Z,80nm,21.0s,baz=240,slow=31
DZA Taraz 57.73 315 *e*P **P** **20 46 04.7 -1.0**
DZA Taraz 57.73 315 *e*P **P** **20 46 04.7 -1.0**
baz=315
KKAR Karatay Array 58.37 315 P **P** **20 46 08.9 -1.3**
KKAR Karatay Array 58.37 315 P **P** **20 46 08.9 -1.3**
IUG luzhnay 58.43 314 *e*P **P** **20 46 09.8 -1.0**
IUG luzhnay 58.43 314 *e*P **P** **20 46 09.8 -1.0**
baz=314
BRLS Borolday 58.82 314 *e*P **P** **20 46 12.6 -0.8**
BRLS Borolday 58.82 314 *e*P **P** **20 46 12.6 -0.8**
baz=314
BRZS Berezniki 59.32 323 *e*P **P** **20 46 15.5 -1.1**
BRZS pmax pmax
comp=Z,6.0nm,0.9s
BRZS Berezniki 59.32 323 *e*P **P** **20 46 15.6 -1.1**
comp=Z,5.6nm,0.9s,baz=323
TIXI Tiksi 61.57 1 LR LR 21 15 16.2
comp=Z,148nm,19.3s,baz=189,slow=38
TIXI Tiksi 61.57 1⇑ *i*P **P** **20 46 31.3 -0.3**
TIXI pmax pmax
comp=Z,66nm,1.3s
TIXI Tiksi 61.57 1 P **P** **20 46 31.2 -0.4**
TIXI PcP **PcP** **20 47 13.0 0.0**
BRVK Borovoye 61.88 325⇓ *i*P **P** **20 46 33.1 -1.0**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 61.88 325 P **P** **20 46 33.3 -0.8**
BRVK IAmb IAmb 20 46 35.0
comp=Z,19nm,1.1s
BILL Bilibino 63.62 16*d i*P **P** **20 46 45.9 +0.5**
BILL *e* 20 46 49.9
BILL *i* *PP **sP** **20 46 58.6 +0.5**
BILL *i* 20 47 22.3
BILL SS SS 20 59 24.0 -0.7
BILL pmax pmax
comp=Z,37nm,1.6s
BILL MLR MLR
comp=Z,58nm,12.0s
BILL Bilibino 63.62 16 P **P** **20 46 45.9 +0.5**
BILL IAmb IAmb 20 46 47.3
comp=Z,19nm,1.0s
NRIK Noril'sk 64.21 346 P **P** **20 46 49.3 +0.1**
comp=Z,8.8nm,0.9s,baz=128,slow=5.8,SNR=12
NRIK LR LR 21 18 23.8
comp=Z,337nm,18.0s,baz=145,slow=39
NRIK Noril'sk 64.21 346*ce*P **P** **20 46 48.5 -0.7**
NRIK pmax pmax
comp=Z,9.0nm,0.9s
NRIK Noril'sk 64.21 346 P **P** **20 46 48.9 -0.3**
AFI Afiamalu 65.95 110 LR LR 21 10 27.3
comp=Z,269nm,21.3s,baz=302,slow=31
GEYT Alibeck 66.63 307 P **P** **20 47 05.3 -0.3**
comp=Z,7.0nm,0.9s,baz=204,slow=9.8,SNR=6.7
GEYT LR LR 21 20 46.2
comp=Z,252nm,19.4s,baz=92,slow=40
ABKAR Akbulak array 67.00 319 P **P** **20 47 06.7 -1.0**
ABKAR PcP **PcP** **20 47 34.9 -1.0**
ABKAR Akbulak array 67.00 319 P **P** **20 47 06.4 -1.3**
ABKAR IAmb IAmb 20 47 07.7
comp=Z,22nm,1.6s
ABKAR PcP **PcP** **20 47 34.6 -1.3**
RPZ Rata Peaks 67.23 146 P **P** **20 47 10.2 +1.1**
RPZ IAmb IAmb 20 47 11.6
comp=Z,20nm,0.8s
URZ Urewera 67.54 139 LR LR 21 19 19.1
comp=Z,124nm,18.4s,baz=31,slow=38
BKZ Black Stump Fm 67.65 140 P **P** **20 47 12.9 +0.9**
SVE Sverdlovsk 68.36 327 *e*P **P** **20 47 15.4 -0.7**
SVE pmax pmax
comp=Z,21nm,1.0s
AKTO Aktyubinsk 68.46 320 LR LR 21 19 44.7
comp=Z,354nm,18.8s,baz=108,slow=38
UNV Unalaska Valle 68.58 36 P **P** **20 47 17.8 +0.4**
baz=257
GAMB Gambell 68.88 25 P **P** **20 47 20.6 +1.5**
GAMB IAmb IAmb 20 47 21.7
comp=Z,18nm,1.1s
GAMB Gambell 68.88 25 P **P** **20 47 20.2 +1.1**
baz=249
ARU Arti 69.38 327 LR LR 21 22 08.3
comp=Z,135nm,19.0s,baz=104,slow=40
ARU Arti 69.38 327*c i*P **P** **20 47 20.5 -1.9**
ARU S **S** **20 56 25.9 -1.2**
ARU SS **SS** **21 00 54.4 +0.1**
ARU pmax pmax
comp=Z,13nm,0.8s
ARU Arti 69.38 327 P **P** **20 47 21.2 -1.2**
ARU IAmb IAmb 20 47 22.1
comp=Z,12nm,0.7s
FALS False Pass 70.56 35 P **P** **20 47 30.6 +0.9**
baz=260
TNA Tin City 71.02 24 P **P** **20 47 33.0 +0.8**
TNA Tin City 71.02 24 P **P** **20 47 33.1 +0.9**
baz=252
ANM Nome 71.76 25 P **P** **20 47 37.5 +0.7**
ANM pmax pmax
comp=Z,28nm,1.6s
ANM Nome 71.76 25 P **P** **20 47 37.5 +0.7**
ANM IAmb IAmb 20 47 55.7
comp=Z,28nm,1.6s
ANM Nome 71.76 25 P **P** **20 47 38.0 +1.2**
baz=255
KIRV Kirov 74.60 328 LR LR 21 23 10.4
comp=Z,163nm,19.1s,baz=92,slow=38
KIRV Kirov 74.60 328*ce*P **P** **20 47 52.3 -1.3**
GCSA Galena City Sc 75.38 26 P **P** **20 47 58.9 +0.9**
baz=262
TTA Tatalina 75.54 28 P **P** **20 48 00.2 +1.1**
baz=264
SVW2 Sparrevohn 75.56 29 P **P** **20 47 59.0 -0.2**
SVW2 IAmb IAmb 20 48 02.0
comp=Z,28nm,1.1s
O18K Koktuh Hills 75.63 31 P **P** **20 47 59.8 +0.2**
O18K Koktuh Hills 75.63 31 P **P** **20 48 00.4 +0.9**
baz=265
L19K White Mountain 76.00 28 P **P** **20 48 01.8 +0.1**
L19K White Mountain 76.00 28 P **P** **20 48 02.0 +0.3**
baz=265,SNR=5.6
N19K Bonanza Creek 76.06 30 P **P** **20 48 01.8 -0.3**
N19K Bonanza Creek 76.06 30 P **P** **20 48 03.3 +1.1**
baz=266
O19K Port Alsworth 76.10 30 P **P** **20 48 03.2 +1.0**
baz=266
OHAK Old Harbor 76.47 33 P **P** **20 48 05.3 +1.0**
baz=268
J20K Nowinta River 76.50 26 P **P** **20 48 05.3 +0.9**
J20K IAmb IAmb 20 48 08.0
comp=Z,25nm,1.2s
PRGR Permogore 76.75 331 *e*P **P** **20 48 01.3 -4.5**
PRGR pmax pmax
comp=Z,52nm,1.5s
IMAR Indian Mountai 76.82 24 P **P** **20 48 07.0 +0.7**
KDAK Kodiak Island 76.87 33 LR LR 21 23 04.6
comp=Z,77nm,18.8s,baz=248,slow=36
H21K Melozitna Rive 77.18 25 P **P** **20 48 09.6 +1.3**
CHUM Lake Minchumin 77.28 27 P **P** **20 48 10.0 +1.2**
baz=267
PPLA Purkeypile 77.28 28 P **P** **20 48 09.4 +0.4**
baz=267
CAST Castle Rocks 77.36 27 P **P** **20 48 09.6 +0.3**
CAST IAmb IAmb 20 48 11.7
comp=Z,45nm,1.5s
CAST Castle Rocks 77.36 27 P **P** **20 48 09.6 +0.3**
baz=267,SNR=7.8
I21K Tanana 77.49 25 P **P** **20 48 10.3 +0.3**
I21K IAmb IAmb 20 48 12.8
comp=Z,34nm,1.4s
I21K Tanana 77.49 25 P **P** **20 48 11.2 +1.2**
baz=267
RAYN Ar Rayn 77.60 292 P **P** **20 48 10.7 -0.8**
RAYN pmax pmax
comp=Z,26nm,1.1s
RAYN Ar Rayn 77.60 292 P **P** **20 48 10.7 -0.8**
RAYN IAmb IAmb 20 48 12.1
comp=Z,26nm,1.1s
ZEI Tsey 77.62 312 *e*P **P** **20 48 10.3 -1.2**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
BPAW Bear Paw Mtn. 77.87 26 P **P** **20 48 11.3 -0.9**
BPAW Bear Paw Mtn. 77.87 26 P **P** **20 48 12.6 +0.4**
baz=268,SNR=13
BRSE Bradley Lake S 77.88 31 P **P** **20 48 13.4 +1.1**
baz=269
ONI Oni 77.96 311 P **P** **20 48 13.3 +0.1**
ONI pmax pmax
comp=Z,45nm,1.6s
ONI Oni 77.96 311 P **P** **20 48 13.2 +0.1**
ONI IAmb IAmb 20 48 18.5
comp=Z,45nm,1.6s
MLY Manley 78.01 26 P **P** **20 48 13.6 +0.6**
CUT Chulitna 78.15 28 P **P** **20 48 13.9 +0.2**
CUT Chulitna 78.15 28 P **P** **20 48 14.9 +1.2**
baz=269
TRF Thorofare Moun 78.16 27 P **P** **20 48 14.3 +0.3**
baz=269
M22K Willow 78.21 29 P **P** **20 48 14.7 +0.7**
baz=269
COLD Coldfoot 78.31 23 P **P** **20 48 15.4 +0.9**
COLD IAmb IAmb 20 48 17.4
comp=Z,28nm,1.2s
COLD Coldfoot 78.31 23 P **P** **20 48 15.0 +0.5**
baz=268
KBZ Khabaz 78.32 313 P **P** **20 48 14.6 -0.4**
comp=Z,9.1nm,1.0s,baz=64,slow=4.7,SNR=8.7
KBZ LR LR 21 27 12.4
comp=Z,170nm,19.2s,baz=74,slow=39
KBZ Khabaz 78.32 313*ce*P **P** **20 48 14.6 -0.4**
KBZ pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 78.46 313*de*P **P** **20 48 15.7 -0.2**
KIV *i* 20 48 24.2
KIV *e**PP **pP** **20 48 25.5 -0.2**
KIV *i* *SP **sP** **20 48 29.0 +0.7**
KIV *i* PPP PPP 20 52 59.3
KIV S **S** **20 58 13.0 +2.9**
KIV *e*SS **SS** **21 03 08.0 -5.4**
KIV pmax pmax
comp=Z,10.0nm,0.7s
KIV MLR MLR
comp=Z,183nm,17.0s
KIV Kislovodsk 78.46 313 P **P** **20 48 15.8 -0.1**
KIV IAmb IAmb 20 48 17.1
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 78.59 22 P **P** **20 48 17.4 +1.3**
TOLK IAmb IAmb 20 48 18.9
comp=Z,36nm,1.2s
TOLK Toolik Lake Re 78.59 22 P **P** **20 48 17.0 +0.9**
baz=268
I23K Minto, Yukon-K 78.60 25 P **P** **20 48 16.3 +0.2**
I23K IAmb IAmb 20 48 22.3
comp=Z,48nm,1.7s
I23K Minto, Yukon-K 78.60 25 P **P** **20 48 16.8 +0.7**
baz=269,SNR=8.9
PMR Palmer 78.68 29 P **P** **20 48 17.1 +0.5**
baz=270
NEA2 Nenana 78.72 26 P **P** **20 48 17.5 +0.7**
NEA2 Nenana 78.72 26 P **P** **20 48 17.3 +0.4**
baz=270
MCK McKinley 78.77 27 P **P** **20 48 17.3 +0.1**
MCK pmax pmax
comp=Z,55nm,0.4s
MCK McKinley 78.77 27 P **P** **20 48 17.3 +0.1**
MCK McKinley 78.77 27 P **P** **20 48 17.6 +0.4**
baz=270,SNR=9.9
VRH Novokhopyorsk 78.80 320 *e*P **P** **20 48 16.1 -1.4**
VRH pmax pmax
comp=Z,30nm,0.9s
RND Reindeer 78.81 27 P **P** **20 48 17.6 +0.2**
RND pmax pmax
comp=Z,45nm,0.6s
RND Reindeer 78.81 27 P **P** **20 48 17.6 +0.2**
RAR Rarotonga 79.00 114 LR LR 21 17 02.8
comp=Z,137nm,21.7s,baz=305,slow=31
KNK Knik Glacier 79.01 29 P **P** **20 48 18.7 +0.2**
baz=271
SML Sawmill 79.06 29 P **P** **20 48 19.4 +0.5**
baz=271
PWL Port Wells 79.08 30 P **P** **20 48 19.1 +0.2**
baz=271
MDM Murphy Dome 79.08 26 P **P** **20 48 19.5 +0.7**
WRH Wood River Hil 79.14 26 P **P** **20 48 19.6 +0.4**
WRH IAmb IAmb 20 49 11.5
comp=Z,14nm,0.5s
H24K Noodor Dome 79.22 25 P **P** **20 48 20.6 +1.0**
H24K Noodor Dome 79.22 25 P **P** **20 48 20.4 +0.8**
baz=270
CCB Clear Creek Bu 79.26 26 P **P** **20 48 19.5 -0.2**
GURO Guroymak-BITLI 79.29 307 P **P** **20 48 20.3 -0.4**
GURO IAmb IAmb 20 48 22.2
comp=Z,24nm,0.8s
WAT6 Susitna Watana 79.33 28 P **P** **20 48 20.6 +0.2**
baz=271,SNR=8.7
POKR Poker Plat Res 79.42 25 P **P** **20 48 21.6 +1.0**
baz=271
DHY Denali Highway 79.48 28 IAmb IAmb 20 49 00.6
comp=Z,17nm,0.7s
DHY Denali Highway 79.48 28 P **P** **20 48 22.0 +0.8**
baz=271
SCM Sheep Creek Mo 79.54 29 P **P** **20 48 21.5 0.0**
baz=272
HDA Harding Lake 79.64 26 P **P** **20 48 21.4 -0.4**
IL31 79.66 26 IAmb IAmb 20 49 22.0
comp=Z,11nm,0.6s
ILAR Eielson Array 79.66 26 P **P** **20 48 20.8 -1.1**
comp=Z,2.3nm,0.7s,baz=244,slow=4.0,SNR=25
ILAR LR LR 21 27 36.8
comp=Z,72nm,18.2s,baz=248,slow=39
KLMR Klimovskoe 79.69 330 *e*P **P** **20 48 19.8 -2.4**
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR Klimovskoe 79.69 330 *e*P **P** **20 48 19.9 -2.3**
KLMR AMP 20 48 30.4
comp=Z,27nm,1.4s
M24K Tolsona, Glenn 80.07 28 P **P** **20 48 24.8 +0.5**
baz=273
KLU Klutina 80.22 29 P **P** **20 48 25.3 +0.1**
baz=273
FYU Fort Yukon 80.27 24 IAmb IAmb 20 48 29.9
comp=Z,42nm,1.5s
VORD Divnogorie 80.34 320 *e*P **P** **20 48 23.8 -2.1**
VORD pmax pmax
comp=Z,10.0nm,0.7s
PAX Paxson 80.36 28 IAmb IAmb 20 48 28.1
comp=Z,68nm,2.0s
PAX Paxson 80.36 28 P **P** **20 48 26.3 +0.5**
baz=273
VSR Storozhevoye 80.40 320 *e*P **P** **20 48 23.9 -2.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 80.45 322 *e*P **P** **20 48 25.2 -1.3**
LPSR pmax pmax
comp=Z,20nm,1.0s
BMAR Burnt Mountain 80.48 23 P **P** **20 48 28.4 +2.0**
HARP HAARP 80.53 28 P **P** **20 48 27.4 +0.7**
baz=274
RIDG Independent Ri 80.59 27 IAmb IAmb 20 48 31.2
comp=Z,28nm,1.0s
RIDG Independent Ri 80.59 27 P **P** **20 48 27.6 +0.5**
baz=274
BMRM Bremner River 80.89 30 P **P** **20 48 29.4 +0.7**
baz=274
DOT Dot Lake 80.95 27 IAmb IAmb 20 49 36.5
comp=Z,18nm,0.7s
SCRK Sand Creek 80.95 27 P **P** **20 48 29.9 +0.7**
baz=274
MOS Moscow 80.98 325 *e*P **P** **20 48 27.9 -1.3**
J26L Joseph Creek 81.10 26 P **P** **20 48 30.4 +0.6**
baz=275,SNR=8.1
GLB Gilahina Butte 81.24 29 IAmb IAmb 20 48 34.3
comp=Z,23nm,1.2s
L26K Log Cabin Wild 81.32 27 P **P** **20 48 32.1 +1.2**
baz=275
M26K Nabesna, AK 81.53 28 P **P** **20 48 33.0 +0.9**
M26K IAmb IAmb 20 48 34.6
comp=Z,37nm,1.4s
M26K Nabesna, AK 81.53 28 P **P** **20 48 33.3 +1.1**
baz=275
ATD Arta Tunnel 81.61 280 LR LR 21 23 48.4
comp=Z,67nm,18.6s,baz=125,slow=35
OBN Obninsk 81.64 325 LR LR 21 28 18.6
comp=Z,44nm,18.0s,baz=6.0,slow=38
OBN Obninsk 81.64 325*d i*P **P** **20 48 31.9 -0.8**
OBN *e* 20 48 36.0
OBN *e**PP **pP** **20 48 42.6 +0.8**
OBN *e* 20 51 37.0
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN MLR MLR
comp=Z,198nm,19.0s
CRQE Cirque 81.65 30 P **P** **20 48 33.9 +1.0**
baz=276
TGL Tana Glacier 81.78 30 IAmb IAmb 20 48 42.3
comp=Z,46nm,1.3s
L27K Beaver Creek, 82.00 27 IAmb IAmb 20 48 45.0
comp=Z,16nm,0.5s
M27K Edge Creek, AK 82.06 28 P **P** **20 48 36.1 +1.1**
M27K IAmb IAmb 20 49 05.7
comp=Z,20nm,1.3s
M27K Edge Creek, AK 82.06 28 P **P** **20 48 36.5 +1.5**
baz=276
BARN Barnard Glacie 82.31 29 IAmb IAmb 20 48 40.3
comp=Z,28nm,0.9s
CTG Chitna Glacier 82.48 29 P **P** **20 48 38.7 +1.5**
baz=277
BVCY Beaver Creek 82.52 28 P **P** **20 48 38.4 +1.2**
baz=277
YUK3 Moose Creek 82.79 29 P **P** **20 48 39.8 +0.9**
baz=278
DAWY Dawson 82.96 26 P **P** **20 48 40.4 +0.8**
baz=278,SNR=12
PINM Pinnacle 83.12 30 P **P** **20 48 41.6 +1.1**
baz=278

I29M	Ogilvie Camp,	83.22	25	P		P	20 48 42.0	+1.1
	baz=279,SNR=16							
GAZ	Gaziantep	83.22	306	P		P	20 48 40.6	-0.9
GAZ				IAmb		IAmb	20 48 41.0	
	comp=Z,18nm,1.0s							
J29M	Klondike Camp	83.40	26	P		P	20 48 42.6	+0.8
	baz=279							
PNL	Peninsula	83.61	31	P		P	20 48 44.1	+1.1
	baz=279							
EPYK	Eagle Plains	83.69	24	P		P	20 48 44.1	+0.8
	baz=280,SNR=9.5							
BNN	Bunyan	84.07	308	P		P	20 48 45.4	-0.5
SPITS	Spitsbergen Ar	84.22	349	LR		LR	21 33 05.0	
	comp=Z,177nm,18.1s,baz=246,slow=40							
ARCES	ARCESS Array B	84.38	340	P		P	20 48 47.0	+0.3
	comp=Z,5.1nm,0.6s,baz=81,slow=7.0,SNR=15							
ARCES				LR		LR	21 31 12.6	
	comp=Z,78nm,19.1s,baz=58,slow=39							
INK	Inuvik	84.50	22	LR		LR	21 31 04.9	
	comp=Z,104nm,18.4s,baz=223,slow=39							
INK	Inuvik	84.50	22	P		P	20 48 47.9	+0.7
	baz=283,SNR=18							
N31M	Braeburn, Yuko	85.04	28	P		P	20 48 51.4	+1.2
	baz=282							
M31M	Drury Creek, Y	85.53	28	P		P	20 48 53.5	+0.9
	baz=283							
BRTR	Keskin Array B	85.63	309	P		P	20 48 52.9	-0.8
	comp=Z,4.5nm,0.8s,baz=106,slow=4.5,SNR=9.1							
BRTR				LR		LR	21 32 46.9	
	comp=Z,108nm,19.9s,baz=82,slow=40							
WHY	Whitehorse	85.65	29	P		P	20 48 54.5	+1.2
	baz=283							
FINES	FINESS Array B	86.06	332	P		P	20 48 54.8	-0.4
	comp=Z,6.0nm,0.7s,baz=66,slow=4.9,SNR=16							
FINES				LR		LR	21 31 04.0	
	comp=Z,88nm,18.2s,baz=74,slow=38							
A36M	Sachs Harbour	86.13	17	P		P	20 48 56.2	+0.9
A36M	Sachs Harbour	86.13	17	P		P	20 48 56.0	+0.7
	baz=291,SNR=38							
EIL	Elat	86.19	299	LR		LR	21 33 41.0	
	comp=Z,65nm,18.7s,baz=78,slow=40							
MNK	Minsk	86.70	325	*i* P		P	20 48 58.4	-0.1
MNK				*i* *PP		sP	20 49 10.6	-0.4
MNK				*i* S		SKSac	20 59 22.5	-0.4
MNK				*i* SSS		SSS	21 08 46.0	
MNK				pmax		pmax		
	comp=Z,14nm,1.0s							
MNK				pmax		pmax		
	comp=E,2.0nm,1.0s							
MNK				pmax		pmax		
	comp=N,16nm,1.3s							
MNK	Minsk	86.70	325	*i* P		P	20 48 58.4	-0.1
	comp=E,2.0nm,1.0s,baz=257							
MNK				*i* P		P	20 48 58.4	-0.1
	comp=N,16nm,1.2s							
MNK				*i* P		P	20 48 58.4	-0.1
	comp=Z,14nm,1.1s							
MNK				*i* pP		sP	20 49 10.7	-0.4
MNK				*i* PP		PP	20 52 00.4	-20
MNK				*i* PPP		PPP	20 53 39.0	
MNK				*i* S		SKSac	20 59 22.6	-0.3
MNK				*i* SS		SS	21 05 03.2	-12
MNK				*i* SSS		SSS	21 08 46.0	
MNK				*i* LQ		LQ	21 22 06.5	
MNK				*i* LR		LR	21 26 18.4	
AKASG	Malin Array Be	86.70	321	P		P	20 48 57.2	-1.3
	comp=Z,6.1nm,0.8s,baz=63,slow=4.7,SNR=20							
AKASG				LR		LR	21 32 12.9	
	comp=Z,115nm,18.3s,baz=70,slow=39							
AKASG	Malin Array Be	86.70	321	*i* P		P	20 48 57.5	-1.0
AKASG				pmax		pmax		
	comp=Z,6.0nm,0.8s							
AKASG	Malin Array Be	86.70	321	P		P	20 48 57.0	-1.5
AKASG				IAmb		IAmb	20 48 58.9	
	comp=Z,16nm,1.3s							
AKBB	Malin Array Si	86.70	321	*ce*P		P	20 48 56.8	-1.7
AKBB	Malin Array Si	86.70	321	IAmb		IAmb	20 48 58.6	
	comp=Z,18nm,1.1s							
P33M	Teslin, Yukon	86.75	29	P		P	20 48 59.1	+0.4
	baz=284							
NOR	Nord	86.79	355	*i* P		P	20 48 57.4	-1.1
PURM	Purcari	87.12	317	⇓P		P	20 49 00.1	-0.5
C36M	Paulatuk	87.46	20	IAmb		IAmb	20 49 04.0	
	comp=Z,16nm,0.8s							
C36M	Paulatuk	87.46	20	P		P	20 49 02.7	+0.9
	baz=292,SNR=10.0							
PPT	Papeete	87.55	108	LR		LR	21 21 12.4	
	comp=Z,127nm,20.2s,baz=297,slow=31							
PPT2	Papeete2	87.55	108	*e*S		S	20 59 41.4	-1.8
	comp=Z,70nm,24.8s							
PPT2	Papeete2	87.55	108	*e*LR		LR	21 16 56.0	
	comp=Z,215nm,22.0s							
SORM	Soroca	87.80	318	⇑P		P	20 49 02.7	-1.2
SORM	Soroca	87.80	318	⇑P		P	20 49 02.7	-1.2
TLCR		88.11	315	⇑P		P	20 49 04.5	-1.0
TLCR		88.11	315	⇑P		P	20 49 04.5	-1.0
TPGR	Topolog	88.46	315	⇑P		P	20 49 05.8	-1.4
EUNU	Eureka	88.47	5	IAmb		IAmb	20 49 07.8	
	comp=Z,14nm,0.9s							
DLBC	Dease Lake	88.61	31	LR		LR	21 30 49.1	
	comp=Z,78nm,18.5s,baz=139,slow=37							
KIBK	Kibwezi	88.61	267	P		P	20 49 08.6	0.0
KIBK				IAmb		IAmb	20 49 10.1	
	comp=Z,9.9nm,1.2s							
TBI	Tubuai	88.78	114	*e*LR		LR	21 17 28.6	
	comp=Z,266nm,24.0s							
HARR	Harsova	88.84	315	⇑P		P	20 49 07.7	-1.2
HARR	Harsova	88.84	315	⇑P		P	20 49 07.7	-1.2
KMBO	Kilima Mbogo	89.18	269	P		P	20 49 11.8	+0.4
	comp=Z,3.4nm,1.0s,baz=74,slow=3.6,SNR=6.9							
KMBO	Kilima Mbogo	89.18	269	P		P	20 49 11.5	+0.1
KMBO				pmax		pmax		
	comp=Z,14nm,1.4s							
KMBO	Kilima Mbogo	89.18	269	P		P	20 49 11.5	+0.1
KMBO				IAmb		IAmb	20 49 12.9	
	comp=Z,14nm,1.4s							
TESR	Tescani	89.29	317	⇑P		P	20 49 09.1	-1.9
MAW	Mawson	89.48	200	P		P	20 49 12.2	+0.9
	comp=Z,11nm,0.7s,baz=83,slow=3.5,SNR=7.0							
MAW				LR		LR	21 29 03.1	
	comp=Z,110nm,18.2s,baz=54,slow=35							
MAW	Mawson	89.48	200	P		P	20 49 11.7	+0.4
MAW				pmax		pmax		
	comp=Z,4.0nm,0.6s							
MAW	Mawson	89.48	200	P		P	20 49 11.7	+0.4
VNDA	Vanda	89.72	173	P		P	20 49 12.6	+0.3
	comp=Z,4.4nm,1.0s,baz=306,slow=6.4,SNR=7.3							
VNDA				LR		LR	21 31 26.7	
	comp=Z,107nm,18.8s,baz=310,slow=37							
VNDA	Vanda	89.72	173	P		P	20 49 12.6	+0.3
VNDA				pmax		pmax		
	comp=Z,24nm,1.7s							
VNDA	Vanda	89.72	173	P		P	20 49 12.6	+0.3
VNDA				IAmb		IAmb	20 49 21.2	
	comp=Z,24nm,1.6s							
BURAR	Bucovina Array	89.97	318	⇑P		P	20 49 12.9	-1.4
BURAR	Bucovina Array	89.97	318	⇑P		P	20 49 12.9	-1.4
BUR08	Bucovina Ar. S	89.97	318	IAmb		IAmb	20 51 48.6	
	comp=Z,36nm,1.9s							
MLR	Muntele Rosu	90.02	316	⇑P		P	20 49 13.5	-1.1
MLR	Muntele Rosu	90.02	316	LR		LR	21 33 57.3	
	comp=Z,264nm,21.1s,baz=66,slow=38							
MLR	Muntele Rosu	90.02	316	⇑P		P	20 49 13.5	-1.1
DAG	Danmarks Havn	90.96	352	*i* P		P	20 49 16.6	-1.6
BBB	Bella Bella	91.55	36	LR		LR	21 30 32.0	
	comp=Z,135nm,18.4s,baz=234,slow=36							
UZH	Uzhgorod	91.57	320	‖*eP*		P	20 49 21.5	-0.1
UZH				*i*			20 49 28.9	
UZH				*e*			20 49 33.5	
RES	Resolute Bay	91.72	10	LR		LR	21 35 18.7	
	comp=Z,45nm,18.6s,baz=273,slow=39							
DRGR		91.84	318	⇑P		P	20 49 21.8	-1.2
DRGR		91.84	318	⇑P		P	20 49 21.8	-1.2
HFS	Hagfors	92.22	332	LR		LR	21 33 48.5	
	comp=Z,161nm,18.2s,baz=68,slow=37							
OJC	Ojcow	92.63	322	IAmb		IAmb	20 49 27.1	
	comp=Z,7.0nm,1.0s							
NEEM	North Greenlan	92.64	359	*i* P		P	20 49 26.1	-0.3
NB2	NORSAR Subarra	92.93	334	P		P	20 49 25.9	-1.8
	comp=Z,14nm,1.7s,baz=67,slow=4.6							
NB2	NORSAR Subarra	92.93	334	P		P	20 49 25.9	-1.8
	baz=67,slow=4.6							
NOA	NORSAR Array B	92.93	334	P		P	20 49 26.4	-1.3
	comp=Z,2.0nm,1.0s,baz=65,slow=4.5,SNR=3.7							
NOA				LR		LR	21 34 11.3	
	comp=Z,98nm,21.7s,baz=60,slow=37							
TULEG	Thule	93.11	3	*i* P		P	20 49 26.6	-1.6
DBG	Daneborg	93.24	351	*i* P		P	20 49 27.8	-1.0
IDI	Anoyia	93.36	307	LR		LR	21 38 16.4	
	comp=Z,49nm,19.8s,baz=28,slow=40							
JMIC	Jan Mayen	93.63	347	LR		LR	21 37 34.7	
	comp=Z,63nm,18.2s,baz=64,slow=39							
YKA	Yellowknife Ar	93.97	24	P		P	20 49 32.9	+0.6
	comp=Z,13nm,0.9s,baz=300,slow=4.6,SNR=123							
YKA				PKIKP		PKiKP	20 54 17.3	+0.5
	comp=Z,0.3nm,0.7s,baz=309,slow=1.8,SNR=4.7							
YKA				PKKP		PKKPdf	21 06 33.7	-1.7
	comp=Z,0.3nm,0.6s,baz=120,slow=2.7,SNR=5.4							
FRGS	Fruska Gora	94.26	317	⇓P		P	20 49 33.1	-1.0
VRAC	Vranov	94.90	322	LR		LR	21 36 53.7	
	comp=Z,109nm,18.4s,baz=72,slow=38							
TAOE	Nuku Hiva Isla	95.06	98	*e*LR		LR	21 20 25.5	
	comp=Z,253nm,23.5s							
MBAR	Mbarara	95.50	270	LR		LR	21 34 16.0	
	comp=Z,99nm,18.2s,baz=70,slow=36							
CLL	Collm	96.24	325	*i* P		P	20 49 41.8	-1.2
CLL				pmax		pmax		
	comp=Z,12nm,1.4s							
CLL	Collm	96.24	325	*i* P		P	20 49 41.8	-1.2
	comp=Z,12nm,1.4s							
CLL				LmV			21 37 00.0	
	comp=Z,200nm,21.0s							
GERES	GERESS Array B	96.83	322	P		P	20 49 45.6	-0.3
	comp=Z,2.2nm,0.8s,baz=71,slow=4.9,SNR=15							
SUMG	Summit	96.94	355	*i* P		P	20 49 46.0	-0.2
NEW	Newport	99.57	37	P		Pdif	20 49 58.2	+0.1
	baz=297							
DAVOX	Davos/Dischmat	100.04	321	LR		LR	21 40 44.3	
	comp=Z,170nm,18.0s,baz=62,slow=39							
PDAR	Pinedale Array	106.89	40	PKKP		PKKPdf	21 06 12.7	+0.7
	comp=Z,1.7nm,1.0s,baz=119,slow=6.1,SNR=8.0							
MNTX	Cornudas Mount	115.51	48	P		PKPdf	20 54 57.4	+0.1
	baz=301							
MSTX	Muleshoe	116.14	44	P		PKPdf	20 54 58.5	-0.1
	baz=304							
TX32	Lajitas Array	118.00	49			PKPdf	20 55 01.6	-0.6
TXAR	Lajitas Array	118.00	49	PKP		PKiKP	20 55 02.6	+0.4
	comp=Z,1.0nm,0.6s,baz=310,slow=0.5,SNR=11							
WMOK	Wichita Mounta	118.37	41	P		PKiKP	20 55 02.8	+0.1
	baz=308							
S39A	Bolivar	119.80	36	PKPdf		PKPdf	20 55 05.0	-0.3
HDIL	Hopedale	119.90	31	P		PKiKP	20 55 05.7	+0.2
	baz=319							
JCT	Junction City	120.19	46	P		PKPdf	20 55 06.2	-0.1
	baz=304							
TORD	Torodi Ar. Bea	120.30	292	PKP		PKPdf	20 55 06.1	-0.7
	comp=Z,3.7nm,0.8s,baz=49,slow=1.8,SNR=26							
CCM	Cathedral Cave	120.70	34	P		PKiKP	20 55 07.3	+0.2
	baz=316							
U40A	Yellville	120.99	36	P		PKiKP	20 55 07.8	0.0
	baz=314							
SFIN	Lafayette	121.12	29	P		PKiKP	20 55 07.9	0.0
	baz=321							
T42A	Van Buren	121.52	35			PKPdf	20 55 07.9	-0.7
833A	Chaparral WMA,	121.70	48	P		PKiKP	20 55 09.4	0.0
	baz=304							
MIAR	Mount Ida	121.78	38	P		PKiKP	20 55 09.4	+0.1
	baz=312							
W41B	Gary Mavity, V	122.16	37	P		PKiKP	20 55 10.1	+0.1
	baz=314							
WCI	Wyandotte Cave	123.17	30	P		PKPdf	20 55 11.4	-0.4
	baz=321							
PKME	Peaks-Kenny Pk	123.19	13	P		PKiKP	20 55 11.8	0.0
	baz=342							
M54A	Oil Creek Stat	123.43	23	P		PKPdf	20 55 11.8	-0.4
	baz=329							
WVT	Waverly	123.97	33	PKIKP		PKPdf	20 55 12.9	-0.5
WVT	Waverly	123.97	33			PKPdf	20 55 12.9	-0.5
WVT	Waverly	123.97	33	P		PKPdf	20 55 13.1	-0.2
	baz=318							
HRV	Adam Dziewonsk	125.22	16	P		PKPdf	20 55 14.9	-0.6
	baz=338							
GOGA	Godfrey	128.36	32	P		PKPdf	20 55 21.7	-0.2
	baz=322							
DBIC	Dimbokro	128.52	287	PKP		PKPdf	20 55 22.7	0.0
	comp=Z,6.3nm,1.0s,baz=83,slow=4.8,SNR=6.1							
DBIC	Dimbokro	128.52	287	PKIKP		PKPdf	20 55 22.3	-0.3
DBIC	Dimbokro	128.52	287			PKPdf	20 55 22.3	-0.3
JSC	Jenkinsville	128.77	29	PKIKP		PKPdf	20 55 18.6	-4.0
JSC	Jenkinsville	128.77	29	PKPdf		PKPdf	20 55 18.6	-4.0
PLCA	Paso Flores	146.03	157	PKPbc		PKPab	20 55 56.0	+0.6
	comp=Z,7.8nm,0.7s,baz=269,slow=1.6,SNR=21							
LC01	Cunco	147.03	154			PKPbc	20 55 57.3	-0.5
BCIP	Isla Barro Col	147.79	54	PKIKP		PKPdf	20 55 58.1	+0.4
BCIP	Isla Barro Col	147.79	54			PKPdf	20 55 58.1	+0.4
OBIP	Obispado Ponce	149.34	24			PKPbc	20 56 04.7	+0.3
HUMP	Col San Antoni	149.55	23			PKPbc	20 56 04.8	-0.2
SJCC	San Jacinto, C	150.91	48	*eP*		PKPdf	20 55 58.4	-4.3
CRJC	Cerrejon, Guaj	151.73	43	*eP*		PKPbc	20 56 10.4	0.0
URIC	Uribia, Colomb	151.81	40	*eP*		PKPbc	20 56 09.4	-1.0
DBBC	Dabeiba	151.95	54	*eP*		PKiKP	20 56 12.3	+1.0
UREC	San Jos de Ur	152.03	52	*eP*		PKiKP	20 56 11.9	+0.6
SMLC	San Martn de	152.45	48	*eP*		PKiKP	20 56 12.8	+0.7
ZARC	Zaragoza, Cauc	152.72	51	*eP*		PKPdf	20 56 04.1	-1.3
CBOC	Ciudad Bolivar	152.79	55	*eP*		PKiKP	20 56 13.7	+0.6
PLMC	San Jos del P	153.11	57	*eP*		PKiKP	20 56 15.6	+1.9
DABV	Dabajuro	153.26	39	*eP*		PKPbc	20 56 11.2	-2.5
YOTC	Yotoco, Valle	153.55	59	*eP*		PKPdf	20 56 07.8	+1.0
PTBC	PUERTO BERRIO	153.62	52	*eP*		PKPbc	20 56 14.5	-0.1
GUY2C	Guyana, Caldas	153.68	56	*eP*		PKPdf	20 56 08.8	+1.3
NORC	Norcasia	153.88	54	*eP*		PKiKP	20 56 15.5	+0.3
POPC	Popayan, Colom	153.99	62	*eP*		PKPbc	20 56 15.1	-0.5
SOTA	Rioblanco	154.25	63	*eP*		PKPdf	20 56 09.7	+1.4
PCON	Cinco Dias	154.34	63	*eP*		PKiKP	20 56 18.6	+1.7
ORTC	Ortega, Tolima	154.51	58	*eP*		PKPdf	20 56 09.9	+1.8
SDV	Santo Domingo	154.79	42	PKPbc		PKiKP	20 56 18.2	+1.0
	comp=Z,3.6nm,0.3s,baz=325,slow=4.1,SNR=6.3							
RUSC	La Rusia	155.09	51	*eP*		PKPdf	20 56 17.1	+7.7
MACC	Macarena, Meta	156.63	60	*eP*		PKPab	20 56 41.2	+1.2
NNA	Nana	157.28	97	PKPab		PKPab	20 56 44.4	+1.5
	comp=Z,4.1nm,0.4s,baz=215,slow=1.8,SNR=3.9							
LPAZ	La Paz	164.72	115	PKP		PKPdf	20 56 20.6	+0.3
	comp=Z,3.7nm,1.0s,baz=60,slow=2.2,SNR=9.4							
LPAZ				PKPab		PKPab	20 57 17.4	+1.5
	comp=Z,3.4nm,0.9s,baz=244,slow=3.0,SNR=5.6							
PTGA	Pitinga	168.88	34	PKPab		PKPab	20 57 33.6	+0.2
	comp=Z,3.7nm,0.3s,baz=338,slow=8.3,SNR=10							
SIV	San Ignacio	170.77	130	PKP		PKPdf	20 56 24.2	+0.4
	comp=Z,1.3nm,0.2s,baz=219,slow=1.7,SNR=7.2							

JMA 05 20:50:22.0, 37.69N×141.76E, h47km±1km, M3.6, 2C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.66	340	⇓P	Pn	20 50 35.2	+0.1
JIKH				S	Sn	20 50 44.5	-0.1
JMST	Minamisoumatoc	0.69	273	⇓P	Pn	20 50 35.5	0.0
JMST				S	Sn	20 50 45.2	-0.1
JFK	Kawauchi	0.78	246	⇑P	Pn	20 50 36.6	-0.1
JFK				*e*S	Sn	20 50 47.0	-0.3
JMM	Marumori	0.79	283	⇓P	Pn	20 50 36.9	+0.1
JMM				S	Sn	20 50 47.6	+0.1
JIO	Ouri	0.83	337	⇓P	Pn	20 50 37.5	+0.2
JIO				S	Sn	20 50 48.3	-0.2
ONAJ	Iwakimizuishiy	0.96	233	⇑P	Pn	20 50 39.2	0.0
ONAJ				S	Sn	20 50 51.4	-0.5
JOU	Okura	1.10	308	⇓P	Pn	20 50 41.4	+0.4
JKMT	Kesennumamotoy	1.14	349	⇓P	Pn	20 50 41.7	+0.1
JFT	Otama	1.14	262	⇓P	Pn	20 50 42.5	+0.9
JFT				S	Sn	20 50 57.3	+1.1
JMK	Ichinoseki	1.33	342	⇓P	Pn	20 50 44.6	+0.5
JMK				*e*S	Sn	20 51 00.9	+0.2
JYK	Kaneyama	1.65	318	⇓P	Pn	20 50 49.1	+0.6
MAT	Matsushiro	3.06	249	P	Pn	20 51 09.5	+1.6
MAT				*e*S	Sn	20 51 45.5	+2.2

MAN 05 20:54:07.2, 10.07N×126.26E, h29km, mb4.0, ML2.8, MS2.4, Philippine Islands region

IDC 05 21:08:35.8±35.0, 17.71S×179.74E, h562km±153km, mb3.3/3, mb1 3.5/3, mb1mx2.9/37, mbtmp4.3/3, Error ellipse: s-maj=779.9km s-min=93.1km az=82.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.61	269	P		21 09 45.1	0.0
	1.3nm,0.3s,baz=91,slow=7.8,SNR=7.4						
STKA	Stephens Creek	37.19	240	P		21 14 59.9	0.0
	1.9nm,0.5s,baz=90,slow=12,SNR=7.8						
WRA	Warramunga Arr	42.94	260	P		21 15 45.6	-0.4
	0.7nm,0.4s,baz=96,slow=7.3,SNR=23						
ASAR	Alice Springs	43.15	254	P		21 15 47.6	-0.1
	7.9nm,0.6s,baz=88,slow=8.4,SNR=129						

*IDC **05** 21:12:52.9±1.5, 2.69S×136.81E, h0km, mb3.7/2, mb1 4.2/5, mb1mx3.8/33, mbtmp4.0/5, ML4.3/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/62, Error ellipse: s-maj=29.1km s-min=24.6km az=53.0*

ISC 05 21:12:57.5±1.0, 2.95±0.09×136.81E±0.09, h35km, n7, σ2.86/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.91	84	Pn		Pn	21 13 54.2	-0.9
SIJI	Sorong	5.92	290	Pn		Pn	21 14 21.3	-1.4
	0.3nm,0.3s,baz=171,slow=23,SNR=1.5							
SIJI				Sn		Sn	21 15 30.4	+1.1
	1.8nm,0.3s,baz=265,slow=23,SNR=7.0							
PMG	Port Moresby	12.12	122	LR		LR	21 21 35.3	
	comp=Z,75nm,19.2s,baz=246,slow=43							
WRA	Warramunga Arr	17.07	188	P		Pn	21 16 54.5	+1.0
	1.3nm,0.3s,baz=8.6,slow=12,SNR=42							
WRA				S		Sn	21 19 59.2	-3.2
	0.2nm,0.3s,baz=3.6,slow=23,SNR=4.9							
WRA				LR		LR	21 24 31.2	
	comp=Z,72nm,19.3s,baz=106,slow=40							
FITZ	Fitzroy Crossi	18.62	215	P		P	21 17 15.4	+3.2
	0.5nm,0.3s,baz=43,slow=10,SNR=8.6							
FITZ				S		Sn	21 20 35.9	-4.0
	0.3nm,0.3s,baz=166,slow=17,SNR=2.0							
ASAR	Alice Springs	20.79	188	P		P	21 17 38.5	+2.7
	3.5nm,0.4s,baz=18,slow=10,SNR=45							
MKAR	Makanchi Array	68.83	323	P		P	21 23 57.9	-0.5
	0.3nm,0.5s,baz=110,slow=7.0,SNR=5.9							

*IDC **05** 21:19:15.0±0.9, 2.02S×68.16E, h0km, mb4.1/12, mb1 4.2/12, mb1mx3.9/45, mbtmp4.1/12, MS3.5/8, Ms1 3.5/8, ms1mx3.1/78, Error ellipse: s-maj=30.2km s-min=19.0km az=34.0*

*NEIC **05** 21:19:16.9±1.3, 2.03S±0.09×68.3E±0.1, h10km±1km, mb4.5/34, Error ellipse: s-maj=18.2km s-min=14.8km az=114.0*

ISC 05 21:19:15.9±0.6, 2.07S±0.08×68.30E±0.08, h10km, n61, σ0.89/54, mb4.4/28, MS3.5/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	Kaadhehdhoo	5.34	62	Pn		Pn	21 20 33.1	-2.7
DGAR	Diego Garcia	6.73	142	Pn		Pn	21 20 53.4	-1.5
PALK	Pallekele	15.47	53	LR		LR	21 27 35.7	
	comp=Z,149nm,21.4s,baz=341,slow=32							
PALK	Pallekele	15.47	53	Pn		Pn	21 22 55.0	+0.5
PALK				IAmb		IAmb	21 23 28.1	
	comp=Z,30nm,1.2s							
ABPO	Ambohimpanom	26.64	229	P		P	21 24 55.3	+0.1
ABPO				IAmb		IAmb	21 25 34.2	
	comp=Z,16nm,1.4s							
WSAR	Wadi Sarin	26.86	340	LR		LR	21 33 54.3	
	comp=Z,72nm,18.5s,baz=124,slow=33							
PSI	Prapat	31.00	81	LR		LR	21 36 21.5	
	comp=Z,91nm,19.0s,baz=218,slow=33							
RAYN	Ar Rayn	33.75	320	P		P	21 25 57.3	-0.7
RAYN				IAmb		IAmb	21 25 59.8	
	comp=Z,11nm,1.4s							
SHL	Shillong	35.72	38	P		P	21 26 14.2	-1.1
SHL				IAmb		IAmb	21 26 18.3	
	comp=Z,6.6nm,1.2s							
NIL	Nilore	35.83	7	P		P	21 26 15.9	+0.1
NIL				IAmb		IAmb	21 26 53.5	
	comp=Z,9.6nm,1.3s							
CM31	Chiang Mai Arr	36.41	55	P		P	21 26 21.8	+0.8
CM31				IAmb		IAmb	21 26 45.5	
	comp=Z,7.3nm,1.3s							
CMAR	Chiang Mai Arr	36.41	55	P		P	21 26 23.2	+2.2
	comp=Z,0.8nm,0.8s,baz=242,slow=11,SNR=9.6							
CMAR				LR		LR	21 40 18.1	
	comp=Z,33nm,19.6s,baz=235,slow=35							
CMAR	Chiang Mai Arr	36.41	55	P		P	21 26 20.5	-0.4
KBL	Kabul	36.42	1	P		P	21 26 21.5	+0.4
KBL				IAmb		IAmb	21 26 24.4	
	comp=Z,9.6nm,1.1s							
CHTO	Chiang Mai	36.59	54	P		P	21 26 22.2	-0.3
HRA	Herat	36.71	352	P		P	21 26 23.3	-0.2
HRA				IAmb		IAmb	21 26 25.4	
	comp=Z,11nm,1.4s							
MBAR	Mbarara	37.58	272	P		P	21 26 30.6	-0.6
LSA	Lhasa	38.41	33	P		P	21 26 39.4	+1.0
LSA				IAmb		IAmb	21 26 55.5	
	comp=Z,15nm,1.5s							
GEYT	Alibeck	40.90	348	P		P

comp=Z,1.1nm,0.9s,baz=104,slow=5.2,SNR=4.9
TIXI Tiksi 83.02 16 P **P 21 31 41.2 +0.1**
comp=Z,4.0nm,1.0s,baz=208,slow=1.3,SNR=13
TIXI Tiksi 83.02 16 P **P 21 31 41.4 +0.3**
YKA Yellowknife Ar 119.68 2 PKP **PKPdf 21 38 05.8 -0.2**
comp=Z,0.3nm,0.8s,baz=348,slow=2.2,SNR=4.2
TXAR Lajitas Array 151.83 345 PKPbc **PKiKP 21 39 12.8 +0.5**
comp=Z,2.8nm,1.0s,baz=90,slow=1.3,SNR=14
TXAR Lajitas Array 151.83 345 **PKiKP 21 39 12.6 +0.3**

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*SKHL **05** 21:27:13.8±0.2, 44°.30N×148°.70E, h45km±3km, mb4.0/5*
*JMA **05** 21:27:13.5±0.3, 44°.57N×148°.62E, h30km, M3.5*
ISC 05 21:27:11.6±3.6, 44°.22N±0°.09×148°.9E±0°.2, h35km, n18, σ1§40/31, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.26**	**324**	*eP*	**Pn**	**21 27 32.7**	**+0.1**
KUR				AMB	AMB	21 27 32.9	
	30nm,0.3s						
KUR				*i* S	**Sn**	**21 27 47.0**	**-1.3**
KUR				A	A	21 27 47.9	
	230nm,0.3s						
KUR				A	A	21 27 47.9	
	390nm,0.3s						
SHO	**Shikotan**	**1.54**	**258**	*eP*	**Pn**	**21 27 37.4**	**+0.9**
SHO				AMB	AMB	21 27 37.8	
	20nm,0.2s						
SHO				*e*S	**Sn**	**21 27 54.9**	**-0.3**
SHO				A	A	21 27 56.3	
	200nm,0.2s						
SHO				A	A	21 27 56.3	
	130nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.20**	**266**	*eP*	**Pn**	**21 27 46.5**	**+0.9**
YUK				AMB	AMB	21 27 47.9	
	20nm,0.2s						
YUK				*e*S	**Sn**	**21 28 11.1**	**-0.5**
YUK				A	A	21 28 13.3	
	180nm,0.2s						
YUK				A	A	21 28 13.3	
	60nm,0.2s						
GRPR	**Tuman**	**2.27**	**265**	*eP*	**Pn**	**21 27 46.9**	**+0.3**
GRPR				AMB	AMB	21 27 48.6	
	40nm,0.3s						
GRPR				*e*S	**Sn**	**21 28 12.0**	**-1.3**
GRPR				A	A	21 28 16.5	
	190nm,0.3s						
GRPR				A	A	21 28 16.5	
	110nm,0.3s						
NEM2	**Nemuro 2**	**2.44**	**251**	P	**Pn**	**21 27 49.7**	**+0.8**
NEM2				*e*S	**Sn**	**21 28 16.4**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.45**	**251**	*eP*	**Pn**	**21 27 49.8**	**+0.7**
GLVR	**Golovnino**	**2.49**	**260**	*eP*	**Pn**	**21 27 49.9**	**+0.3**
GLVR				AMB	AMB	21 27 51.5	
	30nm,0.4s						
GLVR				*e*S	**Sn**	**21 28 18.5**	**-0.2**
GLVR				A	A	21 28 21.6	
	260nm,0.4s						
GLVR				A	A	21 28 21.6	
	150nm,0.4s						
JRA	**Rausu**	**2.74**	**265**	P	**Pn**	**21 27 55.0**	**+2.0**
JRA				*e*S	**Sn**	**21 28 26.1**	**+1.2**
JNK	**Nakash**	**3.09**	**260**	P	**Pn**	**21 27 59.4**	**+1.5**
JNK				*e*S	**Sn**	**21 28 32.9**	**-0.7**
AKK	**Akkeshi**	**3.19**	**249**	*eP*	**Pn**	**21 28 00.2**	**+1.0**
AKK				*e*S	**Sn**	**21 28 34.9**	**-1.0**
JAK	**Akkeshi**	**3.29**	**250**	P	**Pn**	**21 28 01.4**	**+0.8**
JAK				*e*S	**Sn**	**21 28 37.0**	**-1.5**
JTKR	**Abashiri--Toko**	**3.61**	**268**	P	**Pn**	**21 28 06.7**	**+1.7**
JAR	**Ashorobuto**	**3.83**	**258**	P	**Pn**	**21 28 10.2**	**+2.1**
JAR				*e*S	**Sn**	**21 28 51.6**	**-0.3**
JOB	**Onbets**	**3.91**	**252**	P	**Pn**	**21 28 10.5**	**+1.4**
JOB				*e*S	**Sn**	**21 28 52.3**	**-1.5**
JMP	**Maruseppu**	**4.00**	**269**	P	**Pn**	**21 28 12.1**	**+1.7**
JCH	**Churui**	**4.35**	**250**	P	**Pn**	**21 28 15.9**	**+0.8**
JNBK	**Urakawa-nobuka**	**4.89**	**249**	P	**Pn**	**21 28 23.3**	**+0.7**
JKB	**Kayabe**	**6.22**	**251**	P	**Pn**	**21 28 41.6**	**+0.8**
JKB				*e*S	**Sn**	**21 29 46.5**	**-4.2**

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*IDC **05** 21:51:59.2±0.8, 2°.62S×100°.04E, h0km, mb4.6/19,*
mb1 4.7/21, mb1mx4.2/53, mbtmp4.6/21, ML4.0/2, MS3.6/1,
Ms1 3.6/1, ms1mx3.0/78, Error ellipse: s-maj=26.5km
s-min=12.7km az=52.0
*NEIC **05** 21:52:00.5±1.9, 2°.73S±0°.07×99°.92E±0°.07, h10km±1km,*
mb4.8/65, Error ellipse: s-maj=14.0km s-min=8.8km
az=219.0
*DJA **05** 21:52:01.6±0.6, 3°S±3°×10°0E±°, h21km±4km, M4.5/38,*
mb4.7/38, mB5.0/15, MLv4.8/25, Mw(mB)4.3/15,
MwMwp6.4/1, Mwp6.3/1
ISC 05 21:52:02.5±0.9, 2°.67S±0°.05×100°.00E±0°.05, h25km±6km,
n210, σ1§10/206, mb4.8/78, 1C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.09**	**172**	P	**Pb**	**21 52 07.4**	**+0.3**
KRJI	**Kerinci**	**1.57**	**69**	P	**Pb**	**21 52 30.1**	**-0.9**
SISI	**Saibi**	**1.61**	**326**	P	**Pn**	**21 52 29.5**	**+0.1**
PPI	**Padang Panjang**	**2.23**	**10**	P	**Pn**	**21 52 38.8**	**+0.8**
MASI	**Maura Aman, Be**	**2.29**	**102**	P	**Pn**	**21 52 39.8**	**+1.1**
BKNI	**Bangkinang**	**3.15**	**19**	P	**Pn**	**21 52 51.9**	**+1.3**
BKNI	**Bangkinang**	**3.15**	**19**		**Pn**	**21 52 51.7**	**+1.1**
BKNI	**Bangkinang**	**3.15**	**19**	P	**Pb**	**21 52 57.7**	**-0.2**
RGRI	**Rengat**	**3.28**	**45**	P	**Pn**	**21 52 54.5**	**+2.1**
MNAI	**Manna**	**3.40**	**120**	P	**Pn**	**21 52 55.2**	**+1.2**
MNAI	**Manna**	**3.40**	**120**	Pn	**Pn**	**21 52 54.7**	**+0.7**
MNAI	**Manna**	**3.40**	**120**	P	**Pn**	**21 52 54.8**	**+0.8**
MNSI	**Mandailing Nat**	**3.47**	**353**	P	**Pn**	**21 52 55.3**	**+0.4**
LHSI	**Lahat**	**3.70**	**108**	P	**Pn**	**21 53 00.0**	**+1.9**
JMBI	**JAMBI**	**3.79**	**74**	P	**Pn**	**21 53 00.9**	**+1.6**
MDSI	**Maura Dua**	**4.55**	**113**	P	**Pn**	**21 53 11.8**	**+2.1**
GSI	**Gunungsitoli**	**4.63**	**328**	P	**Pn**	**21 53 10.5**	**-0.4**
GSI	**Gunungsitoli**	**4.63**	**328**	Pn	**Pn**	**21 53 10.0**	**-0.9**
GSI	**Gunungsitoli**	**4.63**	**328**	P	**Pn**	**21 53 10.6**	**-0.4**
LWLI	**Liwa**	**4.67**	**120**	P	**Pn**	**21 53 12.8**	**+1.2**
PMBI	**Palembang**	**4.78**	**93**	P	**Pn**	**21 53 14.7**	**+1.8**
PMBI	**Palembang**	**4.78**	**93**	Pn	**Pn**	**21 53 13.5**	**+0.6**
DSRI	**Dabo**	**5.07**	**65**	P	**Pn**	**21 53 18.3**	**+1.3**
	0.5nm1μm46nm,0.5s						
KLSI		**5.13**	**113**	P	**Pn**	**21 53 19.9**	**+2.1**
	0.2nm680nm48nm,0.6s						
KASI	**Kota Agung**	**5.31**	**122**	P	**Pn**	**21 53 20.9**	**+0.7**
	0.7nm2μm189nm,0.8s						
KLI	**Kotabumi**	**5.32**	**114**	P	**Pn**	**21 53 21.7**	**+1.4**
	1.1nm192nm,0.4s						
RPSI	**Rantau Prapat**	**5.44**	**349**		**Pn**	**21 53 22.0**	**0.0**
PSI	**Prapat**	**5.54**	**349**	Pn	**Pn**	**21 53 22.0**	**-1.5**
	1.5nm,0.3s,baz=157,slow=13,SNR=5.5						
TPRI	**Tanjung Pinang**	**5.76**	**52**	P	**Pn**	**21 53 27.8**	**+1.3**
	0.6nm294μm6μm155nm,0.5s						
MYKOM	**Kota Tinggi**	**5.87**	**41**		**Pn**	**21 53 28.6**	**+0.7**
BLSI	**Bandar Lampung**	**5.88**	**117**	P	**Pn**	**21 53 29.7**	**+1.6**
	0.7nm139nm,0.4s						
PPBI	**Pangkal Pinang**	**6.16**	**85**	P	**Pn**	**21 53 33.4**	**+1.5**
	0.5nm4μm24nm,0.7s						
TPTI		**6.53**	**334**	P	**Pn**	**21 53 35.8**	**-1.2**
	0.0nm216nm10.0nm,0.7s						
CGJI	**Cibinong**	**6.90**	**125**	P	**Pn**	**21 53 41.1**	**-1.0**
	0.4nm1μm97nm,0.6s						
IPM	**Ipoh**	**7.18**	**8**	Pn	**Pn**	**21 53 47.0**	**+1.1**
IPM	**Ipoh**	**7.18**	**8**	P	**Pn**	**21 53 48.5**	**+2.6**
KULM	**Kulim**	**7.93**	**5**	Pn	**Pn**	**21 53 56.5**	**+0.2**
LHMI	**Lhok Sumawe**	**8.42**	**339**	Pn	**Pn**	**21 54 02.5**	**-0.5**
CNJI	**Cibinong**	**8.47**	**123**	P	**Pn**	**21 54 02.1**	**-1.5**
	1μm80nm,1.0s						
LEM	**Lembang**	**8.64**	**119**	Pn	**Pn**	**21 54 08.6**	**+2.4**
	7.2nm,0.3s,baz=155,slow=23,SNR=4.5						
LEM				LR	LR	21 58 07.8	
	comp=Z,326nm,18.7s,baz=254,slow=43						
XMIS	**Christmas Isla**	**9.58**	**144**	Pn	**Pn**	**21 54 16.8**	**-2.1**
CMJI	**Cimerak**	**9.83**	**121**	P	**Pn**	**21 54 20.7**	**-1.6**
	31nm,0.4s						
SRIT	**Nakonsritamara**	**11.20**	**358**	Pn	**Pn**	**21 54 40.7**	**-0.4**
UGM	**Wanagama**	**11.70**	**117**	P	**Pn**	**21 54 47.5**	**-0.6**
	67nm,1.8s						
UGM	**Wanagama**	**11.70**	**117**	Pn	**Pn**	**21 54 47.1**	**-0.9**
UGM	**Wanagama**	**11.70**	**117**	P	**Pn**	**21 54 47.4**	**-0.6**
	68nm,1.8s						
PCJI	**Pacitan**	**12.41**	**117**	P	**Pn**	**21 54 56.4**	**-1.2**
	34nm,1.0s						
SBUM	**Sibu**	**13.23**	**68**	Pn	**Pn**	**21 55 08.3**	**-0.7**
GMJI	**Gumukmas**	**14.49**	**113**	P	**Pn**	**21 55 26.6**	**+0.4**
	28nm,1.4s						
BBKI	**Banjar Baru**	**14.84**	**93**	P	**Pn**	**21 55 32.4**	**+1.5**
	23nm,0.4s						
JAGI	**Jajag, Banyuwa**	**15.21**	**113**	P	**Pn**	**21 55 33.4**	**-2.5**
	21nm,0.9s						
JAGI	**Jajag, Banyuwa**	**15.21**	**113**	Pn	**Pn**	**21 55 33.1**	**-2.8**
JAGI				IAmb	IAmb	21 56 00.5	
	comp=Z,18nm,0.6s						
JAGI	**Jajag, Banyuwa**	**15.21**	**113**	P	**Pn**	**21 55 33.4**	**-2.5**
	comp=Z,21nm,1.1s						
KKM	**Kota Kinabalu**	**18.36**	**62**	P	**P**	**21 56 15.4**	**-0.3**
UBPT	**Khong Chiam**	**18.64**	**17**	P	**P**	**21 56 16.9**	**-1.6**
TTSI	**Tana Toraja**	**19.80**	**92**	P	**Pn**	**21 56 32.5**	**-0.5**
	comp=Z,893nmcomp=Z,26nm,1.1s						
KAPI	**Kappang**	**19.85**	**97**	P	**Pn**	**21 56 33.4**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=273,slow=10,SNR=13						
KAPI	**Kappang**	**19.85**	**97**		**P**	**21 56 32.2**	**+0.4**
MYLDM	**Lahad Datu**	**20.06**	**67**	P	**P**	**21 56 34.9**	**+0.8**
MPSI	**Mapaga**	**20.12**	**82**	P	Pn	21 56 35.8	-0.9
	comp=Z,646nmcomp=Z,41nm,1.2s						
BNSI	**Bone**	**20.14**	**95**	P	**P**	**21 56 35.9**	**+0.9**
	comp=Z,29nm,0.9s						
BKSI	**Bulukumba**	**20.25**	**98**	P	**P**	**21 56 35.4**	**-0.8**
	comp=Z,652nmcomp=Z,57nm,0.8s						
WBSI	**Waikabubak, Su**	**20.48**	**111**	P	**P**	**21 56 37.2**	**-1.5**
	comp=Z,36nm,0.7s						
BSSI	**Bau Bau, Buton**	**20.72**	**100**	P	Pn	21 56 43.2	-0.6
	comp=Z,9.6nm,0.8s						
CM31	**Chiang Mai Arr**	**21.02**	**357**	P	**P**	**21 56 43.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**21.02**	**357**	P	**P**	**21 56 43.3**	**-1.2**
	comp=Z,7.3nm,0.6s,baz=186,slow=10.0,SNR=41						
CMAR	**Chiang Mai Arr**	**21.02**	**357**	P	**P**	**21 56 43.2**	**-1.3**
TOLI2	**Tolitoli**	**21.12**	**80**	P	**P**	**21 56 45.7**	**+0.1**
TOLI2	**Tolitoli**	**21.12**	**80**	P	**P**	**21 56 46.5**	**+0.9**
CHTO	**Chiang Mai**	**21.38**	**357**	P	**P**	**21 56 46.7**	**-1.6**
APSI	**Ampana**	**21.71**	**86**	P	**P**	**21 56 51.6**	**-0.4**
	comp=Z,484nmcomp=Z,37nm,1.3s						
MRSI	**Marisa**	**22.16**	**82**	P	**P**	**21 56 56.9**	**+0.1**
	comp=Z,47nm,0.8s						
LUWI	**Luwuk**	**22.82**	**86**	P	**P**	**21 57 03.9**	**+0.1**
LUWI				IAmb	IAmb	21 57 19.5	
	comp=Z,44nm,1.1s						
GTOI	**Gorontalo**	**23.24**	**82**	P	**P**	**21 57 07.7**	**-0.5**
	comp=Z,13nm,0.9s						
QIZ	**Qiongzhong**	**23.64**	**24**	P	**P**	**21 57 11.1**	**-0.9**
QIZ				IAmb	IAmb	21 57 33.6	
	comp=Z,28nm,1.5s						
SLVN	**Son La**	**24.16**	**9**	P	**P**	**21 57 16.2**	**-0.7**
LBMI	**Labuha**	**27.57**	**86**	P	**P**	**21 57 48.3**	**+0.5**
	comp=Z,527nmcomp=Z,21nm,0.9s						
KMI	**Kunming**	**27.76**	**5**	⇓P	**P**	**21 57 50.8**	**+1.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
H08S2	**Diego Garcia H**	**27.83**	**259**	T	T	22 26 47.7	
	baz=82,slow=76,SNR=1642						
H08S3	**Diego Garcia H**	**27.83**	**259**	T	T	22 26 43.6	
	baz=82,slow=76,SNR=4482						
H08S1	**Diego Carcia H**	**27.84**	**259**	T	T	22 26 44.5	
	baz=82,slow=76,SNR=521						
PZH	**PanZhiHua**	**29.05**	**3**	P	**P**	**21 58 04.8**	**+3.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,80nm,5.1s						
SHL	**Shillong**	**29.15**	**345**	P	**P**	**21 58 01.4**	**-0.6**
SHL				IAmb	IAmb	21 58 10.2	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**29.45**	**123**	P	**P**	**21 58 04.3**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=301,slow=4.3,SNR=6.1						
KNRA	**Kununurra**	**31.14**	**116**	P	**P**	**21 58 17.7**	**-1.8**
KNRA				IAmb	IAmb	21 58 26.5	
	comp=Z,12nm,0.9s						
FAKI	**Fak Fak**	**32.21**	**91**		**P**	**21 58 27.0**	**-2.0**
FAKI				IAmb	IAmb	21 58 56.0	
	comp=Z,11nm,1.0s						
FAKI	**Fak Fak**	**32.21**	**91**	P	**P**	**21 58 27.5**	**-1.5**
MTN	**Manton Dam**	**32.42**	**110**	P	**P**	**21 58 28.8**	**-2.0**
MTN				IAmb	IAmb	21 58 50.5	
	comp=Z,9.1nm,1.0s						
PKI	**Pulchoki**	**33.19**	**336**	*eP*	**P**	**21 58 38.7**	**+0.9**
	comp=Z,3.6nm,0.4s						
PKIN	**Phulchoki**	**33.20**	**336**	*eP*	**P**	**21 58 38.3**	**+0.5**
	comp=Z,4.1nm,0.4s						
LSA	**Lhasa**	**33.28**	**346**	P	**P**	**21 58 38.1**	**-0.6**
LSA				IAmb	IAmb	21 58 56.7	
	comp=Z,31nm,1.5s						
SSLB	**Suanglung**	**33.28**	**37**	P	**P**	**21 58 38.2**	**0.0**
SSLB				IAmb	IAmb	21 58 38.7	
	comp=Z,31nm,1.5s						
GUN	**Gumba**	**33.30**	**337**	*eP*	**P**	**21 58 40.1**	**+1.3**
	comp=Z,50nm,0.4s						
DMN	**Daman**	**33.35**	**335**	*eP*	**P**	**21 58 40.3**	**+1.2**
KKN	**Kakani**	**33.44**	**336**	*eP*	**P**	**21 58 40.7**	**+0.9**
	comp=Z,10nm,0.4s						
GKN	**Gorkha**	**33.89**	**335**	*eP*	**P**	**21 58 44.6**	**+0.9**
	comp=Z,12nm,0.3s						
ENH	**Enshi**	**33.99**	**15**	P	**P**	**21 58 42.6**	**-1.7**
ENH				IAmb	IAmb	21 58 45.1	
	comp=Z,8.9nm,0.9s						
KOLN	**Koldanda**	**34.14**	**334**	*eP*	**P**	**21 58 46.7**	**+0.8**
DANN	**Dangsing**	**34.57**	**334**	*eP*	**P**	**21 58 50.4**	**+0.7**
	comp=Z,22nm,0.4s						
H01W3	**Cape Leeuwin H**	**34.64**	**159**	T	T	22 35 11.6	
	baz=336,slow=76,SNR=31						
H01W2	**Cape Leeuwin H**	**34.66**	**159**	T	T	22 35 20.6	
	baz=336,slow=76,SNR=39						
H01W1	**Cape Leeuwin H**	**34.66**	**159**	T	T	22 35 23.4	
	baz=336,slow=76,SNR=26						
PYUN	**Piuthan**	**34.69**	**333**	*eP*	**P**	**21 58 51.7**	**+1.0**
	comp=Z,2.8nm,0.3s						
XAN	**Xi'an**	**37.47**	**12**	P	**P**	**21 59 13.6**	**-0.6**
XAN				pmax	pmax		
	comp=Z,11nm,0.6s						
XAN				pmax	pmax		
	comp=Z,96nm,4.0s						
WB0	**Warramunga Arr**	**37.64**	**119**	P	**P**	**21 59 15.3**	**-0.5**
WRA	**Warramunga Arr**	**37.66**	**120**	P	**P**	**21 59 15.4**	**-0.6**
	comp=Z,4.3nm,0.4s,baz=304,slow=9.2,SNR=94						
WRA	**Warramunga Arr**	**37.66**	**120**	P	**P**	**21 59 15.2**	**-0.8**
WB2	**Warramunga Arr**	**37.67**	**120**	P	**P**	**21 59 15.1**	**-1.0**
LZH	**Lanzhou**	**38.72**	**5**	⇓P	**P**	**21 59 25.4**	**+0.5**
LZH				pP	pP	21 59 30.8	-1.6
LZH				sP	sP	21 59 34.7	-0.8
LZH				pmax	pmax		
	comp=Z,13nm,1.4s						
LYN	**LuoYang**	**38.84**	**17**	*eP*	**P**	**21 59 25.6**	**0.0**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ASAR	**Alice Springs**	**38.87**	**125**	P	**P**	**21 59 26.3**	**+0.2**
	comp=Z,2.9nm,0.4s,baz=301,slow=7.9,SNR=39						
ASAR				PcP	**PcP**	**22 01 38.0**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=316,slow=2.8,SNR=6.3						
ASAR	**Alice Springs**	**38.87**	**125**	P	**P**	**21 59 25.0**	**-1.1**
AS31	**Alice Springs**	**38.87**	**125**	P	**P**	**21 59 25.4**	**-0.8**
NJ2	**Nanjing**	**38.90**	**26**	*eP*	**P**	**21 59 27.8**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
JOW	**Kunigami**	**40.07**	**41**	P	**P**	**21 59 36.0**	**0.0**
JOW				IAmb	IAmb	21 59 50.7	
	comp=Z,24nm,1.1s						
GTA	**Gaotai**	**41.88**	**360**	⇑P	**P**	**21 59 51.2**	**+0.3**
GTA				pP	pP	21 59 56.4	-2.1
GTA				sP	sP	21 59 59.7	-1.8
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NIL	**Nilore**	**44.06**	**327**	P	**P**	**22 00 08.4**	**-0.2**
NIL				IAmb	IAmb	22 00 09.6	
	comp=Z,18nm,0.8s						
HHC	**Hu-ho-hao-te**	**44.58**	**13**	*eP*	**P**	**22 00 16.7**	**+4.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,60nm,5.8s						
BJT	**Baijiatuan**	**45.00**	**18**	P	**P**	**22 00 15.4**	**-0.5**
BJT				IAmb	IAmb	22 00 17.5	
	comp=Z,8.1nm,0.9s						
BJI	**Beijing**	**45.02**	**18**	P	**P**	**22 00 16.5**	**+0.5**
BJI				pmax	pmax		
	comp=Z,12nm,0.8s						
KSH	**Kashi**	**47.43**	**335**	P	**P**	**22 00 35.3**	**0.0**
KSH				sP	pP	22 00 42.0	-1.0
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WMQ	**Urumqi**	**47.58**	**348**	*eP*	**P**	**22 00 38.3**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,26nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.9s						
KSRS	**Korea Array**	**47.60**	**30**	P	**P**	**22 00 36.2**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=226,slow=8.1,SNR=12						
JMN	**Monobe**	**48.27**	**38**	P	**P**	**22 00 41.8**	**0.0**
CTAO	**Charters Tower**	**48.32**	**115**	P	**P**	**22 00 42.4**	**+0.1**
XLT	**XiLinHaoTe**	**48.56**	**15**	*eP*	**P**	**22 00 44.5**	**+0.7**
XLT				sP	pP	22 00 51.9	+0.4
XLT				pmax	pmax		
	comp=Z,15nm,0.6s						
XLT				pmax	pmax		
	comp=Z,160nm,5.2s						
TARG	**Taragay, Kyrgy**	**48.58**	**338**	P	**P**	**22 00 45.1**	**+0.7**
TARG				IAmb	IAmb	22 00 47.3	
	comp=Z,9.3nm,0.8s						
JHS	**Saijyo**	**48.67**	**37**	P	**P**	**22 00 44.4**	**-0.3**
STKA	**Stephens Creek**	**48.71**	**131**	P	**P**	**22 00 46.4**	**+1.2**
	comp=Z,3.5nm,0.4s,baz=307,slow=9.1,SNR=13						
STKA	**Stephens Creek**	**48.71**	**131**	P	**P**	**22 00 45.8**	**+0.7**
PRZ	**Przheval'sk**	**49.01**	**339**	P	**P**	**22 00 48.5**	**+1.1**
KDJ	**Kajisay**	**49.16**	**338**	P	**P**	**22 00 50.2**	**+1.6**
SHLS	**Shalkode**	**49.23**	**340**	*eP*	**P**	**22 00 49.2**	**+0.2**
	comp=Z,6.0nm,0.6s,baz=341						
DRK	**Karamyk**	**49.30**	**331**	P	**P**	**22 00 50.4**	**+0.5**
UZB	**Uzynbulak**	**49.37**	**340**	*eP*	**P**	**22 00 51.2**	**+1.1**
	comp=Z,7.1nm,0.5s,baz=340						
SATY	**Saty**	**49.51**	**339**	*eP*	**P**	**22 00 52.2**	**+1.0**
	comp=Z,9.9nm,0.9s,baz=339						
ZHN	**Zhinishke**	**49.60**	**339**	*eP*	**P**	**22 00 53.0**	**+1.2**
	baz=339						
KPKS	**Kokpek**	**49.77**	**340**	*eP*	**P**	**22 00 54.1**	**+1.0**
	baz=340						
BOOM	**Boomskoye usch**	**49.94**	**337**	P	**P**	**22 00 54.9**	**+0.4**
BOOM				IAmb	IAmb	22 00 56.8	
	comp=Z,14nm,0.7s						
CHGR	**Chuyangaron**	**50.00**	**328**	P	**P**	**22 00 54.4**	**-0.6**
CHGR				IAmb	IAmb	22 00 55.4	
	comp=Z,16nm,0.9s						
MDOK	**Medeo**	**50.09**	**338**	*eP*	**P**	**22 00 56.7**	**+1.0**
	baz=338						
BTK	**Batken**	**50.23**	**331**	P	**P**	**22 00 56.9**	**+0.2**
BTK				IAmb	IAmb	22 00 58.6	
	comp=Z,6.7nm,0.7s						
UCH	**Uchtor**	**50.30**	**335**	P	**P**	**22 00 59.1**	**+1.5**
	SNR=10						
KST	**Kastek**	**50.40**	**337**	*eP*	**P**	**22 00 58.8**	**+0.8**
	baz=337						
KBK	**Karagaybulak**	**50.48**	**336**	P	**P**	**22 01 00.6**	**+2.0**
	SNR=11						
AML	**Almayashu**	**50.57**	**335**	P	**P**	**22 01 01.1**	**+1.5**
	SNR=23						
SONM	**Songino Array**	**50.61**	**6**	P	**P**	**22 01 00.4**	**+0.9**
	comp=Z,13nm,0.7s,baz=188,slow=9.2,SNR=30						
SONM				PcP	**PcP**	**22 02 17.5**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=193,slow=4.4,SNR=2.4						
SONM	**Songino Array**	**50.61**	**6**	P	**P**	**22 00 59.9**	**+0.5**
SONM				IAmb	IAmb	22 01 01.5	
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**50.65**	**336**	P	**P**	**22 01 01.6**	**+1.7**
	SNR=6.3						
AAK	**Ala-Archa**	**50.65**	**336**	P	**P**	**22 01 00.4**	**+0.5**
ULN	**Ulaanbaatar**	**50.70**	**6**	P	**P**	**22 01 00.7**	**+0.5**
ULN				IAmb	IAmb	22 01 02.1	
	comp=Z,10nm,0.8s						
FRU1	**Bishkek**	**50.74**	**336**	P	**P**	**22 01 01.5**	**+1.1**
FRU1				IAmb	IAmb	22 01 03.1	
	comp=Z,24nm,1.1s						
CHMS	**Chumysh**	**50.84**	**336**	P	**P**	**22 01 02.4**	**+1.2**
	SNR=8.9						
EKS2	**Erkin-Say**	**50.97**	**335**	P	**P**	**22 01 04.1**	**+1.9**
	SNR=28						
KUU	**Kurty**	**50.99**	**338**	*eP*	**P**	**22 01 02.5**	**+0.3**
	comp=Z,14nm,1.0s,baz=338						
USP	**Ospenovka**	**51.17**	**336**	P	**P**	**22 01 05.0**	**+1.3**
	SNR=27						
TDK	**Taldyqorghan**	**51.22**	**340**	*eP*	**P**	**22 01 04.4**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=340						
SGDS	**Sogindy**	**51.27**	**336**	*eP*	**P**	**22 01 04.8**	**+0.4**
	baz=336						
CN2	**Changchun**	**51.60**	**23**	*eP*	**P**	**22 01 06.4**	**-0.4**
CN2				PcP	**PcP**	**22 02 20.9**	**+0.5**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
ZSN	**Zaisan**	**51.65**	**347**	*eP*	**P**	**22 01 08.2**	**+1.0**
	baz=347						
MK31	**Makanchi Array**	**51.67**	**345**	P	**P**	**22 01 08.0**	**+0.7**
MK31				IAmb	IAmb	22 01 09.1	
	comp=Z,11nm,0.8s						
MKAR	**Makanchi Array**	**51.67**	**345**	P	**P**	**22 01 08.2**	**+0.9**
	comp=Z,16nm,0.7s,baz=148,slow=8.2,SNR=178						
MKAR	**Makanchi Array**	**51.67**	**345**	P	**P**	**22 01 07.9**	**+0.6**
MAKZ	**Makanchi**	**51.77**	**344**	P	**P**	**22 01 08.6**

BUR08 IAmb IAmb 22 04 21.2
comp=Z,12nm,1.4s
FINES FINESS Array B 84.70 332 P **P** **22 04 34.7 +0.7**
comp=Z,0.9nm,0.5s,baz=104,slow=4.5,SNR=9.1
FINES FINESS Array B 84.70 332 P **P** **22 04 34.9 +0.8**
ARCES ARCESS Array B 87.10 340 P **P** **22 04 46.8 +0.9**
comp=Z,2.1nm,0.6s,baz=95,slow=4.8,SNR=9.9
ARCES ARCESS Array B 87.10 340 P **P** **22 04 45.9 +0.1**
ARCES IAmb IAmb 22 05 11.3
comp=Z,7.4nm,1.1s
GERES GERESS Array B 89.55 319 P **P** **22 04 59.0 +1.0**
comp=Z,1.2nm,0.9s,baz=92,slow=4.7,SNR=5.7
YKA Yellowknife Ar 115.01 17 PKP **PKiKP** **22 10 40.3 -0.8**
comp=Z,0.3nm,0.7s,baz=319,slow=2.1,SNR=4.5
TXAR Lajitas Array 145.23 38 PKPbc **PKPdf** **22 11 39.5 +0.6**
comp=Z,11nm,0.8s,baz=284,slow=1.0,SNR=88
TXAR pPKPbc **pPKPdf** **22 11 47.9 +0.5**
comp=Z,3.5nm,0.6s,baz=256,slow=1.3,SNR=13
TKL Tuckaleechee C 146.99 6 PKPbc **PKPbc** **22 11 43.5 0.0**
comp=Z,6.1nm,0.8s,baz=132,slow=5.8,SNR=5.3

*IDC **05** 21:53:29.1±1.2, 21°.04S×68°.73E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/53, mbtmp3.9/6, MS3.9/6, Ms1 3.9/6, ms1mx3.4/74, Error ellipse: s-maj=37.7km s-min=30.8km az=171.0*

ISC 05 21:53:31.3±1.1, 21°.1S±0°.3×68°.7E±0°.2, h13km, n14, σ0.66/6, mb4.0/6, MS3.9/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.83**	**16**	T	T	22 10 52.0	
	baz=197,slow=75,SNR=18						
H08S2	**Diego Garcia H**	**13.84**	**16**	T	T	22 10 52.5	
	baz=197,slow=75,SNR=29						
H08S3	**Diego Garcia H**	**13.85**	**16**	T	T	22 10 57.3	
	baz=197,slow=75,SNR=21						
MATP	**Matopo**	**37.56**	**264**	LR	LR	22 13 21.1	
	comp=Z,62nm,19.8s,baz=150,slow=32						
LSZ	**Lusaka**	**38.87**	**272**	LR	LR	22 14 42.3	
	comp=Z,168nm,19.4s,baz=166,slow=33						
LBTB	**Lobatse**	**39.76**	**256**	LR	LR	22 13 42.0	
	comp=Z,192nm,21.4s,baz=127,slow=30						
BOSA	**Boshof**	**39.99**	**250**	P	**P**	**22 01 06.2**	**+0.1**
	4.6nm,1.0s,baz=86,slow=5.0,SNR=3.5						
BOSA				LR	LR	22 14 53.7	
	comp=Z,232nm,18.4s,baz=119,slow=32						
SUR	**Sutherland**	**43.94**	**245**	LR	LR	22 16 16.3	
	comp=Z,180nm,20.8s,baz=116,slow=31						
TSUM	**Tsumeb**	**47.89**	**263**	LR	LR	22 19 52.3	
	comp=Z,248nm,19.8s,baz=127,slow=33						
CMAR	**Chiang Mai Arr**	**49.19**	**39**	P	**P**	**22 02 20.0**	**+0.6**
	0.6nm,0.3s,baz=207,slow=9.7,SNR=2.0						
ASAR	**Alice Springs**	**59.85**	**106**	P	**P**	**22 03 36.9**	**-0.2**
	0.5nm,0.6s,baz=266,slow=6.2,SNR=3.5						
WRA	**Warramunga Arr**	**61.05**	**102**	P	**P**	**22 03 45.1**	**-0.1**
	1.2nm,0.9s,baz=256,slow=6.4,SNR=4.1						
MKAR	**Makanchi Array**	**68.65**	**10**	P	**P**	**22 04 33.2**	**-0.9**
	0.6nm,0.7s,baz=197,slow=4.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**75.99**	**10**	P	**P**	**22 05 17.8**	**+0.1**
	0.4nm,0.4s,baz=195,slow=10,SNR=2.3						

TAP 05 21:58:25.0, 23°.46N×120°.46E, h16km, ML1.4, 2D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHY	**Chiayi**	**0.05**	**317**	*i* P	Pg	21 58 28.0	0.0
	baz=323						
CHY				*i* S	Sg	21 58 30.6	+0.7
	baz=323						
CHN2	**Minshiung**	**0.07**	**12**	*i* P	Pg	21 58 28.6	+0.5
	baz=11						
CHN2				S	Sg	21 58 31.0	+0.9
	baz=11						
CHN4	**Tsaushan**	**0.17**	**132**	*e*P	Pb	21 58 29.7	0.0
	baz=131						
ICHU	**Yijhu**	**0.19**	**238**	P	Pb	21 58 30.0	-0.1
	baz=238						
ICHU				S	Sb	21 58 34.4	+0.7
	baz=238						
TWK	**Hsinying**	**0.20**	**172**	‖ *i* P	Pb	21 58 30.4	+0.1
	baz=169						
TWK				*i* S	Sb	21 58 34.1	+0.3
	baz=169						
TPUB	**Ta-pu**	**0.23**	**136**	P	Pb	21 58 30.8	0.0
	baz=135						
TPUB				S	Sb	21 58 35.1	+0.6
	baz=135						
TPUB	**Ta-pu**	**0.23**	**136**	P	Pb	21 58 30.6	-0.1
WDLH	**Douliu**	**0.24**	**18**	*e*P	Pb	21 58 30.7	-0.2
	baz=18						
WDLH				*e*S	Sb	21 58 35.4	+0.5
	baz=18						
CHN5	**Tsauling**	**0.24**	**56**	*i* P	Pb	21 58 30.8	-0.3
	baz=56						
CHN5				*i* S	Sb	21 58 35.6	+0.5
	baz=56						
WGK	**Gukeng**	**0.24**	**23**	P	Pg	21 58 30.2	-0.2
	baz=24						
WGK				S	Sb	21 58 35.7	+0.7
	baz=24						
SNST	**Tainan City**	**0.24**	**172**	*e*P	Pb	21 58 30.8	-0.2
	baz=171						
SNST				S	Sb	21 58 35.5	+0.4
	baz=171						
CHN8	**Yiju**	**0.26**	**243**	P	Pb	21 58 30.9	-0.3
	baz=241						
CHN8				S	Sb	21 58 36.1	+0.7
	baz=241						
WTP	**Ta-pu**	**0.26**	**147**	‖ *i* P	Pb	21 58 31.4	+0.1
	baz=145						
WTP				*i* S	Sb	21 58 36.1	+0.6
	baz=145						
WSF	**Szhu**	**0.28**	**309**	*e*P	Pb	21 58 31.6	0.0
	baz=309						
WSF				*e*S	Sb	21 58 36.7	+0.6
	baz=309						
CHN1	**Nanshi**	**0.28**	**167**	*i* P	Pb	21 58 31.7	0.0
	baz=166						
CHN1				*i* S	Sb	21 58 37.0	+0.8
	baz=166						
ALS	**Alishan**	**0.32**	**81**	*i* P	Pb	21 58 32.8	+0.3
	baz=82						
ALS				*i* S	Sb	21 58 38.2	+0.6
	baz=82						
STYH	**Taoyuan**	**0.41**	**135**	P	Pb	21 58 34.0	+0.1
	baz=135						
STYH				*e*S	Sb	21 58 39.8	-0.1
	baz=135						

*MOS **05** 21:59:47.5±0.8, 21°.99N×143°.61E, h157km, mb5.6/63, Error ellipse: s-maj=6.2km s-min=3.7km az=112.3*
*DSN **05** 21:59:47.9±1.2, 21°.59N×143°.90E, h157km, mb6.0/21, Error ellipse: s-maj=35.1km s-min=30.4km az=172.0*
*BJI **05** 21:59:47.4±0.0, 22°.15N×143°.59E, h150km, mb5.8/89, mB5.7/64*
*NEIC **05** 21:59:50.2, 22°.04N×143°.65E, h160km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.72; $M_{\theta\theta}$=0.09; $M_{\phi\phi}$=0.63; $M_{r\theta}$=0.30; $M_{r\phi}$=0.34; $M_{\theta\phi}$=3.85; Fault plane solution: M_o=3.94000×10^{17} NP1:ϕ_s=44.44000°, δ=6.63000°, λ=-50.61000°. NP2:ϕ_s=184.86000°, δ=84.88000°, λ=-94.22000°. Principal axes: T 3.9203, Plg=40.0000°, Azm=279.0000°; N 0.0356, Plg=4.0000°, Azm=185.0000°; P -3.9559, Plg=50.0000°, Azm=90.0000°;*
*IDC **05** 21:59:50.5±0.6, 22°.02N×143°.55E, h171km±5km, mb5.2/50, mb1 5.3/53, mb1mx5.2/59, mbtmp5.7/53, MS4.4/46, Ms1 4.4/46, ms1mx4.2/79 Error ellipse: s-maj=8.1km s-min=5.5km az=91.0*
*NEIC **05** 21:59:50.1±1.8, 22°.07N±0°.06×143°.61E±0°.09, h158km±1km, mb5.9/352, Mwb5.7/47, Mww5.7, Error ellipse: s-maj=13.7km s-min=10.1km az=255.0*
*JMA **05** 21:59:51.3±0.3, 22°.22N×143°.83E, h185km±3km, M6.0*
JMA Felt I J1.
*GCMT **05** 21:59:51.2±0.1, 22°.03N±0°.01×143°.87E±0°.01, h175km, MW5.7/155, Moment Tensor Solution. s131,c229; s155,c310; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.12±.04; $M_{\theta\theta}$-0.56±.05; $M_{\phi\phi}$1.69±.05; $M_{r\theta}$0.27±.03; $M_{\theta\phi}$-0.33±.05; $M_{\phi r}$4.33±.04; Best double couple: M_o4.57600×10^{17} NP1:ϕ_s330.00000°, δ11.00000°, λ-123.00000°. NP2:ϕ_s184.00000°, δ81.00000°, λ-84.00000°. Principal axes: T 4.8400, Plg36.0000°, Azm269.0000°; N -0.5180, Plg6.0000°, Azm3.0000°; P -4.3120, Plg53.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **05** 21:59:53, 22°.07N×143°.72E, h170km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.06; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$1.29; $M_{r\theta}$0.37; $M_{\theta\phi}$-0.30; $M_{\phi r}$3.69; Fault plane solution: M_o3.90000×10^{17} NP1: ϕ_s328.00000°, δ11.00000°, λ-126.00000°. NP2: ϕ_s185.00000°, δ81.00000°, λ-83.00000°. Principal axes: T 3.9840, Plg36.0000°, Azm270.0000°; N -0.1704, Plg6.0000°, Azm4.0000°; P -3.8135, Plg53.0000°, Azm103.0000°;*

ISC 05 21:59:49.9±0.2, 22°.08N±0°.02×143°.62E±0°.03, h169km±1km, h169km:pP-P, n1701, σ1.58/2041, mb5.7/411, 196C-224D, Fault plane solution: NP1:ϕ_s343.58283°, δ87.58345°, λ64.35054°. **NP2:**ϕ_s248.56461°, δ25.75537°, λ174.43160°.
Principal axes: T Plg41.8110°, Azm229.3368°; N Plg25.6250°, Azm344.7427°; P Plg37.3762°, Azm96.2371°; **Fault plane solution: NP1:**ϕ_s75.92648°, δ26.23262°, λ3.02101°. **NP2:**ϕ_s343.21613°, δ88.66516°, λ116.20104°. **Principal axes:** T Plg40.5983°, Azm277.4950°; N Plg26.1934°, Azm162.5594°; P Plg38.1562°, Azm49.8229°; **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.72**	**344**	‖ P	**Pn**	**22 01 01.5**	**+1.5**
JHH2				S	**Sn**	**22 01 55.8**	**+0.9**
CBIJ	**Chichi jima**	**5.17**	**346**	‖ P	**Pn**	**22 01 06.7**	**+1.0**
CBIJ				S	**Sn**	**22 02 05.6**	**+0.3**
JCJ	**Chichijima**	**5.17**	**346**	Pn	**Pn**	**22 01 06.6**	**+0.8**
JCJ				Sn	**Sn**	**22 02 04.1**	**-1.1**
JCJ	**Chichijima**	**5.17**	**346**	P	**Pn**	**22 01 08.7**	**+3.0**
GUMO	**Guam**	**8.53**	**172**	P	**Pn**	**22 01 52.2**	**+2.0**
	24nm,0.3s,baz=66,slow=1.0,SNR=22						
GUMO				LR	LR	22 03 54.3	
	comp=Z,3μm,18.8s,baz=8.0,slow=29						
GUMO	**Guam**	**8.53**	**172**	Pn	**Pn**	**22 01 50.9**	**+0.7**
GUMO	**Guam**	**8.53**	**172**	P	**Pn**	**22 01 52.6**	**+2.4**
GUMO	**Guam**	**8.53**	**172**	P	**Pn**	**22 01 51.9**	**+1.7**
JAOM	**Aogashimamukai**	**10.90**	**342**	P	**Pn**	**22 02 21.9**	**+0.6**
JHCJ	**Hachijojimakas**	**11.46**	**344**	P	**Pn**	**22 02 29.0**	**+0.4**
JHCJ				S	**Sn**	**22 04 33.5**	**-2.2**
JHJ2	**Mitsune**	**11.50**	**344**	P	**Pn**	**22 02 29.2**	**+0.2**
JHJ2	**Mitsune**	**11.50**	**344**	Pn	**Pn**	**22 02 29.4**	**+0.3**
JHJ2	**Mitsune**	**11.50**	**344**	P	**P**	**22 02 33.0**	**-2.8**
JHJ	**Hachijo jima 2**	**11.51**	**344**	P	**Pn**	**22 02 29.0**	**-0.2**
	44nm,0.3s,baz=69,slow=22,SNR=22						
JHJ				S	**Sn**	**22 04 35.6**	**-1.3**
	59nm,0.3s,baz=53,slow=24,SNR=2.0						
JHJ				LR	LR	22 06 23.5	
	comp=Z,2μm,19.8s,baz=160,slow=34						
JKDJ	**Kitadaitoujima**	**11.91**	**291**	P	**Pn**	**22 02 36.7**	**+2.3**
JMZ	**Minamidaito 2**	**11.94**	**291**	P	**Pn**	**22 02 36.8**	**+2.0**
JMKN	**Mikurajimanish**	**12.30**	**344**	P	**Pn**	**22 02 40.0**	**+0.7**
JMKN				*e*S	**Sn**	**22 04 52.8**	**-2.9**
BSO3	**Boso 3**	**12.97**	**349**	P	**Pn**	**22 02 48.8**	**+1.1**
TTO1	**TONANKAI O.B.S**	**12.99**	**334**	P	**P**	**22 02 50.4**	**-1.7**
JIM2	**Oshima 3**	**13.12**	**345**	P	**Pn**	**22 02 50.4**	**+0.5**
BSO4	**Boso 4**	**13.18**	**348**	P	**Pn**	**22 02 51.3**	**+0.7**
JKUC	**kamogawauchiur**	**13.38**	**348**	P	**Pn**	**22 02 53.5**	**+0.4**
JSG	**Sagara**	**13.43**	**340**		**Pn**	**22 02 54.2**	**+0.4**
JHTM	**Izuhatsuma**	**13.46**	**344**	P	**Pn**	**22 02 55.0**	**+0.9**
JIE	**Ise**	**13.69**	**335**	P	**P**	**22 02 58.6**	**-1.6**
JOD2	**Odawara 2**	**13.72**	**344**	P	**Pn**	**22 02 57.6**	**+0.1**
JOD2				*e*S	**Sn**	**22 05 24.7**	**-5.3**
JOD2	**Odawara 2**	**13.72**	**344**	P	**ScP**	**22 11 23.1**	**-3.1**
JKN2	**Miekihoku**	**13.73**	**333**	P	**P**	**22 02 59.1**	**-1.6**
HMMJ	**Hamamatsu 2**	**13.74**	**339**	P	**Pn**	**22 02 58.5**	**+0.8**
JSSY	**Shinshiroyabe**	**13.87**	**339**	P	**P**	**22 03 00.7**	**-1.4**
JYZW	**Yoshizawa**	**13.87**	**339**	P	**Pn**	**22 03 00.0**	**+0.7**
JSGW	**Sagamiharawaka**	**14.02**	**345**	P	**Pn**	**22 03 01.4**	**+0.2**
TSUJ	**Tsu 2**	**14.09**	**335**	P	**P**	**22 03 03.8**	**-0.7**
JAO	**Obara**	**14.27**	**338**	P	**P**	**22 03 05.5**	**-1.2**
JYT	**Yasato**	**14.41**	**349**		**Pn**	**22 03 06.7**	**+0.6**
INU	**Inuyama**	**14.43**	**338**		**Pn**	**22 03 06.9**	**+0.6**
INU	**Inuyama**	**14.43**	**338**	P	**P**	**22 03 08.1**	**-0.3**
INU	**Inuyama**	**14.43**	**338**	P	**P**	**22 03 07.4**	**-1.0**
JMN	**Monobe**	**14.44**	**326**	P	**ScP**	**22 11 25.7**	**-1.7**
JMN	**Monobe**	**14.44**	**326**		**P**	**22 03 09.1**	**+0.5**
JAMN	**Amaninishikomi**	**14.45**	**298**	P	**P**	**22 03 10.3**	**+1.7**
JRY	**Ryogami san**	**14.49**	**345**	P	**Pn**	**22 03 07.5**	**+0.5**
JRY	**Ryogami san**	**14.49**	**345**	P	**ScP**	**22 11 24.4**	**-3.1**
JGF	**Kuroka**	**14.54**	**339**	P	**Pn**	**22 03 08.6**	**+0.8**
JGF	**Kuroka**	**14.54**	**339**	P	**ScP**	**22 11 24.4**	**-3.2**
JGF	**Kuroka**	**14.54**	**339**		**Pn**	**22 03 08.6**	**+0.8**
JHO	**Hitachi**	**14.72**	**350**	P	**P**	**22 03 10.8**	**-0.8**
JMIK	**Miki**	**14.74**	**331**	P	**P**	**22 03 13.3**	**+1.4**
JOW	**Kunigami**	**14.75**	**292**	P	**P**	**22 03 12.7**	**+0.6**
	183nm,0.3s,baz=123,slow=13,SNR=213						
JOW				LR	LR	22 08 21.4	
	comp=Z,2μm,20.4s,baz=120,slow=35						
JOW	**Kunigami**	**14.75**	**292**	P	**P**	**22 03 16.3**	**+4.2**
JOW	**Kunigami**	**14.75**	**292**		**P**	**22 03 11.7**	**-0.4**
JOW	**Kunigami**	**14.75**	**292**	P	**P**	**22 03 14.6**	**+2.5**
JWT	**Wachi**	**14.99**	**333**	P	**ScP**	**22 11 25.5**	**-2.8**
JWT	**Wachi**	**14.99**	**333**	P	**P**	**22 03 14.9**	**+0.3**
JWT				IAmb	IAmb	22 03 20.2	
	comp=Z,477nm,0.7s						
JSU	**Suzuyama**	**15.04**	**311**	P	**P**	**22 03 16.3**	**+1.2**
JNG	**Nsakai**	**15.06**	**343**	P	**Pn**	**22 03 14.4**	**+0.1**
JGN	**Niukaw**	**15.13**	**340**	P	**ScP**	**22 11 25.3**	**-3.4**
MJAR	**Matsushiro Arr**	**15.16**	**343**	P	**Pn**	**22 03 15.4**	**+0.1**
	comp=Z,5.2nm,0.3s,baz=164,slow=11,SNR=97						
MJAR				ScP	**ScP**	**22 11 24.9**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=184,slow=2.0,SNR=43						
MJAR	**Matsushiro Arr**	**15.16**	**343**	P	**Pn**	**22 03 15.8**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,191nm,0.8s						
MJAR	**Matsushiro Arr**	**15.16**	**343**		**Pn**	**22 03 15.8**	**+0.4**
MAJO	**Matsushiro**	**15.16**	**343**	*i* P	**Pn**	**22 03 15.6**	**+0.2**
MAJO	**Matsushiro**	**15.16**	**343**		**Pn**	**22 03 15.7**	**+0.2**
MAJO				IAmb	IAmb	22 03 24.3	
	comp=Z,277nm,0.6s						
MAJO	**Matsushiro**	**15.16**	**343**	P	**P**	**22 03 16.7**	**+0.2**
MAJO	**Matsushiro**	**15.16**	**343**	P	**P**	**22 03 15.9**	**-0.6**
MAT	**Matsushiro**	**15.16**	**343**	P	**Pn**	**22 03 15.8**	**+0.4**
MAT				S	**Sn**	**22 05 56.3**	**-8.1**
MAT	**Matsushiro**	**15.16**	**343**	P	**Pn**	**22 03 15.8**	**+0.4**
MAT	**Matsushiro**	**15.16**	**343**	P	**ScP**	**22 11 25.5**	**-3.1**
JAD	**Aida**	**15.26**	**329**	P	**ScP**	**22 11 26.2**	**-2.6**
JNU	**Nakatsue**	**15.75**	**317**	P	**P**	**22 03 26.5**	**+3.3**
	comp=Z,39nm,0.3s,baz=110,slow=5.4,SNR=196						
JNU	**Nakatsue**	**15.75**	**317**	P	**P**	**22 03 25.6**	**+2.5**
JNU	**Nakatsue**	**15.75**	**317**	P	**P**	**22 03 27.3**	**+4.2**
JHS	**Saijyo**	**15.83**	**327**	P	**P**	**22 03 26.2**	**+2.3**
JMM	**Marumori**	**15.92**	**352**	P	**ScP**	**22 11 26.9**	**-3.1**
JMM	**Marumori**	**15.92**	**352**	P	**P**	**22 03 26.0**	**+1.1**
JSD	**Sado**	**16.56**	**345**	P	**Pn**	**22 03 32.4**	**0.0**
JSD	**Sado**	**16.56**	**345**		**Pn**	**22 03 32.5**	**0.0**
JSD				IAmb	IAmb	22 03 38.3	
	comp=Z,445nm,0.8s						
JOGS	**Gusukube**	**16.93**	**283**	P	**Pn**	**22 03 41.1**	**+4.2**
JMJ2	**Miyako jima3**	**17.00**	**283**	P	**Pn**	**22 03 41.7**	**+3.9**
JMJ	**Miyako jima 2**	**17.04**	**283**	P	**Pn**	**22 03 41.4**	**+3.2**
JIRB	**Irabujima**	**17.15**	**283**	P	**Pn**	**22 03 42.6**	**+3.1**
JOM	**Ohasama**	**17.45**	**354**	P	**ScP**	**22 11 30.0**	**-3.0**
JTJ	**Tarama**	**17.56**	**282**	P	**Pn**	**22 03 46.8**	**+2.4**
JTU	**Tsushima**	**17.60**	**318**	P	**Pn**	**22 03 46.5**	**+1.7**
JISG	**Ishigakijimahi**	**17.91**	**282**	P	**Pn**	**22 03 50.3**	**+1.7**
IRIF	**Iriomote-Funau**	**18.42**	**281**	P	**Pn**	**22 03 55.5**	**+0.9**
JTM	**Tenmabayashi**	**18.78**	**354**	P	**ScP**	**22 11 32.5**	**-3.3**
JTM	**Tenmabayashi**	**18.78**	**354**	P	**Pn**	**22 03 58.3**	**-0.3**
JTM				IAmb	IAmb	22 04 08.9	
	comp=Z,825nm,0.8s						
YOJ	**Yonaguni jima**	**19.09**	**281**	P	**P**	**22 04 00.7**	**+1.1**
YOJ				pmax	pmax		
	comp=Z,400nm,0.6s						
YOJ	**Yonaguni jima**	**19.09**	**281**	P	**P**	**22 04 00.7**	**+1.1**
YOJ				IAmb	IAmb	22 04 04.1	
	comp=Z,400nm,0.6s						
YOJ	**Yonaguni jima**	**19.09**	**281**	P	**Pn**	**22 04 02.5**	**+0.2**
ERM	**Erimo**	**19.88**	**359**	*i* P	**Pn**	**22 04 10.8**	**-0.8**
ERM				pmax	pmax		
	comp=Z,204nm,1.0s						
ERM	**Erimo**	**19.88**	**359**	P	**Pn**	**22 04 10.2**	**-1.4**
ERM	**Erimo**	**19.88**	**359**	P	**Pn**	**22 04 11.6**	**0.0**
TJN	**Taejon**	**20.07**	**319**	*c*eP	**P**	**22 04 10.4**	**+0.3**
TJN	**Taejon**	**20.07**	**319**	P	**P**	**22 04 10.8**	**+0.7**
NACB	**Ninganchiao**	**20.36**	**280**	P	**P**	**22 04 14.1**	**+0.7**
NACB				IAmb	IAmb	22 04 18.8	
	comp=Z,167nm,0.5s						
KSRS	**Korea Array**	**20.46**	**322**	P	**P**	**22 04 14.0**	**-0.3**
	comp=Z,387nm,0.5s,baz=151,slow=11,SNR=154						
KSRS				S	**S**	**22 07 58.1**	**+4.1**
	comp=Z,3.4nm,0.9s,baz=356,slow=38,SNR=3.3						
KSRS				ScP	**ScP**	**22 11 37.3**	**-2.5**
	comp=Z,57nm,1.1s,baz=138,slow=2.6,SNR=42						
KSAR	**Wonju Array Be**	**20.48**	**322**	P	**P**	**22 04 14.4**	**-0.1**
KSAR	**Wonju Array Be**	**20.48**	**322**	P	**P**	**22 04 14.3**	**-0.1**
TATO	**Taipei**	**20.50**	**282**	P	**P**	**22 04 15.8**	**+1.1**
TATO	**Taipei**	**20.50**	**282**	P	**P**	**22 04 15.7**	**+0.9**
TATO				IAmb	IAmb	22 04 19.4	
	comp=Z,158nm,0.4s						
KS19	**Wonju Array Si**	**20.53**	**322**	P	**P**	**22 04 15.3**	**+0.3**
YHNB	**Yeheng**	**20.58**	**282**	P	**P**	**22 04 16.6**	**+0.8**
YHNB				IAmb	IAmb	22 04 21.0	
	comp=Z,315nm,0.7s						
YHNB	**Yeheng**	**20.58**	**282**	P	**P**	**22 04 17.3**	**+1.5**
YULB	**Yu-li**	**20.63**	**278**	P	**P**	**22 04 17.1**	**+0.8**
YULB				IAmb	IAmb	22 04 25.2	
	comp=Z,211nm,0.5s						
PATS	**Pohnpei**	**20.75**	**135**		**P**	**22 04 16.8**	**-0.8**
PATS	**Pohnpei**	**20.75**	**135**	P	**P**	**22 04 18.2**	**+0.6**
JEW	**Eniwo**	**20.78**	**355**	P	**ScP**	**22 11 38.3**	**-2.2**
JEW	**Eniwo**	**20.78**	**355**	P	**P**	**22 04 19.4**	**+1.7**
TWG	**Pinlang**	**20.86**	**276**	P	**P**	**22 04 19.0**	**+0.4**
SSLB	**Suanglung**	**20.95**	**279**	P	**P**	**22 04 21.0**	**+1.3**
SSLB	**Suanglung**	**20.95**	**279**	P	**P**	**22 04 22.2**	**+2.6**
INCN	**Inchon**	**21.23**	**320**	P	**P**	**22 04 22.2**	**-0.3**
INCN				pmax	pmax		
	comp=Z,994nm,1.4s						
INCN	**Inchon**	**21.23**	**320**	P	**P**	**22 04 22.3**	**-0.3**
INCN	**Inchon**	**21.23**	**320**	P	**P**	**22 04 22.2**	**-0.3**
INCN				IAmb	IAmb	22 04 26.4	
	comp=Z,994nm,1.4s						
INCN	**Inchon**	**21.23**	**320**	P	**P**	**22 04 21.4**	**-1.2**
TPUB	**Ta-pu**	**21.25**	**278**	P	**P**	**22 04 23.7**	**+0.8**
TPUB	**Ta-pu**	**21.25**	**278**	P	**P**	**22 04 25.4**	**+2.5**
JCNP	**Jose Panganiba**	**21.32**	**252**	‖ *e*P	**P**	**22 04 25.5**	**+1.8**
MSLP	**Maasin**	**21.56**	**240**	‖ *e*P	**P**	**22 04 27.7**	**+1.5**
MSLP				*e*S	**S**	**22 08 12.8**	**-1.5**
BUTP	**Butuan**	**21.66**	**236**	‖ *e*P	**P**	**22 04 30.1**	**+2.8**
GQP	**Guinayangan**	**21.70**	**252**	‖ *e*P	**P**	**22 04 29.9**	**+2.2**
WAKE	**Wake Island**	**21.72**	**93**	P	**P**	**22 04 27.0**	**-0.8**
WAKE	**Wake Island**	**21.72**	**93**	P	**P**	**22 04 28.1**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**21.86**	**92**	P	**P**	**22 04 29.4**	**+0.3**
	baz=262,slow=11,SNR=18						
H11N1				T	T	22 27 52.1	
	baz=280,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**21.86**	**92**	P	**P**	**22 04 29.5**	**+0.4**
	baz=262,slow=11,SNR=14						
H11N2				T	T	22 27 33.0	
	baz=280,slow=75,SNR=12						
JMP	**Maruseppu**	**21.87**	**359**	P	**ScP**	**22 11 41.0**	**-2.2**
H11N3	**WAKE ISLAND Hy**	**21.88**	**92**	P	**P**	**22 04 29.6**	**+0.4**
	baz=262,slow=11,SNR=18						
H11N3				T	T	22 27 25.0	
	baz=280,slow=75,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**21.92**	**95**	P	**P**	**22 04 29.9**	**+0.2**
	baz=310,slow=74,SNR=6.6						
H11S3				T	T	22 27 31.4	
	baz=283,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**21.93**	**95**	P	**P**	**22 04 30.0**	**+0.2**
	baz=136,slow=74,SNR=7.0						
H11S1				T	T	22 27 25.4	
	baz=283,slow=75,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**21.94**	**95**	P	**P**	**22 04 30.1**	**+0.2**
H11S2				T	T	22 27 41.4	
	baz=283,slow=75,SNR=18						
SSE	**Sheshan**	**21.95**	**299**	P	**P**	**22 04 30.2**	**+0.1**
SSE				S	**S**	**22 08 20.8**	**+0.3**
SSE				sS	**sS**	**22 09 13.8**	**+1.7**
SSE				pmax	pmax		
	comp=Z,1μm,0.9s						
SSE				pmax	pmax		
	comp=Z,2μm,5.0s						
SSE				LR	LR		
	comp=Z,830nm,19.4s						
SAMP	**Sagada Mountai**	**21.97**	**261**	‖ *e*P	**P**	**22 04 30.6**	**+0.3**
SAMP				*e*S	S	22 07 58.7	-22
SAMP	**Sagada Mountai**	**21.97**	**261**	‖ *e*P	**P**	**22 04 30.7**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**21.98**	**4***c*	*i* P	**P**	**22 04 31.2**	**+1.0**
YUK				*i* *PP	**pP**	**22 05 00.0**	**+2.1**
YUK				*e*S	**S**	**22 08 22.8**	**+2.1**
YUK				*i* *SS	**sS**	**22 09 15.0**	**+2.7**
YUK				pmax	pmax		
	comp=Z,700nm,2.4s						
YUK				pmax	pmax		
	comp=Z,587nm,1.5s						
YUK				pmax	pmax		
	comp=N,300nm,1.6s						
YUK				pmax	pm

comp=Z,200nm,4.8s
LUBP Lubang 23.72 253⇓ *e*P P 22 04 47.5 +0.9
USA0B Ussuriysk Arra 24.07 339 P **P 22 04 51.3 +1.8**
USA0B pmax pmax
comp=Z,130nm,0.8s
USA0B Ussuriysk Arra 24.07 339 P **P 22 04 51.3 +1.8**
USRK Ussuriysk Ar. 24.07 339 P **P 22 04 51.0 +1.5**
comp=Z,142nm,0.9s,baz=136,slow=7.8,SNR=76
USRK S **S 22 09 03.0 +8.6**
comp=Z,5.7nm,0.7s,baz=139,slow=37,SNR=1.6
USRK ScP **ScP 22 11 45.7 -3.2**
comp=Z,18nm,0.7s,baz=202,slow=2.2,SNR=17
USRK LR LR 22 14 46.4
comp=Z,572nm,18.5s,baz=140,slow=37
USRK P3KPbc 22 38 03.2
comp=Z,5.4nm,0.9s,baz=340,slow=2.9,SNR=11
PAGZ Pagadian 24.09 237⇑ *e*P P 22 04 51.9 +1.9
NJ2 Nanjing 24.14 300⇑ *i*P P 22 04 48.5 -1.8
NJ2 pP **pP 22 05 22.9 +0.1**
NJ2 sP **sP 22 05 40.8 -2.2**
NJ2 S **S 22 08 54.9 -1.0**
NJ2 SS **SnSn 22 09 57.4 -1.9**
NJ2 ScP **ScP 22 11 48.1 -1.3**
NJ2 ScS **ScS 22 15 34.4 -2.5**
NJ2 pmax pmax
comp=Z,630nm,1.1s
NJ2 pmax pmax
comp=Z,730nm,3.6s
SUJ Sinuiju 24.23 322 P **P 22 04 52.9 +2.0**
SUJ pP **pwP 22 05 25.9 -1.5**
SUJ S **S 22 09 00.0 +3.0**
SUJ AmB
comp=Z,959nm,0.7s
SUJ AMS AMS
comp=N,881nm,3.2s
SUJ AMS AMS
comp=E,338nm,1.2s
SUJ AMS AMS
comp=Z,681nm,2.5s
MANU Manus Island 24.25 171 P **P 22 04 50.5 -0.9**
BAKI Biak 24.26 199 P **P 22 04 51.9 +0.4**
comp=Z,208nm,0.8s
SMPI Sarmi 24.40 192 P **P 22 04 54.9 +2.2**
JAY Jayapura 24.61 187 P **P 22 04 55.1 +0.4**
comp=Z,17nm,0.6s,baz=8.9,slow=5.5,SNR=6.8
JAY Jayapura 24.61 187 P **P 22 04 55.4 +0.7**
comp=Z,1μmcomp=Z,35nm,0.9s
GENI Genyem 24.75 188 P **P 22 04 56.7 +0.8**
comp=Z,4μmcomp=Z,79nm,1.3s
GENI Genyem 24.75 188 P **P 22 04 56.5 +0.6**
YSS Yuzh-Sakhalins 24.83 359 *e*P **P 22 04 58.7 +2.4**
YSS *e**PP **pP 22 05 27.3 -1.8**
YSS *e**SP **sP 22 05 47.5 -1.2**
YSS *e*S **S 22 09 06.5 +0.1**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,400nm,4.6s
YSS smax smax
comp=N,300nm,8.6s
YSS smax smax
comp=E,1μm,4.9s
YSS MLR MLR
comp=Z,600nm,13.0s
YSS Yuzh-Sakhalins 24.83 359 P **P 22 04 58.2 +1.9**
YSS IAmb IAmb 22 05 28.0
comp=Z,259nm,0.7s
YSS Yuzh-Sakhalins 24.83 359 P **P 22 04 59.0 +2.7**
SRPI Serui, Papua 24.87 198 P **P 22 04 57.9 +0.9**
comp=Z,122nm,0.4s
DL2 Dalian 25.21 317⇑ *i*P P 22 05 00.4 +0.5
DL2 pP **pwP 22 05 35.4 -1.2**
DL2 S **S 22 09 20.8 +8.2**
DL2 ScP **ScP 22 11 50.6 -1.7**
DL2 ScS **ScS 22 15 38.6 -2.4**
DL2 pmax pmax
comp=Z,2μm,0.8s
DL2 pmax pmax
comp=Z,370nm,4.1s
MDJ Mudanjiang 25.28 336 P **P 22 05 02.0 +1.5**
MDJ pP pP 22 05 29.9 -4.3
MDJ sP sP 22 05 48.1 -5.1
MDJ S **S 22 09 14.8 +1.2**
MDJ sS sS 22 10 07.0 -7.0
MDJ ScP **ScP 22 11 59.1 +6.7**
MDJ PcS **PcS 22 12 14.5 +5.1**
MDJ pmax pmax
comp=Z,81nm,1.1s
MDJ Mudanjiang 25.28 336 P **P 22 05 01.6 +1.2**
MDJ Mudanjiang 25.28 336 P **P 22 05 02.4 +1.9**
MDJ Mudanjiang 25.28 336 P **P 22 05 02.3 +1.8**
MDJ pP **pwP 22 05 39.7 +1.5**
ENPP El Nido 25.54 249⇓ *e*P P 22 05 04.4 +1.3
SWI Sorong 25.80 209 P **P 22 05 05.6 +0.2**
comp=Z,3μmcomp=Z,1μmcomp=Z,42nm,1.2s
SIJI Sorong 25.80 209 P **P 22 05 05.4 -0.1**
comp=Z,19nm,0.6s,baz=22,slow=9.6,SNR=13
SIJI PcP **PcP 22 08 31.6 +0.9**
comp=Z,20nm,0.8s,baz=30,slow=6.7,SNR=4.3
SIJI P3KPbc 22 37 57.5
comp=Z,7.3nm,0.4s,baz=141,slow=22,SNR=5.4
SNY Shenyang 25.91 324⇑ P **P 22 05 06.2 +0.1**
SNY S **S 22 09 21.4 -2.1**
SNY pmax pmax
comp=Z,260nm,0.8s
SNY LR LR
comp=Z,540nm,12.1s
SNY LR LR
comp=Z,580nm,9.7s
SNY LR LR
comp=Z,610nm,10.9s
WAMI Wamena 26.25 191 P **P 22 05 14.2 +4.8**
CN2 Changchun 26.38 329 *e*P **P 22 05 11.4 +1.0**
CN2 *e*sP sP 22 06 03.2 -0.2
CN2 PcP **PcP 22 08 31.5 0.0**
CN2 *e*S **S 22 09 31.5 +0.4**
CN2 ScP **ScP 22 11 52.7 -2.9**
CN2 ScS **ScS 22 15 42.9 -3.0**
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 pmax pmax
comp=Z,500nm,11.0s
TNTI Ternate 26.44 219 P **P 22 05 11.4 +0.2**
comp=Z,1μmcomp=Z,1μmcomp=Z,66nm,0.8s
TNTI Ternate 26.44 219 P **P 22 05 11.1 -0.1**
TNTI Ternate 26.44 219 P **P 22 05 12.2 +1.0**
KWAJ Kwajalein Atol 26.57 116 P **P 22 05 11.9 -0.5**
KWAJ pmax pmax
comp=Z,510nm,1.0s
KWAJ Kwajalein Atol 26.57 116 P **P 22 05 11.9 -0.5**
UGL Uglegorsk 26.97 358 *e*P **P 22 05 18.6 +3.0**
UGL pmax pmax
comp=Z,110nm,1.1s
TIA Tai'an 26.98 307⇑ P **P 22 05 16.9 +1.0**
TIA S **S 22 09 40.1 -0.7**
TIA pmax pmax
comp=Z,190nm,1.2s
TIA pmax pmax
comp=Z,640nm,4.4s
TIA LR LR
comp=Z,1μm,5.7s
TIA LR LR
comp=Z,870nm,6.1s
TIA LR LR
comp=Z,1μm,13.2s
BNX BinXian 27.07 335⇓ P **P 22 05 18.2 +1.7**
BNX pP **pP 22 05 51.4 +1.2**
BNX sP **sP 22 06 08.6 -0.7**
BNX PP **PnPn 22 06 13.0 +3.2**
BNX S **S 22 09 44.1 +2.3**
BNX sS **sS 22 10 41.9 -0.7**
BNX pmax pmax
comp=Z,120nm,0.9s
BNX pmax pmax
comp=Z,300nm,3.5s
BNX LR LR
comp=Z,970nm,10.6s
BNX LR LR
comp=Z,730nm,12.4s
BNX LR LR
comp=Z,810nm,12.0s
FAKI Fak Fak 27.22 206 P **P 22 05 17.9 -0.3**
comp=Z,45nm,0.7s
FAKI Fak Fak 27.22 206 P **P 22 05 17.3 -0.9**
FAKI Fak Fak 27.22 206 P **P 22 05 17.8 -0.4**

HKPS Hong Kong Po S 27.28 276 P **P 22 05 19.3 +0.6**
RABL Rabaul 27.41 161 P **P 22 05 18.4 -1.5**
RABL IAmb IAmb 22 06 01.0
comp=Z,154nm,0.8s
WHN Wuhan 27.50 294⇑ P **P 22 05 21.3 +0.8**
WHN pP **pwP 22 05 58.4 -0.1**
WHN S **S 22 09 53.8 +4.8**
WHN sS **sS 22 10 50.4 +0.6**
WHN ScP **ScP 22 11 59.8 +0.6**
WHN ScS **ScS 22 15 49.3 -2.0**
WHN pmax pmax
comp=Z,210nm,0.6s
WHN pmax pmax
comp=Z,2μm,4.2s
WHN LR LR
comp=Z,3μm,11.7s
LBMI Labuha 27.52 217 P **P 22 05 21.4 +0.6**
comp=Z,1μmcomp=Z,2μmcomp=Z,104nm,0.7s
BATP Bataraza 28.11 246⇓ *e*P P 22 05 28.4 +2.2
CNSH ChangSha 28.40 289⇑ P **P 22 05 28.8 +0.3**
CNSH S **S 22 10 04.9 +1.8**
CNSH LR LR
comp=Z,2μm,19.1s
CNSH LR LR
comp=Z,1μm,17.0s
CNSH LR LR
comp=Z,1μm,16.2s
KMSI Cibinong 28.69 224 P **P 22 05 32.4 +1.2**
comp=Z,3μmcomp=Z,253nm,0.8s
KLR Kul'dur 28.69 344 P **P 22 05 32.4 +1.5**
comp=Z,98nm,0.5s,baz=154,slow=7.7,SNR=323
KLR Kul'dur 28.69 344 *ce*P **P 22 05 32.2 +1.3**
TYV Tymovskoe 28.74 359 *e*P **P 22 05 33.5 +2.2**
TYV pmax pmax
comp=Z,32nm,0.9s
TYV pmax pmax
comp=Z,300nm,3.7s
MSAI Masohi 29.07 211 P **P 22 05 35.4 +0.8**
GRNR Gornyy 29.19 351⇑ *i*P **P 22 05 37.3 +2.0**
GRNR pmax pmax
comp=N,4.0nm,1.3s
GRNR pmax pmax
comp=Z,10.0nm,1.4s
HNS HongShan 29.24 308⇑ P **P 22 05 36.8 +0.9**
HNS pP **pP 22 06 10.0 -0.2**
HNS sP **sP 22 06 27.7 -1.6**
HNS PP **PnPn 22 06 39.0 +1.1**
HNS S **S 22 10 15.7 -0.4**
HNS sS **sS 22 11 17.5 +0.5**
HNS ScS **ScS 22 15 57.8 -1.2**
HNS pmax pmax
comp=Z,180nm,1.0s
HNS pmax pmax
comp=Z,1μm,3.9s
HNS LR LR
comp=Z,2μm,15.7s
HNS LR LR
comp=Z,800nm,13.3s
GTOI Gorontalo 29.28 226 P **P 22 05 37.3 +0.8**
comp=Z,696nmcomp=Z,44nm,0.9s
BJT Baijiatuau 29.37 314 P **P 22 05 37.8 +0.8**
BJT pmax pmax
comp=Z,64nm,0.7s
BJT Baijiatuau 29.37 314 P **P 22 05 37.8 +0.8**
BJT Baijiatuau 29.37 314 P **P 22 05 37.6 +0.6**
BJI Beijing 29.38 314 P **P 22 05 37.1 0.0**
BJI pP **pP 22 06 10.5 -1.1**
BJI PcP **PcP 22 08 40.2 +1.2**
BJI S **S 22 10 15.2 -3.0**
BJI sS **sS 22 11 14.2 -5.0**
BJI ScP **ScP 22 12 02.3 -2.6**
BJI PcS **PcS 22 12 20.0 -2.0**
BJI ScS **ScS 22 15 57.4 -2.2**
BJI pmax pmax
comp=Z,53nm,1.0s
BJI pmax pmax
comp=Z,650nm,3.8s
BJI LR LR
comp=Z,440nm,16.0s
BJI LR LR
comp=Z,410nm,16.0s
BJI LR LR
comp=Z,440nm,16.2s
SANI Sanana 29.53 218 P **P 22 05 37.1 -1.5**
comp=Z,2μmcomp=Z,946nmcomp=Z,52nm,0.7s
SANI Sanana 29.53 218 P **P 22 05 37.3 -1.3**
MYLDM Lahad Datu 29.55 239 P **P 22 05 41.1 +2.3**
MYLDM IAmb IAmb 22 05 43.4
comp=Z,476nm,1.1s
BNDI Bandanaira 29.65 209 P **P 22 05 39.1 -0.6**
AAI Ambon 29.72 212 P **P 22 05 41.0 +0.6**
AAI pmax pmax
comp=Z,68nm,0.7s
AAI Ambon 29.72 212 P **P 22 05 40.8 +0.4**
comp=Z,1μmcomp=Z,68nm,0.6s
LYN LuoYang 29.99 301⇑ *i*P **P 22 05 43.1 +0.6**
LYN pP pP 22 06 15.0 -1.9
LYN PcP **PcP 22 08 42.0 +1.3**
LYN S **S 22 10 26.5 -1.4**
LYN ScP **ScP 22 12 06.5 -0.5**
LYN ScS **ScS 22 16 01.2 -1.5**
LYN pmax pmax
comp=Z,110nm,1.2s
LYN pmax pmax
comp=Z,560nm,7.8s
MRSI Marisa 30.12 227 P **P 22 05 45.1 +1.2**
comp=Z,2μmcomp=Z,2μmcomp=Z,153nm,1.5s
SKR Severo-Kuril's 30.18 16 *ce*P **P 22 05 45.9 +1.9**
TOLI2 Tolitoli 30.47 230 P **P 22 05 47.5 +0.5**
TOLI2 IAmb IAmb 22 05 49.5
comp=Z,256nm,1.6s
TOLI2 Tolitoli 30.47 230 P **P 22 05 48.4 +1.4**
LUWI Luwuk 30.69 224 P **P 22 05 48.5 -0.4**
comp=Z,2μmcomp=Z,107nm,0.7s
LUWI Luwuk 30.69 224 P **P 22 05 48.4 -0.6**
LUWI IAmb IAmb 22 07 02.2
comp=Z,129nm,0.8s
LUWI Luwuk 30.69 224 P **P 22 05 48.8 -0.1**
KKM Kota Kinabalu 30.91 243 P **P 22 05 52.1 +1.2**
KKM IAmb IAmb 22 05 54.1
comp=Z,178nm,1.0s
KKM Kota Kinabalu 30.91 243 P **P 22 05 53.0 +2.1**
TIY Taiyuan 31.03 307 P **P 22 05 53.0 +1.2**
TIY S **S 22 10 43.4 -0.9**
TIY pmax pmax
comp=Z,74nm,0.7s
TIY LR LR
comp=Z,940nm,11.6s
TIY LR LR
comp=Z,420nm,8.2s
TIY LR LR
comp=Z,560nm,10.3s
APSI Ampana 31.33 226 P **P 22 05 55.2 +0.7**
comp=Z,879nmcomp=Z,43nm,0.5s
SPMM Sapulut 31.46 241 P **P 22 05 57.0 +1.3**
PMG Port Moresby 31.48 173 P **P 22 05 54.6 -1.2**
comp=Z,43nm,0.5s,baz=358,slow=8.4,SNR=16
PMG LR LR 22 18 07.4
comp=Z,286nm,18.9s,baz=354,slow=35
PMG Port Moresby 31.48 173 P **P 22 05 54.7 -1.1**
PMG pmax pmax
comp=Z,121nm,1.2s
PMG Port Moresby 31.48 173 P **P 22 05 54.7 -1.1**
PMG Port Moresby 31.48 173 P **P 22 05 55.0 -0.8**
PMG Port Moresby 31.48 173 P **P 22 05 54.3 -1.4**
XLT XiLinHaoTe 31.49 320⇑ *i*P **P 22 05 55.8 +0.1**
XLT pP pP 22 06 29.5 -0.7
XLT sP sP 22 06 48.9 -0.4
XLT S **S 22 10 47.5 -3.9**
XLT PcS **PcS 22 12 25.2 -4.0**
XLT SS SS 22 12 54.6 -20
XLT pmax pmax
comp=Z,140nm,0.7s
XLT LR LR
comp=Z,1μm,13.1s
XLT LR LR
comp=Z,1μm,13.7s
XLT LR LR
comp=Z,2μm,15.2s
ENH Enshi 31.61 292 P **P 22 05 57.7 +0.8**
ENH IAmb IAmb 22 05 58.7
comp=Z,759nm,2.0s
ENH Enshi 31.61 292 P **P 22 05 56.9 0.0**
MPSI Mapaga 31.64 230 P **P 22 05 57.9 +0.6**
comp=Z,3μmcomp=Z,1μmcomp=Z,30nm,0.8s

QIZ Qiongzhong 31.74 271 P **P 22 05 59.8 +1.7**
QIZ pP **pP 22 06 31.2 -1.4**
QIZ PP **PP 22 07 14.7 +1.5**
QIZ S **S 22 10 59.5 +3.9**
QIZ ScS **ScS 22 16 14.2 +2.3**
QIZ pmax pmax
comp=Z,30nm,1.0s
QIZ LR LR
comp=Z,2μm,19.1s
QIZ LR LR
comp=Z,2μm,15.7s
QIZ LR LR
comp=Z,2μm,14.9s
QIZ Qiongzhong 31.74 271 P **P 22 05 59.4 +1.3**
QIZ Qiongzhong 31.74 271 P **P 22 06 00.0 +1.9**
QIZ Qiongzhong 31.74 271 P **P 22 05 58.9 +0.8**
SAUI Saumlaki 32.23 203 P **P 22 06 03.1 +0.8**
comp=Z,6μmcomp=Z,112nm,1.1s
SAUI Saumlaki 32.23 203 P **P 22 06 02.0 -0.3**
SAUI IAmb IAmb 22 07 09.2
comp=Z,162nm,1.0s
XAN Xi'an 32.71 299 P **P 22 06 07.4 +0.9**
XAN pP pP 22 06 40.4 -0.7
XAN sP sP 22 06 59.3 -0.8
XAN PP **PP 22 07 25.5 +1.7**
XAN S **S 22 11 08.3 -2.1**
XAN sS sS 22 12 08.4 -3.4
XAN SS **SnSn 22 13 20.4 -6.6**
XAN pmax pmax
comp=Z,150nm,0.9s
XAN pmax pmax
comp=Z,1μm,4.1s
XAN LR LR
comp=Z,990nm,13.7s
XAN LR LR
comp=Z,700nm,13.1s
XAN LR LR
comp=Z,890nm,12.9s
PEA0B Petropavlovsk- 32.80 16 *ce*P **P 22 06 08.2 +1.3**
PEA0B Petropavlovsk- 32.80 16 P **P 22 06 07.7 +0.8**
PETK Petropavlovsk- 32.80 16 P **P 22 06 09.0 +2.0**
comp=Z,26nm,0.7s,baz=219,slow=11,SNR=20
PETK PcP **PcP 22 08 48.3 +0.4**
comp=Z,21nm,0.8s,baz=197,slow=4.6,SNR=6.6
PETK ScP **ScP 22 12 12.7 -3.4**
comp=Z,8.0nm,0.6s,baz=174,slow=3.4,SNR=9.5
PETK LR LR 22 17 03.7
comp=Z,980nm,22.0s,baz=192,slow=31
PETK Petropavlovsk- 32.80 16 P **P 22 06 08.5 +1.5**
PETK **PcP 22 08 48.3 +0.4**
PETK ScP **ScP 22 12 13.0 -3.1**
HHC Hu-ho-hao-te 32.88 312 *e*P **P 22 06 09.0 +1.1**
HHC pP pP 22 06 39.7 -3.1
HHC S **S 22 11 11.6 -1.5**
HHC pmax pmax
comp=Z,130nm,1.4s
HHC pmax pmax
comp=Z,220nm,6.7s
PET Petropavlovsk 32.97 17 *d i*P **P 22 06 09.4 +1.0**
PET *e**PP **pP 22 06 44.5 +2.0**
PET *e**SP **sP 22 07 01.1 -0.3**
PET *e* 22 07 29.2
PET *e*S **S 22 11 12.8 -1.1**
PET *e* 22 12 12.5
PET *e*SS SS 22 13 22.1 -19
PET pmax pmax
comp=Z,332nm,1.9s
PET pmax pmax
comp=Z,500nm,9.3s
PET pmax pmax
comp=Z,300nm,8.3s
PET MLR MLR
comp=Z,600nm,16.0s
PET MLR MLR
comp=Z,800nm,14.0s
PET Petropavlovsk 32.97 17 P **P 22 06 10.4 +2.0**
PET Petropavlovsk 32.97 17 P **P 22 06 10.7 +2.4**
PET Petropavlovsk 32.97 17 P **P 22 06 10.8 +2.4**
KDI Kendari 33.04 221 P **P 22 06 08.1 -1.4**
comp=Z,108nm,1.1s
HIA Hailar 33.08 331 P **P 22 06 10.4 +0.9**
HIA pmax pmax
comp=Z,137nm,1.0s
HIA Hailar 33.08 331 P **P 22 06 10.4 +0.9**
HIA Hailar 33.08 331 P **P 22 06 10.3 +0.9**
BTO Baotou 33.85 311 *e*P **P 22 06 18.1 +1.7**
BTO LR LR
comp=Z,3μm,14.3s
BTO LR LR
comp=Z,3μm,13.9s
GYA Guiyang 33.90 285⇑ *i*P **P 22 06 17.7 +0.7**
GYA pP pwP 22 06 54.6 -1.0
GYA PP **PP 22 07 37.8 +0.6**
GYA S **S 22 11 26.4 -2.7**
GYA ScP **ScP 22 12 21.2 +0.6**
GYA ScS **ScS 22 16 22.2 -0.9**
GYA pmax pmax
comp=Z,51nm,0.9s
GYA pmax pmax
comp=Z,670nm,3.5s
GYA LR LR
comp=Z,630nm,11.4s
GYA LR LR
comp=Z,690nm,16.1s
GYA LR LR
comp=Z,1μm,16.8s
ZEA Zeya 33.98 343 *e*P **P 22 06 18.2 +1.1**
ZEA *e* 22 07 11.5
ZEA *e*S **S 22 11 27.5 -1.9**
ZEA pmax pmax
comp=N,120nm,2.2s
ZEA pmax pmax
comp=Z,230nm,1.8s
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,40nm,0.5s
ZEA pmax pmax
comp=Z,100nm,0.8s
ZEA smax smax
comp=N,500nm,3.7s
ZEA smax smax
comp=Z,5μm,3.7s
ZEA smax smax
comp=E,800nm,3.9s
ZEA smax smax
comp=Z,6μm,3.9s
ZEA MLR MLR
comp=N,300nm,12.0s
ZEA MLR MLR
comp=Z,400nm,13.0s
SMKI Samarinda 34.13 232 P **P 22 06 22.1 +3.2**
comp=Z,6μmcomp=Z,330nm,1.5s
TTSI Tana Toraja 34.13 226 P **P 22 06 20.1 +1.2**
comp=Z,2μmcomp=Z,122nm,0.9s
BBSI Bau Bau 34.29 219 P **P 22 06 22.2 +2.0**
comp=Z,16nm,0.8s
SPSI Sidrap Palu 34.85 225 P **P 22 06 26.3 +1.3**
comp=Z,3μmcomp=Z,177nm,0.8s
BKB Balikpapan 34.91 232 P **P 22 06 27.8 +2.3**
comp=Z,8μmcomp=Z,520nm,1.3s
BKB Balikpapan 34.91 232 P **P 22 06 26.7 +1.1**
BNSI Bone 34.96 224 P **P 22 06 27.6 +1.6**
comp=Z,3μmcomp=Z,202nm,1.6s
DLV T Lat 35.00 259 P **P 22 06 28.4 +1.8**
DLV IAmb IAmb 22 06 30.2
comp=Z,215nm,1.0s
DLV T Lat 35.00 259 P **P 22 06 28.8 +2.2**
HNR Honiara 35.17 151 LR LR 22 20 31.0
comp=Z,396nm,20.1s,baz=330,slow=35
BKSI Bulukumba 35.65 223 P **P 22 06 32.7 +0.8**
comp=Z,725nmcomp=Z,47nm,1.0s
KAPI Kappang 35.65 224 P **P 22 06 32.6 +0.7**
comp=Z,46nm,0.9s,baz=71,slow=5.6,SNR=41
KAPI Kappang 35.65 224 P **P 22 06 33.2 +1.3**
KAPI Kappang 35.65 224 P **P 22 06 32.6 +0.7**
KAPI Kappang 35.65 224 P **P 22 06 33.2 +1.3**
KAPI Kappang 35.65 224 P **P 22 06 31.1 -0.8**
KAPI pP **pwP 22 07 12.1 -0.3**
MIDW Midway 35.73 72 P **P 22 06 33.0 +0.6**
MIDW Midway 35.73 72 P **P 22 06 33.8 +1.4**
COEN Coen 35.81 181 P **P 22 06 33.2 0.0**
COEN IAmb IAmb 22 06 35.8
comp=Z,129nm,0.7s
COEN Coen 35.81 181 P **P 22 06 33.7 +0.5**

BSSI	**Bau Bau, Buton**	**36.06 222**	P	**P**	**22 06 36.1 +0.7**
	comp=Z,1µmcomp=Z,79nm,1.7s				
MTKI	**Muara Teweh, K**	**36.18 234**	P	**P**	**22 06 37.8 +1.4**
	comp=Z,3µmcomp=Z,215nm,1.0s				
SBUM	**Sibu**	**36.21 242**	P	**P**	**22 06 37.6 +0.9**
SBUM			IAmb	IAmb	22 06 39.9
	comp=Z,309nm,1.6s				
SBUM	**Sibu**	**36.21 242**	P	**P**	**22 06 39.0 +2.3**
KDU	**Kakadu**	**36.24 199**	P	**P**	**22 06 36.3 -0.5**
DRS	**Darwin Rock St**	**36.49 201**	P	**P**	**22 06 38.5 -0.5**
CD2	**Chengdu**	**36.59 292** ⇓	*i*P	**P**	**22 06 41.0 +1.2**
CD2			pP	pP	22 07 16.5 +1.5
CD2			PP	**PnPn**	**22 08 10.3 +1.5**
CD2			S	**S**	**22 12 17.9 +7.8**
CD2			pmax	pmax	
	comp=Z,190nm,0.8s				
CD2			pmax	pmax	
	comp=Z,700nm,5.0s				
CD2			LR	LR	
	comp=Z,220nm,27.9s				
CD2			LR	LR	
	comp=Z,2µm,27.5s				
CD2			LR	LR	
	comp=Z,1µm,15.4s				
UBPT	**Khong Chiam**	**36.70 266**	P	**P**	**22 06 42.1 +1.3**
UBPT			IAmb	IAmb	22 06 44.5
	comp=Z,225nm,1.6s				
MTN	**Manton Dam**	**36.80 201**	P	**P**	**22 06 40.5 -1.1**
MTN	**Manton Dam**	**36.80 201**	P	**P**	**22 06 41.2 -0.4**
KBKI	**Kotabaru**	**36.83 230**	P	**P**	**22 06 42.9 +1.0**
	comp=Z,2µmcomp=Z,105nm,1.1s				
SLVN	**Son La**	**36.84 276**	P	**P**	**22 06 43.0 +1.0**
SOEI	**Soe**	**36.90 213**	P	**P**	**22 06 42.3 -0.3**
	comp=Z,1µmcomp=Z,79nm,0.7s				
SOEI	**Soe**	**36.90 213**	P	**P**	**22 06 41.8 -0.8**
SOEI	**Soe**	**36.90 213**	P	**P**	**22 06 41.5 -1.1**
MMRI	**Maumere**	**37.03 217**	P	**P**	**22 06 43.7 +0.1**
	comp=Z,2µmcomp=Z,85nm,0.9s				
MMRI	**Maumere**	**37.03 217**	P	**P**	**22 06 43.3 -0.3**
MMRI			IAmb	IAmb	22 07 59.1
	comp=Z,368nm,1.8s				
MMRI	**Maumere**	**37.03 217**	P	**P**	**22 06 43.8 +0.1**
LZH	**Lanzhou**	**37.20 301**	⇑P	**P**	**22 06 46.5 +1.5**
LZH			pP	pP	22 07 22.0 +1.7
LZH			sP	sP	22 07 36.3 -3.0
LZH			PcP	**PcP**	**22 09 06.3 +4.9**
LZH			S	**S**	**22 12 17.8 -1.6**
LZH			sS	sS	22 13 23.0 +1.5
LZH			ScS	**ScS**	**22 16 39.5 -1.5**
LZH			pmax	pmax	
	comp=Z,170nm,1.3s				
LZH			pmax	pmax	
	comp=Z,770nm,5.0s				
LZH			LR	LR	
	comp=Z,1µm,19.0s				
LZH			LR	LR	
	comp=Z,810nm,17.3s				
LZH			LR	LR	
	comp=Z,640nm,16.3s				
EDFI	**Ende, Flores**	**37.43 217**	P	**P**	**22 06 46.8 -0.3**
	comp=Z,952nmcomp=Z,36nm,0.9s				
KMI	**Kunming**	**37.49 283**	⇑P	**P**	**22 06 48.5 +0.8**
KMI			pP	pwP	22 07 26.0 -0.7
KMI			sP	sP	22 07 43.3 +1.5
KMI			PP	**PP**	**22 08 16.2 -0.6**
KMI			S	**S**	**22 12 23.4 -0.7**
KMI			ScP	**ScP**	**22 12 33.4 -0.5**
KMI			ScS	**ScS**	**22 16 42.9 -0.2**
KMI			pmax	pmax	
	comp=Z,45nm,1.0s				
KMI			pmax	pmax	
	comp=Z,610nm,3.8s				
KMI			LR	LR	
	comp=Z,930nm,15.2s				
KMI			LR	LR	
	comp=Z,1µm,21.3s				
KMI			LR	LR	
	comp=Z,1µm,17.5s				
BATI	**Baumata**	**37.59 213**	P	**P**	**22 06 46.8 -1.5**
	comp=Z,72nm,0.4s,baz=102,slow=1.5,SNR=17				
BATI			PcP	**PcP**	**22 09 04.8 +2.2**
	comp=Z,112nm,0.9s,baz=154,slow=3.8,SNR=5.1				
BATI	**Baumata**	**37.59 213**	P	**P**	**22 06 47.3 -1.0**
	comp=Z,789nmcomp=Z,63nm,0.5s				
MA2	**Magadan**	**37.81 6**	*ce*P	**P**	**22 06 50.7 +1.1**
MA2			pmax	pmax	
	comp=Z,156nm,1.8s				
MA2	**Magadan**	**37.81 6**	P	**P**	**22 06 50.9 +1.3**
MA2			IAmb	IAmb	22 06 52.9
	comp=Z,327nm,1.8s				
MA2	**Magadan**	**37.81 6**	P	**P**	**22 06 51.4 +1.8**
MA2	**Magadan**	**37.81 6**	P	**P**	**22 06 51.5 +1.9**
MA2			pP	**pwP**	**22 07 31.5 +1.2**
CIT	**Chita**	**37.83 330**	*e*P	**P**	**22 06 51.8 +1.8**
CIT			*e*		22 07 46.5
CIT			*e*		22 08 28.6
CIT			*e*S	**S**	**22 12 29.3 +1.0**
CIT			pmax	pmax	
	comp=Z,109nm,2.2s				
BBKI	**Banjar Baru**	**37.90 231**	P	**P**	**22 06 51.5 +0.6**
	comp=Z,3µmcomp=Z,107nm,2.1s				
STKI	**Sintang**	**38.21 239**	P	**P**	**22 06 54.3 +0.8**
	comp=Z,3µmcomp=Z,284nm,1.4s				
PZH	**PanZhiHua**	**38.31 285**	⇑P	**P**	**22 06 55.0 +0.6**
PZH			pP	**pP**	**22 07 30.4 +0.7**
PZH			sP	**sP**	**22 07 46.8 -1.8**
PZH			PP	**PnPn**	**22 08 29.9 +0.6**
PZH			S	**S**	**22 12 32.9 -3.3**
PZH			ScP	**ScP**	**22 12 40.8 +3.9**
PZH			sS	**sS**	**22 13 38.7 +0.1**
PZH			pmax	pmax	
	comp=Z,220nm,0.7s				
PZH			pmax	pmax	
	comp=Z,1µm,4.1s				
PZH			LR	LR	
	comp=Z,820nm,17.3s				
PZH			LR	LR	
	comp=Z,960nm,16.7s				
PZH			LR	LR	
	comp=Z,980nm,18.0s				
KSM	**Kuching**	**38.33 242**	P	**P**	**22 06 55.0 +0.4**
KSM	**Kuching**	**38.33 242**	P	**P**	**22 06 56.0 +1.4**
KSM	**Kuching**	**38.33 242**	P	**P**	**22 06 55.4 +0.8**
SHEM	**Shemya Is, Ala**	**38.48 30**	LR	LR	22 19 52.6
	comp=Z,538nm,21.5s,baz=227,slow=31				
SMY	**Shemya**	**38.48 30**	P	**P**	**22 06 56.8 +1.5**
SMY			pmax	pmax	
	comp=Z,202nm,0.7s				
SMY	**Shemya**	**38.48 30**	P	**P**	**22 06 56.8 +1.5**
SMY			IAmb	IAmb	22 06 59.2
	comp=Z,202nm,0.7s				
ULN	**Ulaanbaatar**	**38.93 320**	*ce*P	**P**	**22 07 00.5 +1.1**
ULN			pmax	pmax	
	comp=Z,187nm,1.2s				
ULN	**Ulaanbaatar**	**38.93 320**	P	**P**	**22 07 00.9 +1.5**
ULN	**Ulaanbaatar**	**38.93 320**	P	**P**	**22 07 00.3 +1.0**
ULN	**Ulaanbaatar**	**38.93 320**	P	**P**	**22 07 00.4 +1.0**
WSI	**Waingapu**	**38.97 218**	P	**P**	**22 07 00.7 +0.9**
	comp=Z,345µmcomp=Z,17µm,0.9s				
BASI	**Baing, Sumba**	**39.26 218**	P	**P**	**22 07 00.9 -1.3**
	comp=Z,3µmcomp=Z,161nm,0.9s				
SONM	**Songino Array**	**39.31 320**	P	**P**	**22 07 03.6 +1.2**
	comp=Z,51nm,0.5s,baz=135,slow=9.3,SNR=117				
SONM			ScP	**ScP**	**22 12 38.9 -1.5**
	comp=Z,10nm,0.7s,baz=148,slow=4.1,SNR=8.8				
SONM			ScS	**ScS**	**22 16 50.5 -2.2**
	comp=Z,6.7nm,1.3s,baz=32,slow=8.7,SNR=4.5				
SONM			P3KPbc		22 36 59.8
	comp=Z,1.6nm,0.9s,baz=296,slow=3.7,SNR=3.9				
SONM	**Songino Array**	**39.31 320**	P	**P**	**22 07 03.4 +0.9**
SONM			ScP	**ScP**	**22 12 38.2 -2.2**
WBSI	**Waikabubak, Su**	**39.48 220**	P	**P**	**22 07 02.0 -2.1**
	comp=Z,812nmcomp=Z,71nm,0.7s				
PBKI	**Pangkalan Bun**	**39.77 236**	P	**P**	**22 07 07.6 +1.1**
	comp=Z,4µmcomp=Z,422nm,1.1s				
MTSU	**Mount Surprise**	**39.97 179**	P	**P**	**22 07 09.4 +1.4**
KNRA	**Kununurra**	**40.25 202**	P	**P**	**22 07 10.0 -0.3**
KNRA			IAmb	IAmb	22 07 11.1
	comp=Z,128nm,0.8s				
KNRA	**Kununurra**	**40.25 202**	P	**P**	**22 07 10.1 -0.3**
SRBI	**Singaraja**	**40.92 226**	P	**P**	**22 07 17.3 +1.4**
	comp=Z,2µmcomp=Z,38nm,0.9s				
GTA	**Gaotai**	**40.99 305**	⇑P	**P**	**22 07 17.5 +1.1**
GTA			pP	pP	22 07 52.8 +0.6
GTA			sP	sP	22 08 10.0 -1.0
GTA			PP	**PP**	**22 08 56.8 +2.4**
GTA			ScP	**ScP**	**22 12 46.3 -0.8**
GTA			S	**S**	**22 13 15.0 -0.9**
GTA			sS	sS	22 14 18.0 -0.8
GTA			ScS	**ScS**	**22 17 00.4 -2.6**
GTA			pmax	pmax	
	comp=Z,230nm,1.0s				
GTA			pmax	pmax	
	comp=Z,1µm,7.4s				
GTA			LR	LR	
	comp=Z,890nm,14.2s				
GTA			LR	LR	
	comp=Z,700nm,18.5s				
GTA			LR	LR	
	comp=Z,860nm,15.6s				
KMMI	**Kalianget**	**41.02 228**	P	**P**	**22 07 18.3 +1.6**
	comp=Z,5µmcomp=Z,371nm,1.2s				
YAK	**Yakutsk**	**41.06 350**	ScP	**ScP**	**22 12 43.3 -3.4**
	comp=Z,27nm,0.7s,baz=99,slow=1.7,SNR=14				
YAK			LR	LR	22 24 46.8
	comp=Z,331nm,19.0s,baz=134,slow=36				
YAK	**Yakutsk**	**41.06 350**	*e*P	**P**	**22 07 16.7 +0.2**
YAK			*e**PP	**pP**	**22 07 54.1 +2.3**
YAK			*e*		22 08 53.5
YAK			*i* S	**S**	**22 13 12.8 -3.3**
YAK			*e**SS	**sS**	**22 14 17.5 -1.5**
YAK			*e*		22 16 56.9
YAK			pmax	pmax	
	comp=Z,54nm,0.8s				
YAK			pmax	pmax	
	comp=E,5.0nm,1.0s				
YAK			pmax	pmax	
	comp=N,28nm,1.3s				
YAK			pmax	pmax	
	comp=Z,48nm,0.9s				
YAK			smax	smax	
	comp=E,686nm,2.6s				
YAK			smax	smax	
	comp=N,257nm,1.6s				
YAK	**Yakutsk**	**41.06 350**	P	**P**	**22 07 16.8 +0.4**
YAK			IAmb	IAmb	22 07 27.5
	comp=Z,176nm,0.7s				
YAK	**Yakutsk**	**41.06 350**	P	**P**	**22 07 16.9 +0.4**
YAK			pP	**pP**	**22 07 52.1 +0.3**
BWJI	**Bawean**	**41.11 231**	P	**P**	**22 07 18.6 +1.1**
	comp=Z,116nm,1.2s				
SEY	**Seymchan**	**41.27 6**	P	**P**	**22 07 19.8 +1.7**
	comp=Z,53nm,0.6s,baz=184,slow=7.3,SNR=155				
SEY	**Seymchan**	**41.27 6**	*i* P	**P**	**22 07 20.2 +2.1**
DNP	**Denpasar**	**41.36 225**	P	**P**	**22 07 17.2 -2.3**
	comp=Z,187nm,0.5s				
ABJI	**Asem Bagus**	**41.37 227**	P	**P**	**22 07 20.8 +1.2**
	comp=Z,3µmcomp=Z,118nm,1.2s				
BOD	**Bodaibo**	**41.65 337**	*e*P	**P**	**22 07 21.7 +0.4**
BOD			pmax	pmax	
	comp=Z,53nm,1.6s				
BLJI	**Banyuglugur**	**41.77 228**	P	**P**	**22 07 24.0 +1.2**
	comp=Z,4µmcomp=Z,152nm,1.8s				
CHTO	**Chiang Mai**	**41.88 274**	P	**P**	**22 07 24.7 +0.9**
CHTO			pmax	pmax	
	comp=Z,162nm,1.3s				
CHTO	**Chiang Mai**	**41.88 274**	P	**P**	**22 07 24.7 +0.9**
CHTO	**Chiang Mai**	**41.88 274**	P	**P**	**22 07 24.7 +0.9**
CHTO	**Chiang Mai**	**41.88 274**	P	**P**	**22 07 24.9 +1.1**
CHTO	**Chiang Mai**	**41.88 274**	P	**P**	**22 07 24.0 +0.2**
CHTO			pP	**pP**	**22 08 00.5 +0.9**
JAGI	**Jajag, Banyuwa**	**41.91 227**	P	**P**	**22 07 23.6 -0.4**
	comp=Z,2µmcomp=Z,1µmcomp=Z,52nm,0.8s				
JAGI	**Jajag, Banyuwa**	**41.91 227**	P	**P**	**22 07 24.0 +0.1**
JAGI	**Jajag, Banyuwa**	**41.91 227**	P	**P**	**22 07 24.1 +0.1**
CM31	**Chiang Mai Arr**	**41.96 273**	P	**P**	**22 07 26.2 +1.8**
	SNR=19				
CM31	**Chiang Mai Arr**	**41.96 273**	P	**P**	**22 07 25.6 +1.1**
CMAR	**Chiang Mai Arr**	**41.96 273**	P	**P**	**22 07 25.4 +1.0**
	comp=Z,33nm,0.7s,baz=60,slow=8.0,SNR=158				
CMAR			ScP	**ScP**	**22 12 49.7 -1.4**
	comp=Z,21nm,1.0s,baz=84,slow=1.8,SNR=24				
CMAR	**Chiang Mai Arr**	**41.96 273**	*i* P	**P**	**22 07 25.3 +0.9**
CMAR			pmax	pmax	
	comp=Z,34nm,0.7s				
CMAR	**Chiang Mai Arr**	**41.96 273**	P	**P**	**22 07 25.5 +1.0**
CMAR			ScP	**ScP**	**22 12 50.9 -0.3**
CTA	**Charters Tower**	**41.99 176**	P	**P**	**22 07 24.8 +0.3**
	comp=Z,86nm,0.6s,baz=357,slow=10.0,SNR=68				
CTA	**Charters Tower**	**41.99 176**	P	**P**	**22 07 24.4 0.0**
CTAO	**Charters Tower**	**41.99 176**	P	**P**	**22 07 24.2 -0.3**
CTAO			pmax	pmax	
	comp=Z,196nm,1.0s				
CTAO	**Charters Tower**	**41.99 176**	P	**P**	**22 07 24.2 -0.3**
CTAO			IAmb	IAmb	22 07 26.1
	comp=Z,196nm,1.0s				
CTAO	**Charters Tower**	**41.99 176**	P	**P**	**22 07 24.5 0.0**
CTAO	**Charters Tower**	**41.99 176**	P	**P**	**22 07 24.2 -0.3**
GMJI	**Gumukmas**	**42.25 228**	P	**P**	**22 07 27.4 +0.7**
	comp=Z,56nm,0.8s				
ZAK	**Zakamensk**	**42.30 322**	*e*P	**P**	**22 07 27.3 +0.5**
ZAK			*e*		22 08 04.2
ZAK			pmax	pmax	
	comp=Z,145nm,1.4s				
ZAK			pmax	pmax	
	comp=Z,94nm,1.4s				
KIWB	**Kanaga Island**	**42.37 36**	P	**P**	**22 07 28.7 +1.4**
WB0	**Warramunga Arr**	**42.55 193**	P	**P**	**22 07 28.5 -0.6**
QIS	**Mount Isa**	**42.56 186**	P	**P**	**22 07 28.9 -0.2**
IRK	**Irkutsk**	**42.63 325**	*e*P	**P**	**22 07 29.2 -0.2**
IRK			*e*S	**S**	**22 13 41.4 +1.9**
IRK			pmax	pmax	
	comp=Z,260nm,3.0s				
WRAB	**Tennant Creek**	**42.73 193**	*ce*P	**P**	**22 07 29.8 -0.7**
WRAB			pmax	pmax	
	comp=Z,47nm,0.6s				
WRAB	**Tennant Creek**	**42.73 193**	P	**P**	**22 07 30.4 -0.1**
WRAB	**Tennant Creek**	**42.73 193**	P	**P**	**22 07 30.0 -0.4**
WB2	**Warramunga Arr**	**42.73 193**	P	**P**	**22 07 30.1 -0.4**
WRA	**Warramunga Arr**	**42.74 193**	P	**P**	**22 07 30.1 -0.5**
	comp=Z,39nm,0.4s,baz=14,slow=8.8,SNR=358				
WRA			ScP	**ScP**	**22 12 52.8 -1.3**
	comp=Z,72nm,0.9s,baz=9.3,slow=4.2,SNR=44				
WRA			ScS	**ScS**	**22 17 13.5 -0.3**
	comp=Z,5.9nm,1.1s,baz=347,slow=6.7,SNR=5.3				
WRA			P4KPbc		22 45 27.8
	comp=Z,0.4nm,0.5s,baz=40,slow=2.8,SNR=5.8				
WRA	**Warramunga Arr**	**42.74 193**	P	**P**	**22 07 30.0 -0.5**
WRA				**ScP**	**22 12 53.1 -1.0**
UWJI	**Ujung Watu**	**42.74 232**	P	**P**	**22 07 29.9 -0.8**
	comp=Z,180nm,1.2s				
GSTR	**Great Sitkin T**	**43.08 36**	P	**P**	**22 07 33.9 +0.9**
TPRI	**Tanjung Pinang**	**43.47 246**	P	**P**	**22 07 38.8 +2.2**
	comp=Z,4µmcomp=Z,299nm,1.4s				
LKP	**Lekhapani**	**43.51 287**	⇑*i* P	**P**	**22 07 37.5 +0.6**
LKP			*i* pP	**pP**	**22 08 14.8 +1.9**
SMRI	**Semarang**	**43.53 232**	P	**P**	**22 07 37.9 +0.9**
	comp=Z,3µmcomp=Z,104nm,1.5s				
SMRI	**Semarang**	**43.53 232**	P	**P**	**22 07 37.3 +0.2**
SMRI	**Semarang**	**43.53 232**	P	**P**	**22 07 38.0 +0.9**
MYKOM	**Kota Tinggi**	**43.60 248**	P	**P**	**22 07 39.3 +1.7**
MYKOM			IAmb	IAmb	22 07 41.3
	comp=Z,283nm,1.4s				
MYKOM	**Kota Tinggi**	**43.60 248**	P	**P**	**22 07 41.0 +3.4**
FITZ	**Fitzroy Crossi**	**43.63 205**	P	**P**	**22 07 37.5 -0.2**
	comp=Z,59nm,0.7s,baz=27,slow=9.2,SNR=95				
JRMM	**Jerantut**	**43.77 252**	P	**P**	**22 07 41.0 +2.0**
PCJI	**Pacitan**	**43.78 230**	P	**P**	**22 07 38.0 -1.0**
	comp=Z,3µmcomp=Z,227nm,1.1s				
PPBI	**Pangkal Pinang**	**43.82 241**	P	**P**	**22 07 39.8 +0.4**
	comp=Z,148nm,1.2s				
SANVU	**Saraoutou**	**43.87 146**	P	**P**	**22 07 38.2 -1.5**
SANVU			IAmb	IAmb	22 07 41.4
	comp=Z,235nm,0.8s				
SANVU	**Saraoutou**	**43.87 146**	P	**P**	**22 07 38.2 -1.5**
UGM	**Wanagama**	**44.06 231**	P	**P**	**22 07 41.3 0.0**
	comp=Z,5µmcomp=Z,275nm,1.7s				
UGM	**Wanagama**	**44.06 231**	P	**P**	**22 07 41.1 -0.2**
UGM			IAmb	IAmb	22 07 43.2
	comp=Z,359nm,1.3s				
UGM	**Wanagama**	**44.06 231**	P	**P**	**22 07 42.0 +0.7**
ATKA	**Atka Island**	**44.15 36**	P	**P**	**22 07 42.4 +0.9**
YOGI	**Yogyakarta**	**44.16 231**	P	**P**	**22 07 42.3 +0.2**
	comp=Z,3µmcomp=Z,190nm,1.0s				
MOY	**Mondy**	**44.16 323**	*e*P	**P**	**22 07 42.6 +0.8**
MOY			pmax	pmax	
	comp=Z,175nm,2.1s				
DSRI	**Dabo**	**44.17 245**	P	**P**	**22 07 44.2 +2.0**
	comp=Z,2µmcomp=Z,2µmcomp=Z,130nm,1.4s				
SRIT	**Nakonsritamara**	**44.35 259**	P	**P**	**22 07 44.9 +1.3**
JOHN	**Johnston Islan**	**44.37 88**	P	**P**	**22 07 43.9 +0.2**
JOHN	**Johnston Islan**	**44.37 88**	P	**P**	**22 07 44.9 +1.1**
GOMU	**GeErMu**	**44.45 300**	P	**P**	**22 07 46.2 +1.6**
GOMU			S	**S**	**22 14 08.6 +1.5**
GOMU			sS	sS	22 15 07.2 -3.5
GOMU			ScS	**ScS**	**22 17 23.2 -2.0**
GOMU			pmax	pmax	
	comp=Z,82nm,0.5s				
GOMU			LR	LR	
	comp=Z,230nm,13.0s				
GOMU			LR	LR	
	comp=Z,250nm,13.8s				
GOMU			LR	LR	
	comp=Z,210nm,13.1s				
KULM	**Kulim**	**44.76 255**	P	**P**	**22 07 48.3 +1.4**
KULM			IAmb	IAmb	22 07 50.4
	comp=Z,462nm,1.5s				
KULM	**Kulim**	**44.76 255**	P	**P**	**22 07 49.0 +2.1**
MOKO	**MOKOCHONG**	**44.78 286**	⇑*i* P	**P**	**22 07 46.2 -0.9**
IPM	**Ipoh**	**44.79 253**	P	**P**	**22 07 47.9 +0.8**
IPM	**Ipoh**	**44.79 253**	P	**P**	**22 07 49.0 +1.9**
IPM	**Ipoh**	**44.79 253**	P	**P**	**22 07 48.5 +1.4**
JORH	**JORHAT**	**44.98 286**	⇑*i* P	**P**	**22 07 48.6 +0.1**
PMBI	**Palembang**	**45.37 242**	P	**P**	**22 07 53.6 +1.9**
	comp=Z,3µmcomp=Z,325nm,1.0s				
PMBI	**Palembang**	**45.37 242**	P	**P**	**22 07 53.2 +1.5**
PMBI			IAmb	IAmb	22 07 55.2
	comp=Z,640nm,1.3s				
PMBI	**Palembang**	**45.37 242**	P	**P**	**22 07 53.7 +2.0**
ITAN	**ITANAGAR**	**45.41 287**	⇑*i* P	**P**	**22 07 53.4 +1.5**
ITAN			IAmb	IAmb	22 07 56.4
	comp=Z,231nm,0.5s				
LEM	**Lembang**	**45.49 235**	P	**P**	**22 07 54.0 +1.2**
LEM			pmax	pmax	
	comp=Z,169nm,1.9s				
LEM	**Lembang**	**45.49 235**	P	**P**	**22 07 53.5 +0.7**
	comp=Z,1µmcomp=Z,3µmcomp=Z,107nm,1.9s				
JMBI	**JAMBI**	**45.58 244**	P	**P**	**22 07 56.6 +3.3**
	comp=Z,6µmcomp=Z,540nm,1.2s				
RK1H	**Rockhampton Ha**	**45.68 171**	P	**P**	**22 07 52.7 -1.2**
CBJI	**Citeko**	**45.82 236**	P	**P**	**22 07 56.2 +1.0**
	comp=Z,4µmcomp=Z,265nm,1.5s				
RGRI	**Rengat**	**46.00 247**	P	**P**	**22 07 59.2 +2.6**
CNJI	**Cibinong**	**46.17 235**	P	**P**	**22 07 56.7 -1.2**
	comp=Z,2µmcomp=Z,82nm,1.0s				
SBJI	**Serang**	**46.19 237**	P	**P**	**22 07 59.0 +0.9**
	comp=Z,7µmcomp=Z,559nm,1.3s				
FUNA	**Funafuti**	**46.28 127**	P	**P**	**22 07 58.9 +0.2**
FUNA			IAmb	IAmb	22 09 02.6
	comp=Z,653nm,1.9s				
SKJI	**Sukabumi**	**46.42 236**	P	**P**	**22 07 59.2 -0.6**
	comp=Z,1µmcomp=Z,124nm,0.5s				
BLSI	**Bandar Lampung**	**46.43 239**	P	**P**	**22 08 00.1 +0.2**
	comp=Z,3µmcomp=Z,207nm,1.1s				
KLSI		**46.43 240**	P	**P**	**22 07 59.8 -0.2**
	comp=Z,1µmcomp=Z,99nm,1.2s				
KLI	**Kotabumi**	**46.43 239**	P	**P**	**22 08 00.2 +0.2**
KLI			pmax	pmax	
	comp=Z,212nm,0.8s				
KLI	**Kotabumi**	**46.43 239**	P	**P**	**22 08 00.0 0.0**
	comp=Z,3µmcomp=Z,3µmcomp=Z,214nm,0.8s				
AS31	**Alice Springs**	**46.44 192**	P	**P**	**22 07 59.5 -0.4**
ASAR	**Alice Springs**	**46.44 192**	P	**P**	**22 07 59.0 -0.9**
	comp=Z,16nm,0.4s,baz=15,slow=13,SNR=286				
ASAR			ScP	**ScP**	**22 13 08.7 -0.6**
	comp=Z,32nm,1.0s,baz=11,slow=4.4,SNR=17				
ASAR			S	**S**	**22 14 30.4 -4.7**
	comp=Z,7.1nm,0.9s,baz=19,slow=16,SNR=7.0				
ASAR			PKPPKP	P'P'df	22 39 01.0 -19
	comp=Z,0.9nm,0.9s,baz=117,slow=3.0,SNR=3.4				
ASAR			P4KPbc		22 45 44.1
	comp=Z,0.4nm,0.5s,baz=14,slow=4.8,SNR=5.0				
ASAR	**Alice Springs**	**46.44 192**	P	**P**	**22 07 59.3 -0.6**
ASAR	**Alice Springs**	**46.44 192**	P	**P**	**22 07 59.3 -0.6**
ASAR				**ScP**	**22 13 08.8 -0.5**
MDSI	**Maura Dua**	**46.76 240**	P	**P**	**22 08 02.6 +0.1**
	comp=Z,1µmcomp=Z,1µmcomp=Z,86nm,1.2s				
BKNI	**Bangkinang**	**46.76 248**	P	**P**	**22 08 04.1 +1.6**
	comp=Z,2µmcomp=Z,4µmcomp=Z,448nm,1.5s				
BKNI	**Bangkinang**	**46.76 248**	P	**P**	**22 08 03.9 +1.4**
BKNI			IAmb	IAmb	22 08 05.6
	comp=Z,568nm,1.2s				
BKNI	**Bangkinang**	**46.76 248**	P	**P**	**22 08 04.2 +1.7**
CLES	**Cleveland East**	**46.80 37**	P	**P**	**22 08 03.1 +0.9**
CGJI	**Cibinong**	**46.84 237**	P	**P**	**22 08 01.2 -1.9**
	comp=Z,7µmcomp=Z,429nm,1.5s				
LHSI	**Lahat**	**46.91 242**	P	**P**	**22 08 04.6 +0.9**
	comp=Z,4µmcomp=Z,364nm,1.6s				
KOUNC	**Koumac, New Ca**	**46.93 153**	P	**P**	**22 08 03.6 0.0**
KASI	**Kota Agung**	**47.12 239**	P	**P**	**22 08 03.1 -2.1**
	comp=Z,2µmcomp=Z,143nm,0.5s				
LWLI	**Liwa**	**47.16 240**	P	**P**	**22 08 05.3 -0.5**
	comp=Z,170nm,0.9s				
SHL	**Shillong**	**47.22 285**	P	**P**	**22 08 06.1 -0.1**
SHL			pmax	pmax	
	comp=Z,283nm,0.6s				
SHL	**Shillong**	**47.22 285**	⇑*i* P	**P**	**22 08 05.8 -0.5**
SHL			IAmb	IAmb	22 08 08.0
	comp=Z,123nm,0.5s				
SHL			*i* pP	**pP**	**22 08 43.8 +0.9**
SHL			*ex*	**PP**	**22 09 54.1 -4.5**
SHL	**Shillong**	**47.22 285**	P	**P**	**22 08 06.6 +0.4**
	SNR=50				
SHL	**Shillong**	**47.22 285**	P	**P**	**22 08 06.1 -0.1**
SHL			IAmb	IAmb	22 08 07.6
	comp=Z,283nm,0.6s				
PSI	**Prapat**	**47.41 253**	LR	LR	22 28 13.6
	comp=Z,186nm,20.7s,baz=74,slow=36				
TSI	**Tuntungan**	**47.42 254**	P	**P**	**22 08 08.8 +1.2**
	comp=Z,100nm,0.4s				
NIKH	**Nikolski High**	**47.44 37**	P	**P**	**22 08 07.4 +0.2**
NIKH	**Nikolski High**	**47.44 37**	P	**P**	**22 08 07.6 +0.4**
	baz=248,SNR=13				
LSA	**Lhasa**	**47.48 291**	P	**P**	**22 08 10.3 +1.7**
LSA			pmax	pmax	
	comp=Z,295nm,0.5s				
LSA	**Lhasa**	**47.48 291**	P	**P**	**22 08 10.4 +1.9**
LSA			PP	**PP**	**22 09 58.9 -2.5**
LSA			S	**S**	**22 14 46.1 -4.7**
LSA			pmax	pmax	
	comp=Z,2µm,3.7s				
LSA	**Lhasa**	**47.48 291**	P	**P**	**22 08 10.6 +2.1**
LSA	**Lhasa**	**47.48 291**	P	**P**	**22 08 10.2 +1.7**
LSA	**Lhasa**	**47.48 291**	P	**P**	**22 08 10.3 +1.7**
LSA	**Lhasa**	**47.48 291**	P	**P**	**22 08 10.2 +1.7**
MASI	**Maura Aman, Be**	**47.58 243**	P	**P**	**22 08 09.8 +0.9**
	comp=Z,10µmcomp=Z,952nm,1.2s				
KRJI	**Kerinci**	**47.66 245**	P	**P**	**22 08 11.3 +1.7**
	comp=Z,28µmcomp=Z,526nm,1.2s				
MNAI	**Manna**	**47.68 242**	P	**P**	**22 08 09.0 -0.6**
	comp=Z,8µmcomp=Z,707nm,1.3s				
MNAI	**Manna**	**47.68 242**	P	**P**	**22 08 08.9 -0.7**
**

RMQ Roma 48.53 174 P **P** **22 08 15.5 -0.4**
TPTI 48.76 254 P **P** **22 08 17.3 -0.6**
comp=Z,452nmcomp=Z,43nm,0.5s
MBWA Marble Bar 48.89 210 P **P** **22 08 19.0 +0.2**
MBWA Marble Bar 48.89 210 P **P** **22 08 19.7 +1.0**
UNV Unalaska Valle 49.06 37 P **P** **22 08 20.1 +0.5**
UNV IAmb IAmb 22 08 21.6
comp=Z,688nm,1.4s
UNV Unalaska Valle 49.06 37 P **P** **22 08 20.0 +0.4**
baz=250,SNR=21
WRKA Warakurna 49.14 198 P **P** **22 08 20.8 +0.2**
NOUC Port Laguerre 49.16 152 P **P** **22 08 20.2 -0.6**
PSA00 Pilbara Seismi 49.20 210 P **P** **22 08 21.2 +0.1**
PSA00 Pilbara Seismi 49.20 210 P **P** **22 08 20.9 -0.1**
PSA00 IAmb IAmb 22 08 23.2
comp=Z,33nm,0.8s
PSA00 Pilbara Seismi 49.20 210 P **P** **22 08 21.7 +0.7**
DZM Mont Dzumac 49.20 152 P **P** **22 08 20.3 -0.8**
comp=Z,34nm,0.6s,baz=286,slow=2.6,SNR=55
DZM ScP **ScP** **22 13 19.8 -1.2**
comp=Z,23nm,1.1s,baz=14,slow=3.9,SNR=6.2
DZM LR LR 22 26 46.7
comp=Z,489nm,21.6s,baz=270,slow=33
DZM Mont Dzumac 49.20 152 *e*P **P** **22 08 20.0 -1.2**
comp=Z,137nm,1.2s
DZM *e*pP **pP** **22 08 59.4 +1.1**
comp=Z,176nm,1.1s
DZM Mont Dzumac 49.20 152 *e*LR LR 22 22 35.5
comp=Z,859nm,23.3s
DZM Mont Dzumac 49.20 152 P **P** **22 08 20.4 -0.8**
DZM Mont Dzumac 49.20 152 P **P** **22 08 20.8 -0.4**
DZM Mont Dzumac 49.20 152 P **P** **22 08 20.5 -0.7**
PPSI Pulau Pagai 49.24 245 P **P** **22 08 22.2 +0.6**
comp=Z,6μmcomp=Z,405nm,1.3s
SISI Saibi 49.27 248 P **P** **22 08 21.9 +0.1**
comp=Z,3μmcomp=Z,326nm,1.2s
XMI Christmas Isla 49.29 233 P **P** **22 08 22.0 +0.1**
GSI Gunungsitoli 49.30 252 P **P** **22 08 22.3 +0.2**
comp=Z,7μmcomp=Z,436nm,0.5s
GSI Gunungsitoli 49.30 252 P **P** **22 08 22.3 +0.2**
GSI IAmb IAmb 22 08 24.8
comp=Z,225nm,0.5s
GSI Gunungsitoli 49.30 252 P **P** **22 08 22.7 +0.6**
XMIS Christmas Isla 49.34 233 P **P** **22 08 21.8 -0.5**
XMIS Christmas Isla 49.34 233 P **P** **22 08 21.6 -0.7**
MARNC Mare, Loyalty 49.41 150 P **P** **22 08 22.7 +0.1**
AKUT Akutan 49.57 37 P **P** **22 08 24.4 +1.0**
PBA Port Blair 49.58 267 P **P** **22 08 24.6 +0.5**
PBA Port Blair 49.58 267 P **P** **22 08 24.9 +0.8**
INKA Innaminka 49.60 183 P **P** **22 08 23.6 -0.4**
OUENC Ouen Island, N 49.68 151 P **P** **22 08 23.9 -0.8**
OUENC Ouen Island, N 49.68 151 P **P** **22 08 24.9 +0.2**
GTK Tadong 49.93 288⇑ *i*P **P** **22 08 27.8 +0.9**
GTK IAmb IAmb 22 08 31.8
comp=Z,164nm,0.5s
PINNC Pines Island, 50.12 151 P **P** **22 08 27.7 -0.2**
KNTN Kanton 50.13 114 P **P** **22 08 28.4 +0.1**
KNTN IAmb IAmb 22 08 29.9
comp=Z,292nm,0.9s
OOD Oodnadatta 50.17 189 P **P** **22 08 28.4 +0.1**
TIXI Tiksi 50.32 354 ScP **ScP** **22 13 21.7 -3.3**
comp=Z,10nm,0.8s,baz=146,slow=6.5,SNR=6.4
TIXI S **S** **22 15 28.9 +0.7**
comp=Z,4.3nm,1.0s,baz=339,slow=22,SNR=9.1
TIXI Tiksi 50.32 354 *ce*P **P** **22 08 28.7 -0.1**
TIXI pmax pmax
comp=Z,39nm,1.3s
TIXI Tiksi 50.32 354 P **P** **22 08 29.9 +1.1**
TIXI Tiksi 50.32 354 P **P** **22 08 29.3 +0.5**
TIXI pP **pP** **22 09 05.1 -0.2**
WMQ Urumqi 50.66 309 *e*P **P** **22 08 33.7 +1.7**
WMQ pP pP 22 09 10.7 +1.3
WMQ sP sP 22 09 27.5 -0.5
WMQ PP **PP** **22 10 32.8 +3.3**
WMQ ScP **ScP** **22 13 25.5 -1.6**
WMQ S **S** **22 15 36.6 +2.7**
WMQ sS sS 22 16 40.9 +2.0
WMQ ScS **ScS** **22 18 03.3 -2.2**
WMQ pmax pmax
comp=Z,360nm,1.1s
WMQ pmax pmax
comp=Z,2μm,4.3s
WMQ LR LR
comp=Z,630nm,20.3s
WMQ LR LR
comp=Z,590nm,21.1s
WMQ LR LR
comp=Z,470nm,22.3s
FALS False Pass 51.10 36 P **P** **22 08 35.5 +0.5**
FALS False Pass 51.10 36 P **P** **22 08 35.3 +0.3**
baz=252,SNR=16
FALS False Pass 51.10 36 P **P** **22 08 36.0 +1.1**
GAMB Gambell 51.11 24 P **P** **22 08 36.6 +1.7**
GAMB IAmb IAmb 22 08 38.1
comp=Z,192nm,1.1s
GAMB Gambell 51.11 24 P **P** **22 08 36.5 +1.7**
baz=237,SNR=36
DGZ Jazzator, Alta 51.73 317⇑ *i*P **P** **22 08 41.7 +1.7**
DGZ pmax pmax
comp=Z,285nm,0.9s
MSVF Nonsavu 51.97 137 P **P** **22 08 42.8 +0.8**
comp=Z,67nm,0.5s,baz=274,slow=7.1,SNR=53
MSVF Nonsavu 51.97 137 *i* P **P** **22 08 42.1 +0.1**
MSVF pmax pmax
comp=Z,221nm,1.1s
MSVF Nonsavu 51.97 137 P **P** **22 08 42.7 +0.8**
MSVF IAmb IAmb 22 08 44.5
comp=Z,217nm,1.1s
MSVF Nonsavu 51.97 137 P **P** **22 08 43.4 +1.4**
DGTI Dogotuki 52.02 134 P **P** **22 08 44.0 +1.7**
KEKH Kekaha 52.25 79 P **P** **22 08 45.3 +1.2**
GUN Gumba 52.26 289 *e*P **P** **22 08 45.3 +0.9**
comp=Z,342nm,0.4s
GUN Gumba 52.26 289 *e*P **S** **22 15 55.2 -1.6**
LCRK Leigh Creek 52.48 186 P **P** **22 08 45.7 +0.3**
TAVE Taveuni 52.55 134 P **P** **22 08 48.5 +2.3**
PKI Pulchoki 52.72 288 *e*P **P** **22 08 48.1 +0.3**
comp=Z,148nm,0.4s
PKI Pulchoki 52.72 288 *e*P **S** **22 16 01.1 -1.9**
PKIN Phulchoki 52.73 288 *e*P **P** **22 08 48.2 +0.4**
comp=Z,207nm,0.4s
PKIN Phulchoki 52.73 288 *e*P **S** **22 16 01.3 -1.7**
comp=Z,42nm,1.1s
ARMA Armidale 52.76 171 P **P** **22 08 47.4 -0.2**
ARMA Armidale 52.76 171 P **P** **22 08 47.4 -0.2**
KKN Kakani 52.80 289 *e*P **P** **22 08 48.8 +0.5**
KKN Kakani 52.80 289 *e*P **S** **22 16 02.4 -1.5**
SDPT Sand Point 52.86 36 P **P** **22 08 48.7 +0.7**
SDPT Sand Point 52.86 36 P **P** **22 08 48.4 +0.4**
baz=254,SNR=24
MULG Mulgathing 52.86 190 P **P** **22 08 48.4 +0.2**
GIRL Giralia 52.87 215 P **P** **22 08 49.6 +1.1**
GIRL IAmb IAmb 22 09 28.9
comp=Z,374nm,1.4s
BOK Bokaro 52.88 284⇑ *i*P **P** **22 08 49.6 +1.0**
BOK IAmb IAmb 22 08 53.2
comp=Z,206nm,0.2s
DMN Daman 52.98 289 *e*P **P** **22 08 50.2 +0.6**
comp=Z,111nm,0.4s
DMN Daman 52.98 289 *e*P **S** **22 16 04.9 -1.5**
comp=Z,133nm,1.5s
ZSN Zaisan 53.06 313 *c i*P **P** **22 08 50.9 +1.3**
ZSN *e*S **S** **22 16 08.8 +2.3**
ZSN pmax pmax
comp=Z,131nm,1.6s
ZSN Zaisan 53.06 313⇑ *i*P **P** **22 08 51.0 +1.3**
comp=Z,131nm,1.6s,baz=314
ZSN *e*S **S** **22 16 08.9 +2.3**
baz=314
CNBA Chernabura Isl 53.22 37 P **P** **22 08 51.6 +1.0**
CHNA Chernabura Isl 53.22 37 P **P** **22 08 51.3 +0.7**
baz=256,SNR=14
GKN Gorkha 53.34 289 *e*P **P** **22 08 52.8 +0.7**
GKN Gorkha 53.34 289 *e*P **S** **22 16 09.7 -1.4**
CMSA Cobar Meteorol 53.35 178 P **P** **22 08 52.1 +0.4**
TNA Tin City 53.43 23 P **P** **22 08 53.7 +1.7**
baz=240,SNR=45
STKA Stephens Creek 53.68 182 P **P** **22 08 53.5 -0.7**
comp=Z,26nm,0.6s,baz=359,slow=7.7,SNR=83
STKA S **S** **22 16 12.3 -2.7**
comp=Z,10nm,1.1s,baz=114,slow=15,SNR=4.5
STKA Stephens Creek 53.68 182 P **P** **22 08 53.2 -0.9**
STKA Stephens Creek 53.68 182 P **P** **22 08 53.5 -0.7**
OPA Opana 53.86 79 P **P** **22 08 57.1 +1.3**
OPA pmax pmax
comp=Z,2μm,1.6s
OPA Opana 53.86 79 P **P** **22 08 57.1 +1.3**
ANM Nome 53.91 25 P **P** **22 08 57.4 +1.9**
ANM pmax pmax
comp=Z,385nm,1.4s
ANM Nome 53.91 25 P **P** **22 08 57.4 +1.9**
ANM IAmb IAmb 22 08 58.8
comp=Z,385nm,1.4s
ANM Nome 53.91 25 P **P** **22 08 57.3 +1.8**
baz=243,SNR=79
KIP Kipapa 53.91 79 P **P** **22 08 57.0 +0.8**
KIP pmax pmax
comp=Z,603nm,0.8s
KIP Kipapa 53.91 79 P **P** **22 08 57.0 +0.8**
KIP Kipapa 53.91 79 P **P** **22 08 57.7 +1.5**
HON Honolulu 53.95 79 P **P** **22 08 57.5 +1.1**
HON pmax pmax
comp=Z,741nm,0.8s
HON Honolulu 53.95 79 P **P** **22 08 57.5 +1.1**
DANN Dangsing 54.06 290 *e*P **P** **22 08 58.6 +1.1**
comp=Z,1μm,0.6s
DANN Dangsing 54.06 290 *e*P **S** **22 16 19.4 -1.6**
comp=Z,206nm,1.2s
DHH Diamond Head 54.14 79 P **P** **22 08 59.0 +1.1**
DHH Diamond Head 54.14 79 P **P** **22 08 59.0 +1.1**
MEEK Meekatharra 54.15 208 P **P** **22 08 57.6 -0.1**
ZAA0 Zalesovo Array 54.17 321 P **P** **22 08 57.9 +0.4**
ZAA0 IAmb IAmb 22 08 59.3
comp=Z,99nm,0.7s
ZALV Zalesovo Beam 54.17 321 P **P** **22 08 57.8 +0.3**
comp=Z,98nm,0.5s,baz=108,slow=7.9,SNR=515
ZALV pP **pP** **22 09 34.8 -0.4**
comp=Z,13nm,0.4s,baz=101,slow=7.6,SNR=1.5
ZALV ScP **ScP** **22 13 39.8 -2.2**
comp=Z,15nm,0.8s,baz=103,slow=4.7,SNR=8.1
ZALV S **S** **22 16 18.7 -2.4**
comp=Z,0.5nm,0.4s,baz=251,slow=31,SNR=3.8
ZALV LR LR 22 31 49.2
comp=Z,401nm,21.8s,baz=106,slow=35
ZALV PKPPKP P'P'df 22 38 55.4 -17
comp=Z,2.1nm,0.8s,baz=264,slow=1.5,SNR=6.9
CHGN Chignik 54.23 36 P **P** **22 08 58.2 +0.3**
CHGN Chignik 54.23 36 P **P** **22 08 57.8 -0.1**
baz=256,SNR=19
WMR Waimanalo Ridg 54.24 79 P **P** **22 08 59.4 +0.9**
KOLN Koldanda 54.28 289 *e*P **P** **22 08 59.6 +0.6**
KOLN Koldanda 54.28 289 *e*P **S** **22 16 22.5 -1.3**
comp=Z,202nm,1.6s
FORT Forrest 54.64 196 P **P** **22 09 01.2 +0.1**
FORT IAmb IAmb 22 09 02.0
comp=Z,87nm,0.7s
FORT Forrest 54.64 196 P **P** **22 09 01.6 +0.5**
MK31 Makanchi Array 54.74 312⇑ *i*P **P** **22 09 02.8 +0.9**
MK31 Makanchi Array 54.74 312 P **P** **22 09 02.8 +0.9**
MKAR Makanchi Array 54.74 312 P **P** **22 09 02.9 +1.1**
comp=Z,59nm,0.6s,baz=92,slow=9.5,SNR=627
MKAR pP **pP** **22 09 39.7 0.0**
comp=Z,19nm,0.5s,baz=92,slow=11,SNR=2.3
MKAR ScP **ScP** **22 13 43.8 -1.0**
comp=Z,15nm,0.8s,baz=84,slow=6.2,SNR=6.4
MKAR S **S** **22 16 29.1 -0.1**
comp=Z,8.0nm,0.9s,baz=94,slow=20,SNR=9.6
MKAR LR LR 22 31 34.9
comp=Z,321nm,21.4s,baz=90,slow=35
MKAR PKPPKP P'P'df 22 39 00.4 -12
comp=Z,0.7nm,0.8s,baz=350,slow=0.7,SNR=4.7
MKAR PKP2bc 22 39 18.3
comp=Z,1.2nm,0.7s,baz=309,slow=2.1,SNR=8.2
MKAR PKP2ab 22 39 36.9
comp=Z,2.7nm,0.9s,baz=270,slow=3.6,SNR=6.9
PYUN Piuthan 54.76 290 *e*P **P** **22 09 03.2 +0.7**
comp=Z,153nm,0.4s
PYUN Piuthan 54.76 290 *e*P **S** **22 16 29.3 -1.1**
comp=Z,180nm,1.5s
MAKZ Makanchi 54.96 312 P **P** **22 09 04.5 +1.1**
MAKZ pmax pmax
comp=Z,288nm,1.3s
MAKZ Makanchi 54.96 312 P **P** **22 09 04.5 +1.1**
MAKZ IAmb IAmb 22 09 06.1
comp=Z,288nm,1.3s
BBOO Buckleboo 55.05 188 P **P** **22 09 03.9 -0.1**
BBOO Buckleboo 55.05 188 P **P** **22 09 04.0 -0.1**
WHYH Whyalla 55.10 186 P **P** **22 09 03.2 -1.2**
NAPP Napperby 55.20 186 P **P** **22 09 05.1 0.0**
HTT Hallett 55.38 185 P **P** **22 09 06.3 -0.2**
KHLH Kahului Airpor 55.47 79 P **P** **22 09 08.9 +1.5**
CHIR Chirikof Islan 55.65 37 P **P** **22 09 09.8 +1.7**
CHIR Chirikof Islan 55.65 37 P **P** **22 09 09.5 +1.3**
baz=258
HLK Haleakala 55.67 79 P **P** **22 09 10.4 +1.2**
CHLP Challavanipeta 55.68 278 *e*P **P** **22 09 09.9 +1.0**
CHLP *e*pP **pP** **22 09 48.3 +1.6**
SYDH Sydney Hard Ro 55.94 173 P **P** **22 09 10.4 +0.1**
KHLU Kahalu`u 56.26 81 P **P** **22 09 13.7 +0.5**
HUH Hualalai 56.29 80 P **P** **22 09 14.2 +0.6**
HUH IAmb IAmb 22 09 15.9
comp=Z,263nm,1.0s
HPAH Hawaii Prepara 56.34 80 P **P** **22 09 14.7 +1.1**
RDOG Red Dog Mine 56.37 21 P P 22 09 24.9 +12
baz=243,SNR=67
SEM Semipalatinsk 56.41 317 *c i*P **P** **22 09 14.0 +0.1**
SEM Semipalatinsk 56.41 317⇑ *i*P **P** **22 09 14.1 +0.1**
baz=317
AFI Afiamalu 56.49 125 P **P** **22 09 14.9 +0.2**
comp=Z,99nm,0.6s,baz=282,slow=3.7,SNR=6.3
AFI LR LR 22 30 37.5
comp=Z,211nm,19.8s,baz=324,slow=33
POHA Pohakuloa 56.55 80 P **P** **22 09 16.3 +0.9**
POHA Pohakuloa 56.55 80 P **P** **22 09 17.0 +1.6**
MLOA Mauna Loa Obse 56.57 81 P **P** **22 09 16.2 +0.5**
PDGK Podgornoye 56.58 308 *i* P **P** **22 09 15.7 +0.6**
PDGK pmax pmax
comp=Z,202nm,0.7s
SII Sitkinak Islan 56.58 36 P **P** **22 09 16.1 +1.3**
SII Sitkinak Islan 56.58 36 P **P** **22 09 16.0 +1.2**
baz=259,SNR=14
SII Sitkinak Islan 56.58 36 P **P** **22 09 16.4 +1.7**
SHLS Shalkode 56.60 308 *c i*P **P** **22 09 14.2 -1.0**
SHLS pmax pmax
comp=Z,96nm,1.2s
SHLS Shalkode 56.60 308⇑ *i*P **P** **22 09 14.3 -1.0**
comp=Z,96nm,1.2s,baz=308
P18K Big Mountain, 56.63 32 P **P** **22 09 15.6 +0.5**
baz=256,SNR=9.6
AIN Ainahou 56.71 81 P **P** **22 09 17.8 +1.3**
MLH Mauna Loa 56.75 81 P **P** **22 09 17.9 +1.1**
HLP Hilina Pali 56.87 81 P **P** **22 09 19.0 +1.6**
UZB Uzynbulak 56.92 308 *c i*P **P** **22 09 18.7 +1.2**
UZB *e*S **S** **22 17 00.1 +1.8**
UZB pmax pmax
comp=Z,127nm,1.1s
UZB Uzynbulak 56.92 308⇑ *i*P **P** **22 09 18.7 +1.2**
comp=Z,127nm,1.1s,baz=308
UZB *e*S **S** **22 17 00.2 +1.8**
baz=308
COCO West Island 57.14 238 P **P** **22 09 19.9 +0.7**
COCO pmax pmax
comp=Z,221nm,1.0s
COCO West Island 57.14 238 P **P** **22 09 19.9 +0.7**
COCO IAmb IAmb 22 09 21.3
comp=Z,221nm,1.0s
KPKS Kokpek 57.16 308 *c i*P **P** **22 09 20.3 +1.1**
KPKS *e*S **S** **22 17 03.3 +1.9**
KPKS pmax pmax
comp=Z,110nm,1.2s
KPKS Kokpek 57.16 308⇑ *i*P **P** **22 09 20.3 +1.1**
comp=Z,110nm,1.2s,baz=308
KPKS *e*S **S** **22 17 03.3 +1.9**
baz=308
TTA Tatalina 57.17 28 P **P** **22 09 20.2 +1.3**
TTA pmax pmax
comp=Z,199nm,1.3s
TTA Tatalina 57.17 28 P **P** **22 09 20.2 +1.3**
TTA IAmb IAmb 22 09 21.7
comp=Z,199nm,1.3s
TTA Tatalina 57.17 28 P **P** **22 09 20.2 +1.3**
baz=254,SNR=38
OHAK Old Harbor 57.19 35 P **P** **22 09 20.0 +1.1**
OHAK Old Harbor 57.19 35 P **P** **22 09 19.7 +0.8**
baz=260,SNR=15
O19K Port Alsworth 57.26 32 P **P** **22 09 20.7 +1.3**
O19K Port Alsworth 57.26 32 P **P** **22 09 20.7 +1.3**
baz=257,SNR=54
CAN Canberra 57.31 175 P **P** **22 09 20.1 0.0**
CAN pmax pmax
comp=Z,97nm,1.6s
CAN Canberra 57.31 175 P **P** **22 09 20.1 0.0**
Q19K Cape Douglas, 57.32 33 P **P** **22 09 19.8 -0.1**
Q19K Cape Douglas, 57.32 33 P **P** **22 09 19.8 -0.1**
baz=258,SNR=14
ZHN Zhinishke 57.35 308 *e*P **P** **22 09 21.9 +1.4**
ZHN *e*S **S** **22 17 06.1 +2.2**
ZHN pmax pmax
comp=Z,37nm,1.0s
ZHN Zhinishke 57.35 308 *e*P **P** **22 09 21.9 +1.4**
comp=Z,37nm,1.0s,baz=308
ZHN *e*S **S** **22 17 06.1 +2.2**
baz=308
GCSA Galena City Sc 57.35 26 P **P** **22 09 20.9 +1.0**
baz=252,SNR=23
TDK Taldyqorghan 57.37 310 *i* P **P** **22 09 22.0 +1.5**
TDK *e*S **S** **22 17 06.4 +2.5**
TDK pmax pmax
comp=Z,356nm,1.5s
TDK Taldyqorghan 57.37 310 *i* P **P** **22 09 22.1 +1.5**
comp=Z,356nm,1.5s,baz=310
TDK *e*S **S** **22 17 06.4 +2.5**
baz=310
SATY Saty 57.37 308 *c i*P **P** **22 09 22.1 +1.4**
SATY *e*S **S** **22 17 06.4 +2.2**
SATY pmax pmax
comp=Z,160nm,1.5s
SATY Saty 57.37 308⇑ *i*P **P** **22 09 22.1 +1.4**
comp=Z,160nm,1.5s,baz=308
SATY *e*S **S** **22 17 06.4 +2.2**
baz=308
MORW Morawa 57.38 209 P **P** **22 09 20.4 -0.2**
MORW IAmb IAmb 22 09 22.3
comp=Z,105nm,0.6s
MORW Morawa 57.38 209 P **P** **22 09 20.6 0.0**
PRZ Przheval'sk 57.38 307 P **P** **22 09 22.9 +2.0**
PRZ pmax pmax
comp=Z,382nm,0.6s
PRZ Przheval'sk 57.38 307 P **P** **22 09 22.9 +2.0**
KURK Kurchatov 57.48 317 *ce*P **P** **22 09 21.7 +0.6**
KURK pmax pmax
comp=Z,277nm,0.9s
KURK Kurchatov 57.48 317 P **P** **22 09 22.0 +1.0**
KURK Kurchatov 57.48 317 P **P** **22 09 21.7 +0.6**
KURK IAmb IAmb 22 09 23.3
comp=Z,233nm,0.9s
KURK Kurchatov 57.48 317 P **P** **22 09 21.5 +0.4**
KURK pP **pP** **22 09 58.9 -0.4**
L19K White Mountain 57.49 29 P **P** **22 09 22.5 +1.4**
baz=255,SNR=54
KURBB Kurchatov Arra 57.53 317 S **S** **22 17 00.3 -5.4**
comp=Z,5.7nm,1.3s,baz=156,slow=5.7,SNR=4.9
M19K Big River Lodg 57.63 30 P **P** **22 09 23.7 +1.7**
baz=256
KDAK Kodiak Island 57.66 35 P **P** **22 09 23.1 +0.9**
comp=Z,138nm,0.5s,baz=277,slow=4.5,SNR=144
KDAK LR LR 22 31 00.5
comp=Z,676nm,21.9s,baz=265,slow=32
KDAK Kodiak Island 57.66 35 P **P** **22 09 23.2 +0.9**
KDAK pmax pmax
comp=Z,325nm,1.1s
KDAK Kodiak Island 57.66 35 P **P** **22 09 23.2 +0.9**
ARXS Arharly 57.78 309 *e*P **P** **22 09 24.5 +1.0**
NRIK Noril'sk 57.78 340 P **P** **22 09 23.4 +0.5**
comp=Z,19nm,0.3s,baz=113,slow=7.9,SNR=70
NRIK pP **pP** **22 10 01.5 +0.8**
comp=Z,35nm,0.7s,baz=107,slow=7.8,SNR=3.8
NRIK ScP **ScP** **22 13 54.9 -2.8**
comp=Z,35nm,1.0s,baz=133,slow=4.5,SNR=9.9
NRIK LR LR 22 35 56.9
comp=Z,384nm,18.8s,baz=112,slow=38
NRIK Noril'sk 57.78 340 *ce*P **P** **22 09 23.3 +0.4**
NRIK pmax pmax
comp=Z,66nm,0.9s
NRIK Noril'sk 57.78 340 P **P** **22 09 23.4 +0.5**
NRIK IAmb IAmb 22 10 02.7
comp=Z,187nm,1.6s
TARG Taragay, Kyrgy 57.84 306 P **P** **22 09 25.8 +1.4**
TARG IAmb IAmb 22 09 27.9
comp=Z,179nm,1.0s
L20K Farewell, AK 58.00 29 P **P** **22 09 26.0 +1.4**
baz=256,SNR=51
O20K Slope Mountain 58.06 32 P **P** **22 09 25.9 +0.8**
baz=258,SNR=11
RSO Redoubt South 58.08 32 P **P** **22 09 26.4 +1.0**
K20K Telida 58.14 28 P **P** **22 09 27.1 +1.6**
K20K IAmb IAmb 22 09 29.0
comp=Z,273nm,1.1s
PVM Polavaram 58.25 277 *e*P **P** **22 09 27.3 +0.4**
PVM *e*pP **pP** **22 10 05.0 +0.1**
PVM *e*pP **pwP** **22 10 05.9 -3.8**
PVM *e*PP **PP** **22 11 38.8 +1.0**
KDJ Kajisay 58.30 307 P **P** **22 09 28.9 +1.7**
KDJ pmax pmax
comp=Z,301nm,1.3s
KDJ Kajisay 58.30 307 P **P** **22 09 28.9 +1.7**
KDJ IAmb IAmb 22 09 30.5
comp=Z,301nm,1.3s
J20K Nowinta River 58.32 27 P **P** **22 09 28.3 +1.6**
J20K Nowinta River 58.32 27 P **P** **22 09 28.7 +2.0**
baz=255
MDOK Medeo 58.36 308 *i* P **P** **22 09 29.4 +1.8**
MDOK *e*S **S** **22 17 19.7 +2.6**
MDOK Medeo 58.36 308 *i* P **P** **22 09 29.4 +1.8**
baz=308
MDOK *e*S **S** **22 17 19.8 +2.6**
baz=308
CHKK Chushkaly 58.39 309 *e*P **P** **22 09 28.9 +1.3**
baz=309
BLDU Ballidu 58.42 207 P **P** **22 09 28.2 +0.3**
TNSS Tian-Shan 58.44 308 *i* P **P** **22 09 30.4 +2.0**
baz=308
HOM Homer 58.47 33 P **P** **22 09 28.4 +0.6**
HOM Homer 58.47 33 P **P** **22 09 28.3 +0.4**
baz=260
ARPS Mount Arapiles 58.55 182 P **P** **22 09 28.8 +0.2**
SPU Mount Spurr 58.56 31 P **P** **22 09 29.5 +1.0**
CNPM China Poot 58.65 33 P **P** **22 09 29.4 +0.2**
KLBR Kellerberrin 58.84 206 P **P** **22 09 31.0 +0.3**
PPLA Purkeypile 58.86 29 P **P** **22 09 32.0 +1.4**
baz=257,SNR=33
KUU Kurty 58.86 309 *c i*P **P** **22 09 32.0 +1.2**
KUU *e*S **S** **22 17 25.4 +2.2**
KUU pmax pmax
comp=Z,495nm,1.1s
KUU Kurty 58.86 309⇑ *i*P **P** **22 09 32.1 +1.2**
comp=Z,495nm,1.1s,baz=309
KUU *e*S **S** **22 17 25.4 +2.2**
baz=309
CAPN Captain Cook N 58.91 31 P **P** **22 09 32.0 +1.2**
baz=260
BRSE Bradley Lake S 58.94 33 P **P** **22 09 31.3 +0.2**
baz=260,SNR=19
IMAR Indian Mountai 58.97 25 P **P** **22 09 32.8 +1.6**
ULHL Ulahol 58.99 307 P **P** **22 09 34.0 +2.0**
SNR=23
CAST Castle Rocks 59.02 28 P **P** **22 09 33.2 +1.6**
CAST Castle Rocks 59.02 28 P **P** **22 09 33.1 +1.5**
baz=257,SNR=149
CHUM Lake Minchumin 59.02 28 P **P** **22 09 33.3 +1.7**
baz=256,SNR=67
KST Kastek 59.16 308⇑ *i*P **P** **22 09 35.0 +1.9**
baz=308
BOOM Boomskoye usch 59.20 307 P **P** **22 09 35.0 +1.5**
BOOM Boomskoye usch 59.20 307 P **P** **22 09 35.0 +1.5**
BOOM IAmb IAmb 22 09 36.6
comp=Z,206nm,0.8s
SMLA Simla 59.34 294⇑ *i*P **P** **22 09 35.0 +0.7**
SMLA IAmb IAmb 22 09 38.9
comp=Z,135nm,0.9s
TOO Toolangi 59.35 178 P **P** **22 09 34.4 +0.2**
TOO pmax pmax
comp=Z,30nm,1.1s
TOO Toolangi 59.35 178 P **P** **22 09 34.4 +0.2**
TOO Toolangi 59.35 178 P **P** **22 09 33.9 -0.3**
KSH Kashi 59.36 304 P P 22 09 39.4 +4.9
KSH pP PcP 22 10 18.3 -2.4
KSH PcP sP 22 10 23.9 -7.6
KSH PP **PP** **22 11 54.9 +7.5**
KSH ScP **ScP** **22 14 09.4 +3.9**
KSH S **S** **22 17 35.3 +5.3**
KSH sS sS 22 18 41.8 +5.3
KSH ScS **ScS** **22 19 09.3 +1.1**
KSH SS **SS** **22 21 34.4 +6.9**

KSH pmax pmax
comp=Z,370nm,0.9s
KSH LR LR
comp=Z,430nm,15.8s
KSH LR LR
comp=Z,380nm,15.8s
KSH LR LR
comp=Z,410nm,15.1s
I21K Tanana 59.47 26 P **P 22 09 36.8 +2.1**
I21K Tanana 59.47 26 P **P 22 09 36.6 +2.0**
baz=256,SNR=125
KTH Kantishna Hill 59.56 28 P **P 22 09 36.4 +1.0**
KTH IAmb IAmb 22 09 38.5
comp=Z,148nm,0.8s
M22K Willow 59.58 30 P **P 22 09 35.6 +0.2**
baz=260,SNR=24
CUT Chulitna 59.63 30 P **P 22 09 36.2 +0.5**
CUT IAmb IAmb 22 09 37.4
comp=Z,221nm,0.8s
CUT Chulitna 59.63 30 P **P 22 09 35.9 +0.2**
baz=259,SNR=22
SEW Seward 59.63 32 P **P 22 09 36.3 +0.5**
baz=261,SNR=30
BPAW Bear Paw Mtn. 59.65 28 P **P 22 09 37.6 +1.7**
BPAW Bear Paw Mtn. 59.65 28 P **P 22 09 37.2 +1.3**
baz=258,SNR=196
RC01 Rabbit Creek A 59.65 31 P **P 22 09 36.3 +0.4**
baz=261,SNR=37
A21K Barrow 59.72 19 P **P 22 09 37.8 +1.6**
baz=248,SNR=5.9
MUN Mundaring 59.81 207 P **P 22 09 37.5 +0.1**
TRF Thorofare Moun 59.82 28 P **P 22 09 37.8 +0.6**
baz=259,SNR=91
DHRM DHARAMSHALA 59.90 295⇑ *i* P **P 22 09 38.0 -0.4**
DHRM IAmb IAmb 22 09 46.0
comp=Z,113nm,1.0s
DHRM *i* x **S 22 17 34.3 -3.1**
DHRM *ex* **ScS 22 19 07.5 -5.2**
KBK Karagaybulak 59.92 307 P **P 22 09 40.0 +1.6**
SNR=207
RPR Rampur 59.96 280 *e*P **P 22 09 38.9 +0.2**
RPR *e*pP **pP 22 10 16.6 -0.3**
RPR *e*PP **PP 22 11 52.9 -0.1**
PMR Palmer 60.02 31 P **P 22 09 39.0 +0.6**
PMR pmax pmax
comp=Z,272nm,0.9s
PMR Palmer 60.02 31 P **P 22 09 39.0 +0.6**
PMR Palmer 60.02 31 P **P 22 09 38.7 +0.3**
baz=261,SNR=64
CHMS Chumysh 60.05 308 P **P 22 09 40.3 +1.2**
SNR=90
SGDS Sogindy 60.12 308⇑ *i* P **P 22 09 40.5 +1.0**
comp=Z,101nm,1.7s,baz=308
SGDS *e*S **S 22 17 41.3 +1.8**
baz=308
GHO Glory Hole Cre 60.14 30 P **P 22 09 40.2 +0.8**
FRU1 Bishkek 60.15 308 P **P 22 09 41.0 +1.2**
FRU1 pmax pmax
comp=Z,171nm,0.9s
FRU1 Bishkek 60.15 308 P **P 22 09 41.0 +1.2**
FRU1 IAmb IAmb 22 09 42.8
comp=Z,171nm,0.8s
ADKI Addanki 60.16 276⇑ *e*P **P 22 09 39.3 -0.9**
ADKI *e*P **P 22 09 40.9 +0.8**
ADKI *e*pP **pP 22 10 19.2 +0.9**
USP Ospenovka 60.22 308 P **P 22 09 41.3 +1.0**
SNR=111
NWAO Narrogin (SRO) 60.22 206 P **P 22 09 40.2 +0.1**
NWAO pmax pmax
comp=Z,78nm,0.7s
NWAO Narrogin (SRO) 60.22 206 P **P 22 09 40.2 +0.1**
NWAO Narrogin (SRO) 60.22 206 P **P 22 09 40.4 +0.2**
AAK Ala-Archa 60.26 307 LR LR 22 38 20.7
comp=Z,206nm,19.2s,baz=84,slow=38
AAK Ala-Archa 60.26 307 P **P 22 09 42.4 +1.7**
SNR=20
AAK Ala-Archa 60.26 307*ce*P **P 22 09 41.8 +1.2**
AAK pmax pmax
comp=Z,449nm,1.4s
AAK Ala-Archa 60.26 307 P **P 22 09 42.1 +1.4**
AAK Ala-Archa 60.26 307 P **P 22 09 41.9 +1.2**
AAK IAmb IAmb 22 09 43.5
comp=Z,73nm,0.7s
AAK Ala-Archa 60.26 307 P **P 22 09 41.9 +1.3**
AAK Ala-Archa 60.26 307 *i* P **P 22 09 41.9 +1.3**
SNR=26
UCH Uchtor 60.27 307 P **P 22 09 43.2 +2.1**
SNR=227
PWL Port Wells 60.29 32 P **P 22 09 41.1 +0.7**
PWL Port Wells 60.29 32 P **P 22 09 41.0 +0.6**
baz=262,SNR=53
KNK Knik Glacier 60.31 31 P **P 22 09 41.2 +0.7**
baz=262,SNR=68
BWN Browne 60.31 28 P **P 22 09 42.2 +1.8**
SML Sawmill 60.43 30 P **P 22 09 42.0 +0.7**
baz=262,SNR=99
BTLS Baital 60.46 310*c i* P **P 22 09 42.8 +1.0**
BTLS pmax pmax
comp=Z,173nm,1.3s
BTLS Baital 60.46 310⇑ *i* P **P 22 09 42.8 +1.0**
comp=Z,173nm,1.3s,baz=310
MCK McKinley 60.46 28 P **P 22 09 42.1 +0.6**
MCK pmax pmax
comp=Z,193nm,0.8s
MCK McKinley 60.46 28 P **P 22 09 42.1 +0.6**
MCK IAmb IAmb 22 09 43.3
comp=Z,193nm,0.8s
MCK McKinley 60.46 28 P **P 22 09 41.9 +0.4**
baz=260,SNR=83
I23K Minto, Yukon-K 60.55 27 P **P 22 09 43.4 +1.5**
I23K IAmb IAmb 22 09 45.7
comp=Z,132nm,0.7s
I23K Minto, Yukon-K 60.55 27 P **P 22 09 43.4 +1.5**
baz=259,SNR=111
XMAS Kiritimati 60.55 101 P **P 22 09 43.2 +0.4**
XMAS Kiritimati 60.55 101 P **P 22 09 44.0 +1.2**
NEA2 Nenana 60.56 27 P **P 22 09 42.9 +0.8**
baz=259,SNR=54
NJS Nagarjunasagar 60.57 277 *e*P **P 22 09 42.6 -0.3**
NJS *e*pP **pP 22 10 22.4 +1.1**
BHPL Bhopal 60.60 285⇑ *i* P **P 22 09 42.6 -0.5**
BHPL IAmb IAmb 22 09 45.4
comp=Z,39nm,0.4s
COLD Coldfoot 60.66 24 P **P 22 09 44.3 +1.6**
COLD IAmb IAmb 22 09 46.1
comp=Z,192nm,1.0s
COLD Coldfoot 60.66 24 P **P 22 09 44.6 +1.9**
baz=257,SNR=155
EKS2 Erkin-Say 60.79 307 P **P 22 09 45.9 +1.7**
SNR=11
SRSP Sriramsagar 60.81 280 *e*P **P 22 09 44.5 -0.1**
SRSP *e*pP **pP 22 10 23.2 +0.3**
SRSP *e*PP **PP 22 12 01.8 +1.3**
WAT6 Susitna Watana 60.81 30 P **P 22 09 44.5 +0.5**
baz=262,SNR=104
AML Almayashu 60.89 307 P **P 22 09 47.2 +2.1**
SNR=31
AML Almayashu 60.89 307 P **P 22 09 47.3 +2.1**
AML Almayashu 60.89 307 *i* P **P 22 09 47.0 +1.8**
SNR=193
GLI Glacier Island 60.89 32 P **P 22 09 45.3 +0.9**
GLI Glacier Island 60.89 32 P **P 22 09 45.1 +0.7**
baz=263,SNR=31
SCM Sheep Creek Mo 60.90 30 P **P 22 09 45.5 +1.0**
baz=262,SNR=73
MDM Murphy Dome 60.98 27 P **P 22 09 45.7 +0.8**
MDM IAmb IAmb 22 09 48.6
comp=Z,414nm,1.9s
HYB Hyderabad 61.02 278⇑ *i* P **P 22 09 45.7 -0.4**
HYB Hyderabad 61.02 278 *e*P **P 22 09 46.0 0.0**
HYBB Hyderabad (bro 61.02 278 *e*P **P 22 09 46.6 +0.6**
HYBB *e*pP **pP 22 10 24.2 -0.1**
HYBB *e*PP **PP 22 12 06.2 +3.8**
HYBB *e*ScP **ScP 22 14 13.4 +0.3**
HYBB *e*PcS **PcS 22 14 32.4 +1.5**
HYBB *e*ScS **SKKSac 22 19 17.3 -3.8**
HYBB *e*SS **SS 22 21 56.7 +2.5**
DHY Denali Highway 61.05 29 P **P 22 09 46.3 +0.7**
DHY IAmb IAmb 22 09 47.7
comp=Z,77nm,0.7s
DHY Denali Highway 61.05 29 P **P 22 09 46.0 +0.4**
baz=262,SNR=42
CCB Clear Creek Bu 61.11 27 P **P 22 09 45.9 +0.2**
CCB IAmb IAmb 22 09 48.3
comp=Z,162nm,1.4s

Q23K Middleton Isla 61.11 33 P **P 22 09 47.4 +1.5**
baz=265
NIUE Niue 61.12 128 P **P 22 09 46.8 +0.3**
NIUE Niue 61.12 128 P **P 22 09 47.2 +0.7**
TCOL CIGO, UAF Yank 61.12 27 P **P 22 09 46.9 +1.1**
TCOL IAmb IAmb 22 09 49.4
comp=Z,95nm,0.8s
TCOL CIGO, UAF Yank 61.12 27 P **P 22 09 46.4 +0.6**
baz=260,SNR=9.2
COLA College 61.13 27⇓ *i* P **P 22 09 45.7 -0.2**
COLA pmax pmax
comp=Z,74nm,0.8s
COLA College 61.13 27 P **P 22 09 46.4 +0.6**
baz=260
COLA College 61.13 27 P **P 22 09 46.0 +0.1**
RCLA Racherla 61.20 276 *e*P **P 22 09 47.0 -0.2**
RCLA *e*pP **pP 22 10 25.7 +0.2**
RCLA *e*sS **sS 22 19 00.7 +0.9**
TOLK Toolik Lake Re 61.21 23 P **P 22 09 48.6 +2.1**
TOLK Toolik Lake Re 61.21 23 P **P 22 09 48.4 +1.9**
baz=256,SNR=164
BRZS Berezniki 61.26 316*c i* P **P 22 09 47.5 +0.5**
BRZS pmax pmax
comp=Z,81nm,1.5s
BRZS Berezniki 61.26 316⇑ *i* P **P 22 09 47.6 +0.5**
comp=Z,81nm,1.5s,baz=316
POKR Poker Plat Res 61.34 27 P **P 22 09 47.7 +0.3**
baz=260,SNR=21
HDA Harding Lake 61.44 28 P **P 22 09 47.8 -0.2**
baz=261,SNR=76
M24K Tolsona, Glenn 61.48 30 P **P 22 09 49.6 +1.2**
baz=263,SNR=29
EYAK Cordova Ski Ar 61.52 32 P **P 22 09 49.7 +1.2**
baz=264,SNR=18
IL31 61.52 27 P **P 22 09 48.5 0.0**
IL31 IAmb IAmb 22 09 49.7
comp=Z,211nm,0.8s
ILAR Eielson Array 61.52 27 P **P 22 09 48.2 -0.3**
comp=Z,153nm,0.8s,baz=259,slow=5.3,SNR=590
ILAR pP **pP 22 10 27.5 +0.4**
comp=Z,21nm,1.0s,baz=234,slow=6.9,SNR=1.6
ILAR ScP **ScP 22 14 10.9 -3.4**
comp=Z,8.0nm,0.9s,baz=264,slow=4.5,SNR=6.1
ILAR LR LR 22 34 35.1
comp=Z,339nm,20.7s,baz=267,slow=34
ILAR PKPPKP P'P'df 22 38 47.2 -13
comp=Z,0.8nm,1.0s,baz=90,slow=1.1,SNR=4.5
ILAR PKP2bc 22 39 02.1
comp=Z,1.4nm,0.8s,baz=112,slow=1.5,SNR=6.6
ILAR P4KPbc 22 46 48.8
comp=Z,0.9nm,0.8s,baz=258,slow=4.4,SNR=7.0
ILAR Eielson Array 61.52 27 P **P 22 09 48.6 +0.1**
ILAR Eielson Array 61.52 27 P **P 22 09 48.6 +0.1**
OTUK Ortayu 61.52 314 *i* P **P 22 09 49.5 +0.6**
OTUK pmax pmax
comp=Z,114nm,0.9s
KLU Klutina 61.53 31 P **P 22 09 50.0 +1.2**
KLU Klutina 61.53 31 P **P 22 09 50.0 +1.2**
baz=264,SNR=91
DIV Divide 61.56 31 P **P 22 09 50.1 +1.2**
DIV IAmb IAmb 22 09 51.5
comp=Z,130nm,0.7s
PAX Paxson 61.90 29 P **P 22 09 51.9 +0.7**
PAX pmax pmax
comp=Z,132nm,0.8s
PAX Paxson 61.90 29 P **P 22 09 51.9 +0.7**
PAX IAmb IAmb 22 09 53.6
comp=Z,132nm,0.8s
PAX Paxson 61.90 29 P **P 22 09 52.1 +0.8**
baz=264,SNR=96
HARP HAARP 61.98 30 P **P 22 09 52.9 +1.2**
baz=264,SNR=64
RAGM Ragged Mountai 62.03 32 P **P 22 09 53.4 +1.3**
BMRM Bremner River 62.11 32 P **P 22 09 53.8 +1.2**
BMRM Bremner River 62.11 32 P **P 22 09 53.9 +1.2**
baz=265,SNR=62
KAIM Kayak Island 62.13 33 P **P 22 09 54.3 +1.6**
KAIM Kayak Island 62.13 33 P **P 22 09 54.2 +1.5**
baz=266,SNR=12
N25K Chitina, Valde 62.17 31 P **P 22 09 54.5 +1.5**
N25K IAmb IAmb 22 09 55.7
comp=Z,161nm,0.7s
N25K Chitina, Valde 62.17 31 P **P 22 09 54.3 +1.3**
baz=265,SNR=56
PRP Porcupine Dome 62.19 26 P **P 22 09 53.1 -0.1**
PRP IAmb IAmb 22 09 56.2
comp=Z,60nm,0.6s
PRP Porcupine Dome 62.19 26 P **P 22 09 52.7 -0.5**
baz=262,SNR=11
NIL Nilore 62.22 297 P **P 22 09 54.9 +1.1**
NIL pmax pmax
comp=Z,1μm,1.5s
NIL Nilore 62.22 297 P **P 22 09 54.9 +1.1**
NIL Nilore 62.22 297 P **P 22 09 55.0 +1.2**
PALK Pallekele 62.23 267 LR LR 22 34 33.8
comp=Z,176nm,21.2s,baz=186,slow=34
PALK Pallekele 62.23 267 P **P 22 09 54.7 +0.5**
PALK pmax pmax
comp=Z,32nm,0.9s
PALK Pallekele 62.23 267 P **P 22 09 54.1 -0.1**
PALK Pallekele 62.23 267 P **P 22 09 54.7 +0.5**
HMT Hamilton 62.23 32 P **P 22 09 54.7 +1.3**
HMT IAmb IAmb 22 09 56.0
comp=Z,263nm,1.0s
RIDG Independent Ri 62.27 28 P **P 22 09 54.2 +0.6**
baz=264,SNR=72
FYU Fort Yukon 62.46 25 P **P 22 09 56.7 +2.0**
BERG Berg Lake 62.52 32 P **P 22 09 56.3 +1.1**
DZA Taraz 62.56 308*c i* P **P 22 09 56.8 +0.9**
DZA *e*S **S 22 18 12.2 +1.9**
DZA Taraz 62.56 308⇑ *i* P **P 22 09 56.9 +0.9**
baz=308
DZA *e*S **S 22 18 12.2 +1.9**
baz=308
DRK Karamyk 62.58 304 P **P 22 09 57.6 +1.2**
DRK IAmb IAmb 22 09 59.4
comp=Z,164nm,0.7s
DOT Dot Lake 62.60 29 P **P 22 09 56.3 +0.5**
DOT IAmb IAmb 22 09 57.9
comp=Z,236nm,1.0s
KLRI Killari 62.64 280 *e*P **P 22 09 56.4 -0.4**
KLRI *e*pP **pP 22 10 35.8 +0.4**
KLRI *e*PP **PP 22 12 18.9 +2.3**
BVAR Borovoye Array 62.65 319 S **S 22 18 10.0 -1.0**
comp=Z,31nm,1.1s,baz=95,slow=6.4,SNR=24
BVAR PKPPKP 22 39 00.9
comp=Z,2.2nm,0.8s,baz=289,slow=4.5,SNR=5.4
SCRK Sand Creek 62.67 28 P **P 22 09 57.1 +0.7**
baz=264,SNR=281
VRDI Verde Repeater 62.69 31 P **P 22 09 57.5 +0.8**
VRDI IAmb IAmb 22 09 59.0
comp=Z,139nm,0.8s
BRVK Borovoye 62.71 319⇑ *i* P **P 22 09 57.5 +0.8**
BRVK pmax pmax
comp=Z,193nm,1.1s
BRVK Borovoye 62.71 319 P **P 22 09 57.9 +1.2**
BRVK Borovoye 62.71 319 P **P 22 09 57.5 +0.8**
BRVK IAmb IAmb 22 09 59.2
comp=Z,191nm,1.1s
BRVK Borovoye 62.71 319 P **P 22 09 57.4 +0.7**
BRVK pP **pP 22 10 35.8 +0.3**
CRQM Cirque 62.81 32 P **P 22 09 58.9 +1.4**
BMAR Burnt Mountain 62.83 24 P **P 22 09 59.5 +2.2**
CRQE Cirque 62.84 32 P **P 22 09 58.6 +1.0**
baz=267,SNR=65
L26K Log Cabin Wild 62.87 29 P **P 22 09 58.8 +1.2**
L26K IAmb IAmb 22 10 00.2
comp=Z,134nm,0.8s
L26K Log Cabin Wild 62.87 29 P **P 22 09 58.8 +1.2**
baz=265,SNR=68
J26L Joseph Creek 62.90 28 P **P 22 09 58.4 +0.6**
baz=264,SNR=225
MCARA McCarthy VSAT 62.91 31 P **P 22 09 58.9 +1.0**
baz=266,SNR=55
URV Uravakonda 62.92 276 *e*P **P 22 09 58.6 -0.1**
URV *e*pP **pP 22 10 37.5 +0.3**
URV *e*PP **PP 22 12 20.2 +1.0**
SNH Sunshine Point 62.93 33 P **P 22 09 59.5 +1.4**
M26K Nabesna, AK 62.98 30 P **P 22 09 59.6 +1.2**
baz=266,SNR=52
KKAR Karatay Array 63.14 308 P **P 22 10 00.8 +1.0**
KKAR Karatay Array 63.14 308 P **P 22 10 00.8 +1.0**
H01W3 Cape Leeuwin H 63.19 207 P **P 22 10 01.9 +2.2**
H01W1 Cape Leeuwin H 63.19 207 P **P 22 10 01.9 +2.2**
H01W2 Cape Leeuwin H 63.20 207 P **P 22 10 01.9 +2.2**

BTK Batken 63.26 305 P **P 22 10 01.2 +0.6**
BTK pmax pmax
comp=Z,227nm,1.3s
BTK Batken 63.26 305 P **P 22 10 01.2 +0.6**
BTK IAmb IAmb 22 10 03.0
comp=Z,227nm,1.3s
MESA MESA 63.38 33 P **P 22 10 02.7 +1.5**
MESA MESA 63.38 33 P **P 22 10 02.6 +1.4**
baz=268,SNR=20
YAH Yahtse 63.48 32 P **P 22 10 03.4 +1.4**
YAH IAmb IAmb 22 10 04.7
comp=Z,198nm,0.9s
M27K Edge Creek, AK 63.50 30 P **P 22 10 03.0 +1.1**
baz=267,SNR=63
L27K Beaver Creek, 63.56 29 P **P 22 10 03.2 +1.0**
baz=267,SNR=136
BCAR Beaver Creek A 63.58 29 P **P 22 10 03.3 +1.0**
IUG luzhnay 63.60 307*c i* P **P 22 10 04.1 +1.3**
IUG *e*S **S 22 18 25.5 +2.2**
IUG luzhnay 63.60 307⇑ *i* P **P 22 10 04.2 +1.3**
baz=307
IUG *e*S **S 22 18 25.5 +2.2**
baz=307
BRLS Borolday 63.64 308 *i* P **P 22 10 04.8 +1.8**
BRLS *e*S **S 22 18 27.2 +3.5**
BRLS pmax pmax
comp=Z,57nm,2.0s
BRLS Borolday 63.64 308 *i* P **P 22 10 04.8 +1.8**
comp=Z,57nm,2.0s,baz=308
BRLS *e*S **S 22 18 27.2 +3.5**
baz=308
OUZ Omahuta 63.68 153 P **P 22 10 04.4 +1.2**
CTG Chitna Glacier 63.70 32 P **P 22 10 04.2 +1.0**
baz=268,SNR=44
CHM Chimkent 63.89 307 *e*P **P 22 10 05.3 +0.6**
CHM *e*S **S 22 18 28.3 +1.5**
CHM Chimkent 63.89 307 *e*P **P 22 10 05.3 +0.6**
baz=308
CHM *e*S **S 22 18 28.4 +1.5**
baz=308
EGAK Eagle 63.96 27 P **P 22 10 05.5 +0.9**
EGAK IAmb IAmb 22 10 09.5
comp=Z,80nm,0.8s
BVCY Beaver Creek 63.98 30 P **P 22 10 06.1 +1.2**
baz=268,SNR=53
YUK3 Moose Creek 64.15 31 P **P 22 10 07.3 +1.1**
baz=269,SNR=65
PINM Pinnacle 64.22 33 P **P 22 10 07.7 +1.1**
baz=270,SNR=22
TAS Tashkent 64.24 306 P **P 22 10 08.2 +1.2**
TAS pmax pmax
comp=Z,255nm,1.1s
TAS Tashkent 64.24 306 P **P 22 10 08.2 +1.2**
TAS IAmb IAmb 22 10 10.1
comp=Z,255nm,1.1s
WCZ Waipu Caves 64.61 153 P **P 22 10 09.7 +0.4**
PNL Peninsula 64.66 33 P **P 22 10 10.7 +1.4**
baz=271,SNR=18
DAWY Dawson 64.69 28 P **P 22 10 10.8 +1.3**
DAWY IAmb IAmb 22 10 12.3
comp=Z,129nm,0.8s
DAWY Dawson 64.69 28 P **P 22 10 10.9 +1.3**
baz=268,SNR=109
CHGR Chuyangaron 64.72 303 P **P 22 10 11.7 +1.4**
TAU Tasmania Unive 64.75 177 P **P 22 10 09.8 -0.2**
TAU pmax pmax
comp=Z,74nm,1.2s
TAU Tasmania Unive 64.75 177 P **P 22 10 09.8 -0.2**
POO Poona 65.02 281⇑ *i* P **P 22 10 12.2 -0.1**
I29M Ogilvie Camp, 65.19 27 P **P 22 10 13.8 +1.2**
baz=269,SNR=124
J29M Klondike Camp 65.21 28 P **P 22 10 14.5 +1.6**
baz=269,SNR=43
KBL Kabul 65.51 299 P **P 22 10 16.4 +0.8**
KBL pmax pmax
comp=Z,352nm,0.9s
KBL Kabul 65.51 299 P **P 22 10 16.6 +1.0**
SNR=182
KBL Kabul 65.51 299 P **P 22 10 16.4 +0.8**
KBL Kabul 65.51 299 P **P 22 10 16.1 +0.6**
EPYK Eagle Plains 65.85 26 P **P 22 10 18.1 +1.2**
EPYK Eagle Plains 65.85 26 P **P 22 10 18.3 +1.4**
baz=270,SNR=244
M30M Minto, Yukon 65.87 30 P **P 22 10 18.7 +1.6**
baz=272,SNR=85
GOA Goa 65.92 278⇑ *i* P **P 22 10 18.0 -0.1**
N31M Braeburn, Yuko 66.39 31 P **P 22 10 22.2 +1.8**
baz=273,SNR=89
SKAG Skagway 66.73 33 P **P 22 10 24.2 +1.7**
baz=274,SNR=12
WHY Whitehorse 66.87 32 P **P 22 10 25.3 +1.6**
baz=274,SNR=93
SIT Sitka 66.93 36 P **P 22 10 25.1 +1.3**
SIT pmax pmax
comp=Z,58nm,0.8s
SIT Sitka 66.93 36 P **P 22 10 25.1 +1.3**
SIT Sitka 66.93 36 P **P 22 10 25.3 +1.4**
baz=275
M31M Drury Creek, Y 67.00 30 P **P 22 10 25.5 +1.2**
baz=274,SNR=76
HIZ Hauiti 67.02 154 P **P 22 10 26.0 +1.5**
INK Inuvik 67.06 24 P **P 22 10 25.3 +0.9**
comp=Z,111nm,0.6s,baz=286,slow=5.4,SNR=298
INK S **S 22 19 04.0 -0.3**
comp=Z,6.7nm,1.0s,baz=12,slow=32,SNR=20
INK PKPPKP **P'P'df 22 38 49.7 -1.7**
comp=Z,16nm,1.2s,baz=110,slow=2.7,SNR=12
INK Inuvik 67.06 24 P **P 22 10 25.3 +0.9**
INK IAmb IAmb 22 10 26.7
comp=Z,285nm,1.1s
INK Inuvik 67.06 24 P **P 22 10 25.3 +0.9**
baz=272,SNR=195
OMRZ Omania 67.31 152 P **P 22 10 26.7 +0.2**
VRZ Vera Road 67.50 154 P **P 22 10 27.9 +0.3**
TWVZ Taurewa 67.73 154 P **P 22 10 29.3 +0.1**
URZ Urewera 67.76 152 P **P 22 10 27.7 -1.5**
URZ Urewera 67.76 152 P **P 22 10 27.9 -1.3**
RUGZ Raukumara Rang 67.76 151 P **P 22 10 27.0 -2.4**
WTVZ West Tongariro 67.83 154 P **P 22 10 30.1 +0.3**
NGZ Ngauruhoe 67.89 154 P **P 22 10 30.2 0.0**
SNVZ South Ngauruho 67.91 154 P **P 22 10 30.6 +0.2**
P33M Teslin, Yukon 67.93 32 P **P 22 10 31.5 +1.3**
baz=276,SNR=70
SVE Sverdlovsk 68.01 324*de*P **P 22 10 31.3 +0.6**
SVE *e*S **S 22 19 14.6 -1.4**
SVE pmax pmax
comp=Z,73nm,0.9s
TWGZ Tauwhareparae 68.07 151 P **P 22 10 30.3 -0.9**
QRZ Quartz Range 68.11 157 P **P 22 10 32.0 +0.6**
TKGZ Te Karaka 68.23 152 P **P 22 10 31.5 -0.6**
BKZ Black Stump Fm 68.25 153 P **P 22 10 31.1 -1.2**
CRAG Craig 68.33 37 P **P 22 10 34.2 +1.5**
baz=278,SNR=11
WRAK Wrangell Islan 68.64 36 P **P 22 10 36.0 +1.5**
baz=278,SNR=27
NNZ Nelson 68.77 156 P **P 22 10 34.4 -1.0**
H02S1 DAWSON INLET T 69.03 40 P **P 22 10 37.8 +0.8**
SNR=22
ARU Arti 69.20 324 S **S 22 19 27.4 -2.7**
comp=Z,1.3nm,0.7s,baz=188,slow=22,SNR=13
ARU ScS **SKSac 22 20 17.6 -4.1**
comp=Z,0.8nm,0.7s,baz=331,slow=23,SNR=5.7
ARU PKPPKP **P'P'df 22 38 44.3 -4.0**
comp=Z,2.0nm,0.8s,baz=198,slow=1.6,SNR=11
ARU Arti 69.20 324*c i* P **P 22 10 38.2 +0.2**
ARU 22 11 01.5
ARU *PP **pP 22 11 16.0 -1.4**
ARU PPP PPP 22 14 50.6
ARU S **S 22 19 31.2 +1.1**
ARU 22 20 17.7
ARU pmax pmax
comp=Z,167nm,1.5s
ARU Arti 69.20 324 P **P 22 10 38.4 +0.4**
ARU IAmb IAmb 22 10 45.5
comp=Z,101nm,0.4s
ARU Arti 69.20 324 P **P 22 10 38.2 +0.2**
ARU pP **pP 22 11 16.3 -1.1**
SNZO South Karori 69.35 155 P **P 22 10 37.4 -1.6**
BFZ Birch Farm 69.42 154 P **P 22 10 38.8 -0.7**
BFZ Birch Farm 69.42 154 P **P 22 10 38.4 -1.1**
BHW Baring Head 69.50 155 P **P 22 10 38.4 -1.5**
A36M Sachs Harbour 69.55 19 P **P 22 10 41.2 +1.3**
A36M IAmb IAmb 22 10 42.5
comp=Z,248nm,0.9s
A36M Sachs Harbour 69.55 19 P **P 22 10 41.1 +1.3**

baz=278,SNR=143
AB31 Akbulak array 69.56 316 *i* P **P 22 10 40.6 +0.2**
AB31 pmax pmax
comp=Z,54nm,0.4s
ABKAR Akbulak array 69.56 316 P **P 22 10 40.7 +0.3**
ABKAR IAmb IAmb 22 10 46.8
comp=Z,138nm,0.5s
ABKAR Akbulak array 69.56 316 P **P 22 10 40.8 +0.4**
DLBC Dease Lake 69.58 34 P **P 22 10 42.2 +1.7**
comp=Z,173nm,0.8s,baz=293,slow=6.3,SNR=247
DLBC LR LR 22 38 51.3
comp=Z,263nm,21.7s,baz=282,slow=34
DLBC Dease Lake 69.58 34 P **P 22 10 41.7 +1.3**
DLBC IAmb IAmb 22 10 43.8
comp=Z,231nm,0.9s
RAR Rarotonga 70.00 124 P **P 22 10 44.4 +1.0**
comp=Z,144nm,0.8s,baz=261,slow=6.0,SNR=18
RAR LR LR 22 34 35.5
comp=Z,162nm,21.1s,baz=308,slow=30
RAR Rarotonga 70.00 124 P **P 22 10 44.0 +0.6**
RAR IAmb IAmb 22 10 45.1
comp=Z,126nm,0.7s
RAR Rarotonga 70.00 124 P **P 22 10 44.2 +0.8**
RPZ Rata Peaks 70.15 159 P **P 22 10 42.3 -1.6**
RUBB Prince Rupert 70.15 38 P **P 22 10 45.1 +1.3**
RUBB IAmb IAmb 22 10 46.6
comp=Z,295nm,1.4s
C36M Paulatuk 70.36 22 P **P 22 10 45.5 +0.7**
C36M IAmb IAmb 22 10 46.9
comp=Z,278nm,1.1s
C36M Paulatuk 70.36 22 P **P 22 10 45.6 +0.7**
baz=280,SNR=164
LBZ Lake Benmore 70.47 160 P **P 22 10 44.9 -0.8**
AKTO Aktyubinsk 70.56 317 PKPPKP **P'P'df 22 38 40.3 -5.9**
comp=Z,1.2nm,0.8s,baz=204,slow=2.6,SNR=4.8
AKTO LR LR 22 41 36.7
comp=Z,318nm,21.5s,baz=84,slow=36
AKTO Aktyubinsk 70.56 317 *i* P **P 22 10 46.5 0.0**
AKTO pmax pmax
comp=Z,51nm,0.7s
HRA Herat 71.03 300 P **P 22 10 50.6 +0.8**
HRA IAmb IAmb 22 10 52.5
comp=Z,175nm,0.8s
BBB Bella Bella 71.83 40 P **P 22 10 55.0 +1.0**
comp=Z,75nm,0.7s,baz=303,slow=8.1,SNR=22
BBB LR LR 22 37 01.8
comp=Z,319nm,21.3s,baz=290,slow=31
BBB Bella Bella 71.83 40 P **P 22 10 54.7 +0.7**
GEYT Alibeck 73.37 305 P **P 22 11 04.5 +1.0**
comp=Z,93nm,0.8s,baz=108,slow=3.3,SNR=95
GEYT Alibeck 73.37 305 P **P 22 11 04.2 +0.8**
GEYT IAmb IAmb 22 11 06.4
comp=Z,151nm,1.1s
GYA0B ALIBECK ARRAY 73.37 305 P **P 22 11 04.2 +0.7**
GYA0B IAmb IAmb 22 11 06.3
comp=Z,188nm,1.1s
KIRV Kirov 73.58 327 S **SKiKP 22 20 17.3 +0.4**
comp=Z,6.4nm,0.9s,baz=261,slow=18,SNR=11
KIRV Kirov 73.58 327 *ceP* **P 22 11 04.3 +0.1**
PRGR Permogore 74.53 331 *eP* **P 22 11 09.0 -0.7**
PRGR *e**PP **pP 22 11 45.1 -4.3**
PRGR pmax pmax
comp=Z,135nm,1.5s
EUNU Eureka 74.67 8 P **P 22 11 11.4 +1.1**
EUNU IAmb IAmb 22 11 12.7
comp=Z,106nm,0.7s
ALE Alert 74.87 3 P **P 22 11 12.7 +1.4**
CLRS Cowichan Lake 75.14 43 P **P 22 11 14.9 +1.4**
SPA0 Spitsbergen Ar 75.53 350 *eP* **P 22 11 16.3 +1.1**
SPB2 Spitsbergen Ar 75.53 350 P **P 22 11 16.0 +0.8**
SPITS Spitsbergen Ar 75.53 350 LR LR 22 46 58.9
comp=Z,170nm,19.9s,baz=262,slow=37
SPITS Spitsbergen Ar 75.53 350 P **P 22 11 15.9 +0.7**
SPITS pmax pmax
comp=Z,30nm,0.9s
DGAR Diego Garcia 75.58 256 *ceP* **P 22 11 17.2 +0.7**
DGAR pmax pmax
comp=Z,363nm,2.5s
DGAR Diego Garcia 75.58 256 P **P 22 11 17.3 +0.7**
DGAR Diego Garcia 75.58 256 P **P 22 11 17.2 +0.7**
DGAR IAmb IAmb 22 11 18.7
comp=Z,319nm,1.4s
PGC Sidney 75.62 43 P **P 22 11 17.1 +1.0**
PGC IAmb IAmb 22 11 19.1
comp=Z,124nm,0.9s
KBS Kingsbay 75.68 351 P **P 22 11 17.1 +1.1**
KBS pmax pmax
comp=Z,29nm,0.7s
KBS Kingsbay 75.68 351 *eP* **P 22 11 17.3 +1.3**
KBS Kingsbay 75.68 351 P **P 22 11 17.1 +1.1**
NLWA Neilton Lookou 75.72 44 P **P 22 11 18.8 +1.9**
NLWA IAmb IAmb 22 11 20.4
comp=Z,358nm,1.2s
WISH Wishkah 75.87 45 P **P 22 11 19.6 +2.0**
WISH IAmb IAmb 22 11 21.4
comp=Z,335nm,1.1s
YKA Yellowknife Ar 75.93 28 P **P 22 11 18.2 +0.6**
comp=Z,114nm,0.6s,baz=291,slow=5.6,SNR=1057
YKA PKiKP **PKiKP 22 17 01.7 -0.8**
comp=Z,0.7nm,0.5s,baz=299,slow=1.3,SNR=4.3
YKA S **S 22 20 44.2 -1.9**
comp=Z,2.8nm,1.1s,baz=295,slow=9.9,SNR=5.9
YKA PKKPbc **PKKPbc 22 30 31.6 -2.4**
comp=Z,1.0nm,0.7s,baz=115,slow=2.3,SNR=11
YKA PKPPKP **P'P'df 22 38 33.4 -2.8**
comp=Z,0.5nm,0.9s,baz=99,slow=1.4,SNR=3.7
YKA P4KPbc 22 47 27.6
comp=Z,0.3nm,0.8s,baz=275,slow=2.7,SNR=5.5
YKA Yellowknife Ar 75.93 28 P **P 22 11 18.6 +0.9**
NOR Nord 76.04 357 P **P 22 11 18.9 +0.9**
A04D Lummi Island 76.07 43 P **P 22 11 20.5 +1.8**
baz=288
D03D Eldon 76.19 44 P **P 22 11 21.5 +2.1**
baz=288,SNR=37
PPT Papeete 76.32 116 P **P 22 11 22.1 +1.5**
comp=Z,440nm,0.9s,baz=323,slow=4.2,SNR=20
PPT LR LR 22 37 19.0
comp=Z,357nm,21.9s,baz=324,slow=29
PPT2 Papeete2 76.33 116 *eP* **P 22 11 21.9 +1.2**
comp=Z,396nm,1.0s
PPT2 *eS* **S 22 20 49.7 -2.4**
comp=Z,421nm,27.5s
PPT2 Papeete2 76.33 116 *eLQ* LQ 22 31 34.0
comp=Z,2μm,29.8s
PPT2 *eLR* LR 22 35 02.1
comp=Z,1μm,25.0s,baz=288
PPTF Pamatai, Papee 76.34 116 P **P 22 11 21.5 +0.7**
PPTF Pamatai, Papee 76.34 116 P **P 22 11 22.5 +1.7**
PAE Paea 76.36 116 *eP* **P 22 11 21.7 +0.9**
HSPB Hornsund (broa 76.44 349 *eP* **P 22 11 21.4 +1.1**
HSPB *eP*cP **PcP 22 11 30.5 -0.8**
HSPB *eP*P **pP 22 11 58.8 -1.4**
HSPB *eS* **S 22 20 48.6 -2.7**
HSPB Hornsund (broa 76.44 349 *eP* **P 22 11 21.3 +1.1**
D04E Lakebay 76.50 44 P **P 22 11 23.6 +2.5**
baz=288,SNR=13
TIAR Tiarei 76.51 115 *eP* **P 22 11 22.7 +1.0**
PMOR Pomariorio Ree 76.55 112 *eP* **P 22 11 22.6 +0.7**
comp=Z,1μm,1.1s
PMOR Pomariorio Ree 76.55 112 *eT* T 23 35 15.2
comp=Z,6.2nm,0.2s
LVZ Lovozero 76.60 338 P **P 22 11 23.1 +1.7**
LVZ pmax pmax
comp=Z,63nm,1.2s
LVZ Lovozero 76.60 338 P **P 22 11 23.1 +1.7**
B05A Bryant 76.60 43 P **P 22 11 23.3 +1.6**
baz=288,SNR=46
RES Resolute Bay 76.61 13 P **P 22 11 22.3 +1.0**
comp=Z,101nm,0.8s,baz=336,slow=5.1,SNR=322
RES S **S 22 20 51.4 -1.8**
comp=Z,3.8nm,1.0s,baz=113,slow=19,SNR=3.7
F04D Rainier, OR 76.68 46 P **P 22 11 23.9 +1.7**
baz=288,SNR=5.5
G03D McMinnville, O 76.78 46 P **P 22 11 24.6 +1.8**
baz=288,SNR=11
E04D Cinebar 76.83 45 P **P 22 11 24.9 +1.9**
baz=288,SNR=27
VAH Vaihoa 76.88 113 *eP* **P 22 11 24.2 +0.4**
comp=Z,434nm,1.2s
JLN Jalan Bani Buh 76.89 289 P **P 22 11 24.4 +0.6**
SNR=6.9
COR Corvallis 76.95 47 P **P 22 11 26.0 +2.3**
COR pmax pmax
comp=Z,317nm,1.1s
COR Corvallis 76.95 47 P **P 22 11 25.9 +2.3**
COR IAmb IAmb 22 11 27.3
comp=Z,317nm,1.1s
J01E Myrtle Point 76.95 49 P **P 22 11 25.6 +1.8**
baz=288,SNR=16
KBO Bosley Butte 77.04 50 P **P 22 11 26.0 +1.6**
KBO IAmb IAmb 22 11 27.8
comp=Z,412nm,1.2s
WBK Wadi Bani Khal 77.13 289 P **P 22 11 26.0 +0.8**
SNR=14
WBK P PcP 22 11 27.1 -8.3
SNR=11
APA Apatity 77.17 338 ⇓*i* P **P 22 11 23.4 -1.1**
APA *i* *PP **pP 22 12 04.2 -0.3**
APA *i* PPP PPP 22 16 12.0
APA *i* S **S 22 20 56.0 -3.5**
APA *i* PS **PnS 22 21 59.0 -3.2**
APA pmax pmax
comp=Z,30nm,0.7s
I03D Drain, OR 77.19 48 P **P 22 11 26.9 +1.8**
baz=288,SNR=32
WSAR Wadi Sarin 77.23 290 LR LR 22 48 04.9
comp=Z,121nm,19.0s,baz=79,slow=38
WSAR Wadi Sarin 77.23 290 P **P 22 11 26.9 +1.2**
SNR=7.3
BUCK Buck Mountain 77.28 47 P **P 22 11 27.6 +1.9**
K02D Willamette Mer 77.28 49 P **P 22 11 27.2 +1.4**
baz=288,SNR=32
H04D Lebanon 77.35 47 P **P 22 11 28.0 +2.0**
baz=288,SNR=19
MCQ Macquarie Isla 77.39 171 P **P 22 11 27.1 +1.4**
MCQ pmax pmax
comp=Z,511nm,1.6s
MCQ Macquarie Isla 77.39 171 P **P 22 11 27.1 +1.4**
MCQ IAmb IAmb 22 12 20.7
comp=Z,511nm,1.6s
C06D Leavenworth 77.47 43 P **P 22 11 28.0 +1.3**
baz=289,SNR=8.7
L02E Cave Junction 77.50 50 P **P 22 11 28.6 +1.7**
baz=288,SNR=27
KLMR Klimovskoe 77.57 331 *eP* **P 22 11 25.7 -1.2**
KLMR *e**PP **pP 22 12 04.7 -2.4**
KLMR *e* 22 14 24.2
KLMR pmax pmax
comp=Z,28nm,0.9s
KLMR Klimovskoe 77.57 331 *eP* **P 22 11 25.7 -1.2**
KLMR AMP 22 11 42.2
comp=Z,28nm,0.9s
KLMR *e*pP **pP 22 12 04.7 -2.4**
KLMR *e*PP **PP 22 14 24.2 +0.5**
BIDO Bidbid 77.58 290 P **P 22 11 29.0 +1.4**
SNR=15
JCC Jacoby Creek, 77.61 51 P **P 22 11 29.3 +1.8**
JCC IAmb IAmb 22 11 31.0
comp=Z,274nm,1.2s
MEH Mehetia 77.73 115 *eP* **P 22 11 29.3 +0.8**
comp=Z,128nm,1.2s
F05D White Salmon 77.77 45 P **P 22 11 29.9 +1.6**
baz=289,SNR=17
SMDO Samad 77.79 290 P **P 22 11 29.8 +0.9**
SNR=9.2
I04A Tendick Farm, 77.80 48 P **P 22 11 29.8 +1.2**
baz=289,SNR=55
JMDO Jabal Madar 77.97 289 P **P 22 11 30.6 +0.7**
SNR=12
G05D Wamic, OR 78.07 46 P **P 22 11 31.5 +1.5**
baz=289,SNR=15
J04D Umpqua Nationa 78.19 48 P **P 22 11 32.4 +1.4**
baz=289,SNR=44
HOQ Hoqain 78.26 291 P **P 22 11 32.5 +1.0**
SNR=19
YBH Yreka Blue Hor 78.26 50 P **P 22 11 32.8 +1.5**
comp=Z,151nm,0.7s,baz=344,slow=5.2,SNR=237
YBH LR LR 22 40 19.4
comp=Z,382nm,19.5s,baz=292,slow=31
M02C Callahan 78.27 50 P **P 22 11 33.0 +1.8**
baz=289,SNR=56
I05D Terrebonne, OR 78.36 47 P **P 22 11 33.0 +1.3**
baz=289,SNR=27
BANOM Banah 78.38 293 P **P 22 11 33.5 +1.4**
SNR=8.0
BANOM Banah 78.38 293 *i* P **P 22 11 32.8 +0.7**
SNR=10
L04D Klamath Falls 78.39 49 P **P 22 11 33.3 +1.3**
baz=289,SNR=64
SHME Shamm 78.47 293 P **P 22 11 34.5 +2.0**
SNR=7.4
SHME Shamm 78.47 293 *i* P **P 22 11 33.5 +1.0**
SNR=20
N02D Trinity Center 78.52 50 P **P 22 11 34.3 +1.7**
baz=289,SNR=73
HAMF Hammerfest 78.58 343 *eP* **P 22 11 33.5 +1.2**
BSY Bisya 78.63 290 P **P 22 11 34.5 +0.9**
SNR=16
K04D Chiloquin, OR 78.64 49 P **P 22 11 34.7 +1.4**
baz=289,SNR=7.2
MASF Masafi 78.67 293 P **P 22 11 35.1 +1.4**
SNR=6.0
MSFE Esma-Masafi 78.68 293 *i* P **P 22 11 34.3 +0.6**
SNR=12
ARA0 ARCESS Array S 78.69 342 *eP* **P 22 11 34.5 +1.5**
ARCES ARCESS Array B 78.69 342 P **P 22 11 33.5 +0.6**
comp=Z,18nm,0.6s,baz=70,slow=7.7,SNR=88
ARCES PKiKP **PKiKP 22 17 06.3 -0.3**
comp=Z,1.4nm,0.5s,baz=72,slow=4.0,SNR=3.8
ARCES PKKPbc **PKKPbc 22 30 25.6 -2.8**
comp=Z,0.8nm,0.5s,baz=264,slow=1.2,SNR=7.1
ARCES ARCESS Array B 78.69 342 P **P 22 11 33.7 +0.8**
ARCES pmax pmax
comp=Z,46nm,1.0s
ARCES ARCESS Array B 78.69 342 P **P 22 11 33.7 +0.8**
O02D Mt. Diablo Mer 78.72 51 P **P 22 11 35.4 +1.6**
baz=289,SNR=68
SOHO SOHO 78.76 292 P **P 22 11 34.9 +0.8**
SOHO SOHO 78.76 292 *i* P **P 22 11 34.2 +0.1**
SNR=44
WDC Whiskeytown Da 78.76 51 P **P 22 11 35.0 +1.2**
WDC pmax pmax
comp=Z,255nm,1.2s
WDC Whiskeytown Da 78.76 51 P **P 22 11 35.0 +1.2**
WDC IAmb IAmb 22 11 36.7
comp=Z,255nm,1.2s
UOSS Minazif 78.78 292 P **P 22 11 34.9 +0.6**
UOSS Minazif 78.78 292 P **P 22 11 34.8 +0.5**
UOSS Minazif 78.78 292 P **P 22 11 34.0 -0.2**
UOSS Minazif 78.78 292 *i* P **P 22 11 34.4 +0.2**
SNR=11
J05D Fort Rock, OR 78.78 48 P **P 22 11 35.8 +1.7**
baz=290,SNR=179
HAWA Hanford 78.86 44 P **P 22 11 35.6 +1.4**
HAWA IAmb IAmb 22 11 37.2
comp=Z,228nm,1.4s
M04C Macdoel 78.86 49 P **P 22 11 36.0 +1.4**
baz=290,SNR=130
HATD Hatta, Dubai 78.88 292 P **P 22 11 35.9 +1.1**
SNR=7.7
HATD Hatta, Dubai 78.88 292 *i* P **P 22 11 35.4 +0.6**
SNR=33
HOPS Hopland Field 78.90 52 P **P 22 11 35.9 +1.3**
ASHO Ashiyiah 78.99 292 P **P 22 11 36.6 +1.1**
SNR=33
ASHO Ashiyiah 78.99 292 *i* P **P 22 11 36.2 +0.8**
SNR=33
ARQ Araqi 79.03 291 P **P 22 11 36.7 +1.0**
SNR=14
UMQ Umm Al-Quwin 79.05 293 P **P 22 11 37.6 +1.9**
TBI Tubuai 79.22 121 *eP* **P 22 11 37.6 +1.1**
comp=Z,577nm,1.0s
TBI *eS* **S 22 21 20.3 -2.4**
comp=Z,325nm,26.8s
TBI Tubuai 79.22 121 *eLQ* LQ 22 33 12.8
comp=Z,418nm,26.8s
TBI *eLR* LR 22 36 10.4
comp=Z,599nm,34.2s
NAZ Nazwa, Dubai 79.23 293 P **P 22 11 37.9 +1.2**
SNR=8.2
NAZ Nazwa, Dubai 79.23 293 *i* P **P 22 11 37.3 +0.7**
SNR=15
FAQ Al Faqa, Dubai 79.36 292 P **P 22 11 38.2 +0.8**
SNR=9.6
FAQ Al Faqa, Dubai 79.36 292 *i* P **P 22 11 37.8 +0.4**
SNR=22
O03E Paynes Creek 79.39 51 P **P 22 11 38.2 +0.8**
baz=290,SNR=111
ALNE Al Ain 79.46 292 P **P 22 11 39.0 +1.1**
SNR=17
ALNE Al Ain 79.46 292 *i* P **P 22 11 38.7 +0.7**
SNR=27
MSF Maaselka 79.49 338 P **P 22 11 38.4 +1.1**
MSF pmax pmax
comp=Z,35nm,0.8s
MAK Makhachkala 79.56 312 *eP* **P 22 11 37.8 -0.3**
MAK *e**PP **pP 22 12 15.3 -3.6**
MAK *e**SP **sP 22 12 31.4 -5.2**
MAK *e* 22 14 37.8
MAK *eS* **S 22 21 23.4 -2.4**
MAK *e**SS **sS 22 22 31.6 -4.8**
MAK *eSS* **SS 22 26 36.4 -0.6**
MAK pmax pmax
comp=Z,162nm,1.2s
MAK MLR MLR
comp=Z,283nm,19.0s
ASUD Al Ashush, Dub 79.63 292 P **P 22 11 40.0 +1.1**
SNR=55
ASUD Al Ashush, Dub 79.63 292 *i* P **P 22 11 39.6 +0.8**
SNR=55
TULEG Thule 79.64 7 *i* P **P 22 11 38.0 +0.1**
TULEG IAmb IAmb 22 11 39.4
comp=Z,115nm,0.6s
TULEG Thule 79.64 7 P **P 22 11 38.9 +1.0**
TULEG IAmb IAmb 22 11 40.2
comp=Z,150nm,0.8s
KTK1 Kautokeino 79.66 342 *eP* **P 22 11 39.3 +1.1**
NEW Newport 79.73 42 P **P 22 11 39.9 +0.9**
comp=Z,168nm,0.8s,baz=292,slow=4.3,SNR=210
NEW Newport 79.73 42 P **P 22 11 40.0 +1.0**
NEW pmax pmax
comp=Z,229nm,0.9s
NEW Newport 79.73 42 P **P 22 11 40.0 +1.0**
NEW IAmb IAmb 22 11 41.5
comp=Z,229nm,0.9s
NEW Newport 79.73 42 P **P 22 11 40.1 +1.1**
baz=292,SNR=160
MOD Modoc Plateau 79.90 49 P **P 22 11 41.3 +1.1**
MOD IAmb IAmb 22 11 42.7
comp=Z,240nm,1.2s
AJN Ajban 79.95 292 P **P 22 11 41.2 +0.6**
SNR=17
AJN Ajban 79.95 292 *i* P **P 22 11 40.8 +0.3**
SNR=17
EDM Edmonton 80.05 36 P **P 22 11 41.6 +1.0**
EDM pmax pmax
comp=Z,349nm,1.1s
EDM Edmonton 80.05 36 P **P 22 11 41.6 +1.0**
EDM IAmb IAmb 22 11 43.1
comp=Z,349nm,1.1s
JETT Jettan, Norway 80.13 343 *eP* **P 22 11 42.4 +1.6**
VRH Novokhopyorsk 80.20 321 *eP* **P 22 11 41.3 -0.1**
VRH *e**PP **pP 22 12 18.1 -4.1**
VRH *eS* **S 22 21 26.9 -5.4**
VRH pmax pmax
comp=Z,70nm,0.6s
VRH smax smax
comp=E,2μm,4.8s
NEEM North Greenlan 80.31 3 *i* P **P 22 11 42.4 +0.5**
NEEM IAmb IAmb 22 11 43.7
comp=Z,62nm,0.8s
UMZA Um Al Zommool 80.42 291 P **P 22 11 43.2 +0.2**
TRO Tromso 80.49 343 *eP* **P 22 11 43.1 +0.5**
MOS Moscow 80.58 327 *eP* **P 22 11 42.9 -0.4**
MOS *e**PP **pP 22 12 21.6 -2.4**
MOS *e* 22 14 48.5
MOS *eS* **S 22 21 30.3 -5.7**
MOS *e* 22 21 48.0
MOS *e**SS **sS 22 22 38.8 -7.6**
MOS pmax pmax
comp=Z,45nm,0.7s
MOS smax smax
comp=E,500μm,3.0s
MOS smax smax
comp=N,600μm,3.0s
GROC Groznyy 80.64 313 *eP* **P 22 11 44.2 +0.3**
GROC *e* 22 14 56.2
GROC *eS* **S 22 21 34.7 -2.5**
GROC *e* 22 22 29.4
GROC pmax pmax
comp=Z,31nm,0.5s
TAOE Nuku Hiva Isla 80.73 103 *eP* **P 22 11 45.0 0.0**
comp=Z,395nm,1.1s
TAOE Nuku Hiva Isla 80.73 103 *eLQ* LQ 22 33 47.6
comp=Z,2μm,36.9s
TAOE *eLR* LR 22 37 17.5
comp=Z,377nm,22.6s
TAOE Nuku Hiva Isla 80.73 103 P **P 22 11 47.1 +2.1**
comp=Z,184nm,1.1s
DAG Danmarks Havn 80.78 356 P **P 22 11 44.3 +0.3**
DAG pmax pmax
comp=Z,18nm,1.8s
DAG Danmarks Havn 80.78 356 *i* P **P 22 11 43.0 -1.0**
DAG IAmb IAmb 22 11 48.9
comp=Z,4.8nm,0.8s
LGD Lagodekhi 80.83 311 P **P 22 11 46.3 +1.3**
WVOR Wild Horse Val 80.87 48 P **P 22 11 46.4 +1.1**
WVOR pmax pmax
comp=Z,199nm,1.1s
WVOR Wild Horse Val 80.87 48 P **P 22 11 46.4 +1.1**
WVOR IAmb IAmb 22 11 47.9
comp=Z,199nm,1.1s
SAO San Andreas Ge 80.87 54 P **P 22 11 46.6 +1.3**
SAO pmax pmax
comp=Z,175nm,1.2s
SAO San Andreas Ge 80.87 54 P **P 22 11 46.6 +1.3**
SAO IAmb IAmb 22 11 47.7
comp=Z,175nm,1.1s
BMO Blue Mountains 80.87 45 P **P 22 11 46.1 +0.9**
BMO pmax pmax
comp=Z,264nm,1.2s
BMO Blue Mountains 80.87 45 P **P 22 11 46.1 +0.9**
BMO IAmb IAmb 22 11 47.8
comp=Z,264nm,1.1s
MPK Martis Peak 81.02 51 P **P 22 11 47.2 +0.8**
DDFL Dedoflistskaro 81.06 311 P **P 22 11 50.6 +4.3**
MZWR Madinat Zayed 81.17 292 P **P 22 11 47.4 +0.3**
LPSR Galich'ya Gora 81.22 323 *eP* **P 22 11 47.1 +0.3**
LPSR *e**PP **pP 22 12 24.0 -3.7**
LPSR *eS* **S 22 21 39.7 -3.1**
LPSR pmax pmax
comp=Z,90nm,1.4s
LPSR smax smax
comp=E,2μm,2.0s
VCNR Virginia City 81.29 51 P **P 22 11 49.0 +1.2**
VCNR IAmb IAmb 22 11 50.4
comp=Z,138nm,0.9s
WALA Waterton Lakes 81.39 41 P **P 22 11 49.4 +1.4**
WALA IAmb IAmb 22 11 51.0
comp=Z,198nm,0.8s
OBN Obninsk 81.40 326 ⇑P **P 22 11 47.4 -0.3**
OBN Obninsk 81.40 326 *d iP* **P 22 11 48.4 +0.8**
OBN *e**PP **pP 22 12 27.4 -1.0**
OBN *SP **sP 22 12 45.0 -0.9**
OBN *i* 22 14 56.9
OBN *i* S **S 22 21 40.9 -3.5**
OBN *i* 22 21 47.7
OBN *eP*S 22 22 34.2
OBN *i* PPS PPS 22 23 01.0
OBN *eSS*S SSS 22 30 38.5
OBN pmax pmax
comp=Z,32nm,1.0s
OBN MLR MLR
comp=Z,330nm,21.0s
OBN Obninsk 81.40 326 P **P 22 11 48.0 +0.4**
OBN Obninsk 81.40 326 P **P 22 11 49.0 +1.4**
SHAO Shalim 81.62 286 P **P 22 11 50.3 +0.8**
SHAO Shalim 81.62 286 *i* P **P 22 11 49.7 +0.2**
SNR=60
VSR Storozhevoye 81.67 322 *eP* **P 22 11 49.4 +0.2**
VSR *e**PP **pP 22 12 27.1 -3.0**
VSR *eS* **S 22 21 44.0 -3.4**
VSR pmax pmax
comp=Z,50nm,0.5s
VSR smax smax
comp=E,1μm,2.1s
JTMT Jette 81.69 42 P **P 22 11 50.6 +1.1**
JTMT IAmb IAmb 22 11 52.1
comp=Z,260nm,1.0s
VORD Divnogorie 81.70 322 *eP* **P 22 11 49.7 +0.4**
VORD pmax pmax
comp=Z,50nm,0.5s
GOF Gofitskoye 81.78 315⇑*eP* **P 22 11 50.8 +0.9**
GOF *eS* **S 22 21 47.9 -1.0**
GOF pmax pmax
comp=Z,220nm,1.8s
GOF smax smax

comp=N,107nm,1.2s
GHWR Ruwais 81.96 293 P **P 22 11 51.8 +0.6**
NCK Nalchik 82.02 314 ⇑*i*P **P 22 11 52.1 +0.9**
NCK pmax pmax
comp=Z,245nm,1.7s
ZEI Tsey 82.09 313 *e*P **P 22 11 50.8 -1.0**
ZEI pmax pmax
comp=Z,44nm,1.4s
MSO Missoula 82.27 43 P **P 22 11 53.3 +0.7**
MSO Missoula 82.27 43 P **P 22 11 53.1 +0.5**
baz=294,SNR=24
DMTO DMTO 82.33 286 P **P 22 11 53.7 +0.5**
SNR=11
KBZ Khabaz 82.40 314 P **P 22 11 54.0 +0.9**
comp=Z,61nm,0.7s,baz=95,slow=3.2,SNR=155
KBZ S **S 22 21 54.4 -0.8**
comp=Z,7.1nm,1.1s,baz=43,slow=22,SNR=7.4
KBZ LR LR 22 50 06.8
comp=Z,442nm,21.4s,baz=66,slow=37
KVAR Kislovodsk Arr 82.44 314 LR LR 22 52 02.8
comp=Z,239nm,19.2s,baz=292,slow=38
KIV Kislovodsk 82.45 314 ⇓P **P 22 11 57.2 +3.7**
KIV Kislovodsk 82.45 314*c i*P **P 22 11 54.3 +0.7**
KIV *i* *PP **pP 22 12 33.0 -1.6**
KIV *i* *SP **sP 22 12 55.3 +3.1**
KIV *e* 22 15 06.9
KIV *i* S **S 22 21 55.4 -0.5**
KIV *e*PPS PPS 22 22 45.1
KIV *e* 22 23 04.2
KIV *e* 22 23 13.9
KIV *e*SS **SS 22 27 17.5 -2.6**
KIV pmax pmax
comp=Z,29nm,0.6s
KIV MLR MLR
comp=Z,210nm,17.0s
KIV Kislovodsk 82.45 314 P **P 22 11 55.5 +1.9**
KIV Kislovodsk 82.45 314 P **P 22 11 54.3 +0.7**
KIV IAmb IAmb 22 11 58.4
comp=Z,404nm,1.8s
KIV Kislovodsk 82.45 314 P **P 22 11 54.4 +0.9**
KIV Kislovodsk 82.45 314 *i* P **P 22 11 54.6 +1.0**
SNR=8.1
ONI Oni 82.47 313 P **P 22 11 55.1 +1.5**
ONI pmax pmax
comp=Z,715nm,1.9s
ONI Oni 82.47 313 P **P 22 11 55.1 +1.5**
ONI IAmb IAmb 22 11 57.8
comp=Z,715nm,1.9s
MLAC Mammoth, Mammo 82.50 53 P **P 22 11 55.3 +1.2**
baz=292,SNR=11
GNI Garni 82.52 310 P **P 22 11 55.5 +1.4**
GNI pmax pmax
comp=Z,463nm,1.7s
GNI Garni 82.52 310 P **P 22 11 55.9 +1.8**
GNI Garni 82.52 310 P **P 22 11 55.5 +1.4**
GNI IAmb IAmb 22 11 58.1
comp=Z,463nm,1.7s
GNI Garni 82.52 310 P **P 22 11 55.6 +1.6**
KHOR Al-Khor Airpor 82.54 295 P **P 22 11 54.9 +0.7**
VOG Valley Oaks Go 82.58 54 P **P 22 11 55.0 +0.7**
baz=292,SNR=17
NVAR Mina Array Bea 82.59 52 P **P 22 11 55.6 +1.1**
comp=Z,190nm,0.7s,baz=274,slow=5.5,SNR=496
STEI Steigen 82.63 343 *e*P **P 22 11 54.3 +0.6**
NV11 Mina Array Sit 82.70 52 P **P 22 11 55.9 +0.9**
NV11 IAmb IAmb 22 11 57.4
comp=Z,165nm,0.8s
NEY Neytrino 82.71 314 *i* P **P 22 11 56.9 +1.9**
NEY pmax pmax
comp=Z,12nm,0.9s
DOK Doka 82.74 287 P **P 22 11 55.6 +0.3**
SNR=20
PKM Mcpherson Peak 82.78 55 P **P 22 11 56.8 +1.2**
baz=292,SNR=40
BGD Bogdanovka 82.89 312 P **P 22 11 58.2 +2.2**
AKH Akhalkalaki 82.90 312 ⇑P **P 22 11 58.3 +2.3**
AKH Akhalkalaki 82.90 312 P **P 22 11 58.1 +2.1**
SHMA Al-Shehemyia 82.92 295 P **P 22 11 57.0 +0.8**
SLWR Sila 82.94 293 P **P 22 11 57.3 +1.0**
LOF Lofoten 82.95 343 *e*P **P 22 11 56.8 +1.3**
VES Vestal, Richgr 82.98 54 P **P 22 11 56.8 +0.5**
baz=292,SNR=58
FAUS Fauske 82.99 342 *e*P **P 22 11 56.2 +0.5**
FIA1 FINESS Array S 83.01 335 P **P 22 11 55.7 -0.2**
FINES FINESS Array B 83.02 335 P **P 22 11 55.4 -0.6**
comp=Z,21nm,0.3s,baz=68,slow=5.0,SNR=247
FINES pP **pP 22 12 35.1 -1.4**
comp=Z,13nm,0.4s,baz=72,slow=4.8,SNR=2.1
FINES FINESS Array B 83.02 335 P **P 22 11 55.7 -0.2**
FINES FINESS Array B 83.02 335 P **P 22 11 55.7 -0.2**
RBK Rabkut 83.07 286 P **P 22 11 57.6 +0.5**
RBK P **P 22 11 57.6 +0.5**
SNR=13
TRNA Turayna 83.11 294 P **P 22 11 57.7 +0.6**
TIN Tinemaha, Big 83.16 53 P **P 22 11 58.7 +1.3**
baz=292,SNR=40
SAKB Bahrain 83.23 295 P **P 22 11 58.4 +0.7**
DBG Daneborg 83.28 356 *i* P **P 22 11 56.9 -0.1**
DBG IAmb IAmb 22 12 06.0
comp=Z,8.2nm,0.7s
HLID Hailey 83.29 46 P **P 22 11 59.0 +1.1**
HLID IAmb IAmb 22 12 00.6
comp=Z,290nm,1.7s
HLID Hailey 83.29 46 P **P 22 11 59.1 +1.1**
baz=294,SNR=83
WHFO Wadi Hawf 83.31 287 P **P 22 11 58.4 0.0**
SNR=9.8
CHVG Ch'k'valeri 83.35 313 ⇓P **P 22 12 00.5 +2.5**
CHVG Ch'k'valeri 83.35 313 ⇓P **P 22 12 00.5 +2.5**
ARVC Arvin 83.44 55 P **P 22 11 59.4 +0.7**
baz=292,SNR=15
KARS Kars 83.50 311 P **P 22 12 01.0 +1.9**
KARS pmax pmax
comp=Z,444nm,1.2s
KARS Kars 83.50 311 P **P 22 12 01.0 +1.9**
CWC Cottonwood Cre 83.51 53 P **P 22 11 59.9 +0.7**
baz=293
ISA Isabella, Lake 83.51 54 P **P 22 11 59.3 +0.2**
ISA pmax pmax
comp=Z,106nm,1.0s
ISA Isabella, Lake 83.51 54 P **P 22 11 59.3 +0.2**
ISA IAmb IAmb 22 12 00.8
comp=Z,106nm,0.9s
ISA Isabella, Lake 83.51 54 P **P 22 11 59.3 +0.2**
baz=292,SNR=54
TPH Tonopah 83.51 52 P **P 22 11 59.8 +0.6**
TPH pmax pmax
comp=Z,639nm,0.8s
TPH Tonopah 83.51 52 P **P 22 11 59.8 +0.6**
SNCC San Nicolas Is 83.62 57 P **P 22 12 00.9 +1.3**
baz=292,SNR=5.6
LRM Limekiln Ridge 83.63 43 P **P 22 12 00.6 +0.8**
BCYI Bear Canyon 83.65 45 P **P 22 12 00.9 +1.1**
OSI Osito Audit: C 83.72 55 P **P 22 12 01.1 +0.9**
baz=292,SNR=7.6
GRAC Grapevine Rang 83.82 53 P **P 22 12 01.9 +1.2**
baz=293,SNR=23
ELK Elko 83.87 49 P **P 22 12 02.3 +1.2**
comp=Z,162nm,1.1s,baz=323,slow=4.2,SNR=3.6
ELK S **S 22 22 06.9 -3.8**
comp=Z,0.7nm,0.7s,baz=67,slow=22,SNR=2.0
ELK LR LR 22 43 42.4
comp=Z,264nm,20.3s,baz=290,slow=31
ELK Elko 83.87 49 P **P 22 12 02.0 +1.0**
ELK IAmb IAmb 22 12 03.7
comp=Z,231nm,1.1s
ABTO Aybut 83.93 286 P **P 22 12 01.9 +0.3**
SNR=12
MOR8 Moi Rana 84.07 342 *e*P **P 22 12 00.5 -0.8**
MPMC Manual Prospec 84.10 54 P **P 22 12 03.2 +1.0**
baz=293,SNR=145
DECC Green Verdugo 84.15 56 P **P 22 12 02.8 +0.4**
baz=293,SNR=10
EDW2 Edwards Air Fo 84.17 55 P **P 22 12 03.5 +1.0**
baz=293,SNR=48
LRMC Laurel Mtn Rad 84.18 54 P **P 22 12 03.4 +0.8**
baz=293,SNR=49
KONS Konsvik 84.22 342 *e*P **P 22 12 03.0 +1.1**
BOZ Bozeman (W) 84.24 43 P **P 22 12 03.6 +0.8**
BOZ pmax pmax
comp=Z,141nm,1.1s
BOZ Bozeman (W) 84.24 43 P **P 22 12 03.6 +0.8**
BOZ IAmb IAmb 22 12 05.2
comp=Z,141nm,1.1s
BOZ Bozeman (W) 84.24 43 P **P 22 12 03.6 +0.8**
baz=296,SNR=117
EGMT Eagleton 84.33 40 P **P 22 12 04.0 +0.9**
EGMT IAmb IAmb 22 12 05.4
comp=Z,217nm,1.0s
EGMT Eagleton 84.33 40 P **P 22 12 03.8 +0.8**
baz=297,SNR=43
FMP Fort Macarthur 84.39 56 P **P 22 12 04.5 +1.0**
baz=293
FURC Furnace Creek, 84.40 53 P **P 22 12 04.8 +1.3**
baz=293,SNR=86
VSU Vasula 84.41 332 *i* P **P 22 12 04.1 +1.0**
VSU pmax pmax
comp=Z,93nm,0.9s
VSU Vasula 84.41 332 *e*P **P 22 12 03.8 +0.7**
CIS Catalina Islan 84.42 56 P **P 22 12 04.3 +0.6**
baz=293,SNR=6.0
UPNV Upernavik 84.45 6 *i* P **P 22 12 03.9 +0.9**
UPNV IAmb IAmb 22 12 04.3
comp=Z,36nm,0.6s
SCI2 San Clemente I 84.48 57 P **P 22 12 04.6 +0.6**
baz=293
SOC Sochi 84.56 315 *i* P **P 22 12 02.5 -1.7**
SOC *e**PP **pP 22 12 44.2 -1.3**
SOC *e**SP **sP 22 13 02.1 -1.0**
SOC *e*PPP PPP 22 17 22.8
SOC *e*S **S 22 22 10.0 -6.9**
SOC *e**SS **sS 22 23 27.5 -0.9**
SOC *e*SS **SS 22 27 54.7 +3.7**
SOC *e*SSS SSS 22 31 17.9
R11A Troy Canyon, C 84.59 51 P **P 22 12 05.5 +0.8**
R11A IAmb IAmb 22 12 07.3
comp=Z,285nm,1.2s
R11A Troy Canyon, C 84.59 51 P **P 22 12 05.7 +1.1**
baz=294,SNR=232
TPNV Topopah Spring 84.66 52 P **P 22 12 06.0 +0.9**
TPNV pmax pmax
comp=Z,125nm,0.9s
TPNV Topopah Spring 84.66 52 P **P 22 12 06.0 +0.9**
TPNV IAmb IAmb 22 12 07.5
comp=Z,125nm,0.9s
BFSC Mount Baldy Ra 84.67 55 P **P 22 12 05.5 +0.4**
baz=293,SNR=9.6
GSC Goldstone, Bar 84.90 54 P **P 22 12 07.0 +0.9**
baz=293,SNR=70
RRX Edison Barstow 84.93 55 P **P 22 12 07.4 +1.2**
baz=293,SNR=9.8
SHOC Shoshone, Teco 85.06 53 P **P 22 12 07.8 +0.9**
baz=294,SNR=8.5
GURO Guroymak-BITLI 85.08 310 P **P 22 12 07.9 +0.8**
SOCY Socotra 85.17 281 P **P 22 12 07.1 -0.7**
SOCY Socotra 85.17 281 P **P 22 12 07.2 -0.6**
SOCY IAmb IAmb 22 12 09.9
comp=Z,244nm,1.6s
BBRC Big Bear Solar 85.23 55 P **P 22 12 08.4 +0.4**
baz=293,SNR=7.6
MURC Murrieta 85.28 56 P **P 22 12 08.4 +0.4**
baz=293,SNR=20
H17A Grant Village 85.44 44 P **P 22 12 11.8 +2.9**
baz=296,SNR=152
HEC Hector,Ludlow 85.45 54 P **P 22 12 09.7 +0.8**
baz=294,SNR=40
LKWY Lake 85.48 44 P **P 22 12 11.2 +2.1**
LKWY pmax pmax
comp=Z,217nm,0.9s
LKWY Lake 85.48 44 P **P 22 12 11.2 +2.1**
LKWY IAmb IAmb 22 12 13.6
comp=Z,217nm,0.9s
TUQ Turquoise Moun 85.51 54 P **P 22 12 10.2 +1.0**
baz=294,SNR=60
SPUT South Promonto 85.55 47 P **P 22 12 10.5 +1.1**
SPUT IAmb IAmb 22 12 12.0
comp=Z,252nm,1.1s
YMP Mirror Lake Pl 85.56 43 P **P 22 12 11.5 +2.0**
SUMG Summit 85.58 1 P **P 22 12 10.4 +1.2**
SUMG pmax pmax
comp=Z,42nm,0.6s
SUMG Summit 85.58 1 *i* P **P 22 12 09.7 +0.5**
SUMG IAmb IAmb 22 12 10.9
comp=Z,35nm,0.5s
SUMG Summit 85.58 1 P **P 22 12 10.4 +1.2**
109C Camp Elliot, M 85.63 56 P **P 22 12 10.6 +0.9**
109C IAmb IAmb 22 12 11.8
comp=Z,172nm,0.9s
109C Camp Elliot, M 85.63 56 P **P 22 12 10.4 +0.7**
baz=293,SNR=12
DUG Dugway, Tooele 85.78 48 P **P 22 12 11.6 +1.1**
DUG pmax pmax
comp=Z,413nm,0.8s
DUG Dugway, Tooele 85.78 48 P **P 22 12 11.5 +1.0**
baz=295,SNR=215
AHID Auburn Hatcher 85.82 45 P **P 22 12 11.4 +0.7**
AHID IAmb IAmb 22 12 13.1
comp=Z,149nm,0.8s
PFO Pinyon Flats O 85.84 56 LR LR 22 44 29.0
comp=Z,251nm,19.5s,baz=284,slow=31
PFO Pinyon Flats O 85.84 56 P **P 22 12 11.5 +0.6**
PFO pmax pmax
comp=Z,264nm,1.0s
PFO Pinyon Flats O 85.84 56 P **P 22 12 11.5 +0.6**
PFO IAmb IAmb 22 12 13.0
comp=Z,264nm,1.0s
PFO Pinyon Flats O 85.84 56 P **P 22 12 11.6 +0.6**
baz=294,SNR=64
PFO Pinyon Flats O 85.84 56 P **P 22 12 11.2 +0.3**
TPFO Pinon Flats 85.84 56 P **P 22 12 11.5 +0.6**
baz=294,SNR=63
RLMT Red Lodge 85.94 43 P **P 22 12 13.2 +1.9**
RLMT Red Lodge 85.94 43 P **P 22 12 13.0 +1.7**
baz=297,SNR=305
NSS Namsos 85.96 341 *e*P **P 22 12 10.6 -0.1**
GMRC Granite Mounta 85.97 54 P **P 22 12 12.4 +0.9**
baz=294,SNR=84
HWUT Hardware Ranch 86.02 47 P **P 22 12 12.7 +1.0**
HWUT IAmb IAmb 22 12 14.1
comp=Z,272nm,0.8s
BELC Belle Mtn. Jos 86.03 55 P **P 22 12 12.3 +0.4**
baz=294,SNR=43
BAR Barrett 86.05 56 P **P 22 12 12.6 +0.8**
BAR IAmb IAmb 22 12 13.8
comp=Z,132nm,1.0s
MNK Minsk 86.07 328 *i* P **P 22 12 10.4 -1.0**
MNK *i* *PP **pP 22 12 48.1 -4.5**
MNK *i* 22 15 32.3
MNK *i* PPP PPP 22 17 26.7
MNK *i* S **SKSac 22 22 20.6 -0.7**
MNK *i* SS **SS 22 28 20.4 +8.0**
MNK *i* SSS SSS 22 31 47.1
MNK pmax pmax
comp=Z,28nm,0.8s
MNK MLR MLR
comp=E,39nm,16.0s
MNK MLR MLR
comp=N,201nm,19.0s
MNK MLR MLR
comp=Z,2μm,25.0s
MNK Minsk 86.07 328 *i* P **P 22 12 10.5 -0.9**
MNK *i* P **P 22 12 10.5 -0.9**
MNK *i* P **P 22 12 10.5 -0.9**
comp=Z,28nm,0.8s,baz=236
MNK *i* pP **pP 22 12 48.1 -4.5**
MNK *i* PP **PP 22 15 32.3 -1.1**
MNK *i* PPP PPP 22 17 26.7
MNK *i* S **SKSac 22 22 20.6 -0.7**
MNK *i* SS **SS 22 28 20.4 +8.1**
MNK *i* SSS SSS 22 31 47.2
MNK *i* LR LR 22 45 46.6
MNK *i* LRM MLR 22 51 43.7
comp=E,39nm,16.2s
MNK *i* LRM MLR 22 51 52.7
comp=N,201nm,19.2s
MNK *i* LRM MLR 22 52 08.6
comp=Z,2μm,24.6s
TKX Tecate 86.14 57 P **P 22 12 12.6 +0.4**
TKX IAmb IAmb 22 12 14.2
comp=Z,152nm,1.2s
IDID Didziasalis 86.17 329 *e*P **P 22 12 12.9 +1.0**
ISAL Salakas 86.31 330 *e*P **P 22 12 13.5 +0.9**
NACGM Naroch 86.38 329 *i* P **P 22 12 13.4 +0.5**
IIGN Ignalina 86.39 329 *e*P **P 22 12 14.0 +1.0**
IKP In-Ko-Pah, Jac 86.49 56 P **P 22 12 14.8 +0.8**
baz=294,SNR=24
FCC Fort Churchill 86.52 26 P **P 22 12 14.1 +0.6**
FCC pmax pmax
comp=Z,186nm,0.9s
FCC Fort Churchill 86.52 26 P **P 22 12 14.1 +0.6**
FCC IAmb IAmb 22 12 15.3
comp=Z,186nm,0.9s
RMX La Rumorosa 86.54 56 P **P 22 12 15.6 +1.2**
RMX IAmb IAmb 22 12 16.8
comp=Z,169nm,1.0s
JLU Jordanelle 86.54 47 P **P 22 12 15.1 +0.8**
JLU IAmb IAmb 22 12 16.7
comp=Z,273nm,0.9s
BC3 Big Chuckawall 86.59 55 P **P 22 12 15.4 +0.8**
baz=294,SNR=85
SWSC Sam W. Stewart 86.61 56 P **P 22 12 15.0 +0.5**
baz=294,SNR=28
IRM Iron Mountain 86.62 55 P **P 22 12 15.4 +0.9**
baz=294,SNR=82
NEE2 Needles Airpor 86.76 54 P **P 22 12 16.1 +0.9**
baz=295,SNR=27
BW06 Boulder Array 86.84 45 P **P 22 12 16.1 +0.4**
baz=297,SNR=46
PD31 Pinedale Array 86.84 45 P **P 22 12 16.0 +0.2**
PD31 IAmb IAmb 22 13 03.7
comp=Z,89nm,0.5s
PDAR Pinedale Array 86.84 45 P **P 22 12 15.8 0.0**
comp=Z,26nm,0.8s,baz=230,slow=1.8,SNR=168
PDAR PKPPKP 22 38 15.3
comp=Z,0.5nm,0.9s,baz=107,slow=1.5,SNR=4.0
PDAR LR LR 22 46 30.5
comp=Z,291nm,19.9s,baz=310,slow=32
PDAR Pinedale Array 86.84 45 P **P 22 12 16.2 +0.4**
LAO LASA Array 87.07 40 P **P 22 12 18.0 +1.4**
LAO LASA Array 87.07 40 P **P 22 12 17.7 +1.2**
baz=299,SNR=183
SCO Scoresbysund 87.13 355 P **P 22 12 16.9 +0.6**
SCO pmax pmax
comp=Z,88nm,1.7s
SCO Scoresbysund 87.13 355 *i* P **P 22 12 16.0 -0.2**
SCO IAmb IAmb 22 12 22.5
comp=Z,4.7nm,0.9s
SCO Scoresbysund 87.13 355 P **P 22 12 16.9 +0.6**
W13A Hualapai Mount 87.17 53 P **P 22 12 18.2 +0.7**
W13A IAmb IAmb 22 12 19.9
comp=Z,112nm,0.9s
GLA Glamis 87.31 55 P **P 22 12 19.1 +1.1**
baz=295,SNR=85
DGMT Dagmar 87.37 38 P **P 22 12 18.7 +0.8**
DGMT IAmb IAmb 22 12 19.8
comp=Z,149nm,0.8s
DGMT Dagmar 87.37 38 P **P 22 12 18.3 +0.4**
baz=301,SNR=36
AKASG Malin Array Be 87.44 325 P **P 22 12 16.9 -1.2**
comp=Z,4.3nm,0.3s,baz=52,slow=5.1,SNR=74
AKASG pP **pP 22 12 56.5 -2.8**
comp=Z,7.3nm,0.6s,baz=51,slow=5.0,SNR=3.2
AKASG S **S 22 22 35.7 -8.8**
comp=Z,1.5nm,0.9s,baz=58,slow=8.3,SNR=4.3
AKASG PKKPbc **PKKPbc 22 30 05.2 -2.4**
comp=Z,1.1nm,0.5s,baz=259,slow=2.6,SNR=8.9
AKASG Malin Array Be 87.44 325 *i* P **P 22 12 17.5 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKASG Malin Array Be 87.44 325 P **P 22 12 16.9 -1.2**
AKBB Malin Array Si 87.44 325*ce*P **P 22 12 16.7 -1.4**
AKBB Malin Array Si 87.44 325 P **P 22 12 17.6 -0.5**
SIM Simferopol' 87.53 318*c i*P **P 22 12 18.2 -0.5**
SIM SSS SSS 22 32 10.0
SIM pmax pmax
comp=Z,29nm,0.4s
P17A Butcher Ranch, 87.53 48 P **P 22 12 19.6 +0.5**
P17A IAmb IAmb 22 12 21.4
comp=Z,165nm,0.9s
MALT Malatya 87.74 311 P **P 22 12 21.4 +1.4**
U15A North Rim 87.77 52 P **P 22 12 21.3 +0.9**
U15A IAmb IAmb 22 12 23.1
comp=Z,175nm,0.8s
ILULI Ilulissat 88.35 5 P **P 22 12 22.5 +0.5**
ILULI pmax pmax
comp=Z,152nm,1.6s
ILULI Ilulissat 88.35 5 *i* P **P 22 12 22.4 +0.3**
ILULI IAmb IAmb 22 12 23.1
comp=Z,17nm,0.7s
ILULI Ilulissat 88.35 5 P **P 22 12 22.5 +0.5**
ILULI IAmb IAmb 22 13 23.3
comp=Z,152nm,1.6s
RAYN Ar Rayn 88.39 295 P **P 22 12 23.5 +0.2**
RAYN pmax pmax
comp=Z,89nm,1.1s
RAYN Ar Rayn 88.39 295 P **P 22 12 23.4 +0.1**
RAYN Ar Rayn 88.39 295 P **P 22 12 23.5 +0.2**
RAYN IAmb IAmb 22 12 26.9
comp=Z,89nm,1.1s
RAYN Ar Rayn 88.39 295 P **P 22 12 23.2 0.0**
RAYN Ar Rayn 88.39 295 *i* P **P 22 12 23.2 0.0**
SNR=11
NC405 NORSAR Array S 88.52 339 P **P 22 12 21.9 -1.1**
NC405 IAmb IAmb 22 12 37.8
comp=Z,181nm,1.6s
HFS Hagfors 88.54 337 PKKPbc PKKPbc 22 30 02.4 -3.0
comp=Z,1.6nm,0.4s,baz=186,slow=4.0,SNR=16
SUW Suwalki 88.61 329 *e*P **P 22 12 23.4 -0.2**
SUW *e*pP **pP 22 12 59.8 -5.3**
SUW *e*L L 22 34 48.3
comp=Z,383nm,27.6s
SUW Suwalki 88.61 329 P **P 22 12 23.9 +0.3**
SUW pmax pmax
comp=Z,149nm,0.9s
SUW Suwalki 88.61 329 *e*P **P 22 12 24.4 +0.9**
SUW Suwalki 88.61 329 P **P 22 12 23.9 +0.3**
SUW IAmb IAmb 22 12 31.7
comp=Z,149nm,0.9s
DOMB Dombas 88.69 340 *e*P **P 22 12 23.9 0.0**
NB2 NORSAR Subarra 88.74 339 P **P 22 12 22.6 -1.5**
comp=Z,11nm,0.9s,baz=47,slow=4.4
NB2 NORSAR Subarra 88.74 339 P **P 22 12 22.6 -1.5**
baz=47,slow=4.4
NOA NORSAR Array B 88.74 339 P **P 22 12 23.3 -0.8**
comp=Z,1.2nm,0.4s,baz=54,slow=6.5,SNR=29
NOA PP **PP 22 15 54.0 -0.7**
comp=Z,5.9nm,1.0s,baz=46,slow=7.8,SNR=4.0
NOA PKKPbc **PKKPbc 22 30 03.5 -1.5**
comp=Z,0.3nm,0.6s,baz=193,slow=1.8,SNR=4.6
NOA LR LR 22 57 01.5
comp=Z,226nm,18.4s,baz=35,slow=39
WUAZ Wupatki 88.84 52 P **P 22 12 26.2 +0.9**
WUAZ IAmb IAmb 22 12 28.1
comp=Z,191nm,0.9s
WUAZ Wupatki 88.84 52 P **P 22 12 26.6 +1.3**
baz=296,SNR=120
NC602 NORSAR Array S 88.85 339 *e*P **P 22 12 24.8 +0.2**
NORES NORESS Array B 88.85 339 P **P 22 12 24.7 +0.1**
K22A Casper 88.86 44 P **P 22 12 25.2 -0.1**
K22A IAmb IAmb 22 13 22.9
comp=Z,127nm,0.9s
K22A Casper 88.86 44 P **P 22 12 25.9 +0.7**
baz=299,SNR=31
O20A White River Ci 88.94 47 P **P 22 12 26.2 +0.5**
baz=298,SNR=54
ICESG Greenland Ices 89.06 1 *i* P **P 22 12 26.0 +0.1**
ICESG IAmb IAmb 22 12 27.0
comp=Z,19nm,0.7s
GAZ Gaziantep 89.11 310 P **P 22 12 26.3 -0.1**
PV23 Carpenter Ridg 89.19 49 P **P 22 12 27.9 +0.9**
AKN Aaknes 89.22 341 *e*P **P 22 12 27.0 +0.7**
X16A Lo Mia Camp, P 89.28 53 P **P 22 12 28.5 +1.1**
X16A IAmb IAmb 22 12 30.4
comp=Z,85nm,1.1s
PURM Purcari 89.29 321 ⇓P **P 22 12 29.2 +2.3**
BNN Bunyan 89.29 312 P **P 22 12 27.5 +0.2**
BNN IAmb IAmb 22 12 30.5
comp=Z,97nm,1.1s
SORM Soroca 89.30 323 ⇑P **P 22 12 26.3 -0.6**
SORM Soroca 89.30 323 ⇑P **P 22 12 26.3 -0.6**
214A Organ Pipe Nat 89.32 56 P **P 22 12 28.9 +1.5**
214A IAmb IAmb 22 12 30.2
comp=Z,207nm,1.0s
214A Organ Pipe Nat 89.32 56 P **P 22 12 28.7 +1.3**
baz=296,SNR=78
KIS Kishinev 89.65 322 *e*P **P 22 12 29.0 +0.4**
KIS *e*LR LR 22 54 36.0
comp=Z,300nm,20.0s
KIS Kishinev 89.65 322 *e*P **P 22 12 29.0 +0.4**
RSSD Black Hills 89.69 42 P **P 22 12 29.8 +0.6**
RSSD pmax pmax
comp=Z,72nm,0.7s
RSSD Black Hills 89.69 42 P **P 22 12 29.8 +0.6**
RSSD IAmb IAmb 22 12 32.5
comp=Z,72nm,0.7s

RSSD	**Black Hills**	89.69	42	P		**P**	22 12 29.5 +0.3
	baz=301						
RSSD	**Black Hills**	89.69	42	P		**P**	22 12 29.9 +0.7
SKAR	**Skarslia**	89.96	340	*e*P		**P**	22 12 30.4 +0.5
N23A	**Red Feather La**	90.10	45	P		**P**	22 12 32.7 +1.5
N23A	**Red Feather La**	90.10	45	P		**P**	22 12 32.6 +1.4
	baz=300,SNR=99						
MVCO	**Mesa Verde**	90.13	49	P		**P**	22 12 32.3 +0.9
MVCO				IAmb	IAmb		22 12 33.7
	comp=Z,160nm,1.4s						
MVCO	**Mesa Verde**	90.13	49	P		**P**	22 12 32.1 +0.7
	baz=298,SNR=51						
W18A	**Petrified Fore**	90.22	52	P		**P**	22 12 32.8 +1.0
	baz=297,SNR=31						
MDND	**Maddock**	90.30	37	P		**P**	22 12 32.5 +0.8
	baz=304,SNR=21						
KONO	**Kongsberg**	90.31	339	*e*P		**P**	22 12 31.8 +0.4
BR131	**Keskin Array S**	90.38	314	P		**P**	22 12 32.4 +0.1
BR131				pmax	pmax		
	comp=Z,20nm,0.8s						
BR131	**Keskin Array S**	90.38	314	P		**P**	22 12 32.4 +0.1
BRTR	**Keskin Array B**	90.38	314	P		**P**	22 12 31.8 -0.6
	comp=Z,8.4nm,0.8s,baz=76,slow=3.4,SNR=13						
BRTR				pP		**pP**	22 13 12.0 -2.1
	comp=Z,8.3nm,0.7s,baz=72,slow=2.9,SNR=4.7						
BRTR				LR	LR		22 56 54.2
	comp=Z,137nm,19.6s,baz=45,slow=38						
BRTR	**Keskin Array B**	90.38	314	*i* P		**P**	22 12 32.7 +0.3
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BRTR	**Keskin Array B**	90.38	314	P		**P**	22 12 32.0 -0.4
VASR	**Vaslui**	90.44	322	⇓P		**P**	22 12 33.4 +1.1
SFJD	**Kangerlussuaq**	90.56	6	P		**P**	22 12 32.7 +0.3
	comp=Z,11nm,0.6s,baz=227,slow=6.9,SNR=7.4						
SFJD	**Kangerlussuaq**	90.56	6	P		**P**	22 12 32.6 +0.3
TLCR		90.63	320	⇓P		**P**	22 12 34.4 +1.2
TLCR		90.63	320	⇓P		**P**	22 12 34.4 +1.2
LVV	**L'vov**	90.69	326	*e*P		**P**	22 12 30.0 -3.4
TUC	**Tucson**	90.71	55	P		**P**	22 12 34.4 +0.4
TUC				pmax	pmax		
	comp=Z,158nm,1.3s						
TUC	**Tucson**	90.71	55	P		**P**	22 12 34.4 +0.4
TUC				IAmb	IAmb		22 12 36.9
	comp=Z,158nm,1.3s						
TUC	**Tucson**	90.71	55	P		**P**	22 12 35.3 +1.4
	baz=297						
VLDR	**Vladesti**	90.71	321	⇑P		**P**	22 12 33.7 +0.2
VARL	**Varlezi**	90.81	321	⇑P		**P**	22 12 35.1 +1.1
FRB	**Frobisher Bay**	90.83	14	P		**P**	22 12 34.0 +0.3
	comp=Z,61nm,0.6s,baz=331,slow=5.0,SNR=128						
FRB				LR	LR		22 59 22.0
	comp=Z,123nm,18.1s,baz=340,slow=39						
FRB	**Frobisher Bay**	90.83	14	P		**P**	22 12 34.1 +0.4
FRB				pmax	pmax		
	comp=Z,108nm,1.1s						
ISCO	**Idaho Springs**	90.86	46	P		**P**	22 12 35.7 +0.9
ISCO				pmax	pmax		
	comp=Z,108nm,0.9s						
ISCO	**Idaho Springs**	90.86	46	P		**P**	22 12 35.7 +0.9
ISCO				IAmb	IAmb		22 12 37.5
	comp=Z,108nm,0.8s						
ISCO	**Idaho Springs**	90.86	46	P		**P**	22 12 36.0 +1.2
	baz=300,SNR=105						
ULM	**Lac du Bonnet**	90.90	34	P		**P**	22 12 34.6 +0.2
	comp=Z,56nm,0.8s,baz=313,slow=4.9,SNR=49						
ULM				LR	LR		22 53 13.0
	comp=Z,275nm,19.9s,baz=312,slow=35						
PRAR	**RASCA**	90.92	323	⇑P		**P**	22 12 34.8 +0.2
CFR	**Carcaliu**	91.04	320	⇓P		**P**	22 12 35.8 +0.8
CFR	**Carcaliu**	91.04	320	⇓P		**P**	22 12 35.8 +0.8
S22A	**4UR Ranch, Cre**	91.05	48	P		**P**	22 12 36.7 +1.0
	baz=299,SNR=121						
TPGR	**Topolog**	91.05	320	⇓P		**P**	22 12 36.5 +1.4
BEL	**Belsk**	91.09	329	*e*P		**P**	22 12 34.8 -0.4
BEL				*e*pP		**pP**	22 13 15.2 -1.5
BEL	**Belsk**	91.09	329	P		**P**	22 12 35.5 +0.3
BEL				pmax	pmax		
	comp=Z,131nm,0.9s						
TESR	**Tescani**	91.16	322	⇑P		**P**	22 12 35.5 -0.2
TIRR	**Tirgusor**	91.27	320	⇓P		**P**	22 12 37.6 +1.5
BUR08	**Bucovina Ar. S**	91.33	323	P		**P**	22 12 36.4 -0.2
BURAR	**Bucovina Array**	91.34	323	⇓P		**P**	22 12 37.2 +0.6
BURAR	**Bucovina Array**	91.34	323	⇓P		**P**	22 12 37.2 +0.6
BURAR	**Bucovina Array**	91.34	323	P		**P**	22 12 36.6 0.0
ODBI	**Odobesti**	91.35	321	⇓P		**P**	22 12 39.1 +2.6
HARR	**Harsova**	91.43	320	⇓P		**P**	22 12 38.3 +1.4
HARR	**Harsova**	91.43	320	⇓P		**P**	22 12 38.3 +1.4
VRI	**Vrincioaia**	91.48	321	⇓P		**P**	22 12 37.6 +0.4
VRI	**Vrincioaia**	91.48	321	⇓P		**P**	22 12 37.6 +0.4
KWP	**Kalwaria Pacla**	91.49	326	*e*P		**P**	22 12 38.2 +1.1
KWP				*e*pP		**pP**	22 13 17.9 -0.7
KWP				*e*PP		**PP**	22 16 13.6 -3.1
KWP				*e*S		**S**	22 23 19.6 -2.6
KWP	**Kalwaria Pacla**	91.49	326	P		**P**	22 12 37.4 +0.3
KWP				pmax	pmax		
	comp=Z,268nm,0.9s						
KWP	**Kalwaria Pacla**	91.49	326	P		**P**	22 12 37.4 +0.3
PLOR	**Plostina**	91.53	321	⇓P		**P**	22 12 39.5 +2.1
PLOR	**Plostina**	91.53	321	⇓P		**P**	22 12 39.5 +2.1
Q24A	**Divide**	91.59	47	P		**P**	22 12 39.2 +1.0
Q24A				IAmb	IAmb		22 12 40.6
	comp=Z,102nm,0.8s						
Q24A	**Divide**	91.59	47	P		**P**	22 12 39.2 +1.0
	baz=300,SNR=55						
BISRR	**Bisoca**	91.67	321	⇑P		**P**	22 12 40.1 +2.0
COVR	**Voineasa-Covas**	91.80	322	⇓P		**P**	22 12 40.8 +2.1
GKP	**Gorka Klasztor**	91.82	331	*e*P		**P**	22 12 39.6 +1.1
GKP				*e*pP		**pP**	22 13 13.5 -6.2
AMRR	**Amara**	91.83	320	⇑P		**P**	22 12 40.8 +2.1
AMRR	**Amara**	91.83	320	⇑P		**P**	22 12 40.8 +2.1
PGOR	**Pogoanele**	91.87	321	⇑P		**P**	22 12 41.0 +2.1
OZUR		91.89	322	⇓P		**P**	22 12 40.4 +1.3
SDCO	**Great Sand Dun**	91.96	48	P		**P**	22 12 40.6 +0.7
SDCO				IAmb	IAmb		22 12 42.2
	comp=Z,54nm,0.8s						
SDCO	**Great Sand Dun**	91.96	48	P		**P**	22 12 40.7 +0.7
	baz=300,SNR=83						
NEHR	**Nehoiu**	91.98	321	⇑P		**P**	22 12 40.7 +1.2
AGMN	**Agassiz Nation**	92.08	35	P		**P**	22 12 40.0 +0.1
	baz=307,SNR=37						
ARCR	**ARCALIA**	92.12	323	⇓P		**P**	22 12 41.4 +1.3
MLR	**Muntele Rosu**	92.15	321	⇑P		**P**	22 12 41.8 +1.4
MLR	**Muntele Rosu**	92.15	321	PKKPbc	PKKPbc		22 29 55.1 -1.0
	comp=Z,5.0nm,0.8s,baz=218,slow=2.0,SNR=8.3						
MLR	**Muntele Rosu**	92.15	321	⇑P		**P**	22 12 41.8 +1.4
DOPR	**Dopca**	92.19	322	⇑P		**P**	22 12 42.2 +1.7
UZH	**Uzhgorod**	92.31	325	*e*P		**P**	22 12 41.9 +1.0
MMAI	**Mount Meron Ar**	92.35	307	LR	LR		22 58 13.6
	comp=Z,128nm,21.1s,baz=222,slow=38						
TRPA	**Tarpa**	92.49	325	⇑P		**P**	22 12 41.5 -0.2
TRPA	**Tarpa**	92.49	325	P		**P**	22 12 41.1 -0.6
SUSD	**Miller**	92.59	40	P		**P**	22 12 42.6 +0.2
SUSD	**Miller**	92.59	40	P		**P**	22 12 42.4 +0.1
	baz=304,SNR=27						
OJC	**Ojcow**	92.60	328	*e*P		**P**	22 12 43.2 +1.0
OJC				*e*pP		**pP**	22 13 21.7 -2.1
OJC				*e*S		**SKSac**	22 22 51.2 -8.5
OJC				*e*L		L	22 34 46.4
	comp=Z,315nm,20.1s						
OJC	**Ojcow**	92.60	328	P		**P**	22 12 42.5 +0.3
OJC				pmax	pmax		
	comp=Z,37nm,1.5s						
OJC	**Ojcow**	92.60	328	P		**P**	22 12 42.5 +0.3
OGNE	**Ogallala**	92.62	44	P		**P**	22 12 43.3 +0.7
OGNE				IAmb	IAmb		22 12 44.3
	comp=Z,127nm,0.8s						
OGNE	**Ogallala**	92.62	44	P		**P**	22 12 42.7 +0.1
	baz=302,SNR=14						
ANMO	**Albuquerque**	92.67	51	LR	LR		22 47 37.7
	comp=Z,253nm,21.6s,baz=308,slow=31						
ANMO	**Albuquerque**	92.67	51	P		**P**	22 12 43.9 +0.8
ANMO				pmax	pmax		
	comp=Z,76nm,1.1s						
ANMO	**Albuquerque**	92.67	51	P		**P**	22 12 43.9 +0.8
ANMO				IAmb	IAmb		22 12 45.6
	comp=Z,76nm,1.1s						
ANMO	**Albuquerque**	92.67	51	P		**P**	22 12 44.2 +1.1
	baz=299						
ANMO	**Albuquerque**	92.67	51	P		**P**	22 12 43.9 +0.8
VOIR		92.69	322	⇑P		**P**	22 12 43.2 +0.3
VOIR		92.69	322	⇑P		**P**	22 12 43.2 +0.3
Y22D	**IRIS PASSCAL I**	92.75	52	P		**P**	22 12 44.7 +1.2
	baz=299						
NIE	**Niedzica**	92.85	327	*e*P		**P**	22 12 45.5 +2.1
NIE				*e*PP		**PP**	22 16 26.3 -1.2
NIE				*e*S		**SKSac**	22 22 59.1 -2.2
121A	**Cookes Peak, D**	92.86	53	P		**P**	22 12 45.2 +1.2
121A	**Cookes Peak, D**	92.86	53	P		**P**	22 12 45.4 +1.4
	baz=298,SNR=75						
ARR	**Arges**	92.97	322	⇑P		**P**	22 12 45.0 +0.8
T25A	**Trinidad**	93.02	48	P		**P**	22 12 45.9 +1.2
T25A				IAmb	IAmb		22 12 47.3
	comp=Z,196nm,1.6s						
T25A	**Trinidad**	93.02	48	P		**P**	22 12 45.5 +0.8
	baz=301,SNR=31						
KSCO	**Kaye Shedlock'**	93.25	46	P		**P**	22 12 46.2 +0.6
KSCO	**Kaye Shedlock'**	93.25	46	P		**P**	22 12 46.3 +0.6
	baz=302,SNR=14						
HUMR	**Humele**	93.26	321	⇑P		**P**	22 12 46.4 +1.0
KECS	**Kecovo**	93.35	326	*e*PP		**PP**	22 16 31.8 +0.6
LANS	**Liptovska Anna**	93.44	327	*e*P		**P**	22 12 47.0 +0.8
LANS				*e*			22 16 34.0
LANS	**Liptovska Anna**	93.44	327	*e*P		**P**	22 12 47.0 +0.8
LANS				*e*PP		**PP**	22 16 34.0 +2.0
KSP	**Ksiaz**	93.88	330	*e*P		**P**	22 12 48.4 +0.3
KSP				*e*pP		**pP**	22 13 24.5 -4.8
KSP				*e*PP		**PP**	22 16 35.0 -0.2
KSP				*e*L		L	22 33 29.0
	comp=Z,528nm,20.9s						
KSP	**Ksiaz**	93.88	330	P		**P**	22 12 48.4 +0.3
KSP				pmax	pmax		
	comp=Z,19nm,0.9s						
MORC	**Moravsky Berou**	93.99	328	*e*P		**P**	22 12 49.1 +0.4
MORC				*e*PP		**PP**	22 16 37.0 +0.7
CHVC	**Chvalec**	94.16	330	*e*P		**P**	22 12 49.3 -0.1
VYHS	**Vyhne**	94.19	327	*e*P		**P**	22 12 50.0 +0.4
VYHS				*e*			22 16 38.6
VYHS	**Vyhne**	94.19	327	*e*P		**P**	22 12 50.0 +0.4
VYHS				*e*PP		**PP**	22 16 38.6 +0.8
DPC	**Dobruska-Polom**	94.19	329	*e*P		**P**	22 12 49.2 -0.4
DPC				*e*			22 16 39.1
DPC	**Dobruska-Polom**	94.19	329	*e*P		**P**	22 12 49.2 -0.4
DPC				*e*PP		**PP**	22 16 39.1 +1.3
BSZH	**Besenyszg**	94.21	325	⇑P		P	22 12 42.0 -7.6
UPC	**Upice**	94.24	330	*e*P		**P**	22 12 50.1 +0.4
UPC	**Upice**	94.24	330	*e*P		**P**	22 12 50.1 +0.4
KOLL	**Kolacno**	94.35	327	*e*PP		**PP**	22 16 40.9 +1.9
ECSD	**EROS Data Cent**	94.38	39	P		**P**	22 12 50.9 +0.4
ECSD				IAmb	IAmb		22 12 52.0
	comp=Z,143nm,1.4s						
ECSD	**EROS Data Cent**	94.38	39	P		**P**	22 12 50.7 +0.1
	baz=306,SNR=45						
JAVC	**Velka Javorina**	94.53	328	*e*PP		**PP**	22 16 42.6 +2.1
EYMN	**Ely**	94.59	34	P		**P**	22 12 51.4 0.0
	baz=310						
LPIG	**La Paz**	94.75	62	LR	LR		22 47 07.1
	comp=Z,210nm,21.8s,baz=292,slow=30						
VRAC	**Vranov**	94.77	328	LR	LR		23 00 17.1
	comp=Z,213nm,18.1s,baz=49,slow=38						
VRAC	**Vranov**	94.77	328	*e*P		**P**	22 12 52.1 -0.1
VRAC				*e*PP		**PP**	22 16 43.7 +1.5
BGNE	**Belgrade**	94.81	42	P		**P**	22 12 52.3 -0.3
BGNE	**Belgrade**	94.81	42	P		**P**	22 12 52.4 -0.1
	baz=305,SNR=7.4						
PVCC	**Panska Ves**	94.89	330	*e*P		**P**	22 12 54.6 +1.9
PVCC	**Panska Ves**	94.89	330	*e*P		**P**	22 12 54.6 +1.9
BRG	**Berggiesshubel**	94.94	331	*e*P		**P**	22 12 53.2 +0.3
BRG				Amp			22 12 55.8
	comp=Z,3.9nm,0.8s						
BRG				*e*x		x	22 13 39.7
BRG				Amp			22 13 40.6
	comp=Z,13nm,1.3s						
BRG				PP		**PP**	22 16 44.3 +0.8
BRG				Amp			22 16 46.4
	comp=Z,5.7nm,0.7s						
BRG	**Berggiesshubel**	94.94	331	*e*P		**P**	22 12 53.2 +0.3
BRG							22 16 44.3
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,13nm,1.3s						
BRG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KRUC	**Moravsky**	95.03	328	P		**P**	22 12 53.6 +0.2
KRUC	**Moravsky**	95.03	328	*e*P		**P**	22 12 53.2 -0.2
KRUC				*e*PP		**PP**	22 16 45.2 +1.0
MNTX	**Cornudas Mount**	95.04	53	P		**P**	22 12 54.6 +0.8
MNTX				IAmb	IAmb		22 12 57.0
	comp=Z,49nm,1.1s						
MNTX	**Cornudas Mount**	95.04	53	P		**P**	22 12 54.6 +0.8
	baz=300,SNR=58						
MODS	**Modra-Piesok**	95.05	327	*e*P		**P**	22 12 54.4 +0.9
MODS	**Modra-Piesok**	95.05	327	*e*P		**P**	22 12 54.4 +0.9
CLL	**Collm**	95.06	331	*e*P		**P**	22 12 53.0 -0.4
CLL				*e**PP		**pP**	22 13 32.0 -2.8
CLL				*e*			22 16 45.0
CLL				*e*			22 23 12.0
CLL				*e*S		**S**	22 23 49.0 -4.4
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CLL				pmax	pmax		
	comp=Z,14nm,1.1s						
CLL				MLR	MLR		
	comp=Z,400nm,19.7s						
CLL	**Collm**	95.06	331	*e*P		**P**	22 12 53.0 -0.4
	comp=Z,9.0nm,1.2s						
CLL				*e*pP		**pP**	22 13 32.0 -2.8
CLL				*e*PP		**PP**	22 16 45.0 +0.6
	comp=Z,14nm,1.1s						
CLL				*e*sPP			22 17 42.0
CLL				*e*PPPP			22 20 30.0
CLL				*e*SKSac		**SKSac**	22 23 12.0 -1.1
CLL				*e*S		**S**	22 23 50.0 -3.4
CLL				*e*sS		**sS**	22 25 04.0 -1.8
CLL				*e*SSSS			22 37 36.0
CLL				LmH			22 53 00.0
	comp=N,300nm,20.6s						
CLL				LmH			22 53 00.0
	comp=E,400nm,20.8s						
CLL				LmV			22 53 00.0
	comp=Z,300nm,19.9s						
CBKS	**Cedar Bluff**	95.26	45	P		**P**	22 12 54.8 +0.1
CBKS				pmax	pmax		
	comp=Z,76nm,1.1s						
CBKS	**Cedar Bluff**	95.26	45	P		**P**	22 12 54.8 +0.1
CBKS				IAmb	IAmb		22 12 56.4
	comp=Z,76nm,1.1s						
CBKS	**Cedar Bluff**	95.26	45	P		**P**	22 12 54.8 +0.1
	baz=304,SNR=6.1						
VTS	**Vitosha**	95.41	320	⇓P		**P**	22 12 56.2 +0.8
VTS	**Vitosha**	95.41	320	⇓P		**P**	22 12 56.2 +0.8
L34A	**Svendsen Farm,**	95.56	40	P		**P**	22 12 56.3 +0.3
L34A				IAmb	IAmb		22 12 56.9
	comp=Z,80nm,0.9s						
SPMN	**Marine on St.**	95.63	36	P		**P**	22 12 56.5 +0.3
	baz=309,SNR=6.1						
MSTX	**Muleshoe**	95.79	50	P		**P**	22 12 57.5 +0.1
MSTX	**Muleshoe**	95.79	50	P		**P**	22 12 57.3 0.0
	baz=301,SNR=6.8						
CONA	**Conrad Observa**	96.05	328	*e*P		**P**	22 12 58.2 0.0
	comp=Z,1.2nm,0.4s						
CONA				*e*P		**PP**	22 16 53.6 +1.3
	comp=Z,11nm,1.4s						
NKC	**Novy Kostel**	96.07	331	P		**P**	22 12 58.4 +0.3
NKC				pmax	pmax		
	comp=Z,9.0nm,2.8s						
NKC	**Novy Kostel**	96.07	331	*e*P		**P**	22 12 58.0 -0.1
NKC				*e*PP		**PP**	22 16 53.9 +1.7
AMTX	**Amarillo**	96.08	49	P		**P**	22 12 59.1 +0.5
AMTX	**Amarillo**	96.08	49	P		**P**	22 12 59.3 +0.7
	baz=302						
CKRC	**Cesky Krumlov**	96.20	329	*e*P		**P**	22 12 58.5 -0.2
CKRC				*e*PP		**PP**	22 16 53.7 +0.4
KHC	**Kasperske Hory**	96.33	330	*e*P		**P**	22 12 59.2 -0.1
KHC				*e*			22 13 40.0
KHC				*e*			22 16 55.1
KHC	**Kasperske Hory**	96.33	330	*e*P		**P**	22 12 59.2 -0.1
KHC				*e*pP		**pP**	22 13 40.0 -0.7
KHC				*e*PP		**PP**	22 16 55.1 +0.8
GERES	**GERESS Array B**	96.47	329	P		**P**	22 12 59.6 -0.4
	comp=Z,0.8nm,0.4s,baz=39,slow=5.7,SNR=13						
GERES				PP		**PP**	22 16 55.1 -0.4
	comp=Z,3.6nm,0.8s,baz=46,slow=7.6,SNR=12						
GERES				PKKPbc		**PKKPdf**	22 29 44.3 -0.4
	comp=Z,0.6nm,0.5s,baz=194,slow=2.8,SNR=6.1						
GERES				SKKPbc	SKKPbc		22 33 05.2 -1.1
	comp=Z,0.6nm,0.8s,baz=195,slow=4.1,SNR=3.9						
GERES				LR	LR		22 59 27.1
	comp=Z,120nm,18.1s,baz=36,slow=37						
GERES	**GERESS Array B**	96.47	329	P		**P**	22 12 59.2 -0.8
ARSA	**Arzberg**	96.68	327	*i* P		**PP**	22 16 54.3 -2.7
	comp=Z,5.2nm,1.0s						
MOA	**Molln**	96.89	328	*e*P		**P**	22 13 02.0 +0.2
	comp=Z,5.4nm,1.1s						
MOA				*e*P		**PP**	22 16 59.7 +1.1
	comp=Z,12nm,1.7s						
G40A	**Rib Lake**	97.01	35	IAmb	IAmb		22 13 06.0
	comp=Z,21nm,0.6s						
G40A				P		**P**	22 13 03.1 +0.6
KSU1	**Kansas State U**	97.10	43	P		Pdif	22 13 03.1 +0.1
	baz=306,SNR=10						
SOKA	**Soboth**	97.32	327	*e*P		Pdif	22 13 04.2 +0.3
	comp=Z,1.4nm,0.5s						
SOKA				*e*P		**PP**	22 17 02.4 +0.4
	comp=Z,7.6nm,1.1s						
SCIA	**State Center**	97.47	39	P		Pdif	22 13 05.5 +0.8
SCIA				IAmb	IAmb		22 13 06.3
	comp=Z,38nm,0.8s						
SCIA	**State Center**	97.47	39	P		Pdif	22 13 04.8 +0.1
	baz=308						
TX31	**Lajitas Ar. Si**	97.50	54	P		Pdif	22 13 05.8 +0.7
TX31				IAmb	IAmb		22 13 07.4
	comp=Z,49nm,0.9s						
TXAR	**Lajitas Array**	97.50	54	P		Pdif	22 13 05.9 +0.8
	comp=Z,10nm,0.8s,baz=316,slow=3.5,SNR=20						
TXAR				PP		**PP**	22 17 02.2 -2.0
	comp=Z,3.4nm,1.0s,baz=272,slow=5.8,SNR=4.4						
TXAR				PKiKP		**PKiKP**	22 17 39.8 +0.8
	comp=Z,1.2nm,0.8s,baz=4.0,slow=1.6,SNR=4.8						
TXAR				PKKP		**PKKPdf**	22 29 42.7 -0.2
	comp=Z,1.6nm,0.6s,baz=132,slow=5.6,SNR=13						
TXAR				LR	LR		22 50 26.1
	comp=Z,193nm,21.3s,baz=302,slow=31						
TXAR	**Lajitas Array**	97.50	54	P		Pdif	22 13 06.0 +0.8
TXAR	**Lajitas Array**	97.50	54	P		Pdif	22 13 06.0 +0.8
OBKA	**Obir**	97.67	327	*e*P		**PP**	22 17 06.7 +2.0
	comp=Z,13nm,0.9s						
I40A	**Norwalk**	97.69	36	P		Pdif	22 13 05.7 +0.1
I40A				IAmb	IAmb		22 13 06.3
	comp=Z,23nm,0.6s						
EKA	**Eskdalemuir Ar**	97.86	342	PKKPbc	PKKPbc		22 29 38.5 -2.8
	comp=Z,1.4nm,0.5s,baz=235,slow=3.1,SNR=6.9						
KBA	**Koelnbreinsper**	97.88	328	*i* P		Pdif	22 13 06.9 +0.4
	comp=Z,1.5nm,0.5s						
KBA				*e*P		**PP**	22 17 07.6 +1.3
	comp=Z,9.4nm,0.8s						
MYKA	**Terra Mystica**	98.04	328	*e*P		**PP**	22 17 08.0 +0.5
	comp=Z,11nm,1.0s						
WMOK	**Wichita Mounta**	98.16	48	P		Pdif	22 13 08.3 +0.4
WMOK				pmax	pmax		
	comp=Z,19nm,0.9s						
WMOK	**Wichita Mounta**	98.16	48			Pdif	22 13 08.3 +0.4
WMOK	**Wichita Mounta**	98.16	48	P		Pdif	22 13 08.1 +0.2
	baz=304,SNR=16						
JFWS	**Jewell Farm**	98.53	37	Pdiff		**P**	22 13 08.7 -0.6
	baz=311						
WATA	**Walderalm**	98.55	329	*i* P		**PP**	22 17 12.5 +1.1
	comp=Z,18nm,1.4s						
WATA				*i* S		**SKSac**	22 23 31.4 -0.2
	comp=Z,7.8nm,1.3s						
WTTA	**Wattenberg**	98.57	329	*e*P		**PP**	22 17 10.7 -0.9
	comp=Z,18nm,1.2s						
WTTA				*e*S		**SKSac**	22 23 29.3 -2.5
	comp=Z,17nm,1.2s						
IDI	**Anoyia**	98.62	313	LR	LR		23 05 46.7
	comp=Z,46nm,18.2s,baz=94,slow=40						
ABTX	**Abilene, Hawle**	98.72	50			Pdif	22 13 10.7 +0.3
ABTX				IAmb	IAmb		22 13 12.3
	comp=Z,36nm,0.9s						
ABTX	**Abilene, Hawle**	98.72	50	Pdiff		Pdif	22 13 10.6 +0.2
	baz=303						
MOTA	**Moosalm**	98.76	330	*e*P		**PP**	22 17 14.7 +1.6
	comp=Z,16nm,1.2s						
SQTA	**Sankt Quirin**	98.80	329	*e*P		Pdif	22 13 11.7 +1.1
	comp=Z,1.2nm,0.5s						
SQTA				*e*P		**PP**	22 17 11.9 -1.5
	comp=Z,7.2nm,0.9s						
SQTA				*e*S		**SKSac**	22 23 31.0 -1.8
	comp=Z,14nm,1.3s						
RETA	**Reutte**	98.82	330	*e*P		**PP**	22 17 15.1 +1.7
	comp=Z,11nm,1.1s						
SCHQ	**Schefferville**	99.08	17	P		**Pdif**	22 13 11.8 +0.3
	comp=Z,3.7nm,0.6s,baz=295,slow=5.9,SNR=9.5						
SCHQ				PKKPbc		**PKKPbc**	22 29 35.4 -2.5
	comp=Z,2.0nm,0.6s,baz=176,slow=2.5,SNR=9.5						
SCHQ				LR	LR		22 57 22.2
	comp=Z,109nm,21.9s,baz=330,slow=35						
FETA	**Feichten**	99.17	329	*e*P		**Pdif**	22 13 12.7 +0.4
	comp=Z,1.8nm,0.9s						
FETA				*e*P		**PP**	22 17 15.8 -0.4
	comp=Z,13nm,1.3s						
FETA				*e*S		**SKSac**	22 23 32.6 -2.1
	comp=Z,20nm,1.6s	

SNAA Sanae 126.81 193 PKP **PKiKP 22 18 33.0 -0.1**
comp=Z,22nm,0.8s,baz=125,slow=1.8,SNR=25
SNAA SKPbc SKPbc 22 21 32.4
comp=Z,29nm,0.9s,baz=161,slow=2.8,SNR=15
SNAA Sanae 126.81 193 PKPdf **PKPdf 22 18 32.4 -0.2**
VNA2 Neumayer--Watz 128.29 192 P **PKiKP 22 18 35.8 -0.3**
baz=126,slow=1.8
VNA3 Neumayer Olymp 128.44 191 P **PKPdf 22 18 35.8 +0.1**
SUR Sutherland 128.64 246 SKPbc SKPbc 22 21 41.3
comp=Z,17nm,0.8s,baz=57,slow=4.1,SNR=5.9
VNA1 Neumayer--Stat 128.68 192 P **PKPdf 22 18 35.3 -0.8**
TORD Torodi Ar. Bea 128.82 310 PKP **PKPdf 22 18 37.9 -0.2**
comp=Z,10.0nm,0.7s,baz=20,slow=3.3,SNR=37
TORD PP **PP 22 20 45.3 -0.8**
comp=Z,2.7nm,0.8s,baz=27,slow=5.6,SNR=4.4
TORD SKPbc SKPbc 22 21 43.0
comp=Z,23nm,1.0s,baz=23,slow=4.3,SNR=12
TORD SKKPbc **SKKPbc 22 31 29.7 -1.0**
comp=Z,4.8nm,0.8s,baz=241,slow=3.5,SNR=12
TORD Torodi Ar. Bea 128.82 310 **PKiKP 22 18 38.7 -0.1**
OBIP Obispado Ponce 130.35 39 **PKPdf 22 18 40.5 -0.5**
SJCC San Jacinto, C 130.42 54 *eP* PKPpre 22 18 30.3
SJCC San Jacinto, C 130.42 54 PKPdf **PKPdf 22 18 40.9 -0.3**
MTP Monte Pirata 130.91 38 **PKPdf 22 18 41.7 -0.3**
CRJC Cerrejon, Guaj 131.38 51 *eP* PKPpre 22 18 30.1
UREC San Jos de Ur 131.51 57 *eP* **PKPdf 22 18 40.5 -2.8**
URIC Uribia, Colomb 131.55 50 *eP* **PKPdf 22 18 43.4 +0.2**
KOWA Kowa 131.75 316 PKPdf **PKPdf 22 18 44.0 +0.4**
ZARC Zaragoza, Cauc 132.19 56 **PKPdf 22 18 44.6 +0.1**
SMRT St. Maarten 132.32 35 **PKPdf 22 18 44.6 -0.1**
HELC Santa Helena 132.46 58 *eP* **PKPdf 22 18 42.2 -3.3**
OCAC Ocana 132.89 54 *eP* **PKPdf 22 18 41.2 -4.8**
NORC Norcasia 133.36 58 *eP* PKPpre 22 18 33.9
OTAV Otavalo 133.39 67 PKIKP **PKPdf 22 18 47.6 +0.2**
OTAV Otavalo 133.39 67 PKPdf **PKPdf 22 18 47.6 +0.2**
GCUF Volcan Galeras 133.81 65 *eP* **PKPdf 22 18 46.8 -1.4**
BARC Barichara 134.04 56 *eP* PKPpre 22 18 35.5
ROSC El Rosal 134.24 59 PKP **PKiKP 22 18 49.9 -0.4**
comp=Z,11nm,0.4s,baz=164,slow=22,SNR=5.4
ROSC SKPbc **SKPbc 22 22 01.6 -1.1**
comp=Z,16nm,0.5s,baz=344,slow=7.3,SNR=6.1
ROSC El Rosal 134.24 59 PKPdf **PKPdf 22 18 49.0 +0.2**
SDV Santo Domingo 134.44 51 PKhKP PKPpre 22 18 33.3
comp=Z,3.6nm,0.5s,baz=10,slow=2.7,SNR=3.5
SDV PKP **PKPdf 22 18 49.4 +0.3**
comp=Z,68nm,0.8s,baz=94,slow=2.0,SNR=5.4
SDV PP **PP 22 21 21.4 -1.0**
comp=Z,2.6nm,0.2s,baz=329,slow=8.1,SNR=3.2
SDV SKPbc **SKPbc 22 22 01.0 -2.1**
comp=Z,56nm,0.6s,baz=304,slow=2.7,SNR=24
SDV Santo Domingo 134.44 51 *eP* **PKiKP 22 18 49.9 -0.5**
SDV Santo Domingo 134.44 51 **PKPdf 22 18 49.0 0.0**
MACC Macarena, Meta 136.20 61 *eP* PKPpre 22 18 39.0
BAUV El Baul 136.24 49 **PKPdf 22 18 51.9 -0.2**
BIRV Birongo 136.34 45 PKPdf **PKPdf 22 18 52.9 +0.6**
PTLC Puerto Leguiza 136.52 65 *eP* PKPpre 22 18 43.5
PCRV Puerto La Cruz 137.62 44 PKhKP PKPpre 22 18 43.8
comp=Z,7.0nm,0.6s,baz=216,slow=4.1,SNR=5.1
DBIC Dimbokro 137.93 309 PKhKP PKPpre 22 18 44.7
comp=Z,3.0nm,0.6s,baz=57,slow=4.2,SNR=4.5
DBIC PP **PP 22 21 44.4 +0.3**
comp=Z,5.5nm,0.9s,baz=48,slow=7.7,SNR=6.3
DBIC SKPbc **SKPbc 22 22 11.6 -1.9**
comp=Z,61nm,0.8s,baz=46,slow=3.2,SNR=25
DBIC SKKPbc **SKKPbc 22 30 57.9 +0.3**
comp=Z,4.5nm,0.9s,baz=216,slow=3.7,SNR=4.7
DBIC Dimbokro 137.93 309 PKiKP **PKPdf 22 18 55.3 +0.1**
DBIC Dimbokro 137.93 309 PKPdf **PKPdf 22 18 55.3 +0.1**
KIC Kosan Boka 138.06 309 *e*PKP1 **PKiKP 22 18 57.7 +0.1**
comp=Z,36nm,0.7s
TIC Toumodi 138.06 309 *e*PKP1 **PKiKP 22 18 57.6 0.0**
LIC Lamto 138.35 309 *e*PKP1 **PKiKP 22 18 58.3 +0.1**
comp=Z,71nm,0.8s
CZSB Cruzeiro do Su 142.23 73 *eP* **PKPdf 22 18 57.3 -5.7**
LL01 San Ignacio de 143.78 132 PKPbc 22 19 03.4 +0.5
LL03 Petrohue 144.24 131 PKPbc 22 19 04.9 +0.5
LL04 Puerto Octay 144.32 130 PKPdf **PKPab 22 19 04.5 +0.1**
LC01 Cunco 145.38 127 PKPdf **PKPdf 22 19 07.9 +0.1**
PLCA Paso Flores 145.70 131 PKPbc **PKPbc 22 19 09.3 +0.3**
comp=Z,163nm,0.6s,baz=240,slow=3.4,SNR=566
PLCA SKPbc **SKPbc 22 22 30.7 -1.7**
comp=Z,5.5nm,0.6s,baz=250,slow=1.7,SNR=3.6
PLCA Paso Flores 145.70 131 PKP2 **PKPbc 22 19 09.0 -0.1**
PLCA Paso Flores 145.70 131 *eP* **PKPab 22 19 09.9 +0.2**
PLCA Paso Flores 145.70 131 **PKPbc 22 19 09.0 -0.1**
EFI East Falkland 146.01 156 PKP2 **PKPbc 22 19 09.2 -0.3**
EFI East Falkland 146.01 156 PKPdf **PKPbc 22 19 09.2 -0.3**
BOAV Boa Vista 146.12 47 *eP* **PKPbc 22 19 11.3 +0.3**
BOAV Boa Vista 146.12 47 **PKPdf 22 19 10.3 +0.5**
GO05 Huala 146.40 120 PKPdf **PKPdf 22 19 10.5 +0.8**
ML02 Panimavida 146.62 122 PKPdf **PKPdf 22 19 10.9 +0.9**
VA05 Santo Domingo 146.93 118 **PKPbc 22 19 12.7 0.0**
VA01 Torpederas 147.03 117 PKPdf **PKPdf 22 19 11.3 +0.6**
VA01 PKPbc **PKPbc 22 19 13.8 +0.7**
MT01 Popeta 147.19 119 PKPbc **PKPbc 22 19 13.5 0.0**
BO01 Tunca 147.21 120 **PKPbc 22 19 11.2 +0.2**
BO01 PKPbc **PKPbc 22 19 14.0 +0.5**
BO02 Sierra Bellavi 147.36 120 **PKPdf 22 19 12.1 +0.7**
BO02 PKPbc **PKPbc 22 19 14.7 +0.7**
CO06 Fray Jorge 147.38 113 **PKPdf 22 19 11.6 +0.2**
CO06 PKPbc **PKPbc 22 19 14.3 +0.2**
MT02 Curacav 147.40 118 **PKPdf 22 19 12.0 +0.6**
MT02 PKPbc **PKPbc 22 19 14.7 +0.6**
MT09 Talagante 147.42 119 **PKPdf 22 19 11.8 +0.2**
MT09 PKPbc **PKPbc 22 19 14.6 +0.3**
MT05 Renca 147.70 118 PKPdf **PKPdf 22 19 12.9 +0.9**
MT05 PKPbc **PKPbc 22 19 15.8 +0.8**
CO05 La Serena 147.80 111 **PKPbc 22 19 15.0 -0.3**
HOPE Hope Point 147.84 180 PKP2 **PKPbc 22 19 14.4 -0.1**
HOPE Hope Point 147.84 180 **PKPbc 22 19 14.4 -0.1**
VA03 San Esteban 147.98 117 **PKPdf 22 19 13.4 +0.9**
VA03 PKPbc **PKPbc 22 19 16.2 +0.4**
PB12 IPOC Station P 148.02 90 PKPdf **PKPdf 22 19 13.8 +0.8**
PB12 PKPbc **PKiKP 22 19 17.3 -0.7**
AC04 Llanos de Chal 148.08 108 **PKPbc 22 19 16.5 +0.5**
GO04 Tololo Observa 148.15 112 **PKPdf 22 19 13.7 +0.7**
GO04 PKPbc **PKPbc 22 19 16.7 +0.2**
CO03 El Pedregal 148.17 113 **PKPdf 22 19 12.5 -0.4**
CO03 PKPbc **PKPbc 22 19 16.2 -0.1**
LCO Las Campanas 148.35 110 PKIKP **PKPdf 22 19 13.5 +0.1**
LCO 22 19 17.4
LCO Las Campanas 148.35 110 PKPdf **PKPdf 22 19 13.5 +0.1**
LCO PKPbc **PKPbc 22 19 17.4 +0.3**
TA02 Huaiquique 148.51 93 **PKPdf 22 19 14.3 +0.7**
TA02 PKPab **PKiKP 22 19 18.4 -0.4**
TA01 Diego Aracena 148.51 94 **PKPdf 22 19 13.4 -0.2**
TA01 PKPbc **PKiKP 22 19 18.1 -0.6**
TA01 PKPab **PKPab 22 19 23.2 +2.0**
MDP Montagnes des 148.64 32 PKPbc **PKPbc 22 19 18.5 +0.6**
comp=Z,128nm,0.8s,baz=308,slow=3.1,SNR=35
PB14 IPOC Station P 148.70 101 PKPdf **PKPdf 22 19 14.5 +0.4**
PB14 PKPbc **PKiKP 22 19 18.9 -0.6**
PB14 PKPab **PKPab 22 19 23.8 +1.4**
PTGA Pitinga 148.73 50 PKP **PKPdf 22 19 14.8 +0.7**
comp=Z,144nm,0.7s,baz=266,slow=1.1,SNR=53
PTGA PKPbc **PKPbc 22 19 18.5 +0.4**
comp=Z,144nm,0.7s,baz=290,slow=2.6,SNR=60
ETMB Extrema 148.90 72 *eP* **PKPdf 22 19 13.6 -0.8**
ETMB Extrema 148.90 72 PKPdf **PKPdf 22 19 13.8 -0.6**
ETMB PKPbc **PKPbc 22 19 18.3 -0.2**
LPAZ La Paz 149.50 85 PKP **PKPdf 22 19 16.5 +0.5**
comp=Z,208nm,0.6s,baz=325,slow=1.9,SNR=86
LPAZ PKPbc **PKiKP 22 19 21.9 +0.2**
comp=Z,248nm,0.7s,baz=281,slow=2.4,SNR=102
LPAZ SKKPbc 22 30 10.5
comp=Z,5.7nm,1.0s,baz=59,slow=2.0,SNR=9.8
LPAZ La Paz 149.50 85 *eP* **PKPdf 22 19 18.2 +2.2**
LPAZ La Paz 149.50 85 *eP* **PKPdf 22 19 16.9 +0.9**
LPAZ La Paz 149.50 85 PKPdf **PKPdf 22 19 16.1 +0.1**
ZON Zonda 149.76 115 PKHKP **PKPdf 22 19 16.0 +0.6**
ZON Zonda 149.76 115 PKPdf **PKPdf 22 19 15.9 +0.6**
ZON PKPbc **PKPbc 22 19 20.6 +0.3**
MACA Manacapuru-AM 149.83 55 *eP* **PKPdf 22 19 17.0 +1.1**
MACA Manacapuru-AM 149.83 55 PKPdf **PKPdf 22 19 15.9 +0.1**
MACA PKPbc **PKPbc 22 19 21.0 +0.2**
MACA PKPab **PKPab 22 19 26.4 -0.4**
MALB Monte Alegre 153.41 43 *eP* **PKPdf 22 19 23.5 +2.3**
MCPB Macapa, AP 153.55 37 *eP* **PKPdf 22 19 22.5 +1.0**
ITTB Itaituba 154.27 50 *eP* **PKPdf 22 19 22.9 +0.4**
VILB Vilhena 155.57 72 *eP* **PKPdf 22 19 25.5 +1.2**
VILB Vilhena 155.57 72 *eP* **PKPdf 22 19 25.1 +0.9**
NPGB Novo Progresso 156.37 54 *eP* **PKPdf 22 19 25.9 +0.6**

TMAB Tom-Au,PA,Br 157.34 32 *eP* **PKPdf 22 19 27.9 +1.3**
PTLB Pontes e Lacer 157.48 77 *eP* **PKPdf 22 19 27.4 +0.8**
PTLB Pontes e Lacer 157.48 77 *eP* **PKPdf 22 19 27.3 +0.7**
PTLB Pontes e Lacer 157.48 77 PKPdf **PKPdf 22 19 26.5 -0.1**
PTLB PKPab **PKPab 22 19 59.0 -0.2**
PDRB Porto dos Gac 157.94 65 *eP* **PKPdf 22 19 28.0 +0.7**
CLDB Colider 158.33 62 *eP* **PKPdf 22 19 28.6 +0.8**
CLDB Colider 158.33 62 *eP* **PKPdf 22 19 28.8 +1.0**
ROSB Rosrio 159.50 23 *eP* **PKPdf 22 19 32.8 +3.6**
PRPB Parauapebas 159.54 41 *eP* **PKPdf 22 19 29.6 +0.4**
ITQB Itaqui 160.29 117 PKPab **PKPab 22 20 11.7 +0.6**
CPUP Villa Florida 160.43 107 PKP **PKPdf 22 19 29.9 +0.1**
comp=Z,13nm,1.1s,baz=339,slow=2.9,SNR=7.1
CPUP PKPab **PKPab 22 20 12.4 +0.6**
comp=Z,31nm,0.7s,baz=282,slow=4.4,SNR=24
CPUP Villa Florida 160.43 107 PKPdf **PKPdf 22 19 29.7 -0.1**
CPUP PKPab **PKPab 22 20 11.8 0.0**
SALV Santo Antonio 160.74 75 *eP* **PKPdf 22 19 32.0 +1.6**
SALV Santo Antonio 160.74 75 *eP* **PKPdf 22 19 31.1 +0.7**
SALV Santo Antonio 160.74 75 *eP* **PKPdf 22 19 31.5 +1.1**
PLTB Pedras Altas 161.88 126 *eP* **PKPdf 22 19 34.8 +3.6**
PLTB Pedras Altas 161.88 126 PKPdf **PKPdf 22 19 31.0 -0.2**
PLTB PKPab **PKPab 22 20 17.5 -0.5**
AQDB Aquidauana 161.92 89 *eP* **PKPdf 22 19 32.6 +1.1**
AQDB Aquidauana 161.92 89 PKPdf **PKPdf 22 19 31.1 -0.5**
AQDB PKPab **PKPab 22 20 18.7 +0.2**
PP1B Ponte de Pedra 162.04 79 *eP* **PKPdf 22 19 32.9 +1.1**
PP1B Ponte de Pedra 162.04 79 *eP* **PKPdf 22 19 33.2 +1.4**
NBCL Cascavel-CE 162.16 6 *eP* **PKPdf 22 19 32.9 +0.9**
SNDB Serra Nova Dou 162.57 57 *eP* **PKPdf 22 19 33.9 +1.6**
SNDB Serra Nova Dou 162.57 57 *eP* **PKPdf 22 19 33.3 +0.9**
CPSB Cacapava Do Su 162.61 122 *eP* **PKPdf 22 19 33.0 +1.1**
SMTB Santa Maria do 163.00 41 *eP* **PKPdf 22 19 33.9 +1.1**
SMTB Santa Maria do 163.00 41 *eP* **PKPdf 22 19 33.6 +0.8**
NBPB Pedra_Branca-C 163.27 11 *eP* **PKPdf 22 19 33.6 +0.5**
RCBR Riachuelo 163.84 358 *eP* **PKPdf 22 19 34.5 +0.9**
ARAG Araguaiana, MT 164.09 69 *eP* **PKPdf 22 19 35.7 +2.0**
NBPV Pedro Velho 164.40 356 *eP* **PKPdf 22 19 34.8 +0.7**
ITAB Concordia 164.79 113 *eP* **PKPdf 22 19 36.3 +2.2**
ITAB Concordia 164.79 113 PKPdf **PKPdf 22 19 34.5 +0.4**
ITAB PKPab **PKPab 22 20 30.9 0.0**
PEXB Peixe 164.90 51 *eP* **PKPdf 22 19 36.3 +1.8**
NBMA Muriti-CE 165.19 9 *eP* **PKPdf 22 19 36.0 +1.2**
PCMB Pacaembu 166.17 91 *eP* **PKPdf 22 19 36.9 +1.5**
PCMB Pacaembu 166.17 91 *eP* **PKPab 22 20 38.2 +1.0**
PCMB Pacaembu 166.17 91 *eP* **PKPdf 22 19 36.2 +0.8**
TER01 Tubaro-SC 166.80 122 *eP* **PKPdf 22 19 37.8 +2.1**
BDFB Brasilia 167.26 62 PKP **PKPdf 22 19 37.1 +0.6**
comp=Z,11nm,0.8s,baz=245,slow=2.5,SNR=12
BDFB PKPab **PKPab 22 20 42.5 +0.3**
comp=Z,29nm,0.7s,baz=302,slow=5.5,SNR=23
BDFB Brasilia 167.26 62 PKPdf **PKPdf 22 19 36.3 -0.2**
BDFB PKPab **PKPab 22 20 41.6 -0.6**
FRTB Fartura 167.76 98 *eP* **PKPdf 22 19 38.1 +1.5**
FRTB Fartura 167.76 98 *eP* **PKPdf 22 19 37.4 +0.8**
NBPN Ponto Novo - B 168.25 19 *eP* **PKPab 22 20 46.8 +0.7**
JANB Januaria 169.74 48 *eP* **PKPdf 22 19 38.0 0.0**
BSCB Bom Sucesso 172.11 84 *eP* **PKPab 22 21 04.7 +1.1**
NBIT Itapeh - BA 172.32 23 *eP* **PKPab 22 21 04.2 +0.1**
CMC01 Camacan, BA 172.69 25 *eP* **PKPab 22 21 04.2 -1.5**
GUA01 Guaratinga, BA 173.65 31 *eP* **PKPab 22 21 10.0 0.0**
SJMB Sao Joao De Ma 174.38 54 *eP* **PKPab 22 21 13.1 -0.4**

IDC ***05*** *22:04:58.9±0.8, 23°.74N×45°.61W, h0km, mb4.4/11, mb1 4.5/11, mb1mx4.1/55, mbtmp4.4/11, MS4.1/33, Ms1 4.2/33, ms1mx3.9/84 Error ellipse: s-maj=29.2km s-min=16.6km az=139.0*
NEIC ***05*** *22:05:01±1.4, 23°.6N±0°.1×45°.7W±0°.1, h10km±1km, mb4.9/39, Error ellipse: s-maj=19.3km s-min=16.1km az=0.0*
GCMT ***05*** *22:05:04.0±0.2, 23°.84N±0°.02×45°.66W±0°.01, h16km±1km, MW5.1/101, Moment Tensor Solution. s32,c35; s101,c144; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=1.27±.19; Mθθ=0.45±.16; Mφφ=1.73±.15; Mrθ=0.23±.50; Mrφ=-4.20±.14; Mθφ=2.27±.51; Best double couple: M0=4.90200×1016 NP1:φs=277.00000°, δ60.00000°, λ-173.00000°. NP2:φs=184.00000°, δ84.00000°, λ-30.00000°. Principal axes: T 5.5430, Plg16.0000°, Azm234.0000°; N -1.2740, Plg60.0000°, Azm354.0000°; P -4.2610, Plg25.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 22:05:00.2±0.5, 23°.59N±0°.10×45°.63W±0°.08, h10km, n97, σ0:90/61, mb4.7/20, MS4.1/33, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar**	**16.20**	**246**	**Pn**	**Pn**	**22 08 45.3**	**-2.8**
	SNR=8.1						
H05N1				T	T	22 25 58.0	
	SNR=4.5						
ANWB	**Willy Bob**	**16.22**	**252**	Pn	**Pn**	**22 08 47.3**	**-1.0**
ANWB				IAmb	IAmb	22 09 02.8	
	comp=Z,54nm,0.8s						
ILAM	**Ilet Lapin Mar**	**16.84**	**241**	Pn	**Pn**	**22 08 56.5**	**+0.2**
MPOM	**Morne Pois Mar**	**17.01**	**240**	Pn	**Pn**	**22 08 58.4**	**0.0**
MPOM				IAmb	IAmb	22 09 02.3	
	comp=Z,161nm,1.3s						
SVN	**Savane Anatole**	**17.04**	**242**	Pn	**Pn**	**22 08 58.3**	**-0.5**
SVN				IAmb	IAmb	22 09 07.4	
	comp=Z,102nm,0.7s						
FDF	**Fort de France**	**17.09**	**242**	Pn	**Pn**	**22 08 59.1**	**-0.3**
FDF				IAmb	IAmb	22 09 25.1	
	comp=Z,108nm,1.2s						
BIM	**Bigot**	**17.14**	**241**	Pn	**Pn**	**22 08 59.7**	**-0.4**
BIM				IAmb	IAmb	22 09 13.3	
	comp=Z,138nm,1.2s						
GRGR	**Grenville**	**19.01**	**236**	P	**P**	**22 09 21.6**	**-0.7**
MTP	**Monte Pirata**	**19.39**	**257**	P	**P**	**22 09 24.8**	**-1.7**
MTP				IAmb	IAmb	22 09 29.8	
	comp=Z,103nm,1.3s						
MDP	**Montagnes des**	**19.58**	**201**	LR	LR	22 15 38.2	
	comp=Z,313nm,19.4s,baz=24,slow=32						
CBYP	**Canovanas**	**19.61**	**258**	P	**P**	**22 09 27.9**	**-1.0**
CBYP				IAmb	IAmb	22 09 31.9	
	comp=Z,113nm,1.8s						
PDPR	**Patillas Dam,**	**19.84**	**258**	P	**P**	**22 09 31.4**	**0.0**
SJG	**San Juan**	**19.93**	**258**	P	**P**	**22 09 32.3**	**0.0**
SJG				IAmb	IAmb	22 09 38.0	
	comp=Z,62nm,1.2s						
CELP	**Cerrillos**	**20.32**	**258**	P	**P**	**22 09 35.5**	**-1.2**
CELP				IAmb	IAmb	22 09 38.6	
	comp=Z,85nm,1.4s						
OBIP	**Obispado Ponce**	**20.36**	**258**	P	**P**	**22 09 37.0**	**0.0**
OBIP				IAmb	IAmb	22 09 39.0	
	comp=Z,93nm,1.1s						
MLPR	**Magueyes Islan**	**20.77**	**258**	P	**P**	**22 09 40.9**	**-0.6**
CRPR	**Cabo Rojo, PR**	**20.82**	**259**	P	**P**	**22 09 41.8**	**-0.3**
SC01	**Santiago de lo**	**23.70**	**265**	P	**P**	**22 10 11.4**	**-1.1**
SDDR	**Presa de Saban**	**24.32**	**264**	P	**P**	**22 10 18.0**	**-0.4**
BOAV	**Boa Vista**	**25.53**	**217**	P	**P**	**22 10 28.4**	**-0.8**
BOAV				IAmb	IAmb	22 10 35.7	
	comp=Z,39nm,1.4s						
BAUV	**El Baul**	**25.92**	**240**	P	**P**	**22 10 32.4**	**-0.4**
BAUV				IAmb	IAmb	22 10 54.3	
	comp=Z,26nm,1.0s						
PTGA	**Pitinga**	**27.90**	**212**	P	**P**	**22 10 51.9**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=22,slow=9.9,SNR=4.3						
PTGA				LR	LR	22 20 48.9	
	comp=Z,551nm,19.8s,baz=33,slow=34						
SDV	**Santo Domingo**	**28.03**	**243**	P	**P**	**22 10 52.9**	**+0.8**
	comp=Z,3.2nm,0.3s,baz=50,slow=6.8,SNR=4.5						
SDV				LR	LR	22 21 01.7	
	comp=Z,312nm,20.5s,baz=62,slow=34						
SDV	**Santo Domingo**	**28.03**	**243**	P	**P**	**22 10 52.1**	**0.0**
MACA	**Manacapuru-AM**	**30.36**	**211**	P	**P**	**22 11 12.3**	**-0.1**
MACA				IAmb	IAmb	22 11 14.9	
	comp=Z,12nm,0.7s						
ZARC	**Zaragoza, Cauc**	**32.28**	**245**	P	**P**	**22 11 28.8**	**-0.6**
ROSC	**El Rosal**	**33.35**	**240**	LR	LR	22 26 11.9	
	comp=Z,435nm,19.7s,baz=42,slow=38						
SADO	**Sadowa**	**34.50**	**316**	LR	LR	22 23 07.4	
	comp=Z,198nm,20.2s,baz=164,slow=32						
GOGA	**Godfrey**	**34.50**	**295**	P	**P**	**22 11 49.4**	**+0.8**
SCHQ	**Schefferville**	**34.97**	**339**	LR	LR	22 24 13.9	
	comp=Z,255nm,21.2s,baz=136,slow=33						
TKL	**Tuckaleechee C**	**35.06**	**299**	LR	LR	22 24 06.0	
	comp=Z,141nm,18.1s,baz=99,slow=33						
MDT	**Midelt**	**37.12**	**66**	LR	LR	22 23 41.1	
	comp=Z,270nm,20.2s,baz=334,slow=30						
ESDC	**Sonseca Array**	**38.56**	**55**	LR	LR	22 24 04.2	
	comp=Z,483nm,21.5s,baz=254,slow=30						
ETMB	**Extrema**	**38.83**	**214**	P	**P**	**22 12 25.7**	**+0.1**
VILB	**Vilhena**	**39.01**	**203**	P	**P**	**22 12 27.6**	**+0.4**
BDFB	**Brasilia**	**39.06**	**184**	LR	LR	22 27 39.4	
	comp=Z,423nm,18.4s,baz=355,slow=35						
OTAV	**Otavalo**	**39.41**	**239**	P	**P**	**22 12 30.0**	**-1.1**
JTS	**Las Juntas de**	**39.73**	**257**	LR	LR	22 25 19.3	
	comp=Z,200nm,20.7s,slow=31						
KOWA	**Kowa**	**40.24**	**95**	P	**P**	**22 12 37.8**	**+0.2**
CZSB	**Cruzeiro do Su**	**40.85**	**224**	P	**P**	**22 12 42.8**	**+0.3**
CZSB				IAmb	IAmb	22 12 45.9	
	comp=Z,56nm,1.8s						
PTLB	**Pontes e Lacer**	**40.98**	**200**	P	**P**	**22 12 43.4**	**-0.1**
CCM	**Cathedral Cave**	**41.33**	**301**	P	**P**	**22 12 46.0**	**-0.3**
CCM				IAmb	IAmb	22 12 50.4	
	comp=Z,14nm,0.8s						
D41A	**Chassel**	**41.44**	**315**	P	**P**	**22 12 47.5**	**+0.4**
SIV	**San Ignacio**	**42.13**	**202**	LR	LR	22 28 58.3	
	comp=Z,226nm,20.6s,baz=61,slow=34						
DBIC	**Dimbokro**	**42.61**	**107**	P	**P**	**22 12 57.3**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=293,slow=7.6,SNR=3.2						
DBIC	**Dimbokro**	**42.61**	**107**	P	**P**	**22 12 57.2**	**+0.2**
FRB	**Frobisher Bay**	**42.93**	**345**	LR	LR	22 28 54.6	
	comp=Z,190nm,21.5s,baz=156,slow=34						
H10N2	**ASCENSION HYDR**	**43.60**	**132**	T	T	22 59 45.5	
	baz=317,slow=75,SNR=282						
H10N3	**ASCENSION HYDR**	**43.60**	**132**	T	T	22 59 43.2	
	baz=317,slow=75,SNR=432						
H10N1	**ASCENSION HYDR**	**43.62**	**132**	T	T	22 59 46.8	
	baz=317,slow=75,SNR=256						
ATAH	**Atahualpa**	**44.23**	**230**	LR	LR	22 34 32.5	
	comp=Z,79nm,18.3s,baz=30,slow=40						
H10S3	**ASCENSION HYDR**	**44.30**	**133**	T	T	23 00 27.1	
	baz=316,slow=74,SNR=297						
H10S2	**ASCENSION HYDR**	**44.32**	**133**	T	T	23 00 32.8	
	baz=264,slow=74,SNR=96						
EKA	**Eskdalemuir Ar**	**44.50**	**33**	LR	LR	22 27 02.6	
	comp=Z,543nm,21.4s,baz=226,slow=30						
LPAZ	**La Paz**	**45.32**	**211**	P	**P**	**22 13 20.6**	**+1.2**
	comp=Z,6.4nm,0.8s,baz=17,slow=4.9,SNR=18						
LPAZ				LR	LR	22 32 06.5	
	comp=Z,326nm,20.3s,baz=21,slow=36						
LPAZ	**La Paz**	**45.32**	**211**	P	**P**	**22 13 19.5**	**+0.2**
LPAZ				IAmb	IAmb	22 13 23.0	
	comp=Z,7.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**45.92**	**94**	P	**P**	**22 13 23.2**	**-0.3**
	comp=Z,5.7nm,0.9s,baz=299,slow=8.1,SNR=24						
CMIG	**Matias Romero**	**46.45**	**272**	LR	LR	22 30 18.5	
	comp=Z,212nm,21.1s,baz=70,slow=33						
KAN12	**Harper NE Stat**	**46.62**	**300**	P	**P**	**22 13 29.1**	**+0.3**
NNA	**Nana**	**46.71**	**224**	LR	LR	22 32 45.2	
	comp=Z,173nm,21.9s,baz=20,slow=36						
PB16	**IPOC Station P**	**47.74**	**211**	P	**P**	**22 13 37.5**	**-0.8**
KEST	**Kesra**	**48.72**	**62**	P	**P**	**22 13 45.8**	**+0.6**
	comp=Z,6.2nm,0.9s,baz=206,slow=6.5,SNR=5.9						
KEST				LR	LR	22 31 28.3	
	comp=Z,203nm,21.8s,baz=284,slow=33						
PB11	**IPOC Station P**	**49.04**	**211**	P	**P**	**22 13 47.2**	**-0.6**
PB08	**IPOC Station P**	**49.14**	**210**	P	**P**	**22 13 48.2**	**-0.7**
PB08				IAmb	IAmb	22 13 59.4	
	comp=Z,11nm,1.0s						
AMTX	**Amarillo**	**49.63**	**296**	P	**P**	**22 13 51.2**	**-0.9**
AMTX				IAmb	IAmb	22 13 53.0	
	comp=Z,17nm,0.9s						
DAVOX	**Davos/Dischmat**	**49.76**	**48**	LR	LR	22 31 23.1	
	comp=Z,267nm,19.5s,baz=282,slow=32						
OGNE	**Ogallala**	**49.88**	**304**	P	**P**	**22 13 52.1**	**-1.9**
PB01	**IPOC Station P**	**50.08**	**210**	P	**P**	**22 13 54.7**	**-1.0**
LVC	**Limon Verde**	**51.20**	**208**	LR	LR	22 35 48.1	
	comp=Z,174nm,19.9s,baz=15,slow=36						
LVC	**Limon Verde**	**51.20**	**208**	P	**P**	**22 14 03.7**	**-0.7**
LVC				IAmb	IAmb	22 14 17.3	
	comp=Z,9.4nm,1.1s						
CLL	**Collm**	**52.45**	**43**	*e*S	**S**	**22 21 38.0**	**-1.2**
CLL				*e*SS	SS	22 25 06.0	-11
CLL				*e*SSSS		22 27 30.0	
CLL				Lm	MLR	22 32 00.0	
	comp=Z,400nm,19.7s						
NOA	**NORSAR Array B**	**53.72**	**30**	LR	LR	22 34 22.9	
	comp=Z,114nm,18.2s,baz=40,slow=33						
HFS	**Hagfors**	**54.64**	**32**	LR	LR	22 33 11.6	
	comp=Z,434nm,21.4s,baz=254,slow=31						
PDAR	**Pinedale Array**	**55.52**	**307**	P	**P**	**22 14 38.4**	**+2.5**
	comp=Z,5.0nm,0.9s,baz=113,slow=6.9,SNR=2.0						
PDAR	**Pinedale Array**	**55.52**	**307**	P	**P**	**22 14 36.7**	**+0.8**
FINES	**FINESS Array B**	**60.84**	**31**	LR	LR	22 36 41.7	
	comp=Z,362nm,21.2s,baz=248,slow=31						
AKASG	**Malin Array Be**	**62.65**	**44**	P	**P**	**22 15 23.1**	**-1.8**
	comp=Z,2.7nm,0.7s,baz=275,slow=5.6,SNR=6.2						
AKASG	**Malin Array Be**	**62.65**	**44**	P	**P**	**22 15 25.3**	**+0.4**
AKASG				IAmb	IAmb	22 15 45.1	
	comp=Z,9.5nm,1.4s						
OBN	**Obninsk**	**66.60**	**38**	LR	LR	22 41 19.3	
	comp=Z,86nm,21.4s,baz=312,slow=33						

OUL	**Oulu**	**3.56 137**	pmax	pmax			
	comp=Z,34nm,0.9s						
OBF0	**Syolatti, Pyha**	**3.70 152**	SB	Sb	22 11 51.5	-2.7	
OUF	**Merijarvi**	**3.91 150**	SN	Sn	22 11 50.4	-0.1	
KU6	**Riekki**	**4.21 110**	PG	Pb	22 11 17.7	0.0	
HUSU	**Husum**	**4.50 186**	SN	Sn	22 12 02.5	-2.4	

DDA 05 22:11:04.7±0.0, 39°.49N×39°.85E, h7km±3km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	**Uzumlu**	**0.24**	**332**	P	Pg	22 11 10.1	+0.5
EUZM				S	Sg	22 11 13.8	+1.0
TNCL	**Tunceli-Merkez**	**0.45**	**212**	P	Pg	22 11 13.4	0.0
TNCL				S	Sb	22 11 20.8	-1.0
TNCL				*i* AML	AML	22 11 21.0	
	comp=E,48nm,0.3s						
TNCL				*i* AML	AML	22 11 22.0	
	comp=N,28nm,0.5s						
KOVA	**Elazig, Kovanc**	**0.79**	**182**	P	Pg	22 11 20.2	+0.4
KOVA				S	Sb	22 11 32.2	+0.5
KELT	**Kelkit**	**0.80**	**325**	P	Pg	22 11 20.4	+0.4
BAYB	**BAYBURT**	**0.83**	**22**	P	Pg	22 11 20.3	-0.3
BAYB				S	Sg	22 11 32.2	+0.8
BAYB				*i* AML	AML	22 11 34.0	
	comp=N,9.8nm,1.0s						
REFA	**Refahiye_ERZN**	**0.93**	**297**	P	Pg	22 11 21.5	-1.1
KEMA	**Kemaliye**	**1.07**	**258**	P	Pg	22 11 24.6	-0.6
KEMA				S	Sg	22 11 39.5	+0.3

IDC 05 22:48:48.9±20.0, 6°.87S×128°.56E, h167km±226km, mb2.9/1, mb1 3.0/3, mb1mx2.9/25, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=130.0km s-min=92.1km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.15**	**157**	P	Pn	22 52 02.3	+0.1
	0.1nm,0.3s,baz=336,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**17.47**	**163**	P	P	22 52 41.3	-0.1
	0.2nm,0.3s,baz=336,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	22 59 26.0	0.0
	0.3nm,0.7s,baz=126,slow=7.3,SNR=2.1						

IDC 05 23:00:11.2±48.0, 15°.72S×172°.72W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/36, mbtmp4.0/3, Error ellipse: s-maj=931.8km s-min=197.1km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.45**	**240**	P	P	23 08 24.8	+0.5
	1.4nm,0.5s,baz=107,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**50.41**	**257**	P	P	23 09 10.3	-0.5
	0.7nm,0.9s,baz=94,slow=8.0,SNR=5.2						
ASAR	**Alice Springs**	**50.63**	**252**	P	P	23 09 12.3	-0.2
	3.5nm,0.6s,baz=89,slow=8.1,SNR=44						

*TUL **05** 23:05:57.7±0.9, 36°.84N±0°.01×98°.28W±0°.02, h5km±5km, ML2.6, mb_Lg2.2/10(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=122.0*

NEIC 05 23:05:58.0±0.8, 36°.84N±0°.01×98°.28W±0°.02, h9km±5km, Error ellipse: s-maj=2.5km s-min=0.5km az=133.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.06**	**119**	Pg	Pg	23 05 59.8	-0.2
OK032				Sg	Sg	23 06 01.1	-0.4
KAN14	**Manchester OK**	**0.28**	**64**	Pg	Pg	23 06 03.6	0.0
KAN14				Sg	Sg	23 06 07.8	+0.4
KAN10	**Anthony SW Sta**	**0.32**	**27**	Pg	Pg	23 06 04.4	-0.1
KAN10				Sg	Sg	23 06 09.1	+0.3
GC02	**Grant County #**	**0.34**	**87**	Pg	Pg	23 06 04.7	0.0
GC02				Sg	Sg	23 06 09.5	+0.3
OK035	**E0210 Rd and N**	**0.37**	**250**	Pg	Pg	23 06 05.2	0.0
OK035				Sg	Sg	23 06 10.7	+0.5
CROK	**Carrier**	**0.41**	**144**	Pg	Pg	23 06 06.0	+0.1
CROK				Sg	Sg	23 06 11.8	+0.5
KAN05	**Bluff City Nor**	**0.42**	**50**	Pg	Pg	23 06 06.1	-0.2
KAN05				Sg	Sg	23 06 12.2	+0.3
KAN16	**Harper SW Stat**	**0.43**	**24**	Pg	Pg	23 06 06.2	-0.1
KAN16				Sg	Sg	23 06 12.0	0.0
KAN08	**Anthony NE Sta**	**0.46**	**32**	Pg	Pg	23 06 06.9	-0.1
KAN08				Sg	Sg	23 06 13.4	+0.3
KAN17	**Caldwell West**	**0.46**	**63**	Pg	Pg	23 06 06.9	-0.1
KAN17				Sg	Sg	23 06 13.0	-0.1
KAN01	**Argonia South**	**0.52**	**52**	Pg	Pg	23 06 08.0	-0.2
KAN01				Sg	Sg	23 06 15.2	+0.1
KAN06	**Argonia West S**	**0.53**	**39**	Pg	Pg	23 06 08.1	-0.2
KAN06				Sg	Sg	23 06 15.2	-0.2
KAN13	**South Haven SW**	**0.67**	**74**	Pg	Pg	23 06 10.4	-0.4
KAN13				Sg	Sg	23 06 19.9	+0.3
U32A	**Winter Ranch,**	**0.74**	**232**	Pg	Pg	23 06 11.8	-0.4
U32A				Sg	Sg	23 06 22.0	+0.2
BLOK	**Blackwell**	**0.86**	**95**	Pg	Pg	23 06 13.8	-0.7
OK029	**Liberty Lake**	**1.23**	**147**	Pg	Pn	23 06 20.8	-0.6
OK029				Sg	Sb	23 06 37.5	+0.1
BCOK	**Bluff Creek, N**	**1.29**	**155**	Pn	Pn	23 06 21.4	-0.8
T35A	**Sooner Cattle**	**1.42**	**86**	Pn	Pn	23 06 23.8	-0.2
QUOK	**Quay**	**1.43**	**117**	Pn	Pn	23 06 24.0	-0.1
OK031	**S. Brethren Rd**	**1.46**	**127**	Pn	Pn	23 06 24.4	-0.1
OK025	**Westminster Rd**	**1.46**	**148**	Pn	Pn	23 06 24.5	0.0
OK034	**N. Norfolk Rd.**	**1.51**	**123**	Pn	Pn	23 06 25.0	-0.2
R32A	**Long Quarter,**	**1.62**	**348**	Pn	Pn	23 06 27.2	+0.4
R32A				IAmb_Lg		23 06 48.7	
	comp=Z,9.6nm,1.0s						
FNO	**Franklin**	**1.73**	**155**	Pn	Pn	23 06 28.6	+0.4
W35A	**Tecumseh**	**2.03**	**145**	Pn	Pn	23 06 33.0	+0.7
W35A				IAmb_Lg		23 07 01.9	
	comp=Z,7.5nm,0.8s						
WMOK	**Wichita Mounta**	**2.13**	**191**	Pn	Pn	23 06 33.8	0.0
TUL1	**Leonard**	**2.21**	**114**	IAmb_Lg		23 07 10.9	
	comp=Z,12nm,1.0s						
CBKS	**Cedar Bluff**	**2.29**	**330**	IAmb_Lg		23 07 15.8	
	comp=Z,14nm,0.8s						
LOOK	**Love County**	**2.98**	**162**	Pn	Pn	23 06 45.9	+0.5
U38A	**Gravette**	**3.16**	**96**	Pn	Pn	23 06 48.2	+0.3
U38A				IAmb_Lg		23 07 42.3	
	comp=Z,6.0nm,0.8s						
HHAR	**Hobbs**	**3.54**	**98**	Pn	Pn	23 06 53.8	+0.7
S39A	**Bolivar**	**4.04**	**76**	Pn	Pn	23 06 59.5	-0.6
U40A	**Yellville**	**4.39**	**95**	Pn	Pn	23 07 04.4	-0.4
MIAR	**Mount Ida**	**4.46**	**119**	Pn	Pn	23 07 07.5	+1.8
MIAR				IAmb_Lg		23 08 20.0	
	comp=Z,6.7nm,0.8s						
MSTX	**Muleshoe**	**4.65**	**233**	Pn	Pn	23 07 09.1	+0.6

*HLW **05** 23:11:45.5, 36°.68N×27°.06E, h4km±19km, Md4.4, Ml4.8*
*IDC **05** 23:11:49.8±0.6, 36°.49N×26°.76E, h146km±8km, mb3.7/18, mb1 3.9/32, mb1mx3.6/72, mbtmp4.3/32, Error ellipse: s-maj=12.3km s-min=7.7km az=159.0*
*NEIC **05** 23:11:49.8±1.9, 36°.50N±0°.08×26°.81E±0°.07, h140km±8km, mb4.2/30, ML3.8(ATH), Error ellipse: s-maj=12.3km s-min=7.8km az=170.0*
*MOS **05** 23:11:49.4±1.1, 36°.50N×26°.81E, h158km, mb4.3/13, Error ellipse: s-maj=5.4km s-min=2.8km az=111.7*
*ISK **05** 23:11:50.3, 36°.61N×26°.82E, h138km±1km, ML3.8/17*
*THE **05** 23:11:51.8, 36°.60N×26°.79E, h165km±2km, ML4.1/5, Error ellipse: s-maj=2.9km s-min=0.9km az=69.0*
*GII **05** 23:11:51.8±0.2, 36°.24N×26°.93E, h100km, mb4.5/4, MD4.4/4, Mm4.5/4*
*DDA **05** 23:11:51.0±0.0, 36°.64N×26°.84E, h131km±4km, MW4.2*
*ATH **05** 23:11:52.7, 36°.56N×26°.59E, h18km±3km, ML3.8/8, Error ellipse: s-maj=4.0km s-min=1.0km az=60.0*

ISC 05 23:11:49.4±0.5, 36°.52N±0°.04×26°.79E±0°.03, h140km±5km, n490, σ1§48/549, mb4.2/36, 37C-13D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.27**	**33**	PG	**Pn**	**23 12 09.3**	**+0.7**
KOSK				SG	**Sn**	**23 12 23.3**	**0.0**
NISR	**Nisiros**	**0.28**	**72**	P	Pn	23 12 01.5	-7.2
NISR				S	Sn	23 12 07.9	-15
DAT	**Datca**	**0.66**	**72**	P	**Pn**	**23 12 11.5**	**+0.7**
DAT				S	**Sn**	**23 12 26.9**	**0.0**
DAT	**Datca**	**0.66**	**72**	PG	**Pn**	**23 12 11.4**	**+0.7**
DAT				SG	**Sn**	**23 12 26.6**	**-0.3**
DAT	**Datca**	**0.66**	**72**	P	**Pn**	**23 12 11.5**	**+0.7**
DAT				*i* AML	AML	23 12 27.0	
	comp=N,1μm,0.8s						
DAT				*i* AML	AML	23 12 27.0	
	comp=E,1μm,0.7s						
DAT				S	**Sn**	**23 12 27.1**	**+0.2**
BODT	**Bodrum**	**0.68**	**38**	P	**Pn**	**23 12 11.1**	**+0.4**
BODT				S	**Sn**	**23 12 27.1**	**+0.1**
BODT	**Bodrum**	**0.68**	**38**	PG	**Pn**	**23 12 11.3**	**+0.6**
BODT				SG	**Sn**	**23 12 26.5**	**-0.5**
DDIM	**Aydin, Didim**	**1.00**	**21**	P	**Pn**	**23 12 14.0**	**+0.8**
DDIM				S	**Sn**	**23 12 30.9**	**-0.5**
DDIM				*i* AML	AML	23 12 32.0	
	comp=N,1μm,1.0s						
DDIM				*i* AML	AML	23 12 39.0	
	comp=E,685nm,0.9s						
SANT	**Santorini**	**1.09**	**262**	P	**Pn**	**23 12 15.6**	**+1.5**
SANT				S	**Sn**	**23 12 33.6**	**+0.8**
	2μm,0.7s						
SANT	**Santorini**	**1.09**	**262**	P	**Pn**	**23 12 09.8**	**-4.3**
SANT				AML	AML	23 12 34.4	
	comp=N,2922μm,0.8s						
SANT				AML	AML	23 12 34.4	
	comp=E,4447μm,0.5s						
SANT	**Santorini**	**1.09**	**262**	PN	**Pn**	**23 12 15.7**	**+1.6**
SANT	**Santorini**	**1.09**	**262**		**Pn**	**23 12 15.5**	**+1.5**
SANT				Sn	**Sn**	**23 12 33.4**	**+0.6**
ARG	**Arkhangelos**	**1.12**	**106**	P	**Pn**	**23 12 15.8**	**+1.5**
ARG				S	**Sn**	**23 12 34.5**	**+1.2**
	comp=E,4μm,0.4s						
ARG	**Arkhangelos**	**1.12**	**106**	P	**Pn**	**23 12 15.7**	**+1.5**
ARG				AML	AML	23 12 34.6	
	comp=N,5918μm,0.3s						
ARG				AML	AML	23 12 36.1	
	comp=E,10570μm,0.5s						
ARG	**Arkhangelos**	**1.12**	**106**	P	**Pn**	**23 12 15.8**	**+1.5**
ARG	**Arkhangelos**	**1.12**	**106**	PN	**Pn**	**23 12 15.8**	**+1.5**
MRSB	**Marmaris-Mugla**	**1.15**	**80**	PN	**Pn**	**23 12 15.4**	**+0.8**
SMG	**Samos**	**1.18**	**2**	P	**Pn**	**23 12 15.1**	**+0.1**
SMG				S	**Sn**	**23 12 33.4**	**-1.1**
	comp=E,1μm,0.8s						
SMG	**Samos**	**1.18**	**2**	P	**Pn**	**23 12 13.8**	**-1.2**
SMG				AML	AML	23 12 33.9	
	comp=N,1992μm,0.9s						
SMG				AML	AML	23 12 34.5	
	comp=E,3338μm,0.7s						
TURN	**Turunc**	**1.19**	**77**	PN	**Pn**	**23 12 15.9**	**+0.8**
TURN	**Turunc**	**1.19**	**77**	P	**Pn**	**23 12 15.8**	**+0.8**
TURN				S	**Sn**	**23 12 33.6**	**-0.9**
TURN				*i* AML	AML	23 12 35.0	
	comp=E,3μm,0.5s						
TURN				*i* AML	AML	23 12 35.0	
	comp=E,6μm,0.3s						
GCAM	**G?zelcaml?**	**1.23**	**17**	PN	**Pn**	**23 12 15.8**	**+0.5**
GCAM	**G?zelcaml?**	**1.23**	**17**	P	**Pn**	**23 12 15.4**	**0.0**
GCAM				S	**Sn**	**23 12 34.2**	**-1.0**
GCAM				*i* AML	AML	23 12 35.0	
	comp=E,909nm,0.8s						
GCAM				*i* AML	AML	23 12 35.0	
	comp=E,638nm,0.8s						
YER	**Yerkesik**	**1.34**	**63**	P	**Pn**	**23 12 17.8**	**+1.2**
YER	**Yerkesik**	**1.34**	**63**	PN	**Pn**	**23 12 17.9**	**+1.3**
MULA	**Mugla, Merkez-**	**1.43**	**59**	P	**Pn**	**23 12 18.5**	**+1.0**
MULA				S	**Sn**	**23 12 39.0**	**0.0**
MULA				*i* AML	AML	23 12 41.0	
	comp=E,1μm,0.5s						
MULA				*i* AML	AML	23 12 41.0	
	comp=E,1μm,0.5s						
AYDN	**Tasoluk**	**1.43**	**37**	P	**Pn**	**23 12 17.9**	**+0.4**
AYDN				S	**Sn**	**23 12 38.0**	**-1.1**
AYDN				*i* AML	AML	23 12 38.0	
	comp=E,813nm,0.7s						
AYDN				*i* AML	AML	23 12 39.0	
	comp=E,909nm,1.2s						
ZKR	**Zakros**	**1.48**	**199**	P	**Pn**	**23 12 20.4**	**+2.3**
ZKR				S	**Sn**	**23 12 42.1**	**+2.2**
	comp=E,5μm,0.5s						
ZKR	**Zakros**	**1.48**	**199**	P	**Pn**	**23 12 19.0**	**+1.0**
ZKR				AML	AML	23 12 43.9	
	comp=E,14759μm,0.5s						
ZKR				AML	AML	23 12 46.8	
	comp=N,5088μm,0.5s						
ZKR	**Zakros**	**1.48**	**199**	PN	**Pn**	**23 12 20.7**	**+2.6**
DGB	**zmir**	**1.53**	**3**	SPECP		23 12 18.0	
DGB				P	**Pn**	**23 12 18.1**	**-0.4**
DGB				*i* AML	AML	23 12 40.0	
	comp=N,209nm,0.9s						
DGB				*i* AML	AML	23 12 40.0	
	comp=N,193nm,1.2s						
NPS	**Neapolis**	**1.58**	**218**	P	**Pn**	**23 12 20.6**	**+1.4**
NPS				S	**Sn**	**23 12 43.2**	**+1.3**
	comp=N,5μm,0.4s						
NPS	**Neapolis**	**1.58**	**218**	P	**Pn**	**23 12 19.8**	**+0.6**
NPS				AML	AML	23 12 43.4	
	comp=N,5794μm,0.3s						
NPS				AML	AML	23 12 44.1	
	comp=E,12540μm,0.3s						
NPS	**Neapolis**	**1.58**	**218**	P	**Pn**	**23 12 20.8**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**1.67**	**31**	PN	**Pn**	**23 12 20.7**	**+0.5**
ZEYE	**Izmir, Urla-Ze**	**1.73**	**352**	SPECP		23 12 20.0	
ZEYE				P	**Pn**	**23 12 20.9**	**+0.1**
ZEYE				S	**Sn**	**23 12 43.4**	**-1.4**
ZEYE				*i* AML	AML	23 12 44.0	
	comp=E,171nm,0.8s						
ZEYE				*i* AML	AML	23 12 45.0	
	comp=E,218nm,1.6s						
HRKL	**Herakleio**	**1.83**	**229**	PN	**Pn**	**23 12 23.8**	**+1.9**
URLA	**Izmir**	**1.84**	**355**	PN	**Pn**	**23 12 22.4**	**+0.3**
URLA	**Izmir**	**1.84**	**355**	SPECP		23 12 21.0	
URLA				P	**Pn**	**23 12 21.2**	**-0.9**
URLA				S	**Sn**	**23 12 44.4**	**-2.8**
URLA				*i* AML	AML	23 12 47.0	
	comp=E,408nm,1.0s						
URLA				*i* AML	AML	23 12 49.0	
	comp=E,279nm,0.9s						
FETY	**Fethiye**	**1.85**	**86**	PN	**Pn**	**23 12 23.1**	**+0.9**
FETY	**Fethiye**	**1.85**	**86**	P	**Pn**	**23 12 22.8**	**+0.7**
FETY				S	**Sn**	**23 12 46.6**	**-0.7**
FETY				*i* AML	AML	23 12 48.0	
	comp=E,1μm,0.5s						
FETY				*i* AML	AML	23 12 54.0	
	comp=E,1μm,0.4s						
IACM	**Heraklion**	**1.85**	**229**	P	**Pn**	**23 12 23.6**	**+1.4**
IACM	**Heraklion**	**1.85**	**229**	P	**Pn**	**23 12 23.7**	**+1.4**
MHLO	**Agia Marina, M**	**1.93**	**276**	P	**Pn**	**23 12 24.9**	**+1.8**
MHLO	**Agia Marina, M**	**1.93**	**276**	P	**Pn**	**23 12 23.8**	**+0.7**
MHLO				AML	AML	23 12 58.0	
	comp=E,4185μm,1.0s						
MHLO				AML	AML	23 12 58.5	
	comp=N,3129μm,0.5s						
TAVA	**DENIZLI_Tavas**	**1.94**	**60**	P	**Pn**	**23 12 24.0**	**+0.7**
TAVA				S	**Sn**	**23 12 48.6**	**-0.7**
TAVA				*i* AML	AML	23 12 50.0	
	comp=N,430nm,0.3s						
TAVA				*i* AML	AML	23 12 50.0	
	comp=N,506nm,0.3s						
CHOS	**Chios island**	**1.95**	**343**	P	**Pn**	**23 12 23.6**	**+0.2**
CHOS	**Chios island**	**1.95**	**343**	PN	**Pn**	**23 12 23.9**	**+0.5**
IDI	**Anoyia**	**1.98**	**232**	P	**Pn**	**23 12 25.1**	**+1.4**
	comp=N,187nm,0.3s,baz=18,slow=9.6,SNR=1514						
IDI				S	**Sn**	**23 12 50.3**	**+0.3**
	comp=N,402nm,0.3s,baz=360,slow=22,SNR=36						
IDI	**Anoyia**	**1.98**	**232**	P	**Pn**	**23 12 25.1**	**+1.4**
IDI	**Anoyia**	**1.98**	**232**	P	**Pn**	**23 12 25.4**	**+1.6**
IDI				AML	AML	23 12 51.0	
	comp=N,6675μm,0.5s						
IDI				AML	AML	23 12 51.5	
	comp=E,6752μm,0.6s						
CAME	**Cameli-Denizli**	**2.06**	**78**	PN	**Pn**	**23 12 25.5**	**+0.7**
CAEL	**Denizli, Camel**	**2.11**	**73**	SPECP		23 12 26.0	
CAEL				P	**Pn**	**23 12 26.3**	**+0.9**
CAEL				S	**Sn**	**23 12 52.5**	**-0.6**
CAEL				*i* AML	AML	23 13 03.0	
	comp=E,2μm,0.8s						
CAEL				*i* AML	AML	23 13 04.0	
	comp=E,2μm,0.5s						
SIVA	**Sivas**	**2.20**	**228**	P	**Pn**	**23 12 29.4**	**+3.0**
SIVA				AML	AML	23 13 00.1	
	comp=E,8730μm,0.5s						
SIVA				AML	AML	23 13 02.4	
	comp=N,5214μm,0.5s						
GOLH	**Golhisar**	**2.33**	**71**	SPECP		23 12 29.0	
GOLH				P	**Pn**	**23 12 29.2**	**+1.1**
GOLH				S	**Sn**	**23 12 56.8**	**-1.0**
GOLH				*i* AML	AML	23 12 59.0	
	comp=N,808nm,0.6s						
GOLH				*i* AML	AML	23 13 03.0	
	comp=N,767nm,0.6s						
VAM	**Vamos**	**2.38**	**243**	P	**Pn**	**23 12 30.5**	**+1.9**
ZEDA	**zmir-Bergama**	**2.45**	**5**	P	**Pn**	**23 12 29.6**	**+0.3**
ZEDA				*i* AML	AML	23 13 23.0	
	comp=N,54nm,1.2s						
ZEDA				*i* AML	AML	23 13 23.0	
	comp=N,54nm,1.1s						
KULA	**Kula-Manisa**	**2.48**	**36**	PN	**Pn**	**23 12 29.8**	**-0.1**
ELL	**Elmali**	**2.52**	**84**	P	**Pn**	**23 12 31.3**	**+0.9**
ELL	**Elmali**	**2.52**	**84**	PN	**Pn**	**23 12 31.8**	**+1.4**
ELL	**Elmali**	**2.52**	**84**	Pn	**Pn**	**23 12 31.3**	**+0.9**
DEMR	**Demre-Antalya**	**2.53**	**96**	PN	**Pn**	**23 12 31.4**	**+1.0**
DKL	**Dikili**	**2.54**	**2**	PN	**Pn**	**23 12 31.2**	**+0.6**
PRK	**Paraskevi**	**2.75**	**352**	P	**Pn**	**23 12 34.1**	**+1.0**
DION	**Dionisos Attik**	**2.76**	**305**	P	**Pn**	**23 12 34.4**	**+1.1**
AYVA	**Ayvalik**	**2.78**	**358**	SPECP		23 12 33.0	
AYVA				P	**Pn**	**23 12 33.8**	**+0.2**
AYVA				*i* AML	AML	23 13 08.0	
	comp=N,70nm,1.3s						
AYVA				*i* AML	AML	23 13 09.0	
	comp=N,47nm,1.2s						
SIGR	**SIGRI**	**2.78**	**345**	PN	**Pn**	**23 12 33.4**	**-0.2**
USAK	**Uak-Merkez**	**2.81**	**38**	P	**Pn**	**23 12 34.7**	**+0.7**
USAK				*i* AML	AML	23 13 08.0	
	comp=N,82nm,1.4s						
USAK				*i* AML	AML	23 14 05.0	
	comp=N,77nm,2.9s						
PASA	**Karahalli, USA**	**2.81**	**49**	P	**Pn**	**23 12 34.1**	**+0.1**
PASA				*i* AML	AML	23 13 08.0	
	comp=N,225nm,0.8s						
PASA				*i* AML	AML	23 13 09.0	
	comp=N,104nm,0.7s						
KHL	**Karahalli**	**2.82**	**50**	PN	**Pn**	**23 12 34.2**	**+0.1**
ATH	**Athens Observa**	**2.85**	**301**	P	**Pn**	**23 12 36.0**	**+1.6**
BRDR	**BURDUR-Merkez**	**2.86**	**65**	P	**Pn**	**23 12 35.2**	**+0.5**
BRDR				*i* AML	AML	23 13 10.0	
	comp=N,277nm,0.7s						
BRDR				*i* AML	AML	23 13 11.0	
	comp=N,241nm,0.4s						
AKUM	**Antalya-Kumluc**	**2.87**	**93**	SPECP		23 12 35.0	
AKUM				P	**Pn**	**23 12 35.7**	**+1.0**
AKUM				*i* AML	AML	23 13 12.0	
	comp=N,661nm,0.4s						
AKUM				*i* AML	AML	23 13 13.0	
	comp=N,717nm,0.4s						
KORT	**Korkueli**	**2.90**	**79**	SPECP		23 12 36.0	
KORT				P	**Pn**	**23 12 36.5**	**+1.3**
DEMI	**Demirci**	**2.94**	**31**	SPECP		23 12 35.0	
DEMI				P	**Pn**	**23 12 35.5**	**-0.2**
DEMI				*i* AML	AML	23 13 11.0	
	comp=N,58nm,1.0s						
DEMI				*i* AML	AML	23 13 26.0	
	comp=N,50nm,0.9s						
STEP	**BALIKESIR_Sava**	**2.94**	**14**	SPECP		23 12 35.0	
STEP				P	**Pn**	**23 12 35.7**	**0.0**
STEP				*i* AML	AML	23 13 12.0	
	comp=N,78nm,0.8s						
STEP				*i* AML	AML	23 13 32.0	
	comp=N,106nm,0.9s						
BUHA	**Balikesir, Bur**	**2.98**	**4**	SPECP		23 12 36.0	
BUHA				P	**Pn**	**23 12 36.7**	**+0.6**
BUHA				*i* AML	AML	23 13 13.0	
	comp=N,72nm,1.4s						
BUHA				*i* AML	AML	23 13 14.0	
	comp=N,51nm,0.7s						
KOCA	**Canakkale, Ayv**	**3.02**	**350**	SPECP		23 12 36.0	
KOCA				P	**Pn**	**23 12 36.8**	**+0.2**
KOCA				*i* AML	AML	23 13 13.0	
	comp=N,170nm,1.0s						
KOCA				*i* AML	AML	23 13 14.0	
	comp=N,125nm,1.1s						
BUCA	**Burdur, Bucak-**	**3.12**	**74**	SPECP		23 12 39.0	
BUCA				P	**Pn**	**23 12 39.1**	**+1.0**
BUCA				*i* AML	AML	23 13 18.0	
	comp=N,320nm,0.5s						
BUCA				*i* AML	AML	23 13 18.0	
	comp=N,406nm,0.6s						
KZIL	**AFYON_Kizioren**	**3.18**	**56**	P	**Pn**	**23 12 38.7**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**3.22**	**357**	P	**Pn**	**23 12 39.2**	**0.0**
BALB	**Balikesir**	**3.23**	**15**	Pn	**Pn**	**23 12 39.5**	**+0.2**
ISP	**Isparta**	**3.25**	**65**	P	**Pn**	**23 12 39.8**	**+0.1**
ISP	**Isparta**	**3.25**	**65**	Pn	**Pn**	**23 12 39.8**	**+0.1**
EZN	**Ezine**	**3.32**	**354**	P	**Pn**	**23 12 40.8**	**+0.4**
GDZ	**Gediz**	**3.33**	**39**	SPECP		23 12 40.0	
GDZ				P	**Pn**	**23 12 40.9**	**+0.1**
DURS	**Dursunbey**	**3.35**	**23**	SPECP		23 12 41.0	
DURS				P	**Pn**	**23 12 41.1**	**+0.2**
DURS				*i* AML	AML	23 13 26.0	
	comp=N,23nm,0.6s						
DURS				*i* AML	AML	23 13 52.0	
	comp=N,31nm,1.2s						
BAGO	**Egridir - ISPA**	**3.51**	**64**	SPECP		23 12 43.0	
BAGO				P	**Pn**	**23 12 43.4**	**+0.4**
BAGO				*i* AML	AML	23 13 25.0	
	comp=N,96nm,0.5s						
BAGO				*i* AML	AML	23 13 50.0	
	comp=N,58nm,1.3s						
AFYO	**Afyonkarahisar**	**3.58**	**50**	SPECP		23 12 45.0	
AFYO				P	**Pn**	**23 12 45.6**	**+1.6**
AFYO				*i* AML	AML	23 13 48.0	
	comp=N,191nm,1.1s						
AFYO				*i* AML	AML	23 14 00.0	
	comp=N,145nm,1.5s						
GOKA	**anakkale-Gk**	**3.73**	**350**	SPECP		23 12 46.0	
GOKA				P	**Pn**	**23 12 46.1**	**+0.3**
KNL	**Balıkesir**	**3.79**	**9**	P	**Pn**	**23 12 46.3**	**-0.2**
ANDZ	**Kutahya, Merke**	**3.86**	**39**	SPECP		23 12 48.0	
ANDZ				P	**Pn**	**23 12 48.6**	**+1.0**
KEPZ	**Antalya-Kepez**	**3.88**	**83**	SPECP		23 12 49.0	
KEPZ				P	**Pn**	**23 12 49.0**	**+1.1**
KEPZ				*i* AML	AML	23 13 37.0	
	comp=N,214nm,0.8s						
KEPZ				*i* AML	AML	23 13 37.0	
	comp=N,177nm,0.8s						
YVAC	**Isparta, Yalva**	**3.95**	**62**	SPECP		23 12 49.0	
YVAC				P	**P

comp=Z,12nm,1.4s
THE Thessaloniki 5.08 325 P Pn 23 13 05.8 +2.1
THE pmax pmax
comp=Z,30nm,1.0s
VIZE Kirklareli, Vi 5.11 9 SPECP 23 13 03.0
VIZE P **Pn 23 13 03.4 -0.7**
LEF Lefka 5.15 104 ⇓P **Pn 23 13 03.4 -1.3**
LEF ⇓S **Sn 23 13 59.1 -4.1**
MATC Matruh 5.18 176 P Pn 23 13 06.5 +1.4
baz=178
SLUM Salum 5.19 195 P Pn 23 13 06.5 +1.3
baz=197
SLUM S **Sn 23 14 00.5 -3.8**
baz=197
SRS Serrai 5.22 332 P Pn 23 13 06.7 +1.1
SRS pmax pmax
comp=Z,16nm,0.9s
KAYN Sakarya, Kayna 5.23 31 P Pn 23 13 05.9 +0.3
KDZ Kurdzhali 5.23 349 *i* P **Pn 23 13 06.2 +0.5**
MDUB Mudurnu 5.24 40 Pn **Pn 23 13 07.0 +1.1**
KIRK Kirklareli 5.26 2 P **Pn 23 13 05.7 -0.3**
RZN Rozhen 5.40 343 *i* P **Pn 23 13 08.9 +0.7**
GULN MERSIN_Gulnar 5.46 92 SPECP 23 13 08.0
GULN P **Pn 23 13 08.9 +0.1**
GULN S **Sn 23 14 07.5 -3.1**
KKUL Konya-Kulu 5.52 60 P **Pn 23 13 10.8 +1.2**
CSS Mathiatis 5.54 104 Pn **Pn 23 13 09.0 -0.9**
MMB Musomiste 5.59 336 *i* P **Pn 23 13 11.6 +1.1**
GRG Griva 5.60 324 P **Pn 23 13 12.4 +1.8**
GRG pmax pmax
comp=Z,48nm,1.0s
DIM Dimitrovgrad 5.60 350 *i* P **Pn 23 13 11.2 +0.6**
BR231 Keskin MP Arra 5.76 53 Pn **Pn 23 13 14.8 +1.9**
ANTO Ankara 5.79 53 P **Pn 23 13 14.8 +1.6**
ANTO Ankara 5.79 53 Pn **Pn 23 13 14.8 +1.6**
PLD Plovdiv 5.80 344 P **Pn 23 13 14.8 +1.5**
VAY Valandovo 5.81 327 *i* Pn Pn 23 13 24.8 +11
IGT Igoumenitsa 5.92 302 P **Pn 23 13 16.3 +1.4**
IGT pmax pmax
comp=Z,65nm,0.6s
FNA Florina 6.00 317 P **Pn 23 13 17.5 +1.4**
FNA Florina 6.00 317 Pn **Pn 23 13 17.5 +1.4**
KBN Korca 6.24 313 P **Pn 23 13 21.0 +1.8**
KBN Korca 6.24 313 Pn **Pn 23 13 21.0 +1.8**
BR131 Keskin Array S 6.27 57 P **Pn 23 13 20.9 +1.2**
BR131 Keskin Array S 6.27 57 Pn **Pn 23 13 20.9 +1.1**
BRTR Keskin Array B 6.27 57 P **Pn 23 13 21.5 +1.8**
comp=Z,1.1nm,0.3s,baz=232,slow=15,SNR=18
BRTR S **Sn 23 14 31.7 +1.3**
comp=Z,1.5nm,0.3s,baz=220,slow=24,SNR=10
BRTR Keskin Array B 6.27 57 P **Pn 23 13 21.0 +1.2**
BRTR Keskin Array B 6.27 57 Pn **Pn 23 13 20.9 +1.2**
OHR Ohrid 6.55 316 P **Pn 23 13 27.6 +4.3**
OHR pmax pmax
comp=Z,75nm,1.0s
OHR Ohrid 6.55 316 *i* Pn **Pn 23 13 25.4 +2.1**
VTS Vitosha 6.68 337 ⇓P **Pn 23 13 25.6 +0.4**
VTS Vitosha 6.68 337 ⇓P **Pn 23 13 25.6 +0.4**
VTS Vitosha 6.68 337 Pn **Pn 23 13 25.5 +0.4**
VTS Vitosha 6.68 337 *e*Pn **Pn 23 13 25.9 +0.7**
BOSS Bosilegrad 6.83 332 *e*Pn **Pn 23 13 28.3 +1.2**
VLO Vlora 6.95 307 P **Pn 23 13 30.7 +2.1**
VLO Vlora 6.95 307 Pn **Pn 23 13 30.7 +2.1**
RAZG Razgrad 7.04 358 ⇓P **Pn 23 13 30.1 +0.3**
TIR Tirane 7.23 314 P **Pn 23 13 33.9 +1.4**
TIR Tirane 7.23 314 Pn **Pn 23 13 33.9 +1.4**
BARS Barje 7.36 330 *e*Pn **Pn 23 13 35.3 +1.1**
SCTE Santa Cesarea 7.44 301 Pn **Pn 23 13 34.9 -0.4**
HMYD Mayadein 7.50 152 P **Pn 23 13 36.8 +0.6**
baz=154
HNAT Natroun 7.58 154 P **Pn 23 13 38.1 +0.8**
baz=156
HNAT S Sn 23 14 52.4 -9.5
baz=156
COPA Copaceanca 7.70 352 ⇑P **Pn 23 13 38.9 +0.3**
HNTI Hanita 7.70 114 Pn **Pn 23 13 38.2 -0.6**
HNTI Sn **Sn 23 15 01.9 -2.7**
BHL Bhannes 7.71 107 *e*P **Pn 23 13 36.5 -2.5**
DQRL Deir Qamar 7.72 109 *e*P **Pn 23 13 37.1 -2.1**
OFRI `Ofer 7.80 118 Pn **Pn 23 13 39.3 -0.9**
KOT Kottamia 7.81 146 P **Pn 23 13 40.5 +0.1**
baz=148
KOT S **Sn 23 15 03.5 -4.0**
baz=148
BLGI Bet Lehem HaGe 7.89 116 Pn **Pn 23 13 40.8 -0.5**
BLGI Sn **Sn 23 15 06.7 -2.4**
MMA0B Mount Meron ar 7.90 114 Pn **Pn 23 13 41.1 -0.5**
MMA0B Sn **Sn 23 15 06.4 -3.2**
MMAI Mount Meron Ar 7.90 114 P **Pn 23 13 41.3 -0.3**
comp=Z,72nm,0.3s,baz=312,slow=12,SNR=465
MMAI S **Sn 23 15 05.1 -4.5**
comp=Z,22nm,0.3s,baz=319,slow=27,SNR=8.8
HHAG Hagoal 7.92 144 P **Pn 23 13 42.3 +0.6**
baz=146
HHAG S **Sn 23 15 06.2 -3.7**
baz=146
HSAF As Saff 7.96 149 P **Pn 23 13 42.8 +0.4**
baz=150
GEM Giv'at Ha'Em 8.00 112 Pn **Pn 23 13 42.0 -0.9**
GEM Sn **Sn 23 15 09.6 -2.3**
RCY Rachaya 8.01 110 *e*P **Pn 23 13 42.0 -1.1**
TIRR Tirgusor 8.02 8 ⇓P **Pn 23 13 42.9 -0.1**
TIRR Tirgusor 8.02 8 ⇓P **Pn 23 13 42.9 -0.1**
TIRR Tirgusor 8.02 8 Pn **Pn 23 13 42.5 -0.4**
SLTI Sal'it 8.04 120 Pn **Pn 23 13 42.7 -0.7**
SLTI Sn **Sn 23 15 09.2 -3.7**
GLL Jalalah 8.06 148 P **Pn 23 13 43.9 +0.1**
baz=149
HUMR Humele 8.11 351 ⇓P **Pn 23 13 44.1 -0.2**
DRME Dracevica, Mon 8.16 316 *e*Pn **Pn 23 13 45.0 0.0**
MMLI Mount Malkishu 8.21 117 Pn **Pn 23 13 45.2 -0.4**
MMLI Sn **Sn 23 15 14.8 -2.1**
PDG Podgorica 8.29 318 ⇑P **Pn 23 13 46.6 +0.1**
PDG ⇓S **Sn 23 15 17.0 -1.7**
PDG Podgorica 8.29 318 *e*Pn **Pn 23 13 46.2 -0.4**
PDG Podgorica 8.29 318 Pn **Pn 23 13 46.7 +0.1**
PDG Podgorica 8.29 318 *e*Pn **Pn 23 13 46.8 +0.2**
TIP Timpagrande 8.37 291 ⇑P **Pn 23 13 46.7 -1.1**
TIP ⇑S **Sn 23 15 14.9 -5.8**
TIP Timpagrande 8.37 291 Pn 23 13 46.7 -1.1
AMAZ Amatzia 8.38 124 Pn **Pn 23 13 47.5 -0.4**
AMAZ Sn **Sn 23 15 18.4 -2.6**
HMDT Nahal Hemdat 8.38 118 Pn **Pn 23 13 47.8 -0.1**
HMDT Sn **Sn 23 15 18.6 -2.4**
TPGR Topolog 8.41 8 ⇑P **Pn 23 13 50.1 +1.8**
KZIT Kziot 8.45 129 Pn **Pn 23 13 48.1 -0.8**
KZIT Sn **Sn 23 15 18.2 -4.6**
SJES Sjenica 8.53 324 *e*Pn **Pn 23 13 51.0 +1.1**
YTIR Yattir 8.62 124 Pn **Pn 23 13 50.7 -0.5**
YTIR Sn **Sn 23 15 23.6 -3.3**
DSI Dead Sea 8.67 122 Pn **Pn 23 13 51.5 -0.3**
IVAS Ivanjica 8.69 326 *e*Pn **Pn 23 13 53.2 +1.2**
GRUS Gruza 8.70 330 *e*Pn Pn 23 13 57.5 +5.5
HCY Herceg Novi 8.72 315 *e*Pn **Pn 23 13 52.0 -0.4**
ZNM Zenema 8.77 143 S **Sn 23 15 27.5 -2.9**
baz=144
MTUR Matau 8.79 352 ⇑P **Pn 23 13 53.0 -0.4**
MTUR Matau 8.79 352 ⇑P **Pn 23 13 53.0 -0.4**
CEL Celeste 8.85 285 Pn **Pn 23 13 52.6 -1.5**
MATE Matera 8.91 301 ⇑P **Pn 23 13 53.6 -1.3**
MATE ⇑S **Sn 23 15 25.2 -8.4**
TREB Trebinje 8.98 316 *e*Pn **Pn 23 13 55.0 -0.9**
TREB Trebinje 8.98 316 *e*Pn **Pn 23 13 55.4 -0.5**
MLR Muntele Rosu 8.98 356 ⇑P **Pn 23 13 56.3 +0.3**
MLR Muntele Rosu 8.98 356 P **Pn 23 13 56.3 +0.3**
comp=Z,0.3nm,0.3s,baz=180,slow=12,SNR=22
MLR Muntele Rosu 8.98 356 P **Pn 23 13 56.5 +0.5**
MLR Muntele Rosu 8.98 356 Pn **Pn 23 13 56.5 +0.5**
ARR Arges 8.98 350 ⇑P **Pn 23 13 55.4 -0.5**
BRY Bratogost 9.00 318 *e*Pn **Pn 23 13 55.7 -0.5**
VOIR 9.00 352 ⇑P **Pn 23 13 55.9 -0.3**
VOIR 9.00 352 ⇑P **Pn 23 13 55.9 -0.3**
UPM Unac-Piva 9.01 320 *e*Pn **Pn 23 13 58.3 +1.8**
RUDO Rudo 9.08 324 *e*Pn **Pn 23 13 57.0 -0.3**
DIVS Divibare 9.17 328 *e*Pn **Pn 23 13 59.1 +0.6**
DIVS Divibare 9.17 328 Pn **Pn 23 13 59.3 +0.8**
DIVS Divibare 9.17 328 *e*Pn **Pn 23 13 59.9 +1.4**
ZFRI Zfri 9.19 128 Pn **Pn 23 13 57.5 -1.2**
ZFRI Sn **Sn 23 15 36.9 -3.5**
KRMI Paran Flat 9.21 132 Pn **Pn 23 13 58.0 -1.1**
KRMI Sn **Sn 23 15 37.6 -3.5**
PRNI Paran 9.21 130 Pn **Pn 23 13 58.4 -0.7**
PRNI Sn **Sn 23 15 36.9 -4.3**
BBLS Lazići 9.26 325 *e*Pn **Pn 23 13 58.8 -0.8**
BBLS Lazići 9.26 325 *e*Pn **Pn 23 14 00.8 +1.2**
PLOR Plostina 9.32 359 ⇑P **Pn 23 13 59.5 -0.9**
PLOR Plostina 9.32 359 ⇑P **Pn 23 13 59.5 -0.9**
COVR Voineasa-Covas 9.32 357 ⇑P **Pn 23 14 00.8 +0.3**
VRI Vrincioaia 9.33 360 ⇑P **Pn 23 14 01.4 +0.9**
VRI Vrincioaia 9.33 360 ⇑P **Pn 23 14 01.5 +0.9**
GZR Gura Zlata 9.37 342 ⇑P **Pn 23 14 00.6 -0.5**
GZR Gura Zlata 9.37 342 ⇑P **Pn 23 14 00.6 -0.5**
ASF Jabal al Asfar 9.41 115 P **Pn 23 14 02.1 +0.2**
comp=Z,7.2nm,0.3s,baz=312,slow=6.4,SNR=60
ASF S **Sn 23 15 43.2 -2.9**
comp=Z,0.3nm,0.3s,baz=329,slow=6.7,SNR=1.1
STON Ston 9.45 315 *e*Pn **Pn 23 14 00.1 -1.9**
STON Ston 9.45 315 *e*Pn **Pn 23 14 01.1 -0.9**
HRFI Mount Harif 9.46 131 Pn **Pn 23 14 01.7 -0.7**
HRFI Sn **Sn 23 15 43.7 -3.4**
DOPR Dopca 9.49 354 ⇑P **Pn 23 14 02.8 +0.1**
GHRR 9.54 3 ⇑P **Pn 23 14 03.4 +0.1**
MBRI Mt Berech 9.56 132 Pn **Pn 23 14 03.3 -0.4**
GRB Gharib 9.66 147 P **Pn 23 14 05.6 +0.5**
baz=148
EIL Elat 9.67 133 P **Pn 23 14 04.9 -0.3**
comp=Z,6.4nm,0.3s,baz=328,slow=15,SNR=74
EIL S **Sn 23 15 47.6 -4.5**
comp=Z,16nm,0.3s,baz=305,slow=19,SNR=12
EIL Elat 9.67 133 Pn **Pn 23 14 04.0 -1.2**
EIL Sn **Sn 23 15 48.2 -4.0**
VAE Valguarnera 9.95 279 P **Pn 23 14 09.7 +0.8**
comp=Z,2.2nm,0.3s,baz=176,slow=18,SNR=16
VAE S **Sn 23 15 52.6 -6.3**
comp=Z,9.1nm,0.3s,baz=224,slow=2.6,SNR=9.2
RAFF Raffo Rosso 9.98 278 Pn **Pn 23 14 07.8 -1.6**
HKAT Jabal Katrina 10.03 141 P **Pn 23 14 10.0 -0.2**
baz=142
HKAT S **Sn 23 15 54.5 -6.6**
baz=142
SGRT San Giovanni R 10.04 305 Pn **Pn 23 14 09.0 -1.1**
MILM Milestii Mici 10.49 8 ⇓P **Pn 23 14 17.7 +1.7**
MILM Milestii Mici 10.49 8 ⇓P **Pn 23 14 17.7 +1.7**
PAOL Paolisi 10.55 299 Pn **Pn 23 14 16.8 0.0**
MGRS Mrkonjic Grad 10.80 320 *e*Pn **Pn 23 14 19.0 -1.2**
HHRG Al Ghardaqah 10.91 146 P **Pn 23 14 24.0 +2.2**
baz=148
BLY Banja Luka 10.98 321 *e*Pn **Pn 23 14 21.4 -1.1**
BURAR Bucovina Array 11.14 354 ⇑P **Pn 23 14 26.2 +1.5**
BURAR Bucovina Array 11.14 354 ⇑P **Pn 23 14 26.2 +1.5**
BURAR Bucovina Array 11.14 354 Pn **Pn 23 14 25.9 +1.1**
KOVH Kovagotottos 11.57 328 P **Pn 23 14 32.7 +2.5**
SORM Soroca 11.66 5 ⇑P **Pn 23 14 33.1 +1.7**
SORM Soroca 11.66 5 ⇑P **Pn 23 14 33.1 +1.7**
AQU L'Aquila 11.87 303 *e*Pn **Pn 23 14 34.8 +0.5**
PTJ Puntijarka 12.41 322 P **Pn 23 14 44.3 +3.0**
PSZ Piszkesteto 12.47 338 ⇑P **Pn 23 14 43.5 +1.4**
PSZ Piszkesteto 12.47 338 ⇑P **Pn 23 14 43.5 +1.4**
PSZ Piszkesteto 12.47 338 P **P 23 14 48.5 +0.3**
PSZ Piszkesteto 12.47 338 PN **P 23 14 48.5 +0.3**
PSZ Piszkesteto 12.47 338 P **P 23 14 49.8 +1.6**
CRES Cresnjev 12.61 321 *e*Pn **Pn 23 14 43.5 -0.3**
MPLH Magyarpolny 12.67 330 PN **Pn 23 14 47.1 +2.6**
MPLH Magyarpolny 12.67 330 P **P 23 14 51.4 +1.2**
RIY Rijeka 12.79 317 *e*Pn **Pn 23 14 45.5 -0.6**
SRO2 Moca 12.83 334 *e*P **P 23 14 52.0 0.0**
SRO2 Moca 12.83 334 *e*P **P 23 14 52.0 0.0**
MURB Monte Urbino 12.85 306 Pn **Pn 23 14 47.5 +0.5**
SRO Srobarova 12.90 334 *e*P **P 23 14 53.9 +1.0**
SRO Srobarova 12.90 334 *e*P **P 23 14 53.9 +1.0**
CEY Cerknica 13.09 319 *e*Pn **Pn 23 14 50.9 +0.9**
LJU Ljubljana 13.23 320 *e*Pn **Pn 23 14 51.2 -0.6**
VYHS Vyhne 13.31 336 *e*P **P 23 14 58.0 +0.6**
VYHS Vyhne 13.31 336 *e*P **P 23 14 58.0 +0.6**
SOKA Soboth 13.41 323 *e*P **Pn 23 14 55.1 +1.0**
comp=Z,12nm,0.9s,SNR=10
SOP Sopron 13.48 329 P **P 23 14 57.1 -2.1**
SOP pmax pmax
comp=Z,6.0nm,1.1s
SOP Sopron 13.48 329 PN **P 23 14 57.3 -2.0**
SOP Sopron 13.48 329 P **P 23 14 60.0 +0.8**
KOLL Kolacno 13.53 336 *e*P **P 23 15 00.5 +0.7**
OBKA Obir 13.54 321 *e*P **Pn 23 14 57.5 +1.7**
comp=Z,12nm,0.8s,SNR=8.9
ARSA Arzberg 13.60 326 *e*P **P 23 15 00.1 -0.5**
comp=Z,8.2nm,1.1s
ZST Bratislava 13.67 332 *e*P **P 23 15 00.3 -1.1**
ZST Bratislava 13.67 332 *e*P **P 23 15 00.3 -1.1**
LANS Liptovska Anna 13.71 339 *e*P **P 23 15 03.5 +1.7**
LANS Liptovska Anna 13.71 339 *e*P **P 23 15 03.5 +1.7**
NIE Niedzica 13.73 342 *e*P **P 23 15 05.2 +3.1**
MODS Modra-Piesok 13.75 332 *e*P **P 23 15 02.0 -0.3**
MODS Modra-Piesok 13.75 332 *e*P **P 23 15 02.0 -0.3**
OSSC Osservatorio P 13.80 305 Pn **Pn 23 14 59.3 +0.2**
CONA Conrad Observa 13.96 328 *e*P **P 23 15 05.1 +0.4**
comp=Z,10.0nm,1.7s
VSL Villasalto 14.05 287 Pn **Pn 23 15 02.0 -0.2**
MYKA Terra Mystica 14.08 320 *e*P **P 23 15 05.9 -0.2**
comp=Z,8.8nm,0.6s
KEST Kesra 14.13 272 P **Pn 23 15 04.6 +1.2**
comp=Z,0.5nm,0.3s,baz=108,slow=3.2,SNR=10.0
KEST S **Sn 23 17 31.9 -7.8**
comp=Z,1.0nm,0.3s,baz=276,slow=22,SNR=12
KEST Kesra 14.13 272 P **P 23 15 05.1 -1.6**
KIV Kislovodsk 14.21 54 ⇑P **Pn 23 15 04.9 +0.5**
KIV Kislovodsk 14.21 54 ⇑*i*P **P 23 15 09.3 +1.7**
KIV pmax pmax
comp=Z,13nm,0.7s
KIV MLR MLR
comp=Z,31nm,16.0s
KIV Kislovodsk 14.21 54 P **P 23 15 09.0 +1.4**
KVAR Kislovodsk Arr 14.22 54 P **Pn 23 15 05.9 +1.4**
baz=235,slow=12,SNR=3.6
KBZ Khabaz 14.26 55 P **P 23 15 07.1 -0.8**
comp=Z,0.7nm,0.3s,baz=249,slow=7.0,SNR=32
KBZ Khabaz 14.26 55 *i* P **Pn 23 15 06.0 +1.2**
AKASG Malin Array Be 14.28 6 P **P 23 15 07.5 -0.6**
comp=Z,6.0nm,0.3s,baz=196,slow=11,SNR=65
AKASG S **Sn 23 17 47.4 +4.4**
baz=188,slow=22,SNR=12
AKASG Malin Array Be 14.28 6*c e*P **Pn 23 15 05.3 +0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG Malin Array Be 14.28 6 Pn **Pn 23 15 04.5 -0.6**
AKBB Malin Array Si 14.28 6*c e*P **P 23 15 07.2 -0.9**
AKBB Malin Array Si 14.28 6 Pn **Pn 23 15 05.8 +0.7**
STAL STALIGIAL 14.34 317 Pn **Pn 23 15 06.1 +0.2**
ZCCA Zocca 14.34 308 **P 23 15 07.8 -1.1**
ZOU Zoufplan 14.39 318 Pn **Pn 23 15 07.2 +0.5**
TEOL Teolo 14.42 312 **Pn 23 15 07.4 +0.5**
PYA1 Pyatigorsk 14.53 54 *i* P **P 23 15 09.7 -1.3**
KBA Koelnbreinsper 14.53 321 *e*P **P 23 15 10.3 -0.9**
comp=Z,29nm,0.8s,SNR=12
KBA Koelnbreinsper 14.53 321 P **P 23 15 10.9 -0.2**
OJC Ojcow 14.59 342 *e*P **P 23 15 13.4 +1.8**
OJC Ojcow 14.59 342 P **P 23 15 13.0 +1.4**
OJC Ojcow 14.59 342 P **P 23 15 13.0 +1.4**
MOA Molln 14.62 325 *e*P **P 23 15 12.0 +0.1**
comp=Z,3.8nm,0.6s
VLC Villacollemand 14.64 306 Pn **Pn 23 15 09.2 -0.5**
KRUC Moravsky 14.65 332 P **P 23 15 12.6 +0.3**
KRUC pmax pmax
comp=Z,22nm,0.8s
KRUC Moravsky 14.65 332 *e*P **P 23 15 12.4 +0.1**
ABTA Abfaltersbach 14.75 318 *e*P **P 23 15 12.4 -1.1**
comp=Z,21nm,0.7s,SNR=20
VRAC Vranov 14.78 333 ⇑P **P 23 15 12.6 -1.1**
VRAC Vranov 14.78 333 P **P 23 15 13.6 -0.1**
comp=Z,0.8nm,0.3s,baz=138,slow=11,SNR=14
VRAC Vranov 14.78 333 ⇑P **P 23 15 12.6 -1.1**
VRAC Vranov 14.78 333 *e*P **P 23 15 14.3 +0.6**
CTI Castel Tesino 14.81 315 P **Pn 23 15 11.5 -0.4**
CTI Castel Tesino 14.81 315 Pn **Pn 23 15 11.5 -0.4**
MORC Moravsky Berou 14.85 336 ⇓P **P 23 15 13.5 -1.0**
MORC Moravsky Berou 14.85 336 ⇓P **P 23 15 13.5 -1.0**
MORC Moravsky Berou 14.85 336 *e*P **P 23 15 15.4 +0.9**
MORC Moravsky Berou 14.85 336 P **P 23 15 15.3 +0.9**
TREC Trest 15.19 331 *e*P **P 23 15 18.9 +0.6**
TREC Trest 15.19 331 *e*P **P 23 15 18.9 +0.6**
MSSA Maissana 15.27 306 P **P 23 15 18.4 -0.9**
CKRC Cesky Krumlov 15.31 327 *e*P **P 23 15 19.0 -0.6**
KRLC Kraliky 15.36 335 P **P 23 15 21.9 +1.7**
KRLC pmax pmax
comp=Z,6.0nm,0.4s
WTTA Wattenberg 15.54 318 *e*P **P 23 15 23.2 +0.8**
comp=Z,17nm,0.6s
GEC2 GERESS Array S 15.60 326 P **P 23 15 23.1 +0.3**
GERES GERESS Array B 15.60 326 P **P 23 15 22.9 +0.1**
comp=Z,0.4nm,0.3s,baz=138,slow=12,SNR=40
GERES GERESS Array B 15.60 326 P **P 23 15 23.0 +0.1**
GERES GERESS Array B 15.60 326 P **P 23 15 22.4 -0.5**
WATA Walderalm 15.62 318 *e*P **P 23 15 24.1 +1.0**
comp=Z,21nm,0.8s,SNR=6.9
SQTA Sankt Quirin 15.75 318 *i* P **P 23 15 24.9 +0.4**
comp=Z,9.1nm,0.5s
DPC Dobruska-Polom 15.75 335 *e*P **P 23 15 24.7 +0.2**
DPC Dobruska-Polom 15.75 335 *e*P **P 23 15 24.7 +0.2**
KHC Kasperske Hory 15.87 327 *e*P **P 23 15 25.4 -0.4**
KHC Kasperske Hory 15.87 327 *e*P **P 23 15 25.4 -0.4**
KHC Kasperske Hory 15.87 327 P **P 23 15 25.7 0.0**
KHC IAmb IAmb 23 15 28.5
comp=Z,9.7nm,0.8s
MOTA Moosalm 15.88 318 *i* P **P 23 15 26.9 +0.9**
comp=Z,16nm,0.7s,SNR=5.1
FETA Feichten 15.89 316 *e*P **P 23 15 27.1 +0.8**
comp=Z,46nm,0.7s,SNR=18
CHVC Chvalec 16.04 335 *e*P **P 23 15 29.5 +1.8**
PRU Pruhonice 16.12 330 *e*P **P 23 15 28.5 0.0**
PRU Pruhonice 16.12 330 *e*P **P 23 15 28.5 0.0**
RETA Reutte 16.15 318 *i* P **Pn 23 15 28.6 +0.2**
comp=Z,12nm,0.6s
KSP Ksiaz 16.18 336 *e*P **P 23 15 30.3 +1.1**
KSP Ksiaz 16.18 336 P **P 23 15 30.0 +0.9**
KSP pmax pmax
comp=Z,13nm,1.2s
WET Wettzell 16.19 326 P **P 23 15 29.8 +0.5**
WET pmax pmax
comp=Z,17nm,0.8s
DAVOX Davos/Dischmat 16.24 314 P **P 23 15 31.4 +1.3**
baz=137,slow=16
TUE Stuetta 16.39 313 P **P 23 15 33.1 +1.4**
TUE IAmb IAmb 23 15 38.3
comp=Z,24nm,1.1s
SBF Sospel 16.49 302 *e*P **Pn 23 15 31.6 -0.9**
SBF pmax pmax
comp=Z,31nm,0.7s
DAVA Damuels 16.52 316 *i* P **P 23 15 33.8 +0.7**
comp=Z,18nm,0.5s,SNR=5.9
PVCC Panska Ves 16.54 332 *e*P **P 23 15 33.3 +0.2**
PVCC Panska Ves 16.54 332 *e*P **P 23 15 33.3 +0.2**
LMR La Mourre 16.96 300 *e*P **P 23 15 36.7 -1.1**
LMR pmax pmax
comp=Z,57nm,1.6s
VORD Divnogorie 16.99 28 *e*P **P 23 15 38.0 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 17.15 27 *e*P **P 23 15 39.8 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.5s
NKC Novy Kostel 17.18 327 *e*P **Pn 23 15 41.0 +0.2**
NKC Novy Kostel 17.18 327 *e*P **Pn 23 15 41.0 +0.2**
MBDF Montbardon 17.24 305 *e*P **P 23 15 40.6 -0.4**
MBDF pmax pmax
comp=Z,31nm,0.7s
GRA1 Grafenberg Arr 17.34 324 P **P 23 15 41.8 -0.2**
GRA1 IAmb IAmb 23 15 55.2
comp=Z,10nm,1.0s
GRF Grafenberg Arr 17.34 324 P **P 23 15 41.8 -0.2**
GRF pmax pmax
comp=Z,10.0nm,1.0s
GRFO Grafenberg 17.34 324 P **P 23 15 41.8 -0.2**
GRFO pmax pmax
comp=Z,12nm,1.2s
GRFO Grafenberg 17.34 324 P **P 23 15 41.8 -0.2**
GRFO IAmb IAmb 23 15 55.2
comp=Z,12nm,1.2s
BNI Bardonecchia 17.42 305 P **Pn 23 15 43.9 +0.1**
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 17.42 305 P **Pn 23 15 43.9 +0.1**
LPG La Plagne 17.55 307 *e*P **Pn 23 15 45.5 0.0**
LPG pmax pmax
comp=Z,12nm,0.5s
LPL La Plagne 17.57 307 *e*P **P 23 15 44.9 +0.2**
LPL pmax pmax
comp=Z,19nm,0.7s
SLE Schleitheim 17.57 315 P **P 23 15 44.6 +0.1**
SLE pmax pmax
comp=Z,43nm,0.7s
SENIN Lac Senin/Sane 17.57 310 P **Pn 23 15 45.2 -0.5**
CLL Collm 17.76 331 *e*P **P 23 15 47.0 +0.5**
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 17.76 331 *e*P **P 23 15 47.0 +0.5**
comp=Z,9.0nm,0.7s
CLL *ex* x 23 15 49.0
CLL *ex* x 23 15 59.0
CLL Collm 17.76 331 P **P 23 15 46.6 +0.1**
CLL IAmb IAmb 23 15 47.7
comp=Z,8.6nm,0.7s
MOX Moxa 17.84 327 P **Pn 23 15 49.1 +0.4**
ORIF Oris-en-Rattie 17.90 304 *e*P **P 23 15 47.9 -0.3**
ORIF pmax pmax
comp=Z,15nm,0.9s
BFO Black Forest 17.97 317 P **Pn 23 15 49.7 -0.6**
BFO pmax pmax
comp=Z,17nm,0.8s
BFO Black Forest 17.97 317 P **Pn 23 15 49.7 -0.6**
BFO IAmb IAmb 23 15 53.2
comp=Z,17nm,0.8s
MNK Minsk 18.00 2 *i* P **P 23 15 47.4 -1.7**
MNK *i* S **S 23 19 06.6 -1.5**
MNK pmax pmax
comp=Z,17nm,0.9s
MNK MLR MLR
comp=E,9.0nm,17.0s
MNK MLR MLR
comp=N,59nm,17.0s
MNK Minsk 18.00 2 *i* P **P 23 15 47.4 -1.7**
MNK *i* P **P 23 15 47.4 -1.7**
MNK *i* P **P 23 15 47.4 -1.7**
comp=Z,17nm,0.9s,baz=182
MNK *i* pP **pP 23 16 13.3 -0.2**
MNK *i* S **S 23 19 06.7 -1.5**
MNK *i* LR LR 23 22 23.6
MNK *i* LRM MLR 23 24 05.2
comp=E,9.0nm,16.8s
MNK *i* LRM MLR 23 24 05.2
comp=N,59nm,16.6s
MNK *i* LRM MLR 23 24 05.2
comp=Z,170nm,30.9s
GKP Gorka Klasztor 18.03 341 *e*P **Pn 23 15 50.6 -0.3**
GKP Gorka Klasztor 18.03 341 P **Pn 23 15 50.8 -0.1**
GKP pmax pmax
comp=Z,134nm,0.6s
GKP Gorka Klasztor 18.03 341 *e*P **Pn 23 15 50.9 0.0**
VRH Novokhopyorsk 18.14 31 *e*P **P 23 15 50.5 -0.2**
VRH pmax pmax
comp=Z,30nm,0.8s
LPSR Galich'ya Gora 18.21 24 *e*P **P 23 15 50.4 -1.0**
LPSR pmax pmax
comp=Z,70nm,1.5s
CABF La Chapelle 18.43 310 *e*P **P 23 15 53.6 -0.4**
CABF pmax pmax
comp=Z,34nm,0.7s
HINF Hinteralfeld 18.54 314 *e*P **P 23 15 55.1 0.0**
HINF pmax pmax
comp=Z,7.0nm,0.5s
ECH Echery 18.57 315 P **Pn 23 15 56.7 -0.6**
ECH pmax pmax
comp=Z,11nm,1.0s
ECH Echery 18.57 315 P **Pn 23 15 56.7 -0.6**
ECH IAmb IAmb 23 15 58.5
comp=Z,11nm,1.0s
CDF Champ du Feu 18.61 316 *e*P **Pn 23 15 56.9 -0.9**
CDF pmax pmax
comp=Z,18nm,0.9s
VIVF Saint-Julien-l 18.68 303 *e*P **P 23 15 56.3 -0.4**
VIVF pmax pmax
comp=Z,15nm,0.7s
IIGN Ignalina 18.83 359 *e*P **P 23 15 57.9 -0.3**
SSB Saint Sauveur 18.91 304 P **P 23 15 59.0 -0.2**
SSB pmax pmax
comp=Z,6.0nm,1.0s
SSB Saint Sauveur 18.91 304 P **P 23 15 59.0 -0.2**
HAU Haudompre 18.93 314 *e*P **P 23 15 59.9 +0.6**
HAU pmax pmax
comp=Z,20nm,0.8s
TNS Taunus Mts 19.04 322 P **P 23 16 01.0 +0.4**
TNS pmax pmax

comp=Z,20nm,0.7s
ISAL Salakas 19.06 359 *e*P **P 23 16 00.4 -0.2**
OBN Obninsk 19.77 17 P **P 23 16 08.2 -0.1**
baz=180,slow=19,SNR=4.8
OBN Obninsk 19.77 17*c i*P **Pn 23 16 10.4 -0.8**
OBN S **S 23 19 42.0 -1.1**
OBN pmax pmax
comp=Z,21nm,1.0s
OBN MLR MLR
comp=Z,56nm,16.0s
WLF Walferdange 19.91 318 P **P 23 16 10.3 +0.4**
WLF pmax pmax
comp=Z,17nm,1.0s
WLF Walferdange 19.91 318 P **P 23 16 10.3 +0.4**
WLF IAmb IAmb 23 16 16.3
comp=Z,17nm,1.0s
LOR Lormes 20.09 309 *e*P **P 23 16 11.7 -0.2**
LOR pmax pmax
comp=Z,74nm,1.8s
AVF Avril sur Loir 20.23 308 *e*P **P 23 16 13.3 0.0**
AVF pmax pmax
comp=Z,11nm,0.6s
BSD Bornholm Skovb 20.30 340 *i*P **P 23 16 11.3 -2.7**
BSD IAmb IAmb 23 16 13.4
comp=Z,10nm,0.9s
BSD Bornholm Skovb 20.30 340 *e*P **P 23 16 14.1 +0.1**
BHOU Houvegnez 20.37 319 P Pn 23 16 17.7 -0.8
comp=Z,11nm,0.8s
CAF Calviac 20.48 302 *e*P **P 23 16 16.4 +0.3**
CAF pmax pmax
comp=Z,35nm,1.4s
MEM Membach 20.52 320 P **P 23 16 16.6 +0.2**
RCHB Rochefort 20.68 318 P **P 23 16 18.6 +0.5**
comp=Z,5.2nm,0.6s
BSTI Sart Tilman 20.73 319 P Pn 23 16 21.4 -1.3
BCLA Clavier 20.78 319 P **P 23 16 19.2 0.0**
comp=Z,9.4nm,0.8s
BGES Gesves 20.88 318 P **P 23 16 22.3 +2.0**
comp=Z,10nm,0.7s
RJF Les Rejaudoux 20.95 303 *e*P **P 23 16 22.1 +1.0**
RJF pmax pmax
comp=Z,18nm,1.0s
DOU Dourbes 20.99 317 P **P 23 16 21.0 -0.5**
BMRD Maredsous 21.00 318 P **P 23 16 23.5 +1.9**
BLEU Blekinge 21.13 343 *i*P **P 23 16 20.1 -2.8**
DEL Delary 21.77 340 *i*P **P 23 16 27.0 -2.7**
ETSF Etsaut 21.93 295 *e*P **P 23 16 32.0 +0.4**
ETSF pmax pmax
comp=Z,177nm,2.4s
FLN La Foliniere 23.36 310 *e*P **P 23 16 44.2 -0.9**
FLN pmax pmax
comp=Z,10.0nm,0.4s
GRR Gorron 23.46 309 *e*P **P 23 16 45.1 -1.0**
GRR pmax pmax
comp=Z,17nm,0.6s
ESBB Sonseca Array 24.35 287 P **P 23 16 55.0 +0.7**
ESBB IAmb IAmb 23 17 01.9
comp=Z,5.5nm,0.8s
ESDC Sonseca Array 24.35 287 P **P 23 16 55.2 +0.9**
comp=Z,3.4nm,0.6s,baz=82,slow=9.6,SNR=42
ESDC Sonseca Array 24.35 287 P **P 23 16 55.1 +0.8**
PAB San Pablo 24.65 287 P **P 23 16 58.0 +0.9**
PAB pmax pmax
comp=Z,8.0nm,1.1s
PAB San Pablo 24.65 287 P **P 23 16 58.0 +0.9**
PAB IAmb IAmb 23 16 59.5
comp=Z,8.3nm,1.1s
QUIF Quistinic 24.78 307 *e*P **P 23 16 57.8 -0.2**
QUIF pmax pmax
comp=Z,59nm,1.2s
GEYT Alibeck 24.93 77 P **P 23 17 00.2 +0.6**
comp=Z,1.3nm,0.5s,baz=311,slow=5.3,SNR=1.7
FINES FINESS Array B 24.95 359 P **P 23 16 59.1 -0.3**
comp=Z,2.3nm,0.4s,baz=164,slow=11,SNR=13
HFS Hagfors 25.08 344 P **P 23 17 00.2 -0.5**
comp=Z,3.3nm,0.4s,baz=149,slow=12,SNR=34
NORES NORESS Array B 26.11 343 P **P 23 17 11.4 +1.5**
AKTO Aktyubinsk 26.35 48 P **P 23 17 12.2 0.0**
comp=Z,1.2nm,0.6s,baz=253,slow=9.4,SNR=4.8
NB2 NORSAR Subarra 26.45 343 P **P 23 17 11.9 -1.2**
comp=Z,1.1nm,0.7s,baz=149,slow=9.3
NOA NORSAR Array B 26.45 343 P **P 23 17 14.0 +0.9**
comp=Z,0.5nm,0.5s,baz=158,slow=10,SNR=7.7
NOA NORSAR Array B 26.45 343 P **P 23 17 14.0 +0.9**
ABKAR Akbulak array 27.18 52 P **P 23 17 18.7 -1.0**
ABKAR Akbulak array 27.18 52 P **P 23 17 18.6 -1.1**
ABKAR IAmb IAmb 23 17 42.2
comp=Z,1.2nm,0.8s
EKA Eskdalemuir Ar 27.73 322 P **P 23 17 23.2 -1.3**
comp=Z,1.7nm,0.5s,baz=116,slow=10,SNR=11
ESK Eskdalemuir 27.75 322 P **P 23 17 27.1 +2.5**
ESK pmax pmax
comp=Z,17nm,1.1s
ESK Eskdalemuir 27.75 322 P **P 23 17 27.1 +2.5**
ARU Arti 29.17 37 P **P 23 17 36.7 -0.5**
comp=Z,1.2nm,0.3s,baz=236,slow=7.8,SNR=14
ARU Arti 29.17 37 P **P 23 17 36.9 -0.3**
ARU IAmb IAmb 23 17 37.4
comp=Z,3.1nm,0.6s
TORD Torodi Ar. Bea 32.38 230 P **P 23 18 06.1 +0.2**
comp=Z,1.7nm,0.3s,baz=33,slow=8.3,SNR=74
ARCES ARCESS Array B 33.08 359 P **P 23 18 11.2 -0.2**
comp=Z,1.0nm,0.6s,baz=177,slow=8.0,SNR=6.8
CHGR Chuyangaron 33.42 73 P **P 23 18 15.0 +0.1**
CHGR pmax pmax
comp=Z,8.0nm,0.6s
CHGR Chuyangaron 33.42 73 P **P 23 18 15.9 +1.1**
BRVK Borovoye 34.39 47*ce*P **P 23 18 22.8 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,2.8s
AAK Ala-Archa 36.88 65 P **P 23 18 46.2 +1.7**
AAK pmax pmax
comp=Z,1.0nm,1.1s
AAK Ala-Archa 36.88 65 P **P 23 18 46.2 +1.7**
KURK Kurchatov 39.30 52*ce*P **P 23 19 04.3 -0.1**
KURK pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 41.92 58 P **P 23 19 26.5 +0.4**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 41.92 58 P **P 23 19 26.5 +0.4**
MK31 IAmb IAmb 23 19 27.0
comp=Z,2.3nm,0.5s
MKAR Makanchi Array 41.92 58 P **P 23 19 26.8 +0.7**
comp=Z,2.0nm,0.4s,baz=267,slow=8.6,SNR=78
MKAR ScP **ScP 23 24 54.9 -1.3**
comp=Z,0.4nm,0.5s,baz=267,slow=3.0,SNR=6.0
MKAR Makanchi Array 41.92 58 P **P 23 19 26.6 +0.5**
SPITS Spitsbergen Ar 42.00 357 P **P 23 19 25.9 -0.4**
comp=Z,7.0nm,0.9s,baz=154,slow=6.5,SNR=6.1
ZAA0 Zalesovo Array 43.10 47 P **P 23 19 35.1 -0.3**
ZALV Zalesovo Beam 43.10 47 P **P 23 19 35.3 -0.1**
comp=Z,1.8nm,0.3s,baz=270,slow=8.8,SNR=14
ZALV Zalesovo Beam 43.10 47 P **P 23 19 35.1 -0.4**
DGZ Jazzator, Alta 45.00 53 *i*P **P 23 19 51.0 +0.2**
DGZ pmax pmax
comp=Z,1.0nm,0.3s
NRIK Noril'sk 46.08 25 P **P 23 19 59.5 +0.7**
comp=Z,2.3nm,0.4s,baz=274,slow=3.6,SNR=5.6
NRIK Noril'sk 46.08 25 *i*P **P 23 19 59.4 +0.6**
NRIK pmax pmax
comp=Z,3.0nm,0.5s
NRIK Noril'sk 46.08 25 P **P 23 19 59.3 +0.5**
NRIK IAmb IAmb 23 20 00.3
comp=Z,3.1nm,0.5s
WMQ Urumqi 46.18 61 *e*P **P 23 20 01.3 +1.2**
SONM Songino Array 57.60 52 P **P 23 21 25.0 +0.4**
comp=Z,0.3nm,0.4s,baz=292,slow=8.9,SNR=1.8
TIXI Tiksi 59.42 21 P **P 23 21 36.4 -0.3**
comp=Z,0.9nm,0.3s,baz=302,slow=4.4,SNR=5.7
TIXI Tiksi 59.42 21 P **P 23 21 36.3 -0.4**
SCHQ Schefferville 63.01 320 P **P 23 22 00.3 -0.8**
comp=Z,2.6nm,0.4s,baz=70,slow=4.6,SNR=17
SCHQ Schefferville 63.01 320 P **P 23 21 59.8 -1.3**
PZH PanZhiHua 63.23 76 P **P 23 22 07.6 +4.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,5.7s
HHC Hu-ho-hao-te 63.78 57 *e*P **P 23 22 08.1 +1.5**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.0s
BATG Bathurst New B 66.00 312 P **P 23 22 21.0 +0.3**

E62A Clayton Lake 68.39 313 P **P 23 22 36.4 +0.6**
E62A IAmb IAmb 23 22 56.5
comp=Z,6.5nm,1.1s
VLDQ Val d'Or 72.12 317 P **P 23 22 59.5 +1.1**
VLDQ IAmb IAmb 23 23 27.0
comp=Z,6.5nm,1.1s
YKA Yellowknife Ar 76.55 343 P **P 23 23 22.5 -1.2**
comp=Z,0.1nm,0.4s,baz=33,slow=5.1,SNR=3.0
M55A Ridgway 76.79 312 P **P 23 23 25.9 +0.3**
M55A IAmb IAmb 23 23 27.1
comp=Z,6.0nm,1.0s

PRU 05 23:17:36.4±0.0, 50°.26N×18°.99E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**1.05**	**243**	*e*PG		Pg	23 17 56.6	+0.1
MORC				*e*SG		Sg	23 18 09.9	-0.2
DPC	**Dobruska-Polom**	**1.71**	**274**	*e*PG		Pn	23 18 08.0	+0.5
DPC				*e*SG		Sg	23 18 31.3	-0.1
CHVC	**Chvalec**	**1.91**	**281**	*e*SG		Sg	23 18 37.7	+0.1

*PRU **05** 23:21:09.6±0.0, 51°.44N×16°.16E, h0km*
*VIE **05** 23:21:10.0±1.0, 51°.37N×16°.45E, h0km, mb2.1/1, ml2.6/1,*
Error ellipse: s-maj=10.7km s-min=5.6km az=99.0 50 km NW of Wroclaw Suspected Mining induced.
ISC 05 23:21:09.1±1.2, 51°.44N±0°.05×16°.16E±0°.03, h0km, n22, σ0°76/42, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**172**	*e*Pg		**Pg**	**23 21 20.9**	**+0.3**
KSP				*e*Sg		**Sg**	**23 21 29.4**	**+1.1**
CHVC	**Chvalec**	**0.85**	**184**	*e*PG		**Pg**	**23 21 25.6**	**+0.2**
CHVC				*e*SG		**Sb**	**23 21 37.9**	**-0.8**
UPC	**Upice**	**0.93**	**186**	*e*PG		**Pg**	**23 21 27.2**	**+0.2**
UPC				*e*SG		**Sb**	**23 21 40.4**	**-0.7**
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*PG		**Pg**	**23 21 29.8**	**-0.2**
DPC				*e*SG		**Sg**	**23 21 44.3**	**+0.2**
PVCC	**Panska Ves**	**1.35**	**229**	*e*PG		**Pg**	**23 21 35.1**	**+0.1**
PVCC				*e*SG		**Sn**	**23 21 54.2**	**+0.3**
KRLC	**Kraliky**	**1.42**	**164**	*e*PG		**Pg**	**23 21 35.6**	**-0.6**
KRLC				*e*SG		**Sb**	**23 21 54.8**	**-0.3**
BRG	**Berggiesshubel**	**1.50**	**249**	Pg		**Pn**	**23 21 37.5**	**+0.2**
BRG				Sg		**Sn**	**23 21 58.0**	**+0.4**
BRG				Amp			23 21 59.5	
PRU	**Pruhonice**	**1.78**	**216**	*e*PG		**Pn**	**23 21 41.7**	**+0.7**
PRU				*e*SG		**Sg**	**23 22 05.7**	**-0.4**
MORC	**Moravsky Berou**	**1.88**	**152**	*e*PN		**Pn**	**23 21 41.0**	**-1.5**
MORC				*e*SG		**Sb**	**23 22 07.7**	**-0.7**
CLL	**Collm**	**1.98**	**268**	*e*Pg		**Pb**	**23 21 46.0**	**0.0**
CLL				*e*Sg		**Sg**	**23 22 13.0**	**+0.3**
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*SG		**Sb**	**23 22 12.7**	**-0.2**
VRAC	**Vranov**	**2.15**	**172**	*e*SG		**Sg**	**23 22 17.5**	**-0.5**
TREC	**Trest**	**2.19**	**192**	*e*PG		**Pb**	**23 21 49.1**	**-0.4**
TREC				*e*SG		**Sg**	**23 22 18.7**	**-0.6**
KRUC	**Moravsky**	**2.38**	**176**	*e*SG		**Sg**	**23 22 25.1**	**-0.4**
OJC	**Ojcow**	**2.61**	**116**	*e*Pg		**Pg**	**23 21 58.5**	**-0.5**
OJC				*e*Sg		**Sg**	**23 22 33.2**	**+0.3**
NKC	**Novy Kostel**	**2.64**	**244**	*e*PN		**Pn**	**23 21 52.6**	**-0.4**
NKC				*e*SG		**Sg**	**23 22 33.5**	**-0.4**
KHC	**Kasperske Hory**	**2.84**	**217**	*e*PN		**Pn**	**23 21 55.6**	**-0.1**
KHC				*e*PG		**Pb**	**23 22 00.9**	**+0.2**
KHC				*e*SN		**Sn**	**23 22 30.5**	**-0.1**
KHC				*e*SG		**Sg**	**23 22 40.2**	**-0.1**
CKRC	**Cesky Krumlov**	**2.88**	**205**	*e*PN		**Pn**	**23 21 56.7**	**+0.5**
CKRC				*e*PG		**Pb**	**23 22 02.0**	**+0.7**
CKRC				*e*SG		**Sg**	**23 22 40.4**	**-1.0**
LANS	**Liptovska Anna**	**3.12**	**136**	*e*SG		**Sg**	**23 22 47.8**	**-1.5**
MODS	**Modra-Piesok**	**3.15**	**166**	*e*SG		**Sg**	**23 22 51.7**	**+1.5**
NIE	**Niedzica**	**3.33**	**126**	*e*Pg		**Pg**	**23 22 13.5**	**+0.6**
NIE				*e*Sg		**Sg**	**23 22 58.1**	**+2.1**
CONA	**Conrad Observa**	**3.52**	**183**	*i*Pn		**Pn**	**23 22 05.7**	**+0.6**
CONA				*e*Sg		**Sg**	**23 23 03.6**	**+1.6**

*NNC **05** 23:36:20.7±8.3, 36°.79N×71°.02E, h0km, mb4.1, mpv4.0,*
Error ellipse: s-maj=76.3km s-min=64.0km az=126.0
ISC 05 23:36:21.6±3.7, 36°.5N±0°.2×71°.0E±0°.2, h100km, n10, σ0°59/12, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=48	**5.98**	**20**	P		**Pn**	**23 37 48.1**	**+0.2**
UCH	**Uchtor** SNR=7.4	**6.32**	**24**	P		**Pn**	**23 37 52.8**	**+0.3**
EKS2	**Erkin-Say** SNR=15	**6.50**	**18**	P		**Pn**	**23 37 55.2**	**+0.5**
KK02	**Karatay Array** 6.2nm,0.5s	**6.58**	**357**	⇑P		**Pn**	**23 37 56.0**	**+0.2**
KK02				⇓S		**Sn**	**23 39 09.9**	**+0.6**
AAK	**Ala-Archa** SNR=7.8 3.7nm,0.6s	**6.68**	**23**	P		**Pn**	**23 37 57.7**	**+0.5**
AAK	**Ala-Archa** 4.6nm,0.4s	**6.68**	**23**	⇓P		**Pn**	**23 37 57.5**	**+0.3**
AAK				⇑S		**Sn**	**23 39 10.8**	**-0.9**
CHMS	**Chumysh** SNR=6.5 6.9nm,0.6s	**7.08**	**23**	P		**Pn**	**23 38 03.0**	**+0.5**
USP	**Ospenovka** SNR=8.9	**7.25**	**21**	P		**Pn**	**23 38 05.3**	**+0.5**
AB31	**Akbulak array** 0.6nm,0.3s,baz=142,slow=13,SNR=69	**15.06**	**331**	P		**Pn**	**23 39 48.2**	**-0.7**
AKTO	**Aktyubinsk** 2.3nm,0.8s	**16.76**	**330**	⇓P		**Pn**	**23 40 10.3**	**+0.2**

*IDC **06** 00:00:32.2±0.7, 84°.50N×107°.47E, h0km, mb3.8/16,*
mb1 4.0/18, mb1mx3.7/53, mbtmp3.8/18, ML4.2/2, MS3.3/8,
Ms1 3.3/8, ms1mx2.8/91, Error ellipse: s-maj=22.1km s-min=13.5km az=145.0
*NEIC **06** 00:00:34.4±2.3, 84°.3N±0°.1×10°.8E±°, h10km±1km,*
mb4.4/15, Error ellipse: s-maj=24.5km s-min=17.6km az=155.0
*IEPN **06** 00:00:37.0, 84°.15N×105°.75E, h10km*
ISC 06 00:00:34.0±0.5, 84°.48N±0°.08×107°.00E±0°.07, h10km, n50, σ1°30/46, mb4.0/21, MS3.3/7, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-** 16nm,1.7s	**7.99**	**276**	*e*P		**Pn**	**00 02 27.4**	**-2.4**
ZFI2				*e*S		Sn	00 03 51.3	-8.8
ZFI	**Zemlya Franca-** 18nm,2.0s	**7.99**	**276**	*e*P		**Pn**	**00 02 27.9**	**-2.0**
ZFI				*e*S		Sn	00 03 51.4	-8.7
KBS	**Kingsbay**	**12.87**	**300**	P		**Pn**	**00 03 35.4**	**-1.2**
SPA0	**Spitsbergen Ar**	**13.17**	**295**	P		Pn	00 03 36.1	-4.6
SPITS	**Spitsbergen Ar** baz=30,slow=12,SNR=5.9	**13.17**	**295**	Pn		**Pn**	**00 03 41.1**	**+0.4**
SPB2	**Spitsbergen Ar**	**13.18**	**295**	Pn		**Pn**	**00 03 43.8**	**+3.0**
TIXI	**Tiksi** 0.1nm,0.3s,baz=342,slow=9.9,SNR=5.3	**13.46**	**150**	Pn		**Pn**	**00 03 45.1**	**+0.5**
EUNU	**Eureka**	**15.47**	**9**	Pn		**Pn**	**00 04 09.8**	**-2.1**
NRIK	**Noril'sk** comp=Z,79nm,18.8s,baz=9.0,slow=39	**15.65**	**206**	LR		LR	00 10 48.3	
ARCES	**ARCESS Array B** 3.3nm,0.8s,baz=21,slow=11,SNR=3.8	**20.49**	**276**	P		**P**	**00 05 13.1**	**+1.7**
ARCES	**ARCESS Array B** comp=Z,33nm,1.4s	**20.49**	**276**	P		**P**	**00 05 12.7**	**+1.2**
ARCES				IAmb		IAmb	00 05 23.3	
RES	**Resolute Bay** comp=Z,0.7nm,0.8s,baz=5.7,slow=10,SNR=2.4	**20.67**	**16**	P		**P**	**00 05 13.6**	**+0.2**
RES				LR		LR	00 12 21.2	
RES	**Resolute Bay** comp=Z,45nm,20.0s,baz=288,slow=34	**20.67**	**16**	P		**P**	**00 05 13.7**	**+0.3**

A36M Sachs Harbour 21.96 41 P **P 00 05 26.8 -0.5**
A36M IAmb IAmb 00 05 46.4
comp=Z,14nm,0.8s
LSH Leshukonskoye 23.08 253 *e*P **P 00 05 38.7 -0.5**
comp=Z,73nm,3.9s
C36M Paulatuk 24.64 41 P **P 00 05 54.0 0.0**
C36M IAmb IAmb 00 06 04.9
comp=Z,9.3nm,0.9s
BMAR Burnt Mountain 25.00 60 P **P 00 05 59.2 +1.9**
INK Inuvik 25.01 50 P **P 00 05 56.4 -1.0**
comp=Z,2.3nm,1.0s,baz=352,slow=13,SNR=4.0
INK LR LR 00 18 12.4
comp=Z,106nm,18.1s,baz=109,slow=42
INK Inuvik 25.01 50 P **P 00 05 58.4 +1.0**
INK IAmb IAmb 00 06 08.3
comp=Z,7.3nm,1.1s
H21K Melozitna Rive 26.02 68 P **P 00 06 08.3 +1.7**
H21K IAmb IAmb 00 06 35.2
comp=Z,8.7nm,1.1s
PRGR Permogore 26.28 251 *e*P **P 00 06 09.2 +0.3**
ILAR Eielson Array 27.41 63 P **P 00 06 20.0 +0.9**
comp=Z,1.0nm,0.9s,baz=344,slow=8.2,SNR=4.7
ILAR Eielson Array 27.41 63 P **P 00 06 21.2 +2.1**
KLMR Klimovskoe 27.62 257 P P 00 06 33.4 +12
comp=Z,12nm,1.3s
FINES FINESS Array B 28.33 271 P **P 00 06 26.8 -0.6**
comp=Z,3.4nm,1.0s,baz=2.3,slow=7.0,SNR=2.1
ARU Arti 30.31 235 LR LR 00 20 11.9
comp=Z,91nm,19.5s,baz=328,slow=39
ZALV Zalesovo Beam 31.15 206 P **P 00 06 52.8 +0.4**
comp=Z,0.4nm,0.5s,baz=10,slow=8.8,SNR=4.9
ZALV LR LR 00 20 09.0
comp=Z,53nm,18.5s,baz=3.0,slow=38
ZALV Zalesovo Beam 31.15 206 P **P 00 06 51.1 -1.3**
YKA Yellowknife Ar 32.02 36 P **P 00 06 59.4 -0.5**
comp=Z,0.3nm,0.6s,baz=354,slow=9.1,SNR=8.1
YKA PcP **PcP 00 09 47.8 -1.3**
comp=Z,0.1nm,0.4s,baz=333,slow=3.5,SNR=2.9
YKA Yellowknife Ar 32.02 36 P **P 00 07 00.2 +0.4**
KURK Kurchatov 34.67 212 P **P 00 07 23.4 +0.3**
KURBB Kurchatov Arra 34.77 212 P **P 00 07 24.0 +0.1**
comp=Z,0.5nm,0.9s,baz=17,slow=7.3,SNR=4.6
AKTO Aktyubinsk 36.31 235 P **P 00 07 37.5 +0.3**
comp=Z,1.9nm,0.8s,baz=6.5,slow=8.5,SNR=5.0
AKTO LR LR 00 23 16.8
comp=Z,37nm,19.8s,baz=5.2,slow=38
NIKH Nikolski High 37.00 89 P **P 00 07 41.4 -1.6**
AKASG Malin Array Be 38.63 265 P **P 00 07 56.5 -0.3**
comp=Z,0.8nm,0.6s,baz=10,slow=8.9,SNR=7.1
AKASG LR LR 00 26 27.4
comp=Z,45nm,18.0s,baz=328,slow=40
GERES GERESS Array B 41.97 280 P **P 00 08 25.1 +0.5**
comp=Z,1.0nm,0.9s,baz=4.6,slow=4.9,SNR=5.6
AAK Ala-Archa 42.95 216 LR LR 00 28 36.0
comp=Z,54nm,18.0s,baz=357,slow=39
TUE Stuetta 44.73 283 P **P 00 08 49.3 +2.3**
TUE IAmb IAmb 00 09 02.5
comp=Z,8.1nm,1.0s
JTMT Jette 46.74 38 P **P 00 09 03.9 +1.0**
JTMT IAmb IAmb 00 09 11.6
comp=Z,4.3nm,0.8s
LAO LASA Array 48.23 30 P **P 00 09 15.7 +1.4**
BCYI Bear Canyon 50.21 37 P **P 00 09 31.3 +1.6**
RSSD Black Hills 50.90 29 P **P 00 09 35.9 +1.0**
MOOW Moose Ponds 50.93 35 P **P 00 09 36.9 +1.8**
MOOW IAmb IAmb 00 09 51.2
comp=Z,2.4nm,1.4s
PDAR Pinedale Array 51.97 34 P **P 00 09 40.9 -2.0**
comp=Z,0.2nm,0.6s,baz=16,slow=6.7,SNR=2.6
KEST Kesra 55.38 282 P **P 00 10 07.9 +0.1**
comp=Z,5.4nm,0.9s,baz=342,slow=13,SNR=5.1
TXAR Lajitas Array 65.65 29 P **P 00 11 17.4 -0.5**
comp=Z,0.2nm,0.6s,baz=6.9,slow=2.7,SNR=4.2
TXAR Lajitas Array 65.65 29 P **P 00 11 17.0 -1.0**
CMAR Chiang Mai Arr 66.16 188 P **P 00 11 21.6 +0.4**
comp=Z,0.9nm,0.3s,baz=353,slow=6.4,SNR=2.0
TORD Torodi Ar. Bea 78.46 286 P **P 00 12 34.4 -0.3**
comp=Z,1.8nm,0.8s,baz=353,slow=6.4,SNR=10
TORD Torodi Ar. Bea 78.46 286 P **P 00 12 34.1 -0.6**
TORD IAmb IAmb 00 12 46.8
comp=Z,2.5nm,1.3s

IDC 06 00:03:37.6±24.0, 23°.73S×177°.95W, h265km±157km,
mb3.3/2, mb1 3.6/3, mb1mx2.9/26, mbtmp4.0/3, MS2.9/1,
Ms1 2.9/1, ms1mx2.5/19, Error ellipse: s-maj=292.5km
s-min=39.9km az=136.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 0.5nm,0.3s,baz=136,slow=12,SNR=6.9	**7.04**	**327**	P		Pn	00 05 19.1	-0.1
RAR	**Rarotonga** comp=Z,35nm,18.2s,baz=216,slow=42	**16.99**	**85**	LR		LR	00 15 32.3	
ASAR	**Alice Springs** 0.6nm,0.4s,baz=94,slow=7.0,SNR=12	**43.91**	**260**	P		P	00 11 18.4	-0.4
WRA	**Warramunga Arr** 1.9nm,0.5s,baz=104,slow=7.9,SNR=23	**44.29**	**265**	P		P	00 11 21.8	0.0
AKASG	**Malin Array Be** 0.7nm,0.5s,baz=43,slow=3.9,SNR=4.0	**145.82**	**329**	PKPbc		PKPdf	00 22 44.7	+0.3

*NNC **06** 00:05:14.0±0.4, 43°.00N×78°.12E, h0km, mb3.0, mpv3.5,*
Error ellipse: s-maj=4.8km s-min=1.6km az=175.0
*KRNET **06** 00:05:15.2±0.1, 42°.93N×78°.05E, h20km, mb2.7*
ISC 06 00:05:13.9±1.1, 42°.97N±0°.02×78°.10E±0°.02, h3km±10km,
n34, σ1°21/56, 13C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SATY	**Saty** 138nm,0.2s	**0.24**	**69**	P		**Pg**	**00 05 18.8**	**+0.3**
SATY				S		**Sg**	**00 05 22.7**	**+1.0**
ZHN	**Zhinishke** 392nm,0.1s 77nm,0.1s	**0.31**	**52**	P		**Pg**	**00 05 20.1**	**+0.2**
ZHN				S		**Sg**	**00 05 24.3**	**+0.2**
ANVS	**Anan'yevo** baz=43	**0.37**	**239**	⇑*i*P		**Pg**	**00 05 21.6**	**+0.6**
ANVS				⇑*i*S		**Sg**	**00 05 26.8**	**+0.9**
PRZ	**Przheval'sk** baz=49	**0.54**	**156**	⇑*i*P		**Pb**	**00 05 25.4**	**-0.7**
PRZ				⇑*i*S		**Sg**	**00 05 32.0**	**+0.8**
UZB	**Uzynbulak** 18nm,0.3s	**0.70**	**75**	P		**Pg**	**00 05 26.9**	**-0.4**
UZB				S		**Sg**	**00 05 35.9**	**-0.5**
KOTS	**Kotyrbulak** 126nm,0.3s 16nm,0.1s	**0.77**	**290**	P		**Pg**	**00 05 28.9**	**+0.3**
KOTS				S		**Sg**	**00 05 39.5**	**+0.9**
MDOK	**Medeo** 88nm,0.2s 3.5nm,0.3s	**0.79**	**284**	⇑P		**Pg**	**00 05 29.2**	**+0.2**
MDOK				S		**Sg**	**00 05 40.3**	**+0.9**
MDOK	**Medeo** 5.8nm,0.2s 11nm,0.2s	**0.79**	**284**	Pg		**Pg**	**00 05 29.4**	**+0.3**
MDOK				Lg		Lg	00 05 40.1	
TNSS	**Tian-Shan** 28nm,0.2s 3.8nm,0.1s	**0.85**	**275**	P		**Pg**	**00 05 30.3**	**+0.2**
TNSS				S		**Sg**	**00 05 41.8**	**+0.7**
KNDC	**Almaty** 22nm,0.3s 4.9nm,0.2s	**0.86**	**287**	⇓P		**Pn**	**00 05 34.6**	**+1.6**
KNDC				⇑S		**Sb**	**00 05 43.3**	**-0.3**
SHLS	**Shalkode** 14nm,0.3s 4.7nm,0.2s	**1.02**	**79**	P		**Pn**	**00 05 38.3**	**+3.1**
SHLS				S		**Sn**	**00 05 55.4**	**+5.4**
PDGK	**Podgornoye** 28nm,0.3s 8.2nm,0.3s	**1.08**	**70**	P		**Pg**	**00 05 33.6**	**-1.0**
PDGK				S		**Sg**	**00 05 47.6**	**-0.9**
PDGK	**Podgornoye** 14nm,0.5s 6.1nm,0.3s	**1.08**	**70**	⇓P		**Pg**	**00 05 33.5**	**-1.0**
PDGK				⇑S		**Sg**	**00 05 46.9**	**-1.6**
KDJ	**Kajisay** 15nm,0.5s baz=19	**1.08**	**219**	⇑*i*P		**Pg**	**00 05 34.8**	**+0.2**
KDJ				⇑*i*S		**Sg**	**00 05 48.6**	**-0.1**
BLB	**Baldybastay** baz=19	**1.16**	**14**	P		**Pb**	**00 05 35.6**	**-1.1**

22nm,0.1s
BLB S **Sb** **00 05 50.9 -1.2**
150nm,0.2s
CHKK Chushkaly 1.20 318 P **Pb** **00 05 36.4 -0.8**
23nm,0.1s
CHKK S **Sg** **00 05 52.4 +0.1**
31nm,0.3s
ARXS Arharly 1.25 351 P **Pb** **00 05 37.6 -0.7**
14nm,0.2s
ARXS S **Sn** **00 05 54.2 -1.6**
55nm,0.2s
TARG Taragay, Kyrgy 1.26 190 ⇓*iP* **Pn** **00 05 37.7 -1.1**
baz=89
TARG ⇓*iS* **Sb** **00 05 53.9 -1.5**
baz=89
KTBS Karatobe 1.27 306 P **Pb** **00 05 38.0 -0.4**
43nm,0.2s
KTBS S **Sn** **00 05 55.0 -1.2**
46nm,0.2s
ULHL Ulahol 1.55 243 ⇑*iP* **Pn** **00 05 42.7 +0.1**
baz=43
ULHL ⇑*iS* **Sn** **00 06 03.0 -0.4**
baz=43
KST Kastek 1.57 273 P **Pb** **00 05 43.5 -0.1**
4.7nm,0.1s
KST S **Sg** **00 06 04.4 +0.2**
12nm,0.4s
KUU Kurty 1.58 306 P **Pb** **00 05 43.4 -0.4**
18nm,0.1s
KUU S **Sg** **00 06 04.1 -0.4**
92nm,0.3s
BOOM Boomskoye usch 1.66 254 ⇓*iP* **Pb** **00 05 44.9 -0.4**
baz=55
BOOM ⇓*iS* **Sn** **00 06 05.6 -0.5**
baz=55
KTMS Ketmen 1.71 73 P **Pb** **00 05 45.2 -0.9**
19nm,0.2s
KTMS S **Sb** **00 06 07.3 -0.8**
27nm,0.3s
DGS Degeres 1.73 280 P **Pb** **00 05 46.2 -0.1**
11nm,0.4s
DGS S **Sg** **00 06 09.1 -0.1**
24nm,0.3s
DJR Jarkent 1.83 42 P **Pb** **00 05 47.2 -0.8**
15nm,0.2s
DJR S **Sg** **00 06 10.9 -1.7**
66nm,0.3s
KRBS Karabastau 1.91 293 P **Pb** **00 05 48.8 -0.6**
47nm,0.2s
TDK Taldyqorghan 2.04 6 Pg **Pb** **00 05 51.3 -0.3**
24nm,0.3s
KAPS Kapalarasan 2.48 21 Pg **Pb** **00 05 59.0 -0.1**
6.3nm,0.2s
AAK Ala-Archa 2.67 264 ⇑Pg **Pg** **00 06 04.1 -1.0**
1.3nm,0.3s
AAK ⇑Lg Lg 00 06 39.2
12nm,0.6s
MAKZ Makanchi 4.72 34 ⇓Lg Lg 00 07 39.5
0.5nm,0.3s
MK31 Makanchi Array 4.84 37 ⇓Pn **Pn** **00 06 29.6 +1.9**
0.1nm,0.2s,baz=208,slow=15,SNR=18
MK31 Lg Lg 00 07 45.3
0.8nm,0.5s,baz=214,slow=29,SNR=7.5
KURBB Kurchatov Arra 7.66 2 ⇓Lg Lg 00 09 15.9
7.3nm,0.8s
KURK Kurchatov 7.75 2 ⇓Lg Lg 00 09 15.4
3.2nm,0.9s

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*IDC **06** 00:45:39.6±3.1, 33°.15S×179°.63E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/26, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=63.8km s-min=35.6km az=98.0*
ISC 06 00:45:40.2±2.8, 33°.1S±0°.1×179°.7E±0°.4, h10km, n5, σ0°58/6, mb3.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.55**	**202**	Pn	**Pn**	**00 47 02.4**	**-0.5**
	1.5nm,0.3s,baz=121,slow=24,SNR=14						
URZ				Sn	**Sn**	**00 48 07.3**	**+0.5**
	0.5nm,0.3s,baz=302,slow=23,SNR=1.9						
STKA	**Stephens Creek**	**32.08**	**262**	P	**P**	**00 52 07.1**	**-0.4**
	1.5nm,0.6s,baz=120,slow=20,SNR=3.1						
ASAR	**Alice Springs**	**41.14**	**271**	P	**P**	**00 53 25.3**	**+0.5**
	0.2nm,0.4s,baz=106,slow=7.0,SNR=2.5						
WRA	**Warramunga Arr**	**42.38**	**276**	P	**P**	**00 53 35.0**	**0.0**
	0.2nm,0.3s,baz=114,slow=7.7,SNR=6.0						
FINES	**FINESS Array B**	**146.97**	**337**	PKPbc	**PKPbc**	**01 05 22.6**	**+0.3**
	1.4nm,0.4s,baz=70,slow=2.8,SNR=3.5						

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*OMAN **06** 00:45:56.3±4.7, 30°.22N×54°.09E, h67km±32km, mb5.1/2, ml3.9/3, Error ellipse: s-maj=49.9km s-min=12.9km az=163.0*
*DSN **06** 00:46:25.3±1.5, 27°.86N×54°.83E, h10km, ML2.7/6, Error ellipse: s-maj=36.7km s-min=11.5km az=79.0*
*TEH **06** 00:46:29.0, 27°.72N×54°.90E, h18km, ML3.2*
ISC 06 00:46:29.2±1.0, 27°.64N±0°.05×54°.91E±0°.04, h20km, n49, σ1°36/50, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.47**	**274**	*e*Pg	**Pb**	**00 46 38.5**	**-0.4**
GENO	**Geno**	**1.15**	**102**	*e*Pg	**Pb**	**00 46 51.3**	**+0.8**
JHRM	**Jahrom**	**1.46**	**307**	*e*Pg	**Pb**	**00 46 55.6**	**-0.1**
JHRM				*e*		00 47 36.2	
	comp=Z,10μm,0.4s						
IBND	**Bandar-abas**	**1.46**	**97**	*e*Pn	**Pb**	**00 46 56.0**	**+0.3**
IBND				*e*		00 48 01.3	
	comp=Z,4μm,0.6s						
LMD1	**Lamerd**	**1.58**	**259**	*e*Pg	**Pb**	**00 46 59.2**	**+1.5**
GHIR	**Ghir-Karzin**	**1.82**	**291**	*e*Pg	**Pb**	**00 47 03.0**	**+1.1**
QIR1	**Qir**	**1.84**	**297**	*e*Pg	**Pb**	**00 47 02.1**	**-0.2**
SHME	**Shamm**	**1.93**	**145**	P	**Pn**	**00 47 02.5**	**+1.6**
SHME	**Shamm**	**1.93**	**145**	P	**Pn**	**00 47 02.0**	**+1.1**
BANOM	**Banah**	**2.12**	**144**	P	**Pn**	**00 47 04.8**	**+1.3**
	SNR=5.0						
BANOM	**Banah**	**2.12**	**144**	P	**Pn**	**00 47 03.8**	**+0.3**
KHNJ	**Kahnooj**	**2.50**	**82**	*e*Pn	**Pn**	**00 47 09.7**	**+1.0**
MASF	**Masafi**	**2.52**	**153**	P	**Pn**	**00 47 10.9**	**+1.8**
MSFE	**Esma-Masafi**	**2.53**	**153**	P	**Pn**	**00 47 09.1**	**-0.1**
NGRK	**Negar Kerman**	**2.56**	**38**	*e*Pn	**Pn**	**00 47 10.5**	**+0.6**
NGRK				*e*		00 47 50.5	
	comp=Z,552nm,0.2s						
KRBR	**Kerman**	**2.84**	**34**	*e*Pn	**Pn**	**00 47 13.3**	**-0.5**
TVBK	**TV Kerman**	**2.85**	**34**	*e*Pn	**Pn**	**00 47 15.5**	**+1.7**
TVBK				*e*		00 47 58.4	
	comp=Z,1μm,0.5s						
UOSS	**Minazif**	**2.93**	**156**	P	**Pn**	**00 47 17.2**	**+2.6**
UOSS	**Minazif**	**2.93**	**156**	P	**Pn**	**00 47 14.7**	**+0.1**
FAQ	**Al Faqa, Dubai**	**2.95**	**168**	P	**Pn**	**00 47 17.5**	**+2.6**
HATD	**Hatta, Dubai**	**3.01**	**158**	P	**Pn**	**00 47 16.2**	**+0.4**
ASUD	**Al Ashush, Dub**	**3.03**	**173**	P	**Pn**	**00 47 18.8**	**+2.9**
KHGB	**Koh Gabri**	**3.05**	**26**	*e*Pn	**Pn**	**00 47 18.1**	**+1.5**
KHGB				*e*		00 48 08.0	
	comp=Z,455nm,0.4s						
ASHO	**Ashiyiah**	**3.12**	**160**	P	**Pn**	**00 47 19.5**	**+2.1**
	SNR=5.3						
ASHO	**Ashiyiah**	**3.12**	**160**	P	**Pn**	**00 47 19.0**	**+1.7**
ASHO				S	**Sb**	**00 47 58.9**	**-2.9**
CHMN	**Cheshme madani**	**3.20**	**46**	*e*Pn	**Pn**	**00 47 20.5**	**+1.8**
KBAM	**BAM**	**3.46**	**64**	*e*Pn	**Pn**	**00 47 23.8**	**+1.8**
KBAM				*e*		00 47 25.1	
	comp=Z,475nm,0.3s						
ALNE	**Al Ain**	**3.65**	**168**	P	**Pn**	**00 47 26.7**	**+2.1**
IMEH	**Mehriz**	**3.75**	**356**	*e*Pn	**Pn**	**00 47 26.7**	**+0.6**
SOHO	**SOHO**	**3.79**	**157**	P	**Pn**	**00 47 28.1**	**+1.6**
SOHO	**SOHO**	**3.79**	**157**	P	**Pn**	**00 47 26.7**	**+0.2**
KLNJ	**Kolanjah**	**4.43**	**320**	*e*Pn	**Pn**	**00 47 35.4**	**-0.2**
IRAM	**Ramesheh**	**4.70**	**333**	*e*Pn	**Pn**	**00 47 40.2**	**+1.0**
YZKH	**Yazd**	**4.74**	**357**	*e*Pn	**Pn**	**00 47 39.3**	**-0.4**
UMZA	**Um Al Zommool**	**4.91**	**177**	P	**Pn**	**00 47 42.2**	**+0.3**
SMDO	**Samad**	**5.38**	**147**	P	**Pn**	**00 47 50.2**	**+1.8**
CHBR	**Chabahar**	**5.39**	**111**	*e*Pn	**Pn**	**00 47 49.4**	**+0.9**
WSAR	**Wadi Sarin**	**5.53**	**142**	P	**Pn**	**00 47 51.5**	**+1.1**
	SNR=7.3						
TPRV	**Parvadeh(Tabas**	**5.58**	**16**	*e*Pn	**Pn**	**00 47 51.4**	**+0.2**
BSRN	**Basiran**	**5.66**	**39**	*e*Pn	**Pn**	**00 47 51.3**	**-1.0**
IZEF	**Zefreh**	**5.69**	**338**	*e*Pn	**Pn**	**00 47 52.2**	**-0.7**
JMDO	**Jabal Madar**	**6.00**	**150**	P	**Pn**	**00 47 58.2**	**+1.4**
	SNR=12						
WBK	**Wadi Bani Khal**	**6.22**	**143**	P	**Pn**	**00 47 59.9**	**+0.1**
	SNR=7.3						
TNSJ	**Nastanj**	**6.47**	**13**	*e*Pn	**Pn**	**00 48 03.7**	**+0.3**
JLN	**Jalan Bani Buh**	**6.83**	**142**	P	**Pn**	**00 48 08.2**	**0.0**
KHMZ	**Khomeyn**	**7.42**	**326**	*e*Pn	**Pn**	**00 48 17.4**	**+0.8**
DOK	**Doka**	**9.01**	**185**	P	**Pn**	**00 48 38.4**	**+0.2**
WHFO	**Wadi Hawf**	**9.73**	**186**	P	**Pn**	**00 48 48.0**	**-0.2**
	SNR=9.1						
ABTO	**Aybut**	**10.35**	**189**	P	**Pn**	**00 48 54.4**	**-2.2**
	SNR=11						

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*IDC **06** 00:56:04.4±1.1, 21°.48S×66°.75W, h201km±13km, mb3.0/4, mb1 3.3/8, mb1mx3.2/22, mbtmp3.6/8, MS2.4/1, Ms1 2.5/1, ms1mx2.2/14, Error ellipse: s-maj=25.2km s-min=10.9km az=107.0*
*SCB **06** 00:56:06.5±1.2, 21°.58S×66°.94W, h197km±8km, ML3.9/5, Error ellipse: s-maj=4.4km s-min=3.4km az=0.0*
ISC 06 00:56:04.7±0.8, 21°.53S±0°.06×66°.84W±0°.05, h210km±7km, n28, σ1°62/37, mb3.2/4, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.16**	**77**	P	**Pn**	**00 56 38.7**	**+1.6**
MOCB				S	**S**	**00 57 02.9**	**+0.8**
MOCB				IAML		00 57 03.8	
	2μm,0.5s						
YJA	**Yavi**	**1.39**	**118**	P	**Pn**	**00 56 40.5**	**+1.6**
LVC	**Limon Verde**	**2.20**	**240**	P	**Pn**	**00 56 47.4**	**+1.1**
	4.3nm,0.3s,baz=62,slow=6.5,SNR=27						
LVC				S	**S**	**00 57 19.3**	**+0.8**
	4.2nm,0.3s,baz=74,slow=19,SNR=21						
LVC	**Limon Verde**	**2.20**	**240**	P	**Pn**	**00 56 47.5**	**+1.1**
PB09	**IPOC Station P**	**2.25**	**263**	P	**Pn**	**00 56 47.9**	**+1.2**
PB01	**IPOC Station P**	**2.51**	**281**	P	**Pn**	**00 56 50.8**	**+1.3**
PB01				S	**S**	**00 57 23.3**	**-0.7**
PB01				IAML		00 57 25.1	
	150nm,0.2s						
PB08	**IPOC Station P**	**2.56**	**302**	P	**Pn**	**00 56 52.1**	**+1.7**
PB03	**IPOC Station P**	**2.75**	**259**	P	**Pn**	**00 56 53.3**	**+1.1**
PB03				S	**S**	**00 57 27.2**	**-1.7**
PB03				IAML		00 57 28.3	
	91nm,0.3s						
PB06	**IPOC Station P**	**2.79**	**245**	P	**Pn**	**00 56 53.3**	**+0.7**
PB07	**IPOC Station P**	**2.84**	**265**	P	**Pn**	**00 56 54.1**	**+0.9**
PB02	**IPOC Station P**	**2.85**	**274**	P	**Pn**	**00 56 54.0**	**+0.7**
PB02				S	**S**	**00 57 29.6**	**-1.2**
PB02				IAML		00 57 30.2	
	526nm,0.2s						
PB15	**IPOC Station P**	**2.95**	**235**	P	**Pn**	**00 56 55.2**	**+0.7**
PB11	**IPOC Station P**	**3.17**	**303**	P	**Pn**	**00 56 57.8**	**+0.8**
PB11				S	**S**	**00 57 36.7**	**-0.8**
PB11				IAML		00 57 38.5	
	305nm,0.4s						
PB04	**IPOC Station P**	**3.17**	**255**	P	**Pn**	**00 56 57.6**	**+0.5**
PB05	**IPOC Station P**	**3.38**	**246**	P	**Pn**	**00 57 00.0**	**+0.5**
PB05				S	**S**	**00 57 39.1**	**-2.9**
PB10	**IPOC Station P**	**3.96**	**239**	P	**Pn**	**00 57 06.5**	**+0.1**
PB16	**IPOC Station P**	**4.04**	**321**	P	**Pn**	**00 57 09.8**	**+1.8**
BBOE	**La Paz, Chanca**	**4.81**	**347**	P	**Pn**	**00 57 19.8**	**+2.2**
BBOD	**La Paz, Gloria**	**5.14**	**341**	P	**Pn**	**00 57 23.8**	**+2.1**
LPAZ	**La Paz**	**5.35**	**347**	P	**Pn**	**00 57 25.6**	**+1.1**
	1.8nm,0.3s,baz=146,slow=7.3,SNR=52						
LPAZ				S	**S**	**00 58 26.2**	**-1.0**
	0.5nm,0.3s,baz=259,slow=19,SNR=8.8						
LPAZ				LR	LR	00 59 36.7	
	comp=Z,42nm,21.6s,baz=105,slow=40						
LPAZ	**La Paz**	**5.35**	**347**	P	**Pn**	**00 57 26.1**	**+1.6**
SIV	**San Ignacio**	**7.76**	**46**	P	**Pn**	**00 57 54.2**	**-0.7**
	3.2nm,0.3s,baz=241,slow=11,SNR=30						
SIV				S	**S**	**00 59 17.5**	**-5.3**
	0.5nm,0.3s,baz=288,slow=20,SNR=2.7						
PLCA	**Paso Flores**	**19.41**	**189**	P	**P**	**01 00 16.2**	**+1.2**
	0.2nm,0.3s,baz=354,slow=9.8,SNR=8.0						
PTGA	**Pitinga**	**21.73**	**19**	P	**P**	**01 00 37.7**	**-1.9**
	0.8nm,0.3s,baz=157,slow=6.9,SNR=1.7						
PDAR	**Pinedale Array**	**75.11**	**329**	P	**P**	**01 07 25.4**	**+1.6**
	0.1nm,0.4s,baz=129,slow=8.3,SNR=1.5						
TORD	**Tordi Ar. Bea**	**75.56**	**69**	P	**P**	**01 07 26.6**	**-0.1**
	0.2nm,0.4s,baz=253,slow=5.3,SNR=9.2						
YKA	**Yellowknife Ar**	**91.86**	**340**	P	**P**	**01 08 48.8**	**+0.4**
	0.1nm,0.3s,baz=135,slow=4.7,SNR=3.5						
MKAR	**Makanchi Array**	**144.50**	**37**	PKP	**PKPdf**	**01 15 16.3**	**+0.4**
	0.4nm,0.6s,baz=316,slow=3.3,SNR=4.3						

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*KRNET **06** 01:00:14.6±0.1, 40°.78N×74°.73E, h15km, mb2.9*
*SOME **06** 01:00:15.5, 40°.83N×74°.73E, h5km*
*NNC **06** 01:00:16.1±1.0, 40°.80N×74°.78E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=7.7km s-min=4.3km az=172.0*
ISC 06 01:00:14.4±1.1, 40°.78N±0°.03×74°.72E±0°.02, h16km±11km, n71, σ1°80/104, 28C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.69**	**279**	⇓*e*P	**Pg**	**01 00 28.5**	**+0.5**
	baz=79						
SALK				⇓*e*S	**Sb**	**01 00 38.1**	**+0.6**
	baz=79						
ARLS	**Aral**	**1.12**	**345**	⇑*iP*	**Pn**	**01 00 36.0**	**+0.4**
	baz=44						
ARLS				⇑*iS*	**Sn**	**01 00 51.6**	**+0.8**
	baz=44						
SFK	**Sufi-Kurgan**	**1.20**	**231**	⇑*e*P	**Pb**	**01 00 37.6**	**+0.7**
	baz=31						
SFK				⇑*e*S	**Sg**	**01 00 54.6**	**+1.2**
	baz=31						
UCH	**Uchtor**	**1.46**	**354**	P	**Pg**	**01 00 42.4**	**-0.1**
	SNR=46						
UCH	**Uchtor**	**1.46**	**354**	⇓*iP*	**Pg**	**01 00 42.3**	**-0.2**
	baz=54						
UCH				⇓*iS*	**Sg**	**01 01 02.4**	**+0.9**
	baz=54						
OHH	**Osh**	**1.49**	**261**	⇑*iP*	**Pg**	**01 00 43.0**	**-0.1**
	baz=61						
OHH				⇑*iS*	**Sg**	**01 01 03.6**	**+1.0**
	baz=61						
AML	**Almayashu**	**1.56**	**331**	P	**Pg**	**01 00 44.4**	**0.0**
	SNR=27						
ULHL	**Ulahol**	**1.86**	**37**	P	**Pb**	**01 00 48.9**	**+0.8**
	SNR=21						
ULHL	**Ulahol**	**1.86**	**37**	⇓*iP*	**Pb**	**01 00 49.1**	**+1.0**
	baz=37						
ULHL				⇓*iS*	**Sg**	**01 01 14.3**	**0.0**
	baz=37						
AAK	**Ala-Archa**	**1.86**	**355**	P	**Pg**	**01 00 49.7**	**-0.5**
	SNR=19						
AAK	**Ala-Archa**	**1.86**	**355**	⇓Pg	**Pg**	**01 00 49.7**	**-0.5**
	8.0nm,0.5s						
AAK				⇓Lg	Lg	01 01 19.2	
	20nm,0.5s						
AAK	**Ala-Archa**	**1.86**	**355**	⇑*iP*	**Pb**	**01 00 49.3**	**+1.1**
	baz=55						
AAK				⇑*iS*	**Sg**	**01 01 14.8**	**+0.3**
	baz=55						
KBK	**Karagaybulak**	**1.88**	**5**	P	**Pg**	**01 00 50.6**	**+0.1**
	SNR=12						
KBK	**Karagaybulak**	**1.88**	**5**	⇑*iP*	**Pb**	**01 00 49.6**	**+1.1**
	baz=5.0						
KBK				⇑*iS*	**Sg**	**01 01 15.3**	**+0.2**
	baz=5.0						
BOOM	**Boomskoye usch**	**1.94**	**28**	⇓*iP*	**Pb**	**01 00 50.6**	**+1.1**
	baz=27						
BOOM				⇓*iS*	**Sg**	**01 01 17.0**	**+0.1**
	baz=27						
EKS2	**Erkin-Say**	**2.01**	**340**	P	**Pg**	**01 00 52.9**	**-0.1**
	SNR=14						
EKS2	**Erkin-Say**	**2.01**	**340**	⇑*iP*	**Pb**	**01 00 51.9**	**+1.3**
	baz=39						
EKS2				⇑*iS*	**Sg**	**01 01 19.1**	**0.0**
	baz=39						
CHMS	**Chumysh**	**2.22**	**1**	P	**Pg**	**01 00 57.1**	**+0.2**
	SNR=7.3						
MRKS	**Merke**	**2.26**	**331**	*e*P	**Pg**	**01 00 58.0**	**+0.2**
	7.3nm,0.2s						
MRKS				*e*S	**Sg**	**01 01 28.2**	**+1.1**
	36nm,0.3s						
MRKS	**Merke**	**2.26**	**331**	Pg	**Pg**	**01 00 58.0**	**+0.2**
	7.3nm,0.2s						
MRKS				Lg	Lg	01 01 28.2	
	36nm,0.3s						
KDJ	**Kajisay**	**2.29**	**53**	⇑*iP*	**Pb**	**01 00 55.8**	**+0.4**
	baz=53						
KDJ				⇑*iS*	**Sb**	**01 01 25.6**	**+2.0**
	baz=53						
MNAS	**Manas**	**2.38**	**317**	⇓*iP*	**Pb**	**01 00 57.1**	**+0.1**
	baz=16						
MNAS				⇓*iS*	**Sb**	**01 01 28.1**	**+1.9**
	baz=16						
KST	**Kastek**	**2.45**	**22**	*e*P	**Pg**	**01 01 00.3**	**-1.0**
	13nm,0.3s						
KST				*e*S	**Sg**	**01 01 32.4**	**-0.6**
	20nm,0.3s						
KST	**Kastek**	**2.45**	**22**	Pg	**Pg**	**01 01 00.3**	**-1.0**
	13nm,0.3s						
KST				Lg	Lg	01 01 32.4	
	20nm,0.3s						
USP	**Ospenovka**	**2.49**	**356**	P	**Pg**	**01 01 01.0**	**-1.1**
	SNR=30						
TARG	**Taragay, Kyrgy**	**2.51**	**67**	⇑*iP*	**Pb**	**01 00 58.7**	**-0.7**
	baz=67						
TARG				⇑*iS*	**Sb**	**01 01 30.9**	**+0.7**
	baz=67						
DGS	**Degeres**	**2.58**	**17**	*e*P	**Pg**	**01 01 02.8**	**-1.1**
	29nm,0.4s						
DGS				*e*S	**Sg**	**01 01 37.0**	**-0.4**
	24nm,0.4s						
DGS	**Degeres**	**2.58**	**17**	Pg	**Pg**	**01 01 02.8**	**-1.1**
	29nm,0.4s						
DGS				Lg	Lg	01 01 37.0	
	24nm,0.4s						
DRK	**Karamyk**	**2.59**	**241**	⇑*iP*	**Pb**	**01 00 59.9**	**-0.7**
	baz=41						
DRK				⇑*iS*	**Sb**	**01 01 33.0**	**+0.8**
	baz=41						
MTBS	**Maitube**	**2.67**	**28**	*e*P	**Pg**	**01 01 04.6**	**-1.1**
	5.1nm,0.2s						
MTBS				*e*S	**Sg**	**01 01 39.3**	**-1.0**
	30nm,0.6s						
MTBS	**Maitube**	**2.67**	**28**	Pg	**Pg**	**01 01 04.6**	**-1.1**
	5.1nm,0.2s						
MTBS				Lg	Lg	01 01 39.3	
	30nm,0.6s						
TNSS	**Tian-Shan**	**2.80**	**36**	*e*P	**Pg**	**01 01 07.4**	**-0.8**
	5.4nm,0.7s						
TNSS				*e*S	**Sg**	**01 01 45.0**	**+0.5**
	8.9nm,0.4s						
TNSS	**Tian-Shan**	**2.80**	**36**	Pg	**Pg**	**01 01 07.4**	**-0.8**
	5.4nm,0.7s						
TNSS				Lg	Lg	01 01 45.0	
	8.9nm,0.4s						
MDOK	**Medeo**	**2.95**	**35**	*e*P	**Pb**	**01 01 08.8**	**+2.2**
	4.0nm,0.3s						
MDOK				*e*S	**Sg**	**01 01 46.8**	**-2.3**
	15nm,1.0s						
MDOK	**Medeo**	**2.95**	**35**	Pg	**Pb**	**01 01 08.8**	**+2.2**
	4.1nm,0.6s						
MDOK				⇓Lg	Lg	01 01 49.3	
	7.7nm,0.6s						
MDOK	**Medeo**	**2.95**	**35**	Pg	**Pb**	**01 01 08.8**	**+2.2**
	4.0nm,0.3s						
MDOK				Lg	Lg	01 01 46.8	
	15nm,1.0s						
ANVS	**Anan'yevo**	**2.98**	**47**	⇑*iP*	**Pb**	**01 01 05.2**	**-2.0**
	baz=47						
ANVS				⇑*iS*	**Sb**	**01 01 42.2**	**-1.2**
	baz=47						
KRBS	**Karabastau**	**3.00**	**13**	*e*P	**Pg**	**01 01 10.1**	**-1.8**
	12nm,0.4s						
KRBS				*e*S	**Sg**	**01 01 49.3**	**-1.5**
	36nm,0.9s						
KRBS	**Karabastau**	**3.00**	**13**	Pg	**Pg**	**01 01 10.1**	**-1.8**
	12nm,0.4s						
KRBS				Lg	Lg	01 01 49.3	
	36nm,0.9s						
KOTS	**Kotyrbulak**	**3.03**	**35**	*e*P	**Pg**	**01 01 12.0**	**-0.5**
	5.8nm,0.3s						
KOTS				*e*S	**Sg**	**01 01 52.6**	**+0.8**
	46nm,0.7s						
KOTS	**Kotyrbulak**	**3.03**	**35**	Pg	**Pg**	**01 01 12.0**	**-0.5**
	5.8nm,0.3s						
KOTS				Lg	Lg	01 01 52.6	
	46nm,0.7s						
BTK	**Batken**	**3.06**	**258**	⇑*iP*	**Pb**	**01 01 06.6**	**-2.0**
	baz=58						
BTK				⇑*iS*	**Sb**	**01 01 44.6**	**-1.1**
	baz=58						
KTBS	**Karatobe**	**3.27**	**26**	*e*P	**Pb**	**01 01 14.6**	**+2.5**
	6.1nm,0.2s						
KTBS				*e*S	**Sg**	**01 01 57.1**	**-2.4**
	30nm,0.5s						
KTBS	**Karatobe**	**3.27**	**26**	Pg	**Pb**	**01 01 14.6**	**+2.5**
	6.1nm,0.2s						
KTBS				Lg	Lg	01 01 57.1	
	30nm,0.5s						
KUU	**Kurty**	**3.34**	**21**	*e*P	**Pg**	**01 01 16.4**	**-1.9**
	2.5nm,0.2s						
KUU				*e*S	**Sg**	**01 02 00.3**	**-1.2**
	12nm,0.5s						
KUU	**Kurty**	**3.34**	**21**	Pg	**Pg**	**01 01 16.4**	**-1.9**
	2.5nm,0.2s						
KUU				Lg	Lg	01 02 00.3	
	12nm,0.5s						
CHKK	**Chushkaly**	**3.50**	**28**	*e*P	**Pg**	**01 01 19.6**	**-1.9**
	2.3nm,0.3s						
CHKK				*e*S	**Sg**	**01 02 05.5**	**-1.4**
	20nm,0.5s						
CHKK	**Chushkaly**	**3.50**	**28**	Pg	**Pg**	**01 01 19.6**	**-1.9**
	2.3nm,0.3s						
CHKK				Lg	Lg	01 02 05.5	
	20nm,0.5s						
SATY	**Saty**	**3.57**	**49**	*e*P	**Pg**	**01 01 20.3**	**-2.5**
	2.7nm,0.6s						
SATY				*e*S	**Sg**	**01 02 06.5**	**-2.6**
	15nm,0.6s						
SATY	**Saty**	**3.57**	**49**	Pg	**Pg**	**01 01 20.3**	**-2.5**
	2.7nm,0.6s						
SATY				Lg	Lg	01 02 06.5	
	15nm,0.6s						
ZHN	**Zhinishke**	**3.66**	**48**	*e*P	**Pg**	**01 01 22.1**	**-2.4**
	3.1nm,0.2s						
ZHN				*e*S	**Sg**	**01 02 09.5**	**-2.3**
	14nm,0.3s						
ZHN	**Zhinishke**	**3.66**	**48**	Pg	**Pg**	**01 01 22.1**	**-2.4**
	3.1nm,0.2s						
ZHN				Lg	Lg	01 02 09.5	
	14nm,0.3s						
IUG	**Iuzhnay**	**3.78**	**293**	*e*P	**Pg**	**01 01 25.5**	**-1.2**
	102nm,0.6s						
IUG				*e*S	**Sg**	**01 02 15.8**	**0.0**
	26nm,0.5s						
IUG	**Iuzhnay**	**3.78**	**293**	Pg	**Pg**	**01 01 25.5**	**-1.2**
	102nm,0.6s						
IUG				Lg	Lg	01 02 15.8	
	26nm,0.5s						
KK08	**Karatay Array**	**3.92**	**308**	⇑Pg	**Pg**	**01 01 27.7**	**-1.7**
	1.1nm,0.5s,baz=126,slow=17						
KK08				⇑Lg	Lg	01 02 18.1	
	2.9nm,0.4s,baz=123,slow=29						
UZB	**Uzynbulak**	**3.99**	**52**	*e*P	**Pb**	**01 01 27.1**	**+2.7**
	2.6nm,0.2s						
UZB				*e*S	**Sg**	**01 02 18.1**	**-4.3**
	12nm,0.7s						
UZB	**Uzynbulak**	**3.99**	**52**	Pg	**Pb**	**01 01 27.1**	**+2.7**
	2.6nm,0.2s						
UZB				Lg	Lg	01 02 18.1	
	12nm,0.7s						
KPKS	**Kokpek**	**3.99**	**46**	*e*P	**Pg**	**01 01 27.9**	**-2.9**
	4.4nm,0.6s						
KPKS				*e*S	**Sg**	**01 02 19.7**	**-2.7**
	27nm,0

BLB					*e*S		**Sg**	**01 02 31.0**	**-2.4**
	7.3nm,0.5s								
BLB	**Baldybastay**	**4.33**	**39**	Pg			**Pg**	**01 01 34.4**	**-2.9**
	4.9nm,0.3s								
BLB					Lg		Lg	01 02 31.0	
	7.3nm,0.5s								
PDGK	**Podgornoye**	**4.37**	**53**	Pg			**Pb**	**01 01 34.2**	**+3.3**
	1.1nm,0.5s								
PDGK					Lg		Lg	01 02 30.3	
	3.0nm,0.6s								
PDGK	**Podgornoye**	**4.37**	**53**	⇑Pg			**Pg**	**01 01 38.8**	**+0.7**
	1.2nm,0.5s								
PDGK					⇓Lg		Lg	01 02 32.3	
	5.2nm,0.7s								
OTUK	**Ortayu**	**7.66**	**348**	⇑Lg			Lg	01 04 16.4	
	1.7nm,1.0s								
KURBB	**Kurchatov Arra**	**10.20**	**14**	⇑Lg			Lg	01 05 37.1	
	5.4nm,1.4s								
KURK	**Kurchatov**	**10.30**	**14**	⇑Lg			Lg	01 05 37.9	
	2.0nm,0.7s								

*TUL **06** 01:00:22.9±0.7, 35°.66N±0°.01×97°.39W±0°.01, h6km±4km, ML2.9, mb_Lg2.5/32(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=151.0*

NEIC 06 01:00:23.5±0.6, 35°.66N±0°.01×97°.40W±0°.02, h7km±1km, Error ellipse: s-maj=2.0km s-min=1.6km az=121.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.08**	**196**	Pg	Pg	01 00 25.1	-0.3
OK009				Sg	Sg	01 00 26.9	+0.1
OK025	**Westminster Rd**	**0.09**	**148**	Pg	Pg	01 00 25.4	-0.2
OK001	**Jones High Sch**	**0.13**	**138**	Pg	Pg	01 00 26.1	-0.2
OK001				Sg	Sg	01 00 28.4	+0.3
OK029	**Liberty Lake**	**0.15**	**341**	Pg	Pg	01 00 26.2	-0.4
OK029				Sg	Sg	01 00 28.7	+0.1
OK005	**Luther M Schoo**	**0.17**	**91**	Pg	Pg	01 00 26.7	-0.2
OK005				Sg	Sg	01 00 29.6	+0.3
BCOK	**Bluff Creek, N**	**0.17**	**270**	Pg	Pg	01 00 26.8	-0.3
BCOK				Sg	Sg	01 00 29.8	+0.4
OKCFA	**Oklahoma City**	**0.25**	**191**	Pg	Pg	01 00 28.2	-0.2
OKCFA				Sg	Sg	01 00 32.1	+0.4
OKCSW	**OKLAHOMA CITY**	**0.25**	**188**	Pg	Pg	01 00 28.3	-0.2
OKCSW				Sg	Sg	01 00 32.4	+0.4
FNO	**Franklin**	**0.40**	**181**	Pg	Pg	01 00 31.1	-0.2
FNO				Sg	Sg	01 00 37.0	+0.4
OK031	**S. Brethren Rd**	**0.54**	**57**	Pg	Pg	01 00 33.5	-0.4
OK031				Sg	Sg	01 00 41.0	-0.1
OK030	**Cody Creek RV**	**0.57**	**61**	Pg	Pg	01 00 33.9	-0.5
OK030				IAmb_Lg		01 00 40.8	
	comp=Z,50nm,0.9s						
OK030				Sg	Sg	01 00 41.8	-0.1
OK034	**N. Norfolk Rd.**	**0.66**	**57**	Pg	Pg	01 00 35.4	-0.7
OK034				Sg	Sg	01 00 44.5	-0.3
W35A	**Tecumseh**	**0.66**	**140**	Pg	Pg	01 00 35.7	-0.5
W35A				Sg	Sg	01 00 44.9	0.0
QUOK	**Quay**	**0.76**	**47**	Pg	Pg	01 00 37.3	-0.8
QUOK				Sg	Sg	01 00 47.6	-0.3
CROK	**Carrier**	**0.97**	**331**	Pg	Pg	01 00 41.3	-0.9
BLOK	**Blackwell**	**1.11**	**8**	Pg	Pg	01 00 43.3	-1.5
X34A	**Smith Ranch, M**	**1.11**	**199**	Pg	Pg	01 00 44.1	-0.8
GC02	**Grant County #**	**1.25**	**343**	Pg	Pb	01 00 45.8	-1.7
OK032	**Salt Plains WL**	**1.32**	**330**		Pn	01 00 47.2	-1.2
TUL1	**Leonard**	**1.33**	**79**		Pn	01 00 46.4	-2.1
KAN13	**South Haven SW**	**1.35**	**357**		Pn	01 00 47.9	-1.0
KAN14	**Manchester OK**	**1.38**	**341**		Pn	01 00 48.1	-1.1
KAN17	**Caldwell West**	**1.42**	**348**		Pn	01 00 49.0	-0.8
T35A	**Sooner Cattle**	**1.44**	**29**		Pn	01 00 49.1	-1.1
WMOK	**Wichita Mounta**	**1.46**	**231**		Pn	01 00 49.3	-1.0
U32A	**Winter Ranch,**	**1.49**	**299**		Pn	01 00 50.0	-0.8
OK035	**E0210 Rd and N**	**1.49**	**315**		Pn	01 00 50.0	-0.8
KAN05	**Bluff City Nor**	**1.50**	**345**		Pn	01 00 50.5	-0.4
KAN01	**Argonia South**	**1.52**	**349**		Pn	01 00 50.9	-0.4
KAN01				IAmb_Lg		01 01 10.7	
	comp=Z,25nm,1.2s						
KAN10	**Anthony SW Sta**	**1.57**	**339**		Pn	01 00 51.2	-0.7
KAN06	**Argonia West S**	**1.63**	**347**		Pn	01 00 51.9	-0.8
KAN08	**Anthony NE Sta**	**1.63**	**344**	Pn	Pn	01 00 52.3	-0.5
LOOK	**Love County**	**1.67**	**174**	Pn	Pn	01 00 53.0	-0.2
KAN12	**Harper NE Stat**	**1.71**	**344**	Pn	Pn	01 00 53.4	-0.4
X37A	**Clayton**	**1.97**	**122**	IAmb_Lg		01 01 29.6	
	comp=Z,28nm,0.7s						
Z35A	**Perchaven, San**	**2.32**	**177**	Pn	Pn	01 01 02.2	0.0
HHAR	**Hobbs**	**2.87**	**76**	IAmb_Lg		01 01 56.1	
	comp=Z,11nm,0.8s						
R32A	**Long Quarter,**	**2.95**	**340**	Pn	Pn	01 01 10.1	-0.8
R32A				IAmb_Lg		01 02 03.8	
	comp=Z,10nm,0.8s						
W39A	**Magazine**	**2.98**	**98**	Pn	Pn	01 01 11.2	-0.1
MIAR	**Mount Ida**	**3.32**	**108**	Pn	Pn	01 01 16.8	+0.9
MIAR				IAmb_Lg		01 02 17.5	
	comp=Z,11nm,0.8s						
ABTX	**Abilene, Hawle**	**3.55**	**212**	IAmb_Lg		01 02 23.9	
	comp=Z,18nm,1.3s						
AMTX	**Amarillo**	**3.59**	**259**	Pn	Pn	01 01 19.6	-0.2
CBKS	**Cedar Bluff**	**3.66**	**330**	IAmb_Lg		01 02 24.4	
	comp=Z,16nm,0.9s						
237A	**Washetta, Mont**	**3.88**	**160**	Pn	Pn	01 01 22.0	-1.6
WLAR	**White Oak Lake**	**4.04**	**118**	IAmb_Lg		01 02 33.9	
	comp=Z,8.6nm,0.8s						
WHAR	**Wooly Hollow**	**4.18**	**94**	Pn	Pn	01 01 27.0	-0.8
W41B	**Gary Mavity, V**	**4.23**	**95**	Pn	Pn	01 01 27.7	-0.7
FCAR	**Ozark Folk Cen**	**4.29**	**85**	Pn	Pn	01 01 28.9	-0.4
FCAR				IAmb_Lg		01 02 49.5	
	comp=Z,12nm,0.9s						
MGMO	**Mountain Grove**	**4.40**	**69**	IAmb_Lg		01 02 44.9	
	comp=Z,12nm,0.8s						
435B	**Jarrell**	**4.87**	**182**	IAmb_Lg		01 03 02.1	
	comp=Z,8.7nm,0.7s						
R40A	**Maddies Statio**	**4.87**	**56**	Pn	Pn	01 01 36.2	-1.1
P38A	**Dawn**	**5.01**	**37**	IAmb_Lg		01 03 02.1	
	comp=Z,8.5nm,0.7s						
CCM	**Cathedral Cave**	**5.48**	**62**	IAmb_Lg		01 03 20.2	
	comp=Z,8.7nm,0.7s						
JCT	**Junction City**	**5.54**	**202**	Pn	Pn	01 01 45.0	-1.5
PBMO	**Poplar Bluff**	**5.74**	**77**	IAmb_Lg		01 03 36.0	
	comp=Z,9.1nm,0.8s						
T25A	**Trinidad**	**5.85**	**287**	IAmb_Lg		01 03 32.0	
	comp=Z,12nm,0.8s						

*TUL **06** 01:17:05.4±1.0, 35°.66N±0°.02×97°.39W±0°.02, h6km±5km, ML3.0, mb_Lg2.6/46(NEIC), Error ellipse: s-maj=2.9km s-min=1.6km az=135.0*

NEIC 06 01:17:05.4±0.9, 35°.68N±0°.02×97°.40W±0°.02, h8km±5km, Error ellipse: s-maj=3.3km s-min=0.4km az=134.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**192**		Pg	01 17 07.5	-0.2
OK009				Sg	Sg	01 17 09.2	-0.1
OK025	**Westminster Rd**	**0.11**	**152**	Pg	Pg	01 17 07.8	-0.1
OK029	**Liberty Lake**	**0.13**	**339**	Pg	Pg	01 17 08.7	+0.4
OK001	**Jones High Sch**	**0.14**	**142**		Pg	01 17 08.4	0.0
OK001				Sg	Sg	01 17 10.8	+0.2
OK005	**Luther M Schoo**	**0.17**	**97**		Pg	01 17 09.1	+0.2
OK005				Sg	Sg	01 17 11.9	+0.5
BCOK	**Bluff Creek, N**	**0.17**	**264**	Pg	Pg	01 17 09.2	+0.2
BCOK				Sg	Sg	01 17 12.1	+0.6
OKCFA	**Oklahoma City**	**0.26**	**190**	Pg	Pg	01 17 10.6	0.0
OKCFA				Sg	Sg	01 17 14.4	+0.3
OKCSW	**OKLAHOMA CITY**	**0.27**	**187**	Pg	Pg	01 17 10.8	0.0
OKCSW				Sg	Sg	01 17 14.7	+0.3
FNO	**Franklin**	**0.42**	**180**	Pg	Pg	01 17 13.4	-0.1
FNO				Sg	Sg	01 17 19.5	+0.5
OK031	**S. Brethren Rd**	**0.53**	**58**	Pg	Pg	01 17 15.8	+0.1
OK031				Sg	Sg	01 17 23.3	+0.6
OK030	**Cody Creek RV**	**0.56**	**63**	Pg	Pg	01 17 16.3	+0.1
OK030				Sg	Sg	01 17 24.1	+0.6
OK034	**N. Norfolk Rd.**	**0.65**	**59**	Pg	Pg	01 17 17.9	0.0
OK034				Sg	Sg	01 17 26.9	+0.5
W35A	**Tecumseh**	**0.67**	**140**	Pg	Pg	01 17 18.1	-0.3
W35A				Sg	Sg	01 17 27.2	+0.1
QUOK	**Quay**	**0.75**	**48**	Pg	Pg	01 17 19.6	-0.2
CROK	**Carrier**	**0.95**	**330**	Pg	Pg	01 17 23.6	-0.1
CROK				IAmb_Lg		01 17 36.3	
	comp=Z,36nm,0.8s						
BLOK	**Blackwell**	**1.09**	**8**	Pg	Pg	01 17 25.9	-0.5
X34A	**Smith Ranch, M**	**1.13**	**199**	Pg	Pg	01 17 26.8	-0.2
X34A				Sg	Sn	01 17 42.6	-0.6
GC02	**Grant County #**	**1.23**	**343**		Pn	01 17 28.5	-0.4
OK032	**Salt Plains WL**	**1.30**	**330**		Pn	01 17 29.6	-0.3
TUL1	**Leonard**	**1.33**	**79**	Pn	Pn	01 17 29.0	-1.2
T35A	**Sooner Cattle**	**1.43**	**30**		Pn	01 17 31.5	-0.1
WMOK	**Wichita Mounta**	**1.47**	**231**	Pn	Pn	01 17 31.9	-0.2
KAN05	**Bluff City Nor**	**1.48**	**345**	IAmb_Lg		01 17 54.3	
	comp=Z,62nm,0.9s						
KAN01	**Argonia South**	**1.50**	**349**	IAmb_Lg		01 17 55.9	
	comp=Z,28nm,0.8s						
KAN08	**Anthony NE Sta**	**1.62**	**344**	IAmb_Lg		01 17 58.2	
	comp=Z,31nm,0.7s						
KAN16	**Harper SW Stat**	**1.64**	**341**	IAmb_Lg		01 18 00.7	
	comp=Z,37nm,1.1s						
X37A	**Clayton**	**1.98**	**123**	IAmb_Lg		01 18 07.4	
	comp=Z,26nm,1.0s						
W39A	**Magazine**	**2.99**	**98**	Pn	Pn	01 17 53.0	0.0
Z38A	**Mt. Pleasant**	**3.13**	**140**	IAmb_Lg		01 18 48.1	
	comp=Z,15nm,0.7s						
MIAR	**Mount Ida**	**3.33**	**109**	Pn	Pn	01 17 58.6	+0.9
MIAR				IAmb_Lg		01 18 55.9	
	comp=Z,14nm,1.0s						
KSU1	**Kansas State U**	**3.48**	**10**	IAmb_Lg		01 18 58.1	
	comp=Z,20nm,0.7s						
AMTX	**Amarillo**	**3.59**	**259**	IAmb_Lg		01 19 06.7	
	comp=Z,13nm,0.7s						
CBKS	**Cedar Bluff**	**3.65**	**330**	IAmb_Lg		01 19 03.5	
	comp=Z,16nm,0.9s						
WHTX	**Lake Whitney,**	**3.67**	**181**	Pn	Pn	01 18 02.3	-0.1
U40A	**Yellville**	**3.75**	**78**	Pn	Pn	01 18 04.0	+0.6
U40A				IAmb_Lg		01 19 13.3	
	comp=Z,15nm,0.7s						
S39A	**Bolivar**	**3.84**	**57**	Pn	Pn	01 18 05.1	+0.3
X40A	**Basin Creek Fa**	**3.93**	**106**	Pn	Pn	01 18 06.3	+0.5
WLAR	**White Oak Lake**	**4.05**	**118**	IAmb_Lg		01 19 15.5	
	comp=Z,15nm,0.9s						
WHAR	**Wooly Hollow**	**4.19**	**94**	Pn	Pn	01 18 10.2	+0.7
W41B	**Gary Mavity, V**	**4.24**	**95**	Pn	Pn	01 18 09.8	-0.4
W41B				IAmb_Lg		01 19 22.8	
	comp=Z,14nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.29**	**86**	Pn	Pn	01 18 11.0	0.0
FCAR				IAmb_Lg		01 19 24.0	
	comp=Z,12nm,0.7s						
MGMO	**Mountain Grove**	**4.39**	**69**	IAmb_Lg		01 19 35.6	
	comp=Z,18nm,1.0s						
MSTX	**Muleshoe**	**4.74**	**250**	Pn	Pn	01 18 17.9	+0.7
R40A	**Maddies Statio**	**4.87**	**56**	Pn	Pn	01 18 18.4	-0.4
R40A				IAmb_Lg		01 19 48.0	
	comp=Z,17nm,1.0s						
P38A	**Dawn**	**5.00**	**37**	Pn	Pn	01 18 21.1	+0.6
P38A				IAmb_Lg		01 19 47.8	
	comp=Z,12nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.33**	**310**	IAmb_Lg		01 20 05.6	
	comp=Z,9.7nm,0.8s						
CCM	**Cathedral Cave**	**5.48**	**62**	IAmb_Lg		01 20 11.6	
	comp=Z,9.7nm,0.9s						
T25A	**Trinidad**	**5.84**	**287**	IAmb_Lg		01 20 14.5	
	comp=Z,14nm,0.8s						
OGNE	**Ogallala**	**6.40**	**327**	IAmb_Lg		01 20 44.5	
	comp=Z,13nm,0.9s						
K31A	**O'Neill**	**7.02**	**352**	IAmb_Lg		01 20 53.3	
	comp=Z,12nm,0.7s						
N23A	**Red Feather La**	**8.50**	**310**	IAmb_Lg		01 21 56.5	
	comp=Z,7.5nm,0.9s						

*IDC **06** 01:28:19.1±3.1, 2°.90N×75°.84W, h26km±20km, mb3.9/15, mb1 4.1/20, mb1mx3.9/64, mbtmp4.1/20, ML3.5/5, MS3.5/12, Ms1 3.5/12, ms1mx3.2/63, Error ellipse: s-maj=17.8km s-min=13.1km az=82.0*

*NEIC **06** 01:28:21.8±2.3, 2°.87N±0°.07×75°.77W±0°.09, h40km±6km, mb4.5/48, Error ellipse: s-maj=13.5km s-min=9.6km az=82.0*

*VAO **06** 01:28:23.9±0.8, 2°.92N×75°.58W, h47km, mb4.3*

ISC 06 01:28:20.7±0.4, 2°.88N±0°.05×75°.82W±0°.07, h35km, n118, σ1§10/115, mb4.5/36, MS3.4/7, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.46**	**38**	Pn	**Pn**	**01 28 59.5**	**+0.7**
	60nm,0.3s,baz=230,slow=9.0,SNR=17						
ROSC				Pg		01 29 03.6	
	97nm,0.3s,baz=348,slow=6.4,SNR=36						
ROSC				Lg	Lg	01 29 37.4	
	144nm,0.3s,baz=334,slow=22,SNR=12						
ZARC	**Zaragoza, Cauc**	**4.69**	**12**	Pn	**Pn**	**01 29 29.5**	**+0.5**
MOTC	**Monteria, Cord**	**5.87**	**2**	Pn	**Pn**	**01 29 45.1**	**-0.2**
SDV	**Santo Domingo**	**7.89**	**41**	Pn	**Pn**	**01 30 14.4**	**+1.1**
	3.5nm,0.3s,baz=165,slow=1.6,SNR=14						
SDV				Sn	**Sn**	**01 31 41.4**	**-0.1**
	2.7nm,0.3s,baz=358,slow=16,SNR=3.1						
SDV				LR	LR	01 33 57.9	
	comp=Z,176nm,21.1s,baz=251,slow=43						
SDV	**Santo Domingo**	**7.89**	**41**	*e*P	**Pn**	**01 30 13.9**	**+0.7**
SDV	**Santo Domingo**	**7.89**	**41**	Pn	**Pn**	**01 30 11.8**	**-1.5**
TBTG	**Tabatinga, AM**	**9.17**	**140**	*e*P	**Pn**	**01 30 31.1**	**+0.4**
TBTG	**Tabatinga, AM**	**9.17**	**140**	Pn	**Pn**	**01 30 30.1**	**-0.5**
BAUV	**El Baul**	**9.81**	**52**	Pn	**Pn**	**01 30 37.0**	**-2.4**
ATAH	**Atahualpa**	**10.27**	**194**	Pn	**Pn**	**01 30 45.9**	**-0.2**
	1.0nm,0.3s,baz=23,slow=6.2,SNR=37						
ATAH				LR	LR	01 35 47.1	
	comp=Z,437nm,19.5s,baz=351,slow=44						
CZSB	**Cruzeiro do Su**	**10.98**	**164**	Pn	**Pn**	**01 30 54.6**	**-0.9**
JTS	**Las Juntas de**	**11.68**	**310**	LR	LR	01 35 16.4	
	comp=Z,115nm,20.5s,slow=36						
BIRV	**Birongo**	**12.12**	**51**	Pn	**Pn**	**01 31 09.3**	**-1.8**
PCRV	**Puerto La Cruz**	**13.27**	**56**	Pn	**Pn**	**01 31 26.7**	**-0.1**
	0.7nm,0.3s,baz=216,slow=8.6,SNR=2.0						
NNA	**Nana**	**14.80**	**184**	Pn	**Pn**	**01 31 47.8**	**+0.2**
	0.3nm,0.3s,baz=29,slow=19,SNR=1.7						
NNA				LR	LR	01 38 52.4	
	comp=Z,383nm,19.6s,baz=343,slow=43						
BOAV	**Boa Vista**	**15.29**	**91**	*e*P	**Pn**	**01 31 52.9**	**-1.3**
BOAV	**Boa Vista**	**15.29**	**91**	Pn	**Pn**	**01 31 52.1**	**-2.0**
ETMB	**Extrema**	**15.83**	**143**	Pn	**Pn**	**01 31 57.9**	**-3.3**
PTGA	**Pitinga**	**16.25**	**103**	Pn	**P**	**01 32 10.9**	**+1.7**
	0.5nm,0.3s,baz=288,slow=12,SNR=12						
PTGA				Lg	Lg	01 36 50.9	
	0.6nm,0.3s,baz=209,slow=23,SNR=7.5						
PTGA				LR	LR	01 38 49.4	
	comp=Z,62nm,18.7s,baz=286,slow=39						
CBYP	**Canovanas**	**18.15**	**32**	P	**P**	**01 32 31.9**	**+1.6**
CUPR	**Culebra, Puert**	**18.49**	**33**	P	**Pn**	**01 32 37.4**	**+3.1**
LPAZ	**La Paz**	**20.50**	**158**	P	**P**	**01 32 56.4**	**-0.2**
	0.9nm,0.7s,baz=338,slow=17,SNR=2.1						
LPAZ				Lg	Lg	01 39 06.2	
	3.6nm,0.9s,baz=218,slow=13,SNR=2.5						
LPAZ				LR	LR	01 41 29.7	
	comp=Z,140nm,20.0s,baz=332,slow=38						
LPAZ	**La Paz**	**20.50**	**158**	*e*P	Pn	01 32 58.5	-0.4
ITTB	**Itaituba**	**21.32**	**110**	*e*P	**P**	**01 33 04.9**	**0.0**
PB16	**IPOC Station P**	**21.98**	**164**	P	**P**	**01 33 14.4**	**+2.0**
VILB	**Vilhena**	**22.09**	**136**	*e*P	**P**	**01 33 14.6**	**+1.5**
VILB	**Vilhena**	**22.09**	**136**	P	**P**	**01 33 13.5**	**+0.4**
VILB				IAmb	IAmb	01 33 18.4	
	comp=Z,18nm,0.9s						
NPGB	**Novo Progresso**	**22.68**	**116**	*e*P	**P**	**01 33 20.9**	**+1.4**
PB11	**IPOC Station P**	**23.30**	**165**	P	**P**	**01 33 28.0**	**+2.1**
CMIG	**Matias Romero**	**23.45**	**308**	LR	LR	01 41 33.9	
	comp=Z,50nm,19.5s,baz=194,slow=34						
SIV	**San Ignacio**	**23.75**	**143**	P	**P**	**01 33 28.7**	**-1.4**
	comp=Z,3.1nm,0.8s,baz=321,slow=11,SNR=7.5						
SIV				Lg	Lg	01 40 43.7	
	comp=Z,15nm,1.1s,baz=52,slow=22,SNR=11						
SIV				LR	LR	01 42 50.7	
	comp=Z,269nm,18.1s,baz=296,slow=37						
PDRB	**Porto dos Gac**	**23.83**	**127**	*e*P	**P**	**01 33 31.5**	**+0.7**
CLDB	**Colider**	**24.16**	**125**	*e*P	**P**	**01 33 34.2**	**+0.3**
PB01	**IPOC Station P**	**24.57**	**166**	P	**P**	**01 33 37.8**	**+0.1**
PB01				IAmb	IAmb	01 33 40.7	
	comp=Z,10nm,0.9s						
PTLB	**Pontes e Lacer**	**24.58**	**138**	*e*P	**P**	**01 33 39.3**	**+1.6**
PTLB	**Pontes e Lacer**	**24.58**	**138**	P	**P**	**01 33 38.5**	**+0.8**
PB09	**IPOC Station P**	**25.35**	**166**	P	**P**	**01 33 46.7**	**+1.9**
LVC	**Limon Verde**	**26.21**	**165**	LR	LR	01 44 59.1	
	comp=Z,116nm,20.3s,baz=305,slow=38						
LVC	**Limon Verde**	**26.21**	**165**	*e*P	**P**	**01 33 54.3**	**+1.4**
ARAG	**Araguaiana, MT**	**30.09**	**129**	*e*P	**P**	**01 34 26.5**	**-0.6**
AQDB	**Aquidauana**	**30.47**	**140**	*e*P	**P**	**01 34 30.4**	**0.0**
AQDB	**Aquidauana**	**30.47**	**140**	P	**P**	**01 34 30.7**	**+0.2**
AQDB				IAmb	IAmb	01 34 32.0	
	comp=Z,6.1nm,0.8s						
Y60A	**Bolivia**	**31.05**	**356**	P	**P**	**01 34 38.2**	**+2.8**
PEXB	**Peixe**	**31.14**	**119**	*e*P	**P**	**01 34 37.2**	**+0.7**
Y49A	**Blount Mountai**	**32.37**	**343**	P	**P**	**01 34 47.3**	**+0.2**
Y49A				IAmb	IAmb	01 34 50.8	
	comp=Z,15nm,1.4s						
FPAL	**Fort Paine**	**32.80**	**345**	P	**P**	**01 34 51.1**	**+0.3**
FPAL				IAmb	IAmb	01 34 53.2	
	comp=Z,10nm,0.8s						
BDFB	**Brasília**	**33.10**	**125**	P	**P**	**01 34 53.6**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=266,slow=12,SNR=3.2						
ITRB	**Iturama**	**33.61**	**133**	*e*P	**P**	**01 34 58.4**	**+0.4**
U54A	**Nelsons Funny**	**33.94**	**351**	P	**P**	**01 35 02.2**	**+1.4**
T59A	**Double "B" Far**	**33.97**	**358**	P	**P**	**01 35 01.9**	**+0.9**
CPUP	**Villa Florida**	**34.10**	**149**	LR	LR	01 48 57.0	
	comp=Z,35nm,18.0s,baz=268,slow=36						
T57A	**Hurt**	**34.10**	**355**	P	**P**	**01 35 02.9**	**+0.7**
T57A				IAmb	IAmb	01 35 03.6	
	comp=Z,6.5nm,0.8s						
IPMB	**Ipameri, GO**	**34.21**	**128**	*e*P	**P**	**01 35 04.1**	**+0.7**
V48A	**Šmith Brothers**	**34.25**	**344**	P	**P**	**01 35 03.4**	**-0.1**
SDBA	**SAO DESIDERIO**	**34.27**	**117**	*e*P	**P**	**01 35 04.9**	**+1.0**
U49A	**Red Boiling Sp**	**34.71**	**346**	P	**P**	**01 35 09.1**	**+1.7**
U49A				IAmb	IAmb	01 35 12.5	
	comp=Z,9.1nm,1.2s						
P53A	**Whipple**	**36.79**	**353**	P	**P**	**01 35 25.9**	**+0.7**
P52A	**Corning**	**37.03**	**352**	P	**P**	**01 35 27.9**	**+0.6**
TXAR	**Lajitas Array**	**37.30**	**318**	P	**P**	**01 35 28.8**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=142,slow=10,SNR=13						
TXAR				PcP	**PcP**	**01 37 48.5**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=143,slow=6.8,SNR=4.9						
TXAR	**Lajitas Array**	**37.30**	**318**	P	**P**	**01 35 30.3**	**+0.4**
ITAB	**Concordia**	**37.66**	**144**	P	**P**	**01 35 32.2**	**-0.5**
DIAM	**Diamantina, MG**	**38.02**	**125**	*e*P	**P**	**01 35 36.8**	**+0.7**
N54A	**Moraine State**	**38.10**	**355**	P	**P**	**01 35 36.9**	**+0.6**
M57A	**Sunshine Farm,**	**38.31**	**358**	P	**P**	**01 35 39.3**	**+1.3**
M54A	**Oil Creek Stat**	**38.62**	**355**	P	**P**	**01 35 41.5**	**+0.9**
WVNY	**West Valley, N**	**39.44**	**357**	P	**P**	**01 35 48.2**	**+0.7**
WVNY				IAmb	IAmb	01 35 50.3	
	comp=Z,12nm,0.8s						
MNTX	**Cornudas Mount**	**39.95**	**319**	P	**P**	**01 35 51.2**	**-0.7**
MNTX				IAmb	IAmb	01 35 52.5	
	comp=Z,10.0nm,1.1s						
SADO	**Sadowa**	**41.82**	**356**	LR	LR	01 59 12.5	
	comp=Z,60nm,18.1s,baz=208,slow=44						
121A	**Cookes Peak, D**	**42.06**	**318**	P	**P**	**01 36 09.1**	**-0.4**
121A				IAmb	IAmb	01 36 12.1	
	comp=Z,13nm,1.0s						
NBRF	**Rio Formoso -**	**42.17**	**106**	*e*P	**P**	**01 36 09.6**	**-0.8**
319A	**Douglas**	**42.39**	**316**	P	**P**	**01 36 12.1**	**-0.1**
319A				IAmb	IAmb	01 36 13.8	
	comp=Z,8.7nm,0.9s						
LENM	**Lemitar**	**42.56**	**321**	P	**P**	**01 36 14.2**	**+0.7**
ANMO	**Albuquerque**	**42.74**	**322**	P	**P**	**01 36 14.6**	**-0.4**
PLCA	**Paso Flores**	**43.67**	**174**	P	**P**	**01 36 22.6**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=355,slow=4.9,SNR=5.1						
PLCA	**Paso Flores**	**43.67**	**174**	*e*P	**P**	**01 36 23.8**	**+1.5**
PLCA	**Paso Flores**	**43.67**	**174**	P	**P**	**01 36 24.1**	**+1.8**
PLCA				IAmb	IAmb	01 36 24.1	
	comp=Z,7.3nm,1.1s						
SDCO	**Great Sand Dun**	**44.09**	**326**	P	**P**	**01 36 26.5**	**+0.5**
W18A	**Petrified Fore**	**44.92**	**320**	P	**P**	**01 36 32.3**	**-0.3**
W18A				IAmb	IAmb	01 36 38.4	
	comp=Z,7.1nm,0.9s						
PV13	**Radium Mtn., P**	**46.29**	**324**	P	**P**	**01 36 42.8**	**-0.6**
PV13				IAmb	IAmb	01 36 46.5	
	comp=Z,7.0nm,1.0s						
PV05	**Paradox Valley**	**46.40**	**323**	P	**P**	**01 36 43.1**	**-1.2**
PV05				IAmb	IAmb	01 36 44.8	
	comp=Z,7.6nm,1.1s						
SRU	**San Rafael Swe**	**47.92**	**323**	P	**P**	**01 36 55.9**	**-0.1**
SRU				IAmb	IAmb	01 36 56.8	
	comp=Z,4.8nm,0.9s						
RSSD

σ1§16/965, mb5.1/338, MS4.1/73, 69C-64D, North Korea

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLA	**Vladivostok**	**2.77**	**49**	*c iP*	**Pn**	**01 30 45.6**	**-0.8**
MDJ	**Mudanjiang**	**3.33**	**7**	Pg	**Pn**	**01 30 54.5**	**+0.6**
MDJ				Sg	**Sn**	**01 31 35.6**	**+1.4**
MDJ				smax	smax		
	comp=N,6μm,1.4s						
MDJ				smax	smax		
	comp=E,5μm,0.6s						
MDJ	**Mudanjiang**	**3.33**	**7**	Pn	**Pn**	**01 30 54.3**	**+0.3**
MDJ	**Mudanjiang**	**3.33**	**7**	P	**Pn**	**01 30 54.6**	**+0.6**
USA0B	**Ussuriysk Arra**	**3.61**	**36**	*i P*	**Pn**	**01 30 57.2**	**-0.6**
USA0B	**Ussuriysk Arra**	**3.61**	**36**	**Pn**	**Pn**	**01 30 57.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**3.61**	**36**	Pn	**Pn**	**01 30 57.2**	**-0.7**
	baz=217,slow=12,SNR=1552						
USRK				Pg	**Pb**	**01 31 04.7**	**-0.7**
	baz=215,slow=14,SNR=29						
USRK				Lg	Lg	01 31 53.7	
	baz=215,slow=27,SNR=8.5						
CN2	**Changchun**	**3.64**	**314**	*e*Pg	**Pn**	**01 30 58.0**	**-0.3**
CN2				smax	smax		
	comp=N,2μm,0.6s						
CN2				smax	smax		
	comp=E,1μm,0.6s						
KS19	**Wonju Array Si**	**3.92**	**194**		**Pn**	**01 31 02.5**	**+0.4**
KSRS	**Korea Array**	**3.95**	**193**	Pn	**Pn**	**01 31 02.6**	**+0.1**
	comp=E,166nm,0.3s,baz=14,slow=13,SNR=843						
KSRS				Sn	**Sn**	**01 31 49.5**	**-0.1**
	comp=E,69nm,0.3s,baz=15,slow=23,SNR=8.7						
KSRS				Lg	Lg	01 32 06.3	
	comp=E,39nm,0.3s,baz=4.8,slow=30,SNR=2.6						
KSAR	**Wonju Array Be**	**3.97**	**193**	P	**Pn**	**01 31 02.7**	**-0.1**
KSAR	**Wonju Array Be**	**3.97**	**193**	Pn	**Pn**	**01 31 02.7**	**-0.1**
SNY	**Shenyang**	**4.13**	**279**	⇑Pn	**Pn**	**01 31 05.0**	**-0.1**
SNY				⇓Pg	**Pb**	**01 31 15.8**	**+1.5**
SNY				Sg	**Sg**	**01 32 12.5**	**-1.0**
SNY				smax	smax		
	comp=N,1μm,0.7s						
SNY				smax	smax		
	comp=E,1μm,0.5s						
INCN	**Inchon**	**4.26**	**207**	P	**Pn**	**01 31 06.7**	**-0.1**
INCN	**Inchon**	**4.26**	**207**	Pn	**Pn**	**01 31 06.7**	**-0.1**
INCN	**Inchon**	**4.26**	**207**	P	**Pn**	**01 31 07.0**	**+0.2**
BNX	**BinXian**	**4.58**	**345**	⇑P	**Pn**	**01 31 11.0**	**-0.2**
BNX				S	**Sn**	**01 32 03.9**	**-1.2**
BNX				smax	smax		
	comp=N,760nm,0.9s						
BNX				smax	smax		
	comp=E,1μm,0.8s						
TJN	**Taejon**	**5.10**	**195**	*ce*P	**Pn**	**01 31 18.3**	**-0.1**
TJN	**Taejon**	**5.10**	**195**		**Pn**	**01 31 18.4**	**-0.1**
TJN	**Taejon**	**5.10**	**195**	P	**Pn**	**01 31 18.7**	**+0.3**
	comp=E,876nm,0.4s						
DL2	**Dalian**	**6.17**	**249**	⇓*i*Pn	**Pn**	**01 31 33.6**	**+0.5**
DL2				Pg	**Pg**	**01 31 56.3**	**-2.7**
DL2				Sg	**Sg**	**01 33 17.6**	**-1.4**
DL2				smax	smax		
	comp=N,810nm,0.5s						
DL2				smax	smax		
	comp=E,990nm,0.7s						
DL2				LR	LR		
	comp=N,4μm,5.9s						
DL2				LR	LR		
	comp=E,4μm,4.8s						
DL2				LR	LR		
	comp=Z,5μm,5.9s						
TEY	**Ternei**	**6.66**	**54**	⇓*e*P	**Pn**	**01 31 39.8**	**+0.1**
TEY				pmax	pmax		
	comp=E,160nm,0.3s						
TEY				pmax	pmax		
	comp=Z,790nm,0.3s						
TEY				pmax	pmax		
	comp=N,60nm,0.4s						
TEY				pmax	pmax		
	comp=N,100nm,0.5s						
TEY				pmax	pmax		
	comp=E,100nm,0.5s						
TEY				pmax	pmax		
	comp=Z,100nm,0.5s						
JTU	**Tsushima**	**6.79**	**178**	Pn	**Pn**	**01 31 41.5**	**0.0**
JHS	**Saijyo**	**7.07**	**152**	Pn	**Pn**	**01 31 43.7**	**-1.8**
JSD	**Sado**	**7.82**	**112**	Pn	**Pn**	**01 31 54.1**	**-1.6**
JWT	**Wachi**	**7.82**	**138**		**Pn**	**01 31 53.7**	**-2.1**
KLR	**Kul'dur**	**8.14**	**13**	Pn	**Pn**	**01 32 01.1**	**+1.0**
	comp=Z,27nm,0.3s,baz=188,slow=13,SNR=599						
KLR				Lg	Lg	01 34 13.7	
	baz=170,slow=14,SNR=4.0						
KLR	**Kul'dur**	**8.14**	**13**	*ce*P	**Pn**	**01 32 00.9**	**+0.8**
JNU	**Nakatsue**	**8.31**	**169**	Pn	**Pn**	**01 32 02.7**	**+0.2**
	comp=Z,13nm,0.3s,baz=293,slow=2.6,SNR=69						
JNU				Sn	**Sn**	**01 33 37.0**	**0.0**
	comp=Z,0.8nm,0.3s,baz=94,slow=18,SNR=1.8						
JNU				LR	LR	01 35 07.2	
	comp=Z,556nm,20.0s,baz=336,slow=37						
JNU	**Nakatsue**	**8.31**	**169**	P	**Pn**	**01 32 03.0**	**+0.5**
	comp=Z,59nm,0.9s						
JMN	**Monobe**	**8.49**	**152**	Pn	**Pn**	**01 32 04.6**	**-0.3**
MJB9	**Matsu-Tunnel**	**8.58**	**121**		**Pn**	**01 32 06.4**	**+0.3**
MAJO	**Matsushiro**	**8.58**	**121**	*i* P	**Pn**	**01 32 05.6**	**-0.6**
MAJO	**Matsushiro**	**8.58**	**121**	Pn	**Pn**	**01 32 06.2**	**0.0**
MAJO	**Matsushiro**	**8.58**	**121**	P	**Pn**	**01 32 06.8**	**+0.6**
	comp=Z,50nm,0.6s						
MAT	**Matsushiro**	**8.58**	**121**	P	**Pn**	**01 32 05.7**	**-0.5**
MAT				S	**Sn**	**01 33 41.6**	**-2.1**
MJAR	**Matsushiro Arr**	**8.58**	**121**	Pn	**Pn**	**01 32 06.2**	**0.0**
	comp=Z,2.2nm,0.3s,baz=296,slow=13,SNR=43						
MJAR				Sn	**Sn**	**01 33 44.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=303,slow=23,SNR=2.4						
MJAR				LR	LR	01 35 00.7	
	comp=Z,804nm,20.9s,baz=330,slow=35						
MJAR	**Matsushiro Arr**	**8.58**	**121**	Pn	**Pn**	**01 32 05.7**	**-0.6**
INU	**Inuyama**	**8.64**	**131**	Pn	**Pn**	**01 32 06.7**	**-0.3**
INU					**Sn**	**01 33 45.7**	**+0.6**
INU	**Inuyama**	**8.64**	**131**	P	**Pn**	**01 32 07.5**	**+0.5**
	comp=Z,90nm,0.7s						
JGF	**Kuroka**	**8.66**	**129**	Pn	**Pn**	**01 32 06.8**	**-0.5**
JTM	**Tenmabayashi**	**9.10**	**89**	Pn	**Pn**	**01 32 12.0**	**-1.2**
JEW	**Eniwo**	**9.35**	**77**	Pn	**Pn**	**01 32 16.8**	**+0.1**
JMM	**Marumori**	**9.70**	**107**		**Pn**	**01 32 21.7**	**+0.2**
BJI	**Beijing**	**9.86**	**267**	P	**Pn**	**01 32 24.6**	**+0.9**
BJI				pmax	pmax		
	comp=Z,33nm,0.6s						
BJI				pmax	pmax		
	comp=Z,180nm,5.4s						
BJI				LR	LR		
	comp=N,2μm,8.4s						
BJI				LR	LR		
	comp=E,2μm,11.4s						
BJT	**Baijiatuau**	**9.87**	**267**	P	**Pn**	**01 32 24.6**	**+0.7**
BJT	**Baijiatuau**	**9.87**	**267**	Pn	**Pn**	**01 32 24.6**	**+0.7**
XLT	**XiLinHaoTe**	**9.90**	**289**	*e*P	**Pn**	**01 32 25.4**	**+1.0**
XLT				pP		01 32 28.4	
XLT				sP		01 32 30.7	
XLT				S	**Sn**	**01 34 19.3**	**+3.1**
XLT				pmax	pmax		
	comp=Z,52nm,0.8s						
XLT				pmax	pmax		
	comp=Z,180nm,5.2s						
XLT				LR	LR		
	comp=N,1μm,6.5s						
XLT				LR	LR		
	comp=E,4μm,7.2s						
XLT				LR	LR		
	comp=Z,4μm,7.6s						
HIA	**Hailar**	**10.30**	**324**	P	**Pn**	**01 32 29.2**	**-0.5**
HIA	**Hailar**	**10.30**	**324**	Pn	**Pn**	**01 32 29.2**	**-0.5**
ASAJ	**Asahikawa**	**10.36**	**70**	Pn	**Pn**	**01 32 30.2**	**-0.3**
	comp=Z,4.0nm,0.3s,baz=252,slow=19,SNR=8.5						
ERM	**Erimo**	**10.58**	**82**	P	**Pn**	**01 32 35.5**	**+1.9**
	comp=Z,92nm,0.9s						
TIA	**Tai'an**	**10.61**	**245**	⇓P	**Pn**	**01 32 35.1**	**+1.1**
TIA				S	Sn	01 35 10.5	+37
TIA				AMB	AMB		
	comp=Z,120nm,0.8s						
TIA				pmax	pmax		
	comp=Z,110nm,0.8s						
TIA				LR	LR		
	comp=N,560nm,7.9s						
TIA				LR	LR		
	comp=E,1μm,14.2s						
TIA				LR	LR		
	comp=Z,1μm,14.1s						
GRNR	**Gornyy**	**10.75**	**26**	⇓*i*P	**Pn**	**01 32 36.3**	**+0.5**
GRNR				*e*S	**Sn**	**01 34 40.6**	**+3.8**
GRNR				pmax	pmax		
	comp=N,7.0nm,0.3s						
GRNR				pmax	pmax		
	comp=E,4.0nm,0.3s						
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
GRNR				smax	smax		
	comp=N,5.0nm,0.5s						
GRNR				MLR	MLR		
	comp=E,470nm,14.0s						
GRNR				MLR	MLR		
	comp=N,1μm,10.0s						
GRNR				MLR	MLR		
	comp=Z,1μm,10.0s						
YSS	**Yuzh-Sakhalins**	**11.35**	**56**	*e*P	**Pn**	**01 32 46.9**	**+2.9**
YSS				*e*S	**Sn**	**01 34 57.3**	**+5.9**
YSS				pmax	pmax		
	comp=Z,60nm,0.5s						
YSS				MLR	MLR		
	comp=E,700nm,10.0s						
YSS				MLR	MLR		
	comp=Z,1μm,10.0s						
YSS	**Yuzh-Sakhalins**	**11.35**	**56**	Pn	**Pn**	**01 32 46.7**	**+2.7**
YSS	**Yuzh-Sakhalins**	**11.35**	**56**	P	**Pn**	**01 32 47.1**	**+3.1**
	comp=Z,54nm,0.5s						
HNS	**HongShan**	**11.77**	**255**	⇑P	**Pn**	**01 32 50.3**	**+0.5**
HNS				S		01 36 28.1	
HNS				pmax	pmax		
	comp=Z,35nm,0.4s						
HNS				LR	LR		
	comp=N,840nm,12.0s						
HNS				LR	LR		
	comp=E,1μm,14.1s						
HNS				LR	LR		
	comp=Z,2μm,12.4s						
JHJ	**Hachijo jima 2**	**11.83**	**130**	LR	LR	01 36 54.8	
	comp=Z,336nm,20.8s,baz=18,slow=35						
JHJ2	**Mitsune**	**11.86**	**130**	P	**Pn**	**01 32 52.6**	**+1.6**
	comp=Z,258nm,2.5s						
UGL	**Uglegorsk**	**12.01**	**45**	*e*P	**Pn**	**01 32 55.3**	**+2.2**
UGL				S	**Sn**	**01 35 12.2**	**+4.5**
UGL				pmax	pmax		
	comp=Z,68nm,0.9s						
UGL				MLR	MLR		
	comp=Z,2μm,16.0s						
UGL				MLR	MLR		
	comp=N,2μm,13.0s						
NJ2	**Nanjing**	**12.33**	**225**	⇓P	**Pn**	**01 32 58.5**	**+0.9**
NJ2				S	**Sn**	**01 35 11.9**	**-3.8**
NJ2				pmax	pmax		
	comp=Z,29nm,0.7s						
NJ2				LR	LR		
	comp=N,570nm,9.9s						
NJ2				LR	LR		
	comp=E,1μm,12.8s						
NJ2				LR	LR		
	comp=Z,1μm,11.4s						
ZEA	**Zeya**	**12.49**	**355**	*e*P	**Pn**	**01 33 01.2**	**+1.6**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,100nm,3.7s						
ZEA				MLR	MLR		
	comp=E,400nm,5.0s						
ZEA				MLR	MLR		
	comp=N,2μm,7.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,8.0s						
HHC	**Hu-ho-hao-te**	**13.20**	**274**	*e*P	**Pn**	**01 33 12.3**	**+2.8**
HHC				S	**Sn**	**01 35 34.8**	**-2.2**
HHC				pmax	pmax		
	comp=Z,35nm,1.1s						
HHC				pmax	pmax		
	comp=Z,94nm,5.7s						
HHC				LR	LR		
	comp=N,410nm,7.0s						
HHC				LR	LR		
	comp=E,660nm,6.4s						
HHC				LR	LR		
	comp=Z,400nm,6.7s						
JOW	**Kunigami**	**14.46**	**183**	LR	LR	01 39 03.0	
	comp=Z,292nm,18.5s,baz=5.5,slow=38						
LYN	**LuoYang**	**14.71**	**248**	*e*P	**Pn**	**01 33 32.0**	**+2.0**
LYN				S	**S**	**01 36 24.4**	**-8.6**
LYN				SS	**SnSn**	**01 36 38.8**	**+13**
LYN				LR	LR		
	comp=N,570nm,9.4s						
LYN				LR	LR		
	comp=E,1μm,10.6s						
LYN				LR	LR		
	comp=Z,2μm,11.4s						
CIT	**Chita**	**15.06**	**321**	*e*P	**Pn**	**01 33 36.8**	**+2.1**
CIT				pmax	pmax		
	comp=Z,53nm,1.8s						
WHN	**Wuhan**	**16.01**	**233**	⇑P	**P**	**01 33 55.5**	**+4.6**
WHN				pmax	pmax		
	comp=Z,66nm,0.5s						
WHN				LR	LR		
	comp=N,2μm,6.0s						
WHN				LR	LR		
	comp=E,560nm,12.6s						
WHN				LR	LR		
	comp=Z,2μm,7.8s						
ULN	**Ulaanbaatar**	**16.95**	**300**	*ce*P	**Pn**	**01 33 59.6**	**+0.3**
ULN				pmax	pmax		
	comp=Z,15nm,1.0s						
ULN	**Ulaanbaatar**	**16.95**	**300**	Pn	**Pn**	**01 33 60.0**	**+0.7**
SONM	**Songino Array**	**17.37**	**300**	P	**Pn**	**01 34 05.3**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=103,slow=12,SNR=16						
SONM				PcP	**PcP**	**01 38 45.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=90,slow=0.6,SNR=4.0						
SONM				Lg	Lg	01 39 07.2	
	comp=Z,0.3nm,0.3s,baz=120,slow=26,SNR=2.7						
SONM				LR	LR	01 41 19.5	
	comp=Z,940nm,18.1s,baz=122,slow=39						
SONM	**Songino Array**	**17.37**	**300**	P	**Pn**	**01 34 05.0**	**+0.5**
XAN	**Xi'an**	**17.49**	**252**	P	**P**	**01 34 08.7**	**+1.4**
XAN				pP	Pn	01 34 10.3	+4.3
XAN				S	S	01 38 16.8	+47
XAN				SS		01 38 30.2	
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,60nm,3.5s						
XAN				LR	LR		
	comp=N,360nm,14.8s						
XAN				LR	LR		
	comp=E,740nm,15.9s						
XAN				LR	LR		
	comp=Z,990nm,15.7s						
YHNB	**Yeheng**	**17.79**	**203**		**P**	**01 34 12.5**	**+1.8**
YHNB	**Yeheng**	**17.79**	**203**	P	**P**	**01 34 10.8**	**+0.1**
	comp=Z,58nm,1.2s						
CNSH	**ChangSha**	**18.59**	**230**	⇓P	**Pn**	**01 34 21.8**	**+2.3**
CNSH				S	**S**	**01 37 54.1**	**+2.0**
CNSH				pmax	pmax		
	comp=Z,79nm,1.0s						
CNSH				LR	LR		
	comp=N,710nm,12.5s						
CNSH				LR	LR		
	comp=E,860nm,13.0s						
SSLB	**Suanglung**	**18.74**	**204**	P	**Pn**	**01 34 22.1**	**+0.6**
SSLB	**Suanglung**	**18.74**	**204**	P	**Pn**	**01 34 22.5**	**+1.0**
	comp=E,47nm,0.8s						
BOD	**Bodaibo**	**19.11**	**335**	*e*P	**Pn**	**01 34 26.2**	**+0.6**
BOD				pmax	pmax		
	comp=Z,37nm,1.0s						
ENH	**Enshi**	**19.27**	**241**		**P**	**01 34 25.9**	**-1.1**
TPUB	**Ta-pu**	**19.30**	**204**	P	**Pn**	**01 34 28.3**	**+0.1**
	comp=Z,47nm,1.3s						
ZAK	**Zakamensk**	**20.02**	**306**	*e*P	Pn	01 34 36.1	-0.7
ZAK				pmax	pmax		
	comp=Z,13nm,1.0s						
IRK	**Irkutsk**	**20.08**	**311**	*e*P	Pn	01 34 39.5	+2.2
IRK				pmax	pmax		
	comp=Z,44nm,0.6s						
LZH	**Lanzhou**	**20.32**	**263**	⇓P	Pn	01 34 40.8	+0.4
LZH				pP	P	01 34 43.7	+5.2
LZH				PP	**PnPn**	**01 35 03.0**	**+8.0**
LZH				pmax	pmax		
	comp=Z,30nm,1.4s						
LZH				pmax	pmax		
	comp=Z,220nm,6.0s						
LZH				LR	LR		
	comp=N,820nm,9.8s						
LZH				LR	LR		
	comp=E,990nm,10.3s						
LZH				LR	LR		
	comp=Z,1μm,10.9s						
YAK	**Yakutsk**	**20.75**	**1**	P	**P**	**01 34 42.5**	**-0.3**
	comp=Z,92nm,0.6s,baz=181,slow=0.8,SNR=31						
YAK				S	**S**	**01 38 36.2**	**+1.2**
	comp=Z,4.8nm,0.3s,baz=217,slow=1.9,SNR=1.2						
YAK				Lg	Lg	01 40 55.7	
	comp=Z,3.7nm,0.4s,baz=359,slow=1.5,SNR=1.2						
YAK				LR	LR	01 42 54.6	
	comp=Z,353nm,18.2s,baz=100,slow=37						
YAK	**Yakutsk**	**20.75**	**1**	*e*P	**P**	**01 34 42.6**	**-0.1**
YAK				*e*		01 35 00.6	
YAK				*e*S	**S**	**01 38 33.8**	**-1.2**
YAK				*e*		01 38 51.9	
YAK				*e*SS	Sn	01 39 01.8	+22
YAK				*e*SSS	SSS	01 39 15.8	
YAK				pmax	pmax		
	comp=Z,40nm,0.9s						
YAK				pmax	pmax		
	comp=N,11nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,48nm,1.1s						
YAK				pmax	pmax		
	comp=N,40nm,1.1s						
YAK				pmax	pmax		
	comp=E,11nm,1.0s						
YAK				smax	smax		
	comp=N,153nm,2.8s						
YAK				smax	smax		
	comp=E,88nm,2.8s						
YAK				MLR	MLR		
	comp=Z,285nm,16.0s						
YAK				MLR	MLR		
	comp=N,151nm,15.0s						
YAK	**Yakutsk**	**20.75**	**1**	P	**P**	**01 34 42.7**	**0.0**
SKR	**Severo-Kuril's**	**20.91**	**54**	*i* P	**P**	**01 34 44.2**	**-0.3**
MOY	**Mondy**	**21.78**	**308**	*e*P	**P**	**01 35 00.2**	**+6.1**
GULI	**GuiLin**	**22.27**	**230**	⇑P	**P**	**01 35 02.4**	**+3.1**
GULI				S	Sn	01 39 18.0	+1.5
GULI				pmax	pmax		
	comp=Z,40nm,1.1s						
GULI				LR	LR		
	comp=N,300nm,12.5s						
GULI				LR	LR		
	comp=E,650nm,12.5s						
GULI				LR	LR		
	comp=Z,750nm,12.5s						
GTA	**Gaotai**	**22.31**	**275**	⇑P	**P**	**01 35 01.5**	**+1.6**
GTA				PcP	**PcP**	**01 38 55.9**	**+0.3**
GTA				S	Sn	01 39 13.7	-3.9
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA				pmax	pmax		
	comp=Z,130nm,4.2s						
GTA				LR	LR		
	comp=N,400nm,14.5s						
GTA				LR	LR		
	comp=E,960nm,13.7s						
GTA				LR	LR		
	comp=Z,1μm,11.6s						
PEA0B	**Petropavlovsk-**	**22.59**	**49**	*i* P	**P**	**01 35 02.9**	**+0.3**
PETK	**Petropavlovsk-**	**22.59**	**49**	P	**P**	**01 35 01.2**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=216,slow=7.9,SNR=8.8						
PETK				LR	LR	01 45 05.4	
	comp=Z,115nm,18.3s,baz=238,slow=40						
PETK	**Petropavlovsk-**	**22.59**	**49**	P	**P**	**01 35 02.0**	**-0.6**
PETK	**Petropavlovsk-**	**22.59**	**49**	P	**P**	**01 35 02.0**	**-0.6**
MA2	**Magadan**	**22.74**	**29**	*ce*P	**P**	**01 35 03.2**	**-0.9**
MA2				pmax	pmax		
	comp=Z,22nm,0.6s						
MA2	**Magadan**	**22.74**	**29**	P	**P**	**01 35 03.8**	**-0.3**
MA2				IAmb	IAmb	01 35 05.5	
	comp=Z,31nm,0.6s						
MA2				IAMs_20	IAMs_20	01 44 15.9	
	comp=Z,201nm,18.0s						
HKPS	**Hong Kong Po S**	**22.76**	**218**	IAMs_20	IAMs_20	01 43 54.1	
	comp=Z,317nm,21.0s						
CD2	**Chengdu**	**22.84**	**251**	⇑*i*P	**P**	**01 35 05.8**	**+0.3**
CD2				S	**S**	**01 39 14.4**	**-1.6**
CD2				sS	Sn	01 39 19.1	-11
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,70nm,4.0s						
CD2				LR	LR		
	comp=N,50nm,11.9s						
CD2				LR	LR		
	comp=E,510nm,14.0s						
CD2				LR	LR		
	comp=Z,800nm,12.6s						
PET	**Petropavlovsk**	**23.11**	**49**	*i* P	**P**	**01 35 08.8**	**+0.8**
PET				pmax	pmax		
	comp=Z,6.0nm,0.3s						
GYA	**Guiyang**	**23.67**	**238**	⇑P	**P**	**01 35 14.5**	**+0.4**
GYA				S	**S**	**01 39 31.3**	**+1.3**
GYA				pmax	pmax		
	comp=Z,47nm,0.7s						
GYA				pmax	pmax		
	comp=Z,140nm,3.5s						
GYA				LR	LR		
	comp=N,620nm,9.2s						
GYA				LR	LR		
	comp=E,660nm,10.5s						
GYA				LR	LR		
	comp=Z,860nm,11.8s						
SEY	**Seymchan**	**25.68**	**25**	P	**P**	**01 35 31.4**	**-0.6**
	comp=Z,8.5nm,0.4s,baz=210,slow=6.4,SNR=25						
SEY	**Seymchan**	**25.68**	**25**	*i* P	**P**	**01 35 32.0**	**0.0**
PZH	**PanZhiHua**	**26.91**	**245**	P	**P**	**01 35 42.9**	**-0.7**
PZH				S	**S**	**01 40 26.9**	**+5.3**
PZH				pmax	pmax		
	comp=Z,30nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,4.3s						
PZH				LR	LR		
	comp=N,700nm,16.4s						
PZH				LR	LR		
	comp=E,480nm,15.5s						
PZH				LR	LR		
	comp=Z,910nm,15.7s						
GOMU	**GeErMu**	**27.07**	**270**	P	**P**	**01 35 46.0**	**+0.7**
GOMU				sP	PP	01 35 49.4	-57
GOMU				PcP	**PcP**	**01 39 06.4**	**-0.1**
GOMU				S	**S**	**01 40 18.7**	**-5.7**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,80nm,5.2s						
GOMU				LR	LR		
	comp=N,92nm,11.1s						
GOMU				LR	LR		
	comp=E,360nm,11.5s						
GOMU				LR	LR		
	comp=Z,360nm,11.4s						
KMI	**Kunming**	**27.15**	**242**	⇑P	**P**	**01 35 45.4**	**-0.5**
KMI				pP	PP	01 35 50.3	-57
KMI				sP		01 35 53.2	
KMI				S	**S**	**01 40 27.7**	**+2.1**
KMI				pmax	pmax		
	comp=Z,38nm,0.8s						
KMI				LR	LR		
	comp=N,340nm,17.5s						
KMI				LR	LR		
	comp=E,290nm,18.4s						
KMI				LR	LR		
	comp=Z,410nm,16.6s						
QIZ	**Qiongzhong**	**27.61**	**222**	P	**P**	**01 35 51.2**	**+1.4**
QIZ				S	S	01 40 48.7	+16
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.5s						
QIZ				LR	LR		
	comp=N,360nm,14.7s						
QIZ				LR	LR		
	comp=E,280nm,15.9s						
QIZ				LR	LR		
	comp=Z,480nm,15.5s						
QIZ	**Qiongzhong**	**27.61**	**222**	IAMs_20	IAMs_20	01 48 32.6	
	comp=Z,264nm,20.0s						
SLVN	**Son La**	**29.12**	**234**	P	**P**	**01 36 03.7**	**+0.4**
SLVN				IAMs_20	IAMs_20	01 48 34.7	
	comp=Z,306nm,21.0s						

DGZ Jazzator, Alta 30.02 300 *i* P **P 01 36 12.0 +0.8**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
WMQ Urumqi 30.33 289 *e*P **P 01 36 16.8 +2.8**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ LR LR
comp=N,400nm,12.5s
WMQ LR LR
comp=E,500nm,7.1s
WMQ LR LR
comp=Z,180nm,14.9s
TIXI Tiksi 30.41 360 P **P 01 36 13.8 -0.5**
comp=Z,28nm,0.5s,baz=149,slow=6.5,SNR=130
TIXI LR LR 01 48 33.6
comp=Z,108nm,19.4s,baz=233,slow=37
TIXI Tiksi 30.41 360 *ce*P **P 01 36 13.7 -0.5**
TIXI pmax pmax
comp=Z,27nm,0.6s
TIXI Tiksi 30.41 360 P **P 01 36 13.6 -0.6**
GUMO Guam 30.88 149 LR LR 01 47 34.0
comp=Z,128nm,20.0s,baz=94,slow=34
ZSN Zaisan 31.82 296 *e*P **P 01 36 27.3 +0.3**
ZSN Zaisan 31.82 296 *e*P **P 01 36 27.3 +0.3**
baz=296
ZAA0 Zalesovo Array 31.84 309 P **P 01 36 27.4 +0.4**
ZALV Zalesovo Beam 31.84 309 P **P 01 36 27.4 +0.4**
comp=Z,3.6nm,0.6s,baz=96,slow=8.8,SNR=26
ZALV PcP **PcP 01 39 16.9 -0.9**
comp=Z,7.7nm,0.8s,baz=97,slow=1.0,SNR=20
ZALV LR LR 01 50 03.9
comp=Z,546nm,18.1s,baz=78,slow=38
ZALV Zalesovo Beam 31.84 309 *i* P **P 01 36 27.6 +0.6**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
SHEM Shemya Is, Ala 32.25 54 LR LR 01 50 41.5
comp=Z,56nm,19.1s,baz=204,slow=38
LSA Lhasa 32.71 261 IAms_20 IAms_20 01 50 11.0
comp=Z,191nm,18.0s
BILL Bilibino 33.38 24 *d i*P **P 01 36 40.3 -0.1**
BILL *e**PP 01 36 42.4
BILL *e*PPP PPP 01 37 57.9
BILL *e*S **S 01 41 54.0 -8.0**
BILL *e*SSS SSS 01 44 05.6
BILL pmax pmax
comp=Z,17nm,0.7s
BILL MLR MLR
comp=Z,376nm,18.0s
BILL Bilibino 33.38 24 P **P 01 36 40.8 +0.4**
BILL IAmb IAmb 01 36 41.3
comp=Z,16nm,0.7s
MK31 Makanchi Array 33.65 295 *i* P **P 01 36 43.6 +0.6**
MK31 Makanchi Array 33.65 295 P **P 01 36 43.6 +0.6**
MKAR Makanchi Array 33.65 295 P **P 01 36 43.6 +0.6**
comp=Z,5.6nm,0.6s,baz=89,slow=9.6,SNR=69
MKAR PcP **PcP 01 39 22.2 -0.8**
comp=Z,1.5nm,0.6s,baz=54,slow=2.0,SNR=7.4
MKAR LR LR 01 51 23.6
comp=Z,237nm,19.4s,baz=72,slow=38
MAKZ Makanchi 33.86 295 P **P 01 36 44.8 0.0**
MAKZ Makanchi 33.86 295 P **P 01 36 45.5 +0.6**
MAKZ PcP **PcP 01 39 22.6 -1.0**
CHTO Chiang Mai 34.09 238 P **P 01 36 47.2 +0.1**
CHTO pmax pmax
comp=Z,23nm,0.8s
CHTO MLR MLR
comp=Z,300nm,18.0s
CHTO Chiang Mai 34.09 238 P **P 01 36 47.1 +0.1**
CHTO IAmb IAmb 01 36 47.6
comp=Z,22nm,0.8s
DAV Davao City (W) 34.24 186 LR LR 01 50 27.4
comp=Z,76nm,21.7s,baz=326,slow=36
CM31 Chiang Mai Arr 34.36 238 P **P 01 36 49.3 0.0**
CM31 IAmb IAmb 01 36 50.2
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 34.36 238 P **P 01 36 49.2 -0.1**
comp=Z,14nm,0.8s,baz=32,slow=8.4,SNR=20
CMAR PcP **PcP 01 39 23.7 -1.7**
comp=Z,1.7nm,0.3s,baz=28,slow=2.3,SNR=1.1
CMAR LR LR 01 52 06.3
comp=Z,138nm,19.2s,baz=50,slow=39
CMAR Chiang Mai Arr 34.36 238 *i* P **P 01 36 49.2 -0.1**
CMAR pmax pmax
comp=Z,15nm,0.8s
SEM Semipalatinsk 34.62 302 *e*P **P 01 36 50.9 -0.7**
SEM Semipalatinsk 34.62 302 *e*P **P 01 36 50.9 -0.7**
baz=302
NRIK Noril'sk 35.40 336 P **P 01 36 57.3 -0.6**
comp=Z,4.5nm,0.6s,baz=116,slow=10.0,SNR=12
NRIK Noril'sk 35.40 336 *ce*P **P 01 36 56.5 -1.3**
NRIK pmax pmax
comp=Z,4.0nm,0.6s
NRIK Noril'sk 35.40 336 P **P 01 36 57.2 -0.6**
KURK Kurchatov 35.63 303 *ce*P **P 01 36 59.9 -0.1**
KURK pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 35.63 303 P **P 01 37 00.6 +0.5**
KURK IAmb IAmb 01 37 01.5
comp=Z,14nm,0.8s
KURK PcP **PcP 01 39 27.7 -0.9**
KURBB Kurchatov Arra 35.70 303 P **P 01 37 00.8 +0.1**
comp=Z,9.6nm,0.8s,baz=87,slow=9.3,SNR=102
KURBB PcP **PcP 01 39 27.7 -1.1**
comp=Z,3.5nm,0.7s,baz=89,slow=3.1,SNR=18
KURBB LR LR 01 52 27.3
comp=Z,625nm,19.4s,baz=66,slow=38
KURBB Kurchatov Arra 35.70 303 P **P 01 37 00.0 -0.6**
PDGK Podgornoye 36.27 290 P **P 01 37 04.8 -1.0**
UZB Uzynbulak 36.64 290 *e*P **P 01 37 08.8 -0.2**
UZB Uzynbulak 36.64 290 *e*P **P 01 37 08.8 -0.2**
baz=290
KPKS Kokpek 36.80 291 *e*P **P 01 37 10.4 +0.1**
KPKS Kokpek 36.80 291 *e*P **P 01 37 10.4 +0.1**
baz=291
ZHN Zhinishke 37.05 290 *e*P **P 01 37 12.5 +0.1**
ZHN Zhinishke 37.05 290 *e*P **P 01 37 12.5 +0.1**
baz=290
SATY Saty 37.10 290 *e*P **P 01 37 12.0 -0.8**
SATY Saty 37.10 290 *e*P **P 01 37 12.1 -0.8**
baz=290
MYLDM Lahad Datu 37.20 198 IAms_20 IAms_20 01 47 11.8
comp=Z,142nm,19.0s
GUN Gumba 37.58 263 *e*P **P 01 37 16.8 -0.6**
comp=Z,14nm,0.5s
GUN Gumba 37.58 263 *e*P **P 01 37 16.7 -0.6**
comp=Z,11nm,0.6s
CHKK Chushkaly 37.90 292 *e*P **P 01 37 19.8 +0.4**
baz=292
MDOK Medeo 38.03 291 *e*P **P 01 37 21.4 +0.6**
MDOK Medeo 38.03 291 *e*P **P 01 37 21.4 +0.6**
baz=291
KKN Kakani 38.09 263 *e*P **P 01 37 20.6 -0.9**
comp=Z,8.2nm,0.4s
PKI Pulchoki 38.12 263 *e*P **P 01 37 21.1 -0.8**
comp=Z,8.1nm,0.5s
PKI Pulchoki 38.12 263 *e*P **P 01 37 21.0 -0.8**
comp=Z,5.6nm,0.5s
PKIN Phulchoki 38.12 263 *e*P **P 01 37 21.0 -0.8**
comp=Z,9.3nm,0.4s
PKIN Phulchoki 38.12 263 *e*P **P 01 37 20.4 -1.4**
comp=Z,7.3nm,0.4s
DMN Daman 38.32 263 *e*P **P 01 37 22.7 -0.8**
comp=Z,7.4nm,0.5s
KUU Kurty 38.34 292 *e*P **P 01 37 22.8 -0.4**
KUU pmax pmax
comp=Z,10.0nm,0.9s
KUU Kurty 38.34 292 *e*P **P 01 37 22.9 -0.4**
comp=Z,10.0nm,0.9s,baz=292
GKN Gorkha 38.46 264 *e*P **P 01 37 23.5 -1.0**
comp=Z,9.7nm,0.5s
GKN Gorkha 38.46 264 *e*P **P 01 37 23.6 -1.0**
KST Kastek 38.83 291 *e*P **P 01 37 27.4 0.0**
baz=291
DANN Dangsing 38.94 265 *e*P **P 01 37 28.3 -0.4**
comp=Z,28nm,0.6s
DANN Dangsing 38.94 265 *e*P **P 01 37 28.5 -0.2**
comp=Z,40nm,0.9s
KOLN Koldanda 39.37 265 *e*P **P 01 37 31.5 -0.7**
comp=Z,5.1nm,0.5s
BRZS Berezniki 39.50 302 *e*P **P 01 37 32.7 -0.1**
BRZS Berezniki 39.50 302 *e*P **P 01 37 32.8 -0.1**
baz=302
BTLS Baital 39.63 294 *e*P **P 01 37 33.6 -0.4**
BTLS Baital 39.63 294 *e*P **P 01 37 33.6 -0.4**
baz=294
PYUN Piuthan 39.65 265 *e*P **P 01 37 34.1 -0.5**
comp=Z,49nm,1.0s
KBK Karagaybulak 39.66 291 P **P 01 37 35.8 +1.4**
SNR=12
USP Ospenovka 39.80 292 P **P 01 37 36.1 +0.7**
SNR=7.4
FRU1 Bishkek 39.84 291 P **P 01 37 36.7 +0.9**
FRU1 pmax pmax
comp=Z,16nm,0.7s
FRU1 Bishkek 39.84 291 P **P 01 37 36.6 +0.9**
KSH Kashi 39.92 286 P P 01 37 42.2 +5.6
KSH PcP **PcP 01 39 44.4 +2.2**
KSH S **S 01 43 47.2 +4.5**
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,160nm,5.6s
KSH LR LR
comp=N,370nm,6.0s
KSH LR LR
comp=E,340nm,8.1s
KSH LR LR
comp=Z,480nm,14.3s
AAK Ala-Archa 39.98 291 P **P 01 37 38.1 +1.0**
comp=Z,7.7nm,0.7s,baz=111,slow=5.4,SNR=34
AAK PcP **PcP 01 39 41.7 -0.6**
comp=Z,1.4nm,0.7s,baz=194,slow=8.7,SNR=2.5
AAK LR LR 01 55 46.2
comp=Z,454nm,18.0s,baz=75,slow=39
AAK Ala-Archa 39.98 291 P **P 01 37 37.9 +0.7**
SNR=12
AAK Ala-Archa 39.98 291 *ce*P **P 01 37 37.4 +0.3**
AAK pmax pmax
comp=Z,19nm,0.6s
AAK Ala-Archa 39.98 291 P **P 01 37 37.9 +0.7**
AAK **PcP 01 39 41.5 -0.8**
OTUK Ortayu 40.04 300 P **P 01 37 37.4 0.0**
UCH Uchtor 40.09 290 P **P 01 37 40.0 +1.6**
SNR=7.8
TNTI Ternate 40.39 183 P **P 01 37 40.6 +0.2**
BVAR Borovoye Array 40.46 307 P **P 01 37 41.1 +0.3**
comp=Z,4.0nm,0.6s,baz=94,slow=8.9,SNR=34
BVAR PcP **PcP 01 39 42.9 -0.6**
comp=Z,4.5nm,0.7s,baz=120,slow=2.1,SNR=10
GAMB Gambell 40.51 36 P **P 01 37 40.7 -0.3**
GAMB Gambell 40.51 36 P **P 01 37 40.9 -0.1**
baz=265
BRVK Borovoye 40.52 307 *ce*P **P 01 37 42.2 +0.9**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 40.52 307 P **P 01 37 41.6 +0.4**
AML Almayashu 40.70 290 P **P 01 37 44.6 +1.2**
SNR=10
KMSI Cibinong 40.81 188 P **P 01 37 44.7 +0.7**
comp=Z,6μmcomp=Z,69nm,0.7s
MRSI Marisa 41.16 191 P **P 01 37 47.2 +0.4**
comp=Z,34nm,1.1s
SBUM Sibu 41.55 206 P **P 01 37 49.9 -0.2**
SRIT Nakonsritamara 41.72 227 P **P 01 37 51.4 -0.1**
SRIT IAmb IAmb 01 37 53.3
comp=Z,28nm,1.0s
SIJI Sorong 42.03 177 LR LR 01 53 52.9
comp=Z,108nm,21.1s,baz=98,slow=34
TNA Tin City 42.25 33 P **P 01 37 55.5 +0.2**
TNA IAmb IAmb 01 37 57.0
comp=Z,22nm,0.8s
TNA Tin City 42.25 33 P **P 01 37 55.9 +0.7**
baz=267,SNR=9.0
BRLS Borolday 43.12 293 *e*P **P 01 38 04.0 +1.4**
BRLS Borolday 43.12 293 *e*P **P 01 38 04.1 +1.4**
baz=293
SANI Sanana 43.25 184 P **P 01 38 02.8 -1.1**
comp=Z,718nmcomp=Z,37nm,0.8s
SANI pP 01 38 04.2
comp=Z,718nmcomp=Z,37nm,0.8s
IUG Iuzhnay 43.27 292 *e*P **P 01 38 04.7 +0.7**
IUG Iuzhnay 43.27 292 *e*P **P 01 38 04.8 +0.7**
baz=292
ANM Nome 43.31 35 P **P 01 38 04.6 +0.7**
baz=270
KULM Kulim 43.94 223 P **P 01 38 08.6 -0.9**
FAKI Fak Fak 44.12 175 P **P 01 38 11.7 +0.8**
comp=Z,21nm,1.0s
FAKI Fak Fak 44.12 175 P **P 01 38 11.1 +0.2**
FAKI IAmb IAmb 01 38 13.3
comp=Z,37nm,1.3s
FAKI Fak Fak 44.12 175 P **P 01 38 11.0 +0.1**
comp=Z,21nm,1.0s
NIL Nilore 44.28 279 P **P 01 38 12.2 +0.1**
NIL pmax pmax
comp=Z,9.0nm,0.6s
NIL Nilore 44.28 279 P **P 01 38 12.2 +0.1**
NIL IAmb IAmb 01 38 14.8
comp=Z,9.4nm,0.6s
MSAI Masohi 44.45 180 P **P 01 38 13.1 -0.4**
comp=Z,2μmcomp=Z,15nm,0.6s
MSAI pP 01 38 16.1
comp=Z,2μmcomp=Z,15nm,0.6s
AAI Ambon 44.79 181 P **P 01 38 17.2 +0.9**
comp=Z,71nm,0.9s
MIDW Midway 45.25 89 P **P 01 38 19.0 -0.9**
SVE Sverdlovsk 45.43 314 *e*P **P 01 38 22.1 +1.1**
SVE pmax pmax
comp=Z,13nm,0.9s
BNSI Bone 46.22 192 P **P 01 38 28.5 +0.9**
comp=Z,7.1nm,1.1s
BBKI Banjar Baru 46.41 200 P **P 01 38 29.8 +0.7**
ARU Arti 46.63 314 P **P 01 38 30.6 +0.1**
comp=Z,4.2nm,0.6s,baz=72,slow=4.1,SNR=34
ARU LR LR 02 00 27.7
comp=Z,228nm,18.0s,baz=65,slow=39
ARU Arti 46.63 314 *d i*P **P 01 38 30.5 +0.1**
ARU 01 40 15.8
ARU S **S 01 45 23.2 +2.9**
ARU SS **SS 01 48 46.3 +0.3**
ARU pmax pmax
comp=Z,12nm,0.7s
ARU MLR MLR
comp=Z,219nm,16.0s
ARU Arti 46.63 314 P **P 01 38 30.6 +0.1**
ARU IAmb IAmb 01 38 31.6
comp=Z,12nm,0.7s
KAPI Kappang 46.88 193 LR LR 01 57 37.8
comp=Z,42nm,20.5s,baz=24,slow=35
PSI Prapat 46.94 223 P **P 01 38 33.1 -0.3**
comp=Z,9.3nm,0.7s,baz=13,slow=3.7,SNR=13
PSI LR LR 01 59 43.0
comp=Z,126nm,18.3s,baz=61,slow=38
BBSI Bau Bau 46.95 189 P **P 01 38 32.8 -0.5**
KBL Kabul 46.99 282 P **P 01 38 34.4 +0.5**
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 46.99 282 P **P 01 38 34.4 +0.5**
RPSI Rantau Prapat 47.03 223 IAmb IAmb 01 38 34.1
comp=Z,12nm,0.8s
TTA Tatalina 47.60 37 P **P 01 38 38.8 +0.8**
baz=280
AB31 Akbulak array 47.71 304 *i* P **P 01 38 39.1 +0.2**
ABKAR Akbulak array 47.71 304 P **P 01 38 39.6 +0.7**
RGRI Rengat 48.02 217 P **P 01 38 42.7 +1.0**
IMAR Indian Mountai 48.06 32 P **P 01 38 41.8 +0.4**
MYLAV Mylavaram 48.13 254 *e*P **P 01 38 42.7 +0.1**
J20K Nowinta River 48.20 35 P **P 01 38 43.4 +0.9**
J20K Nowinta River 48.20 35 P **P 01 38 43.6 +1.0**
baz=280,SNR=24
L19K White Mountain 48.26 38 P **P 01 38 43.9 +0.8**
baz=282
K20K Telida 48.38 36 IAmb IAmb 01 38 45.8
comp=Z,13nm,0.7s
K20K Telida 48.38 36 P **P 01 38 44.9 +0.8**
baz=281
SRSP Sriramsagar 48.42 258 *e*P **P 01 38 45.2 +0.4**
H21K Melozitna Rive 48.50 33 P **P 01 38 45.4 +0.5**
H21K IAmb IAmb 01 38 46.3
comp=Z,9.4nm,0.8s
H21K Melozitna Rive 48.50 33 P **P 01 38 45.2 +0.4**
baz=280,SNR=13
AKTO Aktyubinsk 48.53 306 P **P 01 38 45.4 +0.1**
comp=Z,6.3nm,0.7s,baz=76,slow=7.0,SNR=11
AKTO LR LR 02 00 46.4
comp=Z,169nm,18.1s,baz=68,slow=38
AKTO Aktyubinsk 48.53 306 P **P 01 38 45.5 +0.2**
M19K Big River Lodg 48.53 38 P **P 01 38 45.8 +0.6**
baz=282
L20K Farewell, AK 48.65 37 P **P 01 38 46.6 +0.6**
baz=282
N19K Bonanza Creek 48.73 39 P **P 01 38 47.6 +0.9**
baz=283
GSI Gunungsitoli 48.91 224 P **P 01 38 48.2 -0.4**
comp=Z,2μmcomp=Z,36nm,0.7s
GSI Gunungsitoli 48.91 224 P **P 01 38 46.9 -1.7**
I21K Tanana 48.92 33 P **P 01 38 49.0 +0.9**
I21K IAmb IAmb 01 38 50.3
comp=Z,19nm,0.6s
I21K Tanana 48.92 33 P **P 01 38 49.0 +0.9**
baz=281
CUPL Choutuppal 49.03 256 *e*P **P 01 38 49.8 +0.3**
CHUM Lake Minchumin 49.05 35 P **P 01 38 49.9 +0.9**
baz=282
ADKI Addanki 49.20 254 *e*P **P 01 38 51.3 +0.5**
TOLK Toolik Lake Re 49.21 29 IAmb IAmb 01 38 51.4
comp=Z,8.6nm,0.7s
TOLK Toolik Lake Re 49.21 29 P **P 01 38 50.6 +0.3**
baz=280,SNR=10
HYBB Hyderabad (bro 49.22 257 *e*P **P 01 38 51.4 +0.4**
NJS Nagarjunasagar 49.22 255 *e*P **P 01 38 52.1 +1.1**
COLD Coldfoot 49.24 30 IAmb IAmb 01 38 53.0
comp=Z,8.2nm,0.6s
COLD Coldfoot 49.24 30 P **P 01 38 50.9 +0.4**
baz=281,SNR=8.7
CAST Castle Rocks 49.25 36 P **P 01 38 51.6 +1.0**
CAST IAmb IAmb 01 38 52.4
comp=Z,14nm,0.6s
CAST Castle Rocks 49.25 36 P **P 01 38 51.5 +0.8**
baz=283,SNR=14
PPLA Purkeypile 49.32 36 P **P 01 38 51.6 +0.2**
baz=283
MLY Manley 49.47 33 P **P 01 38 53.1 +0.7**
baz=282
BPAW Bear Paw Mtn. 49.57 35 IAmb IAmb 01 38 56.4
comp=Z,12nm,0.7s
BPAW Bear Paw Mtn. 49.57 35 P **P 01 38 53.8 +0.7**
baz=283,SNR=8.7
Q19K Cape Douglas, 49.60 42 P **P 01 38 53.8 +0.4**
baz=285
KTH Kantishna Hill 49.73 35 P **P 01 38 55.3 +0.9**
KTH IAmb IAmb 01 38 56.2
comp=Z,14nm,0.8s
I23K Minto, Yukon-K 50.01 33 IAmb IAmb 01 38 58.5
comp=Z,20nm,0.7s
I23K Minto, Yukon-K 50.01 33 P **P 01 38 57.2 +0.8**
baz=283,SNR=22
TRF Thorofare Moun 50.02 35 P **P 01 38 57.5 +0.8**
baz=284
BWN Browne 50.20 34 P **P 01 38 59.3 +1.4**
KLRI Killari 50.24 259 *e*P **P 01 38 59.4 +0.6**
OHAK Old Harbor 50.25 44 P **P 01 38 58.0 -0.3**
baz=287
NEA2 Nenana 50.27 34 P **P 01 38 58.8 +0.4**
baz=284,SNR=13
EDFI Ende, Flores 50.27 189 P **P 01 38 56.5 -2.5**
comp=Z,4.4nm,0.8s
CUT Chulitna 50.30 37 P **P 01 38 58.7 +0.1**
baz=285
H24K Noodor Dome 50.45 32 IAmb IAmb 01 39 01.8
comp=Z,20nm,0.6s
H24K Noodor Dome 50.45 32 P **P 01 39 00.9 +1.1**
baz=284
KDAK Kodiak Island 50.45 43 P **P 01 38 59.5 -0.3**
comp=Z,17nm,0.6s,baz=319,slow=11,SNR=15
KDAK LR LR 02 03 41.2
comp=Z,108nm,18.7s,baz=282,slow=40
KDAK Kodiak Island 50.45 43 P **P 01 38 59.6 -0.3**
KDAK pmax pmax
comp=Z,25nm,0.8s
KDAK Kodiak Island 50.45 43 P **P 01 38 59.5 -0.3**
KDAK IAmb IAmb 01 39 00.5
comp=Z,25nm,0.8s
KDAK Kodiak Island 50.45 43 P **P 01 39 00.1 +0.3**
baz=287
MDM Murphy Dome 50.52 33 IAmb IAmb 01 39 02.3
comp=Z,20nm,0.8s
MCK McKinley 50.54 35 IAmb IAmb 01 39 02.8
comp=Z,12nm,0.7s
MCK McKinley 50.54 35 P **P 01 39 00.8 +0.3**
baz=285,SNR=7.3
LHSI Lahat 50.60 214 P **P 01 39 01.8 +0.4**
comp=Z,2μmcomp=Z,24nm,0.5s
TCOL CIGO, UAF Yank 50.70 33 P **P 01 39 02.3 +0.8**
baz=285,SNR=16
COLA College 50.70 33 *i* P **P 01 39 01.8 +0.2**
COLA pmax pmax
comp=Z,38nm,0.7s
COLA College 50.70 33 P **P 01 39 02.8 +1.2**
COLA College 50.70 33 P **P 01 39 02.1 +0.5**
baz=285
WRH Wood River Hil 50.71 34 IAmb IAmb 01 39 05.2
comp=Z,16nm,0.6s
CCB Clear Creek Bu 50.78 33 IAmb IAmb 01 39 03.9
comp=Z,18nm,0.7s
BRSE Bradley Lake S 50.80 40 P **P 01 39 03.2 +0.7**
baz=287
POKR Poker Plat Res 50.81 33 P **P 01 39 03.5 +1.0**
POKR IAmb IAmb 01 39 05.1
comp=Z,34nm,0.8s
POKR Poker Plat Res 50.81 33 P **P 01 39 03.4 +0.9**
baz=285,SNR=11
KIRV Kirov 50.86 318 P **P 01 39 02.8 -0.1**
comp=Z,17nm,0.7s,baz=42,slow=12,SNR=6.8
KIRV LR LR 02 01 53.0
comp=Z,123nm,19.6s,baz=63,slow=38
KLSI 50.89 212 P **P 01 39 02.7 -0.9**
comp=Z,3.2nm,1.1s
RC01 Rabbit Creek A 50.90 38 P **P 01 39 03.2 0.0**
baz=286
MDSI Maura Dua 50.93 213 P **P 01 39 03.6 -0.3**
comp=Z,817nmcomp=Z,20nm,1.0s
SOEI Soe 51.01 186 P **P 01 39 03.2 -1.3**
comp=Z,56nm,0.7s
PMR Palmer 51.03 38 P **P 01 39 04.2 0.0**
baz=286
GHO Glory Hole Cre 51.08 37 IAmb IAmb 01 39 09.9
comp=Z,21nm,0.7s
IL31 51.13 33 IAmb IAmb 01 39 06.8
comp=Z,16nm,0.6s
ILAR Eielson Array 51.13 33 P **P 01 39 04.8 -0.1**
comp=Z,14nm,0.6s,baz=282,slow=7.3,SNR=154
ILAR PcP **PcP 01 40 19.2 -1.2**
comp=Z,2.6nm,0.7s,baz=286,slow=3.5,SNR=4.9
ILAR Eielson Array 51.13 33 P **P 01 39 04.6 -0.3**
ILAR **PcP 01 40 18.8 -1.6**
HDA Harding Lake 51.20 34 P **P 01 39 05.2 -0.2**
baz=286,SNR=22
BMAR Burnt Mountain 51.31 30 P **P 01 39 07.5 +1.3**
SML Sawmill 51.34 37 P **P 01 39 06.6 0.0**
baz=287
WAT6 Susitna Watana 51.38 36 P **P 01 39 06.6 -0.4**
baz=287
DHY Denali Highway 51.40 35 IAmb IAmb 01 39 12.3
comp=Z,10nm,0.8s
DHY Denali Highway 51.40 35 P **P 01 39 06.8 -0.2**
baz=287,SNR=8.5
KNK Knik Glacier 51.40 38 IAmb IAmb 01 39 08.2
comp=Z,12nm,0.7s
KNK Knik Glacier 51.40 38 P **P 01 39 07.0 0.0**
baz=287
JAGI Jajag, Banyuwa 51.40 199 P **P 01 39 06.4 -1.0**
comp=Z,13nm,1.0s
PRP Porcupine Dome 51.47 32 P **P 01 39 08.6 +1.0**
baz=286,SNR=36
BATI Baumata 51.50 187 P **P 01 39 06.7 -1.5**
comp=Z,74nm,0.5s,baz=316,slow=1.2,SNR=10
BATI Baumata 51.50 187 P **P 01 39 06.8 -1.4**
comp=Z,769nmcomp=Z,65nm,0.6s
PWL Port Wells 51.62 38 P **P 01 39 08.3 -0.3**
baz=288
PRGR Permogore 51.75 323 *e*P **P 01 39 07.1 -2.4**
PRGR pmax pmax
comp=Z,29nm,0.9s
URV Uravakonda 51.76 255 *e*P **P 01 39 10.8 +0.6**
SCM Sheep Creek Mo 51.78 37 P **P 01 39 10.5 +0.6**
baz=288,SNR=9.6
GLI Glacier Island 52.19 38 P **P 01 39 13.1 +0.3**
GLI IAmb IAmb 01 39 14.5
comp=Z,26nm,0.6s
GLI Glacier Island 52.19 38 P **P 01 39 13.3 +0.5**
baz=289
M24K Tolsona, Glenn 52.22 36 IAmb IAmb 01 39 16.0
comp=Z,25nm,0.7s
M24K Tolsona, Glenn 52.22 36 P **P 01 39 14.2 +1.1**
baz=288,SNR=6.1
PAX Paxson 52.26 35 P **P 01 39 13.5 0.0**
baz=288
RIDG Independent Ri 52.28 34 P **P 01 39 13.1 -0.5**

baz=288,SNR=7.0
KLU Klutina 52.53 37 IAmb IAmb 01 39 17.1
comp=Z,9.6nm,0.6s
KLU Klutina 52.53 37 P **P 01 39 16.0 +0.5**
baz=289,SNR=5.6
SCRK Sand Creek 52.57 34 IAmb IAmb 01 39 16.7
comp=Z,18nm,0.9s
SCRK Sand Creek 52.57 34 P **P 01 39 15.5 -0.3**
baz=289,SNR=21
J26L Joseph Creek 52.58 33 P **P 01 39 15.1 -0.7**
baz=289
HARP HAARP 52.58 36 P **P 01 39 16.7 +0.9**
baz=289,SNR=6.4
DOT Dot Lake 52.64 34 IAmb IAmb 01 39 17.0
comp=Z,26nm,0.6s
MENT Mentasta 53.02 35 P **P 01 39 19.9 +0.9**
MENT IAmb IAmb 01 39 23.8
comp=Z,9.6nm,0.7s
N25K Chitina, Valde 53.09 37 IAmb IAmb 01 39 21.4
comp=Z,12nm,0.6s
N25K Chitina, Valde 53.09 37 P **P 01 39 20.6 +1.0**
baz=290,SNR=5.5
PMG Port Moresby 53.15 157 LR LR 02 00 35.7
comp=Z,69nm,18.2s,baz=316,slow=34
L26K Log Cabin Wild 53.15 35 P **P 01 39 20.4 +0.4**
baz=290
BMRM Bremner River 53.31 37 P **P 01 39 21.8 +0.6**
baz=290
GEYT Alibeck 53.33 291 P **P 01 39 22.2 +0.5**
comp=Z,19nm,0.7s,baz=65,slow=4.6,SNR=24
GEYT LR LR 02 04 12.8
comp=Z,158nm,18.4s,baz=66,slow=38
GEYT Alibeck 53.33 291 IAmb IAmb 01 39 24.2
comp=Z,19nm,0.8s
GYA0 ALIBECK ARRAY 53.33 291 P **P 01 39 21.4 -0.3**
GYA0B ALIBECK ARRAY 53.33 291 IAmb IAmb 01 39 24.1
comp=Z,22nm,0.8s
GLB Gilahina Butte 53.50 37 IAmb IAmb 01 39 26.7
comp=Z,9.5nm,0.6s
M26K Nabesna, AK 53.52 35 IAmb IAmb 01 39 27.9
comp=Z,8.9nm,0.7s
M26K Nabesna, AK 53.52 35 P **P 01 39 23.5 +0.8**
baz=291
VRDI Verde Repeater 53.74 37 IAmb IAmb 01 39 26.1
comp=Z,12nm,0.6s
L27K Beaver Creek, 53.79 34 IAmb IAmb 01 39 27.3
comp=Z,8.7nm,0.7s
L27K Beaver Creek, 53.79 34 P **P 01 39 25.5 +0.9**
baz=291
BCAR Beaver Creek A 53.81 34 P **P 01 39 25.6 +0.8**
MCARA McCarthy VSAT 53.88 37 IAmb IAmb 01 39 38.5
comp=Z,14nm,0.7s
MCARA McCarthy VSAT 53.88 37 P **P 01 39 26.4 +1.1**
baz=291
MTN Manton Dam 53.92 177 IAmb IAmb 01 39 26.6
comp=Z,19nm,0.7s
M27K Edge Creek, AK 54.02 35 P **P 01 39 27.4 +0.9**
baz=292
TGL Tana Glacier 54.19 37 IAmb IAmb 01 39 29.5
comp=Z,20nm,0.7s
SPA0 Spitsbergen Ar 54.29 346 *e*P **P 01 39 28.2 +0.1**
SPITS Spitsbergen Ar 54.29 346 P **P 01 39 28.1 0.0**
comp=Z,2.0nm,0.5s,baz=83,slow=9.3,SNR=10
I29M Ogilvie Camp, 54.37 31 P **P 01 39 29.4 +0.5**
baz=292,SNR=7.8
DAWY Dawson 54.43 33 IAmb IAmb 01 39 30.4
comp=Z,14nm,0.7s
DAWY Dawson 54.43 33 P **P 01 39 29.8 +0.4**
baz=292,SNR=16
BVCY Beaver Creek 54.44 35 P **P 01 39 30.4 +0.9**
baz=292,SNR=6.2
EPYK Eagle Plains 54.59 30 IAmb IAmb 01 39 32.0
comp=Z,24nm,0.8s
EPYK Eagle Plains 54.59 30 P **P 01 39 30.7 +0.3**
baz=293,SNR=18
PALK Pallekele 54.59 245 P **P 01 39 30.2 -0.9**
comp=Z,7.2nm,0.7s,baz=136,slow=2.8,SNR=4.8
PALK LR LR 02 05 01.3
comp=Z,80nm,19.5s,baz=171,slow=38
PALK Pallekele 54.59 245 P **P 01 39 30.5 -0.6**
PALK pmax pmax
comp=Z,15nm,1.0s
PALK Pallekele 54.59 245 P **P 01 39 30.5 -0.6**
PALK IAmb IAmb 01 39 32.8
comp=Z,15nm,1.0s
APA Apatity 54.63 332 ⇓*i*P **P 01 39 31.0 +0.4**
APA pmax pmax
comp=Z,8.0nm,1.3s
GRNC Granite Creek 54.69 37 IAmb IAmb 01 39 32.9
comp=Z,9.0nm,0.6s
CTG Chitna Glacier 54.79 37 P **P 01 39 32.9 +0.8**
baz=293,SNR=8.5
KLMR Klimovskoe 54.79 323 *e*P **P 01 39 30.6 -1.3**
KLMR *e* 01 40 32.0
KLMR pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 54.79 323 *e*P **P 01 39 30.7 -1.2**
KLMR AMP 01 39 34.6
comp=Z,10.0nm,0.8s
KLMR *e*PcP **PcP 01 40 32.0 -2.3**
INK Inuvik 54.95 27 P **P 01 39 33.2 +0.3**
comp=Z,9.3nm,0.6s,baz=298,slow=6.9,SNR=35
INK PcP **PcP 01 40 34.6 -0.1**
comp=Z,4.0nm,0.7s,baz=273,slow=2.8,SNR=3.7
INK Inuvik 54.95 27 IAmb IAmb 01 39 34.1
comp=Z,9.1nm,0.7s
INK Inuvik 54.95 27 P **P 01 39 33.2 +0.3**
baz=294,SNR=14
A36M Sachs Harbour 55.83 21 P **P 01 39 39.5 +0.3**
baz=299,SNR=37
NOR Nord 56.01 354 *i* P **P 01 39 38.6 -1.9**
NOR IAmb IAmb 01 39 40.2
comp=Z,5.7nm,0.7s
M30M Minto, Yukon 56.11 34 P **P 01 39 42.2 +0.7**
baz=295
ARA0 ARCESS Array S 56.38 336 *e*P **P 01 39 42.5 -0.8**
ARCES ARCESS Array B 56.38 336 P **P 01 39 42.7 -0.6**
comp=Z,2.6nm,0.5s,baz=65,slow=8.2,SNR=18
ARCES PcP **PcP 01 40 40.0 -0.4**
comp=Z,2.7nm,0.8s,baz=59,slow=5.4,SNR=1.6
ARCES LR LR 02 07 50.3
comp=Z,200nm,19.7s,baz=57,slow=40
ARCES ARCESS Array B 56.38 336 P **P 01 39 42.1 -1.2**
ARCES IAmb IAmb 01 40 00.3
comp=Z,39nm,1.5s
ARCES **PcP 01 40 39.3 -1.1**
HAMF Hammerfest 56.39 337 *e*P **P 01 39 43.4 +0.1**
COEN Coen 56.52 163 P **P 01 39 45.0 +0.2**
COEN IAmb IAmb 01 39 46.0
comp=Z,16nm,1.2s
COEN Coen 56.52 163 P **P 01 39 45.1 +0.2**
comp=Z,14nm,1.2s
KNRA Kununurra 56.70 180 P **P 01 39 45.7 -0.4**
N31M Braeburn, Yuko 57.02 35 P **P 01 39 48.8 +0.9**
baz=297
EUNU Eureka 57.25 7 P **P 01 39 48.7 -0.7**
EUNU IAmb IAmb 01 39 49.9
comp=Z,22nm,0.8s
M31M Drury Creek, Y 57.28 34 P **P 01 39 50.4 +0.6**
baz=297
KTK1 Kautokeino 57.34 336 *e*P **P 01 39 49.2 -0.9**
C36M Paulatuk 57.50 24 P **P 01 39 51.1 0.0**
C36M IAmb IAmb 01 39 52.4
comp=Z,25nm,0.9s
C36M Paulatuk 57.50 24 P **P 01 39 51.1 0.0**
baz=301,SNR=32
VRH Novokhopyorsk 57.77 312 *e*P **P 01 39 52.5 -0.8**
VRH pmax pmax
comp=Z,30nm,0.7s
WHY Whitehorse 57.78 35 P **P 01 39 54.2 +0.8**
baz=298
MOS Moscow 57.87 318 *e*P **P 01 39 53.3 -0.6**
MOS *e* 01 42 02.6
MOS pmax pmax
comp=Z,41nm,0.6s
JETT Jettan, Norway 57.91 337 *e*P **P 01 39 54.4 +0.2**
HNR Honiara 57.95 143 LR LR 02 04 48.0
comp=Z,32nm,18.2s,baz=338,slow=36
TRO Tromso 58.31 337 *e*P **P 01 39 56.3 -0.5**
LPSR Galich'ya Gora 58.65 314 *e*P **P 01 39 59.2 -0.3**
LPSR pmax pmax
comp=Z,30nm,0.6s
OBN Obninsk 58.70 318 P **P 01 39 59.3 -0.4**
comp=Z,3.5nm,0.6s,baz=60,slow=16,SNR=4.4
OBN LR LR 02 07 57.5
comp=Z,69nm,19.7s,baz=352,slow=39
OBN Obninsk 58.70 318⇓*e*P **P 01 39 59.5 -0.2**
OBN *i* 01 40 51.0
OBN *i* 01 42 05.2
OBN *e*SSS SSS 01 54 21.2
OBN pmax pmax
comp=Z,17nm,0.7s
OBN MLR MLR
comp=Z,339nm,16.0s
OBN Obninsk 58.70 318 P **P 01 39 59.7 0.0**
P33M Teslin, Yukon 58.90 35 P **P 01 40 02.0 +0.8**
baz=300,SNR=7.9
VSR Storozhevoye 59.18 313 *e*P **P 01 40 02.2 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.8s
FITZ Fitzroy Crossi 59.19 184 P **P 01 40 02.9 -0.6**
comp=Z,15nm,0.8s,baz=10,slow=5.3,SNR=22
VORD Divnogorie 59.23 313 *e*P **P 01 40 02.9 -0.6**
VORD pmax pmax
comp=Z,8.0nm,0.6s
SIT Sitka 59.30 39 P **P 01 40 05.3 +1.4**
baz=299
PUL Pulkovo 59.37 324 *ce*P **P 01 40 04.8 +0.5**
PUL pmax pmax
comp=Z,27nm,0.7s
PUL Pulkovo 59.37 324 *e*P **P 01 40 04.3 -0.1**
GOF Gofitskoye 59.92 305⇑*e*P **P 01 40 11.1 +2.7**
FIA1 FINESS Array S 60.29 327 P **P 01 40 09.7 -0.9**
FINES FINESS Array B 60.29 327 P **P 01 40 10.0 -0.7**
comp=Z,21nm,0.6s,baz=77,slow=5.5,SNR=65
FINES LR LR 02 08 03.7
comp=Z,108nm,18.0s,baz=48,slow=38
FINES FINESS Array B 60.29 327 *i* P **P 01 40 10.3 -0.4**
FINES pmax pmax
comp=Z,21nm,0.6s
STEI Steigen 60.40 337 *e*P **P 01 40 10.8 -0.4**
DAG Danmarks Havn 60.44 352 P **P 01 40 10.7 -0.7**
DAG Danmarks Havn 60.44 352 *i* P **P 01 40 09.3 -2.1**
DAG IAmb IAmb 01 40 11.5
comp=Z,12nm,0.7s
WSAR Wadi Sarin 60.64 276 LR LR 02 11 43.4
comp=Z,46nm,18.3s,baz=78,slow=41
RES Resolute Bay 60.67 12 P **P 01 40 12.4 -0.6**
comp=Z,18nm,0.5s,baz=311,slow=6.3,SNR=108
KBZ Khabaz 60.68 304 P **P 01 40 13.5 0.0**
comp=Z,4.4nm,0.9s,baz=39,slow=11,SNR=5.4
KBZ LR LR 02 09 25.7
comp=Z,123nm,19.0s,baz=47,slow=39
KBZ Khabaz 60.68 304 *i* P **P 01 40 15.0 +1.4**
KBZ pmax pmax
comp=Z,21nm,1.5s
KVAR Kislovodsk Arr 60.69 304 P **P 01 40 15.5 +1.6**
comp=Z,8.8nm,0.8s,baz=264,slow=19
KIV Kislovodsk 60.70 304 *e*P **P 01 40 14.4 +0.6**
KIV *e*'SP PcP 01 40 18.7 -39
KIV *e* 01 40 58.4
KIV *e* 01 42 27.4
KIV *e*PPP PPP 01 43 54.1
KIV *e*SS SS 01 52 24.5 -4.9
KIV *e*SSS SSS 01 55 06.0
KIV pmax pmax
comp=Z,13nm,0.7s
KIV MLR MLR
comp=Z,66nm,14.0s
KIV Kislovodsk 60.70 304 P **P 01 40 14.6 +0.8**
KIV IAmb IAmb 01 40 19.6
comp=Z,21nm,0.9s
FAUS Fauske 60.72 336 *e*P **P 01 40 13.2 -0.2**
DLBC Dease Lake 61.04 36 P **P 01 40 14.2 -1.8**
comp=Z,5.1nm,0.8s,baz=327,slow=9.0,SNR=8.6
DLBC Dease Lake 61.04 36 IAmb IAmb 01 40 21.0
comp=Z,9.0nm,1.0s
WRAB Tennant Creek 61.13 174 *ce*P **P 01 40 16.0 -0.8**
WRAB pmax pmax
comp=Z,8.0nm,0.5s
WRAB Tennant Creek 61.13 174 P **P 01 40 16.3 -0.5**
comp=Z,25nm,0.9s
WRA Warramunga Arr 61.14 174 P **P 01 40 16.1 -0.8**
comp=Z,13nm,0.5s,baz=352,slow=7.5,SNR=235
WRA PKPPKP P'P'df 02 09 37.6 +13
comp=Z,0.3nm,0.6s,baz=191,slow=2.4,SNR=4.5
WRA Warramunga Arr 61.14 174 P **P 01 40 15.1 -1.8**
WB2 Warramunga Arr 61.14 174 P **P 01 40 16.2 -0.7**
CRAG Craig 61.17 40 P **P 01 40 18.0 +1.3**
baz=302
WR0 Warramunga Arr 61.17 174 P **P 01 40 16.3 -0.7**
BGD Bogdanovka 61.50 301 P **P 01 40 22.2 +2.7**
NEEM North Greenlan 61.51 0 *i* P **P 01 40 18.2 -1.0**
NEEM IAmb IAmb 01 40 19.1
comp=Z,38nm,0.6s
VSU Vasula 61.63 324 *e*P **P 01 40 19.7 -0.1**
MOR8 Moi Rana 61.74 335 *e*P **P 01 40 18.9 -1.5**
TULEG Thule 61.88 5 *i* P **P 01 40 19.7 -1.5**
TULEG IAmb IAmb 01 40 20.8
comp=Z,189nm,0.5s
TULEG Thule 61.88 5 P **P 01 40 20.2 -1.0**
QIS Mount Isa 62.33 169 P **P 01 40 24.4 -0.5**
comp=Z,12nm,0.7s
MBWA Marble Bar 62.75 190 P **P 01 40 27.5 -0.1**
comp=Z,16nm,1.1s
MTSE Matsula 62.76 326 *e*P **P 01 40 27.5 +0.2**
DBG Daneborg 62.83 351 *i* P **P 01 40 25.6 -2.1**
DBG IAmb IAmb 01 40 28.9
comp=Z,4.7nm,0.7s
CTA Charters Tower 63.14 162 P **P 01 40 30.1 -0.3**
comp=Z,4.9nm,0.5s,baz=353,slow=9.7,SNR=5.1
CTAO Charters Tower 63.14 162 P **P 01 40 30.0 -0.3**
CTAO pmax pmax
comp=Z,11nm,0.8s
CTAO Charters Tower 63.14 162 P **P 01 40 30.0 -0.3**
CTAO IAmb IAmb 01 40 30.8
comp=Z,11nm,0.8s
CTAO Charters Tower 63.14 162 P **P 01 40 30.2 -0.1**
comp=Z,17nm,0.8s
PSA00 Pilbara Seismi 63.15 190 P **P 01 40 29.3 -1.0**
PSA00 Pilbara Seismi 63.15 190 P **P 01 40 30.0 -0.3**
comp=Z,18nm,1.1s
MNK Minsk 63.31 320 *i* P **P 01 40 30.7 -0.4**
MNK *i* 01 41 06.2
MNK *i* 01 42 50.8
MNK *i* PPP PPP 01 44 19.5
MNK *i* S **S 01 49 03.6 -0.4**
MNK *i* SS **SS 01 53 09.9 +0.4**
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=Z,48nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=Z,387nm,13.0s
MNK MLR MLR
comp=E,53nm,16.0s
MNK MLR MLR
comp=N,268nm,15.0s
MNK Minsk 63.31 320 *i* P **P 01 40 30.8 -0.3**
comp=E,3.0nm,0.9s
MNK *i* P **P 01 40 30.8 -0.3**
comp=N,15nm,0.9s
MNK *i* P **P 01 40 30.8 -0.3**
comp=Z,48nm,0.9s,baz=56
MNK *i* PcP **PcP 01 41 06.2 -2.0**
MNK *i* PP **PP 01 42 50.8 +1.1**
MNK *i* PPP PPP 01 44 19.6
MNK *i* S **S 01 49 03.6 -0.4**
MNK *i* SS **SS 01 53 10.0 +0.5**
MNK *i* SSS SSS 01 56 07.9
MNK *i* LQ LQ 02 03 34.4
MNK *i* LR LR 02 08 28.7
MNK *i* LRM MLR 02 10 55.6
MNK comp=Z,387nm,13.4s
MNK *i* LRM MLR 02 10 58.2
MNK comp=E,53nm,16.0s
MNK *i* LRM MLR 02 11 00.1
MNK comp=N,268nm,14.7s
IDID Didziasalis 63.40 321 *e*P **P 01 40 32.2 +0.6**
AAL Aland 63.47 328 *e*PP PP 01 42 50.1 -0.9
ISAL Salakas 63.54 322 *e*P **P 01 40 33.2 +0.6**
NSS Namsos 63.59 335 *e*P **P 01 40 31.9 -0.8**
NACGM Naroch 63.61 321 *i* P **P 01 40 33.0 -0.1**
IIGN Ignalina 63.62 322 *e*P **P 01 40 33.8 +0.7**
GURO Guroymak-BITLI 63.96 299 IAmb IAmb 01 40 38.2
comp=Z,7.4nm,0.6s
SLIT Slitere, Latvi 64.05 325 *e*P **P 01 40 35.1 -0.7**
PABE Paberze 64.57 323 *e*P **P 01 40 39.9 +0.6**
UPP Uppsala 64.60 329 *e*P **P 01 40 37.3 -2.1**
YKA Yellowknife Ar 64.71 27 P **P 01 40 39.8 -0.4**
comp=Z,3.1nm,0.5s,baz=311,slow=6.3,SNR=104
YKA PcP **PcP 01 41 13.8 0.0**
comp=Z,2.0nm,0.7s,baz=315,slow=3.6,SNR=8.1
YKA Yellowknife Ar 64.71 27 P **P 01 40 39.3 -0.8**
AKASG Malin Array Be 64.80 316 P **P 01 40 40.3 -0.6**
comp=Z,19nm,0.7s,baz=51,slow=6.9,SNR=91
AKASG LR LR 02 11 15.5
comp=Z,195nm,19.9s,baz=34,slow=38
AKASG Malin Array Be 64.80 316 *i* P **P 01 40 40.9 0.0**
AKASG pmax pmax
comp=Z,19nm,0.7s
AKBB Malin Array Si 64.80 316 *ce*P **P 01 40 39.8 -1.1**
ASAR Alice Springs 64.81 175 P **P 01 40 40.5 -0.8**
comp=Z,9.0nm,0.8s,baz=1.3,slow=8.2,SNR=77
PBUR Paburge 65.18 324 *e*P **P 01 40 42.7 -0.6**
SUW Suwalki 65.83 322 *e*P **P 01 40 47.5 -0.1**
SUW *e*PP PP 01 43 02.5 -9.3
SUW *e*L L 02 12 06.8
comp=Z,319nm,18.6s
SUW Suwalki 65.83 322 *e*P **P 01 40 46.5 -1.1**
HFS Hagfors 65.92 330 P **P 01 40 47.3 -0.8**
comp=Z,11nm,0.5s,baz=73,slow=6.7,SNR=46
HFS LR LR 02 13 29.5
comp=Z,89nm,19.6s,baz=66,slow=40
WRKA Warakurna 66.02 181 P **P 01 40 48.7 -0.3**
comp=Z,25nm,1.1s
SUMG Summit 66.07 356 P **P 01 40 49.4 0.0**
SUMG pmax pmax
comp=Z,20nm,0.6s
SUMG Summit 66.07 356 *i* P **P 01 40 48.2 -1.2**
SUMG IAmb IAmb 01 40 49.9
comp=Z,17nm,0.6s
SUMG Summit 66.07 356 P **P 01 40 49.4 0.0**
UPNV Upernavik 66.14 2 *i* P **P 01 40 48.1 -1.2**
UPNV IAmb IAmb 01 40 49.0
comp=Z,179nm,0.6s
NB2 NORSAR Subarra 66.21 332 P **P 01 40 48.8 -1.2**
comp=Z,24nm,1.1s,baz=44,slow=6.2
NB2 NORSAR Subarra 66.21 332 P **P 01 40 46.5 -3.5**
NB2 pmax pmax
comp=Z,8.0nm,1.1s
NB2 NORSAR Subarra 66.21 332 P **P 01 40 48.8 -1.2**
baz=44,slow=6.2
NOA NORSAR Array B 66.21 332 P **P 01 40 48.7 -1.2**
comp=Z,10nm,0.8s,baz=44,slow=6.3,SNR=32
NOA LR LR 02 15 12.2
comp=Z,87nm,18.6s,baz=60,slow=41
DOMB Dombas 66.25 334 *e*P **P 01 40 49.6 -0.7**
NC602 NORSAR Array S 66.30 332 *e*P **P 01 40 49.7 -0.8**
NORES NORESS Array B 66.30 332 P **P 01 40 49.8 -0.7**
MOL Molde 66.38 334 *e*P **P 01 40 50.7 -0.2**
SORM Soroca 66.75 314 ⇓P **P 01 40 53.4 -0.2**
SORM Soroca 66.75 314 ⇓P **P 01 40 53.1 -0.5**
AKN Aaknes 66.84 334 *e*P **P 01 40 53.9 -0.1**
PURM Purcari 66.87 312 ⇓P **P 01 40 54.3 0.0**
OSL Oslo 67.15 331 *e*P **P 01 40 55.7 -0.2**
MILM Milestii Mici 67.22 313 ⇓P **P 01 40 56.2 -0.4**
MILM Milestii Mici 67.22 313 ⇓P **P 01 40 55.7 -0.9**
SKAR Skarslia 67.48 333 *e*P **P 01 40 58.1 0.0**
IAS Iasi 67.75 314 ⇑P **P 01 41 00.1 +0.2**
IAS Iasi 67.75 314 ⇑P **P 01 40 59.2 -0.7**
KONO Kongsberg 67.76 331 *e*P **P 01 40 59.6 -0.2**
HYA Hoyanger 67.84 334 *e*P **P 01 41 00.2 0.0**
VASR Vaslui 67.95 313 ⇓P **P 01 41 01.6 +0.4**
LVV L'vov 68.00 318 *e*P **P 01 41 01.2 -0.3**
TLCR 68.26 311 ⇓P **P 01 41 02.8 -0.4**
TLCR 68.26 311 ⇓P **P 01 41 02.8 -0.4**
BIR Birlad 68.27 313 ⇓P **P 01 41 04.8 +1.6**
BIR Birlad 68.27 313 ⇓P **P 01 41 04.4 +1.2**
VLDR Vladesti 68.28 312 ⇓P **P 01 41 03.8 +0.5**
MEEK Meekatharra 68.30 190 P **P 01 41 02.8 -0.7**
comp=Z,13nm,2.5s
BEL Belsk 68.33 321 *e*P **P 01 41 03.6 +0.1**
PRAR RASCA 68.36 315 ⇑P **P 01 41 03.7 -0.1**
VARL Varlezi 68.37 313 ⇓P **P 01 41 04.0 +0.2**
SUE Sulen 68.39 334 *e*P **P 01 41 04.5 +0.8**
TATR Tatarca 68.44 312 ⇑P **P 01 41 04.9 +0.6**
JURR Jurilovca 68.48 311 ⇑P **P 01 41 04.4 -0.1**
GHRR 68.52 313 ⇓P **P 01 41 05.7 +0.9**
SLCR Slobozia Conac 68.60 312 ⇓P **P 01 41 05.4 +0.1**
IZVR Izvoarele 68.63 312 ⇑P **P 01 41 06.3 +0.8**
CFR Carcaliu 68.65 312 ⇓P **P 01 41 05.7 +0.1**
CFR Carcaliu 68.65 312 ⇓P **P 01 41 04.7 -0.9**
TESR Tescani 68.66 314 ⇑P **P 01 41 06.0 +0.3**
BRTR Keskin Array B 68.66 304 P **P 01 41 05.5 -0.4**
comp=Z,4.6nm,0.6s,baz=61,slow=5.2,SNR=9.1
BRTR LR LR 02 14 54.7
comp=Z,119nm,18.1s,baz=62,slow=39
ASK Askoy 68.68 334 *e*P **P 01 41 05.4 -0.1**
TPGR Topolog 68.68 311 ⇓P **P 01 41 06.4 +0.5**
BUR08 Bucovina Ar. S 68.74 315 IAmb IAmb 01 41 07.8
comp=Z,16nm,0.8s
BURAR Bucovina Array 68.75 315 P **P 01 41 06.9 +0.5**
KWP Kalwaria Pacla 68.78 318 *e*P **P 01 41 07.1 +0.7**
KWP *e*L L 02 14 14.8
comp=Z,263nm,20.7s
BSD Bornholm Skovb 68.82 326 *i* P **P 01 41 05.5 -0.9**
BSD IAmb IAmb 01 41 06.4
comp=Z,37nm,0.7s
BSD Bornholm Skovb 68.82 326 *e*P **P 01 41 05.6 -0.9**
ODBI Odobesti 68.89 313 ⇓P **P 01 41 08.6 +1.5**
TIRR Tirgusor 68.93 311 ⇑P **P 01 41 07.6 +0.2**
TIRR Tirgusor 68.93 311 ⇑P **P 01 41 07.3 -0.1**
VRI Vrincioaia 69.01 313 ⇑P **P 01 41 08.7 +0.8**
VRI Vrincioaia 69.01 313 ⇑P **P 01 41 08.5 +0.6**
BLS5 Blasjo 69.03 333 *e*P **P 01 41 07.9 +0.1**
OOD Oodnadatta 69.03 174 P **P 01 41 07.8 -0.2**
comp=Z,29nm,0.6s
GKP Gorka Klasztor 69.04 323 *e*P **P 01 41 07.9 0.0**
GKP Gorka Klasztor 69.04 323 *e*P **P 01 41 07.4 -0.5**
HARR Harsova 69.06 311 ⇓P **P 01 41 08.5 +0.3**
PLOR Plostina 69.06 313 ⇑P **P 01 41 08.9 +0.7**
PLOR Plostina 69.06 313 ⇑P **P 01 41 09.8 +1.5**
TLBR Topalu 69.08 311 ⇓P **P 01 41 08.8 +0.5**
MFTR Murfatlar 69.09 311 ⇓P **P 01 41 08.9 +0.5**
ANTO Ankara 69.10 305 P **P 01 41 10.2 +1.6**
ANTO pmax pmax
comp=Z,9.0nm,0.8s
ANTO Ankara 69.10 305 P **P 01 41 10.2 +1.6**
ANTO IAmb IAmb 01 41 14.1
comp=Z,9.1nm,0.8s
BR231 Keskin MP Arra 69.12 305 IAmb IAmb 01 41 10.1
comp=Z,13nm,0.8s
HOMB Homborsund 69.14 331 *e*P **P 01 41 08.1 -0.3**
COVR Voineasa-Covas 69.31 313 ⇓P **P 01 41 10.5 +0.7**
OZUR 69.38 314 ⇓P **P 01 41 11.3 +1.1**
AMRR Amara 69.44 312 ⇓P **P 01 41 11.5 +0.9**
AMRR Amara 69.44 312 ⇓P **P 01 41 11.4 +0.9**
PGOR Pogoanele 69.46 312 ⇓P **P 01 41 11.6 +1.0**
NEHR Nehoiu 69.52 313 ⇓P **P 01 41 11.9 +0.9**
ARCR ARCALIA 69.54 315 ⇑P **P 01 41 12.6 +1.5**
INKA Innaminka 69.56 169 P **P 01 41 11.7 +0.5**
comp=Z,45nm,1.6s
SNART Snartemo 69.56 331 *e*P **P 01 41 11.2 +0.1**
ISR Istrita 69.57 312 ⇓P **P 01 41 12.7 +1.3**
ICESG Greenland Ices 69.59 356 *i* P **P 01 41 10.2 -1.3**
ICESG IAmb IAmb 01 41 12.1
comp=Z,19nm,0.7s
KMY Karmoy 69.61 333 *e*P **P 01 41 11.6 +0.3**
BMR Baia Mare 69.62 316 ⇓P **P 01 41 12.7 +1.1**
UZH Uzhgorod 69.63 317 *e*P **P 01 41 11.0 -0.6**
MLR Muntele Rosu 69.67 313 ⇓P **P 01 41 12.6 +0.4**
MLR Muntele Rosu 69.67 313 P **P 01 41 12.2 0.0**
comp=Z,7.0nm,0.7s,baz=90,slow=6.1,SNR=14
MLR LR LR 02 14 42.4
comp=Z,200nm,18.4s,baz=8.0,slow=38
MLR Muntele Rosu 69.67 313 ⇓P **P 01 41 12.7 +0.5**
MLR Muntele Rosu 69.67 313 IAmb IAmb 01 41 13.9
comp=Z,12nm,1.0s
DOPR Dopca 69.68 314 ⇓P **P 01 41 13.3 +1.2**
ILULI Ilulissat 69.79 0 *i* P **P 01 41 11.4 -0.8**
ILULI IAmb IAmb 01 41 12.2
comp=Z,24nm,0.6s
RASA Rasa 69.80 311 ⇓P **P 01 41 13.4 +0.6**
TGMR Targu Mures 69.80 315 ⇑P **P 01 41 14.4 +1.6**
LEHL Lehliu 69.82 312 ⇑P **P 01 41 13.6 +0.8**
TRPA Tarpa 69.82 317 ⇑P **P 01 41 13.0 +0.2**
TRPA Tarpa 69.82 317 P **P 01 41 13.2 +0.4**
OJC Ojcow 69.85 320 *e*P **P 01 41 13.3 +0.3**
OJC *e*L L 02 15 06.3
comp=Z,657nm,16.8s
RGN Rugen 69.88 326 *e* P 01 40 54.4 -19
SECR 69.89 313 ⇑P **P 01 41 14.4 +1.1**

SULR 70.01 312 ⇓P P 01 41 14.3 +0.3
NIE Niedzica 70.12 319 eP P 01 41 16.2 +1.4
CBBR Cluj-Babes-Bol 70.16 315 ⇑P P 01 41 16.1 +1.1
CJR Cluj-Napoca 70.17 315 ⇓P P 01 41 16.3 +1.2
CJR Cluj-Napoca 70.17 315 ⇓P P 01 41 16.3 +1.2
RAYN Ar Rayn 70.20 284 P P 01 41 15.5 -0.1
RAYN pmax pmax
comp=Z,9.0nm,0.8s
RAYN Ar Rayn 70.20 284 P P 01 41 15.5 -0.1
RAYN IAmb IAmb 01 41 16.6
comp=Z,8.9nm,0.8s
VOIR 70.20 313 ⇓P P 01 41 16.0 +0.6
VOIR 70.20 313 ⇓P P 01 41 17.2 +1.9
MUD Monsted U'grnd 70.20 329 i P P 01 41 14.7 -0.2
MUD IAmb IAmb 01 41 15.4
comp=Z,17nm,1.2s
MESR Meseseni 70.24 316 ⇓P P 01 41 16.2 +0.7
A04D Lummi Island 70.33 42 P P 01 41 17.0 +1.1
baz=311
ARR Arges 70.47 314 ⇓P P 01 41 18.2 +1.2
RAZG Razgrad 70.56 311 ⇓P P 01 41 17.9 +0.4
DRGR 70.59 316 ⇓P P 01 41 17.9 +0.2
LTVH Ltavrtes, Hu 70.63 317 ⇓P P 01 41 18.6 +0.7
LANS Liptovska Anna 70.71 319 eP P 01 41 19.5 +1.1
LANS pmax pmax
comp=Z,13nm,0.8s
LANS Liptovska Anna 70.71 319 eP P 01 41 19.5 +1.1
RAC Raciborz 70.71 320 eP P 01 41 19.0 +0.7
RAC LMZ LR 02 15 31.0
comp=Z,0.4nm,18.0s
RAC Raciborz 70.71 320 eP P 01 41 19.0 +0.7
RAC MLR MLR
comp=Z,400nm,18.0s
HUMR Humele 70.81 313 ⇑P P 01 41 19.5 +0.6
LOT Lotru 70.89 314 ⇓P P 01 41 20.1 +0.5
OKC Ostrava-Krasne 70.90 320 eP P 01 41 18.9 -0.5
OKC Ostrava-Krasne 70.90 320⇑eP P 01 41 18.9 -0.5
OKC AMS AMS 02 15 20.0
comp=Z,700nm,21.7s
D03D Eldon 70.91 43 P P 01 41 20.0 +0.5
baz=311
B05A Bryant 70.94 42 P P 01 41 20.3 +0.7
baz=311
IZAB Izabela 70.97 318 eP P 01 41 20.6 +0.7
MORW Morawa 71.06 192 IAmb IAmb 01 41 20.7
comp=Z,12nm,0.8s
MORW Morawa 71.06 192 P P 01 41 20.3 -0.1
comp=Z,21nm,0.9s
ASF Jabal al Asfar 71.06 296 P P 01 41 20.9 +0.1
comp=Z,7.1nm,0.8s,baz=66,slow=1.7,SNR=4.5
DEV Deva 71.08 315 ⇑P P 01 41 21.7 +1.2
DEV Deva 71.08 315 ⇑P P 01 41 21.7 +1.2
KSP Ksiaz 71.10 322 eP P 01 41 21.0 +0.4
RUE Ruedersdorf 71.11 324 eP P 01 41 19.8 -0.8
RUE Ruedersdorf 71.11 324 eP P 01 41 21.4 +0.8
comp=Z,16nm,0.7s,baz=42,slow=5.8
MORC Moravsky Berou 71.23 320 ⇑P P 01 41 22.3 +0.8
MORC Moravsky Berou 71.23 320 ⇑P P 01 41 22.7 +1.2
MORC Moravsky Berou 71.23 320 eP P 01 41 21.8 +0.3
D04E Lakebay 71.30 43 P P 01 41 22.7 +0.8
baz=311
PSZ Piszkesteto 71.31 318 ⇑P P 01 41 23.0 +1.0
PSZ Piszkesteto 71.31 318 P P 01 41 22.7 +0.7
PSZ Piszkesteto 71.31 318 IAmb IAmb 01 41 23.4
comp=Z,17nm,0.7s
PSZ Piszkesteto 71.31 318 P P 01 41 22.8 +0.7
CHVC Chvalec 71.39 322 eP P 01 41 22.8 +0.4
MULG Mulgathing 71.39 175 P P 01 41 22.2 -0.2
comp=Z,20nm,2.4s
KRLC Kraliky 71.39 321 eP P 01 41 22.6 +0.1
KRLC Kraliky 71.39 321⇑eP P 01 41 22.6 +0.1
DPC Dobruska-Polom 71.42 321 eP P 01 41 23.3 +0.7
DPC Dobruska-Polom 71.42 321⇑iP P 01 41 23.3 +0.7
GZR Gura Zlata 71.46 314 ⇑P P 01 41 23.6 +0.7
VYHS Vyhne 71.46 319 eP P 01 41 23.2 +0.3
VYHS pmax pmax
comp=Z,10.0nm,0.7s
VYHS Vyhne 71.46 319 eP P 01 41 23.2 +0.3
UPC Upice 71.46 322 eP P 01 41 23.1 +0.3
UPC Upice 71.46 322⇑eP P 01 41 23.1 +0.3
VLAD Vladila 71.47 313 ⇑P P 01 41 23.0 +0.1
SIRR Siria 71.48 316 ⇑P P 01 41 23.8 +0.8
BSZH Besenyszg 71.53 317 ⇓P P 01 41 24.6 +1.4
BSZH Besenyszg 71.53 317 P P 01 41 24.8 +1.6
MMAI Mount Meron Ar 71.55 298 P P 01 41 23.8 +0.1
comp=Z,4.0nm,0.7s,baz=65,slow=8.4,SNR=2.9
MMAI LR LR 02 16 20.7
comp=Z,152nm,18.6s,baz=228,slow=39
BSEG Bad Segeberg 71.56 327 eP P 01 41 23.2 -0.1
comp=Z,27nm,1.0s,baz=42,slow=5.8
FORT Forrest 71.74 181 P P 01 41 24.7 +0.2
FORT Forrest 71.74 181 P P 01 41 24.7 +0.2
comp=Z,44nm,0.8s
C06D Leavenworth 71.77 42 P P 01 41 25.6 +0.9
baz=312
JAVC Velka Javorina 71.79 320 eP P 01 41 26.3 +1.4
E04D Cinebar 71.82 44 P P 01 41 26.2 +1.1
baz=311
LCRK Leigh Creek 71.91 172 P P 01 41 25.8 +0.3
comp=Z,30nm,0.9s
BZS Buzias 71.93 315 ⇑P P 01 41 26.0 +0.3
BZS Buzias 71.93 315 P P 01 41 25.7 0.0
DZM Mont Dzumac 71.98 144 P P 01 41 27.1 +0.8
comp=Z,8.2nm,0.7s,baz=19,slow=3.3,SNR=12
DZM Mont Dzumac 71.98 144 eP P 01 41 27.5 +1.2
comp=Z,27nm,0.9s
DZM eLR LR 02 03 21.5
comp=Z,158nm,23.1s
DZM Mont Dzumac 71.98 144 P P 01 41 27.4 +1.2
DZM IAmb IAmb 01 41 28.5
comp=Z,14nm,0.9s
DZM Mont Dzumac 71.98 144 P P 01 41 26.8 +0.6
HERR Herculane 71.99 314 ⇓P P 01 41 26.3 +0.2
VRAC Vranov 72.00 321 ⇑P P 01 41 27.0 +0.9
VRAC Vranov 72.00 321 P P 01 41 26.7 +0.5
comp=Z,21nm,0.8s,baz=54,slow=6.9,SNR=33
VRAC Vranov 72.00 321 eP P 01 41 26.6 +0.5
SFJD Kangerlussuaq 72.02 360 P P 01 41 25.5 -0.3
comp=Z,13nm,0.7s,baz=356,slow=4.0,SNR=6.2
SFJD Kangerlussuaq 72.02 360 i P P 01 41 24.9 -0.9
SFJD IAmb IAmb 01 41 25.8
comp=Z,6.6nm,0.7s
SFJD Kangerlussuaq 72.02 360 P P 01 41 25.6 -0.3
SFJD IAmb IAmb 01 41 26.4
comp=Z,11nm,0.7s
BAIL Bailesti 72.04 313 ⇓P P 01 41 27.0 +0.6
BUD Budapest 72.04 318 P P 01 41 27.3 +1.0
DJES Djerdap 72.07 314 eP P 01 41 27.7 +1.1
PUNG Punghina 72.10 314 ⇑P P 01 41 27.5 +0.7
PVCC Panska Ves 72.11 322 eP P 01 41 26.8 +0.1
PVCC Panska Ves 72.11 322⇑eP P 01 41 26.8 +0.1
BRG Berggiesshubel 72.16 323⇑iP P 01 41 26.9 -0.1
BRG Amp 01 41 28.0
comp=Z,15nm,0.7s
BRG Berggiesshubel 72.16 323⇑iP P 01 41 26.9 -0.1
BRG pmax pmax
comp=Z,15nm,0.7s
BRG Berggiesshubel 72.16 323 eP P 01 41 26.9 -0.1
comp=Z,11nm,0.7s,baz=42,slow=5.8
SRO2 Moca 72.17 318 eP P 01 41 26.6 -0.5
SRO2 pmax pmax
comp=Z,16nm,0.5s
SRO2 Moca 72.17 318 eP P 01 41 26.6 -0.5
SRO Srobarova 72.18 319 eP P 01 41 28.1 +1.0
SRO pmax pmax
comp=Z,21nm,0.6s
SRO Srobarova 72.18 319 eP P 01 41 28.1 +1.0
KRUC Moravsky 72.27 320 eP P 01 41 28.0 +0.3
CLL Collm 72.28 324⇑iP P 01 41 27.3 -0.4
CLL pmax pmax
comp=Z,40nm,0.7s
CLL Collm 72.28 324⇑iP P 01 41 27.3 -0.4
comp=Z,40nm,0.7s
CLL i x x 01 41 33.4
CLL Collm 72.28 324 eP P 01 41 27.7 0.0
comp=Z,30nm,0.7s,baz=42,slow=5.8
MODS Modra-Piesok 72.31 319 eP P 01 41 28.0 0.0
MODS Modra-Piesok 72.31 319 eP P 01 41 28.0 0.0
FLTG Flechtingen 72.33 325 eP P 01 41 27.2 -0.7
comp=Z,22nm,0.7s,baz=42,slow=5.8
FBE Freiberg 72.39 323 eP P 01 41 28.8 +0.4
comp=Z,17nm,0.8s,baz=42,slow=5.8
MDVR Moldovita 72.43 315 ⇓P P 01 41 28.7 -0.1
BLDU Ballidu 72.47 191 P P 01 41 28.1 -0.8
comp=Z,22nm,1.2s
DY2G Dye2 72.48 358 i P P 01 41 27.6 -1.4
DY2G IAmb IAmb 01 41 29.3
comp=Z,39nm,0.7s
PRU Pruhonice 72.50 322 eP P 01 41 28.9 -0.2
PRU Pruhonice 72.50 322⇑eP P 01 41 28.9 -0.2
CSKK Cskako 72.51 318 P P 01 41 30.6 +1.5
ZST Bratislava 72.52 319 eP P 01 41 30.2 +1.0
ZST Bratislava 72.52 319 eP P 01 41 30.2 +1.0
TREC Trest 72.54 321 eP P 01 41 29.5 +0.2
TREC Trest 72.54 321⇑eP P 01 41 29.5 +0.2
NRDL Niedersach Rie 72.69 326 eP P 01 41 30.1 +0.1
comp=Z,7.9nm,0.9s,baz=42,slow=5.8
KUBS Kucevo 72.69 314 eP P 01 41 28.6 -1.7
F05D White Salmon 72.84 44 P P 01 41 31.9 +0.7
baz=312
NEUB Neuenburg 72.89 324 eP P 01 41 31.3 -0.1
comp=Z,33nm,0.7s,baz=42,slow=5.8
ZAPS Zavoj 72.92 313 eP P 01 41 32.4 +0.7
PBCC Pribram 72.97 322⇑eP P 01 41 30.3 -1.6
MPLH Magyarpolny 73.00 318 P P 01 41 32.8 +0.8
VTS Vitosha 73.01 312 ⇓P P 01 41 33.3 +0.9
VTS Vitosha 73.01 312 ⇑P P 01 41 32.0 -0.4
VTS Vitosha 73.01 312 IAmb IAmb 01 41 34.3
comp=Z,20nm,0.8s
CLZ Clausthal 73.05 325 eP P 01 41 31.9 -0.4
comp=Z,16nm,0.7s,baz=42,slow=5.8
H04D Lebanon 73.07 45 P P 01 41 33.5 +1.0
baz=312
MORH Mrgy, Hungar 73.09 317 eP P 01 41 31.9 -0.7
HOOD Mount Hood Mea 73.12 44 P P 01 41 33.8 +0.8
SOP Sopron 73.13 319 P P 01 41 33.6 +0.7
TANN Tannenbergstha 73.15 323 eP P 01 41 32.5 -0.5
comp=Z,6.2nm,0.8s,baz=42,slow=5.8
BOVS Bovan 73.19 314 ⇓P P 01 41 32.7 -0.6
FRGS Fruska Gora 73.19 316 ⇓P P 01 41 33.2 -0.1
FRGS Fruska Gora 73.19 316 eP P 01 41 32.7 -0.6
FRGS Fruska Gora 73.19 316 eP P 01 41 32.9 -0.4
WERD Werda 73.20 323 eP P 01 41 33.5 +0.3
comp=Z,9.3nm,0.7s,baz=42,slow=5.8
E07A Sunnyside 73.21 42 IAmb IAmb 01 41 35.1
comp=Z,14nm,0.8s
GUNZ Gunzen 73.25 323 eP P 01 41 33.7 +0.2
comp=Z,15nm,0.7s,baz=42,slow=5.8
WERN Wernitzgruen 73.28 323 eP P 01 41 34.2 +0.4
comp=Z,18nm,0.7s,baz=42,slow=5.8
NKC Novy Kostel 73.29 323 eP P 01 41 33.7 -0.1
NKC Novy Kostel 73.29 323⇑eP P 01 41 33.7 -0.1
I03D Drain, OR 73.29 46 P P 01 41 35.1 +1.3
baz=312
CONA Conrad Observa 73.31 320 i P P 01 41 34.8 +0.8
comp=Z,15nm,0.7s,SNR=7.1
J01E Myrtle Point 73.33 47 P P 01 41 35.1 +1.1
baz=311
D08A Wollman Farm, 73.34 41 IAmb IAmb 01 41 35.5
comp=Z,8.7nm,0.7s
G05D Wamic, OR 73.34 44 P P 01 41 35.1 +0.9
baz=312
MOX Moxa 73.37 324 eP P 01 41 34.1 -0.1
comp=Z,5.9nm,0.7s,baz=42,slow=5.8
NEW Newport 73.39 40 P P 01 41 35.0 +0.6
comp=Z,4.5nm,0.8s,baz=320,slow=6.8,SNR=13
NEW Newport 73.39 40 P P 01 41 35.4 +1.0
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 73.39 40 P P 01 41 35.4 +1.0
NEW Newport 73.39 40 P P 01 41 34.9 +0.6
baz=314,SNR=5.6
CKRC Cesky Krumlov 73.43 321 eP P 01 41 34.5 -0.1
GTTG Gottingen 73.44 325 eP P 01 41 34.3 -0.3
comp=Z,11nm,0.7s,baz=42,slow=5.8
KOVH Kovagotottos 73.45 317 P P 01 41 34.5 -0.2
HAWA Hanford 73.48 42 P P 01 41 36.3 +1.3
HAWA IAmb IAmb 01 41 37.1
comp=Z,14nm,0.9s
TRUS Trudelj 73.50 315 eP P 01 41 34.7 -0.4
BOSS Bosilegrad 73.51 312 eP P 01 41 35.2 0.0
KHC Kasperske Hory 73.55 322 eP P 01 41 35.2 -0.2
KHC Kasperske Hory 73.55 322⇑eP P 01 41 35.2 -0.2
GRUS Gruza 73.56 314 eP P 01 41 35.2 -0.2
MANZ Manzenberg 73.62 323 eP P 01 41 35.9 +0.2
comp=Z,1.9nm,0.7s,baz=42,slow=5.8
BARS Barje 73.67 313 eP P 01 41 35.9 -0.2
GEC2 GERESS Array S 73.70 322 eP P 01 41 36.2 -0.1
comp=Z,9.7nm,0.8s,baz=42,slow=5.8
GEC2 GERESS Array S 73.70 322 IAmb IAmb 01 41 37.4
comp=Z,13nm,0.8s
GERES GERESS Array B 73.70 322 P P 01 41 35.7 -0.6
comp=Z,9.2nm,0.7s,baz=44,slow=6.0,SNR=76
ROTZ Rotzenmuhle 73.73 323 eP P 01 41 37.0 +0.7
comp=Z,2.5nm,0.7s,baz=42,slow=5.8
I04A Tendick Farm, 73.73 46 P P 01 41 37.1 +0.6
baz=312,SNR=6.8
STKA Stephens Creek 73.74 169 P P 01 41 36.2 -0.2
comp=Z,5.7nm,0.6s,baz=346,slow=7.6,SNR=18
STKA LR LR 02 11 52.7
comp=Z,42nm,21.9s,baz=25,slow=34
STKA Stephens Creek 73.74 169 P P 01 41 36.7 +0.3
comp=Z,2.2nm,0.6s
K02D Willamette Mer 73.78 47 P P 01 41 37.3 +0.4
baz=312
SELS Selova 73.78 314 eP P 01 41 35.7 -1.1
DIVS Divibare 73.81 315 eP P 01 41 36.7 -0.3
DIVS Divibare 73.81 315 IAmb IAmb 01 41 37.6
comp=Z,15nm,0.8s
DIVS Divibare 73.81 315 eP P 01 41 36.6 -0.4
IBBN Ibbenburen 73.81 327 eP P 01 41 36.6 -0.1
comp=Z,14nm,0.7s,baz=42,slow=5.8
WET Wettzell 73.87 322 eP P 01 41 37.6 +0.4
comp=Z,11nm,0.8s,baz=42,slow=5.8
EIL Elat 73.91 295 P P 01 41 37.9 +0.2
comp=Z,5.3nm,0.8s,baz=76,slow=8.3,SNR=3.8
ARSA Arzberg 73.94 319 i P P 01 41 37.8 +0.2
comp=Z,6.8nm,0.6s
I05D Terrebonne, OR 73.94 45 P P 01 41 38.6 +0.8
baz=312,SNR=6.7
UBBA Unterbreizbach 73.95 325 eP P 01 41 37.8 +0.3
comp=Z,6.8nm,0.6s,baz=42,slow=5.8
BBOO Buckleboo 74.04 174 P P 01 41 38.1 0.0
comp=Z,18nm,0.9s
FCC Fort Churchill 74.05 22 P P 01 41 37.5 -0.5
FCC pmax pmax
comp=Z,11nm,1.1s
FCC Fort Churchill 74.05 22 P P 01 41 37.5 -0.5
FCC IAmb IAmb 01 41 38.5
comp=Z,11nm,1.1s
IVAS Ivanjica 74.07 314 eP P 01 41 37.8 -0.7
E09A Wood Farm, Sta 74.10 41 IAmb IAmb 01 41 40.2
comp=Z,12nm,0.7s
CMSA Cobar Meteorol 74.10 165 P P 01 41 39.7 +1.2
comp=Z,16nm,0.8s
MOA Molln 74.13 321 i P P 01 41 39.0 +0.2
comp=Z,4.8nm,0.7s
L02E Cave Junction 74.17 48 P P 01 41 40.1 +1.1
baz=312
MSVF Nonsavu 74.22 132 P P 01 41 41.8 +2.2
comp=Z,14nm,0.9s,baz=292,slow=10,SNR=4.4
MSVF Nonsavu 74.22 132 P P 01 41 42.2 +2.6
MSVF pmax pmax
comp=Z,20nm,1.0s
MSVF Nonsavu 74.22 132 P P 01 41 42.2 +2.6
MSVF IAmb IAmb 01 41 42.8
comp=Z,20nm,0.9s
GRF Grafenberg Arr 74.23 323 eP P 01 41 40.3 +1.0
comp=Z,43nm,0.7s,baz=42,slow=5.8
HUMO Hull Mountain 74.23 47 P P 01 41 40.7 +1.3
HUMO IAmb IAmb 01 41 55.4
comp=Z,16nm,1.4s
GRFO Grafenberg 74.23 323 P P 01 41 39.8 +0.5
GRFO pmax pmax
comp=Z,47nm,0.7s
GRFO Grafenberg 74.23 323 P P 01 41 39.8 +0.5
J04D Umpqua Nationa 74.27 46 P P 01 41 40.8 +0.9
baz=312,SNR=8.6
BBLS Lazići 74.27 315 eP P 01 41 39.9 +0.2
BBLS Lazići 74.27 315 eP P 01 41 39.8 +0.1
FRB Frobisher Bay 74.35 8 P P 01 41 38.0 -1.7
comp=Z,27nm,0.7s,baz=358,slow=7.1,SNR=62
FRB Frobisher Bay 74.35 8 P P 01 41 38.0 -1.7
ARMA Armidale 74.37 160 P P 01 41 40.9 +0.7
comp=Z,27nm,2.2s
SJES Sjenica 74.38 314 eP P 01 41 40.4 0.0
GROS Grobnik 74.50 319 i P P 01 41 40.6 -0.4
PERS Pernice 74.57 319 i P P 01 41 41.3 -0.1
SOKA Soboth 74.58 319 i P P 01 41 41.5 +0.1
comp=Z,24nm,0.8s,SNR=7.5
BUG Bochum--Univer 74.65 327 eP P 01 41 41.7 0.0
comp=Z,9.3nm,0.8s,baz=42,slow=5.8
J05D Fort Rock, OR 74.71 45 P P 01 41 43.5 +1.1
baz=313,SNR=15
BLY Banja Luka 74.84 317 eP P 01 41 42.0 -0.9
L04D Klamath Falls 74.85 47 P P 01 41 44.0 +0.8
baz=312,SNR=6.9
K04D Chiloquin, OR 74.88 46 P P 01 41 44.0 +0.7
baz=313
RJOB Jochberg 74.91 321 eP P 01 41 43.7 +0.4
comp=Z,21nm,0.8s,baz=42,slow=5.8
OBKA Obir 74.94 319 i P P 01 41 43.3 -0.2
comp=Z,13nm,0.7s
YBH Yreka Blue Hor 74.95 47 P P 01 41 44.7 +1.0
comp=Z,4.2nm,0.6s,baz=26,slow=6.4,SNR=14
YBH Yreka Blue Hor 74.95 47 P P 01 41 44.5 +0.8
CRES Cresnjev 74.97 318 eP P 01 41 43.2 -0.4
TNS Taunus Mts 75.06 325 eP P 01 41 44.1 0.0
comp=Z,5.0nm,0.8s,baz=42,slow=5.8
I07A Izee 75.08 44 IAmb IAmb 01 41 46.8
comp=Z,13nm,0.8s
M02C Callahan 75.10 48 P P 01 41 45.8 +1.2
baz=312,SNR=5.8
JTMT Jette 75.10 39 IAmb IAmb 01 41 46.7
comp=Z,18nm,1.4s
KBA Koelnbreinsper 75.12 320 i P P 01 41 44.7 0.0
comp=Z,21nm,0.9s,SNR=12
MGRS Mrkonjic Grad 75.12 317 eP P 01 41 44.7 +0.1
LJU Ljubljana 75.28 319 eP P 01 41 44.9 -0.5
LJU Ljubljana 75.28 319 eP P 01 41 45.0 -0.5
MYKA Terra Mystica 75.29 320 i P P 01 41 44.7 -0.9
comp=Z,9.3nm,0.7s
FUR Furstenfeldbru 75.31 322 eP P 01 41 45.7 +0.1
comp=Z,24nm,0.7s,baz=42,slow=5.8
PDG Podgorica 75.33 314 ⇓P P 01 41 46.0 +0.3
PDG Podgorica 75.33 314 eP P 01 41 45.4 -0.3
CRNS Crni Vrh 75.38 319 i P P 01 41 45.2 -0.8
M04C Macdoel 75.40 47 P P 01 41 47.2 +0.8
baz=313,SNR=13
AHRW Bad Neuenahr-A 75.41 326 eP P 01 41 46.1 +0.1
comp=Z,14nm,0.8s,baz=42,slow=5.8
N02D Trinity Center 75.46 48 P P 01 41 47.7 +1.0
baz=312
EKA Eskdalemuir Ar 75.49 334 P P 01 41 46.1 -0.3
comp=Z,10nm,0.7s,baz=40,slow=5.0,SNR=26
EKA LR LR 02 18 40.8
comp=Z,115nm,19.5s,baz=357,slow=39
DRME Dracevica, Mon 75.53 314 eP P 01 41 46.7 -0.2
CEY Cerknica 75.54 319 eP P 01 41 46.4 -0.6
BMO Blue Mountains 75.68 42 IAmb IAmb 01 41 49.4
comp=Z,9.6nm,0.7s
ABTA Abfaltersbach 75.75 321 i P P 01 41 47.0 -1.2
comp=Z,6.0nm,0.7s
BTNL Ternell 75.77 326 P P 01 41 47.8 -0.4
comp=Z,11nm,0.9s
WATA Walderalm 75.77 321 i P P 01 41 48.3 -0.1
comp=Z,12nm,0.7s
WTTA Wattenberg 75.80 321 i P P 01 41 48.5 0.0
comp=Z,14nm,0.7s
MEM Membach 75.81 327 P P 01 41 47.8 -0.5
comp=Z,13nm,0.7s
RIY Rijeka 75.81 319 eP P 01 41 48.0 -0.4
STU Stuttgart 75.81 324 eP P 01 41 48.3 -0.1
comp=Z,23nm,0.7s,baz=42,slow=5.8
WDC Whiskeytown Da 75.82 48 IAmb IAmb 01 41 50.1
comp=Z,8.8nm,0.8s
MSO Missoula 75.92 39 P P 01 41 49.6 +0.4
baz=316,SNR=6.0
O02D Mt. Diablo Mer 75.95 49 P P 01 41 50.6 +1.1
baz=313
MOTA Moosalm 75.99 322 i P P 01 41 49.5 -0.2
comp=Z,12nm,0.7s
STAL STALIGIAL 76.01 320 IAmb IAmb 01 41 49.0
comp=Z,14nm,0.6s
SQTA Sankt Quirin 76.03 322 i P P 01 41 49.6 -0.2
comp=Z,7.9nm,0.6s
RETA Reutte 76.04 322 i P P 01 41 50.1 +0.2
comp=Z,25nm,0.7s,SNR=7.2
J08A Circle Bar Ran 76.12 44 IAmb IAmb 01 41 52.5
comp=Z,17nm,0.8s
MOD Modoc Plateau 76.16 46 IAmb IAmb 01 41 52.2
comp=Z,10nm,0.7s
PLID Pearl Lake 76.17 41 IAmb IAmb 01 41 53.9
comp=Z,8.0nm,0.7s
UBR Ueberruh 76.20 322 eP P 01 41 50.7 0.0
comp=Z,4.2nm,0.6s,baz=42,slow=5.8
BCLA Clavier 76.24 327 P P 01 41 49.0 -1.8
BGES Gesves 76.36 327 P P 01 41 50.7 -0.8
comp=Z,5.2nm,0.8s
FETA Feichten 76.40 322 i P P 01 41 51.7 -0.3
comp=Z,6.4nm,0.7s
O03E Paynes Creek 76.43 48 P P 01 41 52.5 +0.4
baz=313
WLF Walferdange 76.46 326 eP P 01 41 51.8 -0.3
comp=Z,5.8nm,0.7s,baz=42,slow=5.8
WLF Walferdange 76.46 326 P P 01 41 52.2 +0.1
BFO Black Forest 76.52 324 P P 01 41 52.2 -0.3
BFO pmax pmax
comp=Z,23nm,0.8s
BFO Black Forest 76.52 324 eP P 01 41 52.4 -0.1
comp=Z,19nm,0.7s,baz=42,slow=5.8
BFO Black Forest 76.52 324 P P 01 41 52.2 -0.3
BMRD Maredsous 76.55 327 P P 01 41 52.0 -0.6
comp=Z,18nm,0.7s
SNF Seneffe 76.59 327 P P 01 41 52.5 -0.3
comp=Z,20nm,0.7s
DAVA Damuels 76.60 322 i P P 01 41 53.2 +0.1
comp=Z,39nm,0.7s,SNR=8.3
CTI Castel Tesino 76.67 321 P P 01 41 52.5 -1.0
CTI pmax pmax
comp=Z,18nm,0.7s
CTI Castel Tesino 76.67 321 P P 01 41 52.5 -1.0
CTI IAmb IAmb 01 41 53.4
comp=Z,18nm,0.7s
WVOR Wild Horse Val 76.68 45 IAmb IAmb 01 41 55.4
comp=Z,9.9nm,0.7s
DOU Dourbes 76.78 327 P P 01 41 53.0 -0.9
comp=Z,6.3nm,0.8s
IDI Anoyia 76.85 305 P P 01 41 53.1 -1.5
comp=Z,19nm,1.0s,baz=34,slow=12,SNR=5.5
IDI LR LR 02 20 26.7
comp=Z,38nm,19.1s,baz=56,slow=39
EGMT Eagleton 76.97 36 IAmb IAmb 01 41 56.7
comp=Z,12nm,0.8s
EGMT Eagleton 76.97 36 P P 01 41 55.4 +0.3
baz=319,SNR=7.8
DAVOX Davos/Dischmat 76.97 322 P P 01 41 55.4 +0.2
comp=Z,20nm,0.6s,baz=37,slow=3.1,SNR=54
DAVOX LR LR 02 20 09.1
comp=Z,281nm,19.9s,baz=48,slow=39
ORV Oroville 77.10 48 IAmb IAmb 01 41 57.0
comp=Z,10nm,0.7s
LRM Limekiln Ridge 77.36 39 P P 01 41 58.2 +0.6
AFI Afiamalu 77.43 121 LR LR 02 08 13.3
comp=Z,70nm,21.0s,baz=334,slow=30
BOZ Bozeman (W) 77.92 39 P P 01 42 01.2 +0.6
BOZ pmax pmax
comp=Z,9.0nm,0.9s
BOZ Bozeman (W) 77.92 39 P P 01 42 01.2 +0.6
BOZ IAmb IAmb 01 42 02.1
comp=Z,8.9nm,0.8s
BOZ Bozeman (W) 77.92 39 P P 01 42 01.1 +0.6
baz=318,SNR=7.7
HLID Hailey 78.06 42 IAmb IAmb 01 42 03.9
comp=Z,10nm,0.9s
HLID Hailey 78.06 42 P P 01 42 02.4 +1.0
baz=317,SNR=17
PAHR Pah Rah Range 78.18 47 IAmb IAmb 01 42 03.5
comp=Z,13nm,0.8s
MURB Monte Urbino 78.26 318 IAmb IAmb 01 42 04.8
comp=Z,17nm,0.9s
NRCA Norcia 78.28 317 IAmb IAmb 01 42 03.9
comp=Z,23nm,0.9s
EMB Emerald Bay 78.29 48 IAmb IAmb 01 42 04.3
comp=Z,16nm,0.7s
VCNR Virginia City 78.32 48 IAmb IAmb 01 42 04.9
comp=Z,13nm,0.7s
AQU L'Aquila 78.47 317 eP P 01 42 03.3 -0.3
PNTR Pine Nut 78.49 48 P P 01 42 04.6 +0.7
QLMT Earthquake Lak 78.58 39 P P 01 42 05.0 +0.7
YERR Yerington 78.76 48 IAmb IAmb 01 42 07.0
comp=Z,15nm,0.6s
CMB Columbia Colle 78.78 49 IAmb IAmb 01 42 06.7
comp=Z,9.7nm,0.8s
BMN Battle Mountai 78.85 45 IAmb IAmb 01 42 07.7
comp=Z,15nm,0.6s
DGMT Dagmar 79.00 33 IAmb IAmb 01 42 07.6

	comp=Z,13nm,0.8s					
DGMT	Dagmar	79.00	33	P	P	01 42 06.8 +0.5
	baz=322					
H17A	Grant Village	79.31	39	IAmb	IAmb	01 42 12.1
	comp=Z,13nm,0.8s					
H17A	Grant Village	79.31	39	P	P	01 42 10.6 +2.2
	baz=319,SNR=15					
KVN	Kaiserville	79.35	47	IAmb	IAmb	01 42 10.3
	comp=Z,17nm,0.7s					
RLMT	Red Lodge	79.38	38	P	P	01 42 09.6 +0.9
RLMT	Red Lodge	79.38	38	P	P	01 42 09.3 +0.6
	baz=319,SNR=11					
RYN	Ryan	79.41	47	IAmb	IAmb	01 42 11.0
	comp=Z,14nm,0.7s					
LAO	LASA Array	79.54	35	P	P	01 42 09.6 +0.2
	baz=321					
ATD	Arta Tunnel	79.66	276	LR	LR	02 22 46.9
	comp=Z,30nm,18.7s,baz=78,slow=40					
ELK	Elko	79.67	44	P	P	01 42 11.8 +1.4
	comp=Z,4.1nm,0.6s,baz=317,slow=6.4,SNR=21					
NVAR	Mina Array Bea	79.67	47	P	P	01 42 11.4 +1.0
	comp=Z,20nm,0.6s,baz=300,slow=5.2,SNR=184					
LHV	Little Huntoon	79.69	48	IAmb	IAmb	01 42 12.6
	comp=Z,17nm,0.7s					
NV11	Mina Array Sit	79.75	47	P	P	01 42 11.7 +0.9
NV11				IAmb	IAmb	01 42 12.2
	comp=Z,9.9nm,0.7s					
ULM	Lac du Bonnet	80.69	27	P	P	01 42 14.7 -0.7
	comp=Z,5.7nm,0.6s,baz=320,slow=5.9,SNR=9.1					
HWUT	Hardware Ranch	80.92	41	IAmb	IAmb	01 42 19.2
	comp=Z,14nm,0.7s					
BW06	Boulder Array	81.03	40	P	P	01 42 17.6 0.0
	baz=320,SNR=15					
PD31	Pinedale Array	81.03	40	P	P	01 42 17.8 +0.1
PDAR	Pinedale Array	81.03	40	P	P	01 42 17.7 +0.1
	comp=Z,7.1nm,0.7s,baz=15,slow=1.4,SNR=91					
VES	Vestal, Richgr	81.06	50	P	P	01 42 17.7 0.0
	baz=315					
CWC	Cottonwood Cre	81.21	49	P	P	01 42 18.6 0.0
	baz=316					
GRAC	Grapevine Rang	81.21	48	P	P	01 42 19.5 +1.0
	baz=316,SNR=14					
R11A	Troy Canyon, C	81.22	46	P	P	01 42 19.2 +0.5
	baz=317,SNR=7.1					
DUG	Dugway, Tooele	81.33	43	P	P	01 42 20.0 +0.7
	baz=318,SNR=7.1					
ISA	Isabella, Lake	81.54	50	P	P	01 42 20.1 -0.2
	baz=315					
MPMC	Manual Prospec	81.81	49	P	P	01 42 22.3 +0.4
	baz=316,SNR=7.3					
TPNV	Topopah Spring	81.87	47	IAmb	IAmb	01 42 23.6
	comp=Z,8.8nm,0.6s					
TPNV	Topopah Spring	81.87	47	P	P	01 42 22.7 +0.5
	baz=316,SNR=15					
FURC	Furnace Creek,	81.87	48	P	P	01 42 22.8 +0.9
	baz=316,SNR=17					
LRMC	Laurel Mtn Rad	82.12	49	P	P	01 42 24.0 +0.5
	baz=316					
PRN	Pahroc Range	82.20	46	IAmb	IAmb	01 42 26.1
	comp=Z,5.4nm,0.6s					
AGMN	Agassiz Nation	82.34	28	IAmb	IAmb	01 42 24.6
	comp=Z,6.9nm,0.8s					
AGMN	Agassiz Nation	82.34	28	P	P	01 42 23.9 -0.3
	baz=328					
EDW2	Edwards Air Fo	82.37	50	P	P	01 42 25.2 +0.6
	baz=316,SNR=6.0					
RSSD	Black Hills	82.51	36	P	P	01 42 25.6 +0.2
RSSD				pmax	pmax	
	comp=Z,8.0nm,0.9s					
RSSD	Black Hills	82.51	36	P	P	01 42 25.6 +0.2
RSSD				IAmb	IAmb	01 42 26.6
	comp=Z,7.8nm,0.9s					
RSSD	Black Hills	82.51	36	P	P	01 42 25.4 -0.1
	baz=323					
K22A	Casper	82.54	38	P	P	01 42 25.6 0.0
	baz=321					
SHOC	Shoshone, Teco	82.61	48	P	P	01 42 26.5 +0.6
	baz=316					
DECC	Green Verdugo	82.62	50	P	P	01 42 26.5 +0.6
	baz=316					
RDMU	Red Mountain	82.69	41	P	P	01 42 26.7 +0.2
RDMU				IAmb	IAmb	01 42 28.0
	comp=Z,11nm,0.7s					
TCRU	Three Creeks R	82.70	44	IAmb	IAmb	01 42 28.7
	comp=Z,6.1nm,0.7s					
GSC	Goldstone, Bar	82.74	49	P	P	01 42 27.2 +0.6
	baz=316					
SHPR	Sheep Range	82.79	47	IAmb	IAmb	01 42 29.0
	comp=Z,7.4nm,0.8s					
TMUT	Trail Mountain	82.83	43	IAmb	IAmb	01 42 28.9
	comp=Z,8.5nm,0.7s					
P17A	Butcher Ranch,	82.93	42	IAmb	IAmb	01 42 29.3
	comp=Z,8.4nm,0.8s					
RRX	Edison Barstow	82.94	49	P	P	01 42 28.2 +0.6
	baz=316					
TUQ	Turquoise Moun	83.14	48	P	P	01 42 29.6 +0.8
	baz=317					
MTPU	Mount Pierson	83.26	44	IAmb	IAmb	01 42 32.1
	comp=Z,6.1nm,0.8s					
SCHQ	Schefferville	83.27	9	P	P	01 42 28.7 -0.3
	comp=Z,6.9nm,0.7s,baz=9.2,slow=5.7,SNR=15					
SCHQ				LR	LR	02 22 26.7
	comp=Z,122nm,18.1s,baz=88,slow=38					
SCHQ	Schefferville	83.27	9	P	P	01 42 28.6 -0.3
SCHQ				IAmb	IAmb	01 42 29.2
	comp=Z,11nm,0.8s					
HEC	Hector,Ludlow	83.35	49	P	P	01 42 30.5 +0.7
	baz=316					
O20A	White River Ci	83.67	40	IAmb	IAmb	01 42 33.0
	comp=Z,11nm,0.7s					
O20A	White River Ci	83.67	40	P	P	01 42 31.8 +0.3
	baz=320,SNR=6.8					
KNB	Kanab	83.69	45	IAmb	IAmb	01 42 33.7
	comp=Z,5.2nm,0.7s					
MURC	Murrieta	83.75	50	P	P	01 42 32.1 +0.4
	baz=316					
GMRC	Granite Mounta	83.77	48	P	P	01 42 32.7 +0.7
	baz=317,SNR=6.3					
BELC	Belle Mtn. Jos	84.14	49	P	P	01 42 34.3 +0.3
	baz=317					
EYMN	Ely	84.15	26	P	P	01 42 34.0 +0.5
	baz=331					
PFO	Pinyon Flats O	84.16	50	P	P	01 42 34.3 +0.2
	comp=Z,2.9nm,0.6s,baz=318,slow=5.4,SNR=6.1					
PFO	Pinyon Flats O	84.16	50	P	P	01 42 34.3 +0.2
	baz=317					
TPFO	Pinon Flats	84.17	50	P	P	01 42 34.2 +0.1
	baz=317					
N23A	Red Feather La	84.19	39	IAmb	IAmb	01 42 35.9
	comp=Z,5.2nm,0.8s					
N23A	Red Feather La	84.19	39	P	P	01 42 34.8 +0.6
	baz=322					
U15A	North Rim	84.41	45	IAmb	IAmb	01 42 37.6
	comp=Z,13nm,0.7s					
IRM	Iron Mountain	84.51	49	P	P	01 42 36.6 +0.9
	baz=317,SNR=6.3					
PV21	Cone Mtn., Par	84.52	42	IAmb	IAmb	01 42 37.4
	comp=Z,13nm,0.7s					
W13A	Hualapai Mount	84.53	47	IAmb	IAmb	01 42 37.6
	comp=Z,5.0nm,0.7s					
PV23	Carpenter Ridg	84.58	42	IAmb	IAmb	01 42 37.8
	comp=Z,11nm,0.8s					
PV14	Lion Creek, Pa	84.64	42	IAmb	IAmb	01 42 38.0
	comp=Z,8.7nm,0.7s					
PV17	East Wray Mesa	84.74	42	IAmb	IAmb	01 42 41.8
	comp=Z,6.6nm,0.9s					
PV11	David Mesa, Pa	84.77	42	P	P	01 42 37.7 +0.5
PV11				IAmb	IAmb	01 42 46.0
	comp=Z,7.8nm,0.8s					
PV12	Saucer Basin,	84.79	42	IAmb	IAmb	01 42 41.4
	comp=Z,5.5nm,0.7s					
PV05	Paradox Valley	84.83	42	IAmb	IAmb	01 42 46.0
	comp=Z,5.3nm,0.7s					
PV02	Paradox Valley	84.91	42	IAmb	IAmb	01 42 39.3
	comp=Z,5.5nm,0.7s					
PV15	Paradox Valley	84.94	42	IAmb	IAmb	01 42 39.9
	comp=Z,13nm,0.9s					
SMCO	Snowmass	85.03	40	IAmb	IAmb	01 42 40.3
	comp=Z,9.9nm,0.7s					
PV01	Paradox Valley	85.05	42	IAmb	IAmb	01 42 40.1
	comp=Z,6.3nm,0.6s					
ISCO	Idaho Springs	85.20	39	P	P	01 42 39.9 +0.5
ISCO				pmax	pmax	
	comp=Z,7.0nm,0.7s					
ISCO	Idaho Springs	85.20	39	P	P	01 42 39.9 +0.5
ISCO				IAmb	IAmb	01 42 41.4
	comp=Z,6.5nm,0.7s					
ISCO	Idaho Springs	85.20	39	P	P	01 42 40.0 +0.5
	baz=322,SNR=11					
KEST	Kesra	85.48	315	P	P	01 42 39.8 -0.8
	comp=Z,5.4nm,0.8s,baz=54,slow=4.5,SNR=5.4					
KEST				LR	LR	02 26 53.7
	comp=Z,81nm,18.2s,baz=261,slow=40					
KEST	Kesra	85.48	315	P	P	01 42 40.0 -0.6
KEST				IAmb	IAmb	01 42 40.0
	comp=Z,24nm,1.4s					
WUAZ	Wupatki	85.58	45	P	P	01 42 42.2 +1.0
	baz=319					
MVCO	Mesa Verde	85.80	42	IAmb	IAmb	01 42 43.9
	comp=Z,6.0nm,0.7s					
MVCO	Mesa Verde	85.80	42	P	P	01 42 42.9 +0.6
	baz=320,SNR=6.7					
Y14A	Wickenburg	85.87	47	IAmb	IAmb	01 42 44.1
	comp=Z,7.2nm,0.6s					
ECSD	EROS Data Cent	85.90	31	IAmb	IAmb	01 42 43.0
	comp=Z,11nm,0.8s					
ECSD	EROS Data Cent	85.90	31	P	P	01 42 42.0 -0.4
	baz=327,SNR=11					
OGNE	Ogallala	85.94	36	P	P	01 42 42.7 -0.1
	baz=324					
SPMN	Marine on St.	86.06	28	IAmb	IAmb	01 42 43.8
	comp=Z,10nm,0.9s					
SPMN	Marine on St.	86.06	28	P	P	01 42 43.1 -0.1
	baz=330					
Q24A	Divide	86.08	39	P	P	01 42 45.0 +1.1
Q24A	Divide	86.08	39	P	P	01 42 44.1 +0.3
	baz=322					
S22A	4UR Ranch, Cre	86.22	41	P	P	01 42 45.2 +0.7
	baz=321,SNR=6.2					
W18A	Petrified Fore	86.76	45	P	P	01 42 47.9 +0.8
	baz=320					
SDCO	Great Sand Dun	86.87	40	P	P	01 42 48.1 +0.4
	baz=322,SNR=6.1					
X18A	Snowflake	87.09	45	IAmb	IAmb	01 42 50.5
	comp=Z,5.0nm,0.6s					
KSCO	Kaye Shedlock'	87.23	38	P	P	01 42 49.2 0.0
	baz=324					
BGNE	Belgrade	87.23	34	P	P	01 42 49.0 0.0
	baz=326					
T25A	Trinidad	87.88	40	IAmb	IAmb	01 42 53.6
	comp=Z,6.2nm,0.7s					
T25A	Trinidad	87.88	40	P	P	01 42 52.7 +0.3
	baz=323					
ANMO	Albuquerque	88.59	43	P	P	01 42 57.2 +1.3
	comp=Z,0.6nm,0.6s,baz=285,slow=5.8,SNR=3.1					
ANMO	Albuquerque	88.59	43	P	P	01 42 55.5 -0.4
CBKS	Cedar Bluff	88.69	36	P	P	01 42 55.6 -0.4
	baz=326					
ESDC	Sonseca Array	88.76	326	P	P	01 42 55.6 -0.8
	comp=Z,2.2nm,0.7s,baz=21,slow=4.6,SNR=12					
ESDC				LR	LR	02 27 32.7
	comp=Z,108nm,21.3s,baz=322,slow=39					
JFWS	Jewell Farm	88.97	28	P	P	01 42 56.7 -0.5
	baz=332					
KSU1	Kansas State U	89.80	34	IAmb	IAmb	01 43 02.5
	comp=Z,15nm,0.7s					
KSU1	Kansas State U	89.80	34	P	P	01 43 01.1 -0.1
	baz=328					
319A	Douglas	89.86	47	IAmb	IAmb	01 43 03.9
	comp=Z,4.4nm,0.6s					
RAR	Rarotonga	90.56	118	LR	LR	02 17 04.6
	comp=Z,42nm,20.2s,baz=320,slow=31					
P38A	Dawn	90.61	32	IAmb	IAmb	01 43 06.6
	comp=Z,14nm,0.7s					
SADO	Sadowa	90.65	20	LR	LR	02 25 59.8
	comp=Z,57nm,18.3s,baz=338,slow=37					
AMTX	Amarillo	91.01	40	P	P	01 43 06.8 -0.2
	baz=324					
BKZ	Black Stump Fm	91.01	145	P	P	01 43 06.8 +0.3
	comp=Z,31nm,0.6s					
P40A	Paris	91.27	31	IAmb	IAmb	01 43 09.6
	comp=Z,12nm,0.8s					
MNTX	Cornudas Mount	91.70	44	P	P	01 43 10.5 +0.3
	baz=322					
LONY	Lake Ozonia	91.86	17	P	P	01 43 09.8 -0.9
	baz=342					
R40A	Maddies Statio	92.26	31	IAmb	IAmb	01 43 13.5
	comp=Z,12nm,0.8s					
SFIN	Lafayette	92.31	27	P	P	01 43 12.6 -0.1
	baz=334					
WMOK	Wichita Mounta	92.49	38	IAmb	IAmb	01 43 31.4
	comp=Z,5.4nm,0.6s					
WMOK	Wichita Mounta	92.49	38	P	P	01 43 14.0 +0.2
	baz=326					
CCM	Cathedral Cave	92.86	31	P	P	01 43 15.2 -0.1
	baz=331					
U38A	Gravette	92.99	34	IAmb	IAmb	01 43 17.0
	comp=Z,8.5nm,0.8s					
M53A	Wl Miller and	93.34	22	P	P	01 43 17.5 0.0
	baz=338					
M54A	Oil Creek Stat	93.55	21	P	P	01 43 18.4 -0.1
	baz=339					
U40A	Yellville	93.69	33	P	P	01 43 19.3 0.0
	baz=330					
ACSO	Alum Creek Sta	93.77	24	P	P	01 43 19.2 -0.3
	baz=336					
T42A	Van Buren	93.81	31	P	P	01 43 20.1 +0.3
T42A				IAmb	IAmb	01 43 20.9
	comp=Z,11nm,0.8s					
ABTX	Abilene, Hawle	93.83	39	P	P	01 43 19.9 -0.1
	baz=326					
N54A	Moraine State	93.97	22	P	P	01 43 20.1 -0.4
	baz=339					
FCAR	Ozark Folk Cen	94.39	32	IAmb	IAmb	01 43 23.2
	comp=Z,8.9nm,0.7s					
TX31	Lajitas Ar. Si	94.47	44	P	P	01 43 24.0 +0.9
TX31				IAmb	IAmb	01 43 24.6
	comp=Z,5.3nm,0.7s					
TXAR	Lajitas Array	94.47	44	P	P	01 43 24.0 +0.9
	comp=Z,1.9nm,0.7s,baz=285,slow=2.9,SNR=30					
MDT	Midelt	94.77	322	P	P	01 43 23.1 -1.3
	comp=Z,3.5nm,0.8s,baz=60,slow=5.6,SNR=4.5					
MIAR	Mount Ida	94.95	34	P	P	01 43 24.2 -0.9
	baz=329					
W41B	Gary Mavity, V	94.96	33	P	P	01 43 24.7 -0.4
	baz=330					
MCWV	Mont Chateau	95.22	22	P	P	01 43 26.0 -0.2
	baz=339					
JCT	Junction City	95.51	41	P	P	01 43 28.4 +0.6
JCT				pmax	pmax	
	comp=Z,5.0nm,0.7s					
JCT	Junction City	95.51	41	P	P	01 43 28.4 +0.6
JCT				IAmb	IAmb	01 43 29.7
	comp=Z,4.5nm,0.7s					
JCT	Junction City	95.51	41	P	P	01 43 27.8 0.0
	baz=325					
WVT	Waverly	95.84	29	P	P	01 43 29.0 -0.1
	baz=333					
MBAR	Mbarara	96.64	275	LR	LR	02 32 36.2
	comp=Z,54nm,18.8s,baz=41,slow=39					
TKL	Tuckaleechee C	97.69	26	LR	LR	02 30 21.5
	comp=Z,108nm,20.1s,baz=326,slow=37					
TORD	Torodi Ar. Bea	107.25	306	PKiKP	PKiKP	01 48 27.9 -1.5
	comp=Z,0.3nm,0.6s,baz=29,slow=2.8,SNR=1.7					
TORD				PP	PP	01 48 41.1 -5.6
	comp=Z,0.7nm,0.8s,baz=32,slow=7.4,SNR=4.8					
TORD				PKKPbc	PKKPbc	01 59 43.8 0.0
	comp=Z,0.2nm,0.5s,baz=226,slow=3.0,SNR=4.4					
VNDA	Vanda	120.28	172	PKP	PKPdf	01 48 51.5 -0.9
	comp=Z,0.5nm,0.5s,baz=311,slow=5.9,SNR=7.0					
SDV	Santo Domingo	126.87	25	PKP	PKPdf	01 49 06.1 -1.1
	baz=70,slow=0.1					
SDV	Santo Domingo	126.87	25	*eP*	PKPdf	01 49 06.2 -1.0
QSPA	South Pole Qui	131.05	180	PKP	PKPdf	01 49 12.3 -0.9
	comp=Z,1.9nm,0.5s,baz=29,slow=0.3,SNR=4.9					
QSPA	South Pole Qui	131.05	180	PKPdf	PKPdf	01 49 13.1 -0.2
BOAV	Boa Vista	135.63	14	*eP*	PKiKP	01 49 25.1 +0.1
ATAH	Atahualpa	138.12	43	PKP	PKPdf	01 49 28.4 -0.3
	comp=Z,4.6nm,0.8s,baz=312,slow=7.4,SNR=4.6					
PTGA	Pitinga	138.79	14	PKP	PKPdf	01 49 29.0 -0.4
	comp=Z,1.8nm,0.5s,baz=214,slow=11					
SNAA	Sanae	141.54	202	PKPdf	PKPpre	01 49 26.9
SNAA	Sanae	141.54	202	PKhKP	PKPpre	01 49 26.7
	comp=Z,2.5nm,0.7s,baz=196,slow=5.7,SNR=11					
SNAA	Sanae	141.54	202	PKHKP	PKPpre	01 49 26.2
SNAA	Sanae	141.54	202		PKPpre	01 49 26.2
NNA	Nana	143.02	45	PKhKP	PKPpre	01 49 31.3
	comp=Z,5.0nm,0.4s,baz=297,slow=4.5,SNR=2.3					
VNA2	Neumayer–Watz	143.19	202	PKPdf	PKPab	01 49 31.4 +0.2
	baz=112,slow=3.8					
VNA3	Neumayer Olymp	143.65	201	PKPdf	PKPab	01 49 32.4 -0.6
ETMB	Extrema	145.86	28	PKPdf	PKPdf	01 49 41.2 -0.6
SMTB	Santa Maria do	147.54	354	*eP*	PKPdf	01 49 44.8 +0.1
PDRB	Porto dos Gac	149.98	11	*eP*	PKPdf	01 49 50.7 +2.1
VILB	Vilhena	150.61	19	*eP*	PKPdf	01 49 51.4 +1.8
PEXB	Peixe	150.81	355	*eP*	PKPdf	01 49 50.3 +0.4
LPAZ	La Paz	150.99	36	PKP	PKPdf	01 49 50.5 -0.4
	comp=Z,1.2nm,1.0s,baz=8.4,slow=6.9,SNR=3.6					
LPAZ				PKPbc	PKPbc	01 49 56.2 -0.4
	comp=Z,8.1nm,0.7s,baz=18,slow=5.0,SNR=36					
LPAZ	La Paz	150.99	36		PKPdf	01 49 50.3 -0.6
LPAZ				PKPbc	PKPbc	01 49 56.0 -0.6
LPAZ				PKPab	PKPab	01 50 03.3 -0.6
SMAI	San Martin Ant	151.75	167		PKPbc	01 49 55.6 -0.4
PB11	IPOC Station P	153.26	42	PKPdf	PKPdf	01 49 52.6 -1.1
PB11				PKPbc	PKPbc	01 50 00.6 -0.5
PB11				PKPab	PKPab	01 50 13.0 +0.2
SIV	San Ignacio	153.29	22	PKP	PKPdf	01 49 53.4 -0.2
	comp=Z,0.7nm,0.4s,baz=63,slow=3.7,SNR=5.4					
SIV				PKPbc	PKPbc	01 50 00.6 -0.4
	comp=Z,4.6nm,0.7s,baz=69,slow=1.3,SNR=16					
SIV				PKPab	PKPab	01 50 12.5 -0.3
	comp=Z,10nm,0.6s,baz=329,slow=3.0,SNR=23					
BDFB	Brasilia	154.29	353	PKPbc	PKPbc	01 50 03.1 -0.2
	comp=Z,1.8nm,0.6s,baz=312,slow=2.7,SNR=3.8					
BDFB				PKPab	PKPab	01 50 15.9 -1.2
	comp=Z,4.3nm,0.7s,baz=34,slow=3.0,SNR=5.9					
BDFB	Brasilia	154.29	353		PKPbc	01 50 03.3 0.0
BDFB				PKPab	PKPab	01 50 16.1 -1.0
LVC	Limon Verde	156.01	44	PKPab	PKPab	01 50 25.2 +0.5
	comp=Z,3.4nm,0.6s,baz=309,slow=4.5,SNR=6.6					
CPUP	Villa Florida	164.15	21	PKPab	PKPab	01 50 59.0 -0.5
	comp=Z,2.6nm,0.7s,baz=357,slow=6.3,SNR=3.7					
PLCA	Paso Flores	165.19	94	PKPab	PKPab	01 51 04.0 -0.1
	comp=Z,2.9nm,0.6s,baz=281,slow=4.0,SNR=11					
PLCA	Paso Flores	165.19	94	PKP2	PKPab	01 51 04.0 -0.1

TUL ***06*** *01:42:54.3±0.4, 36°.74N±0°.01×98°.06W±0°.02, h6km±4km, ML2.8, mb_Lg2.5/14(NEIC), Error ellipse: s-maj=1.7km s-min=1.7km az=108.0*

NEIC 06 01:42:55.0±0.5, 36°.74N±0°.01×98°.06W±0°.01, h7km±3km, Error ellipse: s-maj=1.8km s-min=1.6km az=221.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.14	299	Pg	Pg	01 42 57.6	-0.2
OK032				Sg	Sg	01 42 59.9	+0.1
GC02	Grant County #	0.20	55	Pg	Pg	01 42 58.7	-0.2
GC02				Sg	Sg	01 43 01.8	+0.2
KAN14	Manchester OK	0.23	20		Pg	01 42 59.4	-0.2
KAN14				Sg	Sg	01 43 02.9	+0.2
CROK	Carrier	0.24	165	Pg	Pg	01 42 59.2	-0.5
CROK				Sg	Sg	01 43 02.8	-0.2
KAN10	Anthony SW Sta	0.39	356	Pg	Pg	01 43 02.3	-0.2
KAN10				Sg	Sg	01 43 07.4	-0.2
KAN17	Caldwell West	0.39	38	Pg	Pg	01 43 02.1	-0.4
KAN17				Sg	Sg	01 43 07.5	-0.1
KAN05	Bluff City Nor	0.40	22	Pg	Pg	01 43 02.5	-0.3
KAN05				Sg	Sg	01 43 08.0	0.0
KAN01	Argonia South	0.48	30	Pg	Pg	01 43 03.9	-0.4
KAN01				Sg	Sg	01 43 10.5	0.0
KAN16	Harper SW Stat	0.49	360	Pg	Pg	01 43 04.1	-0.3
KAN16				Sg	Sg	01 43 11.0	+0.2
OK035	E0210 Rd and N	0.52	267	Pg	Pg	01 43 04.3	-0.8
OK035				Sg	Sg	01 43 11.9	0.0
KAN06	Argonia West S	0.54	18	Pg	Pg	01 43 04.7	-0.6
KAN06				Sg	Sg	01 43 12.2	-0.1
KAN13	South Haven SW	0.54	59	Pg	Pg	01 43 04.8	-0.6
BLOK	Blackwell	0.68	88	Pg	Pg	01 43 07.2	-0.8
BLOK				Sg	Sg	01 43 16.5	-0.4
U32A	Winter Ranch,	0.84	245	Pg	Pg	01 43 10.1	-0.9
U32A				Sg	Sg	01 43 21.4	-0.6
OK029	Liberty Lake	1.06	152	Pg	Pg	01 43 13.9	-1.3
BCOK	Bluff Creek, N	1.14	161		Pg	01 43 15.3	-1.5
BCOK				Sg	Sg	01 43 30.6	-0.9
QUOK	Quay	1.23	117	Pg	Pb	01 43 17.1	-1.4
QUOK				Sg	Sg	01 43 33.1	-1.3
T35A	Sooner Cattle	1.25	81		Pn	01 43 17.6	-1.4
OK031	S. Brethren Rd	1.26	128		Pn	01 43 17.6	-1.4
OK025	Westminster Rd	1.29	153		Pn	01 43 18.0	-1.4
OK034	N. Norfolk Rd.	1.31	123		Pn	01 43 18.3	-1.4
OK030	Cody Creek RV	1.31	128		Pn	01 43 18.3	-1.4
OKCFA	Oklahoma City	1.41	159		Pn	01 43 19.8	-1.3
OKCSW	OKLAHOMA CITY	1.42	159		Pn	01 43 19.7	-1.5
FNO	Franklin	1.57	160		Pn	01 43 22.1	-1.2
TUL1	Leonard	2.01	114	IAmb_Lg		01 43 57.7	
	comp=Z,24nm,0.8s						
KSU1	Kansas State U	2.62	25	Pn	Pn	01 43 36.9	-0.9
KSU1				IAmb_Lg		01 44 21.5	
	comp=Z,16nm,0.9s						
U38A	Gravette	2.97	95	Pn	Pn	01 43 42.4	-0.2
U38A				IAmb_Lg		01 44 33.8	
	comp=Z,14nm,0.8s						
HHAR	Hobbs	3.35	97	Pn	Pn	01 43 47.4	-0.4
S39A	Bolivar	3.90	74	Pn	Pn	01 43 54.1	-1.2
S39A				IAmb_Lg		01 44 58.1	
	comp=Z,8.8nm,0.8s						
U40A	Yellville	4.21	94	Pn	Pn	01 43 58.8	-0.7
MIAR	Mount Ida	4.26	120	Pn	Pn	01 44 00.9	+0.7
KSCO	Kaye Shedlock'	4.27	304	IAmb_Lg		01 45 14.7	
	comp=Z,8.4nm,0.8s						
P38A	Dawn	4.59	50	Pn	Pn	01 44 03.6	-1.1
MGMO	Mountain Grove	4.66	83	Pn	Pn	01 44 05.6	-0.2
X40A	Basin Creek Fa	4.81	116	IAmb_Lg		01 45 31.0	
	comp=Z,9.9nm,0.8s						
R40A	Maddies Statio	4.86	70	Pn	Pn	01 44 08.3	-0.2
FCAR	Ozark Folk Cen	4.87	98	IAmb_Lg		01 45 38.2	
	comp=Z,9.1nm,0.8s						
LCAR	Lake Charles	5.61	95	Pn	Pn	01 44 19.3	+0.5
LCAR				IAmb_Lg		01 45 53.7	
	comp=Z,7.8nm,0.9s						

KRNET ***06*** *01:52:25.5±0.1, 39°.77N×74°.45E, h8km, mb2.7*
SOME ***06*** *01:52:26.9, 39°.80N×74°.47E, h10km*
NNC ***06*** *01:52:29.2±1.4, 39°.90N×74°.45E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=10.1km s-min=5.3km az=167.0

ISC 06 01:52:24.1±1.5, 39.78N±0°.06×74.47E±0°.03, h15km±11km, n44, σ1⇑32/67, 17C-5D, Southern Xinjiang

| Code | Station Name | Δ° | AZ° | Phase ID |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=32						
MNAS				⇑*i*S	**Sb**	**01 53 56.0**	**-0.4**
	baz=32						
MRKS	**Merke**	**3.11**	**343**	*e*P	**Pg**	**01 53 22.6**	**-1.1**
	3.9nm,0.4s						
MRKS				*e*S	**Sg**	**01 54 02.6**	**-1.4**
	8.4nm,0.4s						
MRKS	**Merke**	**3.11**	**343**	Pg	**Pg**	**01 53 22.6**	**-1.1**
	3.9nm,0.4s						
MRKS				Lg	Lg	01 54 02.6	
	8.4nm,0.4s						
KST	**Kastek**	**3.45**	**19**	*e*P	**Pg**	**01 53 27.8**	**-2.5**
	6.5nm,0.3s						
KST				*e*S	**Sg**	**01 54 11.4**	**-3.6**
	7.0nm,0.7s						
USP	**Ospenovka**	**3.49**	**0**	P	**Pg**	**01 53 31.0**	**+0.1**
	SNR=6.6						
DGS	**Degeres**	**3.60**	**15**	*e*P	**Pg**	**01 53 33.4**	**+0.3**
	7.8nm,0.4s						
DGS				*e*S	**Sg**	**01 54 21.2**	**+1.6**
	7.3nm,0.5s						
DGS	**Degeres**	**3.60**	**15**	Pg	**Pg**	**01 53 33.1**	**0.0**
	7.8nm,0.4s						
DGS				Lg	Lg	01 54 21.2	
	7.3nm,0.5s						
MTBS	**Maitube**	**3.66**	**23**	*e*P	**Pg**	**01 53 34.8**	**+0.5**
	5.4nm,0.4s						
MTBS				*e*S	**Sg**	**01 54 23.3**	**+1.6**
	10.0nm,0.5s						
MTBS	**Maitube**	**3.66**	**23**	Pg	**Pg**	**01 53 34.8**	**+0.5**
	5.4nm,0.4s						
MTBS				Lg	Lg	01 54 23.0	
	10.0nm,0.5s						
TNSS	**Tian-Shan**	**3.75**	**29**	*e*P	**Pg**	**01 53 35.9**	**-0.2**
	7.1nm,0.4s						
TNSS				*e*S	**Sg**	**01 54 25.1**	**+0.4**
	5.5nm,0.6s						
TNSS	**Tian-Shan**	**3.75**	**29**	Pg	**Pg**	**01 53 35.9**	**-0.2**
	7.1nm,0.4s						
TNSS				Lg	Lg	01 54 25.1	
	5.5nm,0.6s						
MDOK	**Medeo**	**3.90**	**29**	*e*P	**Pg**	**01 53 39.2**	**+0.4**
	3.1nm,0.5s						
MDOK				*e*S	**Sg**	**01 54 31.0**	**+1.7**
	7.1nm,0.8s						
MDOK	**Medeo**	**3.90**	**29**	Pg	**Pg**	**01 53 39.2**	**+0.4**
	3.1nm,0.5s						
MDOK				Lg	Lg	01 54 31.0	
	7.1nm,0.8s						
KOTS	**Kotyrbulak**	**3.98**	**29**	*e*P	**Pg**	**01 53 39.2**	**-1.3**
	3.7nm,0.6s						
KOTS				*e*S	**Sg**	**01 54 30.9**	**-1.2**
	11nm,0.7s						
KOTS	**Kotyrbulak**	**3.98**	**29**	Pg	**Pg**	**01 53 39.2**	**-1.3**
	3.7nm,0.6s						
KOTS				Lg	Lg	01 54 30.9	
	11nm,0.7s						
KRBS	**Karabastau**	**4.02**	**13**	*e*P	**Pg**	**01 53 40.5**	**-0.6**
	3.6nm,0.4s						
KRBS				*e*S	**Sg**	**01 54 33.2**	**0.0**
	5.0nm,0.4s						
KRBS	**Karabastau**	**4.02**	**13**	Pg	**Pg**	**01 53 40.5**	**-0.6**
	3.6nm,0.4s						
KRBS				Lg	Lg	01 54 33.2	
	5.0nm,0.4s						
IUG	**Iuzhnay**	**4.11**	**307**	*e*P	**Pg**	**01 53 43.5**	**+0.7**
	79nm,0.5s						
IUG				*e*S	**Sg**	**01 54 39.0**	**+2.9**
	16nm,0.8s						
IUG	**Iuzhnay**	**4.11**	**307**	Pg	**Pg**	**01 53 43.5**	**+0.7**
	79nm,0.5s						
IUG				Lg	Lg	01 54 39.0	
	16nm,0.8s						
KTBS	**Karatobe**	**4.27**	**22**	*e*P	**Pg**	**01 53 44.5**	**-1.3**
	2.9nm,0.3s						
KTBS				*e*S	**Sg**	**01 54 40.0**	**-1.1**
	9.0nm,0.5s						
KTBS	**Karatobe**	**4.27**	**22**	Pg	**Pg**	**01 53 44.5**	**-1.3**
	2.9nm,0.3s						
KTBS				Lg	Lg	01 54 40.0	
	9.0nm,0.5s						
KUU	**Kurty**	**4.34**	**18**	*e*P	**Pg**	**01 53 46.4**	**-0.9**
	1.5nm,0.5s						
KUU				*e*S	**Sg**	**01 54 43.3**	**-0.2**
	4.6nm,0.6s						
KUU	**Kurty**	**4.34**	**18**	Pg	**Pg**	**01 53 46.4**	**-0.9**
	1.5nm,0.5s						
KUU				Lg	Lg	01 54 43.3	
	4.6nm,0.6s						
SATY	**Saty**	**4.42**	**41**	*e*P	**Pg**	**01 53 49.5**	**+0.7**
	2.3nm,0.7s						
SATY				*e*S	**Sg**	**01 54 48.4**	**+2.4**
	7.4nm,1.2s						
SATY	**Saty**	**4.42**	**41**	Pg	**Pg**	**01 53 49.5**	**+0.7**
	2.3nm,0.7s						
SATY				Lg	Lg	01 54 48.4	
	7.4nm,1.2s						
KK08	**Karatay Array**	**4.47**	**319**	⇓Pg	**Pg**	**01 53 47.8**	**-2.0**
	0.5nm,0.4s,baz=133,slow=15						
KK08				⇑Lg	Lg	01 54 47.3	
	2.7nm,0.6s,baz=134,slow=26						
CHKK	**Chushkaly**	**4.49**	**24**	*e*P	**Pg**	**01 53 49.7**	**-0.4**
	1.3nm,0.1s						
CHKK				*e*S	**Sg**	**01 54 49.0**	**+0.8**
	6.1nm,0.7s						
CHKK	**Chushkaly**	**4.49**	**24**	Pg	**Pg**	**01 53 49.7**	**-0.4**
	1.3nm,0.1s						
CHKK				Lg	Lg	01 54 49.0	
	6.1nm,0.7s						
BRLS	**Borolday**	**4.76**	**315**	*e*P	**Pg**	**01 53 53.5**	**-1.8**
	1.0nm,0.3s						
BRLS				*e*S	**Sg**	**01 54 55.9**	**-1.1**
	3.6nm,0.8s						
BRLS	**Borolday**	**4.76**	**315**	Pg	**Pg**	**01 53 53.5**	**-1.8**
	1.0nm,0.3s						
BRLS				Lg	Lg	01 54 55.9	
	3.6nm,0.8s						
PDGK	**Podgornoye**	**5.18**	**45**	Pg	**Pg**	**01 54 01.6**	**-1.7**
	1.2nm,1.1s						
PDGK				Lg	Lg	01 55 09.1	
	2.1nm,1.1s						

*IDC **06** 02:00:23.8±3.6, 15°.01S×76°.15W, h45km±26km, mb3.2/3, mb1 3.6/6, mb1mx3.4/37, mbtmp3.6/6, ML3.7/3, MS2.9/4, Ms1 2.9/4, ms1mx2.7/16, Error ellipse: s-maj=65.1km s-min=15.7km az=57.0*

ISC 06 02:00:22.0±1.3, 15°.1S±0°.1×76°.2W±0°.2, h29km, n19, σ1§63/10, mb3.4/3, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.16**	**348**	P	**Pn**	**02 01 10.1**	**+0.2**
	9.4nm,0.3s,baz=114,slow=11,SNR=11						
NNA				S	**Sn**	**02 01 46.1**	**-0.6**
	22nm,0.3s,baz=127,slow=5.4,SNR=7.1						
NNA				LR	LR	02 02 17.4	
	comp=Z,66nm,20.4s,baz=88,slow=37						
LPAZ	**La Paz**	**7.86**	**100**	P	**Pn**	**02 02 15.9**	**+1.0**
	0.7nm,0.3s,baz=275,slow=8.7,SNR=26						
ATAH	**Atahualpa**	**8.21**	**345**	P	**Pn**	**02 02 22.6**	**+3.0**
	0.4nm,0.3s,baz=190,slow=0.9,SNR=6.1						
ATAH				S	**Sn**	**02 03 49.9**	**-1.8**
	0.5nm,0.3s,baz=268,slow=22,SNR=1.6						
LVC	**Limon Verde**	**10.16**	**138**	P	**Pn**	**02 02 47.5**	**+1.2**
	0.5nm,0.3s,baz=323,slow=14,SNR=1.3						
LVC				S	**Sn**	**02 04 38.0**	**-1.5**
	0.5nm,0.3s,baz=98,slow=21,SNR=6.4						
SIV	**San Ignacio**	**14.60**	**95**	LR	LR	02 09 45.8	
	comp=Z,115nm,18.1s,baz=282,slow=39						
H03N1	**Juan Fernandez**	**18.42**	**187**	T	T	02 23 54.5	
	baz=9.2,slow=74,SNR=541						
H03N2	**Juan Fernandez**	**18.42**	**187**	T	T	02 23 53.7	
	baz=9.2,slow=74,SNR=501						
H03N3	**Juan Fernandez**	**18.44**	**187**	T	T	02 23 53.1	
	baz=9.2,slow=74,SNR=615						
PTGA	**Pitinga**	**21.47**	**50**	LR	LR	02 14 57.1	
	comp=Z,28nm,18.2s,baz=263,slow=41						
SDV	**Santo Domingo**	**24.47**	**13**	LR	LR	02 15 13.5	
	comp=Z,35nm,18.3s,baz=126,slow=36						
TXAR	**Lajitas Array**	**51.53**	**329**	P	**P**	**02 09 25.3**	**-0.2**
	0.1nm,0.4s,baz=143,slow=6.3,SNR=1.3						
TORD	**Torodi Ar. Bea**	**82.02**	**74**	P	**P**	**02 12 39.6**	**-0.5**
	0.9nm,0.7s,baz=266,slow=4.5,SNR=5.2						
YKA	**Yellowknife Ar**	**82.99**	**343**	P	**P**	**02 12 42.9**	**-1.1**
	0.3nm,0.9s,baz=135,slow=5.8,SNR=4.1						
H11N3	**WAKE ISLAND Hyl**	**19.90**	**284**	T	T	04 30 28.4	
	baz=98,slow=74,SNR=4.5						
H11N2	**WAKE ISLAND Hyl**	**19.91**	**284**	T	T	04 30 34.1	
	baz=98,slow=74,SNR=6.8						
H11N1	**WAKE ISLAND Hyl**	**19.92**	**284**	T	T	04 30 34.5	
	baz=98,slow=74,SNR=4.0						
H11S2	**WAKE ISLAND Hyl**	**19.94**	**283**	T	T	04 30 31.3	
	baz=96,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hyl**	**19.95**	**283**	T	T	04 30 33.5	
	baz=96,slow=74,SNR=4.1						
H11S3	**WAKE ISLAND Hyl**	**19.96**	**283**	T	T	04 30 33.5	
	baz=96,slow=74,SNR=5.1						

*SOME **06** 02:11:53.5, 42°.48N×84°.70E, h10km*
*NNC **06** 02:11:56.7±1.9, 42°.65N×84°.60E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=13.5km s-min=8.9km az=145.0*

ISC 06 02:12:07.3±2.2, 42°.68N±0°.09×83°.98E±0°.08, h10km, n43, σ2§03/53, 8C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.76**	**287**	*e*P	**Pn**	**02 12 52.7**	**+0.9**
	11nm,0.1s						
KTMS				*e*S	**Sg**	**02 13 35.1**	**-1.0**
	58nm,0.4s						
KTMS	**Ketmen**	**2.76**	**287**	Pg	**Pb**	**02 12 55.0**	**-1.9**
	19nm,0.2s						
KTMS				Lg	Lg	02 13 39.7	
	82nm,0.3s						
SHLS	**Shalkode**	**3.35**	**280**	*e*P	**Pn**	**02 13 00.1**	**+0.3**
	7.7nm,0.2s						
SHLS				*e*S	**Sb**	**02 13 48.4**	**+0.7**
	78nm,0.3s						
SHLS	**Shalkode**	**3.35**	**280**	Pg	**Pn**	**02 13 00.1**	**+0.3**
	7.7nm,0.2s						
SHLS				Lg	Lg	02 13 48.4	
	78nm,0.3s						
PDGK	**Podgornoye**	**3.35**	**283**	Pg	**Pb**	**02 13 06.3**	**-0.7**
	2.1nm,0.3s						
PDGK				Lg	Lg	02 13 58.2	
	31nm,0.2s						
PDGK	**Podgornoye**	**3.35**	**283**	⇓Pg	**Pg**	**02 13 09.4**	**-2.2**
	5.6nm,0.5s						
PDGK				⇓Lg	Lg	02 13 59.2	
	41nm,0.5s						
DJR	**Jarkent**	**3.46**	**300**	*e*P	**Pb**	**02 13 07.2**	**-1.5**
	4.6nm,0.2s						
DJR				*e*S	**Sg**	**02 13 59.9**	**+1.4**
	26nm,0.4s						
DJR	**Jarkent**	**3.46**	**300**	Pg	**Pb**	**02 13 07.2**	**-1.5**
	4.6nm,0.2s						
DJR				Lg	Lg	02 13 59.9	
	26nm,0.4s						
UZB	**Uzynbulak**	**3.67**	**279**	*e*P	**Pb**	**02 13 11.0**	**-1.3**
	5.7nm,0.2s						
UZB				*e*S	**Sg**	**02 14 06.7**	**+1.6**
	36nm,0.4s						
UZB	**Uzynbulak**	**3.67**	**279**	Pg	**Pb**	**02 13 11.0**	**-1.3**
	5.7nm,0.2s						
UZB				Lg	Lg	02 14 06.7	
	36nm,0.4s						
KPKS	**Kokpek**	**3.96**	**283**	*e*P	**Pb**	**02 13 16.9**	**-0.2**
	6.4nm,0.2s						
KPKS				*e*S	**Sg**	**02 14 16.5**	**+2.2**
	57nm,0.3s						
ZHN	**Zhinishke**	**4.10**	**279**	*e*P	**Pb**	**02 13 18.9**	**-0.7**
	18nm,0.2s						
ZHN				*e*S	**Sg**	**02 14 20.4**	**+1.5**
	51nm,0.2s						
ZHN	**Zhinishke**	**4.10**	**279**	Pg	**Pb**	**02 13 18.9**	**-0.7**
	18nm,0.2s						
ZHN				Lg	Lg	02 14 20.4	
	51nm,0.2s						
KAPS	**Kapalarasan**	**4.23**	**310**	*e*P	**Pb**	**02 13 21.9**	**+0.1**
	2.4nm,0.3s						
KAPS				*e*S	**Sg**	**02 14 25.5**	**+2.4**
	12nm,0.3s						
KAPS	**Kapalarasan**	**4.23**	**310**	Pg	**Pb**	**02 13 21.9**	**+0.1**
	2.4nm,0.3s						
KAPS				Lg	Lg	02 14 25.5	
	12nm,0.3s						
BLB	**Baldybastay**	**4.25**	**291**	*e*P	**Pb**	**02 13 20.9**	**-1.3**
	8.9nm,0.2s						
BLB				*e*S	**Sg**	**02 14 23.3**	**-0.4**
	33nm,0.3s						
BLB	**Baldybastay**	**4.25**	**291**	Pg	**Pb**	**02 13 20.9**	**-1.3**
	8.9nm,0.2s						
BLB				Lg	Lg	02 14 23.3	
	33nm,0.3s						
MK31	**Makanchi Array**	**4.29**	**344**	⇑Pg	**Pb**	**02 13 22.7**	**0.0**
	1.0nm,0.3s,baz=146,slow=16,SNR=9.9						
MK31				⇑Lg	Lg	02 14 16.2	
	4.1nm,0.3s,baz=152,slow=28,SNR=8.4						
MAKZ	**Makanchi**	**4.37**	**342**	⇑Pg	**Pg**	**02 13 28.3**	**-2.6**
	3.0nm,0.5s						
MAKZ				⇓Lg	Lg	02 14 20.9	
	5.5nm,0.5s						
TDK	**Taldyqorghan**	**4.65**	**302**	*e*P	**Pg**	**02 13 32.5**	**-3.9**
	38nm,0.4s						
TDK				*e*S	**Sg**	**02 14 43.5**	**+7.0**
	14nm,0.5s						
TDK	**Taldyqorghan**	**4.65**	**302**	Pg	**Pg**	**02 13 32.5**	**-3.9**
	38nm,0.4s						
TDK				Lg	Lg	02 14 43.5	
ZSN	**Zaisan**	**4.81**	**7**	*e*P	Pb	02 13 25.4	-6.3
	3.3nm,0.2s						
ZSN				*e*S	**Sb**	**02 14 28.9**	**-0.7**
	23nm,0.6s						
ZSN	**Zaisan**	**4.81**	**7**	Pg	**Pn**	**02 13 22.2**	**+2.4**
	3.3nm,0.2s						
ZSN				Lg	Lg	02 14 25.9	
	23nm,0.6s						
MDOK	**Medeo**	**5.11**	**278**	⇓Lg	Lg	02 14 51.9	
	5.0nm,0.5s						
TNSS	**Tian-Shan**	**5.18**	**276**	*e*P	**Pb**	**02 13 38.6**	**+0.4**
	2.3nm,0.3s						
TNSS				*e*S	**Sg**	**02 14 54.0**	**+0.4**
	4.9nm,0.6s						
TNSS	**Tian-Shan**	**5.18**	**276**	Pg	**Pb**	**02 13 38.6**	**+0.4**
	2.3nm,0.3s						
TNSS				Lg	Lg	02 14 54.0	
	4.9nm,0.6s						
CHKK	**Chushkaly**	**5.24**	**285**	*e*P	**Pb**	**02 13 41.0**	**+2.1**
	1.2nm,0.1s						
CHKK				*e*S	**Sg**	**02 14 57.9**	**+2.5**
	13nm,0.4s						
CHKK	**Chushkaly**	**5.24**	**285**	Pg	**Pb**	**02 13 41.1**	**+2.1**
	1.2nm,0.1s						
CHKK				Lg	Lg	02 14 57.9	
	13nm,0.4s						
KTBS	**Karatobe**	**5.43**	**283**	*e*P	**Pb**	**02 13 44.8**	**+2.5**
	2.1nm,0.5s						
KTBS				*e*S	**Sg**	**02 15 04.2**	**+2.6**
	21nm,0.6s						
KTBS	**Karatobe**	**5.43**	**283**	Pg	**Pb**	**02 13 44.8**	**+2.5**
	2.1nm,0.5s						
KTBS				Lg	Lg	02 15 04.2	
	21nm,0.6s						
MTBS	**Maitube**	**5.56**	**277**	*e*P	**Pb**	**02 13 46.5**	**+2.0**
	2.1nm,0.3s						
MTBS				*e*S	**Sg**	**02 15 07.2**	**+1.4**
	9.6nm,0.5s						
MTBS	**Maitube**	**5.56**	**277**	Pg	**Pb**	**02 13 46.5**	**+2.0**
	2.1nm,0.3s						
MTBS				Lg	Lg	02 15 07.2	
	9.6nm,0.5s						
KUU	**Kurty**	**5.70**	**285**	*e*P	**Pb**	**02 13 48.3**	**+1.4**
	1.3nm,0.1s						
KUU				*e*S	**Sg**	**02 15 10.2**	**-0.2**
	9.7nm,0.7s						
KUU	**Kurty**	**5.70**	**285**	Pg	**Pb**	**02 13 48.3**	**+1.4**
	1.3nm,0.1s						
KUU				Lg	Lg	02 15 10.2	
	9.7nm,0.7s						
KST	**Kastek**	**5.90**	**276**	*e*P	**Pb**	**02 13 53.0**	**+2.7**
	3.9nm,0.5s						
KST				*e*S	**Sg**	**02 15 18.3**	**+1.6**
	13nm,0.6s						
KST	**Kastek**	**5.90**	**276**	Pg	**Pb**	**02 13 53.0**	**+2.7**
	3.9nm,0.5s						
KST				Lg	Lg	02 15 18.3	
	13nm,0.6s						
KRBS	**Karabastau**	**6.15**	**282**	*e*P	**Pb**	**02 13 56.0**	**+1.4**
	1.2nm,0.4s						
KRBS				*e*S	**Sg**	**02 15 23.4**	**-1.3**
	5.6nm,0.5s						
KRBS	**Karabastau**	**6.15**	**282**	Pg	**Pb**	**02 13 56.0**	**+1.4**
	1.2nm,0.4s						
KRBS				Lg	Lg	02 15 23.4	
	5.6nm,0.5s						
AAK	**Ala-Archa**	**6.99**	**273**	⇑Lg	Lg	02 15 51.3	
	8.3nm,0.8s						
KURBB	**Kurchatov Arra**	**8.78**	**337**	⇑Lg	Lg	02 16 42.2	
	10nm,0.8s						
KURK	**Kurchatov**	**8.84**	**337**	⇑Lg	Lg	02 16 41.5	
	6.6nm,0.7s						
OTUK	**Ortayu**	**9.88**	**308**	⇑Lg	Lg	02 17 23.3	
	3.7nm,1.0s						
KK08	**Karatay Array**	**9.91**	**277**	⇑Lg	Lg	02 17 26.5	
	1.7nm,0.8s,baz=88,slow=26						

*IDC **06** 02:13:22.5±2.6, 18°.33S×71°.61W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/35, mbtmp3.7/5, ML3.9/1, MS2.8/3, Ms1 2.9/3, ms1mx2.5/51, Error ellipse: s-maj=67.7km s-min=29.8km az=5.0*
*NEIC **06** 02:13:30.5±2.1, 18°.36S±0°.09×71°.4W±0°.1, h42km±19km, mb4.0/2, ML3.4(GUC), Error ellipse: s-maj=16.2km s-min=10.4km az=124.0*
*GUC **06** 02:13:30.0±0.7, 18°.22S×71°.34W, h48km±9km, ML3.4*

ISC 06 02:13:30.1±2.1, 18°.34S±0°.07×71°.4W±0°.1, h49km±20km, n43, σ1§36/40, mb3.6/3, 4C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.04**	**92**	*e*S	**Sn**	**02 13 59.9**	**-1.9**
AP01				IAML		02 14 02.5	
	comp=N,5μm,0.3s						
AP01	**Chacalluta**	**1.04**	**92**	Pn	**Pn**	**02 13 47.2**	**-1.2**
PB12	**IPOC Station P**	**1.09**	**105**	⇓*i*P	**Pn**	**02 13 47.8**	**-1.3**
PB12				*e*S	**Sn**	**02 14 01.3**	**-1.8**
PB12				IAML		02 14 11.4	
	comp=E,570nm,0.3s						
PB12	**IPOC Station P**	**1.09**	**105**	Pn	**Pn**	**02 13 47.6**	**-1.5**
PB16	**IPOC Station P**	**1.83**	**90**	⇑*i*P	**Pn**	**02 13 59.6**	**-0.1**
PB16				*e*S	**Sn**	**02 14 21.6**	**-0.4**
PB16				IAML		02 14 26.3	
	comp=N,939nm,0.5s						
PB16	**IPOC Station P**	**1.83**	**90**	Pn	**Pn**	**02 13 59.7**	**0.0**
PB11	**IPOC Station P**	**2.20**	**130**	⇑*i*P	**Pn**	**02 14 04.5**	**+0.2**
PB11				*e*S	**Sn**	**02 14 30.6**	**+0.1**
PB11				IAML		02 14 43.6	
	comp=E,361nm,0.4s						
PB11	**IPOC Station P**	**2.20**	**130**		**Pn**	**02 14 04.4**	**0.0**
TA02	**Huaiquique**	**2.29**	**148**	*e*P	**Pn**	**02 14 05.8**	**+0.4**
TA02				*e*S	**Sn**	**02 14 32.9**	**+0.5**
TA02				IAML		02 14 34.3	
	comp=N,278nm,0.4s						
TA02	**Huaiquique**	**2.29**	**148**	Pn	**Pn**	**02 14 05.7**	**+0.4**
TA01	**Diego Aracena**	**2.51**	**152**		**Pn**	**02 14 07.7**	**-0.8**
PB08	**IPOC Station P**	**2.81**	**130**	*i* P	**Pn**	**02 14 13.5**	**+0.5**
PB08				*i* S	**Sn**	**02 14 46.5**	**+0.8**
PB08				IAML		02 14 55.1	
	comp=E,118nm,0.3s						
PB08	**IPOC Station P**	**2.81**	**130**	Pn	**Pn**	**02 14 13.4**	**+0.5**
PB01	**IPOC Station P**	**3.26**	**146**	Pn	**Pn**	**02 14 18.6**	**-0.3**
PB02	**IPOC Station P**	**3.30**	**154**	⇑*e*P	**Pn**	**02 14 19.6**	**+0.1**
PB02				*e*S	**Sn**	**02 14 55.8**	**-1.8**
PB07	**IPOC Station P**	**3.67**	**157**	*e*P	**Pn**	**02 14 24.5**	**-0.1**
PB07	**IPOC Station P**	**3.67**	**157**	Pn	**Pn**	**02 14 24.2**	**-0.4**
LPAZ	**La Paz**	**3.76**	**58**	Pn	**Pn**	**02 14 30.4**	**+4.2**
	comp=E,2.2nm,0.3s,baz=224,slow=7.7,SNR=38						
LPAZ				LR	LR	02 16 13.6	
	comp=E,90nm,19.4s,baz=228,slow=44						
LPAZ	**La Paz**	**3.76**	**58**	Pn	**Pn**	**02 14 30.2**	**+4.0**
PB09	**IPOC Station P**	**4.01**	**149**	⇑*i*P	**Pn**	**02 14 30.1**	**+0.8**
PB09	**IPOC Station P**	**4.01**	**149**	Pn	**Pn**	**02 14 29.9**	**+0.6**
PB04	**IPOC Station P**	**4.16**	**163**	Pn	**Pn**	**02 14 30.1**	**-1.1**
PB06	**IPOC Station P**	**4.69**	**158**	*i* P	**Pn**	**02 14 37.7**	**-0.7**
PB06	**IPOC Station P**	**4.69**	**158**	Pn	**Pn**	**02 14 37.6**	**-0.9**
PB10	**IPOC Station P**	**5.22**	**171**	Pn	**Pn**	**02 14 44.6**	**-1.0**
ETMB	**Extrema**	**9.87**	**32**	Pn	**Pn**	**02 15 49.6**	**+0.2**
SIV	**San Ignacio**	**10.18**	**78**	Pn	**Pn**	**02 15 54.3**	**+0.6**
	comp=E,1.0nm,0.3s,baz=274,slow=11,SNR=12						
SIV				Sn	**Sn**	**02 17 47.2**	**+0.8**
	comp=E,0.1nm,0.3s,baz=188,slow=23,SNR=1.2						
SIV				Lg	Lg	02 18 54.3	
	comp=E,0.3nm,0.3s,baz=241,slow=17,SNR=1.8						
SIV				LR	LR	02 20 38.6	
	comp=E,42nm,20.4s,baz=223,slow=42						
VILB	**Vilhena**	**12.07**	**65**	Pn	**Pn**	**02 16 21.3**	**+1.8**
CPUP	**Villa Florida**	**15.28**	**124**	LR	LR	02 23 31.1	
	comp=E,57nm,18.3s,baz=204,slow=40						
H03N1	**Juan Fernandez**	**16.47**	**203**	T	T	02 34 18.0	
	baz=26,slow=73,SNR=131						
H03N2	**Juan Fernandez**	**16.47**	**203**	T	T	02 34 21.3	
	baz=26,slow=73,SNR=84						
H03N3	**Juan Fernandez**	**16.48**	**203**	T	T	02 34 27.2	
	baz=26,slow=73,SNR=80						
PTGA	**Pitinga**	**20.81**	**34**	P	**P**	**02 18 05.6**	**-2.0**
	comp=E,2.0nm,0.4s,baz=195,slow=14,SNR=9.1						
BDFB	**Brasilia**	**22.56**	**87**	P	**P**	**02 18 26.6**	**+0.1**
	comp=E,2.3nm,0.5s,baz=255,slow=8.5,SNR=6.6						
BDFB	**Brasilia**	**22.56**	**87**	P	**P**	**02 18 26.6**	**+0.1**
BDFB				IAmb	IAmb	02 18 44.7	
	comp=Z,8.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**78.59**	**72**	P	**P**	**02 25 26.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=264,slow=4.8,SNR=2.2						
YKA	**Yellowknife Ar**	**87.44**	**341**	P	**P**	**02 26 12.3**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=138,slow=4.3,SNR=2.6						
H11S2	**WAKE ISLAND Hyl**	**25.06**	**280**	T	T	04 49 48.4	
	baz=99,slow=74,SNR=38						
H11N3	**WAKE ISLAND Hyl**	**25.06**	**282**	T	T	04 49 51.1	
	baz=100,slow=75,SNR=4.3						
H11S1	**WAKE ISLAND Hyl**	**25.06**	**280**	T	T	04 49 53.1	
	baz=99,slow=74,SNR=36						
H11S3	**WAKE ISLAND Hyl**	**25.07**	**280**	T	T	04 49 52.5	
	baz=99,slow=74,SNR=26						
H11N2	**WAKE ISLAND Hyl**	**25.08**	**282**	T	T	04 49 51.9	
	baz=100,slow=75,SNR=4.5						
H11N1	**WAKE ISLAND Hyl**	**25.08**	**282**	T	T	04 49 51.9	
	baz=100,slow=75,SNR=4.5						

*ISU **06** 02:32:39, 40°.30N×73°.20E, h5km*
*KRNET **06** 02:32:39.0±0.1, 40°.32N×73°.12E, h17km, mb2.8*
*SOME **06** 02:32:40.4, 40°.48N×73°.15E, h5km*
*NNC **06** 02:32:41.5±1.2, 40°.51N×73°.15E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=9.2km s-min=4.0km az=169.0*

**ISC 06 02:32:38.7±1.1, 40°.35N±0°.03×73°.16E±0°.02, h4km±11km, n38, σ1§87/64, 16C-10D,

MNAS	**Manas**	**2.19**	**347**	⇑*iP*		**Pb**	**02 33 17.9**	**-1.1**
	baz=48							
MNAS				⇑*iS*		**Sb**	**02 33 45.9**	**-0.7**
	baz=48							
EKS2	**Erkin-Say**	**2.36**	**11**	⇑*iP*		**Pb**	**02 33 20.3**	**-1.5**
	baz=12							
EKS2				⇑*iS*		**Sb**	**02 33 50.1**	**-1.2**
	baz=12							
MRKS	**Merke**	**2.39**	**1**	*eP*		**Pb**	**02 33 22.9**	**+0.4**
	19nm,0.4s							
MRKS				*eS*		**Sb**	**02 33 54.1**	**+1.8**
	39nm,0.4s							
MRKS	**Merke**	**2.39**	**1**	Pg		**Pb**	**02 33 22.9**	**+0.4**
	19nm,0.4s							
MRKS				Lg		Lg	02 33 54.1	
	39nm,0.4s							
AAK	**Ala-Archa**	**2.50**	**23**	⇑Pg		**Pb**	**02 33 24.9**	**+0.7**
	7.4nm,0.5s							
AAK				⇑Lg		Lg	02 33 57.7	
	14nm,0.6s							
AAK	**Ala-Archa**	**2.50**	**23**	⇑*iP*		**Pb**	**02 33 22.3**	**-1.9**
	baz=24							
AAK				⇑*iS*		**Sb**	**02 33 53.6**	**-1.7**
	baz=24							
KBK	**Karagaybulak**	**2.67**	**30**	⇓*iP*		**Pb**	**02 33 24.8**	**-2.4**
	baz=30							
KBK				⇓*iS*		**Sb**	**02 33 57.7**	**-2.6**
	baz=30							
IUG	**Iuzhnay**	**2.96**	**308**	*eP*		**Pg**	**02 33 33.6**	**-1.9**
	82nm,0.3s							
IUG				*eS*		**Sg**	**02 34 11.8**	**-2.1**
	33nm,0.5s							
IUG	**Iuzhnay**	**2.96**	**308**	Pg		**Pg**	**02 33 33.6**	**-1.9**
	82nm,0.3s							
IUG				Lg		Lg	02 34 11.8	
	33nm,0.5s							
KK08	**Karatay Array**	**3.40**	**325**	⇓Pg		**Pb**	**02 33 41.1**	**+1.5**
	0.8nm,0.4s,baz=142,slow=16							
KK08				⇓Lg		Lg	02 34 23.9	
	2.7nm,0.4s,baz=140,slow=30							
KST	**Kastek**	**3.41**	**37**	*eP*		**Pb**	**02 33 42.3**	**+2.5**
	2.5nm,0.3s							
KST				*eS*		**Sg**	**02 34 26.7**	**-1.6**
	8.6nm,0.5s							
KST	**Kastek**	**3.41**	**37**	Pg		**Pb**	**02 33 42.3**	**+2.5**
	2.5nm,0.3s							
KST				Lg		Lg	02 34 26.7	
	8.6nm,0.5s							
DGS	**Degeres**	**3.49**	**33**	*eP*		**Pb**	**02 33 43.1**	**+2.0**
	4.4nm,0.6s							
DGS				*eS*		**Sg**	**02 34 28.1**	**-2.7**
	6.8nm,0.6s							
DGS	**Degeres**	**3.49**	**33**	Pg		**Pb**	**02 33 43.1**	**+2.0**
	4.4nm,0.6s							
DGS				Lg		Lg	02 34 28.1	
	6.8nm,0.6s							
BRLS	**Borolday**	**3.66**	**318**	*eP*		**Pb**	**02 33 44.4**	**+0.6**
	2.2nm,0.2s							
BRLS				*eS*		**Sb**	**02 34 30.4**	**+1.8**
	7.7nm,0.4s							
BRLS	**Borolday**	**3.66**	**318**	Pg		**Pb**	**02 33 44.4**	**+0.6**
	2.2nm,0.2s							
BRLS				Lg		Lg	02 34 30.3	
	7.7nm,0.4s							
MTBS	**Maitube**	**3.70**	**40**	*eP*		**Pb**	**02 33 45.5**	**+0.8**
	2.1nm,0.3s							
MTBS				*eS*		**Sb**	**02 34 32.7**	**+2.8**
	4.1nm,0.5s							
MTBS	**Maitube**	**3.70**	**40**	Pg		**Pb**	**02 33 45.6**	**+0.8**
	2.1nm,0.3s							
MTBS				Lg		Lg	02 34 32.7	
	4.1nm,0.5s							
KRBS	**Karabastau**	**3.83**	**28**	*eP*		**Pb**	**02 33 48.3**	**+1.4**
	2.1nm,0.5s							
KRBS				*eS*		**Sb**	**02 34 37.0**	**+3.3**
	4.6nm,0.4s							
KRBS	**Karabastau**	**3.83**	**28**	Pg		**Pb**	**02 33 48.3**	**+1.4**
	2.1nm,0.5s							
KRBS				Lg		Lg	02 34 37.0	
	4.6nm,0.4s							
TNSS	**Tian-Shan**	**3.91**	**45**	*eP*		**Pb**	**02 33 50.8**	**+2.4**
	3.4nm,0.4s							
TNSS				*eS*		**Sg**	**02 34 41.8**	**-2.5**
	2.7nm,0.5s							
TNSS	**Tian-Shan**	**3.91**	**45**	Pg		**Pb**	**02 33 50.8**	**+2.4**
	3.4nm,0.4s							
TNSS				Lg		Lg	02 34 41.7	
	2.7nm,0.5s							
KUU	**Kurty**	**4.26**	**33**	*eP*		**Pb**	**02 33 57.1**	**+3.0**
	0.9nm,0.3s							
KUU				*eS*		**Sg**	**02 34 52.6**	**-2.9**
	6.8nm,0.7s							
KUU	**Kurty**	**4.26**	**33**	Pg		**Pb**	**02 33 57.2**	**+3.0**
	0.9nm,0.3s							
KUU				Lg		Lg	02 34 52.6	
	6.8nm,0.7s							
KTBS	**Karatobe**	**4.26**	**37**	*eP*		**Pb**	**02 33 57.6**	**+3.3**
	1.7nm,0.5s							
KTBS				*eS*		**Sg**	**02 34 52.8**	**-2.9**
	7.7nm,0.4s							
KTBS	**Karatobe**	**4.26**	**37**	Pg		**Pb**	**02 33 57.6**	**+3.3**
	1.7nm,0.5s							
KTBS				Lg		Lg	02 34 52.8	
	7.7nm,0.4s							

*NEIC **06** 02:59:15.1±2.6,53°.19N±0°.10×168°.2W±0°.1,h100km±6km, mb3.7/15,ML3.0/29(AEIC), Error ellipse: s-maj=15.8km s-min=5.4km az=152.0*
*AEIC **06** 02:59:15.8±2.7,53°.18N±0°.09×168°.1W±0°.1,h88km±5km, Error ellipse: s-maj=15.3km s-min=5.2km az=149.0*
*IDC **06** 02:59:25.0±11.0,53°.73N×167°.10W,h124km±76km, mb2.9/4,mb1 3.3/6,mb1mx2.8/50,mbtmp3.4/6, Error ellipse: s-maj=89.5km s-min=59.1km az=69.0*
ISC 06 02:59:15.7±0.8,**53°.19N**±0°.10×**168°.17W**±0°.07,**h95**km±6km, **n75**,σ1°**24**/77,**mb3.4**/6,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**0.09**	**311**		**Pn**	**02 59 28.8**	**-0.3**
OKSP					**Sn**	**02 59 39.0**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**0.21**	**22**		**Pn**	**02 59 29.0**	**-0.4**
OKWR	**Okmok West Rim**	**0.24**	**355**		**Pn**	**02 59 29.4**	**-0.2**
OKFG	**Magazine Ridge**	**0.27**	**35**		**Pn**	**02 59 29.3**	**-0.3**
OKFG					**Sn**	**02 59 40.1**	**+0.2**
OKER	**Okmok East Rim**	**0.27**	**15**		**Pn**	**02 59 29.5**	**-0.2**
OKER					**Sn**	**02 59 40.9**	**+0.8**
NIKH	**Nikolski High**	**0.47**	**242**		**Pn**	**02 59 30.5**	**-0.2**
MAPS	**Pakushin South**	**0.96**	**49**		**Pn**	**02 59 34.9**	**-0.4**
CLCO	**Concord Point,**	**1.02**	**247**		**Pn**	**02 59 36.2**	**+0.3**
CLCO					**Sn**	**02 59 52.0**	**+0.9**
MREP	**Makushin Rep't**	**1.05**	**53**		**Pn**	**02 59 36.4**	**0.0**
MSW	**Makushin Switc**	**1.10**	**48**		**Pn**	**02 59 36.5**	**-0.4**
MSW					**Sn**	**02 59 55.2**	**+2.4**
CLES	**Cleveland East**	**1.10**	**251**	Pn	**Pn**	**02 59 37.0**	**+0.1**
CLES					**Sn**	**02 59 53.9**	**+1.1**
MNAT	**Makushin Natee**	**1.13**	**51**		**Pn**	**02 59 36.9**	**-0.2**
MTBL	**Makushin Table**	**1.18**	**48**		**Pn**	**02 59 37.7**	**-0.2**
UNV	**Unalaska Valle**	**1.19**	**56**	Pn	**Pn**	**02 59 37.9**	**0.0**
AKRB	**Akutan Reef Bi**	**1.57**	**52**		**Pn**	**02 59 42.9**	**+0.4**
LVA	**Lava Point**	**1.60**	**52**		**Pn**	**02 59 43.6**	**+0.7**
AKBBA	**Akutan Broad B**	**1.61**	**55**		**Pn**	**02 59 43.8**	**+0.7**
AKBBA					**Sn**	**03 00 05.2**	**+1.3**
AKGG	**Akutan Green G**	**1.64**	**51**		**Pn**	**02 59 44.1**	**+0.6**
AKUT	**Akutan**	**1.71**	**56**	Pn	**Pn**	**02 59 44.5**	**+0.2**
WESP	**Westdahl Peak**	**2.42**	**56**		**Pn**	**02 59 54.6**	**+1.0**
WESP					**Sn**	**03 00 24.3**	**+1.5**
FALS	**False Pass**	**3.26**	**57**	Pn	**Pn**	**03 00 06.3**	**+1.6**
SPIA	**Saint Paul Isl**	**4.17**	**344**		**Pn**	**03 00 16.3**	**-0.7**
SDPT	**Sand Point**	**5.00**	**61**	Pn	**Pn**	**03 00 27.7**	**-0.6**
CHGN	**Chignik**	**6.45**	**57**	Pn	**Pn**	**03 00 46.9**	**-1.0**
KDAK	**Kodiak Island**	**9.96**	**56**	P	**Pn**	**03 01 33.2**	**-2.5**
	0.4nm,0.3s,baz=263,slow=5.5,SNR=1.1						
KDAK				S	Sn	03 03 15.4	-10
	baz=318,slow=15,SNR=1.3						
GAMB	**Gambell**	**10.77**	**352**	Pn	**Pn**	**03 01 46.8**	**+0.2**
M19K	**Big River Lodg**	**11.42**	**35**	Pn	**Pn**	**03 01 55.0**	**-0.4**
L19K	**White Mountain**	**11.46**	**33**	Pn	**Pn**	**03 01 56.9**	**+0.8**
K20K	**Telida**	**12.57**	**30**	Pn	**Pn**	**03 02 11.8**	**+1.0**
J20K	**Nowinta River**	**13.17**	**28**	Pn	**Pn**	**03 02 18.5**	**-0.1**
PWL	**Port Wells**	**13.21**	**47**	Pn	**Pn**	**03 02 17.0**	**-2.3**
CAST	**Castle Rocks**	**13.24**	**33**	Pn	**Pn**	**03 02 20.7**	**+1.0**
GHO	**Glory Hole Cre**	**13.41**	**43**	Pn	**Pn**	**03 02 20.8**	**-1.1**
KNK	**Knik Glacier**	**13.42**	**44**	P	**P**	**03 02 25.9**	**-2.0**
SML	**Sawmill**	**13.67**	**43**	P	**P**	**03 02 28.8**	**-1.9**
KTH	**Kantishna Hill**	**13.72**	**34**		**Pn**	**03 02 28.2**	**+2.2**
BPAW	**Bear Paw Mtn.**	**14.06**	**32**	P	**P**	**03 02 33.7**	**-1.4**
SCM	**Sheep Creek Mo**	**14.10**	**44**	Pn	**Pn**	**03 02 28.6**	**-2.2**
RND	**Reindeer**	**14.35**	**37**	Pn	**Pn**	**03 02 35.2**	**+1.1**
I21K	**Tanana**	**14.54**	**28**	P	**P**	**03 02 41.5**	**+1.2**
KLU	**Klutina**	**14.54**	**46**		**Pn**	**03 02 33.4**	**-3.1**
H21K	**Melozitna Rive**	**14.68**	**26**	Pn	**Pn**	**03 02 38.4**	**+0.1**
M24K	**Tolsona, Glenn**	**14.71**	**44**	Pn	**Pn**	**03 02 38.0**	**-0.6**
DHY	**Denali Highway**	**14.71**	**40**		**Pn**	**03 02 40.2**	**+1.4**
MLY	**Manley**	**14.79**	**30**	P	**P**	**03 02 43.2**	**0.0**
I23K	**Minto, Yukon-K**	**15.29**	**31**	P	**P**	**03 02 47.8**	**-0.9**
I23K				IAmb	IAmb	03 02 57.0	
	comp=Z,9.0nm,1.4s						
MDM	**Murphy Dome**	**15.53**	**33**	P	**Pn**	**03 02 48.1**	**-0.9**
MDM				IAmb	IAmb	03 02 58.7	
	comp=Z,3.9nm,1.3s						
VRDI	**Verde Repeater**	**15.54**	**49**	P	**Pn**	**03 02 48.2**	**-1.1**
VRDI				IAmb	IAmb	03 02 56.9	
	comp=Z,10nm,1.3s						
WAX	**Waxell Ridge**	**15.57**	**52**	P	**P**	**03 02 50.7**	**-1.2**
TGL	**Tana Glacier**	**15.67**	**51**	P	**Pn**	**03 02 50.4**	**-0.5**
TGL				IAmb	IAmb	03 02 57.1	
	comp=Z,9.3nm,1.2s						
ISLE	**Juniper Island**	**15.86**	**52**	P	**Pn**	**03 02 52.5**	**-0.8**
ILAR	**Eielson Array**	**15.86**	**35**	P	**Pn**	**03 02 50.9**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=221,slow=10,SNR=7.5						
GRNC	**Granite Creek**	**16.17**	**52**	P	**Pn**	**03 02 56.5**	**-0.8**
M26K	**Nabesna, AK**	**16.18**	**45**	P	**Pn**	**03 02 56.5**	**-0.6**
M26K				IAmb	IAmb	03 03 04.3	
	comp=Z,3.6nm,1.1s						
H24K	**Noodor Dome**	**16.22**	**31**	P	**Pn**	**03 02 57.7**	**+0.1**
H24K				IAmb	IAmb	03 03 05.3	
	comp=Z,8.3nm,1.5s						
L26K	**Log Cabin Wild**	**16.29**	**43**	P	**Pn**	**03 02 57.3**	**-1.2**
SCRK	**Sand Creek**	**16.48**	**40**	P	**Pn**	**03 02 59.7**	**-1.2**
TOLK	**Toolik Lake Re**	**17.81**	**22**	Pn	**Pn**	**03 03 18.6**	**+1.6**
BMAR	**Burnt Mountain**	**18.26**	**30**		**P**	**03 03 21.4**	**0.0**
EPYK	**Eagle Plains**	**20.31**	**37**		**P**	**03 03 41.0**	**-2.7**
EPYK				IAmb	IAmb	03 03 43.4	
	comp=Z,5.3nm,0.8s						
INK	**Inuvik**	**22.26**	**34**		**P**	**03 04 01.9**	**-2.5**
INK				IAmb	IAmb	03 04 03.5	
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**29.15**	**50**	P	**P**	**03 05 06.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=274,slow=9.1,SNR=5.4						
YKA	**Yellowknife Ar**	**29.15**	**50**		**P**	**03 05 07.3**	**0.0**
MCMT	**McKenzie Canyo**	**36.41**	**80**		**P**	**03 06 12.1**	**+1.0**
BOZ	**Bozeman (W)**	**36.71**	**78**		**P**	**03 06 12.5**	**-1.0**
BOZ				IAmb	IAmb	03 06 38.6	
	comp=Z,1.5nm,1.1s						
NVAR	**Mina Array Bea**	**36.97**	**93**	P	**P**	**03 06 18.3**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=298,slow=9.8,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**38.55**	**220**	T	T	03 47 36.9	
	baz=24,slow=76						
H11N3	**WAKE ISLAND Hy**	**38.56**	**220**	T	T	03 47 36.9	
	baz=24,slow=76						
H11N1	**WAKE ISLAND Hy**	**38.57**	**220**	T	T	03 47 39.4	
	baz=24,slow=76						
PDAR	**Pinedale Array**	**39.54**	**81**	P	**P**	**03 06 38.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=293,slow=4.8,SNR=5.6						
PDAR	**Pinedale Array**	**39.54**	**81**	P	**P**	**03 06 38.5**	**+1.2**
H11S1	**WAKE ISLAND Hy**	**39.74**	**219**	T	T	03 49 07.1	
	baz=24,slow=76						
H11S2	**WAKE ISLAND Hy**	**39.75**	**219**	T	T	03 49 09.2	
	baz=24,slow=76						
H11S3	**WAKE ISLAND Hy**	**39.76**	**219**	T	T	03 49 08.5	
	baz=24,slow=76						
TXAR	**Lajitas Array**	**52.02**	**91**	P	**P**	**03 08 15.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=305,slow=6.3,SNR=3.5						

*NEIC **06** 03:07:36.4±0.4,19°.16N±0°.09×64°.66W±0°.07,h39km±53km, Error ellipse: s-maj=13.9km s-min=9.9km az=185.0*
*RSPR **06** 03:07:37.1,19°.21N×64°.67W,h31km±8km,MD3.3/10*
ISC 06 03:07:37.8±1.9,**19°.11N**±0°.10×**64°.72W**±0°.04,**h42**km,**n38**, σ0°**52**/43,**8C-2D,Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.69**	**172**	⇓*eP*	**Pn**	**03 07 50.6**	**-0.6**
TBVI	**Tortola**	**0.69**	**172**	*eS*	**Sn**	**03 08 00.8**	**0.0**
STVI	**Saint Thomas**	**0.78**	**196**	⇑*eP*	**Pn**	**03 07 51.6**	**-0.8**
STVI	**Saint Thomas**	**0.78**	**196**	*eS*	**Sn**	**03 08 03.2**	**+0.3**
STVI	**Saint Thomas**	**0.78**	**196**		**Pn**	**03 07 51.6**	**-0.8**
STVI					**Sn**	**03 08 03.2**	**+0.3**
STVI	**Saint Thomas**	**0.78**	**196**	IAML		03 08 07.9	
	comp=N,199nm,0.2s						
CUPR	**Culebra, Puert**	**0.96**	**214**	⇑*eP*	**Pn**	**03 07 54.5**	**-0.2**
CUPR	**Culebra, Puert**	**0.96**	**214**	*eS*	**Sn**	**03 08 07.9**	**+0.7**
CUPR	**Culebra, Puert**	**0.96**	**214**		**Pn**	**03 07 54.5**	**-0.2**
CUPR					**Sn**	**03 08 07.9**	**+0.7**
MTP	**Monte Pirata**	**1.28**	**218**	⇑*eP*	**Pn**	**03 07 58.6**	**-0.5**
MTP	**Monte Pirata**	**1.28**	**218**	*eS*	**Sn**	**03 08 15.7**	**+0.6**
MTP	**Monte Pirata**	**1.28**	**218**		**Pn**	**03 07 58.6**	**-0.5**
MTP					**Sn**	**03 08 15.7**	**+0.6**
CDVI	**St. Croix**	**1.35**	**182**	⇑*eP*	**Pn**	**03 07 59.6**	**-0.5**
CDVI	**St. Croix**	**1.35**	**182**	*eS*	**Sn**	**03 08 17.3**	**+0.5**
CDVI	**St. Croix**	**1.35**	**182**		**Pn**	**03 07 59.6**	**-0.5**
CDVI					**Sn**	**03 08 17.3**	**+0.5**
CBYP	**Canovanas**	**1.36**	**232**	⇑*eP*	**Pn**	**03 07 59.8**	**-0.5**
CBYP	**Canovanas**	**1.36**	**232**	*eS*	**Sn**	**03 08 17.3**	**+0.1**
CBYP	**Canovanas**	**1.36**	**232**		**Pn**	**03 07 59.8**	**-0.5**
CBYP					**Sn**	**03 08 17.3**	**+0.1**
HUMP	**Col San Antoni**	**1.44**	**228**	⇑*eP*	**Pn**	**03 08 00.9**	**-0.5**
HUMP	**Col San Antoni**	**1.44**	**228**	*eS*	**Sn**	**03 08 19.5**	**+0.5**
HUMP	**Col San Antoni**	**1.44**	**228**		**Pn**	**03 08 00.9**	**-0.5**
HUMP					**Sn**	**03 08 19.5**	**+0.5**
HUMP	**Col San Antoni**	**1.44**	**228**	IAML		03 08 21.0	
	comp=N,84nm,0.3s						
PDPR	**Patillas Dam,**	**1.64**	**229**		**Pn**	**03 08 04.0**	**-0.2**
PDPR				IAML		03 08 26.3	
	comp=E,57nm,1.1s						
SJG	**San Juan**	**1.68**	**234**	Pn	**Pn**	**03 08 04.5**	**-0.1**
EMPR	**Esperanza - Ma**	**1.82**	**250**	⇑*eP*	**Pn**	**03 08 06.2**	**-0.4**
EMPR	**Esperanza - Ma**	**1.82**	**250**	*eS*	**Sn**	**03 08 28.3**	**-0.3**
EMPR	**Esperanza - Ma**	**1.82**	**250**		**Pn**	**03 08 06.2**	**-0.4**
EMPR					**Sn**	**03 08 28.3**	**-0.3**
EMPR	**Esperanza - Ma**	**1.82**	**250**	IAML		03 08 37.0	
	comp=N,72nm,0.9s						
CELP	**Cerrillos**	**2.04**	**240**	⇑*eP*	**Pn**	**03 08 09.3**	**-0.3**
CELP	**Cerrillos**	**2.04**	**240**	*eS*	**Sn**	**03 08 34.6**	**+0.7**
CELP	**Cerrillos**	**2.04**	**240**		**Pn**	**03 08 09.3**	**-0.3**
CELP					**Sn**	**03 08 34.6**	**+0.7**
CELP	**Cerrillos**	**2.04**	**240**	IAML		03 08 36.9	
	comp=E,32nm,0.5s						
CRPR	**Cabo Rojo, PR**	**2.52**	**245**	⇓*eP*	**Pn**	**03 08 15.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**2.52**	**245**	*eS*	**Sn**	**03 08 46.1**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.52**	**245**		**Pn**	**03 08 15.9**	**-0.3**
CRPR					**Sn**	**03 08 46.1**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.52**	**245**	IAML		03 08 53.9	
	comp=E,25nm,1.6s						
CRPR				IAML		03 08 59.0	
	comp=N,31nm,1.1s						
ANDO	**Antigua, Disas**	**3.39**	**125**	*eP*	**Pn**	**03 08 29.4**	**+1.1**
ANBD	**Bethesda, Anti**	**3.48**	**126**	*eP*	**Pn**	**03 08 28.6**	**-0.8**
ANBD				*eS*	**Sn**	**03 09 09.3**	**-0.1**

*FUNV **06** 03:20:05.2,10°.30N×62°.45W,h1km,MW3.4*
*TRN **06** 03:20:08.1,10°.24N×62°.29W,h112km,MD3.5*
ISC 06 03:20:06.9±3.5,**10°.33N**±0°.05×**62°.57W**±0°.03,**h17**km±24km, **n23**,σ1°**36**/40,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.74**	**298**	*eP*	**Pb**	**03 20 20.5**	**-0.8**
CRUV				*eS*	**Sb**	**03 20 31.8**	**+0.6**
TPP	**Pointe-a-Pierr**	**1.10**	**90**	*eP*	**Pn**	**03 20 27.0**	**-0.6**
TPP				*eS*	**Sb**	**03 20 43.3**	**+1.7**
TRN	**Trinidad (W)**	**1.19**	**74**	*eP*	**Pn**	**03 20 28.8**	**0.0**
TRN				*eS*	**Sb**	**03 20 45.3**	**+1.1**
GRFF	**Grenada Fort F**	**1.90**	**25**	*eP*	**Pn**	**03 20 39.6**	**+1.1**
GRFF				*eS*	**Sn**	**03 21 02.2**	**+0.2**
GRGR	**Grenville**	**2.01**	**27**	*eP*	**Pn**	**03 20 40.0**	**0.0**
GRGR				*eS*	**Sn**	**03 21 05.1**	**+0.3**
PCRV	**Puerto La Cruz**	**2.04**	**266**	*eP*	**Pn**	**03 20 41.0**	**+0.5**
PCRV				*eS*	**Sn**	**03 21 07.6**	**+2.1**
TOSP	**Speyside**	**2.22**	**64**	*eP*	**Pn**	**03 20 42.6**	**-0.3**
GCMP	**Grenada, Carri**	**2.42**	**28**	*eP*	**Pn**	**03 20 45.5**	**-0.3**
GCMP				*eS*	**Sn**	**03 21 14.4**	**-0.6**
PRGV	**PARIAGUAN**	**2.57**	**233**	*eP*	**Pn**	**03 20 48.1**	**+0.3**
PRGV				*eS*	**Sn**	**03 21 20.1**	**+1.4**
SVB	**Belmont**	**3.20**	**24**	*eP*	**Pn**	**03 20 56.1**	**-0.3**
SVB				*eS*	**Sn**	**03 21 33.4**	**-0.8**
BIRV	**Birongo**	**3.64**	**273**	*eP*	**Pn**	**03 21 04.3**	**+1.8**
BIRV				*eS*	**Sn**	**03 21 46.1**	**+1.0**
MERV	**Las Mercedes**	**3.83**	**254**	*eP*	**Pn**	**03 21 05.1**	**0.0**
MERV				*eS*	**Sn**	**03 21 50.1**	**+0.5**
SLBI	**Saint Lucia, B**	**3.99**	**23**	*eP*	**Pn**	**03 21 07.3**	**0.0**
SLBI				*eS*	**Sn**	**03 21 51.6**	**-2.1**
FUNV	**FUNVISIS**	**4.17**	**272**	*eP*	**Pn**	**03 21 10.3**	**+0.4**
FUNV				*eS*	**Sn**	**03 21 58.7**	**+0.4**
CACV	**CAICARA DEL OR**	**4.79**	**235**	*eP*	Pn	03 21 12.5	-5.8
CACV				*eS*	Sn	03 22 02.6	-11
BENV	**Beln**	**4.96**	**266**	*eP*	**Pn**	**03 21 20.9**	**+0.1**
BENV				*eS*	**Sn**	**03 22 17.1**	**-0.8**
TURV	**Turiamo**	**5.18**	**272**	*eP*	**Pn**	**03 21 23.9**	**+0.1**
TURV				*eS*	**Sn**	**03 22 22.0**	**-1.2**
BAUV	**El Baul**	**5.57**	**256**	*eP*	**Pn**	**03 21 31.6**	**+2.6**
BAUV	**El Baul**	**5.57**	**256**	*eS*	**Sn**	**03 22 34.4**	**+1.8**
BAUV	**El Baul**	**5.57**	**256**	*eP*	**Pn**	**03 21 28.9**	**-0.1**
BAUV				*eS*	**Sn**	**03 22 30.9**	**-1.8**
MAPV	**Macapo**	**5.82**	**266**	*eP*	**Pn**	**03 21 32.5**	**0.0**
MAPV				*eS*	**Sn**	**03 22 36.9**	**-1.9**
PAYV	**Puerto Ayacuch**	**7.01**	**226**	*eP*	**Pn**	**03 21 47.8**	**-1.1**
PAYV				*eS*	**Sn**	**03 23 03.5**	**-4.7**
MONV	**Montecano**	**7.44**	**283**	*eP*	**Pn**	**03 21 54.4**	**-0.4**

*IDC **06** 03:38:05.9±1.4,49°.55S×123°.22E,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.9/20,mbtmp3.9/5,MS3.5/10, Ms1 3.5/10,ms1mx3.1/45,Error ellipse: s-maj=74.9km s-min=19.9km az=106.0*
ISC 06 03:38:07.1±1.5,**49°.5S**±0°.2×**123°.2E**±0°.5,**h10**km,**n15**, σ0°**38**/6,**mb3.9**/5,**MS3.5**/10,**Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.07**	**332**	T	T	03 58 24.2	
	baz=156,slow=74						
H01W2	**Cape Leeuwin H**	**16.07**	**332**	T	T	03 58 27.9	
	baz=156,slow=74						
H01W3	**Cape Leeuwin H**	**16.08**	**332**	T	T	03 58 30.4	
	baz=156,slow=74						
STKA	**Stephens Creek**	**22.40**	**45**	P	**P**	**03 43 06.0**	**+0.4**
	3.1nm,0.7s,baz=198,slow=10,SNR=6.7						
STKA				LR	LR	03 50 01.7	
	comp=Z,78nm,20.5s,baz=204,slow=32						
ASAR	**Alice Springs**	**27.16**	**22**	P	**P**	**03 43 50.6**	**0.0**
	1.2nm,0.7s,baz=202,slow=8.9,SNR=19						
ASAR				LR	LR	03 53 50.6	
	comp=Z,79nm,18.3s,baz=185,slow=35						
WRA	**Warramunga Arr**	**30.85**	**21**	P	**P**	**03 44 23.2**	**-0.2**
	0.2nm,0.5s,baz=197,slow=8.4,SNR=1.6						
WRA				LR	LR	03 55 03.5	
	comp=Z,66nm,21.3s,baz=77,slow=33						
VNDA	**Vanda**	**31.67**	**165**	P	**P**	**03 44 29.8**	**-0.2**
	2.3nm,0.7s,baz=313,slow=8.3,SNR=11						
VNDA				LR	LR	03 56 43.3	
	comp=Z,95nm,18.0s,baz=296,slow=35						
BATI	**Baumata**	**39.21**	**1**	LR	LR	04 00 33.4	
	comp=Z,70nm,20.6s,baz=313,slow=34						
QSPA	**South Pole Qui**	**40.59**	**180**	LR	LR	04 02 22.1	
	comp=Z,74nm,18.0s,baz=294,slow=36						
KAPI	**Kappang**	**44.46**	**355**	LR	LR	04 04 55.5	
	comp=Z,29nm,18.4s,baz=211,slow=36						
SNAA	**Sanae**	**53.24**	**199**	P	**P**	**03 47 25.4**	**+0.3**
	1.0nm,0.6s,baz=167,slow=9.5,SNR=6.6						
PMSA	**Palmer Station**	**65.89**	**177**	LR	LR	04 19 10.8	
	comp=Z,51nm,18.2s,baz=116,slow=37						
PALK	**Pallekele**	**67.58**	**314**	LR	LR	04 13 16.5	
	comp=Z,29nm,20.7s,baz=282,slow=31						
WSAR	**Wadi Sarin**	**92.29**	**304**	LR	LR	04 24 49.3	
	comp=Z,28nm,21.1s,baz=151,slow=30						
YKA

baz=234
CHGN S Sn 04 26 34.6 -2.4
baz=234
OHAK Old Harbor 9.34 52 P Pn 04 26 03.0 -0.5
baz=243
KDAK Kodiak Island 9.93 50 Pn Pn 04 26 11.1 -0.7
comp=N,2.2nm,0.3s,baz=243,slow=6.4,SNR=27
KDAK Sn Sn 04 27 56.0 -6.7
comp=N,0.7nm,0.3s,baz=18,slow=23,SNR=1.8
KDAK LR LR 04 30 03.1
comp=N,148nm,19.4s,baz=246,slow=37
KDAK Kodiak Island 9.93 50 P Pn 04 26 11.0 -0.7
baz=242
Q19K Cape Douglas, 10.07 43 P Pn 04 26 14.4 +0.7
baz=234
SHEM Shemya Is, Ala 11.61 280 LR LR 04 30 54.7
comp=N,47nm,19.6s,baz=208,slow=37
BRSE Bradley Lake S 11.76 44 P Pn 04 26 35.7 -1.0
baz=237
SEW Seward 12.50 44 P Pn 04 26 45.9 -0.9
baz=238
RC01 Rabbit Creek A 12.93 40 P Pn 04 26 51.3 -1.4
baz=234
K20K Telida 13.07 26 Pn 04 26 55.6 +1.0
PWL Port Wells 13.37 42 Pn Pn 04 26 56.7 -2.0
PWL Port Wells 13.37 42 P Pn 04 26 56.6 -2.2
baz=238
KNK Knik Glacier 13.63 40 P Pn 04 26 60.0 -2.2
baz=236
CAST Castle Rocks 13.69 29 Pn 04 27 04.1 +1.1
GLI Glacier Island 13.90 44 P Pn 04 27 03.2 -2.8
baz=240
SML Sawmill 13.90 39 P Pn 04 27 03.1 -2.9
baz=235
SCM Sheep Creek Mo 14.31 40 Pn 04 27 08.7 -2.9
SCM Sheep Creek Mo 14.31 40 P Pn 04 27 09.2 -2.4
baz=236,SNR=6.5
EYAK Cordova Ski Ar 14.33 46 P Pn 04 27 09.9 -1.9
baz=244
BPAW Bear Paw Mtn. 14.52 29 Pn Pn 04 27 15.0 +0.6
WAT6 Susitna Watana 14.58 37 P Pn 04 27 11.7 -3.7
baz=233
DIV Divide 14.59 44 Pn 04 27 13.3 -2.1
KLU Klutina 14.70 43 Pn 04 27 14.3 -2.6
KLU Klutina 14.70 43 P Pn 04 27 14.3 -2.6
baz=240,SNR=25
HMT Hamilton 14.91 48 Pn 04 27 19.4 -0.3
M24K Tolsona, Glenn 14.91 40 Pn Pn 04 27 17.6 -2.3
M24K Tolsona, Glenn 14.91 40 P Pn 04 27 17.4 -2.5
baz=238,SNR=5.5
DHY Denali Highway 15.02 36 P Pn 04 27 17.6 -3.7
baz=232
H21K Melozitna Rive 15.26 23 P Pn 04 27 25.4 +1.0
H21K IAmb IAmb 04 27 32.1
comp=Z,12nm,0.8s
H21K Melozitna Rive 15.26 23 P Pn 04 27 25.4 +1.0
baz=215
MLY Manley 15.29 27 P Pn 04 27 26.2 +1.4
N25K Chitina, Valde 15.31 43 Pn 04 27 22.8 -2.3
N25K Chitina, Valde 15.31 43 P Pn 04 27 22.6 -2.5
baz=242,SNR=7.1
IMAR Indian Mountai 15.32 21 Pn Pn 04 27 26.0 +0.8
HARP HAARP 15.47 40 P Pn 04 27 25.1 -2.1
baz=239
GLB Gilahina Butte 15.57 45 Pn 04 27 26.6 -1.8
GLB IAmb IAmb 04 27 38.1
comp=Z,12nm,0.6s
VRDI Verde Repeater 15.64 46 Pn 04 27 27.7 -1.7
PAX Paxson 15.66 38 Pn 04 27 28.2 -1.4
PAX Paxson 15.66 38 P Pn 04 27 26.6 -3.0
baz=236
TGL Tana Glacier 15.73 48 Pn Pn 04 27 29.7 -0.8
I23K Minto, Yukon-K 15.77 28 Pn 04 27 30.1 -0.8
I23K Minto, Yukon-K 15.77 28 P Pn 04 27 29.9 -1.0
baz=223
MCARA McCarthy VSAT 15.89 45 Pn Pn 04 27 31.9 -0.6
MCARA IAmb IAmb 04 27 42.4
comp=Z,23nm,1.0s
MCARA McCarthy VSAT 15.89 45 P Pn 04 27 31.0 -1.5
baz=245
YAH Yahtse 16.09 50 Pn Pn 04 27 35.1 -0.2
YAH IAmb IAmb 04 27 53.6
comp=Z,26nm,1.1s
IL31 16.26 32 Pn Pn 04 27 34.7 -2.5
ILAR Eielson Array 16.26 32 Pn Pn 04 27 35.2 -2.0
comp=Z,0.3nm,0.3s,baz=219,slow=13,SNR=17
ILAR Sn Sn 04 30 24.2 -13
comp=Z,0.1nm,0.3s,baz=197,slow=7.6,SNR=1.2
ILAR LR LR 04 34 42.6
comp=Z,107nm,19.8s,baz=186,slow=40
MENT Mentasta 16.32 40 P Pn 04 27 37.1 -1.0
MENT IAmb IAmb 04 27 48.0
comp=Z,13nm,0.5s
M26K Nabesna, AK 16.35 42 P Pn 04 27 36.9 -1.6
M26K IAmb IAmb 04 27 40.0
comp=Z,7.2nm,0.4s
M26K Nabesna, AK 16.35 42 P Pn 04 27 36.6 -1.9
baz=242
BARN Barnard Glacie 16.37 47 P Pn 04 27 38.8 -0.1
BARN IAmb IAmb 04 27 47.5
comp=Z,15nm,0.6s
CTG Chitna Glacier 16.48 48 P Pn 04 27 38.8 -1.4
baz=249
CTGM Chitina Glacie 16.49 48 P Pn 04 27 40.5 +0.2
CTGM IAmb IAmb 04 27 48.5
comp=Z,15nm,0.7s
L26K Log Cabin Wild 16.51 40 P Pn 04 27 39.6 -0.9
LOGN Logan Glacier 16.59 49 Pn Pn 04 27 42.6 +1.0
LOGN IAmb IAmb 04 27 50.1
comp=Z,10nm,0.5s
H24K Noodor Dome 16.70 28 P Pn 04 27 41.1 -1.7
H24K Noodor Dome 16.70 28 P Pn 04 27 41.1 -1.7
baz=224
SCRK Sand Creek 16.78 37 P Pn 04 27 42.2 -1.8
SCRK Sand Creek 16.78 37 P Pn 04 27 41.3 -2.6
baz=236,SNR=6.0
M27K Edge Creek, AK 16.80 43 P Pn 04 27 43.5 -0.8
M27K Edge Creek, AK 16.80 43 P Pn 04 27 41.8 -2.4
baz=244
L27K Beaver Creek, 17.14 41 P Pn 04 27 46.1 -2.3
baz=242
COLD Coldfoot 17.16 22 P Pn 04 27 47.0 -1.5
COLD Coldfoot 17.16 22 P Pn 04 27 47.0 -1.5
baz=217
YUK3 Moose Creek 17.17 46 P Pn 04 27 48.2 -0.8
baz=248
J26L Joseph Creek 17.23 35 P Pn 04 27 48.0 -1.5
baz=235
BVCY Beaver Creek 17.25 44 P Pn 04 27 48.3 -1.5
baz=246
TOLK Toolik Lake Re 18.44 20 P Pn 04 28 04.9 +0.5
TOLK Toolik Lake Re 18.44 20 P P 04 28 03.2 -1.1
baz=215
DAWY Dawson 18.57 40 P P 04 28 06.0 +0.2
DAWY IAmb IAmb 04 28 11.3
comp=Z,24nm,1.1s
DAWY Dawson 18.57 40 P P 04 28 04.3 -1.4
baz=243,SNR=14
M31M Drury Creek, Y 20.02 47 P Pn 04 28 24.1 +0.6
baz=255,SNR=14
P33M Teslin, Yukon 20.37 53 P P 04 28 25.1 -0.4
baz=262
EPYK Eagle Plains 20.64 35 P P 04 28 28.2 -0.2
EPYK IAmb IAmb 04 28 31.1
comp=Z,12nm,0.8s
EPYK Eagle Plains 20.64 35 P P 04 28 27.6 -0.7
baz=241,SNR=7.2
PETK Petropavlovsk- 21.37 287 P P 04 28 34.3 -1.9
comp=Z,1.2nm,0.5s,baz=96,slow=13,SNR=8.7
PETK Petropavlovsk- 21.37 287 P P 04 28 34.5 -1.7
DLBC Dease Lake 21.67 59 P P 04 28 41.3 +1.8
comp=Z,2.4nm,0.8s,baz=113,slow=15,SNR=3.7
INK Inuvik 22.66 32 P P 04 28 48.8 -1.1
comp=Z,6.9nm,0.6s,baz=234,slow=14,SNR=20
INK PcP PcP 04 32 41.8 0.0
comp=Z,1.5nm,0.8s,baz=268,slow=2.0,SNR=3.3
INK Inuvik 22.66 32 P P 04 28 48.9 -1.1
INK IAmb IAmb 04 28 55.3
comp=Z,7.8nm,0.5s
INK Inuvik 22.66 32 P P 04 28 48.0 -1.9
baz=242,SNR=15
SEY Seymchan 23.90 313 P P 04 29 01.3 -1.1
comp=Z,0.4nm,0.3s,baz=123,slow=10,SNR=1.7
C36M Paulatuk 26.22 33 P P 04 29 24.4 +0.9
C36M IAmb IAmb 04 29 28.5
comp=Z,9.2nm,0.9s

A36M Sachs Harbour 26.85 27 P P 04 29 29.7 +0.6
A36M Sachs Harbour 26.85 27 P P 04 29 28.2 -0.9
baz=245,SNR=17
YKA Yellowknife Ar 29.20 49 P P 04 29 51.0 +0.8
comp=Z,2.2nm,0.7s,baz=270,slow=7.8,SNR=35
YKA PcP PcP 04 32 56.8 -0.1
comp=Z,0.9nm,0.7s,baz=282,slow=2.0,SNR=12
YKA Yellowknife Ar 29.20 49 P P 04 29 50.6 +0.4
YKA PcP PcP 04 32 56.8 -0.1
NEW Newport 31.57 77 P P 04 30 12.7 +1.3
comp=Z,1.8nm,0.7s,baz=297,slow=4.5,SNR=4.4
NEW Newport 31.57 77 P P 04 30 12.1 +0.7
EDM Edmonton 31.82 67 P P 04 30 14.8 +1.3
MOD Modoc Plateau 32.84 89 P P 04 30 24.3 +1.6
J08A Circle Bar Ran 33.16 86 P P 04 30 26.8 +1.4
WVOR Wild Horse Val 33.57 87 P P 04 30 30.6 +1.6
WVOR IAmb IAmb 04 30 32.2
comp=Z,4.9nm,0.8s
RES Resolute Bay 35.86 26 P P 04 30 49.5 +1.3
comp=Z,0.7nm,0.3s,baz=271,slow=8.4,SNR=7.6
RES PcP PcP 04 33 15.0 0.0
comp=Z,0.5nm,0.4s,baz=241,slow=2.3,SNR=3.6
RES Resolute Bay 35.86 26 P P 04 30 48.7 +0.4
RES IAmb IAmb 04 30 59.8
comp=Z,6.0nm,1.5s
RES PcP 04 33 14.9 -0.1
KVN Kaiserville 35.88 92 P P 04 30 50.5 +1.4
KVN IAmb IAmb 04 30 57.9
comp=Z,3.8nm,1.1s
RYN Ryan 35.88 93 P P 04 30 50.1 +1.1
RYN IAmb IAmb 04 30 52.0
comp=Z,4.4nm,1.0s
EGMT Eagleton 36.06 73 P P 04 30 51.2 +0.8
NVAR Mina Array Bea 36.14 93 P P 04 30 53.3 +2.0
comp=Z,3.5nm,0.8s,baz=292,slow=8.6,SNR=23
NVAR PcP PcP 04 33 16.6 -0.2
comp=Z,0.2nm,0.4s,baz=282,slow=4.5,SNR=2.2
NVAR Mina Array Bea 36.14 93 P P 04 30 52.4 +1.1
NVAR PcP PcP 04 33 17.1 +0.3
OMMB Old Mammoth Mi 36.22 94 P P 04 30 53.4 +1.2
ELK Elko 36.62 87 P P 04 30 56.8 +1.3
ELK IAmb IAmb 04 30 57.7
comp=Z,2.1nm,0.7s
YMR Madison River 37.04 79 P P 04 31 00.5 +1.6
YMR IAmb IAmb 04 31 01.2
comp=Z,4.6nm,0.9s
YNR Norris Junctio 37.19 79 P P 04 31 01.7 +1.5
YNR IAmb IAmb 04 31 03.6
comp=Z,5.8nm,0.9s
LKWY Lake 37.44 79 P P 04 31 03.5 +1.2
LKWY IAmb IAmb 04 31 06.1
comp=Z,4.1nm,0.8s
RLMT Red Lodge 37.82 77 P P 04 31 06.7 +1.1
RLMT Red Lodge 37.82 77 P P 04 31 06.2 +0.7
baz=302,SNR=5.4
R11A Troy Canyon, C 37.86 91 P P 04 31 07.1 +1.2
R11A IAmb IAmb 04 31 08.4
comp=Z,3.0nm,0.8s
R11A Troy Canyon, C 37.86 91 P P 04 31 06.8 +0.9
baz=309,SNR=6.0
H11N2 WAKE ISLAND Hy 38.31 222 T T 05 12 41.8
baz=24,slow=76,SNR=13
H11N3 WAKE ISLAND Hy 38.32 222 T T 05 12 38.1
baz=24,slow=76,SNR=13
H11N1 WAKE ISLAND Hy 38.33 222 T T 05 12 33.3
baz=24,slow=76,SNR=11
PRN Pahroc Range 38.78 91 P P 04 31 14.6 +1.0
PRN IAmb IAmb 04 31 16.5
comp=Z,6.9nm,0.9s
BW06 Boulder Array 38.94 81 P P 04 31 16.3 +1.3
PD31 Pinedale Array 38.94 81 P P 04 31 16.1 +1.1
PDAR Pinedale Array 38.94 81 P P 04 31 16.0 +1.1
comp=Z,2.7nm,0.8s,baz=308,slow=3.7,SNR=24
PDAR Pinedale Array 38.94 81 P P 04 31 16.1 +1.1
H11S1 WAKE ISLAND Hy 39.49 222 T T 05 14 11.6
baz=24,slow=76,SNR=13
H11S2 WAKE ISLAND Hy 39.50 222 T T 05 14 12.8
baz=24,slow=76,SNR=8.0
H11S3 WAKE ISLAND Hy 39.51 222 T T 05 14 12.3
baz=24,slow=76,SNR=8.8
W13A Hualapai Mount 40.99 93 P P 04 31 32.8 +0.7
W13A IAmb IAmb 04 31 34.3
comp=Z,5.1nm,0.8s
U15A North Rim 41.10 90 P P 04 31 34.8 +1.7
U15A IAmb IAmb 04 31 35.9
comp=Z,6.8nm,1.0s
O20A White River Ci 41.28 83 P P 04 31 34.6 +0.3
PV13 Radium Mtn., P 42.14 86 P P 04 31 41.0 -0.5
PV13 IAmb IAmb 04 31 43.9
comp=Z,7.2nm,1.0s
WUAZ Wupatki 42.26 91 P P 04 31 43.2 +0.7
WUAZ IAmb IAmb 04 31 44.9
comp=Z,4.5nm,0.8s
Y14A Wickenburg 42.31 94 P P 04 31 44.2 +1.5
Y14A IAmb IAmb 04 31 44.5
comp=Z,3.8nm,0.7s
PV01 Paradox Valley 42.31 86 P P 04 31 43.6 +0.8
214A Organ Pipe Nat 43.78 96 P P 04 31 55.6 +1.0
214A IAmb IAmb 04 31 56.6
comp=Z,7.3nm,0.9s
TUC Tucson 44.78 94 P P 04 32 03.7 +1.1
TUC IAmb IAmb 04 32 04.8
comp=Z,3.4nm,0.7s
T25A Trinidad 45.49 84 P P 04 32 09.4 +1.0
baz=310,SNR=5.2
N35A Tabor 48.42 74 P P 04 32 31.0 +0.1
SUMG Summit 50.48 18 *i P* P 04 32 48.0 +1.2
TX31 Lajitas Ar. Si 51.23 91 P P 04 32 53.3 +0.7
TX32 Lajitas Array 51.23 91 P P 04 32 53.1 +0.5
TX32 IAmb IAmb 04 33 09.8
comp=Z,4.3nm,1.1s
TXAR Lajitas Array 51.23 91 P P 04 32 53.2 +0.6
comp=Z,1.7nm,0.6s,baz=299,slow=5.6,SNR=30
TXAR Lajitas Array 51.23 91 P P 04 32 53.5 +0.9
P40A Paris 51.38 73 P P 04 32 53.0 -0.5
SONM Songino Array 52.68 302 P P 04 33 02.5 -0.7
comp=Z,1.2nm,0.9s,baz=46,slow=6.2,SNR=3.8
SONM Songino Array 52.68 302 P P 04 33 02.3 -0.9
SONM IAmb IAmb 04 33 09.1
comp=Z,4.3nm,1.4s
ARCES ARCESS Array B 58.23 355 P P 04 33 42.6 -0.1
comp=Z,3.5nm,0.9s,baz=12,slow=6.7,SNR=5.3
ARCES ARCESS Array B 58.23 355 P P 04 33 42.8 +0.1
ZALV Zalesovo Beam 58.56 319 P P 04 33 46.2 +1.0
comp=Z,0.6nm,0.5s,baz=45,slow=8.8,SNR=3.0
MKAR Makanchi Array 65.01 315 P P 04 34 28.1 -0.7
comp=Z,0.7nm,0.7s,baz=41,slow=6.1,SNR=6.9
MKAR Makanchi Array 65.01 315 P P 04 34 28.2 -0.6
FINES FINESS Array B 66.23 353 P P 04 34 36.8 +0.5
comp=Z,4.0nm,0.8s,baz=16,slow=7.2,SNR=12
FINES FINESS Array B 66.23 353 P P 04 34 36.4 +0.1
NOA NORSAR Array B 67.09 1 P P 04 34 42.6 +0.7
comp=Z,0.7nm,0.7s,baz=1.6,slow=6.3,SNR=2.1
EKA Eskdalemuir Ar 71.98 10 LR LR 05 08 31.4
comp=Z,8.3nm,19.4s,baz=179,slow=37
AKASG Malin Array Be 76.56 350 P P 04 35 38.6 -0.2
comp=Z,1.2nm,0.6s,baz=15,slow=6.2,SNR=6.9
CMAR Chiang Mai Arr 78.13 285 P P 04 35 47.6 -0.6
comp=Z,1.3nm,0.3s,baz=32,slow=5.3,SNR=4.3
CONA Conrad Observa 80.22 358 *eP* P 04 36 00.4 +1.2
comp=Z,4.2nm,1.3s
SQTA Sankt Quirin 80.94 1 *i P* P 04 36 04.9 +1.7
comp=Z,8.5nm,1.3s
KBA Koelnbreinsper 81.09 360 *eP* P 04 36 06.3 +2.2
comp=Z,3.2nm,0.6s
SOKA Soboth 81.48 359 *i P* P 04 36 10.4 +4.3
comp=Z,6.5nm,1.1s
BRTR Keskin Array B 86.72 344 P P 04 36 33.3 +0.4
comp=Z,1.2nm,0.7s,baz=48,slow=2.1,SNR=2.4
ESDC Sonseca Array 87.30 13 P P 04 36 35.5 -0.1
comp=Z,0.9nm,0.8s,baz=306,slow=3.0,SNR=2.4
WRA Warramunga Arr 88.11 234 P P 04 36 37.7 -1.8
comp=Z,0.6nm,0.8s,baz=31,slow=5.7,SNR=5.3
ASAR Alice Springs 91.47 232 P P 04 36 54.5 -0.8
comp=Z,0.7nm,0.7s,baz=42,slow=5.1,SNR=8.4

*IDC **06** 04:35:02.7±0.9, 11°.91N×43°.54W, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/36, mbtmp3.9/10, ML4.9/1, MS3.4/14, Ms1 3.4/14, ms1mx3.0/83, Error ellipse: s-maj=27.9km s-min=19.7km az=175.0*
*NEIC **06** 04:35:04.2±1.9, 11°.84N±0°.10×43°.35W±0°.09, h10km±1km, mb4.6/7, Error ellipse: s-maj=19.1km s-min=10.9km az=38.0*

ISC 06 04:35:04.0±0.6, 11°.9N±0°.1×43°.5W±0°.1, h10km, n36, σ1§51/19, mb4.2/12, MS3.3/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**11.28**	**234**	Pn	**Pn**	**04 37 44.7**	**-0.7**
	9.0nm,0.3s,baz=43,slow=17,SNR=117						
MDP				LR	LR	04 41 24.8	
	comp=Z,134nm,21.2s,baz=51,slow=34						
H05N1	**Guadeloupe/Mar**	**17.62**	**287**	T	T	04 57 09.0	
	SNR=5.9						
BOAV	**Boa Vista**	**19.34**	**242**	P	**P**	**04 39 29.9**	**+0.2**
PTGA	**Pitinga**	**20.61**	**234**	P	**P**	**04 39 43.3**	**-0.3**
	5.3nm,0.3s,baz=54,slow=15,SNR=4.2						
PTGA				LR	LR	04 46 49.5	
	comp=Z,74nm,20.7s,baz=62,slow=34						
MACA	**Manacapuru-AM**	**22.71**	**230**	P	**P**	**04 40 11.1**	**+4.9**
MACA				IAmb	IAmb	04 40 12.7	
	comp=Z,22nm,0.9s						
BAUV	**El Baul**	**24.34**	**266**	P	**P**	**04 40 22.4**	**+0.1**
BAUV				IAmb	IAmb	04 40 27.4	
	comp=Z,12nm,0.9s						
BDFB	**Brasilia**	**27.69**	**189**	LR	LR	04 52 01.7	
	comp=Z,94nm,18.6s,baz=324,slow=37						
ROSC	**El Rosal**	**31.28**	**260**	LR	LR	04 55 08.8	
	comp=Z,66nm,18.7s,baz=112,slow=39						
SIV	**San Ignacio**	**32.70**	**213**	LR	LR	04 54 28.6	
	comp=Z,59nm,20.0s,baz=73,slow=36						
H10N3	**ASCENSION HYDR**	**34.83**	**123**	T	T	05 18 40.6	
	baz=304,slow=75,SNR=92						
H10N2	**ASCENSION HYDR**	**34.84**	**123**	T	T	05 18 41.0	
	baz=304,slow=75,SNR=58						
H10N1	**ASCENSION HYDR**	**34.85**	**123**	T	T	05 18 42.1	
	baz=304,slow=75,SNR=91						
H10S3	**ASCENSION HYDR**	**35.33**	**125**	T	T	05 19 15.6	
	baz=302,slow=74,SNR=68						
H10S2	**ASCENSION HYDR**	**35.34**	**125**	T	T	05 19 16.9	
	baz=278,slow=74,SNR=23						
LPAZ	**La Paz**	**37.11**	**222**	LR	LR	04 57 38.7	
	comp=Z,54nm,19.1s,baz=56,slow=36						
DBIC	**Dimbokro**	**38.43**	**94**	LR	LR	04 54 18.4	
	comp=Z,39nm,21.2s,baz=305,slow=30						
ATAH	**Atahualpa**	**39.53**	**243**	LR	LR	04 58 31.5	
	comp=Z,46nm,20.3s,baz=51,slow=36						
CPUP	**Villa Florida**	**40.28**	**199**	LR	LR	04 59 19.7	
	comp=Z,29nm,19.0s,baz=200,slow=36						
MDT	**Midelt**	**41.24**	**53**	LR	LR	04 56 51.3	
	comp=Z,63nm,19.8s,baz=347,slow=32						
TKL	**Tuckaleechee C**	**43.41**	**310**	P	**P**	**04 43 05.8**	**-1.3**
	comp=Z,5.7nm,0.8s,baz=138,slow=5.1,SNR=4.0						
TKL				LR	LR	04 57 14.0	
	comp=Z,60nm,19.5s,baz=322,slow=31						
TORD	**Torodi Ar. Bea**	**44.07**	**83**	P	**P**	**04 43 13.5**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=279,slow=8.8,SNR=23						
ESDC	**Sonseca Array**	**44.54**	**44**	LR	LR	04 58 49.7	
	comp=Z,45nm,18.8s,baz=298,slow=32						
DAVOX	**Davos/Dischmat**	**56.64**	**41**	LR	LR	05 09 00.0	
	comp=Z,52nm,18.1s,baz=262,slow=36						
H09W1	**TRISTAN DA CUN**	**56.82**	**150**	T	T	05 46 09.9	
PLCA	**Paso Flores**	**58.02**	**204**	P	**P**	**04 44 56.1**	**-1.1**
PLCA				IAmb	IAmb	04 45 02.7	
	comp=Z,5.8nm,1.2s						
TXAR	**Lajitas Array**	**58.37**	**297**	P	**P**	**04 45 00.3**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=119,slow=7.7,SNR=5.8						
GERES	**GERESS Array B**	**59.74**	**40**	P	**P**	**04 45 08.7**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=263,slow=7.7,SNR=3.9						
NOA	**NORSAR Array B**	**63.01**	**26**	P	**P**	**04 45 31.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=245,slow=6.5,SNR=3.6						
NOA				LR	LR	05 07 56.4	
	comp=Z,11nm,19.3s,baz=215,slow=31						
AKASG	**Malin Array Be**	**69.95**	**40**	P	**P**	**04 46 16.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=263,slow=5.9,SNR=4.3						
AKASG	**Malin Array Be**	**69.95**	**40**	P	**P**	**04 46 15.1**	**-0.5**
AKASG				IAmb	IAmb	04 46 21.6	
	comp=Z,1.1nm,1.1s						
YKA	**Yellowknife Ar**	**70.86**	**332**	P	**P**	**04 46 20.4**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=99,slow=6.2,SNR=5.4						
YKA	**Yellowknife Ar**	**70.86**	**332**	P	**P**	**04 46 21.1**	**+0.2**
SUR	**Sutherland**	**75.49**	**128**	P	**P**	**04 46 47.0**	**-2.0**
BOSA	**Boshof**	**77.59**	**123**	P	**P**	**04 47 01.8**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=317,slow=6.6,SNR=7.1						
BOSA	**Boshof**	**77.59**	**123**	P	**P**	**04 47 00.3**	**-0.6**
BOSA				IAmb	IAmb	04 47 07.0	
	comp=Z,38nm,2.0s						
ILAR	**Eielson Array**	**85.00**	**335**	P	**P**	**04 47 40.6**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=77,slow=4.3,SNR=7.1						

*NEIC **06** 04:41:21.2±0.5, 19°.1N±0°.2×64°.5W±0°.1, h39km±56km, Error ellipse: s-maj=32.3km s-min=2.9km az=142.0*

RSPR 06 04:41:22.0, 19°.08N×64°.47W, h41km±16km, MD2.7/3, 3C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.86**	**212**	↑*eP*	Pn	04 41 36.4	-1.3
STVI	**Saint Thomas**	**0.86**	**212**	*eS*	Sn	04 41 48.1	-0.9
STVI	**Saint Thomas**	**0.86**	**212**		Pn	04 41 36.4	-1.3
STVI	**Saint Thomas**	**0.86**	**212**		Sn	04 41 48.1	-0.9
STVI	**Saint Thomas**	**0.86**	**212**	IAML		04 41 44.0	
	comp=N,15nm,2.8s						
CUPR	**Culebra, Puert**	**1.09**	**225**	↑*eP*	Pn	04 41 39.5	-1.2
CUPR	**Culebra, Puert**	**1.09**	**225**	*eS*	Sn	04 41 53.1	-1.5
CUPR	**Culebra, Puert**	**1.09**	**225**		Pn	04 41 39.5	-1.2
CUPR	**Culebra, Puert**	**1.09**	**225**	IAML		04 41 47.5	
	comp=N,6.7nm,1.2s						
CUPR	**Culebra, Puert**	**1.09**	**225**		Sn	04 41 53.1	-1.5
MTP	**Monte Pirata**	**1.42**	**226**	↑*eP*	Pn	04 41 44.5	-0.8
MTP	**Monte Pirata**	**1.42**	**226**	*eS*	Sn	04 42 01.8	-1.0
MTP	**Monte Pirata**	**1.42**	**226**		Pn	04 41 44.5	-0.8
MTP					Sn	04 42 01.8	-1.0
MTP	**Monte Pirata**	**1.42**	**226**	IAML		04 42 12.6	
	comp=N,14nm,3.0s						
CBYP	**Canovanas**	**1.54**	**239**	Pn	Pn	04 41 46.4	-0.6
CBYP				IAML		04 42 03.8	
	comp=E,10.0nm,3.2s						
CBYP				IAML		04 42 13.4	
	comp=N,9.0nm,0.9s						

*IDC **06** 04:58:54.8±0.5, 54°.18S×136°.73W, h0km, mb4.6/16, mb1 4.7/16, mb1mx4.6/31, mbtmp4.6/16, MS4.6/46, Ms1 4.6/46, ms1mx4.6/51, Error ellipse: s-maj=20.7km s-min=13.8km az=169.0*
*NEIC **06** 04:58:56.1±1.5, 54°.25±0°.1×136°.9W±0°.2, h14km±2km, mb5.3/63, Error ellipse: s-maj=20.6km s-min=15.4km az=160.0*
*GCMT **06** 04:59:01.1±0.1, 54°.47S±0°.01×136°.61W±0°.01, h14km±1km, MW5.2/129, Moment Tensor Solution. s79,c114; s129,c209; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.09±.02; $M_{\theta\theta}$=0.72±.02; $M_{\phi\phi}$=-0.63±.02; $M_{r\theta}$=-0.02±.03; $M_{\theta\phi}$=0.63±.02; $M_{\phi r}$=-0.14±.03; Best double couple: M_0=0.93600×10^{17} NP1:ϕ_s=293.00000°, δ81.00000°, λ=-3.00000°. NP2:ϕ_s=24.00000°, δ87.00000°, λ=-171.00000°. Principal axes: T 0.9710, Plg4.0000°, Azm158.0000°; N -0.0710, Plg80.0000°, Azm44.0000°; P -0.9000, Plg9.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 04:58:56.0±0.3, 54°.34S±0°.08×136°.70W±0°.07, h10km, n259, σ1§56/226, mb5.2/45, MS4.7/51, 1C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**31.56**	**201**	P	**P**	**05 05 21.4**	**+3.5**
	1.3nm,0.9s,baz=67,slow=11,SNR=2.8						
VNDA				LR	LR	05 15 00.9	
	comp=Z,756nm,19.4s,baz=82,slow=30						
VNDA	**Vanda**	**31.56**	**201**	P	**P**	**05 05 16.9**	**-1.0**
TBI	**Tubuai**	**32.39**	**338**	*e*LR	LR	05 13 41.0	
	comp=Z,4μm,28.8s						
TBI	**Tubuai**	**32.39**	**338**	*e*T	T	05 39 15.4	
	134nm,0.3s						
RPN	**Rapa Nui**	**33.78**	**47**	LR	LR	05 15 52.7	
	comp=Z,800nm,20.0s,baz=210,slow=30						
URZ	**Urewera**	**35.01**	**278**	LR	LR	05 16 51.6	
	comp=Z,1μm,19.9s,baz=211,slow=31						
QSPA	**South Pole Qui**	**35.83**	**180**	P	**P**	**05 05 57.7**	**+2.3**
	9.8nm,1.1s,baz=88,slow=4.4,SNR=15						
QSPA				PcP	**PcP**	**05 08 22.7**	**+0.3**
	3.0nm,0.9s,baz=94,slow=1.9,SNR=3.0						
QSPA				LR	LR	05 19 03.6	

comp=Z,2µm,18.1s,baz=70,slow=34
QSPA South Pole Qui 35.83 180 P P 05 05 55.9 +0.6
QSPA PcP 05 08 22.2 -0.2
PMSA Palmer Station 36.18 136 LR LR 05 16 45.0
comp=Z,2µm,20.3s,baz=263,slow=30
PMSA Palmer Station 36.18 136 *e*P **P 05 05 59.1 +1.1**
RAR Rarotonga 37.41 323 LR LR 05 17 22.4
comp=Z,813nm,19.2s,baz=164,slow=30
MEH Mehetia 37.43 342 *e*T T 05 45 32.9
19nm,0.3s
MG05 Puerto Natales 37.53 113 P **P 05 06 11.1 +1.3**
PAE Paea 37.93 340 *e*T T 05 46 10.6
6.0nm,0.3s
TIAR Tiarei 37.98 340 *e*T T 05 46 14.7
3.5nm,0.2s
PPT2 Papeete2 38.00 340 *e*S **S 05 12 08.8 +2.6**
294nm,26.2s
PPT2 *e*LR LR 05 16 28.5
comp=Z,4µm,26.0s
PPT2 Papeete2 38.00 340 *e*T T 05 46 15.9
12nm,0.3s
PPT Papeete 38.02 340 LR LR 05 17 55.5
comp=Z,1µm,18.6s,baz=160,slow=30
USHA Ushuaia 38.13 119 P **P 05 06 16.1 +1.3**
19nm,0.9s,baz=236,slow=10,SNR=4.1
USHA LR LR 05 17 24.2
comp=Z,630nm,19.0s,baz=242,slow=29
VAH Vaihoa 39.94 343 *e*T T 05 48 40.4
81nm,0.3s
H03S2 Juan Fernandez 44.83 87 T T 05 55 06.0
baz=224
H03S1 Juan Fernandez 44.84 87 T T 05 55 13.1
baz=224
H03S3 Juan Fernandez 44.85 87 T T 05 55 08.3
baz=224
PLCA Paso Flores 45.02 101 P **P 05 07 09.0 -2.6**
5.7nm,1.0s,baz=216,slow=7.6,SNR=6.3
PLCA LR LR 05 21 45.2
comp=Z,595nm,18.4s,baz=230,slow=30
PLCA Paso Flores 45.02 101 *e*P **P 05 07 13.3 +1.7**
PLCA Paso Flores 45.02 101 P **P 05 07 11.0 -0.5**
H03N3 Juan Fernandez 45.10 87 T T 05 55 19.7
baz=226,slow=72,SNR=1190
H03N2 Juan Fernandez 45.11 87 T T 05 55 17.7
baz=226,slow=72,SNR=1596
H03N1 Juan Fernandez 45.12 87 T T 05 55 15.2
baz=226,slow=72,SNR=1204
TAOE Nuku Hiva Isla 45.44 355 *e*S **S 05 13 58.4 +2.0**
357nm,25.2s
TAOE *e*LR LR 05 20 05.9
comp=Z,2µm,24.8s,baz=191
LC01 Cunco 45.47 98 P **P 05 07 15.6 +0.6**
AFI Afiamalu 48.77 312 LR LR 05 24 40.4
comp=Z,463nm,18.6s,baz=150,slow=32
BO02 Sierra Bellavi 48.92 95 P **P 05 07 43.4 +1.3**
BO02 IAmb IAmb 05 07 43.5
comp=Z,29nm,0.8s
BO01 Tunca 49.03 94 P **P 05 07 43.4 +0.6**
BO01 IAmb IAmb 05 07 45.1
comp=Z,30nm,1.2s
VNA3 Neumayer Olymp 49.24 160 P **P 05 07 44.2 +0.2**
MT01 Popeta 49.31 93 P **P 05 07 45.3 +0.4**
MT01 IAmb IAmb 05 07 45.8
comp=Z,24nm,1.2s
MT09 Talagante 49.52 93 P **P 05 07 46.9 +0.1**
MT09 IAmb IAmb 05 07 47.9
comp=Z,33nm,0.9s
MT02 Curacav 49.80 93 P **P 05 07 49.4 +0.7**
MT02 IAmb IAmb 05 07 54.1
comp=Z,40nm,1.2s
MT05 Renca 49.94 93 P **P 05 07 50.2 +0.4**
VNA2 Neumayer--Watz 49.94 161 P **P 05 07 50.1 +0.8**
baz=209,slow=8.4
VNA1 Neumayer--Stat 49.99 160 P **P 05 07 50.1 +0.5**
SNAA Sanae 50.17 163 P **P 05 07 51.1 0.0**
SNAA Sanae 50.17 163 LR LR 05 26 35.4
comp=Z,635nm,21.3s,baz=220,slow=33
SNAA Sanae 50.17 163 P **P 05 07 51.2 +0.1**
SNAA IAmb IAmb 05 07 52.8
comp=Z,36nm,1.2s
MSVF Nonsavu 50.33 298 LR LR 05 23 58.0
comp=Z,529nm,21.7s,baz=154,slow=30
VA03 San Esteban 50.50 93 P **P 05 07 54.3 +0.2**
VA03 IAmb IAmb 05 08 01.7
comp=Z,30nm,0.8s
CO06 Fray Jorge 51.38 90 P **P 05 08 01.4 +0.8**
CO03 El Pedregal 51.81 91 P **P 05 08 04.1 +0.1**
CO03 IAmb IAmb 05 08 09.2
comp=Z,28nm,1.1s
GO04 Tololo Observa 52.24 90 P **P 05 08 07.1 -0.3**
GO04 IAmb IAmb 05 08 09.0
comp=Z,72nm,1.6s
DZM Mont Dzumac 53.14 284 LR LR 05 25 43.9
comp=Z,792nm,21.4s,baz=134,slow=30
DZM Mont Dzumac 53.14 284 *e*LR LR 05 23 33.6
comp=Z,1µm,22.4s
GO03 Copiap 54.48 89 P **P 05 08 24.1 +0.4**
GO03 IAmb IAmb 05 08 26.3
comp=Z,51nm,1.7s
AC02 Maricunga 55.70 89 P **P 05 08 32.6 -0.4**
AC02 IAmb IAmb 05 08 36.5
comp=Z,54nm,1.4s
PB14 IPOC Station P 56.62 86 P **P 05 08 39.0 -0.4**
PB14 IAmb IAmb 05 08 41.7
comp=Z,42nm,1.3s
SYO Syowa Base 56.94 178‖ *e*P **P 05 08 39.2 -1.4**
SYO Syowa Base 56.94 178‖ *e*pP **P 05 08 41.6 +1.0**
MAW Mawson 57.50 189 P **P 05 08 45.3 +0.7**
comp=Z,5.3nm,0.7s,baz=246,slow=19,SNR=2.3
MAW LR LR 05 32 33.3
comp=Z,412nm,18.1s,baz=162,slow=35
PB15 IPOC Station P 58.26 86 P **P 05 08 50.8 0.0**
PB04 IPOC Station P 58.53 85 P **P 05 08 52.5 -0.2**
PB04 IAmb IAmb 05 08 55.6
comp=Z,32nm,1.2s
PB06 IPOC Station P 58.58 86 P **P 05 08 53.0 0.0**
PB06 IAmb IAmb 05 08 56.3
comp=Z,55nm,1.4s
LVC Limon Verde 59.05 86 P **P 05 08 57.1 +0.7**
comp=Z,17nm,1.1s,baz=210,slow=7.2,SNR=16
LVC LR LR 05 29 25.7
comp=Z,152nm,19.9s,baz=216,slow=31
LVC Limon Verde 59.05 86 *e*P **P 05 08 57.6 +1.1**
LVC Limon Verde 59.05 86 P **P 05 08 55.9 -0.6**
PB09 IPOC Station P 59.48 85 P **P 05 08 58.5 -0.8**
PB01 IPOC Station P 59.92 84 P **P 05 09 02.0 -0.2**
PB01 IAmb IAmb 05 09 05.5
comp=Z,34nm,1.1s
STKA Stephens Creek 60.14 256 P **P 05 09 04.1 +0.6**
comp=Z,1.9nm,0.6s,baz=151,slow=15,SNR=2.6
STKA Stephens Creek 60.14 256 P **P 05 09 01.7 -1.8**
PB08 IPOC Station P 60.82 84 P **P 05 09 07.4 -1.3**
PB08 IAmb IAmb 05 09 11.9
comp=Z,16nm,1.1s
PB11 IPOC Station P 60.82 83 P **P 05 09 07.6 -0.9**
ITQB Itaqui 60.85 101 *e*P **P 05 09 08.9 +0.6**
ITQB Itaqui 60.85 101 P **P 05 09 07.7 -0.7**
PLTB Pedras Altas 61.02 105 *e*P **P 05 09 09.2 -0.3**
PLTB Pedras Altas 61.02 105 P **P 05 09 08.6 -0.9**
PLTB IAmb IAmb 05 09 10.3
comp=Z,33nm,1.1s
PB16 IPOC Station P 62.03 82 P **P 05 09 15.9 -1.2**
CPSB Cacapava Do Su 62.12 104 *e*P **P 05 09 17.8 +0.8**
NNA Nana 62.94 72 LR LR 05 29 47.5
comp=Z,730nm,18.6s,baz=213,slow=30
NNA Nana 62.94 72 P **P 05 09 22.7 +0.1**
NNA IAmb IAmb 05 09 25.9
comp=Z,41nm,1.2s
CPUP Villa Florida 62.97 98 P **P 05 09 22.9 +0.3**
comp=Z,11nm,0.9s,baz=228,slow=6.1,SNR=10
CPUP LR LR 05 32 20.0
comp=Z,972nm,19.6s,baz=221,slow=32
CPUP Villa Florida 62.97 98 *e*P **P 05 09 22.9 +0.3**
CPUP Villa Florida 62.97 98 P **P 05 09 22.2 -0.4**
CPUP IAmb IAmb 05 09 23.7
comp=Z,25nm,1.1s
LPAZ La Paz 64.44 82 P **P 05 09 33.4 +0.2**
comp=Z,39nm,1.3s,baz=216,slow=5.3,SNR=30
LPAZ LR LR 05 31 09.1
comp=Z,269nm,21.6s,baz=221,slow=30
LPAZ La Paz 64.44 82 *e*P **P 05 09 34.0 +0.8**
LPAZ La Paz 64.44 82 P **P 05 09 32.6 -0.6**
ITAB Concordia 65.27 103 *e*P **P 05 09 37.6 -0.2**
ATAH Atahualpa 66.09 67 LR LR 05 31 37.5
comp=Z,611nm,21.8s,baz=219,slow=30
CTAO Charters Tower 66.41 268 P **P 05 09 44.0 -1.2**

HNR Honiara 66.97 287 LR LR 05 36 56.9
comp=Z,168nm,18.5s,baz=91,slow=34
PTGB Pitanga 67.24 101 *e*P **P 05 09 51.1 +0.5**
AQDB Aquidauana 68.42 95 *e*P **P 05 09 57.9 -0.1**
AQDB Aquidauana 68.42 95 P **P 05 09 57.6 -0.3**
AQDB IAmb IAmb 05 09 58.5
comp=Z,37nm,1.7s
TIJ01 Guaruva-PR 68.53 104 *e*P **P 05 09 56.5 -2.2**
CZSB Cruzeiro do Su 68.73 73 *e*P **P 05 10 00.2 +0.4**
CZSB Cruzeiro do Su 68.73 73 P **P 05 09 59.0 -0.9**
SIV San Ignacio 68.80 88 P **P 05 10 00.5 +0.2**
comp=Z,8.8nm,1.0s,baz=220,slow=6.7,SNR=27
SIV LR LR 05 36 23.1
comp=Z,134nm,18.8s,baz=248,slow=33
FRTB Fartura 69.74 102 *e*P **P 05 10 06.8 +0.6**
PCMB Pacaembu 70.12 99 *e*P **P 05 10 07.8 -0.7**
PTLB Pontes e Lacer 70.36 89 *e*P **P 05 10 09.4 -0.5**
PTLB Pontes e Lacer 70.36 89 P **P 05 10 09.1 -0.9**
ETMB Extrema 70.73 80 *e*P **P 05 10 11.8 -0.5**
ETMB Extrema 70.73 80 P **P 05 10 11.7 -0.5**
ETMB IAmb IAmb 05 10 15.3
comp=Z,30nm,1.5s
SPB Sao Paulo 70.77 104 *e*P **P 05 10 13.3 +1.0**
AS31 Alice Springs 70.78 256 P **P 05 10 11.3 -1.2**
ASAR Alice Springs 70.78 256 P **P 05 10 12.4 -0.1**
comp=Z,5.2nm,1.0s,baz=138,slow=5.7,SNR=27
ASAR LR LR 05 36 52.9
comp=Z,693nm,20.3s,baz=142,slow=32
ASAR Alice Springs 70.78 256 P **P 05 10 10.4 -2.1**
PP1B Ponte de Pedra 71.15 94 *e*P **P 05 10 15.3 +0.5**
VAO Valinhos 71.49 104 *e*P **P 05 10 18.1 +1.2**
VILB Vilhena 71.71 87 *e*P **P 05 10 18.7 +0.5**
VILB Vilhena 71.71 87 P **P 05 10 17.9 -0.3**
SALV Santo Antonio 72.02 92 *e*P **P 05 10 20.5 +0.5**
BB19B Bebedouro 72.12 101 *e*P **P 05 10 21.5 +0.9**
ITRB Iturama 72.13 99 *e*P **P 05 10 20.9 +0.2**
H01W1 Cape Leeuwin H 72.32 235 T T 06 30 18.2
baz=143,slow=76,SNR=27
H01W2 Cape Leeuwin H 72.32 235 T T 06 30 18.8
baz=143,slow=76,SNR=30
H01W3 Cape Leeuwin H 72.33 235 T T 06 30 22.7
baz=143,slow=76,SNR=22
TBTG Tabatinga, AM 73.21 73 *e*P **P 05 10 26.6 -0.4**
MAN01 Angra dos Reis 73.30 106 *e*P **P 05 10 28.4 +0.8**
WR0 Warramunga Arr 73.32 259 P **P 05 10 26.4 -1.4**
WR0 IAmb IAmb 05 10 29.5
comp=Z,41nm,1.9s
WB2 Warramunga Arr 73.44 259 P **P 05 10 27.6 -0.9**
WRA Warramunga Arr 73.45 259 P **P 05 10 28.4 -0.1**
comp=Z,4.0nm,0.8s,baz=144,slow=5.5,SNR=21
WRA LR LR 05 39 51.8
comp=Z,720nm,18.9s,baz=164,slow=33
WRA Warramunga Arr 73.45 259 P **P 05 10 27.2 -1.3**
WB0 Warramunga Arr 73.56 259 P **P 05 10 28.3 -0.8**
VAS01 Vassouras-RJ 74.06 106 *e*P **P 05 10 32.6 +0.6**
PTLC Puerto Leguiza 74.14 67 *e*P **P 05 10 30.7 -1.8**
BSCB Bom Sucesso 74.32 104 *e*P **P 05 10 34.0 +0.4**
PMG Port Moresby 74.33 276 LR LR 05 39 41.6
comp=Z,382nm,18.5s,baz=163,slow=33
ARAG Araguaiana, MT 74.44 95 *e*P **P 05 10 34.8 +0.5**
IPMB Ipameri, GO 74.73 100 *e*P **P 05 10 36.2 +0.1**
PDRB Porto dos Gac 74.81 89 *e*P **P 05 10 36.6 +0.1**
POPC Popayan, Colom 75.13 64 *e*P P 05 10 33.6 -4.9
CAM01 Campos-RJ 75.42 107 *e*P **P 05 10 39.0 -0.9**
CLDB Colider 75.95 89 *e*P **P 05 10 42.3 -0.7**
MACC Macarena, Meta 76.30 66 *e*P **P 05 10 43.4 -1.6**
YOTC Yotoco, Valle 76.53 63 *e*P **P 05 10 45.3 -1.1**
BDFB Brasilia 76.70 98 P **P 05 10 47.5 +0.1**
comp=Z,14nm,0.8s,baz=202,slow=5.1,SNR=16
BDFB LR LR 05 40 23.2
comp=Z,646nm,21.6s,baz=198,slow=32
BDFB Brasilia 76.70 98 P **P 05 10 46.7 -0.7**
BDFB IAmb IAmb 05 10 48.6
comp=Z,18nm,0.9s
ALF01 Guarapari-ES 76.90 107 *e*P **P 05 10 49.5 +1.1**
ORTC Ortega, Tolima 77.04 64 *e*P **P 05 10 47.2 -1.9**
DIAM Diamantina, MG 77.08 103 *e*P **P 05 10 50.3 +0.7**
PLMC San Jos del P 77.34 63 *e*P **P 05 10 51.1 +0.2**
SRBA San Rafael, Bu 77.53 54 P **P 05 10 52.0 0.0**
SRBA IAmb IAmb 05 10 56.4
comp=Z,31nm,1.6s
SNDB Serra Nova Dou 77.70 93 *e*P **P 05 10 53.2 +0.3**
JTS Las Juntas de 77.71 52 LR LR 05 37 28.0
comp=Z,356nm,19.4s,slow=30
GUY2C Guyana, Caldas 78.09 63 *e*P **P 05 10 55.0 -0.6**
SJMB Sao Joao De Ma 78.17 105 *e*P **P 05 10 55.0 -0.4**
ROSC El Rosal 78.31 64 P **P 05 10 57.7 +1.0**
comp=Z,18nm,0.8s,baz=120,slow=3.2,SNR=14
ROSC LR LR 05 41 03.1
comp=Z,308nm,18.1s,baz=210,slow=32
ROSC El Rosal 78.31 64 *e*P **P 05 10 55.0 -1.7**
ROSC El Rosal 78.31 64 P **P 05 10 56.6 -0.1**
ROSC IAmb IAmb 05 11 01.2
comp=Z,46nm,1.1s
NORC Norcasia 78.63 64 *e*P **P 05 10 56.9 -1.1**
HELC Santa Helena 78.82 63 *e*P **P 05 10 56.9 -2.5**
DBBC Dabeiba 79.17 62 *e*P **P 05 11 00.8 -0.2**
NPGB Novo Progresso 79.27 87 *e*P **P 05 11 01.0 -0.6**
MACA Manacapuru-AM 79.30 80 *e*P **P 05 11 01.0 -0.7**
MACA Manacapuru-AM 79.30 80 P **P 05 11 01.0 -0.7**
MACA IAmb IAmb 05 11 01.9
comp=Z,39nm,0.9s
JANB Januaria 79.30 101 *e*P **P 05 11 02.0 +0.2**
PEXB Peixe 79.35 96 *e*P **P 05 11 02.2 +0.2**
NAN01 Guarapari, ES 79.46 106 *e*P **P 05 11 02.6 0.0**
PTBC PUERTO BERRIO, 79.67 63 *e*P **P 05 11 01.8 -1.9**
RUSC La Rusia 79.85 65 *e*P **P 05 11 01.8 -3.5**
FITZ Fitzroy Crossi 79.86 253 LR LR 05 43 36.4
comp=Z,634nm,18.1s,baz=120,slow=34
PSA00 Pilbara Seismi 80.24 247 P **P 05 11 04.6 -2.2**
PSA00 IAmb IAmb 05 11 18.9
comp=Z,39nm,1.4s
PSA00 Pilbara Seismi 80.24 247 P **P 05 11 05.0 -1.7**
PSA00 IAmb IAmb 05 11 14.4
comp=Z,16nm,1.4s
ZARC Zaragoza, Cauc 80.27 62 *e*P P 05 10 59.8 -7.1
ZARC Zaragoza, Cauc 80.27 62 P **P 05 11 06.2 -0.7**
ZARC IAmb IAmb 05 11 10.0
comp=Z,25nm,1.2s
GUA01 Guaratinga, BA 80.65 105 *e*P **P 05 11 09.1 +0.1**
SDBA SAO DESIDERIO 81.08 99 *e*P **P 05 11 11.8 +0.4**
ITTB Itaituba 81.20 85 *e*P **P 05 11 11.0 -0.9**
LPIG La Paz 81.36 24 LR LR 05 38 56.8
comp=Z,235nm,18.4s,baz=206,slow=30
PTGA Pitinga 81.69 80 LR LR 05 41 24.4
comp=Z,559nm,20.9s,baz=224,slow=31
CMC01 Camacan, BA 81.80 105 *e*P **P 05 11 15.4 +0.3**
SJCC San Jacinto, C 82.14 61 P **P 05 11 15.7 -1.2**
SJCC IAmb IAmb 05 11 20.5
comp=Z,45nm,1.3s
NBIT Itapeh - BA 82.19 105 *e*P **P 05 11 17.6 +0.4**
SMTB Santa Maria do 82.36 94 *e*P **P 05 11 19.0 +0.9**
GDU01 Guandu, BA 83.08 104 *e*P **P 05 11 21.3 -0.5**
PRPB Parauapebas 83.21 91 *e*P **P 05 11 22.9 +0.4**
SDV Santo Domingo 83.67 65 LR LR 05 42 41.6
comp=Z,155nm,21.4s,baz=196,slow=31
SDV Santo Domingo 83.67 65 *e*P **P 05 11 24.7 -0.3**
SDV Santo Domingo 83.67 65 P **P 05 11 23.3 -1.7**
SDV IAmb IAmb 05 11 26.9
comp=Z,39nm,1.6s
BOAV Boa Vista 83.91 77 P **P 05 11 25.2 -0.8**
BOAV IAmb IAmb 05 11 27.0
comp=Z,19nm,1.1s
MALB Monte Alegre 84.08 85 *e*P **P 05 11 27.5 +0.5**
BAUV El Baul 85.11 67 P **P 05 11 30.7 -1.3**
NBLA Lagarto - SE 86.30 104 *e*P **P 05 11 37.2 -0.9**
MCPB Macapa, AP 86.58 86 *e*P **P 05 11 39.6 +0.2**
BIRV Birongo 87.34 68 P **P 05 11 42.3 -0.8**
BATI Baumata 87.35 256 LR LR 05 49 37.4
comp=Z,562nm,18.4s,baz=132,slow=35
TX31 Lajitas Ar. Si 88.08 28 P **P 05 11 43.4 -2.9**
TX31 IAmb IAmb 05 11 59.0
comp=Z,33nm,1.7s
TX32 Lajitas Array 88.08 28 P **P 05 11 44.4 -1.9**
TXAR Lajitas Array 88.08 28 P **P 05 11 46.1 -0.2**
comp=Z,0.9nm,0.7s,baz=185,slow=7.5,SNR=10
TXAR Lajitas Array 88.08 28 P **P 05 11 44.2 -2.1**
H11N3 WAKE ISLAND Hy 88.08 308 T T 06 49 21.5
baz=146,slow=76,SNR=15
H11N1 WAKE ISLAND Hy 88.08 308 T T 06 49 19.6
baz=146,slow=76,SNR=18
H11N2 WAKE ISLAND Hy 88.09 308 T T 06 49 22.8
baz=146,slow=76,SNR=16

NBAN Anadia - AL 88.24 104 *e*P **P 05 11 47.0 -0.5**
833A Chaparral WMA, 88.39 32 P **P 05 11 46.7 -1.0**
NBMA Muriti-CE 88.68 101 *e*P **P 05 11 49.5 -0.1**
PFO Pinyon Flats O 89.32 17 LR LR 05 43 09.7
comp=Z,336nm,19.7s,baz=196,slow=30
NBPS Pedro II - PI 89.53 97 *e*P **P 05 11 52.3 -1.3**
NBPB Pedra_Branca-C 89.68 99 *e*P **P 05 11 54.3 0.0**
NBRF Rio Formoso - 89.69 104 *e*P **P 05 11 53.9 -0.4**
MNTX Cornudas Mount 89.85 26 P **P 05 11 55.5 +1.0**
JCT Junction City 90.28 31 P **P 05 11 56.8 +0.2**
SIJI Sorong 90.49 268 LR LR 05 49 44.4
comp=Z,181nm,20.9s,baz=159,slow=34
MDP Montagnes des 90.64 82 LR LR 05 46 43.6
comp=Z,221nm,21.5s,baz=207,slow=32
SUR Sutherland 91.48 161 LR LR 05 48 45.1
comp=Z,372nm,19.3s,baz=188,slow=33
ANMO Albuquerque 92.67 24 LR LR 05 46 02.3
comp=Z,236nm,18.8s,baz=210,slow=31
NVAR Mina Array Bea 93.75 14 P **P 05 12 13.3 +0.7**
comp=Z,0.6nm,0.8s,baz=211,slow=6.9,SNR=2.0
NVAR LR LR 05 46 50.6
comp=Z,436nm,18.3s,baz=196,slow=31
KAPI Kappang 93.80 256 LR LR 05 53 45.5
comp=Z,145nm,18.2s,baz=188,slow=35
GUMO Guam 94.30 287 LR LR 05 46 51.8
comp=Z,58nm,21.5s,baz=108,slow=30
BOSA Boshof 95.93 164 LR LR 05 49 52.1
comp=Z,644nm,21.4s,baz=192,slow=32
YBH Yreka Blue Hor 96.44 10 LR LR 05 45 17.2
comp=Z,418nm,19.1s,baz=198,slow=29
ELK Elko 96.48 16 LR LR 05 47 49.3
comp=Z,192nm,19.7s,baz=206,slow=30
LEM Lembang 98.99 245 LR LR 05 52 07.5
comp=Z,99nm,21.1s,baz=168,slow=32
PDAR Pinedale Array 99.48 20 P **Pdif 05 12 37.8 -0.7**
comp=Z,0.2nm,0.6s,baz=192,slow=8.1,SNR=1.9
PDAR LR LR 05 50 08.8
comp=Z,275nm,18.4s,baz=216,slow=31
PDAR Pinedale Array 99.48 20 P **Pdif 05 12 37.0 -1.5**
LBTB Lobatse 99.52 164 LR LR 05 55 07.0
comp=Z,304nm,18.6s,baz=179,slow=34
YKA Yellowknife Ar 117.78 11 PKP **PKPdf 05 17 39.6 -1.3**
comp=Z,0.3nm,0.9s,baz=221,slow=2.5,SNR=3.2
YKA PKKPbc **PKKPbc 05 28 01.6 -0.5**
comp=Z,0.2nm,0.6s,baz=14,slow=4.5,SNR=4.6
QIZ Qiongzhong 118.89 262 PKP **PKiKP 05 17 45.0 +0.5**
QIZ PP **PP 05 19 04.0 +0.5**
QIZ SS SS 05 35 25.4 +2.4
QIZ LR LR
comp=Z,140nm,14.5s
QIZ LR LR
comp=Z,180nm,16.1s
QIZ LR LR
comp=Z,190nm,22.6s
ILAR Eielson Array 119.03 355 PKP **PKiKP 05 17 43.0 -0.4**
comp=Z,0.4nm,0.7s,baz=209,slow=1.7,SNR=5.4
ILAR PKKPbc **PKKPbc 05 27 57.8 +0.2**
comp=Z,0.6nm,0.9s,baz=58,slow=2.2,SNR=4.7
ILAR Eielson Array 119.03 355 PKiKP 05 17 43.9 +0.5
NJ2 Nanjing 123.51 280 *e*PKP **PKiKP 05 17 54.5 +1.3**
TORD Torodi Ar. Bea 127.57 125 PKP **PKPdf 05 18 00.6 -0.7**
comp=Z,3.0nm,0.9s,baz=224,slow=0.6,SNR=14
TORD PP **PP 05 19 57.2 -4.6**
comp=Z,2.5nm,1.2s,baz=215,slow=4.9,SNR=4.9
PZH PanZhiHua 129.38 261 PKP **PKPdf 05 18 03.2 -1.3**
CD2 Chengdu 131.49 267 PKP **PKPdf 05 18 07.8 -0.5**
HHC Hu-ho-hao-te 133.84 282 *e*PKP **PKPdf 05 18 09.8 -2.7**
HHC LR LR
comp=Z,130nm,12.7s
HHC LR LR
comp=Z,100nm,12.1s
SONM Songino Array 141.03 287 PKP **PKPdf 05 18 24.7 -0.8**
comp=Z,0.8nm,0.6s,baz=175,slow=5.4,SNR=2.7
SONM PP **PP 05 21 30.9 +3.1**
comp=Z,0.6nm,0.6s,baz=160,slow=4.6,SNR=3.8
ESDC Sonseca Array 145.30 95 PKPbc **PKPab 05 18 33.8 +0.6**
comp=Z,10nm,1.0s,baz=239,slow=3.5,SNR=23
ESDC Sonseca Array 145.30 95 PKPbc 05 18 32.2 -0.9
NOR Nord 147.66 14 *i* P **PKPbc 05 18 38.1 -0.6**
DBG Daneborg 148.33 28 *i* P **PKPbc 05 18 40.2 -0.5**
DAG Danmarks Havn 148.45 23 *i* P **PKPbc 05 18 40.0 -0.9**
WMQ Urumqi 149.56 268 *e*PKPbc **PKPdf 05 18 38.2 -2.0**
KEST Kesra 150.06 114 PKPbc **PKiKP 05 18 46.9 -0.2**
comp=Z,15nm,1.0s,baz=306,slow=3.5,SNR=6.5
KEST PKPab **PKPab 05 18 53.2 +1.1**
comp=Z,13nm,0.9s,baz=302,slow=1.1,SNR=7.4
KEST Kesra 150.06 114 PKPdf **PKPdf 05 18 42.1 +0.8**
MKAR Makanchi Array 154.38 269 PKPbc **PKiKP 05 18 56.1 +0.5**
comp=Z,0.5nm,0.9s,baz=127,slow=3.1,SNR=2.5
MKAR PKPab **pPKPab 05 19 11.3 -1.3**
comp=Z,1.1nm,0.8s,baz=96,slow=4.9,SNR=8.2
MKAR PP **PP 05 22 46.1 +0.3**
comp=Z,0.7nm,1.0s,baz=101,slow=7.5,SNR=3.0
MKAR Makanchi Array 154.38 269 PKPab 05 19 09.9 -0.1
NRIK Noril'sk 155.05 324 PKPab **PKPab 05 19 12.4 +0.3**
comp=Z,1.7nm,0.5s,baz=135,slow=6.8,SNR=5.0
ZAA0 Zalesovo Array 155.92 286 PKPab 05 19 14.2 -2.1
ZALV Zalesovo Beam 155.92 286 PKPab **PKPab 05 19 16.5 +0.2**
comp=Z,1.6nm,0.6s,baz=109,slow=4.9,SNR=7.6
ZALV Zalesovo Beam 155.92 286 PKPab **PKPab 05 19 16.3 0.0**
DAVA Damuels 157.90 95 *e*P **PKPab 05 19 24.0 -1.2**
comp=Z,17nm,1.5s
FETA Feichten 158.25 96 *e*P **PKPdf 05 18 56.0 +3.5**
comp=Z,9.4nm,1.5s
FETA *e*P **PKPab 05 19 27.6 +0.8**
comp=Z,9.2nm,1.2s
RETA Reutte 158.52 95 *e*P **PKPab 05 19 28.2 +0.4**
comp=Z,7.7nm,1.2s
SQTA Sankt Quirin 158.64 96 *e*P **PKPdf 05 18 59.8 +6.9**
comp=Z,6.8nm,1.1s
SQTA *e*P **PKPab 05 19 29.0 +0.6**
comp=Z,10nm,1.1s
MOTA Moosalm 158.64 96 *i* P **PKPdf 05 18 59.8 +6.8**
comp=Z,19nm,1.6s
MOTA *e*P **PKPab 05 19 29.0 +0.5**
comp=Z,10nm,1.0s
WTTA Wattenberg 158.91 97 *e*P **PKPdf 05 19 00.2 +6.8**
comp=Z,7.7nm,1.3s
WTTA *e*P **PKPab 05 19 30.4 +0.7**
comp=Z,11nm,1.2s
WATA Walderalm 158.91 96 *e*P **PKPab 05 19 30.2 +0.6**
comp=Z,6.5nm,1.0s
ABTA Abfaltersbach 159.15 99 *e*P **PKPab 05 19 31.4 +0.8**
comp=Z,8.9nm,1.0s
MYKA Terra Mystica 159.73 100 *e*P **PKPdf 05 18 59.5 +5.4**
comp=Z,4.3nm,1.0s
MYKA *e*P **PKPab 05 19 34.0 +0.9**
comp=Z,15nm,1.6s
SOKA Soboth 160.56 102 *e*P **PKPdf 05 19 02.1 +7.0**
comp=Z,8.7nm,1.3s
SOKA *e*P **PKPab 05 19 37.4 +0.6**
comp=Z,4.9nm,1.2s
MOA Molln 160.74 98 *e*P **PKPab 05 19 37.9 +0.5**
comp=Z,9.1nm,1.5s
GERES GERESS Array B 160.90 95 PKP **PKPdf 05 18 54.7 -0.7**
comp=Z,0.2nm,0.4s,baz=349,slow=1.0,SNR=1.8
GERES PKPab **PKPab 05 19 38.4 +0.3**
comp=Z,0.5nm,0.7s,baz=222,slow=4.0,SNR=2.5
ARSA Arzberg 161.15 101 *e*P **PKPdf 05 19 00.1 +4.4**
comp=Z,4.3nm,1.0s
ARSA *e*P **PKPab 05 19 39.8 +0.6**
comp=Z,8.5nm,1.4s
CLL Collm 161.51 87 *e*PKPdf **PKPdf 05 18 56.0 +0.2**
CLL *e*PKPab **PKPab 05 19 41.0 +0.3**
comp=Z,77nm,2.4s
CLL *e*PSKS 05 33 54.0
CLL *e*PPS PPS 05 36 48.0
CLL *e*SS SS 05 43 42.0 +0.2
CLL LmV 06 41 00.0
comp=Z,200nm,18.8s
CONA Conrad Observa 161.70 99 *e*P **PKPdf 05 19 02.5 +6.2**
comp=Z,3.8nm,1.0s
CONA *e*P **PKPab 05 19 42.4 +0.7**
comp=Z,8.8nm,1.4s
ARCES ARCESS Array B 162.73 21 PKPab **PKPab 05 19 46.1 +0.7**
comp=Z,2.8nm,1.0s,baz=352,slow=5.5,SNR=1.3
BRTR Keskin Array B 163.99 152 PKPab **PKPab 05 19 52.2 +0.3**
comp=Z,3.4nm,0.9s,baz=183,slow=9.9,SNR=6.9
BRTR Keskin Array B 163.99 152 PKPab 05 19 50.8 -1.1
MLR Muntele Rosu 165.78 121 PKPab **PKPab 05 19 59.5 -0.2**
AKASG Malin Array Be 170.68 107 PKPab **PKPab 05 20 20.6 -0.5**
comp=Z,0.3nm,0.5s,baz=243,slow=5.9,SNR=5.4
AKASG Malin Array Be 170.68 107 PKPab 05 20 19.5 -1.6

TRN 06 05:09:25.3, 10°.93N×61°.97W, h59km, MD2.8, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.62**	**116**	*eP*	Pn	05 09 39.6	+1.1
TRN				*eS*	Sn	05 09 48.0	-0.2
GRFF	**Grenada Fort F**	**1.14**	**12**	*eP*	Pn	05 09 44.7	-0.5
GRFF				*eS*	Sn	05 09 60.0	0.0
GRGR	**Grenville**	**1.24**	**15**	*eP*	Pn	05 09 46.9	+0.3
GRGR				*eS*	Sn	05 10 03.0	+0.7
GCMP	**Grenada, Carri**	**1.64**	**19**	*eP*	Pn	05 09 51.8	-0.1
GCMP				*eS*	Sn	05 10 11.8	-0.2

*IDC **06** 05:10:20.0±1.5, 32°.21S×71°.66W, h0km, mb4.3/2, mb1 4.1/4, mb1mx3.7/24, mbtmp4.0/4, ML4.0/2, MS4.1/4, Ms1 4.1/4, ms1mx3.2/49, Error ellipse: s-maj=70.8km s-min=34.6km az=102.0*
*GUC **06** 05:10:23.7±0.6, 32°.20S×71°.69W, h27km±3km, ML4.0*
*NEIC **06** 05:10:24.1±2.2, 32°.23S±0°.04×71°.8W±0°.1, h32km±14km, Error ellipse: s-maj=14.7km s-min=5.7km az=96.0*
ISC 06 05:10:21.5±1.6, 32°.20S±0°.02×71°.76W±0°.06, h11km±10km, n69, σ0s79/73, MS4.8/3, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.53**	**133**	⇓*iP*	**Pn**	**05 10 34.4**	**-0.5**
VA06				*eS*	**Sb**	**05 10 40.4**	**+0.1**
VA06				IAML		05 10 42.4	
	comp=E,48μm,0.3s						
VA01	**Torpederas**	**0.82**	**174**	*eP*	**Pn**	**05 10 38.6**	**-0.3**
VA01				*eS*	**Sb**	**05 10 49.8**	**+1.0**
VA01				IAML		05 10 52.1	
	comp=N,6μm,0.1s						
VA01	**Torpederas**	**0.82**	**174**		**Pb**	**05 10 38.4**	**+0.6**
ROCH	**El Roble**	**0.99**	**141**	⇓*iP*	**Pn**	**05 10 41.6**	**+0.1**
ROCH				*eP*	**Pb**	**05 10 41.0**	**+0.2**
ROCH				*eS*	**Sb**	**05 10 54.0**	**+0.1**
ROCH				*eS*	**Sn**	**05 10 54.4**	**-1.2**
ROCH				IAML		05 10 57.0	
	comp=N,7μm,0.4s						
ROCH				IAML		05 10 58.1	
	comp=N,6μm,0.3s						
VA03	**San Esteban**	**1.16**	**119**	*eP*	**Pn**	**05 10 44.3**	**+0.6**
VA03				*eS*	**Sn**	**05 10 59.6**	**-0.1**
VA03				IAML		05 11 02.1	
	comp=E,14μm,0.3s						
VA03	**San Esteban**	**1.16**	**119**		**Pn**	**05 10 44.0**	**+0.3**
MT02	**Curacav**	**1.17**	**154**	⇓*iP*	**Pn**	**05 10 44.1**	**+0.2**
MT02				*i* S	**Sg**	**05 10 59.0**	**-0.3**
MT02				IAML		05 11 04.8	
	comp=E,2μm,0.6s						
MT02	**Curacav**	**1.17**	**154**		**Pn**	**05 10 44.1**	**+0.2**
VA05	**Santo Domingo**	**1.45**	**175**	*eP*	**Pn**	**05 10 47.8**	**+0.1**
VA05				*eS*	**Sn**	**05 11 05.4**	**-1.3**
VA05				IAML		05 11 15.3	
	comp=E,7μm,0.3s						
VA05	**Santo Domingo**	**1.45**	**175**		**Pn**	**05 10 47.8**	**+0.1**
MT05	**Renca**	**1.46**	**144**	*eP*	**Pb**	**05 10 48.9**	**+0.2**
MT05				*eS*	**Sb**	**05 11 07.6**	**+0.2**
MT05				IAML		05 11 10.7	
	comp=E,8μm,0.3s						
MT05	**Renca**	**1.46**	**144**	Pn	**Pb**	**05 10 48.6**	**-0.1**
CO06	**Fray Jorge**	**1.53**	**4**	⇑*eP*	**Pn**	**05 10 49.5**	**+0.8**
CO06				*eS*	**Sn**	**05 11 09.4**	**+0.9**
CO06	**Fray Jorge**	**1.53**	**4**		**Pn**	**05 10 49.5**	**+0.8**
CO03	**El Pedregal**	**1.64**	**34**	⇑*eP*	**Pg**	**05 10 53.0**	**+0.1**
CO03				*eS*	**Sb**	**05 11 12.5**	**+0.1**
CO03				IAML		05 11 19.1	
	comp=E,1μm,0.4s						
CO03	**El Pedregal**	**1.64**	**34**		**Pn**	**05 10 50.6**	**+0.3**
FCH	**Farellones**	**1.67**	**133**	*eP*	**Pb**	**05 10 52.2**	**-0.1**
FCH				*eS*	**Sb**	**05 11 13.6**	**+0.1**
FCH				IAML		05 11 14.8	
	comp=N,2μm,0.3s						
MT09	**Talagante**	**1.69**	**158**	⇑*eP*	**Pb**	**05 10 52.8**	**0.0**
MT09				*eS*	**Sb**	**05 11 14.3**	**+0.2**
MT09				IAML		05 11 22.5	
	comp=N,3μm,0.3s						
MT09	**Talagante**	**1.69**	**158**		**Pb**	**05 10 52.8**	**0.0**
MT01	**Popeta**	**1.71**	**166**	⇑*eP*	**Pn**	**05 10 51.4**	**+0.2**
MT01				*eS*	**Sn**	**05 11 12.0**	**-1.1**
MT01				IAML		05 11 22.3	
	comp=E,2μm,0.3s						
MT01	**Popeta**	**1.71**	**166**		**Pn**	**05 10 52.1**	**+0.9**
BO04	**La Punta**	**2.02**	**152**	*eP*	**Pb**	**05 10 57.5**	**-0.8**
BO04				*eS*	**Sb**	**05 11 22.4**	**-1.1**
BO04				IAML		05 11 27.2	
	comp=E,1μm,0.5s						
LMEL	**Las Melosas**	**2.09**	**142**	⇑*eP*	**Pb**	**05 10 58.7**	**-0.8**
LMEL				*eS*	**Sb**	**05 11 24.8**	**-0.8**
LMEL				IAML		05 11 30.3	
	comp=N,1μm,0.3s						
GO04	**Tololo Observa**	**2.18**	**22**	*eP*	**Pn**	**05 10 59.7**	**+1.8**
GO04				*eS*	**Sb**	**05 11 27.8**	**-0.5**
GO04	**Tololo Observa**	**2.18**	**22**		**Pb**	**05 11 00.4**	**-0.7**
BO01	**Tunca**	**2.25**	**166**	*eP*	**Pn**	**05 10 59.5**	**+0.9**
BO01				*eS*	**Sn**	**05 11 25.7**	**-0.7**
BO01				IAML		05 11 35.8	
	comp=E,497nm,0.2s						
BO01	**Tunca**	**2.25**	**166**		**Pn**	**05 10 59.7**	**+1.0**
CO05	**La Serena**	**2.32**	**11**	*eP*	**Pn**	**05 11 01.0**	**+1.4**
CO05				*eS*	**Sb**	**05 11 30.8**	**-1.2**
CO05				IAML		05 11 37.9	
	comp=E,945nm,0.5s						
CO05	**La Serena**	**2.32**	**11**		**Pn**	**05 11 01.2**	**+1.6**
ZON	**Zonda**	**2.70**	**77**		**Pb**	**05 11 10.2**	**+0.4**
BO02	**Sierra Bellavi**	**2.71**	**163**	*eP*	**Pn**	**05 11 06.2**	**+1.2**
BO02				*eS*	**Sn**	**05 11 38.7**	**+0.9**
BO02				IAML		05 11 50.7	
	comp=N,1μm,0.4s						
BO02	**Sierra Bellavi**	**2.71**	**163**		**Pn**	**05 11 06.4**	**+1.4**
GO05	**Hualа**	**2.80**	**183**		**Pn**	**05 11 05.9**	**-0.3**
LCO	**Las Campanas**	**3.31**	**16**	Pn	**Pn**	**05 11 15.1**	**+1.7**
ML02	**Panimavida**	**3.56**	**176**	Pn	**Pn**	**05 11 17.2**	**+0.6**
AC04	**Llanos de Chal**	**4.03**	**9**	Pn	**Pn**	**05 11 23.6**	**+0.5**
GO03	**Copiap**	**4.78**	**16**	Pn	**Pn**	**05 11 34.5**	**+1.0**
AC02	**Maricunga**	**5.82**	**24**	Pn	**Pn**	**05 11 49.8**	**+1.6**
H03N1	**Juan Fernandez**	**6.15**	**257**	T	T	05 18 29.7	
	baz=86,slow=73,SNR=2333						
H03N3	**Juan Fernandez**	**6.16**	**256**	T	T	05 18 29.3	
	baz=86,slow=73,SNR=1918						
H03N2	**Juan Fernandez**	**6.17**	**257**	T	T	05 18 30.6	
	baz=86,slow=73,SNR=1710						
H03S3	**Juan Fernandez**	**6.22**	**253**	T	T	05 18 23.7	
	baz=86,SNR=14						
H03S1	**Juan Fernandez**	**6.22**	**253**	T	T	05 18 22.5	
	baz=86,SNR=16						
H03S2	**Juan Fernandez**	**6.24**	**253**	T	T	05 18 23.1	
	baz=86,SNR=22						
LC01	**Cunco**	**6.68**	**181**		**Pn**	**05 11 59.0**	**-0.5**
PLCA	**Paso Flores**	**8.57**	**174**	Pn	**Pn**	**05 12 26.4**	**+1.0**
	comp=N,0.6nm,0.3s,baz=335,slow=12,SNR=27						
LVC	**Limon Verde**	**9.88**	**15**	Pn	Pn	05 12 49.3	+5.4
	comp=N,0.4nm,0.3s,baz=192,slow=9.7,SNR=2.7						
LVC	**Limon Verde**	**9.88**	**15**	Pn	**Pn**	**05 12 43.2**	**-0.7**
PB01	**IPOC Station P**	**11.30**	**11**	Pn	**Pn**	**05 13 02.3**	**-0.7**
LPAZ	**La Paz**	**16.18**	**13**	Pn	**Pn**	**05 14 10.5**	**+1.0**
	comp=N,0.1nm,0.3s,baz=206,slow=7.9,SNR=4.5						
LPAZ				LR	LR	05 20 28.3	
	comp=N,112nm,20.1s,baz=266,slow=38						
LPAZ	**La Paz**	**16.18**	**13**	Pn	**Pn**	**05 14 09.0**	**-0.5**
VNA3	**Neumayer Olymp**	**50.93**	**158**	P	**P**	**05 19 23.0**	**+0.6**
VNA2	**Neumayer--Watz**	**51.58**	**158**	P	**P**	**05 19 27.9**	**+0.7**
	baz=282,slow=8.2						
SNAA	**Sanae**	**53.16**	**158**	P	**P**	**05 19 39.5**	**+0.5**
CMIG	**Matias Romero**	**53.79**	**332**	LR	LR	05 39 06.0	
	comp=N,70nm,18.2s,baz=235,slow=32						
DBIC	**Dimbokro**	**74.38**	**72**	P	**P**	**05 21 59.2**	**-0.5**
	comp=N,2.8nm,0.9s,baz=246,slow=6.8,SNR=3.9						
TSUM	**Tsumeb**	**79.48**	**106**	LR	LR	05 53 27.2	
	comp=N,483nm,21.7s,baz=152,slow=33						
TORD	**Torodi Ar. Bea**	**83.38**	**70**	P	**P**	**05 22 48.7**	**-0.3**
	comp=N,1.3nm,0.7s,baz=266,slow=4.3,SNR=7.1						
LSZ	**Lusaka**	**90.14**	**108**	LR	LR	05 57 35.2	
	comp=N,433nm,21.5s,baz=184,slow=32						
WRA	**Warramunga Arr**	**122.44**	**209**	PKP	**PKPdf**	**05 29 16.7**	**-0.8**
	comp=N,0.3nm,0.7s,baz=149,slow=1.6,SNR=1.8						
H11S2	**WAKE ISLAND Hyl**	**26.02**	**270**	T	T	07 48 25.7	
	baz=118,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hyl**	**26.03**	**270**	T	T	07 48 26.7	
	baz=118,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hyl**	**26.03**	**270**	T	T	07 48 27.1	
	baz=118,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hyl**	**26.39**	**272**	T	T	07 48 56.5	
	baz=114,slow=77,SNR=4.7						
H11N1	**WAKE ISLAND Hyl**	**26.40**	**272**	T	T	07 48 58.0	
	baz=114,slow=77,SNR=3.8						
H11N2	**WAKE ISLAND Hyl**	**26.40**	**272**	T	T	07 48 57.3	
	baz=114,slow=77,SNR=15						
AAK	**Ala-Archa**	**151.41**	**59**	PKPbc	**PKPbc**	**05 30 16.0**	**+0.5**
	baz=232,slow=2.0						
ZALV	**Zalesovo Beam**	**152.57**	**31**	PKPbc	**PKPbc**	**05 30 17.7**	**+0.3**
	comp=N,2.4nm,0.5s,baz=307,slow=4.1,SNR=12						
MKAR	**Makanchi Array**	**155.38**	**46**	PKPab	**PKPab**	**05 30 40.4**	**+0.3**
	comp=N,0.6nm,0.7s,baz=286,slow=1.5,SNR=5.8						

*NEIC **06** 05:11:56.3±2.5, 4°.94S±0°.09×154°.56E±0°.09, h51km±6km, mb4.7/34, Error ellipse: s-maj=13.8km s-min=12.8km az=208.0*
*IDC **06** 05:12:04.4±0.7, 4°.81S×153°.80E, h97km±5km, mb4.0/18, mb1 4.2/19, mb1mx4.0/36, mbtmp4.4/19, MS3.8/7, Ms1 3.8/7, ms1mx3.2/54, Error ellipse: s-maj=11.9km s-min=9.6km az=24.0*
*DJA **06** 05:12:05.9±0.6, 5°.S±4°.×15°.4E±°, h117km±5km, M4.8/18, mB5.2/7, mb4.8/18, MLv4.9/1, Mw(mB)4.6/7*
ISC 06 05:12:05.3±0.4, 4°.83S±0°.06×153°.80E±0°.06, h105km, n119, σ1s20/111, mb4.6/53, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.75**	**291**		**Pn**	**05 12 34.8**	**-0.2**
KRVT	**Keravat (AS076**	**1.84**	**286**	P	**Pn**	**05 12 35.4**	**-0.7**
KRVT				S	**Sn**	**05 12 58.3**	**-1.3**
HNR	**Honiara**	**7.62**	**127**	S	**Sn**	**05 15 17.2**	**-1.3**
	baz=146,slow=23,SNR=1.8						
PMG	**Port Moresby**	**8.01**	**235**	P	**Pn**	**05 13 59.7**	**+0.8**
	39nm,0.3s,baz=46,slow=4.7,SNR=45						
PMG				S	**Sn**	**05 15 28.4**	**+0.6**
	15nm,0.3s,baz=19,slow=20,SNR=7.0						
PMG				LR	LR	05 17 18.4	
	comp=Z,258nm,18.6s,baz=60,slow=39						
PMG	**Port Moresby**	**8.01**	**235**	Pn	**Pn**	**05 14 00.2**	**+1.3**
PMG	**Port Moresby**	**8.01**	**235**	P	**Pn**	**05 14 01.6**	**+2.7**
COEN	**Coen**	**13.86**	**228**	Pn	**Pn**	**05 15 18.6**	**+1.4**
COEN	**Coen**	**13.86**	**228**	P	**Pn**	**05 15 19.5**	**+2.2**
SMPI	**Sarmi**	**15.32**	**280**	P	**Pn**	**05 15 37.0**	**+1.0**
	1μm31nm,0.8s						
CTAO	**Charters Tower**	**16.85**	**205**	P	**Pn**	**05 15 52.3**	**-2.7**
SANVU	**Saraoutou**	**16.88**	**130**	Pn	Pn	05 15 39.4	-16
SANVU				IAmb	IAmb	05 15 42.1	
	comp=Z,43nm,0.4s						
GUMO	**Guam**	**20.33**	**334**	LR	LR	05 24 55.6	
	comp=Z,20nm,19.6s,baz=102,slow=38						
EIDS	**Eidsvold**	**20.59**	**187**	P	**P**	**05 16 32.5**	**-3.5**
EIDS				IAmb	IAmb	05 16 38.2	
	comp=Z,33nm,1.1s						
QIS	**Mount Isa**	**20.86**	**220**	P	**P**	**05 16 40.1**	**+1.1**
DZM	**Mont Dzumac**	**21.07**	**146**	P	**P**	**05 16 42.8**	**+1.6**
	comp=Z,6.0nm,0.8s,baz=296,slow=13,SNR=9.7						
DZM	**Mont Dzumac**	**21.07**	**146**	*eP*	**P**	**05 16 43.2**	**+1.9**
	comp=Z,20nm,0.7s						
DZM	**Mont Dzumac**	**21.07**	**146**	P	P	05 16 30.5	-11
RMQ	**Roma**	**22.07**	**192**	P	**P**	**05 16 53.0**	**+1.2**
KDU	**Kakadu**	**22.46**	**248**	P	**P**	**05 16 55.3**	**-0.7**
SIJI	**Sorong**	**22.84**	**279**	P	**P**	**05 16 58.8**	**-1.1**
	comp=Z,5.0nm,0.4s,baz=107,slow=6.7,SNR=4.4						
SIJI				LR	LR	05 25 22.5	
	comp=Z,149nm,21.7s,baz=288,slow=35						
QLP	**Quilpie**	**23.48**	**202**	P	**P**	**05 17 05.9**	**+0.2**
MTN	**Manton Dam**	**23.75**	**249**	P	**P**	**05 17 08.6**	**+0.4**
MTN				IAmb	IAmb	05 17 13.0	
	comp=Z,14nm,0.9s						
WB0	**Warramunga Arr**	**24.04**	**230**	P	**P**	**05 17 11.3**	**+0.5**
WB0				IAmb	IAmb	05 17 13.2	
	comp=Z,24nm,0.8s						
WR0	**Warramunga Arr**	**24.04**	**230**	P	**P**	**05 17 11.3**	**+0.5**
WR0				IAmb	IAmb	05 17 12.4	
	comp=Z,24nm,0.8s						
WRAB	**Tennant Creek**	**24.17**	**230**	P	**P**	**05 17 12.7**	**+0.7**
WRAB				IAmb	IAmb	05 17 13.6	
	comp=Z,24nm,0.6s						
WRAB	**Tennant Creek**	**24.17**	**230**	P	**P**	**05 17 12.3**	**+0.3**
WB2	**Warramunga Arr**	**24.17**	**230**	P	**P**	**05 17 12.5**	**+0.5**
WB2				IAmb	IAmb	05 17 14.6	
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**24.18**	**230**	P	**P**	**05 17 11.9**	**-0.2**
	comp=Z,15nm,0.6s,baz=54,slow=9.8,SNR=154						
WRA				pP	**pP**	**05 17 34.7**	**+1.0**
	comp=Z,5.6nm,0.6s,baz=54,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**24.18**	**230**	P	**P**	**05 17 11.8**	**-0.3**
INKA	**Innaminka**	**25.96**	**207**	P	**P**	**05 17 28.1**	**0.0**
	comp=Z,54nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**26.43**	**28**	T	T	05 44 56.6	
	baz=208,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**26.43**	**28**	T	T	05 44 56.6	
	baz=208,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**26.45**	**28**	T	T	05 44 56.6	
	baz=208,slow=75,SNR=13						
AS31	**Alice Springs**	**26.81**	**224**	P	**P**	**05 17 35.9**	**0.0**
ASAR	**Alice Springs**	**26.81**	**224**	P	**P**	**05 17 35.5**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=55,slow=8.9,SNR=42						
ASAR	**Alice Springs**	**26.81**	**224**	P	**P**	**05 17 36.0**	**+0.2**
KNRA	**Kununurra**	**26.86**	**244**	P	**P**	**05 17 36.2**	**-0.1**
KNRA				IAmb	IAmb	05 18 02.0	
	comp=Z,20nm,1.0s						
OOD	**Oodnadatta**	**28.62**	**215**	P	**P**	**05 17 52.0**	**+0.1**
STKA	**Stephens Creek**	**29.24**	**202**	P	**P**	**05 17 56.7**	**-0.7**
	comp=Z,6.8nm,0.8s,baz=2.3,slow=6.8,SNR=8.8						
STKA	**Stephens Creek**	**29.24**	**202**	P	**P**	**05 17 56.6**	**-0.7**
LCRK	**Leigh Creek**	**29.42**	**208**	P	**P**	**05 17 59.6**	**+0.7**
BATI	**Baumata**	**30.34**	**258**	LR	LR	05 32 29.6	
	comp=Z,159nm,20.4s,baz=68,slow=40						
FITZ	**Fitzroy Crossi**	**30.52**	**242**	P	**P**	**05 18 08.1**	**-0.7**
	comp=Z,9.4nm,0.7s,baz=65,slow=7.8,SNR=36						
FITZ				pP	**pP**	**05 18 32.4**	**+0.7**
	comp=Z,12nm,1.0s,baz=99,slow=8.4,SNR=4.4						
DAV	**Davao City (W)**	**30.55**	**293**	LR	LR	05 29 59.9	
	comp=Z,60nm,19.4s,baz=316,slow=35						
MULG	**Mulgathing**	**31.43**	**214**	P	**P**	**05 18 16.2**	**-0.5**
MMRI	**Maumere**	**31.57**	**261**	P	**P**	**05 18 18.6**	**+0.5**
HTT	**Hallett**	**31.65**	**204**	P	**P**	**05 18 18.9**	**+0.2**
WRKA	**Warakurna**	**31.68**	**228**	P	**P**	**05 18 18.2**	**-0.8**
EDFI	**Ende, Flores**	**32.11**	**261**	P	**P**	**05 18 21.4**	**-1.6**
	comp=Z,253nmcomp=Z,13nm,0.7s						
BBOO	**Buckleboo**	**32.40**	**209**	P	**P**	**05 18 25.0**	**-0.2**
BSSI	**Bau Bau, Buton**	**33.18**	**266**	P	**P**	**05 18 32.9**	**+0.6**
	comp=Z,8.8nm,1.1s						
ARPS	**Mount Arapiles**	**33.63**	**197**	P	**P**	**05 18 36.3**	**+0.5**
MPSI	**Mapaga**	**34.25**	**278**	P	**P**	**05 18 40.5**	**-1.0**
	comp=Z,608nmcomp=Z,11nm,0.5s						
WBSI	**Waikabubak, Su**	**34.45**	**260**	P	**P**	**05 18 42.4**	**-0.9**
FORT	**Forrest**	**35.40**	**220**	P	**P**	**05 18 50.8**	**-0.4**
FORT	**Forrest**	**35.40**	**220**	P	**P**	**05 18 50.8**	**-0.4**
PSA00	**Pilbara Seismi**	**36.88**	**240**	P	**P**	**05 19 03.2**	**-0.7**
PSA00				IAmb	IAmb	05 19 03.6	
	comp=Z,16nm,0.8s						
PSA00	**Pilbara Seismi**	**36.88**	**240**	P	**P**	**05 19 03.5**	**-0.4**
PSA00				IAmb	IAmb	05 19 05.1	
	comp=Z,8.7nm,0.8s						
TAU	**Tasmania Unive**	**38.36**	**188**	P	**P**	**05 19 17.7**	**+1.7**
KMBL	**Kambalda**	**39.93**	**225**	P	**P**	**05 19 28.2**	**-1.2**
MORW	**Morawa**	**43.11**	**232**	P	**P**	**05 19 55.1**	**-0.3**
JNU	**Nakatsue**	**43.55**	**332**	P	**P**	**05 19 58.0**	**-0.9**
	comp=Z,5.1nm,0.6s,baz=113,slow=12,SNR=3.8						
JNU	**Nakatsue**	**43.55**	**332**	IAmb	IAmb	05 20 03.0	
	comp=Z,14nm,1.1s						
CMJI	**Cimerak**	**45.16**	**264**	P	**P**	**05 20 10.7**	**-1.2**
	comp=Z,45nm,0.7s						
CNJI	**Cibinong**	**46.46**	**265**	P	**P**	**05 20 21.1**	**-1.1**
	comp=Z,76nm,1.0s						
MDSI	**Maura Dua**	**49.45**	**268**	P	**P**	**05 20 43.0**	**-2.3**
	comp=Z,479nmcomp=Z,3.1nm,1.2s						
NJ2	**Nanjing**	**49.50**	**320**	*eP*	**P**	**05 20 47.2**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,12nm,0.8s						
USRK	**Ussuriysk Ar.**	**52.60**	**340**	P	**P**	**05 21 09.2**	**+0.9**
	comp=Z,3.2nm,0.9s,baz=139,slow=4.8,SNR=2.9						
MNSI	**Mandailing Nat**	**54.45**	**274**	P	**P**	**05 21 21.3**	**-1.1**
XAN	**Xi'an**	**57.33**	**316**	P	**P**	**05 21 43.4**	**+0.7**
XAN				pP	pP	05 21 48.2	-19
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PETK	**Petropavlovsk-**	**57.81**	**3**	P	**P**	**05 21 46.9**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=186,slow=8.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**58.79**	**295**	P	**P**	**05 21 54.4**	**+1.3**
	comp=Z,2.1nm,0.4s,baz=117,slow=5.4,SNR=6.7						
XLT	**XiLinHaoTe**	**59.20**	**329**	*eP*	**P**	**05 21 55.4**	**-0.1**
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
XLT				pmax	pmax		
	comp=Z,130nm,6.2s						
PZH	**PanZhiHua**	**59.21**	**305**	P	**P**	**05 21 58.3**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,5.9s						
CD2	**Chengdu**	**59.52**	**310**	P	**P**	**05 21 58.3**	**+0.4**
CD2				LR	LR		
	comp=N,20nm,18.8s						
CD2				LR	LR		
	comp=E,310nm,18.2s						
CD2				LR	LR		
	comp=Z,150nm,22.2s						
HHC	**Hu-ho-hao-te**	**59.66**	**324**	*eP*	**P**	**05 21 59.8**	**+1.1**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,91nm,5.3s						
LZH	**Lanzhou**	**61.95**	**315**	*eP*	**P**	**05 22 15.7**	**+1.3**
LZH				pP	pP	05 22 31.6	-7.4
LZH				sP	pwP	05 22 41.6	-2.9
LZH				pmax	pmax		
	comp=Z,13nm,1.4s						
GTA	**Gaotai**	**66.36**	**317**	⇑P	**P**	**05 22 44.1**	**+0.9**
GTA				pP	pP	05 23 07.9	-0.1
GTA				sP	sP	05 23 22.9	+3.9
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ULN	**Ulaanbaatar**	**66.55**	**328**	P	**P**	**05 22 44.3**	**0.0**
ULN				IAmb	IAmb	05 22 46.7	
	comp=Z,3.3nm,0.9s						
SONM	**Songino Array**	**66.88**	**327**	P	**P**	**05 22 46.9**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=146,slow=6.4,SNR=4.2						
UNV	**Unalaska Valle**	**67.23**	**24**	P	P	05 22 42.8	-5.4
GOMU	**GeErMu**	**68.52**	**312**	P	**P**	**05 22 59.9**	**+2.7**
GOMU				pP	PcP	05 23 02.5	-19
GOMU				sP	pP	05 23 06.7	-15
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,96nm,5.0s						
VNDA	**Vanda**	**72.77**	**178**	P	**P**	**05 23 22.3**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=355,slow=5.2,SNR=5.1						
VNDA				pP	**pP**	**05 23 45.9**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=317,slow=7.2,SNR=3.2						
VNDA	**Vanda**	**72.77**	**178**	P	P	05 23 17.8	-3.9
GUN	**Gumba**	**72.99**	**301**	*eP*	**P**	**05 23 24.7**	**+0.3**
	comp=Z,33nm,0.7s						
BILL	**Bilibino**	**73.23**	**5**	P	**P**	**05 23 22.4**	**-2.2**
BILL				IAmb	IAmb	05 23 27.4	
	comp=Z,5.2nm,0.8s						
PKI	**Pulchoki**	**73.31**	**300**	*eP*	**P**	**05 23 26.3**	**0.0**
	comp=Z,11nm,0.7s						
PKIN	**Phulchoki**	**73.32**	**301**	*eP*	**P**	**05 23 26.2**	**-0.1**
	comp=Z,8.0nm,0.5s						
DMN	**Daman**	**73.58**	**300**	*eP*	**P**	**05 23 28.1**	**+0.3**
PALK	**Pallekele**	**73.92**	**279**	P	**P**	**05 23 30.1**	**+0.3**
PALK				IAmb	IAmb	05 23 50.8	
	comp=Z,22nm,1.3s						
GKN	**Gorkha**	**74.08**	**301**	*eP*	**P**	**05 23 30.5**	**0.0**
	comp=Z,12nm,0.4s						
KOLN	**Koldanda**	**74.91**	**300**	*eP*	**P**	**05 23 34.9**	**-0.5**
DANN	**Dangsing**	**74.91**	**301**	*eP*	**P**	**05 23 34.3**	**-1.2**
PYUN	**Piuthan**	**75.51**	**300**	*eP*	**P**	**05 23 38.5**	**-0.4**
	comp=Z,23nm,0.8s						
WMQ	**Urumqi**	**76.44**	**317**	*eP*	**P**	**05 23 45.4**	**+1.7**
MK31	**Makanchi Array**	**81.00**	**319**	P	**P**	**05 24 07.8**	**-0.7**
MKAR	**Makanchi Array**	**81.00**	**319**	P	**P**	**05 24 07.2**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=93,slow=8.8,SNR=9.8						
MKAR				pP	**pP**	**05 24 32.7**	**-1.5**
	comp=Z,1.6nm,0.9s,baz=97,slow=6.2,SNR=3.8						
MKAR	**Makanchi Array**	**81.00**	**319**	P	**P**	**05 24 08.1**	**-0.5**
MAKZ	**Makanchi**	**81.21**	**319**	P	**P**	**05 24 10.6**	**+0.9**
MAKZ				IAmb	IAmb	05 24 34.9	
	comp=Z,9.7nm,1.4s						
ZAA0	**Zalesovo Array**	**81.73**	**326**	P	**P**	**05 24 10.9**	**-1.2**
ZALV	**Zalesovo Beam**	**81.73**	**326**	P	**P**	**05 24 11.6**

TNOU				*e*S		Sg	05 27 31.8	+0.1
	baz=331							
NWLT	**Wulai**	**0.43**	**265**	*e*P		Pg	05 27 27.6	-0.1
	baz=264							
NWLT				*e*S		Sg	05 27 32.9	-0.4
	baz=264							
YM01	**YM01**	**0.49**	**312**	*e*P		Pg	05 27 29.4	+0.5
	baz=311							
YM01				*e*S		Sg	05 27 35.6	+0.3
	baz=311							
YHNB	**Yeheng**	**0.56**	**255**	*e*P		Pg	05 27 29.8	-0.4
	baz=254							
YHNB				*e*S		Sg	05 27 37.2	-0.4
	baz=254							

JMA 06 05:27:53.6±0.2, 23°.86N×123°.25E, h45km±3km, M1.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.54**	**69**	P	Pn	05 28 04.9	-0.2
HATJ				*e*S	Sn	05 28 13.8	+0.5
YOJ	**Yonaguni jima**	**0.64**	**340**	P	Pn	05 28 06.4	0.0
YOJ				*e*S	Sn	05 28 15.5	0.0
IRIF	**Iriomote-Funau**	**0.65**	**43**	P	Pn	05 28 06.4	0.0
IRIF				*e*S	Sn	05 28 15.2	-0.5
JYNG	**Yonagunijimaku**	**0.65**	**335**	P	Pn	05 28 06.5	0.0
JYNG				S	Sn	05 28 15.7	-0.1
JKRS	**Kuro-shima**	**0.79**	**61**	P	Pn	05 28 08.4	0.0
JKRS				*e*S	Sn	05 28 19.8	+0.7
JIJ	**Ishigaki jima**	**0.96**	**58**	P	Pn	05 28 10.8	+0.2
JIJ				*e*S	Sn	05 28 22.7	-0.5
JISG	**Ishigakijimahi**	**1.21**	**53**	P	Pn	05 28 15.3	+1.2
JISG				*e*S	Sn	05 28 29.9	+0.6

*IDC **06** 05:46:19.9±1.0, 1°.75N×94°.72E, h0km, mb4.1/9, mb1 4.3/12, mb1mx3.9/40, mbtmp4.2/12, ML4.7/3, MS3.7/6, Ms1 3.6/6, ms1mx3.1/83, Error ellipse: s-maj=33.9km s-min=16.2km az=51.0*
*DJA **06** 05:46:19.7±0.9, 2°.N±3°.×9°.4E±°, h41km±14km, M4.9/19, mb5.2/19, mB5.4/13, MLv5.1/15, Mw(mB)4.8/13*
*NEIC **06** 05:46:26.5±1.4, 1°.96N±0°.05×94°.9E±0°.1, h33km±6km, mb4.2/15, Error ellipse: s-maj=16.0km s-min=5.8km az=69.0*

ISC 06 05:46:23.6±0.6, 1°.87N±0°.06×94°.92E±0°.06, h21km, n76, σ1°36/69, mb4.2/18, MS3.6/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.50**	**69**	P	**Pb**	**05 46 50.2**	**-0.6**
SNSI				S	**Sb**	**05 47 08.0**	**-1.4**
TPTI		**2.65**	**59**	P	**Pn**	**05 47 05.3**	**+0.3**
TPTI				S	**Sn**	**05 47 34.3**	**-2.2**
GSI	**Gunungsitoli**	**2.71**	**102**	P	**Pn**	**05 47 06.9**	**+0.9**
GSI				S	**Sn**	**05 47 37.5**	**-0.7**
GSI	**Gunungsitoli**	**2.71**	**102**	Pn	**Pn**	**05 47 07.4**	**+1.4**
BSI	**Banda Aceh**	**3.62**	**6**	P	**Pn**	**05 47 15.8**	**-2.7**
PBSI	**Pulau Batu**	**3.87**	**120**	P	**Pn**	**05 47 22.8**	**+1.0**
LHMI	**Lhok Sumawe**	**3.90**	**31**	P	**Pn**	**05 47 22.6**	**+0.3**
LHMI				S	**Sn**	**05 48 10.5**	**+3.0**
LHMI	**Lhok Sumawe**	**3.90**	**31**	Pn	**Pn**	**05 47 23.1**	**+0.8**
TSI	**Tuntungan**	**3.98**	**66**	P	**Pn**	**05 47 24.9**	**+1.4**
RPSI	**Rantau Prapat**	**4.08**	**78**		**Pn**	**05 47 26.6**	**+1.8**
RPSI	**Rantau Prapat**	**4.08**	**78**		**Pn**	**05 47 26.6**	**+1.8**
PSI	**Prapat**	**4.11**	**77**	Pn	**Pn**	**05 47 26.6**	**+1.3**
	15nm,0.3s,baz=293,slow=8.7,SNR=29						
PSI				Sn	**Sn**	**05 48 09.8**	**-2.9**
	9.6nm,0.3s,baz=101,slow=7.4,SNR=5.5						
MNSI	**Mandailing Nat**	**4.78**	**103**	P	**Pn**	**05 47 36.1**	**+1.7**
	3.2nm15μm279nm,0.7s						
SISI	**Saibi**	**5.24**	**127**	P	**Pn**	**05 47 41.3**	**+0.5**
	0.4nm2μm129nm,0.7s						
PPI	**Padang Panjang**	**5.94**	**113**	P	**Pn**	**05 47 51.7**	**+1.3**
	0.7nm2μm170nm,0.7s						
BKNI	**Bangkinang**	**6.31**	**104**	P	**Pn**	**05 47 56.8**	**+1.4**
	0.6nm2μm178nm,0.7s						
BKNI	**Bangkinang**	**6.31**	**104**	Pn	**Pn**	**05 47 56.4**	**+1.0**
IPM	**Ipoh**	**6.62**	**67**	Pn	**Pn**	**05 48 01.0**	**+1.2**
KULM	**Kulim**	**6.65**	**59**	Pn	**Pn**	**05 48 01.1**	**+0.9**
PPSI	**Pulau Pagai**	**6.86**	**132**	P	**Pn**	**05 48 03.5**	**+0.5**
	1.0nm3μm241nm,0.5s						
KRJI	**Kerinci**	**7.63**	**121**	P	**Pn**	**05 48 14.7**	**+1.0**
	9μm815nm,0.7s						
MASI	**Maura Aman, Be**	**8.85**	**124**	P	**Pn**	**05 48 31.1**	**+0.7**
	2μm236nm,0.7s						
MNAI	**Manna**	**10.14**	**128**	P	**Pn**	**05 48 48.3**	**+0.3**
LHSI	**Lahat**	**10.29**	**123**	P	**Pn**	**05 48 50.1**	**-0.1**
	158nm,0.8s						
MDSI	**Maura Dua**	**11.20**	**124**	P	**Pn**	**05 49 02.7**	**+0.1**
	507nm38nm,0.9s						
LWLI	**Liwa**	**11.41**	**127**	P	**Pn**	**05 49 06.5**	**+0.9**
	191nm,0.7s						
KLSI		**11.77**	**124**	P	**Pn**	**05 49 11.7**	**+1.3**
	26nm,1.0s						
KASI	**Kota Agung**	**12.06**	**128**	P	**Pn**	**05 49 13.6**	**-0.8**
	1μm75nm,0.8s						
CGJI	**Cibinong**	**13.66**	**128**	P	**Pn**	**05 49 36.5**	**+0.2**
	23nm,0.7s						
PALK	**Pallekele**	**15.15**	**291**	Pn	**Pn**	**05 49 53.7**	**-2.9**
	3.1nm,0.3s,baz=208,slow=11,SNR=11						
PALK				Sn	Sn	05 52 26.2	-18
	5.3nm,0.3s,baz=127,slow=22,SNR=9.4						
PALK	**Pallekele**	**15.15**	**291**	Pn	**Pn**	**05 49 54.5**	**-2.1**
CNJI	**Cibinong**	**15.22**	**127**	P	**Pn**	**05 49 55.6**	**-1.8**
	42nm,1.1s						
UBPT	**Khong Chiam**	**16.91**	**37**		**Pn**	**05 50 20.8**	**+1.7**
UBPT				IAmb	IAmb	05 50 24.5	
	comp=Z,18nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.95**	**13**	P	**Pn**	**05 50 19.5**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=205,slow=11,SNR=38						
CHTO	**Chiang Mai**	**17.29**	**13**		**Pn**	**05 50 24.2**	**+0.3**
PCJI	**Pacitan**	**19.05**	**122**	P	**P**	**05 50 43.7**	**-0.9**
RAGD	**RAYAGADA**	**20.60**	**328**	*i* x	x	05 51 01.3	
SLVN	**Son La**	**21.23**	**24**	P	**P**	**05 51 08.3**	**-0.2**
SLVN				IAmb	IAmb	05 51 10.6	
	comp=Z,7.6nm,1.0s						
BOK	**Bokaro**	**23.48**	**339**	*e*P	**P**	**05 51 31.3**	**-0.8**
SHL	**Shillong**	**23.74**	**353**	P	**P**	**05 51 32.6**	**-2.1**
SHL				IAmb	IAmb	05 51 50.9	
	comp=Z,8.9nm,0.7s						
H08S2	**Diego Garcia H**	**24.29**	**247**	T	T	06 17 39.6	
	baz=67,slow=75,SNR=41						
H08S3	**Diego Garcia H**	**24.29**	**247**	T	T	06 17 32.3	
	baz=67,slow=75,SNR=83						
H08S1	**Diego Carcia H**	**24.31**	**247**	T	T	06 17 41.0	
	baz=67,slow=75,SNR=10						
PZH	**PanZhiHua**	**25.35**	**14**	P	**P**	**05 51 50.8**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BKSI	**Bulukumba**	**26.17**	**106**	P	**P**	**05 51 56.7**	**-0.1**
XAN	**Xi'an**	**34.58**	**21**	P	**P**	**05 53 11.9**	**+0.8**
XAN				pP	sP	05 53 19.0	+1.0
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**36.17**	**125**	P	**P**	**05 53 25.1**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=95,slow=23,SNR=5.1						
GTA	**Gaotai**	**37.63**	**6**	*e*P	**P**	**05 53 37.7**	**+0.5**
GTA				pP	sP	05 53 47.3	+3.1
GTA				sP	pwP	05 53 52.6	+4.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
H01W3	**Cape Leeuwin H**	**40.76**	**156**	T	T	06 37 47.9	
	baz=330,slow=74,SNR=25						
H01W2	**Cape Leeuwin H**	**40.77**	**156**	T	T	06 37 51.1	
	baz=330,slow=74,SNR=22						
H01W1	**Cape Leeuwin H**	**40.78**	**156**	T	T	06 37 51.7	
	baz=330,SNR=22						
WB0	**Warramunga Arr**	**44.30**	**121**	P	**P**	**05 54 32.9**	**+0.6**
WRA	**Warramunga Arr**	**44.32**	**121**	P	**P**	**05 54 32.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=301,slow=8.9,SNR=9.2						
WB2	**Warramunga Arr**	**44.34**	**121**	P	**P**	**05 54 33.0**	**+0.4**
WB2				IAmb	IAmb	05 55 01.4	
	comp=Z,3.8nm,0.8s						
FORT	**Forrest**	**45.27**	**139**	P	**P**	**05 54 41.5**	**+1.6**
ASAR	**Alice Springs**	**45.62**	**126**	P	**P**	**05 54 42.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=295,slow=7.9,SNR=10						
MK31	**Makanchi Array**	**46.08**	**348**	P	**P**	**05 54 46.3**	**+0.2**
MK31				IAmb	IAmb	05 54 57.5	
	comp=Z,2.9nm,0.9s						
MKAR	**Makanchi Array**	**46.08**	**348**	P	**P**	**05 54 46.4**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=166,slow=8.6,SNR=29						
MKAR	**Makanchi Array**	**46.08**	**348**	P	**P**	**05 54 46.0**	**-0.1**
MAKZ	**Makanchi**	**46.16**	**348**	P	**P**	**05 54 47.2**	**+0.5**
MAKZ				IAmb	IAmb	05 54 58.8	
	comp=Z,4.1nm,1.1s						
KSRS	**Korea Array**	**46.63**	**37**	LR	LR	06 17 12.1	
	comp=Z,53nm,18.4s,baz=150,slow=40						
SONM	**Songino Array**	**46.85**	**11**	P	**P**	**05 54 52.7**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=190,slow=9.2,SNR=11						
SONM	**Songino Array**	**46.85**	**11**	IAmb	IAmb	05 54 53.9	
	comp=Z,2.3nm,0.8s						
KURK	**Kurchatov**	**50.59**	**347**	P	**P**	**05 55 21.5**	**+0.8**
KURK				IAmb	IAmb	05 55 23.2	
	comp=Z,1.7nm,0.8s						
GUMO	**Guam**	**50.73**	**74**	LR	LR	06 17 46.5	
	comp=Z,26nm,19.7s,baz=116,slow=37						
ZAA0	**Zalesovo Array**	**52.57**	**352**	P	**P**	**05 55 36.0**	**+0.6**
ZALV	**Zalesovo Beam**	**52.57**	**352**	P	**P**	**05 55 36.3**	**+0.8**
	comp=Z,2.1nm,0.4s,baz=183,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**52.57**	**352**	P	**P**	**05 55 35.6**	**+0.1**
MJAR	**Matsushiro Arr**	**52.76**	**44**	LR	LR	06 20 12.8	
	comp=Z,59nm,18.1s,baz=216,slow=38						
STKA	**Stephens Creek**	**55.50**	**131**	P	**P**	**05 55 58.3**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=309,slow=9.9,SNR=3.5						
STKA				LR	LR	06 23 02.5	
	comp=Z,40nm,18.1s,baz=211,slow=40						
ABKAR	**Akbulak array**	**55.87**	**333**	P	**P**	**05 55 59.0**	**-0.6**
BRTR	**Keskin Array B**	**66.98**	**313**	LR	LR	06 29 43.4	
	comp=Z,110nm,19.1s,baz=160,slow=39						
VRAC	**Vranov**	**80.97**	**320**	LR		06 36 40.6	
	comp=Z,103nm,21.6s,baz=312,slow=37						
GERES	**GERESS Array B**	**82.81**	**319**	P	**P**	**05 58 45.9**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=104,slow=5.6,SNR=7.1						
CLL	**Collm**	**83.49**	**321**	*e*P	**P**	**05 58 51.0**	**+1.2**
CLL				*e*(sP)	**pwP**	**05 59 06.0**	**+4.6**
TORD	**Torodi Ar. Bea**	**92.72**	**283**	P	**P**	**05 59 33.3**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=73,slow=3.9,SNR=1.3						

*IDC **06** 05:57:39.7±1.3, 36°.85N×144°.99E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/30, mbtmp3.5/5, ML2.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/73, Error ellipse: s-maj=31.1km s-min=27.5km az=87.0*
*JMA **06** 05:57:45.9±0.3, 37°.00N×144°.42E, h53km, M3.6*

ISC 06 05:57:46.5±1.2, 37°.09N±0°.06×144°.54E±0°.09, h50km, n29, σ2°56/28, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.72**	**297**	P	**Pn**	**05 58 27.9**	**+0.3**
JIO	**Ouri**	**2.87**	**299**	P	**Pn**	**05 58 29.4**	**-0.2**
JIO				*e*S	**Sn**	**05 59 02.6**	**-0.3**
JKMT	**Kesennumamotoy**	**2.96**	**306**	*e*S	**Sn**	**05 59 04.9**	**-0.4**
JMST	**Minamisoumatoc**	**2.97**	**283**	P	**Pn**	**05 58 31.1**	**0.0**
JMST				S	**Sn**	**05 59 04.9**	**-0.6**
ONAJ	**Iwakimizuishiy**	**2.99**	**271**	P	**Pn**	**05 58 31.3**	**-0.1**
ONAJ				S	**Sn**	**05 59 04.5**	**-1.5**
JMK	**Ichinoseki**	**3.21**	**306**	*e*S	**Sn**	**05 59 11.4**	**+0.1**
JFT	**Otama**	**3.37**	**278**	P	**Pn**	**05 58 37.5**	**+0.9**
JFT				*e*S	**Sn**	**05 59 15.9**	**+0.5**
BSO1	**Boso 1**	**3.78**	**231**	P	**Pn**	**05 58 39.7**	**-2.0**
JRY	**Ryogami san**	**4.66**	**258**	P	**Pn**	**05 58 53.3**	**-1.0**
JOD2	**Odawara 2**	**4.77**	**249**	P	**Pn**	**05 58 55.5**	**-0.3**
JOD2				*e*S	**Sn**	**05 59 47.8**	**-2.0**
JOT	**Ohata**	**5.07**	**329**	P	**Pn**	**05 59 02.0**	**+2.2**
MJAR	**Matsushiro Arr**	**5.11**	**266**	Pn	**Pn**	**05 59 01.1**	**+0.7**
	0.4nm,0.3s,baz=87,slow=15,SNR=7.2						
MJAR				Sn	**Sn**	**06 00 04.2**	**+6.2**
	0.1nm,0.3s,baz=91,slow=31,SNR=2.7						
JHJ2	**Mitsune**	**5.54**	**226**	P	**Pn**	**05 59 04.0**	**-2.4**
JHJ2				*e*S	**Sn**	**06 00 03.0**	**-5.8**
JCH	**Churui**	**5.59**	**351**	P	**Pn**	**05 59 06.7**	**-0.2**
JCH				*e*S	**Sn**	**06 00 07.0**	**-2.8**
NEM2	**Nemuro 2**	**6.33**	**8**	P	**Pn**	**05 59 14.1**	**-3.0**
NEM2				*e*S	**Sn**	**06 00 22.2**	**-5.9**
KLR	**Kul'dur**	**15.27**	**327**	LR	LR	06 06 37.4	
	comp=Z,115nm,20.9s,baz=210,slow=34						
H11N2	**WAKE ISLAND Hy**	**26.09**	**125**	T	T	06 30 01.7	
	baz=317,slow=74,SNR=1284						
H11N1	**WAKE ISLAND Hy**	**26.10**	**125**	T	T	06 30 03.6	
	baz=317,slow=74,SNR=432						
H11N3	**WAKE ISLAND Hy**	**26.10**	**125**	T	T	06 30 06.0	
	baz=317,slow=74,SNR=520						
H11S1	**WAKE ISLAND Hy**	**26.85**	**128**	T	T	06 30 59.1	
	baz=318,slow=76,SNR=94						
H11S3	**WAKE ISLAND Hy**	**26.86**	**128**	T	T	06 31 00.8	
	baz=318,slow=76,SNR=105						
H11S2	**WAKE ISLAND Hy**	**26.87**	**128**	T	T	06 31 02.1	
	baz=318,slow=76,SNR=81						
MKAR	**Makanchi Array**	**46.20**	**303**	P	**P**	**06 06 10.1**	**+3.8**
	0.6nm,0.7s,baz=76,slow=10,SNR=5.1						
ILAR	**Eielson Array**	**48.11**	**32**	P	**P**	**06 06 19.9**	**-1.0**
	0.5nm,0.9s,baz=263,slow=7.2,SNR=2.4						
WRA	**Warramunga Arr**	**57.54**	**191**	P	**P**	**06 07 29.7**	**-1.2**
	0.5nm,0.4s,baz=9.6,slow=7.1,SNR=14						
ASAR	**Alice Springs**	**61.26**	**191**	P	**P**	**06 07 56.3**	**-0.2**
	0.4nm,0.7s,baz=13,slow=12,SNR=4.2						
H03N2	**Juan Fernandez**	**144.55**	**97**	T	T	08 58 17.5	
	baz=291,slow=76,SNR=13						
H03N3	**Juan Fernandez**	**144.56**	**97**	T	T	08 58 18.6	
	baz=291,slow=76,SNR=9.1						
H03N1	**Juan Fernandez**	**144.57**	**97**	T	T	08 58 18.7	
	baz=291,slow=76,SNR=9.0						

*ECX **06** 06:02:55.1±0.6, 32°.32N×115°.41W, h9km±2km, MD2.9, ML3.1, Fault plane solution: NP1:φs150.00000°, δ28.00000°, λ177.00000°.*
*MEX **06** 06:02:56.8±0.6, 32°.49N×115°.20W, h20km±6km, MD3.5*

ISC 06 06:02:55.9±1.0, 32°.31N±0°.04×115°.43W±0°.03, h14km±7km, n16, σ0°99/26, 7C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**43**	⇓*e*P	**Pg**	**06 02 59.4**	**-0.3**
CPBX				⇓*e*		06 03 03.3	
CPBX				IAML		06 03 03.3	
	comp=N,14μm,0.3s						
CPBX				⇑*e*		06 03 05.1	
CPBX				IAML		06 03 05.1	
	comp=E,16μm,0.6s						
MBIG	**Mexicali**	**0.21**	**63**	*e*P	**Pg**	**06 02 59.3**	**-1.3**
MBIG				*i* S	**Sg**	**06 03 01.9**	**-1.9**
MBIG	**Mexicali**	**0.21**	**63**	⇑*i*P	**Pg**	**06 03 01.1**	**+0.4**
MBIG				*e*S	**Sg**	**06 03 05.8**	**+1.9**
CTLX	**Tlaxcala, TLX**	**0.29**	**55**	⇑*i*P	**Pg**	**06 03 02.8**	**+0.9**
GUVIX	**Guadalupe Vict**	**0.29**	**91**	⇑*i*P	**Pb**	**06 03 02.8**	**-0.1**
GUVIX				*e*S	**Sb**	**06 03 08.1**	**+0.4**
POT2	**Potabilizadora**	**0.32**	**6**	⇓*e*P	**Pg**	**06 03 03.3**	**+0.8**
UABX	**UABC, Campus M**	**0.32**	**358**	⇓*i*P	**Pb**	**06 03 03.4**	**0.0**
UABX				*e*S	**Sb**	**06 03 09.3**	**+0.8**
ICBC	**Inst. de Cultu**	**0.36**	**354**	⇑*i*P	**Pb**	**06 03 04.0**	**0.0**
ICBC				*e*S	**Sb**	**06 03 10.2**	**+0.7**
CEA0	**Mexicali**	**0.40**	**329**	*e*P	**Pb**	**06 03 04.3**	**-0.4**
YUCAX	**Ej. Yucatɨn**	**0.41**	**43**	⇓*i*P	**Pb**	**06 03 04.8**	**-0.1**
YUCAX				*e*S	**Sb**	**06 03 11.3**	**+0.4**
PESCX	**Ej. Pescaderos**	**0.41**	**72**	⇑*i*P	**Pb**	**06 03 04.5**	**-0.3**
EMSC	**East Mesa**	**0.57**	**41**	⇑*i*P	**Pb**	**06 03 07.5**	**-0.1**
EMSC				*e*S	**Sb**	**06 03 16.3**	**+0.8**
COA	**Coachella**	**0.61**	**25**	⇓*i*P	**Pb**	**06 03 08.0**	**-0.3**
COA				*i* S	**Sn**	**06 03 17.4**	**-2.3**
TJIG	**Tijuana**	**1.06**	**277**	*e*P	**Pg**	**06 03 16.2**	**-0.2**
TJIG				*e*S	**Sg**	**06 03 30.3**	**0.0**
SPIG	**San Pedro Mart**	**1.26**	**182**	*e*P	**Pn**	**06 03 19.0**	**-0.4**
SPIG				*e*S	**Sb**	**06 03 36.7**	**+0.9**
SFX	**San Felipe**	**1.36**	**159**	*e*P	**Pn**	**06 03 21.6**	**+1.2**

IDC 06 06:05:48.4±8.0, 29°.15N×81°.65E, h0km, mb3.1/3, mb1 3.3/4, mb1mx2.8/52, mbtmp3.2/4, ML3.0/1, MS3.8/3, Ms1 3.8/3, ms1mx3.0/30, Error ellipse: s-maj=335.1km s-min=31.1km az=71.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.62**	**1**	P	P	06 09 56.8	+0.4
	0.1nm,0.3s,baz=189,slow=11,SNR=4.9						
KURBB	**Kurchatov Arra**	**21.58**	**355**	P	P	06 10 38.9	-0.5
	0.2nm,0.5s,baz=175,slow=10,SNR=4.5						
ZALV	**Zalesovo Beam**	**24.89**	**4**	P	P	06 11 12.5	-0.2
	0.3nm,0.5s,baz=191,slow=15,SNR=1.4						
ZALV				LR	LR	06 23 04.8	
	comp=Z,80nm,21.7s,baz=74,slow=42						
JOW	**Kunigami**	**41.03**	**82**	LR	LR	06 31 17.9	
	comp=Z,204nm,20.0s,baz=289,slow=37						
AKASG	**Malin Array Be**	**44.50**	**314**	LR	LR	06 35 40.1	
	comp=Z,184nm,21.8s,baz=6.0,slow=40						
WRA	**Warramunga Arr**	**70.46**	**127**	P	P	06 17 05.0	+0.1
	0.3nm,0.8s,baz=322,slow=6.5,SNR=1.5						

*TEH **06** 06:10:57.6, 29°.16N×51°.34E, h9km, ML3.7*
*IDC **06** 06:10:58.7±2.4, 29°.41N×51°.24E, h0km, mb3.5/6, mb1 3.5/6, mb1mx3.1/58, mbtmp3.5/6, Error ellipse: s-maj=63.1km s-min=25.4km az=152.0*
*DSN **06** 06:11:00.3±1.4, 28°.60N×51°.14E, h10km, ML3.9/6, Error ellipse: s-maj=37.5km s-min=12.0km az=30.0*
*OMAN **06** 06:11:03.5±0.5, 28°.86N×51°.44E, h30km, mb5.2/4, ml4.1/2, ms2.9/1, Error ellipse: s-maj=22.5km s-min=8.9km az=227.0*

ISC 06 06:10:59.2±0.7, 29°.13N±0°.04×51°.36E±0°.04, h17km, n67, σ1°39/79, mb3.4/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.27**	**192**	*e*Pn	**Pg**	**06 11 03.3**	**-1.8**
KAZ1	**Kazerun**	**0.56**	**26**	*e*		06 11 20.7	
	comp=Z,78μm,0.4s						
KAZ1				*e*Pg	**Pg**	**06 11 07.2**	**-3.1**
SHI	**Shiraz**	**1.13**	**63**	*e*Pg	**Pb**	**06 11 19.6**	**-0.8**
SHI				*e*Sg	**Sb**	**06 11 35.0**	**+0.1**
SHI				*e*		06 11 45.6	
	comp=Z,8μm,0.5s						
QIR1	**Qir**	**1.61**	**113**	*e*Pg	**Pb**	**06 11 29.5**	**+0.9**
QIR1				*e*Sg	**Sg**	**06 11 53.7**	**+2.4**
GHIR	**Ghir-Karzin**	**1.66**	**120**	*e*Pg	**Pn**	**06 11 28.5**	**+0.9**
ABEH	**Behbahan**	**1.75**	**327**	*e*Pg	**Pb**	**06 11 31.0**	**0.0**
KLNJ	**Kolanjah**	**1.89**	**6**	*e*Pn	**Pn**	**06 11 31.8**	**+0.8**
KLNJ				*e*		06 12 09.6	
	comp=Z,7μm,0.6s						
JHRM	**Jahrom**	**2.04**	**107**	*e*Pn	**Pb**	**06 11 35.0**	**-0.9**
JHRM				*e*		06 12 16.5	
	comp=Z,20μm,0.5s						
IBRJ	**Brojen**	**2.77**	**358**	*e*Pn	**Pn**	**06 11 44.6**	**+1.5**
IRAM	**Ramesheh**	**2.82**	**18**	*e*Pn	**Pn**	**06 11 44.8**	**+1.1**
SHK1	**Shahrekord**	**3.22**	**353**	*e*Pn	**Pn**	**06 11 49.5**	**+0.3**
SHMA	**Al-Shehemyia**	**3.28**	**186**	P	**Pn**	**06 11 51.9**	**+2.2**
IPIR	**Pirpir**	**3.57**	**354**	*e*Pn	**Pn**	**06 11 55.4**	**+1.3**
IMEH	**Mehriz**	**3.61**	**50**	*e*Pn	**Pn**	**06 11 57.0**	**+2.4**
IZEF	**Zefreh**	**3.85**	**12**	*e*Pn	**Pn**	**06 11 58.5**	**+0.6**
NASN	**Na'in**	**3.87**	**18**	*e*Pn	**Pn**	**06 11 59.2**	**+1.0**
ICHK	**Chekchek**	**4.07**	**39**	*e*Pn	**Pn**	**06 12 02.3**	**+1.4**
IKLH	**Kolahrood**	**4.18**	**3**	*e*Pn	**Pn**	**06 12 03.4**	**+0.9**
YZKH	**Yazd**	**4.28**	**40**	*e*Pn	**Pn**	**06 12 05.3**	**+1.6**
TRNA	**Turayna**	**4.38**	**182**	P	**Pn**	**06 12 06.6**	**+1.7**
ANAR	**Anarak**	**4.53**	**26**	*e*Pn	**Pn**	**06 12 08.3**	**+1.1**
KHGB	**Koh Gabri**	**4.62**	**73**	*e*Pn	**Pn**	**06 12 10.3**	**+1.8**
KHMZ	**Khomeyn**	**4.75**	**346**	*e*Pn	**Pn**	**06 12 10.8**	**+0.5**
KRBR	**Kerman**	**4.78**	**78**	*e*Pn	**Pn**	**06 12 12.2**	**+1.4**
KRSH	**Karshahi**	**4.87**	**8**	*e*Pn	**Pn**	**06 12 13.3**	**+1.4**
BMDN	**Meydan**	**5.02**	**335**	*e*Pn	**Pn**	**06 12 15.8**	**+1.8**
ISFB	**Sefidab**	**5.26**	**8**	*e*Pn	**Pn**	**06 12 18.5**	**+1.3**
GHVR	**GHOM**	**5.34**	**359**	*e*Pn	**Pn**	**06 12 18.8**	**+0.6**
IDOB	**Doab**	**5.38**	**330**	*e*Pn	**Pn**	**06 12 21.0**	**+2.1**
BANOM	**Banah**	**5.42**	**125**	*e*Pn	**Pn**	**06 12 20.5**	**+1.1**
BANOM	**Banah**	**5.42**	**125**	P	**Pn**	**06 12 19.8**	**+0.4**
BANOM				S	**Sn**	**06 13 22.9**	**+1.4**
BANOM	**Banah**	**5.42**	**125**	P	**Pn**	**06 12 18.9**	**-0.5**
BANOM				S	**Sn**	**06 13 22.8**	**+1.3**
CHMN	**Cheshme madani**	**5.44**	**81**	*e*Pn	**Pn**	**06 12 22.6**	**+2.8**
CHMN				*e*		06 14 14.0	
	comp=Z,235nm,1.1s						
ASAO	**Ashtian**	**5.52**	**348**	*e*Pn	**Pn**	**06 12 21.9**	**+1.0**
NAZ	**Nazwa, Dubai**	**5.63**	**136**	P	**Pn**	**06 12 22.9**	**+0.8**
NAZ				P	**Pn**	**06 12 22.9**	**+0.8**
NAZ				S	**Sn**	**06 13 26.6**	**+0.2**
NAZ				S	**Sn**	**06 13 26.6**	**+0.2**
NAZ	**Nazwa, Dubai**	**5.63**	**136**	P	**Pn**	**06 12 21.

OK029	Liberty Lake	1.19	124		Pn	06 19 48.2 -0.7
BLOK	Blackwell	1.20	76		Pn	06 19 48.5 -0.5
OK025	Westminster Rd	1.40	129		Pn	06 19 51.7 0.0
OKCFA	Oklahoma City	1.45	137		Pn	06 19 52.4 +0.1
OKCSW	OKLAHOMA CITY	1.46	137		Pn	06 19 52.6 0.0
OK031	S. Brethren Rd	1.57	109		Pn	06 19 54.8 +0.8
FNO	Franklin	1.59	139		Pn	06 19 54.9 +0.5
QUOK	Quay	1.61	100		Pn	06 19 55.3 +0.7
OK030	Cody Creek RV	1.62	109		Pn	06 19 55.6 +0.9
OK034	N. Norfolk Rd.	1.65	106		Pn	06 19 55.9 +0.8
WMOK	Wichita Mounta	1.74	183		Pn	06 19 56.2 -0.2
WMOK	Wichita Mounta	1.74	183	P	Pn	06 19 55.9 -0.5
	baz=2.8,SNR=99					
WMOK				S	Sn	06 20 19.4 +0.7
	baz=2.8					
R32A	Long Quarter,	1.94	359		Pn	06 20 00.1 +0.9
W35A	Tecumseh	1.97	132		Pn	06 19 60.0 +0.5
X34A	Smith Ranch, M	1.99	160		Pn	06 20 01.1 +1.2
TUL1	Leonard	2.39	103	Pn	Pn	06 20 05.9 +0.5
TUL1				IAmb_Lg		06 20 46.0
	comp=Z,446nm,0.9s					
TUL1	Leonard	2.39	103	P	Pn	06 20 05.8 +0.5
	baz=284,SNR=86					
TUL1				Sb	Sb	06 20 40.2 +1.3
	baz=284					
CBKS	Cedar Bluff	2.48	340		Pn	06 20 07.7 +1.1
CBKS	Cedar Bluff	2.48	340	P	Pn	06 20 07.1 +0.5
	baz=160,SNR=44					
CBKS				S	Sn	06 20 38.0 +1.0
	baz=160					
LOOK	Love County	2.76	153		Pn	06 20 11.2 +0.8
LOOK				IAmb_Lg		06 20 55.9
	comp=Z,234nm,0.8s					
AMTX	Amarillo	2.92	238		Pn	06 20 13.4 +0.7
AMTX				IAmb_Lg		06 21 00.8
	comp=Z,325nm,0.8s					
AMTX	Amarillo	2.92	238	P	Pn	06 20 13.2 +0.4
	baz=56					
AMTX				Sb	Sb	06 20 55.9 +1.6
	baz=56					
KSU1	Kansas State U	3.08	31	Pn	Pn	06 20 15.9 +1.1
KSU1				IAmb_Lg		06 21 09.4
	comp=Z,188nm,0.9s					
KSU1	Kansas State U	3.08	31	P	Pn	06 20 15.3 +0.4
	baz=212,SNR=12					
KSU1				S	Sn	06 20 53.3 +1.5
	baz=212					
X37A	Clayton	3.28	124	Pn	Pn	06 20 18.0 +0.4
X37A				IAmb_Lg		06 21 15.4
	comp=Z,367nm,0.8s					
U38A	Gravette	3.45	89	IAmb_Lg		06 21 22.7
	comp=Z,236nm,0.9s					
HHAR	Hobbs	3.82	92		Pn	06 20 25.9 +1.0
ABTX	Abilene, Hawle	3.93	192		Pn	06 20 26.4 -0.2
ABTX	Abilene, Hawle	3.93	192	P	Pn	06 20 26.3 -0.2
	baz=11,SNR=18					
KSCO	Kaye Shedlock'	4.03	310	IAmb_Lg		06 21 40.0
	comp=Z,254nm,0.8s					
KSCO	Kaye Shedlock'	4.03	310	P	Pn	06 20 27.6 -0.4
	baz=128,SNR=26					
KSCO				Sb	Sb	06 21 29.4 +3.3
	baz=128					
W39A	Magazine	4.17	106	P	Pn	06 20 29.7 0.0
	baz=289,SNR=14					
W39A				Sb	Sb	06 21 35.0 +5.1
	baz=289					
MSTX	Muleshoe	4.19	235		Pn	06 20 30.1 -0.1
MSTX				IAmb_Lg		06 21 42.5
	comp=Z,168nm,0.8s					
MSTX	Muleshoe	4.19	235	P	Pn	06 20 29.9 -0.2
	baz=52,SNR=5.8					
MSTX				Sb	Sb	06 21 33.4 +2.7
	baz=52					
N33A	J Bar K, Exete	4.36	12	IAmb_Lg		06 21 55.5
	comp=Z,159nm,0.7s					
Z38A	Mt. Pleasant	4.41	136	Pn	Pn	06 20 33.5 +0.4
Z38A				IAmb_Lg		06 21 53.6
	comp=Z,213nm,0.7s					
S39A	Bolivar	4.44	73	IAmb_Lg		06 21 47.3
	comp=Z,119nm,0.8s					
MIAR	Mount Ida	4.58	113		Pn	06 20 36.1 +0.7
MIAR				IAmb_Lg		06 22 03.4
	comp=Z,257nm,1.3s					
MIAR	Mount Ida	4.58	113	P	Pn	06 20 35.0 -0.3
	baz=296,SNR=8.0					
MIAR				S	Sn	06 21 28.9 +0.2
	baz=296					
WHTX	Lake Whitney,	4.59	167		Pn	06 20 35.5 0.0
WHTX	Lake Whitney,	4.59	167	P	Pn	06 20 35.1 -0.4
	baz=348,SNR=6.1					
T25A	Trinidad	4.66	280		Pn	06 20 36.3 -0.4
T25A				IAmb_Lg		06 22 02.9
	comp=Z,209nm,0.8s					
T25A	Trinidad	4.66	280	P	Pn	06 20 36.0 -0.7
	baz=97,SNR=14					
T25A				Sb	Sb	06 21 47.9 +3.7
	baz=97					
U40A	Yellville	4.69	90	IAmb_Lg		06 21 54.0
	comp=Z,158nm,0.7s					
U40A	Yellville	4.69	90	P	Pn	06 20 36.8 -0.1
	baz=273					
U40A				S	Sn	06 21 30.6 -0.8
	baz=273					
BGNE	Belgrade	4.94	5	IAmb_Lg		06 22 13.4
	comp=Z,238nm,0.8s					
BGNE	Belgrade	4.94	5	P	Pn	06 20 40.4 0.0
	baz=185,SNR=11					
BGNE				S	Sn	06 21 38.1 +0.5
	baz=185					
N35A	Tabor	4.97	27		Pn	06 20 41.5 +0.6
237A	Washetta, Mont	5.05	151	IAmb_Lg		06 22 20.3
	comp=Z,242nm,1.0s					
P38A	Dawn	5.13	51	Pn	Pn	06 20 43.7 +0.8
X40A	Basin Creek Fa	5.16	111	IAmb_Lg		06 22 20.5
	comp=Z,200nm,0.7s					
X40A	Basin Creek Fa	5.16	111	P	Pn	06 20 43.4 +0.1
	baz=294					
OGNE	Ogallala	5.18	330		Pn	06 20 44.5 +0.8
OGNE				IAmb_Lg		06 22 11.1
	comp=Z,235nm,0.7s					
OGNE	Ogallala	5.18	330	P	Pn	06 20 43.9 +0.1
	baz=149,SNR=14					
OGNE				S	Sn	06 21 42.7 -0.9
	baz=149					
WHAR	Wooly Hollow	5.31	101	IAmb_Lg		06 22 26.4
	comp=Z,150nm,0.8s					
FCAR	Ozark Folk Cen	5.32	94	IAmb_Lg		06 22 15.9
	comp=Z,120nm,0.8s					
WLAR	White Oak Lake	5.34	120	IAmb_Lg		06 22 30.0
	comp=Z,157nm,0.9s					
W41B	Gary Mavity, V	5.38	102	IAmb_Lg		06 22 29.7
	comp=Z,152nm,0.8s					
W41B	Gary Mavity, V	5.38	102	P	Pn	06 20 46.4 +0.1
	baz=286					
W41B				S	Sn	06 21 47.1 -1.3
	baz=286					
R40A	Maddies Statio	5.41	69	IAmb_Lg		06 22 26.0
	comp=Z,93nm,0.7s					
SDCO	Great Sand Dun	5.61	285	P	Pn	06 20 49.0 -0.8
	baz=101,SNR=21					
Q24A	Divide	5.71	298	IAmb_Lg		06 22 22.8
	comp=Z,105nm,0.8s					
Q24A	Divide	5.71	298	P	Pn	06 20 49.7 -1.4
	baz=114					
Q24A				S	Sn	06 21 55.7 -1.3
	baz=114					
435B	Jarrell	5.75	171	IAmb_Lg		06 22 38.9
	comp=Z,122nm,0.9s					
435B	Jarrell	5.75	171	P	Pn	06 20 51.1 -0.4
	baz=351					
Z41A	Richland Creek	5.79	122	IAmb_Lg		06 22 39.7
	comp=Z,145nm,0.9s					
P40A	Paris	6.05	58	IAmb_Lg		06 22 43.4
	comp=Z,179nm,0.7s					
N38A	Joes South For	6.05	43		Pn	06 20 55.9 +0.3
JCT	Junction City	6.06	189		Pn	06 20 55.0 -0.8
JCT				IAmb_Lg		06 22 44.7
	comp=Z,139nm,0.8s					
JCT	Junction City	6.06	189	P	Pn	06 20 55.0 -0.8
	baz=8.6					
CCM	Cathedral Cave	6.12	73	Pn	Pn	06 20 57.8 +1.1
CCM				IAmb_Lg		06 22 43.5
	comp=Z,160nm,0.9s					
CCM	Cathedral Cave	6.12	73	P	Pn	06 20 56.9 +0.2
	baz=257					
K31A	O'Neill	6.14	359	IAmb_Lg		06 22 45.5
	comp=Z,129nm,0.8s					
CCAR	Cane Creek	6.20	112	Pn	Pn	06 20 58.5 +0.9
CCAR				IAmb_Lg		06 22 59.9
	comp=Z,131nm,1.0s					
ISCO	Idaho Springs	6.40	303		Pn	06 20 59.9 -0.8
ISCO	Idaho Springs	6.40	303	P	Pn	06 21 00.1 -0.6
	baz=119					
ANMO	Albuquerque	6.52	259	Pn	Pn	06 21 03.0 +0.7
	comp=Z,0.5nm,0.3s,baz=81,slow=16,SNR=14					
ANMO				Pg	Pb	06 21 21.3 +1.7
	comp=Z,1.2nm,0.3s,baz=80,slow=20,SNR=14					
ANMO				Lg	Lg	06 22 46.9
	comp=Z,4.0nm,0.3s,baz=338,slow=19,SNR=6.0					
ANMO	Albuquerque	6.52	259		Pn	06 21 02.6 +0.3
ANMO	Albuquerque	6.52	259	P	Pn	06 21 02.0 -0.3
	baz=74					
PBMO	Poplar Bluff	6.63	85	IAmb_Lg		06 23 01.5
	comp=Z,116nm,0.7s					
S22A	4UR Ranch, Cre	6.64	283		Pn	06 21 04.8 +0.8
FVM	French Village	6.74	75	IAmb_Lg		06 23 01.7
	comp=Z,127nm,0.9s					
SCIA	State Center	6.88	36	IAmb_Lg		06 23 11.5
	comp=Z,126nm,0.7s					
BNM	Barren Site	6.91	253		Pn	06 21 07.6 -0.1
SLM	Saint Louis	7.03	70	IAmb_Lg		06 23 10.2
	comp=Z,85nm,0.7s					
143A	Socs Landing,	7.07	120	IAmb_Lg		06 23 22.1
	comp=Z,88nm,0.8s					
PHWY	Pilot Hill	7.16	314	IAmb_Lg		06 23 12.4
	comp=Z,99nm,0.9s					
N23A	Red Feather La	7.20	310		Pn	06 21 11.7 +0.1
N23A	Red Feather La	7.20	310	P	Pn	06 21 11.3 -0.3
	baz=126					
PVMO	Portageville	7.23	88	IAmb_Lg		06 23 19.7
	comp=Z,128nm,0.7s					
PENMO	Penman	7.28	88	IAmb_Lg		06 23 32.1
	comp=Z,123nm,0.7s					
MNTX	Cornudas Mount	7.33	231		Pn	06 21 13.3 0.0
MNTX	Cornudas Mount	7.33	231	P	Pn	06 21 12.7 -0.6
	baz=48					
ECSD	EROS Data Cent	7.41	12	Pn	Pn	06 21 12.7 -1.6
ECSD	EROS Data Cent	7.41	12	P	Pn	06 21 12.3 -2.0
	baz=193,SNR=7.4					
HALT	Halls	7.56	92	IAmb_Lg		06 23 30.6
	comp=Z,92nm,0.8s					
S44A	Carbondale	7.62	78	IAmb_Lg		06 23 30.6
	comp=Z,105nm,0.9s					
735A	Kenedy	7.64	174	IAmb_Lg		06 23 39.2
	comp=Z,71nm,1.1s					
K38A	Parkersburg	7.66	35	IAmb_Lg		06 23 36.8
	comp=Z,131nm,0.8s					
SUSD	Miller	7.96	359	IAmb_Lg		06 23 47.2
	comp=Z,105nm,1.1s					
SUSD	Miller	7.96	359	P	Pn	06 21 20.7 -1.1
	baz=178					
833A	Chaparral WMA,	8.15	185	P	Pn	06 21 24.0 -0.5
	baz=4.1					
TXAR	Lajitas Array	8.27	212	Pn	Pn	06 21 26.5 +0.3
	comp=Z,0.7nm,0.3s,baz=42,slow=11,SNR=56					
TXAR				Lg	Lg	06 23 44.8
	comp=Z,5.0nm,0.3s,baz=21,slow=31,SNR=7.0					
TXAR	Lajitas Array	8.27	212		Pn	06 21 26.4 +0.1
HDIL	Hopedale	8.40	58		Pn	06 21 28.8 +1.0
HDIL	Hopedale	8.40	58	P	Pn	06 21 28.0 +0.2
	baz=244					
RWWY	Rawlins	8.44	311	IAmb_Lg		06 24 09.0
	comp=Z,64nm,0.8s					
121A	Cookes Peak, D	8.49	245	P	Pn	06 21 28.1 -1.2
	baz=60					
I37A	Lemond, Waseca	8.53	27	IAmb_Lg		06 24 07.8
	comp=Z,82nm,1.0s					
K22A	Casper	8.65	318	IAmb_Lg		06 24 12.2
	comp=Z,120nm,1.1s					
RSSD	Black Hills	8.66	333	Pn	Pn	06 21 32.5 +0.9
RSSD				IAmb_Lg		06 24 01.1
	comp=Z,50nm,0.9s					
RSSD	Black Hills	8.66	333	P	Pn	06 21 32.1 +0.5
	baz=150					
WVT	Waverly	8.76	89	P	Pn	06 21 32.0 -0.7
	baz=275					
146A	Union	8.80	113	IAmb_Lg		06 24 22.5
	comp=Z,49nm,1.0s					
JFWS	Jewell Farm	9.13	43	IAmb_Lg		06 24 21.3
	comp=Z,87nm,0.8s					
JFWS	Jewell Farm	9.13	43	P	Pn	06 21 37.8 0.0
	baz=228					
I40A	Norwalk	9.62	37	IAmb_Lg		06 24 35.4
	comp=Z,60nm,1.0s					
SPMN	Marine on St.	9.80	25	P	Pn	06 21 46.3 -0.7
	baz=209					
SFIN	Lafayette	9.88	63	P	Pn	06 21 48.4 +0.4
	baz=250					
WCI	Wyandotte Cave	10.01	76	P	Pn	06 21 50.9 +1.1
	baz=264					
PD31	Pinedale Array	10.48	310		Pn	06 21 56.6 0.0
PDAR	Pinedale Array	10.48	310	Pn	Pn	06 21 55.5 -1.1
	comp=Z,0.2nm,0.3s,baz=117,slow=15,SNR=7.2					
PDAR				Lg	Lg	06 24 47.6
	comp=Z,1.1nm,0.3s,baz=105,slow=35,SNR=4.1					
CPCT	Cooper Cave	11.51	91		Pn	06 22 11.1 +0.6
V51A	Loudon	11.60	89		Pn	06 22 12.8 +1.1
LAO	LASA Array	11.66	333		Pn	06 22 12.5 0.0
LAO	LASA Array	11.66	333	P	Pn	06 22 11.8 -0.7
	baz=148					
TKL	Tuckaleechee C	12.08	89	Pn	Pn	06 22 17.9 -0.3
	comp=Z,0.9nm,0.3s,baz=236,slow=8.6,SNR=9.5					
TKL				Lg	Lg	06 25 42.0
	comp=Z,1.9nm,0.3s,baz=177,slow=21,SNR=6.4					
S51A	Beattyville	12.10	80		Pn	06 22 17.9 -0.6
DGMT	Dagmar	12.65	343	P	Pn	06 22 24.8 -1.3
	baz=159					
N51A	Ashland	13.47	66		Pn	06 22 36.6 -0.6
YKA	Yellowknife Ar	27.86	344	P	P	06 25 15.1 -0.5
	comp=Z,0.3nm,0.7s,baz=146,slow=8.6,SNR=3.9					
ILAR	Eielson Array	40.10	330	P	P	06 27 01.0 -0.5
	comp=Z,0.4nm,0.8s,baz=110,slow=7.8,SNR=3.7					

*IDC **06** 06:26:26.4±1.6, 3°.06S×128°.45E, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.4/46, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=44.2km s-min=25.6km az=86.0*
*DJA **06** 06:26:31.2±0.3, 3°.5±2°.×12°.9E±°, h10km, M3.6/8, MLv3.6/8*
ISC 06 06:26:32.2±0.9,**3°.05S**±0°.05×**128°.74E**±0°.05,**h35km**,**n11**, σ1°**41**/15,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.35	148	P	Pn	06 26 41.4	+0.6
MSAI				S	Sn	06 26 47.0	+0.3
AAI	Ambon	0.84	221	P	Pn	06 26 49.0	+1.5
AAI				S	Sn	06 27 01.1	+2.4
LBMI	Labuha	2.70	333	P	Pn	06 27 13.8	+0.6
LBMI				S	Sn	06 27 45.4	+0.8
SANI	Sanana	2.93	290	P	Pn	06 27 17.3	+1.0
SWI	Sorong	3.32	49	P	Pn	06 27 22.8	+1.1
SIJI	Sorong	3.32	49	Pn	Pn	06 27 23.0	+1.2
	18nm,0.3s,baz=121,slow=23,SNR=18						
SIJI				Sn	Sn	06 28 01.3	+1.2
	5.4nm,0.3s,baz=140,slow=22,SNR=7.7						
FAKI	Fak Fak	3.50	88	P	Pn	06 27 26.1	+1.9
FITZ	Fitzroy Crossi	15.26	191	Pn	Pn	06 30 04.0	-1.2
	0.1nm,0.3s,baz=8.1,slow=7.1,SNR=1.2						
WRA	Warramunga Arr	17.66	162	P	P	06 30 35.1	-1.1
	0.5nm,0.3s,baz=343,slow=12,SNR=40						
ASAR	Alice Springs	21.09	167	P	P	06 31 12.8	-1.0
	1.6nm,0.3s,baz=348,slow=12,SNR=29						
MKAR	Makanchi Array	64.26	326	P	P	06 37 02.5	-1.4
	0.5nm,0.8s,baz=119,slow=8.4,SNR=3.4						

KRSC 06 06:39:11.5±1.5,**50°.40N**×**157°.05E**,**h44**km±18km,**ML3.8**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.66	296	eP	Pn	06 39 24.8	+0.4
SKR				eS	Sn	06 39 33.7	0.0
PAU	Pauzhetka	1.08	352	i P	Pn	06 39 32.0	+1.8
PAU				eS	Sn	06 39 45.9	+1.9
KDTR	Khodutka, Kamc	1.56	24	eP	Pn	06 39 38.8	+2.2
KDTR				eS	Sn	06 39 58.0	+2.4
MIPR	Malaya Ipel'ka	1.89	355	eP	Pn	06 39 43.1	+1.8
ASAK	Asacha	2.06	15	eP	Pn	06 39 46.2	+2.6
ASAK				eS	Sn	06 40 11.3	+3.2
RUS	Russkaya	2.23	24	eP	Pn	06 39 48.1	+2.1
RUS				eS	Sn	06 40 14.1	+1.8
GRL	Gorelyy	2.25	16	eP	Pn	06 39 49.5	+3.2
GRL				eS	Sn	06 40 16.3	+3.4
KRMR	Karymshinskiy	2.53	15	eP	Pn	06 39 51.7	+1.7
PET	Petropavlovsk	2.81	20	eS	Sn	06 40 31.1	+4.6
DALK	Dalny	2.84	21	eP	Pn	06 39 57.3	+3.0
DALK				eS	Sn	06 40 31.1	+3.9
UGLR	Uglovaya	3.02	21	eP	Pn	06 40 01.3	+4.4
AVH	Avacha	3.06	19	eP	Pn	06 40 02.1	+4.8
KOK	Koryaka	3.06	18	eP	Pn	06 40 01.7	+4.3
SMAR	Somma	3.07	20	eP	Pn	06 40 01.9	+4.3
KRER	Koryakskii	3.10	19	eP	Pn	06 40 02.9	+4.9
SDLR	Sedlovina	3.10	21	eP	Pn	06 40 01.2	+3.2
SPN	Mys Shipunski	3.28	33	eP	Pn	06 40 03.1	+2.9
SPN				eS	Sn	06 40 41.1	+3.2
GNL	Ganaly	3.35	9	eP	Pn	06 40 05.3	+3.9
MKZ	Mys Kozlova	5.05	33	eP	Pn	06 40 27.4	+2.8
TUMR	Tumrok	5.24	20	P	Pn	06 40 32.4	+5.1
KBTR	Krutoberegovo	6.77	28	P	Pn	06 40 51.9	+3.8

*ISN **06** 06:41:14.9±1.6, 32°.38N×47°.86E, h0km±33km, ML3.1*
*TEH **06** 06:41:21.2, 32°.68N×47°.79E, h11km, ML3.0*
ISC 06 06:41:22.4±1.4,**32°.59N**±0°.06×**47°.75E**±0°.03,**h7**km±11km, **n28**, σ1°**09**/22,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.40	283	ePg	Pg	06 41 29.6	-0.6
DHL1				eSg	Sg	06 41 37.2	+1.7
IKFM	Kafar-mosalman	0.94	5	ePg	Pg	06 41 37.3	-3.0
IDOB	Doab	1.25	17	ePg	Pg	06 41 43.5	-2.8
IDOB				eSg	Sg	06 42 00.8	-1.7
BMDN	Meydan	1.41	40	ePg	Pn	06 41 46.5	-2.1
BMDN				e		06 41 49.4	
	comp=Z,3μm,0.2s						
BMDN				eSg	Sg	06 42 05.8	-1.9
IBDR	Badra	1.61	289	ePn	Pn	06 41 49.0	-2.2
IBDR				eSn	Sn	06 42 13.0	+0.7
IBDR				AML	AML	06 42 18.4	
	comp=N,98nm,0.5s						
IBDR				AML	AML	06 42 33.2	
	comp=E,102nm,0.6s						
RAFI	Al-Rafai	1.63	238	ePn	Pn	06 41 46.0	-5.5
RAFI				eSn	Sn	06 42 11.0	-1.7
RAFI				AML	AML	06 42 25.2	
	comp=E,387nm,0.4s						
KCHF	Cheshme Sefid,	1.78	341	ePg	Pn	06 41 53.7	0.0
KCHF				e		06 42 21.5	
	comp=Z,1μm,0.4s						
KER	Kermanshah	1.86	344	ePg	Pn	06 41 55.5	+0.7
IGHG	Ghaleghazi	1.99	331	ePn	Pn	06 41 57.2	+0.5
KHMZ	Khomeyn	2.18	58	ePn	Pn	06 41 59.6	+0.3
IDHR	Dehrash	2.39	332	e		06 42 05.3	
	comp=Z,1μm,0.3s						
IDHR				ePn	Pn	06 42 01.1	-1.0
HAGD	Aghdareh	2.51	27	e		06 42 09.2	
	comp=Z,655nm,0.3s						
HAGD				ePn	Pn	06 42 03.1	-0.7
SNGE	Sanandaj	2.52	353	ePn	Pn	06 42 04.0	+0.1
IPIR	Pirpir	2.66	87	e		06 42 53.5	
	comp=Z,340nm,0.5s						
IPIR				ePn	Pn	06 42 06.2	+0.3
ASAO	Ashtian	2.73	44	ePn	Pn	06 42 06.7	-0.1
BHD	Baghdad	2.91	284	ePn	Pn	06 42 06.0	-3.0
BHD				eSn	Sn	06 42 44.0	-0.3
BHD				AML	AML	06 42 57.5	
	comp=E,201nm,0.4s						
IKLH	Kolahrood	3.30	76	e	Pg	06 42 27.5	+1.8
	comp=Z,210nm,0.2s						
IRAZ	Razeghan	3.34	32	ePn	Pn	06 42 14.5	-0.7
QABG	Abgarm-Qazvin	3.46	26	ePn	Pn	06 42 15.8	-1.1
GHVR	GHOM	3.51	57	ePn	Pn	06 42 16.6	-0.8
IQOM	Qom	3.57	50	ePn	Pn	06 42 17.2	-1.1
KLNJ	Kolanjah	3.63	115	ePn	Pn	06 42 19.3	-0.1
KLNJ				e		06 43 33.0	
	comp=Z,217nm,0.6s						
IZEF	Zefreh	3.88	84	ePn	Pn	06 42 22.5	-0.1
KRSH	Karshahi	3.93	68	ePn	Pn	06 42 22.4	-0.8
IKRK	Kirkuk	3.98	316	ePn	Pn	06 42 23.0	-0.8
IKRK				eSn	Sn	06 43 12.0	+1.3
IKRK				AML	AML	06 43 22.6	
	comp=N,54nm,0.5s						
IKRK				AML	AML	06 43 27.3	
	comp=E,55nm,0.4s						
IRAM	Ramesheh	4.01	100	ePn	Pn	06 42 24.0	-0.4
ISFB	Sefidab	4.15	64	ePn	Pn	06 42 25.4	-0.8
IANJ	Anjilo	5.87	59	ePn	Pn	06 42 48.8	-1.2

*NNC **06** 06:45:51.5±6.6, 37°.58N×71°.88E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=53.5km s-min=39.7km az=160.0*
*IDC **06** 06:45:54.2±8.5, 37°.36N×72°.16E, h164km±54km, mb2.9/1, mb1 3.0/6, mb1mx2.6/43, mbtmp3.5/6, Error ellipse: s-maj=78.1km s-min=57.1km az=166.0*
ISC 06 06:45:52.5±2.2,**37°.3N**±0°.2×**71°.9E**±0°.1,**h150**km,**n18**, σ0°**82**/22,**4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.97	15	P	Pn	06 47 06.1	+0.2
	SNR=89						
UCH	Uchtor	5.27	21	P	Pn	06 47 10.1	+0.2
	SNR=43						
EKS2	Erkin-Say	5.50	14	P	Pn	06 47 13.3	+0.7
	SNR=48						
AAK	Ala-Archa	5.64	20	P	Pn	06 47 15.1	+0.5
	5.0nm,0.3s,baz=184,slow=7.9,SNR=50						
AAK				S	Sn	06 48 19.1	+0.4
	0.8nm,0.3s,baz=330,slow=22,SNR=11						
AAK	Ala-Archa	5.64	20	P	Pn	06 47 15.2	+0.5
	SNR=17						
AAK	Ala-Archa	5.64	20	↑P	Pn	06 47 15.1	+0.5
	6.7nm,0.5s						
AAK				↑S	Sn	06 48 18.9	+0.2
	6.0nm,0.5s						
KBK	Karagaybulak	5.79	23	P	Pn	06 47 17.2	+0.7
	SNR=5.7						
KK08	Karatay Array	5.86	350	↓P	Pn	06 47 17.2	-0.1
	7.8nm,0.6s,baz=176,slow=12						
KK08				↑S	Sn	06 48 22.1	-1.5
	10nm,0.5s,baz=163,slow=22						
CHMS	Chumysh	6.05	20	P	Pn	06 47 20.4	+0.5
	SNR=7.8						
USP	Ospenovka	6.24	18	P	Pn	06 47 22.9	+0.6
	SNR=15						
TKM2	Tokmak 2	6.24	26	P	Pn	06 47 22.5	-0.1
	SNR=5.8						
TKM2	Tokmak 2	6.24	26	↓P	Pn	06 47 21.4	-1.2
	3.6nm,0.7s						
TKM2				↑S	Sn	06 48 33.6	+0.6
	0.9nm,0.4s						
MKAR	Makanchi Array	12.18	36	P	Pn	06 48 40.6	-0.3
	0.0nm,0.3s,baz=223,slow=13,SNR=3.7						
KURBB	Kurchatov Arra	14.09	18	P	P	06 49 07.2	-1.3
	0.0nm,0.3s,baz=201,slow=11,SNR=3

OK005	**Luther M Schoo**	**0.18**	**96**		**Pg**	**06 51 43.0**	**-0.3**
OKCFA	**Oklahoma City**	**0.26**	**187**		**Pg**	**06 51 44.4**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**0.27**	**185**	Pg	**Pg**	**06 51 44.6**	**-0.3**
FNO	**Franklin**	**0.41**	**179**	Pg	**Pg**	**06 51 47.3**	**-0.3**
OK031	**S. Brethren Rd**	**0.54**	**59**		**Pg**	**06 51 49.7**	**-0.4**
OK031				Sg	**Sg**	**06 51 57.1**	**-0.1**
OK030	**Cody Creek RV**	**0.57**	**63**	Sg	**Sg**	**06 51 57.7**	**-0.3**
OK034	**N. Norfolk Rd.**	**0.66**	**59**		**Pg**	**06 51 51.3**	**-1.0**
OK034				Sg	**Sg**	**06 52 00.7**	**-0.2**
W35A	**Tecumseh**	**0.68**	**140**	Pg	**Pg**	**06 51 52.0**	**-0.7**
W35A				Sg	**Sg**	**06 52 00.9**	**-0.6**
QUOK	**Quay**	**0.76**	**49**		**Pg**	**06 51 53.6**	**-0.6**
QUOK				Sg	**Sg**	**06 52 03.9**	**-0.1**
CROK	**Carrier**	**0.95**	**331**		**Pg**	**06 51 57.4**	**-0.4**
BLOK	**Blackwell**	**1.10**	**8**		**Pg**	**06 51 59.9**	**-0.7**
X34A	**Smith Ranch, M**	**1.12**	**198**	Pg	**Pg**	**06 52 00.5**	**-0.6**
X34A				Sg	**Sb**	**06 52 16.0**	**-0.2**
GC02	**Grant County #**	**1.23**	**343**	Pn	**Pg**	**06 52 02.4**	**-0.8**
GC02				Sn	**Sg**	**06 52 18.9**	**-0.3**
OK032	**Salt Plains WL**	**1.30**	**330**	Pn	**Pn**	**06 52 03.4**	**-0.8**
OK032				Sn	**Sg**	**06 52 21.5**	**+0.1**
KAN13	**South Haven SW**	**1.34**	**358**	Pn	**Pn**	**06 52 04.2**	**-0.5**
TUL1	**Leonard**	**1.34**	**79**	Pn	**Pn**	**06 52 03.0**	**-1.7**
TUL1	**Leonard**	**1.34**	**79**	P	**Pn**	**06 52 02.9**	**-1.7**
	baz=261						
TUL1				S	**Sg**	**06 52 21.1**	**-1.5**
	baz=261						
KAN14	**Manchester OK**	**1.36**	**341**	Pn	**Pn**	**06 52 04.5**	**-0.5**
KAN17	**Caldwell West**	**1.40**	**348**	Pn	**Pn**	**06 52 05.1**	**-0.4**
T35A	**Sooner Cattle**	**1.44**	**30**	Pn	**Pn**	**06 52 05.4**	**-0.7**
WMOK	**Wichita Mounta**	**1.46**	**231**	Pn	**Pn**	**06 52 05.8**	**-0.5**
WMOK	**Wichita Mounta**	**1.46**	**231**	P	**Pn**	**06 52 05.9**	**-0.5**
	baz=49						
WMOK				S	**Sb**	**06 52 25.3**	**-0.5**
	baz=49						
U32A	**Winter Ranch,**	**1.47**	**299**	Pn	**Pn**	**06 52 06.3**	**-0.2**
KAN05	**Bluff City Nor**	**1.48**	**346**		**Pn**	**06 52 06.8**	**+0.1**
KAN01	**Argonia South**	**1.50**	**349**		**Pn**	**06 52 07.0**	**0.0**
KAN01				IAmb_Lg		06 52 28.0	
	comp=Z,87nm,1.0s						
KAN10	**Anthony SW Sta**	**1.55**	**339**	Pn	**Pn**	**06 52 07.5**	**-0.1**
KAN06	**Argonia West S**	**1.61**	**347**		**Pn**	**06 52 08.9**	**+0.4**
KAN06				IAmb_Lg		06 52 32.3	
	comp=Z,83nm,0.9s						
KAN08	**Anthony NE Sta**	**1.61**	**344**	IAmb_Lg		06 52 32.0	
	comp=Z,75nm,0.8s						
KAN16	**Harper SW Stat**	**1.64**	**341**	IAmb_Lg		06 52 35.6	
	comp=Z,70nm,0.8s						
LOOK	**Love County**	**1.69**	**173**		**Pn**	**06 52 09.7**	**+0.2**
X37A	**Clayton**	**1.99**	**122**	Pn	**Pn**	**06 52 14.0**	**+0.3**
Z35A	**Perchaven, San**	**2.34**	**177**		**Pn**	**06 52 19.2**	**+0.7**
U38A	**Gravette**	**2.57**	**72**		**Pn**	**06 52 22.3**	**+0.6**
HHAR	**Hobbs**	**2.88**	**77**		**Pn**	**06 52 26.2**	**+0.2**
HHAR				IAmb_Lg		06 53 15.6	
	comp=Z,48nm,0.9s						
W39A	**Magazine**	**3.00**	**98**		**Pn**	**06 52 27.5**	**0.0**
W39A				IAmb_Lg		06 53 21.1	
	comp=Z,78nm,1.0s						
W39A	**Magazine**	**3.00**	**98**	P	**Pn**	**06 52 27.4**	**-0.2**
	baz=280						
W39A				S	**Sn**	**06 53 04.3**	**+0.5**
	baz=280						
Z38A	**Mt. Pleasant**	**3.13**	**140**	IAmb_Lg		06 53 23.4	
	comp=Z,36nm,0.8s						
MIAR	**Mount Ida**	**3.34**	**109**		**Pn**	**06 52 33.8**	**+1.6**
MIAR				IAmb_Lg		06 53 33.2	
	comp=Z,40nm,0.8s						
MIAR	**Mount Ida**	**3.34**	**109**	P	**Pn**	**06 52 32.8**	**+0.6**
	baz=291						
MIAR				S	**Sn**	**06 53 13.1**	**+1.0**
	baz=291						
KSU1	**Kansas State U**	**3.48**	**10**	Pn	**Pn**	**06 52 34.3**	**+0.1**
KSU1				IAmb_Lg		06 53 36.4	
	comp=Z,62nm,0.8s						
KSU1	**Kansas State U**	**3.48**	**10**	Pb	**Pb**	**06 52 42.8**	**+1.3**
	baz=191						
KSU1				Sb	**Sg**	**06 53 30.3**	**-1.1**
	baz=191						
ABTX	**Abilene, Hawle**	**3.56**	**212**	Pg	**Pg**	**06 52 45.4**	**-2.4**
	baz=30						
AMTX	**Amarillo**	**3.58**	**259**	IAmb_Lg		06 53 38.6	
	comp=Z,44nm,0.9s						
CBKS	**Cedar Bluff**	**3.64**	**330**	Pn	**Pn**	**06 52 35.6**	**-0.8**
CBKS				IAmb_Lg		06 53 40.9	
	comp=Z,46nm,0.8s						
CBKS	**Cedar Bluff**	**3.64**	**330**	Pb	**Pb**	**06 52 45.9**	**+1.6**
	baz=149						
CBKS				Sb	**Sg**	**06 53 35.2**	**-1.4**
	baz=149						
U40A	**Yellville**	**3.76**	**78**	IAmb_Lg		06 53 44.3	
	comp=Z,62nm,0.8s						
S39A	**Bolivar**	**3.85**	**57**	IAmb_Lg		06 53 51.4	
	comp=Z,42nm,1.0s						
WLAR	**White Oak Lake**	**4.06**	**118**	IAmb_Lg		06 53 55.3	
	comp=Z,38nm,0.7s						
WHAR	**Wooly Hollow**	**4.20**	**94**	Pn	**Pn**	**06 52 43.6**	**-0.5**
WHAR				IAmb_Lg		06 54 02.2	
	comp=Z,42nm,1.0s						
W41B	**Gary Mavity, V**	**4.25**	**95**		**Pn**	**06 52 44.7**	**0.0**
W41B				IAmb_Lg		06 54 03.0	
	comp=Z,30nm,0.8s						
W41B	**Gary Mavity, V**	**4.25**	**95**	P	**Pn**	**06 52 44.5**	**-0.2**
	baz=278						
FCAR	**Ozark Folk Cen**	**4.30**	**86**	IAmb_Lg		06 53 55.4	
	comp=Z,34nm,0.8s						
MGMO	**Mountain Grove**	**4.40**	**69**	IAmb_Lg		06 54 05.1	
	comp=Z,60nm,0.7s						
Z41A	**Richland Creek**	**4.51**	**121**	IAmb_Lg		06 54 08.2	
	comp=Z,28nm,0.8s						
R40A	**Maddies Statio**	**4.88**	**56**	IAmb_Lg		06 54 14.4	
	comp=Z,38nm,0.8s						
435B	**Jarrell**	**4.88**	**182**	IAmb_Lg		06 54 25.6	
	comp=Z,23nm,0.9s						
CCAR	**Cane Creek**	**4.96**	**109**	IAmb_Lg		06 54 22.0	
	comp=Z,27nm,1.1s						
P38A	**Dawn**	**5.00**	**37**	IAmb_Lg		06 54 16.5	
	comp=Z,44nm,0.7s						
N33A	**J Bar K, Exete**	**5.06**	**360**	IAmb_Lg		06 54 32.2	
	comp=Z,24nm,0.8s						
LCAR	**Lake Charles**	**5.10**	**84**	IAmb_Lg		06 54 26.2	
	comp=Z,41nm,1.0s						
T42A	**Van Buren**	**5.28**	**73**	IAmb_Lg		06 54 31.3	
	comp=Z,38nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.33**	**310**	IAmb_Lg		06 54 43.6	
	comp=Z,40nm,0.7s						
CCM	**Cathedral Cave**	**5.49**	**63**	IAmb_Lg		06 54 34.4	
	comp=Z,44nm,0.9s						
PBMO	**Poplar Bluff**	**5.75**	**77**	IAmb_Lg		06 54 41.7	
	comp=Z,51nm,1.0s						
BGNE	**Belgrade**	**5.76**	**354**	IAmb_Lg		06 54 57.1	
	comp=Z,30nm,0.7s						
143A	**Socs Landing,**	**5.79**	**119**	IAmb_Lg		06 54 55.2	
	comp=Z,27nm,1.0s						
T25A	**Trinidad**	**5.83**	**287**	IAmb_Lg		06 54 47.5	
	comp=Z,31nm,0.7s						
FVM	**French Village**	**6.06**	**66**	IAmb_Lg		06 54 51.9	
	comp=Z,35nm,0.7s						
OGNE	**Ogallala**	**6.39**	**327**	IAmb_Lg		06 55 10.4	
	comp=Z,43nm,0.8s						
SLM	**Saint Louis**	**6.45**	**61**	IAmb_Lg		06 55 14.9	
	comp=Z,30nm,0.8s						
W45A	**Hickory Valley**	**6.74**	**92**	IAmb_Lg		06 55 12.8	
	comp=Z,30nm,0.8s						
SDCO	**Great Sand Dun**	**6.82**	**290**		**Pn**	**06 53 21.1**	**+0.7**
SDCO	**Great Sand Dun**	**6.82**	**290**	P	**Pn**	**06 53 21.3**	**+1.0**
	baz=105						
K31A	**O'Neill**	**7.02**	**352**	IAmb_Lg		06 55 38.9	
	comp=Z,29nm,0.8s						
SCIA	**State Center**	**7.03**	**26**	IAmb_Lg		06 55 27.7	
	comp=Z,36nm,0.7s						
833A	**Chaparral WMA,**	**7.52**	**193**	IAmb_Lg		06 55 46.8	
	comp=Z,28nm,1.2s						
K38A	**Parkersburg**	**7.84**	**26**	IAmb_Lg		06 55 53.1	
	comp=Z,33nm,0.8s						
L40A	**Anamosa**	**8.00**	**35**	IAmb_Lg		06 55 59.8	
	comp=Z,29nm,0.8s						
PHWY	**Pilot Hill**	**8.45**	**314**	IAmb_Lg		06 56 12.5	
	comp=Z,14nm,0.9s						
N23A	**Red Feather La**	**8.49**	**310**	IAmb_Lg		06 56 14.5	
	comp=Z,24nm,1.0s						
SUSD	**Miller**	**8.84**	**353**	IAmb_Lg		06 56 38.0	
	comp=Z,13nm,0.9s						
K22A	**Casper**	**9.93**	**317**	IAmb_Lg		06 57 21.5	
	comp=Z,17nm,1.0s						

*WEL **06** 06:57:40.7±0.5, 33°S±7°×17°9W±1°7, h178km±10km, M4.3/22, mB4.8/22, ML5.0/16, MLv5.0/20, Mw(mB)4.1/22, Error ellipse: s-maj=0.0km s-min=0.0km az=111.5*
*IDC **06** 06:57:42.0±4.7, 32°32S×179°90W, h268km±45km, mb2.9/2, mb1 3.4/4, mb1mx3.0/33, mbtmp4.0/4, Error ellipse: s-maj=46.6km s-min=32.5km az=24.0*

ISC 06 06:57:39.0±0.5, 32°36S±0°05×179°5W±0°1, h250km, n60, σ2°66/69, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.38**	**25**	P	**Pn**	**06 58 33.8**	**-1.9**
GLKZ				S	S	06 59 10.6	-10
RIZ	**Raoul Island**	**3.40**	**24**	S	**S**	**06 59 14.1**	**-6.8**
MXZ	**Matakaoa Point**	**5.49**	**198**	P	Pn	06 59 04.9	+4.3
MXZ				S	**S**	**07 00 06.5**	**+0.6**
WMGZ	**Waiomatatini S**	**5.70**	**197**	P	**Pn**	**06 59 05.1**	**+1.8**
WMGZ				S	**S**	**07 00 11.3**	**+0.6**
HAZ	**Te Kaha**	**5.82**	**201**	P	Pn	06 59 07.7	+3.0
PKGZ	**Pakihiroa**	**5.86**	**199**	P	**Pn**	**06 59 07.7**	**+2.5**
PKGZ				S	**S**	**07 00 17.0**	**+2.7**
KUZ	**Kuaotunu**	**5.87**	**221**	P	Pn	06 59 11.0	+5.6
PUZ	**Puketiti**	**5.98**	**197**	P	Pn	06 59 10.3	+3.5
RUGZ	**Raukumara Rang**	**6.04**	**201**	P	Pn	06 59 10.7	+3.1
CNGZ	**Carnagh Statio**	**6.38**	**196**	P	**Pn**	**06 59 11.5**	**-0.2**
MWZ	**Matawai**	**6.43**	**201**	P	**Pn**	**06 59 13.6**	**+1.2**
URZ	**Urewera**	**6.50**	**204**	P	Pn	06 59 16.8	+3.7
	9.0nm,0.3s,baz=301,slow=23,SNR=52						
URZ				S	**S**	**07 00 29.3**	**+0.6**
	8.3nm,0.3s,baz=301,slow=24,SNR=4.3						
URZ	**Urewera**	**6.50**	**204**	P	**Pn**	**06 59 16.2**	**+3.0**
TARZ	**Mount Tarawera**	**6.70**	**208**	P	Pn	06 59 21.8	+6.0
TOZ	**Tahuroa Road**	**6.73**	**216**	P	Pn	06 59 24.5	+8.4
KNZ	**Kokohu**	**7.03**	**198**	P	**Pn**	**06 59 21.9**	**+2.1**
ALRZ	**Allen Road**	**7.04**	**207**	P	Pn	06 59 24.4	+4.3
ALRZ				S	**S**	**07 00 47.0**	**+5.6**
MTHZ	**Maungataniwha**	**7.12**	**203**	P	**Pn**	**06 59 22.2**	**+1.1**
MTHZ				S	**S**	**07 00 46.7**	**+3.6**
BKZ	**Black Stump Fm**	**7.52**	**204**	P	Pn	06 59 29.5	+3.3
BKZ				S	**S**	**07 00 51.1**	**-1.2**
HIZ	**Hauiti**	**7.66**	**215**	P	Pn	06 59 33.3	+5.5
CKHZ	**Cape Kidnapper**	**7.79**	**200**	P	Pn	06 59 32.6	+3.2
CKHZ				S	**S**	**07 00 57.5**	**-0.8**
WTVZ	**West Tongariro**	**7.82**	**209**	P	Pn	06 59 34.0	+4.0
BHHZ	**Black Hill Sta**	**7.96**	**205**	P	**Pn**	**06 59 34.1**	**+2.4**
BHHZ				S	**S**	**07 01 04.6**	**+2.0**
TRVZ	**Turoa**	**7.99**	**209**	P	Pn	06 59 35.8	+3.5
PXZ	**Pawanui**	**8.19**	**200**	P	**Pn**	**06 59 37.3**	**+2.7**
PXZ				S	**S**	**07 01 05.8**	**-1.9**
PNHZ	**Pukenui**	**8.29**	**203**	P	**Pn**	**06 59 37.5**	**+1.7**
WPHZ	**Waipukurau**	**8.35**	**202**	P	**Pn**	**06 59 38.8**	**+2.2**
WPHZ				S	**S**	**07 01 08.6**	**-2.9**
PRHZ	**Porangahau**	**8.48**	**200**	P	**Pn**	**06 59 40.5**	**+2.4**
PRHZ				S	**S**	**07 01 11.6**	**-2.7**
TSZ	**Takapari Road**	**8.50**	**204**	P	**Pn**	**06 59 40.6**	**+2.1**
TSZ				S	**S**	**07 01 11.7**	**-3.3**
PKE	**Pukeiti**	**8.62**	**216**	P	Pn	06 59 45.7	+5.7
NEZ	**North Egmont**	**8.62**	**215**	P	Pn	06 59 45.4	+5.4
DVHZ	**Dannevirke**	**8.65**	**202**	P	**Pn**	**06 59 41.9**	**+1.5**
DVHZ				S	**S**	**07 01 15.1**	**-3.3**
KHEZ	**Kahui Hut**	**8.68**	**215**	P	Pn	06 59 46.3	+5.5
ANWZ	**Angora Road**	**8.70**	**201**	P	**Pn**	**06 59 43.5**	**+2.6**
ANWZ				S	**S**	**07 01 18.1**	**-1.5**
POWZ	**Post Office Ro**	**8.87**	**204**	P	**Pn**	**06 59 45.1**	**+2.0**
POWZ				S	**S**	**07 01 19.2**	**-4.2**
PRWZ	**Pori Road**	**8.95**	**203**	P	**Pn**	**06 59 45.9**	**+1.8**
PRWZ				S	**S**	**07 01 21.7**	**-3.6**
BFZ	**Birch Farm**	**8.97**	**201**	P	**Pn**	**06 59 46.2**	**+1.8**
BFZ				S	**S**	**07 01 22.0**	**-3.9**
MRZ	**Mangatainoka R**	**9.17**	**204**	P	**Pn**	**06 59 47.9**	**+0.9**
MRZ				S	**S**	**07 01 24.5**	**-6.0**
TIWZ	**Tintock**	**9.17**	**202**	P	**Pn**	**06 59 49.2**	**+2.2**
TIWZ				S	**S**	**07 01 27.1**	**-3.5**
CPWZ	**Castlepoint**	**9.20**	**201**	P	**Pn**	**06 59 50.0**	**+2.7**
CPWZ				S	**S**	**07 01 28.8**	**-2.3**
HOWZ	**Holdsworth Sta**	**9.40**	**204**	P	**Pn**	**06 59 50.4**	**+0.5**
OGWZ	**Otaki Gorge**	**9.45**	**205**	P	**Pn**	**06 59 51.1**	**+0.6**
OGWZ				S	**S**	**07 01 32.5**	**-4.6**
TMWZ	**Te Maipa**	**9.47**	**201**	P	**Pn**	**06 59 52.2**	**+1.4**
TMWZ				S	**S**	**07 01 32.2**	**-5.3**
KIW	**Kapiti Island**	**9.59**	**206**	P	**Pn**	**06 59 52.2**	**0.0**
KIW				S	**S**	**07 01 35.7**	**-4.5**
MTW	**Mount Morrison**	**9.64**	**203**	P	**Pn**	**06 59 53.6**	**+0.7**
MTW				S	**S**	**07 01 35.8**	**-5.7**
CAW	**Cannon Point**	**9.75**	**205**	P	**Pn**	**06 59 53.8**	**-0.4**
CAW				S	**S**	**07 01 40.3**	**-3.6**
TRWZ	**Traveller**	**9.80**	**202**	P	**Pn**	**06 59 56.0**	**+1.2**
PAWZ	**Paruwai Farm**	**9.87**	**203**	P	**Pn**	**06 59 56.2**	**+0.4**
DUWZ	**D'Urville Isla**	**9.93**	**210**	P	**Pn**	**06 59 56.8**	**+0.3**
MSWZ	**Moikau Station**	**9.96**	**203**	P	**Pn**	**06 59 57.2**	**+0.3**
BHW	**Baring Head**	**10.08**	**205**	P	**Pn**	**06 59 58.5**	**+0.1**
PLWZ	**Palliser**	**10.09**	**203**	P	**Pn**	**06 59 58.8**	**+0.2**
TCW	**Tory Channel**	**10.13**	**208**	P	**Pn**	**06 59 58.7**	**-0.3**
QRZ	**Quartz Range**	**10.58**	**215**	P	**Pn**	**07 00 04.9**	**+0.2**
DZM	**Mont Dzumac**	**16.12**	**306**	P	**P**	**07 01 10.2**	**-1.1**
	0.4nm,0.3s,baz=116,slow=15,SNR=8.4						
ASAR	**Alice Springs**	**41.74**	**270**	P	**P**	**07 05 03.1**	**-0.9**
	0.4nm,0.4s,baz=104,slow=7.4,SNR=9.1						
WRA	**Warramunga Arr**	**42.91**	**275**	P	**P**	**07 05 12.2**	**-1.3**
	0.3nm,0.4s,baz=111,slow=8.1,SNR=14						
FINES	**FINESS Array B**	**146.50**	**338**	PKPbc	**PKPab**	**07 16 49.8**	**-1.7**
	2.5nm,0.5s,baz=52,slow=4.6,SNR=14						
NB2	**NORSAR Subarra**	**150.46**	**349**	PKP	**PKiKP**	**07 17 00.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.46**	**349**	PKPbc	**PKiKP**	**07 17 00.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=17,slow=4.2,SNR=4.1						

*IDC **06** 07:03:34.3±1.6, 10°10S×118°70E, h0km, mb3.8/2, mb1 3.9/7, mb1mx3.6/38, mbtmp3.8/7, ML3.7/5, Error ellipse: s-maj=53.3km s-min=20.5km az=51.0*
*DJA **06** 07:03:39.1±0.5, 10°S±3°×11°9E±°, h14km±3km, M4.2/17, mb4.5/5, MLv4.1/17*

ISC 06 07:03:36.6±0.9, 9°95S±0°06×119°05E±0°05, h10km, n24, σ1°81/27, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.46**	**47**	P	**Pn**	**07 03 48.2**	**-1.1**
WBSI				S	**Sb**	**07 03 54.1**	**+0.4**
BASI	**Baing, Sumba**	**1.53**	**100**	P	**Pg**	**07 04 05.9**	**-0.1**
BASI				S	**Sg**	**07 04 25.7**	**-0.1**
EDFI	**Ende, Flores**	**2.87**	**66**	P	**Pn**	**07 04 24.0**	**+1.5**
MMRI	**Maumere**	**3.41**	**68**	P	**Pn**	**07 04 29.8**	**-0.1**
MMRI				S	**Sn**	**07 05 11.7**	**+1.3**
DNP	**Denpasar**	**4.00**	**288**	P	**Pn**	**07 04 39.6**	**+1.6**
IGBI	**Denpasar**	**4.02**	**286**	P	**Pn**	**07 04 39.9**	**+1.6**
BSSI	**Bau Bau, Buton**	**4.05**	**21**	P	**Pn**	**07 04 39.9**	**+1.2**
SRBI	**Singaraja**	**4.22**	**296**	P	**Pn**	**07 04 42.7**	**+1.6**
BATI	**Baumata**	**4.55**	**94**	Pn	**Pn**	**07 04 49.8**	**+4.1**
	14nm,0.3s,baz=271,slow=7.5,SNR=4.0						
BATI				Sn	**Sn**	**07 05 40.0**	**+1.4**
	25nm,0.3s,baz=40,slow=23,SNR=15						
BATI	**Baumata**	**4.55**	**94**	P	**Pn**	**07 04 46.8**	**+1.2**
BKSI	**Bulukumba**	**4.72**	**13**	P	**Pn**	**07 04 48.8**	**+0.8**
KAPI	**Kappang**	**4.96**	**8**	Pn	**Pn**	**07 04 52.5**	**+1.3**
	1.7nm,0.3s,baz=193,slow=14,SNR=7.0						
KAPI				Sn	**Sn**	**07 05 45.9**	**-2.7**
	1.8nm,0.3s,baz=257,slow=23,SNR=11						
JAGI	**Jajag, Banyuwa**	**5.06**	**287**	P	**Pn**	**07 04 54.2**	**+1.6**
	0.2nm33nm,0.5s						
SOEI	**Soe**	**5.14**	**88**	P	**Pn**	**07 04 56.2**	**+2.3**
	0.3nm48nm,0.7s						
BNSI	**Bone**	**5.62**	**11**	P	**Pn**	**07 05 01.1**	**+0.8**
	0.1nm22nm,0.6s						
BBSI	**Bau Bau**	**5.64**	**38**	P	**Pn**	**07 05 02.1**	**+1.4**
	0.1nm13nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.31**	**142**	Pn	**Pn**	**07 06 05.8**	**+1.0**
	0.4nm,0.3s,baz=326,slow=9.3,SNR=11						
FITZ				Sn	**Sn**	**07 07 56.0**	**-4.5**
	0.3nm,0.3s,baz=180,slow=24,SNR=75						
WRA	**Warramunga Arr**	**17.78**	**126**	P	**Pn**	**07 07 44.2**	**-0.2**
	0.2nm,0.3s,baz=293,slow=13,SNR=7.9						
WRA				S	Sn	07 10 52.3	-11
	0.1nm,0.3s,baz=307,slow=21,SNR=2.4						
ASAR	**Alice Springs**	**19.67**	**136**	P	**Pn**	**07 08 07.0**	**-0.4**
	0.2nm,0.3s,baz=314,slow=11,SNR=20						
H08S2	**Diego Garcia H**	**46.04**	**269**	T	T	08 01 17.9	
	baz=94,slow=74,SNR=4.1						
H08S3	**Diego Garcia H**	**46.05**	**269**	T	T	08 01 13.3	
	baz=94,slow=74,SNR=11						
H08S1	**Diego Carcia H**	**46.06**	**269**	T	T	08 01 16.7	
	baz=94						
MKAR	**Makanchi Array**	**65.33**	**333**	P	**P**	**07 14 17.7**	**-1.3**
	0.4nm,0.5s,baz=157,slow=7.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**69.95**	**339**	P	**P**	**07 14 47.8**	**-0.2**
	0.6nm,0.4s,baz=133,slow=5.3,SNR=3.3						

*IDC **06** 07:03:56.0±5.9, 4°78S×153°87E, h97km±42km, mb3.2/2, mb1 3.6/3, mb1mx3.0/36, mbtmp3.7/3, Error ellipse: s-maj=55.5km s-min=30.5km az=98.0*

ISC 06 07:03:55.6±2.3, 4°8S±0°1×153°9E±0°2, h100km, n5, σ0°92/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.94**	**284**	P	**Pn**	**07 04 27.6**	**+0.2**
KRVT				S	**Sn**	**07 04 51.1**	**-0.6**
PMG	**Port Moresby**	**8.12**	**235**	P	**Pn**	**07 05 49.7**	**-1.2**
	1.3nm,0.3s,baz=12,slow=20,SNR=1.4						
PMG				S	**Sn**	**07 07 22.2**	**+1.2**
	2.4nm,0.3s,baz=276,slow=18,SNR=1.7						
WRA	**Warramunga Arr**	**24.29**	**230**	P	**P**	**07 09 04.5**	**+0.6**
	1.4nm,0.7s,baz=53,slow=10.0,SNR=9.3						
ASAR	**Alice Springs**	**26.92**	**224**	P	**P**	**07 09 27.8**	**+0.1**
	0.4nm,0.7s,baz=56,slow=8.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**151.35**	**289**	PKPbc	**PKiKP**	**07 23 39.4**	**+0.1**
	0.2nm,0.4s,baz=97,slow=3.5,SNR=2.1						

*IDC **06** 07:15:16.3±1.1, 14°61N×54°29E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.6/47, mbtmp3.8/9, MS3.3/17, Ms1 3.4/17, ms1mx3.1/80, Error ellipse: s-maj=31.9km s-min=22.1km az=22.0*

ISC 06 07:15:19.0±1.2, 14°6N±0°2×54°3E±0°2, h17km, n24, σ0°93/9, mb4.0/9, MS3.3/17, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**23.28**	**313**	LR	LR	07 29 41.5	
	comp=Z,84nm,18.3s,baz=84,slow=37						
GEYT	**Alibeck**	**23.46**	**8**	LR	LR	07 31 24.4	
	comp=Z,100nm,19.7s,baz=196,slow=41						
KBZ	**Khabaz**	**30.59**	**344**	LR	LR	07 35 52.0	
	comp=Z,68nm,19.3s,baz=158,slow=40						
BRTR	**Keskin Array B**	**30.87**	**328**	LR	LR	07 34 37.8	
	comp=Z,55nm,19.6s,baz=170,slow=38						
AAK	**Ala-Archa**	**32.90**	**28**	LR	LR	07 37 14.9	
	comp=Z,37nm,18.4s,baz=204,slow=40						
IDI	**Anoyia**	**33.45**	**313**	LR	LR	07 36 34.3	
	comp=Z,30nm,20.4s,baz=164,slow=38						
AKTO	**Aktyubinsk**	**35.84**	**4**	LR	LR	07 39 08.5	
	comp=Z,45nm,21.7s,baz=165,slow=40						
MKAR	**Makanchi Array**	**39.69**	**30**	P	**P**	**07 22 50.7**	**+0.4**
	0.9nm,0.6s,baz=214,slow=9.6,SNR=10						
AKASG	**Malin Array Be**	**41.30**	**336**	P	**P**	**07 23 03.2**	**-0.2**
	0.1nm,0.2s,baz=138,slow=7.6,SNR=3.6						
AKASG				LR	LR	07 43 03.9	
	comp=Z,30nm,18.2s,baz=209,slow=40						
ARU	**Arti**	**41.85**	**4**	LR	LR	07 42 09.9	
	comp=Z,62nm,19.1s,baz=206,slow=38						
CMAR	**Chiang Mai Arr**	**42.91**	**79**	P	**P**	**07 23 17.4**	**+0.3**
	0.5nm,0.3s,baz=278,slow=9.7,SNR=4.1						
KIRV	**Kirov**	**44.03**	**356**	LR	LR	07 46 36.5	
	comp=Z,35nm,18.7s,baz=301,slow=43						
ZALV	**Zalesovo Beam**	**45.96**	**25**	P	**P**	**07 23 39.6**	**-1.3**
	1.4nm,0.7s,baz=229,slow=7.6,SNR=5.5						
VRAC	**Vranov**	**46.28**	**326**	LR	LR	07 45 47.3	
	comp=Z,37nm,18.1s,baz=352,slow=40						
LBTB	**Lobatse**	**48.32**	**216**	LR	LR	07 44 23.6	
	comp=Z,32nm,18.4s,baz=104,slow=36						
FINES	**FINESS Array B**	**50.95**	**343**	P	**P**	**07 24 19.3**	**0.0**
	2.3nm,0.6s,baz=138,slow=11,SNR=2.7						
FINES				LR	LR	07 50 45.6	
	comp=Z,46

HNR	**Honiara**	**6.58 132**	P	**Pn**	**07 46 33.8**	**-0.6**
	123nm,0.3s,baz=249,slow=2.5,SNR=16					
HNR			S	**Sn**	**07 47 45.0**	**-3.1**
	232nm,0.3s,baz=298,slow=21,SNR=14					
HNR	**Honiara**	**6.58 132**		**Pn**	**07 46 33.3**	**-1.1**
MANU	**Manus Island**	**8.16 291**		**Pn**	**07 46 55.0**	**-1.1**
PMG	**Port Moresby**	**8.88 240**	P	**Pn**	**07 47 05.1**	**-0.7**
	7.5nm,0.3s,baz=63,slow=8.5,SNR=15					
PMG			S	**Sn**	**07 48 47.7**	**+3.4**
	7.6nm,0.3s,baz=293,slow=24,SNR=10					
PMG			LR	LR	07 50 37.1	
	comp=Z,348nm,21.8s,baz=70,slow=38					
PMG	**Port Moresby**	**8.88 240**	Pn	**Pn**	**07 47 06.4**	**+0.5**
PATS	**Pohnpei**	**12.26 16**	Pn	Pn	07 47 47.4	-4.6
COEN	**Coen**	**14.62 232**	Pn	**Pn**	**07 48 23.7**	**+0.8**
SMPI	**Sarmi**	**16.51 280**	P	**Pn**	**07 48 46.7**	**-0.2**
	62nm,0.7s					
CTA	**Charters Tower**	**17.19 209**	P	**Pn**	**07 48 54.4**	**-0.8**
	0.4nm,0.3s,baz=248,slow=2.7,SNR=3.3					
CTAO	**Charters Tower**	**17.19 209**		**P**	**07 48 55.8**	**+0.2**
CTAO				**S**	**07 52 14.9**	**+4.7**
KWAJ	**Kwajalein Atol**	**18.66 43**	P	**Pn**	**07 49 14.2**	**+1.2**
BAKI	**Biak**	**19.22 281**	P	**P**	**07 49 17.6**	**-0.3**
	107nm,1.1s					
DZM	**Mont Dzumac**	**20.24 148**	P	**P**	**07 49 30.0**	**+1.0**
	3.9nm,0.5s,baz=268,slow=7.9,SNR=15					
DZM			LR	LR	07 56 11.3	
	comp=Z,199nm,21.6s,baz=6.0,slow=33					
DZM	**Mont Dzumac**	**20.24 148**	*e*P	Pn	07 49 42.4	+11
	148nm,1.1s					
DZM			*e*LR	LR	07 54 28.6	
	comp=Z,317nm,24.4s					
DZM	**Mont Dzumac**	**20.24 148**	IAmb	IAmb	07 49 47.5	
	comp=Z,68nm,1.0s					
EIDS	**Eidsvold**	**20.55 190**	P	**P**	**07 49 33.2**	**+1.0**
OUENC	**Ouen Island, N**	**20.74 147**	P	**P**	**07 49 34.0**	**-0.2**
OUENC			IAmb	IAmb	07 49 51.9	
	comp=Z,105nm,1.4s					
GUMO	**Guam**	**21.06 332**	LR	LR	07 57 09.6	
	comp=Z,23nm,21.6s,baz=98,slow=35					
FAKI	**Fak Fak**	**22.77 274**	P	**P**	**07 49 54.8**	**-1.2**
	comp=Z,40nm,0.8s					
FAKI	**Fak Fak**	**22.77 274**	P	**P**	**07 49 54.5**	**-1.5**
FAKI			IAmb	IAmb	07 49 56.6	
	comp=Z,31nm,0.9s					
SIJI	**Sorong**	**24.03 279**	P	**P**	**07 50 07.0**	**-0.7**
	comp=Z,32nm,0.6s,baz=63,slow=7.8,SNR=8.7					
SIJI			LR	LR	07 59 21.0	
	comp=Z,111nm,21.1s,baz=206,slow=36					
MTN	**Manton Dam**	**24.77 250**	P	**P**	**07 50 14.0**	**-0.5**
MTN			IAmb	IAmb	07 50 14.3	
	comp=Z,29nm,0.9s					
WR0	**Warramunga Arr**	**24.80 232**	P	**P**	**07 50 14.7**	**-0.1**
WR0			IAmb	IAmb	07 50 15.6	
	comp=Z,38nm,1.0s					
WB0	**Warramunga Arr**	**24.81 232**	P	**P**	**07 50 14.8**	**0.0**
WB0			IAmb	IAmb	07 50 15.6	
	comp=Z,32nm,0.7s					
WRAB	**Tennant Creek**	**24.94 232**	P	**P**	**07 50 16.0**	**+0.1**
WRAB			IAmb	IAmb	07 50 16.7	
	comp=Z,34nm,0.7s					
WB2	**Warramunga Arr**	**24.94 232**	P	**P**	**07 50 16.0**	**0.0**
WB2			IAmb	IAmb	07 50 16.8	
	comp=Z,31nm,0.6s					
WRA	**Warramunga Arr**	**24.95 232**	P	**P**	**07 50 15.9**	**-0.1**
	comp=Z,25nm,0.6s,baz=56,slow=10.0,SNR=229					
WRA			S	**S**	**07 54 33.0**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=52,slow=15,SNR=4.8					
WRA	**Warramunga Arr**	**24.95 232**	P	**P**	**07 50 14.8**	**-1.3**
ARMA	**Armidale**	**25.43 187**	P	**P**	**07 50 21.5**	**+1.1**
MSVF	**Nonsavu**	**25.85 121**	LR	LR	08 00 03.8	
	comp=Z,131nm,18.5s,baz=326,slow=35					
H11S3	**WAKE ISLAND Hy 26.09 26**		T	T	08 17 16.9	
	baz=207,slow=76,SNR=58					
H11S2	**WAKE ISLAND Hy 26.09 26**		T	T	08 17 17.2	
	baz=207,slow=76,SNR=103					
H11S1	**WAKE ISLAND Hy 26.10 26**		T	T	08 17 18.3	
	baz=207,slow=76,SNR=105					
AS31	**Alice Springs**	**27.48 226**	P	**P**	**07 50 38.1**	**-0.7**
ASAR	**Alice Springs**	**27.48 226**	P	**P**	**07 50 38.1**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=57,slow=9.1,SNR=29					
ASAR			PcP	**PcP**	**07 53 56.2**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=57,slow=2.7,SNR=5.4					
ASAR			S	**S**	**07 55 12.0**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=55,slow=13,SNR=7.2					
ASAR	**Alice Springs**	**27.48 226**	P	**P**	**07 50 38.8**	**-0.1**
KNRA	**Kununurra**	**27.83 246**	P	**P**	**07 50 41.2**	**-0.7**
KNRA			IAmb	IAmb	07 51 05.1	
	comp=Z,28nm,0.9s					
STKA	**Stephens Creek**	**29.49 204**	P	**P**	**07 50 55.9**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=25,slow=13,SNR=5.7					
STKA			LR	LR	08 02 36.7	
	comp=Z,106nm,21.9s,baz=22,slow=36					
SOEI	**Soe**	**30.80 259**	P	**P**	**07 51 08.1**	**-0.4**
BATI	**Baumata**	**31.44 259**	LR	LR	08 06 17.9	
	comp=Z,151nm,20.8s,baz=98,slow=41					
FITZ	**Fitzroy Crossi**	**31.46 243**	LR	LR	08 04 24.7	
	comp=Z,74nm,18.8s,baz=66,slow=37					
DAV	**Davao City (W)**	**31.71 292**	LR	LR	08 04 40.2	
	comp=Z,52nm,18.2s,baz=173,slow=37					
GTOI	**Gorontalo**	**32.42 279**	P	**P**	**07 51 22.9**	**+0.3**
	comp=Z,19nm,0.9s					
BBOO	**Buckleboo**	**32.78 210**	P	**P**	**07 51 26.1**	**+0.5**
BBOO			IAmb	IAmb	07 51 45.0	
	comp=Z,18nm,1.2s					
EDFI	**Ende, Flores**	**33.24 262**	P	**P**	**07 51 28.1**	**-1.8**
	comp=Z,16nm,0.7s					
APSI	**Ampana**	**33.53 276**	P	**P**	**07 51 32.4**	**+0.1**
	comp=Z,41nm,1.2s					
AFI	**Afiamalu**	**33.92 107**	LR	LR	08 02 31.8	
	comp=Z,118nm,18.5s,baz=290,slow=31					
BSSI	**Bau Bau, Buton**	**34.33 267**	P	**P**	**07 51 38.9**	**-0.4**
	comp=Z,36nm,0.7s					
BKSI	**Bulukumba**	**34.71 268**	P	**P**	**07 51 42.0**	**-0.5**
	comp=Z,30nm,1.1s					
BNSI	**Bone**	**34.75 270**	P	**P**	**07 51 43.2**	**+0.3**
	comp=Z,72nm,1.0s					
KAPI	**Kappang**	**35.09 268**	LR	LR	08 08 50.6	
	comp=Z,33nm,19.5s,baz=127,slow=41					
KAPI	**Kappang**	**35.09 268**	P	**P**	**07 51 44.5**	**-1.2**
MPSI	**Mapaga**	**35.44 278**	P	**P**	**07 51 47.5**	**-1.3**
	comp=Z,54nm,0.9s					
WBSI	**Waikabubak, Su**	**35.57 261**	P	**P**	**07 51 47.7**	**-2.3**
	comp=Z,53nm,0.9s					
FORT	**Forrest**	**36.01 222**	P	**P**	**07 51 53.2**	**-0.2**
FORT			IAmb	IAmb	07 52 11.6	
	comp=Z,20nm,0.8s					
PSA00	**Pilbara Seismi**	**37.79 241**	P	**P**	**07 52 07.4**	**-1.3**
PSA00			IAmb	IAmb	07 52 08.3	
	comp=Z,20nm,0.9s					
PSA00	**Pilbara Seismi**	**37.79 241**	P	**P**	**07 52 07.2**	**-1.4**
PSA00			IAmb	IAmb	07 52 08.3	
	comp=Z,7.9nm,0.8s					
MYLDM	**Lahad Datu**	**37.82 285**	P	**P**	**07 52 08.3**	**-0.7**
URZ	**Urewera**	**38.71 152**	LR	LR	08 05 23.3	
	comp=Z,163nm,18.7s,baz=31,slow=32					
BBKI	**Banjar Baru**	**40.05 271**	P	**P**	**07 52 27.8**	**+0.1**
	comp=Z,6μmcomp=Z,65nm,0.8s					
KKM	**Kota Kinabalu**	**40.24 285**	P	**P**	**07 52 28.6**	**-0.7**
JHJ	**Hachijo jima 2**	**40.60 340**	LR	LR	08 06 22.0	
	comp=Z,50nm,20.7s,baz=54,slow=32					
YULB	**Yu-li**	**43.35 312**	P	**P**	**07 52 54.3**	**-0.2**
YULB			IAmb	IAmb	07 52 58.2	
	comp=Z,37nm,1.2s					
SBUM	**Sibu**	**43.36 279**	P	**P**	**07 52 54.4**	**-0.3**
PCJI	**Pacitan**	**43.60 263**	P	**P**	**07 52 54.9**	**-1.7**
	comp=Z,108nm,0.9s					
TPUB	**Ta-pu**	**43.79 311**	P	**P**	**07 52 57.4**	**-0.6**
TPUB			IAmb	IAmb	07 52 58.0	
	comp=Z,26nm,0.7s					
SSLB	**Suanglung**	**43.84 312**	P	**P**	**07 52 58.0**	**-0.5**
SSLB			IAmb	IAmb	07 52 59.4	
	comp=Z,19nm,0.7s					
JWT	**Wachi**	**44.14 337**	P	**P**	**07 52 59.7**	**-0.8**
JWT			IAmb	IAmb	07 53 02.2	
	comp=Z,27nm,1.3s					
UGM	**Wanagama**	**44.24 264**	P	**P**	**07 53 00.3**	**-1.5**
	comp=Z,84nm,2.4s					
MJAR	**Matsushiro Arr**	**44.24 341**	LR	LR	08 08 59.6	
	comp=Z,29nm,21.7s,baz=175,slow=32					
JNU	**Nakatsue**	**44.31 331**	P	**P**	**07 53 01.9**	**-0.1**
KSM	**Kuching**	**45.09 277**	P	**P**	**07 53 07.4**	**-1.1**
KSM			IAmb	IAmb	07 53 09.3	
	comp=Z,23nm,0.9s					
CMJI	**Cimerak**	**46.30 264**	P	**P**	**07 53 16.6**	**-1.4**
	comp=Z,66nm,0.8s					
LEM	**Lembang**	**47.12 265**	LR	LR	08 17 54.2	
	comp=Z,35nm,18.5s,baz=174,slow=42					
JTM	**Tenmabayashi**	**47.36 346**	P	**P**	**07 53 26.2**	**+0.4**
CNJI	**Cibinong**	**47.60 265**	P	**P**	**07 53 26.8**	**-1.4**
KSRS	**Korea Array**	**49.22 331**	P	**P**	**07 53 39.7**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=144,slow=9.1,SNR=11					
KSRS			LR	LR	08 14 26.3	
	comp=Z,12nm,18.6s,baz=115,slow=36					
ASAJ	**Asahikawa**	**50.19 348**	LR	LR	08 12 11.3	
	comp=Z,44nm,21.4s,baz=69,slow=32					
USA0B	**Ussuriysk Arra**	**53.21 339**	P	**P**	**07 54 10.0**	**+0.1**
USA0B			IAmb	IAmb	07 54 11.7	
	comp=Z,19nm,0.9s					
USRK	**Ussuriysk Ar.**	**53.21 339**	P	**P**	**07 54 09.9**	**0.0**
	comp=Z,12nm,0.9s,baz=166,slow=6.1,SNR=13					
USRK	**Ussuriysk Ar.**	**53.21 339**	P	**P**	**07 54 09.1**	**-0.8**
CN2	**Changchun**	**55.43 334**	*e*P	**P**	**07 54 25.8**	**-0.3**
CN2			*e*pP	pP	07 54 44.9	-1.5
CN2			*e*S	**S**	**08 02 04.0**	**-0.6**
CN2			*e*sS	sS	08 02 37.0	-1.3
CN2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
BNX	**BinXian**	**56.22 337**	⇑P	**P**	**07 54 31.8**	**+0.1**
BNX			pmax	pmax		
	comp=Z,19nm,1.0s					
BNX			pmax	pmax		
	comp=Z,130nm,3.6s					
SLVN	**Son La**	**56.50 300**	IAmb	IAmb	07 54 36.4	
	comp=Z,18nm,1.1s					
PSI	**Prapat**	**56.53 277**	LR	LR	08 24 24.6	
	comp=Z,32nm,18.6s,baz=89,slow=42					
KLR	**Kul'dur**	**57.71 342**	LR	LR	08 20 57.8	
	comp=Z,15nm,19.2s,baz=62,slow=37					
PETK	**Petropavlovsk-**	**57.98 2**	P	**P**	**07 54 44.5**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=150,slow=6.3,SNR=4.4					
PETK			LR	LR	08 15 23.9	
	comp=Z,35nm,21.9s,baz=151,slow=31					
PETK	**Petropavlovsk-**	**57.98 2**	P	**P**	**07 54 43.3**	**-0.7**
XAN	**Xi'an**	**58.30 315**	P	**P**	**07 54 47.7**	**+1.0**
XAN			pP	pP	07 55 06.0	-1.2
XAN			pmax	pmax		
	comp=Z,11nm,1.3s					
KMI	**Kunming**	**58.93 303**	⇑P	**P**	**07 54 52.7**	**+1.3**
KMI			pP	pP	07 55 10.6	-1.4
KMI			pmax	pmax		
	comp=Z,33nm,1.2s					
CMAR	**Chiang Mai Arr**	**59.95 295**	P	**P**	**07 54 59.4**	**+1.1**
	comp=Z,18nm,0.8s,baz=113,slow=5.0,SNR=84					
CMAR			LR	LR	08 19 45.4	
	comp=Z,18nm,21.2s,baz=195,slow=35					
XLT	**XiLinHaoTe**	**59.99 328**	*e*P	**P**	**07 54 58.5**	**+0.3**
XLT			pmax	pmax		
	comp=Z,18nm,1.2s					
XLT			pmax	pmax		
	comp=Z,96nm,4.2s					
CHTO	**Chiang Mai**	**60.05 295**	P	**P**	**07 54 59.1**	**+0.2**
PZH	**PanZhiHua**	**60.29 304**	P	**P**	**07 55 01.1**	**+0.5**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,80nm,7.4s					
HHC	**Hu-ho-hao-te**	**60.52 323**	*e*P	**P**	**07 55 06.1**	**+4.2**
HHC			pmax	pmax		
	comp=Z,14nm,0.8s					
HHC			pmax	pmax		
	comp=Z,110nm,5.9s					
CD2	**Chengdu**	**60.55 310**	P	**P**	**07 55 03.1**	**+0.9**
CD2			pmax	pmax		
	comp=Z,30nm,0.5s					
LZH	**Lanzhou**	**62.93 315**	⇓P	**P**	**07 55 19.9**	**+1.7**
LZH			pP	pP	07 55 35.9	-3.1
LZH			sP	pwP	07 55 43.5	+1.8
LZH			pmax	pmax		
	comp=Z,28nm,1.5s					
GTA	**Gaotai**	**67.32 316**	⇑P	**P**	**07 55 47.6**	**+1.0**
GTA			pP	pP	07 56 05.4	-2.1
GTA			sP	PcP	07 56 14.4	+0.7
GTA			pmax	pmax		
	comp=Z,12nm,1.5s					
ULN	**Ulaanbaatar**	**67.36 327**	P	**P**	**07 55 48.9**	**+2.2**
SONM	**Songino Array**	**67.70 327**	P	**P**	**07 55 50.1**	**+1.3**
	comp=Z,5.9nm,1.0s,baz=137,slow=5.8,SNR=18					
SONM			LR	LR	08 25 24.1	
	comp=Z,26nm,18.6s,baz=97,slow=36					
SONM	**Songino Array**	**67.70 327**	IAmb	IAmb	07 55 51.0	
	comp=Z,12nm,1.3s					
GOMU	**GeErMu**	**69.54 312**	P	P	07 55 52.4	-8.4
GOMU			pP	pP	07 55 57.0	-25
GOMU			sP	PcP	07 56 00.0	-23
GOMU			pmax	pmax		
	comp=Z,2.0nm,1.0s					
YAK	**Yakutsk**	**69.66 348**	LR	LR	08 26 28.6	
	comp=Z,11nm,19.1s,baz=262,slow=36					
VNDA	**Vanda**	**72.52 178**	P	**P**	**07 56 17.9**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=54,slow=17,SNR=3.7					
BILL	**Bilibino**	**73.35 4**	P	**P**	**07 56 23.5**	**+0.9**
PALK	**Pallekele**	**75.11 279**	P	**P**	**07 56 33.4**	**-0.7**
	comp=Z,15nm,0.8s,baz=161,slow=6.8,SNR=4.0					
PALK			LR	LR	08 32 03.0	
	comp=Z,25nm,18.0s,baz=217,slow=38					
WMQ	**Urumqi**	**77.39 317**	*e*P	**P**	**07 56 47.1**	**+0.7**
WMQ			pP	pwP	07 57 10.1	-0.9
WMQ			sP	sP	07 57 20.1	+3.6
WMQ			pmax	pmax		
	comp=Z,16nm,0.9s					
ZSN	**Zaisan**	**80.45 320**	*e*P	**P**	**07 57 03.3**	**+0.3**
	baz=320					
IL31		**81.58 22**	P	**P**	**07 57 09.2**	**+0.8**
ILAR	**Eielson Array**	**81.58 22**	P	**P**	**07 57 08.3**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=240,slow=5.4,SNR=15					
ILAR			LR	LR	08 30 48.6	
	comp=Z,75nm,19.2s,baz=231,slow=34					
MKAR	**Makanchi Array**	**81.94 319**	P	**P**	**07 57 11.4**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=101,slow=5.7,SNR=39					
ZAA0	**Zalesovo Array**	**82.56 326**	P	**P**	**07 57 13.4**	**-0.5**
ZALV	**Zalesovo Beam**	**82.56 326**	P	**P**	**07 57 13.2**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=107,slow=6.0,SNR=7.9					
ZALV			LR	LR	08 34 28.7	
	comp=Z,26nm,20.0s,baz=42,slow=36					
SHLS	**Shalkode**	**82.94 314**	*e*P	**P**	**07 57 14.8**	**-1.6**
	baz=314					
UZB	**Uzynbulak**	**83.26 314**	*e*P	**P**	**07 57 18.0**	**+0.1**
	baz=314					
KPKS	**Kokpek**	**83.57 315**	*e*P	**P**	**07 57 19.4**	**-0.1**
	comp=Z,8.7nm,1.2s,baz=315					
SATY	**Saty**	**83.67 314**	*e*P	**P**	**07 57 20.4**	**+0.3**
	comp=Z,5.7nm,0.9s,baz=314					
TARG	**Taragay, Kyrgy**	**83.82 313**	IAmb	IAmb	07 57 23.5	
	comp=Z,8.4nm,1.0s					
TDK	**Taldyqorghan**	**84.11 316**	*e*P	**P**	**07 57 22.7**	**+0.6**
	baz=316					
KDJ	**Kajisay**	**84.36 313**	P	**P**	**07 57 24.0**	**+0.3**
MDOK	**Medeo**	**84.67 314**	*e*P	**P**	**07 57 25.4**	**+0.3**
	baz=314					
TNSS	**Tian-Shan**	**84.72 314**	*e*P	**P**	**07 57 26.6**	**+0.8**
	baz=314					
KSH	**Kashi**	**84.74 310**	P	**P**	**07 57 28.8**	**+3.2**
KSH			pP	pP	07 57 48.1	+0.9
KSH			pmax	pmax		
	comp=Z,23nm,0.8s					
ULHL	**Ulahol**	**85.07 313**	P	**P**	**07 57 28.4**	**+1.1**
	SNR=11					
KURK	**Kurchatov**	**85.30 322**	P	**P**	**07 57 27.2**	**-0.7**
KURK			IAmb	IAmb	07 57 29.1	
	comp=Z,17nm,1.1s					
KUU	**Kurty**	**85.32 315**	*e*P	**P**	**07 57 28.4**	**+0.2**
	baz=315					
KURBB	**Kurchatov Arra**	**85.33 322**	LR	LR	08 35 26.5	
	comp=Z,32nm,21.6s,baz=246,slow=36					
KST	**Kastek**	**85.42 314**	*e*P	**P**	**07 57 28.9**	**0.0**
	baz=314					
TKM2	**Tokmak 2**	**85.66 314**	P	**P**	**07 57 31.0**	**+0.8**
	SNR=18					
NIL	**Nilore**	**85.90 304**	P	**P**	**07 57 31.9**	**+0.6**
NIL			IAmb	IAmb	07 57 32.5	
	comp=Z,19nm,1.1s					
BBB	**Bella Bella**	**85.98 37**	LR	LR	08 36 18.4	
	comp=Z,77nm,18.6s,baz=242,slow=36					
EPYK	**Eagle Plains**	**86.07 22**	P	**P**	**07 57 32.6**	**+1.1**
EPYK			IAmb	IAmb	07 57 56.5	
	comp=Z,18nm,1.4s					
CHMS	**Chumysh**	**86.29 314**	P	**P**	**07 57 34.0**	**+0.9**
	SNR=7.1					
UCH	**Uchtor**	**86.32 313**	P	**P**	**07 57 35.0**	**+1.2**
	SNR=12					
AAK	**Ala-Archa**	**86.41 313**	P	**P**	**07 57 34.1**	**+0.3**
	SNR=7.6					
AAK	**Ala-Archa**	**86.41 313**	P	**P**	**07 57 33.1**	**-0.8**
AAK			IAmb	IAmb	07 57 35.5	
	comp=Z,9.0nm,0.9s					
SGDS	**Sogindy**	**86.46 314**	*e*P	**P**	**07 57 33.5**	**-0.4**
	comp=Z,5.1nm,1.1s,baz=314					
DLBC	**Dease Lake**	**86.48 31**	LR	LR	08 34 09.8	
	comp=Z,77nm,19.2s,baz=72,slow=34					
USP	**Ospenovka**	**86.52 314**	P	**P**	**07 57 34.8**	**+0.6**
	SNR=11					
NRIK	**Noril'sk**	**86.90 341**	P	**P**	**07 57 35.4**	**0.0**
	comp=Z,6.5nm,0.8s,baz=109,slow=3.4,SNR=14					
NRIK			LR	LR	08 36 46.1	
	comp=Z,20nm,20.4s,baz=28,slow=36					
NRIK	**Noril'sk**	**86.90 341**	P	**P**	**07 57 35.0**	**-0.4**
NRIK			IAmb	IAmb	07 57 36.5	
	comp=Z,6.6nm,0.8s					
NRIK			pP	**pP**	**07 57 54.8**	**-2.2**
AML	**Almayashu**	**86.91 313**	P	**P**	**07 57 38.0**	**+1.5**
	SNR=8.4					
YBH	**Yreka Blue Hor**	**87.61 48**	LR	LR	08 28 33.4	
	comp=Z,136nm,21.9s,baz=248,slow=30					
INK	**Inuvik**	**87.91 21**	LR	LR	08 32 54.5	
	comp=Z,84nm,21.5s,baz=208,slow=33					
BTK	**Batken**	**88.75 310**	IAmb	IAmb	07 57 46.4	
	comp=Z,9.1nm,1.1s					
IUG	**Iuzhnay**	**89.61 312**	*e*P	**P**	**07 57 48.9**	**-0.1**
	baz=312					
NVAR	**Mina Array Bea**	**90.53 52**	P	**P**	**07 57 54.8**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=233,slow=7.5,SNR=2.9					
NVAR			LR	LR	08 37 30.5	
	comp=Z,58nm,18.2s,baz=193,slow=35					
BRVK	**Borovoye**	**90.80 323**	P	**P**	**07 57 52.0**	**-2.2**
BRVK			IAmb	IAmb	07 57 54.7	
	comp=Z,8.7nm,0.9s					
NEW	**Newport**	**92.33 42**	LR	LR	08 35 58.1	
	comp=Z,120nm,18.0s,baz=237,slow=33					
RPN	**Rapa Nui**	**92.78 117**	LR	LR	08 34 32.2	
	comp=Z,19nm,18.4s,baz=260,slow=32					
ELK	**Elko**	**93.09 50**	LR	LR	08 39 44.7	
	comp=Z,58nm,18.6s,baz=232,slow=35					
YKA	**Yellowknife Ar**	**94.63 28**	P	**P**	**07 58 12.7**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=267,slow=4.6,SNR=24					
LPIG	**La Paz**	**96.33 66**	LR	LR	08 35 53.4	
	comp=Z,76nm,18.8s,baz=330,slow=32					
PDAR	**Pinedale Array**	**97.41 48**	LR	LR	08 34 41.3	
	comp=Z,66nm,21.9s,baz=260,slow=31					
ARU	**Arti**	**97.73 326**	LR	LR	08 43 57.2	
	comp=Z,22nm,19.7s,baz=17,slow=36					
AKTO	**Aktyubinsk**	**98.30 320**	LR	LR	08 44 46.3	
	comp=Z,19nm,18.5s,baz=58,slow=36					
AKASG	**Malin Array Be**	**115.95 325**	PKP	**PKiKP**	**08 03 33.4**	**0.0**
	comp=Z,2.0nm,0.7s,baz=57,slow=2.4,SNR=9.3					
AKASG	**Malin Array Be**	**115.95 325**		**PKiKP**	**08 03 32.8**	**-0.6**
CLL	**Collm**	**124.09 332**	*e*PKPdf	**PKiKP**	**08 03 50.0**	**+0.6**
CONA	**Conrad Observa**	**124.83 328**	*e*P	**PKiKP**	**08 03 51.5**	**+0.4**
	comp=Z,1.5nm,0.9s					
GERES	**GERESS Array B**	**125.38 330**	PKP	**PKiKP**	**08 03 52.7**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=50,slow=2.1,SNR=14					
SOKA	**Soboth**	**126.04 327**	*e*P	**PKiKP**	**08 03 54.1**	**+0.6**
	comp=Z,3.8nm,1.1s					
ABTA	**Abfaltersbach**	**127.34 328**	*e*P	**PKiKP**	**08 03 56.2**	**+0.1**
	comp=Z,5.3nm,0.9s					
WTTA	**Wattenberg**	**127.46 329**	*e*P	**PKiKP**	**08 03 57.3**	**+0.9**
	comp=Z,9.6nm,1.1s					
MOTA	**Moosalm**	**127.68 330**	*i* P	**PKiKP**	**08 03 57.5**	**+0.6**
	comp=Z,7.8nm,1.1s					
SQTA	**Sankt Quirin**	**127.71 329**	*e*P	**PKiKP**	**08 03 57.6**	**+0.8**
	comp=Z,6.7nm,1.1s					
RETA	**Reutte**	**127.75 330**	*e*P	**PKiKP**	**08 03 57.3**	**+0.4**
	comp=Z,11nm,1.5s					
FETA	**Feichten**	**128.08 329**	*i* P	**PKiKP**	**08 03 58.6**	**+1.0**
	comp=Z,5.1nm,0.9s					
LPAZ	**La Paz**	**132.39 117**	PKP	**PKiKP**	**08 04 08.2**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=265,slow=4.7,SNR=11					
SIV	**San Ignacio**	**138.66 121**	PKP	**PKPdf**	**08 04 19.0**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=208,slow=2.3,SNR=7.4					
BDFB	**Brasilia**	**149.33 132**	PKPbc	**PKPbc**	**08 04 41.2**	**+0.6**
	comp=Z,5.9nm,0.8s,baz=39,slow=1.9,SNR=6.2					
TORD	**Torodi Ar. Bea**	**152.44 289**	PKPbc	**PKPbc**	**08 04 46.3**	**-1.6**
	comp=Z,4.2nm,0.8s,baz=36,slow=1.9,SNR=18					

JMA ***06*** *08:05:36.9±0.2,24°.53N×121°.95E,h62km±3km,M3.0*
TAP ***06*** *08:05:37.3,24°.57N×121°.95E,h49km,ML3.6,B*
ISC 06 08:05:38.2±1.2,24°.59N±0°.02×121°.99E±0°.02,h45km±5km,
n96,σ0°90/151,12C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.13**	**277**	*i* P	**Pn**	**08 05 45.4**	**-0.1**
	baz=294						
TWC				*i* S	**Sn**	**08 05 51.3**	**+0.6**
	baz=294						
EWUT	**Wuta**	**0.24**	**233**	⇑*i* P	**Pn**	**08 05 46.1**	**-0.2**
	baz=230						
EWUT				S	**Sn**	**08 05 52.1**	**+0.1**
	baz=230						
NDS	**Dongshan**	**0.25**	**279**	⇑*i* P	**Pn**	**08 05 46.4**	**0.0**
	baz=286						
NDS				S	**Sn**	**08 05 52.5**	**+0.3**
	baz=286						
EGS		**0.26**	**348**	*e*P	**Pn**	**08 05 46.6**	**+0.1**
	baz=5.0						
ILA	**Ilan**	**0.28**	**308**	⇑*i* P	**Pn**	**08 05 47.0**	**+0.3**
	baz=323						
ILA				*e*S	**Sn**	**08 05 54.3**	**+1.7**
	baz=323						
ENA	**Nanau**	**0.28**	**234**	⇑*i* P	**Pn**	**08 05 46.4**	**-0.3**
	baz=230						
ENA				*e*S	**Sn**	**08 05 52.8**	**+0.2**
	baz=230						
NTC	**Toucheng**	**0.30**	**331**	P	**Pn**	**08 05 46.9**	**+0.1**
	baz=344						
NTC				*e*S	**Sn**	**08 05 53.4**	**+0.5**
	baz=344						
TWE	**Neicheng**	**0.32**	**293**	⇑*i* P	**Pn**	**08

NNSB	**Datong**	**0.58 254**	P	**Pn**	**08 05 49.7**	**-0.6**
	baz=254					
NNSB			*e*S	**Sn**	**08 05 58.2**	**-0.7**
	baz=254					
NSK	**Sanguang**	**0.58 278**	P	**Pn**	**08 05 49.9**	**-0.4**
	baz=281					
NSK			S	**Sn**	**08 05 58.6**	**-0.3**
	baz=281					
NNS	**Nan Shan**	**0.58 255**	P	**Pn**	**08 05 49.7**	**-0.6**
	baz=250					
NNS			*e*S	**Sn**	**08 05 58.4**	**-0.7**
	baz=250					
ETLH	**Xiulin Townshi**	**0.60 230**	P	**Pn**	**08 05 49.9**	**-0.7**
	baz=238					
ETLH			*e*S	**Sn**	**08 05 58.6**	**-0.8**
	baz=238					
TAP	**Taipei**	**0.62 315**	*e*P	**Pn**	**08 05 50.6**	**-0.1**
	baz=319					
TAP			*e*S	**Sn**	**08 06 00.2**	**+0.5**
	baz=319					
TWD	**Chiawan**	**0.63 215**	P	**Pn**	**08 05 50.1**	**-0.6**
	baz=205					
TWD			S	**Sn**	**08 05 59.4**	**-0.3**
	baz=205					
YM01	**YM01**	**0.67 325**	P	**Pn**	**08 05 51.1**	**-0.3**
	baz=329					
YM01			*e*S	**Sn**	**08 06 00.2**	**-0.7**
	baz=329					
HWA	**Hwalien**	**0.71 210**	*e*P	**Pn**	**08 05 50.9**	**-0.9**
	baz=207					
TWS1	**Kuangyinshan**	**0.72 314**	P	**Pn**	**08 05 52.0**	**-0.1**
	baz=325					
TWS1			S	**Sn**	**08 06 03.2**	**+1.1**
	baz=325					
NTST	**Danshui**	**0.75 319**	*e*P	**Pn**	**08 05 52.3**	**-0.1**
	baz=331					
NTST			*e*S	**Sn**	**08 06 04.0**	**+1.3**
	baz=331					
FUSS	**Fushou**	**0.76 243**	P	**Pn**	**08 05 52.3**	**-0.6**
	baz=237					
FUSS			S	**Sn**	**08 06 02.6**	**-0.8**
	baz=237					
TWY	**Chenhua**	**0.77 332**	P	**Pn**	**08 05 53.2**	**+0.6**
	baz=336					
TWY			*e*S	**Sn**	**08 06 03.9**	**+0.8**
	baz=336					
WHF	**Hehuan Shan**	**0.80 236**	P	**Pn**	**08 05 52.8**	**-0.7**
	baz=235					
WHF			*e*S	**Sn**	**08 06 04.3**	**-0.2**
	baz=235					
TWT	**Tachien**	**0.82 246**	*e*P	**Pn**	**08 05 53.8**	**+0.3**
	baz=242					
TWT			*e*S	**Sn**	**08 06 04.6**	**0.0**
	baz=242					
NCUH	**Zhongli**	**0.82 297**	P	**Pn**	**08 05 53.0**	**-0.4**
	baz=299					
NCUH			S	**Sn**	**08 06 04.7**	**+0.2**
	baz=299					
TDCB	**Techi**	**0.83 246**	P	**Pn**	**08 05 53.5**	**-0.1**
	baz=242					
TDCB			*e*S	**Sn**	**08 06 04.2**	**-0.7**
	baz=242					
JYNG	**Yonagunijimaku**	**0.88 99**	P	**Pn**	**08 05 54.0**	**-0.2**
JYNG			*e*S	**Sn**	**08 06 06.5**	**+0.7**
LIOB	**Emei**	**0.89 273**	P	**Pn**	**08 05 54.1**	**-0.2**
	baz=283					
LIOB			S	**Sn**	**08 06 06.9**	**+0.8**
	baz=283					
NSTT	**Nanjuang**	**0.90 273**	P	**Pn**	**08 05 54.3**	**-0.2**
	baz=281					
NSTT			*e*S	**Sn**	**08 06 06.7**	**+0.3**
	baz=281					
CHGB	**Renai**	**0.92 235**	*e*P	**Pn**	**08 05 55.3**	**+0.5**
	baz=237					
CHGB			*e*S	**Sn**	**08 06 06.8**	**-0.3**
	baz=237					
ESL	**Shilin**	**0.93 213**	*e*P	**Pn**	**08 05 53.4**	**-1.4**
	baz=221					
ESL			*e*S	**Sn**	**08 06 05.7**	**-1.3**
	baz=221					
YOJ	**Yonaguni jima**	**0.94 98**	P	**Pn**	**08 05 54.8**	**-0.1**
YOJ			S	**Sn**	**08 06 07.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.94 98**	*e*P	**Pn**	**08 05 54.1**	**-0.8**
	baz=88					
YOJ			*e*S	**Sn**	**08 06 07.7**	**+0.4**
	baz=88					
HSN	**Hsinchu**	**0.95 283**	*e*P	**Pn**	**08 05 54.9**	**-0.2**
	baz=286					
OWD	**Renai**	**0.98 230**	*e*P	**Pn**	**08 05 55.5**	**-0.1**
	baz=220					
OWD			*e*S	**Sn**	**08 06 08.7**	**+0.2**
	baz=220					
WHP	**Taichung City**	**1.00 252**	P	**Pn**	**08 05 56.7**	**+0.8**
	baz=249					
WHP			*e*S	**Sn**	**08 06 09.4**	**+0.5**
	baz=249					
EGFH	**Guangfu**	**1.05 209**	*e*P	**Pn**	**08 05 57.4**	**+0.9**
	baz=217					
EGFH			*e*S	**Sn**	**08 06 09.4**	**-0.7**
	baz=217					
NMLH	**Miaoli**	**1.09 267**	*e*P	**Pn**	**08 05 57.1**	**0.0**
	baz=280					
NMLH			*e*S	**Sn**	**08 06 11.7**	**+0.6**
	baz=280					
WCS	**Beigang Elemen**	**1.12 242**	*e*P	**Pn**	**08 05 58.1**	**+0.7**
	baz=236					
TWQ1	**Liyutan**	**1.14 258**	*e*P	**Pn**	**08 05 57.9**	**+0.3**
	baz=258					
TWQ1			*e*S	**Sn**	**08 06 12.8**	**+0.7**
	baz=258					
VWDT	**VWDT**	**1.14 223**	*e*P	**Pn**	**08 05 57.9**	**+0.2**
	baz=215					
VWDT			*e*S	**Sn**	**08 06 12.4**	**+0.3**
	baz=215					
HGSD	**Ruisui**	**1.21 205**	*e*P	**Pn**	**08 05 58.8**	**+0.1**
	baz=203					
HGSD			*e*S	**Sn**	**08 06 15.8**	**+1.8**
	baz=203					
SMLT	**Sun Moon Lake**	**1.22 235**	*e*P	**Pn**	**08 06 00.0**	**+1.1**
	baz=234					
SMLT			*e*S	**Sn**	**08 06 16.9**	**+2.6**
	baz=234					
SSLB	**Suanglung**	**1.24 230**	*e*P	**Pn**	**08 05 59.5**	**+0.4**
	baz=218					
TYC	**Yuchr**	**1.24 237**	*e*P	**Pn**	**08 05 59.8**	**+0.7**
	baz=236					
TYC			*e*S	**Sn**	**08 06 17.3**	**+2.6**
	baz=236					
EHY	**Hungye**	**1.24 210**	*e*P	**Pn**	**08 05 57.7**	**-1.5**
	baz=208					
YULB	**Yu-li**	**1.35 208**	*e*P	**Pn**	**08 05 59.2**	**-1.5**
	baz=206					
EYUL	**Yuli**	**1.39 206**	*e*P	**Pn**	**08 06 01.6**	**+0.6**
	baz=205					
WJS	**Zhushan**	**1.39 237**	*e*P	**Pn**	**08 06 00.8**	**-0.3**
	baz=234					
WNT	**Mingjian**	**1.39 239**	*e*P	**Pn**	**08 06 00.9**	**-0.2**
	baz=237					
WCHH	**Zhanghua**	**1.40 249**	*e*P	**Pn**	**08 06 00.9**	**-0.4**
	baz=247					
FULB	**Fuli**	**1.53 205**	*e*P	**Pn**	**08 06 02.5**	**-0.6**
	baz=212					
ALS	**Alishan**	**1.53 225**	*e*P	**Pn**	**08 06 04.5**	**+1.2**
	baz=213					
CHN5	**Tsauling**	**1.56 231**	*e*P	**Pn**	**08 06 04.5**	**+1.0**
	baz=229					
CHN5			*e*S	**Sn**	**08 06 24.6**	**+2.0**
	baz=229					
CHKT	**Chengkung**	**1.59 201**	*e*P	**Pn**	**08 06 01.9**	**-2.0**
	baz=190					
WDLH	**Douliu**	**1.60 236**	*e*P	**Pn**	**08 06 05.5**	**+1.5**
	baz=247					
WDLH			*e*S	**Sn**	**08 06 26.5**	**+3.0**
	baz=247					
IRIF	**Iriomote-Funau**	**1.61 99**	*e*S	**Sn**	**08 06 23.7**	**+0.1**
WRL	**Guolierlin Hig**	**1.63 245**	*e*P	**Pn**	**08 06 03.8**	**-0.5**
	baz=243					
ELDTW	**Lidau**	**1.66 213**	*e*P	**Pn**	**08 06 03.2**	**-1.7**
	baz=203					
WTK	**Tuku**	**1.72 239**	*e*P	**Pn**	**08 06 06.1**	**+0.5**
	baz=236					
EDH	**Donghe**	**1.73 201**	*e*P	**Pn**	**08 06 04.0**	**-1.9**
	baz=193					
HATJ	**Hateruma jima**	**1.74 108**	*e*S	**Sn**	**08 06 28.2**	**+1.3**
TPUB	**Ta-pu**	**1.79 224**	*e*P	**Pn**	**08 06 07.8**	**+1.1**
	baz=211					
STYH	**Taoyuan**	**1.80 218**	*e*P	**Pn**	**08 06 07.2**	**+0.4**
	baz=208					
WTP	**Ta-pu**	**1.84 223**	*e*P	**Pn**	**08 06 08.0**	**+0.7**
	baz=220					
JKRS	**Kuro-shima**	**1.87 101**	P	**Pn**	**08 06 07.8**	**+0.1**
JKRS			*e*S	**Sn**	**08 06 30.8**	**+0.6**
TWK	**Hsinying**	**1.91 226**	*e*P	**Pn**	**08 06 09.3**	**+1.0**
	baz=223					
CHN1	**Nanshi**	**1.94 224**	*e*P	**Pn**	**08 06 10.3**	**+1.7**
	baz=235					
LDUT	**Ludao**	**1.97 194**	*e*P	**Pn**	**08 06 07.5**	**-1.6**
	baz=185					
JIJ	**Ishigaki jima**	**1.97 96**	P	**Pn**	**08 06 09.1**	**0.0**
JIJ			S	**Sn**	**08 06 31.8**	**-0.9**
SGST	**Jiashian**	**1.98 221**	*e*P	**Pn**	**08 06 09.8**	**+0.6**
	baz=217					
ICHU	**Yijhu**	**1.99 232**	*e*P	**Pn**	**08 06 10.8**	**+1.5**
	baz=240					
SLGT	**Liugui**	**2.01 218**	*e*P	**Pn**	**08 06 11.4**	**+1.7**
	baz=215					
JISG	**Ishigakijimahi**	**2.11 90**	P	**Pn**	**08 06 11.3**	**+0.3**
JISG			*e*S	**Sn**	**08 06 36.1**	**+0.1**
TSMG	**Majia**	**2.25 214**	*e*P	**Pn**	**08 06 14.3**	**+1.4**
	baz=202					
MASBT	**Mashibuluo**	**2.33 213**	*e*P	**Pn**	**08 06 14.4**	**+0.3**
	baz=202					
MATB	**Ma-tsu**	**2.41 310**	*e*P	**Pn**	**08 06 14.0**	**-1.2**
	baz=311					
PNG	**Penghu**	**2.45 246**	*e*P	**Pn**	**08 06 14.5**	**-1.2**
	baz=243					
PHUB	**P'eng-hu**	**2.46 245**	*e*P	**Pn**	**08 06 14.7**	**-1.1**
	baz=241					
JTJ	**Tarama**	**2.47 88**	S	**Sn**	**08 06 45.7**	**+0.9**
PTMZ	**Houxiangcun**	**2.65 280**	*e*P	**Pn**	**08 06 17.2**	**-1.1**
	baz=279					
LYJJ	**Jianjiangzhen**	**2.80 314**	*e*P	**Pn**	**08 06 18.8**	**-1.7**
	baz=315					
XPSS	**Dashiqiu**	**2.84 325**	*e*P	**Pn**	**08 06 19.3**	**-1.7**
	baz=327					
KNM	**Kinmen**	**3.25 268**	*e*P	**Pn**	**08 06 27.1**	**+0.5**
	baz=265					
KNMB	**Chin-men Tao**	**3.28 268**	*e*P	**Pn**	**08 06 24.8**	**-2.3**
	baz=266					
AXDP	**Jialang**	**3.67 276**	*e*P	**Pn**	**08 06 31.4**	**-1.0**
	baz=274					

IDC 06 08:17:58.0±9.3, 25°.35N×144°.05E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.1/50, mbtmp3.6/4, Error ellipse: s-maj=357.5km s-min=26.8km az=74.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.00**	**193**	P	P	08 26 23.0	-0.3
	1.1nm,0.6s,baz=15,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**49.71**	**192**	P	P	08 26 52.2	+0.1
	0.2nm,0.6s,baz=1.9,slow=7.5,SNR=4.9						
MKAR	**Makanchi Array**	**52.87**	**311**	P	P	08 27 15.4	-0.2
	0.5nm,0.8s,baz=103,slow=9.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**55.45**	**315**	P	P	08 27 34.3	0.0
	0.7nm,0.4s,baz=91,slow=8.1,SNR=5.3						

GUC 06 08:44:08.7±0.6, 43°.74S×74°.20W, h34km±2km, ML3.8, 1C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.74**	**32**	*e*P	Pn	08 44 21.9	-0.9
GO07				*i* S	Sn	08 44 32.6	-0.2
GO07				IAML		08 44 40.3	
	comp=N,8μm,0.3s						
LL07	**Hotel Espejo d**	**1.05**	**30⇑**	*i* P	Pn	08 44 27.3	+0.2
LL07				*i* S	Sn	08 44 41.2	+0.7
LL07				IAML		08 44 43.9	
	comp=E,5μm,0.3s						
LL01	**San Ignacio de**	**1.89**	**45**	*e*P	Pn	08 44 39.3	+0.7
LL01				*i* S	Sn	08 45 02.8	+1.6
COYC	**Coyhaique**	**2.37**	**141**	*e*P	Pn	08 44 46.2	+1.0
COYC				IAML		08 45 22.6	
	comp=E,344nm,0.9s						
LL05	**Los Muermos**	**2.40**	**13**	*e*P	Pn	08 44 46.2	+0.7
LL05				*i* S	Sn	08 45 15.4	+1.7
LL05				IAML		08 45 28.3	
	comp=N,373nm,0.6s						
LL03	**Petrohue**	**2.92**	**28**	*e*P	Pn	08 44 53.8	+1.0
LL03				*i* S	Sn	08 45 28.1	+1.4
LL03				IAML		08 45 36.0	
	comp=E,525nm,0.5s						
LL04	**Puerto Octay**	**3.13**	**26**	*e*P	Pn	08 44 56.2	+0.6
LL04				*i* S	Sn	08 45 32.3	+0.6
LL04				IAML		08 45 37.8	
	comp=E,296nm,0.6s						
LC01	**Cunco**	**5.15**	**21**	*e*P	Pn	08 45 24.1	+0.7
LC01				*i* S	Sn	08 46 22.1	+0.5
LC01				IAML		08 46 37.2	
	comp=E,15nm,0.4s						

*TUL **06** 08:45:12.3±1.0, 35°.67N±0°.02×97°.41W±0°.02, h7km±6km, ML2.9, mb_Lg2.4/24(NEIC), Error ellipse: s-maj=3.1km s-min=1.7km az=119.0*

NEIC 06 08:45:12.3±1.0, 35°.68N±0°.01×97°.42W±0°.02, h8km±5km, Error ellipse: s-maj=2.2km s-min=1.8km az=144.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**181**	Pg	Pg	08 45 14.6	-0.2
OK009				Sg	Sg	08 45 16.4	-0.1
OK029	**Liberty Lake**	**0.12**	**347**	Pg	Pg	08 45 15.4	+0.3
OK029				Sg	Sg	08 45 17.8	+0.9
OK025	**Westminster Rd**	**0.12**	**146**	Pg	Pg	08 45 14.9	-0.1
OK025				Sg	Sg	08 45 16.8	-0.2
BCOK	**Bluff Creek, N**	**0.15**	**261**	Pg	Pg	08 45 15.9	+0.2
BCOK				Sg	Sg	08 45 18.5	+0.6
OK001	**Jones High Sch**	**0.16**	**138**	Pg	Pg	08 45 15.6	-0.1
OK001				Sg	Sg	08 45 18.2	+0.2
OK005	**Luther M Schoo**	**0.19**	**98**	Pg	Pg	08 45 16.3	0.0
OK005				Sg	Sg	08 45 19.3	+0.4
OKCFA	**Oklahoma City**	**0.27**	**185**		Pg	08 45 17.6	0.0
OKCFA				Sg	Sg	08 45 21.6	+0.3
OKCSW	**OKLAHOMA CITY**	**0.28**	**183**	Pg	Pg	08 45 17.7	-0.1
OKCSW				Sg	Sg	08 45 21.9	+0.4
FNO	**Franklin**	**0.42**	**178**	Pg	Pg	08 45 20.5	-0.1
FNO				Sg	Sg	08 45 26.5	+0.4
OK031	**S. Brethren Rd**	**0.55**	**60**	Pg	Pg	08 45 22.8	-0.1
OK031				IAmb_Lg		08 45 28.9	
	comp=Z,28nm,0.9s						
OK030	**Cody Creek RV**	**0.57**	**64**		Pg	08 45 23.2	-0.3
OK034	**N. Norfolk Rd.**	**0.66**	**60**		Pg	08 45 24.9	-0.2
W35A	**Tecumseh**	**0.69**	**140**		Pg	08 45 25.2	-0.4
QUOK	**Quay**	**0.76**	**50**	Pg	Pg	08 45 26.6	-0.3
CROK	**Carrier**	**0.94**	**331**	Pg	Pg	08 45 30.3	-0.1
BLOK	**Blackwell**	**1.09**	**9**	Pg	Pg	08 45 32.8	-0.5
X34A	**Smith Ranch, M**	**1.13**	**197**	Pg	Pg	08 45 33.6	-0.4
GC02	**Grant County #**	**1.22**	**343**	Pn	Pb	08 45 35.0	-0.6
OK032	**Salt Plains WL**	**1.29**	**331**	Pn	Pn	08 45 36.2	-0.4
KAN13	**South Haven SW**	**1.33**	**358**	Pn	Pn	08 45 37.2	0.0
TUL1	**Leonard**	**1.34**	**80**	Pn	Pn	08 45 36.1	-1.2
KAN14	**Manchester OK**	**1.35**	**341**	Pn	Pn	08 45 37.1	-0.3
KAN17	**Caldwell West**	**1.39**	**349**	Pn	Pn	08 45 38.0	0.0
T35A	**Sooner Cattle**	**1.44**	**31**		Pn	08 45 38.4	-0.2
WMOK	**Wichita Mounta**	**1.46**	**230**	Pn	Pn	08 45 38.4	-0.5
U32A	**Winter Ranch,**	**1.46**	**299**	Pn	Pn	08 45 38.9	-0.1
KAN05	**Bluff City Nor**	**1.47**	**346**	Pn	Pn	08 45 39.4	+0.3
KAN01	**Argonia South**	**1.49**	**350**	Pn	Pn	08 45 39.8	+0.3
KAN10	**Anthony SW Sta**	**1.54**	**340**	Pn	Pn	08 45 39.4	-0.7
KAN06	**Argonia West S**	**1.60**	**347**	Pn	Pb	08 45 41.7	-0.5
KAN08	**Anthony NE Sta**	**1.60**	**344**	Pn	Pb	08 45 41.6	-0.6
KAN08				IAmb_Lg		08 46 04.7	
	comp=Z,35nm,1.1s						
KAN16	**Harper SW Stat**	**1.63**	**342**	Pn	Pn	08 45 41.7	+0.4
KAN12	**Harper NE Stat**	**1.68**	**344**	Pn	Pb	08 45 43.0	-0.5
LOOK	**Love County**	**1.70**	**173**	Pn	Pn	08 45 41.8	-0.3
LOOK				IAmb_Lg		08 46 09.0	
	comp=Z,18nm,0.9s						
X37A	**Clayton**	**2.00**	**122**	Pn	Pn	08 45 46.6	+0.2
X37A				IAmb_Lg		08 46 18.2	
	comp=Z,14nm,0.7s						
Z35A	**Perchaven, San**	**2.35**	**177**	IAmb_Lg		08 46 32.2	
	comp=Z,15nm,1.1s						
U38A	**Gravette**	**2.57**	**72**	Pn	Pn	08 45 54.7	+0.4
HHAR	**Hobbs**	**2.89**	**77**	Pn	Pn	08 45 58.9	+0.3
R32A	**Long Quarter,**	**2.92**	**340**	Pn	Pn	08 45 59.7	+0.6
W39A	**Magazine**	**3.01**	**98**	Pn	Pn	08 46 00.5	+0.3
MIAR	**Mount Ida**	**3.35**	**109**	Pn	Pn	08 46 04.4	-0.5
MIAR				IAmb_Lg		08 47 03.5	
	comp=Z,10nm,1.0s						
KSU1	**Kansas State U**	**3.47**	**10**	Pn	Pn	08 46 06.6	0.0
KSU1				IAmb_Lg		08 47 09.8	
	comp=Z,12nm,0.8s						
ABTX	**Abilene, Hawle**	**3.56**	**212**	Pn	Pn	08 46 07.4	-0.5
ABTX				IAmb_Lg		08 47 08.2	
	comp=Z,10nm,0.8s						
CBKS	**Cedar Bluff**	**3.63**	**330**	IAmb_Lg		08 47 09.7	
	comp=Z,8.5nm,0.7s						
U40A	**Yellville**	**3.76**	**78**	Pn	Pn	08 46 10.9	+0.3
U40A				IAmb_Lg		08 47 09.0	
	comp=Z,9.9nm,1.1s						
S39A	**Bolivar**	**3.86**	**57**	Pn	Pn	08 46 12.0	+0.1
X40A	**Basin Creek Fa**	**3.95**	**106**	Pn	Pn	08 46 13.6	+0.5
WHAR	**Wooly Hollow**	**4.21**	**94**	Pn	Pn	08 46 16.4	-0.3
W41B	**Gary Mavity, V**	**4.25**	**95**	Pn	Pn	08 46 16.9	-0.4
W41B				IAmb_Lg		08 47 29.9	
	comp=Z,13nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.31**	**86**	Pn	Pn	08 46 17.6	-0.6
MGMO	**Mountain Grove**	**4.41**	**69**	IAmb_Lg		08 47 43.6	
	comp=Z,7.4nm,0.7s						
MSTX	**Muleshoe**	**4.72**	**250**	Pn	Pn	08 46 23.1	-0.8
R40A	**Maddies Statio**	**4.88**	**56**	Pn	Pn	08 46 25.7	-0.2

IDC 06 08:53:54.4±3.3, 3°.60N×94°.50E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/38, mbtmp3.5/4, ML4.5/1, Error ellipse: s-maj=122.5km s-min=28.9km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.39**	**16**	Pn	Pn	08 57 33.7	+0.6
	0.6nm,0.3s,baz=207,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**44.31**	**348**	P	P	09 02 05.8	-0.2
	0.3nm,0.8s,baz=157,slow=9.2,SNR=4.2						
WRA	**Warramunga Arr**	**45.59**	**122**	P	P	09 02 16.3	-0.5
	0.6nm,0.7s,baz=300,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**46.99**	**127**	P	P	09 02 27.9	+0.2
	0.3nm,0.6s,baz=299,slow=8.5,SNR=4.2						

*INET **06** 09:01:26.8±0.3, 12°.80N×88°.64W, h21km±5km, MW3.7*
*SNET **06** 09:01:27.0±1.1, 12°.84N×88°.69W, h54km±11km, ML3.7*
*UCR **06** 09:01:27.1±1.1, 12°.84N×88°.69W, h55km±11km, ML3.7*
*GCG **06** 09:01:31.6±0.5, 12°.35N×89°.53W, h32km±293km, MD3.9*

ISC 06 09:01:26.6±2.2, 12°.75N±0°.06×88°.68W±0°.03, h34km±4km, n74, σ0s64/107, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.58**	**11**	*i* P	Pn	**09 01 38.8**	**+0.3**
ALJI				*e*S	Sn	**09 01 47.7**	**+0.9**
ALJI	**Alcalda de J**	**0.58**	**11**	*i* P	Pn	**09 01 38.8**	**+0.3**
ALJI				*e*S	Sn	**09 01 47.7**	**+0.9**
COEB	**Comit de Eme**	**0.76**	**11**	*i* P	Pn	**09 01 40.9**	**-0.2**
COEB				*e*S	Sn	**09 01 52.0**	**+0.6**
COEB				*e*S		09 01 52.4	
COEB				IAML		09 01 52.8	
	comp=Z,5μm,0.3s						
COEB	**Comit de Eme**	**0.76**	**11**	*i* P	Pn	**09 01 40.9**	**-0.2**
COEB				*e*S	Sn	**09 01 52.0**	**+0.6**
COEB				*e*S		09 01 52.4	
COEB				IAML		09 01 52.8	
	comp=Z,5μm,0.3s						
LCY	**Lacayo**	**0.77**	**29**	*e*P	Pn	**09 01 41.0**	**-0.2**
LCY	**Lacayo**	**0.77**	**29**	*e*P	Pn	**09 01 41.0**	**-0.2**
TECO	**Alcaldia de Te**	**0.79**	**353**	*e*P	Pn	**09 01 41.2**	**-0.2**
TECO				*e*S	Sn	**09 01 51.6**	**-0.4**
TECO	**Alcaldia de Te**	**0.79**	**353**	*e*P	Pn	**09 01 41.2**	**-0.2**
TECO				*e*S	Sn	**09 01 51.6**	**-0.4**
PACA	**Pacayal**	**0.80**	**26**	*e*P	Pn	**09 01 41.8**	**+0.2**
PACA				*e*S	Sn	**09 01 52.5**	**+0.2**
PACA	**Pacayal**	**0.80**	**26**	*e*P	Pn	**09 01 41.8**	**+0.2**
PACA				*e*S	Sn	**09 01 52.5**	**+0.2**
SNVI	**San Vicente**	**0.87**	**350**	*e*P	Pn	**09 01 42.3**	**-0.4**
SNVI	**San Vicente**	**0.87**	**350**	*e*P	Pn	**09 01 42.3**	**-0.4**
CNRM	**Centro Naciona**	**0.88**	**35**	*e*P	Pn	**09 01 42.4**	**-0.2**
CNRM				*e*S	Sb	**09 01 55.2**	**+0.2**
CNRM	**Centro Naciona**	**0.88**	**35**	*e*P	Pn	**09 01 42.4**	**-0.2**
CNRM				*e*S	Sb	**09 01 55.2**	**+0.2**
PQSS	**Presa 15 de Se**	**0.88**	**8**	*e*P	Pn	**09 01 42.5**	**-0.1**
PQSS				*e*S	Sn	**09 01 54.7**	**+0.5**
PQSS	**Presa 15 de Se**	**0.88**	**8**	*e*P	Pn	**09 01 42.5**	**-0.1**
PQSS				*e*S	Sn	**09 01 54.7**	**+0.5**
COEG	**Centro de Oper**	**0.89**	**347**	*e*P	Pn	**09 01 42.4**	**-0.4**
COEG				*e*S	Sn	**09 01 54.2**	**-0.3**
COEG				IAML		09 01 57.2	
	comp=Z,3μm,0.2s						
COEG	**Centro de Oper**	**0.89**	**347**	*e*P	Pn	**09 01 42.4**	**-0.4**
COEG				*e*S	Sn	**09 01 54.2**	**-0.3**
COEG				IAML		09 01 57.2	
	comp=Z,3μm,0.2s						
LFRS	**El Faro**	**0.94**	**337**	*i* P	Pn	**09 01 43.0**	**-0.6**
LFRS	**El Faro**	**0.94**	**337**	*i* P	Pn	**09 01 43.0**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.95**	**357**	*e*P	Pn	**09 01 43.6**	**0.0**
SCLA				*e*S	Sn	**09 01 56.6**	**+0.7**
SCLA	**Alcaldia de Sa**	**0.95**	**357**	*e*P	Pn	**09 01 43.6**	**0.0**
SCLA				*e*S	Sn	**09 01 56.6**	**+0.7**
LCND	**La Caada**	**0.95**	**54**	*e*P	Pn	**09 01 43.2**	**-0.4**
LCND				IAML		09 01 57.9	
	comp=Z,5μm,0.2s						
LCND	**La Caada**	**0.95**	**54**	*e*P	Pn	**09 01 43.2**	**-0.4**
LCND				*e*S	Sn	**09 01 56.0**	**0.0**
LCND				IAML		09 01 57.9	
	comp=Z,5μm,0.2s						
LALI	**Alcalda de L**	**0.96**	**320**	*e*P	Pn	**09 01 43.3**	**-0.4**
LALI				*e*S	Sn	**09 01 56.3**	**+0.1**
LALI	**Alcalda de L**	**0.96**	**320**	*e*P	Pn	**09 01 43.5**	**-0.3**
LALI	**Alcalda de L**	**0.96**	**320**	*e*P	Pn	**09 01 43.3**	**-0.4**
LALI				*e*S	Sn	**09 01 56.3**	**+0.1**
PAVA	**Las Pavas**	**0.99**	**346**	*e*P	Pn	**09 01 43.9**	**-0.4**
PAVA				*e*S	Sn	**09 01 57.1**	**-0.1**
PAVA	**Las Pavas**	**0.99**	**346**	*e*P	Pn	**09 01 44.0**	**-0.3**
PAVA	**Las Pavas**	**0.99**	**346**	*e*P	Pn	**09 01 43.9**	**-0.4**
PAVA				*e*S	Sn	**09 01 57.1**	**-0.1**
AEIL	**Aeropuerto Ilo**	**1.03**	**336**	*e*P	Pn	**09 01 44.7**	**-0.1**
AEIL				IAML		09 02 00.3	
	comp=Z,2μm,0.4s						
AEIL	**Aerop

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA				eS	Sn	09 02 01.2	-0.4
JAYA	**Jayaque - finc**	**1.17**	**320**	eP	Pn	09 01 46.5	-0.2
JAYA				eS	Sn	09 02 01.2	-0.4
TACO	**Tacachico**	**1.38**	**332**	eP	Pn	09 01 49.0	-0.5
TACO				eS	Sn	09 02 06.2	-0.4
TACO	**Tacachico**	**1.38**	**332**	eP	Pn	09 01 49.0	-0.5
TACO				eS	Sn	09 02 06.2	-0.4
CEVE	**Cerro Verde**	**1.41**	**320**	eP	Pn	09 01 49.7	-0.5
CEVE				IAML		09 02 10.5	
	comp=Z,1μm,0.4s						
CEVE	**Cerro Verde**	**1.41**	**320**	eP	Pn	09 01 49.7	-0.5
CEVE				IAML		09 02 10.5	
	comp=Z,1μm,0.4s						
RTR	**El Retiro**	**1.48**	**321**	eP	Pn	09 01 51.3	+0.3
RTR	**El Retiro**	**1.48**	**321**	eP	Pn	09 01 51.3	+0.3
UNIC	**Universidad Ca**	**1.49**	**326**	eP	Pn	09 01 50.7	-0.4
UNIC				eS	Sn	09 02 09.7	+0.3
UNIC	**Universidad Ca**	**1.49**	**326**	eP	Pn	09 01 50.7	-0.4
UNIC				eS	Sn	09 02 09.7	+0.3
NUBE	**Las Nubes**	**1.57**	**317**	eP	Pn	09 01 52.0	-0.2
NUBE				eS	Sn	09 02 10.6	-0.9
NUBE	**Las Nubes**	**1.57**	**317**	eP	Pn	09 01 52.0	-0.2
NUBE				eS	Sn	09 02 10.6	-0.9
CRIN	**San Cristobal**	**1.59**	**92**	eP	Pn	09 01 52.6	+0.1
CRIN				eS	Sn	09 02 12.3	+0.4
SLOZ	**Alcaldia de Sa**	**1.66**	**320**	eP	Pn	09 01 53.4	0.0
MTO3	**Montecristo**	**1.77**	**338**	eP	Pn	09 01 54.5	-0.6
MTO3	**Montecristo**	**1.77**	**338**	eP	Pn	09 01 54.5	-0.6
TGUH	**Tegucigalpa,Un**	**1.89**	**46**	i P	Pn	09 01 56.1	-0.5
TGUH	**Tegucigalpa,Un**	**1.89**	**46**	eP	Pn	09 01 56.1	-0.5
TGUH	**Tegucigalpa,Un**	**1.89**	**46**	i P	Pn	09 01 56.1	-0.5
ESQI	**Esquipulas**	**1.91**	**340**	eP	Pn	09 01 56.9	0.0
COPN	**Copaltepe**	**2.12**	**105**	eP	Pn	09 01 59.2	-0.5
MOMN	**Momotombo**	**2.12**	**99**	eP	Pn	09 01 59.2	-0.6
NBG	**Las Nubes**	**2.44**	**319**	eP	Pn	09 02 07.3	+2.9
NBG				eS	Sb	09 02 38.5	-1.4
FUG	**Fuego 3**	**2.69**	**309**	eP	Pn	09 02 10.1	+2.3
FUG				eS	Sn	09 02 39.6	+0.3
STG3	**Santiaguito 3,**	**3.42**	**305**	eP	Pn	09 02 19.8	+2.1
STG3				eS	Sn	09 02 55.5	-1.7

*TAP **06** 09:12:14.1, 24.°33N×121.°76E, h6km, ML3.3, B*
*JMA **06** 09:12:14.3, 24.°29N×121.°72E, h16km±2km, M2.8*
ISC 06 09:12:14.1±0.8, 24.°32N±0.°01×121.°76E±0.°02, h7km±5km, n88, σ0.°86/140, 6C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.02**	**251**	i P	Pg	09 12 15.6	+0.2
EHP	baz=200			i S	Sg	09 12 16.5	+0.2
ENA	**Nanau**	**0.11**	**350**	⇓iP	Pg	09 12 16.8	+0.2
ENA	baz=357			i S	Sg	09 12 18.2	-0.1
EWUT	**Wuta**	**0.13**	**6**	⇓iP	Pg	09 12 17.2	+0.3
EWUT	baz=10.0			i S	Sg	09 12 19.0	+0.2
ETL	**Fush Village**	**0.20**	**219**	⇓iP	Pg	09 12 18.7	+0.5
ETL	baz=203			S	Sg	09 12 21.9	+1.0
NACB	**Ninganchiao**	**0.21**	**227**	⇓iP	Pg	09 12 18.7	+0.4
NACB	baz=211			S	Sg	09 12 22.1	+1.0
ETLH	**Xiulin Townshi**	**0.28**	**247**	⇓iP	Pg	09 12 20.0	+0.3
ETLH	baz=244			S	Sg	09 12 24.1	+0.7
TWD	**Chiawan**	**0.28**	**213**	⇓iP	Pg	09 12 20.1	+0.5
TWD	baz=199			S	Sb	09 12 24.6	-1.9
TWC	**Suao**	**0.30**	**15**	⇓iP	Pg	09 12 20.5	+0.4
TWC	baz=19			i S	Sg	09 12 24.4	+0.4
NDS	**Dongshan**	**0.32**	**352**	P	Pg	09 12 20.8	+0.4
NDS	baz=354			S	Sg	09 12 24.8	+0.1
NDT	**Datong Townshi**	**0.36**	**321**	⇑iP	Pg	09 12 21.9	+0.7
NDT	baz=321			S	Sg	09 12 27.0	+0.9
NNSB	**Datong**	**0.36**	**288**	⇑iP	Pg	09 12 21.7	+0.4
NNSB	baz=286			S	Sg	09 12 26.4	+0.3
ENTT	**Nioudou**	**0.37**	**331**	⇑iP	Pg	09 12 21.9	+0.5
ENTT	baz=332			i S	Sg	09 12 27.0	+0.8
HWA	**Hwalien**	**0.37**	**203**	eP	Pb	09 12 22.3	-0.7
NNS	**Nan Shan**	**0.38**	**289**	⇑iP	Pg	09 12 21.9	+0.4
NNS	baz=288			i S	Sg	09 12 27.0	+0.5
TWE	**Neicheng**	**0.41**	**348**	P	Pg	09 12 22.7	+0.6
TWE	baz=351			S	Sg	09 12 27.9	+0.4
ETM	**Tongmen**	**0.43**	**215**	i P	Pg	09 12 22.8	+0.3
ILA	**Ilan**	**0.45**	**358**	eP	Pg	09 12 23.6	+0.8
ILA	baz=1.0			eS	Sg	09 12 29.9	+1.2
TEYL	**Yanliau Villag**	**0.47**	**199**	eP	Pb	09 12 23.9	-0.9
FUSS	**Fushou**	**0.48**	**262**	P	Pb	09 12 24.2	-0.9
FUSS	baz=260			eS	Sb	09 12 30.7	-1.8
WHF	**Hehuan Shan**	**0.49**	**249**	⇓iP	Pg	09 12 23.9	+0.3
WHF	baz=247			S	Sb	09 12 30.8	-2.0
YHNB	**Yeheng**	**0.50**	**315**	⇑iP	Pb	09 12 24.5	-0.8
YHNB	baz=315			S	Sg	09 12 30.7	+0.3
NSK	**Sanguang**	**0.51**	**314**	⇑iP	Pb	09 12 24.7	-0.9
NSK	baz=315			S	Sb	09 12 31.9	-1.4
NWLT	**Wulai**	**0.52**	**333**	P	Pg	09 12 24.8	+0.6
NWLT	baz=333			S	Sg	09 12 30.9	0.0
NTC	**Toucheng**	**0.54**	**6**	eP	Pg	09 12 23.7	-0.9
NTC	baz=8.0			eS	Sg	09 12 30.4	-1.2
TWT	**Tachien**	**0.54**	**263**	eP	Pb	09 12 25.7	-0.4
TWT	baz=261			eS	Sb	09 12 33.1	-1.1
EGS		**0.55**	**16**	eP	Pg	09 12 24.2	-0.6
TDCB	baz=30 **Techi**	**0.56**	**264**	P	Pb	09 12 25.5	-0.8
TDCB	baz=262			eS	Sg	09 12 32.3	+0.1
ESL	**Shilin**	**0.58**	**211**	⇓iP	Pg	09 12 25.5	+0.1
ESL	baz=208			eS	Sg	09 12 33.1	+0.1
CHGB	**Renai**	**0.60**	**245**	⇓P	Pb	09 12 26.1	-0.9
CHGB	baz=232			S	Sb	09 12 34.6	-1.2
OWD	**Renai**	**0.65**	**236**	⇓P	Pb	09 12 27.1	-0.8
OWD	baz=224			eS	Sb	09 12 36.2	-1.0
TIPB	**Shuangxi**	**0.65**	**5**	eP	Pg	09 12 27.3	+0.6
TIPB	baz=354			eS	Sg	09 12 35.4	+0.1
NHDH	**Xindian Distri**	**0.68**	**341**	eP	Pb	09 12 28.5	+0.1
NHDH	baz=342			eS	Sg	09 12 36.6	+0.5
TWA	**Mucha**	**0.68**	**346**	eP	Pn	09 12 29.4	-0.9
TWA	baz=348			eS	Sg	09 12 36.6	+0.5
EGFH	**Guangfu**	**0.71**	**206**	eP	Pb	09 12 28.2	-0.8
TWB1	baz=214 **Santiao Chiao**	**0.72**	**17**	eP	Pg	09 12 28.5	+0.6
TWB1	baz=19			S	Sg	09 12 37.8	+0.5
WHP	**Taichung City**	**0.75**	**267**	P	Pb	09 12 29.6	+0.1
WHP	baz=266			eS	Sb	09 12 38.9	-1.1
NWF	**Wu-fen Shan**	**0.75**	**1**	eP	Pb	09 12 29.6	-0.1
NWF	baz=352			eS	Sg	09 12 38.9	+0.5
LIOB	**Emei**	**0.76**	**296**	eP	Pn	09 12 30.0	-1.3
LIOB	baz=296			eS	Sb	09 12 39.8	-0.4
NSTT	**Nanjuang**	**0.76**	**294**	P	Pb	09 12 29.9	+0.1
NSTT	baz=294			eS	Sb	09 12 39.9	-0.5
WPL	**Puli Township**	**0.80**	**248**	i P	Pn	09 12 30.4	-1.4
VWDT	baz=248 **VWDT**	**0.80**	**226**	⇓iP	Pb	09 12 29.7	-0.7
VWDT	baz=213			S	Sb	09 12 41.1	-0.3
DPDB	**Guoxing**	**0.81**	**250**	eP	Pn	09 12 31.2	-1.0
WCS	baz=250 **Beigang Elemen**	**0.82**	**252**	eP	Pb	09 12 30.7	-0.1
TNOU	baz=252 **National Taiwa**	**0.83**	**1**	eP	Pn	09 12 32.7	+0.4
TNOU	baz=2.0			eS	Sg	09 12 41.1	+0.2
NCUH	baz=2.0 **Zhongli**	**0.83**	**321**	eP	Pn	09 12 32.1	-0.3
TWS1	baz=313 **Kuangyinshan**	**0.84**	**338**	P	Pn	09 12 31.8	-0.7
TWS1	baz=339			eS	Sb	09 12 43.1	+0.5
YM01	baz=339 **YM01**	**0.84**	**348**	eP	Pn	09 12 31.9	-0.7
YM01	baz=349			eS	Sg	09 12 41.7	+0.3
HGSD	baz=349 **Ruisui**	**0.88**	**201**	eP	Pn	09 12 31.8	-1.1
SMLT	baz=218 **Sun Moon Lake**	**0.90**	**241**	P	Pb	09 12 31.9	-0.3
SMLT	baz=229			eS	Sn	09 12 44.5	-2.2
TWQ1	baz=229 **Liyutan**	**0.90**	**272**	eP	Pn	09 12 33.3	-0.1
SSLB	baz=272 **Suanglung**	**0.91**	**235**	⇓iP	Pb	09 12 31.8	-0.5
SSLB	baz=233			S	Sb	09 12 43.9	-0.7
NMLH	baz=233 **Miaoli**	**0.91**	**284**	eP	Pn	09 12 33.5	+0.1
NSY	baz=284 **Sanyi**	**0.92**	**276**	eP	Pn	09 12 33.5	0.0
TYC	baz=276 **Yuchr**	**0.92**	**244**	⇓P	Pb	09 12 32.0	-0.5
TYC	baz=242			eS	Sb	09 12 44.1	-0.9
TWY	baz=242 **Chenhua**	**0.97**	**351**	P	Pn	09 12 34.9	+0.7
TWY	baz=353			S	Sn	09 12 48.7	+0.5
WWF	baz=353 **Wufeng**	**1.01**	**255**	eP	Pn	09 12 36.3	+1.5
YULB	baz=249 **Yu-li**	**1.01**	**205**	eP	Pg	09 12 32.7	-0.9
WDJ	baz=205 **Dajia District**	**1.02**	**272**	eP	Pn	09 12 36.2	+1.3
EYUL	baz=272 **Yuli**	**1.05**	**203**	eP	Pb	09 12 34.3	-0.4
TWF1	baz=218 **Yuli**	**1.05**	**204**	i P	Pn	09 12 34.5	-0.9
WJS	baz=219 **Zhushan**	**1.07**	**243**	eP	Pn	09 12 34.9	-0.7
WNT	baz=236 **Mingjian**	**1.08**	**246**	eP	Pn	09 12 36.3	+0.6
JYNG	baz=235 **Yonagunijimaku**	**1.09**	**83**	P	Pb	09 12 35.3	0.0
JYNG				S	Sb	09 12 49.9	+0.2
YOJ	**Yonaguni jima**	**1.15**	**83**	P	Pb	09 12 36.1	-0.3
YOJ				eS	Sg	09 12 52.1	+1.1
YOJ	**Yonaguni jima**	**1.15**	**83**	eP	Pb	09 12 36.0	-0.3
ALS	baz=70 **Alishan**	**1.19**	**228**	P	Pn	09 12 37.2	-0.3
ALS	baz=213			eS	Sn	09 12 56.2	+2.1
FULB	baz=213 **Fuli**	**1.19**	**201**	eP	Pg	09 12 36.9	-0.2
CHN5	baz=216 **Tsauling**	**1.22**	**234**	⇓iP	Pg	09 12 38.7	+1.0
CHN5	baz=221			i S	Sn	09 12 56.6	+1.9
WDLH	**Douliu**	**1.28**	**241**	eP	Pg	09 12 39.9	+1.2
ELDTW	baz=241 **Lidau**	**1.31**	**211**	P	Pb	09 12 38.8	-0.5
EDH	baz=212 **Donghe**	**1.40**	**198**	eP	Pn	09 12 39.8	-0.4
WTK	baz=181 **Tuku**	**1.40**	**244**	eP	Pg	09 12 41.3	+0.2
CHN4	baz=244 **Tsaushan**	**1.44**	**228**	P	Pg	09 12 42.2	+0.4
CHN4	baz=226			eS	Sg	09 13 04.0	+3.5
TPUB	**Ta-pu**	**1.45**	**226**	P	Pg	09 12 41.3	-0.7
STYH	baz=210 **Taoyuan**	**1.46**	**219**	eP	Pg	09 12 42.0	-0.1
STYT	baz=219 **Tauyuan**	**1.47**	**219**	eP	Pg	09 12 42.8	+0.4
WTP	baz=219 **Ta-pu**	**1.50**	**225**	eP	Pg	09 12 43.1	+0.3
TWK	baz=209 **Hsinying**	**1.57**	**228**	eP	Pg	09 12 44.4	+0.2
CHN1	baz=211 **Nanshi**	**1.60**	**225**	P	Pg	09 12 45.0	+0.3
CHN1	baz=211			S	Sg	09 13 08.9	+3.4
ICHU	**Yijhu**	**1.66**	**235**	eP	Pg	09 12 45.7	-0.2
IRIF	baz=236 **Iriomote-Funau**	**1.79**	**89**	P	Pn	09 12 45.6	0.0
IRIF				S	Sn	09 13 08.6	0.0
HATJ	**Hateruma jima**	**1.88**	**97**	eS	Sn	09 13 11.3	+0.5
MASBT	**Mashibuluo**	**1.99**	**212**	eP	Pb	09 12 50.3	-0.4
JKRS	baz=203 **Kuro-shima**	**2.05**	**92**	P	Pn	09 12 49.8	+0.7
JKRS				S	Sn	09 13 15.5	+0.5
PHUB	**P'eng-hu**	**2.16**	**249**	eP	Pn	09 12 51.2	+0.7
JIJ	baz=248 **Ishigaki jima**	**2.17**	**88**	P	Pn	09 12 51.1	+0.3
JIJ				S	Sn	09 13 17.4	-0.5
JISG	**Ishigakijimahi**	**2.34**	**83**	P	Pn	09 12 52.9	-0.1
JISG				eS	Sn	09 13 21.7	-0.3
JTJ	**Tarama**	**2.70**	**83**	S	Sn	09 13 31.2	+0.3

IDC 06 09:31:59.3±1.4, 11.°33N×145.°16E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.5/53, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=78.1km s-min=24.3km az=97.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.26**	**353**	Pn	Pn	09 32 39.3	+1.3
GUMO	25nm,0.3s,baz=52,slow=17,SNR=2.6			Sn	Sn	09 33 06.3	-0.3
	20nm,0.3s,baz=356,slow=22,SNR=3.4						
WRA	**Warramunga Arr**	**32.85**	**199**	P	P	09 38 35.0	0.0
	1.0nm,1.0s,baz=20,slow=9.4,SNR=4.6						
ILAR	**Eielson Array**	**70.48**	**25**	P	P	09 43 15.2	-0.4
	0.5nm,0.4s,baz=250,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**84.72**	**27**	P	P	09 44 35.4	+0.3
	0.2nm,0.7s,baz=292,slow=5.2,SNR=3.4						

IDC 06 09:34:56.0±9.7, 4.°67S×153.°48E, h142km±65km, mb3.2/2, mb1 3.6/3, mb1mx2.8/48, mbtmp3.9/3, Error ellipse: s-maj=130.4km s-min=60.4km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.84**	**233**	P	Pn	09 36 47.0	-0.3
	7.1nm,0.3s,baz=52,slow=7.4,SNR=11						
PMG				S	Sn	09 38 16.2	+1.5
	2.0nm,0.3s,baz=282,slow=22,SNR=3.2						
WRA	**Warramunga Arr**	**24.04**	**229**	P	P	09 39 58.4	+0.3
	1.6nm,0.6s,baz=54,slow=9.9,SNR=20						
ASAR	**Alice Springs**	**26.70**	**223**	P	P	09 40 21.6	-0.6
	0.2nm,0.4s,baz=54,slow=9.0,SNR=7.8						
TORD	**Torodi Ar. Bea**	**150.90**	**289**	PKPbc	PKPbc	09 54 33.1	0.0
	0.3nm,0.6s,baz=69,slow=2.6,SNR=1.8						

*IDC **06** 09:45:07.1±1.7, 51.°32N×177.°58E, h0km, mb3.8/12, mb1 4.1/15, mb1mx3.8/61, mbtmp3.9/15, ML3.6/3, MS3.2/2, Ms1 3.2/2, ms1mx2.4/97, Error ellipse: s-maj=45.9km s-min=15.9km az=7.0*
*NEIC **06** 09:45:14.6±1.7, 51.°2N±0.°2×177.°6E±0.°1, h55km±10km, mb4.2/51, Error ellipse: s-maj=22.1km s-min=12.4km az=182.0*
ISC 06 09:45:12.9±1.0, 51.°1N±0.°1×177.°49E±0.°06, h50km, n83, σ1.°09/82, mb4.1/28, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.67**	**309**	Pn	**Pn**	**09 45 57.2**	**+3.9**
	12nm,0.3s,baz=71,slow=0.5,SNR=8.3						
SHEM				Sn	**Sn**	**09 46 21.8**	**-2.5**
	9.4nm,0.3s,baz=123,slow=23,SNR=8.5						
SMY	**Shemya**	**2.67**	**309**	Pn	**Pn**	**09 45 54.0**	**+0.7**
SPIA	**Saint Paul Isl**	**9.43**	**45**	Pn	**Pn**	**09 47 26.9**	**+1.0**
UNV	**Unalaska Valle**	**10.15**	**68**	Pn	**Pn**	**09 47 35.4**	**-0.4**
PETK	**Petropavlovsk-**	**12.33**	**287**	Pn	**Pn**	**09 48 04.2**	**-1.4**
	0.2nm,0.3s,baz=260,slow=32,SNR=7.3						
P18K	**Big Mountain,**	**17.53**	**51**		**Pn**	**09 49 12.7**	**-0.7**
P18K				IAmb	IAmb	09 49 15.5	
	comp=Z,23nm,1.3s						
O18K	**Koktuh Hills**	**17.68**	**50**	P	**P**	**09 49 15.5**	**-0.1**
O18K				IAmb	IAmb	09 49 18.6	
	comp=Z,16nm,1.0s						
SVW2	**Sparrevohn**	**17.93**	**46**	P	**P**	**09 49 18.8**	**+0.5**
Q19K	**Cape Douglas,**	**18.20**	**53**	P	**P**	**09 49 20.9**	**-0.5**
Q19K				IAmb	IAmb	09 49 36.2	
	comp=Z,46nm,1.2s						
N19K	**Bonanza Creek**	**18.32**	**47**	P	**P**	**09 49 22.7**	**-0.1**
TTA	**Tatalina**	**18.51**	**40**	P	**P**	**09 49 24.8**	**0.0**
TTA				IAmb	IAmb	09 49 27.6	
	comp=Z,21nm,1.5s						
KDAK	**Kodiak Island**	**18.54**	**57**	P	**P**	**09 49 22.0**	**-3.0**
	comp=Z,1.6nm,0.3s,baz=299,slow=6.7,SNR=21						
KDAK	**Kodiak Island**	**18.54**	**57**	P	**P**	**09 49 22.5**	**-2.6**
KDAK				IAmb	IAmb	09 49 35.2	
	comp=Z,25nm,1.2s						
L19K	**White Mountain**	**18.67**	**43**	P	**P**	**09 49 26.6**	**+0.2**
RSO	**Redoubt South**	**19.03**	**49**	P	**Pn**	**09 49 31.4**	**-0.3**
K20K	**Telida**	**19.49**	**40**	P	**P**	**09 49 36.0**	**+0.5**
K20K				IAmb	IAmb	09 49 52.8	
	comp=Z,19nm,1.4s						
CNPM	**China Poot**	**19.54**	**52**	P	**P**	**09 49 35.5**	**-0.6**
CNPM				IAmb	IAmb	09 49 53.9	
	comp=Z,18nm,1.2s						
BRLK	**Bradley Lake**	**19.77**	**52**	P	**P**	**09 49 37.4**	**-1.1**
BRLK				IAmb	IAmb	09 49 55.3	
	comp=Z,35nm,1.4s						
J20K	**Nowinta River**	**19.83**	**38**	P	**P**	**09 49 39.5**	**+0.4**
J20K				IAmb	IAmb	09 49 42.6	
	comp=Z,7.5nm,0.7s						
PPLA	**Purkeypile**	**20.08**	**42**	P	**P**	**09 49 41.8**	**-0.2**
CAST	**Castle Rocks**	**20.33**	**41**	P	**P**	**09 49 44.9**	**+0.3**
CAST				IAmb	IAmb	09 49 52.2	
	comp=Z,12nm,1.5s						
SEW	**Seward**	**20.54**	**51**	P	**P**	**09 49 46.9**	**0.0**
SEW				IAmb	IAmb	09 50 05.0	
	comp=Z,26nm,1.4s						
IMAR	**Indian Mountai**	**20.88**	**34**	P	**P**	**09 49 50.2**	**-0.2**
BPAW	**Bear Paw Mtn.**	**21.05**	**40**	P	**P**	**09 49 53.1**	**+0.8**
H21K	**Melozitna Rive**	**21.05**	**35**	P	**P**	**09 49 52.2**	**-0.1**
H21K				IAmb	IAmb	09 49 53.6	
	comp=Z,8.1nm,1.1s						
I21K	**Tanana**	**21.12**	**37**	P	**P**	**09 49 53.5**	**+0.4**
I21K				IAmb	IAmb	09 49 53.9	
	comp=Z,16nm,1.4s						
GHO	**Glory Hole Cre**	**21.17**	**47**	P	**P**	**09 49 55.6**	**+1.9**
GHO				IAmb	IAmb	09 49 59.0	
	comp=Z,17nm,1.3s						
MLY	**Manley**	**21.53**	**38**	P	**P**	**09 49 57.3**	**-0.2**
GLI	**Glacier Island**	**21.84**	**50**	P	**P**	**09 49 59.6**	**-1.1**
NEA2	**Nenana**	**22.01**	**39**	P	**P**	**09 50 01.4**	**-1.2**
NEA2				IAmb	IAmb	09 50 13.6	
	comp=Z,7.5nm,1.2s						
FID	**Port Fidalgo**	**22.11**	**50**	P	**P**	**09 50 01.6**	**-2.1**
I23K	**Minto, Yukon-K**	**22.11**	**38**		**S**	**09 54 03.4**	**-0.6**
DHY	**Denali Highway**	**22.22**	**44**	P	**P**	**09 50 03.1**	**-1.9**
M24K	**Tolsona, Glenn**	**22.52**	**47**	P	**P**	**09 50 06.9**	**-1.2**
HDA	**Harding Lake**	**22.80**	**41**	P	**P**	**09 50 10.2**	**-0.8**
RAGM	**Ragged Mountai**	**22.94**	**51**	P	**P**	**09 50 13.0**	**+0.5**
ILAR	**Eielson Array**	**22.95**	**40**	P	**P**	**09 50 10.7**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=243,slow=8.6,SNR=8.4						
H24K	**Noodor Dome**	**22.95**	**37**	P	**P**	**09 50 11.8**	**-0.8**
N25K	**Chitina, Valde**	**23.15**	**48**	P	**P**	**09 50 13.5**	**-1.2**
A21K	**Barrow**	**23.45**	**21**	P	**P**	**09 50 15.9**	**-1.4**
TOLK	**Toolik Lake Re**	**23.66**	**30**	P	**P**	**09 50 18.9**	**-0.4**
TOLK				IAmb	IAmb	09 50 20.6	
	comp=Z,6.9nm,0.8s						
PRP	**Porcupine Dome**	**23.74**	**39**	P	**P**	**09 50 19.6**	**-0.7**
MENT	**Mentasta**	**23.80**	**45**		**S**	**09 54 31.5**	**-1.1**
DOT	**Dot Lake**	**23.81**	**43**		**S**	**09 54 35.2**	**+2.5**
GRNC	**Granite Creek**	**24.41**	**51**	P	**P**	**09 50 25.8**	**-0.7**
GRNC				IAmb	IAmb	09 50 40.8	
	comp=Z,14nm,1.4s						
L27K	**Beaver Creek,**	**24.68**	**45**	P	**P**	**09 50 29.1**	**+0.4**
L27K				IAmb	IAmb	09 50 37.3	
	comp=Z,11nm,1.4s						
BCAR	**Beaver Creek A**	**24.70**	**45**	P	**P**	**09 50 29.0**	**+0.1**
BMAR	**Burnt Mountain**	**24.78**	**34**	P	**P**	**09 50 29.1**	**-0.5**
PCA	**Pinnacle**	**25.11**	**53**	P	**P**	**09 50 31.5**	**-1.3**
PCA				IAmb	IAmb	09 50 41.1	
	comp=Z,12nm,0.9s						
KLR	**Kul'dur**	**29.00**	**284**	P	**P**	**09 51 08.2**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=84,slow=10,SNR=5.0						
JHJ	**Hachijo jima 2**	**32.78**	**251**	LR	LR	10 07 08.4	
	comp=Z,17nm,18.3s,baz=122,slow=40						
YKA	**Yellowknife Ar**	**37.11**	**45**	P	**P**	**09 52 17.0**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=286,slow=7.4,SNR=5.7						
YKA	**Yellowknife Ar**	**37.11**	**45**	P	**P**	**09 52 17.6**	**-0.5**
F04A	**Amboy**	**39.17**	**73**	P	**P**	**09 52 35.1**	**-0.5**
RES	**Resolute Bay**	**40.97**	**24**	P	**P**	**09 52 51.2**	**+1.1**
EDM	**Edmonton**	**40.98**	**59**	P	**P**	**09 52 51.1**	**+0.5**
EDM				IAmb	IAmb	09 53 02.5	
	comp=Z,3.3nm,0.9s						
K05A	**Summer Lake**	**41.80**	**77**	P	**P**	**09 52 59.2**	**+1.7**
K05A				IAmb	IAmb	09 53 15.0	
	comp=Z,14nm,1.5s						
I07A	**Izee**	**41.90**	**74**	P	**P**	**09 52 59.4**	**+1.1**
I07A				IAmb	IAmb	09 53 00.7	
	comp=Z,3.9nm,1.3s						
BCYI	**Bear Canyon**	**45.44**	**70**	P	**P**	**09 53 26.7**	**-0.1**
MCMT	**McKenzie Canyo**	**45.48**	**69**	P	**P**	**09 53 26.6**	**-0.6**
BOZ	**Bozeman (W)**	**45.77**	**68**	P	**P**	**09 53 28.5**	**-0.9**
BOZ				IAmb	IAmb	09 53 43.4	
	comp=Z,3.1nm,1.5s						
NVAR	**Mina Array Bea**	**45.90**	**80**	P	**P**	**09 53 31.4**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=299,slow=7.6,SNR=4.4						
PDAR	**Pinedale Array**	**48.61**	**70**	P	**P**	**09 53 51.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=318,slow=3.1,SNR=6.4						
RDMU	**Red Mountain**	**49.93**	**72**	P	**P**	**09 54 02.1**	**+0.4**
P18A	**Preston Nutter**	**50.11**	**73**	P	**P**	**09 54 04.0**	**+0.8**
P18A				IAmb	IAmb	09 54 17.0	
	comp=Z,2.1nm,1.1s						
SPB2	**Spitsbergen Ar**	**50.49**	**355**	P	**P**	**09 54 04.7**	**-0.5**
U15A	**North Rim**	**50.88**	**78**	P	**P**	**09 54 09.8**	**+0.9**
U15A				IAmb	IAmb	09 54 30.3	
	comp=Z,2.3nm,1.1s						
PV17	**East Wray Mesa**	**51.74**	**74**	P	**P**	**09 54 15.4**	**+0.1**
PV03	**Paradox Valley**	**51.82**	**74**	P	**P**	**09 54 16.3**	**+0.4**
PV03				IAmb	IAmb	09 54 17.0	
	comp=Z,5.4nm,1.0s						

PV02	Paradox Valley	51.92	74	P	P	09 54 16.9	+0.2
ARCES	ARCESS Array B	57.95	349	P	P	09 54 59.0	-0.5
	comp=Z,4.7nm,1.0s,baz=24,slow=9.3,SNR=6.1						
BVAR	Borovoye Array	59.57	318	P	P	09 55 11.3	+0.3
	comp=Z,0.6nm,0.5s,baz=102,slow=3.5,SNR=3.9						
TXAR	Lajitas Array	61.00	78	P	P	09 55 21.2	0.0
	comp=Z,1.2nm,0.8s,baz=301,slow=5.1,SNR=15						
TXAR	Lajitas Array	61.00	78	P	P	09 55 21.7	+0.5
WHTX	Lake Whitney,	62.91	72	P	P	09 55 34.1	+0.2
FCAR	Ozark Folk Cen	63.29	65	P	P	09 55 35.9	-0.4
FCAR				IAmb	IAmb	09 55 36.6	
	comp=Z,2.7nm,0.8s						
FINES	FINESS Array B	65.52	345	P	P	09 55 50.0	-0.4
	comp=Z,6.1nm,1.1s,baz=18,slow=8.0,SNR=4.6						
AKTO	Aktyubinsk	66.54	323	P	P	09 55 57.4	+0.2
	comp=Z,0.9nm,0.5s,baz=18,slow=6.1,SNR=4.4						
NC204	NORSAR Array S	67.48	353	P	P	09 56 03.5	+0.5
NB2	NORSAR Subarra	67.68	353	P	P	09 56 03.9	-0.4
	comp=Z,1.0nm,0.6s,baz=7.4,slow=6.2						
NOA	NORSAR Array B	67.68	353	P	P	09 56 04.2	-0.1
	comp=Z,1.2nm,0.6s,baz=8.8,slow=6.2,SNR=7.3						
AKASG	Malin Array Be	75.06	340	P	P	09 56 48.9	0.0
	comp=Z,0.4nm,0.5s,baz=20,slow=6.1,SNR=3.6						
GEYT	Alibeck	76.68	315	LR	LR	10 34 41.9	
	comp=Z,25nm,18.1s,baz=6.0,slow=39						

IDC 06 09:45:43.4±1.6, 3°.11S×130°.71E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.3/54, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=70.1km s-min=21.8km az=89.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.30	14	Pn	Pn	09 46 23.4	+0.8
	2.4nm,0.3s,baz=341,slow=7.3,SNR=3.7						
SIJI				Sn	Sn	09 46 51.0	-0.6
	5.1nm,0.3s,baz=264,slow=23,SNR=9.8						
WRA	Warramunga Arr	17.10	168	P	Pn	09 49 42.9	-1.2
	0.2nm,0.3s,baz=349,slow=11,SNR=14						
ASAR	Alice Springs	20.67	172	P	P	09 50 25.4	+0.4
	5.2nm,0.5s,baz=351,slow=11,SNR=107						
MKAR	Makanchi Array	65.41	326	P	P	09 56 27.9	-0.1
	0.4nm,0.7s,baz=127,slow=6.2,SNR=2.6						

*IDC **06** 09:47:23.2±3.7, 35°.94N×69°.37E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.3/59, mbtmp3.7/7, ML3.3/2, MS2.3/1, Ms1 2.3/1, ms1mx2.0/81, Error ellipse: s-maj=162.6km s-min=32.0km az=130.0*

*NNC **06** 09:47:30.3±4.1, 36°.87N×68°.38E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=40.5km s-min=25.9km az=154.0*

ISC 06 09:47:27.2±1.9, 36°.6N±0°.2×68°.4E±0°.1, h10km, n12, σ1§71/16, mb3.5/3, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	Karatay Array	6.73	13	⇓P	Pn	09 49 08.6	+2.6
	0.7nm,0.5s						
KK08				⇑S	Sn	09 50 21.0	-1.7
	1.6nm,0.5s						
AAK	Ala-Archa	7.67	36	Pn	Pn	09 49 19.8	+0.7
	1.5nm,0.3s,baz=233,slow=8.8,SNR=19						
AAK				Sn	Sn	09 50 47.6	+1.5
	0.3nm,0.3s,baz=136,slow=20,SNR=2.0						
AAK				LR	LR	09 51 59.9	
	comp=Z,24nm,20.5s,baz=212,slow=36						
AAK	Ala-Archa	7.67	36	⇓P	Pn	09 49 19.4	+0.3
	4.6nm,0.7s						
AAK				⇓S	Sn	09 50 47.7	+1.6
	4.3nm,0.7s						
TKM2	Tokmak 2	8.42	39	⇓P	Pn	09 49 29.8	+0.4
	1.4nm,0.5s						
TKM2				⇑S	Sn	09 51 04.7	+0.1
	3.1nm,0.7s						
AB31	Akbulak array	14.11	337	⇑P	Pn	09 50 46.6	-0.4
	1.0nm,0.7s,baz=153,slow=12,SNR=16						
MKAR	Makanchi Array	14.54	41	Pn	Pn	09 50 49.3	-3.7
	0.0nm,0.3s,baz=233,slow=11,SNR=8.9						
AKTO	Aktyubinsk	15.77	335	⇑P	Pn	09 51 09.0	-0.2
	1.7nm,0.9s						
KURBB	Kurchatov Arra	15.83	24	Pn	Pn	09 51 07.1	-2.8
	baz=213,slow=10,SNR=2.1						
ZALV	Zalesovo Beam	20.78	28	P	P	09 52 07.5	-0.7
	0.8nm,0.5s,baz=228,slow=5.8,SNR=5.6						
TIXI	Tiksi	46.50	22	P	P	09 55 54.3	+0.1
	0.6nm,0.2s,baz=270,slow=2.6,SNR=4.7						
ILAR	Eielson Array	75.27	15	P	P	09 59 10.4	+0.5
	0.4nm,0.9s,baz=335,slow=4.0,SNR=4.8						
YKA	Yellowknife Ar	81.26	1	P	P	09 59 43.5	+0.4
	0.3nm,0.8s,baz=352,slow=4.9,SNR=5.4						

*EAF **06** 09:59:15.8±2.7, 26°.10S×29°.27E, h4km±52km, MD3.5*

BUL 06 09:59:15.8±2.7, 26°.10S×29°.27E, h4km±52km, MD3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	3.49	287	*i* P	Pn	10 00 11.9	+0.9
LBTB				*i* Sg	Sg	10 01 04.7	-3.3
LBTB	Lobatse	3.49	287	*i* P	Pn	10 00 11.9	+0.9
LBTB				*i* Sg	Sg	10 01 04.7	-3.3
BOSA	Boshof	4.36	234	*i* P	Pn	10 00 23.4	+0.5
BOSA				*i* Sg	Sb	10 01 29.4	+3.4
BOSA	Boshof	4.36	234	*i* P	Pn	10 00 23.4	+0.5
BOSA				*i* Sg	Sb	10 01 29.4	+3.4
MATP	Matopo	5.70	353	*i* P	Pn	10 00 40.7	-0.6
MATP				*i* S	Sn	10 01 40.4	-6.8
MATP	Matopo	5.70	353	*i* P	Pn	10 00 40.7	-0.6
MATP				*i* S	Sn	10 01 40.4	-6.8

*IDC **06** 10:05:52.0±4.5, 5°.78S×148°.80E, h140km±44km, mb3.5/3, mb1 3.7/5, mb1mx3.3/48, mbtmp4.0/5, Error ellipse: s-maj=83.0km s-min=30.1km az=134.0*

ISC 06 10:05:53.1±1.7, 5°.8S±0°.2×148°.8E±0°.5, h150km, n5, σ1§15/6, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.93	204	P	Pn	10 06 53.4	+0.9
	3.5nm,0.3s,baz=359,slow=4.9,SNR=5.6						
PMG				S	Sn	10 07 37.2	-1.4
	6.4nm,0.3s,baz=29,slow=18,SNR=3.5						
WRA	Warramunga Arr	19.86	224	P	P	10 10 12.9	+0.2
	1.0nm,0.3s,baz=51,slow=11,SNR=60						
ASAR	Alice Springs	22.81	217	P	P	10 10 44.2	+0.9
	1.8nm,0.5s,baz=52,slow=8.7,SNR=39						
FITZ	Fitzroy Crossi	25.66	240	P	P	10 11 08.9	-0.3
	2.6nm,0.5s,baz=58,slow=12,SNR=15						
ILAR	Eielson Array	84.60	23	P	P	10 18 08.9	-0.5
	0.3nm,0.6s,baz=246,slow=4.7,SNR=4.2						

IDC 06 10:08:21.6±4.7, 18°.03S×178°.02W, h628km±24km, mb2.8/4, mb1 3.0/5, mb1mx2.7/43, mbtmp3.8/5, Error ellipse: s-maj=152.3km s-min=26.4km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.76	274	P	P	10 09 47.8	+0.1
	3.4nm,0.3s,baz=121,slow=3.1,SNR=19						
STKA	Stephens Creek	38.90	241	P	P	10 14 56.0	+0.3
	2.9nm,0.9s,baz=90,slow=9.1,SNR=2.8						
WRA	Warramunga Arr	44.98	260	P	P	10 15 43.2	-0.1
	0.2nm,0.4s,baz=97,slow=6.5,SNR=8.6						
ASAR	Alice Springs	45.12	254	P	P	10 15 44.2	-0.2
	1.2nm,0.6s,baz=92,slow=7.8,SNR=18						
ILAR	Eielson Array	85.92	13	P	P	10 19 55.6	-0.7
	0.3nm,0.4s,baz=217,slow=4.4,SNR=5.3						
GERES	GERESS Array B	147.82	345	PKPbc	PKPbc	10 26 57.8	+0.3
	0.5nm,0.5s,baz=48,slow=2.0,SNR=5.2						

*IDC **06** 10:11:24.7±0.8, 1°.06N×123°.09E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/52, mbtmp3.8/10, ML4.0/2, Error ellipse: s-maj=56.0km s-min=14.6km az=67.0*

*NEIC **06** 10:11:36.2±1.6, 0°.6N±0°.1×122°.3E±0°.1, h87km±9km, mb4.0/17, Error ellipse: s-maj=20.4km s-min=8.3km az=49.0*

*DJA **06** 10:11:37.0±0.2, 1°.N±2°.×12°.2E±°, h48km±5km, M4.3/17, mb4.4/6, mB4.6/1, MLv4.2/17, Mw(mB)3.9/1*

ISC 06 10:11:34.9±0.8, 0°.70N±0°.05×122°.41E±0°.04, h79km±7km, n47, σ1§32/54, mb4.0/16, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.52	245	P	Pn	10 11 48.4	-0.3
MRSI				S	Sn	10 11 58.7	-0.2
GTOI	Gorontalo	0.60	96	P	Pn	10 11 48.7	-0.8
GTOI				S	Sn	10 11 59.4	-0.9
KMSI	Cibinong	1.57	95	P	Pn	10 12 03.9	+2.8
KMSI				S	Sn	10 12 24.5	+3.5
TOLI2	Tolitoli	1.68	284		Pn	10 12 03.3	+0.8
TOLI2				Sn	Sn	10 12 23.6	+0.1
LUWI	Luwuk	1.77	168	P	Pn	10 12 04.8	+1.1
LUWI				S	Sn	10 12 27.1	+1.6
LUWI	Luwuk	1.77	168		Pn	10 12 04.3	+0.6
APSI	Ampana	1.77	206	P	Pn	10 12 04.6	+0.8
APSI				S	Sn	10 12 26.7	+1.1
MPSI	Mapaga	2.54	262	P	Pn	10 12 15.9	+1.9
SGSI	Sangihe	4.30	46	P	Pn	10 12 40.5	+2.5
SANI	Sanana	4.50	127	P	Pn	10 12 39.6	-1.1
TTSI	Tana Toraja	4.53	215	P	Pn	10 12 42.0	+0.9
KDI	Kendari	4.63	177	P	Pn	10 12 44.7	+2.2
SGKI	Sangatta, Kali	4.96	256	P	Pn	10 12 46.3	-0.7
SPSI	Sidrap Palu	5.33	210	P	Pn	10 12 53.7	+1.7
	0.1nm33nm,0.6s						
BNSI	Bone	5.56	204	P	Pn	10 12 57.2	+2.0
	0.1nm619nm32nm,0.6s						
MYLDM	Lahad Datu	5.92	319		Pn	10 13 01.6	+1.5
KAPI	Kappang	6.27	205	Pn	Pn	10 13 05.5	+0.7
	1.2nm,0.3s,baz=80,slow=5.6,SNR=4.5						
KAPI	Kappang	6.27	205		Pn	10 13 03.6	-1.2
BKSI	Bulukumba	6.40	201	P	Pn	10 13 07.9	+1.2
KKM	Kota Kinabalu	8.15	311	Pn	Pn	10 13 30.2	-0.4
MTN	Manton Dam	16.00	148		P	10 15 16.9	-0.5
MTN				IAmb	IAmb	10 15 40.6	
	comp=Z,13nm,1.1s						
KNRA	Kununurra	17.44	159	P	P	10 15 33.8	+0.5
FITZ	Fitzroy Crossi	18.95	171	P	P	10 15 49.5	-0.4
	comp=Z,0.7nm,0.3s,baz=7.0,slow=6.5,SNR=16						
PSA00	Pilbara Seismi	22.28	186	P	P	10 16 25.1	-0.7
PSA00				IAmb	IAmb	10 16 49.5	
	comp=Z,16nm,1.2s						
WB0	Warramunga Arr	23.49	151	P	P	10 16 36.6	-1.3
WB0				IAmb	IAmb	10 16 37.2	
	comp=Z,6.6nm,1.2s						
WRA	Warramunga Arr	23.61	151	P	P	10 16 37.5	-1.5
	comp=Z,1.1nm,0.5s,baz=339,slow=9.9,SNR=28						
WRA	Warramunga Arr	23.61	151	P	P	10 16 37.0	-2.0
WB2	Warramunga Arr	23.62	151	P	P	10 16 37.0	-2.1
WB2				IAmb	IAmb	10 17 03.3	
	comp=Z,3.7nm,0.9s						
WR0	Warramunga Arr	23.73	151	P	P	10 16 38.8	-1.3
WR0				IAmb	IAmb	10 16 40.1	
	comp=Z,5.1nm,0.7s						
PMG	Port Moresby	26.61	113	P	P	10 17 03.2	-3.0
AS31	Alice Springs	26.67	156	P	P	10 17 05.8	-0.9
ASAR	Alice Springs	26.67	156	P	P	10 17 05.8	-0.9
	comp=Z,0.5nm,0.5s,baz=344,slow=14,SNR=23						
ASAR				PcP	PcP	10 20 29.2	+0.4
	comp=Z,0.2nm,0.3s,baz=352,slow=2.2,SNR=6.6						
CTAO	Charters Tower	31.19	133	P	P	10 17 46.7	-0.2
CTAO				IAmb	IAmb	10 17 59.0	
	comp=Z,3.2nm,1.0s						
BBOO	Buckleboo	35.73	160	P	P	10 18 25.6	-0.6
STKA	Stephens Creek	37.15	152	P	P	10 18 38.3	0.0
	comp=Z,1.4nm,0.6s,baz=336,slow=11,SNR=5.0						
STKA	Stephens Creek	37.15	152	P	P	10 18 38.2	0.0
MK31	Makanchi Array	57.71	328	P	P	10 21 18.1	+0.5
MK31				IAmb	IAmb	10 21 41.3	
	comp=Z,1.4nm,1.1s						
MKAR	Makanchi Array	57.71	328	P	P	10 21 18.4	+0.8
	comp=Z,0.6nm,0.6s,baz=128,slow=8.5,SNR=6.8						
MKAR	Makanchi Array	57.71	328	P	P	10 21 17.6	+0.1
ZALV	Zalesovo Beam	61.44	336	P	P	10 21 42.8	-0.1
	comp=Z,0.4nm,0.5s,baz=125,slow=7.2,SNR=2.2						
ZALV	Zalesovo Beam	61.44	336	P	P	10 21 43.1	+0.2
KURBB	Kurchatov Arra	62.07	330	P	P	10 21 47.7	+0.5
	comp=Z,0.7nm,0.6s,baz=131,slow=5.7,SNR=7.5						
KURK	Kurchatov	62.08	330	P	P	10 21 48.2	+0.9
KURK				IAmb	IAmb	10 21 48.6	
	comp=Z,2.5nm,0.8s						
THZ	Tophouse	62.10	139	P	P	10 21 48.4	+0.7
BVAR	Borovoye Array	67.58	329	P	P	10 22 23.1	+0.1
	comp=Z,0.2nm,0.4s,baz=134,slow=8.3,SNR=3.6						
BRVK	Borovoye	67.66	329	P	P	10 22 23.0	-0.5
BRVK				IAmb	IAmb	10 22 24.3	
	comp=Z,3.1nm,1.3s						
AKTO	Aktyubinsk	73.40	323	P	P	10 22 58.8	+0.3
	comp=Z,1.0nm,0.5s,baz=97,slow=8.5,SNR=3.7						

*NNC **06** 10:13:50.6±2.5, 51°.87N×75°.54E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=96.2km s-min=13.6km az=27.0, Suspected Mining explosion.*

*IDC **06** 10:13:54.1±1.0, 51°.72N×75°.53E, h0km, mb1 2.7/4, mb1mx2.7/52, mbtmp2.7/4, ML2.4/4, Error ellipse: s-maj=20.2km s-min=9.2km az=30.0*

ISC 06 10:13:47.9±1.0, 51°.64N±0°.09×74°.86E±0°.07, h0km, n11, σ1§72/10, 7C, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.53	112	Pn	Pn	10 14 30.9	+0.7
	0.5nm,0.3s,baz=301,slow=19,SNR=55						
KURBB				Lg	Lg	10 15 02.4	
	0.4nm,0.3s,baz=303,slow=33,SNR=7.9						
KURBB	Kurchatov Arra	2.53	112	⇑Pg	Pb	10 14 32.7	-1.5
	2.3nm,0.3s						
KURBB				⇑Lg	Lg	10 15 03.3	
	68nm,0.6s						
KURK	Kurchatov	2.54	110	⇑Pg	Pn	10 14 31.4	+1.0
	3.6nm,0.6s						
KURK				⇑Lg	Lg	10 14 60.0	
	25nm,0.7s						
BVAR	Borovoye Array	3.07	299	Pn	Pg	10 14 48.3	+1.6
	0.7nm,0.3s,baz=113,slow=15,SNR=18						
BVAR				Lg	Lg	10 15 38.0	
	2.5nm,0.3s,baz=124,slow=29,SNR=12						
BVB5	Borovoye Array	3.08	298	⇑Lg	Lg	10 15 36.8	
	12nm,0.6s						
I46RU	ZALESOVO INFRA	6.47	65	*i*		10 48 33.2	
	baz=251,slow=317,SNR=1.3						
ZALV	Zalesovo Beam	6.47	65	Pn	Pn	10 15 26.0	+1.7
	0.3nm,0.3s,baz=253,slow=14,SNR=5.2						
ZALV				Sn	Sn	10 16 37.4	-1.4
	0.2nm,0.3s,baz=251,slow=23,SNR=5.1						
ZALV				Lg	Lg	10 17 07.4	
	0.1nm,0.3s,baz=244,slow=22,SNR=3.4						
MK31	Makanchi Array	6.87	132	Sn	Sn	10 16 49.6	+0.9
	1.2nm,0.4s,baz=320,slow=19,SNR=6.4						
MK31				⇑Lg	Lg	10 17 20.9	
	6.2nm,0.7s,baz=320,slow=27,SNR=7.5						
MKAR	Makanchi Array	6.87	132	Pn	Pn	10 15 31.8	+1.9
	0.1nm,0.3s,baz=318,slow=14,SNR=7.8						
MKAR				Sn	Sn	10 16 49.2	+0.4
	0.3nm,0.3s,baz=329,slow=19,SNR=8.3						
MKAR				Lg	Lg	10 17 20.7	
	0.4nm,0.3s,baz=319,slow=26,SNR=6.5						
AAK	Ala-Archa	9.01	182	Lg	Lg	10 18 40.9	
	0.2nm,0.3s,baz=200,slow=22,SNR=2.6						
AB31	Akbulak array	9.81	262	⇑Pn	Pn	10 16 07.8	-2.3
	0.9nm,0.5s,baz=26,slow=15,SNR=12						

*KRNET **06** 10:14:40.0±0.1, 43°.70N×69°.50E, mb2.8*

*SOME **06** 10:14:40.1, 43°.67N×69°.70E*

*NNC **06** 10:14:41.9±1.2, 43°.66N×69°.75E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=7.2km s-min=4.3km az=133.0, Suspected Mining explosion.*

ISC 06 10:14:37.9±2.1, 43°.90N±0°.08×69°.77E±0°.10, h0km, n19, σ0§41/26, 8C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Borolday	0.87	177	P	Pn	10 14 57.2	-0.2
	2.1nm,0.5s						
BRLS				S	Sn	10 15 11.0	+0.2
	14nm,0.3s						
BRLS	Borolday	0.87	177	*e*P	Pn	10 14 57.3	-0.2
	baz=67						
BRLS				*e*S	Sn	10 15 11.1	+0.2
	baz=67						
KK02	Karatay Array	0.96	146	⇓P	Pg	10 14 56.4	+0.1
	2.0nm,0.3s,baz=318,slow=14						
KK02				⇑S	Sg	10 15 08.2	-0.5
	38nm,0.6s,baz=316,slow=32						
IUG	Iuzhnay	1.76	174	P	Pb	10 15 11.2	0.0
	332nm,0.3s						
IUG				S	Sn	10 15 32.9	-0.1
	62nm,0.3s						
IUG	Iuzhnay	1.76	174	*e*P	Pb	10 15 11.2	0.0
	baz=66						
IUG				*e*S	Sn	10 15 32.9	-0.1
	baz=66						
MNAS	Manas	2.45	124	⇑*i*P	Pg	10 15 24.5	-0.3
	baz=18						
MNAS				⇑*i*S	Sg	10 15 56.8	+0.3
	baz=18						
TRKS	Terek-Say	2.57	156	⇑*i*P	Pb	10 15 25.0	-0.1
	baz=51						
TRKS				⇑*i*S	Sb	10 15 57.8	+0.5
	baz=51						
ARK	Arkit	2.65	142	⇑*e*P	Pb	10 15 26.0	-0.3
	baz=35						
ARK				⇑*i*S	Sb	10 15 59.6	+0.2
	baz=35						
MRKS	Merke	2.77	113	Pg	Pg	10 15 32.3	+1.2
	4.9nm,0.6s						
MRKS				Lg	Lg	10 16 09.7	
	9.6nm,0.3s						
BTLS	Baital	3.27	68	Pg	Pg	10 15 46.7	+6.2
	11nm,0.5s						
BTLS				Lg	Lg	10 16 34.5	
	4.9nm,0.7s						
AAK	Ala-Archa	3.67	108	⇓Pg	Pg	10 15 47.8	-0.5
	3.9nm,0.5s						
AAK				⇑Lg	Lg	10 16 36.6	
	5.0nm,0.6s						
KRBS	Karabastau	4.28	91	Pg	Pg	10 15 59.9	0.0
	3.2nm,0.6s						
KRBS				Lg	Lg	10 16 57.0	
	5.9nm,0.4s						
TKM2	Tokmak 2	4.36	101	⇓Pg	Pg	10 16 01.0	-0.4
	2.1nm,0.6s						
TKM2				⇓Lg	Lg	10 16 59.5	
	3.5nm,0.7s						
DGS	Degeres	4.41	96	Pg	Pg	10 16 02.1	-0.3
	3.0nm,0.3s						
DGS				Lg	Lg	10 17 00.9	
	6.2nm,0.5s						
KST	Kastek	4.59	99	Pg	Pg	10 16 05.6	-0.2
	4.4nm,0.5s						
KST				Lg	Lg	10 17 06.8	
	5.6nm,0.4s						
KUU	Kurty	4.75	88	Pg	Pg	10 16 08.4	-0.5
	1.3nm,0.4s						
KUU				Lg	Lg	10 17 13.1	
	4.0nm,0.4s						
KTBS	Karatobe	5.01	90	Pg	Pg	10 16 14.0	+0.2
	2.8nm,0.4s						
KTBS				Lg	Lg	10 17 21.5	
	6.4nm,0.8s						
TNSS	Tian-Shan	5.29	97	Pg	Pg	10 16 19.4	0.0
	1.9nm,0.5s						
TNSS				Lg	Lg	10 17 30.3	
	2.3nm,0.6s						
ARXS	Arharly	5.81	84	Pg	Pg	10 16 30.0	+0.7
	0.9nm,0.5s						
ARXS				Lg	Lg	10 17 48.8	
	3.5nm,0.5s						

*BJI **06** 10:25:11.5±0.0, 25°.33N×93°.40E, h22km, mb4.3/17, mB4.4/4, ML3.8/3*

*IDC **06** 10:25:12.4±0.8, 24°.79N×93°.38E, h58km±7km, mb3.6/14, mb1 3.7/14, mb1mx3.5/50, mbtmp3.9/14, MS3.2/2, Ms1 3.2/2, ms1mx2.5/85, Error ellipse: s-maj=35.1km s-min=14.0km az=52.0*

*NEIC **06** 10:25:13.4±1.5, 24°.89N±0°.07×93°.40E±0°.07, h58km±8km, mb4.3/28, Error ellipse: s-maj=11.3km s-min=9.0km az=210.0*

*NDI **06** 10:25:13.6±3.5, 25°.00N×93°.37E, h68km±21km, ML4.1, mb4.3(NEIC)*

ISC 06 10:25:12.9±0.6, 24°.93N±0°.05×93°.34E±0°.04, h60km±5km, n83, σ1§65/93, mb4.1/25, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SILR	SILCHAR	0.51	253	*e*P	Pn	10 25 26.5	+1.5
SILR				*e*S	Sn	10 25 37.2	+3.5
SILR				IAML		10 25 40.9	
	comp=N,24μm,0.6s						
SILR				IAML		10 25 41.5	
	comp=E,26μm,0.4s						
KOHI	KOHIMA	1.05	41	*e*P	Pn	10 25 30.6	-1.1
KOHI				*e*S	Sn	10 25 44.5	-1.1
KOHI				IAML		10 25 46.4	
	comp=N,6μm,0.6s						
KOHI				IAML		10 25 48.8	
	comp=E,6μm,0.7s						
SHL	Shillong	1.46	296	*e*P	Pn	10 25 38.2	+0.9
SHL				*e*S	Sn	10 25 55.8	+0.3
SHL				IAML		10 26 06.6	
	comp=E,2μm,0.6s						
SHL				IAML		10 26 07.2	
	comp=N,1μm,0.2s						
SHL				IAML		10 26 11.4	
	comp=N,2μm,0.4s						
SHL	Shillong	1.46	296		Pn	10 25 38.0	+0.7
SHL				Sn	Sn	10 25 57.0	+1.4
MOKO	MOKOCHONG	1.74	37	*e*P	Pn	10 25 40.5	-0.5
JORH	JORHAT	1.98	24	*e*P	Pn	10 25 48.2	+4.2
JORH				*e*S	Sn	10 26 05.3	-2.4
JORH				IAML		10 26 16.9	
	comp=E,1μm,0.8s						
JORH				IAML		10 26 17.1	
	comp=N,2μm,0.8s						
AGT	Agartala	2.17	242	*ex*	x	10 26 02.2	
ITAN	ITANAGAR	2.23	9	*e*P	Pn	10 25 47.0	-0.4
ITAN				*e*S	Sn	10 26 12.9	-1.0
BELO	BELONIA	2.41	226	*e*P	Pn	10 25 51.4	+1.5
BELO				*e*S	Sn	10 26 21.3	+3.0
DHUB	DHUBRI	3.21	290	*e*P	Pn	10 26 01.7	+0.8
DHUB				*e*S	Sn	10 26 36.8	-1.1
GTK	Tadong	4.88	300	*e*P	Pn	10 26 26.0	+2.1
LSA	Lhasa	5.13	338	P	Pn	10 26 29.4	+1.8
LSA				S	Sn	10 27 20.8	-5.0
LSA				LR	LR		
	comp=N,140nm,2.4s						
LSA				LR	LR		
	comp=E,950nm,6.1s						
LSA	Lhasa	5.13	338		Pn	10 26 29.4	+1.8
LSA				Sn	Sn	10 27 25.2	-0.5
BOK	Bokaro	6.89	262	*e*P	Pn	10 26 51.9	+0.5
BOK				*e*S	Sn	10 28 04.0	-4.5
PZH	PanZhiHua	7.74	77	P	Pn	10 27 16.2	+13
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,150nm,6.0s						
CHTO	Chiang Mai	8.01	138	Pn	Pn	10 27 06.2	-0.

NJS	Nagarjunasagar	15.54	240	*e*Pn	Pn	10 28 48.0	-0.3
HYBB	Hyderabad (bro	15.68	244	*e*Pn	Pn	10 28 51.4	+1.2
SRLM	Srisailam	16.13	240	*e*Pn	Pn	10 28 56.4	+0.6
XAN	Xi'an	16.30	53	P	P	10 28 59.2	-0.8
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
RCLA	Racherla	16.46	238	*e*Pn	Pn	10 28 59.5	-0.5
NIL	Nilore	19.53	301	P	P	10 29 36.0	+0.5
KSH	Kashi	20.62	319	P	P	10 29 48.5	+1.1
KSH				pP	Pn	10 29 52.9	+2.7
KSH				sP	pP	10 30 00.2	-0.3
KSH				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TARG	Taragay, Kyrgy	21.13	326	P	P	10 29 54.3	+1.1
TARG				IAmb	IAmb	10 30 04.8	
	comp=Z,10nm,0.8s						
PALK	Pallekele	21.32	217	P	P	10 29 55.9	+0.8
PALK				IAmb	IAmb	10 29 57.3	
	comp=Z,24nm,1.2s						
PRZ	Przheval'sk	21.41	329	P	P	10 29 56.9	+0.9
PRZ				IAmb	IAmb	10 29 59.9	
	comp=Z,18nm,0.8s						
KDJ	Kajisay	21.75	326	P	P	10 30 00.9	+1.4
KDJ				IAmb	IAmb	10 30 02.9	
	comp=Z,10nm,0.7s						
BOOM	Boomskoye usch	22.64	325	P	P	10 30 10.3	+1.1
BOOM				IAmb	IAmb	10 30 13.1	
	comp=Z,7.8nm,0.9s						
KNMB	Chin-men Tao	22.75	86	P	P	10 30 10.4	+0.1
KBL	Kabul	23.12	300	P	P	10 30 15.4	+1.3
KBL				IAmb	IAmb	10 30 22.4	
	comp=Z,12nm,0.9s						
DRK	Karamyk	23.21	314	P	P	10 30 16.4	+1.4
DRK				IAmb	IAmb	10 30 23.7	
	comp=Z,11nm,0.7s						
AAK	Ala-Archa	23.51	323	P	P	10 30 19.7	+1.9
	comp=Z,1.1nm,0.5s,baz=149,slow=14,SNR=5.3						
AAK	Ala-Archa	23.51	323	P	P	10 30 19.5	+1.8
AAK				IAmb	IAmb	10 30 21.2	
	comp=Z,10.0nm,1.4s						
MK31	Makanchi Array	23.53	341	P	P	10 30 18.0	+0.3
MKAR	Makanchi Array	23.53	341	P	P	10 30 18.2	+0.5
	comp=Z,2.1nm,0.7s,baz=149,slow=11,SNR=23						
MKAR	Makanchi Array	23.53	341	P	P	10 30 17.9	+0.2
MAKZ	Makanchi	23.64	340	P	P	10 30 20.0	+1.3
BTK	Batken	24.16	314	P	P	10 30 24.2	+0.6
CHGR	Chuyangaron	24.60	310	P	P	10 30 28.8	+1.2
CHGR				IAmb	IAmb	10 30 34.1	
	comp=Z,16nm,0.9s						
SONM	Songino Array	25.09	21	P	P	10 30 32.8	+0.9
	comp=Z,2.2nm,0.8s,baz=197,slow=9.7,SNR=18						
SONM	Songino Array	25.09	21	P	P	10 30 32.1	+0.2
KKAR	Karatay Array	26.07	320	P	P	10 30 40.7	0.0
KURBB	Kurchatov Arra	28.08	340	P	P	10 30 59.3	+0.6
	comp=Z,1.0nm,0.7s,baz=151,slow=9.7,SNR=4.8						
KURK	Kurchatov	28.14	340	P	P	10 30 59.5	+0.3
ZALV	Zalesovo Beam	29.67	350	P	P	10 31 14.1	+1.3
	comp=Z,0.6nm,0.4s,baz=167,slow=7.5,SNR=4.5						
ZALV	Zalesovo Beam	29.67	350	P	P	10 31 11.3	-1.4
WSAR	Wadi Sarin	31.68	274	LR	LR	10 45 23.1	
	comp=Z,24nm,19.1s,baz=170,slow=38						
BVAR	Borovoye Array	32.95	334	P	P	10 31 42.4	+0.7
	comp=Z,0.7nm,0.5s,baz=147,slow=14,SNR=4.9						
ABKAR	Abkulak array	35.58	322	P	P	10 32 05.7	+1.3
ABKAR				IAmb	IAmb	10 32 06.7	
	comp=Z,2.7nm,0.7s						
AKTO	Aktyubinsk	37.25	322	P	P	10 32 19.9	+1.2
	comp=Z,1.7nm,0.7s,baz=114,slow=5.3,SNR=7.0						
ARU	Arti	40.28	331	P	P	10 32 45.2	+1.2
	comp=Z,0.7nm,0.3s,baz=132,slow=5.2,SNR=6.5						
ARU	Arti	40.28	331	P	P	10 32 44.5	+0.6
ARU				IAmb	IAmb	10 33 00.0	
	comp=Z,7.1nm,1.3s						
BRTR	Keskin Array B	51.68	302	P	P	10 34 14.1	+0.1
AKASG	Malin Array Be	54.86	316	P	P	10 34 37.0	0.0
	comp=Z,1.2nm,0.6s,baz=80,slow=6.4,SNR=6.3						
AKASG	Malin Array Be	54.86	316	P	P	10 34 37.7	+0.7
MLR	Muntele Rosu	57.08	309	P	P	10 34 53.6	+0.5
	comp=Z,3.8nm,0.8s,baz=117,slow=11,SNR=4.8						
BURAR	Bucovina Array	57.48	312	P	P	10 34 56.9	+1.0
BUR08	Bucovina Ar. S	57.49	312	P	P	10 34 57.0	+1.0
BUR08				IAmb	IAmb	10 35 13.7	
	comp=Z,3.7nm,1.4s						
FINES	FINESS Array B	57.57	328	P	P	10 34 57.1	+1.0
	comp=Z,2.1nm,0.8s,baz=141,slow=9.0,SNR=2.1						
FINES	FINESS Array B	57.57	328	P	P	10 34 55.4	-0.8
PABE	Paberze	58.21	321	P	P	10 35 01.8	+1.1
RER	Riviere de l'E	58.60	222	P	P	10 35 03.2	-0.8
WB0	Warramunga Arr	59.74	134	P	P	10 35 10.3	-1.6
WRA	Warramunga Arr	59.84	134	P	P	10 35 11.0	-1.5
	comp=Z,0.7nm,0.7s,baz=325,slow=7.3,SNR=7.5						
WRA				pP	pP	10 35 27.1	-1.6
	comp=Z,0.7nm,0.5s,baz=306,slow=5.7,SNR=4.6						
WRA	Warramunga Arr	59.84	134	P	P	10 35 11.8	-0.6
WB2	Warramunga Arr	59.84	134	P	P	10 35 11.2	-1.3
WB2				IAmb	IAmb	10 35 25.8	
	comp=Z,3.8nm,1.1s						
ASAR	Alice Springs	62.29	138	P	P	10 35 27.8	-1.2
	comp=Z,0.3nm,0.5s,baz=313,slow=7.1,SNR=4.7						
ASAR				pP	pP	10 35 43.6	-1.8
	comp=Z,0.7nm,0.7s,baz=318,slow=6.8,SNR=4.4						
GERES	GERESS Array B	65.00	314	P	P	10 35 47.4	+0.7
	comp=Z,0.9nm,0.6s,baz=70,slow=6.0,SNR=10						
GERES				pP	pP	10 36 02.5	-0.7
	comp=Z,0.6nm,0.6s,baz=77,slow=6.0,SNR=4.4						
GERES	GERESS Array B	65.00	314	P	P	10 35 47.9	+1.1
LBTB	Lobatse	82.20	238	LR	LR	11 08 45.9	
	comp=Z,24nm,21.6s,baz=198,slow=32						

NNC 06 10:36:45.9±4.8, 36°94N×70°18E, h0km, mb3.6, mpv3.3, 3C-3D, Error ellipse: s-maj=39.9km s-min=30.4km az=161.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	Karatay Array	6.17	2	⇑P	Pn	10 38 19.6	+1.4
	1.1nm,0.5s,baz=183,slow=13						
KK08				⇓S	Sn	10 39 31.1	+1.7
	2.0nm,0.7s,baz=182,slow=25						
AAK	Ala-Archa	6.59	29	⇑P	Pn	10 38 22.8	-1.3
	1.4nm,0.5s						
AAK				⇓S	Sn	10 39 41.3	+1.2
	3.0nm,0.6s						
TKM2	Tokmak 2	7.28	33	⇑P	Pn	10 38 35.3	+1.6
	1.4nm,0.6s						
TKM2				⇓S	Sn	10 39 57.2	0.0
	1.2nm,0.7s						
AB31	Akbulak array	14.39	332	P	Pn	10 40 07.2	-3.5
	0.3nm,0.5s,baz=153,slow=11,SNR=12						

*TUL **06** 10:40:29.7±1.5, 36°73N×0°01×98°02W±0°02, h6km±5km, ML3.2, mb_Lg2.9/55(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=109.0*
NEIC 06 10:40:29.8±0.7, **36°703N**±0°006×**97°99W**±0°03, **h5**km±2km, **Error ellipse: s-maj=4.0km s-min=3.0km az=78.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.18	36	Pg	Pg	10 40 33.8	+0.3
GC02				Sg	Sg	10 40 36.7	+0.8
CROK	Carrier	0.20	178	Pg	Pg	10 40 34.4	+0.7
CROK				Sg	Sg	10 40 37.8	+1.5
KAN14	Manchester OK	0.26	5		Pg	10 40 34.7	0.0
KAN14				Sg	Sg	10 40 38.3	+0.1
KAN17	Caldwell West	0.39	28	Pg	Pg	10 40 37.3	0.0
KAN17				Sg	Sg	10 40 42.8	+0.4
KAN05	Bluff City Nor	0.42	13		Pg	10 40 37.8	-0.1
KAN05				Sg	Sg	10 40 43.5	+0.2
KAN10	Anthony SW Sta	0.43	349	Pg	Pg	10 40 37.9	-0.2
KAN10				Sg	Sg	10 40 43.6	-0.1
KAN01	Argonia South	0.49	23		Pg	10 40 39.2	0.0
KAN01				Sg	Sg	10 40 45.8	+0.3
KAN13	South Haven SW	0.52	53	Pg	Pg	10 40 39.9	+0.1
KAN08	Anthony NE Sta	0.52	2		Pg	10 40 39.6	-0.2
KAN16	Harper SW Stat	0.53	354	Pg	Pg	10 40 39.7	-0.2
KAN06	Argonia West S	0.56	11		Pg	10 40 40.3	-0.2
OK035	E0210 Rd and N	0.58	271	Pg	Pg	10 40 40.5	-0.3
KAN12	Harper NE Stat	0.59	360	Pg	Pg	10 40 41.0	-0.2
BLOK	Blackwell	0.63	85	Pg	Pg	10 40 42.0	+0.2
U32A	Winter Ranch,	0.87	249	Pg	Pg	10 40 46.1	-0.5
OK029	Liberty Lake	1.00	154		Pg	10 40 49.1	0.0
BCOK	Bluff Creek, N	1.09	163		Pg	10 40 50.4	-0.3
QUOK	Quay	1.16	117	Pg	Pg	10 40 52.0	-0.1
OK031	S. Brethren Rd	1.20	128		Pg	10 40 52.5	-0.2
T35A	Sooner Cattle	1.21	79		Pg	10 40 52.5	-0.4
OK025	Westminster Rd	1.24	154		Pg	10 40 53.4	-0.2
OK030	Cody Creek RV	1.25	128		Pg	10 40 53.4	-0.3
OKCFA	Oklahoma City	1.36	161		Pn	10 40 55.0	-0.4
OKCSW	OKLAHOMA CITY	1.37	161		Pn	10 40 55.4	-0.2
FNO	Franklin	1.52	161		Pn	10 40 57.7	+0.1
W35A	Tecumseh	1.79	149		Pn	10 41 01.5	+0.1
R32A	Long Quarter,	1.81	342		Pn	10 41 02.1	+0.4
R32A				IAmb	Lg	10 41 26.6	
	comp=Z,44nm,0.8s						
TUL1	Leonard	1.95	113		Pn	10 41 02.7	-0.8
WMOK	Wichita Mounta	2.06	198		Pn	10 41 05.0	-0.1
X34A	Smith Ranch, M	2.10	176		Pn	10 41 05.6	-0.1
CBKS	Cedar Bluff	2.52	327		Pn	10 41 11.8	+0.3
KSU1	Kansas State U	2.63	24		Pn	10 41 13.3	+0.4
LOOK	Love County	2.79	166		Pn	10 41 14.9	-0.1
U38A	Gravette	2.92	94		Pn	10 41 16.6	-0.2
X37A	Clayton	3.00	134	IAmb	Lg	10 42 08.9	
	comp=Z,24nm,0.8s						
HHAR	Hobbs	3.29	96		Pn	10 41 22.8	+0.8
Z35A	Perchaven, San	3.42	170	Pn	Pn	10 41 24.6	+0.8
AMTX	Amarillo	3.50	240	Pn	Pn	10 41 25.4	+0.4
W39A	Magazine	3.73	113		Pn	10 41 27.7	-0.3
W39A				IAmb	Lg	10 42 37.5	
	comp=Z,35nm,1.0s						
S39A	Bolivar	3.86	74	IAmb	Lg	10 42 34.1	
	comp=Z,38nm,0.7s						
U40A	Yellville	4.15	93	IAmb	Lg	10 42 45.4	
	comp=Z,21nm,0.8s						
Z38A	Mt. Pleasant	4.23	143	IAmb	Lg	10 42 47.9	
	comp=Z,34nm,0.7s						
KSCO	Kaye Shedlock'	4.33	304	IAmb	Lg	10 42 55.0	
	comp=Z,25nm,0.9s						
MGMO	Mountain Grove	4.61	83	Pn	Pn	10 41 39.7	-0.4
MGMO				IAmb	Lg	10 42 55.4	
	comp=Z,17nm,0.8s						
BGNE	Belgrade	4.70	359	IAmb	Lg	10 43 08.1	
	comp=Z,22nm,0.8s						
WHTX	Lake Whitney,	4.72	174	Pn	Pn	10 41 42.2	+0.6
X40A	Basin Creek Fa	4.75	116	IAmb	Lg	10 43 03.5	
	comp=Z,23nm,0.8s						
R40A	Maddies Statio	4.82	69	IAmb	Lg	10 43 08.7	
	comp=Z,19nm,0.8s						
WHAR	Wooly Hollow	4.83	105	Pn	Pn	10 41 42.7	-0.5
WHAR				IAmb	Lg	10 43 10.3	
	comp=Z,29nm,1.3s						
W41B	Gary Mavity, V	4.91	106	IAmb	Lg	10 43 12.2	
	comp=Z,20nm,1.0s						
WLAR	White Oak Lake	5.00	126	IAmb	Lg	10 43 16.6	
	comp=Z,25nm,1.1s						
237A	Washetta, Mont	5.03	158	Pn	Pn	10 41 45.5	-0.3
237A				IAmb	Lg	10 43 20.6	
	comp=Z,21nm,1.0s						
T25A	Trinidad	5.16	277	Pn	Pn	10 41 47.5	-0.3
T25A				IAmb	Lg	10 43 16.9	
	comp=Z,25nm,0.8s						
OGNE	Ogallala	5.28	325		Pn	10 41 49.7	+0.3
OGNE				IAmb	Lg	10 43 20.5	
	comp=Z,26nm,0.8s						
L34A	Svendsen Farm,	5.40	13	IAmb	Lg	10 43 19.6	
	comp=Z,14nm,1.0s						
P40A	Paris	5.47	57	IAmb	Lg	10 43 35.5	
	comp=Z,21nm,1.0s						
CCM	Cathedral Cave	5.54	74	IAmb	Lg	10 43 30.7	
	comp=Z,16nm,0.7s						
K31A	O'Neill	5.94	355	IAmb	Lg	10 43 50.5	
	comp=Z,24nm,1.0s						
PBMO	Poplar Bluff	6.07	87	IAmb	Lg	10 43 57.2	
	comp=Z,12nm,0.8s						
FVM	French Village	6.16	76	IAmb	Lg	10 43 45.2	
	comp=Z,18nm,0.7s						
JCT	Junction City	6.39	194	IAmb	Lg	10 43 55.5	
	comp=Z,13nm,1.1s						
S44A	Carbondale	7.04	79	IAmb	Lg	10 44 23.1	
	comp=Z,17nm,0.8s						
PHWY	Pilot Hill	7.41	311	IAmb	Lg	10 44 36.6	
	comp=Z,8.6nm,0.9s						
N23A	Red Feather La	7.49	306	IAmb	Lg	10 44 26.6	
	comp=Z,10nm,0.8s						
T45A	Paducah	7.50	85	IAmb	Lg	10 44 23.6	
	comp=Z,14nm,0.8s						
MNTX	Cornudas Mount	7.90	233	IAmb	Lg	10 44 42.2	
	comp=Z,8.5nm,1.2s						

*JMA **06** 11:05:05.9±0.1, 42°34N×140°72E, h129km±1km, M2.6*
*IDC **06** 11:05:06.9±3.4, 42°41N×140°99E, h157km±44km, mb3.4/4, mb1 3.5/4, mb1mx3.0/40, mbtmp3.9/4, Error ellipse: s-maj=63.3km s-min=28.5km az=64.0*
ISC 06 11:05:05.4±0.9, 42°30N±0°06×**140°71E**±0°06, **h135**km±6km, **n21**, σ0°50/27, **mb3.7**/4, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	Noboribetsu	0.29	56	P	Pn	11 05 23.8	-0.2
JNB				eS	Sn	11 05 37.2	-1.0
JYM2	Yakumo 2	0.31	234	P	Pn	11 05 24.3	+0.2
JYM2				eS	Sn	11 05 38.0	-0.2
JKB	Kayabe	0.48	150	P	Pn	11 05 25.0	+0.2
JKB				eS	Sn	11 05 39.4	-0.1
JSH	Shimam	0.60	305	P	Pn	11 05 25.5	0.0
JHST	Hiyamasetana	0.63	281	P	Pn	11 05 25.5	-0.2
JEW	Eniwo	0.77	45	P	Pn	11 05 27.2	+0.5
JEW				eS	Sn	11 05 43.4	+0.5
JSR	Shiriuchi	0.80	196	P	Pn	11 05 27.4	+0.4
JOMM	Oshimamatsumae	0.94	214	eS	Sn	11 05 46.4	+1.0
JOSM	Okushiri--Mats	0.94	257	P	Pn	11 05 28.3	+0.2
JIAM	Iburiatsuma	0.95	70	P	Pn	11 05 28.8	+0.6
JOT	Ohata	0.95	165	P	Pn	11 05 28.6	+0.3
JSK	Shakotan	1.06	351	P	Pn	11 05 29.3	+0.1
JNBK	Urakawa-nobuka	1.52	90	P	Pn	11 05 33.9	0.0
JCH	Churui	1.99	80	P	Pn	11 05 39.4	0.0
JCH				eS	Sn	11 06 04.9	-0.5
JANG	Nango	2.02	162	P	Pn	11 05 39.9	0.0
JKK2	Kamakawa 2	2.17	43	P	Pn	11 05 42.5	+0.9
ASAJ	Asahikawa	2.28	37	P	Pn	11 05 43.3	+0.4
	1.6nm,0.3s,baz=230,slow=10,SNR=8.2						
ASAJ				S	Sn	11 06 11.7	-0.1
	1.0nm,0.3s,baz=341,slow=33,SNR=2.3						
ZALV	Zalesovo Beam	38.11	308	P	P	11 12 11.3	+0.4
	0.9nm,0.3s,baz=96,slow=9.2,SNR=5.6						
MKAR	Makanchi Array	41.05	297	P	P	11 12 35.7	+0.4
	0.5nm,0.6s,baz=79,slow=10,SNR=7.4						
WRA	Warramunga Arr	62.21	187	P	P	11 15 12.5	-0.1
	0.3nm,0.7s,baz=7.2,slow=6.9,SNR=1.1						
FINES	FINESS Array B	63.93	331	P	P	11 15 22.6	-0.8
	11nm,1.1s,baz=17,slow=10,SNR=3.4						

*IDC **06** 11:13:12.2±0.8, 10°15N×126°15E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/41, mbtmp3.9/10, MS2.9/8, Ms1 2.9/8, ms1mx2.6/77, Error ellipse: s-maj=38.3km s-min=18.0km az=68.0*
*NEIC **06** 11:13:18.1±1.4, 10°11N±0°09×126°2E±0°1, h38km±9km, mb4.4/16, Error ellipse: s-maj=18.2km s-min=12.7km az=107.0*
*MAN **06** 11:13:20.3, 10°10N×126°04E, h20km, mb4.9, ML3.8, MS3.8*
MAN INTENSITY I - SURIGAO CITY.
ISC 06 11:13:18.3±1.1, 10°12N±0°06×**126°22E**±0°07, **h43**km±10km, **n57**, σ1°69/54, **mb4.2**/16, **MS2.8**/6, **8C-7D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	0.34	196	*e*P	Pn	11 13 27.4	0.0
GLSP				*i* S	Sn	11 13 33.0	-0.6
SCPH	Surigao	0.80	245	⇓*i*P	Pn	11 13 32.7	-0.5
SCPH				*e*S	Sn	11 13 43.2	-0.7
BUTP	Butuan	1.29	207	⇑*i*P	Pn	11 13 41.1	+1.3
BUTP				*i* S	Sn	11 13 58.5	+2.6
MSLP	Maasin	1.34	271	⇓*i*P	Pn	11 13 41.1	+0.5
MSLP				*i* S	Sn	11 14 13.6	+16
BESP	Borongan	1.66	333	⇑*e*P	Pn	11 13 47.2	+2.2
OCLP	Ormoc	1.84	300	⇓*e*P	Pn	11 13 49.7	+2.3
BIPH	Bislig	1.93	176	⇑*e*P	Pn	11 13 53.0	+4.3
BIPH				*e*S	Sn	11 14 16.9	+5.2
LLP	Lapu-Lapu	2.23	275	⇓*i*P	Pn	11 13 54.1	+1.3
LLP				*i* S	Sn	11 14 19.7	+0.5
TBP	Tagbilaran	2.36	260	⇓*e*P	Pn	11 13 56.0	+1.4
TBP				*e*S	Sn	11 14 23.8	+1.4
BUKP	Musuan	2.50	207	⇑*i*P	Pn	11 13 59.5	+2.8
BUKP				*i* S	Sn	11 14 41.0	+15
SNPH	Sibulan	3.04	256	⇑*i*P	Pn	11 14 05.8	+1.8
SNPH				*i* S	Sn	11 14 45.2	+6.0
DAV	Davao City (W)	3.09	192	LR	LR	11 14 51.9	
	comp=Z,58nm,21.1s,baz=0.5,slow=32						
DAV	Davao City (W)	3.09	192	Pn	Pn	11 14 03.5	-1.2
DCPH	Dipolog City	3.22	242	⇓*e*P	Pn	11 14 07.8	+1.4
DCPH				*e*S	Sn	11 14 42.8	-0.7
KCP	Kidapawan	3.29	200	⇓*e*P	Pn	11 14 10.9	+3.5
CNOP	Candoni, Negro	3.54	266	⇓*i*P	Pn	11 14 12.3	+1.5
RCP	Roxas	3.70	293	⇓*e*P	Pn	11 14 15.5	+2.4
MYLDM	Lahad Datu	9.09	238	Pn	Pn	11 15 26.1	-0.9
JOW	Kunigami	16.74	6	LR	LR	11 22 20.7	
	comp=Z,44nm,20.8s,baz=142,slow=33						
SOEI	Soe	19.84	186	P	P	11 17 45.5	-0.3
SOEI				IAmb	IAmb	11 18 22.5	
	comp=Z,68nm,1.5s						
LEM	Lembang	25.03	228	LR	LR	11 28 14.7	
	comp=Z,54nm,19.8s,baz=188,slow=36						
KSRS	Korea Array	27.26	3	LR	LR	11 28 16.3	
	comp=Z,14nm,21.6s,baz=140,slow=33						
CM31	Chiang Mai Arr	27.67	290	P	P	11 19 01.2	-1.4
CMAR	Chiang Mai Arr	27.67	290	P	P	11 19 01.9	-0.6
	comp=Z,0.5nm,0.4s,baz=105,slow=7.0,SNR=10.0						
CHTO	Chiang Mai	27.76	291	P	P	11 19 01.9	-1.4
CHTO				IAmb	IAmb	11 19 41.3	
	comp=Z,6.0nm,1.6s						
RPSI	Rantau Prapat	28.09	257	P	P	11 19 04.8	-1.5
RPSI				IAmb	IAmb	11 20 07.8	
	comp=Z,12nm,1.4s						
MJAR	Matsushiro Arr	28.46	21	LR	LR	11 30 29.4	
	comp=Z,22nm,19.8s,baz=164,slow=36						
WRA	Warramunga Arr	30.92	165	P	P	11 19 31.4	+0.1
	comp=Z,0.3nm,0.4s,baz=343,slow=9.3,SNR=9.6						
WRA	Warramunga Arr	30.92	165	P	P	11 19 29.6	-1.7
WB2	Warramunga Arr	30.93	165	P	P	11 19 31.2	-0.1
WB2				IAmb	IAmb	11 19 37.2	
	comp=Z,18nm,1.9s						
USRK	Ussuriysk Ar.	34.32	7	LR	LR	11 35 05.0	
	comp=Z,12nm,19.4s,baz=209,slow=38						
AS31	Alice Springs	34.41	167	P	P	11 20 01.8	+0.1
ASAR	Alice Springs	34.41	167	P	P	11 20 01.8	0.0
	comp=Z,0.5nm,0.3s,baz=349,slow=6.8,SNR=33						
ASAR	Alice Springs	34.41	167	P	P	11 20 01.3	-0.5
ASAJ	Asahikawa	36.73	20	LR	LR	11 36 07.1	
	comp=Z,18nm,19.4s,baz=153,slow=37						
HNR	Honiara	38.78	119	LR	LR	11 34 15.7	
	comp=Z,43nm,21.8s,baz=321,slow=32						
H11N1	WAKE ISLAND Hy	40.35	71	T	T	12 04 13.0	
	baz=264,slow=74,SNR=73						
H11N2	WAKE ISLAND Hy	40.36	71	T	T	12 04 09.2	
	baz=264,slow=74,SNR=63						
H11N3	WAKE ISLAND Hy	40.37	71	T	T	12 04 12.8	
	baz=264,slow=74,SNR=64						
FORT	Forrest	40.70	178	P	P	11 20 55.3	+0.4
ULN	Ulaanbaatar	40.95	340	P	P	11 20 56.2	-0.7
ULN				IAmb	IAmb	11 20 58.1	
	comp=Z,3.3nm,0.6s						
SONM	Songino Array	41.14	340	P	P	11 20 58.9	+0.3
	comp=Z,0.6nm,0.5s,baz=159,slow=9.6,SNR=5.9						
SONM	Songino Array	41.14	340	P	P	11 20 58.8	+0.3
SONM				IAmb	IAmb	11 22 10.5	
	comp=Z,11nm,2.0s						
BBOO	Buckleboo	43.71	168	P	P	11 21 19.0	-0.4
PEA0B	Petropavlovsk-	49.80	24	P	P	11 22 07.2	+0.5
MK31	Makanchi Array	52.12	323	P	P	11 22 23.9	-0.5
MK31				IAmb	IAmb	11 22 24.9	
	comp=Z,2.8nm,0.9s						
MKAR	Makanchi Array	52.12	323	P	P	11 22 23.6	-0.7
	comp=Z,2.1nm,0.7s,baz=124,slow=8.1,SNR=22						
MKAR				PcP	PcP	11 23 35.5	-0.4
	comp=Z,0.7nm,0.6s,baz=113,slow=5.9,SNR=5.3						
MKAR	Makanchi Array	52.12	323	P	P	11 22 23.9	-0.5
MAKZ	Makanchi	52.31	323	P	P	11 22 25.3	-0.5
MAKZ				IAmb	IAmb	11 23 35.0	
	comp=Z,7.5nm,1.4s						
ZALV	Zalesovo Beam	54.74	331	P	P	11 22 42.1	-1.2
	comp=Z,0.8nm,0.4s,baz=118,slow=8.3,SNR=5.9						
ZALV	Zalesovo Beam	54.74	331	P	P	11 22 42.3	-1.1
ILAR	Eielson Array	79.60	26	P	P	11 25 20.7	-0.1
	comp=Z,0.4nm,0.7s,baz=245,slow=5.0,SNR=6.3						
ARCES	ARCESS Array B	84.32	340	P	P	11 25 45.4	-0.1
	comp=Z,3.3nm,0.8s,baz=64,slow=8.2,SNR=4.2						
ARCES	ARCESS Array B	84.32	340	P	P	11 25 45.1	-0.4
INK	Inuvik	84.44	22	P	P	11 25 45.6	-0.5
FINES	FINESS Array B	86.00	332	P	P	11 25 53.1	-0.9
	comp=Z,2.1nm,0.8s,baz=66,slow=3.5,SNR=9.9						
YKA	Yellowknife Ar	93.92	24	P	P	11 26 32.6	+1.4
	comp=Z,0.4nm,0.7s,baz=299,slow=4.7,SNR=11						

*IDC **06** 11:17:21.9±0.8, 0°68N×121°23E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.9/48, mbtmp4.0/10, ML4.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.4/72, Error ellipse: s-maj

KULM Kulim 20.50 284 P P 11 22 00.6 -2.6
KULM IAmb IAmb 11 22 05.4
comp=Z,13nm,0.9s
UBPT Khong Chiam 21.04 315 P P 11 22 08.9 0.0
GSI Gunungsitoli 23.03 272 P P 11 22 30.1 -0.1
WB0 Warramunga Arr 24.16 147 P P 11 22 38.2 -2.4
WB0 IAmb IAmb 11 22 40.4
comp=Z,16nm,1.1s
WRA Warramunga Arr 24.27 147 P P 11 22 39.8 -1.9
comp=Z,7.1nm,0.8s,baz=323,slow=11,SNR=45
WRA Warramunga Arr 24.27 147 P P 11 22 39.5 -2.2
WB2 Warramunga Arr 24.28 147 P P 11 22 39.8 -2.0
WB2 IAmb IAmb 11 22 41.3
comp=Z,8.4nm,0.8s
WR0 Warramunga Arr 24.39 147 P P 11 22 40.9 -1.9
WR0 IAmb IAmb 11 22 42.8
comp=Z,12nm,0.7s
AS31 Alice Springs 27.17 152 P P 11 23 06.7 -1.3
ASAR Alice Springs 27.17 152 P P 11 23 06.7 -1.2
comp=Z,1.9nm,0.5s,baz=338,slow=13,SNR=32
ASAR Alice Springs 27.17 152 P P 11 23 06.0 -2.0
GUMO Guam 27.39 60 P P 11 23 08.0 -2.1
CMAR Chiang Mai Arr 27.84 311 P P 11 23 14.9 +0.9
comp=Z,0.4nm,0.3s,baz=127,slow=5.6,SNR=4.8
CMAR Chiang Mai Arr 27.84 311 P P 11 23 13.1 -0.9
KS19 Wonju Array Si 37.55 10 P P 11 24 36.5 -2.0
STKA Stephens Creek 37.73 150 P P 11 24 39.4 -0.6
comp=Z,5.4nm,0.6s,baz=325,slow=9.2,SNR=15
STKA Stephens Creek 37.73 150 P P 11 24 39.5 -0.6
CAN Canberra 44.31 146 P P 11 25 34.1 0.0
MK31 Makanchi Array 57.05 330 P P 11 27 10.4 +0.5
MK31 IAmb IAmb 11 27 22.5
comp=Z,2.6nm,1.2s
MKAR Makanchi Array 57.05 330 P P 11 27 10.6 +0.7
comp=Z,0.5nm,0.3s,baz=125,slow=8.0,SNR=14
MKAR Makanchi Array 57.05 330 P P 11 27 10.4 +0.5
PEA0B Petropavlovsk- 60.93 25 P P 11 27 35.0 -1.6
ZAA0 Zalesovo Array 61.00 337 P P 11 27 37.0 -0.1
ZAA0 IAmb IAmb 11 27 38.0
comp=Z,2.5nm,1.1s
ZALV Zalesovo Beam 61.00 337 P P 11 27 36.9 -0.1
comp=Z,1.2nm,0.7s,baz=108,slow=3.3,SNR=6.4
ZALV Zalesovo Beam 61.00 337 P P 11 27 37.0 -0.1
KURBB Kurchatov Arra 61.46 331 P P 11 27 40.6 +0.4
comp=Z,0.4nm,0.6s,baz=142,slow=6.9,SNR=3.9
KURK Kurchatov 61.47 331 P P 11 27 40.4 +0.1
KURK IAmb IAmb 11 28 09.3
comp=Z,4.4nm,1.3s
BVAR Borovoye Array 66.94 330 P P 11 28 16.4 +0.3
comp=Z,0.7nm,0.8s,baz=134,slow=11,SNR=3.9
ABKAR Akbulak array 70.97 323 P P 11 28 39.7 -1.6
TIXI Tiksi 71.37 3 P P 11 28 41.2 -1.9
TIXI IAmb IAmb 11 28 42.2
comp=Z,4.3nm,1.0s
SUR Sutherland 98.46 237 LR LR 12 14 11.8
comp=Z,30nm,18.4s,baz=180,slow=34

*IDC **06** 11:26:27.9±3.3, 30°.49N×83°.21E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.4/70, mbtmp3.7/7, ML4.7/1, MS3.1/8, Ms1 3.1/8, ms1mx2.7/82, Error ellipse: s-maj=81.1km s-min=28.7km az=55.0*

ISC 06 11:26:30.3±2.9, 30°.6N±0°.3×83°.4E±0°.5, h10km, n13, σ0§86/7, mb3.6/4, MS3.0/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.17**	**357**	Pn	**Pn**	**11 30 16.7**	**-0.9**
	0.0nm,0.3s,baz=183,slow=12,SNR=2.7						
CMAR	**Chiang Mai Arr**	**18.59**	**127**	P	**P**	**11 30 47.1**	**-0.5**
	0.8nm,0.3s,baz=301,slow=12,SNR=13						
CMAR				LR	LR	11 39 27.3	
	comp=Z,22nm,18.5s,baz=200,slow=42						
KURBB	**Kurchatov Arra**	**20.31**	**351**	P	**P**	**11 31 06.1**	**-0.1**
	2.6nm,0.9s,baz=172,slow=10.0,SNR=13						
GEYT	**Alibeck**	**22.09**	**296**	LR	LR	11 41 44.8	
	comp=Z,57nm,19.6s,baz=64,slow=42						
WSAR	**Wadi Sarin**	**23.25**	**258**	LR	LR	11 42 29.7	
	comp=Z,41nm,18.4s,baz=120,slow=42						
ZALV	**Zalesovo Beam**	**23.33**	**2**	P	**P**	**11 31 38.1**	**-0.4**
	1.0nm,0.5s,baz=171,slow=10,SNR=6.5						
ZALV				LR	LR	11 42 11.9	
	comp=Z,15nm,18.8s,baz=238,slow=40						
BVAR	**Borovoye Array**	**24.32**	**341**	P	**P**	**11 31 48.6**	**+0.6**
	0.4nm,0.4s,baz=149,slow=12,SNR=3.8						
SONM	**Songino Array**	**24.60**	**39**	P	**P**	**11 31 51.8**	**+1.1**
	1.0nm,0.7s,baz=226,slow=9.7,SNR=5.7						
AKTO	**Aktyubinsk**	**27.42**	**323**	LR	LR	11 44 23.7	
	comp=Z,43nm,18.9s,baz=101,slow=39						
ARU	**Arti**	**31.13**	**333**	LR	LR	11 47 38.9	
	comp=Z,55nm,18.0s,baz=309,slow=41						
DAVOX	**Davos/Dischmat**	**57.58**	**309**	LR	LR	12 05 38.5	
	comp=Z,62nm,21.9s,baz=261,slow=41						
ILAR	**Eielson Array**	**77.17**	**20**	P	**P**	**11 38 24.2**	**+0.2**
	1.2nm,1.1s,baz=324,slow=5.6,SNR=4.7						
BOSA	**Boshof**	**80.89**	**229**	LR	LR	12 12 20.8	
	comp=Z,16nm,19.4s,baz=188,slow=34						

*DJA **06** 11:33:51.9±0.2, 8°S±3°×12°0E±°, h620km±3km, M4.3/38, mB4.9/24, mb4.6/38, MLv4.7/29, Mw(mB)4.2/24*
*NEIC **06** 11:33:53.1±1.5, 7°.38S±0°.09×119°.93E±0°.06, h602km±6km, mb4.4/33, Error ellipse: s-maj=13.2km s-min=8.8km az=185.0*
*IDC **06** 11:33:53.3±0.6, 7°.37S×120°.01E, h610km±6km, mb3.5/12, mb1 3.7/18, mb1mx3.2/55, mbtmp4.6/18, Error ellipse: s-maj=18.1km s-min=7.0km az=55.0*

ISC 06 11:33:52.7±0.3, 7°.42S±0°.05×119°.94E±0°.07, h600km, n179, σ1§03/186, mb4.4/26, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.38**	**24**	P	**P**	**11 35 06.0**	**+1.1**
BKSI	**Bulukumba**	**2.09**	**5**	P	**P**	**11 35 08.5**	**+1.1**
EDFI	**Ende, Flores**	**2.19**	**127**	P	**P**	**11 35 06.9**	**-1.0**
WBSI	**Waikabubak, Su**	**2.27**	**194**	P	**P**	**11 35 08.3**	**+0.1**
KAPI	**Kappang**	**2.39**	**356**	P	**P**	**11 35 10.9**	**+2.1**
	35nm,0.3s,baz=224,slow=3.3,SNR=211						
KAPI				S	**S**	**11 36 13.0**	**+2.4**
	baz=312,slow=23,SNR=7.6						
MMRI	**Maumere**	**2.58**	**118**	P	**P**	**11 35 09.2**	**-0.4**
MMRI	**Maumere**	**2.58**	**118**	P	**P**	**11 35 09.0**	**-0.6**
MMRI	**Maumere**	**2.58**	**118**	P	**P**	**11 35 09.5**	**-0.1**
BASI	**Baing, Sumba**	**2.86**	**167**	P	**P**	**11 35 11.9**	**+0.8**
BNSI	**Bone**	**3.00**	**3**	P	**P**	**11 35 13.9**	**+2.0**
BBSI	**Bau Bau**	**3.24**	**54**	P	**P**	**11 35 16.0**	**+2.7**
SPSI	**Sidrap Palu**	**3.43**	**357**	P	**P**	**11 35 16.2**	**+1.7**
TTSI	**Tana Toraja**	**4.34**	**358**	P	**P**	**11 35 21.6**	**+0.9**
BATI	**Baumata**	**4.61**	**127**	P	**P**	**11 35 23.1**	**+0.6**
	36nm,0.3s,baz=199,slow=0.4,SNR=17						
BATI	**Baumata**	**4.61**	**127**	P	**P**	**11 35 23.2**	**+0.6**
SRBI	**Singaraja**	**4.73**	**262**	P	**P**	**11 35 23.9**	**+0.4**
DNP	**Denpasar**	**4.84**	**255**	P	**P**	**11 35 24.9**	**+0.5**
SOEI	**Soe**	**4.87**	**119**	P	**P**	**11 35 25.0**	**+0.3**
SOEI	**Soe**	**4.87**	**119**	P	**P**	**11 35 25.1**	**+0.3**
SOEI	**Soe**	**4.87**	**119**	P	**P**	**11 35 25.3**	**+0.6**
IGBI	**Denpasar**	**4.94**	**253**	P	**P**	**11 35 25.3**	**+0.2**
ABJI	**Asem Bagus**	**5.67**	**266**	P	**P**	**11 35 31.5**	**+0.5**
	0.5nm167nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.82**	**259**	P	**P**	**11 35 31.1**	**-1.2**
	0.9nm5µm114nm,0.5s						
JAGI	**Jajag, Banyuwa**	**5.82**	**259**	P	**P**	**11 35 31.2**	**-1.2**
JAGI	**Jajag, Banyuwa**	**5.82**	**259**	P	**P**	**11 35 31.8**	**-0.6**
KMMI	**Kalianget**	**5.93**	**273**	P	**P**	**11 35 34.8**	**+1.5**
	0.4nm118nm,1.0s						
BLJI	**Banyuglugur**	**6.29**	**267**	P	**P**	**11 35 36.8**	**+0.4**
	0.8nm2µm215nm,0.5s						
BBKI	**Banjar Baru**	**6.41**	**307**	P	**P**	**11 35 39.7**	**+2.2**
	0.4nm2µm114nm,0.6s						
GMJI	**Gumukmas**	**6.49**	**262**	P	**P**	**11 35 37.7**	**-0.4**
	0.6nm3µm100nm,0.6s						
APSI	**Ampana**	**6.68**	**15**	P	**P**	**11 35 40.9**	**+1.0**
	0.5nm2µm101nm,1.0s						
LUWI	**Luwuk**	**6.94**	**24**	P	**P**	**11 35 43.0**	**+0.8**
	0.6nm6µm202nm,0.9s						
LUWI	**Luwuk**	**6.94**	**24**	P	**P**	**11 35 43.2**	**+1.1**
BWJI	**Bawean**	**7.39**	**282**	P	**P**	**11 35 46.6**	**+0.2**
	0.7nm148nm,0.6s						
MPSI	**Mapaga**	**7.70**	**360**	P	**P**	**11 35 50.6**	**+1.3**
	0.5nm2µm128nm,0.9s						
SANI	**Sanana**	**8.05**	**49**	P	**P**	**11 35 52.8**	**+0.2**
	1µm89nm,0.7s						
SANI	**Sanana**	**8.05**	**49**	P	**P**	**11 35 52.5**	**-0.1**
MRSI	**Marisa**	**8.09**	**14**	P	**P**	**11 35 53.7**	**+0.7**
	3µm421nm,0.7s						
MTKI	**Muara Teweh, K**	**8.16**	**322**	P	**P**	**11 35 54.6**	**+1.0**
	3µm73nm,0.6s						
TOLI2	**Tolitoli**	**8.51**	**6**	P	**P**	**11 35 56.6**	**-0.4**
TOLI2	**Tolitoli**	**8.51**	**6**	P	**P**	**11 35 56.7**	**-0.3**
GTOI	**Gorontalo**	**8.57**	**21**	P	**P**	**11 35 57.8**	**+0.3**
	698nm69nm,0.8s						
PCJI	**Pacitan**	**8.71**	**264**	P	**P**	**11 35 57.8**	**-1.1**
	5µm241nm,0.6s						
KMSI	**Cibinong**	**8.90**	**27**	P	**P**	**11 36 02.9**	**+2.1**
	9µm83nm,0.6s						
UWJI	**Ujung Watu**	**8.98**	**276**	P	**P**	**11 36 02.0**	**+0.5**
	2µm44nm,0.5s						
UGM	**Wanagama**	**9.34**	**266**	P	**P**	**11 36 04.8**	**-0.3**
	207nm,0.6s						
UGM	**Wanagama**	**9.34**	**266**	P	**P**	**11 36 04.8**	**-0.3**
UGM	**Wanagama**	**9.34**	**266**	P	**P**	**11 36 04.3**	**-0.8**
SMRI	**Semarang**	**9.43**	**272**	P	**P**	**11 36 06.7**	**+0.8**
	133nm,0.7s						
SMRI	**Semarang**	**9.43**	**272**	P	**P**	**11 36 07.1**	**+1.2**
PBKI	**Pangkalan Bun**	**9.47**	**299**	P	**P**	**11 36 07.6**	**+1.3**
	578nm,0.7s						
YOGI	**Yogyakarta**	**9.56**	**267**	P	**P**	**11 36 06.3**	**-0.9**
	198nm,0.9s						
STKI	**Sintang**	**11.24**	**311**	P	**P**	**11 36 24.6**	**+0.7**
SAUI	**Saumlaki**	**11.28**	**94**	P	**P**	**11 36 22.4**	**-1.8**
CMJI	**Cimerak**	**11.39**	**267**	P	**P**	**11 36 23.7**	**-1.7**
	905nm79nm,1.1s						
KNRA	**Kununurra**	**11.92**	**134**	P	**P**	**11 36 30.6**	**-0.1**
KNRA	**Kununurra**	**11.92**	**134**	P	**P**	**11 36 30.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.98**	**153**	P	**P**	**11 36 31.4**	**+0.2**
	1.0nm,0.3s,baz=347,slow=9.3,SNR=37						
FITZ				S	**S**	**11 38 40.9**	**-0.6**
	1.3nm,0.3s,baz=205,slow=19,SNR=8.9						
LEM	**Lembang**	**12.24**	**272**	P	**P**	**11 36 33.7**	**-0.4**
	8.2nm,0.3s,baz=49,slow=9.3,SNR=13						
MTN	**Manton Dam**	**12.27**	**117**	P	**P**	**11 36 33.9**	**-0.2**
MTN	**Manton Dam**	**12.27**	**117**	P	**P**	**11 36 33.8**	**-0.4**
SBUM	**Sibu**	**12.46**	**322**	P	**P**	**11 36 37.4**	**+1.2**
MYLDM	**Lahad Datu**	**12.59**	**353**	P	**P**	**11 36 39.6**	**+2.1**
CNJI	**Cibinong**	**12.70**	**270**	P	**P**	**11 36 37.2**	**-1.4**
	2µm213nm,0.9s						
CBJI	**Citeko**	**13.03**	**274**	P	**P**	**11 36 40.8**	**-1.1**
	118nm,1.0s						
SWI	**Sorong**	**13.03**	**61**	P	**P**	**11 36 40.6**	**-1.3**
	2µm42nm,0.7s						
SIJI	**Sorong**	**13.03**	**61**	P	**P**	**11 36 40.8**	**-1.2**
	3.7nm,0.3s,baz=277,slow=21,SNR=7.2						
KSM	**Kuching**	**13.05**	**312**	P	**P**	**11 36 42.4**	**+0.3**
KSM	**Kuching**	**13.05**	**312**	P	**P**	**11 36 43.5**	**+1.4**
FAKI	**Fak Fak**	**13.05**	**71**	P	**P**	**11 36 40.6**	**-1.5**
	94nm,1.1s						
FAKI	**Fak Fak**	**13.05**	**71**	P	**P**	**11 36 39.6**	**-2.6**
TPI	**Tanjungpandan**	**13.08**	**290**	P	**P**	**11 36 42.8**	**+0.4**
SKJI	**Sukabumi**	**13.28**	**271**	P	**P**	**11 36 43.1**	**-1.4**
	2µm108nm,0.5s						
KDU	**Kakadu**	**13.41**	**114**	P	**P**	**11 36 44.7**	**-1.0**
MBWA	**Marble Bar**	**13.66**	**181**	P	**P**	**11 36 48.4**	**+0.2**
PSA00	**Pilbara Seismi**	**14.07**	**180**	P	**P**	**11 36 52.2**	**-0.1**
PSA00	**Pilbara Seismi**	**14.07**	**180**	P	**P**	**11 36 51.9**	**-0.3**
PSA00	**Pilbara Seismi**	**14.07**	**180**	P	**P**	**11 36 52.5**	**+0.2**
CGJI	**Cibinong**	**14.16**	**272**	P	**P**	**11 36 50.7**	**-2.5**
	3µm212nm,0.5s						
XMIS	**Christmas Isla**	**14.44**	**257**	P	**P**	**11 36 55.0**	**-0.8**
XMIS	**Christmas Isla**	**14.44**	**257**	P	**P**	**11 36 54.5**	**-1.3**
	113nm,0.8s						
PPBI	**Pangkal Pinang**	**14.71**	**290**	P	**P**	**11 36 59.1**	**+0.8**
KASI	**Kota Agung**	**15.46**	**276**	P	**P**	**11 37 03.2**	**-2.0**
	943nm90nm,0.8s						
MDSI	**Maura Dua**	**15.94**	**280**	P	**P**	**11 37 09.8**	**+0.2**
GIRL	**Giralia**	**16.10**	**199**	P	**P**	**11 37 12.7**	**+1.8**
GIRL	**Giralia**	**16.10**	**199**	P	**P**	**11 37 12.5**	**+1.5**
MNAI	**Manna**	**17.16**	**279**	P	**P**	**11 37 20.7**	**-0.1**
	151nm,1.0s						
WB0	**Warramunga Arr**	**18.64**	**133**	P	**P**	**11 37 34.5**	**+0.3**
WB0				IAmb	IAmb	11 37 36.9	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**18.71**	**133**	P	**P**	**11 37 35.0**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=319,slow=10,SNR=191						
WRA	**Warramunga Arr**	**18.71**	**133**	P	**P**	**11 37 34.9**	**0.0**
WRAB	**Tennant Creek**	**18.71**	**133**	P	**P**	**11 37 35.0**	**+0.2**
WRAB				IAmb	IAmb	11 37 38.6	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**18.71**	**133**	P	**P**	**11 37 35.6**	**+0.7**
WB2	**Warramunga Arr**	**18.72**	**133**	P	**P**	**11 37 35.0**	**+0.1**
WB2				IAmb	IAmb	11 37 38.2	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**18.87**	**133**	P	**P**	**11 37 36.4**	**+0.1**
MEEK	**Meekatharra**	**19.16**	**184**	P	**P**	**11 37 39.6**	**+0.8**
WRKA	**Warakurna**	**19.26**	**156**	P	**P**	**11 37 40.7**	**+0.9**
AS31	**Alice Springs**	**21.00**	**142**	P	**P**	**11 37 55.6**	**+0.1**
AS31				IAmb	IAmb	11 37 57.1	
	comp=Z,5.2nm,0.3s						
ASAR	**Alice Springs**	**21.00**	**142**	P	**P**	**11 37 55.8**	**+0.3**
	comp=Z,7.5nm,0.5s,baz=319,slow=8.3,SNR=277						
ASAR				S	**S**	**11 41 08.4**	**-2.8**
	comp=Z,4.4nm,0.9s,baz=301,slow=16,SNR=9.3						
ASAR				PcP	**PcP**	**11 41 35.7**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=351,slow=1.3,SNR=5.9						
ASAR	**Alice Springs**	**21.00**	**142**	P	**P**	**11 37 55.5**	**0.0**
MORW	**Morawa**	**21.85**	**189**	P	**P**	**11 38 03.4**	**+0.5**
MORW				IAmb	IAmb	11 38 04.3	
	comp=Z,13nm,0.8s						
KULM	**Kulim**	**23.01**	**303**	P	**P**	**11 38 12.2**	**-1.3**
KULM				IAmb	IAmb	11 38 14.6	
	comp=Z,11nm,1.2s						
QIS	**Mount Isa**	**23.09**	**126**	P	**P**	**11 38 14.6**	**+0.4**
RPSI	**Rantau Prapat**	**23.25**	**295**	P	**P**	**11 38 16.1**	**+0.5**
RPSI				IAmb	IAmb	11 38 16.8	
	comp=Z,11nm,0.7s						
BLDU	**Ballidu**	**23.28**	**187**	P	**P**	**11 38 16.2**	**+0.6**
PSI	**Prapat**	**23.30**	**295**	P	**P**	**11 38 16.2**	**0.0**
	comp=Z,7.9nm,0.6s,baz=141,slow=12,SNR=7.5						
COEN	**Coen**	**23.73**	**108**	P	**P**	**11 38 19.4**	**-0.5**
COEN				IAmb	IAmb	11 38 20.8	
	comp=Z,10nm,0.9s						
COEN	**Coen**	**23.73**	**108**	P	**P**	**11 38 19.6**	**-0.3**
GSI	**Gunungsitoli**	**23.93**	**290**	P	**P**	**11 38 19.9**	**-1.8**
GSI				IAmb	IAmb	11 38 21.7	
	comp=Z,9.3nm,1.0s						
KLBR	**Kelberlin**	**24.14**	**185**	P	**P**	**11 38 23.6**	**+0.3**
	comp=Z,38nm,0.6s						
FORT	**Forrest**	**24.46**	**163**	P	**P**	**11 38 26.5**	**+0.4**
FORT	**Forrest**	**24.46**	**163**	P	**P**	**11 38 27.3**	**+1.2**
MUN	**Mundaring**	**24.68**	**188**	P	**P**	**11 38 29.2**	**+1.1**
OOD	**Oodnadatta**	**25.17**	**146**	P	**P**	**11 38 33.2**	**+0.8**
NWAO	**Narrogin (SRO)**	**25.51**	**185**	P	**P**	**11 38 36.5**	**+1.2**
MTSU	**Mount Surprise**	**26.02**	**117**	P	**P**	**11 38 41.0**	**+1.0**
MULG	**Mulgathing**	**26.32**	**152**	P	**P**	**11 38 42.9**	**+0.4**
UBPT	**Khong Chiam**	**26.72**	**328**	P	**P**	**11 38 46.4**	**+0.3**
UBPT				IAmb	IAmb	11 38 46.7	
	comp=Z,3.0nm,0.8s						
PMG	**Port Moresby**	**27.00**	**96**	P	**P**	**11 38 48.7**	**+0.1**
	comp=Z,15nm,0.5s,baz=163,slow=2.5,SNR=9.6						
PMG	**Port Moresby**	**27.00**	**96**	P	**P**	**11 38 48.6**	**0.0**
PMG	**Port Moresby**	**27.00**	**96**	P	**P**	**11 38 49.1**	**+0.4**
PMG	**Port Moresby**	**27.00**	**96**	P	**P**	**11 38 49.2**	**+0.5**
INKA	**Innaminka**	**28.23**	**138**	P	**P**	**11 38 59.7**	**+0.5**
CTAO	**Charters Tower**	**28.44**	**119**	P	**P**	**11 39 01.9**	**+0.7**
CTAO				IAmb	IAmb	11 39 02.7	
	comp=Z,8.8nm,0.9s						
LCRK	**Leigh Creek**	**28.61**	**146**	P	**P**	**11 39 03.4**	**+0.9**
BBOO	**Buckleboo**	**29.37**	**152**	P	**P**	**11 39 09.1**	**+0.1**
BBOO	**Buckleboo**	**29.37**	**152**	P	**P**	**11 39 09.5**	**+0.5**
QLP	**Quilpie**	**29.95**	**132**	P	**P**	**11 39 15.8**	**+1.8**
HTT	**Hallett**	**31.29**	**148**	P	**P**	**11 39 26.9**	**+1.4**
STKA	**Stephens Creek**	**31.62**	**143**	P	**P**	**11 39 29.0**	**+0.8**
	comp=Z,7.3nm,0.3s,baz=321,slow=8.7,SNR=28						
STKA				PcP	**PcP**	**11 42 00.7**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=332,slow=7.4,SNR=3.6						
STKA				S	**S**	**11 43 55.3**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=58,slow=23,SNR=7.8						
STKA	**Stephens Creek**	**31.62**	**143**	P	**P**	**11 39 28.8**	**+0.5**
STKA				IAmb	IAmb	11 39 29.3	
	comp=Z,1.9nm,0.4s						
STKA	**Stephens Creek**	**31.62**	**143**	P	**P**	**11 39 29.1**	**+0.8**
YOJ	**Yonaguni jima**	**31.83**	**5**	P	**P**	**11 39 29.8**	**-0.2**
YOJ	**Yonaguni jima**	**31.83**	**5**	P	**P**	**11 39 30.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**33.02**	**321**	P	**P**	**11 39 40.5**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=142,slow=6.4,SNR=9.7						
CMAR				PcP	**PcP**	**11 42 06.3**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=189,slow=2.7,SNR=5.2						
RMQ	**Roma**	**33.32**	**128**	P	**P**	**11 39 43.9**	**+1.2**
CMSA	**Cobar Meteorol**	**33.96**	**138**	P	**P**	**11 39 50.0**	**+2.1**
EIDS	**Eidsvold**	**34.66**	**125**	P	**P**	**11 39 54.2**	**+0.3**
EIDS				IAmb	IAmb	11 40 05.8	
	comp=Z,14nm,1.4s						
ARPS	**Mount Arapiles**	**35.38**	**149**	P	**P**	**11 40 00.2**	**+0.5**
	comp=Z,9.6nm,0.8s						
SANVU	**Saraoutou**	**46.93**	**104**	P	**P**	**11 41 32.1**	**+1.2**
SANVU	**Saraoutou**	**46.93**	**104**	P	**P**	**11 41 32.6**	**+1.6**
HHC	**Hu-ho-hao-te**	**48.64**	**352**	*eP*	**P**	**11 41 45.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,6.0s						
SONM	**Songino Array**	**56.30**	**349**	P	**P**	**11 42 37.4**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=168,slow=9.7,SNR=6.7						
SONM	**Songino Array**	**56.30**	**349**	P	**P**	**11 42 36.6**	**-1.2**
WMQ	**Urumqi**	**58.76**	**333**	*eP*	**P**	**11 42 55.7**	**+1.3**
CASY	**Casey**	**59.13**	**184**	P	**P**	**11 42 56.6**	**+0.2**
CASY				IAmb	IAmb	11 43 06.5	
	comp=Z,26nm,1.1s						
MK31	**Makanchi Array**	**63.49**	**332**	P	**P**	**11 43 25.1**	**-0.1**
MKAR	**Makanchi Array**	**63.49**	**332**	P	**P**	**11 43 25.0**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=148,slow=6.9,SNR=36						
MKAR				PcP	**PcP**	**11 43 54.6**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=165,slow=5.4,SNR=3.7						
MKAR	**Makanchi Array**	**63.49**	**332**	P	**P**	**11 43 25.0**	**-0.2**
MAKZ	**Makanchi**	**63.65**	**332**	P	**P**	**11 43 26.1**	**-0.1**
KKAR	**Karatay Array**	**67.35**	**323**	P	**P**	**11 43 49.5**	**+0.2**
ZAA0	**Zalesovo Array**	**67.91**	**338**	P	**P**	**11 43 51.3**	**-1.1**
ZALV	**Zalesovo Beam**	**67.91**	**338**	P	**P**	**11 43 51.0**	**-1.5**
	comp=Z,2.7nm,0.3s,baz=143,slow=5.3,SNR=17						
ZALV	**Zalesovo Beam**	**67.91**	**338**	P	**P**	**11 43 51.2**	**-1.3**
KURK	**Kurchatov**	**68.00**	**333**	P	**P**	**11 43 52.6**	**-0.5**
MAW	**Mawson**	**71.03**	**200**	P	**P**	**11 44 11.2**	**+0.4**
VOI	**Vohitsoka**	**71.66**	**249**	P	**P**	**11 44 15.8**	**+0.1**
VOI				IAmb	IAmb	11 44 15.8	
	comp=Z,8.7nm,1.0s						
VNDA	**Vanda**	**73.40**	**171**	P	**P**	**11 44 24.8**	**+0.5**
	comp=Z,3.5nm,0.6s,baz=312,slow=6.7,SNR=34						
VNDA	**Vanda**	**73.40**	**171**	P	**P**	**11 44 25.0**	**+0.6**
SBA	**Scott Base**	**74.39**	**171**	P	**P**	**11 44 31.4**	**+1.5**
SBA				IAmb	IAmb	11 44 55.4	
	comp=Z,19nm,1.4s						
SEY	**Seymchan**	**74.41**	**15**	P	**P**	**11 44 30.3**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=238,slow=11,SNR=8.9						
ABKAR	**Akbulak array**	**76.81**	**324**	P	**P**	**11 44 42.8**	**-1.0**
AKTO	**Aktyubinsk**	**78.47**	**325**	P	**P**	**11 44 51.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=91,slow=6.2,SNR=5.1						
QSPA	**South Pole Qui**	**82.57**	**180**	P	**P**	**11 45 13.7**	**-0.1**
QSPA				IAmb	IAmb	11 45 14.2	
	comp=Z,8.7nm,1.3s						
BOSA	**Boshof**	**90.58**	**241**	P	**P**	**11 45 52.5**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=109,slow=3.6,SNR=6.7						
BOSA	**Boshof**	**90.58**	**241**	P	**P**	**11 45 52.3**	**-0.3**
SNAA	**Sanae**	**92.76**	**195**	P	**P**	**11 46 01.5**	**-0.1**
YKA	**Yellowknife Ar**	**112.38**	**24**	PKiKP	**PKiKP**	**11 51 19.9**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=304,slow=1.9,SNR=8.6						
YKA	**Yellowknife Ar**	**112.38**	**24**	**PKiKP**	**PKiKP**	**11 51 20.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**119.09**	**281**	PKP	**PKPdf**	**11 51 34.4**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=61,slow=2.1,SNR=7.0						
PDAR	**Pinedale Array**	**124.13**	**43**	PKKPbc	PKKPbc	12 01 31.8	-1.7
	comp=Z,0.3nm,0.4s,baz=116,slow=5.9,SNR=4.0						
LL02	**Futaleuf**	**128.51**	**169**		**PKPdf**	**11 51 51.3**	**-1.4**
ANMO	**Albuquerque**	**129.42**	**50**	SKPbc	SKPab	11 54 21.1	-0.3
	comp=Z,3.4nm,1.0s,baz=235,slow=3.0,SNR=12						
TXAR	**Lajitas Array**	**133.60**	**56**	SKPbc	**SKPbc**	**11 54 34.7**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=318,slow=3.9,SNR=3.9						
TKL	**Tuckaleechee C**	**144.48**	**34**	PKP	**PKPdf**	**11 52 21.5**	**-0.7**
	comp=Z,3.4nm,0.4

PNIG *i* S **Sg** **11 59 33.8 -0.8**
CRIG Cruz Grande 1.29 333 **Pn** **11 59 28.5 -2.1**
CRIG **Sn** **11 59 45.6 -2.7**
CRIG Cruz Grande 1.29 333 *e*P **Pn** **11 59 28.5 -2.1**
CRIG *i* S **Sn** **11 59 45.6 -2.7**
DAIG Los Arroyos 1.79 323 **Pn** **11 59 35.9 -1.6**
DAIG **Sn** **11 59 57.6 -3.2**
DAIG Los Arroyos 1.79 323 *e*P **Pn** **11 59 35.9 -1.6**
DAIG *i* S **Sn** **11 59 57.6 -3.2**
TXIG Tlaxiaco 1.81 24 *e*P **Pn** **11 59 35.8 -2.3**
TXIG *e*S **Sn** **12 00 00.4 -1.3**
ACP2 Acapulco 1.83 315 **Pn** **11 59 35.8 -2.2**
ACP2 **Sn** **11 59 58.6 -3.1**
ACP2 Acapulco 1.83 315 *i* P **Pn** **11 59 35.8 -2.2**
ACP2 *i* S **Sn** **11 59 58.6 -3.1**
TLIG Tlapa 1.97 359 **Pn** **11 59 39.6 -0.5**
TLIG Sn **Sn** **12 00 03.9 -1.5**
TLIG Tlapa 1.97 359 *e*P **Pn** **11 59 39.1 -1.0**
TLIG *e*S **Sn** **12 00 03.5 -1.8**
HMTT Tlapaneco 2.21 359 **Pn** **11 59 41.5 -1.8**
HMTT **Sn** **12 00 09.5 -1.5**
HMTT Tlapaneco 2.21 359 *e*P **Pn** **11 59 41.5 -1.8**
HMTT *i* S **Sn** **12 00 09.5 -1.5**
CAIG El Cayaco 2.22 311 **Pn** **11 59 41.9 -1.5**
CAIG **Sn** **12 00 07.5 -3.8**
CAIG El Cayaco 2.22 311 *e*P **Pn** **11 59 41.9 -1.5**
CAIG *i* S **Sn** **12 00 07.5 -3.8**
OXBJ Oaxaca 2.27 49 **Pn** **11 59 42.9 -1.5**
OXBJ **Sn** **12 00 10.2 -2.8**
OXBJ Oaxaca 2.27 49 *e*P **Pn** **11 59 42.9 -1.5**
OXBJ *e*S **Sn** **12 00 10.2 -2.8**
OXLC Oaxaca 2.29 50 *e*P **Pn** **11 59 42.6 -1.9**
OXLC *e*S **Sn** **12 00 11.3 -2.0**
HLIG Huajuapan de L 2.34 17 *e*P **Pn** **11 59 43.8 -1.5**
HLIG *i* S **Sn** **12 00 14.3 -0.3**
FTIG Fresnillo de T 2.34 9 *e*P **Pn** **11 59 44.2 -1.0**
FTIG *i* S **Sn** **12 00 13.4 -1.1**
MEIG Mezcala 2.56 336 **Pn** **11 59 48.1 0.0**
MEIG **Sn** **12 00 18.3 -1.4**
MEIG Mezcala 2.56 336 *e*P **Pn** **11 59 48.1 0.0**
MEIG *e*S **Sn** **12 00 18.3 -1.4**
PLIG Platanillo 2.95 342 **Pn** **11 59 54.3 +0.8**
PLIG **Sn** **12 00 28.1 -1.3**
PLIG Platanillo 2.95 342 *e*P **Pn** **11 59 54.3 +0.8**
PLIG *i* S **Sn** **12 00 28.1 -1.3**
THEZ Tehuacan 3.08 21 *e*P **Pn** **11 59 54.7 -0.7**
THEZ *e*S **Sn** **12 00 31.9 -1.0**
ARIG Puente Sto Nin 3.20 327 **Pn** **11 59 58.0 +1.1**
ARIG **Sn** **12 00 34.5 -1.1**
ARIG Puente Sto Nin 3.20 327 *e*P **Pn** **11 59 58.0 +1.1**
ARIG *i* S **Sn** **12 00 34.5 -1.1**
YAIG Yautepec 3.30 351 **Pb** **12 00 04.2 -0.9**
YAIG Yautepec 3.30 351 *e*P **Pb** **12 00 04.2 -0.9**
YAIG *e*S **Sn** **12 00 35.6 -2.7**
ZIIG Zihuatanejo 3.46 306 *e*P **Pn** **12 00 00.1 -0.5**
ZIIG *i* S **Sn** **12 00 38.5 -3.5**
CMIG Matias Romero 3.81 66 Pn Pn 12 00 00.6 -4.6
2.1nm,0.3s,baz=270,slow=11,SNR=28
CMIG Sn **Sn** **12 00 43.7 -6.7**
4.1nm,0.3s,baz=273,slow=13,SNR=5.1
CMIG LR LR 12 01 07.7
comp=Z,34nm,21.2s,baz=332,slow=35
MOIG Morelia 4.80 328 Pn **Pn** **12 00 18.5 -0.6**
CCIG Comitan 6.18 83 Pn **Pn** **12 00 39.6 +1.5**
H06E1 SOCORRO T-PHAS 2.27 287 T T 12 14 57.5
SNR=3.9
ORTG Ortega, Santa 13.75 111 Pn **Pn** **12 02 22.9 +1.3**
LPIG La Paz 13.95 309 LR LR 12 07 29.0
comp=Z,44nm,20.3s,baz=314,slow=35
JTS Las Juntas de 14.23 110 Pn **Pn** **12 02 29.2 +0.9**
TXAR Lajitas Array 14.48 342 Pn **Pn** **12 02 34.6 +2.8**
0.0nm,0.3s,baz=166,slow=15,SNR=11
TXAR LR LR 12 07 43.9
comp=Z,84nm,21.9s,baz=152,slow=35
TXAR Lajitas Array 14.48 342 Pn **Pn** **12 02 31.4 -0.3**
TX31 Lajitas Ar. Si 14.49 342 Pn **Pn** **12 02 32.4 +0.6**
TX32 Lajitas Array 14.49 342 Pn **Pn** **12 02 31.3 -0.5**
HKT Hockley 14.52 9 Pn **Pn** **12 02 34.1 +2.1**
WHTX Lake Whitney, 16.37 3 Pn **Pn** **12 02 56.1 -0.3**
ABTX Abilene, Hawle 17.00 357 P **Pn** **12 03 06.1 +1.6**
ABTX IAmb IAmb 12 03 09.7
comp=Z,39nm,1.1s
MNTX Cornudas Mount 17.22 340 P **Pn** **12 03 08.3 +1.0**
MSTX Muleshoe 18.71 349 P **P** **12 03 26.3 +0.9**
MSTX IAmb IAmb 12 03 27.7
comp=Z,13nm,1.0s
X34A Smith Ranch, M 18.95 2 P **P** **12 03 28.8 +0.8**
AMTX Amarillo 19.43 352 P **P** **12 03 33.5 +0.2**
AMTX IAmb IAmb 12 03 42.1
comp=Z,20nm,1.4s
TUL1 Leonard 20.39 6 P **P** **12 03 44.3 +0.6**
TUL1 IAmb IAmb 12 03 48.7
comp=Z,9.8nm,0.8s
ANMO Albuquerque 20.56 341 P Pn 12 03 48.4 +0.5
comp=Z,2.3nm,0.9s,baz=143,slow=9.7,SNR=7.9
ANMO Albuquerque 20.56 341 P **P** **12 03 44.7 -1.0**
U32A Winter Ranch, 20.72 359 P **P** **12 03 48.3 +1.1**
U32A IAmb IAmb 12 03 52.8
comp=Z,14nm,0.9s
KAN10 Anthony SW Sta 21.46 1 P **P** **12 03 55.9 +0.7**
KAN10 IAmb IAmb 12 04 02.3
comp=Z,15nm,0.8s
T25A Trinidad 22.10 347 P **P** **12 04 02.4 +0.1**
T25A IAmb IAmb 12 04 10.8
comp=Z,18nm,1.3s
MGMO Mountain Grove 22.19 13 P **P** **12 04 04.0 +0.9**
MGMO IAmb IAmb 12 04 07.6
comp=Z,10nm,0.8s
PBMO Poplar Bluff 22.31 17 P **P** **12 04 05.5 +1.2**
T42A Van Buren 22.36 16 P **P** **12 04 06.1 +1.2**
T42A IAmb IAmb 12 04 10.3
comp=Z,11nm,1.4s
GOGA Godfrey 22.38 35 P **P** **12 04 03.9 -1.2**
GOGA IAmb IAmb 12 04 04.3
comp=Z,7.2nm,0.6s
S39A Bolivar 22.50 11 P **P** **12 04 07.2 +0.8**
S39A IAmb IAmb 12 04 11.1
comp=Z,6.3nm,0.8s
CPCT Cooper Cave 23.43 30 P **P** **12 04 15.9 -0.2**
CPCT IAmb IAmb 12 04 20.6
comp=Z,16nm,1.5s
HODGE Hodges 23.66 35 P **P** **12 04 17.8 -0.5**
U49A Red Boiling Sp 23.74 26 P **P** **12 04 19.4 +0.3**
U49A IAmb IAmb 12 04 21.7
comp=Z,15nm,1.4s
TKL Tuckaleechee C 23.96 31 P **P** **12 04 22.2 +1.0**
V53A Saluda 24.45 32 P **P** **12 04 27.2 +1.4**
V55A Taylorsville 25.43 34 P **P** **12 04 36.0 +1.4**
NVAR Mina Array Bea 28.66 326 P **P** **12 05 06.7 +2.7**
comp=Z,0.2nm,0.5s,baz=140,slow=5.9,SNR=3.6
NVAR LR LR 12 17 30.6
comp=Z,132nm,18.6s,baz=140,slow=38
PDAR Pinedale Array 28.70 343 P **P** **12 05 05.8 +1.5**
comp=Z,0.6nm,0.8s,baz=152,slow=9.9,SNR=3.6
PDAR LR LR 12 16 28.9
comp=Z,100nm,19.5s,baz=189,slow=36
ELK Elko 28.98 333 LR LR 12 18 02.0
comp=Z,149nm,21.5s,baz=143,slow=39
RPN Rapa Nui 43.73 194 LR LR 12 20 08.2
comp=Z,44nm,18.9s,baz=70,slow=29
YKA Yellowknife Ar 48.21 350 P **P** **12 07 47.2 0.0**
comp=Z,0.8nm,0.9s,baz=157,slow=7.3,SNR=6.3
ILAR Eielson Array 58.96 338 P **P** **12 09 07.5 +1.3**
comp=Z,1.3nm,1.1s,baz=131,slow=5.4,SNR=5.2
SPITS Spitsbergen Ar 79.77 11 LR LR 12 48 58.8
comp=Z,48nm,18.1s,baz=338,slow=38
WRA Warramunga Arr 129.63 257 PKP **PKPdf** **12 18 15.5 -1.5**
comp=Z,0.6nm,0.7s,baz=79,slow=2.4,SNR=5.4

*MOS **06** 12:10:08.7±0.8, 56.°06N×164.°79E, h18km, mb4.4/11, Error ellipse: s-maj=7.4km s-min=4.9km az=57.2*
*IDC **06** 12:10:08.7±0.8, 56.°24N×164.°69E, h0km, mb3.7/19, mb1 3.9/21, mb1mx3.8/44, mbtmp3.7/21, ML4.0/1, MS3.2/10, Ms1 3.2/10, ms1mx2.8/97, Error ellipse: s-maj=22.2km s-min=12.5km az=161.0*
*KRSC **06** 12:10:09.6±1.2, 55.°84N×164.°55E, h16km±22km, ML4.4*
*NEIC **06** 12:10:12.3±1.1, 56.°1N±0.°1×164.°7E±0.°1, h30km±4km, mb4.3/22, Error ellipse: s-maj=15.7km s-min=9.3km az=162.0*
ISC 06 12:10:09.7±2.0, 55.°98N±0.°04×164.°65E±0.°03, h14km±13km,

n157,σ1$45/156, mb4.2/34, MS3.1/7, 7C-9D,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.05**	**283**	PN	**Pb**	**12 10 28.3**	**-1.4**
KBTR				S	**Sb**	**12 10 42.3**	**-1.0**
KBTR	**Krutoberegovo**	**1.05**	**283**	*e*P	**Pb**	**12 10 28.3**	**-1.4**
KBTR				*e*S	**Sb**	**12 10 42.3**	**-1.0**
BKI	**Bering**	**1.08**	**136**	PN	**Pb**	**12 10 28.5**	**-1.7**
BKI				S	**Sb**	**12 10 42.5**	**-1.7**
BKI	**Bering**	**1.08**	**136**	*e*P	**Pb**	**12 10 28.5**	**-1.7**
BKI				*e*S	**Sb**	**12 10 42.5**	**-1.7**
KBG	**Krutoberegovo**	**1.12**	**285**	PN	**Pb**	**12 10 29.3**	**-1.6**
KBG				S	**Sb**	**12 10 44.2**	**-1.1**
KBG	**Krutoberegovo**	**1.12**	**285**	*e*P	**Pb**	**12 10 29.3**	**-1.6**
KBG				*e*S	**Sb**	**12 10 44.2**	**-1.1**
SMKR	**Semkarok**	**1.87**	**290**	PN	**Pn**	**12 10 41.6**	**+0.2**
SMKR				S	**Sn**	**12 11 05.0**	**+0.1**
SMKR	**Semkarok**	**1.87**	**290**	*e*P	**Pn**	**12 10 41.6**	**+0.2**
SMKR				*e*S	**Sn**	**12 11 05.0**	**+0.1**
BDR	**Baidarnaya**	**2.01**	**288**	PN	**Pn**	**12 10 43.9**	**+0.6**
BDR				S	**Sb**	**12 11 09.5**	**-1.4**
BDR	**Baidarnaya**	**2.01**	**288**	*e*P	**Pn**	**12 10 43.9**	**+0.6**
BDR				*e*S	**Sb**	**12 11 09.5**	**-1.4**
SRKR	**Sorokina**	**2.05**	**291**	PN	**Pn**	**12 10 44.0**	**+0.1**
SRKR	**Sorokina**	**2.05**	**291**	*e*P	**Pn**	**12 10 44.0**	**+0.1**
ZLN	**Zelenaya**	**2.16**	**272**	PN	**Pb**	**12 10 46.3**	**-2.4**
ZLN	**Zelenaya**	**2.16**	**272**	*e*P	**Pb**	**12 10 46.3**	**-2.4**
CIRR	**Tsirk**	**2.19**	**275**	PN	**Pn**	**12 10 46.6**	**+0.7**
CIRR	**Tsirk**	**2.19**	**275**	*e*P	**Pn**	**12 10 46.6**	**+0.7**
MKZ	**Mys Kozlova**	**2.20**	**231**	PN	**Pb**	**12 10 45.7**	**-3.5**
MKZ	**Mys Kozlova**	**2.20**	**231**	*e*P	**Pb**	**12 10 45.7**	**-3.5**
BZGR	**Bezymyannyi-Gr**	**2.22**	**270**	PN	**Pb**	**12 10 47.4**	**-2.3**
BZGR	**Bezymyannyi-Gr**	**2.22**	**270**	*e*P	**Pb**	**12 10 47.4**	**-2.3**
BZWR	**Bezymyannyi-We**	**2.33**	**271**	PN	**Pb**	**12 10 49.4**	**-2.3**
BZWR	**Bezymyannyi-We**	**2.33**	**271**	*e*P	**Pb**	**12 10 49.4**	**-2.3**
KMNR	**Kamenistaya**	**2.50**	**267**	PN	**Pb**	**12 10 52.1**	**-2.3**
KMNR	**Kamenistaya**	**2.50**	**267**	*e*P	**Pb**	**12 10 52.1**	**-2.3**
TUMD	**Tumrok D**	**2.54**	**254**	*e*P	**Pb**	**12 10 52.1**	**-2.9**
TUMR	**Tumrok**	**2.65**	**256**	PN	**Pn**	**12 10 52.1**	**0.0**
TUMR	**Tumrok**	**2.65**	**256**	*e*P	**Pb**	**12 10 54.3**	**-2.7**
ESO	**Esso**	**3.35**	**271**	PN	**Pb**	**12 11 07.2**	**-1.6**
ESO	**Esso**	**3.35**	**271**	*e*P	**Pb**	**12 11 07.2**	**-1.6**
KII	**Karymskiy**	**3.58**	**239**	PN	**Pn**	**12 11 06.3**	**+1.5**
KII	**Karymskiy**	**3.58**	**239**	*e*P	**Pn**	**12 11 06.3**	**+1.5**
SPN	**Mys Shipunski**	**3.95**	**225**	PN	**Pn**	**12 11 11.1**	**+1.2**
SPN	**Mys Shipunski**	**3.95**	**225**	*e*P	**Pn**	**12 11 11.1**	**+1.2**
SPN				*e*S	**Sn**	**12 11 54.4**	**-1.6**
NLC	**Nalytchevo**	**4.18**	**230**	PN	**Pn**	**12 11 13.9**	**+0.9**
NLC	**Nalytchevo**	**4.18**	**230**	*e*P	**Pn**	**12 11 13.9**	**+0.9**
NLC				*e*S	**Sn**	**12 12 01.1**	**-0.5**
SDLR	**Sedlovina**	**4.31**	**233**	PN	**Pn**	**12 11 16.8**	**+1.9**
SDLR	**Sedlovina**	**4.31**	**233**	*e*P	**Pn**	**12 11 16.8**	**+1.9**
KRER	**Koryakskii**	**4.36**	**234**	PN	**Pn**	**12 11 17.9**	**+2.3**
KRER	**Koryakskii**	**4.36**	**234**	*e*P	**Pn**	**12 11 17.9**	**+2.3**
SMAR	**Somma**	**4.36**	**234**	PN	**Pn**	**12 11 17.6**	**+1.9**
SMAR	**Somma**	**4.36**	**234**	*e*P	**Pn**	**12 11 17.6**	**+1.9**
UGLR	**Uglovaya**	**4.38**	**233**	PN	**Pn**	**12 11 17.8**	**+1.9**
UGLR	**Uglovaya**	**4.38**	**233**	*e*P	**Pn**	**12 11 17.8**	**+1.9**
AVH	**Avacha**	**4.38**	**234**	PN	**Pn**	**12 11 17.9**	**+2.0**
AVH	**Avacha**	**4.38**	**234**	*e*P	**Pn**	**12 11 17.9**	**+2.0**
KOK	**Koryaka**	**4.41**	**235**	PN	**Pn**	**12 11 18.6**	**+2.3**
KOK	**Koryaka**	**4.41**	**235**	*e*P	**Pn**	**12 11 18.6**	**+2.3**
GNL	**Ganaly**	**4.51**	**242**	PN	**Pn**	**12 11 19.3**	**+1.7**
GNL	**Ganaly**	**4.51**	**242**	*e*P	**Pn**	**12 11 19.3**	**+1.7**
DALK	**Dalny**	**4.54**	**232**	PN	**Pn**	**12 11 19.1**	**+1.2**
DALK	**Dalny**	**4.54**	**232**	*e*P	**Pn**	**12 11 19.1**	**+1.2**
PET	**Petropavlovsk**	**4.58**	**232**	*e*PN	**Pn**	**12 11 20.7**	**+2.2**
PET				pmax	pmax		
comp=Z,76nm,0.4s							
PET				MLR	MLR		
comp=Z,200nm,12.0s							
PET				MLR	MLR		
comp=Z,500nm,12.0s							
PET	**Petropavlovsk**	**4.58**	**232**		**Pn**	**12 11 20.5**	**+2.0**
PET	**Petropavlovsk**	**4.58**	**232**	*e*P	**Pn**	**12 11 20.8**	**+2.2**
PET				*e*S	**Sn**	**12 12 12.0**	**+0.5**
KRMR	**Karymshinskiy**	**4.95**	**233**	PN	**Pn**	**12 11 26.1**	**+2.5**
KRMR	**Karymshinskiy**	**4.95**	**233**	*e*P	**Pn**	**12 11 26.1**	**+2.5**
PEA0B	**Petropavlovsk-**	**4.97**	**237⇑**	*e*PN	**Pn**	**12 11 26.3**	**+2.4**
PEA0B	**Petropavlovsk-**	**4.97**	**237**	Pn	**Pn**	**12 11 25.4**	**+1.5**
PETK	**Petropavlovsk-**	**4.97**	**237**	Pn	**Pn**	**12 11 25.9**	**+2.1**
comp=Z,0.9nm,0.3s,baz=73,slow=16,SNR=30							
PETK				Sn	Sb	12 12 25.4	-11
comp=Z,1.4nm,0.3s,baz=103,slow=19,SNR=3.8							
PETK				LR	LR	12 13 47.2	
comp=Z,143nm,20.9s,baz=46,slow=43							
PETK	**Petropavlovsk-**	**4.97**	**237**	PN	**Pn**	**12 11 24.9**	**+1.1**
PETK	**Petropavlovsk-**	**4.97**	**237**		**Pn**	**12 11 24.9**	**+1.1**
RUS	**Russkaya**	**5.06**	**228**	PN	**Pn**	**12 11 26.3**	**+1.2**
RUS	**Russkaya**	**5.06**	**228**	*e*P	**Pn**	**12 11 26.3**	**+1.2**
RUS				*e*S	**Sn**	**12 12 22.7**	**-0.6**
GRL	**Gorelyy**	**5.17**	**231**	PN	Pn	12 11 29.4	+2.7
GRL	**Gorelyy**	**5.17**	**231**	*e*P	Pn	12 11 29.4	+2.7
APC	**Apacha**	**5.34**	**238**	PN	Pn	12 11 32.1	+3.2
APC	**Apacha**	**5.34**	**238**	*e*P	Pn	12 11 32.1	+3.2
ASAK	**Asacha**	**5.36**	**230**	PN	Pn	12 11 32.5	+3.2
ASAK	**Asacha**	**5.36**	**230**	*e*P	Pn	12 11 32.5	+3.2
KDTR	**Khodutka, Kamc**	**5.71**	**226**	PN	**Pn**	**12 11 35.5**	**+1.5**
KDTR	**Khodutka, Kamc**	**5.71**	**226**	*e*P	**Pn**	**12 11 35.5**	**+1.5**
SMY	**Shemya**	**6.41**	**117**	PN	**Pn**	**12 11 43.0**	**-0.6**
SMY	**Shemya**	**6.41**	**117**	Pn	**Pn**	**12 11 43.0**	**-0.6**
SKR	**Severo-Kuril's**	**7.37**	**227⇑**	*e*PN	Pn	12 11 59.7	+3.0
SEY	**Seymchan**	**9.34**	**323**	LR	LR	12 16 16.2	
comp=Z,122nm,19.4s,baz=272,slow=40							
SEY	**Seymchan**	**9.34**	**323⇓**	*e*PN	**Pn**	**12 12 22.7**	**-1.1**
KIWB	**Kanaga Island**	**11.49**	**104**	Pn	**Pn**	**12 12 55.0**	**+1.8**
BILL	**Bilibino**	**12.12**	**3**	*e*PN	**Pn**	**12 13 02.2**	**+0.4**
BILL				pmax	pmax		
comp=Z,10.0nm,1.9s							
BILL				MLR	MLR		
comp=Z,64nm,16.0s							
BILL	**Bilibino**	**12.12**	**3**	Pn	**Pn**	**12 13 00.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**16.30**	**246⇓**	*e*P	**P**	**12 14 01.8**	**+0.9**
YSS				pmax	pmax		
comp=Z,41nm,1.5s							
JKA	**Kamikawa-asahi**	**18.38**	**239**	P	**P**	**12 14 24.1**	**+0.1**
JKA				IAmb	IAmb	12 14 36.5	
comp=Z,20nm,0.8s							
ASAJ	**Asahikawa**	**18.39**	**239**	P	**P**	**12 14 26.6**	**+2.6**
comp=Z,0.9nm,0.3s,baz=27,slow=4.5,SNR=8.1							
ASAJ				LR	LR	12 22 27.6	
comp=Z,61nm,18.8s,baz=86,slow=40							
ASAJ	**Asahikawa**	**18.39**	**239**	P	**P**	**12 14 24.1**	**+0.1**
ASAJ				pmax	pmax		
comp=Z,20nm,0.8s							
YAK	**Yakutsk**	**18.82**	**303⇓**	*e*P	**Pn**	**12 14 30.2**	**+1.1**
YAK				pmax	pmax		
comp=Z,5.0nm,0.6s							
ERM	**Erimo**	**19.74**	**234⇑**	*e*P	**Pn**	**12 14 41.9**	**+1.6**
KLR	**Kul'dur**	**20.94**	**265**	P	Pn	12 14 52.9	-1.5
comp=Z,0.6nm,0.5s,baz=63,slow=11,SNR=1.9							
KLR				LR	LR	12 23 36.4	
comp=Z,82nm,18.3s,baz=43,slow=38							
O18K	**Koktuh Hills**	**21.43**	**63**	P	**P**	**12 14 56.6**	**-0.4**
O18K				IAmb	IAmb	12 15 12.1	
comp=Z,18nm,1.3s							
P18K	**Big Mountain,**	**21.48**	**64**	P	**P**	**12 14 57.9**	**+0.4**
P18K				IAmb	IAmb	12 15 02.0	
comp=Z,18nm,1.4s							
JTM	**Tenmabayashi**	**21.67**	**235**	P	**P**	**12 15 02.7**	**+3.0**
TIXI	**Tiksi**	**21.73**	**330**	P	**P**	**12 15 00.4**	**+0.3**
comp=Z,3.3nm,0.8s,baz=114,slow=9.0,SNR=9.0							
TIXI				LR	LR	12 24 18.5	
comp=Z,57nm,18.0s,baz=248,slow=40							
TIXI	**Tiksi**	**21.73**	**330⇑**	*i*P	**P**	**12 15 00.6**	**+0.5**
TIXI				pmax	pmax		
comp=Z,5.0nm,0.9s							
K20K	**Telida**	**21.76**	**53**	P	**P**	**12 14 59.9**	**-0.7**
IMAR	**Indian Mountai**	**22.07**	**46**	P	**P**	**12 15 04.5**	**+0.7**
P19K	**Oil Pt**	**22.44**	**63**	P	**P**	**12 15 06.4**	**-1.5**
KDAK	**Kodiak Island**	**23.15**	**68**	P	**P**	**12 15 14.0**	**-1.3**
comp=Z,8.7nm,1.1s,baz=288,slow=16,SNR=4.4							
TRF	**Thorofare Moun**	**23.46**	**53**	P	**P**	**12 15 18.6**	**0.0**
TRF				IAmb	IAmb	12 15 37.9	
comp=Z,12nm,1.3s							
CNPM	**China Poot**	**23.47**	**63**	P	**P**	**12 15 17.9**	**-0.6**
TOLK	**Toolik Lake Re**	**24.04**	**40**	P	**P**	**12 15 23.6**	**-0.4**
COLA	**College**	**24.48**	**49⇓**	*e*P	**P**	**12 15 28.5**	**+0.5**
COLA				pmax	pmax		
comp=Z,10.0nm,1.4s							
KNK	**Knik Glacier**	**24.51**	**58**	P	**P**	**12 15 27.4**	**-0.8**
KNK				IAmb	IAmb	12 15 44.8	
comp=Z,14nm,1.3s							
SML	**Sawmill**	**24.51**	**57**	P	**P**	**12 15 28.0**	**-0.4**
SML				IAmb	IAmb	12 15 33.2	
comp=Z,10nm,1.1s							
ILAR	**Eielson Array**	**24.90**	**50**	P	**P**	**12 15 30.8**	**-1.0**
comp=Z,1.2nm,0.8s,baz=261,slow=8.5,SNR=14							
MJAR	**Matsushiro Arr**	**26.41**	**234**	P	**P**	**12 15 49.1**	**+3.4**
comp=Z,1.1nm,0.6s,baz=30,slow=7.2,SNR=1.8							
M27K	**Edge Creek, AK**	**27.42**	**54**	P	**P**	**12 15 54.6**	**-0.1**
M27K				IAmb	IAmb	12 15 59.2	
comp=Z,8.2nm,1.2s							
KSRS	**Korea Array**	**30.76**	**249**	LR	LR	12 29 14.0	
comp=Z,21nm,18.1s,baz=25,slow=37							
SONM	**Songino Array**	**35.86**	**282**	P	**P**	**12 17 09.4**	**+0.5**
comp=Z,0.3nm,0.4s,baz=57,slow=7.8,SNR=4.1							
SONM	**Songino Array**	**35.86**	**282**	*e*P	**P**	**12 17 10.5**	**+1.6**
SONM	**Songino Array**	**35.86**	**282**	P	**P**	**12 17 08.9**	**0.0**
H11N2	**WAKE ISLAND Hy**	**36.24**	**176**	T	T	12 56 09.6	
baz=357,slow=76,SNR=5.8							
H11N3	**WAKE ISLAND Hy**	**36.25**	**176**	T	T	12 56 11.1	
baz=357,slow=76,SNR=81							
H11N1	**WAKE ISLAND Hy**	**36.25**	**176**	T	T	12 56 10.0	
baz=357,slow=76,SNR=4.9							
EUNU	**Eureka**	**38.48**	**15**	P	**P**	**12 17 30.7**	**0.0**
HOLB	**Holberg**	**39.07**	**69**	P	**P**	**12 17 34.6**	**-1.3**
JOW	**Kunigami**	**39.13**	**237**	LR	LR	12 33 46.4	
comp=Z,31nm,21.4s,baz=24,slow=36							
YKA	**Yellowknife Ar**	**39.24**	**46**	P	**P**	**12 17 36.5**	**-0.6**
comp=Z,0.3nm,0.6s,baz=298,slow=7.8,SNR=5.6							
YKA	**Yellowknife Ar**	**39.24**	**46**	P	**P**	**12 17 35.6**	**-1.5**
SPITS	**Spitsbergen Ar**	**44.70**	**351**	P	**P**	**12 18 21.4**	**-0.2**
comp=Z,15nm,1.2s,baz=50,slow=7.7,SNR=6.2							
SPB2	**Spitsbergen Ar**	**44.70**	**351**	P	**P**	**12 18 21.7**	**+0.1**
DGZ	**Jazzator, Alta**	**44.78**	**296⇑**	*e*P	**P**	**12 18 24.4**	**+1.6**
DGZ				pmax	pmax		
comp=Z,9.0nm,3.0s							
EDM	**Edmonton**	**44.93**	**57**	P	**P**	**12 18 23.9**	**+0.1**
EDM				pmax	pmax		
comp=Z,7.0nm,1.1s							
EDM	**Edmonton**	**44.93**	**57**	P	**P**	**12 18 23.9**	**+0.1**
EDM				IAmb	IAmb	12 18 24.6	
comp=Z,6.8nm,1.1s							
KURK	**Kurchatov**	**48.45**	**302⇓**	*e*P	**P**	**12 18 51.1**	**-0.2**
KURK				pmax	pmax		
comp=Z,3.0nm,1.0s							
KURK	**Kurchatov**	**48.45**	**302**	P	**P**	**12 18 51.5**	**+0.2**
KURK				IAmb	IAmb	12 18 52.0	
comp=Z,2.6nm,0.9s							
KURBB	**Kurchatov Arra**	**48.56**	**302**	P	**P**	**12 18 51.8**	**-0.3**
comp=Z,1.5nm,0.9s,baz=53,slow=7.9,SNR=11							
MK31	**Makanchi Array**	**49.28**	**296⇓**	*i*P	**P**	**12 18 57.1**	**-0.7**
MK31	**Makanchi Array**	**49.28**	**296**	P	**P**	**12 18 57.6**	**-0.2**
MKAR	**Makanchi Array**	**49.28**	**296**	P	**P**	**12 18 57.4**	**-0.3**
comp=Z,0.4nm,0.4s,baz=55,slow=6.8,SNR=15							
MKAR	**Makanchi Array**	**49.28**	**296**	P	**P**	**12 18 57.6**	**-0.2**
MKAR	**Makanchi Array**	**49.28**	**296**	P	**P**	**12 18 57.6**	**-0.2**
MAKZ	**Makanchi**	**49.43**	**296**	P	**P**	**12 18 58.7**	**-0.2**
MAKZ				pmax	pmax		
comp=Z,5.0nm,1.4s							
MAKZ	**Makanchi**	**49.43**	**296**	P	**P**	**12 18 58.7**	**-0.2**
MAKZ				IAmb	IAmb	12 19 00.9	
comp=Z,5.4nm,1.4s							
FCC	**Fort Churchill**	**49.55**	**42**	P	**P**	**12 18 59.2**	**-0.4**
FCC				pmax	pmax		
comp=Z,3.0nm,1.1s							
FCC	**Fort Churchill**	**49.55**	**42**	P	**P**	**12 18 59.2**	**-0.4**
FCC				IAmb	IAmb	12 19 23.8	
comp=Z,2.9nm,1.1s							
BVAR	**Borovoye Array**	**50.66**	**309**	P	**P**	**12 19 07.9**	**-0.2**
comp=Z,1.2nm,0.6s,baz=60,slow=8.8,SNR=6.2							
BRVK	**Borovoye**	**50.68**	**309⇑**	*e*P	**P**	**12 19 08.6**	**+0.4**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s							
NVAR	**Mina Array Bea**	**52.34**	**75**	P	**P**	**12 19 22.0**	**+0.9**
comp=Z,0.6nm,0.8s,baz=298,slow=6.0,SNR=3.2							
ARU	**Arti**	**53.04**	**318**	*c i*P	**P**	**12 19 26.0**	**+0.2**
ARU						12 21 22.5	
ARU				S	**S**	**12 26 53.6**	**-1.2**
ARU				SS	**SS**	**12 30 30.7**	**-2.6**
ARU				pmax	pmax		
comp=Z,10.0nm,2.1s							
PDAR	**Pinedale Array**	**53.84**	**65**	P	**P**	**12 19 32.1**	**0.0**
comp=Z,0.6nm,0.6s,baz=331,slow=5.2,SNR=6.8							
PDAR	**Pinedale Array**	**53.84**	**65**	P	**P**	**12 19 32.5**	**+0.3**
KIRV	**Kirov**	**54.61**	**324⇓**	*e*P	**P**	**12 19 34.6**	**-2.6**
AAK	**Ala-Archa**	**56.15**	**297⇓**	*e*P	**P**	**12 19 50.0**	**+1.3**
AAK				pmax	pmax		
comp=Z,6.0nm,1.3s							
AAK	**Ala-Archa**	**56.15**	**297**	P	**P**	**12 19 48.5**	**-0.3**
AAK				IAmb	IAmb	12 20 04.5	
comp=Z,2.3nm,1.1s						

MW4.3
VAO ***06*** *12:41:06.5±0.5,21°.58S×70°.48W,h34km,mb4.4*
NEIC ***06*** *12:41:07.7±1.7,21°.60S±0°.03×70°.38W±0°.05,h31km±4km, mb4.6/26,Mwr4.4/37,ML4.5(GUC),Error ellipse: s-maj=6.9km s-min=3.9km az=96.0*
NEIC ***06*** *12:41:07.7,21°.60S×70°.38W,h46km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.85; $M_{\theta\theta}$0.85; $M_{\phi\phi}$-4.69; $M_{r\theta}$1.80; $M_{\theta\phi}$0.66; $M_{\phi r}$3.27; Fault plane solution: $M_0$5.76000×10^{15} NP1:ϕ_s149.89000°, δ31.94000°,λ48.52000°. NP2:ϕ_s16.07000°,δ66.65000°, λ112.44000°. Principal axes: T 5.7133, Plg62.0000°, Azm321.0000°; N 0.0911, Plg21.0000°, Azm187.0000°; P -5.8044, Plg19.0000°, Azm90.0000°;*
GUC ***06*** *12:41:08.3±0.7,21°.61S×70°.34W,h37km±2km,ML4.5*
IDC ***06*** *12:41:12.0±1.5,21°.55S×70°.11W,h75km±15km,mb3.8/10, mb1 4.0/15,mb1mx3.8/40,mbtmp4.1/15,MS3.3/10, Ms1 3.3/10,ms1mx3.1/59,Error ellipse: s-maj=23.0km s-min=13.6km az=63.0*
ISC 06 12:41:07.6±0.6,21°.61S±0°.02×70°.38W±0°.04,h38km±1km, n169,σ1§13/188,mb4.4/23,MS3.2/6,8C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PB07	**IPOC Station P**	**0.47**	**104⇓**	***iP***		**Pn**	**12 41 17.6**	**-0.5**
PB07				*i* S		**Sn**	**12 41 24.6**	**-0.9**
PB07	**IPOC Station P**	**0.47**	**104**			**Pn**	**12 41 16.7**	**-1.4**
PB07						**Sn**	**12 41 24.4**	**-1.1**
PB07	**IPOC Station P**	**0.47**	**104**	***eP***		**Pn**	**12 41 17.0**	**-1.1**
PB07				IAML			12 41 25.2	
comp=Z,46μm,0.3s								
PB03	**IPOC Station P**	**0.73**	**127⇓**	***iP***		**Pn**	**12 41 21.3**	**-0.3**
PB03				*i* S		**Sn**	**12 41 30.8**	**-0.8**
PB03	**IPOC Station P**	**0.73**	**127**	***eP***		**Pn**	**12 41 23.1**	**+1.5**
PB03				*e*S		**Sn**	**12 41 31.6**	**0.0**
PB03				IAML			12 41 35.1	
comp=Z,15μm,0.4s								
PB04	**IPOC Station P**	**0.75**	**163⇑**	***iP***		**Pn**	**12 41 22.1**	**+0.2**
PB04				*i* S		**Sn**	**12 41 32.5**	**+0.4**
PB04				IAML			12 41 37.1	
comp=N,27μm,0.3s								
PB04	**IPOC Station P**	**0.75**	**163**			**Pn**	**12 41 21.7**	**-0.2**
PB04					Sn	**Sn**	**12 41 32.4**	**+0.3**
PB04	**IPOC Station P**	**0.75**	**163**	***eP***		**Pn**	**12 41 22.0**	**+0.1**
PB04				*e*P			12 41 23.1	
PB04				*e*S		**Sn**	**12 41 33.1**	**+1.0**
PB04				IAML			12 41 37.4	
comp=Z,20μm,0.3s								
PB01	**IPOC Station P**	**1.01**	**56⇓**	***iP***		**Pn**	**12 41 25.1**	**-0.2**
PB01				*i* S		**Sn**	**12 41 38.0**	**-0.4**
PB01				IAML			12 41 39.3	
comp=N,24μm,0.3s								
PB01	**IPOC Station P**	**1.01**	**56**			**Pn**	**12 41 25.1**	**-0.2**
PB01					Sn	**Sn**	**12 41 37.8**	**-0.5**
PB01	**IPOC Station P**	**1.01**	**56**	***eP***		**Pn**	**12 41 25.1**	**-0.2**
PB01				*e*S		**Sn**	**12 41 37.8**	**-0.5**
PB01				IAML			12 41 39.0	
comp=Z,13μm,0.2s								
TA01	**Diego Aracena**	**1.06**	**10⇑**	***iP***		**Pn**	**12 41 25.8**	**-0.2**
TA01				*i* S		**Sn**	**12 41 39.6**	**+0.2**
TA01				IAML			12 41 41.0	
comp=N,54μm,0.5s								
TA01	**Diego Aracena**	**1.06**	**10**			**Pn**	**12 41 25.7**	**-0.2**
TA01	**Diego Aracena**	**1.06**	**10**	***eP***		**Pn**	**12 41 25.8**	**-0.2**
TA01				*e*S		**Sn**	**12 41 40.3**	**+0.9**
TA01				IAML			12 41 40.8	
comp=Z,28μm,0.5s								
PB09	**IPOC Station P**	**1.07**	**100⇓**	***iP***		**Pn**	**12 41 26.9**	**+0.5**
PB09				*i* S		**Sn**	**12 41 40.4**	**+0.3**
PB09				IAML			12 41 43.0	
comp=E,14μm,0.2s								
PB09	**IPOC Station P**	**1.07**	**100**			**Pn**	**12 41 26.7**	**+0.4**
PB09	**IPOC Station P**	**1.07**	**100**	***eP***		**Pn**	**12 41 26.0**	**-0.4**
PB09				*e*P			12 41 26.9	
PB09				*e*S		**Sn**	**12 41 41.5**	**+1.4**
PB09				IAML			12 41 43.0	
comp=Z,16μm,0.4s								
PB05	**IPOC Station P**	**1.25**	**172⇑**	***iP***		**Pn**	**12 41 28.9**	**+0.2**
PB05				*i* S		**Sn**	**12 41 45.0**	**+0.7**
PB05				IAML			12 41 49.2	
comp=N,13μm,0.3s								
PB05	**IPOC Station P**	**1.25**	**172**	***eP***		**Pn**	**12 41 28.9**	**+0.2**
PB05				*e*S		**Sn**	**12 41 45.9**	**+1.5**
PB05				IAML			12 41 48.1	
comp=Z,6μm,0.5s								
PB06	**IPOC Station P**	**1.32**	**146⇑**	***iP***		**Pn**	**12 41 29.8**	**0.0**
PB06				*i* S		**Sn**	**12 41 47.4**	**+1.1**
PB06				IAML			12 41 49.3	
comp=N,13μm,0.6s								
PB06	**IPOC Station P**	**1.32**	**146**			**Pn**	**12 41 30.5**	**+0.7**
PB06	**IPOC Station P**	**1.32**	**146**	***eP***		**Pn**	**12 41 30.0**	**+0.2**
PB06				*e*P			12 41 30.2	
PB06				*e*S		**Sn**	**12 41 48.3**	**+2.0**
PB06				IAML			12 41 49.6	
comp=Z,6μm,0.2s								
TA02	**Huaiquique**	**1.35**	**10**	***eP***		**Pn**	**12 41 30.2**	**+0.2**
TA02				*e*S		**Sn**	**12 41 47.6**	**+0.8**
TA02				IAML			12 41 48.7	
comp=N,11μm,0.2s								
TA02	**Huaiquique**	**1.35**	**10**			**Pn**	**12 41 30.6**	**+0.6**
TA02	**Huaiquique**	**1.35**	**10**	***eP***		**Pn**	**12 41 30.0**	**0.0**
TA02				*e*S		**Sn**	**12 41 50.0**	**+3.2**
TA02				IAML			12 41 53.6	
comp=Z,4μm,0.4s								
LVC	**Limon Verde**	**1.69**	**126**	P		**Pn**	**12 41 36.5**	**+1.6**
comp=Z,352nm,0.3s,baz=305,slow=11,SNR=1979								
LVC				S		**Sn**	**12 41 57.5**	**+1.9**
comp=Z,1μm,0.3s,baz=180,slow=20,SNR=23								
LVC				LR		LR	12 42 30.5	
comp=Z,716nm,21.0s,baz=296,slow=51								
LVC	**Limon Verde**	**1.69**	**126⇑**	***iP***		**Pn**	**12 41 36.0**	**+1.1**
LVC				*i* S		**Sn**	**12 41 57.2**	**+1.7**
LVC	**Limon Verde**	**1.69**	**126**	***eP***		**Pn**	**12 41 35.4**	**+0.5**
LVC	**Limon Verde**	**1.69**	**126**	Pn		**Pn**	**12 41 36.9**	**+1.9**
LVC	**Limon Verde**	**1.69**	**126**	***eP***		**Pn**	**12 41 36.0**	**+1.1**
LVC				*e*S		**Sn**	**12 41 57.1**	**+1.6**
LVC				IAML			12 41 59.0	
comp=Z,3μm,0.4s								
PB15	**IPOC Station P**	**1.80**	**152**	***eP***		**Pn**	**12 41 37.0**	**+0.7**
PB15				*e*S		**Sn**	**12 42 00.2**	**+2.1**
PB15	**IPOC Station P**	**1.80**	**152**			**Pn**	**12 41 37.1**	**+0.8**
PB15	**IPOC Station P**	**1.80**	**152**	***eP***		**Pn**	**12 41 37.0**	**+0.7**
PB15				*e*P			12 41 37.2	
PB15				*e*S		**Sn**	**12 42 00.2**	**+2.1**
PB15				*e*S			12 42 02.9	
PB15				IAML			12 42 06.5	
comp=Z,15μm,0.2s								
PB08	**IPOC Station P**	**1.86**	**38⇑**	***iP***		**Pn**	**12 41 38.2**	**+0.9**
PB08				*i* S		**Sn**	**12 42 01.7**	**+2.0**
PB08				IAML			12 42 04.2	
comp=N,10μm,0.4s								
PB08	**IPOC Station P**	**1.86**	**38**			**Pn**	**12 41 38.5**	**+1.2**
PB08	**IPOC Station P**	**1.86**	**38**	***eP***		**Pn**	**12 41 38.0**	**+0.7**
PB08				*e*S		**Sn**	**12 42 02.5**	**+2.7**
PB08				IAML			12 42 03.3	
comp=Z,6μm,0.4s								
PB10	**IPOC Station P**	**1.90**	**185⇑**	***iP***		**Pn**	**12 41 37.1**	**-0.4**
PB10				*e*S		**Sn**	**12 42 01.8**	**+1.5**
PB10	**IPOC Station P**	**1.90**	**185**			**Pn**	**12 41 37.2**	**-0.4**
PB10	**IPOC Station P**	**1.90**	**185**	***eP***		**Pn**	**12 41 37.0**	**-0.6**
PB10				*e*P			12 41 37.2	
PB10				*e*S		**Sn**	**12 42 02.9**	**+2.6**
PB11	**IPOC Station P**	**1.96**	**20⇑**	***iP***		**Pn**	**12 41 38.5**	**0.0**
PB11				*i* S		**Sn**	**12 42 03.6**	**+1.6**
PB11				IAML			12 42 13.8	
comp=N,6μm,0.3s								
PB11	**IPOC Station P**	**1.96**	**20**			**Pn**	**12 41 39.4**	**+0.9**
PB11	**IPOC Station P**	**1.96**	**20**	***eP***		Pn	12 41 28.9	-10
PB11				*e*P			12 41 38.0	
PB11				*e*P			12 41 38.8	
PB11				*e*S		**Sn**	**12 42 05.4**	**+3.4**
PB11				IAML			12 42 06.7	
comp=Z,3μm,0.4s								
PB12	**IPOC Station P**	**2.98**	**1**	Pn		**Pn**	**12 41 52.2**	**-0.3**
PB12	**IPOC Station P**	**2.98**	**1**	***eP***		**Pn**	**12 41 52.4**	**-0.1**
PB12				*e*S		**Sn**	**12 42 28.4**	**+1.3**
PB12				*e*S			12 42 28.9	
PB12				IAML			12 42 46.0	
comp=Z,1μm,0.7s								
PB14	**IPOC Station P**	**3.00**	**180**	Pn		**Pn**	**12 41 52.5**	**-0.5**
PB16	**IPOC Station P**	**3.36**	**14**			**Pn**	**12 41 58.7**	**+0.5**

AC02	**Maricunga**	**5.33**	**168**	Pn		**Pn**	**12 42 25.9**	**+0.8**
AC02	**Maricunga**	**5.33**	**168**	*e*P		**Pn**	**12 42 26.0**	**+0.9**
AC02				*e*S		Sn	12 43 43.9	+18
LPAZ	**La Paz**	**5.71**	**22**	P		**Pn**	**12 42 34.3**	**+3.9**
comp=Z,2.8nm,0.3s,baz=198,slow=2.8,SNR=51								
LPAZ				LR		LR	12 45 08.2	
comp=Z,317nm,19.7s,baz=180,slow=42								
ASTB	**Santa Barbara**	**5.94**	**114**	*e*P		**Pn**	**12 42 35.9**	**+2.6**
ASTB				*e*P			12 42 36.0	
GO03	**Copiap**	**5.96**	**179**	Pn		**Pn**	**12 42 32.7**	**-0.7**
GO03	**Copiap**	**5.96**	**179**	*e*P		**Pn**	**12 42 34.0**	**+0.6**
GO03				*e*S		Sn	12 43 55.9	+15
ALOL	**LOMAS DE OLMED**	**6.30**	**112**	*e*P		**Pn**	**12 42 35.9**	**-2.2**
ALOL				*e*P			12 42 41.1	
LCO	**Las Campanas**	**7.38**	**182**	*e*P		**Pn**	**12 42 54.0**	**+1.0**
CO06	**Fray Jorge**	**9.10**	**187**	Pn		**Pn**	**12 43 17.4**	**+1.0**
AVFE	**Valle Fertil**	**9.39**	**164**	*e*P		**Pn**	**12 43 20.0**	**-0.4**
ACHE	**Chepes**	**10.08**	**161**	*e*P		**Pn**	**12 43 29.4**	**-0.6**
SIV	**San Ignacio**	**10.44**	**59**	P		**Pn**	**12 43 34.7**	**-0.1**
comp=Z,4.2nm,0.3s,baz=238,slow=11,SNR=50								
NNA	**Nana**	**11.39**	**326**	P		Pn	12 43 54.2	+6.2
comp=Z,1.6nm,0.3s,baz=184,slow=14,SNR=2.3								
NNA				S		**Sn**	**12 45 49.6**	**-4.4**
comp=Z,1.2nm,0.3s,baz=211,slow=22,SNR=4.3								
NNA				LR		LR	12 47 44.9	
comp=Z,81nm,21.1s,baz=198,slow=34								
MT02	**Curacav**	**11.62**	**183**	Pn		**Pn**	**12 43 50.7**	**-0.3**
PTLB	**Pontes e Lacer**	**12.30**	**62**	*e*P		**Pn**	**12 44 00.3**	**+0.1**
PTLB	**Pontes e Lacer**	**12.30**	**62**	Pn		**Pn**	**12 43 59.8**	**-0.5**
ETMB	**Extrema**	**12.39**	**19**	*e*P		**Pn**	**12 43 59.8**	**-1.7**
ETMB	**Extrema**	**12.39**	**19**	Pn		**Pn**	**12 44 00.6**	**-1.0**
CPUP	**Villa Florida**	**12.82**	**114**	P		**Pn**	**12 44 09.0**	**+1.6**
comp=Z,0.2nm,0.3s,baz=298,slow=15,SNR=1.3								
CPUP				LR		LR	12 49 33.7	
comp=Z,45nm,19.5s,baz=293,slow=40								
CPUP	**Villa Florida**	**12.82**	**114**	*e*P		**Pn**	**12 44 07.8**	**+0.4**
CPUP	**Villa Florida**	**12.82**	**114**	Pn		**Pn**	**12 44 06.6**	**-0.8**
VILB	**Vilhena**	**12.98**	**50**	*e*P		**Pn**	**12 44 11.1**	**+1.4**
VILB	**Vilhena**	**12.98**	**50**	Pn		**Pn**	**12 44 09.6**	**-0.1**
AQDB	**Aquidauana**	**13.76**	**88**	Pn		**Pn**	**12 44 20.1**	**-0.1**
CZSB	**Cruzeiro do Su**	**13.98**	**350**	*e*P		**Pn**	**12 44 22.8**	**-0.5**
CZSB	**Cruzeiro do Su**	**13.98**	**350**	Pn		**Pn**	**12 44 24.2**	**+0.9**
H03N1	**Juan Fernandez**	**14.00**	**211**	T		T	12 58 38.5	
baz=36,slow=72,SNR=936								
H03N2	**Juan Fernandez**	**14.01**	**211**	T		T	12 58 43.3	
baz=36,slow=72,SNR=406								
H03N3	**Juan Fernandez**	**14.01**	**211**	T		T	12 58 39.0	
baz=36,slow=72,SNR=399								
SALV	**Santo Antonio**	**15.02**	**70**	*e*P		**Pn**	**12 44 37.4**	**+0.1**
PDRB	**Porto dos Gac**	**16.42**	**55**	*e*P		**Pn**	**12 44 56.2**	**+0.9**
PTGB	**Pitanga**	**17.12**	**104**	*e*P		**P**	**12 45 06.8**	**+1.2**
ITAB	**Concordia**	**17.53**	**112**	*e*P		**P**	**12 45 10.0**	**0.0**
CPSB	**Cacapava Do Su**	**17.55**	**123**	*e*P		**Pn**	**12 45 09.1**	**-0.3**
CLDB	**Colider**	**17.59**	**55**	*e*P		**Pn**	**12 45 08.9**	**-1.1**
PCMB	**Pacaembu**	**17.78**	**94**	*e*P		**P**	**12 45 13.1**	**+0.3**
PLTB	**Pedras Altas**	**18.06**	**128**	*e*P		**Pn**	**12 45 15.5**	**-0.2**
ARAG	**Araguaiana, MT**	**18.54**	**75**	*e*P		**P**	**12 45 20.7**	**-0.5**
ITRB	**Iturama**	**18.83**	**88**	*e*P		**Pn**	**12 45 25.0**	**-0.1**
PLCA	**Paso Flores**	**19.06**	**180**	P		**Pn**	**12 45 28.3**	**+0.5**
comp=Z,0.1nm,0.3s,baz=1.5,slow=11,SNR=3.4								
PLCA				LR		LR	12 51 44.8	
comp=Z,61nm,20.0s,baz=32,slow=33								
PLCA	**Paso Flores**	**19.06**	**180**	*e*P		**P**	**12 45 26.8**	**0.0**
PLCA	**Paso Flores**	**19.06**	**180**	P		**P**	**12 45 27.1**	**+0.3**
FRTB	**Fartura**	**19.32**	**99**	*e*P		**P**	**12 45 29.7**	**0.0**
LL04	**Puerto Octay**	**19.32**	**185**	P		**P**	**12 45 28.7**	**-0.7**
TIJ01	**Guaruva-PR**	**19.95**	**105**	*e*P		**P**	**12 45 37.6**	**+1.0**
BB19B	**Bebedouro**	**20.36**	**92**	*e*P		**P**	**12 45 41.0**	**-0.1**
TER01	**Tubaro-SC**	**20.43**	**114**	*e*P		**P**	**12 45 40.5**	**-1.2**
NPGB	**Novo Progresso**	**20.50**	**47**	*e*P		**P**	**12 45 42.4**	**-0.2**
SNDB	**Serra Nova Dou**	**20.61**	**65**	*e*P		**P**	**12 45 44.4**	**+0.7**
MACA	**Manacapuru-AM**	**20.62**	**29**	*e*P		**P**	**12 45 43.1**	**-0.7**
MACA	**Manacapuru-AM**	**20.62**	**29**	P		**P**	**12 45 42.7**	**-1.1**
IPMB	**Ipameri, GO**	**21.16**	**84**	*e*P		**P**	**12 45 50.5**	**+0.7**
PET01	**Itanhaem-SP**	**21.44**	**102**	*e*P		**P**	**12 45 53.7**	**+1.1**
VAO	**Valinhos**	**21.70**	**98**	*e*P		**P**	**12 45 56.8**	**+1.2**
BDFB	**Brasilia**	**22.00**	**78**	P		**P**	**12 45 58.9**	**+0.1**
comp=Z,1.8nm,0.4s,baz=274,slow=13,SNR=2.8								
ITTB	**Itaituba**	**22.27**	**42**	*e*P		**P**	**12 45 59.9**	**-1.6**
PTGA	**Pitinga**	**23.11**	**27**	P		**P**	**12 46 08.4**	**-1.9**
comp=Z,8.8nm,0.8s,baz=208,slow=11,SNR=18								
PTGA				LR		LR	12 56 30.8	
comp=Z,63nm,20.9s,baz=88,slow=40								
PEXB	**Peixe**	**23.12**	**69**	*e*P		**P**	**12 46 11.4**	**+0.8**
BSCB	**Bom Sucesso**	**23.86**	**93**	*e*P		**P**	**12 46 18.5**	**+0.8**
MALB	**Monte Alegre**	**25.14**	**41**	*e*P		**P**	**12 46 28.9**	**-0.4**
DIAM	**Diamantina, MG**	**25.31**	**87**	*e*P		**P**	**12 46 30.2**	**-0.8**
SMTB	**Santa Maria do**	**25.34**	**63**	*e*P		**P**	**12 46 31.9**	**+0.8**
JANB	**Januaria**	**25.57**	**80**	*e*P		**P**	**12 46 32.1**	**-1.2**
BOAV	**Boa Vista**	**25.73**	**23**	*e*P		**P**	**12 46 34.9**	**+0.2**
BOAV	**Boa Vista**	**25.73**	**23**	P		**P**	**12 46 34.3**	**-0.4**
BOAV				IAmb		IAmb	12 46 35.4	
comp=Z,11nm,0.8s								
DUB01	**Friburgo-RJ**	**25.99**	**96**	*e*P		**P**	**12 46 36.6**	**-0.5**
ROSC	**El Rosal**	**26.57**	**351**	LR		LR	12 58 09.1	
comp=Z,96nm,20.0s,baz=178,slow=38								
SDV	**Santo Domingo**	**30.31**	**360**	LR		LR	13 00 42.0	
comp=Z,49nm,19.4s,baz=278,slow=39								
GDU01	**Guandu, BA**	**30.34**	**80**	*e*P		**P**	**12 47 17.1**	**+1.1**
NBPN	**Ponto Novo - B**	**30.83**	**75**	*e*P		**P**	**12 47 19.0**	**-1.3**
MDP	**Montagnes des**	**31.73**	**35**	LR		LR	13 01 16.5	
comp=Z,74nm,21.4s,baz=130,slow=38								
NBLA	**Lagarto - SE**	**32.95**	**77**	*e*P		**P**	**12 47 38.0**	**-0.8**
NBPB	**Pedra_Branca-C**	**33.82**	**66**	*e*P		**P**	**12 47 46.1**	**-0.4**
JTS	**Las Juntas de**	**34.78**	**334**	LR		LR	13 01 22.0	
comp=Z,38nm,18.4s,slow=35								
S57A	**Dark Hollow, R**	**59.60**	**352**	P		**P**	**12 51 06.9**	**-0.7**
TXAR	**Lajitas Array**	**59.95**	**326**	P		**P**	**12 51 10.8**	**+0.5**
comp=Z,0.6nm,0.6s,baz=138,slow=9.6,SNR=3.8								
TXAR	**Lajitas Array**	**59.95**	**326**	P		**P**	**12 51 10.4**	**+0.1**
SNAA	**Sanae**	**62.62**	**161**	P		**P**	**12 51 28.5**	**+0.7**
SNAA				IAmb		IAmb	12 51 50.0	
comp=Z,8.3nm,1.5s								
MNTX	**Cornudas Mount**	**62.72**	**327**	P		**P**	**12 51 29.5**	**+0.6**
MNTX				IAmb		IAmb	12 51 29.9	
comp=Z,3.1nm,0.9s								
M57A	**Sunshine Farm,**	**62.94**	**354**	P		**P**	**12 51 30.7**	**+0.6**
MSTX	**Muleshoe**	**63.30**	**330**	P		**P**	**12 51 33.4**	**+0.6**
MSTX				IAmb		IAmb	12 51 34.3	
comp=Z,6.4nm,0.9s								
LENM	**Lemitar**	**65.49**	**327**	P		**P**	**12 51 46.4**	**-0.9**
N38A	**Joes South For**	**65.62**	**341**	P		**P**	**12 51 47.2**	**-0.5**
ANMO	**Albuquerque**	**65.86**	**328**	P		**P**	**12 51 50.7**	**+1.1**
comp=Z,1.3nm,0.6s,baz=138,slow=8.2,SNR=5.7								
ANMO	**Albuquerque**	**65.86**	**328**	P		**P**	**12 51 50.6**	**+1.0**
SADO	**Sadowa**	**66.54**	**353**	P		**P**	**12 51 53.0**	**-0.5**
comp=Z,8.5nm,1.0s,baz=100,slow=2.6,SNR=4.1								
SDCO	**Great Sand Dun**	**67.66**	**330**	P		**P**	**12 52 02.1**	**+0.9**
SDCO				IAmb		IAmb	12 52 03.4	
comp=Z,6.7nm,1.2s								
W18A	**Petrified Fore**	**67.66**	**326**	P		**P**	**12 52 00.2**	**-0.8**
W18A				IAmb		IAmb	12 52 18.4	
comp=Z,3.5nm,1.1s								
BGNE	**Belgrade**	**67.78**	**338**	P		**P**	**12 52 01.4**	**-0.1**
QSPA	**South Pole Qui**	**68.58**	**180**	P		**P**	**12 52 08.1**	**+1.7**
QSPA				IAmb		IAmb	12 52 19.0	
comp=Z,5.7nm,0.9s								
BATG	**Bathurst New B**	**68.67**	**3**	P		**P**	**12 52 07.2**	**+0.3**
PV15	**Paradox Valley**	**69.54**	**329**	P		**P**	**12 52 12.8**	**0.0**
P18A	**Preston Nutter**	**71.40**	**329**	P		**P**	**12 52 24.7**	**+0.5**
P18A				IAmb		IAmb	12 52 26.4	
comp=Z,5.2nm,1.0s								
CCUT	**Cedar City**	**71.41**	**325**	P		**P**	**12 52 25.4**	**+1.2**
CCUT				IAmb		IAmb	12 52 27.8	
comp=Z,6.8nm,0.9s								
MSU	**Marysvale**	**71.51**	**327**	P		**P**	**12 52 25.8**	**+1.0**
MVU	**Marysvale**	**71.52**	**327**	P		**P**	**12 52 26.5**	**+1.6**
P17A	**Butcher Ranch,**	**71.52**	**328**	P		**P**	**12 52 25.3**	**+0.5**
P17A				IAmb		IAmb	12 52 26.8	
comp=Z,3.9nm,0.7s								
RDMU	**Red Mountain**	**71.81**	**330**	P		**P**	**12 52 28.0**	**+1.4**
RDMU				IAmb		IAmb	12 52 28.2	
comp=Z,3.2nm,0.7s								
PDAR	**Pinedale Array**	**73.53**	**331**	P		**P**	**12 52 37.4**	**+0.6**
comp=Z,0.5nm,0.6s,baz=137,slow=6.8,SNR=4.3								
PDAR	**Pinedale Array**	**73.53**	**331**	P		**P**	**12 52 37.9**	**+1.2**
SPUT	**South Promonto**	**73.76**	**328**	P		**P**	**12 52 40.1**	**+2.1**
SPUT				IAmb		IAmb	12 52 40.3	
comp=Z,7.8nm,1.2s								
AHID	**Auburn Hatcher**	**74.24**	**330**	P		**P**	**12 52 41.9**	**+1.1**
AHID				IAmb		IAmb	12 52 42.8	
comp=Z,4.7nm,0.8s								
NVAR	**Mina Array Bea**	**74.75**	**323**	P		**P**	**12 52 45.4**	**+1.5**

SJA ***06*** *12:41:05.9±0.7,21°.59S×70°.37W,h34km±1km,ML4.5,*

comp=Z,0.9nm,0.7s,baz=153,slow=7.0,SNR=6.8
NVAR Mina Array Bea 74.75 323 P P 12 52 44.8 +0.9
ELK Elko 74.75 326 P P 12 52 44.9 +1.0
comp=Z,1.3nm,0.8s,baz=132,slow=4.5,SNR=5.6
ELK Elko 74.75 326 P P 12 52 44.5 +0.6
ULM Lac du Bonnet 75.02 343 P P 12 52 44.9 -0.1
TORD Torodi Ar. Bea 78.68 71 P P 12 53 05.4 -1.0
comp=Z,1.4nm,0.5s,baz=254,slow=5.2,SNR=14
YKA Yellowknife Ar 90.84 341 P P 12 54 06.8 +0.2
comp=Z,0.9nm,0.5s,baz=140,slow=4.3,SNR=20
YKA Yellowknife Ar 90.84 341 P P 12 54 05.8 -0.7
LSZ Lusaka 92.17 107 LR LR 13 32 58.1
comp=Z,42nm,18.2s,baz=180,slow=34
H11S2 WAKE ISLAND Hyl 26.53 277 T T 15 19 29.5
baz=103,slow=74,SNR=288
H11S1 WAKE ISLAND Hyl 26.54 277 T T 15 19 22.6
baz=103,slow=74,SNR=239
H11S3 WAKE ISLAND Hyl 26.55 277 T T 15 19 23.7
baz=103,slow=74,SNR=219
H11N3 WAKE ISLAND Hyl 26.62 279 T T 15 19 55.6
baz=102
H11N2 WAKE ISLAND Hyl 26.64 279 T T 15 19 31.7
baz=102,slow=74
H11N1 WAKE ISLAND Hyl 26.64 279 T T 15 19 57.0
baz=102,slow=74
WRA Warramunga Arr 132.15 212 PKP **PKPdf 13 00 18.2 0.0**
comp=Z,0.5nm,0.8s,baz=124,slow=2.0,SNR=4.6
ZALV Zalesovo Beam 142.62 24 PKP **PKPdf 13 00 32.9 -3.5**
comp=Z,0.8nm,0.6s,baz=330,slow=5.0,SNR=4.2
MKAR Makanchi Array 146.52 35 PKPbc **PKPdf 13 00 43.8 +0.4**
comp=Z,1.6nm,0.6s,baz=319,slow=2.9,SNR=11
MKAR Makanchi Array 146.52 35 PKPdf 13 00 43.8 +0.4
MKAR PKPbc **PKPbc 13 00 45.3 +0.4**
SONM Songino Array 153.71 5 PKPbc **PKPbc 13 01 02.7 +0.2**
comp=Z,0.4nm,0.5s,baz=333,slow=1.6,SNR=2.6
SONM PKPab **pPKPbc 13 01 14.2 -0.4**
comp=Z,0.3nm,0.4s,baz=359,slow=6.1,SNR=4.4
PZH PanZhiHua 171.31 54 PKP **PKPdf 13 01 12.9 +0.2**

*TUL **06** 12:51:12.2±1.2, 35°.66N±0°.01×97°.41W±0°.01, h5km±5km, ML3.2, mb_Lg2.8/54(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=149.0*
NEIC 06 12:51:12.4±0.9, 35°.677N±0°.010×97°.42W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.6km az=150.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**183**		**Pg**	12 51 14.4	-0.1
OK025	**Westminster Rd**	**0.12**	**146**		**Pg**	12 51 14.8	0.0
OK025				Sg	Sg	12 51 16.8	+0.4
OK029	**Liberty Lake**	**0.12**	**346**		**Pg**	12 51 15.6	+0.6
OK029				Sg	Sg	12 51 18.1	+1.4
BCOK	**Bluff Creek, N**	**0.16**	**263**		**Pg**	12 51 15.8	+0.3
BCOK				Sg	Sg	12 51 18.6	+1.0
OK005	**Luther M Schoo**	**0.19**	**97**		**Pg**	12 51 16.2	+0.2
OKCFA	**Oklahoma City**	**0.26**	**186**		**Pg**	12 51 17.4	-0.1
OKCFA				Sg	Sg	12 51 21.3	+0.4
OKCSW	**OKLAHOMA CITY**	**0.27**	**184**		**Pg**	12 51 17.5	-0.1
OKCSW				Sg	Sg	12 51 21.6	+0.3
FNO	**Franklin**	**0.42**	**178**		**Pg**	12 51 20.3	-0.2
FNO				Sg	Sg	12 51 26.3	+0.3
OK031	**S. Brethren Rd**	**0.55**	**59**		**Pg**	12 51 22.9	0.0
OK031				Sg	Sg	12 51 30.8	+0.8
OK030	**Cody Creek RV**	**0.57**	**64**		**Pg**	12 51 23.4	-0.1
OK030				Sg	Sg	12 51 31.4	+0.5
OK034	**N. Norfolk Rd.**	**0.66**	**60**		**Pg**	12 51 24.9	-0.2
OK034				IAmb_Lg		12 51 33.8	
comp=Z,93nm,1.0s							
W35A	**Tecumseh**	**0.69**	**140**		**Pg**	12 51 25.0	-0.6
W35A				Sg	Sg	12 51 34.4	-0.1
QUOK	**Quay**	**0.76**	**49**		**Pg**	12 51 26.8	-0.2
QUOK				Sg	Sg	12 51 37.3	+0.4
CROK	**Carrier**	**0.94**	**331**		**Pg**	12 51 30.4	-0.2
BLOK	**Blackwell**	**1.09**	**9**		**Pg**	12 51 33.1	-0.3
X34A	**Smith Ranch, M**	**1.13**	**198**	Pg	Pg	12 51 33.5	-0.5
X34A				Sg	Sb	12 51 49.1	-0.2
GC02	**Grant County #**	**1.23**	**343**		**Pg**	12 51 35.3	-0.6
KAN13	**South Haven SW**	**1.33**	**358**		**Pn**	12 51 37.4	-0.4
TUL1	**Leonard**	**1.34**	**80**	Pn	Pn	12 51 36.2	-1.6
TUL1					Sb	12 51 55.4	-0.1
KAN14	**Manchester OK**	**1.35**	**341**		**Pn**	12 51 37.4	-0.5
KAN14				Sn	Sn	12 51 56.1	-0.2
KAN17	**Caldwell West**	**1.39**	**348**	Pn	Pn	12 51 38.4	-0.2
T35A	**Sooner Cattle**	**1.44**	**30**		**Pn**	12 51 38.6	-0.5
WMOK	**Wichita Mounta**	**1.46**	**230**		**Pn**	12 51 38.4	-1.0
U32A	**Winter Ranch,**	**1.46**	**299**		**Pn**	12 51 39.1	-0.4
OK035	**E0210 Rd and N**	**1.47**	**315**		**Pn**	12 51 39.2	-0.4
KAN05	**Bluff City Nor**	**1.48**	**346**		**Pn**	12 51 39.7	+0.1
KAN01	**Argonia South**	**1.50**	**350**		**Pn**	12 51 40.0	0.0
KAN10	**Anthony SW Sta**	**1.54**	**339**		**Pn**	12 51 40.5	-0.1
KAN06	**Argonia West S**	**1.61**	**347**		**Pn**	12 51 41.4	-0.1
KAN08	**Anthony NE Sta**	**1.61**	**344**		**Pn**	12 51 41.6	+0.1
KAN08				IAmb_Lg		12 52 04.8	
comp=Z,42nm,0.9s							
KAN16	**Harper SW Stat**	**1.63**	**342**		**Pn**	12 51 42.2	+0.4
KAN12	**Harper NE Stat**	**1.68**	**344**		**Pn**	12 51 43.2	+0.6
LOOK	**Love County**	**1.69**	**173**		**Pn**	12 51 42.8	+0.2
LOOK				IAmb_Lg		12 52 08.2	
comp=Z,36nm,0.7s							
X37A	**Clayton**	**2.00**	**122**	Pn	Pn	12 51 46.9	+0.1
X37A				IAmb_Lg		12 52 16.4	
comp=Z,82nm,0.9s							
Z35A	**Perchaven, San**	**2.34**	**177**		**Pn**	12 51 52.7	+1.1
U38A	**Gravette**	**2.57**	**72**		**Pn**	12 51 54.9	+0.2
HHAR	**Hobbs**	**2.88**	**77**		**Pn**	12 51 59.2	+0.2
R32A	**Long Quarter,**	**2.93**	**340**		**Pn**	12 52 01.2	+1.5
W39A	**Magazine**	**3.01**	**98**		**Pn**	12 52 00.5	-0.1
W39A				IAmb_Lg		12 52 53.1	
comp=Z,20nm,0.8s							
Z38A	**Mt. Pleasant**	**3.14**	**139**		**Pn**	12 52 02.9	+0.5
Z38A				IAmb_Lg		12 52 59.6	
comp=Z,20nm,0.9s							
MIAR	**Mount Ida**	**3.34**	**109**	Pn	Pn	12 52 06.7	+1.3
MIAR				IAmb_Lg		12 53 06.6	
comp=Z,27nm,0.8s							
KSU1	**Kansas State U**	**3.48**	**10**	IAmb_Lg		12 53 08.2	
comp=Z,26nm,0.7s							
ABTX	**Abilene, Hawle**	**3.56**	**212**	IAmb_Lg		12 53 11.6	
comp=Z,29nm,1.2s							
CBKS	**Cedar Bluff**	**3.64**	**330**	IAmb_Lg		12 53 12.9	
comp=Z,24nm,0.8s							
237A	**Washetta, Mont**	**3.90**	**159**	IAmb_Lg		12 53 23.4	
comp=Z,17nm,0.8s							
WLAR	**White Oak Lake**	**4.07**	**118**	IAmb_Lg		12 53 28.8	
comp=Z,22nm,0.9s							
WHAR	**Wooly Hollow**	**4.20**	**94**	IAmb_Lg		12 53 26.5	
comp=Z,23nm,0.7s							
W41B	**Gary Mavity, V**	**4.25**	**95**	IAmb_Lg		12 53 28.7	
comp=Z,24nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.31**	**86**		**Pn**	12 52 18.3	-0.3
MGMO	**Mountain Grove**	**4.41**	**69**	IAmb_Lg		12 53 32.3	
comp=Z,15nm,0.7s							
MSTX	**Muleshoe**	**4.72**	**250**		**Pn**	12 52 24.6	+0.2
R40A	**Maddies Statio**	**4.88**	**56**	IAmb_Lg		12 53 46.5	
comp=Z,13nm,0.7s							
435B	**Jarrell**	**4.88**	**182**	IAmb_Lg		12 53 49.8	
comp=Z,26nm,0.7s							
LCAR	**Lake Charles**	**5.10**	**84**	IAmb_Lg		12 53 56.9	
comp=Z,21nm,1.2s							
T42A	**Van Buren**	**5.28**	**73**	IAmb_Lg		12 54 09.5	
comp=Z,11nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.32**	**310**	IAmb_Lg		12 54 07.4	
comp=Z,20nm,0.8s							
CCM	**Cathedral Cave**	**5.49**	**63**	IAmb_Lg		12 54 09.5	
comp=Z,12nm,0.7s							
JCT	**Junction City**	**5.56**	**202**	IAmb_Lg		12 54 17.1	
comp=Z,29nm,0.7s							
BGNE	**Belgrade**	**5.75**	**354**	IAmb_Lg		12 54 28.1	
comp=Z,28nm,0.8s							
PBMO	**Poplar Bluff**	**5.75**	**77**	IAmb_Lg		12 54 21.4	
comp=Z,26nm,0.8s							
OGNE	**Ogallala**	**6.39**	**327**	IAmb_Lg		12 54 49.2	
comp=Z,20nm,0.8s							
SDCO	**Great Sand Dun**	**6.81**	**290**	IAmb_Lg		12 54 51.6	
comp=Z,9.6nm,1.1s							
Q24A	**Divide**	**6.98**	**300**	IAmb_Lg		12 55 04.1	
comp=Z,11nm,0.8s							
PHWY	**Pilot Hill**	**8.44**	**314**	IAmb_Lg		12 55 46.5	
comp=Z,7.7nm,0.9s							

*NOU **06** 12:56:42.6, 36°.72S×177°.64E, h304km, MLv4.3/8, Off E. Coast of N. Island, N.Z.*
*WEL **06** 12:56:45.1±0.9, 36°.5±10°×17°.7E±°, h249km±10km, M3.2/14, ML3.6/8, MLv3.2/14, Error ellipse: s-maj=0.0km s-min=0.0km az=164.6*
ISC 06 12:56:39.9±3.2, 36°.5S±0°.1×177°.4E±0°.1, h297km±15km, n44, σ1°57/60, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.31**	**148**	P	**Pn**	12 57 22.5	+0.9
MXZ				S	**S**	12 57 52.4	-2.4
HAZ	**Te Kaha**	**1.34**	**168**	P	**Pn**	12 57 22.4	+0.7
HAZ				S	**S**	12 57 51.9	-3.0
KUZ	**Kuaotunu**	**1.41**	**257**	P	**Pn**	12 57 21.7	-0.5
PKGZ	**Pakihiroa**	**1.53**	**161**	P	**Pn**	12 57 24.3	+1.3
PKGZ				S	**S**	12 57 55.1	-2.2
RUGZ	**Raukumara Rang**	**1.53**	**173**	P	**Pn**	12 57 23.5	+0.4
RUGZ				S	**S**	12 57 54.7	-2.7
WMGZ	**Waiomatatini S**	**1.58**	**151**	P	**Pn**	12 57 24.5	+1.3
WMGZ				S	**S**	12 57 56.8	-0.9
PUZ	**Puketiti**	**1.75**	**158**	P	**Pn**	12 57 25.7	+1.2
PUZ				S	**S**	12 57 58.5	-1.5
TWGZ	**Tauwhareparae**	**1.78**	**166**	P	**Pn**	12 57 26.6	+1.8
TWGZ				S	**S**	12 57 59.6	-0.8
URZ	**Urewera**	**1.83**	**188**	P	**Pn**	12 57 25.9	+0.9
URZ				S	**S**	12 57 59.6	-1.3
URZ	**Urewera**	**1.83**	**188**	P	**Pn**	12 57 26.3	+1.3
MWZ	**Matawai**	**1.89**	**178**	P	**Pn**	12 57 26.9	+1.3
MWZ				S	**S**	12 58 01.2	-0.6
TARZ	**Mount Tarawera**	**1.93**	**202**	P	**Pn**	12 57 29.4	+3.4
TOZ	**Tahuroa Road**	**2.01**	**230**	P	**Pn**	12 57 28.3	+1.8
TKGZ	**Te Karaka**	**2.02**	**171**	P	**Pn**	12 57 28.3	+1.8
TKGZ				S	**S**	12 58 02.7	-0.8
RRRZ	**Republican Roa**	**2.03**	**201**	P	**Pn**	12 57 29.8	+3.2
RAGZ	**Rawiri**	**2.04**	**180**	P	**Pn**	12 57 28.2	+1.3
RAGZ				S	**S**	12 58 03.4	-0.8
ETAZ	**East Tamaki Re**	**2.08**	**255**	P	**Pn**	12 57 27.5	+0.5
MUGZ	**Murupara**	**2.09**	**194**	P	**Pn**	12 57 28.4	+1.2
MUGZ				S	**S**	12 58 03.9	-0.9
CNGZ	**Carnagh Statio**	**2.12**	**163**	P	**Pn**	12 57 29.4	+2.0
RIGZ	**Rimuhau**	**2.27**	**174**	P	**Pn**	12 57 30.5	+1.9
RIGZ				S	**S**	12 58 07.3	-0.2
SNGZ	**Shannon Statio**	**2.33**	**182**	P	**Pn**	12 57 30.8	+1.6
SNGZ				S	**S**	12 58 08.2	-0.3
TLZ	**Tolley Road**	**2.41**	**218**	P	**Pn**	12 57 32.9	+3.0
WHHZ	**Waihua**	**2.63**	**183**	P	Pn	12 57 41.1	+9.3
WHHZ				S	S	12 58 20.5	+7.3
BKZ	**Black Stump Fm**	**2.81**	**195**	P	**Pn**	12 57 34.9	+1.3
BKZ				S	**S**	12 58 15.1	-1.4
BKZ	**Black Stump Fm**	**2.81**	**195**	P	**Pn**	12 57 34.9	+1.3
HIZ	**Hauiti**	**2.91**	**224**	P	**Pn**	12 57 37.6	+3.0
HIZ	**Hauiti**	**2.91**	**224**	P	**Pn**	12 57 38.2	+3.7
BFZ	**Birch Farm**	**4.33**	**192**	P	**Pn**	12 57 50.2	+0.6
OGWZ	**Otaki Gorge**	**4.71**	**201**	P	**Pn**	12 57 54.5	+0.6
OGWZ				S	**S**	12 58 52.8	-0.4
KIW	**Kapiti Island**	**4.83**	**203**	P	**Pn**	12 57 55.8	+0.5
KIW				S	**S**	12 58 54.1	-1.7
CAW	**Cannon Point**	**5.01**	**201**	P	**Pn**	12 57 57.6	+0.2
DUWZ	**D'Urville Isla**	**5.14**	**211**	P	**Pn**	12 57 59.4	+0.5
WEL	**Wellington**	**5.26**	**203**	P	**Pn**	12 58 00.3	0.0
BHW	**Baring Head**	**5.34**	**201**	P	**Pn**	12 58 01.4	+0.2
TCW	**Tory Channel**	**5.36**	**206**	P	**Pn**	12 58 02.0	+0.6
PLWZ	**Palliser**	**5.39**	**198**	P	**Pn**	12 58 02.5	+0.7
TUWZ	**Tuamarina**	**5.67**	**208**	P	**Pn**	12 58 05.6	+0.5
NNZ	**Nelson**	**5.72**	**212**	P	**Pn**	12 58 05.7	0.0
QRZ	**Quartz Range**	**5.82**	**220**	P	**Pn**	12 58 06.6	-0.3
QRZ	**Quartz Range**	**5.82**	**220**	P	**Pn**	12 58 07.3	+0.4
BSWZ	**Blackbirch Sta**	**5.94**	**207**	P	**Pn**	12 58 09.3	+1.0
KHZ	**Kahutara**	**6.68**	**206**	P	**Pn**	12 58 18.5	+1.3
RPZ	**Rata Peaks**	**8.75**	**212**	P	**Pn**	12 58 43.1	+0.5
ODZ	**Otahua Downs**	**10.01**	**209**	P	**Pn**	12 58 59.3	+1.3

*NEIC **06** 13:09:07.1±2.6, 7°.28S±0°.07×106°.48E±0°.07, h86km±6km, mb4.5/22, Error ellipse: s-maj=11.2km s-min=8.9km az=153.0*
*DJA **06** 13:09:08.2±0.3, 8°S±4°×10°7E±°, h68km±5km, M4.7/23, mb5.1/9, mB5.3/8, MLv4.7/23, Mw(mB)4.7/8*
*IDC **06** 13:09:10.7±0.8, 6°.96S×106°.91E, h118km±5km, mb3.7/12, mb1 3.9/13, mb1mx3.6/38, mbtmp4.2/13, MS3.8/1, Ms1 3.8/1, ms1mx2.4/72, Error ellipse: s-maj=22.0km s-min=11.2km az=48.0*
ISC 06 13:09:08.8±0.4, 7°.28S±0°.07×106°.67E±0°.05, h100km, n86, σ1°46/84, mb4.4/23, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.29**	**338**	P	**Pn**	13 09 22.4	-1.0
SKJI				S	**Sn**	13 09 32.8	-1.4
CNJI	**Cibinong**	**0.46**	**94**	P	**Pn**	13 09 22.4	-1.9
CNJI				S	**Sn**	13 09 32.9	-3.0
LEM	**Lembang**	**1.04**	**65**	P	**Pn**	13 09 30.1	+0.3
354nm,0.3s,baz=260,slow=12,SNR=92							
LEM				S	**Sn**	13 09 46.0	+0.3
962nm,0.3s,baz=288,slow=19,SNR=17							
LEM				LR	LR	13 09 53.3	
comp=Z,121nm,18.2s,baz=205,slow=60							
LEM	**Lembang**	**1.04**	**65**	P	**Pn**	13 09 30.6	+0.7
TNG	**Tangerang**	**1.10**	**359**	P		13 09 33.0	
TNG				P	**Pn**	13 09 31.0	+0.6
CGJI	**Cibinong**	**1.17**	**304**	P	**Pn**	13 09 31.3	+0.2
CGJI				S	**Sn**	13 09 48.0	0.0
SBJI	**Serang**	**1.27**	**335**	P	**Pn**	13 09 33.2	+0.9
CMJI	**Cimerak**	**1.83**	**106**	P	**Pn**	13 09 37.8	-1.4
BLSI	**Bandar Lampung**	**2.37**	**323**	P	**Pn**	13 09 47.1	+0.9
KASI	**Kota Agung**	**2.77**	**309**	P	**Pn**	13 09 53.0	+1.4
KLI	**Kotabumi**	**3.00**	**323**	P	**Pn**	13 09 56.5	+1.9
KLSI		**3.21**	**323**	P	**Pn**	13 09 59.1	+1.7
XMIS	**Christmas Isla**	**3.34**	**197**		Pn	13 09 55.1	-4.0
LWLI	**Liwa**	**3.43**	**311**	P	**Pn**	13 10 01.8	+1.3
YOGI	**Yogyakarta**	**3.63**	**99**	P	**Pn**	13 10 02.8	-0.3
MDSI	**Maura Dua**	**3.72**	**318**	P	**Pn**	13 10 05.3	+1.1
SMRI	**Semarang**	**3.75**	**87**		**Pn**	13 10 06.0	+1.4
UGM	**Wanagama**	**3.87**	**100**	P	**Pn**	13 10 05.5	-0.8
UGM	**Wanagama**	**3.87**	**100**		**Pn**	13 10 05.6	-0.7
UWJI	**Ujung Watu**	**4.33**	**79**	P	**Pn**	13 10 12.9	+0.4
PCJI	**Pacitan**	**4.56**	**102**	P	**Pn**	13 10 14.8	-0.8
LHSI	**Lahat**	**4.64**	**317**	P	**Pn**	13 10 17.7	+1.0
MNAI	**Manna**	**4.70**	**308**	P	**Pn**	13 10 18.2	+0.8
PPBI	**Pangkal Pinang**	**5.11**	**354**	P	**Pn**	13 10 24.8	+1.7
MASI	**Maura Aman, Be**	**6.03**	**313**	P	**Pn**	13 10 36.6	+1.0
0.8nm3μm180nm,0.5s							
JAGI	**Jajag, Banyuwa**	**7.51**	**100**	P	**Pn**	13 10 55.8	+0.1
0.7nm3μm179nm,1.1s							
JAGI	**Jajag, Banyuwa**	**7.51**	**100**		**Pn**	13 10 56.0	+0.4
ABJI	**Asem Bagus**	**7.52**	**94**	P	**Pn**	13 10 58.2	+2.4
0.5nm120nm,0.6s							
PPSI	**Pulau Pagai**	**8.01**	**304**	P	**Pn**	13 11 00.7	-1.7
6μm324nm,0.6s							
SRBI	**Singaraja**	**8.51**	**96**	P	**Pn**	13 11 09.0	-0.2
1μm88nm,0.8s							
BKNI	**Bangkinang**	**9.41**	**323**	Pn	**Pn**	13 11 19.2	-2.4
SISI	**Saibi**	**9.59**	**308**	P	**Pn**	13 11 21.4	-2.6
1μm56nm,0.7s							
PSI	**Prapat**	**12.65**	**322**	LR	LR	13 17 04.7	
comp=Z,66nm,19.2s,baz=103,slow=38							
BKSI	**Bulukumba**	**13.51**	**83**	P	**Pn**	13 12 17.7	+1.2
KULM	**Kulim**	**13.86**	**334**	Pn	**Pn**	13 12 17.8	-3.1
GIRL	**Giralia**	**16.92**	**155**	P	**Pn**	13 12 59.2	-0.3
BATI	**Baumata**	**17.05**	**101**	P	**Pn**	13 13 00.5	-0.6
2.4nm,0.3s,baz=267,slow=18,SNR=1.5							
BATI				S	Sn	13 15 58.6	-12
2.0nm,0.3s,baz=343,slow=19,SNR=1.4							
SOEI	**Soe**	**17.58**	**99**	P	**P**	13 13 05.8	-1.5
SOEI				IAmb	IAmb	13 13 18.8	
comp=Z,19nm,0.7s							
PSA00	**Pilbara Seismi**	**19.08**	**140**	P	**P**	13 13 24.6	+1.0
PSA00				IAmb	IAmb	13 13 30.6	
comp=Z,33nm,1.4s							
FITZ	**Fitzroy Crossi**	**21.38**	**122**	P	**P**	13 13 48.8	+0.3
comp=Z,3.1nm,0.7s,baz=309,slow=7.3,SNR=9.5							
FITZ				S	**S**	13 17 38.4	-1.9
comp=Z,1.2nm,0.6s,baz=308,slow=19,SNR=1.6							
KNRA	**Kununurra**	**23.19**	**113**		**P**	13 14 06.5	-0.5
KNRA				IAmb	IAmb	13 14 07.8	
comp=Z,22nm,0.7s							
MTN	**Manton Dam**	**24.70**	**105**	P	**P**	13 14 19.9	-0.9
MTN				IAmb	IAmb	13 14 48.6	
comp=Z,21nm,1.1s							
SIJI	**Sorong**	**25.34**	**77**	P	**P**	13 14 24.3	-2.3
comp=Z,14nm,0.7s,baz=282,slow=8.9,SNR=4.2							

CMAR Chiang Mai Arr 26.68 343 P **P 13 14 36.3 -2.4**
comp=Z,0.4nm,0.7s,baz=182,slow=9.7,SNR=5.9
H01W3 Cape Leeuwin H 28.32 167 T T 13 44 34.0
baz=345,slow=77,SNR=40
H01W1 Cape Leeuwin H 28.33 167 T T 13 44 34.5
baz=345,slow=77,SNR=43
H01W2 Cape Leeuwin H 28.33 167 T T 13 44 34.6
baz=345,slow=77,SNR=53
WB0 Warramunga Arr 29.62 118 P 13 15 04.6 -0.3
WB0 IAmb IAmb 13 15 48.1
comp=Z,28nm,1.9s
WRA Warramunga Arr 29.63 118 P P 13 15 04.6 -0.4
comp=Z,1.9nm,0.6s,baz=304,slow=8.6,SNR=35
WRA PcP **PcP 13 18 07.3 -0.2**
comp=Z,0.4nm,0.5s,baz=309,slow=2.3,SNR=2.8
WRA Warramunga Arr 29.63 118 P P 13 15 04.9 -0.1
WB2 Warramunga Arr 29.64 118 P 13 15 05.0 -0.1
WB2 IAmb IAmb 13 15 52.9
comp=Z,10.0nm,1.4s
AS31 Alice Springs 30.80 125 P P 13 15 16.2 +1.0
ASAR Alice Springs 30.80 125 P P 13 15 15.1 -0.2
comp=Z,1.6nm,0.5s,baz=302,slow=8.1,SNR=49
ASAR PcP **PcP 13 18 10.5 +0.1**
comp=Z,0.3nm,0.3s,baz=310,slow=2.5,SNR=4.0
ASAR Alice Springs 30.80 125 P P 13 15 16.2 +1.0
H08S2 Diego Garcia H 33.88 267 T T 13 51 19.3
baz=92,slow=76,SNR=22
H08S3 Diego Garcia H 33.89 267 T T 13 51 19.3
baz=92,slow=76,SNR=25
H08S1 Diego Garcia H 33.90 267 T T 13 51 24.5
baz=92,slow=76,SNR=24
PZH PanZhiHua 33.92 352 P P 13 15 44.0 +1.4
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.1s
STKA Stephens Creek 40.70 132 P P 13 16 40.2 +0.5
comp=Z,12nm,0.7s,baz=307,slow=8.0,SNR=24
STKA Stephens Creek 40.70 132 P P 13 16 40.4 +0.7
NJ2 Nanjing 40.80 16 *e*P **P 13 16 41.9 +1.4**
NJ2 pmax pmax
comp=Z,17nm,0.7s
CAN Canberra 47.77 132 P P 13 17 37.2 +1.1
HHC Hu-ho-hao-te 48.10 5 *e*P **P 13 17 42.4 +3.8**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.6s
WMQ Urumqi 53.69 343 *e*P **P 13 18 21.7 +1.3**
SONM Songino Array 54.88 360 P **P 13 18 27.1 -1.9**
comp=Z,0.3nm,0.4s,baz=178,slow=10,SNR=1.6
SONM PcP **PcP 13 19 29.2 -0.7**
comp=Z,0.6nm,0.5s,baz=174,slow=4.0,SNR=5.0
MK31 Makanchi Array 58.04 340 P P 13 18 48.9 -2.5
MKAR Makanchi Array 58.04 340 P P 13 18 48.8 -2.5
comp=Z,0.6nm,0.5s,baz=153,slow=7.9,SNR=12
MKAR Makanchi Array 58.04 340 P P 13 18 48.5 -2.8
KURBB Kurchatov Arra 62.60 340 LR LR 13 49 01.2
comp=Z,67nm,19.6s,baz=307,slow=38
KURK Kurchatov 62.65 340 P P 13 19 22.6 0.0
KURK IAmb IAmb 13 20 07.0
comp=Z,11nm,1.9s
ZALV Zalesovo Beam 63.72 346 P P 13 19 28.2 -1.4
comp=Z,0.5nm,0.3s,baz=158,slow=5.8,SNR=3.4
MAW Mawson 67.00 197 P P 13 19 52.7 +2.1
comp=Z,2.7nm,0.7s,baz=30,slow=8.1,SNR=2.2
MAW Mawson 67.00 197 P P 13 19 50.5 -0.1
MAW IAmb IAmb 13 19 58.0
comp=Z,12nm,1.9s
THZ Tophouse 67.51 132 P P 13 19 55.1 +0.7
ABKAR Akbulak array 69.48 329 P P 13 20 05.2 -1.2
ABKAR Akbulak array 69.48 329 P P 13 20 05.3 -1.1
ABKAR IAmb IAmb 13 20 06.3
comp=Z,3.8nm,0.8s
BKZ Black Stump Fm 69.81 129 P P 13 20 08.9 +0.2
VNDA Vanda 75.75 169 P P 13 20 44.5 +1.3
comp=Z,0.6nm,0.4s,baz=318,slow=7.6,SNR=8.9
VNDA Vanda 75.75 169 P P 13 20 44.4 +1.3
VNDA IAmb IAmb 13 22 13.5
comp=Z,20nm,1.9s
BOSA Boshof 79.03 242 P P 13 21 04.5 +1.9
comp=Z,1.6nm,0.5s,baz=105,slow=3.4,SNR=6.0
BOSA Boshof 79.03 242 P P 13 21 02.5 -0.1
QSPA South Pole Qui 82.71 180 P P 13 21 22.3 +1.0
QSPA IAmb IAmb 13 21 38.7
comp=Z,22nm,1.9s
SNAA Sanae 89.16 197 P P 13 21 54.9 +2.0
SNAA Sanae 89.16 197 P P 13 21 50.9 -2.1
SNAA IAmb IAmb 13 21 56.2
comp=Z,5.5nm,1.0s
VNA2 Neumayer--Watz 90.81 197 P P 13 22 02.4 +1.8
baz=114,slow=3.1
TXAR Lajitas Array 144.00 49 PKP PKPbc 13 28 32.1 +0.5
comp=Z,0.8nm,0.6s,baz=331,slow=2.4,SNR=10

*NIED **06** 13:09:27.3, 35°.04N×137°.84E, h40km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}0.37; $M_{\theta\theta}$-2.50; $M_{\phi\phi}$2.14; $M_{r\theta}$-1.27; $M_{\phi\phi}$-0.48; $M_{\phi r}$1.01; Fault plane solution: $M_0$2.88000×10^14^ NP1: ϕ_s307.00000°, δ85.00000°, λ145.00000°. NP2: ϕ_s40.00000°, δ55.00000°, λ6.00000°.*
JMA 06 13:09:27.2, 35°.04N×137°.84E, h40km, M3.4, 4C-4D Broadband fault plane solution: P waves. NP1: ϕ_s43.00000°, δ54.00000°, λ10.00000°. **NP2:** ϕ_s307.00000°, δ82.00000°, λ144.00000°. **Principal axes:** T Plg31.0000°, Azm259.0000°; N Plg53.0000°, Azm116.0000°; P Plg18.

comp=N,123nm,0.8s
IBDR AML AML 13 15 10.4
comp=E,136nm,0.8s
KCHF Cheshme Sefid, 1.86 337 *e*Pg **Pb 13 14 37.1 +0.2**
KCHF *e* 13 15 07.7
comp=Z,3μm,0.4s
IBZA Bozab 1.90 359 *e*Pn **Pn 13 14 36.7 +1.5**
IBZA *e* 13 15 07.9
comp=Z,2μm,0.4s
KER Kermanshah 1.93 340 *e*Pg **Pn 13 14 37.5 +2.0**
KHMZ Khomeyn 2.07 55 *e*Pn **Pn 13 14 39.0 +1.4**
IGHG Ghaleghazi 2.09 328 *e*Pn **Pn 13 14 38.9 +1.1**
IGHG *e* 13 15 23.6
comp=Z,2μm,0.7s
IALM Almabolaq 2.30 5 *e*Pn **Pn 13 14 42.6 +1.9**
HAGD Aghdareh 2.47 24 *e*Pn **Pn 13 14 43.9 +0.9**
HAGD *e* 13 15 30.3
comp=Z,1μm,0.8s
IDHR Dehrash 2.48 329 *e*Pn **Pn 13 14 44.1 +0.9**
IDHR *e* 13 15 23.8
comp=Z,2μm,0.4s
IPIR Pirpir 2.51 87 *e*Pn **Pn 13 14 45.0 +1.3**
IPIR *e* 13 15 33.9
comp=Z,1μm,0.6s
SHK1 Shahrekord 2.52 95 *e*Pn **Pn 13 14 44.3 +0.6**
SHK1 *e* 13 15 24.6
comp=Z,1μm,0.6s
ASAO Ashtian 2.65 41 *e*Pn **Pn 13 14 46.7 +1.2**
IBRJ Brojen 2.91 102 *e*Pn **Pn 13 14 49.6 +0.5**
IBRJ *e* 13 15 53.7
comp=Z,500nm,0.8s
BHD Baghdad 3.06 284 *e*Pn **Pn 13 14 51.0 +0.1**
BHD *e*Sn **Sn 13 15 28.0 +0.8**
BHD AML AML 13 15 44.8
comp=E,196nm,0.5s
IRAZ Razeghan 3.29 30 *e*Pn **Pn 13 14 55.9 +1.6**
IRAZ *e* 13 15 55.4
comp=Z,919nm,0.7s
GHVR GHOM 3.41 55 *e*Pn **Pn 13 14 57.8 +2.0**
QABG Abgarm-Qazvin 3.42 23 *e*Pn **Pn 13 14 56.2 0.0**
IQOM Qom 3.47 48 *e*Pn **Pn 13 14 58.2 +1.4**
IGAR Gharneh 3.49 92 *e*Pn **Pn 13 14 57.9 +0.9**
KLNJ Kolanjah 3.49 115 *e*Pn **Pn 13 14 57.5 +0.3**
IZEF Zefreh 3.73 84 *e* 13 15 02.3
comp=Z,365nm,0.2s
IZEF *e*Pn **Pn 13 15 01.2 +0.8**
KRSH Karshahi 3.80 67 *e*Pn **Pn 13 15 01.9 +0.6**
IKRK Kirkuk 4.10 315 *e*Pn **Pn 13 15 07.0 +1.7**
IKRK *e*Sn **Sn 13 15 53.0 0.0**
NASN Na'in 4.13 85 *e*Pn **Pn 13 15 06.8 +0.9**
ZNJK Zanjan 4.14 9 *e*Pn **Pn 13 15 07.9 +1.9**
IGZV Ghazvin 4.26 26 *e*Pn **Pn 13 15 08.1 +0.5**
QALM Alamut, Qazvin 4.47 30 *e*Pn **Pn 13 15 10.6 +0.1**
DAMV Damavand 4.54 47 *e*Pn **Pn 13 15 12.3 +0.7**
ANAR Anarak 4.93 81 *e*Pn **Pn 13 15 16.3 -0.4**
ILAS Lasjerd 5.04 55 *e*Pn **Pn 13 15 19.2 +0.8**
IFIR Firoozkooh 5.05 51 *e*Pn **Pn 13 15 18.7 +0.2**
ISHM Shahmirzad 5.50 53 *e*Pn **Pn 13 15 25.2 +0.4**
ISHM *e* 13 15 26.9
comp=Z,326nm,0.4s
YZKH Yazd 5.64 90 *e*Pn **Pn 13 15 26.8 +0.3**
IANJ Anjilo 5.76 58 *e*Pn **Pn 13 15 28.7 +0.5**
SHRO Shahrood 7.52 61 *e*Pn **Pn 13 15 53.0 +0.7**

BGR ***06*** *13:18:50.7±7.0, 14°.20N×95°.76W, h10km, mb5.0, Ms4.7, Error ellipse: s-maj=292.4km s-min=234.6km az=46.0*
IDC ***06*** *13:18:52.9±0.6, 15°.34N×95°.19W, h0km, mb4.5/24, mb1 4.7/25, mb1mx4.6/32, mbtmp4.5/25, ML4.6/1, MS4.4/52, Ms1 4.5/52, ms1mx4.4/66, Error ellipse: s-maj=22.4km s-min=11.0km az=63.0*
MOS ***06*** *13:18:53.5±1.1, 15°.35N×95°.13W, h12km, mb5.3/21, Error ellipse: s-maj=11.6km s-min=5.5km az=100.5*
MEX ***06*** *13:18:54.3±3.2, 15°.15N×95°.42W, h20km±316km, MD5.0*
NEIC ***06*** *13:18:55.5±1.8, 15°.38N±0°.07×95°.24W±0°.06, h10km±1km, mb5.3/128, Ms_20 4.7/56, ML5.0(MEX), Error ellipse: s-maj=12.5km s-min=7.5km az=210.0*
GCMT ***06*** *13:18:55.5±0.3, 15°.20N±0°.02×95°.15W±0°.02, h23km±1km, MW5.0/92, Moment Tensor Solution. s36,c42; s92,c122; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.16±.17; Mθθ-3.05±.12; Mφφ4.21±.15; Mrθ1.80±.22; Mrφ-0.35±.10; Mθφ-2.02±.20; Best double couple: M0=4.60200×10^16 NP1:φs=220.00000°, δ51.00000°, λ-11.00000°. NP2: φs=317.00000°, δ81.00000°, λ-140.00000°. Principal axes: T 4.9920, Plg20.0000°, Azm83.0000°; N -0.7810, Plg50.0000°, Azm328.0000°; P -4.2110, Plg34.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 13:18:53.8±1.1, 15°.28N±0°.04×95°.36W±0°.03, h10km±6km, n695, σ1§52/644, mb5.2/128, MS4.5/86, 34C-20D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.87**	**304**	⇑*e*P			**Pg**	**13 19 08.3**	**-2.3**
HUIG						eS	**Sg**	13 19 19.3	-2.6
CMIG	**Matias Romero**	**1.86**	**14**	Pn			**Pn**	**13 19 24.8**	**-1.0**
	90nm,0.3s,baz=189,slow=9.5,SNR=400								
CMIG						LR	LR	13 19 46.8	
	comp=Z,5μm,19.1s,baz=235,slow=31								
CMIG						Sn	**Sn**	**13 19 48.8**	**-0.6**
	915nm,0.3s,baz=18,slow=19,SNR=9.5								
CMIG	**Matias Romero**	**1.86**	**14**				**Pn**	**13 19 24.6**	**-1.2**
CMIG							**Sn**	**13 19 48.3**	**-1.1**
CMIG	**Matias Romero**	**1.86**	**14**	⇑*e*P			**Pn**	**13 19 24.6**	**-1.2**
CMIG				*i* S			**Sn**	**13 19 48.3**	**-1.1**
PEIG	**Puerto Escondi**	**1.86**	**293**	⇓*e*P			**Pn**	**13 19 23.1**	**-2.8**
PEIG				*i* S			**Sn**	**13 19 43.8**	**-5.8**
PCIG		**2.11**	**78**	⇑*i*P			**Pn**	**13 19 26.5**	**-2.7**
PCIG				*i* S			**Sn**	**13 19 51.0**	**-4.5**
OXLC	**Oaxaca**	**2.20**	**324**	*e*P			**Pn**	**13 19 31.6**	**+1.0**
OXBJ	**Oaxaca**	**2.21**	**324**	*e*P			**Pn**	**13 19 31.6**	**+0.8**
VHO	**Vista Hermosa**	**2.22**	**324**	⇑*e*P			**Pn**	**13 19 30.8**	**-0.1**
UXUV	**UXUV**	**2.34**	**30**	⇑*e*P			**Pn**	**13 19 31.1**	**-1.3**
UXUV				*e*S			**Sn**	**13 19 58.5**	**-2.8**
NEUV	**Arroyo Zacate**	**2.46**	**350**	*e*P			**Pn**	**13 19 33.4**	**-0.6**
NEUV				*e*S			**Sn**	**13 20 05.1**	**+1.0**
TGIG		**2.62**	**55**	⇑*e*P			**Pn**	**13 19 35.3**	**-0.9**
TGIG				*e*S			**Sb**	**13 20 09.8**	**-3.4**
YOIG	**Yosondua**	**2.62**	**307**	⇓*e*P			**Pn**	**13 19 36.1**	**-0.4**
TGBT	**Tuxtla Gutierr**	**2.65**	**55**	*e*P			**Pn**	**13 19 37.2**	**+0.6**
PNIG	**Pinotepa**	**2.88**	**293**	⇑*e*P			**Pn**	**13 19 37.9**	**-2.0**
PNIG				*i* S			**Sn**	**13 20 08.2**	**-6.5**
TUIG	**Tuzandepetl**	**2.88**	**18**	⇑*e*P			**Pn**	**13 19 39.4**	**-0.4**
THIG		**3.01**	**97**	*e*P			**Pn**	**13 19 39.7**	**-1.9**
THIG				*i* S			Sn	13 20 07.8	-10
PATR	**El Naranjo**	**3.02**	**93**	*e*P			**Pn**	**13 19 39.4**	**-2.6**
TXIG	**Tlaxiaco**	**3.03**	**311**	⇑*e*P			**Pn**	**13 19 43.0**	**+0.8**
PAVE	**Pavencul**	**3.08**	**91**	*e*P			**Pn**	**13 19 40.4**	**-2.2**
PAVE				*i* S			Sn	13 20 07.2	-12
CHUJ	**Union Juarez**	**3.15**	**93**	*e*P			**Pn**	**13 19 40.5**	**-3.2**
CHUJ				*i* S			Sn	13 20 08.3	-13
TOIG	**Toxpalan**	**3.24**	**330**	⇑*e*P			**Pn**	**13 19 46.3**	**+1.4**
CCIG	**Comitan**	**3.26**	**72**				**Pn**	**13 19 44.5**	**-0.6**
CCIG	**Comitan**	**3.26**	**72**				**Sn**	**13 20 25.3**	**+1.0**
CCIG	**Comitan**	**3.26**	**72**	⇑*e*P			**Pn**	**13 19 44.6**	**-0.6**
CCIG				*e*S			**Sn**	**13 20 25.3**	**+1.0**
HLIG	**Huajuapan de L**	**3.46**	**318**	⇑*e*			**Pn**	**13 19 49.3**	**+1.4**
RTAL	**Retalhuleu**	**3.62**	**101**	Pn			**Pn**	**13 19 50.2**	**+0.2**
HUEH	**Huehuetenango**	**3.72**	**89**				**Pn**	**13 19 51.6**	**0.0**
THEZ	**Tehuacan**	**3.73**	**329**	*e*			**Pn**	**13 19 55.8**	**+4.2**
FTIG	**Fresnillo de T**	**3.73**	**315**	⇓*e*			**Pn**	**13 19 53.0**	**+1.4**
TLIG	**Tlapa**	**3.83**	**307**	Pn			**Pn**	**13 19 54.4**	**+1.5**
TLIG	**Tlapa**	**3.83**	**307**	⇓*e*			**Pn**	**13 19 53.7**	**+0.8**
TLIG				*e*				13 20 36.9	
CRIG	**Cruz Grande**	**3.91**	**292**	⇓*e*			**Pn**	**13 19 52.3**	**-1.6**
CRIG				*e*				13 20 32.4	
JAUV	**Jalcomulco**	**4.29**	**341**	⇑*e*			**Pn**	**13 19 58.8**	**-0.6**
JAUV				*e*				13 20 45.7	
DAIG	**Los Arroyos**	**4.47**	**293**	⇓*e*			**Pn**	**13 20 00.7**	**-1.0**
DAIG				*e*				13 20 45.6	
LVIG	**Laguna Verde**	**4.54**	**347**	⇑*e*			**Pn**	**13 19 59.5**	**-3.1**
MEIG	**Mezcala**	**4.86**	**303**	⇑*e*			**Pn**	**13 20 09.5**	**+2.4**
MEIG				*e*				13 20 58.7	
YAIG	**Yautepec**	**5.03**	**316**	⇑*e*			**Pn**	**13 20 11.1**	**+1.6**
YAIG				*e*				13 21 05.7	
CAIG	**El Cayaco**	**5.03**	**291**	⇓*i*			**Pn**	**13 20 08.8**	**-0.6**
PLIG	**Platanillo**	**5.03**	**309**	⇑*e*			**Pn**	**13 20 11.7**	**+2.2**
PLIG				*e*				13 21 04.9	
TLVM	**San Miguel Top**	**5.33**	**318**	*e*			**Sn**	**13 21 15.3**	**-0.3**
XCVM	**Xochimilco**	**5.34**	**318**	*e*			**Pn**	**13 20 17.3**	**+3.4**
MAVM	**Malinalco, Edo**	**5.39**	**313**	*e*			**Pn**	**13 20 12.5**	**-2.0**
SCIG	**Sabancuy**	**5.42**	**47**	⇑*e*			**Pn**	**13 20 12.3**	**-2.4**
PBVM	**Pinon**	**5.46**	**320**	*e*			Pn	13 20 20.4	+5.2
PBVM				*e*				13 21 19.0	
AOVM	**Tlapan**	**5.48**	**317**	*e*			**Pn**	**13 20 19.3**	**+3.2**
AOVM				*e*				13 20 20.6	
GMVM	**Gustavo A Made**	**5.51**	**320**	*e*			Pn	13 20 10.2	-6.2
GMVM				*e*				13 21 21.4	
CJVM	**Cuajimalpa**	**5.53**	**318**	*e*			**Sn**	**13 21 22.3**	**+2.0**
PETF	**Flores**	**5.53**	**72**				**Pn**	**13 20 15.3**	**-1.0**
ARIG	**Puente Sto Nin**	**5.63**	**303**	⇓*e*			**Pn**	**13 20 19.2**	**+1.5**
ARIG				*e*				13 21 17.6	
ESQI	**Esquipulas**	**5.86**	**96**				**Pn**	**13 20 21.6**	**+0.6**
MTO3	**Montecristo**	**5.87**	**98**				**Pn**	**13 20 20.4**	**-0.7**
DEIG	**Demacu**	**6.10**	**326**	⇑*e*			Pn	13 20 29.1	+4.7
ZIIG	**Zihuatanejo**	**6.30**	**292**	⇓*e*			**Pn**	**13 20 26.9**	**0.0**
ZIIG				*e*				13 21 30.8	
ACIG	**Acambay**	**6.36**	**318**	*e*			Pn	13 20 22.2	-5.6
MOIG	**Morelia**	**7.08**	**309**				**Pn**	**13 20 40.6**	**+2.9**
MOIG	**Morelia**	**7.08**	**309**	⇓*e*			**Pn**	**13 20 40.6**	**+2.9**
MMIG	**Aquila**	**8.21**	**292**	⇑*e*			**Pn**	**13 20 53.8**	**+0.7**
CRIN	**San Cristobal**	**8.46**	**107**				**Pn**	**13 20 57.9**	**+1.3**
GTIG	**Gomez Farias**	**8.54**	**336**	⇑*e*			Pn	13 21 05.0	+7.3
COIG	**Colima**	**8.85**	**297**	⇑*e*			**Pn**	**13 21 05.4**	**+3.4**
COIG				*i*				13 22 42.0	
JUBC	**Volcan de Coli**	**8.90**	**299**	⇑*e*			**Pn**	**13 21 06.7**	**+3.9**
JUBC				*e*				13 22 33.4	
MNGA	**Volcan de Coli**	**8.92**	**299**	⇑*e*			**Pn**	**13 21 07.2**	**+4.2**
MNGA				*e*				13 22 39.2	
INCO	**Volcan de Coli**	**8.93**	**299**	⇑*e*			**Pn**	**13 21 07.5**	**+4.1**
R15V		**9.10**	**296**	⇑*e*			**Pn**	**13 21 08.2**	**+2.8**
R15V				*e*				13 21 09.0	
ZAIG	**Zacatecas**	**10.10**	**319**	Pn			**Pn**	**13 21 20.8**	**+1.6**
ACON	**Acoyapa**	**10.43**	**107**				**Pn**	**13 21 25.0**	**+1.4**
HZTE	**Horizontes, Gu**	**10.54**	**114**	Pn			**Pn**	**13 21 26.7**	**+1.6**
ORTG	**Ortega, Santa**	**10.82**	**116**				**Pn**	**13 21 30.6**	**+1.6**
DUNO	**Dulce Nombre,**	**10.92**	**117**				**Pn**	**13 21 31.6**	**+1.3**
JTS	**Las Juntas de**	**11.29**	**115**	Pn			**Pn**	**13 21 36.8**	**+1.4**
JTS	**Las Juntas de**	**11.29**	**115**	*c i*P			**Pn**	**13 21 36.5**	**+1.1**
JTS				pmax		pmax			
	comp=Z,84nm,1.3s								
JTS	**Las Juntas de**	**11.29**	**115**	Pn			**Pn**	**13 21 37.2**	**+1.8**
COVE	**Coope Vega, Sa**	**11.60**	**112**				**Pn**	**13 21 41.1**	**+1.5**
JACO	**JACO, Garabito**	**11.84**	**117**				**Pn**	**13 21 43.9**	**+1.0**
CVTR	**Volcan Turrial**	**12.47**	**113**				**Pn**	**13 21 53.1**	**+1.3**
RIMA	**Rio Macho**	**12.49**	**115**				**Pn**	**13 21 53.1**	**+1.2**
PEZE	**Perez Zeledon,**	**12.83**	**116**				**Pn**	**13 21 58.0**	**+1.5**
SRBA	**San Rafael, Bu**	**13.17**	**116**	Pn			**Pn**	**13 22 01.5**	**+0.2**
833A	**Chaparral WMA,**	**13.51**	**345**	Pn			**Pn**	**13 22 05.4**	**-0.3**
833A	**Chaparral WMA,**	**13.51**	**345**	P			**Pn**	**13 22 06.5**	**+0.8**
	baz=162,SNR=5.9								
CDITO	**Canoas**	**13.91**	**117**	Pn			**Pn**	**13 22 10.2**	**-1.0**
BRU2	**Volcan**	**13.96**	**116**	Pn			**Pn**	**13 22 12.6**	**+0.6**
HKT	**Hockley**	**14.61**	**358**	*d i*P			**Pn**	**13 22 22.0**	**+1.4**
HKT				pmax		pmax			
	comp=Z,180nm,1.6s								
435B	**Jarrell**	**15.57**	**353**	Pn			**Pn**	**13 22 34.6**	**+1.1**
435B				IAmb		IAmb		13 22 47.3	
	comp=Z,174nm,1.3s								
435B	**Jarrell**	**15.57**	**353**	P			**Pn**	**13 22 33.9**	**+0.4**
	baz=171								
JCT	**Junction City**	**15.67**	**346**	P			**Pn**	**13 22 35.3**	**+0.5**
JCT				pmax		pmax			
	comp=Z,36nm,0.9s								
JCT	**Junction City**	**15.67**	**346**	Pn			**Pn**	**13 22 35.3**	**+0.5**
JCT	**Junction City**	**15.67**	**346**	P			**Pn**	**13 22 35.4**	**+0.5**
	baz=163								
TXAR	**Lajitas Array**	**15.95**	**333**	Pn			**Pn**	**13 22 40.6**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=150,slow=14,SNR=40								
TXAR						LR	LR	13 29 52.3	
	comp=Z,592nm,20.9s,baz=148,slow=41								
TX32	**Lajitas Array**	**15.95**	**333**				**Pn**	**13 22 39.6**	**+1.1**
LPIG	**La Paz**	**16.58**	**304**	Pn			**P**	**13 22 50.6**	**+1.6**
	comp=Z,2.8nm,0.3s,baz=166,slow=4.5,SNR=4.8								
LPIG						LR	LR	13 28 24.7	
	comp=Z,2μm,18.2s,baz=126,slow=34								
237A	**Washetta, Mont**	**16.66**	**359**	P			**Pn**	**13 22 48.3**	**+0.9**
237A				IAmb		IAmb		13 23 06.4	
	comp=Z,422nm,1.8s								
WHTX	**Lake Whitney,**	**16.75**	**354**	P			**P**	**13 22 50.9**	**+0.1**
WHTX				IAmb		IAmb		13 23 04.2	
	comp=Z,297nm,1.4s								
WHTX	**Lake Whitney,**	**16.75**	**354**	P			**Pn**	**13 22 48.0**	**-0.6**
	baz=172,SNR=13								
BRAL	**Brewton**	**17.55**	**24**	P			**Pn**	**13 22 57.4**	**-1.3**
	baz=207								
ABTX	**Abilene, Hawle**	**17.70**	**348**	P			**Pn**	**13 23 00.7**	**+0.1**
ABTX				IAmb		IAmb		13 23 17.4	
	comp=Z,202nm,1.1s								
ABTX	**Abilene, Hawle**	**17.70**	**348**	P			**Pn**	**13 23 00.2**	**-0.4**
	baz=166,SNR=24								
Z38A	**Mt. Pleasant**	**17.91**	**1**	P			**P**	**13 23 03.7**	**0.0**
Z38A				IAmb		IAmb		13 23 14.4	
	comp=Z,289nm,1.3s								
Z41A	**Richland Creek**	**18.05**	**7**	P			**Pn**	**13 23 04.3**	**-0.5**
Z41A	**Richland Creek**	**18.05**	**7**	P			**Pn**	**13 23 04.3**	**-0.5**
	baz=188								
Z35A	**Perchaven, San**	**18.06**	**355**	P			**P**	**13 23 05.7**	**+0.3**
DWPF	**Disney Wildern**	**18.16**	**43**	P			**Pn**	**13 23 04.6**	**-1.6**
	baz=228								
WLAR	**White Oak Lake**	**18.44**	**6**	P			**P**	**13 23 09.5**	**-0.1**
LOOK	**Love County**	**18.71**	**355**				**Pn**	**13 23 13.5**	**+0.7**
LOOK				IAmb		IAmb		13 23 39.2	
	comp=Z,124nm,0.8s								
MNTX	**Cornudas Mount**	**18.73**	**332**	P			**P**	**13 23 13.4**	**+0.6**
	baz=148,SNR=14								
PTAC	**Punta Ardita,**	**19.01**	**113**	⇑*e*P			**P**	**13 23 14.5**	**-1.4**
X37A	**Clayton**	**19.23**	**360**				**P**	**13 23 18.1**	**-0.1**
MIAR	**Mount Ida**	**19.25**	**4**	P			**P**	**13 23 17.7**	**-0.8**
MIAR				pmax		pmax			
	comp=Z,83nm,1.3s								
MIAR	**Mount Ida**	**19.25**	**4**	P			**P**	**13 23 17.7**	**-0.8**
MIAR	**Mount Ida**	**19.25**	**4**	P			**P**	**13 23 17.1**	**-1.4**
	baz=185,SNR=19								
X40A	**Basin Creek Fa**	**19.26**	**6**	P			**P**	**13 23 17.5**	**-1.1**
	baz=187								
WMOK	**Wichita Mounta**	**19.62**	**352**	P			**P**	**13 23 23.0**	**+0.5**
WMOK				pmax		pmax			
	comp=Z,44nm,1.5s								
WMOK	**Wichita Mounta**	**19.62**	**352**	P			**P**	**13 23 22.1**	**-0.5**
	baz=170,SNR=15								
SRIG	**Santa Rosalia**	**19.75**	**310**	P			**Pn**	**13 23 26.8**	**+1.5**
MSTX	**Muleshoe**	**19.78**	**342**	P			**Pn**	**13 23 26.0**	**+0.1**
MSTX	**Muleshoe**	**19.78**	**342**	P			**P**	**13 23 24.5**	**+0.1**
	baz=158,SNR=41								
W39A	**Magazine**	**19.89**	**4**	P			**P**	**13 23 24.9**	**-0.4**
W39A	**Magazine**	**19.89**	**4**	P			**P**	**13 23 24.7**	**-0.6**
	baz=184,SNR=13								
FNO	**Franklin**	**19.98**	**355**				**P**	**13 23 27.1**	**+0.6**
W41B	**Gary Mavity, V**	**20.01**	**7**	P			**P**	**13 23 26.3**	**-0.4**
	baz=188								
WHAR	**Wooly Hollow**	**20.12**	**7**	P			**P**	**13 23 27.4**	**-0.6**
WHAR				IAmb		IAmb		13 23 50.0	
	comp=Z,259nm,1.9s								
OKCFA	**Oklahoma City**	**20.14**	**355**	P			**P**	**13 23 28.5**	**+0.3**
OK025	**Westminster Rd**	**20.30**	**355**				**P**	**13 23 29.8**	**-0.1**
OK025				IAmb		IAmb		13 23 43.8	
	comp=Z,302nm,1.1s								
AMTX	**Amarillo**	**20.34**	**345**	P			**P**	**13 23 30.5**	**+0.1**
	baz=162								
BCOK	**Bluff Creek, N**	**20.39**	**355**				**P**	**13 23 31.6**	**+0.6**
BCOK				IAmb		IAmb		13 23 40.9	
	comp=Z,313nm,1.3s								
SJCC	**San Jacinto, C**	**20.40**	**103**	*e*P			**P**	**13 23 30.2**	**-1.1**
SJCC	**San Jacinto, C**	**20.40**	**103**	P			**P**	**13 23 29.1**	**-2.1**
PIZC	**Pizarro, Choco**	**20.45**	**118**	*e*P			Pn	13 23 38.2	+4.4
DBBC	**Dabeiba**	**20.49**	**112**	*e*P			Pn	13 23 33.6	-0.7
TUL1	**Leonard**	**20.55**	**359**				**P**	**13 23 31.8**	**-0.8**
TUL1				IAmb		IAmb		13 23 48.2	
	comp=Z,98nm,0.9s								
TUL1	**Leonard**	**20.55**	**359**	P			**P**	**13 23 31.9**	**-0.8**
	baz=178,SNR=8.5								
121A	**Cookes Peak, D**	**20.56**	**329**	P			Pn	13 23 35.6	+0.4
121A				IAmb		IAmb		13 23 46.2	
	comp=Z,269nm,1.4s								
121A	**Cookes Peak, D**	**20.56**	**329**	P			Pn	13 23 35.5	+0.4
	baz=143,SNR=57								
OK030	**Cody Creek RV**	**20.61**	**357**				**P**	**13 23 32.9**	**-0.3**
OK030				IAmb		IAmb		13 23 34.2	
	comp=Z,152nm,0.6s								
HBAR	**Harrisburg**	**20.63**	**11**	P			**P**	**13 23 32.6**	**-0.8**
OK031	**S. Brethren Rd**	**20.63**	**357**				**P**	**13 23 33.2**	**-0.3**
OK034	**N. Norfolk Rd.**	**20.68**	**357**				**P**	**13 23 33.2**	**-0.9**
OK034				IAmb		IAmb		13 23 44.6	
	comp=Z,233nm,0.8s								
FCAR	**Ozark Folk Cen**	**20.73**	**7**	P			**P**	**13 23 33.0**	**-1.6**
QUOK	**Quay**	**20.84**	**357**				**P**	**13 23 34.9**	**-0.9**
QUOK				IAmb		IAmb		13 23 46.8	
	comp=Z,204nm,1.0s								
HHAR	**Hobbs**	**20.96**	**3**	P			**P**	**13 23 36.5**	**-0.5**
GOGA	**Godfrey**	**21.02**	**29**	P			**P**	**13 23 35.6**	**-2.1**
	baz=213								
LCAR	**Lake Charles**	**21.05**	**10**	P			**P**	**13 23 36.0**	**-1.9**
U38A	**Gravette**	**21.09**	**2**	P			**P**	**13 23 37.9**	**-0.6**
U38A				IAmb		IAmb		13 23 49.0	
	comp=Z,112nm,1.1s								
U40A	**Yellville**	**21.11**	**6**	P			**P**	**13 23 37.6**	**-1.1**
U40A	**Yellville**	**21.11**	**6**	P			**P**	**13 23 37.2**	**-1.5**
	baz=186,SNR=9.6								
CBOC	**Ciudad Bolivar**	**21.18**	**114**	*e*P			**P**	**13 23 39.8**	**+0.1**
U32A	**Winter Ranch,**	**21.27**	**352**				**P**	**13 23 40.4**	**0.0**
CROK	**Carrier**	**21.27**	**354**				**P**	**13 23 39.8**	**-0.7**
PLMC	**San Jos del P**	**21.40**	**117**	*e*P			**P**	**13 23 42.0**	**-0.1**
HELC	**Santa Helena**	**21.46**	**113**	*e*P			**P**	**13 23 43.6**	**+0.7**
BLOK	**Blackwell**	**21.46**	**356**				**P**	**13 23 41.7**	**-0.7**
ZARC	**Zaragoza, Cauc**	**21.52**	**109**	*e*P			**P**	**13 23 41.8**	**-1.5**
ZARC	**Zaragoza, Cauc**	**21.52**	**109**	P			**P**	**13 23 43.0**	**-0.3**
ZARC				IAmb		IAmb		13 23 51.7	
	comp=Z,131nm,1.4s								
OK035	**E0210 Rd and N**	**21.55**	**353**				**P**	**13 23 43.3**	**-0.1**
T35A	**Sooner Cattle**	**21.58**	**357**				**P**	**13 23 42.8**	**-0.9**
SWET	**Sewanee**	**21.59**	**21**	P			**P**	**13 23 42.0**	**-1.9**
GC02	**Grant County #**	**21.60**	**355**				**P**	**13 23 43.0**	**-0.9**
KAN14	**Manchester OK**	**21.72**	**354**	P			**P**	**13 23 45.4**	**+0.2**
KAN13	**South Haven SW**	**21.73**	**355**				**P**	**13 23 44.7**	**-0.7**
KAN17	**Caldwell West**	**21.79**	**355**				**P**	**13 23 47.0**	**+1.0**
YOTC	**Yotoco, Valle**	**21.82**	**119**	*e*P			**P**	**13 23 45.6**	**-1.0**
WVT	**Waverly**	**21.83**	**17**	P			**P**	**13 23 48.6**	**+2.2**
WVT	**Waverly**	**21.83**	**17**	P			**P**	**13 23 45.3**	**-1.1**
	baz=200								
PBMO	**Poplar Bluff**	**21.86**	**11**	P			**P**	**13 23 45.0**	**-1.7**
KAN01	**Argonia South**	**21.89**	**355**	P			**P**	**13 23 47.3**	**+0.2**
MGMO	**Mountain Grove**	**21.96**	**7**	P			**P**	**13 23 47.8**	**0.0**
ANMO	**Albuquerque**	**21.98**	**335**	P			**P**	**13 23 49.7**	**+1.5**
	comp=Z,15nm,1.0s,baz=126,slow=15,SNR=12								
ANMO						LR	LR	13 32 43.6	
	comp=Z,1μm,21.8s,baz=161,slow=38								
KAN08	**Anthony NE Sta**	**21.98**	**354**	P			**P**	**13 23 47.6**	**-0.5**
KAN08				IAmb		IAmb		13 23 57.7	
	comp=Z,255nm,1.1s								
KAN16	**Harper SW Stat**	**21.99**	**354**				**P**	**13 23 48.4**	**+0.2**
KAN16				IAmb		IAmb		13 23 57.9	
	comp=Z,197nm,1.2s								
KAN06	**Argonia West S**	**22.00**	**355**	P			**P**	**13 23 47.7**	**-0.5**
T42A	**Van Buren**	**22.00**	**9**	P			**P**	**13 23 48.1**	**0.0**
TUC	**Tucson**	**22.01**	**323**	P			**P**	**13 23 52.5**	**+4.0**
TUC				pmax		pmax			
	comp=Z,46nm,1.4s								
TUC	**Tucson**	**22.01**	**323**	IAMs_20		IAMs_20		13 31 28.9	
	comp=Z,2μm,18.0s								
GUY2C	**Guyana,

baz=157
PTLC Puerto Leguiza 25.26 125 *e*P **P 13 24 23.6 +3.2**
PTGC Puerto Gaitan, 25.37 113 *e*P **P 13 24 23.9 +2.5**
N33A J Bar K, Exete 25.43 356 P **P 13 24 22.0 +0.2**
N38A Joes South For 25.49 4 P **P 13 24 21.4 -0.8**
SWSC Sam W. Stewart 25.56 317 P **P 13 24 23.7 +0.7**
baz=128
BLA Blacksburg 25.56 28 P **P 13 24 21.6 -1.4**
baz=215
IKP In-Ko-Pah, Jac 25.58 316 P **P 13 24 23.4 +0.1**
baz=127
N41A Harden Midland 25.64 8 P **P 13 24 23.4 -0.2**
N41A IAmb IAmb 13 24 34.0
comp=Z,77nm,1.4s
PV15 Paradox Valley 25.73 336 P **P 13 24 27.2 +2.4**
PV15 IAmb IAmb 13 24 36.0
comp=Z,72nm,1.2s
HDIL Hopedale 25.74 11 P **P 13 24 23.5 -1.0**
HDIL IAmb IAmb 13 24 32.0
comp=Z,121nm,1.6s
HDIL Hopedale 25.74 11 P **P 13 24 23.2 -1.3**
baz=193
BC3 Big Chuckawall 25.78 319 P **P 13 24 24.8 -0.4**
baz=130,SNR=15
PV03 Paradox Valley 25.80 335 P **P 13 24 27.1 +1.7**
PV03 IAmb IAmb 13 24 36.9
comp=Z,146nm,1.5s
HATO Hato, Curacao 25.83 94 IAms_20 IAms_20 13 34 43.2
comp=Z,2µm,22.0s
PV16 Nyswonger Mesa 25.88 335 P **P 13 24 27.8 +1.7**
PV16 IAmb IAmb 13 24 37.8
comp=Z,130nm,1.4s
SMCO Snowmass 25.90 339 IAms_20 IAms_20 13 35 12.5
comp=Z,1µm,18.0s
PV19 Morning Glory 25.90 335 P **P 13 24 27.9 +1.5**
PV19 IAmb IAmb 13 24 38.0
comp=Z,175nm,1.8s
U15A North Rim 25.92 327 P **P 13 24 29.4 +2.8**
IRM Iron Mountain 25.92 320 P **P 13 24 27.4 +1.0**
baz=131,SNR=12
PV20 West Nyswonger 25.92 335 P **P 13 24 28.3 +1.8**
PV20 IAmb IAmb 13 24 38.9
comp=Z,133nm,1.6s
ISCO Idaho Springs 26.03 342 P **P 13 24 29.1 +1.5**
ISCO pmax pmax
comp=Z,40nm,1.7s
ISCO Idaho Springs 26.03 342 P **P 13 24 28.3 +0.7**
baz=157
SFIN Lafayette 26.03 14 P **P 13 24 25.9 -1.2**
baz=198
BGNE Belgrade 26.15 355 P **P 13 24 28.9 +0.6**
BGNE Belgrade 26.15 355 P **P 13 24 28.0 -0.3**
baz=174,SNR=7.9
OGNE Ogallala 26.23 349 P **P 13 24 29.7 +0.6**
baz=165
109C Camp Elliot, M 26.39 315 IAms_20 IAms_20 13 34 03.6
comp=Z,1µm,19.0s
109C Camp Elliot, M 26.39 315 P **P 13 24 30.4 -0.1**
baz=126
TPFO Pinon Flats 26.40 318 P **P 13 24 30.8 0.0**
baz=128
PFO Pinyon Flats O 26.41 318 P **P 13 24 32.5 +1.7**
comp=Z,14nm,1.1s,baz=149,slow=7.3,SNR=4.3
PFO LR LR 13 35 16.2
comp=Z,2µm,18.5s,baz=136,slow=37
PFO Pinyon Flats O 26.41 318 P **P 13 24 31.3 +0.5**
PFO IAmb IAmb 13 24 36.9
comp=Z,101nm,2.0s
PFO Pinyon Flats O 26.41 318 P **P 13 24 30.7 -0.1**
baz=128
SCIA State Center 26.60 4 P **P 13 24 31.8 -0.6**
SCIA State Center 26.60 4 P **P 13 24 31.0 -1.4**
baz=184,SNR=10
L34A Svendsen Farm, 26.61 358 P **P 13 24 32.6 +0.1**
GMRC Granite Mounta 26.65 320 P **P 13 24 33.3 +0.2**
baz=131
MURC Murrieta 26.88 317 P **P 13 24 36.0 +0.9**
baz=127
P52A Corning 26.89 23 P **P 13 24 33.9 -1.1**
baz=209
L42A Oliver, Polo 27.08 9 P **P 13 24 35.6 -1.1**
L42A IAmb IAmb 13 24 45.9
comp=Z,126nm,1.6s
HEC Hector,Ludlow 27.10 320 P **P 13 24 38.8 +1.8**
baz=130
ACSO Alum Creek Sta 27.11 21 P **P 13 24 37.2 +0.3**
baz=207
N23A Red Feather La 27.13 342 P **P 13 24 37.9 +0.4**
baz=157
O20A White River Ci 27.20 338 P **P 13 24 38.9 +0.9**
baz=152
TUQ Turquoise Moun 27.25 321 P **P 13 24 39.9 +1.5**
baz=132
CCUT Cedar City 27.32 328 P **P 13 24 41.3 +2.1**
K38A Parkersburg 27.37 4 P **P 13 24 38.5 -0.7**
K31A O'Neill 27.41 355 P **P 13 24 40.6 +0.9**
BAUV El Baul 27.43 100 P **P 13 24 39.7 -0.4**
BAUV IAmb IAmb 13 24 49.0
comp=Z,130nm,1.4s
P17A Butcher Ranch, 27.62 334 P **P 13 24 42.0 +0.2**
GSC Goldstone, Bar 27.70 320 P **P 13 24 43.5 +1.1**
baz=130
JFWS Jewell Farm 27.89 8 P **P 13 24 42.8 -1.1**
JFWS pmax pmax
comp=Z,42nm,0.7s
JFWS Jewell Farm 27.89 8 P **P 13 24 42.8 -1.1**
JFWS IAmb IAmb 13 24 45.0
comp=Z,42nm,0.7s
JFWS Jewell Farm 27.89 8 P **P 13 24 42.3 -1.6**
baz=190,SNR=11
ATAH Atahualpa 27.90 142 P **P 13 24 45.9 +1.2**
comp=Z,6.8nm,0.7s,baz=53,slow=5.1,SNR=4.9
ATAH LR LR 13 33 21.1
comp=Z,872nm,18.9s,baz=319,slow=31
RDMU Red Mountain 28.08 337 P **P 13 24 47.5 +1.6**
RDMU IAmb IAmb 13 25 00.2
comp=Z,87nm,1.7s
RWWY Rawlins 28.24 341 P **P 13 24 48.1 +0.7**
RWWY IAmb IAmb 13 24 56.3
comp=Z,54nm,1.2s
ECSD EROS Data Cent 28.38 358 P **P 13 24 47.9 -0.4**
ECSD IAmb IAmb 13 24 56.6
comp=Z,83nm,1.4s
ECSD EROS Data Cent 28.38 358 P **P 13 24 47.4 -0.9**
baz=177,SNR=10
TPNV Topopah Spring 28.47 323 P **P 13 24 49.5 +0.2**
baz=134
FURC Furnace Creek, 28.50 322 P **P 13 24 50.2 +0.8**
baz=132
I40A Norwalk 28.81 7 P **P 13 24 51.6 -0.5**
I40A IAmb IAmb 13 24 58.8
comp=Z,46nm,1.1s
ARVC Arvin 28.88 317 P **P 13 24 53.9 +1.1**
baz=127
K22A Casper 28.92 343 P **P 13 24 53.4 +0.1**
baz=157
ISA Isabella, Lake 28.98 319 P **P 13 24 55.3 +1.5**
ISA pmax pmax
comp=Z,32nm,1.6s
ISA Isabella, Lake 28.98 319 P **P 13 24 55.3 +1.5**
R11A Troy Canyon, C 29.09 326 P **P 13 24 55.1 +0.2**
baz=136,SNR=13
DUG Dugway, Tooele 29.13 332 P **P 13 24 58.6 +3.5**
DUG pmax pmax
comp=Z,16nm,1.6s
DUG Dugway, Tooele 29.13 332 P **P 13 24 55.3 +0.1**
baz=143,SNR=9.9
GRAC Grapevine Rang 29.16 322 P **P 13 24 56.1 +0.8**
baz=132
CWC Cottonwood Cre 29.23 320 P **P 13 24 57.6 +1.5**
baz=130
VES Vestal, Richgr 29.48 318 P **P 13 24 59.4 +1.3**
baz=128
SSPA Standing Stone 29.49 28 IAms_20 IAms_20 13 38 53.4
comp=Z,1µm,18.0s
RSSD Black Hills 29.68 347 P **P 13 25 00.7 +0.5**
baz=163
HWUT Hardware Ranch 29.75 335 IAms_20 IAms_20 13 38 31.7
comp=Z,2µm,19.0s
SPMN Marine on St. 29.93 4 P **P 13 25 01.4 -0.7**
baz=185
BW06 Boulder Array 29.99 339 P **P 13 25 03.4 +0.5**
baz=152
PDAR Pinedale Array 29.99 339 P **P 13 25 03.9 +1.1**
comp=Z,1.6nm,0.8s,baz=140,slow=8.0,SNR=14
PDAR LR LR 13 36 40.3
comp=Z,379nm,21.2s,baz=166,slow=36

AHID Auburn Hatcher 30.55 337 P **P 13 25 08.5 +0.7**
AHID IAmb IAmb 13 25 18.1
comp=Z,47nm,1.5s
LHV Little Huntoon 30.67 323 P **P 13 25 11.8 +3.2**
LHV IAmb IAmb 13 25 19.9
comp=Z,71nm,1.5s
NVAR Mina Array Bea 30.67 323 P **P 13 25 11.7 +2.8**
comp=Z,14nm,1.0s,baz=138,slow=8.2,SNR=32
NVAR PcP **PcP 13 28 08.1 +1.1**
comp=Z,0.7nm,0.8s,baz=144,slow=3.2,SNR=1.9
NVAR LR LR 13 38 42.2
comp=Z,3µm,19.4s,baz=136,slow=39
NVAR Mina Array Bea 30.67 323 P **P 13 25 11.2 +2.2**
ELK Elko 30.70 330 LR LR 13 37 28.0
comp=Z,2µm,18.7s,baz=148,slow=36
ELK Elko 30.70 330 IAms_20 IAms_20 13 37 09.4
comp=Z,2µm,19.0s
REDW Red Top Meadow 30.97 338 P **P 13 25 12.4 +0.9**
REDW IAmb IAmb 13 25 21.1
comp=Z,124nm,1.5s
SEUS St. Eustatius 31.12 81 IAms_20 IAms_20 13 39 12.9
comp=Z,1µm,19.0s
MOOW Moose Ponds 31.27 338 IAms_20 IAms_20 13 39 55.5
comp=Z,1µm,19.0s
E38A The Farm, Brul 31.40 5 P **P 13 25 13.1 -1.8**
E38A IAmb IAmb 13 25 21.5
comp=Z,48nm,1.1s
SAO San Andreas Ge 31.56 318 IAms_20 IAms_20 13 38 38.1
comp=Z,2µm,19.0s
H17A Grant Village 31.77 339 P **P 13 25 19.1 +0.5**
baz=151
TBTG Tabatinga, AM 31.77 126 *e*P **P 13 25 18.0 -0.6**
RLMT Red Lodge 31.99 341 P **P 13 25 20.7 +0.3**
baz=154,SNR=20
CZSB Cruzeiro do Su 32.04 134 *e*P **P 13 25 21.0 0.0**
CZSB Cruzeiro do Su 32.04 134 P **P 13 25 21.8 +0.8**
CZSB IAmb IAmb 13 25 33.8
comp=Z,22nm,0.7s
YMR Madison River 32.14 339 P **P 13 25 22.9 +1.0**
YMR IAmb IAmb 13 25 31.9
comp=Z,103nm,1.8s
SADO Sadowa 32.45 22 LR LR 13 41 04.8
comp=Z,1µm,18.1s,baz=192,slow=41
HLID Hailey 32.55 334 P **P 13 25 26.9 +1.5**
baz=144,SNR=22
LAO LASA Array 32.61 346 P **P 13 25 26.4 +0.7**
baz=160
NNA Nana 32.71 145 LR LR 13 36 16.4
comp=Z,709nm,18.6s,baz=338,slow=32
EYMN Ely 32.73 5 P **P 13 25 25.8 -0.8**
baz=187
GRGR Grenville 32.88 91 IAms_20 IAms_20 13 39 38.9
comp=Z,1µm,19.0s
AGMN Agassiz Nation 32.93 359 P **P 13 25 27.6 -0.8**
baz=179,SNR=24
FDF Fort de France 33.03 86 IAms_20 IAms_20 13 39 43.8
comp=Z,903nm,19.0s
BOZ Bozeman (W) 33.18 339 P **P 13 25 31.1 +0.2**
baz=150
WVOR Wild Horse Val 33.66 328 P **P 13 25 39.0 +4.0**
WVOR pmax pmax
comp=Z,33nm,1.4s
WVOR Wild Horse Val 33.66 328 IAms_20 IAms_20 13 39 06.8
comp=Z,2µm,18.0s
DGMT Dagmar 33.89 349 P **P 13 25 37.1 +0.3**
baz=164
HRY Holter Researc 34.22 340 P **P 13 25 40.8 +1.0**
PLID Pearl Lake 34.45 334 IAms_20 IAms_20 13 39 46.2
comp=Z,2µm,18.0s
EGMT Eagleton 34.75 343 P **P 13 25 44.8 +0.5**
baz=155
ULM Lac du Bonnet 34.88 359 P **P 13 25 44.7 -0.6**
comp=Z,6.5nm,0.8s,baz=176,slow=9.3,SNR=7.8
ULM LR LR 13 41 40.4
comp=Z,423nm,21.5s,baz=185,slow=39
MSO Missoula 35.07 338 P **P 13 25 47.7 +0.6**
baz=147,SNR=12
YBH Yreka Blue Hor 35.39 324 LR LR 13 39 41.4
comp=Z,1µm,20.5s,baz=150,slow=35
YBH Yreka Blue Hor 35.39 324 IAms_20 IAms_20 13 39 22.9
comp=Z,2µm,21.0s
E09A Wood Farm, Sta 36.50 333 P **P 13 26 01.3 +2.0**
K02D Willamette Mer 36.55 324 P **P 13 26 00.4 +0.6**
baz=130
BOAV Boa Vista 36.65 107 *e*P **P 13 26 00.4 -0.6**
NEW Newport 37.47 336 LR LR 13 42 39.8
comp=Z,596nm,20.8s,baz=163,slow=38
NEW Newport 37.47 336 P **P 13 26 08.1 +0.5**
baz=144,SNR=7.2
F05D White Salmon 37.55 330 P **P 13 26 09.1 +0.8**
baz=136
C09A Chrisman Ranch 37.56 334 P **P 13 26 09.7 +1.4**
C09A IAmb IAmb 13 26 17.7
comp=Z,95nm,1.6s
ETMB Extrema 38.15 129 *e*P **P 13 26 12.7 -0.9**
ETMB Extrema 38.15 129 P **P 13 26 12.8 -0.8**
ETMB IAmb IAmb 13 26 23.2
comp=Z,45nm,1.2s
LTY Liberty 38.19 332 P **P 13 26 15.4 +1.7**
PTGA Pitinga 38.43 111 LR LR 13 44 44.6
comp=Z,462nm,18.5s,baz=4.5,slow=40
MACA Manacapuru-AM 38.91 115 *e*P **P 13 26 19.5 -0.5**
MACA Manacapuru-AM 38.91 115 P **P 13 26 19.6 -0.5**
MACA IAmb IAmb 13 26 29.9
comp=Z,206nm,1.6s
A04D Lummi Island 40.19 332 P **P 13 26 30.8 +0.5**
baz=136
LPAZ La Paz 41.31 138 P **P 13 26 39.8 -0.8**
comp=Z,3.8nm,0.8s,baz=349,slow=9.4,SNR=12
LPAZ LR LR 13 42 05.5
comp=Z,505nm,21.9s,baz=322,slow=34
LPAZ La Paz 41.31 138 *e*P **P 13 26 39.8 -0.8**
MDP Montagnes des 43.16 99 LR LR 13 46 50.1
comp=Z,563nm,20.2s,baz=276,slow=39
FCC Fort Churchill 43.42 1 P **P 13 26 56.2 -0.4**
FCC pmax pmax
comp=Z,151nm,1.7s
ITTB Itaituba 43.83 113 *e*P **P 13 26 59.4 -1.1**
MALB Monte Alegre 44.07 109 *e*P **P 13 27 01.2 -1.2**
RPN Rapa Nui 44.28 198 LR LR 13 40 43.6
comp=Z,235nm,22.0s,baz=44,slow=30
VILB Vilhena 44.69 127 *e*P **P 13 27 07.1 -0.4**
VILB Vilhena 44.69 127 P **P 13 27 06.2 -1.2**
VILB IAmb IAmb 13 27 14.0
comp=Z,70nm,1.4s
BBB Bella Bella 45.08 332 LR LR 13 46 56.7
comp=Z,847nm,19.7s,baz=162,slow=37
SCHQ Schefferville 45.24 23 P **P 13 27 08.9 -2.3**
comp=Z,8.3nm,0.8s,baz=236,slow=8.5,SNR=7.1
SCHQ LR LR 13 48 33.4
comp=Z,925nm,18.8s,baz=241,slow=40
NPGB Novo Progresso 45.42 116 *e*P **P 13 27 12.1 -1.2**
MCPB Macapa, AP 45.52 106 *e*P **P 13 27 14.1 +0.1**
LVC Limon Verde 45.70 145 LR LR 13 45 10.0
comp=Z,294nm,18.2s,baz=314,slow=34
LVC Limon Verde 45.70 145 P **P 13 27 16.6 +0.9**
LVC pmax pmax
comp=Z,18nm,1.3s
LVC Limon Verde 45.70 145 *e*P **P 13 27 15.7 0.0**
SIV San Ignacio 45.95 131 LR LR 13 45 49.6
comp=Z,500nm,19.4s,baz=313,slow=35
PDRB Porto dos Gac 46.66 123 *e*P **P 13 27 22.9 -0.1**
CLDB Colider 47.02 121 *e*P **P 13 27 24.1 -1.7**
PTLB Pontes e Lacer 47.04 129 *e*P **P 13 27 25.1 -0.7**
AC02 Maricunga 49.01 148 P **P 13 27 42.0 +0.4**
AC02 IAmb IAmb 13 28 08.3
comp=Z,92nm,1.9s
YKA Yellowknife Ar 49.08 348 P **P 13 27 40.8 -0.3**
comp=Z,6.0nm,0.9s,baz=154,slow=7.4,SNR=42
CRAG Craig 49.48 333 P **P 13 27 44.8 +0.6**
baz=129
TMAB Tom-Au,PA,Br 49.94 106 *e*P **P 13 27 46.8 -1.6**
SALV Santo Antonio 49.94 127 *e*P **P 13 27 47.2 -1.1**
LCO Las Campanas 50.06 152 P **P 13 27 49.8 +0.5**
LCO pmax pmax
comp=Z,36nm,1.5s
LCO Las Campanas 50.06 152 P **P 13 27 49.8 +0.5**
LCO IAmb IAmb 13 28 15.2
comp=Z,36nm,1.5s
DLBC Dease Lake 50.19 337 LR LR 13 48 08.7
comp=Z,1µm,20.3s,baz=134,slow=35
TAOE Nuku Hiva Isla 50.44 245 *e*S **S 13 35 03.1 -3.2**
comp=Z,166nm,24.0s
TAOE *e*LR LR 13 41 53.5
comp=Z,394nm,26.2s
SNDB Serra Nova Dou 51.35 119 *e*P **P 13 27 58.8 -0.2**

PP1B Ponte de Pedra 51.58 128 *e*P **P 13 28 01.2 +0.6**
FRB Frobisher Bay 51.86 15 LR LR 13 51 57.3
comp=Z,207nm,19.2s,baz=208,slow=38
P33M Teslin, Yukon 52.45 337 P **P 13 28 07.0 +0.4**
baz=132
AQDB Aquidauana 52.73 131 *e*P **P 13 28 09.4 +0.3**
ARAG Araguaiana, MT 52.90 124 *e*P **P 13 28 10.1 -0.4**
SMTB Santa Maria do 53.06 114 *e*P **P 13 28 11.9 +0.1**
WHY Whitehorse 53.52 337 P **P 13 28 15.2 +0.7**
baz=130
ROSB Rosrio 53.82 105 *e*P **P 13 28 17.7 +0.4**
PEXB Peixe 53.95 118 *e*P **P 13 28 17.5 -0.8**
M31M Drury Creek, Y 54.36 339 P **P 13 28 21.6 +1.1**
baz=131
N31M Braeburn, Yuko 54.39 337 P **P 13 28 21.6 +0.8**
baz=130
PNL Peninsula 54.71 334 P **P 13 28 24.0 +0.8**
baz=124
CPUP Villa Florida 55.48 138 P **P 13 28 30.3 +1.2**
comp=Z,4.6nm,0.9s,baz=342,slow=13,SNR=3.4
CPUP LR LR 13 51 26.9
comp=Z,187nm,20.8s,baz=328,slow=35
BDFB Brasilia 55.95 121 P **P 13 28 32.5 -0.3**
comp=Z,8.6nm,0.7s,baz=313,slow=9.0,SNR=9.4
CTG Chitna Glacier 56.24 335 P **P 13 28 34.9 +0.6**
baz=123
YUK3 Moose Creek 56.34 336 P **P 13 28 35.9 +0.8**
baz=125
NBPS Pedro II - PI 56.85 106 *e*P **P 13 28 39.1 -0.2**
KAIM Kayak Island 56.99 333 P **P 13 28 39.9 +0.4**
baz=119
SDBA SAO DESIDERIO 57.02 116 *e*P **P 13 28 39.9 -0.5**
M27K Edge Creek, AK 57.22 336 P **P 13 28 41.4 +0.1**
baz=123
DAWY Dawson 57.30 339 P **P 13 28 42.3 +0.7**
baz=127
BCAR Beaver Creek A 57.58 337 P **P 13 28 45.1 +1.4**
L27K Beaver Creek, 57.60 337 P **P 13 28 44.7 +0.9**
baz=124
M26K Nabesna, AK 57.68 336 P **P 13 28 45.4 +1.0**
baz=122
I29M Ogilvie Camp, 57.73 340 P **P 13 28 46.5 +1.8**
baz=129
NBMO Morrinhos-CE 57.78 104 *e*P **P 13 28 46.1 +0.3**
EYAK Cordova Ski Ar 57.88 333 P **P 13 28 46.6 +0.9**
baz=118
N25K Chitina, Valde 57.91 335 P **P 13 28 47.1 +1.1**
baz=120
L26K Log Cabin Wild 58.16 336 P **P 13 28 49.0 +1.4**
baz=122
ITQB Itaqui 58.25 140 *e*P **P 13 28 47.6 -1.2**
MENT Mentasta 58.25 336 P **P 13 28 50.9 +2.5**
MENT IAmb IAmb 13 29 05.3
comp=Z,44nm,1.6s
INK Inuvik 58.32 344 LR LR 13 56 13.3
comp=Z,1µm,18.1s,baz=166,slow=38
INK Inuvik 58.32 344 P **P 13 28 48.8 +0.2**
baz=135,SNR=9.8
KLU Klutina 58.41 334 P **P 13 28 50.3 +0.7**
baz=119
BB19B Bebedouro 58.46 127 *e*P **P 13 28 49.4 -1.1**
HARP HAARP 58.54 335 P **P 13 28 51.2 +0.8**
baz=120
JANB Januaria 58.77 119 *e*P **P 13 28 52.5 -0.2**
M24K Tolsona, Glenn 58.81 335 P **P 13 28 53.4 +1.1**
baz=119
SCRK Sand Creek 58.91 337 P **P 13 28 54.4 +1.4**
baz=122
PAX Paxson 58.96 336 P **P 13 28 54.0 +0.7**
baz=120
J26L Joseph Creek 59.04 338 P **P 13 28 55.3 +1.4**
baz=123
RIDG Independent Ri 59.11 337 P **P 13 28 55.3 +1.0**
baz=121
SCM Sheep Creek Mo 59.16 334 P **P 13 28 56.2 +1.4**
baz=118
SFJD Kangerlussuaq 59.32 19 LR LR 13 56 28.8
comp=Z,216nm,18.8s,baz=229,slow=38
A36M Sachs Harbour 59.39 350 P **P 13 28 56.8 +0.8**
baz=146
RES Resolute Bay 59.41 0 LR LR 13 55 59.8
comp=Z,419nm,19.6s,baz=206,slow=38
RES Resolute Bay 59.41 0 P **P 13 28 55.4 -0.7**
RES pmax pmax
comp=Z,25nm,1.4s
KNK Knik Glacier 59.45 333 P **P 13 28 57.9 +1.2**
baz=116
ITAB Concordia 59.54 135 *e*P **P 13 28 58.8 +1.1**
SML Sawmill 59.57 334 P **P 13 28 58.9 +1.3**
SML Sawmill 59.57 334 P **P 13 28 58.9 +1.3**
SML Sawmill 59.57 334 P **P 13 28 58.2 +0.6**
baz=116
WAT6 Susitna Watana 59.68 335 P **P 13 28 59.2 +0.7**
baz=118
NBCL Cascavel-CE 59.73 104 *e*P **P 13 29 00.4 +1.1**
DHY Denali Highway 59.77 335 P **P 13 29 00.2 +1.2**
baz=118
BRSE Bradley Lake S 59.77 331 P **P 13 29 00.1 +1.1**
baz=113
GHO Glory Hole Cre 59.81 334 P **P 13 29 00.2 +1.0**
GHO IAmb IAmb 13 29 08.3
comp=Z,37nm,1.0s
PMR Palmer 59.82 333 P **P 13 29 00.4 +1.2**
baz=116
RC01 Rabbit Creek A 59.87 333 P **P 13 29 00.4 +0.8**
baz=115
OHAK Old Harbor 60.10 328 P **P 13 29 03.6 +2.5**
baz=109
HDA Harding Lake 60.25 337 P **P 13 29 03.3 +1.2**
baz=119,SNR=8.0
PRP Porcupine Dome 60.29 338 P **P 13 29 03.1 +0.5**
PRP Porcupine Dome 60.29 338 P **P 13 29 02.8 +0.3**
baz=121
PLCA Paso Flores 60.30 158 P **P 13 29 02.9 +0.1**
comp=Z,17nm,1.0s,baz=337,slow=8.2,SNR=16
PLCA LR LR 13 50 06.6
comp=Z,354nm,18.2s,baz=342,slow=31
PLCA Paso Flores 60.30 158 *e*P **P 13 29 02.9 +0.1**
IL31 60.40 337 P **P 13 29 03.9 +0.8**
IL31 IAmb IAmb 13 29 11.9
comp=Z,35nm,1.1s
ILAR Eielson Array 60.40 337 P **P 13 29 03.6 +0.4**
comp=Z,3.8nm,0.7s,baz=135,slow=5.0,SNR=53
ILAR LR LR 13 56 05.5
comp=Z,593nm,19.3s,baz=149,slow=37
ILAR Eielson Array 60.40 337 P **P 13 29 04.5 +1.3**
ILAR Eielson Array 60.40 337 P **P 13 29 04.5 +1.3**
NBMA Muriti-CE 60.42 108 *e*P **P 13 29 04.7 +0.6**
NBPN Ponto Novo - B 60.48 112 *e*P **P 13 29 04.3 -0.2**
CUT Chulitna 60.65 334 P **P 13 29 06.2 +1.3**
CUT Chulitna 60.65 334 P **P 13 29 06.4 +1.5**
baz=115
MCK McKinley 60.69 336 P **P 13 29 06.0 +0.8**
baz=117,SNR=6.0
SPB Sao Paulo 60.72 129 *e*P **P 13 29 07.0 +1.1**
VAO Valinhos 60.74 128 *e*P **P 13 29 06.8 +0.6**
POKR Poker Plat Res 60.78 338 P **P 13 29 06.7 +1.0**
POKR IAmb IAmb 13 29 14.5
comp=Z,66nm,1.6s
POKR Poker Plat Res 60.78 338 P **P 13 29 06.7 +1.0**
baz=119
O20K Slope Mountain 60.78 331 P **P 13 29 06.9 +1.1**
baz=111
COLA College 60.81 337 *de*P **P 13 29 06.7 +0.8**
COLA pmax pmax
comp=Z,15nm,1.7s
COLA College 60.81 337 P **P 13 29 07.1 +1.2**
baz=118
TCOL CIGO, UAF Yank 60.82 337 P **P 13 29 07.1 +1.2**
baz=118
DIAM Diamantina, MG 60.87 121 *e*P **P 13 29 06.8 -0.4**
SPU Mount Spurr 60.93 332 P **P 13 29 08.2 +1.3**
RSO Redoubt South 60.98 331 P **P 13 29 08.4 +1.0**
BMAR Burnt Mountain 60.99 340 P **P 13 29 08.4 +1.2**
TRF Thorofare Moun 61.11 335 P **P 13 29 08.8 +0.5**
baz=115
NEA2 Nenana 61.14 337 P **P 13 29 09.3 +1.1**
baz=117
H24K Noodor Dome 61.29 338 P **P 13 29 10.3 +1.1**
baz=119
BSCB Bom Sucesso 61.36 125 *e*P **P 13 29 10.2 -0.2**
I23K Minto, Yukon-K 61.51 337 P **P 13 29 11.4 +0.8**
baz=117,SNR=12
PLTB Pedras Altas 61.57 140 *e*P **P 13 29 10.6 -0.9**
O19K Port Alsworth 61.61 331 P **P 13 29 12.1 +0.7**
baz=110

PPLA Purkeypile 61.66 334 P **P 13 29 12.9 +0.9**
baz=113
BPAW Bear Paw Mtn. 61.67 336 P **P 13 29 12.2 +0.4**
baz=115,SNR=5.1
P18K Big Mountain, 61.78 330 P **P 13 29 13.7 +1.1**
baz=108
CAST Castle Rocks 61.83 335 P **P 13 29 13.9 +1.0**
baz=114,SNR=8.3
N19K Bonanza Creek 61.90 332 P **P 13 29 14.3 +0.8**
baz=110
MLY Manley 61.98 337 P **P 13 29 15.0 +1.1**
baz=116
L20K Farewell, AK 62.23 333 P **P 13 29 16.7 +1.1**
baz=111
M19K Big River Lodg 62.24 333 P **P 13 29 16.8 +1.1**
baz=111
GDU01 Guandu, BA 62.25 115 *e*P **P 13 29 17.2 +0.8**
RCBR Riachuelo 62.52 105 *e*P **P 13 29 19.2 +0.9**
RCBR Riachuelo 62.52 105 IAMs_20 IAMs_20 13 57 59.7
comp=Z,770nm,20.0s
I21K Tanana 62.52 337 P **P 13 29 18.5 +1.1**
baz=114
K20K Telida 62.63 334 IAMs_20 IAMs_20 13 54 13.4
comp=Z,617nm,20.0s
K20K Telida 62.63 334 P **P 13 29 19.1 +0.9**
baz=112
PPT2 Papeete2 62.64 241 *e*LR LR 13 47 45.3
comp=Z,320nm,27.0s
PPT2 Papeete2 62.64 241 *e*LR LR 13 47 45.8
comp=Z,320nm,27.0s
COLD Coldfoot 62.77 339 P **P 13 29 20.0 +0.9**
baz=117
TULEG Thule 62.82 7 P **P 13 29 19.2 0.0**
TULEG IAmb IAmb 13 30 12.0
comp=Z,41nm,1.2s
NBIT Itapeh - BA 62.89 116 *e*P **P 13 29 21.1 +0.4**
J20K Nowinta River 62.97 335 P **P 13 29 20.8 +0.4**
baz=112
CMC01 Camacan, BA 63.01 116 *e*P **P 13 29 21.6 +0.2**
H21K Melozitna Rive 63.03 337 P **P 13 29 20.8 0.0**
baz=114
VAS01 Vassouras-RJ 63.09 125 *e*P **P 13 29 22.1 +0.2**
SJMB Sao Joao De Ma 63.13 121 *e*P **P 13 29 22.7 +0.5**
TOLK Toolik Lake Re 63.23 341 P **P 13 29 22.9 +0.7**
baz=119
NBPV Pedro Velho 63.29 105 *e*P **P 13 29 22.9 -0.6**
TTA Tatalina 63.30 333 P **P 13 29 23.1 +0.3**
baz=110
GUA01 Guaratinga, BA 63.31 118 *e*P **P 13 29 24.3 +0.9**
NBAN Anadia - AL 63.56 109 *e*P **P 13 29 26.5 +1.2**
ICESG Greenland Ices 63.92 19 *i*P **P 13 29 23.8 -3.4**
ICESG IAmb IAmb 13 29 30.0
comp=Z,16nm,0.7s
RIB01 Linhares ES 64.08 121 *e*P **P 13 29 27.7 -0.8**
NBRF Rio Formoso - 64.25 108 *e*P **P 13 29 30.3 +0.6**
CAM01 Campos-RJ 64.27 124 *e*P **P 13 29 29.7 0.0**
TBI Tubuai 65.36 235 *e*LR LR 13 49 03.4
comp=Z,253nm,26.8s
TBI Tubuai 65.36 235 *e*LR LR 13 48 10.4
comp=Z,253nm,26.8s
SUMG Summit 65.89 16 P **P 13 29 39.6 -0.4**
SUMG pmax pmax
comp=Z,71nm,1.5s
SUMG Summit 65.89 16 *i*P **P 13 29 39.0 -1.0**
SUMG IAmb IAmb 13 29 43.3
comp=Z,11nm,0.6s
NEEM North Greenlan 66.01 10 *i*P **P 13 29 39.5 -1.0**
NEEM IAmb IAmb 13 29 47.1
comp=Z,16nm,1.0s
A21K Barrow 66.58 342 IAMs_20 IAMs_20 13 59 45.9
comp=Z,375nm,18.0s
RDOG Red Dog Mine 67.59 338 IAMs_20 IAMs_20 13 58 41.1
comp=Z,560nm,19.0s
ANM Nome 67.75 334 P **P 13 29 51.8 +0.3**
baz=101
TNA Tin City 69.00 335 P **P 13 29 59.3 +0.1**
baz=99
BORG Borgarnes 69.49 26 LR LR 14 00 42.5
comp=Z,231nm,19.0s,baz=272,slow=36
DBG Daneborg 71.38 16 *e*P **P 13 30 12.9 -0.8**
DBG IAmb IAmb 13 30 27.2
comp=Z,3.8nm,0.8s
DAG Danmarks Havn 72.19 14 P **P 13 30 18.3 -0.2**
DAG Danmarks Havn 72.19 14 *i*P **P 13 30 17.1 -1.4**
DAG IAmb IAmb 13 30 26.0
comp=Z,12nm,1.0s
RAR Rarotonga 72.86 242 LR LR 13 54 18.4
comp=Z,98nm,19.0s,baz=104,slow=29
NOR Nord 73.33 9 *i*P **P 13 30 24.4 -0.8**
NOR IAmb IAmb 13 30 25.6
comp=Z,2.9nm,0.5s
USHA Ushuaia 73.48 164 LR LR 13 56 26.9
comp=Z,206nm,19.2s,baz=298,slow=31
JMIC Jan Mayen 74.65 20 LR LR 14 05 11.9
comp=Z,233nm,18.0s,baz=270,slow=37
PFVI Vila Bisbo 78.23 55 *e*PcP **PcP 13 31 03.0 -0.5**
PFVI A A 13 31 04.0
comp=Z,196nm,1.5s
PMTG Montargil 78.35 53 *e*PcP **PcP 13 31 03.2 -0.8**
PMTG A A 13 31 04.2
comp=Z,108nm,1.7s
PCVE Castro Verde 78.75 54 *e*PcP **PcP 13 31 04.3 -1.5**
PCVE A A 13 31 06.8
comp=Z,70nm,1.5s
EKA Eskdalemuir Ar 78.83 36 P **P 13 30 55.9 -1.1**
PESTR Estremoz 78.88 53 *e*PcP **PcP 13 31 05.5 -0.8**
PESTR A A 13 31 07.9
comp=Z,72nm,1.5s
MVO Moncorvo 78.88 50 *e*P **P 13 30 57.8 +0.1**
MVO Moncorvo 78.88 50 *e*PcP **PcP 13 31 06.0 -0.4**
PMRV Marv??o 78.92 52 *e*P **P 13 30 57.8 -0.1**
comp=Z,88nm,1.6s
PMRV Marv??o 78.92 52 *e*PcP **PcP 13 31 06.3 -0.2**
PBRG Braganca 78.97 50 *e*PcP **PcP 13 31 06.9 +0.2**
PBRG A A 13 31 07.7
comp=Z,86nm,1.7s
BILL Bilibino 79.06 338‖ *e*P **P 13 30 57.8 -0.2**
BILL *e* 13 31 07.4
BILL *e* 13 33 55.9
BILL pmax pmax
comp=Z,59nm,1.4s
BILL MLR MLR
comp=Z,239nm,15.0s
BILL Bilibino 79.06 338 P **P 13 30 58.7 +0.7**
BILL IAmb IAmb 13 31 06.9
comp=Z,57nm,1.3s
SPITS Spitsbergen Ar 79.48 11 LR LR 14 11 04.4
comp=Z,557nm,18.2s,baz=6.5,slow=39
AFI Afiamalu 80.94 253 LR LR 13 59 59.5
comp=Z,118nm,18.2s,baz=54,slow=30
ESDC Sonseca Array 81.47 51 P **P 13 31 11.5 -0.2**
comp=Z,4.0nm,0.8s,baz=295,slow=3.9,SNR=16
ESDC LR LR 14 03 41.7
comp=Z,409nm,21.1s,baz=298,slow=33
MDT Midelt 82.50 58 LR LR 14 04 01.1
comp=Z,185nm,19.0s,baz=340,slow=33
NB2 NORSAR Subarra 84.56 28 P **P 13 31 27.4 +0.2**
comp=Z,52nm,1.4s,baz=296,slow=5.3
NB2 NORSAR Subarra 84.56 28 P **P 13 31 27.4 +0.2**
baz=296,slow=5.3
NOA NORSAR Array B 84.56 28 P **P 13 31 27.5 +0.2**
comp=Z,6.1nm,1.0s,baz=294,slow=4.9,SNR=8.5
NOA LR LR 14 09 09.2
comp=Z,150nm,18.4s,baz=275,slow=36
DOU Dourbes 84.67 40 P **P 13 31 28.2 +0.3**
BGES Gesves 84.89 39 P **P 13 31 29.8 +0.7**
MEM Membach 85.38 39 P **P 13 31 31.9 +0.5**
BHOU Houvegnez 85.46 39 P **P 13 31 32.5 +0.6**
BTNL Ternell 85.46 39 P **P 13 31 32.1 +0.2**
WLF Walferdange 85.76 40 *e*P **P 13 31 33.6 +0.2**
comp=Z,14nm,0.8s,baz=292,slow=4.7
WLF Walferdange 85.76 40 P **P 13 31 33.4 0.0**
ARCES ARCESS Array B 85.93 18 P **P 13 31 34.1 +0.3**
comp=Z,3.1nm,0.7s,baz=300,slow=4.9,SNR=8.6
AHRW Bad Neuenahr-A 86.04 39 *e*P **P 13 31 36.1 +1.3**
comp=Z,11nm,0.8s,baz=292,slow=4.7
SEY Seymchan 86.24 335⇑ *e*P **P 13 31 36.4 +0.9**
BSEG Bad Segeberg 86.73 35 *e*P **P 13 31 38.6 +0.5**
comp=Z,5.7nm,0.7s,baz=292,slow=4.7
ECH Echery 86.86 41 P **P 13 31 42.0 +3.1**
TNS Taunus Mts 86.98 39 *e*P **P 13 31 39.3 -0.2**
comp=Z,11nm,0.7s,baz=292,slow=4.7
NRDL Niedersach Rie 87.14 36 *e*P **P 13 31 41.8 +1.7**
comp=Z,68nm,1.6s,baz=292,slow=4.7
GTTG Gottingen 87.41 37 *e*P **P 13 31 43.2 +1.8**
comp=Z,11nm,0.9s,baz=292,slow=4.7
KOWA Kowa 87.52 76 P **P 13 31 42.8 +0.1**
CLZ Clausthal 87.54 37 *e*P **P 13 31 43.3 +1.2**
comp=Z,4.6nm,0.8s,baz=292,slow=4.7
BFO Black Forest 87.56 40 P **P 13 31 42.7 +0.4**
BFO pmax pmax
comp=Z,43nm,1.7s
BFO Black Forest 87.56 40 *e*P **P 13 31 43.6 +1.3**
comp=Z,6.0nm,1.0s,baz=292,slow=4.7
BFO Black Forest 87.56 40 P **P 13 31 42.7 +0.4**
BFO IAmb IAmb 13 31 52.1
comp=Z,43nm,1.7s
ASSE Asse, Remlinge 87.60 36 *e*P **P 13 31 44.9 +2.6**
comp=Z,20nm,1.3s,baz=292,slow=4.7
UBBA Unterbreizbach 87.69 38 *e*P **P 13 31 44.0 +1.4**
comp=Z,35nm,1.6s,baz=292,slow=4.7
PETK Petropavlovsk- 87.74 325 LR LR 14 08 02.9
comp=Z,138nm,21.8s,baz=40,slow=34
FLTG Flechtingen 87.85 36 *e*P **P 13 31 44.9 +1.4**
comp=Z,13nm,1.2s,baz=292,slow=4.7
STU Stuttgart 87.94 40 P **P 13 31 47.6 +3.5**
STU Stuttgart 87.94 40 *e*P **P 13 31 44.9 +0.9**
comp=Z,17nm,0.7s,baz=292,slow=4.7
TIXI Tiksi 88.32 347 LR LR 14 15 48.4
comp=Z,329nm,20.4s,baz=359,slow=39
TIXI Tiksi 88.32 347‖ *e*P **P 13 31 45.3 -0.1**
TIXI pmax pmax
comp=Z,34nm,1.6s
TIXI Tiksi 88.32 347 IAMs_20 IAMs_20 14 15 48.0
comp=Z,361nm,21.0s
MA2 Magadan 88.47 332⇑ *e*P **P 13 31 49.4 +3.0**
MA2 pmax pmax
comp=Z,29nm,1.4s
MA2 Magadan 88.47 332 P **P 13 31 46.2 -0.1**
MA2 IAmb IAmb 13 31 55.2
comp=Z,32nm,1.3s
MOX Moxa 88.71 38 *e*P **P 13 31 47.6 -0.1**
comp=Z,3.1nm,0.8s,baz=292,slow=4.7
MOX *e*L L 14 11 50.4
comp=Z,256nm,20.6s
DBIC Dimbokro 88.75 83 P **P 13 31 49.6 +1.1**
comp=Z,4.8nm,0.7s,baz=274,slow=5.4,SNR=3.7
DBIC LR LR 14 10 37.4
comp=Z,101nm,19.4s,baz=298,slow=35
GRF Grafenberg Arr 88.84 39 *e*P **P 13 31 49.6 +1.2**
comp=Z,30nm,1.3s,baz=292,slow=4.7
GRF *e*L L 14 12 35.3
comp=Z,305nm,19.5s
DAVA Damuels 88.91 41 *e*P **P 13 31 52.6 +3.7**
comp=Z,30nm,1.6s
UBR Ueberruh 88.91 41 *e*P **P 13 31 50.5 +1.7**
comp=Z,7.2nm,0.9s,baz=292,slow=4.7
DAVOX Davos/Dischmat 89.09 42 LR LR 14 10 29.4
comp=Z,183nm,18.8s,baz=281,slow=35
GUNZ Gunzen 89.24 38 *e*P **P 13 31 50.9 +0.7**
comp=Z,20nm,1.4s,baz=292,slow=4.7
CLL Collm 89.26 37 *e*P **P 13 31 49.0 -1.2**
CLL *e* 13 42 18.0
CLL *e*S **ScS 13 42 43.0 -1.7**
CLL Collm 89.26 37 *e*P **P 13 31 50.0 -0.2**
CLL *e*PP **PP 13 35 20.0 -0.3**
CLL *e*SKSac **SKSac 13 42 18.0 -2.4**
CLL *e*S **ScS 13 42 43.0 -1.7**
CLL *e*PS **PnS 13 43 43.0 -1.3**
CLL *e*x x 13 45 12.0
CLL *e*SS **SS 13 48 24.0 -9.3**
CLL *e*x x 13 49 42.0
CLL *e*SSS SSS 13 52 30.0
CLL Lm MLR 14 24 00.0
comp=Z,200nm,18.4s
TANN Tannenbergstha 89.30 38 *e*P **P 13 31 51.3 +0.7**
comp=Z,5.2nm,1.0s,baz=292,slow=4.7
WERN Wernitzgruen 89.30 38 *e*P **P 13 31 51.4 +1.0**
comp=Z,10nm,1.1s,baz=292,slow=4.7
NKC Novy Kostel 89.36 38 *e*P **P 13 31 54.9 +4.1**
NKC Novy Kostel 89.36 38 *e*P **P 13 31 54.9 +4.1**
RETA Reutte 89.39 41 *e*P **P 13 31 54.9 +3.9**
comp=Z,17nm,1.1s
ROTZ Rotzenmuhle 89.40 38 *e*P **P 13 31 51.7 +0.7**
comp=Z,3.1nm,1.4s,baz=292,slow=4.7
FBE Freiberg 89.61 37 *e*P **P 13 31 52.9 +1.0**
comp=Z,5.9nm,1.0s,baz=292,slow=4.7
MOTA Moosalm 89.66 41 *e*P **P 13 31 55.9 +3.5**
comp=Z,9.9nm,0.9s
SQTA Sankt Quirin 89.77 41 *e*P **P 13 31 56.8 +3.9**
comp=Z,20nm,1.6s
BRG Berggiesshubel 89.97 37 Amp 13 32 01.5
comp=Z,8.8nm,1.1s
BRG Berggiesshubel 89.97 37 *e*P **P 13 31 53.0 -0.5**
BRG *e* 13 31 58.9
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 89.97 37 *e*P **P 13 31 53.6 +0.1**
comp=Z,3.9nm,0.9s,baz=292,slow=4.7
BRG Berggiesshubel 89.97 37 *e*P **P 13 31 53.1 -0.5**
BRG Berggiesshubel 89.97 37 Amp 13 31 56.0
comp=Z,7.6nm,1.1s
BRG Berggiesshubel 89.97 37 *ex* x 13 31 58.9
WTTA Wattenberg 90.02 41 *e*P **P 13 31 57.7 +3.5**
comp=Z,19nm,1.7s
WET Wettzell 90.05 39 *e*P **P 13 31 54.9 +0.9**
comp=Z,3.0nm,0.7s,baz=292,slow=4.7
KHC Kasperske Hory 90.48 38 *e*P **P 13 31 56.7 +0.7**
KHC Kasperske Hory 90.48 38 *e*P **P 13 31 56.7 +0.7**
GEC2 GERESS Array S 90.67 39 *e*P **P 13 31 56.8 -0.1**
comp=Z,5.9nm,1.1s,baz=292,slow=4.7
GERES GERESS Array B 90.67 39 P **P 13 31 56.9 -0.1**
comp=Z,1.2nm,0.7s,baz=299,slow=2.7,SNR=10
FINES FINESS Array B 90.70 24 P **P 13 31 57.0 +0.3**
comp=Z,2.8nm,1.0s,baz=278,slow=4.1,SNR=1.7
FINES LR LR 14 15 09.9
comp=Z,222nm,18.9s,baz=312,slow=37
FINES FINESS Array B 90.70 24 P **P 13 31 57.0 +0.3**
ABTA Abfaltersbach 90.78 41 *e*P **P 13 32 00.8 +3.3**
comp=Z,18nm,1.8s
KBA Koelnbreinsper 91.17 40 *e*P **P 13 32 03.0 +3.5**
comp=Z,11nm,1.6s
MSVF Nonsavu 91.41 252 LR LR 14 03 55.0
comp=Z,206nm,21.0s,baz=339,slow=30
MOA Molln 91.42 39 *e*P **P 13 32 03.8 +3.4**
comp=Z,18nm,1.5s
MYKA Terra Mystica 91.54 41 *e*P **P 13 32 04.2 +3.2**
comp=Z,7.0nm,1.1s
DPC Dobruska-Polom 91.57 37 *e*P **P 13 32 01.3 +0.2**
DPC Dobruska-Polom 91.57 37 *e*P **P 13 32 01.3 +0.2**
KRUC Moravsky 92.18 38 *e*P **P 13 32 04.0 +0.1**
VRAC Vranov 92.19 37 *e*P **P 13 32 04.4 +0.5**
CONA Conrad Observa 92.36 39 *e*P **P 13 32 05.6 +0.8**
comp=Z,15nm,1.5s
SOKA Soboth 92.39 40 *e*P **P 13 32 05.2 +0.2**
comp=Z,14nm,1.5s
ARSA Arzberg 92.45 40 *e*P **P 13 32 05.5 +0.3**
comp=Z,4.4nm,1.4s
MORC Moravsky Berou 92.53 37 *e*P **P 13 32 05.9 +0.4**
KEST Kesra 92.70 52 P **P 13 32 06.8 +0.2**
comp=Z,5.9nm,0.8s,baz=306,slow=5.3,SNR=3.7
KEST LR LR 14 10 28.3
comp=Z,162nm,19.1s,baz=294,slow=34
ZST Bratislava 92.99 38 *e*P **P 13 32 08.4 +0.8**
ZST Bratislava 92.99 38 *e*P **P 13 32 08.4 +0.8**
MODS Modra-Piesok 93.01 38 *e*P **P 13 32 07.5 -0.3**
MODS Modra-Piesok 93.01 38 *e*P **P 13 32 07.5 -0.3**
TORD Torodi Ar. Bea 93.23 76 P **P 13 32 09.3 -0.1**
comp=Z,1.0nm,0.7s,baz=298,slow=4.3,SNR=5.1
TORD Torodi Ar. Bea 93.23 76 IAmb IAmb 13 32 17.8
comp=Z,16nm,1.8s
NACGM Naroch 94.75 29 *i*P **P 13 32 14.5 -1.0**
YAK Yakutsk 95.20 340 LR LR 14 20 34.6
comp=Z,221nm,18.7s,baz=82,slow=39
YAK Yakutsk 95.20 340 *e*P **P** 13 32 23.4 +6.0
YAK pmax pmax
comp=Z,11nm,1.4s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK Yakutsk 95.20 340 IAMs_20 IAMs_20 14 20 24.3
comp=Z,240nm,18.0s
MNK Minsk 95.50 29 *i*P **P 13 32 18.2 -0.8**
MNK *i* 13 36 08.9
MNK *i*PPP PPP 13 38 09.1
MNK *i*S **SKSac 13 42 53.9 -1.3**
MNK *i*SS **SS 13 50 02.3 -0.2**
MNK *i*SSS SSS 13 53 45.1
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,21nm,1.3s
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK MLR MLR
comp=N,72nm,16.0s
MNK MLR MLR
comp=Z,136nm,15.0s
MNK MLR MLR
comp=E,21nm,17.0s
MNK Minsk 95.50 29 *i*P **P 13 32 18.3 -0.7**
comp=E,1.0nm,0.9s
MNK *i*P **P 13 32 18.3 -0.7**
comp=N,21nm,1.3s,baz=306
MNK *i*P **P 13 32 18.3 -0.7**
comp=Z,5.0nm,0.7s
MNK *i*PP **PP 13 36 09.0 -0.3**
MNK *i*PPP PPP 13 38 09.2
MNK *i*S **SKSac 13 42 54.0 -1.3**
MNK *i*SS **SS 13 50 02.3 -0.2**
MNK *i*SSS SSS 13 53 45.1
MNK *i*LQ LQ 14 09 23.0
MNK *i*LR LR 14 13 54.5
MNK *i*LRM MLR 14 15 54.1
comp=N,72nm,15.9s
MNK *i*LRM MLR 14 16 01.1
comp=Z,136nm,14.6s
MNK *i*LRM MLR 14 16 04.3
comp=E,21nm,17.2s
NRIK Noril'sk 95.58 359 LR LR 14 22 46.3
comp=E,121nm,18.3s,baz=19,slow=40
NRIK Noril'sk 95.58 359‖ *e*P **P 13 32 21.6 +2.5**
NRIK pmax pmax
comp=Z,8.0nm,1.8s
VAE Valguarnera 95.80 49 LR LR 14 12 14.0
comp=Z,409nm,19.5s,baz=354,slow=34
UZH Uzhgorod 95.81 36 *e*P **P 13 32 20.2 -0.3**
UZH *i* 13 32 24.7
KLMR Klimovskoe 96.03 20 *e*P **P 13 32 21.9 +0.6**
KLMR *e* 13 36 13.0
KLMR *e*SS SS 13 50 09.0 -0.6
KLMR pmax pmax
comp=Z,14nm,1.3s
KLMR Klimovskoe 96.03 20 *e*P **P 13 32 21.9 +0.6**
KLMR AMP 13 32 27.3
comp=Z,14nm,1.3s
KLMR *e*PP **PP 13 36 13.0 -0.1**
KLMR *e*SS **SS 13 50 09.1 -0.5**
KLMR *e*SS **SS 13 50 09.1 -0.5**
PRGR Permogore 97.36 18 *e*P **P 13 32 25.2 -2.0**
PRGR pmax pmax
comp=Z,30nm,1.3s
URZ Urewera 97.39 232 LR LR 14 05 55.1
comp=Z,72nm,21.4s,baz=31,slow=29
AKASG Malin Array Be 98.41 32 P Pdif 13 32 34.0 +1.7
comp=Z,0.7nm,0.6s,baz=284,slow=4.6,SNR=2.5
OBN Obninsk 98.99 26 LR LR 14 18 39.5
comp=Z,40nm,19.4s,baz=354,slow=36
OBN Obninsk 98.99 26 *e*P Pdif 13 32 36.5 +1.8
OBN *e* 13 36 39.3
OBN *e*PPP PPP 13 38 46.1
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN MLR MLR
comp=Z,200nm,19.0s
DZM Mont Dzumac 103.03 250 *e*LR LR 14 06 43.0
comp=Z,145nm,23.5s
SNAA Sanae 105.18 161 IAMs_20 IAMs_20 14 10 40.9
comp=Z,190nm,18.0s
NEY Neytrino 110.24 31 *i*PKIKP **PKiKP 13 37 24.6 -2.0**
BRVK Borovoye 110.83 9 IAMs_20 IAMs_20 14 28 34.0
comp=Z,284nm,22.0s
ZALV Zalesovo Beam 111.06 360 PP **PP 13 38 08.2 +3.3**
comp=Z,4.3nm,1.1s,baz=342,slow=7.6,SNR=9.1
KURK Kurchatov 114.08 4 IAMs_20 IAMs_20 14 28 46.3
comp=Z,231nm,21.0s
BJT Baijiatuau 117.65 333 IAMs_20 IAMs_20 14 34 38.4
comp=Z,249nm,18.0s
MKAR Makanchi Array 118.18 2 PKP **PKPdf 13 37 40.6 -0.9**
comp=Z,0.6nm,0.9s,baz=355,slow=2.8,SNR=3.6
HHC Hu-ho-hao-te 118.83 337 *e*PKP **PKPdf 13 37 39.6 -3.4**
HHC LR LR
comp=Z,260nm,15.9s
HHC LR LR
comp=Z,210nm,15.1s
SYO Syowa Base 119.34 163‖ *e*PKPdf **PKiKP 13 37 43.9 +1.0**
SYO Syowa Base 119.34 163‖ *e*pPKPdf pPKPdf 13 37 47.0 +1.7
WMQ Urumqi 121.12 357 *e*PKP **PKiKP 13 37 49.1 +1.7**
WMQ LR LR
comp=Z,130nm,21.5s
AAK Ala-Archa 121.62 9‖ *i*PKIKP **PKPdf 13 37 48.1 -0.3**
NJ2 Nanjing 122.64 325 *e*PKP **PKiKP 13 37 50.9 +0.3**
GTA Gaotai 123.78 346 *e*PKP **PKiKP 13 37 55.6 +2.7**
GTA PP PP 13 39 43.4 +9.5
GTA AMB AMB
comp=Z,100nm,6.8s
GTA LR LR
comp=Z,160nm,17.1s
GTA LR LR
comp=Z,190nm,19.6s
KSH Kashi 124.89 8 PKP **PKiKP 13 37 59.5 +4.4**
XAN Xi'an 125.78 335 PKP **PKiKP 13 38 02.8 +5.9**
LZH Lanzhou 125.78 341 *e*PKP **PKiKP 13 38 00.0 +3.0**
LZH LR LR
comp=Z,220nm,17.4s
LZH LR LR
comp=Z,230nm,17.3s
LZH LR LR
comp=Z,310nm,18.4s
STKA Stephens Creek 125.83 242 PKP **PKPdf 13 37 56.0 -0.5**
comp=Z,3.5nm,0.8s,baz=64,slow=2.2,SNR=4.8
GOMU GeErMu 127.91 350 PKP **PKiKP 13 38 06.3 +4.8**
CD2 Chengdu 130.53 338 PKP **PKPdf 13 38 05.1 -0.5**
WRAB Tennant Creek 132.52 257‖ *e*PKIKP **PKPdf 13 38 09.0 -0.6**
WRA Warramunga Arr 132.53 257 PKP **PKPdf 13 38 09.3 -0.3**
comp=Z,2.9nm,1.1s,baz=84,slow=1.8,SNR=8.8
ASAR Alice Springs 133.00 252 PKP **PKPdf 13 38 10.1 -0.3**
comp=Z,1.7nm,0.8s,baz=100,slow=2.1,SNR=11
PZH PanZhiHua 135.26 338 PKP **PKiKP 13 38 16.8 +0.5**
CHTO Chiang Mai 143.31 337 PKIKP **PKiKP 13 38 33.7 +1.0**
CMAR Chiang Mai Arr 143.64 337 PKP **PKPdf 13 38 29.8 -0.3**
comp=Z,4.6nm,0.9s,baz=336,slow=3.2,SNR=16
SRSP Sriramsagar 145.45 11 *e*PKPbc **PKPab 13 38 35.0 +1.8**
RPR Rampur 145.67 9 *e*PKPdf **PKiKP 13 38 36.1 -1.5**
KLRI Killari 145.93 14 *e*PKPdf **PKPab 13 38 36.2 +1.1**
PSA00 Pilbara Seismi 146.07 254 PKPdf **PKPdf 13 38 34.1 0.0**
PSA00 Pilbara Seismi 146.07 254 PKPdf **PKPdf 13 38 34.2 +0.1**
CHLP Challavanipeta 146.43 1 *e*PKPbc **PKiKP 13 38 38.7 -0.4**
HYBB Hyderabad (bro 146.96 11 *e*PKPbc **PKPab 13 38 39.4 +0.4**
HYBB *e*PP **PP 13 42 05.1 +5.0**
HYBB *e*SKSdf **SKSdf 13 45 45.6 +0.4**
HYBB *e*SKKSac **SKKSac 13 48 58.4 +4.1**
CUPL Choutuppal 147.15 10 *e*PKPdf **PKPbc 13 38 38.8 +0.6**
PVM Polavaram 147.54 5 *e*PKPbc **PKPab 13 38 40.9 -0.3**
MYLAV Mylavaram 147.93 7 *e*PKPdf **PKPbc 13 38 40.2 -0.1**
NJS Nagarjunasagar 147.94 10 *e*PKPdf **PKPbc 13 38 40.1 -0.2**
SRLM Srisailam 148.31 11‖ *e*PKPdf **PKPbc 13 38 40.1 -1.3**
ADKI Addanki 148.74 9 *e*PKPdf **PKPbc 13 38 41.7 -0.7**
MYKOM Kota Tinggi 154.53 310 IAMs_20 IAMs_20 15 02 30.9
comp=Z,144nm,20.0s
PMBI Palembang 156.67 300 IAMs_20 IAMs_20 15 02 40.0
comp=Z,165nm,20.0s

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*IDC **06** 13:28:53.9± 12.0, 19°.22N× 145°.33E, h283km± 134km, mb3.2/9, mb1 3.5/9, mb1mx3.0/53, mbtmp3.8/9, Error ellipse: s-maj=46.8km s-min=15.3km az=90.0*

ISC 06 13:28:47.0±0.9, 19°.2N±0°.2×145°.5E±0°.2, h214km, n9,
σ1°9 01/9, mb3.6/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op		Time h m s	Res ISC
KSRS	**Korea Array**	**23.76**	**323**	P	**P**	**13 33 40.9**	**+1.0**
	0.6nm,0.6s,baz=148,slow=8.5,SNR=2.3						
WRA	**Warramunga Arr**	**40.42**	**196**	P	**P**	**13 36 04.9**	**+0.2**
	1.7nm,0.6s,baz=21,slow=8.5,SNR=27						
SONM	**Songino Array**	**42.59**	**321**	P	**P**	**13 36 22.5**	**+0.3**
	0.4nm,0.8s,baz=136,slow=6.4,SNR=2.0						
ASAR	**Alice Springs**	**44.10**	**195**	P	**P**	**13 36 34.3**	**0.0**
	0.5nm,0.5s,baz=253,slow=6.0,SNR=20						
ILAR	**Eielson Array**	**63.27**	**26**	P	**P**	**13 38 51.9**	**-0.8**
	0.5nm,0.5s,baz=253,slow=6.0,SNR=12						
INK	**Inuvik**	**68.98**	**23**	P	**P**	**13 39 29.6**	**+0.8**
	1.7nm,0.4s,baz=284,slow=4.2,SNR=17						

YKA	**Yellowknife Ar**	**77.63**	**28**	P		**P**	**13 40 19.6**	**+0.1**
	0.5nm,0.5s,baz=289,slow=5.5,SNR=10							
NVAR	**Mina Array Bea**	**83.00**	**52**	P		**P**	**13 40 49.3**	**+0.5**
	1.1nm,0.7s,baz=262,slow=5.4,SNR=6.6							
FINES	**FINESS Array B**	**86.31**	**335**	P		**P**	**13 41 02.7**	**-1.9**
	1.0nm,0.8s,baz=60,slow=5.6,SNR=1.1							

BER 06 13:29:36.0±0.7,59°92N×10°50E,h0km,ML1.1,
Suspected explosion,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSL	**Oslo**	**0.11**	**81**	*eP*	Pg	13 29 37.9	-0.3
OSL				*eS*	Sg	13 29 39.5	0.0
OSL				IAML		13 29 41.0	
	comp=Z,206nm,0.3s						
NAO01	**NORSAR Array S**	**0.95**	**11**	*eS*	Sg	13 30 06.1	-0.3
NC602	**NORSAR Array S**	**0.97**	**32**	*eP*	Pg	13 29 53.1	-1.4
NC602				*eS*	Sg	13 30 06.3	-0.7
NC602				IAML		13 30 12.0	
	comp=Z,3.1nm,0.2s						
NB201	**NORSAR Array S**	**1.20**	**19**	*eP*	Pg	13 29 57.3	-1.7
NB201				*eS*	Sg	13 30 12.8	-1.7
NB201				IAML		13 30 17.5	
	comp=Z,4.6nm,0.3s						
SKAR	**Skarslia**	**1.33**	**306**	*eP*	Pg	13 29 60.0	-1.6
SKAR				*eS*	Sg	13 30 17.3	-1.6
SKAR				IAML		13 30 22.7	
	comp=Z,7.9nm,0.4s						
NC204	**NORSAR Array S**	**1.37**	**5**	*eP*	Pg	13 30 00.7	-1.4
NC204				*eS*	Sg	13 30 18.1	-1.7
NC204				IAML		13 30 21.1	
	comp=Z,3.2nm,0.3s						
NC303	**NORSAR Array S**	**1.38**	**18**	*eP*	Pg	13 30 00.8	-1.6
NC303				*eS*	Sg	13 30 18.8	-1.4
NC303				IAML		13 30 25.1	
	comp=Z,2.4nm,0.5s						

LDG 06 13:29:48.1±0.1,44°38N×6°68E,h2km,Md1.3/1,Ml1.1/1,
Error ellipse: s-maj=1.7km s-min=1.3km az=41.0,
France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.36**	**10**	*ePg*	Pg	13 29 55.5	+0.5
MBDF				*eSg*	Sg	13 29 59.7	0.0
	1.0nm,0.2s						
SBF	**Sospel**	**0.75**	**133**	*ePg*	Pg	13 30 01.7	-0.7
SBF				*eSg*	Sg	13 30 10.2	-1.9
	7.6nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.79**	**314**	*ePg*	Pg	13 30 03.0	-0.2
ORIF				*eSg*	Sg	13 30 13.6	+0.2
	0.6nm,0.2s						
FRF	**La Foret Royal**	**0.81**	**182**	*ePg*	Pb	13 30 04.4	-0.6
FRF				*eSg*	Sg	13 30 14.7	+0.5
	3.6nm,0.3s						
SMRF	**Simiane la Rot**	**0.89**	**244**	*ePg*	Pg	13 30 04.6	-0.5
SMRF				*eSg*	Sg	13 30 16.6	0.0
	0.6nm,0.3s						

*IDC **06** 13:32:32.2±4.1, 15°33N×95°04W, h0km, mb3.3/3, mb1 3.8/4, mb1mx3.3/46, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=78.3km s-min=41.7km az=117.0*
*MEX **06** 13:32:33.8±1.2, 15°08N×95°45W, h16km±63km, MD4.1*
*NEIC **06** 13:32:34.8±1.8, 15°35N±0°03×95°40W±0°02, h20km±11km, mb4.0/3, Md4.1/13(MEX), Error ellipse: s-maj=5.0km s-min=3.0km az=174.0*

ISC 06 13:32:33.7±1.0,15°27N±0°07×95°30W±0°04,h24km,n28,
σ2s18/36,mb3.2/3,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.92**	**303**		**Pb**	**13 32 48.7**	**-2.3**
HUIG					**Sb**	**13 32 59.2**	**-3.6**
HUIG	**Huatulco**	**0.92**	**303**	*eP*	**Pb**	**13 32 48.7**	**-2.3**
HUIG				*eS*	**Sb**	**13 32 59.2**	**-3.6**
CMIG	**Matias Romero**	**1.85**	**13**	Pn	**Pn**	**13 33 04.3**	**+0.3**
	30nm,0.3s,baz=182,slow=11,SNR=95						
CMIG				Sn	**Sb**	**13 33 28.0**	**-1.7**
	149nm,0.3s,baz=20,slow=23,SNR=16						
CMIG	**Matias Romero**	**1.85**	**13**		**Pb**	**13 33 05.0**	**-1.9**
CMIG					**Sb**	**13 33 28.4**	**-1.3**
CMIG	**Matias Romero**	**1.85**	**13**	*eP*	**Pb**	**13 33 05.0**	**-1.9**
CMIG				*eS*	**Sb**	**13 33 28.4**	**-1.3**
PCIG		**2.06**	**78**		**Pn**	**13 33 06.6**	**-0.2**
PCIG					**Sn**	**13 33 32.0**	**+0.3**
PCIG		**2.06**	**78**	*eP*	**Pn**	**13 33 06.6**	**-0.2**
PCIG				*eS*	**Sn**	**13 33 32.0**	**+0.3**
UXUV	**UXUV**	**2.32**	**28**	*eP*	**Pn**	**13 33 11.4**	**+0.9**
TGIG		**2.58**	**54**		**Pb**	**13 33 16.1**	**-3.2**
TGIG		**2.58**	**54**	*eP*	**Pb**	**13 33 16.1**	**-3.2**
PATR	**El Naranjo**	**2.97**	**93**	*eP*	**Pn**	**13 33 19.2**	**-0.4**
PAVE	**Pavencul**	**3.02**	**91**	*eP*	**Pn**	**13 33 20.5**	**+0.2**
CHUJ	**Union Juarez**	**3.09**	**93**	*eP*	**Pn**	**13 33 21.3**	**0.0**
CHUJ				*eS*	**Sn**	**13 33 51.5**	**-6.1**
CCIG	**Comitan**	**3.21**	**71**		**Pn**	**13 33 25.3**	**+2.5**
CCIG	**Comitan**	**3.21**	**71**	*eP*	**Pn**	**13 33 25.3**	**+2.5**
HUEH	**Huehuetenango**	**3.67**	**89**	Pn	**Pn**	**13 33 29.0**	**-0.2**
TLIG	**Tlapa**	**3.87**	**306**	Pn	**Pn**	**13 33 31.6**	**-0.3**
PETF	**Flores**	**5.48**	**72**	Pn	**Pn**	**13 33 54.4**	**+0.5**
MTO3	**Montecristo**	**5.81**	**98**		**Pn**	**13 34 00.0**	**+1.3**
SNET	**Serv Nac Est T**	**6.09**	**104**	Pn	**Pn**	**13 34 05.7**	**+3.3**
TX31	**Lajitas Ar. Si**	**15.98**	**333**	Pn	**Pn**	**13 36 16.9**	**-0.3**
TX31				IAmb	IAmb	13 36 37.2	
	comp=Z,38nm,1.9s						
TX32	**Lajitas Array**	**15.98**	**333**	Pn	**Pn**	**13 36 17.2**	**0.0**
TX32				IAmb	IAmb	13 36 37.3	
	comp=Z,14nm,1.9s						
TXAR	**Lajitas Array**	**15.98**	**333**	Pn	**P**	**13 36 20.5**	**0.0**
	comp=Z,0.0nm,0.3s,baz=149,slow=14,SNR=6.3						
TXAR	**Lajitas Array**	**15.98**	**333**	Pn	**Pn**	**13 36 16.7**	**-0.5**
ABTX	**Abilene, Hawle**	**17.72**	**348**		**P**	**13 36 39.5**	**-0.2**
ABTX				IAmb	IAmb	13 36 57.7	
	comp=Z,12nm,1.1s						
NVAR	**Mina Array Bea**	**30.71**	**323**	P	**P**	**13 38 50.5**	**+3.4**
	comp=Z,0.2nm,0.5s,baz=135,slow=12,SNR=2.7						
YKA	**Yellowknife Ar**	**49.10**	**348**	P	**P**	**13 41 21.0**	**+2.0**
	comp=Z,0.1nm,0.5s,baz=155,slow=7.4,SNR=4.0						
ILAR	**Eielson Array**	**60.43**	**337**	P	**P**	**13 42 43.5**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=136,slow=14,SNR=4.1						

*TUL **06** 13:34:25.2±1.0, 35°66N±0°01×97°39W±0°02, h6km±5km, ML2.6, ML2.3/28(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=80.0*

NEIC 06 13:34:25.2±0.5,35°67N±0°02×97°39W±0°03,h10km±2km,
Error ellipse: s-maj=3.5km s-min=1.6km az=125.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.09**	**196**	Pg	Pg	13 34 27.5	-0.1
OK025	**Westminster Rd**	**0.10**	**152**	Pg	Pg	13 34 27.7	0.0
BCOK	**Bluff Creek, N**	**0.18**	**267**	Pg	Pg	13 34 29.0	+0.1
OKCFA	**Oklahoma City**	**0.25**	**191**		Pg	13 34 30.6	+0.2
OKCFA				IAML		13 34 34.7	
	comp=E,654nm,0.5s						
FNO	**Franklin**	**0.41**	**181**	Pg	Pg	13 34 33.4	+0.3
OK031	**S. Brethren Rd**	**0.54**	**57**	Pg	Pg	13 34 35.7	+0.2
OK031				IAML		13 34 43.3	
	comp=E,204nm,0.1s						
OK031				IAML		13 34 43.5	
	comp=E,194nm,0.3s						
OK034	**N. Norfolk Rd.**	**0.65**	**58**	Pg	Pg	13 34 37.8	0.0
OK034				IAML		13 34 47.1	
	comp=E,235nm,0.1s						
W35A	**Tecumseh**	**0.67**	**140**	Pg	Pg	13 34 37.9	-0.1
QUOK	**Quay**	**0.75**	**48**	Pg	Pg	13 34 39.6	-0.1
QUOK				IAML		13 34 50.2	
	comp=E,118nm,0.3s						
QUOK				IAML		13 34 53.0	
	comp=N,134nm,0.2s						
CROK	**Carrier**	**0.96**	**330**	Pg	Pg	13 34 43.5	-0.3
CROK				IAML		13 35 06.8	
	comp=N,106nm,0.2s						
X34A	**Smith Ranch, M**	**1.12**	**199**	Pg	Pb	13 34 46.6	-0.1
X34A				IAML		13 35 03.2	
	comp=N,55nm,0.2s						
X34A				IAML		13 35 03.4	
	comp=E,54nm,0.5s						
GC02	**Grant County #**	**1.24**	**342**		Pn	13 34 48.6	-0.1
TUL1	**Leonard**	**1.32**	**79**		Pn	13 34 49.3	-0.4
TUL1				IAML		13 35 08.5	
	comp=E,60nm,0.3s						
TUL1				IAML		13 35 13.9	
	comp=N,71nm,0.5s						
WMOK	**Wichita Mounta**	**1.47**	**231**		Pn	13 34 51.8	+0.1
WMOK				IAML		13 35 15.4	
	comp=N,36nm,0.7s						

*IDC **06** 13:37:00.7±2.2, 16°03S×174°24W, h129km±20km, mb3.8/13, mb1 4.0/15, mb1mx3.7/35, mbtmp4.2/15, MS3.1/1, Ms1 3.1/1, ms1mx2.6/61, Error ellipse: s-maj=23.3km s-min=11.8km az=130.0*
*NEIC **06** 13:37:01.6±2.1, 16°09S±0°09×174°03W±0°10, h133km±6km, mb4.6/23, Error ellipse: s-maj=13.7km s-min=12.6km az=125.0*

ISC 06 13:37:02.6±0.5,16°01S±0°08×174°09W±0°08,h150km,
n82,σ1s39/73,mb4.3/24,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.06**	**47**	P	**Pn**	**13 37 50.3**	**-0.5**
	156nm,0.3s,baz=238,slow=9.5,SNR=554						
AFI				S	**Sn**	**13 38 24.9**	**-3.2**
	739nm,0.3s,baz=99,slow=14,SNR=15						
AFI				LR	LR	13 38 26.2	
	comp=Z,47nm,21.3s,baz=123,slow=27						
NIUE	**Niue**	**5.00**	**128**	Pn	**Pn**	**13 38 14.7**	**-1.4**
MSVF	**Nonsavu**	**7.72**	**256**	P	Pn	13 38 57.3	+4.8
	2.4nm,0.3s,baz=100,slow=12,SNR=45						
MSVF	**Nonsavu**	**7.72**	**256**		Pn	13 38 57.4	+5.0
MARNC	**Mare, Loyalty**	**17.78**	**249**	P	**Pn**	**13 41 00.0**	**-0.9**
PINNC	**Pines Island,**	**18.62**	**246**	P	**Pn**	**13 41 09.7**	**-1.1**
OUENC	**Ouen Island, N**	**19.10**	**248**	P	**P**	**13 41 13.0**	**-0.9**
DZM	**Mont Dzumac**	**19.36**	**249**	P	**P**	**13 41 14.9**	**-2.0**
	0.2nm,0.3s,baz=77,slow=18,SNR=4.6						
DZM	**Mont Dzumac**	**19.36**	**249**	*eP*	**Pn**	**13 41 21.8**	**+2.2**
	130nm,1.1s						
DZM	**Mont Dzumac**	**19.36**	**249**	P	**P**	**13 41 16.6**	**-0.3**
MXZ	**Matakaoa Point**	**22.50**	**196**	P	**P**	**13 41 51.2**	**+1.5**
KUZ	**Kuaotunu**	**22.55**	**202**	P	**P**	**13 41 51.1**	**+1.0**
WMGZ	**Waiomatatini S**	**22.71**	**196**	P	**P**	**13 41 54.0**	**+2.4**
WIAZ	**Waiheke Island**	**22.81**	**203**	P	**P**	**13 41 56.1**	**+3.5**
HAZ	**Te Kaha**	**22.82**	**197**	P	**P**	**13 41 52.8**	**+0.1**
PUZ	**Puketiti**	**22.99**	**196**	P	**P**	**13 41 54.9**	**+0.7**
RUGZ	**Raukumara Rang**	**23.05**	**197**	P	**P**	**13 41 55.1**	**+0.2**
TWGZ	**Tauwhareparae**	**23.16**	**196**	P	**P**	**13 41 58.0**	**+2.2**
OPRZ	**Ohinepanea**	**23.27**	**199**	P	**P**	**13 41 59.1**	**+2.3**
MWZ	**Matawai**	**23.43**	**197**	P	**P**	**13 41 58.7**	**+0.4**
TKGZ	**Te Karaka**	**23.44**	**196**	P	**P**	**13 42 00.4**	**+2.0**
URZ	**Urewera**	**23.48**	**198**	P	**P**	**13 41 57.7**	**-1.0**
	14nm,0.5s,baz=127,slow=20,SNR=13						
URZ				S	**S**	**13 46 02.8**	**+1.7**
	8.0nm,0.7s,baz=121,slow=24,SNR=3.8						
URZ	**Urewera**	**23.48**	**198**	P	**P**	**13 41 59.1**	**+0.4**
URZ	**Urewera**	**23.48**	**198**	IAmb	IAmb	13 42 00.4	
	comp=Z,43nm,1.3s						
TOZ	**Tahuroa Road**	**23.51**	**201**	P	**P**	**13 41 60.0**	**+1.0**
RRRZ	**Republican Roa**	**23.73**	**199**	P	**P**	**13 41 57.2**	**-3.9**
MUGZ	**Murupara**	**23.78**	**198**	P	**P**	**13 42 00.4**	**-1.1**
RTZ	**Ruatahuna**	**23.85**	**198**	P	**P**	**13 42 04.1**	**+1.9**
HRRZ	**Handcock Road**	**23.85**	**199**	P	**P**	**13 42 04.9**	**+2.7**
SNGZ	**Shannon Statio**	**23.90**	**197**	P	**P**	**13 42 04.3**	**+1.7**
TLZ	**Tolley Road**	**24.04**	**200**	P	**P**	**13 42 05.6**	**+1.7**
RAHZ	**Arahi**	**24.10**	**197**	P	**P**	**13 42 05.5**	**+1.1**
MTHZ	**Maungataniwha**	**24.11**	**198**	P	**P**	**13 42 05.5**	**+1.0**
MRHZ	**Matea Rd**	**24.22**	**198**	P	**P**	**13 42 05.3**	**-0.2**
HIZ	**Hauiti**	**24.43**	**201**	P	**P**	**13 42 08.6**	**+1.2**
BKZ	**Black Stump Fm**	**24.50**	**198**	P	**P**	**13 42 07.4**	**-0.6**
BKZ	**Black Stump Fm**	**24.50**	**198**	P	**P**	**13 42 07.1**	**-0.9**
BKZ				IAmb	IAmb	13 42 07.8	
	comp=Z,27nm,1.5s						
MCHZ	**McNeill Hill**	**24.70**	**197**	P	**P**	**13 42 10.9**	**+1.1**
ETVZ	**East Tongariro**	**24.71**	**199**	P	**P**	**13 42 10.3**	**+0.3**
OTVZ	**Oturere**	**24.75**	**199**	P	**P**	**13 42 09.4**	**-1.1**
SNVZ	**South Ngauruho**	**24.78**	**199**	P	**P**	**13 42 10.6**	**-0.1**
BHHZ	**Black Hill Sta**	**24.93**	**198**	P	**P**	**13 42 11.1**	**-0.8**
HNR	**Honiara**	**26.14**	**281**	LR	LR	13 51 01.1	
	comp=Z,50nm,21.4s,baz=102,slow=32						
H11S2	**WAKE ISLAND Hy**	**39.16**	**330**	T	T	14 25 40.0	
	baz=147						
H11S3	**WAKE ISLAND Hy**	**39.17**	**330**	T	T	14 25 41.2	
	baz=147,slow=74						
H11S1	**WAKE ISLAND Hy**	**39.17**	**330**	T	T	14 25 35.2	
	baz=147,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.12**	**332**	T	T	14 26 52.2	
	baz=148						
H11N1	**WAKE ISLAND Hy**	**40.13**	**332**	T	T	14 26 53.3	
	baz=148						
H11N2	**WAKE ISLAND Hy**	**40.14**	**332**	T	T	14 26 54.1	
	baz=148						
COEN	**Coen**	**41.28**	**267**	P	**P**	**13 44 33.9**	**+0.2**
COEN				IAmb	IAmb	13 44 44.3	
	comp=Z,10nm,1.2s						
TOO	**Toolangi**	**41.57**	**231**	P	**P**	**13 44 35.6**	**-0.1**
TOO				IAmb	IAmb	13 44 45.4	
	comp=Z,26nm,1.5s						
STKA	**Stephens Creek**	**43.16**	**240**	P	**P**	**13 44 47.6**	**-1.1**
	comp=Z,7.7nm,1.0s,baz=101,slow=7.6,SNR=6.8						
STKA	**Stephens Creek**	**43.16**	**240**	P	**P**	**13 44 47.4**	**-1.2**
BBOO	**Buckleboo**	**47.94**	**240**	P	**P**	**13 45 24.7**	**-1.5**
BBOO				IAmb	IAmb	13 45 26.7	
	comp=Z,24nm,1.3s						
WB0	**Warramunga Arr**	**49.03**	**258**	P	**P**	**13 45 33.3**	**-1.4**
WB0				IAmb	IAmb	13 45 35.6	
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**49.06**	**257**	P	**P**	**13 45 33.4**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=95,slow=6.7,SNR=37						
WRA	**Warramunga Arr**	**49.06**	**257**	P	**P**	**13 45 33.5**	**-1.5**
AS31	**Alice Springs**	**49.29**	**252**	P	**P**	**13 45 35.4**	**-1.4**
AS31				IAmb	IAmb	13 45 36.9	
	comp=Z,2.1nm,0.8s						
ASAR	**Alice Springs**	**49.30**	**252**	P	**P**	**13 45 35.2**	**-1.5**
	comp=Z,7.5nm,0.7s,baz=89,slow=7.8,SNR=234						
MTN	**Manton Dam**	**53.03**	**266**	P	**P**	**13 46 04.5**	**-0.1**
MTN				IAmb	IAmb	13 46 04.7	
	comp=Z,11nm,1.0s						
KNRA	**Kununurra**	**54.82**	**262**	P	**P**	**13 46 17.7**	**0.0**
PSA00	**Pilbara Seismi**	**62.40**	**254**	P	**P**	**13 47 08.9**	**-1.1**
VNDA	**Vanda**	**62.70**	**186**	P	**P**	**13 47 11.8**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=18,slow=7.7,SNR=3.7						
VNDA	**Vanda**	**62.70**	**186**	IAmb	IAmb	13 47 33.2	
	comp=Z,4.8nm,1.4s						
PETK	**Petropavlovsk-**	**73.01**	**343**	P	**P**	**13 48 16.4**	**+0.7**
	comp=Z,3.2nm,1.0s,baz=140,slow=4.7,SNR=1.8						
QSPA	**South Pole Qui**	**74.04**	**180**	P	**P**	**13 48 21.6**	**-0.2**
QSPA				IAmb	IAmb	13 48 22.9	
	comp=Z,14nm,1.1s						
NVAR	**Mina Array Bea**	**75.22**	**42**	P	**P**	**13 48 29.9**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=221,slow=7.7,SNR=6.0						
NVAR	**Mina Array Bea**	**75.22**	**42**	P	**P**	**13 48 30.4**	**+1.1**
NV11	**Mina Array Sit**	**75.32**	**42**	P	**P**	**13 48 30.6**	**+0.9**
KVN	**Kaiserville**	**75.71**	**42**	P	**P**	**13 48 32.7**	**+0.7**
PLID	**Pearl Lake**	**80.41**	**38**	P	**P**	**13 48 58.4**	**+0.7**
SCM	**Sheep Creek Mo**	**80.43**	**13**	P	**P**	**13 48 58.3**	**+1.0**
SCM				IAmb	IAmb	13 49 05.8	
	comp=Z,24nm,1.3s						
SMAI	**San Martin Ant**	**81.44**	**159**	P	**P**	**13 49 02.8**	**+0.3**
SMAI				IAmb	IAmb	13 49 04.7	
	comp=Z,21nm,1.1s						
TXAR	**Lajitas Array**	**81.50**	**56**	P	**P**	**13 49 04.8**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=222,slow=7.9,SNR=7.5						
PDAR	**Pinedale Array**	**83.16**	**42**	P	**P**	**13 49 12.8**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=200,slow=3.1,SNR=12						
ILAR	**Eielson Array**	**83.17**	**11**	P	**P**	**13 49 11.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=202,slow=5.5,SNR=6.9						
YHL	**Hebgen Lake**	**83.17**	**40**	P	**P**	**13 49 14.1**	**+1.8**
YHL				IAmb	IAmb	13 49 14.7	
	comp=Z,3.6nm,0.8s						
MAW	**Mawson**	**87.00**	**199**	P	**P**	**13 49 30.2**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=117,slow=6.8,SNR=2.0						
YKA	**Yellowknife Ar**	**90.92**	**24**	P	**P**	**13 49 49.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=242,slow=4.3,SNR=2.1						
CMAR	**Chiang Mai Arr**	**92.18**	**288**	P	**P**	**13 49 56.8**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=110,slow=4.9,SNR=1.9						
BRTR	**Keskin Array B**	**146.20**	**320**	PKPbc	**PKPbc**	**13 56 25.9**	**0.0**
	comp=Z,1.7nm,0.8s,baz=90,slow=1.2,SNR=3.6						
GERES	**GERESS Array B**	**146.64**	**351**	PKPbc	**PKPbc**	**13 56 27.4**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=20,slow=4.3,SNR=5.9						

IDC 06 13:39:44.5±2.9,15°04S×173°64W,h0km,mb3.6/3,
mb1 3.9/4,mb1mx3.3/31,mbtmp3.7/4,ML4.0/1,Error
ellipse: s-maj=160.0km s-min=26.4km az=150.0,Tonga
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**58**	Pn	Pn	13 40 21.2	0.0
	50nm,0.3s,baz=204,slow=20,SNR=1.5						
AFI				Sn	Sn	13 40 42.0	-6.4
	305nm,0.3s,baz=194,slow=17,SNR=15						
H11S2	**WAKE ISLAND Hy**	**38.54**	**329**	T	T	14 27 57.4	
	baz=151						
H11S3	**WAKE ISLAND Hy**	**38.55**	**329**	T	T	14 28 02.2	
	baz=151						
H11S1	**WAKE ISLAND Hy**	**38.55**	**329**	T	T	14 28 02.7	
	baz=151						
WRA	**Warramunga Arr**	**49.71**	**256**	P	P	13 48 38.8	0.0
	0.4nm,0.7s,baz=91,slow=7.0,SNR=5.0						
ASAR	**Alice Springs**	**50.01**	**252**	P	P	13 48 40.9	-0.2
	1.7nm,0.8s,baz=90,slow=7.5,SNR=6.0						
ILAR	**Eielson Array**	**82.13**	**11**	P	P	13 52 06.7	+0.1
	0.2nm,0.7s,baz=217,slow=5.7,SNR=1.4						

*THE **06** 14:37:16.4, 38°73N×20°59E, h9km, ML2.7/8, Error ellipse: s-maj=1.1km s-min=0.6km az=286.0*
*ATH **06** 14:37:16.8, 38°71N×20°59E, h18km±1km, ML2.5/10, Error ellipse: s-maj=2.2km s-min=1.1km az=263.0*

ISC 06 14:37:16.1±0.9,38°72N±0°02×20°59E±0°03,h10km±5km,
n30,σ0s72/45,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.04**	**192**	P	**Pg**	**14 37 18.3**	**+0.2**
DRAG				S	**Sg**	**14 37 19.7**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.09**	**96**	P	**Pg**	**14 37 18.5**	**-0.1**
NYDR				S	**Sg**	**14 37 20.1**	**-0.3**
EVGI	**Lefkada island**	**0.12**	**151**	P	**Pg**	**14 37 19.4**	**+0.4**
EVGI				S	**Sg**	**14 37 21.9**	**+0.9**
	18μm,0.2s						
TSLK	**Tsoukalades, L**	**0.12**	**28**	P	**Pg**	**14 37 18.9**	**-0.1**
TSLK				S	**Sg**	**14 37 20.9**	**-0.2**
FSK	**Fiskardo**	**0.26**	**184**	P	**Pg**	**14 37 22.3**	**+0.8**
FSK				S	**Sg**	**14 37 26.5**	**+1.4**
	3μm,0.2s						
FSK	**Fiskardo**	**0.26**	**184**	P	**Pg**	**14 37 22.3**	**+0.8**
FSK				S	**Sb**	**14 37 26.8**	**-0.6**
FSK				AML	AML	14 37 27.8	
	comp=E,8605μm,0.3s						
FSK				AML	AML	14 37 28.3	
	comp=N,2083μm,0.3s						
VLS	**Valsamata**	**0.55**	**180**	P	**Pg**	**14 37 26.7**	**0.0**
VLS				S	**Sb**	**14 37 35.3**	**-0.3**
	comp=N,608nm,0.4s						
VLS	**Valsamata**	**0.55**	**180**	P	**Pg**	**14 37 26.6**	**-0.1**
VLS				S	**Sg**	**14 37 35.0**	**+1.1**
VLS				AML	AML	14 37 39.5	
	comp=E,1203μm,0.3s						
VLS				AML	AML	14 37 41.2	
	comp=N,964μm,0.3s						
KEF3	**Kipouria, Keph**	**0.55**	**200**	P	**Pg**	**14 37 26.5**	**-0.3**
KEF3				S	**Sg**	**14 37 35.0**	**+0.9**
	comp=N,2μm,0.4s						
KEF3	**Kipouria, Keph**	**0.55**	**200**	P	**Pg**	**14 37 26.3**	**-0.6**
KEF3				S	**Sg**	**14 37 34.7**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.61**	**180**	P	**Pg**	**14 37 27.9**	**0.0**
PSDA				S	**Sb**	**14 37 37.2**	**-0.2**
IGT	**Igoumenitsa**	**0.83**	**346**	P	**Pg**	**14 37 31.8**	**-0.4**
IGT				S	**Sb**	**14 37 44.5**	**+0.6**
	comp=N,350nm,0.3s						
IGT	**Igoumenitsa**	**0.83**	**346**	P	**Pg**	**14 37 31.7**	**-0.4**
IGT				AML	AML	14 37 48.8	
	comp=E,657μm,0.3s						
IGT				AML	AML	14 37 48.8	
	comp=N,746μm,0.3s						
VTN	**Vitineika**	**0.93**	**149**	P	**Pb**	**14 37 34.1**	**-0.2**
JAN	**Janina**	**0.95**	**12**	P	**Pb**	**14 37 34.6**	**-0.1**
JAN				AML	AML	14 37 52.7	
	comp=E,573μm,0.3s						
JAN				AML	AML	14 37 55.2	
	comp=N,407μm,0.3s						
RLS	**Riolos of Patr**	**0.96**	**133**	P	**Pb**	**14 37 34.2**	**-0.6**
EVR	**Evrytania**	**0.98**	**78**	P	**Pg**	**14 37 35.4**	**+0.5**
EVR	**Evrytania**	**0.98**	**78**	P	**Pg**	**14 37 35.4**	**+0.5**
EVR				AML	AML	14 37 52.3	
	comp=N,310μm,0.6s						
EVR				AML	AML	14 37 54.5	
	comp=E,228μm,0.4s						
EFP	**Efpalio**	**1.08**	**106**	P	**Pb**	**14 37 35.8**	**-1.0**
EFP				S	**Sn**	**14 37 53.0**	**+0.8**
	comp=E,345nm,0.2s						
EFP	**Efpalio**	**1.08**	**106**	P	**Pb**	**14 37 35.7**	**-1.0**
EFP				AML	AML	14 37 56.3	
	comp=N,680μm,0.2s						
EFP				AML	AML	14 37 56.5	
	comp=E,656μm,0.2s						
KEK	**Kerkira**	**1.16**	**329**	P	**Pb**	**14 37 38.6**	**+0.3**
DRO	**Drossia**	**1.

BBRC	**Big Bear Solar**	**0.31 356**	P	**Pg**	**14 42 41.1**	**0.0**
	baz=175,SNR=1000					
BBRC			S	**Sg**	**14 42 45.7**	**0.0**
	baz=175					
GVDA	**Garner Valley**	**0.34 146**		**Pg**	**14 42 41.5**	**+0.1**
GVDA				**Sg**	**14 42 46.5**	**+0.2**
RSBC	**Riverside Bore**	**0.36 274**		**Sg**	**14 42 47.0**	**+0.3**
RSBC	**Riverside Bore**	**0.36 274**		**Pg**	**14 42 42.0**	**+0.2**
MURC	**Murrieta**	**0.43 215**	P	**Pg**	**14 42 42.9**	**-0.1**
	baz=35,SNR=1000					
MURC			S	**Sg**	**14 42 49.4**	**+0.5**
	baz=35					
PFO	**Pinyon Flats O**	**0.50 133**	Pg	**Pg**	**14 42 43.9**	**-0.4**
	2μm,0.3s,baz=307,slow=16					
PFO			Lg	Lg	14 42 50.1	
	11μm,0.3s,baz=209,slow=19,SNR=98					
PFO	**Pinyon Flats O**	**0.50 133**	Pg	**Pg**	**14 42 44.1**	**-0.2**
PFO	**Pinyon Flats O**	**0.50 133**	P	**Pg**	**14 42 44.2**	**-0.2**
	baz=314,SNR=1000					
PFO			S	**Sg**	**14 42 51.1**	**0.0**
	baz=314					
I57US	**PINON FLAT INF**	**0.51 133**	Pg	**Pg**	**14 42 44.1**	**-0.4**
	baz=312,slow=33,SNR=1.5					
BFSC	**Mount Baldy Ra**	**0.69 295**	P	**Pg**	**14 42 47.6**	**-0.4**
	baz=114,SNR=1000					
BFSC			S	**Sg**	**14 42 56.9**	**-0.4**
	baz=114					
BELC	**Belle Mtn. Jos**	**0.75 86**	P	**Pg**	**14 42 48.6**	**-0.5**
	baz=267,SNR=1000					
BELC			S	**Sg**	**14 42 58.5**	**-0.5**
	baz=267					
RRX	**Edison Barstow**	**0.93 355**	P	**Pb**	**14 42 51.8**	**-0.4**
	baz=174,SNR=1000					
RRX			S	**Sb**	**14 43 04.6**	**+0.2**
	baz=174					
HEC	**Hector,Ludlow**	**0.99 28**	P	**Pb**	**14 42 52.7**	**-0.7**
	baz=208,SNR=1000					
HEC			S	**Sb**	**14 43 06.0**	**-0.4**
	baz=208					
MWC	**Mount Wilson**	**1.00 286**		**Pb**	**14 42 52.8**	**-0.8**
109C	**Camp Elliot, M**	**1.07 189**		**Pb**	**14 42 53.6**	**-1.1**
109C			IAML		14 43 08.3	
	comp=E,16μm,0.3s					
109C			IAML		14 43 09.8	
	comp=N,12μm,0.2s					
109C	**Camp Elliot, M**	**1.07 189**	P	**Pb**	**14 42 53.7**	**-1.0**
	baz=9.5,SNR=754					
109C			S	**Sb**	**14 43 07.8**	**-0.7**
	baz=9.5					
PASC	**Pasadena Art C**	**1.09 282**		**Pb**	**14 42 54.0**	**-1.0**
PASC			IAML		14 43 10.0	
	comp=E,9μm,0.8s					
PASC			IAML		14 43 10.3	
	comp=N,11μm,0.7s					
FMP	**Fort Macarthur**	**1.19 259**	P	**Pn**	**14 42 55.7**	**-0.8**
	baz=78,SNR=49					
FMP			S	**Sb**	**14 43 11.6**	**-0.2**
	baz=78					
DECC	**Green Verdugo**	**1.23 285**	P	**Pn**	**14 42 56.5**	**-0.7**
	baz=103,SNR=732					
DECC			S	**Sb**	**14 43 13.2**	**0.0**
	baz=103					
BC3	**Big Chuckawall**	**1.24 103**	P	**Pn**	**14 42 55.8**	**-1.6**
	baz=285,SNR=1000					
BC3			S	**Sb**	**14 43 13.1**	**-0.3**
	baz=285					
BAR	**Barrett**	**1.28 171**		**Pn**	**14 42 57.2**	**-0.7**
BAR			IAML		14 43 15.1	
	comp=E,10μm,0.5s					
BAR			IAML		14 43 18.0	
	comp=N,8μm,0.3s					
EDW2	**Edwards Air Fo**	**1.30 316**	P	**Pn**	**14 42 57.6**	**-0.5**
	baz=135,SNR=1000					
EDW2			S	**Sb**	**14 43 14.9**	**-0.3**
	baz=135					
GMRC	**Granite Mounta**	**1.32 51**	P	**Pn**	**14 42 57.2**	**-1.3**
	baz=231,SNR=1000					
GMRC			S	**Sn**	**14 43 15.1**	**-0.8**
	baz=231					
GSC	**Goldstone, Bar**	**1.35 3**		**Pn**	**14 42 58.1**	**-0.7**
GSC			IAML		14 43 23.4	
	comp=E,8μm,0.9s					
GSC			IAML		14 43 29.3	
	comp=N,8μm,0.9s					
GSC	**Goldstone, Bar**	**1.35 3**	P	**Pn**	**14 42 58.2**	**-0.7**
	baz=183,SNR=1000					
SWSC	**Sam W. Stewart**	**1.36 137**	P	**Pn**	**14 42 57.3**	**-1.6**
	baz=318,SNR=959					
SWSC			S	**Sg**	**14 43 17.4**	**-0.9**
	baz=318					
CIS	**Catalina Islan**	**1.38 247**	P	**Pn**	**14 42 58.1**	**-1.1**
	baz=66,SNR=138					
CIS			S	**Sb**	**14 43 17.4**	**0.0**
	baz=66					
TKX	**Tecate**	**1.40 170**		**Pn**	**14 42 58.7**	**-0.8**
TKX			IAML		14 43 19.1	
	comp=N,7μm,0.2s					
TJX	**Tijuana**	**1.44 185**		**Pn**	**14 42 59.8**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**1.46 153**	P	**Pn**	**14 42 59.3**	**-1.0**
	baz=334,SNR=709					
IKP			Sb	**Sb**	**14 43 20.2**	**+0.5**
	baz=334					
IRM	**Iron Mountain**	**1.47 81**	P	**Pn**	**14 42 58.8**	**-1.6**
	baz=263,SNR=1000					
IRM			Sb	**Sb**	**14 43 20.3**	**+0.3**
	baz=263					
RMX	**La Rumorosa**	**1.51 153**		**Pn**	**14 43 00.8**	**-0.3**
RMX			IAML		14 43 27.2	
	comp=E,5μm,0.5s					
OSI	**Osito Audit: C**	**1.65 294**		**Pn**	**14 43 02.4**	**-0.6**
OSI			IAML		14 43 26.9	
	comp=E,7μm,0.8s					
OSI	**Osito Audit: C**	**1.65 294**	P	**Pn**	**14 43 02.6**	**-0.4**
	baz=113,SNR=287					
OSI			Sb	**Sb**	**14 43 26.0**	**+0.8**
	baz=113					
LRMC	**Laurel Mtn Rad**	**1.66 337**	P	**Pn**	**14 43 02.8**	**-0.4**
	baz=157,SNR=328					
SCI2	**San Clemente I**	**1.69 235**	P	**Pn**	**14 43 02.9**	**-0.5**
	baz=54,SNR=47					
TUQ	**Turquoise Moun**	**1.69 28**	P	**Pn**	**14 43 02.5**	**-1.1**
	baz=208,SNR=1000					
TUQ			Sb	**Sb**	**14 43 27.1**	**+0.8**
	baz=208					
UABX	**UABC, Campus M**	**1.79 137**		**Pn**	**14 43 03.4**	**-1.5**
GLA	**Glamis**	**1.95 117**		**Pn**	**14 43 06.1**	**-1.0**
GLA			IAML		14 43 37.9	
	comp=N,5μm,0.6s					
ARVC	**Arvin**	**1.98 307**	P	**Pn**	**14 43 06.9**	**-0.5**
	baz=126,SNR=190					
QSM	**Queen of Sheba**	**2.01 1**		**Pn**	**14 43 07.3**	**-0.6**
QSM			IAML		14 43 42.3	
	comp=N,3μm,0.6s					
QSM			IAML		14 43 49.8	
	comp=E,3μm,0.8s					
SHOC	**Shoshone, Teco**	**2.01 15**	P	**Pn**	**14 43 07.3**	**-0.6**
	baz=195,SNR=1000					
CPBX	**Cerro Prieto**	**2.03 138**		**Pn**	**14 43 07.0**	**-1.1**
NEE2	**Needles Airpor**	**2.05 66**	P	**Pn**	**14 43 07.3**	**-1.2**
	baz=247,SNR=64					
CCX	**Cicese**	**2.09 175**		**Pn**	**14 43 09.0**	**+0.1**
CCX			IAML		14 43 42.1	
	comp=E,3μm,0.5s					
CCX			IAML		14 43 43.9	
	comp=N,4μm,0.5s					
ISA	**Isabella, Lake**	**2.15 323**	Pn	**Pn**	**14 43 09.0**	**-0.7**
ISA			IAML		14 43 44.4	
	comp=E,4μm,0.8s					
ISA	**Isabella, Lake**	**2.15 323**	P	**Pn**	**14 43 09.3**	**-0.5**
	baz=142,SNR=534					
MPMC	**Manual Prospec**	**2.16 347**	P	**Pn**	**14 43 09.4**	**-0.7**
	baz=167,SNR=582					
GWY	**Greenwater Val**	**2.24 5**		**Pn**	**14 43 10.4**	**-0.8**
GWY			IAML		14 43 46.7	
	comp=N,3μm,0.4s					
GWY			IAML		14 43 56.0	
	comp=E,3μm,0.9s					
SNCC	**San Nicolas Is**	**2.30 253**		**Pn**	**14 43 10.7**	**-1.1**
SNCC			IAML		14 43 49.8	
	comp=N,4μm,0.7s					
SNCC			IAML		14 43 54.3	
	comp=E,2μm,0.7s					
SNCC	**San Nicolas Is**	**2.30 253**	P	**Pn**	**14 43 10.9**	**-1.0**
	baz=71,SNR=5.5					
FURC	**Furnace Creek,**	**2.51 1**	P	**Pn**	**14 43 13.9**	**-0.8**
	baz=180,SNR=52					
PKM	**Mcpherson Peak**	**2.59 292**	P	**Pn**	**14 43 15.3**	**-0.6**
	baz=110,SNR=57					
VES	**Vestal, Richgr**	**2.60 317**	P	**Pn**	**14 43 15.8**	**-0.2**
	baz=136,SNR=69					
CWC	**Cottonwood Cre**	**2.67 339**	P	**Pn**	**14 43 17.0**	**0.0**
	baz=158					
W13A	**Hualapai Mount**	**2.74 64**	Pn	**Pn**	**14 43 17.7**	**-0.4**
W13A			IAML		14 43 59.7	
	comp=N,1μm,0.9s					
SHPR	**Sheep Range**	**2.92 29**	Pn	**Pn**	**14 43 20.3**	**-0.2**
TPNV	**Topopah Spring**	**3.04 10**		**Pn**	**14 43 22.1**	**0.0**
TPNV	**Topopah Spring**	**3.04 10**	P	**Pn**	**14 43 22.2**	**0.0**
	baz=190					
GRAC	**Grapevine Rang**	**3.06 353**	P	**Pn**	**14 43 22.8**	**+0.4**
	baz=173,SNR=57					
VOG	**Valley Oaks Go**	**3.12 320**	P	**Pn**	**14 43 22.4**	**-0.7**
	baz=138					
Y14A	**Wickenburg**	**3.24 89**	Pn	**Pn**	**14 43 23.7**	**-1.1**
Y14A			IAML		14 44 19.1	
	comp=N,1μm,0.9s					
Y14A			IAML		14 44 19.2	
	comp=E,814nm,0.8s					
PAGB	**Antelope Grade**	**3.28 304**	Pn	**Pn**	**14 43 24.1**	**-1.2**
PAGB			IAML		14 44 31.0	
	comp=N,1μm,0.9s					
PAGB			IAML		14 44 34.9	
	comp=E,1μm,1.3s					
TIN	**Tinemaha, Big**	**3.28 341**	P	**Pn**	**14 43 25.9**	**+0.4**
	baz=160,SNR=29					
LCH	**Last Change Ra**	**3.33 350**		**Pn**	**14 43 26.5**	**+0.3**
SFX	**San Felipe**	**3.38 149**	Pn	**Pn**	**14 43 26.2**	**-0.5**
SFX			IAML		14 44 26.5	
	comp=E,725nm,0.7s					
SFX			IAML		14 44 27.1	
	comp=N,824nm,0.8s					
PRN	**Pahroc Range**	**3.76 23**		**Pn**	**14 43 32.6**	**+0.6**
PRN			IAML		14 44 46.9	
	comp=E,1μm,0.7s					
PMPB	**Monarch Peak**	**3.92 306**	Pn	**Pn**	**14 43 33.5**	**-0.7**
PMPB			IAML		14 44 37.1	
	comp=E,1μm,0.9s					
214A	**Organ Pipe Nat**	**3.97 119**		**Pn**	**14 43 33.9**	**-0.9**
214A	**Organ Pipe Nat**	**3.97 119**	P	**Pn**	**14 43 34.0**	**-0.8**
	baz=301					
OMMB	**Old Mammoth Mi**	**4.04 336**	Pn	**Pn**	**14 43 37.2**	**+1.2**
OMMB			IAML		14 44 49.5	
	comp=E,792nm,1.0s					
OMMB			IAML		14 44 53.2	
	comp=N,715nm,1.4s					
TPH	**Tonopah**	**4.12 356**		**Pn**	**14 43 37.5**	**+0.4**
LCMT	**Little Creek M**	**4.27 43**		**Pn**	**14 43 39.1**	**+0.1**
LCMT			IAML		14 44 50.4	
	comp=N,472nm,0.9s					
LHV	**Little Huntoon**	**4.48 344**		**Pn**	**14 43 43.7**	**+1.8**
LHV			IAML		14 45 11.1	
	comp=N,462nm,0.8s					
LHV			IAML		14 45 23.3	
	comp=E,683nm,1.4s					
U15A	**North Rim**	**4.51 55**		**Pn**	**14 43 42.5**	**0.0**
U15A			IAML		14 45 08.2	
	comp=N,547nm,1.4s					
R11A	**Troy Canyon, C**	**4.52 13**		**Pn**	**14 43 42.2**	**-0.3**
R11A	**Troy Canyon, C**	**4.52 13**	P	**Pn**	**14 43 42.7**	**+0.2**
	baz=194,SNR=18					
R11A			Sb	**Sb**	**14 44 52.4**	**+4.6**
	baz=194					
KNB	**Kanab**	**4.52 46**		**Pn**	**14 43 42.7**	**+0.1**
X16A	**Lo Mia Camp, P**	**4.55 83**		**Pn**	**14 43 42.7**	**-0.2**
X16A			IAML		14 45 03.7	
	comp=N,426nm,1.1s					
NV11	**Mina Array Sit**	**4.59 348**		**Pn**	**14 43 44.4**	**+1.0**
CCUT	**Cedar City**	**4.60 38**	Pn	**Pn**	**14 43 44.0**	**+0.3**
CCUT			IAML		14 45 08.8	
	comp=N,319nm,1.0s					
CCUT			IAML		14 45 15.7	
	comp=E,317nm,1.2s					
NVAR	**Mina Array Bea**	**4.61 346**	Pn	**Pn**	**14 43 44.9**	**+1.0**
	comp=E,4.7nm,0.3s,baz=165,slow=15,SNR=74					
NVAR			Pg	**Pg**	**14 43 59.6**	**-3.2**
	comp=E,36nm,0.3s,baz=199,slow=41,SNR=84					
NVAR			Lg	Lg	14 45 02.1	
	baz=356,slow=36,SNR=2.1					
NVAR	**Mina Array Bea**	**4.61 346**	Pn	**Pn**	**14 43 45.0**	**+1.2**
SAO	**San Andreas Ge**	**4.66 308**		**Pn**	**14 43 44.1**	**-0.1**
SZCU	**Shurtz Canyon**	**4.78 39**		**Pn**	**14 43 46.5**	**+0.4**
WUAZ	**Wupatki**	**4.81 69**	Pn	**Pn**	**14 43 46.5**	**0.0**
WUAZ			IAML		14 45 14.5	
	comp=E,449nm,1.3s					
WUAZ			IAML		14 45 16.1	
	comp=E,556nm,0.8s					
WUAZ	**Wupatki**	**4.81 69**	P	**Pn**	**14 43 47.1**	**+0.6**
	baz=253,SNR=99					
RYN	**Ryan**	**4.85 345**		**Pn**	**14 43 48.2**	**+1.2**
CMB	**Columbia Colle**	**4.96 326**	Pn	**Pn**	**14 43 49.0**	**+0.5**
CMB			IAML		14 45 13.7	
	comp=E,376nm,1.2s					
CMB			IAML		14 45 15.3	
	comp=N,429nm,0.9s					
KVN	**Kaiserville**	**5.18 350**		**Pn**	**14 43 52.5**	**+0.9**
PSUT	**Pine Spring**	**5.19 27**		**Pn**	**14 43 52.3**	**+0.5**
PSUT			IAML		14 45 22.6	
	comp=E,396nm,0.9s					
PSUT			IAML		14 45 31.6	
	comp=N,417nm,1.0s					
YERR	**Yerington**	**5.37 340**		**Pn**	**14 43 56.3**	**+2.1**
YERR			IAML		14 45 43.6	
	comp=E,364nm,1.8s					
YERR			IAML		14 45 44.1	
	comp=N,223nm,0.8s					
SPR3	**Spring Creek 3**	**5.45 22**	Pn	**Pn**	**14 43 54.5**	**-0.9**
MTPU	**Mount Pierson**	**5.59 42**		**Pn**	**14 43 58.7**	**+1.2**
X18A	**Snowflake**	**5.78 82**		**Pn**	**14 44 00.6**	**+0.7**
W18A	**Petrified Fore**	**6.03 77**	P	**Pn**	**14 44 03.9**	**+0.7**
	baz=261,SNR=14					
ORV	**Oroville**	**6.70 328**		**Pn**	**14 44 13.6**	**+1.3**
ELK	**Elko**	**6.91 11**	Pn	**Pn**	**14 44 16.9**	**+1.4**
	comp=N,3.6nm,0.3s,baz=195,slow=8.7,SNR=92					
ELK			Pg	**Pg**	**14 44 42.4**	**-4.3**
	comp=N,4.8nm,0.3s,baz=207,slow=14,SNR=32					
ELK			Sn	**Sn**	**14 45 34.2**	**+0.3**
	comp=N,1.4nm,0.3s,baz=225,slow=20,SNR=1.0					
ELK			Lg	Lg	14 46 10.5	
	comp=N,2.8nm,0.3s,baz=274,slow=18,SNR=4.5					
DUG	**Dugway, Tooele**	**7.04 26**	P	**Pn**	**14 44 17.6**	**+0.5**
	baz=209					
121A	**Cookes Peak, D**	**7.76 98**	Pn	**Pn**	**14 44 27.1**	**0.0**
121A	**Cookes Peak, D**	**7.76 98**	P	**Pn**	**14 44 27.2**	**0.0**
	baz=283,SNR=34					
ANMO	**Albuquerque**	**8.68 81**	Pn	**Pn**	**14 44 42.4**	**+2.8**
	comp=N,0.3nm,0.3s,baz=267,slow=11,SNR=10					
ANMO			Pg	Pg	14 45 13.1	-7.5
	comp=N,1.2nm,0.3s,baz=271,slow=11,SNR=12					
ANMO			Lg	Lg	14 47 03.7	
	comp=N,0.3nm,0.3s,baz=204,slow=20,SNR=2.6					
ANMO			LR	LR	14 48 20.6	
	comp=N,292nm,20.8s,baz=252,slow=40					
ANMO	**Albuquerque**	**8.68 81**		**Pn**	**14 44 39.9**	**+0.2**
YBH	**Yreka Blue Hor**	**9.02 331**	Pn	**Pn**	**14 44 46.4**	**+2.2**
	comp=N,0.2nm,0.3s,baz=153,slow=11,SNR=2.4					
YBH			Lg	Lg	14 47 13.8	
	comp=N,0.1nm,0.3s,baz=95,slow=19,SNR=1.9					
MNTX	**Cornudas Mount**	**9.95 100**		**Pn**	**14 44 56.3**	**-0.6**
MNTX	**Cornudas Mount**	**9.95 100**	P	**Pn**	**14 44 56.8**	**-0.1**
	baz=286					
BW06	**Boulder Array**	**10.52 31**	P	**Pn**	**14 45 08.3**	**+3.5**
	baz=216					
PDAR	**Pinedale Array**	**10.52 31**	Pn	**Pn**	**14 45 09.0**	**+4.2**
	comp=N,0.2nm,0.3s,baz=221,slow=11,SNR=19					
PDAR			Lg	Lg	14 48 03.1	
	comp=N,0.1nm,0.3s,baz=210,slow=32,SNR=1.6					
PDAR	**Pinedale Array**	**10.52 31**		**Pn**	**14 45 06.6**	**+1.8**
LPIG	**La Paz**	**11.38 148**	LR	LR	14 48 29.1	
	comp=N,131nm,20.8s,baz=337,slow=31					
TXAR	**Lajitas Array**	**12.18 109**	Pn	**Pn**	**14 45 28.9**	**+1.4**
	comp=N,0.2nm,0.3s,baz=290,slow=12,SNR=14					
TXAR			Lg	Lg	14 49 00.6	
	comp=N,0.1nm,0.3s,baz=289,slow=27,SNR=2.3					
TXAR			LR	LR	14 49 43.3	
	comp=N,126nm,18.9s,baz=290,slow=35					
NEW	**Newport**	**14.30 359**	Pn	**P**	**14 46 01.1**	**-2.4**
	comp=N,0.2nm,0.3s,baz=175,slow=12,SNR=8.0					
NEW			LR	LR	14 52 12.9	
	comp=N,255nm,22.0s,baz=165,slow=40					
NEW	**Newport**	**14.30 359**	P	**P**	**14 46 03.3**	**-0.2**
LAO	**LASA Array**	**15.09 29**	Pn	**Pn**	**14 46 05.0**	**-2.0**
WALA	**Waterton Lakes**	**15.26 7**	P	**P**	**14 46 14.1**	**-0.2**
WALA			IAmb	IAmb	14 46 25.2	
	comp=Z,16nm,0.9s					
EDM	**Edmonton**	**19.43 6**		**P**	**14 47 00.5**	**+0.3**
S39A	**Bolivar**	**19.47 72**		**P**	**14 46 59.4**	**-1.3**
S39A			IAmb	IAmb	14 47 09.8	
	comp=Z,36nm,1.7s					
P38A	**Dawn**	**19.53 66**		**P**	**14 47 00.6**	**-0.7**
P38A			IAmb	IAmb	14 47 09.0	
	comp=Z,18nm,0.8s					
F33A	**5 Mile Ranch,**	**19.71 47**	P	**P**	**14 47 02.6**	**-0.7**
BBB	**Bella Bella**	**19.94 339**	LR	LR	14 54 26.2	
	comp=Z,257nm,18.8s,baz=172,slow=36					
D32A	**Dogwood Acres,**	**19.97 43**	P	**P**	**14 47 05.0**	**-1.1**
D32A			IAmb	IAmb	14 47 15.6	
	comp=Z,18nm,0.6s					
K38A	**Parkersburg**	**20.78 58**	P	**P**	**14 47 14.2**	**-0.7**
AGMN	**Agassiz Nation**	**21.27 41**	P	**P**	**14 47 19.2**	**-0.9**
AGMN	**Agassiz Nation**	**21.27 41**	P	**P**	**14 47 21.0**	**+0.9**
	baz=235					
PBMO	**Poplar Bluff**	**21.75 75**	P	**P**	**14 47 23.8**	**-1.6**
PBMO			IAmb	IAmb	14 47 32.9	
	comp=Z,20nm,1.2s					
ULM	**Lac du Bonnet**	**22.43 37**	P	**P**	**14 47 34.1**	**+1.6**
	comp=Z,9.2nm,0.7s,baz=245,slow=9.6,SNR=8.9					
ULM	**Lac du Bonnet**	**22.43 37**	P	**P**	**14 47 32.8**	**+0.2**
S44A	**Carbondale**	**22.69 73**	P	**P**	**14 47 35.8**	**+0.4**
S44A			IAmb	IAmb	14 48 25.4	
	comp=Z,11nm,0.5s					
CMIG	**Matias Romero**	**25.92 125**	LR	LR	14 59 43.9	
	comp=Z,258nm,18.2s,baz=278,slow=40					
DLBC	**Dease Lake**	**26.03 344**	P	**P**	**14 48 08.9**	**+2.1**
	comp=Z,2.0nm,0.7s,baz=148,slow=9.5,SNR=4.4					
DLBC			LR	LR	14 59 37.6	
	comp=Z,353nm,21.1s,baz=152,slow=39					
DLBC	**Dease Lake**	**26.03 344**	IAmb	IAmb	14 48 36.3	
	comp=Z,29nm,1.8s					
TKL	**Tuckaleechee C**	**27.18 77**	LR	LR	14 59 34.0	
	comp=Z,168nm,19.9s,baz=278,slow=38					
YKA	**Yellowknife Ar**	**28.60 2**	P	**P**	**14 48 30.2**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=181,slow=8.7,SNR=20					
YKA			PcP	**PcP**	**14 51 40.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=170,slow=2.2,SNR=4.8					
SADO	**Sadowa**	**30.87 58**	LR	LR	15 02 53.6	
	comp=Z,80nm,19.6s,baz=230,slow=39					
INK	**Inuvik**	**35.69 349**	P	**P**	**14 49 33.5**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=153,slow=6.8,SNR=4.0					
INK	**Inuvik**	**35.69 349**	IAmb	IAmb	14 49 48.4	
	comp=Z,4.2nm,0.7s					
ILAR	**Eielson Array**	**35.82 339**	P	**P**	**14 49 34.5**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=152,slow=8.2,SNR=22					
K20K	**Telida**	**37.36 333**	P	**P**	**14 49 47.1**	**+1.0**
K20K	**Telida**	**37.36 333**	P	**P**	**14 49 47.0**	**+0.9**
	baz=124,SNR=7.5					
JTS	**Las Juntas de**	**37.55 121**	LR	LR	15 06 08.0	
	comp=Z,54nm,21.9s,slow=38					
H21K	**Melozitna Rive**	**38.28 337**	P	**P**	**14 49 55.3**	**+1.4**
RES	**Resolute Bay**	**42.21 9**	LR	LR	15 08 22.2	
	comp=Z,193nm,18.5s,baz=88,slow=37					
JMIC	**Jan Mayen**	**63.95 20**	LR	LR	15 19 00.1	
	comp=Z,32nm,20.2s,baz=294,slow=34					
TIXI	**Tiksi**	**65.22 341**	LR	LR	15 24 14.7	
	comp=Z,35nm,19.4s,baz=258,slow=38					
YAK	**Yakutsk**	**70.46 333**	LR	LR	15 24 39.1	
	comp=Z,60nm,18.9s,baz=91,slow=36					
MJAR	**Matsushiro Arr**	**80.94 308**	LR	LR	15 23 43.5	
	comp=Z,28nm,20.9s,baz=82,slow=30					
KSRS	**Korea Array**	**86.84 314**	LR	LR	15 31 50.8	
	comp=Z,11nm,19.8s,baz=135,slow=34					
BVAR	**Borovoye Array**	**93.16 356**	P	**P**	**14 55 48.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=9.7,slow=10,SNR=2.0					
HHC	**Hu-ho-hao-te**	**93.21 325**	*eP*	**P**	**14 55 48.7**	**+0.2**
HHC			pmax	pmax		
	comp=Z,15nm,0.8s					
HHC			pmax	pmax		
	comp=Z,120nm,6.0s					
WRA	**Warramunga Arr**	**116.11 263**	PKP	**PKPdf**	**15 01 16.8**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=46,slow=1.8,SNR=3.6					
ASAR	**Alice Springs**	**118.20 259**	PKP	**PKPdf**	**15 01 20.7**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=75,slow=2.3,SNR=9.2					

*IDC **06** 14:43:38.5±19.0, 2°.44N×126°.47E, h113km±192km, mb3.3/8, mb1 3.4/8, mb1mx3.0/60, mbtmp3.7/8, MS2.9/1, Ms1 2.9/1, ms1mx2.2/34, Error ellipse: s-maj=62.8km s-min=26.7km az=63.0*

ISC 06 14:43:32.8±0.9, 2°.5N±0°.1×126°.6E±0°.4, h55km, n9, σ0§67/8, mb3.6/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.51**	**182**	P	**P**	**14 48 06.8**	**+0.3**
	1.8nm,0.7s,baz=30,slow=18,SNR=1.7						
WRA	**Warramunga Arr**	**23.59**	**161**	P	**P**	**14 48 38.1**	**-0.7**
	1.3nm,0.7s,baz=335,slow=11,SNR=22						
ASAR	**Alice Springs**	**27.00**	**165**	P	**P**	**14 49 09.8**	**+0.1**
	0.5nm,0.6s,baz=348,slow=13,SNR=12						
JHJ	**Hachijo jima 2**	**32.87**	**21**	LR	LR	15 03 50.0	
	comp=Z,21nm,20.4s,baz=38,slow=37						
STKA	**Stephens Creek**	**37.07**	**159**	P	**P**	**14 50 37.9**	**+0.1**
	3.5nm,0.8s,baz=327,slow=12,SNR=5.5						
SONM	**Songino Array**	**48.38**	**342**	P	**P**	**14 52 10.2**	**+0.8**
	0.2nm,0.6s,baz=131,slow=4.4,SNR=1.8						
PETK	**Petropavlovsk-**	**56.61**	**22**	P	**P**	**14 53 10.0**	**+0.1**
	5.3nm,0.9s,baz=254,slow=3.7,SNR=2.8						
MKAR	**Makanchi Array**	**58.45**	**326**	P	**P**	**14 53 22.7**	**-0.4**
	0.2nm,0.4s,baz=116,slow=9.8,SNR=4.5						
KURBB	**Kurchatov Arra**	**62.66**	**328**	P	**P**	**14 53 50.7**	**-1.0**
	0.3nm,0.3s,baz=130,slow=6.5,SNR=1.3						

IDC 06 14:48:33.2±5.9, 29°.91S×177°.57W, h117km±48km, mb3.4/3, mb1 3.6/3, mb1mx3.4/32, mbtmp3.8/3, Error ellipse: s-maj=167.2km s-min=108.5km az=42.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.73**	**335**	P	Pn	14 48 53.1	+0.6
	97nm,0.3s,baz=102,slow=20,SNR=1.9						
RAO				S	Sn	14 49 08.0	+1.0
	129nm,0.3s,baz=135,slow=19,SNR=2.6						
STKA	**Stephens Creek**	**34.95**	**256**	P	P	14 55 14.5	+0.4
	3.4nm,0.9s,baz=109,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**43.51**	**266**	P	P	14 56 24.8	-0.6
	0.4nm,0.5s,

TORD	**Torodi Ar. Bea**	**73.03**	**29**	IAmb	IAmb	15 00 22.7
	comp=Z,10nm,1.1s					
ASAR	**Alice Springs**	**98.92**	**162**	P	**P**	**15 02 19.1 -0.7**
	comp=Z,0.1nm,0.5s,baz=202,slow=4.7,SNR=0.9					
ILAR	**Eielson Array**	**150.22**	**312**	PKPbc	**PKPbc**	**15 08 27.6 -0.8**
	comp=Z,0.4nm,0.6s,baz=135,slow=3.9,SNR=5.6					
SONM	**Songino Array**	**150.62**	**86**	PKPbc	**PKPbc**	**15 08 29.8 -0.3**
	comp=Z,0.9nm,0.8s,baz=221,slow=3.3,SNR=5.3					

*TAP **06** 14:54:14.8, 25.35N×122.52E, h161km, ML3.2, D*
*JMA **06** 14:54:15.0±0.2, 25.08N×122.50E, h174km±3km, M2.7*
ISC 06 14:54:15.2±2.1, 25.23N±0.08×122.51E±0.04,
h163km±13km, n57, σ0.85/99, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.53**	**245**	*e*P	**Pn**	**14 54 39.3**	**+1.2**
	baz=232						
PCYT	**Pengchaiyu**	**0.56**	**315**	*e*P	**Pn**	**14 54 36.0**	**-2.4**
	baz=305						
PCYT				*e*S	**Sn**	**14 54 54.0**	**-2.2**
	baz=305						
TIPB	**Shuangxi**	**0.68**	**248**	P	**Pn**	**14 54 39.9**	**+0.9**
	baz=245						
NWF	**Wu-fen Shan**	**0.68**	**257**	*e*P	**Pn**	**14 54 40.0**	**+0.8**
	baz=246						
TWC	**Suao**	**0.86**	**224**	*e*P	**Pn**	**14 54 40.0**	**-0.3**
	baz=220						
TWE	**Neicheng**	**0.92**	**237**	P	**Pn**	**14 54 41.0**	**+0.4**
	baz=231						
TWE				*e*S	**Sn**	**14 55 00.2**	**+0.1**
	baz=231						
NDS	**Dongshan**	**0.94**	**231**	P	**Pn**	**14 54 42.0**	**+1.2**
	baz=233						
NDS				*e*S	**Sn**	**14 55 02.1**	**+1.7**
	baz=233						
NWLT	**Wulai**	**1.02**	**244**	P	**Pn**	**14 54 42.1**	**+0.7**
	baz=243						
NWLT				*e*S	**Sn**	**14 55 01.4**	**-0.1**
	baz=243						
EWUT	**Wuta**	**1.03**	**221**	P	**Pn**	**14 54 42.0**	**+0.6**
	baz=208						
EWUT				*e*S	**Sn**	**14 55 02.0**	**+0.4**
	baz=208						
ENTT	**Nioudou**	**1.04**	**236**	P	**Pn**	**14 54 42.2**	**+0.6**
	baz=228						
ENTT				S	**Sn**	**14 55 03.2**	**+1.3**
	baz=228						
ENA	**Nanau**	**1.06**	**221**	P	**Pn**	**14 54 42.2**	**+0.4**
	baz=209						
ENA				*e*S	**Sn**	**14 55 02.4**	**+0.3**
	baz=209						
NDT	**Datong Townshi**	**1.10**	**236**	P	**Pn**	**14 54 43.2**	**+1.1**
	baz=234						
NDT				*e*S	**Sn**	**14 55 04.1**	**+1.3**
	baz=234						
YHNB	**Yeheng**	**1.17**	**242**	P	**Pn**	**14 54 42.8**	**0.0**
	baz=238						
YHNB				*e*S	**Sn**	**14 55 03.1**	**-0.8**
	baz=238						
NSK	**Sanguang**	**1.19**	**242**	*e*P	**Pn**	**14 54 43.2**	**+0.3**
	baz=238						
NSK				*e*S	**Sn**	**14 55 04.1**	**0.0**
	baz=238						
NNS	**Nan Shan**	**1.30**	**233**	P	**Pn**	**14 54 44.3**	**+0.3**
	baz=221						
NNS				*e*S	**Sn**	**14 55 07.1**	**+0.9**
	baz=221						
NNSB	**Datong**	**1.30**	**232**	P	**Pn**	**14 54 44.1**	**+0.1**
	baz=221						
NNSB				*e*S	**Sn**	**14 55 06.3**	**+0.2**
	baz=221						
ETL	**Fush Village**	**1.34**	**217**	*e*P	**Pn**	**14 54 44.0**	**-0.3**
	baz=209						
ETL				*e*S	**Sn**	**14 55 05.3**	**-1.3**
	baz=209						
NACB	**Ninganchiao**	**1.34**	**219**	P	**Pn**	**14 54 43.8**	**-0.5**
	baz=210						
NACB				*e*S	**Sn**	**14 55 05.7**	**-0.9**
	baz=210						
ETLH	**Xiulin Townshi**	**1.39**	**223**	P	**Pn**	**14 54 45.1**	**+0.3**
	baz=220						
ETLH				S	**Sn**	**14 55 06.8**	**-0.7**
	baz=220						
TWD	**Chiawan**	**1.42**	**216**	P	**Pn**	**14 54 44.9**	**-0.1**
	baz=209						
TWD				*e*S	**Sn**	**14 55 07.5**	**-0.4**
	baz=209						
IRIF	**Iriomote-Funau**	**1.42**	**129**	P	**Pn**	**14 54 45.1**	**+0.1**
IRIF				*e*S	**Sn**	**14 55 07.9**	**0.0**
LIOB	**Emei**	**1.48**	**247**	P	**Pn**	**14 54 46.2**	**+0.6**
	baz=244						
LIOB				*e*S	**Sn**	**14 55 09.4**	**+0.4**
	baz=244						
NSTT	**Nanjuang**	**1.50**	**247**	*e*P	**Pn**	**14 54 45.9**	**+0.1**
	baz=243						
NSTT				*e*S	**Sn**	**14 55 09.0**	**-0.2**
	baz=243						
FUSS	**Fushou**	**1.51**	**230**	*i* P	**Pn**	**14 54 46.8**	**+0.5**
	baz=220						
FUSS				*e*S	**Sn**	**14 55 11.0**	**+1.0**
	baz=220						
TWT	**Tachien**	**1.56**	**232**	*e*P	**Pn**	**14 54 48.0**	**+1.4**
	baz=223						
TWT				*e*S	**Sn**	**14 55 11.7**	**+1.0**
	baz=223						
WHF	**Hehuan Shan**	**1.57**	**227**	P	**Pn**	**14 54 47.5**	**+0.5**
	baz=219						
WHF				S	**Sn**	**14 55 11.3**	**0.0**
	baz=219						
TDCB	**Techi**	**1.57**	**232**	*e*P	**Pn**	**14 54 47.4**	**+0.7**
	baz=223						
TDCB				*e*S	**Sn**	**14 55 11.1**	**+0.3**
	baz=223						
HATJ	**Hateruma jima**	**1.66**	**135**	*e*S	**Sn**	**14 55 12.6**	**+0.4**
JKRS	**Kuro-shima**	**1.68**	**126**	P	**Pn**	**14 54 48.2**	**+0.5**
JKRS				S	**Sn**	**14 55 12.6**	**0.0**
CHGB	**Renai**	**1.69**	**227**	P	**Pn**	**14 54 48.3**	**+0.3**
	baz=219						
CHGB				*e*S	**Sn**	**14 55 13.3**	**+0.1**
	baz=219						
WHP	**Taichung City**	**1.71**	**237**	P	**Pn**	**14 54 48.4**	**+0.3**
	baz=234						
WHP				*e*S	**Sn**	**14 55 13.3**	**-0.1**
	baz=234						
JIJ	**Ishigaki jima**	**1.71**	**120**	P	**Pn**	**14 54 48.3**	**+0.3**
JIJ				S	**Sn**	**14 55 12.0**	**-1.3**
ESL	**Shilin**	**1.72**	**215**	P	**Pn**	**14 54 47.3**	**-0.8**
	baz=219						
ESL				*e*S	**Sn**	**14 55 10.8**	**-2.6**
	baz=219						
JISG	**Ishigakijimahi**	**1.75**	**111**	P	**Pn**	**14 54 48.8**	**+0.4**
JISG				S	**Sn**	**14 55 13.8**	**-0.2**
OWD	**Renai**	**1.76**	**224**	*e*P	**Pn**	**14 54 48.9**	**+0.2**
	baz=222						
OWD				*e*S	**Sn**	**14 55 14.2**	**-0.3**
	baz=222						
EGFH	**Guangfu**	**1.84**	**213**	*e*P	**Pn**	**14 54 48.9**	**-0.6**
	baz=220						
EGFH				*e*S	**Sn**	**14 55 13.9**	**-1.9**
	baz=220						
WCS	**Beigang Elemen**	**1.87**	**232**	P	**Pn**	**14 54 49.9**	**+0.2**
	baz=235						
WCS				*e*S	**Sn**	**14 55 15.6**	**-0.7**
	baz=235						
VWDT	**VWDT**	**1.93**	**221**	*e*P	**Pn**	**14 54 50.6**	**+0.2**
	baz=214						
VWDT				*e*S	**Sn**	**14 55 17.4**	**-0.1**
	baz=214						
SMLT	**Sun Moon Lake**	**1.99**	**228**	*e*P	**Pn**	**14 54 52.1**	**+0.9**
	baz=233						
SMLT				*e*S	**Sn**	**14 55 20.1**	**+1.2**
	baz=233						
HGSD	**Ruisui**	**2.00**	**210**	*e*P	**Pn**	**14 54 49.6**	**-1.6**
	baz=201						
HGSD				*e*S	**Sn**	**14 55 19.8**	**+1.0**
	baz=201						
SSLB	**Suanglung**	**2.02**	**225**	*e*P	**Pn**	**14 54 51.5**	**0.0**
	baz=220						
SSLB				*e*S	**Sn**	**14 55 18.6**	**-0.8**
	baz=220						
EHY	**Hungye**	**2.03**	**213**	*e*P	**Pn**	**14 54 50.2**	**-1.3**
	baz=211						
JTJ	**Tarama**	**2.07**	**106**	P	**Pn**	**14 54 52.3**	**+0.3**
JTJ				S	**Sn**	**14 55 20.3**	**0.0**
YULB	**Yu-li**	**2.14**	**211**	*e*P	**Pn**	**14 54 51.4**	**-1.5**
	baz=210						
WNT	**Mingjian**	**2.14**	**231**	*e*P	**Pn**	**14 54 52.7**	**-0.1**
	baz=237						
WNT				*e*S	**Sn**	**14 55 21.2**	**-0.6**
	baz=237						
FULB	**Fuli**	**2.31**	**209**	*e*P	**Pn**	**14 54 54.2**	**-0.6**
	baz=214						
ALS	**Alishan**	**2.31**	**223**	*e*P	**Pn**	**14 54 55.5**	**+0.4**
	baz=221						
ALS				*e*S	**Sn**	**14 55 26.6**	**+0.6**
	baz=221						
CHN5	**Tsauling**	**2.33**	**226**	*e*P	**Pn**	**14 54 56.3**	**+1.2**
	baz=225						
CHN5				*e*S	**Sn**	**14 55 25.6**	**-0.4**
	baz=225						
JIRB	**Irabujima**	**2.45**	**99**	*e*S	**Sn**	**14 55 27.7**	**-0.4**
ELDTW	**Lidau**	**2.45**	**214**	*e*P	**Pn**	**14 54 55.7**	**-0.9**
	baz=209						
JIKM	**Ikemajima**	**2.50**	**96**	*e*S	**Sn**	**14 55 29.8**	**+0.6**
TPUB	**Ta-pu**	**2.58**	**222**	*e*P	**Pn**	**14 54 59.1**	**+1.1**
	baz=221						
STYH	**Taoyuan**	**2.59**	**218**	*e*P	**Pn**	**14 54 59.0**	**+0.9**
	baz=224						
JMJ2	**Miyako jima3**	**2.60**	**100**	P	**Pn**	**14 54 59.0**	**+0.8**
JMJ2				*e*S	**Sn**	**14 55 31.3**	**-0.1**
WTP	**Ta-pu**	**2.63**	**222**	*e*P	**Pn**	**14 54 58.4**	**-0.3**
	baz=221						
WTP				*e*S	**Sn**	**14 55 31.0**	**-1.2**
	baz=221						
JOGS	**Gusukube**	**2.67**	**100**	S	**Sn**	**14 55 32.8**	**-0.1**
CHN1	**Nanshi**	**2.73**	**222**	*e*P	**Pn**	**14 54 59.9**	**+0.1**
	baz=220						

*NNC **06** 14:55:09.5±5.5, 37.22N×71.02E, h0km, mb3.9, mpv3.8,*
Error ellipse: s-maj=44.4km s-min=33.2km az=162.0
ISC 06 14:55:08.7±3.7, 36.9N±0.2×71.1E±0.1, h88km, n12,
σ0.79/15, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.65**	**20**	P	**Pn**	**14 56 31.3**	**+0.8**
	SNR=52						
UCH	**Uchtor**	**6.00**	**25**	P	**Pn**	**14 56 35.4**	**+0.1**
	SNR=19						
EKS2	**Erkin-Say**	**6.17**	**19**	P	**Pn**	**14 56 38.4**	**+1.0**
	SNR=13						
KK08	**Karatay Array**	**6.26**	**356**	⇑P	**Pn**	**14 56 39.8**	**+1.3**
	2.0nm,0.3s,baz=171,slow=11						
KK08				⇑S	**Sn**	**14 57 47.7**	**-0.8**
	14nm,0.8s,baz=179,slow=21						
AAK	**Ala-Archa**	**6.36**	**24**	P	**Pn**	**14 56 40.7**	**+0.8**
	SNR=22						
AAK	**Ala-Archa**	**6.36**	**24**	⇑P	**Pn**	**14 56 40.5**	**+0.6**
	7.1nm,0.4s						
AAK				⇑S	**Sn**	**14 57 51.4**	**+0.3**
	6.3nm,0.8s						
KBK	**Karagaybulak**	**6.53**	**26**	P	**Pn**	**14 56 43.4**	**+1.2**
	SNR=6.3						
CHMS	**Chumysh**	**6.76**	**24**	P	**Pn**	**14 56 44.9**	**-0.4**
	SNR=5.7						
USP	**Ospenovka**	**6.93**	**21**	P	**Pn**	**14 56 47.0**	**-0.6**
	SNR=12						
TKM2	**Tokmak 2**	**7.00**	**29**	P	**Pn**	**14 56 49.0**	**+0.3**
	SNR=8.1						
TKM2	**Tokmak 2**	**7.00**	**29**	⇓P	**Pn**	**14 56 48.5**	**-0.1**
	2.4nm,0.5s						
TKM2				⇓S	**Sn**	**14 58 06.6**	**-0.2**
	4.3nm,0.9s						
AB31	**Akbulak array**	**14.80**	**330**	⇑P	**Pn**	**14 58 32.6**	**-0.6**
	0.1nm,0.3s,baz=162,slow=11,SNR=11						

*IDC **06** 15:20:16.9±1.5, 44.05N×11.83E, h0km, mb3.6/2,*
mb1 3.5/4, mb1mx3.4/29, mbtmp3.5/4, ML3.1/2, Error
ellipse: s-maj=53.2km s-min=14.7km az=103.0
*GEN **06** 15:20:20.6, 43.99N×11.89E, h25km, Ml2.7*
*ROM **06** 15:20:20.9±0.0, 43.989N±0.003×11.906E±0.004,*
h28km, ML3.0/27, Error ellipse: s-maj=0.3km s-min=0.3km
az=53.0
*PRU **06** 15:20:20.3±0.0, 44.06N×12.28E, h0km*
*LDG **06** 15:20:21.2±0.1, 44.01N×11.98E, h6km, Ml3.0/14, Error*
ellipse: s-maj=2.6km s-min=2.0km az=63.0
ISC 06 15:20:21.0±0.8, 43.98N±0.02×11.94E±0.01, h23km±5km,
n173, σ1.43/243, 2C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**222**	P	**Pb**	**15 20 25.6**	**+0.1**
SFI				S	**Sb**	**15 20 29.6**	**+1.0**
SFI				AML	AML		
	comp=E,18200μm,0.4s						
SFI				AML	AML		
	comp=N,15485μm,0.4s						
SFI				AML	AML		
	comp=E,18150μm,0.4s						
SFI				AML	AML		
	comp=E,14300μm,0.3s						
SFI				AML	AML		
	comp=N,15490μm,0.4s						
SFI				AML	AML		
	comp=N,10785μm,0.2s						
SFI				AML	AML		
	comp=N,15505μm,0.4s						
LMD	**Lutirano**	**0.20**	**299**	P	**Pb**	**15 20 26.1**	**-0.3**
LMD				S	**Sb**	**15 20 30.4**	**+0.3**
LMD				AML	AML		
	comp=E,4425μm,0.5s						
LMD				AML	AML		
	comp=N,14900μm,0.3s						
LMD	**Lutirano**	**0.20**	**299**	P	**Pb**	**15 20 25.9**	**-0.5**
LMD				S	**Sb**	**15 20 30.3**	**+0.1**
ASQU	**Asqua**	**0.22**	**211**	⇑P	**Pb**	**15 20 27.1**	**+0.3**
ASQU				S	**Sb**	**15 20 31.6**	**+0.9**
ASQU				AML	AML		
	comp=E,4570μm,0.4s						
ASQU				AML	AML		
	comp=N,5290μm,1.2s						
ASQU	**Asqua**	**0.22**	**211**	P	**Pb**	**15 20 27.1**	**+0.3**
ASQU				S	**Sb**	**15 20 31.8**	**+1.2**
FAEN	**Faenza**	**0.31**	**351**	P	**Pb**	**15 20 28.8**	**+0.7**
FAEN				S	**Sn**	**15 20 34.3**	**-1.7**
BRSN	**Barisano**	**0.32**	**18**	P	**Pb**	**15 20 28.8**	**+0.6**
BRSN				S	**Sb**	**15 20 34.0**	**+1.0**
BRSN				AML	AML		
	comp=E,7105μm,0.7s						
BRSN				AML	AML		
	comp=N,8895μm,0.4s						
BRSN				AML	AML		
	comp=E,7180μm,0.7s						
BRSN				AML	AML		
	comp=N,8870μm,0.4s						
BRSN				AML	AML		
	comp=E,7085μm,0.7s						
BRSN				AML	AML		
	comp=N,8889μm,0.4s						
CPGN	**Carpegna, Ital**	**0.33**	**124**	P	**Pn**	**15 20 29.6**	**-0.9**
CPGN				AML	AML		
	comp=E,1825μm,0.7s						
CPGN				AML	AML		
	comp=N,2560μm,0.5s						
CPGN				AML	AML		
	comp=N,2115μm,0.6s						
CPGN				AML	AML		
	comp=E,1826μm,0.7s						
CPGN				AML	AML		
	comp=N,2565μm,0.5s						
CPGN				AML	AML		
	comp=E,2295μm,0.5s						
RUFI	**Rufina**	**0.34**	**246**	⇑P	**Pb**	**15 20 28.7**	**+0.1**
RUFI				S	**Sb**	**15 20 34.0**	**+0.2**
RUFI				AML	AML		
	comp=E,4090μm,0.5s						
RUFI				AML	AML		
	comp=N,4550μm,0.7s						
RUFI	**Rufina**	**0.34**	**246**	P	**Pb**	**15 20 28.7**	**+0.1**
RUFI				S	**Sb**	**15 20 34.8**	**+1.1**
BRIS	**BRISIGHELLA**	**0.35**	**298**	⇓P	**Pb**	**15 20 27.4**	**-1.3**
BRIS				S	**Sb**	**15 20 33.0**	**-1.1**
BRIS				AML	AML		
	comp=N,11100μm,0.3s						
BRIS				AML	AML		
	comp=E,4905μm,0.5s						
CRE	**Caprese Michel**	**0.36**	**179**	P	**Pb**	**15 20 29.2**	**+0.2**
CRE				S	**Sb**	**15 20 35.1**	**+0.8**
CRE				AML	AML		
	comp=E,1780μm,1.2s						
CRE				AML	AML		
	comp=N,2270μm,0.8s						
PARC	**Parchiule**	**0.40**	**147**	P	**Pb**	**15 20 29.9**	**+0.4**
PARC				S	**Sb**	**15 20 36.4**	**+1.2**
PARC				AML	AML		
	comp=E,1275μm,0.9s						
PARC				AML	AML		
	comp=N,1185μm,0.7s						
IMOL	**Imola, Italy**	**0.40**	**339**	P	**Pb**	**15 20 30.1**	**+0.6**
IMOL				S	**Sn**	**15 20 36.6**	**-1.7**
IMOL				AML	AML		
	comp=E,5595μm,0.9s						
IMOL				AML	AML		
	comp=N,5965μm,0.7s						
IMOL	**Imola, Italy**	**0.40**	**339**	P	**Pn**	**15 20 30.4**	**-1.1**
IMOL				S	**Sn**	**15 20 38.8**	**+0.5**
BLLA	**Bellaria**	**0.41**	**67**	P	**Pb**	**15 20 30.4**	**+0.7**
BLLA				S	**Sn**	**15 20 37.5**	**-1.0**
BLLA				AML	AML		
	comp=E,1325μm,1.5s						
BLLA				AML	AML		
	comp=N,1776μm,1.4s						
SEI	**Scarperia**	**0.43**	**280**	P	**Pb**	**15 20 29.8**	**-0.3**
SEI				S	**Sb**	**15 20 36.8**	**+0.7**
SEI				AML	AML		
	comp=E,4170μm,0.4s						
SEI				AML	AML		
	comp=N,5870μm,0.6s						
SEI	**Scarperia**	**0.43**	**280**	P	**Pb**	**15 20 29.7**	**-0.3**
SEI				S	**Sb**	**15 20 36.7**	**+0.5**
SSP9	**Sansepolcro**	**0.43**	**162**	P	**Pb**	**15 20 30.7**	**+0.7**
SSP9				S	**Sb**	**15 20 37.5**	**+1.4**
BADI	**Badiali**	**0.52**	**155**	P	**Pb**	**15 20 31.9**	**+0.3**
BADI				S	**Sn**	**15 20 40.4**	**-0.8**
BADI				AML	AML		
	comp=E,1245μm,1.0s						
BADI				AML	AML		
	comp=N,1215μm,0.4s						
MTRZ	**Monterenzio**	**0.52**	**319**	P	**Pb**	**15 20 31.4**	**-0.2**
MTRZ				S	**Sb**	**15 20 38.6**	**-0.2**
MTRZ				AML	AML		
	comp=E,3480μm,0.5s						
MTRZ				AML	AML		
	comp=N,2225μm,0.8s						
MTRZ				AML	AML		
	comp=N,2270μm,0.8s						
MTRZ				AML	AML		
	comp=E,3565μm,0.5s						
MTRZ	**Monterenzio**	**0.52**	**319**	P	**Pb**	**15 20 31.5**	**-0.2**
MTRZ				S	**Sn**	**15 20 41.0**	**-0.3**
APEC	**Apecchio**	**0.55**	**141**	P	**Pb**	**15 20 32.6**	**+0.6**
APEC				S	**Sn**	**15 20 40.9**	**-0.9**
APEC				AML	AML		
	comp=E,1165μm,1.0s						
APEC				AML	AML		
	comp=N,1205μm,0.6s						
ATMC	**Monte Cedrone**	**0.56**	**161**	P	**Pb**	**15 20 32.8**	**+0.5**
ATMC				S	**Sb**	**15 20 41.1**	**+1.1**
NARO	**Abbazia di Nar**	**0.59**	**129**	P	**Pb**	**15 20 33.2**	**+0.5**
NARO				AML	AML		
	comp=E,585μm,0.5s						
NARO				AML	AML		
	comp=N,380μm,0.7s						
MPPT	**Montemurlo**	**0.62**	**268**	P	**Pb**	**15 20 33.2**	**+0.1**
MPPT				S	**Sb**	**15 20 41.6**	**+0.2**
MPPT				AML	AML		
	comp=E,818μm,0.9s						
MPPT				AML	AML		
	comp=N,876μm,0.7s						
MPPT				AML	AML		
	comp=E,818μm,0.9s						
MPPT				AML	AML		
	comp=N,876μm,0.7s						
PIEI	**Pieia**	**0.62**	**136**	P	**Pb**	**15 20 33.5**	**+0.3**
PIEI				AML	AML		
	comp=E,587μm,0.4s						
PIEI				AML	AML		
	comp=N,493μm,1.1s						
FNVD	**Fontana Vidola**	**0.62**	**288**	P	**Pb**	**15 20 33.1**	**-0.2**
FNVD				S	**Sb**	**15 20 41.5**	**-0.1**
FNVD				AML	AML		
	comp=E,1275μm,1.0s						
FNVD				AML	AML		
	comp=N,1215μm,0.5s						
FNVD	**Fontana Vidola**	**0.62**	**288**	P	**Pb**	**15 20 33.1**	**-0.2**
FNVD				S	**Sn**	**15 20 43.7**	**-0.1**
ATPC	**Poggio Castell**	**0.62**	**143**	P	**Pn**	**15 20 34.0**	**-0.5**
ATPI	**Pietralunga -**	**0.63**	**148**	P	**Pb**	**15 20 34.0**	**+0.6**
ATPI				S	**Sb**	**15 20 42.9**	**+1.2**
ATPI				AML	AML		
	comp=E,623μm,1.3s						
ATPI				AML	AML		
	comp=N,600μm,0.6s						
ATPI				AML	AML		
	comp=N,600μm,0.6s						
ATPI				AML	AML		
	comp=E,622μm,1.3s						
ATBU	**Serra di Buran**	**0.67**	**139**	P	**Pn**	**15 20 34.9**	**-0.3**
FSSB	**Fossombrone**	**0.67**	**115**	P	**Pn**	**15 20 34.7**	**-0.4**
FSSB				AML	AML		
	comp=E,1435μm,0.3s						
FSSB				AML	AML		
	comp=N,1770μm,0.5s						
TB03	**Pietralunga**	**0.67**	**150**	P	**Pn**	**15 20 34.8**	**-0.3**
TB03				S	**Sb**	**15 20 43.9**	**+0.9**
OSSC	**Osservatorio P**	**0.68**	**228**	P	**Pb**	**15 20 34.5**	**+0.3**
OSSC				S	**Sb**	**15 20 43.5**	**+0.2**
OSSC				AML	AML		
	comp=N,1625μm,0.5s						
OSSC				AML	AML		
	comp=N,1260μm,0.8s						
OSSC				AML	AML		
	comp=N,1630μm,0.6s						
OSSC				AML	AML		
	comp=E,1515μm,0.5s						
OSSC				AML	AML		
	comp=E,1262μm,0.8s						
OSSC	**Osservatorio P**	**0.68**	**228**	P	**Pn**	**15 20 34.8**	**-0.4**
OSSC				S	**Sn**	**15 20 44.7**	**-0.5**
MTCR	**Monte La Croce**	**0.68**	**274**	P	**Pb**	**15 20 34.3**	**-0.1**
MTCR	**Monte La Croce**	**0.68**	**274**	P	**Pb**	**15 20 34.4**	**+0.1**
MTCR				S	**Sn**	**15 20 44.5**	**-0.9**
ATVO	**AVT- Monte Val**	**0.69**	**151**	P	**Pn**	**15 20 35.0**	**-0.3**
ATVO				AML	AML		
	comp=E,1505μm,0.8s						
ATVO				AML	AML		
	comp=N,1038μm,0.5s						
MPAG	**Monte Paganucc**	**0.69**	**121**	P	**Pb**	**15 20 34.8**	**+0.4**
MPAG				S	**Sn**	**15 20 45.5**	**+0.1**
MPAG				AML	AML		
	comp=N,516μm,0.5s						
MPAG				AML	AML		
	comp=N,517μm,0.5s						
MPAG				AML	AML		
	comp=E,784μm,0.6s						
ATMI	**Monte Miggiano**	**0.69**	**160**	P	**Pb**	**15 20 34.9**	**+0.5**
ATMI				S	**Sn**	**15 20 44.7**	**-0.7**
ATMI				AML	AML		
	comp=N,1465μm,0.4s						
ATMI				AML	AML		
	comp=E,1210μm,0.6s						
CSNT	**Castellina Chi**	**0.70**	**223**	P	**Pn**	**15 20 34.9**	**-0.5**
CSNT				S	**Sn**	**15 20 44.6**	**-1.0**
CSNT				AML	AML		
	comp=N,748μm,0.5s						
CSNT				AML	AML		
	comp=E,553μm,0.4s						
CSNT	**Castellina Chi**	**0.70**	**223**	P	**Pn**	**15 20 35.2**	**-0.3**
CSNT				S	**Sn**	**15 20 44.6**	**-1.0**
TB01	**Gubbio**	**0.70**	**149**	P	**Pn**	**15 20 35.2**	**-0.3**
TB02	**Pietralunga**	**0.70**	**151**	P	**Pn**	**15 20 35.3**	**-0.2**
FIU	**Minerbio Fiu**	**0.73**	**334**	P	**Pb**	**15 20 35.0**	**-0.1**
FIU				AML	AML		
	comp=E,6385μm,0.7s						
FIU				AML	AML		
	comp=N,4440μm,1.3s						
FIU				AML	AML		
	comp=E,6390μm,0.7s						
FIU				AML	AML		
	comp=N,4435μm,1.3s						
FRON	**Frontone**	**0.73**	**129**	P	**Pn**	**15 20 35.7**	**-0.3**
FRON				AML	AML		
	comp=N,1235μm,0.6s						
FRON				AML	AML		

comp=E,584μm,1.2s
ATFO Monte Foce - G 0.77 143 P Pn 15 20 36.5 0.0
ZCCA Zocca 0.79 298 P Pb 15 20 36.0 -0.1
ZCCA AML AML
comp=E,276μm,1.1s
ZCCA AML AML
comp=N,358μm,1.4s
ZCCA Zocca 0.79 298 P Pn 15 20 37.6 +0.8
ATTE AVT- Monte Tez 0.84 159 ||P Pn 15 20 37.4 -0.1
ATTE AML AML
comp=E,350μm,0.5s
ATTE AML AML
comp=N,528μm,1.0s
ATTE AML AML
comp=E,350μm,0.5s
ARVD Arcevia 0.87 123 P Pn 15 20 38.1 +0.2
FROS Frosini 0.96 217 P Pb 15 20 38.7 -0.3
FROS AML AML
comp=E,577μm,1.2s
FROS AML AML
comp=N,406μm,0.8s
FROS AML AML
comp=E,577μm,1.2s
FROS Frosini 0.96 217 P Pn 15 20 39.1 0.0
MAIM Mastiano 1.05 267 P Pn 15 20 39.3 -1.1
MAIM S Sb 15 20 52.6 -1.2
CARD Cardoso 1.05 273 P Pn 15 20 39.4 -1.0
EL6 Elcito 1.06 127 P Pb 15 20 41.3 +0.5
ASSB Assisi San Ben 1.07 151 P Pb 15 20 41.4 +0.4
CING Cingoli 1.09 123 P Pb 15 20 41.9 +0.6
SERM Sermide 1.13 336 P Pb 15 20 41.8 0.0
SERM Sermide 1.13 336 P Pb 15 20 42.9 +1.0
SERM S Sn 15 21 00.1 +4.0
SARO Sassorosso 1.13 281 P Pn 15 20 41.0 -0.5
SARO AML AML
comp=N,163μm,0.6s
SARO AML AML
comp=E,142μm,0.7s
SARO Sassorosso 1.13 281 P Pn 15 20 40.9 -0.5
VLC Villacollemand 1.14 279 P Pn 15 20 40.8 -0.7
VLC S Sn 15 20 59.3 +2.9
MCIV Monte Civitell 1.22 189 AML AML
comp=N,117μm,1.1s
MCIV AML AML
comp=E,138μm,1.2s
FDMO Fiordimonte 1.26 138 P Pb 15 20 44.0 -0.1
FDMO AML AML
comp=E,254μm,0.7s
FDMO AML AML
comp=N,232μm,0.7s
MOMA Monte Martano 1.26 159 AML AML
comp=N,294μm,0.9s
MOMA AML AML
comp=E,476μm,0.5s
AOI Ancona 1.28 109 P Pn 15 20 43.5 +0.1
EQUI Equi 1.30 279 P Pn 15 20 43.2 -0.7
TEOL Teolo 1.39 352 P Pn 15 20 44.5 -0.5
TEOL AML AML
comp=E,1695μm,0.5s
TEOL AML AML
comp=N,1435μm,0.5s
CASP Castiglione de 1.43 214 P Pn 15 20 45.9 +0.4
CASP AML AML
comp=E,174μm,0.9s
CASP AML AML
comp=N,149μm,0.3s
GRAM Graiana 1.44 291 P Pb 15 20 47.8 +0.6
GRAM S Sb 15 21 12.4 +7.2
CESX Cesi 1.45 161 AML AML
comp=E,328μm,0.5s
CESX AML AML
comp=N,272μm,0.9s
ZOVE Zovencedo 1.51 348 P Pn 15 20 46.3 -0.3
BRJN Brijuni 1.59 54 ePn Pn 15 20 47.1 -0.6
BRJN Sn Sn 15 21 06.5 -1.0
LNSS Leonessa 1.59 149 AML AML
comp=E,254μm,0.5s
LNSS AML AML
comp=N,292μm,0.7s
SMA1 SAN MARTINO 1.69 143 AML AML
comp=E,288μm,0.8s
SMA1 AML AML
comp=N,386μm,0.5s
RM33 Pellescritta (1.74 147 AML AML
comp=E,213μm,0.9s
RM33 AML AML
comp=N,135μm,1.3s
ROVR Rover Verones 1.78 340 P Pn 15 20 49.9 -0.6
ROVR AML AML
comp=E,142μm,0.5s
ROVR AML AML
comp=N,193μm,0.3s
ASOL Asolo 1.82 359 P Pn 15 20 50.7 -0.1
CGRP Cima Grappa 1.90 357 P Pn 15 20 51.6 -0.6
CGRP AML AML
comp=E,440μm,0.8s
CGRP AML AML
comp=N,566μm,0.6s
SMRN Sveta Marina 1.90 56 ePn Pn 15 20 50.9 -1.1
SMRN Sn Sn 15 21 13.1 -2.1
SALO Salr 1.92 329 P Pn 15 20 52.0 -0.3
SALO AML AML
comp=E,354μm,1.0s
SALO AML AML
comp=N,356μm,0.5s
DOSS Dosso del Somm 1.97 344 P Pn 15 20 52.7 -0.5
DOSS AML AML
comp=N,532μm,0.6s
DOSS AML AML
comp=E,448μm,1.6s
DOSS AML AML
comp=N,432μm,1.6s
DOSS AML AML
comp=E,553μm,0.6s
VARA Varagna 1.99 338 P Pn 15 20 52.8 -0.6
VARN Col Varnada, M 2.01 3 P Pn 15 20 53.0 -0.7
MAGA Magasa 2.02 333 P Pn 15 20 53.1 -0.6
MAGA AML AML
comp=E,813μm,0.5s
MAGA AML AML
comp=N,748μm,0.4s
CTI Castel Tesino 2.08 354 P Pn 15 20 54.0 -0.5
CTI AML AML
comp=E,342μm,0.4s
CTI AML AML
comp=N,438μm,0.3s
RABC Rab 2.18 68 ePn Pn 15 20 55.6 -0.1
RABC Sn Sn 15 21 20.3 -1.7
NVLJ Novalja 2.18 74 ePn Pn 15 20 55.8 0.0
NVLJ Sn Sn 15 21 20.9 -1.2
T0110 Collepietro 2.21 142 AML AML
comp=E,168μm,1.6s
T0110 AML AML
comp=N,151μm,1.5s
GAGG Gaggia 2.21 342 P Pn 15 20 55.9 -0.6
DUGI Dugi Otok 2.25 89 ePn Pn 15 20 56.9 +0.1
DUGI Sn Sn 15 21 22.8 -1.0
RIY Rijeka 2.25 53 ePn Pn 15 20 55.7 -1.2
RIY Sn Sn 15 21 22.2 -1.8
MABI Malga Bissina 2.31 334 P Pn 15 20 57.4 -0.4
MABI AML AML
comp=N,55μm,0.4s
MABI AML AML
comp=E,46μm,1.4s
SABO M.te Sabotino 2.32 30 P Pn 15 20 57.2 -0.6
SABO AML AML
comp=E,308μm,0.6s
SABO AML AML
comp=N,350μm,0.6s
STAL STALIGIAL 2.34 13 P Pn 15 20 58.1 -0.1
STAL AML AML
comp=E,348μm,1.2s
STAL AML AML
comp=N,248μm,0.7s
CIMO Cimolais 2.35 8 P Pn 15 20 57.2 -1.1
CIMO AML AML
comp=N,69μm,0.5s
CIMO AML AML
comp=E,163μm,0.7s
MPRI Monte Prat 2.38 18 P Pn 15 20 58.4 -0.3
MPRI AML AML
comp=N,593μm,1.2s
MPRI AML AML
comp=E,316μm,0.4s
KOSI Kohlern 2.51 351 P Pn 15 21 00.7 +0.1
KOSI AML AML
comp=N,162μm,1.6s
KOSI AML AML
comp=E,292μm,0.5s
APPI Appiano 2.55 349 P Pn 15 21 00.8 -0.1
APPI AML AML
comp=N,230μm,0.9s
APPI AML AML
comp=E,186μm,0.3s
CLUD Cludinico 2.56 15 P Pn 15 21 00.5 -0.6
PGF Pioggiola 2.58 237 ePn Pn 15 21 02.2 +0.7
PGF eSn Sn 15 21 33.0 +0.8
comp=E,9.5nm,0.4s
PTCC Patocco-Chiusa 2.62 22 P Pn 15 21 01.5 -0.4
PTCC AML AML
comp=E,88μm,0.6s
PTCC AML AML
comp=N,96μm,1.6s
ZOU Zoufplan 2.67 15 P Pn 15 21 02.5 -0.4
ZOU AML AML
comp=N,144μm,1.1s
ZOU AML AML
comp=E,150μm,1.5s
FVI Forni Avoltri 2.68 12 P Pn 15 21 02.6 -0.3
ZIRJ Zirje 2.70 96 ePn Pn 15 21 03.0 0.0
ZIRJ Sn Sn 15 21 33.6 -1.3
MORI Morici 2.72 91 ePn Pn 15 21 04.1 +0.8
MORI Sn Sn 15 21 35.1 -0.3
LJU Ljubljana 2.76 41 AML AML
comp=E,942μm,0.5s
LJU AML AML
comp=N,1293μm,0.8s
ABSI Aberstueckl 2.78 351 P Pn 15 21 04.0 -0.3
ABSI AML AML
comp=E,423μm,0.6s
ABSI AML AML
comp=N,238μm,0.4s
PLIT Plitvice 2.78 70 ePn Pn 15 21 04.3 +0.1
PLIT Sn Sn 15 21 36.3 -0.7
ABTA Abfaltersbach 2.79 8 Pn Pn 15 21 04.4 0.0
comp=N,3.7nm,0.3s,SNR=16
ABTA Sn Sn 15 21 37.6 +0.2
comp=N,25nm,0.4s
ACOM Acomizza, Ital 2.79 23 P Pn 15 21 04.2 -0.3
UDBI Udbina 2.80 77 ePn Pn 15 21 04.4 0.0
UDBI Sn Sn 15 21 35.8 -1.7
MOSI Grossmontoni 2.81 340 P Pn 15 21 05.5 +0.7
MOSI AML AML
comp=E,220μm,0.9s
MOSI AML AML
comp=N,314μm,0.8s
MUGIO Muggio 2.83 314 AML AML
comp=N,48μm,0.5s
MUGIO AML AML
comp=E,55μm,1.6s
VARE Varese 2.94 311 AML AML
comp=N,98μm,0.9s
VARE AML AML
comp=E,117μm,0.8s
RISI Rein 2.97 2 P Pn 15 21 07.2 +0.3
RISI AML AML
comp=E,300μm,0.4s
RISI AML AML
comp=N,378μm,0.4s
ROSI Rosskopf 2.97 353 P Pn 15 21 07.0 +0.1
OZLJ Ozalj 2.99 56 ePn Pn 15 21 06.8 -0.2
OZLJ Sn Sn 15 21 40.3 -1.8
OBKA Obir 3.13 35 ePn Pn 15 21 08.9 -0.1
comp=N,7.4nm,0.4s
OBKA *i* Sn Sn 15 21 47.1 +1.6
comp=N,10nm,0.3s
FETA Feichten 3.16 345 *i* Pn Pn 15 21 10.9 +1.5
comp=N,1.7nm,0.2s,SNR=8.4
FETA *i* Sn Sn 15 21 47.4 +1.0
comp=N,9.7nm,0.4s
KIJV Kijevo 3.22 88 ePn Pn 15 21 10.8 +0.6
KIJV Sn Sn 15 21 46.0 -1.8
KBA Koelnbreinsper 3.25 17 ePg Pn 15 21 10.9 +0.2
comp=N,1.6nm,0.1s
KBA *i* Sn Sn 15 21 49.4 +0.6
comp=N,14nm,0.4s
SBF Sospel 3.26 269 ePn Pn 15 21 12.0 +1.2
SBF eSn Sn 15 21 47.8 -1.0
comp=N,31nm,0.6s
SQTA Sankt Quirin 3.28 351 *i* Pn Pn 15 21 13.1 +2.0
comp=N,9.6nm,0.2s,SNR=23
SQTA *i* Sn Sn 15 21 49.8 +0.4
comp=N,62nm,0.7s
WTTA Wattenberg 3.29 356 *i* Pn Pn 15 21 12.6 +1.3
comp=N,1.1nm,0.1s,SNR=4.6
WTTA *i* Sn Sn 15 21 50.8 +1.1
comp=N,43nm,0.4s,SNR=7.8
WATA Walderalm 3.36 356 *e*Pn Pn 15 21 14.5 +2.2
comp=N,1.6nm,0.1s,SNR=4.8
WATA eSn Sn 15 21 53.0 +1.4
comp=N,13nm,0.2s,SNR=6.4
HVAR Hvar 3.37 102 ePn Pn 15 21 12.4 +0.2
HVAR Sn Sn 15 21 50.2 -1.2
FUSIO Fusio 3.39 318 AML AML
comp=N,38μm,1.0s
FUSIO AML AML
comp=E,51μm,0.4s
MOTA Moosalm 3.41 350 *e*Pg Pn 15 21 14.5 +1.6
comp=E,2.1nm,0.2s
MOTA *i* Sn Sn 15 21 55.3 +2.6
comp=E,15nm,0.4s
PTJ Puntijarka 3.44 55 ePn Pn 15 21 12.5 -0.8
PTJ Sn Sn 15 21 51.7 -1.8
RETA Reutte 3.60 347 *i* Pn Pn 15 21 17.0 +1.5
comp=E,2.2nm,0.2s,SNR=5.8
RETA *i* Sn Sn 15 21 58.7 +1.5
comp=E,14nm,0.5s
DAVA Damuels 3.61 337 *i* Pn Pn 15 21 17.6 +2.0
comp=E,4.8nm,0.3s,SNR=4.2
DAVA *i* Sn Sn 15 21 58.8 +1.3
comp=E,24nm,0.6s
LOBO Lobor 3.64 52 ePn Pn 15 21 15.0 -0.9
LOBO Sn Sn 15 21 55.2 -3.0
MBDF Montbardon 3.78 283 ePn Pn 15 21 18.9 +0.9
MBDF Montbardon 3.78 283 eP Pn 15 21 21.4 +3.4
MBDF eSn Sn 15 22 01.4 -0.5
comp=E,2.3nm,0.4s
RICI Ricice 3.79 96 ePn Pn 15 21 18.8 +0.8
RICI Sn Sn 15 22 01.2 -0.7
KALN Kalnik 3.85 55 ePn Pn 15 21 17.7 -1.2
KALN Sn Sn 15 22 00.8 -2.6
LMR La Mourre 4.00 263 ePn Pn 15 21 22.3 +1.5
LMR eSn Sn 15 22 06.8 -0.1
comp=E,2.2nm,0.4s
LPG La Plagne 4.00 294 ePn Pn 15 21 21.6 +0.5
LPG La Plagne 4.00 294 eP Pn 15 21 25.1 +4.0
LPG eSn Sn 15 22 06.1 -1.3
comp=E,6.8nm,0.5s
LPL La Plagne 4.02 294 ePn Pn 15 21 22.1 +0.8
LPL La Plagne 4.02 294 eP Pn 15 21 24.6 +3.3
LPL eSn Sn 15 22 06.8 -0.9
comp=E,8.6nm,0.5s
MOA Molln 4.19 22 *i* Pn Pn 15 21 23.7 +0.2
comp=E,4.4nm,0.4s,SNR=9.6
MOA eSn Sn 15 22 10.5 -1.3
comp=E,6.9nm,0.4s
ORIF Oris-en-Rattie 4.44 284 ePn Pn 15 21 28.1 +1.1
ORIF eSn Sn 15 22 16.3 -1.7
comp=E,4.1nm,0.5s
SMRF Simiane la Rot 4.60 272 ePn Pn 15 21 29.5 +0.4
CONA Conrad Observa 4.80 33 *i* Pn Pn 15 21 31.7 -0.2
comp=E,0.5nm,0.2s,SNR=5.1
CONA *i* Sn Sn 15 22 26.3 -0.6
comp=E,4.4nm,0.4s
CABF La Chapelle 4.90 305 ePn Pn 15 21 33.8 +0.5
GERES GERESS Array B 5.01 13 Pn Pn 15 21 33.9 -1.0
comp=E,0.5nm,0.3s,baz=191,slow=14,SNR=14
GERES Sn Sn 15 22 28.7 -3.4
comp=E,1.5nm,0.3s,baz=194,slow=23,SNR=11
CKRC Cesky Krumlov 5.11 18 eSN Sn 15 22 32.0 -2.3
HINF Hinteralfeld 5.23 319 ePn Pn 15 21 37.2 -0.6
HINF eSn Sn 15 22 34.4 -2.9
comp=E,8.8nm,0.4s
KHC Kasperske Hory 5.27 12 ePN Pn 15 21 37.4 -1.0
KHC ePG Pb 15 21 55.0 +2.6
KHC eSN Sn 15 22 35.8 -2.6
KHC eSG Sb 15 23 02.0 +6.7
VIVF Saint-Julien-l 5.28 282 ePn Pn 15 21 38.4 -0.1
CDF Champ du Feu 5.49 325 ePn Pn 15 21 41.1 -0.3
CDF Champ du Feu 5.49 325 *eP* Pn 15 21 45.5 +4.1
CDF eSn Sn 15 22 40.9 -2.9
comp=E,3.2nm,0.2s
HAU Haudompre 5.60 318 ePn Pn 15 21 42.7 -0.2
HAU Haudompre 5.60 318 *eP* Pn 15 21 47.1 +4.2
HAU eSn Sn 15 22 43.5 -3.0
comp=E,21nm,0.3s
MODS Modra-Piesok 5.74 38 ePN Pn 15 21 43.5 -1.3
MODS eSN Sn 15 22 45.7 -4.3
PAGF Fort de Pagny 6.28 319 ePn Pn 15 21 51.0 -1.2
PAGF eSn Sn 15 22 56.5 -6.7
comp=E,7.2nm,0.5s
SMF Signal de Mont 6.30 298 ePn Pn 15 21 51.7 -0.8
SMF eSn Sn 15 23 01.2 -2.5
comp=E,1.5nm,0.2s
LOR Lormes 6.55 303 ePn Pn 15 21 56.0 +0.1
LOR Lormes 6.55 303 *eP* Pn 15 22 00.2 +4.3
LOR eSn Sn 15 23 07.4 -2.5
comp=E,5.5nm,0.4s
SAVF Savonnieres en 6.62 317 ePn Pn 15 21 56.8 0.0
SAVF Savonnieres en 6.62 317 *eP* Pn 15 22 01.2 +4.4
SSF Saint Saulge 6.68 300 ePn Pn 15 21 56.9 -0.7
SSF eSn Sn 15 23 09.3 -3.7
comp=E,3.4nm,0.4s
BGF Bois d'Agland 6.92 295 *eP* Pn 15 22 05.7 +4.8
BRG Berggiesshubel 7.03 10 *ex* x 15 24 11.6
BRG Amp 15 24 16.8
comp=Z,2.8nm,0.7s
MTLF Montolieu 7.08 268 ePn Pn 15 22 01.2 -2.0
CLL Collm 7.36 5 *e*Pg Pb 15 22 41.0 +13
CLL eSb Sb 15 23 53.0 -2.3
CLL eSg Sn 15 24 17.0 +47
comp=Z,10.0nm,1.3s
KEST Kesra 8.48 194 Pn Pn 15 22 20.5 -1.9
comp=Z,0.4nm,0.3s,baz=11,slow=16,SNR=1.6
TORD Torodi Ar. Bea 31.96 199 P P 15 26 44.3 -1.0
comp=Z,0.5nm,0.5s,baz=26,slow=8.9,SNR=3.1
MKAR Makanchi Array 47.96 61 P P 15 28 57.9 +0.2
comp=Z,0.5nm,0.6s,baz=278,slow=8.3,SNR=6.5

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*IDC **06** 15:26:12.7±1.6, 36°.56N×98°.77W, h0km, mb3.1/1, mb1 3.8/4, mb1mx3.5/31, mbtmp3.5/4, ML3.6/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/24, Error ellipse: s-maj=28.5km s-min=11.3km az=100.0*
*TUL **06** 15:26:12.2±1.1, 36°.49N±0°.04×98°.73W±0°.05, h7km±7km, ML3.9, mb_Lg3.7/100(NEIC), Error ellipse: s-maj=5.9km s-min=5.1km az=133.0*
*NEIC **06** 15:26:12.9±1.6, 36°.46N±0°.04×98°.65W±0°.03, h9km±7km, Error ellipse: s-maj=6.6km s-min=1.5km az=149.0*
*ANF **06** 15:26:13.3±1.1, 36°.46N×98°.69W, h11km±9km, ML4.7/17, Error ellipse: s-maj=2.1km s-min=1.7km az=30.0*
ISC 06 15:26:12.6±1.0, 36°.50N±0°.03×98°.66W±0°.03, h6km±9km, n161, σ0°.99/155, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.21**	**349**	Pg	**Pg**	**15 26 17.1**	**+0.2**
OK035				Sg	**Sg**	**15 26 20.4**	**+0.6**
U32A	**Winter Ranch,**	**0.30**	**247**	Pg	**Pg**	**15 26 17.4**	**-1.2**
U32A				Sg	**Sg**	**15 26 21.0**	**-1.6**
CROK	**Carrier**	**0.54**	**89**	Pg	**Pg**	**15 26 23.9**	**+0.8**
KAN14	**Manchester OK**	**0.72**	**50**		**Pg**	**15 26 26.9**	**+0.4**
KAN14				Sg	**Sg**	**15 26 36.6**	**+0.7**
GC02	**Grant County #**	**0.73**	**61**	Pg	**Pg**	**15 26 27.1**	**+0.5**
KAN10	**Anthony SW Sta**	**0.77**	**36**	Pg	**Pg**	**15 26 27.6**	**+0.2**
KAN10				Sg	**Sg**	**15 26 38.2**	**+0.8**
KAN16	**Harper SW Stat**	**0.87**	**33**	Pg	**Pg**	**15 26 29.4**	**+0.1**
KAN05	**Bluff City Nor**	**0.88**	**46**		**Pg**	**15 26 29.8**	**+0.4**
KAN17	**Caldwell West**	**0.90**	**52**		**Pg**	**15 26 30.1**	**+0.2**
KAN08	**Anthony NE Sta**	**0.91**	**37**		**Pg**	**15 26 30.2**	**+0.1**
KAN12	**Harper NE Stat**	**0.96**	**33**	Pg	**Pg**	**15 26 30.9**	**-0.1**
KAN01	**Argonia South**	**0.97**	**47**		**Pg**	**15 26 31.5**	**+0.2**
KAN06	**Argonia West S**	**0.98**	**40**		**Pg**	**15 26 31.6**	**+0.1**
KAN13	**South Haven SW**	**1.08**	**61**		**Pg**	**15 26 33.4**	**+0.1**
BLOK	**Blackwell**	**1.19**	**77**	Pn	**Pb**	**15 26 35.3**	**-0.3**
BCOK	**Bluff Creek, N**	**1.19**	**134**		**Pb**	**15 26 34.9**	**-0.8**
OK025	**Westminster Rd**	**1.41**	**130**		**Pn**	**15 26 38.6**	**-0.1**
OKCFA	**Oklahoma City**	**1.46**	**137**		**Pn**	**15 26 39.3**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.47**	**137**		**Pn**	**15 26 39.5**	**-0.2**
OK031	**S. Brethren Rd**	**1.57**	**110**		**Pn**	**15 26 41.1**	**+0.1**
FNO	**Franklin**	**1.60**	**140**	Pn	**Pn**	**15 26 41.7**	**+0.2**
QUOK	**Quay**	**1.61**	**101**	Pn	**Pn**	**15 26 42.0**	**+0.5**
OK030	**Cody Creek RV**	**1.62**	**110**		**Pn**	**15 26 42.0**	**+0.3**
OK034	**N. Norfolk Rd.**	**1.64**	**107**		**Pn**	**15 26 42.5**	**+0.4**
WMOK	**Wichita Mounta**	**1.76**	**183**		**Pn**	**15 26 42.7**	**-0.9**
WMOK	**Wichita Mounta**	**1.76**	**183**	P	**Pn**	**15 26 42.7**	**-0.9**
	baz=1.3,SNR=120						
WMOK				S	**Sn**	**15 27 06.4**	**0.0**
	baz=1.3						
T35A	**Sooner Cattle**	**1.77**	**76**		**Pn**	**15 26 44.2**	**+0.4**
R32A	**Long Quarter,**	**1.92**	**359**		**Pn**	**15 26 45.9**	**0.0**
R32A				IAmb_Lg		15 27 16.5	
	comp=Z,318nm,0.8s						
W35A	**Tecumseh**	**1.97**	**132**		**Pn**	**15 26 46.5**	**-0.1**
X34A	**Smith Ranch, M**	**2.01**	**160**	Pn	**Pn**	**15 26 46.7**	**-0.3**
TUL1	**Leonard**	**2.39**	**103**	Pn	**Pn**	**15 26 52.8**	**+0.5**
TUL1				IAmb_Lg		15 27 32.1	
	comp=Z,288nm,0.8s						
TUL1	**Leonard**	**2.39**	**103**	P	**Pn**	**15 26 52.7**	**+0.5**
	baz=285,SNR=48						
TUL1				Sb	**Sb**	**15 27 27.0**	**+1.2**
	baz=285						
CBKS	**Cedar Bluff**	**2.47**	**340**	P	**Pn**	**15 26 54.1**	**+0.7**
	baz=161,SNR=39						
CBKS				S	**Sb**	**15 27 26.2**	**-1.8**
	baz=161						
LOOK	**Love County**	**2.78**	**154**	Pn	**Pn**	**15 26 57.9**	**+0.3**
LOOK				IAmb_Lg		15 27 42.4	
	comp=Z,232nm,0.8s						
AMTX	**Amarillo**	**2.94**	**238**	IAmb_Lg		15 27 51.7	
	comp=Z,412nm,0.9s						
AMTX	**Amarillo**	**2.94**	**238**	P	**Pn**	**15 27 00.1**	**+0.1**
	baz=55						
AMTX				Sb	**Sb**	**15 27 42.6**	**+0.9**
	baz=55						
KSU1	**Kansas State U**	**3.06**	**31**	Pn	**Pn**	**15 27 02.5**	**+0.9**
KSU1	**Kansas State U**	**3.06**	**31**	P	**Pn**	**15 27 02.5**	**+0.9**
	baz=213,SNR=15						
KSU1				Sb	**Sg**	**15 27 49.4**	**-1.6**
	baz=213						
X37A	**Clayton**	**3.29**	**124**	Pn	**Pn**	**15 27 04.8**	**+0.2**
X37A				IAmb_Lg		15 28 04.9	
	comp=Z,289nm,0.8s						
Z35A	**Perchaven, San**	**3.36**	**160**	Pn	**Pn**	**15 27 06.0**	**+0.3**
U38A	**Gravette**	**3.44**	**90**	Pn	**Pn**	**15 27 07.8**	**+1.1**
U38A				IAmb_Lg		15 28 04.4	
	comp=Z,194nm,0.7s						
HHAR	**Hobbs**	**3.81**	**92**	Pn	**Pn**	**15 27 12.3**	**+0.4**
ABTX	**Abilene, Hawle**	**3.95**	**192**	Pn	**Pn**	**15 27 13.1**	**-0.7**
ABTX	**Abilene, Hawle**	**3.95**	**192**	P	**Pn**	**15 27 13.0**	**-0.7**
	baz=11						
KSCO	**Kaye Shedlock'**	**4.02**	**310**	Pn	**Pn**	**15 27 15.0**	**+0.1**
KSCO				IAmb_Lg		15 28 29.9	
	comp=Z,223nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.02**	**310**	P	**Pn**	**15 27 14.8**	**-0.1**
	baz=128,SNR=14						
KSCO				Sb	**Sb**	**15 28 16.4**	**+3.5**
	baz=128						
W39A	**Magazine**	**4.17**	**107**	Pn	**Pn**	**15 27 16.9**	**+0.2**
W39A	**Magazine**	**4.17**	**107**	P	**Pn**	**15 27 16.9**	**+0.2**
	baz=289						
MSTX	**Muleshoe**	**4.21**	**234**	Pn	**Pn**	**15 27 16.7**	**-0.7**
MSTX				IAmb_Lg		15 28 29.3	
	comp=Z,135nm,0.8s						
MSTX	**Muleshoe**	**4.21**	**234**	P	**Pn**	**15 27 16.9**	**-0.5**
	baz=52						
MSTX				Sb	**Sb**	**15 28 20.2**	**+1.9**
	baz=52						
N33A	**J Bar K, Exete**	**4.34**	**12**	Pn	**Pn**	**15 27 18.1**	**-1.0**
N33A				IAmb_Lg		15 28 42.2	
	comp=Z,209nm,0.7s						
Z38A	**Mt. Pleasant**	**4.42**	**136**	Pn	**Pn**	**15 27 20.1**	**-0.1**
Z38A				IAmb_Lg		15 28 35.9	
	comp=Z,177nm,0.8s						
S39A	**Bolivar**	**4.43**	**73**	Pn	**Pn**	**15 27 20.9**	**+0.6**
S39A				IAmb_Lg		15 28 34.3	
	comp=Z,172nm,0.8s						
MIAR	**Mount Ida**	**4.58**	**114**	Pn	**Pn**	**15 27 23.0**	**+0.6**
MIAR				IAmb_Lg		15 28 51.2	
	comp=Z,205nm,1.2s						
MIAR	**Mount Ida**	**4.58**	**114**	P	**Pn**	**15 27 22.8**	**+0.4**
	baz=296						
MIAR				S	**Sn**	**15 28 16.4**	**+0.6**

	baz=296					
WHTX	**Lake Whitney,**	**4.60 167**	Pn	**Pn**	**15 27 22.3**	**-0.4**
WHTX	**Lake Whitney,**	**4.60 167**	P	**Pn**	**15 27 22.3**	**-0.4**
	baz=347					
WHTX			S	**Sn**	**15 28 17.2**	**+0.7**
	baz=347					
T25A	**Trinidad**	**4.66 280**	Pn	**Pn**	**15 27 22.8**	**-1.0**
T25A			IAmb_Lg		15 28 41.4	
	comp=Z,212nm,1.0s					
T25A	**Trinidad**	**4.66 280**	P	**Pn**	**15 27 23.1**	**-0.6**
	baz=96,SNR=10					
T25A			Sb	**Sb**	**15 28 35.1**	**+3.8**
	baz=96					
U40A	**Yellville**	**4.68 90**	Pn	**Pn**	**15 27 23.8**	**-0.1**
U40A			IAmb_Lg		15 28 39.5	
	comp=Z,146nm,0.7s					
U40A	**Yellville**	**4.68 90**	P	**Pn**	**15 27 23.9**	**+0.1**
	baz=273					
BGNE	**Belgrade**	**4.92 4**	Pn	**Pn**	**15 27 26.6**	**-0.5**
BGNE			IAmb_Lg		15 29 02.0	
	comp=Z,149nm,0.8s					
BGNE	**Belgrade**	**4.92 4**	P	**Pn**	**15 27 26.8**	**-0.2**
	baz=185,SNR=8.7					
BGNE			S	**Sn**	**15 28 25.2**	**+0.9**
	baz=185					
N35A	**Tabor**	**4.95 28**	Pn	**Pn**	**15 27 27.0**	**-0.6**
237A	**Washetta, Mont**	**5.07 151**	IAmb_Lg		15 29 07.6	
	comp=Z,164nm,0.9s					
P38A	**Dawn**	**5.11 51**	Pn	**Pn**	**15 27 29.9**	**+0.2**
X40A	**Basin Creek Fa**	**5.16 111**	Pn	**Pn**	**15 27 31.2**	**+0.9**
X40A			IAmb_Lg		15 29 04.4	
	comp=Z,144nm,0.8s					
X40A	**Basin Creek Fa**	**5.16 111**	P	**Pn**	**15 27 31.5**	**+1.2**
	baz=294					
MGMO	**Mountain Grove**	**5.17 81**	Pn	**Pn**	**15 27 30.8**	**+0.3**
OGNE	**Ogallala**	**5.17 330**	Pn	**Pn**	**15 27 30.8**	**+0.2**
OGNE			IAmb_Lg		15 28 57.7	
	comp=Z,212nm,0.7s					
OGNE	**Ogallala**	**5.17 330**	P	**Pn**	**15 27 31.2**	**+0.7**
	baz=149					
WHAR	**Wooly Hollow**	**5.31 101**	Pn	**Pn**	**15 27 33.3**	**+0.9**
WHAR			IAmb_Lg		15 29 05.1	
	comp=Z,142nm,1.1s					
FCAR	**Ozark Folk Cen**	**5.32 95**	Pn	**Pn**	**15 27 33.2**	**+0.6**
FCAR			IAmb_Lg		15 29 07.7	
	comp=Z,94nm,0.7s					
WLAR	**White Oak Lake**	**5.34 120**	IAmb_Lg		15 29 17.0	
	comp=Z,199nm,1.0s					
W41B	**Gary Mavity, V**	**5.37 102**	Pn	**Pn**	**15 27 34.1**	**+0.8**
W41B			IAmb_Lg		15 29 07.1	
	comp=Z,119nm,0.7s					
W41B	**Gary Mavity, V**	**5.37 102**	P	**Pn**	**15 27 33.6**	**+0.4**
	baz=286					
R40A	**Maddies Statio**	**5.39 69**	Pn	**Pn**	**15 27 34.0**	**+0.5**
R40A			IAmb_Lg		15 29 05.5	
	comp=Z,92nm,0.8s					
SDCO	**Great Sand Dun**	**5.61 285**	Pn	**Pn**	**15 27 36.6**	**-0.2**
SDCO			IAmb_Lg		15 29 17.3	
	comp=Z,92nm,1.1s					
SDCO	**Great Sand Dun**	**5.61 285**	P	**Pn**	**15 27 36.7**	**-0.2**
	baz=101,SNR=16					
Q24A	**Divide**	**5.70 298**	Pn	**Pn**	**15 27 37.1**	**-1.0**
Q24A			IAmb_Lg		15 29 09.3	
	comp=Z,97nm,0.8s					
Q24A	**Divide**	**5.70 298**	P	**Pn**	**15 27 38.0**	**-0.1**
	baz=114					
L34A	**Svendsen Farm,**	**5.74 17**	Pn	**Pn**	**15 27 37.2**	**-1.2**
435B	**Jarrell**	**5.77 171**	Pn	**Pn**	**15 27 38.3**	**-0.4**
435B			IAmb_Lg		15 29 28.1	
	comp=Z,98nm,0.8s					
Z41A	**Richland Creek**	**5.80 122**	IAmb_Lg		15 29 31.1	
	comp=Z,108nm,0.8s					
N38A	**Joes South For**	**6.03 43**	Pn	**Pn**	**15 27 42.0**	**-0.3**
P40A	**Paris**	**6.03 58**	Pn	**Pn**	**15 27 42.4**	**0.0**
LCAR	**Lake Charles**	**6.08 92**	Pn	**Pn**	**15 27 42.9**	**-0.1**
JCT	**Junction City**	**6.08 189**	IAmb_Lg		15 29 40.8	
	comp=Z,122nm,0.9s					
T42A	**Van Buren**	**6.10 83**	Pn	**Pn**	**15 27 43.8**	**+0.5**
CCM	**Cathedral Cave**	**6.11 73**	Pn	**Pn**	**15 27 44.6**	**+1.2**
CCM	**Cathedral Cave**	**6.11 73**	P	**Pn**	**15 27 44.3**	**+0.9**
	baz=258					
K31A	**O'Neill**	**6.12 359**	Pn	**Pn**	**15 27 43.5**	**0.0**
K31A			IAmb_Lg		15 29 31.4	
	comp=Z,122nm,0.7s					
CCAR	**Cane Creek**	**6.20 113**	IAmb_Lg		15 29 45.6	
	comp=Z,147nm,1.1s					
ISCO	**Idaho Springs**	**6.40 303**	Pn	**Pn**	**15 27 47.2**	**-0.5**
ISCO	**Idaho Springs**	**6.40 303**	P	**Pn**	**15 27 47.5**	**-0.1**
	baz=119					
ANMO	**Albuquerque**	**6.53 259**	Pn	**Pn**	**15 27 49.0**	**-0.4**
ANMO	**Albuquerque**	**6.53 259**	P	**Pn**	**15 27 49.5**	**+0.1**
	baz=74					
PBMO	**Poplar Bluff**	**6.62 85**	IAmb_Lg		15 29 42.3	
	comp=Z,116nm,0.7s					
FVM	**French Village**	**6.73 75**	Pn	**Pn**	**15 27 52.6**	**+0.7**
FVM			IAmb_Lg		15 29 46.1	
	comp=Z,162nm,1.0s					
SCIA	**State Center**	**6.86 36**	IAmb_Lg		15 29 56.0	
	comp=Z,150nm,0.7s					
BNM	**Barren Site**	**6.92 253**	Pn	**Pn**	**15 27 54.0**	**-0.8**
SLM	**Saint Louis**	**7.02 70**	IAmb_Lg		15 30 02.7	
	comp=Z,115nm,0.7s					
143A	**Socs Landing,**	**7.08 120**	IAmb_Lg		15 30 09.4	
	comp=Z,81nm,0.8s					
PHWY	**Pilot Hill**	**7.15 314**	IAmb_Lg		15 29 58.4	
	comp=Z,97nm,1.0s					
Y22D	**IRIS PASSCAL I**	**7.18 253**	IAmb_Lg		15 30 09.0	
	comp=Z,85nm,0.7s					
N23A	**Red Feather La**	**7.19 310**	Pn	**Pn**	**15 27 58.2**	**-0.3**
N23A	**Red Feather La**	**7.19 310**	P	**Pn**	**15 27 58.7**	**+0.2**
	baz=126					
MNTX	**Cornudas Mount**	**7.35 231**	Pn	**Pn**	**15 27 59.4**	**-1.1**
MNTX			IAmb_Lg		15 30 04.8	
	comp=Z,66nm,0.7s					
MNTX	**Cornudas Mount**	**7.35 231**	P	**Pn**	**15 27 59.7**	**-0.7**
	baz=47,SNR=5.7					
ECSD	**EROS Data Cent**	**7.39 12**	Pn	**Pn**	**15 27 59.2**	**-1.9**
ECSD	**EROS Data Cent**	**7.39 12**	P	**Pn**	**15 27 59.2**	**-1.9**
	baz=193,SNR=10					
N41A	**Harden Midland**	**7.41 53**	Pn	**Pn**	**15 28 01.4**	**+0.1**
HALT	**Halls**	**7.55 92**	IAmb_Lg		15 30 27.6	
	comp=Z,86nm,0.7s					
S44A	**Carbondale**	**7.61 78**	Pn	**Pn**	**15 28 04.0**	**+0.1**
S44A			IAmb_Lg		15 30 17.6	
	comp=Z,103nm,0.7s					
735A	**Kenedy**	**7.65 174**	IAmb_Lg		15 30 25.0	
	comp=Z,69nm,0.9s					
W45A	**Hickory Valley**	**7.81 97**	IAmb_Lg		15 30 33.0	
	comp=Z,98nm,0.8s					
P43A	**Skaggs, Pawnee**	**7.86 64**	Pn	**Pn**	**15 28 07.6**	**+0.2**
Y45A	**Yeager Farm, C**	**7.91 107**	IAmb_Lg		15 30 36.2	
	comp=Z,63nm,0.8s					
SUSD	**Miller**	**7.94 358**	Pn	**Pn**	**15 28 08.1**	**-0.4**
SUSD			IAmb_Lg		15 30 38.7	
	comp=Z,75nm,0.7s					
SUSD	**Miller**	**7.94 358**	P	**Pn**	**15 28 08.4**	**-0.2**
	baz=179					
L40A	**Anamosa**	**8.01 44**	Pn	**Pn**	**15 28 09.4**	**0.0**
Q44A	**Meyer Farm, Va**	**8.01 70**	Pn	**Pn**	**15 28 10.7**	**+1.2**
TX31	**Lajitas Ar. Si**	**8.29 212**	Pn	**Pn**	**15 28 12.8**	**-0.6**
TX32	**Lajitas Array**	**8.29 212**	Pn	**Pn**	**15 28 12.5**	**-1.0**
TXAR	**Lajitas Array**	**8.29 212**	Pn	**Pn**	**15 28 12.9**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=39,slow=12,SNR=43					
TXAR			Pg	**Pb**	**15 28 40.4**	**+3.8**
	comp=Z,0.9nm,0.3s,baz=25,slow=18,SNR=5.6					
TXAR			Lg	Lg	15 30 29.5	
	comp=Z,3.3nm,0.3s,baz=31,slow=35,SNR=7.3					
TXAR	**Lajitas Array**	**8.29 212**	Pn	**Pn**	**15 28 12.8**	**-0.7**
HDIL	**Hopedale**	**8.38 58**	Pn	**Pn**	**15 28 14.7**	**+0.2**
HDIL	**Hopedale**	**8.38 58**	P	**Pn**	**15 28 14.0**	**-0.6**
	baz=244,SNR=9.5					
RWWY	**Rawlins**	**8.43 311**	IAmb_Lg		15 30 40.7	
	comp=Z,100nm,1.1s					
I37A	**Lemond, Waseca**	**8.51 27**	IAmb_Lg		15 30 54.8	
	comp=Z,77nm,1.0s					
K22A	**Casper**	**8.64 318**	IAmb_Lg		15 30 54.6	
	comp=Z,77nm,0.8s					
RSSD	**Black Hills**	**8.65 333**	Pn	**Pn**	**15 28 18.3**	**-0.2**
RSSD	**Black Hills**	**8.65 333**	P	**Pn**	**15 28 19.3**	**+0.8**
	baz=150					
WVT	**Waverly**	**8.75 89**	Pn	**Pn**	**15 28 18.1**	**-1.6**
O44A	**Mansfield**	**8.80 62**	Pn	**Pn**	**15 28 20.8**	**+0.5**
L42A	**Oliver, Polo**	**8.88 49**	Pn	**Pn**	**15 28 21.2**	**-0.2**
JFWS	**Jewell Farm**	**9.11 43**	Pn	**Pn**	**15 28 23.8**	**-0.7**
JFWS			IAmb_Lg		15 31 09.0	
	comp=Z,79nm,0.8s					
JFWS	**Jewell Farm**	**9.11 43**	P	**Pn**	**15 28 24.7**	**+0.2**
	baz=228					
T47A	**Sharon Grove**	**9.29 84**	Pn	**Pn**	**15 28 26.7**	**-0.3**
F33A	**5 Mile Ranch,**	**9.50 10**	Pn	**Pn**	**15 28 28.1**	**-1.8**
I40A	**Norwalk**	**9.61 37**	IAmb_Lg		15 31 24.8	
	comp=Z,42nm,0.8s					
SPMN	**Marine on St.**	**9.78 25**	IAmb_Lg		15 31 31.8	
	comp=Z,43nm,0.9s					
SFIN	**Lafayette**	**9.86 63**	Pn	**Pn**	**15 28 36.3**	**+1.4**
SFIN	**Lafayette**	**9.86 63**	P	**Pn**	**15 28 36.0**	**+1.2**
	baz=251					
F36A	**Milaca**	**10.12 21**	Pn	**Pn**	**15 28 38.0**	**-0.4**
U49A	**Red Boiling Sp**	**10.37 86**	Pn	**Pn**	**15 28 43.3**	**+1.5**
PD31	**Pinedale Array**	**10.48 310**	Pn	**Pn**	**15 28 43.0**	**-0.6**
PDAR	**Pinedale Array**	**10.48 310**	Pn	**Pn**	**15 28 45.0**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=118,slow=16,SNR=3.6					
PDAR			Pg		15 29 25.4	
	comp=Z,0.4nm,0.3s,baz=121,slow=16,SNR=5.0					
PDAR			Lg	Lg	15 31 34.0	
	comp=Z,0.7nm,0.3s,baz=118,slow=19,SNR=3.9					
PDAR	**Pinedale Array**	**10.48 310**	Pn	**Pn**	**15 28 42.0**	**-1.5**
G40A	**Rib Lake**	**10.84 34**	Pn	**Pn**	**15 28 46.5**	**-1.9**
CPCT	**Cooper Cave**	**11.50 91**	Pn	**Pn**	**15 28 57.1**	**-0.3**
V51A	**Loudon**	**11.59 89**	Pn	**Pn**	**15 28 58.8**	**+0.2**
TKL	**Tuckaleechee C**	**12.07 90**	Pn	**Pn**	**15 29 05.6**	**+0.4**
S51A	**Beattyville**	**12.09 80**	Pn	**Pn**	**15 29 05.9**	**+0.5**
N49A	**Columbus Grove**	**12.14 64**	Pn	**Pn**	**15 29 05.0**	**-1.0**
Q51A	**Peebles**	**12.38 74**	Pn	**Pn**	**15 29 10.1**	**+0.8**
EYMN	**Ely**	**12.60 23**	Pn	**Pn**	**15 29 08.5**	**-3.9**
E43A	**Lone Tree Farm**	**13.17 38**	Pn	**Pn**	**15 29 17.2**	**-2.9**
N51A	**Ashland**	**13.46 66**	Pn	**Pn**	**15 29 23.8**	**-0.2**
ULM	**Lac du Bonnet**	**13.89 7**	Pn	Pn	15 29 25.2	-4.7
	comp=Z,0.6nm,0.3s,baz=186,slow=12,SNR=2.2					
ULM			Sn	Sn	15 31 51.9	-13
	comp=Z,0.4nm,0.3s,baz=278,slow=21,SNR=2.0					
ULM			Lg	Lg	15 33 22.4	
	comp=Z,0.4nm,0.3s,baz=90,slow=20,SNR=1.5					
YKA	**Yellowknife Ar**	**27.84 344**	P	**P**	**15 32 01.3**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=143,slow=9.3,SNR=2.5					
YKA			LR	LR	15 42 55.7	
	comp=Z,186nm,18.4s,baz=348,slow=36					

*JMA **06** 15:31:02.9±0.1,23°.30N×123°.02E,h51km,M2.7*
*TAP **06** 15:31:04.9,23°.35N×122°.92E,h61km±1km,ML3.1,D*
ISC 06 15:31:03.2±1.2,23°.28N±0°.04×123°.03E±0°.03,h50km,n79,
σ1°35/132,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.05**	**42**	P	**Pn**	**15 31 21.4**	**-0.3**
HATJ				S	**Sn**	**15 31 34.4**	**-0.9**
YOJ	**Yonaguni jima**	**1.18**	**359**	P	**Pn**	**15 31 23.5**	**+0.1**
YOJ				S	**Sn**	**15 31 37.9**	**-0.5**
YOJ	**Yonaguni jima**	**1.18**	**359**	*e*P	**Pn**	**15 31 23.3**	**-0.2**
	baz=4.0						
YOJ				*e*S	**Sn**	**15 31 38.1**	**-0.3**
	baz=4.0						
IRIF	**Iriomote-Funau**	**1.23**	**31**	P	**Pn**	**15 31 24.1**	**-0.1**
IRIF				*e*S	**Sn**	**15 31 38.9**	**-0.8**
JKRS	**Kuro-shima**	**1.31**	**43**	P	**Pn**	**15 31 25.3**	**+0.1**
JKRS				S	**Sn**	**15 31 40.8**	**-0.8**
HGSD	**Ruisui**	**1.49**	**279**	*i* P	**Pn**	**15 31 27.0**	**-0.6**
	baz=284						
HGSD				S	**Sn**	**15 31 44.4**	**-1.6**
	baz=284						
JIJ	**Ishigaki jima**	**1.49**	**43**	P	**Pn**	**15 31 27.2**	**-0.4**
JIJ				S	**Sn**	**15 31 44.7**	**-1.2**
EGFH	**Guangfu**	**1.52**	**285**	P	**Pn**	**15 31 27.5**	**-0.5**
	baz=283						
EGFH				*e*S	**Sn**	**15 31 44.4**	**-2.3**
	baz=283						
TWD	**Chiawan**	**1.54**	**302**	P	**Pn**	**15 31 27.8**	**-0.5**
	baz=292						
TWD				*e*S	**Sn**	**15 31 44.5**	**-2.5**
	baz=292						
CHKT	**Chengkung**	**1.54**	**264**	*e*P	**Pn**	**15 31 27.4**	**-0.9**
	baz=259						
CHKT				*e*S	**Sn**	**15 31 44.0**	**-3.1**
	baz=259						
LDUT	**Ludao**	**1.56**	**248**	*e*P	**Pn**	**15 31 28.1**	**-0.4**
	baz=248						
LDUT				*e*S	**Sn**	**15 31 45.1**	**-2.4**
	baz=248						
ESL	**Shilin**	**1.56**	**290**	*e*P	**Pn**	**15 31 27.7**	**-0.9**
	baz=281						
ETL	**Fush Village**	**1.56**	**305**	*e*P	**Pn**	**15 31 28.1**	**-0.5**
	baz=295						
ETL				*e*S	**Sn**	**15 31 44.4**	**-3.3**
	baz=295						
EYUL	**Yuli**	**1.57**	**273**	P	**Pn**	**15 31 28.6**	**-0.2**
	baz=263						
EYUL				*e*S	**Sn**	**15 31 47.0**	**-0.9**
	baz=263						
EHY	**Hungye**	**1.58**	**279**	P	**Pn**	**15 31 28.8**	**-0.1**
	baz=282						
EHY				*e*S	**Sn**	**15 31 47.6**	**-0.6**
	baz=282						
NACB	**Ninganchiao**	**1.59**	**305**	*i* P	**Pn**	**15 31 28.4**	**-0.6**
	baz=297						
NACB				*e*S	**Sn**	**15 31 44.5**	**-3.9**
	baz=297						
YULB	**Yu-li**	**1.59**	**274**	P	**Pn**	**15 31 28.9**	**-0.2**
	baz=266						
YULB				*e*S	**Sn**	**15 31 48.4**	**-0.1**
	baz=266						
FULB	**Fuli**	**1.60**	**268**	P	**Pn**	**15 31 28.4**	**-0.7**
	baz=264						
FULB				*e*S	**Sn**	**15 31 46.4**	**-2.2**
	baz=264						
EDH	**Donghe**	**1.61**	**260**	P	**Pn**	**15 31 29.1**	**-0.2**
	baz=260						
EDH				*e*S	**Sn**	**15 31 47.0**	**-2.0**
	baz=260						
ENA	**Nanau**	**1.64**	**314**	P	**Pn**	**15 31 30.1**	**+0.4**
	baz=325						
ENA				*e*S	**Sn**	**15 31 49.7**	**0.0**
	baz=325						
ETLH	**Xiulin Townshi**	**1.69**	**303**	P	**Pn**	**15 31 30.2**	**-0.2**
	baz=299						
ETLH				*e*S	**Sn**	**15 31 49.7**	**-1.3**
	baz=299						
JISG	**Ishigakijimahi**	**1.75**	**42**	P	**Pn**	**15 31 30.8**	**-0.4**
JISG				S	**Sn**	**15 31 51.0**	**-1.4**
LONT	**Longtian**	**1.79**	**258**	*e*P	**Pn**	**15 31 32.8**	**+1.1**
	baz=259						
VWDT	**VWDT**	**1.79**	**286**	P	**Pn**	**15 31 32.1**	**+0.3**
	baz=284						
NDS	**Dongshan**	**1.81**	**319**	*e*P	**Pn**	**15 31 32.8**	**+0.8**
	baz=326						
TTN	**Taitung**	**1.81**	**254**	*e*P	**Pn**	**15 31 33.8**	**+1.8**
	baz=249						
OWD	**Renai**	**1.83**	**292**	*e*P	**Pn**	**15 31 32.5**	**+0.1**
	baz=290						
OWD				*e*S	**Sn**	**15 31 52.3**	**-2.2**
	baz=290						
WHF	**Hehuan Shan**	**1.83**	**299**	P	**Pn**	**15 31 32.4**	**-0.3**
	baz=290						
WHF				*e*S	**Sn**	**15 31 53.4**	**-1.5**
	baz=290						
LYUB	**Lan-yu**	**1.84**	**227**	*e*P	**Pn**	**15 31 32.1**	**-0.3**
	baz=230						
ELDTW	**Lidau**	**1.85**	**268**	P	**Pn**	**15 31 32.6**	**-0.1**
	baz=264						
TWGBT	**Beinan**	**1.85**	**256**	*e*P	**Pn**	**15 31 32.8**	**+0.3**
	baz=257						
TWGBT				*e*S	**Sn**	**15 31 54.4**	**-0.4**
	baz=257						
TWG	**Pinlang**	**1.86**	**256**	*e*P	**Pn**	**15 31 33.2**	**+0.6**
	baz=257						
TWG				*e*S	**Sn**	**15 31 53.4**	**-1.6**
	baz=257						
CHGB	**Renai**	**1.87**	**295**	*e*P	**Pn**	**15 31 33.3**	**+0.3**
	baz=293						
CHGB				*e*S	**Sn**	**15 31 52.8**	**-2.8**
	baz=293						
NNSB	**Datong**	**1.89**	**308**	P	**Pn**	**15 31 33.5**	**+0.2**
	baz=300						
NNSB				*e*S	**Sn**	**15 31 54.2**	**-1.7**
	baz=300						
FUSS	**Fushou**	**1.90**	**301**	P	**Pn**	**15 31 33.7**	**+0.2**
	baz=300						
FUSS				*e*S	**Sn**	**15 31 55.2**	**-1.1**
	baz=300						
TWE	**Neicheng**	**1.90**	**319**	*e*P	**Pn**	**15 31 33.9**	**+0.7**
	baz=321						
TWE				*e*S	**Sn**	**15 31 55.0**	**-1.1**
	baz=321						
ENTT	**Nioudou**	**1.91**	**316**	*e*P	**Pn**	**15 31 33.8**	**+0.4**
	baz=325						
ENTT				*e*S	**Sn**	**15 31 55.9**	**-0.3**
	baz=325						
NNS	**Nan Shan**	**1.91**	**308**	P	**Pn**	**15 31 33.8**	**+0.4**
	baz=300						
NNS				*e*S	**Sn**	**15 31 55.1**	**-1.2**
	baz=300						
NDT	**Datong Townshi**	**1.91**	**314**	*e*P	**Pn**	**15 31 35.0**	**+1.5**
	baz=314						
TWT	**Tachien**	**1.96**	**300**	*e*P	**Pn**	**15 31 34.8**	**+0.6**
	baz=299						
TWT				*e*S	**Sn**	**15 31 56.5**	**-1.1**
	baz=299						
SSLB	**Suanglung**	**1.97**	**285**	*e*P	**Pn**	**15 31 34.3**	**+0.1**
	baz=283						
SSLB				*e*S	**Sn**	**15 31 57.0**	**-0.7**
	baz=283						
TDCB	**Techi**	**1.97**	**300**	P	**Pn**	**15 31 34.9**	**+0.6**
	baz=299						
TDCB				*e*S	**Sn**	**15 31 55.8**	**-2.1**
	baz=299						
TIPB	**Shuangxi**	**2.01**	**327**	*e*P	**Pn**	**15 31 35.2**	**+0.4**
	baz=329						
ECL	**Taimali**	**2.03**	**251**	P	**Pn**	**15 31 35.2**	**+0.2**
	baz=247						
ECL				*e*S	**Sn**	**15 31 59.4**	**+0.2**
	baz=247						
NWLT	**Wulai**	**2.04**	**317**	*e*P	**Pn**	**15 31 37.0**	**+1.8**
	baz=318						
NWLT				*e*S	**Sn**	**15 31 59.1**	**-0.4**
	baz=318						
SMLT	**Sun Moon Lake**	**2.04**	**288**	*e*P	**Pn**	**15 31 36.0**	**+0.7**
	baz=280						
JTJ	**Tarama**	**2.05**	**48**	P	**Pn**	**15 31 35.8**	**+0.6**
JTJ				S	**Sn**	**15 31 58.9**	**-0.7**
YHNB	**Yeheng**	**2.05**	**313**	*e*P	**Pn**	**15 31 35.9**	**+0.5**
	baz=324						
YHNB				*e*S	**Sn**	**15 31 58.9**	**-1.0**
	baz=324						
ALS	**Alishan**	**2.06**	**277**	*e*P	**Pn**	**15 31 36.8**	**+1.1**
	baz=280						
ALS				*e*S	**Sn**	**15 32 00.1**	**-0.1**
	baz=280						
NSK	**Sanguang**	**2.07**	**313**	*e*P	**Pn**	**15 31 36.5**	**+0.9**
	baz=324						
NSK				*e*S	**Sn**	**15 31 59.6**	**-0.6**
	baz=324						
STYH	**Taoyuan**	**2.07**	**268**	*e*P	**Pn**	**15 31 36.3**	**+0.7**
	baz=260						
STYH				*e*S	**Sn**	**15 31 58.2**	**-2.0**
	baz=260						
WCS	**Beigang Elemen**	**2.09**	**292**	P	**Pn**	**15 31 36.7**	**+0.9**
	baz=291						
WHP	**Taichung City**	**2.15**	**298**	*e*P	**Pn**	**15 31 38.3**	**+1.5**
	baz=297						
WHP				*e*S	**Sn**	**15 32 02.3**	**0.0**
	baz=297						
WJS	**Zhushan**	**2.18**	**285**	*e*P	**Pn**	**15 31 38.9**	**+1.9**
	baz=281						
CHN5	**Tsauling**	**2.18**	**279**	*e*P	**Pn**	**15 31 38.8**	**+1.7**
	baz=277						
EAST	**Anshuo**	**2.20**	**247**	*e*P	**Pn**	**15 31 37.5**	**+0.2**
	baz=250						
EAST				*e*S	**Sn**	**15 32 03.5**	**+0.1**
	baz=250						
TPUB	**Ta-pu**	**2.20**	**271**	*e*P	**Pn**	**15 31 39.2**	**+1.8**
	baz=273						
TPUB				*e*S	**Sn**	**15 32 03.6**	**+0.1**
	baz=273						
SLGT	**Liugui**	**2.21**	**263**	*e*P	**Pn**	**15 31 38.8**	**+1.3**
	baz=257						
WTP	**Ta-pu**	**2.22**	**270**	P	**Pn**	**15 31 39.6**	**+1.9**
	baz=264						
WTP				*e*S	**Sn**	**15 32 04.2**	**+0.3**
	baz=264						
WNT	**Mingjian**	**2.23**	**286**	*e*P	**Pn**	**15 31 40.1**	**+2.4**
	baz=284						
CHN4	**Tsaushan**	**2.24**	**272**	*e*P	**Pn**	**15 31 40.1**	**+2.3**
	baz=273						
CHN4				*e*S	**Sn**	**15 32 05.8**	**+1.5**
	baz=273						
SGST	**Jiashian**	**2.26**	**266**	*e*P	**Pn**	**15 31 39.7**	**+1.6**
	baz=260						
TSMG	**Majia**	**2.27**	**256**	*e*P	**Pn**	**15 31 39.2**	**+1.0**
	baz=257						
SSD	**Sandimen**	**2.27**	**257**	*e*P	**Pn**	**15 31 39.2**	**+0.9**
	baz=258						
LIOB	**Emei**	**2.29**	**307**	*e*P	**Pn**	**15 31 40.6**	**+2.0**
	baz=307						
LIOB				*e*S	**Sn**	**15 32 06.6**	**+1.0**
	baz=307						
NSTT	**Nanjuang**	**2.29**	**306**	*e*P	**Pn**	**15 31 40.2**	**+1.6**
	baz=306						
NSTT				*e*S	**Sn**	**15 32 05.2**	**-0.5**
	baz=306						
CHN1	**Nanshi**	**2.30**	**268**	P	**Pn**	**15 31 41.2**	**+2.5**
	baz=260						
CHN1				*e*S	**Sn**	**15 32 08.8**	**+2.9**
	baz=260						
MASBT	**Mashibuluo**	**2.30**	**254**	*e*P	**Pn**	**15 31 39.8**	**+1.0**
	baz=250						
SLIU	**Shizi**	**2.31**	**243**	*e*P	**Pn**	**15 31 39.1**	**+0.3**
	baz=246						
WDLH	**Douliu**	**2.32**	**281**	*e*P	**Pn**	**15 31 40.9**	**+1.9**
	baz=278						
TCU	**Taichung**	**2.32**	**292**	*e*P	**Pn**	**15 31 41.5**	**+2.5**
	baz=291						
TCU				*e*S	**Sn**	**15 32 06.7**	**+0.4**
	baz=291						
TWQ1	**Liyutan**	**2.32**	**298**	*e*P	**Pn**	**15 31 41.3**	**+2.3**
	baz=290						
TWQ1				*e*S	**Sn**	**15 32 07.9**	**+1.5**
	baz=290						
SNST	**Tainan City**	**2.33**	**269**	*e*P	**Pn**	**15 31 41.6**	**+2.5**
	baz=266						
TWK	**Hsinying**	**2.33**	**270**	P	**Pn**	**15 31 41.7**	**+2.5**
	baz=274						
WTK	**Tuku**	**2.46**	**280**	*e*P	**Pn**	**15 31 43.2**	**+2.3**
	baz=278						
JIRB	**Irabujima**	**2.50**	**51**	P	**Pn**	**15 31 41.9**	**+0.5**
JIRB				S	**Sn**	**15 32 10.9**	**+0.3**
WRL	**Guolierlin Hig**	**2.51**	**285**

PLCA				LR	LR	16 11 53.2	
	comp=Z,68nm,18.7s,baz=188,slow=30						
LVC	**Limon Verde**	**40.55**	**99**	P		**P**	**15 59 37.2 +0.5**
	1.4nm,0.4s,baz=258,slow=14,SNR=1.6						
LPAZ	**La Paz**	**42.63**	**90**	P		**P**	**15 59 54.6 +0.4**
	0.3nm,0.4s,baz=235,slow=12,SNR=1.3						
NVAR	**Mina Array Bea**	**61.07**	**355**	P		**P**	**16 02 11.4 +0.5**
	2.3nm,0.6s,baz=186,slow=9.3,SNR=16						
PDAR	**Pinedale Array**	**65.28**	**3**	P		**P**	**16 02 37.5 -1.3**
	0.8nm,0.6s,baz=174,slow=6.4,SNR=10						
YKA	**Yellowknife Ar**	**84.97**	**359**	P		**P**	**16 04 31.0 -0.5**
	0.3nm,0.6s,baz=176,slow=5.7,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**88.50**	**291**	T		T	17 42 21.4
	baz=114,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**88.52**	**291**	T		T	17 42 32.1
	baz=114,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**88.52**	**291**	T		T	17 42 27.2
	baz=114,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**88.83**	**292**	T		T	17 42 57.7
	baz=117						
H11N1	**WAKE ISLAND Hy**	**88.85**	**292**	T		T	17 42 55.2
	baz=117						
H11N2	**WAKE ISLAND Hy**	**88.85**	**292**	T		T	17 42 57.8
	baz=117						
ARU	**Arti**	**145.80**	**8**	PKPbc		**PKPab**	**16 11 37.2 +1.2**
	0.4nm,0.3s,baz=266,slow=5.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**146.08**	**341**	PKPbc		**PKPbc**	**16 11 36.3 -0.3**
	1.4nm,0.7s,baz=54,slow=3.0,SNR=6.5						
BVAR	**Borovoye Array**	**149.68**	**356**	PKPbc		**PKiKP**	**16 11 47.2 -0.2**
	1.9nm,0.6s,baz=345,slow=2.3,SNR=12						
CMAR	**Chiang Mai Arr**	**149.85**	**268**	PKPbc		**PKiKP**	**16 11 48.9 +0.2**
	0.2nm,0.3s,baz=108,slow=2.0,SNR=2.0						
KURBB	**Kurchatov Arra**	**150.77**	**345**	PKPbc		**PKPbc**	**16 11 49.0 0.0**
	0.9nm,0.5s,baz=25,slow=2.1,SNR=14						
KVAR	**Kislovodsk Arr**	**150.87**	**38**	PKPbc		**PKiKP**	**16 11 50.8 +0.5**
	2.7nm,0.6s,baz=34,slow=7.3,SNR=2.5						
KBZ	**Khabaz**	**151.13**	**38**	PKPbc		**PKiKP**	**16 11 50.7 +0.1**
	1.9nm,0.9s,baz=277,slow=8.1,SNR=2.1						
MKAR	**Makanchi Array**	**153.04**	**336**	PKPbc		**PKPbc**	**16 11 54.5 +0.2**
	0.6nm,0.6s,baz=15,slow=1.6,SNR=6.8						

*PRE **06** 16:34:36.5±1.0,26°.44S×27°.67E,h2km,ML3.0*
*IDC **06** 16:34:39.1±4.0,26°.35S×27°.31E,h0km,mb3.7/2,*
mb1 3.8/3,mb1mx3.4/40,mbtmp3.6/3,ML3.4/1,MS3.5/2,
Ms1 3.5/2,ms1mx2.7/63,Error ellipse: s-maj=97.0km
s-min=17.6km az=114.0
*EAF **06** 16:34:40.0±1.1,26°.44S×27°.53E,h0km±20km,MD3.9*
*BUL **06** 16:34:40.0±1.1,26°.44S×27°.53E,h0km±20km,MD4.2*
ISC 06 16:34:37.3±1.2,26°.39S±0°.03×27°.64E±0°.04,h8km±8km,
n26,σ1§84/47,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**0.50**	**5**	*e*P	**Pg**	**16 34 47.4**	**+0.3**
HRAO				*e*S	**Sg**	**16 34 53.9**	**+0.2**
HRAO				IAML		16 34 57.6	
	comp=Z,762nm,0.2s						
PRYS	**Parys**	**0.59**	**205**	*e*P	**Pg**	**16 34 47.8**	**-0.9**
PRYS				*e*S	**Sg**	**16 34 55.2**	**-1.2**
PRYS				IAML		16 34 59.5	
	comp=Z,787nm,0.5s						
KSR	**Koster**	**0.86**	**309**	*e*P	**Pg**	**16 34 53.7**	**-0.1**
KSR				*e*S	**Sn**	**16 35 06.5**	**-2.1**
KSR				IAML		16 35 12.2	
	comp=Z,2μm,0.2s						
SLR	**Silverton**	**0.87**	**42**	*e*P	**Pb**	**16 34 54.2**	**-0.6**
SLR				*e*S	**Sb**	**16 35 06.3**	**-0.4**
SLR				IAML		16 35 14.1	
	comp=Z,406nm,0.2s						
SWZ	**Schweizer**	**2.21**	**249**	*e*P	**Pn**	**16 35 15.1**	**+0.7**
SWZ				*e*S	**Sb**	**16 35 43.9**	**-1.2**
SWZ				IAML		16 35 46.4	
	comp=Z,370nm,0.3s						
LBTB	**Lobatse**	**2.30**	**306**	*e*P	**Pb**	**16 35 17.5**	**-1.6**
LBTB				*e*S	**Sb**	**16 35 46.5**	**-1.2**
LBTB				IAML		16 35 49.8	
	comp=Z,190nm,0.2s						
LBTB	**Lobatse**	**2.30**	**306**	*i* P	**Pb**	**16 35 18.8**	**-0.3**
LBTB				*e*Sg	**Sg**	**16 35 49.8**	**-1.4**
LBTB	**Lobatse**	**2.30**	**306**	*i* P	**Pb**	**16 35 18.8**	**-0.3**
LBTB				*e*Sg	**Sg**	**16 35 49.8**	**-1.4**
BOSA	**Boshof**	**3.06**	**223**	Pn	**Pn**	**16 35 26.9**	**+0.8**
	comp=Z,3.4nm,0.3s,baz=42,slow=12,SNR=120						
BOSA				Pg	**Pb**	**16 35 34.0**	**+1.9**
	comp=Z,6.0nm,0.3s,baz=46,slow=17,SNR=13						
BOSA				Sn	**Sn**	**16 36 00.6**	**-2.4**
	comp=Z,7.8nm,0.3s,baz=30,slow=15,SNR=9.5						
BOSA				Lg	Lg	16 36 09.5	
	comp=Z,21nm,0.3s,baz=314,slow=16,SNR=13						
BOSA	**Boshof**	**3.06**	**223**	*e*P	**Pn**	**16 35 26.6**	**+0.6**
BOSA				*e*S	**Sn**	**16 36 03.7**	**+0.8**
BOSA				IAML		16 36 18.2	
	comp=Z,47nm,0.7s						
BOSA	**Boshof**	**3.06**	**223**	*i* P	**Pn**	**16 35 28.3**	**+2.2**
BOSA				*i* Sg	**Sb**	**16 36 11.4**	**+1.7**
BOSA	**Boshof**	**3.06**	**223**	*i* P	**Pn**	**16 35 28.3**	**+2.2**
BOSA				*i* Sg	**Sb**	**16 36 11.4**	**+1.7**
POGA	**Pongola**	**3.75**	**106**	*e*P	**Pn**	**16 35 36.0**	**+0.5**
POGA				*e*S	**Sn**	**16 36 19.0**	**-0.9**
POGA				IAML		16 36 38.8	
	comp=Z,102nm,0.5s						
MSNA	**Messina**	**4.58**	**29**	*e*P	**Pn**	**16 35 47.1**	**+0.2**
MSNA				*e*S	**Sn**	**16 36 37.4**	**-2.9**
MSNA				IAML		16 37 06.7	
	comp=Z,44nm,0.6s						
HVD	**Gariep Dam**	**4.60**	**204**	*e*P	**Pn**	**16 35 47.6**	**+0.3**
HVD				*e*S	**Sn**	**16 36 39.4**	**-1.6**
HVD				IAML		16 37 25.9	
	comp=Z,23nm,3.6s						
PKA	**Prieska**	**5.41**	**232**	*e*P	**Pn**	**16 35 59.0**	**+0.7**
PKA				*e*S	**Sn**	**16 36 58.6**	**-2.2**
PKA				IAML		16 37 31.2	
	comp=Z,14nm,0.6s						
MATP	**Matopo**	**5.99**	**8**	*i* P	**Pn**	**16 36 10.2**	**+3.8**
MATP				*i* S	**Sn**	**16 37 14.9**	**-0.4**
MATP	**Matopo**	**5.99**	**8**	*i* P	**Pn**	**16 36 10.2**	**+3.8**
MATP				*i* S	**Sn**	**16 37 14.9**	**-0.4**
UPI	**Upington**	**6.01**	**250**	*e*P	**Pn**	**16 36 07.2**	**+0.6**
UPI				*e*S	**Sn**	**16 37 13.4**	**-2.1**
UPI				IAML		16 37 46.6	
	comp=Z,17nm,0.4s						
SOE	**Somerset East**	**6.55**	**196**	*e*P	**Pn**	**16 36 13.7**	**-0.3**
SOE				*e*S	**Sn**	**16 37 25.6**	**-3.3**
SOE				IAML		16 37 57.4	
	comp=Z,49nm,5.7s						
GRAN	**Grantham**	**7.58**	**218**	*e*P	**Pn**	**16 36 29.1**	**+1.0**
GRAN				*e*S	**Sn**	**16 37 50.3**	**-3.9**
GRAN				IAML		16 37 56.6	
	comp=Z,5.1nm,0.5s						
CVNA	**Calvinia**	**8.56**	**232**	*e*P	**Pn**	**16 36 42.1**	**+0.5**
CVNA				*e*S	**Sn**	**16 38 14.2**	**-4.3**
CVNA				IAML		16 39 22.5	
	comp=Z,23nm,1.2s						
TSUM	**Tsumeb**	**11.71**	**306**	LR	LR	16 41 50.8	
	comp=Z,39nm,19.5s,baz=149,slow=38						
TORD	**Torodi Ar. Bea**	**46.70**	**324**	P		**P**	**16 43 08.3**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=143,slow=6.7,SNR=6.0						
ESDC	**Sonseca Array**	**72.03**	**335**	P		**P**	**16 46 03.5**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=153,slow=5.2,SNR=2.1						
BORG	**Borgarnes**	**98.44**	**341**	LR	LR	17 38 52.6	
	comp=Z,116nm,19.4s,baz=323,slow=39						

*IPEC **06** 16:45:38.0±0.4,51°.53N×16°.24E,h0km±2km,ML2.5/3,*
Error ellipse: s-maj=2.7km s-min=1.6km az=16.0
*IDC **06** 16:45:39.2±0.6,51°.44N×16°.07E,h0km,mb3.3/1,*
mb1 3.4/10,mb1mx3.2/44,mbtmp3.3/10,ML3.0/9,Error
ellipse: s-maj=10.4km s-min=6.5km az=105.0
*PRU **06** 16:45:39.8±0.0,51°.44N×16°.11E,h0km*
*VIE **06** 16:45:41.6±0.6,51°.29N×15°.88E,h0km,mb2.8/10,*
ml2.7/14,ms3.7/1,Error ellipse: s-maj=5.3km s-min=3.3km
az=68.0 78 km NE of Liberec Suspected Mining induced.
ISC 06 16:45:37.5±0.6,51°.53N±0°.03×16°.11E±0°.02,h0km,n57,
σ1§23/98,4C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**171**	*e*Pg	**Pg**	**16 45 51.6**	**+0.7**
KSP				*e*Sg	**Sg**	**16 46 00.1**	**+0.2**
CHVC	**Chvalec**	**0.95**	**182**	*e*PG	**Pg**	**16 45 55.8**	**+0.2**
CHVC				*e*SG	**Sg**	**16 46 07.4**	**-0.5**
	comp=Z,52nm,0.3s						
UPC	**Upice**	**1.03**	**184**	*e*PG	**Pg**	**16 45 57.6**	**+0.4**
UPC				*e*SG	**Sg**	**16 46 10.8**	**+0.3**
	comp=Z,146nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*PG	**Pg**	**16 45 59.2**	**-1.1**
DPC				*e*SG	**Sg**	**16 46 15.4**	**-0.3**
	comp=Z,40nm,0.6s						
PVCC	**Panska Ves**	**1.40**	**225**	*e*PG	**Pn**	**16 46 04.4**	**+0.1**
PVCC				*e*SG	**Sb**	**16 46 23.3**	**+0.4**
	comp=Z,188nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**245**	Pn	**Pn**	**16 46 05.9**	**0.0**
BRG				Pg	**Pg**	**16 46 07.3**	**+0.8**
BRG				Sg	**Sn**	**16 46 27.3**	**+1.0**
BRG				Amp		16 46 28.4	
	comp=Z,60nm,0.4s						
KRLC	**Kraliky**	**1.52**	**164**	*e*PG	**Pn**	**16 46 05.5**	**-0.5**
KRLC				*e*SG	**Sg**	**16 46 24.4**	**-1.9**
	comp=Z,64nm,0.4s						
PRU	**Pruhonice**	**1.84**	**213**	*e*PG	**Pb**	**16 46 11.7**	**-0.3**
PRU				*e*SG	**Sb**	**16 46 36.1**	**+0.5**
	comp=Z,40nm,0.8s						
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**16 46 12.0**	**0.0**
CLL				*e*Pg	**Pg**	**16 46 15.0**	**-0.1**
CLL				*i* x	x	16 46 19.0	
CLL				*e*Sg	**Sg**	**16 46 41.0**	**+0.6**
	comp=Z,36nm,0.3s						
RAC	**Raciborz**	**1.96**	**137**	*e*PG	**Pg**	**16 46 15.4**	**+0.3**
RAC				*e*SG	**Sg**	**16 46 40.2**	**-0.3**
MORC	**Moravsky Berou**	**1.98**	**152**	⇑P	**Pn**	**16 46 12.6**	**+0.3**
MORC				⇓S	**Sn**	**16 46 37.8**	**0.0**
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**16 46 12.2**	**-0.1**
	baz=335						
MORC				*e*Sg	**Sn**	**16 46 38.8**	**+1.0**
	comp=Z,39nm,0.4s,baz=335						
MORC	**Moravsky Berou**	**1.98**	**152**	*e*PN	**Pn**	**16 46 12.3**	**-0.1**
MORC				*e*SG	**Sn**	**16 46 38.9**	**+1.1**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pb**	**16 46 16.8**	**-0.2**
OKC				*e*SG	**Sb**	**16 46 44.4**	**+0.4**
	comp=Z,46nm,0.6s						
VRAC	**Vranov**	**2.25**	**172**	⇑P	**Pn**	**16 46 16.3**	**+0.3**
VRAC				⇓S	**Sb**	**16 46 47.9**	**+0.6**
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	**16 46 16.2**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=355,slow=13,SNR=15						
VRAC				Lg	Lg	16 46 47.4	
	comp=Z,7.2nm,0.3s,baz=25,slow=19,SNR=8.0						
VRAC	**Vranov**	**2.25**	**172**	*e*Pn	**Pn**	**16 46 16.3**	**+0.3**
	baz=354						
VRAC				*e*Sg	**Sb**	**16 46 47.9**	**+0.6**
	comp=Z,21nm,0.3s,baz=354						
TREC	**Trest**	**2.28**	**190**	*e*PG	**Pb**	**16 46 20.1**	**+0.6**
TREC				*e*SG	**Sb**	**16 46 49.8**	**+1.7**
	comp=Z,34nm,0.7s						
PBCC	**Pribram**	**2.29**	**217**	*e*PG	**Pb**	**16 46 20.5**	**+0.8**
PBCC				*e*SG	**Sb**	**16 46 49.9**	**+1.4**
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**16 46 19.6**	**+0.5**
	baz=358						
KRUC				*e*Sg	**Sb**	**16 46 55.3**	**+1.3**
	comp=Z,20nm,0.5s,baz=358						
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**16 46 22.7**	**+1.0**
NKC				*e*PG	**Pg**	**16 46 28.2**	**-0.3**
NKC				*e*SG	**Sg**	**16 47 03.4**	**+0.5**
	comp=Z,52nm,0.3s						
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**16 46 30.9**	**+2.0**
OJC				*e*Sg	**Sg**	**16 47 05.4**	**+1.8**
JAVC	**Velka Javorina**	**2.86**	**159**	*e*PN	**Pn**	**16 46 24.7**	**+0.3**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**16 46 25.7**	**+0.7**
KHC				*e*PG	**Pb**	**16 46 31.5**	**+1.4**
KHC				*e*SN	**Sn**	**16 47 00.5**	**-0.1**
KHC				*e*SG	**Sg**	**16 47 10.9**	**+0.2**
	comp=Z,22nm,0.6s						
CKRC	**Cesky Krumlov**	**2.95**	**204**	*e*PN	**Pn**	**16 46 26.7**	**+1.0**
CKRC				*e*PG	**Pb**	**16 46 32.3**	**+1.3**
CKRC				*e*SG	**Sg**	**16 47 11.0**	**-1.3**
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**	**16 46 28.2**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=27,slow=13,SNR=16						
GERES				Pg	**Pb**	**16 46 34.3**	**+0.6**
	comp=Z,5.2nm,0.3s,baz=32,slow=17,SNR=19						
GERES				Sn	**Sn**	**16 47 01.8**	**-3.9**
	comp=Z,2.5nm,0.3s,baz=20,slow=16,SNR=5.3						
GERES				Lg	Lg	16 47 15.5	
	comp=Z,5.1nm,0.3s,baz=34,slow=30,SNR=2.3						
LANS	**Liptovska Anna**	**3.21**	**137**	*e*PG	**Pg**	**16 46 39.2**	**+0.2**
LANS				*e*SG	**Sg**	**16 47 20.7**	**+0.1**
MODS	**Modra-Piesok**	**3.25**	**166**	*e*PG	**Pg**	**16 46 38.9**	**-0.9**
MODS				*e*SG	**Sb**	**16 47 19.1**	**+2.9**
KOLL	**Kolacno**	**3.31**	**153**	*e*PN	**Pn**	**16 46 31.9**	**+1.4**
NIE	**Niedzica**	**3.41**	**127**	*e*Pg	**Pg**	**16 46 43.2**	**+0.3**
NIE				*e*Sg	**Sg**	**16 47 27.0**	**0.0**
VYHS	**Vyhne**	**3.51**	**149**	*e*PN	**Pn**	**16 46 33.3**	**0.0**
VYHS				*e*PG	**Pg**	**16 46 43.9**	**-0.9**
VYHS				*e*SG	**Sb**	**16 47 27.1**	**+3.4**
CONA	**Conrad Observa**	**3.61**	**183**	*e*Pn	**Pn**	**16 46 33.0**	**-1.8**
	comp=Z,2.9nm,0.3s						
CONA				*e*Sg	**Sg**	**16 47 32.3**	**-1.2**
	comp=Z,19nm,0.5s						
MOA	**Molln**	**3.88**	**199**	*i* Pn	**Pn**	**16 46 39.2**	**+0.8**
	comp=Z,3.1nm,0.3s,SNR=8.0						
MOA				*e*Sg	**Sg**	**16 47 41.4**	**-0.6**
	comp=Z,12nm,0.5s						
ARSA	**Arzberg**	**4.30**	**185**	*e*Pn	**Pn**	**16 46 45.0**	**+0.7**
	comp=Z,2.8nm,0.3s						
ARSA				Sg	**Sg**	**16 47 55.3**	**-0.4**
	comp=Z,12nm,0.6s						
PSZ	**Piszkesteto**	**4.37**	**144**	⇓P	Pn	16 46 31.7	-13
KBA	**Koelnbreinsper**	**4.81**	**203**	Sg	**Sg**	**16 48 10.9**	**-1.1**
	comp=Z,8.8nm,0.6s						
DEL	**Delary**	**5.12**	**346**	*i* P	**Pn**	**16 46 54.0**	**-1.4**
OBKA	**Obir**	**5.13**	**192**	*e*Pn	**Pn**	**16 46 55.9**	**+0.2**
	comp=Z,2.0nm,0.3s						
OBKA				*e*Sg	**Sg**	**16 48 22.1**	**-0.2**
	comp=Z,4.9nm,0.5s						
WATA	**Walderalm**	**5.14**	**217**	*i* Pn	**Pn**	**16 46 56.7**	**+0.9**
	comp=Z,0.8nm,0.2s						
WTTA	**Wattenberg**	**5.18**	**216**	*e*Pn	**Pn**	**16 46 58.0**	**+1.6**
	comp=Z,1.4nm,0.2s,SNR=4.9						
WTTA				Sg	**Sg**	**16 48 23.7**	**0.0**
	comp=Z,3.8nm,0.3s						
MOTA	**Moosalm**	**5.31**	**220**	*i* Pn	**Pn**	**16 46 58.9**	**+0.6**
	comp=Z,1.2nm,0.2s						
ABTA	**Abfaltersbach**	**5.34**	**208**	*i* Pn	**Pn**	**16 46 58.5**	**0.0**
	comp=Z,0.9nm,0.3s						
ABTA				*e*Sg	**Sg**	**16 48 26.7**	**-2.2**
	comp=Z,7.5nm,0.6s						
RETA	**Reutte**	**5.34**	**223**	*i* Pn	**Pn**	**16 46 58.8**	**+0.2**
	comp=Z,1.1nm,0.2s,SNR=4.2						
SQTA	**Sankt Quirin**	**5.37**	**218**	*e*Pn	**Pn**	**16 47 00.1**	**+1.1**
	comp=Z,2.4nm,0.1s,SNR=8.4						
FETA	**Feichten**	**5.73**	**220**	Sg	**Sg**	**16 48 40.1**	**-1.3**
	comp=Z,1.2nm,0.4s						
DAVA	**Damuels**	**5.88**	**226**	*i* Pn	**Pn**	**16 47 05.0**	**-1.1**
	comp=Z,0.9nm,0.2s						
DAVOX	**Davos/Dischmat**	**6.27**	**223**	Pn	**Pn**	**16 47 11.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=2.3						
DAVOX				Lg	Lg	16 48 55.4	
	comp=Z,0.3nm,0.3s,baz=197,slow=16,SNR=1.7						
DRGR		**6.42**	**135**	⇑P	Pn	16 47 05.4	-7.9
BURAR	**Bucovina Array**	**7.10**	**120**	⇓P	**Pn**	**16 47 22.6**	**-0.1**
HERR	**Herculane**	**7.87**	**145**	⇑P	Pn	16 47 24.4	-8.8
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**16 47 38.0**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=282,slow=12,SNR=7.8						
AKASG				Sn	**Sn**	**16 49 07.3**	**-5.9**
	comp=Z,0.7nm,0.3s,baz=262,slow=29,SNR=4.3						
AKASG				Lg	Lg	16 50 02.4	
	baz=90,slow=9.9,SNR=1.0						
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**16 47 44.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=164,slow=15,SNR=7.2						
HFS				Sn	**Sn**	**16 49 24.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=170,slow=22,SNR=1.3						
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	**16 48 01.4**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=156,slow=19,SNR=4.8						
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**16 48 19.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=219,slow=11,SNR=5.8						
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn	**Pn**	**16 48 31.1**	**+0.2**
	baz=102,slow=13,SNR=1.5						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**P**	**16 49 53.8**	**-2.2**
	baz=193,slow=11,SNR=5.6						
YKA	**Yellowknife Ar**	**59.84**	**336**	P	**P**	**16 55 45.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=31,slow=6.9,SNR=4.0						

*NEIC **06** 17:07:45.7±2.3,44°.0N±0°.1×128°.9W±0°.2,h10km±2km,*
mb3.5/2,ML3.6/26,Error ellipse: s-maj=20.8km
s-min=14.5km az=232.0
*IDC **06** 17:07:46.1±2.8,44°.18N×128°.91W,h0km,mb3.4/4,*
mb1 3.7/8,mb1mx3.3/46,mbtmp3.4/8,ML3.4/4,MS3.4/10,
Ms1 3.4/10,ms1mx3.1/35,Error ellipse: s-maj=56.6km
s-min=20.2km az=53.0
ISC 06 17:07:47.8±1.8,44°.14N±0°.09×128°.7W±0°.2,h10km,n47,
σ1§81/34,mb3.4/3,MS3.4/7,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.42**	**110**	Pn	**Pn**	**17 08 38.1**	**-3.2**
KEBM				IAML		17 09 27.9	
	comp=N,144nm,2.3s						
KEBM				IAML		17 10 21.2	
	comp=E,162nm,2.6s						
HEBO	**Mount Hebo**	**3.69**	**71**	Pn	**Pn**	**17 08 44.7**	**-0.3**
DBO	**Dodson Butte**	**4.10**	**103**		**Pn**	**17 08 49.2**	**-1.3**
DBO				IAML		17 09 45.1	
	comp=N,62nm,3.9s						
BUCK	**Buck Mountain**	**4.12**	**87**	Pn	**Pn**	**17 08 48.9**	**-1.9**
BUCK				IAML		17 09 27.4	
	comp=E,101nm,4.7s						
BUCK				IAML		17 10 55.5	
	comp=N,80nm,5.0s						
E03A	**Lebam**	**4.35**	**55**	Pn	**Pn**	**17 08 55.0**	**+1.1**
E03A				IAML		17 09 32.4	
	comp=E,62nm,1.9s						
E03A				IAML		17 09 54.8	
	comp=N,67nm,4.1s						
HUMO	**Hull Mountain**	**4.46**	**108**	Pn	**Pn**	**17 08 54.7**	**-0.8**
WISH	**Wishkah**	**4.57**	**48**	Pn	**Pn**	**17 08 57.5**	**+0.6**
H04A	**Detroit Lake**	**4.71**	**81**		**Pn**	**17 08 59.9**	**+1.0**
C03A	**Quillayute Air**	**4.78**	**36**	Pn	**Pn**	**17 09 00.3**	**+0.5**
F04A	**Amboy**	**4.80**	**66**		**Pn**	**17 09 01.0**	**+0.9**
F04A				IAML		17 10 07.2	
	comp=E,48nm,2.2s						
F04A				IAML		17 11 00.4	
	comp=N,30nm,4.5s						
YBH	**Yreka Blue Hor**	**5.02**	**117**	Pn	**Pn**	**17 09 06.9**	**+3.7**
	comp=N,0.2nm,0.3s,baz=257,slow=4.7,SNR=6.3						
YBH				Sn	**Sn**	**17 10 01.5**	**+0.2**
	comp=N,0.3nm,0.3s,baz=54,slow=3.9,SNR=1.7						
YBH	**Yreka Blue Hor**	**5.02**	**117**		**Pn**	**17 09 02.3**	**-0.9**
YBH				IAML		17 10 32.2	
	comp=E,31nm,4.4s						
HOOD	**Mount Hood Mea**	**5.17**	**74**		**Pn**	**17 09 05.6**	**+0.4**
HOOD				IAML		17 10 21.1	
	comp=N,28nm,1.3s						
HOOD				IAML		17 10 44.8	
	comp=E,40nm,2.4s						
PINE	**Pine Mountain**	**5.62**	**91**		**Pn**	**17 09 11.6**	**+0.1**
CLRS	**Cowichan Lake**	**5.65**	**32**		**Pn**	**17 09 10.6**	**-1.1**
G08A	**Pilot Rock**	**7.04**	**77**		**Pn**	**17 09 31.8**	**+0.8**
C09A	**Chrisman Ranch**	**8.14**	**60**		**Pn**	**17 09 46.1**	**+0.2**
F10A	**Beach Ranch, E**	**8.33**	**73**		Pn	17 09 53.9	+5.3
NEW	**Newport**	**9.03**	**59**	LR	LR	17 13 41.4	
	comp=E,136nm,22.0s,baz=268,slow=39						
NVAR	**Mina Array Bea**	**9.69**	**123**	Pn	**Pn**	**17 10 09.2**	**+1.8**
	comp=E,0.2nm,0.3s,baz=356,slow=15,SNR=2.9						
HLID	**Hailey**	**10.35**	**88**		**Pn**	**17 10 18.2**	**+1.9**
YHL	**Hebgen Lake**	**12.54**	**81**		**Pn**	**17 10 45.5**	**-1.0**
PDAR	**Pinedale Array**	**13.98**	**89**	Pn	**P**	**17 11 10.9**	**-3.2**
	comp=E,0.1nm,0.3s,baz=264,slow=8.1,SNR=1.7						
PDAR				LR	LR	17 16 43.4	
	comp=E,149nm,21.6s,baz=280,slow=38						
Q16A	**Castle Valley**	**14.13**	**106**	P	**Pn**	**17 11 11.4**	**+3.3**
PFO	**Pinyon Flats O**	**14.18**	**134**	LR	LR	17 15 38.0	
	comp=E,153nm,19.1s,baz=167,slow=33						
P18A	**Preston Nutter**	**14.47**	**102**	P	**P**	**17 11 16.9**	**-2.7**
SRU	**San Rafael Swe**	**14.49**	**104**		**Pn**	**17 11 10.4**	**-2.6**
RDMU	**Red Mountain**	**14.59**	**98**	P	**P**	**17 11 23.4**	**+2.5**
U15A	**North Rim**	**14.69**	**116**		**Pn**	**17 11 16.0**	**+0.2**
MVCO	**Mesa Verde**	**16.80**	**107**		**Pn**	**17 11 41.8**	**-1.5**
MVCO				IAmb	IAmb	17 11 53.3	
	comp=Z,6.4nm,0.9s						
SDCO	**Great Sand Dun**	**18.63**	**102**	P	**P**	**17 12 03.3**	**-2.4**
SDCO				IAmb	IAmb	17 12 10.2	
	comp=Z,1.8nm,0.9s						
ANMO	**Albuquerque**	**19.41**	**111**	P	**Pn**	**17 12 16.7**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=300,slow=8.7,SNR=5.5

JKMT	**Kesennumamotoy**	**0.73**	**225**	⇓P	**Pn**	**17 47 48.3**	**-0.2**
JKMT				S	**Sn**	**17 47 57.8**	**-0.8**
JMK	**Ichinoseki**	**0.81**	**242**	⇓P	**Pn**	**17 47 49.1**	**-0.4**
JMK				S	**Sn**	**17 47 59.4**	**-1.0**
JKZ	**Kuzumaki**	**0.90**	**317**	⇓P	**Pn**	**17 47 50.9**	**+0.1**
JKZ				S	**Sn**	**17 48 02.8**	**0.0**
JIO	**Ouri**	**1.07**	**215**	⇓P	**Pn**	**17 47 52.8**	**-0.2**
JIO				S	**Sn**	**17 48 05.6**	**-1.1**
JANG	**Nango**	**1.14**	**336**	⇓P	**Pn**	**17 47 53.8**	**-0.3**
JANG				S	**Sn**	**17 48 08.5**	**-0.1**
JRG	**Rokugo**	**1.16**	**274**	⇓P	**Pn**	**17 47 54.1**	**-0.2**
JRG				S	**Sn**	**17 48 09.0**	**-0.1**
JAH	**Hinai**	**1.44**	**307**	⇓P	**Pn**	**17 47 58.0**	**0.0**
JYK	**Kaneyama**	**1.44**	**254**	⇓P	**Pn**	**17 47 58.1**	**0.0**
MJAR	**Matsushiro Arr**	**4.17**	**229**	P	**Pn**	**17 48 38.1**	**+2.6**
	0.3nm,0.3s,baz=40,slow=11,SNR=12						
MJAR				LR	LR	17 50 44.1	
	comp=Z,41nm,18.6s,baz=110,slow=45						
MAT	**Matsushiro**	**4.17**	**229**	P	**Pn**	**17 48 37.7**	**+2.1**
MAT				*e*S	**Sn**	**17 49 27.6**	**+4.6**
ASAJ	**Asahikawa**	**4.79**	**4**	P	**Pn**	**17 48 46.8**	**+2.7**
	0.8nm,0.3s,baz=118,slow=15,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.00**	**306**	P	**Pn**	**17 49 44.9**	**+3.2**
	baz=104,slow=14,SNR=5.4						
KSRS	**Korea Array**	**11.31**	**265**	P	**Pn**	**17 50 17.4**	**+4.0**
	0.2nm,0.3s,baz=73,slow=14,SNR=1.6						
SONM	**Songino Array**	**27.05**	**300**	P	**P**	**17 53 11.5**	**-0.8**
	0.2nm,0.5s,baz=118,slow=9.7,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**28.93**	**125**	T	T	18 23 59.8	
	baz=318,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.93**	**125**	T	T	18 24 06.4	
	baz=318,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**28.94**	**125**	T	T	18 24 11.1	
	baz=318,slow=75,SNR=31						
ZALV	**Zalesovo Beam**	**40.82**	**310**	P	**P**	**17 55 10.8**	**-0.2**
	1.2nm,0.4s,baz=91,slow=9.0,SNR=6.7						
CMAR	**Chiang Mai Arr**	**42.66**	**253**	P	**P**	**17 55 25.9**	**-0.7**
	0.2nm,0.6s,baz=28,slow=7.5,SNR=1.6						
MKAR	**Makanchi Array**	**43.42**	**300**	P	**P**	**17 55 32.0**	**-0.4**
	0.6nm,0.7s,baz=83,slow=12,SNR=10						
KURBB	**Kurchatov Arra**	**45.07**	**306**	P	**P**	**17 55 44.8**	**-0.7**
	1.2nm,0.6s,baz=81,slow=8.4,SNR=9.5						
ILAR	**Eielson Array**	**47.26**	**33**	P	**P**	**17 56 03.1**	**+0.6**
	0.5nm,1.0s,baz=241,slow=7.4,SNR=4.7						
BVAR	**Borovoye Array**	**49.47**	**311**	P	**P**	**17 56 19.5**	**-0.3**
	0.5nm,0.4s,baz=63,slow=6.8,SNR=3.5						
ARU	**Arti**	**55.03**	**318**	P	**P**	**17 57 00.7**	**-0.2**
	0.7nm,0.4s,baz=71,slow=5.4,SNR=5.3						
AKTO	**Aktyubinsk**	**57.58**	**311**	P	**P**	**17 57 20.1**	**+1.0**
	0.7nm,0.5s,baz=73,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**59.41**	**189**	P	**P**	**17 57 31.0**	**-1.1**
	0.7nm,1.1s,baz=6.9,slow=6.0,SNR=6.0						
ASAR	**Alice Springs**	**63.14**	**188**	P	**P**	**17 57 57.6**	**+0.3**
	0.1nm,0.5s,baz=0.3,slow=5.8,SNR=5.3						
FINES	**FINESS Array B**	**67.05**	**332**	P	**P**	**17 58 20.5**	**-1.8**
	2.2nm,0.9s,baz=55,slow=12,SNR=1.5						
HFS	**Hagfors**	**72.23**	**336**	P	**P**	**17 58 53.3**	**-0.9**
	2.6nm,1.0s,baz=65,slow=11,SNR=1.6						
NOA	**NORSAR Array B**	**72.29**	**337**	P	**P**	**17 58 53.3**	**-1.2**
	0.7nm,0.8s,baz=49,slow=4.9,SNR=1.6						
AKASG	**Malin Array Be**	**72.83**	**322**	P	**P**	**17 58 56.7**	**-1.2**
	0.3nm,0.4s,baz=45,slow=6.5,SNR=5.1						

*JSN **06** 17:55:38.3±0.4, 19°.63N×71°.51W, h14km*
*IDC **06** 17:55:55.5±0.7, 19°.11N×73°.91W, h0km, mb3.8/9, mb1 4.1/12, mb1mx3.9/46, mbtmp3.9/12, ML3.4/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/73, Error ellipse: s-maj=25.3km s-min=18.7km az=74.0*
*NEIC **06** 17:55:55.6±2.0, 19°.22N±0°.03×73°.13W±0°.04, h10km±1km, mb4.3/6, Error ellipse: s-maj=6.7km s-min=5.3km az=67.0*
*SSNC **06** 17:55:57.3±1.1, 19°.25N×73°.13W, h3km±4km, MD3.7, ML3.5, MW3.3*
*OSPL **06** 17:55:59.2±1.8, 19°.26N×73°.13W, h40km, ML4.0*

ISC 06 17:55:53.9±1.2, 19°.30N±0°.03×73°.08W±0°.03, h4km±8km, n55, σ1°.50/65, mb3.7/11, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	**Logne**	**0.91**	**150**		**Pb**	**17 56 12.7**	**+0.5**
LGNH				Sg	**Sg**	**17 56 23.8**	**+0.7**
LGNH	**Logne**	**0.91**	**150**	*e*P	**Pn**	**17 56 13.0**	**-0.5**
LGNH				*e*S	**Sb**	**17 56 24.4**	**-0.3**
LGNH	**Logne**	**0.91**	**150**	*i* P	**Pn**	**17 56 13.1**	**-0.4**
LGNH				*e*S	**Sb**	**17 56 24.3**	**-0.3**
LGNH				IAML		17 56 28.0	
	comp=Z,2μm,0.3s						
PAPH	**Port-au-Prince**	**1.07**	**136**	*i* P	**Pn**	**17 56 15.9**	**+0.2**
PAPH				*e*S	**Sb**	**17 56 30.4**	**+1.0**
PAPH				IAML		17 56 33.6	
	comp=Z,3μm,0.4s						
NQUSE	**US Embassy, Po**	**1.08**	**133**	Pg	**Pg**	**17 56 14.1**	**-0.5**
JAKH	**Jacmel**	**1.19**	**153**		**Pn**	**17 56 17.8**	**+0.5**
JAKH				Sn	**Sg**	**17 56 29.6**	**-2.5**
JAKH	**Jacmel**	**1.19**	**153**	*i* P	**Pn**	**17 56 17.7**	**+0.5**
JAKH				*e*S	**Sb**	**17 56 33.3**	**+0.6**
JAKH				IAML		17 56 38.3	
	comp=Z,2μm,0.4s						
MASC	**Masc**	**1.39**	**309**	*e*P	**Pg**	**17 56 20.5**	**-0.1**
MASC				*e*S	**Sg**	**17 56 38.1**	**-0.5**
MASC				IAML		17 56 50.3	
	comp=E,582nm,0.5s						
MASC				IAML		17 56 50.6	
	comp=N,485nm,0.4s						
LONE2	**Loma La Sidra**	**1.69**	**116**	*i* P	**Pg**	**17 56 26.6**	**+0.2**
LONE2				IAML		17 56 53.8	
	comp=Z,4μm,0.5s						
SDDR	**Presa de Saban**	**1.72**	**100**		**Pb**	**17 56 26.3**	**+0.1**
SDDR	**Presa de Saban**	**1.72**	**100**	*e*P	**Pb**	**17 56 26.1**	**-0.1**
SDDR				*e*S	**Sb**	**17 56 48.0**	**-0.3**
SDDR				IAML		17 56 51.9	
	comp=Z,59μm,0.3s						
SDDR	**Presa de Saban**	**1.72**	**100**	*i* P	**Pg**	**17 56 26.8**	**-0.2**
SDDR				IAML		17 56 52.1	
	comp=Z,2μm,0.8s						
LOPE2	**Hotel El Peder**	**1.79**	**135**	*i* P	**Pb**	**17 56 27.3**	**0.0**
LOPE2				IAML		17 57 01.6	
	comp=Z,2μm,0.7s						
GTBY	**Guantanamo Bay**	**2.01**	**288**		**Pn**	**17 56 29.3**	**+0.6**
GTBY	**Guantanamo Bay**	**2.01**	**288**	*e*P	**Pn**	**17 56 29.2**	**+0.5**
GTBY	**Guantanamo Bay**	**2.01**	**288**	*i* P	**Pb**	**17 56 29.8**	**-1.3**
SC01	**Santiago de lo**	**2.22**	**86**		**Pb**	**17 56 33.5**	**-1.2**
MOAC	**Moa**	**2.23**	**308**	*e*P	**Pb**	**17 56 33.6**	**-1.1**
MOAC				*e*S	**Sn**	**17 57 00.6**	**+1.1**
MOAC				IAML		17 57 06.4	
	comp=E,246nm,0.3s						
MOAC				IAML		17 57 06.8	
	comp=N,277nm,0.3s						
RCC	**Rio Carpintero**	**2.56**	**286**	*e*P	**Pn**	**17 56 36.7**	**+0.5**
RCC				*e*S	**Sn**	**17 57 05.8**	**-2.0**
RCC				IAML		17 57 09.5	
	comp=N,103nm,0.3s						
RCC				IAML		17 57 09.5	
	comp=E,137nm,0.3s						
GRTK	**Grand Turk**	**2.86**	**39**		**Pn**	**17 56 42.3**	**+2.0**
GRTK	**Grand Turk**	**2.86**	**39**	*e*P	**Pn**	**17 56 42.1**	**+1.9**
GRTK	**Grand Turk**	**2.86**	**39**	*i* P	**Pn**	**17 56 42.4**	**+2.1**
GRTK				*e*S	**Sn**	**17 57 13.6**	**-1.5**
GRTK				IAML		17 57 29.3	
	comp=Z,213nm,1.4s						
SDD	**Santo Domingo**	**3.11**	**105**	Pn	**Pn**	**17 56 44.3**	**+0.5**
HLGC	**Holguin**	**3.21**	**300**	*e*P	**Pb**	**17 56 49.4**	**-2.2**
HLGC				*e*S	**Sn**	**17 57 26.4**	**+2.3**
HLGC				IAML		17 57 33.1	
	comp=E,75nm,0.4s						
HLGC				IAML		17 57 33.2	
	comp=N,48nm,0.3s						
HOJ	**Hope**	**3.71**	**250**	*i* P	**Pn**	**17 56 54.9**	**+2.9**
STH	**Stony Hill**	**3.74**	**252**	*i* P	**Pn**	**17 56 54.9**	**+2.4**
LMGC	**Las Mercedes**	**3.78**	**282**	*e*P	**Pn**	**17 56 54.9**	**+1.9**
LMGC				*e*S	**Sn**	**17 57 34.9**	**-2.9**
LMGC				IAML		17 57 44.0	
	comp=N,58nm,0.1s						
LMGC				IAML		17 57 44.6	
	comp=E,57nm,0.1s						
MCJ	**Malvern**	**4.58**	**253**	*i* P	**Pn**	**17 57 06.9**	**+2.8**
MCJ				*i* S	**Sb**	**17 58 13.0**	**+2.5**
CCCC	**Cccc**	**4.79**	**294**	*e*P	**Pn**	**17 57 04.2**	**-2.7**
CCCC				*e*S	Sn	17 57 52.9	-10
CCCC				IAML		17 58 00.1	
	comp=N,12nm,0.4s						
CCCC				IAML		17 58 00.2	
	comp=E,12nm,0.3s						
PRSN	**Puerto Rico Se**	**5.73**	**100**	Pn	**Pn**	**17 57 19.6**	**-0.1**
AOPR	**Arecibo Observ**	**6.07**	**98**	Pn	**Pn**	**17 57 24.2**	**-0.2**
SDV	**Santo Domingo**	**10.62**	**167**	Pn	**Pn**	**17 58 30.4**	**+3.2**
	comp=E,0.7nm,0.3s,baz=301,slow=5.1,SNR=1.2						
SDV				Sn	**Sn**	**18 00 22.5**	**-4.3**
	comp=E,2.9nm,0.3s,baz=360,slow=22,SNR=3.7						
BAUV	**El Baul**	**11.40**	**154**		**Pn**	**17 58 38.6**	**+1.0**
PCRV	**Puerto La Cruz**	**12.20**	**137**	Pn	Pn	17 58 57.1	+8.4
	comp=E,0.7nm,0.3s,baz=333,slow=9.0,SNR=1.5						
JTS	**Las Juntas de**	**14.55**	**234**	Pn	Pn	17 59 14.1	-6.7
JTS				LR	LR	18 04 50.7	
	comp=E,68nm,18.1s,slow=39						
V48A	**Smith Brothers**	**20.37**	**326**	P	**P**	**18 00 32.1**	**+0.5**
V48A				IAmb	IAmb	18 00 33.4	
	comp=Z,12nm,0.8s						
U49A	**Red Boiling Sp**	**20.46**	**330**	P	**P**	**18 00 31.4**	**-1.1**
U49A				IAmb	IAmb	18 00 31.6	
	comp=Z,8.7nm,0.8s						
K43A	**Burlington**	**26.66**	**334**	P	**P**	**18 01 34.5**	**+0.7**
TXAR	**Lajitas Array**	**29.53**	**296**	P	**P**	**18 02 00.1**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=98,slow=5.5,SNR=2.4						
LPAZ	**La Paz**	**35.70**	**172**	P	**P**	**18 02 55.7**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=305,slow=2.7,SNR=3.8						
LPAZ				LR	LR	18 20 01.2	
	comp=Z,37nm,18.5s,baz=57,slow=41						
LPAZ	**La Paz**	**35.70**	**172**	P	**P**	**18 02 51.9**	**-2.5**
LPAZ				IAmb	IAmb	18 03 02.2	
	comp=Z,5.7nm,1.4s						
PDAR	**Pinedale Array**	**38.60**	**315**	P	**P**	**18 03 18.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=126,slow=10,SNR=4.4						
BDFB	**Brasilia**	**42.59**	**143**	P	**P**	**18 03 52.4**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=231,slow=9.5,SNR=3.2						
BDFB	**Brasilia**	**42.59**	**143**	P	**P**	**18 03 50.8**	**-0.7**
YKA	**Yellowknife Ar**	**51.73**	**337**	P	**P**	**18 05 03.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=125,slow=7.2,SNR=8.8						
PLCA	**Paso Flores**	**59.77**	**178**	P	**P**	**18 06 00.8**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=336,slow=9.7,SNR=5.3						
PLCA	**Paso Flores**	**59.77**	**178**	IAmb	IAmb	18 06 02.4	
	comp=Z,2.5nm,0.9s						
ESDC	**Sonseca Array**	**62.04**	**55**	P	P	18 06 23.6	+7.8
	comp=Z,1.7nm,1.1s,baz=288,slow=7.1,SNR=3.6						
ILAR	**Eielson Array**	**65.81**	**333**	P	**P**	**18 06 40.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=125,slow=8.3,SNR=1.8						
SPITS	**Spitsbergen Ar**	**71.13**	**13**	LR	LR	18 38 26.3	
	comp=Z,71nm,18.0s,baz=20,slow=36						
TORD	**Torodi Ar. Bea**	**71.58**	**82**	P	P	18 07 24.6	+7.6
	comp=Z,0.6nm,0.9s,baz=282,slow=5.6,SNR=2.3						
MLR	**Muntele Rosu**	**82.57**	**44**	P	P	18 08 24.4	+6.0
	comp=Z,4.7nm,0.9s,baz=139,slow=17,SNR=3.3						
AKASG	**Malin Array Be**	**82.78**	**39**	P	P	18 08 24.6	+5.3
	comp=Z,0.1nm,0.2s,baz=252,slow=8.9,SNR=1.8						
WRA	**Warramunga Arr**	**154.18**	**264**	PKP	**PKPdf**	**18 15 47.5**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=34,slow=27,SNR=2.3						
WRA				PKPbc	**PKiKP**	**18 15 56.1**	**0.0**
	comp=Z,0.7nm,0.7s,baz=88,slow=2.9,SNR=8.9						
ASAR	**Alice Springs**	**154.54**	**255**	PKP	**PKPdf**	**18 15 47.1**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=124,slow=2.5,SNR=2.6						
ASAR				PKPbc	**PKPbc**	**18 15 56.6**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=110,slow=3.0,SNR=4.3						
ASAR				PKPab	**PKPab**	**18 16 10.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=104,slow=4.4,SNR=7.2						

NOU 06 18:10:30.2, 17°.32S×167°.30E, h17km, MLv3.9/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.94**	**116**	P	Pb	18 10 48.2	+0.2
RTV	**Rentapao**	**1.17**	**114**	P	Pn	18 10 51.7	-0.1
SANVU	**Saraoutou**	**1.86**	**357**	P	Pn	18 11 00.6	-0.8
MARNC	**Mare, Loyalty**	**4.20**	**171**	P	Pn	18 11 32.9	-0.5
KOUNC	**Koumac, New Ca**	**4.30**	**221**	P	Pn	18 11 35.1	+0.3
DZM	**Mont Dzumac**	**4.79**	**190**	P	Pn	18 11 41.3	-0.5
NOUC	**Port Laguerre**	**4.85**	**191**	P	Pn	18 11 42.9	+0.5
PINNC	**Pines Island,**	**5.27**	**179**	P	Pn	18 11 48.2	0.0

*SSNC **06** 18:30:20.9±1.3, 19°.26N×73°.12W, h5km, MD3.6, ML3.1, MW3.0*
*OSPL **06** 18:30:22.6±1.4, 19°.14N×73°.18W, h40km, ML3.1*

ISC 06 18:30:19.4±1.8, 19°.23N±0°.10×73°.17W±0°.05, h23km±19km, n17, σ1°.91/24, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	**Logne**	**0.89**	**143**	*e*P	**Pb**	**18 30 36.0**	**-0.1**
LGNH	**Logne**	**0.89**	**143**	*i* P	**Pb**	**18 30 36.0**	**-0.1**
LGNH				*e*S	**Sb**	**18 30 47.7**	**+0.1**
LGNH				IAML		18 30 48.5	
	comp=Z,395nm,0.1s						
PAPH	**Port-au-Prince**	**1.08**	**130**	*i* P	**Pn**	**18 30 38.7**	**-0.5**
PAPH				*e*S	**Sb**	**18 30 52.6**	**-0.6**
PAPH				IAML		18 30 56.3	
	comp=Z,661nm,0.1s						
JAKH	**Jacmel**	**1.16**	**148**	*i* P	**Pn**	**18 30 40.7**	**+0.5**
JAKH				IAML		18 30 59.0	
	comp=Z,277nm,0.2s						
MASC	**Masc**	**1.37**	**314**	*e*P	**Pn**	**18 30 43.5**	**+0.4**
MASC				*e*S	**Sn**	**18 31 00.7**	**+0.1**
MASC				IAML		18 31 04.5	
	comp=E,266nm,0.2s						
MASC				IAML		18 31 04.5	
	comp=N,141nm,0.2s						
LONE2	**Loma La Sidra**	**1.74**	**112**	*i* P	**Pn**	**18 30 49.4**	**+1.1**
LONE2				IAML		18 31 16.8	
	comp=Z,1μm,0.5s						
SDDR	**Presa de Saban**	**1.80**	**97**	*e*P	**Pn**	**18 30 49.3**	**+0.3**
SDDR				*e*S	**Sn**	**18 31 11.1**	**-0.1**
SDDR	**Presa de Saban**	**1.80**	**97**	*i* P	**Pn**	**18 30 49.3**	**+0.3**
SDDR				*e*S	**Sn**	**18 31 11.3**	**+0.1**
SDDR				IAML		18 31 14.2	
	comp=Z,670nm,0.5s						
LOPE2	**Hotel El Peder**	**1.80**	**131**	*i* P	**Pn**	**18 30 50.5**	**+1.5**
GTBY	**Guantanamo Bay**	**1.96**	**291**	*e*P	**Pn**	**18 30 52.6**	**+1.4**
GTBY	**Guantanamo Bay**	**1.96**	**291**	*i* P	**Pn**	**18 30 53.1**	**+2.0**
GTBY				IAML		18 31 22.3	
	comp=Z,79nm,0.5s						
MOAC	**Moa**	**2.20**	**311**	*e*P	**Pn**	**18 30 57.5**	**+3.0**
MOAC				IAML		18 31 36.1	
	comp=E,157nm,0.3s						
MOAC				IAML		18 31 37.8	
	comp=N,134nm,0.5s						
LOBA2	**Hotel Casa Bon**	**2.28**	**120**	*i* P	**Pn**	**18 30 56.9**	**+1.3**
LOBA2				IAML		18 31 21.9	
	comp=Z,101nm,0.3s						
RCC	**Rio Carpintero**	**2.50**	**288**	*e*P	**Pn**	**18 30 59.8**	**+1.2**
RCC				*e*S	**Sn**	**18 31 30.1**	**+1.8**
RCC				IAML		18 31 36.9	
	comp=N,99nm,0.3s						
RCC				IAML		18 31 36.9	
	comp=E,160nm,0.2s						
HLGC	**Holguin**	**3.18**	**302**	*e*P	Pn	18 31 13.2	+5.2
LMGC	**Las Mercedes**	**3.71**	**284**	*e*P	**Pn**	**18 31 16.4**	**+1.2**
LMGC				*e*S	**Sn**	**18 31 59.2**	**+1.0**
LMGC				IAML		18 32 07.8	
	comp=N,41nm,0.3s						
LMGC				IAML		18 32 09.6	
	comp=E,32nm,0.2s						
CCCC	**Cccc**	**4.74**	**295**	*e*P	**Pn**	**18 31 27.1**	**-2.3**
CCCC				*e*S	**Sn**	**18 32 17.4**	**-6.3**
CCCC				IAML		18 32 30.4	
	comp=E,4.9nm,0.3s						
CCCC				IAML		18 32 34.0	
	comp=N,5.3nm,0.6s						

IDC 06 18:38:08.5±1.2, 2°.83N×121°.57E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/27, mbtmp3.7/4, Error ellipse: s-maj=171.2km s-min=21.3km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.87**	**152**	P	P	18 43 42.0	-0.1
	0.6nm,0.4s,baz=335,slow=9.5,SNR=21						
ASAR	**Alice Springs**	**28.94**	**156**	P	P	18 44 09.9	+0.1
	0.2nm,0.3s,baz=332,slow=7.4,SNR=20						
SONM	**Songino Array**	**46.71**	**346**	P	P	18 46 40.2	+0.9
	0.4nm,0.6s,baz=161,slow=9.8,SNR=4.4						
MKAR	**Makanchi Array**	**55.47**	**328**	P	P	18 47 44.2	-1.0
	0.7nm,0.4s,baz=122,slow=9.7,SNR=4.6						

*SOME **06** 18:42:48.0, 41°.38N×79°.25E, h20km*
*KRNET **06** 18:42:49.9±0.1, 41°.45N×79°.23E, h17km, mb2.7*

*NNC **06** 18:42:50.0±1.7, 41°.52N×79°.32E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=11.7km s-min=7.4km az=159.0*

ISC 06 18:42:48.8±2.2, 41°.41N±0°.08×79°.20E±0°.05, h2km±12km, n44, σ1°.00/72, 16C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.09**	**287**	⇓*i*P	**Pb**	**18 43 10.7**	**0.0**
	baz=85						
TARG				⇓*i*S	**Sn**	**18 43 26.6**	**-0.9**
	baz=85						
PRZ	**Przheval'sk**	**1.23**	**331**	⇑*i*P	**Pn**	**18 43 13.0**	**-0.1**
	baz=30						
PRZ				⇑*i*S	**Sn**	**18 43 29.9**	**-0.5**
	baz=30						
KDJ	**Kajisay**	**1.67**	**296**	⇓*i*P	**Pg**	**18 43 21.0**	**+0.2**
	baz=95						
KDJ				⇓*i*S	**Sg**	**18 43 43.7**	**+1.2**
	baz=95						
SATY	**Saty**	**1.75**	**341**	*e*P	**Pb**	**18 43 21.0**	**-0.7**
	4.0nm,0.1s						
SATY				*e*S	**Sb**	**18 43 44.6**	**+0.4**
	31nm,0.1s						
SATY	**Saty**	**1.75**	**341**	P	**Pn**	**18 43 20.6**	**+0.3**
	4.0nm,0.1s						
SATY				S	**Sg**	**18 43 44.8**	**-0.1**
	31nm,0.1s						
SHLS	**Shalkode**	**1.75**	**6**	*e*P	**Pn**	**18 43 20.8**	**+0.5**
	20nm,0.3s						
SHLS				*e*S	**Sb**	**18 43 44.3**	**0.0**
	51nm,0.3s						
SHLS	**Shalkode**	**1.75**	**6**	P	**Pb**	**18 43 21.1**	**-0.7**
	20nm,0.3s						
SHLS				S	**Sb**	**18 43 44.3**	**0.0**
	51nm,0.3s						
ANVS	**Anan'yevo**	**1.78**	**321**	⇑*i*P	**Pg**	**18 43 22.7**	**-0.2**
	baz=20						
ANVS				⇑*i*S	**Sg**	**18 43 47.0**	**+1.0**
	baz=20						
ZHN	**Zhinishke**	**1.84**	**342**	*e*P	**Pb**	**18 43 22.4**	**-0.9**
	12nm,0.2s						
ZHN				*e*S	**Sb**	**18 43 47.0**	**+0.1**
	92nm,0.2s						
ZHN	**Zhinishke**	**1.84**	**342**	P	**Pb**	**18 43 22.4**	**-0.9**
	12nm,0.2s						
ZHN				S	**Sg**	**18 43 47.8**	**-0.2**
	92nm,0.2s						
KPKS	**Kokpek**	**2.09**	**350**	*e*P	**Pb**	**18 43 26.7**	**-0.7**
	27nm,0.2s						
KPKS				*e*S	**Sb**	**18 43 54.9**	**+1.0**
	88nm,0.2s						
KTMS	**Ketmen**	**2.20**	**22**	*e*P	**Pn**	**18 43 27.0**	**+0.4**
	3.7nm,0.1s						
KTMS				*e*S	**Sn**	**18 43 55.4**	**+0.9**
	24nm,0.2s						
KTMS	**Ketmen**	**2.20**	**22**	Pg	**Pn**	**18 43 26.6**	**0.0**
	3.7nm,0.1s						
KTMS				Lg	Lg	18 43 54.4	
	24nm,0.2s						
KURS	**Kuram**	**2.21**	**340**	*e*P	**Pb**	**18 43 29.1**	**-0.4**
	6.7nm,0.2s						
KURS				*e*S	**Sb**	**18 43 58.7**	**+1.4**
	22nm,0.3s						
KURS	**Kuram**	**2.21**	**340**	Pg	**Pb**	**18 43 29.1**	**-0.4**
	6.7nm,0.2s						
KURS				Lg	Lg	18 43 59.3	
	22nm,0.3s						
TNSS	**Tian-Shan**	**2.33**	**315**	*e*P	**Pb**	**18 43 32.2**	**+0.4**
	14nm,0.2s						
TNSS				*e*S	**Sg**	**18 44 04.1**	**+0.4**
	35nm,0.2s						
TNSS	**Tian-Shan**	**2.33**	**315**	Pg	**Pb**	**18 43 32.2**	**+0.4**
	14nm,0.2s						
TNSS				Lg	Lg	18 44 04.3	
	35nm,0.2s						
ULHL	**Ulahol**	**2.36**	**292**	⇑*i*P	**Pb**	**18 43 31.8**	**-0.4**
	baz=91						
ULHL				⇑*i*S	**Sb**	**18 44 02.5**	**+0.6**
	baz=91						
MDOK	**Medeo**	**2.37**	**318**	*e*P	**Pb**	**18 43 32.6**	**+0.3**
	6.1nm,0.2s						
MDOK				*e*S	**Sg**	**18 44 04.4**	**-0.4**
	32nm,0.4s						
MDOK	**Medeo**	**2.37**	**318**	⇑Pg	**Pb**	**18 43 32.4**	**+0.1**
	9.4nm,0.5s						
MDOK				⇑Lg	Lg	18 44 04.5	
	28nm,0.4s						
MDOK	**Medeo**	**2.37**	**318**	Pg	**Pb**	**18 43 32.6**	**+0.3**
	6.1nm,0.2s						
MDOK				Lg	Lg	18 44 04.4	
	32nm,0.4s						
KNDC	**Almaty**	**2.45**	**318**	⇓Pg	**Pg**	**18 43 35.6**	**-0.1**
	30nm,0.7s						
KNDC				⇓Lg	Lg	18 44 07.3	
	41nm,0.5s						
BOOM	**Boomskoye usch**	**2.66**	**295**	⇑*i*P	**Pb**	**18 43 36.3**	**-0.9**
	baz=94						
BOOM				⇑*i*S	**Sb**	**18 44 09.6**	**-0.8**
	baz=94						
MTBS	**Maitube**	**2.68**	**311**	*e*P	**Pb**	**18 43 37.9**	**+0.4**
	6.1nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KRBS				eS		Sg	18 44 37.0	-3.0
	11nm,0.3s							
KRBS	**Karabastau**	**3.46**	**312**	Pg		**Pb**	**18 43 51.4**	**+0.5**
	1.1nm,0.2s							
KRBS				Lg		Lg	18 44 37.0	
	11nm,0.3s							
AAK	**Ala-Archa**	**3.71**	**291**	⇑Pg		**Pg**	**18 44 00.6**	**+0.7**
AAK				⇑Lg		Lg	18 44 49.6	
	5.6nm,0.7s							
MK31	**Makanchi Array**	**5.82**	**21**	Pn		**Pn**	**18 44 16.6**	**+0.5**
	0.4nm,0.6s,baz=302,slow=39,SNR=12							
MK31				Sn		**Sn**	**18 45 22.5**	**-1.0**
	0.6nm,0.5s,baz=208,slow=25,SNR=4.8							
KK07	**Karatay Array**	**6.67**	**287**	⇑Pg		**Pg**	**18 44 58.0**	**+1.5**
	0.6nm,0.5s,baz=90,slow=17							
KK07				Lg		Lg	18 46 28.1	
	baz=84,slow=26							

ROM ***06*** *18:44:44.2±0.2,39.°840N±0.°009×15.°60E±0.°02, h286km±1km, ML4.1/1, Error ellipse: s-maj=1.9km s-min=0.9km az=91.0*

LDG ***06*** *18:44:45.4,39.°88N×15.°45E, h274km*

MOS ***06*** *18:44:45.4±1.0,39.°84N×15.°46E, h281km, mb4.4/17, Error ellipse: s-maj=4.5km s-min=3.2km az=72.9*

IDC ***06*** *18:44:47.0±0.6,39.°97N×15.°46E, h280km±7km, mb3.7/20, mb1 3.8/33, mb1mx3.7/49, mbtmp4.4/33, Error ellipse: s-maj=8.1km s-min=7.8km az=28.0*

MED_RC ***06*** *18:44:46.0±1.9,39.°91N×15.°45E, h297km±19km, MW4.4/4, Moment Tensor Solution. Mantle waves: s4,c4; Duration: 1±0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.59±.50; $M_{\theta\theta}$-3.96±2.77; $M_{\phi\phi}$4.55±3.03; $M_{r\theta}$-1.60±.59; $M_{\theta\phi}$-0.64±1.57; $M_{\phi r}$-2.00±.58; Best double couple: $M_0$5.02000×10^{15} NP1:ϕ_s39.00000°, δ86.00000°, λ-31.00000°. NP2:ϕ_s131.00000°, δ59.00000°, λ-176.00000°. Principal axes: T 5.2400, Plg19.0000°, Azm89.0000°; N -0.4300, Plg58.0000°, Azm213.0000°; P -4.8000, Plg24.0000°, Azm351.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

NEIC ***06*** *18:44:46.6±1.5,39.°94N±0.°06×15.°55E±0.°08, h272km±6km, mb4.4/75, ML4.1(ROM) Error ellipse: s-maj=9.2km s-min=8.4km az=185.0*

BGR ***06*** *18:44:52.0±4.7,40.°21N×15.°29E, h275km, Error ellipse: s-maj=77.8km s-min=15.6km az=163.0*

ISC 06 18:44:45.9±0.4, 39.°89N±0.°04×15.°54E±0.°04, h271km±4km**, n701**, σ1$**23**/744, **mb4.4**/76, **68C-41D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CUC	**Castrocucco**	**0.24**	**64**	⇓P		**Pn**	**18 45 21.5**	**+0.8**
CUC				S		**S**	**18 45 48.4**	**+0.2**
MGR	**Morigerati**	**0.25**	**3**	⇓P		**Pn**	**18 45 21.8**	**+1.2**
MGR				S		**S**	**18 45 49.2**	**+1.0**
CMPR	**Campora**	**0.47**	**337**	P		**Pn**	**18 45 22.5**	**+1.3**
CMPR				S		**S**	**18 45 50.3**	**+1.2**
CET2	**Cetraro**	**0.48**	**138**	⇓P		**Pn**	**18 45 21.8**	**+0.5**
CET2				S		**S**	**18 45 49.2**	**0.0**
SCHR	**S. Chirico Rap**	**0.52**	**53**	⇓P		**Pn**	**18 45 22.6**	**+1.2**
SCHR				AML		AML		
	comp=N,417μm,0.9s							
SCHR				AML		AML		
	comp=E,647μm,0.8s							
AG11	**Viggiano (PZ)**	**0.55**	**36**	P		**Pn**	**18 45 22.9**	**+1.4**
AG11				S		**S**	**18 45 50.9**	**+1.4**
TN05	**Corleto Pertic**	**0.63**	**41**	P		**Pn**	**18 45 23.1**	**+1.5**
TDS	**Terranova Siba**	**0.66**	**110**	P		**Pn**	**18 45 23.3**	**+1.6**
TDS				S		**S**	**18 45 51.4**	**+1.4**
TDS	**Terranova Siba**	**0.66**	**110**	⇓P		**Pn**	**18 45 23.3**	**+1.6**
TDS				S		**S**	**18 45 51.3**	**+1.3**
TDS				AML		AML		
	comp=E,951μm,0.9s							
TDS				AML		AML		
	comp=N,1065μm,0.8s							
TT08	**Gorgoglione (M**	**0.68**	**47**	P		**Pn**	**18 45 23.1**	**+1.4**
ORI	**Oriolo Calabro**	**0.72**	**76**	⇓P		**Pn**	**18 45 23.2**	**+1.3**
ORI				S		**S**	**18 45 52.0**	**+1.6**
ORI	**Oriolo Calabro**	**0.72**	**76**	⇓P		**Pn**	**18 45 23.2**	**+1.3**
ORI				S		**S**	**18 45 52.1**	**+1.6**
ORI				AML		AML		
	comp=E,2585μm,0.4s							
ORI				AML		AML		
	comp=N,3910μm,0.4s							
COL3	**Colliano**	**0.81**	**349**	P		**Pn**	**18 45 23.9**	**+1.5**
CRAC	**Craco**	**0.84**	**55**	P		**Pn**	**18 45 23.3**	**+0.9**
CRAC				AML		AML		
	comp=N,970μm,0.9s							
CRAC				AML		AML		
	comp=E,1151μm,0.9s							
SPS2	**Spezzano della**	**0.86**	**133**	P		**Pn**	**18 45 22.9**	**+0.3**
SPS2				S		**S**	**18 45 51.7**	**+0.1**
SPS2				AML		AML		
	comp=E,790μm,1.2s							
SPS2				AML		AML		
	comp=N,791μm,1.1s							
MRLC	**Muro Lucano**	**0.87**	**358**	⇑P		**Pn**	**18 45 24.0**	**+1.4**
MRLC				AML		AML		
	comp=N,202μm,1.3s							
MRLC				AML		AML		
	comp=E,209μm,1.3s							
MCRV	**Calabrutti - M**	**0.94**	**343**	⇑P		**Pn**	**18 45 24.3**	**+1.4**
MIGL	**Miglionico**	**1.00**	**44**	P		**Pn**	**18 45 23.7**	**+0.6**
MIGL				S		**S**	**18 45 53.5**	**+0.9**
MIGL				AML		AML		
	comp=E,1810μm,1.1s							
MIGL				AML		AML		
	comp=N,2360μm,1.5s							
SNAL	**S. Angelo Dei**	**1.07**	**347**	⇑P		**Pn**	**18 45 25.0**	**+1.5**
IST3	**Stromboli F**	**1.11**	**192**	P		**Pn**	**18 45 24.9**	**+1.0**
CAFE	**Carife**	**1.16**	**349**	⇑P		**Pn**	**18 45 25.9**	**+1.8**
MATE	**Matera**	**1.17**	**49**	⇑P		**Pn**	**18 45 23.9**	**-0.1**
MATE				⇑S		**S**	**18 45 50.4**	**-3.9**
MATE	**Matera**	**1.17**	**49**	⇓P		**Pn**	**18 45 24.5**	**+0.5**
MATE				S		**S**	**18 45 53.8**	**-0.5**
MATE				AML		AML		
	comp=E,1240μm,1.1s							
MATE				AML		AML		
	comp=N,1795μm,0.6s							
TIP	**Timpagrande**	**1.18**	**126**	⇓P		**Pn**	**18 45 25.2**	**+0.9**
TIP				⇑S		**S**	**18 45 54.8**	**+0.1**
TIP	**Timpagrande**	**1.18**	**126**	⇓P		**Pn**	**18 45 25.1**	**+0.9**
TIP				S		**S**	**18 45 54.5**	**-0.2**
TIP				AML		AML		
	comp=E,1188μm,1.4s							
TIP				AML		AML		
	comp=N,901μm,0.7s							
TIP				AML		AML		
	comp=N,1138μm,0.7s							
TIP				AML		AML		
	comp=E,1188μm,1.4s							
TIP				AML		AML		
	comp=N,1390μm,1.4s							
TIP				AML		AML		
	comp=N,1138μm,0.7s							
TIP				AML		AML		
	comp=N,904μm,0.7s							
TIP	**Timpagrande**	**1.18**	**126**			**Pn**	**18 45 25.0**	**+0.7**
LTRZ	**Laterza**	**1.22**	**54**	⇓P		**Pn**	**18 45 24.8**	**+0.4**
LTRZ				S		**S**	**18 45 54.2**	**-0.6**
SGTA	**Sant Agata di**	**1.25**	**354**	P		**Pn**	**18 45 26.3**	**+1.6**
GRI	**Girifalco**	**1.27**	**147**	P		**Pn**	**18 45 25.7**	**+0.9**
GRI				S		**S**	**18 45 55.9**	**+0.4**
GRI	**Girifalco**	**1.27**	**147**	P		**Pn**	**18 45 25.6**	**+0.9**
GRI				S		**S**	**18 45 55.3**	**-0.2**
GRI				AML		AML		
	comp=N,2825μm,0.4s							
GRI				AML		AML		
	comp=E,3470μm,0.4s							
LADO	**San Nicola del**	**1.27**	**118**	⇓P		**Pn**	**18 45 27.3**	**+2.5**
LADO				AML		AML		
	comp=E,298μm,0.4s							
LADO				AML		AML		
	comp=N,158μm,0.4s							
MRVN	**Minervino Murg**	**1.28**	**23**	P		**Pn**	**18 45 25.3**	**+0.6**
MRVN				AML		AML		
	comp=E,488μm,1.4s							
MRVN				AML		AML		
	comp=N,300μm,1.2s							
AMUR	**Altamura**	**1.30**	**38**	⇓P		**Pn**	**18 45 25.7**	**+0.8**
AMUR				S		**S**	**18 45 55.4**	**-0.4**
AMUR				AML		AML		
	comp=E,991μm,0.7s							
AMUR				AML		AML		
	comp=N,794μm,1.3s							
MRB1	**Monte Rocchett**	**1.31**	**341**	P		**Pn**	**18 45 26.4**	**+1.5**
PAOL	**Paolisi**	**1.36**	**327**	P		**Pn**	**18 45 26.9**	**+1.6**
PAOL	**Paolisi**	**1.36**	**327**			**Pn**	**18 45 26.5**	**+1.2**
PSB1	**Pescosannita**	**1.45**	**338**	P		**Pn**	**18 45 27.1**	**+1.3**
NOCI	**Noci**	**1.48**	**52**	⇓P		**Pn**	**18 45 26.8**	**+0.8**
NOCI				S		**S**	**18 45 57.1**	**-0.7**
IFIL	**Filicudi I Eol**	**1.52**	**210**	P		**Pn**	**18 45 26.5**	**0.0**
PLAC	**Placanica**	**1.60**	**154**	⇓P		**Pn**	**18 45 27.2**	**+0.2**
PLAC				S		**S**	**18 45 58.4**	**-1.3**
PLAC				AML		AML		
	comp=E,2180μm,0.4s							
PLAC				AML		AML		
	comp=N,2770μm,0.4s							
PLAC				AML		AML		
	comp=E,2745μm,0.9s							
PLAC				AML		AML		
	comp=N,2165μm,0.4s							
MSRU	**Castanea**	**1.62**	**181**	⇓P		**Pn**	**18 45 27.0**	**-0.2**
MSRU				S		**S**	**18 45 58.7**	**-1.2**
MSRU				AML		AML		
	comp=N,2560μm,1.3s							
MSRU				AML		AML		
	comp=E,5850μm,1.3s							
CEL	**Celeste**	**1.65**	**170**	P		**Pn**	**18 45 27.1**	**-0.3**
CEL				S		**S**	**18 45 58.3**	**-2.1**
CEL				AML		AML		
	comp=E,1955μm,1.2s							
CEL				AML		AML		
	comp=N,1790μm,0.9s							
CEL				AML		AML		
	comp=E,1960μm,1.2s							
CEL				AML		AML		
	comp=E,1620μm,1.2s							
CEL				AML		AML		
	comp=N,2150μm,0.9s							
CEL	**Celeste**	**1.65**	**170**	Pn		**Pn**	**18 45 26.9**	**-0.6**
PIGN	**Pignataro Magg**	**1.67**	**322**	⇑P		**Pn**	**18 45 29.2**	**+1.8**
GMB	**Gambarie**	**1.73**	**172**	P		**Pn**	**18 45 26.7**	**-1.5**
GMB	**Gambarie**	**1.73**	**172**	P		**Pn**	**18 45 26.7**	**-1.5**
GMB				AML		AML		
	comp=N,8210μm,0.3s							
GMB				AML		AML		
	comp=E,7975μm,0.8s							
SGG	**Gregorio Mates**	**1.74**	**330**	⇑P		**Pn**	**18 45 29.7**	**+1.7**
SGG				AML		AML		
	comp=N,252μm,0.5s							
SGG				AML		AML		
	comp=E,180μm,0.5s							
MPNC	**Port Mandanici**	**1.75**	**185**	P		**Pn**	**18 45 28.0**	**-0.1**
MPNC				S		**S**	**18 46 00.3**	**-1.4**
MPNC				AML		AML		
	comp=N,3285μm,0.9s							
MPNC				AML		AML		
	comp=E,3825μm,0.6s							
MODR	**Mondragone**	**1.78**	**315**	⇑P		**Pn**	**18 45 29.8**	**+1.5**
MSAG	**Monte S. Angel**	**1.84**	**9**	⇑P		**Pn**	**18 45 29.6**	**+0.8**
SOI	**Samo**	**1.86**	**167**	⇓P		**Pn**	**18 45 28.8**	**-0.2**
SOI	**Samo**	**1.86**	**167**	⇓P		**Pn**	**18 45 28.8**	**-0.2**
SOI				AML		AML		
	comp=E,996μm,0.6s							
SOI				AML		AML		
	comp=N,1490μm,0.5s							
SGRT	**San Giovanni R**	**1.87**	**5**	P		**Pn**	**18 45 29.6**	**+0.5**
SGRT	**San Giovanni R**	**1.87**	**5**	Pn		**Pn**	**18 45 29.5**	**+0.4**
NOV	**Novara**	**1.88**	**190**	⇓P		**Pn**	**18 45 30.3**	**+0.9**
MTTG	**Motta San Giov**	**1.89**	**176**	⇓P		**Pn**	**18 45 29.6**	**+0.2**
MTTG				S		**S**	**18 46 02.6**	**-1.1**
MTTG				AML		AML		
	comp=E,1855μm,0.5s							
MTTG				AML		AML		
	comp=N,2850μm,0.7s							
MUCR	**Ucria**	**1.91**	**196**	P		**Pn**	**18 45 30.2**	**+0.6**
MUCR				AML		AML		
	comp=N,1230μm,0.5s							
MUCR				AML		AML		
	comp=E,1088μm,0.6s							
MSFR	**San Fratello**	**1.99**	**202**	P		**Pn**	**18 45 31.3**	**+1.1**
CERA	**Filignano**	**2.06**	**326**	⇑P		**Pn**	**18 45 32.3**	**+1.6**
CERA				AML		AML		
	comp=N,214μm,0.7s							
CERA				AML		AML		
	comp=E,214μm,1.4s							
EMSG	**Monte Spagnolo**	**2.11**	**193**	P		**Pn**	**18 45 33.6**	**+2.2**
EMSG				AML		AML		
	comp=E,1740μm,1.0s							
EMSG				AML		AML		
	comp=N,1760μm,1.2s							
GIB	**Gibilmanna**	**2.23**	**212**	⇑P		**Pn**	**18 45 33.5**	**+1.2**
SCTE	**Santa Cesarea**	**2.26**	**84**	Pn		**Pn**	**18 45 32.7**	**+0.3**
CSLB	**Castelbuono**	**2.26**	**211**	⇑P		**Pn**	**18 45 33.6**	**+1.0**
CSLB				AML		AML		
	comp=N,260μm,0.7s							
CSLB				AML		AML		
	comp=E,154μm,1.6s							
POFI	**Posta Fibreno**	**2.29**	**323**	⇑P		**Pn**	**18 45 34.5**	**+1.7**
GALF	**Gagliano Caste**	**2.30**	**200**	P		**Pn**	**18 45 35.2**	**+2.2**
GALF				AML		AML		
	comp=N,460μm,0.7s							
GALF				AML		AML		
	comp=E,444μm,1.0s							
PETRA	**Petralia Sopra**	**2.33**	**209**	⇑P		**Pn**	**18 45 34.8**	**+1.4**
ECNV	**Catenanuova**	**2.38**	**196**	P		**Pn**	**18 45 35.4**	**+1.7**
ECNV				AML		AML		
	comp=E,968μm,1.6s							
ECNV				AML		AML		
	comp=N,1830μm,1.1s							
SOLUN	**Solunto**	**2.38**	**222**	P		**Pn**	**18 45 34.7**	**+1.2**
SOLUN				AML		AML		
	comp=E,154μm,1.5s							
SOLUN				AML		AML		
	comp=N,198μm,1.3s							
GIUL	**Giuliano Di Ro**	**2.41**	**315**	⇑P		**Pn**	**18 45 35.2**	**+1.5**
MPG	**Monte Pellegri**	**2.42**	**225**	P		**Pn**	**18 45 34.9**	**+0.9**
VVLD	**Villa Vallelon**	**2.46**	**324**	⇑P		**Pn**	**18 45 36.0**	**+1.7**
LATB	**Latina**	**2.53**	**310**	⇑P		**Pn**	**18 45 36.2**	**+1.3**
ALJA	**Alia**	**2.55**	**214**	P		**Pn**	**18 45 37.2**	**+1.9**
ALJA				AML		AML		
	comp=N,549μm,1.0s							
ALJA				AML		AML		
	comp=E,523μm,1.6s							
VAE	**Valguarnera**	**2.56**	**200**	P		**Pn**	**18 45 37.7**	**+2.3**
	comp=E,2.4nm,0.3s,baz=199,slow=8.3,SNR=5.9							
VAE				S		**S**	**18 46 18.9**	**+4.2**
	comp=E,4.2nm,0.3s,baz=352,slow=3.0,SNR=5.3							
HLNI	**Lentini**	**2.59**	**192**	P		**Pn**	**18 45 35.8**	**+0.2**
HLNI				S		**S**	**18 46 14.5**	**-0.6**
HLNI				AML		AML		
	comp=E,472μm,1.6s							
HLNI				AML		AML		
	comp=N,304μm,0.4s							
AGST	**Augusta-Monte**	**2.64**	**185**	P		**Pn**	**18 45 35.7**	**-0.4**
AGST				S		**S**	**18 46 13.4**	**-2.6**
AGST				AML		AML		
	comp=E,927μm,1.3s							
AGST				AML		AML		
	comp=N,730μm,0.6s							
CORL	**Corleone**	**2.65**	**222**	⇑P		**Pn**	**18 45 37.8**	**+1.6**
CORL				AML		AML		
	comp=E,479μm,1.6s							
CORL				AML		AML		
	comp=N,620μm,0.4s							
CORL	**Corleone**	**2.65**	**222**			**Pn**	**18 45 37.6**	**+1.4**
SSY	**Sortino**	**2.75**	**188**	P		**Pn**	**18 45 37.1**	**-0.2**
SSY				AML		AML		
	comp=N,740μm,0.4s							
SSY				AML		AML		
	comp=E,404μm,0.4s							
FAGN	**Fagnano**	**2.80**	**329**	P		**Pn**	**18 45 40.2**	**+2.6**
FAGN				AML		AML		
	comp=E,133μm,1.6s							
FAGN				AML		AML		
	comp=N,126μm,1.4s							
CERT	**Cerreto**	**2.83**	**318**	P		**Pn**	**18 45 39.4**	**+1.5**
CRJA	**Costa Raja**	**2.87**	**224**	P		Pn	18 45 33.3	-5.2
CLTB	**Caltabellotta**	**2.93**	**219**	P		**Pn**	**18 45 40.2**	**+1.0**
CLTB				AML		AML		
	comp=E,871μm,0.5s							
CLTB				AML		AML		
	comp=N,1280μm,0.6s							
CLTB	**Caltabellotta**	**2.93**	**219**	Pn		**Pn**	**18 45 40.2**	**+1.0**
AQU	**L'Aquila**	**2.94**	**327**	P		**Pn**	**18 45 41.7**	**+2.6**
AQU	**L'Aquila**	**2.94**	**327**	*e*Pn		**Pn**	**18 45 41.4**	**+2.3**
AQU	**L'Aquila**	**2.94**	**327**			**Pn**	**18 45 41.7**	**+2.6**
CLTA	**Licata**	**2.99**	**205**	P		**Pn**	**18 45 41.0**	**+1.3**
CLTA				AML		AML		
	comp=E,506μm,0.9s							
CLTA				AML		AML		
	comp=N,898μm,1.6s							
FAVR	**Favara**	**3.00**	**210**	P		**Pn**	**18 45 41.6**	**+1.9**
FIAM	**Fiamignano**	**3.00**	**323**	P		**Pn**	**18 45 42.1**	**+2.3**
FIAM				AML		AML		
	comp=E,124μm,1.6s							
FIAM				AML		AML		
	comp=N,72μm,0.6s							
MTCE	**Montecelio**	**3.00**	**316**	P		**Pn**	**18 45 41.1**	**+1.4**
VLO	**Vlora**	**3.09**	**78**	P		**Pn**	**18 45 42.1**	**+1.6**
VLO	**Vlora**	**3.09**	**78**			**Pn**	**18 45 42.1**	**+1.6**
KEK	**Kerkira**	**3.29**	**92**	P		**Pn**	**18 45 43.6**	**+0.9**
HCY	**Herceg Novi**	**3.40**	**40**	*e*Pn		**Pn**	**18 45 44.5**	**+0.7**
SRN	**Sarande**	**3.44**	**89**	P		**Pn**	**18 45 45.0**	**+0.7**
NRCA	**Norcia**	**3.46**	**329**	Pn		**Pn**	**18 45 45.0**	**+0.3**
TREB	**Trebinje**	**3.53**	**36**	*e*Pn		**Pn**	**18 45 46.1**	**+0.8**
DRME	**Dracevica, Mon**	**3.59**	**49**	*e*Pn		**Pn**	**18 45 46.8**	**+0.8**
TIR	**Tirane**	**3.60**	**65**	P		**Pn**	**18 45 47.9**	**+1.8**
TIR				⇓S		**S**	**18 46 33.7**	**-0.5**
TIR	**Tirane**	**3.60**	**65**	P		**Pn**	**18 45 47.9**	**+1.8**
TIR	**Tirane**	**3.60**	**65**	P		**Pn**	**18 45 46.5**	**+0.4**
TIR	**Tirane**	**3.60**	**65**	Pn		**Pn**	**18 45 46.5**	**+0.4**
MOMA	**Monte Martano**	**3.67**	**323**	⇓P		**Pn**	**18 45 48.9**	**+1.9**
IGT	**Igoumenitsa**	**3.72**	**94**	P		**Pn**	**18 45 48.3**	**+0.9**
IGT	**Igoumenitsa**	**3.72**	**94**	P		**Pn**	**18 45 48.3**	**+0.9**
BRY	**Bratogost**	**3.76**	**36**	*e*Pn		**Pn**	**18 45 49.0**	**+1.0**
PDG	**Podgorica**	**3.79**	**47**	⇑P		**Pn**	**18 45 48.8**	**+0.7**
PDG	**Podgorica**	**3.79**	**47**	*e*Pn		**Pn**	**18 45 48.7**	**+0.6**
PDG	**Podgorica**	**3.79**	**47**			**Pn**	**18 45 49.0**	**+0.9**
LSK	**Leskovik**	**3.90**	**85**	P		**Pn**	**18 45 50.5**	**+1.0**
MGAB	**Montegabbione**	**3.97**	**321**	P		**Pn**	**18 45 52.2**	**+1.9**
SACS	**San Casciano d**	**4.03**	**318**	⇓P		**Pn**	**18 45 52.8**	**+1.9**
MURB	**Monte Urbino**	**4.06**	**327**			**Pn**	**18 45 52.0**	**+0.7**
KBN	**Korca**	**4.08**	**78**	P		**Pn**	**18 45 53.7**	**+2.0**
KBN	**Korca**	**4.08**	**78**	P		**Pn**	**18 45 51.4**	**-0.2**
KBN	**Korca**	**4.08**	**78**			**Pn**	**18 45 51.4**	**-0.2**
MCIV	**Monte Civitell**	**4.10**	**316**	P		**Pn**	**18 45 53.5**	**+1.7**
JAN	**Janina**	**4.10**	**92**	P		**Pn**	**18 45 53.5**	**+1.7**
KEF3	**Kipouria, Keph**	**4.11**	**113**	P		**Pn**	**18 45 52.6**	**+0.7**
LKD2	**Lefkada island**	**4.12**	**104**	P		**Pn**	**18 45 53.0**	**+0.9**
FSK	**Fiskardo**	**4.16**	**108**	P		**Pn**	**18 45 53.4**	**+0.9**
UPM	**Unac-Piva**	**4.17**	**36**	*e*Pn		**Pn**	**18 45 54.1**	**+1.4**
EVGI	**Lefkada island**	**4.17**	**106**	P		**Pn**	**18 45 53.4**	**+0.8**
NYDR	**Nydri-Lefkada**	**4.17**	**105**	P		**Pn**	**18 45 53.2**	**+0.6**
OHR	**Ohrid**	**4.19**	**71**	P		**Pn**	**18 45 54.8**	**+1.9**
OHR	**Ohrid**	**4.19**	**71**	⇓*i*P		**Pn**	**18 45 54.8**	**+1.9**
ATVO	**AVT- Monte Val**	**4.21**	**327**	P		**Pn**	**18 45 54.2**	**+1.3**
ATMI	**Monte Miggiano**	**4.23**	**326**	P		**Pn**	**18 45 55.1**	**+1.9**
ARCI	**Arcidosso**	**4.25**	**315**	P		**Pn**	**18 45 56.3**	**+2.7**
VLS	**Valsamata**	**4.29**	**112**	P		**Pn**	**18 45 54.4**	**+0.4**
PSDA	**Pessada-Kefalo**	**4.31**	**113**	P		**Pn**	**18 45 54.9**	**+0.7**
KPRO	**Kipourio**	**4.48**	**87**	P		**Pn**	**18 45 58.5**	**+2.2**
PLE	**Pljevlja**	**4.49**	**39**	P		**Pn**	**18 45 59.0**	**+2.6**
FNA	**Florina**	**4.55**	**77**	P		**Pn**	**18 45 58.2**	**+1.1**
FNA	**Florina**	**4.55**	**77**	P		**Pn**	**18 45 57.4**	**+0.3**
FNA	**Florina**	**4.55**	**77**	Pn		**Pn**	**18 45 57.4**	**+0.3**
CASP	**Castiglione de**	**4.56**	**311**	⇓P		**Pn**	**18 45 58.8**	**+1.7**
CASP	**Castiglione de**	**4.56**	**311**	Pn		**Pn**	**18 45 58.5**	**+1.4**
DGI	**Dorgali Grotta**	**4.57**	**277**	P		**Pn**	**18 45 57.9**	**+0.7**
MGRS	**Mrkonjic Grad**	**4.67**	**14**	*e*Pn		**Pn**	**18 45 59.5**	**+1.1**
LTHK	**Lithakia**	**4.68**	**116**	P		**Pn**	**18 45 58.9**	**+0.4**
RUDO	**Rudo**	**4.70**	**36**	*e*Pn		**Pn**	**18 45 58.3**	**-0.4**
SJES	**Sjenica**	**4.74**	**43**	*e*P		**Pn**	**18 46 01.1**	**+1.9**
VSL	**Villasalto**	**4.77**	**267**	Pn		**Pn**	**18 46 00.8**	**+1.3**
KZN	**Kozani**	**4.80**	**83**	P		**Pn**	**18 46 02.4**	**+2.4**
OSSC	**Osservatorio P**	**4.85**	**320**			**Pn**	**18 46 02.2**	**+1.7**
BBLS	**Lazići**	**4.91**	**35**	*e*Pn		**Pn**	**18 46 02.6**	**+1.3**
BBLS	**Lazići**	**4.91**	**35**	*e*P		**Pn**	**18 46 02.9**	**+1.6**
SKO	**Skopje**	**4.93**	**63**	*i* P		**Pn**	**18 46 02.7**	**+1.2**
EVR	**Evrytania**	**4.95**	**99**	P		**Pn**	**18 46 04.1**	**+2.2**
THL	**Klokotos Trika**	**5.00**	**92**	P		**Pn**	**18 46 04.0**	**+1.6**
BLY	**Banja Luka**	**5.01**	**14**	*e*Pn		**Pn**	**18 46 01.2**	**-1.1**
IVAS	**Ivanjica**	**5.05**	**42**	*e*P		**Pn**	**18 46 03.7**	**+0.8**
TYRN	**Tyrnavos**	**5.16**	**90**	P		**Pn**	**18 46 05.7**	**+1.5**
EFP	**Efpalio**	**5.16**	**104**	P		**Pn**	**18 46 06.0**	**+1.7**
MAKR	**Makrakomi, Fth**	**5.18**	**98**	P		**Pn**	**18 46 06.8**	**+2.3**
DRO	**Drossia**	**5.19**	**110**	P		**Pn**	**18 46 06.3**	**+1.7**
LAKA	**Lakka**	**5.28**	**106**	P		**Pn**	**18 46 07.6**	**+1.9**
SERG	**Sergoula**	**5.28**	**104**	P		**Pn**	**18 46 08.3**	**+2.6**
TRIZ	**Trizonia**	**5.30**	**105**	P		**Pn**	**18 46 08.1**	**+2.1**
AGG	**Agios Georgios**	**5.33**	**97**	P		**Pn**	**18 46 08.3**	**+2.0**
AGG	**Agios Georgios**	**5.33**	**97**	P		**Pn**	**18 46 08.0**	**+1.7**
AGG	**Agios Georgios**	**5.33**	**97**	Pn		**Pn**	**18 46 08.0**	**+1.7**
GRG	**Griva**	**5.35**	**76**	P		**Pn**	**18 46 07.3**	**+0.8**
GRG	**Griva**	**5.35**	**76**	P		**Pn**	**18 46 07.7**	**+1.2**
GRG				pmax		pmax		
	comp=Z,43nm,0.9s							
SELS	**Selova**	**5.35**	**50**	*e*P		**Pn**	**18 46 07.2**	**+0.7**
DIVS	**Divibare**	**5.36**	**37**	*e*Pn		**Pn**	**18 46 07.4**	**+0.8**
DIVS	**Divibare**	**5.36**	**37**			**Pn**	**18 46 07.2**	**+0.6**
DIVS	**Divibare**	**5.36**	**37**	*e*P		**Pn**	**18 46 06.8**	**+0.8**
STIP	**Stip**	**5.36**	**68**	*i* P		**Pn**	**18 46 09.8**	**+3.2**
CORF	**Corfe**	**5.39**	**299**	P		**Pn**	**18 46 08.1**	**+1.1**
RIY	**Rijeka**	**5.49**	**352**	*e*Pn		**Pn**	**18 46 08.

MDVR **Moldovita** 6.70 41 ⇑P Pn 18 46 24.3 +1.3
STAL **STALIGIAL** 6.70 343 Pn 18 46 22.6 -0.4
MORH **Mrgy, Hungar** 6.72 19 ⇓P Pn 18 46 23.7 +0.5
MORH **Mrgy, Hungar** 6.72 19 *e*Pn Pn 18 46 23.8 +0.6
MORH **Mrgy, Hungar** 6.72 19 PN Pn 18 46 23.0 -0.2
MORH **Mrgy, Hungar** 6.72 19 P Pn 18 46 24.2 +1.1
PTL **Penteli** 6.74 103 P Pn 18 46 24.8 +1.1
VLY **Voula,Athens** 6.76 105 P Pn 18 46 24.6 +0.8
KYMI **Kymi, Euboea I** 6.76 98 P Pn 18 46 25.1 +1.3
CTI **Castel Tesino** 6.78 336 P Pn 18 46 23.6 -0.5
CTI **Castel Tesino** 6.78 336 Pn Pn 18 46 23.6 -0.5
DION **Dionisos Attik** 6.79 103 P Pn 18 46 25.3 +1.1
SOKA **Soboth** 6.80 357 *i* Pn Pn 18 46 24.9 +0.6
comp=Z,173nm,0.0s
SALO **Salr** 6.81 329 Pn Pn 18 46 22.9 -1.5
BANR **Banloc** 6.87 35 ⇑P Pn 18 46 26.4 +1.4
MYKA **Terra Mystica** 6.88 349 *i* Pn Pn 18 46 26.4 +1.1
comp=Z,6.8nm,0.4s
KTHR **Kythira** 6.91 119 P Pn 18 46 27.6 +1.8
ZOU **Zoufplan** 6.92 345 Pn Pn 18 46 26.1 +0.2
KTHA **Kythira Island** 6.96 119 P Pn 18 46 28.1 +1.8
DJES **Djerdap** 7.04 45 ⇑P Pn 18 46 29.0 +1.8
DJES **Djerdap** 7.04 45 *e*P Pn 18 46 28.5 +1.3
HERR **Herculane** 7.13 43 ⇑P Pn 18 46 29.5 +1.3
ABTA **Abfaltersbach** 7.20 343 *i* Pn Pn 18 46 30.2 +0.9
comp=Z,66nm,0.5s,SNR=21
SBF **Sospel** 7.23 306 *e*P Pn 18 46 34.0 +4.3
SBF *e*Sn S 18 47 51.0 -2.3
comp=Z,85nm,1.1s
BZS **Buzias** 7.26 36 ⇑P Pn 18 46 31.5 +1.6
BZS **Buzias** 7.26 36 P Pn 18 46 31.2 +1.2
BZS pmax pmax
comp=Z,20nm,1.4s
ANKY **Antikythira Is** 7.33 121 P Pn 18 46 32.9 +1.9
ARSA **Arzberg** 7.36 360 *e*Pn Pn 18 46 31.8 +0.6
comp=Z,1.9nm,0.4s
ARSA **Arzberg** 7.36 360 *e*P Pn 18 46 32.1 +0.9
baz=161,slow=13
KBA **Koelnbreinsper** 7.36 348 *i* Pn Pn 18 46 32.4 +1.1
comp=Z,2.5nm,0.2s
KBA **Koelnbreinsper** 7.36 348 P Pn 18 46 32.7 +1.3
KBA pmax pmax
comp=Z,46nm,0.9s
KBA **Koelnbreinsper** 7.36 348 *e*P Pn 18 46 32.6 +1.3
baz=161,slow=13
LMR **La Mourre** 7.59 300 *e*P Pn 18 46 34.3 +0.3
FRF **La Foret Royal** 7.59 302 *e*P Pn 18 46 34.4 +0.3
ISO **Isola** 7.63 307 P Pn 18 46 36.6 +1.9
ISO pmax pmax
comp=Z,31nm,2.7s
SIRR **Siria** 7.79 33 ⇑P Pn 18 46 37.3 +0.7
WTTA **Wattenberg** 7.90 340 *e*Pn Pn 18 46 39.9 +1.9
comp=Z,9.2nm,0.5s,SNR=5.5
WTTA **Wattenberg** 7.90 340 P Pn 18 46 40.1 +2.1
WTTA pmax pmax
comp=Z,21nm,0.7s
WTTA **Wattenberg** 7.90 340 *e*P Pn 18 46 40.4 +2.4
baz=161,slow=13
FETA **Feichten** 7.94 335 *i* Pn Pn 18 46 39.0 +0.5
comp=Z,18nm,0.6s,SNR=11
SQTA **Sankt Quirin** 7.97 338 *i* Pn Pn 18 46 39.6 +0.7
comp=Z,22nm,0.4s,SNR=12
WATA **Walderalm** 7.98 340 *i* Pn Pn 18 46 39.1 +0.1
comp=Z,22nm,0.6s,SNR=11
TUE **Stuetta** 7.98 328 Pn Pn 18 46 38.5 -0.6
MOA **Molln** 8.01 354 *i* Pn Pn 18 46 40.4 +1.1
comp=Z,6.7nm,0.6s,SNR=5.1
MOA **Molln** 8.01 354 *e*P Pn 18 46 40.7 +1.5
baz=161,slow=13
IMMV **Iera Moni Meta** 8.02 121 P Pn 18 46 40.6 +1.1
DAVOX **Davos/Dischmat** 8.03 331 P Pn 18 46 41.0 +1.4
comp=Z,4.2nm,0.3s,baz=312,slow=18,SNR=58
CONA **Conrad Observa** 8.04 2 *e*Pn Pn 18 46 40.7 +1.0
comp=Z,1.9nm,0.5s
DEV **Deva** 8.07 40 ⇑P Pn 18 46 41.6 +1.7
DEV **Deva** 8.07 40 P Pn 18 46 41.7 +1.7
DEV pmax pmax
comp=Z,20nm,0.9s
RJOB **Jochberg** 8.09 347 *e*P Pn 18 46 41.2 +0.9
baz=161,slow=13
MBDF **Montbardon** 8.10 310 *e*P Pn 18 46 41.6 +1.1
MOTA **Moosalm** 8.12 338 *i* Pn Pn 18 46 41.7 +1.0
comp=Z,12nm,0.6s,SNR=6.0
LOT **Lotru** 8.22 45 ⇑P Pn 18 46 43.4 +1.4
ZIMR 8.25 60 ⇓P Pn 18 46 44.3 +2.0
BNI **Bardonecchia** 8.33 311 P Pn 18 46 44.4 +1.0
BNI **Bardonecchia** 8.33 311 Pn Pn 18 46 44.4 +1.0
RETA **Reutte** 8.35 337 *i* Pn Pn 18 46 44.5 +1.0
comp=Z,9.1nm,0.3s,SNR=7.3
COPA **Copaceanca** 8.36 56 ⇑P Pn 18 46 45.3 +1.7
HUMR **Humele** 8.40 53 ⇑P Pn 18 46 45.7 +1.5
PLONS **Plons/SG** 8.44 330 *e*P Pn 18 46 46.1 +1.4
baz=161,slow=13
DAVA **Damuels** 8.46 333 *i* Pn Pn 18 46 45.6 +0.7
comp=Z,28nm,0.8s,SNR=11
DAVA **Damuels** 8.46 333 *e*P Pn 18 46 46.0 +1.0
baz=161,slow=13
GVDS **Gavdos** 8.47 124 P Pn 18 46 45.6 +0.5
GVD **Gavdhos** 8.47 124 P Pn 18 46 45.6 +0.5
LPG **La Plagne** 8.56 314 *e*P Pn 18 46 46.6 +0.2
SANT **Santorini** 8.57 111 Pn Pn 18 46 45.1 -1.3
MODS **Modra-Piesok** 8.58 8 *e*P P 18 46 54.0 +1.1
MODS **Modra-Piesok** 8.58 8 *e*P P 18 46 54.0 +1.1
LPL **La Plagne** 8.58 314 *e*P Pn 18 46 47.2 +0.6
PSZ **Piszkesteto** 8.62 20 P Pn 18 46 48.1 +1.2
PSZ **Piszkesteto** 8.62 20 Pn Pn 18 46 48.1 +1.2
DRGR 8.65 35 ⇑P Pn 18 46 48.9 +1.6
DRGR 8.65 35 P Pn 18 46 49.3 +1.9
DRGR pmax pmax
comp=Z,9.0nm,0.9s
ARR **Arges** 8.65 48 ⇑P Pn 18 46 48.6 +1.2
UBR **Ueberruh** 8.72 335 *e*P Pn 18 46 49.1 +0.9
baz=161,slow=13
IDI **Anoyia** 8.73 119 P Pn 18 46 49.2 +0.7
comp=Z,9.3nm,0.3s,baz=301,slow=16,SNR=25
ORIF **Oris-en-Rattie** 8.73 308 *e*P Pn 18 46 49.1 +0.7
ORIF **Oris-en-Rattie** 8.73 308 P Pn 18 46 49.8 +1.4
ORIF pmax pmax
comp=Z,36nm,1.2s
FUR **Furstenfeldbru** 8.82 341 P Pn 18 46 50.5 +1.1
FUR pmax pmax
comp=Z,94nm,0.8s
FUR **Furstenfeldbru** 8.82 341 *e*P Pn 18 46 50.5 +1.1
baz=161,slow=13
SENIN **Lac Senin/Sane** 8.84 320 Pn Pn 18 46 49.2 -0.6
WILA **Wila** 8.92 330 *e*P Pn 18 46 51.3 +0.6
baz=161,slow=13
VOIR 8.93 49 ⇑P Pn 18 46 53.0 +2.1
VOIR 8.93 49 P Pn 18 46 53.4 +2.5
VOIR pmax pmax
comp=Z,18nm,1.2s
CKRC **Cesky Krumlov** 8.97 355 *e*P Pn 18 46 51.4 +0.1
CJR **Cluj-Napoca** 9.00 38 ⇑P Pn 18 46 53.8 +2.1
CJR **Cluj-Napoca** 9.00 38 P Pn 18 46 53.8 +2.1
GEC2 **GERESS Array S** 9.05 352 *e*P Pn 18 46 52.9 +0.6
baz=161,slow=13
GEC2 **GERESS Array S** 9.05 352 Pn Pn 18 46 52.4 +0.1
GERES **GERESS Array B** 9.05 352 P Pn 18 46 52.8 +0.5
comp=Z,0.7nm,0.3s,baz=165,slow=13,SNR=53
GERES **GERESS Array B** 9.05 352 Pn Pn 18 46 52.6 +0.3
KRUC **Moravsky** 9.19 4 P Pn 18 46 55.3 +1.3
KRUC pmax pmax
comp=Z,16nm,1.1s
KRUC **Moravsky** 9.19 4 *e*P Pn 18 46 55.4 +1.4
SULZ **Cheisacher** 9.34 327 *e*P Pn 18 46 55.5 -0.4
baz=161,slow=13
KHC **Kasperske Hory** 9.35 352⇑*e*P Pn 18 46 56.4 +0.5
KHC **Kasperske Hory** 9.35 352 *e*P Pn 18 46 56.2 +0.3
KHC *ex* x 18 47 01.5
KHC **Kasperske Hory** 9.35 352 Pn Pn 18 46 55.4 -0.5
BALST **Balsthal** 9.36 325 *e*P Pn 18 46 55.8 -0.4
baz=161,slow=13
SLE **Schleitheim** 9.37 329 P Pn 18 46 56.0 -0.3
SLE pmax pmax
comp=Z,23nm,0.6s
SLE **Schleitheim** 9.37 329 *e*P Pn 18 46 56.2 -0.1
baz=161,slow=13
TREC **Trest** 9.41 360 *e*P Pn 18 46 57.8 +1.1
TREC **Trest** 9.41 360 *e*P Pn 18 46 57.8 +1.1
TREC *ex* x 18 47 04.0
DOPR **Dopca** 9.44 47 ⇑P Pn 18 46 58.7 +1.6
VIVF **Saint-Julien-I** 9.45 305 *e*P Pn 18 46 57.3 +0.1
WET **Wettzell** 9.45 349 P Pn 18 46 57.3 +0.1
WET pmax pmax
comp=Z,19nm,0.8s
WET **Wettzell** 9.45 349 *e*P Pn 18 46 57.4 +0.1
baz=161,slow=13
VRAC **Vranov** 9.45 4 ⇓P Pn 18 46 58.4 +1.2
VRAC **Vranov** 9.45 4 P Pn 18 46 58.6 +1.4
comp=Z,1.6nm,0.3s,baz=182,slow=12,SNR=14
VRAC **Vranov** 9.45 4 *e*P Pn 18 46 58.3 +1.1
MLR **Muntele Rosu** 9.49 50 ⇓P Pn 18 47 00.5 +2.6
MLR **Muntele Rosu** 9.49 50 P Pn 18 47 00.4 +2.6
comp=Z,3.5nm,0.3s,baz=149,slow=11,SNR=43
MLR **Muntele Rosu** 9.49 50 P Pn 18 46 59.7 +1.9
MLR **Muntele Rosu** 9.49 50 Pn Pn 18 46 59.7 +1.9
CABF **La Chapelle** 9.62 317 *e*P Pn 18 46 58.7 -0.8
ARCR **ARCALÌA** 9.63 39 ⇑P Pn 18 47 01.2 +1.8
LASF **Ste Croix** 9.65 299 *e*P Pn 18 46 59.7 -0.1
TRPA **Tarpa** 9.66 29 ⇑P Pn 18 47 01.5 +1.7
TRPA **Tarpa** 9.66 29 PN Pn 18 47 00.8 +1.1
TRPA **Tarpa** 9.66 29 P Pn 18 47 01.7 +1.9
ISR **Istrita** 9.66 54 ⇑P Pn 18 47 02.1 +2.2
ISR **Istrita** 9.66 54 P P 18 47 04.4 -0.8
ISR pmax pmax
comp=Z,90nm,1.0s
NEHR **Nehoiu** 9.66 52 ⇓P Pn 18 47 01.7 +1.8
BMR **Baia Mare** 9.68 34 ⇑P Pn 18 47 02.1 +2.1
SSB **Saint Sauveur** 9.73 307 P Pn 18 46 59.7 -1.1
SSB **Saint Sauveur** 9.73 307 Pn Pn 18 46 59.7 -1.1
OZUR 9.74 47 ⇑P Pn 18 47 02.8 +1.9
BFO **Black Forest** 9.90 331 P Pn 18 47 02.8 0.0
BFO **Black Forest** 9.90 331 *e*P Pn 18 47 03.4 +0.6
baz=161,slow=13
BFO **Black Forest** 9.90 331 Pn Pn 18 47 02.8 0.0
STU **Stuttgart** 9.97 335 P Pn 18 47 03.3 -0.4
STU **Stuttgart** 9.97 335 *e*P Pn 18 47 06.0 +2.3
baz=161,slow=13
STU **Stuttgart** 9.97 335 Pn 18 47 03.3 -0.4
BISRR **Bisoca** 9.98 52 ⇓P P 18 47 06.4 -2.4
MORC **Moravsky Berou** 9.99 8 ⇑P Pn 18 47 04.2 +0.3
MORC **Moravsky Berou** 9.99 8 P Pn 18 47 05.4 +1.4
MORC **Moravsky Berou** 9.99 8 *e*P Pn 18 47 05.4 +1.4
MORC **Moravsky Berou** 9.99 8 *e*P Pn 18 47 05.8 +1.8
baz=161,slow=13
MORC **Moravsky Berou** 9.99 8 Pn Pn 18 47 05.4 +1.4
PLOR **Plostina** 10.10 50 ⇑P Pn 18 47 07.5 +2.1
PLOR **Plostina** 10.10 50 P Pn 18 47 07.4 +2.1
HINF **Hinteralfeld** 10.10 325 *e*P Pn 18 47 04.7 -0.7
OKC **Ostrava-Krasne** 10.12 10 *e*P Pn 18 47 03.5 -2.0
OKC **Ostrava-Krasne** 10.12 10 *e*P Pn 18 47 03.5 -2.0
PRU **Pruhonice** 10.12 356 *e*P P 18 47 11.0 +0.8
PRU **Pruhonice** 10.12 356 *e*P P 18 47 11.0 +0.8
PRU *ex* x 18 47 21.6
PRU **Pruhonice** 10.12 356 *e*P Pn 18 47 06.6 +1.0
baz=161,slow=13
VRI **Vrincioaia** 10.15 50 ⇑P Pn 18 47 08.0 +2.0
VRI **Vrincioaia** 10.15 50 P P 18 47 08.7 -1.9
VRI pmax pmax
comp=Z,11nm,0.5s
ROTZ **Rotzenmuhle** 10.16 348 *e*P Pn 18 47 06.4 +0.4
baz=161,slow=13
KRLC **Kraliky** 10.23 5 *e*P Pn 18 47 08.2 +1.3
KRLC **Kraliky** 10.23 5 *e*P Pn 18 47 08.2 +1.3
KRLC *ex* x 18 47 12.8
GRA1 **Grafenberg Arr** 10.27 344 Pn Pn 18 47 07.2 -0.2
GRF **Grafenberg Arr** 10.27 344 P Pn 18 47 07.2 -0.2
GRF **Grafenberg Arr** 10.27 344 *e*P Pn 18 47 07.8 +0.4
baz=161,slow=13
GRFO **Grafenberg** 10.27 344 P Pn 18 47 07.2 -0.2
GRFO **Grafenberg** 10.27 344 Pn Pn 18 47 07.2 -0.2
ECH **Echery** 10.27 327 P Pn 18 47 07.2 -0.3
ECH **Echery** 10.27 327 *e*P Pn 18 47 07.4 -0.1
baz=161,slow=13
ECH **Echery** 10.27 327 Pn Pn 18 47 07.2 -0.3
HARR **Harsova** 10.36 58 ⇑P Pn 18 47 10.7 +2.2
HARR **Harsova** 10.36 58 P Pn 18 47 10.7 +2.2
TLBR **Topalu** 10.38 59 ⇓P P 18 47 12.0 -1.1
CDF **Champ du Feu** 10.38 328 *e*P Pn 18 47 08.9 0.0
BURAR **Bucovina Array** 10.42 39 ⇑P P 18 47 11.7 -2.0
BURAR **Bucovina Array** 10.42 39 P P 18 47 11.7 -2.0
BURAR **Bucovina Array** 10.42 39 Pn Pn 18 47 11.3 +2.0
BUR08 **Bucovina Ar. S** 10.43 39 Pn Pn 18 47 11.6 +2.0
TESR **Tescani** 10.46 47 ⇑P P 18 47 12.8 -1.3
HAU **Haudompre** 10.47 324 *e*P Pn 18 47 09.5 -0.4
DPC **Dobruska-Polom** 10.48 3 *e*P Pn 18 47 10.8 +0.8
DPC **Dobruska-Polom** 10.48 3 *e*P Pn 18 47 10.8 +0.8
DPC *ex* x 18 47 15.7
MTLF **Montolieu** 10.55 293 *e*P P 18 47 13.8 -1.3
NKC **Novy Kostel** 10.57 349 *e*P Pn 18 47 11.0 -0.2
NKC **Novy Kostel** 10.57 349 *e*P Pn 18 47 11.0 -0.2
UPC **Upice** 10.63 2 *e*P P 18 47 17.1 +1.3
UPC **Upice** 10.63 2 *e*P P 18 47 17.1 +1.3
GIRR **Girov** 10.65 45 ⇑P P 18 47 14.5 -1.6
PVCC **Panska Ves** 10.66 357 *e*P Pn 18 47 12.8 +0.5
PVCC **Panska Ves** 10.66 357 *e*P Pn 18 47 12.8 +0.5
PVCC *ex* x 18 47 17.2
PVCC **Panska Ves** 10.66 357 *e*P Pn 18 47 13.6 +1.3
baz=161,slow=13
CFR **Carcaliu** 10.69 56 ⇑P P 18 47 15.6 -1.0
CFR **Carcaliu** 10.69 56 P P 18 47 15.5 -1.0
TPGR **Topolog** 10.74 58 ⇑P P 18 47 16.4 -0.8
PRAR **RASCA** 10.76 43 ⇑P P 18 47 15.9 -1.4
SMF **Signal de Mont** 10.87 312 *e*P Pn 18 47 13.4 -1.5
MILB **Miltenberg** 10.88 338 *e*P Pn 18 47 16.5 +1.5
baz=161,slow=13
VLDR **Vladesti** 10.96 53 ⇑P P 18 47 18.3 -1.2
KSP **Ksiaz** 10.97 3 P Pn 18 47 17.6 +1.5
KSP pmax pmax
comp=Z,11nm,1.1s
KWP **Kalwaria Pacla** 10.99 25 P P 18 47 19.7 -0.2
KWP **Kalwaria Pacla** 10.99 25 P P 18 47 19.7 -0.2
BRG **Berggiesshubel** 11.04 355 *i* P Pn 18 47 18.0 +1.0
BRG Amp 18 47 19.3
comp=Z,3.3nm,0.7s
BRG *ex* x 18 47 22.0
BRG Amp 18 47 23.4
comp=Z,18nm,0.9s
BRG **Berggiesshubel** 11.04 355 *i* P Pn 18 47 18.0 +1.0
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,19nm,0.9s
TLCR 11.13 57 ⇑P P 18 47 21.4 0.0
PAGF **Fort de Pagny** 11.15 324 *e*P Pn 18 47 19.1 +0.7
CAF **Calviac** 11.16 301 *e*P Pn 18 47 18.9 +0.4
VASR **Vaslui** 11.19 49 ⇑P P 18 47 21.3 -0.8
LOR **Lormes** 11.22 315 *e*P Pn 18 47 19.4 +0.1
SFTF **Sexfontaines** 11.22 321 *e*P Pn 18 47 17.3 -2.0
AVF **Avril sur Loir** 11.23 312 *e*P Pn 18 47 17.9 -1.4
SSF **Saint Saulge** 11.30 313 *e*P Pn 18 47 18.3 -1.9
LEOM **Leova** 11.37 50 ⇑P P 18 47 24.2 +0.1
LEOM **Leova** 11.37 50 P P 18 47 24.1 +0.1
IAS **Iasi** 11.37 46 P Pn 18 47 21.5 +0.4
IAS pmax pmax
comp=Z,115nm,0.8s
BGF **Bois d'Agland** 11.40 310 *e*P Pn 18 47 21.3 -0.2
MEZF **Maizieres J'vi** 11.43 322 *e*P Pn 18 47 22.7 +1.0
SAVF **Savonnieres en** 11.47 323 *e*P Pn 18 47 22.3 0.0
TNS **Taunus Mts** 11.48 337 P P 18 47 24.4 -1.0
TNS pmax pmax
comp=Z,14nm,0.8s
TNS **Taunus Mts** 11.48 337 *e*P P 18 47 24.5 -0.8
baz=161,slow=13
CLL **Collm** 11.56 352 *i* P Pn 18 47 24.4 +1.1
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL **Collm** 11.56 352 *i* P Pn 18 47 24.4 +1.1
comp=Z,7.0nm,0.6s
CLL *i* x x 18 47 27.4
comp=Z,13nm,1.0s
CLL **Collm** 11.56 352 Pn 18 47 24.5 +1.2
LVV **L'vov** 11.61 28 *e*P P 18 47 25.9 -0.8
TCF **Toulx Ste Croi** 11.65 308 *e*P Pn 18 47 24.5 0.0
RJF **Les Rejaudoux** 11.66 302 *e*P P 18 47 26.1 -1.3
ELL **Elmali** 11.72 101 P P 18 47 27.1 -1.1
ELL **Elmali** 11.72 101 P 18 47 27.1 -1.1
WLF **Walferdange** 11.82 329 P P 18 47 28.0 -1.1
WLF **Walferdange** 11.82 329 *e*P P 18 47 28.5 -0.6
baz=161,slow=13
WLF **Walferdange** 11.82 329 P 18 47 28.0 -1.1
WLF **Walferdange** 11.82 329 P P 18 47 28.7 -0.4
EPF **Esparros** 11.83 290 *e*P Pn 18 47 27.3 +0.5
MILM **Milestii Mici** 11.93 50 *i* P Pn 18 47 28.0 0.0
comp=Z,50nm,0.6s
MILM M M 18 47 32.0
comp=Z,260nm,0.5s
MILM *e*S S 18 49 43.0 +2.1
MILM **Milestii Mici** 11.93 50 ⇓P P 18 47 30.9 +0.5
MILM **Milestii Mici** 11.93 50 *i* P Pn 18 47 28.0 0.0
MILM *e*S S 18 49 43.0 +2.1
MILM pmax pmax
comp=Z,50nm,0.6s
MILM pmax pmax
comp=Z,260nm,0.5s
KIS **Kishinev** 11.98 49⇓*i*P Pn 18 47 29.0 +0.5
KIS M M 18 47 32.0
comp=Z,100nm,0.5s
KIS **Kishinev** 11.98 49*d i*P Pn 18 47 29.0 +0.5
KIS pmax pmax
comp=Z,100nm,0.5s
MDUB **Mudurnu** 12.00 82 P P 18 47 31.2 -0.1
LFF **La Frestale** 12.04 300 *e*P P 18 47 30.8 -0.8
AHRW **Bad Neuenahr-A** 12.20 334 *e*P P 18 47 33.1 -0.2
comp=Z,7.1nm,0.7s,baz=161,slow=13
SORM **Soroca** 12.36 44 ⇑P P 18 47 36.2 +1.1
BHOU **Houvegnez** 12.43 330 P P 18 47 36.3 +0.5
ETSF **Etsaut** 12.46 289 *e*P Pn 18 47 33.9 -0.7
CLF **Chambon-Foret** 12.54 315 Pn 18 47 34.7 -0.8
BTNL **Ternell** 12.57 331 P P 18 47 38.5 +1.0
comp=Z,13nm,1.0s
RCHB **Rochefort** 12.58 328 P P 18 47 37.2 -0.2
comp=Z,16nm,0.7s
MEM **Membach** 12.64 331 P P 18 47 39.8 +1.7
MEM pmax pmax
comp=Z,27nm,1.0s
MEM **Membach** 12.64 331 P P 18 47 39.6 +1.4
GIVF **Givet** 12.71 327 *e*P P 18 47 38.3 -0.6
DOU **Dourbes** 12.80 327 P P 18 47 40.8 +0.9
DOU **Dourbes** 12.80 327 P P 18 47 40.0 +0.1
comp=Z,14nm,0.9s
BGES **Gesves** 12.81 328 P P 18 47 40.4 +0.3
BMRD **Maredsous** 12.88 327 P P 18 47 40.8 0.0
comp=Z,9.3nm,0.8s
SJPF **Ste Jean** 12.97 290 *e*P Pn 18 47 40.2 -0.6
MFF **Saint Martin d** 13.24 306 *e*P P 18 47 44.9 0.0
MFF **Saint Martin d** 13.24 306 P P 18 47 45.0 0.0
BR131 **Keskin Array S** 13.92 85 P Pn 18 47 51.1 -1.4
BR131 **Keskin Array S** 13.92 85 Pn 18 47 51.1 -1.4
BRTR **Keskin Array B** 13.92 85 P P 18 47 55.3 +2.6
comp=Z,0.5nm,0.3s,baz=270,slow=9.3,SNR=25
BRTR **Keskin Array B** 13.92 85*ce*P P 18 47 55.2 +2.6
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BRTR **Keskin Array B** 13.92 85 P 18 47 54.1 +1.4
LDF **La Druitiere** 14.18 313 *e*P P 18 47 54.2 -1.1
AKASG **Malin Array Be** 14.46 37 P P 18 47 58.0 -0.2
comp=Z,8.4nm,0.3s,baz=230,slow=11,SNR=119
AKASG S S 18 50 36.1 -1.5
baz=223,slow=20,SNR=7.3
AKASG **Malin Array Be** 14.46 37 P P 18 47 57.9 -0.3
AKBB **Malin Array Si** 14.46 37*ce*P P 18 47 57.9 -0.4
AKBB pmax pmax
comp=Z,20nm,0.6s
AKBB **Malin Array Si** 14.46 37 P P 18 47 57.8 -0.4
FLN **La Foliniere** 14.47 313 *e*P P 18 47 57.1 -1.4
GRR **Gorron** 14.50 311 *e*P P 18 47 57.5 -1.2
CSS **Mathiatis** 14.96 104 Pn 18 48 05.5 +0.7
ESBB **Sonseca Array** 15.00 275 P Pn 18 48 04.8 -0.4
ESBB IAmb IAmb 18 48 09.0
comp=Z,11nm,0.5s
ESDC **Sonseca Array** 15.00 275 P Pn 18 48 04.9 -0.4
comp=Z,1.6nm,0.3s,baz=74,slow=11,SNR=45
ESDC **Sonseca Array** 15.00 275 P P 18 48 04.6 +0.1
SUW **Suwalki** 15.05 18 P P 18 48 03.3 -1.4
SUW pmax pmax
comp=Z,36nm,0.8s
PAB **San Pablo** 15.31 275 P P 18 48 06.7 -1.2
PAB pmax pmax
comp=Z,9.0nm,0.8s
PAB **San Pablo** 15.31 275 P P 18 48 06.7 -1.2
PAB IAmb IAmb 18 48 09.1
comp=Z,9.1nm,0.8s
SGMF **Saint Gilles** 15.44 309 *e*P P 18 48 08.5 -0.6
QUIF **Quistinic** 15.66 307 *e*P P 18 48 10.9 -0.6
BNN **Bunyan** 15.74 87 Pn 18 48 14.2 +0.1
ROSF **Rostrenen** 15.90 308 *e*P P 18 48 13.1 -1.1
PABE **Paberze** 16.60 17 *e*P P 18 48 22.6 +0.9
PABE **Paberze** 16.60 17 P P 18 48 22.2 +0.4
PABE IAmb IAmb 18 48 38.6
comp=Z,27nm,1.4s
PBUR **Paburge** 16.69 13 *e*P P 18 48 23.3 +0.6
NACGM **Naroch** 16.81 23 *i* P Pn 18 48 26.8 +0.5
MNK **Minsk** 16.82 26 *i* P P 18 48 23.3 -0.8
MNK *i* S S 18 51 24.9 -0.5
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK MLR MLR
comp=N,86nm,15.0s
MNK MLR MLR
comp=Z,74nm,13.0s
MNK **Minsk** 16.82 26 *i* P P 18 48 23.4 -0.7
comp=E,2.0nm,0.9s
MNK *i* P P 18 48 23.4 -0.7
comp=N,16nm,0.9s
MNK *i* P P 18 48 23.4 -0.7
comp=Z,29nm,0.9s,baz=215
MNK *i* S S 18 51 24.9 -0.5
MNK *i* LRM MLR 18 56 04.2
comp=N,86nm,15.3s
MNK *i* LRM MLR 18 56 04.2
comp=Z,74nm,12.5s
PBRG **Braganca** 16.96 284 *e*P P 18 48 25.8 -0.1
IIGN **Ignalina** 17.03 21 *e*P P 18 48 27.3 +0.9
IIGN IAmb IAmb 18 48 35.5
comp=Z,5.2nm,0.6s
IDID **Didziasalis** 17.15 22 *e*P P 18 48 28.0 +0.3
GAZ **Gaziantep** 17.17 92 P P 18 48 28.0 -0.3
GAZ IAmb IAmb 18 48 29.3
comp=Z,13nm,0.8s
ISAL **Salakas** 17.20 21 *e*P P 18 48 28.9 +0.7
ISAL IAmb IAmb 18 48 36.6
comp=Z,6.5nm,0.5s
MVO **Moncorvo** 17.20 282 *e*P P 18 48 27.9 -0.6
MMAI **Mount Meron Ar** 17.38 107 P Pn 18 48 32.8 -0.5
comp=Z,4.9nm,0.3s,baz=319,slow=8.8,SNR=42
PMRV **Marv??o** 17.66 276 *e*P P 18 48 33.0 -0.4
PCBR **Castelo Branco** 17.66 277 *e*P Pn 18 48 35.0 -1.5
MDT **Midelt** 17.68 253 P P 18 48 33.5 -0.3
comp=Z,0.9nm,0.3s,baz=68,slow=7.1,SNR=14
MALT **Malatya** 17.83 88 P Pn 18 48 39.1 +0.5
PVIS **Viseu** 17.89 280 *e*P P 18 48 37.1 +1.2
PESTR **Estremoz** 17.90 274 *e*P P 18 48 36.0 -0.1
SLIT **Slitere, Latvi** 18.29 12 *e*P P 18 48 39.7 -0.2
EVO **Evora** 18.29 273 *e*P P 18 48 39.4 -0.9
PVAQ **Vaqueiros** 18.32 270 *e*P P 18 48 39.5 -1.1
PVAQ **Vaqueiros** 18.32 270 P P 18 48 41.2 +0.6
PMTG **Montargil** 18.36 275 *e*P P 18 48 39.6 -1.3
PCAS **Casmilo, Conde** 18.41 278 *e*P P 18 48 42.3 +0.7
PCVE **Castro Verde** 18.52 271 *e*P P 18 48 43.1 +0.4
PBDV **Barranco-do-Ve** 18.53 269 *e*P P 18 48 43.5 +0.6
MESJ **Messejana** 18.60 271 *e*P P 18 48 43.4 -0.2
MESJ IAmb IAmb 18 48 51.3
comp=Z,139nm,2.1s
MESJ **Messejana** 18.60 271 *e*P P 18 48 43.4 -0.2
MESJ iAmb 18 48 51.3
MESJ **Messejana** 18.60 271 *e*P P 18 48 43.3 -0.2
PNCL **Nicolau / Gran** 18.78 272 *e*P P 18 48 44.8 -0.7
ASF **Jabal al Asfar** 18.89 107 P P 18 48 48.0 +1.3
comp=Z,0.9nm,0.3s,baz=307,slow=5.2,SNR=9.7
EIL **Elat** 18.89 117 P P 18 48 48.4 +1.7
comp=Z,0.5nm,0.3s,baz=293,slow=4.9,SNR=6.6
KOPT **Kop Dagi** 19.12 82 P P 18 48 51.6 +2.2
KOPT IAmb IAmb 18 48 55.0
comp=Z,12nm,0.8s
PFVI **Vila Bisbo** 19.25 270 *e*P Pn 18 48 52.8 -2.2
MTSE **Matsula** 19.57 13 *e*P P 18 48 53.7 0.0
EKA **Eskdalemuir Ar** 19.84 327 P P 18 48 55.1 -1.4
baz=145,slow=11,SNR=37
MARD **Mardin** 19.88 89 P P 18 48 57.7 +0.3
MARD IAmb IAmb 18 49 01.5
comp=Z,11nm,0.7s
VORD **Divnogorie** 19.93 48 *e*P P 18 48 55.6 -1.9
VORD pmax pmax
comp=Z,20nm,0.4s
VSU **Vasula** 19.93 17⇓*e*P P 18 48 56.7 -0.7

VSU	Vasula	19.93	17	eP	P	18 48 57.7	+0.2
VSR	Storozhevoye	19.96	48	eP	P	18 48 55.9	-2.0
VSR				pmax	pmax		
comp=Z,40nm,1.0s							
UPP	Uppsala	20.04	3	eP	P	18 48 59.1	+0.5
KONO	Kongsberg	20.14	351	eP	P	18 48 57.7	-1.9
OSL	Oslo	20.30	353	eP	P	18 48 60.0	-1.4
HFS	Hagfors	20.30	357	P	P	18 48 59.9	-1.5
comp=Z,21nm,0.5s,baz=168,slow=9.1,SNR=70							
BLS5	Blasjo	20.38	347	eP	P	18 49 02.0	-0.3
KMY	Karmoy	20.42	345	eP	P	18 49 01.3	-1.3
LPSR	Galich'ya Gora	20.46	44	eP	P	18 49 00.4	-2.7
LPSR				pmax	pmax		
comp=Z,9.0nm,0.6s							
AAL	Aland	20.50	6	eP	P	18 49 02.5	-1.0
GURO	Guroymak-BITLI	20.55	85	P	P	18 49 04.4	0.0
GURO				IAmb	IAmb	18 49 07.5	
comp=Z,7.2nm,0.8s							
KIV	Kislovodsk	20.57	70	eP	P	18 49 05.9	+1.4
KIV				pmax	pmax		
comp=Z,9.0nm,1.2s							
KIV	Kislovodsk	20.57	70	P	P	18 49 04.6	+0.1
KVAR	Kislovodsk Arr	20.57	70	P	P	18 49 05.3	+0.7
comp=Z,3.8nm,0.9s,baz=265,slow=22,SNR=4.0							
NEY	Neytrino	20.58	72⇓	eP	P	18 49 06.5	+1.8
NEY				pmax	pmax		
comp=Z,5.0nm,1.2s							
OBN	Obninsk	20.71	36	P	P	18 49 03.1	-2.5
comp=Z,4.3nm,0.4s,baz=53,slow=2.7,SNR=5.0							
OBN	Obninsk	20.71	36	eP	P	18 49 04.0	-1.6
OBN				eS	S	18 52 39.2	-0.2
OBN				pmax	pmax		
comp=Z,26nm,1.7s							
OBN	Obninsk	20.71	36	P	P	18 49 02.5	-3.1
KBZ	Khabaz	20.71	70	P	P	18 49 06.8	+0.9
comp=Z,12nm,0.8s,baz=276,slow=8.0,SNR=23							
KBZ	Khabaz	20.71	70	ceP	P	18 49 06.7	+0.9
KBZ				pmax	pmax		
comp=Z,15nm,0.9s							
ODD1	Odda	20.81	347	eP	P	18 49 06.0	-0.7
GOF	Gofitskoye	20.89	67⇑	eP	P	18 49 09.4	+1.8
GOF				pmax	pmax		
comp=Z,42nm,0.9s							
NC602	NORSAR Array S	21.02	355	eP	P	18 49 06.8	-1.9
NC602	NORSAR Array S	21.02	355	P	P	18 49 06.6	-2.1
NC602				IAmb	IAmb	18 49 08.8	
comp=Z,20nm,0.7s							
NORES	NORESS Array B	21.02	355	P	P	18 49 06.8	-1.9
ONI	Oni	21.13	74	P	P	18 49 10.7	+0.6
ONI				pmax	pmax		
comp=Z,27nm,0.7s							
ONI	Oni	21.13	74	P	P	18 49 10.7	+0.6
NAO01	NORSAR Array S	21.18	354	P	P	18 49 08.5	-1.7
NAO01				IAmb	IAmb	18 49 09.0	
comp=Z,31nm,1.1s							
NCK	Nalchik	21.22	71⇓	eP	P	18 49 12.7	+1.8
NCK				pmax	pmax		
comp=Z,14nm,0.7s							
SKAR	Skarslia	21.30	350	eP	P	18 49 11.1	-0.4
NB2	NORSAR Subarra	21.35	354	P	P	18 49 10.3	-1.6
comp=Z,5.2nm,0.5s,baz=170,slow=11							
NB2	NORSAR Subarra	21.35	354	P	P	18 49 10.3	-1.6
baz=170,slow=11							
NOA	NORSAR Array B	21.35	354	P	P	18 49 10.0	-1.9
comp=Z,2.3nm,0.4s,baz=95,slow=16,SNR=39							
NB201	NORSAR Array S	21.35	354	P	P	18 49 10.5	-1.4
NBO00	NORSAR Array S	21.37	354	P	P	18 49 10.0	-2.1
NC405	NORSAR Array S	21.38	355	P	P	18 49 08.1	-4.1
VRH	Novokhopyorsk	21.43	49	eP	P	18 49 11.8	-0.9
VRH				pmax	pmax		
comp=Z,40nm,0.8s							
ZEI	Tsey	21.45	73	eP	P	18 49 13.8	+0.5
ZEI				pmax	pmax		
comp=Z,5.0nm,1.0s							
NC303	NORSAR Array S	21.52	354	P	P	18 49 12.4	-1.1
NC300	NORSAR Array S	21.55	355	P	P	18 49 12.7	-1.0
ASK	Askoy	21.60	346	eP	P	18 49 13.7	-0.5
NC204	NORSAR Array S	21.62	354	P	P	18 49 13.5	-0.9
NC204				IAmb	IAmb	18 49 15.2	
comp=Z,22nm,0.9s							
HYA	Hoyanger	22.07	348	eP	P	18 49 18.1	-0.3
DOMB	Dombas	22.53	352	eP	P	18 49 22.4	-0.3
FINES	FINESS Array B	22.54	13	P	P	18 49 22.5	-0.1
comp=Z,7.6nm,0.6s,baz=187,slow=9.2,SNR=30							
FINES	FINESS Array B	22.54	13	P	P	18 49 22.3	-0.3
FOO	Floro	22.67	347	eP	P	18 49 24.4	+0.5
AKN	Aaknes	22.92	350	eP	P	18 49 25.7	-0.5
NAX	Nakhchivan	23.07	82	P	P	18 49 28.7	+0.8
GANJ	Ganja	23.45	78	P	P	18 49 28.7	-2.6
ZKTA	Zakatala	23.55	76	P	P	18 49 33.5	+1.4
MNGR	Mingechevir, A	24.00	78	P	P	18 49 37.1	+0.9
SEKA	Sheki	24.03	77	P	P	18 49 37.3	+0.7
NSS	Namsos	24.77	356	eP	P	18 49 42.1	-0.7
LKRN	Lenkeran, Azer	25.67	82	P	P	18 49 52.1	+0.8
KLMR	Klimovskoe	25.70	27	eP	P	18 49 49.4	-1.7
KLMR				e*SP	sP	18 51 12.5	-2.4
KLMR				pmax	pmax		
comp=Z,11nm,1.2s							
KLMR	Klimovskoe	25.70	27	eP	P	18 49 49.5	-1.7
KLMR				AMP		18 49 57.9	
comp=Z,11nm,1.2s							
KLMR				esP	sP	18 51 12.6	-2.4
TORD	Torodi Ar. Bea	29.30	208	P	P	18 50 24.6	+1.0
comp=Z,0.3nm,0.3s,baz=18,slow=8.8,SNR=6.0							
ARA0	ARCESS Array S	30.18	7	eP	P	18 50 29.6	-1.1
ARCES	ARCESS Array B	30.18	7	P	P	18 50 29.9	-0.9
comp=Z,0.7nm,0.3s,baz=189,slow=9.3,SNR=20							
ARU	Arti	32.48	45	ciP	P	18 50 51.3	+0.3
ARU						18 52 09.9	
ARU				S	S	18 55 46.9	+1.8
ARU				SS	SS	18 58 15.3	+1.1
ARU				pmax	pmax		
comp=Z,18nm,1.3s							
ARU	Arti	32.48	45	P	P	18 50 50.6	-0.4
ABKAR	Akbulak array	32.58	58	P	P	18 50 52.1	+0.2
ABKAR	Akbulak array	32.58	58	P	P	18 50 51.7	-0.2
ABKAR				IAmb	IAmb	18 50 53.1	
comp=Z,4.0nm,0.8s							
GEYT	Alibeck	32.97	80	P	P	18 50 56.1	+0.6
comp=Z,5.4nm,0.4s,baz=291,slow=5.6,SNR=12							
GEYT	Alibeck	32.97	80	P	P	18 50 55.2	-0.3
GEYT				IAmb	IAmb	18 50 57.4	
comp=Z,6.5nm,0.7s							
GYA0B	ALIBECK ARRAY	32.97	80	P	P	18 50 54.9	-0.6
GYA0B				IAmb	IAmb	18 50 57.4	
comp=Z,8.6nm,0.6s							
SVE	Sverdlovsk	33.68	45	eP	P	18 51 01.9	+0.6
SVE				pmax	pmax		
comp=Z,18nm,1.2s							
UOSS	Minazif	37.09	101	P	P	18 51 30.3	-0.3
UOSS				IAmb	IAmb	18 51 53.2	
comp=Z,18nm,1.1s							
DBIC	Dimbokro	37.81	214	P	P	18 51 36.6	-0.1
comp=Z,2.3nm,0.7s,baz=0.2,slow=17,SNR=3.1							
SPA0	Spitsbergen Ar	38.40	0	eP	P	18 51 41.8	+0.8
BRVK	Borovoye	38.98	52	ciP	P	18 51 46.8	+0.8
BRVK				pmax	pmax		
comp=Z,11nm,0.6s							
BRVK	Borovoye	38.98	52	P	P	18 51 46.9	+0.8
BRVK				IAmb	IAmb	18 51 47.8	
comp=Z,14nm,0.7s							
KKAR	Karatay Array	40.68	67	P	P	18 52 00.5	+0.3
KKAR	Karatay Array	40.68	67	P	P	18 52 00.5	+0.3
CHGR	Chuyangaron	41.01	74	P	P	18 52 03.2	+0.3
CHGR				pmax	pmax		
comp=Z,17nm,0.7s							
CHGR	Chuyangaron	41.01	74	P	P	18 52 03.2	+0.3
CHGR				IAmb	IAmb	18 52 04.4	
comp=Z,17nm,0.7s							
BTK	Batken	41.77	71	P	P	18 52 09.1	0.0
BTK				pmax	pmax		
comp=Z,4.0nm,0.7s							
BTK	Batken	41.77	71	P	P	18 52 09.1	0.0
DRK	Karamyk	42.67	72	P	P	18 52 17.0	+0.5
AAK	Ala-Archa	43.63	66	ceP	P	18 52 25.1	+1.1
AAK				pmax	pmax		
comp=Z,7.0nm,0.7s							
AAK	Ala-Archa	43.63	66	P	P	18 52 24.8	+0.9
FRU1	Bishkek	43.67	66	P	P	18 52 24.5	+0.3
FRU1				pmax	pmax		
comp=Z,19nm,1.0s							
FRU1	Bishkek	43.67	66	P	P	18 52 24.5	+0.3
FRU1				IAmb	IAmb	18 52 26.4	
comp=Z,19nm,1.0s							
KURK	Kurchatov	44.40	54	ciP	P	18 52 29.9	+0.2
KURK				pmax	pmax		
comp=Z,15nm,1.3s							
KURK	Kurchatov	44.40	54	P	P	18 52 29.5	-0.2
KURK				IAmb	IAmb	18 52 30.8	
comp=Z,9.1nm,0.7s							
BOOM	Boomskoye usch	44.69	66	P	P	18 52 32.8	+0.4
BOOM				pmax	pmax		
comp=Z,3.0nm,0.6s							
BOOM	Boomskoye usch	44.69	66	P	P	18 52 32.8	+0.4
KDJ	Kajisay	45.67	66	P	P	18 52 41.0	+0.9
KDJ				pmax	pmax		
comp=Z,4.0nm,0.7s							
KDJ	Kajisay	45.67	66	P	P	18 52 41.0	+0.9
KSH	Kashi	45.70	70	P	P	18 52 41.1	+0.9
KSH				pmax	pmax		
comp=Z,9.0nm,0.7s							
NIL	Nilore	45.97	79	P	P	18 52 43.1	+0.8
NIL				pmax	pmax		
comp=Z,10.0nm,0.5s							
NIL	Nilore	45.97	79	P	P	18 52 43.1	+0.8
NIL				IAmb	IAmb	18 52 44.7	
comp=Z,10nm,0.5s							
ZAA0	Zalesovo Array	47.46	49	P	P	18 52 53.2	-0.2
ZAA0				IAmb	IAmb	18 52 54.0	
comp=Z,6.5nm,0.5s							
ZALV	Zalesovo Beam	47.46	49	P	P	18 52 53.4	0.0
comp=Z,6.5nm,0.3s,baz=285,slow=6.8,SNR=43							
ZALV				pP	pP	18 53 50.9	+0.4
comp=Z,1.6nm,0.7s,baz=281,slow=8.9,SNR=3.1							
ZALV				PP	PP	18 54 47.5	+0.3
comp=Z,1.1nm,0.8s,baz=278,slow=10,SNR=4.0							
MK31	Makanchi Array	47.72	59	ciP	P	18 52 55.9	+0.3
MK31	Makanchi Array	47.72	59	P	P	18 52 55.5	-0.1
MK31				IAmb	IAmb	18 52 56.3	
comp=Z,5.9nm,0.5s							
MKAR	Makanchi Array	47.72	59	P	P	18 52 56.0	+0.4
comp=Z,7.2nm,0.3s,baz=282,slow=7.3,SNR=216							
MKAR				pP	pP	18 53 52.8	0.0
comp=Z,0.9nm,0.4s,baz=281,slow=6.7,SNR=2.9							
MKAR	Makanchi Array	47.72	59	P	P	18 52 55.5	-0.1
DGZ	Jazzator, Alta	50.13	54	ceP	P	18 53 14.6	+0.7
DGZ				pmax	pmax		
comp=Z,3.0nm,0.5s							
WMQ	Urumqi	52.31	61	eP	P	18 53 30.5	+0.5
WMQ				pmax	pmax		
comp=Z,13nm,0.7s							
SCHQ	Schefferville	54.54	315	P	P	18 53 45.0	-0.9
comp=Z,16nm,0.3s,baz=68,slow=6.7,SNR=102							
SCHQ	Schefferville	54.54	315	P	P	18 53 44.8	-1.2
PYUN	Piuthan	55.95	80	eP	P	18 53 56.5	-0.1
comp=Z,32nm,0.6s							
DANN	Dangsing	56.41	79	eP	P	18 53 59.7	-0.2
comp=Z,39nm,0.4s							
HAL	Halifax	56.57	303	P	P	18 53 59.3	-1.1
HAL				pmax	pmax		
comp=Z,45nm,1.2s							
HAL	Halifax	56.57	303	P	P	18 53 59.3	-1.1
KOLN	Koldanda	56.58	80	eP	P	18 54 00.2	-0.8
comp=Z,11nm,0.5s							
RES	Resolute Bay	57.02	343	P	P	18 54 03.5	+0.4
RES				pmax	pmax		
comp=Z,2.0nm,1.0s							
RES	Resolute Bay	57.02	343	P	P	18 54 03.5	+0.4
GKN	Gorkha	57.25	79	eP	P	18 54 04.9	-0.7
comp=Z,20nm,0.6s							
DMN	Daman	57.80	79	eP	P	18 54 08.2	-1.4
comp=Z,8.5nm,0.2s							
KKN	Kakani	57.84	79	eP	P	18 54 09.2	-0.6
PKIN	Phulchoki	58.04	79	eP	P	18 54 10.7	-0.6
comp=Z,20nm,0.6s							
PKI	Pulchoki	58.05	79	eP	P	18 54 10.8	-0.6
comp=Z,13nm,0.5s							
GUN	Gumba	58.23	79	eP	P	18 54 12.3	-0.4
comp=Z,29nm,0.6s							
PQI	Presque Isle	58.49	307	P	P	18 54 13.0	-0.7
PQI				IAmb	IAmb	18 54 13.7	
comp=Z,14nm,1.0s							
TIXI	Tiksi	59.38	20⇑	eP	P	18 54 20.6	+1.2
TIXI				pmax	pmax		
comp=Z,4.0nm,1.7s							
LSA	Lhasa	61.24	74	P	P	18 54 33.0	-0.2
LSA				pmax	pmax		
comp=Z,4.0nm,1.0s							
LSA	Lhasa	61.24	74	P	P	18 54 33.0	-0.2
SONM	Songino Array	62.34	50	P	P	18 54 40.0	+0.2
comp=Z,2.0nm,0.8s,baz=290,slow=8.2,SNR=16							
SONM	Songino Array	62.34	50	P	P	18 54 39.6	-0.2
GTA	Gaotai	62.40	60	eP	P	18 54 40.4	+0.1
GTA				pP	pP	18 55 42.6	+1.8
GTA				sP	sP	18 56 32.1	+22
GTA				pmax	pmax		
comp=Z,3.0nm,0.9s							
FCC	Fort Churchill	65.77	327	P	P	18 55 01.6	0.0
FCC				pmax	pmax		
comp=Z,2.0nm,0.8s							
FCC	Fort Churchill	65.77	327	P	P	18 55 01.6	0.0
M57A	Sunshine Farm,	66.84	305	P	P	18 55 09.2	+0.5
M57A				IAmb	IAmb	18 55 20.1	
comp=Z,12nm,1.2s							
SSPA	Standing Stone	67.70	305	P	P	18 55 14.6	+0.5
SSPA				IAmb	IAmb	18 55 22.1	
comp=Z,16nm,1.4s							
BOSA	Boshof	68.75	171	P	P	18 55 21.3	+0.6
comp=Z,2.9nm,0.8s,baz=348,slow=4.6,SNR=7.1							
BOSA	Boshof	68.75	171	IAmb	IAmb	18 55 22.0	
comp=Z,7.0nm,1.1s							
HHC	Hu-ho-hao-te	69.21	54	eP	P	18 55 21.7	-1.9
HHC				pmax	pmax		
comp=Z,18nm,0.9s							
HHC				pmax	pmax		
comp=Z,180nm,5.0s							
M52A	Chesterland	69.35	307	P	P	18 55 24.6	+0.3
Q56A	Snyder Ridge,	69.43	304	P	P	18 55 24.7	-0.1
N53A	Lisbon	69.45	306	P	P	18 55 25.1	+0.2
CD2	Chengdu	69.69	66	eP	P	18 55 25.0	-1.6
BILL	Bilibino	70.16	11	eP	P	18 55 29.3	+0.6
BILL				e*PP	pP	18 56 32.3	+1.6
BILL				e		18 58 04.1	
BILL				pmax	pmax		
comp=Z,1.0nm,1.2s							
YKA	Yellowknife Ar	70.40	338	P	P	18 55 30.3	0.0
comp=Z,1.3nm,0.6s,baz=41,slow=6.2,SNR=20							
PZH	PanZhiHua	70.78	71	P	P	18 55 32.8	-0.5
PZH				pmax	pmax		
comp=Z,10.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,100nm,4.8s							
TOLK	Toolik Lake Re	71.22	354	P	P	18 55 36.5	+1.4
TOLK				IAmb	IAmb	18 55 37.6	
comp=Z,4.6nm,0.8s							
EYMN	Ely	71.26	317	P	P	18 55 35.8	+0.2
EYMN				IAmb	IAmb	18 55 36.2	
comp=Z,5.1nm,0.6s							
BMAR	Burnt Mountain	71.95	352	P	P	18 55 41.0	+1.5
ULM	Lac du Bonnet	71.98	321	P	P	18 55 39.9	+0.1
comp=Z,9.7nm,0.5s,baz=44,slow=6.4,SNR=12							
ULM	Lac du Bonnet	71.98	321	P	P	18 55 40.0	+0.1
ULM				pmax	pmax		
comp=Z,11nm,0.8s							
ULM	Lac du Bonnet	71.98	321	P	P	18 55 40.0	+0.1
ULM				IAmb	IAmb	18 55 40.6	
comp=Z,11nm,0.8s							
G40A	Rib Lake	72.25	314	P	P	18 55 42.1	+0.5
G40A				IAmb	IAmb	18 55 58.0	
comp=Z,16nm,1.5s							
COLD	Coldfoot	72.66	354	P	P	18 55 44.6	+1.0
CHTO	Chiang Mai	73.24	79	P	P	18 55 47.2	-0.6
CHTO				pmax	pmax		
comp=Z,3.0nm,1.1s							
CHTO	Chiang Mai	73.24	79	P	P	18 55 47.2	-0.6
CM31	Chiang Mai Arr	73.45	80	P	P	18 55 48.5	-0.6
CMAR	Chiang Mai Arr	73.45	80	P	P	18 55 48.9	-0.2
comp=Z,1.8nm,0.7s,baz=305,slow=7.2,SNR=17							
CMAR	Chiang Mai Arr	73.45	80	P	P	18 55 48.6	-0.4
F36A	Milaca	73.66	317	P	P	18 55 49.7	-0.2
F36A				IAmb	IAmb	18 55 50.6	
comp=Z,5.7nm,0.9s							
H24K	Noodor Dome	73.82	353	P	P	18 55 51.3	+0.9
H24K				IAmb	IAmb	18 56 02.6	
comp=Z,8.5nm,1.5s							
IMAR	Indian Mountai	74.14	355	P	P	18 55 53.6	+1.4
H21K	Melozitna Rive	74.40	355	P	P	18 55 55.2	+1.5
ILAR	Eielson Array	74.77	352	P	P	18 55 56.9	+1.1
comp=Z,0.7nm,0.8s,baz=4.9,slow=7.4,SNR=7.3							
F33A	5 Mile Ranch,	75.12	318	P	P	18 55 57.4	-0.8
F33A				IAmb	IAmb	18 55 58.5	
comp=Z,4.3nm,0.8s							
HDA	Harding Lake	75.13	352	P	P	18 55 58.2	+0.3
HDA				IAmb	IAmb	18 55 59.3	
comp=Z,4.3nm,0.8s							
SCRK	Sand Creek	75.21	351	P	P	18 55 59.5	+1.0
MDND	Maddock	75.41	321	P	P	18 55 59.8	0.0
MDND				IAmb	IAmb	18 56 00.5	
comp=Z,7.5nm,0.7s							
DOT	Dot Lake	75.54	351	P	P	18 55 59.6	-0.7
DOT				IAmb	IAmb	18 56 00.6	
comp=Z,9.8nm,0.9s							
T47A	Sharon Grove	75.65	306	P	P	18 56 00.9	-0.4
SDDR	Presa de Saban	75.71	283	P	P	18 56 02.6	+0.6
BCAR	Beaver Creek A	75.80	350	P	P	18 56 02.8	+1.1
DHY	Denali Highway	76.47	352	P	P	18 56 06.3	+0.6
DHY				IAmb	IAmb	18 56 07.0	
comp=Z,4.6nm,0.8s							
ECSD	EROS Data Cent	76.72	316	P	P	18 56 07.3	+0.1
ECSD				IAmb	IAmb	18 56 08.2	
comp=Z,9.7nm,0.7s							
KSRS	Korea Array	81.17	48	P	P	18 56 31.6	+0.2
comp=Z,1.0nm,0.5s,baz=333,slow=3.8,SNR=4.1							
PDAR	Pinedale Array	83.89	323	P	P	18 56 45.8	+0.2
comp=Z,1.1nm,0.5s,baz=57,slow=7.2,SNR=15							
TXAR	Lajitas Array	90.94	310	P	P	18 57 20.4	+0.9
comp=Z,0.7nm,0.5s,baz=64,slow=4.5,SNR=15							
WRA	Warramunga Arr	124.42	88	PKP	PKPdf	19 03 12.2	-0.7
comp=Z,0.5nm,0.9s,baz=68,slow=2.4,SNR=13							
ASAR	Alice Springs	126.17	92	PKP	PKPdf	19 03 15.7	-0.6
comp=Z,0.7nm,1.0s,baz=298,slow=1.5,SNR=9.7							

*KRNET **06** 18:45:27.4±0.1, 41°.47N×79°.19E, h15km, mb3.1*
*NNC **06** 18:45:28.7±1.8, 41°.60N×79°.33E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=11.9km s-min=7.7km az=159.0

ISC 06 18:45:27.0±2.0, 41°.45N±0°.09×79°.35E±0°.06, h10km, n29,
σ1§43/38, 9C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.19	284	⇓iP		Pg		18 45 47.5	-2.4
baz=84									
TARG				⇓iS		Sg		18 46 03.1	-2.3
baz=84									
PRZ	Przheval'sk	1.25	326	⇓iP		Pb		18 45 50.1	-0.7
baz=30									
PRZ				⇓iS		Sb		18 46 06.4	-0.6
baz=30									
SHLS	Shalkode	1.71	3	P		Pb		18 45 58.2	-0.3
6.0nm,0.2s									
SHLS				S		Sg		18 46 20.9	-1.0
330nm,0.4s									
SATY	Saty	1.75	337	P		Pn		18 45 58.5	+0.9
29nm,0.2s									
SATY				S		Sb		18 46 20.8	-0.6
33nm,0.1s									
KDJ	Kajisay	1.76	293	⇓iP		Pn		18 45 57.9	+0.2
baz=94									
KDJ				⇓iS		Sn		18 46 20.3	+0.1
baz=94									
ANVS	Anan'yevo	1.82	317	⇑iP		Pn		18 45 59.8	+1.1
baz=20									
ANVS				⇑iS		Sb		18 46 23.3	-0.3
baz=20									
ZHN	Zhinishke	1.84	339	P		Pb		18 46 00.2	-0.7
15nm,0.1s									
ZHN				S		Sg		18 46 24.9	-1.4
115nm,0.1s									
KTMS	Ketmen	2.13	20	Pg		Pn		18 46 04.4	+1.6
11nm,0.1s									
KTMS				Lg		Lg		18 46 31.3	
45nm,0.2s									
KURS	Kuram	2.21	337	Pg		Pb		18 46 06.6	-0.6
13nm,0.4s									
KURS				Lg		Lg		18 46 35.2	
25nm,0.6s									
TNSS	Tian-Shan	2.38	312	Pg		Pb		18 46 10.2	-0.1
26nm,0.2s									
TNSS				Lg		Lg		18 46 41.4	
30nm,0.5s									
MDOK	Medeo	2.42	316	Pg		Pb		18 46 11.7	+1.0
16nm,0.5s									
MDOK				⇓Lg		Lg		18 46 41.6	
41nm,0.6s									
MDOK	Medeo	2.42	316	Pg		Pb		18 46 09.5	-1.2
5.9nm,0.1s									
MDOK				Lg		Lg		18 46 40.2	
47nm,0.4s									
ULHL	Ulahol	2.45	290	⇓iP		Pn		18 46 09.1	+1.8
baz=90									
ULHL				⇓iS		Sn		18 46 39.5	+2.1
baz=90									
KNDC	Almaty	2.50	316	⇓Pg		Pg		18 46 15.3	+0.5
37nm,0.8s									
KNDC				⇓Lg		Lg		18 46 44.8	
33nm,0.5s									
MTBS	Maitube	2.74	309	Pg		Pb		18 46 14.9	-1.2
11nm,0.2s									
MTBS				Lg		Lg		18 46 49.2	
22nm,0.3s									
BOOM	Boomskoye usch	2.75	293	⇓iP		Pn		18 46 13.1	+1.8
baz=94									
BOOM				⇓iS		Sn		18 46 46.5	+1.9
baz=94									
DJR	Jarkent	2.90	6	Pg		Pb		18 46 16.4	-2.4
3.5nm,0.3s									
DJR				Lg		Lg		18 46 51.7	
33nm,0.2s									
KST	Kastek	2.97	303	Pg		Pb		18 46 18.7	-1.4
7.2nm,0.3s									
KST				Lg		Lg		18 46 55.7	
22nm,0.4s									
ARXS	Arharly	2.98	338	Pg		Pb		18 46 20.0	-0.2
7.1nm,0.5s									
ARXS				Lg		Lg		18 46 57.8	
16nm,0.3s									
KTBS	Karatobe	3.00	320	Pg		Pb		18 46 19.5	-1.0
4.2nm,0.2s									
KTBS				Lg		Lg		18 46 57.0	
33nm,0.4s									
TKM2	Tokmak 2	3.15	299	⇑Pn		Pn		18 46 19.0	+2.1
6.0nm,0.4s									
TKM2				⇓Lg		Lg		18 47 04.7	
10nm,0.5s									
TKM2	Tokmak 2	3.15	299	⇑iP		Pn		18 46 19.2	+2.3
baz=0.0									
TKM2				⇑iS		Sn		18 46 56.5	+1.9
baz=0.0							

TPTI		4.31	97	P	Pn	18 50 26.8	+1.5
	0.1nm486nm4.1nm,0.7s						
TPTI				S	Sn	18 51 11.3	-3.7
	0.1nm486nm4.1nm,0.7s						
GSI	Gunungsitoli	5.29	118	P	Pn	18 50 29.3	-10
PSI	Prapat	6.10	99	Pn	Pn	18 50 52.4	+2.4
	1.9nm,0.3s,baz=288,slow=9.8,SNR=3.8						
PSI				Sn	Sn	18 51 57.9	-1.5
	2.0nm,0.3s,baz=256,slow=20,SNR=3.0						
MNSI	Mandailing Nat	7.32	114	P	Pn	18 51 07.6	+1.0
SISI	Saibi	8.02	129	P	Pn	18 51 11.7	-4.6
	17nm,0.7s						
PALK	Pallekele	12.62	286	Pn	Pn	18 52 16.5	-2.8
	0.6nm,0.3s,baz=28,slow=11,SNR=1.6						
PALK				Sn	Sn	18 54 23.2	-16
	2.2nm,0.3s,baz=302,slow=19,SNR=9.1						
PALK				LR	LR	18 56 16.4	
	comp=Z,51nm,18.6s,baz=227,slow=33						
CMAR	Chiang Mai Arr	15.71	22	Pn	Pn	18 53 00.4	-0.8
	baz=212,slow=13,SNR=10.0						
CMAR				LR	LR	19 00 10.5	
	comp=Z,25nm,18.7s,baz=200,slow=41						
H08S2	Diego Garcia H	23.33	241	T	T	19 19 51.9	
	baz=62,slow=75,SNR=6.0						
H08S3	Diego Garcia H	23.33	241	T	T	19 19 59.1	
	baz=62,slow=75,SNR=8.7						
H08S1	Diego Garcia H	23.34	241	T	T	19 20 04.3	
	baz=62,slow=75,SNR=6.8						
AAK	Ala-Archa	41.99	340	LR	LR	19 14 46.3	
	comp=Z,40nm,19.6s,baz=150,slow=36						
MKAR	Makanchi Array	43.79	349	P	P	18 57 24.9	-0.4
	0.6nm,0.7s,baz=156,slow=8.7,SNR=5.0						
SONM	Songino Array	45.37	13	P	P	18 57 38.5	+0.5
	0.4nm,0.8s,baz=190,slow=7.3,SNR=2.3						
KSRS	Korea Array	46.35	39	LR	LR	19 17 45.3	
	comp=Z,28nm,19.4s,baz=25,slow=37						
WRA	Warramunga Arr	47.05	122	P	P	18 57 50.9	-0.6
	0.3nm,0.6s,baz=298,slow=9.1,SNR=2.6						
ASAR	Alice Springs	48.39	126	P	P	18 58 02.0	+0.1
	0.2nm,0.6s,baz=292,slow=8.3,SNR=1.9						
ZALV	Zalesovo Beam	50.41	354	P	P	18 58 16.8	0.0
	0.9nm,0.6s,baz=176,slow=8.9,SNR=5.3						
FINES	FINESS Array B	75.72	333	P	P	19 01 06.8	+2.0
	0.6nm,0.3s,baz=29,slow=34,SNR=1.1						
GERES	GERESS Array B	80.03	319	P	P	19 01 30.7	+1.5
	0.1nm,0.3s,baz=358,slow=21,SNR=2.3						

*IDC **06** 18:57:50.5±1.5, 25°.79N×128°.45E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.1/54, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=63.8km s-min=23.0km az=75.0*
*JMA **06** 18:57:54.6±0.3, 26°.00N×128°.55E, h47km±5km, M3.5*
ISC 06 18:57:52.6±1.6, 25°.92N±0°.05×128°.65E±0°.04, h22km±13km, n16, σ1.43/28, mb3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	Tamagusuku3	0.81	286	P	Pb	18 58 08.4	+0.4
JJT3				S	Sb	18 58 19.0	+0.5
JNTH	Nagotoyohara	0.82	317	P	Pb	18 58 07.9	-0.3
JNTH				S	Sb	18 58 18.4	-0.4
JOW	Kunigami	0.97	340	P	Pn	18 58 10.8	-0.1
JOW				S	Sb	18 58 21.9	-1.3
JYRO	Yoronjima	1.12	351	P	Pn	18 58 12.9	0.0
JYRO				eS	Sn	18 58 26.4	-1.2
JIH	Iheya	1.27	331	P	Pn	18 58 15.3	+0.3
JIH				eS	Sn	18 58 30.1	-1.2
JAGN	Aguni-jima	1.43	298	P	Pn	18 58 17.5	+0.4
JAGN				eS	Sn	18 58 34.0	-1.2
JOKE	Okinoerabujima	1.44	357	P	Pn	18 58 17.8	+0.5
JOKE				S	Sn	18 58 34.1	-1.5
JKE	Kume jima 2	1.72	284	P	Pn	18 58 20.7	-0.5
JKE				eS	Sn	18 58 39.9	-2.6
JTK	Tokunoshima	1.88	8	P	Pn	18 58 24.1	+0.7
JTK				S	Sn	18 58 45.6	-0.8
JMZ	Minamidaito 2	2.32	92	P	Pn	18 58 29.5	+0.1
JMZ				S	Sn	18 58 54.7	-2.5
JKDJ	Kitadaitoujima	2.38	89	P	Pn	18 58 30.5	+0.2
JKDJ				S	Sn	18 58 57.1	-1.7
JNU	Nakatsue	7.44	15	Pn	Pn	18 59 41.8	+2.0
	0.4nm,0.3s,baz=214,slow=2.7,SNR=11						
JNU				Sn	Sn	19 01 01.2	-2.2
	0.3nm,0.3s,baz=298,slow=20,SNR=1.6						
SONM	Songino Array	28.02	327	P	P	19 03 45.1	+3.1
	0.4nm,0.4s,baz=141,slow=11,SNR=10						
MKAR	Makanchi Array	42.02	312	P	P	19 05 41.2	-1.0
	0.2nm,0.7s,baz=101,slow=7.5,SNR=1.8						
WRA	Warramunga Arr	45.92	173	P	P	19 06 13.4	-0.3
	0.3nm,0.7s,baz=354,slow=8.7,SNR=1.9						
ASAR	Alice Springs	49.55	174	P	P	19 06 43.4	+1.5
	0.3nm,0.8s,baz=2.5,slow=15,SNR=3.0						

*IDC **06** 19:03:49.5±1.1, 35°.29N×24°.24E, h0km, mb3.7/11, mb1 3.8/18, mb1mx3.5/52, mbtmp3.7/18, ML3.6/7, MS3.1/1, Ms1 3.1/1, ms1mx2.3/86, Error ellipse: s-maj=22.3km s-min=7.8km az=11.0*
*ISK **06** 19:03:50.0, 35°.27N×24°.19E, h5km, ML3.4/8*
*THE **06** 19:03:50.3, 35°.28N×24°.26E, h0km±1km, ML3.1/12, Error ellipse: s-maj=1.2km s-min=0.5km az=184.0*
*ATH **06** 19:03:50.9, 35°.27N×24°.29E, h7km±3km, ML3.3/8, Error ellipse: s-maj=3.4km s-min=0.9km az=255.0*
*DDA **06** 19:03:51.0±0.0, 35°.37N×24°.23E, h22km, MW3.7*
ISC 06 19:03:50.5±0.9, 35°.27N±0°.02×24°.27E±0°.02, h8km±6km, n61, σ1.09/81, mb3.6/11, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAM	Vamos	0.15	339	P	Pg	19 03 53.8	+0.2
VAM				S	Sg	19 03 55.7	0.0
	22μm,0.5s						
VAM	Vamos	0.15	339	P	Pg	19 03 53.8	+0.2
VAM				S	Sg	19 03 56.3	+0.5
VAM				AML	AML	19 03 57.0	
	comp=N,57674μm,0.5s						
VAM				AML	AML	19 03 57.8	
	comp=E,40137μm,0.3s						
PRNS	Prines Rethymn	0.22	64	P	Pg	19 03 54.0	-0.8
PRNS				S	Sg	19 03 56.7	-1.0
	comp=E,7μm,0.8s						
IMMV	Iera Moni Meta	0.30	310	P	Pg	19 03 56.4	-0.1
IMMV				S	Sg	19 04 01.1	+0.7
	comp=E,10μm,0.9s						
IMMV	Iera Moni Meta	0.30	310	P	Pg	19 03 56.4	-0.1
IMMV				S	Sg	19 04 01.2	+0.8
IMMV				AML	AML	19 04 11.5	
	comp=N,20248μm,0.9s						
IMMV				AML	AML	19 04 13.1	
	comp=E,16011μm,0.9s						
IMMV	Iera Moni Meta	0.30	310	PG	Pg	19 03 56.3	-0.1
IMMV				SG	Sg	19 04 00.9	+0.5
GVDS	Gavdos	0.45	199	P	Pg	19 03 59.4	+0.2
GVDS				S	Sb	19 04 07.4	-0.1
	comp=E,3μm,0.4s						
GVDS	Gavdos	0.45	199	PG	Pg	19 03 59.7	+0.5
GVD	Gavdhos	0.45	199	P	Pg	19 03 59.3	+0.1
GVD				S	Sb	19 04 07.0	-0.7
	comp=E,6μm,0.3s						
GVD	Gavdhos	0.45	199	P	Pg	19 03 59.3	+0.1
GVD				S	Sg	19 04 06.2	+1.0
GVD				AML	AML	19 04 07.7	
	comp=N,11558μm,0.3s						
GVD				AML	AML	19 04 09.6	
	comp=E,10639μm,0.4s						
GVD	Gavdhos	0.45	199	PG	Pg	19 03 59.6	+0.3
GVD				SG	Sb	19 04 06.8	-0.9
TMBK	Timbaki Herakl	0.46	115	P	Pg	19 03 59.5	+0.2
TMBK				S	Sb	19 04 07.3	-0.4
	comp=E,2μm,0.4s						
KNDR	Palaiochora Ch	0.48	266	P	Pb	19 04 00.1	-1.0
KNDR				S	Sb	19 04 08.4	+0.1
	comp=E,1μm,0.3s						
KNDR	Palaiochora Ch	0.48	266	PG	Pb	19 04 00.2	-0.9
RODP	Rodopos	0.51	305	P	Pg	19 04 00.3	0.0
RODP				S	Sb	19 04 08.7	-0.5
	comp=E,1μm,0.5s						
IDI	Anoyia	0.51	88	Pg	Pg	19 04 00.1	-0.3
	comp=E,27nm,0.3s,baz=272,slow=16,SNR=91						
IDI				Lg	Lg	19 04 07.2	
	comp=E,143nm,0.3s,baz=329,slow=18,SNR=18						
IDI	Anoyia	0.51	88	P	Pg	19 03 59.9	-0.5
IDI				S	Sg	19 04 07.8	+0.7
	comp=E,2μm,0.7s						
IDI	Anoyia	0.51	88	P	Pg	19 03 60.0	-0.3

IDI				S	Sg	19 04 06.8	-0.3
IDI				AML	AML	19 04 08.5	
	comp=N,3500μm,0.6s						
IDI				AML	AML	19 04 13.1	
	comp=E,2454μm,0.4s						
SIVA	Sivas	0.51	119	P	Pg	19 04 00.1	-0.2
HRKL	Herakleio	0.69	86	PG	Pb	19 04 05.6	+0.9
ANKY	Antikythira Is	0.99	307	P	Pb	19 04 09.9	0.0
ANKY				S	Sb	19 04 23.3	+0.2
	comp=E,1μm,0.5s						
ANKY	Antikythira Is	0.99	307	P	Pb	19 04 09.6	-0.3
ANKY				S	Sb	19 04 23.7	+0.6
ANKY				AML	AML	19 04 27.8	
	comp=N,2370μm,0.3s						
ANKY				AML	AML	19 04 30.7	
	comp=E,2220μm,0.6s						
NPS	Neapolis	1.10	90	P	Pg	19 04 11.0	-0.7
NPS				AML	AML	19 04 32.5	
	comp=N,1412μm,0.6s						
NPS				AML	AML	19 04 33.0	
	comp=E,1701μm,0.6s						
KTHA	Kythira Island	1.39	316	P	Pg	19 04 16.6	-0.5
KTHA				S	Sn	19 04 35.4	+0.6
	comp=E,945nm,0.8s						
KTHA	Kythira Island	1.39	316	P	Pg	19 04 17.1	0.0
KTHA				AML	AML	19 04 38.5	
	comp=N,1635μm,0.6s						
KTHA				AML	AML	19 04 49.6	
	comp=E,2188μm,1.1s						
MHLO	Agia Marina, M	1.42	4	P	Pb	19 04 17.1	-0.2
MHLO				S	Sg	19 04 36.2	0.0
	comp=E,2μm,0.5s						
MHLO	Agia Marina, M	1.42	4	P	Pb	19 04 17.0	-0.2
MHLO				AML	AML	19 04 39.4	
	comp=N,5916μm,0.6s						
MHLO				AML	AML	19 04 43.3	
	comp=E,4282μm,0.3s						
KTHR	Kythira	1.43	314	P	Pn	19 04 16.7	0.0
STAX	Taxiarchis Har	1.46	39	P	Pn	19 04 16.9	-0.3
STAX				S	Sn	19 04 36.5	0.0
STAX	Taxiarchis Har	1.46	39	P	Pn	19 04 17.3	+0.2
SANT	Santorini	1.47	41	PN	Pg	19 04 18.9	+0.3
SANT	Santorini	1.47	41	P	Pn	19 04 17.5	+0.2
SANT				S	Sg	19 04 38.2	+0.5
CMBO	Columbo, Santo	1.52	37	P	Pn	19 04 18.2	+0.3
ZKR	Zakros	1.61	95	PN	Pg	19 04 21.3	0.0
VLI	Veliai	1.80	324	P	Pn	19 04 22.1	+0.2
ITM	Ithomi	2.69	316	PN	Pn	19 04 35.6	+1.5
DGB	zmir	3.48	36	P	Pn	19 03 54.6	-50
TAVA	DENIZLI_Tavas	4.34	58	SPECP		19 04 58.0	
TAVA				P	Pn	19 04 58.8	+1.8
CAEL	Denizli, Camel	4.49	64	P	Pn	19 05 00.7	+1.8
CAEL				*i* AML	AML	19 05 40.0	
	comp=E,86nm,2.1s						
CAEL				S	Sn	19 05 56.0	+4.5
GOLH	Golhisar	4.71	64	P	Pn	19 05 04.7	+2.7
USAK	Uak-Merkez	5.13	46	P	Pn	19 05 11.5	+3.9
PASA	Karahalli, USA	5.20	52	P	Pn	19 05 14.5	+5.8
BRTR	Keskin Array B	8.67	56	Pn	Pn	19 05 59.9	+3.4
	comp=E,0.1nm,0.3s,baz=245,slow=12,SNR=4.5						
MMAI	Mount Meron Ar	9.50	101	Pn	Pn	19 06 07.4	-0.3
	comp=E,0.4nm,0.3s,baz=289,slow=9.0,SNR=1.9						
MLR	Muntele Rosu	10.29	7	Pn	Pn	19 06 18.7	+0.1
	comp=E,0.2nm,0.3s,baz=185,slow=23,SNR=1.4						
EIL	Elat	10.61	119	Pn	Pn	19 06 21.3	-1.6
	comp=E,0.2nm,0.3s,baz=341,slow=18,SNR=1.7						
GERES	GERESS Array B	15.65	333	Pn	P	19 07 33.7	-1.9
	comp=E,0.2nm,0.3s,baz=147,slow=11,SNR=8.2						
AKASG	Malin Array Be	15.84	12	Pn	Pn	19 07 33.0	-0.7
	comp=E,0.6nm,0.3s,baz=204,slow=10,SNR=10						
KBZ	Khabaz	16.65	54	Pn	P	19 07 45.7	-0.9
	comp=E,0.1nm,0.3s,baz=241,slow=10,SNR=1.1						
ESDC	Sonseca Array	22.79	290	P	P	19 08 54.8	+1.2
	comp=E,1.0nm,1.0s,baz=86,slow=11,SNR=2.6						
HFS	Hagfors	25.81	348	P	P	19 09 20.9	-1.0
	comp=E,3.4nm,1.0s,baz=163,slow=10,SNR=2.0						
FINES	FINESS Array B	26.22	2	P	P	19 09 24.7	-0.9
	comp=E,1.4nm,0.7s,baz=195,slow=10,SNR=1.3						
EKA	Eskdalemuir Ar	27.53	325	P	P	19 09 38.5	+1.0
	comp=E,1.2nm,0.7s,baz=128,slow=5.5,SNR=1.5						
AKTO	Aktyubinsk	28.72	48	LR	LR	19 24 27.0	
	comp=E,31nm,18.3s,baz=342,slow=43						
TORD	Torodi Ar. Bea	30.01	228	P	P	19 10 00.6	+0.8
	comp=E,0.6nm,0.7s,baz=35,slow=9.0,SNR=2.8						
KURBB	Kurchatov Arra	41.62	51	P	P	19 11 39.4	+0.4
	comp=E,0.7nm,0.7s,baz=274,slow=8.8,SNR=7.5						
MKAR	Makanchi Array	44.33	57	P	P	19 12 01.5	+0.5
	comp=E,0.3nm,0.3s,baz=267,slow=7.9,SNR=12						
MKAR				PcP	PP	19 13 44.1	0.0
	comp=E,0.5nm,0.9s,baz=248,slow=2.0,SNR=2.2						
ZALV	Zalesovo Beam	45.46	46	P	P	19 12 09.3	-0.6
	comp=E,0.7nm,0.4s,baz=270,slow=8.0,SNR=4.4						
SONM	Songino Array	59.98	50	P	P	19 13 56.3	-1.3
	comp=E,0.5nm,1.0s,baz=272,slow=8.5,SNR=3.0						
SCHQ	Schefferville	62.63	319	P	P	19 14 14.5	-0.8
	comp=E,2.6nm,0.9s,baz=42,slow=16,SNR=1.7						
YKA	Yellowknife Ar	77.12	342	P	P	19 15 44.1	0.0
	comp=E,0.2nm,0.5s,baz=31,slow=5.3,SNR=3.1						

IDC 06 19:07:20.5±1.7, 6°.74S×128°.58E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.2/32, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=56.9km s-min=28.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	6.42	25	Pn	Pn	19 08 57.9	+1.6
	2.2nm,0.3s,baz=118,slow=5.6,SNR=77						
SIJI				Sn	Sn	19 09 59.4	-11
	0.6nm,0.3s,baz=236,slow=23,SNR=1.6						
WRA	Warramunga Arr	14.27	157	Pn	Pn	19 10 42.8	-1.2
	0.6nm,0.3s,baz=338,slow=14,SNR=32						
WRA				Sn	Sn	19 13 08.2	-15
	1.0nm,0.3s,baz=334,slow=22,SNR=10.0						
ASAR	Alice Springs	17.59	164	P	P	19 11 28.4	0.0
	0.1nm,0.3s,baz=344,slow=9.7,SNR=15						
ASAR				S	Sn	19 14 32.0	-12
	0.2nm,0.3s,baz=346,slow=26,SNR=5.5						
MKAR	Makanchi Array	67.24	327	P	P	19 18 16.4	-0.4
	0.4nm,0.6s,baz=119,slow=5.0,SNR=8.0						

*IDC **06** 19:29:12.0±0.8, 21°.46S×68°.66E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.8/41, mbtmp4.0/11, MS3.7/30, Ms1 3.7/30, ms1mx3.5/76, Error ellipse: s-maj=28.2km s-min=19.4km az=176.0*
*NEIC **06** 19:29:14.2±1.1, 21°.3S±0°.1×68°.7E±0°.2, h10km±1km, mb4.3/11, Error ellipse: s-maj=24.7km s-min=22.9km az=123.0*
ISC 06 19:29:13.6±0.8, 21°.4S±0°.2×68°.6E±0°.1, h10km, n51, σ0.96/18, mb4.1/16, MS3.7/30, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	Diego Carcia H	14.17	16	T	T	19 46 55.1	
	baz=196,slow=76,SNR=86						
H08S2	Diego Garcia H	14.17	16	T	T	19 46 58.7	
	baz=196,slow=76,SNR=233						
H08S3	Diego Garcia H	14.19	16	T	T	19 46 59.0	
	baz=196,slow=76,SNR=116						
PALK	Pallekele	30.86	24	LR	LR	19 44 53.1	
	comp=Z,110nm,18.7s,baz=312,slow=30						
MATP	Matopo	37.43	264	LR	LR	19 50 00.6	
	comp=Z,55nm,18.1s,baz=89,slow=33						
PSI	Prapat	38.18	55	LR	LR	19 48 00.7	
	comp=Z,124nm,21.7s,baz=208,slow=30						
LSZ	Lusaka	38.79	272	LR	LR	19 50 48.3	
	comp=Z,126nm,19.0s,baz=125,slow=33						
LBTB	Lobatse	39.59	256	P	P	19 36 45.6	0.0
	2.9nm,0.8s,baz=122,slow=10,SNR=3.8						
LBTB				LR	LR	19 49 39.5	
	comp=Z,136nm,21.1s,baz=105,slow=31						
LBTB	Lobatse	39.59	256	IAmb	IAmb	19 36 53.1	
	comp=Z,10nm,1.3s						
BOSA	Boshof	39.79	251	P	P	19 36 47.7	+0.5
	comp=Z,3.6nm,0.8s,baz=82,slow=8.5,SNR=5.7						
BOSA				LR	LR	19 49 32.3	
	comp=Z,128nm,18.8s,baz=75,slow=31						
BOSA	Boshof	39.79	251	IAmb	IAmb	19 36 49.4	
	comp=Z,4.9nm,0.9s						
LEM	Lembang	40.35	75	LR	LR	19 49 43.5	
	comp=Z,121nm,21.0s,baz=187,slow=30						
ATD	Arta Tunnel	41.38	320	LR	LR	19 51 26.7	
	comp=Z,35nm,21.9s,baz=78,slow=32						

MBAR	Mbarara	42.34	294	LR	LR	19 52 23.4	
	comp=Z,50nm,20.1s,baz=2.5,slow=33						
SUR	Sutherland	43.71	245	LR	LR	19 53 19.6	
	comp=Z,63nm,18.9s,baz=104,slow=33						
WSAR	Wadi Sarin	45.42	347	LR	LR	19 51 48.2	
	comp=Z,60nm,20.9s,baz=175,slow=30						
TSUM	Tsumeb	47.76	263	LR	LR	19 55 45.9	
	comp=Z,110nm,18.6s,baz=146,slow=33						
CMAR	Chiang Mai Arr	49.50	39	P	P	19 38 05.3	+0.7
	comp=Z,0.7nm,0.8s,baz=230,slow=7.2,SNR=8.7						
CMAR				LR	LR	19 55 07.5	
	comp=Z,60nm,21.4s,baz=210,slow=31						
KAPI	Kappang	52.11	79	LR	LR	19 56 37.8	
	comp=Z,35nm,21.9s,baz=272,slow=32						
BATI	Baumata	53.87	87	LR	LR	20 00 21.8	
	comp=Z,42nm,18.9s,baz=244,slow=35						
ASAR	Alice Springs	59.86	106	P	P	19 39 19.3	-0.6
	comp=Z,2.0nm,0.8s,baz=256,slow=5.9,SNR=16						
ASAR				LR	LR	20 01 13.1	
	comp=Z,94nm,21.1s,baz=280,slow=32						
ASAR	Alice Springs	59.86	106	P	P	19 39 19.1	-0.8
AS31	Alice Springs	59.86	106	P	P	19 39 19.0	-0.9
AS31				IAmb	IAmb	19 39 35.9	
	comp=Z,2.3nm,1.4s						
KSH	Kashi	60.98	6	P	P	19 39 32.2	+5.0
KSH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	Warramunga Arr	61.08	102	P	P	19 39 27.7	-0.6
	comp=Z,1.8nm,0.9s,baz=258,slow=6.4,SNR=7.0						
WRA				LR	LR	20 02 25.1	
	comp=Z,46nm,20.6s,baz=172,slow=33						
WRA	Warramunga Arr	61.08	102	IAmb	IAmb	19 39 30.7	
	comp=Z,0.4nm,1.3s						
DAV	Davao City (W)	62.61	70	LR	LR	20 05 13.6	
	comp=Z,34nm,19.7s,baz=302,slow=34						
AAK	Ala-Archa	63.94	5	LR	LR	20 05 29.3	
	comp=Z,47nm,19.4s,baz=162,slow=34						
SIJI	Sorong	64.30	80	LR	LR	20 03 51.7	
	comp=Z,41nm,22.0s,baz=184,slow=32						
STKA	Stephens Creek	64.98	116	LR	LR	20 03 27.8	
	comp=Z,91nm,21.3s,baz=206,slow=32						
GTA	Gaotai	67.16	26	*e*P	P	19 40 08.9	+1.1
GTA				pP	sP	19 40 11.9	+0.7
GTA				sP	pwP	19 40 14.7	+1.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
QSPA	South Pole Qui	68.71	180	P	P	19 40 17.7	+0.3
MKAR	Makanchi Array	68.99	10	P	P	19 40 18.8	-0.3
	comp=Z,0.4nm,0.7s,baz=182,slow=5.6,SNR=3.7						
BRTR	Keskin Array B	69.03	332	P	P	19 40 19.7	+0.1
	comp=Z,1.6nm,0.8s,baz=168,slow=6.3,SNR=3.5						
ABKAR	Akbulak array	70.76	354	P	P	19 40 28.2	-1.6
ABKAR				IAmb	IAmb	19 40 38.2	
	comp=Z,3.9nm,1.2s						
ABKAR	Akbulak array	70.76	354	P	P	19 40 27.4	-2.4
TORD	Torodi Ar. Bea	74.12	291	P	P	19 40 50.5	-0.2
	comp=Z,0.4nm,0.8s,baz=127,slow=5.0,SNR=4.4						
PMG	Port Moresby	76.01	95	LR	LR	20 13 03.7	
	comp=Z,49nm,19.2s,baz=321,slow=35						
ZALV	Zalesovo Beam	76.33	10	P	P	19 41 02.3	-0.2
	comp=Z,0.8nm,0.8s,baz=189,slow=8.2,SNR=2.4						
SONM	Songino Array	76.80	25	P	P	19 41 06.5	+0.9
	comp=Z,1.4nm,1.0s,baz=198,slow=4.4,SNR=6.8						
SONM				LR	LR	20 14 58.3	
	comp=Z,53nm,18.8s,baz=50,slow=36						
SONM	Songino Array	76.80	25	IAmb	IAmb	19 41 17.4	
	comp=Z,3.3nm,1.3s						
AKASG	Malin Array Be	79.75	336	P	P	19 41 22.1	+0.5
	comp=Z,1.6nm,0.7s,baz=138,slow=4.7,SNR=13						
AKASG	Malin Array Be	79.75	336	IAmb	IAmb	19 41 31.1	
	comp=Z,2.5nm,1.4s						
AKBB	Malin Array Si	79.75	336	P	P	19 41 22.0	+0.4
AKBB				IAmb	IAmb	19 41 22.7	
	comp=Z,3.2nm,0.8s						
KSRS	Korea Array	80.85	44	LR	LR	20 17 17.6	
	comp=Z,27nm,18.2s,baz=230,slow=36						
MJAR	Matsushiro Arr	87.32	49	LR	LR	20 18 31.3	
	comp=Z,40nm,21.7s,baz=261,slow=34						
MDT	Midelt	88.24	306	LR	LR	20 22 46.2	
	comp=Z,51nm,18.2s,baz=102,slow=36						
DZM	Mont Dzumac	88.97	113	LR	LR	20 19 05.5	
	comp=Z,40nm,20.7s,baz=146,slow=34						
KLR	Kul'dur	89.87	36	LR	LR	20 24 08.6	
	comp=Z,44nm,18.1s,baz=319,slow=37						
ESDC	Sonseca Array	90.89	313	LR	LR	20 23 56.3	
	comp=Z,48nm,18.2s,baz=311,slow=36						
YAK	Yakutsk	96.16	25	LR	LR	20 27 12.0	
	comp=Z,56nm,18.0s,baz=94,slow=36						

*THE **06** 19:40:12.3, 34°.80N×24°.87E, h19km±2km, ML2.5/8, Error ellipse: s-maj=3.1km s-min=1.1km az=357.0*
*ATH **06** 19:40:12.4, 34°.86N×24°.85E, h31km±2km, ML2.6/6, Error ellipse: s-maj=4.8km s-min=1.7km az=336.0*
ISC 06 19:40:13.1±1.2, 34°.86N±0°.06×24°.83E±0°.03, h27km±6km, n15, σ0.87/27, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	Sivas	0.16	353	P	Pb	19 40 18.0	-0.6
SIVA				S	Sb	19 40 22.6	+0.3
SIVA				AML	AML	19 40 24.1	
	comp=E,5456μm,0.3s						
SIVA				AML	AML	19 40 25.5	
	comp=N,3323μm,0.3s						
TMBK	Timbaki Herakl	0.22	345	P	Pb	19 40 18.1	-1.1
TMBK				S	Sn	19 40 24.6	+1.2
	comp=N,760nm,0.4s						
IDI	Anoyia	0.43	6	P	Pb	19 40 21.4	-1.0
IDI				S	Sb	19 40 28.7	+0.1
	comp=N,562

BARC *eS* Sn 20 20 21.6 +0.6
BARC *i* 20 20 23.8
comp=Z,16nm,0.1s
BARC Barichara 0.17 173 *eP* Pn 20 20 06.6 -0.6
BARC *eS* Sn 20 20 21.4 +0.4
BARC *i* 20 20 23.2
comp=Z,17nm,0.3s
BRRC Barranca, Sant 0.61 304 *eP* Pn 20 20 09.0 +0.2
BRRC *eS* Sn 20 20 23.9 +0.1
PAMC Pamplona, Colo 0.76 41⇑ *eP* Pn 20 20 09.8 -0.6
PAMC *eS* Sn 20 20 26.5 -0.2
PAMC *i* 20 20 29.2
comp=Z,7.7nm,0.6s
PAMC Pamplona, Colo 0.76 41 *eP* Pn 20 20 10.0 -0.3
PAMC *eS* Sn 20 20 26.4 -0.3
PAMC *i* 20 20 29.2
comp=Z,7.6nm,0.6s
RUSC La Rusia 0.88 172 *eP* Pn 20 20 11.2 -0.1
RUSC *eS* Sn 20 20 28.6 +0.1
RUSC *i* 20 20 30.8
comp=Z,5.1nm,0.3s
RUSC La Rusia 0.88 172 *eP* Pn 20 20 11.6 +0.2
RUSC *eS* Sn 20 20 27.4 -1.0
RUSC *i* 20 20 30.8
comp=Z,5.1nm,0.3s
PTBC PUERTO BERRIO, 1.27 260 *eP* Pn 20 20 12.1 -2.4
PTBC *eS* Sn 20 20 32.1 -2.0
PTBC *i* 20 20 42.3
comp=Z,5.6nm,0.2s
PTBC PUERTO BERRIO, 1.27 260 *eS* Sn 20 20 33.0 -1.1
PTBC *i* 20 20 42.3
comp=Z,5.6nm,0.2s
SPBC San Pablo de B 1.41 218 *eS* Sn 20 20 31.6 -5.3
SPBC *i* 20 20 42.5
comp=Z,7.0nm,0.1s
ZARC Zaragoza, Cauc 1.79 294 *eS* Sn 20 20 40.9 -3.7
ZARC *i* 20 20 51.7
comp=Z,5.9nm,0.2s
ZARC Zaragoza, Cauc 1.79 294 *eP* Pn 20 20 20.8 +0.4
ZARC *eS* Sn 20 20 43.8 -0.8
ZARC *i* 20 20 50.0
comp=Z,5.4nm,0.1s
CHIC Chingaza 2.19 194 *eP* Pn 20 20 24.7 -0.9
CHIC *eS* Sn 20 20 51.9 -1.9
CHIC *i* 20 20 58.6
comp=Z,2.5nm,0.6s
CHIC Chingaza 2.19 194 *eP* Pn 20 20 25.4 -0.2
CHIC *eS* Sn 20 20 53.5 -0.3
CHIC *i* 20 20 58.7
comp=Z,2.4nm,0.6s
SMLC San Martn de 2.20 337 *eP* Pn 20 20 23.2 -2.1
SMLC *eS* Sn 20 20 50.1 -3.2
SMLC *i* 20 20 54.3
comp=Z,9.4nm,0.1s
SMLC San Martn de 2.20 337 *eP* Pn 20 20 23.6 -1.7
SMLC *eS* Sn 20 20 52.3 -1.0
SMLC *i* 20 20 54.3
comp=Z,9.4nm,0.1s
GUY2C Guyana, Caldas 2.64 235 *eS* Sn 20 20 59.0 -5.0
GUY2C *i* 20 21 19.0
comp=Z,1.6nm,0.7s

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*IDC **06** 20:22:24.4±7.9,31°.27S×178°.98W,h410km±87km,mb3.0/2, mb1 3.3/3,mb1mx2.5/41,mbtmp4.0/3,Error ellipse: s-maj=89.3km s-min=42.2km azr=10.0*
ISC 06 20:22:21.8±1.3,31°.3S±0°.1×178°.4W±0°.3,h400km,n25, σ2§03/42,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.78**	**203**	P	**Pn**	**20 24 03.8**	**+1.0**
MXZ				S	**S**	**20 25 23.6**	**-1.9**
WMGZ	**Waiomatatini S**	**6.98**	**201**	P	**Pn**	**20 24 03.8**	**-1.3**
WMGZ				S	**S**	**20 25 30.2**	**+0.6**
HAZ	**Te Kaha**	**7.14**	**205**	P	**P**	**20 24 08.2**	**+0.8**
HAZ				S	**S**	**20 25 33.8**	**+1.0**
PKGZ	**Pakihiroa**	**7.16**	**203**	P	**Pn**	**20 24 05.7**	**-1.4**
PKGZ				S	**S**	**20 25 35.0**	**+1.7**
PUZ	**Puketiti**	**7.26**	**201**	P	**Pn**	**20 24 08.4**	**+0.1**
PUZ				S	**S**	**20 25 36.0**	**+0.6**
RUGZ	**Raukumara Rang**	**7.36**	**205**	P	**Pn**	**20 24 10.5**	**+1.0**
RUGZ				S	**S**	**20 25 36.1**	**-1.6**
TWGZ	**Tauwhareparae**	**7.45**	**203**	P	**P**	**20 24 13.2**	**+2.3**
TWGZ				S	**S**	**20 25 42.9**	**+3.6**
CNGZ	**Carnagh Statio**	**7.66**	**200**	P	**Pn**	**20 24 11.8**	**-0.9**
CNGZ				S	**S**	**20 25 38.2**	**-5.4**
TKGZ	**Te Karaka**	**7.73**	**203**	P	**P**	**20 24 15.7**	**+1.7**
TKGZ				S	**S**	**20 25 46.2**	**+1.2**
MWZ	**Matawai**	**7.75**	**205**	P	**P**	**20 24 15.4**	**+1.1**
MWZ				S	**S**	**20 25 45.1**	**-0.4**
URZ	**Urewera**	**7.83**	**207**	P	**P**	**20 24 16.0**	**+0.8**
URZ	3.3nm,0.3s,baz=121,slow=24,SNR=18			S	**S**	**20 25 47.0**	**-0.3**
	16nm,0.3s,baz=121,slow=24,SNR=32						
URZ	**Urewera**	**7.83**	**207**	P	**Pn**	**20 24 13.8**	**-1.0**
URZ				S	**S**	**20 25 47.6**	**+0.3**
RIGZ	**Rimuhau**	**8.00**	**202**	P	**Pn**	**20 24 17.9**	**+1.2**
RIGZ				S	**S**	**20 25 47.1**	**-3.7**
PRGZ	**Paritu Road**	**8.16**	**201**	P	**P**	**20 24 20.5**	**+1.6**
PRGZ				S	**S**	**20 25 51.4**	**-2.8**
RAHZ	**Arahi**	**8.42**	**205**	P	**P**	**20 24 22.9**	**+1.2**
RAHZ				S	**S**	**20 26 00.0**	**+0.4**
TLZ	**Tolley Road**	**8.58**	**214**	P	**P**	**20 24 26.9**	**+3.4**
BKZ	**Black Stump Fm**	**8.86**	**207**	P	**P**	**20 24 27.4**	**+0.7**
BKZ				S	**S**	**20 26 08.8**	**-0.2**
TSZ	**Takapari Road**	**9.84**	**206**	P	**P**	**20 24 34.5**	**-3.0**
TSZ				S	**S**	**20 26 29.2**	**0.0**
WAZ	**Wanganui**	**9.98**	**211**	S	**S**	**20 26 37.2**	**+5.0**
ASAR	**Alice Springs**	**42.73**	**268**	P	**P**	**20 29 39.8**	**-2.0**
	0.6nm,0.8s,baz=106,slow=7.7,SNR=3.5						
WRA	**Warramunga Arr**	**43.80**	**273**	P	**P**	**20 29 47.7**	**-2.6**
	1.0nm,0.4s,baz=111,slow=7.4,SNR=3.0						
KBZ	**Khabaz**	**145.34**	**303**	PKP	**PKPdf**	**20 41 12.5**	**0.0**
	2.1nm,1.0s,baz=90,slow=4.0,SNR=2.2						
FINES	**FINESS Array B**	**149.50**	**339**	PKPbc	**PKPdf**	**20 41 14.1**	**+1.3**
	4.6nm,0.7s,baz=57,slow=5.1,SNR=15						
NOA	**NORSAR Array B**	**149.62**	**351**	PKPbc	**PKPbc**	**20 41 24.7**	**+0.5**
	0.8nm,0.8s,baz=12,slow=4.1,SNR=2.2						
AKASG	**Malin Array Be**	**151.83**	**321**	PKPbc	**PKPbc**	**20 41 30.5**	**+1.0**
	1.2nm,0.7s,baz=46,slow=3.2,SNR=8.1						

DJA 06 20:23:06.1±0.9,8°S±10°×12°8E±°,h77km±49km,M3.8/6, mb3.2/1,MLv4.1/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.51**	**97**	P	Pn	20 23 58.3	-0.1
SAUI				S	Sn	20 24 39.4	+0.6
SOEI	**Soe**	**4.08**	**238**	P	Pn	20 24 06.7	+0.4
SOEI				S	Sn	20 24 53.6	+0.6
BATI	**Baumata**	**4.83**	**237**	P	Pn	20 24 15.8	-0.6
BATI				S	Sn	20 25 10.7	-0.3
EDFI	**Ende, Flores**	**6.14**	**259**	P	Pn	20 24 34.9	+0.6

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*ISK **06** 20:46:41.5,36°.01N×32°.06E,h12km,ML2.7/14*
*DDA **06** 20:46:43.0±0.0,36°.29N×32°.08E,h20km±1km,ML2.2*
*NIC **06** 20:46:45.1±0.0,36°.00N×32°.29E,h20km,Ml2.5/1*
ISC 06 20:46:42.1±1.3,36°.12N±0°.03×32°.00E±0°.05,h28km±11km, n25,σ1§05/41,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.28**	**66**	PG	**Pb**	**20 46 48.9**	**-0.3**
BOZY	**Bozyazi-Mersin**	**0.79**	**91**	PG	**Pb**	**20 46 56.7**	**-0.6**
BOZY				SG	**Sb**	**20 47 07.4**	**-0.3**
TEKE	**Tekeli-Mersin**	**0.90**	**88**	PG	**Pb**	**20 46 58.9**	**-0.3**
BERE	**Bereket-Mersin**	**1.01**	**77**	PG	**Pb**	**20 47 00.7**	**-0.5**
ALFC	**Alefka**	**1.08**	**153**	P	**Pb**	**20 47 02.1**	**-0.1**
ALFC				S	**Sn**	**20 47 15.1**	**-0.4**
ALFC				AML	AML	20 47 18.4	
	0.6nm,0.1s						
ALFC				AML	AML	20 47 18.4	
	0.6nm,0.1s						
ALFC				AML	AML	20 47 18.4	
	0.6nm,0.1s						
ALFC				AML	AML	20 47 18.4	
	0.6nm,0.1s						
AKMS	**Akamas**	**1.14**	**166**	P	**Pb**	**20 47 03.5**	**+0.3**
AKMS				S	**Sn**	**20 47 18.0**	**+1.2**
TEVE	**Tevekalti-Mers**	**1.21**	**75**	PN	**Pn**	**20 47 03.9**	**+0.7**
LEF	**Lefka**	**1.24**	**144**	PN	**Pn**	**20 47 03.2**	**-0.3**
LEF				SN	**Sn**	**20 47 18.7**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.25**	**87**	P	**Pn**	**20 47 03.4**	**-0.3**
GULN				S	**Sn**	**20 47 19.3**	**-0.4**
GULN				*i* AML	AML	20 47 24.0	
	comp=E,39nm,0.5s						
AKKU	**Akkuyu-Mersin**	**1.26**	**88**	PN	**Pb**	**20 47 05.1**	**-0.1**
AKKU				SN	**Sb**	**20 47 21.9**	**+0.9**
KKBE	**Karaman, Kazim**	**1.33**	**34**	P	**Pn**	**20 47 05.6**	**+0.7**
KKBE				S	**Sn**	**20 47 21.2**	**-0.6**
KKBE				*i* AML	AML	20 47 25.0	
	comp=N,47nm,0.3s						
KKBE				*i* AML	AML	20 47 25.0	
	comp=E,40nm,0.4s						
SEDI	**Konya, Seydise**	**1.34**	**352**	P	**Pb**	**20 47 05.8**	**-0.9**
SEDI				S	**Sn**	**20 47 20.9**	**-1.2**
SEDI				*i* AML	AML	20 47 25.0	
	comp=E,45nm,0.5s						
TISA	**Tisan-Mersin**	**1.36**	**88**	PN	**Pb**	**20 47 06.4**	**-0.5**
IKL	**Isikli**	**1.37**	**85**	PN	**Pb**	**20 47 06.6**	**-0.5**
IKL				SN	**Sb**	**20 47 24.6**	**+0.4**
KEBE	**Keben-Mersin**	**1.42**	**76**	PN	**Pb**	**20 47 07.6**	**-0.5**
KEBE				SN	**Sb**	**20 47 26.7**	**+0.9**
LFK	**Lefkose**	**1.50**	**124**	PN	**Pn**	**20 47 07.7**	**+0.4**
CSS	**Mathiatis**	**1.59**	**136**	PN	**Pn**	**20 47 08.7**	**+0.4**
CSS	**Mathiatis**	**1.59**	**136**	P	**Pn**	**20 47 08.8**	**+0.4**
CSS				S	**Sn**	**20 47 27.1**	**-0.9**
KMER	**Konya-Meram**	**1.67**	**10**	P	**Pn**	**20 47 10.8**	**+1.1**
KMER				S	**Sn**	**20 47 29.9**	**-0.3**
KMER				*i* AML	AML	20 47 33.0	
	comp=E,20nm,0.4s						
KMER				*i* AML	AML	20 47 33.0	
	comp=N,21nm,0.4s						
MVOU	**Mavrovouni**	**1.73**	**129**	P	**Pn**	**20 47 10.2**	**-0.1**
MVOU				S	**Sn**	**20 47 29.9**	**-1.5**
KIZK	**Mersin**	**1.77**	**78**	PN	**Pn**	**20 47 12.4**	**+1.5**
KIZK				SN	**Sb**	**20 47 35.1**	**-0.6**
DOGA	**KONYA_Doganhis**	**2.00**	**352**	P	**Pn**	**20 47 15.0**	**+0.8**
YESY	**Yesilyurt**	**2.17**	**40**	PN	**Pn**	**20 47 18.8**	**+2.3**
DED	**Mersin**	**2.41**	**69**	P	**Pb**	**20 47 22.9**	**-1.9**
DED				S	**Sn**	**20 47 51.4**	**+3.2**
GULE	**Gulek**	**2.52**	**62**	P	**Pb**	**20 47 25.0**	**-1.8**
GULE				S	**Sb**	**20 47 56.5**	**-0.8**
GULE				*i* AML	AML	20 48 00.0	
	comp=N,27nm,0.4s						
GULE				*i* AML	AML	20 48 08.0	
	comp=E,23nm,0.5s						

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*DJA **06** 20:54:29.5±0.2,3°S±2°×10°4E±°,h10km,M4.1/17, MLv4.1/17*
*IDC **06** 20:54:47.5±5.0,4°.04S×103°.20E,h217km±34km,mb3.1/7, mb1 3.3/8,mb1mx3.1/34,mbtmp3.7/8,MS2.8/1,Ms1 2.8/1, ms1mx2.4/18,Error ellipse: s-maj=98.7km s-min=14.5km az=58.0*
ISC 06 20:54:29.4±0.7,3°40S±0°.03×104°.10E±0°.03,h10km,n24, σ1§28/28,mb3.6/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHSI	**Lahat**	**0.71**	**233**	P	**Pg**	**20 54 42.8**	**-0.4**
LHSI				S	**Sg**	**20 54 53.2**	**+0.7**
PMBI	**Palembang**	**0.82**	**55**	P	**Pg**	**20 54 43.9**	**-1.3**
PMBI				S	**Sg**	**20 54 55.0**	**-1.0**
MDSI	**Maura Dua**	**1.08**	**176**	P	**Pg**	**20 54 49.0**	**-1.3**
MDSI				S	**Sg**	**20 55 03.7**	**-0.7**
KLSI		**1.43**	**154**	P	**Pn**	**20 54 54.5**	**-0.9**
MNAI	**Manna**	**1.49**	**230**	P	**Pn**	**20 54 55.8**	**-0.4**
MNAI				S	**Sb**	**20 55 17.0**	**+0.9**
LWLI	**Liwa**	**1.61**	**181**	P	**Pn**	**20 54 57.8**	**-0.2**
KLI	**Kotabumi**	**1.64**	**152**	P	**Pn**	**20 54 58.0**	**-0.3**
JMBI	**JAMBI**	**1.81**	**345**	P	**Pb**	**20 55 02.3**	**-0.3**
MASI	**Maura Aman, Be**	**1.87**	**278**	P	**Pn**	**20 55 01.5**	**0.0**
KASI	**Kota Agung**	**2.15**	**169**	P	**Pn**	**20 55 05.6**	**+0.3**
BLSI	**Bandar Lampung**	**2.27**	**150**	P	**Pn**	**20 55 06.7**	**-0.3**
PPBI	**Pangkal Pinang**	**2.38**	**59**	P	**Pn**	**20 55 09.8**	**+1.3**
KRJI	**Kerinci**	**2.93**	**296**	P	**Pn**	**20 55 16.8**	**+0.6**
DSRI	**Dabo**	**2.94**	**9**	P	**Pn**	**20 55 16.1**	**-0.1**
LEM	**Lembang**	**4.89**	**134**	P	**Pg**	**20 56 05.5**	**+2.4**
	2.8nm,0.3s,baz=340,slow=21,SNR=4.2						
LEM				S	**Sg**	**20 57 06.8**	**+0.2**
	4.5nm,0.3s,baz=53,slow=22,SNR=4.3						
CNJI	**Cibinong**	**4.92**	**142**	P	**Pn**	**20 55 43.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**22.30**	**347**	P	**P**	**20 59 30.4**	**+3.2**
	1.5nm,0.7s,baz=184,slow=8.5,SNR=11						
SIJI	**Sorong**	**27.27**	**85**	LR	LR	21 14 02.5	
	comp=Z,20nm,20.2s,baz=216,slow=41						
WRA	**Warramunga Arr**	**33.77**	**122**	P	**P**	**21 01 13.8**	**+2.1**
	0.5nm,0.9s,baz=298,slow=8.2,SNR=2.7						
ASAR	**Alice Springs**	**35.15**	**128**	P	**P**	**21 01 22.3**	**-1.3**
	0.5nm,0.7s,baz=300,slow=8.1,SNR=5.2						
STKA	**Stephens Creek**	**45.19**	**133**	P	**P**	**21 02 45.2**	**-1.6**
	2.2nm,0.7s,baz=357,slow=8.1,SNR=4.1						
SONM	**Songino Array**	**51.06**	**2**	P	**P**	**21 03 33.0**	**+1.0**
	1.4nm,0.7s,baz=181,slow=8.8,SNR=14						
MKAR	**Makanchi Array**	**53.56**	**342**	P	**P**	**21 03 49.1**	**-1.4**
	0.3nm,0.6s,baz=144,slow=9.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**59.37**	**347**	P	**P**	**21 04 29.8**	**-1.9**
	0.5nm,0.4s,baz=167,slow=8.5,SNR=5.4						

IDC 06 21:09:14.8±4.9,84°.64N×109°.04E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.1/42,mbtmp3.8/4,ML3.6/1,Error ellipse: s-maj=107.9km s-min=42.1km az=75.0,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRIK	**Noril'sk**	**15.89**	**208**	Pn	P	21 13 01.4	-1.7
	0.2nm,0.3s,baz=26,slow=15,SNR=5.8						
ARCES	**ARCESS Array B**	**20.66**	**278**	P	P	21 13 55.2	-0.4
	2.0nm,0.8s,baz=11,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**38.65**	**210**	P	P	21 16 38.8	-0.6
	0.6nm,0.6s,baz=8.9,slow=8.6,SNR=8.8						
TORD	**Torodi Ar. Be**	**78.60**	**288**	P	P	21 21 18.4	+0.4
	0.5nm,0.7s,baz=6.1,slow=6.2,SNR=3.6						

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*SJA **06** 21:23:20.4±0.8,29°.08S×69°.08W,h121km±6km,ML4.0, MW4.1*
*NEIC **06** 21:23:20.4±2.2,29°.16S±0°.05×68°.95W±0°.08,h85km±5km, mb4.7/28,Md4.1(SJA),Error ellipse: s-maj=9.8km s-min=7.5km az=79.0*
*GUC **06** 21:23:21.9±0.8,29°.11S×69°.42W,h139km±12km,ML4.0*
*IDC **06** 21:23:24.1±0.8,29°.00S×69°.02W,h116km±5km,mb4.0/11, mb1 4.0/14,mb1mx3.9/30,mbtmp4.3/14,MS2.6/1, Ms1 2.6/1,ms1mx2.4/50,Error ellipse: s-maj=20.4km s-min=15.4km az=62.0*
ISC 06 21:23:21.6±0.5,29°.13S±0°.03×69°.16W±0°.03,h111km±4km, n153,σ1§97/203,mb4.6/23,9C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.92**	**65**	*eP*	**Pn**	**21 23 43.7**	**+1.4**
VCA				*eS*	**Sn**	**21 24 00.6**	**+2.7**
ACDV	**Cuesta del Vie**	**1.04**	**178**	*eP*	**Pn**	**21 23 44.7**	**+1.2**
ACDV				*eS*	**Sn**	**21 24 02.4**	**+2.4**
ACDV				IAML		21 24 04.0	
	comp=Z,1μm,0.2s						
AROD	**Rodeo**	**1.07**	**195**	*eP*	**Pn**	**21 23 45.2**	**+1.2**
LCO	**Las Campanas**	**1.36**	**275**	*eP*	**Pn**	**21 23 48.1**	**+1.1**
LCO				*i S*	**Sn**	**21 24 07.7**	**+1.3**
LCO	**Las Campanas**	**1.36**	**275**		**Pn**	**21 23 48.4**	**+1.3**
LCO				Sn	**Sn**	**21 24 07.4**	**+1.0**
LCO	**Las Campanas**	**1.36**	**275**	*eP*	**Pn**	**21 23 48.3**	**+1.2**
LCO				*eS*	**Sn**	**21 24 08.0**	**+1.6**
ACCO	**Cerro Coronel**	**1.46**	**177**	*eP*	**Pn**	**21 23 49.5**	**+1.2**
ACCO				*eS*	**Sn**	**21 24 10.1**	**+1.6**
GO04	**Tololo Observa**	**1.77**	**234**	⇑*iP*	**Pn**	**21 23 53.0**	**+1.0**
GO04				*i S*	**Sn**	**21 24 16.5**	**+1.3**
GO04	**Tololo Observa**	**1.77**	**234**		**Pn**	**21 23 52.8**	**+0.8**
GO04				Sn	**Sn**	**21 24 16.5**	**+1.3**
GO04	**Tololo Observa**	**1.77**	**234**	*eP*	**Pn**	**21 23 53.0**	**+1.0**
GO04				*eS*	**Sn**	**21 24 17.5**	**+2.4**
GO03	**Copiap**	**1.80**	**328**	⇓*iP*	**Pn**	**21 23 53.5**	**+1.2**
GO03				*i S*	**Sn**	**21 24 17.2**	**+1.6**
GO03				IAML		21 24 19.9	
	comp=N,1μm,0.2s						
GO03	**Copiap**	**1.80**	**328**		**Pn**	**21 23 53.4**	**+1.2**
GO03	**Copiap**	**1.80**	**328**	*eP*	**Pn**	**21 23 53.5**	**+1.2**
GO03				*eS*	**Sn**	**21 24 17.5**	**+1.9**
AC04	**Llanos de Chal**	**1.92**	**298**	⇑*iP*	**Pn**	**21 23 54.6**	**+0.9**
AC04				*i S*	**Sn**	**21 24 17.8**	**-0.3**
AC04				IAML		21 24 23.9	
	comp=E,1μm,0.4s						
AC04	**Llanos de Chal**	**1.92**	**298**		**Pn**	**21 23 54.6**	**+0.9**
AC04	**Llanos de Chal**	**1.92**	**298**	*eP*	**Pn**	**21 23 54.6**	**+0.9**
AC04				*eS*	**Sn**	**21 24 19.3**	**+1.2**
CO05	**La Serena**	**1.98**	**246**	⇑*iP*	**Pn**	**21 23 54.5**	**+0.1**
CO05				*i S*	**Sn**	**21 24 19.0**	**-0.4**
CO05				IAML		21 24 20.6	
	comp=N,2μm,0.2s						
CO05	**La Serena**	**1.98**	**246**		**Pn**	**21 23 54.4**	**+0.1**
CO03	**El Pedregal**	**2.16**	**218**	⇑*iP*	**Pn**	**21 23 58.0**	**+1.1**
CO03				*i S*	**Sn**	**21 24 25.5**	**+1.8**
CO03				IAML		21 24 29.1	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**2.16**	**218**		**Pn**	**21 23 57.9**	**+1.1**
CO03	**El Pedregal**	**2.16**	**218**	*eP*	**Pn**	**21 23 57.9**	**+1.1**
CO03				*eS*	**Sn**	**21 24 26.4**	**+2.6**
CO03				IAML		21 24 33.5	
	comp=Z,497nm,0.3s						
AC02	**Maricunga**	**2.29**	**1⇑**	*iP*	**Pn**	**21 24 01.1**	**+2.3**
AC02				*i S*	**Sn**	**21 24 30.1**	**+2.9**
AC02				IAML		21 24 31.6	
	comp=E,642nm,0.5s						
AC02	**Maricunga**	**2.29**	**1**		**Pn**	**21 24 01.1**	**+2.3**
AC02	**Maricunga**	**2.29**	**1**	*eP*	**Pn**	**21 24 01.1**	**+2.3**
AC02				*eS*	**Sn**	**21 24 30.8**	**+3.6**
AC02				IAML		21 24 33.1	
	comp=Z,335nm,0.9s						
ZON	**Zonda**	**2.44**	**170**		**Pn**	**21 24 01.1**	**+0.6**
ZON	**Zonda**	**2.44**	**170**	*eP*	**Pn**	**21 24 01.0**	**+0.6**
ZON				*eS*	**Sn**	**21 24 32.2**	**+2.0**
ZON				IAML		21 24 42.5	
	comp=Z,624nm,0.7s						
CO06	**Fray Jorge**	**2.65**	**234**	⇑*iP*	**Pn**	**21 24 02.3**	**-0.7**
CO06				*i S*	**Sn**	**21 24 33.4**	**-1.4**
CO06				IAML		21 24 35.4	
	comp=N,689nm,0.3s						
CO06	**Fray Jorge**	**2.65**	**234**		**Pn**	**21 24 02.3**	**-0.7**
RTLS	**Leoncito**	**2.66**	**183**	*eP*	**Pn**	**21 24 04.9**	**+1.4**
RTLS				*eS*	**Sn**	**21 24 38.3**	**+2.6**
RTLS				IAML		21 24 39.7	
	comp=Z,764nm,0.7s						
RTCV	**Cerro Valdivia**	**2.78**	**169**	*eP*	**Pn**	**21 24 05.1**	**+0.4**
RTCV				*eS*	**Sn**	**21 24 38.5**	**+0.6**
AUSP	**Uspallata**	**3.09**	**184**	*eP*	**Pn**	**21 24 10.5**	**+1.4**
AUSP				*eS*	**Sn**	**21 24 48.2**	**+2.5**
ASAL	**Salagasta**	**3.46**	**176**	*eP*	**Pn**	**21 24 15.0**	**+1.1**
ASAL				*eS*	**Sn**	**21 24 51.4**	**-2.8**
ARCO	**CERRO ARCO**	**3.71**	**177**	*eP*	**Pn**	**21 24 18.2**	**+1.0**
ARCO				*eS*	**Sn**	**21 24 57.9**	**-2.3**
ARCO				IAML		21 25 28.7	
	comp=Z,184nm,1.6s						
VA03	**San Esteban**	**3.82**	**198**	⇑*iP*	**Pn**	**21 24 19.1**	**+0.5**
VA03	**San Esteban**	**3.82**	**198**		**Pn**	**21 24 19.0**	**+0.4**
VA03	**San Esteban**	**3.82**	**198**	*eP*	**Pn**	**21 24 19.1**	**+0.5**
VA03				*eS*	**Sn**	**21 25 07.4**	**+4.7**
VA03				IAML		21 25 43.2	
	comp=Z,220nm,0.4s						
VA06	**Catapilco**	**3.88**	**208**	*eP*	**Pn**	**21 24 18.3**	**-1.1**
AAGR	**Agrelo**	**3.95**	**176**	*eP*	**Pn**	**21 24 21.7**	**+1.2**
AAGR				*eP*	**Pn**	**21 24 21.9**	**+1.4**
AAGR				*eS*	**Sn**	**21 25 02.9**	**-3.1**
AHML	**Horco Molle**	**4.11**	**56**	*eP*	**Pn**	**21 24 22.3**	**-0.2**
AHML				*eS*	Sn	21 24 57.9	-12
AHML				*eS*	**Sn**	**21 25 02.9**	**-6.8**
AHML				IAML		21 25 34.1	
	comp=Z,126nm,0.9s						
FSA	**Cafayete**	**4.12**	**44**	*eP*	**Pn**	**21 24 24.1**	**+1.4**
FSA				*eS*	**Sn**	**21 25 12.2**	**+2.0**
ROCH	**El Roble**	**4.15**	**202**	*eP*	**Pn**	**21 24 21.9**	**-1.3**
VA01	**Torpederas**	**4.43**	**208**	Pn	**Pn**	**21 24 24.7**	**-2.1**
VA01	**Torpederas**	**4.43**	**208**	*eP*	**Pn**	**21 24 24.9**	**-1.8**
VA01				*eS*	**Sn**	**21 25 19.4**	**+2.1**
VA01				IAML		21 25 53.1	
	comp=Z,93nm,1.0s						
MT02	**Curacav**	**4.45**	**202**	⇑*iP*	**Pn**	**21 24 25.4**	**-1.6**
MT02	**Curacav**	**4.45**	**202**		**Pn**	**21 24 25.5**	**-1.5**
MT02	**Curacav**	**4.45**	**202**	*eP*	**Pn**	**21 24 25.6**	**-1.5**
MT02				*eS*	**Sn**	**21 25 16.6**	**-1.3**
MT02				IAML		21 25 44.7	
	comp=Z,160nm,0.8s						
MT05	**Renca**	**4.46**	**197**	Pn	**Pn**	**21 24 26.6**	**-0.6**
MT05	**Renca**	**4.46**	**197**	*eP*	**Pn**	**21 24 27.2**	**0.0**
MT05				*eS*	**Sn**	**21 25 19.6**	**+1.4**
MT05				IAML		21 25 44.7	
	comp=Z,274nm,1.1s						
TCA	**Tanti**	**4.52**	**120**	*eP*	**Pn**	**21 24 27.2**	**-0.8**
TCA				*eP*	**Pn**	**21 24 27.4**	**-0.7**
TCA				*eS*	**Sn**	**21 25 17.5**	**-2.1**
TCA				IAML		21 26 01.8	
	comp=Z,206nm,0.7s						
PB14	**IPOC Station P**	**4.62**	**346**	Pn	**Pn**	**21 24 30.0**	**+0.3**
LMEL	**Las Melosas**	**4.79**	**191**	*eP*	**Pn**	**21 24 32.5**	**+0.8**
MT09	**Talagante**	**4.89**	**198**		**Pn**	**21 24 31.3**	**-1.8**
VA05	**Santo Domingo**	**4.98**	**204**	*eP*	**Pn**	**21 24 31.6**	**-2.6**
VA05	**Santo Domingo**	**4.98**	**204**		**Pn**	**21 24 31.7**	**-2.5**
MT01	**Popeta**	**5.05**	**200**	*eP*	**Pn**	**21 24 33.2**	**-1.9**
MT01	**Popeta**	**5.05**	**200**		**Pn**	**21 24 33.0**	**-2.1**
MT01	**Popeta**	**5.05**	**200**	*eP*	**Pn**	**21 24 33.5**	**-1.6**
MT01				*eS*	**Sn**	**21 25 29.7**	**-2.6**
MT01				IAML		21 26 06.7	
	comp=Z,71nm,1.1s						
BO01	**Tunca**	**5.50**	**197**		**Pn**	**21 24 39.1**	**-2.0**
BO01	**Tunca**	**5.50**	**197**	*eP*	**Pn**	**21 24 39.6**	**-1.6**
BO01				*eS*	**Sn**	**21 25 40.3**	**-2.8**
BO01				IAML		21 26 07.2	
	comp=Z,48nm

PB01	IPOC Station P	8.06	358		Pn	21 25 13.7	-2.3
PB01	IPOC Station P	8.06	358	eP	Pn	21 25 14.2	-1.9
PB01				eS	Sn	21 26 40.2	-5.3
PB12	IPOC Station P	10.52	354	eP	Pn	21 25 46.0	-3.4
PB16	IPOC Station P	10.75	358	Pn	Pn	21 25 50.0	-2.9
CPUP	Villa Florida	10.84	78	P	Pn	21 25 48.7	-4.9
	comp=Z,0.3nm,0.3s,baz=247,slow=9.0,SNR=3.7						
CPUP				LR	LR	21 30 44.8	
	comp=Z,34nm,21.3s,baz=226,slow=41						
CPUP	Villa Florida	10.84	78		Pn	21 25 48.0	-5.6
ITQB	Itaqui	10.94	96		Pn	21 25 51.3	-3.7
PLCA	Paso Flores	11.63	185	P	Pn	21 26 00.4	-3.8
	comp=Z,0.1nm,0.3s,baz=228,slow=8.7,SNR=3.0						
PLCA	Paso Flores	11.63	185		Pn	21 26 01.4	-2.8
LPAZ	La Paz	12.82	4	P	Pn	21 26 19.3	-1.1
	comp=Z,0.2nm,0.3s,baz=138,slow=6.6,SNR=2.5						
LPAZ	La Paz	12.82	4		Pn	21 26 18.4	-2.0
PLTB	Pedras Altas	13.67	105	Pn	Pn	21 26 26.9	-3.9
SIV	San Ignacio	15.05	31	P	P	21 26 49.4	-1.8
	comp=Z,0.2nm,0.3s,baz=304,slow=22,SNR=2.4						
ITAB	Concordia	15.13	87	Pn	Pn	21 26 47.9	-1.6
CZSB	Cruzeiro do Su	21.55	350	P	P	21 28 02.7	+0.6
CZSB				IAmb	IAmb	21 28 27.9	
	comp=Z,20nm,0.7s						
BDFB	Brasilia	23.66	60	P	P	21 28 23.3	+0.1
	comp=Z,2.5nm,0.5s,baz=230,slow=11,SNR=5.0						
BDFB	Brasilia	23.66	60	P	P	21 28 21.7	-1.5
BOAV	Boa Vista	32.42	16	P	P	21 29 40.6	-0.5
SDV	Santo Domingo	37.82	358	P	P	21 30 27.9	+0.2
SDV				IAmb	IAmb	21 30 29.1	
	comp=Z,8.0nm,0.8s						
BAUV	El Baul	37.87	2	P	P	21 30 28.3	+0.5
OBIP	Obispado Ponce	46.96	3	P	P	21 31 41.3	-0.1
OBIP				IAmb	IAmb	21 31 42.8	
	comp=Z,22nm,1.4s						
CELP	Cerrillos	46.99	3	P	P	21 31 42.2	+0.6
CMIG	Matias Romero	52.24	328	P	P	21 32 24.2	+2.7
	comp=Z,1.1nm,0.4s,baz=173,slow=5.7,SNR=2.5						
SOR	Soroa	53.32	344	P	P	21 32 30.6	+1.3
VNA2	Neumayer--Watz	53.60	159	P	P	21 32 32.5	+1.6
	baz=281,slow=7.0						
SNAA	Sanae	55.21	159	P	P	21 32 43.6	+1.1
SNAA	Sanae	55.21	159	P	P	21 32 43.7	+1.1
SNAA				IAmb	IAmb	21 32 44.7	
	comp=Z,6.3nm,1.2s						
TXAR	Lajitas Array	66.83	327	P	P	21 34 04.5	+2.8
	comp=Z,0.9nm,0.7s,baz=154,slow=7.8,SNR=9.8						
TXAR	Lajitas Array	66.83	327	P	P	21 34 03.5	+1.8
U49A	Red Boiling Sp	67.14	346	P	P	21 34 04.3	+1.0
U49A				IAmb	IAmb	21 34 13.6	
	comp=Z,17nm,1.4s						
WVT	Waverly	67.25	344	P	P	21 34 05.0	+0.9
WVT				IAmb	IAmb	21 34 05.9	
	comp=Z,6.8nm,0.7s						
LCAR	Lake Charles	68.08	341	P	P	21 34 10.3	+1.1
LCAR				IAmb	IAmb	21 34 11.6	
	comp=Z,8.9nm,0.7s						
S44A	Carbondale	69.09	343	P	P	21 34 15.9	+0.4
S44A				IAmb	IAmb	21 34 17.5	
	comp=Z,7.1nm,0.7s						
SYO	Syowa Base	69.49	159⇑	ep	pP	pP	21 34 36.0 -10
O56A	Blue Knob Stat	69.60	352	P	P	21 34 20.1	+1.4
FVM	French Village	69.67	342	P	P	21 34 20.9	+1.8
CCM	Cathedral Cave	69.96	342	P	P	21 34 22.5	+1.7
CCM				IAmb	IAmb	21 34 23.4	
	comp=Z,7.3nm,0.8s						
R40A	Maddies Statio	70.47	341	P	P	21 34 25.9	+1.9
R40A				IAmb	IAmb	21 34 26.5	
	comp=Z,8.7nm,0.6s						
DBIC	Dimbokro	71.28	71	P	P	21 34 30.6	+1.2
	comp=Z,7.1nm,0.7s,baz=239,slow=6.5,SNR=9.5						
DBIC	Dimbokro	71.28	71	P	P	21 34 30.0	+0.7
DBIC				IAmb	IAmb	21 34 31.6	
	comp=Z,8.1nm,0.8s						
SADO	Sadowa	74.11	353	P	P	21 34 46.8	+1.4
	comp=Z,7.1nm,1.0s,baz=265,slow=3.1,SNR=4.4						
F64A	Sherman	74.64	1	P	P	21 34 50.6	+2.1
F64A				IAmb	IAmb	21 35 06.3	
	comp=Z,18nm,1.3s						
SUR	Sutherland	75.02	119	P	P	21 34 53.1	+1.6
KOWA	Kowa	76.36	65	P	P	21 35 00.3	+1.3
KOWA				IAmb	IAmb	21 35 01.4	
	comp=Z,4.4nm,0.7s						
ECSD	EROS Data Cent	76.75	340	P	P	21 35 02.8	+2.2
BOSA	Boshof	80.12	117	P	P	21 35 20.6	+0.8
	comp=Z,3.3nm,0.8s,baz=239,slow=4.2,SNR=5.8						
BOSA	Boshof	80.12	117	P	P	21 35 20.4	+0.6
TORD	Torodi Ar. Bea	80.20	69	P	P	21 35 21.5	+1.3
	comp=Z,6.0nm,0.6s,baz=274,slow=5.6,SNR=50						
TORD				pP	pP	21 35 50.6	+0.9
	comp=Z,2.2nm,0.8s,baz=268,slow=5.3,SNR=3.8						
B35A	Bob, Littlefor	80.22	344	P	P	21 35 21.1	+1.6
PD31	Pinedale Array	80.62	331	P	P	21 35 24.4	+2.3
PDAR	Pinedale Array	80.62	331	P	P	21 35 23.6	+1.4
	comp=Z,0.9nm,0.5s,baz=130,slow=7.4,SNR=11						
PDAR	Pinedale Array	80.62	331	P	P	21 35 24.3	+2.2
NVAR	Mina Array Bea	81.39	323	P	P	21 35 29.0	+2.7
	comp=Z,0.7nm,0.8s,baz=188,slow=8.1,SNR=3.9						
LBTB	Lobatse	82.07	114	P	P	21 35 30.5	+0.3
LBTB				IAmb	IAmb	21 35 31.5	
	comp=Z,17nm,1.4s						
RLMT	Red Lodge	82.43	333	P	P	21 35 34.1	+2.5
ULM	Lac du Bonnet	82.51	343	P	P	21 35 32.6	+1.1
	comp=Z,1.1nm,0.4s,baz=181,slow=10,SNR=4.0						
PLID	Pearl Lake	85.29	329		P	21 35 48.1	+2.0
YKA	Yellowknife Ar	98.28	340	P	Pdif	21 36 46.5	+0.6
	comp=Z,0.3nm,0.5s,baz=139,slow=4.4,SNR=9.8						
ASAR	Alice Springs	123.01	205	PKP	PKiKP	21 42 05.3	-0.5
	comp=Z,0.4nm,0.4s,baz=123,slow=1.5,SNR=8.3						
ASAR	Alice Springs	123.01	205		PKiKP	21 42 05.7	-0.1
WRA	Warramunga Arr	126.20	208	PKP	PKiKP	21 42 12.3	+0.2
	comp=Z,1.3nm,0.5s,baz=160,slow=1.7,SNR=40						
WRA				pPKP	pPKPdf	21 42 43.4	+0.2
	comp=Z,1.0nm,0.9s,baz=169,slow=1.7,SNR=4.2						
WRA	Warramunga Arr	126.20	208		PKiKP	21 42 12.8	+0.7
BVAR	Borovoye Array	142.01	40	PKhKP	PKPpre	21 42 38.1	
	comp=Z,0.2nm,0.5s,baz=286,slow=1.0,SNR=1.8						
YAK	Yakutsk	144.83	345	PKP	PKiKP	21 42 45.6	-2.9
	comp=Z,9.5nm,0.7s,baz=236,slow=0.2,SNR=9.9						
YAK	Yakutsk	144.83	345		PKiKP	21 42 45.1	-3.5
ZALV	Zalesovo Beam	148.80	30	PKP	PKbc	21 42 53.0	-2.7
	comp=Z,13nm,0.5s,baz=141,slow=0.9,SNR=4.0						
ZALV				PKPbc	PKPab	21 42 57.5	-2.3
	comp=Z,13nm,0.5s,baz=305,slow=3.6,SNR=65						
ZALV				pPKPbc	pPKPbc	21 43 28.1	+1.3
	comp=Z,1.6nm,0.7s,baz=290,slow=2.3,SNR=1.9						
ZALV	Zalesovo Beam	148.80	30		PKPbc	21 42 52.4	-3.2
ZALV				PKPbc	PKPab	21 42 57.5	-2.3
KSH	Kashi	149.56	61	PKPbc	PKPab	21 43 00.4	-3.2
MKAR	Makanchi Array	151.63	44	PKPbc	PKiKP	21 43 04.3	+1.2
	comp=Z,6.3nm,0.7s,baz=300,slow=2.1,SNR=52						
MKAR				PKPab	PKPab	21 43 13.9	+2.1
	comp=Z,3.0nm,0.7s,baz=291,slow=4.5,SNR=10.0						
MKAR				pPKPbc	pPKPbc	21 43 36.9	+3.0
	comp=Z,1.9nm,0.9s,baz=291,slow=1.0,SNR=2.7						
MKAR	Makanchi Array	151.63	44		PKiKP	21 43 04.2	+1.0
MKAR					PKPab	21 43 13.6	+1.8
MJAR	Matsushiro Arr	155.90	295	PKPab	PKPab	21 43 31.0	+0.6
	comp=Z,3.3nm,1.1s,baz=81,slow=9.6,SNR=2.4						
SONM	Songino Array	161.01	9	PKP	PKPdf	21 43 09.6	+0.9
	comp=Z,0.4nm,0.8s,baz=343,slow=4.5,SNR=2.4						
SONM				PKPab	sPKPdf	21 43 53.0	+1.0
	comp=Z,0.5nm,0.8s,baz=328,slow=5.1,SNR=2.8						
PZH	PanZhiHua	171.53	106	PKP	PKPdf	21 43 17.5	-0.1

MOS ***06*** *21:29:25.8±1.1, 46°.90N×91°.04E, h12km, mb4.3/6, Error ellipse: s-maj=9.7km s-min=7.2km az=178.8*
BJI ***06*** *21:29:26.8±0.0, 46°.93N×91°.06E, h7km, mb4.1/5, ML4.0/7*
IDC ***06*** *21:29:26.3±0.8, 46°.85N×91°.00E, h0km, mb3.7/13, mb1 3.8/19, mb1mx3.6/64, mbtmp3.7/19, ML3.3/6, MS2.9/1, Ms1 2.9/1, ms1mx2.3/93, Error ellipse: s-maj=20.1km s-min=10.5km az=10.0*
NNC ***06*** *21:29:29.3±3.2, 47°.11N×90°.75E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=23.7km s-min=22.7km az=131.0*
ASRS ***06*** *21:29:38.4±0.5, 47°N±2°×9°0E±°, h9km, MLh4.4/11, Error ellipse: s-maj=5.8km s-min=5.3km az=68.2*
ISC 06 21:29:28.0±0.5,**46°94N**±0°.04×**90°93E**±0°.03,**h10**km,**n85**, σ**2**§**60**/123,**mb3.8**/16,**19C-8D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CUR	Chagan-Uzun	3.59	332	⇑Pn	Pn	21 30 27.7		+3.8
CUR				Pg	Pg	21 30 37.1		+0.2
CUR				Sg	Sg	21 31 23.4		-0.1
DGZ	Jazzator, Alta	3.62	321	ceP	Pn	21 30 28.2		+4.0
DGZ	Jazzator, Alta	3.62	321	⇑Pn	Pn	21 30 28.2		+4.0
DGZ				Pg	Pg	21 30 35.8		-1.4
DGZ				Sg	Sb	21 31 18.9		+2.8
WMQ	Urumqi	3.87	217	ePn	Pn	21 30 30.3		+2.7
WMQ				Sn	Sn	21 31 12.3		-0.8
WMQ				Sg	Sb	21 31 28.2		+5.0
WMQ				smax	smax			
	comp=N,310nm,0.7s							
WMQ				smax	smax			
	comp=E,440nm,0.7s							
AKAR	Aktash	4.03	328	Pn	Pn	21 30 33.7		+3.8
AKAR				Pg	Pg	21 30 45.3		+0.1
AKAR				Sg	Sg	21 31 34.7		-2.6
CHBI	Chibit, Altay	4.07	327	Pg	Pg	21 30 46.8		+0.9
ZSN	Zaisan	4.17	279	eP	Pn	21 30 34.4		+2.8
ZSN				eS	Sn	21 31 27.0		+6.6
ZSN	Zaisan	4.17	279	eP	Pn	21 30 34.4		+2.8
	baz=283							
ZSN				eS	Sn	21 31 27.1		+6.6
	baz=283							
ULGR	Ulagan, Altay	4.17	333	⇑Pn	Pb	21 30 37.5		-4.1
ULGR				Pg	Pg	21 30 48.4		+0.5
ULGR				Sg	Sg	21 31 41.6		-0.3
KZLR	Kyzyl	5.29	24	Pn	Pb	21 30 59.5		-1.0
KZLR				Pg	Pg	21 31 00.9		-8.4
KZLR				Sg	Sg	21 32 09.9		-7.9
ARTR	Artybash	5.41	335	Pn	Pn	21 30 52.8		+4.1
ARTR				Pg	Pg	21 31 08.4		-3.2
ARTR				Sg	Sg	21 32 21.7		0.0
KNGR	Kungurtug, Tuv	5.69	47	Pn	Pn	21 30 57.6		+5.0
KNGR				Pg	Pb	21 31 09.3		+2.0
KNGR				Sg	Sg	21 32 26.2		-4.3
UKR	Ust'-Kan	5.70	317	Pn	Pn	21 30 56.8		+4.1
UKR				Pg	Pg	21 31 15.1		-1.9
UKR				Sg	Sg	21 32 27.3		-3.4
DJO	Djoy, Khakassi	5.85	2	Pn	Pn	21 30 59.0		+4.3
DJO				Pg	Pg	21 31 23.3		+3.4
DJO				Sg	Sg	21 32 29.3		-6.3
DJOS	Djoyskaya Sosn	5.87	3	Pn	Pb	21 31 02.8		-7.5
DJOS				Sg	Sg	21 32 34.2		-2.0
CERR	Cheremushki	5.92	3	Pn	Pb	21 31 03.7		-7.6
CERR				Sg	Sg	21 32 33.3		-4.8
MK31	Makanchi Array	5.93	272	c iP	Pn	21 30 57.5		+1.7
MK31	Makanchi Array	5.93	272	Pn	Pn	21 30 57.5		+1.7
	4.2nm,0.4s,baz=93,slow=15,SNR=237							
MK31				Sn	Sn	21 32 07.0		+3.2
	16nm,0.6s,baz=92,slow=21,SNR=5.9							
MK31				Lg	Lg	21 32 32.6		
	12nm,0.3s,baz=82,slow=20,SNR=9.1							
MKAR	Makanchi Array	5.93	272	Pn	Pn	21 30 57.6		+1.8
	4.8nm,0.3s,baz=89,slow=16,SNR=93							
MKAR				Pg	Pb	21 31 09.6		-1.9
	3.0nm,0.3s,baz=96,slow=15,SNR=8.6							
MKAR				Sn	Sn	21 32 05.0		+1.2
	12nm,0.3s,baz=85,slow=27,SNR=14							
MKAR				Lg	Lg	21 32 30.4		
	13nm,0.3s,baz=97,slow=30,SNR=9.1							
MKAR	Makanchi Array	5.93	272	Pn	Pn	21 30 57.4		+1.6
MKAR				Sg	Sg	21 32 34.4		-3.9
MAKZ	Makanchi	6.14	272	i P	Pn	21 31 00.3		+1.5
MAKZ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MAKZ	Makanchi	6.14	272	⇓Pn	Pn	21 31 00.3		+1.5
	comp=Z,3.4nm,0.3s							
MAKZ				⇓Sn	Sn	21 32 11.7		+2.7
	comp=Z,12nm,0.5s							
MAKZ				⇓Lg	Lg	21 32 39.1		
	comp=Z,80nm,0.7s							
TASR	Tashtagol	6.15	342	Pn	Pn	21 31 05.6		+6.8
TASR				Pg	Pg	21 31 23.5		-2.1
TASR				Sg	Sg	21 32 44.7		-0.5
ZAA0	Zalesovo Array	8.02	333	⇓Lg	Lg	21 33 43.6		
	comp=Z,7.3nm,0.7s							
ZALV	Zalesovo Beam	8.02	333	Pn	Pn	21 31 25.9		+1.4
	comp=Z,0.4nm,0.3s,baz=153,slow=13,SNR=9.1							
ZALV				Pg	Pb	21 31 51.0		+4.0
	comp=Z,0.5nm,0.3s,baz=146,slow=15,SNR=5.0							
ZALV				Lg	Lg	21 33 36.3		
	comp=Z,1.3nm,0.3s,baz=182,slow=31,SNR=3.7							
ZALV	Zalesovo Beam	8.02	333	i P	Pn	21 31 25.8		+1.3
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
TDK	Taldyqorghan	8.94	262	eP	Pn	21 31 39.5		+2.4
TDK	Taldyqorghan	8.94	262	eP	Pn	21 31 39.6		+2.4
	baz=264							
KURK	Kurchatov	8.96	299	c iP	Pn	21 31 37.8		+0.5
KURK	Kurchatov	8.96	299	⇑Pn	Pn	21 31 37.7		+0.4
	comp=Z,9.3nm,0.4s							
KURK				⇑Sn	Sn	21 33 16.7		-1.4
	comp=Z,36nm,0.8s							
KURK				⇑Lg	Lg	21 34 13.3		
	comp=Z,89nm,0.8s							
SHLS	Shalkode	8.96	249	eP	Pn	21 31 35.0		-2.5
SHLS				eS	Sn	21 33 11.2		-7.2
SHLS				pmax	pmax			
	comp=Z,7.0nm,0.7s							
SHLS	Shalkode	8.96	249	eP	Pn	21 31 35.1		-2.5
	comp=Z,6.7nm,0.7s,baz=250							
SHLS				eS	Sn	21 33 11.3		-7.2
	baz=250							
KURBB	Kurchatov Arra	8.98	299	Pn	Pn	21 31 38.5		+0.9
	comp=Z,1.2nm,0.3s,baz=107,slow=15,SNR=107							
KURBB				Sn	Sn	21 33 18.6		0.0
	comp=Z,0.7nm,0.3s,baz=98,slow=27,SNR=10							
KURBB				Lg	Lg	21 34 09.1		
	comp=Z,0.8nm,0.3s,baz=106,slow=33,SNR=7.8							
KURBB	Kurchatov Arra	8.98	299	Pn	Pn	21 31 35.1		-2.5
KURBB				Sn	Sn	21 33 17.8		-0.9
KURBB				Lg	Lg	21 34 09.1		
UZB	Uzynbulak	9.24	250	eP	Pn	21 31 42.8		+1.3
UZB	Uzynbulak	9.24	250	eP	Pn	21 31 42.8		+1.3
	baz=252							
KPKS	Kokpek	9.32	253	eP	Pn	21 31 42.8		+0.4
KPKS				eS	Sn	21 33 25.5		-1.8
KPKS				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KPKS	Kokpek	9.32	253	eP	Pn	21 31 42.8		+0.4
	comp=Z,6.3nm,0.7s,baz=255							
KPKS				eS	Sn	21 33 25.6		-1.8
	baz=255							
ZHN	Zhinishke	9.62	251	eP	Pn	21 31 46.6		+0.1
ZHN	Zhinishke	9.62	251	eP	Pn	21 31 46.6		+0.1
	baz=254							
SATY	Saty	9.68	251	eP	Pn	21 31 48.0		+0.6
SATY				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SATY	Saty	9.68	251	eP	Pn	21 31 48.0		+0.6
	comp=Z,2.2nm,0.6s,baz=253							
GTA	Gaotai	9.93	136	eP	Pn	21 31 54.1		+3.2
GTA				pP		21 31 57.4		
GTA				sP		21 32 00.4		
GTA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
GTA				smax	smax			
	comp=Z,13nm,1.1s							
GTA				smax	smax			
	comp=Z,14nm,1.0s							
MDOK	Medeo	10.53	254	eP	Pn	21 32 00.3		+1.3
MDOK	Medeo	10.53	254	eP	Pn	21 32 00.3		+1.3
	baz=256							
MDOK	Medeo	10.53	254	⇓Pn	Pn	21 32 00.3		+1.3
	comp=Z,6.5nm,1.0s							
MDOK				⇑Sn	Sn	21 33 53.4		-3.6
	comp=Z,18nm,0.8s							
MDOK				⇑Lg	Lg	21 34 57.7		
	comp=Z,22nm,0.9s							
SONM	Songino Array	10.53	79	Pn	Pn	21 31 58.2		-0.8
	comp=Z,0.0nm,0.3s,baz=277,slow=12,SNR=1.7							
SONM				Pg		21 32 33.7		
	comp=Z,0.4nm,0.3s,baz=277,slow=16,SNR=8.3							
SONM				Lg	Lg	21 34 51.6		
	comp=Z,0.8nm,0.3s,baz=262,slow=31,SNR=10							
SONM				LR	LR	21 36 29.5		
	comp=Z,74nm,21.7s,baz=302,slow=40							
KUU	Kurty	10.70	259	eP	Pn	21 32 02.0		+0.7
KUU	Kurty	10.70	259	eP	Pn	21 32 02.1		+0.7
	baz=261							
GOMU	GeErMu	11.12	164	P	Pn	21 32 03.1		-4.3
KST	Kastek	11.29	255	eP	Pn	21 32 10.7		+1.2
	baz=257							
TKM2	Tokmak 2	11.59	255	i P	Pn	21 32 16.6		+3.0
TKM2				pmax	pmax			
	comp=Z,3.0nm,0.6s							
TKM2	Tokmak 2	11.59	255	⇑Pn	Pn	21 32 16.7		+3.0
	comp=Z,2.8nm,0.6s							
TKM2				⇓Sn	Sn	21 34 20.2		-2.9
	comp=Z,7.6nm,0.8s							
TKM2				⇓Lg	Lg	21 35 36.6		
	comp=Z,9.3nm,0.9s							
AAK	Ala-Archa	12.44	256	Pn	Pn	21 32 25.0		-0.2
	comp=Z,0.1nm,0.3s,baz=195,slow=23,SNR=2.5							
AAK				Sn	Sn	21 34 42.3		-1.6
	comp=Z,0.1nm,0.3s,baz=70,slow=13,SNR=3.5							
AAK				Lg	Lg	21 35 55.8		
	comp=Z,0.2nm,0.3s,baz=267,slow=21,SNR=1.2							
AAK	Ala-Archa	12.44	256⇑	eP	Pn	21 32 27.8		+2.6
KSH	Kashi	13.18	241	P	P	21 32 43.2		-2.2
KSH				sP	Pn	21 32 48.1		+13
KSH				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BVAR	Borovoye Array	14.53	302	Pn	Pn	21 32 52.9		-0.6
	comp=Z,0.7nm,0.3s,baz=113,slow=15,SNR=20							
BVAR				Sn	Sn	21 35 28.8		-5.6
	comp=Z,0.5nm,0.3s,baz=109,slow=26,SNR=4.6							
BVAR				Lg	Lg	21 37 05.5		
	baz=99,slow=36,SNR=1.2							
BRVK	Borovoye	14.60	302	ceP	Pn	21 32 54.3		-0.1
BRVK	Borovoye	14.60	302	⇑Pn	Pn	21 32 52.7		-1.7
	comp=Z,4.9nm,1.2s							
BRVK				⇑Sn	Sn	21 35 31.5		-4.6
	comp=Z,2.7nm,0.7s							
BRVK				⇑Lg	Lg	21 37 06.5		
	comp=Z,16nm,1.2s							
IUG	Iuzhnay	15.64	260	eP	Pn	21 33 10.5		+2.0
IUG	Iuzhnay	15.64	260	eP	Pn	21 33 10.6		+2.0
	baz=261							
AKTO	Aktyubinsk	21.91	291	P	P	21 34 21.0		-0.1
	comp=Z,0.7nm,0.4s,baz=77,slow=12,SNR=2.5							
ARU	Arti	22.01	307	P	P	21 34 23.1		+0.9
	comp=Z,1.1nm,0.4s,baz=101,slow=7.7,SNR=7.4							
ARU				S	S	21 38 28.8		+4.1
	comp=Z,0.3nm,0.4s,baz=289,slow=22,SNR=1.8							
ARU	Arti	22.01	307	c iP	P	21 34 25.4		+3.3
ARU						21 34 48.4		
ARU				SS	Sn	21 39 02.0		+27
ARU				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ZEA	Zeya	23.95	60	eP	P	21 34 45.3		+3.2
YAK	Yakutsk	26.58	41	d iP	P	21 35 03.3		-2.6
YAK				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KLR	Kul'dur	27.13	70	P	P	21 35 11.3		+0.3
	comp=Z,0.7nm,0.6s,baz=286,slow=12,SNR=4.4							
TIXI	Tiksi	30.45	23	P	P	21 35 41.0		+0.7
	comp=Z,2.2nm,0.8s,baz=250,slow=4.9,SNR=9.0							
TIXI	Tiksi	30.45	23⇑	eP	P	21 35 41.4		+1.1
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.1s							
KLMR	Klimovskoe	32.40	314	eP	P	21 35 56.9		-0.6
KLMR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KLMR	Klimovskoe	32.40	314	eP	P	21 35 57.0		-0.6
KLMR				AMP		21 35 58.4		
	comp=Z,7.0nm,1.0s							
SOC	Sochi	35.68	284	eP	P	21 36 25.7		-0.5
SOC				e		21 37 45.0		
SOC				ePPP	PPP	21 38 01.2		
SOC				eS	S	21 42 05.7		+3.1
SOC				eSS	SnSn	21 44 27.5		+3.8
SOC				eSSS	SSS	21 44 50.1		
FINES	FINESS Array B	38.86	316	P	P	21 36 53.4		+0.4
	comp=Z,1.6nm,0.6s,baz=66,slow=6.7,SNR=1.9							
AKASG	Malin Array Be	39.77	299	P	P	21 37 01.3		+0.6
	comp=Z,1.8nm,0.6s,baz=63,slow=8.9,SNR=12							
AKASG	Malin Array Be	39.77	299	i P	P	21 37 01.2		+0.6
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BILL	Bilibino	42.26	33	eP	P	21 37 19.9		-1.1
BILL				e		21 38 57.8		
BILL				pmax	pmax			
	comp=Z,1.0nm,1.1s							
NB2	NORSAR Subarra	45.91	318	P	P	21 37 49.3		-1.1
	comp=Z,1.9nm,1.0s,baz=70,slow=7.9							
NOA	NORSAR Array B	45.91	318	P	P	21 37 50.3		-0.1
	comp=Z,0.9nm,0.8s,baz=67,slow=7.2,SNR=5.0							
NOA	NORSAR Array B	45.91	318	eP	P	21 37 49.7		-0.7
ILAR	Eielson Array	59.89	25	P	P	21 39 33.9		+0.4
	comp=Z,0.4nm,0.7s,baz=318,slow=5.2,SNR=2.4							
ESDC	Sonseca Array	65.29	302	P	P	21 40 10.3		+0.3
	comp=Z,0.3nm,0.6s,baz=54,slow=6.4,SNR=1.1							
YKA	Yellowknife Ar	69.02	12	P	P	21 40 33.4		+0.2

PET smax smax
comp=E,112nm,0.5s
PET Petropavlovsk 1.70 53 Pn 21 38 56.8 -0.5
PET Sn **S 21 39 25.3 -0.3**
PET Petropavlovsk 1.70 53 *eP* **Pn 21 38 56.9 -0.3**
PET *eS* **S 21 39 25.2 -0.3**
DALK Dalny 1.75 53 PN **Pn 21 38 57.7 0.0**
DALK S **S 21 39 26.0 -0.4**
DALK Dalny 1.75 53 *eP* **Pn 21 38 57.7 0.0**
DALK *eS* **S 21 39 26.0 -0.4**
KOK Koryaka 1.86 46 PN **Pn 21 38 59.5 +0.6**
KOK Koryaka 1.86 46 *eP* **Pn 21 38 59.5 +0.6**
AVH Avacha 1.89 47 PN **Pn 21 38 59.8 +0.7**
AVH Avacha 1.89 47 *eP* **Pn 21 38 59.8 +0.7**
UGLR Uglovaya 1.89 50 PN **Pn 21 39 00.0 +0.8**
UGLR S **S 21 39 30.2 +1.2**
UGLR Uglovaya 1.89 50 *eP* **Pn 21 39 00.0 +0.8**
UGLR *eS* **S 21 39 30.2 +1.2**
SMAR Somma 1.92 48 PN **Pn 21 39 00.2 +0.6**
SMAR Somma 1.92 48 *eP* **Pn 21 39 00.2 +0.6**
KRER Koryakskii 1.92 47 PN **Pn 21 39 00.0 +0.4**
KRER Koryakskii 1.92 47 *eP* **Pn 21 39 00.0 +0.4**
GNL Ganaly 1.92 28 PN **Pn 21 38 59.4 -0.1**
GNL Ganaly 1.92 28 *eP* **Pn 21 38 59.4 -0.1**
NLC Nalytchevo 2.13 56 PN **Pn 21 39 00.7 -0.7**
NLC S **S 21 39 31.0 -1.9**
NLC Nalytchevo 2.13 56 *eP* **Pn 21 39 00.7 -0.7**
NLC *eS* **S 21 39 31.0 -1.9**
SPN Mys Shipunski 2.45 62 PN **Pn 21 39 04.0 -0.8**
SPN S **S 21 39 35.6 -3.4**
SPN Mys Shipunski 2.45 62 *i P* **Pn 21 39 04.0 -0.8**
SPN *eS* **S 21 39 35.6 -3.4**
KII Karymskiy 2.73 41 PN **Pn 21 39 09.2 +1.2**
KII Karymskiy 2.73 41 *eP* **Pn 21 39 09.2 +1.2**
TUMR Tumrok 3.95 33 PN **Pn 21 39 23.5 +1.1**
TUMR Tumrok 3.95 33 *eP* **Pn 21 39 24.1 +1.7**
TUMD Tumrok D 3.98 35 *eP* **Pn 21 39 23.5 +0.9**
MKZ Mys Kozlova 4.08 49 PN **Pn 21 39 23.3 -0.5**
MKZ S **S 21 40 09.2 -4.0**
MKZ Mys Kozlova 4.08 49 *eP* **Pn 21 39 23.3 -0.5**
MKZ *eS* **S 21 40 09.2 -4.0**
KBG Krutoberegovo 5.63 39 PN **Pn 21 39 44.7 +1.4**
KBG Krutoberegovo 5.63 39 *eP* **Pn 21 39 44.7 +1.4**
KBTR Krutoberegovo 5.64 39 PN **Pn 21 39 43.0 -0.4**
KBTR Krutoberegovo 5.64 39 *eP* **Pn 21 39 43.0 -0.4**
BKI Bering 6.52 57 PN **Pn 21 39 54.3 -0.4**
BKI S **S 21 41 03.8 -5.4**
BKI Bering 6.52 57 *eP* **Pn 21 39 54.3 -0.4**
BKI *eS* **S 21 41 03.8 -5.4**
YSS Yuzh-Sakhalins 10.23 246↓*eP* **Pn 21 40 45.1 +2.5**
YSS pmax pmax
comp=Z,89nm,2.0s
SHO Shikotan 10.37 222 *eP*N **Pn 21 40 41.2 -3.3**
ERM Erimo 13.46 227 PN **Pn 21 41 23.5 0.0**
ERM Erimo 13.46 227 Pn **Pn 21 41 23.5 0.0**
KLR Kul'dur 15.88 270 P **Pn 21 41 54.0 +1.1**
comp=Z,0.3nm,0.3s,baz=63,slow=9.4,SNR=12
KLR Kul'dur 15.88 270↑*i P* **Pn 21 41 55.0 +2.1**
KLR pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 16.77 13 *eP* **Pn 21 42 02.2 -1.1**
BILL pmax pmax
comp=Z,1.0nm,0.3s
YAK Yakutsk 17.54 315 P **P 21 42 10.2 -0.1**
comp=Z,0.4nm,0.3s,baz=100,slow=5.7,SNR=16
YAK Yakutsk 17.54 315 *eP* **P 21 42 09.9 -0.4**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK Yakutsk 17.54 315 P **P 21 42 09.5 -0.8**
ZEA Zeya 17.64 287 *eP* **Pn 21 42 14.0 +0.4**
MJA0 Matsu Arr-Jizo 20.12 227 *eP* **P 21 42 39.3 +0.8**
MJA0 pmax pmax
comp=Z,3.0nm,0.6s
MAJO Matsushiro 20.14 227↓*eP* **P 21 42 38.6 -0.1**
MAJO pmax pmax
comp=Z,29nm,2.3s
MAJO Matsushiro 20.14 227 P **P 21 42 38.9 +0.2**
MJAR Matsushiro Arr 20.14 227 P **P 21 42 38.5 -0.1**
comp=Z,3.0nm,0.6s,baz=21,slow=11,SNR=5.0
MJAR Matsushiro Arr 20.14 227 *eP* **P 21 42 39.3 +0.6**
MJAR pmax pmax
comp=Z,3.0nm,0.6s
MJAR Matsushiro Arr 20.14 227 P **P 21 42 38.6 -0.1**
TNA Tin City 22.51 39 P **P 21 43 04.1 +2.0**
TNA IAmb IAmb 21 43 05.0
comp=Z,5.3nm,1.1s
AKUT Akutan 22.64 70 P **P 21 43 06.5 +3.2**
TIXI Tiksi 23.19 338 P **P 21 43 07.6 -0.5**
comp=Z,0.8nm,0.3s,baz=134,slow=11,SNR=5.8
TIXI Tiksi 23.19 338↓*eP* **P 21 43 08.0 -0.1**
TIXI pmax pmax
comp=Z,12nm,3.3s
TIXI Tiksi 23.19 338 P **P 21 43 07.6 -0.5**
J20K Nowinta River 28.02 45 P **P 21 43 52.7 +1.1**
J20K IAmb IAmb 21 44 20.4
comp=Z,5.8nm,1.4s
K20K Telida 28.04 47 P **P 21 43 53.4 +1.6**
K20K IAmb IAmb 21 43 53.7
comp=Z,8.1nm,1.4s
IMAR Indian Mountai 28.30 41 P **P 21 43 54.9 +0.8**
CAST Castle Rocks 28.93 47 P **P 21 44 01.0 +1.3**
OHAK Old Harbor 29.02 60 P **P 21 44 00.6 +0.1**
KDAK Kodiak Island 29.28 58 P **P 21 44 02.8 0.0**
comp=Z,3.8nm,0.8s,baz=7.3,slow=2.6,SNR=8.2
CNPM China Point 29.68 55 P **P 21 44 07.0 +0.6**
TRF Thorofare Moun 29.74 47 P **P 21 44 08.1 +1.1**
TOLK Toolik Lake Re 30.17 36 P **P 21 44 11.7 +1.1**
TOLK IAmb IAmb 21 44 36.5
comp=Z,6.6nm,1.5s
NEA2 Nenana 30.23 44 P **P 21 44 12.2 +1.1**
NEA2 IAmb IAmb 21 44 26.6
comp=Z,8.5nm,1.5s
RND Reindeer 30.38 47 P **P 21 44 13.3 +0.7**
RND pmax pmax
comp=Z,12nm,1.5s
RND Reindeer 30.38 47 P **P 21 44 13.3 +0.7**
WRH Wood River Hil 30.66 44 P **P 21 44 16.1 +1.3**
WRH IAmb IAmb 21 44 19.8
comp=Z,6.3nm,1.3s
COLA College 30.74 44↓*eP* **P 21 44 15.1 -0.4**
COLA pmax pmax
comp=Z,25nm,3.6s
IL31 31.16 44 P **P 21 44 20.4 +1.2**
IL31 IAmb IAmb 21 44 21.0
comp=Z,2.7nm,0.6s
ILAR Eielson Array 31.16 44 P **P 21 44 20.1 +0.8**
comp=Z,1.7nm,0.6s,baz=266,slow=6.9,SNR=25
ILAR Eielson Array 31.16 44 *eP* **P 21 44 20.5 +1.3**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 31.16 44 P **P 21 44 19.9 +0.7**
BMAR Burnt Mountain 32.00 39 P **P 21 44 27.9 +1.4**
L27K Beaver Creek, 33.58 46 P **P 21 44 42.4 +2.0**
BCAR Beaver Creek A 33.60 46 P **P 21 44 42.5 +2.0**
INK Inuvik 36.08 36 P **P 21 45 02.9 +1.4**
comp=Z,1.0nm,0.4s,baz=291,slow=7.8,SNR=5.6
INK Inuvik 36.08 36 P **P 21 45 02.9 +1.4**
INK IAmb IAmb 21 45 29.4
comp=Z,3.4nm,1.1s
DGZ Jazzator, Alta 42.12 295↑*eP* **P 21 45 52.5 +0.6**
EUNU Eureka 43.52 13 P **P 21 46 03.8 +1.2**
EUNU IAmb IAmb 21 46 05.8
comp=Z,7.1nm,1.3s
YKA Yellowknife Ar 45.46 41 P **P 21 46 19.6 +1.5**
comp=Z,0.9nm,0.4s,baz=300,slow=7.6,SNR=16
YKA Yellowknife Ar 45.46 41 P **P 21 46 19.3 +1.3**
KURK Kurchatov 46.38 301*eP* **P 21 46 24.9 -0.5**
KURK Kurchatov 46.38 301 P **P 21 46 24.9 -0.5**
KURK IAmb IAmb 21 46 25.5
comp=Z,4.1nm,0.8s
MK31 Makanchi Array 46.58 295↓*i P* **P 21 46 26.3 -0.8**
MK31 Makanchi Array 46.58 295 P **P 21 46 26.4 -0.7**
MKAR Makanchi Array 46.58 295 P **P 21 46 26.4 -0.7**
comp=Z,0.4nm,0.3s,baz=61,slow=6.4,SNR=10
MKAR Makanchi Array 46.58 295 *eP* **P 21 46 26.6 -0.5**
MKAR Makanchi Array 46.58 295 P **P 21 46 26.5 -0.5**
SPITS Spitsbergen Ar 47.81 350 P **P 21 46 36.2 +0.1**
comp=Z,2.5nm,0.6s,baz=52,slow=7.5,SNR=5.8
BRVK Borovoye 49.31 307↓*eP* **P 21 46 46.7 -1.2**
BRVK Borovoye 49.31 307 P **P 21 46 46.9 -1.0**
EDM Edmonton 51.20 50 P **P 21 47 03.6 +1.6**
EDM pmax pmax
comp=Z,3.0nm,0.6s
EDM Edmonton 51.20 50 P **P 21 47 03.6 +1.6**
EDM IAmb IAmb 21 47 04.2
comp=Z,3.1nm,0.6s
ARU Arti 52.65 316 P **P 21 47 11.5 -1.1**
baz=62,slow=7.2
ARU Arti 52.65 316*d i P* **P 21 47 11.2 -1.4**
ARU 21 48 17.2
ARU S **S 21 54 21.6 -1.3**
ARU SS **SS 21 57 59.2 -4.3**
ARU pmax pmax
comp=Z,2.0nm,0.5s
ARU Arti 52.65 316 P **P 21 47 11.5 -1.1**
ARU IAmb IAmb 21 47 12.0
comp=Z,3.6nm,0.5s
AAK Ala-Archa 53.52 295↑*eP* **P 21 47 19.4 +0.1**
AAK pmax pmax
comp=Z,9.0nm,1.7s
ARCES ARCESS Array B 53.59 341 P **P 21 47 17.4 -1.9**
comp=Z,1.6nm,0.8s,baz=46,slow=7.7,SNR=1.3
KKAR Karatay Array 55.42 297 P **P 21 47 32.1 -0.8**
KKAR Karatay Array 55.42 297 P **P 21 47 32.1 -0.8**
CMAR Chiang Mai Arr 55.75 256 P **P 21 47 36.3 +0.8**
comp=Z,0.4nm,0.4s,baz=38,slow=6.0,SNR=1.6
ABKAR Akbulak array 56.76 309 P **P 21 47 41.0 -1.1**
ABKAR Akbulak array 56.76 309 P **P 21 47 41.0 -1.1**
ABKAR IAmb IAmb 21 47 41.9
comp=Z,1.3nm,0.7s
BCYI Bear Canyon 56.91 59 P **P 21 47 45.8 +2.2**
GKN Gorkha 57.45 275 *eP* **P 21 47 47.7 +0.2**
comp=Z,4.8nm,0.5s
DANN Dangsing 57.74 276 *eP* **P 21 47 50.4 +0.7**
KVN Kaiserville 57.91 66 P **P 21 47 52.7 +2.1**
KVN pmax pmax
comp=Z,2.0nm,0.6s
KVN Kaiserville 57.91 66 P **P 21 47 52.7 +2.1**
KVN IAmb IAmb 21 47 53.6
comp=Z,1.6nm,0.6s
NVAR Mina Array Bea 58.22 67 P **P 21 47 55.3 +2.5**
comp=Z,1.1nm,0.4s,baz=297,slow=7.7,SNR=8.5
NVAR Mina Array Bea 58.22 67 P **P 21 47 55.0 +2.1**
KOLN Koldanda 58.26 275 *eP* **P 21 47 53.6 +0.4**
comp=Z,3.2nm,0.3s
PYUN Piuthan 58.40 276 *eP* **P 21 47 55.0 +0.9**
comp=Z,2.4nm,0.2s
MOOW Moose Ponds 58.70 58 P **P 21 47 58.0 +1.9**
HWUT Hardware Ranch 59.75 60 P **P 21 48 04.8 +1.6**
HWUT IAmb IAmb 21 48 32.4
comp=Z,5.1nm,1.5s
PD31 Pinedale Array 60.00 58 P **P 21 48 06.7 +1.7**
PDAR Pinedale Array 60.00 58 P **P 21 48 06.7 +1.7**
comp=Z,1.0nm,0.6s,baz=338,slow=1.3,SNR=12
PDAR Pinedale Array 60.00 58 P **P 21 48 06.5 +1.5**
FINES FINESS Array B 60.19 335 P **P 21 48 04.4 -1.2**
comp=Z,1.9nm,0.9s,baz=44,slow=6.4,SNR=2.2
PV17 East Wray Mesa 63.52 61 P **P 21 48 30.2 +1.7**
NOA NORSAR Array B 63.91 342 P **P 21 48 29.4 -1.0**
comp=Z,1.1nm,1.0s,baz=28,slow=7.6,SNR=2.3
HFS Hagfors 64.25 340 P **P 21 48 31.1 -1.4**
comp=Z,2.9nm,1.0s,baz=36,slow=7.6,SNR=1.8
KLNR Kaliningrad 67.68 334↓*eP* **P 21 48 55.6 +1.2**
AKASG Malin Array Be 68.34 327 P **P 21 48 56.4 -2.2**
comp=Z,0.5nm,0.4s,baz=32,slow=6.6,SNR=4.7
AKASG Malin Array Be 68.34 327 *eP* **P 21 48 56.9 -1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIV Kislovodsk 68.65 315 *eP* **P 21 49 00.9 +0.1**
KIV pmax pmax
comp=Z,2.0nm,0.9s
WMOK Wichita Mounta 71.58 57 P **P 21 49 20.2 +1.5**
WMOK pmax pmax
comp=Z,2.0nm,0.7s
WMOK Wichita Mounta 71.58 57 P **P 21 49 20.2 +1.5**
WMOK IAmb IAmb 21 49 21.2
comp=Z,1.9nm,0.7s
BUR08 Bucovina Ar. S 72.32 328 P **P 21 49 21.9 -1.0**
BUR08 IAmb IAmb 21 49 27.7
comp=Z,3.4nm,1.3s
BURAR Bucovina Array 72.34 328 P **P 21 49 22.1 -0.9**
TXAR Lajitas Array 73.12 64 P **P 21 49 29.1 +1.2**
comp=Z,0.5nm,0.4s,baz=300,slow=4.8,SNR=11
WB0 Warramunga Arr 74.02 202 P **P 21 49 33.7 +0.8**
WB0 IAmb IAmb 21 49 37.7
comp=Z,4.2nm,1.1s
WRA Warramunga Arr 74.20 202 P **P 21 49 34.8 +0.8**
comp=Z,0.2nm,0.5s,baz=19,slow=6.1,SNR=5.4
WRA Warramunga Arr 74.20 202 *eP* **P 21 49 35.4 +1.4**
AS31 Alice Springs 77.89 201 P **P 21 49 55.9 +1.2**
ASAR Alice Springs 77.90 201 P **P 21 49 56.4 +1.6**
comp=Z,0.5nm,0.4s,baz=14,slow=5.2,SNR=13
ASAR Alice Springs 77.90 201 P **P 21 49 55.8 +1.1**
ASAR Alice Springs 77.90 201 P **P 21 49 55.8 +1.1**
ESDC Sonseca Array 87.10 345 P **P 21 50 40.5 -1.8**
comp=Z,0.6nm,0.5s,baz=353,slow=4.5,SNR=5.4
PLCA Paso Flores 146.25 89 PKPbc **PKPbc 21 57 36.6 +1.1**
comp=Z,3.0nm,1.1s,baz=214,slow=4.4,SNR=3.6

IDC ***06*** *22:00:53.6*±*1.2,2°.43S*×*141°.12E, h0*^{km}*, mb3.6/5, mb1 3.8/6, mb1mx3.7/23, mbtmp3.6/6, ML3.9/1, MS2.8/1, Ms1 2.7/1, ms1mx2.3/44, Error ellipse: s-maj=25.6km s-min=9.7km az=161.0*
DJA ***06*** *22:00:56.8*±*0.8,3°.5*±*6°.*×*14°.1E*±*°, h10*^{km}*, M4.0/2, MLv4.0/2*
NEIC ***06*** *22:00:57.7*±*0.8,2°.5S*±*0°.1*×*140°.26E*±*0°.06, h10*^{km}±*2km, mb3.9/7, Error ellipse: s-maj=20.4km s-min=9.5km az=1.0*
ISC 06 22:00:57.8±**0.7,2°.52S**±**0°.09**×**140°.49E**±**0°.07, h24**^{km}**, n24,** σ**0**^{s}**97/22, mb3.7/8, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.21**	**89**	LR	LR	22 00 56.7	
	comp=Z,230nm,21.1s,slow=7.4						
JAY				Pg	**Pb**	**22 01 03.1**	**-0.5**
	baz=90,slow=18						
JAY				Lg	Lg	22 01 06.6	
	baz=90,slow=17						
JAY	**Jayapura**	**0.21**	**89**	P	**Pb**	**22 01 03.0**	**-0.5**
JAY				S	**Sb**	**22 01 06.7**	**-0.8**
GENI	**Genyem**	**0.33**	**257**	P	**Pn**	**22 01 06.0**	**-1.1**
GENI				S	**Sn**	**22 01 12.6**	**-0.5**
WAMI	**Wamena**	**2.23**	**233**	P	**Pn**	**22 01 32.2**	**-1.1**
COEN	**Coen**	**11.67**	**167**	Pn	**Pn**	**22 03 44.2**	**+1.3**
KNRA	**Kununurra**	**17.45**	**221**		**P**	**22 05 00.9**	**+0.1**
KNRA				IAmb	IAmb	22 05 06.4	
	comp=Z,21nm,1.3s						
WB0	**Warramunga Arr**	**18.15**	**199**		**P**	**22 05 08.8**	**+0.2**
WB0				IAmb	IAmb	22 05 27.2	
	comp=Z,2.8nm,0.9s						
WRA	**Warramunga Arr**	**18.33**	**199**	P	**P**	**22 05 11.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=22,slow=12,SNR=26						
WRA	**Warramunga Arr**	**18.33**	**199**	P	**P**	**22 05 10.6**	**+0.1**
AS31	**Alice Springs**	**21.97**	**196**	P	**P**	**22 05 49.9**	**-0.2**
AS31				IAmb	IAmb	22 06 07.8	
	comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**21.97**	**196**	P	**P**	**22 05 52.1**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=28,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.97**	**196**	P	**P**	**22 05 50.1**	**0.0**
MYLDM	**Lahad Datu**	**23.26**	**289**	P	**P**	**22 06 03.6**	**-0.2**
MYLDM				IAmb	IAmb	22 06 12.2	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**29.22**	**178**	LR	LR	22 18 45.5	
	comp=Z,16nm,18.7s,baz=12,slow=37						
H11S3	**WAKE ISLAND Hy**	**33.18**	**50**	T	T	22 42 24.9	
	baz=232,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**33.19**	**50**	T	T	22 42 24.6	
	baz=232,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**33.20**	**50**	T	T	22 42 29.2	
	baz=232,slow=75,SNR=13						
SONM	**Songino Array**	**58.32**	**334**	P	**P**	**22 10 52.0**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=116,slow=6.6,SNR=2.1						
MA2	**Magadan**	**62.44**	**6**	P	**P**	**22 11 19.6**	**+0.8**
MKAR	**Makanchi Array**	**70.73**	**322**	P	**P**	**22 12 13.2**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=107,slow=7.8,SNR=5.3						
MKAR	**Makanchi Array**	**70.73**	**322**	P	**P**	**22 12 13.0**	**+1.0**
ZALV	**Zalesovo Beam**	**72.67**	**329**	P	**P**	**22 12 24.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=106,slow=9.4,SNR=2.3						
VNDA	**Vanda**	**75.82**	**175**	P	**P**	**22 12 40.7**	**-0.8**
VNDA				IAmb	IAmb	22 12 44.3	
	comp=Z,2.8nm,1.1s						
ILAR	**Eielson Array**	**84.93**	**24**	P	**P**	**22 13 29.2**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=269,slow=5.2,SNR=2.1						

IDC ***06*** *22:18:30.9*±*0.5, 10°.11N*×*126°.14E, h0*^{km}*, mb4.2/24, mb1 4.3/24, mb1mx4.0/57, mbtmp4.2/24, MS3.2/5, Ms1 3.2/5, ms1mx2.8/79, Error ellipse: s-maj=26.0km s-min=11.3km az=71.0*
NEIC ***06*** *22:18:33.6*±*1.4, 10°.10N*±*0°.08*×*126°.0E*±*0°.1, h10*^{km}±*1km, mb4.7/36, Error ellipse: s-maj=22.2km s-min=12.9km az=260.0*
MAN ***06*** *22:18:35.9, 10°.08N*×*126°.28E, h6*^{km}*, mb4.8, ML3.8, MS3.7*
ISC 06 22:18:33.2±**1.5,10°.12N**±**0°.03**×**126°.16E**±**0°.05, h12**^{km}±**9**^{km}**, n99,** σ**1**^{s}**37/108, mb4.4/36, MS3.2/3, 7C-6D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.34**	**185**	↓*i P*	**Pn**	**22 18 44.3**	**+0.4**
GLSP				*i* S	**Sb**	**22 18 50.1**	**+3.5**
SCPH	**Surigao**	**0.74**	**243**↑*eP*		**Pn**	**22 18 52.0**	**+2.6**
SCPH				*eS*	**Sn**	**22 19 03.8**	**+3.1**
BUTP	**Butuan**	**1.26**	**205**↓*eP*		**Pb**	**22 18 59.2**	**+2.2**
BUTP				*i* S	**Sn**	**22 19 18.3**	**+4.7**
MSLP	**Maasin**	**1.28**	**271**↑*eP*		Pb	22 19 01.0	+3.8
MSLP				*i* S	Sn	22 19 22.6	+8.6
BESP	**Borongan**	**1.63**	**334**↓*i P*		**Pg**	**22 19 05.8**	**+1.3**
LLP	**Lapu-Lapu**	**2.17**	**275**↓*eP*		**Pg**	**22 19 14.7**	**-0.1**
LLP				*i* S	**Sg**	**22 19 44.2**	**+1.3**
TBP	**Tagbilaran**	**2.30**	**259**↓*i P*		**Pg**	**22 19 16.5**	**-0.9**
TBP				*i* S	**Sg**	**22 19 47.4**	**+0.1**
SNPH	**Sibulan**	**2.98**	**255**	*eP*	**Pb**	**22 19 25.8**	**-0.6**
SNPH				*eS*	**Sb**	**22 20 03.0**	**+0.2**
DAV	**Davao City (W)**	**3.09**	**191**	Pn	**Pb**	**22 19 25.0**	**-3.1**
	60nm,0.3s,baz=54,slow=8.7,SNR=1.8						
DAV				Sn	**Sb**	**22 20 04.2**	**-1.6**
	baz=306,slow=19,SNR=1.6						
DAV	**Davao City (W)**	**3.09**	**191**		**Pn**	**22 19 21.1**	**-0.7**
MATI	**Mati**	**3.16**	**178**↑*i P*		**Pb**	**22 19 27.7**	**-1.6**
MATI				*eS*	**Sn**	**22 20 02.9**	**+2.5**
KCP	**Kidapawan**	**3.27**	**199**↑*i P*		**Pb**	**22 19 28.6**	**-2.6**
KCP				*i* S	**Sb**	**22 20 11.0**	**-0.1**
CNOP	**Candoni, Negro**	**3.48**	**265**↑*eP*		**Pb**	**22 19 33.0**	**-1.8**
CNOP				*i* S	**Sb**	**22 20 16.0**	**-1.0**
PAGZ	**Pagadian**	**3.55**	**231**↑*eP*		**Pb**	**22 19 33.8**	**-2.2**
PAGZ				*i* S	**Sb**	**22 20 18.3**	**-0.9**
RCP	**Roxas**	**3.65**	**293**↑*eP*		**Pb**	**22 19 35.8**	**-1.7**
DDMP	**Don Marcelino,**	**4.02**	**186**↓*eP*		**Pn**	**22 19 37.0**	**+2.4**
DDMP				*eS*	**Sb**	**22 20 28.4**	**-4.1**
TNTI	**Ternate**	**9.37**	**173**	Pn	**Pn**	**22 20 48.8**	**+0.7**
TPUB	**Ta-pu**	**14.13**	**339**		**P**	**22 22 00.3**	**-0.7**
FAKI	**Fak Fak**	**14.31**	**155**		**P**	**22 22 03.1**	**+0.2**
SBUM	**Sibu**	**15.80**	**242**		**Pn**	**22 22 16.1**	**+0.4**
KAPI	**Kappang**	**16.34**	**203**	LR	LR	22 28 38.6	
	comp=Z,38nm,21.7s,baz=30,slow=37						
GUMO	**Guam**	**18.63**	**78**	LR	LR	22 30 18.2	
	comp=Z,54nm,18.2s,baz=157,slow=38						
SAUI	**Saumlaki**	**18.70**	**164**	P	**Pn**	**22 22 53.8**	**+1.8**
SAUI				IAmb	IAmb	22 23 00.2	
	comp=Z,59nm,0.8s						
BATI	**Baumata**	**20.35**	**187**	P	Pn	22 23 10.4	-1.3
	comp=Z,17nm,0.4s,baz=72,slow=2.6,SNR=3.5						
JSU	**Suzuyama**	**21.65**	**10**	P	**P**	**22 23 26.0**	**+2.4**
KNRA	**Kununurra**	**25.76**	**174**	P	**P**	**22 24 03.7**	**-0.3**
KNRA				IAmb	IAmb	22 24 07.9	
	comp=Z,20nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.61**	**291**	P	**P**	**22 24 21.6**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=109,slow=7.6,SNR=6.6						
CMAR	**Chiang Mai Arr**	**27.61**	**291**	P	**P**	**22 24 19.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**28.05**	**181**	P	**P**	**22 24 24.7**	**+0.2**
	comp=Z,2.0nm,0.4s,baz=352,slow=7.1,SNR=14						
MJAR	**Matsushiro Arr**	**28.48**	**21**	LR	LR	22 35 46.0	
	comp=Z,33nm,19.3s,baz=171,slow=36						
COEN	**Coen**	**29.28**	**144**	P	**P**	**22 24 34.6**	**-1.0**
COEN				IAmb	IAmb	22 24 44.7	
	comp=Z,35nm,1.6s						
WB0	**Warramunga Arr**	**30.79**	**165**	P	**P**	**22 24 47.5**	**-1.4**
WB0				IAmb	IAmb	22 25 03.2	
	comp=Z,6.3nm,1.3s						
WRA	**Warramunga Arr**	**30.94**	**165**	P	**P**	**22 24 48.8**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=347,slow=8.7,SNR=7.4						
WRA				PcP	**PcP**	**22 27 46.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=343,slow=2.9,SNR=2.4						
WRA	**Warramunga Arr**	**30.94**	**165**	P	**P**	**22 24 47.7**	**-2.6**
PSA00	**Pilbara Seismi**	**32.10**	**191**	P	**P**	**22 25 01.1**	**+0.7**
PSA00				IAmb	IAmb	22 26 12.6	
	comp=Z,17nm,1.2s						
PSA00	**Pilbara Seismi**	**32.10**	**191**	P	**P**	**22 25 00.3**	**-0.2**
PSA00				IAmb	IAmb	22 25 52.3	
	comp=Z,12nm,1.4s						
USRK	**Ussuriysk Ar.**	**34.33**	**7**	P	**P**	**22 25 19.7**	**0.0**
AS31	**Alice Springs**	**34.42**	**167**	P	**P**	**22 25 20.1**	**-0.6**
ASAR	**Alice Springs**	**34.43**	**167**	P	**P**	**22 25 19.3**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=351,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**22 27 56.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=355,slow=2.5,SNR=5.9						
ASAR	**Alice Springs**	**34.43**	**167**	P	**P**	**22 25 20.4**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**40.41**	**72**	T	T	23 09 32.2	
	baz=264,slow=74,SNR=37						
H11N2	**WAKE ISLAND Hy**	**40.41**	**71**	T	T	23 09 32.8	
	baz=264,slow=74,SNR=25						
H11N3	**WAKE ISLAND Hy**	**40.42**	**72**	T	T	23 09 33.7	
	baz=264,slow=74,SNR=39						
ULN	**Ulaanbaatar**	**40.92**	**340**	P	**P**	**22 26 16.5**	**+0.8**
ULN				IAmb	IAmb	22 26 17.9	
	comp=Z,4.5nm,0.6s						
SONM	**Songino Array**	**41.12**	**340**	P	**P**	**22 26 18.4**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=157,slow=9.0,SNR=15						
SONM				PcP	**PcP**	**22 28 16.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=149,slow=3.8,SNR=3.8						
SONM	**Songino Array**	**41.12**	**340**	P	**P**	**22 26 17.9**	**+0.6**
BBOO	**Buckleboo**	**43.73**	**168**	P	**P**	**22 26 38.6**	**+0.2**
STKA	**Stephens Creek**	**44.30**	**161**	P	**P**	**22 26 42.8**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=342,slow=9.5,SNR=6.2						
STKA	**Stephens Creek**	**44.30**	**161**	P	**P**	**22 26 42.7**	**-0.3**
PALK	**Pallekele**	**45.00**	**270**	LR	LR	22 44 34.2	
	comp=Z,31nm,21.8s,baz=229,slow=35						
DZM	**Mont Dzumac**	**50.84**	**129**	P	**P**	**22 27 35.0**	**+0.8**
	comp=Z,3.8nm,0.6s,baz=322,slow=22,SNR=7.8						
DZM	**Mont Dzumac**	**50.84**	**129**	P	**P**	**22 27 35.0**	**+0.8**
DZM				IAmb	IAmb	22 27 53.2	
	comp=Z,7.2nm,1.0s						
MK31	**Makanchi Array**	**52.08**	**323**	P	**P**	**22 27 43.1**	**0.0**
MKAR	**Makanchi Array**	**52.08**	**323**	P	**P**	**22 27 43.2**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=123,slow=8.7,SNR=27						
MKAR				PcP	**PcP**	**22 28 54.6**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=110,slow=4.7,SNR=4.2						
MKAR	**Makanchi Array**	**52.08**	**323**	P	**P**	**22 27 43.4**	**+0.3**
ZAA0	**Zalesovo Array**	**54.70**	**331**	P	**P**	**22 28 01.5**	**-0.6**
ZALV	**Zalesovo Beam**	**54.70**	**331**	P	**P**	**22 28 01.3**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=121,slow=7.1,SNR=4.7						
ZALV				PcP	**PcP**	**22 29 02.7**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=143,slow=2.9,SNR=2.2						
ZALV	**Zalesovo Beam**	**54.70

BPAW				IAmb	IAmb	22 33 09.4	
	comp=Z,21nm,1.7s						
MLY	**Manley**	**77.98**	**26**	P	**P**	**22 30 32.3**	**+1.1**
MLY				IAmb	IAmb	22 33 21.9	
	comp=Z,18nm,1.8s						
H24K	**Noodor Dome**	**79.18**	**25**	P	**P**	**22 30 38.9**	**+1.0**
H24K				IAmb	IAmb	22 31 26.0	
	comp=Z,17nm,1.6s						
CCB	**Clear Creek Bu**	**79.23**	**26**	P	**P**	**22 30 38.9**	**+0.9**
CCB				IAmb	IAmb	22 30 40.6	
	comp=Z,13nm,1.7s						
ILAR	**Eielson Array**	**79.62**	**26**	P	**P**	**22 30 39.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=235,slow=5.3,SNR=6.4						
BMAR	**Burnt Mountain**	**80.44**	**23**		**P**	**22 30 46.5**	**+1.8**
BCAR	**Beaver Creek A**	**81.99**	**27**	P	**P**	**22 30 54.4**	**+1.5**
SPITS	**Spitsbergen Ar**	**84.14**	**349**	P	**P**	**22 31 03.3**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=84,slow=8.5,SNR=6.8						
ARCES	**ARCESS Array B**	**84.29**	**340**	P	**P**	**22 31 03.0**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=79,slow=6.5,SNR=8.4						
ARCES	**ARCESS Array B**	**84.29**	**340**	P	**P**	**22 31 04.3**	**-0.3**
INK	**Inuvik**	**84.46**	**22**	P	**P**	**22 31 04.7**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=306,slow=32,SNR=8.5						
INK	**Inuvik**	**84.46**	**22**	P	**P**	**22 31 04.8**	**-0.6**
INK				IAmb	IAmb	22 31 07.3	
	comp=Z,5.5nm,1.1s						
FINES	**FINESS Array B**	**85.97**	**332**	P	**P**	**22 31 12.1**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=61,slow=6.5,SNR=2.3						
FINES	**FINESS Array B**	**85.97**	**332**	P	**P**	**22 31 12.6**	**-0.6**
A36M	**Sachs Harbour**	**86.08**	**17**	P	**P**	**22 31 14.8**	**+1.2**
A36M				IAmb	IAmb	22 31 15.9	
	comp=Z,9.4nm,0.9s						
CSS	**Mathiatis**	**86.58**	**305**	P	**P**	**22 31 16.5**	**-0.3**
AKASG	**Malin Array Be**	**86.61**	**321**	P	**P**	**22 31 15.3**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=67,slow=4.8,SNR=3.9						
EUNU	**Eureka**	**88.41**	**5**	P	**P**	**22 31 24.9**	**+0.1**
BURAR	**Bucovina Array**	**89.88**	**318**	P	**P**	**22 31 32.1**	**-0.3**
BUR08	**Bucovina Ar. S**	**89.88**	**318**	P	**P**	**22 31 32.2**	**-0.2**
BUR08				IAmb	IAmb	22 33 04.7	
	comp=Z,12nm,1.6s						
HFS	**Hagfors**	**92.13**	**332**	P	**P**	**22 31 40.9**	**-1.5**
	comp=Z,2.9nm,0.9s,baz=98,slow=11,SNR=5.0						
YKA	**Yellowknife Ar**	**93.94**	**24**	P	**P**	**22 31 51.1**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=299,slow=4.5,SNR=24						
TORD	**Torodi Ar. Bea**	**120.22**	**292**	PKP	**PKPdf**	**22 37 24.1**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=71,slow=1.8,SNR=5.6						
PLCA	**Paso Flores**	**146.12**	**157**	PKPbc	**PKPbc**	**22 38 13.4**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=238,slow=3.2,SNR=4.9						
PLCA	**Paso Flores**	**146.12**	**157**		**PKPbc**	**22 38 13.7**	**0.0**

*IDC **06** 23:04:58.8±2.3, 8°.53S×118°.30E, h135km±19km, mb3.7/7, mb1 3.9/12, mb1mx3.5/37, mbtmp4.3/12, MS2.2/1, Ms1 2.2/1, ms1mx2.1/71, Error ellipse: s-maj=32.9km s-min=11.0km az=72.0*

*NEIC **06** 23:04:58.8±2.2, 8°.59S±0°.07×118°.31E±0°.08, h136km±8km, mb4.2/16, Error ellipse: s-maj=11.2km s-min=9.9km az=79.0*

*DJA **06** 23:04:59.7±0.2, 9°.5S±3°×11°.8E±°, h113km±6km, M4.5/24, mB5.0/4, mb4.6/9, MLv4.5/24, Mw(mB)4.4/4*

ISC 06 23:05:00.4±0.5, 8°.66S±0°.05×118°.43E±0°.06, h152km, n101, σ1§65/107, mb4.2/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.36**	**136**	P	**Pn**	**23 05 25.8**	**-2.9**
BASI	**Baing, Sumba**	**2.62**	**126**	P	**Pn**	**23 05 41.3**	**-1.8**
DNP	**Denpasar**	**3.19**	**269**	P	**Pn**	**23 05 48.8**	**-1.4**
EDFI	**Ende, Flores**	**3.22**	**92**	P	**Pn**	**23 05 49.9**	**-0.9**
BSSI	**Bau Bau, Buton**	**3.23**	**39**	P	**Pn**	**23 05 49.2**	**-1.5**
SRBI	**Singaraja**	**3.24**	**280**	P	**Pn**	**23 05 48.1**	**-2.8**
IGBI	**Denpasar**	**3.25**	**267**	P	**Pn**	**23 05 48.8**	**-2.3**
BKSI	**Bulukumba**	**3.71**	**27**	P	**Pn**	**23 05 55.5**	**-1.5**
MMRI	**Maumere**	**3.76**	**90**	P	**Pn**	**23 05 57.7**	**+0.1**
MMRI	**Maumere**	**3.76**	**90**		**Pn**	**23 05 57.0**	**-0.7**
MMRI	**Maumere**	**3.76**	**90**	P	**Pn**	**23 05 57.7**	**+0.1**
KAPI	**Kappang**	**3.85**	**20**	P	**Pn**	**23 05 57.3**	**-1.5**
	8.1nm,0.3s,baz=218,slow=8.6,SNR=49						
KAPI				S	**Sn**	**23 06 40.6**	**-3.5**
	4.0nm,0.3s,baz=154,slow=24,SNR=6.3						
KAPI				LR	LR	23 07 53.8	
	comp=Z,32nm,20.9s,baz=148,slow=46						
KAPI	**Kappang**	**3.85**	**20**		**Pn**	**23 05 56.7**	**-2.1**
KAPI	**Kappang**	**3.85**	**20**	P	**Pn**	**23 05 57.5**	**-1.3**
JAGI	**Jajag, Banyuwa**	**4.24**	**272**	P	**Pn**	**23 06 00.0**	**-3.8**
JAGI	**Jajag, Banyuwa**	**4.24**	**272**		**Pn**	**23 06 00.1**	**-3.8**
JAGI	**Jajag, Banyuwa**	**4.24**	**272**	P	**Pn**	**23 06 00.1**	**-3.8**
ABJI	**Asem Bagus**	**4.24**	**281**	P	**Pn**	**23 06 02.4**	**-1.5**
BNSI	**Bone**	**4.54**	**22**	P	**Pn**	**23 06 08.6**	**+0.7**
KMMI	**Kalianget**	**4.71**	**290**	P	**Pn**	**23 06 08.8**	**-1.2**
SPSI	**Sidrap Palu**	**4.85**	**16**	P	**Pn**	**23 06 11.8**	**-0.1**
BLJI	**Banyuglugur**	**4.88**	**284**	P	**Pn**	**23 06 11.9**	**-0.3**
GMJI	**Gumukmas**	**4.95**	**274**	P	**Pn**	**23 06 10.5**	**-2.7**
BATI	**Baumata**	**5.38**	**107**	P	**Pn**	**23 06 18.7**	**-0.3**
	56nm,0.3s,baz=282,slow=9.3,SNR=27						
BATI				S	**Sn**	**23 07 17.8**	**-2.6**
	43nm,0.3s,baz=218,slow=23,SNR=12						
BATI	**Baumata**	**5.38**	**107**	P	**Pn**	**23 06 18.3**	**-0.7**
	0.5nm2μm104nm,0.5s						
BATI	**Baumata**	**5.38**	**107**		**Pn**	**23 06 18.7**	**-0.3**
TTSI	**Tana Toraja**	**5.74**	**14**	P	**Pn**	**23 06 25.1**	**+1.4**
	0.2nm43nm,0.7s						
SOEI	**Soe**	**5.86**	**101**	P	**Pn**	**23 06 24.9**	**-0.5**
	0.5nm2μm105nm,0.6s						
SOEI	**Soe**	**5.86**	**101**		**Pn**	**23 06 24.6**	**-0.8**
SOEI	**Soe**	**5.86**	**101**	P	**Pn**	**23 06 24.9**	**-0.5**
BBKI	**Banjar Baru**	**6.28**	**325**	P	**Pn**	**23 06 30.1**	**-0.8**
	0.2nm2μm37nm,0.9s						
UGM	**Wanagama**	**7.86**	**275**	Pn	**Pn**	**23 06 50.0**	**-2.1**
UGM	**Wanagama**	**7.86**	**275**	P	**Pn**	**23 06 51.8**	**-0.3**
MTKI	**Muara Teweh, K**	**8.44**	**335**	P	**Pn**	**23 07 01.4**	**+1.7**
SANI	**Sanana**	**9.98**	**49**	P	**Pn**	**23 07 23.2**	**+3.0**
	13nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.71**	**144**	P	**Pn**	**23 07 42.3**	**-0.6**
	2.2nm,0.3s,baz=337,slow=8.1,SNR=24						
FITZ				S	Sn	23 09 44.5	-8.0
	3.5nm,0.3s,baz=178,slow=21,SNR=8.7						
FITZ	**Fitzroy Crossi**	**11.71**	**144**		**Pn**	**23 07 42.3**	**-0.6**
KNRA	**Kununurra**	**12.27**	**126**	Pn	**Pn**	**23 07 48.6**	**-1.5**
KNRA	**Kununurra**	**12.27**	**126**	P	**Pn**	**23 07 48.9**	**-1.3**
MBWA	**Marble Bar**	**12.49**	**174**	P	**Pn**	**23 07 51.5**	**-1.5**
CGJI	**Cibinong**	**12.79**	**278**	P	**Pn**	**23 07 57.5**	**+0.6**
	69nm,0.4s						
PSA00	**Pilbara Seismi**	**12.91**	**174**		**Pn**	**23 07 56.9**	**-1.6**
PSA00	**Pilbara Seismi**	**12.91**	**174**		**Pn**	**23 07 55.6**	**-2.9**
PSA00	**Pilbara Seismi**	**12.91**	**174**	P	**Pn**	**23 07 57.1**	**-1.4**
MTN	**Manton Dam**	**13.15**	**110**	Pn	**Pn**	**23 07 59.1**	**-2.4**
MTN	**Manton Dam**	**13.15**	**110**	P	**Pn**	**23 07 59.6**	**-1.9**
GIRL	**Giralia**	**14.48**	**196**	Pn	**Pn**	**23 08 16.6**	**-1.7**
GIRL	**Giralia**	**14.48**	**196**	P	**Pn**	**23 08 18.6**	**+0.3**
KKM	**Kota Kinabalu**	**14.77**	**351**		**P**	**23 08 24.1**	**0.0**
KKM	**Kota Kinabalu**	**14.77**	**351**	P	**P**	**23 08 24.9**	**+0.8**
FAKI	**Fak Fak**	**14.88**	**68**		**Pn**	**23 08 22.8**	**-0.5**
FAKI	**Fak Fak**	**14.88**	**68**	P	**Pn**	**23 08 23.2**	**-0.1**
SIJI	**Sorong**	**14.94**	**59**	P	**Pn**	**23 08 25.3**	**+1.2**
	2.4nm,0.3s,baz=216,slow=8.7,SNR=4.7						
SIJI	**Sorong**	**14.94**	**59**	P	**Pn**	**23 08 25.3**	**+1.2**
MEEK	**Meekatharra**	**17.89**	**179**	P	**Pn**	**23 09 00.3**	**+0.5**
WRKA	**Warakurna**	**18.81**	**151**	P	**P**	**23 09 10.8**	**+2.3**
WB0	**Warramunga Arr**	**18.99**	**127**		**P**	**23 09 10.8**	**+0.4**
WB0				IAmb	IAmb	23 09 17.3	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**19.04**	**128**	P	**P**	**23 09 11.5**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=302,slow=13,SNR=44						
WRA				S	**S**	**23 12 36.8**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=303,slow=22,SNR=11						
WRA				ScP	**ScP**	**23 16 53.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=309,slow=2.1,SNR=3.2						
WRA	**Warramunga Arr**	**19.04**	**128**	P	**P**	**23 09 11.1**	**+0.1**
WRAB	**Tennant Creek**	**19.05**	**128**	P	**P**	**23 09 11.7**	**+0.7**
MORW	**Morawa**	**20.43**	**186**		**P**	**23 09 26.7**	**+0.8**
MORW				IAmb	IAmb	23 09 41.4	
	comp=Z,10nm,0.9s						
MORW	**Morawa**	**20.43**	**186**	P	**P**	**23 09 26.9**	**+1.1**
AS31	**Alice Springs**	**21.03**	**137**	P	**P**	**23 09 33.3**	**+1.0**
AS31				IAmb	IAmb	23 09 34.4	
	comp=Z,4.1nm,0.3s						
ASAR	**Alice Springs**	**21.03**	**137**	P	**P**	**23 09 33.5**	**+1.2**
	comp=Z,5.0nm,0.4s,baz=309,slow=9.2,SNR=126						
ASAR				S	**S**	**23 13 19.9**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=310,slow=18,SNR=4.0						
ASAR				ScP	**ScP**	**23 16 58.3**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=322,slow=2.0,SNR=3.9						
ASAR	**Alice Springs**	**21.03**	**137**	P	**P**	**23 09 33.3**	**+0.9**
BLDU	**Ballidu**	**21.91**	**184**	P	**P**	**23 09 42.1**	**+0.6**
KLBR	**Kellerberrin**	**22.83**	**181**	P	**P**	**23 09 51.4**	**+1.0**
QIS	**Mount Isa**	**23.62**	**122**	P	**P**	**23 09 59.8**	**+2.0**
FORT	**Forrest**	**23.77**	**159**	P	**P**	**23 10 00.5**	**+1.4**
FORT	**Forrest**	**23.77**	**159**	P	**P**	**23 10 00.2**	**+1.1**
NWAO	**Narrogin (SRO)**	**24.18**	**182**	P	**P**	**23 10 04.0**	**+1.3**
COEN	**Coen**	**24.82**	**105**	P	**P**	**23 10 09.3**	**+0.6**
COEN				IAmb	IAmb	23 10 16.5	
	comp=Z,22nm,1.5s						
COEN	**Coen**	**24.82**	**105**	P	**P**	**23 10 10.2**	**+1.5**
OOD	**Oodnadatta**	**25.06**	**142**	P	**P**	**23 10 12.5**	**+1.8**
MULG	**Mulgathing**	**26.01**	**148**	P	**P**	**23 10 21.2**	**+1.9**
BBOO	**Buckleboo**	**29.05**	**148**	P	**P**	**23 10 47.3**	**+0.9**
BBOO	**Buckleboo**	**29.05**	**148**	P	**P**	**23 10 47.7**	**+1.3**
HTT	**Hallett**	**31.07**	**145**	P	**P**	**23 11 06.3**	**+2.0**
STKA	**Stephens Creek**	**31.57**	**140**	P	**P**	**23 11 10.4**	**+1.8**
	comp=Z,1.9nm,0.5s,baz=307,slow=10,SNR=6.1						
STKA	**Stephens Creek**	**31.57**	**140**	P	**P**	**23 11 10.2**	**+1.5**
JNU	**Nakatsue**	**43.20**	**15**	P	**P**	**23 12 45.6**	**-0.8**
USA0B	**Ussuriysk Arra**	**54.02**	**12**	P	**P**	**23 14 08.8**	**0.0**
USA0B				IAmb	IAmb	23 14 30.5	
	comp=Z,6.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.02**	**12**	P	**P**	**23 14 08.5**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=183,slow=4.8,SNR=3.0						
USRK	**Ussuriysk Ar.**	**54.02**	**12**	P	**P**	**23 14 09.1**	**+0.2**
SONM	**Songino Array**	**57.25**	**350**	P	**P**	**23 14 31.2**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=169,slow=9.0,SNR=6.0						
SONM	**Songino Array**	**57.25**	**350**	P	**P**	**23 14 31.5**	**-0.5**
SONM				IAmb	IAmb	23 14 59.8	
	comp=Z,2.3nm,1.5s						
WMQ	**Urumqi**	**59.20**	**334**	*eP*	**P**	**23 14 47.8**	**+2.2**
BKZ	**Black Stump Fm**	**59.95**	**130**	P	**P**	**23 14 52.2**	**+1.3**
MK31	**Makanchi Array**	**63.90**	**333**	P	**P**	**23 15 14.2**	**-2.7**
MK31				IAmb	IAmb	23 15 27.2	
	comp=Z,2.4nm,1.4s						
MKAR	**Makanchi Array**	**63.90**	**333**	P	**P**	**23 15 15.6**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=148,slow=6.1,SNR=8.0						
MKAR	**Makanchi Array**	**63.90**	**333**	P	**P**	**23 15 15.2**	**-1.8**
ZAA0	**Zalesovo Array**	**68.52**	**339**	P	**P**	**23 15 44.4**	**-1.8**
ZALV	**Zalesovo Beam**	**68.52**	**339**	P	**P**	**23 15 44.3**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=141,slow=6.7,SNR=6.0						
ZALV	**Zalesovo Beam**	**68.52**	**339**	P	**P**	**23 15 44.1**	**-2.1**
PETK	**Petropavlovsk-**	**69.99**	**24**	P	**P**	**23 15 55.3**	**+0.1**
VNDA	**Vanda**	**72.41**	**171**	P	**P**	**23 16 12.0**	**+2.5**
	comp=Z,0.7nm,0.4s,baz=311,slow=6.9,SNR=11						
VNDA	**Vanda**	**72.41**	**171**	P	**P**	**23 16 11.8**	**+2.2**
VNDA				IAmb	IAmb	23 16 12.5	
	comp=Z,4.0nm,1.3s						
ABKAR	**Akbulak array**	**76.96**	**325**	P	**P**	**23 16 34.4**	**-1.7**
ABKAR	**Akbulak array**	**76.96**	**325**	P	**P**	**23 16 34.2**	**-1.9**
ABKAR				IAmb	IAmb	23 16 50.0	
	comp=Z,1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**117.85**	**280**	PKP	**PKiKP**	**23 23 29.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=84,slow=1.9,SNR=5.5						
TXAR	**Lajitas Array**	**135.52**	**57**	SKPbc	**SKPbc**	**23 27 21.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=280,slow=3.7,SNR=5.3						

*JMA **06** 23:31:14.7±0.1, 24°.80N×121°.76E, h106km±1km, M2.8*

*TAP **06** 23:31:15.3, 24°.86N×121°.80E, h104km, ML3.6, B*

ISC 06 23:31:15.0±1.4, 24°.89N±0°.04×121°.80E±0°.03, h107km±7km, n102, σ0§47/166, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.05**	**141**	*eP*	**Pn**	**23 31 30.0**	**+0.2**
	baz=69						
NTC				*eS*	**Sn**	**23 31 41.0**	**+0.1**
	baz=69						
TIPB	**Shuangxi**	**0.08**	**19**	*eP*	**Pn**	**23 31 30.1**	**+0.2**
	baz=358						
TIPB				*eS*	**Sn**	**23 31 41.1**	**0.0**
	baz=358						
ILA	**Ilan**	**0.13**	**199**	P	**Pn**	**23 31 30.6**	**+0.6**
	baz=218						
ILA				*eS*	**Sn**	**23 31 41.9**	**+0.8**
	baz=218						
NWF	**Wu-fen Shan**	**0.18**	**356**	P	**Pn**	**23 31 30.3**	**+0.1**
	baz=353						
NWF				S	**Sn**	**23 31 41.6**	**0.0**
	baz=353						
WFSB	**Wu-fen Shan**	**0.18**	**356**	*eP*	**Pn**	**23 31 30.4**	**+0.3**
	baz=353						
WFSB				*eS*	**Sn**	**23 31 41.5**	**+0.1**
	baz=353						
TWE	**Neicheng**	**0.21**	**215**	*eP*	**Pn**	**23 31 30.3**	**+0.1**
	baz=234						
TWE				*eS*	**Sn**	**23 31 42.1**	**+0.7**
	baz=234						
TWB1	**Santiao Chiao**	**0.21**	**56**	P	**Pn**	**23 31 30.4**	**+0.2**
	baz=55						
TWB1				S	**Sn**	**23 31 41.3**	**-0.2**
	baz=55						
TWA	**Mucha**	**0.21**	**295**	*eP*	**Pn**	**23 31 30.2**	**+0.1**
	baz=289						
TWA				S	**Sn**	**23 31 41.6**	**+0.1**
	baz=289						
NHY	**Taipei**	**0.25**	**305**	*eP*	**Pn**	**23 31 30.8**	**+0.5**
	baz=299						
NHY				S	**Sn**	**23 31 41.8**	**+0.1**
	baz=299						
NHDH	**Xindian Distri**	**0.26**	**286**	P	**Pn**	**23 31 30.2**	**-0.1**
	baz=283						
NHDH				S	**Sn**	**23 31 41.2**	**-0.6**
	baz=283						
TNOU	**National Taiwa**	**0.26**	**355**	P	**Pn**	**23 31 30.5**	**+0.1**
	baz=2.0						
TNOU				S	**Sn**	**23 31 41.9**	**+0.1**
	baz=2.0						
NDS	**Dongshan**	**0.27**	**196**	P	**Pn**	**23 31 30.9**	**+0.5**
	baz=216						
NDS				*eS*	**Sn**	**23 31 42.0**	**+0.1**
	baz=216						
TWC	**Suao**	**0.29**	**170**	P	**Pn**	**23 31 30.9**	**+0.5**
	baz=160						
TWC				S	**Sn**	**23 31 42.5**	**+0.5**
	baz=160						
NWLT	**Wulai**	**0.29**	**247**	P	**Pn**	**23 31 30.1**	**-0.4**
	baz=247						
NWLT				S	**Sn**	**23 31 40.9**	**-1.1**
	baz=247						
TATO	**Taipei**	**0.29**	**287**	*eP*	**Pn**	**23 31 30.4**	**-0.1**
	baz=286						
TATO				S	**Sn**	**23 31 41.6**	**-0.4**
	baz=286						
TAP	**Taipei**	**0.30**	**299**	P	**Pn**	**23 31 30.5**	**0.0**
	baz=297						
TAP				S	**Sn**	**23 31 42.0**	**-0.1**
	baz=297						
YM01	**YM01**	**0.33**	**321**	P	**Pn**	**23 31 30.8**	**+0.1**
	baz=315						
YM01				S	**Sn**	**23 31 42.4**	**0.0**
	baz=315						
ENTT	**Nioudou**	**0.33**	**220**	*eP*	**Pn**	**23 31 30.7**	**+0.1**
	baz=234						
YM08	**YM08**	**0.35**	**328**	P	**Pn**	**23 31 31.0**	**+0.2**
	baz=330						
ANP	**Anpu**	**0.39**	**320**	*eP*	**Pn**	**23 31 31.0**	**-0.1**
	baz=329						
NDT	**Datong Townshi**	**0.39**	**222**	P	**Pn**	**23 31 30.9**	**0.0**
	baz=237						
NDT				S	**Sn**	**23 31 42.3**	**-0.6**
	baz=237						
TWS1	**Kuangyinshan**	**0.40**	**301**	*eP*	**Pn**	**23 31 31.2**	**+0.2**
	baz=296						
TWS1				*eS*	**Sn**	**23 31 43.0**	**+0.1**
	baz=296						
NTST	**Danshui**	**0.42**	**311**	*eP*	**Pn**	**23 31 31.4**	**+0.3**
	baz=306						
NTST				*eS*	**Sn**	**23 31 43.1**	**0.0**
	baz=306						
TWY	**Chnhua**	**0.42**	**335**	P	**Pn**	**23 31 31.5**	**+0.4**
	baz=331						
TWY				S	**Sn**	**23 31 43.4**	**+0.2**
	baz=331						
NSM	**Shimen**	**0.44**	**335**	P	**Pn**	**23 31 31.6**	**+0.4**
	baz=336						
YHNB	**Yeheng**	**0.44**	**240**	*eP*	**Pn**	**23 31 31.0**	**-0.4**
	baz=237						
YHNB				*eS*	**Sn**	**23 31 42.6**	**-1.0**
	baz=237						
EWUT	**Wuta**	**0.45**	**182**	*eP*	**Pn**	**23 31 32.0**	**+0.7**
	baz=194						
NSK	**Sanguang**	**0.45**	**242**	*eP*	**Pn**	**23 31 31.0**	**-0.4**
	baz=238						
NSK				*eS*	**Sn**	**23 31 42.6**	**-1.0**
	baz=238						
ENA	**Nanau**	**0.47**	**186**	*eP*	**Pn**	**23 31 31.9**	**+0.5**
	baz=198						
ENA				*eS*	**Sn**	**23 31 43.9**	**+0.2**
	baz=198						
NTY	**Taoyuan**	**0.47**	**283**	*eP*	**Pn**	**23 31 31.6**	**+0.2**
	baz=288						
NTY				*eS*	**Sn**	**23 31 43.9**	**+0.2**
	baz=288						
NCUH	**Zhongli**	**0.56**	**278**	*eP*	**Pn**	**23 31 32.0**	**0.0**
	baz=282						
NCUH				S	**Sn**	**23 31 44.6**	**-0.2**
	baz=282						
NNS	**Nan Shan**	**0.59**	**221**	P	**Pn**	**23 31 32.6**	**+0.1**
	baz=227						
NNS				*eS*	**Sn**	**23 31 45.1**	**-0.4**
	baz=227						
NNSB	**Datong**	**0.60**	**219**	*eP*	**Pn**	**23 31 32.5**	**0.0**
	baz=221						
NNSB				S	**Sn**	**23 31 44.9**	**-0.6**
	baz=221						
NJD	**Zhudong**	**0.66**	**257**	P	**Pn**	**23 31 33.0**	**+0.2**
	baz=255						
NJD				S	**Sn**	**23 31 46.0**	**-0.2**
	baz=255						
NHW	**Xinwu Township**	**0.69**	**280**	*eP*	**Pn**	**23 31 33.3**	**+0.3**
	baz=293						
HSN1	**Hsinchu**	**0.72**	**261**	P	**Pn**	**23 31 33.5**	**+0.2**
	baz=270						
HSN1				S	**Sn**	**23 31 47.0**	**0.0**
	baz=270						
NACB	**Ninganchiao**	**0.74**	**194**	*eP*	**Pn**	**23 31 32.8**	**-0.7**
	baz=205						
NACB				S	**Sn**	**23 31 45.9**	**-1.5**
	baz=205						
ETLH	**Xiulin Townshi**	**0.74**	**203**	*eP*	**Pn**	**23 31 33.1**	**-0.5**
	baz=212						
ETLH				S	**Sn**	**23 31 46.6**	**-1.0**
	baz=212						
ETL	**Fush Village**	**0.75**	**192**	*eP*	**Pn**	**23 31 32.8**	**-0.9**
	baz=201						
LIOB	**Emei**	**0.75**	**251**	P	**Pn**	**23 31 33.7**	**0.0**
	baz=250						
LIOB				*eS*	**Sn**	**23 31 47.3**	**-0.3**
	baz=250						
HSN	**Hsinchu**	**0.76**	**263**	P	**Pn**	**23 31 33.4**	**-0.2**
	baz=268						
NSTT	**Nanjuang**	**0.77**	**250**	*eP*	**Pn**	**23 31 33.7**	**-0.1**
	baz=248						
NSTT				*eS*	**Sn**	**23 31 47.3**	**-0.6**
	baz=248						
PCYT	**Pengchaiyu**	**0.78**	**19**	*eP*	**Pn**	**23 31 34.2**	**+0.4**
	baz=13						
FUSS	**Fushou**	**0.81**	**218**	P	**Pn**	**23 31 34.9**	**+0.4**
	baz=216						
FUSS				S	**Sn**	**23 31 49.0**	**-0.1**
	baz=216						
TWD	**Chiawan**	**0.83**	**193**	P	**Pn**	**23 31 33.6**	**-0.7**
	baz=201						
TWT	**Tachien**	**0.85**	**222**	*eP*	**Pn**	**23 31 35.8**	**+1.1**
	baz=225						
TWT				*eS*	**Sn**	**23 31 50.1**	**+0.5**
	baz=225						
TDCB	**Techi**	**0.86**	**223**	*eP*	**Pn**	**23 31 35.5**	**+0.7**
	baz=226						
TDCB				*eS*	**Sn**	**23 31 49.7**	**0.0**
	baz=226						
NJN	**Zhunan**	**0.87**	**256**	*eP*	**Pn**	**23 31 34.9**	**+0.3**
	baz=260						
NJN				*eS*	**Sn**	**23 31 49.4**	**-0.1**
	baz=260						
WHF	**Hehuan Shan**	**0.89**	**213**	P	**Pn**	**23 31 35.6**	**+0.2**
	baz=211						
WHF				S	**Sn**	**23 31 50.2**	**-0.5**
	baz=211						
ETM	**Tongmen**	**0.96**	**197**	*eP*	**Pn**	**23 31 34.6**	**-1.1**
	baz=190						
NMLH	**Miaoli**	**0.98**	**249**	*eP*	**Pn**	**23 31 35.9**	**+0.1**
	baz=252						
NMLH				*eS*	**Sn**	**23 31 51.2**	**-0.3**
	baz=252						
WHP	**Taichung City**	**0.99**	**232**	*eP*	**Pn**	**23 31 36.3**	**+0.3**
	baz=235						
WHP				*eS*	**Sn**	**23 31 51.1**	**-0.6**
	baz=235						
CHGB	**Renai**	**1.00**	**215**	*eP*	**Pn**	**23 31 36.9**	**+0.6**
	baz=217						
CHGB				*eS*	**Sn**	**23 31 52.4**	**+0.1**
	baz=217						
TEYL	**Yanliau Villag**	**1.03**	**190**	*eP*	**Pn**	**23 31 36.7**	**+0.3**
	baz=198						
NSY	**Sanyi**	**1.05**	**244**	P	**Pn**	**23 31 36.9**	**+0.3**
	baz=245						
TWQ1	**Liyutan**	**1.08**	**240**	*eP*	**Pn**	**23 31 37.3**	**+0.4**
	baz=249						
TWQ1				*eS*	**Sn**	**23 31 53.0**	**-0.3**
	ba

TPUB *e*S **Sn** **23 32 10.9 -0.2**
baz=217
STYH Taoyuan 1.95 209 *e*P **Pn** **23 31 47.6 +0.3**
baz=210
EDH Donghe 1.96 193 *e*P **Pn** **23 31 46.9 -0.5**
baz=185
EDH *e*S **Sn** **23 32 11.7 -0.5**
baz=185
WTP Ta-pu 1.96 214 *e*P **Pn** **23 31 47.4 -0.2**
baz=214
WTP *e*S **Sn** **23 32 12.2 0.0**
baz=214
STYT Tauyuan 1.97 209 *e*P **Pn** **23 31 47.8 +0.2**
baz=210
HATJ Hateruma jima 2.01 114 P **Pn** **23 31 48.2 +0.2**
HATJ *e*S **Sn** **23 32 13.1 -0.1**
TWK Hsinying 2.01 217 *e*P **Pn** **23 31 47.9 -0.2**
baz=219
TWK *e*S **Sn** **23 32 13.5 +0.1**
baz=219
SNST Tainan City 2.04 216 *e*P **Pn** **23 31 49.0 +0.5**
baz=218
SNST *e*S **Sn** **23 32 13.8 -0.2**
baz=218
CHN1 Nanshi 2.06 215 *e*P **Pn** **23 31 48.6 -0.1**
baz=217
CHN1 *e*S **Sn** **23 32 13.8 -0.5**
baz=217
LONT Longtian 2.07 197 *e*P **Pn** **23 31 49.4 +0.6**
baz=190
MATB Ma-tsu 2.09 307 *e*P **Pn** **23 31 48.5 -0.5**
baz=307
MSUT Lienchiang 2.12 307 *e*P **Pn** **23 31 49.0 -0.4**
baz=307
JKRS Kuro-shima 2.12 107 P **Pn** **23 31 49.7 +0.3**
JKRS *e*S **Sn** **23 32 15.6 -0.1**
SLGT Liugui 2.16 209 *e*P **Pn** **23 31 51.1 +1.1**
baz=220
SLGT *e*S **Sn** **23 32 16.8 0.0**
baz=220
TWG Pinlang 2.17 198 *e*P **Pn** **23 31 50.7 +0.6**
baz=191
TWGBT Beinan 2.17 198 *e*P **Pn** **23 31 50.7 +0.6**
baz=191
JIJ Ishigaki jima 2.20 103 P **Pn** **23 31 50.4 -0.1**
JIJ *e*S **Sn** **23 32 16.4 -1.2**
JISG Ishigakijimahi 2.31 97 P **Pn** **23 31 52.2 +0.4**
JTJ Tarama 2.65 95 *e*S **Sn** **23 32 29.1 +0.9**

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*IDC **06** 23:47:17.6±1.1, 16°.70N×147°.65E, h0km, mb4.0/12, mb1 4.2/12, mb1mx3.8/54, mbtmp4.0/12, MS3.5/2, Ms1 3.5/2, ms1mx2.7/80, Error ellipse: s-maj=37.7km s-min=18.5km az=87.0*
*NEIC **06** 23:47:24.8±2.0, 16°.7N±0°.1×147°.3E±0°.2, h35km±2km, mb4.5/14, Error ellipse: s-maj=26.3km s-min=17.1km az=116.0*
ISC 06 23:47:23.7±0.9, 16°.7N±0°.1×147°.4E±0°.2, h35km, n35, σ1°.08/33, mb4.3/18, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.94**	**219**	Pn	**Pn**	**23 48 22.8**	**+1.1**
JYT	**Yasato**	**20.48**	**343**	P	Pn	23 51 60.0	-0.8
JGF	**Kuroka**	**20.84**	**336**	P	**P**	**23 52 02.1**	**-0.4**
JGF				IAmb	IAmb	23 52 17.9	
	comp=Z,21nm,1.2s						
MJAR	**Matsushiro Arr**	**21.38**	**339**	P	**P**	**23 52 08.2**	**0.0**
	comp=Z,3.7nm,0.6s,baz=169,slow=9.5,SNR=8.1						
MJAR	**Matsushiro Arr**	**21.38**	**339**	P	**P**	**23 52 10.0**	**+1.7**
MJB9	**Matsu-Tunnel**	**21.38**	**339**	P	**P**	**23 52 09.4**	**+1.1**
MJB9				IAmb	IAmb	23 52 13.3	
	comp=Z,11nm,0.7s						
KSRS	**Korea Array**	**26.87**	**324**	P	**P**	**23 52 59.9**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=150,slow=9.8,SNR=2.4						
HNR	**Honiara**	**28.78**	**154**	LR	LR	00 04 57.1	
	comp=Z,56nm,18.4s,baz=332,slow=37						
WB2	**Warramunga Arr**	**38.60**	**200**	P	**P**	**23 54 42.7**	**-0.9**
WB2				IAmb	IAmb	23 54 52.0	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**38.60**	**200**	P	**P**	**23 54 43.2**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=25,slow=9.2,SNR=31						
WRA				PcP	**PcP**	**23 56 55.7**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=16,slow=3.5,SNR=2.1						
ASAR	**Alice Springs**	**42.23**	**199**	P	**P**	**23 55 13.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=12,slow=9.5,SNR=2.8						
SONM	**Songino Array**	**45.70**	**322**	P	**P**	**23 55 41.7**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=141,slow=8.1,SNR=9.3						
SONM	**Songino Array**	**45.70**	**322**	P	**P**	**23 55 41.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**46.11**	**280**	P	**P**	**23 55 46.9**	**+1.9**
	comp=Z,4.0nm,0.7s,baz=71,slow=6.4,SNR=5.2						
CMAR	**Chiang Mai Arr**	**46.11**	**280**	P	**P**	**23 55 45.1**	**+0.2**
ZAA0	**Zalesovo Array**	**60.57**	**323**	P	**P**	**23 57 30.6**	**-0.1**
ZAA0				IAmb	IAmb	23 57 45.1	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**60.57**	**323**	P	**P**	**23 57 30.8**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=101,slow=7.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**60.57**	**323**	P	**P**	**23 57 30.1**	**-0.5**
MKAR	**Makanchi Array**	**61.00**	**315**	P	**P**	**23 57 34.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=94,slow=7.8,SNR=4.7						
MKAR	**Makanchi Array**	**61.00**	**315**	P	**P**	**23 57 33.0**	**-0.8**
KURK	**Kurchatov**	**63.83**	**319**	P	**P**	**23 57 51.9**	**-0.6**
KURK				IAmb	IAmb	23 57 54.6	
	comp=Z,8.8nm,1.2s						
KURBB	**Kurchatov Arra**	**63.88**	**319**	P	**P**	**23 57 52.8**	**0.0**
	comp=Z,5.3nm,0.8s,baz=98,slow=6.6,SNR=27						
NRIK	**Noril'sk**	**64.03**	**340**	P	**P**	**23 57 53.4**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=105,slow=6.9,SNR=6.7						
NRIK				LR	LR	00 28 58.0	
	comp=Z,61nm,18.2s,baz=354,slow=39						
NRIK	**Noril'sk**	**64.03**	**340**	P	**P**	**23 57 54.1**	**+0.6**
NRIK				IAmb	IAmb	23 57 57.3	
	comp=Z,2.9nm,0.8s						
IL31		**64.73**	**26**	P	**P**	**23 58 00.8**	**+2.7**
IL31				IAmb	IAmb	23 58 03.6	
	comp=Z,4.6nm,0.7s						
ILAR	**Eielson Array**	**64.73**	**26**	P	**P**	**23 58 00.1**	**+1.9**
NIL	**Nilore**	**67.91**	**300**	P	**P**	**23 58 19.5**	**+0.3**
BRVK	**Borovoye**	**69.10**	**321**	P	**P**	**23 58 26.5**	**+0.3**
KKAR	**Karatay Array**	**69.28**	**310**	P	**P**	**23 58 27.5**	**-0.1**
CHGR	**Chuyangaron**	**70.69**	**306**	P	**P**	**23 58 36.1**	**-0.2**
KBL	**Kabul**	**71.28**	**301**	P	**P**	**23 58 39.7**	**-0.5**
KBL				IAmb	IAmb	23 58 54.9	
	comp=Z,4.4nm,0.8s						
YKA	**Yellowknife Ar**	**78.99**	**28**	P	**P**	**23 59 22.7**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=285,slow=5.3,SNR=7.3						
KLMR	**Klimovskoe**	**83.97**	**332**	*e*P	**P**	**23 59 47.3**	**-2.8**
KLMR				AMP		23 59 49.9	
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**84.88**	**343**	P	**P**	**23 59 54.8**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=72,slow=8.6,SNR=3.6						
DBIC	**Dimbokro**	**144.04**	**308**	PKP	PKPbc	00 06 54.7	+0.1
	comp=Z,0.9nm,0.3s,baz=86,slow=2.7,SNR=4.1						

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*IDC **06** 23:51:18.8±1.8, 24°.19N×94°.28E, h86km±20km, mb3.4/7, mb1 3.5/8, mb1mx3.3/45, mbtmp3.7/8, MS3.6/4, Ms1 3.6/4, ms1mx2.9/61, Error ellipse: s-maj=17.2km s-min=13.0km az=46.0*
ISC 06 23:51:15.0±0.7, 24°.47N±0°.09×94°.28E±0°.08, h35km, n21, σ2°.72/32, mb3.9/7, MS3.5/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**3.00**	**234**	P	**Pn**	**23 52 01.9**	**+1.9**
	0.2nm,0.3s,baz=360,slow=24,SNR=6.7						
BRDH				S	**Sn**	**23 52 36.2**	**+1.4**
	0.3nm,0.3s,baz=360,slow=24,SNR=18						
CMAR	**Chiang Mai Arr**	**7.39**	**143**	P	**Pn**	**23 53 01.3**	**+0.9**
	1.3nm,0.3s,baz=319,slow=14,SNR=7.2						
CMAR				S	**Sn**	**23 54 22.1**	**-1.0**
	0.7nm,0.3s,baz=328,slow=18,SNR=1.3						
GUN	**Gumba**	**8.29**	**296**	*e*Pg	**Pn**	**23 53 15.7**	**+2.7**
GUN				*e*Sn	**Sn**	**23 54 46.6**	**+1.0**
PKI	**Pulchoki**	**8.55**	**293**	*e*Pn	**Pn**	**23 53 18.7**	**+2.0**
PKI				*e*Sn	**Sn**	**23 54 52.7**	**+0.5**
	39nm,0.5s						
PKIN	**Phulchoki**	**8.57**	**293**	*e*Pn	**Pn**	**23 53 18.8**	**+2.0**
PKIN				*e*Sn	**Sn**	**23 54 52.9**	**+0.5**
KKN	**Kakani**	**8.74**	**294**	*e*Pn	**Pn**	**23 53 20.9**	**+1.8**
KKN				*e*Sn	**Sn**	**23 54 56.1**	**-0.4**
DMN	**Daman**	**8.82**	**293**	*e*Pn	**Pn**	**23 53 22.2**	**+1.9**
DMN				*e*Sn	**Sn**	**23 54 57.9**	**-0.7**
GKN	**Gorkha**	**9.34**	**294**	*e*Pn	**Pn**	**23 53 29.0**	**+1.7**
GKN				*e*Sn	**Sn**	**23 55 09.0**	**-2.3**
	58nm,0.3s						
KOLN	**Koldanda**	**10.14**	**291**	*e*Pn	**Pn**	**23 53 39.1**	**+0.8**
KOLN				*e*Sn	**Sn**	**23 55 27.5**	**-3.5**
	40nm,0.4s						
DANN	**Dangsing**	**10.19**	**295**	*e*Pn	**Pn**	**23 53 39.6**	**+0.6**
DANN				*e*Sn	**Sn**	**23 55 28.8**	**-3.4**
	34nm,0.5s						
PYUN	**Piuthan**	**10.76**	**292**	*e*Pn	**Pn**	**23 53 46.9**	**+0.2**
PYUN				*e*Sn	**Sn**	**23 55 41.1**	**-4.9**
	43nm,0.6s						
PSI	**Prapat**	**22.00**	**168**	P	**P**	**23 56 05.5**	**-0.9**
	3.3nm,0.6s,baz=0.4,slow=5.9,SNR=4.8						
MKAR	**Makanchi Array**	**24.26**	**340**	P	**P**	**23 56 30.6**	**+1.9**
	0.4nm,0.4s,baz=143,slow=11,SNR=13						
SONM	**Songino Array**	**25.23**	**19**	P	**P**	**23 56 39.1**	**+1.5**
	2.9nm,0.7s,baz=196,slow=10,SNR=14						
SONM				LR	LR	00 08 16.1	
	comp=Z,84nm,19.2s,baz=334,slow=40						
KURBB	**Kurchatov Arra**	**28.82**	**339**	P	**P**	**23 57 10.1**	**+0.4**
	0.1nm,0.2s,baz=163,slow=6.8,SNR=1.3						
KURBB				ScP	**ScP**	**00 03 50.8**	**-6.8**
	0.8nm,0.9s,baz=141,slow=2.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**30.29**	**349**	P	**P**	**23 57 24.2**	**+1.5**
	0.5nm,0.4s,baz=168,slow=6.9,SNR=3.1						
ASAJ	**Asahikawa**	**43.77**	**51**	LR	LR	00 20 11.6	
	comp=Z,35nm,18.7s,baz=149,slow=39						
WRA	**Warramunga Arr**	**58.90**	**135**	P	**P**	**00 01 07.2**	**-3.6**
	1.0nm,0.7s,baz=324,slow=7.4,SNR=6.6						
WRA				pP	**sP**	**00 01 30.5**	**+4.9**
	1.3nm,0.8s,baz=322,slow=7.4,SNR=6.1						
IDI	**Anoyia**	**60.05**	**298**	LR	LR	00 29 59.9	
	comp=Z,53nm,18.4s,baz=290,slow=39						
ASAR	**Alice Springs**	**61.37**	**138**	P	**P**	**00 01 24.6**	**-3.1**
	0.5nm,0.5s,baz=319,slow=6.4,SNR=7.2						
ASAR				pP	**sP**	**00 01 47.5**	**+4.9**
	0.7nm,0.6s,baz=321,slow=6.8,SNR=5.7						
GERES	**GERESS Array B**	**65.94**	**314**	LR	LR	00 37 19.2	
	comp=Z,160nm,18.7s,baz=316,slow=42						

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*MAN **06** 23:51:33.1, 18°.54N×121°.12E, h17km, mb4.5, ML3.4, MS3.2*
*IDC **06** 23:51:43.1±2.6, 18°.42N×120°.82E, h187km±28km, mb3.1/7, mb1 3.3/7, mb1mx3.1/41, mbtmp3.6/7, MS3.2/7, Ms1 3.3/7, ms1mx3.0/28, Error ellipse: s-maj=49.3km s-min=15.6km az=67.0*
ISC 06 23:51:25.2±0.8, 18°.69N±0°.05×120°.7E±0°.1, h10km, n20, σ2°.06/18, mb3.5/7, MS3.2/5, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.96**	**149**	↑*i*P	**Pn**	**23 51 46.1**	**+1.4**
APYP				*i* S	**Sn**	**23 52 00.5**	**+2.0**
SGCP	**Gonzaga**	**1.33**	**109**	↓*e*P	Pn	23 51 50.7	+0.9
SGCP				*i* S	**Sn**	**23 52 08.5**	**+0.9**
SAMP	**Sagada Mountai**	**1.61**	**174**	↑*i*P	**Pg**	**23 51 56.2**	**+0.1**
SAMP				*i* S	**Pg**	**23 51 56.4**	**+0.2**
BOLP	**Bolinao**	**2.43**	**199**	↑*i*P	**Pb**	**23 52 09.8**	**+0.9**
SMPP	**San Manuel, Pa**	**2.53**	**181**	↓*i*P	**Pg**	**23 52 12.1**	**-1.6**
SMPP				*i* S	**Sg**	**23 52 46.4**	**-0.1**
SCZP	**Santa Cruz**	**3.00**	**195**	↑*e*P	**Pb**	**23 52 19.5**	**+0.7**
TGY	**Tagaytay City**	**4.57**	**177**	P	**Pb**	**23 52 47.9**	**+2.4**
	30nm,0.3s,baz=94,slow=14,SNR=5.4						
TGY				S	**Sb**	**23 53 40.1**	**-0.6**
	46nm,0.3s,baz=148,slow=13,SNR=1.4						
JNU	**Nakatsue**	**17.01**	**30**	LR	LR	00 02 41.3	
	comp=Z,58nm,20.1s,baz=180,slow=38						
KSRS	**Korea Array**	**19.73**	**17**	LR	LR	00 05 46.5	
	comp=Z,28nm,18.6s,baz=10.0,slow=42						
CMAR	**Chiang Mai Arr**	**20.65**	**273**	LR	LR	00 04 46.6	
	comp=Z,50nm,18.0s,baz=90,slow=38						
MJAR	**Matsushiro Arr**	**23.51**	**37**	LR	LR	00 05 27.4	
	comp=Z,75nm,19.5s,baz=104,slow=35						
GUMO	**Guam**	**23.73**	**99**	LR	LR	00 04 28.7	
	comp=Z,53nm,20.2s,baz=118,slow=32						
PSI	**Prapat**	**26.55**	**236**	LR	LR	00 09 04.0	
	comp=Z,94nm,18.3s,baz=356,slow=39						
SONM	**Songino Array**	**31.33**	**341**	P	**P**	**23 57 49.8**	**+3.9**
	0.4nm,0.8s,baz=150,slow=12,SNR=1.5						
WRA	**Warramunga Arr**	**40.65**	**160**	P	**P**	**23 59 02.1**	**-3.6**
	0.3nm,0.4s,baz=342,slow=9.1,SNR=7.0						
MKAR	**Makanchi Array**	**42.13**	**320**	P	**P**	**23 59 18.6**	**+1.0**
	1.0nm,0.8s,baz=119,slow=11,SNR=4.3						
MKAR				LR	LR	00 17 25.9	
	comp=Z,67nm,20.9s,baz=6.5,slow=36						
ASAR	**Alice Springs**	**44.02**	**162**	P	**P**	**23 59 30.6**	**-2.6**
	0.3nm,0.3s,baz=346,slow=6.8,SNR=6.8						
KURBB	**Kurchatov Arra**	**46.14**	**324**	P	**P**	**23 59 50.3**	**+0.6**
	1.1nm,0.7s,baz=121,slow=7.7,SNR=4.5						
ILAR	**Eielson Array**	**74.28**	**26**	P	**P**	**00 02 59.8**	**-2.6**
	0.3nm,0.5s,baz=269,slow=5.8,SNR=5.6						
YKA	**Yellowknife Ar**	**88.18**	**22**	P	**P**	**00 04 14.4**	**-1.8**
	0.4nm,0.6s,baz=307,slow=4.5,SNR=9.4						

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*DDA **07** 00:12:57.5±0.0, 38°.91N×26°.06E, h7km±3km, ML2.8*
*ISK **07** 00:12:57.9, 38°.92N×26°.02E, h12km, ML2.9/15*
*ATH **07** 00:12:58.4, 38°.86N×25°.98E, h9km±3km, ML2.8/5, Error ellipse: s-maj=3.5km s-min=1.2km az=59.0*
*THE **07** 00:12:58.8, 38°.93N×26°.00E, h14km±1km, ML2.8/5, Error ellipse: s-maj=1.9km s-min=1.1km az=88.0*
ISC 07 00:12:58.3±0.9, 38°.92N±0°.02×26°.04E±0°.03, h14km±8km, n43, σ0°.58/66, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.33**	**334**	P	**Pg**	**00 13 05.3**	**+0.2**
SIGR				S	**Sg**	**00 13 09.7**	**+0.1**
	4μm,0.3s						
SIGR	**SIGRI**	**0.33**	**334**	P	**Pg**	**00 13 05.3**	**+0.2**
SIGR				S	**Sg**	**00 13 10.1**	**+0.5**
SIGR				AML	AML	00 13 10.9	
	comp=E,6444μm,0.3s						
SIGR				AML	AML	00 13 10.9	
	comp=N,8384μm,0.3s						
SIGR	**SIGRI**	**0.33**	**334**	PG	**Pg**	**00 13 05.2**	**+0.2**
SIGR				SG	**Sg**	**00 13 10.0**	**+0.4**
PRK	**Paraskevi**	**0.38**	**28**	P	**Pb**	**00 13 06.8**	**0.0**
PRK				S	**Sb**	**00 13 12.8**	**+0.3**
	comp=N,1μm,0.3s						
PRK	**Paraskevi**	**0.38**	**28**	P	**Pb**	**00 13 06.8**	**0.0**
PRK				S	**Sb**	**00 13 12.6**	**+0.1**
PRK				AML	AML	00 13 13.7	
	comp=N,3424μm,0.4s						
PRK				AML	AML	00 13 16.0	
	comp=E,1796μm,0.2s						
CHOS	**Chios island**	**0.53**	**179**	P	**Pg**	**00 13 08.5**	**-0.2**
CHOS	**Chios island**	**0.53**	**179**	P	**Pg**	**00 13 08.6**	**-0.1**
CHOS				AML	AML	00 13 20.6	
	comp=N,1228μm,0.2s						
CHOS				AML	AML	00 13 21.4	
	comp=E,2162μm,0.2s						
CHOS	**Chios island**	**0.53**	**179**	PG	**Pg**	**00 13 08.5**	**-0.2**
CHOS				SG	**Sb**	**00 13 16.9**	**0.0**
FOCM	**Foa**	**0.57**	**110**	PG	**Pb**	**00 13 10.3**	**+0.2**
KOCA	**Canakkale, Ayv**	**0.59**	**7**	P	**Pg**	**00 13 09.5**	**-0.4**
KOCA				S	**Sg**	**00 13 18.2**	**+0.5**
KOCA				*i* AML	AML	00 13 21.0	
	comp=E,1μm,0.4s						
KOCA				*i* AML	AML	00 13 22.0	
	comp=E,477nm,0.2s						
AYVA	**Ayvalik**	**0.64**	**52**	P	**Pg**	**00 13 10.6**	**-0.2**
AYVA				S	**Sg**	**00 13 18.9**	**-0.4**
AYVA				*i* AML	AML	00 13 21.0	
	comp=E,822nm,0.7s						
AYVA				*i* AML	AML	00 13 22.0	
	comp=E,678nm,0.7s						
DKL	**Dikili**	**0.69**	**77**	PG	**Pg**	**00 13 11.9**	**+0.2**
DKL				SG	**Sb**	**00 13 22.5**	**+1.0**
URLA	**Izmir**	**0.70**	**142**	PG	**Pg**	**00 13 12.3**	**+0.3**
URLA	**Izmir**	**0.70**	**142**	P	**Pg**	**00 13 11.2**	**-0.8**
URLA				S	**Sg**	**00 13 21.3**	**0.0**
URLA				*i* AML	AML	00 13 23.0	
	comp=E,448nm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**0.77**	**152**	P	**Pg**	**00 13 13.4**	**+0.3**
ZEYE				S	**Sg**	**00 13 23.1**	**-0.1**
ZEDA	**zmir-Bergama**	**0.81**	**86**	P	**Pg**	**00 13 13.1**	**-0.9**
ZEDA				S	**Sg**	**00 13 23.6**	**-1.0**
ZEDA				*i* AML	AML	00 13 26.0	
	comp=E,242nm,0.4s						
ZEDA				*i* AML	AML	00 13 26.0	
	comp=E,222nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.91**	**25**	P	**Pg**	**00 13 15.8**	**-0.2**
BAYC				S	**Sg**	**00 13 28.1**	**+0.1**
BAYC				*i* AML	AML	00 13 30.0	
	comp=E,213nm,0.2s						
BAYC				*i* AML	AML	00 13 32.0	
	comp=E,215nm,0.2s						
BOZC	**Bozcaada**	**0.93**	**0**	PG	**Pg**	**00 13 15.7**	**-0.5**
BOZC	**Bozcaada**	**0.93**	**0**	P	**Pg**	**00 13 14.7**	**-1.5**
BOZC				P	**Pb**	**00 13 14.8**	**-1.4**
BOZC				S	**Sb**	**00 13 28.7**	**+0.3**
BOZC				*i* AML	AML	00 13 30.0	
	comp=E,268nm,0.2s						
BOZC				*i* AML	AML	00 13 30.0	
	comp=E,382nm,0.2s						
BOZC				*i* AML	AML	00 13 30.0	
	comp=E,322nm,0.2s						
EZN	**Ezine**	**0.94**	**13**	P	**Pg**	**00 13 15.9**	**-0.5**
EZN				S	**Sg**	**00 13 28.7**	**+0.1**
	comp=E,830nm,0.4s						
EZN	**Ezine**	**0.94**	**13**	PG	**Pg**	**00 13 15.9**	**-0.5**
BUHA	**Balikesir, Bur**	**0.99**	**54**	P	**Pg**	**00 13 16.4**	**-1.1**
BUHA				S	**Sg**	**00 13 30.2**	**-0.3**
BUHA				*i* AML	AML	00 13 33.0	
	comp=E,388nm,0.6s						
BUHA				*i* AML	AML	00 13 33.0	
	comp=E,559nm,0.6s						
LIA	**Limnos Island**	**1.19**	**326**	P	**Pb**	**00 13 20.1**	**-0.5**
LIA				S	**Sb**	**00 13 35.6**	**-0.2**
	comp=E,530nm,0.5s						
LIA	**Limnos Island**	**1.19**	**326**	P	**Pb**	**00 13 20.1**	**-0.5**
LIA				S	**Sn**	**00 13 37.5**	**+1.0**
LIA				AML	AML	00 13 38.2	
	comp=N,756μm,0.5s						
LIA				AML	AML	00 13 38.8	
	comp=E,1349μm,0.6s						
GOKA	**anakkale-Gk**	**1.28**	**355**	P	**Pn**	**00 13 21.1**	**-0.7**
GOKA				S	**Sb**	**00 13 38.3**	**-0.1**
GOKA				*i* AML	AML	00 13 44.0	
	comp=E,237nm,0.3s						
GADA	**Gvkgeada**	**1.28**	**355**	P	**Pn**	**00 13 21.2**	**-0.6**
GADA				S	**Sb**	**00 13 38.0**	**-0.5**
	comp=E,145nm,0.4s						
GADA	**Gvkgeada**	**1.28**	**355**	PN	**Pn**	**00 13 21.7**	**-0.1**
SMG	**Samos**	**1.36**	**152**	P	**Pn**	**00 13 23.1**	**+0.2**
SMG	**Samos**	**1.36**	**152**	P	**Pn**	**00 13 22.7**	**-0.2**
SMG				S	**Sb**	**00 13 40.7**	**0.0**
SMG				AML	AML	00 13 44.5	
	comp=N,674μm,0.3s						
SMG				AML	AML	00 13 45.1	
	comp=E,686μm,0.4s						
AKHS	**Akhisar**	**1.38**	**91**	P	**Pn**	**00 13 22.2**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.52**	**13**	PN	**Pn**	**00 13 25.8**	**+0.7**
GCAM	**G?zelcaml?**	**1.53**	**142**	PN	**Pn**	**00 13 26.3**	**+1.1**
KYMI	**Kymi, Euboea I**	**1.54**	**260**	P	**Pn**	**00 13 25.3**	**-0.2**
BALB	**Balikesir**	**1.60**	**63**	PN	**Pn**	**00 13 26.3**	**+0.1**
SMTH	**Samothraki Isl**	**1.60**	**346**	P	**Pb**	**00 13 28.3**	**+0.6**
SMTH				S	**Sg**	**00 13 50.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**123**	PN	**Pn**	**00 13 28.1**	**-0.2**
KRBG	**Karabiga-Canak**	**1.77**	**33**	PN	**Pn**	**00 13 29.4**	**+0.9**
ERIK	**Erikli-Kesan**	**1.79**	**12**	PN	**Pn**	**00 13 29.7**	**+0.9**
DION	**Dionisos Attik**	**1.85**	**244**	P	**Pn**	**00 13 29.0**	**-0.7**
ALN	**Alexandroupoli**	**1.98**	**0**	PN	**Pn**	**00 13 31.5**	**+0.1**
MAR6	**Marsite Statio**	**2.02**	**27**	PN	**Pn**	**00 13 33.0**	**+1.0**
MRMT	**Marmara Adasi**	**2.07**	**35**	PN	**Pn**	**00 13 33.6**	**+0.9**
RDO	**Rodhopi**	**2.26**	**350**	PN	**Pn**	**00 13 35.2**	**-0.1**

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*MOS **07** 00:15:18.3±1.0, 42°.55N×145°.58E, h53km, mb4.6/15, Error ellipse: s-maj=11.0km s-min=6.2km az=85.9*
*NIED **07** 00:15:19.9, 42°.64N×145°.58E, h61km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.14; $M_{\theta\theta}$-0.37; $M_{\phi\phi}$0.23; $M_{r\theta}$1.06; $M_{\theta\phi}$-0.57; $M_{\phi r}$-0.36; Fault plane solution: $M_0$1.30000×10^{15} NP1: ϕ_s103.00000°, δ87.00000°, λ120.00000°. NP2: ϕ_s199.00000°, δ30.00000°, λ6.00000°.*
*JMA **07** 00:15:19.9±0.1, 42°.64N×145°.58E, h61km±1km, M4.1*
JMA Felt II J1.
*SKHL **07** 00:15:20.9±0.1, 42°.70N×145°.60E, h65km±4km, mb5.0/6*
*NEIC **07** 00:15:21.0±1.4, 42°.62N±0°.07×145°.6E±0°.1, h56km±7km, mb4.5/51, Error ellipse: s-maj=12.7km s-min=9.0km az=110.0*
*IDC **07** 00:15:23.1±2.5, 42°.63N×145°.50E, h80km±21km, mb3.7/17, mb1 3.9/19, mb1mx3.8/34, mbtmp4.0/19, MS3.0/4, Ms1 3.1/4, ms1mx2.7/92, Error ellipse: s-maj=18.8km s-min=16.2km az=160.0*
ISC 07 00:15:19.7±0.8, 42°.62N±0°.05×145°.64E±0°.04, h47km±6km, n187, σ1°.14/200, mb4.3/53, 7C-16D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.58**	**323**	↓↓P	**Pn**	**00 15 32.6**	**+0.9**
JKHN				*e*S	**Sn**	**00 15 41.5**	**+1.1**
AKK	**Akkeshi**	**0.71**	**304**	*e*P	**Pn**	**00 15 33.9**	**+0.5**
AKK				*e*S	**Sn**	**00 15 43.7**	**+0.4**
NEM2	**Nemuro 2**	**0.75**	**6**	↓↓P	**Pn**	**00 15 34.7**	**+0.8**
NEM2				*e*S	**Sn**	**00 15 45.3**	**+1.1**
NMR	**Nemuro--Hokkai**	**0.75**	**5**	↓↓*i*PN	**Pn**	**00 15 34.8**	**+0.9**
NMR				*i* S	**Sn**	**00 15 45.2**	**+0.9**
NMR	**Nemuro--Hokkai**	**0.75**	**5**	*i* P	**Pn**	**00 15 34.8**	**+0.9**
NMR				*i* S	**Sn**	**00 15 45.2**	**+0.9**
JAK	**Akkeshi**	**0.79**	**299**	↓↓P	**Pn**	**00 15 34.9**	**+0.5**
JAK				*e*S	**Sn**	**00 15 45.8**	**+0.6**
GLVR	**Golovnino**	**1.12**	**356**	↓↓*i*PN	**Pn**	**00 15 39.4**	**+0.5**
GLVR				*i* S	**Sn**	**00 15 53.8**	**+0.6**
GLVR				pmax	pmax		

SHO	Shikotan	1.52	35	*i* P	Pn	00 15 44.9	+0.5
SHO				AMB	AMB	00 15 45.1	
comp=E,250nm,0.3s							
SHO				*i* S	Sn	00 16 02.5	-0.5
SHO				A	A	00 16 03.0	
comp=E,3μm,0.3s							
SHO				A	A	00 16 03.0	
comp=E,5μm,0.3s							
JAR	Ashorobuto	1.53	297	⇓P	Pn	00 15 44.6	+0.1
JAR				*e*S	Sn	00 16 02.8	-0.4
JCH	Churui	1.68	271	⇑P	Pn	00 15 47.0	+0.4
JCH				*e*S	Sn	00 16 05.8	-1.1
JTKR	Abashiri--Toko	1.85	317	⇓P	Pn	00 15 49.5	+0.7
JTKR				*e*S	Sn	00 16 11.5	+0.5
ERM	Erimo	1.94	253	*c i* PN	Pn	00 15 51.7	+1.6
ERM	Erimo	1.94	253	Pn	Pn	00 15 51.3	+1.2
ERM				Sn	Sn	00 16 14.3	+1.1
JKA	Kamikawa-asahi	2.67	305	Pn	Pn	00 16 01.5	+1.3
JKA				Sn	Sn	00 16 31.9	+0.6
JKA	Kamikawa-asahi	2.67	305	*e*P	Pn	00 16 01.6	+1.4
ASAJ	Asahikawa	2.67	305	P	Pn	00 16 01.6	+1.4
comp=E,29nm,0.3s,baz=134,slow=8.4,SNR=26							
ASAJ				S	Sn	00 16 34.4	+3.0
comp=E,44nm,0.3s,baz=33,slow=30,SNR=15							
KUR	Kuril'sk	3.07	31	*e*PN	Pn	00 16 07.6	+2.0
KUR				*e*S	Sn	00 16 41.5	+0.5
KUR				pmax	pmax		
comp=Z,222nm,0.4s							
KUR				pmax	pmax		
comp=N,48nm,0.3s							
KUR				pmax	pmax		
comp=E,47nm,0.5s							
KUR				smax	smax		
comp=E,1μm,0.3s							
KUR				smax	smax		
comp=N,537nm,0.2s							
KUR	Kuril'sk	3.07	31	*e*P	Pn	00 16 07.6	+2.0
KUR				AMB	AMB	00 16 08.3	
comp=N,220nm,0.4s							
KUR				*e*S	Sn	00 16 41.5	+0.5
KUR				A	A	00 16 45.0	
comp=N,540nm,0.3s							
KUR				A	A	00 16 45.0	
comp=N,1μm,0.3s							
JEW	Eniwo	3.09	275	Pn	Pn	00 16 05.9	-0.1
YSS	Yuzh-Sakhalins	4.79	336	*e*PN	Pn	00 16 29.6	+0.4
YSS				pmax	pmax		
comp=Z,20nm,1.0s							
YSS				MLR	MLR		
comp=Z,400nm,16.0s							
YSS	Yuzh-Sakhalins	4.79	336	Pn	Pn	00 16 30.4	+1.2
YSS	Yuzh-Sakhalins	4.79	336	*e*P	Pn	00 16 29.6	+0.4
YSS				AMB	AMB	00 16 30.7	
comp=Z,10.0nm,0.4s							
YSS				*e*S	Sn	00 17 21.8	-1.6
JMM	Marumori	6.02	220	Pn	Pn	00 16 44.5	-1.7
JYT	Yasato	7.65	215	Pn	Pn	00 17 07.5	-1.0
MAJO	Matsushiro	8.35	226	PN	Pn	00 17 17.0	-1.1
MAJO	Matsushiro	8.35	226	Pn	Pn	00 17 17.0	-1.1
MJAR	Matsushiro Arr	8.35	226	P	Pn	00 17 17.0	-1.1
comp=Z,0.1nm,0.3s,baz=104,slow=16,SNR=2.0							
MJAR				S	Sn	00 18 50.1	-0.9
comp=Z,0.2nm,0.3s,baz=4.5,slow=18,SNR=4.0							
MJAR				LR	LR	00 20 56.3	
comp=Z,49nm,19.6s,baz=36,slow=40							
MJAR	Matsushiro Arr	8.35	226	PN	Pn	00 17 16.9	-1.2
MJAR	Matsushiro Arr	8.35	226		Pn	00 17 16.9	-1.2
MAT	Matsushiro	8.35	226	P	Pn	00 17 17.5	-0.6
MAT				*e*S	Sn	00 18 54.1	+3.1
TYV	Tymovskoe	8.49	347	*e*P	Pn	00 17 20.3	+0.4
TYV				AMB	AMB	00 17 23.9	
comp=Z,20nm,0.4s							
JGF	Kuroka	9.51	225	Pn	Pn	00 17 33.9	-0.2
JHJ	Hachijo jima 2	10.55	208	S	Sn	00 19 32.6	-12
comp=Z,42nm,0.3s,baz=75,slow=22,SNR=9.9							
KLR	Kul'dur	11.70	309	P	Pn	00 18 05.9	+2.1
comp=Z,0.1nm,0.3s,baz=98,slow=14,SNR=2.3							
KLR	Kul'dur	11.70	309	⇑*e*PN	Pn	00 18 08.5	+4.6
KLR				pmax	pmax		
comp=Z,10.0nm,2.0s							
KLR	Kul'dur	11.70	309	*e*P	Pn	00 18 05.5	+1.6
PEA0B	Petropavlovsk-	13.23	33	⇓*e*PN	Pn	00 18 23.2	-1.5
PEA0B	Petropavlovsk-	13.23	33	Pn	Pn	00 18 23.0	-1.7
PETK	Petropavlovsk-	13.23	33	P	Pn	00 18 22.6	-2.1
comp=Z,0.4nm,0.3s,baz=189,slow=8.7,SNR=13							
PETK	Petropavlovsk-	13.23	33	PN	Pn	00 18 21.5	-3.2
PETK	Petropavlovsk-	13.23	33	Pn	Pn	00 18 21.5	-3.2
KSRS	Korea Array	14.51	255	LR	LR	00 24 13.1	
comp=Z,34nm,18.6s,baz=55,slow=37							
ZEA	Zeya	16.50	319	*e*P	Pn	00 18 59.7	-7.9
SEY	Seymchan	20.73	9	P	P	00 19 53.3	-2.5
comp=Z,1.6nm,0.3s,baz=198,slow=11,SNR=4.9							
SEY	Seymchan	20.73	9	⇑*e*P	P	00 19 53.4	-2.4
SHEM	Shemya Is, Ala	21.53	52	LR	LR	00 27 22.3	
comp=Z,68nm,20.3s,baz=142,slow=33							
SONM	Songino Array	27.91	294	P	P	00 21 05.4	+0.2
comp=Z,1.5nm,0.6s,baz=87,slow=8.4,SNR=11							
SONM	Songino Array	27.91	294	*e*P	P	00 21 06.2	+1.0
SONM				pmax	pmax		
comp=Z,2.0nm,0.6s							
SONM	Songino Array	27.91	294	P	P	00 21 05.0	-0.3
H11N2	WAKE ISLAND Hy	29.02	135	T	T	00 52 22.4	
baz=328,slow=75,SNR=407							
H11N1	WAKE ISLAND Hy	29.04	135	T	T	00 52 24.7	
baz=328,slow=75,SNR=415							
H11N3	WAKE ISLAND Hy	29.04	135	T	T	00 52 23.2	
baz=328,slow=75,SNR=533							
H11S1	WAKE ISLAND Hy	29.95	137	T	T	00 53 20.9	
baz=329,slow=76,SNR=928							
H11S3	WAKE ISLAND Hy	29.95	137	T	T	00 53 22.8	
baz=329,slow=76,SNR=961							
H11S2	WAKE ISLAND Hy	29.96	137	T	T	00 53 22.3	
baz=329,slow=76,SNR=870							
TIK	Tiksi	30.24	350	*e*P	P	00 21 24.1	-1.3
TIXI	Tiksi	30.25	350	⇑*e*P	P	00 21 24.1	-1.5
TIXI				pmax	pmax		
comp=Z,10.0nm,3.0s							
ANM	Nome	35.15	34	P	P	00 22 10.0	+1.6
ANM				pmax	pmax		
comp=Z,4.0nm,0.8s							
ANM	Nome	35.15	34	P	P	00 22 09.9	+1.6
ANM				IAmb	IAmb	00 22 10.5	
comp=Z,3.7nm,0.8s							
GOMU	GeErMu	39.30	278	P	P	00 22 58.6	+14
GOMU				pP	sP	00 23 03.9	+2.2
GOMU				pmax	pmax		
comp=Z,2.0nm,0.9s							
O18K	Koktuh Hills	39.33	43	P	P	00 22 45.2	+1.3
O18K				IAmb	IAmb	00 23 03.8	
comp=Z,19nm,1.4s							
M19K	Big River Lodg	39.72	40	P	P	00 22 48.8	+1.7
M19K				IAmb	IAmb	00 23 16.1	
comp=Z,12nm,1.4s							
K20K	Telida	39.90	38	P	P	00 22 50.0	+1.4
K20K				IAmb	IAmb	00 22 51.2	
comp=Z,4.7nm,0.9s							
IMAR	Indian Mountai	40.20	34	P	P	00 22 51.8	+0.8
H21K	Melozitna Rive	40.56	34	P	P	00 22 55.1	+1.0
H21K				IAmb	IAmb	00 22 56.0	
comp=Z,4.3nm,0.8s							
PPLA	Purkeypile	40.75	38	P	P	00 22 56.6	+0.8
PPLA				IAmb	IAmb	00 23 11.1	
comp=Z,21nm,1.4s							
ZALV	Zalesovo Beam	40.81	308	P	P	00 22 55.1	-1.1
comp=Z,0.8nm,0.5s,baz=98,slow=7.5,SNR=5.3							
ZALV	Zalesovo Beam	40.81	308	*e*P	P	00 22 57.5	+1.3
ZALV				pmax	pmax		
comp=Z,1.0nm,0.5s							
ZALV	Zalesovo Beam	40.81	308	P	P	00 22 55.6	-0.6
KDAK	Kodiak Island	40.83	46	P	P	00 22 56.2	-0.1
KDAK				pmax	pmax		
comp=Z,26nm,1.1s							
KDAK	Kodiak Island	40.83	46	P	P	00 22 56.1	-0.1
TRF	Thorofare Moun	41.60	37	P	P	00 23 03.8	+1.0
COLD	Coldfoot	41.69	32	P	P	00 23 03.9	+0.6
COLD				IAmb	IAmb	00 23 04.9	
comp=Z,4.3nm,0.6s							
TOLK	Toolik Lake Re	42.02	30	P	P	00 23 06.5	+0.5
NEA2	Nenana	42.12	36	P	P	00 23 07.5	+0.7
NEA2				IAmb	IAmb	00 23 10.0	
comp=Z,5.3nm,0.7s							
MCK	McKinley	42.20	37	P	P	00 23 08.0	+0.5
MCK				pmax	pmax		
comp=Z,8.0nm,1.4s							
MCK	McKinley	42.20	37	P	P	00 23 08.0	+0.5
MCK				IAmb	IAmb	00 23 33.4	
comp=Z,8.5nm,1.4s							
MDM	Murphy Dome	42.47	35	P	P	00 23 10.8	+1.1
MDM				IAmb	IAmb	00 23 12.8	
comp=Z,4.2nm,0.7s							
H24K	Noodor Dome	42.60	34	P	P	00 23 12.0	+1.3
H24K				IAmb	IAmb	00 23 13.2	
comp=Z,5.7nm,0.9s							
COLA	College	42.63	35	⇓*e*P	P	00 23 12.2	+1.3
COLA				pmax	pmax		
comp=Z,8.0nm,1.1s							
IL31		43.05	35	P	P	00 23 14.3	0.0
ILAR	Eielson Array	43.05	35	P	P	00 23 14.8	+0.5
comp=Z,1.9nm,0.7s,baz=264,slow=5.6,SNR=24							
ILAR	Eielson Array	43.05	35	P	P	00 23 14.7	+0.3
PRP	Porcupine Dome	43.58	34	P	P	00 23 19.8	+0.9
PRP				IAmb	IAmb	00 23 22.1	
comp=Z,5.3nm,0.6s							
BMAR	Burnt Mountain	43.87	32	P	P	00 23 22.1	+1.1
MK31	Makanchi Array	44.13	298	P	P	00 23 23.9	+0.6
MK31				pmax	pmax		
comp=Z,3.0nm,1.1s							
MK31	Makanchi Array	44.13	298	P	P	00 23 23.9	+0.6
MKAR	Makanchi Array	44.13	298	P	P	00 23 22.5	-0.9
comp=Z,0.8nm,0.6s,baz=79,slow=8.8,SNR=4.0							
MKAR	Makanchi Array	44.13	298	P	P	00 23 22.9	-0.4
MKAR	Makanchi Array	44.13	298	P	P	00 23 22.9	-0.4
MKAR	Makanchi Array	44.13	298	*e*P	P	00 23 22.9	-0.4
SCRK	Sand Creek	44.37	36	P	P	00 23 25.2	+0.1
KURK	Kurchatov	45.25	305	⇓*e*P	P	00 23 32.0	-0.1
KURK				pmax	pmax		
comp=Z,13nm,3.6s							
KURK	Kurchatov	45.25	305	P	P	00 23 33.2	+1.1
KURK	Kurchatov	45.25	305	*e*P	P	00 23 32.0	-0.1
BCAR	Beaver Creek A	45.47	38	P	P	00 23 35.7	+2.0
CMAR	Chiang Mai Arr	46.14	253	LR	LR	00 42 54.6	
comp=Z,28nm,18.1s,baz=115,slow=36							
INK	Inuvik	47.93	30	P	P	00 23 53.7	+0.9
INK				pmax	pmax		
comp=Z,7.0nm,0.5s							
INK	Inuvik	47.93	30	P	P	00 23 53.7	+0.9
BRVK	Borovoye	49.42	310	⇑*e*P	P	00 24 05.2	+0.7
BRVK				pmax	pmax		
comp=Z,5.0nm,1.9s							
BRVK	Borovoye	49.42	310	P	P	00 24 04.6	+0.1
BRVK	Borovoye	49.42	310	*e*P	P	00 24 05.2	+0.7
BOOM	Boomskoye usch	49.95	295	P	P	00 24 08.8	-0.1
BOOM				pmax	pmax		
comp=Z,6.0nm,1.1s							
BOOM	Boomskoye usch	49.95	295	P	P	00 24 08.8	-0.1
BOOM				IAmb	IAmb	00 24 28.6	
comp=Z,5.8nm,1.1s							
AAK	Ala-Archa	50.85	296	P	P	00 24 15.5	-0.2
AAK				pmax	pmax		
comp=Z,4.0nm,1.4s							
AAK	Ala-Archa	50.85	296	P	P	00 24 15.4	-0.2
AAK				IAmb	IAmb	00 24 30.4	
comp=Z,4.1nm,1.4s							
AAK	Ala-Archa	50.85	296	*e*P	P	00 24 15.5	-0.2
C36M	Paulatuk	50.99	27	P	P	00 24 16.2	+0.1
KKAR	Karatay Array	53.26	298	P	P	00 24 32.9	-0.6
KKAR	Karatay Array	53.26	298	P	P	00 24 32.9	-0.6
EUNU	Eureka	54.16	10	P	P	00 24 38.9	-0.6
ARU	Arti	54.41	317	*d i* P	P	00 24 41.1	-0.5
ARU						00 26 43.9	
ARU				S	S	00 32 17.3	+0.9
ARU				SS	SKiKP	00 35 51.9	+4.9
ARU				pmax	pmax		
comp=Z,4.0nm,1.0s							
ARU	Arti	54.41	317	P	P	00 24 40.2	-1.4
ARU				IAmb	IAmb	00 24 41.9	
comp=Z,4.6nm,1.1s							
ARU	Arti	54.41	317	*e*P	P	00 24 41.2	-0.4
CHGR	Chuyangaron	56.30	294	P	P	00 24 55.2	-0.4
CHGR				IAmb	IAmb	00 25 09.8	
comp=Z,6.5nm,0.7s							
COEN	Coen	56.34	183	P	P	00 24 55.7	-0.2
RES	Resolute Bay	56.36	16	P	P	00 24 55.2	-0.1
RES				pmax	pmax		
comp=Z,7.0nm,0.8s							
RES	Resolute Bay	56.36	16	P	P	00 24 55.2	-0.1
RES				IAmb	IAmb	00 24 55.9	
comp=Z,7.1nm,0.8s							
MTN	Manton Dam	56.78	197	P	P	00 24 58.6	-0.3
ABKAR	Akbulak array	56.91	309	P	P	00 24 59.0	-0.5
ABKAR				IAmb	IAmb	00 25 14.4	
comp=Z,3.3nm,0.7s							
ABKAR	Akbulak array	56.91	309	P	P	00 24 59.2	-0.4
YKA	Yellowknife Ar	57.35	33	P	P	00 25 02.2	-0.3
comp=Z,1.6nm,0.7s,baz=303,slow=6.5,SNR=20							
YKA	Yellowknife Ar	57.35	33	*e*P	P	00 25 05.0	+2.5
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
WB0	Warramunga Arr	62.94	192	P	P	00 25 40.4	-0.8
WB0				IAmb	IAmb	00 25 58.2	
comp=Z,2.8nm,1.1s							
WRA	Warramunga Arr	63.12	192	P	P	00 25 41.4	-1.0
comp=Z,0.4nm,0.6s,baz=8.1,slow=6.7,SNR=7.1							
WRA	Warramunga Arr	63.12	192	P	P	00 25 41.0	-1.3
PINE	Pine Mountain	64.32	53	P	P	00 25 51.4	+1.0
PINE				IAmb	IAmb	00 25 53.2	
comp=Z,5.5nm,0.9s							
K05A	Summer Lake	64.96	54	P	P	00 25 55.9	+1.2
SUMG	Summit	65.07	1	P	P	00 25 55.2	+0.1
SUMG				pmax	pmax		
comp=Z,11nm,1.3s							
SUMG	Summit	65.07	1	P	P	00 25 55.2	+0.1
SUMG				IAmb	IAmb	00 26 16.6	
comp=Z,11nm,1.3s							
FIA1	FINESS Array S	65.37	333	P	P	00 25 56.1	-0.6
FINES	FINESS Array B	65.37	333	P	P	00 25 55.8	-0.9
comp=Z,5.0nm,0.5s,baz=47,slow=6.4,SNR=24							
FINES	FINESS Array B	65.37	333	*e*P	P	00 25 56.4	-0.3
FINES				pmax	pmax		
comp=Z,5.0nm,0.5s							
FINES	FINESS Array B	65.37	333	P	P	00 25 56.1	-0.6
PLID	Pearl Lake	66.41	50	P	P	00 26 04.6	+0.6
PLID				IAmb	IAmb	00 26 05.5	
comp=Z,7.6nm,1.4s							
ASAR	Alice Springs	66.84	192	P	P	00 26 07.0	+0.5
comp=Z,0.2nm,0.4s,baz=7.9,slow=5.9,SNR=4.8							
LRM	Limekiln Ridge	67.93	48	P	P	00 26 14.6	+0.9
BOZ	Bozeman (W)	68.52	47	P	P	00 26 18.2	+1.0
BOZ				pmax	pmax		
comp=Z,4.0nm,0.6s							
BOZ	Bozeman (W)	68.52	47	P	P	00 26 18.2	+1.0
BOZ				IAmb	IAmb	00 26 18.6	
comp=Z,3.7nm,0.6s							
NVAR	Mina Array Bea	69.12	57	P	P	00 26 22.4	+1.3
comp=Z,1.4nm,0.7s,baz=285,slow=6.0,SNR=12							
NVAR	Mina Array Bea	69.12	57	P	P	00 26 21.9	+0.8
KBZ	Khabaz	69.71	311	P	P	00 26 24.2	-0.1
comp=Z,2.1nm,0.9s,baz=22,slow=8.4,SNR=3.5							
KBZ	Khabaz	69.71	311	*e*P	P	00 26 25.3	+0.9
KBZ				pmax	pmax		
comp=Z,2.0nm,0.8s							
KBZ	Khabaz	69.71	311	*e*P	P	00 26 25.3	+0.9
RLMT	Red Lodge	70.10	47	P	P	00 26 27.7	+0.6
MOOW	Moose Ponds	70.19	48	P	P	00 26 28.2	+0.6
MOOW				IAmb	IAmb	00 26 30.1	
comp=Z,4.7nm,1.1s							
NB2	NORSAR Subarra	70.25	338	P	P	00 26 26.7	-0.7
comp=Z,2.5nm,0.6s,baz=32,slow=6.9							
NOA	NORSAR Array B	70.25	338	P	P	00 26 27.1	-0.3
comp=Z,1.1nm,0.7s,baz=37,slow=5.9,SNR=7.2							
PD31	Pinedale Array	71.48	49	P	P	00 26 36.1	+0.6
PDAR	Pinedale Array	71.48	49	P	P	00 26 36.1	+0.6
comp=Z,1.7nm,0.6s,baz=254,slow=1.7,SNR=18							
PDAR	Pinedale Array	71.48	49	P	P	00 26 36.0	+0.5
AKASG	Malin Array Be	71.83	323	P	P	00 26 35.6	-1.5
comp=Z,0.3nm,0.3s,baz=42,slow=6.0,SNR=6.1							
ULM	Lac du Bonnet	73.06	36	P	P	00 26 42.6	-1.9
comp=Z,2.8nm,0.6s,baz=324,slow=7.1,SNR=3.8							
ULM	Lac du Bonnet	73.06	36	*e*P	P	00 26 44.6	+0.1
ULM				pmax	pmax		
comp=Z,3.0nm,0.6s							
BUR08	Bucovina Ar. S	75.86	323	P	P	00 26 60.0	-1.0
BUR08				IAmb	IAmb	00 27 19.8	
comp=Z,9.0nm,1.4s							
BURAR	Bucovina Array	75.88	323	P	P	00 27 00.8	-0.2
CHVC	Chvalec	77.29	330	*e*pP	pP	00 27 19.5	-2.6
DPC	Dobruska-Polom	77.38	329	*e*pP	pP	00 27 24.5	+1.8
KRLC	Kraliky	77.43	329	*e*pP	pP	00 27 24.3	+1.3
ECSD	EROS Data Cent	77.54	41	P	P	00 27 10.2	-0.2
ECSD				IAmb	IAmb	00 27 12.9	
comp=Z,6.4nm,1.5s							
CLL	Collm	77.80	332	*e*P	P	00 27 11.0	-0.6
CLL				*e*PP	pP	00 27 26.0	+1.1
CLL	Collm	77.80	332	*e*P	P	00 27 11.0	-0.6
CLL				*e*pP	pP	00 27 26.0	+1.1
SCHQ	Schefferville	79.05	18	P	P	00 27 18.9	+0.5
comp=Z,2.0nm,0.7s,baz=212,slow=14,SNR=1.5							
KHC	Kasperske Hory	79.40	330	*e*P	P	00 27 20.4	-0.1
KHC				*e*		00 27 35.1	
KHC	Kasperske Hory	79.40	330	*e*P	P	00 27 20.4	-0.1
KHC				*e*pP	pP	00 27 35.1	+1.2
CONA	Conrad Observa	79.53	328	*e*P	P	00 27 23.3	+2.0
comp=Z,5.8nm,1.5s							
GERES	GERESS Array B	79.59	330	P	P	00 27 21.8	+0.1
comp=Z,0.1nm,0.3s,baz=45,slow=5.8,SNR=1.7							
MOTA	Moosalm	81.80	331	*e*P	P	00 27 32.4	-1.1
comp=Z,9.3nm,1.4s							
SQTA	Sankt Quirin	81.87	331	*e*P	P	00 27 45.9	+12
comp=Z,6.5nm,1.2s							
TX31	Lajitas Ar. Si	84.20	55	P	P	00 27 46.1	-0.1
TX31				IAmb	IAmb	00 28 05.5	
comp=Z,9.9nm,1.3s							
TXAR	Lajitas Array	84.20	55	P	P	00 27 46.5	+0.3
comp=Z,0.7nm,0.8s,baz=312,slow=4.8,SNR=8.9							
TXAR	Lajitas Array	84.20	55	P	P	00 27 46.1	-0.1
O56A	Blue Knob Stat	88.31	32	P	P	00 28 06.5	+0.3
U49A	Red Boiling Sp	88.35	39	P	P	00 28 07.0	+0.7
T50A	Nancy	88.36	38	P	P	00 28 06.8	+0.4
BRYW	Bryant College	89.42	27	P	P	00 28 12.1	+0.8
H03N2	Juan Fernandez	144.07	90	T	T	03 16 03.2	
baz=302,slow=77,SNR=4.5							
H03N3	Juan Fernandez	144.08	90	T	T	03 15 59.2	
baz=302,slow=77,SNR=4.3							
H03N1	Juan Fernandez	144.09	90	T	T	03 16 00.7	
baz=302,slow=77,SNR=5.4							

NEIC ***07*** *00:31:43.1±2.5, 22°.3S±0°.1×176°.0W±0°.1, h74km±9km, mb4.5/18, Error ellipse: s-maj=21.2km s-min=16.5km az=132.0*

IDC ***07*** *00:31:50.4±4.3, 22°.37S×176°.14W, h148km±36km, mb3.6/8, mb1 3.8/10, mb1mx3.6/24, mbtmp4.0/10, MS3.4/2, Ms1 3.4/2, ms1mx2.8/61, Error ellipse: s-maj=33.8km s-min=19.5km az=141.0*

ISC 07 00:31:44.4±0.5, 22°.2S±0°.1×175°.89W±0°.09, h100km, n52, σ1§42/56, mb4.2/15, 11C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	6.39	62	Pn	Pn	00 33 17.7	+1.6
NIUE				Sn	Sn	00 34 22.7	-4.9
MSVF	Nonsavu	7.22	307	P	Pn	00 33 33.5	+6.0
baz=122,slow=20,SNR=1.4							
AFI	Afiamalu	9.12	26	P	Pn	00 33 52.9	-0.5
5.9nm,0.3s,baz=259,slow=9.0,SNR=5.7							
AFI				S	Sn	00 35 24.3	-10
7.7nm,0.3s,baz=29,slow=24,SNR=6.6							
PINNC	Pines Island,	15.42	265		P	00 35 20.2	+1.4
PINNC				IAmb	IAmb	00 35 33.1	
comp=Z,63nm,1.2s							
OUENC	Ouen Island, N	15.98	266		P	00 35 25.4	+0.3
DZM	Mont Dzumac	16.37	267	P	P	00 35 32.3	+2.8
comp=Z,0.7nm,0.3s,baz=79,slow=17,SNR=14							
DZM				LR	LR	00 40 33.6	
comp=Z,101nm,19.1s,baz=258,slow=32							
DZM	Mont Dzumac	16.37	267	P	P	00 35 29.8	+0.2
DZM				IAmb	IAmb	00 35 35.8	
comp=Z,9.8nm,0.7s							
URZ	Urewera	17.10	199	P	Pn	00 35 36.5	-0.6
comp=Z,0.7nm,0.3s,baz=121,slow=24,SNR=1.9							
URZ				S	Sn	00 38 34.3	-13
comp=Z,0.4nm,0.3s,baz=121,slow=24,SNR=1.7							
URZ	Urewera	17.10	199		Pn	00 35 35.9	-1.3
URZ				IAmb	IAmb	00 35 42.2	
comp=Z,12nm,1.1s							
RPZ	Rata Peaks	24.03	204	P	P	00 36 48.9	-1.2
RPZ				IAmb	IAmb	00 36 56.7	
comp=Z,33nm,1.5s							
ARMA	Armidale	30.16	247	P	P	00 37 45.0	-0.3
ARMA				IAmb	IAmb	00 38 03.6	
comp=Z,29nm,1.4s							
CTA	Charters Tower	35.31	266	P	P	00 38 29.8	-0.3
comp=Z,3.1nm,0.5s,baz=89,slow=3.0,SNR=1.9							
CTAO	Charters Tower	35.31	266	P	P	00 38 29.7	-0.5
CTAO				IAmb	IAmb	00 38 31.0	
comp=Z,9.9nm,1.3s							
TOO	Toolangi	36.54	236	P	P	00 38 40.0	-0.5
TOO				IAmb	IAmb	00 39 02.2	
comp=Z,14nm,1.4s							
STKA	Stephens Creek	38.87	246	P	P	00 38 58.9	-1.3
comp=Z,2.0nm,0.5s,baz=93,slow=8.8,SNR=6.3							
STKA	Stephens Creek	38.87	246	P	P	00 38 59.9	-0.2
COEN	Coen	39.67	275	P	P	00 39 07.2	+0.2
COEN				IAmb	IAmb	00 39 08.1	
comp=Z,7.4nm,0.9s							
BBOO	Buckleboo	43.59	245	P	P	00 39 37.1	-1.7
AS31	Alice Springs	46.07	258	P	P	00 39 58.4	-0.3
ASAR	Alice Springs	46.07	258	P	P	00 39 57.6	-1.0
comp=Z,2.9nm,0.9s,baz=89,slow=8.0,SNR=22							
ASAR				PcP	PcP	00 41 33.4	-0.1
comp=Z,0.4nm,0.6s,baz=102,slow=4.2,SNR=3.4							
WB0	Warramunga Arr	46.32	263	P	P	00 39 58.9	-1.7
WB0				IAmb	IAmb	00 40 01.1	
comp=Z,4.1nm,0.8s							
WRA	Warramunga Arr	46.33	263	P	P	00 39 58.7	-2.0
comp=Z,1.6nm,0.6s,baz=100,slow=8.1,SNR=13							

az=102.0
*IDC **07** 00:44:59.3±5.2, 58°.03S×157°.79E, h0km, mb4.4/5, mb1 4.4/6, mb1mx4.0/21, mbtmp4.2/6, ML2.9/1, MS3.7/10, Ms1 3.6/10, ms1mx3.3/50, Error ellipse: s-maj=273.3km s-min=21.7km az=72.0*

ISC 07 00:44:59.3±0.8, 57°.93S±0°.09×158°.2E±0°.2, h10km, n30, σ1§37/17, mb4.3/9, MS3.8/9, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**3.46**	**8**	**Pn**	**Pn**	**00 45 53.5**	**+0.3**
ODZ	**Otahua Downs**	**15.02**	**36**		**P**	**00 48 36.7**	**-0.2**
ODZ				IAmb	IAmb	00 48 39.9	
	comp=Z,45nm,1.5s						
VNDA	**Vanda**	**19.72**	**178**	P	**P**	**00 49 28.5**	**0.0**
	comp=Z,0.0nm,0.3s,baz=352,slow=12,SNR=4.8						
VNDA				LR	LR	00 55 51.4	
	comp=Z,85nm,19.3s,baz=330,slow=33						
VNDA	**Vanda**	**19.72**	**178**	P	**Pn**	**00 49 28.9**	**-1.0**
VNDA				IAmb	IAmb	00 49 42.1	
	comp=Z,7.7nm,1.2s						
URZ	**Urewera**	**23.24**	**40**	LR	LR	01 00 21.9	
	comp=Z,112nm,18.2s,baz=211,slow=39						
STKA	**Stephens Creek**	**28.41**	**329**	LR	LR	01 01 10.0	
	comp=Z,170nm,18.8s,baz=202,slow=34						
QSPA	**South Pole Qui**	**32.18**	**180**	P	**P**	**00 51 28.3**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=29,slow=6.9,SNR=3.8						
QSPA				LR	LR	01 02 42.6	
	comp=Z,90nm,18.8s,baz=344,slow=33						
DZM	**Mont Dzumac**	**36.32**	**13**	LR	LR	01 04 17.4	
	comp=Z,73nm,18.2s,baz=205,slow=32						
DZM	**Mont Dzumac**	**36.32**	**13**	*e*P	P	00 51 53.1	-10
	comp=Z,1.4nm,0.2s						
DZM				*e*LR	LR	01 01 10.0	
	comp=Z,89nm,26.2s						
H01W1	**Cape Leeuwin H**	**37.16**	**289**	T	T	01 31 29.0	
	baz=145						
H01W2	**Cape Leeuwin H**	**37.16**	**289**	T	T	01 31 31.3	
	baz=145						
H01W3	**Cape Leeuwin H**	**37.17**	**289**	T	T	01 31 29.6	
	baz=145						
ASAR	**Alice Springs**	**38.41**	**323**	P	**P**	**00 52 22.6**	**+1.9**
	comp=Z,3.1nm,0.8s,baz=151,slow=8.4,SNR=24						
ASAR	**Alice Springs**	**38.41**	**323**	P	**P**	**00 52 18.4**	**-2.4**
AS31	**Alice Springs**	**38.41**	**323**	P	**P**	**00 52 17.9**	**-2.9**
AS31				IAmb	IAmb	00 52 23.6	
	comp=Z,2.0nm,1.0s						
MAW	**Mawson**	**40.33**	**216**	LR	LR	01 08 06.0	
	comp=Z,164nm,20.8s,baz=62,slow=35						
WRA	**Warramunga Arr**	**41.76**	**325**	P	**P**	**00 52 49.3**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=164,slow=7.0,SNR=14						
WRA	**Warramunga Arr**	**41.76**	**325**	P	**P**	**00 52 47.2**	**-1.3**
WB0	**Warramunga Arr**	**41.91**	**325**	P	**P**	**00 52 49.7**	**-0.1**
WB0				IAmb	IAmb	00 52 51.7	
	comp=Z,4.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**46.45**	**315**	P	**P**	**00 53 27.2**	**+1.0**
	comp=Z,5.5nm,0.8s,baz=142,slow=8.9,SNR=5.5						
KNRA	**Kununurra**	**47.56**	**320**	P	**P**	**00 53 34.5**	**-0.3**
SNAA	**Sanae**	**50.01**	**188**	LR	LR	01 14 55.0	
	comp=Z,83nm,18.4s,baz=125,slow=36						
SNAA	**Sanae**	**50.01**	**188**	P	**P**	**00 53 52.7**	**-0.4**
SNAA				IAmb	IAmb	00 54 04.8	
	comp=Z,12nm,1.3s						
SUR	**Sutherland**	**83.19**	**215**	LR	LR	01 29 00.1	
	comp=Z,44nm,21.3s,baz=178,slow=32						
LBTB	**Lobatse**	**88.39**	**222**	LR	LR	01 33 57.4	
	comp=Z,43nm,18.2s,baz=168,slow=33						
CMAR	**Chiang Mai Arr**	**90.41**	**305**	P	**P**	**00 58 01.6**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=198,slow=5.7,SNR=1.2						
TSUM	**Tsumeb**	**96.49**	**217**	LR	LR	01 37 44.8	
	comp=Z,33nm,20.4s,baz=153,slow=33						
YKA	**Yellowknife Ar**	**137.48**	**43**	PKhKP	PKPpre	01 04 14.0	
	comp=Z,0.1nm,0.4s,baz=235,slow=2.7,SNR=3.2						
AKASG	**Malin Array Be**	**150.00**	**278**	PKPbc	**PKiKP**	**01 04 49.1**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=108,slow=1.6,SNR=11						
AKASG	**Malin Array Be**	**150.00**	**278**		**PKPbc**	**01 04 48.0**	**-0.7**

NNC 07 00:51:09.3±11.0, 37°.15N×70°.79E, h0km, mb3.6, mpv3.2, 3C-3D, Error ellipse: s-maj=87.1km s-min=73.1km az=169.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**5.95**	**358**	⇑P	Pn	00 52 40.4	+1.7
	0.6nm,0.4s,baz=175,slow=12						
KK02				⇓S	Sn	00 53 49.4	+1.8
	4.8nm,0.5s,baz=185,slow=25						
AAK	**Ala-Archa**	**6.18**	**26**	⇓P	Pn	00 52 42.0	+0.1
	2.3nm,0.8s						
AAK				⇓S	Sn	00 53 55.8	+2.4
	2.6nm,0.7s						
TKM2	**Tokmak 2**	**6.84**	**31**	⇑P	Pn	00 52 50.0	-1.1
	1.0nm,0.5s						
TKM2				⇑S	Sn	00 54 07.7	-2.1
	1.7nm,0.8s						

*IPEC **07** 00:52:38.7±0.3, 51°.53N×16°.34E, h0km, ML2.5/3, Error ellipse: s-maj=2.9km s-min=1.8km az=65.0*
*DNK **07** 00:52:39.9±1.1, 51°.44N×16°.12E, h15km±50km, ML2.0*
*IDC **07** 00:52:40.9±0.8, 51°.41N×16°.20E, h0km, mb1 3.3/5, mb1mx3.1/39, mbtmp3.2/5, ML2.7/5, Error ellipse: s-maj=14.1km s-min=8.1km az=131.0*
*PRU **07** 00:52:40.8±0.0, 51°.43N×16°.17E, h0km*
*VIE **07** 00:52:42.5±0.6, 51°.29N×15°.98E, h0km, mb2.9/9, ml2.5/14, Error ellipse: s-maj=3.6km s-min=2.8km az=6.0 75 km WNW of Wroclaw Suspected Mining induced.*
*UPP **07** 00:52:43.3±3.3, 51°.61N×15°.59E, h0km, ML2.1, Suspected explosion*

ISC 07 00:52:38.5±0.7, 51°.53N±0°.03×16°.23E±0°.02, h0km, n60, σ1§35/112, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**177**	*e*Pg	**Pg**	**00 52 52.1**	**+0.4**
KSP				*e*Sg	**Sg**	**00 53 00.2**	**-0.5**
CHVC	**Chvalec**	**0.95**	**187**	*e*PG	**Pg**	**00 52 57.0**	**+0.3**
CHVC				*e*SG	**Sg**	**00 53 08.5**	**-0.5**
	comp=Z,38nm,0.3s						
UPC	**Upice**	**1.03**	**188**	*e*PG	**Pg**	**00 52 58.3**	**0.0**
UPC				*e*SG	**Sg**	**00 53 10.9**	**-0.8**
	comp=Z,124nm,0.3s						
DPC	**Dobruska-Polom**	**1.19**	**177**	*e*PG	**Pg**	**00 53 00.8**	**-0.3**
DPC				*e*SG	**Sg**	**00 53 15.7**	**-0.8**
	comp=Z,48nm,0.6s						
PVCC	**Panska Ves**	**1.45**	**227**	*e*PG	**Pn**	**00 53 06.4**	**+0.4**
PVCC				*e*SG	**Sb**	**00 53 25.2**	**-0.1**
	comp=Z,207nm,0.5s						
KRLC	**Kraliky**	**1.50**	**166**	*e*PG	**Pn**	**00 53 06.2**	**-0.5**
KRLC				*e*SG	**Sg**	**00 53 25.7**	**-0.9**
	comp=Z,42nm,0.7s						
BRG	**Berggiesshubel**	**1.58**	**246**	Pn	**Pn**	**00 53 07.8**	**+0.1**
BRG				Pg	**Pg**	**00 53 09.4**	**+0.7**
BRG				Sg	**Sg**	**00 53 29.8**	**+0.6**
BRG				Amp		00 53 31.1	
	comp=Z,45nm,0.6s						
PRA	**Prague**	**1.85**	**219**	*e*PG	**Pb**	**00 53 12.9**	**-0.3**
PRA				*e*SG	**Sb**	**00 53 36.4**	**-0.5**
PRU	**Pruhonice**	**1.88**	**215**	*e*PG	**Pb**	**00 53 13.5**	**-0.1**
PRU				*e*SG	**Sb**	**00 53 37.4**	**-0.3**
	comp=Z,35nm,0.4s						
RAC	**Raciborz**	**1.91**	**139**	*e*PG	**Pb**	**00 53 15.1**	**+0.9**
RAC				*e*SG	**Sg**	**00 53 39.7**	**-0.2**
MORC	**Moravsky Berou**	**1.95**	**154**	*e*Pn	**Pn**	**00 53 12.7**	**-0.1**
	baz=337						
MORC				*e*Sg	**Sn**	**00 53 38.7**	**+0.7**
	comp=Z,32nm,0.7s,baz=337						
CLL	**Collm**	**2.03**	**265**	*e*Pn	**Pn**	**00 53 15.0**	**+1.1**
CLL				*e*Pg	**Pb**	**00 53 17.0**	**+0.8**
CLL				*i* x	x	00 53 20.7	
CLL				*e*Sg	**Sg**	**00 53 45.0**	**+1.3**
	comp=Z,21nm,0.6s						
OKC	**Ostrava-Krasne**	**2.09**	**144**	*e*PG	**Pb**	**00 53 17.9**	**+0.7**
OKC				*e*SG	**Sb**	**00 53 44.1**	**+0.4**
	comp=Z,36nm,0.5s						
VRAC	**Vranov**	**2.24**	**174**	*e*Pn	**Pn**	**00 53 16.7**	**-0.1**
	baz=356						
VRAC				*e*Sg	**Sb**	**00 53 48.4**	**+0.4**
	comp=Z,29nm,0.5s,baz=356						
TREC	**Trest**	**2.29**	**192**	*e*PN	**Pn**	**00 53 17.8**	**+0.3**
TREC				*e*PG	**Pb**	**00 53 20.8**	**+0.2**
TREC				*e*SG	**Sb**	**00 53 49.8**	**+0.3**
	comp=Z,25nm,0.2s						
PBCC	**Pribram**	**2.33**	**218**	*e*PG	**Pb**	**00 53 21.7**	**+0.3**
PBCC				*e*SG	**Sb**	**00 53 51.3**	**+0.6**
KRUC	**Moravsky**	**2.48**	**177**	*e*Pn	**Pn**	**00 53 20.2**	**+0.2**
	baz=359						
KRUC				*e*Sg	**Sg**	**00 53 56.3**	**-1.6**
	comp=Z,19nm,0.6s,baz=359						
OJC	**Ojcow**	**2.62**	**119**	*e*Pg	**Pg**	**00 53 28.9**	**+0.4**
OJC				*e*Sg	**Sg**	**00 54 04.3**	**+1.9**
NKC	**Novy Kostel**	**2.72**	**243**	*e*PN	**Pn**	**00 53 24.5**	**+1.0**
NKC				*e*PG	**Pb**	**00 53 29.2**	**+1.1**
NKC				*e*SG	**Sg**	**00 54 04.7**	**-1.2**
	comp=Z,24nm,0.3s						
JAVC	**Velka Javorina**	**2.83**	**160**	*e*Pn	**Pn**	**00 53 25.1**	**+0.1**
	baz=343						
JAVC	**Velka Javorina**	**2.83**	**160**	*e*PN	**Pn**	**00 53 25.2**	**+0.2**
KHC	**Kasperske Hory**	**2.94**	**216**	*e*PN	**Pn**	**00 53 27.3**	**+0.8**
KHC				*e*PG	**Pb**	**00 53 32.8**	**+1.0**
KHC				*e*SN	**Sn**	**00 54 02.3**	**-0.2**
KHC				*e*SG	**Sg**	**00 54 10.5**	**-2.5**
	comp=Z,18nm,0.8s						
CKRC	**Cesky Krumlov**	**2.98**	**205**	*e*PN	**Pn**	**00 53 28.1**	**+1.1**
CKRC				*e*PG	**Pb**	**00 53 33.6**	**+1.2**
CKRC				*e*SG	**Sb**	**00 54 11.3**	**+1.9**
GERES	**GERESS Array B**	**3.14**	**212**	Pn	**Pn**	**00 53 30.4**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=35,slow=14,SNR=18						
GERES				Pg	**Pb**	**00 53 36.2**	**+1.0**
	comp=Z,5.6nm,0.3s,baz=31,slow=17,SNR=57						
GERES				Lg	Lg	00 54 15.0	
	comp=Z,1.5nm,0.3s,baz=28,slow=20,SNR=4.6						
LANS	**Liptovska Anna**	**3.16**	**138**	*e*PN	**Pn**	**00 53 30.3**	**+0.8**
LANS				*e*PG	**Pg**	**00 53 39.6**	**+0.6**
LANS				*e*SG	**Sg**	**00 54 17.7**	**-2.3**
MODS	**Modra-Piesok**	**3.23**	**167**	*e*PG	**Pg**	**00 53 39.8**	**-0.6**
MODS				*e*SG	**Sg**	**00 54 22.5**	**+0.2**
KOLL	**Kolacno**	**3.27**	**154**	*e*PN	**Pn**	**00 53 32.1**	**+1.1**
NIE	**Niedzica**	**3.35**	**128**	*e*P	**Pg**	**00 53 43.6**	**+0.9**
NIE				*e*S	**Sg**	**00 54 28.6**	**+2.5**
VYHS	**Vyhne**	**3.48**	**150**	*e*PG	**Pg**	**00 53 44.3**	**-0.7**
CONA	**Conrad Observa**	**3.62**	**184**	*e*Pn	**Pn**	**00 53 36.3**	**+0.5**
	comp=Z,0.5nm,0.2s						
CONA				*e*Sg	**Sg**	**00 54 33.7**	**-0.8**
	comp=Z,12nm,0.4s						
BSD	**Bornholm Skovb**	**3.67**	**348**	*i* P	**Pn**	**00 53 38.0**	**+1.5**
BSD				*i* S	**Sn**	**00 54 19.8**	**-0.6**
BSD				IAML		00 54 24.6	
	comp=Z,2.3nm,0.2s						
MOA	**Molln**	**3.90**	**200**	*e*Pn	**Pn**	**00 53 40.3**	**+0.7**
	comp=Z,0.9nm,0.3s,SNR=5.3						
MOA				*e*Sg	**Sg**	**00 54 41.4**	**-2.3**
	comp=Z,3.3nm,0.2s						
ARSA	**Arzberg**	**4.31**	**186**	*e*Pn	**Pn**	**00 53 45.2**	**-0.1**
	comp=Z,0.3nm,0.0s						
ARSA				*e*Sg	**Sg**	**00 54 56.0**	**-0.9**
	comp=Z,2.2nm,0.4s						
LUNU	**Lund**	**4.43**	**339**	*i* P	**Pn**	**00 53 47.1**	**+0.2**
LUNU				P	Pb	00 53 47.3	-10
LUNU				*i* S	**Sn**	**00 54 38.0**	**-1.0**
LUNU				S	Sb	00 54 38.3	-13
LUNU	**Lund**	**4.43**	**339**	P	**Pn**	**00 53 47.3**	**+0.4**
LUNU				S	**Sn**	**00 54 38.3**	**-0.7**
BLEU	**Blekinge**	**4.79**	**357**	*e*	**Pn**	**00 53 52.6**	**+0.8**
	baz=180,slow=14						
BLEU				*i* P	Pb	00 53 53.5	-10
BLEU				*i* S	**Sn**	**00 54 46.3**	**-1.6**
BLEU				IAML		00 54 52.1	
	comp=Z,0.5nm,0.3s						
SOKA	**Soboth**	**4.92**	**190**	*e*Pn	**Pn**	**00 53 54.4**	**+0.6**
	comp=Z,0.4nm,0.3s						
SOKA				*e*Sg	**Sg**	**00 55 18.1**	**+1.6**
	comp=Z,1.0nm,0.3s						
DEL	**Delary**	**5.14**	**345**	P	**Pn**	**00 53 57.7**	**+1.1**
DEL				*i* P	Pb	00 53 57.9	-11
DEL				*i* S	**Sn**	**00 54 54.5**	**-2.0**
DEL				IAML		00 54 58.6	
	comp=Z,0.8nm,0.4s						
DEL	**Delary**	**5.14**	**345**	P	**Pn**	**00 53 57.7**	**+1.1**
OBKA	**Obir**	**5.15**	**193**	*e*Pn	**Pn**	**00 53 57.0**	**+0.2**
	comp=Z,1.3nm,0.7s						
OBKA				*e*Sg	**Sg**	**00 55 24.5**	**+0.8**
	comp=Z,2.8nm,0.4s						
WATA	**Walderalm**	**5.18**	**218**	*e*Pn	**Pn**	**00 53 56.9**	**-0.4**
	comp=Z,0.8nm,0.1s						
WATA				*e*Sg	**Sg**	**00 55 23.4**	**-1.4**
	comp=Z,2.4nm,0.3s						
MYKA	**Terra Mystica**	**5.19**	**200**	*e*Pn	**Pn**	**00 53 58.3**	**+0.8**
	comp=Z,0.5nm,0.2s						
MYKA				*e*Sg	**Sg**	**00 55 24.9**	**-0.2**
	comp=Z,0.9nm,0.3s						
WTTA	**Wattenberg**	**5.22**	**217**	*e*Pn	**Pn**	**00 53 59.0**	**+1.1**
	comp=Z,0.7nm,0.2s						
WTTA				*e*Sg	**Sg**	**00 55 24.7**	**-1.3**
	comp=Z,4.2nm,0.6s						
MOTA	**Moosalm**	**5.36**	**221**	*e*Pn	**Pn**	**00 54 00.2**	**+0.3**
	comp=Z,0.1nm,0.1s						
MOTA				*e*Sg	**Sg**	**00 55 29.7**	**-0.9**
	comp=Z,0.1nm,0.1s						
ABTA	**Abfaltersbach**	**5.37**	**208**	*e*Pn	**Pn**	**00 53 59.6**	**-0.3**
	comp=Z,0.6nm,0.4s						
ABTA				*e*Sg	**Sb**	**00 55 23.9**	**+5.6**
	comp=Z,2.9nm,0.5s						
RETA	**Reutte**	**5.39**	**223**	*e*Pn	**Pn**	**00 54 00.3**	**+0.2**
RETA				*e*Sg	**Sg**	**00 55 30.1**	**-1.4**
	comp=Z,2.8nm,0.5s						
SQTA	**Sankt Quirin**	**5.42**	**219**	*e*Pn	**Pn**	**00 54 02.4**	**+1.8**
	comp=Z,1.8nm,0.2s,SNR=7.9						
SQTA				*e*Sg	**Sg**	**00 55 29.1**	**-3.4**
	comp=Z,1.0nm,0.2s						
FETA	**Feichten**	**5.77**	**221**	*e*Pn	**Pn**	**00 54 06.4**	**+0.9**
	comp=Z,0.2nm,0.2s						
FETA				*e*Sg	**Sg**	**00 55 41.2**	**-2.6**
	comp=Z,1.0nm,0.5s						
FABU	**Falkenberg**	**5.85**	**341**	P	**Pn**	**00 54 08.7**	**+2.3**
FABU	**Falkenberg**	**5.85**	**341**	P	**Pn**	**00 54 08.7**	**+2.3**
GNOU	**Gnosjoe**	**5.95**	**347**	P	**Pn**	**00 54 09.2**	**+1.5**
GNOU	**Gnosjoe**	**5.95**	**347**	P	**Pn**	**00 54 09.2**	**+1.5**
BORU	**Boraas**	**6.44**	**343**	P	**Pn**	**00 54 16.3**	**+1.9**
BORU	**Boraas**	**6.44**	**343**	P	**Pn**	**00 54 16.3**	**+1.9**
LNKU	**Linkoeping**	**6.72**	**357**	P	**Pn**	**00 54 19.8**	**+1.6**
LNKU	**Linkoeping**	**6.72**	**357**	P	**Pn**	**00 54 19.8**	**+1.6**
AKASG	**Malin Array Be**	**8.22**	**91**	Pn	**Pn**	**00 54 37.6**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=282,slow=12,SNR=5.1						
AKASG				Sn	**Sn**	**00 56 07.1**	**-5.3**
	comp=Z,0.5nm,0.3s,baz=272,slow=8.5,SNR=5.6						
AKASG				Lg	Lg	00 57 02.1	
	baz=264,slow=17,SNR=1.2						
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	**Pn**	**00 55 02.3**	**0.0**
	comp=Z,0.0nm,0.3s,baz=160,slow=12,SNR=4.6						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**00 55 21.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=5.4						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**00 56 57.3**	**+0.5**
	baz=193,slow=12,SNR=6.0						

*KRNET **07** 00:53:03.4±0.1, 39°.18N×71°.60E, h15km, mb3.3*
*NNC **07** 00:53:04.9±7.2, 38°.75N×71°.35E, h124km±134km, mb3.0, mpv3.6, Error ellipse: s-maj=66.1km s-min=33.0km az=10.0*
*IDC **07** 00:53:07.4±4.9, 39°.06N×71°.81E, h32km±37km, mb3.4/2, mb1 3.4/8, mb1mx3.2/38, mbtmp3.4/8, ML3.0/6, Error ellipse: s-maj=28.4km s-min=20.6km az=159.0*

ISC 07 00:53:04.6±1.5, 39°.30N±0°.06×71°.52E±0°.04, h2km±10km, n32, σ2§55/47, 21C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.28**	**49**	⇑*i*P	**Pg**	**00 53 10.2**	**+0.1**
	baz=28						
DRK				⇑*i*S	**Sg**	**00 53 15.0**	**+1.2**
	baz=28						
BTK	**Batken**	**0.94**	**325**	⇓*i*P	**Pg**	**00 53 23.6**	**+1.0**
	baz=26						
BTK				⇓*i*S	**Sn**	**00 53 38.4**	**-0.5**
	baz=26						
OHH	**Osh**	**1.56**	**38**	⇑*i*P	**Pn**	**00 53 33.5**	**0.0**
	baz=34						
OHH				⇑*e*S	**Sb**	**00 53 55.2**	**+0.6**
	baz=34						
SFK	**Sufi-Kurgan**	**1.69**	**64**	⇓*e*P	**Pn**	**00 53 34.5**	**-0.8**
	baz=60						
SFK				⇓*e*S	**Sb**	**00 53 57.6**	**-0.7**
	baz=60						
CHGR	**Chuyangaron**	**1.95**	**252**	⇓*i*P	**Pn**	**00 53 39.4**	**+0.5**
	baz=55						
CHGR				⇓*i*S	**Sb**	**00 54 05.8**	**0.0**
	baz=55						
TRKS	**Terek-Say**	**2.25**	**353**	⇑*e*P	**Pn**	**00 53 44.0**	**+1.0**
	baz=52						
TRKS				⇑*i*S	**Sb**	**00 54 13.9**	**-0.5**
	baz=52						
ARK	**Arkit**	**2.52**	**7**	⇑*i*P	**Pn**	**00 53 48.6**	**+1.9**
	baz=6.0						
ARK				⇑*i*S	**Sb**	**00 54 21.3**	**-0.9**
	baz=6.0						
MNAS	**Manas**	**3.27**	**13**	⇑*i*P	**Pn**	**00 53 59.0**	**+1.9**
	baz=11						
MNAS				⇑*i*S	**Sn**	**00 54 39.5**	**+2.9**
	baz=11						
AML	**Almayashu**	**3.28**	**30**	P	**Pb**	**00 54 01.9**	**-1.8**
	SNR=11						
ARLS	**Aral**	**3.33**	**39**	⇑*e*P	**Pn**	**00 53 59.1**	**+1.2**
	baz=37						
ARLS				⇑*i*S	**Sn**	**00 54 39.8**	**+1.7**
	baz=37						
UCH	**Uchtor**	**3.70**	**37**	P	**Pb**	**00 54 07.7**	**-3.4**
	SNR=5.1						
UCH	**Uchtor**	**3.70**	**37**	⇑*i*P	**Pn**	**00 54 04.6**	**+1.3**
	baz=35						
UCH				⇑*e*S	**Sn**	**00 54 49.1**	**+1.4**
	baz=35						
EKS2	**Erkin-Say**	**3.77**	**26**	P	**Pb**	**00 54 09.1**	**-2.8**
	SNR=9.3						
KK02	**Karatay Array**	**3.88**	**349**	⇑P	**Pb**	**00 54 11.1**	**-2.6**
	5.0nm,0.3s,baz=172,slow=12						
KK02				⇑S	**Sb**	**00 55 01.8**	**+0.7**
	11nm,0.6s,baz=178,slow=28						
AAK	**Ala-Archa**	**4.02**	**33**	Pn	**Pb**	**00 54 12.0**	**-4.3**
	3.8nm,0.3s,baz=214,slow=4.8,SNR=22						
AAK				Sn	**Sb**	**00 55 00.5**	**-4.9**
	1.1nm,0.3s,baz=177,slow=17,SNR=1.3						
AAK	**Ala-Archa**	**4.02**	**33**	P	**Pb**	**00 54 12.5**	**-3.8**
	SNR=9.9						
AAK	**Ala-Archa**	**4.02**	**33**	⇑P	**Pn**	**00 54 11.6**	**+4.2**
	3.6nm,0.4s						
AAK				⇓S	**Sb**	**00 55 04.6**	**-0.9**
	11nm,0.8s						
KBK	**Karagaybulak**	**4.24**	**37**	P	Pb	00 54 15.5	-4.5
	SNR=5.7						
CHMS	**Chumysh**	**4.43**	**32**	P	Pn	00 54 17.6	+4.8
	SNR=7.3						
USP	**Ospenovka**	**4.55**	**29**	P	**Pn**	**00 54 18.9**	**+4.3**
	SNR=9.8						
ULHL	**Ulahol**	**4.64**	**49**	P	**Pn**	**00 54 19.8**	**+3.9**
	SNR=32						
TKM2	**Tokmak 2**	**4.75**	**39**	P	**Pn**	**00 54 21.8**	**+4.4**
	SNR=6.2						
TKM2	**Tokmak 2**	**4.75**	**39**	⇑P	**Pn**	**00 54 21.6**	**+4.2**
	4.9nm,0.6s						
TKM2				⇑S	**Sn**	**00 55 19.2**	**+6.0**
	3.0nm,0.6s						
MKAR	**Makanchi Array**	**10.86**	**43**	Pn	**Pn**	**00 55 43.3**	**+2.2**
	0.1nm,0.3s,baz=226,slow=9.7,SNR=3.0						
KURBB	**Kurchatov Arra**	**12.36**	**21**	Pn	**Pn**	**00 56 00.2**	**-1.2**
	0.0nm,0.3s,baz=207,slow=12,SNR=1.8						
AB31	**Akbulak array**	**12.94**	**324**	⇓P	**Pn**	**00 56 08.6**	**-0.9**
	0.3nm,0.3s,baz=140,slow=11,SNR=14						
AB31				⇑S	**Sn**	**00 58 33.6**	**-0.5**
	1.8nm,0.8s,baz=155,slow=20,SNR=4.7						
BVAR	**Borovoye Array**	**13.75**	**357**	Pn	**Pn**	**00 56 21.5**	**+1.0**
	0.1nm,0.3s,baz=154,slow=14,SNR=2.8						
AKTO	**Aktyubinsk**	**14.66**	**324**	Pn	**Pn**	**00 56 34.5**	**+1.6**
	0.2nm,0.3s,baz=129,slow=14,SNR=5.2						
AKTO				Sn	**Sn**	**00 59 11.1**	**-4.8**
	0.1nm,0.3s,baz=225,slow=22,SNR=1.2						
AKTO	**Aktyubinsk**	**14.66**	**324**	⇓P	**Pn**	**00 56 33.7**	**+0.8**
	3.5nm,0.6s						
AKTO				⇑S	**Sn**	**00 59 14.5**	**-1.4**
	1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**17.22**	**27**	P	**P**	**00 57 08.5**	**+0.8**
	0.3nm,0.3s,baz=205,slow=9.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**66.22**	**268**	P	**P**	**01 03 53.4**	**-0.9**
	0.2nm,0.4s,baz=57,slow=6.1,SNR=5.6						
YKA	**Yellowknife Ar**	**78.44**	**3**	P	**P**	**01 05 05.9**	**-0.5**
	0.3nm,0.5s,baz=347,slow=5.7,SNR=5.8						

*NOU **07** 01:16:44.2, 30°.34S×175°.63W, h0km, mb5.1/22, Kermadec Islands Region*
*NEIC **07** 01:17:03.6±2.0, 30°.2S±0°.1×177°.6W±0°.2, h46km±8km, mb4.8/21, Error ellipse: s-maj=27.1km s-min=11.2km az=65.0*
*IDC **07** 01:17:04.3±1.8, 30°.22S×177°.90W, h44km±14km, mb4.4/6, mb1 4.6/7, mb1mx4.2/19, mbtmp4.6/7, ML4.7/1, MS3.9/26, Ms1 3.9/26, ms1mx3.7/58, Error ellipse: s-maj=19.9km s-min=16.0km az=102.0*

ISC 07 01:17:01.5±0.5, 30°.45S±0°.04×177°.67W±0°.09, h33km, n158, σ2§25/147, mb5.0/19, MS4.1/26, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.20**	**349**	P	**Pn**	**01 17 20.4**	**-1.6**
GLKZ				S	**Sn**	**01 17 33.5**	**-3.6**
RAO	**Raoul Island**	**1.21**	**350**	P	**Pn**	**01 17 20.9**	**-1.2**
	943nm,0.3s,baz=45,slow=14,SNR=71						
RAO				S	**Sn**	**01 17 34.6**	**-2.8**
	5μm,0.3s,baz=118,sl

OXZ IAmb IAmb 01 20 45.2
comp=Z,30nm,0.5s
RPZ Rata Peaks 15.99 211 Pn **Pn 01 20 41.4 -2.6**
RPZ Rata Peaks 15.99 211 P **Pn 01 20 43.9 0.0**
OUENC Ouen Island, N 16.00 296 **Pn 01 20 45.5 +1.2**
OUENC Ouen Island, N 16.00 296 P **P 01 20 50.6 +3.2**
DZM Mont Dzumac 16.50 297 P **Pn 01 20 52.0 +1.4**
comp=Z,0.2nm,0.3s,baz=102,slow=16,SNR=8.6
DZM LR LR 01 25 50.9
comp=Z,838nm,20.6s,baz=160,slow=32
DZM Mont Dzumac 16.50 297 *e*Pn **P 01 20 54.2 +1.2**
comp=Z,73nm,1.4s
DZM *e*LR LR 01 24 30.2
comp=Z,2μm,24.9s
DZM Mont Dzumac 16.50 297 P **P 01 20 53.1 +0.1**
ODZ Otahua Downs 17.23 209 P **Pn 01 20 58.2 -1.3**
AFI Afiamalu 17.33 20 LR LR 01 27 58.5
comp=Z,31nm,18.7s,baz=206,slow=38
RAR Rarotonga 18.53 64 LR LR 01 27 49.5
comp=Z,135nm,18.8s,baz=245,slow=35
TBI Tubuai 26.09 81 *e*LR LR 01 29 10.0
comp=Z,809nm,27.2s
TBI Tubuai 26.09 81 *e*T T 01 49 47.1
comp=Z,6.2nm,0.2s
ARMA Armidale 26.44 262 P **P 01 22 37.2 +1.7**
ARMA IAmb IAmb 01 22 51.3
comp=Z,74nm,1.5s
EIDS Eidsvold 28.02 273 P **P 01 22 51.0 +1.3**
EIDS IAmb IAmb 01 22 53.6
comp=Z,11nm,0.7s
EIDS Eidsvold 28.02 273 P **P 01 22 52.9 +3.2**
CAN Canberra 28.33 251 P **P 01 22 54.9 +2.5**
CAN IAmb IAmb 01 22 58.0
comp=Z,34nm,1.2s
PAE Paea 28.54 70 *e*T T 01 52 38.0
comp=Z,7.5nm,0.2s
PPT2 Papeete2 28.58 70 *e*LR LR 01 30 11.6
comp=Z,746nm,27.2s,baz=243
PPT2 Papeete2 28.58 70 *e*T T 01 52 42.3
comp=Z,3.6nm,0.2s
PPT Papeete 28.60 70 LR LR 01 34 14.5
comp=Z,111nm,18.2s,baz=210,slow=36
RK1H Rockhampton Ha 29.18 276 P **P 01 23 02.2 +2.2**
HNR Honiara 29.55 310 LR LR 01 33 48.0
comp=Z,138nm,18.3s,baz=353,slow=34
RMQ Roma 29.71 269 P **P 01 23 07.5 +2.8**
comp=Z,39nm,0.7s
TOO Toolangi 31.21 247 P **P 01 23 19.5 +1.6**
TOO IAmb IAmb 01 23 32.7
comp=Z,10nm,1.1s
CMSA Cobar Meteorol 31.34 258 P **P 01 23 21.8 +2.8**
VAH Vaihoa 31.43 68 *e*T T 01 56 11.2
comp=Z,46nm,0.2s
QLP Quilpie 33.59 267 P **P 01 23 41.3 +2.5**
comp=Z,41nm,0.7s
CTA Charters Tower 34.09 279 P **P 01 23 45.4 +2.2**
CTAO Charters Tower 34.09 279 P **P 01 23 44.2 +1.1**
CTAO Charters Tower 34.09 279 P **P 01 23 45.3 +2.1**
STKA Stephens Creek 34.75 257 P **P 01 23 50.7 +1.9**
comp=Z,36nm,0.8s,baz=97,slow=9.6,SNR=36
STKA LR LR 01 36 09.7
comp=Z,337nm,20.3s,baz=40,slow=33
STKA Stephens Creek 34.75 257 P **P 01 23 50.5 +1.7**
STKA IAmb IAmb 01 23 53.6
comp=Z,7.3nm,0.8s
STKA Stephens Creek 34.75 257 P **P 01 23 50.8 +2.0**
INKA Innaminka 36.30 264 P **P 01 24 04.8 +2.7**
MTSU Mount Surprise 36.59 281 P **P 01 24 06.7 +2.0**
HTT Hallett 36.76 254 P **P 01 24 07.9 +1.8**
NAPP Napperby 37.44 254 P **P 01 24 14.2 +2.4**
comp=Z,41nm,0.7s
LCRK Leigh Creek 37.85 258 P **P 01 24 17.0 +1.7**
WHYH Whyalla 37.94 254 P **P 01 24 17.9 +1.9**
comp=Z,32nm,0.8s
PMG Port Moresby 38.89 295 LR LR 01 37 31.2
comp=Z,221nm,20.9s,baz=128,slow=32
BBOO Buckleboo 39.23 254 P **P 01 24 27.6 +0.7**
BBOO IAmb IAmb 01 24 28.1
comp=Z,19nm,0.8s
QIS Mount Isa 39.60 274 P **P 01 24 31.2 +1.1**
OOD Oodnadatta 40.61 262 P **P 01 24 40.0 +1.6**
TAOE Nuku Hiva Isla 41.06 66 *e*LR LR 01 35 41.0
comp=Z,429nm,29.8s
AS31 Alice Springs 43.39 267 P **P 01 25 01.1 -0.1**
ASAR Alice Springs 43.39 267 P **P 01 25 01.1 -0.2**
comp=Z,7.2nm,0.7s,baz=104,slow=7.2,SNR=65
ASAR PcP **PcP 01 26 50.3 +0.9**
comp=Z,1.9nm,0.8s,baz=105,slow=4.7,SNR=2.2
ASAR ScP **ScP 01 30 36.1 -2.2**
comp=Z,1.5nm,0.8s,baz=112,slow=4.2,SNR=7.1
ASAR LR LR 01 42 50.4
comp=Z,418nm,18.4s,baz=104,slow=36
ASAR Alice Springs 43.39 267 P **P 01 25 00.9 -0.3**
ASAR **ScP 01 30 34.0 -4.3**
WR0 Warramunga Arr 44.20 272 P **P 01 25 08.0 +0.3**
WR0 IAmb IAmb 01 25 10.3
comp=Z,14nm,0.6s
WB2 Warramunga Arr 44.38 272 P **P 01 25 08.5 -0.6**
WRAB Tennant Creek 44.38 272 P **P 01 25 09.6 +0.5**
WRA Warramunga Arr 44.39 272 P **P 01 25 08.5 -0.7**
comp=Z,14nm,0.5s,baz=111,slow=7.9,SNR=171
WRA ScP **ScP 01 30 41.1 -1.3**
comp=Z,1.0nm,0.4s,baz=105,slow=4.1,SNR=2.3
WRA S **S 01 31 38.1 -3.6**
comp=Z,1.3nm,0.8s,baz=110,slow=14,SNR=4.7
WRA LR LR 01 42 03.2
comp=Z,252nm,21.2s,baz=96,slow=34
WB0 Warramunga Arr 44.41 272 P **P 01 25 09.7 +0.4**
WB0 IAmb IAmb 01 25 11.9
comp=Z,20nm,0.6s
FORT Forrest 46.31 255 P **P 01 25 24.5 +0.2**
VNDA Vanda 48.08 186 P **P 01 25 40.5 +3.1**
comp=Z,1.1nm,0.7s,baz=20,slow=9.6,SNR=6.1
VNDA Vanda 48.08 186 P **P 01 25 40.7 +3.3**
VNDA IAmb IAmb 01 25 44.9
comp=Z,9.0nm,1.4s
JAY Jayapura 48.17 297 LR LR 01 45 29.0
comp=Z,50nm,18.5s,baz=322,slow=36
CASY Casey 55.23 208 P **P 01 26 31.6 +0.7**
SIJI Sorong 56.62 291 LR LR 01 49 40.6
comp=Z,54nm,21.8s,baz=191,slow=35
GUMO Guam 56.72 315 LR LR 01 48 12.3
comp=Z,68nm,20.9s,baz=124,slow=33
MORW Morawa 56.79 253 P **P 01 26 43.0 +0.3**
MORW IAmb IAmb 01 26 48.0
comp=Z,27nm,1.4s
BATI Baumata 57.94 277 LR LR 01 52 15.6
comp=Z,554nm,18.6s,baz=137,slow=37
QSPA South Pole Qui 59.66 180 LR LR 01 51 32.3
comp=Z,76nm,18.8s,baz=351,slow=34
QSPA South Pole Qui 59.66 180 P **P 01 27 05.5 +3.1**
KAPI Kappang 63.90 280 LR LR 01 55 56.9
comp=Z,77nm,18.1s,baz=164,slow=37
MAW Mawson 72.36 200 LR LR 01 59 12.5
comp=Z,130nm,18.2s,baz=66,slow=35
LEM Lembang 73.41 272 LR LR 02 03 02.8
comp=Z,96nm,18.1s,baz=128,slow=38
MDSI Maura Dua 77.53 272 P **P 01 28 52.2 -2.3**
SNAA Sanae 78.10 178 P **P 01 28 58.3 +1.5**
SNAA Sanae 78.10 178 P **P 01 28 58.5 +1.8**
VNA3 Neumayer Olymp 78.24 176 P **P 01 28 58.9 +1.4**
MJAR Matsushiro Arr 78.44 325 LR LR 01 57 57.3
comp=Z,37nm,20.7s,baz=65,slow=31
VNA2 Neumayer--Watz 78.68 177 P **P 01 28 60.0 +0.1**
baz=189,slow=5.8
H03S2 Juan Fernandez 80.20 123 T T 02 58 16.6
SNR=33
H03S1 Juan Fernandez 80.21 123 T T 02 58 19.6
SNR=25
H03S3 Juan Fernandez 80.22 123 T T 02 58 26.1
SNR=32
H03N3 Juan Fernandez 80.39 123 T T 02 58 34.3
baz=242,slow=72,SNR=20
H03N2 Juan Fernandez 80.39 123 T T 02 58 30.8
baz=242,slow=72,SNR=20
H03N1 Juan Fernandez 80.41 123 T T 02 58 32.1
baz=242,slow=37,SNR=37
ASAJ Asahikawa 82.61 332 LR LR 02 02 59.4
comp=Z,70nm,18.3s,baz=130,slow=34
LPIG La Paz 84.32 58 LR LR 02 03 32.2
comp=Z,106nm,18.6s,baz=1.5,slow=33
PETK Petropavlovsk- 85.93 345 P P 01 29 42.7 +4.9
comp=Z,8.7nm,0.8s,baz=120,slow=8.8,SNR=12
PFO Pinyon Flats O 86.03 47 LR LR 02 03 12.6
comp=Z,113nm,18.1s,baz=169,slow=32
YBH Yreka Blue Hor 87.89 38 LR LR 01 59 44.3
comp=Z,73nm,19.9s,baz=21,slow=29
NVAR Mina Array Bea 88.08 43 P **P 01 29 50.4 +1.5**
comp=Z,0.9nm,0.7s,baz=222,slow=8.0,SNR=5.5
NVAR LR LR 02 07 30.2
comp=Z,103nm,18.0s,baz=84,slow=34
ELK Elko 91.38 42 LR LR 02 08 32.6
comp=Z,65nm,18.3s,baz=24,slow=34
CMAR Chiang Mai Arr 93.69 289 P **P 01 30 16.8 +1.6**
comp=Z,1.6nm,0.3s,baz=164,slow=3.6,SNR=2.4
CMAR LR LR 02 16 28.8
comp=Z,18nm,18.2s,baz=270,slow=38
CMAR Chiang Mai Arr 93.69 289 P **P 01 30 15.3 +0.2**
PDAR Pinedale Array 95.97 43 LR LR 02 08 12.4
comp=Z,47nm,19.2s,baz=40,slow=32
MKAR Makanchi Array 118.02 310 PKP **PKPdf 01 35 43.5 -1.2**
comp=Z,0.8nm,0.6s,baz=194,slow=0.6,SNR=8.5
MKAR Makanchi Array 118.02 310 PKPdf **PKPdf 01 35 43.7 -1.0**
ZALV Zalesovo Beam 118.26 318 PKP **PKPdf 01 35 43.6 -1.2**
comp=Z,0.6nm,0.6s,baz=149,slow=3.4,SNR=2.4
ZALV Zalesovo Beam 118.26 318 **PKPdf 01 35 44.2 -0.6**
ARCES ARCESS Array B 138.70 348 PKP **PKPdf 01 36 21.4 -1.8**
comp=Z,4.1nm,1.0s,baz=54,slow=2.3,SNR=6.6
ARCES ARCESS Array B 138.70 348 PKPdf **PKiKP 01 36 24.2 -1.1**
FINES FINESS Array B 145.29 340 PKPbc **PKPbc 01 36 34.4 -0.5**
comp=Z,12nm,0.6s,baz=61,slow=3.5,SNR=34
KBZ Khabaz 145.38 304 PKPbc **PKPab 01 36 35.6 -0.3**
comp=Z,4.4nm,0.9s,baz=49,slow=5.6,SNR=3.7
VSU Vasula 147.38 336 *e*P **PKPbc 01 36 40.7 -0.5**
AAL Aland 148.00 343 *e*P **PKPab 01 36 46.9 +1.3**
UPP Uppsala 148.84 345 *e*P **PKPab 01 36 49.5 +0.5**
NB2 NORSAR Subarra 148.84 352 PKP **PKPbc 01 36 45.2 +0.1**
comp=Z,5.7nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B 148.84 352 PKPbc **PKPbc 01 36 45.2 +0.1**
comp=Z,1.8nm,0.5s,baz=14,slow=4.2,SNR=7.9
IDID Didziasalis 149.69 332 *e*P **PKiKP 01 36 49.5 +1.2**
ISAL Salakas 149.75 333 *e*P **PKPbc 01 36 46.1 -1.3**
IIGN Ignalina 149.87 333 *e*P **PKiKP 01 36 47.9 -0.7**
AKASG Malin Array Be 151.51 323 PKPbc **PKiKP 01 36 51.6 -0.6**
comp=Z,4.3nm,0.5s,baz=47,slow=2.7,SNR=35
AKASG Malin Array Be 151.51 323 **PKiKP 01 36 52.0 -0.2**
BRTR Keskin Array B 152.87 299 PKPbc **PKiKP 01 36 58.4 +2.7**
comp=Z,3.5nm,0.6s,baz=124,slow=2.2,SNR=8.7
CHVC Chvalec 157.41 337 *e*PKP **PKPab 01 37 29.7 +4.3**
DPC Dobruska-Polom 157.52 336 *e*PKP **PKPab 01 37 31.0 +5.1**
DPC *ex* x 01 37 42.0
CLL Collm 157.70 342 *e*PKPab **PKPab 01 37 30.0 +3.5**
comp=Z,5.0nm,0.7s
NKC Novy Kostel 158.82 342 *e*PKP **PKPab 01 37 36.3 +4.8**
KHC Kasperske Hory 159.48 339 *e*PKP **PKPab 01 37 37.3 +2.9**
KHC *ex* x 01 37 49.9
CKRC Cesky Krumlov 159.51 337 *e*PKP **PKPab 01 37 39.2 +4.7**
CONA Conrad Observa 159.69 333 *e*P **PKPab 01 37 36.3 +0.8**
comp=Z,6.1nm,1.3s
GERES GERESS Array B 159.69 338 PKPab **PKPab 01 37 37.1 +1.7**
comp=Z,0.8nm,0.7s,baz=33,slow=7.5,SNR=8.0
WTTA Wattenberg 161.74 339 *e*P **PKPab 01 37 44.6 +0.2**
comp=Z,4.2nm,0.9s
RETA Reutte 161.79 341 *e*P **PKPab 01 37 46.7 +2.2**
comp=Z,7.4nm,1.3s
SQTA Sankt Quirin 161.90 340 *e*P **PKPab 01 37 47.0 +1.9**
comp=Z,3.6nm,0.9s
DAVA Damuels 162.20 343 *e*P **PKPab 01 37 50.6 +4.1**
comp=Z,6.0nm,0.7s
FETA Feichten 162.22 341 *e*P **PKPab 01 37 50.2 +3.6**
comp=Z,5.5nm,1.1s
TORD Torodi Ar. Bea 162.77 178 PKPab **PKPab 01 37 50.0 +0.5**
comp=Z,2.7nm,0.9s,baz=190,slow=2.9,SNR=11

*TUL **07** 01:20:55.6±0.9, 35°.67N±0°.02×97°.39W±0°.03, h5km±6km,*
ML2.8, mb_Lg2.6/34(NEIC), Error ellipse: s-maj=3.4km
s-min=2.2km az=114.0
NEIC 07 01:20:55.7±1.1, 35°.68N±0°.02×97°.42W±0°.03, h8km±6km,
Error ellipse: s-maj=3.3km s-min=2.4km az=113.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**180**	Pg	Pg	01 20 57.7	-0.3
OK009				Sg	Sg	01 20 59.3	-0.2
OK025	**Westminster Rd**	**0.12**	**145**	Pg	Pg	01 20 58.0	-0.4
OK025				Sg	Sg	01 20 59.7	-0.5
BCOK	**Bluff Creek, N**	**0.15**	**262**	Pg	Pg	01 20 59.1	+0.2
BCOK				Sg	Sg	01 21 01.4	+0.3
OKCFA	**Oklahoma City**	**0.26**	**185**		Pg	01 21 00.8	-0.1
OKCFA				Sg	Sg	01 21 04.7	+0.2
OKCSW	**OKLAHOMA CITY**	**0.27**	**183**	Pg	Pg	01 21 00.9	-0.3
FNO	**Franklin**	**0.42**	**178**	Pg	Pg	01 21 03.6	-0.3
OK031	**S. Brethren Rd**	**0.55**	**60**	Pg	Pg	01 21 06.1	-0.2
OK030	**Cody Creek RV**	**0.58**	**64**	Pg	Pg	01 21 06.5	-0.3
OK034	**N. Norfolk Rd.**	**0.67**	**60**	Pg	Pg	01 21 08.1	-0.4
W35A	**Tecumseh**	**0.69**	**139**	Pg	Pg	01 21 08.3	-0.7
QUOK	**Quay**	**0.76**	**49**	Pg	Pg	01 21 09.9	-0.5
CROK	**Carrier**	**0.94**	**331**	Pg	Pg	01 21 13.8	0.0
BLOK	**Blackwell**	**1.09**	**9**		Pg	01 21 16.2	-0.5
X34A	**Smith Ranch, M**	**1.13**	**197**	Pg	Pg	01 21 17.0	-0.4
GC02	**Grant County #**	**1.22**	**343**		Pb	01 21 18.6	-0.6
KAN13	**South Haven SW**	**1.33**	**358**		Pn	01 21 20.7	0.0
TUL1	**Leonard**	**1.35**	**80**		Pn	01 21 19.3	-1.5
KAN14	**Manchester OK**	**1.35**	**341**		Pn	01 21 20.6	-0.3
KAN17	**Caldwell West**	**1.39**	**349**	Pn	Pn	01 21 21.5	0.0
T35A	**Sooner Cattle**	**1.44**	**31**	Pn	Pn	01 21 21.6	-0.6
WMOK	**Wichita Mounta**	**1.46**	**230**	Pn	Pn	01 21 21.9	-0.5
U32A	**Winter Ranch,**	**1.46**	**299**	Pn	Pn	01 21 22.5	+0.1
U32A				IAmb_Lg		01 21 44.5	
	comp=Z,20nm,0.8s						
KAN01	**Argonia South**	**1.50**	**350**	Pn	Pb	01 21 23.4	-0.4
KAN08	**Anthony NE Sta**	**1.61**	**344**	Pn	Pn	01 21 25.1	+0.6
KAN08				IAmb_Lg		01 21 51.0	
	comp=Z,34nm,1.0s						
KAN16	**Harper SW Stat**	**1.63**	**342**	Pn	Pn	01 21 25.3	+0.5
KAN16				IAmb_Lg		01 21 48.9	
	comp=Z,18nm,0.8s						
KAN12	**Harper NE Stat**	**1.68**	**344**	Pn	Pb	01 21 26.3	-0.7
LOOK	**Love County**	**1.69**	**173**	Pn	Pn	01 21 25.7	+0.1
LOOK				IAmb_Lg		01 21 50.5	
	comp=Z,20nm,1.1s						
X37A	**Clayton**	**2.00**	**122**	Pn	Pn	01 21 30.3	+0.4
X37A				IAmb_Lg		01 21 57.2	
	comp=Z,15nm,1.0s						
U38A	**Gravette**	**2.58**	**72**	Pn	Pn	01 21 38.2	+0.4
W39A	**Magazine**	**3.01**	**98**	Pn	Pn	01 21 43.3	-0.4
MIAR	**Mount Ida**	**3.35**	**109**	Pn	Pn	01 21 48.8	+0.3
KSU1	**Kansas State U**	**3.48**	**10**	IAmb_Lg		01 22 52.8	
	comp=Z,15nm,0.7s						
AMTX	**Amarillo**	**3.57**	**258**	IAmb_Lg		01 22 54.8	
	comp=Z,14nm,0.8s						
CBKS	**Cedar Bluff**	**3.63**	**330**	Pn	Pn	01 21 53.0	+0.6
CBKS				IAmb_Lg		01 22 55.6	
	comp=Z,11nm,0.7s						
U40A	**Yellville**	**3.77**	**78**	Pn	Pn	01 21 54.4	+0.3
U40A				IAmb_Lg		01 22 55.8	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**3.86**	**57**	IAmb_Lg		01 23 08.9	
	comp=Z,8.8nm,0.8s						
X40A	**Basin Creek Fa**	**3.95**	**106**	IAmb_Lg		01 23 04.3	
	comp=Z,20nm,0.9s						
WHAR	**Wooly Hollow**	**4.21**	**94**	Pn	Pn	01 22 00.1	-0.1
W41B	**Gary Mavity, V**	**4.26**	**95**	Pn	Pn	01 22 00.5	-0.4
FCAR	**Ozark Folk Cen**	**4.31**	**86**	Pn	Pn	01 22 02.5	+0.9
MGMO	**Mountain Grove**	**4.41**	**69**	IAmb_Lg		01 23 21.5	
	comp=Z,14nm,0.8s						
MSTX	**Muleshoe**	**4.72**	**250**	Pn	Pn	01 22 08.4	+1.1
R40A	**Maddies Statio**	**4.88**	**56**	IAmb_Lg		01 23 41.3	
	comp=Z,13nm,0.9s						
P38A	**Dawn**	**5.00**	**37**	IAmb_Lg		01 23 40.7	
	comp=Z,9.6nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.32**	**310**	IAmb_Lg		01 23 54.0	
	comp=Z,13nm,1.0s						
CCM	**Cathedral Cave**	**5.49**	**63**	Pn	Pn	01 22 18.2	+0.3
CCM				IAmb_Lg		01 23 54.5	
	comp=Z,10.0nm,0.9s						
PBMO	**Poplar Bluff**	**5.76**	**77**	IAmb_Lg		01 23 56.4	
	comp=Z,12nm,0.8s						
OGNE	**Ogallala**	**6.39**	**327**	IAmb_Lg		01 24 26.4	
	comp=Z,10nm,0.7s						

*FUNV **07** 01:27:32.2, 8°.55N×71°.40W, h2km, MW3.3*
ISC 07 01:27:30.5±1.3, 8°.55N±0°.03×71°.36W±0°.02, h4km±11km,
n24, σ1§28/47, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.57**	**118**	*e*P	**Pg**	**01 27 40.7**	**-0.8**
SOCV				*e*S	**Sg**	**01 27 48.3**	**-0.6**
CAPV	**Capacho**	**1.16**	**234**	*e*P	**Pg**	**01 27 53.5**	**+0.7**
CAPV				*e*S	**Sn**	**01 28 09.3**	**-0.8**
TORV	**Torococo**	**1.50**	**48**	*e*P	**Pn**	**01 27 59.0**	**+0.6**
TORV				*e*S	**Sn**	**01 28 18.6**	**+0.1**
PAMC	**Pamplona, Colo**	**1.79**	**228**	*e*P	**Pb**	**01 28 03.8**	**-0.3**
PAMC				*e*S	**Sg**	**01 28 28.1**	**+0.1**
MCQV	**Machiques**	**1.89**	**322**	*e*P	**Pb**	**01 28 04.9**	**-0.6**
MCQV				*e*S	**Sb**	**01 28 28.8**	**-0.6**
OCAC	**Ocana**	**1.96**	**261**	*e*P	**Pn**	**01 28 04.9**	**+0.2**
OCAC				*e*S	**Sb**	**01 28 31.2**	**-0.5**
SANV	**Sanarito**	**2.04**	**62**	*e*P	**Pn**	**01 28 07.8**	**+2.1**
SANV				*e*S	**Sn**	**01 28 33.9**	**+2.2**
TAMC	**Tame, Arauca**	**2.14**	**191**	*e*P	**Pb**	**01 28 10.8**	**+0.9**
TAMC				*e*S	**Sb**	**01 28 36.9**	**-0.1**
ELOV	**Elorza**	**2.42**	**129**	*e*P	**Pn**	**01 28 12.6**	**+1.8**
ELOV				*e*S	**Sn**	**01 28 42.5**	**+1.7**
DABV	**Dabajuro**	**2.46**	**17**	*e*P	**Pn**	**01 28 12.6**	**+1.1**
DABV				*e*S	**Sn**	**01 28 42.9**	**+0.9**
SIQV	**Siquisique**	**2.59**	**36**	*e*P	**Pn**	**01 28 14.8**	**+1.6**
SIQV				*e*S	**Sn**	**01 28 46.2**	**+1.0**
BARC	**Barichara**	**2.65**	**223**	*e*P	**Pb**	**01 28 19.7**	**+0.9**
BARC				*e*S	**Sb**	**01 28 49.8**	**-1.9**
SMLC	**San Martn de**	**2.69**	**275**	*e*P	**Pn**	**01 28 14.4**	**-0.2**
SMLC				*e*S	**Sn**	**01 28 46.8**	**-0.8**
BRRC	**Barranca, Sant**	**2.73**	**239**	*e*P	**Pn**	**01 28 16.4**	**+1.2**
BRRC				*e*S	**Sb**	**01 28 55.6**	**+1.8**
MAPV	**Macapo**	**3.14**	**66**	*e*P	**Pn**	**01 28 22.4**	**+1.6**
MAPV				*e*S	**Sn**	**01 28 59.8**	**+1.1**
RUSC	**La Rusia**	**3.14**	**213**	*e*P	**Pn**	**01 28 22.7**	**+1.5**
RUSC				*e*S	**Sn**	**01 29 00.3**	**+0.8**
BAUV	**El Baul**	**3.31**	**83**	*e*P	**Pn**	**01 28 23.9**	**+0.9**
BAUV				*e*S	**Sn**	**01 29 02.8**	**0.0**
MONV	**Montecano**	**3.65**	**22**	*e*P	**Pn**	**01 28 28.1**	**+0.3**
MONV				*e*S	**Sn**	**01 29 10.6**	**-0.7**
PTBC	**PUERTO BERRIO,**	**3.66**	**237**	*e*P	**Pn**	**01 28 27.6**	**-0.3**
PTBC				*e*S	**Sn**	**01 29 09.7**	**-1.9**
BENV	**Beln**	**3.97**	**69**	*e*P	**Pn**	**01 28 33.5**	**+1.2**
BENV				*e*S	**Sn**	**01 29 18.8**	**-0.6**
PAYV	**Puerto Ayacuch**	**4.82**	**130**	*e*P	**Pn**	**01 28 43.8**	**-0.1**
PAYV				*e*S	**Sn**	**01 29 38.1**	**-2.1**
CACV	**CAICARA DEL OR**	**4.88**	**101**	*e*P	Pb	01 28 52.9	-3.6
CACV				*e*S	**Sb**	**01 29 52.8**	**-2.8**
MERV	**Las Mercedes**	**5.05**	**82**	*e*P	**Pn**	**01 28 47.9**	**+0.8**
MERV				*e*S	**Sn**	**01 29 44.2**	**-1.8**
BIRV	**Birongo**	**5.38**	**69**	*e*P	**Pn**	**01 28 52.4**	**+0.9**
BIRV				*e*S	**Sn**	**01 29 51.7**	**-2.3**

*SOME **07** 01:43:30.9, 39°.22N×72°.32E, h0km*
*NNC **07** 01:43:49.8±7.4, 39°.63N×72°.97E, h0km, mb3.0, mpv2.7,*
Error ellipse: s-maj=58.2km s-min=35.2km az=179.0
ISC 07 01:43:34.5±4.4, 38°.6N±0°.3×72°.3E±0°.1, h10km, n6,
σ1§24/10, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.98**	**335**	*e*P	**Pn**	**01 44 35.2**	**-0.4**
	44nm,0.1s						
IUG				*e*S	**Sn**	**01 45 23.4**	**+1.0**
	12nm,0.1s						
MRKS	**Merke**	**4.24**	**9**	*e*P	**Pn**	**01 44 39.1**	**-0.2**
	1.2nm,0.4s						
MRKS				*e*S	**Sn**	**01 45 29.6**	**+0.6**
	5.2nm,0.3s						
AAK	**Ala-Archa**	**4.41**	**22**	⇓Pn	**Pn**	**01 44 42.1**	**+0.5**
	2.4nm,0.8s						
AAK				⇑Lg	Lg	01 45 33.3	
	3.4nm,0.8s						
KK02	**Karatay Array**	**4.73**	**344**	⇓Pn	**Pn**	**01 44 48.4**	**+2.5**
	1.6nm,0.6s,baz=148,slow=12						
KK02				⇑Sn	**Sn**	**01 45 39.5**	**-1.5**
	1.0nm,0.5s						
KK02				⇑Lg	Lg	01 45 55.8	
	1.7nm,0.7s,baz=146,slow=30						
BRLS	**Borolday**	**4.84**	**338**	*e*P	**Pn**	**01 44 46.8**	**-0.6**
	0.7nm,0.2s						
BRLS				*e*S	**Sn**	**01 45 43.2**	**-0.3**
	1.1nm,0.4s						
TKM2	**Tokmak 2**	**5.03**	**29**	⇓Pg	**Pb**	**01 45 02.3**	**-0.5**
	0.6nm,0.6s						
TKM2				⇑Lg	Lg	01 45 52.3	
	1.9nm,0.7s						

*KRNET **07** 01:55:41.8±0.1, 42°.26N×71°.70E, h16km, mb2.1*
*SOME **07** 01:55:42.9, 42°.30N×71°.80E, h10km*
*NNC **07** 01:55:45.0±0.6, 42°.56N×71°.76E, h0km, mb3.0, mpv2.8,*
Error ellipse: s-maj=9.1km s-min=2.5km az=9.0
ISC 07 01:55:43.9±0.8, 42°.26N±0°.04×71.75E±0°.03, h10km, n27,
σ1§60/48, 19C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.49**	**161**	⇑*i*P	**Pg**	**01 55 51.6**	**-1.8**
	baz=56						
ARK				⇑*i*S	**Sg**	**01 55 58.8**	**-1.0**
	baz=56						
MNAS	**Manas**	**0.61**	**68**	⇑*i*P	**Pg**	**01 55 54.1**	**-1.6**
	baz=69						
MNAS				⇑*i*S	**Sg**	**01 56 02.7**	**-1.0**
	baz=69						
TRKS	**Terek-Say**	**0.86**	**212**	⇑*e*P	**Pg**	**01 55 58.9**	**-1.5**
	baz=6.0						
TRKS				⇑*i*S	**Sg**	**01 56 10.6**	**-1.0**
	baz=6.0						
MRKS	**Merke**	**1.20**	**65**	*e*P	**Pb**	**01 56 05.4**	**-1.4**
	1.5nm,0.1s						
MRKS				*e*S	**Sb**	**01 56 21.0**	**-1.4**
	8.7nm,0.2s						
MRKS	**Merke**	**1.20**	**65**	P	**Pb**	**01 56 05.4**	**-1.4**
	2.7nm,0.1s						
MRKS				S	**Sb**	**01 56 21.0**	**-1.4**
	8.7nm,0.2s						
KK02	**Karatay Array**	**1.24**	**313**	⇓P	**Pn**	**01 56 04.4**	**-3.0**
	0.3nm,0.2s						
KK02				⇓S	**Sb**	**01 56 20.6**	**-2.9**
	1.8nm,0.5s						
IUG	**Iuzhnay**	**1.28**	**266**	*e*P	**Pg**	**01 56 10.1**	**+1.7**
	72nm,0.2s						
IUG				*e*S	**Sn**	**01 56 28.7**	**+3.5**
	27nm,0.3s						
IUG	**Iuzhnay**	**1.28**	**266**	P	**Pg**	**01 56 10.1**	**+1.7**
	72nm,0.2s						
IUG				S	**Sn**	**01 56 28.7**	**+3.5**
	27nm,0.3s						
EKS2	**Erkin-Say**	**1.56**	**74**	⇑*i*P	**Pn**	**01 56 11.0**	**-0.8**
	baz=75						
EKS2				⇑*i*S	**Sn**	**01 56 32.4**	**+0.3**
	baz=75						
ARLS	**Aral**	**1.96**	**101**	⇑*i*P	**Pn**	**01 56 17.4**	**+0.1**
	baz=1.0						
ARLS				⇑*i*S	**Sn**	**01 56 43.8**	**+1.7**
	baz=1.0						
UCH	**Uchtor**	**2.05**	**90**	⇑*e*P	**Pn**	**01 56 19.2**	**+0.3**
	baz=90						
UCH				⇑*i*S	**Sn**	**01 56 46.1**	**+1.3**
	baz=90						
AAK	**Ala-Archa**	**2.07**	**79**	⇓Pn	**Pb**	**01 56 20.7**	**-0.9**
	2.3nm,0.3s						
AAK				⇑Sn	**Sb**	**01 56 49.0**	**+1.5**
	1.1nm,0.5s						
**

NSSP ***07*** *02:01:42.4, 38°.85N×43°.37E, h10km, Ms4.4*
AZER ***07*** *02:01:45.6±0.2, 38°.96N×43°.45E, h15km, Error ellipse: s-maj=3.1km s-min=2.1km az=247.0, Hypocentre not reviewed by the ISC*
ISK ***07*** *02:01:45.6, 38°.90N×43°.54E, h5km, ML4.4/25*
NEIC ***07*** *02:01:46.8±1.8, 38°.92N±0°.04×43°.55E±0°.05, h9km±5km, mb4.3/12, ML4.5(ISK), Error ellipse: s-maj=6.5km s-min=5.3km az=138.0*
DDA ***07*** *02:01:46.7±0.0, 38°.92N×43°.51E, h10km±1km, MW4.4*
TEH ***07*** *02:01:46.9, 38°.93N×43°.52E, h11km, ML4.3*
MOS ***07*** *02:01:47.3±1.9, 38°.90N×43°.57E, h14km, mb4.5/15, Error ellipse: s-maj=5.6km s-min=4.4km az=95.3*
IASPEI ***07*** *02:01:47.2±0.9, 38°.92N±0°.02×43°.51E±0°.02, h8km±7km, mb4.2/45, MS3.6/24, Error ellipse: s-maj=3.5km s-min=2.8km az=127.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
MCSM ***07*** *02:01:49.6±1.9, 39°.N±11°×4°.3E±1°.1, h15km±3km, mb4.4/5*
IDC ***07*** *02:01:51.4±2.6, 38°.80N×43°.39E, h33km±21km, mb3.7/19, mb1 3.8/29, mb1mx3.7/48, mbtmp3.8/29, ML3.4/8, MS3.7/31, Ms1 3.7/31, ms1mx3.5/88, Error ellipse: s-maj=15.6km s-min=9.9km az=157.0*
ISC 07 02:01:47.5±0.9, **38°.92N**±0°.01×**43°.51E**±0°.01, **h6**km±6km, **n340**, σ1.9**95**/378, **mb4.2**/45, **MS3.6**/24, **25C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**34**	SPECP			02 01 48.0	
VMUR				P		**Pg**	**02 01 49.0**	**-0.7**
VMUR				S		**Sg**	**02 01 51.4**	**+0.3**
ERCV	**ERCIS-VAN**	**0.17**	**307**	PG		**Pg**	**02 01 50.5**	**-0.5**
ERCV	**ERCIS-VAN**	**0.17**	**307**	*e*Pg		**Pg**	**02 01 50.8**	**-0.1**
ERCV	**ERCIS-VAN**	**0.17**	**307**	Pg		**Pg**	**02 01 50.9**	**-0.1**
VANB	**Van**	**0.34**	**196**	PG		**Pg**	**02 01 54.8**	**+0.7**
VANB	**Van**	**0.34**	**196**	*e*Pg		**Pb**	**02 01 55.2**	**-0.8**
VANB	**Van**	**0.34**	**196**	Pg		**Pb**	**02 01 55.3**	**-0.8**
CLDR	**Caldiran**	**0.39**	**55**	PG		**Pg**	**02 01 54.0**	**-1.1**
CLDR				SG		**Sg**	**02 02 00.8**	**+0.5**
CLDR	**Caldiran**	**0.39**	**55**	*e*Pg		**Pg**	**02 01 54.1**	**-1.1**
CLDR	**Caldiran**	**0.39**	**55**	Pg		**Pg**	**02 01 54.1**	**-1.0**
CLDR				Sg		**Sg**	**02 02 01.2**	**+0.9**
CLDR	**Caldiran**	**0.39**	**55**	SPECP			02 01 54.0	
CLDR				P		**Pg**	**02 01 54.1**	**-1.0**
CLDR				S		**Sg**	**02 02 01.1**	**+0.8**
CLDR				*i* AML		AML	02 02 06.0	
	comp=N,4μm,0.7s							
TVAN	**Van**	**0.40**	**192**	SPECP			02 01 54.0	
TVAN				P		**Pg**	**02 01 55.1**	**-0.1**
TVAN				S		**Sb**	**02 02 03.0**	**-0.5**
TVAN				*i* AML		AML	02 02 07.0	
	comp=E,5μm,0.6s							
TVAN				*i* AML		AML	02 02 10.0	
	comp=N,4μm,0.5s							
OZAP	**Van, Ozalp-Mer**	**0.46**	**124**	SPECP			02 01 55.0	
OZAP				P		**Pg**	**02 01 55.8**	**-0.5**
OZAP				S		**Sb**	**02 02 05.8**	**+0.3**
OZAP				*i* AML		AML	02 02 06.0	
	comp=N,4μm,0.8s							
OZAP				*i* AML		AML	02 02 08.0	
	comp=E,4μm,0.7s							
ADCV	**BITLIS_Adilcev**	**0.62**	**260**	*e*Pg		**Pg**	**02 01 59.4**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.62**	**260**	SPECP			02 01 59.0	
ADCV				P		**Pg**	**02 01 59.5**	**-0.1**
ADCV				S		**Sb**	**02 02 09.8**	**-0.3**
ADCV				*i* AML		AML	02 02 10.0	
	comp=E,3μm,0.5s							
ADCV				*i* AML		AML	02 02 11.0	
	comp=N,2μm,0.5s							
DYDN	**Diyadin**	**0.64**	**12**	SPECP			02 01 58.0	
DYDN				P		**Pg**	**02 01 59.0**	**-0.9**
DYDN				S		**Sg**	**02 02 08.6**	**+0.4**
DYDN				*i* AML		AML	02 02 15.0	
	comp=N,8μm,0.6s							
DYDN				*i* AML		AML	02 02 17.0	
	comp=E,9μm,1.2s							
GEVA	**Gevas**	**0.70**	**210**			**Pg**	**02 01 59.9**	**-1.1**
GEVA	**Gevas**	**0.70**	**210**	SPECP			02 01 59.0	
GEVA				P		**Pg**	**02 01 59.9**	**-1.1**
GEVA				S		**Sb**	**02 02 11.8**	**-0.4**
AKDM	**Akdamar-Van**	**0.72**	**215**	PG		**Pg**	**02 02 00.5**	**-0.9**
AKDM	**Akdamar-Van**	**0.72**	**215**	*e*Pg		**Pg**	**02 02 00.4**	**-0.9**
AKDM	**Akdamar-Van**	**0.72**	**215**	Pg		**Pg**	**02 02 00.5**	**-0.9**
AGRB	**Hanur-Agry**	**0.77**	**329**	PG		**Pg**	**02 02 01.7**	**-0.6**
AGRB				SG		**Sb**	**02 02 14.3**	**0.0**
AGRB	**Hanur-Agry**	**0.77**	**329**	*e*Pg		**Pg**	**02 02 01.7**	**-0.6**
AGRB	**Hanur-Agry**	**0.77**	**329**	Pg		**Pg**	**02 02 01.7**	**-0.6**
AGRB				Sg		**Sb**	**02 02 13.9**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.78**	**287**	PG		**Pg**	**02 02 02.4**	**-0.1**
MLAZ	**Malazgirt-MUS**	**0.78**	**287**	*e*Pg		**Pg**	**02 02 02.2**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.78**	**287**	Pg		**Pg**	**02 02 02.2**	**-0.3**
KOTA	**Agri, Merkez-K**	**0.91**	**345**	SPECP			02 02 04.0	
KOTA				P		**Pg**	**02 02 04.2**	**-0.8**
KOTA				S		**Sg**	**02 02 16.4**	**-0.5**
KOTA				*i* AML		AML	02 02 19.0	
	comp=N,2μm,0.3s							
KOTA				*i* AML		AML	02 02 21.0	
	comp=E,1μm,0.4s							
IGDI	**IGDIR**	**1.04**	**25**	*e*Pg		**Pg**	**02 02 06.5**	**-1.1**
IGDI	**IGDIR**	**1.04**	**25**	SPECP			02 02 06.0	
IGDI				P		**Pg**	**02 02 06.5**	**-1.1**
IGDI				S		**Sn**	**02 02 23.6**	**-0.1**
IGDI				*i* AML		AML	02 02 26.0	
	comp=N,3μm,0.4s							
IGDI				*i* AML		AML	02 02 28.0	
	comp=E,3μm,0.9s							
BLIS	**Bitlis-Merkez**	**1.20**	**246**	P		**Pg**	**02 02 08.6**	**-2.0**
BLIS				SPECP			02 02 09.0	
BLIS				S		**Sg**	**02 02 26.4**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.20**	**28**	PN		**Pg**	**02 02 09.5**	**-1.2**
TASB	**TASBURUN-IGDIR**	**1.20**	**28**	*e*Pn		**Pg**	**02 02 09.4**	**-1.2**
TASB	**TASBURUN-IGDIR**	**1.20**	**28**	Pn		**Pg**	**02 02 09.5**	**-1.2**
VNNZ	**Vanand**	**1.21**	**11**	*i* P		**Pg**	**02 02 10.1**	**-0.6**
VNNZ				*i* S		**Sn**	**02 02 28.1**	**+0.3**
GURO	**Guroymak-BITLI**	**1.21**	**253**	PN		**Pg**	**02 02 09.3**	**-1.5**
GURO	**Guroymak-BITLI**	**1.21**	**253**	*e*Pn		**Pg**	**02 02 08.9**	**-1.9**
GURO	**Guroymak-BITLI**	**1.21**	**253**			**Pg**	**02 02 08.8**	**-1.9**
GURO				Sg		**Sg**	**02 02 24.5**	**-2.1**
GURO	**Guroymak-BITLI**	**1.21**	**253**	Sg		**Sb**	**02 02 26.9**	**0.0**
EATA	**Eleskirt**	**1.23**	**320**	*e*Pn		**Pg**	**02 02 09.9**	**-1.2**
EATA	**Eleskirt**	**1.23**	**320**	SPECP			02 02 09.0	
EATA				P		**Pg**	**02 02 09.9**	**-1.2**
EATA				S		**Sn**	**02 02 28.8**	**+0.1**
PERV	**Siirt/Pervari-**	**1.23**	**218**	P		**Pg**	**02 02 08.9**	**-2.2**
PERV				SPECP			02 02 09.0	
PERV				S		**Sn**	**02 02 29.6**	**+1.1**
HYR	**Heyderabad**	**1.31**	**52**	*e*Pn		**Pn**	**02 02 11.0**	**-1.5**
HAKT	**HAKKARI**	**1.37**	**173**	*e*Pn		**Pn**	**02 02 11.4**	**-2.0**
HAKT	**HAKKARI**	**1.37**	**173**	SPECP			02 02 11.0	
HAKT				P		**Pn**	**02 02 11.3**	**-2.1**
HAKT				S		**Sn**	**02 02 32.3**	**+0.4**
NRKZ	**NAREK**	**1.40**	**39**	*i* P		**Pb**	**02 02 14.1**	**0.0**
NRKZ				*i* S		**Sn**	**02 02 35.5**	**+3.0**
YOVA	**Hakkari_Yksek**	**1.46**	**155**	*e*Pn		**Pn**	**02 02 14.4**	**-0.3**
YOVA	**Hakkari_Yksek**	**1.46**	**155**	P		**Pn**	**02 02 13.2**	**-1.5**
YOVA				SPECP			02 02 14.0	
YOVA				S		**Sg**	**02 02 35.3**	**+0.8**
DIGO	**Kars**	**1.50**	**356**	SPECP			02 02 15.0	
DIGO				P		**Pn**	**02 02 15.4**	**+0.2**
DIGO				S		**Sg**	**02 02 36.0**	**+0.3**
NAX	**Nakhchivan**	**1.57**	**80**	P		**Pn**	**02 02 15.2**	**-0.8**
NAX	**Nakhchivan**	**1.57**	**80**	*e*Pn		**Pn**	**02 02 15.2**	**-0.8**
MUSM	**Mu-Merkez**	**1.57**	**264**	P		**Pn**	**02 02 15.1**	**-1.0**
MUSM				S		**Sn**	**02 02 36.7**	**-0.2**
VRTB	**Varto-Mus**	**1.62**	**279**	PN		**Pn**	**02 02 16.8**	**+0.1**
VRTB	**Varto-Mus**	**1.62**	**279**	Pn		**Pn**	**02 02 17.1**	**+0.3**
VRTB	**Varto-Mus**	**1.62**	**279**	SPECP			02 02 17.0	
VRTB				P		**Pn**	**02 02 17.1**	**+0.3**
VRTB				S		**Sg**	**02 02 42.7**	**+3.2**
VRTB				*i* AML		AML	02 02 58.0	
	comp=E,5μm,0.7s							
SIRT	**Sirnak**	**1.65**	**211**	PN		**Pn**	**02 02 16.9**	**-0.2**
SIRT	**Sirnak**	**1.65**	**211**	Pn		**Pn**	**02 02 17.4**	**+0.3**
SBZ	**Shahbuz**	**1.66**	**73**	*e*Pn		**Pn**	**02 02 16.9**	**-0.4**
CUKT	**Cukurca**	**1.67**	**177**	PN		**Pn**	**02 02 16.9**	**-0.5**
CUKT	**Cukurca**	**1.67**	**177**	Pn		**Pn**	**02 02 17.2**	**-0.2**
CUKT	**Cukurca**	**1.67**	**177**	P		**Pn**	**02 02 17.0**	**-0.5**
CUKT				SPECP			02 02 17.0	
CUKT				S		**Sg**	**02 02 41.1**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.67**	**310**	PN		**Pn**	**02 02 17.6**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**1.67**	**310**	Pn		**Pn**	**02 02 18.1**	**+0.6**
KAPZ	**Kaputan**	**1.68**	**33**	*i* P		**Pn**	**02 02 17.7**	**+0.1**
KAPZ				*i* S		**Sg**	**02 02 42.4**	**+1.0**
HOMI	**Horasan**	**1.68**	**313**	SPECP			02 02 17.0	
HOMI				P		**Pn**	**02 02 17.9**	**+0.3**
HOMI				S		**Sg**	**02 02 45.5**	**+4.0**
IMRD	**Marand**	**1.73**	**96**	*e*Pn		**Pn**	**02 02 17.3**	**-0.9**
IMRD				*e*			02 02 47.7	
	comp=Z,56μm,0.7s							
KARS	**Kars**	**1.74**	**349**	P		**Pn**	**02 02 17.1**	**-1.3**
KARS	**Kars**	**1.74**	**349**	PN		**Pn**	**02 02 18.2**	**-0.2**
KARS	**Kars**	**1.74**	**349**	Pn		**Pn**	**02 02 17.1**	**-1.3**
KARS	**Kars**	**1.74**	**349**	Pn		**Pn**	**02 02 18.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.87**	**332**	PN		**Pn**	**02 02 20.3**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.87**	**332**	Pn		**Pn**	**02 02 21.2**	**+0.9**
ERZM	**Erzurum**	**1.93**	**301**	PN		**Pn**	**02 02 21.4**	**+0.3**
ERZM	**Erzurum**	**1.93**	**301**	Pn		**Pn**	**02 02 21.5**	**+0.3**
ERZM	**Erzurum**	**1.93**	**301**	P		**Pn**	**02 02 22.3**	**+1.1**
ERZM				S		**Sg**	**02 02 51.9**	**+2.3**
EJDE	**Erzurum, Palan**	**1.94**	**299**	PN		**Pn**	**02 02 21.4**	**+0.1**
EJDE	**Erzurum, Palan**	**1.94**	**299**	Pn		**Pn**	**02 02 21.5**	**+0.1**
SLHN	**Bingol, Solhan**	**1.94**	**272**	P		**Pn**	**02 02 21.5**	**+0.4**
SLHN				SPECP			02 02 22.0	
SLHN				S		**Sg**	**02 02 51.6**	**+1.7**
KARO	**Karliova-Bingo**	**1.95**	**282**	PN		**Pn**	**02 02 21.6**	**+0.2**
KARO	**Karliova-Bingo**	**1.95**	**282**	Pn		**Pn**	**02 02 21.8**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.97**	**248**	PN		**Pn**	**02 02 21.6**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.97**	**248**	SPECP			02 02 21.0	
SVAN				P		**Pn**	**02 02 21.8**	**+0.3**
SVAN				S		**Sb**	**02 02 48.2**	**-0.4**
BTMN	**Batman**	**2.04**	**240**	P		**Pn**	**02 02 22.7**	**+0.3**
BTMN				SPECP			02 02 23.0	
BTMN				S		**Sg**	**02 02 52.3**	**-0.6**
BTMN				*i* AML		AML	02 03 00.0	
	comp=Z,3μm,1.1s							
BTMN				*i* AML		AML	02 03 01.0	
	comp=Z,3μm,0.8s							
BNGB	**Bingl**	**2.21**	**273**	PN		**Pn**	**02 02 25.2**	**+0.4**
MIDY	**Mardin/Midyat-**	**2.25**	**228**	SPECP			02 02 25.0	
MIDY				P		**Pn**	**02 02 25.7**	**+0.3**
MIDY				S		**Sg**	**02 02 59.0**	**-0.7**
EMRE	**Erzurum,Aziziy**	**2.25**	**300**	SPECP			02 02 26.0	
EMRE				P		**Pn**	**02 02 26.9**	**+1.3**
EMRE				S		**Sg**	**02 02 59.7**	**-0.3**
IAZR	**Azarshahr**	**2.30**	**122**	*e*Pn		**Pn**	**02 02 27.3**	**+1.0**
IAZR				*e*			02 02 37.5	
	comp=Z,23μm,0.9s							
BINT	**Bingol**	**2.36**	**270**	P		**Pn**	**02 02 25.3**	**-1.6**
TAB1	**Tabriz**	**2.38**	**111**	*e*Pn		**Pn**	**02 02 28.8**	**+1.6**
TAB1				*e*			02 03 16.3	
	comp=Z,35μm,1.0s							
DDEM	**Demirkent**	**2.39**	**326**	P		**Pn**	**02 02 28.2**	**+0.9**
DDEM				S		**Sg**	**02 03 08.8**	**+4.4**
KRIK	**Erzurum-spir**	**2.45**	**306**	P		**Pn**	**02 02 28.4**	**+0.2**
HANI	**Diyarbakir_Han**	**2.49**	**259**	SPECP			02 02 29.0	
HANI				P		**Pn**	**02 02 29.1**	**+0.4**
KOPT	**Kop Dagi**	**2.58**	**296**			**Pn**	**02 02 30.3**	**+0.3**
KOPT	**Kop Dagi**	**2.58**	**296**	P		**Pb**	**02 02 33.0**	**-1.3**
KOPT				SPECP			02 02 35.0	
EPOS	**Posof**	**2.65**	**347**	SPECP			02 02 32.0	
EPOS				P		**Pn**	**02 02 32.5**	**+1.5**
MARD	**Mardin**	**2.69**	**234**			**Pn**	**02 02 31.1**	**-0.3**
MAHB	**Mahabad**	**2.76**	**140**	*e*Pn		**Pn**	**02 02 33.6**	**+1.1**
MAHB				*e*			02 03 32.1	
	comp=Z,6μm,0.7s							
GANJ	**Ganja**	**2.77**	**51**	P		**Pn**	**02 02 32.1**	**-0.4**
DYBB	**Diyarbakir**	**2.82**	**251**	PN		**Pn**	**02 02 33.8**	**+0.7**
MAZI	**Mazidag**	**2.82**	**240**	PN		**Pn**	**02 02 33.3**	**+0.1**
BAYB	**BAYBURT**	**2.85**	**299**	P		**Pn**	**02 02 35.9**	**+2.2**
BAYB				SPECP			02 02 38.0	
KOVA	**Elazig, Kovanc**	**2.90**	**267**	SPECP			02 02 35.0	
KOVA				P		**Pn**	**02 02 35.6**	**+1.4**
IBST	**Bostanabad**	**2.92**	**114**	*e*Pn		**Pn**	**02 02 35.6**	**+0.8**
ERZN	**Erzincan**	**3.02**	**284**	PN		**Pn**	**02 02 36.8**	**+0.9**
CHOM	**Cayeli-Rize**	**3.03**	**317**	PN		**Pn**	**02 02 37.1**	**+1.1**
EUZM	**Uzumlu**	**3.06**	**286**	P		**Pb**	**02 02 40.2**	**-2.2**
EUZM				SPECP			02 02 41.0	
MNGR	**Mingechevir, A**	**3.32**	**55**	P		**Pn**	**02 02 40.1**	**+0.2**
EZC	**Erzincan**	**3.33**	**286**	P		**Pn**	**02 02 36.1**	**-4.2**
SVRC	**Sivrice-ELAZID**	**3.34**	**262**	PN		**Pn**	**02 02 41.2**	**+0.8**
ISRB	**Sarab**	**3.44**	**107**	*e*Pn		**Pn**	**02 02 42.9**	**+1.0**
ISRB				*e*			02 03 58.8	
	comp=Z,6μm,1.2s							
KTUT	**Trabzon**	**3.54**	**307**	PN		**Pn**	**02 02 44.3**	**+1.3**
ZKTA	**Zakatala**	**3.61**	**40**	P		**Pn**	**02 02 43.7**	**-0.3**
SEKA	**Sheki**	**3.64**	**50**	P		**Pn**	**02 02 45.3**	**+0.9**
ONI	**Oni**	**3.67**	**359**	P		**Pn**	**02 02 44.5**	**-0.3**
ONI	**Oni**	**3.67**	**359**			**Pn**	**02 02 44.5**	**-0.3**
ZEI	**Tsey**	**3.88**	**4**	*e*P		**Pn**	**02 02 50.4**	**+2.6**
ZEI				pmax		pmax		
	comp=Z,60nm,1.5s							
MALT	**Malatya**	**4.03**	**263**	P		**Pn**	**02 02 50.4**	**+0.6**
MALT	**Malatya**	**4.03**	**263**	PN		**Pn**	**02 02 50.8**	**+1.0**
LKRN	**Lenkeran, Azer**	**4.12**	**91**	P		**Pn**	**02 02 52.8**	**+1.8**
NEY	**Neytrino**	**4.37**	**352**	*e*P		**Pn**	**02 02 52.6**	**-2.0**
CSN1	**Caspian**	**4.60**	**105**	*e*Pn		**Pn**	**02 02 58.1**	**+0.5**
GROC	**Groznyy**	**4.62**	**21**	*e*P		**Pn**	**02 02 54.5**	**-3.3**
GROC				*e*			02 03 48.8	
GROC				pmax		pmax		
	comp=Z,21nm,0.5s							
GROC				smax		smax		
	comp=N,46nm,0.8s							
GROC				smax		smax		
	comp=E,203nm,2.1s							
GROC				smax		smax		
	comp=N,74nm,1.0s							
GROC				smax		smax		
	comp=E,59nm,1.0s							
GROC				MLR		MLR		
	comp=Z,57nm,2.0s							
DARE	**Darende-Malaty**	**4.72**	**268**	PN		**Pn**	**02 03 01.6**	**+2.2**
IDHR	**Dehrash**	**4.80**	**150**	*e*Pn		**Pn**	**02 03 01.7**	**+1.1**
IDHR				*e*			02 04 42.4	
	comp=Z,2μm,1.0s							
KBZ	**Khabaz**	**4.83**	**355**	Pn		Pn	02 03 05.7	+5.0
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=3.4							
KBZ				Lg		Lg	02 04 22.4	
	comp=Z,0.1nm,0.3s,baz=352,slow=17,SNR=1.3							
MAK	**Makhachkala**	**5.04**	**36**	*e*P		**Pn**	**02 03 01.5**	**-2.2**
MAK				*e*S		**Sn**	**02 04 00.3**	**-1.9**
MAK				pmax		pmax		
	comp=Z,59nm,1.2s							
MAK				MLR		MLR		
	comp=Z,627nm,7.0s							
KIV	**Kislovodsk**	**5.07**	**353**			**Pn**	**02 02 59.9**	**-4.2**
KVAR	**Kislovodsk Arr**	**5.07**	**353**	Pn		Pb	02 03 10.7	-6.0
	baz=180,slow=10,SNR=2.5							
IGHG	**Ghaleghazi**	**5.20**	**151**	*e*Pn		**Pn**	**02 03 07.4**	**+1.4**
IGHG				*e*			02 05 01.3	
	comp=Z,8μm,1.3s							
GAZ	**Gaziantep**	**5.27**	**253**	Pn		**Pn**	**02 03 06.4**	**-0.5**
	comp=Z,173nm,0.8s							
KCHF	**Cheshme Sefid,**	**5.43**	**147**	*e*Pn		**Pn**	**02 03 10.0**	**+0.8**
KCHF				*e*			02 05 13.7	
	comp=Z,2μm,1.0s							
JIR1	**Jirandeh**	**5.45**	**112**	*e*Pn		**Pn**	**02 03 10.9**	**+1.5**
LHJ2	**Lahijan - Gila**	**5.46**	**107**	*e*Pn		**Pn**	**02 03 10.4**	**+1.0**
SOC	**Sochi**	**5.47**	**330**	*e*P		Pn	02 03 03.8	-5.7
SOC				*e*SS		**Sb**	**02 04 22.1**	**-7.1**
SOC				pmax		pmax		
	comp=Z,44nm,0.9s							
SOC				MLR		MLR		
	comp=Z,272nm,12.0s							
SARI	**SarD1z-Kayseri**	**5.58**	**267**	PN		**Pn**	**02 03 13.1**	**+2.0**
IBZA	**Bozab**	**5.65**	**140**	*e*Pn		**Pn**	**02 03 13.5**	**+1.2**
QABG	**Abgarm-Qazvin**	**5.80**	**122**	*e*Pn		**Pn**	**02 03 15.3**	**+1.0**
BNN	**Bunyan**	**5.98**	**272**			**Pn**	**02 03 13.5**	**-3.2**
HAGD	**Aghdareh**	**6.09**	**130**	*e*Pn		**Pn**	**02 03 21.0**	**+2.7**
QALM	**Alamut, Qazvin**	**6.18**	**111**	*e*Pn		**Pn**	**02 03 21.5**	**+2.0**
IRAZ	**Razeghan**	**6.21**	**122**	*e*Pn		**Pn**	**02 03 22.0**	**+2.1**
IDOB	**Doab**	**6.36**	**142**	*e*Pn		**Pn**	**02 03 23.5**	**+1.6**
IKFM	**Kafar-mosalman**	**6.42**	**146**	*e*Pn		**Pn**	**02 03 23.8**	**+1.2**
BRTR	**Keskin Array B**	**7.70**	**279**	Pn		**Pn**	**02 03 43.6**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=90,slow=14,SNR=2.8							
BRTR				LR		LR	02 06 40.0	
	comp=Z,378nm,18.1s,baz=104,slow=38							
IFIR	**Firoozkooh**	**8.06**	**111**	*e*Pn		**Pn**	**02 03 48.9**	**+3.5**
ISFB	**Sefidab**	**8.37**	**120**	*e*Pn		**Pn**	**02 03 53.2**	**+3.8**
ISHM	**Shahmirzad**	**8.38**	**109**	*e*Pn		**Pn**	**02 03 51.0**	**+1.2**
KRSH	**Karshahi**	**8.52**	**123**	*e*Pn		**Pn**	**02 03 54.8**	**+3.2**
IGLO	**Ghaloghah**	**8.53**	**103**	*e*Pn		**Pn**	**02 03 53.9**	**+2.2**
ASF	**Jabal al Asfar**	**8.62**	**221**	Pn		**Pn**	**02 03 53.5**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=14,slow=11,SNR=11							
ASF				Lg		Lg	02 06 16.4	
	comp=Z,0.3nm,0.3s,baz=13,slow=19,SNR=2.2							
AMIS	**Naft Sefid**	**8.64**	**145**	*e*Pn		**Pn**	**02 03 53.0**	**-0.1**
MMAI	**Mount Meron Ar**	**8.82**	**231**	Pn		**Pn**	**02 03 56.4**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=69,slow=16,SNR=11							
MMAI				Lg		Lg	02 06 26.4	
	comp=Z,0.3nm,0.3s,baz=70,slow=33,SNR=2.4							
MMAI				LR		LR	02 07 58.6	
	comp=Z,682nm,19.0s,baz=210,slow=42							
SHK1	**Shahrekord**	**8.90**	**135**	*e*Pn		**Pn**	**02 03 57.9**	**+1.0**
IZEF	**Zefreh**	**9.34**	**127**	*e*Pn		**Pn**	**02 04 05.7**	**+2.8**
ANAR	**Anarak**	**10.05**	**122**	*e*Pn		**Pn**	**02 04 16.1**	**+3.6**
SBZV	**Sabzevar**	**11.46**	**98**	*e*Pn		**Pn**	**02 04 33.3**	**+1.4**
GEYT	**Alibeck**	**11.50**	**90**	Pn		**Pn**	**02 04 32.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=256,slow=16,SNR=3.6							
GEYT				LR		LR	02 09 44.9	
	comp=Z,106nm,18.6s,baz=300,slow=41							
GEYT	**Alibeck**	**11.50**	**90**			**Pn**	**02 04 28.4**	**-3.9**
EIL	**Elat**	**11.62**	**220**	Pn		Pn	02 04 41.4	+7.5
	comp=Z,0.1nm,0.3s,baz=19,slow=12,SNR=2.1							
EIL				Lg		Lg	02 07 53.7	
	comp=Z,0.2nm,0.3s,baz=228,slow=22,SNR=1.4							
EIL				LR		LR	02 09 34.8	
	comp=Z,535nm,18.8s,baz=36,slow=40							
TPRV	**Parvadeh(Tabas**	**12.18**	**115**	*e*Pn		**Pn**	**02 04 44.2**	**+2.6**
TKDS	**Koohdasht(Taba**	**12.19**	**112**	*e*Pn		**Pn**	**02 04 44.1**	**+2.3**
SORM	**Soroca**	**14.32**	**315**	⇑P		**P**	**02 05 18.5**	**+0.5**
SORM	**Soroca**	**14.32**	**315**	⇑P		**P**	**02 05 18.5**	**+0.5**
MLR	**Muntele Rosu**	**14.57**	**302**	Pn		**Pn**	**02 05 16.5**	**+2.2**
	baz=148,slow=15,SNR=2.6							
VOIR		**15.14**	**301**	⇑P		**P**	**02 05 30.9**	**+3.7**
VOIR		**15.14**	**301**	⇑P		**P**	**02 05 30.9**	**+3.7**
VOIR		**15.14**	**301**	P		**Pn**	**02 05 22.6**	**+0.6**
	comp=Z,19nm,1.7s							
PRAR	**RASCA**	**15.15**	**309**	⇑P		**P**	**02 05 25.8**	**-1.4**
IDI	**Anoyia**	**15.29**	**262**	LR		LR	02 12 29.4	
	comp=Z,224nm,18.4s,baz=84,slow=42							
ARR	**Arges**	**15.40**	**301**	⇑P		**P**	**02 05 31.8**	**+1.8**
AKTO	**Aktyubinsk**	**15.43**	**37**	Pn		**Pn**	**02 05 25.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=231,slow=13,SNR=12							
AKTO				LR		LR	02 13 01.9	
	comp=Z,324nm,18.5s,baz=223,slow=43							
AKASG	**Malin Array Be**	**15.51**	**324**	Pn		**Pn**	**02 05 25.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=8.5							
AKASG				LR		LR	02 12 28.7	
	comp=Z,150nm,21.0s,baz=156,slow=41							
AKASG	**Malin Array Be**	**15.51**	**324**			**Pn**	**02 05 23.2**	**-3.5**
AKBB	**Malin Array Si**	**15.51**	**324**	‖*e*P		**Pn**	**02 05 25.9**	**-0.7**
**AKBB

SUW pmax pmax
comp=Z,40nm,0.9s
SUW Suwalki 20.48 324 P **P 02 06 22.2 -3.6**
KKAR Karatay Array 20.76 70 P **P 02 06 26.5 -2.5**
KKAR Karatay Array 20.76 70 P **P 02 06 26.5 -2.5**
JAVC Velka Javorina 21.02 307 *eP* **P 02 06 36.9 +5.1**
BTK Batken 21.08 78 P **P 02 06 30.3 -2.3**
BTK pmax pmax
comp=Z,7.0nm,0.9s
BTK Batken 21.08 78 P **P 02 06 30.3 -2.3**
MODS Modra-Piesok 21.12 305 *eP* **P 02 06 38.6 +5.8**
MODS Modra-Piesok 21.12 305 *eP* **P 02 06 38.6 +5.8**
SVE Sverdlovsk 21.18 27 *eP* **P 02 06 40.3 +7.0**
SVE pmax pmax
comp=Z,33nm,1.3s
SOP Sopron 21.40 303 P **P 02 06 41.7 +6.0**
MORC Moravsky Berou 21.40 309 *eP* **P 02 06 38.8 +2.9**
VRAC Vranov 21.83 307 P **P 02 06 42.5 +2.0**
comp=Z,2.0nm,0.8s,baz=115,slow=11,SNR=5.0
VRAC LR LR 02 17 26.0
comp=Z,120nm,18.5s,baz=316,slow=43
VRAC Vranov 21.83 307 *eP* **P 02 06 44.7 +4.2**
KRUC Moravsky 21.88 306 P **P 02 06 44.8 +3.8**
KRUC pmax pmax
comp=Z,10.0nm,2.0s
KRUC Moravsky 21.88 306 *eP* **P 02 06 43.8 +2.8**
DRK Karamyk 21.90 80 P **P 02 06 38.2 -3.4**
DRK IAmb IAmb 02 06 49.5
comp=Z,9.7nm,0.9s
CONA Conrad Observa 21.91 303 *eP* **P 02 06 42.2 +0.8**
comp=Z,10nm,1.4s
KRLC Kraliky 21.97 309 *eP* **P 02 06 46.4 +4.4**
KRLC Kraliky 21.97 309 *eP* **P 02 06 46.4 +4.4**
ARSA Arzberg 21.98 301 *eP* **P 02 06 39.0 -3.1**
comp=Z,3.8nm,0.9s
KLMR Klimovskoe 22.10 355 *eP* **P 02 06 43.2 0.0**
KLMR *eS* **S 02 10 49.7 +2.8**
KLMR pmax pmax
comp=Z,41nm,1.1s
KLMR Klimovskoe 22.10 355 *eP* **P 02 06 43.2 0.0**
KLMR AMP 02 07 01.3
comp=Z,41nm,1.1s
KLMR *eS* **S 02 10 49.7 +2.8**
KLMR *eS* **S 02 10 49.7 +2.8**
SOKA Soboth 22.20 300 *eP* **P 02 06 45.7 +1.1**
comp=Z,7.3nm,1.2s
DPC Dobruska-Polom 22.34 310 *eP* **P 02 06 49.3 +3.3**
DPC Dobruska-Polom 22.34 310 *eP* **P 02 06 49.3 +3.3**
VSU Vasula 22.36 336 *cP* **P 02 06 47.1 +1.1**
VSU pmax pmax
comp=Z,62nm,1.1s
CHVC Chvalec 22.58 310 *eP* **P 02 06 49.7 +1.2**
PRGR Permogore 22.78 3 *eP* **P 02 06 54.0 +3.5**
PRGR pmax pmax
comp=Z,30nm,1.3s
MOA Molln 22.94 302 *eP* **P 02 06 51.0 -1.3**
comp=Z,10nm,1.3s
CKRC Cesky Krumlov 23.13 305 *eP* **P 02 07 00.0 +5.7**
BRVK Borovoye 23.19 44⇑ *eP* **P 02 06 56.9 +2.1**
BRVK pmax pmax
comp=Z,10.0nm,1.4s
BVAR Borovoye Array 23.23 44 P **P 02 06 57.3 +2.1**
comp=Z,1.5nm,0.8s,baz=211,slow=9.8,SNR=8.4
KBA Koelnbreinsper 23.41 300 *eP* **P 02 06 54.6 -2.7**
comp=Z,17nm,1.4s
GERES GERESS Array B 23.53 305 P **P 02 06 59.9 +1.5**
comp=Z,0.5nm,0.5s,baz=95,slow=11,SNR=6.6
GERES LR LR 02 19 42.7
comp=Z,154nm,18.3s,baz=321,slow=46
GERES GERESS Array B 23.53 305 *eP* **P 02 07 00.8 +2.4**
KHC Kasperske Hory 23.68 305⇑ *eP* **P 02 06 58.5 -1.3**
KHC pmax pmax
comp=Z,41nm,1.8s
KHC Kasperske Hory 23.68 305 *eP* **P 02 07 02.9 +3.1**
AAK Ala-Archa 23.69 71 P **P 02 07 02.8 +2.7**
comp=Z,1.2nm,0.5s,baz=262,slow=11,SNR=5.8
AAK LR LR 02 18 04.5
comp=Z,143nm,21.0s,baz=281,slow=41
AAK Ala-Archa 23.69 71 *cP* **P 02 07 01.2 +1.1**
AAK pmax pmax
comp=Z,50nm,1.7s
ABTA Abfaltersbach 23.93 299 *eP* **P 02 06 59.2 -3.0**
comp=Z,1.2nm,0.6s
WET Wettzell 24.13 305 P **P 02 07 05.2 +1.1**
WTTA Wattenberg 24.59 300 *eP* **P 02 07 04.8 -3.7**
comp=Z,9.9nm,1.3s
WATA Walderalm 24.64 300 *eP* **P 02 07 05.5 -3.4**
comp=Z,7.8nm,1.2s
CLL Collm 24.64 310 *eP* **P 02 07 07.0 -1.7**
CLL Collm 24.64 310 *eP* **P 02 07 07.0 -1.7**
NKC Novy Kostel 24.67 307 *eP* **P 02 07 09.3 +0.3**
NKC Novy Kostel 24.67 307 *eP* **P 02 07 09.3 +0.3**
SQTA Sankt Quirin 24.87 300 *eP* **P 02 07 10.2 -0.8**
comp=Z,15nm,2.0s
MOTA Moosalm 24.96 300 *eP* **P 02 07 07.1 -4.7**
comp=Z,7.8nm,1.0s
FINES FINESS Array B 25.00 340 P **P 02 07 11.3 -0.5**
comp=Z,1.7nm,0.7s,baz=131,slow=12,SNR=4.8
FINES LR LR 02 17 20.2
comp=Z,225nm,21.4s,baz=202,slow=37
FINES FINESS Array B 25.00 340 P **P 02 07 09.9 -1.8**
FETA Feichten 25.17 299 *eP* **P 02 07 13.8 +0.1**
comp=Z,6.9nm,1.0s
RETA Reutte 25.21 301 *eP* **P 02 07 14.4 +0.5**
comp=Z,12nm,1.4s
DAVOX Davos/Dischmat 25.73 299 P **P 02 07 18.9 +0.1**
comp=Z,0.7nm,0.6s,baz=116,slow=14,SNR=1.7
DAVOX LR LR 02 18 34.1
comp=Z,96nm,19.4s,baz=96,slow=39
DAVA Damuels 25.78 300 *eP* **P 02 07 19.3 +0.1**
comp=Z,7.7nm,1.0s
KURBB Kurchatov Arra 27.22 53 P **P 02 07 33.2 +1.2**
comp=Z,1.8nm,0.8s,baz=264,slow=9.2,SNR=9.9
KURBB LR LR 02 19 57.5
comp=Z,194nm,18.0s,baz=255,slow=40
KEST Kesra 27.26 274 LR LR 02 20 11.9
comp=Z,134nm,19.2s,baz=193,slow=40
KURK Kurchatov 27.30 53⇓ *eP* **P 02 07 33.8 +1.1**
KURK pmax pmax
comp=Z,8.0nm,1.7s
KURK Kurchatov 27.30 53 P **P 02 07 30.1 -2.6**
KURK IAmb IAmb 02 07 43.6
comp=Z,5.9nm,1.1s
HFS Hagfors 28.31 328 P **P 02 07 40.7 -0.9**
comp=Z,4.1nm,0.7s,baz=134,slow=10,SNR=6.5
HFS LR LR 02 19 06.0
comp=Z,138nm,20.3s,baz=55,slow=36
MK31 Makanchi Array 29.26 62⇑ *eP* **P 02 07 51.7 +1.4**
MKAR Makanchi Array 29.26 62 P **P 02 07 50.9 +0.6**
comp=Z,0.9nm,0.7s,baz=265,slow=7.3,SNR=9.8
MKAR LR LR 02 21 19.6
comp=Z,156nm,19.7s,baz=267,slow=40
MKAR Makanchi Array 29.26 62 P **P 02 07 47.7 -2.5**
MKAR Makanchi Array 29.26 62 P **P 02 07 47.7 -2.5**
NOA NORSAR Array B 29.83 328 P **P 02 07 54.3 -0.9**
comp=Z,0.9nm,0.8s,baz=126,slow=8.9,SNR=2.4
NOA LR LR 02 20 55.8
comp=Z,91nm,19.7s,baz=295,slow=38
NOA NORSAR Array B 29.83 328 *eP* **P 02 07 58.4 +3.2**
NOA pmax pmax
comp=Z,1.0nm,0.9s
ZALV Zalesovo Beam 31.68 48 P **P 02 08 13.7 +2.2**
comp=Z,0.9nm,0.6s,baz=258,slow=8.6,SNR=4.9
ZALV LR LR 02 23 00.2
comp=Z,171nm,19.3s,baz=276,slow=40
ZALV Zalesovo Beam 31.68 48 *eP* **P 02 08 13.2 +1.7**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 31.68 48 P **P 02 08 09.6 -1.9**
ARCES ARCESS Array B 32.16 348 LR LR 02 20 44.7
comp=Z,644nm,21.4s,baz=168,slow=35
DGZ Jazzator, Alta 32.79 56⇓ *eP* **P 02 08 22.8 +1.3**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 36.41 287 P **P 02 08 52.0 -0.8**
comp=Z,1.9nm,0.8s,baz=68,slow=8.5,SNR=9.1
NRIK Noril'sk 38.38 23 LR LR 02 29 04.0
comp=Z,164nm,19.0s,baz=198,slow=42
NRIK Noril'sk 38.38 23⇑ *eP* **P 02 09 10.3 +1.3**
NRIK pmax pmax
comp=Z,6.0nm,1.5s
MBAR Mbarara 41.04 200 LR LR 02 26 11.8
comp=Z,154nm,19.5s,baz=13,slow=36
TORD Torodi Ar. Bea 44.95 247 P **P 02 10 01.7 -1.8**
comp=Z,2.2nm,0.9s,baz=60,slow=6.0,SNR=9.4
SONM Songino Array 45.42 57 P **P 02 10 08.1 +1.0**
comp=Z,0.2nm,0.5s,baz=248,slow=7.6,SNR=2.4
SONM LR LR 02 31 05.3
comp=Z,149nm,18.6s,baz=85,slow=38
ULN Ulaanbaatar 45.84 57⇓ *eP* **P 02 10 10.9 +0.4**
ULN pmax pmax
comp=Z,4.0nm,1.0s
PALK Pallekele 45.96 123 LR LR 02 28 37.9
comp=Z,65nm,20.1s,baz=77,slow=35
KOWA Kowa 48.25 253 P **P 02 10 28.3 -1.1**
KOWA IAmb IAmb 02 10 48.3
comp=Z,8.4nm,1.2s
CMAR Chiang Mai Arr 51.90 97 P **P 02 10 58.0 +0.8**
comp=Z,1.2nm,0.4s,baz=316,slow=7.7,SNR=2.0
CMAR LR LR 02 38 38.3
comp=Z,42nm,18.2s,baz=295,slow=42
CMAR Chiang Mai Arr 51.90 97 P **P 02 10 58.0 +0.8**
TIXI Tiksi 52.16 24 LR LR 02 35 13.7
comp=Z,96nm,20.1s,baz=269,slow=38
TIXI Tiksi 52.16 24⇓ *eP* **P 02 11 00.5 +2.2**
TIXI pmax pmax
comp=Z,5.0nm,1.4s
DBIC Dimbokro 54.06 246 P **P 02 11 10.9 -2.1**
comp=Z,2.6nm,0.7s,baz=63,slow=4.5,SNR=3.7
DBIC Dimbokro 54.06 246 P **P 02 11 10.5 -2.5**
LSZ Lusaka 55.78 198 LR LR 02 35 00.9
comp=Z,108nm,19.8s,baz=19,slow=36
KLR Kul'dur 60.78 49 LR LR 02 43 44.3
comp=Z,118nm,18.6s,baz=323,slow=41
SEY Seymchan 63.84 29 LR LR 02 42 43.0
comp=Z,318nm,20.7s,baz=350,slow=38
YKA Yellowknife Ar 77.41 350 P **P 02 13 42.6 -0.4**
comp=Z,0.6nm,0.8s,baz=16,slow=6.1,SNR=5.7
YKA Yellowknife Ar 77.41 350 *eP* **P 02 13 43.3 +0.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 77.41 350 P **P 02 13 41.8 -1.2**

SJA ***07*** *02:09:37.4±0.8, 30°.60S×72°.05W, h11km±5km, ML4.6, MW4.3*
IDC ***07*** *02:09:38.6±1.0, 30°.59S×71°.43W, h0km, mb4.3/6, mb1 4.3/8, mb1mx4.2/17, mbtmp4.2/8, ML4.1/2, MS3.8/12, Ms1 3.8/12, ms1mx3.5/51, Error ellipse: s-maj=33.9km s-min=30.2km az=91.0*
GUC ***07*** *02:09:43.3±0.7, 30°.63S×71°.62W, h36km±2km, ML4.9*
NEIC ***07*** *02:09:43.6±0.8, 30°.63S±0°.02×71°.7W±0°.1, h30km±5km, mb4.5/12, ML4.9(GUC), Error ellipse: s-maj=12.5km s-min=2.6km az=87.0*
VAO ***07*** *02:09:43.2±0.5, 30°.71S×71°.25W, h10km, mb4.4*
ISC 07 02:09:39.1±1.9, 30°.60S±0°.02×71°.91W±0°.04, h11km±12km, n162, σ2°.04/175, mb4.5/11, MS4.0/9, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.25**	**108**	*eP*	**Pn**	**02 09 48.6**	**-0.2**
CO06				*eS*	**Sb**	**02 09 52.3**	**+2.2**
CO06				IAML		02 09 52.8	
comp=E,247μm,0.2s							
CO06	**Fray Jorge**	**0.25**	**108**		**Pn**	**02 09 48.4**	**-0.3**
CO06				Sg	**Sb**	**02 09 52.2**	**+2.2**
CO05	**La Serena**	**0.89**	**41**	*eP*	**Pn**	**02 09 57.5**	**0.0**
CO05	**La Serena**	**0.89**	**41**		**Pn**	**02 09 57.6**	**0.0**
CO05				Sn	**Sb**	**02 10 09.7**	**+1.3**
GO04	**Tololo Observa**	**1.05**	**67**	*eP*	**Pb**	**02 09 59.1**	**-0.4**
GO04				*eS*	**Sb**	**02 10 11.2**	**-2.1**
GO04	**Tololo Observa**	**1.05**	**67**	Pn	**Pb**	**02 09 59.3**	**-0.1**
GO04	**Tololo Observa**	**1.05**	**67**	*eP*	**Pb**	**02 09 59.3**	**-0.1**
CO03	**El Pedregal**	**1.08**	**103**	*iP*	**Pb**	**02 09 58.9**	**-1.0**
CO03				*i* S	**Sb**	**02 10 09.8**	**-4.2**
CO03				IAML		02 10 13.1	
comp=E,29μm,0.4s							
CO03	**El Pedregal**	**1.08**	**103**	Pn	**Pb**	**02 09 58.9**	**-1.0**
CO03	**El Pedregal**	**1.08**	**103**	*eP*	**Pb**	**02 09 59.0**	**-0.8**
CO03				*eS*	**Sb**	**02 10 11.0**	**-3.0**
CO03				IAML		02 10 14.7	
comp=Z,10μm,0.8s							
LCO	**Las Campanas**	**1.90**	**34**	*eP*	**Pb**	**02 10 12.6**	**-1.3**
LCO				*eS*	**Sn**	**02 10 34.7**	**-1.0**
LCO	**Las Campanas**	**1.90**	**34**	Pn	**Pb**	**02 10 13.1**	**-0.8**
LCO	**Las Campanas**	**1.90**	**34**	*eP*	**Pb**	**02 10 13.0**	**-0.9**
LCO				IAML		02 10 49.5	
comp=Z,10μm,0.6s							
VA06	**Catapilco**	**2.03**	**165**	*eP*	**Pb**	**02 10 14.7**	**-1.2**
VA06				*eS*	**Sn**	**02 10 37.9**	**-0.5**
VA06				IAML		02 10 47.3	
comp=E,24μm,0.1s							
AROD	**Rodeo**	**2.15**	**79**	*eP*	**Pb**	**02 10 17.6**	**-0.7**
AROD				*eS*	**Sn**	**02 10 37.8**	**-4.2**
VA01	**Torpederas**	**2.43**	**175**	*eP*	**Pb**	**02 10 19.5**	**-3.2**
VA01	**Torpederas**	**2.43**	**175**	Pn	**Pb**	**02 10 20.1**	**-2.6**
ACDV	**Cuesta del Vie**	**2.45**	**81**	*eP*	**Pb**	**02 10 22.0**	**-1.2**
ACDV				*eS*	**Sn**	**02 10 49.8**	**+0.7**
ACDV				IAML		02 10 58.0	
comp=Z,2μm,0.8s							
VA03	**San Esteban**	**2.45**	**152**	*eP*	**Pb**	**02 10 21.2**	**-2.0**
VA03				*i* S	**Sn**	**02 10 49.9**	**+0.8**
VA03				IAML		02 11 00.4	
comp=E,12μm,0.4s							
VA03	**San Esteban**	**2.45**	**152**		**Pb**	**02 10 20.9**	**-2.2**
VA03	**San Esteban**	**2.45**	**152**	*eP*	**Pb**	**02 10 21.0**	**-2.2**
VA03				*eS*	**Sb**	**02 10 52.1**	**-1.4**
ACCO	**Cerro Coronel**	**2.46**	**90**	*eP*	**Pb**	**02 10 22.0**	**-1.4**
ACCO				*eP*	**Pn**	**02 10 22.4**	**+3.1**
ACCO				*eS*	**Sb**	**02 10 54.2**	**+0.4**
ACCO				IAML		02 11 11.9	
comp=Z,1μm,5.0s							
ROCH	**El Roble**	**2.49**	**162**	*eP*	**Pn**	**02 10 21.4**	**+1.7**
ROCH				*eP*	**Pb**	**02 10 20.8**	**-3.1**
ROCH				IAML		02 10 58.7	
comp=E,11μm,0.4s							
ROCH				IAML		02 11 04.8	
comp=N,11μm,0.1s							
ROC1	**El Roble**	**2.49**	**162**	*eP*	**Pb**	**02 10 21.0**	**-3.0**
ROC1				*eS*	**Sn**	**02 10 51.1**	**+0.8**
AC04	**Llanos de Chal**	**2.50**	**17**	*eP*	**Pb**	**02 10 21.1**	**-2.8**
AC04				IAML		02 11 10.4	
comp=N,893nm,0.5s							
AC04	**Llanos de Chal**	**2.50**	**17**	Pn	**Pb**	**02 10 21.3**	**-2.6**
AC04	**Llanos de Chal**	**2.50**	**17**	*eP*	**Pb**	**02 10 21.0**	**-2.9**
AC04				*eS*	**Sn**	**02 10 49.8**	**-0.2**
AC04				*eS*	**Sg**	**02 11 02.6**	**+3.4**
AC04				IAML		02 11 08.8	
comp=Z,1μm,1.0s							
RTLS	**Leoncito**	**2.54**	**119**	*eP*	**Pb**	**02 10 23.0**	**-1.9**
RTLS				*eP*	**Pn**	**02 10 23.6**	**+3.1**
RTLS				*eS*	**Sb**	**02 10 57.3**	**+1.1**
RTLS				IAML		02 11 06.0	
comp=Z,2μm,0.7s							
AUSP	**Uspallata**	**2.70**	**128**	*eP*	**Pb**	**02 10 26.0**	**-1.6**
AUSP				*eS*	**Sb**	**02 11 01.1**	**+0.3**
MT02	**Curacav**	**2.73**	**166**	*eP*	**Pn**	**02 10 24.1**	**+1.2**
MT02	**Curacav**	**2.73**	**166**		**Pn**	**02 10 24.2**	**+1.4**
MT02	**Curacav**	**2.73**	**166**	*eP*	**Pn**	**02 10 24.3**	**+1.4**
MT02				*eS*	**Sb**	**02 10 58.6**	**-2.9**
MT02				IAML		02 11 10.5	
comp=Z,3μm,0.6s							
PEL	**Peldehue**	**2.75**	**158**		**Pn**	**02 10 24.1**	**+1.0**
ZON	**Zonda**	**2.93**	**110**	*eP*	**Pn**	**02 10 28.0**	**+2.3**
ZON				*eP*	**Pb**	**02 10 28.6**	**-2.8**
ZON				*eS*	**Sb**	**02 11 08.8**	**+1.6**
ZON				IAML		02 11 15.8	
comp=Z,1μm,0.4s							
MT05	**Renca**	**2.96**	**161**	*eP*	**Pn**	**02 10 27.9**	**+1.8**
MT05	**Renca**	**2.96**	**161**	Pn	**Pn**	**02 10 27.7**	**+1.7**
MT05	**Renca**	**2.96**	**161**	*eP*	**Pb**	**02 10 28.0**	**-3.8**
MT05				*eS*	**Sb**	**02 11 04.3**	**-3.7**
MT05				IAML		02 11 12.1	
comp=Z,4μm,0.8s							
FCH	**Farellones**	**3.05**	**154**	*eP*	**Pn**	**02 10 29.7**	**+2.1**
FCH				IAML		02 11 19.8	
comp=E,4μm,0.3s							
VA05	**Santo Domingo**	**3.06**	**175**	*eP*	**Pn**	**02 10 28.6**	**+1.2**
VA05				IAML		02 11 17.9	
comp=E,7μm,0.7s							
VA05	**Santo Domingo**	**3.06**	**175**		**Pn**	**02 10 28.9**	**+1.6**
RTCV	**Cerro Valdivia**	**3.15**	**114**	*eP*	**Pb**	**02 10 32.0**	**-3.1**
RTCV				*eS*	**Sb**	**02 11 14.7**	**+1.1**
RTCV				IAML		02 11 28.1	
comp=Z,409nm,2.1s							
MT09	**Talagante**	**3.27**	**166**	*eP*	**Pn**	**02 10 32.1**	**+1.8**
MT09				IAML		02 11 19.3	
comp=E,5μm,0.4s							
MT09	**Talagante**	**3.27**	**166**		**Pn**	**02 10 32.1**	**+1.8**
ASAL	**Salagasta**	**3.29**	**128**	*eP*	**Pb**	**02 10 34.0**	**-3.6**
ASAL				*eP*	**Pn**	**02 10 34.3**	**+3.7**
ASAL				*eS*	**Sb**	**02 11 19.4**	**+1.7**
ASAL				IAML		02 11 27.6	
comp=Z,1μm,1.0s							
MT01	**Popeta**	**3.31**	**170**	*eP*	**Pn**	**02 10 32.2**	**+1.5**
MT01				IAML		02 11 30.5	
comp=N,2μm,0.4s							
MT01	**Popeta**	**3.31**	**170**		**Pn**	**02 10 32.4**	**+1.7**
MT01	**Popeta**	**3.31**	**170**	*eP*	**Pn**	**02 10 32.0**	**+1.3**
MT01				*eS*	**Sb**	**02 11 13.3**	**-4.6**
MT01				IAML		02 11 24.6	
comp=Z,2μm,0.3s							
GO03	**Copiap**	**3.33**	**27**	*eP*	**Pn**	**02 10 32.7**	**+1.5**
GO03				IAML		02 11 31.6	
comp=N,831nm,0.5s							
GO03	**Copiap**	**3.33**	**27**	Pn	**Pn**	**02 10 32.9**	**+1.7**
GO03	**Copiap**	**3.33**	**27**	*eP*	**Pn**	**02 10 31.8**	**+0.6**
GO03				*eS*	**Sb**	**02 11 16.3**	**-2.5**
ARCO	**CERRO ARCO**	**3.38**	**132**	*eP*	**Pb**	**02 10 36.7**	**-2.4**
ARCO				*eS*	**Sb**	**02 11 18.3**	**-2.0**
LMEL	**Las Melosas**	**3.55**	**156**	*eP*	**Pn**	**02 10 37.1**	**+2.9**
LMEL				IAML		02 11 30.3	
comp=N,4μm,0.2s							
BO04	**La Punta**	**3.56**	**162**	*eP*	**Pn**	**02 10 36.3**	**+2.0**
BO04				IAML		02 11 28.5	
comp=E,4μm,0.4s							
AAGR	**Agrelo**	**3.61**	**134**	*eP*	**Pb**	**02 10 39.0**	**-4.0**
AAGR				*eP*	Pn	02 10 39.8	+4.8
AAGR				*eS*	**Sb**	**02 11 28.2**	**+1.4**
AAGR				IAML		02 11 32.3	
comp=Z,1μm,1.1s							
VCA	**Vinchina**	**3.72**	**61**	*eP*	**Pb**	**02 10 41.0**	**-3.9**
VCA				*eS*	**Sb**	**02 11 28.0**	**-2.1**
VCA				IAML		02 11 41.3	
comp=Z,1μm,0.4s							
AVFE	**Valle Fertil**	**3.84**	**92**	*eP*	**Pn**	**02 10 34.3**	**-3.9**
AVFE				*eP*	**Pn**	**02 10 39.0**	**+0.8**
AVFE				*eP*	**Pn**	**02 10 39.8**	**+1.6**
AVFE				*eS*	**Sb**	**02 11 30.0**	**-3.5**
AVFE				IAML		02 11 40.9	
comp=Z,910nm,0.7s							
BO01	**Tunca**	**3.85**	**170**	*eP*	**Pn**	**02 10 39.5**	**+1.4**
BO01	**Tunca**	**3.85**	**170**		**Pn**	**02 10 39.8**	**+1.6**
BO01	**Tunca**	**3.85**	**170**	*eP*	**Pn**	**02 10 40.0**	**+1.8**
BO01				*eS*	**Sn**	**02 11 24.3**	**+1.0**
BO01				IAML		02 11 46.0	
comp=Z,2μm,0.6s							
BO02	**Sierra Bellavi**	**4.29**	**167**	*eP*	**Pn**	**02 10 46.2**	**+1.9**
BO02	**Sierra Bellavi**	**4.29**	**167**		**Pn**	**02 10 45.9**	**+1.6**
BO02	**Sierra Bellavi**	**4.29**	**167**	*eP*	**Pn**	**02 10 46.4**	**+2.1**
BO02				*eS*	**Sn**	**02 11 37.3**	**+2.9**
GO05	**Huala**	**4.40**	**180**	*eP*	**Pn**	**02 10 46.2**	**+0.4**
GO05	**Huala**	**4.40**	**180**	Pn	**Pn**	**02 10 46.5**	**+0.7**
GO05	**Huala**	**4.40**	**180**	*eP*	**Pn**	**02 10 46.7**	**+0.9**
GO05				*eS*	**Sn**	**02 11 40.3**	**+3.3**
AC02	**Maricunga**	**4.48**	**34**	*eP*	**Pn**	**02 10 49.1**	**+1.8**
AC02	**Maricunga**	**4.48**	**34**	Pn	**Pn**	**02 10 48.7**	**+1.4**
AC02	**Maricunga**	**4.48**	**34**	*eP*	**Pn**	**02 10 49.2**	**+2.0**
AC02				*eS*	**Sn**	**02 11 38.8**	**-0.8**
AC02				IAML		02 12 01.2	
comp=Z,558nm,1.1s							
RFA	**San Rafael**	**5.08**	**146**	*eP*	**Pn**	**02 10 58.1**	**+3.0**
RFA				*eS*	**Sb**	**02 12 13.8**	**+4.9**
RFA				IAML		02 12 29.1	
comp=Z,432nm,1.5s							
ML02	**Panimavida**	**5.17**	**176**	Pn	**Pn**	**02 10 58.2**	**+1.8**
H03N1	**Juan Fernandez**	**6.58**	**243**	T	T	02 18 14.1	
baz=73,slow=72,SNR=5648							
H03N2	**Juan Fernandez**	**6.60**	**243**	T	T	02 18 14.8	
baz=73,slow=72,SNR=7378							
H03N3	**Juan Fernandez**	**6.60**	**243**	T	T	02 18 12.7	
baz=73,slow=72,SNR=4924							
H03S3	**Juan Fernandez**	**6.75**	**240**	T	T	02 18 25.9	
baz=82							
H03S1	**Juan Fernandez**	**6.75**	**240**	T	T	02 18 45.1	
baz=82							
H03S2	**Juan Fernandez**	**6.76**	**240**	T	T	02 18 40.3	
baz=82							
FSA	**Cafayete**	**6.88**	**51**	*eS*	**Sn**	**02 12 30.9**	**-7.5**
PB15	**IPOC Station P**	**7.68**	**17**	*eP*	**Pn**	**02 11 31.6**	**+0.6**
LC01	**Cunco**	**8.28**	**180**	Pn	**Pn**	**02 11 39.0**	**-0.1**
LVC	**Limon Verde**	**8.40**	**19**	LR	LR	02 14 15.1	
comp=Z,87nm,18.9s,baz=210,slow=34							
LR03	**Panguipulli**	**9.02**	**182**		**Pn**	**02 11 51.2**	**+2.0**
PLCA	**Paso Flores**	**10.17**	**174**	Pn	**Pn**	**02 12 06.6**	**+1.5**
comp=Z,0.5nm,0.3s,baz=344,slow=12,SNR=19							
PLCA	**Paso Flores**	**10.17**	**174**	*eP*	**Pn**	**02 12 06.9**	**+1.8**
PLCA	**Paso Flores**	**10.17**	**174**		**Pn**	**02 12 06.8**	**+1.7**
ITQB	**Itaqui**	**13.27**	**90**	*eP*	**Pn**	**02 12 45.0**	**-2.4**
ITQB	**Itaqui**	**13.27**	**90**	Pn	**Pn**	**02 12 46.2**	**-1.2**
CPUP	**Villa Florida**	**13.51**	**75**	Pn	**Pn**	**02 12 50.5**	**-0.3**
comp=Z,0.4nm,0.3s,baz=257,slow=13,SNR=4.9							
CPUP				Sn	**Sn**	**02 15 18.6**	**-2.3**
comp=Z,0.2nm,0.3s,baz=108,slow=15,SNR=2.1							
CPUP				LR	LR	02 18 20.2	
comp=Z,482nm,21.4s,baz=253,slow=40							
LPAZ	**La Paz**	**14.66**	**15**	Pn	**Pn**	**02 13 07.6**	**+0.6**
comp=Z,0.3nm,0.3s,baz=184,slow=3.6,SNR=5.1							
LPAZ	**La Paz**	**14.66**	**15**	*eP*	**P**	**02 13 10.9**	**-2.5**
LPAZ	**La Paz**	**14.66**	**15**	Pn	**Pn**	**02 13 08.5**	**+1.5**
PLTB	**Pedras Altas**	**15.72**	**99**	*eP*	**Pn**	**02 13 16.6**	**-3.9**
PLTB	**Pedras Altas**	**15.72**	**99**	Pn	**Pn**	**02 13 17.6**	**-2.9**
ITAB	**Concordia**	**17.64**	**84**		**Pn**	**02 13 44.4**	**-0.4**
ITAB				IAmb	IAmb	02 13 48.2	
comp=Z,77nm,1.3s							
AQDB	**Aquidauana**	**17.75**	**59**	*eP*	**Pn**	**02 13 44.3**	**-1.9**
AQDB	**Aquidauana**	**17.75**	**59**	P	**P**	**02 13 46.2**	**-0.8**
PTGB	**Pitanga**	**18.52**	**76**	*eP*	**P**	**02 13 54.8**	**-0.9**
NNA	**Nana**	**19.07**	**345**	LR	LR	02 20 11.1	
comp=Z,71nm,18.4s,baz=184,slow=33							
PTLB	**Pontes e Lacer**	**19.09**	**41**	*eP*	**Pn**	**02 14 02.3**	**-0.3**
TER01	**Tubaro-SC**	**19.92**	**90**	*eP*	**P**	**02 14 10.1**	**-0.8**
PP1B	**Ponte de Pedra**	**20.19**	**54**	*eP*	Pn	02 14 14.8	-1.0
PCMB	**Pacaembu**	**20.57**	**69**	*eP*	**P**	**02 14 18.2**	**+0.3**
VILB	**Vilhena**	**20.63**	**34**	*eP*	Pn	02 14 19.5	-1.4
VILB	**Vilhena**	**20.63**	**34**	P	Pn	02 14 19.7	-1.2
SALV	**Santo Antonio**	**20.84**	**49**	*eP*	**P**	**02 14 20.7**	**-0.2**
TIJ01	**Guaruva-PR**	**20.89**	**81**	*eP*	**P**	**02 14 19.5**	**-2.0**
ETMB	**Extrema**	**21.35**	**16**	*eP*	**P**	**02 14 31.1**	**+4.8**
ITRB	**Iturama**	**22.28**	**66**	*eP*	**P**	**02 14 36.4**	**0.0**
CZSB	**Cruzeiro do Su**	**22.76**	**358**	*eP*	P	02 14 48.9	+7.4
VAO	**Valinhos**	**23.49**	**77**	*eP*	**P**	**02 14 48.5**	**-0.5**
ARAG	**Araguaiana, MT**	**23.63**	**56**	*eP*	**P**	**02 14 50.1**	**-0.2**
USHA	**Ushuaia**	**24.35**	**175**	LR	LR	02 25 35.2	
comp=Z,109nm,19.7s,baz=294,slow=39							
CLDB	**Colider**	**24.69**	**41**	*eP*	**P**	**02 15 00.7**	**+0.5**
IPMB	**Ipameri, GO**	**24.93**	**65**	*eP*	**P**	**02 15

SNAA	**Sanae**	**54.70**	**159**	P	**P**	**02 19 08.2**	**+0.4**
SNAA				IAmb	IAmb	02 19 11.2	
	comp=Z,7.2nm,1.2s						
QSPA	**South Pole Qui**	**59.63**	**180**	P	**P**	**02 19 44.4**	**+1.5**
QSPA				IAmb	IAmb	02 19 58.1	
	comp=Z,8.3nm,1.4s						
O49A	**Covington**	**71.36**	**350**	P	**P**	**02 21 00.8**	**+2.0**
LIC	**Lamto**	**73.62**	**72**	*eP*	P	02 21 25.7	+13
	comp=Z,9.3nm,0.7s						
TIC	**Toumodi**	**73.86**	**72**	*eP*	P	02 21 27.1	+13
KIC	**Kosan Boka**	**73.93**	**72**	*eP*	P	02 21 27.3	+13
	comp=Z,16nm,0.9s						
DBIC	**Dimbokro**	**74.01**	**72**	P	**P**	**02 21 14.6**	**-0.6**
	comp=Z,3.3nm,0.6s,baz=230,slow=4.2,SNR=6.6						
DBIC				LR	LR	02 50 41.8	
	comp=Z,106nm,20.8s,baz=300,slow=34						
DBIC	**Dimbokro**	**74.01**	**72**	P	**P**	**02 21 14.8**	**-0.3**
MAW	**Mawson**	**76.41**	**164**	LR	LR	02 57 31.9	
	comp=Z,97nm,18.0s,baz=58,slow=38						
TSUM	**Tsumeb**	**80.05**	**106**	LR	LR	02 52 12.6	
	comp=Z,77nm,20.7s,baz=334,slow=32						
NVAR	**Mina Array Bea**	**81.16**	**325**	P	P	02 21 58.0	+3.1
	comp=Z,0.6nm,0.7s,baz=141,slow=7.7,SNR=4.3						
BOSA	**Boshof**	**81.57**	**118**	P	**P**	**02 21 57.1**	**-0.1**
	comp=Z,4.6nm,0.9s,baz=291,slow=5.2,SNR=5.9						
BOSA	**Boshof**	**81.57**	**118**	P	**P**	**02 21 57.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**82.96**	**70**	P	**P**	**02 22 03.1**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=254,slow=6.2,SNR=6.4						
LBTB	**Lobatse**	**83.64**	**115**	LR	LR	02 53 43.7	
	comp=Z,112nm,21.6s,baz=220,slow=32						
MATP	**Matopo**	**88.31**	**113**	LR	LR	02 58 26.8	
	comp=Z,50nm,18.2s,baz=251,slow=33						
LSZ	**Lusaka**	**90.77**	**108**	LR	LR	02 58 08.6	
	comp=Z,64nm,20.9s,baz=302,slow=32						
YKA	**Yellowknife Ar**	**98.88**	**341**	P	Pdif	02 23 19.4	+0.9
	comp=Z,0.2nm,0.7s,baz=131,slow=3.9,SNR=3.6						
WRA	**Warramunga Arr**	**123.76**	**210**	PKP	**PKiKP**	**02 28 37.5**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=171,slow=1.5,SNR=2.7						
WRA	**Warramunga Arr**	**123.76**	**210**		**PKiKP**	**02 28 37.1**	**-0.8**
H11S2	**WAKE ISLAND Hyl**	**25.86**	**272**	T	T	04 47 30.6	
	baz=115,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hyl**	**25.87**	**272**	T	T	04 47 27.8	
	baz=115,slow=75,SNR=88						
H11S3	**WAKE ISLAND Hyl**	**25.87**	**272**	T	T	04 47 25.8	
	baz=115,slow=75,SNR=89						
ZALV	**Zalesovo Beam**	**151.25**	**29**	PKPbc	**PKiKP**	**02 29 33.4**	**+0.9**
	comp=Z,3.4nm,0.8s,baz=298,slow=3.2,SNR=17						
ZALV	**Zalesovo Beam**	**151.25**	**29**		**PKiKP**	**02 29 33.2**	**+0.6**
MKAR	**Makanchi Array**	**154.34**	**44**	PKPbc	**PKiKP**	**02 29 40.7**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=298,slow=3.1,SNR=3.5						

*TUL **07** 02:15:07.7±0.9, 35°.67N±0°.04×97°.40W±0°.05, h6km±6km, ML3.5, mb_Lg3.2/93(NEIC), Error ellipse: s-maj=6.1km s-min=5.5km az=71.0*
*ANF **07** 02:15:07.9±1.3, 35°.63N×97°.40W, h8km±10km, ML4.1/8, Error ellipse: s-maj=4.8km s-min=3.3km az=158.0*
*NEIC **07** 02:15:07.8±0.7, 35°.69N±0°.02×97°.42W±0°.05, h5km±2km, Error ellipse: s-maj=6.8km s-min=3.1km az=75.0*
ISC 07 02:15:07.8±0.9,**35°.69N**±0°.02×**97°.42W**±0°.02,**h7**km±7km,
n99,σ0§**57/84,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**183**		**Pg**	**02 15 09.9**	**-0.2**
OK009				Sg	**Sg**	02 15 11.8	-0.1
OK025	**Westminster Rd**	**0.12**	**149**		**Pg**	**02 15 10.3**	**-0.2**
OK025				Sg	**Sg**	02 15 12.2	-0.1
BCOK	**Bluff Creek, N**	**0.16**	**260**	Pg	**Pg**	**02 15 11.3**	**+0.2**
BCOK				Sg	**Sg**	**02 15 14.0**	**+0.6**
OK001	**Jones High Sch**	**0.16**	**140**	Pg	**Pg**	**02 15 11.0**	**-0.1**
OK001				Sg	**Sg**	**02 15 13.5**	**+0.1**
OK005	**Luther M Schoo**	**0.18**	**99**	Pg	**Pg**	**02 15 11.7**	**+0.1**
OK005				Sg	**Sg**	**02 15 14.6**	**+0.4**
OKCFA	**Oklahoma City**	**0.27**	**186**		**Pg**	**02 15 13.0**	**-0.2**
OKCFA				Sg	**Sg**	**02 15 17.0**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**0.28**	**184**	Pg	**Pg**	**02 15 13.2**	**-0.1**
FNO	**Franklin**	**0.43**	**178**	Pg	**Pg**	**02 15 15.9**	**-0.2**
OK031	**S. Brethren Rd**	**0.54**	**60**	Pg	**Pg**	**02 15 18.2**	**0.0**
OK031				IAmb_Lg		02 15 25.6	
	comp=Z,249nm,0.9s						
OK030	**Cody Creek RV**	**0.57**	**65**	Pg	**Pg**	**02 15 18.7**	**-0.1**
OK034	**N. Norfolk Rd.**	**0.60**	**60**	Pg	**Pg**	**02 15 20.3**	**-0.2**
W35A	**Tecumseh**	**0.69**	**140**	Pg	**Pg**	**02 15 20.7**	**-0.5**
QUOK	**Quay**	**0.75**	**50**	Pg	**Pg**	**02 15 22.1**	**-0.2**
CROK	**Carrier**	**0.94**	**331**	Pg	**Pg**	**02 15 25.8**	**-0.1**
BLOK	**Blackwell**	**1.09**	**9**	Pg	**Pg**	**02 15 28.3**	**-0.4**
X34A	**Smith Ranch, M**	**1.13**	**198**	Pg	**Pg**	**02 15 29.1**	**-0.5**
GC02	**Grant County #**	**1.22**	**343**		**Pg**	**02 15 30.6**	**-0.6**
KAN13	**South Haven SW**	**1.33**	**358**		**Pn**	**02 15 32.6**	**-0.1**
TUL1	**Leonard**	**1.34**	**80**	Pn	**Pn**	**02 15 31.3**	**-1.6**
TUL1	**Leonard**	**1.34**	**80**	P	**Pn**	**02 15 31.7**	**-1.2**
	baz=260						
TUL1				S	**Sg**	**02 15 50.7**	**-0.2**
	baz=260						
KAN14	**Manchester OK**	**1.34**	**341**		**Pn**	**02 15 32.7**	**-0.3**
KAN17	**Caldwell West**	**1.39**	**348**		**Pn**	**02 15 33.6**	**0.0**
T35A	**Sooner Cattle**	**1.43**	**30**	Pn	**Pn**	**02 15 33.8**	**-0.4**
U32A	**Winter Ranch,**	**1.46**	**299**		**Pn**	**02 15 34.5**	**-0.1**
U32A				IAmb_Lg		02 15 56.6	
	comp=Z,110nm,0.7s						
OK035	**E0210 Rd and N**	**1.46**	**315**		**Pn**	**02 15 34.4**	**-0.2**
WMOK	**Wichita Mounta**	**1.46**	**230**	Pn	**Pn**	**02 15 34.0**	**-0.6**
WMOK	**Wichita Mounta**	**1.46**	**230**	P	**Pn**	**02 15 34.1**	**-0.6**
	baz=50						
WMOK				S	**Sn**	**02 15 53.8**	**-0.2**
	baz=50						
KAN05	**Bluff City Nor**	**1.47**	**346**		**Pn**	**02 15 34.8**	**+0.1**
KAN01	**Argonia South**	**1.49**	**349**		**Pn**	**02 15 35.0**	**-0.1**
KAN10	**Anthony SW Sta**	**1.54**	**339**		**Pn**	**02 15 35.8**	**+0.1**
KAN06	**Argonia West S**	**1.60**	**347**		**Pn**	**02 15 36.9**	**+0.4**
KAN06				IAmb_Lg		02 16 00.2	
	comp=Z,176nm,0.9s						
KAN08	**Anthony NE Sta**	**1.60**	**344**		**Pn**	**02 15 36.7**	**+0.1**
KAN08				IAmb_Lg		02 16 03.1	
	comp=Z,273nm,1.1s						
KAN16	**Harper SW Stat**	**1.62**	**341**		**Pn**	**02 15 36.9**	**+0.1**
KAN16				IAmb_Lg		02 16 00.9	
	comp=Z,109nm,0.9s						
LOOK	**Love County**	**1.70**	**173**	Pn	**Pn**	**02 15 37.8**	**0.0**
X37A	**Clayton**	**2.00**	**123**	Pn	**Pn**	**02 15 42.3**	**+0.3**
X37A				IAmb_Lg		02 16 13.9	
	comp=Z,77nm,0.8s						
Z35A	**Perchaven, San**	**2.35**	**177**		**Pn**	**02 15 47.4**	**+0.5**
Z35A				IAmb_Lg		02 16 28.7	
	comp=Z,76nm,1.0s						
U38A	**Gravette**	**2.57**	**72**	Pn	**Pn**	**02 15 50.6**	**+0.8**
HHAR	**Hobbs**	**2.88**	**77**	Pn	**Pn**	**02 15 54.6**	**+0.5**
HHAR				IAmb_Lg		02 16 45.8	
	comp=Z,55nm,0.8s						
R32A	**Long Quarter,**	**2.92**	**340**	Pn	**Pn**	**02 15 56.0**	**+1.2**
W39A	**Magazine**	**3.00**	**98**		**Pn**	**02 15 56.0**	**+0.1**
W39A				IAmb_Lg		02 16 47.8	
	comp=Z,58nm,0.8s						
W39A	**Magazine**	**3.00**	**98**	P	**Pn**	**02 15 56.1**	**+0.3**
	baz=280						
Z38A	**Mt. Pleasant**	**3.14**	**140**	Pn	**Pn**	**02 15 57.7**	**0.0**
Z38A				IAmb_Lg		02 16 55.3	
	comp=Z,54nm,0.7s						
MIAR	**Mount Ida**	**3.35**	**109**	Pn	**Pn**	**02 16 00.5**	**0.0**
KSU1	**Kansas State U**	**3.47**	**10**		**Pn**	**02 16 02.6**	**+0.4**
KSU1				IAmb_Lg		02 17 02.5	
	comp=Z,110nm,0.9s						
KSU1	**Kansas State U**	**3.47**	**10**	P	**Pn**	**02 16 03.0**	**+0.8**
	baz=191						
AMTX	**Amarillo**	**3.58**	**258**		**Pn**	**02 16 04.2**	**+0.4**
AMTX	**Amarillo**	**3.58**	**258**	Pb	**Pb**	**02 16 10.7**	**-0.8**
	baz=76						
CBKS	**Cedar Bluff**	**3.63**	**330**	Pn	**Pn**	**02 16 04.5**	**+0.1**
CBKS	**Cedar Bluff**	**3.63**	**330**	Sb	**Sg**	**02 17 02.9**	**-1.6**
	baz=149						
WHTX	**Lake Whitney,**	**3.68**	**181**	Pn	**Pn**	**02 16 05.4**	**+0.3**
WHTX	**Lake Whitney,**	**3.68**	**181**	Pb	**Pb**	**02 16 12.4**	**-0.8**
	baz=0.6						
WHTX				Sb	**Sb**	**02 17 00.0**	**+2.0**
	baz=0.6						
U40A	**Yellville**	**3.76**	**78**	IAmb_Lg		02 17 13.1	
	comp=Z,50nm,0.7s						
S39A	**Bolivar**	**3.85**	**57**	Pn	**Pn**	**02 16 07.9**	**+0.4**
S39A				IAmb_Lg		02 17 08.9	
	comp=Z,45nm,0.8s						
237A	**Washetta, Mont**	**3.91**	**160**	IAmb_Lg		02 17 22.3	
	comp=Z,38nm,0.9s						
X40A	**Basin Creek Fa**	**3.94**	**106**	Pn	**Pn**	**02 16 08.1**	**-0.6**
X40A				IAmb_Lg		02 17 18.8	
	comp=Z,98nm,0.7s						
WHAR	**Wooly Hollow**	**4.20**	**94**	Pn	**Pn**	**02 16 12.3**	**+0.1**
WHAR				IAmb_Lg		02 17 22.8	
	comp=Z,74nm,1.1s						
W41B	**Gary Mavity, V**	**4.25**	**95**	Pn	**Pn**	**02 16 12.7**	**-0.2**
W41B	**Gary Mavity, V**	**4.25**	**95**	P	**Pn**	**02 16 13.8**	**+0.8**
	baz=278						
W41B				S	**Sn**	**02 17 03.7**	**+1.0**
	baz=278						
FCAR	**Ozark Folk Cen**	**4.31**	**86**	Pn	**Pn**	**02 16 13.9**	**+0.2**
FCAR				IAmb_Lg		02 17 31.1	
	comp=Z,55nm,0.7s						
MGMO	**Mountain Grove**	**4.40**	**69**	Pn	**Pn**	**02 16 15.0**	**-0.1**
MGMO				IAmb_Lg		02 17 27.5	
	comp=Z,61nm,1.0s						
MSTX	**Muleshoe**	**4.73**	**250**	Pn	**Pn**	**02 16 20.0**	**+0.4**
R40A	**Maddies Statio**	**4.87**	**56**	Pn	**Pn**	**02 16 22.1**	**+0.6**
435B	**Jarrell**	**4.89**	**182**	Pn	**Pn**	**02 16 21.3**	**-0.5**
435B				IAmb_Lg		02 17 47.3	
	comp=Z,67nm,0.8s						
CCAR	**Cane Creek**	**4.97**	**109**	IAmb_Lg		02 17 58.0	
	comp=Z,34nm,0.8s						
P38A	**Dawn**	**5.00**	**37**	Pn	**Pn**	**02 16 24.1**	**+1.0**
N33A	**J Bar K, Exete**	**5.05**	**360**	Pn	**Pn**	**02 16 23.4**	**-0.4**
N33A				IAmb_Lg		02 17 56.5	
	comp=Z,54nm,1.0s						
LCAR	**Lake Charles**	**5.10**	**84**	IAmb_Lg		02 17 59.0	
	comp=Z,31nm,0.9s						
T42A	**Van Buren**	**5.28**	**73**	Pn	**Pn**	**02 16 27.5**	**+0.5**
T42A				IAmb_Lg		02 17 56.0	
	comp=Z,26nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.32**	**310**	Pn	**Pn**	**02 16 28.4**	**+0.7**
KSCO				IAmb_Lg		02 18 09.1	
	comp=Z,28nm,0.8s						
N35A	**Tabor**	**5.35**	**15**	Pn	**Pn**	**02 16 28.5**	**+0.4**
CCM	**Cathedral Cave**	**5.48**	**63**	IAmb_Lg		02 18 05.7	
	comp=Z,48nm,0.7s						
JCT	**Junction City**	**5.56**	**202**	Pn	**Pn**	**02 16 31.3**	**+0.3**
JCT				IAmb_Lg		02 18 09.6	
	comp=Z,64nm,0.9s						
P40A	**Paris**	**5.73**	**46**	IAmb_Lg		02 18 15.1	
	comp=Z,47nm,0.8s						
BGNE	**Belgrade**	**5.74**	**354**	Pn	**Pn**	**02 16 33.5**	**0.0**
LPAR	**Lepanto**	**5.79**	**89**	IAmb_Lg		02 18 24.3	
	comp=Z,69nm,1.0s						
T25A	**Trinidad**	**5.83**	**286**		**Pn**	**02 16 34.8**	**0.0**
T25A				IAmb_Lg		02 18 13.2	
	comp=Z,35nm,0.8s						
T25A	**Trinidad**	**5.83**	**286**	P	**Pn**	**02 16 35.1**	**+0.3**
	baz=102						
FVM	**French Village**	**6.06**	**66**	IAmb_Lg		02 18 20.0	
	comp=Z,40nm,0.7s						
N38A	**Joes South For**	**6.07**	**32**		**Pn**	**02 16 37.7**	**-0.2**
OGNE	**Ogallala**	**6.38**	**327**	IAmb_Lg		02 18 39.0	
	comp=Z,46nm,0.8s						
SLM	**Saint Louis**	**6.45**	**61**	IAmb_Lg		02 18 37.5	
	comp=Z,24nm,0.7s						
HALT	**Halls**	**6.57**	**86**	IAmb_Lg		02 18 43.7	
	comp=Z,48nm,0.7s						
SDCO	**Great Sand Dun**	**6.81**	**290**		**Pn**	**02 16 48.8**	**+0.4**
SDCO	**Great Sand Dun**	**6.81**	**290**	P	**Pn**	**02 16 49.8**	**+1.3**
	baz=105						
S44A	**Carbondale**	**6.86**	**71**	IAmb_Lg		02 18 52.2	
	comp=Z,48nm,0.8s						
SCIA	**State Center**	**7.02**	**27**	IAmb_Lg		02 19 01.7	
	comp=Z,40nm,0.7s						
N41A	**Harden Midland**	**7.20**	**44**	IAmb_Lg		02 18 59.3	
	comp=Z,58nm,0.9s						
833A	**Chaparral WMA,**	**7.53**	**193**	IAmb_Lg		02 19 14.2	
	comp=Z,18nm,0.9s						
ISCO	**Idaho Springs**	**7.68**	**305**	Pn	**Pn**	**02 16 59.9**	**-0.4**
K38A	**Parkersburg**	**7.83**	**26**	IAmb_Lg		02 19 22.7	
	comp=Z,36nm,0.7s						
L40A	**Anamosa**	**7.99**	**35**	IAmb_Lg		02 19 26.3	
	comp=Z,23nm,0.8s						
ECSD	**EROS Data Cent**	**8.06**	**4**	IAmb_Lg		02 19 34.1	
	comp=Z,18nm,1.1s						
O44A	**Mansfield**	**8.36**	**55**	IAmb_Lg		02 19 38.7	
	comp=Z,27nm,0.8s						
N23A	**Red Feather La**	**8.48**	**310**	IAmb_Lg		02 19 44.5	
	comp=Z,25nm,1.0s						
L42A	**Oliver, Polo**	**8.73**	**41**	IAmb_Lg		02 19 45.6	
	comp=Z,27nm,0.9s						
I37A	**Lemond, Waseca**	**8.87**	**19**	IAmb_Lg		02 19 56.3	
	comp=Z,18nm,0.7s						
JFWS	**Jewell Farm**	**9.11**	**35**	IAmb_Lg		02 19 53.6	
	comp=Z,23nm,0.7s						
M44A	**Midewin, Midew**	**9.29**	**49**	IAmb_Lg		02 19 56.6	
	comp=Z,30nm,0.7s						
K22A	**Casper**	**9.91**	**317**	IAmb_Lg		02 20 46.8	
	comp=Z,17nm,1.1s						

*MIRAS **07** 02:15:44.1±0.0, 54°.99N×58°.91E, h0km, ML2.7/4*
*NNC **07** 02:15:46.1±4.5, 54°.77N×59°.35E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=40.5km s-min=14.7km az=138.0, Suspected Mining explosion.*
ISC 07 02:15:43.1±0.9,**54°.95N**±0°.04×**58°.88E**±0°.04,**h0**km,**n10,**
σ1§24/41,4C-4D,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARU	**Arti**	**1.50**	**353**	*eP*	**Pb**	**02 16 11.8**	**0.0**
	baz=352						
ARU				*eP*	**Pb**	**02 16 11.8**	**0.0**
	3.1nm,0.5s,baz=352						
ARU				*eP*	**Pb**	**02 16 11.8**	**0.0**
	5.5nm,0.6s,baz=352						
ARU				*eS*	**Sn**	**02 16 31.9**	**+0.3**
	baz=352						
ARU				*eS*	**Sn**	**02 16 31.9**	**+0.3**
	36nm,0.4s,baz=352						
ARU				*eS*	**Sn**	**02 16 31.9**	**+0.3**
	baz=352						
ARU				*i* AML	AML	02 17 12.5	
	79nm,1.6s						
BA1R	**Ufa**	**1.87**	**260**	*eP*	**Pb**	**02 16 17.6**	**-0.6**
	baz=259						
BA1R				*eP*	**Pb**	**02 16 17.6**	**-0.6**
	baz=259						
BA1R				*eP*	**Pb**	**02 16 17.6**	**-0.6**
	baz=259						
BA1R				*eS*	**Sg**	**02 16 43.0**	**-0.3**
	baz=259						
BA1R				*eS*	**Sg**	**02 16 43.0**	**-0.3**
	baz=259						
BA1R				*eS*	**Sg**	**02 16 43.0**	**-0.3**
	baz=259						
BA1R				*i* AML	AML	02 16 48.6	
KAUR	**Kamensk Uralsk**	**2.10**	**44**	*eP*	**Pn**	**02 16 19.4**	**-0.2**
	baz=44						
KAUR				*eP*	**Pn**	**02 16 19.4**	**-0.2**
	baz=44						
KAUR				*eP*	**Pn**	**02 16 19.4**	**-0.2**
	76nm,0.5s,baz=44						
KAUR				*eS*	**Sn**	**02 16 46.8**	**+0.5**
	26nm,0.5s,baz=44						
KAUR				*eS*	**Sn**	**02 16 46.8**	**+0.5**
	baz=44						
KAUR				*eS*	**Sn**	**02 16 46.8**	**+0.5**
	35nm,0.3s,baz=44						
KAUR				*i* AML	AML	02 16 51.1	
	120nm,0.5s						
SVE	**Sverdlovsk**	**2.13**	**27**	*eP*	**Pn**	**02 16 20.9**	**+0.9**
	baz=27						
SVE				*eP*	**Pn**	**02 16 20.9**	**+0.9**
	23nm,0.2s,baz=27						
SVE				*eP*	**Pn**	**02 16 20.9**	**+0.9**
	baz=27						
SVE				*eS*	**Sb**	**02 16 49.0**	**-0.6**
	65nm,0.5s,baz=27						
SVE				*eS*	**Sb**	**02 16 49.0**	**-0.6**
	baz=27						
SVE				*eS*	**Sb**	**02 16 49.0**	**-0.6**
	baz=27						
SVE				*i* AML	AML	02 16 51.1	
	57nm,0.5s						
PR4R	**Vlasy**	**3.47**	**330**	*eS*	**Sn**	**02 17 18.1**	**-1.9**
	baz=330						
PR4R				*eS*	**Sn**	**02 17 18.1**	**-1.9**
	baz=330						
PR4R				*eS*	**Sn**	**02 17 18.1**	**-1.9**
	baz=330						
PR7R	**Sarany**	**3.62**	**359**	*eP*	**Pn**	**02 16 42.8**	**+2.4**
	baz=359						
PR7R				*eP*	**Pn**	**02 16 42.8**	**+2.4**
	5.9nm,0.5s,baz=359						
PR7R				*eP*	**Pn**	**02 16 42.8**	**+2.4**
	baz=359						
PR7R				*eS*	**Sn**	**02 17 23.8**	**0.0**
	baz=359						
PR7R				*eS*	**Sn**	**02 17 23.8**	**0.0**
	baz=359						
PR7R				*eS*	**Sn**	**02 17 23.8**	**0.0**
	40nm,0.6s,baz=359						
PR7R				*i* AML	AML	02 17 40.1	
	62nm,0.7s						
AKTO	**Aktyubinsk**	**4.55**	**187**	⇓Pg	**Pb**	**02 17 04.0**	**+0.2**
	1.9nm,0.7s						
AKTO				⇑Lg	Lg	02 18 07.7	
	6.2nm,0.8s						
SVUR	**Severouralsk**	**5.30**	**6**	*eS*	**Sn**	**02 18 04.7**	**-0.5**
	baz=5.8						
SVUR				*eS*	**Sn**	**02 18 04.7**	**-0.5**
	baz=5.8						
SVUR				*eS*	**Sn**	**02 18 04.7**	**-0.5**
	baz=5.8						
AB31	**Akbulak array**	**5.74**	**173**	⇑Pn	**Pn**	**02 17 10.7**	**+1.2**
	0.7nm,0.6s,baz=348,slow=12,SNR=8.7						
AB31				⇑Sn	**Sn**	**02 18 15.7**	**-0.3**
	0.8nm,0.6s,baz=350,slow=23,SNR=3.5						
AB31				⇑Lg	Lg	02 18 40.5	
	2.7nm,0.7s,baz=360,slow=26,SNR=7.8						
BRVK	**Borovoye**	**6.98**	**101**	⇓Pn	**Pn**	**02 17 26.7**	**+0.1**
	2.0nm,0.9s						
BRVK				⇓Sn	**Sn**	**02 18 41.9**	**-4.7**
	2.0nm,0.9s						
BRVK				⇓Lg	Lg	02 19 21.2	
	2.5nm,0.9s						

*UCR **07** 02:16:55.3±1.0, 13°.74N×89°.15W, h145km±4km, MW3.4*
*SNET **07** 02:16:55.2±0.8, 13°.71N×89°.16W, h146km±4km, ML3.4*
*INET **07** 02:16:59.9±0.3, 14°.00N×88°.77W, h104km±3km, ML3.6*
ISC 07 02:16:57.6±1.9,**13°.74N**±0°.09×**89°.15W**±0°.07,
h133km±10km,**n58,**σ0§**81/65,11C-8D,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.10**	**239**	*eP*	**Pn**	**02 17 14.9**	**-0.9**
SNET	**Serv Nac Est T**	**0.10**	**239**	*eP*	**Pn**	**02 17 14.9**	**-0.9**
LFRS	**El Faro**	**0.14**	**143**	⇑*iP*	**Pn**	**02 17 15.1**	**-0.8**
LFRS	**El Faro**	**0.14**	**143**	⇑*iP*	**Pn**	**02 17 15.1**	**-0.8**
SJTE	**Alcalda de S**	**0.18**	**131**	⇓*iP*	**Pn**	**02 17 15.2**	**-0.7**
SJTE	**Alcalda de S**	**0.18**	**131**	⇓*iP*	**Pn**	**02 17 15.2**	**-0.7**
PAVA	**Las Pavas**	**0.21**	**96**	*i P*	**Pn**	**02 17 15.5**	**-0.4**
PAVA				*eS*	**Sn**	**02 17 30.7**	**+0.9**
PAVA	**Las Pavas**	**0.21**	**96**	*eP*	**Pn**	**02 17 15.4**	**-0.4**
PAVA	**Las Pavas**	**0.21**	**96**	*i P*	**Pn**	**02 17 15.5**	**-0.4**
PAVA				*eS*	**Sn**	**02 17 30.7**	**+0.9**
COEG	**Centro de Oper**	**0.28**	**114**	*i P*	**Pn**	**02 17 15.4**	**-0.7**
COEG	**Centro de Oper**	**0.28**	**114**	*eP*	**Pn**	**02 17 15.2**	**-1.0**
COEG	**Centro de Oper**	**0.28**	**114**	*i P*	**Pn**	**02 17 15.4**	**-0.7**
COEG				IAML		02 17 32.2	
	comp=Z,358nm,0.5s						
LALI	**Alcalda de L**	**0.30**	**214**	⇑*iP*	**Pn**	**02 17 15.1**	**-1.0**
LALI				*eS*	**Sn**	**02 17 30.6**	**+0.6**
LALI	**Alcalda de L**	**0.30**	**214**	⇑*iP*	**Pn**	**02 17 15.1**	**-1.0**
LALI				*eS*	**Sn**	**02 17 30.6**	**+0.6**
JAYA	**Jayaque - finc**	**0.30**	**255**	*i P*	**Pn**	**02 17 15.3**	**-1.0**
JAYA				*eS*	**Sn**	**02 17 31.0**	**+0.6**
JAYA	**Jayaque - finc**	**0.30**	**255**	*i P*	**Pn**	**02 17 15.3**	**-1.0**
JAYA				*eS*	**Sn**	**02 17 31.0**	**+0.6**
JAYA				IAML		02 17 33.7	
	comp=Z,1μm,0.2s						
TACO	**Tacachico**	**0.31**	**319**	⇑*iP*	**Pn**	**02 17 15.4**	**-0.8**
TACO	**Tacachico**	**0.31**	**319**	⇑*iP*	**Pn**	**02 17 15.4**	**-0.8**
TECO	**Alcaldia de Te**	**0.41**	**119**	*eP*	**Pn**	**02 17 15.8**	**-0.7**
TECO	**Alcaldia de Te**	**0.41**	**119**	*eP*	**Pn**	**02 17 15.8**	**-0.7**
SCLA	**Alcaldia de Sa**	**0.41**	**95**	⇓*iP*	**Pn**	**02 17 16.2**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.41**	**95**	⇓*iP*	**Pn**	**02 17 16.2**	**-0.4**
CEVE	**Cerro Verde**	**0.47**	**281**	⇑*iP*	**Pn**	**02 17 16.5**	**-0.6**
CEVE	**Cerro Verde**	**0.47**	**281**	⇑*iP*	**Pn**	**02 17 16.5**	**-0.6**
SBLS	**San Blas**	**0.47**	**283**	⇑*iP*	**Pn**	**02 17 16.6**	**-0.6**
SBLS	**San Blas**	**0.47**	**283**	⇑*iP*	**Pn**	**02 17 16.6**	**-0.6**
NUBE	**Las Nubes**	**0.64**	**285**	*i P*	**Pn**	**02 17 17.1**	**-0.9**
NUBE	**Las Nubes**	**0.64**	**285**	*i P*	**Pn**	**02 17 17.1**	**-0.9**
SLOZ	**Alcaldia de Sa**	**0.68**	**295**	⇑*iP*	**Pn**	**02 17 17.5**	**-0.7**
SLOZ				*eS*	**Sn**	**02 17 35.2**	**+1.4**
MTO3	**Montecristo**	**0.69**	**343**	*eP*	**Pn**	**02 17 17.8**	**-0.7**
MTO3	**Montecristo**	**0.69**	**343**	*eP*	**Pn**	**02 17 17.8**	**-0.7**
ALJI	**Alcalda de J**	**0.69**	**126**	*eP*	**Pn**	**02 17 17.5**	**-0.7**
ALJI	**Alcalda de J**	**0.69**	**126**	*eP*	**Pn**

MLR	**Muntele Rosu**	**0.22 271**	⇑P	**Pn**	**02 28 55.7**	**0.0**
MLR			⇑S	**Sn**	**02 29 07.9**	**-0.5**
MLR	**Muntele Rosu**	**0.22 271**	P	**Pn**	**02 28 55.6**	**0.0**
	131nm,0.3s,baz=147,slow=1.4,SNR=3896					
MLR			S	**Sn**	**02 29 08.0**	**-0.4**
	59nm,0.3s,baz=255,slow=22,SNR=6.2					
MLR	**Muntele Rosu**	**0.22 271**	*e*Pg	**Pn**	**02 28 55.6**	**0.0**
MLR			*e*Sg	**Sn**	**02 29 01.4**	**-7.0**
BISRR	**Bisoca**	**0.32 79**	⇑P	**Pn**	**02 28 56.1**	**+0.3**
BISRR			⇓S	**Sn**	**02 29 08.8**	**-0.1**
ISR	**Istrita**	**0.42 151**	⇑P	**Pn**	**02 28 56.5**	**+0.1**
ISR			⇑S	**Sn**	**02 29 09.3**	**-0.4**
PLOR	**Plostina**	**0.46 37**	⇑P	**Pn**	**02 28 56.1**	**-0.3**
PLOR			⇑S	**Sn**	**02 29 08.5**	**-1.5**
SECR		**0.47 197**	⇓P	**Pn**	**02 28 57.0**	**+0.5**
SECR			⇑S	**Sn**	**02 29 10.2**	**+0.1**
VRI	**Vrincioaia**	**0.50 41**	⇑P	**Pn**	**02 28 56.6**	**-0.1**
VRI			⇑S	**Sn**	**02 29 09.7**	**-0.7**
GRER		**0.52 102**	⇓P	**Pn**	**02 28 56.9**	**+0.2**
PLAR	**PLOIESTI**	**0.59 196**	⇑P	**Pn**	**02 28 57.9**	**+0.6**
PLAR			⇑S	**Sn**	**02 29 12.7**	**+1.3**
ODBI	**Odobesti**	**0.62 63**	⇑S	**Sn**	**02 29 12.2**	**+0.4**
OZUR		**0.69 332**	⇑P	**Pn**	**02 28 57.6**	**-0.5**
OZUR			⇑S	**Sn**	**02 29 11.3**	**-1.6**
PGOR	**Pogoanele**	**0.77 138**	⇑P	**Pn**	**02 28 59.0**	**+0.4**
PGOR			⇑S	**Sn**	**02 29 14.5**	**+0.7**
DOPR	**Dopca**	**0.78 309**	⇓P	**Pn**	**02 28 58.4**	**-0.3**
DOPR			⇑S	**Sn**	**02 29 13.3**	**-0.6**
SULR		**0.81 180**	⇑P	**Pn**	**02 28 59.5**	**+0.6**
SULR			⇑S	**Sn**	**02 29 15.2**	**+0.9**
VOIR		**0.85 267**	⇑P	**Pn**	**02 28 59.4**	**0.0**
VOIR			⇑S	**Sn**	**02 29 14.1**	**-1.1**
MTUR	**Matau**	**0.88 253**	⇑P	**Pn**	**02 29 00.0**	**+0.3**
GHRR		**0.99 54**	⇑P	**Pn**	**02 29 00.6**	**0.0**
GHRR			⇑S	**Sn**	**02 29 16.5**	**-0.8**
TUDR		**1.00 83**	⇑P	**Pn**	**02 28 60.0**	**-0.6**
TUDR			⇑S	**Sn**	**02 29 15.9**	**-1.5**
INCR	**INCERC-Sediu C**	**1.05 184**	⇑P	**Pn**	**02 29 01.4**	**+0.2**
INCR			⇓S	**Sn**	**02 29 18.5**	**+0.2**
TESR	**Tescani**	**1.06 15**	⇑P	**Pn**	**02 29 00.9**	**-0.4**
TESR			⇑S	**Sn**	**02 29 16.7**	**-1.9**
IZVR	**Izvoarele**	**1.06 86**	⇑P	**Pn**	**02 29 00.3**	**-1.0**
IZVR			⇑S	**Sn**	**02 29 16.5**	**-2.0**
SLCR	**Slobozia Conac**	**1.07 84**	⇑P	**Pn**	**02 29 00.6**	**-0.8**
LEHL	**Lehliu**	**1.09 158**	⇓P	**Pn**	**02 29 02.0**	**+0.4**
LEHL			⇑S	**Sn**	**02 29 19.8**	**+0.9**
SCHL	**Schela**	**1.11 89**	⇑P	**Pn**	**02 29 01.0**	**-0.7**
STFAR	**Stefanesti-Arg**	**1.11 236**	⇓P	**Pn**	**02 29 02.4**	**+0.6**
STFAR			⇑S	**Sn**	**02 29 20.7**	**+1.3**
ARR	**Arges**	**1.15 265**	⇓P	**Pn**	**02 29 02.6**	**+0.3**
ARR			⇑S	**Sn**	**02 29 19.9**	**-0.4**
BUC1	**Bucharest**	**1.15 188**	⇑P	**Pn**	**02 29 02.6**	**+0.4**
BUC1			⇑S	**Sn**	**02 29 20.2**	**+0.1**
AMRR	**Amara**	**1.16 139**	⇑P	**Pn**	**02 29 02.6**	**+0.3**
AMRR			⇑S	**Sn**	**02 29 20.1**	**-0.2**
VARL	**Varlezi**	**1.19 69**	⇑P	**Pn**	**02 29 02.5**	**-0.1**
VARL			⇑S	**Sn**	**02 29 20.1**	**-0.7**
BIR	**Birlad**	**1.23 50**	⇑P	**Pn**	**02 29 02.9**	**-0.1**
BIR			⇓S	**Sn**	**02 29 20.4**	**-1.3**
SCTR	**Scanteiesti**	**1.23 81**	⇑P	**Pn**	**02 29 03.0**	**0.0**
SCTR			⇑S	**Sn**	**02 29 20.6**	**-1.1**
TATR	**Tatarca**	**1.26 84**	⇑P	**Pn**	**02 29 03.3**	**-0.1**
TATR			⇑S	**Sn**	**02 29 21.5**	**-0.7**
GISR	**Galati**	**1.27 91**	⇑P	**Pn**	**02 29 03.4**	**0.0**
GISR			⇑S	**Sn**	**02 29 21.7**	**-0.5**
SGRR	**Singureni**	**1.28 189**	⇑P	**Pn**	**02 29 03.9**	**+0.3**
SGRR			⇓S	**Sn**	**02 29 22.3**	**-0.2**
HUMR	**Humele**	**1.32 224**	⇑P	**Pn**	**02 29 04.1**	**+0.1**
HUMR			⇓S	**Sn**	**02 29 23.3**	**0.0**
JOSR	**Joseni**	**1.32 337**	⇑P	**Pn**	**02 29 03.5**	**-0.6**
JOSR			⇑S	**Sn**	**02 29 22.7**	**-0.9**
VLDR	**Vladesti**	**1.33 74**	⇓P	**Pn**	**02 29 04.0**	**-0.1**
VLDR			⇑S	**Sn**	**02 29 22.4**	**-1.1**
CFR	**Carcaliu**	**1.36 102**	⇑P	**Pn**	**02 29 03.8**	**-0.6**
GIUM	**Giurgiulesti**	**1.37 89**	⇓P	**Pn**	**02 29 04.3**	**-0.3**
GIUM			⇑S	**Sn**	**02 29 23.6**	**-0.8**
GIUM	**Giurgiulesti**	**1.37 89**	P	**Pn**	**02 29 04.2**	**-0.3**
GIUM			S	**Sn**	**02 29 23.5**	**-0.8**
RASA	**Rasa**	**1.42 153**	⇓P	**Pn**	**02 29 05.2**	**+0.1**
HARR	**Harsova**	**1.43 123**	⇓P	**Pn**	**02 29 05.0**	**-0.2**
COPA	**Copaceanca**	**1.54 209**	⇑P	**Pn**	**02 29 06.7**	**+0.2**
COPA			⇑S	**Sn**	**02 29 27.8**	**0.0**
VASR	**Vaslui**	**1.57 42**	⇑P	**Pn**	**02 29 06.6**	**-0.3**
VASR			⇑S	**Sn**	**02 29 26.6**	**-1.9**
TLBR	**Topalu**	**1.58 126**	⇓P	**Pn**	**02 29 06.8**	**-0.1**
TPGR	**Topolog**	**1.65 112**	⇓P	**Pn**	**02 29 07.4**	**-0.5**
TPGR			⇑S	**Sn**	**02 29 28.5**	**-1.7**
LEOM	**Leova**	**1.70 54**	⇓P	**Pn**	**02 29 08.1**	**-0.3**
LEOM			⇓S	**Sn**	**02 29 29.5**	**-1.7**
LEOM	**Leova**	**1.70 54**	P	**Pn**	**02 29 08.1**	**-0.3**
LEOM			S	**Sn**	**02 29 29.5**	**-1.7**
CVDA	**Cernavoda**	**1.71 132**	⇓P	**Pn**	**02 29 08.5**	**0.0**
CVDA			⇓S	**Sn**	**02 29 30.9**	**-0.5**
LOT	**Lotru**	**1.75 270**	⇓P	**Pn**	**02 29 09.0**	**-0.1**
TLCR		**1.83 99**	⇑P	**Pn**	**02 29 09.7**	**-0.2**
TLCR			⇑S	**Sn**	**02 29 32.4**	**-1.5**
TIRR	**Tirgusor**	**1.84 123**	⇓P	**Pn**	**02 29 09.9**	**-0.2**
PRAR	**RASCA**	**1.88 359**	⇑P	**Pn**	**02 29 10.7**	**+0.2**
IAS	**Iasi**	**1.93 27**	⇓P	**Pn**	**02 29 10.6**	**-0.6**
ZIMR		**1.94 200**	⇑P	**Pn**	**02 29 11.3**	**0.0**
VLAD	**Vladila**	**1.99 222**	⇑P	**Pn**	**02 29 11.8**	**-0.1**
MFTR	**Murfatlar**	**2.02 130**	⇑P	**Pn**	**02 29 12.1**	**-0.2**
ARCR	**ARCALIA**	**2.08 321**	⇓P	**Pn**	**02 29 12.6**	**-0.4**
EFOR	**EFORIE**	**2.20 129**	⇓P	**Pn**	**02 29 14.5**	**0.0**
EFOR			⇑S	**Sn**	**02 29 41.7**	**-0.3**
CJR	**Cluj-Napoca**	**2.22 305**	⇓P	**Pn**	**02 29 15.0**	**+0.2**
SZH	**Strazhica**	**2.23 186**	P	**Pn**	**02 29 15.2**	**+0.2**
PSN	**Preselentsi**	**2.27 142**	P	**Pn**	**02 29 15.8**	**+0.4**
CBBR	**Cluj-Babes-Bol**	**2.28 305**	⇑P	**Pn**	**02 29 15.8**	**+0.3**
MILM	**Milestii Mici**	**2.28 50**	⇓*i*P	**Pn**	**02 29 15.0**	**-0.6**
	50nm,0.6s					
MILM			⇓*i*S	**Sn**	**02 29 41.0**	**-2.9**
	220nm,0.2s					
MILM	**Milestii Mici**	**2.28 50**	⇓P	**Pn**	**02 29 14.9**	**-0.6**
MILM	**Milestii Mici**	**2.28 50**	*i*P	**Pn**	**02 29 15.0**	**-0.6**
MILM			Pm		02 29 15.5	
MILM			⇑*i*S	**Sn**	**02 29 41.0**	**-2.9**
KIS	**Kishinev**	**2.33 49**	⇓*i*P	**Pn**	**02 29 15.2**	**-1.0**
	40nm,0.1s					
KIS			*i*S	**Sn**	**02 29 42.5**	**-2.6**
	240nm,0.2s					
KIS	**Kishinev**	**2.33 49**	⇑P	**Pn**	**02 29 15.8**	**-0.4**
KIS	**Kishinev**	**2.33 49**	⇑*i*P	**Pn**	**02 29 15.2**	**-1.0**
KIS			Pm		02 29 15.5	
KIS			Pm		02 29 15.8	
KIS			*i*S	**Sn**	**02 29 41.0**	**-4.1**
KIS			Sm		02 29 41.1	
MANR	**Mangalia**	**2.36 134**	⇓P	**Pn**	**02 29 16.5**	**0.0**
PVL	**Pavlikeni**	**2.36 197**	P	**Pn**	**02 29 18.4**	**+1.8**
DEV	**Deva**	**2.38 281**	⇓P	**Pn**	**02 29 17.3**	**+0.4**
PRD	**Provadia**	**2.43 160**	P	**Pn**	**02 29 18.2**	**+0.8**
BAIL	**Bailesti**	**2.54 236**	⇑P	**Pn**	**02 29 18.9**	**+0.1**
KALB	**Balgarevo**	**2.59 143**	⇓P	**Pn**	**02 29 20.1**	**+0.5**
PUNG	**Punghina**	**2.65 244**	⇑P	**Pn**	**02 29 19.7**	**-0.7**
PURM	**Purcari**	**2.73 66**	⇑P	**Pn**	**02 29 20.6**	**-0.6**
PURM			⇓S	**Sn**	**02 29 52.3**	**-1.9**
DJES	**Djerdap**	**2.77 254**	*e*Pn	**Pn**	**02 29 21.1**	**-0.8**
HERR	**Herculane**	**2.78 259**	⇓P	**Pn**	**02 29 21.5**	**-0.5**
DRGR		**2.79 299**	⇑P	**Pn**	**02 29 21.9**	**-0.3**
DRGR		**2.79 299**	*e*Pn	**Pn**	**02 29 21.8**	**-0.4**
CHRU	**Chernivtsi**	**2.82 355**	⇑*i*P	**Pn**	**02 29 22.7**	**+0.2**
CHRU			Pm		02 29 23.3	
CHRU			*e*S	**Sn**	**02 29 55.9**	**-0.5**
CHRU			Sm		02 30 01.9	
MESR	**Meseseni**	**2.83 307**	⇑P	**Pn**	**02 29 22.2**	**-0.5**
RAKU	**Rahkiv**	**2.92 331**	*i*P	**Pn**	**02 29 23.8**	**0.0**
RAKU			Pm		02 29 24.6	
RAKU			*e*S	**Sn**	**02 29 58.7**	**0.0**
RAKU			Sm		02 30 00.9	
KSV	**Kosov**	**2.95 344**	P	**Pn**	**02 29 24.5**	**+0.4**
KSV			Pm		02 29 26.2	
KSV			*e*S	**Sn**	**02 29 59.3**	**0.0**
KSV			Sm		02 30 04.7	
NSLU	**Nyzhne Selyshc**	**2.98 336**	P	Pn	02 29 29.4	+4.8
NSLU			Pm		02 29 31.9	
NSLU			*e*S	**Sn**	**02 30 08.5**	**+8.4**
NSLU			Sm		02 30 24.7	
SORM	**Soroca**	**3.02 28**	⇓P	**Pn**	**02 29 23.8**	**-1.2**
JMB	**Yambol**	**3.03 175**	P	**Pn**	**02 29 25.1**	**-0.1**
KMPD	**K-Podol'skiy**	**3.08 2**	*i*P	**Pn**	**02 29 25.1**	**-0.8**
KMPD			*i*S	**Sn**	**02 30 00.2**	**-2.2**
BZS	**Buzias**	**3.26 274**	⇑P	**Pn**	**02 29 27.9**	**-0.5**
BZS	**Buzias**	**3.26 274**	*e*Pn	**Pn**	**02 29 27.8**	**-0.5**
MDVR	**Moldovita**	**3.29 259**	⇑P	**Pn**	**02 29 28.3**	**-0.4**
PGB	**Panagyurishte**	**3.30 208**	P	**Pn**	**02 29 29.8**	**+0.9**
SIRR	**Siria**	**3.31 285**	⇑P	**Pn**	**02 29 29.2**	**+0.3**
ZAGS	**Zajecar**	**3.32 241**	*e*Pn	**Pn**	**02 29 27.4**	**-1.7**
ZAGS			*e*Sn	**Sn**	**02 30 00.6**	**-7.6**
ZAPS	**Zavoj**	**3.41 231**	*e*Pn	**Pn**	**02 29 29.9**	**-0.4**
ZAPS			*e*Sn	**Sn**	**02 30 04.9**	**-5.4**
KUBS	**Kucevo**	**3.43 253**	*e*Pn	**Pn**	**02 29 29.0**	**-1.5**
KUBS			*e*Sn	**Sn**	**02 30 02.1**	**-8.5**
MEZ	**Mezhgor'ye**	**3.56 329**	*i*P	**Pn**	**02 29 32.8**	**+0.5**
MEZ			Pm		02 29 34.3	
MEZ			*e*S	**Sn**	**02 30 14.3**	**+0.5**
MEZ			Sm		02 30 16.3	
VTS	**Vitosha**	**3.60 218**	⇓P	**Pn**	**02 29 33.5**	**+0.5**
VTS	**Vitosha**	**3.60 218**	*e*Pn	**Pn**	**02 29 33.4**	**+0.5**
VTS			*e*Sn	**Sn**	**02 30 12.1**	**-2.9**
VTS	**Vitosha**	**3.60 218**	P	**Pn**	**02 29 33.4**	**+0.5**
TRPA	**Tarpa**	**3.68 317**	PN	**Pn**	**02 29 32.9**	**-0.8**
HORU	**Horodok**	**3.73 2**	P	**Pn**	**02 29 34.2**	**-0.3**
HORU			Pm		02 29 34.5	
HORU			*i*S	**Sn**	**02 30 17.8**	**0.0**
HORU			Sm		02 30 31.7	
SVIS	**Svilajnac**	**3.79 253**	*e*Pn	**Pn**	**02 29 35.1**	**-0.1**
SVIS			*e*Sn	**Sn**	**02 30 10.5**	**-8.6**
MUKU	**Mukachevo**	**3.84 322**	*i*P	**Pn**	**02 29 36.0**	**0.0**
MUKU			*i*S	**Sn**	**02 30 21.8**	**+1.3**
MORS	**Morshin**	**3.99 337**	*i*P	**Pn**	**02 29 38.5**	**+0.6**
MORS			*e*S	**Sn**	**02 30 23.9**	**0.0**
BOSS	**Bosilegrad**	**4.04 224**	*e*Pn	**Pn**	**02 29 39.6**	**+0.9**
BOSS			*e*Sn	**Sn**	**02 30 20.6**	**-4.8**
BARS	**Barje**	**4.16 232**	*e*Pn	Pn	02 29 26.9	-13
BARS	**Barje**	**4.16 232**	*e*Pn	**Pn**	**02 29 40.7**	**+0.4**
BARS			*e*Sn	Sn	02 30 00.6	-28
GRUS	**Gruza**	**4.26 250**	*e*Pn	**Pn**	**02 29 41.3**	**-0.3**
GRUS			*e*Sn	Sn	02 30 21.2	-9.3
STZU	**Stuzhytsa**	**4.31 326**	P	**Pn**	**02 29 43.4**	**+1.2**
STZU			Pm		02 29 44.1	
STZU			*e*S	**Sn**	**02 30 32.3**	**+0.6**
STZU			Sm		02 30 40.8	
SELS	**Selova**	**4.33 240**	*e*Pn	**Pn**	**02 29 42.0**	**-0.5**
TRUS	**Trudelj**	**4.35 255**	*e*Pn	**Pn**	**02 29 42.2**	**-0.5**
TRUS			*e*Sn	**Sn**	**02 30 25.1**	**-7.5**
DIVS	**Divibare**	**4.67 255**	*e*Pn	**Pn**	**02 29 46.3**	**-0.8**
DIVS			*e*Sn	**Sn**	**02 30 32.2**	**-8.2**
IVAS	**Ivanjica**	**4.76 249**	*e*Pn	**Pn**	**02 29 47.3**	**-1.1**
IVAS			*e*Sn	Sn	02 30 33.6	-9.0
SJES	**Sjenica**	**5.02 246**	*e*Pn	**Pn**	**02 29 51.8**	**-0.1**
SEV	**Sevastopol'**	**5.34 98**	*e*P	**Pn**	**02 29 54.7**	**-1.3**
SEV			Pm		02 29 56.1	
	comp=Z,13nm,0.5s					
SEV			*e*S	**Sn**	**02 30 54.0**	**-2.3**
SEV			Sm		02 30 55.1	
	comp=N,8.0nm,0.4s					
SEV			Sm		02 30 55.1	
	comp=E,5.0nm,0.3s					
AKASG	**Malin Array Be**	**5.58 20**	P	**Pn**	**02 29 57.5**	**-1.8**
	comp=E,1.0nm,0.3s,baz=203,slow=11,SNR=5.6					
AKASG			S	**Sn**	**02 30 57.1**	**-5.0**
	comp=E,1.4nm,0.3s,baz=202,slow=22,SNR=4.3					
YAL	**Yalta**	**5.69 97**	*e*S	**Sn**	**02 31 02.3**	**-2.5**
YAL	**Yalta**	**5.69 97**	*e*P	**Pn**	**02 29 59.1**	**-1.6**
YAL			Pm		02 29 59.2	
YAL			*e*S	**Sn**	**02 31 02.3**	**-2.5**
YAL	**Yalta**	**5.69 97**	*e*P	**Pn**	**02 29 59.1**	**-1.6**
YAL	**Yalta**	**5.69 97**	Pm		02 29 59.2	
	comp=Z,6.0nm,0.2s					
SUDU	**Sudak**	**6.21 92**	*e*P	**Pn**	**02 30 07.4**	**-0.3**
SUDU			Pm		02 30 07.5	
	comp=Z,4.0nm,0.2s					
SUDU			*e*S	**Sn**	**02 31 15.9**	**-1.4**
SUDU			Sm		02 31 16.9	
	comp=N,6.0nm,0.3s					
SUDU			Sm		02 31 16.9	
	comp=E,11nm,0.4s					
SUDU	**Sudak**	**6.21 92**	*e*P	**Pn**	**02 30 07.4**	**-0.3**
SUDU			Pm		02 30 07.5	
SUDU			*e*S	**Sn**	**02 31 15.9**	**-1.4**
SUDU			Sm		02 31 16.1	
SUDU			Sm		02 31 16.9	
BRTR	**Keskin Array B**	**7.92 134**	P	**Pn**	**02 30 31.1**	**+0.1**
	comp=E,0.2nm,0.3s,baz=321,slow=11,SNR=2.9					
GERES	**GERESS Array B**	**9.19 296**	P	**Pn**	**02 30 48.1**	**+0.1**
	comp=E,0.1nm,0.3s,baz=107,slow=12,SNR=6.1					
KVAR	**Kislovodsk Arr**	**11.80 92**	P	**Pn**	**02 31 24.4**	**+1.5**
	baz=274,slow=17,SNR=3.0					
HFS	**Hagfors**	**16.47 337**	P	**Pn**	**02 32 21.5**	**-0.7**
	comp=E,0.1nm,0.3s,baz=141,slow=18,SNR=1.0					
NOA	**NORSAR Array B**	**17.92 336**	P	**P**	**02 32 38.8**	**+0.1**
	comp=E,0.0nm,0.3s,baz=144,slow=9.9,SNR=1.8					
ARU	**Arti**	**22.89 50**	P	**P**	**02 33 31.4**	**0.0**
	comp=E,0.6nm,0.4s,baz=221,slow=9.3,SNR=5.2					
ESDC	**Sonseca Array**	**22.92 266**	P	**P**	**02 33 30.9**	**-1.1**
	comp=E,0.7nm,0.8s,baz=61,slow=8.5,SNR=4.7					
ZALV	**Zalesovo Beam**	**37.80 55**	P	**P**	**02 35 43.0**	**+0.3**
	comp=E,0.8nm,0.4s,baz=281,slow=10,SNR=4.5					
MKAR	**Makanchi Array**	**38.15 67**	P	**P**	**02 35 46.3**	**+0.6**
	comp=E,0.1nm,0.3s,baz=274,slow=7.7,SNR=4.9					
TORD	**Torodi Ar. Bea**	**38.38 221**	P	**P**	**02 35 48.8**	**+0.8**
	comp=E,0.5nm,0.6s,baz=24,slow=8.3,SNR=8.2					
SONM	**Songino Array**	**52.67 57**	P	**P**	**02 37 41.5**	**+1.3**
	comp=E,0.3nm,0.4s,baz=277,slow=8.3,SNR=2.3					
CMAR	**Chiang Mai Arr**	**65.01 89**	P	**P**	**02 39 06.6**	**+0.9**
	comp=E,1.2nm,0.3s,baz=318,slow=6.3,SNR=4.8					
YKA	**Yellowknife Ar**	**67.91 342**	P	**P**	**02 39 23.1**	**-0.3**
	comp=E,0.2nm,0.6s,baz=27,slow=6.1,SNR=4.3					

*NOU **07** 02:32:45.2, 38°.84S×175°.73E, h126km, MLv3.8/7, North Island, New Zealand*
*WEL **07** 02:32:47.6±0.8, 39°.S±5°.×17°.6E±°, h103km±6km, M2.6/36, ML2.6/30, MLv2.6/36, Error ellipse: s-maj=0.0km s-min=0.0km az=124.5*
ISC 07 02:32:44.6±1.5, **38°.85S**±0°.04×**175°.75E**±0°.04, **h133**km±7km, **n117**, σ1§12/142, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.03**	**127**	P	**Pn**	**02 33 02.9**	**+0.3**
RATZ				S	**Sn**	**02 33 14.6**	**-1.6**
KATZ	**Kakaramea**	**0.13**	**198**	P	**Pn**	**02 33 03.2**	**+0.4**
WATZ	**Wairara**	**0.14**	**356**	P	**Pn**	**02 33 03.4**	**+0.6**
RITZ	**Rihia Road**	**0.15**	**145**	P	**Pn**	**02 33 03.5**	**+0.8**
NTVZ	**North Tongarir**	**0.25**	**192**	P	**Pn**	**02 33 03.8**	**+0.7**
KRVZ	**Karewarewa**	**0.26**	**198**	P	**Pn**	**02 33 03.8**	**+0.7**
TMVZ	**Te Maari**	**0.27**	**187**	P	**Pn**	**02 33 03.8**	**+0.7**
ETVZ	**East Tongariro**	**0.29**	**185**	P	**Pn**	**02 33 03.9**	**+0.7**
WTVZ	**West Tongariro**	**0.29**	**205**	P	**Pn**	**02 33 03.9**	**+0.7**
WTVZ				S	**Sn**	**02 33 16.3**	**-1.0**
NNVZ	**North Ngauruho**	**0.30**	**200**	P	**Pn**	**02 33 03.9**	**+0.7**
OTVZ	**Oturere**	**0.32**	**191**	P	**Pn**	**02 33 04.0**	**+0.7**
OTVZ				S	**Sn**	**02 33 17.5**	**-0.1**
TWVZ	**Taurewa**	**0.33**	**227**	P	**Pn**	**02 33 04.0**	**+0.8**
NGZ	**Ngauruhoe**	**0.34**	**199**	P	**Pn**	**02 33 04.2**	**+0.8**
NGZ				S	**Sn**	**02 33 17.1**	**-0.6**
SNVZ	**South Ngauruho**	**0.34**	**194**	P	**Pn**	**02 33 04.1**	**+0.7**
KUTZ	**Kaahu Road**	**0.37**	**10**	P	**Pn**	**02 33 04.0**	**+0.6**
TUVZ	**Tukino**	**0.42**	**190**	P	**Pn**	**02 33 04.8**	**+1.0**
TUVZ				S	**Sn**	**02 33 17.8**	**-0.5**
FWVZ	**Far West T-bar**	**0.43**	**200**	P	**Pn**	**02 33 04.6**	**+0.7**
FWVZ				S	**Sn**	**02 33 17.6**	**-1.0**
DRZ	**Dome Shelter**	**0.45**	**198**	P	**Pn**	**02 33 05.1**	**+1.1**
WHVZ	**Whangaehu Hut**	**0.45**	**196**	P	**Pn**	**02 33 04.8**	**+0.8**
WPRZ	**Whakapapatarin**	**0.46**	**45**	P	**Pn**	**02 33 04.1**	**+0.3**
TRVZ	**Turoa**	**0.47**	**199**	P	**Pn**	**02 33 05.1**	**+1.0**
WNVZ	**Wahianoa**	**0.49**	**194**	P	**Pn**	**02 33 05.1**	**+1.0**
MRHZ	**Matea Rd**	**0.53**	**88**	P	**Pn**	**02 33 04.3**	**+0.2**
MRHZ				S	**Sn**	**02 33 16.6**	**-2.4**
PKVZ	**Pokaka**	**0.54**	**215**	P	**Pn**	**02 33 05.4**	**+1.1**
TLZ	**Tolley Road**	**0.55**	**343**	P	**Pn**	**02 33 05.1**	**+0.8**
TLZ				S	**Sn**	**02 33 18.4**	**-0.8**
ALRZ	**Allen Road**	**0.55**	**59**	P	**Pn**	**02 33 04.5**	**+0.2**
MOVZ	**Moawhango**	**0.56**	**179**	P	**Pn**	**02 33 05.2**	**+0.8**
MOVZ				S	**Sn**	**02 33 17.6**	**-1.8**
MTVZ	**Mangateitei**	**0.57**	**202**	P	**Pn**	**02 33 05.7**	**+1.2**
GRRZ	**Galatos Road**	**0.58**	**30**	P	**Pn**	**02 33 05.1**	**+0.6**
HRRZ	**Handcock Road**	**0.62**	**43**	P	**Pn**	**02 33 05.4**	**+0.6**
BKZ	**Black Stump Fm**	**0.66**	**119**	P	**Pn**	**02 33 05.6**	**+0.6**
BKZ				S	**Sn**	**02 33 18.9**	**-1.7**
BKZ	**Black Stump Fm**	**0.66**	**119**	P	**Pn**	**02 33 05.7**	**+0.6**
HSRZ	**Hossack Road**	**0.67**	**36**	P	**Pn**	**02 33 05.6**	**+0.6**
BHHZ	**Black Hill Sta**	**0.68**	**159**	P	**Pn**	**02 33 06.0**	**+0.8**
BHHZ				S	**Sn**	**02 33 19.1**	**-1.8**
UTU	**Utuhina**	**0.76**	**28**	P	**Pn**	**02 33 06.6**	**+0.9**
HLRZ	**Highlands Stat**	**0.76**	**39**	P	**Pn**	**02 33 07.1**	**+1.3**
HIZ	**Hauiti**	**0.77**	**296**	P	**Pn**	**02 33 07.0**	**+1.2**
HIZ				S	**Sn**	**02 33 21.9**	**+0.1**
KWHZ	**Kaweka Forest**	**0.78**	**138**	P	**Pn**	**02 33 06.9**	**+1.1**
KWHZ				S	**Sn**	**02 33 21.5**	**-0.6**
RRRZ	**Republican Roa**	**0.79**	**50**	P	**Pn**	**02 33 06.4**	**+0.4**
VRZ	**Vera Road**	**0.82**	**250**	P	**Pn**	**02 33 07.7**	**+1.6**
MTHZ	**Maungataniwha**	**0.85**	**90**	P	**Pn**	**02 33 07.1**	**+0.6**
MTHZ				S	**Sn**	**02 33 21.5**	**-1.6**
TARZ	**Mount Tarawera**	**0.86**	**44**	P	**Pn**	**02 33 07.3**	**+0.7**
NMHZ	**Naumai**	**0.86**	**107**	P	**Pn**	**02 33 08.3**	**+1.7**
NMHZ				S	**Sn**	**02 33 24.5**	**+1.2**
MUGZ	**Murupara**	**0.89**	**65**	P	**Pn**	**02 33 06.9**	**+0.2**
OMRZ	**Omania**	**0.89**	**34**	P	**Pn**	**02 33 07.5**	**+0.7**
KRHZ	**Kereru**	**0.93**	**149**	P	**Pn**	**02 33 08.5**	**+1.4**
KRHZ				S	**Sn**	**02 33 24.0**	**-0.3**
MCHZ	**McNeill Hill**	**0.95**	**129**	P	**Pn**	**02 33 09.3**	**+2.1**
MCHZ				S	**Sn**	**02 33 25.5**	**+1.0**
RTZ	**Ruatahuna**	**0.99**	**77**	P	**Pn**	**02 33 08.3**	**+0.5**
RAHZ	**Arahi**	**1.05**	**94**	P	**Pn**	**02 33 09.5**	**+1.3**
RAHZ				S	**Sn**	**02 33 25.9**	**-0.2**
ARHZ	**Aropaoanui**	**1.06**	**113**	P	**Pn**	**02 33 09.8**	**+1.6**
ARHZ				S	**Sn**	**02 33 26.7**	**+0.5**
WAZ	**Wanganui**	**1.08**	**213**	P	**Pn**	**02 33 10.4**	**+2.0**
PNHZ	**Pukenui**	**1.12**	**162**	P	**Pn**	**02 33 10.2**	**+1.3**
PNHZ				S	**Sn**	**02 33 26.7**	**-0.7**
TOZ	**Tahuroa Road**	**1.13**	**350**	P	**Pn**	**02 33 10.4**	**+1.3**
OPRZ	**Ohinepanea**	**1.19**	**33**	P	**Pn**	**02 33 10.5**	**+1.0**
LRRZ	**Lake Rotokare**	**1.21**	**239**	P	**Pn**	**02 33 10.8**	**+2.3**
TSZ	**Takapari Road**	**1.22**	**172**	P	**Pn**	**02 33 11.3**	**+1.5**
TSZ				S	**Sn**	**02 33 27.9**	**-1.3**
URZ	**Urewera**	**1.22**	**62**	P	**Pn**	**02 33 10.1**	**+0.3**
URZ				S	**Sn**	**02 33 27.6**	**-1.5**
URZ	**Urewera**	**1.22**	**62**	P	**Pn**	**02 33 10.2**	**+0.3**
SNGZ	**Shannon Statio**	**1.25**	**87**	P	**Pn**	**02 33 11.3**	**+1.1**
SNGZ				S	**Sn**	**02 33 29.3**	**-0.4**
KAHZ	**Kahuranaki**	**1.

KOTA					S	Sb	02 53 00.7	-0.7
IGDI	**IGDIR**	**1.04**	**24**	*e*Pg	Pg		02 52 49.1	-1.1
IGDI	**IGDIR**	**1.04**	**24**	SPECP			02 52 49.0	
IGDI				P	Pg		02 52 49.1	-1.1
IGDI				S	Sn		02 53 04.4	-2.1
IGDI				*i* AML	AML		02 53 09.0	
	comp=E,1μm,0.6s							
IGDI				*i* AML	AML		02 53 10.0	
	comp=N,995nm,0.7s							
TASB	**TASBURUN-IGDIR**	**1.20**	**27**	PN	Pb		02 52 52.3	-1.1
TASB				SN	Sn		02 53 10.3	-0.1
TASB	**TASBURUN-IGDIR**	**1.20**	**27**	*e*Pg	Pn		02 52 53.0	-0.7
VNNZ	**Vanand**	**1.21**	**11**	*i* P	Pg		02 52 52.9	-0.5
VNNZ				*i* S	Sn		02 53 10.7	+0.1
BLIS	**Bitlis-Merkez**	**1.21**	**246**	*e*Pn	Pb		02 52 51.3	-2.3
BLIS	**Bitlis-Merkez**	**1.21**	**246**	SPECP			02 52 51.0	
BLIS				P	Pb		02 52 51.3	-2.3
BLIS				S	Sb		02 53 08.4	-1.2
PERV	**Siirt/Pervari-**	**1.24**	**219**	SPECP			02 52 51.0	
PERV				P	Pn		02 52 51.8	-2.4
PERV				S	Sn		02 53 11.3	0.0
METS	**Metsamor**	**1.31**	**19**	*i* P	Pg		02 52 55.7	+0.5
METS				*i* S	Sn		02 53 16.2	+3.2
HAKT	**HAKKARI**	**1.36**	**174**	*e*Pn	Pn		02 52 54.1	-1.9
HAKT	**HAKKARI**	**1.36**	**174**	P	Pn		02 52 53.9	-2.1
HAKT				SPECP			02 52 54.0	
HAKT				S	Sg		02 53 16.1	+2.3
NRKZ	**NAREK**	**1.40**	**39**	*i* P	Pg		02 52 56.8	-0.1
NRKZ				*i* S	Sg		02 53 18.4	+3.4
YOVA	**Hakkari_Yksek**	**1.45**	**155**	*e*Pg	Pb		02 52 57.1	-0.7
YOVA	**Hakkari_Yksek**	**1.45**	**155**	SPECP			02 52 57.0	
YOVA				P	Pb		02 52 57.1	-0.7
YOVA				S	Sg		02 53 19.3	+2.4
DIGO	**Kars**	**1.50**	**356**	P	Pg		02 52 58.3	-0.7
DIGO				S	Sg		02 53 18.6	+0.1
MUSM	**Mu-Merkez**	**1.58**	**264**	*e*Pn	Pn		02 52 58.2	-0.7
MUSM	**Mu-Merkez**	**1.58**	**264**	SPECP			02 52 58.0	
MUSM				P	Pn		02 52 58.2	-0.7
MUSM				S	Sb		02 53 19.3	-1.1
VRTB	**Varto-Mus**	**1.63**	**279**	PN	Pb		02 52 59.9	-0.8
VRTB	**Varto-Mus**	**1.63**	**279**	*e*Pn	Pb		02 53 00.0	-0.8
VRTB	**Varto-Mus**	**1.63**	**279**	SPECP			02 53 00.0	
VRTB				P	Pb		02 53 00.0	-0.8
SIRT	**Sirnak**	**1.65**	**212**	PN	Pb		02 53 00.1	-0.9
SIRT	**Sirnak**	**1.65**	**212**	*e*Pn	Pb		02 53 00.6	-0.4
CUKT	**Cukurca**	**1.66**	**178**	PN	Pb		02 53 00.0	-1.3
CUKT				SN	Sg		02 53 23.1	-0.5
CUKT	**Cukurca**	**1.66**	**178**	*e*Pn	Pb		02 52 59.8	-1.5
CUKT	**Cukurca**	**1.66**	**178**	SPECP			02 52 59.0	
CUKT				P	Pb		02 52 59.8	-1.5
CUKT				S	Sg		02 53 23.1	-0.5
KAPZ	**Kaputan**	**1.67**	**32**	*i* P	Pb		02 53 00.3	-1.2
KAPZ				*i* S	Sg		02 53 24.6	+0.7
KOPR	**Koprukoy-ERZUR**	**1.68**	**310**	PN	Pb		02 53 00.6	-1.1
HOMI	**Horasan**	**1.69**	**313**	P	Pb		02 53 01.0	-0.8
HOMI				S	Sg		02 53 29.2	+4.9
IMRD	**Marand**	**1.71**	**96**	*e*Pn	Pb		02 53 00.5	-1.7
IMRD				*e*			02 53 30.3	
	comp=Z,17μm,0.8s							
KARS	**Kars**	**1.75**	**349**	PN	Pb		02 53 01.0	-1.7
SENK	**Senkaya-Erzuru**	**1.88**	**332**	PN	Pb		02 53 03.1	-1.9
ERZM	**Erzurum**	**1.94**	**301**	PN	Pb		02 53 04.3	-1.9
ERZM	**Erzurum**	**1.94**	**301**	P	Pb		02 53 05.6	-0.6
SLHN	**Bingol, Solhan**	**1.95**	**272**	SPECP			02 53 04.0	
SLHN				P	Pb		02 53 04.9	-1.3
EJDE	**Erzurum, Palan**	**1.95**	**299**	PN	Pb		02 53 04.5	-1.9
KARO	**Karliova-Bingo**	**1.97**	**282**	PN	Pb		02 53 04.7	-1.8
SVAN	**Silvan-Diyarba**	**1.98**	**248**	PN	Pb		02 53 04.9	-1.7
SVAN	**Silvan-Diyarba**	**1.98**	**248**	SPECP			02 53 04.0	
SVAN				P	Pb		02 53 04.7	-1.9
BNGB	**Bingl**	**2.22**	**273**	PN	Pb		02 53 08.5	-2.3
MIDY	**Mardin/Midyat-**	**2.25**	**229**	SPECP			02 53 08.0	
MIDY				P	Pn		02 53 08.7	+0.6
EMRE	**Erzurum,Aziziy**	**2.27**	**300**	SPECP			02 53 11.0	
EMRE				P	Pb		02 53 11.5	-0.2
IAZR	**Azarshahr**	**2.29**	**122**	*e*Pn	Pb		02 53 10.2	-1.9
IAZR				*e*			02 53 59.0	
	comp=Z,5μm,0.8s							
YEDI	**Yedisu-Bingol**	**2.38**	**284**	PN	Pn		02 53 10.6	+0.7
KRIK	**Erzurum-spir**	**2.46**	**306**	P	Pb		02 53 15.0	+0.1
HANI	**Diyarbakir_Han**	**2.50**	**259**	SPECP			02 53 12.0	
HANI				P	Pb		02 53 12.6	-2.9
KOPT	**Kop Dagi**	**2.59**	**296**	P	Pg		02 53 18.3	-1.5
EPOS	**Posof**	**2.66**	**347**	P	Pb		02 53 17.5	-0.8
MAHB	**Mahabad**	**2.75**	**140**	*e*Pn	Pn		02 53 16.2	+1.2
DYBB	**Diyarbakir**	**2.83**	**251**	PN	Pn		02 53 17.0	+1.0
MAZI	**Mazidag**	**2.83**	**240**	PN	Pn		02 53 17.1	+1.1
BAYB	**BAYBURT**	**2.86**	**299**	P	Pb		02 53 21.0	-0.7
KOVA	**Elazig, Kovanc**	**2.91**	**267**	P	Pb		02 53 20.3	-2.2
IBST	**Bostanabad**	**2.91**	**114**	*e*Pn	Pn		02 53 18.3	+1.0
CHOM	**Cayeli-Rize**	**3.04**	**317**	PN	Pn		02 53 19.9	+1.0
SVRC	**Sivrice-ELAZID**	**3.35**	**262**	PN	Pn		02 53 24.5	+1.3
ISRB	**Sarab**	**3.43**	**107**	*e*Pn	Pn		02 53 25.3	+0.9
MALT	**Malatya**	**4.04**	**263**	PN	Pn		02 53 34.3	+1.6
SURC	**SANLIURFA_SURC**	**4.38**	**244**	P	Pb		02 53 49.9	+2.3
DARE	**Darende-Malaty**	**4.74**	**268**	PN	Pn		02 53 44.3	+2.0
IDHR	**Dehrash**	**4.79**	**150**	*e*Pn	Pn		02 53 44.5	+1.4
IGHG	**Ghaleghazi**	**5.19**	**151**	*e*Pn	Pn		02 53 50.0	+1.4
IGHG				*e*			02 55 35.9	
	comp=E,1μm,0.9s							
JIR1	**Jirandeh**	**5.43**	**112**	*e*Pn	Pn		02 53 52.7	+0.8
QABG	**Abgarm-Qazvin**	**5.79**	**122**	*e*Pn	Pn		02 53 58.2	+1.3
HAGD	**Aghdareh**	**6.08**	**130**	*e*Pn	Pn		02 54 03.2	+2.4
IDOB	**Doab**	**6.34**	**142**	*e*Pn	Pn		02 54 06.0	+1.5
IKFM	**Kafar-mosalman**	**6.41**	**146**	*e*Pn	Pn		02 54 06.7	+1.5

AEIC ***07*** *02:52:33±1.7, 51°.55N±0°.06×175°.27W±0°.06, h27km±3km, Error ellipse: s-maj=8.5km s-min=5.0km az=165.0*

MOS ***07*** *02:52:34.1±1.0, 51°.80N×175°.38W, h47km, mb5.1/55, MS4.1/8, Error ellipse: s-maj=7.2km s-min=5.2km az=100.4*

GCMT ***07*** *02:52:34.7±0.3, 51°.59N±0°.02×175°.24W±0°.03, h39km, MW5.0/89, Moment Tensor Solution. s61,c81; s89,c122; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.82±.17; Mθθ=-3.21±.12; Mφφ=-0.60±.12; Mrθ=1.67±.10; Mrφ=-1.38±.08; Mθφ=1.50±.09; Best double couple: M0=4.42300×10^16 NP1:φs=255.00000°, δ=31.00000°, λ=105.00000°. NP2: φs=58.00000°, δ=60.00000°, λ=81.00000°. Principal axes: T 4.4810, Plg73.0000°, Azm305.0000°; N -0.1070, Plg8.0000°, Azm62.0000°; P -4.3660, Plg15.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***07*** *02:52:35.7±1.2, 51°.78N±0°.07×175°.36W±0°.05, h44km±5km, mb5.1/481, ML5.0(AEIC) Error ellipse: s-maj=10.9km s-min=3.9km az=168.0*

IDC ***07*** *02:52:35.7±1.2, 51°.79N×175°.43W, h45km±10km, mb4.5/41, mb1 4.6/42, mb1mx4.5/55, mbtmp4.7/42, ML4.7/1, MS4.1/86, Ms1 4.1/86, ms1mx4.1/101, Error ellipse: s-maj=12.5km s-min=7.9km az=162.0*

BGR ***07*** *02:52:38.9±0.0, 52°.45N×177°.74W, h33km, mb4.7*

ISC 07 02:52:35.2±0.5,**51°.67N**±0°.05×**175°.36W**±0°.03,**h44**km±3km, **h43**km:**pP-P, n959,**σ1§**17**/821,**mb5.1**/341,**MS4.2**/104, **47C-24D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.47**	**312**		**Pn**	**02 52 46.0**	**+0.3**
GSMY	**Great Sitkin M**	**0.57**	**311**		**Pn**	**02 52 47.6**	**+0.6**
GSTD	**Great Sitkin T**	**0.62**	**309**		**Pn**	**02 52 48.3**	**+0.6**
ETKA	**Kagalaska Isla**	**0.68**	**287**		**Pn**	**02 52 48.4**	**0.0**
ETKA					**Sn**	**02 52 58.8**	**+0.9**
ATKA	**Atka Island**	**0.90**	**53**		**Pn**	**02 52 50.5**	**-0.9**
ATKA					**Sn**	**02 53 02.5**	**-0.6**
KOKL	**Mount Kliuchef**	**0.97**	**47**		**Pn**	**02 52 52.4**	**-0.1**
KOFP	**Korovin Flat P**	**0.99**	**52**		**Pn**	**02 52 52.5**	**-0.2**
KIWB	**Kanaga Island**	**1.12**	**280**		**Pn**	**02 52 54.6**	**+0.1**
KIKV	**Kanaga Island**	**1.14**	**281**		**Pn**	**02 52 55.3**	**+0.5**
KIMD	**Kanaga Island**	**1.17**	**275**		**Pn**	**02 52 54.9**	**-0.2**
TAPA	**Tanaga Point A**	**1.53**	**276**		**Pn**	**02 53 00.5**	**+0.4**
TAFL	**Tanaga Flats**	**1.58**	**274**		**Pn**	**02 53 01.1**	**+0.4**
TAFP	**Tanaga Falls P**	**1.64**	**279**		**Pn**	**02 53 02.4**	**+0.7**
TASE	**Tanaga Southea**	**1.67**	**277**		**Pn**	**02 53 03.0**	**+1.0**
GAEA	**Gareloi East**	**2.11**	**274**		**Pn**	**02 53 09.0**	**+1.0**
GALAA	**Gareloi Lava P**	**2.12**	**274**		**Pn**	**02 53 09.4**	**+1.2**
GAKI	**Gareloi-Kavalg**	**2.15**	**268**		**Pn**	**02 53 09.6**	**+1.0**
CLES	**Cleveland East**	**3.55**	**69**	Pn	**Pn**	**02 53 27.5**	**-0.3**
CLES				Sn	**Sn**	**02 54 07.8**	**-0.7**
CLCO	**Concord Point,**	**3.64**	**70**		**Sn**	**02 54 13.2**	**+2.5**
NIKH	**Nikolski High**	**4.20**	**69**		**Pn**	**02 53 36.8**	**+0.1**
NIKH					**Sn**	**02 54 25.5**	**+1.1**
NIKH	**Nikolski High**	**4.20**	**69**	P	**Pn**	**02 53 38.1**	**+1.4**
	baz=253						
OKSP	**Okmok Steeple**	**4.61**	**67**		**Pn**	**02 53 43.5**	**+1.2**
OKFG	**Magazine Ridge**	**4.87**	**66**		**Pn**	**02 53 47.1**	**+1.2**
OKFG					**Sn**	**02 54 44.4**	**+3.5**
MAPS	**Pakushin South**	**5.54**	**64**		**Pn**	**02 53 57.0**	**+1.9**
MAPS					**Sn**	**02 55 01.6**	**+4.1**
MREP	**Makushin Rep't**	**5.66**	**64**		**Pn**	**02 53 58.9**	**+2.2**
MSW	**Makushin Switc**	**5.67**	**63**		**Pn**	**02 53 58.9**	**+2.1**
MNAT	**Makushin Natee**	**5.71**	**64**		**Pn**	**02 53 58.0**	**+0.5**
MNAT					**Sn**	**02 55 02.6**	**+0.9**
UNV	**Unalaska Valle**	**5.80**	**65**		**Pn**	**02 54 00.7**	**+2.1**
UNV					**Sn**	**02 55 07.3**	**+3.5**
UNV	**Unalaska Valle**	**5.80**	**65**	P	**Pn**	**02 54 01.2**	**+2.5**
	baz=250						
AKRB	**Akutan Reef Bi**	**6.14**	**63**		**Pn**	**02 54 03.8**	**+0.5**
AKBBA	**Akutan Broad B**	**6.20**	**63**		**Pn**	**02 54 05.1**	**+1.0**
AKGG	**Akutan Green G**	**6.21**	**62**		**Pn**	**02 54 04.7**	**+0.5**
SPIA	**Saint Paul Isl**	**6.27**	**26**		**Sn**	**02 55 18.6**	**+3.4**
SPIA	**Saint Paul Isl**	**6.27**	**26**		**Pn**	**02 54 05.0**	**0.0**
SPIA	**Saint Paul Isl**	**6.27**	**26**	P	**Pn**	**02 54 07.3**	**+2.3**
	baz=210						
SHEM	**Shemya Is, Ala**	**6.56**	**283**	P	**Pn**	**02 54 09.9**	**+0.8**
	38nm,0.3s,baz=129,slow=2.2,SNR=11						
SHEM				S	**Sn**	**02 55 30.3**	**+7.7**
	4.5nm,0.3s,baz=262,slow=21,SNR=1.4						
SHEM				LR	LR	02 56 53.2	
	comp=Z,2μm,19.8s,baz=90,slow=40						
WECS	**Westdahl Cape**	**6.99**	**62**		**Pn**	**02 54 16.5**	**+1.5**
WESP	**Westdahl Peak**	**7.00**	**62**		**Sn**	**02 55 39.1**	**+5.6**
SDPT	**Sand Point**	**9.60**	**62**		**Pn**	**02 54 51.4**	**+0.8**
SDPT	**Sand Point**	**9.60**	**62**	P	**Pn**	**02 54 52.4**	**+1.7**
	baz=253						
CHNA	**Chernabura Isl**	**9.97**	**65**	P	**Pn**	**02 54 55.8**	**+0.2**
	baz=257						
GAMB	**Gambell**	**12.29**	**8**	Pn	**Pn**	**02 55 28.9**	**+1.6**
GAMB	**Gambell**	**12.29**	**8**	P	**Pn**	**02 55 29.1**	**+1.8**
	baz=190						
SII	**Sitkinak Islan**	**13.33**	**60**	P	**Pn**	**02 55 42.8**	**+1.2**
	baz=257						
P18K	**Big Mountain,**	**13.73**	**48**	P	**Pn**	**02 55 47.9**	**+0.8**
	baz=244,SNR=8.3						
ANM	**Nome**	**13.94**	**18**	P	**Pn**	**02 55 52.4**	**+2.6**
	baz=206,SNR=16						
O18K	**Koktuh Hills**	**13.95**	**46**	P	**Pn**	**02 55 51.6**	**+1.7**
	baz=242,SNR=9.1						
OHAK	**Old Harbor**	**13.96**	**58**	P	**Pn**	**02 55 48.5**	**-1.6**
	baz=255,SNR=9.0						
Q19K	**Cape Douglas,**	**14.30**	**51**	P	**Pn**	**02 55 54.5**	**-0.2**
	baz=248,SNR=8.7						
TNA	**Tin City**	**14.44**	**12**	P	**Pn**	**02 55 57.7**	**+1.2**
TNA				PcP	**PcP**	**03 01 10.4**	**+1.3**
TNA	**Tin City**	**14.44**	**12**	P	**Pn**	**02 55 57.7**	**+1.2**
	baz=196,SNR=18						
KDAK	**Kodiak Island**	**14.47**	**56**	P	**Pn**	**02 55 53.6**	**-3.4**
	1.7nm,0.3s,baz=288,slow=6.9,SNR=46						
KDAK				S	**Sn**	**02 58 32.8**	**-3.0**
	0.5nm,0.3s,baz=357,slow=23,SNR=2.5						
KDAK				LR	LR	03 02 16.3	
	comp=Z,2μm,20.0s,baz=262,slow=40						
KDAK	**Kodiak Island**	**14.47**	**56**	P	**Pn**	**02 55 56.4**	**-0.6**
	baz=254						
O19K	**Port Alsworth**	**14.50**	**46**	P	**Pn**	**02 55 59.8**	**+2.5**
O19K	**Port Alsworth**	**14.50**	**46**	P	**Pn**	**02 55 58.6**	**+1.3**
	baz=243,SNR=13						
N19K	**Bonanza Creek**	**14.72**	**43**	P	**Pn**	**02 56 03.0**	**+2.7**
N19K	**Bonanza Creek**	**14.72**	**43**	P	**Pn**	**02 56 01.0**	**+0.6**
	baz=240						
O20K	**Slope Mountain**	**15.22**	**48**	P	**Pn**	**02 56 07.6**	**+0.6**
	baz=246,SNR=10						
TTA	**Tatalina**	**15.30**	**35**	P	**Pn**	**02 56 06.6**	**-1.4**
TTA				pmax	pmax		
	comp=Z,61nm,1.0s						
TTA	**Tatalina**	**15.30**	**35**	P	**Pn**	**02 56 06.6**	**-1.4**
TTA	**Tatalina**	**15.30**	**35**	P	**Pn**	**02 56 08.8**	**+0.8**
	baz=231,SNR=16						
M19K	**Big River Lodg**	**15.31**	**40**	P	**Pn**	**02 56 07.1**	**-1.0**
M19K	**Big River Lodg**	**15.31**	**40**	P	**Pn**	**02 56 08.7**	**+0.6**
	baz=237						
RSO	**Redoubt South**	**15.32**	**46**	P	**Pn**	**02 56 07.9**	**-0.5**
CNPM	**China Poot**	**15.67**	**50**	P	**Pn**	**02 56 11.4**	**-1.2**
CNPM				IAmb	IAmb	02 56 34.8	
	comp=Z,268nm,1.6s						
L20K	**Farewell, AK**	**15.83**	**39**	P	**P**	**02 56 17.1**	**-0.8**
	baz=236						
PET	**Petropavlovsk**	**15.91**	**285**	*e*P	**P**	**02 56 17.7**	**-1.1**
PET				*e*S	**Sn**	**02 59 12.1**	**+1.3**
PET				pmax	pmax		
	comp=Z,400nm,15.2s						
PET				pmax	pmax		
	comp=Z,39nm,0.8s						
PET				MLR	MLR		
	comp=Z,600nm,18.0s						
PET	**Petropavlovsk**	**15.91**	**285**	P	**Pn**	**02 56 16.5**	**+0.7**
BRLK	**Bradley Lake**	**15.91**	**50**	P	**Pn**	**02 56 14.6**	**-1.3**
SPU	**Mount Spurr**	**15.94**	**44**	P	**Pn**	**02 56 16.3**	**+0.1**
BRSE	**Bradley Lake S**	**15.97**	**50**	P	**Pn**	**02 56 16.5**	**-0.1**
	baz=250,SNR=7.7						
GCSA	**Galena City Sc**	**16.23**	**29**	P	**Pn**	**02 56 20.0**	**+0.2**
	baz=224,SNR=6.8						
K20K	**Telida**	**16.26**	**36**	P	**P**	**02 56 22.1**	**-0.6**
	baz=233						
PEA0B	**Petropavlovsk-**	**16.47**	**286**↓	*e*P	**P**	**02 56 26.2**	**+1.1**
PEA0B	**Petropavlovsk-**	**16.47**	**286**	P	**P**	**02 56 26.0**	**+0.8**
PEA0B				IAmb	IAmb	02 56 44.1	
	comp=Z,121nm,1.4s						
PETK	**Petropavlovsk-**	**16.47**	**286**	P	**P**	**02 56 24.8**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=91,slow=14,SNR=24						
PETK				LR	LR	03 02 19.3	
	comp=Z,534nm,21.3s,baz=95,slow=36						
PETK	**Petropavlovsk-**	**16.47**	**286**	P	**Pn**	**02 56 23.6**	**+0.6**
PETK	**Petropavlovsk-**	**16.47**	**286**	P	**Pn**	**02 56 23.6**	**+0.6**
SEW	**Seward**	**16.71**	**50**	P	**Pn**	**02 56 23.7**	**-2.1**
SEW	**Seward**	**16.71**	**50**	P	**Pn**	**02 56 24.5**	**-1.4**
	baz=251						
PPLA	**Purkeypile**	**16.71**	**39**		**Pn**	**02 56 26.2**	**+0.2**
PPLA				IAmb	IAmb	02 57 00.4	
	comp=Z,108nm,1.2s						
PPLA	**Purkeypile**	**16.71**	**39**	P	**Pn**	**02 56 25.9**	**-0.2**
	baz=238,SNR=13						
J20K	**Nowinta River**	**16.73**	**33**	P	**P**	**02 56 27.9**	**0.0**
CAST	**Castle Rocks**	**17.03**	**37**	P	**P**	**02 56 32.0**	**+0.7**
CAST	**Castle Rocks**	**17.03**	**37**	P	**P**	**02 56 31.2**	**0.0**
	baz=237,SNR=34						
CHUM	**Lake Minchumin**	**17.20**	**36**	P	**P**	**02 56 33.1**	**0.0**
	baz=235,SNR=25						
CUT	**Chulitna**	**17.25**	**42**		**Pn**	**02 56 33.0**	**+0.5**
CUT				IAmb	IAmb	02 57 00.4	
	comp=Z,71nm,0.8s						
CUT	**Chulitna**	**17.25**	**42**	P	**Pn**	**02 56 32.4**	**-0.1**
	baz=242						
PMR	**Palmer**	**17.39**	**45**	P	**Pn**	**02 56 34.7**	**+0.5**
	baz=247						
PWL	**Port Wells**	**17.48**	**48**		**Pn**	**02 56 33.2**	**-2.2**
PWL	**Port Wells**	**17.48**	**48**	P	**Pn**	**02 56 33.7**	**-1.8**
	baz=250						
RDOG	**Red Dog Mine**	**17.52**	**16**	P	P	02 56 49.7	+13
	baz=206,SNR=18						
KTH	**Kantishna Hill**	**17.55**	**38**	P	**P**	**02 56 37.4**	**+0.5**
KTH				IAmb	IAmb	02 56 41.8	
	comp=Z,255nm,1.1s						
GHO	**Glory Hole Cre**	**17.55**	**45**	P	**Pn**	**02 56 35.8**	**-0.6**
KNK	**Knik Glacier**	**17.62**	**46**	P	**Pn**	**02 56 36.6**	**-0.6**
	baz=248,SNR=15						
TRF	**Thorofare Moun**	**17.74**	**39**		**Pn**	**02 56 36.8**	**-1.9**
TRF				IAmb	IAmb	02 57 05.4	
	comp=Z,211nm,1.7s						
TRF	**Thorofare Moun**	**17.74**	**39**	P	**P**	**02 56 40.3**	**+1.1**
	baz=240,SNR=23						
BPAW	**Bear Paw Mtn.**	**17.81**	**36**		**Pn**	**02 56 39.7**	**+0.1**
BPAW	**Bear Paw Mtn.**	**17.81**	**36**	P	**P**	**02 56 40.7**	**+0.8**
	baz=237,SNR=44						
SML	**Sawmill**	**17.82**	**45**	P	**Pn**	**02 56 39.4**	**-0.3**
	baz=247,SNR=8.1						
IMAR	**Indian Mountai**	**18.04**	**29**	P	**P**	**02 56 42.2**	**-0.1**
GLI	**Glacier Island**	**18.06**	**48**	P	**P**	**02 56 41.9**	**-0.7**
	baz=252						
I21K	**Tanana**	**18.09**	**33**	P	**P**	**02 56 42.0**	**-0.8**
I21K				IAmb	IAmb	02 56 49.7	
	comp=Z,114nm,1.1s						
I21K	**Tanana**	**18.09**	**33**	P	**Pn**	**02 56 44.8**	**+2.0**
	baz=232						
H21K	**Melozitna Rive**	**18.11**	**31**	P	**P**	**02 56 42.6**	**-0.6**
H21K	**Melozitna Rive**	**18.11**	**31**	P	**Pn**	**02 56 45.2**	**+2.0**
	baz=230						
SCM	**Sheep Creek Mo**	**18.27**	**45**	P	**P**	**02 56 44.3**	**-0.7**
SCM				pmax	pmax		
	comp=Z,40nm,0.9s						
SCM	**Sheep Creek Mo**	**18.27**	**45**	P	**P**	**02 56 44.3**	**-0.7**
SCM	**Sheep Creek Mo**	**18.27**	**45**	P	**P**	**02 56 44.9**	**-0.2**
	baz=248,SNR=8.5						
FID	**Port Fidalgo**	**18.31**	**49**	P	**P**	**02 56 44.0**	**-1.4**
WAT6	**Susitna Watana**	**18.38**	**43**	P	**P**	**02 56 44.9**	**-1.4**
	baz=246,SNR=8.3						
MCK	**McKinley**	**18.41**	**39**	P	**P**	**02 56 46.1**	**-0.3**
	baz=241,SNR=28						
BWN	**Browne**	**18.42**	**37**	P	**Pn**	**02 56 47.0**	**+0.1**
BWN				IAmb	IAmb	02 56 53.7	
	comp=Z,350nm,1.4s						
MLY	**Manley**	**18.42**	**34**	P	**P**	**02 56 46.8**	**+0.2**
MLY	**Manley**	**18.42**	**34**	P	**Pn**	**02 56 48.0**	**+1.0**
	baz=235,SNR=62						
EYAK	**Cordova Ski Ar**	**18.60**	**50**	P	**P**	**02 56 48.6**	**+0.2**
	baz=254						
BILL	**Bilibino**	**18.69**	**338**	*d i*P	**Pn**	**02 56 51.2**	**+1.1**
BILL				*e*S	Sn	03 00 04.8	-13
BILL				pmax	pmax		
	comp=Z,91nm,1.0s						
BILL				MLR	MLR		
	comp=Z,624nm,21.0s						
BILL	**Bilibino**	**18.69**	**338**		**P**	**02 56 49.1**	**-0.3**
BILL				IAmb	IAmb	02 56 56.1	
	comp=Z,83nm,1.0s						
DHY	**Denali Highway**	**18.74**	**42**	P	**P**	**02 56 49.7**	**-0.5**
DHY	**Denali Highway**	**18.74**	**42**	P	**P**	**02 56 50.3**	**+0.2**
	baz=245,SNR=22						
DIV	**Divide**	**18.75**	**48**	P	**P**	**02 56 50.1**	**-0.2**
NEA2	**Nenana**	**18.78**	**36**	P	**P**	**02 56 49.8**	**-0.7**
NEA2	**Nenana**	**18.78**	**36**	P	**P**	**02 56 50.6**	**+0.1**
	baz=239,SNR=30						
KLU	**Klutina**	**18.79**	**47**	P	**P**	**02 56 49.6**	**-1.1**
KLU	**Klutina**	**18.79**	**47**	P	**P**	**02 56 50.6**	**-0.1**
	baz=251,SNR=12						
M24K	**Tolsona, Glenn**	**18.88**	**45**		**P**	**02 56 51.8**	**+0.2**
M24K	**Tolsona, Glenn**	**18.88**	**45**	P	**Pn**	**02 56 52.6**	**+0.1**
	baz=249,SNR=10						
I23K	**Minto, Yukon-K**	**18.97**	**35**	Pn	**Pn**	**02 56 54.2**	**+0.7**
I23K				IAmb	IAmb	02 57 26.9	
	comp=Z,161nm,1.4s						
I23K	**Minto, Yukon-K**	**18.97**	**35**	P	**Pn**	**02 56 53.7**	**+0.2**
	baz=237,SNR=26						
WRH	**Wood River Hil**	**19.09**	**37**	P	**P**	**02 56 52.9**	**-0.9**
BMRM	**Bremner River**	**19.25**	**49**	P	**P**	**02 56 55.5**	**-0.2**
	baz=255						
HMT	**Hamilton**	**19.26**	**51**	P	**P**	**02 56 55.7**	**-0.1**
MDM	**Murphy Dome**	**19.28**	**36**	P	**P**	**02 56 56.0**	**0.0**
CCB	**Clear Creek Bu**	**19.28**	**37**	P	**P**	**02 56 55.4**	**-0.6**
COLA	**College**	**19.38**	**36**↑	*e*P	**P**	**02 56 57.1**	**+0.2**
COLA				pmax	pmax		
	comp=Z,36nm,0.8s						
COLA	**College**	**19.38**	**36**	P	**P**	**02 56 55.6**	**-1.3**
COLA				IAmb	IAmb	02 57 15.5	
	comp=Z,49nm,0.8s						
HARP	**HAARP**	**19.43**	**45**	P	**P**	**02 56 57.5**	**-0.1**
	baz=250,SNR=11						
N25K	**Chitina, Valde**	**19.43**	**47**	P	**P**	**02 56 57.4**	**-0.3**
N25K	**Chitina, Valde**	**19.43**	**47**	P	**P**	**02 56 58.2**	**+0.5**
	baz=253,SNR=11						
HDA	**Harding Lake**	**19.50**	**38**	P	**P**	**02 56 56.7**	**-1.6**
HDA				IAmb	IAmb	02 57 00.6	
	comp=Z,69nm,0.5s						
HDA	**Harding

FYU	**Fort Yukon**	**21.16**	**34**	IAmb	IAmb	02 57 33.1	
	comp=Z,195nm,1.5s						
PINM	**Pinnacle**	**21.19**	**53**	P	**P**	**02 57 18.5**	**+1.7**
	baz=262						
BVCY	**Beaver Creek**	**21.35**	**46**	P	**P**	**02 57 20.0**	**+1.7**
	baz=255,SNR=21						
YUK3	**Moose Creek**	**21.38**	**48**	P	**P**	**02 57 18.7**	**-0.2**
	baz=257,SNR=11						
PNL	**Peninsula**	**21.57**	**54**	P	**P**	**02 57 21.1**	**+0.4**
	baz=264						
BMAR	**Burnt Mountain**	**21.83**	**32**	P	**P**	**02 57 23.9**	**+0.4**
EGAK	**Eagle**	**21.93**	**40**	IAmb	IAmb	02 57 44.2	
	comp=Z,100nm,1.1s						
EGAK	**Eagle**	**21.93**	**40**	P	**P**	**02 57 24.3**	**-0.2**
	baz=249						
DAWY	**Dawson**	**22.43**	**43**	P	**P**	**02 57 29.7**	**-0.2**
	baz=253,SNR=49						
J29M	**Klondike Camp**	**23.03**	**42**	P	**P**	**02 57 37.0**	**+0.8**
	baz=254						
M30M	**Minto, Yukon**	**23.23**	**47**	P	**P**	**02 57 37.9**	**-0.3**
	baz=260						
I29M	**Ogilvie Camp,**	**23.26**	**40**	P	**P**	**02 57 37.9**	**-0.6**
	baz=252,SNR=27						
N31M	**Braeburn, Yuko**	**23.54**	**50**	P	**P**	**02 57 40.2**	**-1.0**
	baz=263						
SKAG	**Skagway**	**23.62**	**55**	P	**P**	**02 57 43.8**	**+1.9**
	baz=268						
WHY	**Whitehorse**	**23.90**	**52**	P	**P**	**02 57 45.1**	**+0.5**
P33M	**Teslin, Yukon**	**24.91**	**53**	P	**P**	**02 57 54.7**	**+0.9**
	baz=269						
CRAG	**Craig**	**25.08**	**65**	P	**P**	**02 57 56.4**	**+1.1**
	baz=279						
WRAK	**Wrangell Islan**	**25.37**	**62**	IAmb	IAmb	02 58 03.2	
	comp=Z,32nm,0.8s						
WRAK	**Wrangell Islan**	**25.37**	**62**	P	**P**	**02 57 59.4**	**+1.5**
	baz=277,SNR=6.7						
DIB	**Dawson Inlet,**	**25.91**	**70**	IAmb	IAmb	02 58 05.8	
	comp=Z,49nm,1.1s						
INK	**Inuvik**	**25.99**	**34**	P	**P**	**02 58 02.4**	**-1.0**
	comp=Z,12nm,0.8s,baz=234,slow=5.4,SNR=35						
INK				PcP	**PcP**	**03 01 30.7**	**+0.3**
	comp=Z,3.2nm,0.5s,baz=259,slow=2.6,SNR=4.3						
INK				ScP	**ScP**	**03 05 08.1**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=64,slow=31,SNR=15						
INK				ScS	**ScS**	**03 08 53.9**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=191,slow=24,SNR=1.9						
INK	**Inuvik**	**25.99**	**34**	P	**P**	**02 58 02.9**	**-0.5**
	baz=251,SNR=13						
DLBC	**Dease Lake**	**26.40**	**57**	P	**P**	**02 58 08.6**	**+1.2**
	comp=Z,4.0nm,0.5s,baz=257,slow=5.8,SNR=17						
DLBC				LR	LR	03 09 16.2	
	comp=Z,448nm,18.4s,baz=264,slow=38						
YUK	**Yuzh-Kuril'sk**	**26.86**	**269**	*e*P	**P**	**02 58 09.7**	**-1.8**
YUK				*e*		02 58 54.0	
YUK				*e*S	**S**	**03 02 44.0**	**-0.8**
YUK				*e*SS	**SnSn**	**03 03 54.3**	**+2.2**
YUK				pmax	pmax		
	comp=N,293nm,1.1s						
YUK				pmax	pmax		
	comp=Z,322nm,1.1s						
YUK				pmax	pmax		
	comp=E,177nm,1.0s						
YUK				pmax	pmax		
	comp=Z,372nm,1.6s						
YUK				MLR	MLR		
	comp=Z,121nm,16.0s						
YUK				MLR	MLR		
	comp=E,142nm,13.0s						
RUBB	**Prince Rupert**	**26.93**	**66**	IAmb	IAmb	02 58 17.0	
	comp=Z,26nm,0.9s						
UGL	**Uglegorsk**	**26.99**	**281**	*e*P	**P**	**02 58 14.8**	**+2.2**
YSS	**Yuzh-Sakhalins**	**27.42**	**277**	⇑*i*P	**P**	**02 58 17.6**	**+1.1**
YSS				*e**PP	**pP**	**02 58 28.7**	**+0.7**
YSS				*e**SP	**sP**	**02 58 38.9**	**+5.7**
YSS				*e*S	**S**	**03 02 49.3**	**-4.3**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**27.42**	**277**	P	**P**	**02 58 16.6**	**+0.1**
YSS				IAmb	IAmb	02 58 18.8	
	comp=Z,57nm,0.9s						
BBB	**Bella Bella**	**28.74**	**70**	P	**P**	**02 58 29.8**	**+1.6**
	comp=Z,41nm,1.1s,baz=267,slow=9.5,SNR=3.6						
BBB				LR	LR	03 07 46.8	
	comp=Z,233nm,21.6s,baz=292,slow=32						
BBB	**Bella Bella**	**28.74**	**70**	IAmb	IAmb	02 58 30.8	
	comp=Z,147nm,1.4s						
JKA	**Kamikawa-asahi**	**28.85**	**272**	P	**P**	**02 58 29.7**	**+0.4**
JKA				IAmb	IAmb	02 58 32.2	
	comp=Z,28nm,0.8s						
ASAJ	**Asahikawa**	**28.85**	**272**	P	**P**	**02 58 30.2**	**+0.9**
	comp=Z,34nm,0.8s,baz=65,slow=10,SNR=8.7						
ASAJ				LR	LR	03 10 18.9	
	comp=Z,186nm,20.3s,baz=94,slow=37						
C36M	**Paulatuk**	**29.57**	**34**	P	**P**	**02 58 35.0**	**-0.4**
	baz=260,SNR=9.0						
GRNR	**Gornyy**	**29.78**	**288**	⇑*i*P	**P**	**02 58 37.6**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
GRNR				MLR	MLR		
	comp=N,160nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,220nm,16.0s						
A36M	**Sachs Harbour**	**29.79**	**29**	P	**P**	**02 58 37.7**	**+0.4**
A36M				IAmb	IAmb	02 58 39.1	
	comp=Z,44nm,0.8s						
A36M				PcP	**PcP**	**03 01 40.2**	**+0.6**
A36M	**Sachs Harbour**	**29.79**	**29**	P	**P**	**02 58 37.4**	**+0.1**
	baz=254,SNR=33						
YAK	**Yakutsk**	**30.84**	**311**	P	**P**	**02 58 45.5**	**-1.2**
	comp=Z,4.4nm,0.4s,baz=5.1,slow=3.5,SNR=1.7						
YAK				PcP	**PcP**	**03 01 42.4**	**-0.1**
	comp=Z,19nm,0.6s,baz=37,slow=0.8,SNR=11						
YAK				LR	LR	03 10 54.4	
	comp=Z,638nm,21.3s,baz=88,slow=36						
YAK	**Yakutsk**	**30.84**	**311**	*e*P	**P**	**02 58 44.9**	**-1.7**
YAK				*e**PP	**pP**	**02 58 57.0**	**-1.3**
YAK				*e*		03 00 04.8	
YAK				*e*		03 01 42.1	
YAK				*e*S	**S**	**03 03 43.1**	**-3.9**
YAK				*e**SS	**sS**	**03 04 00.4**	**-5.9**
YAK				*e*SS	**ScP**	**03 05 23.2**	**+1.8**
YAK				*e*		03 09 20.9	
YAK				pmax	pmax		
	comp=Z,14nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				smax	smax		
	comp=E,46nm,2.7s						
YAK				smax	smax		
	comp=N,88nm,2.5s						
YAK				MLR	MLR		
	comp=Z,721nm,22.0s						
YAK				MLR	MLR		
	comp=E,473nm,21.0s						
YAK	**Yakutsk**	**30.84**	**311**	P	**P**	**02 58 45.0**	**-1.6**
YAK				IAmb	IAmb	02 58 58.8	
	comp=Z,23nm,0.7s						
YAK				PcP	**PcP**	**03 01 42.4**	**-0.1**
TIXI	**Tiksi**	**31.45**	**330**	P	**P**	**02 58 51.0**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=114,slow=13,SNR=6.7						
TIXI				PcP	**PcP**	**03 01 43.7**	**-0.3**
	comp=Z,23nm,0.6s,baz=111,slow=2.7,SNR=31						
TIXI				ScP	**ScP**	**03 05 22.5**	**-0.8**
	comp=Z,10nm,0.9s,baz=95,slow=3.5,SNR=18						
TIXI				LR	LR	03 12 36.7	
	comp=Z,329nm,18.8s,baz=80,slow=38						
TIXI	**Tiksi**	**31.45**	**330**	P	**P**	**02 58 51.4**	**-0.5**
TIXI				PcP	**PcP**	**03 01 44.1**	**+0.1**
TEY	**Ternei**	**32.11**	**277**	⇓*e*P	**P**	**02 58 58.3**	**+0.3**
TEY				pmax	pmax		
	comp=N,20nm,0.8s						
TEY				pmax	pmax		
	comp=E,50nm,0.8s						
TEY				pmax	pmax		
	comp=Z,70nm,0.8s						
LLLB	**Lilloet**	**32.95**	**70**	P	**P**	**02 59 05.2**	**-0.1**
LLLB				IAmb	IAmb	02 59 12.8	
	comp=Z,22nm,0.9s						
NLWA	**Neilton Lookou**	**33.12**	**77**	P	**P**	**02 59 07.4**	**+0.5**
NLWA				IAmb	IAmb	02 59 11.1	
	comp=Z,44nm,1.2s						
KLR	**Kul'dur**	**33.16**	**287**	LR	LR	03 12 51.7	
	comp=Z,240nm,20.5s,baz=41,slow=37						
KLR	**Kul'dur**	**33.16**	**287**	*d i*P	**P**	**02 59 06.9**	**-0.2**
KLR				pmax	pmax		
	comp=Z,16nm,0.6s						
YKA	**Yellowknife Ar**	**33.46**	**47**	P	**P**	**02 59 09.1**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=278,slow=8.9,SNR=45						
YKA				PcP	**PcP**	**03 01 50.2**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=286,slow=3.2,SNR=13						
YKA				ScP	**ScP**	**03 05 29.6**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=287,slow=3.1,SNR=4.5						
YKA				PKiKP	**PKiKP**	**03 09 12.6**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=275,slow=0.8,SNR=4.1						
YKA				LR	LR	03 15 14.7	
	comp=Z,535nm,19.0s,baz=280,slow=41						
YKA	**Yellowknife Ar**	**33.46**	**47**	*i* P	**P**	**02 59 09.8**	**+0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**33.46**	**47**	P	**P**	**02 59 08.7**	**-0.9**
YKA				PcP	**PcP**	**03 01 50.2**	**+0.5**
D03D	**Eldon**	**33.53**	**76**	P	**P**	**02 59 11.8**	**+1.4**
	baz=297						
B05A	**Bryant**	**33.80**	**74**	P	**P**	**02 59 13.8**	**+1.1**
	baz=296,SNR=8.2						
ZEA	**Zeya**	**34.02**	**297**	*e*P	**P**	**02 59 13.8**	**-0.8**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.3s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,200nm,10.0s						
B06A	**Marblemount**	**34.05**	**74**	P	**P**	**02 59 14.9**	**0.0**
B06A				IAmb	IAmb	02 59 16.4	
	comp=Z,11nm,0.7s						
E04D	**Cinebar**	**34.30**	**77**	P	**P**	**02 59 18.4**	**+1.4**
	baz=298						
D05A	**Enumclaw**	**34.35**	**76**	P	**P**	**02 59 18.6**	**+1.1**
D05A				IAmb	IAmb	02 59 34.2	
	comp=Z,53nm,0.9s						
F04A	**Amboy**	**34.69**	**78**	P	**P**	**02 59 20.7**	**+0.3**
F04A				IAmb	IAmb	02 59 39.7	
	comp=Z,21nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**34.78**	**210**	T	T	03 36 08.3	
	baz=18,slow=76,SNR=1983						
H11N3	**WAKE ISLAND Hy**	**34.79**	**210**	T	T	03 36 09.8	
	baz=18,slow=76,SNR=1975						
H11N1	**WAKE ISLAND Hy**	**34.80**	**210**	T	T	03 36 10.5	
	baz=18,slow=76,SNR=1034						
LTY	**Liberty**	**35.11**	**75**	P	**P**	**02 59 24.8**	**+0.5**
LTY				IAmb	IAmb	02 59 38.9	
	comp=Z,31nm,1.5s						
H04D	**Lebanon**	**35.20**	**80**	P	**P**	**02 59 26.7**	**+1.8**
	baz=301						
USA0B	**Ussuriysk Arra**	**35.38**	**279**	P	**P**	**02 59 26.3**	**-0.1**
USA0B				pmax	pmax		
	comp=Z,28nm,0.9s						
USA0B	**Ussuriysk Arra**	**35.38**	**279**	P	**P**	**02 59 26.3**	**-0.1**
USA0B				IAmb	IAmb	02 59 28.3	
	comp=Z,28nm,0.8s						
USRK	**Ussuriysk Ar.**	**35.38**	**279**	P	**P**	**02 59 26.3**	**-0.1**
	comp=Z,23nm,0.7s,baz=57,slow=9.4,SNR=36						
USRK				PcP	**PcP**	**03 01 55.1**	**-0.4**
	comp=Z,7.0nm,0.8s,baz=61,slow=12,SNR=4.8						
USRK				LR	LR	03 12 52.2	
	comp=Z,395nm,22.0s,baz=40,slow=34						
USRK	**Ussuriysk Ar.**	**35.38**	**279**	P	**P**	**02 59 26.4**	**-0.1**
USRK					**PcP**	**03 01 55.9**	**+0.4**
B08A	**Colville Reser**	**35.41**	**73**	P	**P**	**02 59 27.5**	**+0.8**
B08A				IAmb	IAmb	02 59 28.8	
	comp=Z,50nm,1.3s						
H04A	**Detroit Lake**	**35.45**	**80**	P	**P**	**02 59 28.1**	**+0.9**
H04A				IAmb	IAmb	02 59 32.3	
	comp=Z,53nm,1.5s						
G05D	**Wamic, OR**	**35.70**	**79**	P	**P**	**02 59 30.6**	**+1.4**
	baz=300						
I04A	**Tendick Farm,**	**35.78**	**81**	P	**P**	**02 59 31.1**	**+1.1**
	baz=302						
UWB	**Uwekahuna B**	**35.84**	**146**	P	**P**	**02 59 31.9**	**+1.1**
MJAR	**Matsushiro Arr**	**35.95**	**264**	P	**P**	**02 59 32.0**	**+0.5**
	comp=Z,10nm,0.8s,baz=46,slow=7.8,SNR=14						
MJAR				LR	LR	03 12 20.8	
	comp=Z,288nm,21.3s,baz=58,slow=33						
MJAR	**Matsushiro Arr**	**35.95**	**264**	P	**P**	**02 59 32.0**	**+0.5**
MJAR	**Matsushiro Arr**	**35.95**	**264**	P	**P**	**02 59 31.1**	**-0.3**
MAJO	**Matsushiro**	**35.95**	**264**	⇑*e*P	**P**	**02 59 32.1**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,36nm,1.0s						
MAJO	**Matsushiro**	**35.95**	**264**	P	**P**	**02 59 32.1**	**+0.7**
MAJO				IAmb	IAmb	02 59 35.0	
	comp=Z,31nm,0.9s						
MAT	**Matsushiro**	**35.95**	**264**	P	**P**	**02 59 31.8**	**+0.4**
MJB9	**Matsu-Tunnel**	**35.95**	**264**	P	**P**	**02 59 32.2**	**+0.8**
MJB9				IAmb	IAmb	02 59 35.0	
	comp=Z,31nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**35.99**	**210**	T	T	03 38 39.4	
	baz=20,slow=76,SNR=1394						
H11S2	**WAKE ISLAND Hy**	**36.01**	**210**	T	T	03 38 40.7	
	baz=20,slow=76,SNR=2768						
H11S3	**WAKE ISLAND Hy**	**36.01**	**210**	T	T	03 38 18.5	
	baz=20,slow=76,SNR=620						
VLA	**Vladivostok**	**36.01**	**278**	*ce*P	**P**	**02 59 32.5**	**+0.7**
VLA				pmax	pmax		
	comp=Z,51nm,0.7s						
I05D	**Terrebonne, OR**	**36.15**	**80**	P	**P**	**02 59 34.0**	**+0.9**
	baz=301						
HAWA	**Hanford**	**36.21**	**76**	P	**P**	**02 59 33.9**	**+0.3**
HAWA				IAmb	IAmb	02 59 36.5	
	comp=Z,25nm,0.7s						
D08A	**Wollman Farm,**	**36.26**	**74**	P	**P**	**02 59 33.1**	**-0.9**
D08A				IAmb	IAmb	02 59 35.6	
	comp=Z,13nm,0.7s						
C09A	**Chrisman Ranch**	**36.29**	**73**	IAmb	IAmb	02 59 36.0	
	comp=Z,66nm,1.6s						
E08A	**Dider Farm, El**	**36.45**	**75**	IAmb	IAmb	02 59 45.2	
	comp=Z,72nm,1.8s						
MDJ	**Mudanjiang**	**36.63**	**281**	P	**P**	**02 59 36.8**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,16nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,80nm,4.3s						
PINE	**Pine Mountain**	**36.68**	**80**	P	**P**	**02 59 38.6**	**+0.8**
PINE				IAmb	IAmb	02 59 41.0	
	comp=Z,18nm,1.1s						
YBH	**Yreka Blue Hor**	**36.71**	**84**	P	**P**	**02 59 39.8**	**+1.8**
	comp=Z,3.8nm,1.0s,baz=298,slow=6.9,SNR=3.2						
YBH				LR	LR	03 11 04.1	
	comp=Z,383nm,20.4s,baz=314,slow=30						
NEW	**Newport**	**36.76**	**72**	P	**P**	**02 59 39.0**	**+0.8**
	comp=Z,16nm,0.5s,baz=296,slow=8.6,SNR=74						
NEW				LR	LR	03 14 23.9	
	comp=Z,193nm,18.6s,baz=310,slow=36						
NEW	**Newport**	**36.76**	**72**	IAmb	IAmb	02 59 40.5	
	comp=Z,19nm,0.7s						
NEW	**Newport**	**36.76**	**72**	P	**P**	**02 59 38.6**	**+0.3**
	baz=298,SNR=26						
J05D	**Fort Rock, OR**	**36.77**	**81**	P	**P**	**02 59 40.4**	**+1.9**
	baz=302,SNR=5.1						
JGF	**Kuroka**	**37.08**	**263**	IAmb	IAmb	02 59 56.4	
	comp=Z,20nm,1.0s						
G08A	**Pilot Rock**	**37.11**	**77**	IAmb	IAmb	02 59 44.6	
	comp=Z,19nm,1.4s						
M04C	**Macdoel**	**37.23**	**84**	P	**P**	**02 59 43.5**	**+1.1**
	baz=304						
K05A	**Summer Lake**	**37.29**	**82**	P	**P**	**02 59 43.5**	**+0.5**
K05A				IAmb	IAmb	03 00 09.8	
	comp=Z,33nm,1.1s						
BNX	**BinXian**	**37.39**	**284**	⇑P	**P**	**02 59 42.5**	**-1.0**
BNX				pmax	pmax		
	comp=Z,15nm,0.6s						
BNX				pmax	pmax		
	comp=Z,82nm,4.5s						
MOD	**Modoc Plateau**	**38.11**	**83**	P	**P**	**02 59 50.4**	**+0.5**
WALA	**Waterton Lakes**	**38.27**	**69**	IAmb	IAmb	02 59 53.0	
	comp=Z,31nm,1.0s						
J08A	**Circle Bar Ran**	**38.43**	**79**	IAmb	IAmb	03 00 02.4	
	comp=Z,13nm,0.7s						
RES	**Resolute Bay**	**38.58**	**25**	P	**P**	**02 59 52.6**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=260,slow=11,SNR=7.0						
RES				PcP	**PcP**	**03 02 04.6**	**-0.1**
	comp=Z,11nm,0.7s,baz=270,slow=2.6,SNR=18						
RES				ScP	**ScP**	**03 05 49.1**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=18,slow=7.1,SNR=3.6						
RES				LR	LR	03 18 32.5	
	comp=Z,310nm,20.5s,baz=270,slow=40						
JTMT	**Jette**	**38.68**	**71**	IAmb	IAmb	03 00 04.2	
	comp=Z,60nm,1.6s						
WVOR	**Wild Horse Val**	**38.84**	**81**	P	**P**	**02 59 57.4**	**+1.5**
WVOR				pmax	pmax		
	comp=Z,19nm,0.9s						
WVOR	**Wild Horse Val**	**38.84**	**81**	IAmb	IAmb	03 00 09.2	
	comp=Z,13nm,0.8s						
MSO	**Missoula**	**39.34**	**72**	IAmb	IAmb	03 00 01.7	
	comp=Z,54nm,1.4s						
MSO	**Missoula**	**39.34**	**72**	P	**P**	**02 59 59.5**	**-0.6**
	baz=300,SNR=34						
BOD	**Bodaibo**	**39.51**	**307**	*e*P	**P**	**02 59 59.5**	**-1.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CN2	**Changchun**	**39.59**	**283**	*e*P	**P**	**03 00 02.6**	**+0.6**
CN2				*e*S	**S**	**03 05 57.8**	**-3.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,20.0s						
CN2				LR	LR		
	comp=E,500nm,20.0s						
CN2				LR	LR		
	comp=Z,500nm,23.4s						
PAHR	**Pah Rah Range**	**39.95**	**85**	P	**P**	**03 00 05.5**	**+0.2**
HIA	**Hailar**	**40.16**	**293**	P	**P**	**03 00 05.9**	**-0.8**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HIA	**Hailar**	**40.16**	**293**	P	**P**	**03 00 05.9**	**-0.8**
HIA				IAmb	IAmb	03 00 06.9	
	comp=Z,9.9nm,0.5s						
PNTR	**Pine Nut**	**40.18**	**86**	P	**P**	**03 00 07.3**	**0.0**
PNTR				IAmb	IAmb	03 00 31.2	
	comp=Z,20nm,0.8s						
LRM	**Limekiln Ridge**	**40.75**	**73**	P	**P**	**03 00 11.9**	**0.0**
HLID	**Hailey**	**40.79**	**77**	P	**P**	**03 00 12.0**	**-0.2**
HLID	**Hailey**	**40.79**	**77**	P	**P**	**03 00 12.6**	**+0.4**
	baz=303,SNR=20						
BMN	**Battle Mountai**	**40.85**	**82**	P	**P**	**03 00 13.3**	**+0.5**
BMN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BMN	**Battle Mountai**	**40.85**	**82**	P	**P**	**03 00 13.3**	**+0.5**
EGMT	**Eagleton**	**41.19**	**68**	P	**P**	**03 00 15.4**	**0.0**
EGMT	**Eagleton**	**41.19**	**68**	P	**P**	**03 00 15.3**	**0.0**
	baz=300,SNR=15						
BOZ	**Bozeman (W)**	**41.35**	**72**	P	**P**	**03 00 16.6**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,16nm,0.7s						
BOZ	**Bozeman (W)**	**41.35**	**72**	P	**P**	**03 00 16.6**	**-0.2**
BOZ				IAmb	IAmb	03 00 27.7	
	comp=Z,16nm,0.7s						
BOZ	**Bozeman (W)**	**41.35**	**72**	P	**P**	**03 00 16.9**	**+0.1**
	baz=302,SNR=26						
NVAR	**Mina Array Bea**	**41.39**	**86**	P	**P**	**03 00 18.2**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=301,slow=7.8,SNR=13						
NVAR				PcP	**PcP**	**03 02 15.5**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=258,slow=2.3,SNR=4.3						
NVAR				ScP	**ScP**	**03 06 00.8**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=266,slow=4.9,SNR=7.9						
NVAR				LR	LR	03 16 03.2	
	comp=Z,298nm,19.7s,baz=274,slow=34						
NVAR	**Mina Array Bea**	**41.39**	**86**	P	**P**	**03 00 17.7**	**+0.5**
NVAR				PcP	**PcP**	**03 02 15.8**	**+1.1**
KSRS	**Korea Array**	**41.77**	**273**	P	**P**	**03 00 21.1**	**+1.1**
	comp=Z,26nm,0.9s,baz=58,slow=7.9,SNR=36						
KSRS				LR	LR	03 17 05.8	
	comp=Z,101nm,20.8s,baz=55,slow=35						
KS19	**Wonju Array Si**	**41.78**	**273**	IAmb	IAmb	03 00 23.3	
	comp=Z,46nm,1.0s						
KSAR	**Wonju Array Be**	**41.80**	**273**	P	**P**	**03 00 20.9**	**+0.6**
KSAR	**Wonju Array Be**	**41.80**	**273**	P	**P**	**03 00 20.9**	**+0.6**
ELK	**Elko**	**41.89**	**81**	LR	LR	03 14 30.9	
	comp=Z,285nm,21.7s,baz=317,slow=31						
ELK	**Elko**	**41.89**	**81**	P	**P**	**03 00 21.5**	**+0.1**
ELK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ELK	**Elko**	**41.89**	**81**	P	**P**	**03 00 21.5**	**+0.1**
YMR	**Madison River**	**42.25**	**73**	IAmb	IAmb	03 00 35.5	
	comp=Z,21nm,0.7s						
YNR	**Norris Junctio**	**42.40**	**73**	IAmb	IAmb	03 00 37.2	
	comp=Z,23nm,0.8s						
H17A	**Grant Village**	**42.63**	**73**	IAmb	IAmb	03 00 36.7	
	comp=Z,23nm,0.9s						
H17A	**Grant Village**	**42.63**	**73**	P	**P**	**03 00 28.4**	**+1.0**
	baz=304,SNR=20						
LKWY	**Lake**	**42.65**	**73**	IAmb	IAmb	03 00 40.2	
	comp=Z,24nm,0.7s						
JNU	**Nakatsue**	**42.74**	**266**	LR	LR	03 17 00.6	
	comp=Z,247nm,21.6s,baz=66,slow=34						
JNU	**Nakatsue**	**42.74**	**266**	IAmb	IAmb	03 00 41.3	
	comp=Z,40nm,0.9s						
TJN	**Taejon**	**42.80**	**272**	*ce*P	**P**	**03 00 29.1**	**+0.7**
RLMT	**Red Lodge**	**43.01**	**72**	IAmb	IAmb	03 00 32.3	
	comp=Z,27nm,0.7s						
RLMT	**Red Lodge**	**43.01**	**72**	P	**P**	**03 00 30.5**	**+0.1**
	baz=303,SNR=32						
MPMC	**Manual Prospec**	**43.38**	**88**	P	**P**	**03 00 33.8**	**+0.4**
	baz=310						
DUG	**Dugway, Tooele**	**43.71**	**80**	P	**P**	**03 00 36.8**	**+0.9**
DUG				pmax	pmax		
	comp=Z,25nm,1.1s						
DUG	**Dugway, Tooele**	**43.71**	**80**	IAmb	IAmb	03 00 57.0	
	comp=Z,24nm,1.1s						
DUG	**Dugway, Tooele**	**43.71**	**80**	P	**P**	**03 00 36.3**	**+0.4**
	baz=307,SNR=17						
LAO	**LASA Array**	**43.93**	**68**	IAmb	IAmb	03 00 40.8	
	comp=Z,64nm,1.5s						
LAO	**LASA Array**	**43.93**	**68**	P	**P**	**03 00 38.2**	**+0.6**
	baz=303,SNR=14						
PRN	**Pahroc Range**	**44.04**	**84**	IAmb	IAmb	03 00 46.7	
	comp=Z,25nm,1.0s						
PSUT	**Pine Spring**	**44.08**	**82**	P	**P**	**03 00 39.6**	**+0.6**
DGMT	**Dagmar**	**44.13**	**65**	IAmb	IAmb	03 00 40.4	
	comp=Z,99nm,1.3s						
DGMT	**Dagmar**	**44.13**	**65**	P	**P**	**03 00 39.1**	**0.0**
	baz=302,SNR=18						
BW06	**Boulder Array**	**44.17**	**75**	IAmb	IAmb	03 00 41.1	
	comp=Z,39nm,0.7s						
BW06	**Boulder Array**	**44.17**	**75**	P	**P**	**03 00 39.7**	**-0.1**
	baz=305,SNR=64						
PD31	**Pinedale Array**	**44.17**	**75**	IAmb	IAmb	03 00 41.1	
	comp=Z,34nm,0.7s						
PDAR	**Pinedale Array**	**44.17**	**75**	P	**P**	**03 00 40.0**	**+0.3**
	comp=Z,35nm,0.6s,baz=304,slow=4.2,SNR=401						
PDAR				ScP	**ScP**	**03 06 11.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=290,slow=2.7,SNR=3.2						
PDAR				LR	LR	03 17 08.3	
	comp=Z,242nm,18.1s,baz=327,slow=33						
GSC	**Goldstone,

comp=Z,21nm,0.8s
K22A Casper 46.05 73 IAmb IAmb 03 00 55.4
comp=Z,16nm,0.8s
K22A Casper 46.05 73 P **P** **03 00 54.0 -0.6**
baz=306,SNR=9.1
RWWY Rawlins 46.21 74 IAmb IAmb 03 00 56.2
comp=Z,21nm,0.8s
U15A North Rim 46.37 83 IAmb IAmb 03 01 18.4
comp=Z,13nm,0.9s
NOR Nord 46.48 4 P **P** **03 00 57.5 +0.3**
NOR pmax pmax
comp=Z,11nm,1.8s
NOR Nord 46.48 4 *i* P **P** **03 00 57.0 -0.3**
NOR IAmb IAmb 03 00 58.1
comp=Z,2.9nm,1.0s
O20A White River Ci 46.53 77 IAmb IAmb 03 00 59.5
comp=Z,31nm,0.7s
O20A White River Ci 46.53 77 P **P** **03 00 58.4 0.0**
baz=308,SNR=33
NEEM North Greenlan 46.63 14 *i* P **P** **03 00 58.5 -0.4**
NEEM IAmb IAmb 03 00 59.8
comp=Z,7.7nm,0.3s
RSSD Black Hills 46.65 70 P **P** **03 00 59.2 -0.2**
RSSD pmax pmax
comp=Z,18nm,1.3s
RSSD Black Hills 46.65 70 P **P** **03 00 59.2 -0.2**
RSSD IAmb IAmb 03 01 05.2
comp=Z,18nm,1.2s
RSSD Black Hills 46.65 70 P **P** **03 00 59.1 -0.2**
baz=306
MDND Maddock 47.04 63 P **P** **03 01 02.1 0.0**
baz=304,SNR=48
PV21 Cone Mtn., Par 47.06 79 IAmb IAmb 03 01 14.2
comp=Z,11nm,0.6s
PV10 Paradox Valley 47.13 79 IAmb IAmb 03 01 24.4
comp=Z,29nm,0.9s
PV14 Lion Creek, Pa 47.15 79 IAmb IAmb 03 01 10.6
comp=Z,13nm,0.7s
PV20 West Nyswonger 47.20 79 IAmb IAmb 03 01 23.9
comp=Z,16nm,0.7s
PV04 Paradox Valley 47.20 79 IAmb IAmb 03 01 27.9
comp=Z,16nm,0.9s
PV19 Morning Glory 47.21 79 IAmb IAmb 03 01 24.0
comp=Z,14nm,0.8s
PV17 East Wray Mesa 47.24 79 IAmb IAmb 03 01 24.3
comp=Z,26nm,0.7s
PV16 Nyswonger Mesa 47.25 79 IAmb IAmb 03 01 24.4
comp=Z,16nm,0.8s
PV11 David Mesa, Pa 47.28 79 IAmb IAmb 03 01 23.6
comp=Z,30nm,0.6s
PV18 Skein Mesa, Pa 47.29 79 IAmb IAmb 03 01 25.3
comp=Z,20nm,0.9s
PV12 Saucer Basin, 47.31 79 IAmb IAmb 03 01 31.9
comp=Z,23nm,0.9s
PV03 Paradox Valley 47.33 79 IAmb IAmb 03 01 25.0
comp=Z,23nm,1.1s
PV07 Paradox Valley 47.33 79 IAmb IAmb 03 01 26.0
comp=Z,14nm,0.8s
BJI Beijing 47.40 284 P **P** **03 01 06.2 +1.3**
BJI PcP **PcP** **03 02 35.5 +0.6**
BJI pmax pmax
comp=Z,27nm,0.9s
BJI LR LR
comp=N,350nm,21.0s
BJI LR LR
comp=E,360nm,20.5s
BJI LR LR
comp=Z,680nm,21.0s
PV13 Radium Mtn., P 47.40 79 IAmb IAmb 03 01 26.2
comp=Z,39nm,0.9s
BJT Baijiatuau 47.42 284 P **P** **03 01 05.2 +0.1**
BJT pmax pmax
comp=Z,16nm,0.7s
BJT Baijiatuau 47.42 284 P **P** **03 01 05.2 +0.1**
BJT IAmb IAmb 03 01 07.6
comp=Z,16nm,0.7s
PV02 Paradox Valley 47.42 79 IAmb IAmb 03 01 25.8
comp=Z,31nm,0.8s
N23A Red Feather La 47.45 74 IAmb IAmb 03 01 22.1
comp=Z,22nm,1.1s
N23A Red Feather La 47.45 74 P **P** **03 01 05.7 0.0**
baz=308,SNR=15
PV15 Paradox Valley 47.50 79 IAmb IAmb 03 01 20.1
comp=Z,22nm,1.1s
WUAZ Wupatki 47.52 84 P **P** **03 01 06.3 +0.2**
baz=311
PV01 Paradox Valley 47.57 79 IAmb IAmb 03 01 27.3
comp=Z,20nm,0.9s
ULM Lac du Bonnet 47.71 59 P **P** **03 01 06.7 -0.6**
comp=Z,10nm,0.5s,baz=302,slow=7.6,SNR=15
ULM LR LR 03 21 42.4
comp=Z,282nm,18.2s,baz=324,slow=37
ULM Lac du Bonnet 47.71 59 IAmb IAmb 03 01 07.7
comp=Z,15nm,0.7s
SMCO Snowmass 47.89 77 IAmb IAmb 03 01 22.4
comp=Z,7.6nm,0.6s
ULN Ulaanbaatar 48.04 298⇓ *e*P **P** **03 01 09.3 -0.7**
ULN pmax pmax
comp=Z,18nm,4.0s
MVCO Mesa Verde 48.20 80 P **P** **03 01 11.8 +0.3**
baz=310,SNR=5.3
ISCO Idaho Springs 48.33 75 P **P** **03 01 12.8 +0.3**
ISCO pmax pmax
comp=Z,48nm,2.0s
ISCO Idaho Springs 48.33 75 P **P** **03 01 12.8 +0.3**
ISCO IAmb IAmb 03 01 22.9
comp=Z,48nm,2.0s
ISCO Idaho Springs 48.33 75 P **P** **03 01 12.8 +0.3**
baz=308,SNR=10
SONM Songino Array 48.42 298 P **P** **03 01 11.7 -1.2**
comp=Z,2.1nm,0.8s,baz=50,slow=7.6,SNR=9.0
SONM PcP **PcP** **03 02 37.5 -1.1**
comp=Z,11nm,0.9s,baz=58,slow=2.6,SNR=17
SONM ScP **ScP** **03 06 28.6 -0.9**
comp=Z,2.8nm,0.9s,baz=56,slow=3.1,SNR=8.8
SONM LR LR 03 22 44.5
comp=Z,254nm,20.0s,baz=40,slow=37
SONM Songino Array 48.42 298 P **P** **03 01 12.8 -0.1**
SONM pmax pmax
comp=Z,15nm,1.0s
SONM Songino Array 48.42 298 P **P** **03 01 12.8 -0.1**
SONM IAmb IAmb 03 02 39.7
comp=Z,15nm,1.0s
AGMN Agassiz Nation 48.84 61 P **P** **03 01 15.5 -0.5**
baz=306,SNR=41
S22A 4UR Ranch, Cre 48.88 78 P **P** **03 01 17.1 +0.3**
baz=310,SNR=9.6
Q24A Divide 49.13 76 P **P** **03 01 19.0 +0.3**
baz=309
TIA Tai'an 49.24 279⇑ P **P** **03 01 19.3 +0.1**
TIA pmax pmax
comp=Z,87nm,0.9s
TIA pmax pmax
comp=Z,150nm,4.3s
TIA LR LR
comp=N,190nm,9.0s
TIA LR LR
comp=E,260nm,17.1s
TIA LR LR
comp=Z,220nm,22.9s
SUSD Miller 49.40 66 P **P** **03 01 20.0 -0.3**
SUSD Miller 49.40 66 P **P** **03 01 19.8 -0.5**
baz=307,SNR=26
HHC Hu-ho-hao-te 49.66 288 *e*P **P** **03 01 24.5 +2.1**
HHC pP pP 03 01 31.6 -2.9
HHC PP **PP** **03 03 21.5 +4.6**
HHC S **S** **03 08 34.4 +6.6**
HHC sS sS 03 08 42.8 -5.1
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,200nm,5.0s
HHC LR LR
comp=N,240nm,18.2s
HHC LR LR
comp=E,240nm,17.8s
HHC LR LR
comp=Z,390nm,17.8s
SDCO Great Sand Dun 49.69 77 P **P** **03 01 23.4 +0.4**
SDCO Great Sand Dun 49.69 77 P **P** **03 01 23.1 +0.2**
baz=310,SNR=19
OGNE Ogallala 49.75 72 IAmb IAmb 03 01 32.5
comp=Z,52nm,1.2s
OGNE Ogallala 49.75 72 P **P** **03 01 23.2 +0.1**
baz=308
B35A Bob, Littlefor 49.95 60 P **P** **03 01 23.5 -0.9**
B35A IAmb IAmb 03 01 24.7
comp=Z,33nm,0.8s
HNS HongShan 49.95 282⇑ P **P** **03 01 25.0 +0.4**
HNS *e*S **S** **03 08 35.7 +3.9**
HNS pmax pmax
comp=Z,95nm,1.0s
HNS LR LR
comp=E,600nm,24.9s
HNS LR LR
comp=Z,510nm,21.0s
TUC Tucson 50.02 86 P **P** **03 01 25.7 +0.4**
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 50.02 86 P **P** **03 01 25.7 +0.4**
TUC Tucson 50.02 86 P **P** **03 01 25.6 +0.3**
baz=313
F33A 5 Mile Ranch, 50.06 64 P **P** **03 01 23.9 -1.3**
F33A IAmb IAmb 03 01 25.4
comp=Z,45nm,1.1s
SPITS Spitsbergen Ar 50.21 357 P **P** **03 01 25.7 -0.4**
comp=Z,6.2nm,0.5s,baz=64,slow=9.8,SNR=21
SPITS LR LR 03 22 49.8
comp=Z,404nm,20.2s,baz=306,slow=36
KSCO Kaye Shedlock' 50.62 74 IAmb IAmb 03 01 32.4
comp=Z,38nm,0.8s
KSCO Kaye Shedlock' 50.62 74 P **P** **03 01 30.3 +0.6**
baz=310,SNR=11
K31A O'Neill 50.63 68 IAmb IAmb 03 01 32.5
comp=Z,42nm,1.1s
T25A Trinidad 50.74 77 P **P** **03 01 31.1 +0.2**
T25A IAmb IAmb 03 01 33.7
comp=Z,40nm,0.9s
T25A Trinidad 50.74 77 P **P** **03 01 31.4 +0.6**
baz=310,SNR=28
ANMO Albuquerque 50.93 81 LR LR 03 22 02.6
comp=Z,87nm,19.1s,baz=326,slow=35
ANMO Albuquerque 50.93 81 P **P** **03 01 32.5 +0.3**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 50.93 81 P **P** **03 01 32.5 +0.3**
ANMO Albuquerque 50.93 81 P **P** **03 01 32.0 -0.2**
baz=312
DAG Danmarks Havn 50.97 7 P **P** **03 01 31.2 -0.5**
DAG Danmarks Havn 50.97 7 *i* P **P** **03 01 30.9 -0.9**
DAG IAmb IAmb 03 01 31.7
comp=Z,3.3nm,0.7s
TIY Taiyuan 51.13 284⇑ P **P** **03 01 35.6 +2.1**
TIY S S 03 08 57.5 +9.2
TIY pmax pmax
comp=Z,21nm,0.5s
TIY pmax pmax
comp=Z,170nm,4.5s
TIY LR LR
comp=N,160nm,4.9s
TIY LR LR
comp=E,250nm,7.8s
TIY LR LR
comp=Z,250nm,11.0s
ECSD EROS Data Cent 51.16 66 IAmb IAmb 03 01 33.7
comp=Z,23nm,1.0s
ECSD EROS Data Cent 51.16 66 P **P** **03 01 32.6 -1.1**
baz=308,SNR=18
EYMN Ely 51.40 59 P **P** **03 01 35.1 -0.2**
EYMN IAmb IAmb 03 01 36.2
comp=Z,46nm,1.1s
EYMN Ely 51.40 59 P **P** **03 01 34.4 -1.0**
baz=308,SNR=18
F36A Milaca 51.58 62 P **P** **03 01 35.9 -0.8**
F36A IAmb IAmb 03 01 36.9
comp=Z,26nm,0.8s
FRB Frobisher Bay 51.63 33 P **P** **03 01 36.1 -0.7**
FRB pmax pmax
comp=Z,34nm,0.9s
121A Cookes Peak, D 51.73 84 P **P** **03 01 37.6 -0.6**
baz=313
BGNE Belgrade 51.74 69 P **P** **03 01 37.8 -0.2**
BGNE IAmb IAmb 03 01 46.7
comp=Z,36nm,0.8s
BGNE Belgrade 51.74 69 P **P** **03 01 37.4 -0.6**
baz=309,SNR=9.1
E38A The Farm, Brul 52.19 60 P **P** **03 01 40.0 -1.2**
SPMN Marine on St. 52.37 62 IAmb IAmb 03 01 43.2
comp=Z,49nm,1.1s
SPMN Marine on St. 52.37 62 P **P** **03 01 42.1 -0.5**
baz=309,SNR=12
L34A Svendsen Farm, 52.41 67 P **P** **03 01 42.1 -0.8**
CBKS Cedar Bluff 52.47 73 P **P** **03 01 43.5 0.0**
CBKS pmax pmax
comp=Z,55nm,0.7s
CBKS Cedar Bluff 52.47 73 P **P** **03 01 43.5 0.0**
CBKS Cedar Bluff 52.47 73 P **P** **03 01 43.6 +0.1**
baz=310,SNR=22
SUMG Summit 52.48 15 *i* P **P** **03 01 41.5 -2.0**
SUMG IAmb IAmb 03 01 45.3
comp=Z,5.8nm,0.9s
I37A Lemond, Waseca 52.80 64 P **P** **03 01 45.1 -0.7**
DBG Daneborg 53.19 8 *i* P **P** **03 01 47.2 -1.1**
DBG IAmb IAmb 03 01 48.1
comp=Z,5.8nm,0.8s
LYN LuoYang 53.19 281⇑ *i* P **P** **03 01 49.1 +0.3**
LYN pP sP 03 02 11.1 +5.1
LYN S **S** **03 09 12.5 -3.9**
LYN sS sS 03 09 51.7 +15
LYN LuoYang 53.19 281 SS SS 03 12 44.9 -11
LYN pmax pmax
comp=Z,50nm,0.8s
LYN LR LR
comp=E,270nm,19.6s
LYN LR LR
comp=Z,270nm,24.3s
R32A Long Quarter, 53.33 72 IAmb IAmb 03 01 50.4
comp=Z,22nm,0.7s
G40A Rib Lake 53.77 61 P **P** **03 01 52.2 -0.7**
MNTX Cornudas Mount 53.78 83 IAmb IAmb 03 02 14.2
comp=Z,9.3nm,0.8s
MNTX Cornudas Mount 53.78 83 P **P** **03 01 53.0 -0.2**
baz=314,SNR=9.1
MSTX Muleshoe 53.84 79 IAmb IAmb 03 01 55.8
comp=Z,23nm,1.1s
MSTX Muleshoe 53.84 79 P **P** **03 01 53.4 -0.3**
baz=313,SNR=12
AMTX Amarillo 53.89 78 P **P** **03 01 53.2 -0.9**
AMTX IAmb IAmb 03 01 55.1
comp=Z,13nm,0.8s
AMTX Amarillo 53.89 78 P **P** **03 01 53.7 -0.3**
baz=312
K38A Parkersburg 54.03 65 IAmb IAmb 03 01 55.1
comp=Z,27nm,0.9s
KSU1 Kansas State U 54.13 70 IAmb IAmb 03 01 55.8
comp=Z,17nm,0.8s
KSU1 Kansas State U 54.13 70 P **P** **03 01 54.9 -0.8**
baz=311
SCIA State Center 54.26 66 P **P** **03 01 56.2 -0.3**
baz=310
I40A Norwalk 54.42 62 P **P** **03 01 57.4 -0.3**
U32A Winter Ranch, 54.51 74 IAmb IAmb 03 02 00.1
comp=Z,39nm,0.8s
SFJD Kangerlussuaq 54.55 23 LR LR 03 28 34.7
comp=Z,308nm,18.4s,baz=238,slow=40
F42A Maple Grove Fa 54.56 59 P **P** **03 01 58.4 -0.3**
KAN01 Argonia South 54.74 73 IAmb IAmb 03 02 00.3
comp=Z,16nm,1.0s
WHN Wuhan 54.77 276⇑ P **P** **03 02 00.5 +0.2**
WHN sP **pP** **03 02 08.2 -4.4**
WHN pmax pmax
comp=Z,94nm,1.0s
KAN17 Caldwell West 54.80 73 IAmb IAmb 03 02 01.6
comp=Z,22nm,0.9s
KAN13 South Haven SW 55.00 73 P **P** **03 02 01.4 -0.6**
CROK Carrier 55.03 74 IAmb IAmb 03 02 02.5
comp=Z,28nm,0.9s
JFWS Jewell Farm 55.26 63 P **P** **03 02 02.6 -1.2**
JFWS pmax pmax
comp=Z,50nm,0.8s
JFWS Jewell Farm 55.26 63 P **P** **03 02 02.6 -1.2**
JFWS Jewell Farm 55.26 63 P **P** **03 02 02.3 -1.5**
baz=311,SNR=19
L40A Anamosa 55.28 64 IAmb IAmb 03 02 04.7
comp=Z,21nm,0.8s
BLOK Blackwell 55.32 73 IAmb IAmb 03 02 04.6
comp=Z,21nm,1.1s
I42A Draeger Farm, 55.36 61 P **P** **03 02 03.9 -0.5**
ZALV Zalesovo Beam 55.36 315 P **P** **03 02 04.2 -0.1**
comp=Z,1.0nm,0.5s,baz=47,slow=6.7,SNR=7.0
ZALV PcP **PcP** **03 03 04.8 +0.5**
comp=Z,7.6nm,0.8s,baz=37,slow=3.7,SNR=13
ZALV ScP **ScP** **03 06 58.5 -0.8**
comp=Z,0.2nm,0.3s,baz=38,slow=5.4,SNR=2.0
ZALV LR LR 03 27 25.9
comp=Z,327nm,19.3s,baz=40,slow=38
ZALV Zalesovo Beam 55.36 315 *i* P **P** **03 02 04.1 -0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
SSLB Suanglung 55.48 265 P **P** **03 02 05.3 -0.2**
SSLB IAmb IAmb 03 02 18.7
comp=Z,36nm,0.9s
P38A Dawn 55.57 68 P **P** **03 02 04.9 -1.2**
P38A IAmb IAmb 03 02 15.9
comp=Z,21nm,0.7s
T35A Sooner Cattle 55.63 72 **P** **03 02 05.4 -1.2**
T35A IAmb IAmb 03 02 08.0
comp=Z,19nm,0.9s
XAN Xi'an 55.70 283 P **P** **03 02 07.9 +0.8**
XAN pP sP 03 02 29.2 +4.9
XAN pmax pmax
comp=Z,26nm,0.7s
XAN pmax pmax
comp=Z,200nm,5.2s
XAN LR LR
comp=N,210nm,9.1s
XAN LR LR
comp=E,420nm,18.1s
XAN LR LR
comp=Z,600nm,23.7s
WMOK Wichita Mounta 55.75 76 IAmb IAmb 03 02 08.8
comp=Z,20nm,0.9s
WMOK Wichita Mounta 55.75 76 P **P** **03 02 07.3 -0.1**
baz=313,SNR=21
BCOK Bluff Creek, N 55.83 74 IAmb IAmb 03 02 08.5
comp=Z,19nm,0.7s
DY2G Dye2 56.01 22 *i* P **P** **03 02 07.7 -1.4**
DY2G IAmb IAmb 03 02 09.1
comp=Z,8.8nm,0.4s
QUOK Quay 56.02 73 IAmb IAmb 03 02 11.0
comp=Z,13nm,0.8s
OK031 S. Brethren Rd 56.09 73 IAmb IAmb 03 02 12.3
comp=Z,25nm,0.8s
LPIG La Paz 56.10 93 LR LR 03 23 46.8
comp=Z,190nm,18.2s,baz=346,slow=33
OK034 N. Norfolk Rd. 56.13 73 IAmb IAmb 03 03 30.5
comp=Z,25nm,1.1s
OK030 Cody Creek RV 56.14 73 IAmb IAmb 03 02 18.8
comp=Z,70nm,1.7s
L42A Oliver, Polo 56.19 63 IAmb IAmb 03 02 10.7
comp=Z,38nm,0.8s
FNO Franklin 56.23 74 IAmb IAmb 03 02 11.7
comp=Z,33nm,1.2s
N41A Harden Midland 56.38 65 P **P** **03 02 11.1 -0.7**
N41A IAmb IAmb 03 02 11.5
comp=Z,23nm,0.9s
X34A Smith Ranch, M 56.41 75 IAmb IAmb 03 02 13.7
comp=Z,12nm,0.8s
K43A Burlington 56.46 62 P **P** **03 02 11.4 -0.9**
TX31 Lajitas Ar. Si 56.49 84 P **P** **03 02 12.6 -0.3**
TX31 IAmb IAmb 03 02 32.9
comp=Z,33nm,0.9s
TX32 Lajitas Array 56.49 84 IAmb IAmb 03 02 32.8
comp=Z,11nm,0.9s
TXAR Lajitas Array 56.49 84 P **P** **03 02 12.7 -0.2**
comp=Z,3.7nm,0.7s,baz=304,slow=5.0,SNR=44
TXAR ScP **ScP** **03 07 03.2 -1.5**
comp=Z,0.6nm,0.8s,baz=180,slow=1.3,SNR=3.8
TXAR LR LR 03 23 23.5
comp=Z,154nm,20.4s,baz=354,slow=33
W35A Tecumseh 56.61 74 P **P** **03 02 13.2 -0.3**
TUL1 Leonard 56.74 73 IAmb IAmb 03 02 14.9
comp=Z,17nm,0.9s
TUL1 Leonard 56.74 73 P **P** **03 02 14.0 -0.5**
baz=313
S39A Bolivar 56.99 70 IAmb IAmb 03 02 23.1
comp=Z,8.4nm,0.8s
DGZ Jazzator, Alta 57.02 310⇓ *i* P **P** **03 02 15.2 -1.2**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
L44A Lake County Fo 57.04 62 P **P** **03 02 15.4 -1.0**
baz=312
GLMI Grayling 57.05 58 P **P** **03 02 16.1 -0.4**
baz=312,SNR=8.7
R40A Maddies Statio 57.20 68 IAmb IAmb 03 02 24.7
comp=Z,19nm,0.6s
U38A Gravette 57.22 71 IAmb IAmb 03 02 25.8
comp=Z,9.7nm,0.7s
LOOK Love County 57.22 75 P **P** **03 02 17.9 0.0**
JMIC Jan Mayen 57.28 5 LR LR 03 26 04.6
comp=Z,114nm,21.7s,baz=342,slow=35
LZH Lanzhou 57.35 288 *e*P **P** **03 02 19.8 +0.9**
LZH pP pP 03 02 25.8 -5.4
LZH sP sP 03 02 32.2 -3.9
HDIL Hopedale 57.37 65 P **P** **03 02 18.1 -0.6**
baz=312,SNR=7.0
GTA Gaotai 57.43 294 *e*P **P** **03 02 16.2 -3.2**
GTA pP pP 03 02 22.8 -8.9
GTA sP sP 03 02 26.6 -10
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,4.6s
GTA LR LR
comp=N,290nm,17.8s
GTA LR LR
comp=E,250nm,16.7s
GTA LR LR
comp=Z,340nm,21.1s
Z35A Perchaven, San 57.63 76 IAmb IAmb 03 02 22.4
comp=Z,26nm,1.1s
X37A Clayton 57.90 74 IAmb IAmb 03 02 24.4
comp=Z,22nm,0.7s
CCM Cathedral Cave 57.95 68 P **P** **03 02 23.1 +0.2**
CCM Cathedral Cave 57.95 68 P **P** **03 02 21.6 -1.3**
baz=313
MGMO Mountain Grove 57.97 69 IAmb IAmb 03 02 29.7
comp=Z,10nm,0.8s
JCT Junction City 58.07 80 IAmb IAmb 03 03 34.7
comp=Z,13nm,1.1s
JCT Junction City 58.07 80 P **P** **03 02 23.0 -0.8**
baz=315
O44A Mansfield 58.10 64 IAmb IAmb 03 02 24.1
comp=Z,31nm,0.9s
ARCES ARCESS Array B 58.14 352 P **P** **03 02 22.8 -1.1**
comp=Z,3.8nm,0.7s,baz=7.7,slow=7.1,SNR=7.0
ARCES PcP **PcP** **03 03 14.4 -0.5**
comp=Z,1.5nm,0.4s,baz=22,slow=6.0,SNR=6.7
ARCES LR LR 03 32 32.6
comp=Z,85nm,18.4s,baz=5.5,slow=41
ARCES ARCESS Array B 58.14 352 IAmb IAmb 03 02 23.1
comp=Z,30nm,1.5s
U40A Yellville 58.17 70 P **P** **03 02 23.0 -1.5**
baz=313
SCHQ Schefferville 58.42 40 P **P** **03 02 25.5 -0.5**
comp=Z,8.7nm,0.8s,baz=321,slow=7.0,SNR=13
SCHQ LR LR 03 29 10.1
comp=Z,330nm,18.3s,baz=346,slow=38
SCHQ Schefferville 58.42 40 P **P** **03 02 25.4 -0.5**
SCHQ IAmb IAmb 03 02 41.2
comp=Z,46nm,1.8s
W39A Magazine 58.42 72 P **P** **03 02 26.1 -0.2**
W39A IAmb IAmb 03 02 26.3
comp=Z,16nm,0.9s
W39A Magazine 58.42 72 P **P** **03 02 25.4 -0.8**
baz=314,SNR=6.4
WHTX Lake Whitney, 58.44 77 P **P** **03 02 26.6 +0.2**
WHTX Lake Whitney, 58.44 77 P **P** **03 02 26.0 -0.4**
baz=314,SNR=12
FVM French Village 58.47 67 P **P** **03 02 25.9 -0.7**
FVM pmax pmax
comp=Z,15nm,0.6s
FVM French Village 58.47 67 P **P** **03 02 25.9 -0.7**
FVM IAmb IAmb 03 02 36.5
comp=Z,15nm,0.6s
Q44A Meyer Farm, Va 58.64 66 IAmb IAmb 03 02 28.0
comp=Z,36nm,1.1s
LVZ Lovozero 58.65 347⇓ *e*P **P** **03 02 27.5 +0.1**
LVZ pmax pmax
comp=Z,40nm,1.7s
SFIN Lafayette 58.71 63 P **P** **03 02 27.4 -0.8**
baz=313,SNR=9.4
T42A Van Buren 58.74 69 P **P** **03 02 26.8 -1.6**
T42A IAmb IAmb 03 02 35.5
comp=Z,7.7nm,0.6s
FCAR Ozark Folk Cen 58.92 70 P **P** **03 02 28.5 -1.2**
FCAR IAmb IAmb 03 02 29.2
comp=Z,15nm,0.8s
MIAR Mount Ida 58.99 72 P **P** **03 02 30.2 0.0**
MIAR pmax pmax

comp=Z,23nm,0.9s
MIAR Mount Ida 58.99 72 P P 03 02 30.2 0.0
MIAR IAmb IAmb 03 02 31.9
comp=Z,23nm,0.9s
MIAR Mount Ida 58.99 72 P P 03 02 29.7 -0.5
baz=314,SNR=16
L48A N Adams 59.10 60 P P 03 02 30.7 -0.2
N47A Urbana 59.15 62 P P 03 02 30.5 -0.7
435B Jarrell 59.21 78 IAmb IAmb 03 02 32.8
comp=Z,19nm,1.0s
435B Jarrell 59.21 78 P P 03 02 31.5 -0.3
baz=315
WHAR Wooly Hollow 59.24 71 P P 03 02 31.4 -0.6
WHAR IAmb IAmb 03 02 35.4
comp=Z,10nm,0.7s
AAM Ann Arbor 59.27 60 P P 03 02 32.2 +0.2
AAM pmax pmax
comp=Z,33nm,0.6s
AAM Ann Arbor 59.27 60 P P 03 02 32.2 +0.2
AAM Ann Arbor 59.27 60 P P 03 02 31.0 -1.1
baz=314,SNR=5.0
OLIL Olney 59.28 65 P P 03 02 32.1 -0.1
PBMO Poplar Bluff 59.30 68 IAmb IAmb 03 02 37.7
comp=Z,24nm,1.1s
S44A Carbondale 59.34 67 P P 03 02 31.6 -1.0
S44A IAmb IAmb 03 02 40.3
comp=Z,15nm,0.7s
W41B Gary Mavity, V 59.34 71 P P 03 02 32.1 -0.5
W41B IAmb IAmb 03 02 45.7
comp=Z,10.0nm,0.8s
W41B Gary Mavity, V 59.34 71 P P 03 02 31.3 -1.4
baz=314
X40A Basin Creek Fa 59.48 72 IAmb IAmb 03 02 42.2
comp=Z,30nm,1.6s
X40A Basin Creek Fa 59.48 72 P P 03 02 33.1 -0.4
baz=314
PARMO Parma 59.77 68 P P 03 02 34.9 -0.6
ZSN Zaisan 59.81 309 *e*P **P 03 02 34.4 -1.3**
ZSN Zaisan 59.81 309 *e*P **P 03 02 34.5 -1.3**
baz=309
833A Chaparral WMA, 59.84 82 P P 03 02 36.2 0.0
833A IAmb IAmb 03 02 57.3
comp=Z,18nm,1.0s
833A Chaparral WMA, 59.84 82 P P 03 02 36.1 -0.1
baz=316
SEM Semipalatinsk 59.85 314 *e*P **P 03 02 34.6 -1.5**
SEM Semipalatinsk 59.85 314 *e*P **P 03 02 34.7 -1.5**
baz=314
BLO Bloomington 59.87 64 P P 03 02 36.0 -0.2
BLO pmax pmax
comp=Z,38nm,0.8s
BLO Bloomington 59.87 64 P P 03 02 36.0 -0.2
WLAR White Oak Lake 59.87 73 P P 03 02 36.5 +0.3
SADO Sadowa 59.93 55 LR LR 03 31 47.0
comp=Z,123nm,19.7s,baz=356,slow=39
SADO Sadowa 59.93 55 P P 03 02 36.1 -0.4
SADO IAmb IAmb 03 02 37.2
comp=Z,25nm,0.8s
N49A Columbus Grove 59.94 61 P P 03 02 36.4 -0.3
P48A Milroy 60.28 63 P P 03 02 38.0 -1.0
NATX Nacogdoches 60.29 75 P P 03 02 39.3 +0.1
baz=315
KURK Kurchatov 60.35 315 *c*e**P P 03 02 38.0 -1.3**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 60.35 315 P P 03 02 37.8 -1.5
KURK IAmb IAmb 03 02 40.1
comp=Z,11nm,0.8s
Z41A Richland Creek 60.35 73 P P 03 02 39.7 +0.2
baz=315
O49A Covington 60.37 62 P P 03 02 39.2 -0.4
O49A IAmb IAmb 03 02 39.4
comp=Z,15nm,0.7s
KURBB Kurchatov Arra 60.45 315 LR LR 03 30 37.7
comp=Z,352nm,18.7s,baz=17,slow=38
P49A Miami Univ. Ec 60.62 63 P P 03 02 40.6 -0.7
P49A Miami Univ. Ec 60.62 63 P P 03 02 40.4 -0.9
baz=314,SNR=16
WCI Wyandotte Cave 60.65 65 P P 03 02 41.6 0.0
WCI pmax pmax
comp=Z,28nm,1.0s
WCI Wyandotte Cave 60.65 65 P P 03 02 41.6 0.0
WCI IAmb IAmb 03 02 42.1
comp=Z,28nm,0.9s
WCI Wyandotte Cave 60.65 65 P P 03 02 40.8 -0.8
baz=314
PLVO Plevna 60.78 54 P P 03 02 42.0 -0.4
HKT Hockley 60.86 78⇓*e*P **P 03 02 42.7 -0.3**
HKT pmax pmax
comp=Z,15nm,1.2s
DELO Deloro Mine 60.88 54 P P 03 02 42.9 -0.1
DELO IAmb IAmb 03 02 44.0
comp=Z,40nm,1.3s
N51A Ashland 60.93 60 P P 03 02 42.8 -0.7
WMQ Urumqi 60.96 305 *e*P **P 03 02 47.4 +3.7**
WMQ pP pP 03 02 57.7 +1.6
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ pmax pmax
comp=Z,150nm,4.5s
WMQ LR LR
comp=N,400nm,21.3s
WMQ LR LR
comp=E,340nm,21.5s
WMQ LR LR
comp=Z,290nm,21.9s
GULI GuiLin 60.97 275 ⇑P **P 03 02 46.9 +3.0**
CD2 Chengdu 61.00 284 P **P 03 02 44.4 +0.3**
CD2 pmax pmax
comp=Z,40nm,1.0s
M52A Chesterland 61.03 59 P P 03 02 44.3 +0.1
T47A Sharon Grove 61.06 66 P P 03 02 44.4 +0.1
T47A IAmb IAmb 03 02 44.6
comp=Z,20nm,0.7s
ACSO Alum Creek Sta 61.08 61 P P 03 02 44.2 -0.3
ACSO Alum Creek Sta 61.08 61 P P 03 02 43.9 -0.6
baz=315
W45A Hickory Valley 61.15 69 P P 03 02 44.8 -0.1
J54A Appleton 61.24 56 P P 03 02 45.4 -0.1
WVT Waverly 61.25 67 P P 03 02 45.0 -0.6
WVT pmax pmax
comp=Z,21nm,1.2s
WVT Waverly 61.25 67 P P 03 02 45.0 -0.6
WVT IAmb IAmb 03 02 50.5
comp=Z,21nm,1.2s
WVT Waverly 61.25 67 P P 03 02 45.1 -0.5
baz=315
ERPA Erie 61.35 58 P P 03 02 46.4 +0.1
ERPA Erie 61.35 58 P P 03 02 46.2 -0.1
baz=315,SNR=9.0
MEDO Medina 61.41 56 P P 03 02 46.6 0.0
M53A WI Miller and 61.47 59 P P 03 02 47.1 0.0
M53A WI Miller and 61.47 59 P P 03 02 46.9 -0.2
baz=315,SNR=26
MK31 Makanchi Array 61.51 310⇑*e*P **P 03 02 46.1 -1.2**
MK31 Makanchi Array 61.51 310 P P 03 02 45.6 -1.7
MKAR Makanchi Array 61.51 310 P P 03 02 45.8 -1.5
comp=Z,2.5nm,0.6s,baz=47,slow=5.8,SNR=31
MKAR LR LR 03 29 49.9
comp=Z,236nm,21.6s,baz=26,slow=36
MKAR Makanchi Array 61.51 310 P P 03 02 45.9 -1.4
MKAR Makanchi Array 61.51 310 P P 03 02 45.9 -1.4
P51A Williamsport 61.57 62 P P 03 02 47.3 -0.5
P51A IAmb IAmb 03 02 48.2
comp=Z,24nm,0.8s
ALLY Alegheny Colle 61.60 58 P P 03 02 47.8 -0.1
PECO Prince Edward 61.61 54 P P 03 02 47.1 -0.8
J55A Hilton 61.66 55 P P 03 02 48.4 0.0
R50A Paris 61.71 63 P P 03 02 48.5 -0.3
R50A IAmb IAmb 03 02 49.7
comp=Z,19nm,0.7s
Q51A Peebles 61.73 62 P P 03 02 48.9 0.0
O52A Adamsville 61.78 60 P P 03 02 49.0 -0.2
N53A Lisbon 61.83 59 P P 03 02 49.3 -0.2
WVNY West Valley, N 61.87 57 P P 03 02 49.6 -0.2
PLAL Pickwick Lake 61.92 68 IAmb IAmb 03 02 50.3
comp=Z,16nm,0.6s
M54A Oil Creek Stat 61.96 58 P P 03 02 49.9 -0.4
M54A Oil Creek Stat 61.96 58 P P 03 02 50.0 -0.4
baz=315,SNR=17
P52A Corning 61.97 61 P P 03 02 49.4 -1.1
baz=315,SNR=7.6
MMNY Mt. Morris Dam 62.00 56 P P 03 02 50.8 +0.1
O53A New Philadelph 62.02 60 P P 03 02 50.2 -0.6
O53A New Philadelph 62.02 60 P P 03 02 50.2 -0.6
baz=315,SNR=15
BRVK Borovoye 62.04 321 *d* iP **P 03 02 51.3 +0.6**
BRVK pmax pmax
comp=Z,13nm,1.3s
V48A Smith Brothers 62.10 67 IAmb IAmb 03 03 01.6
comp=Z,8.9nm,0.8s
CLTN Cedars of Leba 62.13 66 IAmb IAmb 03 02 53.8
comp=Z,16nm,0.8s
J56A Wolcott 62.15 55 P P 03 02 50.7 -0.9
U49A Red Boiling Sp 62.15 66 IAmb IAmb 03 02 51.8
comp=Z,9.6nm,0.7s
N54A Moraine State 62.17 58 P P 03 02 51.8 -0.1
baz=315,SNR=33
BORG Borgarnes 62.18 12 LR LR 03 32 41.1
comp=Z,143nm,18.3s,baz=304,slow=39
LONY Lake Ozonia 62.32 52 P P 03 02 51.8 -1.0
baz=316
T50A Nancy 62.32 65 IAmb IAmb 03 02 53.8
comp=Z,27nm,1.2s
GYA Guiyang 62.41 278⇓P **P 03 02 54.2 +0.4**
GYA sP pP 03 03 06.6 +0.4
GYA pmax pmax
comp=Z,63nm,1.0s
VBMS Vicksburg 62.45 72 P P 03 02 53.7 0.0
baz=316
SVE Sverdlovsk 62.47 329 *e*P **P 03 02 54.7 +1.2**
SVE pmax pmax
comp=Z,9.0nm,0.9s
J57A Williamstown 62.49 54 IAmb IAmb 03 02 58.4
comp=Z,19nm,0.8s
GOMU GeErMu 62.51 294 P P 03 02 54.2 -0.4
GOMU pP pP 03 02 56.3 -11
GOMU sP sP 03 03 01.8 -10
GOMU PcP **PcP 03 03 34.3 +0.8**
GOMU pmax pmax
comp=Z,4.0nm,0.6s
S51A Beattyville 62.58 63 IAmb IAmb 03 02 58.1
comp=Z,24nm,0.9s
J58A Remsen 62.88 54 IAmb IAmb 03 02 56.7
comp=Z,22nm,1.2s
MCWV Mont Chateau 63.18 59 P P 03 02 58.6 0.0
baz=316,SNR=23
W50A Signal Mountai 63.35 66 IAmb IAmb 03 03 16.9
comp=Z,19nm,0.9s
BINY Binghamton 63.37 55 P P 03 02 59.8 +0.1
baz=316,SNR=18
TZTN Tazewell 63.38 64 P P 03 02 59.7 -0.2
baz=316
O56A Blue Knob Stat 63.42 58 P P 03 02 59.8 -0.4
baz=316,SNR=16
ARU Arti 63.45 330 LR LR 03 33 24.1
comp=Z,198nm,20.6s,baz=18,slow=39
ARU Arti 63.45 330 *c iP* **P 03 03 00.0 -0.1**
ARU 03 03 35.3
ARU S **S 03 11 31.7 +2.2**
ARU SS **SS 03 15 36.3 +0.4**
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 63.45 330 P **P 03 03 00.3 +0.2**
ARU IAmb IAmb 03 03 01.2
comp=Z,9.0nm,0.6s
V51A Loudon 63.46 65 IAmb IAmb 03 03 31.7
comp=Z,19nm,1.1s
SSPA Standing Stone 63.52 57 P P 03 03 00.7 0.0
SSPA Standing Stone 63.52 57 P P 03 03 00.7 0.0
baz=316
FPAL Fort Paine 63.65 67 IAmb IAmb 03 03 01.5
comp=Z,21nm,0.7s
ACCN Adirondack Com 63.67 53 IAmb IAmb 03 03 03.0
comp=Z,12nm,0.8s
L59A Walton 63.85 55 IAmb IAmb 03 03 04.1
comp=Z,47nm,1.1s
V52A Sevierville 63.86 65 IAmb IAmb 03 03 09.9
comp=Z,38nm,1.4s
TKL Tuckaleechee C 63.89 65 LR LR 03 29 50.1
comp=Z,290nm,20.4s,baz=335,slow=35
LBNH Lisbon 63.90 51 P P 03 03 02.9 -0.3
baz=318
W52A Murphy 64.21 66 IAmb IAmb 03 03 08.4
comp=Z,23nm,1.1s
KIRV Kirov 64.21 336 LR LR 03 33 08.5
comp=Z,126nm,21.7s,baz=19,slow=38
KIRV Kirov 64.21 336 *d iP* **P 03 03 05.9 +0.9**
U54A Nelsons Funny 64.36 63 IAmb IAmb 03 03 08.6
comp=Z,36nm,1.1s
KLMR Klimovskoe 64.39 342 *e*P **P 03 03 03.8 -2.3**
KLMR pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 64.39 342 *e*P **P 03 03 03.9 -2.2**
KLMR AMP 03 03 20.1
comp=Z,7.0nm,1.1s
N59A State Game Lan 64.41 56 P P 03 03 06.6 -0.1
baz=317,SNR=20
V53A Saluda 64.43 64 IAmb IAmb 03 03 07.4
comp=Z,37nm,1.4s
HNR Honiara 64.48 207 LR LR 03 26 06.7
comp=Z,166nm,20.5s,baz=330,slow=31
BLA Blacksburg 64.64 62 P P 03 03 08.2 0.0
baz=317,SNR=9.0
Z51A Franklin 64.78 68 IAmb IAmb 03 03 08.8
comp=Z,22nm,1.0s
MVL Millersville 64.78 57 IAmb IAmb 03 03 10.0
comp=Z,34nm,0.9s
BG3 Lake Jocassee 64.85 65 IAmb IAmb 03 03 12.8
comp=Z,29nm,1.2s
ODNJ Ogdensburg 64.89 55 IAmb IAmb 03 03 10.5
comp=Z,39nm,0.9s
SDMD Soldier's Deli 64.96 58 IAmb IAmb 03 03 11.5
comp=Z,36nm,1.0s
TRNY Table Rock, Ra 65.04 55 IAmb IAmb 03 03 11.5
comp=Z,16nm,0.8s
250A Grady 65.12 70 IAmb IAmb 03 03 12.4
comp=Z,36nm,0.8s
V55A Taylorsville 65.19 63 IAmb IAmb 03 03 13.1
comp=Z,59nm,1.4s
P60A Greenville 65.30 57 P P 03 03 12.1 -0.2
baz=318
PAL Palisades 65.30 55 IAmb IAmb 03 03 13.3
comp=Z,33nm,0.9s
PAL Palisades 65.30 55 P P 03 03 11.9 -0.5
baz=318,SNR=6.0
HRV Adam Dziewonsk 65.36 52 P P 03 03 12.3 -0.5
baz=318
AFI Afiamalu 65.38 176 LR LR 03 28 09.0
comp=Z,46nm,19.4s,baz=80,slow=33
PZH PanZhiHua 65.40 282⇑P **P 03 03 13.7 +0.3**
PZH pP **pP 03 03 24.6 -1.3**
PZH S **S 03 11 55.1 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,6.3s
PZH LR LR
comp=N,520nm,19.8s
PZH LR LR
comp=E,440nm,19.7s
PZH LR LR
comp=Z,510nm,20.6s
152A Waverly Hall 65.52 68 IAmb IAmb 03 03 13.4
comp=Z,12nm,0.8s
SHLS Shalkode 65.54 309 *e*P **P 03 03 11.2 -2.9**
SHLS Shalkode 65.54 309 *e*P **P 03 03 11.2 -2.9**
baz=309
JAY Jayapura 65.55 230 LR LR 03 28 46.6
comp=Z,140nm,19.0s,baz=358,slow=33
CBN Corbin Frederi 65.56 59 P P 03 03 14.1 0.0
baz=317,SNR=5.3
DAV Davao City (W) 65.58 249 LR LR 03 27 17.0
comp=Z,105nm,20.6s,baz=4.0,slow=32
KMSC Kings Mountain 65.64 64 IAmb IAmb 03 03 17.2
comp=Z,26nm,0.8s
KMSC Kings Mountain 65.64 64 P P 03 03 14.4 -0.3
baz=317,SNR=7.2
JSRW J. Sargeant Re 65.67 60 P P 03 03 15.1 +0.3
KPKS Kokpek 65.69 310 *e*P **P 03 03 13.4 -1.6**
KPKS Kokpek 65.69 310 *e*P **P 03 03 13.4 -1.6**
baz=310
GOGA Godfrey 65.69 67 IAmb IAmb 03 03 18.1
comp=Z,41nm,1.4s
GOGA Godfrey 65.69 67 P P 03 03 13.8 -1.3
baz=317
UZB Uzynbulak 65.76 309 *e*P **P 03 03 14.4 -1.1**
UZB Uzynbulak 65.76 309 *e*P **P 03 03 14.4 -1.1**
baz=310
HODGE Hodges 65.78 65 IAmb IAmb 03 03 17.6
comp=Z,23nm,1.0s
KMI Kunming 65.80 280⇑P **P 03 03 16.4 +0.3**
KMI pP pP 03 03 24.3 -4.3
KMI pmax pmax
comp=Z,58nm,0.9s
KMI pmax pmax
comp=Z,190nm,5.1s
KMI LR LR
comp=N,210nm,28.8s
KMI LR LR
comp=E,170nm,28.2s
KMI LR LR
comp=Z,270nm,33.1s
FINES FINESS Array B 65.94 349 P **P 03 03 14.8 -1.4**
comp=Z,4.5nm,0.8s,baz=10,slow=8.8,SNR=8.9
FINES PcP **PcP 03 03 45.6 -1.0**
comp=Z,2.4nm,0.6s,baz=36,slow=3.6,SNR=6.9
FINES LR LR 03 35 37.2
comp=Z,176nm,19.5s,baz=1.5,slow=39
Q61A Milford 66.14 57 P **P 03 03 17.5 -0.3**
baz=318
KUU Kurty 66.47 312 *e*P **P 03 03 18.5 -1.4**
KUU Kurty 66.47 312 *e*P **P 03 03 18.6 -1.4**
baz=312
BTLS Baital 66.64 314 *e*P **P 03 03 19.5 -1.4**
BTLS Baital 66.64 314 *e*P **P 03 03 19.5 -1.4**
baz=314
MDOK Medeo 66.69 311 *e*P **P 03 03 19.8 -1.7**
MDOK Medeo 66.69 311 *e*P **P 03 03 19.8 -1.7**
baz=311
U59A Littleton 66.70 61 IAmb IAmb 03 03 22.9
comp=Z,30nm,0.8s
KST Kastek 67.30 311 *e*P **P 03 03 24.2 -1.2**
baz=311
TAOE Nuku Hiva Isla 67.47 142 *e*LR LR 03 23 52.8
comp=Z,287nm,27.1s
TAOE Nuku Hiva Isla 67.47 142 *e*T T 04 16 59.6
comp=Z,53nm,0.3s
NB2 NORSAR Subarra 67.51 357 P **P 03 03 25.1 -1.2**
comp=Z,1.7nm,0.6s,baz=5.8,slow=6.5
NOA NORSAR Array B 67.51 357 P **P 03 03 25.3 -0.9**
comp=Z,5.0nm,0.9s,baz=6.0,slow=7.4,SNR=16
NOA LR LR 03 33 06.7
comp=Z,106nm,20.3s,baz=300,slow=36
NHSC New Hope 67.78 65 P **P 03 03 28.7 +0.4**
baz=318
NORES NORESS Array B 67.81 356 P **P 03 03 27.6 -0.4**
SLVN Son La 67.88 277 IAmb IAmb 03 03 31.2
comp=Z,58nm,1.4s
AAK Ala-Archa 68.29 312 LR LR 03 35 57.7
comp=Z,246nm,19.7s,baz=28,slow=38
AAK Ala-Archa 68.29 312 *c*e**P P 03 03 31.7 +0.1**
AAK pmax pmax
comp=Z,11nm,0.8s
HFS Hagfors 68.31 355 LR LR 03 36 20.3
comp=Z,127nm,18.1s,baz=14,slow=38
UPP Uppsala 68.33 353 *e*P **P 03 03 30.3 -0.9**
AKTO Aktyubinsk 68.65 327 LR LR 03 37 56.2
comp=Z,181nm,18.1s,baz=29,slow=40
VSU Vasula 68.75 348 *d iP* **P 03 03 34.0 0.0**
VSU pmax pmax
comp=Z,64nm,0.9s
VSU Vasula 68.75 348 *e*P **P 03 03 34.0 0.0**
PMG Port Moresby 68.86 220 LR LR 03 30 02.2
comp=Z,84nm,19.1s,baz=4.0,slow=33
MTSE Matsula 68.87 349 *e*P **P 03 03 33.5 -1.2**
SIJI Sorong 68.92 239 P **P 03 03 36.0 +0.4**
comp=Z,131nm,0.9s,baz=46,slow=8.9,SNR=14
ABKAR Akbulak array 68.97 325 P **P 03 03 34.9 -0.6**
LSA Lhasa 69.34 292 P **P 03 03 38.3 -0.4**
LSA pmax pmax
comp=Z,13nm,0.9s
LSA Lhasa 69.34 292 P **P 03 03 38.3 -0.4**
LSA IAmb IAmb 03 04 04.6
comp=Z,13nm,0.9s
MSVF Nonsavu 69.35 187 LR LR 03 28 17.1
comp=Z,156nm,19.6s,baz=350,slow=31
OBN Obninsk 70.32 341 LR LR 03 37 28.9
comp=Z,47nm,21.8s,baz=2.0,slow=38
OBN Obninsk 70.32 341⇓*e*P **P 03 03 43.6 -0.1**
OBN *e* 03 04 03.0
OBN *e* 03 06 18.2
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,236nm,23.0s
PMOR Pomariorio Ree 70.57 152 *e*T T 04 20 52.9
comp=Z,18nm,0.2s
IUG Iuzhnay 70.71 314 *e*P **P 03 03 45.5 -1.0**
IUG Iuzhnay 70.71 314 *e*P **P 03 03 45.5 -1.0**
baz=314
CMIG Matias Romero 70.91 86 LR LR 03 30 22.8
comp=Z,181nm,21.9s,baz=310,slow=32
MYLDM Lahad Datu 71.27 254 IAmb IAmb 03 03 53.0
comp=Z,31nm,1.1s
UBPT Khong Chiam 71.47 271 P **P 03 03 51.1 -0.1**
UBPT IAmb IAmb 03 03 53.9
comp=Z,34nm,1.3s
PBUR Paburge 71.72 350 *e*P **P 03 03 51.8 -0.3**
IDID Didziasalis 71.81 347 *e*P **P 03 03 52.5 -0.2**
IIGN Ignalina 71.85 347 *e*P **P 03 03 52.6 -0.3**
PABE Paberze 71.99 349 *e*P **P 03 03 53.9 +0.1**
SHL Shillong 72.01 288 P **P 03 03 54.2 -0.5**
SHL pmax pmax
comp=Z,50nm,1.0s
SHL Shillong 72.01 288 P **P 03 03 54.2 -0.5**
SHL IAmb IAmb 03 03 56.7
comp=Z,50nm,1.0s
LPSR Galich'ya Gora 72.17 339 *e*P **P 03 03 54.0 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
NACGM Naroch 72.20 347 *i* P **P 03 03 55.1 +0.1**
MNK Minsk 72.43 346 *i* P **P 03 03 56.6 +0.2**
MNK *i* 03 04 13.9
MNK *i* 03 06 38.0
MNK *i* PPP PPP 03 08 22.3
MNK *i* S **S 03 13 16.1 -0.5**
MNK *i* 03 13 59.0
MNK *i* SS **SS 03 17 57.9 +3.6**
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,19nm,1.0s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK MLR MLR
comp=Z,246nm,20.0s
MNK MLR MLR
comp=N,283nm,20.0s
MNK MLR MLR
comp=E,15nm,19.0s
MNK Minsk 72.43 346 *i* P **P 03 03 56.7 +0.2**
comp=E,1.0nm,1.0s
MNK *i* P **P 03 03 56.7 +0.2**
comp=N,7.0nm,0.9s
MNK *i* P **P 03 03 56.7 +0.2**
comp=Z,19nm,1.0s,baz=195
MNK *i* PP **PP 03 06 38.1 +1.0**
MNK *i* PPP PPP 03 08 22.4
MNK *i* S **S 03 13 16.2 -0.5**
MNK *i* SS **SS 03 17 58.0 +3.6**
MNK *i* SSS SSS 03 21 18.4
MNK *i* LR LR 03 33 02.2
MNK *i* LRM MLR 03 37 42.5
comp=Z,246nm,19.5s
MNK *i* LRM MLR 03 37 48.4
comp=N,283nm,20.4s
MNK *i* LRM MLR 03 37 52.6
comp=E,15nm,18.6s
PPT Papeete 72.53 154 LR LR 03 28 29.5
comp=E,304nm,20.5s,baz=344,slow=30
PPT2 Papeete2 72.56 154 *e*S **SKiKP 03 13 36.3 +8.0**
comp=E,142nm,27.0s
PPT2 Papeete2 72.56 154 *e*LR LR 03 26 14.0
comp=E,355nm,21.8s
PPT2 Papeete2 72.56 154 *e*T T 04 23 21.4
comp=E,23nm,0.3s
PAE Paea 72.62 154 *e*T T 04 23 26.8
comp=E,4.5nm,0.3s
VRH Novokhopyorsk 72.80 337 *e*P **P 03 03 58.1 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 72.83 279 P **P 03 03 59.3 -0.1**
CHTO pmax pmax
comp=Z,28nm,1.2s
CHTO Chiang Mai 72.83 279 P **P 03 03 59.2 -0.1**
CHTO IAmb IAmb 03 04 00.6
comp=Z,28nm,1.1s

SPMM Sapulut 72.87 256 P **P 03 04 00.0 +0.3**
CMAR Chiang Mai Arr 73.11 278 P **P 03 04 01.5 +0.5**
comp=Z,16nm,0.9s,baz=25,slow=6.8,SNR=68
EKA Eskdalemuir Ar 73.17 5 LR LR 03 34 12.8
comp=Z,104nm,21.6s,baz=358,slow=34
EKA Eskdalemuir Ar 73.17 5 P **P 03 04 00.3 -0.5**
TOLI2 Tolitoli 73.18 250 IAmb IAmb 03 04 02.1
comp=Z,20nm,0.9s
VSR Storozhevoye 73.40 338 *eP* **P 03 04 01.3 -0.9**
VSR pmax pmax
comp=Z,20nm,1.1s
VORD Divnogorie 73.60 338 *eP* **P 03 04 02.8 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.9s
GUN Gumba 73.71 294 *eP* **P 03 04 05.6 +0.7**
comp=Z,85nm,0.6s
RAR Rarotonga 73.85 165 LR LR 03 28 41.0
comp=Z,299nm,20.5s,baz=342,slow=29
CHGR Chuyangaron 73.92 313 IAmb IAmb 03 04 21.8
comp=Z,25nm,0.8s
KKN Kakani 74.14 295 *eP* **P 03 04 07.1 -0.2**
comp=Z,23nm,0.6s
PKI Pulchoki 74.24 294 *eP* **P 03 04 07.9 -0.1**
comp=Z,15nm,0.7s
PKIN Phulchoki 74.24 294 *eP* **P 03 04 07.4 -0.5**
comp=Z,19nm,0.8s
GKN Gorkha 74.34 295 *eP* **P 03 04 08.3 -0.1**
comp=Z,38nm,0.6s
DMN Daman 74.38 295 *eP* **P 03 04 08.5 -0.2**
comp=Z,7.9nm,0.3s
DANN Dangsing 74.57 296 *eP* **P 03 04 09.8 -0.1**
comp=Z,218nm,1.3s
BSEG Bad Segeberg 74.66 357 *eP* **P 03 04 10.2 +0.7**
comp=Z,7.6nm,0.8s,baz=5.8,slow=5.7
KOLN Koldanda 75.11 296 *eP* **P 03 04 12.5 -0.4**
comp=Z,105nm,1.3s
DZM Mont Dzumac 75.14 197 LR LR 03 31 57.6
comp=Z,106nm,18.8s,baz=46,slow=31
DZM Mont Dzumac 75.14 197 *eLR* LR 03 27 25.2
comp=Z,289nm,28.7s
PYUN Piuthan 75.19 296 *eP* **P 03 04 13.3 0.0**
comp=Z,97nm,1.0s
AKASG Malin Array Be 75.89 344 P **P 03 04 15.5 -1.2**
comp=Z,1.3nm,0.3s,baz=18,slow=6.0,SNR=13
AKASG LR LR 03 41 09.8
comp=Z,179nm,19.6s,baz=19,slow=38
AKBB Malin Array Si 75.89 344⇓*iP* **P 03 04 15.5 -1.2**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
NIL Nilore 75.99 307 P **P 03 04 17.2 -0.4**
NIL pmax pmax
comp=Z,11nm,0.8s
NIL Nilore 75.99 307 P **P 03 04 17.2 -0.4**
NIL IAmb IAmb 03 04 19.3
comp=Z,11nm,0.8s
NRDL Niedersach Rie 76.10 357 *eP* **P 03 04 17.9 +0.1**
comp=Z,3.5nm,0.8s,baz=5.8,slow=5.7
FLTG Flechtingen 76.22 356 *eP* **P 03 04 18.1 -0.4**
comp=Z,7.1nm,0.7s,baz=5.8,slow=5.7
IBBN Ibbenburen 76.36 358 *eP* **P 03 04 19.7 +0.4**
comp=Z,11nm,0.7s,baz=5.8,slow=5.7
CLZ Clausthal 76.75 356 *eP* **P 03 04 21.4 -0.2**
comp=Z,7.5nm,0.7s,baz=5.8,slow=5.7
GTTG Gottingen 77.06 357 *eP* **P 03 04 23.5 +0.3**
comp=Z,6.3nm,0.8s,baz=5.8,slow=5.7
CLL Collm 77.15 355⇓*eP* **P 03 04 23.0 -0.8**
CLL pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 77.15 355⇓*iP* **P 03 04 23.2 -0.6**
comp=Z,8.0nm,0.6s
CLL *ex* x 03 19 30.0
CLL Collm 77.15 355 *eP* **P 03 04 23.4 -0.4**
comp=Z,6.2nm,0.7s,baz=5.8,slow=5.7
CLL Collm 77.15 355 IAmb IAmb 03 04 24.1
comp=Z,7.5nm,0.6s
SBUM Sibu 77.22 258 P **P 03 04 26.0 +1.3**
KBL Kabul 77.32 310 P **P 03 04 25.1 -0.2**
KBL pmax pmax
comp=Z,8.0nm,1.0s
KBL Kabul 77.32 310 P **P 03 04 25.1 -0.2**
NEUB Neuenburg 77.32 355 *eP* **P 03 04 25.1 +0.4**
comp=Z,11nm,0.8s,baz=5.8,slow=5.7
FBE Freiberg 77.51 354 *eP* **P 03 04 26.1 +0.3**
comp=Z,6.2nm,0.7s,baz=5.8,slow=5.7
BRG Berggiesshubel 77.53 354 *eP* **P 03 04 25.5 -0.5**
BRG Amp 03 04 26.5
comp=Z,6.2nm,0.7s
BRG Berggiesshubel 77.53 354 *eP* **P 03 04 25.4 -0.5**
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG Berggiesshubel 77.53 354 *eP* **P 03 04 25.9 0.0**
comp=Z,5.0nm,0.7s,baz=5.8,slow=5.7
LVV L'vov 77.55 347 *eP* **P 03 04 25.3 -0.7**
CHVC Chvalec 77.66 353 *eP* **P 03 04 26.2 -0.5**
UPC Upice 77.74 353 *eP* **P 03 04 26.5 -0.6**
UPC Upice 77.74 353 *eP* **P 03 04 26.5 -0.6**
PVCC Panska Ves 77.83 354 *eP* **P 03 04 27.4 -0.2**
PVCC Panska Ves 77.83 354 *eP* **P 03 04 27.4 -0.2**
DPC Dobruska-Polom 77.87 352 *eP* **P 03 04 27.5 -0.4**
DPC Dobruska-Polom 77.87 352 *eP* **P 03 04 27.5 -0.4**
MOX Moxa 77.89 355 *eP* **P 03 04 27.8 -0.1**
comp=Z,4.7nm,0.8s,baz=5.8,slow=5.7
TBI Tubuai 78.08 156 *eLR* LR 03 28 54.2
comp=Z,311nm,23.5s
MEM Membach 78.09 359 P **P 03 04 29.0 0.0**
comp=Z,6.8nm,0.8s
KRLC Kraliky 78.10 352 *eP* **P 03 04 28.5 -0.7**
KRLC Kraliky 78.10 352 *eP* **P 03 04 28.5 -0.7**
GOF Gofitskoye 78.11 333⇑*eP* **P 03 04 29.9 +0.7**
GUNZ Gunzen 78.13 355 *eP* **P 03 04 29.6 +0.3**
comp=Z,2.4nm,0.7s,baz=5.8,slow=5.7
AHRW Bad Neuenahr-A 78.14 358 *eP* **P 03 04 29.9 +0.6**
comp=Z,9.2nm,0.8s,baz=5.8,slow=5.7
WERN Wernitzgruen 78.20 355 *eP* **P 03 04 30.1 +0.3**
comp=Z,5.9nm,0.8s,baz=5.8,slow=5.7
NKC Novy Kostel 78.25 355 *eP* **P 03 04 30.0 0.0**
NKC Novy Kostel 78.25 355 *eP* **P 03 04 30.0 0.0**
MORC Moravsky Berou 78.33 351⇑*eP* **P 03 04 30.1 -0.4**
PRU Pruhonice 78.36 353 *eP* **P 03 04 30.3 -0.3**
PRU Pruhonice 78.36 353 *eP* **P 03 04 30.3 -0.3**
BMRD Maredsous 78.40 360 P **P 03 04 30.6 -0.2**
comp=Z,7.4nm,0.9s
TNS Taunus Mts 78.43 358 *eP* **P 03 04 31.4 +0.4**
comp=Z,5.9nm,0.8s,baz=5.8,slow=5.7
SORM Soroca 78.52 344⇑P **P 03 04 30.5 -1.0**
ROTZ Rotzenmuhle 78.73 355 *eP* **P 03 04 32.5 -0.1**
comp=Z,0.6nm,0.8s,baz=5.8,slow=5.7
KAPI Kappang 78.73 247 P **P 03 04 33.7 +0.6**
comp=Z,11nm,0.6s,baz=61,slow=2.5,SNR=13
KAPI LR LR 03 41 22.9
comp=Z,17nm,18.8s,baz=98,slow=37
KAPI Kappang 78.73 247 P **P 03 04 33.6 +0.6**
KAPI IAmb IAmb 03 04 35.7
comp=Z,17nm,0.8s
LANS Liptovska Anna 78.76 350 *eP* **P 03 04 33.5 +0.7**
LANS Liptovska Anna 78.76 350 *eP* **P 03 04 33.5 +0.7**
GRF Grafenberg Arr 78.86 356 *eP* **P 03 04 34.0 +0.7**
comp=Z,9.9nm,0.7s,baz=5.8,slow=5.7
VRAC Vranov 78.88 352⇑P **P 03 04 32.6 -0.9**
VRAC Vranov 78.88 352 LR LR 03 41 18.7
comp=Z,173nm,20.0s,baz=352,slow=37
UZH Uzhgorod 78.94 348 *eP* **P 03 04 30.8 -3.0**
UZH *e* 03 04 40.5
CTA Charters Tower 78.95 216 P **P 03 04 33.5 -0.6**
comp=Z,4.9nm,0.7s,baz=32,slow=6.8,SNR=2.9
CTAO Charters Tower 78.95 216 P **P 03 04 34.2 +0.1**
CTAO pmax pmax
comp=Z,16nm,1.0s
CTAO Charters Tower 78.95 216 P **P 03 04 34.1 +0.1**
CTAO IAmb IAmb 03 04 35.0
comp=Z,16nm,1.0s
KIV Kislovodsk 79.22 333*c iP* **P 03 04 36.5 +1.0**
KIV *e* 03 04 43.3
KIV *e* 03 07 37.5
KIV *eS* S 03 15 18.3 +46
KIV pmax pmax
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 79.28 354⇓*eP* **P 03 04 35.8 0.0**
KHC pmax pmax
comp=Z,44nm,2.4s
KHC Kasperske Hory 79.28 354 *eP* **P 03 04 35.7 0.0**
KHC Kasperske Hory 79.28 354 IAmb IAmb 03 05 27.6
comp=Z,25nm,1.8s
GEYT Alibeck 79.28 320 P **P 03 04 36.8 +0.9**
comp=Z,3.9nm,0.8s,baz=53,slow=24,SNR=3.4
GEYT LR LR 03 45 55.8
comp=Z,188nm,18.6s,baz=40,slow=40
KBZ Khabaz 79.37 333 P **P 03 04 36.8 +0.6**
comp=Z,3.4nm,0.9s,baz=24,slow=1.8,SNR=6.0
KBZ LR LR 03 43 32.0
comp=Z,226nm,21.6s,baz=12,slow=39
KBZ Khabaz 79.37 333⇓*iP* **P 03 04 36.9 +0.7**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
NCK Nalchik 79.38 332⇑*iP* **P 03 04 36.8 +0.5**
NCK pmax pmax
comp=Z,9.0nm,0.7s
TRPA Tarpa 79.40 348⇑P **P 03 04 36.2 -0.1**
VYHS Vyhne 79.47 350 *eP* **P 03 04 36.4 -0.3**
VYHS Vyhne 79.47 350 *eP* **P 03 04 36.4 -0.3**
BURAR Bucovina Array 79.53 346⇑P **P 03 04 36.9 -0.3**
CKRC Cesky Krumlov 79.54 354 *eP* **P 03 04 36.8 -0.3**
GEC2 GERESS Array S 79.56 354 *eP* **P 03 04 36.8 -0.5**
comp=Z,2.0nm,0.7s,baz=5.8,slow=5.7
GERES GERESS Array B 79.56 354 P **P 03 04 36.8 -0.5**
comp=Z,2.4nm,0.7s,baz=31,slow=5.4,SNR=20
GERES LR LR 03 42 30.5
comp=Z,117nm,18.3s,baz=352,slow=38
MILM Milestii Mici 79.61 343⇑P **P 03 04 36.6 -0.8**
ZST Bratislava 79.94 352 *eP* **P 03 04 40.0 +0.8**
ZST Bratislava 79.94 352 *eP* **P 03 04 40.0 +0.8**
SOEI Soe 80.11 240 P **P 03 04 41.1 +0.4**
comp=Z,53nm,0.9s
SOEI Soe 80.11 240 IAmb IAmb 03 04 48.6
comp=Z,52nm,1.0s
ARCR ARCALIA 80.17 346⇑P **P 03 04 40.9 +0.4**
SRIT Nakonsritamara 80.24 271 IAmb IAmb 03 04 54.7
comp=Z,28nm,0.9s
CONA Conrad Observa 80.31 352 *eP* **P 03 04 41.5 +0.2**
comp=Z,3.0nm,0.6s
CJR Cluj-Napoca 80.64 347⇑P **P 03 04 43.6 +0.5**
DRGR 80.69 348⇑P **P 03 04 43.0 -0.4**
EDFI Ende, Flores 80.69 243 P **P 03 04 42.4 -1.4**
comp=Z,18nm,1.0s
RJOB Jochberg 80.72 354 *eP* **P 03 04 43.7 +0.2**
comp=Z,2.3nm,0.8s,baz=5.8,slow=5.7
VLDR Vladesti 80.78 344⇑P **P 03 04 44.5 +0.7**
BATI Baumata 80.81 241 P **P 03 04 44.8 +0.5**
comp=Z,86nm,0.6s,baz=23,slow=0.2,SNR=13
BATI LR LR 03 38 49.8
comp=Z,114nm,19.3s,baz=304,slow=34
BATI Baumata 80.81 241 P **P 03 04 44.6 +0.3**
comp=Z,62nm,0.9s
VRI Vrincioaia 80.99 345⇓P **P 03 04 44.5 -0.4**
ARSA Arzberg 81.01 353 *eP* **P 03 04 45.3 +0.3**
comp=Z,3.4nm,0.7s
PLOR Plostina 81.02 345⇑P **P 03 04 43.9 -1.2**
ODBI Odobesti 81.04 344⇑P **P 03 04 46.7 +1.5**
DOPR Dopca 81.11 346⇑P **P 03 04 46.4 +0.8**
WATA Walderalm 81.19 355 *eP* **P 03 04 46.9 +0.7**
comp=Z,4.0nm,0.8s
MOTA Moosalm 81.20 356 *eP* **P 03 04 47.5 +1.2**
comp=Z,4.8nm,1.1s
WTTA Wattenberg 81.26 355 *eP* **P 03 04 46.6 +0.1**
comp=Z,9.6nm,1.7s
TLCR 81.29 343⇑P **P 03 04 47.0 +0.5**
SQTA Sankt Quirin 81.32 355 *eP* **P 03 04 46.1 -0.7**
comp=Z,5.3nm,1.1s
KBA Koelnbreinsper 81.34 354 *eP* **P 03 04 47.6 +0.6**
comp=Z,9.9nm,0.7s
CFR Carcaliu 81.42 343⇑P **P 03 04 47.6 +0.5**
MLR Muntele Rosu 81.48 345⇑P **P 03 04 48.4 +0.7**
MLR Muntele Rosu 81.48 345 LR LR 03 43 23.5
comp=Z,190nm,21.9s,baz=9.0,slow=38
FETA Feichten 81.55 356 *eP* **P 03 04 47.5 -0.5**
comp=Z,7.8nm,1.0s
VOIR 81.68 346⇑P **P 03 04 49.9 +1.2**
ABTA Abfaltersbach 81.72 355 *eP* **P 03 04 48.0 -0.9**
comp=Z,6.3nm,1.2s
ARR Arges 81.81 346⇑P **P 03 04 50.8 +1.4**
DAVOX Davos/Dischmat 81.82 356 LR LR 03 42 28.4
comp=Z,42nm,20.7s,baz=16,slow=37
OBKA Obir 81.83 353 *eP* **P 03 04 49.9 +0.4**
comp=Z,7.4nm,0.8s
HARR Harsova 81.93 343⇑P **P 03 04 49.7 -0.2**
BZS Buzias 81.99 348⇑P **P 03 04 49.4 -0.8**
KULM Kulim 82.15 269 P **P 03 04 52.0 +0.6**
EIDS Eidsvold 82.18 210 IAmb IAmb 03 04 52.4
comp=Z,15nm,1.1s
JTS Las Juntas de 82.27 83 LR LR 03 43 37.7
comp=Z,62nm,18.1s,slow=37
MFTR Murfatlar 82.33 343⇓P **P 03 04 47.6 -4.3**
IPM Ipoh 82.54 268 P **P 03 04 53.0 -0.5**
HERR Herculane 82.61 347⇑P **P 03 04 52.8 -0.6**
FRGS Fruska Gora 82.66 349⇑P **P 03 04 52.2 -1.6**
WBSI Waikabubak, Su 82.71 245 P **P 03 04 53.1 -1.2**
comp=Z,40nm,0.8s
SGRR Singureni 82.71 345⇓P **P 03 04 53.8 -0.2**
TEOL Teolo 83.16 355 IAmb IAmb 03 05 16.3
comp=Z,77nm,1.9s
ZIMR 83.36 345⇓P **P 03 04 57.6 +0.2**
WB0 Warramunga Arr 83.57 227 IAmb IAmb 03 04 58.4
comp=Z,10nm,0.8s
WRAB Tennant Creek 83.73 227⇓*iP* **P 03 04 58.4 -1.0**
WRAB pmax pmax
comp=Z,20nm,1.1s
WRAB Tennant Creek 83.73 227 P **P 03 04 59.2 -0.2**
WRAB IAmb IAmb 03 04 59.8
comp=Z,15nm,0.9s
WB2 Warramunga Arr 83.74 227 IAmb IAmb 03 04 59.8
comp=Z,18nm,1.1s
WRA Warramunga Arr 83.75 227 P **P 03 04 58.9 -0.6**
comp=Z,9.7nm,0.8s,baz=38,slow=6.4,SNR=54
WRA LR LR 03 39 09.4
comp=Z,69nm,19.9s,baz=104,slow=33
VTS Vitosha 84.71 346⇑P **P 03 05 03.3 -1.1**
VTS Vitosha 84.71 346 P **P 03 05 04.0 -0.4**
VTS pmax pmax
comp=Z,12nm,1.2s
VTS Vitosha 84.71 346 P **P 03 05 04.0 -0.4**
VTS IAmb IAmb 03 05 16.9
comp=Z,12nm,1.2s
PSI Prapat 85.15 268 P **P 03 05 07.0 0.0**
comp=Z,22nm,0.8s,baz=16,slow=3.0,SNR=23
PSI LR LR 03 47 11.4
comp=Z,102nm,18.4s,baz=6.5,slow=38
PSI Prapat 85.15 268 P **P 03 05 07.0 0.0**
BRTR Keskin Array B 85.52 338 P **P 03 05 08.5 -0.1**
comp=Z,2.8nm,0.8s,baz=11,slow=2.9,SNR=5.9
BRTR LR LR 03 49 11.8
comp=Z,71nm,19.7s,baz=20,slow=40
BRTR Keskin Array B 85.52 338 *iP* **P 03 05 08.8 +0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BNN Bunyan 85.81 336 IAmb IAmb 03 05 37.8
comp=Z,31nm,1.1s
FITZ Fitzroy Crossi 86.36 235 P **P 03 05 12.7 +0.1**
comp=Z,21nm,0.8s,baz=44,slow=2.6,SNR=26
FITZ LR LR 03 39 57.7
comp=Z,58nm,21.4s,baz=54,slow=33
ASAR Alice Springs 87.19 225 P **P 03 05 16.7 +0.1**
comp=Z,15nm,0.8s,baz=29,slow=4.6,SNR=117
ASAR LR LR 03 41 11.0
comp=Z,95nm,19.6s,baz=24,slow=33
ESDC Sonseca Array 88.72 7 P **P 03 05 23.1 -0.9**
comp=Z,2.7nm,1.0s,baz=5.5,slow=5.7,SNR=5.6
ESDC LR LR 03 43 42.2
comp=Z,78nm,21.8s,baz=333,slow=35
URZ Urewera 89.80 186 LR LR 03 38 01.7
comp=Z,148nm,22.0s,baz=31,slow=30
VAE Valguarnera 90.81 352 LR LR 03 47 28.6
comp=Z,73nm,21.5s,baz=330,slow=36
STKA Stephens Creek 91.38 216 P **P 03 05 36.2 +0.2**
comp=Z,14nm,0.7s,baz=358,slow=5.5,SNR=29
STKA LR LR 03 42 19.2
comp=Z,109nm,20.2s,baz=24,slow=33
STKA Stephens Creek 91.38 216 P **P 03 05 36.8 +0.8**
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 91.38 216 P **P 03 05 36.8 +0.8**
MMAI Mount Meron Ar 91.45 335 LR LR 03 53 05.8
comp=Z,61nm,18.7s,baz=204,slow=40
IDI Anoyia 91.60 344 LR LR 03 49 50.1
comp=Z,89nm,20.6s,baz=284,slow=38
WSAR Wadi Sarin 91.70 312 LR LR 03 50 48.1
comp=Z,103nm,20.4s,baz=68,slow=38
SDV Santo Domingo 92.08 73 LR LR 03 48 32.9
comp=Z,54nm,19.5s,baz=16,slow=36
PSA00 Pilbara Seismi 92.24 237 IAmb IAmb 03 05 40.7
comp=Z,12nm,0.8s
PSA00 Pilbara Seismi 92.24 237 IAmb IAmb 03 05 40.7
comp=Z,7.9nm,0.9s
PALK Pallekele 92.89 285 LR LR 03 50 08.1
comp=Z,81nm,20.5s,baz=136,slow=37
ROSC El Rosal 93.05 78 LR LR 03 49 19.9
comp=Z,48nm,19.9s,baz=5.0,slow=37
EIL Elat 94.73 334 LR LR 03 56 44.3
comp=Z,46nm,18.0s,baz=38,slow=41
MDT Midelt 95.48 8 LR LR 03 48 28.9
comp=Z,43nm,21.0s,baz=11,slow=35
RPN Rapa Nui 97.44 125 LR LR 03 40 14.3
comp=Z,74nm,19.6s,baz=300,slow=29
TORD Torodi Ar. Bea 115.40 3 PKP **PKiKP 03 11 11.0 -1.3**
comp=Z,2.8nm,0.7s,baz=345,slow=2.3,SNR=21
TORD PKKPbc **PKKPbc 03 21 44.0 -0.1**
comp=Z,0.9nm,0.5s,baz=177,slow=2.3,SNR=12
H03N2 Juan Fernandez 119.17 108 T T 05 21 28.7
baz=317,slow=77,SNR=119
H03N1 Juan Fernandez 119.19 108 T T 05 21 32.9
baz=317,slow=77,SNR=106
H03N3 Juan Fernandez 119.19 108 T T 05 21 29.4
baz=317,slow=77,SNR=102
DBIC Dimbokro 121.32 11 PKP **PKPdf 03 11 23.1 -0.6**
comp=Z,2.1nm,0.4s,baz=16,slow=2.9,SNR=15
DBIC Dimbokro 121.32 11 PKIKP **PKPdf 03 11 23.2 -0.5**
KMBO Kilima Mbogo 122.66 320 PKP **PKiKP 03 11 26.9 +0.1**
comp=Z,2.7nm,0.7s,baz=24,slow=4.9,SNR=7.9
BDFB Brasilia 125.00 69 PKP **PKPdf 03 11 29.7 -1.0**
comp=Z,2.0nm,0.6s,baz=211,slow=5.9,SNR=3.9
BDFB Brasilia 125.00 69 PKIKP **PKPdf 03 11 30.2 -0.5**
BDFB Brasilia 125.00 69 PKPdf 03 11 30.2 -0.5
LC01 Cunco 127.06 108 PKPdf 03 11 33.4 -0.4
CPUP Villa Florida 127.43 86 PKP **PKPdf 03 11 34.4 -0.6**
comp=Z,3.1nm,0.7s,baz=347,slow=3.1,SNR=5.6
PLCA Paso Flores 129.02 109 PKP **PKPdf 03 11 37.7 +0.1**
comp=Z,6.2nm,0.8s,baz=317,slow=2.7,SNR=9.7
PLCA Paso Flores 129.02 109 PKIKP **PKPdf 03 11 37.9 +0.3**
PLCA Paso Flores 129.02 109 PKPdf **PKPdf 03 11 37.9 +0.3**
MATP Matopo 143.66 320 *iP* PKPab 03 12 02.5 +0.4
MATP Matopo 143.66 320 *iP* PKPab 03 12 02.5 +0.4
MAW Mawson 148.03 218 PKPbc **PKPbc 03 12 14.7 +0.4**
comp=Z,39nm,0.9s,baz=71,slow=3.5,SNR=12
LBTB Lobatse 148.94 321 *iP* **PKPdf 03 12 14.9 +0.8**
LBTB Lobatse 148.94 321 *iP* **PKPdf 03 12 14.9 +0.8**
BOSA Boshof 152.28 318 PKPbc **PKPbc 03 12 25.8 -0.2**
comp=Z,29nm,0.8s,baz=27,slow=2.6,SNR=62
BOSA Boshof 152.28 318 *iP* **PKPbc 03 12 25.3 -0.7**
BOSA Boshof 152.28 318 *iP* **PKPbc 03 12 25.3 -0.7**
BOSA Boshof 152.28 318 PKPbc 03 12 26.1 0.0
VNA3 Neumayer Olymp 159.32 167 PKPdf **PKPdf 03 12 25.6 -1.6**
SNAA Sanae 159.65 173 PKPab **PKPab 03 13 05.9 -0.5**
SNAA Sanae 159.65 173 PKPdf **PKPdf 03 12 24.1 -3.5**
VNA2 Neumayer--Watz 159.92 168 PKPdf **PKPdf 03 12 27.0 -0.8**

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*LJU **07** 02:56:15.7, 45°.28N×14°.57E, h9km, ML2.0*
*PRU **07** 02:56:16.6±0.0, 45°.21N×14°.74E, h7km*
*VIE **07** 02:56:16.6±0.5, 45°.30N×14°.57E, h6km±1km, mb2.3/7, ml2.4/15, Error ellipse: s-maj=3.1km s-min=1.7km az=172.0 13 km ESE of Rijeka*
*RHSSO **07** 02:56:16.5±0.5, 45°.29N×14°.53E, h5km±4km, ML2.5/6*
ISC 07 02:56:16.3±0.9, **45°.28N**±0°.01×**14°.57E**±0°.02, **h4**km±7km, **n62**, σ0**°72**/116, **2C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.07**	**306**	⇑*iPg*	**Pg**	**02 56 17.8**	**-0.1**
RIY				*eSg*	**Sg**	**02 56 19.1**	**+0.2**
RIY	**Rijeka**	**0.07**	**306**	*ePg*	**Pg**	**02 56 17.7**	**-0.1**
RIY				Sg	**Sg**	**02 56 18.9**	**0.0**
GBRS	**Gornja Briga**	**0.30**	**34**	⇓*iPg*	**Pg**	**02 56 22.4**	**+0.2**
GBRS				*i Sg*	**Sg**	**02 56 26.9**	**+0.8**
GBRS				IAML		02 56 29.3	
comp=Z,39nm,0.1s							
SMRN	**Sveta Marina**	**0.38**	**230**	*ePg*	**Pg**	**02 56 23.3**	**-0.3**
SMRN				Sg	**Sg**	**02 56 29.1**	**+0.5**
CEY	**Cerknica**	**0.47**	**348**	*ePg*	**Pg**	**02 56 24.8**	**-0.5**
CEY				*eSg*	**Sg**	**02 56 31.8**	**+0.4**
CEY	**Cerknica**	**0.47**	**348**	*i Pg*	**Pg**	**02 56 24.8**	**-0.5**
CEY				*i Sg*	**Sg**	**02 56 32.6**	**+1.3**
CEY				IAML		02 56 33.7	
comp=Z,97nm,0.1s							
SKDS	**Skadanscina**	**0.47**	**304**	*i Pg*	**Pg**	**02 56 24.4**	**-0.9**
SKDS				*i Sg*	**Sg**	**02 56 31.9**	**+0.5**
SKDS				IAML		02 56 34.9	
comp=Z,23nm,0.1s							
BOJS	**Bojanci**	**0.53**	**65**	*i Pg*	**Pg**	**02 56 26.2**	**-0.2**
BOJS				*i Sg*	**Sg**	**02 56 33.9**	**+0.5**
BOJS				IAML		02 56 37.7	
comp=Z,29nm,0.1s							
RABC	**Rab**	**0.55**	**164**	*ePg*	**Pg**	**02 56 27.0**	**+0.1**
RABC				Sg	**Sg**	**02 56 35.2**	**+1.1**
VISS	**Visnje**	**0.56**	**20**	*i Pg*	**Pg**	**02 56 26.4**	**-0.6**
VISS				*eSg*	**Sg**	**02 56 34.7**	**+0.5**
VISS				IAML		02 56 36.3	
comp=Z,82nm,0.2s							
GBAS	**Gorenja Brezov**	**0.66**	**352**	*i Pg*	**Pg**	**02 56 28.3**	**-0.6**
GBAS				*i Sg*	**Sg**	**02 56 37.9**	**+0.4**
GBAS				IAML		02 56 40.5	
comp=Z,56nm,0.2s							
BRJN	**Brijuni**	**0.69**	**237**	*ePg*	**Pg**	**02 56 29.6**	**+0.1**
BRJN				Sg	**Sg**	**02 56 39.4**	**+1.0**
JAVS	**Javornik**	**0.71**	**330**	*eSg*	**Sg**	**02 56 39.4**	**+0.4**
JAVS				IAML		02 56 42.1	
comp=Z,63nm,0.2s							
OZLJ	**Ozalj**	**0.72**	**62**	*ePg*	**Pg**	**02 56 29.8**	**-0.2**
OZLJ				Sg	**Sg**	**02 56 39.4**	**+0.1**
NVLJ	**Novalja**	**0.75**	**163**	*ePg*	**Pg**	**02 56 30.2**	**-0.4**
NVLJ				Sg	**Sg**	**02 56 41.2**	**+0.9**
LJU	**Ljubljana**	**0.76**	**358**	*ePg*	**Pg**	**02 56 30.4**	**-0.5**
LJU				*eSg*	**Sg**	**02 56 41.0**	**+0.2**
LJU	**Ljubljana**	**0.76**	**358**	*i Pg*	**Pg**	**02 56 31.1**	**+0.2**
LJU				*eSg*	**Sb**	**02 56 42.1**	**-0.8**
LJU				IAML		02 56 47.2	
comp=Z,54nm,0.2s							
VNDS	**Vrh nad Dolski**	**0.82**	**7**	*ePg*	**Pg**	**02 56 32.3**	**+0.2**
VNDS				*eSg*	**Sb**	**02 56 44.4**	**-0.3**
VNDS				IAML		02 56 48.6	
comp=Z,26nm,0.2s							
CRNS	**Crni Vrh**	**0.83**	**345**	*ePg*	**Pg**	**02 56 31.4**	**-0.7**
CRES	**Cresnjev**	**0.83**	**49**	⇑*iPg*	**Pg**	**02 56 32.0**	**-0.2**
CRES				*eSg*	**Sg**	**02 56 43.6**	**+0.7**
CRES	**Cresnjev**	**0.83**	**49**	*ePg*	**Pg**	**02 56 31.9**	**-0.2**
CRES				*eSg*	**Sb**	**02 56 44.6**	**-0.2**
CRES				IAML		02 56 46.6	
comp=Z,14nm,0.1s							
PDKS	**Podkum**	**0.84**	**21**	*ePg*	**Pg**	**02 56 31.7**	**-0.6**
PDKS				*eSg*	**Sg**	**02 56 43.5**	**+0.3**
PDKS				IAML		02 56 45.1	
comp=Z,31nm,0.2s							
LEGS	**Legarje**	**0.85**	**38**	*i Pg*	**Pg**	**02 56 32.3**	**-0.3**
LEGS				*i Sg*	**Sg**	**02 56 44.4**	**+0.8**
PLIT	**Plitvice**	**0.85**	**118**	*ePg*	**Pg**	**02 56 32.0**	**-0.6**
PLIT				Sg	**Sg**	**02 56 44.0**	**+0.4**
VOJS	**Vojsko**	**0.89**	**328**	*ePg*	**Pg**	**02 56 32.1**	**-1.3**
CESS	**Cesta pri Krsk**	**0.94**	**42**	*ePg*	**Pg**	**02 56 34.7**	**+0.5**
CESS				IAML		02 56 51.3	
comp=Z,16nm,0.1s							
MOZS	**Mozjanca**	**1.02**	**355**	*i Pg*	**Pg**	**02 56 36.1**	**+0.3**
MOZS				*eSg*	**Sb**	**02 56 49.8**	**-0.4**
MOZS				IAML		02 56 51.9	
comp=Z,17nm,0.2s							
GOLS	**Golise**	**1.04**	**45**	*ePg*	**Pg**	**02 56 36.4**	**+0.2**
GOLS				IAML		02 56 54.6	
comp=Z,27nm,0.2s							
DOBS	**Dobrina**	**1.07**	**36**	*ePg*	**Pg**	**02 56 36.2**	**-0.6**
DOBS				IAML		02 56 56.0	
comp=Z,24nm,0.2s							
UDBI	**Udbina**	**1.14**	**131**	*ePg*	**Pg**	**02 56 37.8**	**-0.3**
UDBI				Sg	**Sn**	**02 56 54.5**	**-0.7**
ZAG	**Zagreb**	**1.14**	**61**	*ePg*	**Pg**	**02 56 37.7**	**-0.4**
ZAG				*eSg*	**Sg**	**02 56 53.0**	**+0.2**
PTJ	**Puntijarka**	**1.17**	**57**	*ePg*	**Pg**	**02 56 38.9**	**+0.3**
PTJ				Sg	**Sb**	**02 56 54.3**	**-0.3**
OBKA	**Obir**	**1.23**	**359**	Pg	**Pg**	**02 56 39.5**	**-0.3**
SNR=14							
OBKA				*eSg*	**Sb**	**02 56 56.4**	**0.0**
DUGI	**Dugi Otok**	**1.34**	**165**	*ePg*	**Pn**	**02 56 41.5**	**-0.3**
DUGI				Sg	**Sn**	**02 57 00.6**	**+0.6**
LOBO	**Lobor**	**1.37**	**50**	*ePg*	**Pn**	**02 56 42.0**	**-0.2**
LOBO				Sg	**Sg**	**02 57 00.6**	**+0.4**
SOKA	**Soboth**	**1.43**	**13**	Pn	**Pn**	**02 56 42.9**	**-0.3**
comp=Z,2.9nm,0.3s,SNR=8.1							
SOKA				*eSn*	**Sg**	**02 57 02.7**	**+0.3**
comp=Z,2.4nm,0.2s							

MYKA	**Terra Mystica**	**1.50**	**335**	*e*Pn	**Pn**	**02 56 43.9**	**-0.1**
MYKA				*e*Sn	**Sg**	**02 57 04.7**	**+0.4**
PRIJ	**Prijedor**	**1.55**	**101**	*e*Sn	**Sg**	**02 57 05.9**	**-0.2**
KALN	**Kalnik**	**1.57**	**57**	*e*Pg	**Pb**	**02 56 45.8**	**-0.1**
KALN				Sg	**Sg**	**02 57 07.4**	**+0.6**
MORI	**Morici**	**1.63**	**150**	*e*Pn	**Pn**	**02 56 46.3**	**+0.5**
MORI				Sg	**Sg**	**02 57 09.7**	**+0.9**
ZIRJ	**Zirje**	**1.80**	**154**	*e*Pn	**Pb**	**02 56 49.4**	**-0.4**
ZIRJ				Sn	**Sg**	**02 57 14.0**	**-0.1**
KIJV	**Kijevo**	**1.83**	**134**	*e*Pn	**Pb**	**02 56 49.8**	**-0.6**
KIJV				Sn	**Sg**	**02 57 15.2**	**+0.1**
BLY	**Banja Luka**	**1.93**	**105**	*e*Pn	**Pn**	**02 56 50.3**	**+0.4**
BLY				*e*Sn	**Sn**	**02 57 14.9**	**+0.3**
KBA	**Koelnbreinsper**	**1.99**	**335**	*e*Pn	**Pn**	**02 56 51.2**	**+0.3**
	comp=Z,1.1nm,0.3s						
KBA				*e*Sn	**Sb**	**02 57 17.3**	**-1.0**
	comp=Z,5.8nm,0.3s						
MGRS	**Mrkonjic Grad**	**1.99**	**115**	*e*Pn	**Pn**	**02 56 51.3**	**+0.6**
MGRS				*e*Sn	**Sb**	**02 57 17.0**	**-1.2**
ABTA	**Abfaltersbach**	**2.05**	**316**	*e*Pn	**Pn**	**02 56 51.9**	**+0.2**
	comp=Z,0.5nm,0.2s						
ABTA				*e*Sn	**Sb**	**02 57 18.9**	**-1.1**
	comp=Z,2.3nm,0.2s						
ARSA	**Arzberg**	**2.08**	**18**	*e*Pn	**Pn**	**02 56 51.7**	**-0.3**
	comp=Z,1.4nm,0.4s						
ARSA				*e*Sn	**Sn**	**02 57 19.0**	**+0.7**
	comp=Z,3.0nm,0.3s						
HVAR	**Hvar**	**2.50**	**147**	*e*Pn	**Pn**	**02 56 58.9**	**+1.1**
HVAR				Sn	**Sb**	**02 57 31.4**	**-1.5**
RICI	**Ricice**	**2.56**	**133**	*e*Pn	**Pn**	**02 56 59.8**	**+1.2**
RICI				Sn	**Sb**	**02 57 32.9**	**-1.9**
MOA	**Molln**	**2.58**	**355**	*e*Pn	**Pn**	**02 56 58.0**	**-0.8**
	comp=Z,0.3nm,0.2s						
MOA				*e*Sn	**Sn**	**02 57 31.2**	**+0.5**
	comp=Z,1.3nm,0.3s						
CONA	**Conrad Observa**	**2.79**	**18**	*e*Pn	**Pn**	**02 57 02.8**	**+0.9**
	comp=Z,0.3nm,0.2s						
CONA				*e*Sn	**Sn**	**02 57 35.5**	**-0.6**
	comp=Z,0.7nm,0.2s						
WTTA	**Wattenberg**	**2.84**	**315**	*e*Pn	**Pn**	**02 57 01.3**	**-1.3**
	comp=Z,0.5nm,0.2s						
WTTA				*e*Sn	**Sn**	**02 57 36.1**	**-1.2**
	comp=Z,3.0nm,0.3s						
WATA	**Walderalm**	**2.92**	**316**	*e*Pn	**Pn**	**02 57 03.6**	**-0.1**
	comp=Z,0.7nm,0.2s						
WATA				*e*Sn	**Sn**	**02 57 39.4**	**+0.1**
	comp=Z,0.8nm,0.2s						
MORH	**Mrgy, Hungar**	**3.00**	**70**	*e*Pn	**Pn**	**02 57 04.3**	**-0.3**
MORH				*e*Sn	**Sn**	**02 57 41.1**	**0.0**
SQTA	**Sankt Quirin**	**3.03**	**311**	*e*Pn	**Pn**	**02 57 04.6**	**-0.5**
	comp=Z,0.7nm,0.3s						
SQTA				*e*Sn	**Sn**	**02 57 42.7**	**+0.7**
	comp=Z,3.4nm,0.4s						
MOTA	**Moosalm**	**3.17**	**312**	*e*Pn	**Pn**	**02 57 07.5**	**+0.5**
	comp=Z,0.3nm,0.2s						
MOTA				*e*Sn	**Sn**	**02 57 46.6**	**+1.3**
	comp=Z,2.3nm,0.4s						
FETA	**Feichten**	**3.18**	**304**	*e*Pn	**Pn**	**02 57 07.6**	**+0.3**
	comp=Z,0.4nm,0.4s						
FETA				*e*Sn	**Sn**	**02 57 47.2**	**+1.4**
	comp=Z,0.5nm,0.3s						
STON	**Ston**	**3.30**	**136**	*e*Pn	**Pn**	**02 57 09.6**	**+0.9**
STON				Sn	**Sn**	**02 57 50.1**	**+1.6**
RETA	**Reutte**	**3.44**	**311**	*e*Pn	**Pn**	**02 57 10.6**	**0.0**
	comp=Z,0.3nm,0.2s						
RETA				*e*Sn	**Sn**	**02 57 52.1**	**+0.2**
	comp=Z,0.7nm,0.2s						
CKRC	**Cesky Krumlov**	**3.54**	**357**	*e*SG	**Sg**	**02 58 11.1**	**+1.0**
DAVA	**Damuels**	**3.82**	**303**	*e*Pn	**Pn**	**02 57 16.2**	**+0.2**
	comp=Z,0.4nm,0.2s						
DAVA				*e*Sn	**Sn**	**02 58 03.1**	**+1.7**
	comp=Z,0.8nm,0.2s						
KHC	**Kasperske Hory**	**3.91**	**350**	*e*SN	**Sn**	**02 58 04.0**	**+0.5**
KHC				*e*SG	**Sg**	**02 58 24.6**	**+2.8**

*DJA **07** 03:01:42.8±0.6,3°S±7°×13°0E±°,h93km±11km,M3.9/7, mb4.8/1,mB5.1/1,MLv3.5/7,Mw(mB)4.5/1*
*IDC **07** 03:01:47.3±5.5,2°99S×130°23E,h93km±71km,mb3.4/2, mb1 3.6/4,mb1mx3.3/32,mbtmp3.7/4,ML3.6/2,Error ellipse: s-maj=104.8km s-min=20.3km az=84.0*
ISC 07 03:01:42.2±1.1,3°06S±0°07×129°81E±0°05,h100km,n10, σ2°30/12,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.92**	**252**	P	**Pn**	**03 02 00.9**	**-0.9**
MSAI				S	**Sn**	**03 02 17.2**	**+0.6**
AAI	**Ambon**	**1.73**	**249**	P	**Pn**	**03 02 12.6**	**+1.3**
FAKI	**Fak Fak**	**2.44**	**87**	P	**Pn**	**03 02 21.7**	**+1.1**
FAKI				S	**Sn**	**03 02 50.1**	**+0.1**
SIJI	**Sorong**	**2.62**	**34**	P	**Pn**	**03 02 23.1**	**+0.2**
	9.5nm,0.3s,baz=270,slow=23,SNR=24						
SIJI				S	**Sn**	**03 02 53.0**	**-1.2**
	6.8nm,0.3s,baz=259,slow=14,SNR=5.5						
SWI	**Sorong**	**2.62**	**34**	P	**Pn**	**03 02 23.2**	**+0.2**
SANI	**Sanana**	**3.95**	**285**	P	**Pn**	**03 02 41.6**	**+0.9**
MPSI	**Mapaga**	**10.47**	**289**	P	**Pn**	**03 04 08.2**	**-1.1**
WRA	**Warramunga Arr**	**17.35**	**166**	P	**Pn**	**03 05 41.2**	**+3.0**
	0.3nm,0.3s,baz=338,slow=11,SNR=6.2						
WRA				S	**Sn**	**03 08 45.9**	**-5.5**
	0.0nm,0.3s,baz=157,slow=15,SNR=1.4						
ASAR	**Alice Springs**	**20.86**	**169**	P	Pn	03 06 22.0	+2.3
	5.3nm,0.7s,baz=352,slow=11,SNR=18						
MKAR	**Makanchi Array**	**64.86**	**326**	P	P	03 12 19.3	+8.5
	0.2nm,0.6s,baz=111,slow=8.0,SNR=1.9						

*TUL **07** 03:07:10.2±1.2,36°49N±0°03×98°73W±0°05,h4km±7km, ML3.2,mb_Lg3.0/59(NEIC),Error ellipse: s-maj=5.6km s-min=3.5km az=106.0*
NEIC 07 03:07:11.1±1.5,36°47N±0°03×98°69W±0°04,h9km±7km, Error ellipse: s-maj=5.2km s-min=3.4km az=118.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.23**	**357**	Pg	Pg	03 07 15.3	-0.6
OK035				Sg	Sg	03 07 18.9	-0.2
U32A	**Winter Ranch,**	**0.27**	**249**	Pg	Pg	03 07 15.4	-1.0
U32A				Sg	Sg	03 07 19.2	-0.8
CROK	**Carrier**	**0.57**	**87**		Pg	03 07 22.1	-0.1
CROK				Sg	Sg	03 07 29.4	-0.3
KAN14	**Manchester OK**	**0.76**	**50**		Pg	03 07 24.9	-0.8
KAN14				Sg	Sg	03 07 35.6	0.0
GC02	**Grant County #**	**0.77**	**60**	Pg	Pg	03 07 25.4	-0.5
GC02				Sg	Sg	03 07 36.5	+0.6
KAN10	**Anthony SW Sta**	**0.81**	**36**		Pg	03 07 25.8	-0.8
KAN10				Sg	Sg	03 07 36.2	-0.9
KAN16	**Harper SW Stat**	**0.90**	**34**		Pg	03 07 27.7	-0.8
KAN16				Sg	Sg	03 07 40.1	-0.1
KAN05	**Bluff City Nor**	**0.91**	**46**		Pg	03 07 27.7	-0.9
KAN05				Sg	Sg	03 07 40.6	0.0
KAN17	**Caldwell West**	**0.94**	**52**		Pg	03 07 28.3	-0.8
KAN08	**Anthony NE Sta**	**0.95**	**37**		Pg	03 07 28.1	-1.2
KAN12	**Harper NE Stat**	**0.99**	**34**		Pg	03 07 29.1	-1.1
KAN01	**Argonia South**	**1.01**	**48**		Pg	03 07 29.6	-0.9
KAN06	**Argonia West S**	**1.02**	**41**		Pg	03 07 29.8	-0.9
KAN13	**South Haven SW**	**1.11**	**61**		Pg	03 07 31.2	-1.2
BCOK	**Bluff Creek, N**	**1.20**	**133**	Pn	Pb	03 07 33.1	-0.8
BLOK	**Blackwell**	**1.22**	**76**	Pn	Pn	03 07 33.3	-1.0
OK025	**Westminster Rd**	**1.41**	**129**		Pn	03 07 36.4	-0.6
OKCFA	**Oklahoma City**	**1.46**	**136**		Pn	03 07 37.5	-0.1
OKCSW	**OKLAHOMA CITY**	**1.47**	**136**		Pn	03 07 37.7	-0.1
OK031	**S. Brethren Rd**	**1.59**	**109**		Pn	03 07 39.1	-0.1
FNO	**Franklin**	**1.60**	**139**		Pn	03 07 39.6	0.0
QUOK	**Quay**	**1.63**	**100**		Pn	03 07 40.1	+0.2
OK030	**Cody Creek RV**	**1.64**	**109**		Pn	03 07 40.0	0.0
OK034	**N. Norfolk Rd.**	**1.67**	**106**		Pn	03 07 40.5	+0.1
WMOK	**Wichita Mounta**	**1.73**	**182**	Pn	Pn	03 07 40.9	-0.4
T35A	**Sooner Cattle**	**1.81**	**75**		Pn	03 07 42.4	0.0
R32A	**Long Quarter,**	**1.94**	**360**	Pn	Pn	03 07 44.4	+0.1
W35A	**Tecumseh**	**1.98**	**131**		Pn	03 07 44.9	+0.2
X34A	**Smith Ranch, M**	**2.00**	**159**	Pn	Pn	03 07 45.6	+0.7
X34A				IAmb_Lg		03 08 14.1	
	comp=Z,57nm,0.8s						
TUL1	**Leonard**	**2.41**	**103**		Pn	03 07 50.5	-0.1
CBKS	**Cedar Bluff**	**2.48**	**341**	Pn	Pn	03 07 50.8	-0.8
LOOK	**Love County**	**2.77**	**153**	Pn	Pn	03 07 56.4	+0.8
LOOK				IAmb_Lg		03 08 40.5	
	comp=Z,46nm,0.8s						
AMTX	**Amarillo**	**2.91**	**238**	Pn	Pn	03 07 56.9	-0.6
KSU1	**Kansas State U**	**3.10**	**32**		Pn	03 08 00.2	+0.1
X37A	**Clayton**	**3.30**	**124**	Pn	Pn	03 08 03.5	+0.7
X37A				IAmb_Lg		03 09 03.0	
	comp=Z,56nm,0.8s						
Z35A	**Perchaven, San**	**3.35**	**159**	Pn	Pn	03 08 05.0	+1.5
U38A	**Gravette**	**3.47**	**89**	IAmb_Lg		03 09 06.8	
	comp=Z,40nm,0.9s						
HHAR	**Hobbs**	**3.84**	**91**	Pn	Pn	03 08 10.6	+0.3
HHAR				IAmb_Lg		03 09 14.7	
	comp=Z,31nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.02**	**310**	Pn	Pn	03 08 12.3	-0.6
KSCO				IAmb_Lg		03 09 24.5	
	comp=Z,47nm,0.9s						
MSTX	**Muleshoe**	**4.17**	**234**	Pn	Pn	03 08 15.4	+0.5
W39A	**Magazine**	**4.19**	**106**	Pn	Pn	03 08 15.3	+0.3
W39A				IAmb_Lg		03 09 26.3	
	comp=Z,51nm,0.7s						
N33A	**J Bar K, Exete**	**4.37**	**12**	IAmb_Lg		03 09 39.1	
	comp=Z,39nm,0.8s						
Z38A	**Mt. Pleasant**	**4.42**	**135**	Pn	Pn	03 08 18.6	+0.3
Z38A				IAmb_Lg		03 09 33.8	
	comp=Z,31nm,0.8s						
S39A	**Bolivar**	**4.46**	**73**	Pn	Pn	03 08 19.3	+0.5
S39A				IAmb_Lg		03 09 35.0	
	comp=Z,25nm,0.7s						
WHTX	**Lake Whitney,**	**4.59**	**167**	Pn	Pn	03 08 20.9	+0.4
MIAR	**Mount Ida**	**4.59**	**113**	Pn	Pn	03 08 21.2	+0.5
MIAR				IAmb_Lg		03 09 45.9	
	comp=Z,25nm,0.9s						
T25A	**Trinidad**	**4.64**	**280**	IAmb_Lg		03 09 45.5	
	comp=Z,30nm,0.7s						
U40A	**Yellville**	**4.71**	**90**	Pn	Pn	03 08 22.8	+0.5
U40A				IAmb_Lg		03 09 37.3	
	comp=Z,35nm,0.8s						
BGNE	**Belgrade**	**4.95**	**5**	Pn	Pn	03 08 25.6	+0.1
BGNE				IAmb_Lg		03 09 49.1	
	comp=Z,30nm,0.8s						
N35A	**Tabor**	**4.99**	**28**	Pn	Pn	03 08 26.3	+0.2
P38A	**Dawn**	**5.14**	**51**	Pn	Pn	03 08 28.6	+0.4
P38A				IAmb_Lg		03 10 01.5	
	comp=Z,26nm,0.8s						
OGNE	**Ogallala**	**5.17**	**331**	Pn	Pn	03 08 29.3	+0.7
OGNE				IAmb_Lg		03 09 56.8	
	comp=Z,41nm,0.7s						
X40A	**Basin Creek Fa**	**5.17**	**111**	IAmb_Lg		03 09 59.3	
	comp=Z,25nm,0.7s						
MGMO	**Mountain Grove**	**5.20**	**81**	Pn	Pn	03 08 29.7	+0.7
WHAR	**Wooly Hollow**	**5.33**	**101**	IAmb_Lg		03 10 10.4	
	comp=Z,27nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.34**	**94**	Pn	Pn	03 08 32.1	+1.2
WLAR	**White Oak Lake**	**5.35**	**120**	IAmb_Lg		03 10 12.1	
	comp=Z,33nm,1.0s						
W41B	**Gary Mavity, V**	**5.39**	**102**	Pn	Pn	03 08 32.7	+1.1
W41B				IAmb_Lg		03 10 14.7	
	comp=Z,26nm,0.7s						
R40A	**Maddies Statio**	**5.43**	**69**	Pn	Pn	03 08 32.4	+0.3
R40A				IAmb_Lg		03 10 05.7	
	comp=Z,22nm,0.9s						
SDCO	**Great Sand Dun**	**5.59**	**285**		Pn	03 08 34.4	-0.1
Q24A	**Divide**	**5.69**	**298**	IAmb_Lg		03 10 17.0	
	comp=Z,18nm,0.9s						
L34A	**Svendsen Farm,**	**5.77**	**17**	Pn	Pn	03 08 36.3	-0.6
Z41A	**Richland Creek**	**5.81**	**122**	IAmb_Lg		03 10 28.9	
	comp=Z,27nm,0.8s						
JCT	**Junction City**	**6.05**	**189**	IAmb_Lg		03 10 28.0	
	comp=Z,22nm,0.8s						
N38A	**Joes South For**	**6.07**	**43**	Pn	Pn	03 08 41.1	+0.2
K31A	**O'Neill**	**6.14**	**360**	Pn	Pn	03 08 40.3	-1.6
K31A				IAmb_Lg		03 10 40.2	
	comp=Z,27nm,0.7s						
CCM	**Cathedral Cave**	**6.15**	**73**	IAmb_Lg		03 10 28.2	
	comp=Z,18nm,0.8s						
ISCO	**Idaho Springs**	**6.38**	**303**	Pn	Pn	03 08 44.3	-1.2
FVM	**French Village**	**6.76**	**75**	IAmb_Lg		03 10 46.3	
	comp=Z,20nm,0.9s						
SCIA	**State Center**	**6.89**	**36**	IAmb_Lg		03 10 49.0	
	comp=Z,26nm,0.7s						
PHWY	**Pilot Hill**	**7.14**	**314**	IAmb_Lg		03 10 56.9	
	comp=Z,15nm,0.9s						
S44A	**Carbondale**	**7.64**	**78**	IAmb_Lg		03 11 22.3	
	comp=Z,17nm,0.7s						
K22A	**Casper**	**8.63**	**318**	IAmb_Lg		03 11 52.7	
	comp=Z,13nm,0.8s						

*IDC **07** 03:07:42.5±0.9,3°02N×128°23E,h122km±9km,mb3.9/18, mb1 4.0/20,mb1mx3.9/37,mbtmp4.3/20,Error ellipse: s-maj=19.9km s-min=10.1km az=73.0*
*DJA **07** 03:07:42.7±0.5,3°N±4°×12°8E±°,h124km±4km,M4.6/20, mb4.7/20,mB5.0/9,MLv4.8/14,Mw(mB)4.4/9,MwMwp4.9/1, Mwp5.2/1*
*NEIC **07** 03:07:43.7±1.2,3°0N±0°1×128°1E±0°1,h126km±9km, mb4.5/27,Error ellipse: s-maj=16.8km s-min=14.0km az=220.0*
ISC 07 03:07:44.9±0.4,2°92N±0°04×128°11E±0°06,h150km,n101, σ1°67/114,mb4.5/46,5C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.26**	**199**	P	**Pn**	**03 08 21.5**	**-1.7**
TNTI	**Ternate**	**2.26**	**199**		**Pn**	**03 08 21.4**	**-1.7**
TNTI				Sn	**Sn**	**03 08 52.2**	**-0.4**
SGSI	**Sangihe**	**2.68**	**287**	P	**Pn**	**03 08 24.8**	**-3.5**
LBMI	**Labuha**	**3.59**	**190**	P	**Pn**	**03 08 39.4**	**-0.5**
GSPH	**General Santos**	**4.45**	**315**	⇑*i*P	**Pn**	**03 08 47.5**	**-3.8**
GSPH				*i* S	**Sn**	**03 09 37.3**	**-5.5**
KMSI	**Cibinong**	**4.74**	**241**	P	**Pn**	**03 08 53.5**	**-1.4**
SWI	**Sorong**	**4.91**	**140**	P	**Pn**	**03 08 56.1**	**-1.0**
SIJI	**Sorong**	**4.91**	**140**	P	**Pn**	**03 08 55.0**	**-2.3**
	23nm,0.3s,baz=328,slow=13,SNR=39						
SIJI				S	**Sn**	**03 09 50.1**	**-3.6**
	9.6nm,0.3s,baz=82,slow=23,SNR=3.8						
KCP	**Kidapawan**	**5.05**	**324**	⇑*i*P	**Pn**	**03 08 55.6**	**-3.5**
KCP				*i* S	**Sn**	**03 09 53.2**	**-3.8**
SANI	**Sanana**	**5.37**	**203**	P	**Pn**	**03 09 01.1**	**-2.2**
	0.5nm2μm69nm,0.9s						
GTOI	**Gorontalo**	**5.58**	**246**	P	**Pn**	**03 09 05.4**	**-0.6**
	0.5nm1μm199nm,0.7s						
MRSI	**Marisa**	**6.62**	**249**	P	**Pn**	**03 09 20.1**	**+0.1**
	2.0nm6μm619nm,0.7s						
LUWI	**Luwuk**	**6.63**	**234**	P	**Pn**	**03 09 19.3**	**-0.8**
	1.5nm2μm164nm,0.6s						
LUWI	**Luwuk**	**6.63**	**234**	Pn	**Pn**	**03 09 19.4**	**-0.6**
FAKI	**Fak Fak**	**7.13**	**144**	P	**Pn**	**03 09 26.3**	**-0.5**
	0.2nm40nm,0.5s						
FAKI	**Fak Fak**	**7.13**	**144**		**Pn**	**03 09 26.2**	**-0.5**
FAKI					**Sn**	**03 10 43.1**	**-3.6**
APSI	**Ampana**	**7.50**	**240**	P	**Pn**	**03 09 30.9**	**-0.7**
	0.4nm2μm141nm,0.6s						
TOLI2	**Tolitoli**	**7.54**	**256**	Pn	**Pn**	**03 09 30.5**	**-1.7**
MPSI	**Mapaga**	**8.60**	**253**	P	**Pn**	**03 09 45.4**	**-1.0**
	71.1nm38nm,1.1s						
MYLDM	**Lahad Datu**	**9.84**	**283**	Pn	**Pn**	**03 10 01.9**	**-1.0**
BBSI	**Bau Bau**	**10.02**	**214**	P	**Pn**	**03 10 05.0**	**-0.3**
TTSI	**Tana Toraja**	**10.19**	**234**	P	**Pn**	**03 10 06.2**	**-1.3**
	75nm,0.9s						
SPSI	**Sidrap Palu**	**10.78**	**231**	P	**Pn**	**03 10 13.8**	**-1.5**
	749nm99nm,0.7s						
BNSI	**Bone**	**10.81**	**228**	P	**Pn**	**03 10 15.0**	**-0.7**
	52nm,0.7s						
BKSI	**Bulukumba**	**11.43**	**224**	P	**Pn**	**03 10 23.3**	**-0.6**
	25nm,0.5s						
KAPI	**Kappang**	**11.48**	**227**	P	**Pn**	**03 10 24.1**	**-0.4**
	3.3nm,0.3s,baz=95,slow=2.8,SNR=20						
KAPI				S	**Sn**	**03 12 29.3**	**-2.2**
	1.3nm,0.3s,baz=217,slow=20,SNR=3.2						
BSSI	**Bau Bau, Buton**	**11.79**	**220**	P	**Pn**	**03 10 28.9**	**+0.4**
	24nm,0.5s						
EDFI	**Ende, Flores**	**13.24**	**209**	P	**P**	**03 10 53.3**	**+1.5**
SBUM	**Sibu**	**15.88**	**269**	P	**P**	**03 11 20.9**	**-0.1**
JAGI	**Jajag, Banyuwa**	**17.94**	**231**	P	**Pn**	**03 11 44.7**	**-0.4**
	32nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.03**	**187**	P	**P**	**03 12 16.6**	**-0.3**
	1.0nm,0.6s,baz=12,slow=10,SNR=1.0						
WB0	**Warramunga Arr**	**23.38**	**165**	P	**P**	**03 12 41.1**	**+0.8**
WB0				IAmb	IAmb	03 12 46.5	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**23.53**	**165**	P	**P**	**03 12 42.5**	**+0.8**
	comp=Z,6.0nm,0.8s,baz=345,slow=10,SNR=47						
WRA				pP	**pP**	**03 13 07.0**	**-4.0**
	comp=Z,7.3nm,0.8s,baz=344,slow=10,SNR=6.9						
WB2	**Warramunga Arr**	**23.54**	**165**	P	**P**	**03 12 43.0**	**+1.2**
WR0	**Warramunga Arr**	**23.60**	**165**	P	**P**	**03 12 43.0**	**+0.7**
KLSI		**24.55**	**252**	P	**P**	**03 12 51.9**	**+0.9**
	comp=Z,17nm,0.9s						

MDSI	**Maura Dua**	**25.02**	**253**	P	**P**	**03 12 56.0**	**+0.7**
	comp=Z,12nm,1.0s						
ASAR	**Alice Springs**	**27.02**	**168**	P	**P**	**03 13 14.0**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=354,slow=8.5,SNR=9.7						
ASAR				pP	**pP**	**03 13 42.4**	**-2.1**
	comp=Z,2.1nm,0.7s,baz=343,slow=8.2,SNR=8.5						
ASAR				PcP	**PcP**	**03 16 32.1**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=356,slow=2.7,SNR=5.1						
ENH	**Enshi**	**32.42**	**329**	P	**P**	**03 14 00.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**32.46**	**300**	P	**P**	**03 14 02.4**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=115,slow=6.8,SNR=13						
KSRS	**Korea Array**	**34.37**	**360**	P	**P**	**03 14 16.8**	**-0.7**
	comp=Z,4.2nm,0.6s,baz=174,slow=9.9,SNR=10						
MJAR	**Matsushiro Arr**	**34.73**	**14**	P	**P**	**03 14 18.8**	**-1.9**
	comp=Z,2.8nm,0.5s,baz=189,slow=8.9,SNR=5.9						
XAN	**Xi'an**	**35.76**	**332**	P	**P**	**03 14 30.6**	**+1.0**
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
HNS	**HongShan**	**36.45**	**342**	⇑P	**P**	**03 14 35.6**	**+0.2**
HNS				pmax	pmax		
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**36.91**	**161**	P	**P**	**03 14 40.2**	**+1.0**
	comp=Z,4.4nm,0.7s,baz=334,slow=10,SNR=7.4						
STKA				pP	**pP**	**03 15 05.8**	**-5.8**
	comp=Z,5.8nm,1.0s,baz=337,slow=3.9,SNR=3.7						
LZH	**Lanzhou**	**39.90**	**329**	⇑P	**P**	**03 15 06.3**	**+1.9**
LZH				pmax	pmax		
	comp=Z,39nm,1.2s						
USRK	**Ussuriysk Ar.**	**41.25**	**4**	P	**P**	**03 15 14.9**	**-0.2**
	comp=Z,5.3nm,0.6s,baz=186,slow=7.2,SNR=10						
SHL	**Shillong**	**41.46**	**306**	P	**P**	**03 15 18.7**	**+1.3**
GTA	**Gaotai**	**44.50**	**328**	⇑P	**P**	**03 15 42.7**	**+1.1**
GTA				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA				pmax	pmax		
	comp=Z,80nm,6.0s						
GTA				LR	LR		
	comp=Z,290nm,16.0s						
GTA				LR	LR		
	comp=Z,250nm,17.5s						
GTA				LR	LR		
	comp=Z,320nm,18.5s						
GOMU	**GeErMu**	**45.17**	**321**	P	**P**	**03 15 49.2**	**+1.9**
GOMU				S	**S**	**03 22 17.2**	**+1.2**
GOMU				ScS	**ScS**	**03 25 26.6**	**-2.4**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,110nm,6.2s						
GOMU				LR	LR		
	comp=Z,190nm,13.7s						
GOMU				LR	LR		
	comp=Z,150nm,14.7s						
GOMU				LR	LR		
	comp=Z,170nm,14.1s						
GUN	**Gumba**	**47.31**	**306**	*e*P	**P**	**03 16 05.7**	**+1.6**
	comp=Z,50nm,0.7s						
PKI	**Pulchoki**	**47.55**	**305**	*e*P	**P**	**03 16 06.8**	**+0.8**
	comp=Z,13nm,0.7s						
PKIN	**Phulchoki**	**47.57**	**305**	*e*P	**P**	**03 16 07.1**	**+1.1**
	comp=Z,11nm,0.5s						
KKN	**Kakani**	**47.75**	**306**	*e*P	**P**	**03 16 08.6**	**+1.3**
	comp=Z,17nm,0.5s						
DMN	**Daman**	**47.82**	**305**	*e*P	**P**	**03 16 09.6**	**+1.7**
ULN	**Ulaanbaatar**	**48.32**	**341**	P	**P**	**03 16 11.4**	**+0.2**
ULN				IAmb	IAmb	03 16 12.6	
	comp=Z,10nm,0.8s						
SONM	**Songino Array**	**48.51**	**341**	P	**P**	**03 16 13.0**	**+0.3**
	comp=Z,4.6nm,0.7s,baz=153,slow=8.4,SNR=20						
SONM				PcP	**PcP**	**03 17 37.7**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=160,slow=3.7,SNR=5.2						
SONM	**Songino Array**	**48.51**	**341**	P	**P**	**03 16 13.1**	**+0.4**
KOLN	**Koldanda**	**49.11**	**305**	*e*P	**P**	**03 16 19.6**	**+1.8**
	comp=Z,63nm,0.7s						
DANN	**Dangsing**	**49.20**	**306**	*e*P	**P**	**03 16 20.1**	**+1.6**
	comp=Z,90nm,0.6s						
PYUN	**Piuthan**	**49.73**	**305**	*e*P	**P**	**03 16 24.4**	**+1.9**
	comp=Z,52nm,0.6s						
PETK	**Petropavlovsk-**	**55.67**	**21**	P	**P**	**03 17 05.8**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=200,slow=5.7,SNR=4.9						
MK31	**Makanchi Array**	**59.00**	**325**	P	**P**	**03 17 29.8**	**+0.9**
MKAR	**Makanchi Array**	**

ellipse: s-maj=176.4km s-min=30.3km az=61.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.60**	**149**	Pn	Pn	03 44 03.5	-1.4
	0.1nm,0.3s,baz=326,slow=23,SNR=1.7						
WRA				Sn	Sn	03 46 37.4	+0.6
	0.4nm,0.3s,baz=356,slow=24,SNR=21						
ASAR	**Alice Springs**	**16.64**	**157**	Pn	P	03 44 47.0	-1.0
	0.1nm,0.3s,baz=334,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**67.71**	**329**	P	P	03 51 49.9	0.0
	0.1nm,0.5s,baz=131,slow=7.8,SNR=1.6						

NNC 07 03:55:16.4±11.0, 37°.05N×70°.34E, h0km, mb3.7, mpv3.3, 2C-4D, Error ellipse: s-maj=89.3km s-min=76.4km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.05**	**1**	⇓P	Pn	03 56 49.5	+2.4
	0.6nm,0.3s,baz=186,slow=14						
KK02				⇑S	Sn	03 57 59.6	+2.5
	2.4nm,0.5s,baz=188,slow=24						
AAK	**Ala-Archa**	**6.43**	**29**	⇓P	Pn	03 56 52.2	-0.3
	0.9nm,0.4s						
AAK				⇓S	Sn	03 58 07.7	+0.9
	3.0nm,0.5s						
TKM2	**Tokmak 2**	**7.12**	**33**	⇓P	Pn	03 57 00.9	-1.1
	2.4nm,0.5s						
TKM2				⇑S	Sn	03 58 22.2	-1.6
	0.9nm,0.6s						

*IDC **07** 04:17:58.4±0.9, 29°.46N×104°.56E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.7/68, mbtmp3.9/12, ML3.3/1, Error ellipse: s-maj=34.6km s-min=16.9km az=60.0*
*BJI **07** 04:17:59.6±0.0, 29°.58N×104°.65E, h11km, mb4.1/8, mB4.5/4, ML3.7/17, Ms3.6/4, Ms7 3.4/4*
*NEIC **07** 04:18:04.8±1.0, 29°.60N±0°.09×104°.8E±0°.1, h41km±6km, mb4.2/10, Error ellipse: s-maj=17.8km s-min=8.2km az=49.0*

ISC 07 04:17:59.9±0.5, 29°.36N±0°.04×104°.47E±0°.06, h10km, n32, σ2°.9 16/40, mb4.1/16, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.66**	**338**	Pg	**Pn**	**04 18 28.1**	**-1.1**
CD2				Sg	**Sn**	**04 18 49.3**	**-1.3**
CD2				smax	smax		
	comp=N,290nm,0.6s						
CD2				smax	smax		
	comp=E,2μm,0.9s						
GYA	**Guiyang**	**3.48**	**146**	⇓Pn	**Pn**	**04 18 56.5**	**+2.3**
GYA				Sn	**Sb**	**04 19 41.6**	**-2.5**
GYA				Sg	**Sg**	**04 19 58.5**	**+6.8**
GYA				smax	smax		
	comp=N,160nm,1.0s						
GYA				smax	smax		
	comp=E,260nm,0.9s						
PZH	**PanZhiHua**	**3.73**	**221**	Pn	**Pb**	**04 19 04.6**	**-1.4**
PZH				Pg	Pg	04 19 15.2	+3.8
PZH				Sn	**Sn**	**04 19 40.3**	**-1.5**
PZH				smax	smax		
	comp=N,130nm,0.9s						
PZH				smax	smax		
	comp=E,120nm,0.9s						
PZH				LR	LR		
	comp=N,210nm,6.3s						
PZH				LR	LR		
	comp=E,190nm,6.5s						
PZH				LR	LR		
	comp=Z,200nm,6.6s						
ENH	**Enshi**	**4.45**	**77**		**Pn**	**04 19 05.5**	**-2.0**
ENH				Sn	Sn	04 19 49.9	-10
XAN	**Xi'an**	**6.01**	**38**	Pn	**Pn**	**04 19 28.3**	**-0.6**
XAN				Pg	**Pb**	**04 19 45.2**	**+0.5**
XAN				Sn	**Sn**	**04 20 33.8**	**-4.0**
XAN				Sg	**Sb**	**04 20 58.9**	**+2.1**
XAN				smax	smax		
	comp=N,240nm,1.0s						
XAN				smax	smax		
	comp=E,260nm,1.0s						
XAN				LR	LR		
	comp=N,880nm,4.0s						
XAN				LR	LR		
	comp=E,830nm,4.0s						
XAN				LR	LR		
	comp=Z,160nm,6.3s						
LZH	**Lanzhou**	**6.73**	**356**	Pn	**Pn**	**04 19 39.3**	**+0.4**
LZH				Sg	**Sb**	**04 21 24.2**	**+6.7**
LZH				smax	smax		
	comp=N,40nm,1.3s						
LZH				smax	smax		
	comp=E,42nm,1.2s						
GTA	**Gaotai**	**10.73**	**340**	*e*P	**Pn**	**04 20 35.0**	**+1.2**
GTA				pP		04 20 43.1	
GTA				sP		04 20 47.8	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**18.51**	**4**	P	**P**	**04 22 14.1**	**-2.3**
	0.1nm,0.3s,baz=179,slow=11,SNR=5.0						
WMQ	**Urumqi**	**19.69**	**322**	*e*P	**Pn**	**04 22 31.4**	**+0.8**
KSRS	**Korea Array**	**21.14**	**61**	P	**P**	**04 22 42.4**	**-2.5**
	1.9nm,0.8s,baz=253,slow=12,SNR=4.8						
MK31	**Makanchi Array**	**24.52**	**321**	P	**P**	**04 23 19.3**	**-0.2**
MKAR	**Makanchi Array**	**24.52**	**321**	P	**P**	**04 23 19.3**	**-0.2**
	2.8nm,0.8s,baz=120,slow=10,SNR=20						
MKAR	**Makanchi Array**	**24.52**	**321**	P	**P**	**04 23 19.7**	**+0.2**
BOOM	**Boomskoye usch**	**26.42**	**307**	P	**P**	**04 23 40.8**	**+3.8**
BOOM				IAmb	IAmb	04 24 00.1	
	comp=Z,12nm,1.2s						
ZAA0	**Zalesovo Array**	**28.43**	**335**	P	**P**	**04 23 52.8**	**-1.7**
ZAA0				IAmb	IAmb	04 23 55.6	
	comp=Z,4.0nm,1.1s						
ZALV	**Zalesovo Beam**	**28.43**	**335**	P	**P**	**04 23 54.0**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=138,slow=7.6,SNR=10.0						
KURBB	**Kurchatov Arra**	**28.83**	**325**	P	**P**	**04 23 57.7**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=130,slow=8.9,SNR=11						
KURK	**Kurchatov**	**28.84**	**325**	P	**P**	**04 23 58.4**	**+0.1**
KURK				IAmb	IAmb	04 24 00.6	
	comp=Z,7.9nm,1.4s						
NRIK	**Noril'sk**	**41.20**	**351**	P	**P**	**04 25 44.4**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=145,slow=5.8,SNR=6.1						
MMRI	**Maumere**	**41.47**	**153**	P	**P**	**04 25 46.7**	**-0.4**
WB0	**Warramunga Arr**	**56.73**	**146**	P	**P**	**04 27 44.0**	**0.0**
WRA	**Warramunga Arr**	**56.85**	**146**	P	**P**	**04 27 44.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=337,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**56.85**	**146**	P	**P**	**04 27 45.4**	**+0.5**
WB2	**Warramunga Arr**	**56.86**	**146**	P	**P**	**04 27 45.1**	**+0.1**
WB2				IAmb	IAmb	04 27 46.6	
	comp=Z,4.7nm,1.1s						
WR0	**Warramunga Arr**	**56.97**	**146**	P	**P**	**04 27 45.9**	**+0.2**
WR0				IAmb	IAmb	04 28 04.1	
	comp=Z,3.0nm,1.0s						
ASAR	**Alice Springs**	**59.84**	**149**	P	**P**	**04 28 06.8**	**+1.0**
	comp=Z,1.4nm,1.0s,baz=322,slow=5.9,SNR=8.0						
NOA	**NORSAR Array B**	**66.30**	**328**	P	**P**	**04 28 47.5**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=54,slow=8.2,SNR=1.3						
ILAR	**Eielson Array**	**71.27**	**25**	P	**P**	**04 29 19.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=292,slow=4.7,SNR=1.9						
INK	**Inuvik**	**73.69**	**19**	P	**P**	**04 29 33.0**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=321,slow=3.5						
INK	**Inuvik**	**73.69**	**19**	P	**P**	**04 29 32.5**	**-0.9**
INK				IAmb	IAmb	04 29 34.2	
	comp=Z,2.9nm,1.1s						
YKA	**Yellowknife Ar**	**83.26**	**17**	P	**P**	**04 30 25.7**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=330,slow=5.2,SNR=8.6						
YKA	**Yellowknife Ar**	**83.26**	**17**	P	**P**	**04 30 24.9**	**-1.5**

*TUL **07** 04:27:27.9±1.4, 36°.49N±0°.03×98°.74W±0°.05, h7km±6km, ML4.8, mb4.4/32(NEIC), mb_Lg4.9/117(NEIC), Mwr4.4/25(SLM), Error ellipse: s-maj=6.0km s-min=3.1km az=111.0*
*IDC **07** 04:27:27.7±0.5, 36°.54N×98°.71W, h0km, mb4.2/18, mb1 4.3/28, mb1mx4.2/54, mbtmp4.2/28, ML4.1/9, MS4.0/2, Ms1 4.0/2, ms1mx3.5/19, Error ellipse: s-maj=10.6km s-min=9.5km az=159.0*
*ANF **07** 04:27:28.4±1.7, 36°.50N×98°.65W, h11km±14km, ML6.1/16, Error ellipse: s-maj=2.4km s-min=1.9km az=21.0*
*NEIC **07** 04:27:28.6, 36°.47N×98°.73W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.60; $M_{\theta\theta}$5.27; $M_{\phi\phi}$-4.67; $M_{r\theta}$-0.77; $M_{\theta\phi}$-0.30; $M_{\phi r}$-1.78; Fault plane solution: $M_0$5.37000×10^{15} NP1:ϕ_s315.00000°, δ70.00000°, λ-10.00000°. NP2:ϕ_s48.00000°, δ81.00000°, λ-160.00000°. Principal axes: T 5.3705, Plg7.0000°, Azm180.0000°; N -0.0027, Plg68.0000°, Azm72.0000°; P -5.3678, Plg21.0000°, Azm273.0000°;*
*NEIC **07** 04:27:28.8±1.3, 36°.49N±0°.03×98°.73W±0°.05, h5km±2km Error ellipse: s-maj=6.9km s-min=3.8km az=291.0*

ISC 07 04:27:27.4±1.1, 36°.47N±0°.03×98°.66W±0°.03, h3km±7km, n350, σ1°.5 16/343, mb4.2/23, MS4.1/3, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.24**	**350**	Pg	**Pg**	**04 27 32.8**	**+0.7**
U32A	**Winter Ranch,**	**0.29**	**253**	Pg	**Pg**	**04 27 33.0**	**0.0**
U32A				Sg	**Sg**	**04 27 36.8**	**0.0**
CROK	**Carrier**	**0.54**	**86**	Pg	**Pb**	**04 27 39.6**	**+0.1**
KAN14	**Manchester OK**	**0.74**	**48**		**Pg**	**04 27 42.5**	**+0.9**
KAN14				Sg	**Sb**	**04 27 54.6**	**+1.2**
GC02	**Grant County #**	**0.75**	**59**	Pg	**Pb**	**04 27 42.9**	**-0.1**
KAN10	**Anthony SW Sta**	**0.80**	**34**	Pg	**Pg**	**04 27 43.4**	**+0.8**
KAN16	**Harper SW Stat**	**0.89**	**32**	Pg	**Pg**	**04 27 45.2**	**+0.7**
KAN05	**Bluff City Nor**	**0.90**	**44**		**Pb**	**04 27 45.5**	**-0.1**
KAN17	**Caldwell West**	**0.92**	**51**	Pg	**Pb**	**04 27 46.0**	**0.0**
KAN08	**Anthony NE Sta**	**0.94**	**36**		**Pb**	**04 27 46.1**	**-0.2**
KAN12	**Harper NE Stat**	**0.98**	**32**	Pg	**Pb**	**04 27 46.9**	**-0.1**
KAN01	**Argonia South**	**0.99**	**46**		**Pb**	**04 27 47.3**	**+0.1**
KAN06	**Argonia West S**	**1.01**	**39**		**Pb**	**04 27 47.4**	**-0.1**
KAN13	**South Haven SW**	**1.09**	**60**		**Pb**	**04 27 49.3**	**+0.4**
BCOK	**Bluff Creek, N**	**1.17**	**133**	Pg	**Pb**	**04 27 50.6**	**+0.4**
BLOK	**Blackwell**	**1.20**	**75**		**Pn**	**04 27 51.1**	**+0.1**
OK009	**Oakdale Elemen**	**1.33**	**131**		**Pg**	**04 27 53.5**	**+0.5**
OK025	**Westminster Rd**	**1.39**	**129**	Pg	**Pb**	**04 27 54.3**	**+0.4**
OKCFA	**Oklahoma City**	**1.43**	**137**		**Pb**	**04 27 55.1**	**+0.4**
OK005	**Luther M Schoo**	**1.44**	**124**		**Pg**	**04 27 55.4**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**1.45**	**137**		**Pb**	**04 27 55.3**	**+0.3**
OK031	**S. Brethren Rd**	**1.56**	**109**		**Pb**	**04 27 57.1**	**+0.4**
FNO	**Franklin**	**1.58**	**139**		**Pb**	**04 27 57.3**	**+0.1**
QUOK	**Quay**	**1.60**	**100**		**Pb**	**04 27 58.0**	**+0.5**
OK030	**Cody Creek RV**	**1.61**	**109**		**Pb**	**04 27 57.8**	**+0.1**
OK034	**N. Norfolk Rd.**	**1.64**	**106**		**Pb**	**04 27 58.5**	**+0.3**
WMOK	**Wichita Mounta**	**1.73**	**183**	Pn	**Pn**	**04 27 58.4**	**+0.1**
WMOK	**Wichita Mounta**	**1.73**	**183**	P	**Pn**	**04 27 58.4**	**+0.1**
	baz=1.4,SNR=1000						
WMOK				S	**Sb**	**04 28 22.1**	**+0.3**
	baz=1.4						
T35A	**Sooner Cattle**	**1.78**	**75**		**Pb**	**04 28 00.6**	**0.0**
T35A				IAmb_Lg		04 28 29.1	
	comp=Z,7μm,0.8s						
OK011	**Prague**	**1.87**	**121**		**Pn**	**04 28 01.3**	**+1.0**
R32A	**Long Quarter,**	**1.95**	**359**		**Pn**	**04 28 02.0**	**+0.6**
R32A				IAmb_Lg		04 28 33.6	
	comp=Z,4μm,0.8s						
W35A	**Tecumseh**	**1.95**	**132**	Pn	**Pn**	**04 28 02.3**	**+0.9**
W35A				IAmb_Lg		04 28 35.1	
	comp=Z,6μm,1.1s						
X34A	**Smith Ranch, M**	**1.98**	**160**		**Pb**	**04 28 03.6**	**-0.4**
TUL1	**Leonard**	**2.38**	**103**	Pn	**Pn**	**04 28 08.5**	**+1.3**
TUL1				IAmb_Lg		04 28 46.2	
	comp=Z,6μm,0.8s						
TUL1	**Leonard**	**2.38**	**103**	P	**Pn**	**04 28 08.6**	**+1.4**
	baz=284,SNR=369						
TUL1				Sb	**Sg**	**04 28 43.0**	**-0.9**
	baz=284						
CBKS	**Cedar Bluff**	**2.50**	**340**	Pn	**Pn**	**04 28 08.7**	**-0.2**
CBKS				IAmb_Lg		04 28 52.1	
	comp=Z,6μm,0.9s						
CBKS	**Cedar Bluff**	**2.50**	**340**	P	**Pn**	**04 28 09.2**	**+0.4**
	baz=161,SNR=725						
CBKS				S	**Sn**	**04 28 40.1**	**+0.3**
	baz=161						
LOOK	**Love County**	**2.75**	**153**	Pn	**Pn**	**04 28 13.6**	**+1.3**
LOOK				IAmb_Lg		04 29 02.9	
	comp=Z,3μm,0.8s						
AMTX	**Amarillo**	**2.92**	**238**		**Pn**	**04 28 15.7**	**+0.9**
AMTX				IAmb_Lg		04 28 59.5	
	comp=Z,6μm,0.9s						
AMTX	**Amarillo**	**2.92**	**238**	P	**Pn**	**04 28 15.9**	**+1.0**
	baz=56						
AMTX				Sb	**Sb**	**04 28 58.2**	**+1.9**
	baz=56						
KSU1	**Kansas State U**	**3.09**	**31**	Pn	**Pn**	**04 28 17.9**	**+0.9**
KSU1				IAmb_Lg		04 29 09.7	
	comp=Z,4μm,0.8s						
KSU1	**Kansas State U**	**3.09**	**31**	P	**Pn**	**04 28 18.0**	**+1.1**
	baz=213,SNR=290						
X37A	**Clayton**	**3.27**	**124**	Pn	**Pn**	**04 28 20.6**	**+1.1**
Z35A	**Perchaven, San**	**3.33**	**159**		**Pn**	**04 28 21.6**	**+1.2**
U38A	**Gravette**	**3.44**	**89**	Pn	**Pn**	**04 28 23.0**	**+1.1**
U38A				IAmb_Lg		04 29 19.6	
	comp=Z,4μm,0.7s						
HHAR	**Hobbs**	**3.81**	**91**		**Pn**	**04 28 28.1**	**+1.1**
HHAR				IAmb_Lg		04 29 30.6	
	comp=Z,3μm,0.7s						
KSCO	**Kaye Shedlock'**	**4.04**	**310**		**Pn**	**04 28 28.9**	**-1.3**
KSCO				IAmb_Lg		04 29 44.7	
	comp=Z,2μm,0.7s						
KSCO	**Kaye Shedlock'**	**4.04**	**310**	P	**Pn**	**04 28 30.5**	**+0.2**
	baz=128,SNR=42						
W39A	**Magazine**	**4.16**	**106**	Pn	**Pn**	**04 28 32.6**	**+0.9**
W39A	**Magazine**	**4.16**	**106**	P	**Pn**	**04 28 32.5**	**+0.9**
	baz=289,SNR=35						
MSTX	**Muleshoe**	**4.19**	**235**	Pn	**Pn**	**04 28 31.7**	**-0.6**
MSTX	**Muleshoe**	**4.19**	**235**	P	**Pn**	**04 28 32.6**	**+0.3**
	baz=52,SNR=21						
MSTX				Sb	**Sb**	**04 29 36.6**	**+3.8**
	baz=52						
Z38A	**Mt. Pleasant**	**4.40**	**136**	Pn	**Pn**	**04 28 35.9**	**+0.9**
Z38A				IAmb_Lg		04 29 52.4	
	comp=Z,4μm,0.8s						
S39A	**Bolivar**	**4.44**	**72**	Pn	**Pn**	**04 28 35.8**	**+0.3**
S39A				IAmb_Lg		04 29 53.6	
	comp=Z,4μm,1.1s						
MIAR	**Mount Ida**	**4.56**	**113**		**Pn**	**04 28 38.3**	**+1.0**
MIAR				IAmb_Lg		04 30 07.5	
	comp=Z,3μm,0.7s						
MIAR	**Mount Ida**	**4.56**	**113**	P	**Pn**	**04 28 38.3**	**+1.0**
	baz=296,SNR=75						
MIAR				S	**Sn**	**04 29 32.1**	**+1.2**
	baz=296						
WHTX	**Lake Whitney,**	**4.57**	**167**		**Pn**	**04 28 38.2**	**+0.8**
WHTX	**Lake Whitney,**	**4.57**	**167**	P	**Pn**	**04 28 38.1**	**+0.8**
	baz=347,SNR=52						
T25A	**Trinidad**	**4.67**	**280**		**Pn**	**04 28 37.7**	**-1.2**
T25A	**Trinidad**	**4.67**	**280**	P	**Pn**	**04 28 38.8**	**-0.1**
	baz=97,SNR=131						
T25A				Sb	**Sb**	**04 29 50.0**	**+3.4**
	baz=97						
U40A	**Yellville**	**4.68**	**90**	Pn	**Pn**	**04 28 39.5**	**+0.6**
U40A				IAmb_Lg		04 29 55.7	
	comp=Z,3μm,0.8s						
U40A	**Yellville**	**4.68**	**90**	P	**Pn**	**04 28 39.4**	**+0.5**
	baz=273,SNR=42						
BGNE	**Belgrade**	**4.95**	**4**	Pn	**Pn**	**04 28 42.6**	**0.0**
BGNE				IAmb_Lg		04 30 09.6	
	comp=Z,4μm,0.8s						
BGNE	**Belgrade**	**4.95**	**4**	P	**Pn**	**04 28 42.6**	**0.0**
	baz=185,SNR=132						
N35A	**Tabor**	**4.98**	**27**		**Pn**	**04 28 43.2**	**+0.2**
237A	**Washetta, Mont**	**5.04**	**151**		**Pn**	**04 28 43.8**	**0.0**
237A				IAmb_Lg		04 30 18.8	
	comp=Z,2μm,0.9s						
P38A	**Dawn**	**5.13**	**51**	Pn	**Pn**	**04 28 45.4**	**+0.4**
P38A				IAmb_Lg		04 30 14.9	
	comp=Z,2μm,0.7s						
X40A	**Basin Creek Fa**	**5.14**	**111**		**Pn**	**04 28 44.8**	**-0.5**
X40A				IAmb_Lg		04 30 19.9	
	comp=Z,3μm,0.7s						
X40A	**Basin Creek Fa**	**5.14**	**111**	P	**Pn**	**04 28 46.2**	**+0.9**
	baz=294,SNR=33						
MGMO	**Mountain Grove**	**5.17**	**80**		**Pn**	**04 28 46.6**	**+1.0**
MGMO				IAmb_Lg		04 30 16.1	
	comp=Z,2μm,0.8s						
OGNE	**Ogallala**	**5.19**	**330**		**Pn**	**04 28 46.6**	**+0.6**
OGNE				IAmb_Lg		04 30 13.4	
	comp=Z,3μm,0.7s						
OGNE	**Ogallala**	**5.19**	**330**	P	**Pn**	**04 28 46.6**	**+0.6**
	baz=149						
WHAR	**Wooly Hollow**	**5.30**	**101**	Pn	**Pn**	**04 28 47.8**	**+0.4**
WHAR				IAmb_Lg		04 30 22.2	
	comp=Z,3μm,0.8s						
FCAR	**Ozark Folk Cen**	**5.32**	**94**		**Pn**	**04 28 48.9**	**+1.3**
FCAR				IAmb_Lg		04 30 19.6	
	comp=Z,2μm,0.8s						
WLAR	**White Oak Lake**	**5.32**	**120**	Pn	**Pn**	**04 28 48.7**	**+1.0**
WLAR				IAmb_Lg		04 30 33.1	
	comp=Z,3μm,0.9s						
W41B	**Gary Mavity, V**	**5.36**	**102**		**Pn**	**04 28 48.5**	**+0.2**
W41B				IAmb_Lg		04 30 31.7	
	comp=Z,2μm,0.8s						
W41B	**Gary Mavity, V**	**5.36**	**102**	P	**Pn**	**04 28 48.9**	**+0.6**
	baz=286,SNR=40						
R40A	**Maddies Statio**	**5.40**	**68**	IAmb_Lg		04 30 24.7	
	comp=Z,2μm,0.7s						
SDCO	**Great Sand Dun**	**5.62**	**285**		**Pn**	**04 28 51.0**	**-1.0**
SDCO				IAmb_Lg		04 30 34.5	
	comp=Z,1μm,1.1s						
SDCO	**Great Sand Dun**	**5.62**	**285**	P	**Pn**	**04 28 52.4**	**+0.4**
	baz=101,SNR=182						
Q24A	**Divide**	**5.72**	**298**		**Pn**	**04 28 52.1**	**-1.3**
Q24A	**Divide**	**5.72**	**298**	P	**Pn**	**04 28 52.7**	**-0.8**
	baz=114,SNR=18						
435B	**Jarrell**	**5.74**	**171**		**Pn**	**04 28 53.2**	**-0.2**
435B				IAmb_Lg		04 30 37.0	
	comp=Z,1μm,0.7s						
435B	**Jarrell**	**5.74**	**171**	P	**Pn**	**04 28 53.2**	**-0.2**
	baz=351,SNR=13						
NATX	**Nacogdoches**	**5.75**	**144**	Pn	**Pn**	**04 28 53.0**	**-0.5**
NATX	**Nacogdoches**	**5.75**	**144**	P	**Pn**	**04 28 53.2**	**-0.3**
	baz=326						
Z41A	**Richland Creek**	**5.78**	**122**		**Pn**	**04 28 54.2**	**+0.3**
Z41A				IAmb_Lg		04 30 42.7	
	comp=Z,2μm,0.8s						
Z41A	**Richland Creek**	**5.78**	**122**	P	**Pn**	**04 28 53.8**	**-0.1**
	baz=305,SNR=13						
JCT	**Junction City**	**6.05**	**189**	Pn	**Pn**	**04 28 57.1**	**-0.6**
JCT				IAmb_Lg		04 30 53.9	
	comp=Z,1μm,0.8s						
JCT	**Junction City**	**6.05**	**189**	P	**Pn**	**04 28 57.5**	**-0.3**
	baz=8.2,SNR=35						
P40A	**Paris**	**6.05**	**58**		**Pn**	**04 28 58.3**	**+0.7**
N38A	**Joes South For**	**6.05**	**43**		**Pn**	**04 28 58.2**	**+0.5**
LCAR	**Lake Charles**	**6.07**	**92**		**Pn**	**04 28 58.8**	**+0.8**
LCAR				IAmb_Lg		04 30 44.5	
	comp=Z,1μm,0.8s						
T42A	**Van Buren**	**6.10**	**82**	IAmb_Lg		04 30 43.0	
	comp=Z,1μm,0.7s						
CCM	**Cathedral Cave**	**6.12**	**73**	P	**Pn**	**04 28 59.2**	**+0.6**
	baz=257						
K31A	**O'Neill**	**6.15**	**359**	Pn	**Pn**	**04 28 59.0**	**-0.1**
K31A				IAmb_Lg		04 30 47.2	
	comp=Z,3μm,0.8s						
CCAR	**Cane Creek**	**6.18**	**112**		**Pn**	**04 29 01.1**	**+1.6**
CCAR				IAmb_Lg		04 30 48.8	
	comp=Z,2μm,0.8s						
ISCO	**Idaho Springs**	**6.41**	**303**	Pn	**Pn**	**04 29 01.9**	**-1.1**
ISCO	**Idaho Springs**	**6.41**	**303**	P	**Pn**	**04 29 02.6**	**-0.4**
	baz=119,SNR=80						
ANMO	**Albuquerque**	**6.53**	**259**	Pn	**Pn**	**04 29 04.9**	**+0.5**
	comp=Z,4.4nm,0.3s,baz=80,slow=14,SNR=81						
ANMO				Lg	Lg	04 30 50.6	
	comp=Z,64nm,0.3s,baz=67,slow=9.9,SNR=5.9						
ANMO	**Albuquerque**	**6.53**	**259**	Pn	**Pn**	**04 29 03.5**	**-0.9**
ANMO	**Albuquerque**	**6.53**	**259**	P	**Pn**	**04 29 04.5**	**+0.1**
	baz=74						
PBMO	**Poplar Bluff**	**6.62**	**85**		**Pn**	**04 29 05.9**	**+0.3**
S22A	**4UR Ranch, Cre**	**6.66**	**283**	Pn	**Pn**	**04 29 05.3**	**-1.0**
S22A	**4UR Ranch, Cre**	**6.66**	**283**	P	**Pn**	**04 29 06.6**	**+0.4**
	baz=99,SNR=38						
FVM	**French Village**	**6.74**	**75**		**Pn**	**04 29 08.0**	**+0.9**
FVM				IAmb_Lg		04 31 03.7	
	comp=Z,2μm,0.8s						
SCIA	**State Center**	**6.88**	**36**	IAmb_Lg		04 31 07.5	
	comp=Z,2μm,0.8s						
SCIA	**State Center**	**6.88**	**36**	P	**Pn**	**04 29 08.0**	**-1.1**
	baz=220,SNR=18						
BNM	**Barren Site**	**6.92**	**253**	Pn	**Pn**	**04 29 09.3**	**-0.5**
SLM	**Saint Louis**	**7.03**	**70**	IAmb_Lg		04 31 12.3	
	comp=Z,2μm,0.8s						
143A	**Socs Landing,**	**7.06**	**120**		**Pn**	**04 29 11.8**	**+0.3**
143A				IAmb_Lg		04 31 25.7	
	comp=Z,1μm,0.8s						
SMCO	**Snowmass**	**7.12**	**295**		**Pn**	**04 29 12.4**	**-0.3**
Y22D	**IRIS PASSCAL I**	**7.17**	**253**		**Pn**	**04 29 12.8**	**-0.4**
Y22D				IAmb_Lg		04 31 32.7	
	comp=Z,1μm,0.9s						
Y22D	**IRIS PASSCAL I**	**7.17**	**253**	P	**Pn**	**04 29 12.9**	**-0.3**
	baz=68						
PHWY	**Pilot Hill**	**7.17**	**314**	IAmb_Lg		04 31 28.5	
	comp=Z,1μm,0.7s						
N23A	**Red Feather La**	**7.21**	**310**	Pn	**Pn**	**04 29 12.7**	**-1.2**
N23A	**Red Feather La**	**7.21**	**310**	P	**Pn**	**04 29 13.9**	**0.0**
	baz=126,SNR=32						
MET	**Memphis--Engin**	**7.21**	**98**	Pn	**Pn**	**04 29 15.1**	**+1.5**
MET				IAmb_Lg		04 31 22.2	
	comp=Z,2μm,0.8s						
PVMO	**Portageville**	**7.22**	**88**	Pn	**Pn**	**04 29 15.6**	**+1.9**
PVMO				IAmb_Lg		04 31 33.6	
	comp=Z,2μm,0.8s						
342A	**Flagon Creek P**	**7.31**	**132**	Pn	**Pn**	**04 29 15.4**	**+0.4**
342A				IAmb_Lg		04 31 37.6	
	comp=Z,1μm,1.3s						
MNTX	**Cornudas Mount**	**7.33**	**231**	Pn	**Pn**	**04 29 15.2**	**-0.1**
MNTX	**Cornudas Mount**	**7.33**	**231**	P	**Pn**	**04 29 15.0**	**-0.3**
	baz=47,SNR=57						
LNXT	**Lenox**	**7.41**	**90**		**Pn**	**04 29 16.7**	**+0.3**
ECSD	**EROS Data Cent**	**7.42**	**12**	IAmb_Lg		04 31 31.0	
	comp=Z,1μm,0.8s						
ECSD	**E

PV14	Lion Creek, Pa	8.46	286		Pn	04 29 29.9	-1.2
121A	Cookes Peak, D	8.49	245	Pn	Pn	04 29 30.0	-1.4
121A	Cookes Peak, D	8.49	245	P	Pn	04 29 30.6	-0.8
	baz=60,SNR=15						
I37A	Lemond, Waseca	8.54	26	IAmb_Lg		04 32 11.6	
	comp=Z,2μm,1.0s						
K22A	Casper	8.66	318		Pn	04 29 32.8	-0.9
K22A				IAmb_Lg		04 32 19.6	
	comp=Z,1μm,0.9s						
K22A	Casper	8.66	318	P	Pn	04 29 32.8	-0.9
	baz=133,SNR=20						
RSSD	Black Hills	8.68	333	Pn	Pn	04 29 33.3	-0.6
RSSD	Black Hills	8.68	333	P	Pn	04 29 33.9	0.0
	baz=150						
OLIL	Olney	8.68	72		Pn	04 29 34.2	+0.4
PLAL	Pickwick Lake	8.73	97		Pn	04 29 35.5	+1.0
WVT	Waverly	8.75	89		Pn	04 29 35.1	+0.4
WVT	Waverly	8.75	89	P	Pn	04 29 34.8	+0.1
	baz=276						
146A	Union	8.79	113		Pn	04 29 36.0	+0.7
W18A	Petrified Fore	9.10	265		Pn	04 29 38.2	-1.5
W18A	Petrified Fore	9.10	265	P	Pn	04 29 38.4	-1.4
	baz=78						
JFWS	Jewell Farm	9.13	43	IAmb_Lg		04 32 26.7	
	comp=Z,2μm,0.7s						
JFWS	Jewell Farm	9.13	43	P	Pn	04 29 39.0	-1.0
	baz=228,SNR=28						
F33A	5 Mile Ranch,	9.53	10	IAmb_Lg		04 32 38.6	
	comp=Z,766nm,0.9s						
V48A	Smith Brothers	9.61	91		Pn	04 29 47.2	+0.7
I40A	Norwalk	9.63	37	IAmb_Lg		04 32 57.5	
	comp=Z,898nm,0.9s						
X48A	Hartselle	9.68	99		Pn	04 29 48.1	+0.6
SPMN	Marine on St.	9.80	25	P	Pn	04 29 47.5	-1.6
	baz=209,SNR=43						
SFIN	Lafayette	9.87	63	Pn	Pn	04 29 50.5	+0.4
SFIN	Lafayette	9.87	63	P	Pn	04 29 50.5	+0.4
	baz=250,SNR=16						
HQIL	Hanson Quary C	9.94	54		Pn	04 29 51.5	+0.5
CLTN	Cedars of Leba	9.96	89	Pn	Pn	04 29 51.6	+0.3
WCI	Wyandotte Cave	10.00	76	P	Pn	04 29 52.4	+0.6
	baz=264						
L44A	Lake County Fo	10.09	52	P	Pn	04 29 52.5	-0.5
	baz=239,SNR=6.6						
K43A	Burlington	10.11	49	Pn	Pn	04 29 53.5	+0.2
319A	Douglas	10.18	243	Pn	Pn	04 29 52.8	-1.7
WUAZ	Wupatki	10.35	269	P	Pn	04 29 57.5	+0.7
	baz=81						
Y49A	Blount Mountai	10.36	101	Pn	Pn	04 29 56.4	-0.4
U49A	Red Boiling Sp	10.37	86		Pn	04 29 57.7	+0.8
SWET	Sewanee	10.41	93		Pn	04 29 57.8	+0.4
PD31	Pinedale Array	10.50	310		Pn	04 29 58.0	-0.9
PDAR	Pinedale Array	10.50	310	Pn	Pn	04 29 58.8	-0.1
	comp=Z,1.3nm,0.3s,baz=120,slow=14,SNR=32						
PDAR				Lg	Lg	04 32 52.0	
	comp=Z,15nm,0.3s,baz=102,slow=34,SNR=2.2						
PDAR	Pinedale Array	10.50	310	Pn	Pn	04 29 57.6	-1.3
BW06	Boulder Array	10.50	310		Pn	04 29 58.0	-0.9
BW06	Boulder Array	10.50	310	P	Pn	04 29 57.2	-1.6
	baz=124,SNR=20						
FPAL	Fort Paine	10.81	96	Pn	Pn	04 30 03.5	+0.6
BRAL	Brewton	11.00	115		Pn	04 30 06.2	+0.6
BRAL	Brewton	11.00	115	P	Pn	04 30 05.8	+0.2
	baz=302						
L46A	Eue Claire	11.07	56		Pn	04 30 06.5	+0.1
T50A	Nancy	11.10	83		Pn	04 30 07.1	+0.1
250A	Grady	11.19	110		Pn	04 30 07.7	-0.5
HPIG		11.22	214		Pn	04 30 08.1	-0.6
HWUT	Hardware Ranch	11.27	301		Pn	04 30 07.8	-1.6
MDND	Maddock	11.39	357	P	Pn	04 30 07.1	-3.9
	baz=176,SNR=7.8						
X51A	Calhoun	11.40	96		Pn	04 30 11.7	+0.5
P49A	Miami Univ. Ec	11.42	70	P	Pn	04 30 10.0	-1.3
	baz=259,SNR=15						
AHID	Auburn Hatcher	11.47	307		Pn	04 30 10.7	-1.5
CPCT	Cooper Cave	11.50	91	Pn	Pn	04 30 13.0	+0.5
Z51A	Franklin	11.51	102		Pn	04 30 13.2	+0.6
V51A	Loudon	11.59	89		Pn	04 30 14.2	+0.6
LOHW	Long Hollow	11.60	312		Pn	04 30 12.5	-1.5
REDW	Red Top Meadow	11.62	310		Pn	04 30 12.8	-1.4
LAO	LASA Array	11.67	333	P	Pn	04 30 13.5	-1.3
	baz=149,SNR=61						
DUG	Dugway, Tooele	11.72	293	P	Pn	04 30 15.4	-0.2
	baz=104						
MOOW	Moose Ponds	11.76	312	Pn	Pn	04 30 14.4	-1.8
SPUT	South Promonto	11.78	298	Pn	Pn	04 30 14.9	-1.5
ECR	Eagle Creek	11.78	308		Pn	04 30 15.3	-1.1
RLMT	Red Lodge	11.80	320	P	Pn	04 30 14.5	-2.1
	baz=134,SNR=7.7						
AGMN	Agassiz Nation	12.00	9	P	Pn	04 30 15.2	-4.0
	baz=191,SNR=20						
W52A	Murphy	12.04	92		Pn	04 30 20.4	+0.6
TKL	Tuckaleechee C	12.07	89	Pn	Pn	04 30 20.9	+0.7
	comp=Z,6.4nm,0.3s,baz=236,slow=7.6,SNR=54						
TKL	Tuckaleechee C	12.07	89		Pn	04 30 20.0	-0.3
152A	Waverly Hall	12.10	104		Pn	04 30 20.6	+0.1
TZTN	Tazewell	12.16	85	Pn	Pn	04 30 21.9	+0.5
TZTN	Tazewell	12.16	85	P	Pn	04 30 22.2	+0.7
	baz=274						
HVU	Hansel Valley	12.18	300		Pn	04 30 20.4	-1.4
V52A	Sevierville	12.19	88		Pn	04 30 22.3	+0.4
352A	Blakely	12.43	110	Pn	Pn	04 30 23.5	-1.6
GCMT	Greycliff	12.46	322		Pn	04 30 23.2	-2.5
EYMN	Ely	12.63	23	P	Pn	04 30 23.8	-4.1
	baz=208,SNR=16						
DGMT	Dagmar	12.67	343	P	Pn	04 30 26.2	-2.2
	baz=160,SNR=33						
GOGA	Godfrey	12.83	99		Pn	04 30 31.3	+0.7
GOGA	Godfrey	12.83	99	P	Pn	04 30 30.5	-0.1
	baz=288						
V53A	Saluda	12.85	89		Pn	04 30 30.7	-0.1
ACSO	Alum Creek Sta	12.86	68	P	Pn	04 30 29.7	-1.3
	baz=258,SNR=9.9						
BG3	Lake Jocassee	12.86	92		Pn	04 30 31.8	+0.7
AAM	Ann Arbor	12.98	59	P	Pn	04 30 31.4	-1.2
	baz=248,SNR=11						
P52A	Corning	13.40	71	P	Pn	04 30 37.3	-1.1
	baz=262,SNR=15						
GLMI	Grayling	13.53	48	P	Pn	04 30 36.5	-3.5
	baz=237,SNR=21						
U54A	Nelsons Funny	13.55	85		Pn	04 30 40.4	-0.1
HODGE	Hodges	13.57	95		Pn	04 30 40.1	-0.6
R11A	Troy Canyon, C	13.59	283	P	Pn	04 30 41.1	-0.1
	baz=93						
ELK	Elko	13.65	293	Pn	Pn	04 30 42.6	+0.6
	comp=Z,0.1nm,0.3s,baz=113,slow=9.1,SNR=3.7						
PAULI	Pauline	13.80	92		Pn	04 30 43.5	-0.3
ULM	Lac du Bonnet	13.92	7	Pn	Pn	04 30 39.5	-5.9
	comp=Z,2.2nm,0.3s,baz=184,slow=12,SNR=13						
GMRC	Granite Mounta	13.94	268	P	Pn	04 30 46.0	+0.2
	baz=78,SNR=6.3						
HLID	Hailey	13.99	305	Pn	Pn	04 30 44.9	-1.6
HLID	Hailey	13.99	305	P	Pn	04 30 46.0	-0.5
	baz=115						
V55A	Taylorsville	14.11	87		Pn	04 30 47.5	-0.6
KMSC	Kings Mountain	14.12	90		Pn	04 30 47.5	-0.8
EGMT	Eagleton	14.16	328	P	Pn	04 30 47.3	-1.4
	baz=141						
HRY	Holter Researc	14.19	320		Pn	04 30 47.9	-1.3
O53A	New Philadelph	14.20	69	P	Pn	04 30 47.9	-1.3
	baz=260						
BLA	Blacksburg	14.63	82		Pn	04 30 54.5	-0.7
BLA	Blacksburg	14.63	82	P	Pn	04 30 54.3	-0.8
	baz=273,SNR=8.8						
U56A	King	14.72	85		Pn	04 30 56.2	-0.2
M53A	Wt Miller and	14.84	65	P	Pn	04 30 55.8	-2.2
	baz=256						
BIRD	Birdtown, Kers	14.92	92	Pn	Pn	04 30 58.3	-0.9
W57A	Gilead	15.20	89		Pn	04 31 02.1	-0.8
N54A	Moraine State	15.24	67	P	Pn	04 31 00.7	-2.7
	baz=259,SNR=8.5						
MSO	Missoula	15.39	317	P	Pn	04 31 03.5	-1.9
	baz=127						
ERPA	Erie	15.51	63	P	Pn	04 31 06.1	-0.8
ERPA	Erie	15.51	63	P	Pn	04 31 03.8	-3.1
	baz=255						
T57A	Hurt	15.57	82	Pn	Pn	04 31 07.1	-0.6
KVN	Kaiserville	15.59	285	P	Pn	04 31 07.1	-1.1
M54A	Oil Creek Stat	15.60	65	P	Pn	04 31 05.6	-2.5
	baz=257,SNR=5.9						
PLID	Pearl Lake	15.69	309		Pn	04 31 07.6	-1.8
NVAR	Mina Array Bea	15.73	283	Pn	Pn	04 31 11.9	+1.9
	comp=Z,0.1nm,0.3s,baz=94,slow=11,SNR=15						
RYN	Ryan	15.91	284	P	Pn	04 31 10.9	-1.3
RYN				IAmb	IAmb	04 31 15.8	
	comp=Z,16nm,1.1s						
O56A	Blue Knob Stat	16.20	70	P	Pn	04 31 13.7	-2.3
	baz=263						
SSPA	Standing Stone	16.76	69	P	Pn	04 31 21.1	-2.0
	baz=262						
WALA	Waterton Lakes	16.81	323		Pn	04 31 22.5	-1.2
F10A	Beach Ranch, E	16.86	310	P	Pn	04 31 23.7	-0.7
T59A	Double "B" Far	16.93	82	Pn	Pn	04 31 24.5	-0.7
T59A				IAmb	IAmb	04 31 35.9	
	comp=Z,86nm,1.7s						
SADO	Sadowa	16.95	55	Pn	Pn	04 31 20.9	-4.5
	comp=Z,1.0nm,0.3s,baz=267,slow=9.4,SNR=8.9						
N58A	Sunbury	17.67	69	P	Pn	04 31 34.7	+0.2
NEW	Newport	17.98	317	P	P	04 31 38.9	+0.1
	comp=Z,0.2nm,0.3s,baz=133,slow=11,SNR=11						
NEW	Newport	17.98	317	P	Pn	04 31 37.6	-0.6
NEW	Newport	17.98	317	P	Pn	04 31 37.7	-0.6
	baz=124						
C09A	Chrisman Ranch	18.38	314		Pn	04 31 42.2	-0.9
N59A	State Game Lan	18.39	69	P	Pn	04 31 42.3	-1.1
	baz=264						
P60A	Greenville	18.40	73	P	Pn	04 31 42.7	-0.8
	baz=267						
BINY	Binghamton	18.43	65	P	P	04 31 42.1	-1.6
	baz=260						
WUPA	West Chester U	18.43	72		P	04 31 43.5	-0.3
WUPA				IAmb	IAmb	04 32 06.8	
	comp=Z,11nm,0.8s						
O03E	Paynes Creek	18.53	289	P	Pn	04 31 45.4	+0.3
	baz=94						
J05D	Fort Rock, OR	18.59	298	P	P	04 31 45.6	-0.1
	baz=104						
LUPA	Lehigh Univers	18.66	70	P	Pn	04 31 46.6	0.0
TLIG	Tlapa	18.83	180	P	P	04 31 46.8	-1.6
L59A	Walton	19.11	65	P	Pn	04 31 51.9	-0.2
N02D	Trinity Center	19.28	291	P	Pn	04 31 54.2	+0.1
	baz=96						
ODNJ	Ogdensburg	19.29	69	P	P	04 31 50.1	-3.1
ODNJ				IAmb	IAmb	04 31 55.4	
	comp=Z,17nm,0.8s						
YBH	Yreka Blue Hor	19.37	293	P	Pn	04 31 55.1	-0.1
	comp=Z,0.9nm,0.3s,baz=89,slow=6.5,SNR=29						
YBH	Yreka Blue Hor	19.37	293	P	P	04 31 53.5	-0.8
YBH				IAmb	IAmb	04 31 59.5	
	comp=Z,18nm,0.8s						
M02C	Callahan	19.43	292	P	Pn	04 31 56.4	+0.4
	baz=97						
VLDQ	Val d'Or	19.46	47	P	P	04 31 53.1	-1.9
CMIG	Matias Romero	19.59	169	P	Pn	04 31 57.5	-0.4
	comp=Z,0.4nm,0.3s,baz=0.1,slow=11,SNR=7.8						
EDM	Edmonton	19.66	333		P	04 31 56.6	-0.7
EDM				IAmb	IAmb	04 32 21.6	
	comp=Z,12nm,0.7s						
J59A	Piesco	19.75	62	P	P	04 31 58.2	-0.1
J59A				IAmb	IAmb	04 32 01.3	
	comp=Z,11nm,0.7s						
PAL	Palisades	19.81	69	P	P	04 31 59.4	+0.5
PAL				IAmb	IAmb	04 32 04.1	
	comp=Z,18nm,0.8s						
PAL	Palisades	19.81	69	P	P	04 31 59.6	+0.7
	baz=265						
LONY	Lake Ozonia	19.98	59	P	P	04 32 00.3	-0.3
LONY				IAmb	IAmb	04 32 07.2	
	comp=Z,20nm,1.3s						
LONY	Lake Ozonia	19.98	59	P	P	04 32 01.1	+0.4
	baz=254						
NCB	Newcomb	20.06	61	P	P	04 32 01.8	+0.2
NCB				IAmb	IAmb	04 32 06.5	
	comp=Z,53nm,1.6s						
TRY	Troy	20.21	64	P	P	04 32 03.6	+0.4
TRY				IAmb	IAmb	04 32 08.9	
	comp=Z,24nm,1.0s						
ACCN	Adirondack Com	20.33	62		P	04 32 04.5	-0.1
ACCN				IAmb	IAmb	04 32 35.1	
	comp=Z,23nm,0.8s						
FRNY	Flat Rock	20.71	58		P	04 32 09.1	+0.4
FRNY				IAmb	IAmb	04 32 11.6	
	comp=Z,29nm,1.1s						
L61B	Northampton	20.89	65	P	P	04 32 11.5	+0.9
	baz=262						
VT1	Waterbury	21.17	60	P	P	04 32 13.5	-0.1
VT1				IAmb	IAmb	04 32 15.8	
	comp=Z,40nm,1.6s						
MOQ	Mont Orford	21.75	58	P	P	04 32 20.5	+0.5
MTO3	Montecristo	23.50	157	P	P	04 32 38.0	-0.7
MTO3				IAmb	IAmb	04 32 47.4	
	comp=Z,26nm,1.8s						
CBB	Campbell River	23.56	314	P	P	04 32 38.0	-0.7
YKA	Yellowknife Ar	27.87	344	P	P	04 33 18.0	0.0
	comp=Z,2.8nm,0.6s,baz=149,slow=8.4,SNR=30						
SCHQ	Schefferville	28.48	40	P	P	04 33 23.2	-0.4
	comp=Z,5.2nm,0.9s,baz=265,slow=9.1,SNR=5.7						
DLBC	Dease Lake	30.08	327	P	P	04 33 38.8	+1.1
	comp=Z,1.3nm,0.7s,baz=131,slow=11,SNR=2.1						
INK	Inuvik	37.32	339	P	P	04 34 39.9	-0.4
	comp=Z,2.9nm,0.8s,baz=106,slow=7.9,SNR=8.9						
INK	Inuvik	37.32	339	P	P	04 34 40.0	-0.4
INK				IAmb	IAmb	04 34 44.7	
	comp=Z,3.6nm,0.9s						
INK	Inuvik	37.32	339	P	P	04 34 39.1	-1.3
	baz=131,SNR=7.6						
RES	Resolute Bay	38.35	2	P	P	04 34 50.6	+1.6
	comp=Z,0.5nm,0.6s,baz=197,slow=11,SNR=2.2						
J26L	Joseph Creek	38.69	331	P	P	04 34 52.3	+0.2
	baz=114						
ILAR	Eielson Array	40.11	330	P	P	04 35 04.8	+0.9
	comp=Z,4.2nm,0.8s,baz=109,slow=7.0,SNR=18						
I21K	Tanana	42.30	330	P	P	04 35 22.5	+0.7
	baz=106						
TOLK	Toolik Lake Re	42.54	335	P	P	04 35 24.2	+0.4
	baz=112						
J20K	Nowinta River	42.95	328	P	P	04 35 26.5	-0.6
	baz=103						
NEEM	North Greenlan	45.86	13	*i* P	P	04 35 54.6	+4.0
NEEM				IAmb	IAmb	04 35 56.2	
	comp=Z,5.2nm,0.9s						
SUMG	Summit	46.77	21	*i* P	P	04 36 01.9	+3.9
PTGA	Pitinga	51.56	127	LR	LR	04 59 39.9	
	comp=Z,153nm,20.8s,baz=344,slow=37						
DAG	Danmarks Havn	52.55	17	*i* P	P	04 36 41.1	-0.3
DAG				IAmb	IAmb	04 36 45.5	
	comp=Z,2.7nm,0.9s						
EKA	Eskdalemuir Ar	63.80	39	P	P	04 38 00.2	-0.3
	comp=Z,2.7nm,0.7s,baz=298,slow=5.2,SNR=2.4						
KIF	Kilpisjarvi	65.85	20	*eP*	P	04 38 13.2	-0.3
ARCES	ARCESS Array B	66.75	18	P	P	04 38 19.7	+0.3
	comp=Z,2.3nm,0.8s,baz=314,slow=5.9,SNR=11						
KEV	Kevo	66.97	18	*eP*	P	04 38 20.2	-0.6
NOA	NORSAR Array B	67.44	30	P	P	04 38 25.1	+1.1
	comp=Z,0.1nm,0.4s,baz=234,slow=19,SNR=2.3						
PETK	Petropavlovsk-	69.05	321	P	P	04 38 33.6	-0.6
	comp=Z,2.9nm,0.9s,baz=65,slow=6.8,SNR=2.1						
ESDC	Sonseca Array	71.01	54	P	P	04 38 47.4	+0.9
	comp=Z,1.2nm,0.9s,baz=292,slow=7.0,SNR=2.5						
FINES	FINESS Array B	72.64	24	P	P	04 38 57.0	+1.1
	comp=Z,3.0nm,0.8s,baz=352,slow=4.2,SNR=4.9						
AKASG	Malin Array Be	81.84	30	P	P	04 39 48.7	+1.0
	comp=Z,1.0nm,0.6s,baz=315,slow=4.1,SNR=9.2						
ZALV	Zalesovo Beam	89.90	358	P	P	04 40 27.4	-0.1
	comp=Z,0.9nm,0.6s,baz=23,slow=5.5,SNR=4.0						
BVAR	Borovoye Array	90.37	7	P	P	04 40 30.4	+0.7
	comp=Z,0.5nm,0.7s,baz=358,slow=4.3,SNR=2.9						
TORD	Torodi Ar. Bea	90.42	73	P	P	04 40 31.6	+1.0
	comp=Z,0.6nm,0.8s,baz=300,slow=5.7,SNR=2.8						
CN2	Changchun	90.63	330	*eP*	P	04 40 30.7	-0.4
CN2	Changchun	90.63	330	*eS*	S	04 51 23.6	-4.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s						
CN2				LR	LR		
	comp=E,300nm,17.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
IDI	Anoyia	91.38	43	LR	LR	05 22 43.2	
	comp=Z,63nm,18.9s,baz=284,slow=36						
KBZ	Khabaz	92.87	27	P	P	04 40 42.5	+1.0
	comp=Z,3.2nm,1.1s,baz=318,slow=6.9,SNR=3.6						
SONM	Songino Array	93.14	343	P	P	04 40 43.9	+1.1
	comp=Z,0.4nm,0.7s,baz=336,slow=3.7,SNR=2.3						
PZH	PanZhiHua	114.48	340	PKP	PKiKP	04 46 08.6	-0.6
WRA	Warramunga Arr	131.08	275	PKP	PKiKP	04 46 43.1	+1.2
	comp=Z,0.4nm,0.8s,baz=71,slow=2.6,SNR=2.4						
ASAR	Alice Springs	133.28	271	PKP	PKiKP	04 46 46.4	+0.1
	comp=Z,0.2nm,0.6s,baz=96,slow=1.9,SNR=1.7						

NEIC ***07*** *04:27:56.6±1.9,36°.47N±0°.03×98°.74W±0°.06,h6km±4km, Error ellipse: s-maj=7.3km s-min=3.0km az=119.0*

MOS ***07*** *04:27:57.1±1.5,36°.54N×98°.59W,h10km,mb5.0/23, MS4.4/5,Error ellipse: s-maj=7.2km s-min=6.6km az=75.6*

TUL ***07*** *04:27:57.6±2.0,36°.50N±0°.03×98°.73W±0°.05,h4km±3km, ML5.0,mb4.8/103(NEIC),mb_Lg5.2/118(NEIC), Mwr4.8/131(NEIC),Mww4.7(NEIC),Error ellipse: s-maj=5.9km s-min=4.5km az=91.0*

IDC ***07*** *04:27:57.3±0.5,36°.62N×98°.75W,h0km,mb4.5/27, mb1 4.6/37,mb1mx4.5/55,mbtmp4.5/37,ML4.9/8,MS4.2/3, Ms1 4.2/3,ms1mx3.7/21,Error ellipse: s-maj=9.6km s-min=8.3km az=174.0*

NEIC ***07*** *04:27:58,36°.49N×98°.59W,h12km,Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.24; $M_{\theta\theta}$1.45; $M_{\phi\phi}$-1.21; $M_{r\theta}$-0.02; $M_{\theta\phi}$0.12; $M_{\phi r}$-0.35; Fault plane solution: $M_0$1.40000×10^{16} NP1: ϕ_s311.00000°,δ77.00000°,λ-12.00000°. NP2:ϕ_s44.00000°, δ78.00000°,λ-166.00000°. Principal axes: T 1.4578, Plg1.0000°, Azm177.0000°; N -0.1272, Plg72.0000°, Azm84.0000°; P -1.3306, Plg18.0000°, Azm268.0000°;*

GCMT ***07*** *04:27:58.6±0.3,36°.66N±0°.02×98°.62W±0°.02,h19km±1km, MW4.8/88,Moment Tensor Solution. s14,c16; s88,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47±.09; $M_{\theta\theta}$2.07±.09; $M_{\phi\phi}$-1.59±.07; $M_{r\theta}$-0.38±.17; $M_{\theta\phi}$0.18±.07; $M_{\phi r}$-0.07±.15; Best double couple: $M_0$1.86800×10^{16} NP1:ϕ_s313.00000°,δ82.00000°,λ4.00000°. NP2: ϕ_s222.00000°,δ86.00000°,λ172.00000°. Principal axes: T 2.1350, Plg8.0000°, Azm177.0000°; N -0.5280, Plg81.0000°, Azm15.0000°; P -1.6020, Plg3.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***07*** *04:27:58.8,36°.49N×98°.71W,h8km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.59; $M_{\theta\theta}$2.03; $M_{\phi\phi}$-1.44; $M_{r\theta}$-0.41; $M_{\theta\phi}$0.08; $M_{\phi r}$-0.70; Fault plane solution: $M_0$1.99000×10^{16} NP1:ϕ_s310.54000°, δ62.06000°,λ-15.53000°. NP2:ϕ_s47.96000°,δ76.32000°, λ-151.17000°. Principal axes: T 2.1042, Plg9.0000°, Azm177.0000°; N -0.2605, Plg58.0000°, Azm71.0000°; P -1.8436, Plg30.0000°, Azm272.0000°;*

ISC 07 04:27:58.0±0.3,36°.44N±0°.04×98°.71W±0°.04,h10km,n333, σ1$87/288,mb4.7/86,MS4.5/9,8C-9D,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.27	0	Pg	Pg	04 28 02.4	-1.1
OK035				Sg	Sg	04 28 04.8	-2.3
CROK	Carrier	0.59	84	Pg	Pg	04 28 09.1	-0.3
KAN14	Manchester OK	0.79	49	Pg	Pg	04 28 11.7	-1.6
KAN01	Argonia South	1.04	47	Pg	Pg	04 28 16.5	-1.6
KAN13	South Haven SW	1.14	60	Pg	Pb	04 28 18.4	-1.4
T35A	Sooner Cattle	1.83	74	IAmb_Lg		04 28 59.6	
	comp=Z,16μm,1.1s						
X34A	Smith Ranch, M	1.97	158	IAmb_Lg		04 29 06.2	
	comp=Z,8μm,0.9s						
TUL1	Leonard	2.42	102	IAmb_Lg		04 29 16.9	
	comp=Z,7μm,0.8s						
CBKS	Cedar Bluff	2.51	341	IAmb_Lg		04 29 21.4	
	comp=Z,5μm,0.8s						
AMTX	Amarillo	2.88	238	IAmb_Lg		04 29 37.3	
	comp=Z,8μm,0.8s						
KSU1	Kansas State U	3.13	31	IAmb_Lg		04 29 43.7	
	comp=Z,11μm,0.9s						
U38A	Gravette	3.49	89	IAmb_Lg		04 29 55.8	
	comp=Z,7μm,0.9s						
HHAR	Hobbs	3.85	91	Pn	Pn	04 28 58.0	+0.6
HHAR				IAmb_Lg		04 29 58.8	
	comp=Z,3μm,0.8s						
MSTX	Muleshoe	4.14	235		Pn	04 28 59.9	-1.5
MSTX				IAmb_Lg		04 30 13.2	
	comp=Z,3μm,1.0s						
W39A	Magazine	4.19	106	IAmb_Lg		04 30 17.8	
	comp=Z,8μm,0.9s						
Z38A	Mt. Pleasant	4.41	135	IAmb_Lg		04 30 20.3	
	comp=Z,4μm,0.8s						
S39A	Bolivar	4.49	72	IAmb_Lg		04 30 24.5	
	comp=Z,8μm,1.1s						
MIAR	Mount Ida	4.59	113	P	Pn	04 29 06.9	-0.7
MIAR				pmax	pmax		
	comp=Z,8μm,1.3s						
MIAR	Mount Ida	4.59	113	Pn	Pn	04 29 06.9	-0.7
MIAR				IAmb_Lg		04 30 35.6	
	comp=Z,8μm,1.2s						
T25A	Trinidad	4.63	280	IAmb_Lg		04 30 27.1	
	comp=Z,6μm,1.1s						
U40A	Yellville	4.72	89	IAmb_Lg		04 30 26.8	
	comp=Z,5μm,0.9s						
BGNE	Belgrade	4.98	5	IAmb_Lg		04 30 45.5	
	comp=Z,6μm,0.8s						
237A	Washetta, Mont	5.04	151	IAmb_Lg		04 30 52.8	
	comp=Z,4μm,1.0s						
X40A	Basin Creek Fa	5.18	110	IAmb_Lg		04 30 49.3	
	comp=Z,5μm,0.9s						
P38A	Dawn	5.18	51	IAmb_Lg		04 30 51.0	
	comp=Z,4μm,0.8s						
OGNE	Ogallala

ECSD EROS Data Cent 7.46 12 IAmb_Lg 04 32 03.1
comp=Z,3µm,0.9s
N41A Harden Midland 7.48 53 Pn **Pn 04 29 46.2 -1.0**
HALT Halls 7.60 91 Pn **Pn 04 29 48.1 -0.6**
HALT IAmb_Lg 04 31 59.9
comp=Z,2µm,0.8s
735A Kenedy 7.60 174 IAmb_Lg 04 32 14.8
comp=Z,2µm,1.1s
GLAT Glass 7.61 89 IAmb_Lg 04 32 03.9
comp=Z,5µm,0.8s
HICK Hickman 7.64 86 Pn **Pn 04 29 49.1 -0.3**
S44A Carbondale 7.66 78 Pn **Pn 04 29 49.4 -0.2**
S44A IAmb_Lg 04 32 11.6
comp=Z,4µm,0.8s
W45A Hickory Valley 7.84 97 Pn **Pn 04 29 50.0 -2.2**
W45A IAmb_Lg 04 32 13.9
comp=Z,3µm,0.9s
Y45A Yeager Farm, C 7.94 106 IAmb_Lg 04 32 21.4
comp=Z,2µm,0.8s
SUSD Miller 8.00 359 IAmb_Lg 04 32 28.0
comp=Z,3µm,0.9s
Q44A Meyer Farm, Va 8.07 69 Pn **Pn 04 29 54.9 -0.3**
PV07 Paradox Valley 8.15 287 Pn **Pn 04 29 57.6 +1.0**
TXAR Lajitas Array 8.22 212 Pn **Pn 04 29 58.7 +1.3**
comp=Z,23nm,0.3s,baz=31,slow=13,SNR=17
TXAR Lg Lg 04 32 19.5
comp=Z,44nm,0.3s,baz=27,slow=25,SNR=7.0
PV16 Nyswonger Mesa 8.34 286 Pn **Pn 04 29 59.6 +0.5**
O20A White River Ci 8.35 299 IAmb_Lg 04 32 43.4
comp=Z,2µm,1.2s
RWWY Rawlins 8.43 311 IAmb_Lg 04 32 35.1
comp=Z,3µm,1.3s
I37A Lemond, Waseca 8.58 27 Pn **Pn 04 30 02.1 -0.2**
I37A IAmb_Lg 04 32 41.4
comp=Z,4µm,1.0s
RSSD Black Hills 8.68 334 IAmb_Lg 04 32 33.2
comp=Z,2µm,1.1s
146A Union 8.82 113 IAmb_Lg 04 33 03.6
comp=Z,1µm,0.9s
O44A Mansfield 8.86 62 Pn **Pn 04 30 06.2 0.0**
JFWS Jewell Farm 9.18 43 P **Pn 04 30 09.1 -1.4**
JFWS pmax pmax
comp=Z,4µm,0.8s
JFWS Jewell Farm 9.18 43 Pn **Pn 04 30 09.1 -1.4**
JFWS IAmb_Lg 04 32 54.7
comp=Z,4µm,0.8s
F33A 5 Mile Ranch, 9.56 10 IAmb_Lg 04 33 17.5
comp=Z,2µm,1.1s
I40A Norwalk 9.68 37 IAmb_Lg 04 33 10.5
comp=Z,2µm,1.0s
SPMN Marine on St. 9.85 25 IAmb_Lg 04 33 19.0
comp=Z,2µm,0.8s
BLO Bloomington 10.02 71 P **Pn 04 30 21.0 -1.0**
BLO Bloomington 10.02 71 Pn **Pn 04 30 21.0 -1.0**
L44A Lake County Fo 10.14 52 Pn **Pn 04 30 22.9 -0.7**
F36A Milaca 10.19 21 Pn **Pn 04 30 22.6 -1.7**
PDAR Pinedale Array 10.48 310 Pn **Pn 04 30 27.3 -1.2**
comp=Z,3.6nm,0.3s,baz=104,slow=13,SNR=7.8
PDAR Lg Lg 04 33 23.4
comp=Z,23nm,0.3s,baz=107,slow=35,SNR=2.4
PDAR Pinedale Array 10.48 310 **Pn 04 30 27.3 -1.2**
I42A Draeger Farm, 10.56 42 Pn **Pn 04 30 27.9 -1.4**
CTU Camp Tracy 11.05 297 Pn **Pn 04 30 33.7 -2.6**
NLU North Lily Min 11.09 292 Pn **Pn 04 30 34.8 -2.0**
TCRU Three Creeks R 11.12 285 Pn **Pn 04 30 35.5 -1.9**
250A Grady 11.22 110 Pn **Pn 04 30 37.2 -1.2**
P49A Miami Univ. Ec 11.47 70 Pn **Pn 04 30 41.1 -0.7**
CPCT Cooper Cave 11.54 91 Pn **Pn 04 30 42.2 -0.7**
H43A Windswept, Lux 11.56 43 Pn **Pn 04 30 42.1 -0.9**
V51A Loudon 11.63 89 Pn **Pn 04 30 43.3 -0.7**
LAO LASA Array 11.68 334 Pn **Pn 04 30 43.1 -1.6**
Y14A Wickenburg 11.96 262 Pn **Pn 04 30 45.8 -2.8**
W52A Murphy 12.09 92 Pn **Pn 04 30 48.1 -2.2**
TKL Tuckaleechee C 12.12 89 Pn **Pn 04 30 51.4 +0.7**
comp=Z,12nm,0.3s,baz=239,slow=8.0,SNR=23
TKL Sn **Sn 04 33 03.1 -2.8**
comp=Z,6.9nm,0.3s,baz=191,slow=7.3,SNR=3.7
TKL Lg Lg 04 34 10.1
comp=Z,17nm,0.3s,baz=30,slow=22,SNR=5.7
TKL Tuckaleechee C 12.12 89 Pn **Pn 04 30 49.4 -1.3**
I45A Fountain 12.17 48 Pn **Pn 04 30 50.4 -1.0**
N49A Columbus Grove 12.20 64 Pn **Pn 04 30 50.5 -1.3**
L48A N Adams 12.36 59 Pn **Pn 04 30 52.0 -2.0**
Q51A Peebles 12.44 73 Pn **Pn 04 30 53.9 -1.1**
SPR3 Spring Creek 3 12.63 286 Pn **Pn 04 30 55.2 -2.8**
P51A Williamsport 12.72 71 Pn **Pn 04 30 56.3 -2.6**
AAM Ann Arbor 13.03 59 P **Pn 04 31 01.3 -1.8**
AAM Ann Arbor 13.03 59 Pn **Pn 04 31 01.3 -1.8**
M50A Fremont 13.16 63 Pn **Pn 04 31 03.0 -1.9**
154A Montrose 13.42 102 Pn **Pn 04 31 07.2 -1.3**
N51A Ashland 13.52 66 Pn **Pn 04 31 07.5 -2.3**
HODGE Hodges 13.61 94 Pn **Pn 04 31 10.0 -1.1**
ELK Elko 13.62 293 Pn **Pn 04 31 12.6 +1.2**
comp=Z,0.1nm,0.3s,baz=125,slow=8.8,SNR=3.2
ELK Lg Lg 04 34 59.3
comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=2.2
ELK Elko 13.62 293 **Pn 04 31 10.8 -0.7**
O52A Adamsville 13.75 69 Pn **Pn 04 31 11.1 -2.0**
DLMT Dillon 13.76 315 Pn **Pn 04 31 11.1 -2.1**
ULM Lac du Bonnet 13.96 8 Pn Pn 04 31 09.3 -6.4
comp=Z,5.2nm,0.3s,baz=176,slow=12,SNR=11
ULM Sn Sn 04 33 34.2 -16
comp=Z,6.5nm,0.3s,baz=225,slow=9.5,SNR=3.1
ULM Lg Lg 04 35 05.5
comp=Z,8.7nm,0.3s,baz=99,slow=4.3,SNR=2.0
P53A Whipple 14.00 72 Pn **Pn 04 31 14.6 -1.8**
ZAIG Zacatecas 14.03 195 Pn **Pn 04 31 17.1 -0.1**
V55A Taylorsville 14.15 87 Pn **Pn 04 31 17.2 -1.3**
KMSC Kings Mountain 14.17 90 Pn **Pn 04 31 17.3 -1.5**
255A Hazlehurst 14.17 104 Pn **Pn 04 31 16.9 -1.9**
Q54A Coxs Mills 14.38 74 **Pn 04 31 19.2 -2.4**
JSC Jenkinsville 14.40 93 P **Pn 04 31 19.9 -2.0**
JSC Jenkinsville 14.40 93 **Pn 04 31 19.9 -2.0**
PFO Pinyon Flats O 14.82 264 Lg Lg 04 35 46.0
comp=Z,0.2nm,0.3s,baz=209,slow=18,SNR=2.6
BIRD Birdtown, Kers 14.97 91 Pn **Pn 04 31 27.0 -2.6**
Y57A Sumter 15.17 94 **Pn 04 31 29.6 -2.6**
MCWV Mont Chateau 15.21 72 **Pn 04 31 30.8 -2.0**
W57A Gilead 15.25 89 **Pn 04 31 32.2 -1.1**
NVAR Mina Array Bea 15.69 283 Pn **Pn 04 31 38.2 -1.2**
comp=Z,0.2nm,0.3s,baz=101,slow=9.3,SNR=5.4
NVAR Mina Array Bea 15.69 283 **Pn 04 31 37.5 -1.9**
LPIG La Paz 15.85 222 Pn **P 04 31 44.1 -0.8**
comp=Z,16nm,0.3s,baz=28,slow=3.9,SNR=5.2
LPIG La Paz 15.85 222 P **P 04 31 44.1 -0.8**
JTMT Jette 16.13 319 Pn **Pn 04 31 41.9 -3.0**
OMMB Old Mammoth Mi 16.25 280 Pn **Pn 04 31 44.8 -1.9**
YERR Yerington 16.44 285 Pn **Pn 04 31 46.7 -2.3**
WVOR Wild Horse Val 16.50 297 P **Pn 04 31 47.8 -1.9**
WVOR pmax pmax
comp=Z,61nm,1.5s
WVOR Wild Horse Val 16.50 297 Pn **Pn 04 31 47.8 -1.9**
WVOR IAmb IAmb 04 31 55.7
comp=Z,61nm,1.4s
PAHR Pah Rah Range 16.60 288 Pn **Pn 04 31 50.7 -0.2**
VCNR Virginia City 16.78 286 Pn **Pn 04 31 51.0 -2.2**
MOIG Morelia 16.84 188 Pn **Pn 04 31 53.3 -0.9**
MOIG IAmb IAmb 04 32 03.3
comp=Z,111nm,1.2s
CNNC Cliffs of the 16.93 88 Pn **Pn 04 31 50.6 -4.3**
T59A Double "B" Far 16.98 82 Pn **Pn 04 31 54.7 -0.8**
T59A IAmb IAmb 04 32 05.7
comp=Z,70nm,0.9s
SADO Sadowa 17.00 55 Pn **Pn 04 31 52.5 -3.3**
comp=Z,3.1nm,0.3s,baz=268,slow=14,SNR=4.9
SADO Sn Sn 04 34 53.3 -11
comp=Z,6.2nm,0.3s,baz=279,slow=16,SNR=3.3
SADO Lg Lg 04 36 39.6
comp=Z,4.2nm,0.3s,baz=296,slow=14,SNR=3.2
SADO Sadowa 17.00 55 **Pn 04 31 55.1 -0.7**
SADO IAmb IAmb 04 32 14.2
comp=Z,72nm,0.8s
CBN Corbin Frederi 17.06 78 P **Pn 04 31 55.0 -1.6**
MPK Martis Peak 17.07 286 Pn **Pn 04 31 54.9 -2.1**
MPK IAmb IAmb 04 32 02.3
comp=Z,54nm,1.3s
CMB Columbia Colle 17.33 282 P **P 04 32 02.2 +0.7**
CMB pmax pmax
comp=Z,28nm,1.5s
CMB Columbia Colle 17.33 282 P **P 04 32 02.2 +0.7**
I07A Izee 17.58 302 **Pn 04 32 01.0 -2.2**
T60A Surry 17.61 81 P **Pn 04 32 01.6 -1.9**
G08A Pilot Rock 17.65 306 P **Pn 04 32 01.9 -2.1**
PAGS Pennsylvania G 17.65 71 Pn **Pn 04 32 02.4 -1.6**
PAGS IAmb IAmb 04 32 30.9
comp=Z,59nm,0.7s
E09A Wood Farm, Sta 17.66 311 P **Pn 04 32 03.5 -0.5**
V61A Roper 17.89 85 Pn **Pn 04 32 04.1 -2.9**
NEW Newport 17.97 317 P **Pn 04 32 07.5 -0.4**
comp=Z,0.4nm,0.3s,baz=124,slow=14,SNR=11
NEW Lg Lg 04 37 08.5
comp=Z,0.3nm,0.3s,baz=97,slow=11,SNR=3.1
NEW Newport 17.97 317 Pn **Pn 04 32 04.9 -3.0**
PECO Prince Edward 18.17 59 Pn **Pn 04 32 05.8 -4.5**
PECO IAmb IAmb 04 32 12.4
comp=Z,93nm,1.0s
K05A Summer Lake 18.19 297 Pn **Pn 04 32 07.8 -3.0**
K05A IAmb IAmb 04 32 13.5
comp=Z,59nm,1.3s
E08A Dider Farm, El 18.21 310 Pn **Pn 04 32 08.8 -2.0**
D08A Wollman Farm, 18.39 312 Pn **Pn 04 32 09.2 -3.7**
Q61A Milford 18.67 75 P **P 04 32 12.9 -3.1**
TLIG Tlapa 18.80 180 P **P 04 32 15.5 -2.3**
WDC Whiskeytown Da 19.09 290 P **P 04 32 18.3 -2.4**
WDC pmax pmax
comp=Z,28nm,1.3s
WDC Whiskeytown Da 19.09 290 P **P 04 32 18.3 -2.4**
P61A Hammonton 19.10 73 P **P 04 32 18.8 -2.0**
P61A IAmb IAmb 04 32 25.2
comp=Z,51nm,0.8s
B08A Colville Reser 19.26 315 P **P 04 32 19.9 -2.8**
BRNJ Basking Ridge 19.33 70 P **P 04 32 21.1 -2.3**
BRNJ IAmb IAmb 04 32 35.9
comp=Z,55nm,1.0s
YBH Yreka Blue Hor 19.34 293 P **P 04 32 23.7 +0.1**
comp=Z,1.8nm,0.3s,baz=72,slow=4.7,SNR=16
YBH Yreka Blue Hor 19.34 293 P **P 04 32 22.4 -1.1**
YBH IAmb IAmb 04 32 27.4
comp=Z,45nm,0.9s
CMIG Matias Romero 19.57 169 P **Pn 04 32 28.7 +1.3**
comp=Z,1.0nm,0.3s,baz=359,slow=7.3,SNR=6.1
H04A Detroit Lake 19.60 302 P **P 04 32 22.9 -3.4**
TRNY Table Rock, Ra 19.63 69 P **P 04 32 23.2 -3.5**
TRNY IAmb IAmb 04 32 30.2
comp=Z,46nm,0.8s
CPNY Central Park 19.80 70 P **P 04 32 25.5 -3.0**
CPNY IAmb IAmb 04 32 31.5
comp=Z,32nm,0.9s
PAL Palisades 19.86 69 P **P 04 32 28.4 -0.7**
PAL pmax pmax
comp=Z,109nm,1.2s
PAL Palisades 19.86 69 P **P 04 32 28.4 -0.7**
LONY Lake Ozonia 20.02 58 P **P 04 32 29.7 -1.2**
LONY IAmb IAmb 04 32 34.8
comp=Z,37nm,0.9s
KSCT Kent School, K 20.25 67 P **P 04 32 32.7 -0.7**
KSCT IAmb IAmb 04 32 35.5
comp=Z,57nm,0.9s
WSPT Westport, CT 20.31 69 P **P 04 32 33.6 -0.4**
WSPT IAmb IAmb 04 32 50.7
comp=Z,34nm,1.1s
D05A Enumclaw 20.33 309 P Pn 04 32 35.4 -0.8
D05A IAmb IAmb 04 32 50.1
comp=Z,42nm,1.1s
MNTQ Montreal, Queb 20.93 57 P **P 04 32 39.2 -1.5**
QUA2 Belchertown 21.15 66 P **P 04 32 40.9 -2.3**
QUA2 IAmb IAmb 04 32 47.6
comp=Z,59nm,1.2s
J61A Chester 21.17 63 P **P 04 32 41.6 -1.7**
J61A IAmb IAmb 04 33 08.7
comp=Z,38nm,0.7s
VT1 Waterbury 21.22 60 P **P 04 32 40.9 -3.1**
VT1 IAmb IAmb 04 32 45.9
comp=Z,49nm,1.1s
M63A Gales Ferry 21.29 68 **P 04 32 43.9 -0.7**
M63A IAmb IAmb 04 32 49.6
comp=Z,46nm,0.9s
K62A Royalston 21.29 65 P **P 04 32 43.4 -1.2**
HNH Hanover 21.43 62 P **P 04 32 45.3 -0.8**
HNH IAmb IAmb 04 33 06.0
comp=Z,20nm,0.8s
BRYW Bryant College 21.71 67 P **P 04 32 48.0 -1.2**
BRYW IAmb IAmb 04 32 54.3
comp=Z,49nm,1.0s
HRV Adam Dziewonsk 21.77 66 P **P 04 32 50.1 +0.4**
HRV pmax pmax
comp=Z,53nm,1.0s
HRV Adam Dziewonsk 21.77 66 P **P 04 32 50.1 +0.4**
HRV IAmb IAmb 04 32 54.7
comp=Z,54nm,1.0s
LBNH Lisbon 21.78 61 P **P 04 32 48.3 -1.7**
LBNH pmax pmax
comp=Z,53nm,1.2s
LBNH Lisbon 21.78 61 P **P 04 32 48.2 -1.7**
LBNH IAmb IAmb 04 32 52.5
comp=Z,53nm,1.2s
MOQ Mont Orford 21.80 58 P **P 04 32 50.0 -0.2**
LLLB Lillooet 21.85 318 P **P 04 32 51.3 +0.6**
LLLB IAmb IAmb 04 33 00.3
comp=Z,69nm,1.5s
WES Weston 21.93 66 P **P 04 32 49.8 -1.6**
WES pmax pmax
comp=Z,137nm,1.4s
WES Weston 21.93 66 P **P 04 32 49.8 -1.6**
BCX Boston College 22.03 66 P **P 04 32 52.7 +0.1**
H62A Milan 22.39 60 **P 04 32 56.5 +0.1**
I63A Otisfield 22.70 62 P **P 04 32 58.9 -0.8**
LMQ La Malbaie 23.70 53 P **P 04 33 09.1 -0.9**
LMQ IAmb IAmb 04 33 13.2
comp=Z,35nm,1.0s
PKME Peaks-Kenny Pk 23.83 59 P **P 04 33 12.5 +1.4**
PKME IAmb IAmb 04 33 14.9
comp=Z,42nm,1.1s
F63A Nahmakanta, Br 24.05 58 P **P 04 33 13.5 +0.3**
F63A IAmb IAmb 04 33 18.1
comp=Z,34nm,1.2s
D62A Allapoint, All 24.41 55 P **P 04 33 15.3 -1.2**
D62A IAmb IAmb 04 33 20.7
comp=Z,28nm,1.1s
TLCB Telegraph Cove 24.61 314 P **P 04 33 19.9 +1.6**
YKA Yellowknife Ar 27.89 344 P **P 04 33 47.1 -0.6**
comp=Z,12nm,0.9s,baz=146,slow=9.2,SNR=16
YKA Yellowknife Ar 27.89 344 P **P 04 33 46.4 -1.3**
SCHQ Schefferville 28.53 40 P **P 04 33 53.8 +0.2**
comp=Z,9.5nm,0.8s,baz=249,slow=10,SNR=6.8
SCHQ Schefferville 28.53 40 P **P 04 33 52.4 -1.2**
SCHQ IAmb IAmb 04 34 18.9
comp=Z,19nm,1.1s
DLBC Dease Lake 30.08 327 P **P 04 34 07.3 -0.1**
comp=Z,1.9nm,0.6s,baz=138,slow=7.4,SNR=3.3
FRB Frobisher Bay 32.88 24 P **P 04 34 31.6 -0.2**
comp=Z,4.2nm,0.6s,baz=240,slow=8.7,SNR=6.1
FRB Frobisher Bay 32.88 24 P **P 04 34 31.6 -0.2**
WHY Whitehorse 33.35 328 P **P 04 34 32.5 -3.7**
C36M Paulatuk 35.76 345 P **P 04 34 54.2 -2.5**
C36M IAmb IAmb 04 35 07.0
comp=Z,12nm,1.4s
INK Inuvik 37.33 340 P **P 04 35 09.7 -0.4**
comp=Z,9.1nm,1.0s,baz=111,slow=10,SNR=11
INK Inuvik 37.33 340 P **P 04 35 09.5 -0.6**
INK IAmb IAmb 04 35 12.8
comp=Z,14nm,1.0s
BCAR Beaver Creek A 37.37 329 P **P 04 35 10.4 -0.2**
L27K Beaver Creek, 37.38 329 P **P 04 35 10.5 -0.2**
EGAK Eagle 37.88 332 P **P 04 35 13.1 -1.7**
EGAK IAmb IAmb 04 35 17.7
comp=Z,15nm,1.2s
RES Resolute Bay 38.38 2 P **P 04 35 19.5 +0.7**
comp=Z,1.3nm,0.6s,baz=191,slow=11,SNR=5.9
RES Resolute Bay 38.38 2 P **P 04 35 18.3 -0.6**
RES pmax pmax
comp=Z,8.0nm,1.5s
RES Resolute Bay 38.38 2 P **P 04 35 18.2 -0.6**
PRP Porcupine Dome 39.86 332 P **P 04 35 32.6 +1.0**
HDA Harding Lake 40.01 330 P **P 04 35 31.9 -0.8**
HDA IAmb IAmb 04 35 40.0
comp=Z,20nm,1.5s
ILAR Eielson Array 40.11 330 P **P 04 35 34.2 +0.7**
comp=Z,8.7nm,0.8s,baz=112,slow=5.9,SNR=21
ILAR Eielson Array 40.11 330 P **P 04 35 33.7 +0.2**
ILAR Eielson Array 40.11 330 P **P 04 35 33.7 +0.2**
BMAR Burnt Mountain 40.33 335 P **P 04 35 36.7 +1.4**
RND Reindeer 40.47 328 P **P 04 35 35.1 -1.5**
RND pmax pmax
comp=Z,16nm,1.1s
RND Reindeer 40.47 328 P **P 04 35 35.1 -1.5**
RND IAmb IAmb 04 35 41.1
comp=Z,16nm,1.1s
WRH Wood River Hil 40.49 330 P **P 04 35 35.2 -1.4**
WRH IAmb IAmb 04 35 40.3
comp=Z,29nm,1.4s
COLA College 40.53 330 *d* P **P 04 35 39.1 +2.2**
COLA pmax pmax
comp=Z,24nm,1.3s
COLA College 40.53 330 P **P 04 35 37.7 +0.7**
COLA IAmb IAmb 04 35 40.6
comp=Z,33nm,1.4s
TCOL CIGO, UAF Yank 40.54 330 P **P 04 35 35.2 -1.8**
TCOL IAmb IAmb 04 35 40.5
comp=Z,28nm,1.3s
MDM Murphy Dome 40.72 330 P **P 04 35 37.3 -1.2**
MDM IAmb IAmb 04 35 41.9
comp=Z,15nm,1.2s
H24K Noodor Dome 40.89 332 P **P 04 35 39.2 -0.8**
H24K IAmb IAmb 04 35 43.6
comp=Z,22nm,1.2s
MLY Manley 41.75 330 P **P 04 35 46.0 -1.0**
CAST Castle Rocks 41.88 327 P **P 04 35 47.3 -0.8**
CAST IAmb IAmb 04 35 51.4
comp=Z,15nm,1.0s
I21K Tanana 42.30 330 P **P 04 35 50.0 -1.4**
TOLK Toolik Lake Re 42.55 335 P **P 04 35 54.2 +0.7**
TOLK IAmb IAmb 04 36 14.7
comp=Z,9.9nm,0.8s
H21K Melozitna Rive 42.76 330 P **P 04 35 55.8 +0.6**
H21K IAmb IAmb 04 35 58.6
comp=Z,29nm,1.4s
J20K Nowinta River 42.94 328 P **P 04 35 56.5 -0.3**
J20K IAmb IAmb 04 36 04.2
comp=Z,22nm,1.5s
NEEM North Greenlan 45.90 13 *i* P **P 04 36 21.1 +0.5**
NEEM IAmb IAmb 04 36 25.9
comp=Z,17nm,0.8s
SUMG Summit 46.81 21 *i* P **P 04 36 29.6 +1.8**
DAG Danmarks Havn 52.59 17 *i* P **P 04 37 10.8 -0.5**
DAG IAmb IAmb 04 37 15.1
comp=Z,4.1nm,0.7s
ETMB Extrema 55.24 140 P **P 04 37 30.1 -1.3**
ETMB IAmb IAmb 04 37 32.2
comp=Z,10nm,1.3s
BILL Bilibino 58.57 334⇑ *eP* **P 04 37 55.2 +0.8**
BILL *e* 04 38 50.4
BILL *e* 04 40 08.1
BILL pmax pmax
comp=Z,24nm,1.7s
BILL MLR MLR
comp=Z,227nm,15.0s
BILL Bilibino 58.57 334 P **P 04 37 54.2 -0.2**
SPITS Spitsbergen Ar 59.45 13 P **P 04 37 59.8 -0.7**
comp=Z,4.0nm,0.8s,baz=323,slow=0.7,SNR=1.5
SPITS Spitsbergen Ar 59.45 13 P **P 04 37 59.8 -0.7**
LPAZ La Paz 59.88 146 P **P 04 38 06.9 +2.1**
comp=Z,2.0nm,0.8s,baz=289,slow=3.8,SNR=6.0
LPAZ La Paz 59.88 146 P **P 04 38 05.3 +0.5**
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ La Paz 59.88 146 P **P 04 38 05.2 +0.5**
PB01 IPOC Station P 63.50 149 P **P 04 38 28.9 +0.4**
PTLB Pontes e Lacer 63.72 137 P **P 04 38 31.6 +1.7**
PTLB IAmb IAmb 04 38 33.3
comp=Z,9.0nm,1.2s
EKA Eskdalemuir Ar 63.85 39 P **P 04 38 29.6 -0.7**
comp=Z,9.5nm,0.8s,baz=285,slow=6.3,SNR=9.0
EKA LR LR 05 04 28.4
comp=Z,314nm,18.1s,baz=344,slow=34
EKA Eskdalemuir Ar 63.85 39 P **P 04 38 29.6 -0.7**
SEY Seymchan 66.02 332⇑ *eP* **P 04 38 46.1 +1.7**
ARCES ARCESS Array B 66.79 18 P **P 04 38 47.7 -1.5**
comp=Z,3.7nm,0.6s,baz=318,slow=5.1,SNR=13
ARCES ARCESS Array B 66.79 18 P **P 04 38 48.5 -0.7**
ARCES pmax pmax
comp=Z,15nm,1.2s
ARCES ARCESS Array B 66.79 18 P **P 04 38 48.5 -0.7**
TIXI Tiksi 67.13 345⇑ *eP* **P 04 38 53.3 +2.0**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
NOA NORSAR Array B 67.49 30 P **P 04 38 53.0 -0.9**
comp=Z,2.9nm,1.0s,baz=304,slow=6.5,SNR=3.7
NOA NORSAR Array B 67.49 30 P **P 04 38 53.0 -0.9**
NOA NORSAR Array B 67.49 30 P **P 04 38 53.0 -0.9**
PETK Petropavlovsk- 69.05 321 P **P 04 39 03.2 -0.5**
comp=Z,3.0nm,0.8s,baz=57,slow=7.3,SNR=2.6
BDFB Brasilia 70.51 128 P **P 04 39 14.2 +0.9**
comp=Z,1.3nm,0.6s,baz=83,slow=5.3,SNR=4.3
BDFB Brasilia 70.51 128 P **P 04 39 13.3 +0.1**
BDFB IAmb IAmb 04 39 16.4
comp=Z,15nm,1.4s
ESDC Sonseca Array 71.06 54 P **P 04 39 15.8 -0.6**
comp=Z,2.5nm,1.0s,baz=309,slow=6.1,SNR=4.5
ESDC Sonseca Array 71.06 54 P **P 04 39 16.2 -0.1**
FIA1 FINESS Array S 72.69 24 **P 04 39 25.8 +0.1**
FINES FINESS Array B 72.69 24 P **P 04 39 25.3 -0.3**
comp=Z,4.3nm,0.5s,baz=330,slow=5.3,SNR=11
CLL Collm 74.15 37 *eP* **P 04 39 36.0 +1.5**
comp=Z,4.0nm,0.9s
NRIK Noril'sk 74.43 358⇓ *eP* **P 04 39 37.5 +1.7**
NRIK pmax pmax
comp=Z,9.0nm,2.0s
BNI Bardonecchia 74.60 45 P **P 04 39 39.8 +2.4**
BNI pmax pmax
comp=Z,21nm,1.2s
DAVA Damuels 75.04 42 *eP* P 04 39 46.8 +6.9
comp=Z,8.7nm,1.2s
MOTA Moosalm 75.66 41 *eP* **P 04 39 46.5 +3.0**
comp=Z,5.4nm,1.0s
FETA Feichten 75.66 42 *eP* **P 04 39 45.3 +1.8**
comp=Z,8.2nm,1.1s
SQTA Sankt Quirin 75.79 41 *eP* **P 04 39 48.9 +4.7**
comp=Z,4.0nm,1.0s
WATA Walderalm 75.91 41 *eP* **P 04 39 47.4 +2.5**
comp=Z,9.0nm,1.1s
GERES GERESS Array B 76.06 39 P **P 04 39 46.4 +0.7**
comp=Z,1.0nm,0.7s,baz=339,slow=5.2,SNR=4.5
ABTA Abfaltersbach 76.78 41 *eP* **P 04 39 52.5 +2.7**
comp=Z,6.8nm,1.0s
KLMR Klimovskoe 77.22 20 *eP* **P 04 39 51.5 -0.3**
KLMR pmax pmax
comp=Z,11nm,1.2s
KLMR Klimovskoe 77.22 20 *eP* **P 04 39 51.6 -0.3**
KLMR AMP 04 39 53.3
comp=Z,11nm,1.2s
NACGM Naroch 77.74 29 *i* P **P 04 39 56.6 +1.7**
CONA Conrad Observa 77.75 39 *eP* **P 04 39 58.1 +2.9**
comp=Z,12nm,1.6s
OBKA Obir 78.01 40 *eP* **P 04 39 59.0 +2.3**
comp=Z,9.4nm,0.8s
ARSA Arzberg 78.03 39 *eP* **P 04 39 58.8 +2.1**
comp=Z,2.5nm,0.8s
SOKA Soboth 78.15 40 *eP* **P 04 39 59.7 +2.2**
comp=Z,16nm,1.5s
MNK Minsk 78.46 29 *i* P **P 04 40 01.6 +2.7**
MNK *i* 04 40 10.5
MNK *i* 04 42 58.6
MNK *i* PPP PPP 04 44 46.6
MNK *i* S **S 04 49 56.4 +1.7**
MNK *i* 04 50 22.1
MNK *i* SS **SS 04 55 02.0 +5.4**
MNK pmax pmax
comp=Z,14nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,15nm,0.9s
MNK MLR MLR
comp=N,112nm,17.0s
MNK MLR MLR
comp=E,16nm,19.0s
MNK MLR MLR
comp=Z,180nm,21.0s
MNK Minsk 78.46 29 *i* P **P 04 40 01.6 +2.7**
comp=E,1.0nm,0.8s
MNK *i* P **P 04 40 01.6 +2.7**
comp=N,15nm,0.9s
MNK *i* P **P 04 40 01.6 +2.7**
comp=Z,14nm,0.9s,baz=138
MNK *i* PP **PP 04 42 58.6 +3.0**
MNK *i* PPP PPP 04 44 46.6
MNK *i* S **S 04 49 56.5 +1.7**
MNK *i* SS **SS 04 55 02.1 +5.5**
MNK *i* SSS SSS 04 58 26.9
MNK *i* LR LR 05 12 18.5
MNK *i* LRM MLR 05 16 50.6
comp=N,112nm,16.6s
MNK *i* LRM MLR 05 16 54.2

comp=E,16nm,18.8s
MNK *i* LRM MLR 05 17 47.7
comp=Z,180nm,21.0s
KWP Kalwaria Pacla 79.86 34 P **P 04 40 07.6 +0.9**
KWP pmax pmax
comp=Z,92nm,1.3s
KWP Kalwaria Pacla 79.86 34 P **P 04 40 07.6 +0.9**
YSS Yuzh-Sakhalins 80.39 322⇓ *e*P **P 04 40 12.8 +3.3**
YSS pmax pmax
comp=Z,28nm,1.0s
OBN Obninsk 81.09 24⇑ *e*P **P 04 40 15.1 +2.0**
OBN *e* 04 40 21.5
OBN *e* 04 43 20.7
OBN *e*S **SKSac 04 50 34.9 +2.9**
OBN *e*SS **SS 04 55 37.4 +1.6**
OBN pmax pmax
comp=Z,14nm,1.3s
KIRV Kirov 81.66 16 *de*P **P 04 40 18.3 +2.3**
ZEA Zeya 81.79 334 *e*P **P 04 40 19.2 +2.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 81.88 30 P **P 04 40 17.4 0.0**
comp=Z,2.8nm,0.6s,baz=312,slow=4.2,SNR=11
AKASG Malin Array Be 81.88 30 P **P 04 40 17.1 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,1.3s
AKASG Malin Array Be 81.88 30 P **P 04 40 17.1 -0.3**
AKBB Malin Array Si 81.88 30⇓ *i*P **P 04 40 19.4 +2.0**
AKBB pmax pmax
comp=Z,9.0nm,1.1s
AKBB Malin Array Si 81.88 30 P **P 04 40 17.4 0.0**
AKBB IAmb IAmb 04 40 20.1
comp=Z,8.1nm,1.1s
KEST Kesra 81.92 51 P **P 04 40 19.3 +1.3**
comp=Z,8.8nm,0.9s,baz=259,slow=6.5,SNR=4.8
BURAR Bucovina Array 82.47 34 P **P 04 40 21.8 +1.1**
BURAR pmax pmax
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 82.47 34 P **P 04 40 21.4 +0.7**
BURAR IAmb IAmb 04 40 24.9
comp=Z,5.8nm,0.8s
KLR Kul'dur 83.68 329⇑ *e*P **P 04 40 27.2 +0.4**
KLR pmax pmax
comp=Z,7.0nm,1.3s
ARU Arti 85.49 12 P **P 04 40 35.7 -0.1**
comp=Z,0.5nm,0.4s,baz=342,slow=14,SNR=3.8
ARU Arti 85.49 12 *d i*P **P 04 40 38.8 +3.0**
ARU 04 43 53.3
ARU S **S 04 51 03.6 -3.5**
ARU SS **SS 04 56 50.2 +9.4**
ARU pmax pmax
comp=Z,7.0nm,1.1s
ARU MLR MLR
comp=Z,143nm,13.0s
ARU Arti 85.49 12 P **P 04 40 35.1 -0.8**
ARU IAmb IAmb 04 40 39.0
comp=Z,7.9nm,1.2s
HIA Hailar 88.10 336⇓ *e*P **P 04 40 51.1 +2.4**
HIA pmax pmax
comp=Z,7.0nm,1.3s
DBIC Dimbokro 89.17 82 P **P 04 40 54.7 +0.4**
comp=Z,5.6nm,0.8s,baz=307,slow=5.7,SNR=5.0
DBIC Dimbokro 89.17 82 P **P 04 40 52.7 -1.6**
ZALV Zalesovo Beam 89.93 358 P **P 04 40 57.6 +0.5**
comp=Z,1.9nm,0.6s,baz=356,slow=6.0,SNR=6.9
ZALV Zalesovo Beam 89.93 358 P **P 04 40 55.6 -1.6**
MJAR Matsushiro Arr 90.22 318 LR LR 05 21 49.4
comp=Z,54nm,20.5s,baz=40,slow=36
BRVK Borovoye 90.36 7⇑ *e*P **P 04 41 01.1 +1.9**
BRVK pmax pmax
comp=Z,5.0nm,1.4s
BVAR Borovoye Array 90.40 7 P **P 04 41 00.2 +0.7**
comp=Z,0.8nm,0.7s,baz=0.0,slow=3.4,SNR=4.8
TORD Torodi Ar. Bea 90.47 73 P **P 04 41 00.1 -0.3**
comp=Z,6.6nm,1.0s,baz=298,slow=8.7,SNR=8.1
CN2 Changchun 90.63 330 *e*P **P 04 40 57.9 -2.8**
CN2 Changchun 90.63 330 *e*S **S 04 51 50.3 -6.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,200nm,17.2s
KIV Kislovodsk 92.64 27 *de*P **P 04 41 09.7 -0.4**
KIV *e* 04 44 47.9
KIV *e*S S 04 52 03.1 -12
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,148nm,16.0s
ULN Ulaanbaatar 92.97 343 *ce*P **P 04 41 14.9 +3.3**
ULN pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 93.15 343 P **P 04 41 13.8 +1.4**
comp=Z,1.1nm,0.7s,baz=12,slow=4.6,SNR=6.8
KURK Kurchatov 93.18 2 P **P 04 41 14.1 +1.8**
KURBB Kurchatov Arra 93.28 2 P **P 04 41 14.1 +1.4**
comp=Z,0.2nm,0.4s,baz=354,slow=5.7,SNR=1.8
MKAR Makanchi Array 97.14 359 P Pdif 04 41 31.1 +0.5
comp=Z,1.1nm,0.8s,baz=347,slow=5.1,SNR=5.8
MKAR Makanchi Array 97.14 359 *ce*P Pdif 04 41 31.5 +0.9
MKAR pmax pmax
comp=Z,1.0nm,0.8s
WMQ Urumqi 99.90 355 *e*P **Pdif 04 41 46.0 +3.0**
WMQ LR LR
comp=Z,220nm,23.9s
NJ2 Nanjing 103.32 328 *e*P **Pdif 04 41 59.0 +0.6**
NJ2 pmax pmax
comp=Z,11nm,0.6s
GOMU GeErMu 106.64 349 P **PP 04 46 36.0 -1.5**
GOMU pP PKiKP 04 46 37.3 +13
GOMU sP 04 46 39.6
GOMU PcP 04 47 28.0
GOMU pmax pmax
comp=Z,19nm,0.5s
GOMU pmax pmax
comp=Z,130nm,5.1s
WRA Warramunga Arr 131.04 275 PKP **PKPdf 04 47 10.7 +0.4**
comp=Z,0.4nm,0.8s,baz=65,slow=2.4,SNR=2.9

*IDC **07** 04:37:12.9±0.9, 34°.06N×87°.22E, h0km, mb3.8/7, mb1 3.9/12, mb1mx3.7/56, mbtmp3.7/12, ML2.9/4, MS3.9/2, Ms1 3.9/2, ms1mx2.8/83, Error ellipse: s-maj=34.4km s-min=17.3km az=56.0*

ISC 07 04:37:15.4±0.6, 34°.23N±0°.06×86°.97E±0°.08, h10km, n26, σ2°.22/25, mb3.9/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.75**	**141**	P	**Pn**	**04 38 45.0**	**+3.8**
LSA				S	**Sn**	**04 39 44.8**	**-2.7**
LSA				LR	LR		
comp=N,230nm,3.8s							
LSA				LR	LR		
comp=E,220nm,3.8s							
LSA	**Lhasa**	**5.75**	**141**	P	Pb	04 38 51.6	-4.5
LSA				S	**Sb**	**04 40 10.5**	**+5.3**
LSA				LR	LR		
comp=N,1μm,7.8s							
LSA				LR	LR		
comp=E,1μm,7.4s							
LSA	**Lhasa**	**5.75**	**141**	P	**Pb**	**04 38 54.4**	**-1.7**
LSA				S	**Sb**	**04 40 08.0**	**+2.8**
LSA				LR	LR		
comp=N,260nm,4.3s							
LSA				LR	LR		
comp=E,230nm,5.0s							
LSA				LR	LR		
comp=Z,480nm,6.4s							
GUN	**Gumba**	**6.37**	**189**	*e*P	**Pn**	**04 38 50.5**	**+0.8**
DANN	**Dangsing**	**6.47**	**206**	*e*P	**Pn**	**04 38 52.6**	**+1.5**
comp=Z,10nm,0.6s							
KKN	**Kakani**	**6.58**	**193**	*e*P	**Pn**	**04 38 53.9**	**+1.4**
comp=Z,5.1nm,0.3s							
GOMU	**GeErMu**	**6.72**	**71**	P	Pn	04 38 59.7	+5.3
GOMU				pP	Pb	04 39 01.9	-11
GOMU				sP	Pg	04 39 07.4	-17
GOMU				pmax	pmax		
comp=Z,2.0nm,0.9s							
PKIN	**Phulchoki**	**6.77**	**192**	*e*P	**Pn**	**04 38 56.3**	**+1.2**
comp=Z,16nm,0.6s							
PKI	**Pulchoki**	**6.77**	**192**	*e*P	**Pn**	**04 38 56.5**	**+1.3**
comp=Z,12nm,0.5s							
PYUN	**Piuthan**	**7.00**	**210**	*e*P	**Pn**	**04 38 59.7**	**+1.5**
comp=Z,38nm,1.0s							
KOLN	**Koldanda**	**7.06**	**205**	*e*P	**Pn**	**04 39 00.7**	**+1.7**
WMQ	**Urumqi**	**9.59**	**3**	*e*P	**Pn**	**04 39 33.3**	**-0.3**
WMQ				smax	smax		
comp=N,21nm,0.7s							
WMQ				smax	smax		
comp=E,11nm,0.7s							
MKAR	**Makanchi Array**	**13.04**	**346**	Pn	**Pn**	**04 40 20.8**	**+0.1**
comp=E,0.0nm,0.3s,baz=150,slow=12,SNR=3.6							
KURBB	**Kurchatov Arra**	**17.50**	**342**	P	**Pn**	**04 41 20.8**	**+1.3**
comp=E,0.1nm,0.3s,baz=156,slow=12,SNR=9.1							
CMAR	**Chiang Mai Arr**	**19.00**	**143**	P	**P**	**04 41 33.6**	**-3.6**
comp=E,1.6nm,0.3s,baz=328,slow=13,SNR=6.8							
ZALV	**Zalesovo Beam**	**19.77**	**356**	P	**P**	**04 41 45.7**	**+0.2**
comp=E,0.1nm,0.3s,baz=177,slow=9.2,SNR=2.8							
SONM	**Songino Array**	**19.91**	**41**	P	**P**	**04 41 46.1**	**-1.2**
comp=E,0.1nm,0.3s,baz=233,slow=8.5,SNR=4.1							
DAV	**Davao City (W)**	**44.68**	**118**	LR	LR	05 03 51.0	
comp=E,49nm,19.1s,baz=300,slow=36							
FINES	**FINESS Array B**	**46.78**	**325**	P	**P**	**04 45 46.3**	**+1.5**
comp=E,1.4nm,0.7s,baz=120,slow=8.2,SNR=1.7							
SEY	**Seymchan**	**49.03**	**33**	LR	LR	05 08 37.1	
comp=E,396nm,18.9s,baz=55,slow=38							
NOA	**NORSAR Array B**	**53.96**	**324**	P	**P**	**04 46 40.0**	**+0.9**
comp=E,1.2nm,0.9s,baz=85,slow=7.2,SNR=3.2							
GERES	**GERESS Array B**	**54.69**	**309**	P	**P**	**04 46 46.4**	**+1.7**
comp=E,0.7nm,0.6s,baz=79,slow=7.1,SNR=5.0							
WRA	**Warramunga Arr**	**70.24**	**133**	P	**P**	**04 48 26.2**	**-2.7**
comp=E,0.6nm,0.6s,baz=326,slow=6.6,SNR=12							
ILAR	**Eielson Array**	**72.75**	**21**	P	**P**	**04 48 43.2**	**-0.2**
comp=E,0.3nm,0.5s,baz=324,slow=4.4,SNR=4.3							
ASAR	**Alice Springs**	**72.83**	**135**	P	**P**	**04 48 42.3**	**-2.2**
comp=E,0.5nm,0.5s,baz=319,slow=5.5,SNR=5.2							
TORD	**Torodi Ar. Bea**	**78.87**	**278**	P	**P**	**04 49 18.8**	**-0.4**
comp=E,0.4nm,0.6s,baz=45,slow=5.2,SNR=2.6							

*TUL **07** 04:37:22.4±1.3, 36°.51N±0°.02×98°.69W±0°.01, h1km±7km, ML2.6, ML2.5/12(NEIC), Error ellipse: s-maj=2.7km s-min=1.3km az=184.0*

NEIC 07 04:37:22.8±1.3, 36°.52N±0°.01×98°.70W±0°.02, h8km±6km, Error ellipse: s-maj=2.7km s-min=1.6km az=73.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.19**	**358**	Pg	Pg	04 37 26.9	+0.3
OK035				IAML		04 37 30.4	
721nm,0.2s							
OK035				Sg	Sg	04 37 30.4	+1.1
U32A	**Winter Ranch,**	**0.28**	**240**	Pg	Pg	04 37 27.9	-0.4
U32A				Sg	Sg	04 37 31.9	-0.2
CROK	**Carrier**	**0.58**	**91**		Pg	04 37 33.8	-0.1
CROK				Sg	Sg	04 37 42.0	+0.5
CROK				IAML		04 37 44.9	
comp=N,402nm,1.2s							
CROK				IAML		04 37 53.7	
comp=E,345nm,1.2s							
KAN14	**Manchester OK**	**0.73**	**53**	Pg	Pg	04 37 36.8	-0.2
KAN14				Sg	Sg	04 37 47.1	+0.6
KAN14				IAML		04 37 49.8	
comp=N,240nm,0.9s							
KAN14				IAML		04 37 50.6	
comp=E,202nm,0.8s							
GC02	**Grant County #**	**0.75**	**64**	Pg	Pg	04 37 37.1	-0.1
GC02				Sg	Sg	04 37 47.5	+0.5
KAN10	**Anthony SW Sta**	**0.77**	**39**	Pg	Pg	04 37 37.3	-0.3
KAN10				Sg	Sg	04 37 48.4	+0.7
KAN16	**Harper SW Stat**	**0.87**	**36**	Pg	Pg	04 37 39.2	-0.3
KAN16				Sg	Sb	04 37 51.4	-0.5
KAN05	**Bluff City Nor**	**0.89**	**48**	Pg	Pg	04 37 39.5	-0.3
KAN05				Sg	Sb	04 37 52.0	-0.4
KAN17	**Caldwell West**	**0.92**	**55**	Pg	Pg	04 37 39.8	-0.5
KAN17				Sg	Sg	04 37 52.5	+0.2
KAN08	**Anthony NE Sta**	**0.92**	**39**	Pg	Pg	04 37 40.4	0.0
KAN12	**Harper NE Stat**	**0.96**	**36**	Pg	Pg	04 37 41.0	-0.2
KAN12				Sg	Sb	04 37 54.1	-0.3
KAN01	**Argonia South**	**0.98**	**50**	Pg	Pg	04 37 41.1	-0.5
WMOK	**Wichita Mounta**	**1.78**	**182**	Pn	Pn	04 37 53.7	-0.1
R32A	**Long Quarter,**	**1.90**	**360**	Pn	Pn	04 37 55.6	+0.2
W35A	**Tecumseh**	**2.02**	**132**	Pn	Pn	04 37 57.8	+0.7
X34A	**Smith Ranch, M**	**2.04**	**159**	Pn	Pn	04 37 58.1	+0.7
TUL1	**Leonard**	**2.43**	**104**	Pn	Pn	04 38 03.1	+0.4
LOOK	**Love County**	**2.81**	**153**	Pn	Pn	04 38 08.2	+0.2
AMTX	**Amarillo**	**2.92**	**237**	Pn	Pn	04 38 10.7	+1.1
X37A	**Clayton**	**3.33**	**124**	Pn	Pn	04 38 14.6	-0.5
Z35A	**Perchaven, San**	**3.40**	**159**	Pn	Pn	04 38 15.9	-0.2
N33A	**J Bar K, Exete**	**4.32**	**13**	Pn	Pn	04 38 28.5	-0.3
S39A	**Bolivar**	**4.45**	**73**	Pn	Pn	04 38 31.2	+0.6
MIAR	**Mount Ida**	**4.62**	**114**	Pn	Pn	04 38 31.4	-1.5
L34A	**Svendsen Farm,**	**5.73**	**18**	Pn	Pn	04 38 46.4	-1.8

*IDC **07** 04:43:47.7±2.0, 6°.43S×155°.02E, h95km±16km, mb3.6/6, mb1 3.9/9, mb1mx3.6/34, mbtmp4.1/9, MS3.0/2, Ms1 3.0/2, ms1mx2.6/56, Error ellipse: s-maj=21.8km s-min=14.2km az=52.0*

ISC 07 04:43:47.8±0.8, 6°.44S±0°.10×155°.07E±0°.09, h100km, n10, σ0°.83/14, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.70**	**305**	P	**Pn**	**04 44 43.0**	**0.0**
baz=180,slow=20							
KRVT				S	**Sn**	**04 45 24.4**	**-1.2**
baz=163,slow=19							
HNR	**Honiara**	**5.67**	**122**	P	**Pn**	**04 45 09.4**	**-0.3**
19nm,0.3s,baz=27,slow=2.3,SNR=1.3							
PMG	**Port Moresby**	**8.37**	**249**	P	**Pn**	**04 45 45.9**	**-0.4**
6.2nm,0.3s,baz=53,slow=7.9,SNR=13							
PMG				S	**Sn**	**04 47 19.5**	**+0.3**
3.8nm,0.3s,baz=302,slow=19,SNR=2.1							
PMG				LR	LR	04 48 38.3	
comp=Z,78nm,20.8s,baz=108,slow=35							
DZM	**Mont Dzumac**	**19.03**	**146**	P	**Pn**	**04 48 04.0**	**0.0**
0.3nm,0.3s,baz=315,slow=13,SNR=6.2							
WRA	**Warramunga Arr**	**24.19**	**234**	P	**P**	**04 48 55.3**	**+0.1**
2.1nm,0.5s,baz=58,slow=9.6,SNR=29							
WRA				PcP	**PcP**	**04 52 34.4**	**+0.9**
0.2nm,0.6s,baz=54,slow=2.6,SNR=1.3							
WRA				LR	LR	04 57 04.5	
comp=Z,44nm,20.4s,baz=90,slow=33							
ASAR	**Alice Springs**	**26.59**	**228**	P	**P**	**04 49 16.3**	**-0.6**
1.0nm,0.8s,baz=58,slow=8.7,SNR=8.0							
ASAR				PcP	**PcP**	**04 52 37.7**	**-1.2**
0.4nm,0.8s,baz=66,slow=3.2,SNR=2.6							
CMAR	**Chiang Mai Arr**	**60.61**	**295**	P	**P**	**04 53 50.0**	**+1.4**
1.8nm,0.5s,baz=120,slow=5.0,SNR=7.7							
SONM	**Songino Array**	**68.91**	**327**	P	**P**	**04 54 42.6**	**+0.5**
0.5nm,0.7s,baz=127,slow=6.0,SNR=4.3							
MKAR	**Makanchi Array**	**83.04**	**319**	P	**P**	**04 56 02.3**	**0.0**
1.1nm,0.7s,baz=105,slow=4.9,SNR=11							
ZALV	**Zalesovo Beam**	**83.77**	**326**	P	**P**	**04 56 04.9**	**-0.8**
0.8nm,0.6s,baz=102,slow=5.5,SNR=4.3							

RSPR 07 04:43:54.8, 18°.15N×67°.28W, h23km±1km, MD2.5/9, 8C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRSN	**Puerto Rico Se**	**0.14**	**64**		Pb	04 43 59.4	-0.2
PRSN					Sb	04 44 02.0	-0.7
LSP	**Las Mesas**	**0.19**	**83⇑**	*e*P	Pb	04 43 59.7	-0.4
LSP	**Las Mesas**	**0.19**	**83**	*e*S	Sb	04 44 03.7	0.0
CRPR	**Cabo Rojo, PR**	**0.22**	**132⇑**	*e*P	Pb	04 44 00.0	-0.4
CRPR	**Cabo Rojo, PR**	**0.22**	**132**	*e*S	Sb	04 44 03.6	-0.6
CRPR	**Cabo Rojo, PR**	**0.22**	**132**		Pb	04 44 00.0	-0.4
CRPR					Sb	04 44 03.6	-0.6
MLPR	**Magueyes Islan**	**0.29**	**129⇓**	*e*P	Pb	04 44 01.0	-0.5
MLPR	**Magueyes Islan**	**0.29**	**129**	*e*S	Sb	04 44 05.7	-0.3
MLPR	**Magueyes Islan**	**0.29**	**129**		Pb	04 44 01.0	-0.5
MLPR					Sb	04 44 05.7	-0.3
MLPR	**Magueyes Islan**	**0.29**	**129**	IAML		04 44 06.1	
comp=E,168nm,0.2s							
IDE	**Isla Desecheo**	**0.30**	**322⇑**	*e*P	Pb	04 44 01.2	-0.4
IDE	**Isla Desecheo**	**0.30**	**322**	*e*S	Sb	04 44 06.0	-0.2
AGPR	**Aguadilla, PR**	**0.35**	**27⇑**	*e*P	Pb	04 44 01.9	-0.6
AGPR	**Aguadilla, PR**	**0.35**	**27**	*e*S	Sb	04 44 07.2	-0.5
AGPR	**Aguadilla, PR**	**0.35**	**27**		Pb	04 44 01.9	-0.6
AGPR					Sb	04 44 07.2	-0.5
AGPR	**Aguadilla, PR**	**0.35**	**27**	IAML		04 44 07.5	
comp=E,71nm,0.1s							
AGPR				IAML		04 44 08.0	
comp=N,57nm,0.8s							
AOPR	**Arecibo Observ**	**0.54**	**69⇑**	*e*P	Pb	04 44 04.5	-1.1
AOPR	**Arecibo Observ**	**0.54**	**69**	*e*S	Sb	04 44 11.8	-1.1
AOPR	**Arecibo Observ**	**0.54**	**69**		Pb	04 44 04.5	-1.1
AOPR					Sb	04 44 11.8	-1.1
AOPR	**Arecibo Observ**	**0.54**	**69**	IAML		04 44 14.3	
comp=E,75nm,0.3s							
AOPR				IAML		04 44 15.6	
comp=N,59nm,0.2s							
UUPR	**Utuado, UPR, P**	**0.54**	**79⇑**	*e*P	Pb	04 44 04.6	-1.1
UUPR	**Utuado, UPR, P**	**0.54**	**79**	*e*S	Sb	04 44 12.2	-0.9
UUPR	**Utuado, UPR, P**	**0.54**	**79**		Pb	04 44 04.6	-1.1
UUPR					Sb	04 44 12.2	-0.9
CELP	**Cerrillos**	**0.67**	**97⇑**	*e*P	Pb	04 44 06.4	-1.5
CELP	**Cerrillos**	**0.67**	**97**	*e*S	Sb	04 44 15.4	-1.4
CELP	**Cerrillos**	**0.67**	**97**		Pb	04 44 06.4	-1.5
CELP					Sb	04 44 15.4	-1.4
CELP	**Cerrillos**	**0.67**	**97**	IAML		04 44 17.6	
comp=N,19nm,0.3s							
EMPR	**Esperanza - Ma**	**0.78**	**66⇑**	*e*P	Pb	04 44 07.8	-1.9
EMPR	**Esperanza - Ma**	**0.78**	**66**	*e*S	Sb	04 44 19.1	-0.8
EMPR	**Esperanza - Ma**	**0.78**	**66**		Pb	04 44 07.8	-1.9
EMPR					Sb	04 44 19.1	-0.8

*TUL **07** 04:49:47.1±1.2, 36°.48N±0°.03×98°.74W±0°.05, h8km±7km, ML3.6, mb_Lg3.4/77(NEIC), Error ellipse: s-maj=5.7km s-min=3.6km az=112.0*
*NEIC **07** 04:49:47.8±1.3, 36°.49N±0°.03×98°.69W±0°.05, h8km±7km, Error ellipse: s-maj=6.1km s-min=3.5km az=110.0*

ISC 07 04:49:47.4±1.0, 36°.48N±0°.03×98°.70W±0°.03, h8km±12km, n78, σ0°.68/64, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.23**	**358**	Pg	**Pg**	**04 49 52.1**	**+0.1**
OK035				Sg	**Sg**	**04 49 55.8**	**+0.6**
U32A	**Winter Ranch,**	**0.26**	**249**	Pg	**Pg**	**04 49 52.1**	**-0.5**
U32A				Sg	**Sg**	**04 49 55.8**	**-0.3**
CROK	**Carrier**	**0.58**	**87**	Pg	**Pg**	**04 49 58.7**	**+0.2**
CROK				Sg	**Sg**	**04 50 07.1**	**+1.0**
KAN14	**Manchester OK**	**0.76**	**51**		**Pg**	**04 50 02.0**	**-0.1**
KAN14				Sg	**Sg**	**04 50 12.5**	**+0.5**
GC02	**Grant County #**	**0.77**	**61**	Pg	**Pg**	**04 50 02.3**	**0.0**
GC02				Sg	**Sg**	**04 50 13.1**	**+0.8**
KAN10	**Anthony SW Sta**	**0.81**	**37**	Pg	**Pg**	**04 50 02.8**	**-0.2**
KAN10				Sg	**Sg**	**04 50 13.6**	**+0.1**
KAN16	**Harper SW Stat**	**0.91**	**34**	Pg	**Pg**	**04 50 04.3**	**-0.5**
KAN16				Sg	**Sg**	**04 50 16.6**	**0.0**
KAN05	**Bluff City Nor**	**0.92**	**46**		**Pg**	**04 50 04.9**	**-0.1**
KAN05				Sg	**Sg**	**04 50 17.2**	**+0.3**
KAN17	**Caldwell West**	**0.94**	**53**	Pg	**Pg**	**04 50 05.2**	**-0.2**
KAN08	**Anthony NE Sta**	**0.95**	**38**		**Pg**	**04 50 05.4**	**-0.3**
KAN12	**Harper NE Stat**	**0.99**	**34**	Pg	**Pg**	**04 50 06.1**	**-0.4**
KAN01	**Argonia South**	**1.01**	**48**		**Pg**	**04 50 06.6**	**-0.2**
KAN06	**Argonia West S**	**1.02**	**41**		**Pg**	**04 50 06.6**	**-0.4**
KAN13	**South Haven SW**	**1.12**	**61**	Pg	**Pg**	**04 50 08.1**	**-0.7**
BCOK	**Bluff Creek, N**	**1.20**	**132**		**Pb**	**04 50 09.5**	**-0.9**
BLOK	**Blackwell**	**1.23**	**76**		**Pn**	**04 50 10.3**	**-0.6**
OK025	**Westminster Rd**	**1.42**	**129**		**Pn**	**04 50 13.4**	**-0.1**
OKCFA	**Oklahoma City**	**1.46**	**136**		**Pn**	**04 50 14.1**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.48**	**136**		**Pn**	**04 50 14.4**	**0.0**
OK031	**S. Brethren Rd**	**1.59**	**109**		**Pn**	**04 50 16.0**	**0.0**
FNO	**Franklin**	**1.61**	**139**		**Pn**	**04 50 16.5**	**+0.3**
QUOK	**Quay**	**1.64**	**100**		**Pn**	**04 50 16.9**	**+0.3**
OK030	**Cody Creek RV**	**1.64**	**109**		**Pn**	**04 50 17.0**	**+0.3**
OK034	**N. Norfolk Rd.**	**1.67**	**106**		**Pn**	**04 50 17.4**	**+0.3**
WMOK	**Wichita Mounta**	**1.73**	**182**		**Pn**	**04 50 17.6**	**-0.3**
T35A	**Sooner Cattle**	**1.81**	**75**		**Pn**	**04 50 19.0**	**0.0**
R32A	**Long Quarter,**	**1.94**	**360**		**Pn**	**04 50 21.7**	**+0.9**
W35A	**Tecumseh**	**1.98**	**131**		**Pn**	**04 50 21.8**	**+0.5**
X34A	**Smith Ranch, M**	**2.00**	**159**		**Pn**	**04 50 22.9**	**+1.3**
X34A				IAmb_Lg		04 50 51.5	
comp=Z,131nm,1.0s							
TUL1	**Leonard**	**2.42**	**103**		**Pn**	**04 50 27.8**	**+0.5**
TUL1				IAmb_Lg		04 51 04.9	
comp=Z,130nm,0.8s							
CBKS	**Cedar Bluff**	**2.48**	**341**	Pn	**Pn**	**04 50 28.9**	**+0.7**
CBKS				IAmb_Lg		04 51 10.1	
comp=Z,92nm,0.8s							
LOOK	**Love County**	**2.77**	**153**		**Pn**	**04 50 33.0**	**+0.8**
AMTX	**Amarillo**	**2.90**	**238**	Pn	**Pn**	**04 50 35.1**	**+1.0**
KSU1	**Kansas State U**	**3.10**	**32**	Pn	**Pn**	**04 50 36.9**	**+0.2**
KSU1				IAmb_Lg		04 51 26.6	
comp=Z,85nm,1.1s							
X37A	**Clayton**	**3.30**	**124**	Pn	**Pn**	**04 50 39.5**	**+0.1**
X37A				IAmb_Lg		04 51 37.5	
comp=Z,96nm,0.7s							
Z35A	**Perchaven, San**	**3.35**	**159**	Pn	**Pn**	**04 50 40.9**	**+0.7**
U38A	**Gravette**	**3.48**	**89**	Pn	**Pn**	**04 50 43.9**	**+2.0**
U38A				IAmb_Lg		04 51 38.2	
comp=Z,92nm,0.8s							
HHAR	**Hobbs**	**3.84**	**91**	Pn	**Pn**	**04 50 47.5**	**+0.5**
KSCO	**Kaye Shedlock'**	**4.01**	**310**	Pn	**Pn**	**04 50 49.8**	**+0.4**
KSCO				IAmb_Lg		04 52 01.9	
comp=Z,94nm,0.8s							
MSTX	**Muleshoe**	**4.17**	**234**	Pn	**Pn**	**04 50 53.8**	**+2.3**
MSTX				IAmb_Lg		04 52 04.7	
comp=Z,84nm,0.8s							
W39A	**Magazine**	**4.19**	**106**	Pn	**Pn**	**04 50 52.4**	**+0.7**
W39A				IAmb_Lg		04 52 07.2	
comp=Z,103nm,0.8s							
N33A	**J Bar K, Exete**	**4.37**	**13**	Pn	**Pn**	**04 50 53.2**	**-0.9**
N33A				IAmb_Lg		04 52 08.7	
comp=Z,47nm,0.7s							
Z38A	**Mt. Pleasant**	**4.43**	**135**	Pn	**Pn**	**04 50 54.8**	**-0.2**
Z38A				IAmb_Lg		04 52 10.2	
comp=Z,99nm,0.9s							
S39A	**Bolivar**	**4.47**	**73**	Pn	**Pn**	**04 50 55.8**	**+0.3**
WHTX	**Lake Whitney,**	**4.59**	**167**	Pn	**Pn**	**04 50 57.1**	**0.0**
MIAR	**Mount Ida**	**4.60**	**113**	IAmb_Lg		04 52 24.7	
comp=Z,65nm,0.8s							
T25A	**Trinidad**	**4.63**	**280**	Pn	**Pn**	**04 50 58.0**	**0.0**
T25A				IAmb_Lg		04 52 12.3	
comp=Z,82nm,0.9s							
U40A	**Yellville**	**4.71**	**90**	Pn	**Pn**	**04 50 59.3**	**+0.4**
U40A				IAmb_Lg		04 52 16.4	
comp=Z,54nm,0.8s							
BGNE	**Belgrade**	**4.94**	**5**	Pn	**Pn**	**04 51 01.9**	**-0.1**
BGNE				IAmb_Lg		04 52 32.0	
comp=Z,69nm,0.7s							
X40A	**Basin Creek Fa**	**5.18**	**111**	IAmb_Lg		04 52 40.9	
comp=Z,49nm,0.8

SCIA	State Center	6.89	36	IAmb_Lg	04 53 33.4
	comp=Z,47nm,0.8s				
GNAR	Gosnell	7.04	92	IAmb_Lg	04 53 37.3
	comp=Z,56nm,0.7s				
SLM	Saint Louis	7.06	70	IAmb_Lg	04 53 30.6
	comp=Z,45nm,0.8s				
PHWY	Pilot Hill	7.14	314	IAmb_Lg	04 53 33.1
	comp=Z,38nm,0.9s				
S44A	Carbondale	7.64	78	IAmb_Lg	04 53 51.1
	comp=Z,38nm,0.9s				
L40A	Anamosa	8.04	44	IAmb_Lg	04 54 09.3
	comp=Z,44nm,0.8s				
K22A	Casper	8.63	318	IAmb_Lg	04 54 38.4
	comp=Z,40nm,1.1s				
RSSD	Black Hills	8.65	334	IAmb_Lg	04 54 30.4
	comp=Z,21nm,0.9s				
JFWS	Jewell Farm	9.15	43	IAmb_Lg	04 54 48.1
	comp=Z,29nm,0.8s				

*TUL **07** 05:02:12.7±1.1, 36°.49N±0°.03×98°.73W±0°.05, h6km±7km, ML2.9, mb_Lg2.4/15(NEIC), Error ellipse: s-maj=5.7km s-min=3.7km az=91.0*

NEIC 07 05:02:12.9±0.7, 36°.48N±0°.02×98°.69W±0°.03, h5km±2km, Error ellipse: s-maj=4.8km s-min=3.0km az=317.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.23	356	Pg	Pg	05 02 17.3	-0.1
U32A	Winter Ranch,	0.27	249	Pg	Pg	05 02 18.0	-0.1
CROK	Carrier	0.57	87	Pg	Pg	05 02 23.6	-0.2
KAN14	Manchester OK	0.76	51	Pg	Pb	05 02 28.5	0.0
GC02	Grant County #	0.77	61	Pg	Pg	05 02 27.6	0.0
KAN10	Anthony SW Sta	0.80	36	Pg	Pg	05 02 28.4	+0.1
KAN16	Harper SW Stat	0.90	34	Pg	Pg	05 02 30.4	+0.2
KAN05	Bluff City Nor	0.91	46	Pg	Pg	05 02 30.2	-0.1
KAN17	Caldwell West	0.93	53	Pg	Pg	05 02 30.1	-0.7
KAN08	Anthony NE Sta	0.94	38	Pg	Pg	05 02 30.9	-0.1
KAN12	Harper NE Stat	0.99	34	Pg	Pg	05 02 31.5	-0.3
KAN12				IAmb_Lg		05 02 43.6	
	comp=Z,22nm,1.2s						
KAN01	Argonia South	1.01	48		Pg	05 02 31.5	-0.7
KAN06	Argonia West S	1.02	41	Pg	Pg	05 02 31.9	-0.5
KAN13	South Haven SW	1.11	61		Pg	05 02 33.4	-0.8
BCOK	Bluff Creek, N	1.20	133		Pg	05 02 35.7	-0.2
BLOK	Blackwell	1.22	76	Pg	Pg	05 02 36.1	-0.2
OK025	Westminster Rd	1.42	129		Pn	05 02 38.7	-0.6
OKCFA	Oklahoma City	1.46	136		Pn	05 02 39.8	-0.2
OKCSW	OKLAHOMA CITY	1.48	136		Pn	05 02 40.1	-0.1
OK031	S. Brethren Rd	1.59	109	Pn	Pn	05 02 41.1	-0.5
OK031				IAmb_Lg		05 03 02.9	
	comp=Z,14nm,0.7s						
FNO	Franklin	1.61	139		Pn	05 02 42.4	+0.4
QUOK	Quay	1.63	100	Pn	Pn	05 02 42.5	+0.3
OK030	Cody Creek RV	1.64	109	Pn	Pn	05 02 42.4	0.0
OK034	N. Norfolk Rd.	1.67	106	Pn	Pb	05 02 43.5	-0.5
WMOK	Wichita Mounta	1.74	182	Pn	Pn	05 02 44.1	+0.4
T35A	Sooner Cattle	1.81	75	Pn	Pn	05 02 44.2	-0.4
R32A	Long Quarter,	1.94	360	Pn	Pn	05 02 46.8	+0.2
W35A	Tecumseh	1.98	131	Pn	Pn	05 02 48.1	+1.0
X34A	Smith Ranch, M	2.00	159	Pn	Pn	05 02 47.5	+0.1
X34A				IAmb_Lg		05 03 17.1	
	comp=Z,25nm,0.8s						
TUL1	Leonard	2.41	103	IAmb_Lg		05 03 30.3	
	comp=Z,18nm,0.8s						
CBKS	Cedar Bluff	2.48	341	Pn	Pn	05 02 53.8	-0.1
CBKS				IAmb_Lg		05 03 30.2	
	comp=Z,9.5nm,0.8s						
AMTX	Amarillo	2.91	238	Pn	Pn	05 02 59.5	-0.4
KSU1	Kansas State U	3.09	32	Pn	Pn	05 03 02.3	-0.1
X37A	Clayton	3.30	124	Pn	Pn	05 03 05.2	0.0
U38A	Gravette	3.47	89	Pn	Pn	05 03 07.4	-0.2
HHAR	Hobbs	3.84	92	Pn	Pn	05 03 12.9	+0.3
KSCO	Kaye Shedlock'	4.01	310	Pn	Pn	05 03 14.7	-0.5
KSCO				IAmb_Lg		05 04 20.6	
	comp=Z,8.0nm,0.8s						
L34A	Svendsen Farm,	5.77	17	IAmb_Lg		05 05 26.6	
	comp=Z,12nm,0.8s						
JCT	Junction City	6.05	189	IAmb_Lg		05 05 35.7	
	comp=Z,5.8nm,0.9s						

*TUL **07** 05:04:15.7±0.7, 36°.49N±0°.03×98°.74W±0°.04, h7km±3km, ML2.7, mb_Lg2.4/22(NEIC), Error ellipse: s-maj=5.0km s-min=3.0km az=59.0*

NEIC 07 05:04:15.8±0.6, 36°.49N±0°.01×98°.70W±0°.02, h5km±2km, Error ellipse: s-maj=3.5km s-min=3.0km az=300.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.21	359	Pg	Pg	05 04 20.2	+0.2
OK035				Sg	Sg	05 04 24.2	+1.4
U32A	Winter Ranch,	0.27	245	Pg	Pg	05 04 20.6	-0.4
CROK	Carrier	0.58	89	Pg	Pg	05 04 27.4	+0.4
CROK				Sg	Sb	05 04 36.1	-1.0
KAN14	Manchester OK	0.75	52	Pg	Pg	05 04 30.6	+0.3
KAN14				Sg	Sb	05 04 41.3	-0.8
GC02	Grant County #	0.77	62		Pg	05 04 30.8	+0.3
GC02				Sg	Sb	05 04 42.0	-0.4
KAN10	Anthony SW Sta	0.80	38	Pg	Pg	05 04 31.4	+0.2
KAN16	Harper SW Stat	0.89	35	Pg	Pg	05 04 33.0	0.0
KAN05	Bluff City Nor	0.91	47	Pg	Pg	05 04 33.2	0.0
KAN17	Caldwell West	0.93	54		Pg	05 04 33.7	0.0
KAN08	Anthony NE Sta	0.94	39	Pg	Pg	05 04 33.8	0.0
KAN12	Harper NE Stat	0.98	35	Pg	Pg	05 04 34.6	0.0
KAN12				IAmb_Lg		05 04 48.5	
	comp=Z,24nm,1.0s						
KAN01	Argonia South	1.00	49		Pg	05 04 35.1	0.0
KAN06	Argonia West S	1.01	42		Pg	05 04 34.6	-0.7
KAN13	South Haven SW	1.11	62		Pg	05 04 36.7	-0.4
BCOK	Bluff Creek, N	1.22	133	Pn	Pg	05 04 38.6	-0.6
BLOK	Blackwell	1.23	77	Pn	Pg	05 04 38.9	-0.5
OK025	Westminster Rd	1.43	129	Pn	Pn	05 04 42.2	-0.3
OKCFA	Oklahoma City	1.48	136	Pn	Pn	05 04 43.0	-0.2
OKCFA				IAmb_Lg		05 05 04.0	
	comp=Z,19nm,0.9s						
OKCSW	OKLAHOMA CITY	1.50	136	Pn	Pn	05 04 43.1	-0.3
OK031	S. Brethren Rd	1.60	109		Pn	05 04 44.7	-0.1
OK031				IAmb_Lg		05 05 10.7	
	comp=Z,16nm,0.8s						
FNO	Franklin	1.63	139	Pn	Pn	05 04 45.1	0.0
QUOK	Quay	1.64	101		Pn	05 04 45.4	0.0
OK030	Cody Creek RV	1.65	109		Pn	05 04 45.3	-0.2
T35A	Sooner Cattle	1.81	76	Pn	Pn	05 04 47.7	0.0
W35A	Tecumseh	2.00	131	Pn	Pn	05 04 50.0	-0.3
X34A	Smith Ranch, M	2.02	159	Pn	Pn	05 04 50.0	-0.5
X34A				IAmb_Lg		05 05 19.7	
	comp=Z,21nm,0.9s						
TUL1	Leonard	2.43	103	Pn	Pn	05 04 56.0	-0.1
TUL1				IAmb_Lg		05 05 37.8	
	comp=Z,20nm,0.9s						
AMTX	Amarillo	2.91	237	IAmb_Lg		05 05 52.3	
	comp=Z,9.1nm,1.0s						
U38A	Gravette	3.48	90	IAmb_Lg		05 06 10.1	
	comp=Z,14nm,0.8s						
KSCO	Kaye Shedlock'	4.00	310	IAmb_Lg		05 06 27.9	
	comp=Z,12nm,0.7s						
W39A	Magazine	4.20	107	IAmb_Lg		05 06 41.4	
	comp=Z,15nm,0.8s						
S39A	Bolivar	4.46	73	IAmb_Lg		05 06 44.1	
	comp=Z,9.9nm,0.8s						
X40A	Basin Creek Fa	5.19	111	IAmb_Lg		05 07 10.2	
	comp=Z,11nm,0.8s						

*TUL **07** 05:19:47.5±1.2, 36°.48N±0°.02×98°.74W±0°.03, h7km±5km, ML3.5, mb_Lg3.3/78(NEIC), Error ellipse: s-maj=4.1km s-min=1.8km az=61.0*

*ANF **07** 05:19:47.8±0.4, 36°.43N×98°.75W, h0km, ML4.1/11, Error ellipse: s-maj=4.2km s-min=4.0km az=45.0*

*NEIC **07** 05:19:47.9±1.4, 36°.47N±0°.02×98°.69W±0°.02, h5km±1km, Error ellipse: s-maj=4.0km s-min=3.2km az=229.0*

*IDC **07** 05:19:48.9±1.6, 36°.52N×98°.92W, h0km, mb1 3.6/4, mb1mx3.3/42, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=23.7km s-min=11.6km az=103.0*

ISC 07 05:19:48.3±0.9, 36°.50N±0°.03×98°.70W±0°.02, h14km±7km, n93, σ1°69/78, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.21	358	Pg	Pg	05 19 52.3	-0.7
OK035				Sg	Sg	05 19 56.2	0.0
U32A	Winter Ranch,	0.27	243	Pg	Pg	05 19 52.4	-1.6
CROK	Carrier	0.58	90	Pg	Pg	05 19 59.2	-0.4
KAN14	Manchester OK	0.75	52		Pg	05 20 01.8	-1.0
GC02	Grant County #	0.76	63	Pg	Pg	05 20 02.6	-0.5
GC02				Sg	Sg	05 20 13.5	+0.3
KAN10	Anthony SW Sta	0.79	38	Pg	Pg	05 20 03.0	-0.6
KAN10				Sg	Sg	05 20 14.2	+0.2
KAN16	Harper SW Stat	0.89	35		Pg	05 20 04.7	-0.7
KAN16				Sg	Sg	05 20 17.3	+0.3
KAN05	Bluff City Nor	0.90	48		Pg	05 20 05.1	-0.6
KAN05				Sg	Sg	05 20 17.9	+0.3
KAN17	Caldwell West	0.93	54	Pg	Pg	05 20 05.5	-0.7
KAN17				Sg	Sg	05 20 18.6	+0.2
KAN08	Anthony NE Sta	0.93	39		Pg	05 20 05.6	-0.7
KAN08				Sg	Sg	05 20 18.7	+0.2
KAN12	Harper NE Stat	0.97	35	Pg	Pg	05 20 06.6	-0.5
KAN01	Argonia South	1.00	49		Pg	05 20 06.9	-0.6
KAN06	Argonia West S	1.01	42		Pg	05 20 07.1	-0.6
KAN13	South Haven SW	1.11	62	Pg	Pg	05 20 08.8	-0.9
BCOK	Bluff Creek, N	1.22	133		Pg	05 20 10.4	-1.4
BCOK				Sn	Sg	05 20 27.1	-0.7
BLOK	Blackwell	1.22	77		Pg	05 20 10.8	-1.0
BLOK				Sn	Sn	05 20 28.6	+1.4
OK025	Westminster Rd	1.44	129	Pn	Pn	05 20 14.0	+0.1
OKCFA	Oklahoma City	1.49	137		Pn	05 20 14.8	+0.2
OKCFA				Sn	Sn	05 20 34.9	+1.2
OKCSW	OKLAHOMA CITY	1.50	136	Pn	Pn	05 20 15.1	+0.3
OKCSW				Sn	Sb	05 20 35.4	+0.7
OK031	S. Brethren Rd	1.60	109	Pn	Pn	05 20 16.9	+0.8
OK031				Sn	Sb	05 20 39.1	+1.4
FNO	Franklin	1.63	139		Pn	05 20 17.4	+0.8
QUOK	Quay	1.64	101		Pn	05 20 17.6	+0.9
OK030	Cody Creek RV	1.65	110	Pn	Pn	05 20 17.7	+0.9
OK034	N. Norfolk Rd.	1.68	106	Pn	Pn	05 20 18.1	+0.9
WMOK	Wichita Mounta	1.76	182	Pn	Pn	05 20 18.1	-0.3
WMOK	Wichita Mounta	1.76	182	P	Pn	05 20 18.2	-0.1
	baz=1.1						
WMOK				S	Sn	05 20 41.8	+1.2
	baz=1.1						
T35A	Sooner Cattle	1.81	76		Pn	05 20 19.8	+0.8
R32A	Long Quarter,	1.92	360	Pn	Pn	05 20 21.5	+1.0
W35A	Tecumseh	2.00	132	Pn	Pn	05 20 22.5	+0.8
X34A	Smith Ranch, M	2.02	159		Pn	05 20 23.6	+1.6
TUL1	Leonard	2.43	103		Pn	05 20 27.8	+0.3
TUL1				IAmb_Lg		05 21 04.7	
	comp=Z,96nm,0.8s						
TUL1	Leonard	2.43	103	P	Pn	05 20 28.4	+0.9
	baz=284						
TUL1				S	Sb	05 21 02.6	+1.1
	baz=284						
CBKS	Cedar Bluff	2.45	341	Pn	Pn	05 20 30.2	+2.3
CBKS	Cedar Bluff	2.45	341	P	Pb	05 20 30.7	-1.4
	baz=161						
CBKS				S	Sb	05 21 03.0	+0.9
	baz=161						
LOOK	Love County	2.80	153	Pn	Pn	05 20 33.2	+0.6
LOOK				IAmb_Lg		05 21 23.6	
	comp=Z,115nm,1.0s						
AMTX	Amarillo	2.91	237	Pn	Pn	05 20 36.9	+2.6
AMTX	Amarillo	2.91	237	Sb	Sb	05 21 17.2	+1.7
	baz=55						
KSU1	Kansas State U	3.08	32	Pn	Pn	05 20 37.0	+0.6
KSU1	Kansas State U	3.08	32	P	Pn	05 20 38.5	+2.0
	baz=213						
X37A	Clayton	3.32	124	Pn	Pn	05 20 39.9	+0.1
X37A				IAmb_Lg		05 21 37.7	
	comp=Z,106nm,0.8s						
Z35A	Perchaven, San	3.38	159	Pn	Pn	05 20 41.1	+0.5
U38A	Gravette	3.48	90	Pn	Pn	05 20 41.4	-0.5
U38A				IAmb_Lg		05 21 43.9	
	comp=Z,67nm,0.8s						
HHAR	Hobbs	3.85	92	Pn	Pn	05 20 46.8	-0.3
KSCO	Kaye Shedlock'	3.99	310	IAmb_Lg		05 22 04.6	
	comp=Z,86nm,0.8s						
KSCO	Kaye Shedlock'	3.99	310	Pb	Pb	05 21 00.4	+2.0
	baz=128						
MSTX	Muleshoe	4.18	234	IAmb_Lg		05 22 05.9	
	comp=Z,71nm,0.8s						
MSTX	Muleshoe	4.18	234	Sb	Sb	05 21 55.0	+3.0
	baz=52						
W39A	Magazine	4.20	107	IAmb_Lg		05 22 04.1	
	comp=Z,90nm,0.7s						
W39A	Magazine	4.20	107	Sb	Sg	05 21 58.5	-4.7
	baz=289						
N33A	J Bar K, Exete	4.34	13		Pn	05 20 53.9	0.0
N33A				IAmb_Lg		05 22 15.6	
	comp=Z,74nm,1.2s						
Z38A	Mt. Pleasant	4.45	136	IAmb_Lg		05 22 09.7	
	comp=Z,57nm,0.8s						
S39A	Bolivar	4.46	73	IAmb_Lg		05 22 09.9	
	comp=Z,67nm,1.1s						
MIAR	Mount Ida	4.61	114	IAmb_Lg		05 22 22.7	
	comp=Z,49nm,0.8s						
WHTX	Lake Whitney,	4.62	167		Pn	05 20 57.0	-0.5
T25A	Trinidad	4.62	280	IAmb_Lg		05 22 16.3	
	comp=Z,84nm,1.0s						
T25A	Trinidad	4.62	280	Sb	Sg	05 22 10.5	-6.2
	baz=96						
U40A	Yellville	4.72	90		Pn	05 20 59.7	+0.7
U40A				IAmb_Lg		05 22 24.8	
	comp=Z,65nm,0.9s						
U40A	Yellville	4.72	90	P	Pn	05 21 00.1	+1.1
	baz=273						
BGNE	Belgrade	4.92	5		Pn	05 21 02.7	+0.9
BGNE				IAmb_Lg		05 22 28.8	
	comp=Z,46nm,0.8s						
BGNE	Belgrade	4.92	5	P	Pn	05 21 02.7	+0.9
	baz=186						
237A	Washetta, Mont	5.09	151	Pn	Pn	05 21 03.5	-0.5
P38A	Dawn	5.13	51	IAmb_Lg		05 22 41.0	
	comp=Z,39nm,0.7s						
OGNE	Ogallala	5.14	331	IAmb_Lg		05 22 33.1	
	comp=Z,68nm,0.8s						
X40A	Basin Creek Fa	5.19	111	IAmb_Lg		05 22 41.1	
	comp=Z,44nm,0.7s						
WHAR	Wooly Hollow	5.34	101	IAmb_Lg		05 22 45.4	
	comp=Z,39nm,0.7s						
FCAR	Ozark Folk Cen	5.36	95	IAmb_Lg		05 22 40.2	
	comp=Z,49nm,1.1s						
W41B	Gary Mavity, V	5.41	102	IAmb_Lg		05 22 43.9	
	comp=Z,35nm,0.7s						
R40A	Maddies Statio	5.42	69	IAmb_Lg		05 22 44.2	
	comp=Z,46nm,0.8s						
Z41A	Richland Creek	5.83	122	IAmb_Lg		05 23 05.6	
	comp=Z,53nm,0.8s						
JCT	Junction City	6.08	189	IAmb_Lg		05 23 08.1	
	comp=Z,44nm,0.9s						
K31A	O'Neill	6.11	360	IAmb_Lg		05 23 11.4	
	comp=Z,42nm,0.8s						
CCM	Cathedral Cave	6.15	73	IAmb_Lg		05 23 02.0	
	comp=Z,32nm,0.7s						
ANMO	Albuquerque	6.50	258	Pn	Pn	05 21 21.4	-2.1
	comp=Z,0.3nm,0.3s,baz=70,slow=14,SNR=2.6						
ANMO				Pg	Pb	05 21 44.2	+3.0
	comp=Z,0.7nm,0.3s,baz=70,slow=15,SNR=6.9						
ANMO				Lg	Lg	05 23 07.8	
	comp=Z,3.0nm,0.3s,baz=133,slow=4.8,SNR=8.6						
PBMO	Poplar Bluff	6.66	85	IAmb_Lg		05 23 20.1	
	comp=Z,33nm,0.8s						
FVM	French Village	6.77	75	IAmb_Lg		05 23 22.0	
	comp=Z,45nm,1.0s						
LPAR	Lepanto	6.87	95	IAmb_Lg		05 23 32.6	
	comp=Z,50nm,0.7s						
SCIA	State Center	6.88	37	Pn	Pn	05 21 28.5	-0.1
SCIA				IAmb_Lg		05 23 37.7	
	comp=Z,47nm,0.8s						
SLM	Saint Louis	7.05	70	IAmb_Lg		05 23 35.2	
	comp=Z,38nm,0.7s						
PHWY	Pilot Hill	7.12	314	IAmb_Lg		05 23 47.5	
	comp=Z,24nm,0.7s						
Y22D	IRIS PASSCAL I	7.14	253	IAmb_Lg		05 23 46.1	
	comp=Z,48nm,0.8s						
ECSD	EROS Data Cent	7.40	12		Pn	05 21 35.6	-0.2
S44A	Carbondale	7.64	78	IAmb_Lg		05 23 53.6	
	comp=Z,33nm,0.8s						
SUSD	Miller	7.94	359	IAmb_Lg		05 24 12.2	
	comp=Z,22nm,0.9s						
L40A	Anamosa	8.03	44	IAmb_Lg		05 24 04.4	
	comp=Z,39nm,0.8s						
833A	Chaparral WMA,	8.18	184	IAmb_Lg		05 24 22.9	
	comp=Z,22nm,1.1s						
TXAR	Lajitas Array	8.28	212	Pn	Pn	05 21 48.1	+0.2
	comp=Z,0.5nm,0.3s,baz=39,slow=12,SNR=15						
TXAR				Lg	Lg	05 24 02.3	
	comp=Z,1.2nm,0.3s,baz=32,slow=29,SNR=3.9						
TXAR	Lajitas Array	8.28	212		Pn	05 21 48.3	+0.3
RSSD	Black Hills	8.63	334	IAmb_Lg		05 24 33.3	
	comp=Z,24nm,1.0s						
L42A	Oliver, Polo	8.90	49	IAmb_Lg		05 24 42.8	
	comp=Z,34nm,0.8s						
JFWS	Jewell Farm	9.13	43	Pn	Pn	05 21 59.9	+0.3
JFWS				IAmb_Lg		05 24 46.2	
	comp=Z,27nm,0.7s						
I40A	Norwalk	9.62	37	IAmb_Lg		05 25 03.3	
	comp=Z,16nm,0.8s						
PDAR	Pinedale Array	10.45	310	Pn	Pn	05 22 20.4	+2.6
	comp=Z,0.1nm,0.3s,baz=117,slow=15,SNR=2.0						
PDAR				Lg	Lg	05 25 11.0	
	comp=Z,0.4nm,0.3s,baz=109,slow=35,SNR=3.0						
ULM	Lac du Bonnet	13.89	8	Pn	Pn	05 23 00.1	-4.6
	comp=Z,0.3nm,0.3s,baz=180,slow=5.1,SNR=1.7						
ULM				Sn	Sn	05 25 30.9	-7.7
	comp=Z,0.2nm,0.3s,baz=128,slow=18,SNR=1.7						
ULM				Lg	Lg	05 26 57.9	
	comp=Z,0.3nm,0.3s,baz=224,slow=13,SNR=1.6						

*TUL **07** 05:37:48.5±0.8, 36°.48N±0°.02×98°.75W±0°.03, h8km±7km, ML3.1, mb_Lg3.0/47(NEIC), Error ellipse: s-maj=3.0km s-min=2.6km az=95.0*

NEIC 07 05:37:48.8±1.0, 36°.49N±0°.02×98°.72W±0°.03, h8km±7km, Error ellipse: s-maj=3.3km s-min=2.8km az=212.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.22	3	Pg	Pg	05 37 53.5	+0.2
OK035				Sg	Sg	05 37 57.2	+0.9
U32A	Winter Ranch,	0.25	244	Pg	Pg	05 37 53.4	-0.3
U32A				Sg	Sg	05 37 57.2	+0.1
CROK	Carrier	0.60	88	Pg	Pg	05 38 00.3	0.0
KAN14	Manchester OK	0.77	52		Pg	05 38 03.5	-0.1
GC02	Grant County #	0.78	62		Pg	05 38 03.7	-0.2
GC02				Sg	Sg	05 38 14.7	+0.7
KAN10	Anthony SW Sta	0.81	38	Pg	Pg	05 38 04.3	-0.1
KAN10				Sg	Sg	05 38 15.4	+0.5
KAN16	Harper SW Stat	0.91	35		Pg	05 38 06.1	-0.1
KAN16				Sg	Sb	05 38 18.5	-0.5
KAN05	Bluff City Nor	0.92	48		Pg	05 38 06.4	-0.2
KAN05				Sg	Sg	05 38 18.9	+0.4
KAN17	Caldwell West	0.95	54		Pg	05 38 06.7	-0.4
KAN17				Sg	Sg	05 38 19.7	+0.3
KAN08	Anthony NE Sta	0.95	39		Pg	05 38 06.9	-0.2
KAN01	Argonia South	1.02	49		Pg	05 38 08.1	-0.3
KAN06	Argonia West S	1.03	42		Pg	05 38 08.3	-0.2
KAN13	South Haven SW	1.13	62		Pg	05 38 09.8	-0.6
BCOK	Bluff Creek, N	1.23	132		Pb	05 38 11.5	-0.6
BLOK	Blackwell	1.24	77		Pn	05 38 11.9	-0.6
OK025	Westminster Rd	1.44	128		Pn	05 38 15.2	0.0
OKCFA	Oklahoma City	1.49	136		Pn	05 38 15.9	+0.1
OKCSW	OKLAHOMA CITY	1.50	136		Pn	05 38 16.1	+0.1
OK031	S. Brethren Rd	1.61	109		Pn	05 38 18.1	+0.5
FNO	Franklin	1.63	138		Pn	05 38 18.2	+0.5
QUOK	Quay	1.66	100	Pn	Pn	05 38 18.8	+0.6
OK030	Cody Creek RV	1.67	109		Pn	05 38 18.7	+0.5
OK034	N. Norfolk Rd.	1.69	106		Pn	05 38 19.0	+0.4
WMOK	Wichita Mounta	1.75	182		Pn	05 38 19.2	-0.2
T35A	Sooner Cattle	1.83	76		Pn	05 38 21.3	+0.8
R32A	Long Quarter,	1.93	0		Pn	05 38 21.8	-0.1
W35A	Tecumseh	2.01	131		Pn	05 38 23.9	+0.9
X34A	Smith Ranch, M	2.02	159		Pn	05 38 23.3	+0.2
X34A				IAmb_Lg		05 38 57.6	
	comp=Z,64nm,0.8s						
TUL1	Leonard	2.44	103		Pn	05 38 28.9	0.0
TUL1				IAmb_Lg		05 39 09.3	
	comp=Z,48nm,0.9s						
LOOK	Love County	2.79	153		Pn	05 38 33.5	-0.2
LOOK				IAmb_Lg		05 39 19.5	
	comp=Z,47nm,0.9s						
AMTX	Amarillo	2.89	237	IAmb_Lg		05 39 27.3	
	comp=Z,66nm,0.7s						
KSU1	Kansas State U	3.10	32	Pn	Pn	05 38 37.4	-0.6
X37A	Clayton	3.33	124		Pn	05 38 40.9	-0.1
X37A				IAmb_Lg		05 39 39.2	
	comp=Z,48nm,0.7s						
U38A	Gravette	3.50	90	Pn	Pn	05 38 43.0	-0.4
KSCO	Kaye Shedlock'	3.99	310	IAmb_Lg		05 40 02.2	
	comp=Z,46nm,0.8s						
MSTX	Muleshoe	4.16	234	Pn	Pn	05 38 52.4	-0.3
MSTX				IAmb_Lg		05 40 06.9	
	comp=Z,35nm,0.7s						
W39A	Magazine	4.21	106	Pn	Pn	05 38 53.6	+0.3
W39A				IAmb_Lg		05 40 03.3	
	comp=Z,43nm,0.9s						
N33A	J Bar K, Exete	4.36	13	Pn	Pn	05 38 54.6	-0.7
S39A	Bolivar	4.48	73		Pn	05 38 56.8	-0.2
T25A	Trinidad	4.61	280	IAmb_Lg		05 40 19.4	
	comp=Z,34nm,0.8s						
MIAR	Mount Ida	4.62	113	IAmb_Lg		05 40 23.7	
	comp=Z,20nm,0.8s						
U40A	Yellville	4.74	90	IAmb_Lg		05 40 15.8	
	comp=Z,29nm,0.9s						
237A	Washetta, Mont	5.08	151	IAmb_Lg		05 40 41.5	
	comp=Z,39nm,1.1s						
OGNE	Ogallala	5.15	331	IAmb_Lg		05 40 41.5	
	comp=Z,34nm,0.9s						
P38A	Dawn	5.16	51	IAmb_Lg	

KBSM	Bell Springs	0.69	123			Pb	05 50 05.2	-0.7
KHMM	Horse Mountain	0.75	39			Pb	05 50 06.0	-0.8
KHMM				Sg		Sn	05 50 16.4	-1.6
KCPM	Cahto Peak	0.85	136			Pb	05 50 07.1	-1.4
KOMM	Orleans Mounta	1.20	34			Pn	05 50 12.4	-1.2
O02D	Mt. Diablo Mer	1.20	95	P		Pn	05 50 13.0	-0.6
	baz=275,SNR=168							
O02D				S		Sb	05 50 28.7	-0.9
	baz=275							
GNAM	Navarro Ridge	1.23	153			Pn	05 50 12.0	-1.9
GASB	Alder Springs	1.41	116			Pn	05 50 15.8	-0.7
WDC	Whiskeytown Da	1.41	78	Pn		Pn	05 50 15.4	-1.0
WDC				Sn		Sn	05 50 32.8	-1.4
WDC				IAML			05 50 33.5	
	comp=E,1μm,0.9s							
WDC				IAML			05 50 33.6	
	comp=N,2μm,0.8s							
N02D	Trinity Center	1.42	61	P		Pn	05 50 15.8	-0.9
	baz=241,SNR=1000							
N02D				S		Sn	05 50 33.3	-1.3
	baz=241							
M02C	Callahan	1.58	46	P		Pn	05 50 17.9	-0.9
	baz=226,SNR=1000							
M02C				S		Sn	05 50 37.0	-1.5
	baz=226							
HOPS	Hopland Field	1.63	142	Pn		Pn	05 50 17.4	-2.1
HOPS				IAML			05 51 07.1	
	comp=E,1μm,1.2s							
LTCM	Tuscan Springs	1.71	92			Pn	05 50 20.0	-0.5
YBH	Yreka Blue Hor	1.90	40	Pn		Pn	05 50 22.5	-0.7
	comp=E,65nm,0.3s,baz=261,slow=10.0,SNR=517							
YBH				Lg	Lg		05 50 45.2	
	comp=E,159nm,0.3s,baz=338,slow=19,SNR=8.4							
YBH	Yreka Blue Hor	1.90	40			Pn	05 50 22.5	-0.7
YBH				IAML			05 50 47.2	
	comp=N,666nm,0.6s							
GSGM	Seigler Mounta	1.91	138			Pn	05 50 25.1	+1.8
GDXM	Geysers	1.91	141			Pn	05 50 23.6	+0.2
KBO	Bosley Butte	1.92	3			Pn	05 50 22.5	-1.0
L02E	Cave Junction	1.94	17	P		Pn	05 50 22.6	-1.2
	baz=197,SNR=838							
L02E				S		Sn	05 50 46.0	-1.4
	baz=197							
O03E	Paynes Creek	1.95	89	P		Pn	05 50 22.9	-1.0
	baz=270,SNR=82							
O03E				S		Sn	05 50 46.8	-0.8
	baz=270							
GCRM	Castle Rock Sp	1.98	140			Pn	05 50 23.1	-1.2
MNRC	McLaughlin Min	2.04	133			Pn	05 50 24.8	-0.4
LHEM	Herd Peak	2.09	50			Pn	05 50 26.3	+0.2
LMEM	Manzanita Entr	2.14	83			Pn	05 50 25.9	-0.7
SUTB	Sutter Butte	2.25	118			Pn	05 50 26.7	-1.2
HATC	Hat Creek Radi	2.26	76			Pn	05 50 28.5	+0.2
ORV	Oroville	2.31	108			Pn	05 50 28.2	-0.7
M04C	Macdoel	2.41	51	P		Pn	05 50 30.4	+0.1
	baz=232,SNR=129							
MCCM	Marconi Confer	2.43	152	Pn		Pn	05 50 29.1	-1.4
CVS	Carmenet Viney	2.44	142			Pn	05 50 29.9	-0.7
K02D	Willamette Mer	2.45	12	P		Pn	05 50 30.3	-0.6
	baz=192,SNR=36							
K02D				S		Sn	05 50 58.2	-1.9
	baz=192							
L04D	Klamath Falls	2.46	38	P		Pn	05 50 32.0	+0.9
	baz=219,SNR=272							
L04D				S		Sn	05 50 58.1	-2.4
	baz=219							
HUMO	Hull Mountain	2.54	24	Pn		Pn	05 50 31.9	-0.1
HUMO				IAML			05 51 02.1	
	comp=E,437nm,0.5s							
HUMO				IAML			05 51 02.7	
	comp=N,384nm,0.6s							
KEBM	Edson Butte	2.57	0			Pn	05 50 33.8	+1.3
KEBM				IAML			05 51 02.7	
	comp=N,664nm,0.9s							
KEBM				IAML			05 51 14.2	
	comp=E,685nm,0.8s							
FARB	Farallon Islan	2.80	158			Pn	05 50 33.9	-1.6
J01E	Myrtle Point	2.88	6	P		Pn	05 50 35.9	-0.7
	baz=186,SNR=24							
J01E				S		Sn	05 51 07.6	-2.9
	baz=186							
DBO	Dodson Butte	2.94	16			Pn	05 50 37.4	-0.1
DBO				IAML			05 51 16.3	
	comp=N,324nm,0.7s							
DBO				IAML			05 51 31.9	
	comp=E,329nm,1.0s							
K04D	Chiloquin, OR	3.04	39	P		Pn	05 50 39.2	+0.3
	baz=220,SNR=24							
K04D				S		Sn	05 51 14.5	0.0
	baz=220							
J04D	Umpqua Nationa	3.39	29	P		Pn	05 50 44.3	+0.4
	baz=210,SNR=36							
MOD	Modoc Plateau	3.45	61	Pn		Pn	05 50 44.1	-0.6
MOD				IAML			05 51 41.1	
	comp=E,277nm,1.0s							
MOD				IAML			05 51 41.7	
	comp=N,245nm,1.2s							
RUBR	Rubicon Trail	3.47	110			Pn	05 50 46.0	+1.0
RUBR				IAML			05 51 49.5	
	comp=N,307nm,1.6s							
MPK	Martis Peak	3.47	105			Pn	05 50 46.4	+1.3
I03D	Drain, OR	3.48	12	P		Pn	05 50 44.7	-0.2
	baz=192,SNR=70							
I03D				S		Sn	05 51 23.4	-1.8
	baz=192							
K05A	Summer Lake	3.55	46	Pn		Pn	05 50 46.4	+0.3
K05A				IAML			05 52 04.8	
	comp=E,200nm,2.3s							
VCNR	Virginia City	3.75	104			Pn	05 50 49.4	+0.5
VCNR				IAML			05 51 55.7	
	comp=E,166nm,1.0s							
VCNR				IAML			05 52 06.2	
	comp=N,215nm,1.2s							
I04A	Tendick Farm,	3.78	22	P		Pn	05 50 49.5	+0.4
	baz=203,SNR=12							
I04A				S		Sn	05 51 31.9	-1.0
	baz=203							
J05D	Fort Rock, OR	3.79	37	P		Pn	05 50 49.9	+0.6
	baz=219,SNR=207							
J05D				S		Sn	05 51 31.6	-1.4
	baz=219							
CMB	Columbia Colle	3.82	125	Pn		Pn	05 50 50.3	+0.7
I02E	Swisshome, OR	3.83	5	P		Pn	05 50 50.1	+0.4
	baz=186							
I02E				S		Sn	05 51 31.5	-2.3
	baz=186							
PNTR	Pine Nut	3.86	107	Pn		Pn	05 50 51.2	+0.9
PAHR	Pah Rah Range	3.86	97	Pn		Pn	05 50 49.9	-0.3
BUCK	Buck Mountain	4.03	14			Pn	05 50 53.2	+0.7
BUCK				IAML			05 51 42.1	
	comp=N,192nm,1.2s							
BUCK				IAML			05 52 01.3	
	comp=E,166nm,1.3s							
YERR	Yerington	4.16	107			Pn	05 50 54.9	+0.5
YERR				IAML			05 52 05.5	
	comp=E,148nm,0.8s							
YERR				IAML			05 52 14.5	
	comp=N,110nm,1.2s							
SAO	San Andreas Ge	4.20	146	Pn		Pn	05 50 52.9	-1.9
PINE	Pine Mountain	4.32	35			Pn	05 50 57.9	+1.2
PINE				IAML			05 51 34.1	
	comp=E,74nm,1.9s							
PINE				IAML			05 52 31.5	
	comp=N,104nm,3.5s							
COR	Corvallis	4.36	10	Pn		Pn	05 50 58.4	+1.5
COR				IAML			05 51 48.8	
	comp=N,130nm,0.9s							
COR				IAML			05 51 49.4	
	comp=N,114nm,0.9s							
H04D	Lebanon	4.39	15	P		Pn	05 50 57.8	+0.4
	baz=196							
H04D				S		Sn	05 51 46.6	-1.1
	baz=196							
BJCM	Johnson Can.	4.41	147			Pn	05 50 58.2	+0.6
HAST	Hastings Reser	4.48	150			Pn	05 50 58.2	-0.5
I05D	Terrebonne, OR	4.62	28	P		Pn	05 51 01.2	+0.6
	baz=210							
H04A	Detroit Lake	4.67	19			Pn	05 51 02.0	+0.7
H04A				IAML			05 51 59.2	
	comp=E,125nm,0.7s							
WVOR	Wild Horse Val	4.80	62			Pn	05 51 02.2	-0.9
RYN	Ryan	4.81	108			Pn	05 51 04.0	+0.7
RYN				IAML			05 52 39.1	
	comp=E,52nm,2.2s							
PMPB	Monarch Peak	4.94	144			Pn	05 51 04.9	-0.1
PMPB				IAML			05 53 53.3	
	comp=E,107nm,3.1s							
OMMB	Old Mammoth Mi	4.96	121			Pn	05 51 05.4	-0.1
LHV	Little Huntoon	4.97	112			Pn	05 51 07.5	+2.1
LHV				IAML			05 52 42.5	
	comp=N,68nm,1.3s							
LHV				IAML			05 53 13.6	
	comp=E,87nm,3.2s							
G03D	McMinnville, O	4.98	9	S		Sn	05 52 00.6	-1.5
	baz=189							
KVN	Kaiserville	4.98	102			Pn	05 51 05.9	+0.2
NVAR	Mina Array Bea	5.04	110	Pn		Pn	05 51 07.4	+0.8
	comp=E,4.7nm,0.3s,baz=292,slow=14,SNR=106							
NVAR				Lg	Lg		05 52 27.4	
	comp=E,0.8nm,0.3s,baz=280,slow=41,SNR=1.7							
NVAR	Mina Array Bea	5.04	110	Pn		Pn	05 51 07.2	+0.6
NV11	Mina Array Sit	5.15	109			Pn	05 51 08.6	+0.6
NV11				IAML			05 52 45.9	
	comp=N,57nm,2.5s							
NV11				IAML			05 52 54.1	
	comp=E,48nm,3.2s							
I07A	Izee	5.22	42			Pn	05 51 10.3	+1.4
I07A				IAML			05 52 57.5	
	comp=N,45nm,2.0s							
J08A	Circle Bar Ran	5.35	53			Pn	05 51 10.3	-0.4
J08A				IAML			05 52 13.8	
	comp=E,78nm,0.9s							
J08A				IAML			05 52 54.6	
	comp=N,54nm,1.8s							
HOOD	Mount Hood Mea	5.40	21			Pn	05 51 11.5	+0.1
G05D	Wamic, OR	5.42	23	P		Pn	05 51 12.3	+0.6
	baz=205							
BMN	Battle Mountai	5.45	86			Pn	05 51 11.0	-1.1
PAGB	Antelope Grade	5.59	143			Pn	05 51 11.2	-2.7
F04A	Amboy	5.81	13			Pn	05 51 17.9	+1.1
F05D	White Salmon	5.97	20	S		Sn	05 52 26.2	-0.5
	baz=202							
E03A	Lebam	6.27	5	Pn		Pn	05 51 24.5	+1.3
G08A	Pilot Rock	6.37	37			Pn	05 51 27.1	+2.4
ISA	Isabella, Lake	6.55	133	Pn		Pn	05 51 27.4	+0.3
ISA	Isabella, Lake	6.55	133	P		Pn	05 51 28.7	+1.5
	baz=317							
ARVC	Arvin	6.76	138	P		Pn	05 51 30.8	+0.7
	baz=321							
BMO	Blue Mountains	6.91	46	Pn		Pn	05 51 32.9	+0.8
ELK	Elko	6.96	83	Pn		Pn	05 51 32.7	-0.2
	comp=N,0.2nm,0.3s,baz=277,slow=14,SNR=17							
ELK				Sn		Sn	05 52 49.4	-1.9
	comp=N,0.2nm,0.3s,baz=229,slow=21,SNR=1.7							
ELK				Lg	Lg		05 53 27.0	
	comp=N,0.1nm,0.3s,baz=140,slow=13,SNR=1.1							
ELK				LR	LR		05 54 25.3	
	comp=N,253nm,20.7s,baz=210,slow=40							
ELK	Elko	6.96	83			Pn	05 51 32.8	-0.1
HAWA	Hanford	7.03	28	Pn		Pn	05 51 34.7	+1.0
R11A	Troy Canyon, C	7.07	103			Pn	05 51 34.7	+0.3
R11A	Troy Canyon, C	7.07	103	P		Pn	05 51 34.6	+0.3
	baz=289							
MFID	Camas Ranch	7.08	61			Pn	05 51 34.1	-0.4
OSI	Osito Audit: C	7.22	140			Pn	05 51 37.9	+1.5
E08A	Dider Farm, El	7.29	30			Pn	05 51 38.5	+1.3
EDW2	Edwards Air Fo	7.39	135	P		Pn	05 51 39.5	+0.8
	baz=319							
LTY	Liberty	7.45	20			Pn	05 51 40.3	+0.8
C03A	Quillayute Air	7.65	359	Pn		Pn	05 51 43.0	+0.9
E09A	Wood Farm, Sta	7.68	34	Pn		Pn	05 51 43.2	+0.6
F10A	Beach Ranch, E	7.70	40			Pn	05 51 43.7	+0.7
PLID	Pearl Lake	7.79	49	Pn		Pn	05 51 44.8	+0.4
PRN	Pahroc Range	7.81	109			Pn	05 51 44.4	-0.1
D08A	Wollman Farm,	7.82	28			Pn	05 51 45.4	+0.9
HLID	Hailey	8.09	63	Pn		Pn	05 51 49.0	+0.5
HLID	Hailey	8.09	63	P		Pn	05 51 48.5	+0.1
	baz=249							
DUG	Dugway, Tooele	8.82	87	P		Pn	05 51 59.8	+1.4
	baz=274							
PFO	Pinyon Flats O	9.18	134	Pn		Pn	05 52 03.6	+0.3
	comp=N,0.9nm,0.3s,baz=314,slow=9.7,SNR=8.2							
PFO				LR	LR		05 56 11.0	
	comp=N,404nm,19.1s,baz=293,slow=42							
PFO	Pinyon Flats O	9.18	134	P		Pn	05 52 04.7	+1.4
	baz=319							
NEW	Newport	9.50	31	Pn		Pn	05 52 08.3	+0.7
	comp=N,0.2nm,0.3s,baz=213,slow=9.9,SNR=5.8							
NEW				LR	LR		05 55 55.9	
	comp=N,196nm,20.4s,baz=220,slow=39							
MSO	Missoula	9.98	46	P		Pn	05 52 14.6	+0.4
	baz=233							
HRY	Holter Researc	11.12	51	Pn		Pn	05 52 31.4	+1.6
PDAR	Pinedale Array	11.36	73	Pn		Pn	05 52 33.2	0.0
	comp=N,0.0nm,0.3s,baz=260,slow=11,SNR=1.4							
ANMO	Albuquerque	15.14	105	Pn		Pn	05 53 24.7	-0.1
	comp=N,0.1nm,0.3s,baz=313,slow=13,SNR=3.2							
LPIG	La Paz	20.00	140	LR	LR		06 01 19.6	
	comp=N,165nm,18.5s,baz=5.5,slow=34							
TXAR	Lajitas Array	20.15	116	P		Pn	05 54 26.3	-0.5
	comp=N,3.5nm,0.8s,baz=300,slow=9.5,SNR=34							
ULM	Lac du Bonnet	22.25	54	P		P	05 54 46.0	-1.2
	comp=N,11nm,0.8s,baz=257,slow=9.2,SNR=14							
YKA	Yellowknife Ar	22.99	12	P		P	05 54 55.1	+0.2
	comp=N,6.5nm,0.9s,baz=200,slow=11,SNR=44							
ILAR	Eielson Array	27.77	339	P		P	05 55 40.1	+1.3
	comp=N,1.6nm,0.9s,baz=154,slow=8.1,SNR=12							
INK	Inuvik	28.51	353	P		P	05 55 46.2	+0.9
	comp=N,3.2nm,1.0s,baz=157,slow=9.0,SNR=6.0							
INK				LR	LR		06 08 34.3	
	comp=N,226nm,19.4s,baz=90,slow=40							
SADO	Sadowa	33.28	67	LR	LR		06 12 12.8	
	comp=N,160nm,21.0s,baz=32,slow=40							
CMIG	Matias Romero	34.41	124	P		P	05 56 38.1	+0.4
	comp=N,2.5nm,0.9s,baz=330,slow=9.2,SNR=4.9							
SCHQ	Schefferville	40.26	49	P		P	05 57 26.6	-0.4
	comp=N,4.2nm,0.8s,baz=258,slow=11,SNR=6.9							
SCHQ				LR	LR		06 13 35.7	
	comp=N,219nm,19.6s,baz=56,slow=36							
SUMG	Summit	50.89	23	iP		P	05 58 51.0	-0.2
SEY	Seymchan	52.13	325	P		P	05 59 00.7	+0.6
	comp=N,1.3nm,0.6s,baz=84,slow=22,SNR=5.2							
PETK	Petropavlovsk-	52.40	312	P		P	05 59 02.5	+0.3
	comp=N,4.0nm,0.9s,baz=14,slow=25,SNR=5.0							
SDV	Santo Domingo	56.90	108	P		P	05 59 36.1	+0.5
	comp=N,2.7nm,0.7s,baz=358,slow=6.8,SNR=3.6							
NRIK	Noril'sk	68.17	348	P		P	06 00 50.7	+0.8
	comp=N,2.7nm,0.8s,baz=20,slow=4.4,SNR=4.0							
PTGA	Pitinga	71.19	108	P		P	06 01 10.2	+0.9
	comp=N,0.7nm,0.3s,baz=326,slow=8.2,SNR=6.9							
NB2	NORSAR Subarra	72.72	21	P		P	06 01 18.5	+0.6
	comp=Z,1.3nm,0.7s,baz=324,slow=6.2							
NOA	NORSAR Array B	72.72	21	P		P	06 01 18.0	+1.1
	comp=Z,3.4nm,0.9s,baz=326,slow=6.0,SNR=6.5							
MDP	Montagnes des	72.78	98	LR	LR		06 37 52.6	
	comp=Z,65nm,18.6s,baz=326,slow=40							
FINES	FINESS Array B	75.80	14	P		P	06 01 36.0	+0.2
	comp=Z,3.0nm,0.6s,baz=332,slow=5.5,SNR=8.8							
FINES				LR	LR		06 34 42.8	
	comp=Z,111nm,18.5s,baz=314,slow=36							
LPAZ	La Paz	76.77	125	P		P	06 01 42.9	+0.3
	comp=Z,1.0nm,0.7s,baz=13,slow=14,SNR=4.2							
SONM	Songino Array	81.38	328	P		P	06 02 07.8	+0.9
	comp=Z,0.9nm,0.8s,baz=59,slow=3.9,SNR=6.1							
ZALV	Zalesovo Beam	82.83	343	P		P	06 02 13.8	-0.4
	comp=Z,2.1nm,0.7s,baz=13,slow=4.5,SNR=12							
HHC	Hu-ho-hao-te	84.57	321	eP		P	06 02 24.3	+0.7
HHC				pmax	pmax			
	comp=Z,15nm,0.9s							
HHC				pmax	pmax			
	comp=Z,120nm,6.3s							
CONA	Conrad Observa	85.33	26	eP		P	06 02 26.6	-0.6
	comp=Z,4.2nm,0.9s							
MYKA	Terra Mystica	85.69	28	eP		P	06 02 28.7	-0.3
ARSA	Arzberg	85.80	26	eP		P	06 02 28.8	-0.7
	comp=Z,2.4nm,0.7s							
OBKA	Obir	86.11	27	eP		P	06 02 30.5	-0.6
	comp=Z,5.6nm,0.9s							
SOKA	Soboth	86.13	27	eP		P	06 02 31.8	+0.6
	comp=Z,6.8nm,1.3s							
AKASG	Malin Array Be	86.47	16	P		P	06 02 31.6	-1.1
	comp=Z,0.7nm,0.6s,baz=340,slow=3.9,SNR=4.9							
MKAR	Makanchi Array	90.09	342	P		P	06 02 49.1	-0.9
	comp=Z,1.0nm,1.0s,baz=24,slow=5.5,SNR=5.0							
WMQ	Urumqi	91.42	337	eP		P	06 02 58.5	+2.2
WRA	Warramunga Arr	111.07	261	PKiKP		PKiKP	06 08 23.9	0.0
	comp=Z,0.3nm,0.7s,baz=45,slow=2.1,SNR=5.8							
ASAR	Alice Springs	113.57	258	PKiKP		PKiKP	06 08 28.1	-0.5
	comp=Z,0.3nm,0.5s,baz=56,slow=2.6,SNR=4.1							

ANF ***07*** *06:03:29.0±1.1, 36°.46N×98°.64W, h0km±8km, ML4.1/9,*

Error ellipse: s-maj=3.5km s-min=2.9km az=118.0
TUL ***07*** *06:03:28.9±1.0, 36°.52N±0°.02×98°.70W±0°.05, h8km±7km,*
ML3.3, mb_Lg3.2/76(NEIC), Error ellipse: s-maj=5.3km
s-min=3.2km az=99.0
NEIC ***07*** *06:03:29.0±1.1, 36°.53N±0°.02×98°.68W±0°.04, h5km±2km,*
Error ellipse: s-maj=6.1km s-min=3.2km az=91.0
ISC 07 06:03:28.9±1.0, 36°.53N±0°.03×98°.71W±0°.02, h7km±10km,
n88, σ1°.09/69, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.18	0	Pg	Pg	06 03 33.2	+0.5
U32A	Winter Ranch,	0.28	238	Pg	Pg	06 03 34.7	+0.3
U32A				Sg	Sg	06 03 39.4	+1.2
CROK	Carrier	0.59	92	Pg	Pg	06 03 40.0	-0.2
CROK				Sg	Sg	06 03 48.1	+0.2
KAN14	Manchester OK	0.74	54		Pg	06 03 42.9	-0.2
GC02	Grant County #	0.76	64	Pg	Pg	06 03 43.2	-0.3
GC02				Sg	Sg	06 03 53.7	+0.4
KAN10	Anthony SW Sta	0.77	39		Pg	06 03 43.5	-0.3
KAN16	Harper SW Stat	0.87	36		Pg	06 03 45.4	-0.2
KAN16				Sg	Sg	06 03 57.3	+0.4
KAN05	Bluff City Nor	0.89	49		Pg	06 03 45.8	-0.2
KAN05				Sg	Sg	06 03 57.8	+0.2
KAN08	Anthony NE Sta	0.92	40		Pg	06 03 46.3	-0.3
KAN17	Caldwell West	0.92	56		Pg	06 03 46.2	-0.3
KAN17				Sg	Sg	06 03 58.4	-0.1
KAN01	Argonia South	0.99	50		Pg	06 03 47.5	-0.4
KAN06	Argonia West S	0.99	43		Pg	06 03 47.6	-0.4
KAN13	South Haven SW	1.10	64		Pg	06 03 49.4	-0.7
BLOK	Blackwell	1.23	79		Pg	06 03 51.5	-1.0
BCOK	Bluff Creek, N	1.25	134	Pn	Pg	06 03 51.6	-1.2
OK025	Westminster Rd	1.46	130		Pn	06 03 55.5	-0.2
OKCFA	Oklahoma City	1.51	137		Pn	06 03 56.2	-0.1
OKCSW	OKLAHOMA CITY	1.52	137		Pn	06 03 56.4	-0.2
OK031	S. Brethren Rd	1.62	110		Pn	06 03 57.9	+0.1
FNO	Franklin	1.65	140		Pn	06 03 58.4	0.0
QUOK	Quay	1.66	102		Pn	06 03 58.2	-0.2
OK030	Cody Creek RV	1.67	110		Pn	06 03 57.7	-0.9
WMOK	Wichita Mounta	1.79	182	Pn	Pn	06 03 59.9	-0.3
WMOK	Wichita Mounta	1.79	182	P	Pn	06 04 00.2	0.0
	baz=2.1						
WMOK				S	Sn	06 04 23.9	+0.8
	baz=2.1						
T35A	Sooner Cattle	1.81	77	Pn	Pn	06 04 01.1	+0.6
R32A	Long Quarter,	1.89	360		Pn	06 04 01.6	-0.1
R32A				IAmb_Lg		06 04 33.5	
	comp=Z,99nm,0.7s						
W35A	Tecumseh	2.03	132		Pn	06 04 03.4	-0.1
X34A	Smith Ranch, M	2.05	159		Pn	06 04 03.6	-0.2
CBKS	Cedar Bluff	2.42	341	Pn	Pn	06 04 08.7	-0.4
CBKS	Cedar Bluff	2.42	341	P	Pb	06 04 11.6	-1.3
	baz=160						
CBKS				S	Sb	06 04 43.5	+0.5
	baz=160						
TUL1	Leonard	2.44	104		Pn	06 04 08.8	-0.4
TUL1				IAmb_Lg		06 04 49.1	
	comp=Z,92nm,0.8s						
TUL1	Leonard	2.44	104	P	Pn	06 04 09.4	+0.2
	baz=286						
TUL1				S	Sb	06 04 43.2	-0.2
	baz=286						
LOOK	Love County	2.82	153		Pn	06 04 14.3	-0.1
AMTX	Amarillo	2.92	237	Pn	Pn	06 04 15.8	-0.1
AMTX	Amarillo	2.92	237	Pb	Pb	06 04 22.4	+1.0
	baz=55						
AMTX				Sb	Sb	06 05 00.0	+2.7
	baz=55						
KSU1	Kansas State U	3.06	32	IAmb_Lg		06 05 13.3	
	comp=Z,60nm,1.0s						
KSU1	Kansas State U	3.06	32	P	Pn	06 04 19.2	+1.5
	baz=213						
X37A	Clayton	3.34	124		Pn	06 04 21.8	+0.3
X37A				IAmb_Lg		06 05 19.2	
	comp=Z,57nm,0.8s						
Z35A	Perchaven, San	3.41	159		Pn	06 04 23.8	+1.3
U38A	Gravette	3.49	90	Pn	Pn	06 04 24.2	+0.7
KSCO	Kaye Shedlock'	3.97	310	IAmb_Lg		06 05 45.7	
	comp=Z,48nm,0.8s						
KSCO	Kaye Shedlock'	3.97	310	Sb	Sg	06 05 35.8	-0.7
	baz=128						
MSTX	Muleshoe	4.19	234	Pb	Pb	06 04 43.5	+0.4
	baz=51						
MSTX				Sb	Sg	06 05 39.5	-4.1
	baz=51						
W39A	Magazine	4.22	107	IAmb_Lg		06 05 45.2	
	comp=Z,71nm,0.8s						
N33A	J Bar K, Exete	4.32	13		Pn	06 04 33.8	-1.2
N33A				IAmb_Lg		06 05 57.3	
	comp=Z,52nm,0.9s						
S39A	Bolivar	4.46	73		Pn	06 04 38.5	+1.5
S39A				IAmb_Lg		06 05 55.5	
	comp=Z,48nm,1.0s						
Z38A	Mt. Pleasant	4.47	136	Pn	Pn	06 04 37.4	+0.3
Z38A				IAmb_Lg		06 05 57.4	
	comp=Z,49nm,0.9s						
T25A	Trinidad	4.61	279		Pn	06 04 40.7	+1.4
T25A				IAmb_Lg		06 05 54.6	
	comp=Z,47nm,0.8s						
T25A	Trinidad	4.61	279	P	Pn	06 04 40.2	+1.0
	baz=96						
T25A				Sb	Sg	06 05 53.0	-4.1
	baz=96						
MIAR	Mount Ida	4.63	114	IAmb_Lg		06 06 07.3	
	comp=Z,54nm,0.9s						
WHTX	Lake Whitney,	4.64	167	Pn	Pn	06 04 39.4	-0.1
U40A	Yellville	4.72	90	IAmb_Lg		06 06

I37A	Lemond, Waseca	8.51	27	IAmb_Lg		06 08 05.1	
	comp=Z,18nm,0.8s						
K22A	Casper	8.59	318	IAmb_Lg		06 08 15.1	
	comp=Z,25nm,0.9s						
O44A	Mansfield	8.82	63	Pn	Pn	06 05 36.2	-0.6
JFWS	Jewell Farm	9.12	43	IAmb_Lg		06 08 24.0	
	comp=Z,21nm,0.8s						

*IDC **07** 06:06:07.7±1.2,21°.36S×179°.25W,h606km±14km, mb3.8/21,mb1 4.0/25,mb1mx3.8/41,mbtmp4.8/25,Error ellipse: s-maj=12.2km s-min=10.1km az=156.0*

*NEIC **07** 06:06:08.4±1.3,21°.4S±0°.1×179°.2W±0°.1,h611km±8km, mb4.6/74,Error ellipse: s-maj=17.2km s-min=16.0km az=175.0*

ISC 07 06:06:07.2±0.4,21°.37S±0°.08×179°.21W±0°.06,h602km, n149,σ1§01/148,mb4.5/70,11C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.44	324	P	P	06 07 38.6	+2.4
	68nm,0.3s,baz=160,slow=7.7,SNR=132						
NIUE	Niue	9.01	77	P	P	06 08 17.0	+0.7
AFI	Afiamalu	10.26	45	P	P	06 08 27.8	-1.0
	7.2nm,0.3s,baz=37,slow=7.9,SNR=12						
AFI				S	S	06 10 19.9	-5.0
	8.4nm,0.3s,baz=184,slow=23,SNR=10						
MARNC	Mare, Loyalty	11.88	267	P	P	06 08 44.9	+0.1
PINNC	Pines Island,	12.44	262	P	P	06 08 50.9	+0.6
OUENC	Ouen Island, N	12.99	263	P	P	06 08 55.9	0.0
DZM	Mont Dzumac	13.35	264	P	P	06 08 59.6	0.0
	2.6nm,0.3s,baz=80,slow=18,SNR=40						
DZM				S	S	06 11 21.0	-0.2
	baz=266,slow=14,SNR=4.1						
DZM	Mont Dzumac	13.35	264	eP	P	06 08 58.9	-0.8
	44nm,0.8s						
DZM	Mont Dzumac	13.35	264	P	P	06 08 59.8	+0.1
MXZ	Matakaoa Point	16.28	187	P	P	06 09 26.3	-0.5
URZ	Urewera	17.13	190	P	P	06 09 33.4	-1.1
	6.6nm,0.3s,baz=302,slow=24,SNR=22						
URZ	Urewera	17.13	190	P	P	06 09 33.6	-0.9
URZ				IAmb	IAmb	06 09 34.4	
	comp=Z,16nm,0.8s						
LBZ	Lake Benmore	24.57	198	P	P	06 10 40.7	-0.6
EIDS	Eidsvold	27.53	256	P	P	06 11 07.8	+0.3
ARMA	Armidale	27.67	245	P	P	06 11 10.1	+1.2
ARMA				IAmb	IAmb	06 11 10.9	
	comp=Z,34nm,1.0s						
CTA	Charters Tower	32.28	266	P	P	06 11 48.6	+0.3
	comp=Z,29nm,0.4s,baz=91,slow=11,SNR=44						
CTAO	Charters Tower	32.28	266	P	P	06 11 48.7	+0.3
PMG	Port Moresby	34.45	285	P	P	06 12 06.6	0.0
	comp=Z,58nm,0.7s,baz=103,slow=3.3,SNR=18						
PMG	Port Moresby	34.45	285	P	P	06 12 06.4	-0.2
TOO	Toolangi	34.47	234	P	P	06 12 07.1	+0.6
TOO				IAmb	IAmb	06 12 07.8	
	comp=Z,19nm,0.9s						
STKA	Stephens Creek	36.39	245	P	P	06 12 22.9	+0.5
	comp=Z,16nm,0.5s,baz=93,slow=10,SNR=36						
STKA	Stephens Creek	36.39	245	P	P	06 12 22.5	+0.1
COEN	Coen	36.52	275	P	P	06 12 23.9	+0.2
BBOO	Buckleboo	41.15	244	P	P	06 13 00.3	-0.3
BBOO				IAmb	IAmb	06 13 00.7	
	comp=Z,26nm,0.7s						
WR0	Warramunga Arr	43.17	263	P	P	06 13 15.8	-0.8
WR0				IAmb	IAmb	06 13 17.4	
	comp=Z,23nm,1.0s						
AS31	Alice Springs	43.22	258	P	P	06 13 16.7	-0.3
AS31				IAmb	IAmb	06 13 18.0	
	comp=Z,20nm,1.1s						
ASAR	Alice Springs	43.22	258	P	P	06 13 16.7	-0.3
	comp=Z,52nm,0.8s,baz=98,slow=7.8,SNR=464						
ASAR				PcP	PcP	06 14 52.0	-0.3
	comp=Z,2.3nm,0.7s,baz=105,slow=3.3,SNR=4.3						
ASAR				ScP	ScP	06 17 47.6	+0.6
	comp=Z,2.8nm,0.8s,baz=102,slow=3.9,SNR=8.7						
ASAR				S	S	06 18 58.5	-3.2
	comp=Z,1.6nm,0.8s,baz=92,slow=16,SNR=7.6						
ASAR	Alice Springs	43.22	258	P	P	06 13 16.9	-0.2
JAY	Jayapura	43.26	290	P	P	06 13 17.3	-0.1
	comp=Z,86nm,0.8s,baz=154,slow=4.8,SNR=16						
JAY	Jayapura	43.26	290	P	P	06 13 17.1	-0.3
	comp=Z,595nmcomp=Z,58nm,0.9s						
WB0	Warramunga Arr	43.34	263	P	P	06 13 17.4	-0.6
WB2	Warramunga Arr	43.35	263	P	P	06 13 17.2	-0.8
WRAB	Tennant Creek	43.35	263	P	P	06 13 17.4	-0.6
WRAB				IAmb	IAmb	06 13 18.1	
	comp=Z,56nm,0.9s						
WRA	Warramunga Arr	43.36	263	P	P	06 13 17.2	-1.0
	comp=Z,29nm,0.7s,baz=96,slow=7.6,SNR=310						
WRA	Warramunga Arr	43.36	263	P	P	06 13 17.6	-0.6
FORT	Forrest	47.91	247	P	P	06 13 51.7	-0.8
MTN	Manton Dam	48.05	272	P	P	06 13 53.1	-0.5
MTN				IAmb	IAmb	06 13 53.3	
	comp=Z,43nm,0.7s						
KNRA	Kununurra	49.48	267	P	P	06 14 03.7	-0.4
SIJI	Sorong	52.38	286	P	P	06 14 25.1	-0.1
	comp=Z,128nm,0.7s,baz=50,slow=6.2,SNR=25						
SWI	Sorong	52.38	286	P	P	06 14 25.0	-0.2
	comp=Z,232nm,0.8s						
SOEI	Soe	55.40	273	P	P	06 14 46.3	-0.2
	comp=Z,1μmcomp=Z,127nm,0.8s						
SOEI	Soe	55.40	273	P	P	06 14 48.1	+1.6
BATI	Baumata	55.82	272	P	P	06 14 50.2	+0.9
	comp=Z,44nm,0.7s,baz=12,slow=0.1,SNR=5.8						
PSA00	Pilbara Seismi	56.37	258	P	P	06 14 52.1	-0.9
PSA00				IAmb	IAmb	06 14 53.0	
	comp=Z,40nm,1.0s						
PSA00	Pilbara Seismi	56.37	258	P	P	06 14 51.8	-1.2
PSA00				IAmb	IAmb	06 14 53.1	
	comp=Z,18nm,1.0s						
SANI	Sanana	56.65	282	P	P	06 14 54.8	-0.1
	comp=Z,33nm,0.9s						
VNDA	Vanda	56.95	185	P	P	06 14 56.9	+1.0
	comp=Z,1.0nm,0.5s,baz=6.2,slow=7.0,SNR=10.0						
VNDA	Vanda	56.95	185	P	P	06 14 57.3	+1.3
MMRI	Maumere	57.66	273	P	P	06 15 01.2	-0.7
MMRI				IAmb	IAmb	06 15 01.9	
	comp=Z,74nm,1.1s						
EDFI	Ende, Flores	58.13	273	P	P	06 15 04.3	-0.8
	comp=Z,23nm,0.8s						
MORW	Morawa	58.45	248	P	P	06 15 06.2	-0.8
LUWI	Luwuk	59.99	282	P	P	06 15 17.3	-0.1
	comp=Z,3μmcomp=Z,38nm,0.4s						
LUWI	Luwuk	59.99	282	P	P	06 15 17.5	+0.1
LUWI				IAmb	IAmb	06 15 18.2	
	comp=Z,80nm,1.2s						
GTOI	Gorontalo	60.46	284	P	P	06 15 21.0	+0.5
	comp=Z,16nm,0.8s						
BKSI	Bulukumba	60.78	276	P	P	06 15 22.2	-0.4
	comp=Z,14nm,0.8s						
KAPI	Kappang	61.24	276	P	P	06 15 25.3	-0.3
	comp=Z,3.0nm,0.4s,baz=110,slow=1.5,SNR=3.8						
KAPI	Kappang	61.24	276	P	P	06 15 24.5	-1.1
KAPI				IAmb	IAmb	06 15 26.3	
	comp=Z,44nm,1.9s						
TOLI2	Tolitoli	62.68	283	P	P	06 15 34.1	-0.8
TOLI2				IAmb	IAmb	06 15 35.0	
	comp=Z,16nm,0.9s						
MPSI	Mapaga	63.17	282	P	P	06 15 37.4	-0.7
	comp=Z,29nm,0.9s						
BBKI	Banjar Baru	66.36	276	P	P	06 15 58.1	0.0
PCJI	Pacitan	68.11	270	P	P	06 16 08.6	-0.2
	comp=Z,117nm,0.9s						
QSPA	South Pole Qui	68.70	180	P	P	06 16 12.1	+0.5
	comp=Z,9.6nm,0.8s,baz=27,slow=2.3,SNR=21						
QSPA	South Pole Qui	68.70	180	P	P	06 16 12.6	+1.0
QSPA				IAmb	IAmb	06 16 13.2	
	comp=Z,13nm,0.9s						
UGM	Wanagama	68.82	270	P	P	06 16 12.5	-0.5
MJAR	Matsushiro Arr	70.25	325	P	P	06 16 20.6	-0.5
	comp=Z,6.4nm,0.9s,baz=155,slow=5.0,SNR=7.0						
MAT	Matsushiro	70.25	325	P	P	06 16 20.7	-0.4
JHS	Saijyo	72.03	320	P	P	06 16 32.2	+0.7
KSM	Kuching	72.42	279	P	P	06 16 33.6	-0.5
KSM				IAmb	IAmb	06 16 34.9	
	comp=Z,22nm,0.9s						
YULB	Yu-li	73.04	304	P	P	06 16 36.3	-1.2
TPUB	Ta-pu	73.50	304	P	P	06 16 39.2	-1.0
MDSI	Maura Dua	75.91	271	P	P	06 16 52.1	-1.7
	comp=Z,1μmcomp=Z,8.2nm,0.9s						
PETK	Petropavlovsk-	76.83	346	P	P	06 16 57.2	-0.7
	comp=Z,5.7nm,1.0s,baz=191,slow=3.0,SNR=4.4						
NJ2	Nanjing	79.57	310	eP	P	06 17 15.2	+2.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YBH	Yreka Blue Hor	81.68	39	P	P	06 17 25.0	+1.2
	comp=Z,5.3nm,0.9s,baz=246,slow=2.1,SNR=7.8						
YBH	Yreka Blue Hor	81.68	39	P	P	06 17 25.4	+1.6
YBH				IAmb	IAmb	06 19 21.9	
	comp=Z,40nm,1.8s						
PNTR	Pine Nut	81.99	43	P	P	06 17 26.8	+1.2
PNTR				IAmb	IAmb	06 17 27.6	
	comp=Z,16nm,0.9s						
IPM	Ipoh	82.12	278	P	P	06 17 26.6	-0.1
IPM				IAmb	IAmb	06 17 27.4	
	comp=Z,20nm,0.7s						
YERR	Yerington	82.15	43	P	P	06 17 27.2	+0.8
NVAR	Mina Array Bea	82.43	44	P	P	06 17 28.9	+1.0
	comp=Z,4.2nm,0.9s,baz=224,slow=8.9,SNR=18						
NV11	Mina Array Sit	82.53	44	P	P	06 17 28.6	+0.3
KVN	Kaiserville	82.92	43	P	P	06 17 30.6	+0.4
TPH	Tonopah	82.94	45	P	P	06 17 30.9	+0.5
TPH				IAmb	IAmb	06 17 32.1	
	comp=Z,28nm,1.0s						
MOD	Modoc Plateau	83.21	40	P	P	06 17 33.0	+1.5
MOD				IAmb	IAmb	06 18 04.8	
	comp=Z,18nm,1.7s						
K05A	Summer Lake	83.35	39	P	P	06 17 33.8	+1.4
K05A				IAmb	IAmb	06 17 34.2	
	comp=Z,15nm,1.1s						
PINE	Pine Mountain	83.97	38	P	P	06 17 36.7	+1.4
PINE				IAmb	IAmb	06 17 37.7	
	comp=Z,15nm,1.2s						
GSI	Gunungsitoli	84.15	274	P	P	06 17 36.5	-0.2
	comp=Z,48nm,1.0s						
GSI	Gunungsitoli	84.15	274	P	P	06 17 36.9	+0.2
TUC	Tucson	84.41	52	P	P	06 17 38.8	+1.2
I07A	Izee	84.97	39	P	P	06 17 41.0	+0.9
319A	Douglas	85.08	54	P	P	06 17 41.8	+0.8
J08A	Circle Bar Ran	85.16	40	P	P	06 17 41.6	+0.6
J08A				IAmb	IAmb	06 17 43.0	
	comp=Z,12nm,1.4s						
HNS	HongShan	85.30	313	⇓P	P	06 17 42.3	+0.6
HNS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
U15A	North Rim	85.38	48	P	P	06 17 43.2	+0.7
ELK	Elko	85.69	43	P	P	06 17 43.5	-0.3
	comp=Z,1.1nm,0.7s,baz=107,slow=3.9,SNR=6.2						
KAIM	Kayak Island	85.84	17	P	P	06 17 43.9	+0.2
G08A	Pilot Rock	86.00	38	P	P	06 17 46.2	+1.2
G08A				IAmb	IAmb	06 17 46.8	
	comp=Z,8.5nm,1.3s						
MTPU	Mount Pierson	86.28	47	P	P	06 17 47.1	+0.2
HAWA	Hanford	86.32	37	P	P	06 17 47.1	+0.8
HAWA				IAmb	IAmb	06 17 49.0	
	comp=Z,30nm,1.9s						
D08A	Wollman Farm,	87.05	36	P	P	06 17 50.5	+0.7
D08A				IAmb	IAmb	06 17 51.6	
	comp=Z,6.9nm,1.0s						
E09A	Wood Farm, Sta	87.17	37	IAmb	IAmb	06 17 52.4	
	comp=Z,13nm,1.3s						
SNAA	Sanae	87.17	179	P	P	06 17 48.6	-1.5
VNA3	Neumayer Olymp	87.35	177	P	P	06 17 49.6	-1.3
F10A	Beach Ranch, E	87.38	38	IAmb	IAmb	06 17 52.7	
	comp=Z,12nm,1.0s						
LL02	Futaleuf	87.50	136	P	P	06 17 52.4	+0.3
LL02				IAmb	IAmb	06 17 54.7	
	comp=Z,8.6nm,1.2s						
TMUT	Trail Mountain	87.57	46	IAmb	IAmb	06 17 55.0	
	comp=Z,10.0nm,1.3s						
B08A	Colville Reser	87.59	35	P	P	06 17 52.6	+0.3
PLID	Pearl Lake	87.60	39	P	P	06 17 52.9	+0.2
PLID				IAmb	IAmb	06 17 55.6	
	comp=Z,10nm,1.5s						
VNA2	Neumayer--Watz	87.78	177	P	P	06 17 52.1	-0.8
	baz=190,slow=3.8						
SPUT	South Promonto	87.78	44	IAmb	IAmb	06 17 55.3	
	comp=Z,8.5nm,1.3s						
HVU	Hansel Valley	87.81	43	IAmb	IAmb	06 17 55.5	
	comp=Z,9.6nm,1.3s						
SRU	San Rafael Swe	87.94	46	IAmb	IAmb	06 17 56.0	
	comp=Z,7.7nm,1.1s						
VNA1	Neumayer--Stat	88.01	177	P	P	06 17 53.7	-0.2
TX31	Lajitas Ar. Si	88.48	58	IAmb	IAmb	06 17 59.3	
	comp=Z,16nm,0.9s						
TX32	Lajitas Array	88.48	58	IAmb	IAmb	06 17 59.3	
	comp=Z,5.3nm,0.9s						
TXAR	Lajitas Array	88.48	58	P	P	06 17 58.3	+1.3
	comp=Z,3.5nm,0.8s,baz=214,slow=5.9,SNR=32						
TXAR				pP	pwP	06 20 11.1	+1.9
	comp=Z,0.8nm,0.9s,baz=202,slow=6.3,SNR=4.3						
ANMO	Albuquerque	88.83	52	P	P	06 17 58.3	-0.3
	comp=Z,2.9nm,1.0s,baz=194,slow=5.8,SNR=6.3						
ANMO	Albuquerque	88.83	52	P	P	06 17 59.1	+0.5
HHC	Hu-ho-hao-te	89.15	315	eP	P	06 18 02.9	+3.0
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,160nm,5.8s						
CMAR	Chiang Mai Arr	89.34	290	P	P	06 18 02.7	+1.6
	comp=Z,6.1nm,0.8s,baz=132,slow=3.3,SNR=35						
CMAR				pP	pwP	06 20 16.6	+2.5
	comp=Z,1.3nm,0.2s,baz=124,slow=2.8,SNR=4.4						
CMAR	Chiang Mai Arr	89.34	290	P	P	06 18 01.9	+0.8
AHID	Auburn Hatcher	89.38	43	P	P	06 18 01.3	+0.3
AHID				IAmb	IAmb	06 18 03.6	
	comp=Z,5.7nm,1.1s						
ILAR	Eielson Array	89.41	13	P	P	06 17 59.8	-0.5
	comp=Z,0.2nm,0.4s,baz=205,slow=5.8,SNR=2.0						
PLCA	Paso Flores	89.49	134	P	P	06 18 01.5	-0.1
	comp=Z,2.5nm,0.8s,baz=241,slow=5.3,SNR=5.6						
DLMT	Dillon	89.78	40	P	P	06 18 02.3	-0.4
REDW	Red Top Meadow	89.84	43	P	P	06 18 04.0	+0.8
REDW				IAmb	IAmb	06 18 04.7	
	comp=Z,7.0nm,1.1s						
PZH	PanZhiHua	90.12	298	P	P	06 18 06.6	+1.9
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,5.7s						
BW06	Boulder Array	90.37	44	P	P	06 18 05.7	+0.1
PD31	Pinedale Array	90.37	44	P	P	06 18 05.2	-0.4
PDAR	Pinedale Array	90.37	44	P	P	06 18 05.5	-0.1
	comp=Z,2.6nm,1.0s,baz=206,slow=2.8,SNR=14						
ARCES	ARCESS Array B	129.56	349	PKP	PKPdf	06 24 07.7	-0.3
	comp=Z,0.5nm,0.5s,baz=14,slow=1.4,SNR=7.1						
AKASG	Malin Array Be	143.21	330	PKhKP	PKPpre	06 24 30.4	
	comp=Z,6.6nm,0.6s,baz=42,slow=4.4,SNR=55						
AKASG				SKPbc	SKPbc	06 27 14.7	-1.2
	comp=Z,0.5nm,0.5s,baz=36,slow=3.0,SNR=4.1						
AKASG	Malin Array Be	143.21	330		PKPab	06 24 30.9	-0.9
AKBB	Malin Array Si	143.21	330		PKPab	06 24 30.6	-1.1
MBAR	Mbarara	143.49	237		PKPbc	06 24 34.4	0.0
SORM	Soroca	145.33	327	⇑P	PKPdf	06 24 37.0	-0.3
BRTR	Keskin Array B	146.56	311	PKPbc	PKPbc	06 24 41.2	-1.3
	comp=Z,1.9nm,0.5s,baz=138,slow=5.3,SNR=4.9						
BURAR	Bucovina Array	147.24	329	⇑P	PKPbc	06 24 44.3	+0.3
LANS	Liptovska Anna	148.54	336	ePKP	PKiKP	06 24 48.0	-0.2
DPC	Dobruska-Polom	148.59	341	⇑ePKP	PKPbc	06 24 47.3	+0.1
DPC				ePKPAB	PKPab	06 24 52.7	-0.5
KRLC	Kraliky	148.69	340	⇑ePKP	PKPbc	06 24 47.4	-0.1
VOIR		148.82	326	⇑P	PKPab	06 24 54.4	0.0
ARR	Arges	149.08	326	⇑P	PKiKP	06 24 49.3	-0.2
TREC	Trest	149.78	341	⇑ePKP	PKPbc	06 24 49.4	-0.7
TREC				ePKPAB	PKPab	06 24 57.3	-0.9
BZS	Buzias	150.40	330	⇑P	PKPbc	06 24 50.1	-1.5
KHC	Kasperske Hory	150.48	343	⇑ePKP	PKPbc	06 24 51.5	-0.2
KHC				ePKPAB	PKPab	06 25 01.2	+0.1
CKRC	Cesky Krumlov	150.55	342	⇑ePKP	PKPbc	06 24 51.8	-0.1
GERES	GERESS Array B	150.71	342	PKPbc	PKPbc	06 24 50.8	-1.6
	comp=Z,0.8nm,0.6s,baz=15,slow=1.5,SNR=6.9						
FRGS	Fruska Gora	151.58	331	⇑P	PKPbc	06 24 53.4	-0.9
TORD	Torodi Ar. Bea	171.78	186	PKPab	PKPab	06 26 33.6	-1.1
	comp=Z,0.2nm,0.4s,baz=145,slow=3.5,SNR=2.8						

*IDC **07** 06:07:44.2±0.8,30°.37S×177°.73W,h0km,mb4.6/7, mb1 4.7/8,mb1mx4.2/31,mbtmp4.5/8,ML3.8/1,MS3.5/6, Ms1 3.5/6,ms1mx3.1/60,Error ellipse: s-maj=26.0km s-min=19.2km az=113.0*

ISC 07 06:07:45.5±0.8,30°.39S±0°.06×177°.8W±0°.2,h10km,n39, σ1§52/23,mb4.6/7,MS3.5/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.14	355	Pn	Pn	06 08 07.2	-0.3
	404nm,0.3s,baz=49,slow=16,SNR=18						
RAO				Sn	Sb	06 08 19.7	-2.3
	2μm,0.3s,baz=108,slow=20,SNR=13						
RAO	Raoul Island	1.14	355	P	Pg	06 08 07.0	-0.3
URZ	Urewera	8.90	207	Pn	Pn	06 09 53.8	-0.4
	1.1nm,0.3s,baz=121,slow=24,SNR=1.3						
URZ				Sn	Sn	06 11 30.4	-4.1
	2.9nm,0.3s,baz=118,slow=23,SNR=6.7						
MSVF	Nonsavu	13.15	342	LR	LR	06 15 07.8	
	comp=Z,139nm,19.4s,baz=192,slow=34						
DZM	Mont Dzumac	16.36	297	LR	LR	06 16 46.4	
	comp=Z,151nm,18.7s,baz=199,slow=33						
DZM	Mont Dzumac	16.36	297	ePn	Pn	06 11 20.0	-16
	49nm,1.4s						
DZM				eLR	LR	06 15 22.8	
	comp=Z,296nm,24.4s						
TBI	Tubuai	26.20	81	eLR	LR	06 19 23.5	
	comp=Z,150nm,29.8s						
PPT2	Papeete2	28.68	70	eLR	LR	06 20 46.1	
	comp=Z,158nm,24.8s						
CTA	Charters Tower	33.96	279	P	P	06 14 31.1	+1.7
	10nm,0.4s,baz=104,slow=11,SNR=16						
STKA	Stephens Creek	34.64	257	P	P	06 14 36.8	+1.6
	14nm,0.7s,baz=85,slow=9.2,SNR=13						
STKA				LR	LR	06 27 45.0	
	comp=Z,121nm,18.2s,baz=318,slow=35						
ASAR	Alice Springs	43.27	267	P	P	06 15 47.6	+0.1
	3.4nm,0.4s,baz=106,slow=7.1,SNR=12						
ASAR				PcP	PcP	06 17 38.9	+2.3
	0.5nm,0.5s,baz=118,slow=3.5,SNR=2.7						
WRA	Warramunga Arr	44.26	272	P	P	06 15 55.4	-0.2
	6.3nm,0.4s,baz=111,slow=7.7,SNR=26						
GUMO	Guam	56.59	315	LR	LR	06 38 28.2	
	comp=Z,35nm,22.0s,baz=97,slow=33						
RPN	Rapa Nui	59.28	105	LR	LR	06 38 57.0	
	comp=Z,21nm,18.8s,baz=242,slow=32						
QSPA	South Pole Qui	59.72	180	P	P	06 17 51.5	+1.2
	0.6nm,0.3s,baz=39,slow=3.4,SNR=1.5						
H03S2	Juan Fernandez	80.33	123	T	T	07 49 08.3	
	baz=238,SNR=25						
H03S1	Juan Fernandez	80.35	123	T	T	07 49 09.5	
	baz=238,SNR=8.8						
H03S3	Juan Fernandez	80.35	123	T	T	07 49 08.4	
	baz=238,SNR=6.2						
H03N3	Juan Fernandez	80.53	123	T	T	07 49 18.2	
	baz=242,slow=72,SNR=13						
H03N2	Juan Fernandez	80.53	123	T	T	07 49 21.3	
	baz=242,slow=72,SNR=12						
H03N1	Juan Fernandez	80.54	123	T	T	07 49 27.6	
	baz=242,slow=72,SNR=6.1						
PETK	Petropavlovsk-	85.84	345	P	P	06 20 25.8	+0.9
	2.7nm,0.6s,baz=112,slow=7.9,SNR=9.8						
NVAR	Mina Array Bea	88.12	43	P	P	06 20 36.8	+0.2
	0.3nm,0.6s,baz=230,slow=7.0,SNR=1.5						
ELK	Elko	91.42	42	LR	LR	06 56 38.3	
	comp=Z,74nm,18.1s,baz=18,slow=32						
MKAR	Makanchi Array	117.89	310	PKP	PKPdf	06 26 30.3	-1.8
	0.3nm,0.7s,baz=299,slow=1.0,SNR=2.7						
H10S2	ASCENSION HYDR	137.67	155	T	T	09 01 21.2	
	baz=204,slow=74,SNR=14						
H10S3	ASCENSION HYDR	137.67	155	T	T	09 01 21.3	
	baz=16,slow=74,SNR=13						
ARCES	ARCESS Array B	138.61	348	PKP	PKiKP	06 27 12.7	-0.2
	1.6nm,0.6s,baz=48,slow=1.8,SNR=7.2						
H10N3	ASCENSION HYDR	138.75	154	T	T	09 03 01.2	
	baz=203,slow=75,SNR=24						
H10N1	ASCENSION HYDR	138.75	154	T	T	09 03 01.6	
	baz=203,slow=75,SNR=15						
H10N2	ASCENSION HYDR	138.77	154	T	T	09 03 01.8	
	baz=203,slow=75,SNR=15						
FINES	FINESS Array B	145.19	340	PKPbc	PKPbc	06 27 20.7	-1.5
	12nm,0.5s,baz=61,slow=3.4,SNR=18						
KBZ	Khabaz	145.24	304	PKPbc	PKPbc	06 27 22.6	-0.4
	4.0nm,1.0s,baz=178,slow=6.8,SNR=5.8						
NB2	NORSAR Subarra	148.76	352	PKP	PKiKP	06 27 34.6	+0.6
	comp=Z,1.4nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.76	352	PKPbc	PKiKP	06 27 33.8	-0.2
	comp=Z,2.0nm,0.6s,baz=16,slow=4.3,SNR=12						
AKASG	Malin Array Be	151.39	323	PKPbc	PKPbc	06 27 37.7	-1.4
	comp=Z,5.1nm,0.6s,baz=46,slow=2.6,SNR=15						
BRTR	Keskin Array B	152.74	299	PKPbc	PKiKP	06 27 44.1	+1.1
	comp=Z,2.3nm,0.6s,baz=130,slow=5.9,SNR=4.6						
GERES	GERESS Array B	159.59	338	PKPab	PKPab	06 28 23.2	+0.6
	comp=Z,0.3nm,0.3s,baz=33,slow=5.1,SNR=4.1						
TORD	Torodi Ar. Bea	162.84	178	PKPab	PKPab	06 28 36.8	-0.6
	comp=Z,0.6nm,0.4s,baz=216,slow=3.3,SNR=3.8						

*SOME **07** 06:12:52.7,39°.60N×73°.52E,h15km*

*KRNET **07** 06:12:53.5±0.1,39°.51N×73°.60E,h10km,mb3.7*

*ISU **07** 06:12:53,39°.55N×73°.60E,h5km*

*NNC **07** 06:12:56.6±2.3,39°.66N×73°.71E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=17.9km s-min=10.4km az=170.0*

ISC 07 06:12:53.1±1.5,39°.68N±0°.05×73°.55E±0°.03,h2km±9km, n57,σ2§08/88,14C-16D,Tajikistan-Xinjiang border region

| Code | Station Name | Δ° | A

YBZ				eS		Sg	06 14 40.0	-3.2
TKM2	**Tokmak 2**	**3.58**	**25**	⇓Pn		**Pb**	**06 13 55.5**	**-1.7**
	10nm,0.6s							
TKM2				⇓Lg		Lg	06 14 51.5	
	31nm,0.9s							
IUG	**Iuzhnay**	**3.63**	**314**	eP		**Pb**	**06 13 57.0**	**-1.0**
	206nm,0.2s							
IUG				eS		**Sb**	**06 14 43.2**	**+0.8**
	94nm,0.5s							
IUG	**Iuzhnay**	**3.63**	**314**	Pg		**Pb**	**06 13 55.5**	**-2.5**
	199nm,0.3s							
IUG				Lg		Lg	06 14 43.2	
	94nm,0.5s							
USP	**Ospenovka**	**3.65**	**11**	P		**Pb**	**06 13 57.0**	**-1.3**
	SNR=5.6							
KST	**Kastek**	**3.82**	**28**	eP		**Pg**	**06 14 06.0**	**-0.3**
	10nm,0.6s							
KST				eS		**Sg**	**06 14 58.5**	**+2.8**
	28nm,1.0s							
KST	**Kastek**	**3.82**	**28**	Pg		**Pg**	**06 14 03.5**	**-2.7**
	10nm,0.6s							
KST				Lg		Lg	06 14 56.9	
	28nm,1.0s							
SGDS	**Sogindy**	**3.85**	**12**	eP		**Pg**	**06 14 06.4**	**-0.5**
	6.1nm,0.5s							
SGDS				eS		**Sg**	**06 14 59.0**	**+2.2**
	11nm,0.1s							
DGS	**Degeres**	**3.93**	**24**	eP		**Pg**	**06 14 08.0**	**-0.4**
	12nm,0.6s							
DGS				eS		**Sg**	**06 15 02.4**	**+3.1**
	30nm,0.6s							
DGS	**Degeres**	**3.93**	**24**	Pg		**Pg**	**06 14 06.5**	**-1.9**
	12nm,0.6s							
DGS				Lg		Lg	06 15 02.4	
	30nm,0.6s							
IZV	**Izvestkoviy**	**4.07**	**34**	eP		**Pg**	**06 14 10.3**	**-0.7**
	11nm,0.6s							
IZV				eS		**Sg**	**06 15 06.5**	**+2.7**
	34nm,0.5s							
IZV	**Izvestkoviy**	**4.07**	**34**	Pg		**Pg**	**06 14 09.1**	**-1.9**
	11nm,0.6s							
IZV				Lg		Lg	06 15 06.5	
	34nm,0.5s							
MTBS	**Maitube**	**4.07**	**31**	eP		**Pg**	**06 14 09.6**	**-1.5**
	9.8nm,0.5s							
MTBS				eS		**Sg**	**06 15 04.2**	**+0.4**
	19nm,0.6s							
MTBS	**Maitube**	**4.07**	**31**	Pg		**Pg**	**06 14 08.0**	**-3.1**
	9.8nm,0.5s							
MTBS				Lg		Lg	06 15 04.2	
	19nm,0.6s							
KK02	**Karatay Array**	**4.11**	**327**	⇑Pn		Pb	06 14 01.2	-4.9
	6.7nm,0.5s							
KK02				⇓Sn		**Sb**	**06 14 54.9**	**-1.4**
	9.1nm,0.5s							
KK02				⇑Lg		Lg	06 15 06.0	
	14nm,0.6s							
TNSS	**Tian-Shan**	**4.21**	**36**	eP		**Pg**	**06 14 13.4**	**-0.5**
	5.2nm,0.5s							
TNSS				eS		**Sg**	**06 15 11.5**	**+2.9**
	10nm,0.6s							
TNSS	**Tian-Shan**	**4.21**	**36**	Pg		**Pg**	**06 14 12.1**	**-1.7**
	5.2nm,0.5s							
TNSS				Lg		Lg	06 15 11.5	
	10nm,0.6s							
KRBS	**Karabastau**	**4.31**	**21**	eP		**Pg**	**06 14 15.5**	**-0.3**
	8.0nm,0.5s							
KRBS				eS		**Sg**	**06 15 14.7**	**+3.0**
	8.1nm,0.4s							
KRBS	**Karabastau**	**4.31**	**21**	Pg		**Pg**	**06 14 14.1**	**-1.7**
	8.0nm,0.5s							
KRBS				Lg		Lg	06 15 14.7	
	8.1nm,0.4s							
BRLS	**Borolday**	**4.36**	**321**	eP		**Pb**	**06 14 09.6**	**-0.8**
	2.0nm,0.3s							
BRLS				eS		**Sb**	**06 15 05.0**	**+1.7**
	8.0nm,0.5s							
BRLS	**Borolday**	**4.36**	**321**	Pg		**Pb**	**06 14 08.1**	**-2.2**
	2.7nm,0.2s							
BRLS				Lg		Lg	06 15 05.0	
	8.0nm,0.5s							
MDOK	**Medeo**	**4.36**	**36**	eP		**Pg**	**06 14 15.1**	**-1.6**
	4.5nm,0.5s							
MDOK				eS		**Sg**	**06 15 13.8**	**+0.7**
	19nm,0.3s							
MDOK	**Medeo**	**4.36**	**36**	⇑Pg		**Pg**	**06 14 15.4**	**-1.3**
	8.8nm,0.6s							
MDOK				Lg		Lg	06 15 16.4	
	16nm,0.7s							
MDOK	**Medeo**	**4.36**	**36**	Pg		**Pg**	**06 14 13.4**	**-3.2**
	4.5nm,0.5s							
MDOK				Lg		Lg	06 15 13.8	
	19nm,0.8s							
KNDC	**Almaty**	**4.37**	**35**	⇑Pg		**Pg**	**06 14 15.9**	**-0.9**
	26nm,0.6s							
KNDC				⇑Lg		Lg	06 15 16.8	
	31nm,0.6s							
KOTS	**Kotyrbulak**	**4.44**	**36**	eP		**Pg**	**06 14 17.1**	**-1.2**
	5.4nm,0.5s							
KOTS				eS		**Sg**	**06 15 17.8**	**+1.9**
	71nm,0.7s							
KOTS	**Kotyrbulak**	**4.44**	**36**	Pg		**Pg**	**06 14 14.8**	**-3.4**
	5.4nm,0.5s							
KOTS				Lg		Lg	06 15 16.7	
	71nm,0.7s							
KTBS	**Karatobe**	**4.66**	**29**	eP		**Pg**	**06 14 21.1**	**-1.2**
	6.4nm,0.7s							
KTBS				eS		**Sg**	**06 15 24.2**	**+1.5**
	44nm,0.6s							
KTBS	**Karatobe**	**4.66**	**29**	Pg		**Pg**	**06 14 19.7**	**-2.7**
	6.4nm,0.7s							
KTBS				Lg		Lg	06 15 24.2	
	44nm,0.6s							
KUU	**Kurty**	**4.70**	**25**	eP		**Pg**	**06 14 21.7**	**-1.4**
	5.1nm,0.7s							
KUU				eS		**Sg**	**06 15 24.9**	**+1.0**
	24nm,0.7s							
KUU	**Kurty**	**4.70**	**25**	Pg		**Pg**	**06 14 19.8**	**-3.2**
	5.1nm,0.7s							
KUU				Lg		Lg	06 15 24.9	
	24nm,0.7s							
BTLS	**Baital**	**5.37**	**4**	eP		**Pg**	**06 14 34.1**	**-1.7**
	2.2nm,0.3s							
BTLS				eS		**Sg**	**06 15 46.8**	**+1.4**
	7.2nm,0.3s							
AB31	**Akbulak array**	**13.62**	**319**	⇓Pn		P	06 16 10.1	-6.1
	0.6nm,0.6s,baz=133,slow=11,SNR=11							
AB31				⇓Sn		**Sn**	**06 18 44.8**	**+6.0**
	0.5nm,0.5s,baz=128,slow=26,SNR=3.7							
AKTO	**Aktyubinsk**	**15.33**	**320**	⇓Pn		**P**	**06 16 36.0**	**+0.8**
	2.9nm,1.1s							
AKTO				⇑Sn		**S**	**06 19 30.6**	**-6.7**
	0.9nm,0.8s							

*TUL **07** 06:20:18.4±1.1, 36°.47N±0°.01×98°.74W±0°.02, h7km±7km, ML2.7, mb_Lg2.6/23(NEIC), Error ellipse: s-maj=2.8km s-min=2.0km az=128.0*

NEIC 07 06:20:18.4±1.1, 36°.47N±0°.01×98°.74W±0°.02, h13km±2km, Error ellipse: s-maj=2.9km s-min=1.1km az=115.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.23**	**247**	Pg	Pg	06 20 23.4	0.0
U32A				Sg	Sg	06 20 27.1	+0.4
OK035	**E0210 Rd and N**	**0.24**	**6**	Pg	Pg	06 20 23.4	-0.1
OK035				Sg	Sg	06 20 27.1	+0.1
CROK	**Carrier**	**0.61**	**86**	Pg	Pg	06 20 30.2	-0.1
CROK				Sg	Sg	06 20 38.7	+0.3
KAN14	**Manchester OK**	**0.79**	**52**		Pg	06 20 33.4	-0.4
KAN14				Sg	Sg	06 20 44.2	+0.1
GC02	**Grant County #**	**0.80**	**61**	Pg	Pg	06 20 33.6	-0.4
GC02				Sg	Sg	06 20 44.6	+0.1
KAN10	**Anthony SW Sta**	**0.83**	**38**	Pg	Pg	06 20 34.1	-0.5
KAN16	**Harper SW Stat**	**0.93**	**35**	Pg	Pg	06 20 35.8	-0.5
KAN05	**Bluff City Nor**	**0.94**	**47**	Pg	Pg	06 20 36.2	-0.4
KAN17	**Caldwell West**	**0.97**	**53**		Pb	06 20 36.6	-0.6
KAN08	**Anthony NE Sta**	**0.97**	**39**	Pg	Pb	06 20 36.6	-0.6
KAN12	**Harper NE Stat**	**1.02**	**35**	Pg	Pb	06 20 37.6	-0.3
KAN01	**Argonia South**	**1.04**	**49**		Pb	06 20 37.9	-0.4
KAN06	**Argonia West S**	**1.05**	**42**	Pg	Pb	06 20 38.1	-0.4
KAN13	**South Haven SW**	**1.15**	**61**		Pb	06 20 39.8	-0.4
BCOK	**Bluff Creek, N**	**1.22**	**131**		Pn	06 20 41.2	-0.1
BLOK	**Blackwell**	**1.26**	**76**	Pn	Pn	06 20 41.7	-0.1
OK025	**Westminster Rd**	**1.44**	**128**		Pb	06 20 44.9	-0.2
OKCFA	**Oklahoma City**	**1.48**	**135**		Pb	06 20 45.4	-0.5
OKCSW	**OKLAHOMA CITY**	**1.50**	**135**		Pn	06 20 45.1	+0.1
OK031	**S. Brethren Rd**	**1.62**	**108**	Pn	Pb	06 20 47.6	-0.6
FNO	**Franklin**	**1.63**	**138**	Pn	Pb	06 20 48.1	-0.2
QUOK	**Quay**	**1.67**	**100**	Pn	Pb	06 20 48.3	-0.7
WMOK	**Wichita Mounta**	**1.73**	**181**		Pb	06 20 49.2	-0.9
T35A	**Sooner Cattle**	**1.84**	**75**		Pb	06 20 51.3	-0.8
T35A				IAmb_Lg		06 21 16.9	
	comp=Z,25nm,0.9s						
TUL1	**Leonard**	**2.45**	**102**	Pn	Pn	06 20 59.4	+1.3
AMTX	**Amarillo**	**2.87**	**237**	IAmb_Lg		06 21 51.3	
	comp=Z,16nm,0.7s						
X37A	**Clayton**	**3.33**	**123**	Pn	Pn	06 21 10.9	+0.7
X37A				IAmb_Lg		06 22 11.7	
	comp=Z,23nm,1.0s						
U38A	**Gravette**	**3.51**	**89**	IAmb_Lg		06 22 15.0	
	comp=Z,17nm,0.7s						
MSTX	**Muleshoe**	**4.14**	**234**	IAmb_Lg		06 22 33.2	
	comp=Z,8.5nm,1.0s						
S39A	**Bolivar**	**4.50**	**73**	IAmb_Lg		06 22 44.6	
	comp=Z,10nm,0.7s						
U40A	**Yellville**	**4.75**	**90**	IAmb_Lg		06 22 59.3	
	comp=Z,10nm,0.8s						
MGMO	**Mountain Grove**	**5.24**	**81**	IAmb_Lg		06 23 03.9	
	comp=Z,8.7nm,0.7s						
N38A	**Joes South For**	**6.10**	**43**	IAmb_Lg		06 23 38.4	
	comp=Z,12nm,0.7s						
LCAR	**Lake Charles**	**6.14**	**91**	IAmb_Lg		06 23 33.1	
	comp=Z,7.8nm,0.9s						
K31A	**O'Neill**	**6.14**	**360**	IAmb_Lg		06 23 41.1	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**6.18**	**73**	IAmb_Lg		06 23 32.8	
	comp=Z,7.9nm,0.8s						
PBMO	**Poplar Bluff**	**6.69**	**85**	IAmb_Lg		06 23 52.4	
	comp=Z,8.2nm,0.8s						

*PGC **07** 06:37:26.6±0.6, 58°.79N×142°.49W, h10km, ML2.6, ML3.0/1, 180km west of Yakutat, Ak Gulf Of Alaska*

*NEIC **07** 06:37:27.9±1.1, 58°.71N±0°.08×142°.58W±0°.09, h34km±12km, Error ellipse: s-maj=11.2km s-min=6.6km az=185.0*

*AEIC **07** 06:37:28.4±1.0, 58°.67N±0°.06×142°.66W±0°.07, h1km±7km, ML2.5/75, ML2.9/75(NEIC), Error ellipse: s-maj=9.5km s-min=5.2km az=168.0*

ISC 07 06:37:27.4±1.3, 58°.68N±0°.07×142°.59W±0°.05, h50km±43km, n97, σ0°86/122, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYK	**Cape Yakataga**	**1.41**	**2**		**Pn**	**06 37 50.8**	**+0.2**
CYK					**Sn**	**06 38 07.0**	**-1.0**
BGLC	**Bering Glacier**	**1.49**	**347**		**Pn**	**06 37 52.1**	**+0.4**
SNH	**Sunshine Point**	**1.51**	**355**		**Pn**	**06 37 52.1**	**0.0**
SNH				IAML		06 38 06.0	
	comp=E,99nm,2.8s						
SNH					**Sn**	**06 38 10.4**	**-0.2**
SNH				IAML		06 38 19.1	
	comp=N,152nm,2.2s						
SUCK	**Suckling Hills**	**1.52**	**337**		**Pn**	**06 37 52.5**	**+0.3**
SUCK					**Sn**	**06 38 12.2**	**+1.3**
SUCK				IAML		06 38 23.3	
	comp=E,103nm,0.6s						
SUCK				IAML		06 38 23.0	
	comp=N,123nm,0.6s						
MESA	**MESA**	**1.54**	**12**		**Pn**	**06 37 52.8**	**+0.1**
MESA				IAML		06 38 15.6	
	comp=N,197nm,0.4s						
MESA				IAML		06 38 16.3	
	comp=E,140nm,0.5s						
MESA	**MESA**	**1.54**	**12**	Pn	**Pn**	**06 37 52.7**	**0.0**
MESA				Sn	**Sn**	**06 38 10.9**	**-0.7**
KAIM	**Kayak Island**	**1.56**	**324**		**Pn**	**06 37 53.0**	**+0.2**
KAIM				IAML		06 38 17.5	
	comp=N,184nm,2.6s						
KAIM				IAML		06 38 18.4	
	comp=E,178nm,2.1s						
CHX	**Chaix Hills**	**1.58**	**28**		**Pn**	**06 37 53.8**	**+0.7**
GRIN	**Grindle Hills**	**1.65**	**347**		**Pn**	**06 37 54.2**	**+0.3**
NICHA	**Nichawak Mount**	**1.71**	**336**		**Pn**	**06 37 54.8**	**0.0**
YKU2	**Yakutat**	**1.73**	**60**		**Pn**	**06 37 55.7**	**+0.8**
SAMH	**Samovar Hills**	**1.73**	**32**		**Pn**	**06 37 55.8**	**+0.7**
SAMH					**Sn**	**06 38 15.8**	**-0.2**
SAMH	**Samovar Hills**	**1.73**	**32**	Pn	**Pn**	**06 37 55.7**	**+0.7**
SAMH				Sn	**Sn**	**06 38 15.3**	**-0.7**
YAH	**Yahtse**	**1.75**	**14**		**Pn**	**06 37 55.7**	**+0.2**
WAX	**Waxell Ridge**	**1.78**	**356**		**Pn**	**06 37 55.5**	**-0.3**
WAX				IAML		06 38 37.9	
	comp=N,61nm,1.5s						
KHIT	**Khitrov Hills**	**1.80**	**350**		**Pn**	**06 37 56.0**	**-0.1**
KHIT					**Sn**	**06 38 17.1**	**-0.7**
BERG	**Berg Lake**	**1.81**	**342**		**Pn**	**06 37 55.8**	**-0.3**
BERG				IAML		06 38 30.4	
	comp=E,83nm,0.5s						
BAGL	**Bagley Icefiel**	**1.84**	**8**		**Pn**	**06 37 56.5**	**+0.1**
PCA	**Pinnacle**	**1.86**	**39**		**Pn**	**06 37 57.2**	**+0.3**
PCA	**Pinnacle**	**1.86**	**39**	Pn	**Pn**	**06 37 57.2**	**+0.3**
PCA				Sn	**Sn**	**06 38 18.0**	**-1.2**
HMT	**Hamilton**	**1.87**	**334**		**Pn**	**06 37 56.7**	**-0.3**
HMT				IAML		06 38 28.4	
	comp=N,96nm,1.7s						
HMT				IAML		06 38 29.3	
	comp=E,109nm,2.1s						
TABL	**Table Mountain**	**1.92**	**22**		**Pn**	**06 37 58.4**	**+0.7**
TABL				IAML		06 38 22.9	
	comp=N,82nm,0.5s						
TABL	**Table Mountain**	**1.92**	**22**	Pn	**Pn**	**06 37 58.3**	**+0.5**
TABL				Sn	**Sn**	**06 38 20.3**	**-0.5**
PNL	**Peninsula**	**1.92**	**57**		**Pn**	**06 37 57.8**	**+0.2**
PNL	**Peninsula**	**1.92**	**57**	Pn	**Pn**	**06 37 57.9**	**+0.2**
ISLE	**Juniper Island**	**1.94**	**4**		**Pn**	**06 37 57.7**	**-0.2**
ISLE				IAML		06 38 34.6	
	comp=N,58nm,2.4s						
BCPM	**Bancas Point**	**1.98**	**49**		**Pn**	**06 37 58.8**	**+0.3**
BCPM				IAML		06 38 25.2	
	comp=N,74nm,0.2s						
BCPM				IAML		06 38 57.7	
	comp=E,85nm,0.4s						
RAGM	**Ragged Mountai**	**2.02**	**329**		**Pn**	**06 37 58.8**	**-0.2**
RAGM				IAML		06 38 24.0	
	comp=E,99nm,0.7s						
TGL	**Tana Glacier**	**2.09**	**357**		**Pn**	**06 37 59.9**	**-0.1**
GRNC	**Granite Creek**	**2.10**	**11**		**Pn**	**06 38 00.5**	**+0.2**
GRNC				IAML		06 38 25.9	
	comp=E,60nm,0.5s						
GRNC				IAML		06 38 26.3	
	comp=N,45nm,0.7s						
GRNC	**Granite Creek**	**2.10**	**11**	Pn	**Pn**	**06 38 00.7**	**+0.3**
GRNC				Sn	**Sn**	**06 38 24.2**	**-1.2**
GOAT	**Goat Mountain**	**2.20**	**331**		**Pn**	**06 38 01.0**	**-0.5**
KIAG	**Kiagna River**	**2.26**	**3**		**Pn**	**06 38 02.5**	**+0.1**
KIAG					**Sn**	**06 38 28.2**	**-0.9**
KIAG	**Kiagna River**	**2.26**	**3**	Pn	**Pn**	**06 38 02.5**	**+0.1**
KIAG				Sn	**Sn**	**06 38 27.5**	**-1.6**
LOGN	**Logan Glacier**	**2.30**	**20**		**Pn**	**06 38 03.4**	**+0.4**
LOGN					**Sn**	**06 38 29.2**	**-0.9**
LOGN				IAML		06 38 31.1	
	comp=E,83nm,0.6s						
LOGN	**Logan Glacier**	**2.30**	**20**	Pn	**Pn**	**06 38 03.2**	**+0.3**
LOGN				Sn	**Sn**	**06 38 29.1**	**-1.0**
BALM	**Baldy**	**2.37**	**3**		**Pn**	**06 38 04.0**	**+0.1**
BALM	**Baldy**	**2.37**	**3**	Pn	**Pn**	**06 38 04.0**	**+0.1**
BALM				Sn	**Sn**	**06 38 31.0**	**-0.7**
CTGM	**Chitina Glacie**	**2.38**	**15**		**Pn**	**06 38 04.3**	**+0.3**
CTGM					**Sn**	**06 38 31.6**	**-0.5**
CTGM	**Chitina Glacie**	**2.38**	**15**	Pn	**Pn**	**06 38 04.3**	**+0.3**
CTGM				Sn	**Sn**	**06 38 31.1**	**-1.0**
BARN	**Barnard Glacie**	**2.44**	**11**		**Pn**	**06 38 04.9**	**+0.1**
BARN				IAML		06 38 34.4	
	comp=E,32nm,0.7s						
EYAK	**Cordova Ski Ar**	**2.47**	**321**		**Pn**	**06 38 04.4**	**-0.7**
BMRM	**Bremner River**	**2.51**	**337**		**Pn**	**06 38 05.2**	**-0.6**
PTPK	**Patty Peak**	**2.52**	**1**		**Pn**	**06 38 06.5**	**+0.5**
PTPK					**Sn**	**06 38 35.4**	**-0.1**
PTPK	**Patty Peak**	**2.52**	**1**	Pn	**Pn**	**06 38 06.4**	**+0.4**
PTPK				Sn	**Sn**	**06 38 35.4**	**-0.1**
VRDI	**Verde Repeater**	**2.59**	**351**		**Pn**	**06 38 06.8**	**-0.2**
GLB	**Gilahina Butte**	**2.84**	**348**		**Pn**	**06 38 10.0**	**-0.2**
DIV	**Divide**	**2.94**	**328**		**Pn**	**06 38 11.3**	**-0.3**
DIV	**Divide**	**2.94**	**328**	Pn	**Pn**	**06 38 11.4**	**-0.1**
PS12	**TAPS Pump St12**	**3.08**	**337**		**Pn**	**06 38 13.8**	**+0.3**
N25K	**Chitina, Valde**	**3.10**	**342**		**Pn**	**06 38 13.5**	**-0.4**
GLI	**Glacier Island**	**3.17**	**316**		**Pn**	**06 38 14.1**	**-0.7**
GLI				IAML		06 38 56.7	
	comp=E,36nm,2.8s						
GLI				IAML		06 40 10.9	
	comp=N,33nm,1.8s						
YUK2	**White River**	**3.24**	**15**	Pn	**Pn**	**06 38 16.6**	**+0.8**
YUK2				Sn	**Sn**	**06 38 52.5**	**-0.6**
KLU	**Klutina**	**3.28**	**331**		**Pn**	**06 38 16.3**	**0.0**
KLU				IAML		06 39 35.6	
	comp=E,17nm,3.8s						
KLU				IAML		06 40 14.9	
	comp=N,18nm,3.5s						
YUK3	**Moose Creek**	**3.29**	**18**	Pn	**Pn**	**06 38 17.7**	**+1.2**
YUK3				Sn	**Sn**	**06 38 53.6**	**-0.8**
PWL	**Port Wells**	**3.64**	**309**		**Pn**	**06 38 20.8**	**-0.3**
PWL				IAML		06 39 46.4	
	comp=N,31nm,3.8s						
PWL				IAML		06 40 09.9	
	comp=E,33nm,3.5s						
M27K	**Edge Creek, AK**	**3.71**	**5**		**Pn**	**06 38 23.2**	**+1.0**
M27K				IAML		06 40 50.7	
	comp=E,15nm,3.6s						
M27K				IAML		06 40 51.9	
	comp=N,16nm,3.5s						
M26K	**Nabesna, AK**	**3.74**	**357**		**Pn**	**06 38 23.7**	**+1.1**
M26K				IAML		06 39 01.9	
	comp=N,16nm,4.7s						
M26K				IAML		06 39 04.4	
	comp=E,10nm,4.4s						
BVCY	**Beaver Creek**	**3.85**	**12**	Pn	**Pn**	**06 38 25.1**	**+1.1**
BVCY				Sn	**Sn**	**06 39 06.5**	**-1.4**
M24K	**Tolsona, Glenn**	**3.87**	**334**	Pn	**Pn**	**06 38 25.2**	**+0.8**
SCM	**Sheep Creek Mo**	**3.95**	**325**		**Pn**	**06 38 25.5**	**0.0**
KNK	**Knik Glacier**	**4.02**	**316**		**Pn**	**06 38 26.6**	**+0.1**
KNK				IAML		06 39 00.5	
	comp=N,17nm,4.1s						
KNK				IAML		06 39 15.2	
	comp=E,21nm,1.7s						
BESE	**Bessie Mountai**	**4.05**	**88**		**Pn**	**06 38 26.5**	**-0.3**
BESE	**Bessie Mountai**	**4.05**	**88**	Pn	**Pn**	**06 38 26.9**	**+0.1**
SML	**Sawmill**	**4.25**	**320**		**Pn**	**06 38 29.5**	**0.0**
JIS	**Juneau Island**	**4.33**	**92**	Pn	**Pn**	**06 38 31.9**	**+1.3**
JIS				IAML		06 39 24.8	
	comp=E,18nm,4.3s						
RC01	**Rabbit Creek A**	**4.34**	**307**	Pn	**Pn**	**06 38 30.8**	**+0.1**
L26K	**Log Cabin Wild**	**4.38**	**355**	Pn	**Pn**	**06 38 32.8**	**+1.5**
L26K				IAML		06 39 32.5	
	comp=N,16nm,4.9s						
L26K				IAML		06 40 23.1	
	comp=E,11nm,5.0s						
PMR	**Palmer**	**4.38**	**315**	Pn	**Pn**	**06 38 33.6**	**+2.3**
PMR				IAML		06 40 44.8	
	comp=N,17nm,4.1s						
WHY	**Whitehorse**	**4.39**	**60**		**Pn**	**06 38 32.6**	**+1.1**
WHY				IAML		06 40 33.1	
	comp=N,16nm,3.9s						
WHY				IAML		06 40 39.8	
	comp=E,13nm,4.5s						
WHY	**Whitehorse**	**4.39**	**60**	Pn	**Pn**	**06 38 32.3**	**+0.8**
WHY				Sn	**Sn**	**06 39 20.6**	**-0.7**
BRLK	**Bradley Lake**	**4.40**	**288**	Pn	**Pn**	**06 38 32.2**	**+0.6**
BC03		**4.42**	**5**		**Pn**	**06 38 32.0**	**+0.2**
CNPM	**China Poot**	**4.54**	**284**	Pn	**Pn**	**06 38 33.9**	**+0.4**
WAT6	**Susitna Watana**	**4.66**	**329**		**Pn**	**06 38 35.3**	**0.0**
M30M	**Minto, Yukon**	**4.84**	**34**		**Pn**	**06 38 38.7**	**+1.0**
WAT7	**Susitna Watana**	**5.17**	**326**		**Pn**	**06 38 42.4**	**+0.1**
STLK	**Strandline Lak**	**5.42**	**305**		**Pn**	**06 38 46.0**	**+0.4**
DAWY	**Dawson**	**5.62**	**15**		**Pn**	**06 38 49.7**	**+1.4**
DAWY	**Dawson**	**5.62**	**15**	Pn	**Pn**	**06 38 49.3**	**+0.9**
DAWY				Sn	**Sn**	**06 39 48.2**	**-3.3**
Q19K	**Cape Douglas,**	**5.75**	**277**	Pn	**Pn**	**06 38 51.6**	**+1.5**
J26L	**Joseph Creek**	**5.86**	**356**		**Pn**	**06 38 52.5**	**+0.8**
OHAK	**Old Harbor**	**5.88**	**260**		**Pn**	**06 38 51.7**	**-0.1**
MCK	**McKinley**	**5.92**	**332**		**Pn**	**06 38 53.8**	**+1.3**
PPLA	**Purkeypile**	**6.32**	**316**	Pn	**Pn**	**06 38 59.2**	**+1.2**
KTH	**Kantishna Hill**	**6.34**	**324**		**Pn**	**06 38 59.3**	**+1.1**
IL31		**6.45**	**343**		**Pn**	**06 38 59.8**	**+0.3**
DLBC	**Dease Lake**	**6.58**	**87**		**Pn**	**06 39 03.7**	**+2.2**
DLBC	**Dease Lake**	**6.58**	**87**	Pn	**Pn**	**06 39 03.0**	**+1.4**
DLBC				Sn	**Sn**	**06 40 12.9**	**-2.3**
MMPY	**Sheldon Lake,**	**6.83**	**50**	Pn	**Pn**	**06 39 06.2**	**+1.4**
PRP	**Porcupine Dome**	**7.00**	**350**	Pn	**Pn**	**06 39 08.3**	**+1.0**
J20K	**Nowinta River**	**7.81**	**320**	Pn	**Pn**	**06 39 19.7**	**+1.5**
DIB	**Dawson Inlet,**	**7.89**	**130**	Pn	**Pn**	**06 39 19.4**	**0.0**
MOBC	**Moresby Island**	**8.14**	**128**	Pn	**Pn**	**06 39 24.2**	**+1.3**
BNAB	**Bonilla**	**8.46**	**123**	Pn	**Pn**	**06 39 26.9**	**-0.3**
BNB	**Barry Inlet**	**8.65**	**130**	Pn	**Pn**	**06 39 30.6**	**+0.8**
BMAR	**Burnt Mountain**	**8.83**	**355**	Pn	**Pn**	**06 39 33.8**	**+1.5**

*TUL **07** 06:38:33.8±0.9, 36°.48N±0°.02×98°.74W±0°.05, h5km±7km, ML3.6, mb_Lg3.5/95(NEIC), Error ellipse: s-maj=5.5km s-min=2.9km az=93.0*

*NEIC **07** 06:38:34.0±1.0, 36°.50N±0°.01×98°.74W±0°.05, h8km±7km, Error ellipse: s-maj=6.1km s-min=1.5km az=102.0*

*ANF **07** 06:38:36.8±1.1, 36°.49N×98°.72W, h23km±12km, ML4.3/11, Error ellipse: s-maj=6.2km s-min=4.1km az=118.0*

ISC 07 06:38:34.0±0.9, 36°.48N±0°.03×98°.75W±0°.03, h14km±7km, n122, σ1°§15/109, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.22**	**244**	Pg	**Pg**	**06 38 38.8**	**-0.2**
U32A				Sg	**Sg**	**06 38 42.5**	**+0.2**
OK035	**E0210 Rd and N**	**0.23**	**8**	Pg	**Pg**	**06 38 38.8**	**-0.4**
OK035				Sg	**Sg**	**06 38

AMTX	Amarillo	2.87	237	Sb	Sb	06 40 03.7	+3.8
	baz=55						
KSU1	Kansas State U	3.12	32	Pn	Pn	06 39 23.2	+0.5
KSU1	Kansas State U	3.12	32	P	Pn	06 39 24.9	+2.2
	baz=213						
X37A	Clayton	3.34	123		Pn	06 39 26.6	+0.8
X37A				IAmb_Lg		06 40 23.8	
	comp=Z,200nm,0.8s						
Z35A	Perchaven, San	3.37	158		Pn	06 39 27.1	+0.9
U38A	Gravette	3.52	89	Pn	Pn	06 39 29.7	+1.5
U38A				IAmb_Lg		06 40 26.1	
	comp=Z,95nm,0.8s						
HHAR	Hobbs	3.89	91		Pn	06 39 34.0	+0.6
HHAR				IAmb_Lg		06 40 43.0	
	comp=Z,99nm,0.9s						
KSCO	Kaye Shedlock'	3.98	311	Pb	Pb	06 39 46.8	+2.8
	baz=128						
MSTX	Muleshoe	4.13	234	IAmb_Lg		06 40 51.0	
	comp=Z,124nm,0.8s						
MSTX	Muleshoe	4.13	234	Sb	Sg	06 40 42.7	-4.1
	baz=52						
N33A	J Bar K, Exete	4.37	13		Pn	06 39 40.5	+0.5
N33A				IAmb_Lg		06 41 01.4	
	comp=Z,88nm,1.0s						
Z38A	Mt. Pleasant	4.46	135	IAmb_Lg		06 40 58.6	
	comp=Z,110nm,0.8s						
S39A	Bolivar	4.51	73	IAmb_Lg		06 40 56.3	
	comp=Z,80nm,0.8s						
T25A	Trinidad	4.59	280		Pn	06 39 45.1	+2.0
T25A				IAmb_Lg		06 41 02.8	
	comp=Z,143nm,1.0s						
T25A	Trinidad	4.59	280	P	Pn	06 39 44.9	+1.8
	baz=96						
T25A				Sb	Sg	06 40 56.9	-4.4
	baz=96						
WHTX	Lake Whitney,	4.60	166		Pn	06 39 43.8	+0.7
MIAR	Mount Ida	4.64	113	IAmb_Lg		06 41 12.2	
	comp=Z,84nm,0.7s						
MIAR	Mount Ida	4.64	113	P	Pn	06 39 45.0	+1.4
	baz=296						
U40A	Yellville	4.76	90		Pn	06 39 46.6	+1.3
U40A				IAmb_Lg		06 41 03.6	
	comp=Z,110nm,0.9s						
U40A	Yellville	4.76	90	P	Pn	06 39 46.6	+1.3
	baz=273						
BGNE	Belgrade	4.95	5	Pn	Pn	06 39 48.5	+0.7
BGNE	Belgrade	4.95	5	P	Pn	06 39 48.9	+1.1
	baz=186						
N35A	Tabor	5.01	28		Pn	06 39 51.1	+2.4
237A	Washetta, Mont	5.09	151	Pn	Pn	06 39 49.2	-0.6
237A				IAmb_Lg		06 41 27.9	
	comp=Z,61nm,0.8s						
OGNE	Ogallala	5.14	331	IAmb_Lg		06 41 28.5	
	comp=Z,102nm,0.7s						
P38A	Dawn	5.18	51		Pn	06 39 51.8	+0.8
P38A				IAmb_Lg		06 41 24.1	
	comp=Z,62nm,0.8s						
X40A	Basin Creek Fa	5.22	111	IAmb_Lg		06 41 27.6	
	comp=Z,82nm,0.9s						
MGMO	Mountain Grove	5.25	81		Pn	06 39 52.6	+0.6
WHAR	Wooly Hollow	5.38	101	Pn	Pn	06 39 54.3	+0.5
WHAR				IAmb_Lg		06 41 31.8	
	comp=Z,84nm,0.8s						
FCAR	Ozark Folk Cen	5.39	94	Pn	Pn	06 39 54.4	+0.4
FCAR				IAmb_Lg		06 41 24.6	
	comp=Z,63nm,0.8s						
WLAR	White Oak Lake	5.40	119	IAmb_Lg		06 41 39.5	
	comp=Z,54nm,0.8s						
W41B	Gary Mavity, V	5.44	102	IAmb_Lg		06 41 26.3	
	comp=Z,75nm,0.9s						
R40A	Maddies Statio	5.47	69		Pn	06 39 55.7	+0.7
R40A				IAmb_Lg		06 41 31.8	
	comp=Z,78nm,0.8s						
435B	Jarrell	5.76	170	IAmb_Lg		06 41 43.6	
	comp=Z,46nm,0.8s						
L34A	Svendsen Farm,	5.78	18	Pn	Pn	06 39 59.3	0.0
NATX	Nacogdoches	5.80	143	IAmb_Lg		06 41 50.7	
	comp=Z,46nm,0.9s						
Z41A	Richland Creek	5.85	122	IAmb_Lg		06 41 52.8	
	comp=Z,84nm,0.7s						
JCT	Junction City	6.05	189	IAmb_Lg		06 41 54.5	
	comp=Z,78nm,1.0s						
P40A	Paris	6.11	58	Pn	Pn	06 40 05.0	+1.2
K31A	O'Neill	6.14	360	IAmb_Lg		06 42 01.6	
	comp=Z,69nm,0.7s						
CCM	Cathedral Cave	6.19	73	IAmb_Lg		06 41 50.8	
	comp=Z,70nm,0.7s						
ISCO	Idaho Springs	6.34	304	IAmb_Lg		06 41 57.5	
	comp=Z,42nm,0.8s						
PBMO	Poplar Bluff	6.70	85	IAmb_Lg		06 42 07.0	
	comp=Z,70nm,0.8s						
FVM	French Village	6.81	75	IAmb_Lg		06 42 07.6	
	comp=Z,63nm,0.8s						
SLM	Saint Louis	7.10	70	Pn	Pn	06 40 18.7	+1.3
SLM				IAmb_Lg		06 42 16.1	
	comp=Z,60nm,0.8s						
143A	Socs Landing,	7.13	120	IAmb_Lg		06 42 40.1	
	comp=Z,43nm,0.9s						
MNTX	Cornudas Mount	7.28	231	Pn	Pn	06 40 21.8	+1.9
MNTX				IAmb_Lg		06 42 37.8	
	comp=Z,35nm,0.9s						
ECSD	EROS Data Cent	7.43	12	Pn	Pn	06 40 21.9	0.0
HALT	Halls	7.63	91	IAmb_Lg		06 42 46.2	
	comp=Z,62nm,1.0s						
GLAT	Glass	7.64	89	IAmb_Lg		06 42 37.1	
	comp=Z,76nm,0.8s						
S44A	Carbondale	7.69	78	Pn	Pn	06 40 26.2	+0.8
S44A				IAmb_Lg		06 42 38.4	
	comp=Z,57nm,0.8s						
MVCO	Mesa Verde	7.85	278	Pn	Pn	06 40 27.8	-0.1
W45A	Hickory Valley	7.88	97	Pn	Pn	06 40 28.9	+0.8
W45A				IAmb_Lg		06 43 00.0	
	comp=Z,56nm,0.9s						
SUSD	Miller	7.96	359	Pn	Pn	06 40 30.2	+1.0
SUSD				IAmb_Lg		06 42 48.5	
	comp=Z,38nm,0.8s						
Y45A	Yeager Farm, C	7.98	106	Pn	Pn	06 40 29.6	+0.1
L40A	Anamosa	8.07	44	Pn	Pn	06 40 31.4	+0.6
L40A				IAmb_Lg		06 42 50.9	
	comp=Z,68nm,0.8s						
TX31	Lajitas Ar. Si	8.23	211		Pn	06 40 33.9	+0.8
TX32	Lajitas Array	8.23	211		Pn	06 40 34.2	+1.1
121A	Cookes Peak, D	8.43	245	IAmb_Lg		06 43 18.3	
	comp=Z,32nm,1.2s						
HDIL	Hopedale	8.46	58		Pn	06 40 36.8	+0.8
I37A	Lemond, Waseca	8.57	27	IAmb_Lg		06 43 10.0	
	comp=Z,34nm,0.8s						
K22A	Casper	8.60	318	IAmb_Lg		06 43 23.6	
	comp=Z,54nm,0.9s						
RSSD	Black Hills	8.63	334	IAmb_Lg		06 43 16.2	
	comp=Z,43nm,1.0s						
WVT	Waverly	8.82	89	Pn	Pn	06 40 41.0	-0.1
O44A	Mansfield	8.88	62	Pn	Pn	06 40 41.1	-0.6
JFWS	Jewell Farm	9.18	43	Pn	Pn	06 40 46.4	+0.5
JFWS				IAmb_Lg		06 43 48.9	
	comp=Z,48nm,0.9s						
T47A	Sharon Grove	9.36	83	Pn	Pn	06 40 48.5	+0.1
F33A	5 Mile Ranch,	9.53	10		Pn	06 40 50.0	-0.8
F33A				IAmb_Lg		06 43 36.5	
	comp=Z,26nm,1.1s						
I40A	Norwalk	9.67	38	Pn	Pn	06 40 53.1	+0.5
I40A				IAmb_Lg		06 43 49.7	
	comp=Z,25nm,0.8s						
M44A	Midewin, Midew	9.67	56	Pn	Pn	06 40 53.5	+0.8
SPMN	Marine on St.	9.83	25		Pn	06 40 54.9	+0.1
SFIN	Lafayette	9.94	63	Pn	Pn	06 40 56.4	+0.1
BLO	Bloomington	10.04	71		Pn	06 40 58.5	+0.7
F36A	Milaca	10.17	21	Pn	Pn	06 40 58.5	-1.0
I42A	Draeger Farm,	10.55	42	Pn	Pn	06 41 04.5	-0.2
G40A	Rib Lake	10.90	34	Pn	Pn	06 41 09.5	-0.1
P48A	Milroy	10.93	70	Pn	Pn	06 41 09.2	-0.8
CPCT	Cooper Cave	11.58	91	Pn	Pn	06 41 18.7	-0.1
V51A	Loudon	11.67	89	Pn	Pn	06 41 20.6	+0.6
SPUT	South Promonto	11.71	298	Pn	Pn	06 41 20.5	-0.2
O49A	Covington	11.91	68	Pn	Pn	06 41 23.7	+0.3
AGMN	Agassiz Nation	12.00	9	Pn	Pn	06 41 23.2	-1.3
S51A	Beattyville	12.17	80	Pn	Pn	06 41 26.8	-0.1
V52A	Sevierville	12.27	88	Pn	Pn	06 41 28.7	+0.5
L48A	N Adams	12.37	59	Pn	Pn	06 41 28.7	-0.9
EYMN	Ely	12.65	23	Pn	Pn	06 41 32.0	-1.4

NNC 07 06:40:48.4±7.3, 36°87′N×70°46′E, h0km, mb3.7, mpv3.3, 4C-2D, Error ellipse: s-maj=57.2km s-min=51.0km

az=162.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	6.23	0	⇑P	Pn	06 42 23.4	+1.8
	0.9nm,0.3s,baz=178,slow=13						
KK02				⇑S	Sn	06 43 34.4	+0.8
	0.9nm,0.3s,baz=183,slow=21						
AAK	Ala-Archa	6.55	27	⇑P	Pn	06 42 25.8	-0.3
	0.9nm,0.5s						
AAK				⇓S	Sn	06 43 41.1	-0.6
	0.8nm,0.5s						
TKM2	Tokmak 2	7.22	32	⇑P	Pn	06 42 33.8	-1.6
	1.3nm,0.5s						
TKM2				⇓S	Sn	06 44 02.0	+3.8
	0.9nm,0.6s						

*TUL **07** 06:42:57.6±1.2, 35°66′N×0°02′×97°41′W±0°02′, h7km±4km, ML3.0, mb_Lg2.8/24(NEIC), Error ellipse: s-maj=3.2km s-min=0.7km az=135.0*

NEIC 07 06:42:57.7±0.7, 35°68′N±0°02′×97°43′W±0°02′, h7km±5km, Error ellipse: s-maj=3.2km s-min=0.7km az=137.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.10	175		Pg	06 42 59.7	-0.3
OK009				Sg	Sg	06 43 01.4	-0.2
OK025	Westminster Rd	0.12	141	Pg	Pg	06 43 00.1	-0.3
OK025				Sg	Sg	06 43 02.1	-0.1
BCOK	Bluff Creek, N	0.15	262	Pg	Pg	06 43 01.1	+0.3
BCOK				Sg	Sg	06 43 03.9	+1.0
OK001	Jones High Sch	0.16	135	Pg	Pg	06 43 00.9	-0.2
OK001				Sg	Sg	06 43 03.4	0.0
OK005	Luther M Schoo	0.20	96		Pg	06 43 01.6	-0.1
OK005				Sg	Sg	06 43 04.6	+0.2
OKCFA	Oklahoma City	0.26	183		Pg	06 43 02.7	-0.2
OKCFA				Sg	Sg	06 43 06.6	+0.2
OKCSW	OKLAHOMA CITY	0.27	181	Pg	Pg	06 43 02.9	-0.2
OKCSW				Sg	Sg	06 43 06.9	+0.2
FNO	Franklin	0.42	176		Pg	06 43 05.6	-0.3
FNO				Sg	Sg	06 43 11.5	+0.2
OK031	S. Brethren Rd	0.56	60	Pg	Pg	06 43 08.2	-0.2
OK030	Cody Creek RV	0.58	64	Pg	Pg	06 43 08.6	-0.4
OK030				Sg	Sg	06 43 16.8	+0.1
OK034	N. Norfolk Rd.	0.67	60	Pg	Pg	06 43 10.2	-0.4
OK034				Sg	Sg	06 43 19.7	+0.2
QUOK	Quay	0.77	50		Pg	06 43 12.1	-0.4
QUOK				Sg	Sg	06 43 22.7	+0.2
CROK	Carrier	0.94	332		Pg	06 43 15.7	-0.1
BLOK	Blackwell	1.10	9		Pg	06 43 18.3	-0.4
X34A	Smith Ranch, M	1.12	197	Pg	Pg	06 43 18.8	-0.4
X34A				Sg	Sb	06 43 34.5	+0.3
GC02	Grant County #	1.22	344		Pb	06 43 20.7	-0.4
KAN13	South Haven SW	1.33	358	Pn	Pn	06 43 22.7	-0.1
KAN14	Manchester OK	1.35	342		Pn	06 43 22.9	0.0
TUL1	Leonard	1.35	80	Pn	Pn	06 43 21.5	-1.5
KAN17	Caldwell West	1.39	349		Pn	06 43 23.5	0.0
T35A	Sooner Cattle	1.44	31	Pn	Pn	06 43 23.8	-0.4
WMOK	Wichita Mounta	1.45	230	Pn	Pn	06 43 23.9	-0.4
KAN05	Bluff City Nor	1.47	346		Pn	06 43 25.0	+0.3
KAN01	Argonia South	1.50	350		Pn	06 43 25.0	0.0
KAN10	Anthony SW Sta	1.54	340		Pn	06 43 25.3	-0.3
KAN06	Argonia West S	1.61	348		Pn	06 43 26.9	+0.5
LOOK	Love County	1.69	173	Pn	Pn	06 43 27.9	+0.3
X37A	Clayton	2.01	122	Pn	Pn	06 43 32.0	+0.1
X37A				IAmb_Lg		06 44 03.3	
	comp=Z,42nm,0.9s						
Z35A	Perchaven, San	2.34	176	Pn	Pn	06 43 37.0	+0.3
U38A	Gravette	2.58	72	Pn	Pn	06 43 40.3	+0.4
HHAR	Hobbs	2.90	77	Pn	Pn	06 43 44.3	0.0
W39A	Magazine	3.02	98	Pn	Pn	06 43 45.7	-0.2
W39A				IAmb_Lg		06 44 39.4	
	comp=Z,21nm,0.8s						
Z38A	Mt. Pleasant	3.15	139	Pn	Pn	06 43 47.6	0.0
MIAR	Mount Ida	3.36	109	Pn	Pn	06 43 50.9	+0.4
MIAR				IAmb_Lg		06 44 52.1	
	comp=Z,24nm,1.0s						
KSU1	Kansas State U	3.48	11	IAmb_Lg		06 44 56.3	
	comp=Z,24nm,0.7s						
CBKS	Cedar Bluff	3.63	330	IAmb_Lg		06 44 58.2	
	comp=Z,14nm,0.8s						
W41B	Gary Mavity, V	4.26	95	IAmb_Lg		06 45 14.5	
	comp=Z,26nm,0.7s						
MGMO	Mountain Grove	4.42	69	IAmb_Lg		06 45 20.2	
	comp=Z,18nm,1.0s						
435B	Jarrell	4.88	182	IAmb_Lg		06 45 34.7	
	comp=Z,20nm,0.8s						
P38A	Dawn	5.01	37	IAmb_Lg		06 45 42.9	
	comp=Z,8.6nm,0.8s						
LCAR	Lake Charles	5.11	84	IAmb_Lg		06 45 41.1	
	comp=Z,10nm,0.8s						
JCT	Junction City	5.55	202	IAmb_Lg		06 46 06.2	
	comp=Z,25nm,0.9s						
PBMO	Poplar Bluff	5.77	77	IAmb_Lg		06 46 06.7	
	comp=Z,22nm,0.8s						

*IDC **07** 06:59:44.1±13.0, 2°06′N×127°83′E, h75km±140km, mb3.7/7, mb1 3.9/7, mb1mx3.4/47, mbtmp4.0/7, Error ellipse: s-maj=54.4km s-min=24.6km az=79.0*

ISC 07 06:59:49.9±1.2, 2°0N±0°1×127°8E±0°4, h134km, n7, σ0°58/7, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.08	186	P	P	07 04 12.2	-0.8
	2.3nm,0.9s,baz=23,slow=11,SNR=2.2						
WRA	Warramunga Arr	22.73	164	P	P	07 04 40.5	-0.2
	4.9nm,0.4s,baz=345,slow=11,SNR=79						
ASAR	Alice Springs	26.19	167	P	P	07 05 12.2	-0.1
	1.3nm,0.5s,baz=350,slow=7.4,SNR=34						
MJAR	Matsushiro Arr	35.70	14	P	P	07 06 35.1	-0.4
	0.9nm,0.3s,baz=193,slow=8.2,SNR=2.0						
STKA	Stephens Creek	36.14	160	P	P	07 06 39.9	+0.6
	2.9nm,0.9s,baz=326,slow=9.0,SNR=4.2						
MKAR	Makanchi Array	59.58	325	P	P	07 09 39.7	+0.2
	0.7nm,0.5s,baz=117,slow=8.0,SNR=12						
KURBB	Kurchatov Arra	63.76	327	P	P	07 10 07.8	+0.4
	0.6nm,0.5s,baz=128,slow=6.1,SNR=12						

*TUL **07** 07:01:47.9±1.1, 36°50′N±0°01′×98°72′W±0°02′, h7km±6km, ML2.5, mb_Lg2.6/9(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=211.0*

NEIC 07 07:01:48.4±1.2, 36°49′N±0°01′×98°69′W±0°02′, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.6km az=293.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.22	356	Pg	Pg	07 01 52.6	-0.1
OK035				Sg	Sg	07 01 56.2	+0.5
U32A	Winter Ranch,	0.27	247	Pg	Pg	07 01 53.4	-0.3
U32A				Sg	Sg	07 01 57.5	+0.2
CROK	Carrier	0.57	88	Pg	Pg	07 01 59.4	+0.1
CROK				Sg	Sg	07 02 07.7	+1.0
KAN14	Manchester OK	0.75	51	Pg	Pg	07 02 02.6	-0.2
KAN14				Sg	Sg	07 02 12.6	+0.1
GC02	Grant County #	0.76	61	Pg	Pg	07 02 02.7	-0.3
KAN10	Anthony SW Sta	0.80	37	Pg	Pg	07 02 03.1	-0.5
KAN10				Sg	Sg	07 02 13.6	-0.4
KAN17	Caldwell West	0.93	53	Pg	Pg	07 02 05.7	-0.5
KAN08	Anthony NE Sta	0.94	38	Pg	Pg	07 02 05.8	-0.6
KAN12	Harper NE Stat	0.98	34	Pg	Pg	07 02 06.8	-0.4
KAN01	Argonia South	1.00	48	Pg	Pg	07 02 07.1	-0.5
KAN13	South Haven SW	1.11	61	Pg	Pg	07 02 08.8	-0.8
BLOK	Blackwell	1.22	77		Pg	07 02 10.9	-0.8
OKCFA	Oklahoma City	1.47	136	Pn	Pn	07 02 15.1	-0.4
OK031	S. Brethren Rd	1.59	109		Pn	07 02 17.4	+0.3
FNO	Franklin	1.61	139	Pn	Pb	07 02 18.1	-0.5
QUOK	Quay	1.63	100		Pn	07 02 18.2	+0.4
OK030	Cody Creek RV	1.64	109		Pn	07 02 18.2	+0.4
T35A	Sooner Cattle	1.80	76		Pn	07 02 20.7	+0.6
R32A	Long Quarter,	1.93	360		Pn	07 02 22.6	+0.7
X34A	Smith Ranch, M	2.01	159		Pb	07 02 24.2	-1.2
TUL1	Leonard	2.41	103	IAmb_Lg		07 03 05.2	
	comp=Z,13nm,0.8s						
KSCO	Kaye Shedlock'	4.01	310	IAmb_Lg		07 03 57.4	
	comp=Z,11nm,0.9s						
N23A	Red Feather La	7.18	310	IAmb_Lg		07 05 46.8	
	comp=Z,7.5nm,0.9s						
735A	Kenedy	7.64	174	IAmb_Lg		07 06 06.5	
	comp=Z,11nm,1.1s						

*IDC **07** 07:03:02.2±1.2, 31°02S×179°92W, h380km±11km, mb3.4/5, mb1 3.5/7, mb1mx3.3/32, mbtmp4.2/7, Error ellipse: s-maj=24.2km s-min=15.5km az=145.0*

ISC 07 07:02:59.6±0.5, 31°08S±0°06×180°0W±0°1, h350km, n95, σ2°35/136, mb3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.52	45	P	Pn	07 03 58.7	+3.8
GLKZ				S	S	07 04 43.0	+3.7
RIZ	Raoul Island	2.53	44	P	Pn	07 03 58.7	+3.7
RIZ				S	S	07 04 42.2	+2.7
RAO	Raoul Island	2.53	44	P	Pn	07 03 59.6	+4.6
	130nm,0.3s,baz=111,slow=13,SNR=6.0						
RAO				S	S	07 04 40.6	+1.1
	110nm,0.3s,baz=84,slow=21,SNR=2.1						
GRZ	Great Barrier	6.42	215	P	Pn	07 04 42.4	+7.3
MXZ	Matakaoa Point	6.62	192	P	Pn	07 04 39.9	+2.5
MXZ				S	S	07 05 58.0	+1.0
HAZ	Te Kaha	6.92	195	P	Pn	07 04 45.0	+4.2
HAZ				S	S	07 06 03.5	+0.3
PKGZ	Pakihiroa	6.98	193	P	Pn	07 04 45.7	+4.0
PKGZ				S	S	07 06 06.8	+2.1
PUZ	Puketiti	7.13	192	P	Pn	07 04 47.3	+3.9
PUZ				S	S	07 06 07.7	0.0
OPRZ	Ohinepanea	7.34	202	P	Pn	07 04 52.5	+6.8
OPRZ				S	S	07 06 18.5	+6.3
EDRZ	Edgecumbe	7.52	200	P	Pn	07 04 54.6	+6.6
EDRZ				S	S	07 06 22.6	+6.3
URZ	Urewera	7.56	198	P	Pn	07 04 52.0	+3.7
	20nm,0.3s,baz=300,slow=24,SNR=166						
URZ				S	S	07 06 14.3	-2.7
	12nm,0.3s,baz=301,slow=23,SNR=2.9						
URZ	Urewera	7.56	198	P	Pn	07 04 50.9	+2.6
URZ				S	S	07 06 18.1	+1.1
KARZ	Kaharoa	7.60	203	P	Pn	07 04 56.3	+7.4
TOZ	Tahuroa Road	7.62	208	P	Pn	07 04 56.9	+7.8
NMHZ	Naumai	8.43	198	P	P	07 05 01.6	+0.1
NMHZ				S	S	07 06 36.9	+0.9
RATZ	Rangitukua	8.52	203	P	P	07 05 04.3	+1.8
ARHZ	Aropaoanui	8.54	196	P	P	07 05 02.1	-0.5
ARHZ				S	S	07 06 38.1	-0.2
BKZ	Black Stump Fm	8.57	199	P	P	07 05 03.6	+0.6
BKZ				S	S	07 06 39.4	+0.2
KATZ	Kakaramea	8.64	203	P	P	07 05 06.2	+2.2
KATZ				S	S	07 06 47.0	+6.1
NTVZ	North Tongarir	8.76	203	P	P	07 05 06.4	+1.1
TMVZ	Te Maari	8.77	203	P	P	07 05 06.6	+1.3
KRVZ	Karewarewa	8.77	203	P	P	07 05 06.5	+1.1
KRVZ				S	S	07 06 50.4	+6.8
MCHZ	McNeill Hill	8.78	197	P	P	07 05 06.5	+1.2
MCHZ				S	S	07 06 43.6	0.0
ETVZ	East Tongariro	8.79	203	P	P	07 05 06.5	+0.9
WTVZ	West Tongariro	8.81	203	P	P	07 05 06.7	+0.9
WTVZ				S	S	07 06 51.1	+6.7
NNVZ	North Ngauruho	8.81	203	P	P	07 05 07.0	+1.1
TWVZ	Taurewa	8.82	204	P	P	07 05 07.2	+1.3
OTVZ	Oturere	8.82	203	P	Pn	07 05 04.8	+1.3
OTVZ				S	S	07 06 48.1	+3.3
KWHZ	Kaweka Forest	8.84	199	P	P	07 05 06.2	+0.2
KWHZ				S	S	07 06 45.7	+0.8
SNVZ	South Ngauruho	8.85	203	P	P	07 05 07.0	+0.7
NGZ	Ngauruhoe	8.86	203	P	P	07 05 07.6	+1.2
NGZ				S	S	07 06 44.0	-1.6
CKHZ	Cape Kidnapper	8.89	195	P	P	07 05 07.3	+0.7
CKHZ				S	S	07 06 43.7	-2.4
FWVZ	Far West T-bar	8.95	203	P	P	07 05 07.9	+0.5
FWVZ				S	S	07 06 48.8	+1.2
WHVZ	Whangaehu Hut	8.96	203	P	P	07 05 08.3	+0.8
WHVZ				S	S	07 06 49.4	+1.5
BHHZ	Black Hill Sta	9.00	200	P	Pn	07 05 05.8	+0.3
BHHZ				S	S	07 06 45.4	-3.1
MOVZ	Moawhango	9.02	202	P	P	07 05 08.1	+0.1
MOVZ				S	S	07 06 46.5	-2.4
PKVZ	Pokaka	9.05	204	P	P	07 05 08.7	+0.4
KRHZ	Kereru	9.05	198	P	Pn	07 05 07.7	+1.5
KRHZ				S	S	07 06 47.4	-2.2
KAHZ	Kahuranaki	9.07	196	P	P	07 05 08.3	-0.3
KAHZ				S	S	07 06 47.9	-2.2
VRZ	Vera Road	9.12	207	P	P	07 05 12.6	+3.5
PXZ	Pawanui	9.30	195	P	P	07 05 11.9	+0.8
PXZ				S	S	07 06 52.1	-2.9
PNHZ	Pukenui	9.35	199	P	Pn	07 05 10.4	+0.7
PNHZ				S	S	07 06 53.5	-2.8
WPHZ	Waipukurau	9.43	197	P	P	07 05 14.1	+1.6
WPHZ				S	S	07 06 55.2	-2.7
PKEZ	Pukeiti	9.49	210	P	P	07 05 18.4	+5.2
NEZ	North Egmont	9.51	209	P	P	07 05 18.3	+4.8
TSZ	Takapari Road	9.55	199	P	Pn	07 05 12.5	+0.4
TSZ				S	S	07 06 56.9	-3.7
PRHZ	Porangahau	9.57	196	P	P	07 05 15.9	+1.7
PRHZ				S	S	07 06 58.7	-2.4
WAZ	Wanganui	9.59	204	P	P	07 05 15.3	+1.0
WAZ				S	S	07 07 01.2	-0.1
DVHZ	Dannevirke	9.72	198	P	P	07 05 16.0	+0.1
DVHZ				S	S	07 06 59.9	-4.4
ANWZ	Angora Road	9.80	196	P	P	07 05 17.9	+1.4
ANWZ				S	S	07 07 03.7	-2.2
POWZ	Post Office Ro	9.92	199	P	P	07 05 18.7	+0.8
POWZ				S	S	07 07 04.7	-3.9
PRWZ	Pori Road	10.01	198	P	P	07 05 19.8	+0.7
PRWZ				S	S	07 07 07.1	-3.7
BFZ	Birch Farm	10.06	197	P	Pn	07 05 18.4	+0.3
BFZ				S	S	07 07 08.1	-3.7
MRZ	Mangatainoka R

1.0nm,0.6s,baz=16,slow=1.4,SNR=4.0
ARCES ARCESS Array B 138.88 347 PKhKP PKPpre 07 21 36.8
1.5nm,0.8s,baz=45,slow=2.3,SNR=8.5
ARCES PKP **PKPdf 07 21 44.6 +0.9**
1.8nm,0.8s,baz=60,slow=2.2,SNR=7.2
KBZ Khabaz 144.09 303 PKP **PKPab 07 21 52.2 -0.2**
3.4nm,0.7s,baz=173,slow=3.4,SNR=6.5
OBN Obninsk 144.75 324 PKP PKPbc 07 21 53.7 -0.7
2.4nm,0.3s,baz=156,slow=22,SNR=4.5
FINES FINESS Array B 145.18 338 PKPbc **PKPdf 07 21 54.2 -0.8**
9.7nm,0.6s,baz=50,slow=3.7,SNR=41
NB2 NORSAR Subarra149.14 349 PKP **PKPbc 07 22 05.2 -1.1**
comp=Z,10nm,1.0s,baz=25,slow=4.1
NOA NORSAR Array B 149.14 349 PKPbc **PKPbc 07 22 05.3 -1.0**
comp=Z,2.0nm,0.5s,baz=15,slow=4.2,SNR=11
AKASG Malin Array Be 150.79 321 PKPbc **PKPbc 07 22 09.4 -1.1**
comp=Z,4.3nm,0.8s,baz=58,slow=2.7,SNR=17
BRTR Keskin Array B 151.43 297 PKPbc **PKPbc 07 22 10.4 -2.1**
comp=Z,2.4nm,1.0s,baz=67,slow=6.9,SNR=3.6
GERES GERESS Array B 159.46 334 PKPab **PKPab 07 22 55.2 -1.2**
comp=Z,1.0nm,0.8s,baz=45,slow=6.2,SNR=4.6
TORD Torodi Ar. Bea 162.09 185 PKP **PKPdf 07 22 19.2 -0.9**
comp=Z,0.8nm,0.8s,baz=240,slow=1.8,SNR=3.7
TORD PKPab **PKPab 07 23 08.2 -0.3**
comp=Z,2.1nm,0.7s,baz=177,slow=3.5,SNR=9.8
KEST Kesra 170.96 303 PKPab **PKPab 07 23 47.4 -0.2**
comp=Z,14nm,1.1s,baz=34,slow=7.3,SNR=3.6

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*IDC **07** 07:09:41.1±1.3, 38°.62N×73°.28E, h0km, mb3.7/4, mb1 3.7/9, mb1mx3.3/56, mbtmp3.6/9, ML2.9/5, Error ellipse: s-maj=27.3km s-min=19.6km az=104.0*
*NNC **07** 07:09:43.5±2.6, 38°.73N×73°.34E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=19.9km s-min=10.6km az=174.0*
ISC 07 07:09:42.3±1.2, 38°.48N±0°.09×73°.09E±0°.09, h10km, n16, σ1§30/20, mb3.6/4, 6C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.29**	**14**	Pn	**Pn**	**07 10 48.2**	**+0.5**
	1.4nm,0.3s,baz=168,slow=6.5,SNR=29						
AAK				Sn	**Sn**	**07 11 40.1**	**+2.2**
	0.9nm,0.3s,baz=120,slow=23,SNR=6.2						
TKM2	**Tokmak 2**	**4.83**	**22**	⇑Pg	**Pb**	**07 11 05.4**	**-1.7**
	13nm,1.1s						
TKM2				⇑Lg	Lg	07 12 06.8	
	28nm,0.9s						
KK02	**Karatay Array**	**5.02**	**338**	⇑Pn	**Pn**	**07 10 58.4**	**+0.7**
	4.2nm,0.6s						
KK02				⇑Sn	**Sn**	**07 11 56.8**	**+1.1**
	17nm,0.6s						
MDOK	**Medeo**	**5.56**	**31**	Pg	**Pb**	**07 11 18.7**	**-0.8**
	22nm,1.2s						
MDOK				Lg	Lg	07 12 28.6	
	22nm,0.8s						
KNDC	**Almaty**	**5.57**	**31**	⇓Pg	**Pb**	**07 11 21.2**	**+1.5**
	20nm,0.6s						
KNDC				⇓Lg	Lg	07 12 29.1	
	43nm,0.7s						
MKAR	**Makanchi Array**	**10.71**	**36**	Pn	**Pn**	**07 12 15.7**	**-0.1**
	0.0nm,0.3s,baz=229,slow=13,SNR=5.1						
KURBB	**Kurchatov Arra**	**12.74**	**16**	Pn	**Pn**	**07 12 43.0**	**-0.4**
	0.0nm,0.3s,baz=204,slow=11,SNR=2.6						
KURBB				Lg	Lg	07 16 17.1	
	baz=205,slow=29,SNR=5.1						
AB31	**Akbulak array**	**14.33**	**323**	⇑Pn	**Pn**	**07 13 05.3**	**+0.2**
	0.7nm,0.6s,baz=132,slow=14,SNR=12						
AB31				⇑Sn	**Sn**	**07 15 43.3**	**-0.7**
	2.1nm,0.9s,baz=135,slow=23,SNR=5.1						
BVAR	**Borovoye Array**	**14.67**	**354**	Pn	**Pn**	**07 13 07.3**	**-2.4**
	0.1nm,0.3s,baz=164,slow=12,SNR=2.6						
AKTO	**Aktyubinsk**	**16.05**	**323**	Pn	**Pn**	**07 13 26.9**	**-1.1**
	0.1nm,0.3s,baz=97,slow=16,SNR=2.3						
AKTO	**Aktyubinsk**	**16.05**	**323**	⇓Pn	**Pn**	**07 13 28.0**	**+0.1**
	1.9nm,0.7s						
AKTO				⇓Sn	**Sn**	**07 16 27.5**	**+1.7**
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**17.43**	**24**	P	**Pn**	**07 13 43.6**	**-1.8**
	0.2nm,0.3s,baz=212,slow=12,SNR=5.0						
ARCES	**ARCESS Array B**	**39.98**	**336**	P	**P**	**07 17 15.8**	**-0.8**
	0.9nm,0.6s,baz=95,slow=7.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**67.42**	**269**	P	**P**	**07 20 39.2**	**+0.9**
	0.3nm,0.5s,baz=66,slow=6.8,SNR=2.2						
YKA	**Yellowknife Ar**	**79.18**	**4**	P	**P**	**07 21 46.2**	**-0.8**
	0.4nm,0.6s,baz=349,slow=5.4,SNR=11						
WRA	**Warramunga Arr**	**81.66**	**124**	P	**P**	**07 22 01.6**	**+0.7**
	0.4nm,0.7s,baz=327,slow=5.1,SNR=5.7						

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*IDC **07** 07:14:50.0±1.0, 16°.73N×147°.63E, h0km, mb4.1/16, mb1 4.2/17, mb1mx3.9/60, mbtmp4.1/17, ML3.9/1, Error ellipse: s-maj=29.3km s-min=15.9km az=99.0*
*NEIC **07** 07:14:57.0±0.9, 16°.72N±0°.09×147°.7E±0°.2, h48km±8km, mb4.4/18, Error ellipse: s-maj=23.1km s-min=12.3km az=91.0*
ISC 07 07:14:55.3±0.8, 16°.71N±0°.08×147°.7E±0°.1, h35km, n38, σ0§74/37, mb4.3/23, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.11**	**221**	Pn	**Pn**	**07 15 54.6**	**-1.1**
	8.2nm,0.3s,baz=359,slow=15,SNR=1.8						
GUMO				Sn	**Sn**	**07 16 42.3**	**-0.3**
	11nm,0.3s,baz=334,slow=21,SNR=1.6						
GUMO	**Guam**	**4.11**	**221**	Pn	**Pn**	**07 15 57.0**	**+1.4**
JCJ	**Chichijima**	**11.52**	**335**	Pn	Pn	07 17 41.2	+4.0
INU	**Inuyama**	**20.86**	**335**	P	Pn	07 19 35.0	-1.8
INU				IAmb	IAmb	07 19 36.8	
	comp=Z,24nm,1.0s						
JGF	**Kuroka**	**20.94**	**336**	P	**P**	**07 19 35.2**	**+0.1**
JGF				IAmb	IAmb	07 19 36.5	
	comp=Z,14nm,0.7s						
MJAR	**Matsushiro Arr**	**21.46**	**339**	P	**P**	**07 19 39.5**	**-1.2**
	comp=Z,6.8nm,0.7s,baz=171,slow=9.9,SNR=10						
MAJO	**Matsushiro**	**21.46**	**339**	P	**P**	**07 19 41.5**	**+0.8**
MAJO				IAmb	IAmb	07 19 44.1	
	comp=Z,13nm,0.8s						
MAT	**Matsushiro**	**21.46**	**339**	P	**P**	**07 19 40.0**	**-0.7**
MJB9	**Matsu-Tunnel**	**21.47**	**339**	P	**P**	**07 19 41.1**	**+0.4**
MJB9				IAmb	IAmb	07 19 44.1	
	comp=Z,13nm,0.8s						
JNU	**Nakatsue**	**22.28**	**320**	P	**P**	**07 19 49.5**	**0.0**
JNU				IAmb	IAmb	07 20 16.1	
	comp=Z,43nm,1.4s						
YHNB	**Yeheng**	**25.80**	**292**	P	**P**	**07 20 23.1**	**-0.3**
KSRS	**Korea Array**	**27.02**	**324**	P	**P**	**07 20 32.5**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=147,slow=8.6,SNR=5.0						
HNR	**Honiara**	**28.68**	**154**	P	**P**	**07 20 48.6**	**-0.5**
KLR	**Kul'dur**	**34.92**	**342**	P	**P**	**07 21 43.7**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=145,slow=8.6						
WR0	**Warramunga Arr**	**38.65**	**200**	P	**P**	**07 22 15.3**	**-0.4**
WB2	**Warramunga Arr**	**38.70**	**200**	P	**P**	**07 22 15.8**	**-0.3**
WB2				IAmb	IAmb	07 22 16.3	
	comp=Z,3.8nm,0.8s						
WRA	**Warramunga Arr**	**38.70**	**200**	P	**P**	**07 22 15.6**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=24,slow=9.1,SNR=34						
ASAR	**Alice Springs**	**42.32**	**199**	P	**P**	**07 22 45.8**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=22,slow=6.9,SNR=4.8						
SONM	**Songino Array**	**45.86**	**322**	P	**P**	**07 23 13.7**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=138,slow=7.9,SNR=16						
SONM	**Songino Array**	**45.86**	**322**	P	**P**	**07 23 13.8**	**-0.4**
CM31	**Chiang Mai Arr**	**46.37**	**280**	P	**P**	**07 23 18.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**46.37**	**280**	P	**P**	**07 23 19.3**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=72,slow=6.3,SNR=20						
CMAR	**Chiang Mai Arr**	**46.37**	**280**	P	**P**	**07 23 18.8**	**+0.3**
MBWA	**Marble Bar**	**46.55**	**217**	P	**P**	**07 23 20.9**	**+1.1**
ZAA0	**Zalesovo Array**	**60.72**	**323**	P	**P**	**07 25 02.2**	**-1.1**
ZAA0				IAmb	IAmb	07 25 03.9	
	comp=Z,4.0nm,1.1s						
ZALV	**Zalesovo Beam**	**60.72**	**323**	P	**P**	**07 25 02.4**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=106,slow=7.9,SNR=11						
MK31	**Makanchi Array**	**61.19**	**315**	P	**P**	**07 25 06.1**	**-0.4**
MK31				IAmb	IAmb	07 25 22.1	
	comp=Z,2.2nm,0.9s						
MKAR	**Makanchi Array**	**61.19**	**315**	P	**P**	**07 25 06.3**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=91,slow=7.7,SNR=8.6						
KURK	**Kurchatov**	**63.99**	**319**	P	**P**	**07 25 24.2**	**-0.9**
KURBB	**Kurchatov Arra**	**64.04**	**319**	P	**P**	**07 25 25.0**	**-0.5**
	comp=Z,6.6nm,0.8s,baz=96,slow=7.1,SNR=47						
NRIK	**Noril'sk**	**64.11**	**340**	P	**P**	**07 25 26.6**	**+1.1**
	comp=Z,3.7nm,0.7s,baz=121,slow=5.7,SNR=7.3						
NRIK	**Noril'sk**	**64.11**	**340**	P	**P**	**07 25 26.8**	**+1.2**
NRIK				IAmb	IAmb	07 25 39.7	
	comp=Z,5.2nm,0.8s						
ILAR	**Eielson Array**	**64.61**	**26**	P	**P**	**07 25 29.0**	**0.0**
	comp=Z,0.7nm,0.9s,baz=234,slow=6.1,SNR=2.7						
BVAR	**Borovoye Array**	**69.19**	**321**	P	**P**	**07 25 58.1**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=92,slow=7.6,SNR=10						
BRVK	**Borovoye**	**69.26**	**321**	P	**P**	**07 25 58.3**	**-0.4**
BRVK				IAmb	IAmb	07 26 01.0	
	comp=Z,2.4nm,0.7s						
ARU	**Arti**	**75.76**	**325**	P	**P**	**07 26 37.8**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=90,slow=5.1,SNR=6.3						
YKA	**Yellowknife Ar**	**78.86**	**28**	P	**P**	**07 26 55.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=283,slow=5.5,SNR=9.7						
FINES	**FINESS Array B**	**89.46**	**336**	P	**P**	**07 27 47.5**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=40,slow=11,SNR=1.7						

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*IDC **07** 07:21:18.6±1.4, 37°.78N×72°.75E, h0km, mb3.3/4, mb1 3.5/8, mb1mx3.2/53, mbtmp3.4/8, ML3.1/3, Error ellipse: s-maj=27.8km s-min=25.3km az=111.0*
*NNC **07** 07:21:26.3±4.4, 38°.27N×72°.41E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=38.4km s-min=26.6km az=168.0*
ISC 07 07:21:20.2±1.2, 37°.87N±0°.09×72°.42E±0°.10, h10km, n13, σ2§06/17, mb3.3/4, 5C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.02**	**18**	Pn	**Pn**	**07 22 38.2**	**+2.5**
	0.7nm,0.3s,baz=210,slow=9.0,SNR=9.3						
AAK				Sn	**Sn**	**07 23 35.5**	**+1.6**
	0.2nm,0.3s,baz=303,slow=16,SNR=2.2						
AAK	**Ala-Archa**	**5.02**	**18**	⇑Pn	**Pn**	**07 22 39.9**	**+4.1**
	8.2nm,0.7s						
AAK				Lg	Lg	07 23 53.7	
	15nm,0.9s						
KK02	**Karatay Array**	**5.43**	**345**	⇑Pn	**Pn**	**07 22 42.4**	**+1.2**
	1.7nm,0.4s						
KK02				⇓Pg	**Pg**	**07 23 00.3**	**-3.8**
	5.4nm,0.6s						
KK02				⇑Lg	Lg	07 24 08.5	
	15nm,0.8s						
TKM2	**Tokmak 2**	**5.60**	**25**	⇑Pg	**Pb**	**07 22 58.6**	**+0.5**
	4.0nm,0.8s						
TKM2				⇓Lg	Lg	07 24 11.1	
	11nm,0.8s						
MKAR	**Makanchi Array**	**11.52**	**36**	Pn	**Pn**	**07 24 04.6**	**-0.1**
	baz=222,slow=15,SNR=2.2						
AB31	**Akbulak array**	**14.52**	**326**	⇓Pn	**Pn**	**07 24 47.2**	**+1.6**
	1.0nm,0.6s,baz=135,slow=11,SNR=15						
AB31				⇑Sn	**Sn**	**07 27 26.8**	**+0.3**
	4.9nm,1.2s,baz=130,slow=27,SNR=2.7						
BVAR	**Borovoye Array**	**15.22**	**355**	Pn	**Pn**	**07 24 52.9**	**-2.2**
	0.0nm,0.3s,baz=168,slow=16,SNR=2.6						
AKTO	**Aktyubinsk**	**16.23**	**325**	Pn	**Pn**	**07 25 08.4**	**+0.2**
	0.2nm,0.3s,baz=149,slow=15,SNR=5.4						
AKTO	**Aktyubinsk**	**16.23**	**325**	⇓Pn	**Pn**	**07 25 09.0**	**+0.9**
	3.2nm,0.9s						
AKTO				⇓Sn	**Sn**	**07 28 08.3**	**+0.2**
	2.8nm,1.1s						
SONM	**Songino Array**	**26.63**	**57**	P	**P**	**07 26 58.6**	**-0.4**
	0.3nm,0.7s,baz=250,slow=11,SNR=2.8						
TORD	**Torodi Ar. Bea**	**66.88**	**269**	P	**P**	**07 32 14.0**	**+1.2**
	0.3nm,0.6s,baz=29,slow=6.3,SNR=1.5						
YKA	**Yellowknife Ar**	**79.82**	**3**	P	**P**	**07 33 30.0**	**+1.6**
	0.1nm,0.4s,baz=351,slow=5.5,SNR=5.4						
WRA	**Warramunga Arr**	**81.77**	**123**	P	**P**	**07 33 37.2**	**-2.2**
	0.2nm,0.6s,baz=326,slow=5.0,SNR=2.5						

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*NOU **07** 07:33:53.7, 15°.94S×167°.95E, h146km, MLv4.6/15, Vanuatu Islands*
*IDC **07** 07:33:56.4±10.0, 16°.16S×167°.83E, h176km±134km, mb3.3/3, mb1 3.6/4, mb1mx3.3/30, mbtmp4.0/4, Error ellipse: s-maj=144.0km s-min=47.3km az=142.0*
ISC 07 07:33:54.1±1.5, 15°.97S±0°.09×168°.0E±0°.2, h177km, n14, σ1§97/15, mb3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.95**	**303**	P	**Pn**	**07 34 17.7**	**-3.4**
DVP	**Devils Point**	**1.75**	**175**	P	**Pn**	**07 34 26.5**	**-1.8**
RTV	**Rentapao**	**1.85**	**168**	P	**Pn**	**07 34 27.6**	**-1.7**
LIFNC	**LIFOU**	**4.84**	**189**	P	**Pn**	**07 35 03.9**	**-1.9**
MARNC	**Mare, Loyalty**	**5.48**	**180**	P	**Pn**	**07 35 12.5**	**-1.7**
KOUNC	**Koumac, New Ca**	**5.77**	**217**	P	**Pn**	**07 35 16.7**	**-1.4**
DZM	**Mont Dzumac**	**6.25**	**194**	P	**Pn**	**07 35 24.3**	**-0.1**
	14nm,0.3s,baz=7.4,slow=7.1,SNR=312						
DZM				S	**Sn**	**07 36 32.4**	**-3.2**
	1.7nm,0.3s,baz=345,slow=19,SNR=6.6						
DZM	**Mont Dzumac**	**6.25**	**194**	P	**Pn**	**07 35 24.9**	**+0.5**
NOUC	**Port Laguerre**	**6.31**	**195**	P	**Pn**	**07 35 25.9**	**+0.8**
OUENC	**Ouen Island, N**	**6.51**	**190**	P	**Pn**	**07 35 28.7**	**+1.0**
COEN	**Coen**	**24.08**	**271**	P	**P**	**07 38 54.9**	**+1.4**
WRA	**Warramunga Arr**	**32.25**	**258**	P	**P**	**07 40 06.3**	**+0.1**
	0.6nm,0.7s,baz=74,slow=5.9,SNR=12						
ASAR	**Alice Springs**	**32.93**	**251**	P	**P**	**07 40 12.8**	**+0.7**
	1.1nm,0.5s,baz=77,slow=8.8,SNR=24						
SONM	**Songino Array**	**83.92**	**323**	P	**P**	**07 46 06.7**	**+2.4**
	0.6nm,0.8s,baz=132,slow=4.4,SNR=4.3						

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*NEIC **07** 07:49:09.4±1.7, 19°.04N±0°.05×64°.80W±0°.05, h27km±7km, Error ellipse: s-maj=8.2km s-min=6.2km az=210.0*
*RSPR **07** 07:49:09.8, 19°.13N×64°.73W, h20km±5km, MD3.7/16*
*IDC **07** 07:49:11.3±5.3, 19°.10N×64°.66W, h65km±52km, mb3.4/7, mb1 3.8/10, mb1mx3.5/44, mbtmp3.9/10, ML3.4/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/48, Error ellipse: s-maj=41.4km s-min=19.4km az=51.0*
ISC 07 07:49:09.8±1.4, 19°.07N±0°.08×64°.82W±0°.03, h43km±16km, n106, σ1§37/112, mb3.7/6, 11C-10D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.68**	**164**	⇑eP	**Pn**	**07 49 21.6**	**-1.4**
TBVI	**Tortola**	**0.68**	**164**	eS	**Sn**	**07 49 31.7**	**-0.8**
STVI	**Saint Thomas**	**0.73**	**190**	⇓eP	**Pn**	**07 49 23.0**	**-0.6**
STVI	**Saint Thomas**	**0.73**	**190**	eS	**Sn**	**07 49 33.9**	**+0.2**
STVI	**Saint Thomas**	**0.73**	**190**		**Pn**	**07 49 22.9**	**-0.8**
STVI				Sn	**Sn**	**07 49 33.9**	**+0.2**
CUPR	**Culebra, Puert**	**0.88**	**210**	⇓eP	**Pn**	**07 49 25.5**	**-0.3**
CUPR	**Culebra, Puert**	**0.88**	**210**	eS	**Sn**	**07 49 37.0**	**-0.3**
CUPR	**Culebra, Puert**	**0.88**	**210**	Pn	**Pn**	**07 49 25.4**	**-0.3**
CUPR				Sn	**Sn**	**07 49 36.8**	**-0.5**
CUPR				IAML		07 49 42.7	
	comp=E,4μm,0.6s						
MTP	**Monte Pirata**	**1.19**	**216**	⇓eP	**Pn**	**07 49 30.2**	**+0.2**
MTP	**Monte Pirata**	**1.19**	**216**	eS	**Sn**	**07 49 46.0**	**+1.0**
MTP	**Monte Pirata**	**1.19**	**216**	Pn	**Pn**	**07 49 30.1**	**+0.1**
MTP				Sn	**Sn**	**07 49 42.7**	**-2.3**
MTP				IAML		07 49 50.6	
	comp=E,2μm,0.3s						
CBYP	**Canovanas**	**1.27**	**231**	⇑eP	**Pn**	**07 49 31.1**	**+0.1**
CBYP	**Canovanas**	**1.27**	**231**		**Pn**	**07 49 31.2**	**+0.1**
CBYP				Sn	**Sn**	**07 49 45.5**	**-1.4**
HUMP	**Col San Antoni**	**1.35**	**227**	⇓eP	**Pn**	**07 49 32.3**	**+0.2**
HUMP	**Col San Antoni**	**1.35**	**227**	eS	**Sn**	**07 49 49.8**	**+1.0**
HUMP	**Col San Antoni**	**1.35**	**227**		**Pn**	**07 49 32.2**	**+0.1**
HUMP				IAML		07 49 52.8	
	comp=N,2μm,0.7s						
HUMP	**Col San Antoni**	**1.35**	**227**		**Sn**	**07 49 49.8**	**+1.0**
GCPR	**Guaynabo City**	**1.42**	**238**	⇓eP	**Pn**	**07 49 32.7**	**-0.4**
GCPR	**Guaynabo City**	**1.42**	**238**	eS	**Sn**	**07 49 51.1**	**+0.5**
GCPR	**Guaynabo City**	**1.42**	**238**		**Pn**	**07 49 32.5**	**-0.6**
GCPR	**Guaynabo City**	**1.42**	**238**		**Sn**	**07 49 51.1**	**+0.5**
PDPR	**Patillas Dam,**	**1.55**	**228**	⇓eP	**Pn**	**07 49 35.2**	**+0.3**
PDPR	**Patillas Dam,**	**1.55**	**228**		**Pn**	**07 49 34.8**	**-0.1**
PDPR				IAML		07 50 08.6	
	comp=E,950nm,0.5s						
SJG	**San Juan**	**1.58**	**233**	eP	**Pn**	**07 49 35.3**	**0.0**
SJG	**San Juan**	**1.58**	**233**		**Pn**	**07 49 35.1**	**-0.2**
SJG				IAML		07 50 09.5	
	comp=E,914nm,0.8s						
EMPR	**Esperanza - Ma**	**1.73**	**250**	⇑eP	**Pn**	**07 49 37.7**	**+0.4**
EMPR	**Esperanza - Ma**	**1.73**	**250**	eS	**Sn**	**07 49 58.9**	**+0.7**
EMPR	**Esperanza - Ma**	**1.73**	**250**		**Pn**	**07 49 37.5**	**+0.2**
EMPR	**Esperanza - Ma**	**1.73**	**250**		**Sn**	**07 49 58.9**	**+0.7**
SMRT	**St. Maarten**	**1.94**	**121**	eP	**Pn**	**07 49 39.0**	**-1.3**
SMRT				eS	**Sn**	**07 50 04.3**	**+0.9**
SMRT	**St. Maarten**	**1.94**	**121**		**Pn**	**07 49 39.5**	**-0.7**
SMRT				IAML		07 50 14.4	
	comp=N,818nm,0.4s						
SMRT				IAML		07 50 18.6	
	comp=E,1μm,0.6s						
CELP	**Cerrillos**	**1.94**	**240**	⇓eP	**Pn**	**07 49 40.6**	**+0.3**
CELP	**Cerrillos**	**1.94**	**240**	eS	**Sn**	**07 50 04.9**	**+1.4**
CELP	**Cerrillos**	**1.94**	**240**		**Pn**	**07 49 40.5**	**+0.2**
CELP	**Cerrillos**	**1.94**	**240**		**Sn**	**07 50 04.9**	**+1.4**
AOPR	**Arecibo Observ**	**1.97**	**249**	⇑eP	**Pn**	**07 49 40.9**	**+0.1**
AOPR	**Arecibo Observ**	**1.97**	**249**	eS	**Sn**	**07 50 05.2**	**+1.0**
AOPR	**Arecibo Observ**	**1.97**	**249**	eP	**Pn**	**07 49 41.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.97**	**249**		**Pn**	**07 49 40.7**	**-0.1**
AOPR	**Arecibo Observ**	**1.97**	**249**		**Sn**	**07 50 05.2**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.98**	**246**	⇑eP	**Pn**	**07 49 41.5**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.98**	**246**		**Pn**	**07 49 41.5**	**+0.7**
OBIP	**Obispado Ponce**	**1.98**	**239**	⇓eP	**Pn**	**07 49 41.2**	**+0.3**
OBIP	**Obispado Ponce**	**1.98**	**239**	eS	**Sn**	**07 50 05.9**	**+1.5**
OBIP	**Obispado Ponce**	**1.98**	**239**		**Pn**	**07 49 41.3**	**+0.5**
OBIP				IAML		07 50 11.4	
	comp=N,589nm,0.5s						
OBIP	**Obispado Ponce**	**1.98**	**239**		**Sn**	**07 50 05.9**	**+1.5**
SABA	**Saba**	**2.08**	**134**	eP	**Pn**	**07 49 42.8**	**+0.6**
SABA	**Saba**	**2.08**	**134**		**Pn**	**07 49 43.1**	**+0.9**
SABA				IAML		07 50 22.3	
	comp=N,1μm,0.7s						
GBPR	**Guanica, Bosqu**	**2.24**	**241**	⇑eP	**Pn**	**07 49 46.0**	**+1.6**
AGPR	**Aguadilla, PR**	**2.25**	**255**	⇑eP	**Pn**	**07 49 45.0**	**+0.4**
AGPR	**Aguadilla, PR**	**2.25**	**255**	eS	**Sn**	**07 50 12.8**	**+1.6**
AGPR	**Aguadilla, PR**	**2.25**	**255**		**Pn**	**07 49 44.6**	**0.0**
AGPR				IAML		07 50 17.8	
	comp=N,471nm,0.7s						
AGPR				IAML		07 50 31.5	
	comp=E,487nm,0.6s						
AGPR	**Aguadilla, PR**	**2.25**	**255**		**Sn**	**07 50 12.8**	**+1.6**
LSP	**Las Mesas**	**2.33**	**248**	⇑eP	**Pn**	**07 49 46.2**	**+0.6**
LSP	**Las Mesas**	**2.33**	**248**	eS	**Sn**	**07 50 14.2**	**+1.2**
SEUS	**St. Eustatius**	**2.35**	**132**	eP	Pn	07 49 55.7	+10
PRSN	**Puerto Rico Se**	**2.36**	**249**	⇑eP	**Pn**	**07 49 46.8**	**+0.8**
PRSN	**Puerto Rico Se**	**2.36**	**249**		**Pn**	**07 49 46.9**	**+0.8**
PRSN				IAML		07 50 29.8	
	comp=E,974nm,0.3s						
MLPR	**Magueyes Islan**	**2.38**	**243**	⇓eP	**Pn**	**07 49 46.0**	**-0.3**
MLPR	**Magueyes Islan**	**2.38**	**243**	eS	**Sn**	**07 50 15.9**	**+1.6**
MLPR	**Magueyes Islan**	**2.38**	**243**	Pn	**Pn**	**07 49 46.1**	**-0.1**
MLPR	**Magueyes Islan**	**2.38**	**243**		**Sn**	**07 50 15.9**	**+1.6**
CRPR	**Cabo Rojo, PR**	**2.42**	**244**	⇓eP	**Pn**	**07 49 47.5**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.42**	**244**	eS	**Sn**	**07 50 16.2**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.42**	**244**	Pn	**Pn**	**07 49 47.3**	**+0.5**
CRPR				IAML		07 50 31.7	
	comp=N,442nm,0.9s						
CRPR	**Cabo Rojo, PR**	**2.42**	**244**		**Sn**	**07 50 16.2**	**+1.0**
IDE	**Isla Desecheo**	**2.61**	**255**	⇑eP	**Pn**	**07 49 50.1**	**+0.7**
NVDO	**Nevis, Disaste**	**2.85**	**133**	eP	**Pn**	**07 49 52.9**	**+0.1**
ANWB	**Willy Bob**	**3.20**	**115**	eP	**Pn**	**07 49 58.1**	**+0.5**
PCDR	**Punta Cana, DR**	**3.42**	**261**	⇑eP	**Pn**	**07 50 01.4**	**+0.8**
PCDR	**Punta Cana, DR**	**3.42**	**261**		**Pn**	**07 50 01.4**	**+0.8**
ANBD	**Bethesda, Anti**	**3.53**	**124**	eP	**Pn**	**07 50 00.0**	**-2.1**
ANBD				eS	**Sn**	**07 50 40.0**	**-2.7**
CBE	**Ff, Capester**	**4.28**	**134**	eP	**Pn**	**07 50 13.7**	**+1.3**
CBE	**Ff, Capester**	**4.28**	**134**	eS	**Sn**	**07 51 06.6**	**+5.5**
H05N1	**Guadeloupe/Mar**	**4.51**	**127**	P	**Pn**	**07 50 18.1**	**+2.5**
	SNR=5.3						
H05N1				S	**Sn**	**07 51 12.6**	**+5.7**
MAGL	**Barre de l'ile**	**4.58**	**132**	eP	Pn	07 50 21.3	+4.7
MDCT	**Cottage Hill,**	**4.70**	**136**	eP	**Pn**	**07 50 19.6**	**+1.5**
MDCT	**Cottage Hill,**	**4.70**	**136**	eP	**Pn**	**07 50 20.7**	**+2.5**
DSLB	**Salisbury**	**4.86**	**138**	eP	**Pn**	**07 50 22.6**	**+2.3**
MDN	**Morne-Daniel**	**4.96**	**138**	eP	Pn	07 50 28.4

T35A	**Sooner Cattle**	**1.78**	**75**		**Pn**	**08 03 03.6**	**+0.8**
T35A				IAmb_Lg		08 03 29.4	
	comp=Z,158nm,0.8s						
R32A	**Long Quarter,**	**1.93**	**359**		**Pn**	**08 03 05.4**	**+0.5**
X34A	**Smith Ranch, M**	**2.00**	**160**	Pn	**Pn**	**08 03 07.0**	**+1.2**
TUL1	**Leonard**	**2.39**	**103**		**Pn**	**08 03 11.6**	**+0.4**
TUL1				IAmb_Lg		08 03 50.2	
	comp=Z,124nm,0.9s						
TUL1	**Leonard**	**2.39**	**103**	P	**Pn**	**08 03 11.5**	**+0.4**
	baz=285,SNR=25						
TUL1				Sb	**Sb**	**08 03 45.6**	**+1.0**
	baz=285						
CBKS	**Cedar Bluff**	**2.48**	**340**		**Pn**	**08 03 13.9**	**+1.5**
CBKS				IAmb_Lg		08 03 51.8	
	comp=Z,86nm,0.8s						
CBKS	**Cedar Bluff**	**2.48**	**340**	P	**Pn**	**08 03 12.8**	**+0.4**
	baz=160						
LOOK	**Love County**	**2.77**	**154**	Pn	**Pn**	**08 03 16.9**	**+0.6**
AMTX	**Amarillo**	**2.93**	**238**	Pn	**Pn**	**08 03 19.1**	**+0.3**
AMTX	**Amarillo**	**2.93**	**238**	P	**Pn**	**08 03 18.9**	**+0.2**
	baz=55						
AMTX				Sb	**Sb**	**08 04 01.4**	**+1.1**
	baz=55						
KSU1	**Kansas State U**	**3.08**	**31**	IAmb_Lg		08 04 16.8	
	comp=Z,66nm,0.8s						
KSU1	**Kansas State U**	**3.08**	**31**	P	**Pn**	**08 03 21.4**	**+0.8**
	baz=213						
X37A	**Clayton**	**3.28**	**124**	Pn	**Pn**	**08 03 23.8**	**+0.3**
X37A				IAmb_Lg		08 04 23.6	
	comp=Z,140nm,0.9s						
U38A	**Gravette**	**3.45**	**90**	IAmb_Lg		08 04 24.0	
	comp=Z,62nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.03**	**310**	IAmb_Lg		08 04 46.9	
	comp=Z,90nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.03**	**310**	P	**Pn**	**08 03 33.5**	**-0.3**
	baz=128,SNR=29						
KSCO				S	**Sn**	**08 04 20.1**	**-1.1**
	baz=128						
KSCO				Sb	**Sb**	**08 04 34.1**	**+2.2**
	baz=128						
W39A	**Magazine**	**4.17**	**107**	P	**Pn**	**08 03 35.5**	**-0.1**
	baz=290						
W39A				S	**Sn**	**08 04 24.6**	**+0.2**
	baz=290						
MSTX	**Muleshoe**	**4.20**	**234**	IAmb_Lg		08 04 46.0	
	comp=Z,76nm,1.0s						
MSTX	**Muleshoe**	**4.20**	**234**	P	**Pn**	**08 03 35.6**	**-0.5**
	baz=51						
MSTX				Sb	**Sb**	**08 04 39.2**	**+2.4**
	baz=51						
N33A	**J Bar K, Exete**	**4.35**	**12**	IAmb_Lg		08 04 58.5	
	comp=Z,71nm,1.0s						
Z38A	**Mt. Pleasant**	**4.42**	**136**	IAmb_Lg		08 04 53.0	
	comp=Z,50nm,0.7s						
S39A	**Bolivar**	**4.43**	**73**	IAmb_Lg		08 04 53.7	
	comp=Z,56nm,0.7s						
MIAR	**Mount Ida**	**4.58**	**114**	IAmb_Lg		08 05 03.9	
	comp=Z,52nm,0.8s						
MIAR	**Mount Ida**	**4.58**	**114**	P	**Pn**	**08 03 41.4**	**+0.2**
	baz=296						
MIAR				S	**Sn**	**08 04 34.4**	**-0.2**
	baz=296						
WHTX	**Lake Whitney,**	**4.59**	**167**	P	**Pn**	**08 03 41.5**	**+0.1**
	baz=347						
T25A	**Trinidad**	**4.66**	**280**	P	**Pn**	**08 03 41.9**	**-0.7**
	baz=96,SNR=7.9						
T25A				Sb	**Sb**	**08 04 54.1**	**+3.9**
	baz=96						
U40A	**Yellville**	**4.69**	**90**	IAmb_Lg		08 05 04.4	
	comp=Z,74nm,0.7s						
U40A	**Yellville**	**4.69**	**90**	P	**Pn**	**08 03 43.1**	**+0.4**
	baz=274						
BGNE	**Belgrade**	**4.93**	**4**		**Pn**	**08 03 46.2**	**0.0**
BGNE	**Belgrade**	**4.93**	**4**	P	**Pn**	**08 03 45.4**	**-0.7**
	baz=185,SNR=7.4						
BGNE				S	**Sn**	**08 04 41.9**	**-1.4**
	baz=185						
P38A	**Dawn**	**5.12**	**51**		**Pn**	**08 03 49.5**	**+0.9**
X40A	**Basin Creek Fa**	**5.16**	**111**	IAmb_Lg		08 05 20.5	
	comp=Z,86nm,0.8s						
X40A	**Basin Creek Fa**	**5.16**	**111**	P	**Pn**	**08 03 49.5**	**+0.3**
	baz=294						
OGNE	**Ogallala**	**5.17**	**330**		**Pn**	**08 03 50.5**	**+0.9**
OGNE				IAmb_Lg		08 05 15.5	
	comp=Z,65nm,0.8s						
OGNE	**Ogallala**	**5.17**	**330**	P	**Pn**	**08 03 49.8**	**+0.3**
	baz=149						
WHAR	**Wooly Hollow**	**5.31**	**101**	IAmb_Lg		08 05 23.9	
	comp=Z,68nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.32**	**94**	IAmb_Lg		08 05 26.6	
	comp=Z,47nm,0.7s						
WLAR	**White Oak Lake**	**5.34**	**120**	IAmb_Lg		08 05 31.3	
	comp=Z,72nm,1.1s						
W41B	**Gary Mavity, V**	**5.37**	**102**	IAmb_Lg		08 05 25.6	
	comp=Z,57nm,0.7s						
W41B	**Gary Mavity, V**	**5.37**	**102**	P	**Pn**	**08 03 51.8**	**-0.3**
	baz=286						
W41B				S	**Sn**	**08 04 51.6**	**-2.6**
	baz=286						
SDCO	**Great Sand Dun**	**5.61**	**285**	P	**Pn**	**08 03 55.0**	**-0.7**
	baz=101						
SDCO				Sb	**Sb**	**08 05 21.6**	**+4.1**
	baz=101						
Q24A	**Divide**	**5.71**	**298**	IAmb_Lg		08 05 30.8	
	comp=Z,43nm,0.8s						
Q24A	**Divide**	**5.71**	**298**	P	**Pn**	**08 03 56.1**	**-0.9**
	baz=114						
Q24A				S	**Sn**	**08 05 02.0**	**-0.8**
	baz=114						
L34A	**Svendsen Farm,**	**5.75**	**17**		**Pn**	**08 03 57.9**	**+0.5**
435B	**Jarrell**	**5.76**	**171**	IAmb_Lg		08 05 43.5	
	comp=Z,38nm,0.9s						
NATX	**Nacogdoches**	**5.76**	**144**	IAmb_Lg		08 05 50.7	
	comp=Z,36nm,1.2s						
P40A	**Paris**	**6.04**	**58**		**Pn**	**08 04 02.4**	**+1.1**
P40A				IAmb_Lg		08 05 48.9	
	comp=Z,57nm,0.8s						
JCT	**Junction City**	**6.07**	**189**	IAmb_Lg		08 05 57.8	
	comp=Z,61nm,0.8s						
LCAR	**Lake Charles**	**6.08**	**92**	IAmb_Lg		08 05 44.9	
	comp=Z,34nm,0.7s						
CCM	**Cathedral Cave**	**6.12**	**73**	IAmb_Lg		08 05 43.5	
	comp=Z,38nm,0.8s						
CCM	**Cathedral Cave**	**6.12**	**73**	P	**Pn**	**08 04 03.0**	**+0.6**
	baz=258						
K31A	**O'Neill**	**6.13**	**359**	IAmb_Lg		08 05 49.4	
	comp=Z,53nm,0.9s						
CCAR	**Cane Creek**	**6.20**	**112**	IAmb_Lg		08 05 56.3	
	comp=Z,40nm,0.7s						
ISCO	**Idaho Springs**	**6.40**	**303**	P	**Pn**	**08 04 06.1**	**-0.4**
	baz=119,SNR=5.2						
ANMO	**Albuquerque**	**6.53**	**259**	Pn	**Pn**	**08 04 07.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=72,slow=16,SNR=3.7						
ANMO				Pg	**Pb**	**08 04 26.4**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=50,slow=14,SNR=4.9						
ANMO				Lg	Lg	08 05 51.7	
	comp=Z,2.7nm,0.3s,baz=32,slow=8.0,SNR=7.9						
PBMO	**Poplar Bluff**	**6.63**	**85**	IAmb_Lg		08 06 01.5	
	comp=Z,44nm,0.8s						
FVM	**French Village**	**6.74**	**75**	IAmb_Lg		08 06 07.0	
	comp=Z,34nm,0.7s						
SCIA	**State Center**	**6.87**	**36**	IAmb_Lg		08 06 12.0	
	comp=Z,44nm,0.7s						
SLM	**Saint Louis**	**7.03**	**70**	IAmb_Lg		08 06 11.7	
	comp=Z,29nm,0.8s						
PHWY	**Pilot Hill**	**7.16**	**314**	IAmb_Lg		08 06 17.2	
	comp=Z,36nm,0.9s						
MNTX	**Cornudas Mount**	**7.34**	**231**	P	**Pn**	**08 04 18.8**	**-0.4**
	baz=47						
ECSD	**EROS Data Cent**	**7.41**	**12**	P	**Pn**	**08 04 18.4**	**-1.7**
	baz=193						
S44A	**Carbondale**	**7.61**	**78**	IAmb_Lg		08 06 34.8	
	comp=Z,35nm,0.7s						
K38A	**Parkersburg**	**7.65**	**35**	IAmb_Lg		08 06 53.9	
	comp=Z,48nm,0.9s						
Y45A	**Yeager Farm, C**	**7.91**	**107**	IAmb_Lg		08 06 47.3	
	comp=Z,26nm,0.8s						
SUSD	**Miller**	**7.95**	**358**	IAmb_Lg		08 06 49.9	
	comp=Z,24nm,0.8s						
SUSD	**Miller**	**7.95**	**358**	P	**Pn**	**08 04 26.7**	**-0.8**
	baz=179						
L40A	**Anamosa**	**8.02**	**44**	IAmb_Lg		08 06 50.6	
	comp=Z,49nm,0.8s						
TXAR	**Lajitas Array**	**8.28**	**212**	Pn	**Pn**	**08 04 31.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=38,slow=11,SNR=22						
TXAR				Pg	**Pb**	**08 04 57.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=39,slow=11,SNR=6.9						
TXAR				Sn	**Sn**	**08 06 03.0**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=28,slow=14,SNR=1.5						
TXAR				Lg	Lg	08 06 45.8	
	comp=Z,1.6nm,0.3s,baz=59,slow=46,SNR=3.3						
HDIL	**Hopedale**	**8.39**	**58**	P	**Pn**	**08 04 33.6**	**0.0**
	baz=244,SNR=8.9						
I37A	**Lemond, Waseca**	**8.53**	**27**	IAmb_Lg		08 07 08.5	
	comp=Z,22nm,0.7s						
K22A	**Casper**	**8.64**	**318**	IAmb_Lg		08 07 18.4	
	comp=Z,40nm,1.0s						
RSSD	**Black Hills**	**8.66**	**333**	IAmb_Lg		08 07 10.6	
	comp=Z,22nm,1.1s						
RSSD	**Black Hills**	**8.66**	**333**	P	**Pn**	**08 04 38.1**	**+0.6**
	baz=150						
L42A	**Oliver, Polo**	**8.89**	**49**	IAmb_Lg		08 07 21.0	
	comp=Z,28nm,0.8s						
JFWS	**Jewell Farm**	**9.12**	**43**	P	**Pn**	**08 04 43.2**	**-0.4**
	baz=228						
PDAR	**Pinedale Array**	**10.48**	**310**	Pn	**Pn**	**08 05 02.3**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=124,slow=14,SNR=5.8						
PDAR				Pg		08 05 42.7	
	comp=Z,0.3nm,0.3s,baz=127,slow=15,SNR=6.9						
PDAR				Lg	Lg	08 07 57.0	
	comp=Z,0.4nm,0.3s,baz=119,slow=33,SNR=5.9						
TKL	**Tuckaleechee C**	**12.08**	**90**	Pn	**Pn**	**08 05 25.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=215,slow=12,SNR=4.9						
TKL				Lg	Lg	08 08 46.8	
	comp=Z,0.4nm,0.3s,baz=206,slow=6.1,SNR=2.5						
ULM	**Lac du Bonnet**	**13.90**	**7**	Pn	Pn	08 05 43.6	-5.4
	comp=Z,0.3nm,0.3s,baz=247,slow=5.0,SNR=2.9						

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*ANF **07** 08:06:14.4±0.4, 36.˚46N×98.˚70W, h0km, ML4.7/10, Error ellipse: s-maj=4.5km s-min=3.5km az=144.0*
*TUL **07** 08:06:15.1±1.1, 36.˚48N±0.˚02×98.˚76W±0.˚02, h9km±5km, ML3.9, mb_Lg3.7/101(NEIC), Error ellipse: s-maj=3.2km s-min=1.8km az=221.0*
*NEIC **07** 08:06:15.3±1.2, 36.˚460N±0.˚008×98.˚71W±0.˚02, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.7km az=271.0*
*IDC **07** 08:06:15.7±1.5, 36.˚53N×98.˚77W, h0km, mb3.3/1, mb1 3.8/5, mb1mx3.3/49, mbtmp3.5/5, ML2.8/2, Error ellipse: s-maj=22.0km s-min=10.5km az=110.0*

ISC 07 08:06:15.6±1.1, 36.˚45N±0.˚03×98.˚69W±0.˚02, h3km±10km, n97, σ1°08/64, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.26**	**356**	Pg	**Pg**	**08 06 20.2**	**-0.4**
OK035				Sg	**Sg**	**08 06 24.0**	**0.0**
U32A	**Winter Ranch,**	**0.26**	**255**	Pg	**Pg**	**08 06 19.9**	**-0.8**
U32A				Sg	**Sg**	**08 06 23.5**	**-0.6**
CROK	**Carrier**	**0.57**	**84**	Pg	**Pg**	**08 06 27.0**	**+0.5**
CROK				Sg	**Sg**	**08 06 35.4**	**+1.5**
KAN14	**Manchester OK**	**0.77**	**49**		**Pg**	**08 06 30.2**	**-0.2**
KAN14				Sg	**Sg**	**08 06 40.9**	**+0.4**
GC02	**Grant County #**	**0.78**	**59**	Pg	**Pg**	**08 06 30.3**	**-0.2**
GC02				Sg	**Sg**	**08 06 41.2**	**+0.6**
KAN10	**Anthony SW Sta**	**0.82**	**35**	Pg	**Pg**	**08 06 30.9**	**-0.5**
KAN10				Sg	**Sg**	**08 06 42.1**	**0.0**
KAN16	**Harper SW Stat**	**0.92**	**33**	Pg	**Pg**	**08 06 32.6**	**-0.7**
KAN16				Sg	**Sg**	**08 06 45.3**	**+0.1**
KAN05	**Bluff City Nor**	**0.93**	**45**		**Pg**	**08 06 32.8**	**-0.6**
KAN05				Sg	**Sg**	**08 06 45.3**	**-0.2**
KAN17	**Caldwell West**	**0.95**	**51**	Pg	**Pg**	**08 06 33.0**	**-0.8**
KAN17				Sg	**Sg**	**08 06 46.0**	**-0.1**
KAN08	**Anthony NE Sta**	**0.97**	**36**		**Pg**	**08 06 33.5**	**-0.7**
KAN08				Sg	**Sg**	**08 06 46.5**	**-0.2**
KAN12	**Harper NE Stat**	**1.01**	**33**	Pg	**Pg**	**08 06 34.0**	**-1.0**
KAN12				Sg	**Sg**	**08 06 47.6**	**-0.5**
KAN01	**Argonia South**	**1.02**	**46**		**Pg**	**08 06 34.7**	**-0.6**
KAN01				Sg	**Sg**	**08 06 48.3**	**-0.3**
KAN06	**Argonia West S**	**1.04**	**40**		**Pg**	**08 06 34.6**	**-0.9**
KAN13	**South Haven SW**	**1.12**	**60**		**Pg**	**08 06 36.3**	**-0.9**
BCOK	**Bluff Creek, N**	**1.18**	**132**		**Pg**	**08 06 37.6**	**-0.6**
BLOK	**Blackwell**	**1.23**	**75**		**Pg**	**08 06 37.9**	**-1.2**
OK025	**Westminster Rd**	**1.40**	**128**	Pn	**Pn**	**08 06 41.3**	**-0.7**
OKCFA	**Oklahoma City**	**1.44**	**135**		**Pn**	**08 06 41.6**	**-1.0**
OKCSW	**OKLAHOMA CITY**	**1.45**	**135**		**Pn**	**08 06 42.0**	**-0.8**
OK031	**S. Brethren Rd**	**1.57**	**108**	Pn	**Pn**	**08 06 44.4**	**-0.1**
FNO	**Franklin**	**1.58**	**138**	Pn	**Pn**	**08 06 44.5**	**-0.1**
QUOK	**Quay**	**1.62**	**99**	Pn	**Pn**	**08 06 45.1**	**0.0**
OK030	**Cody Creek RV**	**1.62**	**108**	Pn	**Pn**	**08 06 45.1**	**-0.1**
OK034	**N. Norfolk Rd.**	**1.66**	**105**	Pn	**Pn**	**08 06 45.6**	**0.0**
WMOK	**Wichita Mounta**	**1.71**	**183**	Pn	**Pn**	**08 06 45.2**	**-1.1**
WMOK	**Wichita Mounta**	**1.71**	**183**	P	**Pn**	**08 06 45.5**	**-0.8**
	baz=0.7						
T35A	**Sooner Cattle**	**1.81**	**74**	Pn	**Pn**	**08 06 47.7**	**0.0**
R32A	**Long Quarter,**	**1.97**	**359**	Pn	**Pn**	**08 06 49.8**	**-0.2**
TUL1	**Leonard**	**2.40**	**102**	IAmb_Lg		08 07 33.1	
	comp=Z,278nm,0.8s						
TUL1	**Leonard**	**2.40**	**102**	P	**Pn**	**08 06 55.9**	**+0.1**
	baz=284						
TUL1				Sb	**Sb**	**08 07 29.9**	**+0.4**
	baz=284						
CBKS	**Cedar Bluff**	**2.50**	**341**	P	**Pn**	**08 06 58.2**	**+0.9**
	baz=161						
CBKS				Sb	**Sb**	**08 07 30.9**	**-1.6**
	baz=161						
LOOK	**Love County**	**2.74**	**153**	IAmb_Lg		08 07 51.0	
	comp=Z,268nm,0.9s						
AMTX	**Amarillo**	**2.90**	**238**	Sb	**Sb**	**08 07 44.7**	**+0.9**
	baz=55						
KSU1	**Kansas State U**	**3.12**	**31**	P	**Pn**	**08 07 06.1**	**+0.4**
	baz=214						
KSU1				Sb	**Sb**	**08 07 51.9**	**+1.7**
	baz=214						
U38A	**Gravette**	**3.47**	**89**	IAmb_Lg		08 08 13.0	
	comp=Z,159nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.04**	**310**	IAmb_Lg		08 08 29.3	
	comp=Z,221nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.04**	**310**	P	**Pn**	**08 07 17.6**	**-0.9**
	baz=128						
MSTX	**Muleshoe**	**4.16**	**235**	IAmb_Lg		08 08 31.1	
	comp=Z,258nm,0.9s						
MSTX	**Muleshoe**	**4.16**	**235**	Pb	**Pb**	**08 07 28.4**	**-1.1**
	baz=52						
MSTX				Sb	**Sb**	**08 08 22.3**	**+2.0**
	baz=52						
N33A	**J Bar K, Exete**	**4.39**	**12**	Pn	**Pn**	**08 07 21.6**	**-1.6**
N33A				IAmb_Lg		08 08 45.7	
	comp=Z,137nm,0.8s						
Z38A	**Mt. Pleasant**	**4.40**	**135**	IAmb_Lg		08 08 38.3	
	comp=Z,240nm,0.9s						
S39A	**Bolivar**	**4.47**	**72**	IAmb_Lg		08 08 48.8	
	comp=Z,161nm,0.9s						
WHTX	**Lake Whitney,**	**4.56**	**167**		**Pn**	**08 07 25.4**	**-0.1**
WHTX	**Lake Whitney,**	**4.56**	**167**	P	**Pn**	**08 07 25.4**	**-0.1**
	baz=347						
MIAR	**Mount Ida**	**4.58**	**113**	IAmb_Lg		08 08 51.0	
	comp=Z,114nm,0.7s						
T25A	**Trinidad**	**4.64**	**280**	IAmb_Lg		08 08 52.7	
	comp=Z,138nm,0.7s						
T25A	**Trinidad**	**4.64**	**280**	P	**Pn**	**08 07 25.9**	**-1.0**
	baz=97						
T25A				Sb	**Sb**	**08 08 38.4**	**+4.1**
	baz=97						
U40A	**Yellville**	**4.71**	**89**	IAmb_Lg		08 08 47.7	
	comp=Z,128nm,0.7s						
BGNE	**Belgrade**	**4.97**	**5**	IAmb_Lg		08 09 01.0	
	comp=Z,209nm,1.0s						
BGNE	**Belgrade**	**4.97**	**5**	P	**Pn**	**08 07 30.1**	**-1.1**
	baz=186						
237A	**Washetta, Mont**	**5.04**	**151**	IAmb_Lg		08 09 09.0	
	comp=Z,148nm,0.7s						
P38A	**Dawn**	**5.16**	**51**	IAmb_Lg		08 09 13.2	
	comp=Z,90nm,0.7s						
X40A	**Basin Creek Fa**	**5.16**	**111**	IAmb_Lg		08 09 07.1	
	comp=Z,155nm,0.8s						
MGMO	**Mountain Grove**	**5.20**	**80**	Pn	**Pn**	**08 07 34.4**	**+0.1**
MGMO				IAmb_Lg		08 09 02.2	
	comp=Z,100nm,0.8s						
WHAR	**Wooly Hollow**	**5.32**	**101**	IAmb_Lg		08 09 09.1	
	comp=Z,136nm,0.8s						
WLAR	**White Oak Lake**	**5.34**	**119**	IAmb_Lg		08 09 16.3	
	comp=Z,113nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.34**	**94**	IAmb_Lg		08 09 07.9	
	comp=Z,106nm,0.7s						
W41B	**Gary Mavity, V**	**5.38**	**102**	IAmb_Lg		08 09 08.6	
	comp=Z,147nm,0.9s						
R40A	**Maddies Statio**	**5.43**	**68**	IAmb_Lg		08 09 16.5	
	comp=Z,84nm,0.9s						
SDCO	**Great Sand Dun**	**5.60**	**285**	IAmb_Lg		08 09 20.9	
	comp=Z,84nm,0.9s						
Q24A	**Divide**	**5.71**	**298**	IAmb_Lg		08 09 22.3	
	comp=Z,120nm,0.8s						
435B	**Jarrell**	**5.73**	**170**	IAmb_Lg		08 09 26.8	
	comp=Z,144nm,0.8s						
NATX	**Nacogdoches**	**5.75**	**143**	IAmb_Lg		08 09 34.2	
	comp=Z,94nm,0.8s						
Z41A	**Richland Creek**	**5.79**	**122**	IAmb_Lg		08 09 34.9	
	comp=Z,130nm,0.7s						
JCT	**Junction City**	**6.03**	**189**	IAmb_Lg		08 09 36.8	
	comp=Z,123nm,0.8s						
CCM	**Cathedral Cave**	**6.15**	**73**	IAmb_Lg		08 09 30.2	
	comp=Z,145nm,0.8s						
K31A	**O'Neill**	**6.17**	**360**	IAmb_Lg		08 09 39.4	
	comp=Z,124nm,0.7s						
CCAR	**Cane Creek**	**6.20**	**112**	IAmb_Lg		08 09 42.3	
	comp=Z,145nm,1.0s						
ISCO	**Idaho Springs**	**6.40**	**304**	IAmb_Lg		08 09 50.3	
	comp=Z,64nm,0.8s						
ANMO	**Albuquerque**	**6.50**	**259**	Pn	**Pn**	**08 07 52.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=80,slow=13,SNR=2.0						
ANMO				Pg	**Pb**	**08 08 11.9**	**+2.5**
	comp=Z,2.4nm,0.3s,baz=80,slow=17,SNR=4.8						
ANMO				Lg	Lg	08 09 37.8	
	comp=Z,4.7nm,0.3s,baz=346,slow=19,SNR=7.5						
PBMO	**Poplar Bluff**	**6.65**	**85**	IAmb_Lg		08 09 58.5	
	comp=Z,61nm,0.7s						
FVM	**French Village**	**6.77**	**74**	IAmb_Lg		08 09 50.3	
	comp=Z,96nm,0.8s						
SLM	**Saint Louis**	**7.06**	**69**	IAmb_Lg		08 09 59.4	
	comp=Z,128nm,0.8s						
143A	**Socs Landing,**	**7.07**	**120**	IAmb_Lg		08 10 10.7	
	comp=Z,70nm,0.9s						
PHWY	**Pilot Hill**	**7.17**	**315**	IAmb_Lg		08 10 00.3	
	comp=Z,72nm,0.8s						
MNTX	**Cornudas Mount**	**7.30**	**231**	IAmb_Lg		08 10 15.1	
	comp=Z,77nm,0.8s						
PENMO	**Penman**	**7.30**	**87**	IAmb_Lg		08 10 21.4	
	comp=Z,80nm,0.7s						
HENM	**Henderson Moun**	**7.42**	**85**	IAmb_Lg		08 10 13.1	
	comp=Z,130nm,0.8s						
ECSD	**EROS Data Cent**	**7.45**	**12**	P	**Pn**	**08 08 03.1**	**-2.0**
	baz=193						
735A	**Kenedy**	**7.61**	**174**	IAmb_Lg		08 10 39.2	
	comp=Z,61nm,0.8s						
S44A	**Carbondale**	**7.64**	**78**	IAmb_Lg		08 10 36.2	
	comp=Z,78nm,0.7s						
W45A	**Hickory Valley**	**7.83**	**97**	IAmb_Lg		08 10 37.2	
	comp=Z,100nm,0.9s						
Y45A	**Yeager Farm, C**	**7.92**	**106**	IAmb_Lg		08 10 39.3	
	comp=Z,47nm,0.7s						
VBMS	**Vicksburg**	**7.96**	**120**	IAmb_Lg		08 10 47.8	
	comp=Z,47nm,1.0s						
SUSD	**Miller**	**7.99**	**359**	IAmb_Lg		08 10 42.5	
	comp=Z,54nm,0.8s						
TXAR	**Lajitas Array**	**8.24**	**212**	Pn	**Pn**	**08 08 15.5**	**-0.6**
	baz=43,slow=10,SNR=0.9						
TXAR				Pg	Pb	08 08 44.7	+5.7
	comp=Z,2.0nm,0.3s,baz=38,slow=14,SNR=4.0						
TXAR				Sn	**Sn**	**08 09 47.6**	**-2.2**
	comp=Z,1.8nm,0.3s,baz=82,slow=12,SNR=1.5						
TXAR				Lg	Lg	08 10 30.8	
	comp=Z,5.2nm,0.3s,baz=30,slow=34,SNR=9.9						
RWWY	**Rawlins**	**8.44**	**311**	IAmb_Lg		08 10 58.8	
	comp=Z,55nm,0.9s						
I37A	**Lemond, Waseca**	**8.57**	**27**	IAmb_Lg		08 11 09.2	
	comp=Z,81nm,0.9s						
K22A	**Casper**	**8.66**	**318**	IAmb_Lg		08 11 01.5	
	comp=Z,81nm,0.8s						
RSSD	**Black Hills**	**8.68**	**334**	IAmb_Lg		08 10 50.5	
	comp=Z,67nm,1.0s						
JFWS	**Jewell Farm**	**9.16**	**43**	IAmb_Lg		08 11 18.0	
	comp=Z,74nm,0.8s						
I40A	**Norwalk**	**9.66**	**37**	IAmb_Lg		08 11 27.9	
	comp=Z,39nm,0.8s						
PDAR	**Pinedale Array**	**10.49**	**310**	Pn	**Pn**	**08 08 48.9**	**+1.8**
	baz=124,slow=16,SNR=0.9						
PDAR				Pg		08 09 33.3	
	comp=Z,0.5nm,0.3s,baz=120,slow=15,SNR=3.0						
PDAR				Lg	Lg	08 11 40.1	
	comp=Z,0.6nm,0.3s,baz=118,slow=33,SNR=2.9						
TKL	**Tuckaleechee C**	**12.10**	**89**	Lg	Lg	08 12 27.5	
	comp=Z,0.8nm,0.3s,baz=1.0,slow=19,SNR=2.5						
ULM	**Lac du Bonnet**	**13.94**	**8**	Pn	Pn	08 09 27.3	-6.7
	comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=1.9						
ULM				Sn	Sn	08 11 54.3	-15
	comp=Z,0.5nm,0.3s,baz=256,slow=19,SNR=1.5						
ULM				Lg	Lg	08 13 26.2	
	comp=Z,0.4nm,0.3s,baz=282,slow=19,SNR=1.7						
SADO	**Sadowa**	**16.98**	**55**	Pg		08 11 26.4	
	comp=Z,0.3nm,0.3s,baz=279,slow=17,SNR=1.9						
SADO				Lg	Lg	08 15 03.4	
	comp=Z,0.3nm,0.3s,baz=159,slow=1.6,SNR=4.3						
YKA	**Yellowknife Ar**	**27.88**	**344**	P	**P**	**08 12 05.6**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=149,slow=8.5,SNR=3.9						

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*KRSC **07** 08:17:13.0±1.3, 56.˚21N×164.˚22E, h50km±18km, ML4.3*
*MOS **07** 08:17:16.2±1.3, 56.˚21N×164.˚10E, h45km, mb4.4/8, Error ellipse: s-maj=7.7km s-

PALN	**Palana**	**3.71**	**324**	*eP*	**Pn**	**08 18 11.4**	**+0.5**
SPN	**Mys Shipunski**	**3.91**	**220**	PN	**Pn**	**08 18 13.4**	**-0.2**
SPN	**Mys Shipunski**	**3.91**	**220**	*eP*	**Pn**	**08 18 13.4**	**-0.2**
SPN				*eS*	**Sn**	**08 18 57.2**	**-2.5**
SDLR	**Sedlovina**	**4.22**	**229**	PN	**Pn**	**08 18 19.3**	**+1.4**
SDLR	**Sedlovina**	**4.22**	**229**	*eP*	**Pn**	**08 18 19.3**	**+1.4**
KRER	**Koryakskii**	**4.26**	**230**	PN	**Pn**	**08 18 20.0**	**+1.4**
KRER	**Koryakskii**	**4.26**	**230**	*eP*	**Pn**	**08 18 20.0**	**+1.4**
SMAR	**Somma**	**4.26**	**229**	PN	**Pn**	**08 18 20.0**	**+1.3**
SMAR	**Somma**	**4.26**	**229**	*eP*	**Pn**	**08 18 20.0**	**+1.3**
AVH	**Avacha**	**4.29**	**230**	PN	**Pn**	**08 18 21.1**	**+2.2**
AVH	**Avacha**	**4.29**	**230**	*eP*	**Pn**	**08 18 21.1**	**+2.2**
UGLR	**Uglovaya**	**4.29**	**229**	PN	**Pn**	**08 18 20.8**	**+1.8**
UGLR	**Uglovaya**	**4.29**	**229**	*eP*	**Pn**	**08 18 20.8**	**+1.8**
KOK	**Koryaka**	**4.31**	**231**	PN	**Pn**	**08 18 21.0**	**+1.8**
KOK	**Koryaka**	**4.31**	**231**	*eP*	**Pn**	**08 18 21.0**	**+1.8**
GNL	**Ganaly**	**4.37**	**238**	PN	**Pn**	**08 18 21.6**	**+1.6**
GNL	**Ganaly**	**4.37**	**238**	*eP*	**Pn**	**08 18 21.6**	**+1.6**
TILK	**Tilichiki**	**4.42**	**13**	PN	**Pn**	**08 18 19.3**	**-1.3**
TILK	**Tilichiki**	**4.42**	**13**	*eP*	**Pn**	**08 18 19.3**	**-1.3**
TILK				*eS*	**Sn**	**08 19 10.3**	**-2.0**
DALK	**Dalny**	**4.45**	**227**	PN	**Pn**	**08 18 21.9**	**+0.9**
DALK	**Dalny**	**4.45**	**227**	*eP*	**Pn**	**08 18 21.9**	**+0.9**
PET	**Petropavlovsk**	**4.50**	**228**	*ePN*	**Pn**	**08 18 22.9**	**+1.3**
PET				pmax	pmax		
	comp=Z,45nm,0.5s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET	**Petropavlovsk**	**4.50**	**228**		**Pn**	**08 18 22.7**	**+1.1**
PET	**Petropavlovsk**	**4.50**	**228**	*eP*	**Pn**	**08 18 22.7**	**+1.1**
PET				*eS*	**Sn**	**08 19 12.9**	**-1.3**
PEA0B	**Petropavlovsk-**	**4.85**	**234**	*i* PN	**Pn**	**08 18 29.6**	**+3.0**
PEA0B	**Petropavlovsk-**	**4.85**	**234**	Pn	**Pn**	**08 18 29.0**	**+2.4**
PETK	**Petropavlovsk-**	**4.85**	**234**	P	**Pn**	**08 18 29.3**	**+2.8**
	comp=Z,1.9nm,0.3s,baz=67,slow=19,SNR=37						
PETK				S	**Sn**	**08 19 25.8**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=41,slow=13,SNR=2.4						
PETK	**Petropavlovsk-**	**4.85**	**234**	PN	**Pn**	**08 18 28.8**	**+2.3**
PETK	**Petropavlovsk-**	**4.85**	**234**		**Pn**	**08 18 28.8**	**+2.3**
KRMR	**Karymshinskiy**	**4.86**	**229**	PN	**Pn**	**08 18 28.5**	**+1.9**
KRMR				S	**Sn**	**08 19 22.9**	**-0.2**
KRMR	**Karymshinskiy**	**4.86**	**229**	*eP*	**Pn**	**08 18 28.5**	**+1.9**
KRMR				*eS*	**Sn**	**08 19 22.9**	**-0.2**
RUS	**Russkaya**	**5.00**	**224**	PN	**Pn**	**08 18 29.4**	**+0.9**
RUS	**Russkaya**	**5.00**	**224**	*eP*	**Pn**	**08 18 29.4**	**+0.9**
GRL	**Gorelyy**	**5.08**	**227**	PN	**Pn**	**08 18 32.8**	**+3.0**
GRL	**Gorelyy**	**5.08**	**227**	*eP*	**Pn**	**08 18 32.8**	**+3.0**
ASAK	**Asacha**	**5.28**	**227**	PN	**Pn**	**08 18 35.0**	**+2.5**
ASAK	**Asacha**	**5.28**	**227**	*eP*	**Pn**	**08 18 35.0**	**+2.5**
KDTR	**Khodutka, Kamc**	**5.66**	**222**	PN	**Pn**	**08 18 38.5**	**+1.0**
KDTR	**Khodutka, Kamc**	**5.66**	**222**	*eP*	**Pn**	**08 18 38.5**	**+1.0**
KMSK	**Kamenskaya**	**6.41**	**8**	PN	**Pn**	**08 18 47.9**	**0.0**
KMSK	**Kamenskaya**	**6.41**	**8**	*eP*	**Pn**	**08 18 47.9**	**0.0**
SKR	**Severo-Kuril's**	**7.30**	**225**	*i* PN	**Pn**	**08 19 01.4**	**+1.3**
BILL	**Bilibino**	**11.96**	**4**	*ePN*	**Pn**	**08 20 03.4**	**-0.5**
BILL				*eS*	**Sn**	**08 22 20.6**	**+3.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,97nm,8.0s						
GSTR	**Great Sitkin T**	**12.27**	**101**	Pn	**Pn**	**08 20 06.0**	**-2.2**
JKA	**Kamikawa-asahi**	**18.25**	**238**	P	**P**	**08 21 28.2**	**+1.2**
JKA	**Kamikawa-asahi**	**18.25**	**238**	IAmb	IAmb	08 21 47.6	
	comp=Z,47nm,1.4s						
ASAJ	**Asahikawa**	**18.26**	**238**	P	**P**	**08 21 28.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=96,slow=8.8,SNR=4.0						
YAK	**Yakutsk**	**18.50**	**303**	P	**P**	**08 21 28.6**	**-1.0**
KLR	**Kul'dur**	**20.70**	**264**	P	**P**	**08 21 53.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=59,slow=12,SNR=4.3						
KLR	**Kul'dur**	**20.70**	**264**	*i* P	**P**	**08 21 53.8**	**+0.1**
KLR				pmax	pmax		
	comp=Z,9.0nm,2.5s						
ZEA	**Zeya**	**21.19**	**279**	*eP*	**P**	**08 21 58.0**	**-0.9**
TIXI	**Tiksi**	**21.45**	**330**	P	**P**	**08 22 02.3**	**+0.7**
	comp=Z,6.3nm,0.7s,baz=115,slow=10,SNR=32						
TIXI	**Tiksi**	**21.45**	**330**	*ceP*	**P**	**08 22 03.0**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI	**Tiksi**	**21.45**	**330**	P	**P**	**08 22 02.5**	**+1.0**
TIXI				IAmb	IAmb	08 22 05.3	
	comp=Z,6.9nm,0.8s						
IMAR	**Indian Mountai**	**22.14**	**47**	P	**P**	**08 22 10.5**	**+1.4**
KDAK	**Kodiak Island**	**23.33**	**68**	P	**P**	**08 22 22.7**	**+1.1**
	comp=Z,4.4nm,0.7s,baz=286,slow=5.4,SNR=5.5						
KDAK	**Kodiak Island**	**23.33**	**68**	IAmb	IAmb	08 22 23.2	
	comp=Z,27nm,1.4s						
CNPM	**China Poot**	**23.62**	**63**	P	**P**	**08 22 24.3**	**-0.2**
BRLK	**Bradley Lake**	**23.75**	**63**	P	**P**	**08 22 25.0**	**-0.8**
BRLK				IAmb	IAmb	08 22 48.9	
	comp=Z,18nm,1.3s						
PWL	**Port Wells**	**24.79**	**59**	P	**P**	**08 22 35.3**	**0.0**
ILAR	**Eielson Array**	**24.98**	**50**	P	**P**	**08 22 37.3**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=261,slow=7.8,SNR=11						
ILAR	**Eielson Array**	**24.98**	**50**	*eP*	**P**	**08 22 37.0**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BMAR	**Burnt Mountain**	**25.86**	**44**	P	**P**	**08 22 45.6**	**+0.5**
MJA0	**Matsu Arr-Jizo**	**26.29**	**233**	*eP*	**P**	**08 22 50.4**	**+1.2**
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MJAR	**Matsushiro Arr**	**26.31**	**233**	P	**P**	**08 22 49.8**	**+0.5**
	comp=Z,5.9nm,0.8s,baz=24,slow=8.9,SNR=8.7						
MJAR	**Matsushiro Arr**	**26.31**	**233**	IAmb	IAmb	08 23 00.2	
	comp=Z,8.1nm,1.4s						
GLB	**Gilahina Butte**	**26.82**	**57**	P	**P**	**08 22 54.3**	**+0.5**
GLB				IAmb	IAmb	08 23 18.3	
	comp=Z,5.5nm,1.2s						
INK	**Inuvik**	**29.98**	**41**	P	**P**	**08 23 22.4**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=292,slow=7.7,SNR=5.1						
INK	**Inuvik**	**29.98**	**41**	P	**P**	**08 23 22.2**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	**29.98**	**41**	P	**P**	**08 23 22.2**	**+0.4**
KSRS	**Korea Array**	**30.58**	**248**	P	**P**	**08 23 26.2**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=52,slow=8.0,SNR=1.9						
C36M	**Paulatuk**	**33.16**	**38**	P	**P**	**08 23 50.4**	**+0.7**
C36M				IAmb	IAmb	08 23 50.9	
	comp=Z,4.3nm,0.8s						
DLBC	**Dease Lake**	**34.35**	**58**	P	**P**	**08 24 02.4**	**+2.2**
	comp=Z,2.4nm,0.6s,baz=283,slow=5.9,SNR=14						
DLBC	**Dease Lake**	**34.35**	**58**	IAmb	IAmb	08 24 04.8	
	comp=Z,5.1nm,1.1s						
NRIK	**Noril'sk**	**34.84**	**323**	*eP*	**P**	**08 24 06.3**	**+2.1**
NRIK				pmax	pmax		
	comp=Z,11nm,0.4s						
SONM	**Songino Array**	**35.57**	**281**	P	**P**	**08 24 10.1**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=60,slow=8.0,SNR=9.4						
SONM				PcP	**PcP**	**08 26 39.2**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=65,slow=2.0,SNR=4.2						
SONM	**Songino Array**	**35.57**	**281**	IAmb	IAmb	08 24 10.4	
	comp=Z,1.7nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**36.43**	**176**	T	T	09 03 10.2	
	baz=357,slow=76,SNR=180						
H11N3	**WAKE ISLAND Hy**	**36.44**	**176**	T	T	09 03 05.8	
	baz=357,slow=76,SNR=114						
H11N1	**WAKE ISLAND Hy**	**36.45**	**176**	T	T	09 03 05.3	
	baz=357,slow=76,SNR=150						
H11S1	**WAKE ISLAND Hy**	**37.64**	**176**	T	T	09 04 39.0	
	baz=354,slow=73,SNR=11						
H11S3	**WAKE ISLAND Hy**	**37.65**	**176**	T	T	09 04 40.7	
	baz=354,slow=73,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**37.65**	**176**	T	T	09 04 45.9	
	baz=354,slow=73,SNR=8.6						
EUNU	**Eureka**	**38.38**	**15**	P	**P**	**08 24 35.4**	**+1.0**
YKA	**Yellowknife Ar**	**39.30**	**46**	P	**P**	**08 24 42.8**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=299,slow=8.2,SNR=21						
SPITS	**Spitsbergen Ar**	**44.49**	**351**	P	**P**	**08 25 23.8**	**-0.7**
	comp=Z,16nm,1.0s,baz=29,slow=12,SNR=5.7						
EDM	**Edmonton**	**45.06**	**57**	P	**P**	**08 25 30.6**	**+1.3**
EDM				pmax	pmax		
	comp=Z,7.0nm,0.6s						
EDM	**Edmonton**	**45.06**	**57**	P	**P**	**08 25 30.6**	**+1.3**
KURK	**Kurchatov**	**48.14**	**302**	*i* P	**P**	**08 25 52.4**	**-1.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.8s						
MSO	**Missoula**	**48.94**	**64**	P	**P**	**08 26 00.0**	**+0.3**
MSO				IAmb	IAmb	08 26 04.0	
	comp=Z,6.5nm,1.5s						
MK31	**Makanchi Array**	**48.97**	**296**	P	**P**	**08 25 59.0**	**-1.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MK31	**Makanchi Array**	**48.97**	**296**	P	**P**	**08 25 59.0**	**-1.0**
MKAR	**Makanchi Array**	**48.97**	**296**	P	**P**	**08 25 58.5**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=51,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**48.97**	**296**	*eP*	**P**	**08 26 01.9**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FCC	**Fort Churchill**	**49.60**	**42**	P	**P**	**08 26 04.8**	**+0.3**
FCC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FCC	**Fort Churchill**	**49.60**	**42**	P	**P**	**08 26 04.8**	**+0.3**
FCC				IAmb	IAmb	08 26 05.5	
	comp=Z,3.8nm,0.7s						
GOMU	**GeErMu**	**49.70**	**277**	P	**P**	**08 26 04.6**	**-1.5**
GOMU				pP	pP	08 26 07.2	+0.4
GOMU				sP	sP	08 26 09.2	+2.1
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,80nm,5.3s						
BRVK	**Borovoye**	**50.37**	**309**	*ceP*	**P**	**08 26 10.9**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
RLMT	**Red Lodge**	**52.47**	**63**	P	**P**	**08 26 27.7**	**+1.2**
RLMT				IAmb	IAmb	08 26 29.1	
	comp=Z,3.6nm,0.9s						
NVAR	**Mina Array Bea**	**52.55**	**75**	P	**P**	**08 26 28.8**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=312,slow=7.2,SNR=5.3						
FRB	**Frobisher Bay**	**53.72**	**26**	P	**P**	**08 26 34.5**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=1.0,slow=8.9,SNR=6.1						
PD31	**Pinedale Array**	**54.01**	**65**	P	**P**	**08 26 38.7**	**+0.8**
PD31				IAmb	IAmb	08 26 39.7	
	comp=Z,1.8nm,0.7s						
PDAR	**Pinedale Array**	**54.01**	**65**	P	**P**	**08 26 39.1**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=317,slow=3.0,SNR=17						
PDAR				LR	LR	08 51 18.2	
	comp=Z,151nm,18.2s,baz=22,slow=38						
KIRV	**Kirov**	**54.32**	**324**	P	**P**	**08 26 40.2**	**+0.6**
	comp=Z,7.2nm,0.6s,baz=22,slow=5.4,SNR=2.9						
KIRV	**Kirov**	**54.32**	**324**	*ceP*	**P**	**08 26 40.5**	**+0.8**
AAK	**Ala-Archa**	**55.84**	**297**	*ceP*	**P**	**08 26 51.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
O20A	**White River Ci**	**56.61**	**67**	P	**P**	**08 26 57.8**	**+1.1**
KKAR	**Karatay Array**	**57.45**	**300**	P	**P**	**08 27 01.8**	**-0.6**
KKAR	**Karatay Array**	**57.45**	**300**	P	**P**	**08 27 01.8**	**-0.6**
ABKAR	**Akbulak array**	**57.59**	**311**	P	**P**	**08 27 03.4**	**+0.1**
FINES	**FINESS Array B**	**58.21**	**338**	P	**P**	**08 27 07.2**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=358,slow=12,SNR=1.9						
CMAR	**Chiang Mai Arr**	**61.11**	**260**	P	**P**	**08 27 28.1**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=22,slow=5.9,SNR=6.5						
CMAR	**Chiang Mai Arr**	**61.11**	**260**	*eP*	**P**	**08 27 28.3**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**61.22**	**345**	P	**P**	**08 27 27.3**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=17,slow=6.9						
NOA	**NORSAR Array B**	**61.22**	**345**	P	**P**	**08 27 27.8**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=17,slow=6.8,SNR=4.3						
HFS	**Hagfors**	**61.71**	**344**	P	**P**	**08 27 30.7**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=348,slow=6.5,SNR=5.8						
SCHQ	**Schefferville**	**61.81**	**31**	P	**P**	**08 27 31.7**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=326,slow=5.6,SNR=7.2						
AKASG	**Malin Array Be**	**67.15**	**331**	P	**P**	**08 28 06.4**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=27,slow=6.6,SNR=10						
AKASG	**Malin Array Be**	**67.15**	**331**	*eP*	**P**	**08 28 06.0**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**67.15**	**331**	IAmb	IAmb	08 28 07.7	
	comp=Z,0.6nm,0.7s						
TXAR	**Lajitas Array**	**67.31**	**71**	P	**P**	**08 28 09.9**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=298,slow=4.6,SNR=18						
WRA	**Warramunga Arr**	**79.89**	**208**	P	**P**	**08 29 22.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=24,slow=5.9,SNR=11						
WRA	**Warramunga Arr**	**79.89**	**208**	*eP*	**P**	**08 29 23.9**	**+1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**83.56**	**208**	P	**P**	**08 29 42.2**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=16,slow=4.8,SNR=12						
ESDC	**Sonseca Array**	**84.00**	**351**	P	**P**	**08 29 43.8**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=355,slow=4.4,SNR=2.6						

NEIC ***07*** *08:29:25.4±2.0, 40°.24N±0°.04×124°.59W±0°.02, h15km±9km, Error ellipse: s-maj=5.1km s-min=2.5km az=174.0*

IDC ***07*** *08:29:25.4±2.3, 40°.45N×124°.41W, h0km, mb2.9/2, mb1 3.5/3, mb1mx3.2/44, mbtmp3.0/3, ML3.3/1, Error ellipse: s-maj=22.2km s-min=11.5km az=95.0*

NCEDC ***07*** *08:29:28.8±2.1, 40°.28N±0°.05×124°.32W±0°.08, h16km±5km, Mwr3.7/5, ML3.0/42(NEIC), Error ellipse: s-maj=8.7km s-min=6.8km az=86.0*

NEIC ***07*** *08:29:28.8, 40°.28N×124°.32W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr2.89; Mθθ-1.90; Mφφ-0.99; Mrθ1.85; Mrφ1.00; Mθφ-1.99; Fault plane solution: M0 3.85000×10^14^ NP1:φs132.32000°, δ67.59000°, λ96.28000°. NP2:φs296.23000°, δ23.23000°, λ75.16000°. Principal axes: T 4.0425, Plg67.0000°, Azm54.0000°; N -0.4099, Plg6.0000°, Azm310.0000°; P -3.6326, Plg22.0000°, Azm218.0000°;*

ANF ***07*** *08:29:29.8±0.8, 40°.48N×124°.09W, h10km, ML3.3/13 Error ellipse: s-maj=7.9km s-min=3.7km az=46.0*

ISC 07 08:29:27.7±1.7, 40°.28N±0°.04×124°.38W±0°.08, h26km±14km, n55, σ1§07/59, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCRM	**Chalk Rock**	**0.45**	**71**		**Pn**	**08 29 37.9**	**-0.8**
KMRM	**Mail Ridge**	**0.52**	**96**	Pg	**Pb**	**08 29 38.9**	**+0.5**
JCC	**Jacoby Creek,**	**0.60**	**27**		**Pb**	**08 29 39.5**	**-0.2**
KBSM	**Bell Springs**	**0.70**	**121**		**Pb**	**08 29 41.3**	**-0.2**
KHMM	**Horse Mountain**	**0.77**	**40**		**Pb**	**08 29 42.4**	**-0.2**
KCPM	**Cahto Peak**	**0.85**	**134**		**Pb**	**08 29 43.4**	**-0.6**
KOMM	**Orleans Mounta**	**1.22**	**35**		**Pn**	**08 29 48.6**	**-0.6**
O02D	**Mt. Diablo Mer**	**1.23**	**94**	P	**Pn**	**08 29 49.2**	**0.0**
	baz=275,SNR=205						
O02D				S	**Sn**	**08 30 04.9**	**0.0**
	baz=275						
GNAM	**Navarro Ridge**	**1.23**	**152**		**Pn**	**08 29 48.8**	**-0.4**
GASB	**Alder Springs**	**1.43**	**116**		**Pn**	**08 29 51.4**	**-0.6**
WDC	**Whiskeytown Da**	**1.44**	**77**		**Pn**	**08 29 51.9**	**-0.1**
WDC				IAML		08 30 09.8	
	comp=N,182nm,0.8s						
N02D	**Trinity Center**	**1.45**	**61**	P	**Pn**	**08 29 52.0**	**-0.3**
	baz=241,SNR=286						
N02D				S	**Sn**	**08 30 09.5**	**-1.1**
	baz=241						
M02C	**Callahan**	**1.60**	**46**	P	**Pn**	**08 29 54.1**	**-0.3**
	baz=225,SNR=282						
M02C				S	**Sn**	**08 30 13.1**	**-1.2**
	baz=225						
HOPS	**Hopland Field**	**1.64**	**141**		**Pn**	**08 29 54.3**	**-0.5**
HOPS	**Hopland Field**	**1.64**	**141**	IAML		08 30 33.9	
	comp=N,141nm,3.7s						
HOPS				IAML		08 30 43.2	
	comp=E,150nm,3.0s						
YBH	**Yreka Blue Hor**	**1.92**	**41**	Pg	**Pn**	**08 29 58.8**	**0.0**
	comp=E,8.2nm,0.3s,baz=211,slow=18,SNR=141						
YBH				Lg	Lg	08 30 23.1	
	comp=E,22nm,0.3s,baz=254,slow=18,SNR=14						
YBH	**Yreka Blue Hor**	**1.92**	**41**		**Pn**	**08 29 59.9**	**+1.1**
L02E	**Cave Junction**	**1.96**	**17**	P	**Pn**	**08 29 59.1**	**-0.3**
	baz=196,SNR=110						
L02E				S	**Sn**	**08 30 22.3**	**-0.8**
	baz=196						
O03E	**Paynes Creek**	**1.97**	**89**	P	**Pn**	**08 29 59.0**	**-0.5**
	baz=270,SNR=12						
O03E				S	**Sn**	**08 30 22.6**	**-0.8**
	baz=270						
MNRC	**McLaughlin Min**	**2.05**	**132**		**Pn**	**08 30 01.9**	**+1.4**
LMEM	**Manzanita Entr**	**2.16**	**82**		**Pn**	**08 30 02.6**	**+0.4**
SUTB	**Sutter Butte**	**2.26**	**117**		**Pn**	**08 30 02.8**	**-0.6**
HATC	**Hat Creek Radi**	**2.29**	**76**		**Pn**	**08 30 04.7**	**+0.8**
ORV	**Oroville**	**2.33**	**107**		**Pn**	**08 30 04.3**	**-0.1**
M04C	**Macdoel**	**2.44**	**51**	P	**Pn**	**08 30 06.4**	**+0.4**
	baz=232,SNR=21						
K02D	**Willamette Mer**	**2.47**	**12**	P	**Pn**	**08 30 06.7**	**+0.3**
	baz=192,SNR=112						
K02D				S	**Sn**	**08 30 34.6**	**-1.1**
	baz=192						
L04D	**Klamath Falls**	**2.49**	**38**	P	**Pn**	**08 30 08.1**	**+1.5**
	baz=219,SNR=138						
L04D				S	**Sn**	**08 30 37.9**	**+1.6**
	baz=219						
HUMO	**Hull Mountain**	**2.56**	**24**		**Pn**	**08 30 07.9**	**+0.4**
HUMO				IAML		08 30 38.3	
	comp=E,51nm,0.5s						
J01E	**Myrtle Point**	**2.90**	**7**	S	**Sn**	**08 30 44.1**	**-2.0**
	baz=186						
K04D	**Chiloquin, OR**	**3.06**	**39**	P	**Pn**	**08 30 14.2**	**-0.4**
	baz=220						
J04D	**Umpqua Nationa**	**3.41**	**29**	P	**Pn**	**08 30 20.0**	**+0.6**
	baz=210						
MOD	**Modoc Plateau**	**3.48**	**61**		**Pn**	**08 30 19.9**	**-0.4**
MOD				IAML		08 30 47.2	
	comp=E,23nm,1.3s						
MOD				IAML		08 31 19.2	
	comp=N,28nm,2.2s						
RUBR	**Rubicon Trail**	**3.49**	**109**		**Pn**	**08 30 22.5**	**+2.0**
RUBR				IAML		08 31 37.5	
	comp=E,42nm,2.0s						
RUBR				IAML		08 31 38.9	
	comp=N,45nm,2.9s						
MPK	**Martis Peak**	**3.50**	**105**		**Pn**	**08 30 22.5**	**+1.9**
MPK				IAML		08 31 12.3	
	comp=E,48nm,1.8s						
I03D	**Drain, OR**	**3.50**	**12**	P	**Pn**	**08 30 21.0**	**+0.6**
	baz=192						
I03D				S	**Sn**	**08 30 59.7**	**-1.2**
	baz=192						
K05A	**Summer Lake**	**3.58**	**46**		**Pn**	**08 30 22.4**	**+0.7**
K05A				IAML		08 31 15.3	
	comp=N,40nm,4.9s						
K05A				IAML		08 32 02.9	
	comp=E,38nm,4.5s						
VCNR	**Virginia City**	**3.78**	**104**		**Pn**	**08 30 25.9**	**+1.5**
VCNR				IAML		08 31 47.9	
	comp=N,24nm,3.6s						
I04A	**Tendick Farm,**	**3.80**	**22**	P	**Pn**	**08 30 25.4**	**+0.7**
	baz=203						
I04A				S	**Sn**	**08 31 07.7**	**-0.9**
	baz=203						
J05D	**Fort Rock, OR**	**3.81**	**37**	P	**Pn**	**08 30 25.6**	**+0.7**
	baz=218,SNR=41						
I02E	**Swisshome, OR**	**3.84**	**6**	S	**Sn**	**08 31 08.3**	**-1.2**
	baz=185						
PNTR	**Pine Nut**	**3.88**	**106**		**Pn**	**08 30 27.9**	**+2.0**
PNTR				IAML		08 31 56.4	
	comp=N,31nm,1.2s						
PAHR	**Pah Rah Range**	**3.88**	**97**		**Pn**	**08 30 26.1**	**+0.3**
YERR	**Yerington**	**4.18**	**106**		**Pn**	**08 30 31.4**	**+1.5**
YERR				IAML		08 31 06.9	
	comp=N,16nm,4.1s						
YERR				IAML		08 32 20.8	
	comp=E,23nm,4.3s						
PINE	**Pine Mountain**	**4.34**	**35**		**Pn**	**08 30 33.9**	**+1.7**
PINE				IAML		08 31 16.0	
	comp=N,22nm,4.6s						
PINE				IAML		08 31 24.7	
	comp=E,27nm,3.4s						
H04D	**Lebanon**	**4.41**	**15**	S	**Sn**	**08 31 22.6**	**-0.8**
	baz=196						
KVN	**Kaiserville**	**5.00**	**102**		**Pn**	**08 30 42.1**	**+0.9**
KVN				IAML		08 31 44.7	
	comp=N,8.3nm,4.1s						
KVN				IAML		08 31 54.7	
	comp=E,8.4nm,4.9s						
NVAR	**Mina Array Bea**	**5.06**	**109**	Pn	**Pn**	**08 30 43.9**	**+1.8**
	comp=E,1.0nm,0.3s,baz=293,slow=14,SNR=18						
NVAR				Pg	**Pb**	**08 30 53.0**	**-2.6**
	comp=E,0.5nm,0.3s,baz=294,slow=16,SNR=5.7						
NVAR				Lg	Lg	08 32 08.0	
	baz=222,slow=46,SNR=1.1						
J08A	**Circle Bar Ran**	**5.38**	**53**		**Pn**	**08 30 46.6**	**+0.3**
J08A				IAML		08 31 31.9	
	comp=E,9.5nm,3.0s						
J08A				IAML		08 32 07.9	
	comp=N,10nm,4.5s						
TXAR	**Lajitas Array**	**20.17**	**116**	P	Pn	08 34 04.2	+2.1
	comp=N,0.3nm,0.9s,baz=302,slow=8.4,SNR=3.7						
TXAR	**Lajitas Array**	**20.17**	**116**	P	Pn	08 34 04.2	+2.1
YKA	**Yellowknife Ar**	**23.01**	**12**	P	**P**	**08 34 31.8**	**+1.5**
	comp=N,0.9nm,1.0s,baz=202,slow=9.9,SNR=5.5						
YKA	**Yellowknife Ar**	**23.01**	**12**	P	**P**	**08 34 31.8**	**+1.5**
H11N3	**WAKE ISLAND Hy**	**61.47**	**272**	T	T	09 46 46.1	
	baz=61						
H11N2	**WAKE ISLAND Hy**	**61.47**	**272**	T	T	09 46

	comp=Z,425nm,0.8s								
AMTX	**Amarillo**	**2.94**	**238**	Pn		**Pn**	**08 37 59.0**	**+0.8**	
AMTX	**Amarillo**	**2.94**	**238**	P		**Pn**	**08 37 59.0**	**+0.8**	
	baz=56								
AMTX				Sb		**Sb**	**08 38 40.0**	**+0.2**	
	baz=56								
KSU1	**Kansas State U**	**3.06**	**31**	P		**Pn**	**08 38 01.5**	**+1.7**	
	baz=213,SNR=31								
KSU1				Sb		**Sb**	**08 38 46.2**	**+2.8**	
	baz=213								
X37A	**Clayton**	**3.29**	**124**	IAmb_Lg			08 39 01.5		
	comp=Z,536nm,0.7s								
U38A	**Gravette**	**3.44**	**90**	IAmb_Lg			08 39 02.7		
	comp=Z,310nm,0.7s								
HHAR	**Hobbs**	**3.81**	**92**	IAmb_Lg			08 39 16.1		
	comp=Z,272nm,0.9s								
KSCO	**Kaye Shedlock'**	**4.02**	**310**	IAmb_Lg			08 39 26.5		
	comp=Z,395nm,0.8s								
KSCO	**Kaye Shedlock'**	**4.02**	**310**	P		**Pn**	**08 38 13.5**	**+0.4**	
	baz=128,SNR=11								
KSCO				Sb		**Sb**	**08 39 14.4**	**+3.3**	
	baz=128								
W39A	**Magazine**	**4.17**	**107**	IAmb_Lg			08 39 31.6		
	comp=Z,422nm,0.8s								
W39A	**Magazine**	**4.17**	**107**	P		**Pn**	**08 38 15.6**	**+0.6**	
	baz=289								
W39A				Sb		**Sb**	**08 39 19.8**	**+4.7**	
	baz=289								
MSTX	**Muleshoe**	**4.21**	**234**	IAmb_Lg			08 39 28.2		
	comp=Z,302nm,0.7s								
MSTX	**Muleshoe**	**4.21**	**234**	P		**Pn**	**08 38 15.8**	**+0.1**	
	baz=52								
MSTX				Sb		**Sb**	**08 39 19.0**	**+2.7**	
	baz=52								
N33A	**J Bar K, Exete**	**4.34**	**12**	IAmb_Lg			08 39 33.6		
	comp=Z,218nm,0.8s								
S39A	**Bolivar**	**4.43**	**73**	IAmb_Lg			08 39 33.3		
	comp=Z,233nm,0.7s								
MIAR	**Mount Ida**	**4.58**	**114**			**Pn**	**08 38 22.0**	**+1.4**	
MIAR				IAmb_Lg			08 39 46.5		
	comp=Z,329nm,0.8s								
MIAR	**Mount Ida**	**4.58**	**114**	P		**Pn**	**08 38 21.2**	**+0.5**	
	baz=296,SNR=9.1								
MIAR				S		**Sn**	**08 39 14.0**	**+0.4**	
	baz=296								
WHTX	**Lake Whitney,**	**4.60**	**167**	Pn		**Pn**	**08 38 21.3**	**+0.3**	
WHTX	**Lake Whitney,**	**4.60**	**167**	P		**Pn**	**08 38 21.0**	**0.0**	
	baz=347,SNR=13								
WHTX				Sb		**Sb**	**08 39 32.3**	**+4.7**	
	baz=347								
T25A	**Trinidad**	**4.66**	**280**	Pn		**Pn**	**08 38 21.9**	**0.0**	
T25A				IAmb_Lg			08 39 42.2		
	comp=Z,346nm,0.9s								
T25A	**Trinidad**	**4.66**	**280**	P		**Pn**	**08 38 21.8**	**-0.1**	
	baz=97,SNR=21								
T25A				Sb		**Sb**	**08 39 33.8**	**+4.3**	
	baz=97								
U40A	**Yellville**	**4.68**	**90**	Pn		**Pn**	**08 38 23.8**	**+1.7**	
U40A				IAmb_Lg			08 39 38.5		
	comp=Z,268nm,0.7s								
U40A	**Yellville**	**4.68**	**90**	P		**Pn**	**08 38 22.6**	**+0.5**	
	baz=273,SNR=11								
U40A				S		**Sn**	**08 39 17.0**	**+0.8**	
	baz=273								
BGNE	**Belgrade**	**4.92**	**4**	Pn		**Pn**	**08 38 25.8**	**+0.5**	
BGNE				IAmb_Lg			08 40 01.0		
	comp=Z,261nm,0.8s								
BGNE	**Belgrade**	**4.92**	**4**	P		**Pn**	**08 38 25.7**	**+0.4**	
	baz=185,SNR=24								
BGNE				S		**Sn**	**08 39 23.8**	**+1.7**	
	baz=185								
N35A	**Tabor**	**4.96**	**28**			**Pn**	**08 38 26.9**	**+1.0**	
237A	**Washetta, Mont**	**5.07**	**151**			**Pn**	**08 38 26.9**	**-0.5**	
237A				IAmb_Lg			08 40 00.1		
	comp=Z,210nm,0.7s								
P38A	**Dawn**	**5.11**	**51**	Pn		**Pn**	**08 38 29.4**	**+1.4**	
P38A				IAmb_Lg			08 40 06.8		
	comp=Z,234nm,0.9s								
X40A	**Basin Creek Fa**	**5.16**	**111**			**Pn**	**08 38 28.9**	**+0.3**	
X40A				IAmb_Lg			08 40 06.0		
	comp=Z,266nm,0.9s								
X40A	**Basin Creek Fa**	**5.16**	**111**	P		**Pn**	**08 38 29.3**	**+0.7**	
	baz=294								
X40A				S		**Sn**	**08 39 28.9**	**+1.1**	
	baz=294								
OGNE	**Ogallala**	**5.17**	**330**			**Pn**	**08 38 30.0**	**+1.2**	
OGNE				IAmb_Lg			08 40 05.9		
	comp=Z,347nm,0.8s								
OGNE	**Ogallala**	**5.17**	**330**	P		**Pn**	**08 38 29.8**	**+1.0**	
	baz=149,SNR=17								
OGNE				S		**Sn**	**08 39 28.1**	**-0.1**	
	baz=149								
MGMO	**Mountain Grove**	**5.17**	**81**			**Pn**	**08 38 30.1**	**+1.4**	
MGMO				IAmb_Lg			08 39 58.1		
	comp=Z,186nm,0.8s								
WHAR	**Wooly Hollow**	**5.31**	**101**	IAmb_Lg			08 40 05.8		
	comp=Z,259nm,0.9s								
FCAR	**Ozark Folk Cen**	**5.32**	**95**	IAmb_Lg			08 40 11.5		
	comp=Z,212nm,0.7s								
WLAR	**White Oak Lake**	**5.34**	**120**	IAmb_Lg			08 40 05.6		
	comp=Z,327nm,1.0s								
W41B	**Gary Mavity, V**	**5.37**	**102**			**Pn**	**08 38 32.5**	**+0.9**	
W41B				IAmb_Lg			08 40 05.0		
	comp=Z,187nm,0.9s								
W41B	**Gary Mavity, V**	**5.37**	**102**	P		**Pn**	**08 38 31.6**	**0.0**	
	baz=286								
W41B				S		**Sn**	**08 39 32.1**	**-1.0**	
	baz=286								
R40A	**Maddies Statio**	**5.39**	**69**			**Pn**	**08 38 32.1**	**+0.3**	
SDCO	**Great Sand Dun**	**5.61**	**285**			**Pn**	**08 38 35.4**	**+0.4**	
SDCO	**Great Sand Dun**	**5.61**	**285**	P		**Pn**	**08 38 35.3**	**+0.2**	
	baz=101,SNR=34								
SDCO				Sb		**Sb**	**08 40 00.6**	**+3.7**	
	baz=101								
Q24A	**Divide**	**5.70**	**298**			**Pn**	**08 38 36.1**	**-0.3**	
Q24A				IAmb_Lg			08 40 17.0		
	comp=Z,237nm,0.8s								
Q24A	**Divide**	**5.70**	**298**	P		**Pn**	**08 38 36.1**	**-0.3**	
	baz=114								
L34A	**Svendsen Farm,**	**5.74**	**17**			**Pn**	**08 38 36.5**	**-0.1**	
435B	**Jarrell**	**5.77**	**171**	IAmb_Lg			08 40 17.7		
	comp=Z,190nm,0.8s								
435B	**Jarrell**	**5.77**	**171**	P		**Pn**	**08 38 36.6**	**-0.4**	
	baz=351								
NATX	**Nacogdoches**	**5.77**	**144**	IAmb_Lg			08 40 27.4		
	comp=Z,210nm,0.8s								
NATX	**Nacogdoches**	**5.77**	**144**	P		**Pn**	**08 38 36.6**	**-0.5**	
	baz=326								
NATX				S		**Sn**	**08 39 41.5**	**-1.5**	
	baz=326								
Z41A	**Richland Creek**	**5.80**	**122**	IAmb_Lg			08 40 19.6		
	comp=Z,221nm,0.9s								
Z41A	**Richland Creek**	**5.80**	**122**	P		**Pn**	**08 38 38.1**	**+0.7**	
	baz=305								
P40A	**Paris**	**6.03**	**58**			**Pn**	**08 38 41.6**	**+1.0**	
N38A	**Joes South For**	**6.04**	**43**			**Pn**	**08 38 41.3**	**+0.6**	
JCT	**Junction City**	**6.08**	**189**	IAmb_Lg			08 40 36.6		
	comp=Z,199nm,0.7s								
JCT	**Junction City**	**6.08**	**189**	P		**Pn**	**08 38 40.1**	**-1.1**	
	baz=8.2								
CCM	**Cathedral Cave**	**6.11**	**73**			**Pn**	**08 38 41.7**	**0.0**	
CCM	**Cathedral Cave**	**6.11**	**73**	P		**Pn**	**08 38 41.7**	**0.0**	
	baz=257								
K31A	**O'Neill**	**6.12**	**359**			**Pn**	**08 38 42.5**	**+0.7**	
CCAR	**Cane Creek**	**6.20**	**113**	IAmb_Lg			08 40 42.5		
	comp=Z,174nm,0.8s								
ISCO	**Idaho Springs**	**6.39**	**303**			**Pn**	**08 38 46.0**	**+0.2**	
ISCO				IAmb_Lg			08 40 43.8		
	comp=Z,151nm,0.7s								
ISCO	**Idaho Springs**	**6.39**	**303**	P		**Pn**	**08 38 45.9**	**0.0**	
	baz=119,SNR=8.6								
ANMO	**Albuquerque**	**6.53**	**259**	Pn		**Pn**	**08 38 48.3**	**+0.6**	
	comp=Z,0.8nm,0.3s,baz=82,slow=15,SNR=20								
ANMO				Pg		**Pb**	**08 39 08.0**	**+2.7**	
	comp=Z,2.6nm,0.3s,baz=78,slow=19,SNR=16								
ANMO				Lg		Lg	08 40 33.1		
	comp=Z,10nm,0.3s,baz=146,slow=1.9,SNR=6.0								
ANMO				LR		LR	08 41 10.8		
	comp=Z,135nm,18.5s,baz=26,slow=37								
ANMO	**Albuquerque**	**6.53**	**259**			**Pn**	**08 38 48.4**	**+0.8**	
ANMO	**Albuquerque**	**6.53**	**259**	P		**Pn**	**08 38 47.5**	**-0.1**	
	baz=74								
PBMO	**Poplar Bluff**	**6.62**	**85**			**Pn**	**08 38 49.4**	**+0.6**	
PBMO				IAmb_Lg			08 40 45.5		
	comp=Z,241nm,0.8s								
S22A	**4UR Ranch, Cre**	**6.65**	**283**			**Pn**	**08 38 50.2**	**+0.9**	
S22A	**4UR Ranch, Cre**	**6.65**	**283**	P		**Pn**	**08 38 49.6**	**+0.3**	
	baz=99,SNR=5.4								
FVM	**French Village**	**6.73**	**75**	IAmb_Lg			08 40 50.2		
	comp=Z,190nm,0.7s								
BNM	**Barren Site**	**6.92**	**253**			**Pn**	**08 38 53.1**	**0.0**	
SLM	**Saint Louis**	**7.02**	**70**	IAmb_Lg			08 40 57.1		
	comp=Z,216nm,0.7s								
PHWY	**Pilot Hill**	**7.15**	**314**	IAmb_Lg			08 40 56.4		
	comp=Z,155nm,0.7s								
N23A	**Red Feather La**	**7.19**	**310**	P		**Pn**	**08 38 57.2**	**+0.4**	
	baz=126								
MET	**Memphis--Engin**	**7.22**	**98**	IAmb_Lg			08 41 08.5		
	comp=Z,209nm,0.8s								
PENMO	**Penman**	**7.28**	**88**	IAmb_Lg			08 41 02.9		
	comp=Z,189nm,0.8s								
MNTX	**Cornudas Mount**	**7.35**	**231**	IAmb_Lg			08 41 11.3		
	comp=Z,121nm,0.9s								
MNTX	**Cornudas Mount**	**7.35**	**231**	P		**Pn**	**08 38 58.4**	**-0.4**	
	baz=47,SNR=8.4								
ECSD	**EROS Data Cent**	**7.40**	**12**			**Pn**	**08 38 57.9**	**-1.5**	
ECSD				IAmb_Lg			08 41 10.0		
	comp=Z,123nm,1.1s								
ECSD	**EROS Data Cent**	**7.40**	**12**	P		**Pn**	**08 38 58.2**	**-1.1**	
	baz=193,SNR=14								
HALT	**Halls**	**7.56**	**92**	IAmb_Lg			08 41 26.1		
	comp=Z,142nm,0.7s								
S44A	**Carbondale**	**7.61**	**78**	IAmb_Lg			08 41 17.0		
	comp=Z,197nm,0.8s								
735A	**Kenedy**	**7.65**	**174**	IAmb_Lg			08 41 27.4		
	comp=Z,118nm,1.1s								
W45A	**Hickory Valley**	**7.81**	**97**	IAmb_Lg			08 41 24.3		
	comp=Z,165nm,0.8s								
UTMT	**University of**	**7.90**	**88**	IAmb_Lg			08 41 45.5		
	comp=Z,188nm,0.9s								
Y45A	**Yeager Farm, C**	**7.91**	**107**	IAmb_Lg			08 41 45.9		
	comp=Z,110nm,0.8s								
SUSD	**Miller**	**7.94**	**358**	IAmb_Lg			08 41 27.5		
	comp=Z,100nm,0.8s								
SUSD	**Miller**	**7.94**	**358**	P		**Pn**	**08 39 06.7**	**-0.2**	
	baz=179								
833A	**Chaparral WMA,**	**8.17**	**185**	P		**Pn**	**08 39 10.0**	**0.0**	
	baz=3.7								
TX31	**Lajitas Ar. Si**	**8.29**	**212**			**Pn**	**08 39 11.1**	**-0.7**	
TX32	**Lajitas Array**	**8.29**	**212**			**Pn**	**08 39 10.9**	**-0.8**	
TXAR	**Lajitas Array**	**8.29**	**212**	Pn		**Pn**	**08 39 10.5**	**-1.2**	
	comp=Z,2.4nm,0.3s,baz=42,slow=11,SNR=175								
TXAR				Pg		**Pb**	**08 39 39.1**	**+3.8**	
	comp=Z,6.6nm,0.3s,baz=35,slow=14,SNR=7.9								
TXAR				Sn		**Sn**	**08 40 42.5**	**-2.6**	
	comp=Z,4.0nm,0.3s,baz=40,slow=16,SNR=4.1								
TXAR				Lg		Lg	08 41 30.1		
	comp=Z,10.0nm,0.3s,baz=31,slow=22,SNR=8.2								
TXAR	**Lajitas Array**	**8.29**	**212**			**Pn**	**08 39 11.6**	**-0.1**	
HDIL	**Hopedale**	**8.38**	**58**	P		**Pn**	**08 39 12.8**	**-0.1**	
	baz=244,SNR=12								
RWWY	**Rawlins**	**8.43**	**311**	IAmb_Lg			08 41 43.8		
	comp=Z,91nm,0.9s								
I37A	**Lemond, Waseca**	**8.52**	**27**	IAmb_Lg			08 41 47.6		
	comp=Z,115nm,0.8s								
K22A	**Casper**	**8.64**	**318**	IAmb_Lg			08 41 51.0		
	comp=Z,174nm,0.9s								
RSSD	**Black Hills**	**8.65**	**333**	IAmb_Lg			08 41 50.7		
	comp=Z,139nm,1.0s								
RSSD	**Black Hills**	**8.65**	**333**	P		**Pn**	**08 39 17.1**	**+0.4**	
	baz=150								
WVT	**Waverly**	**8.75**	**89**	P		**Pn**	**08 39 17.8**	**-0.1**	
	baz=276								
JFWS	**Jewell Farm**	**9.11**	**43**	IAmb_Lg			08 42 26.5		
	comp=Z,151nm,0.8s								
JFWS	**Jewell Farm**	**9.11**	**43**	P		**Pn**	**08 39 23.0**	**+0.2**	
	baz=228								
F33A	**5 Mile Ranch,**	**9.50**	**10**	IAmb_Lg			08 42 18.9		
	comp=Z,84nm,1.0s								
I40A	**Norwalk**	**9.61**	**37**	IAmb_Lg			08 42 19.8		
	comp=Z,113nm,1.1s								
SPMN	**Marine on St.**	**9.78**	**25**	P		**Pn**	**08 39 31.1**	**-0.9**	
	baz=209,SNR=10								
SFIN	**Lafayette**	**9.86**	**63**	P		**Pn**	**08 39 33.1**	**0.0**	
	baz=250								
WCI	**Wyandotte Cave**	**9.99**	**76**	P		**Pn**	**08 39 34.0**	**-1.0**	
	baz=264								
PDAR	**Pinedale Array**	**10.48**	**310**	Pn		**Pn**	**08 39 42.0**	**+0.2**	
	comp=Z,0.4nm,0.3s,baz=122,slow=14,SNR=13								
PDAR				Sn		Sn	08 41 30.2	-8.7	
	comp=Z,0.7nm,0.3s,baz=118,slow=19,SNR=1.7								
PDAR				Lg		Lg	08 42 38.0		
	comp=Z,1.8nm,0.3s,baz=157,slow=19,SNR=3.1								
LAO	**LASA Array**	**11.64**	**333**	P		**Pn**	**08 39 56.4**	**-1.2**	
	baz=149,SNR=6.6								
TKL	**Tuckaleechee C**	**12.08**	**90**	Pn		**Pn**	**08 40 03.3**	**-0.2**	
	comp=Z,1.1nm,0.3s,baz=229,slow=8.2,SNR=9.9								
TKL				Lg		Lg	08 43 26.3		
	comp=Z,1.2nm,0.3s,baz=9.4,slow=21,SNR=4.5								
EYMN	**Ely**	**12.61**	**23**	P		**Pn**	**08 40 07.6**	**-3.0**	
	baz=208								
DGMT	**Dagmar**	**12.64**	**343**	P		**Pn**	**08 40 08.9**	**-2.2**	
	baz=160								
ULM	**Lac du Bonnet**	**13.89**	**7**	Pn		**Pn**	08 40 23.9	-4.2	
	comp=Z,0.6nm,0.3s,baz=184,slow=12,SNR=3.0								
ULM				Sn		Sn	08 42 51.2	-11	
	comp=Z,1.2nm,0.3s,baz=277,slow=20,SNR=3.2								
ULM				Lg		Lg	08 44 17.1		
	comp=Z,0.5nm,0.3s,baz=262,slow=22,SNR=1.4								
SADO	**Sadowa**	**16.93**	**55**	Pn		**Pn**	**08 41 06.5**	**-1.8**	
	comp=Z,0.2nm,0.3s,baz=267,slow=15,SNR=1.4								
SADO				Sn		**Sn**	**08 44 07.8**	**-8.4**	
	comp=Z,0.5nm,0.3s,baz=274,slow=19,SNR=1.8								
SADO				Lg		Lg	08 45 55.3		
	comp=Z,0.7nm,0.3s,baz=260,slow=2.4,SNR=3.1								
NEW	**Newport**	**17.96**	**317**	Lg		Lg	08 46 27.9		
	comp=Z,0.1nm,0.3s,baz=169,slow=22,SNR=1.7								
YBH	**Yreka Blue Hor**	**19.36**	**293**	P		**Pn**	**08 41 38.4**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=2.8								
CMIG	**Matias Romero**	**19.62**	**169**	P		**Pn**	**08 41 43.1**	**+1.9**	
	comp=Z,0.1nm,0.3s,baz=17,slow=16,SNR=2.1								
YKA	**Yellowknife Ar**	**27.84**	**344**	P		**P**	**08 43 00.9**	**+0.4**	
	comp=Z,0.2nm,0.6s,baz=147,slow=8.9,SNR=4.5								
ILAR	**Eielson Array**	**40.08**	**330**	P		**P**	**08 44 48.1**	**+1.7**	
	comp=Z,0.5nm,0.9s,baz=101,slow=7.4,SNR=4.1								
HHC	**Hu-ho-hao-te**	**98.18**	**337**	*eP*		**P**	**08 50 46.9**	**-1.7**	
HHC				pmax		pmax			
	comp=Z,15nm,1.0s								
HHC				pmax		pmax			
	comp=Z,130nm,6.4s								

*TUL **07** 09:13:47±1.6, 36°.50N±0°.03×98°.72W±0°.06, h9km±7km, ML2.6, mb_Lg2.4/5(NEIC), Error ellipse: s-maj=6.7km s-min=3.6km az=85.0*

NEIC 07 09:13:47.3±0.7, 36°.49N±0°.03×98°.69W±0°.06, h2km±7km, Error ellipse: s-maj=6.7km s-min=3.6km az=84.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.22**	**357**	Pg	Pg	09 13 51.7	+0.1
U32A	**Winter Ranch,**	**0.27**	**247**	Pg	Pg	09 13 52.3	-0.1
CROK	**Carrier**	**0.57**	**88**	Pg	Pg	09 13 58.4	+0.2
KAN14	**Manchester OK**	**0.75**	**51**	Pg	Pg	09 14 01.6	-0.1
GC02	**Grant County #**	**0.76**	**61**	Pg	Pg	09 14 01.8	-0.1
KAN10	**Anthony SW Sta**	**0.80**	**37**	Pg	Pg	09 14 02.2	-0.3
KAN16	**Harper SW Stat**	**0.89**	**34**	Pg	Pg	09 14 04.1	-0.3
KAN13	**South Haven SW**	**1.11**	**61**		Pg	09 14 08.1	-0.4
BCOK	**Bluff Creek, N**	**1.21**	**133**	Pn	Pg	09 14 09.9	-0.5
BLOK	**Blackwell**	**1.22**	**77**	Pn	Pg	09 14 10.0	-0.6
OK025	**Westminster Rd**	**1.42**	**129**		Pn	09 14 13.6	-0.5
OK031	**S. Brethren Rd**	**1.59**	**109**		Pn	09 14 16.5	+0.1
FNO	**Franklin**	**1.61**	**139**		Pn	09 14 16.7	0.0
QUOK	**Quay**	**1.63**	**101**		Pn	09 14 17.1	+0.1
OK030	**Cody Creek RV**	**1.64**	**109**		Pn	09 14 17.4	+0.3
OK034	**N. Norfolk Rd.**	**1.67**	**106**		Pn	09 14 17.5	0.0
WMOK	**Wichita Mounta**	**1.75**	**182**	Pn	Pn	09 14 18.0	-0.6
T35A	**Sooner Cattle**	**1.81**	**76**		Pn	09 14 19.9	+0.6
T35A				IAmb_Lg		09 14 49.1	
	comp=Z,17nm,0.9s						
R32A	**Long Quarter,**	**1.93**	**360**		Pn	09 14 21.7	+0.6
X34A	**Smith Ranch, M**	**2.01**	**159**		Pn	09 14 22.8	+0.6
KSCO	**Kaye Shedlock'**	**4.01**	**310**	IAmb_Lg		09 15 57.1	
	comp=Z,9.9nm,0.7s						
X40A	**Basin Creek Fa**	**5.18**	**111**	IAmb_Lg		09 16 36.5	
	comp=Z,5.7nm,0.7s						

IDC 07 09:18:39.9±21.0, 31°.14S×179°.52W, h272km±240km, mb2.7/2, mb1 3.0/3, mb1mx2.7/41, mbtmp3.5/3, ML2.8/1, Error ellipse: s-maj=275.0km s-min=47.6km az=2.0,

Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.63**	**200**	P	Pn	09 20 28.5	0.0
	0.1nm,0.3s,baz=121,slow=23,SNR=1.7						
URZ				S	S	09 21 48.9	-7.3
	0.3nm,0.3s,baz=301,slow=23,SNR=1.8						
ASAR	**Alice Springs**	**41.77**	**268**	P	P	09 26 03.3	0.0
	0.5nm,1.0s,baz=109,slow=7.7,SNR=4.5						
WRA	**Warramunga Arr**	**42.83**	**274**	P	P	09 26 11.5	-0.2
	0.2nm,0.3s,baz=112,slow=8.0,SNR=9.2						
FINES	**FINESS Array B**	**145.37**	**339**	PKPbc	PKPdf	09 37 44.2	-0.4
	1.6nm,0.8s,baz=50,slow=2.2,SNR=5.2						

*DJA **07** 09:25:44.0±0.3, 8°.5S±3°.1×12°.8E±°, h109km±8km, M4.3/10, mb4.3/8, mB4.8/6, MLv4.5/10, Mw(mB)4.1/6*
*IDC **07** 09:25:44.8±1.9, 7°.57S×128°.01E, h149km±17km, mb3.8/8, mb1 3.9/11, mb1mx3.7/31, mbtmp4.3/11, Error ellipse: s-maj=22.1km s-min=14.0km az=89.0*

ISC 07 09:25:43.0±0.6, 7°.85S±0°.05×128°.19E±0°.07, h150km, n28, σ2=20/34, mb4.0/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.08**	**93**	P		**Pn**	**09 26 32.6**	**+1.2**
SOEI	**Soe**	**4.32**	**244**	P		**Pn**	**09 26 48.3**	**+0.8**
BATI	**Baumata**	**5.05**	**242**	P		**Pn**	**09 26 58.4**	**+1.3**
	20nm,0.3s,baz=98,slow=5.1,SNR=10							
BATI				S		**Sn**	**09 27 52.9**	**-2.0**
	36nm,0.3s,baz=70,slow=21,SNR=14							
BATI	**Baumata**	**5.05**	**242**	P		**Pn**	**09 26 57.8**	**+0.7**
	0.4nm1μm49nm,0.7s							
BATI				S		**Sn**	**09 27 55.4**	**+0.5**
	0.4nm1μm49nm,0.7s							
SANI	**Sanana**	**6.16**	**339**	P		**Pn**	**09 27 10.3**	**-1.6**
	0.1nm909nm24nm,0.6s							
FAKI	**Fak Fak**	**6.35**	**40**	P		**Pn**	**09 27 13.1**	**-1.3**
	0.2nm21nm,0.9s							
EDFI	**Ende, Flores**	**6.49**	**262**	P		**Pn**	**09 27 16.5**	**+0.1**
SIJI	**Sorong**	**7.58**	**24**	P		**Pn**	**09 27 30.3**	**-0.6**
	4.9nm,0.3s,baz=151,slow=19,SNR=6.4							
SIJI				S		**Sn**	**09 28 53.6**	**-1.9**
	1.4nm,0.3s,baz=221,slow=23,SNR=1.6							
BKSI	**Bulukumba**	**8.40**	**287**	P		**Pn**	**09 27 41.2**	**-0.5**
	16nm,0.8s							
LUWI	**Luwuk**	**8.65**	**321**	P		**Pn**	**09 27 42.2**	**-2.9**
BNSI	**Bone**	**8.73**	**293**	P		**Pn**	**09 27 45.9**	**-0.3**
	13nm,0.8s							
APSI	**Ampana**	**9.48**	**316**	P		**Pn**	**09 27 55.6**	**-0.6**
	486nm11nm,1.0s							
FITZ	**Fitzroy Crossi**	**10.49**	**193**	P		**Pn**	**09 28 09.7**	**+0.2**
	1.7nm,0.3s,baz=27,slow=12,SNR=19							
FITZ				S		**Sn**	**09 30 01.6**	**-4.0**
	6.0nm,0.3s,baz=107,slow=15,SNR=7.8							
WRA	**Warramunga Arr**	**13.42**	**154**	P		**Pn**	**09 28 48.8**	**+1.1**
	5.1nm,0.3s,baz=327,slow=13,SNR=86							
WRA				S		**Sn**	**09 31 11.6**	**-4.7**
	4.8nm,0.3s,baz=323,slow=23,SNR=9.5							
ASAR	**Alice Springs**	**16.66**	**161**	P		**Pn**	**09 29 31.3**	**+3.5**
	1.3nm,0.3s,baz=330,slow=9.9,SNR=72							
ASAR				S		**S**	**09 32 27.6**	**-5.5**
	0.5nm,0.3s,baz=348,slow=18,SNR=3.3							
STKA	**Stephens Creek**	**26.97**	**154**	P		**P**	**09 31 16.4**	**+5.7**
	1.7nm,0.4s,baz=330,slow=12,SNR=6.6							
CMAR	**Chiang Mai Arr**	**38.93**	**312**	P		**P**	**09 32 54.5**	**0.0**
	1.0nm,0.3s,baz=138,slow=6.3,SNR=4.8							
KSRS	**Korea Array**	**45.06**	**360**	P		**P**	**09 33 43.8**	**-0.1**
	2.5nm,0.5s,baz=178,slow=8.8,SNR=10							
USRK	**Ussuriysk Ar.**	**51.92**	**3**	P		**P**	**09 34 36.2**	**0.0**
	1.3nm,0.4s,baz=201,slow=7.7,SNR=2.9							
GTA	**Gaotai**	**53.87**	**333**	*eP*		**P**	**09 34 50.4**	**-0.4**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**58.70**	**343**	P		**P**	**09 35 25.3**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=160,slow=6.1,SNR=8.1							
MKAR	**Makanchi Array**	**67.96**	**328**	P		**P**	**09 36 25.5**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=119,slow=8.2,SNR=53							
ZALV	**Z

OGNE	Ogallala	5.16	330	IAmb_Lg		09 36 06.0	
	comp=Z,28nm,0.8s						
X40A	Basin Creek Fa	5.17	111	IAmb_Lg		09 36 16.8	
	comp=Z,21nm,0.7s						
MGMO	Mountain Grove	5.18	81	IAmb_Lg		09 36 15.8	
	comp=Z,20nm,1.1s						
WHAR	Wooly Hollow	5.32	101	IAmb_Lg		09 36 25.5	
	comp=Z,20nm,0.7s						
WLAR	White Oak Lake	5.35	120	IAmb_Lg		09 36 25.9	
	comp=Z,18nm,0.9s						
W41B	Gary Mavity, V	5.38	102	IAmb_Lg		09 36 20.4	
	comp=Z,19nm,0.7s						
SDCO	Great Sand Dun	5.60	285		Pn	09 34 47.8	+1.0
435B	Jarrell	5.77	171	IAmb_Lg		09 36 29.0	
	comp=Z,15nm,0.9s						
JCT	Junction City	6.08	189	IAmb_Lg		09 36 52.5	
	comp=Z,20nm,0.8s						
K31A	O'Neill	6.12	359	IAmb_Lg		09 36 51.4	
	comp=Z,16nm,0.8s						
CCM	Cathedral Cave	6.12	73	IAmb_Lg		09 36 34.9	
	comp=Z,17nm,0.8s						
FVM	French Village	6.74	75	IAmb_Lg		09 36 58.2	
	comp=Z,18nm,0.9s						
SCIA	State Center	6.87	36	IAmb_Lg		09 37 15.5	
	comp=Z,17nm,0.8s						
PHWY	Pilot Hill	7.14	314	IAmb_Lg		09 37 09.3	
	comp=Z,14nm,0.8s						
SUSD	Miller	7.94	359	IAmb_Lg		09 37 34.4	
	comp=Z,10nm,1.0s						

*IDC **07** 09:42:35.7±1.0, 6°.35N×80°.56W, h0km, mb3.7/7, mb1 4.1/10, mb1mx3.9/29, mbtmp4.0/10, ML3.9/3, MS3.5/12, Ms1 3.5/12, ms1mx3.3/66, Error ellipse: s-maj=34.6km s-min=18.6km az=47.0*

*NEIC **07** 09:42:36.5±2.3, 6°.21N±0°.05×80°.61W±0°.08, h10km±1km, mb4.1/4, Error ellipse: s-maj=14.0km s-min=7.7km az=242.0*

*UPA **07** 09:42:38.5±2.2, 6°.44N×80°.59W, h10km±10km, MW4.8*

*RSNC **07** 09:42:38.4±0.9, 6°.39N×80°.46W, h4km±6km, ML3.5, Mw3.5, Fault plane solution: NP1:φs139.00000°, δ77.00000°, λ-42.00000°.*

ISC 07 09:42:35.4±1.5, **6°.30N**±0°.03×**80°.55W**±0°.03, **h10**km±9km, **n129**, σ1$**85**/157, **mb3.9**/7, **MS3.6**/9, **17C-33D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	1.08	344	⇑iP	Pb	09 42 54.8	-1.4
CACAO				eS	Sg	09 43 07.8	-2.5
CACAO				i		09 43 11.5	
	comp=Z,845nm,0.1s						
CACAO	El Cacao, Vera	1.08	344	⇑iP	Pb	09 42 54.9	-1.4
CACAO				i S	Sg	09 43 08.4	-1.9
TOSI3	Tonosi	1.10	6	⇑iP	Pb	09 42 55.6	-1.1
TOSI3				eS	Sg	09 43 09.7	-1.4
ACHO3	Achotines, Los	1.17	19	⇓iP	Pb	09 42 56.6	-1.1
ACHO3				i S	Sb	09 43 10.7	-2.3
MARI3	Mariato, Verag	1.41	342	⇓eP	Pn	09 43 00.5	-0.7
PCRI3	Pocri, Los San	1.42	18	⇑eP	Pn	09 43 00.3	-1.0
AZU	Azuero	1.51	11	⇑iP	Pn	09 43 01.8	-0.8
AZU				eS	Sn	09 43 19.4	-2.9
AZU	Azuero	1.51	11	⇑iP	Pn	09 43 01.8	-0.8
AZU				eS	Sn	09 43 19.9	-2.4
PESE3	Pese, Herrera	1.60	358	⇓eP	Pn	09 43 02.8	-1.0
PESE3				eS	Sn	09 43 22.9	-1.7
GMAL	Guarumal, Vera	1.60	335	⇑eP	Pn	09 43 04.3	+0.5
GMAL				eS	Sn	09 43 24.1	-0.6
GMAL				i		09 43 26.0	
	comp=Z,1μm,0.3s						
GMAL	Guarumal, Vera	1.60	335	⇑eP	Pn	09 43 04.3	+0.5
GMAL				eS	Sn	09 43 24.4	-0.2
CHIT3	Chitre	1.65	5	⇑eP	Pn	09 43 04.0	-0.5
CHIT3				eS	Sn	09 43 23.5	-2.4
RSUS3	Rio de Jesus,	1.78	340	⇓eP	Pn	09 43 06.6	+0.3
RSUS3				eS	Sn	09 43 27.7	-1.3
SFRA3	San Francisco,	1.98	348	⇓iP	Pn	09 43 10.5	+1.4
CALO3	Calobre, Verag	2.03	352	⇑eP	Pn	09 43 10.1	+0.4
CALO3				eS	Sn	09 43 34.6	-0.6
PNME	Penonome	2.18	6	⇑iP	Pn	09 43 12.6	+0.7
PNME				eS	Sn	09 43 38.6	-0.3
REME3	Remedios, Chir	2.30	327	⇓eP	Pn	09 43 14.3	+0.9
REME3				eS	Sn	09 43 40.8	-1.0
VTON	El Valle, Cocl	2.34	11	⇑eP	Pn	09 43 15.1	+1.0
VTON				eS	Sn	09 43 43.5	+0.6
TABO3	Taboga, Panama	2.67	22	⇓eP	Pn	09 43 19.8	+1.2
TABO3				eS	Sn	09 43 50.9	0.0
CHOR3	La Chorrera	2.70	17	⇓eP	Pn	09 43 20.8	+1.8
CHOR3				eS	Sn	09 43 51.4	-0.3
CHOR3				i S	Sb	09 43 53.3	-3.7
ZANG	Zanguenga, Cho	2.73	14	⇓eP	Pn	09 43 21.0	+1.6
ZANG				i S	Sn	09 43 53.4	+1.0
ARRA3	Arraijan, Pana	2.79	18	⇓eP	Pn	09 43 22.2	+2.0
ARRA3				i S	Sn	09 43 54.0	0.0
LOMA3	Las Lomas, Chi	2.79	319	⇓iP	Pn	09 43 21.1	+0.8
DVD	David	2.84	319	⇓eP	Pn	09 43 21.1	+0.3
DVD				eS	Sn	09 43 54.6	-0.5
UPA	Univ. de Panam	2.85	21	i		09 45 15.1	
	comp=Z,184nm,0.2s						
PTAC	Punta Ardita,	2.85	73	⇓eP	Pn	09 43 21.5	+0.4
PTAC				eS	Sn	09 43 51.4	-4.2
PTAC				i		09 43 54.6	
	comp=Z,296nm,0.3s						
PTAC	Punta Ardita,	2.85	73	⇓eP	Pn	09 43 21.4	+0.3
GAMB1	Gamboa	2.92	17	⇓eP	Pn	09 43 24.2	+2.2
GAMB1				eS	Sn	09 43 57.7	+0.4
BCIP	Isla Barro Col	2.93	14	eP	Pn	09 43 23.4	+1.2
BCIP				eS	Sn	09 43 54.9	-2.7
BCIP				i		09 44 02.1	
	comp=Z,373nm,0.3s						
BCIP	Isla Barro Col	2.93	14	Pn	Pn	09 43 23.2	+1.0
BCIP	Isla Barro Col	2.93	14	⇓eP	Pn	09 43 23.6	+1.4
BCIP				eS	Sn	09 43 56.7	-0.8
PTPM	Petroterminale	2.98	309	⇓eP	Pn	09 43 23.1	+0.2
PTPM				eS	Sn	09 43 57.5	-1.2
LESP3	La Esperanza,	3.05	313	⇓iP	Pn	09 43 24.2	+0.5
CHGR2	Aguacate	3.06	329	⇑eP	Pn	09 43 25.6	+1.6
CHGR2				eS	Sn	09 44 00.1	-0.6
BCO2	Palmira	3.10	321	⇑eP	Pn	09 43 25.2	+0.6
BCO2				eS	Sn	09 44 01.0	-0.9
LNBQ3	Los Naranjos,	3.10	323	⇑eP	Pn	09 43 26.0	+1.3
SOLC	Bahia Solano	3.13	91	eP	Pn	09 43 24.6	-0.3
SOLC				eS	Sn	09 43 53.5	-8.8
SOLC				i		09 43 58.5	
	comp=Z,171nm,0.1s						
CHPO	Chepo, Panama	3.19	26	⇑eP	Pn	09 43 26.9	+1.2
CHPO				eS	Sn	09 44 02.3	-1.5
CDITO	Canoas	3.22	315	Pn	Pn	09 43 26.9	+0.7
CDITO	Canoas	3.22	315	eP	Pn	09 43 27.2	+1.0
CDITO				eS	Sn	09 44 03.3	-1.4
BC3P	Paso Ancho	3.23	321	⇓iP	Pn	09 43 29.0	+2.6
BRU2	Volcan	3.26	320		Pn	09 43 27.4	+0.6
BRU2	Volcan	3.26	320	⇑iP	Pn	09 43 27.2	+0.4
BRU2				eS	Sn	09 44 05.7	-0.2
PIZC	Pizarro, Choco	3.44	112	eP	Pn	09 43 28.7	-0.5
PIZC				eS	Sn	09 44 05.5	-4.6
PIZC				i		09 44 08.8	
	comp=Z,43nm,0.4s						
PIRO	Carate, Puerto	3.46	307	⇓eP	Pn	09 43 29.0	-0.5
CNI2	El Empalme, Bo	3.64	329	⇓eP	Pn	09 43 34.4	+2.5
CNI2				eS	Sn	09 44 13.9	-1.1
RIOS	Rincon, Osa	3.78	309		Pn	09 43 33.7	-0.2
CAPC	Capurgana	3.93	54	eP	Pn	09 43 38.4	+2.5
CAPC				eS	Sn	09 44 21.5	-0.7
CAP2	Capurgana	3.93	53	⇓eP	Pn	09 43 38.8	+2.8
CAP2				eS	Sn	09 44 23.3	+1.0
SRBA	San Rafael, Bu	4.03	316	Pn	Pn	09 43 38.3	+1.0
PEZE	Perez Zeledon,	4.35	315		Pn	09 43 43.0	+1.2
PLMC	San Jos del P	4.47	108	eP	Pn	09 43 42.5	-0.9
PLMC				eS	Sn	09 44 32.5	-3.1
PLMC				i		09 44 37.2	
	comp=Z,56nm,0.4s						
CBOC	Ciudad Bolivar	4.54	95	⇓eP	Pn	09 43 44.1	-0.3
CBOC				eS	Sn	09 44 31.1	-6.3
RIMA	Rio Macho	4.75	317		Pn	09 43 48.7	+1.3
YOTC	Yotoco, Valle	4.78	119	eP	Pn	09 43 47.1	-0.6
YOTC				eS	Sn	09 44 40.1	-3.2
CVTR	Volcan Turrial	4.87	320		Pn	09 43 50.9	+1.7
HELC	Santa Helena	5.00	91	⇓eP	Pn	09 43 52.6	+1.7
HELC				eS	Sn	09 44 45.7	-3.3
HELC	Santa Helena	5.00	91	⇓iP	Pn	09 43 52.4	+1.5
HDC	Heredia	5.09	316		Pn	09 43 53.1	+1.1
HDC	Heredia	5.09	316	⇓eP	Pn	09 43 54.2	+2.2
UREC	San Jos de Ur	5.19	74	⇓eP	Pn	09 43 56.0	+2.7
UREC	San Jos de Ur	5.19	74	⇓iP	Pn	09 43 55.9	+2.7
JACO	JACO, Garabito	5.26	310		Pn	09 43 55.0	+0.8
GUY2C	Guyana, Caldas	5.27	101	eP	Pn	09 43 55.8	+1.0
GUY2C				eS	Sn	09 44 46.3	-10
POPC	Popayan, Colom	5.38	134	eP	Pn	09 43 55.4	-0.6
POPC				eS	Sn	09 44 55.1	-3.1
BBAC	Balboa, Cauca	5.38	142	eP	Pn	09 43 54.8	-1.2
MOTC	Monteria, Cord	5.44	63	eP	Pn	09 44 00.5	+3.9
NORC	Norcasia	5.70	97	eP	Pn	09 44 02.5	+2.2
NORC				eS	Sn	09 45 05.4	-0.6
NORC				i		09 45 12.3	
	comp=Z,13nm,0.4s						
SOTA	Rioblanco	5.71	136	eP	Pn	09 44 01.3	+0.5
PCON	Cinco Dias	5.72	133	eP	Pn	09 44 02.6	+1.5
PCON				i		09 44 29.7	
	comp=Z,12nm,0.7s						
PCON				eS	Sn	09 45 05.1	-2.1
ZARC	Zaragoza, Cauc	5.78	78	⇓eP	Pn	09 44 03.7	+2.3
ZARC	Zaragoza, Cauc	5.78	78		Pn	09 44 03.6	+2.3
ORTC	Ortega, Tolima	5.80	114	⇓eP	Pn	09 44 03.8	+2.2
ORTC				eS	Sn	09 45 05.9	-2.4
ORTC				i		09 45 13.7	
	comp=Z,16nm,0.5s						
JTS	Las Juntas de	5.89	313	LR	LR	09 45 22.2	
	comp=Z,35nm,20.9s,slow=28						
JTS	Las Juntas de	5.89	313	Pn	Pn	09 44 04.7	+1.8
JTS	Las Juntas de	5.89	313	⇓eP	Pn	09 44 04.8	+1.9
GCUF	Volcan Galeras	5.97	147	eP	Pn	09 44 05.8	+1.4
PTBC	PUERTO BERRIO,	6.06	87	eP	Pn	09 44 08.6	+3.3
PTBC				eS	Sn	09 45 11.6	-3.2
DUNO	Dulce Nombre,	6.17	308	Pn	Pn	09 44 08.3	+1.6
PRAC	Prado	6.20	114	⇓iP	Pn	09 44 09.3	+2.1
PRAC				eS	Sn	09 45 15.1	-3.2
PRAC				i		09 45 22.4	
	comp=Z,20nm,0.4s						
ORTG	Ortega, Santa	6.31	310		Pn	09 44 10.7	+1.9
CUSE	Cuicocha Este	6.33	160	eP	Pn	09 44 08.1	-1.2
OTAV	Otavalo	6.38	161		Pn	09 44 08.8	-1.1
SJCC	San Jacinto, C	6.41	56	eP	Pn	09 44 13.6	+3.6
SJCC	San Jacinto, C	6.41	56	Pn	Pn	09 44 14.1	+4.1
GARC	Garzon, Huila	6.49	129	eP	Pn	09 44 13.5	+2.1
HZTE	Horizontes, Gu	6.64	312	Pn	Pn	09 44 15.3	+2.1
FLOC	Florencia	6.77	134	eP	Pn	09 44 16.6	+1.5
BRRC	Barranca, Sant	6.84	83	eP	Pn	09 44 19.8	+3.8
SMLC	San Martn de	6.89	68	eP	Pn	09 44 19.4	+2.8
ESPN	Las Esperanzas	6.93	328	Pn	Pn	09 44 18.1	+0.9
CHIC	Chingaza	6.99	103	eP	Pn	09 44 22.2	+3.8
ACON	Acoyapa	7.25	321	Pn	Pn	09 44 21.8	+0.2
BARC	Barichara	7.33	87	eP	Pn	09 44 26.9	+4.0
OCAC	Ocana	7.43	75	⇓eP	Pn	09 44 26.6	+2.5
OCAC	Ocana	7.43	75		Pn	09 44 27.2	+3.0
RUSC	La Rusia	7.44	93	eP	Pn	09 44 27.5	+2.9
MACC	Macarena, Meta	7.86	121	eP	Pn	09 44 31.4	+1.5
PAMC	Pamplona, Colo	7.87	82	eP	Pn	09 44 33.8	+3.4
PAMC				eP	Pb	09 44 33.9	-18
SMRC	Santa Marta, M	7.90	52	eP	Pn	09 44 33.6	+3.1
CRJC	Cerrejon, Guaj	8.91	58	eP	Pn	09 44 46.4	+1.9
SOCV	Socops	9.82	78	eP	Pn	09 44 58.6	+1.7
SDV	Santo Domingo	10.16	75	Pn	Pn	09 45 04.4	+2.7
	comp=Z,7.6nm,0.3s,baz=247,slow=9.9,SNR=33						
SDV				LR	LR	09 50 08.5	
	comp=Z,96nm,19.1s,baz=306,slow=45						
SDV	Santo Domingo	10.16	75	Pn	Pn	09 45 04.1	+2.4
BAUV	El Baul	12.68	77	Pn	Pn	09 45 36.0	+0.1
ATAH	Atahualpa	13.52	171	LR	LR	09 50 29.0	
	comp=Z,291nm,21.5s,baz=335,slow=35						
BIRV	Birongo	14.73	73	Pn	Pn	09 46 03.8	-0.2
CZSB	Cruzeiro do Su	15.99	151		Pn	09 46 20.3	-0.3
CZSB				IAmb	IAmb	09 46 22.2	
	comp=Z,13nm,1.0s						
CMIG	Matias Romero	17.64	309	P	P	09 46 43.4	+0.8
	comp=Z,0.2nm,0.3s,baz=141,slow=10,SNR=3.3						
NNA	Nana	18.54	169	P	Pn	09 46 54.4	+1.8
	comp=Z,1.0nm,0.3s,baz=293,slow=13,SNR=5.2						
NNA				LR	LR	09 53 39.6	
	comp=Z,100nm,21.7s,baz=330,slow=36						
BOAV	Boa Vista	20.34	100	P	Pn	09 47 13.8	-0.4
BOAV				IAmb	IAmb	09 47 17.3	
	comp=Z,11nm,1.0s						
ETMB	Extrema	21.46	138	P	P	09 47 24.4	+0.1
PTGA	Pitinga	21.70	108	P	P	09 47 29.0	+2.1
	comp=Z,4.5nm,0.8s,baz=302,slow=16,SNR=8.0						
PTGA				LR	LR	09 55 23.8	
	comp=Z,35nm,20.6s,baz=294,slow=35						
MACA	Manacapuru-AM	21.95	115	P	P	09 47 28.0	-1.6
LPAZ	La Paz	25.59	151	P	P	09 48 08.3	+2.5
	comp=Z,1.7nm,0.9s,baz=337,slow=7.7,SNR=4.2						
TKL	Tuckaleechee C	29.37	355	LR	LR	10 00 18.2	
	comp=Z,173nm,19.5s,baz=60,slow=36						
LVC	Limon Verde	30.91	159	LR	LR	10 02 50.8	
	comp=Z,55nm,19.4s,baz=326,slow=39						
ANMO	Albuquerque	37.18	324	LR	LR	10 06 40.1	
	comp=Z,100nm,18.7s,baz=68,slow=39						
SADO	Sadowa	38.34	2	LR	LR	10 06 41.5	
	comp=Z,150nm,18.1s,baz=168,slow=38						
RPN	Rapa Nui	43.36	219	LR	LR	10 03 53.7	
	comp=Z,48nm,20.5s,baz=356,slow=29						
NVAR	Mina Array Bea	46.78	319	P	P	09 51 08.0	+2.4
	comp=Z,0.2nm,0.5s,baz=129,slow=7.1,SNR=1.8						
PLCA	Paso Flores	47.70	170	LR	LR	10 08 03.8	
	comp=Z,44nm,19.1s,baz=23,slow=32						
BBB	Bella Bella	60.07	328	LR	LR	10 22 30.8	
	comp=Z,161nm,18.0s,baz=201,slow=40						
YKA	Yellowknife Ar	61.38	343	P	P	09 52 52.0	+0.5
	comp=Z,0.9nm,0.8s,baz=135,slow=6.9,SNR=14						
RES	Resolute Bay	68.84	356	LR	LR	10 23 51.8	
	comp=Z,77nm,18.7s,baz=111,slow=36						
ILAR	Eielson Array	74.36	336	P	P	09 54 15.4	+2.2
	comp=Z,0.4nm,0.7s,baz=108,slow=5.8,SNR=4.9						
ESDC	Sonseca Array	75.69	51	P	P	09 54 23.5	+2.1
	comp=Z,1.9nm,1.0s,baz=282,slow=6.4,SNR=4.5						
TORD	Torodi Ar. Bea	81.07	78	P	P	09 54 52.5	+0.9
	comp=Z,0.8nm,0.7s,baz=284,slow=6.6,SNR=3.6						
ASAR	Alice Springs	142.66	239	PKP	PKPdf	10 02 09.1	-0.8
	comp=Z,0.3nm,0.8s,baz=114,slow=3.4,SNR=2.0						

*SOME **07** 09:49:38.3, 39°.73N×75°.37E, h10km*

*NNC **07** 09:49:39.3±2.1, 39°.79N×75°.30E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=14.8km s-min=11.4km az=162.0*

*KRNET **07** 09:49:41.3±0.1, 39°.77N×75°.36E, mb3.2*

ISC 07 09:49:43.0±1.5, **39°.64N**±0°.07×**75°.47E**±0°.04, **h10**km, **n61**, σ1$**86**/94, **17C-11D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.56	285	⇓eP	Pn	09 50 09.1	-1.9
	baz=80						
SFK				⇓eS	Sn	09 50 28.8	-2.5
	baz=80						
OHH	Osh	2.24	294	⇓eP	Pn	09 50 19.9	-0.3
	baz=92						
OHH				⇓eS	Sn	09 50 48.2	+0.3
	baz=92						
ARLS	Aral	2.38	339	⇑iP	Pn	09 50 21.6	-0.7
	baz=40						
ARLS				⇑iS	Sn	09 50 51.1	-0.5
	baz=40						
ULHL	Ulahol	2.67	12	P	Pn	09 50 27.5	+1.3
	SNR=14						
UCH	Uchtor	2.69	345	P	Pn	09 50 25.3	-1.4
	SNR=29						
UCH	Uchtor	2.69	345	⇑eP	Pn	09 50 26.1	-0.6
	baz=46						
UCH				⇑iS	Sn	09 50 59.0	-0.5
	baz=46						
TARG	Taragay, Kyrgy	2.74	40	⇓eP	Pn	09 50 28.4	+1.0
	baz=43						
TARG				⇓iS	Sn	09 51 02.6	+1.8
	baz=43						
KDJ	Kajisay	2.81	27	⇑iP	Pn	09 50 28.7	+0.6
	baz=30						
KDJ				⇑iS	Sn	09 51 03.1	+1.0
	baz=30						
AML	Almayashu	2.83	332	P	Pn	09 50 27.1	-1.5
	SNR=10						
DRK	Karamyk	2.84	268	⇑eP	Pn	09 50 29.3	+0.7
	baz=65						
DRK				⇑eS	Sn	09 51 04.1	+1.1
	baz=65						
BOOM	Boomskoye usch	2.87	7	⇑eP	Pn	09 50 29.0	0.0
	baz=9.0						
BOOM				⇑iS	Sn	09 51 03.8	+0.1
	baz=9.0						
KBK	Karagaybulak	3.04	353	P	Pn	09 50 30.7	-0.6
	SNR=8.8						
KBK	Karagaybulak	3.04	353	⇑iP	Pn	09 50 31.0	-0.3
	baz=54						
KBK				⇑iS	Sn	09 51 07.3	-0.6
	baz=54						
AAK	Ala-Archa	3.08	347	P	Pn	09 50 31.4	-0.5
	SNR=12						
AAK	Ala-Archa	3.08	347	⇑Pg	Pn	09 50 31.1	-0.8
	8.2nm,0.7s						
AAK				⇑Lg	Lg	09 51 09.8	
	16nm,0.6s						
AAK	Ala-Archa	3.08	347	⇓eP	Pn	09 50 31.5	-0.4
	baz=47						
AAK				⇓iS	Sn	09 51 08.3	-0.6
	baz=47						
TKM2	Tokmak 2	3.28	2	P	Pn	09 50 33.9	-0.7
	SNR=6.0						
TKM2	Tokmak 2	3.28	2	⇑Pg	Pn	09 50 33.7	-0.9
	3.3nm,0.4s						
TKM2				⇓Lg	Lg	09 51 19.9	
	35nm,0.8s						
TKM2	Tokmak 2	3.28	2	⇓iP	Pn	09 50 34.5	-0.1
	baz=3.0						
TKM2				⇓iS	Sn	09 51 13.5	-0.3
	baz=3.0						
CHMS	Chumysh	3.40	351	P	Pn	09 50 34.9	-1.2
	SNR=5.2						
CHMS	Chumysh	3.40	351	⇑iP	Pn	09 50 35.8	-0.3
	baz=52						
CHMS				⇑iS	Sn	09 51 15.7	-0.8
	baz=52						
KST	Kastek	3.42	6	eP	Pb	09 50 40.9	-2.8
	9.0nm,0.0s						
KST				eS	Sb	09 51 26.0	+0.6
	50nm,0.3s						
KST	Kastek	3.42	6	Pg	Pb	09 50 40.9	-2.8
	9.0nm,0.5s						
KST				Lg	Lg	09 51 26.0	
	51nm,0.7s						
IZV	Izvestkoviy	3.50	14	eP	Pb	09 50 43.2	-2.0
	8.0nm,0.1s						
IZV				eS	Sb	09 51 29.4	+1.5
	21nm,0.3s						
MRKS	Merke	3.53	332	eP	Pn	09 50 38.5	+0.5
	2.5nm,0.1s						
MRKS				eS	Sn	09 51 21.9	+2.0
	6.2nm,1.0s						
MRKS	Merke	3.53	332	Pg	Pn	09 50 38.5	+0.5
	2.6nm,0.7s						
MRKS				Lg	Lg	09 51 21.9	
	6.2nm,1.0s						
MTBS	Maitube	3.56	11	eP	Pb	09 50 43.5	-2.6
	2.6nm,0.1s						
MTBS				eS	Sb	09 51 30.1	+0.7
	12nm,0.3s						
MTBS	Maitube	3.56	11	Pg	Pb	09 50 43.5	-2.6
	2.7nm,0.4s						
MTBS				Lg	Lg	09 51 30.2	
	9.3nm,0.8s						
TNSS	Tian-Shan	3.57	18	eP	Pb	09 50 43.2	-3.3
	4.8nm,0.1s						
TNSS				eS	Sb	09 51 29.8	-0.3
	6.3nm,0.2s						
TNSS	Tian-Shan	3.57	18	Pg	Pb	09 50 43.2	-3.3
	5.1nm,0.4s						
TNSS				Lg	Lg	09 51 29.8	
	6.4nm,0.9s						
DGS	Degeres	3.61	4	eP	Pb	09 50 44.2	-2.7
	8.2nm,0.1s						
DGS				eS	Sb	09 51 31.7	+0.9
	17nm,0.3s						
DGS	Degeres	3.61	4	Pg	Pb	09 50 44.2	-2.7
	8.2nm,0.6s						
DGS				Lg	Lg	09 51 31.7	
USP	Ospenovka	3.70	349	P	Pn	09 50 39.6	-0.6
	SNR=5.0						
MDOK	Medeo	3.72	18	eP	Pb	09 50 46.0	-2.8
	2.0nm,0.3s						
MDOK				eS	Sb	09 51 34.5	+0.5
	14nm,0.2s						
MDOK	Medeo	3.72	18	Pg	Pn	09 50 41.0	+0.4
	1.4nm,0.6s						
MDOK				Lg	Lg	09 51 34.2	
	19nm,0.9s						
MDOK	Medeo	3.72	18	Pg	Pb	09 50 46.0	-2.8
	2.0nm,0.3s						
MDOK				Lg	Lg	09 51 34.5	
	20nm,0.7s						
KOTS	Kotyrbulak	3.80	18	eP	Pb	09 50 48.0	-2.2
	4.9nm,0.6s						
KOTS				eS	Sb	09 51 37.9	+1.5
	78nm,0.1s						
KOTS	Kotyrbulak	3.80	18	Pg	Pb	09 50 48.0	-2.2
	4.9nm,0.6s						
KOTS				Lg	Lg	09 51 37.9	
	80nm,0.8s						
SGDS	Sogindy	3.86	351	eP	Pb	09 50 49.0	-2.3
	1.0nm,0.0s						
SGDS				eS	Sb	09 51 39.6	+1.6
	14nm,0.4s						
KRBS	Karabastau	4.06	2	eP	Pb	09 50 52.0	-2.5
	4.0nm,0.1s						
KRBS				eS	Sb	09 51 45.1	+1.5
	14nm,0.3s						
KRBS	Karabastau	4.06	2	Pg	Pb	09 50 52.0	-2.5
	4.0nm,0.4s						
KRBS				Lg	Lg	09 51 45.1	
	14nm,0.7s						
SATY	Saty	4.07	32	eP	Pb	09 50 52.9	-2.0
	3.2nm,0.2s						
SATY				eS	Sb	09 51 46.2	+2.1
	10nm,0.3s						
SATY	Saty	4

	5.3nm,0.1s							
BLB				*e*S	**Sb**	**09 52 13.9**	**+3.3**	
	8.2nm,0.0s							
BLB	**Baldybastay**	**4.99**	**26**	Pg	**Pb**	**09 51 09.1**	**-1.3**	
	5.6nm,0.6s							
BLB				Lg	Lg	09 52 13.9		
	5.7nm,0.5s							
BRLS	**Borolday**	**5.42**	**310**	*e*P	**Pb**	**09 51 17.1**	**-0.8**	
	0.5nm,0.1s							
BRLS				*e*S	**Sb**	**09 52 27.6**	**+4.6**	
	1.8nm,0.1s							
BRLS	**Borolday**	**5.42**	**310**	Pg	**Pb**	**09 51 17.1**	**-0.8**	
	0.7nm,0.6s							
BRLS				Lg	Lg	09 52 27.6		
	1.9nm,1.3s							
BTLS	**Baital**	**5.50**	**349**	*e*P	**Pb**	**09 51 18.5**	**-0.6**	
	0.5nm,0.6s							
BTLS				*e*S	**Sb**	**09 52 29.9**	**+4.8**	
	4.0nm,0.2s							
BTLS	**Baital**	**5.50**	**349**	Pg	**Pb**	**09 51 18.5**	**-0.6**	
	0.5nm,0.6s							
BTLS				Lg	Lg	09 52 29.9		
	4.0nm,0.8s							

IDC 07 09:56:26.4±8.8, 4°.11S×102°.88E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/37, mbtmp3.6/3, Error ellipse: s-maj=416.4km s-min=32.5km az=50.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.46**	**120**	P	P	10 03 16.1	-0.1
	0.1nm,0.3s,baz=296,slow=8.2,SNR=1.7						
MKAR	**Makanchi Array**	**53.85**	**343**	P	P	10 05 51.5	+0.2
	0.4nm,0.4s,baz=160,slow=8.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**59.79**	**348**	P	P	10 06 33.0	-0.3
	0.7nm,0.3s,baz=163,slow=5.7,SNR=5.8						

*DDA **07** 09:57:00.9±0.0, 35°.44N×27°.66E, h6km±2km, ML3.1*
*ATH **07** 09:57:02.9, 35°.57N×27°.92E, h50km±15km, ML3.0/2, Error ellipse: s-maj=21.5km s-min=1.6km az=328.0*
*ISK **07** 09:57:02.5, 35°.51N×27°.78E, h5km, ML3.2/8*
ISC 07 09:57:03.7±1.5, 35°.56N±0°.07×27°.76E±0°.06, h4km±12km, n19, σ1§36/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.72**	**25**	P	**Pg**	**09 57 17.1**	**-0.4**
ARG				S	**Sg**	**09 57 27.1**	**+0.2**
ARG				AML	AML	09 57 32.8	
	comp=E,1642μm,0.3s						
ARG				AML	AML	09 57 36.3	
	comp=N,1426μm,0.8s						
ARG	**Arkhangelos**	**0.72**	**25**	PG	**Pg**	**09 57 17.4**	**-0.1**
DAT	**Datca**	**1.18**	**353**	PN	**Pb**	**09 57 26.1**	**-0.5**
DAT				SN	**Sn**	**09 57 43.9**	**+0.3**
DAT	**Datca**	**1.18**	**353**	P	**Pg**	**09 57 25.9**	**-0.3**
DAT				S	**Sn**	**09 57 43.1**	**-0.5**
DAT				*i* AML	AML	09 57 46.0	
	comp=N,225nm,0.6s						
TURN	**Turunc**	**1.28**	**18**	PN	**Pg**	**09 57 27.9**	**-0.2**
TURN				SN	**Sn**	**09 57 46.5**	**+0.6**
TURN	**Turunc**	**1.28**	**18**	P	**Pn**	**09 57 27.2**	**-1.1**
TURN				S	**Sn**	**09 57 47.4**	**+1.6**
ZKR	**Zakros**	**1.33**	**251**	P	**Pg**	**09 57 29.2**	**0.0**
ZKR				S	**Sn**	**09 57 49.3**	**+1.9**
ZKR				AML	AML	09 57 57.0	
	comp=N,664μm,0.8s						
ZKR				AML	AML	09 57 57.7	
	comp=E,2066μm,1.0s						
FETY	**Fethiye**	**1.52**	**45**	PN	**Pb**	**09 57 31.3**	**-1.1**
BODT	**Bodrum**	**1.54**	**347**	PN	**Pb**	**09 57 31.9**	**-0.9**
YER	**Yerkesik**	**1.63**	**15**	PN	**Pb**	**09 57 33.1**	**-1.2**
YER				SN	**Sb**	**09 57 55.3**	**0.0**
MULA	**Mugla, Merkez-**	**1.75**	**15**	P	**Pg**	**09 57 37.0**	**-0.3**
NPS	**Neapolis**	**1.78**	**261**	P	**Pg**	**09 57 37.1**	**-0.6**
CAEL	**Denizli, Camel**	**2.01**	**39**	P	**Pb**	**09 57 39.6**	**-1.2**
CAEL				S	**Sg**	**09 58 12.6**	**+4.4**
CAEL				*i* AML	AML	09 58 26.0	
	comp=E,180nm,1.1s						
AYDN	**Tasoluk**	**2.10**	**3**	P	**Pb**	**09 57 40.6**	**-1.8**
TAVA	**DENIZLI_Tavas**	**2.12**	**26**	P	**Pb**	**09 57 41.5**	**-1.2**
TAVA				S	**Sg**	**09 58 12.4**	**+0.7**
GCAM	**G?zelcaml?**	**2.18**	**349**	PN	**Pn**	**09 57 41.1**	**+0.4**
GOLH	**Golhisar**	**2.22**	**40**	P	**Pb**	**09 57 42.5**	**-1.9**
IDI	**Anoyia**	**2.36**	**264**	P	**Pb**	**09 57 45.6**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**2.38**	**3**	PN	**Pn**	**09 57 44.0**	**+0.3**

*TUL **07** 10:12:52.3±0.7, 36°.48N±0°.02×98°.74W±0°.05, h6km±7km, ML3.2, mb_Lg2.8/37(NEIC), Error ellipse: s-maj=5.6km s-min=2.6km az=101.0*
NEIC 07 10:12:52.5±0.5, 36°.46N±0°.02×98°.72W±0°.04, h5km±2km, Error ellipse: s-maj=5.5km s-min=3.0km az=300.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.24**	**250**	Pg	Pg	10 12 57.1	-0.1
U32A				Sg	Sg	10 13 00.9	+0.5
OK035	**E0210 Rd and N**	**0.25**	**1**	Pg	Pg	10 12 57.5	+0.1
OK035				Sg	Sg	10 13 01.3	+0.7
CROK	**Carrier**	**0.59**	**86**	Pg	Pg	10 13 04.2	+0.3
KAN14	**Manchester OK**	**0.78**	**51**		Pg	10 13 07.5	0.0
GC02	**Grant County #**	**0.79**	**60**	Pg	Pg	10 13 07.6	-0.1
KAN10	**Anthony SW Sta**	**0.83**	**37**	Pg	Pg	10 13 08.1	-0.3
KAN16	**Harper SW Stat**	**0.93**	**34**	Pg	Pg	10 13 09.9	-0.4
KAN05	**Bluff City Nor**	**0.94**	**46**	Pg	Pg	10 13 10.4	-0.1
KAN17	**Caldwell West**	**0.96**	**52**	Pg	Pg	10 13 10.6	-0.3
KAN08	**Anthony NE Sta**	**0.97**	**38**		Pg	10 13 10.6	-0.5
KAN12	**Harper NE Stat**	**1.01**	**34**	Pg	Pg	10 13 11.5	-0.5
KAN01	**Argonia South**	**1.03**	**48**		Pg	10 13 12.0	-0.3
KAN06	**Argonia West S**	**1.04**	**41**	Pg	Pg	10 13 12.4	-0.2
KAN13	**South Haven SW**	**1.14**	**61**	Pg	Pg	10 13 13.7	-0.6
BCOK	**Bluff Creek, N**	**1.21**	**131**	Pg	Pg	10 13 15.6	0.0
BLOK	**Blackwell**	**1.25**	**76**		Pg	10 13 15.7	-0.6
OK025	**Westminster Rd**	**1.42**	**128**		Pn	10 13 18.9	-0.1
OKCFA	**Oklahoma City**	**1.47**	**135**	Pn	Pn	10 13 19.5	-0.1
OKCSW	**OKLAHOMA CITY**	**1.48**	**135**	Pn	Pn	10 13 19.9	+0.1
OK031	**S. Brethren Rd**	**1.60**	**108**	Pn	Pn	10 13 21.6	+0.1
FNO	**Franklin**	**1.61**	**138**	Pn	Pn	10 13 22.0	+0.4
QUOK	**Quay**	**1.65**	**100**		Pn	10 13 22.2	+0.1
OK034	**N. Norfolk Rd.**	**1.68**	**105**		Pn	10 13 23.1	+0.5
WMOK	**Wichita Mounta**	**1.72**	**182**	Pn	Pn	10 13 23.2	+0.1
T35A	**Sooner Cattle**	**1.83**	**75**	Pn	Pn	10 13 24.8	+0.1
R32A	**Long Quarter,**	**1.96**	**0**		Pn	10 13 26.4	0.0
X34A	**Smith Ranch, M**	**1.99**	**158**	Pn	Pb	10 13 28.5	-0.7
TUL1	**Leonard**	**2.43**	**102**	Pn	Pn	10 13 32.6	-0.2
TUL1				IAmb_Lg		10 14 09.5	
	comp=Z,28nm,0.8s						
LOOK	**Love County**	**2.77**	**152**	Pn	Pn	10 13 37.4	-0.1
AMTX	**Amarillo**	**2.88**	**238**	Pn	Pn	10 13 39.4	+0.3
KSU1	**Kansas State U**	**3.12**	**32**		Pn	10 13 42.1	-0.2
X37A	**Clayton**	**3.31**	**123**	Pn	Pn	10 13 44.7	-0.2
KSCO	**Kaye Shedlock'**	**4.01**	**311**	IAmb_Lg		10 15 06.4	
	comp=Z,22nm,0.7s						
MSTX	**Muleshoe**	**4.15**	**234**	IAmb_Lg		10 15 06.2	
	comp=Z,20nm,1.1s						
W39A	**Magazine**	**4.20**	**106**	IAmb_Lg		10 15 14.1	
	comp=Z,20nm,0.8s						
MIAR	**Mount Ida**	**4.61**	**113**	IAmb_Lg		10 15 27.2	
	comp=Z,16nm,1.1s						
U40A	**Yellville**	**4.73**	**90**	IAmb_Lg		10 15 32.9	
	comp=Z,15nm,0.8s						
BGNE	**Belgrade**	**4.96**	**5**	IAmb_Lg		10 15 37.7	
	comp=Z,18nm,0.9s						
MGMO	**Mountain Grove**	**5.22**	**80**	IAmb_Lg		10 15 40.1	
	comp=Z,12nm,0.8s						
WHAR	**Wooly Hollow**	**5.35**	**101**	IAmb_Lg		10 15 48.8	
	comp=Z,17nm,1.1s						
FCAR	**Ozark Folk Cen**	**5.36**	**94**	IAmb_Lg		10 15 43.3	
	comp=Z,13nm,0.7s						
W41B	**Gary Mavity, V**	**5.41**	**102**	IAmb_Lg		10 15 54.0	
	comp=Z,13nm,0.8s						
R40A	**Maddies Statio**	**5.45**	**68**	IAmb_Lg		10 15 45.2	
	comp=Z,15nm,1.2s						
SDCO	**Great Sand Dun**	**5.57**	**285**	IAmb_Lg		10 15 58.1	
	comp=Z,10nm,1.1s						
Q24A	**Divide**	**5.68**	**298**	IAmb_Lg		10 15 58.8	
	comp=Z,12nm,0.8s						
435B	**Jarrell**	**5.74**	**170**	IAmb_Lg		10 16 08.3	
	comp=Z,16nm,0.9s						
K31A	**O'Neill**	**6.15**	**360**	IAmb_Lg		10 16 11.6	
	comp=Z,16nm,0.8s						
CCM	**Cathedral Cave**	**6.17**	**73**	IAmb_Lg		10 16 10.6	
	comp=Z,13nm,0.9s						
SCIA	**State Center**	**6.92**	**36**	IAmb_Lg		10 16 34.7	
	comp=Z,12nm,0.7s						
RSSD	**Black Hills**	**8.66**	**334**	IAmb_Lg		10 17 33.2	
	comp=Z,10nm,1.2s						

*IDC **07** 10:20:34.1±1.4, 33°.21N×92°.10E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.3/54, mbtmp3.4/7, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/67, Error ellipse: s-maj=62.9km s-min=20.0km az=62.0*
ISC 07 10:20:35.4±1.5, 33°.3N±0°.2×92°.0E±0°.3, h10km, n8, σ1§08/7, mb3.6/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.42**	**334**	Pn	**Pn**	**10 24 12.0**	**-1.0**
	0.1nm,0.3s,baz=146,slow=13,SNR=3.2						
SONM	**Songino Array**	**18.18**	**32**	P	**P**	**10 24 48.7**	**+0.4**
	0.1nm,0.3s,baz=214,slow=12,SNR=6.7						
KURBB	**Kurchatov Arra**	**19.99**	**334**	P	**P**	**10 25 08.9**	**+1.0**
	1.0nm,0.7s,baz=146,slow=11,SNR=8.5						
ZALV	**Zalesovo Beam**	**21.31**	**348**	P	**P**	**10 25 21.8**	**-0.5**
	0.5nm,0.6s,baz=165,slow=12,SNR=3.8						
BVAR	**Borovoye Array**	**25.11**	**328**	P	**P**	**10 26 01.3**	**+1.1**
	0.4nm,0.5s,baz=122,slow=10,SNR=3.0						
JNU	**Nakatsue**	**32.42**	**79**	LR	LR	10 41 12.5	
	comp=Z,62nm,18.3s,baz=86,slow=38						
WRA	**Warramunga Arr**	**66.57**	**136**	P	**P**	**10 31 26.4**	**+0.5**
	0.6nm,0.8s,baz=334,slow=7.3,SNR=5.9						
ASAR	**Alice Springs**	**69.27**	**139**	P	**P**	**10 31 42.1**	**-0.9**
	0.7nm,0.7s,baz=331,slow=6.3,SNR=6.8						

*TUL **07** 10:40:10±0.7, 36°.53N±0°.02×98°.60W±0°.02, h8km±6km, ML2.6, mb_Lg2.4/9(NEIC), Error ellipse: s-maj=3.9km s-min=1.6km az=143.0*
NEIC 07 10:40:10.5±1.0, 36°.50N±0°.02×98°.49W±0°.04, h5km±6km, Error ellipse: s-maj=5.2km s-min=2.3km az=108.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.28**	**320**	Pg	Pg	10 40 14.4	-1.5
CROK	**Carrier**	**0.41**	**88**	Pg	Pb	10 40 19.6	-0.7
U32A	**Winter Ranch,**	**0.43**	**255**	Pg	Pg	10 40 17.0	-1.8
GC02	**Grant County #**	**0.62**	**55**	Pg	Pg	10 40 22.7	+0.3
KAN14	**Manchester OK**	**0.62**	**42**		Pg	10 40 22.6	+0.1
KAN10	**Anthony SW Sta**	**0.70**	**27**	Pg	Pg	10 40 23.8	-0.3
KAN05	**Bluff City Nor**	**0.79**	**39**	Pg	Pg	10 40 25.6	0.0
KAN17	**Caldwell West**	**0.80**	**46**	Pg	Pg	10 40 25.9	0.0
KAN16	**Harper SW Stat**	**0.81**	**25**	Pg	Pg	10 40 25.6	-0.3
KAN08	**Anthony NE Sta**	**0.84**	**29**	Pg	Pg	10 40 26.4	-0.3
KAN12	**Harper NE Stat**	**0.89**	**26**	Pg	Pg	10 40 27.2	-0.4
KAN06	**Argonia West S**	**0.91**	**34**	Pg	Pg	10 40 27.6	-0.3
KAN13	**South Haven SW**	**0.96**	**57**	Pg	Pg	10 40 29.0	0.0
BLOK	**Blackwell**	**1.06**	**75**		Pg	10 40 31.0	+0.2
BCOK	**Bluff Creek, N**	**1.10**	**139**	Pn	Pg	10 40 31.7	+0.1
OK025	**Westminster Rd**	**1.30**	**134**	Pn	Pn	10 40 35.4	-0.1
OK025					Sn	10 40 54.9	+1.6
OKCSW	**OKLAHOMA CITY**	**1.38**	**142**	Pn	Pn	10 40 36.4	-0.1
OK031	**S. Brethren Rd**	**1.44**	**112**	Pn	Pn	10 40 37.2	-0.1
QUOK	**Quay**	**1.47**	**102**	Pn	Pb	10 40 38.1	-0.3
OK034	**N. Norfolk Rd.**	**1.51**	**108**	Pn	Pn	10 40 38.3	0.0
FNO	**Franklin**	**1.52**	**144**	Pn	Pn	10 40 38.8	+0.4
T35A	**Sooner Cattle**	**1.64**	**75**	Pn	Pn	10 40 40.7	+0.6
T35A				IAmb_Lg		10 41 07.9	
	comp=Z,12nm,0.9s						
WMOK	**Wichita Mounta**	**1.77**	**188**	Pn	Pn	10 40 41.6	-0.2
W35A	**Tecumseh**	**1.87**	**135**	Pn	Pn	10 40 44.0	+0.7
R32A	**Long Quarter,**	**1.93**	**355**	Pn	Pn	10 40 44.0	-0.1
X34A	**Smith Ranch, M**	**1.96**	**164**	Pn	Pb	10 40 45.9	-0.9
CBKS	**Cedar Bluff**	**2.52**	**337**	Pn	Pn	10 40 52.6	+0.4
CBKS				IAmb_Lg		10 41 28.2	
	comp=Z,16nm,1.2s						
X37A	**Clayton**	**3.17**	**126**	IAmb_Lg		10 42 00.2	
	comp=Z,12nm,0.9s						
W39A	**Magazine**	**4.04**	**107**	IAmb_Lg		10 42 26.3	
	comp=Z,7.3nm,1.0s						
T25A	**Trinidad**	**4.79**	**279**	IAmb_Lg		10 42 46.4	
	comp=Z,9.9nm,0.8s						

*IDC **07** 10:48:41.5±1.0, 36°.52N×98°.74W, h0km, mb2.9/1, mb1 3.7/6, mb1mx3.5/45, mbtmp3.4/6, ML3.4/5, Error ellipse: s-maj=14.4km s-min=11.3km az=111.0*
*NEIC **07** 10:48:41.9±0.8, 36°.49N±0°.02×98°.72W±0°.02, h7km±5km, Error ellipse: s-maj=2.9km s-min=1.5km az=135.0*
*ANF **07** 10:48:41.6±0.3, 36°.42N×98°.69W, h0km, ML4.5/11, Error ellipse: s-maj=3.5km s-min=3.3km az=41.0*
*TUL **07** 10:48:41.7±1.0, 36°.48N±0°.02×98°.75W±0°.02, h8km±5km, ML3.8, mb_Lg3.6/95(NEIC), Error ellipse: s-maj=3.1km s-min=1.5km az=149.0*
ISC 07 10:48:41.7±0.9, 36°.50N±0°.03×98°.71W±0°.03, h10km±8km, n90, σ1§49/54, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.21**	**0**	Pg	**Pg**	**10 48 46.7**	**+0.5**
OK035				Sg	**Sg**	**10 48 50.5**	**+1.2**
U32A	**Winter Ranch,**	**0.26**	**244**	Pg	**Pg**	**10 48 46.6**	**-0.4**
U32A				Sg	**Sg**	**10 48 48.4**	**-2.2**
CROK	**Carrier**	**0.59**	**89**	Pg	**Pg**	**10 48 53.4**	**+0.3**
KAN14	**Manchester OK**	**0.76**	**52**	Pg	**Pg**	**10 48 56.6**	**+0.2**
KAN14				Sg	**Sb**	**10 49 07.1**	**-0.3**
GC02	**Grant County #**	**0.77**	**62**	Pg	**Pg**	**10 48 56.8**	**+0.1**
GC02				Sg	**Sg**	**10 49 07.1**	**+0.4**
KAN10	**Anthony SW Sta**	**0.80**	**38**	Pg	**Pg**	**10 48 57.5**	**+0.4**
KAN10				Sg	**Sg**	**10 49 08.0**	**+0.4**
KAN16	**Harper SW Stat**	**0.89**	**35**	Pg	**Pg**	**10 48 59.1**	**+0.1**
KAN16				Sg	**Sb**	**10 49 11.6**	**+0.2**
KAN05	**Bluff City Nor**	**0.91**	**48**	Pg	**Pg**	**10 48 59.6**	**+0.3**
KAN17	**Caldwell West**	**0.94**	**54**	Pg	**Pg**	**10 48 59.7**	**-0.1**
KAN08	**Anthony NE Sta**	**0.94**	**39**	Pg	**Pg**	**10 49 00.1**	**+0.2**
KAN12	**Harper NE Stat**	**0.98**	**35**	Pg	**Pg**	**10 49 00.9**	**+0.2**
KAN01	**Argonia South**	**1.01**	**49**	Pg	**Pg**	**10 49 01.3**	**+0.1**
KAN06	**Argonia West S**	**1.01**	**42**	Pg	**Pg**	**10 49 01.3**	**0.0**
KAN13	**South Haven SW**	**1.12**	**62**	Pg	**Pb**	**10 49 02.8**	**-0.4**
BLOK	**Blackwell**	**1.23**	**77**		**Pn**	**10 49 05.1**	**+0.1**
OK025	**Westminster Rd**	**1.44**	**129**	Pn	**Pn**	**10 49 08.3**	**+0.4**
OKCFA	**Oklahoma City**	**1.49**	**136**	Pn	**Pn**	**10 49 08.9**	**+0.3**
OK005	**Luther M Schoo**	**1.49**	**124**	Pn	**Pn**	**10 49 09.2**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**1.50**	**136**	Pn	**Pb**	**10 49 09.4**	**-0.3**
OK031	**S. Brethren Rd**	**1.61**	**109**	Pn	**Pb**	**10 49 11.2**	**-0.3**
WMOK	**Wichita Mounta**	**1.75**	**182**	P	**Pn**	**10 49 12.1**	**-0.1**
	baz=1.2						
WMOK				S	**Sb**	**10 49 36.2**	**+0.1**
	baz=1.2						
T35A	**Sooner Cattle**	**1.82**	**76**	Pn	**Pn**	**10 49 14.1**	**+1.0**
R32A	**Long Quarter,**	**1.92**	**0**	IAmb_Lg		10 49 45.8	
	comp=Z,206nm,0.8s						
X34A	**Smith Ranch, M**	**2.02**	**159**	IAmb_Lg		10 49 46.5	
	comp=Z,365nm,0.8s						
TUL1	**Leonard**	**2.43**	**103**	IAmb_Lg		10 50 02.8	
	comp=Z,250nm,0.9s						
TUL1	**Leonard**	**2.43**	**103**	P	**Pn**	**10 49 22.6**	**+1.1**
	baz=284						
TUL1				Sb	**Sb**	**10 49 56.8**	**+1.1**
	baz=284						
CBKS	**Cedar Bluff**	**2.45**	**341**	P	**Pb**	**10 49 24.8**	**-1.2**
	baz=161						
CBKS				S	**Sb**	**10 49 57.5**	**+1.3**
	baz=161						
LOOK	**Love County**	**2.79**	**153**	IAmb_Lg		10 50 17.8	
	comp=Z,205nm,1.0s						
AMTX	**Amarillo**	**2.90**	**237**	IAmb_Lg		10 50 16.9	
	comp=Z,252nm,0.8s						
AMTX	**Amarillo**	**2.90**	**237**	Sb	**Sb**	**10 50 10.7**	**+1.4**
	baz=56						
KSU1	**Kansas State U**	**3.09**	**32**	P	**Pn**	**10 49 32.5**	**+1.9**
	baz=213						
X37A	**Clayton**	**3.32**	**124**	IAmb_Lg		10 50 32.4	
	comp=Z,189nm,0.7s						
U38A	**Gravette**	**3.49**	**90**	IAmb_Lg		10 50 33.2	
	comp=Z,100nm,0.8s						
HHAR	**Hobbs**	**3.86**	**92**	IAmb_Lg		10 50 52.5	
	comp=Z,90nm,0.8s						
MSTX	**Muleshoe**	**4.17**	**234**	IAmb_Lg		10 50 58.7	
	comp=Z,163nm,0.8s						
MSTX	**Muleshoe**	**4.17**	**234**	Sb	**Sb**	**10 50 48.9**	**+3.2**
	baz=52						
W39A	**Magazine**	**4.21**	**107**	IAmb_Lg		10 51 01.8	
	comp=Z,166nm,0.9s						
N33A	**J Bar K, Exete**	**4.35**	**13**	IAmb_Lg		10 51 09.3	
	comp=Z,119nm,1.0s						
Z38A	**Mt. Pleasant**	**4.45**	**135**	IAmb_Lg		10 51 14.7	
	comp=Z,84nm,0.8s						
S39A	**Bolivar**	**4.47**	**73**	IAmb_Lg		10 51 09.7	
	comp=Z,90nm,0.8s						
WHTX	**Lake Whitney,**	**4.61**	**167**	P	**Pn**	**10 49 52.3**	**+0.8**
	baz=347						
T25A	**Trinidad**	**4.62**	**280**	IAmb_Lg		10 51 10.5	
	comp=Z,160nm,1.0s						
T25A	**Trinidad**	**4.62**	**280**	Sb	**Sg**	**10 51 04.7**	**-5.3**
	baz=97						
MIAR	**Mount Ida**	**4.62**	**113**	IAmb_Lg		10 51 16.9	
	comp=Z,91nm,0.8s						
U40A	**Yellville**	**4.73**	**90**	IAmb_Lg		10 51 09.4	
	comp=Z,118nm,0.8s						
U40A	**Yellville**	**4.73**	**90**	P	**Pn**	**10 49 54.3**	**+1.2**
	baz=273						
BGNE	**Belgrade**	**4.92**	**5**	P	**Pn**	**10 49 56.9**	**+1.1**
	baz=185						
P38A	**Dawn**	**5.14**	**51**	IAmb_Lg		10 51 28.8	
	comp=Z,81nm,0.8s						
OGNE	**Ogallala**	**5.14**	**331**	IAmb_Lg		10 51 36.6	
	comp=Z,118nm,0.7s						
OGNE	**Ogallala**	**5.14**	**331**	P	**Pn**	**10 50 02.1**	**+3.2**
	baz=149						
X40A	**Basin Creek Fa**	**5.20**	**111**	IAmb_Lg		10 51 35.4	
	comp=Z,87nm,0.8s						
WHAR	**Wooly Hollow**	**5.35**	**101**	IAmb_Lg		10 51 39.6	
	comp=Z,86nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.36**	**95**	IAmb_Lg		10 51 32.4	
	comp=Z,78nm,0.8s						
WLAR	**White Oak Lake**	**5.38**	**120**	IAmb_Lg		10 51 43.6	
	comp=Z,61nm,0.7s						
W41B	**Gary Mavity, V**	**5.41**	**102**	IAmb_Lg		10 51 34.1	
	comp=Z,80nm,0.9s						
R40A	**Maddies Statio**	**5.43**	**69**	IAmb_Lg		10 51 38.6	
	comp=Z,80nm,0.8s						
435B	**Jarrell**	**5.78**	**170**	IAmb_Lg		10 51 50.9	
	comp=Z,60nm,0.8s						
Z41A	**Richland Creek**	**5.83**	**122**	IAmb_Lg		10 52 00.6	
	comp=Z,95nm,0.7s						
JCT	**Junction City**	**6.07**	**189**	IAmb_Lg		10 51 58.5	
	comp=Z,74nm,0.9s						
K31A	**O'Neill**	**6.12**	**360**	IAmb_Lg		10 52 10.8	
	comp=Z,91nm,0.7s						
CCM	**Cathedral Cave**	**6.15**	**73**	IAmb_Lg		10 51 57.5	
	comp=Z,96nm,1.0s						
CCAR	**Cane Creek**	**6.24**	**112**	IAmb_Lg		10 52 12.3	
	comp=Z,90nm,0.7s						
ISCO	**Idaho Springs**	**6.36**	**303**	P	**Pn**	**10 50 17.0**	**+1.2**
	baz=120						
ANMO	**Albuquerque**	**6.49**	**258**	Pn	**Pn**	**10 50 16.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=74,slow=18,SNR=3.3						
ANMO				Pg	**Pb**	**10 50 38.9**	**+4.0**
	comp=Z,1.5nm,0.3s,baz=80,slow=17,SNR=13						
ANMO				Lg	Lg	10 52 00.6	
	comp=Z,0.7nm,0.3s,baz=156,slow=23,SNR=3.6						
PBMO	**Poplar Bluff**	**6.67**	**85**	IAmb_Lg		10 52 14.8	
	comp=Z,78nm,0.8s						
FVM	**French Village**	**6.78**	**75**	IAmb_Lg		10 52 15.4	
	comp=Z,79nm,0.8s						
SLM	**Saint Louis**	**7.06**	**70**	IAmb_Lg		10 52 28.7	
	comp=Z,65nm,0.7s						
143A	**Socs Landing,**	**7.11**	**120**	IAmb_Lg		10 52 38.9	
	comp=Z,72nm,1.2s						
PHWY	**Pilot Hill**	**7.12**	**314**	IAmb_Lg		10 52 42.0	
	comp=Z,50nm,1.0s						
MNTX	**Cornudas Mount**	**7.31**	**231**		**Pn**	**10 50 29.9**	**+1.3**
MNTX				IAmb_Lg		10 52 45.4	
	comp=Z,43nm,0.9s						
PENMO	**Penman**	**7.32**	**88**	IAmb_Lg		10 52 43.0	
	comp=Z,93nm,0.8s						
ECSD	**EROS Data Cent**	**7.41**	**12**		**Pn**	**10 50 29.1**	**-0.8**
HALT	**Halls**	**7.60**	**92**	IAmb_Lg		10 52 55.7	
	comp=Z,62nm,0.8s						
S44A	**Carbondale**	**7.65**	**78**	Pn	**Pn**	**10 50 34.3**	**+1.0**
S44A				IAmb_Lg		10 52 56.0	
	comp=Z,66nm,0.8s						
W45A	**Hickory Valley**	**7.85**	**97**	IAmb_Lg		10 52 53.2	
	comp=Z,58nm,0.8s						
SUSD	**Miller**	**7.94**	**359**		**Pn**	**10 50 37.6**	**+0.4**
SUSD				IAmb_Lg		10 53 06.4	
	comp=Z,41nm,0.8s						
L40A	**Anamosa**	**8.04**	**44**	IAmb_Lg		10 52 58.7	
	comp=Z,75nm,0.8s						
TX31	**Lajitas Ar. Si**	**8.27**	**212**		**Pn**	**10 50 42.1**	**+0.3**
TXAR	**Lajitas Array**	**8.27**	**212**	Pn	**Pn**	**10 50

KIC	Kosan Boka	13.39	56	eP		Pn	10 53 41.0	+0.3
	140nm,1.3s							
DBIC	Dimbokro	13.47	55	Pn		Pn	10 53 40.3	-1.5
	0.3nm,0.3s,baz=242,slow=15,SNR=7.0							
DBIC				Sn		Sn	10 56 00.6	-10
	0.4nm,0.3s,baz=146,slow=18,SNR=1.5							
DBIC				LR		LR	10 57 53.0	
	comp=Z,3μm,21.0s,baz=242,slow=33							
DBIC	Dimbokro	13.47	55	Pn		Pn	10 53 42.2	+0.4
KOWA	Kowa	19.48	37	P		P	10 54 57.0	-0.6
RCBR	Riachuelo	20.51	256	P		P	10 55 07.6	-1.3
TORD	Torodi Ar. Bea	22.49	50	P		P	10 55 29.1	-1.0
	18nm,0.8s,baz=238,slow=11,SNR=40							
TORD	Torodi Ar. Bea	22.49	50	P		P	10 55 31.7	+1.6
BDFB	Brasilia	34.81	244	P		P	10 57 20.5	-1.1
	0.9nm,0.4s,baz=86,slow=18,SNR=1.5							
BDFB				LR		LR	11 09 24.9	
	comp=Z,498nm,21.4s,baz=82,slow=33							
BDFB	Brasilia	34.81	244	IAmb		IAmb	10 57 25.7	
	comp=Z,11nm,1.3s							
MDT	Midelt	35.42	16	LR		LR	11 11 37.4	
	comp=Z,473nm,20.9s,baz=204,slow=36							
MDP	Montagnes des	37.24	280	LR		LR	11 09 28.5	
	comp=Z,941nm,21.4s,baz=88,slow=31							
ESDC	Sonseca Array	42.07	14	P		P	10 58 21.9	-0.4
	comp=Z,0.9nm,0.8s,baz=198,slow=7.7,SNR=1.7							
ESDC				LR		LR	11 16 16.9	
	comp=Z,392nm,19.9s,baz=184,slow=37							
ESDC	Sonseca Array	42.07	14			P	10 58 22.6	+0.3
KEST	Kesra	43.59	30	LR		LR	11 17 34.4	
	comp=Z,941nm,20.7s,baz=174,slow=37							
PTGA	Pitinga	44.08	270	LR		LR	11 14 05.3	
	comp=Z,422nm,20.6s,baz=84,slow=32							
LSZ	Lusaka	45.69	110	LR		LR	11 15 42.4	
	comp=Z,336nm,20.0s,baz=281,slow=33							
SUR	Sutherland	46.45	136	LR		LR	11 15 13.6	
	comp=Z,302nm,18.2s,baz=302,slow=32							
LBTB	Lobatse	46.53	124	LR		LR	11 16 32.9	
	comp=Z,282nm,18.0s,baz=289,slow=34							
MBAR	Mbarara	46.61	90	P		P	10 58 59.2	0.0
	comp=Z,4.2nm,0.2s,baz=67,slow=23,SNR=2.0							
MBAR				LR		LR	11 16 40.2	
	comp=Z,1μm,19.4s,baz=260,slow=34							
MBAR	Mbarara	46.61	90	P		P	10 59 00.6	+1.3
MBAR				IAmb		IAmb	10 59 09.8	
	comp=Z,22nm,1.4s							
SIV	San Ignacio	46.91	249	LR		LR	11 17 12.3	
	comp=Z,1μm,20.1s,baz=94,slow=34							
CPUP	Villa Florida	47.05	234	LR		LR	11 16 10.3	
	comp=Z,618nm,21.9s,baz=66,slow=33							
MATP	Matopo	47.38	117	LR		LR	11 16 47.6	
	comp=Z,228nm,19.1s,baz=284,slow=33							
VAE	Valguarnera	47.57	33	LR		LR	11 21 35.8	
	comp=Z,481nm,18.1s,baz=156,slow=39							
BOSA	Boshof	47.81	129	LR		LR	11 15 40.9	
	comp=Z,196nm,21.1s,baz=308,slow=32							
BOSA	Boshof	47.81	129	iP		P	10 59 07.0	-1.2
BOSA	Boshof	47.81	129	iP		P	10 59 07.0	-1.2
CASP	Castiglione de	49.93	26	P		P	10 59 24.4	+0.3
TIP	Timpagrande	50.07	33	P		P	10 59 26.9	+1.6
TIP				IAmb		IAmb	10 59 34.1	
	comp=Z,28nm,1.2s							
ETMB	Extrema	50.78	258	P		P	10 59 31.9	+0.9
LODK	Lodwar	51.42	85	P		P	10 59 37.2	+1.2
IDI	Anoyia	52.56	42	LR		LR	11 25 17.0	
	comp=Z,134nm,18.4s,baz=138,slow=40							
DAVOX	Davos/Dischmat	52.82	22	LR		LR	11 23 50.7	
	comp=Z,270nm,18.5s,baz=249,slow=38							
BAUV	El Baul	52.92	282	P		P	10 59 47.1	+0.1
BAUV				IAmb		IAmb	10 59 49.1	
	comp=Z,22nm,0.9s							
KMBO	Kilima Mbogo	53.12	91	LR		LR	11 20 52.0	
	comp=Z,1μm,18.9s,baz=272,slow=34							
KMBO	Kilima Mbogo	53.12	91	P		P	10 59 49.5	+0.7
DAVA	Damuels	53.24	22	eP		P	10 59 49.4	+0.3
	comp=Z,7.8nm,0.8s							
FETA	Feichten	53.34	22	eP		P	10 59 51.7	+1.9
	comp=Z,18nm,2.2s							
LPAZ	La Paz	53.60	251	LR		LR	11 22 02.5	
	comp=Z,763nm,19.0s,baz=80,slow=35							
SQTA	Sankt Quirin	53.69	23	eP		P	10 59 52.5	+0.2
	comp=Z,17nm,1.4s							
MOTA	Moosalm	53.75	22	eP		P	10 59 53.5	+0.8
	comp=Z,6.2nm,1.2s							
ABTA	Abfaltersbach	53.82	24	eP		P	10 59 55.9	+2.7
	comp=Z,13nm,1.5s							
WTTA	Wattenberg	53.89	23	eP		P	10 59 55.7	+1.9
	comp=Z,7.5nm,1.2s							
WATA	Walderalm	53.93	23	eP		P	10 59 56.5	+2.4
	comp=Z,1.6nm,0.5s							
MYKA	Terra Mystica	54.19	25	eP		P	10 59 57.3	+1.4
	comp=Z,7.6nm,1.1s							
KBA	Koelnbreinsper	54.42	24	eP		P	11 00 00.6	+2.9
	comp=Z,11nm,1.5s							
OBKA	Obir	54.48	25	eP		P	10 59 59.8	+1.8
	comp=Z,8.3nm,1.4s							
SOKA	Soboth	54.82	26	eP		P	11 00 01.7	+1.2
	comp=Z,5.8nm,1.4s							
SDV	Santo Domingo	55.45	282	LR		LR	11 21 51.6	
	comp=Z,204nm,21.1s,baz=92,slow=34							
LVC	Limon Verde	55.72	243	LR		LR	11 25 00.8	
	comp=Z,153nm,19.6s,baz=68,slow=37							
GERES	GERESS Array B	55.98	23	P		P	11 00 08.3	-0.5
	comp=Z,0.7nm,0.7s,baz=193,slow=8.1,SNR=4.8							
GERES				LR		LR	11 26 07.1	
	comp=Z,279nm,18.2s,baz=236,slow=38							
CONA	Conrad Observa	56.15	25	eP		P	11 00 13.3	+3.3
	comp=Z,5.2nm,1.4s							
AC02	Maricunga	57.08	239	P		P	11 00 19.1	+1.5
EKA	Eskdalemuir Ar	57.26	9	LR		LR	11 26 28.7	
	comp=Z,196nm,18.0s,baz=223,slow=38							
EIL	Elat	57.33	53	LR		LR	11 25 40.2	
	comp=Z,551nm,19.3s,baz=258,slow=37							
VRAC	Vranov	57.52	25	LR		LR	11 27 52.5	
	comp=Z,216nm,18.2s,baz=231,slow=39							
BRG	Berggiesshubel	57.72	22	eP		P	11 00 29.3	+8.4
BRG				Amp			11 00 34.7	
	comp=Z,16nm,1.7s							
SDDR	Presa de Saban	57.95	293	P		P	11 00 23.9	+0.7
SDDR				IAmb		IAmb	11 00 33.3	
	comp=Z,18nm,1.0s							
ROSC	El Rosal	58.68	276	LR		LR	11 22 52.9	
	comp=Z,547nm,21.6s,baz=90,slow=33							
MMAI	Mount Meron Ar	59.03	50	LR		LR	11 28 24.3	
	comp=Z,163nm,18.0s,baz=41,slow=38							
MLR	Muntele Rosu	59.34	33	LR		LR	11 28 35.3	
	comp=Z,415nm,18.9s,baz=237,slow=38							
ATD	Arta Tunnel	59.69	76	LR		LR	11 25 11.6	
	comp=Z,178nm,18.3s,baz=38,slow=35							
BRTR	Keskin Array B	60.80	42	P		P	11 00 43.0	+0.3
	comp=Z,5.2nm,1.0s,baz=226,slow=5.0,SNR=6.9							
BRTR				LR		LR	11 29 11.5	
	comp=Z,207nm,20.2s,baz=234,slow=38							
BRTR	Keskin Array B	60.80	42	P		P	11 00 43.3	+0.6
NNA	Nana	61.38	257	LR		LR	11 27 01.4	
	comp=Z,475nm,18.6s,baz=96,slow=36							
BNN	Bunyan	61.89	44	P		P	11 00 50.3	+0.2
ATAH	Atahualpa	62.59	263	LR		LR	11 27 04.7	
	comp=Z,905nm,20.4s,baz=91,slow=35							
PLCA	Paso Flores	63.11	224	LR		LR	11 24 07.4	
	comp=Z,194nm,21.8s,baz=66,slow=32							
OPO	Ambohidratompo	64.16	110	LR		LR	11 25 56.7	
	comp=Z,163nm,21.2s,baz=260,slow=33							
AKASG	Malin Array Be	64.32	30	P		P	11 01 04.6	-1.2
	comp=Z,3.6nm,1.1s,baz=232,slow=6.6,SNR=8.1							
AKASG				LR		LR	11 29 40.8	
	comp=Z,302nm,21.8s,baz=240,slow=37							
AKASG	Malin Array Be	64.32	30	P		P	11 01 04.9	-0.9
AKBB	Malin Array Si	64.32	30	P		P	11 01 05.3	-0.4
AKBB				IAmb		IAmb	11 01 13.9	
	comp=Z,16nm,1.2s							
RAYN	Ar Rayn	64.43	63	P		P	11 01 08.5	+1.3
RAYN				IAmb		IAmb	11 01 17.4	
	comp=Z,9.1nm,1.1s							
NOA	NORSAR Array B	65.43	14	P		P	11 01 12.9	0.0
	comp=Z,1.6nm,0.9s,baz=204,slow=6.8,SNR=3.2							
NOA				LR		LR	11 30 33.6	
	comp=Z,149nm,21.0s,baz=210,slow=37							
KOPT	Kop Dagi	65.64	45	P		P	11 01 16.8	+1.8
KOPT				IAmb		IAmb	11 01 20.3	
	comp=Z,24nm,1.3s							
NACGM	Naroch	65.90	25	iP		P	11 01 16.4	+0.4
MNK	Minsk	66.11	26	iP		P	11 01 15.1	-2.2
	comp=E,1.0nm,0.8s							
MNK				iP		P	11 01 15.1	-2.2
	comp=N,19nm,1.0s							
MNK				iP		P	11 01 15.1	-2.2
	comp=Z,6.0nm,0.8s,baz=49							
MNK				iPP		PP	11 03 45.5	+2.5
MNK				iPPP		PPP	11 05 17.4	
MNK				iS		S	11 10 04.4	-0.3
MNK				iSS		SS	11 14 20.6	0.0
MNK				iSSS		SSS	11 17 38.5	
MNK				iLQ		LQ	11 23 37.8	
MNK				iLR		LR	11 29 40.4	
MNK				iLRM		MLR	11 32 37.9	
	comp=E,28nm,18.1s							
MNK				iLRM		MLR	11 33 00.5	
	comp=Z,348nm,18.8s							
MNK				iLRM		MLR	11 33 07.0	
	comp=N,209nm,20.3s							
GURO	Guroymak-BITLI	66.17	47	P		P	11 01 19.0	+0.8
GURO				IAmb		IAmb	11 01 27.7	
	comp=Z,8.6nm,0.9s							
KBZ	Khabaz	68.78	42	P		P	11 01 34.7	+0.3
	comp=Z,7.5nm,1.0s,baz=181,slow=3.2,SNR=8.1							
KBZ				LR		LR	11 36 34.8	
	comp=Z,94nm,18.5s,baz=260,slow=40							
BINY	Binghamton	69.09	316	P		P	11 01 37.6	+1.2
BINY				IAmb		IAmb	11 01 39.4	
	comp=Z,20nm,1.1s							
BINY	Binghamton	69.09	316	P		P	11 01 37.7	+1.2
	baz=112							
SCHQ	Schefferville	69.63	331	LR		LR	11 26 52.6	
	comp=Z,153nm,18.2s,baz=80,slow=31							
JTS	Las Juntas de	69.64	281	LR		LR	11 32 33.6	
	comp=Z,116nm,18.1s,slow=36							
TRQ	Mont Tremblant	69.73	321	P		P	11 01 41.5	+1.1
TRQ				IAmb		IAmb	11 01 42.6	
	comp=Z,11nm,1.1s							
VNA2	Neumayer--Watz	69.88	177	P		P	11 01 39.5	-1.3
	baz=7.7,slow=6.1							
FINES	FINESS Array B	70.14	20	P		P	11 01 42.0	-0.5
	comp=Z,3.7nm,1.0s,baz=222,slow=2.6,SNR=5.2							
FINES				LR		LR	11 31 32.1	
	comp=Z,165nm,20.6s,baz=234,slow=35							
OBN	Obninsk	70.50	29	LR		LR	11 35 17.8	
	comp=Z,48nm,18.2s,baz=187,slow=38							
SNAA	Sanae	70.91	176	P		P	11 01 45.7	-1.4
	comp=Z,4.0nm,0.8s,baz=342,slow=11,SNR=5.8							
WVNY	West Valley, N	70.98	316	P		P	11 01 50.0	+1.9
SADO	Sadowa	72.16	318	LR		LR	11 26 42.1	
	comp=Z,344nm,18.9s,baz=58,slow=30							
JMIC	Jan Mayen	72.17	3	LR		LR	11 29 55.0	
	comp=Z,58nm,20.2s,baz=241,slow=33							
PMSA	Palmer Station	72.32	200	LR		LR	11 26 44.1	
	comp=Z,184nm,19.2s,baz=69,slow=30							
TKL	Tuckaleechee C	72.85	308	LR		LR	11 28 27.8	
	comp=Z,204nm,21.0s,baz=76,slow=31							
X51A	Calhoun	73.46	307	P		P	11 02 03.5	+0.4
K50A	Casco	73.91	315	P		P	11 02 06.5	+1.0
K50A				IAmb		IAmb	11 02 07.8	
	comp=Z,27nm,1.1s							
R50A	Paris	73.94	310	P		P	11 02 06.2	+0.4
R50A				IAmb		IAmb	11 02 08.6	
	comp=Z,13nm,1.1s							
T50A	Nancy	74.02	309	P		P	11 02 06.5	+0.2
T50A				IAmb		IAmb	11 02 08.9	
	comp=Z,18nm,1.1s							
UOSS	Minazif	74.29	64	P		P	11 02 09.3	+1.2
UOSS				IAmb		IAmb	11 02 16.6	
	comp=Z,17nm,1.0s							
O49A	Covington	74.43	312	IAmb		IAmb	11 02 11.8	
	comp=Z,19nm,1.2s							
U49A	Red Boiling Sp	74.63	308	IAmb		IAmb	11 02 11.7	
	comp=Z,22nm,1.1s							
KLMR	Klimovskoe	74.90	25	eP		P	11 02 07.9	-3.0
KLMR				AMP			11 02 19.8	
	comp=Z,13nm,1.2s							
L48A	N Adams	74.96	314	IAmb		IAmb	11 02 13.8	
	comp=Z,23nm,1.1s							
X48A	Hartselle	75.20	306	IAmb		IAmb	11 02 15.1	
	comp=Z,16nm,1.1s							
V48A	Smith Brothers	75.29	307	IAmb		IAmb	11 02 16.1	
	comp=Z,15nm,1.1s							
FRB	Frobisher Bay	75.42	339	P		P	11 02 12.8	-1.0
	comp=Z,3.4nm,1.0s,baz=139,slow=5.7,SNR=4.3							
N47A	Urbana	75.61	313	IAmb		IAmb	11 02 17.2	
	comp=Z,18nm,0.9s							
ARCES	ARCESS Array B	75.81	14	LR		LR	11 36 33.7	
	comp=Z,180nm,19.6s,baz=262,slow=36							
WVT	Waverly	76.17	308	P		P	11 02 19.2	+0.5
WVT				IAmb		IAmb	11 02 19.5	
	comp=Z,27nm,1.3s							
WVT	Waverly	76.17	308	P		P	11 02 19.1	+0.5
	baz=102							
WSAR	Wadi Sarin	76.24	66	LR		LR	11 37 40.7	
	comp=Z,202nm,18.5s,baz=280,slow=37							
P46A	Rosedale	76.43	311	IAmb		IAmb	11 02 21.7	
	comp=Z,21nm,1.1s							
SYO	Syowa Base	77.13	162	eP		P	11 02 26.1	+2.7
S44A	Carbondale	77.60	309	IAmb		IAmb	11 02 28.3	
	comp=Z,26nm,1.1s							
GEYT	Alibeck	78.13	51	LR		LR	11 39 55.0	
	comp=Z,518nm,18.9s,baz=287,slow=38							
KIRV	Kirov	78.35	29	LR		LR	11 39 05.5	
	comp=Z,212nm,20.0s,baz=261,slow=37							
FVM	French Village	78.56	309	IAmb		IAmb	11 02 33.3	
	comp=Z,16nm,1.0s							
CCM	Cathedral Cave	79.21	309	P		P	11 02 34.0	-1.6
CCM				IAmb		IAmb	11 02 36.9	
	comp=Z,18nm,0.9s							
CCM	Cathedral Cave	79.21	309	P		P	11 02 34.8	-0.9
	baz=100							
JFWS	Jewell Farm	79.38	314	IAmb		IAmb	11 02 37.8	
	comp=Z,16nm,1.1s							
JFWS	Jewell Farm	79.38	314	P		P	11 02 36.4	-0.1
	baz=102							
W41B	Gary Mavity, V	79.54	306	P		P	11 02 37.4	-0.1
	baz=99							
CMIG	Matias Romero	79.83	287	LR		LR	11 37 35.3	
	comp=Z,100nm,19.7s,baz=99,slow=35							
X40A	Basin Creek Fa	79.91	305	P		P	11 02 40.1	+0.6
	baz=98							
WLAR	White Oak Lake	80.03	304	IAmb		IAmb	11 02 43.9	
	comp=Z,22nm,1.0s							
U40A	Yellville	80.20	307	P		P	11 02 41.2	+0.1
	baz=99							
AKTO	Aktyubinsk	80.68	39	LR		LR	11 42 02.6	
	comp=Z,78nm,19.4s,baz=282,slow=38							
P38A	Dawn	81.23	310	IAmb		IAmb	11 02 47.7	
	comp=Z,17nm,0.9s							
ABKAR	Akbulak array	81.64	40	P		P	11 02 47.9	-0.5
ARU	Arti	82.39	33	LR		LR	11 42 18.2	
	comp=Z,117nm,18.1s,baz=260,slow=38							
ARU	Arti	82.39	33	P		P	11 02 52.2	-0.1
ARU				IAmb		IAmb	11 03 01.3	
	comp=Z,15nm,1.3s							
B35A	Bob, Littlefor	82.79	319	IAmb		IAmb	11 02 55.4	
	comp=Z,14nm,1.1s							
T35A	Sooner Cattle	83.20	307	IAmb		IAmb	11 02 58.5	
	comp=Z,16nm,1.0s							
QUOK	Quay	83.27	306	IAmb		IAmb	11 02 58.8	
	comp=Z,14nm,0.9s							
WHTX	Lake Whitney,	83.46	302	IAmb		IAmb	11 02 59.4	
	comp=Z,16nm,1.2s							
WHTX	Lake Whitney,	83.46	302	P		P	11 02 58.4	0.0
	baz=95							
KSU1	Kansas State U	83.53	309	P		P	11 02 58.5	0.0
	baz=97							
OK025	Westminster Rd	83.72	306	IAmb		IAmb	11 03 01.3	
	comp=Z,15nm,0.9s							
BLOK	Blackwell	83.74	307	IAmb		IAmb	11 03 01.0	
	comp=Z,12nm,0.9s							
ECSD	EROS Data Cent	84.09	314	P		P	11 03 00.6	-0.8
	baz=97							
AGMN	Agassiz Nation	84.19	319	IAmb		IAmb	11 03 02.9	
	comp=Z,18nm,1.1s							
AGMN	Agassiz Nation	84.19	319	P		P	11 03 01.3	-0.5
	baz=98							
ULM	Lac du Bonnet	84.48	321	P		P	11 03 01.8	-1.3
	comp=Z,3.3nm,0.8s,baz=117,slow=5.2,SNR=4.4							
ULM				LR		LR	11 34 45.6	
	comp=Z,159nm,18.5s,baz=84,slow=32							
ULM	Lac du Bonnet	84.48	321	P		P	11 03 02.3	-0.8
ULM				IAmb		IAmb	11 03 03.5	
	comp=Z,7.9nm,1.0s							
MAW	Mawson	84.65	158	LR		LR	11 34 49.8	
	comp=Z,78nm,18.5s,baz=240,slow=31							
WMOK	Wichita Mounta	84.81	305	IAmb		IAmb	11 03 06.9	
	comp=Z,9.5nm,1.0s							
WMOK	Wichita Mounta	84.81	305	P		P	11 03 05.0	-0.2
	baz=95							
FCC	Fort Churchill	84.87	329	P		P	11 03 04.5	-0.4
JCT	Junction City	85.34	301	IAmb		IAmb	11 03 10.0	
	comp=Z,18nm,1.0s							
JCT	Junction City	85.34	301	P		P	11 03 08.9	+0.9
	baz=94							
SUSD	Miller	85.85	315	P		P	11 03 09.8	-0.3
	baz=96							
CBKS	Cedar Bluff	85.92	309	P		P	11 03 10.7	0.0
	baz=95							
MDND	Maddock	86.62	318	P		P	11 03 13.4	-0.5
	baz=95							
OGNE	Ogallala	87.83	311	P		P	11 03 21.0	+1.0
	baz=93							
MSTX	Muleshoe	88.06	304	P		P	11 03 22.4	+1.1
	baz=93							
BTK	Batken	88.20	50	IAmb		IAmb	11 03 31.0	
	comp=Z,14nm,1.4s							
BRVK	Borovoye	88.60	37	P		P	11 03 23.6	+0.4
TX31	Lajitas Ar. Si	88.63	299	IAmb		IAmb	11 03 26.4	
	comp=Z,16nm,1.1s							
TXAR	Lajitas Array	88.63	299	P		P	11 03 23.8	-0.3
	comp=Z,3.3nm,1.0s,baz=116,slow=5.7,SNR=14							
TXAR				LR		LR	11 40 24.4	
	comp=Z,105nm,19.6s,baz=38,slow=34							
QSPA	South Pole Qui	88.92	180	LR		LR	11 37 43.4	
	comp=Z,49nm,19.0s,baz=232,slow=32							
QSPA	South Pole Qui	88.92	180	P		P	11 03 24.4	-0.3
QSPA				IAmb		IAmb	11 03 28.2	
	comp=Z,14nm,1.1s							
DGMT	Dagmar	89.73	318	P		P	11 03 28.5	-0.2
DGMT	Dagmar	89.73	318	P		P	11 03 30.0	+1.2
	baz=92							
Q24A	Divide	90.15	309	P		P	11 03 31.9	+0.6
	baz=91							
SDCO	Great Sand Dun	90.40	308	IAmb		IAmb	11 03 34.5	
	comp=Z,8.7nm,1.1s							
SDCO	Great Sand Dun	90.40	308	P		P	11 03 33.3	+0.9
	baz=91							
N23A	Red Feather La	90.80	311	IAmb		IAmb	11 04 02.0	
	comp=Z,12nm,1.2s							
AAK	Ala-Archa	91.05	48	LR		LR	11 50 52.9	
	comp=Z,112nm,18.0s,baz=283,slow=40							
AAK	Ala-Archa	91.05	48	P		P	11 03 34.8	-0.3
LAO	LASA Array	91.07	316	IAmb		IAmb	11 03 39.5	
	comp=Z,8.1nm,1.2s							
LAO	LASA Array	91.07	316	P		P	11 03 36.2	+1.2
	baz=90							
ANMO	Albuquerque	91.13	305	LR		LR	11 39 36.2	
	comp=Z,316nm,19.8s,baz=84,slow=32							
ANMO	Albuquerque	91.13	305	P		P	11 03 34.3	-1.5
S22A	4UR Ranch, Cre	91.45	308	P		P	11 03 38.5	+1.1
	baz=90							
KSH	Kashi	92.16	51	P		P	11 03 40.0	-0.3
KSH				sP		sP	11 03 48.2	+0.5
KSH				S		S	11 14 34.4	-7.9
KSH				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KSH				pmax		pmax		
	comp=Z,340nm,6.2s							
KSH				LR		LR		
	comp=Z,280nm,7.7s							
KSH				LR		LR		
	comp=Z,470nm,10.7s							
KSH				LR		LR		
	comp=Z,500nm,12.9s							
RPN	Rapa Nui	92.56	243	LR		LR	11 41 11.4	
	comp=Z,73nm,21.8s,baz=82,slow=33							
MVCO	Mesa Verde	92.78	307	IAmb		IAmb	11 03 46.1	
	comp=Z,6.9nm,1.1s							
MVCO	Mesa Verde	92.78	307	P		P	11 03 44.8	+1.4
	baz=89							
PV19	Morning Glory	93.15	308	IAmb		IAmb	11 03 46.2	
	comp=Z,11nm,1.0s							
PDAR	Pinedale Array	93.48	313	P		P	11 03 44.7	-1.8
	comp=Z,0.7nm,0.9s,baz=104,slow=4.7,SNR=4.8							
PDAR				LR		LR	11 40 19.8	
	comp=Z,203nm,21.4s,baz=72,slow=32							
TARG	Taragay, Kyrgy	93.52	48	P		P	11 03 45.8	-1.1
KURBB	Kurchatov Arra	93.69	40	LR		LR	11 51 07.6	
	comp=Z,128nm,18.9s,baz=234,slow=39							
YKA	Yellowknife Ar	95.05	333	P		P	11 03 51.9	-1.1
	comp=Z,2.1nm,1.0s,baz=83,slow=5.1,SNR=13							
YKA				LR		LR	11 41 31.7	
	comp=Z,184nm,20.2s,baz=32,slow=32							
NRIK	Noril'sk	95.80	20	LR		LR	11 51 38.2	
	comp=Z,83nm,18.4s,baz=316,slow=38							
MKAR	Makanchi Array	96.44	43	P		P	11 03 58.8	-0.8
	comp=Z,1.4nm,1.0s,baz=284,slow=4.9,SNR=5.4							
MKAR				LR		LR	11 53 52.2	
	comp=Z,91nm,18.2s,baz=291,slow=39							
PALK	Pallekele	96.67	83	LR		LR	11 43 40.1	
	comp=Z,199nm,20.5s,baz=17,slow=33							
ZALV	Zalesovo Beam	97.23	36	LR		LR	11 51 06.1	
	comp=Z,98nm,20.3s,baz=268,slow=37							
ELK	Elko	97.85	311	LR		LR	11 45 13.7	
	comp=Z,190nm,21.5s,baz=90,slow=34							
NEW	Newport	98.34	319	LR		LR	11 44 00.1	
	comp=Z,234nm,19.3s,baz=51,slow=33							
WMQ	Urumqi	100.58	46	eP		Pdif	11 04 22.8	+4.4
WMQ				pP		sP	11 04 26.3	+0.5
WMQ				pmax		pmax		
	comp=Z,15nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,160nm,5.7s							
WMQ				LR		LR		
	comp=Z,120nm,22.7s							
PZH	PanZhiHua	115.10	61	PKP		PKiKP	11 09 12.7	+0.2
CD2	Chengdu	115.79	56	PKP		PKiKP	11 09 13.5	-0.1
HHC	Hu-ho-hao-te	118.30	43	ePKP	

comp=Z,7.4nm,0.8s
AMTX Amarillo 2.90 237 IAmb_Lg 11 01 43.0
comp=Z,15nm,1.0s
U38A Gravette 3.50 90 Pn Pn 11 01 00.3 +1.4
U38A IAmb_Lg 11 01 55.5
comp=Z,6.2nm,0.8s
KSCO Kaye Shedlock' 3.98 310 IAmb_Lg 11 02 08.9
comp=Z,7.3nm,0.7s
MSTX Muleshoe 4.17 234 IAmb_Lg 11 02 23.4
comp=Z,5.0nm,0.7s
P38A Dawn 5.15 51 IAmb_Lg 11 02 47.1
comp=Z,16nm,1.0s
X40A Basin Creek Fa 5.21 111 IAmb_Lg 11 02 45.4
comp=Z,9.9nm,1.3s
MGMO Mountain Grove 5.22 81 IAmb_Lg 11 02 51.0
comp=Z,6.9nm,0.9s

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*NOU **07** 11:10:27.2, 14°.57S×167°.42E, h144km, MLv5.1/10, Vanuatu Islands*
*IDC **07** 11:10:29.6±3.6, 14°.86S×167°.37E, h162km±34km, mb4.0/11, mb1 4.1/12, mb1mx3.7/46, mbtmp4.4/12, Error ellipse: s-maj=27.5km s-min=21.4km az=150.0*
ISC 07 11:10:28.3±0.9, 14°.73S±0°.08×167°.4E±0°.2, h150km, n21, σ0.981/23, mb4.2/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.73	195	P	Pn	11 10 50.4	-0.7
KOUNC	Koumac, New Ca	6.50	207	P	Pn	11 12 02.8	+1.1
DZM	Mont Dzumac	7.36	187	P	Pn	11 12 12.9	-0.3
	10nm,0.3s,baz=131,slow=12,SNR=26						
DZM				S	Sn	11 13 35.1	-0.4
	1.3nm,0.3s,baz=140,slow=23,SNR=1.4						
DZM	Mont Dzumac	7.36	187	P	Pn	11 12 14.3	+1.1
NOUC	Port Laguerre	7.40	188	P	Pn	11 12 14.5	+0.7
OUENC	Ouen Island, N	7.66	184	P	Pn	11 12 18.4	+1.2
PINNC	Pines Island,	7.84	180	P	Pn	11 12 20.2	+0.6
PMG	Port Moresby	20.48	283	P	P	11 14 55.4	+0.9
	13nm,0.8s,baz=64,slow=6.9,SNR=7.0						
STKA	Stephens Creek	29.08	230	P	P	11 16 14.2	-0.6
	2.1nm,0.4s,baz=52,slow=10.0,SNR=11						
WRA	Warramunga Arr	31.94	256	P	P	11 16 38.8	-1.4
	1.6nm,0.5s,baz=84,slow=8.8,SNR=30						
ASAR	Alice Springs	32.78	249	P	P	11 16 46.6	-0.9
	3.4nm,0.3s,baz=77,slow=9.5,SNR=99						
ASAR				PcP	PcP	11 19 28.8	-0.6
	0.3nm,0.7s,baz=83,slow=2.3,SNR=4.7						
FITZ	Fitzroy Crossi	40.13	259	P	P	11 17 49.6	-0.2
	8.2nm,0.5s,baz=72,slow=8.1,SNR=35						
PETK	Petropavlovsk-	68.08	354	P	P	11 21 12.2	+0.7
	2.5nm,0.8s,baz=134,slow=4.3,SNR=4.3						
CMAR	Chiang Mai Arr	75.06	294	P	P	11 21 54.8	+0.6
	1.4nm,0.7s,baz=138,slow=4.6,SNR=7.7						
SONM	Songino Array	82.57	324	P	P	11 22 35.8	+1.1
	0.6nm,0.4s,baz=137,slow=5.3,SNR=9.1						
ILAR	Eielson Array	86.49	18	P	P	11 22 53.5	-0.4
	1.0nm,0.8s,baz=242,slow=5.4,SNR=7.0						
MKAR	Makanchi Array	97.29	316	P	P	11 23 44.7	+0.4
	1.2nm,0.7s,baz=94,slow=5.7,SNR=12						
ZALV	Zalesovo Beam	97.47	324	P	P	11 23 44.0	-0.9
	1.0nm,0.6s,baz=112,slow=4.9,SNR=5.2						
ARCES	ARCESS Array B	120.29	345	PKP	PKPdf	11 29 00.5	-0.5
	0.4nm,0.3s,baz=68,slow=1.9,SNR=17						
FINES	FINESS Array B	125.77	338	PKP	PKiKP	11 29 12.2	0.0
	0.8nm,0.4s,baz=18,slow=0.6,SNR=5.2						
TORD	Torodi Ar. Bea	166.03	265	PKPab	PKPab	11 31 17.4	-0.1
	0.8nm,0.7s,baz=81,slow=2.5,SNR=3.9						

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*TUL **07** 11:13:17.6±1.0, 36°.51N±0°.02×98°.72W±0°.02, h7km±7km, ML2.9, mb_Lg2.7/38(NEIC), Error ellipse: s-maj=3.1km s-min=2.6km az=49.0*
NEIC 07 11:13:17.6±0.9, 36°.49N±0°.02×98°.71W±0°.01, h4km±7km, Error ellipse: s-maj=2.9km s-min=1.1km az=203.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.22	1	Pg	Pg	11 13 22.3	+0.3
OK035				Sg	Sg	11 13 25.6	+0.8
U32A	Winter Ranch,	0.26	245	Pg	Pg	11 13 22.9	+0.3
U32A				Sg	Sg	11 13 27.0	+1.0
CROK	Carrier	0.59	88	Pg	Pg	11 13 29.1	+0.1
CROK				Sg	Sg	11 13 37.7	+1.1
KAN14	Manchester OK	0.76	52		Pg	11 13 32.2	0.0
KAN14				Sg	Sg	11 13 42.6	+0.5
GC02	Grant County #	0.78	62	Pg	Pg	11 13 32.4	-0.1
GC02				Sg	Sg	11 13 43.1	+0.5
KAN10	Anthony SW Sta	0.81	38	Pg	Pg	11 13 32.9	-0.1
KAN10					Pb	11 13 33.1	-1.1
KAN16	Harper SW Stat	0.90	35		Pg	11 13 34.7	-0.2
KAN05	Bluff City Nor	0.92	47		Pg	11 13 35.1	-0.1
KAN17	Caldwell West	0.94	54	Pg	Pg	11 13 35.5	-0.2
KAN17				Sg	Sg	11 13 48.1	+0.2
KAN08	Anthony NE Sta	0.95	39		Pg	11 13 35.6	-0.2
KAN12	Harper NE Stat	0.99	35		Pg	11 13 36.5	-0.2
KAN12				Sg	Sg	11 13 49.4	-0.1
KAN01	Argonia South	1.01	49		Pg	11 13 36.7	-0.4
KAN01				Sg	Sg	11 13 50.0	-0.2
KAN06	Argonia West S	1.02	42	Pg	Pg	11 13 37.2	-0.1
KAN13	South Haven SW	1.12	62	Pg	Pg	11 13 38.7	-0.4
BCOK	Bluff Creek, N	1.22	133		Pg	11 13 40.5	-0.5
BLOK	Blackwell	1.23	77	Pn	Pg	11 13 40.8	-0.5
OK025	Westminster Rd	1.44	129		Pn	11 13 44.1	-0.4
OKCFA	Oklahoma City	1.48	136	Pn	Pn	11 13 45.0	-0.1
OKCSW	OKLAHOMA CITY	1.50	136	Pn	Pn	11 13 45.1	-0.1
OK031	S. Brethren Rd	1.61	109		Pn	11 13 46.9	+0.1
FNO	Franklin	1.63	139	Pn	Pb	11 13 47.7	-0.5
WMOK	Wichita Mounta	1.75	182		Pn	11 13 48.9	+0.2
R32A	Long Quarter,	1.93	0		Pn	11 13 52.0	+0.6
W35A	Tecumseh	2.00	131		Pb	11 13 53.5	-1.2
X34A	Smith Ranch, M	2.02	159		Pb	11 13 53.8	-1.1
X34A				IAmb_Lg		11 14 22.0	
	comp=Z,42nm,0.8s						
TUL1	Leonard	2.43	103		Pn	11 13 58.8	+0.6
CBKS	Cedar Bluff	2.46	341		Pn	11 13 59.7	+1.1
LOOK	Love County	2.79	153		Pn	11 14 02.7	-0.4
AMTX	Amarillo	2.90	237	IAmb_Lg		11 14 50.9	
	comp=Z,30nm,0.9s						
KSU1	Kansas State U	3.10	32		Pn	11 14 07.8	+0.5
X37A	Clayton	3.32	124	Pn	Pn	11 14 10.3	-0.1
Z35A	Perchaven, San	3.37	159	Pn	Pn	11 14 11.9	+0.8
U38A	Gravette	3.49	90	Pn	Pn	11 14 14.2	+1.5
U38A				IAmb_Lg		11 15 16.0	
	comp=Z,17nm,0.8s						
KSCO	Kaye Shedlock'	4.00	310	IAmb_Lg		11 15 28.5	
	comp=Z,27nm,1.1s						
W39A	Magazine	4.21	106	IAmb_Lg		11 15 38.5	
	comp=Z,17nm,0.9s						
N33A	J Bar K, Exete	4.36	13	IAmb_Lg		11 15 46.3	
	comp=Z,23nm,0.8s						
S39A	Bolivar	4.47	73	IAmb_Lg		11 15 43.0	
	comp=Z,12nm,0.8s						
MIAR	Mount Ida	4.62	113	IAmb_Lg		11 15 52.9	
	comp=Z,12nm,0.8s						
U40A	Yellville	4.73	90	IAmb_Lg		11 15 59.0	
	comp=Z,11nm,0.8s						
BGNE	Belgrade	4.93	5	Pn	Pn	11 14 32.2	-0.3
MGMO	Mountain Grove	5.21	81	IAmb_Lg		11 16 07.7	
	comp=Z,11nm,0.9s						
WHAR	Wooly Hollow	5.35	101	IAmb_Lg		11 16 15.7	
	comp=Z,19nm,1.2s						
435B	Jarrell	5.77	170	IAmb_Lg		11 16 21.7	
	comp=Z,12nm,0.8s						
JCT	Junction City	6.06	189	IAmb_Lg		11 16 40.0	
	comp=Z,13nm,1.0s						
N38A	Joes South For	6.07	43	IAmb_Lg		11 16 44.1	
	comp=Z,11nm,0.7s						
LCAR	Lake Charles	6.12	92	IAmb_Lg		11 16 32.9	
	comp=Z,12nm,1.0s						
PBMO	Poplar Bluff	6.67	85	IAmb_Lg		11 17 01.2	
	comp=Z,9.6nm,0.7s						
FVM	French Village	6.78	75	IAmb_Lg		11 16 56.3	
	comp=Z,10nm,0.8s						
SCIA	State Center	6.89	37	IAmb_Lg		11 17 03.5	
	comp=Z,10nm,0.8s						
PHWY	Pilot Hill	7.12	314	IAmb_Lg		11 17 03.6	
	comp=Z,6.3nm,0.8s						
N23A	Red Feather La	7.16	310	IAmb_Lg		11 17 14.2	
	comp=Z,9.5nm,0.8s						

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*TUL **07** 11:22:00.5±1.1, 36°.49N±0°.02×98°.74W±0°.04, h6km±7km, ML2.5, mb_Lg2.6/16(NEIC), Error ellipse: s-maj=4.9km s-min=2.4km az=69.0*
NEIC 07 11:22:01.0±1.7, 36°.48N±0°.02×98°.71W±0°.04, h11km±5km, Error ellipse: s-maj=5.3km s-min=2.6km az=61.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.23	1	Pg	Pg	11 22 05.4	-0.5
OK035				Sg	Sg	11 22 09.1	0.0
U32A	Winter Ranch,	0.25	247	Pg	Pg	11 22 05.5	-0.7
CROK	Carrier	0.59	87	Pg	Pg	11 22 12.1	-0.3
CROK				Sg	Sg	11 22 20.7	+0.5
KAN14	Manchester OK	0.77	51		Pg	11 22 15.6	-0.3
GC02	Grant County #	0.78	61	Pg	Pg	11 22 15.6	-0.6
GC02				Sg	Sg	11 22 26.4	+0.1
KAN10	Anthony SW Sta	0.81	37	Pg	Pg	11 22 16.4	-0.4
KAN16	Harper SW Stat	0.91	35	Pg	Pg	11 22 18.0	-0.6
KAN16				Sg	Sg	11 22 30.5	0.0
KAN05	Bluff City Nor	0.92	47	Pg	Pg	11 22 18.3	-0.5
KAN17	Caldwell West	0.95	53	Pg	Pg	11 22 18.7	-0.6
KAN08	Anthony NE Sta	0.96	38		Pg	11 22 18.7	-0.7
KAN12	Harper NE Stat	1.00	35	Pg	Pg	11 22 19.5	-0.8
KAN01	Argonia South	1.02	48		Pg	11 22 20.0	-0.7
KAN06	Argonia West S	1.03	41		Pg	11 22 20.1	-0.8
KAN13	South Haven SW	1.13	61		Pb	11 22 21.8	-0.8
BCOK	Bluff Creek, N	1.21	132		Pn	11 22 23.3	-0.6
BLOK	Blackwell	1.24	76	Pn	Pn	11 22 23.9	-0.5
OK025	Westminster Rd	1.43	128		Pn	11 22 27.0	0.0
OKCFA	Oklahoma City	1.47	136	Pn	Pn	11 22 27.7	+0.1
OK031	S. Brethren Rd	1.60	108		Pb	11 22 30.1	-0.6
FNO	Franklin	1.62	138	Pn	Pb	11 22 30.5	-0.4
QUOK	Quay	1.65	100	Pn	Pb	11 22 30.9	-0.5
WMOK	Wichita Mounta	1.74	182	Pn	Pn	11 22 31.4	+0.2
T35A	Sooner Cattle	1.82	75	Pn	Pn	11 22 33.4	+1.0
R32A	Long Quarter,	1.94	0	Pn	Pb	11 22 35.6	-0.9
W35A	Tecumseh	2.00	131		Pn	11 22 36.0	+1.2
X34A	Smith Ranch, M	2.00	159	Pn	Pb	11 22 36.8	-0.7
TUL1	Leonard	2.43	103	Pn	Pn	11 22 41.4	+0.7
TUL1				IAmb_Lg		11 23 19.3	
	comp=Z,17nm,0.9s						
CBKS	Cedar Bluff	2.47	341	Pn	Pn	11 22 42.5	+1.2
AMTX	Amarillo	2.89	238	IAmb_Lg		11 23 37.4	
	comp=Z,17nm,0.8s						
KSCO	Kaye Shedlock'	4.00	310	IAmb_Lg		11 24 16.1	
	comp=Z,16nm,0.7s						
MSTX	Muleshoe	4.16	234	IAmb_Lg		11 24 19.8	
	comp=Z,11nm,0.8s						
S39A	Bolivar	4.48	73	IAmb_Lg		11 24 20.7	
	comp=Z,8.6nm,0.8s						
BGNE	Belgrade	4.94	5	IAmb_Lg		11 24 44.7	
	comp=Z,14nm,0.9s						
X40A	Basin Creek Fa	5.19	111	IAmb_Lg		11 24 51.2	
	comp=Z,10nm,0.8s						
N38A	Joes South For	6.08	43	IAmb_Lg		11 25 28.5	
	comp=Z,9.1nm,0.8s						

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*EAF **07** 11:39:06.8±0.9, 23°.40S×27°.15E, h10km±15km, MD3.9*
BUL 07 11:39:06.8±0.9, 23°.40S×27°.15E, h10km±15km, MD4.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	2.14	221	*i* P	Pn	11 39 42.4	-0.3
LBTB				*i* Sg	Sb	11 40 13.3	+0.9
LBTB	Lobatse	2.14	221	*i* P	Pn	11 39 42.4	-0.3
LBTB				*i* Sg	Sb	11 40 13.3	+0.9
MATP	Matopo	3.21	23	*i* P	Pn	11 39 56.8	-0.8
MATP				*i* S	Sn	11 40 34.0	-2.0
MATP	Matopo	3.21	23	*i* P	Pn	11 39 56.8	-0.8
MATP				*i* S	Sn	11 40 34.0	-2.0
BOSA	Boshof	5.46	198	*i* P	Pn	11 40 28.5	+0.1
BOSA				*i* S	Sn	11 41 26.2	-5.2
BOSA	Boshof	5.46	198	*i* P	Pn	11 40 28.5	+0.1
BOSA				*i* S	Sn	11 41 26.2	-5.2

IDC 07 12:05:04.0±1.1, 1°.53N×122°.95E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.2/56, mbtmp3.5/5, Error ellipse: s-maj=155.0km s-min=20.1km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.09	153	P	P	12 10 21.7	+0.2
	0.4nm,0.3s,baz=330,slow=11,SNR=24						
ASAR	Alice Springs	27.22	158	P	P	12 10 49.9	+0.1
	0.2nm,0.3s,baz=339,slow=9.1,SNR=6.9						
SONM	Songino Array	48.30	345	P	P	12 13 47.0	-0.2
	0.4nm,0.5s,baz=154,slow=6.1,SNR=3.7						
MKAR	Makanchi Array	57.30	328	P	P	12 14 53.0	-0.7
	0.3nm,0.4s,baz=123,slow=8.2,SNR=5.6						
KURBB	Kurchatov Arra	61.63	330	P	P	12 15 23.9	+0.4
	0.3nm,0.6s,baz=113,slow=8.2,SNR=3.0						

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*IDC **07** 12:54:42.1±1.4, 38°.62N×73°.24E, h0km, mb3.7/9, mb1 3.8/15, mb1mx3.6/59, mbtmp3.7/15, ML3.4/6, MS3.1/2, Ms1 3.1/2, ms1mx2.6/89, Error ellipse: s-maj=22.7km s-min=16.6km az=152.0*
*SOME **07** 12:54:42.8, 39°.02N×72°.88E, h10km*
*NNC **07** 12:54:50.9±2.5, 39°.08N×73°.52E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=19.6km s-min=11.3km az=166.0*
ISC 07 12:54:44.5±0.6, 39°.07N±0°.04×72°.99E±0°.04, h10km, n70, σ2.555/91, mb3.8/8, 6C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.11	10	P	Pg	12 55 42.0	-2.0
	SNR=200						
UCH	Uchtor	3.36	20	P	Pb	12 55 43.9	-0.5
	SNR=31						
EKS2	Erkin-Say	3.64	9	P	Pb	12 55 49.5	+0.6
	SNR=55						
MRKS	Merke	3.68	3	*e*P	Pg	12 55 51.6	-3.4
	21nm,0.5s						
MRKS				*e*S	Sg	12 56 41.3	-1.3
	68nm,0.7s						
MRKS	Merke	3.68	3	Pg	Pg	12 55 51.6	-3.4
	21nm,0.5s						
MRKS				Lg	Lg	12 56 41.3	
	68nm,0.7s						
AAK	Ala-Archa	3.74	17	Pn	Pb	12 55 49.9	-0.9
	8.7nm,0.3s,baz=194,slow=11,SNR=165						
AAK				Sn	Sg	12 56 40.7	-4.0
	4.4nm,0.3s,baz=349,slow=17,SNR=7.6						
AAK				LR	LR	12 57 28.9	
	comp=Z,59nm,18.4s,baz=314,slow=40						
AAK	Ala-Archa	3.74	17	P	Pb	12 55 49.9	-0.9
	SNR=9.2						
AAK	Ala-Archa	3.74	17	Pn	Pb	12 55 49.9	-0.9
	35nm,0.5s						
AAK				Lg	Lg	12 56 41.2	
	100nm,1.1s						
IUG	luzhnay	3.81	325	*e*P	Pb	12 55 53.8	+1.8
	249nm,0.1s						
IUG				*e*S	Sg	12 56 45.2	-1.7
	129nm,0.2s						
IUG	luzhnay	3.81	325	Pg	Pb	12 55 53.8	+1.8
	493nm,0.3s						
IUG				Lg	Lg	12 56 45.2	
KBK	Karagaybulak	3.88	22	P	Pb	12 55 52.5	-0.5
	SNR=16						
ULHL	Ulahol	4.02	37	P	Pb	12 55 50.4	-5.2
	SNR=7.5						
CHMS	Chumysh	4.15	18	P	Pb	12 55 55.9	-1.6
	SNR=32						
TKM2	Tokmak 2	4.33	26	P	Pb	12 55 56.6	-4.0
	SNR=21						
TKM2	Tokmak 2	4.33	26	⇑Pn	Pb	12 55 57.5	-3.2
	18nm,0.6s						
TKM2				⇓Lg	Lg	12 57 04.0	
	102nm,1.4s						
USP	Ospenovka	4.35	15	P	Pb	12 55 59.8	-1.2
	SNR=17						
KK02	Karatay Array	4.45	336	⇑Pn	Pb	12 56 00.3	-2.3
	26nm,0.7s,baz=149,slow=13						
KK02				⇑Sn	Sb	12 56 57.9	+1.6
	42nm,0.6s						
KK02				⇑Lg	Lg	12 57 17.5	
	31nm,0.7s,baz=142,slow=28						
SGDS	Sogindy	4.55	15	*e*P	Pg	12 56 10.6	-1.0
	4.9nm,0.3s						
SGDS				*e*S	Sg	12 57 13.4	+2.9
	23nm,0.3s						
KST	Kastek	4.56	29	*e*P	Pg	12 56 07.5	-4.3
	21nm,0.1s						
KST				*e*S	Sg	12 57 09.0	-1.9
	46nm,0.5s						
KST	Kastek	4.56	29	Pg	Pg	12 56 07.5	-4.3
	20nm,0.6s						
KST				Lg	Lg	12 57 09.0	
	46nm,0.5s						
BRLS	Borolday	4.62	330	*e*P	Pb	12 56 03.9	-1.8
	4.9nm,0.0s						
BRLS				*e*S	Sb	12 57 02.0	+0.6
	23nm,0.2s						
BRLS	Borolday	4.62	330	Pg	Pb	12 56 03.9	-1.8
	12nm,0.3s						
BRLS				Lg	Lg	12 57 02.0	
	30nm,0.9s						
DGS	Degeres	4.67	26	*e*P	Pg	12 56 12.5	-1.4
	37nm,0.2s						
DGS				*e*S	Sg	12 57 17.3	+2.9
	31nm,0.1s						
DGS	Degeres	4.67	26	Pg	Pg	12 56 12.5	-1.4
	38nm,0.6s						
DGS				Lg	Lg	12 57 17.3	
	31nm,0.8s						
MTBS	Maitube	4.82	32	*e*P	Pg	12 56 14.4	-2.3
	21nm,0.2s						
MTBS				*e*S	Sg	12 57 20.5	+1.4
	28nm,0.2s						
MTBS	Maitube	4.82	32	Pg	Pg	12 56 14.4	-2.3
	22nm,0.8s						
MTBS				Lg	Lg	12 57 20.5	
	28nm,1.7s						
TNSS	Tian-Shan	4.97	36	*e*P	Pg	12 56 16.8	-2.8
	23nm,0.6s						
TNSS				*e*S	Sg	12 57 24.8	+0.9
	14nm,0.2s						
TNSS	Tian-Shan	4.97	36	Pg	Pg	12 56 16.8	-2.8
	24nm,0.7s						
TNSS				Lg	Lg	12 57 24.8	
	14nm,0.6s						
KRBS	Karabastau	5.05	23	*e*P	Pg	12 56 19.1	-2.0
	24nm,0.4s						
KRBS				*e*S	Sg	12 57 28.4	+2.0
	30nm,0.2s						
KRBS	Karabastau	5.05	23	Pg	Pg	12 56 19.1	-2.0
	24nm,0.7s						
KRBS				Lg	Lg	12 57 28.4	
	30nm,0.7s						
MDOK	Medeo	5.11	36	*e*P	Pg	12 56 19.4	-3.0
	22nm,0.1s						
MDOK				*e*S	Sg	12 57 29.2	+0.7
	36nm,0.2s						
MDOK	Medeo	5.11	36	Pg	Pg	12 56 20.1	-2.3
	26nm,0.6s						
MDOK				Lg	Lg	12 57 25.3	
	47nm,0.8s						
MDOK	Medeo	5.11	36	Pg	Pg	12 56 19.4	-3.0
	27nm,0.7s						
MDOK				Lg	Lg	12 57 29.2	
	36nm,0.7s						
KNDC	Almaty	5.12	35	⇑Pg	Pg	12 56 20.5	-1.9
	49nm,0.7s						
KNDC				⇓Lg	Lg	12 57 26.0	
	91nm,0.7s						
KOTS	Kotyrbulak	5.20	35	*e*P	Pg	12 56 21.2	-2.8
	16nm,0.1s						
KOTS				*e*S	Sg	12 57 32.7	+1.4
	79nm,0.6s						
KOTS	Kotyrbulak	5.20	35	Pg	Pg	12 56 21.2	-2.8
	24nm,0.7s						
KOTS				Lg	Lg	12 57 32.7	
	79nm,0.6s						
CEP	Cherat	5.30	190	P	Pn	12 56 04.3	+0.4
CEP				S	Sn	12 57 04.0	-1.1
CHCP	Chirah Chowk	5.40	178	P	Pn	12 56 04.3	-0.8
KTBS	Karatobe	5.41	30	*e*P	Pg	12 56 25.2	-2.8
	14nm,0.1s						
KTBS				*e*S	Sg	12 57 39.1	+1.1
	43nm,0.1s						
KTBS	Karatobe	5.41	30	Pg	Pg	12 56 25.2	-2.8
	16nm,0.9s						
KTBS				Lg	Lg	12 57 39.1	
	43nm,0.8s						
KUU	Kurty	5.44	26	*e*P	Pg	12 56 25.2	-3.3
	14nm,0.2s						
KUU				*e*S	Sg	12 57 39.5	+0.6
	26nm,0.1s						
KUU	Kurty	5.44	26	Pg	Pg	12 56 25.2	-3.3
	15nm,0.7s						
KUU				Lg	Lg	12 57 39.5	
	40nm,0.8s						
CHKK	Chushkaly	5.65	31	*e*P	Pg	12 56 29.5	-3.1
	5.3nm,0.0s						
CHKK				*e*S	Sg	12 57 45.8	+0.2
	26nm,0.1s						
SATY	Saty	5.71	44	*e*P	Pg	12 56 29.3	-4.6
	17nm,0.1s						
SATY				*e*S	Sg	12 57 46.5	-1.3
	37nm,0.9s						
SATY	Saty	5.71	44	Pg	Pg	12 56 28.5	-5.3
	17nm,1.4s						
SATY				Lg	Lg	12 57 44.7	
	37nm,0.9s						
ZHN	Zhinishke	5.80	43	*e*P	Pg	12 56 33.9	-1.7
	12nm,0.1s						
ZHN				*e*S	Sg	12 57 53.2	+2.5
	19nm,0.1s						
BTLS	Baital	6.02	7	*e*P	Pg	12 56 35.1	-4.6
	2.2nm,0.1s						
BTLS				*e*S	Sg	12 57 55.8	-1.8
	5.9nm,1.2s						
BTLS	Baital	6.02	7	Pg	Pg	12 56 35.1	-4.6
	2.0nm,0.9s						
BTLS				Lg	Lg	12 57 55.8	
	5.9nm,1.2s						
UZB	Uzynbulak	6.11	46	*e*P	Pg	12 56 38.8	-2.6
	9.5nm,0.1s						
UZB				*e*S	Sg	12 58 01.5	+0.9
	17nm,0.1s						
ARXS	Arharly	6.29	34	*e*P	Pg	12 56 40.8	-4.1
	20nm,0.2s						
ARXS				*e*S	Sg	12 58 05.3	-1.0
	25nm,0.1s						
ARXS	Arharly	6.29	34	Pg	Pg	12 56 40.6	-4.2
	19nm,0.4s						
ARXS				Lg	Lg	12 58 05.3	
	25nm,0.7s						
THW	Thamme Wali	6.34	190	P	Pn	12 56 16.3	-1.7
BLB	Baldybastay	6.49	38	*e*P	Pg	12 56 46.8	-1.9
	20nm,0.5s						
BLB				*e*S	Sg	12 58 15.6	+2.8
	21nm,0.4s						
MKAR	Makanchi Array	10.29	38	Pn	Pn	12 57 15.7	+3.5
	0.1nm,0.3s,baz=210,slow=11,SNR=9.6						
MKAR				Lg	Lg	13 00 16.3	
	0.0nm,0.3s,baz=277,slow=19,SNR=0.9						
KURBB	Kurchatov Arra	12.20	17	Pn	Pn	12 57 40.1	+1.9
	0.0nm,0.3s,baz=206,slow=12,SNR=2.5						
KURBB				Lg	Lg	13 01 12.0	
	0.0nm,0.3s,baz=27,slow=43,SNR=1.8						
AB31	Akbulak array	13.82	322	⇓Pn	P	12 58 07.6	-1.1

0.4nm,0.5s,baz=108,slow=6.1,SNR=1.3
PETK Petropavlovsk- 57.04 46 LR LR 13 30 31.7
comp=Z,69nm,19.9s,baz=15,slow=38
TORD Torodi Ar. Bea 67.36 269 P **P** **13 05 39.4 -0.7**
0.3nm,0.5s,baz=58,slow=7.4,SNR=1.7
INK Inuvik 71.11 10 P **P** **13 06 05.0 +2.5**
0.9nm,0.6s,baz=344,slow=5.7,SNR=4.9
YKA Yellowknife Ar 78.60 4 P **P** **13 06 47.4 +1.5**
0.3nm,0.4s,baz=350,slow=5.7,SNR=15

*SNET **07** 13:00:38.9±1.1, 13°.54N×90°.84W, h15km±9km, ML2.6*
*GCG **07** 13:00:41.2±0.5, 13°.88N×91°.08W, h32km±2km, MD3.2*
ISC 07 13:00:34.9±3.4, 13°.6N±0°.1×91°.0W±0°.1, h16km±29km, n10, σ1§22/19, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.89**	**12**	*eP*	**Pn**	**13 00 54.1**	**+1.2**
FUG				*eS*	**Sn**	**13 01 03.6**	**-2.0**
PCG	**Pacaya**	**0.91**	**27**	*eP*	**Pn**	**13 00 54.5**	**+1.2**
PCG				*eS*	**Sn**	**13 01 06.2**	**0.0**
NBG	**Las Nubes**	**1.21**	**33**	*eP*	**Pn**	**13 00 59.7**	**+2.3**
NBG				*eS*	**Sn**	**13 01 14.5**	**+1.0**
STG3	**Santiaguito 3,**	**1.25**	**335**	*eP*	**Pn**	**13 00 58.9**	**+1.0**
STG3				*eS*	**Sb**	**13 01 12.8**	**-1.3**
NUBE	**Las Nubes**	**1.26**	**75**	*eP*	**Pn**	**13 00 58.6**	**+0.6**
NUBE				*eS*	**Sn**	**13 01 14.2**	**-0.4**
NUBE				IAML		13 01 17.3	
comp=Z,103nm,0.2s
SLOZ	**Alcaldia de Sa**	**1.29**	**69**	*eP*	**Pn**	**13 00 59.2**	**+0.8**
SLOZ				*eS*	**Sn**	**13 01 14.3**	**-1.1**
SLOZ				IAML		13 01 21.1	
comp=Z,153nm,0.4s
CEVE	**Cerro Verde**	**1.39**	**79**	*eP*	**Pb**	**13 01 00.7**	**0.0**
CEVE				*eS*	**Sn**	**13 01 18.6**	**+0.6**
SBLS	**San Blas**	**1.39**	**79**	*eP*	**Pb**	**13 01 00.9**	**+0.2**
JAYA	**Jayaque - finc**	**1.54**	**87**	*eP*	**Pb**	**13 01 02.6**	**-0.6**
JAYA				*eS*	**Sb**	**13 01 21.0**	**-1.5**
LFRS	**El Faro**	**1.91**	**88**	*eP*	**Pb**	**13 01 08.7**	**-0.8**
LFRS				*eS*	**Sn**	**13 01 31.6**	**+0.8**

*MAN **07** 13:00:37.2, 10°.09N×126°.24E, h5km, mb4.7, ML3.6, MS3.5*
*IDC **07** 13:00:45.2±2.3, 10°.01N×126°.15E, h104km±22km, mb3.5/13, mb1 3.7/14, mb1mx3.5/38, mbtmp3.9/14, MS3.4/15, Ms1 3.4/15, ms1mx3.2/59, Error ellipse: s-maj=28.5km s-min=12.4km az=74.0*
ISC 07 13:00:35.4±1.4, 10°.16N±0°.03×126°.40E±0°.05, h14km±9km, n54, σ2§09/56, mb3.8/14, MS3.4/11, 11C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.97**	**248**	↓*eP*	**Pg**	**13 00 52.9**	**-1.4**
SCPH				*eS*	**Sg**	**13 01 06.0**	**-1.1**
BUTP	**Butuan**	**1.41**	**213**	↓↓*iP*	**Pn**	**13 01 00.3**	**-0.4**
BUTP				*i S*	**Sg**	**13 01 21.2**	**+0.2**
MSLP	**Maasin**	**1.52**	**269**	↑*eP*	**Pn**	**13 01 02.1**	**-0.1**
MSLP				*eS*	**Sn**	**13 01 21.5**	**-0.3**
BESP	**Borongan**	**1.72**	**327**	↑*eP*	**Pn**	**13 01 04.1**	**-0.8**
BESP				*i S*	**Sg**	**13 01 30.2**	**-0.6**
BIPH	**Bislig**	**1.96**	**181**	↑*eP*	**Pg**	**13 01 13.4**	**+0.3**
BIPH				*i S*	**Sb**	**13 01 35.7**	**+0.4**
OCLP	**Ormoc**	**1.98**	**297**	↑*eP*	**Pb**	**13 01 11.3**	**+0.1**
OCLP				*eS*	**Sg**	**13 01 40.6**	**+1.6**
LLP	**Lapu-Lapu**	**2.40**	**274**	↓*eP*	**Pn**	**13 01 15.6**	**+1.2**
LLP				*eS*	**Sn**	**13 01 44.2**	**+0.6**
TBP	**Tagbilaran**	**2.55**	**260**	↓↓*iP*	**Pn**	**13 01 17.4**	**+1.1**
TBP				*i S*	**Sn**	**13 01 48.0**	**+0.9**
BUKP	**Musuan**	**2.62**	**210**	↑*eP*	**Pn**	**13 01 19.6**	**+2.2**
BUKP				*i S*	**Sn**	**13 01 52.2**	**+3.1**
BUKP	**Musuan**	**2.62**	**210**	↑*eP*	**Pg**	**13 01 29.6**	**+3.8**
BUKP				*i S*	**Sg**	**13 01 58.7**	**-1.1**
DAV	**Davao City (W)**	**3.17**	**195**	P	**Pb**	**13 01 31.2**	**-0.4**
71nm,0.3s,baz=112,slow=7.7,SNR=5.5
DAV				S	**Sn**	**13 02 06.8**	**+4.2**
45nm,0.3s,baz=267,slow=14,SNR=5.2
DAV				LR	LR	13 03 09.6	
comp=Z,906nm,19.4s,baz=25,slow=48
MATI	**Mati**	**3.19**	**183**	↑*eP*	**Pn**	**13 01 28.1**	**+2.9**
SNPH	**Sibulan**	**3.23**	**256**	*eP*	**Pn**	**13 01 27.5**	**+1.8**
SNPH				*eS*	**Sn**	**13 02 07.0**	**+3.0**
KCP	**Kidapawan**	**3.39**	**203**	↓*eP*	**Pn**	**13 01 30.0**	**+2.0**
KCP				*i S*	**Sn**	**13 02 10.7**	**+2.7**
DCPH	**Dipolog City**	**3.39**	**243**	↓*eP*	**Pn**	**13 01 30.6**	**+2.7**
DCPH				*eS*	**Sn**	**13 02 06.1**	**-2.0**
PAGZ	**Pagadian**	**3.76**	**233**	↑*eP*	**Pn**	**13 01 35.0**	**+1.9**
PAGZ				*eS*	**Sn**	**13 02 18.0**	**+0.8**
RCP	**Roxas**	**3.85**	**292**	↑*eP*	**Pn**	**13 01 36.5**	**+2.1**
DDMP	**Don Marcelino,**	**4.08**	**190**	↑*eP*	**Pb**	**13 01 43.0**	**-4.2**
DDMP				*eS*	**Sb**	**13 02 33.6**	**-2.8**
JAP	**San Jose, Anti**	**4.42**	**278**	↓↓*eP*	**Pn**	**13 01 46.4**	**+4.3**
JCNP	**Jose Panganiba**	**5.48**	**319**	↑*eP*	**Pn**	**13 01 58.4**	**+1.7**
JCNP				*i S*	**Sn**	**13 03 00.1**	**+0.6**
TGY	**Tagaytay City**	**6.63**	**307**	P	**Pn**	**13 02 14.3**	**+1.8**
baz=153,slow=3.8,SNR=0.9
SIJI	**Sorong**	**11.97**	**156**	LR	LR	13 08 47.8	
comp=Z,92nm,19.7s,baz=180,slow=40
KAPI	**Kappang**	**16.46**	**204**	LR	LR	13 11 09.4	
comp=Z,81nm,18.6s,baz=24,slow=38
GUMO	**Guam**	**18.39**	**78**	LR	LR	13 10 25.6	
comp=Z,148nm,20.8s,baz=227,slow=31
BATI	**Baumata**	**20.41**	**188**	LR	LR	13 14 45.6	
comp=Z,149nm,18.6s,baz=312,slow=42
KSRS	**Korea Array**	**27.21**	**3**	P	**P**	**13 06 25.1**	**+6.3**
1.3nm,0.8s,baz=182,slow=9.0,SNR=4.5
KSRS				LR	LR	13 19 43.8	
comp=Z,36nm,18.0s,baz=185,slow=42
CMAR	**Chiang Mai Arr**	**27.83**	**290**	P	**P**	**13 06 23.9**	**-0.7**
0.5nm,0.4s,baz=102,slow=7.0,SNR=7.9
CMAR				LR	LR	13 17 43.3	
comp=Z,40nm,19.6s,baz=105,slow=37
FITZ	**Fitzroy Crossi**	**28.09**	**182**	P	**P**	**13 06 25.6**	**-1.2**
1.2nm,0.5s,baz=13,slow=8.4,SNR=6.3
PSI	**Prapat**	**28.25**	**257**	LR	LR	13 19 38.5	
comp=Z,127nm,18.7s,baz=74,slow=40
MJAR	**Matsushiro Arr**	**28.36**	**20**	LR	LR	13 15 54.7	
comp=Z,53nm,21.6s,baz=194,slow=32
WRA	**Warramunga Arr**	**30.91**	**165**	P	**P**	**13 06 50.9**	**-1.1**
1.0nm,1.1s,baz=345,slow=9.4,SNR=3.9
ASAR	**Alice Springs**	**34.41**	**168**	P	**P**	**13 07 20.9**	**-1.6**
0.3nm,0.3s,baz=351,slow=7.1,SNR=22
ASAR				PcP	**PcP**	**13 09 56.5**	**-1.6**
0.3nm,0.6s,baz=339,slow=2.7,SNR=1.8
HNR	**Honiara**	**38.64**	**119**	LR	LR	13 21 22.1	
comp=Z,57nm,21.6s,baz=300,slow=32
KLR	**Kul'dur**	**39.20**	**6**	P	**P**	**13 08 04.0**	**+0.9**
0.7nm,0.6s,baz=170,slow=12,SNR=2.2
KLR				LR	LR	13 25 03.8	
comp=Z,66nm,19.5s,baz=24,slow=37
H11S3	**WAKE ISLAND Hy**	**39.83**	**73**	T	T	13 51 06.0	
baz=262,slow=76,SNR=30
H11S1	**WAKE ISLAND Hy**	**39.84**	**73**	T	T	13 51 01.4	
baz=262,slow=76,SNR=23
H11S2	**WAKE ISLAND Hy**	**39.84**	**73**	T	T	13 51 04.7	
baz=262,slow=76,SNR=26
H11N1	**WAKE ISLAND Hy**	**40.17**	**72**	T	T	13 51 29.9	
baz=265,slow=75,SNR=66
H11N2	**WAKE ISLAND Hy**	**40.17**	**71**	T	T	13 51 27.4	
baz=265,slow=75,SNR=48
H11N3	**WAKE ISLAND Hy**	**40.18**	**72**	T	T	13 51 31.4	
baz=265,slow=75,SNR=56
SONM	**Songino Array**	**41.17**	**340**	P	**P**	**13 08 19.3**	**-0.3**
0.7nm,0.5s,baz=157,slow=8.3,SNR=8.1
SONM				PcP	**PcP**	**13 10 18.4**	**-0.3**
0.3nm,0.6s,baz=165,slow=4.8,SNR=2.4
STKA	**Stephens Creek**	**44.25**	**161**	P	**P**	**13 08 43.5**	**-1.0**
1.4nm,0.5s,baz=339,slow=7.9,SNR=7.2
PALK	**Pallekele**	**45.24**	**270**	LR	LR	13 27 58.3	
comp=Z,50nm,19.7s,baz=186,slow=36
PETK	**Petropavlovsk-**	**49.69**	**24**	P	**P**	**13 09 28.0**	**+1.2**
1.4nm,0.7s,baz=208,slow=2.9,SNR=5.2
DZM	**Mont Dzumac**	**50.67**	**130**	LR	LR	13 32 11.7	
comp=Z,32nm,18.3s,baz=45,slow=37
MKAR	**Makanchi Array**	**52.20**	**323**	P	**P**	**13 09 44.4**	**-1.4**
1.2nm,0.7s,baz=128,slow=7.6,SNR=10
ZALV	**Zalesovo Beam**	**54.79**	**331**	P	**P**	**13 10 03.1**	**-1.6**
0.7nm,0.5s,baz=129,slow=7.4,SNR=4.7
AAK	**Ala-Archa**	**55.50**	**315**	LR	LR	13 36 30.1	
comp=Z,96nm,18.5s,baz=88,slow=39
AFI	**Afiamalu**	**65.82**	**110**	LR	LR	13 34 38.2	
comp=Z,66nm,21.8s,baz=296,slow=31
ILAR	**Eielson Array**	**79.48**	**26**	P	**P**	**13 12 42.5**	**+1.2**

0.4nm,0.9s,baz=242,slow=5.1,SNR=5.1
| **FINES** | **FINESS Array B** | **86.05** | **332** | P | **P** | **13 13 14.1** | **-1.4** |
1.2nm,0.6s,baz=70,slow=6.3,SNR=6.7
| **YKA** | **Yellowknife Ar** | **93.81** | **24** | P | **P** | **13 13 52.1** | **+0.1** |
0.8nm,0.7s,baz=298,slow=4.2,SNR=8.7
| **TORD** | **Torodi Ar. Bea** | **120.43** | **292** | PKP | **PKPdf** | **13 19 25.3** | **-2.2** |
0.6nm,0.7s,baz=35,slow=3.5,SNR=3.3
| **PLCA** | **Paso Flores** | **146.05** | **157** | PKPbc | **PKPdf** | **13 20 13.3** | **-1.3** |
2.3nm,1.0s,baz=297,slow=2.3,SNR=2.8

WEL 07 13:04:16.2±1.1, 47°S±6°×16°E±°, h12km, M3.5/5, ML3.8/12, MLv3.5/5, Error ellipse: s-maj=0.0km s-min=0.0km az=74.8, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.97**	**31**	P	Pg	13 04 34.4	-0.5
PYZ				S	Sn	13 04 48.7	-0.7
APZ	**The Paps**	**1.40**	**84**	P	Pn	13 04 40.9	-0.6
APZ				S	Sn	13 04 59.5	-0.4
DCZ	**Deep Cove**	**1.75**	**29**	P	Pn	13 04 45.2	-1.1
DCZ				S	Sn	13 05 07.0	-1.5
WHZ	**Wether Hill Ro**	**1.76**	**52**	P	Pn	13 04 46.3	-0.3
WHZ				S	Sb	13 05 10.1	-0.5
MLZ	**Mavora Lakes**	**2.22**	**43**	P	Pn	13 04 53.4	+0.5
MLZ				S	Sb	13 05 22.0	-1.7
SYZ	**Scrubby Hill**	**2.23**	**79**	P	Pn	13 04 53.4	+0.5
SYZ				S	Sn	13 05 21.2	+0.8
MSZ	**Milford Sound**	**2.71**	**31**	P	Pn	13 05 01.0	+1.5
MSZ				S	Sn	13 05 32.7	+0.6
TUZ	**Tuapeka**	**2.74**	**69**	P	Pn	13 05 00.2	+0.3
TUZ				S	Sn	13 05 33.5	+0.5
EAZ	**Earnscleugh**	**2.92**	**54**	P	Pn	13 05 02.4	-0.1
EAZ				S	Sn	13 05 39.1	+1.5
WKZ	**Wanaka**	**3.05**	**45**	P	Pn	13 05 05.3	+1.1
WKZ				S	Sn	13 05 41.7	+1.1
HHSZ	**Highcliff Hill**	**3.39**	**72**	P	Pn	13 05 09.1	+0.2
JCZ	**Jackson Bay**	**3.54**	**35**	P	Pn	13 05 13.1	+2.0
ODZ	**Otahua Downs**	**3.80**	**61**	P	Pn	13 05 12.9	-1.7
LBZ	**Lake Benmore**	**3.95**	**50**	P	Pn	13 05 14.9	-1.7
FOZ	**Fox Glacier**	**4.41**	**39**	P	Pn	13 05 23.2	+0.3
LTZ	**Lake Taylor**	**6.15**	**49**	P	Pn	13 05 45.4	-1.5

*JMA **07** 13:16:49.8±0.3, 30°.87N×138°.06E, h506km, M3.0*
*IDC **07** 13:16:50.0±1.2, 30°.63N×137°.82E, h484km±17km, mb2.7/5, mb1 2.9/11, mb1mx2.7/44, mbtmp3.7/11, Error ellipse: s-maj=34.8km s-min=13.7km az=74.0*
ISC 07 13:16:50.6±1.1, 30°.8N±0°.1×138°.0E±0°.1, h500km, n18, σ1§32/18, mb3.0/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.75**	**33**	P	**P**	**13 17 59.9**	**+0.1**
10nm,0.3s,baz=246,slow=20,SNR=1.7
JHJ2	**Mitsune**	**2.76**	**33**	P	**P**	**13 18 00.4**	**+0.6**
JTNC	**Tanabenakahech**	**3.63**	**326**	P	**P**	**13 18 05.9**	**-0.1**
JIE	**Ise**	**3.74**	**343**	P	**P**	**13 18 07.5**	**+0.7**
BSO1	**Boso 1**	**4.57**	**32**	P	**P**	**13 18 12.8**	**-0.2**
JHU	**Hanno**	**5.14**	**12**	P	**P**	**13 18 18.0**	**-0.7**
JRY	**Ryogami san**	**5.25**	**8**	P	**P**	**13 18 20.0**	**+0.3**
JYT	**Yasato**	**5.70**	**18**	*eS*	**S**	**13 19 36.8**	**-3.5**
MJAR	**Matsushiro Arr**	**5.72**	**2**	P	**P**	**13 18 23.4**	**-0.7**
0.1nm,0.3s,baz=179,slow=9.9,SNR=5.1
JNU	**Nakatsue**	**6.49**	**293**	P	**P**	**13 18 30.7**	**-1.0**
0.9nm,0.3s,baz=70,slow=2.9,SNR=8.9
KSRS	**Korea Array**	**10.67**	**311**	P	**P**	**13 19 13.4**	**-1.5**
0.1nm,0.3s,baz=126,slow=9.5,SNR=2.4
USRK	**Ussuriysk Ar.**	**14.19**	**342**	P	**P**	**13 19 53.0**	**+1.0**
baz=150,slow=9.8,SNR=6.3
KLR	**Kul'dur**	**19.00**	**347**	P	**P**	**13 20 41.9**	**+2.0**
0.1nm,0.3s,baz=150,slow=7.6,SNR=4.6
SONM	**Songino Array**	**29.52**	**314**	P	**P**	**13 22 14.0**	**+0.3**
0.3nm,0.6s,baz=111,slow=7.9,SNR=2.3
MKAR	**Makanchi Array**	**45.32**	**307**	P	**P**	**13 24 23.0**	**-0.1**
0.2nm,0.4s,baz=86,slow=10,SNR=5.7
WRA	**Warramunga Arr**	**50.58**	**184**	P	**P**	**13 25 01.9**	**-0.8**
0.5nm,0.5s,baz=360,slow=7.4,SNR=28
ASAR	**Alice Springs**	**54.31**	**185**	P	**P**	**13 25 28.7**	**-0.8**
0.5nm,0.6s,baz=22,slow=12,SNR=10
ARCES	**ARCESS Array B**	**68.83**	**340**	P	**P**	**13 27 05.6**	**+1.7**
0.5nm,0.5s,baz=50,slow=8.4,SNR=4.9

IDC 07 13:31:43.3±57.0, 23°.05S×177°.91W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/49, mbtmp3.7/3, Error ellipse: s-maj=1033.0km s-min=166.1km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.81**	**247**	P	P	13 38 52.5	-0.7
1.0nm,0.7s,baz=79,slow=9.0,SNR=3.6
ASAR	**Alice Springs**	**44.07**	**259**	P	P	13 39 53.3	-0.1
0.3nm,0.5s,baz=90,slow=7.7,SNR=13
WRA	**Warramunga Arr**	**44.38**	**265**	P	P	13 39 56.2	+0.2
0.9nm,0.6s,baz=102,slow=8.3,SNR=20

WEL 07 13:33:59.5, 38°S±8°×17°6E±1°, h173km±14km, M2.8/60, mB4.2/1, ML2.5/27, MLv2.8/60, Mw(mB)3.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=109.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.08**	**228**	P	Pn	13 34 22.6	+0.2
WPRZ	**Whakapapatarin**	**0.22**	**113**	P	Pn	13 34 22.3	-0.3
TLZ	**Tolley Road**	**0.30**	**290**	P	Pn	13 34 22.8	-0.1
WATZ	**Wairara**	**0.30**	**206**	P	Pn	13 34 23.3	+0.4
ALRZ	**Allen Road**	**0.37**	**111**	P	Pn	13 34 23.3	+0.3
PRRZ	**Plateau Road**	**0.39**	**100**	P	Pn	13 34 22.6	-0.4
RATZ	**Rangitukua**	**0.44**	**193**	P	Pn	13 34 23.9	+0.6
HATZ	**Hinemaiaia**	**0.48**	**162**	P	Pn	13 34 23.8	+0.4
RITZ	**Rihia Road**	**0.54**	**184**	P	Pn	13 34 24.7	+1.0
KATZ	**Kakaramea**	**0.56**	**197**	P	Pn	13 34 24.7	+0.8
MRHZ	**Matea Rd**	**0.57**	**135**	P	Pn	13 34 24.0	+0.2
MUGZ	**Murupara**	**0.68**	**94**	P	Pn	13 34 24.2	-0.1
NTVZ	**North Tongariro**	**0.69**	**195**	P	Pn	13 34 25.3	+0.7
KRVZ	**Karewarewa**	**0.69**	**197**	P	Pn	13 34 25.2	+0.6
TMVZ	**Te Maari**	**0.70**	**193**	P	Pn	13 34 25.4	+0.7
ETVZ	**East Tongariro**	**0.72**	**192**	P	Pn	13 34 25.6	+0.9
WTVZ	**West Tongariro**	**0.72**	**200**	P	Pn	13 34 25.5	+0.7
NNVZ	**North Ngauruho**	**0.73**	**198**	P	Pn	13 34 25.7	+0.8
TWVZ	**Taurewa**	**0.73**	**210**	P	Pn	13 34 25.5	+0.7
OTVZ	**Oturere**	**0.75**	**194**	P	Pn	13 34 26.0	+1.0
NGZ	**Ngauruhoe**	**0.78**	**198**	P	Pn	13 34 26.0	+0.9
SNVZ	**South Ngauruho**	**0.78**	**195**	P	Pn	13 34 26.1	+0.9
OPRZ	**Ohinepanea**	**0.78**	**41**	P	Pn	13 34 23.1	-1.9
HIZ	**Hauiti**	**0.82**	**264**	P	Pn	13 34 25.0	-0.2
MTHZ	**Maungataniwha**	**0.85**	**120**	P	Pn	13 34 25.7	+0.3
BKZ	**Black Stump Fm**	**0.86**	**148**	P	Pn	13 34 26.1	+0.5
FWVZ	**Far West T-bar**	**0.86**	**198**	P	Pn	13 34 26.4	+0.6
RTZ	**Ruatahuna**	**0.86**	**102**	P	Pn	13 34 25.3	-0.3
WHVZ	**Whangaehu Hut**	**0.88**	**196**	P	Pn	13 34 26.6	+0.7
WNVZ	**Wahianoa**	**0.92**	**195**	P	Pn	13 34 26.8	+0.7
URZ	**Urewera**	**0.97**	**80**	P	Pn	13 34 24.9	-1.3
NMHZ	**Naumai**	**0.97**	**133**	P	Pn	13 34 27.8	+1.4
MOVZ	**Moawhango**	**0.98**	**187**	P	Pn	13 34 26.8	+0.4
RAHZ	**Arahi**	**1.04**	**118**	P	Pn	13 34 27.4	+0.6
BHHZ	**Black Hill Sta**	**1.06**	**173**	P	Pn	13 34 27.5	+0.5
KWHZ	**Kaweka Forest**	**1.07**	**158**	P	Pn	13 34 28.0	+0.9
VRZ	**Vera Road**	**1.13**	**232**	P	Pn	13 34 28.0	+0.5
SNGZ	**Shannon Statio**	**1.18**	**108**	P	Pn	13 34 28.0	+0.1
MCHZ	**McNeill Hill**	**1.18**	**149**	P	Pn	13 34 29.4	+1.4
ARHZ	**Aropaoanui**	**1.19**	**134**	P	Pn	13 34 29.0	+1.0
KRHZ	**Kereru**	**1.26**	**163**	P	Pn	13 34 29.5	+0.8
MWZ	**Matawai**	**1.28**	**86**	P	Pn	13 34 27.6	-1.2
RUGZ	**Raukumara Rang**	**1.48**	**72**	P	Pn	13 34 27.9	-2.9
RIGZ	**Rimuhau**	**1.48**	**101**	P	Pn	13 34 30.3	-0.4
WAZ	**Wanganui**	**1.50**	**208**	P	Pn	13 34 31.2	+0.4
KNZ	**Kokohu**	**1.50**	**114**	P	Pn	13 34 30.9	+0.1
CKHZ	**Cape Kidnapper**	**1.53**	**144**	P	Pn	13 34 32.1	+1.0
TKGZ	**Te Karaka**	**1.53**	**91**	P	Pn	13 34 30.3	-0.8
LREZ	**Lake Rotokare**	**1.56**	**228**	P	Pn	13 34 31.6	+0.2
KAHZ	**Kahuranaki**	**1.56**	**151**	P	Pn	13 34 32.5	+1.0
PRGZ	**Paritu Road**	**1.63**	**108**	P	Pn	13 34 31.8	-0.3
HAZ	**Te Kaha**	**1.63**	**66**	P	Pn	13 34 29.0	-3.2
NEZ	**North Egmont**	**1.64**	**239**	P	Pn	13 34 33.1	+0.7
TWGZ	**Tauwhareparae**	**1.66**	**82**	P	Pn	13 34 31.3	-1.2
ETAZ	**East Tamaki Re**	**1.67**	**332**	P	Pn	13 34 29.1	-3.5
PKE	**Pukeiti**	**1.68**	**242**	P	Pn	13 34 33.1	+0.4
KUZ	**Kuaotunu**	**1.69**	**355**	P	Pn	13 34 29.0	-3.8
AWAZ	**Awhitu Peninsu**	**1.69**	**323**	P	Pn	13 34 29.8	-3.0
MHGZ	**Mahia Peninsul**	**1.72**	**115**	P	Pn	13 34 33.3	+0.2
PXZ	**Pawanui**	**1.76**	**155**	P	Pn	13 34 32.3	-1.1
PKGZ	**Pakihiroa**	**1.80**	**73**	P	Pn	13 34 31.6	-2.4
CNGZ	**Carnagh Statio**	**1.81**	**92**	P	Pn	13 34 33.4	-0.6
OHWZ	**Ohakea**	**1.83**	**194**	P	Pn	13 34 34.7	+0.6
WTAZ	**Waiatarua**	**1.83**	**324**	P	Pn	13 34 31.2	-3.1
DVHZ	**Dannevirke**	**1.87**	**174**	P	Pn	13 34 34.8	+0.1
PUZ	**Puketiti**	**1.89**	**80**	P	Pn	13 34 32.8	-2.1
PRHZ	**Porangahau**	**1.92**	**163**	P	Pn	13 34 35.5	+0.3
POWZ	**Post Office Ro**	**1.96**	**183**	P	Pn	13 34 35.4	-0.2
ANWZ	**Angora Road**	**2.07**	**168**	P	Pn	13 34 37.1	+0.3
WMGZ	**Waiomatatini S**	**2.07**	**74**	P	Pn	13 34 34.4	-2.5
PRWZ	**Pori Road**	**2.12**	**179**	P	Pn	13 34 37.4	0.0
MRZ	**Mangatainoka R**	**2.24**	**186**	P	Pn	13 34 38.1	-0.7
BFZ	**Birch Farm**	**2.26**	**173**	P	Pn	13 34 38.6	-0.3
OGWZ	**Otaki Gorge**	**2.45**	**193**	P	Pn	13 34 40.4	-0.7
HOWZ	**Holdsworth Sta**	**2.48**	**187**	P	Pn	13 34 40.5	-1.0
KIW	**Kapiti Island**	**2.54**	**197**	P	Pn	13 34 41.0	-1.2
TMWZ	**Te Maipa**	**2.67**	**180**	P	Pn	13 34 42.9	-0.9
MTW	**Mount Morrison**	**2.74**	**186**	P	Pn	13 34 43.1	-1.5
CAW	**Cannon Point**	**2.75**	**193**	P	Pn	13 34 43.5	-1.2
DUWZ	**D'Urville Isla**	**2.82**	**212**	P	Pn	13 34 43.7	-1.9
TRWZ	**Traveller**	**2.97**	**183**	P	Pn	13 34 45.9	-1.5
PAWZ	**Paruwai Farm**	**2.97**	**187**	P	Pn	13 34 45.7	-1.7
WEL	**Wellington**	**2.98**	**197**	P	Pn	13 34 46.1	-1.4
TCW	**Tory Channel**	**3.04**	**204**	P	Pn	13 34 46.6	-1.7
BHW	**Baring Head**	**3.08**	**195**	P	Pn	13 34 46.7	-1.9
PLWZ	**Palliser**	**3.17**	**189**	P	Pn	13 34 47.9	-2.1
TUWZ	**Tuamarina**	**3.35**	**206**	P	Pn	13 34 49.8	-2.3
NNZ	**Nelson**	**3.39**	**214**	P	Pn	13 34 50.1	-2.5
QRZ	**Quartz Range**	**3.53**	**226**	P	Pn	13 34 51.0	-3.4
BSWZ	**Blackbirch Sta**	**3.63**	**205**	P	Pn	13 34 53.3	-2.3
THZ	**Tophouse**	**4.04**	**214**	P	Pn	13 34 57.8	-3.2
KHZ	**Kahutara**	**4.37**	**204**	P	Pn	13 35 02.5	-2.6
GVZ	**Greta Valley S**	**5.03**	**205**	P	Pn	13 35 10.2	-3.4
LTZ	**Lake Taylor**	**5.15**	**211**	P	Pn	13 35 11.5	-3.7
INZ	**Inchbonnie**	**5.47**	**217**	P	Pn	13 35 15.2	-4.1
OXZ	**Oxford**	**5.70**	**210**	P	Pn	13 35 17.6	-4.8
OKCZ	**Okains Bay**	**5.70**	**201**	P	Pn	13 35 18.5	-4.0
MQZ	**McQueen's Vall**	**5.81**	**204**	P	Pn	13 35 19.0	-4.8
AKCZ	**Akaroa Harbour**	**5.88**	**202**	P	Pn	13 35 20.7	-4.1
RACZ	**Rakaia**	**6.00**	**207**	P	Pn	13 35 21.8	-4.6
MHCZ	**Mount Hutt**	**6.06**	**211**	P	Pn	13 35 22.5	-4.6
WACZ	**Wakanui South**	**6.30**	**208**	P	Pn	13 35 25.8	-4.5
RPZ	**Rata Peaks**	**6.42**	**213**	P	Pn	13 35 27.4	-4.6
ARCZ	**Arundel**	**6.56**	**211**	P	Pn	13 35 29.2	-4.5
TMZ	**Timaru**	**6.99**	**210**	P	Pn	13 35 34.7	-4.7
ODZ	**Otahua Downs**	**7.69**	**209**	P	Pn	13 35 44.3	-4.3

*IDC **07** 13:40:58.1±1.0, 36°.61N×98°.78W, h0km, mb3.1/1, mb1 3.8/6, mb1mx3.5/44, mbtmp3.5/6, ML3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/22, Error ellipse: s-maj=13.3km s-min=11.7km az=119.0*
*TUL **07** 13:40:59.2±2.1, 36°.48N±0°.04×98°.75W±0°.05, h10km±7km, ML3.7, mb_Lg3.7/96(NEIC), Error ellipse: s-maj=6.1km s-min=4.3km az=127.0*
*NEIC **07** 13:41:00.5±2.5, 36°.45N±0°.04×98°.61W±0°.05, h13km±7km, Error ellipse: s-maj=6.5km s-min=5.1km az=124.0*
*ANF **07** 13:41:01.3±1.3, 36°.45N×98°.67W, h18km±10km, ML4.6/15, Error ellipse: s-maj=3.1km s-min=1.8km az=9.0*
ISC 07 13:41:00.2±1.1, 36°.49N±0°.03×98°.66W±0°.02, h7km±9km, n119, σ1§31/96, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035

WHTX	**Lake Whitney,**	**4.59**	**167**	P	**Pn**	**13 42 09.2**	**-0.8**
	baz=347,SNR=5.2						
WHTX				Sb	**Sb**	**13 43 19.0**	**+2.3**
	baz=347						
T25A	**Trinidad**	**4.66**	**280**		**Pn**	**13 42 10.0**	**-1.1**
T25A	**Trinidad**	**4.66**	**280**	P	**Pn**	**13 42 10.0**	**-1.1**
	baz=96,SNR=10						
T25A				Sb	**Sb**	**13 43 20.9**	**+2.2**
	baz=96						
U40A	**Yellville**	**4.69**	**90**	Pn	**Pn**	**13 42 11.9**	**+0.6**
U40A				IAmb_Lg		13 43 36.9	
	comp=Z,114nm,0.7s						
U40A	**Yellville**	**4.69**	**90**	P	**Pn**	**13 42 11.6**	**+0.2**
	baz=273						
BGNE	**Belgrade**	**4.93**	**4**		**Pn**	**13 42 14.0**	**-0.7**
BGNE				IAmb_Lg		13 43 50.3	
	comp=Z,173nm,0.8s						
BGNE	**Belgrade**	**4.93**	**4**	P	**Pn**	**13 42 14.1**	**-0.6**
	baz=186,SNR=9.0						
BGNE				S	**Sn**	**13 43 12.6**	**+0.6**
	baz=186						
237A	**Washetta, Mont**	**5.06**	**151**	IAmb_Lg		13 43 54.5	
	comp=Z,134nm,0.9s						
P38A	**Dawn**	**5.12**	**51**	Pn	**Pn**	**13 42 17.9**	**+0.6**
P38A				IAmb_Lg		13 43 52.4	
	comp=Z,80nm,0.8s						
X40A	**Basin Creek Fa**	**5.16**	**111**	IAmb_Lg		13 43 51.5	
	comp=Z,105nm,0.8s						
X40A	**Basin Creek Fa**	**5.16**	**111**	P	**Pn**	**13 42 18.0**	**+0.2**
	baz=294						
MGMO	**Mountain Grove**	**5.17**	**81**	IAmb_Lg		13 43 46.9	
	comp=Z,115nm,0.8s						
OGNE	**Ogallala**	**5.17**	**330**	P	**Pn**	**13 42 18.2**	**+0.1**
	baz=149						
WHAR	**Wooly Hollow**	**5.31**	**101**	IAmb_Lg		13 43 52.7	
	comp=Z,103nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.32**	**94**	IAmb_Lg		13 43 50.1	
	comp=Z,155nm,0.8s						
WLAR	**White Oak Lake**	**5.34**	**120**	IAmb_Lg		13 44 03.9	
	comp=Z,108nm,0.9s						
W41B	**Gary Mavity, V**	**5.37**	**102**	IAmb_Lg		13 44 07.3	
	comp=Z,83nm,0.8s						
W41B	**Gary Mavity, V**	**5.37**	**102**	P	**Pn**	**13 42 21.0**	**+0.2**
	baz=286						
W41B				S	**Sn**	**13 43 22.1**	**-0.7**
	baz=286						
R40A	**Maddies Statio**	**5.40**	**69**		**Pn**	**13 42 21.6**	**+0.5**
R40A				IAmb_Lg		13 43 54.2	
	comp=Z,110nm,0.7s						
SDCO	**Great Sand Dun**	**5.61**	**285**		**Pn**	**13 42 24.0**	**-0.3**
SDCO	**Great Sand Dun**	**5.61**	**285**	P	**Pn**	**13 42 23.9**	**-0.4**
	baz=101,SNR=12						
SDCO				Sb	**Sb**	**13 43 51.0**	**+4.9**
	baz=101						
Q24A	**Divide**	**5.71**	**298**		**Pn**	**13 42 24.2**	**-1.4**
Q24A	**Divide**	**5.71**	**298**	P	**Pn**	**13 42 24.5**	**-1.2**
	baz=114						
Q24A				Sb	**Sb**	**13 43 53.7**	**+4.8**
	baz=114						
L34A	**Svendsen Farm,**	**5.75**	**17**	Pn	**Pn**	**13 42 24.9**	**-1.1**
435B	**Jarrell**	**5.76**	**171**	IAmb_Lg		13 44 13.1	
	comp=Z,123nm,0.7s						
Z41A	**Richland Creek**	**5.79**	**122**	IAmb_Lg		13 44 14.0	
	comp=Z,118nm,0.9s						
P40A	**Paris**	**6.04**	**58**	IAmb_Lg		13 44 12.3	
	comp=Z,141nm,0.8s						
JCT	**Junction City**	**6.07**	**189**	IAmb_Lg		13 44 22.2	
	comp=Z,92nm,0.8s						
LCAR	**Lake Charles**	**6.08**	**92**	Pn	**Pn**	**13 42 30.8**	**+0.4**
CCM	**Cathedral Cave**	**6.12**	**73**	P	**Pn**	**13 42 30.9**	**-0.1**
	baz=258						
K31A	**O'Neill**	**6.13**	**359**	IAmb_Lg		13 44 22.9	
	comp=Z,115nm,0.8s						
CCAR	**Cane Creek**	**6.20**	**112**	IAmb_Lg		13 44 33.8	
	comp=Z,81nm,0.9s						
ISCO	**Idaho Springs**	**6.40**	**303**	P	**Pn**	**13 42 34.3**	**-0.8**
	baz=119						
ANMO	**Albuquerque**	**6.53**	**259**	Pn	**Pn**	**13 42 35.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=83,slow=16,SNR=6.1						
ANMO				Pg	**Pb**	**13 42 54.2**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=77,slow=17,SNR=11						
ANMO				Lg	Lg	13 44 20.8	
	comp=Z,4.2nm,0.3s,baz=333,slow=14,SNR=8.4						
ANMO	**Albuquerque**	**6.53**	**259**	P	**Pn**	**13 42 35.8**	**-1.0**
	baz=74						
PBMO	**Poplar Bluff**	**6.63**	**85**	IAmb_Lg		13 44 31.6	
	comp=Z,94nm,0.8s						
FVM	**French Village**	**6.74**	**75**	IAmb_Lg		13 44 33.7	
	comp=Z,92nm,0.8s						
SCIA	**State Center**	**6.87**	**36**	IAmb_Lg		13 44 45.3	
	comp=Z,104nm,0.7s						
GNAR	**Gosnell**	**7.01**	**92**	IAmb_Lg		13 44 53.8	
	comp=Z,120nm,0.8s						
SLM	**Saint Louis**	**7.03**	**70**	IAmb_Lg		13 44 50.8	
	comp=Z,96nm,0.8s						
143A	**Socs Landing,**	**7.07**	**120**	IAmb_Lg		13 44 56.9	
	comp=Z,65nm,0.8s						
PHWY	**Pilot Hill**	**7.15**	**314**	IAmb_Lg		13 44 58.9	
	comp=Z,68nm,0.8s						
PARMO	**Parma**	**7.17**	**86**	IAmb_Lg		13 45 00.7	
	comp=Z,113nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.17**	**253**	IAmb_Lg		13 45 03.8	
	comp=Z,98nm,0.9s						
N23A	**Red Feather La**	**7.20**	**310**	P	**Pn**	**13 42 45.3**	**-0.7**
	baz=126						
MNTX	**Cornudas Mount**	**7.34**	**231**	P	**Pn**	**13 42 46.7**	**-1.1**
	baz=47						
ECSD	**EROS Data Cent**	**7.41**	**12**	Pn	**Pn**	**13 42 47.1**	**-1.6**
ECSD	**EROS Data Cent**	**7.41**	**12**	P	**Pn**	**13 42 47.0**	**-1.6**
	baz=193,SNR=6.8						
S44A	**Carbondale**	**7.61**	**78**	IAmb_Lg		13 45 04.9	
	comp=Z,104nm,0.7s						
735A	**Kenedy**	**7.64**	**174**	IAmb_Lg		13 45 10.7	
	comp=Z,76nm,1.2s						
W45A	**Hickory Valley**	**7.81**	**97**	IAmb_Lg		13 45 13.0	
	comp=Z,96nm,0.7s						
Y45A	**Yeager Farm, C**	**7.91**	**107**	IAmb_Lg		13 45 35.3	
	comp=Z,48nm,0.8s						
SUSD	**Miller**	**7.95**	**358**	IAmb_Lg		13 45 33.8	
	comp=Z,46nm,0.8s						
TX31	**Lajitas Ar. Si**	**8.28**	**212**		**Pn**	**13 42 59.4**	**-1.3**
TXAR	**Lajitas Array**	**8.28**	**212**	Pn	**Pn**	**13 42 59.2**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=40,slow=11,SNR=46						
TXAR				Pg	**Pb**	**13 43 27.6**	**+3.6**
	comp=Z,1.4nm,0.3s,baz=33,slow=14,SNR=9.6						
TXAR				Lg	Lg	13 45 12.7	
	comp=Z,1.1nm,0.3s,baz=22,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**8.28**	**212**	Pn	**Pn**	**13 42 59.6**	**-1.1**
RWWY	**Rawlins**	**8.43**	**311**	IAmb_Lg		13 45 42.8	
	comp=Z,43nm,0.9s						
I37A	**Lemond, Waseca**	**8.53**	**27**	IAmb_Lg		13 45 43.4	
	comp=Z,42nm,0.9s						
K22A	**Casper**	**8.64**	**318**	IAmb_Lg		13 45 50.8	
	comp=Z,86nm,0.9s						
RSSD	**Black Hills**	**8.66**	**333**	IAmb_Lg		13 45 34.4	
	comp=Z,42nm,0.9s						
RSSD	**Black Hills**	**8.66**	**333**	P	**Pn**	**13 43 06.2**	**+0.1**
	baz=150						
JFWS	**Jewell Farm**	**9.12**	**43**	IAmb_Lg		13 45 55.5	
	comp=Z,62nm,0.8s						
JFWS	**Jewell Farm**	**9.12**	**43**	P	**Pn**	**13 43 12.1**	**0.0**
	baz=229						
PDAR	**Pinedale Array**	**10.48**	**310**	Pn	**Pn**	**13 43 29.0**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=121,slow=17,SNR=6.4						
PDAR				Pg		13 44 10.6	
	comp=Z,0.3nm,0.3s,baz=119,slow=15,SNR=6.7						
PDAR				Lg	Lg	13 46 20.5	
	comp=Z,0.7nm,0.3s,baz=112,slow=22,SNR=3.1						
TKL	**Tuckaleechee C**	**12.08**	**90**	Pn	**Pn**	**13 43 51.4**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=272,slow=12,SNR=4.0						
TKL				Lg	Lg	13 47 12.6	
	comp=Z,0.7nm,0.3s,baz=21,slow=16,SNR=2.0						
ULM	**Lac du Bonnet**	**13.90**	**7**	Pn	Pn	13 44 10.2	-7.4
	comp=Z,0.3nm,0.3s,baz=177,slow=9.0,SNR=1.7						
ULM				Sn	**Sn**	13 46 37.0	-15
	comp=Z,0.3nm,0.3s,baz=51,slow=2.6,SNR=1.8						
ULM				Lg	Lg	13 48 04.8	
	comp=Z,0.3nm,0.3s,baz=224,slow=11,SNR=1.7						
SADO	**Sadowa**	**16.94**	**55**	Lg	Lg	13 49 47.4	
	comp=Z,0.2nm,0.3s,baz=269,slow=6.8,SNR=3.7						
NEW	**Newport**	**17.96**	**317**	LR	LR	13 53 25.1	
	comp=Z,222nm,21.5s,baz=56,slow=42						
YKA	**Yellowknife Ar**	**27.85**	**344**	P	**P**	**13 46 47.5**	**-2.5**
	comp=Z,0.2nm,0.6s,baz=149,slow=8.3,SNR=3.4						

*IDC **07** 13:42:43.6±1.0,28°.00N×92°.75E,h0km,mb3.3/9,*
mb1 3.6/10,mb1mx3.5/49,mbtmp3.4/10,ML4.0/1,MS2.9/1,
Ms1 2.9/1,ms1mx2.5/53,Error ellipse: s-maj=43.0km
s-min=17.0km az=59.0
*BJI **07** 13:42:48.1±0.0,28°.15N×93°.01E,h6km,mb4.1/11,*
mB4.5/2,ML3.5/5,Ms3.5/1,Ms7 3.3/1
*NDI **07** 13:42:51.8±3.1,27°.90N×92°.91E,h7km±11km,ML3.8*
ISC 07 13:42:46.4±0.6,**28°.04N**±0°.04×**92°.79E**±0°.03,**h10**km,**n27,**
σ2°**09**/33,**mb3.5**/7,**Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITAN	**ITANAGAR**	**1.22**	**137**	*e*P	**Pg**	**13 43 11.7**	**+1.9**
ITAN				*e*S	**Sn**	**13 43 27.6**	**+1.5**
JORH	**JORHAT**	**1.84**	**134**	*e*P	**Pg**	**13 43 23.4**	**+1.8**
JORH				*e*S	**Sg**	**13 43 45.1**	**-0.4**
DIBR	**DIBRUGARH**	**1.97**	**106**	*e*P	**Pb**	**13 43 23.0**	**+0.7**
DIBR				*e*S	**Sb**	**13 43 47.5**	**+0.6**
LSA	**Lhasa**	**2.19**	**319**	Pg	**Pg**	**13 43 30.7**	**+2.3**
LSA				Sg	**Sg**	**13 44 02.0**	**+5.2**
SHL	**Shillong**	**2.59**	**198**	IAML		13 44 17.5	
	comp=E,2μm,0.2s						
SHL	**Shillong**	**2.59**	**198**	*e*P	**Pb**	**13 43 32.4**	**-0.8**
SHL	**Shillong**	**2.59**	**198**	*e*S	**Pg**	**13 43 37.9**	**+1.7**
KOHI	**KOHIMA**	**2.60**	**153**	*e*P	**Pn**	**13 43 30.2**	**+1.6**
KOHI				*e*S	**Sn**	**13 44 00.2**	**-0.2**
KOHI				IAML		13 44 13.7	
	comp=N,1μm,0.9s						
KOHI				IAML		13 44 14.1	
	comp=E,1μm,0.2s						
LKP	**Lekhapani**	**2.80**	**104**	*ex*	**Pn**	**13 43 31.7**	**+0.4**
LKP				*ex*	**Sn**	**13 44 01.6**	**-3.6**
LKP				IAML		13 44 17.2	
	comp=E,3μm,0.7s						
SILR	**SILCHAR**	**3.25**	**180**	*ex*	**Pg**	**13 43 53.0**	**+4.4**
SILR				*e*S	**Sn**	**13 44 17.6**	**+1.5**
SILR				IAML		13 44 42.6	
	comp=E,3μm,0.5s						
GTK	**Tadong**	**3.78**	**260**	*e*P	**Pb**	**13 43 51.6**	**-1.7**
GTK				*e*S	**Sb**	**13 44 37.2**	**-2.0**
GTK				IAML		13 44 42.9	
	comp=N,120nm,0.2s						
GTK				IAML		13 44 52.6	
	comp=E,231nm,0.4s						
BOK	**Bokaro**	**7.51**	**237**	*e*S	**Sn**	**13 46 02.0**	**+0.5**
BOK				IAML		13 46 06.2	
	comp=N,17nm,0.3s						
BOK				IAML		13 46 06.2	
	comp=E,7.5nm,0.4s						
GOMU	**GeErMu**	**8.31**	**11**	P	**Pn**	**13 44 48.4**	**+1.1**
GOMU				smax	smax		
	comp=E,4.0nm,0.6s						
GOMU				smax	smax		
	comp=E,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.09**	**148**	Pn	**Pn**	**13 45 25.4**	**+0.2**
	comp=E,0.3nm,0.3s,baz=322,slow=12,SNR=11						
GTA	**Gaotai**	**12.75**	**25**	*e*P	**Pn**	**13 45 47.4**	**-0.5**
GTA				pP		13 45 50.5	
GTA				sP		13 45 53.4	
GTA				pmax	pmax		
	comp=E,3.0nm,0.9s						
WMQ	**Urumqi**	**16.27**	**347**	*e*P	**P**	**13 46 38.9**	**+0.8**
KSH	**Kashi**	**18.03**	**314**	P	**P**	**13 47 01.8**	**+4.1**
KSH				pmax	pmax		
	comp=E,3.0nm,1.0s						
MKAR	**Makanchi Array**	**20.45**	**339**	P	**P**	**13 47 24.0**	**0.0**
	comp=E,0.3nm,0.5s,baz=150,slow=13,SNR=8.9						
AAK	**Ala-Archa**	**20.79**	**319**	P	**P**	**13 47 27.3**	**-0.6**
	comp=E,0.3nm,0.5s,baz=180,slow=12,SNR=1.3						
SONM	**Songino Array**	**22.42**	**25**	P	**P**	**13 47 43.9**	**-1.5**
	comp=E,2.9nm,0.8s,baz=209,slow=8.1,SNR=18						
KURBB	**Kurchatov Arra**	**25.01**	**338**	P	**P**	**13 48 11.0**	**+0.6**
	comp=E,0.6nm,0.7s,baz=148,slow=10,SNR=5.7						
ZALV	**Zalesovo Beam**	**26.54**	**349**	P	**P**	**13 48 22.5**	**-1.6**
	comp=E,0.4nm,0.4s,baz=183,slow=8.4,SNR=2.2						
WSAR	**Wadi Sarin**	**31.10**	**269**	LR	LR	14 05 00.2	
	comp=E,21nm,18.4s,baz=3.0,slow=43						
AKASG	**Malin Array Be**	**52.33**	**314**	P	**P**	**13 51 55.1**	**-3.1**
	comp=E,0.2nm,0.4s,baz=79,slow=6.4,SNR=1.7						
WRA	**Warramunga Arr**	**62.37**	**135**	P	**P**	**13 53 07.4**	**-2.2**
	comp=E,0.3nm,0.8s,baz=324,slow=7.4,SNR=2.2						
GERES	**GERESS Array B**	**62.51**	**313**	P	**P**	**13 53 08.8**	**-1.5**
	comp=E,0.2nm,0.3s,baz=95,slow=4.9,SNR=2.4						
ASAR	**Alice Springs**	**64.92**	**138**	P	**P**	**13 53 25.3**	**-1.0**
	comp=E,0.3nm,0.6s,baz=324,slow=6.3,SNR=8.8						

*TUL **07** 13:53:39.7±0.5,36°.47N±0°.02×98°.74W±0°.02,h3km±7km,*
ML2.5,ML2.3/26(NEIC),Error ellipse: s-maj=3.0km
s-min=2.0km az=147.0
NEIC 07 13:53:39.8±0.8,**36°.47N**±0°.01×**98°.75W**±0°.02,**h7**km±7km,
Error ellipse: s-maj=3.2km s-min=1.1km az=124.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.23**	**246**	Pg	Pg	13 53 44.5	+0.2
U32A				Sg	Sg	13 53 48.2	+0.8
U32A				IAML		13 53 48.4	
	comp=N,546nm,0.3s						
U32A				IAML		13 53 48.6	
	comp=E,540nm,0.1s						
OK035	**E0210 Rd and N**	**0.23**	**7**	Pg	Pg	13 53 44.4	-0.1
OK035				IAML		13 53 49.1	
	comp=E,492nm,0.3s						
CROK	**Carrier**	**0.61**	**87**	Pg	Pg	13 53 51.8	+0.2
CROK				Sg	Sg	13 54 00.5	+0.9
CROK				IAML		13 54 05.4	
	comp=E,182nm,0.2s						
CROK				IAML		13 54 06.9	
	comp=N,168nm,0.2s						
KAN14	**Manchester OK**	**0.79**	**52**	Pg	Pg	13 53 54.4	-0.6
KAN14				IAML		13 54 08.1	
	comp=E,120nm,0.1s						
KAN14				IAML		13 54 10.2	
	comp=N,118nm,0.1s						
GC02	**Grant County #**	**0.81**	**62**	Pg	Pg	13 53 55.2	-0.1
KAN10	**Anthony SW Sta**	**0.83**	**39**	Pg	Pg	13 53 55.8	0.0
KAN10				IAML		13 54 17.3	
	comp=E,115nm,0.1s						
KAN17	**Caldwell West**	**0.97**	**54**	Pg	Pg	13 53 58.2	-0.2
KAN08	**Anthony NE Sta**	**0.97**	**39**	Pg	Pg	13 53 58.4	-0.1
KAN08				IAML		13 54 16.4	
	comp=E,83nm,0.1s						
KAN08				IAML		13 54 18.8	
	comp=N,74nm,0.1s						
KAN12	**Harper NE Stat**	**1.02**	**36**	Pg	Pg	13 53 59.2	-0.1
KAN01	**Argonia South**	**1.04**	**49**	Pg	Pg	13 53 59.7	-0.1
KAN01				IAML		13 54 15.1	
	comp=E,81nm,0.1s						
KAN01				IAML		13 54 16.5	
	comp=N,71nm,0.4s						
KAN06	**Argonia West S**	**1.05**	**42**	Pg	Pg	13 53 59.6	-0.3
KAN06				IAML		13 54 19.4	
	comp=N,93nm,0.1s						
KAN06				IAML		13 54 25.6	
	comp=E,79nm,0.1s						
BLOK	**Blackwell**	**1.26**	**76**	Pg	Pn	13 54 03.2	-0.6
OK025	**Westminster Rd**	**1.45**	**128**	Pn	Pn	13 54 06.4	+0.1
OK031	**S. Brethren Rd**	**1.63**	**108**	Pn	Pn	13 54 09.1	+0.2
FNO	**Franklin**	**1.63**	**138**	Pn	Pn	13 54 09.3	+0.4
QUOK	**Quay**	**1.67**	**100**	Pn	Pn	13 54 09.7	+0.2
WMOK	**Wichita Mounta**	**1.73**	**181**	Pn	Pn	13 54 09.9	-0.5
T35A	**Sooner Cattle**	**1.85**	**76**		Pn	13 54 12.8	+0.9
X34A	**Smith Ranch, M**	**2.01**	**158**	Pn	Pn	13 54 15.0	+0.9

*IDC **07** 14:08:34.0±0.8,16°.74N×147°.67E,h0km,mb4.1/17,*
mb1 4.2/18,mb1mx3.8/61,mbtmp4.2/18,ML4.2/1,Error
ellipse: s-maj=28.0km s-min=14.6km az=90.0
*NEIC **07** 14:08:38.7±1.6,16°.73N±0°.07×147°.7E±0°.2,h33km±9km,*
mb4.5/23,Error ellipse: s-maj=27.1km s-min=4.3km
az=112.0
ISC 07 14:08:39.2±0.8,**16°.73N**±0°.07×**147°.6E**±0°.1,**h35**km,**n45,**
σ1**9**02/46,**mb4.3**/29,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.07**	**220**	Pn	**Pn**	**14 09 40.4**	**+1.4**
	14nm,0.3s,baz=170,slow=20,SNR=1.8						
GUMO				Sn	**Sn**	**14 10 25.4**	**-0.1**
	12nm,0.3s,baz=22,slow=19,SNR=1.4						
JCJ	**Chichijima**	**11.46**	**335**	Pn	**Pn**	**14 11 19.6**	**-0.7**
JGF	**Kuroka**	**20.88**	**336**	P	**P**	**14 13 17.3**	**-1.2**
JGF				IAmb	IAmb	14 13 21.3	
	comp=Z,14nm,0.7s						
MJAR	**Matsushiro Arr**	**21.41**	**339**	P	**P**	**14 13 23.6**	**-0.4**
	comp=Z,4.6nm,0.8s,baz=173,slow=10.0,SNR=15						
MJAR	**Matsushiro Arr**	**21.41**	**339**	P	**P**	**14 13 24.9**	**+0.9**
MAJO	**Matsushiro**	**21.41**	**339**	P	**P**	**14 13 23.1**	**-1.0**
MAJO				IAmb	IAmb	14 13 28.8	
	comp=Z,12nm,0.9s						
MAT	**Matsushiro**	**21.41**	**339**	P	**P**	**14 13 23.4**	**-0.6**
JWT	**Wachi**	**21.43**	**332**	P	**P**	**14 13 23.4**	**-0.9**
JWT				IAmb	IAmb	14 13 49.8	
	comp=Z,64nm,1.5s						
JMM	**Marumori**	**21.88**	**345**	P	**P**	**14 13 28.6**	**-0.5**
JMM				IAmb	IAmb	14 13 41.2	
	comp=Z,25nm,1.2s						
YHNB	**Yeheng**	**25.71**	**292**	P	**P**	**14 14 06.0**	**-0.4**
SSLB	**Suanglung**	**25.91**	**290**	P	**P**	**14 14 08.3**	**0.0**
SSLB				IAmb	IAmb	14 14 31.9	
	comp=Z,33nm,1.3s						
PMG	**Port Moresby**	**25.97**	**181**	P	**P**	**14 14 08.7**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=1.5,slow=6.4,SNR=4.3						
KSRS	**Korea Array**	**26.95**	**324**	P	**P**	**14 14 17.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=147,slow=9.1,SNR=7.1						
COEN	**Coen**	**30.80**	**188**	P	**P**	**14 14 52.1**	**+0.2**
COEN				IAmb	IAmb	14 15 07.1	
	comp=Z,5.5nm,1.1s						
MTN	**Manton Dam**	**33.58**	**210**	P	**P**	**14 15 18.5**	**+2.3**
SOEI	**Soe**	**34.99**	**223**	P	**P**	**14 15 27.6**	**-0.9**
KNRA	**Kununurra**	**37.17**	**211**	P	**P**	**14 15 48.3**	**+1.3**
KNRA				IAmb	IAmb	14 16 13.7	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**38.51**	**200**	P	**P**	**14 15 58.0**	**-0.4**
WB0				IAmb	IAmb	14 15 58.8	
	comp=Z,3.7nm,0.8s						
WR0	**Warramunga Arr**	**38.65**	**200**	P	**P**	**14 15 59.1**	**-0.4**
WRAB	**Tennant Creek**	**38.68**	**200**	P	**P**	**14 15 58.5**	**-1.4**
WRAB				IAmb	IAmb	14 16 00.4	
	comp=Z,3.9nm,0.7s						
WB2	**Warramunga Arr**	**38.69**	**200**	P	**P**	**14 15 58.8**	**-1.1**
WB2				IAmb	IAmb	14 16 01.9	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**38.70**	**200**	P	**P**	**14 15 59.8**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=24,slow=9.2,SNR=48						
WRA	**Warramunga Arr**	**38.70**	**200**	P	**P**	**14 15 57.9**	**-2.1**
KSM	**Kuching**	**39.68**	**251**	P	**P**	**14 16 07.1**	**-1.2**
KSM				IAmb	IAmb	14 16 08.8	
	comp=Z,5.9nm,0.7s						
AS31	**Alice Springs**	**42.31**	**199**	P	**P**	**14 16 28.3**	**-1.5**
ASAR	**Alice Springs**	**42.31**	**199**	P	**P**	**14 16 29.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=24,slow=7.8,SNR=9.9						
ASAR	**Alice Springs**	**42.31**	**199**	P	**P**	**14 16 27.2**	**-2.6**
SONM	**Songino Array**	**45.78**	**322**	P	**P**	**14 16 58.1**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=137,slow=7.4,SNR=14						
SONM	**Songino Array**	**45.78**	**322**	P	**P**	**14 16 58.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**46.28**	**280**	P	**P**	**14 17 03.0**	**+1.3**
	comp=Z,4.7nm,0.9s,baz=72,slow=6.4,SNR=28						
YAK	**Yakutsk**	**46.98**	**349**	P	**P**	**14 17 06.0**	**-0.5**
GSI	**Gunungsitoli**	**51.52**	**258**	P	**P**	**14 17 41.4**	**-0.6**
ZALV	**Zalesovo Beam**	**60.65**	**323**	P	**P**	**14 18 47.0**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=114,slow=7.0,SNR=10						
MKAR	**Makanchi Array**	**61.10**	**315**	P	**P**	**14 18 50.3**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=88,slow=7.7,SNR=14						
KURK	**Kurchatov**	**63.92**	**319**	P	**P**	**14 19 08.4**	**-0.2**
KURK				IAmb	IAmb	14 19 11.0	
	comp=Z,11nm,1.3s						
KURBB	**Kurchatov Arra**	**63.97**	**319**	P	**P**	**14 19 09.2**	**+0.3**
	comp=Z,4.7nm,0.5s,baz=95,slow=7.1,SNR=48						
NRIK	**Noril'sk**	**64.06**	**340**	P	**P**	**14 19 10.5**	**+1.3**
	comp=Z,2.9nm,0.6s,baz=111,slow=7.5,SNR=5.3						
ILAR	**Eielson Array**	**64.62**	**26**	P	**P**	**14 19 13.1**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=222,slow=6.3,SNR=4.0						
BVAR	**Borovoye Array**	**69.12**	**321**	P	**P**	**14 19 42.4**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=96,slow=7.7,SNR=16						
BRVK	**Borovoye**	**69.18**	**321**	P	**P**	**14 19 41.2**	**-1.0**
BRVK				IAmb	IAmb	14 19 45.6	
	comp=Z,2.8nm,0.8s						
ARU	**Arti**	**75.69**	**325**	P	**P**	**14 20 20.7**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=136,slow=7.6,SNR=7.3						
YKA	**Yellowknife Ar**	**78.88**	**28**	P	**P**	**14 20 39.0**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=286,slow=5.5,SNR=10						
ARCES	**ARCESS Array B**	**84.90**	**343**	P	**P**	**14 21 11.9**	**+1.7**
	comp=Z,5.4nm,1.1s,baz=72,slow=7.8,SNR=4.6						
FINES	**FINESS Array B**	**89.40**	**336**	P	**P**	**14 21 31.7**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=64,slow=4.4,SNR=4.9						
DBIC	**Dimbokro**	**144.16**	**308**	PKP	**PKPdf**	**14 28 11.2**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=48,slow=7.0,SNR=4.3						

*IDC **07** 14:13:52.5±2.2,7°.53S×128°.92E,h119km±30km,mb3.1/1,*
mb1 3.4/6,mb1mx3.0/45,mbtmp3.7/6,Error ellipse:
s-maj=35.6km s-min=22.2km az=97.0
ISC 07 14:13:52.9±1.0,**7°.65S**±0°.09×**128°.8E**±0°.1,**h131**km,**n6,**
σ

mpv3.5, Error ellipse: s-maj=74.2km s-min=47.4km az=24.0

ISC 07 14:15:21.9±1.8, 36°.8N±0°.1×70°.18E±0°.10, h200km, n16, σ1§39/21, mb3.4/4, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	6.27	2	⇓P	Pn	14 16 53.6	+1.0
	1.4nm,0.3s,baz=180,slow=12						
KK02				⇑S	Sn	14 18 04.9	+0.4
	5.0nm,0.5s,baz=190,slow=25						
AAK	Ala-Archa	6.69	28	P	Pn	14 16 58.5	+0.4
	1.3nm,0.3s,baz=179,slow=5.5,SNR=19						
AAK				S	Sn	14 18 14.3	-0.1
	1.8nm,0.3s,baz=328,slow=20,SNR=30						
AAK	Ala-Archa	6.69	28	P	Pn	14 16 58.5	+0.4
	0.8nm,0.3s						
AAK				S	Sn	14 18 13.9	-0.5
	20nm,0.7s						
TKM2	Tokmak 2	7.37	33	⇑P	Pn	14 17 06.6	-0.5
	2.1nm,0.6s						
TKM2				⇓S	Sn	14 18 27.9	-2.8
	6.9nm,0.8s						
MKAR	Makanchi Array	13.43	38	P	Pn	14 18 24.4	-0.1
	0.2nm,0.3s,baz=218,slow=7.7,SNR=12						
AB31	Akbulak array	14.48	332	⇑P	Pn	14 18 37.5	-0.1
	0.3nm,0.3s,baz=147,slow=11,SNR=16						
AB31				⇓S	S	14 21 17.6	-0.9
	0.4nm,0.5s						
KURBB	Kurchatov Arra	15.04	21	P	Pn	14 18 44.6	+0.3
	0.0nm,0.3s,baz=208,slow=10,SNR=4.7						
AKTO	Aktyubinsk	16.17	331	P	Pn	14 18 59.9	+1.8
	0.4nm,0.3s,baz=149,slow=14,SNR=13						
AKTO	Aktyubinsk	16.17	331	⇑P	Pn	14 18 58.9	+0.8
	6.1nm,0.9s						
AKTO				⇓S	Sn	14 21 58.5	-1.1
	1.4nm,1.0s						
BVAR	Borovoye Array	16.20	0	P	Pn	14 18 60.0	+1.6
	0.3nm,0.3s,baz=185,slow=8.6,SNR=7.3						
ZALV	Zalesovo Beam	19.90	26	P	P	14 19 38.1	+0.2
	2.0nm,0.5s,baz=213,slow=11,SNR=11						
ARU	Arti	21.11	342	P	P	14 19 53.8	+3.0
	0.4nm,0.4s,baz=135,slow=19,SNR=4.3						
KLMR	Klimovskoe	30.88	331	eP	P	14 21 13.2	-5.9
KLMR				AMP		14 21 14.8	
	comp=Z,7.0nm,1.2s						
FINES	FINESS Array B	36.85	326	P	P	14 22 09.3	-1.2
	comp=Z,3.0nm,1.1s,baz=74,slow=15,SNR=1.6						
ARCES	ARCESS Array B	40.59	338	P	P	14 22 42.8	+1.2
	comp=Z,0.9nm,0.7s,baz=104,slow=5.9,SNR=3.8						
GERES	GERESS Array B	42.20	305	P	P	14 22 53.0	-2.0
	comp=Z,0.1nm,0.3s,baz=64,slow=4.5,SNR=1.7						

*TUL **07** 14:47:03.8±1.3, 36°.48N±0°.02×98°.74W±0°.02, h5km±7km, ML2.6, mb_Lg2.6/14(NEIC), Error ellipse: s-maj=3.4km s-min=1.8km az=131.0*

NEIC 07 14:47:03.9±1.1, 36°.46N±0°.02×98°.72W±0°.01, h4km±7km, Error ellipse: s-maj=3.0km s-min=0.9km az=157.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.24	251	Pg	Pg	14 47 08.7	+0.1
U32A				Sg	Sg	14 47 12.3	+0.5
OK035	E0210 Rd and N	0.25	2	Pg	Pg	14 47 08.7	0.0
OK035				Sg	Sg	14 47 12.5	+0.4
CROK	Carrier	0.59	85		Pg	14 47 15.6	+0.3
KAN14	Manchester OK	0.79	51	Pg	Pg	14 47 18.9	0.0
GC02	Grant County #	0.79	60	Pg	Pg	14 47 19.1	-0.1
KAN10	Anthony SW Sta	0.83	37	Pg	Pg	14 47 19.5	-0.3
KAN16	Harper SW Stat	0.93	34	Pg	Pg	14 47 20.9	-0.8
KAN17	Caldwell West	0.96	52	Pg	Pg	14 47 22.1	-0.3
KAN08	Anthony NE Sta	0.97	38	Pg	Pg	14 47 22.1	-0.5
KAN12	Harper NE Stat	1.02	34	Pg	Pg	14 47 23.1	-0.3
KAN01	Argonia South	1.04	48	Pg	Pg	14 47 23.4	-0.4
KAN06	Argonia West S	1.05	41	Pg	Pg	14 47 23.6	-0.4
KAN13	South Haven SW	1.14	61		Pg	14 47 25.2	-0.5
BCOK	Bluff Creek, N	1.20	131	Pg	Pg	14 47 26.8	-0.2
BLOK	Blackwell	1.25	76	Pg	Pg	14 47 27.2	-0.6
OK025	Westminster Rd	1.42	128	Pn	Pn	14 47 30.5	0.0
FNO	Franklin	1.61	138	Pn	Pb	14 47 33.8	-0.3
QUOK	Quay	1.65	99		Pb	14 47 34.3	-0.5
WMOK	Wichita Mounta	1.72	182	Pn	Pn	14 47 34.5	0.0
T35A	Sooner Cattle	1.83	75		Pn	14 47 37.0	+0.9
R32A	Long Quarter,	1.96	0		Pn	14 47 37.9	-0.1
X34A	Smith Ranch, M	1.99	158		Pn	14 47 38.6	+0.3
X34A				IAmb_Lg		14 48 13.1	
	comp=Z,24nm,0.7s						
TUL1	Leonard	2.43	102	Pn	Pn	14 47 44.8	+0.5
TUL1				IAmb_Lg		14 48 23.8	
	comp=Z,28nm,1.3s						
CBKS	Cedar Bluff	2.48	341	Pn	Pn	14 47 45.6	+0.5
KSCO	Kaye Shedlock'	4.01	311	IAmb_Lg		14 49 14.2	
	comp=Z,12nm,0.7s						
WHTX	Lake Whitney,	4.58	166	IAmb_Lg		14 49 40.6	
	comp=Z,14nm,0.8s						
JCT	Junction City	6.03	189	IAmb_Lg		14 50 32.7	
	comp=Z,8.3nm,0.9s						
N38A	Joes South For	6.09	43	IAmb_Lg		14 50 30.1	
	comp=Z,13nm,0.8s						
SCIA	State Center	6.92	36	IAmb_Lg		14 50 42.9	
	comp=Z,9.0nm,0.8s						
RSSD	Black Hills	8.66	334	IAmb_Lg		14 52 01.1	
	comp=Z,4.3nm,1.3s						

*IDC **07** 14:49:53.2±2.5, 10°.02S×112°.14E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.1/38, mbtmp3.5/6, ML3.5/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/44, Error ellipse: s-maj=118.4km s-min=20.6km az=49.0*

*DJA **07** 14:49:59.1±0.3, 10°S±3°×11°3E±°, h10km, M4.0/18, mb4.2/6, MLv3.9/18*

ISC 07 14:50:00.7±1.0, 9°.71S±0°.08×112°.81E±0°.07, h36km, n26, σ1§30/28, mb3.6/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	1.56	24	P	Pn	14 50 26.2	+0.3
GMJI				S	Sn	14 50 43.6	-1.3
JAGI	Jajag, Banyuwa	1.81	47	P	Pn	14 50 29.9	+0.5
JAGI				S	Sn	14 50 50.4	-0.7
PWJI	Pagerwojo	1.95	329	P	Pn	14 50 31.3	0.0
BLJI	Banyuglugur	2.10	22	P	Pn	14 50 34.8	+1.4
BLJI				S	Sn	14 51 00.3	+2.0
PCJI	Pacitan	2.21	313	P	Pn	14 50 35.7	+0.9
ABJI	Asem Bagus	2.37	37	P	Pn	14 50 38.0	+1.0
IGBI	Denpasar	2.47	69	P	Pn	14 50 39.0	+0.5
DNP	Denpasar	2.58	67	P	Pn	14 50 41.1	+1.1
SRBI	Singaraja	2.87	56	P	Pn	14 50 45.6	+1.6
UGM	Wanagama	2.88	308	P	Pn	14 50 45.5	+1.4
KMMI	Kalianget	2.88	24	P	Pn	14 50 45.4	+1.3
YOGI	Yogyakarta	3.12	307	P	Pn	14 50 48.3	+1.0
SMRI	Semarang	3.53	318	P	Pn	14 50 55.0	+1.9
UWJI	Ujung Watu	3.75	330	P	Pn	14 50 57.5	+1.4
BWJI	Bawean	3.84	358	P	Pn	14 50 58.2	+0.9
CNJI	Cibinong	6.10	293	P	Pn	14 51 30.9	+2.5
	0.3nm54nm,1.7s						
WBSI	Waikabubak, Su	6.49	90	P	Pn	14 51 34.2	+0.4
	0.1nm22nm,1.1s						
KAPI	Kappang	8.32	56	LR	LR	14 56 19.3	
	comp=Z,24nm,21.2s,baz=211,slow=43						
BSSI	Bau Bau, Buton	8.39	66	P	Pn	14 52 00.5	+0.6
	5.4nm,0.8s						
EDFI	Ende, Flores	8.82	84	P	Pn	14 52 06.7	+0.9
	3.5nm,0.8s						
FITZ	Fitzroy Crossi	14.98	125	Pn	Pn	14 53 29.3	-0.6
	0.2nm,0.3s,baz=301,slow=9.6,SNR=6.0						
FITZ				Sn	Sn	14 56 02.1	-13
	0.1nm,0.3s,baz=274,slow=22,SNR=1.4						
WRA	Warramunga Arr	23.14	119	P	P	14 55 05.2	+1.2
	0.3nm,0.5s,baz=290,slow=11,SNR=8.7						
ASAR	Alice Springs	24.46	127	P	P	14 55 18.1	+1.5
	0.6nm,0.5s,baz=302,slow=9.1,SNR=20						
SONM	Songino Array	57.57	355	P	P	14 59 45.9	-1.0
	0.5nm,0.6s,baz=160,slow=8.9,SNR=3.3						
MKAR	Makanchi Array	62.50	337	P	P	15 00 19.3	-1.3
	0.2nm,0.4s,baz=153,slow=7.0,SNR=6.2						
ZALV	Zalesovo Beam	67.70	343	P	P	15 00 52.6	-1.6
	0.4nm,0.5s,baz=148,slow=6.1,SNR=2.2						

*IDC **07** 14:55:40.3±0.6, 6°.72S×77°.07W, h0km, mb4.0/10, mb1 4.3/15, mb1mx4.2/28, mbtmp4.1/15, ML3.9/5, MS3.5/9, Ms1 3.5/9, ms1mx3.2/65, Error ellipse: s-maj=13.2km s-min=12.8km az=145.0*

*ARE **07** 14:55:41±5.3, 6°.73S±0°.05×77°.2W±0°.1, h21km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=175.0*

*NEIC **07** 14:55:43.2±1.6, 6°.80S±0°.07×76°.90W±0°.06, h10km±1km, mb4.5/18, ML4.7(ARE), Error ellipse: s-maj=11.6km s-min=9.7km az=170.0*

*VAO **07** 14:55:43.6±0.5, 6°.78S×76°.80W, h10km, mb4.5*

ISC 07 14:55:42.1±0.4, 6°.74S±0°.05×76°.95W±0°.07, h10km, n126, σ1§14/118, mb4.2/11, MS3.3/3, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	1.49	255	Pn	Pn	14 56 06.7	-2.7
	245nm,0.3s,baz=57,slow=6.9,SNR=886						
ATAH				Lg	Lg	14 56 24.0	
	338nm,0.3s,baz=263,slow=14,SNR=11						
CZSB	Cruzeiro do Su	4.32	103	Pn	Pn	14 56 49.6	+1.6
NNA	Nana	5.21	179	Pn	Pn	14 57 02.1	+1.8
	6.8nm,0.3s,baz=353,slow=11,SNR=14						
NNA				Sn	Sn	14 58 02.3	+1.7
	18nm,0.3s,baz=25,slow=12,SNR=3.6						
NNA				Lg	Lg	14 58 27.2	
	32nm,0.3s,baz=256,slow=14,SNR=7.0						
NNA				LR	LR	14 59 08.6	
	comp=Z,529nm,18.4s,baz=342,slow=40						
OTAV	Otavalo	7.09	348	eP	Pn	14 57 28.8	+2.3
OTAV	Otavalo	7.09	348		Pn	14 57 29.4	+2.9
PTLC	Puerto Leguiza	7.20	17	eP	Pn	14 57 21.6	-5.9
TBTG	Tabatinga, AM	7.45	70	eP	Pn	14 57 32.1	+1.1
TBTG	Tabatinga, AM	7.45	70	Pn	Pn	14 57 31.3	+0.3
CFLOR	Florencia	8.37	9	eP	Pn	14 57 42.5	-1.2
SOTA	Rioblanco	8.82	2	eP	Pn	14 57 52.1	+1.8
GARC	Garzon, Huila	8.99	9	eP	Pn	14 57 51.1	-1.2
PCON	Cinco Dias	9.03	4	eP	Pn	14 57 55.9	+2.7
POPC	Popayan, Colom	9.22	2	eP	Pn	14 57 55.9	+0.3
MACC	Macarena, Meta	9.36	19	eP	Pn	14 57 57.8	+0.6
BETC	Betania	9.48	9	eP	Pn	14 58 07.3	+8.4
MARP	Paez Belalcaza	9.57	6	eP	Pn	14 58 01.6	+1.2
YOTC	Yotoco, Valle	10.67	3	eP	Pn	14 58 14.9	-0.4
ETMB	Extrema	11.05	107	eP	Pn	14 58 19.9	-0.5
ETMB	Extrema	11.05	107	Pn	Pn	14 58 19.7	-0.8
VILC	Villavicencio,	11.26	17	eP	Pn	14 58 21.6	-1.8
CHIC	Chingaza	11.74	16	eP	Pn	14 58 34.0	+3.7
ROSC	El Rosal	11.80	13	LR	LR	15 03 46.4	
	comp=Z,316nm,19.7s,baz=247,slow=41						
ROSC	El Rosal	11.80	13	Pn	Pn	14 58 33.0	+2.0
GUY2C	Guyana, Caldas	11.99	8	eP	Pn	14 58 26.4	-7.3
LPAZ	La Paz	12.83	138	Pn	Pn	14 58 45.5	+0.2
	0.5nm,0.3s,baz=355,slow=7.3,SNR=9.9						
LPAZ	La Paz	12.83	138	eP	Pn	14 58 45.9	+0.7
PTBC	PUERTO BERRIO,	13.43	11	eP	Pn	14 58 54.9	+2.0
PB16	IPOC Station P	13.62	148		Pn	14 58 55.9	0.0
BARC	Barichara	13.77	16	eP	P	14 59 09.2	+2.8
ZARC	Zaragoza, Cauc	14.29	8	Pn	Pn	14 59 06.4	+1.6
PAMC	Pamplona, Colo	14.62	17	eP	Pn	14 59 02.5	-7.1
PB08	IPOC Station P	15.32	151	P	P	14 59 23.0	-0.8
SMLC	San Martn de	15.70	11	eP	P	14 59 29.2	+1.5
SOCV	Socops	16.11	22	eP	P	14 59 33.0	+0.7
PB07	IPOC Station P	16.39	156		Pn	14 59 30.9	-1.6
PB07				IAmb	IAmb	14 59 38.5	
	comp=Z,28nm,0.9s						
BRU2	Volcan	16.46	340	Pn	Pn	14 59 35.2	+1.6
BRU2				IAmb	IAmb	14 59 43.9	
	comp=Z,52nm,0.9s						
MACA	Manacapuru-AM	16.59	78	Pn	Pn	14 59 32.2	-2.8
SJCC	San Jacinto, C	16.62	6	P	P	14 59 40.1	+2.1
SJCC				IAmb	IAmb	14 59 52.3	
	comp=Z,25nm,0.9s						
PB09	IPOC Station P	16.72	154		Pn	14 59 36.6	-0.1
PB09				IAmb	IAmb	14 59 43.0	
	comp=Z,64nm,1.8s						
SDV	Santo Domingo	16.75	22	Pn	Pn	14 59 37.0	-0.2
	comp=Z,1.0nm,0.3s,baz=342,slow=5.0,SNR=1.6						
SDV	Santo Domingo	16.75	22	eP	Pn	14 59 38.9	+1.6
LVC	Limon Verde	17.58	155	P	P	14 59 48.8	0.0
	comp=Z,0.4nm,0.3s,baz=327,slow=9.3,SNR=5.9						
LVC				LR	LR	15 07 17.9	
	comp=Z,120nm,19.8s,baz=324,slow=40						
LVC	Limon Verde	17.58	155	eP	P	14 59 48.4	-0.4
LVC	Limon Verde	17.58	155		Pn	14 59 47.2	-0.6
VILB	Vilhena	17.61	112	eP	Pn	14 59 47.7	-0.1
VILB	Vilhena	17.61	112	Pn	Pn	14 59 46.2	-1.7
VILB				IAmb	IAmb	14 59 50.8	
	comp=Z,26nm,0.6s						
BAUV	El Baul	17.93	30		P	14 59 53.2	+0.8
BAUV				IAmb	IAmb	14 59 58.4	
	comp=Z,37nm,1.1s						
PTGA	Pitinga	17.96	71	P	Pn	14 59 50.5	-1.7
	comp=Z,1.1nm,0.3s,baz=252,slow=11,SNR=13						
PTGA				LR	LR	15 07 18.8	
	comp=Z,93nm,18.0s,baz=141,slow=39						
SIV	San Ignacio	18.06	122	P	Pn	14 59 52.8	-0.7
	comp=Z,1.0nm,0.3s,baz=296,slow=12,SNR=30						
SIV				LR	LR	15 07 32.9	
	comp=Z,258nm,19.0s,baz=286,slow=39						
JTS	Las Juntas de	18.70	335	LR	LR	15 06 00.9	
	comp=Z,122nm,19.9s,slow=33						
BOAV	Boa Vista	18.74	62	eP	Pn	15 00 02.2	+0.4
BOAV	Boa Vista	18.74	62		P	15 00 01.6	+0.3
PTLB	Pontes e Lacer	19.49	118	eP	Pn	15 00 10.1	-0.6
PTLB	Pontes e Lacer	19.49	118	P	P	15 00 09.2	-0.3
BIRV	Birongo	20.14	32	P	P	15 00 15.6	-1.0
BIRV				IAmb	IAmb	15 00 24.9	
	comp=Z,36nm,0.9s						
PDRB	Porto dos Gac	20.53	105	eP	P	15 00 20.4	-0.6
ITTB	Itaituba	21.24	85	eP	P	15 00 27.8	-0.8
CLDB	Colider	21.30	103	eP	P	15 00 28.3	-0.9
AC02	Maricunga	21.32	160	P	P	15 00 30.9	+1.0
AC02				IAmb	IAmb	15 00 37.5	
	comp=Z,14nm,0.9s						
NPGB	Novo Progresso	21.44	92	eP	P	15 00 29.6	-1.1
SALV	Santo Antonio	22.72	115	eP	P	15 00 44.0	-0.4
MALB	Monte Alegre	23.13	79	eP	P	15 00 48.5	-0.3
PP1B	Ponte de Pedra	24.09	119	eP	P	15 00 59.5	+1.4
AQDB	Aquidauana	24.71	126	eP	P	15 01 04.4	+0.6
AQDB	Aquidauana	24.71	126	P	P	15 01 02.6	-1.1
MCPB	Macapa, AP	25.63	77	eP	P	15 01 12.3	+0.1
SNDB	Serra Nova Dou	25.83	104	eP	P	15 01 14.3	+0.3
ARAG	Araguaiana, MT	26.19	112	eP	P	15 01 17.5	+0.3
MDP	Montagnes des	26.96	65	LR	LR	15 12 06.6	
	comp=Z,79nm,18.5s,baz=308,slow=36						
PRPB	Parauapebas	26.96	90	eP	P	15 01 24.2	-0.1
CPUP	Villa Florida	27.00	138	LR	LR	15 13 32.4	
	comp=Z,74nm,18.9s,baz=353,slow=40						
PEXB	Peixe	28.75	103	eP	P	15 01 40.5	+0.2
ITRB	Iturama	28.85	119	eP	P	15 01 41.7	+0.6
PCMB	Pacaembu	28.89	123	eP	P	15 01 41.9	+0.5
PTGB	Pitanga	29.79	130	eP	P	15 01 49.2	-0.2
IPMB	Ipameri, GO	30.16	114	eP	P	15 01 52.8	0.0
BB19B	Bebedouro	30.96	120	eP	P	15 01 58.2	-1.6
ITAB	Concordia	31.16	134	eP	P	15 02 01.6	+0.2
SDBA	SAO DESIDERIO	32.08	103	eP	P	15 02 09.7	0.0
CPSB	Cacapava Do Su	32.27	140	eP	P	15 02 10.0	-1.2
ROSB	Rosrio	32.92	85	eP	P	15 02 17.3	+0.2
JANB	Januaria	33.06	107	eP	P	15 02 18.1	-0.2
BSCB	Bom Sucesso	34.20	118	eP	P	15 02 28.0	-0.3
PLCA	Paso Flores	34.33	171	P	P	15 02 29.4	+0.3
	comp=Z,2.1nm,0.7s,baz=357,slow=9.3,SNR=6.6						
PLCA				LR	LR	15 14 31.6	
	comp=Z,52nm,18.0s,baz=72,slow=33						
PLCA	Paso Flores	34.33	171	eP	P	15 02 30.2	+1.1
PLCA	Paso Flores	34.33	171	P	P	15 02 28.8	-0.3
PLCA				IAmb	IAmb	15 02 37.6	
	comp=Z,10nm,1.5s						
DIAM	Diamantina, MG	34.38	113	eP	P	15 02 30.1	+0.1
NBPS	Pedro II - PI	35.41	88	eP	P	15 02 39.0	+0.3
NBPN	Ponto Novo - B	36.53	99	eP	P	15 02 47.9	-0.4
DUB01	Friburgo-RJ	36.67	118	eP	P	15 02 49.0	-0.4
SJMB	Sao Joao De Ma	36.77	112	eP	P	15 02 50.1	-0.2
NBMO	Morrinhos-CE	36.91	87	eP	P	15 02 51.5	0.0
NBPB	Pedra_Branca-C	37.16	90	eP	P	15 02 53.5	-0.3
GDU01	Guandu, BA	37.39	104	eP	P	15 02 55.7	+0.1
GUA01	Guaratinga, BA	37.60	108	eP	P	15 02 57.4	+0.1
RIB01	Linhares ES	37.65	113	eP	P	15 02 57.4	-0.3
CMC01	Camacan, BA	37.67	106	eP	P	15 02 58.4	+0.5
NBIT	Itapeh - BA	37.68	106	eP	P	15 02 58.7	+0.6
NBMA	Muriti-CE	37.89	93	eP	P	15 02 59.9	0.0
NBCL	Cascavel-CE	38.55	88	eP	P	15 03 06.1	+0.7
NBLA	Lagarto - SE	38.90	99	eP	P	15 03 07.2	-1.1
NBAN	Anadia - AL	40.34	97	eP	P	15 03 21.0	+0.6
RCBR	Riachuelo	40.80	91	eP	P	15 03 23.6	-0.6
TXAR	Lajitas Array	44.13	326	P	P	15 03 50.3	-0.9
	comp=Z,0.5nm,0.5s,baz=143,slow=9.3,SNR=7.4						
TXAR	Lajitas Array	44.13	326	P	P	15 03 50.0	-1.2
PDAR	Pinedale Array	57.51	332	P	P	15 05 31.2	-0.7
	comp=Z,0.6nm,0.5s,baz=131,slow=10,SNR=4.8						
PDAR	Pinedale Array	57.51	332	P	P	15 05 31.1	-0.8
ULM	Lac du Bonnet	59.09	346	P	P	15 05 43.4	+0.9
	comp=Z,2.9nm,0.6s,baz=154,slow=6.3,SNR=5.1						
NVAR	Mina Array Bea	59.11	323	P	P	15 05 43.1	-0.2
	comp=Z,0.8nm,0.7s,baz=165,slow=10.0,SNR=6.3						
DBIC	Dimbokro	73.15	81	P	P	15 07 13.5	-0.2
	comp=Z,2.9nm,0.5s,baz=266,slow=4.7,SNR=6.2						
YKA	Yellowknife Ar	74.83	343	P	P	15 07 20.9	-1.5
	comp=Z,0.5nm,0.6s,baz=141,slow=5.8,SNR=10						
VNA1	Neumayer--Stat	76.69	161	P	P	15 07 34.5	+1.5
VNA2	Neumayer--Watz	77.04	162	P	P	15 07 35.8	+0.7
	baz=289,slow=5.7						
SNAA	Sanae	78.66	162	P	P	15 07 44.9	+0.7
SNAA	Sanae	78.66	162	P	P	15 07 44.6	+0.5
TORD	Torodi Ar. Bea	80.55	76	P	P	15 07 55.6	+0.2
	comp=Z,1.4nm,0.5s,baz=292,slow=6.6,SNR=17						
TORD	Torodi Ar. Bea	80.55	76	P	P	15 07 54.9	-0.5
TORD				IAmb	IAmb	15 07 56.7	
	comp=Z,5.9nm,1.5s						
QSPA	South Pole Qui	83.36	180	P	P	15 08 10.0	+0.6
ILAR	Eielson Array	87.67	336	P	P	15 08 29.9	-0.7
	comp=Z,1.2nm,0.8s,baz=135,slow=3.1,SNR=6.7						
VNDA	Vanda	89.89	191	P	P	15 08 41.3	+0.3
	comp=Z,1.1nm,0.9s,baz=124,slow=3.0,SNR=2.4						
ZALV	Zalesovo Beam	130.67	14	PKP	PKPdf	15 14 53.1	-0.3
	comp=Z,0.9nm,0.7s,baz=321,slow=2.1,SNR=3.7						
MKAR	Makanchi Array	136.29	21	PKP	PKPdf	15 15 02.6	-1.7
	comp=Z,0.3nm,0.8s,baz=42,slow=4.5,SNR=2.4						
ASAR	Alice Springs	137.33	224	PKhKP	PKPpre	15 14 58.9	
	comp=Z,0.2nm,0.6s,baz=147,slow=1.3,SNR=4.4						
WRA	Warramunga Arr	139.37	229	PKP	PKPdf	15 15 11.2	+0.4
	comp=Z,0.6nm,0.9s,baz=118,slow=2.2,SNR=8.1						
GTA	Gaotai	147.34	5	ePKPbc	PKPdf	15 15 25.5	+1.2
PZH	PanZhiHua	160.31	3	PKP	PKPdf	15 15 43.1	+0.1

*TUL **07** 15:00:31.8±1.6, 36°.49N±0°.02×98°.728W±0°.008, h10km±4km, ML2.6, mb_Lg2.4/10(NEIC), Error ellipse: s-maj=3.4km s-min=0.8km az=174.0*

NEIC 07 15:00:32.1±1.4, 36°.51N±0°.02×98°.68W±0°.03, h12km±4km, Error ellipse: s-maj=4.3km s-min=1.9km az=70.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.20	353	Pg	Pg	15 00 36.6	+0.1
OK035				Sg	Sg	15 00 40.1	+0.6
U32A	Winter Ranch,	0.29	244	Pg	Pg	15 00 37.0	-1.0
U32A				Sg	Sg	15 00 41.0	-1.1
CROK	Carrier	0.56	90		Pg	15 00 43.1	+0.1
CROK				Sg	Sb	15 00 51.6	-0.3
KAN14	Manchester OK	0.73	52		Pg	15 00 46.1	-0.2
KAN14				Sg	Sb	15 00 56.6	-0.1
GC02	Grant County #	0.74	62	Pg	Pg	15 00 46.5	0.0
GC02				Sg	Sb	15 00 57.1	0.0
KAN10	Anthony SW Sta	0.77	37	Pg	Pg	15 00 46.1	-1.0
KAN10				Sg	Sg	15 00 57.1	-0.2
KAN16	Harper SW Stat	0.87	34	Pg	Pg	15 00 48.7	-0.2
KAN16				Sg	Sb	15 01 01.3	+0.5
KAN05	Bluff City Nor	0.88	47	Pg	Pg	15 00 49.3	+0.1
KAN05				Sg	Sb	15 01 01.8	+0.6
KAN17	Caldwell West	0.91	54	Pg	Pg	15 00 49.5	-0.1
KAN17				Sg	Sb	15 01 01.9	+0.1
KAN08	Anthony NE Sta	0.92	38	Pg	Pg	15 00 49.6	-0.2
KAN08				Sg	Sb	15 01 01.9	-0.2
KAN12	Harper NE Stat	0.96	35	Pg	Pg	15 00 50.6	0.0
KAN12				Sg	Sg	15 01 02.5	-0.6
KAN01	Argonia South	0.98	49	Pg	Pb	15 00 51.1	+0.1
KAN01				Sg	Sb	15 01 04.5	+0.5
KAN06	Argonia West S	0.99	41	Pg	Pg	15 00 50.8	-0.4
KAN06				Sg	Sb	15 01 04.4	+0.2
KAN13	South Haven SW	1.09	62	Pn	Pb	15 00 52.8	-0.1
KAN13				Sg	Sb	15 01 06.9	-0.1
BLOK	Blackwell	1.20	77		Pn	15 00 54.6	-0.2
BL

σ1°72/29, mb3.5/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.79	38	P	Pn	15 12 54.1	-1.0
WBSI				S	Sn	15 13 04.6	-1.1
BASI	Baing, Sumba	1.65	89	P	Pn	15 13 08.6	+1.6
BASI				S	Sn	15 13 29.8	+2.8
EDFI	Ende, Flores	3.14	62	P	Pn	15 13 27.7	+0.2
MMRI	Maumere	3.67	64	P	Pn	15 13 35.6	+0.8
DNP	Denpasar	3.96	293	P	Pn	15 13 40.8	+2.0
IGBI	Denpasar	3.97	291	P	Pn	15 13 39.1	+0.2
SRBI	Singaraja	4.23	300	P	Pn	15 13 45.6	+3.1
BSSI	Bau Bau, Buton	4.39	21	P	Pn	15 13 46.6	+2.0
BATI	Baumata	4.69	90	P	Pn	15 13 50.5	+1.7
JAGI	Jajag, Banyuwa	5.01	290	P	Pn	15 13 55.4	+2.2
	0.4nm2um39nm,0.7s						
BKSI	Bulukumba	5.06	14	P	Pn	15 13 55.7	+1.9
	0.3nm978nm50nm,0.6s						
ABJI	Asem Bagus	5.22	298	P	Pn	15 13 57.0	+0.9
	0.5nm36nm,0.5s						
SOEI	Soe	5.31	85	P	Pn	15 13 59.2	+1.7
	0.2nm34nm,0.9s						
GMJI	Gumukmas	5.74	290	P	Pn	15 14 05.0	+1.8
	0.2nm42nm,1.1s						
KMMI	Kalianget	5.83	303	P	Pn	15 14 06.0	+1.6
	0.2nm21nm,1.1s						
BNSI	Bone	5.95	12	P	Pn	15 14 07.9	+1.8
	0.1nm23nm,1.0s						
BBSI	Bau Bau	5.98	38	P	Pn	15 14 07.7	+1.2
	0.0nm95nm5.0nm,0.9s						
SPSI	Sidrap Palu	6.32	8	P	Pn	15 14 13.0	+1.8
	0.1nm12nm,0.8s						
TTSI	Tana Toraja	7.23	7	P	Pn	15 14 24.1	+0.4
	0.1nm9.3nm,0.9s						
PCJI	Pacitan	7.89	284	P	Pn	15 14 33.7	+0.9
	0.2nm29nm,0.8s						
UGM	Wanagama	8.59	285	P	Pn	15 14 44.1	+1.6
	58nm,2.1s						
UWJI	Ujung Watu	8.74	295	P	Pn	15 14 46.2	+1.7
	32nm,0.8s						
WRA	Warramunga Arr	17.73	125	P	Pn	15 16 42.6	-2.1
	0.2nm,0.3s,baz=300,slow=13,SNR=10						
ASAR	Alice Springs	19.56	135	P	P	15 17 06.8	+1.4
	0.2nm,0.3s,baz=308,slow=10,SNR=38						
HNR	Honiara	40.43	93	LR	LR	15 37 23.5	
	comp=Z,44nm,21.4s,baz=342,slow=37						
SONM	Songino Array	58.90	350	P	P	15 22 34.4	-1.6
	0.2nm,0.5s,baz=148,slow=6.3,SNR=1.6						
MKAR	Makanchi Array	65.53	333	P	P	15 23 19.2	-1.2
	0.4nm,0.8s,baz=126,slow=7.3,SNR=2.2						
ZALV	Zalesovo Beam	70.18	339	P	P	15 23 48.2	-1.2
	0.2nm,0.4s,baz=131,slow=6.6,SNR=2.1						

JMA 07 15:12:46.6±0.3, 31°.53N×128°.76E, h10km±3km, M2.9, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.83	79	P	Pg	15 13 02.0	-0.6
JSJ				S	Sg	15 13 13.0	-0.4
JFU	Fukue jima 2	1.12	360	P	Pb	15 13 07.7	-0.4
JFU				S	Sg	15 13 23.2	+0.4
JSU	Suzuyama	1.45	91	P	Pn	15 13 13.2	+0.3
JYAK	Yakushimahirau	1.98	130	P	Pn	15 13 19.6	-0.6
JTN	Tanegashima 3	2.10	114	P	Pn	15 13 21.6	-0.2

*NNC **07** 15:14:52.5±4.4, 36°.59N×70°.80E, h100km±91km, mb3.1, mpv3.8, Error ellipse: s-maj=33.1km s-min=30.8km az=26.0*

ISC 07 15:14:52.7±3.0, 36°.6N±0°.2×70°.8E±0°.1, h100km, n12, σ0°.83/17, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.97	21	P	Pn	15 16 18.9	0.0
	SNR=22						
UCH	Uchtor	6.32	26	P	Pn	15 16 23.5	-0.2
	SNR=8.1						
EKS2	Erkin-Say	6.48	20	P	Pn	15 16 26.2	+0.6
	SNR=6.8						
KK02	Karatay Array	6.50	358	⇑P	Pn	15 16 26.2	+0.4
	3.1nm,0.3s						
KK02				⇓S	Sn	15 17 39.7	+1.2
	1.9nm,0.7s						
AAK	Ala-Archa	6.68	24	P	Pn	15 16 28.6	+0.3
	SNR=16						
AAK	Ala-Archa	6.68	24	⇓P	Pn	15 16 28.2	-0.1
	3.2nm,0.3s						
AAK				⇑S	Sn	15 17 42.8	-0.2
	1.6nm,0.6s						
CHMS	Chumysh	7.09	24	P	Pn	15 16 34.0	+0.3
	SNR=8.3						
USP	Ospenovka	7.25	22	P	Pn	15 16 36.1	+0.2
	SNR=7.7						
TKM2	Tokmak 2	7.32	29	P	Pn	15 16 36.7	-0.4
	SNR=6.2						
TKM2	Tokmak 2	7.32	29	⇑P	Pn	15 16 35.9	-1.2
	1.4nm,0.4s						
TKM2				⇑S	Sn	15 17 59.4	+0.7
	0.6nm,0.8s						
AB31	Akbulak array	14.92	331	⇑P	Pn	15 18 18.8	+0.6
	0.2nm,0.2s,baz=164,slow=12,SNR=27						
AB31				⇓S	Sn	15 21 00.5	-2.2
	0.3nm,0.6s,baz=154,slow=22,SNR=2.7						
AKTO	Aktyubinsk	16.61	330	⇑P	P	15 18 39.9	-0.2
	0.7nm,0.8s						
AKTO				⇓S	Sn	15 21 43.4	-0.2
	2.0nm,1.2s						

*BJI **07** 15:18:02.0±0.0, 20°.09N×145°.65E, h110km, mb4.5/43, mB5.0/26*
*MOS **07** 15:18:02.5±0.9, 20°.05N×145°.47E, h106km, mb5.0/49, Error ellipse: s-maj=9.8km s-min=5.7km az=104.1*
*NEIC **07** 15:18:03.6±1.4, 20°.06N±0°.07×145°.5E±0°.1, h98km±6km, mb4.9/219, Error ellipse: s-maj=14.9km s-min=9.9km az=86.0*
*IDC **07** 15:18:06.2±2.4, 20°.05N×145°.50E, h126km±22km, mb4.3/30, mb1 4.4/32, mb1mx4.2/44, mbtmp4.6/32, MS3.4/18, Ms1 3.4/18, ms1mx3.2/78, Error ellipse: s-maj=14.2km s-min=8.6km az=86.0*

ISC 07 15:18:03.3±0.6, 20°.07N±0°.04×145°.51E±0°.07, h95km±5km, h95km:pP-P, n483, σ1°18/422, mb4.9/181, 9C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	6.47	186	P	Pn	15 19 37.8	+1.8
	48nm,0.3s,baz=161,slow=6.5,SNR=9.4						
GUMO				S	Sn	15 20 53.7	+5.4
	24nm,0.3s,baz=191,slow=4.4,SNR=1.4						
GUMO	Guam	6.47	186	P	Pn	15 19 37.6	+1.6
GUMO				pmax	pmax		
	comp=Z,892nm,1.2s						
GUMO	Guam	6.47	186	Pn	Pn	15 19 36.5	+0.5
JCJ	Chichijima	7.63	337	Pn	Pn	15 19 52.0	+0.2
JOW	Kunigami	17.18	296	LR	LR	15 27 28.4	
	comp=Z,217nm,18.1s,baz=124,slow=33						
MJAR	Matsushiro Arr	17.62	340	P	P	15 22 01.7	-0.6
	comp=Z,0.1nm,0.3s,baz=166,slow=9.6,SNR=8.2						
MJAR	Matsushiro Arr	17.62	340	P	Pn	15 22 02.6	0.0
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MJAR	Matsushiro Arr	17.62	340		Pn	15 22 02.6	0.0
MAJO	Matsushiro	17.62	340	*i* P	P	15 22 01.2	-1.1
MAJO	Matsushiro	17.62	340	P	P	15 22 02.0	-0.3
MAT	Matsushiro	17.62	340	P	P	15 22 01.9	-0.4
MAT				S	S	15 25 20.0	-0.2
MJB9	Matsu-Tunnel	17.62	340	P	P	15 21 59.6	-2.8
JMM	Marumori	18.21	348	P	Pn	15 22 09.3	-0.4
JMM				IAmb	IAmb	15 22 25.8	
	comp=Z,86nm,1.4s						
H11S3	WAKE ISLAND Hy 20.05		91	T	T	15 43 34.9	
	baz=275,slow=74,SNR=30						
H11S1	WAKE ISLAND Hy 20.06		91	T	T	15 43 35.6	
	baz=275,slow=74,SNR=27						
H11S2	WAKE ISLAND Hy 20.07		91	T	T	15 43 40.5	
	baz=275,slow=74,SNR=38						
H11N1	WAKE ISLAND Hy 20.11		87	P	Pn	15 22 31.1	-1.0
	baz=256,slow=13,SNR=3.3						
H11N1				T	T	15 43 22.5	
	baz=274,slow=74,SNR=36						
H11N2	WAKE ISLAND Hy 20.11		87	P	P	15 22 31.0	+1.5
	baz=256,slow=13,SNR=4.3						
H11N2				T	T	15 43 11.7	
	baz=274,slow=74,SNR=34						
H11N3	WAKE ISLAND Hy 20.12		87	P	P	15 22 30.3	+0.7
	baz=256,slow=13,SNR=2.4						
H11N3				T	T	15 43 12.7	
	baz=274,slow=74,SNR=36						
MANU	Manus Island	22.05	175	P	P	15 22 48.4	-2.0
MANU				IAmb	IAmb	15 22 50.2	
	comp=Z,56nm,0.7s						
JAY	Jayapura	22.93	192	LR	LR	15 30 29.8	
	comp=Z,82nm,21.6s,baz=20,slow=32						
JAY	Jayapura	22.93	192	P	P	15 23 00.1	+0.5
	comp=Z,25nm,0.7s						
BAKI	Biak	23.05	205	P	P	15 23 03.2	+2.5
	comp=Z,73nm,1.4s						
GENI	Genyem	23.12	194	P	P	15 23 02.4	+1.1
	comp=Z,82nm,1.1s						
KSRS	Korea Array	23.13	322	P	P	15 23 00.5	-0.7
	comp=Z,13nm,0.9s,baz=144,slow=8.6,SNR=30						
KSRS				LR	LR	15 31 32.0	
	comp=Z,41nm,21.4s,baz=125,slow=35						
KS19	Wonju Array Si	23.19	322	P	P	15 23 00.6	-1.3
DAV	Davao City (W)	23.25	239	LR	LR	15 30 22.9	
	comp=Z,101nm,21.9s,baz=304,slow=32						
JKA	Kamikawa-asahi	24.11	355	P	P	15 23 10.9	+0.9
JKA	Kamikawa-asahi	24.11	355	IAmb	IAmb	15 23 37.5	
	comp=Z,40nm,1.2s						
ASAJ	Asahikawa	24.11	355	P	P	15 23 10.9	+0.9
	comp=Z,13nm,0.7s,baz=190,slow=14,SNR=9.8						
ASAJ	Asahikawa	24.11	355	P	P	15 23 10.9	+0.9
ASAJ				pmax	pmax		
	comp=Z,40nm,1.2s						
SWI	Sorong	25.06	216	P	P	15 23 19.3	+0.4
SWI				pmax	pmax		
	comp=Z,34nm,0.7s						
FAKI	Fak Fak	26.29	211	P	P	15 23 29.9	-0.3
USRK	Ussuriysk Ar.	26.58	338	P	P	15 23 32.4	0.0
	comp=Z,3.0nm,0.8s,baz=128,slow=9.8,SNR=2.7						
USRK				LR	LR	15 34 39.8	
	comp=Z,42nm,19.3s,baz=149,slow=37						
NJ2	Nanjing	26.68	302	*e*P	P	15 23 34.1	+0.6
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
MDJ	Mudanjiang	27.83	335	P	P	15 23 43.7	+0.1
MDJ				sP	sP	15 24 16.8	+1.9
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,180nm,6.9s						
AAI	Ambon	29.10	218	P	P	15 23 47.0	-8.2
PMG	Port Moresby	29.33	177	P	P	15 23 55.5	-1.7
PMG				pmax	pmax		
	comp=Z,22nm,0.9s						
PMG	Port Moresby	29.33	177	P	P	15 23 54.4	-2.8
PMG				IAmb	IAmb	15 24 03.3	
	comp=Z,17nm,0.8s						
KLR	Kul'dur	31.12	342	P	P	15 24 12.7	0.0
	comp=Z,17nm,0.7s,baz=158,slow=8.3,SNR=59						
KLR				LR	LR	15 36 32.6	
	comp=Z,32nm,18.4s,baz=153,slow=36						
KLR	Kul'dur	31.12	342	*ce*P	P	15 24 12.5	-0.2
KLR				pmax	pmax		
	comp=Z,14nm,0.6s						
MPSI	Mapaga	31.83	235	P	P	15 24 20.9	+1.6
	comp=Z,6.2nm,0.7s						
HNS	HongShan	31.87	309	⇑P	P	15 24 20.5	+1.1
HNS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
COEN	Coen	33.89	184	P	P	15 24 36.1	-1.1
COEN				IAmb	IAmb	15 24 37.3	
	comp=Z,9.3nm,0.6s						
BBSI	Bau Bau	33.97	224	P	P	15 24 37.4	-0.5
	comp=Z,4.8nm,0.9s						
TTSI	Tana Toraja	34.12	231	P	P	15 24 35.7	-3.5
XLT	XiLinHaoTe	34.16	321	*e*P	P	15 24 38.8	-0.6
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,130nm,6.1s						
PETK	Petropavlovsk-	34.30	13	P	P	15 24 40.6	+0.2
	comp=Z,7.3nm,1.0s,baz=155,slow=7.1,SNR=9.8						
SPSI	Sidrap Palu	34.78	229	P	P	15 24 45.3	+0.3
	comp=Z,19nm,1.1s						
HHC	Hu-ho-hao-te	35.53	313	*e*P	P	15 24 52.9	+1.6
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.4s						
MTN	Manton Dam	35.63	205	P	P	15 24 51.5	-0.6
BSSI	Bau Bau, Buton	35.83	226	P	P	15 24 55.4	+1.4
	comp=Z,13nm,1.1s						
ZEA	Zeya	36.42	342	*e*P	P	15 24 58.5	0.0
ZEA				*e*		15 25 20.8	
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SBUM	Sibu	36.91	246	P	P	15 25 03.2	0.0
SBUM				IAmb	IAmb	15 25 28.9	
	comp=Z,22nm,1.3s						
SLVN	Son La	38.86	279	P	P	15 25 19.8	+0.1
KNRA	Kununurra	39.15	206	P	P	15 25 21.3	-0.6
SHEM	Shemya Is, Ala	39.40	27	LR	LR	15 40 32.2	
	comp=Z,47nm,20.6s,baz=15,slow=34						
LZH	Lanzhou	39.75	303	*e*P	P	15 25 24.6	-2.4
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
CTA	Charters Tower	39.91	179	P	P	15 25 27.8	-0.4
CTA				pmax	pmax		
	comp=Z,12nm,1.4s						
CTAO	Charters Tower	39.91	179	P	P	15 25 27.0	-1.2
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PZH	PanZhiHua	40.56	288	P	P	15 25 34.6	+0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,6.2s						
WB0	Warramunga Arr	41.06	196	P	P	15 25 36.0	-1.6
KMMI	Kalianget	41.10	232	P	P	15 25 39.3	+1.2
	comp=Z,13nm,0.6s						
WR0	Warramunga Arr	41.20	196	P	P	15 25 37.5	-1.3
WR0				IAmb	IAmb	15 25 41.0	
	comp=Z,21nm,1.1s						
WRAB	Tennant Creek	41.23	196	*ce*P	P	15 25 37.9	-1.1
WRAB				pmax	pmax		
	comp=Z,47nm,1.7s						
WRAB	Tennant Creek	41.23	196	P	P	15 25 38.3	-0.8
WRAB				IAmb	IAmb	15 25 41.2	
	comp=Z,24nm,1.1s						
WB2	Warramunga Arr	41.24	196	P	P	15 25 38.1	-1.0
WRA	Warramunga Arr	41.24	196	P	P	15 25 38.5	-0.6
	comp=Z,10nm,0.6s,baz=23,slow=9.0,SNR=123						
WRA				LR	LR	15 41 59.9	
	comp=Z,55nm,21.8s,baz=354,slow=35						
WRA	Warramunga Arr	41.24	196	P	P	15 25 37.5	-1.6
ULN	Ulaanbaatar	41.60	321	*ce*P	P	15 25 41.4	-0.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ULN	Ulaanbaatar	41.60	321	P	P	15 25 41.0	-1.1
SONM	Songino Array	41.98	321	P	P	15 25 44.4	-0.7
	comp=Z,2.7nm,0.5s,baz=138,slow=6.6,SNR=15						
FITZ	Fitzroy Crossi	42.65	209	P	P	15 25 50.8	+0.2
	comp=Z,8.1nm,0.7s,baz=34,slow=9.9,SNR=24						
SEY	Seymchan	43.09	5	*i* P	P	15 25 53.6	-0.1
YAK	Yakutsk	43.35	349	P	P	15 25 55.7	-0.1
	comp=Z,17nm,0.5s,baz=138,slow=3.2,SNR=17						
YAK				LR	LR	15 50 31.9	
	comp=Z,16nm,18.9s,baz=352,slow=45						
YAK	Yakutsk	43.35	349	*e*P	P	15 25 55.1	-0.6
YAK				*e**PP	pP	15 26 16.9	-0.4
YAK				*e*		15 27 38.1	
YAK				*e*S	S	15 32 15.3	-0.9
YAK				*e**SS	sS	15 32 57.0	+3.4
YAK				*e*		15 35 47.0	
YAK				*e*SSS	SSS	15 36 19.7	
YAK				pmax	pmax		
	comp=Z,26nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.6s						
YAK				pmax	pmax		
	comp=Z,97nm,3.7s						
YAK				smax	smax		
	comp=E,267nm,4.4s						
YAK				smax	smax		
	comp=N,54nm,3.9s						
YAK	Yakutsk	43.35	349	P	P	15 25 55.2	-0.6
GTA	Gaotai	43.59	306	*e*P	P	15 25 58.2	0.0
GTA				pP	pP	15 26 20.1	+0.3
GTA				sP	sP	15 26 31.8	+1.5
GTA				pmax	pmax		
	comp=N,3.0nm,1.0s						
CHTO	Chiang Mai	43.82	277	P	P	15 25 59.6	-0.6
CHTO				*PP	pP	15 26 21.3	-0.6
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHTO	Chiang Mai	43.82	277		P	15 25 59.6	-0.6
CHTO				pP	pP	15 26 21.3	-0.6
CMAR	Chiang Mai Arr	43.88	276	P	P	15 26 01.1	+0.3
	comp=Z,2.8nm,0.8s,baz=69,slow=6.1,SNR=23						
CMAR				LR	LR	15 45 41.8	
	comp=Z,12nm,18.1s,baz=0.0,slow=38						
CMAR	Chiang Mai Arr	43.88	276	*i* P	P	15 26 02.2	+1.5
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	Chiang Mai Arr	43.88	276	P	P	15 26 01.5	+0.8
CMAR				pP	pP	15 26 22.5	+0.1
MYKOM	Kota Tinggi	44.56	251	P	P	15 26 06.1	0.0
MYKOM					pP	15 26 27.6	+0.1
AS31	Alice Springs	44.91	195	P	P	15 26 08.0	-0.8
ASAR	Alice Springs	44.92	195	P	P	15 26 08.1	-0.7
	comp=Z,6.4nm,0.7s,baz=17,slow=7.6,SNR=94						
ASAR				LR	LR	15 45 54.4	
	comp=Z,46nm,18.1s,baz=30,slow=37						
ASAR	Alice Springs	44.92	195	P	P	15 26 07.4	-1.4
ASAR	Alice Springs	44.92	195	P	P	15 26 07.4	-1.4
LEM	Lembang	45.87	238	P	P	15 26 17.1	+0.5
	comp=Z,9.9nm,0.5s,baz=342,slow=20,SNR=3.7						
DZM	Mont Dzumac	46.61	153	P	P	15 26 21.4	-0.8
	comp=Z,11nm,0.6s,baz=269,slow=3.2,SNR=26						
DZM				LR	LR	15 43 32.9	
	comp=Z,41nm,18.7s,baz=24,slow=33						
DZM	Mont Dzumac	46.61	153	*e*P	P	15 26 20.8	-1.3
	comp=Z,32nm,0.9s						
DZM				*e*LR	LR	15 39 40.8	
	comp=Z,126nm,27.0s						
DZM	Mont Dzumac	46.61	153	P	P	15 26 20.7	-1.5
DZM				IAmb	IAmb	15 26 23.4	
	comp=Z,14nm,0.8s						
GOMU	GeErMu	46.99	301	P	P	15 26 26.5	+1.1
GOMU				pP	pP	15 26 46.7	-0.7
GOMU				PcP	PcP	15 27 55.0	-1.4
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KLSI		47.02	243	P	P	15 26 25.9	+0.4
	comp=Z,7.3nm,1.1s						
OUENC	Ouen Island, N	47.08	153	P	P	15 26 24.4	-1.3
MDSI	Maura Dua	47.38	243	P	P	15 26 29.2	+1.0
UNV	Unalaska Valle	49.64	35	P	P	15 26 45.4	+0.3
	baz=246						
BILL	Bilibino	49.71	10	*d* iP	P	15 26 46.3	+0.9
BILL				*e*		15 28 09.2	
BILL				*e*		15 28 36.8	
BILL				pmax	pmax		
	comp=Z,18nm,1.0s						
GSI	Gunungsitoli	50.41	254	P	P	15 26 50.8	-0.6
GSI				pP	pP	15 27 11.3	-1.9
STKA	Stephens Creek	51.78	184	P	P	15 26 59.6	-1.7
	comp=Z,2.1nm,0.6s,baz=15,slow=6.7,SNR=9.3						
STKA				LR	LR	15 47 26.1	
	comp=Z,28nm,21.7s,baz=22,slow=34						
TIXI	Tiksi	52.50	353	*ce*P	P	15 27 05.9	-0.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	Tiksi	52.50	353	P	P	15 27 05.2	-1.0
WMQ	Urumqi	53.29	310	*e*P	P	15 27 13.4	+0.8
WMQ				pP	pwP	15 27 37.3	-0.7
WMQ				sP	sP	15 27 55.9	+11
WMQ				pmax	pmax		
	comp=Z,17nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.5s						
DGZ	Jazzator, Alta	54.40	317	*i* P	P	15 27 20.0	-0.7
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TNA	Tin City	54.62	22	P	P	15 27 22.3	+0.6
	baz=237						
ANM	Nome	55.02	23	P	P	15 27 25.4	+0.7
	baz=240						
PKI	Pulchoki	55.04	290	*e*P	P	15 27 26.1	+0.2
	comp=Z,6.8nm,0.7s						
PKIN	Phulchoki	55.05	290	*e*P	P	15 27 25.7	-0.2
KKN	Kakani	55.13	290	*e*P	P	15 27 26.8	+0.4
	comp=Z,10nm,0.7s						
DMN	Daman	55.31	290	*e*P	P	15 27 27.8	+0.1
GKN	Gorkha	55.68	291	*e*P	P	15 27 30.5	+0.3
ZSN	Zaisan	55.72	314	*e*P	P	15 27 29.7	-0.3
ZSN	Zaisan	55.72	314	*e*P	P	15 27 29.7	-0.3
	baz=314						
DANN	Dangsing	56.41	291	*e*P	P	15 27 36.3	+0.7
	comp=Z,78nm,0.7s						
KOLN	Koldanda	56.62	291	*e*P	P	15 27 37.5	+0.5
ZAA0	Zalesovo Array	56.83	322	P	P	15 27 36.1	-1.7
ZALV	Zalesovo Beam	56.83	322	P	P	15 27 36.8	-1.0
	comp=Z,5.4nm,0.7s,baz=104,slow=7.3,SNR=26						
ZALV	Zalesovo Beam	56.83	322	P	P	15 27 36.0	-1.8
PYUN	Piuthan	57.11	291	*e*P	P	15 27 40.8	+0.3
	comp=Z,24nm,1.0s						
P18K	Big Mountain,	57.39	31	P	P	15 27 41.4	-0.3
	baz=254						
MK31	Makanchi Array	57.40	313	P	P	15 27 41.4	-0.5
MK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MK31	Makanchi Array	57.40	313	P	P	15 27 41.4	-0.5
MKAR	Makanchi Array	57.40	313	P	P	15 27 41.7	-0.2
	comp=Z,4.1nm,0.6s,baz=90,slow=9.3,SNR=30						
MKAR	Makanchi Array	57.40	313	P	P	15 27 41.1	-0.8
O18K	Koktuh Hills	57.53	31	P	P	15 27 43.5	+0.9
	baz=253						
MAKZ	Makanchi	57.61	313	P	P	15 27 42.8	-0.7
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAKZ	Makanchi	57.61	313	P	P	15 27 42.8	-0.7
MAKZ				IAmb	IAmb	15 27 46.3	
	comp=Z,6.3nm,0.7s						
OHAK	Old Harbor	57.82	34	P	P	15 27 45.1	+0.5
	baz=257						
O19K	Port Alsworth	58.06	31	P	P	15 27 46.1	-0.1
O19K	Port Alsworth	58.06	31	P	P	15 27 47.0	+0.8
	baz=254						
TTA	Tatalina	58.12	27	P	P	15 27 46.6	-0.2
TTA				pmax	pmax		
	comp=Z,12nm,1.2s						
TTA	Tatalina	58.12	27	P	P	15 27 46.6	-0.2
TTA				IAmb	IAmb	15 27 48.4	
	comp=Z,12nm,1.2s						
TTA	Tatalina	58.12	27	P	P	15 27 47.4	+0.7
	baz=251						
N19K	Bonanza Creek	58.15	30	P	P	15 27 47.7	+0.6
	baz=253						
KDAK	Kodiak Island	58.32	34	LR	LR	15 53 52.5	
	comp=Z,73nm,18.6s,baz=262,slow=37						
KDAK	Kodiak Island	58.32	34	P	P	15 27 48.7	+0.6
	baz=257						
SEM	Semipalatinsk	59.08	317	*i* P	P	15 27 51.7	-2.1

CAST	Castle Rocks	59.97	27	P	P	15 27 59.7	+0.3
CAST	Castle Rocks	59.97	27	P	P	15 28 00.2	+0.7
	baz=254,SNR=16						
ZHN	Zhinishke	59.98	309	eP	P	15 27 59.5	-0.5
ZHN	Zhinishke	59.98	309	eP	P	15 27 59.5	-0.5
	baz=309						
CHUM	Lake Minchumin	59.99	27	P	P	15 28 00.5	+0.9
	baz=254						
SATY	Saty	60.00	309	eP	P	15 28 00.0	-0.1
SATY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SATY	Saty	60.00	309	eP	P	15 28 00.0	-0.1
	comp=Z,3.8nm,0.8s,baz=309						
PRZ	Przheval'sk	60.00	308	P	P	15 27 59.7	-0.6
PRZ				pmax	pmax		
	comp=Z,11nm,0.8s						
PRZ	Przheval'sk	60.00	308	P	P	15 27 59.6	-0.6
PRZ				IAmb	IAmb	15 28 03.5	
	comp=Z,11nm,0.8s						
TDK	Taldyqorghan	60.01	311	eP	P	15 28 00.0	-0.1
TDK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TDK	Taldyqorghan	60.01	311	eP	P	15 28 00.1	-0.1
	comp=Z,7.3nm,0.8s,baz=311						
KURK	Kurchatov	60.15	318	ceP	P	15 28 00.2	-0.6
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	Kurchatov	60.15	318	P	P	15 27 59.4	-1.4
KURK				IAmb	IAmb	15 28 02.2	
	comp=Z,6.5nm,0.8s						
NRIK	Noril'sk	60.27	340	P	P	15 28 00.9	-0.5
	comp=Z,4.8nm,0.6s,baz=99,slow=9.2,SNR=8.0						
NRIK	Noril'sk	60.27	340	ceP	P	15 28 01.5	+0.1
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NRIK	Noril'sk	60.27	340	P	P	15 28 00.9	-0.5
H21K	Melozitna Rive	60.31	25	P	P	15 28 02.2	+0.4
H21K				IAmb	IAmb	15 28 03.3	
	comp=Z,7.1nm,0.7s						
H21K	Melozitna Rive	60.31	25	P	P	15 28 02.7	+0.9
	baz=252						
SEW	Seward	60.40	31	P	P	15 28 02.5	+0.1
	baz=258						
RC01	Rabbit Creek A	60.47	30	P	P	15 28 02.7	-0.2
	baz=258						
I21K	Tanana	60.50	25	P	P	15 28 03.7	+0.7
	baz=253						
KTH	Kantishna Hill	60.51	27	P	P	15 28 03.2	0.0
KTH				IAmb	IAmb	15 28 05.0	
	comp=Z,18nm,1.0s						
CUT	Chulitna	60.51	29	P	P	15 28 03.0	-0.1
	baz=256						
BPAW	Bear Paw Mtn.	60.62	27	P	P	15 28 04.4	+0.5
	baz=255,SNR=11						
TRF	Thorofare Moun	60.75	28	P	P	15 28 04.6	-0.4
TRF	Thorofare Moun	60.75	28	P	P	15 28 04.9	-0.1
	baz=256,SNR=7.3						
PMR	Palmer	60.86	30	P	P	15 28 05.3	-0.1
	baz=258						
KDJ	Kajisay	60.91	308	IAmb	IAmb	15 28 09.7	
	comp=Z,14nm,1.5s						
MLY	Manley	60.97	26	P	P	15 28 06.2	-0.1
MLY				IAmb	IAmb	15 28 07.5	
	comp=Z,6.5nm,0.6s						
MLY	Manley	60.97	26	P	P	15 28 06.7	+0.4
	baz=255,SNR=5.5						
GHO	Glory Hole Cre	60.99	30	IAmb	IAmb	15 28 21.2	
	comp=Z,11nm,0.9s						
MDOK	Medeo	60.99	309	eP	P	15 28 07.2	+0.2
MDOK	Medeo	60.99	309	eP	P	15 28 07.2	+0.2
	baz=309						
CHKK	Chushkaly	61.02	310	eP	P	15 28 06.5	-0.5
	baz=310						
A21K	Barrow	61.06	18	P	P	15 28 07.2	+0.6
	baz=245,SNR=6.3						
TNSS	Tian-Shan	61.07	309	eP	P	15 28 07.1	-0.6
	baz=309						
PWL	Port Wells	61.09	31	P	P	15 28 07.1	0.0
	baz=259						
KNK	Knik Glacier	61.14	30	P	P	15 28 07.3	-0.2
KNK	Knik Glacier	61.14	30	P	P	15 28 07.4	0.0
	baz=259,SNR=5.1						
SML	Sawmill	61.27	30	P	P	15 28 08.3	0.0
	baz=259,SNR=9.5						
MCK	McKinley	61.41	27	IAmb	IAmb	15 28 10.0	
	comp=Z,11nm,1.0s						
MCK	McKinley	61.41	27	P	P	15 28 09.4	+0.1
	baz=257						
KUU	Kurty	61.49	310	eP	P	15 28 09.6	-0.5
KUU	Kurty	61.49	310	eP	P	15 28 09.7	-0.5
	baz=310						
NEA2	Nenana	61.55	26	P	P	15 28 09.4	-0.7
NEA2				IAmb	IAmb	15 28 11.6	
	comp=Z,9.6nm,0.8s						
NEA2	Nenana	61.55	26	P	P	15 28 10.3	+0.2
	baz=256						
I23K	Minto, Yukon-K	61.56	26	IAmb	IAmb	15 28 12.1	
	comp=Z,12nm,0.8s						
I23K	Minto, Yukon-K	61.56	26	P	P	15 28 10.2	0.0
	baz=256,SNR=5.8						
GLI	Glacier Island	61.69	31	P	P	15 28 11.2	+0.1
	baz=260						
WAT6	Susitna Watana	61.70	29	P	P	15 28 11.4	0.0
	baz=259,SNR=7.0						
SCM	Sheep Creek Mo	61.75	30	P	P	15 28 11.2	-0.4
SCM				pmax	pmax		
	comp=Z,40nm,0.8s						
SCM	Sheep Creek Mo	61.75	30	P	P	15 28 11.2	-0.4
SCM	Sheep Creek Mo	61.75	30	P	P	15 28 12.1	+0.5
	baz=260,SNR=5.7						
COLD	Coldfoot	61.77	23	IAmb	IAmb	15 28 13.1	
	comp=Z,7.4nm,0.9s						
COLD	Coldfoot	61.77	23	P	P	15 28 12.3	+0.7
	baz=254,SNR=6.5						
KST	Kastek	61.79	309	eP	P	15 28 11.9	-0.4
	baz=309						
BOOM	Boomskoye usch	61.82	308	P	P	15 28 12.3	-0.3
BOOM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BOOM	Boomskoye usch	61.82	308	P	P	15 28 12.3	-0.3
BOOM				IAmb	IAmb	15 28 16.5	
	comp=Z,5.9nm,0.7s						
WRH	Wood River Hil	61.93	27	IAmb	IAmb	15 28 13.2	
	comp=Z,8.9nm,0.8s						
KSH	Kashi	61.95	305	P	P	15 28 16.5	+3.1
KSH				pP	pwP	15 28 40.3	+1.2
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,330nm,6.2s						
DHY	Denali Highway	61.96	28	P	P	15 28 13.3	+0.2
	baz=259						
MDM	Murphy Dome	61.98	26	P	P	15 28 12.9	-0.2
MDM				IAmb	IAmb	15 28 14.6	
	comp=Z,5.3nm,0.6s						
TCOL	CIGO, UAF Yank	62.12	26	IAmb	IAmb	15 28 16.2	
	comp=Z,10nm,0.8s						
TCOL	CIGO, UAF Yank	62.12	26	P	P	15 28 14.4	+0.5
	baz=257						
COLA	College	62.12	26	P	P	15 28 14.1	+0.2
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COLA	College	62.12	26	P	P	15 28 14.1	+0.2
COLA				IAmb	IAmb	15 28 16.2	
	comp=Z,10nm,0.8s						
COLA	College	62.12	26	P	P	15 28 14.5	+0.6
	baz=257						
EYAK	Cordova Ski Ar	62.29	31	P	P	15 28 15.6	+0.5
	baz=262						
H24K	Noodor Dome	62.33	25	IAmb	IAmb	15 28 17.5	
	comp=Z,7.2nm,0.8s						
H24K	Noodor Dome	62.33	25	P	P	15 28 16.0	+0.6
	baz=257,SNR=7.4						
POKR	Poker Plat Res	62.35	26	P	P	15 28 15.8	+0.3
	baz=258						
KLU	Klutina	62.35	30	P	P	15 28 15.7	+0.1
KLU	Klutina	62.35	30	P	P	15 28 16.3	+0.7
	baz=261,SNR=5.0						
DIV	Divide	62.37	31	IAmb	IAmb	15 28 17.2	
	comp=Z,11nm,0.6s						
TOLK	Toolik Lake Re	62.40	22	P	P	15 28 16.6	+0.9
	baz=254,SNR=10						
HDA	Harding Lake	62.41	27	IAmb	IAmb	15 28 15.9	
	comp=Z,12nm,0.8s						
HDA	Harding Lake	62.41	27	P	P	15 28 15.2	-0.7
	baz=259						
IL31		62.50	27	IAmb	IAmb	15 28 16.4	
	comp=Z,12nm,0.8s						
ILAR	Eielson Array	62.50	27	P	P	15 28 15.4	-1.1
	comp=Z,8.3nm,0.7s,baz=257,slow=5.0,SNR=82						
ILAR				LR	LR	15 56 33.7	
	comp=Z,27nm,18.6s,baz=314,slow=37						
ILAR	Eielson Array	62.50	27	P	P	15 28 15.1	-1.4
ILAR	Eielson Array	62.50	27	P	P	15 28 15.1	-1.4
SGDS	Sogindy	62.75	309	eP	P	15 28 18.0	-0.6
	baz=309						
PAX	Paxson	62.79	29	P	P	15 28 18.1	-0.5
PAX				pmax	pmax		
	comp=Z,28nm,1.5s						
PAX	Paxson	62.79	29	P	P	15 28 18.1	-0.5
PAX				IAmb	IAmb	15 28 19.7	
	comp=Z,28nm,1.5s						
PAX	Paxson	62.79	29	P	P	15 28 18.8	+0.2
	baz=261,SNR=5.9						
HARP	HAARP	62.85	29	P	P	15 28 19.6	+0.8
	baz=261,SNR=5.5						
AAK	Ala-Archa	62.88	308	iP	P	15 28 19.2	-0.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BMRM	Bremner River	62.91	31	P	P	15 28 20.0	+0.7
	baz=262						
N25K	Chitina, Valde	62.99	30	IAmb	IAmb	15 28 22.6	
	comp=Z,9.8nm,0.8s						
N25K	Chitina, Valde	62.99	30	P	P	15 28 20.6	+0.7
	baz=262,SNR=6.3						
BTLS	Baital	63.10	311	eP	P	15 28 20.1	-0.8
BTLS	Baital	63.10	311	eP	P	15 28 20.1	-0.8
	baz=311						
RIDG	Independent Ri	63.20	28	IAmb	IAmb	15 28 22.2	
	comp=Z,18nm,0.8s						
RIDG	Independent Ri	63.20	28	P	P	15 28 21.2	0.0
	baz=261						
PRP	Porcupine Dome	63.21	26	P	P	15 28 21.7	+0.3
	baz=259						
GLB	Gilahina Butte	63.35	30	P	P	15 28 22.6	+0.4
GLB				IAmb	IAmb	15 28 23.9	
	comp=Z,28nm,1.3s						
VRDI	Verde Repeater	63.49	31	P	P	15 28 23.0	-0.4
VRDI				IAmb	IAmb	15 28 24.7	
	comp=Z,12nm,0.8s						
DOT	Dot Lake	63.53	28	IAmb	IAmb	15 28 24.3	
	comp=Z,12nm,0.8s						
FYU	Fort Yukon	63.53	25	IAmb	IAmb	15 28 26.4	
	comp=Z,30nm,1.5s						
SCRK	Sand Creek	63.61	28	P	P	15 28 23.4	-0.6
SCRK				IAmb	IAmb	15 28 25.0	
	comp=Z,15nm,0.9s						
SCRK	Sand Creek	63.61	28	P	P	15 28 23.9	-0.1
	baz=262,SNR=11						
L26K	Log Cabin Wild	63.76	29	P	P	15 28 25.4	+0.5
	baz=263						
M26K	Nabesna, AK	63.84	29	P	P	15 28 25.8	+0.3
	baz=263						
J26L	Joseph Creek	63.87	27	P	P	15 28 25.6	0.0
	baz=262,SNR=15						
BMAR	Burnt Mountain	63.94	24	P	P	15 28 26.2	+0.1
MESA	MESA	64.12	32	P	P	15 28 27.8	+0.3
	baz=265						
GRNC	Granite Creek	64.27	31	P	P	15 28 28.9	+0.5
M27K	Edge Creek, AK	64.36	30	P	P	15 28 29.3	+0.3
	baz=264						
L27K	Beaver Creek,	64.45	29	P	P	15 28 29.2	-0.3
L27K	Beaver Creek,	64.45	29	P	P	15 28 30.0	+0.6
	baz=264						
CTG	Chitna Glacier	64.49	31	P	P	15 28 30.5	+0.7
	baz=265						
CTGM	Chitina Glacie	64.49	31	IAmb	IAmb	15 28 31.9	
	comp=Z,12nm,0.7s						
LOGN	Logan Glacier	64.64	31	IAmb	IAmb	15 28 34.1	
	comp=Z,16nm,1.0s						
NIL	Nilore	64.72	299	P	P	15 28 31.7	0.0
NIL				pmax	pmax		
	comp=Z,32nm,1.1s						
NIL	Nilore	64.72	299	P	P	15 28 31.7	0.0
BVCY	Beaver Creek	64.83	30	P	P	15 28 32.5	+0.5
	baz=265						
EGAK	Eagle	64.93	27	P	P	15 28 32.6	+0.2
	baz=264						
PINM	Pinnacle	64.97	32	P	P	15 28 33.7	+0.8
	baz=267						
YUK3	Moose Creek	64.97	30	P	P	15 28 33.5	+0.4
	baz=266,SNR=5.5						
DRK	Karamyk	65.17	305	IAmb	IAmb	15 29 01.6	
	comp=Z,18nm,1.6s						
PNL	Peninsula	65.38	33	P	P	15 28 36.0	+0.5
	baz=268						
BRVK	Borovoye	65.38	320	P	P	15 28 34.7	-0.9
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRVK	Borovoye	65.38	320	P	P	15 28 34.7	-0.9
BRVK				IAmb	IAmb	15 28 36.0	
	comp=Z,8.3nm,0.8s						
DAWY	Dawson	65.63	28	P	P	15 28 37.7	+0.7
	baz=266,SNR=8.0						
KKAR	Karatay Array	65.77	309	P	P	15 28 38.0	-0.3
KKAR	Karatay Array	65.77	309	P	P	15 28 38.0	-0.3
I29M	Ogilvie Camp,	66.19	26	P	P	15 28 40.8	+0.2
	baz=266,SNR=6.1						
IUG	Iuzhnay	66.22	308	eP	P	15 28 41.1	-0.2
IUG	Iuzhnay	66.22	308	eP	P	15 28 41.2	-0.2
	baz=308						
BRLS	Borolday	66.27	309	eP	P	15 28 42.6	+1.1
BRLS	Borolday	66.27	309	eP	P	15 28 42.6	+1.1
	baz=309						
EPYK	Eagle Plains	66.89	25	P	P	15 28 44.9	-0.2
EPYK				IAmb	IAmb	15 28 46.5	
	comp=Z,12nm,0.7s						
EPYK	Eagle Plains	66.89	25	P	P	15 28 45.5	+0.4
	baz=267,SNR=9.3						
N31M	Braeburn, Yuko	67.20	31	P	P	15 28 48.1	+1.0
	baz=270,SNR=8.1						
SKAG	Skagway	67.45	33	P	P	15 28 49.4	+0.9
	baz=271						
WHY	Whitehorse	67.64	32	IAmb	IAmb	15 28 52.7	
	comp=Z,23nm,1.8s						
WHY	Whitehorse	67.64	32	P	P	15 28 51.1	+1.1
	baz=271						
M31M	Drury Creek, Y	67.85	30	P	P	15 28 51.8	+0.6
	baz=271,SNR=6.3						
KBL	Kabul	68.03	300	P	P	15 28 52.8	-0.3
KBL				pmax	pmax		
	comp=Z,12nm,0.8s						
KBL	Kabul	68.03	300	P	P	15 28 52.8	-0.3
KBL				IAmb	IAmb	15 28 53.9	
	comp=Z,12nm,0.8s						
INK	Inuvik	68.19	23	P	P	15 28 53.1	0.0
	comp=Z,8.2nm,0.8s,baz=272,slow=5.7,SNR=29						
INK				LR	LR	15 58 26.8	
	comp=Z,59nm,19.9s,baz=66,slow=36						
INK	Inuvik	68.19	23	P	P	15 28 53.3	+0.2
INK				pmax	pmax		
	comp=Z,15nm,0.9s						
INK	Inuvik	68.19	23	IAmb	IAmb	15 28 54.1	
	comp=Z,10nm,0.8s						
INK	Inuvik	68.19	23	P	P	15 28 53.1	0.0
	baz=269,SNR=8.8						
P33M	Teslin, Yukon	68.68	32	P	P	15 28 57.0	+0.5
	baz=273,SNR=5.6						
A36M	Sachs Harbour	70.85	19	P	P	15 29 09.6	+0.2
	baz=276,SNR=5.3						
C36M	Paulatuk	71.55	22	P	P	15 29 13.6	-0.1
	baz=278,SNR=9.5						
ABKAR	Akbulak array	72.23	317	P	P	15 29 16.9	-1.2
ABKAR	Akbulak array	72.23	317	IAmb	IAmb	15 29 22.4	
	comp=Z,3.0nm,0.6s						
GEYT	Allbeck	75.96	305	P	P	15 29 40.8	+0.6
	comp=Z,3.1nm,0.7s,baz=221,slow=16,SNR=4.1						
LLLB	Lillooet	76.37	41	P	P	15 29 42.6	+0.4
LLLB				IAmb	IAmb	15 29 44.1	
	comp=Z,14nm,1.0s						
D03D	Eldon	76.39	44	P	P	15 29 43.7	+1.4
	baz=285						
D04E	Lakebay	76.69	44	P	P	15 29 45.4	+1.4
	baz=285						
B05A	Bryant	76.85	43	P	P	15 29 45.9	+1.1
	baz=285						
YKA	Yellowknife Ar	76.87	28	P	P	15 29 44.6	-0.1
	comp=Z,11nm,0.6s,baz=289,slow=5.5,SNR=151						
YKA	Yellowknife Ar	76.87	28	iP	P	15 29 44.5	-0.2
YKA				pmax	pmax		
	comp=Z,11nm,0.6s						
J01E	Myrtle Point	76.95	49	P	P	15 29 46.9	+1.4
	baz=285						
E04D	Cinebar	76.99	45	P	P	15 29 47.0	+1.3
	baz=285						
I03D	Drain, OR	77.22	48	P	P	15 29 48.3	+1.3
	baz=286						
F04A	Amboy	77.26	46	IAmb	IAmb	15 29 49.0	
	comp=Z,26nm,0.9s						
K02D	Willamette Mer	77.26	49	P	P	15 29 48.0	+0.6
	baz=286						
BUCK	Buck Mountain	77.33	47	P	P	15 29 47.0	-0.8
H04A	Detroit Lake	77.75	47	IAmb	IAmb	15 29 51.6	
	comp=Z,16nm,1.0s						
SPITS	Spitsbergen Ar	77.80	351	LR	LR	16 09 50.8	
	comp=Z,53nm,18.7s,baz=26,slow=40						
F05D	White Salmon	77.91	46	P	P	15 29 51.5	+0.6
	baz=286						
HOOD	Mount Hood Mea	77.94	46	IAmb	IAmb	15 29 53.0	
	comp=Z,28nm,1.2s						
RES	Resolute Bay	78.14	14	P	P	15 29 52.1	+0.5
RES				pmax	pmax		
	comp=Z,11nm,0.9s						
RES	Resolute Bay	78.14	14	P	P	15 29 52.1	+0.5
RES				IAmb	IAmb	15 29 53.0	
	comp=Z,11nm,0.8s						
G05D	Wamic, OR	78.19	46	P	P	15 29 53.0	+0.5
	baz=286						
M02C	Callahan	78.20	50	P	P	15 29 53.9	+1.2
	baz=286						
YBH	Yreka Blue Hor	78.21	50	IAmb	IAmb	15 29 54.8	
	comp=Z,13nm,0.8s						
J04D	Umpqua Nationa	78.21	48	P	P	15 29 53.6	+0.7
	baz=286						
L04D	Klamath Falls	78.36	49	P	P	15 29 54.5	+0.8
	baz=286						
N02D	Trinity Center	78.42	51	P	P	15 29 54.8	+0.8
	baz=286						
I05D	Terrebonne, OR	78.43	47	P	P	15 29 54.9	+1.0
	baz=287						
O02D	Mt. Diablo Mer	78.59	51	P	P	15 29 55.9	+1.1
	baz=287						
B08A	Colville Reser	78.59	43	P	P	15 29 54.6	-0.1
K04D	Chiloquin, OR	78.64	49	P	P	15 29 56.1	+1.0
	baz=287						
J05D	Fort Rock, OR	78.81	48	P	P	15 29 56.9	+0.9
	baz=287,SNR=14						
M04C	Macdoel	78.82	50	P	P	15 29 56.9	+0.8
	baz=287,SNR=5.4						
HAWA	Hanford	79.05	45	IAmb	IAmb	15 29 58.8	
	comp=Z,18nm,1.1s						
O03E	Paynes Creek	79.28	51	P	P	15 29 59.0	+0.4
	baz=287						
E08A	Dider Farm, El	79.33	44	IAmb	IAmb	15 30 00.4	
	comp=Z,32nm,1.6s						
C09A	Chrisman Ranch	79.44	43	P	P	15 29 59.5	+0.3
MOD	Modoc Plateau	79.88	49	P	P	15 30 00.8	-1.1
E09A	Wood Farm, Sta	79.92	44	IAmb	IAmb	15 30 03.5	
	comp=Z,15nm,0.7s						
NEW	Newport	80.02	42	P	P	15 30 03.0	+0.6
NEW				pmax	pmax		
	comp=Z,15nm,0.9s						
NEW	Newport	80.02	42	P	P	15 30 02.8	+0.3
	baz=289,SNR=11						
KLMR	Klimovskoe	80.18	331	eP	P	15 30 01.5	-1.4
KLMR				pmax	pmax		
	comp=Z,15nm,1.3s						
KLMR	Klimovskoe	80.18	331	eP	P	15 30 01.6	-1.4
KLMR				AMP		15 30 17.3	
	comp=Z,15nm,1.3s						
EDM	Edmonton	80.60	37	IAmb	IAmb	15 30 06.7	
	comp=Z,21nm,1.2s						
F10A	Beach Ranch, E	80.70	45	P	P	15 30 05.2	-1.0
J08A	Circle Bar Ran	80.70	47	IAmb	IAmb	15 30 08.0	
	comp=Z,13nm,0.9s						
MPK	Martis Peak	80.88	52	IAmb	IAmb	15 30 09.1	
	comp=Z,24nm,1.0s						
WVOR	Wild Horse Val	80.89	48	P	P	15 30 07.9	+0.6
WVOR				pmax	pmax		
	comp=Z,18nm,0.9s						
WVOR	Wild Horse Val	80.89	48	IAmb	IAmb	15 30 08.8	
	comp=Z,14nm,1.0s						
CMB	Columbia Colle	81.01	53	P	P	15 30 08.1	+0.1
CMB				pmax	pmax		
	comp=Z,18nm,1.0s						
CMB	Columbia Colle	81.01	53	P	P	15 30 08.1	+0.1
CMB				IAmb	IAmb	15 30 09.4	
	comp=Z,18nm,1.0s						
BMO	Blue Mountains	81.02	46	P	P	15 30 07.2	-0.7
BMO				pmax	pmax		
	comp=Z,14nm,1.0s						
BMO	Blue Mountains	81.02	46	P	P	15 30 07.2	-0.7
BMO				IAmb	IAmb	15 30 09.4	
	comp=Z,14nm,0.9s						
ARCES	ARCESS Array B	81.14	342	P	P	15 30 07.8	-0.1
	comp=Z,5.6nm,0.7s,baz=60,slow=6.8,SNR=19						
ARCES	ARCESS Array B	81.14	342	IAmb	IAmb	15 30 12.8	
	comp=Z,35nm,1.5s						
VCNR	Virginia City	81.16	51	IAmb	IAmb	15 30 10.5	
	comp=Z,13nm,0.9s						
PNTR	Pine Nut	81.27	52	P	P	15 30 09.2	-0.3
TULEG	Thule	81.39	8	IAmb	IAmb	15 30 10.1	
	comp=Z,15nm,0.8s						
YERR	Yerington	81.56	52	IAmb	IAmb	15 30 12.6	
	comp=Z,16nm,0.8s						
WALA	Waterton Lakes	81.75	41	P	P	15 30 10.8	-0.9
WALA				IAmb	IAmb	15 30 13.7	
	comp=Z,18nm,1.1s						
JTMT	Jette	81.99	42	IAmb	IAmb	15 30 14.5	
	comp=Z,16nm,1.0s						
RYN	Ryan	82.21	52	IAmb	IAmb	15 30 16.0	
	comp=Z,18nm,1.0s						
LHV	Little Huntoon	82.35	52	IAmb	IAmb	15 30 17.0	
	comp=Z,17nm,0.9s						
KVN	Kaiserville	82.38	51	P	P	15 30 13.9	-1.4
KVN				pmax	pmax		
	comp=Z,23nm,1.1s						
KVN	Kaiserville	82.38	51	P	P	15 30 13.9	-1.4
KVN				IAmb	IAmb	15 30 16.7	
	comp=Z,23nm,1.1s						
NVAR	Mina Array Bea	82.44	52	P	P	15 30 16.3	+0.7
	comp=Z,17nm,0.7s,baz=265,slow=6.0,SNR=110						
PKM	Mcpherson Peak	82.46	56	P	P	15 30 16.6	+0.8
	baz=289						
MFID	Camas Ranch	82.50	47	IAmb	IAmb	15 30 17.3	
	comp=Z,15nm,0.9s						
MSO	Missoula	82.54	43	P	P	15 30 16.0	+0.2
	baz=291						
NV11	Mina Array Sit	82.55	52	IAmb	IAmb	15 30 17.5	
	comp=Z,14nm,0.8s						
VES	Vestal, Richgr	82.71	55	P	P	15 30 17.3	+0.5
	baz=289						
DAG	Danmarks Havn	82.90	356	P	P	15 30 16.0	-1.0
TIN	Tinemaha, Big	82.95	53	P	P	15 30 19.0	+0.8
	baz=290						
ISA	Isabella, Lake	83.24	55	P	P	15 30 19.6	-0.1
	baz=290						
CWC	Cottonwood Cre	83.27	54	P	P	15 30 20.0	0.0
	baz=290						
TPH	Tonopah	83.36	52	P	P	15 30 19.7	-0.7
TPH				pmax	pmax		
	comp=Z,58nm,0.8s						
TPH	Tonopah	83.36	52	P	P	15 30 19.7	-0.7
HLID	Hailey	83.41	46	P	P	15 30 20.8	+0.2
	baz=291,SNR=7.5						
GRAC	Grapevine Rang	83.62	53	P	P	15 30 22.0	+0.4
	baz=290						
MPMC	Manual Prospec	83.85	54	P	P	15 30 23.2	+0.2
	baz=290,SNR=7.0						
ELK	Elko	83.86	49	IAmb	IAmb	15 30 24.4	
	comp=Z,13nm,0.8s						
EDW2	Edwards Air Fo	83.87	55	P	P	15 30 23.4	+0.5
	baz=290						
LRMC	Laurel Mtn Rad	83.91	55	P	P	15 30 23.6	+0.4
	baz=290						
HRY	Holter Researc	83.93	42	P	P	15 30 22.9	-0.1
OBN	Obninsk	84.04	327	ceP	P	15 30 23

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     baz=291
MURC Murrieta          84.94 56  P      P      15 30 28.1 -0.2
     baz=291
KBZ  Khabaz            85.06 315 iP     P      15 30 29.1 +0.5
KIV  Kislovodsk        85.11 315⇑eP     P      15 30 28.7 -0.3
KIV                              e              15 33 48.1
KIV                              pmax   pmax
     comp=Z,9.0nm,1.6s
KIV                              MLR    MLR
     comp=Z,39nm,17.0s
HEC  Hector,Ludlow     85.17 55  P      P      15 30 29.8 +0.4
     baz=291
HVU  Hansel Valley     85.20 47  P      P      15 30 29.0 -0.6
HVU                              pmax   pmax
     comp=Z,20nm,1.1s
HVU  Hansel Valley     85.20 47  P      P      15 30 29.0 -0.6
HVU                              IAmb   IAmb   15 30 31.3
     comp=Z,20nm,1.1s
YNR  Norris Junctio    85.46 44  IAmb   IAmb   15 30 33.8
     comp=Z,19nm,1.0s
FINES FINESS Array B   85.58 335 P      P      15 30 29.5 -1.3
     comp=Z,2.5nm,0.4s,baz=66,slow=4.9,SNR=21
SPUT South Promonto    85.61 48  P      P      15 30 31.2 -0.4
SPUT                             IAmb   IAmb   15 30 33.1
     comp=Z,18nm,1.1s
H17A Grant Village     85.65 44  IAmb   IAmb   15 30 35.3
     comp=Z,12nm,0.9s
H17A Grant Village     85.65 44  P      P      15 30 34.0 +2.1
     baz=294,SNR=9.7
LKWY Lake              85.70 44  IAmb   IAmb   15 30 35.1
     comp=Z,9.2nm,0.7s
GMRC Granite Mounta    85.70 55  P      P      15 30 32.5 +0.3
     baz=291
DUG  Dugway, Tooele    85.78 49  P      P      15 30 31.6 -0.9
DUG                              pmax   pmax
     comp=Z,14nm,0.7s
DUG  Dugway, Tooele    85.78 49  P      P      15 30 31.6 -0.9
DUG                              IAmb   IAmb   15 30 33.8
     comp=Z,14nm,0.7s
DUG  Dugway, Tooele    85.78 49  P      P      15 30 32.9 +0.4
     baz=293,SNR=16
MONP2 Monument Peak    85.79 57  P      P      15 30 33.8 +1.0
     baz=291
REDW Red Top Meadow    85.89 45  IAmb   IAmb   15 30 37.4
     comp=Z,12nm,1.2s
LOHW Long Hollow       85.95 45  P      P      15 30 32.7 -0.6
AHID Auburn Hatcher    85.96 46  IAmb   IAmb   15 30 34.8
     comp=Z,16nm,1.0s
RLMT Red Lodge         86.21 43  P      P      15 30 35.6 +1.0
     baz=295,SNR=19
BC3  Big Chuckawall    86.27 56  P      P      15 30 35.8 +0.8
     baz=292
IRM  Iron Mountain     86.33 55  P      P      15 30 36.0 +0.9
     baz=292
CTU  Camp Tracy        86.33 48  IAmb   IAmb   15 30 36.4
     comp=Z,13nm,1.0s
NLU  North Lily Min    86.40 49  IAmb   IAmb   15 30 36.9
     comp=Z,10nm,0.9s
CCUT Cedar City        86.40 51  P      P      15 30 34.9 -0.8
CCUT                             IAmb   IAmb   15 30 37.5
     comp=Z,10.0nm,1.1s
SZCU Shurtz Canyon     86.58 51  IAmb   IAmb   15 30 38.1
     comp=Z,9.0nm,1.1s
LCMT Little Creek M    86.69 52  IAmb   IAmb   15 30 38.7
     comp=Z,10nm,1.1s
MVU  Marysvale         86.87 50  P      P      15 30 38.0 +0.1
W13A Hualapai Mount    86.94 54  P      P      15 30 38.6 +0.2
BW06 Boulder Array     87.00 45  P      P      15 30 38.7 +0.2
     baz=295
PDAR Pinedale Array    87.00 45  P      P      15 30 38.0 -0.5
     comp=Z,1.9nm,0.7s,baz=215,slow=2.5,SNR=26
PDAR Pinedale Array    87.00 45  P      P      15 30 37.8 -0.7
TMUT Trail Mountain    87.27 49  IAmb   IAmb   15 30 41.2
     comp=Z,8.4nm,0.8s
LAO  LASA Array        87.44 41  IAmb   IAmb   15 30 41.7
     comp=Z,18nm,1.1s
LAO  LASA Array        87.44 41  P      P      15 30 40.7 +0.4
     baz=297,SNR=5.0
FCC  Fort Churchill    87.53 27  IAmb   IAmb   15 30 41.1
     comp=Z,20nm,1.2s
P17A Butcher Ranch,    87.53 49  P      P      15 30 40.4 -0.7
P17A                             IAmb   IAmb   15 30 42.4
     comp=Z,14nm,1.0s
U15A North Rim         87.62 52  IAmb   IAmb   15 30 43.3
     comp=Z,6.7nm,0.8s
P18A Preston Nutter    87.82 49  IAmb   IAmb   15 30 43.8
     comp=Z,8.0nm,0.7s
DGMT Dagmar            87.84 39  P      P      15 30 42.6 +0.4
     baz=298
RDMU Red Mountain      87.90 47  P      P      15 30 42.7 -0.1
RDMU                             IAmb   IAmb   15 30 43.6
     comp=Z,9.0nm,0.7s
WUAZ Wupatki           88.67 53  IAmb   IAmb   15 30 48.4
     comp=Z,15nm,1.0s
WUAZ Wupatki           88.67 53  P      P      15 30 47.2 +0.7
     baz=294,SNR=9.1
MNK  Minsk             88.69 329 iP     P      15 30 44.1 -1.9
MNK                              i              15 34 12.6
MNK                              iS     SKSac  15 41 12.4 +5.7
MNK                              iPS    PnS    15 42 35.5 -4.5
MNK                              iSS    SS     15 47 24.1 +6.8
MNK                              iSSS   SSS    15 50 58.8
MNK                              pmax   pmax
     comp=Z,20nm,1.1s
MNK                              pmax   pmax
     comp=E,3.0nm,1.1s
MNK                              pmax   pmax
     comp=N,10.0nm,0.9s
MNK                              MLR    MLR
     comp=Z,77nm,15.0s
MNK                              MLR    MLR
     comp=E,20nm,21.0s
MNK                              MLR    MLR
     comp=N,75nm,17.0s
MNK  Minsk             88.69 329 iP     P      15 30 44.1 -1.9
     comp=E,3.0nm,1.1s
MNK                              iP     P      15 30 44.1 -1.9
     comp=N,10.0nm,0.8s
MNK                              iP     P      15 30 44.1 -1.9
     comp=Z,20nm,1.1s,baz=236
MNK                              iPP    PP     15 34 12.7 -2.6
MNK                              iPPP   PPP    15 36 08.6
MNK                              iS     SKSac  15 41 12.5 +5.8
MNK                              iPS    PnS    15 42 35.6 -4.4
MNK                              iSS    SS     15 47 24.1 +6.8
MNK                              iSSS   SSS    15 50 58.8
MNK                              iLQ    LQ     16 04 19.0
MNK                              iLR    LR     16 09 35.8
MNK                              iLRM   MLR    16 11 32.3
     comp=Z,77nm,15.2s
MNK                              iLRM   MLR    16 11 43.2
     comp=E,20nm,21.0s
MNK                              iLRM   MLR    16 11 56.2
     comp=N,75nm,17.4s
214A Organ Pipe Nat    88.97 56  IAmb   IAmb   15 30 49.5
     comp=Z,11nm,0.8s
214A Organ Pipe Nat    88.97 56  P      P      15 30 48.8 +1.0
     baz=293
NACGM Naroch           89.00 330 iP     P      15 30 46.0 -1.4
O20A White River Ci    89.00 47  IAmb   IAmb   15 30 48.9
     comp=Z,7.2nm,0.7s
O20A White River Ci    89.00 47  P      P      15 30 48.7 +0.7
     baz=296
K22A Casper            89.06 45  P      P      15 30 49.0 +0.7
     baz=297
PV19 Morning Glory     89.26 49  P      P      15 30 48.7 -0.6
PV18 Skein Mesa, Pa    89.34 49  IAmb   IAmb   15 30 50.8
     comp=Z,13nm,1.0s
PV03 Paradox Valley    89.38 49  IAmb   IAmb   15 30 51.0
     comp=Z,12nm,1.0s
PV02 Paradox Valley    89.48 49  IAmb   IAmb   15 30 51.4
     comp=Z,8.5nm,0.9s
PV01 Paradox Valley    89.63 49  IAmb   IAmb   15 30 52.0
     comp=Z,9.6nm,1.1s
RSSD Black Hills       90.00 42  P      P      15 30 51.3 -1.3
RSSD                             pmax   pmax
     comp=Z,18nm,1.7s
RSSD Black Hills       90.00 42  P      P      15 30 51.3 -1.3
RSSD                             IAmb   IAmb   15 30 53.2
     comp=Z,18nm,1.6s
RSSD Black Hills       90.00 42  P      P      15 30 53.0 +0.4
     baz=298
MVCO Mesa Verde        90.08 50  P      P      15 30 54.0 +0.8
     baz=295
AKASG Malin Array Be   90.09 325 P      P      15 30 50.6 -1.9
     comp=Z,0.5nm,0.4s,baz=52,slow=5.1,SNR=5.3
AKASG Malin Array Be   90.09 325 iP     P      15 30 51.2 -1.4
AKASG                            pmax   pmax
     comp=Z,1.0nm,0.4s
N23A Red Feather La    90.24 46  P      P      15 30 54.8 +0.9
     baz=297,SNR=8.1
SMCO Snowmass          90.30 48  IAmb   IAmb   15 30 55.8
     comp=Z,5.8nm,0.9s
TUC  Tucson            90.41 55  P      P      15 30 52.8 -1.8
TUC                              pmax   pmax
     comp=Z,7.0nm,1.2s
TUC  Tucson            90.41 55  P      P      15 30 52.8 -1.8
TUC                              IAmb   IAmb   15 30 56.5
     comp=Z,7.0nm,1.1s
TUC  Tucson            90.41 55  P      P      15 30 55.6 +1.0
     baz=294
ISCO Idaho Springs     90.96 47  P      P      15 30 58.1 +0.8
ISCO                             pmax   pmax
     comp=Z,8.0nm,1.3s
ISCO Idaho Springs     90.96 47  IAmb   IAmb   15 30 59.6
     comp=Z,19nm,1.6s
ISCO Idaho Springs     90.96 47  P      P      15 30 57.9 +0.6
     baz=297,SNR=5.3
S22A 4UR Ranch, Cre    91.04 49  P      P      15 30 58.1 +0.4
     baz=296,SNR=5.4
SUW  Suwalki           91.23 330 P      P      15 30 55.7 -2.1
SUW                              pmax   pmax
     comp=Z,30nm,1.0s
SUW  Suwalki           91.23 330 P      P      15 30 55.7 -2.1
NOA  NORSAR Array B    91.24 340 P      P      15 30 57.5 -0.2
     comp=Z,0.3nm,0.5s,baz=40,slow=4.8,SNR=3.5
NOA                              LR     LR     16 16 06.6
     comp=Z,18nm,18.2s,baz=305,slow=38
ULM  Lac du Bonnet     91.58 34  P      P      15 30 59.0 -0.5
     comp=Z,5.9nm,0.9s,baz=310,slow=7.0,SNR=5.4
Q24A Divide            91.67 47  P      P      15 31 01.2 +0.6
     baz=298
SDCO Great Sand Dun    91.98 49  P      P      15 31 02.5 +0.4
     baz=297
KLNR Kaliningrad       92.22 332 iP     P      15 31 03.2 +0.9
ANMO Albuquerque       92.55 51  P      P      15 31 05.7 +1.1
ANMO                             pmax   pmax
     comp=Z,7.0nm,1.1s
ANMO Albuquerque       92.55 51  P      P      15 31 05.6 +0.9
     baz=297
121A Cookes Peak, D    92.62 54  P      P      15 31 05.4 +0.4
121A Cookes Peak, D    92.62 54  P      P      15 31 06.2 +1.2
     baz=296
AGMN Agassiz Nation    92.68 36  IAmb   IAmb   15 31 05.6
     comp=Z,8.9nm,1.0s
AGMN Agassiz Nation    92.68 36  P      P      15 31 05.1 +0.4
     baz=304
T25A Trinidad          93.03 49  P      P      15 31 07.3 +0.5
     baz=298
BRTR Keskin Array B    93.04 314 P      P      15 31 05.0 -1.7
     comp=Z,0.9nm,0.7s,baz=99,slow=3.9,SNR=4.2
BRTR Keskin Array B    93.04 314 iP     P      15 31 08.8 +2.1
BRTR                             pmax   pmax
     comp=Z,1.0nm,0.7s
ECSD EROS Data Cent    94.80 40  P      P      15 31 14.2 -0.3
     baz=304
MNTX Cornudas Mount    94.81 54  P      P      15 31 13.9 -0.9
MNTX                             IAmb   IAmb   15 31 16.3
     comp=Z,3.5nm,0.9s
MNTX Cornudas Mount    94.81 54  P      P      15 31 15.2 +0.4
     baz=297,SNR=5.3
TXAR Lajitas Array     97.21 55  P      Pdif   15 31 26.1 +0.1
     comp=Z,0.4nm,0.6s,baz=283,slow=1.6,SNR=6.4
ERPA Erie              105.21 33 P      Pdif   15 31 59.2 -1.9
     baz=316
M54A Creek Stat        105.81 34 P      PKiKP  15 36 14.8 -1.3
     baz=316
SSPA Standing Stone    107.37 33 P      PKiKP  15 36 17.6 -1.4
     baz=318
PLCA Paso Flores       143.05 132 PKP   PKPbc  15 37 23.9 +0.5
     comp=Z,1.1nm,0.7s,baz=228,slow=5.2,SNR=5.1
LPAZ La Paz            147.85 89 PKPbc  PKPdf  15 37 36.5 +0.6
     comp=Z,6.5nm,0.6s,baz=301,slow=2.3,SNR=18
LPAZ La Paz            147.85 89 PKP2   PKPdf  15 37 36.3 +0.4
LPAZ La Paz            147.85 89        PKPdf  15 37 36.3 +0.4
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IDC 07 15:21:44.7±8.6, 4°.48S×125°.36E, h479km±122km, mb2.5/2, mb1 2.7/4, mb1mx2.4/51, mbtmp3.4/4, Error ellipse: s-maj=138.8km s-min=40.9km az=55.0, Banda Sea

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Code Station Name      Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
FITZ Fitzroy Crossi    13.54 179 P     P     15 24 38.2 -1.6
     0.2nm,0.3s,baz=350,slow=17,SNR=1.5
WRA  Warramunga Arr    17.69 151 P     P     15 25 22.2 -1.0
     0.1nm,0.3s,baz=331,slow=9.8,SNR=9.8
ASAR Alice Springs     20.79 157 P     P     15 25 52.6 +0.9
     0.2nm,0.3s,baz=347,slow=15,SNR=6.7
MKAR Makanchi Array    63.63 328 P     P     15 31 27.9 0.0
     0.4nm,0.4s,baz=120,slow=7.7,SNR=4.5
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*SOME **07** 15:22:45.1, 39°.03N×72°.90E, h10km*
*NNC **07** 15:22:53.2±3.2, 39°.05N×73°.49E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=25.1km s-min=15.0km az=163.0*

ISC 07 15:23:00.2±2.4, 39°.6N±0°.1×72°.89E±0°.05, h10km, n27, σ2°19/41, 3C-3D, Kyrgyzstan

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Code Station Name      Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
MRKS Merke             3.20  4  eP    Pb    15 23 54.1 -3.1
     2.8nm,0.2s
MRKS                             eS    Sg    15 24 43.2 +0.3
     4.9nm,0.1s
MRKS Merke             3.20  4  Pg    Pn    15 23 52.6 +2.0
     4.2nm,0.5s
MRKS                             Lg    Lg    15 24 40.4
     6.2nm,0.5s
AAK  Ala-Archa         3.31 21  ⇑Pn   Pn    15 23 52.9 +0.7
     7.4nm,0.7s
AAK                              ⇓Lg   Lg    15 24 49.6
     13nm,1.1s
IUG  Iuzhnay           3.38 321 eP    Pn    15 23 55.8 +2.7
     82nm,0.3s
IUG                              eS    Sb    15 24 46.1 +4.6
     37nm,0.1s
IUG  Iuzhnay           3.38 321 Pg    Pn    15 23 55.8 +2.7
     82nm,0.3s
IUG                              Lg    Lg    15 24 46.1
     38nm,0.6s
TKM2 Tokmak 2          3.93 30  ⇑Pg   Pg    15 24 13.1 -2.4
     3.3nm,0.6s
TKM2                             ⇑Lg   Lg    15 25 09.6
     8.1nm,1.1s
KK02 Karatay Array     3.98 334 ⇓Pn   Pn    15 24 03.3 +2.1
     2.4nm,0.5s,baz=146,slow=13
KK02                             ⇓Sn   Sb    15 24 60.0 +1.5
     8.2nm,0.7s,baz=146,slow=23
SGDS Sogindy           4.11 18  eP    Pb    15 24 10.9 -1.7
     0.7nm,0.4s
SGDS                             eS    Sg    15 25 11.8 -0.3
     0.7nm,0.0s
BRLS Borolday          4.17 327 eP    Pb    15 24 08.8 -4.8
     1.1nm,0.2s
BRLS                             eS    Sb    15 25 08.2 +4.2
     6.9nm,0.5s
BRLS Borolday          4.17 327 Pg    Pb    15 24 08.8 -4.8
     1.1nm,0.2s
BRLS                             Lg    Lg    15 25 08.2
     6.9nm,0.5s
KST  Kastek            4.18 33  eP    Pb    15 24 11.6 -2.3
     2.8nm,0.1s
KST                              eS    Sg    15 25 13.1 -1.4
     6.1nm,0.2s
KST  Kastek            4.18 33  Pg    Pb    15 24 11.6 -2.3
     3.6nm,0.3s
KST                              Lg    Lg    15 25 13.1
     6.3nm,0.5s
DGS  Degeres           4.28 29  eP    Pb    15 24 14.3 -1.2
     2.1nm,0.1s
DGS                              eS    Sg    15 25 17.6 +0.2
     3.7nm,0.3s
DGS  Degeres           4.28 29  Pg    Pb    15 24 14.3 -1.2
     3.4nm,0.9s
DGS                              Lg    Lg    15 25 17.6
     3.7nm,0.5s
MTBS Maitube           4.46 36  eP    Pb    15 24 16.8 -1.7
     2.2nm,0.1s
MTBS                             eS    Sg    15 25 22.2 -1.0
     1.8nm,0.2s
MTBS Maitube           4.46 36  Pg    Pb    15 24 16.8 -1.7
     3.2nm,0.9s
MTBS                             Lg    Lg    15 25 22.2
     2.5nm,0.4s
TNSS Tian-Shan         4.63 40  eP    Pb    15 24 19.6 -2.1
     1.5nm,0.1s
TNSS                             eS    Sg    15 25 27.2 -1.6
     1.8nm,0.2s
TNSS Tian-Shan         4.63 40  Pg    Pb    15 24 19.6 -2.1
     2.8nm,0.5s
TNSS                             Lg    Lg    15 25 27.2
     1.9nm,0.6s
KRBS Karabastau        4.63 26  eP    Pb    15 24 20.1 -1.5
     1.7nm,0.1s
KRBS                             eS    Sg    15 25 27.8 -1.2
     4.3nm,0.7s
KRBS Karabastau        4.63 26  Pg    Pb    15 24 20.1 -1.5
     2.6nm,0.6s
KRBS                             Lg    Lg    15 25 27.7
     4.3nm,0.7s
MDOK Medeo             4.77 40  eP    Pb    15 24 24.1 +0.1
     1.8nm,0.3s
MDOK                             eS    Sg    15 25 34.8 +1.4
     5.7nm,1.2s
KOTS Kotyrbulak        4.86 39  eP    Pb    15 24 24.8 -0.7
     3.6nm,0.3s
KOTS                             eS    Sg    15 25 36.0 -0.1
     8.0nm,0.2s
KOTS Kotyrbulak        4.86 39  Pg    Pb    15 24 24.8 -0.7
     2.8nm,0.8s
KOTS                             Lg    Lg    15 25 36.0
     7.8nm,0.9s
KTBS Karatobe          5.03 33  eP    Pb    15 24 29.3 +1.0
     1.5nm,0.6s
KTBS                             eS    Sg    15 25 43.7 +2.0
     5.4nm,0.5s
KTBS Karatobe          5.03 33  Pg    Pb    15 24 29.3 +1.0
     1.5nm,0.6s
KTBS                             Lg    Lg    15 25 43.7
     4.3nm,0.7s
KUU  Kurty             5.04 30  eP    Pb    15 24 27.3 -1.2
     1.2nm,0.2s
KUU                              eS    Sg    15 25 40.5 -1.6
     3.9nm,0.5s
KUU  Kurty             5.04 30  Pg    Pb    15 24 27.3 -1.2
     2.1nm,1.0s
KUU                              Lg    Lg    15 25 40.5
     6.2nm,1.2s
```

*IDC **07** 15:32:43.6±2.5, 36°.37N×70°.76E, h169km±23km, mb3.3/12, mb1 3.4/17, mb1mx3.3/54, mbtmp3.9/17, Error ellipse: s-maj=19.3km s-min=13.4km az=18.0*
*NEIC **07** 15:32:46.1±2.9, 36°.54N±0°.04×70°.80E±0°.07, h193km±6km, mb4.2/21, Error ellipse: s-maj=8.7km s-min=5.7km az=60.0*
*NNC **07** 15:32:47.5±8.2, 36°.80N×70°.42E, h126km±151km, mb3.8, mpv4.2, Error ellipse: s-maj=65.3km s-min=47.1km az=19.0*

ISC 07 15:32:46.0±0.4, 36°.55N±0°.05×70°.84E±0°.05, h200km, n98, σ1°83/116, mb4.1/21, 6C-4D, Hindu Kush region

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Code Station Name      Δ°   AZ°   Phase ID  Time      Res
                                Op    ISC   h m s     ISC
KBL  Kabul             2.48 217 Pn    Pn    15 33 30.3 +0.3
KBL                              Sn    Sn    15 34 00.3 -3.8
CHGR Chuyangaron       2.49 328         Pn    15 33 30.0 +0.2
CHGR                             Sn    Sn    15 34 01.4 -2.7
DRK  Karamyk           3.02 14          Pn    15 33 36.3 +0.2
DRK                              Sn    Sn    15 34 13.7 -1.8
BTK  Batken            3.50 360 Pn    Pn    15 33 42.2 +0.6
BTK                              Sn    Sn    15 34 23.4 -2.0
NIL  Nilore            3.51 145 Pn    Pn    15 33 41.6 -0.2
NIL                              Sn    Sn    15 34 23.6 -1.8
TAS  Tashkent          4.92 346 Pn    Pn    15 34 00.3 +1.1
TAS                              Sn    Sn    15 34 54.5 -2.6
KSH  Kashi             5.02 52  P     Pn    15 33 57.0 -3.7
KSH                              S     Sn    15 34 48.4 -11
KSH                              smax  smax
     comp=N,110nm,0.5s
KSH                              smax  smax
     comp=E,110nm,0.6s
IUG  Iuzhnay           5.62 354 eP    Pn    15 34 08.1 -0.2
     baz=352
IUG                              eS    Sn    15 35 10.1 -3.5
     baz=352
AML  Almayashu         6.00 21  P     Pn    15 34 13.5 0.0
     SNR=114
DHRM DHARAMSHALA       6.23 132 eP    Pn    15 34 15.9 -0.5
DHRM                             eS    Sn    15 35 23.5 -4.4
DHRM                             IAML          15 35 26.3
     comp=N,332nm,0.4s
DHRM                             IAML          15 35 27.5
     comp=E,339nm,0.4s
UCH  Uchtor            6.34 26  P     Pn    15 34 18.1 0.0
     SNR=6.2
DZA  Taraz             6.34 3   eP    Pn    15 34 17.1 -0.5
     baz=2.3
EKS2 Erkin-Say         6.51 19  P     Pn    15 34 20.2 +0.3
     SNR=20
BRLS Borolday          6.52 354 eP    Pn    15 34 15.9 -3.9
     baz=351
BRLS                             eS    Sn    15 35 24.6 -10
     baz=351
KK02 Karatay Array     6.55 358 ⇑P    Pn    15 34 19.9 -0.4
     comp=E,12nm,0.5s,baz=184,slow=13
KK02                             ⇓S    Sn    15 35 29.8 -5.3
     comp=E,65nm,0.7s,baz=188,slow=21
KKAR Karatay Array     6.55 358 Pn    Pn    15 34 20.1 -0.1
AAK  Ala-Archa         6.70 24  P     Pn    15 34 22.5 +0.1
     comp=E,3.3nm,0.3s,baz=177,slow=5.7,SNR=46
AAK                              S     Sn    15 35 36.4 -2.4
     comp=E,1.9nm,0.3s,baz=20,slow=22,SNR=22
AAK  Ala-Archa         6.70 24  P     Pn    15 34 22.7 +0.3
     SNR=15
AAK  Ala-Archa         6.70 24  ⇑P    Pn    15 34 22.5 +0.1
     comp=E,4.7nm,0.5s
AAK                              ⇑S    Sn    15 35 37.0 -1.8
     comp=E,33nm,0.8s
AAK  Ala-Archa         6.70 24  Pn    Pn    15 34 22.4 +0.1
AAK                              Sn    Sn    15 35 35.6 -3.3
KBK  Karagaybulak      6.87 26  P     Pn    15 34 25.1 +0.5
     SNR=11
FRU1 Bishkek           6.90 24  Pn    Pn    15 34 25.3 +0.4
CHMS Chumysh           7.11 24  P     Pn    15 34 27.8 +0.2
     SNR=9.4
BOOM Boomskoye usch    7.12 32          Pn    15 34 27.2 -0.6
USP  Ospenovka         7.27 22  P     Pn    15 34 29.6 -0.1
     SNR=10
HRA  Herat             7.34 255 Pn    Pn    15 34 28.4 -2.3
TKM2 Tokmak 2          7.34 28  P     Pn    15 34 30.8 +0.1
     SNR=36
TKM2 Tokmak 2          7.34 28  ⇑P    Pn    15 34 30.2 -0.6
     comp=E,19nm,0.6s
TKM2                             ⇑S    Sn    15 35 51.0 -3.0
     comp=E,8.0nm,0.8s
KDJ  Kajisay           7.43 39  Pn    Pn    15 34 31.5 -0.3
SGDS Sogindy           7.48 22  eP    Pn    15 34 30.8 -1.6
     baz=22
SMLA Simla             7.55 134 eP    Pn    15 34 32.0 -1.4
SMLA                             eS    Sn    15 35 52.2 -6.4
SMLA                             IAML          15 35 54.3
     comp=E,139nm,0.2s
SMLA                             IAML          15 35 54.6
     comp=N,87nm,0.2s
KST  Kastek            7.59 30  eP    Pn    15 34 33.5 -0.4
     baz=30
DGS  Degeres           7.68 28  eP    Pn    15 34 34.2 -0.9
     baz=28
TNSS Tian-Shan         8.00 34  eP    Pn    15 34 39.1 -0.4
     baz=34
MDOK Medeo             8.15 34  eP    Pn    15 34 41.4 +0.2
     baz=34
UZB  Uzynbulak         9.11 41  eP    Pn    15 34 53.7 0.0
     baz=42
GEYT Alibeck           10.24 282 P     Pn    15 35 04.9 -3.3
     comp=N,0.6nm,0.3s,baz=133,slow=10,SNR=5.9
GEYT                             S     Sn    15 37 00.8 -1.8
     comp=N,1.5nm,0.3s,baz=79,slow=24,SNR=3.0
GEYT Alibeck           10.24 282 Pn    Pn    15 35 06.2 -2.0
GYA0B ALIBECK ARRAY    10.24 282 Pn    Pn    15 35 06.0 -2.3
MAKZ Makanchi          13.19 36  Pn    Pn    15 35 45.4 -0.3
PYUN Piuthan           13.28 126 eP    Pn    15 35 46.1 -1.1
     comp=N,8.2nm,0.5s
MK31 Makanchi Array    13.33 36  Pn    Pn    15 35 47.8 +0.4
MKAR Makanchi Array    13.33 36  P     Pn    15 35 46.7 -0.7
     comp=N,0.1nm,0.3s,baz=215,slow=10,SNR=5.3
MKAR Makanchi Array    13.33 36  Pn    Pn    15 35 45.4 -2.0
```

DANN Dangsing 13.63 123 *eP* **Pn 15 35 50.3 -1.3**
comp=N,24nm,0.5s
KOLN Koldanda 13.90 125 *eP* **Pn 15 35 54.2 -0.7**
comp=N,4.6nm,0.3s
BHPL Bhopal 14.44 155 *eP* **P 15 36 03.1 +0.4**
GKN Gorkha 14.44 122 *eP* **Pn 15 36 01.0 -0.5**
comp=N,30nm,0.8s
WMQ Urumqi 14.78 55 *eP* **P 15 36 06.9 +0.6**
AB31 Akbulak array 14.97 331 ⇓P **Pn 15 36 07.4 -0.3**
comp=N,7.1nm,0.6s,baz=145,slow=12,SNR=94
AB31 ⇓S **S 15 38 50.0 -3.8**
comp=N,2.1nm,0.5s,baz=157,slow=23,SNR=15
ABKAR Akbulak array 14.97 331 P **Pn 15 36 07.1 -0.6**
ABKAR Akbulak array 14.97 331 P **Pn 15 36 06.3 -1.4**
DMN Daman 15.01 122 *eP* **P 15 36 09.4 +0.1**
comp=N,14nm,0.6s
KKN Kakani 15.02 121 *eP* **Pn 15 36 08.4 -0.2**
comp=N,22nm,0.6s
KURBB Kurchatov Arra 15.12 19 P **Pn 15 36 08.2 -1.1**
comp=N,0.1nm,0.3s,baz=211,slow=10,SNR=7.7
KURK Kurchatov 15.22 19 P **Pn 15 36 08.4 -2.3**
PKI Pulchoki 15.24 122 *eP* **P 15 36 12.5 +0.6**
comp=N,36nm,0.5s
GUN Gumba 15.36 120 *eP* **P 15 36 13.1 -0.1**
comp=N,16nm,0.4s
BVAR Borovoye Array 16.48 359 P **Pn 15 36 26.5 +0.8**
comp=N,0.8nm,0.3s,baz=158,slow=12,SNR=24
BRVK Borovoye 16.51 359 **P 15 36 25.2 0.0**
AKTO Aktyubinsk 16.67 330 P **Pn 15 36 29.6 +1.5**
comp=N,1.8nm,0.3s,baz=141,slow=10,SNR=30
AKTO S **S 15 39 28.2 -2.7**
comp=N,0.1nm,0.3s,baz=163,slow=22,SNR=1.4
AKTO Aktyubinsk 16.67 330 ⇓P **Pn 15 36 28.7 +0.6**
comp=N,19nm,1.0s
AKTO ⇑S **S 15 39 32.4 +1.6**
comp=N,4.1nm,0.8s
LSA Lhasa 18.32 106 P **P 15 36 44.1 -1.6**
LSA IAmb IAmb 15 36 50.2
comp=Z,4.3nm,0.6s
ZAA0 Zalesovo Array 19.92 25 P **P 15 36 59.6 -2.6**
ZALV Zalesovo Beam 19.92 25 P **P 15 37 03.5 +1.2**
comp=Z,1.7nm,0.5s,baz=216,slow=10.0,SNR=9.2
ZALV Zalesovo Beam 19.92 25 P **P 15 37 01.1 -1.2**
SHL Shillong 21.05 115 P **P 15 37 13.1 -1.7**
SHL IAmb IAmb 15 37 17.6
comp=Z,13nm,1.2s
ARU Arti 21.54 341 P **P 15 37 20.7 +1.4**
comp=Z,0.4nm,0.3s,baz=170,slow=13,SNR=3.8
ARU Arti 21.54 341 P **P 15 37 19.9 +0.6**
ARU IAmb IAmb 15 37 23.1
comp=Z,8.7nm,1.3s
ONI Oni 21.90 294 P **P 15 37 21.9 -1.3**
ONI IAmb IAmb 15 37 24.7
comp=Z,16nm,1.6s
SONM Songino Array 28.41 55 P **P 15 38 23.6 +1.7**
comp=Z,0.7nm,0.9s,baz=256,slow=10,SNR=4.1
CMAR Chiang Mai Arr 30.59 119 P **P 15 38 42.5 +1.2**
comp=Z,0.8nm,0.6s,baz=304,slow=8.2,SNR=7.3
HHC Hu-ho-hao-te 31.87 70 *eP* **P 15 38 51.8 -0.5**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,220nm,5.4s
AKASG Malin Array Be 32.81 309 P **P 15 39 01.4 +1.1**
comp=Z,0.5nm,0.5s,baz=82,slow=6.8,SNR=3.6
AKASG Malin Array Be 32.81 309 IAmb IAmb 15 39 02.0
comp=Z,4.2nm,1.6s
FINES FINESS Array B 37.37 326 P **P 15 39 40.2 +1.2**
comp=Z,1.5nm,0.9s,baz=144,slow=12,SNR=1.7
FNA Florina 38.44 292 P **P 15 39 47.4 -1.0**
ARCES ARCESS Array B 41.05 338 P **P 15 40 12.7 +3.4**
comp=Z,3.5nm,1.1s,baz=101,slow=7.7,SNR=1.1
GSI Gunungsitoli 42.92 139 P **P 15 40 26.9 +1.8**
GSI IAmb IAmb 15 40 41.5
comp=Z,12nm,1.1s
CLL Collm 43.06 309 *eP* **P 15 40 27.0 +1.2**
NOA NORSAR Array B 44.26 323 P **P 15 40 37.8 +2.5**
comp=Z,0.5nm,0.7s,baz=96,slow=7.7,SNR=1.8
TORD Torodi Ar. Bea 65.59 269 P **P 15 43 08.6 -0.1**
comp=Z,0.4nm,0.4s,baz=48,slow=6.1,SNR=6.5
TOLK Toolik Lake Re 70.91 15 P **P 15 43 43.3 +2.4**
TOLK IAmb IAmb 15 44 00.3
comp=Z,5.9nm,1.4s
IMAR Indian Mountai 72.16 18 P **P 15 43 49.8 +1.4**
BMAR Burnt Mountain 72.92 14 P **P 15 43 55.1 +2.2**
J20K Nowinta River 73.52 19 P **P 15 43 58.7 +2.3**
J20K IAmb IAmb 15 44 20.4
comp=Z,6.2nm,1.5s
C36M Paulatuk 73.84 5 P **P 15 43 60.0 +1.9**
C36M IAmb IAmb 15 44 01.3
comp=Z,3.1nm,0.5s
INK Inuvik 73.88 9 P **P 15 44 00.8 +2.5**
INK IAmb IAmb 15 44 01.1
comp=Z,5.7nm,1.5s
ILAR Eielson Array 74.77 16 P **P 15 44 04.2 +0.6**
comp=Z,0.2nm,0.6s,baz=330,slow=5.2,SNR=2.8
PPLA Purkeypile 75.08 19 P **P 15 44 07.1 +1.6**
KNRA Kununurra 75.37 122 P **P 15 44 08.3 +0.6**
RND Reindeer 75.48 17 P **P 15 44 08.5 +0.7**
SCRK Sand Creek 76.08 15 P **P 15 44 13.3 +2.1**
SCRK IAmb IAmb 15 44 14.0
comp=Z,10nm,1.6s
DHY Denali Highway 76.12 17 P **P 15 44 12.8 +1.4**
YKA Yellowknife Ar 81.20 3 P **P 15 44 40.9 +2.0**
comp=Z,0.8nm,0.4s,baz=351,slow=5.4,SNR=18
YKA pP **pP 15 45 29.0 +0.7**
comp=Z,0.6nm,0.7s,baz=350,slow=5.4,SNR=5.8
ASAR Alice Springs 84.39 125 P **P 15 44 55.9 -0.1**
comp=Z,2.2nm,0.6s,baz=314,slow=4.9,SNR=59
ASAR Alice Springs 84.39 125 P **P 15 44 55.9 -0.1**
PMG Port Moresby 84.74 106 P **P 15 45 00.0 +2.1**
comp=Z,7.6nm,0.7s,baz=297,slow=6.0,SNR=7.5

DJA ***07*** *15:39:27.6±0.2, 1°N±2°×12°3E±°, h54km±3km, M4.6/48, mb4.6/48, mB5.1/19, MLv4.8/26, Mw(mB)4.5/19, MwMwp6.0/1, Mwp6.1/1*
IDC ***07*** *15:39:28.9±1.9, 0°.81N×122°.51E, h74km±21km, mb3.6/8, mb1 3.9/12, mb1mx3.7/42, mbtmp4.1/12, MS3.2/10, Ms1 3.2/10, ms1mx2.9/66, Error ellipse: s-maj=18.4km s-min=11.4km az=86.0*
BJI ***07*** *15:39:28.3±0.0, 0°.62N×122°.66E, h95km, mb4.3/24, mB4.9/14*
NEIC ***07*** *15:39:29.1±1.8, 0°.83N±0°.04×122°.48E±0°.04, h75km±7km, mb4.6/47, Error ellipse: s-maj=6.7km s-min=3.4km az=139.0*
ISC 07 15:39:27.8±0.7, 0°.86N±0°.04×122°.56E±0°.04, h64km±7km, **n180,** σ1°31/184, **mb4.6**/44, **3C-2D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.51**	**116**	P	**Pn**	**15 39 37.9**	**-2.3**
GTOI				S	**Sn**	**15 39 46.0**	**-3.2**
MRSI	**Marisa**	**0.72**	**238**	P	**Pn**	**15 39 41.9**	**-0.7**
MRSI				S	**Sn**	**15 39 52.6**	**-0.9**
KMSI	**Cibinong**	**1.45**	**101**	P	**Pn**	**15 39 52.9**	**+1.0**
KMSI				S	**Sn**	**15 40 11.4**	**+1.3**
TOLI2	**Tolitoli**	**1.79**	**278**	Pn	**Pn**	**15 39 55.0**	**-1.5**
TOLI2				Sn	**Sn**	**15 40 18.3**	**0.0**
TOLI2	**Tolitoli**	**1.79**	**278**	P	**Pn**	**15 39 57.3**	**+0.8**
LUWI	**Luwuk**	**1.90**	**174**	P	**Pn**	**15 39 59.8**	**+1.8**
LUWI				S	**Sn**	**15 40 23.6**	**+2.6**
LUWI	**Luwuk**	**1.90**	**174**	Pn	**Pn**	**15 39 58.9**	**+0.8**
LUWI				Sn	**Sn**	**15 40 22.9**	**+1.9**
LUWI	**Luwuk**	**1.90**	**174**	P	**Pn**	**15 40 00.2**	**+2.2**
APSI	**Ampana**	**1.98**	**207**	P	**Pn**	**15 39 59.8**	**+0.7**
APSI				S	**Sn**	**15 40 25.0**	**+2.1**
MPSI	**Mapaga**	**2.71**	**259**	P	**Pn**	**15 40 09.0**	**0.0**
SGSI	**Sangihe**	**4.08**	**47**	P	**Pn**	**15 40 26.6**	**-1.2**
SANI	**Sanana**	**4.49**	**130**	P	**Pn**	**15 40 32.8**	**-0.5**
SANI	**Sanana**	**4.49**	**130**	P	**Pn**	**15 40 33.0**	**-0.3**
TTSI	**Tana Toraja**	**4.75**	**215**	P	**Pn**	**15 40 38.2**	**+1.3**
TNTI	**Ternate**	**4.81**	**91**	P	**Pn**	**15 40 38.8**	**+1.1**
TNTI	**Ternate**	**4.81**	**91**	Pn	**Pn**	**15 40 38.9**	**+1.2**
TNTI	**Ternate**	**4.81**	**91**	P	**Pn**	**15 40 39.5**	**+1.8**
SGKI	**Sangatta, Kali**	**5.14**	**254**	P	**Pn**	**15 40 39.7**	**-2.6**
LBMI	**Labuha**	**5.16**	**107**	P	**Pn**	**15 40 42.8**	**+0.2**
	0.5nm1μm129nm,1.0s						
SPSI	**Sidrap Palu**	**5.54**	**210**	P	**Pn**	**15 40 49.4**	**+1.6**
	0.6nm2μm143nm,0.5s						
GSPH	**General Santos**	**5.71**	**25**	⇓*i*P	**Pn**	**15 40 50.5**	**+0.3**
GSPH				*i* S	**Sn**	**15 41 51.8**	**-2.7**
BNSI	**Bone**	**5.77**	**205**	P	**Pn**	**15 40 52.5**	**+1.6**
	0.9nm2μm237nm,0.9s						
MYLDM	**Lahad Datu**	**5.90**	**317**	Pn	**Pn**	**15 40 53.8**	**+1.2**
MYLDM				Sn	**Sn**	**15 41 59.9**	**+1.0**
BKB	**Balikpapan**	**6.04**	**250**	P	**Pn**	**15 40 54.0**	**-0.6**
	1.4nm3μm139nm,0.5s						
BKB	**Balikpapan**	**6.04**	**250**		**Pn**	**15 40 54.2**	**-0.4**
BKB				Sn	**Sn**	**15 42 01.9**	**-0.5**
BBSI	**Bau Bau**	**6.31**	**180**	P	**Pn**	**15 41 00.6**	**+2.4**
	0.1nm145nm12nm,0.5s						
KAPI	**Kappang**	**6.47**	**206**	P	**Pn**	**15 41 01.1**	**+0.5**
	11nm,0.3s,baz=69,slow=5.3,SNR=24						
KAPI				S	**Sn**	**15 42 13.0**	**-0.1**
	3.7nm,0.3s,baz=227,slow=22,SNR=1.3						
KAPI				LR	LR	15 43 57.1	
	comp=Z,159nm,19.9s,baz=42,slow=42						
KAPI	**Kappang**	**6.47**	**206**	Pn	**Pn**	**15 41 00.6**	**+0.1**
KAPI	**Kappang**	**6.47**	**206**	P	**Pn**	**15 41 01.2**	**+0.7**
BKSI	**Bulukumba**	**6.61**	**202**	P	**Pn**	**15 41 03.6**	**+1.3**
	0.3nm795nm84nm,0.6s						
KCP	**Kidapawan**	**6.61**	**22**	⇑*eP*	**Pn**	**15 41 03.0**	**+0.6**
DAV	**Davao City (W)**	**6.86**	**26**	P	**Pn**	**15 41 08.3**	**+2.5**
	39nm,0.3s,baz=180,slow=8.9,SNR=4.7						
DAV				S	**Sn**	**15 42 25.5**	**+2.9**
	30nm,0.3s,baz=96,slow=9.0,SNR=1.3						
DAV				LR	LR	15 43 49.0	
	comp=Z,189nm,21.6s,baz=266,slow=38						
PAGZ	**Pagadian**	**6.99**	**7**	⇑*eP*	**Pn**	**15 41 08.3**	**+0.7**
AAI	**Ambon**	**7.22**	**129**	P	**Pn**	**15 41 12.0**	**+1.2**
	0.2nm45nm,0.5s						
BSSI	**Bau Bau, Buton**	**7.26**	**196**	P	**Pn**	**15 41 13.6**	**+2.3**
	0.2nm600nm52nm,0.7s						
BUKP	**Musuan**	**7.40**	**20**	⇓*eP*	Pn	15 41 24.1	+11
BUKP				*i* S	**Sn**	**15 42 32.5**	**-3.4**
KBKI	**Kotabaru**	**7.61**	**237**	P	**Pn**	**15 41 15.8**	**-0.2**
	0.3nm2μm61nm,0.7s						
MSAI	**Masohi**	**7.62**	**123**	P	**Pn**	**15 41 15.9**	**-0.3**
	0.1nm282nm14nm,0.7s						
MTKI	**Muara Teweh, K**	**7.87**	**257**	P	**Pn**	**15 41 19.9**	**+0.3**
	0.4nm38nm,0.6s						
KKM	**Kota Kinabalu**	**8.16**	**309**	Pn	**Pn**	**15 41 24.4**	**+0.8**
KKM	**Kota Kinabalu**	**8.16**	**309**	P	**Pn**	**15 41 25.1**	**+1.4**
BBKI	**Banjar Baru**	**8.83**	**241**	P	**Pn**	**15 41 33.7**	**+1.0**
SWI	**Sorong**	**8.87**	**101**	P	**Pn**	**15 41 34.6**	**+1.3**
	16nm,0.8s						
SIJI	**Sorong**	**8.88**	**101**	P	**Pn**	**15 41 34.6**	**+1.2**
	1.4nm,0.3s,baz=344,slow=6.2,SNR=7.5						
MMRI	**Maumere**	**9.44**	**182**	P	**Pn**	**15 41 41.5**	**+0.4**
	2μm40nm,0.6s						
EDFI	**Ende, Flores**	**9.59**	**185**	P	**Pn**	**15 41 45.2**	**+2.0**
	8.3nm,0.7s						
FAKI	**Fak Fak**	**10.39**	**111**	P	**Pn**	**15 41 53.4**	**-0.7**
	18nm,1.0s						
FAKI	**Fak Fak**	**10.39**	**111**	Pn	**Pn**	**15 41 52.9**	**-1.3**
FAKI	**Fak Fak**	**10.39**	**111**	P	**Pn**	**15 41 53.7**	**-0.4**
SBUM	**Sibu**	**10.45**	**279**	Pn	**Pn**	**15 41 54.7**	**-0.2**
SOEI	**Soe**	**10.68**	**171**	Pn	Pn	15 42 04.1	+5.9
WBSI	**Waikabubak, Su**	**10.90**	**197**	P	**Pn**	**15 42 01.7**	**+0.6**
	34nm,0.7s						
BATI	**Baumata**	**11.05**	**174**	LR	LR	15 46 32.0	
	comp=Z,121nm,18.2s,baz=347,slow=38						
STKI	**Sintang**	**11.11**	**266**	P	**Pn**	**15 42 04.7**	**+0.8**
BASI	**Baing, Sumba**	**11.18**	**190**	P	**Pn**	**15 42 05.3**	**+0.4**
	66nm,1.0s						
PBKI	**Pangkalan Bun**	**11.45**	**252**	P	**Pn**	**15 42 07.6**	**-0.9**
	32nm,0.5s						
SRBI	**Singaraja**	**11.52**	**219**	P	**Pn**	**15 42 10.7**	**+1.2**
	20nm,1.5s						
KMMI	**Kalianget**	**11.63**	**227**	P	**Pn**	**15 42 11.5**	**+0.5**
	31nm,1.3s						
BWJI	**Bawean**	**11.92**	**236**	P	**Pn**	**15 42 15.7**	**+0.6**
	28nm,1.4s						
ABJI	**Asem Bagus**	**11.95**	**224**	P	**Pn**	**15 42 14.6**	**-0.8**
	23nm,1.4s						
KSM	**Kuching**	**12.26**	**273**	Pn	**Pn**	**15 42 22.4**	**+2.7**
JAGI	**Jajag, Banyuwa**	**12.49**	**222**	P	**Pn**	**15 42 25.3**	**+2.4**
	46nm,1.2s						
JAGI	**Jajag, Banyuwa**	**12.49**	**222**	Pn	**Pn**	**15 42 24.6**	**+1.7**
MTN	**Manton Dam**	**16.06**	**148**	P	**P**	**15 43 11.0**	**-1.0**
MTN	**Manton Dam**	**16.06**	**148**	P	**P**	**15 43 11.4**	**-0.6**
CMJI	**Cimerak**	**16.48**	**238**	P	**Pn**	**15 43 15.2**	**+0.2**
	35nm,1.0s						
PPBI	**Pangkal Pinang**	**16.69**	**260**	P	**Pn**	**15 43 17.9**	**+0.3**
LEM	**Lembang**	**16.75**	**243**	LR	LR	15 51 56.8	
	comp=Z,91nm,18.0s,baz=21,slow=45						
LEM	**Lembang**	**16.75**	**243**	P	**P**	**15 43 19.5**	**-0.3**
	7.1nm,1.0s						
CNJI	**Cibinong**	**17.40**	**242**	P	**P**	**15 43 27.6**	**+0.8**
	70nm,1.4s						
KNRA	**Kununurra**	**17.54**	**160**	P	**P**	**15 43 28.6**	**+0.2**
KNRA	**Kununurra**	**17.54**	**160**	P	**P**	**15 43 28.9**	**+0.6**
JAY	**Jayapura**	**18.45**	**101**	LR	LR	15 51 15.1	
	comp=Z,83nm,18.4s,baz=324,slow=38						
KLSI		**18.64**	**253**	P	**Pn**	**15 43 43.1**	**+1.6**
	4.8nm,0.8s						
MYKOM	**Kota Tinggi**	**18.72**	**273**	P	**P**	**15 43 41.8**	**+0.4**
MYKOM				IAmb	IAmb	15 43 44.3	
	comp=Z,23nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.08**	**171**	P	**P**	**15 43 45.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=353,slow=6.3,SNR=32						
MDSI	**Maura Dua**	**19.11**	**254**	P	**P**	**15 43 45.9**	**+0.2**
	comp=Z,287nmcomp=Z,9.8nm,1.0s						
KASI	**Kota Agung**	**19.12**	**250**	P	**P**	**15 43 45.7**	**0.0**
	comp=Z,22nm,0.6s						
RGRI	**Rengat**	**20.26**	**267**	P	**P**	**15 43 58.1**	**-0.1**
MNAI	**Manna**	**20.26**	**255**	P	Pn	15 43 59.8	-0.9
MASI	**Maura Aman, Be**	**20.69**	**259**	P	**P**	**15 44 02.8**	**-0.1**
	comp=Z,41nm,1.3s						
IPM	**Ipoh**	**21.80**	**280**	P	**P**	**15 44 14.1**	**-0.7**
IPM				IAmb	IAmb	15 44 39.4	
	comp=Z,24nm,1.2s						
IPM	**Ipoh**	**21.80**	**280**	P	**P**	**15 44 15.2**	**+0.4**
TWG	**Pinlang**	**21.88**	**356**	P	**P**	**15 44 15.8**	**+0.4**
TWG				IAmb	IAmb	15 44 39.0	
	comp=Z,75nm,1.3s						
QIZ	**Qiongzhong**	**21.94**	**326**	P	**P**	**15 44 16.3**	**+0.1**
MBWA	**Marble Bar**	**22.06**	**187**	P	**P**	**15 44 16.3**	**-1.1**
UBPT	**Khong Chiam**	**22.13**	**311**	P	**P**	**15 44 19.1**	**+0.9**
UBPT				IAmb	IAmb	15 44 55.8	
	comp=Z,30nm,1.5s						
PPI	**Padang Panjang**	**22.20**	**267**	P	**P**	**15 44 19.6**	**+0.6**
	comp=Z,15nm,0.6s						
KULM	**Kulim**	**22.31**	**282**	P	**P**	**15 44 19.7**	**-0.5**
KULM				IAmb	IAmb	15 44 23.4	
	comp=Z,20nm,1.0s						
PSA00	**Pilbara Seismi**	**22.45**	**187**	P	**P**	**15 44 19.8**	**-1.9**
PSA00				IAmb	IAmb	15 44 51.5	
	comp=Z,36nm,1.4s						
PSA00	**Pilbara Seismi**	**22.45**	**187**	P	**P**	**15 44 19.9**	**-1.7**
PSA00				IAmb	IAmb	15 44 42.1	
	comp=Z,9.8nm,1.4s						
PSA00	**Pilbara Seismi**	**22.45**	**187**	P	**P**	**15 44 20.8**	**-0.9**
MNSI	**Mandailing Nat**	**22.98**	**270**	P	**P**	**15 44 26.7**	**-0.5**
	comp=Z,1μmcomp=Z,36nm,0.5s						
WB0	**Warramunga Arr**	**23.56**	**151**	P	**P**	**15 44 31.5**	**-1.2**
WB0				IAmb	IAmb	15 44 53.8	
	comp=Z,35nm,1.6s						
SISI	**Saibi**	**23.57**	**265**	P	**P**	**15 44 31.9**	**-0.9**
	comp=Z,40nm,1.0s						
WRAB	**Tennant Creek**	**23.68**	**151**	P	**P**	**15 44 32.9**	**-0.9**
WRAB	**Tennant Creek**	**23.68**	**151**	P	**P**	**15 44 33.0**	**-0.9**
WRA	**Warramunga Arr**	**23.68**	**151**	P	**P**	**15 44 33.2**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=335,slow=9.9,SNR=35						
WRA	**Warramunga Arr**	**23.68**	**151**	P	**P**	**15 44 31.6**	**-2.2**
WB2	**Warramunga Arr**	**23.69**	**151**	P	**P**	**15 44 32.9**	**-1.0**
WB2				IAmb	IAmb	15 44 54.5	
	comp=Z,28nm,1.6s						
YHNB	**Yeheng**	**23.70**	**357**	P	**P**	**15 44 32.3**	**-1.7**
YHNB				IAmb	IAmb	15 45 02.9	
	comp=Z,47nm,1.2s						
PSI	**Prapat**	**23.70**	**275**	P	**P**	**15 44 32.7**	**-1.5**
	comp=Z,3.4nm,0.5s,baz=83,slow=23,SNR=6.6						
PSI				LR	LR	15 54 14.8	
	comp=Z,85nm,18.7s,baz=88,slow=38						
WR0	**Warramunga Arr**	**23.80**	**151**	P	**P**	**15 44 34.0**	**-0.8**
WR0				IAmb	IAmb	15 44 56.3	
	comp=Z,10nm,0.6s						
TSI	**Tuntungan**	**24.11**	**277**	P	**P**	**15 44 38.7**	**+0.9**
	comp=Z,134nm,0.7s						
GIRL	**Giralia**	**24.73**	**199**	P	**P**	**15 44 42.8**	**-0.5**
GSI	**Gunungsitoli**	**24.98**	**271**	P	**P**	**15 44 44.8**	**-0.9**
GSI	**Gunungsitoli**	**24.98**	**271**	P	**P**	**15 44 43.5**	**-2.2**
GSI				IAmb	IAmb	15 45 08.4	
	comp=Z,30nm,0.9s						
GSI	**Gunungsitoli**	**24.98**	**271**	P	**P**	**15 44 45.7**	**0.0**
COEN	**Coen**	**25.18**	**127**	P	**P**	**15 44 46.7**	**-0.8**
COEN	**Coen**	**25.18**	**127**	P	**P**	**15 44 47.8**	**+0.3**
GUMO	**Guam**	**25.45**	**59**	LR	LR	15 54 02.6	
	comp=Z,41nm,19.9s,baz=138,slow=34						
WRKA	**Warakurna**	**26.34**	**168**	P	**P**	**15 44 57.1**	**-0.8**
PMG	**Port Moresby**	**26.54**	**113**	P	**P**	**15 44 59.4**	**-0.4**
PMG				IAmb	IAmb	15 45 00.9	
	comp=Z,8.5nm,0.8s						
AS31	**Alice Springs**	**26.76**	**156**	P	**P**	**15 44 55.5**	**-6.2**
ASAR	**Alice Springs**	**26.76**	**156**	P	**P**	**15 45 01.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=343,slow=13,SNR=16						
QIS	**Mount Isa**	**27.05**	**143**	P	**P**	**15 45 04.2**	**-0.2**
MEEK	**Meekatharra**	**27.60**	**188**	P	**P**	**15 45 07.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**29.04**	**308**	P	**P**	**15 45 22.9**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=142,slow=7.6,SNR=16						
CMAR				LR	LR	15 57 05.8	
	comp=Z,30nm,20.7s,baz=140,slow=36						
CMAR	**Chiang Mai Arr**	**29.04**	**308**	P	**P**	**15 45 20.8**	**-1.3**
CHTO	**Chiang Mai**	**29.24**	**309**	P	**P**	**15 45 22.7**	**-1.2**
MORW	**Morawa**	**30.41**	**191**	P	**P**	**15 45 32.8**	**-1.3**
NJ2	**Nanjing**	**31.22**	**354**	*eP*	**P**	**15 45 43.2**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BLDU	**Ballidu**	**31.79**	**190**	P	**P**	**15 45 44.5**	**-1.8**
FORT	**Forrest**	**31.90**	**171**	P	**P**	**15 45 47.5**	**+0.3**
PZH	**PanZhiHua**	**32.42**	**324**	P	**P**	**15 45 53.6**	**+1.6**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,4.1s						
KLBR	**Kellerberrin**	**32.60**	**188**	P	**P**	**15 45 51.6**	**-1.7**
MULG	**Mulgathing**	**32.85**	**161**	P	**P**	**15 45 57.3**	**+1.7**
BBOO	**Buckleboo**	**35.84**	**160**	P	**P**	**15 46 20.2**	**-1.1**
BBOO				IAmb	IAmb	15 46 34.4	
	comp=Z,15nm,1.1s						
BBOO	**Buckleboo**	**35.84**	**160**	P	**P**	**15 46 21.8**	**+0.5**
STKA	**Stephens Creek**	**37.22**	**153**	P	**P**	**15 46 33.5**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=336,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**37.22**	**153**	P	**P**	**15 46 32.9**	**-0.3**
STKA	**Stephens Creek**	**37.22**	**153**	P	**P**	**15 46 33.8**	**+0.6**
HTT	**Hallett**	**37.43**	**157**	P	**P**	**15 46 36.7**	**+1.7**
CMSA	**Cobar Meteorol**	**38.98**	**148**	P	**P**	**15 46 49.5**	**+1.5**
HHC	**Hu-ho-hao-te**	**41.03**	**347**	*eP*	**P**	**15 47 06.0**	**+1.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.6s						
ARPS	**Mount Arapiles**	**41.50**	**156**	P	**P**	**15 47 10.4**	**+1.7**
ARMA	**Armidale**	**41.64**	**141**	P	**P**	**15 47 10.3**	**+0.2**
PALK	**Pallekele**	**42.21**	**280**	LR	LR	16 07 40.4	
	comp=Z,28nm,18.1s,baz=193,slow=40						
PALK	**Pallekele**	**42.21**	**280**	P	**P**	**15 47 13.2**	**-1.8**
PALK				IAmb	IAmb	15 47 20.9	
	comp=Z,26nm,1.1s						
GTA	**Gaotai**	**43.63**	**334**	⇑P	**P**	**15 47 27.9**	**+1.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
CAN	**Canberra**	**43.65**	**148**	P	**P**	**15 47 25.2**	**-1.1**
CAN	**Canberra**	**43.65**	**148**	P	**P**	**15 47 27.3**	**+1.0**
TOO	**Toolangi**	**43.73**	**153**	P	**P**	**15 47 24.9**	**-2.0**
TOO				IAmb	IAmb	15 47 40.9	
	comp=Z,15nm,1.2s						
USRK	**Ussuriysk Ar.**	**43.96**	**10**	LR	LR	16 07 26.4	
	comp=Z,36nm,18.1s,baz=34,slow=38						
GUN	**Gumba**	**44.22**	**311**	*eP*	**P**	**15 47 31.8**	**+0.5**
	comp=Z,27nm,0.6s						
PKI	**Pulchoki**	**44.41**	**310**	*eP*	**P**	**15 47 33.1**	**+0.3**
	comp=Z,12nm,0.6s						
PKIN	**Phulchoki**	**44.42**	**310**	*eP*	**P**	**15 47 33.0**	**+0.2**
	comp=Z,11nm,0.6s						
KKN	**Kakani**	**44.62**	**310**	*eP*	**P**	**15 47 34.5**	**+0.2**
DMN	**Daman**	**44.66**	**310**	*eP*	**P**	**15 47 35.3**	**+0.6**
GKN	**Gorkha**	**45.22**	**310**	*eP*	**P**	**15 47 39.6**	**+0.6**
	comp=Z,26nm,0.8s						
RCLA	**Racherla**	**45.40**	**291**	*eP*	**P**	**15 47 41.3**	**+0.8**
KOLN	**Koldanda**	**45.90**	**309**	*eP*	**P**	**15 47 45.3**	**+0.8**
	comp=Z,52nm,0.8s						
DANN	**Dangsing**	**46.06**	**310**	*eP*	**P**	**15 47 46.4**	**+0.6**
	comp=Z,54nm,0.7s						
HYBB	**Hyderabad (bro**	**46.28**	**293**	*eP*	**P**	**15 47 46.9**	**-0.6**
PYUN	**Piuthan**	**46.53**	**309**	*eP*	**P**	**15 47 50.5**	**+1.0**
	comp=Z,74nm,0.8s						
URV	**Uravakonda**	**46.87**	**290**	*eP*	**P**	**15 47 52.3**	**+0.2**
DZM	**Mont Dzumac**	**48.48**	**121**	P	**P**	**15 48 04.8**	**+0.2**
DZM				IAmb	IAmb	15 48 32.4	
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**48.85**	**346**	P	**P**	**15 48 07.8**	**+0.8**
	comp=Z,2.1nm,1.0s,baz=162,slow=8.3,SNR=11						
SONM	**Songino Array**	**48.85**	**346**	P	**P**	**15 48 06.8**	**-0.2**
SONM				IAmb	IAmb	15 48 08.9	
	comp=Z,3.6nm,1.2s						
OUENC	**Ouen Island, N**	**48.95**	**121**		**P**	**15 48 07.6**	**-0.5**
PINNC	**Pines Island,**	**49.54**	**121**	P	**P**	**15 48 13.1**	**+0.6**
WMQ	**Urumqi**	**52.83**	**329**	*eP**	**P**	**15 48 39.1**	**+2.2**
NIL	**Nil

δ31.00000°,λ135.00000°. NP2:φ₀175.00000°,δ69.00000°, λ67.00000°. Principal axes: T 3.6644, Plg59.0000°, Azm51.0000°; N 0.5531, Plg22.0000°, Azm184.0000°; P -4.2175, Plg20.0000°, Azm282.0000°;
IDC **07** 15:40:50.1±2.6,41.64S×73.65W,h75km±21km,mb4.7/22, mb1 4.8/24,mb1mx4.6/34,mbtmp5.0/24,MS4.4/38, Ms1 4.4/38,ms1mx4.3/50 Error ellipse: s-maj=18.6km s-min=11.1km az=81.0
ISC 07 15:40:41.9±0.8,41.75S±0.03×73.92W±0.04,h17km±4km, n560,σ1§42/514,mb5.2/129,MS4.5/43,11C-8D,Southern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LL05	**Los Muermos**	**0.47**	**44**	⇓*i*P			**Pn**	**15 40 55.3**	**+1.4**
LL05				*i* S			**Sn**	**15 41 04.1**	**+2.3**
LL05				IAML				15 41 05.3	
	comp=N,695μm,0.2s								
LL05	**Los Muermos**	**0.47**	**44**				**Pn**	**15 40 55.0**	**+1.1**
LL05				Sg			**Sn**	**15 41 02.7**	**+0.9**
LL07	**Hotel Espejo d**	**1.13**	**164**	⇓*i*P			**Pg**	**15 41 04.7**	**+0.8**
LL07				*e*S			**Sg**	**15 41 20.3**	**+1.6**
LL07				IAML				15 41 29.5	
	comp=N,54μm,0.8s								
LL07	**Hotel Espejo d**	**1.13**	**164**				**Pg**	**15 41 04.7**	**+0.8**
LL07				Sn			**Sg**	**15 41 20.4**	**+1.6**
LL01	**San Ignacio de**	**1.29**	**120**	⇓*i*P			**Pg**	**15 41 07.7**	**+0.9**
LL01				*i* S			**Sg**	**15 41 25.8**	**+2.2**
LL01	**San Ignacio de**	**1.29**	**120**				**Pg**	**15 41 07.6**	**+0.9**
LL01				Sn			**Sg**	**15 41 25.2**	**+1.7**
LL03	**Petrohue**	**1.29**	**62**	⇓*i*P			**Pg**	**15 41 07.1**	**+0.3**
LL03				*i* S			**Sg**	**15 41 26.2**	**+2.6**
LL03				IAML				15 41 32.8	
	comp=N,121μm,0.5s								
LL03	**Petrohue**	**1.29**	**62**				**Pg**	**15 41 07.0**	**+0.2**
GO07	**Milladeo Hill,**	**1.38**	**172**	⇑*i*P			**Pg**	**15 41 07.5**	**-1.0**
GO07				*e*S			**Sg**	**15 41 25.8**	**-0.8**
GO07				IAML				15 41 39.6	
	comp=N,100μm,0.6s								
GO07	**Milladeo Hill,**	**1.38**	**172**				**Pg**	**15 41 08.2**	**-0.4**
LL04	**Puerto Octay**	**1.41**	**54**	⇓*i*P			**Pg**	**15 41 08.6**	**-0.5**
LL04				*i* S			**Sg**	**15 41 27.3**	**-0.2**
LL04				IAML				15 41 29.8	
	comp=N,43μm,0.2s								
LL04	**Puerto Octay**	**1.41**	**54**				**Pg**	**15 41 08.4**	**-0.7**
LR02	**Universidad Au**	**2.00**	**15**	*e*P			**Pb**	**15 41 18.9**	**+1.0**
LR02				*e*S			**Sb**	**15 41 43.5**	**+1.1**
LL02	**Futaleuf**	**2.10**	**134**	⇑*i*P			**Pg**	**15 41 20.0**	**-2.3**
LL02				*i* S			**Sg**	**15 41 46.2**	**-3.4**
LL02	**Futaleuf**	**2.10**	**134**				**Pg**	**15 41 19.9**	**-2.4**
LR03	**Panguipulli**	**2.42**	**30**	⇑*i*P			**Pn**	**15 41 22.7**	**+2.0**
LR03	**Panguipulli**	**2.42**	**30**				**Pn**	**15 41 22.5**	**+1.7**
PLCA	**Paso Flores**	**2.73**	**69**	P			**Pb**	**15 41 29.2**	**-1.1**
	comp=N,94nm,0.3s,baz=253,slow=10,SNR=810								
PLCA				S			**Sn**	**15 41 59.2**	**+1.5**
	comp=N,102nm,0.3s,baz=268,slow=16,SNR=4.0								
PLCA	**Paso Flores**	**2.73**	**69**	P			**Pb**	**15 41 28.8**	**-1.6**
PLCA	**Paso Flores**	**2.73**	**69**				**Sn**	**15 41 59.2**	**+1.5**
PLCA	**Paso Flores**	**2.73**	**69**	Pn			**Pb**	**15 41 29.3**	**-1.1**
LC01	**Cunco**	**3.24**	**29**	⇑*i*P			**Pn**	**15 41 33.6**	**+1.6**
LC01				*e*S			**Sn**	**15 42 11.7**	**+1.4**
LC01				IAML				15 42 26.1	
	comp=N,7μm,0.7s								
LC01	**Cunco**	**3.24**	**29**				**Pn**	**15 41 33.4**	**+1.4**
COYC	**Coyhaique**	**4.05**	**161**	⇓*i*P			**Pn**	**15 41 44.6**	**+1.6**
COYC				*e*S			**Sn**	**15 42 32.2**	**+2.1**
COYC	**Coyhaique**	**4.05**	**161**	Pn			**Pn**	**15 41 46.1**	**+3.0**
BI05	**Punta Hualpn**	**5.02**	**7**	*e*P			**Pn**	**15 41 55.6**	**-0.8**
ML02	**Panimavida**	**6.28**	**19**	Pn			**Pn**	**15 42 12.9**	**-0.9**
GO05	**Huala**	**6.90**	**14**	Pn			**Pn**	**15 42 21.7**	**-0.6**
BO02	**Sierra Bellavi**	**7.37**	**21**				**Pn**	**15 42 28.5**	**-0.2**
BO01	**Tunca**	**7.67**	**18**				**Pn**	**15 42 30.4**	**-2.5**
MT01	**Popeta**	**8.14**	**16**				**Pn**	**15 42 37.7**	**-1.7**
VA05	**Santo Domingo**	**8.28**	**13**				**Pn**	**15 42 39.2**	**-1.9**
MT09	**Talagante**	**8.29**	**17**				**Pn**	**15 42 39.1**	**-2.3**
MT05	**Renca**	**8.71**	**18**	Pn			**Pn**	**15 42 45.1**	**-2.1**
MT02	**Curacav**	**8.75**	**15**				**Pn**	**15 42 45.6**	**-2.1**
VA01	**Torpederas**	**8.89**	**12**	Pn			**Pn**	**15 42 48.1**	**-1.4**
VA03	**San Esteban**	**9.36**	**18**				**Pn**	**15 42 53.7**	**-2.3**
ZON	**Zonda**	**11.01**	**24**	Pn			**Pn**	**15 43 16.4**	**-2.2**
CO03	**El Pedregal**	**11.19**	**14**				**Pn**	**15 43 18.9**	**-2.3**
CO06	**Fray Jorge**	**11.20**	**10**				**Pn**	**15 43 19.0**	**-2.2**
MG04	**Isla Riesco**	**11.23**	**173**	Pn			**Pn**	**15 43 21.0**	**-0.5**
GO04	**Tololo Observa**	**11.82**	**13**				**Pn**	**15 43 27.4**	**-2.5**
CO05	**La Serena**	**12.00**	**11**				**Pn**	**15 43 29.2**	**-2.9**
LCO	**Las Campanas**	**12.97**	**13**	P			**Pn**	**15 43 46.3**	**+0.6**
LCO	**Las Campanas**	**12.97**	**13**	Pn			**Pn**	**15 43 46.2**	**+0.6**
LPA	**La Plata**	**14.27**	**67**	*e*P			**P**	**15 44 09.6**	**-0.7**
LPA				sP			Pn	15 44 17.3	+14
LPA				PP			**PbPb**	**15 44 50.2**	**+0.1**
LPA				S			**Sn**	**15 46 41.6**	**+0.6**
LPA				SS			S	**15 46 57.5**	**-3.8**
LPA				SSS			SSS	15 47 08.1	
LPA				SS			**SbSb**	**15 47 53.7**	**+13**
LPA				SSS			SSS	15 48 01.8	
LPA				PCP			PcP	15 49 01.5	-19
LPA				SCS			ScS	15 55 57.8	-33
LPA				PKIKP			**PKiKP**	**15 57 15.9**	**0.0**
LPA				SKIKP				16 00 37.6	
LPA				PKIKS				16 00 43.9	
LPA				SKIKS				16 04 10.2	
GO03	**Copiap**	**14.44**	**13**	Pn			**Pn**	**15 44 05.0**	**-0.6**
EFI	**East Falkland**	**14.70**	**138**	*i* P			**P**	**15 44 12.4**	**-2.5**
EFI				pmax			pmax		
	comp=Z,81nm,0.9s								
EFI	**East Falkland**	**14.70**	**138**	Pn			**Pn**	**15 44 10.6**	**+1.8**
PB14	**IPOC Station P**	**17.32**	**11**				**Pn**	**15 44 41.8**	**-1.4**
PB10	**IPOC Station P**	**18.40**	**10**	P			**P**	**15 44 53.9**	**-2.2**
ITQB	**Itaqui**	**18.46**	**55**	*e*P			**Pn**	**15 44 57.3**	**+0.4**
ITQB	**Itaqui**	**18.46**	**55**	P			**P**	**15 44 54.2**	**-2.6**
PB15	**IPOC Station P**	**18.86**	**13**	P			**P**	**15 44 58.5**	**-2.9**
PLTB	**Pedras Altas**	**19.04**	**65**	P			**P**	**15 45 01.3**	**-1.8**
PB06	**IPOC Station P**	**19.33**	**12**	P			**P**	**15 45 05.4**	**-1.1**
LVC	**Limon Verde**	**19.54**	**14**	P			**P**	**15 45 09.4**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=188,slow=9.6,SNR=20								
LVC				S			**Sn**	**15 48 51.1**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=79,slow=21,SNR=1.3								
LVC				LR			LR	15 52 35.2	
	comp=Z,1μm,20.5s,baz=194,slow=36								
LVC	**Limon Verde**	**19.54**	**14**	*e*P			**P**	**15 45 08.9**	**-0.1**
LVC	**Limon Verde**	**19.54**	**14**				**Sn**	**15 48 51.1**	**+1.8**
LVC	**Limon Verde**	**19.54**	**14**				**P**	**15 45 07.6**	**-1.4**
PB04	**IPOC Station P**	**19.61**	**10**				**P**	**15 45 08.8**	**-0.8**
PB07	**IPOC Station P**	**20.25**	**11**	P			**P**	**15 45 15.0**	**-1.5**
PB09	**IPOC Station P**	**20.27**	**13**				**P**	**15 45 15.6**	**-1.2**
PB09				IAmb			IAmb	15 45 30.6	
	comp=Z,78nm,1.0s								
CPUP	**Villa Florida**	**20.57**	**47**	P			Pn	15 45 21.1	-0.9
	comp=Z,69nm,0.8s,baz=229,slow=9.2,SNR=50								
CPUP				LR			LR	15 53 22.1	
	comp=Z,1μm,21.4s,baz=220,slow=37								
CPUP	**Villa Florida**	**20.57**	**47**	*e*P			Pn	15 45 21.4	-0.7
CPUP	**Villa Florida**	**20.57**	**47**				**P**	**15 45 19.7**	**-0.1**
CPUP				IAmb			IAmb	15 45 23.8	
	comp=Z,58nm,0.8s								
PB01	**IPOC Station P**	**20.98**	**12**	P			**P**	**15 45 23.2**	**-1.1**
PB01				IAmb			IAmb	15 45 29.9	
	comp=Z,96nm,1.0s								
TA01	**Diego Aracena**	**21.35**	**10**	P			**P**	**15 45 27.6**	**-0.6**
TA02	**Huaiquique**	**21.65**	**10**	P			**P**	**15 45 29.8**	**-1.7**
TA02				IAmb			IAmb	15 45 36.4	
	comp=Z,182nm,1.6s								
PB08	**IPOC Station P**	**21.91**	**12**	P			**P**	**15 45 33.7**	**-1.0**
PB11	**IPOC Station P**	**22.21**	**11**	P			**P**	**15 45 36.3**	**-1.4**
PB11				IAmb			IAmb	15 45 58.9	
	comp=Z,116nm,1.0s								
ITAB	**Concordia**	**22.98**	**58**	*e*P			**P**	**15 45 46.6**	**+1.0**
ITAB	**Concordia**	**22.98**	**58**	P			**P**	**15 45 43.1**	**-2.5**
PB12	**IPOC Station P**	**23.26**	**9**	P			**P**	**15 45 44.6**	**-4.0**
PB12				IAmb			IAmb	15 46 11.3	
	comp=Z,53nm,1.0s								
PB16	**IPOC Station P**	**23.64**	**10**	P			**P**	**15 45 49.5**	**-3.3**
PMSA	**Palmer Station**	**23.76**	**169**	P			P	15 45 59.8	+6.8
	comp=Z,75nm,0.9s,baz=36,slow=6.7,SNR=5.7								
PMSA				LR			LR	15 54 16.0	
	comp=Z,1μm,19.6s,baz=306,slow=34								
PMSA	**Palmer Station**	**23.76**	**169**	*e*P			**P**	**15 45 52.5**	**-0.4**
PMSA	**Palmer Station**	**23.76**	**169**	P			P	15 45 59.8	+6.8
PMSA	**Palmer Station**	**23.76**	**169**	IAmb			IAmb	15 46 05.8	
	comp=Z,71nm,0.9s								
TER01	**Tubaro-SC**	**24.08**	**65**	*e*P			**P**	**15 45 57.5**	**+1.0**
LPAZ	**La Paz**	**25.85**	**13**	P			**P**	**15 46 13.9**	**+0.7**
	comp=Z,28nm,1.1s,baz=194,slow=7.6,SNR=26								
LPAZ	**La Paz**	**25.85**	**13**	P			**P**	**15 46 14.0**	**+0.7**
LPAZ	**La Paz**	**25.85**	**13**	*e*P			**P**	**15 46 12.3**	**-1.0**
LPAZ	**La Paz**	**25.85**	**13**	P			**P**	**15 46 11.2**	**-2.1**
AQDB	**Aquidauana**	**26.22**	**42**	*e*P			**P**	**15 46 15.1**	**-0.7**
AQDB	**Aquidauana**	**26.22**	**42**	P			**P**	**15 46 14.0**	**-1.8**
FRTB	**Fartura**	**27.38**	**55**	*e*P			**P**	**15 46 26.9**	**+0.5**
PCMB	**Pacaembu**	**27.69**	**50**	*e*P			**P**	**15 46 28.3**	**-0.8**
SIV	**San Ignacio**	**27.95**	**27**	P			**P**	**15 46 30.6**	**-0.9**
	comp=Z,32nm,1.1s,baz=218,slow=9.5,SNR=45								
SIV				LR			LR	15 59 39.2	
	comp=Z,2μm,18.4s,baz=218,slow=41								
PET01	**Itanhaem-SP**	**28.15**	**60**	*e*P			**P**	**15 46 34.2**	**+1.0**
SPB	**Sao Paulo**	**28.54**	**59**	*e*P			**P**	**15 46 37.2**	**+0.5**
SPB	**Sao Paulo**	**28.54**	**59**	P			**P**	**15 46 35.7**	**-1.0**
PP1B	**Ponte de Pedra**	**29.07**	**40**	*e*P			**P**	**15 46 41.0**	**-0.4**
PTLB	**Pontes e Lacer**	**29.15**	**30**	*e*P			**P**	**15 46 42.1**	**0.0**
PTLB	**Pontes e Lacer**	**29.15**	**30**	P			**P**	**15 46 41.8**	**-0.3**
PTLB				IAmb			IAmb	15 46 43.5	
	comp=Z,69nm,1.0s								
VAO	**Valinhos**	**29.26**	**59**	*e*P			**P**	**15 46 43.4**	**+0.2**
RCLB	**Rio Claro- Sao**	**29.33**	**57**	*e*P			**P**	**15 46 43.7**	**-0.1**
ITRB	**Iturama**	**29.70**	**49**	*e*P			**P**	**15 46 45.9**	**-1.2**
BB19B	**Bebedouro**	**29.72**	**54**	*e*P			**P**	**15 46 46.1**	**-1.1**
NNA	**Nana**	**29.75**	**354**	LR			LR	15 56 06.9	
	comp=Z,386nm,21.9s,baz=164,slow=31								
NNA	**Nana**	**29.75**	**354**	*e*P			**P**	**15 46 49.4**	**+1.9**
NNA				pmax			pmax		
	comp=Z,31nm,1.7s								
SALV	**Santo Antonio**	**30.17**	**37**	*e*P			**P**	**15 46 50.8**	**-0.4**
VILB	**Vilhena**	**31.08**	**27**	*e*P			**P**	**15 46 59.2**	**0.0**
VILB	**Vilhena**	**31.08**	**27**	P			**P**	**15 46 58.4**	**-0.9**
VILB				IAmb			IAmb	15 47 02.8	
	comp=Z,33nm,0.7s								
VAS01	**Vassouras-RJ**	**32.07**	**62**	*e*P			**P**	**15 47 08.5**	**+0.6**
BSCB	**Bom Sucesso**	**32.11**	**59**	*e*P			**P**	**15 47 08.7**	**+0.3**
ARAG	**Araguaiana, MT**	**32.20**	**43**	*e*P			**P**	**15 47 09.3**	**+0.3**
IPMB	**Ipameri, GO**	**32.30**	**51**	*e*P			**P**	**15 47 08.5**	**-1.5**
RPN	**Rapa Nui**	**32.40**	**285**	LR			LR	15 56 39.4	
	comp=Z,1μm,19.7s,baz=128,slow=29								
ETMB	**Extrema**	**32.52**	**14**	*e*P			**P**	**15 47 12.1**	**+0.3**
ETMB	**Extrema**	**32.52**	**14**	P			**P**	**15 47 11.0**	**-0.9**
ETMB				IAmb			IAmb	15 47 13.2	
	comp=Z,46nm,1.0s								
PDRB	**Porto dos Gac**	**33.58**	**32**	*e*P			**P**	**15 47 21.3**	**+0.2**
CZSB	**Cruzeiro do Su**	**33.89**	**2**	*e*P			**P**	**15 47 24.3**	**+0.5**
CZSB	**Cruzeiro do Su**	**33.89**	**2**	P			**P**	**15 47 23.2**	**-0.7**
BDFB	**Brasilia**	**34.28**	**48**	P			**P**	**15 47 26.4**	**-1.0**
	comp=Z,58nm,0.7s,baz=214,slow=6.9,SNR=85								
BDFB				LR			LR	16 01 58.5	
	comp=Z,837nm,19.8s,baz=217,slow=37								
BDFB	**Brasilia**	**34.28**	**48**	P			**P**	**15 47 25.7**	**-1.7**
CLDB	**Colider**	**34.62**	**33**	*e*P			**P**	**15 47 29.7**	**-0.4**
ATAH	**Atahualpa**	**34.70**	**352**	P			**P**	**15 47 33.0**	**+1.8**
	comp=Z,9.7nm,0.7s,baz=188,slow=5.9,SNR=7.4								
ATAH				LR			LR	16 00 18.4	
	comp=Z,298nm,18.4s,baz=170,slow=34								
ATAH	**Atahualpa**	**34.70**	**352**	P			**P**	**15 47 33.0**	**+1.8**
DIAM	**Diamantina, MG**	**34.80**	**57**	*e*P			**P**	**15 47 31.9**	**0.0**
ALF01	**Guarapari-ES**	**35.03**	**63**	*e*P			**P**	**15 47 34.4**	**+0.6**
SNDB	**Serra Nova Dou**	**35.64**	**40**	*e*P			**P**	**15 47 38.3**	**-0.7**
SJMB	**Sao Joao De Ma**	**36.09**	**60**	*e*P			**P**	**15 47 42.5**	**-0.3**
RIB01	**Linhares ES**	**36.17**	**62**	*e*P			**P**	**15 47 43.8**	**+0.3**
JANB	**Januaria**	**36.88**	**53**	*e*P			**P**	**15 47 48.8**	**-0.9**
PEXB	**Peixe**	**37.04**	**45**	*e*P			**P**	**15 47 50.8**	**-0.2**
TBTG	**Tabatinga, AM**	**37.57**	**7**	*e*P			**P**	**15 47 55.6**	**+0.2**
TBTG	**Tabatinga, AM**	**37.57**	**7**	P			**P**	**15 47 53.3**	**-2.0**
NPGB	**Novo Progresso**	**38.28**	**31**	*e*P			**P**	**15 48 00.7**	**-0.7**
GUA01	**Guaratinga, BA**	**38.53**	**60**	*e*P			**P**	**15 48 03.5**	**0.0**
SDBA	**SAO DESIDERIO**	**38.65**	**49**	*e*P			**P**	**15 48 03.9**	**-0.7**
CMC01	**Camacan, BA**	**39.62**	**59**	*e*P			**P**	**15 48 13.2**	**+0.5**
NBIT	**Itapeh - BA**	**39.99**	**58**	*e*P			**P**	**15 48 16.5**	**+0.7**
SMTB	**Santa Maria do**	**40.15**	**43**	*e*P			**P**	**15 48 17.0**	**-0.1**
MACA	**Manacapuru-AM**	**40.21**	**21**	*e*P			**P**	**15 48 16.8**	**-0.7**
MACA	**Manacapuru-AM**	**40.21**	**21**	P			**P**	**15 48 16.2**	**-1.3**
ITTB	**Itaituba**	**40.61**	**29**	*e*P			**P**	**15 48 20.6**	**-0.3**
GDU01	**Guandu, BA**	**40.81**	**57**	*e*P			**P**	**15 48 22.6**	**0.0**
PRPB	**Parauapebas**	**41.41**	**38**	*e*P			**P**	**15 48 26.6**	**-0.8**
OTAV	**Otavalo**	**41.99**	**353**	P			**P**	**15 48 31.6**	**-1.1**
OTAV				pmax			pmax		
	comp=Z,58nm,1.3s								
OTAV	**Otavalo**	**41.99**	**353**	*e*P			**P**	**15 48 34.8**	**+2.1**
OTAV	**Otavalo**	**41.99**	**353**	P			**P**	**15 48 31.6**	**-1.1**
OTAV				IAmb			IAmb	15 48 37.8	
	comp=Z,58nm,1.2s								
NBPN	**Ponto Novo - B**	**42.65**	**54**	*e*P			**P**	**15 48 37.0**	**-0.7**
PTGA	**Pitinga**	**42.73**	**21**	P			**P**	**15 48 37.8**	**-0.4**
	comp=Z,43nm,0.6s,baz=207,slow=11,SNR=122								
PTGA				LR			LR	16 08 40.5	
	comp=Z,616nm,19.2s,baz=208,slow=39								
PTGA	**Pitinga**	**42.73**	**21**	P			**P**	**15 48 37.8**	**-0.4**
VNA3	**Neumayer Olymp**	**42.88**	**155**	P			**P**	**15 48 40.3**	**+1.5**
VNA1	**Neumayer--Stat**	**43.26**	**154**	P			**P**	**15 48 43.6**	**+1.6**
MALB	**Monte Alegre**	**43.47**	**29**	*e*P			**P**	**15 48 44.8**	**+0.6**
VNA2	**Neumayer--Watz**	**43.58**	**154**	P			**P**	**15 48 46.0**	**+1.6**
	baz=273,slow=8.5								
NBLA	**Lagarto - SE**	**44.02**	**56**	*e*P			**P**	**15 48 48.6**	**0.0**
SNAA	**Sanae**	**45.09**	**155**	P			**P**	**15 48 58.2**	**+1.5**
SNAA	**Sanae**	**45.09**	**155**	P			**P**	**15 48 58.2**	**+1.5**
	comp=Z,65nm,1.0s,baz=271,slow=7.3,SNR=54								
SNAA				LR			LR	16 06 35.7	
	comp=Z,309nm,19.8s,baz=305,slow=34								
SNAA	**Sanae**	**45.09**	**155**	*c*e*P*			**P**	**15 48 58.1**	**+1.5**
SNAA				pmax			pmax		
	comp=Z,97nm,1.3s								
SNAA	**Sanae**	**45.09**	**155**	P			**P**	**15 48 57.7**	**+1.1**
TMAB	**Tom-Au,PA,Br**	**45.55**	**38**	*e*P			**P**	**15 49 01.8**	**+1.0**
BOAV	**Boa Vista**	**45.59**	**19**	*e*P			**P**	**15 49 00.6**	**-0.5**
BOAV	**Boa Vista**	**45.59**	**19**	P			**P**	**15 49 00.3**	**-0.8**
BOAV				PcP			**PcP**	**15 50 39.6**	**+0.2**
MCPB	**Macapa, AP**	**45.68**	**31**	*e*P			**P**	**15 49 02.3**	**+0.4**
NBAN	**Anadia - AL**	**45.98**	**57**	*e*P			**P**	**15 49 04.4**	**+0.1**
NBMA	**Muriti-CE**	**46.26**	**52**	*e*P			**P**	**15 49 07.3**	**+0.8**
ROSC	**El Rosal**	**46.36**	**359**	P			**P**	**15 49 09.2**	**+1.5**
	comp=Z,12nm,0.4s,baz=291,slow=21,SNR=5.1								
ROSB	**Rosrio**	**47.01**	**43**	*e*P			**P**	**15 49 12.2**	**-0.1**
NBPS	**Pedro II - PI**	**47.16**	**47**	*e*P			**P**	**15 49 14.1**	**+0.6**
NBPB	**Pedra_Branca-C**	**47.25**	**50**	*e*P			**P**	**15 49 15.1**	**+0.9**
NBRF	**Rio Formoso -**	**47.46**	**57**	*e*P			**P**	**15 49 16.7**	**+0.9**
QSPA	**South Pole Qui**	**48.50**	**180**	P			**P**	**15 49 25.8**	**+2.2**
	comp=Z,9.9nm,0.9s,baz=146,slow=3.5,SNR=21								
QSPA				LR			LR	16 09 37.7	
	comp=Z,146nm,18.2s,baz=168,slow=36								
QSPA	**South Pole Qui**	**48.50**	**180**	P			**P**	**15 49 25.1**	**+1.5**
NBMO	**Morrinhos-CE**	**48.83**	**48**	*e*P			**P**	**15 49 26.4**	**0.0**
ZARC	**Zaragoza, Cauc**	**49.00**	**359**	P			**P**	**15 49 27.2**	**-0.5**
NBCL	**Cascavel-CE**	**49.07**	**50**	*e*P			**P**	**15 49 29.5**	**+1.2**
NBPV	**Pedro Velho**	**49.10**	**55**	*e*P			**P**	**15 49 29.4**	**+0.8**
RCBR	**Riachuelo**	**49.20**	**54**	P			**P**	**15 49 29.9**	**+0.6**
RCBR				pmax			pmax		
	comp=Z,43nm,1.3s								
RCBR	**Riachuelo**	**49.20**	**54**	*e*P			**P**	**15 49 29.8**	**+0.5**
RCBR	**Riachuelo**	**49.20**	**54**	P			**P**	**15 49 29.9**	**+0.6**
RCBR				IAmb			IAmb	15 49 31.4	
	comp=Z,43nm,1.2s								
NVL	**N'lazarevskaya**	**49.89**	**154**	*e*P			**P**	15 49 41.8	+7.9
NVL				pmax			pmax		
	comp=Z,63nm,1.1s								
SDV	**Santo Domingo**	**50.47**	**4**	*e*P			**P**	**15 49 38.1**	**-1.0**
SDV	**Santo Domingo**	**50.47**	**4**	P			**P**	**15 49 37.7**	**-1.4**
SDV				IAmb			IAmb	15 49 39.4	
	comp=Z,21nm,0.9s								
SDV				PcP			**PcP**	**15 50 56.2**	**-0.9**
MDP	**Montagnes des**	**50.50**	**28**	LR			LR	16 13 14.7	
	comp=Z,344nm,18.6s,baz=169,slow=39								
BAUV	**El Baul**	**50.73**	**8**	P			**P**	**15 49 40.3**	**-0.5**
BAUV				PcP			**PcP**	**15 50 57.9**	**+0.1**
RIOS	**Rincon, Osa**	**50.97**	**348**	P			**P**	**15 49 40.6**	**-2.0**
RIOS				IAmb			IAmb	15 49 44.8	
	comp=Z,30nm,0.9s								
SRBA	**San Rafael, Bu**	**51.46**	**348**	P			**P**	**15 49 46.2**	**-0.3**
RIMA	**Rio Macho**	**52.07**	**348**	P			**P**	**15 49 49.8**	**-1.2**
BIRV	**Birongo**	**52.44**	**10**	P			**P**	**15 49 52.2**	**-1.3**
JTS	**Las Juntas de**	**52.76**	**346**	*i* P			**P**	**15 49 54.6**	**-1.4**
JTS				pmax			pmax		
	comp=Z,13nm,1.1s								
JTS	**Las Juntas de**	**52.76**	**346**	P			**P**	**15 49 55.4**	**-0.6**
ORTG	**Ortega, Santa**	**52.92**	**346**	P			**P**	**15 49 56.6**	**-0.6**
ORTG				IAmb			IAmb	15 50 08.8	
	comp=Z,20nm,1.0s								
VNDA	**Vanda**	**56.23**	**192**	P			**P**	**15 50 22.6**	**+2.1**
	comp=Z,2.7nm,0.9s,baz=159,slow=4.7,SNR=6.9								
VNDA	**Vanda**	**56.23**	**192**	P			**P**	**15 50 22.0**	**+1.5**
VNDA				pmax			pmax		
	comp=Z,13nm,1.3s								
VNDA	**Vanda**	**56.23**	**192**	P			**P**	**15 50 21.9**	**+1.5**
SYO	**Syowa Base**	**59.26**	**157**	⇑*e*P			**P**	**15 50 39.0**	**-2.8**
SYO	**Syowa Base**	**59.26**	**157**	⇓*e*P			P	15 50 47.1	+5.3
MLPR	**Magueyes Islan**	**59.75**	**8**	P			**P**	**15 50 44.0**	**-1.8**
OBIP	**Obispado Ponce**	**59.87**	**8**	P			**P**	**15 50 45.6**	**-0.9**
GTBY	**Guantanamo Bay**	**61.37**	**359**	P			**P**	**15 50 56.2**	**-0.5**
CMIG	**Matias Romero**	**61.67**	**337**	LR			LR	16 12 12.4	
	comp=Z,179nm,18.5s,baz=168,slow=30								
TBI	**Tubuai**	**64.34**	**261**	*e*S			**S**	**16 00 01.2**	**+7.0**
	comp=Z,159nm,26.5s								
TBI	**Tubuai**	**64.34**	**261**	*e*LR			LR	16 10 30.2	
	comp=Z,401nm,30.5s								
SOR	**Soroa**	**64.76**	**351**	P			**P**	**15 51 18.3**	**-1.0**
SOR				pmax			pmax		
	comp=Z,48nm,1.3s								
SOR	**Soroa**	**64.76**	**351**	P			**P**	**15 51 18.3**	**-1.0**
MAW	**Mawson**	**66.19**	**163**	P			**P**	**15 51 29.9**	**+1.8**
	comp=Z,14nm,0.9s,baz=232,slow=7.5,SNR=7.5								
MAW				LR			LR	16 20 41.7	
	comp=Z,350nm,19.1s,baz=234,slow=36								
MAW	**Mawson**	**66.19**	**163**	P			**P**	**15 51 29.6**	**+1.6**
MAW				pmax			pmax		
	comp=Z,5.0nm,1.1s								
MAW	**Mawson**	**66.19**	**163**	P			**P**	**15 51 29.6**	**+1.6**
TAOE	**Nuku Hiva Isla**	**66.45**	**279**	*e*LR			LR	16 11 32.6	
	comp=Z,643nm,25.8s								
PPT2	**Papeete2**	**67.91

baz=162
S51A Beattyville 79.50 352 P P 15 52 45.8 -1.4
PBMO Poplar Bluff 79.59 347 P P 15 52 46.4 -1.3
319A Douglas 79.73 330 P P 15 52 48.9 +0.2
319A IAmb IAmb 15 53 03.5
comp=Z,16nm,1.0s
TUL1 Leonard 79.84 342 P P 15 52 47.9 -1.2
TUL1 IAmb IAmb 15 52 50.4
comp=Z,24nm,0.9s
TUL1 Leonard 79.84 342 P P 15 52 49.3 +0.2
baz=164
MSTX Muleshoe 79.88 336 P P 15 52 48.7 -0.7
MSTX IAmb IAmb 15 52 51.1
comp=Z,21nm,1.1s
MSTX Muleshoe 79.88 336 P P 15 52 49.2 -0.3
baz=159
R50A Paris 80.21 352 P P 15 52 50.1 -1.0
R50A IAmb IAmb 15 52 52.0
comp=Z,26nm,1.4s
S44A Carbondale 80.29 348 P P 15 52 50.0 -1.4
S44A IAmb IAmb 15 52 52.5
comp=Z,16nm,0.9s
MGMO Mountain Grove 80.30 345 P P 15 52 50.9 -0.6
MGMO IAmb IAmb 15 53 05.2
comp=Z,29nm,1.5s
QUOK Quay 80.30 341 P P 15 52 50.5 -1.1
QUOK IAmb IAmb 15 52 53.1
comp=Z,21nm,0.9s
R49A Shelbyville 80.32 351 IAmb IAmb 15 52 53.1
comp=Z,26nm,1.1s
WCI Wyandotte Cave 80.39 350 P P 15 52 51.5 -0.5
baz=171
AMTX Amarillo 80.40 337 IAmb IAmb 15 53 55.8
comp=Z,14nm,0.7s
LBTB Lobatse 80.40 115 LR LR 16 27 42.9
comp=Z,150nm,18.1s,baz=216,slow=35
LBTB Lobatse 80.40 115 P P 15 52 52.9 +0.1
LBTB pmax pmax
comp=Z,76nm,0.9s
LBTB Lobatse 80.40 115 P P 15 52 52.9 +0.1
Q52A Bidwell 80.69 353 P P 15 52 53.2 -0.4
Q51A Peebles 80.85 353 IAmb IAmb 15 52 55.7
comp=Z,25nm,0.9s
T35A Sooner Cattle 80.97 342 P P 15 52 54.9 -0.2
CCM Cathedral Cave 80.98 346 P P 15 52 54.9 -0.3
CCM pmax pmax
comp=Z,28nm,0.7s
CCM Cathedral Cave 80.98 346 P P 15 52 54.9 -0.3
CCM IAmb IAmb 15 52 56.2
comp=Z,28nm,0.7s
CCM Cathedral Cave 80.98 346 P P 15 52 55.5 +0.3
baz=167
P53A Whipple 81.14 354 IAmb IAmb 15 52 57.3
comp=Z,26nm,0.8s
P60A Greenville 81.19 359 IAmb IAmb 15 52 58.5
comp=Z,22nm,1.1s
P60A Greenville 81.19 359 P P 15 52 57.1 +0.9
baz=179
MCWV Mont Chateau 81.20 355 P P 15 52 56.8 +0.5
baz=176
BNM Barren Site 81.28 333 P P 15 52 54.6 -2.6
KAN13 South Haven SW 81.29 341 IAmb IAmb 15 52 58.2
comp=Z,15nm,0.8s
P52A Corning 81.34 354 P P 15 52 57.1 0.0
baz=174,SNR=14
R40A Maddes Statio 81.40 345 P P 15 52 57.2 -0.1
P49A Miami Univ. Ec 81.49 352 IAmb IAmb 15 52 58.6
comp=Z,36nm,1.1s
P49A Miami Univ. Ec 81.49 352 P P 15 52 57.8 0.0
baz=172
P48A Milroy 81.50 351 IAmb IAmb 15 52 58.5
comp=Z,46nm,1.2s
O56A Blue Knob Stat 81.74 356 P P 15 53 00.2 +1.0
baz=177
O52A Adamsville 81.80 354 IAmb IAmb 15 53 00.6
comp=Z,32nm,0.8s
O53A New Philadelph 81.88 354 P P 15 53 00.1 +0.2
baz=175,SNR=6.1
ANMO Albuquerque 81.95 333 P P 15 53 02.2 +1.5
comp=Z,9.4nm,1.0s,baz=175,slow=7.7,SNR=20
ANMO LR LR 16 25 04.5
comp=Z,186nm,18.5s,baz=135,slow=32
ANMO Albuquerque 81.95 333 P P 15 53 00.8 +0.2
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 81.95 333 P P 15 53 00.8 +0.2
ANMO Albuquerque 81.95 333 P P 15 53 02.1 +1.5
baz=156
ACSO Alum Creek Sta 82.01 353 IAmb IAmb 15 53 01.7
comp=Z,38nm,0.9s
ACSO Alum Creek Sta 82.01 353 P P 15 53 00.6 +0.1
baz=173,SNR=6.0
SSPA Standing Stone 82.08 357 P P 15 53 01.7 +0.8
baz=177
N59A State Game Lan 82.30 359 IAmb IAmb 15 53 04.4
comp=Z,43nm,1.4s
N59A State Game Lan 82.30 359 P P 15 53 01.9 -0.2
baz=179
N53A Lisbon 82.41 355 IAmb IAmb 15 53 04.3
comp=Z,20nm,0.8s
ODNJ Ogdensburg 82.45 359 P P 15 53 03.0 +0.2
ODNJ IAmb IAmb 15 53 04.4
comp=Z,12nm,0.7s
TRNY Table Rock, Ra 82.51 360 IAmb IAmb 15 53 04.8
comp=Z,16nm,1.1s
N54A Moraine State 82.51 355 P P 15 53 03.2 0.0
baz=176
M57A Sunshine Farm, 82.75 358 IAmb IAmb 15 53 06.4
comp=Z,35nm,1.3s
X18A Snowflake 82.80 331 IAmb IAmb 15 53 27.4
comp=Z,27nm,1.8s
N49A Columbus Grove 82.81 352 P P 15 53 03.7 -1.0
N49A IAmb IAmb 15 53 05.5
comp=Z,24nm,0.9s
R32A Long Quarter, 82.93 341 IAmb IAmb 15 53 08.7
comp=Z,29nm,1.2s
P38A Dawn 82.93 345 IAmb IAmb 15 53 06.5
comp=Z,19nm,0.7s
M53A Wt Miller and 83.03 355 P P 15 53 06.1 +0.2
baz=175
M54A Oil Creek Stat 83.03 356 P P 15 53 05.8 -0.1
baz=176
KSU1 Kansas State U 83.08 342 IAmb IAmb 15 53 07.6
comp=Z,22nm,1.0s
KSU1 Kansas State U 83.08 342 P P 15 53 06.5 +0.3
baz=163
HDIL Hopedale 83.10 348 P P 15 53 06.5 +0.3
baz=169
M50A Fremont 83.18 353 P P 15 53 05.7 -0.8
M50A IAmb IAmb 15 53 07.6
comp=Z,21nm,0.8s
W18A Petrified Fore 83.25 331 P P 15 53 08.2 +0.8
baz=154,SNR=5.6
T25A Trinidad 83.31 336 IAmb IAmb 15 53 10.5
comp=Z,19nm,1.0s
T25A Trinidad 83.31 336 P P 15 53 09.2 +1.5
baz=158
N41A Harden Midland 83.50 347 P P 15 53 07.8 -0.5
N41A IAmb IAmb 15 53 09.3
comp=Z,20nm,1.1s
CBKS Cedar Bluff 83.56 340 IAmb IAmb 15 53 11.5
comp=Z,25nm,1.0s
CBKS Cedar Bluff 83.56 340 P P 15 53 09.6 +0.9
baz=161
BINY Binghamton 83.58 358 IAmb IAmb 15 53 10.6
comp=Z,20nm,1.1s
BINY Binghamton 83.58 358 P P 15 53 09.4 +0.7
baz=179
ERPA Erie 83.66 355 P P 15 53 09.5 +0.5
baz=176
HRV Adam Dziewonsk 83.89 2 P P 15 53 11.3 +1.0
baz=182
N38A Joes South For 84.00 345 P P 15 53 10.8 -0.1
BC3 Big Chuckawall 84.19 326 P P 15 53 13.3 +1.2
baz=150
SDCO Great Sand Dun 84.20 335 P P 15 53 13.0 +0.6
baz=157,SNR=6.3
WUAZ Wupatki 84.21 330 P P 15 53 13.6 +1.4
baz=153
IRM Iron Mountain 84.49 327 P P 15 53 15.0 +1.4
baz=150
KSCO Kaye Shedlock' 84.52 338 P P 15 53 14.8 +1.1
baz=159
N35A Tabor 84.55 344 P P 15 53 13.6 -0.1
PFO Pinyon Flats O 84.57 325 P P 15 53 16.0 +2.0
comp=Z,8.8nm,0.9s,baz=168,slow=3.9,SNR=3.9
PFO Pinyon Flats O 84.57 325 P P 15 53 16.1 +2.0
PFO Pinyon Flats O 84.57 325 IAmb IAmb 15 55 31.1
comp=Z,29nm,1.4s
PFO Pinyon Flats O 84.57 325 P P 15 53 15.4 +1.3
baz=150
S22A 4UR Ranch, Cre 84.63 334 IAmb IAmb 15 53 17.2
comp=Z,12nm,1.1s
S22A 4UR Ranch, Cre 84.63 334 P P 15 53 15.5 +1.0
baz=156,SNR=13
MVCO Mesa Verde 84.69 333 P P 15 53 15.8 +1.1
baz=155,SNR=5.0
BELC Belle Mtn. Jos 84.71 326 P P 15 53 15.9 +1.0
baz=150
J57A Williamstown 84.79 358 P P 15 53 15.2 +0.4
J57A IAmb IAmb 15 53 16.7
comp=Z,24nm,1.1s
L40A Anamosa 84.88 347 IAmb IAmb 15 53 16.3
comp=Z,24nm,1.1s
SCIA State Center 85.08 346 P P 15 53 16.9 +0.6
baz=166
KOWA Kowa 85.18 66 P P 15 53 17.3 -0.1
comp=Z,25nm,0.8s,baz=234,slow=5.0,SNR=52
KOWA LR LR 16 27 22.7
comp=Z,504nm,21.0s,baz=214,slow=33
KOWA Kowa 85.18 66 P P 15 53 17.2 -0.2
Q24A Divide 85.22 336 IAmb IAmb 15 53 19.7
comp=Z,12nm,0.9s
Q24A Divide 85.22 336 P P 15 53 18.6 +1.1
baz=157,SNR=7.2
GMRC Granite Mounta 85.25 327 P P 15 53 19.5 +2.0
baz=150
MATP Matopo 85.45 113 LR LR 16 28 21.4
comp=Z,118nm,19.5s,baz=250,slow=33
JFWS Jewell Farm 85.55 348 P P 15 53 18.8 +0.2
baz=168,SNR=5.6
BFSC Mount Baldy Ra 85.62 325 P P 15 53 21.1 +1.7
baz=149
LBNH Lisbon 85.62 1 P P 15 53 19.6 +0.7
baz=182
K38A Parkersburg 85.71 346 IAmb IAmb 15 53 21.1
comp=Z,17nm,0.8s
PV03 Paradox Valley 85.76 333 IAmb IAmb 15 53 30.7
comp=Z,18nm,1.6s
L34A Svendsen Farm, 85.77 343 P P 15 53 19.0 -0.8
SMCO Snowmass 85.98 335 IAmb IAmb 15 53 26.6
comp=Z,15nm,1.0s
LONY Lake Ozonia 85.98 360 P P 15 53 21.3 +0.6
baz=180
KNB Kanab 86.07 330 IAmb IAmb 15 53 32.9
comp=Z,31nm,1.5s
ISCO Idaho Springs 86.12 336 P P 15 53 22.9 +1.0
baz=157,SNR=5.4
FRNY Flat Rock 86.20 0 P P 15 53 21.8 0.0
FRNY IAmb IAmb 15 53 23.6
comp=Z,17nm,1.1s
SADO Sadowa 86.26 356 P P 15 53 22.4 +0.4
comp=Z,3.0nm,0.6s,baz=140,slow=1.9,SNR=4.1
SADO LR LR 16 32 17.6
comp=Z,151nm,21.8s,baz=64,slow=36
SADO Sadowa 86.26 356 IAmb IAmb 15 54 15.8
comp=Z,42nm,1.7s
PLVO Plevna 86.45 358 P P 15 53 23.3 +0.3
PLVO IAmb IAmb 15 53 24.8
comp=Z,28nm,1.3s
AFI Afiamalu 86.61 254 LR LR 16 23 59.0
comp=Z,337nm,20.1s,baz=113,slow=30
G62A West of Eustis 86.63 2 IAmb IAmb 15 53 25.9
comp=Z,25nm,1.1s
MOQ Mont Orford 86.69 1 P P 15 53 24.3 +0.1
CCUT Cedar City 86.75 330 IAmb IAmb 15 53 36.7
comp=Z,15nm,1.3s
K31A O'Neill 86.92 342 P P 15 53 25.5 +0.1
SRU San Rafael Swe 87.10 332 IAmb IAmb 15 53 28.7
comp=Z,10nm,0.9s
F63A Nahmakanta, Br 87.17 3 P P 15 53 27.1 +0.6
F63A IAmb IAmb 15 53 29.0
comp=Z,27nm,1.1s
FURC Furnace Creek, 87.19 327 P P 15 53 28.6 +1.8
baz=150
N23A Red Feather La 87.23 336 IAmb IAmb 15 53 29.6
comp=Z,9.6nm,0.9s
N23A Red Feather La 87.23 336 P P 15 53 28.4 +1.2
baz=157,SNR=5.7
O20A White River Ci 87.25 334 IAmb IAmb 15 53 29.6
comp=Z,11nm,1.0s
O20A White River Ci 87.25 334 P P 15 53 28.7 +1.3
baz=155
PRN Pahroc Range 87.27 328 IAmb IAmb 15 53 30.9
comp=Z,14nm,1.2s
F62A Pittston Farm, 87.33 3 IAmb IAmb 15 53 29.4
comp=Z,22nm,0.9s
P18A Preston Nutter 87.47 333 IAmb IAmb 15 53 31.1
comp=Z,13nm,1.0s
P17A Butcher Ranch, 87.50 332 P P 15 53 28.8 +0.4
P17A IAmb IAmb 15 53 30.7
comp=Z,15nm,1.1s
TMUT Trail Mountain 87.50 332 IAmb IAmb 15 53 31.2
comp=Z,14nm,1.0s
ECSD EROS Data Cent 87.51 344 P P 15 53 28.8 +0.6
baz=163,SNR=40
TRQ Mont Tremblant 87.58 360 IAmb IAmb 15 53 29.9
comp=Z,26nm,1.1s
LMN Caledonia Moun 87.59 6 P P 15 53 28.8 +0.2
VES Vestal, Richgr 87.59 325 P P 15 53 30.1 +1.3
baz=148
CWC Cottonwood Cre 87.67 326 P P 15 53 31.2 +1.8
baz=149
RDMU Red Mountain 88.08 334 P P 15 53 30.8 -0.5
RDMU IAmb IAmb 15 53 33.5
comp=Z,18nm,1.1s
TORD Torodi Ar. Bea 88.21 71 P P 15 53 32.0 -0.3
comp=Z,5.1nm,0.9s,baz=231,slow=4.5,SNR=21
E46A Sault Ste Mari 88.22 353 IAmb IAmb 15 53 32.2
comp=Z,17nm,0.8s
SPMN Marine on St. 88.22 347 P P 15 53 32.1 +0.5
baz=166
TIN Tinemaha, Big 88.26 326 P P 15 53 33.6 +1.5
baz=149
R11A Troy Canyon, C 88.30 328 P P 15 53 34.3 +2.0
baz=150
RWWY Rawlins 88.34 336 IAmb IAmb 15 53 42.5
comp=Z,20nm,1.4s
NLU North Lily Min 88.39 332 P P 15 53 31.6 -1.2
D62A Allapoint, All 88.55 3 IAmb IAmb 15 53 34.4
comp=Z,22nm,1.1s
LSZ Lusaka 88.73 109 LR LR 16 29 13.4
comp=Z,293nm,21.0s,baz=254,slow=33
DUG Dugway, Tooele 88.87 331 IAmb IAmb 15 53 46.4
comp=Z,12nm,1.3s
DUG Dugway, Tooele 88.87 331 P P 15 53 36.3 +1.3
baz=152
LMQ La Malbaie 88.97 2 P P 15 53 34.5 -0.5
LMQ IAmb IAmb 15 53 36.7
comp=Z,24nm,1.1s
K22A Casper 89.01 337 P P 15 53 37.0 +1.5
baz=156
E38A The Farm, Brul 89.36 348 IAmb IAmb 15 53 54.0
comp=Z,40nm,1.6s
F33A 5 Mile Ranch, 89.46 345 IAmb IAmb 15 53 38.3
comp=Z,18nm,1.0s
NVAR Mina Array Bea 89.46 327 P P 15 53 40.0 +2.1
comp=Z,2.6nm,0.9s,baz=166,slow=6.7,SNR=11
NVAR LR LR 16 25 33.6
comp=Z,114nm,19.9s,baz=111,slow=30
RSSD Black Hills 89.66 339 P P 15 53 39.2 +0.6
baz=158
SPUT South Promonto 89.72 332 IAmb IAmb 15 53 41.1
comp=Z,11nm,1.1s
PDAR Pinedale Array 90.05 335 P P 15 53 41.0 +0.5
comp=Z,5.9nm,0.9s,baz=136,slow=6.2,SNR=26
PDAR LR LR 16 28 58.0
comp=Z,202nm,21.6s,baz=95,slow=32
BW06 Boulder Array 90.05 335 P P 15 53 39.8 -0.8
BW06 Boulder Array 90.05 335 P P 15 53 41.6 +1.1
baz=154
ELK Elko 90.25 330 LR LR 16 29 10.9
comp=Z,171nm,18.4s,baz=82,slow=32
REDW Red Top Meadow 91.01 334 IAmb IAmb 15 54 08.8
comp=Z,32nm,1.8s
MSVF Nonsavu 91.15 245 LR LR 16 26 47.3
comp=Z,94nm,21.3s,baz=79,slow=30
FLWY Flagg Ranch 91.60 334 P P 15 53 47.1 -0.6
FLWY IAmb IAmb 15 53 50.0
comp=Z,16nm,1.1s
AGMN Agassiz Nation 91.73 346 IAmb IAmb 15 53 48.8
comp=Z,11nm,1.1s
AGMN Agassiz Nation 91.73 346 P P 15 53 48.0 +0.1
baz=164
MDND Maddock 92.06 343 P P 15 53 50.1 +0.7
baz=161
RLMT Red Lodge 92.08 336 IAmb IAmb 15 53 52.9
comp=Z,15nm,1.2s
RLMT Red Lodge 92.08 336 P P 15 53 51.4 +1.5
baz=154
YMR Madison River 92.21 335 IAmb IAmb 15 54 04.9
comp=Z,11nm,0.9s
HLID Hailey 92.40 332 P P 15 53 51.8 +0.5
HLID Hailey 92.40 332 P P 15 53 52.3 +1.0
baz=151
BOZ Bozeman (W) 93.25 335 IAmb IAmb 15 53 56.2
comp=Z,12nm,1.8s
BOZ Bozeman (W) 93.25 335 P P 15 53 55.8 +0.6
baz=153
ULM Lac du Bonnet 93.61 346 P P 15 53 56.3 -0.2
comp=Z,3.8nm,0.7s,baz=108,slow=1.6,SNR=5.9
ULM Lac du Bonnet 93.61 346 IAmb IAmb 15 53 57.4
comp=Z,5.2nm,0.8s
DZM Mont Dzumac 95.48 234 LR LR 16 30 17.1
comp=Z,100nm,18.6s,baz=183,slow=31
DZM Mont Dzumac 95.48 234 *e*SS SS 16 11 55.6 +6.6
comp=Z,75nm,25.8s
DZM Mont Dzumac 95.48 234 *e*LR LR 16 24 58.0
comp=Z,229nm,28.6s
SCHQ Schefferville 96.39 4 LR LR 16 40 26.7
comp=Z,182nm,18.5s,baz=98,slow=37
NEW Newport 97.41 333 LR LR 16 33 13.4
comp=Z,201nm,20.9s,baz=55,slow=32
MDT Midelt 97.76 53 LR LR 16 37 04.0
comp=Z,800nm,21.3s,baz=242,slow=35
STKA Stephens Creek 99.77 210 LR LR 16 31 19.6
comp=Z,193nm,19.3s,baz=195,slow=30
MBAR Mbarara 100.51 100 *i* P **Pdif 15 54 28.1 -0.8**
YKA Yellowknife Ar 108.91 341 Pdiff **Pdif 15 55 04.4 -0.4**
comp=Z,0.2nm,0.5s,baz=143,slow=5.1,SNR=4.1
YKA PKIKP **PKiKP 15 59 08.5 -0.6**
comp=Z,0.1nm,0.3s,baz=122,slow=3.3,SNR=5.6
ASAR Alice Springs 110.00 207 PKiKP **PKiKP 15 59 11.7 -1.0**
comp=Z,0.3nm,0.8s,baz=132,slow=2.8,SNR=2.2
WRA Warramunga Arr 113.28 209 PKiKP **PKiKP 15 59 18.1 -0.9**
comp=Z,0.6nm,0.8s,baz=181,slow=1.7,SNR=5.4
WRA Warramunga Arr 113.28 209 PKiKP 15 59 18.1 -0.9
M27K Edge Creek, AK 117.12 331 P PKiKP 15 59 25.1 0.0
baz=129
GERES GERESS Array B 118.52 49 PKP **PKPdf 15 59 27.3 -0.8**
comp=Z,1.4nm,0.7s,baz=180,slow=2.1,SNR=9.5
SCRK Sand Creek 118.87 332 P PKiKP 15 59 28.6 +0.2
baz=127
PRP Porcupine Dome 120.30 333 P PKiKP 15 59 31.6 +0.4
baz=125
ILAR Eielson Array 120.36 332 PKP **PKPdf 15 59 30.8 -0.2**
comp=Z,1.8nm,0.9s,baz=177,slow=2.2,SNR=18
MCK McKinley 120.53 330 P PKiKP 15 59 32.1 +0.6
baz=123
POKR Poker Plat Res 120.74 332 P PKiKP 15 59 32.4 +0.5
baz=124
TRF Thorofare Moun 120.89 329 P PKiKP 15 59 32.5 0.0
baz=122
BPAW Bear Paw Mtn. 121.49 330 P PKiKP 15 59 33.6 +0.2
baz=121
CAST Castle Rocks 121.56 329 P PKiKP 15 59 34.3 +0.7
baz=121
CHUM Lake Minchumin 121.89 329 P PKiKP 15 59 35.1 +0.9
baz=120
J20K Nowinta River 122.73 329 P PKiKP 15 59 36.4 +0.6
baz=119
COLD Coldfoot 122.81 333 PKiKP 15 59 36.1 +0.2
COLD Coldfoot 122.81 333 P PKiKP 15 59 36.9 +1.1
baz=120
TTA Tatalina 122.87 327 P PKiKP 15 59 37.1 +0.9
baz=118
H21K Melozitna Rive 122.95 331 P PKiKP 15 59 36.7 +0.5
baz=119
NOA NORSAR Array B 123.27 35 PKP **PKPdf 15 59 36.6 -0.1**
comp=Z,2.0nm,0.9s,baz=243,slow=2.1,SNR=4.7
TOLK Toolik Lake Re 123.32 335 PKiKP 15 59 36.9 0.0
TOLK Toolik Lake Re 123.32 335 P PKiKP 15 59 37.9 +1.0
baz=120
H11S2 WAKE ISLAND Hyl 23.88 265 T T 18 15 33.3
baz=128,slow=74,SNR=52
H11S1 WAKE ISLAND Hyl 23.90 265 T T 18 15 30.3
baz=128,slow=74,SNR=20
H11S3 WAKE ISLAND Hyl 23.90 265 T T 18 15 30.6
baz=128,slow=74,SNR=32
HFS Hagfors 123.96 37 PKP **PKPdf 15 59 37.2 -0.9**
comp=Z,2.4nm,0.7s,baz=233,slow=7.2,SNR=4.3
HFS Hagfors 123.96 37 PKPdf 15 59 37.2 -0.9
KLNR Kaliningrad 124.81 45 *i* PKIKP **PKiKP 15 59 40.0 -0.1**
KLNR pmax pmax
comp=Z,61nm,1.3s
SUW Suwalki 126.16 47 PKIKP **PKPdf 15 59 41.6 -0.9**
SUW Suwalki 126.16 47 PKPdf 15 59 41.6 -0.9
BRTR Keskin Array B 126.61 66 PKP **PKPdf 15 59 43.6 -0.4**
comp=Z,2.3nm,0.8s,baz=181,slow=2.7,SNR=9.3
A21K Barrow 126.68 337 PKPdf 15 59 41.5 -1.5
A21K Barrow 126.68 337 P PKiKP 15 59 43.7 +0.3
baz=112
ANM Nome 127.34 327 P PKiKP 15 59 45.6 +0.7
baz=110
AKASG Malin Array Be 128.32 52 PKP **PKPdf 15 59 46.5 -0.2**
comp=Z,1.4nm,0.5s,baz=263,slow=2.2,SNR=8.0
AKASG PP **PP 16 01 50.0 -2.0**
comp=Z,0.9nm,0.7s,baz=250,slow=6.7,SNR=4.8
NACGM Naroch 128.44 46 *i* PKP PKPdf 15 59 37.2 -10
TNA Tin City 128.68 328 P PKiKP 15 59 48.0 +0.4
baz=107
MNK Minsk 128.91 47 *i* P **Pdif 15 56 39.3 +5.4**
MNK *i* 15 59 46.8
MNK *i* 16 01 55.8
MNK *i* PPP PPP 16 04 39.7
MNK *i* PS **PS 16 12 02.4 -1.5**
MNK *i* SS SS 16 19 13.2 -0.5
MNK *i* SSS SSS 16 23 58.8
MNK pmax pmax
comp=Z,7.0nm,1.0s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK MLR MLR
comp=E,24nm,19.0s
MNK MLR MLR
comp=Z,188nm,20.0s
MNK MLR MLR
comp=N,90nm,18.0s
MNK Minsk 128.91 47 *i* P **Pdif 15 56 39.3 +5.4**
MNK comp=E,2.0nm,1.0s
MNK *i* P **Pdif 15 56 39.3 +5.4**
MNK comp=N,9.0nm,0.8s
MNK *i* P **Pdif 15 56 39.3 +5.4**
MNK comp=Z,7.0nm,1.0s,baz=251
MNK *i* PKP **PKPdf 15 59 46.8 -0.8**
MNK *i* PP **PP 16 01 55.8 +0.1**
MNK *i* PPP PPP 16 04 39.8
MNK *i* SKS **SKSdf 16 07 01.3 +3.2**
MNK *i* PS **PS 16 12 02.5 -1.4**
MNK *i* SS **SS 16 19 13.2 -0.5**
MNK *i* SSS SSS 16 23 58.8
MNK *i* LR LR 16 54 03.1
MNK *i* LRM MLR 16 57 29.1
comp=E,24nm,19.1s
MNK *i* LRM MLR 16 57 44.4
comp=Z,188nm,20.4s
MNK *i* LRM MLR 16 57 45.7
comp=N,90nm,17.8s
ARCES ARCESS Array B 131.61 28 PKP **PKPdf 15 59 52.7 +0.3**
comp=N,2.4nm,0.8s,baz=33,slow=2.9,SNR=4.3
OBN Obninsk 133.90 48*c* *i* PKIKP **PKPdf 15 59 55.3 -1.8**
OBN *e* 16 02 27.1
OBN pmax pmax
comp=E,6.0nm,0.8s
OBN MLR MLR
comp=Z,255nm,21.0s
KIV Kislovodsk 134.49 65 *e*PKIKP **PKPdf 15 59 57.2 -1.6**
KIV *e* 16 02 31.9
KIV *e*SSS SSS 16 25 21.2
KIV pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 136.39 41 *e*PKIKP **PKPdf 16 00 00.2 -1.4**
KLMR pmax pmax
comp=Z,16nm,1.3s
KLMR Klimovskoe 136.39 41 *e*PKPdf **PKPdf 16 00 00.2 -1.4**
KLMR AMP 16 00 03.1
comp=Z,16nm,1.3s
BILL Bilibino 138.99 330 *e*PKIKP **PKPdf 16 00 06.2 0.0**
BILL *e* 16 02 57.8

BILL pmax pmax
comp=Z,3.0nm,1.0s
KIRV Kirov 141.30 44 c *i* PKIKP **PKPdf 16 00 10.6 0.0**
GEYT Alibeck 143.34 80 PKhKP PKPpre 16 00 12.0
comp=Z,9.4nm,0.7s,baz=230,slow=13,SNR=10
URV Uravakonda 143.49 128 *e*PKiKP **PKiKP 16 00 17.4 -1.9**
PETK Petropavlovsk- 144.03 306 PKP PKPbc 16 00 14.1 +0.4
comp=Z,7.1nm,0.9s,baz=79,slow=7.7,SNR=7.9
RCLA Racherla 144.88 130 *e*PKiKP **PKPdf 16 00 18.2 -0.1**
HRA Herat 145.01 87 PKPbc 16 00 16.6 -1.1
SRLM Srisailam 145.35 129 *e*PKiKP **PKPdf 16 00 19.5 +0.3**
KLRI Killari 145.50 124 *e*PKiKP **PKPab 16 00 19.7 +0.1**
ADKI Addanki 145.76 131 *e*PKPbc **PKPdf 16 00 17.2 -2.6**
NJS Nagarjunasagar 145.95 129 *e*PKiKP **PKPab 16 00 21.3 0.0**
HYBB Hyderabad (bro 146.19 128 *e*PKiKP **PKPab 16 00 22.0 -0.2**
CUPL Choutuppal 146.31 128 *e*PKiKP **PKPab 16 00 22.3 -0.4**
ARU Arti 146.33 48 *i* PKP2 **PKPbc 16 00 20.3 -0.5**
ARU 16 03 39.4
ARU SS SS 16 22 41.5 +1.3
ARU Arti 146.33 48 PKPdf 16 00 19.8 +0.3
MYLAV Mylavaram 146.87 131 *e*PKiKP **PKPab 16 00 23.8 -1.0**
SRSP Sriramsagar 147.23 126 *e*PKiKP **PKPbc 16 00 24.7 +0.2**
ABKAR Abkulak array 147.23 61 PKPdf 16 00 21.4 +0.1
ABKAR Abkulak array 147.23 61 PKPdf 16 00 21.2 0.0
SVE Sverdlovsk 147.43 47 *e*PKP2 **PKPab 16 00 24.9 -1.0**
SVE pmax pmax
comp=Z,28nm,1.3s
RPR Rampur 147.75 127 *e*PKPbc **PKPdf 16 00 22.7 -0.3**
PVM Polavaram 147.82 132 *e*PKiKP **PKPbc 16 00 25.7 -0.4**
TIXI Tiksi 147.96 347 PKPbc **PKPbc 16 00 24.4 -0.5**
comp=Z,17nm,0.9s,baz=40,slow=2.1,SNR=42
TIXI Tiksi 147.96 347 *c i* PKIKP **PKPdf 16 00 20.1 -1.7**
TIXI Tiksi 147.96 347 PKPdf 16 00 20.8 -1.0
TIXI PKPbc **PKPbc 16 00 24.2 -0.7**
KBL Kabul 150.17 92 PKIKP **PKPbc 16 00 31.1 -0.8**
KBL Kabul 150.17 92 PKPbc 16 00 31.1 -0.8
CHLP Challavanipeta 150.18 134 *e*PKiKP **PKPbc 16 00 31.9 -0.2**
NRIK Noril'sk 150.69 13 PKPbc **PKiKP 16 00 32.0 -0.5**
comp=Z,15nm,0.9s,baz=45,slow=1.2,SNR=26
NRIK Noril'sk 150.69 13 PKIKP **PKPbc 16 00 31.6 -0.2**
NRIK Noril'sk 150.69 13 PKPdf **PKPdf 16 00 24.9 -1.3**
NRIK **PKPbc 16 00 31.6 -0.2**
NIL Nilore 152.92 97 PKIKP **PKiKP 16 00 38.6 +0.4**
NIL Nilore 152.92 97 PKiKP 16 00 38.6 +0.4
BTK Batken 153.40 82 PKIKP **PKPbc 16 00 38.0 -1.0**
BTK Batken 153.40 82 PKPdf **PKPdf 16 00 30.2 -1.1**
BTK **PKPbc 16 00 38.0 -1.0**
BRVK Borovoye 153.53 52 PKIKP **PKPdf 16 00 29.8 -1.2**
BRVK Borovoye 153.53 52 PKPdf 16 00 29.8 -1.2
BRVK **PKiKP 16 00 38.8 0.0**
KKAR Karatay Array 153.82 75 PKP2 **PKPab 16 00 51.8 -1.1**
KKAR Karatay Array 153.82 75 PKPdf **PKPdf 16 00 31.8 0.0**
KKAR **PKPab 16 00 51.8 -1.1**
YAK Yakutsk 155.27 333 *e*PKIKP PKPdf 16 00 41.7 +8.6
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,1.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK Yakutsk 155.27 333 pPKPab 16 01 08.9 +4.7
CMAR Chiang Mai Arr 156.00 163 PKP **PKPdf 16 00 36.3 +0.8**
comp=E,0.5nm,0.3s,baz=209,slow=2.5,SNR=6.7
CMAR PKPbc **sPKPdf 16 00 45.5 +2.0**
comp=E,2.0nm,0.9s,baz=214,slow=3.6,SNR=9.0
AAK Ala-Archa 156.64 77 PKP2 **PKPab 16 01 04.0 -1.1**
AAK 17 00 34.1
AAK Ala-Archa 156.64 77 PKPdf **PKPdf 16 00 34.1 -1.8**
AAK **PKPab 16 01 04.0 -1.1**
PYUN Piuthan 156.77 119 *e*P **PKPab 16 01 05.5 -0.6**
KOLN Koldanda 156.95 120 *e*P **PKPab 16 01 06.2 -0.6**
DANN Dangsing 157.44 119 *e*P **PKPab 16 01 08.4 -0.7**
comp=E,36nm,0.8s
GKN Gorkha 157.77 121 *e*P **PKPab 16 01 09.6 -0.7**
comp=E,10nm,0.6s
DMN Daman 157.80 123 *e*P **PKPab 16 01 10.2 -0.3**
PKIN Phulchoki 157.96 123 *e*P **PKPab 16 01 10.3 -0.9**
comp=E,25nm,0.8s
PKI Pulchoki 157.96 123 *e*P **PKPab 16 01 10.3 -1.0**
comp=E,24nm,0.8s
KKN Kakani 158.03 123 *e*P **PKPab 16 01 10.7 -0.8**
GUN Gumba 158.49 124 *e*P **PKPab 16 01 12.9 -0.8**
comp=E,28nm,1.0s
KURK Kurchatov 159.09 55 PKIKP **PKPdf 16 00 37.6 -0.7**
KURK 16 01 14.9
KURK Kurchatov 159.09 55 PKPdf 16 00 37.6 -0.7
KURK **PKPab 16 01 14.9 -0.3**
ZALV Zalesovo Beam 161.31 42 PKP **PKPdf 16 00 40.4 -0.3**
comp=E,3.4nm,0.9s,baz=270,slow=1.5,SNR=13
ZALV PKPab **PKPab 16 01 25.0 +0.3**
comp=E,3.9nm,1.0s,baz=297,slow=8.0,SNR=5.2
ZALV Zalesovo Beam 161.31 42 PKPdf 16 00 39.7 -0.9
ZALV PKPab **PKPab 16 01 24.1 -0.6**
MK31 Makanchi Array 162.25 65 PKIKP **PKPdf 16 00 40.6 -1.3**
MK31 16 01 28.4
MK31 Makanchi Array 162.25 65 PKPdf **PKPdf 16 00 40.6 -1.3**
MK31 **PKPab 16 01 28.4 -0.8**
MKAR Makanchi Array 162.25 65 PKP **PKPdf 16 00 41.3 -0.7**
comp=E,13nm,0.3s,baz=262,slow=2.4,SNR=3.3
MKAR PKPab **PKPab 16 01 29.1 -0.1**
comp=E,9.4nm,0.3s,baz=276,slow=3.1,SNR=1.8
MKAR Makanchi Array 162.25 65 PKPdf 16 00 41.3 -0.7
LSA Lhasa 162.96 130 P **PKPab 16 01 33.4 +0.2**
PZH PanZhiHua 164.38 165 PKP **PKPdf 16 00 43.9 -0.8**
NJ2 Nanjing 165.94 231 *e*PKP **PKPdf 16 00 45.3 -0.4**
WMQ Urumqi 166.33 75 *e*PKP **PKPdf 16 00 45.6 -0.2**
CD2 Chengdu 169.03 169 PKP **PKPdf 16 00 47.0 -1.1**
MOY Mondy 169.48 18 *e*PKP2 **PKPab 16 02 02.0 +1.1**
MOY pmax pmax
comp=Z,54nm,1.3s
GOMU GeErMu 169.63 119 PKP **PKPdf 16 00 49.8 +1.1**
ZAK Zakamensk 171.15 12 *e*PKP2 **PKPab 16 02 07.6 -0.7**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
XLT XiLinHaoTe 172.34 290 *e*PKP **PKPdf 16 00 48.3 -1.2**
XLT AMB AMB
comp=Z,240nm,5.2s
XLT LR LR
comp=Z,320nm,12.8s
XLT LR LR
comp=Z,130nm,10.7s
XLT LR LR
comp=Z,280nm,18.3s
SONM Songino Array 173.91 358 PKP **PKPdf 16 00 48.9 -1.1**
comp=Z,1.0nm,1.0s,baz=329,slow=1.7,SNR=6.1
SONM PKPab **PKPab 16 02 21.7 +1.1**
comp=Z,5.3nm,1.0s,baz=339,slow=2.8,SNR=22
SONM PP **PP 16 06 12.8 +0.5**
comp=Z,1.5nm,1.0s,baz=345,slow=4.4,SNR=6.4
GTA Gaotai 174.69 114 *e*PKP **PKPdf 16 00 51.4 +0.9**
GTA pPKP sPKPdf 16 01 01.6 +3.0
GTA PKPab **PKPab 16 02 25.1 +0.5**
GTA LR LR
comp=Z,130nm,19.6s
GTA LR LR
comp=Z,180nm,19.3s
GTA LR LR
comp=Z,150nm,22.5s
HHC Hu-ho-hao-te 175.78 260 *e*PKP **PKPdf 16 00 48.0 -2.8**

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*IDC **07** 15:43:35.8±1.9, 5.°79S×131.°06E, h0km, mb3.2/1, mb1 4.0/6, mb1mx3.7/31, mbtmp3.9/6, ML3.9/5, Error ellipse: s-maj=44.1km s-min=23.7km az=97.0*
ISC 07 15:43:39.6±0.9, 5.°75S±0.°06×131.°10E±0.°08, h86km, n15, σ3°96/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.70**	**316**	P	**Pn**	**15 44 11.4**	**+3.6**
SAUI	**Saumlaki**	**2.23**	**175**	P	Pn	15 44 20.5	+5.8
FAKI	**Fak Fak**	**3.04**	**22**	P	**Pn**	**15 44 26.2**	**+0.5**
SIJI	**Sorong**	**4.85**	**2**	Pn	**Pn**	**15 44 50.2**	**0.0**
	12nm,0.3s,baz=200,slow=18,SNR=113						
SIJI				Sn	**Sn**	**15 45 41.7**	**-3.5**
	6.8nm,0.3s,baz=263,slow=23,SNR=7.9						
DRS	**Darwin Rock St**	**6.64**	**182**	P	**Pn**	**15 45 18.3**	**+3.7**
KDU	**Kakadu**	**7.02**	**169**	P	**Pn**	**15 45 22.6**	**+2.8**
MTN	**Manton Dam**	**7.05**	**180**	P	**Pn**	**15 45 24.0**	**+3.8**
BATI	**Baumata**	**8.59**	**239**	Pn	**Pn**	**15 45 40.8**	**-0.4**
	1.3nm,0.3s,baz=146,slow=13,SNR=1.3						
BATI				Sn	**Sn**	**15 47 21.4**	**+4.9**
	1.7nm,0.3s,baz=319,slow=22,SNR=1.2						
KNRA	**Kununurra**	**10.13**	**193**	P	**Pn**	**15 46 04.8**	**+2.6**
FITZ	**Fitzroy Crossi**	**13.38**	**203**	Pn	**Pn**	**15 46 45.7**	**-0.3**
	0.4nm,0.3s,baz=22,slow=9.2,SNR=13						
FITZ				Sn	**Sn**	**15 49 07.6**	**-5.5**
	0.7nm,0.3s,baz=213,slow=22,SNR=7.8						
COEN	**Coen**	**14.42**	**125**	P	**Pn**	**15 47 01.5**	**+1.9**
	5.4nm,1.4s						
WRA	**Warramunga Arr**	**14.45**	**168**	Pn	**Pn**	**15 46 59.9**	**-0.2**
	0.4nm,0.3s,baz=348,slow=14,SNR=3.4						
WRA				Sn	**Sn**	**15 49 32.3**	**-7.0**
	0.4nm,0.3s,baz=350,slow=24,SNR=6.2						
ASAR	**Alice Springs**	**18.02**	**172**	P	**Pn**	**15 47 48.0**	**+3.5**
	0.4nm,0.3s,baz=355,slow=12,SNR=13						
ASAR				S	**Sn**	**15 50 58.4**	**-6.9**
	0.1nm,0.3s,baz=357,slow=26,SNR=4.3						
MULG	**Mulgathing**	**24.56**	**174**	P	**P**	**15 48 50.6**	**-0.9**
MKAR	**Makanchi Array**	**67.80**	**326**	P	P	15 54 36.0	+7.5
	0.2nm,0.7s,baz=111,slow=8.2,SNR=2.9						

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*IDC **07** 16:07:56.9±0.8, 21.°86S×68.°11W, h103km±9km, mb3.9/5, mb1 3.9/7, mb1mx3.6/24, mbtmp4.2/7, Error ellipse: s-maj=31.8km s-min=14.5km az=127.0*
*GUC **07** 16:07:59.1±0.8, 21.°96S×68.°39W, h117km±5km, ML3.9*
ISC 07 16:07:58.0±0.8, 21.°88S±0.°04×68.°38W±0.°08, h124km±7km, n29, σ1°28/43, mb4.2/5, 9C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.81**	**276**	⇓ *i* P	**Pn**	**16 08 19.3**	**+0.5**
PB09				*i* S	**Sn**	**16 08 34.1**	**-0.4**
PB09				IAML		16 08 36.0	
	comp=N,2μm,0.5s						
LVC	**Limon Verde**	**0.88**	**214**	P	**Pn**	**16 08 19.4**	**-0.2**
	comp=N,80nm,0.3s,baz=27,slow=9.4,SNR=917						
LVC				S	**Sn**	**16 08 34.8**	**-1.2**
	comp=N,600nm,0.3s,baz=206,slow=19,SNR=52						
LVC	**Limon Verde**	**0.88**	**214**	*e*P	**Pn**	**16 08 19.2**	**-0.4**
LVC				*i* S	**Sn**	**16 08 34.9**	**-1.1**
PB03	**IPOC Station P**	**1.29**	**262**	⇑ *i* P	**Pn**	**16 08 23.2**	**-0.3**
PB03				*i* S	**Sn**	**16 08 42.4**	**-0.5**
PB03				IAML		16 08 43.6	
	comp=E,3μm,0.3s						
PB01	**IPOC Station P**	**1.33**	**309**	⇓ *i* P	**Pn**	**16 08 24.2**	**+0.3**
PB01				*i* S	**Sn**	**16 08 43.6**	**+0.1**
PB01				IAML		16 08 45.6	
	comp=E,2μm,0.3s						
PB06	**IPOC Station P**	**1.38**	**233**	⇑ *i* P	**Pn**	**16 08 24.4**	**-0.1**
PB06				*i* S	**Sn**	**16 08 44.0**	**-0.6**
PB06				IAML		16 08 45.0	
	comp=N,2μm,0.4s						
PB07	**IPOC Station P**	**1.41**	**276**	⇑ *i* P	**Pn**	**16 08 24.8**	**0.0**
PB07				*i* S	**Sn**	**16 08 44.8**	**-0.4**
PB07				IAML		16 08 46.6	
	comp=N,5μm,0.1s						
PB02	**IPOC Station P**	**1.52**	**291**	⇑ *i* P	**Pn**	**16 08 26.0**	**0.0**
PB02				*i* S	**Sn**	**16 08 46.9**	**-0.5**
PB02				IAML		16 08 49.3	
	comp=E,2μm,0.5s						
PB15	**IPOC Station P**	**1.66**	**217**	⇑ *i* P	**Pn**	**16 08 27.8**	**0.0**
PB15				*i* S	**Sn**	**16 08 49.9**	**-0.6**
PB04	**IPOC Station P**	**1.70**	**254**	⇑ *i* P	**Pn**	**16 08 27.7**	**-0.5**
PB04				*i* S	**Sn**	**16 08 49.8**	**-1.5**
PB04				IAML		16 08 53.1	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**1.88**	**337**	⇑ *i* P	**Pn**	**16 08 32.3**	**+1.7**
PB08				*i* S	**Sn**	**16 08 57.6**	**+2.2**
PB08				IAML		16 08 59.0	
	comp=N,437nm,0.3s						
PB05	**IPOC Station P**	**1.95**	**240**	⇑ *i* P	**Pn**	**16 08 30.4**	**-0.7**
PB05				*i* S	**Sn**	**16 08 55.2**	**-1.2**
PB05				IAML		16 09 01.6	
	comp=E,827nm,0.2s						
TA01	**Diego Aracena**	**2.13**	**308**	⇑ *i* P	**Pn**	**16 08 32.9**	**-0.4**
TA01				*i* S	**Sn**	**16 08 59.5**	**-0.8**
TA01				IAML		16 09 00.9	
	comp=E,1μm,0.2s						
TA02	**Huaiquique**	**2.29**	**314**	IAML		16 09 06.2	
	comp=N,976nm,0.2s						
PB10	**IPOC Station P**	**2.58**	**231**	*e*P	**Pn**	**16 08 38.2**	**-0.8**
PB10				IAML		16 09 22.3	
	comp=E,388nm,0.2s						
PB16	**IPOC Station P**	**3.69**	**343**	*e*P	**Pn**	**16 08 55.5**	**+1.5**
PB12	**IPOC Station P**	**3.73**	**330**	*e*P	**Pn**	**16 08 53.0**	**-1.2**
PB12				*i* S	**Sn**	**16 09 35.2**	**-2.4**
LPAZ	**La Paz**	**5.57**	**2**	P	**Pn**	**16 09 21.8**	**+2.5**
	comp=E,0.8nm,0.3s,baz=168,slow=8.2,SNR=10						
LPAZ				S	**Sn**	**16 10 18.2**	**-4.3**
	comp=E,0.5nm,0.3s,baz=203,slow=9.0,SNR=3.6						
SIV	**San Ignacio**	**9.06**	**51**	P	**Pn**	**16 10 03.4**	**-2.4**
	comp=E,7.2nm,0.3s,baz=240,slow=8.3,SNR=100						
SIV				S	Sn	16 11 37.9	-8.3
	comp=E,0.3nm,0.3s,baz=310,slow=23,SNR=1.6						
PLCA	**Paso Flores**	**18.88**	**185**	P	**P**	**16 12 09.0**	**+0.3**
	comp=E,0.0nm,0.3s,baz=16,slow=12,SNR=1.6						
PTGA	**Pitinga**	**22.57**	**22**	P	**P**	**16 12 47.2**	**-0.8**
	comp=E,1.5nm,0.3s,baz=335,slow=23,SNR=4.6						
SNAA	**Sanae**	**61.76**	**161**	P	**P**	**16 18 04.0**	**+1.0**
	comp=E,2.4nm,0.9s,baz=304,slow=7.1,SNR=6.3						
DBIC	**Dimbokro**	**68.37**	**73**	P	**P**	**16 18 46.2**	**-0.4**
	comp=E,2.6nm,0.6s,baz=211,slow=5.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**77.02**	**70**	P	**P**	**16 19 37.9**	**+0.2**
	comp=E,1.6nm,0.5s,baz=262,slow=5.6,SNR=8.1						
YKA	**Yellowknife Ar**	**91.71**	**340**	P	**P**	**16 20 52.2**	**+1.3**
	comp=E,1.0nm,0.6s,baz=134,slow=4.5,SNR=22						
ASAR	**Alice Springs**	**129.80**	**207**	PKP	**PKiKP**	**16 26 54.1**	**-0.1**
	comp=E,0.5nm,0.8s,baz=133,slow=1.7,SNR=6.1						
WRA	**Warramunga Arr**	**132.87**	**210**	PKP	**PKiKP**	**16 27 00.5**	**+0.1**
	comp=E,0.4nm,0.7s,baz=159,slow=1.8,SNR=6.7						
ZALV	**Zalesovo Beam**	**142.08**	**26**	PKP	**PKiKP**	**16 27 17.2**	**-0.9**
	comp=E,0.4nm,0.4s,baz=123,slow=5.5,SNR=3.7						
MKAR	**Makanchi Array**	**145.65**	**37**	PKPbc	**PKPab**	**16 27 23.3**	**+0.7**
	comp=E,0.6nm,0.6s,baz=324,slow=3.7,SNR=4.9						

IDC 07 16:10:18.6±14.0, 5.°81S×148.°59E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, ML3.8/1, Error ellipse: s-maj=218.6km s-min=87.1km az=19.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.74**	**223**	P	Pn	16 14 51.3	-0.2
	0.3nm,0.3s,baz=50,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**22.70**	**217**	P	P	16 15 20.1	-2.0
	0.1nm,0.3s,baz=50,slow=8.8,SNR=7.6						
STKA	**Stephens Creek**	**26.75**	**193**	P	P	16 16 01.2	+1.1
	0.9nm,0.7s,baz=16,slow=18,SNR=3.1						

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*IDC **07** 16:25:37.3±1.5, 43.°50N×105.°47W, h0km, mb4.4/1, mb1 3.5/5, mb1mx3.3/43, mbtmp3.4/5, ML3.1/4, Error ellipse: s-maj=40.4km s-min=9.2km az=153.0*
*NEIC **07** 16:25:39.0±1.3, 43.°58N±0.°05×105.°25W±0.°07, h0km±2km, ML3.2/50, Error ellipse: s-maj=9.8km s-min=8.0km az=314.0*
ISC 07 16:25:37.7±0.9, 43.°58N±0.°05×105.°29W±0.°05, h0km, n41, σ1°26/42, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.06**	**59**		**Pb**	**16 25 59.1**	**+0.1**
K22A	**Casper**	**1.30**	**225**		**Pg**	**16 26 01.2**	**-1.3**
K22A				IAML		16 26 24.8	
	comp=N,262nm,0.5s						
K22A				IAML		16 26 25.0	
	comp=E,338nm,0.7s						
RWWY	**Rawlins**	**2.36**	**218**		**Pn**	**16 26 18.8**	**+0.8**
RWWY				IAML		16 26 52.2	
	comp=E,152nm,0.6s						
RWWY				IAML		16 26 52.4	
	comp=E,162nm,1.0s						
N23A	**Red Feather La**	**2.73**	**191**		**Pn**	**16 26 24.5**	**+1.5**
N23A				IAML		16 27 02.1	
	comp=E,65nm,1.7s						
N23A				IAML		16 27 11.3	
	comp=N,75nm,0.7s						
LAO	**LASA Array**	**3.18**	**348**		**Pn**	**16 26 30.2**	**+1.1**
LAO				IAML		16 27 25.8	
	comp=N,85nm,1.5s						
LAO				IAML		16 27 29.2	
	comp=N,99nm,1.4s						
BW06	**Boulder Array**	**3.23**	**257**		**Pn**	**16 26 30.4**	**+0.5**
PD31	**Pinedale Array**	**3.23**	**257**		**Pn**	**16 26 30.5**	**+0.6**
PDAR	**Pinedale Array**	**3.23**	**257**	Pn	**Pn**	**16 26 30.6**	**+0.7**
	comp=N,2.6nm,0.3s,baz=79,slow=16,SNR=32						
PDAR				Pg	**Pb**	**16 26 35.6**	**-0.4**
	comp=N,7.9nm,0.3s,baz=73,slow=18,SNR=36						
PDAR				Lg	Lg	16 27 13.4	
	comp=N,10nm,0.3s,baz=102,slow=21,SNR=3.3						
PDAR	**Pinedale Array**	**3.23**	**257**		**Pn**	**16 26 30.7**	**+0.9**
RLMT	**Red Lodge**	**3.25**	**300**		**Pn**	**16 26 31.0**	**+0.9**
RLMT				IAML		16 27 21.8	
	comp=N,38nm,0.4s						
RLMT				IAML		16 27 27.9	
	comp=N,61nm,1.1s						
OGNE	**Ogallala**	**3.57**	**136**		**Pn**	**16 26 35.9**	**+1.5**
YMP	**Mirror Lake PI**	**3.69**	**290**		**Pn**	**16 26 38.0**	**+1.7**
YMP				IAML		16 27 39.2	
	comp=E,61nm,0.9s						
YMP				IAML		16 27 41.0	
	comp=N,73nm,1.4s						
ISCO	**Idaho Springs**	**3.78**	**184**		**Pn**	**16 26 39.0**	**+1.4**
GCMT	**Greycliff**	**3.83**	**307**		**Pn**	**16 26 39.4**	**+1.3**
LOHW	**Long Hollow**	**3.86**	**272**		**Pn**	**16 26 40.2**	**+1.7**
LOHW				IAML		16 28 04.0	
	comp=N,23nm,3.0s						
H17A	**Grant Village**	**3.90**	**284**		**Pn**	**16 26 41.4**	**+2.2**
H17A				IAML		16 27 45.6	
	comp=E,29nm,2.6s						
H17A				IAML		16 27 45.7	
	comp=N,42nm,1.8s						
FLWY	**Flagg Ranch**	**3.95**	**279**		**Pn**	**16 26 41.8**	**+2.0**
FLWY				IAML		16 27 52.5	
	comp=N,39nm,3.3s						
MOOW	**Moose Ponds**	**3.96**	**274**		**Pn**	**16 26 41.9**	**+1.9**
YNR	**Norris Junctio**	**4.04**	**288**	Pn	**Pn**	**16 26 42.4**	**+1.3**
O20A	**White River Ci**	**4.09**	**214**		**Pn**	**16 26 43.1**	**+1.5**
O20A				IAML		16 28 22.1	
	comp=E,46nm,1.6s						
YMR	**Madison River**	**4.23**	**287**		**Pn**	**16 26 43.9**	**+0.3**
YMR				IAML		16 28 05.2	
	comp=N,37nm,1.2s						
YMR				IAML		16 28 20.5	
	comp=E,32nm,1.0s						
AHID	**Auburn Hatcher**	**4.33**	**261**		**Pn**	**16 26 46.8**	**+1.8**
AHID				IAML		16 27 59.6	
	comp=E,40nm,1.3s						
AHID				IAML		16 28 43.3	
	comp=E,19nm,3.8s						
E28A	**Huff**	**4.42**	**46**		**Pn**	**16 26 46.4**	**+0.3**
YHL	**Hebgen Lake**	**4.42**	**289**		**Pn**	**16 26 47.5**	**+1.1**
SMCO	**Snowmass**	**4.58**	**197**		**Pn**	**16 26 48.5**	**-0.1**
SMCO				IAML		16 28 07.6	
	comp=E,22nm,1.6s						
SMCO				IAML		16 28 12.0	
	comp=E,20nm,1.6s						
Q24A	**Divide**	**4.61**	**179**		**Pn**	**16 26 49.9**	**+0.9**
Q24A				IAML		16 28 06.2	
	comp=E,18nm,0.9s						
K31A	**O'Neill**	**4.88**	**99**	Pn	**Pn**	**16 26 53.2**	**+0.8**
DGMT	**Dagmar**	**4.95**	**8**		**Pn**	**16 26 53.0**	**-0.3**
KSCO	**Kaye Shedlock'**	**4.98**	**155**		**Pn**	**16 26 54.9**	**+1.0**
HWUT	**Hardware Ranch**	**5.04**	**249**		**Pn**	**16 26 55.5**	**+0.9**
HWUT				IAML		16 28 23.1	
	comp=E,24nm,4.2s						
HWUT				IAML		16 28 36.0	
	comp=E,20nm,1.1s						
P18A	**Preston Nutter**	**5.42**	**225**		**Pn**	**16 27 00.9**	**+0.8**
LRM	**Limekiln Ridge**	**5.58**	**296**		**Pn**	**16 27 03.3**	**+1.1**
PV21	**Cone Mtn., Par**	**5.73**	**210**		**Pn**	**16 27 06.3**	**+2.0**
P17A	**Butcher Ranch,**	**5.79**	**227**		**Pn**	**16 27 06.5**	**+1.4**
HVU	**Hansel Valley**	**5.80**	**255**		**Pn**	**16 27 06.0**	**+0.8**
PV16	**Nyswonger Mesa**	**5.94**	**209**		**Pn**	**16 27 08.5**	**+1.4**
PV03	**Paradox Valley**	**5.96**	**208**		**Pn**	**16 27 08.8**	**+1.4**
ULM	**Lac du Bonnet**	**9.27**	**41**	Pn	**Pn**	**16 27 51.2**	**-1.3**
	comp=E,0.5nm,0.3s,baz=225,slow=11,SNR=2.4						
ULM				Lg	Lg	16 30 29.2	
	comp=E,0.2nm,0.3s,baz=136,slow=14,SNR=3.1						
NVAR	**Mina Array Bea**	**11.10**	**247**	Pn	**Pn**	**16 28 19.6**	**+1.8**
	comp=E,0.1nm,0.3s,baz=54,slow=17,SNR=1.8						
YKA	**Yellowknife Ar**	**19.72**	**347**	P	**Pn**	**16 30 09.9**	**0.0**
	comp=E,0.1nm,0.3s,baz=152,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**92.95**	**69**	P	**P**	**16 38 52.9**	**-0.2**
	comp=E,1.0nm,0.7s,baz=294,slow=5.6,SNR=6.8						

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*TUL **07** 16:30:58.3±1.3, 36.°72N±0.°02×98.°69W±0.°03, h5km±6km, ML2.4, mb_Lg2.4/10(NEIC), Error ellipse: s-maj=3.1km s-min=2.4km az=115.0*
NEIC 07 16:30:58.7±1.4, 36.°72N±0.°02×98.°68W±0.°01, h6km±5km, Error ellipse: s-maj=2.7km s-min=1.4km az=166.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.03**	**243**	Pg	Pg	16 30 59.7	-0.3
OK035				Sg	Sg	16 31 00.5	-0.4
U32A	**Winter Ranch,**	**0.43**	**217**	Pg	Pg	16 31 06.7	-0.4
U32A				Sg	Sg	16 31 12.8	+0.1
CROK	**Carrier**	**0.60**	**111**	Pg	Pg	16 31 10.2	-0.1
CROK				Sg	Sg	16 31 18.3	+0.3
KAN10	**Anthony SW Sta**	**0.62**	**49**	Pg	Pg	16 31 10.5	-0.2
KAN14	**Manchester OK**	**0.62**	**67**		Pg	16 31 10.7	0.0
KAN14				Sg	Sg	16 31 19.3	+0.6
GC02	**Grant County #**	**0.67**	**79**	Pg	Pg	16 31 11.5	-0.1
GC02				Sg	Sg	16 31 20.8	+0.4
KAN16	**Harper SW Stat**	**0.70**	**44**	Pg	Pg	16 31 12.3	0.0
KAN16				Sg	Sg	16 31 21.8	+0.4
KAN05	**Bluff City Nor**	**0.75**	**59**	Pg	Pg	16 31 11.9	-1.3
KAN05				Sg	Sg	16 31 23.6	+0.6
KAN08	**Anthony NE Sta**	**0.76**	**48**	Pg	Pg	16 31 12.5	-0.9
KAN12	**Harper NE Stat**	**0.79**	**43**	Pg	Pg	16 31 13.7	-0.3
KAN12				Sg	Sg	16 31 25.0	+0.7
KAN17	**Caldwell West**	**0.80**	**66**	Pg	Pg	16 31 14.0	-0.1
KAN17				Sg	Sg	16 31 24.4	-0.2
KAN06	**Argonia West S**	**0.84**	**51**	Pg	Pg	16 31 14.1	-0.8
KAN06				Sg	Sg	16 31 26.2	+0.3
KAN01	**Argonia South**	**0.85**	**59**	Pg	Pg	16 31 14.7	-0.5
KAN01				Sg	Sg	16 31 26.6	+0.4
KAN13	**South Haven SW**	**1.01**	**73**	Pg	Pg	16 31 17.5	-0.5
KAN13				Sg	Sg	16 31 31.2	+0.1
BLOK	**Blackwell**	**1.18**	**88

*BUL **07** 16:37:23.7±2.0,26°.08S×29°.04E,h0km±39km,MD4.6*
*EAF **07** 16:37:23.7±2.0,26°.08S×29°.04E,h0km±39km,MD4.2*
ISC 07 16:37:20.1±1.1,26°.06S±0°.04×29°.00E±0°.07,h3km,n15,
σ2°51/25,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.25 288**		Pn	**Pn**	**16 38 15.9**	**+3.8**
	0.7nm,0.3s,baz=108,slow=10,SNR=23						
LBTB				Pg	**Pg**	**16 38 22.4**	**-0.1**
	5.7nm,0.3s,baz=107,slow=18,SNR=33						
LBTB				Lg	Lg	16 39 06.8	
	6.7nm,0.3s,baz=29,slow=23,SNR=9.5						
LBTB	**Lobatse**	**3.25 288**		*i* P	**Pb**	**16 38 17.8**	**-0.7**
LBTB				*i* Sg	**Sg**	**16 39 05.8**	**+1.2**
LBTB	**Lobatse**	**3.25 288**		*i* P	**Pb**	**16 38 17.8**	**-0.7**
LBTB				*i* Sg	**Sg**	**16 39 05.8**	**+1.2**
BOSA	**Boshof**	**4.19 232**		Pn	**Pn**	**16 38 25.6**	**+0.5**
	0.3nm,0.3s,baz=56,slow=11,SNR=9.4						
BOSA				Pg	**Pb**	**16 38 34.5**	**-0.1**
	1.2nm,0.3s,baz=57,slow=12,SNR=21						
BOSA				Sn	**Sn**	**16 39 15.0**	**+0.3**
	0.9nm,0.3s,baz=32,slow=15,SNR=2.2						
BOSA				Lg	Lg	16 39 34.9	
	7.2nm,0.3s,baz=140,slow=17,SNR=23						
BOSA				Rg	Rg	16 39 58.2	
	46nm,0.6s,baz=160,slow=22,SNR=5.4						
BOSA	**Boshof**	**4.19 232**		*i* P	**Pn**	**16 38 28.6**	**+3.5**
BOSA				*i* Sg	**Sg**	**16 39 33.5**	**-1.3**
BOSA	**Boshof**	**4.19 232**		*i* P	**Pn**	**16 38 28.6**	**+3.5**
BOSA				*i* Sg	**Sg**	**16 39 33.5**	**-1.3**
I47ZA	**BOSHOF INFRASO**	**4.21 232**		*i*		17 03 50.0	
	baz=50,slow=302,SNR=0.5						
MATP	**Matopo**	**5.63 355**		Pn	**Pn**	**16 38 46.0**	**+1.1**
	0.5nm,0.3s,baz=177,slow=17,SNR=11						
MATP				Sn	**Sn**	**16 39 48.5**	**-1.6**
	0.5nm,0.3s,baz=241,slow=23,SNR=1.8						
MATP				Lg	Lg	16 40 12.6	
	0.7nm,0.3s,baz=86,slow=22,SNR=10						
MATP	**Matopo**	**5.63 355**		*i* P	**Pn**	**16 38 48.3**	**+3.4**
MATP				*i* S	**Sn**	**16 39 48.8**	**-1.3**
MATP	**Matopo**	**5.63 355**		*i* P	**Pn**	**16 38 48.3**	**+3.4**
MATP				*i* S	**Sn**	**16 39 48.8**	**-1.3**
SUR	**Sutherland**	**9.53 227**		Pn	**Pn**	**16 39 40.1**	**+1.6**
	0.2nm,0.3s,baz=32,slow=6.7,SNR=7.5						
SUR				Sn	**Sn**	**16 41 21.5**	**-4.7**
	0.3nm,0.3s,baz=348,slow=12,SNR=1.8						
SUR				Lg	Lg	16 42 20.1	
	1.7nm,0.3s,baz=141,slow=16,SNR=7.8						
LSZ	**Lusaka**	**10.76 356**		Pn	**Pn**	**16 39 54.7**	**-0.6**
	1.0nm,0.3s,baz=180,slow=12,SNR=14						
LSZ				Sn	**Sn**	**16 41 50.6**	**-5.7**
	0.4nm,0.3s,baz=276,slow=8.9,SNR=5.9						
LSZ				Lg	Lg	16 42 51.8	
	0.6nm,0.3s,baz=263,slow=20,SNR=1.4						
I35NA	**TSUMEB INFRASO**	**12.57 301**		*i*		17 51 10.0	
	baz=126,slow=306,SNR=23						
MAW	**Mawson**	**46.38 163**		P	**P**	**16 45 48.6**	**+1.3**
	1.5nm,0.2s,baz=57,slow=8.4,SNR=9.0						
TORD	**Torodi Ar. Bea**	**47.17 322**		P	**P**	**16 45 55.0**	**+0.8**
	0.8nm,0.7s,baz=142,slow=6.9,SNR=5.2						

WEL 07 16:37:57.5±1.3,34°.S±28°.×18°.0E±2°.9,h296km±41km,
M4.1/6,ML4.2/8,MLv4.1/6,Error ellipse: s-maj=0.0km
s-min=0.0km az=132.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.07 196**		P	Pn	16 39 03.8	-0.4
WMGZ	**Waiomatatini S**	**4.29 194**		P	Pn	16 39 07.2	+0.5
WMGZ				S	S	16 40 02.7	+0.6
HAZ	**Te Kaha**	**4.39 201**		P	Pn	16 39 07.0	-0.8
HAZ				S	S	16 40 04.8	+0.6
PKGZ	**Pakihiroa**	**4.44 197**		P	Pn	16 39 09.2	+0.8
PKGZ				S	S	16 40 05.5	+0.3
PUZ	**Puketiti**	**4.57 195**		P	Pn	16 39 10.4	+0.5
PUZ				S	S	16 40 08.0	+0.1
RUGZ	**Raukumara Rang**	**4.62 201**		P	Pn	16 39 10.1	-0.4
RUGZ				S	S	16 40 07.9	-1.1
TWGZ	**Tauwhareparae**	**4.74 197**		P	Pn	16 39 09.3	-2.5
TWGZ				S	S	16 40 14.0	+2.6
CNGZ	**Carnagh Statio**	**4.98 194**		P	Pn	16 39 15.3	+0.8
MWZ	**Matawai**	**5.00 200**		P	Pn	16 39 15.0	+0.1
MWZ				S	S	16 40 16.5	-0.5
URZ	**Urewera**	**5.07 204**		P	Pn	16 39 15.2	-0.4
URZ				S	S	16 40 18.2	-0.1
RIGZ	**Rimuhau**	**5.29 197**		P	Pn	16 39 18.2	-0.1
TLZ	**Tolley Road**	**5.78 215**		P	Pn	16 39 25.9	+1.8
ARHZ	**Aropaoanui**	**6.02 201**		P	Pn	16 39 26.5	-0.3
TMVZ	**Te Maari**	**6.35 210**		P	Pn	16 39 30.5	-0.5

*IPEC **07** 16:42:39.4±0.3,51°.51N×16°.23E,h0km,ML2.8/3,Error ellipse: s-maj=3.0km s-min=1.6km az=69.0*
*UPP **07** 16:42:39.5±3.3,51°.44N×15°.72E,h0km,ML2.1,Suspected explosion*
*PRU **07** 16:42:40.6±0.0,51°.46N×16°.08E,h0km*
*BGR **07** 16:42:40.4±0.4,51°.47N×16°.13E,h1km,ML3.0/14,Error ellipse: s-maj=4.4km s-min=2.2km az=18.0*
*IDC **07** 16:42:40.3±0.7,51°.50N×15°.97E,h0km,mb3.5/1, mb1 3.5/9,mb1mx3.3/55,mbtmp3.3/9,ML2.8/8,Error ellipse: s-maj=11.0km s-min=6.4km az=107.0*
*VIE **07** 16:42:42.6±0.5,51°.29N×15°.86E,h0km,mb2.8/9,ml2.7/16, Error ellipse: s-maj=2.9km s-min=2.2km az=178.0 77 km NE of Liberec Suspected Mining induced.*
*DNK **07** 16:42:47.3±0.4,52°.12N×15°.71E,h0km,ML2.1(UPP), Suspected explosion*
ISC 07 16:42:38.6±0.6,51°.52N±0°.03×16°.13E±0°.02,h0km,n75,
σ1°12/146,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69 171**		*e*Pg	**Pg**	**16 42 52.6**	**+0.9**
KSP				*e*Sg	**Sg**	**16 43 01.1**	**+0.4**
KSP	**Ksiaz**	**0.69 171**		*e*Pg	**Pg**	**16 42 52.7**	**+0.9**
KSP				*e*Sg	**Sg**	**16 43 01.1**	**+0.4**
CHVC	**Chvalec**	**0.94 183**		*e*PG	**Pg**	**16 42 57.1**	**+0.6**
CHVC				*e*SG	**Sg**	**16 43 08.1**	**-0.6**
	comp=Z,76nm,0.6s						
UPC	**Upice**	**1.02 184**		*e*PG	**Pg**	**16 42 58.4**	**+0.3**
UPC				*e*SG	**Sg**	**16 43 11.1**	**-0.2**
	comp=Z,175nm,0.4s						
DPC	**Dobruska-Polom**	**1.18 174**		*e*PG	**Pg**	**16 43 01.2**	**0.0**
DPC				*e*SG	**Sg**	**16 43 16.0**	**-0.5**
	comp=Z,62nm,0.6s						
DPC	**Dobruska-Polom**	**1.18 174**		*e*Pg	**Pg**	**16 43 01.4**	**+0.2**
DPC				*e*Sg	**Sg**	**16 43 16.0**	**-0.5**
PVCC	**Panska Ves**	**1.40 225**		*e*PG	**Pg**	**16 43 05.8**	**+0.4**
PVCC				*e*SG	**Sb**	**16 43 24.3**	**+0.3**
	comp=Z,284nm,0.7s						
KRLC	**Kraliky**	**1.51 164**		*e*PG	**Pn**	**16 43 07.0**	**+0.1**
KRLC				*e*SG	**Sg**	**16 43 25.5**	**-1.5**
	comp=Z,85nm,0.5s						
BRG	**Berggiesshubel**	**1.52 246**		Pg	**Pg**	**16 43 08.3**	**+0.5**
BRG				Sg	**Sn**	**16 43 28.3**	**+0.8**
BRG				Amp		16 43 29.0	
	comp=Z,83nm,0.4s						
BRG	**Berggiesshubel**	**1.52 246**		*e*Pn	**Pn**	**16 43 06.9**	**-0.2**
BRG				*e*Sg	**Sn**	**16 43 28.3**	**+0.8**
PRU	**Pruhonice**	**1.84 214**		*e*PG	**Pn**	**16 43 12.4**	**+1.0**
PRU				*e*SG	**Sb**	**16 43 37.2**	**+0.6**
	comp=Z,46nm,0.6s						
FBE	**Freiberg**	**1.84 252**		*e*Sg	**Sg**	**16 43 37.8**	**-0.1**
MORC	**Moravsky Berou**	**1.97 152**		*e*Pn	**Pn**	**16 43 13.4**	**+0.2**
	baz=335						
MORC				*e*Sg	**Sn**	**16 43 39.6**	**+1.0**
	comp=Z,57nm,0.6s,baz=335						
MORC	**Moravsky Berou**	**1.97 152**		*e*Pn	**Pn**	**16 43 13.5**	**+0.2**
MORC				*e*Pg	**Pb**	**16 43 15.8**	**+0.5**
MORC				*e*Sg	**Sb**	**16 43 41.4**	**+1.0**
CLL	**Collm**	**1.97 265**		*e*Pn	**Pn**	**16 43 13.0**	**-0.2**
CLL				*e*Pg	**Pb**	**16 43 16.0**	**+0.7**
CLL				*i* x	x	16 43 20.1	
CLL				*e*Sg	**Sg**	**16 43 42.0**	**+0.2**
	comp=Z,43nm,0.9s						
CLL	**Collm**	**1.97 265**		*e*Pn	**Pn**	**16 43 13.4**	**+0.2**
CLL				*e*Pg	**Pb**	**16 43 15.9**	**+0.7**
CLL				*e*Sg	**Sg**	**16 43 42.6**	**+0.8**
OKC	**Ostrava-Krasne**	**2.12 142**		*e*PG	**Pb**	**16 43 17.5**	**-0.4**
OKC				*e*SG	**Sb**	**16 43 45.8**	**+1.1**
	comp=Z,83nm,0.6s						
OKC	**Ostrava-Krasne**	**2.12 142**		*e*Pg	**Pb**	**16 43 19.0**	**+1.1**
OKC				*e*Sg	**Sb**	**16 43 45.1**	**+0.4**
VRAC	**Vranov**	**2.24 172**		Pn	**Pn**	**16 43 17.8**	**+0.9**
	comp=Z,2.8nm,0.3s,baz=335,slow=15,SNR=13						
VRAC				Pg	**Pg**	**16 43 23.6**	**+2.2**
	comp=Z,4.4nm,0.3s,baz=351,slow=16,SNR=11						
VRAC				Lg	Lg	16 43 49.5	
	comp=Z,6.4nm,0.3s,baz=251,slow=22,SNR=8.9						
VRAC	**Vranov**	**2.24 172**		*e*Pn	**Pn**	**16 43 17.4**	**+0.5**
	baz=354						
VRAC				*e*Sg	**Sb**	**16 43 48.6**	**+0.5**
	comp=Z,52nm,0.7s,baz=354						
VRAC	**Vranov**	**2.24 172**		*e*PN	**Pn**	**16 43 17.5**	**+0.5**
VRAC				*e*SG	**Sb**	**16 43 48.7**	**+0.6**
TREC	**Trest**	**2.27 191**		*e*PN	**Pn**	**16 43 18.9**	**+1.6**
TREC				*e*SG	**Sb**	**16 43 50.3**	**+1.3**
	comp=Z,34nm,0.7s						
PBCC	**Pribram**	**2.29 217**		*e*PG	**Pb**	**16 43 21.3**	**+0.6**
PBCC				*e*SG	**Sg**	**16 43 51.4**	**-0.6**
	comp=Z,20nm,0.6s						
KRUC	**Moravsky**	**2.47 176**		*e*Pn	**Pn**	**16 43 20.7**	**+0.6**
	baz=358						
KRUC				*e*Sg	**Sb**	**16 43 56.2**	**+1.4**
	comp=Z,48nm,0.8s,baz=358						
TANN	**Tannenbergstha**	**2.57 246**		*e*Pn	**Pn**	**16 43 22.4**	**+0.9**
TANN				*e*Sg	**Sg**	**16 44 00.2**	**-0.9**
WERD	**Werda**	**2.64 247**		*e*Pn	**Pn**	**16 43 23.4**	**+0.9**
WERD				*e*Sg	**Sg**	**16 44 02.9**	**-0.5**
NKC	**Novy Kostel**	**2.66 242**		*e*PN	**Pn**	**16 43 23.6**	**+0.8**
NKC				*e*PG	**Pb**	**16 43 28.2**	**+1.0**
NKC				*e*SG	**Sg**	**16 44 04.1**	**0.0**
	comp=Z,50nm,0.5s						
OJC	**Ojcow**	**2.67 118**		*e*Pg	**Pg**	**16 43 31.0**	**+1.3**
OJC				*e*Sg	**Sg**	**16 44 06.1**	**+1.9**
OJC	**Ojcow**	**2.67 118**		*e*Pg	**Pg**	**16 43 29.4**	**-0.3**
OJC				*e*Sg	**Sg**	**16 44 04.4**	**+0.1**
JAVC	**Velka Javorina**	**2.84 159**		*e*Pn	**Pn**	**16 43 25.6**	**+0.3**
	baz=341						
KHC	**Kasperske Hory**	**2.90 215**		*e*PN	**Pn**	**16 43 26.6**	**+0.6**
KHC				*e*PG	**Pb**	**16 43 32.1**	**+0.9**
KHC				*e*SN	**Sn**	**16 44 01.3**	**-0.3**
KHC				*e*SG	**Sg**	**16 44 11.4**	**-0.3**
	comp=Z,18nm,0.4s						
CKRC	**Cesky Krumlov**	**2.95 204**		*e*PN	**Pn**	**16 43 27.8**	**+1.1**
CKRC				*e*PG	**Pb**	**16 43 33.2**	**+1.2**
CKRC				*e*SG	**Sg**	**16 44 12.0**	**-1.2**
MOX	**Moxa**	**2.98 255**		*e*Pn	**Pn**	**16 43 27.7**	**+0.6**
MOX				*e*Pg	**Pg**	**16 43 36.1**	**+0.5**
MOX				*e*Sg	**Sg**	**16 44 14.0**	**-0.2**
GEC2	**GERESS Array S**	**3.10 211**		*e*Pn	**Pn**	**16 43 29.6**	**+0.7**
GEC2				*e*Sg	**Sg**	**16 44 17.2**	**-1.0**
GERES	**GERESS Array B**	**3.10 211**		Pn	**Pn**	**16 43 29.1**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=27,slow=13,SNR=37						
GERES				Pg	**Pb**	**16 43 36.0**	**+1.3**
	comp=Z,5.0nm,0.3s,baz=31,slow=17,SNR=38						
GERES				Sn	**Sn**	**16 44 04.5**	**-2.1**
	comp=Z,2.6nm,0.3s,baz=15,slow=21,SNR=6.5						
GERES				Lg	Lg	16 44 16.9	
	comp=Z,5.2nm,0.3s,baz=40,slow=31,SNR=10.0						
WET	**Wettzell**	**3.16 222**		*e*Pn	**Pn**	**16 43 30.0**	**+0.3**
WET				*e*Sn	**Sn**	**16 44 05.3**	**-2.7**
WET				*e*Sg	**Sg**	**16 44 20.1**	**-0.1**
LANS	**Liptovska Anna**	**3.20 137**		*e*PN	**Pn**	**16 43 31.2**	**+1.1**
LANS				*e*PG	**Pg**	**16 43 40.1**	**+0.3**
LANS				*e*SG	**Sg**	**16 44 22.7**	**+1.5**
MODS	**Modra-Piesok**	**3.24 166**		*e*PG	**Pg**	**16 43 40.0**	**-0.6**
MODS				*e*SG	**Sg**	**16 44 21.8**	**-0.8**
KOLL	**Kolacno**	**3.29 153**		*e*PN	**Pn**	**16 43 33.2**	**+1.8**
KOLL				*e*PG	**Pg**	**16 43 41.8**	**+0.1**
KOLL				*e*SG	**Sg**	**16 44 24.5**	**+0.2**
VYHS	**Vyhne**	**3.50 149**		*e*PN	**Pn**	**16 43 34.2**	**-0.1**
VYHS				*e*PG	**Pg**	**16 43 46.4**	**+0.8**
VYHS				*e*SG	**Sg**	**16 44 33.6**	**+2.6**
CLZ	**Clausthal**	**3.60 277**		*e*Pn	**Pn**	**16 43 37.0**	**+1.4**
CLZ				*e*Sg	**Sg**	**16 44 35.4**	**+1.3**
CONA	**Conrad Observa**	**3.60 183**		Pn	**Pn**	**16 43 36.9**	**+1.2**
	comp=Z,1.9nm,0.3s,SNR=7.2						
CONA				*e*Sg	**Sg**	**16 44 33.1**	**-1.2**
	comp=Z,9.9nm,0.4s						
GRF	**Grafenberg Arr**	**3.62 242**		*e*Pn	**Pn**	**16 43 37.0**	**+1.0**
GRF				*e*Pg	**Pg**	**16 43 49.2**	**+1.2**
GRF				*e*Sg	**Sg**	**16 44 34.5**	**-0.4**
MOA	**Molln**	**3.87 199**		Pn	**Pn**	**16 43 40.4**	**+1.1**
	comp=Z,0.8nm,0.2s,SNR=4.8						
MOA				*e*Sg	**Sg**	**16 44 42.2**	**-0.6**
	comp=Z,13nm,0.5s						
ARSA	**Arzberg**	**4.29 186**		*e*Pn	**Pn**	**16 43 45.4**	**+0.2**
	comp=Z,1.9nm,0.2s						
ARSA				*e*Sg	**Sg**	**16 44 56.1**	**-0.4**
	comp=Z,6.1nm,0.4s						
LUNU	**Lund**	**4.42 340**		P	**Pn**	**16 43 46.6**	**-0.2**
LUNU				S	**Sn**	**16 44 38.7**	**-0.2**
LUNU	**Lund**	**4.42 340**		P	**Pn**	**16 43 46.6**	**-0.2**
LUNU				S	**Sn**	**16 44 38.7**	**-0.2**
BLEU	**Blekinge**	**4.79 358**		P	**Pn**	**16 43 52.8**	**+0.8**
BLEU	**Blekinge**	**4.79 358**		P	**Pn**	**16 43 52.8**	**+0.8**
KBA	**Koelnbreinsper**	**4.81 203**		*e*Pn	**Pn**	**16 43 51.9**	**-0.5**
	comp=Z,0.8nm,0.2s						
KBA				*e*Sg	**Sg**	**16 45 14.2**	**+1.2**
	comp=Z,6.3nm,0.4s						
SOKA	**Soboth**	**4.90 189**		*e*Pn	**Pn**	**16 43 54.4**	**+0.8**
	comp=Z,1.0nm,0.3s						
SOKA				*e*Sg	**Sg**	**16 45 15.3**	**-0.7**
	comp=Z,2.7nm,0.6s						
OBKA	**Obir**	**5.12 192**		*e*Pn	**Pn**	**16 43 57.2**	**+0.6**
	comp=Z,0.5nm,0.2s						
OBKA				*e*Sg	**Sg**	**16 45 21.5**	**-1.7**
	comp=Z,3.3nm,0.4s						
DEL	**Delary**	**5.13 346**		P	**Pn**	**16 43 56.8**	**+0.2**
DEL	**Delary**	**5.13 346**		P	**Pn**	**16 43 56.8**	**+0.2**
WATA	**Walderalm**	**5.13 217**		*e*Pn	**Pn**	**16 43 58.3**	**+1.4**
	comp=Z,1.2nm,0.3s						
WATA				*e*Sg	**Sg**	**16 45 22.2**	**-1.3**
	comp=Z,15nm,0.8s						
MYKA	**Terra Mystica**	**5.16 199**		*e*Pn	**Pn**	**16 43 58.8**	**+1.7**
	comp=Z,0.3nm,0.1s						
MYKA				*e*Sg	**Sg**	**16 45 23.9**	**-0.4**
	comp=Z,0.9nm,0.3s						
WTTA	**Wattenberg**	**5.17 216**		*e*Pn	**Pn**	**16 43 58.8**	**+1.4**
	comp=Z,1.4nm,0.3s						
WTTA				*e*Sg	**Sg**	**16 45 25.3**	**+0.6**
	comp=Z,4.2nm,0.4s						
MOTA	**Moosalm**	**5.31 220**		*e*Pn	**Pn**	**16 43 59.9**	**+0.6**
	comp=Z,0.7nm,0.2s						
MOTA				*e*Sg	**Sg**	**16 45 29.0**	**-0.1**
	comp=Z,7.9nm,0.8s						
ABTA	**Abfaltersbach**	**5.33 208**		*e*Pn	**Pn**	**16 44 02.3**	**+2.8**
	comp=Z,2.2nm,0.5s						
ABTA				*e*Sg	**Sg**	**16 45 27.8**	**-2.1**
	comp=Z,10nm,0.5s						
RETA	**Reutte**	**5.34 223**		*e*Pn	**Pn**	**16 43 59.9**	**+0.3**
	comp=Z,1.5nm,0.3s						
RETA				*e*Sg	**Sg**	**16 45 29.6**	**-0.4**
	comp=Z,5.6nm,0.5s						
SQTA	**Sankt Quirin**	**5.37 219**		*e*Pn	**Pn**	**16 44 01.2**	**+1.2**
	comp=Z,1.6nm,0.3s						
SQTA				*e*Sg	**Sg**	**16 45 31.2**	**+0.1**
	comp=Z,2.6nm,0.3s						
VXJU	**Vaexsjoe**	**5.45 353**		P	**Pn**	**16 44 01.8**	**+0.8**
VXJU	**Vaexsjoe**	**5.45 353**		P	**Pn**	**16 44 01.8**	**+0.8**
FETA	**Feichten**	**5.72 220**		*e*Pn	**Pn**	**16 44 04.3**	**-0.6**
	comp=Z,0.6nm,0.5s						
FETA				*e*Sg	**Sg**	**16 45 38.3**	**-4.1**
	comp=Z,2.7nm,0.8s						
BYXU	**Byxelkrok**	**5.80 5**		P	**Pn**	**16 44 07.0**	**+1.2**
BYXU	**Byxelkrok**	**5.80 5**		P	**Pn**	**16 44 07.0**	**+1.2**
FABU	**Falkenberg**	**5.84 341**		P	**Pn**	**16 44 06.8**	**+0.4**
FABU	**Falkenberg**	**5.84 341**		P	**Pn**	**16 44 06.8**	**+0.4**
DAVOX	**Davos/Dischmat**	**6.27 223**		Pn	**Pn**	**16 44 13.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=22,slow=1.5,SNR=2.2						
DAVOX				Lg	Lg	16 45 54.6	
	comp=Z,0.3nm,0.3s,baz=190,slow=23,SNR=1.5						
AKASG	**Malin Array Be**	**8.29 91**		Pn	**Pn**	**16 44 38.8**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=279,slow=12,SNR=5.7						
AKASG				Sn	**Sn**	**16 46 09.2**	**-4.9**
	comp=Z,0.5nm,0.3s,baz=260,slow=6.6,SNR=4.1						
HFS	**Hagfors**	**8.74 352**		Pn	**Pn**	**16 44 45.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=158,slow=16,SNR=4.0						
NOA	**NORSAR Array B**	**9.92 346**		Pn	**Pn**	**16 45 01.2**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=114,slow=8.2,SNR=1.8						
NOA				Sn	Sn	16 46 44.2	-10
	comp=Z,0.0nm,0.3s,baz=180,slow=16,SNR=2.5						
FINES	**FINESS Array B**	**11.35 25**		Pn	**Pn**	**16 45 20.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=6.3						
ARCES	**ARCESS Array B**	**18.61 10**		Pn	**P**	**16 46 54.5**	**-2.7**
	baz=192,slow=11,SNR=11						
YKA	**Yellowknife Ar**	**59.85 336**		P	**P**	**16 52 47.0**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=26,slow=7.1,SNR=5.0						

*IDC **07** 16:48:17.6±0.8,8°.77N×71°.54W,h0km,mb3.3/4,mb1 3.8/7, mb1mx3.6/43,mbtmp3.6/7,ML3.5/3,Error ellipse: s-maj=21.5km s-min=9.4km az=170.0*
*FUNV **07** 16:48:19.2,8°.49N×71°.46W,h5km,MW3.9*
ISC 07 16:48:19.5±1.1,8°.55N±0°.02×71°.39W±0°.02,h19km±3km,
n58,σ1°82/108,mb3.6/4,1C,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIGV	**El Vigia**	**0.29**	**5**	⇑*i*Pg	**Pg**	**16 48 25.1**	**-0.9**
VIGV				*e*S	**Sb**	**16 48 30.8**	**+0.2**
SOCV	**Socops**	**0.59 116**		*e*P	**Pb**	**16 48 30.0**	**-1.2**
SOCV				*e*S	**Sb**	**16 48 36.9**	**-2.2**
SOCV	**Socops**	**0.59 116**		*e*P	**Pb**	**16 48 30.0**	**-1.2**
SOCV				*e*S	**Sb**	**16 48 38.3**	**-0.8**
EAV	**Pico El Aguila**	**0.64 61**		*e*P	**Pg**	**16 48 32.2**	**-0.2**
EAV				*e*S	**Sb**	**16 48 42.0**	**+1.0**
SDV	**Santo Domingo**	**0.82 66**		Pg	**Pb**	**16 48 35.4**	**+0.2**
	220nm,0.3s,baz=218,slow=5.1,SNR=254						
SDV				Lg	Lg	16 48 47.3	
	436nm,0.3s,baz=36,slow=12,SNR=31						
CAPV	**Capacho**	**1.14 233**		*e*P	**Pn**	**16 48 38.1**	**-2.5**
CAPV				*e*S	**Sb**	**16 48 53.8**	**-1.3**
TORV	**Torococo**	**1.53 49**		*e*P	**Pb**	**16 48 47.1**	**-0.2**
TORV				*e*S	**Sb**	**16 49 07.5**	**+1.3**
PAMC	**Pamplona, Colo**	**1.77 227**		*e*P	**Pn**	**16 48 50.4**	**+0.9**
PAMC				*e*S	**Sn**	**16 49 11.2**	**-0.4**
MCQV	**Machiques**	**1.87 323**		*e*P	**Pn**	**16 48 51.6**	**+1.1**
MCQV				*e*S	**Sb**	**16 49 16.7**	**+0.6**
OCAC	**Ocana**	**1.93 261**		*e*P	**Pn**	**16 48 51.7**	**+0.2**
OCAC				*e*S	**Sn**	**16 49 16.2**	**+1.0**
TAMC	**Tame, Arauca**	**2.13 191**		*e*P	**Pn**	**16 48 55.6**	**+1.5**
TAMC				*e*S	**Sb**	**16 49 24.8**	**+1.1**
ELOV	**Elorza**	**2.44 129**		*e*P	**Pg**	**16 49 06.6**	**+0.3**
ELOV				*e*S	**Sb**	**16 49 32.7**	**+0.3**
ELOV	**Elorza**	**2.44 129**		*e*P	**Pn**	**16 48 59.8**	**+1.5**
ELOV				*e*S	**Sn**	**16 49 29.0**	**+1.4**
DABV	**Dabajuro**	**2.48 17**		*e*P	**Pn**	**16 49 01.1**	**+2.3**
DABV				*e*S	**Sb**	**16 49 32.1**	**-1.4**
DABV	**Dabajuro**	**2.48 17**		*e*P	**Pn**	**16 49 00.6**	**+1.8**
DABV				*e*S	**Sb**	**16 49 31.7**	**-1.7**
SIQV	**Siquisique**	**2.61 37**		*e*P	**Pn**	**16 49 02.8**	**+2.1**
SIQV				*e*S	**Sb**	**16 49 35.0**	**-2.3**
BARC	**Barichara**	**2.63 223**		*e*P	**Pn**	**16 49 03.0**	**+1.8**
BARC				*e*S	**Sb**	**16 49 39.6**	**+1.4**
BARC				*i*		16 49 41.3	
	comp=Z,557nm,0.4s						
SMLC	**San Martn de**	**2.66 276**		*e*P	**Pn**	**16 49 01.1**	**-0.2**
SMLC				*e*S	**Sb**	**16 49 37.7**	**-1.2**
CVALL	**Valledupar, Ce**	**2.68 317**		*e*P	**Pn**	**16 49 02.3**	**+0.6**
CVALL				*e*S	**Sn**	**16 49 34.0**	**+0.4**
BRRC	**Barranca, Sant**	**2.71 238**		*e*P	**Pn**	**16 49 03.5**	**+1.5**
BRRC				*e*S	**Sb**	**16 49 41.4**	**+1.2**
CRJC	**Cerrejon, Guaj**	**2.86 329**		*e*P	**Pn**	**16 49 04.8**	**+0.6**
CRJC				*e*S	**Sn**	**16 49 39.0**	**+0.8**
ARGC	**Ariguani, Magd**	**3.10 295**		*e*P	**Pb**	**16 49 12.2**	**-1.9**
ARGC				*e*S	**Sn**	**16 49 44.3**	**+0.2**
RUSC	**La Rusia**	**3.13 213**		*e*P	**Pn**	**16 49 09.1**	**+0.9**
RUSC				*e*S	**Sb**	**16 49 54.3**	**+1.6**
MAPV	**Macapo**	**3.17 66**		*e*P	**Pn**	**16 49 11.1**	**+2.8**
MAPV				*e*S	**Sn**	**16 49 47.6**	**+2.0**
URIC	**Uribia, Colomb**	**3.19 349**		*e*P	**Pb**	**16 49 14.0**	**-1.6**
URIC				*e*S	**Sn**	**16 49 45.1**	**-1.0**
BAUV	**El Baul**	**3.33 83**		*e*P	**Pn**	**16 49 12.2**	**+1.6**
BAU

*FUNV **07** 16:57:10.1, 8.50N×71.46W, h5km, MW3.9*
ISC 07 16:57:10.0±1.0, 8.55N±0.02×71.38W±0.02, h14km±8km, n43, σ1°84/84, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIGV	**El Vigia**	**0.28**	**4**	*eP*	**Pg**	**16 57 16.0**	**-0.1**
VIGV				*eS*	**Sg**	**16 57 21.5**	**+1.3**
SOCV	**Socops**	**0.59**	**117**	*eP*	**Sg**	**16 57 28.0**	**-1.4**
SOCV	**Socops**	**0.59**	**117**	*eP*	**Pg**	**16 57 20.9**	**-0.7**
SOCV				*eS*	**Sg**	**16 57 29.6**	**+0.2**
EAV	**Pico El Aguila**	**0.63**	**62**	*eP*	**Pg**	**16 57 23.0**	**+0.5**
EAV				*eS*	**Sb**	**16 57 33.0**	**+0.9**
CAPV	**Capacho**	**1.15**	**233**	*eP*	**Pb**	**16 57 29.2**	**-2.6**
CAPV				*eS*	**Sb**	**16 57 44.6**	**-2.1**
PAMC	**Pamplona, Colo**	**1.78**	**227**	*eP*	**Pn**	**16 57 41.4**	**+0.6**
PAMC				*eS*	**Sn**	**16 58 03.0**	**-0.4**
MCQV	**Machiques**	**1.87**	**323**	*eP*	**Pn**	**16 57 42.5**	**+0.8**
MCQV				*eS*	**Sb**	**16 58 06.8**	**-0.5**
OCAC	**Ocana**	**1.94**	**261**	*eP*	**Pn**	**16 57 42.9**	**+0.2**
OCAC				*eS*	**Sn**	**16 58 08.1**	**+1.0**
TAMC	**Tame, Arauca**	**2.14**	**191**	*eP*	**Pn**	**16 57 46.3**	**+0.8**
TAMC				*eS*	**Sb**	**16 58 16.7**	**+1.5**
ELOV	**Elorza**	**2.44**	**129**	*eP*	**Pn**	**16 57 51.6**	**+2.2**
ELOV				*eS*	**Sb**	**16 58 22.7**	**-0.9**
ELOV	**Elorza**	**2.44**	**129**	*eP*	**Pn**	**16 57 50.7**	**+1.3**
ELOV				*eS*	**Sn**	**16 58 20.1**	**+1.1**
DABV	**Dabajuro**	**2.47**	**17**	*eP*	**Pn**	**16 57 52.1**	**+2.2**
DABV				*eS*	**Sb**	**16 58 23.5**	**-0.9**
DABV	**Dabajuro**	**2.47**	**17**	*eP*	**Pn**	**16 57 51.4**	**+1.5**
DABV				*eS*	**Sn**	**16 58 22.3**	**+2.5**
SIQV	**Siquisique**	**2.60**	**37**	*eP*	**Pn**	**16 57 54.5**	**+2.7**
SIQV				*eS*	**Sn**	**16 58 25.7**	**+2.6**
BARC	**Barichara**	**2.64**	**223**	*eP*	**Pn**	**16 57 53.9**	**+1.4**
BARC				*eS*	**Sb**	**16 58 30.4**	**+0.7**
SMLC	**San Martn de**	**2.67**	**275**	*eP*	**Pb**	**16 57 55.8**	**-1.8**
SMLC				*eS*	**Sb**	**16 58 29.1**	**-1.1**
CVALL	**Valledupar, Ce**	**2.68**	**317**	*eP*	**Pn**	**16 57 53.2**	**+0.4**
CVALL				*eS*	**Sn**	**16 58 24.1**	**-1.0**
BRRC	**Barranca, Sant**	**2.72**	**238**	*eP*	**Pb**	**16 57 57.8**	**-0.6**
BRRC				*eS*	**Sb**	**16 58 32.0**	**+0.3**
CRJC	**Cerrejon, Guaj**	**2.86**	**329**	*eP*	**Pn**	**16 57 55.5**	**+0.1**
CRJC				*eS*	**Sn**	**16 58 30.6**	**+0.9**
ARGC	**Ariguani, Magd**	**3.11**	**295**	*eP*	**Pg**	**16 58 08.5**	**-1.2**
ARGC				*eS*	**Sb**	**16 58 44.8**	**+1.8**
RUSC	**La Rusia**	**3.13**	**213**	*eP*	**Pn**	**16 58 00.2**	**+0.7**
RUSC				*eS*	**Sn**	**16 58 37.6**	**+0.6**
MAPV	**Macapo**	**3.16**	**66**	*eP*	**Pn**	**16 58 01.9**	**+2.6**
MAPV				*eS*	**Sn**	**16 58 38.6**	**+1.7**
BAUV	**El Baul**	**3.33**	**83**	*eP*	**Pn**	**16 58 02.9**	**+1.2**
BAUV				*eS*	**Sn**	**16 58 42.2**	**+1.2**
JACV	**Jacura**	**3.56**	**45**	*eP*	**Pn**	**16 58 06.2**	**+1.3**
JACV				*eS*	**Sn**	**16 58 48.7**	**+1.8**
PTBC	**PUERTO BERRIO,**	**3.64**	**237**	*eP*	**Pb**	**16 58 14.3**	**0.0**
PTBC				*eS*	**Sb**	**16 58 59.2**	**+0.8**
MONV	**Montecano**	**3.66**	**22**	*eP*	**Pn**	**16 58 07.3**	**+1.1**
MONV				*eS*	**Sn**	**16 58 50.0**	**+0.9**
SPBC	**San Pablo de B**	**3.93**	**223**	*eP*	**Pn**	**16 58 11.3**	**+1.2**
SPBC				*eS*	**Sn**	**16 58 56.1**	**0.0**
TURV	**Turiamo**	**3.97**	**61**	*eP*	**Pn**	**16 58 12.3**	**+1.7**
TURV				*eS*	**Sn**	**16 58 58.2**	**+1.2**
BENV	**Beln**	**3.99**	**69**	*eP*	**Pn**	**16 58 13.1**	**+2.2**
BENV				*eS*	**Sn**	**16 58 58.1**	**+0.5**
PTGC	**Puerto Gaitan,**	**4.39**	**190**	*eP*	**Pg**	**16 58 35.9**	**+1.7**
PTGC				*eS*	**Sb**	**16 59 24.3**	**+4.4**
CHIC	**Chingaza**	**4.54**	**211**	*eP*	**Pn**	**16 58 19.2**	**+0.4**
CHIC				*eS*	**Sn**	**16 59 10.0**	**-1.6**
NORC	**Norcasia**	**4.56**	**230**	*eP*	**Pn**	**16 58 21.0**	**+2.3**
NORC				*eS*	**Sn**	**16 59 15.1**	**+3.5**
HELC	**Santa Helena**	**4.73**	**241**	*eP*	**Pn**	**16 58 24.9**	**+3.5**
HELC				*eS*	**Sn**	**16 59 21.1**	**+4.8**
PAYV	**Puerto Ayacuch**	**4.84**	**130**	*eP*	**Pn**	**16 58 22.9**	**+0.4**
PAYV				*eS*	**Sn**	**16 59 16.6**	**-1.8**
CACV	**CAICARA DEL OR**	**4.90**	**101**	*eP*	Pb	16 58 31.0	-4.6
CACV				*eS*	**Sb**	**16 59 31.1**	**-3.4**
FUNV	**FUNVISIS**	**4.90**	**67**	*eP*	**Pn**	**16 58 24.2**	**+0.8**
FUNV				*eS*	**Sn**	**16 59 19.1**	**-0.8**
GUY2C	**Guyana, Caldas**	**5.15**	**230**	*eP*	**Pn**	**16 58 29.8**	**+2.5**
GUY2C				*eS*	**Sn**	**16 59 28.9**	**+2.0**
CBOC	**Ciudad Bolivar**	**5.31**	**240**	*eP*	**Pn**	**16 58 31.5**	**+2.3**
CBOC				*eS*	**Sn**	**16 59 26.1**	**-4.2**
BIRV	**Birongo**	**5.39**	**69**	*eP*	**Pn**	**16 58 31.4**	**+1.2**
BIRV				*eS*	**Sn**	**16 59 30.7**	**-1.4**
ORTC	**Ortega, Tolima**	**6.00**	**220**	*eP*	**Pn**	**16 58 38.8**	**+0.2**
ORTC				*eS*	**Sn**	**16 59 43.6**	**-3.6**
PRGV	**PARIAGUAN**	**6.67**	**88**	*eP*	**Pn**	**16 58 47.8**	**+0.2**
PRGV				*eS*	**Sn**	**17 00 00.1**	**-3.4**
MACC	**Macarena, Meta**	**6.82**	**201**	*eP*	**Pn**	**16 58 48.2**	**-1.6**
MACC				*eS*	**Sn**	**17 00 05.5**	**-1.8**
PCRV	**Puerto La Cruz**	**6.85**	**76**	*eP*	**Pn**	**16 58 50.7**	**+0.5**
PCRV				*eS*	**Sn**	**17 00 05.8**	**-2.3**

*IDC **07** 17:14:56.4±2.9, 7.79S×110.37E, h130km±34km, mb2.8/3, mb1 3.1/5, mb1mx2.8/38, mbtmp3.3/5, Error ellipse: s-maj=69.8km s-min=17.7km az=44.0*
*DJA **07** 17:14:57.1±0.2, 8.3S±3.1×110.1E±.1, h116km±3km, M4.1/23, mb4.3/9, mB5.4/1, MLv4.0/23, Mw(mB)4.8/1*
ISC 07 17:14:55.7±0.7, 8.24S±0.08×110.24E±0.05, h136km±6km, n31, σ1°74/41, mb3.1/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**0.42**	**8**	P	**Pn**	**17 15 15.6**	**+0.4**
YOGI				S	**Sn**	**17 15 29.0**	**-0.9**
UGM	**Wanagama**	**0.43**	**42**	P	**Pn**	**17 15 15.6**	**+0.4**
UGM				S	**Sn**	**17 15 28.9**	**-1.1**
PCJI	**Pacitan**	**0.93**	**88**	P	**Pn**	**17 15 19.4**	**+0.8**
PCJI				S	**Sn**	**17 15 35.5**	**-0.5**
SMRI	**Semarang**	**1.20**	**10**	P	**Pn**	**17 15 22.1**	**+0.9**
SMRI				S	**Sn**	**17 15 40.7**	**+0.2**
CMJI	**Cimerak**	**1.82**	**284**	P	**Pn**	**17 15 29.5**	**+1.5**
UWJI	**Ujung Watu**	**1.94**	**21**	P	**Pn**	**17 15 30.0**	**+0.6**
LEM	**Lembang**	**2.95**	**298**	P	**Pn**	**17 15 41.9**	**-0.2**
	2.9nm,0.3s,baz=307,slow=21,SNR=1.6						
LEM				S	**Sn**	**17 16 17.2**	**-0.6**
	6.8nm,0.3s,baz=338,slow=23,SNR=3.1						
LEM	**Lembang**	**2.95**	**298**	P	**Pn**	**17 15 42.7**	**+0.6**
GMJI	**Gumukmas**	**3.18**	**91**	P	**Pn**	**17 15 45.6**	**+0.7**
CNJI	**Cibinong**	**3.21**	**286**	P	**Pn**	**17 15 47.2**	**+1.9**
BLJI	**Banyuglugur**	**3.36**	**82**	P	**Pn**	**17 15 48.6**	**+1.3**
BWJI	**Bawean**	**3.38**	**46**	P	**Pn**	**17 15 48.5**	**+1.0**
SKJI	**Sukabumi**	**3.85**	**288**	P	**Pn**	**17 15 54.5**	**+0.9**
KMMI	**Kalianget**	**3.88**	**73**	P	**Pn**	**17 15 54.7**	**+0.6**
JAGI	**Jajag, Banyuwa**	**3.88**	**94**	P	**Pn**	**17 15 54.5**	**+0.4**
ABJI	**Asem Bagus**	**3.98**	**84**	P	**Pn**	**17 15 56.3**	**+0.8**
SBJI	**Serang**	**4.58**	**297**	P	**Pn**	**17 16 05.4**	**+2.0**
CGJI	**Cibinong**	**4.78**	**289**	P	**Pn**	**17 16 08.4**	**+2.3**
IGBI	**Denpasar**	**4.89**	**97**	P	**Pn**	**17 16 09.6**	**+2.1**
SRBI	**Singaraja**	**4.93**	**89**	P	**Pn**	**17 16 09.1**	**+1.1**
DNP	**Denpasar**	**4.94**	**95**	P	**Pn**	**17 16 08.6**	**+0.4**
PBKI	**Pangkalan Bun**	**5.68**	**15**	P	**Pn**	**17 16 20.2**	**+2.1**
	0.2nm44nm,0.5s						
KASI	**Kota Agung**	**6.30**	**295**	P	**Pn**	**17 16 26.7**	**+0.3**
	0.1nm19nm,0.4s						
MNAI	**Manna**	**8.20**	**298**	P	**Pn**	**17 16 52.6**	**+0.7**
	123nm,1.0s						
WBSI	**Waikabubak, Su**	**9.15**	**99**	P	**Pn**	**17 17 05.2**	**+0.4**
	26nm,1.7s						
EDFI	**Ende, Flores**	**11.34**	**93**	P	**Pn**	**17 17 33.9**	**-0.1**
	2.5nm,1.8s						
FITZ	**Fitzroy Crossi**	**17.90**	**125**	P	**Pn**	**17 18 58.2**	**+1.9**
	0.2nm,0.3s,baz=81,slow=10,SNR=1.4						
FITZ				S	**S**	**17 22 07.0**	**-6.8**
	0.1nm,0.3s,baz=281,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**26.07**	**119**	P	**P**	**17 20 18.9**	**+2.1**
	0.1nm,0.5s,baz=292,slow=11,SNR=1.6						
WRA				pP	**pP**	**17 20 46.1**	**+0.7**
	0.7nm,0.7s,baz=295,slow=11,SNR=4.9						
WRA				PcP	**PcP**	**17 23 42.6**	**+1.4**
	0.3nm,1.0s,baz=323,slow=1.8,SNR=5.5						
ASAR	**Alice Springs**	**27.38**	**127**	P	**P**	**17 20 30.9**	**+2.5**
	0.2nm,0.4s,baz=301,slow=9.0,SNR=7.3						
ASAR				pP	**pwP**	**17 20 58.8**	**-0.5**
	0.7nm,0.8s,baz=304,slow=9.8,SNR=5.0						
ASAR				PcP	**PcP**	**17 23 45.7**	**+1.4**
	0.3nm,1.0s,baz=304,slow=2.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**28.77**	**337**	P	**P**	**17 20 37.8**	**-3.0**
	0.1nm,0.3s,baz=168,slow=9.0,SNR=1.6						
MKAR	**Makanchi Array**	**60.17**	**338**	P	**P**	**17 24 48.6**	**-0.5**
	26nm,0.4s,baz=125,slow=7.2,SNR=1.9						

*IDC **07** 17:19:13.2±1.7, 11.67S×164.99E, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.6/35, mbtmp3.9/6, ML4.5/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/50, Error ellipse: s-maj=39.1km s-min=32.0km az=107.0*
ISC 07 17:19:18.1±1.1, 11.75±0.1×165.0E±0.1, h34km, n19, σ1°12/12, mb3.5/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.33**	**150**	P	**Pn**	**17 20 20.6**	**-0.9**
HNR	**Honiara**	**5.42**	**294**	Pn	**Pn**	**17 20 36.6**	**+0.1**
	27nm,0.3s,baz=148,slow=5.5,SNR=14						
HNR				Sn	**Sn**	**17 21 36.7**	**-1.1**
	6.6nm,0.3s,baz=179,slow=18,SNR=1.5						
HNR				LR	LR	17 22 50.3	
	comp=Z,126nm,21.0s,baz=130,slow=40						
KOUNC	**Koumac, New Ca**	**8.84**	**184**	P	**Pn**	**17 21 23.5**	**-0.1**
DZM	**Mont Dzumac**	**10.43**	**172**	Pn	**Pn**	**17 21 45.7**	**+0.4**
	2.4nm,0.3s,baz=336,slow=9.6,SNR=46						
DZM	**Mont Dzumac**	**10.43**	**172**	P	**Pn**	**17 21 45.8**	**+0.4**
NOUC	**Port Laguerre**	**10.44**	**173**	P	**Pn**	**17 21 46.4**	**+0.9**
PINNC	**Pines Island,**	**11.13**	**168**	P	**Pn**	**17 21 55.0**	**+0.2**
PMG	**Port Moresby**	**17.65**	**276**	LR	LR	17 29 35.6	
	comp=Z,75nm,18.8s,baz=52,slow=35						
AFI	**Afiamalu**	**22.78**	**98**	LR	LR	17 30 59.2	
	comp=Z,36nm,18.1s,baz=306,slow=31						
H11S2	**WAKE ISLAND Hy**	**30.03**	**3**	T	T	17 56 49.7	
	baz=184,slow=76,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**30.03**	**3**	T	T	17 56 45.2	
	baz=184,slow=76,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**30.05**	**3**	T	T	17 56 46.6	
	baz=184,slow=76,SNR=4.0						
WRA	**Warramunga Arr**	**30.55**	**251**	P	**P**	**17 25 28.1**	**-0.6**
	1.0nm,0.9s,baz=78,slow=9.3,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**31.25**	**3**	T	T	17 58 15.0	
	SNR=2.7						
H11N3	**WAKE ISLAND Hy**	**31.26**	**4**	T	T	17 58 15.0	
H11N2	**WAKE ISLAND Hy**	**31.27**	**4**	T	T	17 58 15.0	
ASAR	**Alice Springs**	**31.83**	**244**	P	**P**	**17 25 39.4**	**-0.6**
	0.6nm,1.0s,baz=68,slow=9.8,SNR=4.2						
SONM	**Songino Array**	**78.73**	**324**	P	**P**	**17 31 19.7**	**+2.4**
	0.3nm,0.6s,baz=141,slow=7.3,SNR=2.5						
ILAR	**Eielson Array**	**84.36**	**19**	P	**P**	**17 31 45.3**	**-1.2**
	0.3nm,0.6s,baz=234,slow=5.8,SNR=2.1						

*NEIC **07** 17:20:41.6±1.0, 19.15N±0.04×64.79W±0.10, h14km±9km, Error ellipse: s-maj=13.5km s-min=5.0km az=93.0*
*TRN **07** 17:20:41.8, 19.47N×64.15W, h8km, MD4.4*
*RSPR **07** 17:20:42.8, 19.20N×64.65W, h17km±16km, MD3.4/5*
ISC 07 17:20:39.3±2.1, 19.3N±0.1×64.77W±0.04, h10km, n30, σ1°14/34, 5C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.85**	**170**	*eP*	**Pg**	**17 20 56.1**	**+0.5**
TBVI	**Tortola**	**0.85**	**170**	*eS*	**Sg**	**17 21 06.4**	**-0.3**
STVI	**Saint Thomas**	**0.92**	**191**	*eP*	**Pg**	**17 20 57.5**	**+0.5**
STVI	**Saint Thomas**	**0.92**	**191**	*eS*	**Sb**	**17 21 08.7**	**-0.8**
STVI	**Saint Thomas**	**0.92**	**191**		**Pg**	**17 20 57.3**	**+0.3**
STVI				IAML		17 21 15.9	
	comp=N,1μm,0.5s						
STVI	**Saint Thomas**	**0.92**	**191**		**Sb**	**17 21 08.7**	**-0.8**
CUPR	**Culebra, Puert**	**1.06**	**207**	*eP*	**Pg**	**17 20 59.7**	**0.0**
CUPR	**Culebra, Puert**	**1.06**	**207**	*eS*	**Sb**	**17 21 13.6**	**-0.1**
CUPR	**Culebra, Puert**	**1.06**	**207**		**Pg**	**17 20 59.7**	**0.0**
CUPR					**Sb**	**17 21 13.6**	**-0.1**
CUPR	**Culebra, Puert**	**1.06**	**207**	IAML		17 21 18.7	
	comp=N,759nm,0.5s						
MTP	**Monte Pirata**	**1.37**	**213**	*eP*	**Pn**	**17 21 04.9**	**+0.5**
MTP	**Monte Pirata**	**1.37**	**213**	*eS*	**Sb**	**17 21 22.2**	**-0.4**
MTP	**Monte Pirata**	**1.37**	**213**		**Pn**	**17 21 04.9**	**+0.5**
MTP					**Sb**	**17 21 22.2**	**-0.4**
MTP	**Monte Pirata**	**1.37**	**213**	IAML		17 21 28.0	
	comp=E,464nm,0.5s						
MTP				IAML		17 21 34.3	
	comp=N,425nm,0.5s						
CBYP	**Canovanas**	**1.42**	**227**	Pn	**Pn**	**17 21 05.2**	**-0.1**
HUMP	**Col San Antoni**	**1.50**	**223**	*eP*	**Pn**	**17 21 06.9**	**+0.5**
HUMP	**Col San Antoni**	**1.50**	**223**	*eS*	**Sn**	**17 21 25.6**	**-0.4**
HUMP	**Col San Antoni**	**1.50**	**223**		**Pn**	**17 21 06.9**	**+0.5**
HUMP					**Sn**	**17 21 25.6**	**-0.4**
HUMP	**Col San Antoni**	**1.50**	**223**	IAML		17 21 26.8	
	comp=N,396nm,0.5s						
GCPR	**Guaynabo City**	**1.56**	**233**	Pn	**Pn**	**17 21 07.0**	**-0.1**
PDPR	**Patillas Dam,**	**1.71**	**224**	Pn	**Pn**	**17 21 09.6**	**+0.5**
PDPR				IAML		17 21 32.2	
	comp=E,303nm,0.6s						
SJG	**San Juan**	**1.73**	**229**	Pn	**Pn**	**17 21 10.3**	**+0.9**
SJG				IAML		17 21 36.9	
	comp=E,217nm,0.5s						
SJG				IAML		17 21 43.3	
	comp=E,212nm,0.7s						
SMRT	**St. Maarten**	**2.01**	**126**	*eP*	**Pn**	**17 21 14.1**	**+0.8**
SMRT				*eS*	**Sn**	**17 21 38.5**	**0.0**
OBIP	**Obispado Ponce**	**2.12**	**236**	Pn	**Pn**	**17 21 15.6**	**+0.8**
OBIP				IAML		17 21 45.4	
	comp=N,179nm,0.6s						
MLPR	**Magueyes Islan**	**2.50**	**240**	Pn	**Pn**	**17 21 21.4**	**+1.3**
SKI	**Saint Kitts**	**2.72**	**134**	*eP*	**Pn**	**17 21 25.1**	**+2.0**
SKI				*eS*	**Sn**	**17 21 56.0**	**-0.1**
ANWB	**Willy Bob**	**3.25**	**119**	*eP*	**Pn**	**17 21 29.8**	**-0.5**
ANWB				*eS*	**Sn**	**17 22 06.2**	**-2.9**
ANBD	**Bethesda, Anti**	**3.61**	**127**	*eP*	**Pn**	**17 21 34.9**	**-0.4**
ANBD				*eS*	**Sn**	**17 22 15.4**	**-2.5**
MAGL	**Barre de l'ile**	**4.68**	**134**	*eP*	**Pn**	**17 21 53.8**	**+3.7**
MAGL	**Barre de l'ile**	**4.68**	**134**	*eS*	**Sn**	**17 22 44.1**	**-0.4**

*IDC **07** 17:27:11.9±2.1, 5.41N×121.21E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.2/37, mbtmp3.7/2, MS3.0/3, Ms1 3.1/3, ms1mx2.6/83, Error ellipse: s-maj=359.5km s-min=28.8km az=61.0*
*DJA **07** 17:27:12.7±0.3, 4.7N±2.1×118.8E±.1, h10km, M4.2/12, mb4.5/7, mB4.7/4, MLv4.2/12, Mw(mB)4.0/4*
ISC 07 17:27:17.8±1.4, 3.5N±0.1×118.0E±0.1, h35km, n14, σ0°98/11, mb3.6/3, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**3.70**	**149**	P	**Pn**	**17 28 11.7**	**-0.8**
MRSI	**Marisa**	**4.98**	**127**	P	**Pn**	**17 28 30.6**	**+0.5**
	0.3nm1μm78nm,0.7s						
GTOI	**Gorontalo**	**5.78**	**120**	P	**Pn**	**17 28 39.6**	**-1.6**
KMSI	**Cibinong**	**6.67**	**116**	P	**Pn**	**17 28 54.5**	**+1.2**
TTSI	**Tana Toraja**	**6.78**	**164**	P	**Pn**	**17 28 55.7**	**+0.8**
	0.1nm422nm44nm,0.7s						
SPSI	**Sidrap Palu**	**7.66**	**167**	P	**Pn**	**17 29 06.3**	**-0.6**
	0.1nm18nm,0.7s						
BNSI	**Bone**	**8.16**	**165**	P	**Pn**	**17 29 14.0**	**+0.2**
	15nm,0.7s						
KAPI	**Kappang**	**8.67**	**168**	LR	LR	17 33 46.0	
	comp=Z,98nm,19.6s,baz=26,slow=38						
BKSI	**Bulukumba**	**9.05**	**166**	P	**Pn**	**17 29 25.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**22.78**	**161**	LR	LR	17 43 35.4	
	comp=Z,20nm,19.6s,baz=338,slow=41						
CMAR	**Chiang Mai Arr**	**23.82**	**310**	LR	LR	17 42 22.1	
	comp=Z,52nm,19.4s,baz=110,slow=36						
WRA	**Warramunga Arr**	**28.32**	**146**	P	**P**	**17 33 07.7**	**-0.8**
	0.8nm,0.5s,baz=335,slow=9.6,SNR=22						
ASAR	**Alice Springs**	**31.17**	**151**	P	**P**	**17 33 34.8**	**+1.1**
	0.5nm,0.7s,baz=319,slow=8.3,SNR=4.9						
MKAR	**Makanchi Array**	**53.03**	**330**	P	**P**	**17 36 31.3**	**-0.1**
	24nm,0.5s,baz=124,slow=8.7,SNR=1.6						

*IDC **07** 17:34:39.9±2.3, 20.86S×69.93W, h90km±21km, mb3.4/3, mb1 3.6/4, mb1mx3.3/22, mbtmp3.6/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/20, Error ellipse: s-maj=46.8km s-min=20.0km az=74.0*
*GUC **07** 17:34:41.7±0.7, 20.81S×69.11W, h110km±3km, ML3.7*
ISC 07 17:34:41.4±0.9, 20.81S±0.03×69.25W±0.08, h115km±6km, n23, σ0°92/37, mb3.7/3, 10C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.32**	**223**	↓*iP*	**Pn**	**17 34 57.6**	**-0.4**
PB01				*i S*	**Sn**	**17 35 09.9**	**-0.6**
PB01				IAML		17 35 10.6	
	comp=N,30μm,0.2s						
PB08	**IPOC Station P**	**0.67**	**8**	↓*iP*	**Pn**	**17 34 59.9**	**-0.6**
PB08				*i S*	**Sn**	**17 35 13.9**	**-0.9**
PB08				IAML		17 35 16.2	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**0.79**	**230**	↑*iP*	**Pn**	**17 35 01.6**	**+0.5**
PB02				*eS*	**Sn**	**17 35 17.0**	**+1.0**
PB02				IAML		17 35 17.9	
	comp=E,4μm,0.2s						
TA01	**Diego Aracena**	**0.90**	**285**	↑*iP*	**Pn**	**17 35 02.4**	**+0.3**
TA01				*eS*	**Sn**	**17 35 18.2**	**+0.6**
TA01				IAML		17 35 21.2	
	comp=N,977nm,0.2s						
PB09	**IPOC Station P**	**0.98**	**180**	↑*iP*	**Pn**	**17 35 03.0**	**0.0**
PB09				*i S*	**Sn**	**17 35 19.8**	**+0.4**
PB09				IAML		17 35 20.8	
	comp=N,2μm,0.2s						
TA02	**Huaiquique**	**0.98**	**303**	*eP*	**Pn**	**17 35 03.2**	**+0.4**
TA02				*eS*	**Sn**	**17 35 19.7**	**+0.7**
TA02				IAML		17 35 22.0	
	comp=N,3μm,0.1s						
PB07	**IPOC Station P**	**1.09**	**213**	↑*iP*	**Pn**	**17 35 04.4**	**+0.3**
PB07				*i S*	**Sn**	**17 35 21.6**	**+0.3**
PB07				IAML		17 35 23.1	
	comp=N,2μm,0.3s						
PB11	**IPOC Station P**	**1.11**	**340**	*eP*	**Pn**	**17 35 04.2**	**-0.1**
PB11				*eS*	**Sn**	**17 35 21.6**	**0.0**
PB11				IAML		17 35 22.8	
	comp=E,3μm,0.3s						
PB03	**IPOC Station P**	**1.32**	**201**	↑*iP*	**Pn**	**17 35 06.8**	**+0.2**
PB03				*eS*	**Sn**	**17 35 25.8**	**0.0**
PB03				IAML		17 35 27.3	
	comp=N,1μm,0.4s						
PB04	**IPOC Station P**	**1.73**	**209**	↑*iP*	**Pn**	**17 35 11.6**	**+0.1**
PB04				*eS*	**Sn**	**17 35 34.5**	**0.0**
PB04				IAML		17 35 35.7	
	comp=N,433nm,0.3s						
LVC	**Limon Verde**	**1.82**	**170**	P	**Pn**	**17 35 13.0**	**+0.2**
	comp=N,8.9nm,0.3s,baz=19,slow=8.8,SNR=84						
LVC				S	**Sn**	**17 35 36.9**	**+0.3**
	comp=N,44nm,0.3s,baz=292,slow=23,SNR=3.9						
LVC	**Limon Verde**	**1.82**	**170**	↑*iP*	**Pn**	**17 35 12.9**	**+0.2**
LVC				*eS*	**Sn**	**17 35 36.7**	**0.0**
PB06	**IPOC Station P**	**1.91**	**189**	↑*iP*	**Pn**	**17 35 13.7**	**0.0**
PB06				*eS*	**Sn**	**17 35 36.7**	**-1.6**
PB06				IAML		17 35 39.8	
	comp=N,421nm,0.3s						
PB05	**IPOC Station P**	**2.22**	**203**	↑*iP*	**Pn**	**17 35 17.6**	**+0.1**
PB05				*eS*	**Sn**	**17 35 41.6**	**-3.5**
PB05				IAML		17 35 45.6	
	comp=E,287nm,0.3s						
PB15	**IPOC Station P**	**2.40**	**185**	↑*eP*	**Pn**	**17 35 19.9**	**0.0**
PB15				*eS*	**Sn**	**17 35 49.3**	**-0.1**
PB12	**IPOC Station P**	**2.41**	**335**	*eP*	**Pn**	**17 35 19.2**	**-0.7**
PB12				*eS*	**Sn**	**17 35 47.2**	**-2.2**
PB12				IAML		17 35 58.0	
	comp=E,114nm,0.3s						
PB16	**IPOC Station P**	**2.47**	**354**	*eP*	**Pn**	**17 35 22.1**	**+0.9**
LPAZ	**La Paz**	**4.62**	**13**	P	**Pn**	**17 35 50.7**	**+0.9**
	comp=E,1.2nm,0.3s,baz=214,slow=6.2,SNR=23						
LPAZ				S	Sn	17 36 29.6	-13
	comp=E,0.3nm,0.3s,baz=206,slow=22,SNR=2.4						
SIV	**San Ignacio**	**9.12**	**60**	LR	LR	17 41 02.7	
	comp=E,68nm,18.8s,baz=303,slow=40						
TXAR	**Lajitas Array**	**59.88**	**325**	P	**P**	**17 44 34.6**	**-0.7**
	comp=E,0.3nm,0.7s,baz=120,slow=5.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**77.42**	**71**	P	P	17 46 29.5	+5.1
	comp=E,0.7nm,0.4s,baz=254,slow=5.3,SNR=7.4						
TORD				pP	pP	17 46 52.3	-2.6
	comp=E,0.8nm,0.5s,baz=254,slow=5.6,SNR=4.5						
YKA	**

comp=Z,8.0nm,0.6s
WR0 Warramunga Arr 21.04 159 P P 17 47 55.6 -1.0
WR0 IAmb IAmb 17 47 56.9
comp=Z,5.1nm,0.7s
COEN Coen 21.23 131 P P 17 48 00.0 +1.4
COEN Coen 21.23 131 P P 17 47 59.6 +0.9
GUMO Guam 22.62 52 LR LR 17 56 11.9
comp=Z,38nm,20.3s,baz=170,slow=34
QIS Mount Isa 23.80 149 P P 17 48 25.6 +0.8
TPUB Ta-pu 24.14 346 P P 17 48 28.2 +0.3
AS31 Alice Springs 24.30 164 P P 17 48 29.6 +0.2
AS31 IAmb IAmb 17 48 31.7
comp=Z,6.2nm,0.8s
ASAR Alice Springs 24.30 164 P P 17 48 30.2 +0.9
comp=Z,15nm,0.7s,baz=344,slow=12,SNR=160
ASAR PcP **PcP 17 52 08.1 +0.3**
comp=Z,0.9nm,0.6s,baz=350,slow=2.2,SNR=10
ASAR Alice Springs 24.30 164 P P 17 48 29.6 +0.2
WRKA Warakurna 24.70 177 P P 17 48 33.2 +0.2
MEEK Meekatharra 27.39 196 P P 17 48 57.1 -0.1
OOD Oodnadatta 28.71 163 P P 17 49 09.2 +0.2
MORW Morawa 30.43 199 P P 17 49 23.7 -0.5
MORW Morawa 30.43 199 P P 17 49 23.5 -0.7
INKA Innaminka 30.47 155 P P 17 49 25.4 +0.9
MULG Mulgathing 30.68 168 P P 17 49 26.0 -0.4
BLDU Ballidu 31.68 197 P P 17 49 35.3 +0.1
RK1H Rockhampton Ha 32.59 137 P P 17 49 44.2 +1.0
STKA Stephens Creek 34.46 157 P P 17 49 59.9 +0.5
comp=Z,4.1nm,0.5s,baz=336,slow=6.6,SNR=17
STKA Stephens Creek 34.46 157 P P 17 49 60.0 +0.5
STKA Stephens Creek 34.46 157 P P 17 50 00.0 +0.5
KSRS Korea Array 37.52 2 P P 17 50 26.4 +1.0
comp=Z,1.5nm,0.8s,baz=172,slow=9.6,SNR=4.8
MJAR Matsushiro Arr 38.12 15 LR LR 18 08 54.1
comp=Z,28nm,18.1s,baz=118,slow=40
ARMA Armidale 38.22 144 P P 17 50 32.3 +0.6
HHC Hu-ho-hao-te 43.16 343 *eP* **P 17 51 13.6 +1.4**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,140nm,4.9s
GTA Gaotai 46.52 331 *eP* **P 17 51 40.1 +1.2**
GTA pP pP 17 51 52.5 -3.8
GTA sP pwP 17 51 58.3 -1.4
GTA pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 51.05 342 P P 17 52 13.1 -0.4
comp=Z,1.0nm,0.6s,baz=152,slow=9.0,SNR=8.6
SONM LR LR 18 14 39.0
comp=Z,39nm,18.4s,baz=352,slow=37
SONM Songino Array 51.05 342 P P 17 52 14.4 +0.9
WMQ Urumqi 55.99 327 *eP* **P 17 52 51.7 +2.0**
MK31 Makanchi Array 60.82 327 P P 17 53 24.0 +0.7
MK31 IAmb IAmb 17 53 25.8
comp=Z,1.8nm,0.8s
MKAR Makanchi Array 60.82 327 P P 17 53 23.8 +0.6
comp=Z,19nm,0.4s,baz=117,slow=8.1,SNR=15
KDJ Kajisay 61.33 320 P P 17 53 27.4 +0.4
KDJ IAmb IAmb 17 53 30.0
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 64.12 334 P P 17 53 43.7 -1.3
comp=Z,0.6nm,0.7s,baz=101,slow=7.6,SNR=2.5
KURK Kurchatov 65.09 329 P P 17 53 50.8 -0.6
TIXI Tiksi 71.78 1 P P 17 54 32.5 -0.2
TIXI IAmb IAmb 17 54 34.3
comp=Z,6.5nm,1.4s
ABKAR Akbulak array 75.22 321 P P 17 54 53.2 -0.2
ARCES ARCESS Array B 94.15 340 P P 17 56 28.7 -0.1
comp=Z,0.7nm,0.5s,baz=90,slow=3.6,SNR=4.2

*TUL **07** 18:00:26.3±1.0, 36.°47N±0.°04×98.°75W±0.°05, h6km±7km, ML3.4, mb_Lg3.1/57(NEIC), Error ellipse: s-maj=6.4km s-min=5.1km az=145.0*

NEIC 07 18:00:26.5±1.0, 36.°47N±0.°04×98.°72W±0.°04, h5km±1km, Error ellipse: s-maj=7.0km s-min=5.7km az=345.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.24**	**2**	Pg	Pg	18 00 31.6	+0.4
U32A	**Winter Ranch,**	**0.24**	**249**	Pg	Pg	18 00 31.0	-0.3
U32A				Sg	Sg	18 00 34.6	+0.1
CROK	**Carrier**	**0.59**	**86**		Pg	18 00 38.3	+0.4
KAN14	**Manchester OK**	**0.78**	**51**		Pg	18 00 41.5	0.0
KAN14					Sg	18 00 52.2	+0.7
GC02	**Grant County #**	**0.79**	**61**	Pg	Pg	18 00 41.8	+0.1
KAN10	**Anthony SW Sta**	**0.82**	**37**		Pg	18 00 42.3	-0.1
KAN16	**Harper SW Stat**	**0.92**	**35**		Pg	18 00 44.0	-0.2
KAN05	**Bluff City Nor**	**0.93**	**46**		Pg	18 00 44.3	-0.1
KAN17	**Caldwell West**	**0.96**	**53**		Pg	18 00 44.7	-0.1
KAN08	**Anthony NE Sta**	**0.97**	**38**		Pg	18 00 44.8	-0.2
KAN12	**Harper NE Stat**	**1.01**	**35**		Pg	18 00 45.6	-0.3
KAN01	**Argonia South**	**1.03**	**48**		Pg	18 00 46.1	-0.2
KAN06	**Argonia West S**	**1.04**	**41**		Pg	18 00 46.2	-0.3
KAN13	**South Haven SW**	**1.14**	**61**		Pg	18 00 47.9	-0.4
BCOK	**Bluff Creek, N**	**1.21**	**132**	Pn	Pg	18 00 49.2	-0.5
BLOK	**Blackwell**	**1.24**	**76**	Pn	Pg	18 00 49.8	-0.6
OK025	**Westminster Rd**	**1.43**	**128**		Pn	18 00 52.9	-0.2
OKCFA	**Oklahoma City**	**1.47**	**135**	Pn	Pn	18 00 53.4	-0.3
OKCSW	**OKLAHOMA CITY**	**1.48**	**135**	Pn	Pn	18 00 52.8	-1.1
OK031	**S. Brethren Rd**	**1.60**	**108**		Pn	18 00 55.4	-0.1
FNO	**Franklin**	**1.61**	**138**		Pn	18 00 55.5	-0.1
QUOK	**Quay**	**1.65**	**100**		Pn	18 00 56.6	+0.5
OK030	**Cody Creek RV**	**1.66**	**108**		Pn	18 00 56.3	+0.1
WMOK	**Wichita Mounta**	**1.73**	**182**		Pn	18 00 56.7	-0.5
T35A	**Sooner Cattle**	**1.83**	**75**		Pb	18 00 59.8	-0.7
R32A	**Long Quarter,**	**1.95**	**0**	Pn	Pn	18 01 01.3	+1.0
X34A	**Smith Ranch, M**	**2.00**	**159**		Pb	18 01 02.2	-1.2
TUL1	**Leonard**	**2.43**	**102**	Pn	Pn	18 01 07.7	+0.8
TUL1				IAmb_Lg		18 01 44.9	
comp=Z,49nm,0.8s							
CBKS	**Cedar Bluff**	**2.48**	**341**	Pn	Pn	18 01 07.5	-0.1
CBKS				IAmb_Lg		18 01 51.2	
comp=Z,50nm,0.8s							
LOOK	**Love County**	**2.77**	**153**	Pn	Pn	18 01 12.1	+0.5
AMTX	**Amarillo**	**2.88**	**238**	Pn	Pn	18 01 13.2	+0.1
AMTX				IAmb_Lg		18 02 04.1	
comp=Z,76nm,0.7s							
KSU1	**Kansas State U**	**3.11**	**32**	Pn	Pn	18 01 17.2	+0.9
KSU1				IAmb_Lg		18 02 11.3	
comp=Z,38nm,0.9s							
X37A	**Clayton**	**3.31**	**123**	Pn	Pn	18 01 18.9	-0.1
X37A				IAmb_Lg		18 02 20.0	
comp=Z,69nm,0.9s							
Z35A	**Perchaven, San**	**3.35**	**159**	Pn	Pn	18 01 20.1	+0.5
U38A	**Gravette**	**3.49**	**89**		Pn	18 01 20.5	-1.0
U38A				IAmb_Lg		18 02 17.5	
comp=Z,40nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.01**	**311**	Pn	Pn	18 01 28.9	+0.2
KSCO				IAmb_Lg		18 02 41.7	
comp=Z,43nm,0.8s							
MSTX	**Muleshoe**	**4.15**	**234**	IAmb_Lg		18 02 42.2	
comp=Z,42nm,0.8s							
W39A	**Magazine**	**4.21**	**106**		Pn	18 01 31.5	+0.2
W39A				IAmb_Lg		18 02 48.6	
comp=Z,49nm,0.8s							
Z38A	**Mt. Pleasant**	**4.43**	**135**	IAmb_Lg		18 02 49.4	
comp=Z,32nm,0.9s							
S39A	**Bolivar**	**4.48**	**73**		Pn	18 01 34.4	-0.7
WHTX	**Lake Whitney,**	**4.59**	**166**		Pn	18 01 36.4	-0.1
T25A	**Trinidad**	**4.62**	**280**		Pn	18 01 36.8	-0.4
T25A				IAmb_Lg		18 02 57.5	
comp=Z,26nm,0.9s							
U40A	**Yellville**	**4.73**	**90**	IAmb_Lg		18 03 04.0	
comp=Z,33nm,1.0s							
BGNE	**Belgrade**	**4.95**	**5**	Pn	Pn	18 01 41.2	-0.4
BGNE				IAmb_Lg		18 03 10.7	
comp=Z,33nm,0.8s							
237A	**Washetta, Mont**	**5.07**	**151**	IAmb_Lg		18 03 22.0	
comp=Z,37nm,0.8s							
OGNE	**Ogallala**	**5.17**	**331**	Pn	Pn	18 01 43.1	-1.4
MGMO	**Mountain Grove**	**5.22**	**81**	IAmb_Lg		18 03 15.8	
comp=Z,29nm,0.7s							
WHAR	**Wooly Hollow**	**5.35**	**101**	IAmb_Lg		18 03 20.0	
comp=Z,28nm,0.8s							
FCAR	**Ozark Folk Cen**	**5.37**	**94**	IAmb_Lg		18 03 18.8	
comp=Z,22nm,0.8s							
WLAR	**White Oak Lake**	**5.37**	**119**	IAmb_Lg		18 03 21.0	
comp=Z,21nm,0.7s							
SDCO	**Great Sand Dun**	**5.57**	**285**	Pn	Pn	18 01 51.5	+1.2
Q24A	**Divide**	**5.67**	**298**	Pn	Pn	18 01 50.5	-1.2
L34A	**Svendsen Farm,**	**5.78**	**18**	Pn	Pn	18 01 52.3	-0.7
L34A				IAmb_Lg		18 03 40.9	
comp=Z,29nm,0.8s							
Z41A	**Richland Creek**	**5.82**	**122**	IAmb_Lg		18 03 47.4	
comp=Z,24nm,0.8s							
JCT	**Junction City**	**6.04**	**189**	IAmb_Lg		18 03 52.1	
comp=Z,26nm,0.9s							
N38A	**Joes South For**	**6.09**	**43**	Pn	Pn	18 01 56.2	-1.0
ISCO	**Idaho Springs**	**6.37**	**304**	Pn	Pn	18 02 01.0	-0.4
FVM	**French Village**	**6.79**	**75**	IAmb_Lg		18 04 06.8	
comp=Z,26nm,0.7s							
SCIA	**State Center**	**6.91**	**37**	IAmb_Lg		18 04 08.6	
comp=Z,24nm,0.7s							
SLM	**Saint Louis**	**7.08**	**70**	IAmb_Lg		18 04 18.1	
comp=Z,27nm,0.8s							
PHWY	**Pilot Hill**	**7.13**	**315**	IAmb_Lg		18 04 16.6	
comp=Z,16nm,0.9s							
N23A	**Red Feather La**	**7.17**	**310**	IAmb_Lg		18 04 18.0	
comp=Z,26nm,0.9s							
L40A	**Anamosa**	**8.06**	**44**	IAmb_Lg		18 04 49.0	
comp=Z,23nm,0.8s							
I37A	**Lemond, Waseca**	**8.56**	**27**	IAmb_Lg		18 05 08.0	
comp=Z,21nm,1.1s							
RSSD	**Black Hills**	**8.65**	**334**	IAmb_Lg		18 05 07.3	
comp=Z,16nm,1.0s							

*IDC **07** 18:27:51.9±2.2, 21.°59S×179.°47W, h616km±21km, mb3.2/11, mb1 3.3/13, mb1mx3.1/41, mbtmp4.2/13, Error ellipse: s-maj=30.1km s-min=20.5km az=117.0*

ISC 07 18:27:49.4±1.2, 21.°8S±0.°1×179.°2W±0.°2, h600km, n15, σ1°47/16, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.79**	**327**	P	**P**	**18 29 22.2**	**+1.3**
15nm,0.3s,baz=200,slow=4.5,SNR=21							
DZM	**Mont Dzumac**	**13.33**	**266**	P	**P**	**18 30 43.5**	**+1.8**
0.4nm,0.3s,baz=124,slow=20,SNR=7.6							
URZ	**Urewera**	**16.73**	**190**	P	**P**	**18 31 10.2**	**-3.0**
0.4nm,0.3s,baz=301,slow=24,SNR=2.3							
CTA	**Charters Tower**	**32.28**	**267**	P	**P**	**18 33 29.9**	**-0.7**
3.9nm,0.4s,baz=83,slow=6.5,SNR=2.5							
PMG	**Port Moresby**	**34.58**	**286**	P	**P**	**18 33 49.0**	**-1.0**
3.0nm,0.6s,baz=85,slow=12,SNR=3.5							
STKA	**Stephens Creek**	**36.24**	**245**	P	**P**	**18 34 03.8**	**+0.3**
1.6nm,0.5s,baz=83,slow=11,SNR=7.9							
ASAR	**Alice Springs**	**43.15**	**258**	P	**P**	**18 34 58.4**	**-0.5**
3.2nm,0.8s,baz=95,slow=8.2,SNR=54							
ASAR				PcP	**PcP**	**18 36 35.1**	**+0.5**
0.3nm,0.7s,baz=110,slow=4.2,SNR=2.1							
WRA	**Warramunga Arr**	**43.34**	**264**	P	**P**	**18 34 59.2**	**-1.1**
1.9nm,0.5s,baz=96,slow=7.8,SNR=75							
FITZ	**Fitzroy Crossi**	**51.77**	**264**	P	**P**	**18 36 02.9**	**-0.2**
1.0nm,0.3s,baz=117,slow=9.0,SNR=2.0							
SIJI	**Sorong**	**52.51**	**287**	P	**P**	**18 36 08.2**	**-0.3**
8.6nm,0.7s,baz=106,slow=6.2,SNR=5.7							
VNDA	**Vanda**	**56.54**	**185**	P	**P**	**18 36 38.0**	**+2.5**
1.2nm,1.0s,baz=8.1,slow=7.1,SNR=2.0							
MJAR	**Matsushiro Arr**	**70.59**	**325**	P	**P**	**18 38 03.9**	**-1.5**
0.7nm,0.6s,baz=127,slow=6.0,SNR=1.7							
PETK	**Petropavlovsk-**	**77.23**	**346**	P	**P**	**18 38 42.4**	**-0.1**
3.2nm,0.9s,baz=157,slow=4.4,SNR=6.3							
CMAR	**Chiang Mai Arr**	**89.50**	**290**	P	**P**	**18 39 45.5**	**+1.3**
0.7nm,0.9s,baz=126,slow=2.2,SNR=5.2							
AKASG	**Malin Array Be**	**143.57**	**329**	PKP	**PKPdf**	**18 46 15.6**	**-1.0**
0.4nm,0.3s,baz=40,slow=4.4,SNR=11							

*NEIC **07** 18:34:35.3±1.2, 36.°48N±0.°04×98.°70W±0.°04, h5km±2km, Error ellipse: s-maj=7.0km s-min=3.5km az=327.0*
*ANF **07** 18:34:35.2±0.5, 36.°42N×98.°73W, h0km, ML4.1/9, Error ellipse: s-maj=6.5km s-min=4.9km az=17.0*
*TUL **07** 18:34:35.1±1.5, 36.°47N±0.°04×98.°75W±0.°05, h9km±7km, ML3.4, mb_Lg3.3/77(NEIC), Error ellipse: s-maj=6.2km s-min=3.9km az=135.0*

ISC 07 18:34:35.6±0.8, 36.°47N±0.°03×98.°70W±0.°02, h10km, n98, σ1°17/80, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.24**	**358**	Pg	**Pg**	**18 34 40.4**	**-0.1**
U32A	**Winter Ranch,**	**0.26**	**250**	Pg	**Pg**	**18 34 39.7**	**-1.2**
U32A				Sg	**Sg**	**18 34 43.5**	**-0.9**
CROK	**Carrier**	**0.58**	**86**	Pg	**Pg**	**18 34 46.9**	**+0.2**
KAN14	**Manchester OK**	**0.77**	**50**		**Pg**	**18 34 50.2**	**-0.2**
KAN14				Sg	**Sg**	**18 35 00.4**	**+0.1**
GC02	**Grant County #**	**0.77**	**60**	Pg	**Pg**	**18 34 50.4**	**-0.1**
GC02				Sg	**Sb**	**18 35 01.7**	**-0.1**
KAN10	**Anthony SW Sta**	**0.81**	**36**	Pg	**Pg**	**18 34 50.9**	**-0.4**
KAN16	**Harper SW Stat**	**0.91**	**34**	Pg	**Pg**	**18 34 52.6**	**-0.4**
KAN05	**Bluff City Nor**	**0.92**	**46**	Pg	**Pg**	**18 34 53.0**	**-0.3**
KAN17	**Caldwell West**	**0.94**	**52**		**Pg**	**18 34 53.4**	**-0.4**
KAN08	**Anthony NE Sta**	**0.95**	**37**		**Pg**	**18 34 53.4**	**-0.5**
KAN12	**Harper NE Stat**	**1.00**	**34**	Pg	**Pg**	**18 34 54.3**	**-0.5**
KAN01	**Argonia South**	**1.02**	**48**		**Pg**	**18 34 54.8**	**-0.3**
KAN06	**Argonia West S**	**1.03**	**41**		**Pg**	**18 34 54.9**	**-0.5**
KAN13	**South Haven SW**	**1.12**	**61**		**Pb**	**18 34 56.5**	**-0.5**
BCOK	**Bluff Creek, N**	**1.20**	**132**	Pn	**Pb**	**18 34 57.6**	**-0.7**
OK029	**Liberty Lake**	**1.21**	**123**	Pn	**Pn**	**18 34 58.4**	**-0.2**
BLOK	**Blackwell**	**1.23**	**76**		**Pn**	**18 34 58.4**	**-0.3**
OK025	**Westminster Rd**	**1.42**	**128**		**Pn**	**18 35 01.1**	**-0.3**
OKCFA	**Oklahoma City**	**1.46**	**136**		**Pb**	**18 35 02.2**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**1.47**	**136**		**Pb**	**18 35 02.8**	**-0.3**
OK031	**S. Brethren Rd**	**1.59**	**108**		**Pb**	**18 35 04.3**	**-0.7**
FNO	**Franklin**	**1.60**	**139**		**Pn**	**18 35 04.2**	**+0.2**
QUOK	**Quay**	**1.63**	**100**		**Pb**	**18 35 05.0**	**-0.8**
OK030	**Cody Creek RV**	**1.64**	**109**		**Pn**	**18 35 04.6**	**+0.2**
WMOK	**Wichita Mounta**	**1.73**	**182**	Pn	**Pn**	**18 35 05.2**	**-0.5**
WMOK	**Wichita Mounta**	**1.73**	**182**	P	**Pn**	**18 35 05.4**	**-0.4**
baz=0.7							
T35A	**Sooner Cattle**	**1.81**	**75**	Pn	**Pn**	**18 35 07.1**	**+0.3**
R32A	**Long Quarter,**	**1.95**	**360**		**Pn**	**18 35 09.2**	**+0.5**
X34A	**Smith Ranch, M**	**1.99**	**159**		**Pb**	**18 35 10.7**	**-1.2**
X34A				IAmb_Lg		18 35 41.7	
comp=Z,193nm,0.9s							
TUL1	**Leonard**	**2.42**	**103**		**Pn**	**18 35 14.7**	**-0.4**
TUL1				IAmb_Lg		18 35 53.5	
comp=Z,97nm,0.8s							
TUL1	**Leonard**	**2.42**	**103**	Sb	**Sb**	**18 35 50.1**	**+1.1**
baz=284							
CBKS	**Cedar Bluff**	**2.48**	**341**	Pn	**Pn**	**18 35 16.8**	**+0.7**
CBKS	**Cedar Bluff**	**2.48**	**341**	P	**Pb**	**18 35 18.2**	**-2.1**
baz=161							
CBKS				S	**Sb**	**18 35 50.9**	**0.0**
baz=161							
LOOK	**Love County**	**2.77**	**153**		**Pn**	**18 35 20.2**	**+0.3**
AMTX	**Amarillo**	**2.90**	**238**		**Pn**	**18 35 22.6**	**+0.8**
AMTX	**Amarillo**	**2.90**	**238**	Sb	**Sb**	**18 36 04.2**	**+1.3**
baz=55							
KSU1	**Kansas State U**	**3.10**	**32**	Pn	**Pn**	**18 35 25.4**	**+0.8**
KSU1				IAmb_Lg		18 36 19.9	
comp=Z,74nm,0.8s							
KSU1	**Kansas State U**	**3.10**	**32**	P	**Pn**	**18 35 26.0**	**+1.4**
baz=213							
X37A	**Clayton**	**3.30**	**124**		**Pn**	**18 35 27.7**	**+0.5**
Z35A	**Perchaven, San**	**3.35**	**159**		**Pn**	**18 35 26.6**	**-1.4**
U38A	**Gravette**	**3.48**	**89**		**Pn**	**18 35 28.1**	**-1.6**
U38A				IAmb_Lg		18 36 25.5	
comp=Z,60nm,0.7s							
HHAR	**Hobbs**	**3.84**	**91**		**Pn**	**18 35 35.4**	**+0.7**
KSCO	**Kaye Shedlock'**	**4.02**	**310**		**Pn**	**18 35 36.2**	**-1.0**
KSCO				IAmb_Lg		18 36 50.6	
comp=Z,73nm,0.8s							
MSTX	**Muleshoe**	**4.17**	**234**		**Pb**	**18 35 49.0**	**0.0**
MSTX				IAmb_Lg		18 36 54.2	
comp=Z,70nm,0.9s							
W39A	**Magazine**	**4.19**	**106**		**Pb**	**18 35 49.6**	**+0.2**
W39A				IAmb_Lg		18 36 56.1	
comp=Z,97nm,0.8s							
N33A	**J Bar K, Exete**	**4.37**	**13**	IAmb_Lg		18 37 02.6	
comp=Z,69nm,1.0s							
Z38A	**Mt. Pleasant**	**4.42**	**135**	Pn	**Pn**	**18 35 41.1**	**-1.6**
Z38A				IAmb_Lg		18 37 00.8	
comp=Z,66nm,0.8s							
S39A	**Bolivar**	**4.47**	**73**		**Pn**	**18 35 45.3**	**+1.9**
WHTX	**Lake Whitney,**	**4.58**	**167**		**Pn**	**18 35 42.6**	**-2.3**
WHTX	**Lake Whitney,**	**4.58**	**167**	P	**Pn**	**18 35 45.4**	**+0.5**
baz=347							
MIAR	**Mount Ida**	**4.60**	**113**	IAmb_Lg		18 37 13.8	
comp=Z,46nm,0.7s							
T25A	**Trinidad**	**4.63**	**280**	Pn	**Pn**	**18 35 45.2**	**-0.6**
T25A				IAmb_Lg		18 37 07.7	
comp=Z,70nm,1.1s							
T25A	**Trinidad**	**4.63**	**280**	P	**Pn**	**18 35 45.9**	**0.0**
baz=97							
T25A				Sb	**Sb**	**18 36 58.1**	**+5.1**
baz=97							
U40A	**Yellville**	**4.71**	**90**		**Pn**	**18 35 45.5**	**-1.2**
U40A				IAmb_Lg		18 37 02.7	
comp=Z,53nm,0.8s							
BGNE	**Belgrade**	**4.95**	**5**		**Pn**	**18 35 49.9**	**-0.1**
BGNE				IAmb_Lg		18 37 20.5	
comp=Z,68nm,0.7s							
BGNE	**Belgrade**	**4.95**	**5**	P	**Pn**	**18 35 50.3**	**+0.3**
baz=186							
N35A	**Tabor**	**4.99**	**28**		**Pn**	**18 35 50.3**	**-0.3**
237A	**Washetta, Mont**	**5.06**	**151**	IAmb_Lg		18 37 29.8	
comp=Z,62nm,1.1s							
P38A	**Dawn**	**5.15**	**51**		**Pn**	**18 35 50.7**	**-2.0**
OGNE	**Ogallala**	**5.17**	**331**		**Pn**	**18 35 52.6**	**-0.5**
X40A	**Basin Creek Fa**	**5.18**	**111**		**Pn**	**18 35 53.2**	**+0.1**
X40A				IAmb_Lg		18 37 30.6	
comp=Z,39nm,0.7s							
X40A	**Basin Creek Fa**	**5.18**	**111**	P	**Pn**	**18 35 55.5**	**+2.4**
baz=294							
MGMO	**Mountain Grove**	**5.20**	**81**	Pn	**Pn**	**18 35 53.7**	**+0.3**
WHAR	**Wooly Hollow**	**5.33**	**101**	Pn	**Pn**	**18 35 54.1**	**-1.2**
WHAR				IAmb_Lg		18 37 28.7	
comp=Z,60nm,0.9s							
FCAR	**Ozark Folk Cen**	**5.35**	**94**		**Pb**	**18 36 10.4**	**+1.3**
FCAR				IAmb_Lg		18 37 27.9	
comp=Z,44nm,0.7s							
WLAR	**White Oak Lake**	**5.36**	**120**	Pn	**Pn**	**18 35 54.2**	**-1.3**
W41B	**Gary Mavity, V**	**5.40**	**102**	P	**Pn**	**18 35 58.2**	**+2.1**
baz=286							
R40A	**Maddies Statio**	**5.43**	**69**	Pg	**Pb**	**18 36 09.1**	**-1.5**
SDCO	**Great Sand Dun**	**5.58**	**285**		**Pn**	**18 35 58.8**	**-0.2**
SDCO				IAmb_Lg		18 37 39.8	
comp=Z,35nm,1.1s							
SDCO	**Great Sand Dun**	**5.58**	**285**	P	**Pn**	**18 35 59.9**	**+0.9**
baz=101							
Q24A	**Divide**	**5.69**	**298**	IAmb_Lg		18 37 40.7	
comp=Z,39nm,0.8s							
435B	**Jarrell**	**5.75**	**170**	IAmb_Lg		18 37 51.0	
comp=Z,51nm,0.8s							
NATX	**Nacogdoches**	**5.77**	**143**	IAmb_Lg		18 37 53.7	
comp=Z,36nm,0.9s							
L34A	**Svendsen Farm,**	**5.78**	**17**	Pn	**Pn**	**18 36 00.4**	**-0.9**
Z41A	**Richland Creek**	**5.81**	**122**	IAmb_Lg		18 37 51.2	
comp=Z,46nm,0.8s							
JCT	**Junction City**	**6.04**	**189**	Pg	**Pb**	**18 36 22.5**	**+1.4**
JCT				IAmb_Lg		18 38 03.3	
comp=Z,46nm,0.8s							
P40A	**Paris**	**6.07**	**58**	Pn	**Pn**	**18 36 07.6**	**+2.2**
N38A	**Joes South For**	**6.08**	**43**	Pn	**Pn**	**18 36 05.6**	**+0.1**
K31A	**O'Neill**	**6.14**	**360**	IAmb_Lg		18 38 07.1	
comp=Z,56nm,0.8s							
CCAR	**Cane Creek**	**6.22**	**112**	IAmb_Lg		18 38 10.0	
comp=Z,35nm,0.8s							
ISCO	**Idaho Springs**	**6.38**	**303**	Pn	**Pn**	**18 36 09.1**	**-0.8**
PBMO	**Poplar Bluff**	**6.66**	**85**	IAmb_Lg		18 38 08.9	
comp=Z,30nm,0.7s							
FVM	**French Village**	**6.77**	**75**	IAmb_Lg		18 38 11.6	
comp=Z,53nm,1.0s							
BNM	**Barren Site**	**6.88**	**253**	Pn	**Pn**	**18 36 17.2**	**+0.4**
SCIA	**State Center**	**6.90**	**36**	IAmb_Lg		18 38 17.3	
comp=Z,52nm,0.7s							
GNAR	**Gosnell**	**7.04**	**92**	IAmb_Lg		18 38 24.4	
comp=Z,48nm,0.7s							
SLM	**Saint Louis**	**7.06**	**70**	IAmb_Lg		18 38 26.7	
comp=Z,50nm,0.8s							
PHWY	**Pilot Hill**	**7.14**	**315**	IAmb_Lg		18 38 21.1	
comp=Z,37nm,1.0s							
ECSD	**EROS Data Cent**	**7.43**	**12**	Pn	**Pn**	**18 36 22.8**	**-1.2**
N41A	**Harden Midland**	**7.46**	**53**	Pn	**Pn**	**18 36 21.9**	**-2.4**
S44A	**Carbondale**	**7.65**	**78**	IAmb_Lg		18 38 40.3	
comp=Z,30nm,0.7s							
K38A	**Parkersburg**	**7.68**	**35**	IAmb_Lg		18 38 57.4	
comp=Z,52nm,0.9s							
SUSD	**Miller**	**7.97**	**359**	IAmb_Lg		18 38 51.6	
comp=Z,28nm,1.0s							
I37A	**Lemond, Waseca**	**8.55**	**27**	IAmb_Lg		18 39 23.4	
comp=Z,24nm,0.7s							
K22A	**Casper**	**8.64**	**318**	IAmb_Lg		18 39 17.5	
comp=Z,30nm,1.0s							
RSSD	**Black Hills**	**8.66**	**334**	IAmb_Lg		18 39 15.1	
comp=Z,26nm,0.9s							
JFWS	**Jewell Farm**	**9.15**	**43**	IAmb_Lg		18 39 38.0	
comp=Z,27nm,0.8s							
SPMN	**Marine on St.**	**9.82**	**25**	IAmb_Lg		18 39 59.0	
comp=Z,19nm,1.1s							

*IDC **07** 18:35:06.2±5.3, 5.°61S×153.°50E, h102km±41km, mb3.5/6, mb1 3.6/7, mb1mx3.4/41, mbtmp3.9/7, MS3.0/3, Ms1 3.0/3, ms1mx2.6/37, Error ellipse: s-maj=37.8km s-min=24.2km az=24.0*

ISC 07 18:35:05.6±1.3, 5.°6S±0.°2×153.°5E±0.°1, h100km, n12, σ0°79/10, mb3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.38**

R32A	Long Quarter,	1.95	0	Pn	Pn	18 39 53.4	+1.0
X34A	Smith Ranch, M	2.00	159		Pb	18 39 54.6	-0.9
X34A				lAmb_Lg		18 40 23.4	
	comp=Z,30nm,0.7s						
LOOK	Love County	2.77	153	Pn	Pn	18 40 04.2	+0.4
AMTX	Amarillo	2.88	238	lAmb_Lg		18 40 56.4	
	comp=Z,21nm,0.7s						
X37A	Clayton	3.31	124	lAmb_Lg		18 41 13.4	
	comp=Z,21nm,0.9s						
KSCO	Kaye Shedlock'	4.00	311	lAmb_Lg		18 41 23.2	
	comp=Z,23nm,0.8s						
T25A	Trinidad	4.62	280	lAmb_Lg		18 41 42.6	
	comp=Z,13nm,0.8s						
BGNE	Belgrade	4.95	5	lAmb_Lg		18 42 03.4	
	comp=Z,34nm,0.9s						
Q24A	Divide	5.67	298	lAmb_Lg		18 42 13.2	
	comp=Z,16nm,0.8s						
L34A	Svendsen Farm,	5.78	18	lAmb_Lg		18 42 31.0	
	comp=Z,34nm,1.1s						
P40A	Paris	6.09	58	lAmb_Lg		18 42 35.5	
	comp=Z,17nm,1.1s						
MVCO	Mesa Verde	7.88	278	lAmb_Lg		18 43 22.0	
	comp=Z,18nm,1.3s						

*ROM **07** 19:04:57.2±0.4, 41°.64N±0°.02×16°.93E±0°.04, h6km±4km, ML2.5/4, Error ellipse: s-maj=4.0km s-min=1.2km az=51.0*

ISC 07 19:04:57.8±1.5, 41°.63N±0°.02×16°.86E±0°.04, h8km±12km, n22, σ0.94/42, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	Monte S. Angel	0.72	277	P	Pg	19 05 12.0	+0.4
MSAG				S	Sb	19 05 23.2	+0.6
MSAG				AML	AML		
	comp=E,227μm,1.6s						
MSAG				AML	AML		
	comp=N,570μm,0.2s						
MSAG				AML	AML		
	comp=E,201μm,0.9s						
MSAG				AML	AML		
	comp=N,570μm,0.2s						
AMUR	Altamura	0.75	195	P	Pg	19 05 11.8	-0.4
AMUR				S	Sb	19 05 23.9	+0.5
AMUR				AML	AML		
	comp=N,352μm,0.4s						
AMUR				AML	AML		
	comp=E,212μm,1.2s						
SGRT	San Giovanni R	0.84	279	P	Pb	19 05 14.9	+0.1
SGRT				S	Sb	19 05 27.6	+1.2
SGRT				AML	AML		
	comp=N,226μm,0.4s						
SGRT				AML	AML		
	comp=E,282μm,1.5s						
NOCI	Noci	0.85	169	P	Pb	19 05 14.4	-0.5
NOCI				S	Sb	19 05 26.3	-0.2
NOCI				AML	AML		
	comp=E,914μm,0.7s						
NOCI				AML	AML		
	comp=N,1104μm,0.4s						
MATE	Matera	0.99	187	P	Pg	19 05 16.7	0.0
MATE				S	Sb	19 05 30.3	0.0
MIGL	Miglionico	1.07	197	P	Pg	19 05 18.1	-0.3
MIGL				S	Sb	19 05 33.8	+0.9
LSTV	Lastovo	1.14	1	*i* Pn	Pn	19 05 20.7	+0.6
LSTV				Sn	Sn	19 05 36.5	+0.6
RDM3	Ruvo Del Monte	1.25	233	P	Pn	19 05 22.0	+0.4
MRLC	Muro Lucano	1.35	230	P	Pn	19 05 23.2	+0.1
STON	Ston	1.39	26	*e*Pn	Pg	19 05 25.1	+0.6
STON				Sn	Sn	19 05 43.3	+1.2
HVAR	Hvar	1.58	349	*e*Pn	Pb	19 05 26.8	-0.5
HVAR				Sn	Sn	19 05 45.8	-0.9
MAKA	Makarska	1.66	4	*e*Pn	Pb	19 05 28.1	-0.5
MAKA				Sn	Sn	19 05 48.5	-0.3
RICI	Ricice	1.88	6	*e*Pn	Pg	19 05 32.4	-1.3
RICI				Sn	Sb	19 05 54.9	-1.0
ZIRJ	Zirje	2.21	337	*e*Pn	Pn	19 05 35.0	+0.2
ZIRJ				Sn	Sn	19 06 01.3	-1.1
MORI	Morici	2.39	340	*e*Pn	Pn	19 05 37.4	+0.1
MORI				Sn	Sn	19 06 07.0	+0.2
KIJV	Kijevo	2.40	352	*e*Pn	Pn	19 05 38.8	+1.4
KIJV				Sn	Sn	19 06 07.5	+0.5
DUGI	Dugi Otok	2.71	331	*e*Pn	Pn	19 05 43.0	+1.4
DUGI				Sn	Sn	19 06 12.9	-1.7
UDBI	Udbina	3.01	345	*e*Pn	Pn	19 05 47.7	+1.8
UDBI				Sn	Sn	19 06 21.8	-0.3
NVLJ	Novalja	3.27	334	*e*Pn	Pn	19 05 50.2	+0.8
NVLJ				Sn	Sn	19 06 27.9	-0.7
PLIT	Plitvice	3.37	345	*e*Pn	Pn	19 05 52.5	+1.6
PLIT				Sn	Sn	19 06 30.8	-0.2
SMRN	Sveta Marina	3.94	331	*e*Pn	Pn	19 05 58.7	+0.2
SMRN				Sn	Sn	19 06 43.2	-1.6
BRJN	Brijuni	3.98	326	*e*Pn	Pn	19 05 59.7	+0.5
BRJN				Sn	Sn	19 06 44.0	-2.1

*IDC **07** 19:11:50.2±2.0, 53°.58N×165°.02W, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.2/37, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=39.8km s-min=29.2km az=177.0*
*AEIC **07** 19:11:56.0±1.5, 53°.67N±0°.07×164°.80W±0°.06, h54km±5km, Error ellipse: s-maj=10.9km s-min=4.1km az=163.0*
*NEIC **07** 19:11:56.0±1.2, 53°.64N±0°.04×164°.79W±0°.04, h28km±8km, mb3.4/2, ML3.7/5, ML3.5/38(AEIC), Error ellipse: s-maj=6.2km s-min=1.5km az=152.0*

ISC 07 19:11:54.8±1.7, 53°.58N±0°.09×164°.71W±0°.04, h28km±12km, n61, σ1.04/61, mb3.6/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.81	314		Pb	19 12 10.2	-0.1
AKSA					Sn	19 12 21.2	-0.2
AKSA	Akutan Strait	0.81	314		Pb	19 12 10.1	-0.1
AKUT	Akutan	0.84	312		Pn	19 12 10.9	+0.2
AKUT					Sn	19 12 22.2	0.0
AKUT	Akutan	0.84	312	IAML		19 12 25.1	
	comp=N,2μm,0.4s						
AKBBA	Akutan Broad B	0.89	306		Pn	19 12 11.5	0.0
AKBBA					Sn	19 12 23.5	0.0
WESP	Westdahl Peak	0.91	360		Pn	19 12 12.2	+0.3
WESP					Sn	19 12 25.1	+1.0
AKMO	Akutan Morgan	0.92	304		Pb	19 12 12.1	-0.2
AKMO					Sn	19 12 24.7	+0.4
AKLV	Akutan Long Va	0.94	309		Pn	19 12 12.1	-0.1
WECS	Westdahl Cape	0.95	358		Pb	19 12 12.9	+0.2
AKRB	Akutan Reef Bi	0.97	305		Pn	19 12 12.8	+0.1
AKRB					Sn	19 12 26.4	+0.8
WEBT	Westdahl Beart	1.01	359		Pb	19 12 13.9	+0.2
UNV	Unalaska Valle	1.10	284		Pn	19 12 13.8	-0.6
SSLS	Shishaldin Sou	1.21	20		Pn	19 12 16.1	+0.2
MNAT	Makushin Natee	1.21	285		Pn	19 12 15.7	-0.2
MTBL	Makushin Table	1.23	289		Pn	19 12 16.2	-0.1
SSLW	Shishaldin Wes	1.24	16		Pn	19 12 16.6	+0.3
MSW	Makushin Switc	1.28	286		Pn	19 12 16.7	-0.1
MSW					Sb	19 12 33.6	-0.6
ISLZ	Isanotski Laza	1.29	27		Pn	19 12 16.9	-0.1
ISLZ					Sn	19 12 33.6	+0.3
SSLN	Shishaldin Nor	1.30	18		Pn	19 12 17.8	+0.6
MGOD	Makushin Gods	1.30	280		Pn	19 12 17.1	-0.2
MAPS	Pakushin South	1.35	280		Pn	19 12 17.6	-0.2
MAPS					Sb	19 12 35.6	-0.6
ISNN	Isanotski Nort	1.36	23		Pn	19 12 18.9	+0.9
FALS	False Pass	1.48	30		Pn	19 12 19.9	+0.3
FALS					Sn	19 12 39.3	+1.2
OKFG	Magazine Ridge	1.92	266		Pn	19 12 26.9	+1.3
DT1	Dutton Round H	2.08	42		Pn	19 12 29.0	+1.1
OKSP	Okmok Steeple	2.17	263		Pn	19 12 29.9	+0.7
PS4A	Pavlof South-4	2.43	42		Pn	19 12 34.1	+1.5
NIKH	Nikolski High	2.56	258		Pn	19 12 35.7	+1.2
SDPT	Sand Point	3.04	53		Pn	19 12 42.4	+1.4
SDPT	Sand Point	3.04	53	IAML		19 14 37.4	
	comp=N,252nm,3.0s						
CHGN	Chignik	4.54	51	Pn	Pn	19 13 03.0	+1.5
CHGN				IAML		19 14 46.7	
	comp=E,79nm,2.4s						
OHAK	Old Harbor	7.45	56	Pn	Pn	19 13 42.6	+1.0
KDAK	Kodiak Island	8.04	54	Pn	Pn	19 13 48.7	-0.9
	comp=E,0.4nm,0.3s,baz=170,slow=3.4,SNR=16						
KDAK				Sn	Sn	19 15 14.4	-5.0
	comp=E,0.3nm,0.3s,baz=329,slow=2.5,SNR=1.6						
KDAK	Kodiak Island	8.04	54		Pn	19 13 50.2	+0.6
SVW2	Sparrevohn	9.00	30	Pn	Pn	19 14 02.1	-0.6
CNPM	China Poot	9.52	46	Pn	Pn	19 14 11.7	+1.8
BRLK	Bradley Lake	9.80	45	Pn	Pn	19 14 14.3	+0.6
M19K	Big River Lodg	9.98	29	Pn	Pn	19 14 17.1	+0.8
K20K	Telida	11.25	25	Pn	Pn	19 14 34.3	+0.7
ISLE	Juniper Island	13.99	51	Pn	Pn	19 15 10.8	-0.4
GRNC	Granite Creek	14.31	51	Pn	Pn	19 15 15.3	-0.2
ILAR	Eielson Array	14.39	32	Pn	Pn	19 15 15.3	-1.1
	comp=E,0.1nm,0.3s,baz=223,slow=10,SNR=1.6						
SCRK	Sand Creek	14.88	37	Pn	Pn	19 15 23.6	+0.5
M27K	Edge Creek, AK	14.88	45	Pn	Pn	19 15 24.5	+1.2
TOLK	Toolik Lake Re	16.69	19	Pn	Pn	19 15 47.1	+0.6
WHY	Whitehorse	17.55	54	Pn	Pn	19 15 57.6	+0.3
WHY				lAmb	lAmb	19 16 15.4	
	comp=Z,3.6nm,1.1s						
INK	Inuvik	20.79	33	P	P	19 16 34.4	+1.0
	comp=Z,1.7nm,1.1s,baz=236,slow=7.3,SNR=2.6						
INK	Inuvik	20.79	33	P	P	19 16 31.9	-1.4
INK				lAmb	lAmb	19 16 45.1	
	comp=Z,2.0nm,1.1s						
YKA	Yellowknife Ar	27.30	51	P	P	19 17 37.6	+0.9
	comp=Z,0.2nm,0.5s,baz=271,slow=8.6,SNR=2.2						
H11N2	WAKE ISLAND Hy	40.23	224	T	T	20 02 49.8	
	baz=26,slow=76,SNR=24						
H11N3	WAKE ISLAND Hy	40.23	224	T	T	20 02 46.3	
	baz=26,slow=76,SNR=35						
H11N1	WAKE ISLAND Hy	40.24	224	T	T	20 02 48.6	
	baz=26,slow=76,SNR=26						
H11S1	WAKE ISLAND Hy	41.40	223	T	T	20 04 15.7	
	baz=25,slow=76,SNR=52						
H11S2	WAKE ISLAND Hy	41.42	223	T	T	20 04 15.7	
	baz=25,slow=76,SNR=34						
H11S3	WAKE ISLAND Hy	41.42	223	T	T	20 04 18.3	
	baz=25,slow=76,SNR=26						
TXAR	Lajitas Array	49.96	94	P	P	19 20 47.7	+1.4
	comp=Z,1.1nm,0.7s,baz=301,slow=5.7,SNR=11						
MKAR	Makanchi Array	64.96	316	P	P	19 22 30.4	-1.3
	comp=Z,0.3nm,0.8s,baz=52,slow=6.9,SNR=2.0						
AKASG	Malin Array Be	75.43	351	P	P	19 23 34.7	-0.9
	comp=Z,0.4nm,0.5s,baz=10.0,slow=5.5,SNR=3.2						
H03N2	Juan Fernandez	113.80	114	T	T	21 34 22.6	
	baz=322,slow=78,SNR=6.1						
H03N1	Juan Fernandez	113.82	114	T	T	21 34 22.1	
	baz=322,slow=78,SNR=6.4						
H03N3	Juan Fernandez	113.82	114	T	T	21 34 20.9	
	baz=322,slow=78,SNR=6.9						

*TUL **07** 19:26:14.8±1.5, 36°.50N±0°.02×98°.72W±0°.02, h8km±1km, ML2.7, mb_Lg2.5/19(NEIC), Error ellipse: s-maj=3.8km s-min=2.1km az=144.0*

NEIC 07 19:26:14.6±1.5, 36°.482N±0°.005×98°.70W±0°.02, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.9km az=273.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.23	358	Pg	Pg	19 26 19.4	+0.4
U32A	Winter Ranch,	0.27	247	Pg	Pg	19 26 20.1	+0.4
U32A				Sg	Sg	19 26 24.1	+0.9
CROK	Carrier	0.58	88	Pg	Pg	19 26 26.1	+0.4
KAN14	Manchester OK	0.76	51	Pg	Pg	19 26 29.1	0.0
KAN14				Sg	Sg	19 26 39.5	+0.5
GC02	Grant County #	0.77	61	Pg	Pg	19 26 29.3	0.0
GC02				Sg	Sg	19 26 40.1	+0.8
KAN10	Anthony SW Sta	0.80	37	Pg	Pg	19 26 29.3	-0.7
KAN16	Harper SW Stat	0.90	34	Pg	Pg	19 26 31.8	0.0
KAN16				Sg	Sg	19 26 43.7	+0.2
KAN05	Bluff City Nor	0.91	46	Pg	Pg	19 26 32.0	0.0
KAN05				Sg	Sg	19 26 44.2	+0.3
KAN08	Anthony NE Sta	0.94	38		Pg	19 26 32.4	-0.4
KAN12	Harper NE Stat	0.99	34	Pg	Pg	19 26 32.5	-1.0
KAN01	Argonia South	1.01	48	Pg	Pg	19 26 33.6	-0.4
KAN06	Argonia West S	1.02	41	Pg	Pg	19 26 33.9	-0.2
KAN13	South Haven SW	1.11	61	Pg	Pg	19 26 35.4	-0.5
BCOK	Bluff Creek, N	1.21	133		Pg	19 26 37.1	-0.6
OK029	Liberty Lake	1.22	124		Pg	19 26 37.4	-0.5
BLOK	Blackwell	1.23	76		Pg	19 26 37.5	-0.5
OK025	Westminster Rd	1.42	129	Pn	Pn	19 26 41.2	+0.1
OK031	S. Brethren Rd	1.59	109	Pn	Pn	19 26 42.6	-0.8
FNO	Franklin	1.61	139	Pn	Pn	19 26 44.0	+0.3
QUOK	Quay	1.64	100		Pn	19 26 43.3	-0.7
OK030	Cody Creek RV	1.65	109	Pn	Pn	19 26 43.5	-0.6
OK034	N. Norfolk Rd.	1.67	106		Pn	19 26 43.3	-1.2
WMOK	Wichita Mounta	1.74	182	Pn	Pn	19 26 45.4	-0.1
WMOK				lAmb_Lg		19 27 14.2	
	comp=Z,17nm,0.8s						
T35A	Sooner Cattle	1.81	76	Pn	Pb	19 26 47.6	-0.6
R32A	Long Quarter,	1.94	360	Pn	Pb	19 26 49.5	-0.8
X34A	Smith Ranch, M	2.01	159		Pb	19 26 50.9	-0.6
TUL1	Leonard	2.42	103	Pn	Pn	19 26 53.6	-1.2
TUL1				lAmb_Lg		19 27 34.6	
	comp=Z,19nm,0.8s						
CBKS	Cedar Bluff	2.47	341		Pb	19 26 57.8	-1.7
CBKS				lAmb_Lg		19 27 35.9	
	comp=Z,12nm,0.7s						
AMTX	Amarillo	2.91	238	lAmb_Lg		19 27 52.0	
	comp=Z,18nm,0.8s						
U38A	Gravette	3.48	89	lAmb_Lg		19 28 11.8	
	comp=Z,9.1nm,0.7s						
HHAR	Hobbs	3.84	92	Pn	Pn	19 27 14.2	-0.2
KSCO	Kaye Shedlock'	4.01	310	Pn	Pn	19 27 16.8	0.0
KSCO				lAmb_Lg		19 28 24.8	
	comp=Z,15nm,0.7s						
N33A	J Bar K, Exete	4.36	13	lAmb_Lg		19 28 38.7	
	comp=Z,15nm,0.8s						
MIAR	Mount Ida	4.60	113	lAmb_Lg		19 28 50.0	
	comp=Z,15nm,1.2s						
T25A	Trinidad	4.63	280	Pn	Pn	19 27 22.7	-2.7
T25A				lAmb_Lg		19 28 44.3	
	comp=Z,12nm,1.0s						
U40A	Yellville	4.72	90	lAmb_Lg		19 28 42.5	
	comp=Z,7.2nm,0.8s						
FCAR	Ozark Folk Cen	5.35	94	lAmb_Lg		19 29 04.7	
	comp=Z,8.6nm,0.9s						

IDC 07 19:37:14.3±1.9, 6°.74S×129°.25E, h0km, mb3.6/2, mb1 3.3/4, mb1mx2.9/39, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=144.2km s-min=30.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.02	160	Pn	Pn	19 40 35.8	+1.4
	0.1nm,0.3s,baz=343,slow=12,SNR=8.5						
WRA				Sn	Sn	19 42 59.4	-11
	0.4nm,0.3s,baz=329,slow=24,SNR=8.8						
ASAR	Alice Springs	17.41	166	P	Pn	19 41 17.6	-1.2
	0.0nm,0.3s,baz=338,slow=9.8,SNR=1.6						
MKAR	Makanchi Array	67.61	327	P	P	19 48 13.2	+0.3
	0.3nm,0.4s,baz=112,slow=8.0,SNR=7.0						
KURBB	Kurchatov Arra	71.90	329	P	P	19 48 39.1	-0.2
	0.4nm,0.5s,baz=125,slow=5.0,SNR=9.2						

*IDC **07** 19:37:18.6±0.9, 29°.29N×51°.39E, h0km, mb3.9/22, mb1 4.0/28, mb1mx3.9/53, mbtmp3.9/28, ML3.6/5, MS3.1/10, Ms1 3.1/10, ms1mx2.9/87, Error ellipse: s-maj=20.6km s-min=13.4km az=175.0*
*TEH **07** 19:37:20.7, 29°.36N×51°.39E, h11km, ML4.0*
*NEIC **07** 19:37:21.6±1.9, 29°.34N±0°.09×51°.46E±0°.08, h19km±5km, Error ellipse: s-maj=12.7km s-min=9.1km az=196.0*
*DSN **07** 19:37:23.4±2.3, 29°.17N×51°.48E, h10km, ML4.0/12, Error ellipse: s-maj=31.3km s-min=8.3km az=3.0*

ISC 07 19:37:21.7±0.4, 29°.35N±0°.04×51°.45E±0°.04, h20km, n205, σ1.91/200, mb4.2/41, 13C-10D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ1	Kazerun	0.32	30	*e*Pg	Pb	19 37 27.9	-0.9
KAZ1				*e*		19 37 41.7	
	comp=Z,82μm,0.6s						
AHBU	AHRAM	0.50	196	*e*Pn	Pb	19 37 32.1	+0.3
SHI	Shiraz	0.97	72	*e*Pg	Pn	19 37 40.3	0.0
ABEH	Behbahan	1.62	320	*e*Pg	Pb	19 37 51.4	+0.4
QIR1	Qir	1.64	122	*e*Pg	Pb	19 37 52.9	+1.6
KLNJ	Kolanjah	1.66	4	*e*Pg	Pb	19 37 52.3	+0.5
KLNJ				*e*		19 38 19.4	
	comp=Z,21μm,0.5s						
GHIR	Ghir-Karzin	1.71	128	*e*Pg	Pb	19 37 53.5	+1.0
JHRM	Jahrom	2.04	114	*e*Pn	Pb	19 37 58.4	+0.3
LMD1	Lamerd	2.51	143	*e*Pn	Pn	19 38 02.6	+1.3
IBRJ	Brojen	2.56	356	*e*Pn	Pn	19 38 04.4	+2.2
IBRJ				*e*		19 38 48.7	
	comp=Z,7μm,0.7s						
IRAM	Ramesheh	2.58	18	*e*		19 38 47.8	
	comp=Z,5μm,0.5s						
IRAM				*e*Pn	Pb	19 38 05.4	-2.0
AMIS	Naft Sefid	2.97	322	*e*Pn	Pn	19 38 08.9	+1.2
SHK1	Shahrekord	3.01	351	*e*Pn	Pn	19 38 10.4	+2.0
SHK1				*e*		19 39 18.1	
	comp=Z,3μm,0.8s						
LAR1	LAR	3.07	122	*e*Pn	Pn	19 38 11.8	+2.7
IGAR	Gharneh	3.09	9	*e*Pn	Pn	19 38 12.4	+2.9
AHWZ	Ahwaz	3.13	310	*e*Pn	Pn	19 38 11.3	+1.5
ISAD	Sadrabad	3.20	36	*e*Pn	Pn	19 38 14.1	+3.0
IPIR	Pirpir	3.36	352	*e*Pn	Pn	19 38 15.3	+2.0
IZEF	Zefreh	3.62	12	*e*Pn	Pn	19 38 19.2	+2.4
NASN	Na'in	3.63	18	*e*Pn	Pn	19 38 19.7	+2.6
IKLH	Kolahrood	3.96	2	*e*Pn	Pn	19 38 23.6	+2.1
IKLH				*e*		19 38 26.9	
	comp=Z,2μm,0.4s						
YZKH	Yazd	4.06	41	*e*Pn	Pn	19 38 25.7	+3.0
ANAR	Anarak	4.30	26	*e*Pn	Pn	19 38 28.7	+2.7
QAMS	Qamsar	4.37	359	*e*Pn	Pn	19 38 29.5	+2.3
KHGB	Koh Gabri	4.48	76	*e*Pn	Pn	19 38 31.8	+3.1
KHGB				*e*		19 38 47.5	
	comp=Z,1μm,0.7s						
KHMZ	Khomeyn	4.56	344	*e*Pn	Pn	19 38 32.1	+2.4
GENO	Geno	4.59	114	*e*Pn	Pn	19 38 32.3	+2.2
GENO				*e*		19 39 51.1	
	comp=Z,1μm,0.4s						
NGRK	Negar Kerman	4.61	85	*e*Pn	Pn	19 38 34.1	+3.5
NGRK				*e*		19 39 31.9	
	comp=Z,962nm,0.3s						
KRSH	Karshahi	4.64	7	*e*Pn	Pn	19 38 32.7	+1.9
KRBR	Kerman	4.66	81	*e*Pn	Pn	19 38 34.3	+3.1
TVBK	TV Kerman	4.66	81	*e*Pn	Pn	19 38 34.6	+3.3
TVBK				*e*		19 38 52.9	
	comp=Z,3μm,0.8s						
ZRDN	Zarand Kerman	4.69	69	*e*Pn	Pn	19 38 34.8	+3.3
BMDN	Meydan	4.86	333	*e*Pn	Pn	19 38 34.6	+0.8
IBND	Bandar-abas	4.86	112	*e*Pn	Pb	19 38 42.8	-3.4
ISFB	Sefidab	5.03	7	*e*Pn	Pn	19 38 38.0	+1.9
GHVR	GHOM	5.12	359	*e*Pn	Pn	19 38 39.8	+2.5
IKFM	Kafar-mosalman	5.18	324	*e*Pn	Pn	19 38 39.0	+1.0
IDOB	Doab	5.23	329	*e*Pn	Pn	19 38 39.8	+0.8
SLWR	Sila	5.26	178	*e*Pn	Pn	19 38 42.3	+3.1
SHME	Shamm	5.30	127	P	Pn	19 38 40.1	+0.5
ASAO	Ashtian	5.32	347	*e*Pn	Pn	19 38 42.6	+2.3
CHMN	Cheshme madani	5.32	83	*e*Pn	Pn	19 38 43.9	+3.5
BANOM	Banah	5.49	127	*e*Pn	Pn	19 38 44.6	+2.3
BANOM	Banah	5.49	127	*i* P	Pn	19 38 43.9	+1.6
	SNR=27						
BANOM				S	Sn	19 39 45.2	+0.3
IQOM	Qom	5.49	357	*e*Pn	Pn	19 38 43.6	+1.1
GHWR	Ruwais	5.51	166	*e*Pn	Pn	19 38 45.5	+2.9
IVRN	Varamin	5.63	2	*e*Pn	Pn	19 38 45.8	+1.4
KHNJ	Kahnooj	5.67	103	*e*Pn	Pn	19 38 48.2	+3.4
AJN	Ajban	5.71	146	*e*Pn	Pn	19 38 48.2	+2.8
AJN	Ajban	5.71	146	*i* P	Pn	19 38 48.2	+2.8
	SNR=7.4						
NAZ	Nazwa, Dubai	5.74	138	*e*Pn	Pn	19 38 48.3	+2.6
NAZ	Nazwa, Dubai	5.74	138	P	Pn	19 38 47.1	+1.4
MSFE	Esma-Masafi	5.77	132	*e*Pn	Pn	19 38 48.1	+1.9
MSFE	Esma-Masafi	5.77	132	P	Pn	19 38 47.2	+1.0
TPRV	Parvadeh(Tabas	5.79	49	*e*Pn	Pn	19 38 49.2	+2.7
HAGD	Aghdareh	5.80	341	*e*Pn	Pn	19 38 48.7	+1.9
ASUD	Al Ashush, Dub	5.84	143	*e*Pn	Pn	19 38 49.8	+2.7
ASUD	Al Ashush, Dub	5.84	143	*i* P	Pn	19 38 49.7	+2.6
	SNR=40						
FAQ	Al Faqa, Dubai	5.88	140	*e*Pn	Pn	19 38 51.0	+3.2
FAQ	Al Faqa, Dubai	5.88	140	*i* P	Pn	19 38 49.7	+2.0
	SNR=8.3						
MZWR	Madinat Zayed	5.97	158	*e*Pn	Pn	19 38 52.4	+3.4
IHSB	Hasanabad	6.07	359	*e*Pn	Pn	19 38 52.1	+1.7
UOSS	Minazif	6.09	135	*e*Pn	Pn	19 38 52.5	+1.9
UOSS	Minazif	6.09	135	Pn	Pn	19 38 49.9	-0.8
KBAM	BAM	6.12	90	*e*Pn	Pn	19 38 54.2	+3.1
KBAM				*e*		19 39 02.4	
	comp=Z,602nm,0.3s						
HATD	Hatta, Dubai	6.14	136	*e*Pn	Pn	19 38 54.1	+2.9
ILAS	Lasjerd	6.15	12	*e*Pn	Pn	19 38 53.8	+2.2
IRAZ	Razeghan	6.17	348	*e*Pn	Pn	19 38 53.6	+1.7
KCHF	Cheshme Sefid,	6.18	324	*e*Pn	Pn	19 38 53.5	+1.5
ASHO	Ashiyiah	6.20	137	*e*Pn	Pn	19 38 54.3	+2.2
ASHO	Ashiyiah	6.20	137	*i* P	Pn	19 38 53.6	+1.5
	SNR=19						
KER	Kermanshah	6.22	325	*e*Pn	Pn	19 38 54.4	+1.9
IDMV	Damavand	6.23	4	*e*Pn	Pn	19 38 54.6	+1.9
DAMV	Damavand	6.28	4	*e*Pn	Pn	19 38 54.7	+1.3
IMHD	Mahdasht	6.35	354	*e*Pn	Pn	19 38 56.0	+1.7
TNSJ	Nastanj	6.36	42	*e*Pn	Pn	19 38 57.3	+2.9
IFIR	Firoozkooh	6.37	10	*e*Pn	Pn	19 38 56.2	+1.6
TKDS	Koohdasht(Taba	6.44	47	*e*Pn	Pn	19 38 58.0	+2.5
IANJ	Anjilo	6.45	18

NIL IAmb IAmb 19 42 03.2
comp=Z,7.4nm,1.0s
BTK Batken 19.13 51 P 19 41 42.8 -0.8
ATD Arta Tunnel 19.46 206 LR LR 19 50 12.1
comp=Z,62nm,21.4s,baz=72,slow=40
ABKAR Akbulak array 20.91 16 P **P 19 42 03.8 +1.0**
ABKAR Akbulak array 20.91 16 P **P 19 42 02.3 -0.5**
ABKAR IAmb IAmb 19 42 10.7
comp=Z,3.2nm,0.7s
AKTO Aktyubinsk 21.64 11 P P 19 42 11.7 +1.1
comp=Z,5.8nm,0.5s,baz=194,slow=10,SNR=32
AKTO LR LR 19 52 39.6
comp=Z,42nm,21.3s,baz=314,slow=42
AAK Ala-Archa 22.79 48 P P 19 42 23.4 +0.3
comp=Z,0.6nm,0.5s,baz=207,slow=10,SNR=2.5
AAK Ala-Archa 22.79 48 P P 19 42 23.8 +0.6
AAK IAmb IAmb 19 42 37.2
comp=Z,2.9nm,0.8s
IDI Anoyia 23.18 292 P P 19 42 26.6 -0.6
comp=Z,18nm,0.8s,baz=137,slow=2.8,SNR=3.3
TIRR Tirgusor 23.70 316 ⇑P **P 19 42 32.9 +0.9**
TLCR 23.85 318 ⇑P **P 19 42 35.6 +2.1**
TPGR Topolog 23.91 317 ⇓P **P 19 42 35.7 +1.7**
GHRR 25.16 318 ⇑P **P 19 42 48.2 +2.8**
ODBI Odobesti 25.20 317 ⇓P **P 19 42 48.5 +2.6**
BISRR Bisoca 25.30 317 ⇑P **P 19 42 50.7 +3.8**
SECR 25.43 315 ⇑P **P 19 42 52.2 +4.2**
VRI Vrincioaia 25.45 317 ⇑P **P 19 42 48.9 +0.7**
PLOR Plostina 25.49 317 ⇑P **P 19 42 51.0 +2.5**
IAS Iasi 25.71 320 ⇑P **P 19 42 53.1 +2.7**
MLR Muntele Rosu 25.73 316 ⇑P **P 19 42 55.2 +4.4**
MLR Muntele Rosu 25.73 316 P **P 19 42 52.0 +1.2**
comp=Z,25nm,0.8s,baz=183,slow=4.4,SNR=24
MLR Muntele Rosu 25.73 316 P **P 19 42 51.7 +0.8**
TESR Tescani 25.84 318 ⇑P **P 19 42 53.1 +1.4**
SORM Soroca 25.84 323 ⇓P **P 19 42 50.9 -0.8**
AGG Agios Georgios 25.86 300 P **P 19 42 50.6 -1.4**
OZUR 26.13 317 ⇑P **P 19 42 55.6 +1.2**
VOIR 26.25 315 ⇓P **P 19 42 57.1 +1.6**
VTS Vitosha 26.26 308 ⇑P **P 19 42 57.6 +2.0**
VTS Vitosha 26.26 308 P **P 19 42 54.1 -1.5**
VTS IAmb IAmb 19 42 58.0
comp=Z,12nm,1.3s
DOPR Dopca 26.31 316 ⇑P **P 19 42 57.1 +1.2**
ARR Arges 26.48 314 ⇓P **P 19 42 59.4 +1.8**
LOT Lotru 27.06 314 ⇓P **P 19 43 03.2 +0.4**
AKASG Malin Array Be 27.09 328 P **P 19 43 03.4 +0.5**
comp=Z,0.8nm,0.5s,baz=132,slow=9.4,SNR=9.8
AKASG Malin Array Be 27.09 328 IAmb IAmb 19 43 07.1
comp=Z,1.6nm,1.1s
AKBB Malin Array Si 27.09 328 P **P 19 43 02.9 0.0**
AKBB IAmb IAmb 19 43 04.2
comp=Z,7.3nm,1.1s
BURAR Bucovina Array 27.26 319 ⇓P **P 19 43 06.3 +1.7**
BURAR Bucovina Array 27.26 319 P **P 19 43 04.2 -0.4**
BUR08 Bucovina Ar. S 27.29 319 P **P 19 43 05.1 +0.2**
BUR08 IAmb IAmb 19 43 22.8
comp=Z,7.6nm,0.9s
BVAR Borovoye Array 27.45 25 P **P 19 43 08.0 +1.9**
comp=Z,1.4nm,0.8s,baz=254,slow=5.5,SNR=5.1
ARU Arti 27.53 9 P **P 19 43 05.9 -0.9**
comp=Z,0.2nm,0.3s,baz=107,slow=22,SNR=1.5
ARU Arti 27.53 9 IAmb IAmb 19 43 23.0
comp=Z,3.4nm,0.9s
DRGR 28.33 316 ⇓P **P 19 43 15.8 +1.7**
KURBB Kurchatov Arra 29.42 36 P **P 19 43 24.8 +1.1**
comp=Z,1.0nm,0.7s,baz=237,slow=9.4,SNR=8.1
KURK Kurchatov 29.52 36 P **P 19 43 24.8 +0.2**
KURK Kurchatov 29.52 36 IAmb IAmb 19 43 44.8
comp=Z,2.2nm,1.1s
MKAR Makanchi Array 29.62 45 P **P 19 43 26.9 +1.4**
comp=Z,0.7nm,0.6s,baz=239,slow=8.5,SNR=12
MORH Mrgy, Hungar 30.64 312 ⇓P **P 19 43 34.8 +0.4**
OJC Ojcow 31.67 320 P **P 19 43 43.5 -0.1**
JAVC Velka Javorina 32.29 317 *e*P **P 19 43 50.7 +1.6**
MORC Moravsky Berou 32.76 318 ⇓P **P 19 43 54.1 +0.9**
MORC Moravsky Berou 32.76 318 *e*P **P 19 43 53.9 +0.8**
MORC Moravsky Berou 32.76 318 P **P 19 43 53.8 +0.6**
MORC IAmb IAmb 19 43 55.2
comp=Z,8.4nm,1.0s
ARSA Arzberg 33.01 313 *e*P **P 19 43 56.7 +1.3**
comp=Z,3.5nm,1.0s
CONA Conrad Observa 33.03 314 *e*P **P 19 43 57.4 +1.7**
comp=Z,2.0nm,0.9s
SOKA Soboth 33.14 312 *e*P **P 19 43 57.8 +1.2**
comp=Z,4.3nm,1.4s
KRLC Kraliky 33.33 318 *e*P **P 19 43 57.8 -0.3**
DPC Dobruska-Polom 33.71 318 *e*P **P 19 44 01.6 +0.1**
CHVC Chvalec 33.97 319 *e*P **P 19 44 04.6 +0.9**
MOA Molln 34.02 313 *e*P **P 19 44 04.8 +0.6**
comp=Z,5.1nm,0.8s
KBA Koelnbreinsper 34.37 312 *e*P **P 19 44 07.6 +0.3**
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 34.48 35 P **P 19 44 09.2 +1.2**
comp=Z,1.1nm,0.5s,baz=256,slow=9.8,SNR=8.4
GERES GERESS Array B 34.71 315 P **P 19 44 10.1 -0.1**
comp=Z,1.0nm,0.7s,baz=109,slow=7.2,SNR=7.0
ABTA Abfaltersbach 34.82 311 *e*P **P 19 44 12.0 +0.8**
comp=Z,3.3nm,0.8s
KHC Kasperske Hory 34.88 315 *e*P **P 19 44 11.8 +0.2**
KHC *ex* x 19 44 20.5
WTTA Wattenberg 35.53 311 *e*P **P 19 44 17.3 -0.2**
comp=Z,7.7nm,0.8s
WATA Walderalm 35.59 311 *e*P **P 19 44 17.8 -0.2**
comp=Z,12nm,1.2s
SQTA Sankt Quirin 35.80 311 *e*P **P 19 44 19.4 -0.3**
comp=Z,0.2nm,0.2s
MOTA Moosalm 35.91 311 *e*P **P 19 44 20.3 -0.3**
comp=Z,7.0nm,0.7s
CLL Collm 36.02 318 *i*P **P 19 44 22.2 +0.8**
comp=Z,7.0nm,1.1s
FETA Feichten 36.07 311 *e*P **P 19 44 22.6 +0.6**
comp=Z,10nm,1.3s
FINES FINESS Array B 36.23 340 P **P 19 44 22.7 -0.2**
comp=Z,1.2nm,0.6s,baz=146,slow=8.4,SNR=4.4
DAVA Damuels 36.70 311 *e*P **P 19 44 27.4 +0.1**
comp=Z,18nm,1.0s
NB2 NORSAR Subarra 41.38 332 P **P 19 45 05.1 -1.1**
comp=Z,0.6nm,0.5s,baz=123,slow=8.6
NOA NORSAR Array B 41.38 332 P **P 19 45 04.9 -1.3**
comp=Z,0.6nm,0.6s,baz=137,slow=7.9,SNR=1.9
NOA LR LR 20 03 58.3
comp=Z,47nm,20.4s,baz=260,slow=39
ARCES ARCESS Array B 42.90 347 P **P 19 45 18.9 +0.5**
comp=Z,3.7nm,0.8s,baz=147,slow=7.3,SNR=10
SONM Songino Array 45.72 50 P **P 19 45 41.6 +0.1**
comp=Z,0.2nm,0.4s,baz=268,slow=3.0,SNR=3.6
SONM PcP **PcP 19 47 19.2 +0.1**
comp=Z,0.2nm,0.7s,baz=236,slow=4.0,SNR=1.7
SONM Songino Array 45.72 50 IAmb IAmb 19 45 44.3
comp=Z,0.6nm,1.0s
ESDC Sonseca Array 46.17 298 P **P 19 45 44.8 -0.2**
comp=Z,0.6nm,0.7s,baz=79,slow=6.7,SNR=2.3
TORD Torodi Ar. Bea 48.73 262 P **P 19 46 05.5 +0.3**
comp=Z,1.9nm,0.4s,baz=57,slow=8.6,SNR=18
DBIC Dimbokro 57.50 259 P **P 19 47 08.4 -1.4**
comp=Z,1.7nm,0.6s,baz=40,slow=6.2,SNR=3.9
KSRS Korea Array 62.75 60 P **P 19 47 45.2 -0.3**
comp=Z,1.0nm,0.7s,baz=283,slow=6.1,SNR=2.1
FRB Frobisher Bay 75.96 337 P **P 19 49 07.3 +0.5**
comp=Z,1.6nm,0.7s,baz=40,slow=9.5,SNR=3.2
ILAR Eielson Array 85.10 8 P **P 19 49 55.6 -0.2**
comp=Z,0.4nm,0.8s,baz=329,slow=3.2,SNR=2.6
YKA Yellowknife Ar 87.80 354 P **P 19 50 09.0 -0.1**
comp=Z,0.3nm,0.6s,baz=10,slow=5.0,SNR=4.6
WRA Warramunga Arr 93.65 111 P **P 19 50 37.5 +0.4**
comp=Z,0.2nm,0.7s,baz=315,slow=4.1,SNR=1.3

IDC 07 19:39:27.5±3.5, 4°.26S×136°.07E, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.1/32, mbtmp3.7/3, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/59, Error ellipse: s-maj=154.7km s-min=30.0km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.68**	**186**	Pn	Pn	19 43 10.4	+0.5
	0.4nm,0.3s,baz=5.2,slow=12,SNR=8.6						
WRA				Sn	Sn	19 45 51.0	-13
	0.2nm,0.3s,baz=3.0,slow=23,SNR=4.6						
ASAR	**Alice Springs**	**19.40**	**186**	P	P	19 43 55.1	-0.2
	0.3nm,0.3s,baz=12,slow=8.9,SNR=31						
PALK	**Pallekele**	**56.43**	**282**	LR	LR	20 15 42.0	
	comp=Z,37nm,19.1s,baz=37,slow=38						
MKAR	**Makanchi Array**	**69.44**	**324**	P	P	19 50 37.6	0.0
	0.4nm,0.5s,baz=110,slow=8.0,SNR=14						

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*IDC **07** 19:49:26.5±0.7, 6°.14S×154°.61E, h0km, mb3.9/10, mb1 4.1/13, mb1mx4.0/41, mbtmp4.0/13, ML1.7/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/62, Error ellipse: s-maj=20.8km s-min=19.6km az=107.0*

ISC 07 19:49:33.4±0.6, 6°.2S±0°.1×154°.57E±0°.07, h50km, n17, σ1§03/18, mb3.9/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.20**	**121**	Pn	Pn	19 51 00.3	-2.2
	1.6nm,0.3s,baz=303,slow=11,SNR=1.2						
HNR				Sn	Sn	19 52 14.1	+2.1
	6.0nm,0.3s,baz=275,slow=20,SNR=1.2						
HNR				LR	LR	19 53 23.8	
	comp=Z,166nm,18.5s,baz=294,slow=38						
PMG	**Port Moresby**	**8.00**	**246**	Pn	Pn	19 51 26.9	-0.2
	0.6nm,0.3s,baz=338,slow=13,SNR=1.8						
PMG				Sn	Sn	19 52 55.7	-0.5
	baz=214,slow=16,SNR=0.9						
PMG				LR	LR	19 54 37.7	
	comp=Z,119nm,19.6s,baz=81,slow=39						
DZM	**Mont Dzumac**	**19.48**	**145**	P	P	19 53 57.1	+0.7
	0.5nm,0.3s,baz=342,slow=21,SNR=8.4						
WRA	**Warramunga Arr**	**23.92**	**233**	P	P	19 54 43.1	+0.1
	2.4nm,0.7s,baz=58,slow=9.5,SNR=18						
WRA				PcP	PcP	19 58 24.9	+0.1
	0.8nm,0.5s,baz=59,slow=2.3,SNR=10						
WRA				LR	LR	20 04 40.2	
	comp=Z,62nm,19.0s,baz=312,slow=38						
ASAR	**Alice Springs**	**26.38**	**227**	P	P	19 55 05.3	0.0
	0.4nm,0.4s,baz=55,slow=9.1,SNR=9.5						
ASAR				PcP	PcP	19 58 30.6	+0.5
	0.9nm,0.6s,baz=56,slow=2.4,SNR=9.4						
ASAR				LR	LR	20 05 06.2	
	comp=Z,61nm,19.3s,baz=104,slow=36						
H11S3	**WAKE ISLAND Hy**	**27.32**	**26**	T	T	20 23 41.5	
	baz=203,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**27.32**	**26**	T	T	20 23 42.5	
	baz=203						
H11S1	**WAKE ISLAND Hy**	**27.34**	**26**	T	T	20 23 43.6	
	baz=203,slow=74,SNR=11						
STKA	**Stephens Creek**	**28.25**	**204**	P	P	19 55 21.9	0.0
	2.1nm,0.9s,baz=40,slow=16,SNR=2.2						
CMAR	**Chiang Mai Arr**	**60.08**	**295**	P	P	19 59 37.0	+1.0
	0.5nm,0.5s,baz=108,slow=5.7,SNR=6.8						
SONM	**Songino Array**	**68.47**	**327**	P	P	20 00 31.2	+0.7
	0.6nm,0.7s,baz=136,slow=6.2,SNR=5.4						
MKAR	**Makanchi Array**	**82.56**	**319**	P	P	20 01 51.0	-0.1
	1.0nm,0.6s,baz=94,slow=5.4,SNR=12						
ILAR	**Eielson Array**	**82.82**	**22**	P	P	20 01 50.2	-1.9
	0.3nm,0.6s,baz=247,slow=4.9,SNR=4.2						
MAW	**Mawson**	**84.94**	**203**	P	P	20 02 02.9	0.0
	2.8nm,0.5s,baz=27,slow=11,SNR=2.0						
NVAR	**Mina Array Bea**	**91.58**	**52**	P	P	20 02 36.4	+0.9
	1.4nm,0.8s,baz=251,slow=6.0,SNR=5.7						
YKA	**Yellowknife Ar**	**95.86**	**28**	P	P	20 02 54.5	+0.2
	0.4nm,0.7s,baz=259,slow=5.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**152.42**	**286**	PKPbc	PKPbc	20 09 25.0	-0.1
	1.0nm,0.6s,baz=52,slow=2.4,SNR=8.3						

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*IDC **07** 19:59:44.2±0.8, 36°.56N×98°.73W, h0km, mb3.6/3, mb1 4.0/10, mb1mx3.7/50, mbtmp3.8/10, ML4.0/6, MS3.3/2, Ms1 3.3/2, ms1mx2.8/80, Error ellipse: s-maj=11.7km s-min=9.9km az=128.0*

*TUL **07** 19:59:44.5±1.8, 36°.50N±0°.03×98°.71W±0°.05, h5km±6km, ML4.3, mb_Lg4.0/105(NEIC), Mwr3.7/19(NEIC), Error ellipse: s-maj=5.9km s-min=3.5km az=87.0*

*NEIC **07** 19:59:44.2±1.6, 36°.49N±0°.03×98°.69W±0°.04, h5km±2km, Error ellipse: s-maj=5.3km s-min=4.1km az=286.0*

*ANF **07** 19:59:44.9±0.2, 36°.51N×98°.66W, h10km, ML5.1/15, Error ellipse: s-maj=2.6km s-min=2.2km az=10.0*

*NEIC **07** 19:59:44.7, 36°.49N×98°.68W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.59; $M_{\theta\theta}$4.03; $M_{\phi\phi}$-3.44; $M_{r\theta}$0.65; $M_{\theta\phi}$0.74; $M_{r\phi}$0.08; Fault plane solution: $M_0$3.90000×10^{14} NP1:ϕ_s39.14000°, δ84.70000°, λ174.23000°. NP2:ϕ_s129.68000°, δ84.25000°, λ5.33000°. Principal axes: T 4.1923, Plg8.0000°, Azm354.0000°; N -0.6785, Plg82.0000°, Azm177.0000°; P -3.5137, Plg0.0000°, Azm84.0000°;*

ISC 07 19:59:44.4±0.5, 36°.50N±0°.02×98°.62W±0°.02, h10km, n196, σ1§23/197, mb3.3/3, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.22**	**341**	Pg	Pg	19 59 49.0	0.0
U32A	**Winter Ranch,**	**0.33**	**249**	Pg	Pg	19 59 49.9	-1.1
CROK	**Carrier**	**0.51**	**89**	Pg	Pb	19 59 55.9	+0.4
KAN14	**Manchester OK**	**0.70**	**49**		Pb	19 59 58.8	+0.2
GC02	**Grant County #**	**0.70**	**60**	Pg	Pb	19 59 59.2	+0.4
KAN10	**Anthony SW Sta**	**0.75**	**34**	Pg	Pb	19 59 59.6	0.0
KAN16	**Harper SW Stat**	**0.85**	**31**	Pg	Pb	20 00 01.4	+0.1
KAN05	**Bluff City Nor**	**0.85**	**44**	Pg	Pb	20 00 01.6	+0.3
KAN17	**Caldwell West**	**0.88**	**51**		Pb	20 00 02.0	+0.3
KAN08	**Anthony NE Sta**	**0.89**	**35**		Pb	20 00 02.2	+0.2
KAN12	**Harper NE Stat**	**0.94**	**32**	Pg	Pb	20 00 02.9	+0.1
KAN01	**Argonia South**	**0.95**	**46**		Pb	20 00 03.4	+0.4
KAN06	**Argonia West S**	**0.96**	**39**		Pg	20 00 03.0	+0.1
KAN13	**South Haven SW**	**1.05**	**60**		Pg	20 00 05.0	+0.4
BLOK	**Blackwell**	**1.16**	**77**		Pg	20 00 07.3	+0.7
BCOK	**Bluff Creek, N**	**1.17**	**135**		Pg	20 00 07.2	+0.3
OK029	**Liberty Lake**	**1.18**	**126**		Pg	20 00 07.4	+0.4
OK009	**Oakdale Elemen**	**1.33**	**133**		Pb	20 00 10.0	+0.5
OK025	**Westminster Rd**	**1.39**	**131**		Pb	20 00 11.0	+0.6
OK001	**Jones High Sch**	**1.43**	**131**	Pn	Pb	20 00 11.0	0.0
OK005	**Luther M Schoo**	**1.43**	**126**		Pb	20 00 11.8	+0.7
OKCFA	**Oklahoma City**	**1.44**	**138**		Pb	20 00 11.7	+0.4
OKCSW	**OKLAHOMA CITY**	**1.45**	**138**	Pn	Pb	20 00 11.9	+0.4
OK031	**S. Brethren Rd**	**1.54**	**110**		Pb	20 00 13.5	+0.5
QUOK	**Quay**	**1.58**	**101**		Pb	20 00 14.1	+0.5
FNO	**Franklin**	**1.59**	**141**		Pb	20 00 14.2	+0.4
OK030	**Cody Creek RV**	**1.59**	**110**	Pn	Pb	20 00 14.2	+0.3
OK034	**N. Norfolk Rd.**	**1.62**	**107**		Pb	20 00 14.4	+0.1
T35A	**Sooner Cattle**	**1.74**	**76**	Pn	Pb	20 00 16.4	-0.1
T35A				IAmb_Lg		20 00 45.3	
	comp=Z,646nm,0.7s						
WMOK	**Wichita Mounta**	**1.76**	**184**	Pn	Pn	20 00 14.9	-0.1
WMOK	**Wichita Mounta**	**1.76**	**184**	P	Pn	20 00 15.4	+0.4
	baz=2.2,SNR=242						
WMOK				S	Sb	20 00 38.9	-0.1
	baz=2.2						
R32A	**Long Quarter,**	**1.92**	**358**	Pn	Pb	20 00 18.6	-1.0
X34A	**Smith Ranch, M**	**2.00**	**161**	Pn	Pb	20 00 20.3	-0.5
X34A				IAmb_Lg		20 00 49.6	
	comp=Z,541nm,0.8s						
TUL1	**Leonard**	**2.36**	**104**	Pn	Pn	20 00 24.9	+1.7
TUL1	**Leonard**	**2.36**	**104**	P	Pn	20 00 24.9	+1.7
	baz=285,SNR=104						
TUL1				Sb	Sb	20 00 59.0	+2.8
	baz=285						
CBKS	**Cedar Bluff**	**2.48**	**339**	Pn	Pn	20 00 25.6	+0.8
CBKS	**Cedar Bluff**	**2.48**	**339**	P	Pn	20 00 25.7	+0.9
	baz=160,SNR=136						
CBKS				Sb	Sb	20 00 60.0	+0.4
	baz=160						
LOOK	**Love County**	**2.77**	**154**	Pn	Pn	20 00 30.3	+1.5
LOOK				IAmb_Lg		20 01 12.8	
	comp=Z,423nm,0.7s						
AMTX	**Amarillo**	**2.97**	**238**	Pn	Pn	20 00 32.8	+1.1
AMTX				IAmb_Lg		20 01 20.5	
	comp=Z,799nm,0.7s						
AMTX	**Amarillo**	**2.97**	**238**	P	Pn	20 00 32.5	+0.9
	baz=56						
AMTX				Sb	Sb	20 01 14.6	+0.9
	baz=56						
KSU1	**Kansas State U**	**3.05**	**31**	Pn	Pn	20 00 34.7	+2.1
KSU1				IAmb_Lg		20 01 30.8	
	comp=Z,418nm,0.9s						
KSU1	**Kansas State U**	**3.05**	**31**	P	Pn	20 00 34.2	+1.6
	baz=213,SNR=24						
X37A	**Clayton**	**3.26**	**125**	Pn	Pn	20 00 36.5	+0.9
Z35A	**Perchaven, San**	**3.35**	**160**	Pn	Pn	20 00 38.5	+1.6
U38A	**Gravette**	**3.41**	**90**	Pn	Pn	20 00 39.6	+1.9
U38A				IAmb_Lg		20 01 38.0	
	comp=Z,400nm,0.8s						
HHAR	**Hobbs**	**3.78**	**92**	Pn	Pn	20 00 44.2	+1.5
HHAR				IAmb_Lg		20 01 52.0	
	comp=Z,260nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.05**	**309**	Pn	Pn	20 00 46.8	+0.3
KSCO				IAmb_Lg		20 02 00.9	
	comp=Z,572nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.05**	**309**	P	Pn	20 00 47.2	+0.7
	baz=128,SNR=19						
KSCO				S	Sn	20 01 33.4	-0.6
	baz=128						
W39A	**Magazine**	**4.14**	**107**		Pn	20 00 49.0	+1.4
W39A				IAmb_Lg		20 01 58.0	
	comp=Z,530nm,0.7s						
W39A	**Magazine**	**4.14**	**107**	P	Pn	20 00 48.7	+1.1
	baz=290						
MSTX	**Muleshoe**	**4.23**	**235**	Pn	Pn	20 00 48.1	-0.9
MSTX				IAmb_Lg		20 02 08.0	
	comp=Z,251nm,0.8s						
MSTX	**Muleshoe**	**4.23**	**235**	Pb	Pb	20 00 58.7	-0.3
	baz=52						
MSTX				Sb	Sb	20 01 53.1	+2.9
	baz=52						
N33A	**J Bar K, Exete**	**4.33**	**12**	Pn	Pn	20 00 50.4	+0.2
N33A				IAmb_Lg		20 02 09.5	
	comp=Z,305nm,0.7s						
S39A	**Bolivar**	**4.40**	**73**	Pn	Pn	20 00 52.8	+1.6
S39A				IAmb_Lg		20 02 04.3	
	comp=Z,338nm,0.8s						
Z38A	**Mt. Pleasant**	**4.40**	**136**	Pn	Pn	20 00 52.3	+1.1
Z38A				IAmb_Lg		20 02 06.6	
	comp=Z,360nm,0.8s						
MIAR	**Mount Ida**	**4.55**	**114**		Pn	20 00 54.2	+0.9
MIAR				IAmb_Lg		20 02 21.6	
	comp=Z,265nm,0.8s						
WHTX	**Lake Whitney,**	**4.60**	**168**	Pn	Pn	20 00 55.1	+1.1
WHTX	**Lake Whitney,**	**4.60**	**168**	P	Pn	20 00 54.8	+0.8
	baz=348,SNR=11						
U40A	**Yellville**	**4.65**	**90**		Pn	20 00 55.3	+0.6
U40A				IAmb_Lg		20 02 21.6	
	comp=Z,412nm,1.0s						
U40A	**Yellville**	**4.65**	**90**	P	Pn	20 00 55.7	+1.0
	baz=273						
T25A	**Trinidad**	**4.69**	**280**	Pn	Pn	20 00 55.5	0.0
T25A	**Trinidad**	**4.69**	**280**	P	Pn	20 00 55.4	0.0
	baz=96,SNR=22						
T25A				Sb	Sb	20 02 08.0	+4.6
	baz=96						
BGNE	**Belgrade**	**4.92**	**4**		Pn	20 00 58.9	+0.6
BGNE				IAmb_Lg		20 02 31.2	
	comp=Z,446nm,0.8s						
BGNE	**Belgrade**	**4.92**	**4**	P	Pn	20 00 58.9	+0.6
	baz=185,SNR=18						
BGNE				S	Sn	20 01 55.5	+0.2
	baz=185						
N35A	**Tabor**	**4.94**	**27**		Pn	20 00 59.5	+0.9
237A	**Washetta, Mont**	**5.05**	**152**		Pn	20 01 00.2	0.0
237A				IAmb_Lg		20 02 39.9	
	comp=Z,306nm,0.9s						
P38A	**Dawn**	**5.08**	**51**		Pn	20 01 01.3	+0.7
X40A	**Basin Creek Fa**	**5.13**	**111**		Pn	20 01 03.8	+2.6
X40A	**Basin Creek Fa**	**5.13**	**111**	P	Pn	20 01 03.1	+1.9
	baz=294						
X40A				S	Sn	20 02 02.0	+1.5
	baz=294						
MGMO	**Mountain Grove**	**5.14**	**81**		Pn	20 01 03.3	+1.9
OGNE	**Ogallala**	**5.18**	**330**	Pn	Pn	20 01 03.1	+1.0
OGNE				IAmb_Lg		20 02 41.1	
	comp=Z,343nm,0.7s						
OGNE	**Ogallala**	**5.18**	**330**	P	Pn	20 01 03.2	+1.2
	baz=149,SNR=14						
OGNE				S	Sn	20 02 00.7	-1.1
	baz=149						
WHAR	**Wooly Hollow**	**5.28**	**101**		Pn	20 01 06.2	+2.9
WHAR				IAmb_Lg		20 02 47.8	
	comp=Z,229nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.29**	**95**	Pn	Pn	20 01 05.0	+1.6
FCAR				IAmb_Lg		20 02 39.7	
	comp=Z,246nm,0.9s						
WLAR	**White Oak Lake**	**5.32**	**120**	IAmb_Lg		20 02 45.6	
	comp=Z,281nm,0.9s						
W41B	**Gary Mavity, V**	**5.34**	**102**	Pn	Pn	20 01 05.5	+1.4
W41B				IAmb_Lg		20 02 40.6	
	comp=Z,279nm,0.8s						
W41B	**Gary Mavity, V**	**5.34**	**102**	P	Pn	20 01 05.6	+1.4
	baz=286						
W41B				S	Sn	20 02 05.8	+0.1
	baz=286						
R40A	**Maddies Statio**	**5.36**	**69**	Pn	Pn	20 01 05.0	+0.5
R40A				IAmb_Lg		20 02 40.2	
	comp=Z,283nm,0.7s						
SDCO	**Great Sand Dun**	**5.64**	**285**		Pn	20 01 08.8	+0.3
SDCO	**Great Sand Dun**	**5.64**	**285**	P	Pn	20 01 09.2	+0.7
	baz=101,SNR=25						
L34A	**Svendsen Farm,**	**5.73**	**17**	Pn	Pn	20 01 09.1	-0.4
Q24A	**Divide**	**5.73**	**297**		Pn	20 01 09.4	-0.4
Q24A				IAmb_Lg		20 02 44.3	
	comp=Z,215nm,0.8s						
Q24A	**Divide**	**5.73**	**297**	P	Pn	20 01 09.8	0.0
	baz=114						
Q24A				S	Sn	20 02 15.6	-0.2
	baz=114						
NATX	**Nacogdoches**	**5.75**	**144**	S	Sn	20 02 15.8	-0.1
	baz=326						
435B	**Jarrell**	**5.77**	**171**		Pn	20 01 08.7	-1.3
435B				IAmb_Lg		20 02 55.6	
	comp=Z,174nm,0.9s						
435B	**Jarrell**	**5.77**	**171**	P	Pn	20 01 11.0	+1.0
	baz=351						
Z41A	**Richland Creek**	**5.77**	**122**	IAmb_Lg		20 03 03.0	
	comp=Z,246nm,0.7s						
Z41A	**Richland Creek**	**5.77**	**122**	S	Sn	20 02 17.0	+0.7
	baz=306						
P40A	**Paris**	**6.00**	**58**		Pn	20 01 14.3	+1.0
N38A	**Joes South For**	**6.01**	**43**		Pn	20 01 14.2	+0.8
LCAR	**Lake Charles**	**6.04**	**92**		Pn	20 01 15.7	+1.9
LCAR				IAmb_Lg		20 03 04.7	
	comp=Z,176nm,0.8s						
CCM	**Cathedral Cave**	**6.08**	**73**	Pn	Pn	20 01 15.0	+0.7
CCM				IAmb_Lg		20 02 57.7	
	comp=Z,194nm,0.7s						
CCM	**Cathedral Cave**	**6.08**	**73**	P	Pn	20 01 15.2	+0.9
	baz=258						
JCT	**Junction City**	**6.08**	**190**	Pn	Pn	20 01 13.6	-0.9
JCT				IAmb_Lg		20 03 11.4	
	comp=Z,271nm,0.8s						
JCT	**Junction City**	**6.08**	**190**	P	Pn	20 01 15.1	+0.7
	baz=8.4						
K31A	**O'Neill**	**6.12**	**359**	Pn	Pn	20 01 15.7	+0.9
K31A				IAmb_Lg		20 03 03.9	
	comp=Z,243nm,0.7s						
ISCO	**Ida

	comp=Z,267nm,1.1s							
N23A	**Red Feather La**	**7.21**	**310**	Pn	**Pn**	**20 01 31.3**	**+1.2**	
N23A	**Red Feather La**	**7.21**	**310**	P	**Pn**	**20 01 31.3**	**+1.2**	
	baz=126							
PENMO	**Penman**	**7.25**	**88**	IAmb_Lg		20 03 39.2		
	comp=Z,240nm,0.9s							
MNTX	**Cornudas Mount**	**7.37**	**231**		**Pn**	**20 01 32.5**	**+0.4**	
MNTX				IAmb_Lg		20 03 37.7		
	comp=Z,120nm,0.8s							
MNTX	**Cornudas Mount**	**7.37**	**231**	P	**Pn**	**20 01 32.3**	**+0.2**	
	baz=47,SNR=5.1							
ECSD	**EROS Data Cent**	**7.39**	**11**	Pn	**Pn**	**20 01 31.7**	**-0.6**	
ECSD				IAmb_Lg		20 03 48.3		
	comp=Z,119nm,0.9s							
ECSD	**EROS Data Cent**	**7.39**	**11**	P	**Pn**	**20 01 31.3**	**-0.9**	
	baz=193,SNR=16							
N41A	**Harden Midland**	**7.39**	**53**		**Pn**	**20 01 33.7**	**+1.4**	
HALT	**Halls**	**7.53**	**92**	IAmb_Lg		20 03 51.7		
	comp=Z,209nm,0.7s							
S44A	**Carbondale**	**7.58**	**78**		**Pn**	**20 01 35.9**	**+1.1**	
S44A				IAmb_Lg		20 03 56.5		
	comp=Z,187nm,0.8s							
K38A	**Parkersburg**	**7.62**	**35**		**Pn**	**20 01 36.7**	**+1.3**	
W45A	**Hickory Valley**	**7.78**	**97**	IAmb_Lg		20 04 05.5		
	comp=Z,218nm,0.8s							
Y45A	**Yeager Farm, C**	**7.88**	**107**	IAmb_Lg		20 04 08.6		
	comp=Z,139nm,0.8s							
SUSD	**Miller**	**7.94**	**358**	Pn	**Pn**	**20 01 39.0**	**-0.9**	
SUSD				IAmb_Lg		20 04 05.1		
	comp=Z,109nm,0.8s							
SUSD	**Miller**	**7.94**	**358**	P	**Pn**	**20 01 39.8**	**0.0**	
	baz=178							
MVCO	**Mesa Verde**	**7.95**	**278**	Pn	**Pn**	**20 01 40.1**	**-0.1**	
Q44A	**Meyer Farm, Va**	**7.98**	**70**	Pn	**Pn**	**20 01 41.9**	**+1.5**	
L40A	**Anamosa**	**7.98**	**44**		**Pn**	**20 01 40.1**	**-0.3**	
PV15	**Paradox Valley**	**8.06**	**286**		**Pn**	**20 01 40.6**	**-1.2**	
TX31	**Lajitas Ar. Si**	**8.31**	**212**		**Pn**	**20 01 44.4**	**-0.6**	
TX32	**Lajitas Array**	**8.31**	**212**	Pn	**Pn**	**20 01 44.4**	**-0.6**	
TXAR	**Lajitas Array**	**8.31**	**212**	Pn	**Pn**	**20 01 45.3**	**+0.3**	
	comp=Z,1.8nm,0.3s,baz=42,slow=12,SNR=73							
TXAR				Lg	Lg	20 04 00.2		
	comp=Z,5.1nm,0.3s,baz=30,slow=31,SNR=3.4							
TXAR	**Lajitas Array**	**8.31**	**212**		**Pn**	**20 01 44.7**	**-0.3**	
HDIL	**Hopedale**	**8.35**	**58**		**Pn**	**20 01 44.2**	**-1.3**	
HDIL	**Hopedale**	**8.35**	**58**	P	**Pn**	**20 01 45.2**	**-0.3**	
	baz=244,SNR=14							
PV11	**David Mesa, Pa**	**8.36**	**285**	Pn	**Pn**	**20 01 44.6**	**-1.1**	
PV17	**East Wray Mesa**	**8.42**	**285**	Pn	**Pn**	**20 01 45.5**	**-1.1**	
PV20	**West Nyswonger**	**8.44**	**286**		**Pn**	**20 01 46.9**	**0.0**	
RWWY	**Rawlins**	**8.45**	**310**	Pn	**Pn**	**20 01 46.3**	**-0.8**	
RWWY				IAmb_Lg		20 04 28.7		
	comp=Z,110nm,0.8s							
I37A	**Lemond, Waseca**	**8.50**	**26**	Pn	**Pn**	**20 01 47.3**	**-0.1**	
I37A				IAmb_Lg		20 04 27.0		
	comp=Z,181nm,0.9s							
121A	**Cookes Peak, D**	**8.54**	**245**	Pn	**Pn**	**20 01 46.1**	**-2.1**	
121A	**Cookes Peak, D**	**8.54**	**245**	P	**Pn**	**20 01 47.4**	**-0.8**	
	baz=60							
K22A	**Casper**	**8.66**	**318**		**Pn**	**20 01 50.0**	**+0.2**	
K22A				IAmb_Lg		20 04 33.8		
	comp=Z,171nm,0.7s							
RSSD	**Black Hills**	**8.66**	**333**		**Pn**	**20 01 50.1**	**+0.2**	
RSSD	**Black Hills**	**8.66**	**333**	P	**Pn**	**20 01 50.9**	**+1.0**	
	baz=150							
WVT	**Waverly**	**8.72**	**89**		**Pn**	**20 01 51.0**	**+0.5**	
WVT	**Waverly**	**8.72**	**89**	P	**Pn**	**20 01 51.8**	**+1.3**	
	baz=276							
O44A	**Mansfield**	**8.77**	**62**		**Pn**	**20 01 51.9**	**+0.7**	
L42A	**Oliver, Polo**	**8.85**	**49**		**Pn**	**20 01 51.8**	**-0.5**	
JFWS	**Jewell Farm**	**9.09**	**43**	Pn	**Pn**	**20 01 55.8**	**+0.3**	
JFWS				IAmb_Lg		20 04 42.0		
	comp=Z,181nm,0.7s							
JFWS	**Jewell Farm**	**9.09**	**43**	P	**Pn**	**20 01 54.8**	**-0.7**	
	baz=228,SNR=5.2							
T47A	**Sharon Grove**	**9.26**	**84**	Pn	**Pn**	**20 01 57.8**	**0.0**	
F33A	**5 Mile Ranch,**	**9.49**	**10**		**Pn**	**20 02 00.4**	**-0.7**	
F33A				IAmb_Lg		20 04 47.6		
	comp=Z,89nm,0.9s							
M44A	**Midewin, Midew**	**9.57**	**56**		**Pn**	**20 02 03.1**	**+0.9**	
I40A	**Norwalk**	**9.59**	**37**	Pn	**Pn**	**20 02 02.5**	**+0.1**	
I40A				IAmb_Lg		20 04 55.0		
	comp=Z,93nm,0.8s							
SPMN	**Marine on St.**	**9.76**	**25**	Pn	**Pn**	**20 02 04.4**	**-0.4**	
SPMN				IAmb_Lg		20 05 02.2		
	comp=Z,107nm,1.1s							
SPMN	**Marine on St.**	**9.76**	**25**	P	**Pn**	**20 02 05.8**	**+1.0**	
	baz=209							
SFIN	**Lafayette**	**9.83**	**63**	Pn	**Pn**	**20 02 05.6**	**-0.2**	
SFIN	**Lafayette**	**9.83**	**63**	P	**Pn**	**20 02 06.7**	**+0.9**	
	baz=251							
BLO	**Bloomington**	**9.93**	**71**		**Pn**	**20 02 07.3**	**+0.1**	
F36A	**Milaca**	**10.11**	**21**	Pn	**Pn**	**20 02 08.6**	**-0.9**	
I42A	**Draeger Farm,**	**10.46**	**42**		**Pn**	**20 02 14.2**	**-0.1**	
PDAR	**Pinedale Array**	**10.50**	**310**	Pn	**Pn**	**20 02 16.2**	**+1.1**	
	comp=Z,0.3nm,0.3s,baz=114,slow=13,SNR=8.4							
PDAR				Pg		20 02 57.5		
	comp=Z,1.0nm,0.3s,baz=107,slow=17,SNR=6.6							
PDAR				Lg	Lg	20 05 09.7		
	comp=Z,3.3nm,0.3s,baz=112,slow=19,SNR=5.9							
PDAR	**Pinedale Array**	**10.50**	**310**	Pn	**Pn**	**20 02 14.7**	**-0.4**	
P48A	**Milroy**	**10.82**	**70**	Pn	**Pn**	**20 02 18.0**	**-1.4**	
G40A	**Rib Lake**	**10.83**	**33**		**Pn**	**20 02 19.1**	**-0.2**	
R49A	**Shelbyville**	**10.85**	**76**	Pn	**Pn**	**20 02 18.4**	**-1.3**	
MDND	**Maddock**	**11.36**	**357**	Pn	**Pn**	**20 02 24.3**	**-2.4**	
E38A	**The Farm, Brul**	**11.39**	**25**		**Pn**	**20 02 26.2**	**-1.0**	
CPCT	**Cooper Cave**	**11.47**	**91**		**Pn**	**20 02 29.6**	**+1.3**	
V51A	**Loudon**	**11.56**	**89**	Pn	**Pn**	**20 02 31.1**	**+1.7**	
O49A	**Covington**	**11.80**	**68**	Pn	**Pn**	**20 02 31.9**	**-0.9**	
AGMN	**Agassiz Nation**	**11.96**	**9**	Pn	**Pn**	**20 02 33.6**	**-1.3**	
TKL	**Tuckaleechee C**	**12.04**	**90**	Pn	**Pn**	**20 02 37.1**	**+1.0**	
	comp=Z,1.2nm,0.3s,baz=257,slow=7.2,SNR=8.1							
TKL				Lg	Lg	20 05 59.5		
	comp=Z,3.2nm,0.3s,baz=9.3,slow=14,SNR=5.6							
S51A	**Beattyville**	**12.06**	**80**		**Pn**	**20 02 36.6**	**+0.4**	
N49A	**Columbus Grove**	**12.11**	**64**		**Pn**	**20 02 36.0**	**-0.9**	
L48A	**N Adams**	**12.27**	**59**		**Pn**	**20 02 38.3**	**-0.8**	
EYMN	**Ely**	**12.59**	**22**	P	**Pn**	**20 02 41.1**	**-2.4**	
	baz=208							
DGMT	**Dagmar**	**12.65**	**343**	Pn	**Pn**	**20 02 42.7**	**-1.6**	
DGMT	**Dagmar**	**12.65**	**343**	P	**Pn**	**20 02 42.8**	**-1.4**	
	baz=159,SNR=5.6							
ACSO	**Alum Creek Sta**	**12.82**	**68**		**Pn**	**20 02 45.4**	**-1.3**	
M50A	**Fremont**	**13.07**	**63**	Pn	**Pn**	**20 02 49.1**	**-1.0**	
N51A	**Ashland**	**13.43**	**66**		**Pn**	**20 02 53.8**	**-1.1**	
ULM	**Lac du Bonnet**	**13.89**	**7**	Pn	**Pn**	**20 02 56.5**	**-4.6**	
	comp=Z,0.4nm,0.3s,baz=203,slow=13,SNR=2.8							
ULM				Sn	Sn	20 05 25.9	-9.4	
	comp=Z,0.9nm,0.3s,baz=125,slow=22,SNR=3.7							
ULM				Lg	Lg	20 06 50.5		
	comp=Z,0.2nm,0.3s,baz=108,slow=17,SNR=1.7							
Q54A	**Coxs Mills**	**14.29**	**75**		**Pn**	**20 03 04.5**	**-2.2**	
SADO	**Sadowa**	**16.91**	**55**	Pn	**Pn**	**20 03 40.1**	**-0.9**	
	comp=Z,0.3nm,0.3s,baz=269,slow=15,SNR=1.5							
SADO				Lg	Lg	20 08 30.3		
	comp=Z,0.5nm,0.3s,baz=161,slow=2.7,SNR=4.5							
CMIG	**Matias Romero**	**19.61**	**169**	P	**Pn**	**20 04 14.9**	**+0.6**	
	comp=Z,0.1nm,0.3s,baz=251,slow=18,SNR=1.7							
BBB	**Bella Bella**	**26.04**	**316**	LR	LR	20 15 59.0		
	comp=Z,184nm,21.4s,baz=75,slow=38							
YKA	**Yellowknife Ar**	**27.85**	**344**	P	**P**	**20 05 34.1**	**+0.4**	
	comp=Z,0.4nm,0.7s,baz=145,slow=8.7,SNR=4.0							
ILAR	**Eielson Array**	**40.10**	**330**	P	**P**	**20 07 19.9**	**+0.1**	
	comp=Z,0.4nm,0.8s,baz=113,slow=7.7,SNR=4.1							
ARCES	**ARCESS Array B**	**66.71**	**18**	P	**P**	**20 10 34.6**	**-0.5**	
	comp=Z,1.8nm,0.8s,baz=306,slow=7.6,SNR=1.3							
HHC	**Hu-ho-hao-te**	**98.19**	**337**	*eP*	**P**	**20 13 20.5**	**-1.4**	
HHC				pmax	pmax			
	comp=Z,12nm,0.8s							
HHC				pmax	pmax			
	comp=Z,170nm,5.6s							

IDC ***07*** *20:22:46.8±0.9, 10°.05S×124°.73E, h0km, mb4.1/6, mb1 4.3/11, mb1mx3.8/42, mbtmp4.1/11, ML4.0/5, MS3.5/9, Ms1 3.5/9, ms1mx3.1/67, Error ellipse: s-maj=21.2km s-min=17.2km az=60.0*

NEIC ***07*** *20:22:51.1±1.8, 10°.22S±0°.07×124°.61E±0°.08, h31km±6km, mb4.3/12, Error ellipse: s-maj=13.9km s-min=5.3km az=46.0*

DJA ***07*** *20:22:53.6±0.4, 10°.S±2°×12°.4E±°, h27km±3km, M4.4/33, mB5.0/12, mb4.6/33, MLv4.5/18, Mw(mB)4.3/12*

ISC 07 20:22:51.1±0.5, 10°.28S±0°.05×124°.63E±0°.05, h35km, n95, σ2§02/98, mb4.4/22, MS3.4/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.63**	**326**	P	**Pn**	**20 23 02.9**	**-0.8**
SOEI				S	**Sn**	**20 23 11.3**	**-1.4**
SOEI	**Soe**	**0.63**	**326**		**Pn**	**20 23 02.8**	**-0.8**
SOEI	**Soe**	**0.63**	**326**	P	**Pn**	**20 23 03.0**	**-0.8**
BATI	**Baumata**	**0.96**	**274**	Pn	**Pn**	**20 23 09.1**	**+1.1**
	765nm,0.3s,baz=351,slow=0.8,SNR=988						
BATI				Sn	**Sn**	**20 23 20.7**	**+0.2**
	2μm,0.3s,baz=135,slow=6.2,SNR=19						
BATI				LR	LR	20 23 47.1	
	comp=Z,501nm,19.4s,baz=80,slow=57						
BATI	**Baumata**	**0.96**	**274**	P	**Pn**	**20 23 08.7**	**+0.7**
BATI				S	**Sn**	**20 23 22.2**	**+1.7**
MMRI	**Maumere**	**2.87**	**305**	P	**Pn**	**20 23 34.5**	**+0.1**
MMRI				S	**Sn**	**20 24 05.3**	**-2.5**
MMRI	**Maumere**	**2.87**	**305**	Pn	**Pn**	**20 23 34.2**	**-0.2**
MMRI	**Maumere**	**2.87**	**305**	P	**Pn**	**20 23 35.1**	**+0.7**
EDFI	**Ende, Flores**	**3.28**	**297**	P	**Pn**	**20 23 39.9**	**-0.2**
EDFI				S	**Sn**	**20 24 16.4**	**-1.5**
BASI	**Baing, Sumba**	**3.99**	**271**	P	**Pn**	**20 23 51.1**	**+1.3**
BBSI	**Bau Bau**	**5.18**	**337**	P	**Pn**	**20 24 08.4**	**+2.2**
	0.0nm125nm12nm,0.6s						
WBSI	**Waikabubak, Su**	**5.20**	**277**	P	**Pn**	**20 24 05.8**	**-0.7**
	0.7nm2μm114nm,0.7s						
BSSI	**Bau Bau, Buton**	**5.81**	**315**	P	**Pn**	**20 24 15.8**	**+1.0**
	0.5nm2μm169nm,0.6s						
DRS	**Darwin Rock St**	**6.51**	**110**	P	**Pn**	**20 24 28.2**	**+3.8**
BKSI	**Bulukumba**	**6.65**	**317**	P	**Pn**	**20 24 27.2**	**+0.8**
	0.1nm427nm39nm,0.7s						
KNRA	**Kununurra**	**6.71**	**144**	Pn	**Pn**	**20 24 29.6**	**+2.4**
KNRA	**Kununurra**	**6.71**	**144**	P	**Pn**	**20 24 30.6**	**+3.5**
MTN	**Manton Dam**	**6.86**	**112**	Pn	**Pn**	**20 24 31.3**	**+2.1**
MTN	**Manton Dam**	**6.86**	**112**	P	**Pn**	**20 24 32.7**	**+3.5**
SAUI	**Saumlaki**	**6.97**	**71**	P	**Pn**	**20 24 33.8**	**+3.0**
	0.8nm80nm,0.7s						
SAUI	**Saumlaki**	**6.97**	**71**	Pn	**Pn**	**20 24 31.4**	**+0.6**
KAPI	**Kappang**	**7.12**	**317**	Pn	**Pn**	**20 24 31.8**	**-1.1**
	1.0nm,0.3s,baz=139,slow=13,SNR=13						
KAPI				LR	LR	20 27 37.3	
	comp=Z,297nm,20.9s,baz=152,slow=41						
KAPI	**Kappang**	**7.12**	**317**		**Pn**	**20 24 32.6**	**-0.3**
KAPI	**Kappang**	**7.12**	**317**	P	**Pn**	**20 24 34.3**	**+1.4**
BNSI	**Bone**	**7.37**	**322**	P	**Pn**	**20 24 37.5**	**+1.3**
	0.2nm577nm61nm,1.1s						
AAI	**Ambon**	**7.45**	**29**	P	**Pn**	**20 24 39.5**	**+2.2**
	0.1nm1μm25nm,0.9s						
FITZ	**Fitzroy Crossi**	**7.83**	**173**	Pn	**Pn**	**20 24 44.6**	**+2.0**
	3.5nm,0.3s,baz=359,slow=12,SNR=126						
FITZ				Sn	**Sn**	**20 26 09.6**	**-0.4**
	15nm,0.3s,baz=121,slow=10.0,SNR=13						
FITZ				LR	LR	20 27 41.5	
	comp=Z,383nm,22.0s,baz=66,slow=37						
SPSI	**Sidrap Palu**	**7.92**	**322**	P	**Pn**	**20 24 44.1**	**+0.4**
	0.1nm18nm,0.7s						
KDU	**Kakadu**	**8.05**	**108**	P	**Pn**	**20 24 49.1**	**+3.5**
MSAI	**Masohi**	**8.10**	**32**	P	**Pn**	**20 24 49.2**	**+2.9**
	136nm3.1nm,1.0s						
SANI	**Sanana**	**8.29**	**9**	P	**Pn**	**20 24 51.9**	**+3.0**
	0.1nm39nm,0.8s						
SANI	**Sanana**	**8.29**	**9**	P	**Pn**	**20 24 50.9**	**+2.0**
TTSI	**Tana Toraja**	**8.63**	**326**	P	**Pn**	**20 24 56.0**	**+2.4**
	21nm,0.8s						
LUWI	**Luwuk**	**9.36**	**348**	P	**Pn**	**20 25 05.0**	**+1.4**
	41nm,0.6s						
LUWI	**Luwuk**	**9.36**	**348**	Pn	**Pn**	**20 25 02.4**	**-1.2**
SRBI	**Singaraja**	**9.55**	**282**	P	**Pn**	**20 25 07.2**	**+1.0**
	16nm,0.5s						
APSI	**Ampana**	**9.77**	**342**	P	**Pn**	**20 25 08.8**	**-0.4**
	16nm,0.8s						
LBMI	**Labuha**	**10.00**	**17**	P	**Pn**	**20 25 14.0**	**+1.7**
	7.2nm,0.7s						
JAGI	**Jajag, Banyuwa**	**10.50**	**279**	Pn	**Pn**	**20 25 15.0**	**-4.1**
KMMI	**Kalianget**	**11.02**	**286**	P	**Pn**	**20 25 28.4**	**+2.1**
	13nm,1.0s						
SIJI	**Sorong**	**11.44**	**36**	Pn	**Pn**	**20 25 28.5**	**-3.6**
	0.7nm,0.3s,baz=229,slow=23,SNR=2.7						
SIJI				Sn	**Sn**	**20 27 38.2**	**-0.7**
	0.3nm,0.3s,baz=206,slow=23,SNR=1.6						
TOLI2	**Tolitoli**	**11.95**	**341**	Pn	**Pn**	**20 25 37.4**	**-1.6**
WB0	**Warramunga Arr**	**13.33**	**136**	Pn	**Pn**	**20 25 57.3**	**-0.6**
WRA	**Warramunga Arr**	**13.41**	**137**	Pn	**Pn**	**20 25 59.0**	**0.0**
	0.7nm,0.3s,baz=314,slow=16,SNR=46						
WRA				Sn	**Sn**	**20 28 22.3**	**-4.7**
	6.3nm,0.3s,baz=309,slow=23,SNR=20						
WRA				LR	LR	20 32 12.8	
	comp=Z,244nm,18.8s,baz=26,slow=42						
WRA	**Warramunga Arr**	**13.41**	**137**		**Pn**	**20 25 59.7**	**+0.6**
WRAB	**Tennant Creek**	**13.41**	**137**		**Pn**	**20 25 59.8**	**+0.7**
WB2	**Warramunga Arr**	**13.42**	**137**	Pn	**Pn**	**20 25 58.6**	**-0.6**
WR0	**Warramunga Arr**	**13.56**	**136**		**Pn**	**20 26 00.8**	**-0.3**
AS31	**Alice Springs**	**15.98**	**148**	Pn	**Pn**	**20 26 33.3**	**-0.1**
ASAR	**Alice Springs**	**15.98**	**148**	Pn	**Pn**	**20 26 34.1**	**+0.7**
	1.1nm,0.3s,baz=320,slow=12,SNR=128						
ASAR				Sn	**Sn**	**20 29 26.4**	**-3.2**
	2.2nm,0.3s,baz=310,slow=20,SNR=15						
ASAR				LR	LR	20 33 13.0	
	comp=Z,176nm,19.8s,baz=344,slow=39						
ASAR	**Alice Springs**	**15.98**	**148**	Pn	**Pn**	**20 26 33.4**	**0.0**
LEM	**Lembang**	**17.17**	**280**	LR	LR	20 34 12.5	
	comp=Z,139nm,19.5s,baz=28,slow=40						
LEM	**Lembang**	**17.17**	**280**	P	**P**	**20 26 50.4**	**+0.5**
	16nm,0.8s						
DAV	**Davao City (W)**	**17.26**	**3**	LR	LR	20 33 55.6	
	comp=Z,71nm,20.3s,baz=302,slow=39						
CBJI	**Citeko**	**18.00**	**281**	P	**Pn**	**20 26 57.5**	**-1.2**
	84nm,0.8s						
COEN	**Coen**	**18.49**	**103**	Pn	**Pn**	**20 27 06.2**	**+1.5**
SBJI	**Serang**	**18.77**	**281**	P	**Pn**	**20 27 09.9**	**+1.8**
	81nm,0.5s						
CGJI	**Cibinong**	**19.08**	**280**	P	**Pn**	**20 27 12.6**	**+0.8**
	28nm,0.5s						
MORW	**Morawa**	**20.35**	**202**	P	**P**	**20 27 24.5**	**0.0**
MORW				IAmb	IAmb	20 27 40.6	
	comp=Z,8.1nm,0.8s						
KASI	**Kota Agung**	**20.49**	**282**	P	**P**	**20 27 25.4**	**-0.8**
	comp=Z,70nm,0.9s						
KLSI	**Cibinong**	**20.49**	**284**	P	**P**	**20 27 27.6**	**+1.4**
	comp=Z,3.8nm,0.9s						
FORT	**Forrest**	**20.64**	**172**	P	**P**	**20 27 28.8**	**+1.1**
LWLI	**Liwa**	**21.04**	**283**	P	**P**	**20 27 33.3**	**+1.0**
	comp=Z,45μmcomp=Z,44nm,0.7s						
PMG	**Port Moresby**	**22.21**	**90**	LR	LR	20 39 20.0	
	comp=Z,91nm,18.5s,baz=264,slow=45						
KRJI	**Kerinci**	**24.41**	**288**	P	**P**	**20 28 13.3**	**+6.6**
STKA	**Stephens Creek**	**26.61**	**146**	P	**P**	**20 28 29.4**	**+3.0**
	comp=Z,2.2nm,0.8s,baz=313,slow=9.1,SNR=6.6						
STKA				LR	LR	20 40 08.9	
	comp=Z,109nm,19.7s,baz=15,slow=39						
STKA	**Stephens Creek**	**26.61**	**146**	P	**P**	**20 28 25.2**	**-1.2**
CM31	**Chiang Mai Arr**	**38.19**	**318**	P	**P**	**20 30 06.7**	**-0.9**
CM31				IAmb	IAmb	20 30 19.0	
	comp=Z,11nm,1.3s						
CMAR	**Chiang Mai Arr**	**38.19**	**318**	P	**P**	**20 30 07.3**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=150,slow=6.9,SNR=13						
CMAR	**Chiang Mai Arr**	**38.19**	**318**	P	**P**	**20 30 06.0**	**-1.6**
CHTO	**Chiang Mai**	**38.44**	**319**	P	**P**	**20 30 08.6**	**-1.2**
CHTO				IAmb	IAmb	20 30 27.5	
	comp=Z,3.6nm,1.0s						
PZH	**PanZhiHua**	**42.80**	**329**	P	**P**	**20 30 48.6**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
XAN	**Xi'an**	**46.54**	**342**	P	P	20 31 23.6	+8.2
XAN				pP	pP	20 31 28.4	+2.7
XAN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MJAR	**Matsushiro Arr**	**48.30**	**15**	P	**P**	**20 31 27.9**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=191,slow=8.6,SNR=4.6						
MJAR	**Matsushiro Arr**	**48.30**	**15**	IAmb	IAmb	20 31 36.6	
	comp=Z,7.3nm,1.4s						
MAT	**Matsushiro**	**48.30**	**15**	P	**P**	**20 31 27.7**	**-1.3**
LSA	**Lhasa**	**51.19**	**322**	P	**P**	**20 31 50.8**	**-0.9**
LSA				IAmb	IAmb	20 32 06.4	
	comp=Z,3.1nm,0.6s						
HHC	**Hu-ho-hao-te**	**52.29**	**347**	*eP*	**P**	**20 32 02.3**	**+3.1**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,130nm,5.0s						
GUN	**Gumba**	**53.37**	**316**	*eP*	**P**	**20 32 05.7**	**-2.1**
	comp=Z,5.6nm,0.6s						
PKI	**Pulchoki**	**53.48**	**316**	*eP*	**P**	**20 32 05.8**	**-2.7**
	comp=Z,3.3nm,0.5s						
PKIN	**Phulchoki**	**53.49**	**316**	*eP*	**P**	**20 32 05.9**	**-2.7**
	comp=Z,4.3nm,0.4s						
KKN	**Kakani**	**53.70**	**316**	*eP*	**P**	**20 32 07.6**	**-2.5**
DMN	**Daman**	**53.71**	**316**	*eP*	**P**	**20 32 06.8**	**-3.4**
	comp=Z,2.7nm,0.3s						
GKN	**Gorkha**	**54.28**	**316**	*eP*	**P**	**20 32 12.1**	**-2.1**
	comp=Z,1.5nm,0.3s						
KOLN	**Koldanda**	**54.85**	**315**	*eP*	**P**	**20 32 15.8**	**-2.7**
	comp=Z,5.2nm,0.5s						
DANN	**Dangsing**	**55.10**	**315**	*eP*	**P**	**20 32 18.3**	**-2.0**
	comp=Z,5.3nm,0.5s						
PYUN	**Piuthan**	**55.48**	**315**	*eP*	**P**	**20 32 20.6**	**-2.4**
	comp=Z,6.6nm,0.4s						
SONM	**Songino Array**	**60.08**	**346**	P	**P**	**20 32 54.1**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=134,slow=4.2,SNR=2.5						
SONM	**Songino Array**	**60.08**	**346**	P	**P**	**20 32 55.9**	**+1.1**
SONM				IAmb	IAmb	20 33 07.1	
	comp=Z,2.2nm,0.8s						
AFI	**Afiamalu**	**62.13**	**100**	LR	LR	20 59 33.0	
	comp=Z,99nm,18.5s,baz=306,slow=36						
NIL	**Nilore**	**65.51**	**314**	P	**P**	**20 33 32.1**	**+1.0**
KSH	**Kashi**	**67.02**	**321**	P	**P**	**20 33 44.7**	**+3.9**
KSH				pP	pP	20 33 51.1	-0.2
KSH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**68.23**	**330**	P	**P**	**20 33 48.2**	**0.0**
	comp=Z,1.2nm,0.5s,baz=121,slow=7.3,SNR=5.0						
ILAR	**Eielson Array**	**98.57**	**26**	P	**P**	**20 36 25.0**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=238,slow=5.2,SNR=1.8						
TORD	**Torodi Ar. Bea**	**124.15**	**279**	PKP	**PKiKP**	**20 41 48.2**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=43,slow=1.7,SNR=7.9						

MOS ***07*** *20:23:34.0±1.1, 49°.15N×155°.37E, h85km, mb5.5/36, MS4.0/14, Error ellipse: s-maj=7.5km s-min=2.8km az=76.1*

MOS Felt (II-III) at Severo-Kuril'sk.

KRSC ***07*** *20:23:34.9±2.6, 49°.19N×155°.64E, h81km±31km, ML5.5*

BJI ***07*** *20:23:36.8±0.0, 49°.43N×155°.49E, h83km, mb4.4/53, mB5.0/38, Ms4.6/50, Ms7 4.3/52*

IDC ***07*** *20:23:40.0±0.3, 49°.43N×155°.19E, h76km±2km, mb4.3/39, mb1 4.4/47, mb1mx4.3/69, mbtmp4.6/47, MS4.2/67, Ms1 4.2/67, ms1mx4.1/95, Error ellipse: s-maj=10.6km s-min=6.3km az=152.0*

NEIC ***07*** *20:23:39.6±1.5, 49°.37N±0°.08×155°.3E±0°.1, h73km±5km, mb5.2/378, Error ellipse: s-maj=14.5km s-min=9.6km az=133.0*

BGR ***07*** *20:23:45.2±0.0, 50°.00N×153°.98E, h73km±3km, mb4.6*

GCMT ***07*** *20:23:48.7±0.3, 49°.17N±0°.02×155°.89E±0°.03, h53km±1km, MW5.0/75, Moment Tensor Solution. s36,c47; s75,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.51±.21; $M_{\theta\theta}$-1.91±.15; $M_{\phi\phi}$-0.60±.15; $M_{r\theta}$1.53±.11; $M_{\theta\phi}$-3.34±.12; $M_{\phi r}$0.38±.10; Best double couple: $M_0$4.07000×10^{16} NP1:ϕ_s199.00000°, δ44.00000°, λ41.00000°. NP2: ϕ_s77.00000°, δ63.00000°, λ126.00000°. Principal axes: T 3.2060, Plg56.0000°, Azm35.0000°; N 1.7230, Plg32.0000°, Azm238.0000°; P -4.9330, Plg11.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 20:23:39.3±0.3, 49°.30N±0°.04×155°.44E±0°.04, h78km±2km, h78km:pP-P, n1066, σ1§22/1141, mb5.1/343, 18C-25D, Kuril Islands

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KPT	**Kopyto**	**7.28**	**22**	PN	**Pn**	**20 25 22.8**	**-0.1**
KPT	**Kopyto**	**7.28**	**22**	*e*P	**Pn**	**20 25 22.8**	**-0.1**
KOZ	**Kozyrevsk**	**7.28**	**20**	PN	**Pn**	**20 25 23.0**	**+0.2**
KOZ	**Kozyrevsk**	**7.28**	**20**	*e*P	**Pn**	**20 25 23.0**	**+0.2**
KIRR	**Kirishev**	**7.30**	**22**	PN	**Pn**	**20 25 23.2**	**0.0**
KIRR	**Kirishev**	**7.30**	**22**	*e*P	**Pn**	**20 25 23.2**	**0.0**
BZWR	**Bezymyannyi-We**	**7.34**	**23**	PN	**Pn**	**20 25 24.0**	**+0.2**
BZWR	**Bezymyannyi-We**	**7.34**	**23**	*e*P	**Pn**	**20 25 24.0**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**7.38**	**24**	PN	**Pn**	**20 25 25.0**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**7.38**	**24**	*e*P	**Pn**	**20 25 25.0**	**+0.8**
CIRR	**Tsirk**	**7.54**	**23**	PN	**Pn**	**20 25 27.3**	**+0.8**
CIRR	**Tsirk**	**7.54**	**23**	*e*P	**Pn**	**20 25 27.3**	**+0.8**
KLY	**Klyuchi**	**7.70**	**22**	PN	**Pn**	**20 25 29.0**	**+0.5**
KLY	**Klyuchi**	**7.70**	**22**	*e*P	**Pn**	**20 25 29.0**	**+0.5**
SHO	**Shikotan**	**8.04**	**231**	*e*PN	**Pn**	**20 25 35.5**	**+2.2**
SHO				*e*S	**Sn**	**20 27 06.3**	**+3.8**
SHO				pmax	pmax		
	comp=Z,48nm,0.5s						
SHO				pmax	pmax		
	comp=N,49nm,0.4s						
SHO				pmax	pmax		
	comp=E,34nm,0.4s						
SHO				pmax	pmax		
	comp=Z,264nm,1.8s						
SHO				smax	smax		
	comp=N,193nm,1.9s						
SHO				smax	smax		
	comp=E,218nm,1.7s						
SHO				MLR	MLR		
	comp=Z,486nm,18.0s						
SHO				MLR	MLR		
	comp=N,1μm,19.0s						
SHO				MLR	MLR		
	comp=E,1μm,18.0s						
BDR	**Baidarnaya**	**8.06**	**23**	PN	**Pn**	**20 25 32.8**	**-0.8**
BDR	**Baidarnaya**	**8.06**	**23**	*e*P	**Pn**	**20 25 32.8**	**-0.8**
KBTR	**Krutoberegovo**	**8.23**	**30**	PN	**Pn**	**20 25 33.8**	**-2.0**
KBTR	**Krutoberegovo**	**8.23**	**30**	*e*P	**Pn**	**20 25 33.8**	**-2.0**
KBG	**Krutoberegovo**	**8.23**	**30**	PN	**Pn**	**20 25 35.5**	**-0.3**
KBG	**Krutoberegovo**	**8.23**	**30**	*e*P	**Pn**	**20 25 35.5**	**-0.3**
TYV	**Tymovskoe**	**8.37**	**286**	*e*PN	**Pn**	**20 25 40.1**	**+2.4**
TYV				pmax	pmax		
	comp=Z,300nm,2.0s						
TYV				pmax	pmax		
	comp=Z,49nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**8.43**	**235**	*e*PN	**Pn**	**20 25 37.6**	**-1.0**
YUK				*e*S	**Sn**	**20 27 10.4**	**-1.7**
YUK				pmax	pmax		
	comp=Z,212nm,0.5s						
YUK				pmax	pmax		
	comp=E,120nm,0.4s						
YUK				pmax	pmax		
	comp=N,48nm,0.3s						
YUK				smax	smax		
	comp=E,538nm,1.1s						
YUK				smax	smax		
	comp=N,558nm,1.5s						
YUK				MLR	MLR		
	comp=N,2μm,18.0s						
YUK				MLR	MLR		
	comp=E,1μm,18.0s						
YUK				MLR	MLR		
	comp=Z,2μm,18.0s						
RUSJ	**Misakicho**	**8.72**	**237**	*e*PN	**Pn**	**20 25 39.5**	**-3.0**
BKI	**Bering**	**8.75**	**44**	PN	**Pn**	**20 25 40.4**	**-2.4**
BKI	**Bering**	**8.75**	**44**	*e*P	**Pn**	**20 25 40.4**	**-2.4**
BKI				*e*S	**Sn**	**20 27 11.1**	**-8.6**
UGL	**Uglegorsk**	**8.77**	**274**	*e*PN	**Pn**	**20 25 45.7**	**+2.6**
UGL				S	**Sn**	**20 27 20.7**	**+0.5**
UGL				pmax	pmax		
	comp=Z,154nm,1.1s						
UGL				pmax	pmax		
	comp=Z,300nm,1.5s						
UGL				MLR	MLR		
	comp=Z,3μm,14.0s						
UGL				MLR	MLR		
	comp=E,3μm,13.0s						
YSS	**Yuzh-Sakhalins**	**8.81**	**259**	*e*PN	**Pn**	**20 25 45.0**	**+1.3**
YSS				*e*S	**Sn**	**20 27 26.9**	**+5.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.81**	**259**	Pn	**Pn**	**20 25 43.6**	**0.0**
GLVR	**Golovnino**	**8.82**	**235**	*e*PN	**Pn**	**20 25 42.3**	**-1.5**
GLVR				*e*S	**Sn**	**20 27 19.1**	**-2.3**
GLVR				pmax	pmax		
	comp=Z,281nm,0.8s						
GLVR				pmax	pmax		
	comp=Z,2μm,1.4s						
GLVR				smax	smax		
	comp=N,2μm,2.1s						
GLVR				smax	smax		
	comp=E,1μm,1.1s						
OKH	**Okha**	**8.89**	**303**	*de*PN	Pn	20 25 33.5	-11
NMR	**Nemuro--Hokkai**	**8.96**	**232**	PN	Pn	20 25 39.9	-5.9
JKA	**Kamikawa-asahi**	**10.23**	**244**	**Pn**	**Pn**	**20 26 04.0**	**+0.9**
ASAJ	**Asahikawa**	**10.23**	**244**	P	**Pn**	**20 26 03.2**	**+0.1**
	comp=E,6.6nm,0.3s,baz=60,slow=11,SNR=48						
ASAJ				LR	LR	20 29 37.6	
	comp=E,1μm,21.6s,baz=11,slow=35						
MA2	**Magadan**	**10.64**	**347**	*ce*PN	**Pn**	**20 26 08.5**	**-0.1**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.4s						
MA2	**Magadan**	**10.64**	**347**	Pn	**Pn**	**20 26 08.0**	**-0.7**
JEM	**Erimo**	**11.26**	**234**	Pn	Pn	20 26 03.4	-14
ERM	**Erimo**	**11.26**	**234**	*i* PN	**Pn**	**20 26 15.7**	**-1.4**
ERM	**Erimo**	**11.26**	**234**	Pn	**Pn**	**20 26 14.8**	**-2.4**
SHEM	**Shemya Is, Ala**	**12.23**	**67**	P	**P**	**20 26 40.2**	**+0.6**
	comp=Z,13nm,0.3s,baz=118,slow=21,SNR=2.0						
SHEM				LR	LR	20 30 57.3	
	comp=Z,439nm,21.9s,baz=274,slow=36						
GRNR	**Gornyy**	**12.32**	**284**	⇓*i* PN	**Pn**	**20 26 33.8**	**+2.3**
GRNR				pmax	pmax		
	comp=E,3.0nm,0.4s						
GRNR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GRNR				MLR	MLR		
	comp=N,370nm,15.0s						
TEY	**Ternei**	**13.50**	**259**	*e*PN	**Pn**	**20 26 47.9**	**+0.6**
SEY	**Seymchan**	**13.77**	**354**	**Pn**	**Pn**	**20 26 51.0**	**+0.4**
	comp=N,0.6nm,0.3s,baz=164,slow=11,SNR=34						
SEY				pP	P	20 27 11.2	+15
	comp=N,2.1nm,0.3s,baz=156,slow=9.8,SNR=11						
SEY				LR	LR	20 32 37.5	
	comp=N,1μm,21.2s,baz=170,slow=40						
SEY	**Seymchan**	**13.77**	**354**	*i* P	**Pn**	**20 26 50.5**	**-0.2**
KLR	**Kul'dur**	**15.46**	**279**	P	**Pn**	**20 27 12.8**	**+0.3**
	comp=N,0.3nm,0.3s,baz=71,slow=12,SNR=7.6						
KLR				LR	LR	20 33 38.7	
	comp=N,2μm,20.3s,baz=82,slow=39						
KLR	**Kul'dur**	**15.46**	**279**	*ce*P	**Pn**	**20 27 13.4**	**+0.8**
KLR				pmax	pmax		
	comp=Z,46nm,1.3s						
JSD	**Sado**	**16.73**	**234**		**P**	**20 27 29.8**	**+0.2**
USRK	**Ussuriysk Ar.**	**16.84**	**261**	P	**P**	**20 27 30.7**	**0.0**
	baz=65,slow=13,SNR=14						
USRK				LR	LR	20 33 38.5	
	comp=Z,469nm,21.7s,baz=49,slow=36						
USRK	**Ussuriysk Ar.**	**16.84**	**261**	P	**Pn**	**20 27 29.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**16.84**	**261**	P	**Pn**	**20 27 29.9**	**+0.1**
MJAR	**Matsushiro Arr**	**17.89**	**231**	P	**Pn**	**20 27 44.1**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=23,slow=12,SNR=13						
MJAR				LR	LR	20 35 15.4	
	comp=Z,712nm,20.7s,baz=38,slow=39						
MJAR	**Matsushiro Arr**	**17.89**	**231**	P	**P**	**20 27 41.3**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR	**Matsushiro Arr**	**17.89**	**231**	P	**P**	**20 27 41.3**	**-1.1**
MJB9	**Matsu-Tunnel**	**17.89**	**231**	P	**P**	**20 27 41.5**	**-0.9**
MAJO	**Matsushiro**	**17.89**	**231**	*i* P	**Pn**	**20 27 42.8**	**0.0**
MAJO	**Matsushiro**	**17.89**	**231**	P	**P**	**20 27 41.6**	**-0.9**
MAT	**Matsushiro**	**17.89**	**231**	P	**P**	**20 27 39.8**	**-2.6**
MAT				*e*S	**S**	**20 31 02.6**	**-0.2**
ZEA	**Zeya**	**18.04**	**295**	*i* P	**Pn**	**20 27 45.4**	**+1.0**
MDJ	**Mudanjiang**	**18.22**	**265**	P	**P**	**20 27 45.6**	**-0.3**
MDJ				pP	pP	20 27 58.9	-2.3
MDJ				sP	sP	20 28 08.2	-2.8
MDJ				S	**S**	**20 31 08.6**	**-0.8**
MDJ				sS	sS	20 31 25.6	-10
MDJ				PcP	**PcP**	**20 32 14.8**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,20nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.7s						
MDJ				LR	LR		
	comp=Z,690nm,21.4s						
MDJ				LR	LR		
	comp=Z,860nm,19.2s						
MDJ				LR	LR		
	comp=Z,1μm,21.0s						
MDJ	**Mudanjiang**	**18.22**	**265**		**P**	**20 27 45.5**	**-0.5**
JGF	**Kuroka**	**19.05**	**231**	P	**P**	**20 27 55.8**	**+0.6**
YAK	**Yakutsk**	**19.16**	**321**	P	**P**	**20 27 55.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=2.9,slow=1.4,SNR=16						
YAK				LR	LR	20 35 45.3	
	comp=Z,899nm,19.2s,baz=92,slow=38						
YAK	**Yakutsk**	**19.16**	**321**	*e*P	**P**	**20 27 55.6**	**-0.4**
YAK				*e*S	**S**	**20 31 28.1**	**-0.7**
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK				smax	smax		
	comp=N,87nm,1.7s						
YAK				smax	smax		
	comp=E,49nm,1.5s						
YAK				MLR	MLR		
	comp=Z,1μm,21.0s						
YAK				MLR	MLR		
	comp=N,299nm,17.0s						
YAK				MLR	MLR		
	comp=E,411nm,16.0s						
YAK	**Yakutsk**	**19.16**	**321**	P	**P**	**20 27 55.2**	**-0.8**
BNX	**BinXian**	**19.22**	**270**	⇑P	**P**	**20 27 55.9**	**-1.0**
BNX				pmax	pmax		
	comp=E,4.0nm,0.5s						
BNX				pmax	pmax		
	comp=E,71nm,3.9s						
INU	**Inuyama**	**19.42**	**231**	P	**P**	**20 27 58.4**	**-0.8**
BILL	**Bilibino**	**19.56**	**12**	*de*P	**P**	**20 28 00.1**	**-0.3**
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
BILL				MLR	MLR		
	comp=Z,683nm,19.0s						
BILL	**Bilibino**	**19.56**	**12**	P	**P**	**20 28 00.9**	**+0.5**
JHJ	**Hachijo jima 2**	**19.94**	**222**	LR	LR	20 38 01.5	
	comp=Z,129nm,18.7s,baz=51,slow=43						
JWT	**Wachi**	**20.31**	**234**	P	**P**	**20 28 07.0**	**-1.8**
CN2	**Changchun**	**21.27**	**266**	*e*P	**P**	**20 28 17.0**	**-2.0**
CN2				S	**S**	**20 32 06.3**	**-4.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CN2				pmax	pmax		
	comp=Z,100nm,6.0s						
CN2				LR	LR		
	comp=Z,600nm,20.0s						
CN2				LR	LR		
	comp=Z,600nm,20.0s						
CN2				LR	LR		
	comp=Z,700nm,19.0s						
JHS	**Saijyo**	**21.76**	**237**	P	**P**	**20 28 22.9**	**-1.5**
GAMB	**Gambell**	**22.84**	**38**	P	**P**	**20 28 35.8**	**+0.3**
	baz=246						
KSRS	**Korea Array**	**23.11**	**250**	P	**P**	**20 28 38.5**	**+0.1**
	comp=Z,5.9nm,0.8s,baz=40,slow=9.5,SNR=13						
KSRS				pP	**pP**	**20 28 55.1**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=56,slow=11,SNR=4.2						
KSRS				LR	LR	20 37 09.3	
	comp=Z,392nm,19.9s,baz=55,slow=35						
KS19	**Wonju Array Si**	**23.11**	**250**	P	**P**	**20 28 39.0**	**+0.5**
KSAR	**Wonju Array Be**	**23.14**	**250**	P	**P**	**20 28 33.9**	**-4.8**
KSAR	**Wonju Array Be**	**23.14**	**250**	P	**P**	**20 28 33.9**	**-4.8**
SNY	**Shenyang**	**23.40**	**263**	⇓P	P	20 28 52.6	+12
SNY				sP	sP	20 29 19.2	+12
SNY				S	Sn	20 33 12.7	-0.8
SNY				pmax	pmax		
	comp=Z,220nm,5.5s						
SNY				LR	LR		
	comp=N,720nm,16.2s						
SNY				LR	LR		
	comp=E,300nm,12.6s						
SNY				LR	LR		
	comp=Z,600nm,18.0s						
TJN	**Taejon**	**24.14**	**248**	*i* P	**P**	**20 28 49.7**	**+1.9**
JNU	**Nakatsue**	**24.39**	**238**	P	**P**	**20 28 50.1**	**0.0**
	comp=Z,21nm,1.0s,baz=42,slow=7.8,SNR=5.4						
JNU				pP	**pP**	**20 29 08.4**	**+0.5**
	comp=Z,32nm,0.9s,baz=53,slow=13,SNR=6.8						
JNU	**Nakatsue**	**24.39**	**238**	P	**P**	**20 28 50.2**	**0.0**
TNA	**Tin City**	**25.04**	**36**	P	**P**	**20 28 55.8**	**+0.1**
TNA	**Tin City**	**25.04**	**36**	P	**P**	**20 28 57.1**	**+1.4**
	baz=248,SNR=6.7						
TIXI	**Tiksi**	**25.51**	**341**	P	**P**	**20 28 57.8**	**-2.1**
	comp=Z,18nm,1.0s,baz=129,slow=9.2,SNR=40						
TIXI				pP	**pP**	**20 29 17.5**	**-0.3**
	comp=Z,24nm,0.7s,baz=133,slow=12,SNR=12						
TIXI				LR	LR	20 39 50.4	
	comp=Z,470nm,20.2s,baz=128,slow=38						
TIXI	**Tiksi**	**25.51**	**341**	*ce*P	**P**	**20 28 57.4**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,21nm,1.0s						
TIXI	**Tiksi**	**25.51**	**341**	P	**P**	**20 28 58.2**	**-1.7**
FALS	**False Pass**	**25.60**	**62**	P	**P**	**20 29 03.2**	**+2.4**
	baz=275						
ANM	**Nome**	**25.71**	**39**	P	**P**	**20 29 02.7**	**+0.9**
ANM				pmax	pmax		
	comp=Z,42nm,0.9s						
ANM	**Nome**	**25.71**	**39**	P	**P**	**20 29 02.7**	**+0.9**
ANM	**Nome**	**25.71**	**39**	P	**P**	**20 29 03.7**	**+1.9**
	baz=253,SNR=5.8						
XLT	**XiLinHaoTe**	**27.35**	**274**	*e*P	**P**	**20 29 14.6**	**-2.3**
XLT				pP	pP	20 29 34.2	-0.7
XLT				sP	sP	20 29 41.2	-2.9
XLT				S	**S**	**20 33 48.5**	**-2.5**
XLT				pmax	pmax		
	comp=Z,5.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,250nm,5.6s						
XLT				LR	LR		
	comp=Z,770nm,18.1s						
XLT				LR	LR		
	comp=Z,990nm,17.6s						
XLT				LR	LR		
	comp=Z,1μm,18.4s						
RDOG	**Red Dog Mine**	**27.82**	**32**	P	P	20 29 31.3	+11
	baz=249,SNR=8.7						
TTA	**Tatalina**	**29.48**	**44**	P	**P**	**20 29 36.4**	**+0.8**
TTA				pmax	pmax		
	comp=Z,19nm,0.9s						
TTA	**Tatalina**	**29.48**	**44**	P	**P**	**20 29 36.4**	**+0.8**
TTA	**Tatalina**	**29.48**	**44**	P	**P**	**20 29 36.4**	**+0.8**
	baz=266,SNR=5.8						
CHIR	**Chirikof Islan**	**29.91**	**59**	P	**P**	**20 29 41.6**	**+2.3**
	baz=278						
N19K	**Bonanza Creek**	**30.13**	**48**	P	**P**	**20 29 41.6**	**+0.2**
N19K	**Bonanza Creek**	**30.13**	**48**	P	**P**	**20 29 42.1**	**+0.7**
	baz=271						
K20K	**Telida**	**30.39**	**43**	P	**P**	**20 29 44.0**	**+0.4**
K20K	**Telida**	**30.39**	**43**	P	**P**	**20 29 44.2**	**+0.6**
	baz=267						
J20K	**Nowinta River**	**30.42**	**42**	P	**P**	**20 29 44.1**	**+0.4**
J20K				IAmb	IAmb	20 30 06.2	
	comp=Z,48nm,1.1s						
J20K	**Nowinta River**	**30.42**	**42**	P	**P**	**20 29 44.4**	**+0.7**
	baz=265						
JOW	**Kunigami**	**30.71**	**233**	P	**P**	**20 29 46.7**	**0.0**
	comp=Z,5.5nm,0.4s,baz=340,slow=11,SNR=5.0						
JOW				LR	LR	20 43 51.9	
	comp=Z,170nm,19.7s,baz=38,slow=40						
JOW	**Kunigami**	**30.71**	**233**		**P**	**20 29 47.2**	**+0.6**
JOW				IAmb	IAmb	20 30 08.1	
	comp=Z,58nm,1.4s						
IMAR	**Indian Mountai**	**30.79**	**38**	P	**P**	**20 29 46.9**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**30.90**	**159**	T	T	21 02 36.2	
	baz=344,slow=74						
H11N1	**WAKE ISLAND Hy**	**30.92**	**159**	T	T	21 02 33.1	
	baz=344,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.92**	**159**	T	T	21 02 36.1	
	baz=344,slow=74						
OHAK	**Old Harbor**	**31.00**	**55**	P	**P**	**20 29 48.2**	**-0.7**
OHAK				IAmb	IAmb	20 30 09.3	
	comp=Z,43nm,1.0s						
A21K	**Barrow**	**31.02**	**28**	P	**P**	**20 29 49.1**	**+0.2**
	baz=251						
H21K	**Melozitna Rive**	**31.13**	**39**	P	**P**	**20 29 50.7**	**+0.6**
H21K				IAmb	IAmb	20 30 12.3	
	comp=Z,33nm,0.9s						
H21K	**Melozitna Rive**	**31.13**	**39**	P	**P**	**20 29 50.7**	**+0.6**
	baz=264,SNR=13						
CHUM	**Lake Minchumin**	**31.20**	**42**	P	**P**	**20 29 51.6**	**+0.9**
	baz=268						
PPLA	**Purkeypile**	**31.23**	**44**	P	**P**	**20 29 52.1**	**+1.0**
	baz=269						
CAST	**Castle Rocks**	**31.29**	**43**	P	**P**	**20 29 52.6**	**+1.1**
CAST	**Castle Rocks**	**31.29**	**43**	P	**P**	**20 29 52.5**	**+1.0**
	baz=268,SNR=6.5						
KDAK	**Kodiak Island**	**31.31**	**54**	P	**P**	**20 29 51.7**	**0.0**
	comp=Z,19nm,1.1s,baz=152,slow=8.1,SNR=4.4						
KDAK				pP	**pP**	**20 30 11.1**	**+1.3**
	comp=Z,35nm,0.9s,baz=327,slow=5.3,SNR=7.6						
KDAK	**Kodiak Island**	**31.31**	**54**	IAmb	IAmb	20 30 11.8	
	comp=Z,64nm,1.1s						
SPU	**Mount Spurr**	**31.31**	**48**	P	**P**	**20 29 52.9**	**+1.2**
I21K	**Tanana**	**31.43**	**40**	P	**P**	**20 29 52.6**	**-0.1**
I21K				IAmb	IAmb	20 30 14.7	
	comp=Z,34nm,0.9s						
HNS	**HongShan**	**31.55**	**263**	⇓P	**P**	**20 29 53.6**	**-0.3**
HNS				pP	**pP**	**20 30 13.6**	**+1.5**
HNS				S	**S**	**20 34 56.8**	**+0.1**
HNS				pmax	pmax		
	comp=Z,11nm,1.1s						
HNS				LR	LR		
	comp=Z,400nm,17.9s						
HNS				LR	LR		
	comp=Z,630nm,20.8s						
HNS				LR	LR		
	comp=Z,440nm,22.0s						
HOM	**Homer**	**31.60**	**51**	P	**P**	**20 29 55.4**	**+1.2**
	baz=275						
ULN	**Ulaanbaatar**	**31.61**	**286**	*i* P	**P**	**20 29 52.5**	**-2.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**31.73**	**271**	*e*P	**P**	**20 29 55.5**	**-0.2**
HHC				pP	pP	20 30 12.4	-1.6
HHC				S	**S**	**20 34 58.9**	**-0.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,6.2s						
HHC				LR	LR		
	comp=Z,520nm,15.1s						
HHC				LR	LR		
	comp=Z,600nm,17.5s						
HHC				LR	LR		
	comp=Z,690nm,17.1s						
BPAW	**Bear Paw Mtn.**	**31.80**	**42**	P	**P**	**20 29 56.6**	**+0.6**
BPAW				IAmb	IAmb	20 30 17.8	
	comp=Z,32nm,0.9s						
BPAW	**Bear Paw Mtn.**	**31.80**	**42**	P	**P**	**20 29 56.7**	**+0.8**
	baz=268,SNR=7.4						
KTH	**Kantishna Hill**	**31.82**	**43**	P	**P**	**20 29 56.9**	**+0.7**
CNPM	**China Poot**	**31.82**	**51**	P	**P**	**20 29 56.4**	**+0.3**
CNPM				IAmb	IAmb	20 30 17.9	
	comp=Z,49nm,1.1s						
MLY	**Manley**	**31.95**	**40**	P	**P**	**20 29 58.1**	**+0.8**
MLY				IAmb	IAmb	20 30 19.3	
	comp=Z,26nm,0.9s						
MLY	**Manley**	**31.95**	**40**	P	**P**	**20 29 58.3**	**+1.0**
	baz=267,SNR=11						
BRLK	**Bradley Lake**	**31.97**	**50**	P	**P**	**20 29 58.0**	**+0.4**
BRLK				IAmb	IAmb	20 30 21.8	
	comp=Z,39nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**32.03**	**160**	T	T	21 03 55.1	
	baz=345,slow=76						
SONM	**Songino Array**	**32.04**	**286**	P	**P**	**20 29 58.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=71,slow=7.5,SNR=4.3						
SONM				pP	**pP**	**20 30 14.9**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=69,slow=8.6,SNR=6.6						
SONM				LR	LR	20 44 25.5	
	comp=Z,957nm,18.9s,baz=76,slow=39						
H11S3	**WAKE ISLAND Hy**	**32.05**	**160**	T	T	21 03 49.8	
	baz=345,slow=76						
BRSE	**Bradley Lake S**	**32.05**	**50**	P	**P**	**20 29 59.4**	**+1.3**
	baz=276						
H11S2	**WAKE ISLAND Hy**	**32.05**	**160**	T	T	21 03 59.2	
	baz=345,slow=76						
TRF	**Thorofare Moun**	**32.10**	**43**	P	**P**	**20 29 58.8**	**+0.1**
TRF				IAmb	IAmb	20 30 20.4	
	comp=Z,36nm,1.0s						
TRF	**Thorofare Moun**	**32.10**	**43**	P	**P**	**20 29 59.4**	**+0.7**
	baz=270,SNR=5.8						
CUT	**Chulitna**	**32.12**	**45**	P	**P**	**20 29 58.7**	**0.0**
CUT				IAmb	IAmb	20 30 19.7	
	comp=Z,48nm,1.0s						
CUT	**Chulitna**	**32.12**	**45**	P	**P**	**20 29 58.9**	**+0.2**
	baz=272						
NJ2	**Nanjing**	**32.27**	**251**	*e*P	**P**	**20 30 00.2**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
COLD	**Coldfoot**	**32.34**	**36**	P	**P**	**20 30 01.0**	**+0.4**
COLD				IAmb	IAmb	20 30 22.3	
	comp=Z,30nm,0.8s						
COLD	**Coldfoot**	**32.34**	**36**	P	**P**	**20 30 01.2**	**+0.6**
	baz=264,SNR=15						
RC01	**Rabbit Creek A**	**32.44**	**48**	P	**P**	**20 30 02.7**	**+1.1**
	baz=274						
BWN	**Browne**	**32.47**	**42**	P	**P**	**20 30 03.1**	**+1.3**
I23K	**Minto, Yukon-K**	**32.54**	**40**	P	**P**	**20 30 03.0**	**+0.7**
I23K	**Minto, Yukon-K**	**32.54**	**40**	P	**P**	**20 30 03.2**	**+0.9**
	baz=268,SNR=6.7						
NEA2	**Nenana**	**32.65**	**41**	P	**P**	**20 30 04.2**	**+0.9**
NEA2	**Nenana**	**32.65**	**41**	P	**P**	**20 30 03.8**	**+0.5**
	baz=269,SNR=12						
SEW	**Seward**	**32.66**	**50**	P	**P**	**20 30 04.5**	**+1.0**
	baz=276						
PMR	**Palmer**	**32.69**	**47**	P	**P**	**20 30 05.0**	**+1.3**
	baz=274						
MCK	**McKinley**	**32.70**	**43**	P	**P**	**20 30 04.2**	**+0.4**
MCK				pmax	pmax		
	comp=Z,63nm,1.0s						
MCK	**McKinley**	**32.70**	**43**	P	**P**	**20 30 04.2**	**+0.4**
MCK	**McKinley**	**32.70**	**43**	P	**P**	**20 30 04.3**	**+0.5**
	baz=271,SNR=13						
RND	**Reindeer**	**32.74**	**43**	P	**P**	**20 30 04.0**	**-0.3**
RND				pmax	pmax		
	comp=Z,61nm,0.9s						
RND	**Reindeer**	**32.74**	**43**	P	**P**	**20 30 04.0**	**-0.3**
TOLK	**Toolik Lake Re**	**32.75**	**34**	P	**P**	**20 30 04.8**	**+0.6**
TOLK				IAmb	IAmb	20 30 28.3	
	comp=Z,24nm,0.7s						
TOLK	**Toolik Lake Re**	**32.75**	**34**	P	**P**	**20 30 04.8**	**+0.6**
	baz=262,SNR=13						
GHO	**Glory Hole Cre**	**32.78**	**46**	P	**P**	**20 30 03.8**	**-0.8**
MDM	**Murphy Dome**	**33.01**	**41**	P	**P**	**20 30 07.1**	**+0.6**
MDM				IAmb	IAmb	20 30 28.9	
	comp=Z,53nm,0.9s						
KNK	**Knik Glacier**	**33.03**	**47**	P	**P**	**20 30 06.9**	**+0.2**
KNK	**Knik Glacier**	**33.03**	**47**	P	**P**	**20 30 06.9**	**+0.2**
	baz=275,SNR=15						
SML	**Sawmill**	**33.06**	**46**	P	**P**	**20 30 06.6**	**-0.

baz=270,SNR=9.7
DHY Denali Highway 33.42 44 P P 20 30 09.7 -0.6
DHY IAmb IAmb 20 30 32.0
comp=Z,55nm,1.1s
DHY Denali Highway 33.42 44 P P 20 30 10.5 +0.2
baz=273,SNR=14
SCM Sheep Creek Mo 33.53 46 P P 20 30 11.3 +0.1
SCM pmax pmax
comp=Z,88nm,1.0s
SCM Sheep Creek Mo 33.53 46 P P 20 30 11.3 +0.1
SCM Sheep Creek Mo 33.53 46 P P 20 30 11.5 +0.4
baz=275,SNR=8.5
HDA Harding Lake 33.56 42 P P 20 30 11.2 -0.2
HDA IAmb IAmb 20 30 33.0
comp=Z,27nm,0.8s
HDA Harding Lake 33.56 42 P P 20 30 11.9 +0.6
baz=272,SNR=6.4
IL31 33.58 41 P P 20 30 11.4 0.0
IL31 IAmb IAmb 20 30 32.8
comp=Z,43nm,1.0s
ILAR Eielson Array 33.58 41 P P 20 30 12.0 +0.5
comp=Z,14nm,1.0s,baz=260,slow=9.2,SNR=60
ILAR pP **pP 20 30 31.3 +1.5**
comp=Z,20nm,0.8s,baz=254,slow=5.8,SNR=19
ILAR LR LR 20 44 05.6
comp=Z,189nm,21.2s,baz=267,slow=36
ILAR Eielson Array 33.58 41 P P 20 30 11.7 +0.2
ILAR Eielson Array 33.58 41 P P 20 30 11.7 +0.2
GLI Glacier Island 33.74 48 P P 20 30 12.8 -0.1
baz=277
M24K Tolsona, Glenn 34.05 46 P P 20 30 17.4 +1.8
M24K Tolsona, Glenn 34.05 46 P P 20 30 16.6 +1.0
baz=276
PRP Porcupine Dome 34.15 40 P P 20 30 17.6 +1.0
PRP Porcupine Dome 34.15 40 P P 20 30 17.3 +0.8
baz=271,SNR=32
KLU Klutina 34.23 47 P P 20 30 17.9 +0.7
KLU IAmb IAmb 20 30 43.9
comp=Z,39nm,1.0s
KLU Klutina 34.23 47 P P 20 30 17.9 +0.7
baz=277,SNR=6.3
FYU Fort Yukon 34.26 38 P P 20 30 18.4 +1.1
PAX Paxson 34.30 44 P P 20 30 18.1 +0.3
PAX pmax pmax
comp=Z,31nm,1.3s
PAX Paxson 34.30 44 P P 20 30 18.1 +0.3
PAX IAmb IAmb 20 30 40.9
comp=Z,31nm,1.3s
PAX Paxson 34.30 44 P P 20 30 18.4 +0.6
baz=275
Q23K Middleton Isla 34.30 50 P P 20 30 18.8 +1.1
baz=279
DIV Divide 34.35 47 P P 20 30 18.6 +0.4
HARP HAARP 34.49 45 P P 20 30 20.3 +0.9
baz=276
RIDG Independent Ri 34.52 43 P P 20 30 19.7 +0.1
RIDG Independent Ri 34.52 43 P P 20 30 19.9 +0.3
baz=274,SNR=12
BMAR Burnt Mountain 34.53 36 P P 20 30 20.9 +1.2
N25K Chitina, Valde 34.85 46 P P 20 30 23.1 +0.6
N25K IAmb IAmb 20 30 44.4
comp=Z,23nm,0.9s
N25K Chitina, Valde 34.85 46 P P 20 30 23.4 +0.8
baz=278,SNR=5.7
DOT Dot Lake 34.88 43 P P 20 30 22.4 -0.3
DOT IAmb IAmb 20 30 44.0
comp=Z,18nm,0.7s
SCRK Sand Creek 34.88 42 P P 20 30 23.0 +0.1
SCRK IAmb IAmb 20 30 44.3
comp=Z,48nm,1.0s
SCRK Sand Creek 34.88 42 P P 20 30 22.8 0.0
baz=275,SNR=23
BMRM Bremner River 34.93 48 P P 20 30 23.8 +0.6
BMRM Bremner River 34.93 48 P P 20 30 23.8 +0.6
baz=278,SNR=6.3
J26L Joseph Creek 35.03 41 P P 20 30 24.5 +0.4
baz=274
MENT Mentasta 35.10 44 P P 20 30 24.8 +0.2
KAIM Kayak Island 35.19 49 P P 20 30 24.4 -0.9
GLB Gilahina Butte 35.24 47 P P 20 30 26.2 +0.3
GLB IAmb IAmb 20 30 48.0
comp=Z,28nm,1.3s
L26K Log Cabin Wild 35.26 44 P P 20 30 26.7 +0.7
L26K Log Cabin Wild 35.26 44 P P 20 30 27.2 +1.2
baz=277
VRDI Verde Repeater 35.45 47 P P 20 30 28.8 +1.0
VRDI IAmb IAmb 20 30 49.7
comp=Z,32nm,1.0s
M26K Nabesna, AK 35.49 45 P P 20 30 29.3 +1.2
TGL Tana Glacier 35.82 48 P P 20 30 31.8 +0.8
TGL IAmb IAmb 20 30 53.0
comp=Z,39nm,0.9s
WAX Waxell Ridge 35.87 48 P P 20 30 32.6 +1.3
SNH Sunshine Point 35.92 49 P P 20 30 32.1 +0.4
L27K Beaver Creek, 35.94 44 P P 20 30 32.8 +1.0
BCAR Beaver Creek A 35.96 44 P P 20 30 33.2 +1.2
M27K Edge Creek, AK 36.02 45 P P 20 30 34.3 +1.7
M27K IAmb IAmb 20 30 55.3
comp=Z,45nm,1.0s
M27K Edge Creek, AK 36.02 45 P P 20 30 34.1 +1.5
baz=279,SNR=15
ISLE Juniper Island 36.09 48 P P 20 30 34.2 +0.9
WHN Wuhan 36.11 254 ⇑P P 20 30 32.5 -1.0
WHN pP **pP 20 30 52.4 +0.4**
WHN LR LR
comp=Z,520nm,20.0s
BARN Barnard Glacie 36.33 47 P P 20 30 35.4 0.0
GRNC Granite Creek 36.35 48 P P 20 30 36.4 +0.8
MESA MESA 36.36 48 PcP 20 32 57.3 -1.1
MESA MESA 36.36 48 P P 20 30 36.5 +0.9
baz=282
YAH Yahtse 36.42 48 P P 20 30 37.8 +1.7
BVCY Beaver Creek 36.48 45 P P 20 30 37.7 +1.3
baz=279,SNR=11
CTG Chitna Glacier 36.50 47 P P 20 30 38.0 +1.3
baz=281,SNR=8.0
CTGM Chitina Glacie 36.51 47 P P 20 30 37.7 +0.9
GUMO Guam 36.66 197 LR LR 20 43 05.7
comp=Z,192nm,20.0s,baz=39,slow=32
LOGN Logan Glacier 36.69 47 P P 20 30 40.0 +1.6
LOGN IAmb IAmb 20 31 00.5
comp=Z,43nm,0.9s
TABL Table Mountain 36.70 48 P P 20 30 39.7 +1.1
YUK3 Moose Creek 36.77 46 P P 20 30 40.0 +0.9
baz=281,SNR=10
DAWY Dawson 36.88 42 P P 20 30 40.3 +0.4
baz=278,SNR=9.8
I29M Ogilvie Camp, 37.17 39 P P 20 30 42.8 +0.6
baz=279,SNR=22
PCA Pinnacle 37.20 48 P P 20 30 43.4 +0.7
PINM Pinnacle 37.21 48 P P 20 30 43.3 +0.7
baz=283
J29M Klondike Camp 37.33 41 P P 20 30 45.0 +1.3
baz=279
NRIK Noril'sk 37.42 327 LR LR 20 47 16.7
comp=Z,342nm,18.2s,baz=76,slow=38
NRIK Noril'sk 37.42 327 *i* P **P 20 30 44.8 +0.6**
NRIK pmax pmax
comp=Z,5.0nm,1.2s
NRIK Noril'sk 37.42 327 P P 20 30 41.5 -2.7
BCPM Bancas Point 37.54 48 P P 20 30 46.4 +1.0
EPYK Eagle Plains 37.68 38 P P 20 30 47.5 +0.9
EPYK Eagle Plains 37.68 38 P P 20 30 47.6 +1.0
baz=278,SNR=20
PNL Peninsula 37.73 49 P P 20 30 48.1 +1.1
baz=284
M30M Minto, Yukon 38.30 44 P P 20 30 53.2 +1.4
baz=282
CNSH ChangSha 38.64 253 ⇓P P 20 30 54.8 -0.1
CNSH pP **pP 20 31 14.4 +0.9**
INK Inuvik 38.66 34 P P 20 30 56.0 +1.4
comp=Z,20nm,0.8s,baz=285,slow=7.7,SNR=57
INK pP **pP 20 31 14.9 +1.7**
comp=Z,42nm,0.7s,baz=286,slow=8.1,SNR=18
INK Inuvik 38.66 34 P P 20 30 55.7 +1.1
INK Inuvik 38.66 34 IAmb IAmb 20 31 16.8
comp=Z,46nm,0.8s
INK Inuvik 38.66 34 P P 20 30 55.8 +1.2
baz=278,SNR=28
N31M Braeburn, Yuko 39.02 45 P P 20 30 59.5 +1.7
baz=284,SNR=7.3
LZH Lanzhou 39.41 270 ⇑P P 20 31 02.1 +0.6
LZH pP pP 20 31 21.3 +1.1
LZH sP sP 20 31 29.2 0.0
LZH pmax pmax
comp=Z,21nm,1.4s
LZH LR LR
comp=Z,510nm,16.7s
LZH LR LR
comp=Z,410nm,17.3s
LZH LR LR
comp=Z,410nm,16.8s
M31M Drury Creek, Y 39.48 44 P P 20 31 03.0 +1.4
baz=285,SNR=5.4
WHY Whitehorse 39.65 46 P P 20 31 05.4 +2.2
WHY IAmb IAmb 20 31 26.3
comp=Z,24nm,0.9s
WHY Whitehorse 39.65 46 P P 20 31 05.2 +2.1
baz=286,SNR=8.8
SKAG Skagway 39.78 48 P P 20 31 04.8 +0.7
baz=287
GTA Gaotai 40.15 277 ⇓P P 20 31 07.4 -0.2
GTA pP pP 20 31 26.6 +0.2
GTA sP sP 20 31 37.3 +1.9
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,110nm,5.1s
GTA LR LR
comp=Z,170nm,14.5s
GTA LR LR
comp=Z,500nm,18.5s
GTA LR LR
comp=Z,550nm,18.9s
BESE Bessie Mountai 40.28 49 P P 20 31 10.1 +1.8
BESE IAmb IAmb 20 31 31.3
comp=Z,25nm,1.0s
SIT Sitka 40.54 52 P P 20 31 11.1 +0.7
baz=290
JIS Juneau Island 40.61 50 P P 20 31 13.4 +2.5
JIS IAmb IAmb 20 31 34.1
comp=Z,47nm,0.9s
P33M Teslin, Yukon 40.76 47 P P 20 31 12.6 +0.3
baz=288,SNR=18
A36M Sachs Harbour 40.87 28 P P 20 31 14.2 +1.4
A36M Sachs Harbour 40.87 28 P P 20 31 14.3 +1.4
baz=281,SNR=12
C36M Paulatuk 41.82 32 P P 20 31 21.7 +0.9
C36M Paulatuk 41.82 32 P P 20 31 21.8 +1.1
baz=285,SNR=36
WRAK Wrangell Islan 42.30 52 P P 20 31 26.7 +2.0
baz=292
ZAA0 Zalesovo Array 42.43 304 P P 20 31 25.3 -0.6
ZALV Zalesovo Beam 42.43 304 P P 20 31 24.8 -1.1
comp=Z,0.6nm,0.4s,baz=62,slow=7.4,SNR=4.7
ZALV pP **pP 20 31 42.9 -1.8**
comp=Z,0.8nm,0.5s,baz=63,slow=5.6,SNR=4.2
ZALV PcP **PcP 20 33 18.9 +1.4**
comp=Z,1.2nm,0.3s,baz=77,slow=3.2,SNR=6.9
ZALV LR LR 20 50 25.1
comp=Z,414nm,18.4s,baz=59,slow=38
ZALV Zalesovo Beam 42.43 304 P P 20 31 23.5 -2.4
ZALV 20 33 18.0
ZALV Zalesovo Beam 42.43 304 P P 20 31 23.5 -2.4
ZALV **PcP 20 33 18.0 +0.5**
CD2 Chengdu 42.67 264 P P 20 31 27.8 -0.4
CD2 S **S 20 37 45.0 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,240nm,18.6s
CD2 LR LR
comp=Z,300nm,17.2s
DLBC Dease Lake 42.71 48 P P 20 31 30.8 +2.6
comp=Z,15nm,0.9s,baz=288,slow=9.1,SNR=22
DLBC pP **pP 20 31 47.5 +0.4**
comp=Z,25nm,0.9s,baz=287,slow=10,SNR=16
DLBC LR LR 20 49 23.0
comp=Z,134nm,21.5s,baz=352,slow=36
DGZ Jazzator, Alta 42.77 298 *i* P **P 20 31 29.7 +0.8**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
GYA Guiyang 43.80 257 ⇓P P 20 31 37.3 -0.2
GYA pP pP 20 31 57.5 +1.1
GYA pmax pmax
comp=Z,13nm,1.0s
GRNB Grenville Isla 44.60 54 P P 20 31 43.8 +0.4
GRNB IAmb IAmb 20 32 07.0
comp=Z,47nm,0.8s
HG4B Hotspring 44.62 57 P P 20 31 44.5 +0.9
GOMU GeErMu 45.23 277 P P 20 31 48.7 -0.3
GOMU pP pP 20 32 08.5 +0.4
GOMU S **S 20 38 27.5 +4.0**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU pmax pmax
comp=Z,110nm,5.4s
GOMU LR LR
comp=Z,130nm,13.2s
GOMU LR LR
comp=Z,100nm,13.5s
GOMU LR LR
comp=Z,89nm,13.1s
WMQ Urumqi 45.49 290 *e* P **P 20 31 52.7 +2.1**
WMQ LR LR
comp=Z,630nm,20.3s
WMQ LR LR
comp=Z,230nm,18.9s
EUNU Eureka 46.31 12 P P 20 31 56.4 -0.1
BBB Bella Bella 46.36 56 LR LR 20 49 48.7
comp=Z,268nm,20.7s,baz=296,slow=34
PZH PanZhiHua 46.94 261 ⇑P P 20 32 03.2 +1.0
PZH sP **sP 20 32 30.2 +0.1**
PZH S **S 20 38 45.3 -2.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,130nm,5.6s
PZH LR LR
comp=Z,680nm,17.3s
PZH LR LR
comp=Z,650nm,18.2s
PZH LR LR
comp=Z,770nm,19.3s
MK31 Makanchi Array 47.18 296 *i* P **P 20 32 03.8 0.0**
MK31 Makanchi Array 47.18 296 P P 20 32 02.9 -0.9
MKAR Makanchi Array 47.18 296 P P 20 32 02.9 -0.9
comp=Z,0.6nm,0.5s,baz=80,slow=17,SNR=14
MKAR pP **pP 20 32 22.8 -0.2**
comp=Z,3.2nm,0.9s,baz=70,slow=8.3,SNR=5.6
MKAR LR LR 20 53 16.2
comp=Z,1μm,19.8s,baz=40,slow=38
KMI Kunming 47.25 259 P P 20 32 06.0 +1.2
KMI pP pP 20 32 24.3 +0.4
KMI sP sP 20 32 32.6 -0.1
KMI pmax pmax
comp=Z,6.0nm,1.2s
KMI LR LR
comp=Z,180nm,17.4s
KMI LR LR
comp=Z,140nm,19.4s
KMI LR LR
comp=Z,200nm,18.5s
KURK Kurchatov 47.28 303 *ce* P **P 20 32 03.9 -0.5**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 47.28 303 P P 20 32 03.6 -0.8
QIZ Qiongzhong 47.29 247 P P 20 32 04.2 -0.7
QIZ S **S 20 38 52.7 +0.2**
QIZ LR LR
comp=Z,170nm,19.0s
QIZ LR LR
comp=Z,210nm,16.6s
QIZ LR LR
comp=Z,230nm,18.9s
KURBB Kurchatov Arra 47.38 303 LR LR 20 52 58.3
comp=Z,476nm,21.3s,baz=41,slow=37
RES Resolute Bay 47.91 20 P P 20 32 08.9 -0.1
comp=Z,6.1nm,0.7s,baz=338,slow=6.4,SNR=17
RES pP **pP 20 32 29.1 +1.0**
comp=Z,10nm,0.9s,baz=352,slow=14,SNR=11
RES PcP **PcP 20 33 37.5 +1.4**
comp=Z,7.0nm,0.9s,baz=276,slow=0.7,SNR=3.5
RES LR LR 20 54 26.2
comp=Z,343nm,19.8s,baz=304,slow=39
RES Resolute Bay 47.91 20 P P 20 32 09.3 +0.4
RES Resolute Bay 47.91 20 IAmb IAmb 20 32 30.5
comp=Z,14nm,1.0s
YKA Yellowknife Ar 47.95 39 P P 20 32 10.8 +1.4
comp=Z,10nm,0.8s,baz=297,slow=7.5,SNR=84
YKA pP **pP 20 32 30.2 +1.6**
comp=Z,19nm,0.7s,baz=298,slow=7.2,SNR=30
YKA Yellowknife Ar 47.95 39 P P 20 32 10.1 +0.7
YKA Yellowknife Ar 47.95 39 P P 20 32 10.1 +0.7
SLVN Son La 49.23 255 P P 20 32 20.1 +0.2
SLVN IAmb IAmb 20 32 41.6
comp=Z,43nm,1.1s
CLRS Cowichan Lake 50.26 58 P P 20 32 28.2 +0.9
CLRS IAmb IAmb 20 32 49.4
comp=Z,27nm,1.0s
SPITS Spitsbergen Ar 50.37 350 LR LR 20 53 39.4
comp=Z,264nm,20.9s,baz=284,slow=36
BRVK Borovoye 50.50 309 *ce* P **P 20 32 27.0 -2.0**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 50.50 309 P 20 32 28.0 -1.0
LLLB Lillooet 50.52 55 P P 20 32 30.5 +1.2
LLLB IAmb IAmb 20 32 51.5
comp=Z,26nm,0.9s
A04D Lummi Island 51.10 57 P P 20 32 35.4 +1.8
baz=304
TULEG Thule 51.31 12 *i* P **P 20 32 33.8 -1.0**
TULEG IAmb IAmb 20 32 34.5
comp=Z,3.6nm,0.9s
TULEG Thule 51.31 12 P P 20 32 33.9 -0.8
TULEG IAmb IAmb 20 32 54.8
comp=Z,15nm,0.8s
B05A Bryant 51.70 58 P P 20 32 39.6 +1.6
baz=304
B06A Marblemount 51.89 57 P P 20 32 40.2 +0.8
B06A IAmb IAmb 20 33 01.7
comp=Z,31nm,1.0s
E04D Cinebar 52.40 60 P P 20 32 45.3 +2.0
baz=305
NEEM North Greenlan 52.44 7 *i* P **P 20 32 42.6 -1.0**
NEEM IAmb IAmb 20 32 44.0
comp=Z,18nm,0.8s
F04A Amboy 52.85 60 P P 20 32 48.4 +1.8
F04A IAmb IAmb 20 33 09.6
comp=Z,28nm,1.2s
B08A Colville Reser 53.16 56 P P 20 32 49.7 +0.8
B08A IAmb IAmb 20 33 10.8
comp=Z,28nm,0.9s
EDM Edmonton 53.43 48 P P 20 32 51.4 +0.6
EDM pmax pmax
comp=Z,85nm,0.8s
EDM Edmonton 53.43 48 P P 20 32 51.4 +0.6
I03D Drain, OR 53.63 63 P P 20 32 54.4 +2.0
baz=307
HOOD Mount Hood Mea 53.64 60 P P 20 32 53.6 +1.0
HOOD IAmb IAmb 20 33 15.5
comp=Z,34nm,1.1s
G05D Wamic, OR 53.88 60 P P 20 32 55.1 +0.9
baz=307
SHL Shillong 54.00 268 P P 20 32 55.3 -0.3
SHL pmax pmax
comp=Z,13nm,0.9s
SHL Shillong 54.00 268 P P 20 32 55.3 -0.3
K02D Willamette Mer 54.04 64 P P 20 32 56.8 +1.2
baz=307
C09A Chrisman Ranch 54.06 56 P P 20 32 56.4 +1.0
C09A IAmb IAmb 20 33 17.1
comp=Z,21nm,0.9s
AAK Ala-Archa 54.11 296 LR LR 20 57 45.6
comp=Z,687nm,19.0s,baz=44,slow=38
AAK Ala-Archa 54.11 296 *i* P **P 20 32 56.9 +0.8**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 54.11 296 P P 20 32 54.9 -1.2
D08A Wollman Farm, 54.15 57 P P 20 32 57.6 +1.6
DAG Danmarks Havn 54.15 358 *i* P **P 20 32 52.7 -2.9**
DAG IAmb IAmb 20 33 17.2
comp=Z,2.7nm,0.8s
SIJI Sorong 54.15 210 LR LR 20 52 08.2
comp=Z,92nm,21.6s,baz=30,slow=32
ARU Arti 54.20 317 LR LR 20 58 27.5
comp=Z,297nm,19.3s,baz=34,slow=39
ARU Arti 54.20 317 *d i* P **P 20 32 55.9 -0.4**
ARU *PP **pP 20 33 15.1 -0.6**
ARU 20 33 59.8
ARU S **S 20 40 26.1 -1.0**
ARU pmax pmax
comp=Z,16nm,1.2s
ARU MLR MLR
comp=Z,342nm,21.0s
ARU Arti 54.20 317 P P 20 32 54.8 -1.4
ARU IAmb IAmb 20 33 16.0
comp=Z,25nm,0.9s
HAWA Hanford 54.20 58 P P 20 32 56.4 -0.1
HAWA IAmb IAmb 20 33 18.6
comp=Z,23nm,1.0s
CHTO Chiang Mai 54.23 257 P P 20 32 57.4 +0.4
CHTO pmax pmax
comp=Z,59nm,1.0s
CHTO Chiang Mai 54.23 257 P P 20 32 57.4 +0.4
E08A Dider Farm, El 54.41 58 P P 20 32 59.1 +1.2
E08A IAmb IAmb 20 33 19.8
comp=Z,12nm,0.7s
NEW Newport 54.41 55 P P 20 32 59.2 +1.2
comp=Z,6.8nm,0.9s,baz=315,slow=8.7,SNR=5.6
NEW pP **pP 20 33 19.0 +1.4**
comp=Z,13nm,0.9s,baz=320,slow=5.0,SNR=7.2
NEW LR LR 20 56 57.8
comp=Z,121nm,18.9s,baz=295,slow=37
NEW Newport 54.41 55 P P 20 32 58.5 +0.5
NEW pmax pmax
comp=Z,21nm,1.1s
NEW Newport 54.41 55 P P 20 32 58.5 +0.5
NEW IAmb IAmb 20 33 19.9
comp=Z,21nm,1.1s
NEW Newport 54.41 55 P P 20 32 58.8 +0.8
baz=307
CM31 Chiang Mai Arr 54.49 256 P P 20 32 59.6 +0.6
CMAR Chiang Mai Arr 54.49 256 P P 20 32 59.8 +0.9
comp=Z,17nm,1.0s,baz=30,slow=7.3,SNR=86
CMAR pP **pP 20 33 19.7 +1.2**
comp=Z,28nm,0.9s,baz=31,slow=7.3,SNR=23
CMAR Chiang Mai Arr 54.49 256 P P 20 32 59.3 +0.4
CMAR Chiang Mai Arr 54.49 256 P P 20 32 59.3 +0.4
J04D Umpqua Nationa 54.62 63 P P 20 33 01.4 +1.5
baz=308
E09A Wood Farm, Sta 54.90 57 P P 20 33 02.7 +1.2
E09A IAmb IAmb 20 33 23.4
comp=Z,31nm,0.9s
PINE Pine Mountain 54.97 62 P P 20 33 04.0 +1.6
PINE IAmb IAmb 20 33 25.9
comp=Z,35nm,1.1s
LVZ Lovozero 55.04 337 *i* P **P 20 33 02.8 +0.5**
LVZ pmax pmax
comp=Z,44nm,1.4s
J05D Fort Rock, OR 55.11 62 P P 20 33 05.3 +2.0
baz=308,SNR=7.4
L04D Klamath Falls 55.13 64 P P 20 33 05.3 +1.8
baz=308
G08A Pilot Rock 55.18 59 P P 20 33 05.2 +1.4
YBH Yreka Blue Hor 55.19 64 P P 20 33 05.6 +1.7
comp=Z,6.0nm,1.1s,baz=253,slow=4.7,SNR=5.2
YBH LR LR 20 53 49.0
comp=Z,115nm,19.5s,baz=333,slow=33
YBH Yreka Blue Hor 55.19 64 P P 20 33 05.4 +1.5
YBH pmax pmax
comp=Z,54nm,1.5s
YBH Yreka Blue Hor 55.19 64 P P 20 33 05.4 +1.5
YBH IAmb IAmb 20 33 26.9
comp=Z,54nm,1.4s
M02C Callahan 55.32 65 P P 20 33 07.1 +2.4
baz=308
APA Apatity 55.61 337 ⇓ *i* P **P 20 33 03.7 -2.6**
APA pmax pmax
comp=Z,7.0nm,0.9s
I07A Izee 55.61 60 P P 20 33 07.6 +0.8
I07A IAmb IAmb 20 33 29.4
comp=Z,19nm,1.1s
WALA Waterton Lakes 55.63 53 P P 20 33 07.3 +0.4
WALA IAmb IAmb 20 33 28.8
comp=Z,28nm,0.8s
K05A Summer Lake 55.65 63 P P 20 33 09.3 +2.0
N02D Trinity Center 55.66 65 P P 20 33 09.1 +1.8
baz=308
M04C Macdoel 55.67 64 P P 20 33 09.4 +2.1
baz=308
F10A Beach Ranch, E 55.73 57 P P 20 33 08.5 +0.9
ARCES ARCESS Array B 55.95 341 P P 20 33 07.8 -1.0
comp=Z,2.9nm,0.8s,baz=33,slow=7.8,SNR=15
ARCES pP **pP 20 33 26.2 -2.1**
comp=Z,4.5nm,0.9s,baz=36,slow=7.6,SNR=2.2
ARCES LR LR 21 00 51.0

comp=Z,430nm,20.8s,baz=360,slow=40
ARCES **ARCESS Array B** 55.95 341 IAmb IAmb 20 33 33.9
comp=Z,28nm,1.5s
WDC **Whiskeytown Da** 56.01 65 P **P** **20 33 11.8 +2.2**
WDC pmax pmax
comp=Z,27nm,1.4s
WDC **Whiskeytown Da** 56.01 65 P **P** **20 33 11.8 +2.2**
WDC IAmb IAmb 20 33 33.9
comp=Z,27nm,1.4s
PRGR **Permogore** 56.06 327 *e*P **P** **20 33 09.0 -0.6**
PRGR *e**PP **pP** **20 33 28.7 -0.4**
PRGR pmax pmax
comp=Z,63nm,1.5s
JTMT **Jette** 56.24 54 P **P** **20 33 12.9 +1.6**
JTMT IAmb IAmb 20 33 33.5
comp=Z,20nm,0.8s
GUN **Gumba** 56.34 275 *e*P **P** **20 33 12.1 -0.4**
comp=Z,11nm,0.4s
BMO **Blue Mountains** 56.38 59 P **P** **20 33 13.2 +0.9**
BMO pmax pmax
comp=Z,16nm,1.0s
BMO **Blue Mountains** 56.38 59 P **P** **20 33 13.2 +0.9**
BMO IAmb IAmb 20 33 34.7
comp=Z,16nm,0.9s
MOD **Modoc Plateau** 56.50 63 P **P** **20 33 14.3 +1.0**
MOD IAmb IAmb 20 33 35.9
comp=Z,33nm,1.2s
O03E **Paynes Creek** 56.62 65 P **P** **20 33 14.8 +0.7**
baz=309
J08A **Circle Bar Ran** 56.65 61 P **P** **20 33 15.8 +1.6**
J08A IAmb IAmb 20 33 37.1
comp=Z,28nm,1.1s
KIRV **Kirov** 56.68 323 LR LR 21 00 42.1
comp=Z,270nm,19.2s,baz=36,slow=39
KKN **Kakani** 56.81 275 *e*P **P** **20 33 15.3 -0.4**
PKI **Pulchoki** 56.87 275 *e*P **P** **20 33 15.8 -0.5**
comp=Z,5.6nm,0.7s
PKIN **Phulchoki** 56.88 275 *e*P **P** **20 33 15.7 -0.6**
comp=Z,4.3nm,0.6s
PLID **Pearl Lake** 56.96 58 P **P** **20 33 17.5 +1.0**
MSO **Missoula** 56.99 55 P **P** **20 33 17.6 +1.0**
MSO IAmb IAmb 20 33 38.7
comp=Z,31nm,1.0s
MSO **Missoula** 56.99 55 P **P** **20 33 17.7 +1.1**
baz=309,SNR=10
DMN **Daman** 57.05 275 *e*P **P** **20 33 16.9 -0.5**
GKN **Gorkha** 57.09 276 *e*P **P** **20 33 17.9 +0.3**
comp=Z,9.7nm,0.5s
WVOR **Wild Horse Val** 57.13 62 P **P** **20 33 19.3 +1.6**
WVOR pmax pmax
comp=Z,24nm,1.1s
WVOR **Wild Horse Val** 57.13 62 P **P** **20 33 19.3 +1.6**
WVOR IAmb IAmb 20 33 40.4
comp=Z,24nm,1.1s
ORV **Oroville** 57.27 66 P **P** **20 33 18.5 0.0**
ORV pmax pmax
comp=Z,9.0nm,1.2s
ORV **Oroville** 57.27 66 P **P** **20 33 18.5 0.0**
DANN **Dangsing** 57.42 277 *e*P **P** **20 33 20.9 +0.8**
comp=Z,11nm,0.5s
DRK **Karamyk** 57.67 294 P **P** **20 33 18.5 -3.2**
KOLN **Koldanda** 57.92 276 *e*P **P** **20 33 24.0 +0.5**
ABKAR **Akbulak array** 57.99 310 P **P** **20 33 22.8 -0.7**
ABKAR **Akbulak array** 57.99 310 P **P** **20 33 22.9 -0.5**
ABKAR IAmb IAmb 20 33 43.6
comp=Z,6.5nm,0.8s
SUMG **Summit** 58.03 5 P **P** **20 33 24.4 +0.5**
SUMG pmax pmax
comp=Z,61nm,0.9s
SUMG **Summit** 58.03 5 *i* P **P** **20 33 23.4 -0.5**
SUMG *i* P **P** **20 33 23.8 -0.1**
SUMG IAmb IAmb 20 33 24.8
comp=Z,19nm,1.0s
SUMG IAmb IAmb 20 33 24.9
comp=N,6.2nm,0.9s
SUMG **Summit** 58.03 5 P **P** **20 33 24.4 +0.5**
PYUN **Piuthan** 58.09 277 *e*P **P** **20 33 25.4 +0.7**
MFID **Camas Ranch** 58.11 59 P **P** **20 33 25.9 +1.4**
HRY **Holter Researc** 58.19 54 P **P** **20 33 26.6 +1.6**
AKTO **Aktyubinsk** 58.19 312 LR LR 21 01 15.5
comp=N,178nm,19.1s,baz=40,slow=39
FCC **Fort Churchill** 58.27 35 P **P** **20 33 25.3 +0.1**
FCC pmax pmax
comp=Z,36nm,0.9s
FCC **Fort Churchill** 58.27 35 P **P** **20 33 25.3 +0.1**
MPK **Martis Peak** 58.31 65 P **P** **20 33 28.1 +1.9**
MPK IAmb IAmb 20 33 48.5
comp=Z,23nm,1.2s
LRM **Limekiln Ridge** 58.43 55 P **P** **20 33 28.2 +1.3**
EGMT **Eagleton** 58.43 52 P **P** **20 33 27.6 +0.9**
EGMT **Eagleton** 58.43 52 P **P** **20 33 27.7 +1.1**
baz=310,SNR=5.6
PAHR **Pah Rah Range** 58.43 64 P **P** **20 33 28.1 +1.3**
HNR **Honiara** 58.62 175 LR LR 20 55 13.1
comp=Z,195nm,21.8s,baz=331,slow=32
DLMT **Dillon** 58.64 56 P **P** **20 33 29.6 +1.3**
PNTR **Pine Nut** 58.70 65 P **P** **20 33 28.9 +0.1**
PNTR IAmb IAmb 20 33 52.1
comp=Z,11nm,0.8s
KLMR **Klimovskoe** 58.73 329 *e*P **P** **20 33 26.7 -1.7**
KLMR *e**PP **pP** **20 33 46.3 -1.7**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
KLMR **Klimovskoe** 58.73 329 *e*P **P** **20 33 26.7 -1.7**
KLMR AMP 20 33 28.8
comp=Z,10.0nm,1.0s
KLMR *e*pP **pP** **20 33 46.4 -1.6**
HLID **Hailey** 58.80 58 P **P** **20 33 31.3 +1.9**
HLID IAmb IAmb 20 33 52.0
comp=Z,22nm,1.1s
HLID **Hailey** 58.80 58 P **P** **20 33 31.6 +2.2**
baz=310,SNR=12
MCMT **McKenzie Canyo** 58.85 56 P **P** **20 33 30.5 +0.7**
BCYI **Bear Canyon** 58.88 57 P **P** **20 33 30.8 +0.8**
PMG **Port Moresby** 58.91 190 LR LR 20 55 06.9
comp=Z,112nm,21.5s,baz=352,slow=32
CMB **Columbia Colle** 58.91 67 P **P** **20 33 31.9 +1.8**
CMB pmax pmax
comp=Z,12nm,1.3s
CMB **Columbia Colle** 58.91 67 P **P** **20 33 31.9 +1.8**
YERR **Yerington** 58.98 65 P **P** **20 33 32.7 +1.9**
YERR IAmb IAmb 20 33 53.2
comp=Z,32nm,1.4s
BOZ **Bozeman (W)** 59.01 55 P **P** **20 33 32.1 +1.3**
BOZ pmax pmax
comp=Z,45nm,0.9s
BOZ **Bozeman (W)** 59.01 55 P **P** **20 33 32.1 +1.3**
BOZ **Bozeman (W)** 59.01 55 P **P** **20 33 32.4 +1.5**
baz=310,SNR=27
BMN **Battle Mountai** 59.23 63 P **P** **20 33 33.6 +1.2**
BMN pmax pmax
comp=Z,38nm,1.3s
BMN **Battle Mountai** 59.23 63 P **P** **20 33 33.6 +1.2**
BMN IAmb IAmb 20 33 55.0
comp=Z,38nm,1.3s
JMIC **Jan Mayen** 59.47 354 LR LR 20 57 56.3
comp=Z,90nm,20.0s,baz=53,slow=35
KVN **Kaiserville** 59.61 64 P **P** **20 33 36.2 +1.1**
KVN IAmb IAmb 20 33 57.5
comp=Z,42nm,1.4s
QLMT **Earthquake Lak** 59.62 55 P **P** **20 33 36.9 +1.8**
RYN **Ryan** 59.64 65 P **P** **20 33 36.1 +0.9**
RYN IAmb IAmb 20 33 37.2
comp=Z,17nm,1.2s
CHGR **Chuyangaron** 59.77 295 P **P** **20 33 35.2 -0.8**
CHGR IAmb IAmb 20 34 00.8
comp=Z,15nm,0.9s
LHV **Little Huntoon** 59.90 65 P **P** **20 33 38.3 +1.5**
LHV IAmb IAmb 20 33 59.8
comp=Z,36nm,1.2s
NVAR **Mina Array Bea** 59.90 65 P **P** **20 33 38.8 +1.7**
comp=Z,2.1nm,0.7s,baz=284,slow=7.2,SNR=9.9
NVAR pP **pP** **20 33 58.5 +1.6**
comp=Z,4.8nm,0.8s,baz=292,slow=6.9,SNR=6.9
NVAR **Mina Array Bea** 59.90 65 P **P** **20 33 38.6 +1.5**
GCMT **Greycliff** 59.93 54 P **P** **20 33 39.2 +2.1**
YHH **Holmes Hill** 59.96 55 P **P** **20 33 38.9 +1.4**
YMR **Madison River** 59.97 55 P **P** **20 33 39.3 +1.8**
NV11 **Mina Array Sit** 59.98 65 P **P** **20 33 39.0 +1.4**
YNR **Norris Junctio** 60.10 55 P **P** **20 33 40.7 +2.3**
YNR IAmb IAmb 20 34 01.7
comp=Z,31nm,1.0s
ELK **Elko** 60.17 61 P **P** **20 33 40.1 +1.1**
comp=Z,3.5nm,0.8s,baz=307,slow=6.6,SNR=14
ELK pP **pP** **20 34 00.8 +2.1**
comp=Z,7.1nm,0.8s,baz=292,slow=7.9,SNR=10
ELK LR LR 20 55 48.4
comp=Z,58nm,21.9s,baz=340,slow=32
ELK **Elko** 60.17 61 P **P** **20 33 40.6 +1.7**
YFT **Old Faithful** 60.19 55 P **P** **20 33 42.1 +3.1**
LKWY **Lake** 60.35 55 P **P** **20 33 42.5 +2.4**
YMP **Mirror Lake Pl** 60.36 55 P **P** **20 33 42.5 +2.2**
H17A **Grant Village** 60.36 55 P **P** **20 33 43.2 +3.0**
H17A **Grant Village** 60.36 55 P **P** **20 33 43.4 +3.2**
baz=312,SNR=23
FLWY **Flagg Ranch** 60.50 56 P **P** **20 33 42.9 +1.8**
FLWY IAmb IAmb 20 34 04.6
comp=Z,29nm,1.1s
RLMT **Red Lodge** 60.58 54 P **P** **20 33 43.3 +1.6**
RLMT **Red Lodge** 60.58 54 P **P** **20 33 43.7 +2.0**
baz=312,SNR=21
MOOW **Moose Ponds** 60.70 56 P **P** **20 33 44.4 +1.9**
MOOW IAmb IAmb 20 34 05.6
comp=Z,18nm,0.9s
TPH **Tonopah** 60.77 65 P **P** **20 33 44.4 +1.4**
TPH pmax pmax
comp=Z,116nm,1.2s
TPH **Tonopah** 60.77 65 P **P** **20 33 44.4 +1.4**
ECR **Eagle Creek** 60.82 57 P **P** **20 33 44.8 +1.5**
LOHW **Long Hollow** 60.87 56 P **P** **20 33 45.5 +1.9**
HVU **Hansel Valley** 60.88 59 P **P** **20 33 45.2 +1.5**
HVU pmax pmax
comp=Z,11nm,1.0s
HVU **Hansel Valley** 60.88 59 P **P** **20 33 45.1 +1.5**
REDW **Red Top Meadow** 60.90 56 P **P** **20 33 45.6 +1.8**
DGMT **Dagmar** 60.93 49 P **P** **20 33 44.8 +1.1**
DGMT **Dagmar** 60.93 49 P **P** **20 33 45.2 +1.5**
baz=313,SNR=9.3
LCH **Last Change Ra** 61.08 66 P **P** **20 33 46.2 +1.1**
LAO **LASA Array** 61.12 51 P **P** **20 33 46.4 +1.4**
LAO **LASA Array** 61.12 51 P **P** **20 33 46.5 +1.4**
baz=312,SNR=5.4
AHID **Auburn Hatcher** 61.16 57 P **P** **20 33 47.1 +1.5**
AHID IAmb IAmb 20 34 08.2
comp=Z,27nm,1.1s
BGU **Big Grassy Mou** 61.31 60 P **P** **20 33 47.5 +0.9**
SPUT **South Promonto** 61.38 59 P **P** **20 33 48.8 +1.7**
SPUT IAmb IAmb 20 34 09.8
comp=Z,21nm,1.0s
ICESG **Greenland Ices** 61.40 6 *i* P **P** **20 33 46.6 -0.3**
ICESG IAmb IAmb 20 33 47.8
comp=Z,24nm,0.9s
R11A **Troy Canyon, C** 61.55 63 P **P** **20 33 49.5 +1.2**
R11A IAmb IAmb 20 34 10.4
comp=Z,17nm,1.2s
R11A **Troy Canyon, C** 61.55 63 P **P** **20 33 49.2 +1.0**
baz=312,SNR=6.8
HWUT **Hardware Ranch** 61.67 58 P **P** **20 33 50.3 +1.3**
HWUT IAmb IAmb 20 34 11.8
comp=Z,26nm,1.1s
DUG **Dugway, Tooele** 61.92 60 P **P** **20 33 51.5 +0.8**
DUG pmax pmax
comp=Z,27nm,1.0s
DUG **Dugway, Tooele** 61.92 60 P **P** **20 33 51.5 +0.8**
DUG IAmb IAmb 20 34 13.4
comp=Z,27nm,1.0s
DUG **Dugway, Tooele** 61.92 60 P **P** **20 33 52.2 +1.5**
baz=312,SNR=9.4
MPMC **Manual Prospec** 61.96 66 P **P** **20 33 52.7 +1.7**
baz=312
BW06 **Boulder Array** 62.00 56 P **P** **20 33 52.8 +1.5**
BW06 **Boulder Array** 62.00 56 P **P** **20 33 52.2 +0.9**
baz=313,SNR=31
PD31 **Pinedale Array** 62.00 56 P **P** **20 33 52.6 +1.3**
PDAR **Pinedale Array** 62.00 56 P **P** **20 33 53.0 +1.7**
comp=Z,19nm,0.9s,baz=317,slow=2.6,SNR=83
PDAR pP **pP** **20 34 12.8 +1.7**
comp=Z,37nm,0.9s,baz=328,slow=2.3,SNR=26
PDAR **Pinedale Array** 62.00 56 P **P** **20 33 52.8 +1.5**
FURC **Furnace Creek,** 62.06 66 P **P** **20 33 52.9 +1.5**
baz=312
FRB **Frobisher Bay** 62.12 20 P **P** **20 33 51.1 -0.2**
comp=Z,21nm,0.7s,baz=336,slow=7.7,SNR=48
FRB pP **pP** **20 34 10.9 -0.4**
comp=Z,50nm,0.8s,baz=339,slow=7.5,SNR=20
FRB LR LR 21 01 40.0
comp=Z,310nm,21.9s,baz=245,slow=37
FRB **Frobisher Bay** 62.12 20 P **P** **20 33 50.6 -0.8**
FRB pmax pmax
comp=Z,67nm,0.8s
CTU **Camp Tracy** 62.18 59 P **P** **20 33 53.4 +0.9**
CTU IAmb IAmb 20 34 14.8
comp=Z,14nm,1.0s
LRMC **Laurel Mtn Rad** 62.23 67 P **P** **20 33 53.5 +0.7**
baz=313
SFJD **Kangerlussuaq** 62.35 11 P **P** **20 33 53.0 +0.1**
comp=Z,14nm,0.8s,baz=30,slow=6.5,SNR=5.3
SFJD pP **pP** **20 34 12.5 -0.2**
comp=Z,38nm,0.8s,baz=338,slow=4.1,SNR=9.3
SFJD LR LR 21 02 53.5
comp=Z,251nm,19.6s,baz=304,slow=38
SFJD **Kangerlussuaq** 62.35 11 P **P** **20 33 52.0 -0.9**
SFJD pmax pmax
comp=Z,40nm,0.9s
SFJD **Kangerlussuaq** 62.35 11 *i* P **P** **20 33 52.3 -0.6**
SFJD IAmb IAmb 20 33 53.3
comp=Z,5.8nm,0.9s
SFJD **Kangerlussuaq** 62.35 11 P **P** **20 33 52.0 -0.9**
KAPI **Kappang** 62.35 221 LR LR 21 01 19.5
comp=Z,19nm,21.5s,baz=54,slow=36
GWY **Greenwater Val** 62.36 66 P **P** **20 33 54.8 +1.1**
GWY IAmb IAmb 20 34 15.8
comp=Z,32nm,1.5s
FINES **FINESS Array B** 62.39 335 P **P** **20 33 52.4 -0.9**
comp=Z,2.7nm,0.4s,baz=36,slow=7.6,SNR=22
FINES pP **pP** **20 34 11.9 -1.1**
comp=Z,5.3nm,0.8s,baz=37,slow=9.8,SNR=5.7
FINES LR LR 21 03 56.5
comp=Z,610nm,19.9s,baz=32,slow=39
FINES **FINESS Array B** 62.39 335 P **P** **20 33 52.0 -1.2**
FINES **FINESS Array B** 62.39 335 P **P** **20 33 52.0 -1.2**
QSM **Queen of Sheba** 62.39 66 P **P** **20 33 54.3 +0.6**
JLU **Jordanelle** 62.41 59 P **P** **20 33 53.0 -1.1**
JLU IAmb IAmb 20 34 16.8
comp=Z,18nm,1.2s
EDW2 **Edwards Air Fo** 62.44 68 P **P** **20 33 55.6 +1.4**
baz=313
NLU **North Lily Min** 62.50 60 P **P** **20 33 55.5 +0.8**
NLU IAmb IAmb 20 34 17.1
comp=Z,23nm,1.0s
PRN **Pahroc Range** 62.50 64 P **P** **20 33 56.1 +1.5**
PRN IAmb IAmb 20 34 17.8
comp=Z,17nm,1.2s
KBL **Kabul** 62.57 292 P **P** **20 33 53.4 -1.8**
KBL pmax pmax
comp=Z,6.0nm,1.1s
KBL **Kabul** 62.57 292 P **P** **20 33 53.4 -1.8**
SHPR **Sheep Range** 63.04 65 P **P** **20 33 59.9 +1.7**
BFSC **Mount Baldy Ra** 63.08 68 P **P** **20 34 00.9 +2.4**
baz=313
TUQ **Turquoise Moun** 63.31 66 P **P** **20 34 01.6 +1.6**
baz=313
DY2G **Dye2** 63.37 10 *i* P **P** **20 33 59.1 -0.9**
DY2G IAmb IAmb 20 34 00.2
comp=Z,8.0nm,0.8s
CCUT **Cedar City** 63.39 63 P **P** **20 34 01.6 +1.0**
MVU **Marysvale** 63.40 61 P **P** **20 34 02.3 +1.6**
MSU **Marysvale** 63.42 61 P **P** **20 34 02.3 +1.5**
MSU **Marysvale** 63.42 61 P **P** **20 34 02.3 +1.5**
TMUT **Trail Mountain** 63.44 60 P **P** **20 34 02.1 +1.1**
TMUT IAmb IAmb 20 34 23.3
comp=Z,21nm,0.9s
RDMU **Red Mountain** 63.48 58 P **P** **20 34 03.1 +1.9**
SZCU **Shurtz Canyon** 63.52 63 P **P** **20 34 02.3 +0.9**
ULM **Lac du Bonnet** 63.58 43 P **P** **20 34 02.1 +0.8**
comp=Z,7.1nm,0.8s,baz=310,slow=7.4,SNR=7.3
ULM pP **pP** **20 34 22.0 +0.7**
comp=Z,14nm,0.8s,baz=314,slow=8.2,SNR=9.5
ULM **Lac du Bonnet** 63.58 43 P **P** **20 34 02.0 +0.7**
ULM pmax pmax
comp=Z,18nm,1.0s
ULM **Lac du Bonnet** 63.58 43 P **P** **20 34 02.0 +0.7**
ULM IAmb IAmb 20 34 22.7
comp=Z,18nm,0.9s
MDND **Maddock** 63.58 47 P **P** **20 34 01.7 +0.3**
MDND **Maddock** 63.58 47 P **P** **20 34 02.8 +1.4**
baz=315
P17A **Butcher Ranch,** 63.58 60 P **P** **20 34 02.6 +0.9**
P17A IAmb IAmb 20 34 24.3
comp=Z,32nm,1.1s
K22A **Casper** 63.71 55 P **P** **20 34 02.9 +0.3**
K22A **Casper** 63.71 55 P **P** **20 34 03.0 +0.4**
baz=314
Q16A **Castle Valley** 63.72 60 P **P** **20 34 04.4 +1.7**
Q16A IAmb IAmb 20 34 25.2
comp=Z,20nm,1.0s
MTPU **Mount Pierson** 63.73 62 P **P** **20 34 04.2 +1.2**
P18A **Preston Nutter** 63.75 59 P **P** **20 34 03.2 +0.2**
P18A IAmb IAmb 20 34 25.7
comp=Z,22nm,1.1s
LCMT **Little Creek M** 63.82 63 P **P** **20 34 04.7 +1.4**
LCMT IAmb IAmb 20 34 26.0
comp=Z,25nm,1.1s
GMRC **Granite Mounta** 63.91 66 P **P** **20 34 04.4 +0.4**
baz=314
SRU **San Rafael Swe** 63.95 60 P **P** **20 34 05.5 +1.3**
SRU pmax pmax
comp=Z,39nm,0.9s
SRU **San Rafael Swe** 63.95 60 P **P** **20 34 05.5 +1.3**
SRU IAmb IAmb 20 34 26.5
comp=Z,39nm,0.9s
E28A **Huff** 63.95 48 P **P** **20 34 04.3 +0.4**
E28A IAmb IAmb 20 34 25.9
comp=Z,42nm,0.9s
RSSD **Black Hills** 64.00 52 P **P** **20 34 05.6 +1.1**
RSSD pmax pmax
comp=Z,57nm,0.8s
RSSD **Black Hills** 64.00 52 P **P** **20 34 05.6 +1.1**
RSSD **Black Hills** 64.00 52 P **P** **20 34 05.2 +0.8**
baz=314
RWWY **Rawlins** 64.01 56 P **P** **20 34 04.7 0.0**
RWWY IAmb IAmb 20 34 25.6
comp=Z,29nm,0.8s
OBN **Obninsk** 64.08 326 LR LR 21 04 11.0
comp=Z,72nm,20.0s,baz=3.0,slow=38
OBN **Obninsk** 64.08 326 *ce*P **P** **20 34 04.1 -0.4**
OBN *e* 20 34 39.3
OBN *e* 20 36 24.7
OBN *e*S S 20 42 54.2 +20
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,329nm,21.0s
PFO **Pinyon Flats O** 64.24 68 P **P** **20 34 07.3 +1.2**
comp=Z,3.2nm,0.7s,baz=229,slow=9.3,SNR=2.1
PFO LR LR 20 57 08.1
comp=Z,133nm,21.9s,baz=305,slow=31
PFO **Pinyon Flats O** 64.24 68 P **P** **20 34 07.7 +1.6**
baz=314
O20A **White River Ci** 64.52 58 P **P** **20 34 09.0 +1.1**
O20A IAmb IAmb 20 34 30.1
comp=Z,29nm,1.1s
O20A **White River Ci** 64.52 58 P **P** **20 34 08.9 +0.9**
baz=314,SNR=5.1
IRM **Iron Mountain** 64.65 67 P **P** **20 34 09.2 +0.5**
baz=314
VSU **Vasula** 64.66 333 *i* P **P** **20 34 06.1 -2.1**
VSU pmax pmax
comp=Z,39nm,1.4s
MONP2 **Monument Peak** 64.75 68 P **P** **20 34 09.5 -0.1**
baz=314
W13A **Hualapai Mount** 64.76 65 **P** **20 34 10.3 +0.7**
BC3 **Big Chuckawall** 64.81 67 P **P** **20 34 10.2 +0.3**
baz=314
AGMN **Agassiz Nation** 65.00 44 P **P** **20 34 11.0 +0.4**
AGMN IAmb IAmb 20 34 32.1
comp=Z,27nm,1.1s
AGMN **Agassiz Nation** 65.00 44 P **P** **20 34 11.1 +0.4**
baz=317,SNR=8.5
VRH **Novokhopyorsk** 65.04 321 *e*P **P** **20 34 07.0 -3.8**
VRH pmax pmax
comp=Z,5.0nm,0.5s
IKP **In-Ko-Pah, Jac** 65.11 68 P **P** **20 34 12.9 +1.2**
baz=314
LPSR **Galich'ya Gora** 65.11 323 *e*P **P** **20 34 07.7 -3.6**
LPSR pmax pmax
comp=Z,9.0nm,1.2s
N23A **Red Feather La** 65.25 56 P **P** **20 34 14.1 +1.4**
N23A IAmb IAmb 20 34 35.2
comp=Z,29nm,0.8s
N23A **Red Feather La** 65.25 56 P **P** **20 34 14.3 +1.6**
baz=315,SNR=11
PV10 **Paradox Valley** 65.30 59 P **P** **20 34 13.9 +0.9**
PV14 **Lion Creek, Pa** 65.31 59 P **P** **20 34 13.9 +0.8**
PV14 IAmb IAmb 20 34 35.2
comp=Z,30nm,1.0s
D32A **Dogwood Acres,** 65.31 46 P **P** **20 34 13.2 +0.6**
PV04 **Paradox Valley** 65.36 59 P **P** **20 34 13.8 +0.5**
PV04 IAmb IAmb 20 34 35.7
comp=Z,46nm,1.0s
PV20 **West Nyswonger** 65.36 59 P **P** **20 34 14.5 +1.1**
PV20 IAmb IAmb 20 34 35.6
comp=Z,32nm,1.0s
PV19 **Morning Glory** 65.37 59 P **P** **20 34 14.1 +0.5**
PV19 IAmb IAmb 20 34 35.7
comp=Z,40nm,1.0s
PV17 **East Wray Mesa** 65.41 59 P **P** **20 34 15.0 +1.2**
PV16 **Nyswonger Mesa** 65.41 59 P **P** **20 34 15.1 +1.4**
PV16 IAmb IAmb 20 34 36.0
comp=Z,45nm,1.0s
PV11 **David Mesa, Pa** 65.44 59 P **P** **20 34 15.5 +1.5**
PV18 **Skein Mesa, Pa** 65.46 59 P **P** **20 34 15.3 +1.2**
PV18 IAmb IAmb 20 34 36.3
comp=Z,48nm,1.0s
PV05 **Paradox Valley** 65.47 60 P **P** **20 34 15.2 +1.1**
PV12 **Saucer Basin,** 65.47 59 P **P** **20 34 15.4 +1.2**
PV12 IAmb IAmb 20 34 37.2
comp=Z,24nm,1.0s
PV07 **Paradox Valley** 65.47 59 P **P** **20 34 15.4 +1.2**
PV07 IAmb IAmb 20 34 38.4
comp=Z,35nm,1.2s
PV03 **Paradox Valley** 65.49 59 P **P** **20 34 15.2 +0.9**
PV03 IAmb IAmb 20 34 36.5
comp=Z,41nm,1.1s
PV13 **Radium Mtn., P** 65.57 59 P **P** **20 34 15.9 +1.1**
PV13 IAmb IAmb 20 34 37.1
comp=Z,47nm,1.0s
PV02 **Paradox Valley** 65.58 59 P **P** **20 34 16.0 +1.1**
PV02 IAmb IAmb 20 34 37.2
comp=Z,31nm,1.2s
PV15 **Paradox Valley** 65.63 59 P **P** **20 34 16.7 +1.4**
PV15 IAmb IAmb 20 34 37.8
comp=Z,29nm,0.9s
PV01 **Paradox Valley** 65.73 59 P **P** **20 34 16.9 +1.1**
PV01 IAmb IAmb 20 34 39.6
comp=Z,26nm,1.2s
SMCO **Snowmass** 65.89 58 P **P** **20 34 18.2 +1.1**
SMCO IAmb IAmb 20 34 39.2
comp=Z,28nm,0.8s
B35A **Bob, Littlefor** 65.92 43 P **P** **20 34 16.5 -0.1**
B35A IAmb IAmb 20 34 37.8
comp=Z,29nm,0.9s
WUAZ **Wupatki** 65.95 63 P **P** **20 34 18.7 +1.5**
WUAZ **Wupatki** 65.95 63 P **P** **20 34 18.9 +1.7**
baz=314
ISCO **Idaho Springs** 66.20 56 P **P** **20 34 20.1 +1.2**
ISCO pmax pmax
comp=Z,38nm,0.9s
ISCO **Idaho Springs** 66.20 56 P **P** **20 34 20.1 +1.2**
ISCO IAmb IAmb 20 34 41.6
comp=Z,38nm,0.9s
ISCO **Idaho Springs** 66.20 56 P **P** **20 34 20.4 +1.5**
baz=315,SNR=19
BORG **Borgarnes** 66.26 358 LR LR 21 02 56.5
comp=Z,81nm,20.1s,baz=329,slow=36
NB2 **NORSAR Subarra** 66.30 342 P **P** **20 34 18.2 -0.7**
comp=Z,15nm,1.7s,baz=29,slow=6.5
NOA **NORSAR Array B** 66.30 342 P **P** **20 34 18.2 -0.7**
comp=Z,2.1nm,0.8s,baz=27,slow=6.5,SNR=6.5
NOA pP **pP** **20 34 37.9 -0.9**
comp=Z,6.2nm,0.9s,baz=24,slow=6.4,SNR=7.5
NOA LR LR 21 07 52.8
comp=Z,306nm,20.2s,baz=20,slow=40
SUSD **Miller** 66.33 49 P **P** **20 34 17.8 -1.5**
SUSD IAmb IAmb 20 34 40.5
comp=Z,28nm,0.7s
SUSD **Miller** 66.33 49 P **P** **20 34 19.4 +0.1**
baz=317
MVCO **Mesa Verde** 66.42 60 P **P** **20 34 21.1 +0.8**
MVCO IAmb IAmb 20 34 42.5
comp=Z,21nm,0.9s
MVCO **Mesa Verde** 66.42 60 P **P** **20 34 21.5 +1.2**
baz=315,SNR=5.7
NORES **NORESS Array B** 66.51 342 P **P** **20 34 23.0 +2.9**
PSI **Prapat** 66.59 245 P **P** **20 34 21.8 +0.4**
comp=Z,2.6nm,0.3s,baz=84,slow=5.0,SNR=1.3

PSI pP **pP** **20 34 41.5 0.0**
comp=Z,2.5nm,0.4s,baz=169,slow=0.8,SNR=1.7
HFS Hagfors 66.60 340 LR LR 21 06 02.4
comp=Z,178nm,19.8s,baz=16,slow=38
F33A 5 Mile Ranch, 66.60 46 P **P** **20 34 21.6 +0.7**
F33A lAmb lAmb 20 34 42.5
comp=Z,33nm,0.9s
GEYT Alibeck 66.62 301 LR LR 21 05 47.6
comp=Z,342nm,19.9s,baz=46,slow=38
RPSI Rantau Prapat 66.67 245 P **P** **20 34 21.8 0.0**
RPSI **pP** **20 34 41.5 -0.4**
X16A Lo Mia Camp, P 66.68 64 P **P** **20 34 23.4 +1.5**
RPR Rampur 66.97 272 *e*P **P** **20 34 24.2 +0.6**
S22A 4UR Ranch, Cre 66.98 59 P **P** **20 34 25.7 +1.8**
S22A lAmb lAmb 20 34 46.7
comp=Z,27nm,1.0s
S22A 4UR Ranch, Cre 66.98 59 P **P** **20 34 25.5 +1.6**
baz=315,SNR=17
Q24A Divide 67.04 57 P **P** **20 34 25.0 +0.7**
Q24A Divide 67.04 57 P **P** **20 34 25.7 +1.4**
baz=316,SNR=7.3
W18A Petrified Fore 67.18 62 P **P** **20 34 23.7 -1.4**
W18A Petrified Fore 67.18 62 P **P** **20 34 26.6 +1.5**
baz=315
EYMN Ely 67.22 42 P **P** **20 34 25.2 +0.3**
EYMN lAmb lAmb 20 34 46.6
comp=Z,29nm,0.9s
EYMN Ely 67.22 42 P **P** **20 34 25.1 +0.3**
baz=319,SNR=5.2
OGNE Ogallala 67.29 53 P **P** **20 34 26.9 +1.3**
OGNE Ogallala 67.29 53 P **P** **20 34 26.5 +0.9**
baz=316,SNR=6.3
BKNI Bangkinang 67.34 242 P **P** **20 34 25.4 -0.6**
X18A Snowflake 67.47 63 P **P** **20 34 28.4 +1.5**
SRSP Sriramsagar 67.54 273 *e*P **P** **20 34 27.2 -0.1**
MNK Minsk 67.58 330 *i* P **P** **20 34 26.8 -0.2**
MNK *i* *PP **pP** **20 34 47.5 +0.4**
MNK *i* 20 34 53.5
MNK *i* 20 36 56.1
MNK *i* PPP PPP 20 38 33.9
MNK *i* S **S** **20 43 15.5 -1.8**
MNK *i* *SS **sS** **20 43 52.8 +1.7**
MNK *i* 20 44 17.3
MNK *i* SS **SS** **20 47 46.3 +8.1**
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=N,152nm,19.0s
MNK MLR MLR
comp=Z,237nm,22.0s
MNK MLR MLR
comp=E,18nm,17.0s
MNK Minsk 67.58 330 *i* P **P** **20 34 26.8 -0.2**
comp=E,2.0nm,0.8s
MNK *i* P **P** **20 34 26.8 -0.2**
comp=N,14nm,0.9s
MNK *i* P **P** **20 34 26.8 -0.2**
comp=Z,12nm,0.8s,baz=214
MNK *i* pP **pP** **20 34 47.5 +0.4**
MNK *i* PP **PP** **20 36 56.1 -0.1**
MNK *i* PPP PPP 20 38 34.0
MNK *i* S **S** **20 43 15.5 -1.8**
MNK *i* sS **sS** **20 43 52.9 +1.8**
MNK *i* SS **SS** **20 47 46.3 +8.1**
MNK *i* SSS SSS 20 50 54.0
MNK *i* LR LR 21 03 19.8
MNK *i* LRM MLR 21 06 21.5
comp=N,152nm,18.8s
MNK *i* LRM MLR 21 06 25.8
comp=Z,237nm,21.7s
MNK *i* LRM MLR 21 06 27.3
comp=E,18nm,17.4s
214A Organ Pipe Nat 67.59 67 P **P** **20 34 29.2 +1.7**
baz=315
NACGM Naroch 67.60 331 *i* P P 20 34 20.9 -6.2
MYLAV Mylavaram 67.61 270 *e*P **P** **20 34 28.3 +0.5**
MYLAV *e*pP **pP** **20 34 47.2 -0.7**
SDCO Great Sand Dun 67.72 58 P **P** **20 34 29.8 +1.3**
SDCO Great Sand Dun 67.72 58 P **P** **20 34 29.8 +1.3**
baz=316,SNR=7.4
K31A O'Neill 67.76 50 P **P** **20 34 28.7 +0.3**
F36A Milaca 67.88 45 P **P** **20 34 29.1 +0.1**
ECSD EROS Data Cent 68.00 48 P **P** **20 34 30.4 +0.5**
ECSD lAmb lAmb 20 34 51.2
comp=Z,39nm,0.8s
ECSD EROS Data Cent 68.00 48 P **P** **20 34 30.5 +0.6**
baz=318,SNR=16
E38A The Farm, Brul 68.21 43 P **P** **20 34 31.2 +0.1**
E38A lAmb lAmb 20 34 52.7
comp=Z,31nm,1.1s
IVI Ivigtut 68.22 12 *i* P **P** **20 34 31.8 +0.9**
IVI lAmb lAmb 20 34 34.1
comp=Z,14nm,1.0s
CUPL Choutuppal 68.34 272 *e*P **P** **20 34 32.8 +0.5**
KSCO Kaye Shedlock' 68.38 55 P **P** **20 34 33.2 +0.7**
KSCO Kaye Shedlock' 68.38 55 P **P** **20 34 33.6 +1.1**
baz=317
HYBB Hyderabad (bro 68.49 272 *e*P **P** **20 34 33.4 +0.1**
HYBB *e*pP **pP** **20 34 52.9 -0.7**
HYBB *e*PcP **PcP** **20 34 58.2 +0.1**
TUC Tucson 68.55 65 P **P** **20 34 34.7 +1.1**
baz=316
NJS Nagarjunasagar 68.62 271 *e*P **P** **20 34 33.6 -0.5**
NJS *e*pP **pP** **20 34 53.4 -1.0**
SPMN Marine on St. 68.69 45 P **P** **20 34 34.2 +0.1**
SPMN lAmb lAmb 20 34 55.5
comp=Z,25nm,0.8s
SPMN Marine on St. 68.69 45 P **P** **20 34 34.7 +0.6**
baz=320
ADKI Addanki 68.71 270 *e*P **P** **20 34 34.0 -0.5**
T25A Trinidad 68.76 58 P **P** **20 34 35.6 +0.7**
T25A lAmb lAmb 20 34 57.1
comp=Z,28nm,1.0s
T25A Trinidad 68.76 58 P **P** **20 34 36.0 +1.1**
baz=316,SNR=6.3
ANMO Albuquerque 69.19 60 LR LR 21 05 25.2
comp=Z,102nm,18.3s,baz=18,slow=36
ANMO Albuquerque 69.19 60 P **P** **20 34 38.8 +1.1**
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO Albuquerque 69.19 60 P **P** **20 34 38.8 +1.1**
ANMO Albuquerque 69.19 60 P **P** **20 34 38.8 +1.1**
baz=316
KLRI Killari 69.30 274 *e*P **P** **20 34 38.5 +0.1**
KLRI *e*pP **pP** **20 34 57.8 -0.8**
I37A Lemond, Waseca 69.33 46 P **P** **20 34 39.2 +1.0**
L34A Svendsen Farm, 69.43 49 P **P** **20 34 38.9 +0.1**
LENM Lemitar 69.45 61 P **P** **20 34 40.6 +1.3**
RCLA Racherla 69.65 270 *e*P **P** **20 34 40.9 +0.5**
RCLA *e*pP **pP** **20 35 00.3 -0.4**
RCLA *e*sP **sP** **20 35 08.6 -0.7**
BNM Barren Site 69.66 61 P **P** **20 34 41.9 +1.2**
LEM Lembang 69.69 232 P **P** **20 34 40.6 -0.2**
MSVF Nonsavu 69.69 157 LR LR 20 59 26.8
comp=Z,186nm,20.9s,baz=347,slow=31
G40A Rib Lake 69.84 43 P **P** **20 34 42.2 +1.0**
CBKS Cedar Bluff 70.06 53 P **P** **20 34 42.6 -0.1**
CBKS pmax pmax
comp=Z,35nm,0.9s
CBKS Cedar Bluff 70.06 53 P **P** **20 34 42.6 -0.1**
CBKS lAmb lAmb 20 35 03.6
comp=Z,34nm,0.9s
CBKS Cedar Bluff 70.06 53 P **P** **20 34 43.2 +0.5**
baz=318
319A Douglas 70.11 65 P **P** **20 34 43.9 +0.6**
319A lAmb lAmb 20 35 05.6
comp=Z,36nm,1.0s
KIV Kislovodsk 70.12 315⇓*e*P **P** **20 34 44.0 +0.9**
KIV *e* 20 35 06.4
KIV *e* 20 37 21.1
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,153nm,22.0s
121A Cookes Peak, D 70.16 63 P **P** **20 34 44.5 +0.9**
121A Cookes Peak, D 70.16 63 P **P** **20 34 45.7 +2.1**
baz=316
KBZ Khabaz 70.20 315 P **P** **20 34 43.5 +0.1**
comp=Z,3.5nm,0.9s,baz=320,slow=4.6,SNR=5.9
KBZ pP **pP** **20 35 03.6 +0.1**
comp=Z,5.8nm,0.7s,baz=71,slow=6.9,SNR=6.1
KBZ LR LR 21 10 43.8
comp=Z,237nm,19.3s,baz=25,slow=40
KBZ Khabaz 70.20 315 *i* P **P** **20 34 44.3 +0.9**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
AKASG Malin Array Be 70.28 327 P **P** **20 34 42.8 -1.0**
comp=Z,1.2nm,0.4s,baz=33,slow=6.1,SNR=13
AKASG pP **pP** **20 35 03.9 -0.1**
comp=Z,3.0nm,0.5s,baz=33,slow=6.3,SNR=7.3
AKASG LR LR 21 07 36.5
comp=Z,318nm,21.6s,baz=40,slow=38
SHA1 Shidzhatmaz 70.30 315 *i* P **P** **20 34 45.8 +1.4**
SCHQ Schefferville 70.34 24 P **P** **20 34 44.8 +0.7**
comp=Z,21nm,0.8s,baz=320,slow=5.7,SNR=26
SCHQ pP **pP** **20 35 04.8 +0.4**
comp=Z,30nm,0.6s,baz=341,slow=5.4,SNR=16
SCHQ Schefferville 70.34 24 P **P** **20 34 44.6 +0.5**
F42A Maple Grove Fa 70.37 42 P **P** **20 34 45.7 +1.3**
E43A Lone Tree Farm 70.38 41 P **P** **20 34 44.5 0.0**
N35A Tabor 70.62 50 P **P** **20 34 45.5 -0.6**
I40A Norwalk 70.72 44 P **P** **20 34 47.2 +0.6**
I40A lAmb lAmb 20 35 07.7
comp=Z,24nm,1.0s
SCIA State Center 71.02 47 P **P** **20 34 49.2 +0.8**
SCIA State Center 71.02 47 P **P** **20 34 49.1 +0.6**
baz=320,SNR=6.4
URV Uravakonda 71.14 271 *e*P **P** **20 34 49.7 +0.1**
WRAB Tennant Creek 71.44 201 *i* P **P** **20 34 51.1 0.0**
WRAB pmax pmax
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 71.45 201 P **P** **20 34 50.9 -0.2**
comp=Z,2.7nm,1.0s,baz=15,slow=6.8,SNR=4.7
WRA sP **sP** **20 35 22.8 +2.8**
comp=Z,7.4nm,0.9s,baz=15,slow=6.1,SNR=5.2
WRA LR LR 21 05 59.1
comp=Z,58nm,20.4s,baz=43,slow=36
WRA Warramunga Arr 71.45 201 P **P** **20 34 50.1 -1.1**
WRA Warramunga Arr 71.45 201 P **P** **20 34 50.0 -1.1**
KSU1 Kansas State U 71.46 51 P **P** **20 34 50.6 -0.6**
KSU1 lAmb lAmb 20 35 11.5
comp=Z,27nm,0.8s
KSU1 Kansas State U 71.46 51 P **P** **20 34 51.0 -0.2**
baz=319
JFWS Jewell Farm 71.64 45 P **P** **20 34 51.5 -0.8**
baz=321
DZM Mont Dzumac 71.72 169 LR LR 20 59 59.7
comp=Z,139nm,20.0s,baz=109,slow=30
DZM Mont Dzumac 71.72 169 *e*P P 20 35 06.7 +14
comp=Z,21nm,1.1s
DZM Mont Dzumac 71.72 169 *e*LR LR 20 57 09.3
comp=Z,285nm,25.1s
DZM Mont Dzumac 71.72 169 P **P** **20 34 53.5 +0.6**
L40A Anamosa 71.85 46 P **P** **20 34 53.4 -0.1**
L40A lAmb lAmb 20 35 14.7
comp=Z,29nm,1.0s
N38A Joes South For 71.86 48 P **P** **20 34 53.8 +0.2**
AMTX Amarillo 71.91 57 P **P** **20 34 55.3 +1.2**
AMTX lAmb lAmb 20 35 16.1
comp=Z,25nm,1.1s
AMTX Amarillo 71.91 57 P **P** **20 34 54.9 +0.8**
baz=318
MSTX Muleshoe 71.98 59 P **P** **20 34 55.6 +1.1**
baz=318
GNI Garni 72.05 311 LR LR 21 09 35.4
comp=Z,247nm,21.8s,baz=36,slow=38
MNTX Cornudas Mount 72.16 62 P **P** **20 34 56.9 +1.3**
MNTX Cornudas Mount 72.16 62 P **P** **20 34 56.6 +1.1**
baz=318,SNR=6.7
U32A Winter Ranch, 72.25 55 P **P** **20 34 56.2 +0.1**
U32A lAmb lAmb 20 35 17.4
comp=Z,32nm,0.8s
P38A Dawn 72.61 49 P **P** **20 34 58.1 +0.1**
L42A Oliver, Polo 72.62 45 P **P** **20 34 57.2 -0.9**
L42A lAmb lAmb 20 35 18.6
comp=Z,29nm,1.0s
SORM Soroca 72.73 326⇓P **PcP** **20 35 17.2 +1.7**
N41A Harden Midland 73.08 47 P **P** **20 35 01.0 +0.2**
KWP Kalwaria Pacla 73.41 330 *e*P **P** **20 35 04.4 +1.8**
KWP *e*pP **pP** **20 35 23.4 +0.4**
KWP Kalwaria Pacla 73.41 330 P **P** **20 35 03.1 +0.5**
KWP pmax pmax
comp=Z,213nm,1.0s
KWP Kalwaria Pacla 73.41 330 P **P** **20 35 03.1 +0.5**
P40A Paris 73.41 48 P **P** **20 35 03.0 +0.2**
OK029 Liberty Lake 73.52 54 P **P** **20 35 03.0 -0.4**
OK029 lAmb lAmb 20 35 25.0
comp=Z,41nm,1.0s
WMOK Wichita Mounta 73.61 56 P **P** **20 35 05.3 +1.3**
WMOK pmax pmax
comp=Z,29nm,0.9s
WMOK Wichita Mounta 73.61 56 P **P** **20 35 04.8 +0.7**
baz=319,SNR=7.7
QUOK Quay 73.63 53 P **P** **20 35 04.9 +0.8**
QUOK lAmb lAmb 20 35 25.4
comp=Z,36nm,1.1s
OK031 S. Brethren Rd 73.72 54 P **P** **20 35 05.2 +0.6**
OK030 Cody Creek RV 73.77 54 P **P** **20 35 03.7 -1.2**
OK030 lAmb lAmb 20 35 26.4
comp=Z,42nm,0.9s
OJC Ojcow 73.82 332 *e*P **P** **20 35 05.5 +0.5**
OJC *e*pP **pP** **20 35 25.1 -0.2**
OJC Ojcow 73.82 332 P **P** **20 35 05.4 +0.5**
OJC pmax pmax
comp=Z,25nm,1.3s
OJC Ojcow 73.82 332 P **P** **20 35 05.3 +0.4**
HDIL Hopedale 73.93 46 P **P** **20 35 06.0 +0.2**
HDIL Hopedale 73.93 46 P **P** **20 35 06.5 +0.7**
baz=322
FNO Franklin 73.95 54 P **P** **20 35 07.1 +1.1**
S39A Bolivar 74.20 50 P **P** **20 35 06.8 -0.6**
S39A lAmb lAmb 20 35 27.9
comp=Z,28nm,1.1s
R40A Maddies Statio 74.27 49 P **P** **20 35 08.2 +0.4**
R40A lAmb lAmb 20 35 28.7
comp=Z,42nm,0.9s
FLTG Flechtingen 74.27 338 *e*pP pP 20 35 28.0 +0.1
BUR08 Bucovina Ar. S 74.28 328 P **P** **20 35 08.7 +0.9**
KSP Ksiaz 74.29 334 *e*P **P** **20 35 08.3 +0.6**
KSP *e*pP **pP** **20 35 28.2 +0.1**
BURAR Bucovina Array 74.30 328⇑P **P** **20 35 09.7 +1.8**
BURAR Bucovina Array 74.30 328⇑P **P** **20 35 09.7 +1.8**
BURAR Bucovina Array 74.30 328 P **P** **20 35 08.4 +0.5**
TUL1 Leonard 74.31 53 **P** **20 35 08.9 +0.8**
TUL1 lAmb lAmb 20 35 29.5
comp=Z,42nm,1.0s
TUL1 Leonard 74.31 53 P **P** **20 35 08.6 +0.6**
baz=320,SNR=5.3
W35A Tecumseh 74.31 54 P **P** **20 35 08.5 +0.4**
W35A lAmb lAmb 20 35 29.7
comp=Z,38nm,0.8s
NIE Niedzica 74.36 331 *e*P **P** **20 35 10.1 +1.9**
PALK Pallekele 74.58 263 P **P** **20 35 10.2 +0.3**
comp=Z,7.9nm,0.9s,baz=90,slow=1.0,SNR=2.2
PALK pP **pP** **20 35 28.9 -1.5**
comp=Z,14nm,0.8s,baz=99,slow=12,SNR=4.4
CHVC Chvalec 74.59 335 *e*P **P** **20 35 10.6 +1.1**
CHVC *e*pP **pP** **20 35 30.4 +0.5**
U38A Gravette 74.63 52 P **P** **20 35 10.2 +0.2**
OKC Ostrava-Krasne 74.65 333 P **P** **20 35 10.9 +1.1**
OKC pmax pmax
comp=Z,18nm,1.4s
TESR Tescani 74.72 326⇓P **P** **20 35 11.5 +1.2**
DPC Dobruska-Polom 74.73 334 *e*P **P** **20 35 10.8 +0.5**
DPC *e* 20 35 29.7
DPC Dobruska-Polom 74.73 334 *e*P **P** **20 35 10.8 +0.5**
DPC *e*pP **pP** **20 35 29.7 -1.0**
CLL Collm 74.76 337 P **P** **20 35 09.8 -0.6**
CLL pmax pmax
comp=Z,14nm,0.8s
CLL Collm 74.76 337 *e*P **P** **20 35 10.0 -0.4**
comp=Z,16nm,1.1s
CLL *e*pP **pP** **20 35 29.0 -1.8**
CLL *e*PcP 20 35 46.0
CLL LmV 21 11 00.0
comp=Z,400nm,18.0s
CLL Collm 74.76 337 *e*P **P** **20 35 10.9 +0.5**
comp=Z,7.2nm,1.0s,baz=24,slow=5.7
CLL *e*pP **pP** **20 35 30.5 -0.3**
CLL Collm 74.76 337 P **P** **20 35 09.8 -0.6**
KRLC Kraliky 74.84 334 *e*P **P** **20 35 12.3 +1.3**
KRLC *e* 20 35 30.3
KRLC Kraliky 74.84 334 *e*P **P** **20 35 12.3 +1.3**
KRLC *e*pP **pP** **20 35 30.3 -1.1**
LANS Liptovska Anna 74.86 332 *e*P **P** **20 35 13.4 +2.3**
LANS *e* 20 35 32.6
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 74.86 332 *e*P **P** **20 35 13.4 +2.3**
LANS *e* 20 35 32.6
MORC Moravsky Berou 74.89 333⇓P **P** **20 35 12.1 +0.9**
MORC Moravsky Berou 74.89 333 P **P** **20 35 11.3 +0.1**
MORC pmax pmax
comp=Z,16nm,0.9s
MORC Moravsky Berou 74.89 333 *e*P **P** **20 35 11.5 +0.3**
MORC *e* 20 35 30.5
MORC Moravsky Berou 74.89 333 P **P** **20 35 11.3 +0.1**
TX31 Lajitas Ar. Si 74.90 63 P **P** **20 35 12.4 +0.7**
TX32 Lajitas Array 74.90 63 P **P** **20 35 12.7 +0.9**
TX32 lAmb lAmb 20 35 33.9
comp=Z,22nm,0.9s
TXAR Lajitas Array 74.90 63 P **P** **20 35 13.1 +1.4**
comp=Z,8.4nm,0.9s,baz=298,slow=4.2,SNR=56
TXAR pP **pP** **20 35 32.7 +0.4**
comp=Z,20nm,0.9s,baz=297,slow=4.4,SNR=21
TXAR Lajitas Array 74.90 63 P **P** **20 35 12.4 +0.7**
TXAR Lajitas Array 74.90 63 P **P** **20 35 12.4 +0.7**
SADO Sadowa 74.91 37 P **P** **20 35 10.8 -0.6**
comp=Z,3.6nm,0.9s,baz=7.9,slow=5.1,SNR=2.1
SADO LR LR 21 12 03.4
comp=Z,196nm,18.3s,baz=26,slow=39
BRG Berggiesshubel 74.91 336 *e*P **P** **20 35 12.1 +0.7**
BRG Amp 20 35 13.2
comp=Z,7.2nm,1.2s
BRG pP **pP** **20 35 30.7 -1.0**
BRG Amp 20 35 32.8
comp=Z,13nm,1.2s
BRG Berggiesshubel 74.91 336 *e*P **P** **20 35 12.0 +0.7**
BRG 20 35 30.7
BRG pmax pmax
comp=Z,7.0nm,1.3s
BRG Berggiesshubel 74.91 336 *e*pP pP 20 35 31.3 -0.4
CLZ Clausthal 74.93 338 *e*P **P** **20 35 12.7 +1.3**
comp=Z,8.9nm,0.9s,baz=24,slow=5.7
CCM Cathedral Cave 74.95 49 P **P** **20 35 12.0 +0.2**
CCM pmax pmax
comp=Z,23nm,1.0s
CCM Cathedral Cave 74.95 49 P **P** **20 35 12.0 +0.2**
CCM lAmb lAmb 20 35 32.9
comp=Z,23nm,0.9s
CCM Cathedral Cave 74.95 49 P **P** **20 35 12.2 +0.5**
baz=322
HHAR Hobbs 74.98 52 P **P** **20 35 12.6 +0.6**
HHAR lAmb lAmb 20 35 32.9
comp=Z,24nm,0.7s
SLM Saint Louis 74.99 48 P **P** **20 35 12.2 +0.2**
SLM pmax pmax
comp=Z,33nm,0.8s
SLM Saint Louis 74.99 48 P **P** **20 35 12.2 +0.2**
SLM lAmb lAmb 20 35 33.2
comp=Z,33nm,0.8s
L48A N Adams 75.03 42 P **P** **20 35 12.4 +0.2**
L48A lAmb lAmb 20 35 33.5
comp=Z,24nm,0.9s
LOOK Love County 75.03 55 P **P** **20 35 12.0 -0.3**
LOOK lAmb lAmb 20 35 33.9
comp=Z,29nm,0.9s
SFIN Lafayette 75.09 45 P **P** **20 35 12.5 0.0**
baz=323
ASAR Alice Springs 75.14 200 P **P** **20 35 13.4 +0.6**
comp=Z,1.6nm,0.7s,baz=13,slow=6.2,SNR=4.8
ASAR pP **pP** **20 35 32.6 -0.7**
comp=Z,3.1nm,0.6s,baz=14,slow=5.5,SNR=8.4
ASAR sP **sP** **20 35 43.2 +1.4**
comp=Z,5.1nm,0.6s,baz=13,slow=4.8,SNR=8.8
ASAR LR LR 21 06 07.3
comp=Z,82nm,21.9s,baz=27,slow=34
ASAR Alice Springs 75.14 200 P **P** **20 35 13.7 +0.8**
MGMO Mountain Grove 75.15 50 P **P** **20 35 13.1 +0.2**
N47A Urbana 75.33 43 P **P** **20 35 13.4 -0.4**
N47A lAmb lAmb 20 35 34.5
comp=Z,25nm,1.0s
Q44A Meyer Farm, Va 75.37 47 P **P** **20 35 14.2 +0.1**
TRQ Mont Tremblant 75.41 33 P **P** **20 35 14.3 0.0**
TRQ lAmb lAmb 20 35 35.3
comp=Z,26nm,0.9s
FVM French Village 75.41 48 P **P** **20 35 14.3 -0.1**
FVM pmax pmax
comp=Z,26nm,0.7s
FVM French Village 75.41 48 P **P** **20 35 14.3 -0.1**
FVM lAmb lAmb 20 35 35.6
comp=Z,26nm,0.7s
U40A Yellville 75.47 51 P **P** **20 35 15.0 +0.2**
U40A Yellville 75.47 51 P **P** **20 35 15.0 +0.2**
baz=321,SNR=5.3
PLVO Plevna 75.48 36 P **P** **20 35 14.4 -0.2**
PRU Pruhonice 75.55 335 *e*P **P** **20 35 15.3 +0.3**
PRU *e* 20 35 34.1
PRU Pruhonice 75.55 335 *e*P **P** **20 35 15.3 +0.3**
PRU *e*pP **pP** **20 35 34.1 -1.3**
VRAC Vranov 75.58 334⇓P **P** **20 35 17.0 +1.8**
VRAC Vranov 75.58 334 LR LR 21 11 58.7
comp=Z,545nm,20.6s,baz=14,slow=38
VRAC Vranov 75.58 334⇓P **P** **20 35 17.0 +1.8**
VRAC Vranov 75.58 334 *e*P **P** **20 35 16.4 +1.2**
VRAC *e* 20 35 35.9
P46A Rosedale 75.65 45 P **P** **20 35 15.7 0.0**
P46A lAmb lAmb 20 35 36.9
comp=Z,35nm,0.8s
JAVC Velka Javorina 75.67 333 *e*P **P** **20 35 17.2 +1.5**
JAVC *e* 20 35 36.1
DELO Deloro Mine 75.71 36 P **P** **20 35 15.7 -0.3**
LMQ La Malbaie 75.71 30 P **P** **20 35 16.8 +0.9**
LMQ lAmb lAmb 20 35 37.4
comp=Z,22nm,1.0s
MOX Moxa 75.73 337 *e*pP pP 20 35 35.5 -0.9
GUNZ Gunzen 75.80 337 *e*P **P** **20 35 17.8 +1.3**
baz=24,slow=5.7
WERN Wernitzgruen 75.86 337 *e*P **P** **20 35 17.6 +0.8**
comp=Z,4.2nm,0.8s,baz=24,slow=5.7
KRUC Moravsky 75.86 334 *e*P **P** **20 35 17.7 +0.9**
KRUC *e* 20 35 36.3
DRGR 75.87 329⇓P **P** **20 35 18.2 +1.3**
DRGR 75.87 329⇓P **P** **20 35 18.2 +1.3**
NKC Novy Kostel 75.89 337 *e*P **P** **20 35 18.4 +1.5**
NKC *e* 20 35 37.6
NKC Novy Kostel 75.89 337 *e*P **P** **20 35 18.4 +1.5**
NKC *e*pP **pP** **20 35 37.6 +0.2**
W39A Magazine 75.90 52 P **P** **20 35 17.3 +0.1**
W39A lAmb lAmb 20 35 38.5
comp=Z,27nm,0.9s
W39A Magazine 75.90 52 P **P** **20 35 18.1 +0.9**
baz=321
MANZ Manzenberg 76.20 337 *e*P **P** **20 35 20.0 +1.3**
comp=Z,2.0nm,1.1s,baz=24,slow=5.7
MANZ *e*pP **pP** **20 35 40.2 +0.9**
FCAR Ozark Folk Cen 76.21 51 P **P** **20 35 18.7 -0.2**
FCAR lAmb lAmb 20 35 39.7
comp=Z,29nm,0.8s
S44A Carbondale 76.21 48 P **P** **20 35 18.3 -0.6**
S44A lAmb lAmb 20 35 40.3
comp=Z,31nm,0.8s
MODS Modra-Piesok 76.22 333 *e*P **P** **20 35 20.0 +1.2**
MODS *e* 20 35 39.8
MODS Modra-Piesok 76.22 333 *e*P **P** **20 35 20.0 +1.2**
MODS *e* 20 35 39.8
VOIR 76.22 326⇓P **P** **20 35 20.0 +1.0**
VOIR 76.22 326⇓P **P** **20 35 20.0 +1.0**
JCT Junction City 76.25 59 P **P** **20 35 19.8 +0.4**
JCT pmax pmax
comp=Z,26nm,1.1s
JCT Junction City 76.25 59 P **P** **20 35 19.8 +0.4**
JCT lAmb lAmb 20 35 41.0
comp=Z,26nm,1.1s
JCT Junction City 76.25 59 P **P** **20 35 20.3 +0.9**
baz=320
PBMO Poplar Bluff 76.36 49 P **P** **20 35 19.1 -0.6**
PBMO lAmb lAmb 20 35 41.2
comp=Z,66nm,1.5s
MNTQ Montreal, Queb 76.36 33 P **P** **20 35 19.3 -0.3**
ROTZ Rotzenmuhle 76.38 336 *e*P **P** **20 35 21.1 +1.4**
comp=Z,1.1nm,1.0s,baz=24,slow=5.7
ROTZ *e*pP **pP** **20 35 40.4 +0.2**
WHTX Lake Whitney, 76.41 57 P **P** **20 35 21.1 +1.0**
baz=320
SRO2 Moca 76.42 332 *e*P **P** **20 35 20.5 +0.6**
SRO2 *e* 20 35 40.1
SRO2 Moca 76.42 332 *e*P **P** **20 35 20.5 +0.6**

SRO2 *e* 20 35 40.1
ARR Arges 76.43 327 ⇑P **P 20 35 22.1 +1.9**
MIAR Mount Ida 76.51 52 P **P 20 35 21.4 +0.7**
MIAR pmax pmax
comp=Z,39nm,0.8s
MIAR Mount Ida 76.51 52 P **P 20 35 21.4 +0.7**
MIAR IAmb IAmb 20 35 42.3
comp=Z,39nm,0.8s
D62A Allapoint, All 76.54 30 P **P 20 35 21.5 +0.9**
D62A IAmb IAmb 20 35 42.1
comp=Z,19nm,0.8s
WHAR Wooly Hollow 76.59 51 P **P 20 35 21.5 +0.3**
WHAR IAmb IAmb 20 35 42.4
comp=Z,48nm,1.1s
KHC Kasperske Hory 76.59 335 *i* P **P 20 35 20.1 -0.9**
KHC pmax pmax
comp=Z,23nm,1.0s
KHC Kasperske Hory 76.59 335 *eP* **P 20 35 21.7 +0.7**
KHC *ep*P **pP 20 35 40.4 -1.1**
KHC Kasperske Hory 76.59 335 P **P 20 35 21.3 +0.3**
CKRC Cesky Krumlov 76.67 335 *eP* **P 20 35 22.1 +0.7**
CKRC *ex* x 20 35 42.0
SIRR Siria 76.69 329 ⇓P **P 20 35 22.6 +1.1**
J55A Hilton 76.69 37 P **P 20 35 22.2 +0.7**
J55A IAmb IAmb 20 35 43.0
comp=Z,24nm,1.1s
W41B Gary Mavity, V 76.70 51 P **P 20 35 22.0 +0.2**
W41B IAmb IAmb 20 35 43.5
comp=Z,38nm,0.9s
W41B Gary Mavity, V 76.70 51 P **P 20 35 22.1 +0.3**
baz=322,SNR=7.6
LONY Lake Ozonia 76.77 34 P **P 20 35 21.2 -0.8**
baz=329
WET Wettzell 76.77 336 P **P 20 35 23.3 +1.3**
WET pmax pmax
comp=Z,27nm,1.2s
WET Wettzell 76.77 336 *eP* **P 20 35 23.3 +1.3**
comp=Z,6.7nm,0.9s,baz=24,slow=5.7
WET *ep*P **pP 20 35 42.9 +0.4**
E62A Clayton Lake 76.79 30 P **P 20 35 22.5 +0.4**
E62A IAmb IAmb 20 35 43.5
comp=Z,28nm,0.8s
GEC2 GERESS Array S 76.82 335 *eP* **P 20 35 23.1 +0.7**
comp=Z,5.7nm,1.1s,baz=24,slow=5.7
GEC2 *ep*P **pP 20 35 42.7 -0.1**
GERES GERESS Array B 76.82 335 P **P 20 35 22.8 +0.5**
comp=Z,1.0nm,0.3s,baz=43,slow=5.5,SNR=20
GERES pP **pP 20 35 40.6 -2.2**
comp=Z,2.1nm,0.4s,baz=28,slow=6.0,SNR=8.0
GERES LR LR 21 13 27.0
comp=Z,680nm,18.9s,baz=31,slow=39
P49A Miami Univ. Ec 76.86 44 P **P 20 35 21.8 -0.7**
baz=325
TNS Taunus Mts 76.89 339 *eP* **P 20 35 23.7 +1.0**
comp=Z,6.6nm,0.8s,baz=24,slow=5.7
TNS *ep*P **pP 20 35 43.1 -0.1**
AHRW Bad Neuenahr-A 76.91 340 *eP* **P 20 35 24.3 +1.7**
comp=Z,14nm,1.0s,baz=24,slow=5.7
AHRW *ep*P **pP 20 35 43.2 +0.1**
X40A Basin Creek Fa 76.94 52 P **P 20 35 23.8 +0.7**
X40A IAmb IAmb 20 35 44.5
comp=Z,26nm,1.1s
X40A Basin Creek Fa 76.94 52 P **P 20 35 23.5 +0.4**
baz=322,SNR=5.0
WSAR Wadi Sarin 76.99 290 LR LR 21 14 14.5
comp=Z,250nm,20.2s,baz=64,slow=40
MOQ Mont Orford 77.01 32 P **P 20 35 24.2 +0.8**
CONA Conrad Observa 77.04 333 *eP* **P 20 35 24.6 +1.0**
comp=Z,9.2nm,0.9s
CONA *eP* **pP 20 35 44.5 +0.5**
comp=Z,16nm,1.1s
M53A Wl Miller and 77.05 40 P **P 20 35 24.4 +0.8**
M53A IAmb IAmb 20 35 45.2
comp=Z,26nm,1.0s
M53A Wl Miller and 77.05 40 P **P 20 35 23.9 +0.3**
baz=326
SOP Sopron 77.05 333 P **P 20 35 26.2 +2.7**
EGYH Egyhazaskeszo 77.06 332 P **P 20 35 27.1 +3.6**
ACSO Alum Creek Sta 77.06 42 P **P 20 35 23.4 -0.3**
baz=325
BTNL Ternell 77.08 341 P **P 20 35 23.4 -0.2**
BTNL pP **pP 20 35 43.2 -1.0**
MEM Membach 77.08 341 P **P 20 35 24.6 +1.0**
MEM pP **pP 20 35 42.4 -1.8**
WVNY West Valley, N 77.10 38 P **P 20 35 23.8 -0.1**
WVNY IAmb IAmb 20 35 45.8
comp=Z,39nm,1.2s
MMNY Mt. Morris Dam 77.10 37 P **P 20 35 24.5 +0.6**
MMNY IAmb IAmb 20 35 45.5
comp=Z,35nm,1.2s
WCI Wyandotte Cave 77.19 45 P **P 20 35 25.0 +0.5**
WCI pmax pmax
comp=Z,58nm,0.9s
WCI Wyandotte Cave 77.19 45 P **P 20 35 25.0 +0.5**
WCI Wyandotte Cave 77.19 45 P **P 20 35 24.9 +0.5**
baz=324
BSTI Sart Tilman 77.20 341 P **P 20 35 24.7 +0.4**
BSTI pP **pP 20 35 44.7 -0.1**
BHOU Houvegnez 77.32 340 P **P 20 35 24.7 -0.3**
BHOU pP **pP 20 35 45.1 -0.4**
BCLA Clavier 77.41 341 P **P 20 35 26.5 +1.1**
BCLA PcP **PcP 20 35 34.9 -0.8**
M54A Oil Creek Stat 77.42 39 P **P 20 35 25.9 +0.2**
M54A IAmb IAmb 20 35 47.7
comp=Z,39nm,1.2s
M54A Oil Creek Stat 77.42 39 P **P 20 35 25.8 +0.2**
baz=327
NCB Newcomb 77.46 34 P **P 20 35 26.4 +0.6**
BGES Gesves 77.49 341 P **P 20 35 26.3 +0.4**
BGES pP **pP 20 35 46.1 -0.4**
SNF Seneffe 77.54 342 PcP **PcP 20 35 35.7 -0.5**
MOA Molln 77.57 334 *eP* **P 20 35 27.3 +0.8**
comp=Z,5.4nm,0.4s
MOA *eP* **pP 20 35 46.4 -0.6**
comp=Z,9.1nm,1.1s
BRTR Keskin Array B 77.57 318 P **P 20 35 28.5 +1.7**
comp=Z,2.0nm,0.8s,baz=78,slow=7.0,SNR=5.2
BRTR pP **pP 20 35 45.0 -2.3**
comp=Z,2.1nm,0.8s,baz=318,slow=1.7,SNR=3.3
BRTR LR LR 21 14 31.0
comp=Z,114nm,18.5s,baz=28,slow=39
J58A Remsen 77.58 35 P **P 20 35 27.4 +0.9**
BMRD Maredsous 77.64 341 P **P 20 35 27.2 +0.5**
BMRD pP **pP 20 35 46.4 -0.8**
HERR Herculane 77.64 328 ⇑P **P 20 35 27.1 +0.3**
RCHB Rochefort 77.68 341 P **P 20 35 27.0 +0.1**
RCHB pP **pP 20 35 47.0 -0.5**
MORH Mrgy, Hungar 77.72 331 ⇓P **P 20 35 27.3 +0.1**
MORH Mrgy, Hungar 77.72 331 P **P 20 35 28.3 +1.1**
N54A Moraine State 77.73 40 P **P 20 35 27.9 +0.4**
baz=327
ARSA Arzberg 77.75 333 *eP* **P 20 35 28.0 +0.5**
comp=Z,11nm,1.4s
ARSA *eP* **pP 20 35 47.8 -0.2**
comp=Z,14nm,1.2s
J59A Piesco 77.79 35 P **P 20 35 28.3 +0.6**
O53A New Philadelph 77.81 41 P **P 20 35 27.6 -0.2**
baz=326
M55A Ridgway 77.82 39 P **P 20 35 28.7 +0.7**
M55A IAmb IAmb 20 35 50.6
comp=Z,30nm,1.1s
DOU Dourbes 77.87 341 P **P 20 35 27.6 -0.4**
DOU pP **pP 20 35 47.1 -1.4**
BAIF Baives 77.98 342 *eP* **P 20 35 28.8 +0.2**
BAIF pmax pmax
comp=Z,467nm,3.5s
KOVH Kovagotottos 78.00 331 P **P 20 35 29.2 +0.3**
H62A Milan 78.03 32 P **P 20 35 29.9 +0.9**
H62A IAmb IAmb 20 35 50.9
comp=Z,44nm,1.0s
STU Stuttgart 78.06 338 *eP* **P 20 35 30.6 +1.4**
comp=Z,32nm,1.1s,baz=24,slow=5.7
PKME Peaks-Kenny Pk 78.06 31 P **P 20 35 28.7 -0.5**
baz=332
RJOB Jochberg 78.08 335 *eP* **P 20 35 30.4 +1.1**
comp=Z,3.6nm,0.9s,baz=24,slow=5.7
RJOB *ep*P **pP 20 35 50.4 +0.5**
FUR Furstenfeldbru 78.09 336 *ep*P pP 20 35 50.3 +0.4
NATX Nacogdoches 78.10 55 P **P 20 35 30.7 +1.1**
NATX Nacogdoches 78.10 55 P **P 20 35 31.2 +1.6**
baz=321
WVT Waverly 78.14 48 P **P 20 35 31.0 +1.2**
WVT pmax pmax
comp=Z,15nm,0.8s
WVT Waverly 78.14 48 P **P 20 35 31.0 +1.2**
WVT Waverly 78.14 48 P **P 20 35 30.7 +0.9**
baz=324
ACCN Adirondack Com 78.17 34 P **P 20 35 30.0 +0.2**
FRGS Fruska Gora 78.28 330 ⇓P **P 20 35 30.4 0.0**
FRGS Fruska Gora 78.28 330 *eP* **P 20 35 29.6 -0.8**
BINY Binghamton 78.31 36 P **P 20 35 30.8 +0.2**
baz=329
SOKA Soboth 78.41 333 *i* P **P 20 35 30.8 -0.4**
comp=Z,24nm,1.5s,SNR=6.2
SOKA *eP* **pP 20 35 51.8 0.0**
comp=Z,32nm,1.2s
PERS Pernice 78.42 333 *i* P **P 20 35 31.8 +0.6**
PERS *i* pP **pP 20 35 51.6 -0.2**
KBA Koelnbreinsper 78.53 335 *i* P **P 20 35 32.3 +0.3**
comp=Z,45nm,1.1s,SNR=14
KBA *eP* **pP 20 35 53.3 +0.8**
comp=Z,82nm,1.2s
KBA Koelnbreinsper 78.53 335 P **P 20 35 33.6 +1.6**
KBA pmax pmax
comp=Z,58nm,1.0s
J61A Chester 78.61 34 P **P 20 35 33.1 +0.9**
J61A IAmb IAmb 20 35 34.7
comp=Z,20nm,0.9s
L59A Walton 78.68 36 P **P 20 35 32.5 -0.1**
L59A IAmb IAmb 20 35 54.4
comp=Z,25nm,0.9s
BFO Black Forest 78.68 338 P **P 20 35 33.2 +0.6**
BFO pmax pmax
comp=Z,23nm,1.1s
BFO Black Forest 78.68 338 *eP* **P 20 35 33.7 +1.1**
comp=Z,6.9nm,0.9s,baz=24,slow=5.7
BFO *ep*P **pP 20 35 52.4 -0.8**
BFO Black Forest 78.68 338 P **P 20 35 33.2 +0.6**
BFO IAmb IAmb 20 35 54.3
comp=Z,23nm,1.1s
OBKA Obir 78.70 334 *eP* **P 20 35 33.3 +0.5**
comp=Z,3.2nm,0.5s
OBKA *eP* **pP 20 35 53.3 -0.1**
comp=Z,4.9nm,0.5s
WATA Walderalm 78.78 336 *eP* **P 20 35 34.0 +0.7**
comp=Z,23nm,1.1s
WATA *eP* **pP 20 35 54.0 +0.1**
comp=Z,53nm,1.3s
U49A Red Boiling Sp 78.81 46 P **P 20 35 34.3 +0.8**
U49A IAmb IAmb 20 35 55.0
comp=Z,25nm,0.8s
WTTA Wattenberg 78.83 336 *i* P **P 20 35 34.3 +0.7**
comp=Z,29nm,1.0s,SNR=7.2
WTTA *eP* **pP 20 35 54.5 +0.3**
comp=Z,46nm,1.1s
T50A Nancy 78.84 45 P **P 20 35 34.3 +0.6**
T50A IAmb IAmb 20 35 55.1
comp=Z,34nm,0.9s
UBR Ueberruh 78.84 337 *ep*P pP 20 35 54.4 +0.3
MYKA Terra Mystica 78.85 334 *eP* **P 20 35 33.9 +0.2**
comp=Z,3.8nm,0.5s
MYKA *eP* **pP 20 35 54.0 -0.2**
comp=Z,18nm,1.8s
RETA Reutte 78.85 336 *eP* **P 20 35 34.3 +0.7**
comp=Z,16nm,1.5s
RETA *eP* **pP 20 35 54.3 +0.1**
comp=Z,17nm,1.5s
CDF Champ du Feu 78.86 339 *eP* **P 20 35 33.6 0.0**
CDF pmax pmax
comp=Z,24nm,1.2s
SSPA Standing Stone 78.88 38 P **P 20 35 33.7 -0.1**
SSPA Standing Stone 78.88 38 P **P 20 35 33.8 0.0**
baz=328
CLTN Cedars of Leba 78.89 47 P **P 20 35 34.4 +0.5**
CLTN IAmb IAmb 20 35 55.5
comp=Z,34nm,0.8s
MOTA Moosalm 78.89 336 *i* P **P 20 35 33.8 -0.1**
comp=Z,36nm,1.1s,SNR=8.1
MOTA *eP* **pP 20 35 54.7 +0.1**
comp=Z,44nm,1.0s
O56A Blue Knob Stat 78.91 39 P **P 20 35 33.6 -0.3**
baz=328
ZAPS Zavoj 78.96 327 *eP* **P 20 35 35.1 +0.9**
SQTA Sankt Quirin 78.98 336 *i* P **P 20 35 34.4 0.0**
comp=Z,35nm,1.3s,SNR=5.9
SQTA *eP* **pP 20 35 55.4 +0.5**
comp=Z,42nm,1.1s
ABTA Abfaltersbach 79.06 335 *eP* **P 20 35 35.5 +0.7**
comp=Z,11nm,1.0s
ABTA *eP* **pP 20 35 55.5 +0.1**
comp=Z,32nm,1.3s
ECH Echery 79.07 339 P **P 20 35 35.3 +0.6**
ECH pmax pmax
comp=Z,27nm,1.1s
ECH Echery 79.07 339 P **P 20 35 35.3 +0.6**
ECH IAmb IAmb 20 35 56.4
comp=Z,27nm,1.1s
GRUS Gruza 79.09 328 *eP* **P 20 35 34.9 0.0**
DIVS Divibare 79.15 329 P **P 20 35 34.8 -0.6**
DIVS IAmb IAmb 20 35 56.0
comp=Z,36nm,1.4s
DIVS Divibare 79.15 329 *eP* **P 20 35 35.0 -0.3**
PLD Plovdiv 79.22 325 P **P 20 35 35.9 +0.3**
DAVA Damuels 79.27 337 *eP* **P 20 35 36.8 +0.8**
comp=Z,18nm,1.1s
DAVA *eP* **pP 20 35 56.0 -0.5**
comp=Z,33nm,1.0s
FETA Feichten 79.29 336 *eP* **P 20 35 37.1 +0.9**
comp=Z,9.9nm,0.9s
FETA *eP* **pP 20 35 56.9 +0.2**
comp=Z,25nm,1.1s
VTS Vitosha 79.31 326 ⇓P **P 20 35 37.1 +0.8**
VTS Vitosha 79.31 326 P **P 20 35 36.4 +0.1**
VTS pmax pmax
comp=Z,19nm,1.0s
VTS Vitosha 79.31 326 P **P 20 35 36.4 +0.1**
VTS Vitosha 79.31 326 *eP* **P 20 35 37.1 +0.8**
HAU Haudompre 79.45 339 *eP* **P 20 35 36.8 0.0**
HAU pmax pmax
comp=Z,16nm,1.0s
N59A State Game Lan 79.48 37 P **P 20 35 37.1 0.0**
baz=329
GBRS Gornja Briga 79.51 333 *i* P **P 20 35 37.2 +0.1**
GBRS *i* pP **pP 20 35 57.0 -0.8**
SELS Selova 79.54 328 *eP* **P 20 35 36.7 -0.7**
BBLS Lazići 79.56 329 *eP* **P 20 35 37.8 +0.3**
IVAS Ivanjica 79.56 329 *eP* **P 20 35 37.3 -0.2**
BARS Barje 79.65 327 *eP* P 20 35 28.4 -10
BOSS Bosilegrad 79.69 327 *eP* **P 20 35 38.3 +0.1**
HRV Adam Dziewonsk 79.70 33 P **P 20 35 38.0 -0.2**
baz=331
DAVOX Davos/Dischmat 79.74 337 LR LR 21 16 35.8
comp=Z,273nm,18.7s,baz=32,slow=40
SWET Sewanee 79.79 47 P **P 20 35 39.0 +0.2**
SWET IAmb IAmb 20 35 59.8
comp=Z,36nm,0.8s
TZTN Tazewell 79.83 45 P **P 20 35 39.3 +0.3**
baz=326
TRNY Table Rock, Ra 79.89 36 P **P 20 35 39.0 -0.2**
TRNY IAmb IAmb 20 36 00.9
comp=Z,24nm,1.1s
SJES Sjenica 79.90 329 *eP* **P 20 35 39.7 +0.3**
VBMS Vicksburg 79.92 52 P **P 20 35 40.1 +0.6**
baz=323
CTI Castel Tesino 79.94 335 P **P 20 35 38.9 -0.7**
CTI pmax pmax
comp=Z,34nm,1.3s
CTI Castel Tesino 79.94 335 P **P 20 35 38.9 -0.7**
CTI IAmb IAmb 20 36 00.7
comp=Z,34nm,1.3s
W50A Signal Mountai 80.10 46 P **P 20 35 40.9 +0.3**
W50A IAmb IAmb 20 36 01.9
comp=Z,22nm,0.8s
PAL Palisades 80.13 36 P **P 20 35 41.1 +0.6**
baz=330
FLN La Foliniere 80.13 344 *eP* **P 20 35 40.5 +0.1**
FLN pmax pmax
comp=Z,87nm,1.4s
TUE Stuetta 80.16 337 P **P 20 35 41.4 +0.5**
LDF La Druitiere 80.23 344 *eP* **P 20 35 40.9 0.0**
LDF pmax pmax
comp=Z,56nm,1.2s
CPCT Cooper Cave 80.27 46 P **P 20 35 42.0 +0.6**
146A Union 80.33 51 P **P 20 35 43.0 +1.2**
TKL Tuckaleechee C 80.45 45 P **P 20 35 43.2 +0.8**
comp=Z,5.6nm,0.7s,baz=300,slow=10,SNR=3.0
TKL pP **pP 20 36 02.4 -0.7**
comp=Z,14nm,1.0s,baz=268,slow=1.2,SNR=4.8
TKL LR LR 21 14 04.4
comp=Z,117nm,18.2s,baz=18,slow=38
P60A Greenville 80.48 37 P **P 20 35 43.4 +1.0**
baz=329
FPAL Fort Paine 80.49 47 P **P 20 35 43.1 +0.4**
FPAL IAmb IAmb 20 36 03.9
comp=Z,26nm,0.9s
GRR Gorron 80.56 344 *eP* **P 20 35 43.0 +0.3**
GRR pmax pmax
comp=Z,95nm,1.2s
TEOL Teolo 80.57 335 P **P 20 35 40.8 -2.0**
TEOL IAmb IAmb 20 36 03.9
comp=Z,43nm,1.0s
TAOE Nuku Hiva Isla 80.57 115 *e*LR LR 21 01 15.9
comp=Z,568nm,23.9s
SALO Salr 80.64 336 P **P 20 35 42.3 -1.0**
SALO IAmb IAmb 20 36 04.8
comp=Z,44nm,0.9s
BLA Blacksburg 80.68 42 P **P 20 35 43.8 +0.2**
baz=327
LOR Lormes 80.70 341 *eP* **P 20 35 43.6 +0.1**
LOR pmax pmax
comp=Z,55nm,1.3s
PDG Podgorica 80.88 329 ⇑P **P 20 35 44.3 -0.2**
SSF Saint Saulge 80.98 341 *eP* **P 20 35 45.1 +0.1**
SSF pmax pmax
comp=Z,24nm,1.2s
SGMF Saint Gilles 80.98 345 *eP* **P 20 35 45.3 +0.3**
SGMF pmax pmax
comp=Z,57nm,1.0s
ROSF Rostrenen 81.02 346 *eP* **P 20 35 45.6 +0.5**
ROSF pmax pmax
comp=Z,50nm,0.9s
PMOR Pomariorio Ree 81.19 125 *e*T T 22 05 31.6
comp=Z,6.2nm,0.2s
AVF Avril sur Loir 81.27 341 *eP* **P 20 35 46.8 +0.3**
AVF pmax pmax
comp=Z,28nm,1.1s
SMF Signal de Mont 81.30 341 *eP* **P 20 35 47.0 +0.3**
SMF pmax pmax
comp=Z,33nm,1.1s
BG3 Lake Jocassee 81.39 45 P **P 20 35 47.8 +0.4**
BG3 IAmb IAmb 20 36 09.6
comp=Z,34nm,1.1s
Q61A Milford 81.40 38 P **P 20 35 47.5 +0.2**
baz=329
QUIF Quistinic 81.41 346 *eP* **P 20 35 49.7 +2.5**
QUIF pmax pmax
comp=Z,168nm,1.6s
BGF Bois d'Agland 81.60 341 *eP* **P 20 35 49.7 +1.4**
BGF pmax pmax
comp=Z,12nm,1.0s
Z51A Franklin 81.70 48 P **P 20 35 49.4 +0.3**
Z51A IAmb IAmb 20 36 10.1
comp=Z,33nm,0.8s
LPL La Plagne 81.70 338 *eP* **P 20 35 50.0 +0.9**
LPL pmax pmax
comp=Z,24nm,0.9s
LPG La Plagne 81.72 338 *eP* **P 20 35 50.2 +0.9**
LPG pmax pmax
comp=Z,31nm,1.0s
STKA Stephens Creek 81.75 192 LR LR 21 10 38.0
comp=Z,99nm,21.9s,baz=25,slow=34
TCF Toulx Ste Croi 81.99 342 *eP* **P 20 35 50.8 +0.4**
TCF pmax pmax
comp=Z,23nm,1.1s
KMSC Kings Mountain 81.99 44 P **P 20 35 50.7 +0.1**
baz=327
MFF Saint Martin d 82.15 343 *eP* **P 20 35 51.7 +0.6**
MFF pmax pmax
comp=Z,240nm,2.2s
MURB Monte Urbino 82.25 334 P **P 20 35 52.6 +0.7**
MURB IAmb IAmb 20 36 16.2
comp=Z,35nm,0.9s
MMAI Mount Meron Ar 82.26 313 LR LR 21 16 35.5
comp=Z,72nm,19.2s,baz=200,slow=39
OSSC Osservatorio P 82.38 335 P **P 20 35 52.8 +0.4**
OSSC IAmb IAmb 20 36 14.5
comp=Z,52nm,1.2s
MBDF Montbardon 82.44 338 *eP* **P 20 35 56.0 +3.1**
MBDF pmax pmax
comp=Z,31nm,1.2s
GOGA Godfrey 82.44 46 P **P 20 35 53.8 +0.9**
baz=326
SSB Saint Sauveur 82.44 340 P **P 20 35 53.9 +1.1**
SSB pmax pmax
comp=Z,30nm,1.0s
SSB Saint Sauveur 82.44 340 P **P 20 35 53.9 +1.1**
SSB IAmb IAmb 20 36 14.6
comp=Z,30nm,1.0s
PPT Papeete 82.44 128 LR LR 21 08 49.6
comp=Z,84nm,20.1s,baz=347,slow=33
PPT2 Papeete2 82.46 128 *e*LR LR 21 02 06.8
comp=Z,136nm,24.2s
PPT2 Papeete2 82.46 128 *e*T T 22 06 53.2
comp=Z,5.7nm,0.3s
ORIF Oris-en-Rattie 82.47 339 *eP* **P 20 35 53.9 +0.9**
ORIF pmax pmax
comp=Z,18nm,1.1s
NRCA Norcia 82.47 333 P **P 20 35 53.3 +0.3**
VIVF Saint-Julien-l 82.81 340 *eP* **P 20 35 55.4 +0.7**
VIVF pmax pmax
comp=Z,20nm,1.0s
RJF Les Rejaudoux 83.07 342 *eP* **P 20 35 56.5 +0.5**
RJF pmax pmax
comp=Z,87nm,1.8s
CAF Calviac 83.32 341 *eP* **P 20 35 58.2 +0.9**
CAF pmax pmax
comp=Z,18nm,1.0s
LFF La Frestale 83.58 342 *eP* **P 20 35 59.3 +0.8**
LFF pmax pmax
comp=Z,67nm,1.3s
LMR La Mourre 83.81 338 *eP* **P 20 36 00.1 +0.3**
LMR pmax pmax
comp=Z,76nm,1.6s
RAYN Ar Rayn 84.54 300 P **P 20 36 04.1 +0.2**
RAYN pmax pmax
comp=Z,20nm,0.9s
RAYN Ar Rayn 84.54 300 P **P 20 36 04.0 +0.2**
RAYN IAmb IAmb 20 36 25.0
comp=Z,20nm,0.8s
MTLF Montolieu 84.80 341 *eP* **P 20 36 06.6 +1.8**
MTLF pmax pmax
comp=Z,55nm,1.8s
EPF Esparros 85.49 342 *eP* **P 20 36 08.4 +0.1**
EPF pmax pmax
comp=Z,29nm,1.6s
ETSF Etsaut 85.80 343 *eP* **P 20 36 11.7 +1.8**
ETSF pmax pmax
comp=Z,76nm,2.1s
VAE Valguarnera 86.95 330 LR LR 21 19 00.2
comp=Z,160nm,21.2s,baz=10,slow=38
TBI Tubuai 87.35 131 *e*LR LR 21 04 23.1
comp=Z,336nm,24.5s,baz=334
ESDC Sonseca Array 89.55 344 P **P 20 36 27.9 0.0**
comp=Z,4.3nm,1.1s,baz=12,slow=4.1,SNR=10
ESDC pP **pP 20 36 47.0 -1.9**
comp=Z,3.7nm,0.8s,baz=9.4,slow=4.2,SNR=8.6
ESDC LR LR 21 22 09.7
comp=Z,236nm,20.3s,baz=2.5,slow=39
ESDC Sonseca Array 89.55 344 P **P 20 36 28.0 +0.1**
KEST Kesra 90.14 333 P **P 20 36 32.1 +1.4**
comp=Z,7.9nm,0.9s,baz=0.0,slow=1.0,SNR=2.5
KEST pP **pP 20 36 51.5 -0.2**
comp=Z,9.3nm,0.8s,baz=268,slow=3.3,SNR=3.3
KEST LR LR 21 22 25.7
comp=Z,375nm,18.5s,baz=320,slow=39
ATD Arta Tunnel 95.53 295 LR LR 21 25 54.2
comp=Z,196nm,19.5s,baz=44,slow=39
MDT Midelt 96.34 343 LR LR 21 27 17.8
comp=Z,105nm,18.2s,baz=14,slow=40
LPAZ La Paz 131.77 63 PKP **PKPdf 20 42 44.5 +0.4**
comp=Z,4.0nm,0.6s,baz=314,slow=1.1,SNR=13
LPAZ La Paz 131.77 63 PKIKP **PKPdf 20 42 44.3 +0.2**
LPAZ La Paz 131.77 63 **PKPdf 20 42 44.3 +0.2**
H03N2 Juan Fernandez 137.18 89 T T 23 15 30.4
baz=312,slow=77,SNR=424
H03N1 Juan Fernandez 137.19 89 T T 23 15 33.4
baz=312,slow=77,SNR=117
H03N3 Juan Fernandez 137.19 89 T T 23 15 32.1
baz=312,slow=77,SNR=412
SYO Syowa Base 143.91 213⇑*e*Pdiff **Pdif 20 40 31.0 +1.4**
LL04 Puerto Octay 145.70 94 **PKPdf 20 43 07.5 -0.4**
CPUP Villa Florida 145.84 60 PKPbc **PKPab 20 43 10.1 +0.2**
comp=Z,3.0nm,1.0s,baz=268,slow=18,SNR=1.9
PLCA Paso Flores 146.82 93 PKPbc **PKPbc 20 43 12.3 +0.3**
comp=Z,4.1nm,1.0s,baz=272,slow=3.9,SNR=5.0
PLCA Paso Flores 146.82 93 **PKPbc 20 43 12.6 +0.6**
SNAA Sanae 155.44 196 PKPab **PKPab 20 43 48.6 +0.3**

VNA2	Neumayer--Watz	156.87	194	PKPab	PKPab	20 43 54.7	+0.3
VNA3	Neumayer Olymp	156.93	192	PKPab	PKPab	20 43 53.5	-1.1
VNA1	Neumayer--Stat	157.25	194	PKPab	PKPab	20 43 56.2	+0.3

*TUL **07** 20:27:25.4±1.5, 36°.48N±0°.01×98°.72W±0°.02, h1km±7km, ML2.7, mb_Lg2.4/11(NEIC), Error ellipse: s-maj=2.3km s-min=1.4km az=73.0*

NEIC 07 20:27:25.3±1.2, 36°.54N±0°.03×98°.75W±0°.02, h5km±2km, Error ellipse: s-maj=5.3km s-min=3.0km az=159.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.17	11	Pg	Pg	20 27 30.5	+1.8
U32A	Winter Ranch,	0.26	232	Pg	Pg	20 27 30.2	-0.2
U32A				Sg	Sg	20 27 33.9	+0.1
CROK	Carrier	0.62	93	Pg	Pg	20 27 37.1	0.0
CROK				Sg	Sg	20 27 45.7	+0.5
KAN14	Manchester OK	0.76	57		Pg	20 27 40.2	+0.4
GC02	Grant County #	0.78	66	Pg	Pg	20 27 40.5	+0.3
KAN10	Anthony SW Sta	0.78	42		Pg	20 27 40.5	+0.1
KAN01	Argonia South	1.00	52	Pg	Pg	20 27 44.6	+0.1
KAN06	Argonia West S	1.00	45		Pg	20 27 44.1	-0.4
KAN13	South Haven SW	1.12	65		Pg	20 27 46.5	-0.3
BLOK	Blackwell	1.25	79	Pn	Pg	20 27 48.9	-0.4
BCOK	Bluff Creek, N	1.28	133	Pn	Pg	20 27 48.5	-1.3
OK029	Liberty Lake	1.28	125		Pn	20 27 48.5	-1.4
OK025	Westminster Rd	1.49	130	Pn	Pn	20 27 51.8	-1.0
OK031	S. Brethren Rd	1.65	110	Pn	Pn	20 27 53.7	-1.2
FNO	Franklin	1.69	139	Pn	Pn	20 27 55.2	-0.2
QUOK	Quay	1.69	102		Pn	20 27 55.1	-0.3
OK030	Cody Creek RV	1.70	110	Pn	Pn	20 27 56.2	+0.6
OK034	N. Norfolk Rd.	1.73	107	Pn	Pn	20 27 56.0	0.0
WMOK	Wichita Mountain	1.80	181	Pn	Pn	20 27 56.5	-0.5
WMOK				IAmb_Lg		20 28 19.9	
	comp=Z,13nm,0.9s						
T35A	Sooner Cattle	1.84	78		Pb	20 27 58.4	-0.9
T35A				IAmb_Lg		20 28 26.3	
	comp=Z,8.4nm,0.8s						
R32A	Long Quarter,	1.88	1		Pn	20 27 57.1	-1.0
R32A				Pg	Pb	20 28 00.3	+0.3
X34A	Smith Ranch, M	2.08	159		Pn	20 28 01.5	+0.7
X34A				IAmb_Lg		20 28 30.8	
	comp=Z,30nm,0.8s						
CBKS	Cedar Bluff	2.40	341	Pn	Pn	20 28 04.5	-0.8
CBKS				IAmb_Lg		20 28 50.2	
	comp=Z,25nm,1.1s						
LOOK	Love County	2.85	153	Pn	Pn	20 28 11.6	+0.2
AMTX	Amarillo	2.90	236	IAmb_Lg		20 29 04.2	
	comp=Z,18nm,0.8s						
HHAR	Hobbs	3.89	92	IAmb_Lg		20 29 37.1	
	comp=Z,9.9nm,1.1s						
KSCO	Kaye Shedlock'	3.94	310	IAmb_Lg		20 29 29.2	
	comp=Z,5.5nm,0.7s						

DDA 07 20:33:43.7±0.0, 40°.09N×31°.34E, h7km±5km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIBS	BOLU	0.51	50	P	Pg	20 33 54.0	+0.3
KIBS				S	Sg	20 33 59.1	-1.3
BCAM	Yenicaga	0.91	37	P	Pg	20 34 01.5	+0.2
BCAM				S	Sg	20 34 13.5	+0.3
BCAM				*i* AML	AML	20 34 27.0	
	comp=N,18nm,2.1s						
CMDR	Camlidere-ANKA	0.96	65	P	Pg	20 34 00.6	-1.5
CMDR				S	Sb	20 34 16.0	+0.3
CMDR				*i* AML	AML	20 34 18.0	
	comp=N,20nm,0.7s						
CMDR				*i* AML	AML	20 34 27.0	
	comp=E,25nm,1.7s						

*IDC **07** 20:35:04.0±3.5, 6°.08S×152°.69E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.1/43, mbtmp3.5/4, ML1.5/1, Error ellipse: s-maj=81.6km s-min=27.5km az=104.0*

ISC 07 20:35:05.9±3.0, 5°.99S±0°.10×152°.5E±0°.4, h10km, n6, σ0°66/7, mb3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.75	343	Pn	Pb	20 35 37.8	-0.3
KRVT				Sn	Sn	20 35 58.9	+0.3
PMG	Port Moresby	6.32	237	Pn	Pn	20 36 38.6	-0.6
	0.7nm,0.3s,baz=30,slow=16,SNR=1.9						
PMG				Sn	Sn	20 37 40.9	-11
	0.5nm,0.3s,baz=100,slow=20,SNR=1.1						
WRA	Warramunga Arr	22.48	230	P	P	20 40 05.7	+0.1
	0.5nm,0.6s,baz=53,slow=9.7,SNR=3.4						
ASAR	Alice Springs	25.11	224	P	P	20 40 31.3	+0.2
	0.2nm,0.4s,baz=62,slow=8.5,SNR=4.4						
FITZ	Fitzroy Crossi	28.87	243	P	P	20 41 06.0	+1.0
	0.5nm,0.3s,baz=45,slow=11,SNR=1.4						
TORD	Torodi Ar. Bea	150.40	286	PKPbc	PKPbc	20 54 58.3	-0.5
	0.6nm,0.8s,baz=100,slow=2.4,SNR=3.1						

*IDC **07** 20:38:15.5±0.9, 52°.68N×169°.66W, h0km, mb3.7/15, mb1 3.9/18, mb1mx3.7/56, mbtmp3.7/18, ML3.4/3, Error ellipse: s-maj=27.5km s-min=15.1km az=164.0*

*AEIC **07** 20:38:19.9±2.1, 52°.41N±0°.05×169°.52W±0°.08, h41km±5km, Error ellipse: s-maj=8.7km s-min=6.6km az=143.0*

*NEIC **07** 20:38:20.8±1.9, 52°.43N±0°.06×169°.56W±0°.09, h48km±6km, mb4.3/19, ML3.7/21(AEIC), Error ellipse: s-maj=10.1km s-min=6.7km az=149.0*

ISC 07 20:38:21.8±1.2, 52°.6N±0°.1×169°.60W±0°.06, h51km±7km, n70, σ1°21/72, mb3.8/19, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	Concord Point,	0.23	340		Pn	20 38 29.7	-0.7
CLCO					Sn	20 38 38.2	+1.6
CLES	Cleveland East	0.31	324		Pn	20 38 30.8	-0.3
CLES					Sn	20 38 39.5	+1.7
NIKH	Nikolski High	0.60	48		Pn	20 38 33.1	-1.3
NIKH					Sn	20 38 44.0	+0.6
OKSP	Okmok Steeple	1.04	49		Pn	20 38 39.3	-0.8
OKFG	Magazine Ridge	1.32	50		Pn	20 38 43.7	-0.1
OKFG					Sn	20 39 01.9	+1.6
MAPS	Pakushin South	2.02	51		Pn	20 38 53.3	-0.1
MREP	Makushin Rep't	2.12	53		Pn	20 38 54.7	0.0
MSW	Makushin Switc	2.16	50		Pn	20 38 55.9	+0.6
MNAT	Makushin Natee	2.19	52		Pn	20 38 55.8	+0.1
MTBL	Makushin Table	2.24	50		Pn	20 38 57.1	+0.7
UNV	Unalaska Valle	2.25	54		Pn	20 38 56.2	-0.3
UNV					Sn	20 39 25.0	+1.8
AKRB	Akutan Reef Bi	2.63	52		Pn	20 39 02.5	+0.8
AKMO	Akutan Morgan	2.63	53		Pn	20 39 02.2	+0.4
KOFP	Korovin Flat P	2.77	266		Pn	20 39 03.2	-0.5
AKUT	Akutan	2.78	54		Pn	20 39 03.9	+0.3
ATKA	Atka Island	2.84	264		Pn	20 39 03.9	-0.7
ATKA					Sn	20 39 37.9	+0.3
KDAK	Kodiak Island	11.03	55	Pn	Pn	20 40 55.9	-0.7
	0.3nm,0.3s,baz=247,slow=7.7,SNR=6.1						
KDAK				Sn	Sn	20 42 54.2	-4.1
	0.1nm,0.3s,baz=318,slow=22,SNR=1.8						
J20K	Nowinta River	14.12	29	P	P	20 41 44.2	-0.8
CAST	Castle Rocks	14.23	33	P	P	20 41 47.7	+1.5
PWL	Port Wells	14.26	46	Pn	Pn	20 41 40.4	-0.2
GHO	Glory Hole Cre	14.45	42	Pn	Pn	20 41 43.6	+0.5
SML	Sawmill	14.71	43	Pn	Pn	20 41 48.0	+1.4
KTH	Kantishna Hill	14.72	34	P	P	20 41 51.5	-0.2
SCM	Sheep Creek Mo	15.14	44	Pn	Pn	20 41 51.7	-0.4
SCM				IAmb	IAmb	20 42 01.6	
	comp=Z,34nm,1.5s						
I21K	Tanana	15.49	29	Pn	Pn	20 41 58.5	+1.9
I21K				IAmb	IAmb	20 42 11.3	
	comp=Z,20nm,1.4s						
KLU	Klutina	15.59	46	Pn	Pn	20 41 57.3	-0.6
KLU				IAmb	IAmb	20 42 11.1	
	comp=Z,42nm,1.9s						
M24K	Tolsona, Glenn	15.75	44	Pn	Pn	20 41 59.8	-0.2
M24K				IAmb	IAmb	20 42 09.1	
	comp=Z,75nm,1.8s						
N25K	Chitina, Valde	16.22	46	Pn	Pn	20 42 04.7	-1.3
N25K				IAmb	IAmb	20 42 25.6	
	comp=Z,29nm,1.6s						
GLB	Gilahina Butte	16.51	47	Pn	Pn	20 42 09.2	-0.4
GLB				IAmb	IAmb	20 42 56.3	
	comp=Z,27nm,1.8s						
ILAR	Eielson Array	16.86	35	Pn	Pn	20 42 10.8	-3.1
	comp=Z,0.1nm,0.3s,baz=222,slow=11,SNR=6.1						
M26K	Nabesna, AK	17.22	45		P	20 42 19.4	0.0
SCRK	Sand Creek	17.50	39		Pn	20 42 21.9	-0.1
PETK	Petropavlovsk-	19.67	285	P	P	20 42 46.7	+0.4
	comp=Z,0.7nm,0.3s,baz=84,slow=13,SNR=5.7						
PETK	Petropavlovsk-	19.67	285	P	P	20 42 46.1	-0.2
INK	Inuvik	23.25	34	P	P	20 43 20.1	-4.1
	comp=Z,0.5nm,0.5s,baz=214,slow=12,SNR=4.4						
YKA	Yellowknife Ar	30.21	49	P	P	20 44 27.8	+0.9
	comp=Z,0.2nm,0.6s,baz=273,slow=7.8,SNR=3.1						
TIXI	Tiksi	32.49	329	P	P	20 44 46.1	-0.8
	comp=Z,0.3nm,0.5s,baz=314,slow=9.3,SNR=3.3						
TIXI	Tiksi	32.49	329	P	P	20 44 46.7	-0.1
TIXI				IAmb	IAmb	20 44 51.6	
	comp=Z,8.6nm,1.8s						
H11N2	WAKE ISLAND Hy	37.53	218	T	T	21 25 13.6	
	baz=24,slow=74						
H11N3	WAKE ISLAND Hy	37.53	218	T	T	21 25 11.8	
	baz=24,slow=74						
H11N1	WAKE ISLAND Hy	37.55	218	T	T	21 25 15.1	
	baz=24						
H11S1	WAKE ISLAND Hy	38.72	218	T	T	21 26 41.7	
	baz=25,slow=76						
H11S2	WAKE ISLAND Hy	38.73	218	T	T	21 26 39.6	
	baz=25,slow=76						
H11S3	WAKE ISLAND Hy	38.73	218	T	T	21 26 40.9	
	baz=25,slow=76						
MJAR	Matsushiro Arr	39.56	267	P	P	20 45 47.8	+0.1
	comp=Z,1.4nm,0.6s,baz=44,slow=9.5,SNR=1.9						
PDAR	Pinedale Array	40.50	79	P	P	20 45 56.4	+0.7
	comp=Z,0.5nm,0.7s,baz=307,slow=3.2,SNR=5.5						
PDAR	Pinedale Array	40.50	79	P	P	20 45 55.7	+0.1
INCN	Inchon	46.01	277	P	P	20 46 37.6	-2.3
SONM	Songino Array	51.08	301	P	P	20 47 19.5	+0.7
	comp=Z,0.4nm,0.5s,baz=61,slow=5.3,SNR=4.6						
SONM				PcP	PcP	20 48 35.6	+1.6
	comp=Z,0.7nm,0.6s,baz=39,slow=2.7,SNR=6.1						
SONM	Songino Array	51.08	301	P	P	20 47 19.5	+0.7
SONM				IAmb	IAmb	20 47 19.8	
	comp=Z,6.3nm,1.8s						
TXAR	Lajitas Array	52.88	89	P	P	20 47 32.3	-0.1
	comp=Z,0.2nm,0.4s,baz=300,slow=4.1,SNR=3.0						
ZALV	Zalesovo Beam	57.18	317	P	P	20 48 02.6	-0.3
	comp=Z,0.3nm,0.4s,baz=22,slow=8.0,SNR=1.9						
ARCES	ARCESS Array B	57.70	354	P	P	20 48 07.0	+0.6
	comp=Z,2.8nm,0.9s,baz=21,slow=7.7,SNR=6.1						
ARCES				PcP	PcP	20 48 58.8	0.0
	comp=Z,2.5nm,0.9s,baz=42,slow=2.8,SNR=4.9						
MKAR	Makanchi Array	63.56	313	P	P	20 48 45.1	-1.6
	comp=Z,0.5nm,0.7s,baz=48,slow=6.2,SNR=5.5						
MKAR	Makanchi Array	63.56	313	P	P	20 48 45.5	-1.2
FINES	FINESS Array B	65.65	352	P	P	20 49 00.0	+0.1
	comp=Z,1.1nm,0.5s,baz=15,slow=8.3,SNR=8.7						
NOA	NORSAR Array B	66.73	360	P	P	20 49 07.4	+0.4
	comp=Z,0.4nm,0.7s,baz=357,slow=5.8,SNR=1.1						
ABKAR	Akbulak array	70.19	328	P	P	20 49 29.1	+0.5
ABKAR				IAmb	IAmb	20 49 54.6	
	comp=Z,4.1nm,1.4s						
AAK	Ala-Archa	70.25	315	P	P	20 49 30.1	+0.7
KKAR	Karatay Array	71.54	318	P	P	20 49 37.5	+0.4
LSA	Lhasa	72.23	296	P	P	20 49 42.2	+0.2
CHGR	Chuyangaron	75.82	316	P	P	20 50 02.6	+0.3
CHGR				IAmb	IAmb	20 50 03.9	
	comp=Z,6.3nm,0.7s						
AKASG	Malin Array Be	75.88	348	P	P	20 50 01.7	-0.5
	comp=Z,0.3nm,0.4s,baz=16,slow=5.9,SNR=3.4						
AKASG	Malin Array Be	75.88	348	IAmb	IAmb	20 51 51.6	
	comp=Z,3.6nm,1.5s						
CMAR	Chiang Mai Arr	76.44	283	P	P	20 50 06.7	+0.8
	comp=Z,2.2nm,0.8s,baz=26,slow=6.9,SNR=20						
GERES	GERESS Array B	78.92	358	P	P	20 50 19.9	+0.5
	comp=Z,0.5nm,0.8s,baz=335,slow=4.3,SNR=2.4						
WRAB	Tennant Creek	87.01	231	P	P	20 50 59.6	-1.8
PSI	Prapat	88.70	273	P	P	20 51 09.9	+0.1
	comp=Z,4.3nm,0.4s,baz=30,slow=5.2,SNR=5.6						
RPSI	Rantau Prapat	88.78	273	P	P	20 51 09.9	-0.1
ASAR	Alice Springs	90.42	230	P	P	20 51 20.0	+2.6
	comp=Z,0.5nm,0.6s,baz=40,slow=4.1,SNR=6.4						

*IDC **07** 20:39:01.5±2.8, 5°.72S×151°.49E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.1/37, mbtmp3.5/4, ML1.6/1, Error ellipse: s-maj=120.5km s-min=17.1km az=122.0*

ISC 07 20:39:06.7±2.3, 5°.7S±0°.3×151°.6E±0°.5, h50km, n6, σ1°68/8, mb3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.49	18	Pn	Pn	20 39 29.1	-2.0
KRVT				Sn	Sn	20 39 50.4	+1.0
PMG	Port Moresby	5.69	230	Pn	Pn	20 40 26.7	-1.9
	1.2nm,0.3s,baz=308,slow=15,SNR=2.0						
PMG				Sn	Sn	20 41 33.1	+0.4
	0.3nm,0.3s,baz=310,slow=23,SNR=2.2						
WRA	Warramunga Arr	21.91	228	P	P	20 43 56.1	+0.3
	0.4nm,0.6s,baz=54,slow=10.0,SNR=4.8						
ASAR	Alice Springs	24.63	222	P	P	20 44 22.6	-0.1
	0.6nm,0.7s,baz=50,slow=8.9,SNR=4.1						
FITZ	Fitzroy Crossi	28.13	242	P	P	20 44 55.1	+0.9
	1.4nm,0.8s,baz=96,slow=9.2,SNR=1.5						
TORD	Torodi Ar. Bea	149.40	286	PKPbc	PKiKP	20 58 54.5	+2.1
	0.3nm,0.7s,baz=64,slow=3.0,SNR=2.7						

*FUNV **07** 21:21:23.9, 8°.47N×71°.46W, h2km, MW3.6*

ISC 07 21:21:24.0±3.2, 8°.50N±0°.03×71°.37W±0°.03, h11km±23km, n27, σ1°37/50, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.12	236	*e*P	Pb	21 21 43.2	-2.4
CAPV				*e*S	Sb	21 21 57.9	-2.4
TORV	Torococo	1.54	47	*e*P	Pn	21 21 51.8	+0.2
TORV				*e*S	Sn	21 22 12.5	+0.8
PAMC	Pamplona, Colo	1.75	229	*e*P	Pn	21 21 55.6	+0.9
PAMC				*e*S	Sn	21 22 17.6	+0.4
MCQV	Machiques	1.92	323	*e*P	Pn	21 21 56.8	+0.1
MCQV				*e*S	Sn	21 22 21.5	+0.7
OCAC	Ocana	1.94	262	*e*P	Pn	21 21 56.9	-0.2
OCAC				*e*S	Sn	21 22 20.4	-1.2
TAMC	Tame, Arauca	2.09	191	*e*P	Pb	21 22 03.4	+1.4
TAMC				*e*S	Sb	21 22 29.8	+1.7
ELOV	Elorza	2.39	128	*e*P	Pn	21 22 03.9	+0.8
ELOV				*e*S	Sn	21 22 33.6	+1.1
DABV	Dabajuro	2.51	17	*e*P	Pn	21 22 05.8	+1.0
DABV				*e*S	Sn	21 22 37.0	+1.5
BARC	Barichara	2.61	224	*e*P	Pb	21 22 11.1	+0.1
BARC				*e*S	Sb	21 22 42.1	-1.1
SIQV	Siquisique	2.63	36	*e*P	Pn	21 22 08.5	+1.9
SIQV				*e*S	Sn	21 22 40.1	+1.5
SMLC	San Martn de	2.68	277	*e*P	Pn	21 22 09.8	+2.6
SMLC				*e*S	Sn	21 22 40.7	+1.0
BRRC	Barranca, Sant	2.70	239	*e*P	Pb	21 22 12.2	-0.1
BRRC				*e*S	Sn	21 22 41.4	+1.3
CRJC	Cerrejon, Guaj	2.91	329	*e*P	Pn	21 22 10.1	-0.3
CRJC				*e*S	Sn	21 22 44.1	-1.3
RUSC	La Rusia	3.10	213	*e*P	Pn	21 22 14.5	+1.3
BAUV	El Baul	3.32	82	*e*P	Pn	21 22 16.9	+1.0
BAUV				*e*S	Sn	21 22 56.1	+0.7
JACV	Jacura	3.59	44	*e*P	Pn	21 22 20.4	+0.8
JACV				*e*S	Sn	21 23 02.1	0.0
ZARC	Zaragoza, Cauc	3.59	254	*e*P	Pn	21 22 19.9	+0.2
PTBC	PUERTO BERRIO,	3.62	238	*e*P	Pn	21 22 19.5	-0.7
PTBC				*e*S	Sb	21 23 13.5	+1.3
MONV	Montecano	3.70	22	*e*P	Pn	21 22 21.5	+0.3
MONV				*e*S	Sn	21 23 04.8	0.0
TURV	Turiamo	3.99	61	*e*P	Pn	21 22 27.4	+2.3
TURV				*e*S	Sn	21 23 12.2	+0.3
BENV	Beln	4.00	68	*e*P	Pn	21 22 26.7	+1.3
BENV				*e*S	Sn	21 23 12.2	-0.1
SJCC	San Jacinto, C	4.01	291	*e*P	Pn	21 22 26.3	+0.9
CHIC	Chingaza	4.50	211	*e*P	Pn	21 22 33.6	+1.0
CHIC				*e*S	Sn	21 23 24.2	-0.9
PAYV	Puerto Ayacuch	4.79	129	*e*P	Pn	21 22 36.4	+0.2
PAYV				*e*S	Sn	21 23 29.6	-2.1
CACV	CAICARA DEL OR	4.88	101	*e*P	Pb	21 22 45.5	-4.0
CACV				*e*S	Sb	21 23 44.8	-3.4
MERV	Las Mercedes	5.07	81	*e*P	Pn	21 22 40.3	+0.3
MERV				*e*S	Sn	21 23 36.8	-1.8
BIRV	Birongo	5.40	68	*e*P	Pn	21 22 46.4	+1.8
BIRV				*e*S	Sn	21 23 44.9	-1.9

*IDC **07** 21:37:01.1±0.6, 4°.74N×125°.26E, h0km, mb4.0/20, mb1 4.1/24, mb1mx3.9/57, mbtmp4.1/24, ML4.2/4, MS3.7/36, Ms1 3.7/36, ms1mx3.6/80, Error ellipse: s-maj=19.7km s-min=11.2km az=83.0*

*MAN **07** 21:37:06.6, 4°.98N×124°.92E, h14km, mb5.3, ML4.3, MS4.4*

*NEIC **07** 21:37:07.3±1.7, 4°.61N±0°.06×125°.05E±0°.06, h38km±7km, mb4.5/41, Error ellipse: s-maj=9.1km s-min=8.4km az=99.0*

*DJA **07** 21:37:08.3±0.7, 4°N±2°×12°5E±°, h21km±5km, M4.6/20, mb4.6/20, mB5.1/7, MLv4.7/12, Mw(mB)4.5/7, MwMwp4.7/1, Mwp5.1/1*

ISC 07 21:37:06.6±0.4, 4°.63N±0°.03×125°.09E±0°.05, h35km, n146, σ1°67/125, mb4.4/49, MS3.7/35, 6C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.03	155	P	Pn	21 37 23.6	-1.0
SGSI				S	Sn	21 37 37.3	-0.5
GSPH	General Santos	1.46	355⇑	*i*P	Pn	21 37 27.1	-3.4
DDMP	Don Marcelino,	1.59	23⇑	*e*P	Pn	21 37 30.5	-1.8
DDMP				*e*S	Sn	21 37 51.0	-0.7
KCP	Kidapawan	2.37	0⇑	*i*P	Pn	21 37 41.3	-1.7
KCP				*i* S	Sn	21 38 21.6	+11
DAV	Davao City (W)	2.48	11	Pn	Pn	21 37 42.7	-1.7
	64nm,0.3s,baz=205,slow=2.1,SNR=10						
DAV				Sn	Sn	21 38 15.6	+2.2
	86nm,0.3s,baz=63,slow=10,SNR=8.1						
DAV	Davao City (W)	2.48	11	Pn	Pn	21 37 45.8	+1.4
MATI	Mati	2.58	27⇑	*e*P	Pn	21 37 43.5	-2.4
PAGZ	Pagadian	3.62	332⇑	*e*P	Pn	21 37 57.9	-2.3
PAGZ				*i* S	Sn	21 38 39.3	-2.4
BIPH	Bislig	3.75	20⇑	*e*P	Pn	21 38 13.6	+12
BIPH				*e*S	Sn	21 38 57.7	+13
KMSI	Cibinong	4.17	195	P	Pn	21 38 08.9	+1.1
KMSI				S	Sn	21 38 54.5	-0.9
TNTI	Ternate	4.46	149	P	Pn	21 38 12.2	+0.5
TNTI	Ternate	4.46	149	Pn	Pn	21 38 12.5	+0.8
GTOI	Gorontalo	4.47	208	P	Pn	21 38 10.3	-1.6
GTOI				S	Sn	21 38 57.2	-5.6
TBP	Tagbilaran	5.17	346	*e*P	Pn	21 38 36.9	+15
MRSI	Marisa	5.18	217	P	Pn	21 38 21.7	0.0
	1.3nm2µm185nm,0.6s						
TOLI2	Tolitoli	5.54	231	Pn	Pn	21 38 23.0	-3.6
LBMI	Labuha	5.76	155	P	Pn	21 38 30.6	+1.0
	0.7nm948nm55nm,0.5s						
LUWI	Luwuk	6.09	202	P	Pn	21 38 36.3	+2.2
	1.4nm2µm185nm,0.9s						
LUWI	Luwuk	6.09	202	Pn	Pn	21 38 35.3	+1.2
APSI	Ampana	6.49	212	P	Pn	21 38 41.4	+1.8
	0.6nm961nm70nm,0.8s						
MYLDM	Lahad Datu	6.58	275	Pn	Pn	21 38 41.1	+0.2
SANI	Sanana	6.69	172	P	Pn	21 38 43.1	+0.7
	0.2nm46nm,1.0s						
MPSI	Mapaga	6.71	231	P	Pn	21 38 43.4	+0.7
	0.2nm20nm,0.8s						
SWI	Sorong	8.23	131	P	Pn	21 39 05.0	+1.4
	19nm,1.0s						
SIJI	Sorong	8.24	131	Pn	Pn	21 39 01.4	-2.3
	1.3nm,0.3s,baz=327,slow=17,SNR=3.1						
SIJI				LR	LR	21 42 19.6	
	comp=Z,467nm,21.2s,baz=264,slow=39						
MSAI	Masohi	8.80	154	P	Pn	21 39 12.0	+0.6
	7.5nm,0.6s						
KKM	Kota Kinabalu	8.95	279	Pn	Pn	21 39 13.3	-0.2
TTSI	Tana Toraja	9.26	215	P	Pn	21 39 18.7	+1.0
	25nm,1.0s						
SPSI	Sidrap Palu	10.05	212	P	Pn	21 39 29.1	+0.5
	12nm,0.9s						
BNSI	Bone	10.26	209	P	Pn	21 39 31.2	-0.1
	15nm,1.1s						
FAKI	Fak Fak	10.36	136	Pn	Pn	21 39 34.1	+1.2
KAPI	Kappang	10.96	209	Pn	Pn	21 39 43.6	+2.6
	1.0nm,0.3s,baz=76,slow=11,SNR=1.4						
KAPI				LR	LR	21 44 25.7	
	comp=Z,635nm,18.7s,baz=58,slow=40						
KAPI	Kappang	10.96	209	Pn	Pn	21 39 41.5	+0.6
BBKI	Banjar Baru	13.01	232	P	Pn	21 40 10.9	+1.8
SBUM	Sibu	13.02	261	Pn	Pn	21 40 08.2	-1.0
STKI	Sintang	14.33	252	P	Pn	21 40 15.0	-12
BATI	Baumata	14.80	185	Pn	Pn	21 40 35.6	+2.1
	2.5nm,0.3s,baz=210,slow=2.7,SNR=2.0						
BATI				LR	LR	21 46 24.6	
	comp=Z,274nm,20.6s,baz=358,slow=38						
BATI	Baumata	14.80	185	P	P	21 40 44.3	+5.3
JAY	Jayapura	17.14	114	LR	LR	21 47 24.6	
	comp=Z,230nm,19.8s,baz=294,slow=37						
MTN	Manton Dam	18.37	161	P	P	21 41 17.4	-1.0
TPUB	Ta-pu	19.06	347	P	P	21 41 25.8	-0.2
TPUB				IAmb	IAmb	21 41 38.6	
	comp=Z,32nm,1.0s						
SSLB	Suanglung	19.46	349	P	P	21 41 31.0	+0.5
SSLB				IAmb	IAmb	21 41 41.7	
	comp=Z,11nm,0.9s						
PPBI	Pangkal Pinang	20.10	251	P	Pn	21 41 40.9	+1.5
KNRA	Kununurra	20.50	170	P	P	21 41 41.3	-0.4
KNRA				IAmb	IAmb

JNU Nakatsue 28.86 10 LR LR 21 56 54.6
comp=Z,34nm,18.6s,baz=191,slow=42
CMAR Chiang Mai Arr 29.01 300 P **P** **21 43 04.4 +1.0**
comp=Z,0.7nm,0.7s,baz=113,slow=7.1,SNR=7.6
CMAR LR LR 21 56 17.5
comp=Z,156nm,18.1s,baz=105,slow=40
CHTO Chiang Mai 29.16 301 P **P** **21 43 04.2 -0.6**
AS31 Alice Springs 29.41 163 P **P** **21 43 06.4 -0.5**
ASAR Alice Springs 29.41 163 P **P** **21 43 07.0 +0.1**
comp=Z,1.9nm,0.7s,baz=350,slow=7.2,SNR=16
ASAR Alice Springs 29.41 163 P **P** **21 43 06.3 -0.6**
PZH PanZhiHua 31.17 317 P **P** **21 43 25.6 +3.1**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,4.6s
JHJ Hachijo jima 2 31.49 24 LR LR 21 54 49.8
comp=Z,94nm,21.1s,baz=232,slow=34
KSRS Korea Array 32.77 4 P **P** **21 43 34.2 -2.1**
comp=Z,0.5nm,0.4s,baz=187,slow=7.3,SNR=2.3
KSRS LR LR 21 58 35.7
comp=Z,83nm,20.0s,baz=190,slow=40
XAN Xi'an 32.90 335 P **P** **21 43 36.8 -0.8**
XAN pP pP 21 43 47.5 +1.4
XAN pmax pmax
comp=Z,6.0nm,1.4s
MJAR Matsushiro Arr 33.97 19 P **P** **21 43 43.5 -3.4**
comp=Z,4.4nm,0.8s,baz=198,slow=9.0,SNR=6.7
MJAR LR LR 21 58 45.2
comp=Z,117nm,18.2s,baz=191,slow=39
MAT Matsushiro 33.98 19 P **P** **21 43 44.7 -2.2**
FORT Forrest 35.32 176 P **P** **21 43 58.0 -0.5**
JMM Marumori 36.06 21 P **P** **21 44 04.1 -0.7**
LZH Lanzhou 36.91 331 *eP* **P** **21 44 15.4 +3.1**
LZH pP pP 21 44 23.0 +2.0
LZH sP pwP 21 44 27.4 -0.3
LZH pmax pmax
comp=Z,12nm,1.5s
LZH pmax pmax
comp=Z,270nm,5.4s
LZH LR LR
comp=N,230nm,16.8s
LZH LR LR
comp=E,290nm,15.7s
LZH LR LR
comp=Z,280nm,16.8s
HNR Honiara 37.44 112 LR LR 21 58 37.0
comp=Z,106nm,21.6s,baz=322,slow=35
SHL Shillong 38.03 307 P **P** **21 44 21.9 0.0**
SHL IAmb IAmb 21 44 35.6
comp=Z,9.6nm,0.8s
HHC Hu-ho-hao-te 38.05 343 *eP* **P** **21 44 24.9 +3.0**
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,280nm,5.6s
BBOO Buckleboo 38.66 165 P **P** **21 44 26.4 -0.5**
BBOO IAmb IAmb 21 44 27.5
comp=Z,5.5nm,0.8s
EIDS Eidsvold 39.07 141 P **P** **21 44 31.4 +1.0**
EIDS IAmb IAmb 21 44 49.8
comp=Z,3.6nm,0.7s
STKA Stephens Creek 39.56 158 P **P** **21 44 35.0 +0.6**
comp=Z,6.4nm,0.8s,baz=327,slow=6.6,SNR=11
STKA Stephens Creek 39.56 158 P **P** **21 44 34.6 +0.2**
USRK Ussuriysk Ar. 39.88 8 LR LR 21 59 04.6
comp=Z,62nm,21.9s,baz=207,slow=33
GTA Gaotai 41.50 330 *eP* **P** **21 44 48.6 -2.0**
GTA pP sP 21 45 04.8 +2.0
GTA sP pwP 21 45 11.2 +5.1
GTA pmax pmax
comp=Z,2.0nm,2.0s
GTA pmax pmax
comp=Z,65nm,5.1s
GTA LR LR
comp=N,220nm,18.9s
GTA LR LR
comp=E,170nm,18.5s
GTA LR LR
comp=Z,280nm,17.8s
ASAJ Asahikawa 42.25 19 P **P** **21 44 56.0 -0.4**
comp=Z,11nm,1.0s,baz=210,slow=8.1,SNR=1.9
ASAJ LR LR 22 04 13.7
comp=Z,90nm,18.2s,baz=174,slow=39
JKA Kamikawa-asahi 42.25 19 P **P** **21 44 56.0 -0.4**
JKA Kamikawa-asahi 42.25 19 IAmb IAmb 21 45 06.6
comp=Z,14nm,1.0s
GUN Gumba 43.88 306 *eP* **P** **21 45 10.8 +0.5**
comp=Z,16nm,0.7s
PKI Pulchoki 44.12 305 *eP* **P** **21 45 13.4 +1.2**
PKIN Phulchoki 44.13 305 *eP* **P** **21 45 13.2 +0.9**
PALK Pallekele 44.21 276 LR LR 22 05 26.6
comp=Z,70nm,18.7s,baz=208,slow=38
KLR Kul'dur 44.80 6 P **P** **21 45 15.6 -1.4**
comp=Z,0.7nm,0.5s,baz=216,slow=8.7,SNR=2.8
GKN Gorkha 44.92 306 *eP* **P** **21 45 18.2 -0.2**
KOLN Koldanda 45.67 305 *eP* **P** **21 45 24.8 +0.4**
comp=Z,14nm,0.6s
DANN Dangsing 45.76 306 *eP* **P** **21 45 24.7 -0.6**
comp=Z,8.8nm,0.5s
SONM Songino Array 45.94 343 P **P** **21 45 26.4 +0.2**
comp=Z,0.4nm,0.8s,baz=178,slow=5.6,SNR=2.5
SONM LR LR 22 06 25.7
comp=Z,129nm,18.1s,baz=158,slow=38
SONM Songino Array 45.94 343 P **P** **21 45 26.8 +0.6**
TOO Toolangi 46.08 157 P **P** **21 45 27.6 +0.4**
TOO IAmb IAmb 21 45 39.6
comp=Z,8.1nm,0.9s
PYUN Piuthan 46.29 305 *eP* **P** **21 45 29.7 +0.3**
comp=Z,35nm,0.8s
DZM Mont Dzumac 48.39 125 LR LR 22 06 25.8
comp=Z,51nm,18.5s,baz=124,slow=36
DZM Mont Dzumac 48.39 125 P **P** **21 45 46.3 +0.7**
WMQ Urumqi 51.06 326 *eP* **P** **21 46 07.6 +2.0**
PETK Petropavlovsk- 55.24 23 P **P** **21 46 35.0 -1.1**
comp=Z,3.2nm,0.9s,baz=158,slow=1.6,SNR=1.5
MK31 Makanchi Array 55.89 326 P **P** **21 46 40.9 -0.1**
MKAR Makanchi Array 55.89 326 P **P** **21 46 40.0 -0.9**
comp=Z,0.8nm,0.5s,baz=120,slow=8.3,SNR=20
MKAR LR LR 22 11 41.6
comp=Z,191nm,19.3s,baz=96,slow=37
MKAR Makanchi Array 55.89 326 P **P** **21 46 39.8 -1.2**
MAKZ Makanchi 56.08 326 P **P** **21 46 41.5 -0.8**
MAKZ IAmb IAmb 21 46 59.7
comp=Z,3.4nm,1.1s
KDJ Kajisay 56.59 319 P **P** **21 46 46.2 0.0**
KDJ IAmb IAmb 21 46 48.2
comp=Z,2.7nm,0.8s
MSVF Nonsavu 56.77 115 LR LR 22 08 37.4
comp=Z,74nm,21.1s,baz=347,slow=34
YAK Yakutsk 57.38 3 P **P** **21 46 50.1 -1.0**
comp=Z,3.2nm,0.5s,baz=194,slow=0.5,SNR=5.6
YAK LR LR 22 14 12.2
comp=Z,65nm,18.1s,baz=169,slow=39
YAK Yakutsk 57.38 3 P **P** **21 46 50.1 -1.0**
BOOM Boomskoye usch 57.57 318 P **P** **21 46 53.5 +0.4**
BOOM IAmb IAmb 21 47 01.5
comp=Z,2.3nm,1.0s
AAK Ala-Archa 58.60 318 LR LR 22 14 18.6
comp=Z,122nm,19.9s,baz=100,slow=38
AAK Ala-Archa 58.60 318 P **P** **21 47 00.0 -0.3**
ZALV Zalesovo Beam 59.05 334 P **P** **21 47 01.3 -1.7**
comp=Z,0.4nm,0.5s,baz=141,slow=7.4,SNR=2.4
ZALV LR LR 22 14 30.3
comp=Z,104nm,19.3s,baz=109,slow=38
KBL Kabul 59.68 308 P **P** **21 47 08.1 +0.1**
KURBB Kurchatov Arra 60.11 328 P **P** **21 47 08.7 -1.6**
comp=Z,0.6nm,0.3s,baz=116,slow=6.3,SNR=7.1
KURK Kurchatov 60.11 328 P **P** **21 47 11.2 +0.9**
KURK IAmb IAmb 21 47 20.4
comp=Z,3.8nm,0.8s
CHGR Chuyangaron 60.85 312 P **P** **21 47 15.9 0.0**
KKAR Karatay Array 61.46 317 P **P** **21 47 20.2 +0.4**
LBZ Lake Benmore 63.34 145 P **P** **21 47 32.2 0.0**
URZ Urewera 64.31 136 LR LR 22 16 34.2
comp=Z,71nm,18.4s,baz=325,slow=37
HRA Herat 65.08 306 P **P** **21 47 44.5 +0.3**
HRA IAmb IAmb 21 47 47.8
comp=Z,4.2nm,1.0s
AFI Afiamalu 65.28 108 LR LR 22 12 11.4
comp=Z,58nm,19.6s,baz=286,slow=32
WSAR Wadi Sarin 66.57 293 LR LR 22 19 35.0
comp=Z,24nm,19.2s,baz=60,slow=38
TIXI Tiksi 66.98 1 P **P** **21 47 53.7 -1.7**
comp=Z,0.5nm,0.3s,baz=136,slow=6.0,SNR=1.4
TIXI LR LR 22 17 09.5
comp=Z,76nm,21.8s,baz=209,slow=36
AKTO Aktyubinsk 71.94 322 P **P** **21 48 28.1 +1.6**
comp=Z,0.8nm,0.5s,baz=89,slow=15
AKTO LR LR 22 21 37.2
comp=Z,125nm,20.7s,baz=67,slow=37
ARU Arti 73.31 328 P **P** **21 48 34.9 +0.5**
comp=Z,0.4nm,0.6s,baz=133,slow=8.6,SNR=3.6
ARU LR LR 22 23 05.8
comp=Z,90nm,18.9s,baz=46,slow=38
KBZ Khabaz 81.17 313 LR LR 22 29 22.5
comp=Z,72nm,20.3s,baz=346,slow=39
ILAR Eielson Array 85.00 25 P **P** **21 49 37.8 -0.4**
comp=Z,0.4nm,0.7s,baz=263,slow=4.3,SNR=4.9
EIL Elat 87.86 299 LR LR 22 37 11.5
comp=Z,34nm,18.0s,baz=5.5,slow=41
FINES FINESS Array B 90.27 332 LR LR 22 35 07.4
comp=Z,158nm,18.3s,baz=11,slow=39
MBAR Mbarara 94.38 270 LR LR 22 34 29.9
comp=Z,28nm,19.2s,baz=64,slow=36
NOA NORSAR Array B 97.26 333 LR LR 22 39 01.2
comp=Z,90nm,18.4s,baz=290,slow=38
TORD Torodi Ar. Bea 121.08 288 PKP **PKPdf** **21 55 56.9 +0.3**
comp=Z,0.4nm,0.7s,baz=4.1,slow=3.2,SNR=2.4
TXAR Lajitas Array 122.33 51 PKP **PKPdf** **21 55 59.1 +0.2**
comp=Z,0.2nm,0.6s,baz=308,slow=4.4,SNR=3.9

*IDC **07** 21:41:09.9±1.1, 30°.64N×132°.82E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.3/71, mbtmp3.7/8, ML3.3/2, Error ellipse: s-maj=40.6km s-min=19.1km az=76.0*
*JMA **07** 21:41:13.1±0.2, 30°.61N×132°.76E, h67km, M3.6*
ISC 07 21:41:11.2±3.6, 30°.63N±0°.05×132°.84E±0°.05, h15km±23km, n20, σ1°.92/34, mb3.7/6, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.60**	**271**	P			**Pn**	**21 41 38.6**	**-0.5**
JTN				S			**Sn**	**21 41 57.6**	**-1.9**
JNAR	**Kushima--Naru**	**1.61**	**304**	P			**Pn**	**21 41 39.5**	**+0.3**
JNAR				*e*S			**Sn**	**21 41 59.0**	**-0.8**
JNKG	**Nichinankitago**	**1.62**	**310**	P			**Pb**	**21 41 39.7**	**-1.2**
JNKG				S			**Sn**	**21 41 59.1**	**-0.9**
JMTN	**Minamitane**	**1.69**	**263**	P			**Pn**	**21 41 40.1**	**-0.2**
JMTN				S			**Sn**	**21 41 59.8**	**-1.9**
JTSR	**Tashiro 2**	**1.73**	**288**	P			**Pn**	**21 41 40.6**	**-0.3**
JTSR				*e*S			**Sn**	**21 42 01.3**	**-1.5**
JTZ	**Takazaki**	**1.96**	**311**	P			**Pn**	**21 41 44.2**	**+0.2**
JTZ				S			**Sn**	**21 42 07.4**	**-1.0**
JTO	**Tosashimizu**	**2.22**	**359**	P			**Pn**	**21 41 47.3**	**-0.3**
JTO				S			**Sn**	**21 42 10.9**	**-3.9**
JNN	**Nakanoshima**	**2.68**	**254**	P			**Pn**	**21 41 54.2**	**+0.3**
JNN				*e*S			**Sn**	**21 42 24.5**	**-1.7**
JSJ	**Shimokoshiki**	**2.87**	**292**	P			**Pn**	**21 41 55.7**	**-0.9**
JSJ				S			**Sn**	**21 42 28.7**	**-2.2**
JNA	**Nagahama**	**2.93**	**354**	P			**Pn**	**21 41 58.1**	**+0.7**
JNA				S			**Sn**	**21 42 29.0**	**-3.4**
JNU	**Nakatsue**	**2.99**	**327**	Pn			**Pn**	**21 41 59.7**	**+1.5**
	8.7nm,0.3s,baz=132,slow=8.7,SNR=68								
JNU				Sn			**Sn**	**21 42 35.6**	**+1.7**
	8.0nm,0.3s,baz=194,slow=13,SNR=6.9								
JMN	**Monobe**	**3.21**	**16**	P			**Pn**	**21 42 02.2**	**+0.9**
JMN				S			**Sn**	**21 42 35.3**	**-4.0**
JAI	**Aioi**	**3.44**	**23**	P			**Pn**	**21 42 04.9**	**+0.6**
JAI				*e*S			**Sn**	**21 42 40.7**	**-4.1**
JOW	**Kunigami**	**5.51**	**228**	Pn			**Pn**	**21 42 32.6**	**-0.2**
	1.5nm,0.3s,baz=109,slow=22,SNR=18								
JOW				Sn			**Sn**	**21 43 32.1**	**-3.9**
	1.9nm,0.3s,baz=136,slow=28,SNR=1.2								
KURBB	**Kurchatov Arra**	**44.67**	**313**	P			**P**	**21 49 24.0**	**+0.6**
	0.4nm,0.7s,baz=92,slow=8.6,SNR=1.7								
WRA	**Warramunga Arr**	**50.30**	**178**	P			**P**	**21 50 08.0**	**+0.6**
	0.9nm,0.9s,baz=357,slow=7.8,SNR=5.2								
ASAR	**Alice Springs**	**54.00**	**179**	P			**P**	**21 50 36.5**	**+1.7**
	0.6nm,0.6s,baz=14,slow=12,SNR=6.3								
FINES	**FINESS Array B**	**71.03**	**331**	P			**P**	**21 52 28.9**	**+0.6**
	1.1nm,0.6s,baz=85,slow=8.5,SNR=5.1								
YKA	**Yellowknife Ar**	**72.81**	**27**	P			**P**	**21 52 40.1**	**+1.2**
	0.3nm,0.8s,baz=298,slow=5.4,SNR=2.8								
AKASG	**Malin Array Be**	**74.80**	**320**	P			**P**	**21 52 51.4**	**+0.6**
	0.4nm,0.6s,baz=54,slow=6.4,SNR=3.1								

*IDC **07** 22:08:04.8±1.5, 10°.65S×124°.96E, h0km, mb3.2/2, mb1 3.6/5, mb1mx3.2/30, mbtmp3.4/5, ML3.5/3, Error ellipse: s-maj=43.9km s-min=22.4km az=51.0*
ISC 07 22:08:11.0±0.9, 10°.93S±0°.09×124°.9E±0°.1, h50km, n16, σ2°.80/16, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.32**	**332**	S			**Sn**	**22 08 48.2**	**-1.5**
SOEI	**Soe**	**1.32**	**332**	P			**Pn**	**22 08 30.7**	**-2.4**
BATI	**Baumata**	**1.40**	**301**	Pn			**Pn**	**22 08 31.2**	**-3.0**
	112nm,0.3s,baz=140,slow=7.5,SNR=56								
BATI	**Baumata**	**1.40**	**301**	P			**Pn**	**22 08 31.0**	**-3.2**
MMRI	**Maumere**	**3.47**	**311**	P			**Pn**	**22 09 04.2**	**+1.7**
EDFI	**Ende, Flores**	**3.83**	**304**	P			**Pn**	**22 09 09.9**	**+2.4**
BASI	**Baing, Sumba**	**4.30**	**279**	P			**Pn**	**22 09 17.9**	**+4.0**
WBSI	**Waikabubak, Su**	**5.56**	**283**	P			**Pn**	**22 09 34.9**	**+3.6**
	0.4nm1μm60nm,0.5s								
BBSI	**Bau Bau**	**5.87**	**337**	P			**Pn**	**22 09 39.0**	**+3.5**
	0.0nm3.5nm,0.6s								
BSSI	**Bau Bau, Buton**	**6.45**	**317**	P			**Pn**	**22 09 45.4**	**+2.0**
	0.1nm37nm,0.9s								
FITZ	**Fitzroy Crossi**	**7.17**	**174**	Pn			**Pn**	**22 09 54.7**	**+1.4**
	0.7nm,0.3s,baz=0.4,slow=13,SNR=17								
BKSI	**Bulukumba**	**7.30**	**319**	P			**Pn**	**22 09 58.3**	**+3.2**
	0.1nm36nm,0.6s								
WRA	**Warramunga Arr**	**12.77**	**136**	Pn			**Pn**	**22 11 10.3**	**+0.3**
	0.2nm,0.3s,baz=309,slow=14,SNR=13								
ASAR	**Alice Springs**	**15.30**	**147**	Pn			**P**	**22 11 45.2**	**-2.7**
	0.2nm,0.3s,baz=322,slow=12,SNR=20								
SONM	**Songino Array**	**60.77**	**346**	P			**P**	**22 18 17.1**	**-0.7**
	0.2nm,0.6s,baz=169,slow=8.2,SNR=1.7								
MKAR	**Makanchi Array**	**68.91**	**330**	P			**P**	**22 19 09.8**	**-0.9**
	0.2nm,0.5s,baz=138,slow=6.4,SNR=4.9								

*DJA **07** 22:08:19.3±0.5, 10°.5±4°×12°.4E±°, h10km, M4.3/11, mb4.7/6, mB5.1/3, MLv4.2/11, Mw(mB)4.4/3*
*IDC **07** 22:08:23.7±1.0, 10°.67S×124°.83E, h0km, mb3.9/5, mb1 4.2/10, mb1mx3.9/32, mbtmp4.0/10, ML4.1/5, Error ellipse: s-maj=34.7km s-min=15.9km az=45.0*
*NEIC **07** 22:08:26.9±1.4, 10°.76S±0°.08×124°.7E±0°.2, h15km±6km, mb4.4/7, Error ellipse: s-maj=23.4km s-min=8.1km az=66.0*
ISC 07 22:08:25.1±0.6, 10°.81S±0°.08×124°.76E±0°.10, h10km, n28, σ1°.21/29, mb4.0/7, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.15**	**335**	Pn			**Pn**	**22 08 47.7**	**+0.2**
BATI	**Baumata**	**1.23**	**299**	Pn			**Pb**	**22 08 48.2**	**-0.4**
	666nm,0.3s,baz=47,slow=23,SNR=28								
BATI				Sn			**Sn**	**22 09 05.5**	**+0.3**
	529nm,0.3s,baz=49,slow=23,SNR=5.0								
MMRI	**Maumere**	**3.29**	**311**	Pn			**Pn**	**22 09 16.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**7.30**	**173**	Pn			**Pn**	**22 10 13.8**	**+1.9**
	2.2nm,0.3s,baz=4.4,slow=12,SNR=12								
FITZ				Sn			**Sn**	**22 11 31.6**	**-3.2**
	22nm,0.3s,baz=99,slow=21,SNR=11								
KAPI	**Kappang**	**7.60**	**319**	Pn			**Pn**	**22 10 15.4**	**-0.6**
	4.3nm,0.3s,baz=169,slow=17,SNR=5.1								
BNSI	**Bone**	**7.86**	**324**	P			Pn	22 10 24.8	+5.2
WB0	**Warramunga Arr**	**12.87**	**135**				**Pn**	**22 11 30.0**	**+1.8**
WRA	**Warramunga Arr**	**12.95**	**136**	Pn			**Pn**	**22 11 29.3**	**0.0**
	0.6nm,0.3s,baz=309,slow=14,SNR=3.9								
WRA				Sn			Sn	22 13 43.1	-11
	1.1nm,0.3s,baz=313,slow=25,SNR=6.0								
WRA	**Warramunga Arr**	**12.95**	**136**				**Pn**	**22 11 30.3**	**+0.9**
WB2	**Warramunga Arr**	**12.96**	**136**				**Pn**	**22 11 29.5**	**0.0**
WR0	**Warramunga Arr**	**13.10**	**135**				**Pn**	**22 11 32.4**	**+1.0**
WAMI	**Wamena**	**15.45**	**65**	P			**Pn**	**22 12 02.3**	**-1.0**
AS31	**Alice Springs**	**15.47**	**147**				**Pn**	**22 12 03.7**	**0.0**
ASAR	**Alice Springs**	**15.48**	**147**	Pn			**Pn**	**22 12 03.4**	**-0.3**
	0.7nm,0.3s,baz=320,slow=11,SNR=14								
ASAR				Sn			Sn	22 14 46.0	-9.3
	1.4nm,0.3s,baz=313,slow=22,SNR=7.6								
ASAR	**Alice Springs**	**15.48**	**147**				**Pn**	**22 12 06.9**	**+3.2**
LEM	**Lembang**	**17.39**	**282**	P			**P**	**22 12 30.2**	**+0.6**
	3.1nm,0.3s,baz=139,slow=20,SNR=1.8								
KKM	**Kota Kinabalu**	**18.78**	**333**	P			**Pn**	**22 12 44.9**	**-0.4**
KKM				IAmb			IAmb	22 12 55.5	
	comp=Z,33nm,1.2s								
FORT	**Forrest**	**20.11**	**172**	P			**P**	**22 13 00.1**	**+1.0**
FORT				IAmb			IAmb	22 13 12.8	
	comp=Z,16nm,0.8s								
BBOO	**Buckleboo**	**24.24**	**156**	P			**P**	**22 13 43.8**	**+1.4**
BBOO				IAmb			IAmb	22 13 49.0	
	comp=Z,27nm,1.3s								
STKA	**Stephens Creek**	**26.11**	**146**	P			**P**	**22 14 00.1**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=324,slow=14,SNR=3.3								
CMAR	**Chiang Mai Arr**	**36.66**	**319**	P			**P**	**22 15 48.6**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=139,slow=5.9,SNR=5.7								
USRK	**Ussuriysk Ar.**	**55.14**	**6**	P			**P**	**22 17 57.9**	**+0.2**
SONM	**Songino Array**	**60.62**	**346**	P			**P**	**22 18 35.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=165,slow=7.5,SNR=4.4								
SONM				PcP			**PcP**	**22 19 21.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=169,slow=4.5,SNR=2.4								
SONM	**Songino Array**	**60.62**	**346**	IAmb			IAmb	22 18 36.5	
	comp=Z,2.0nm,1.5s								
MK31	**Makanchi Array**	**68.74**	**330**	P			**P**	**22 19 29.5**	**+0.3**
MK31				IAmb			IAmb	22 19 39.3	
	comp=Z,1.9nm,0.9s								
MKAR	**Makanchi Array**	**68.74**	**330**	P			**P**	**22 19 28.1**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=128,slow=6.1,SNR=5.9								
MKAR	**Makanchi Array**	**68.74**	**330**	P			**P**	**22 19 29.4**	**+0.1**
ZALV	**Zalesovo Beam**	**72.84**	**337**	P			**P**	**22 19 54.2**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=126,slow=7.3,SNR=2.4								

WEL 07 22:14:29.2, 39°S±2°×17°6E±°, h52km±4km, M3.6/52, ML3.8/52, MLv3.6/52, Error ellipse: s-maj=0.0km s-min=0.0km az=105.3, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.23**	**353**	P			Pn	22 14 38.3	+0.2
HATZ				S			Sn	22 14 45.4	+1.2
RITZ	**Rihia Road**	**0.25**	**303**	P			Pn	22 14 38.8	+0.6
BKZ	**Black Stump Fm**	**0.29**	**100**	P			Pn	22 14 38.7	+0.1
BKZ				S			Sn	22 14 46.5	+1.3
ETVZ	**East Tongariro**	**0.32**	**266**	P			Pn	22 14 39.2	+0.3
TMVZ	**Te Maari**	**0.33**	**270**	P			Pn	22 14 39.3	+0.3
NTVZ	**North Tongarir**	**0.35**	**272**	P			Pn	22 14 39.5	+0.3
MRHZ	**Matea Rd**	**0.36**	**39**	P			Pn	22 14 39.2	0.0
MRHZ				S			Sn	22 14 47.1	+0.7
OTVZ	**Oturere**	**0.36**	**262**	P			Pn	22 14 39.6	+0.3
OTVZ				S			Sn	22 14 47.7	+1.2
KATZ	**Kakaramea**	**0.36**	**292**	P			Pn	22 14 39.7	+0.4
RATZ	**Rangitukua**	**0.37**	**312**	P			Pn	22 14 39.4	+0.1
BHHZ	**Black Hill Sta**	**0.38**	**187**	P			Pn	22 14 39.3	-0.1
BHHZ				S			Sn	22 14 47.4	+0.7
KRVZ	**Karewarewa**	**0.38**	**273**	P			Pn	22 14 39.7	+0.2
KWHZ	**Kaweka Forest**	**0.39**	**143**	P			Pn	22 14 39.5	0.0
SNVZ	**South Ngauruho**	**0.39**	**259**	P			Pn	22 14 39.8	+0.3
NNVZ	**North Ngauruho**	**0.40**	**267**	P			Pn	22 14 39.9	+0.3
TUVZ	**Tukino**	**0.40**	**247**	P			Pn	22 14 39.9	+0.2
TUVZ				S			Sn	22 14 48.1	+0.9
MOVZ	**Moawhango**	**0.41**	**225**	P			Pn	22 14 39.5	-0.2
MOVZ				S			Sn	22 14 47.5	+0.2
NGZ	**Ngauruhoe**	**0.41**	**261**	P			Pn	22 14 40.0	+0.2
NGZ				S			Sn	22 14 48.5	+1.1
WTVZ	**West Tongariro**	**0.42**	**270**	P			Pn	22 14 39.9	+0.1
WHVZ	**Whangaehu Hut**	**0.45**	**248**	P			Pn	22 14 40.3	0.0
WHVZ				S			Sn	22 14 48.5	+0.3
WNVZ	**Wahianoa**	**0.46**	**242**	P			Pn	22 14 40.3	0.0
WNVZ				S			Sn	22 14 49.0	+0.6
DRZ	**Dome Shelter**	**0.47**	**250**	P			Pn	22 14 40.6	0.0
DRZ				S			Sn	22 14 49.9	+1.2
FWVZ	**Far West T-bar**	**0.47**	**252**	P			Pn	22 14 40.5	0.0
FWVZ				S			Sn	22 14 49.0	+0.4
WHTZ	**Whakaora**	**0.47**	**344**	P			Pn	22 14 40.9	+0.6
TRVZ	**Turoa**	**0.49**	**248**	P			Pn	22 14 40.7	0.0
TRVZ				S			Sn	22 14 49.1	+0.2
WATZ	**Wairara**	**0.51**	**323**	P			Pn	22 14 40.6	-0.2
NMHZ	**Naumai**	**0.53**	**88**	P			Pn	22 14 42.1	+1.1
NMHZ				S			Sn	22 14 52.7	+3.1
TWVZ	**Taurewa**	**0.54**	**274**	P			Pn	22 14 40.8	-0.3
TWVZ				S			Sn	22 14 49.9	+0.1
MCHZ	**McNeill Hill**	**0.55**	**127**	P			Pn	22 14 42.1	+0.8
MCHZ				S			Sn	22 14 54.1	+4.2
KRHZ	**Kereru**	**0.56**	**160**	P			Pn	22 14 41.4	0.0
KRHZ				S			Sn	22 14 51.9	+1.8
MTVZ	**Mangateitei**	**0.58**	**242**	P			Pn	22 14 41.5	-0.1
MTVZ				S			Sn	22 14 51.2	+0.7
ALRZ	**Allen Road**	**0.58**	**17**	P			Pn	22 14 41.4	-0.1
ALRZ				S			Sn	22 14 51.3	+0.9
WPRZ	**Whakapapatarin**	**0.59**	**3**	P			Pn	22 14 41.8	0.0
MTHZ	**Maungataniwha**	**0.61**	**65**	P			Pn	22 14 42.1	+0.1
MTHZ				S			Sn	22 14 52.4	+1.1
PKVZ	**Pokaka**	**0.63**	**254**	P			Pn	22 14 42.2	-0.1
PRRZ	**Plateau Road**	**0.65**	**19**	P			Pn	22 14 42.3	-0.1
KUTZ	**Kaahu Road**	**0.67**	**339**	P			Pn	22 14 42.7	0.0
ARHZ	**Aropaoanui**	**0.69**	**103**	P			Pn	22 14 43.4	+0.4
HRRZ	**Handcock Road**	**0.73**	**10**	P			Pn	22 14 43.6	+0.1
GRRZ	**Galatos Road**	**0.76**	**359**	P			Pn	22 14 44.3	+0.4
RAHZ	**Arahi**	**0.77**	**75**	P			Pn	22 14 44.4	+0.4
RAHZ				S			Sn	22 14 56.6	+1.8
PNHZ	**Pukenui**	**0.80**	**176**	P			Pn	22 14 44.4	0.0
HSRZ	**Hossack Road**	**0.81**	**7**	P			Pn	22 14 44.4	-0.1
MUGZ	**Murupara**	**0.81**	**39**	P			Pn	22 14 44.0	-0.5
RRRZ	**Republican Roa**	**0.83**	**22**	P			Pn	22 14 44.6	-0.2
RTZ	**Ruatahuna**	**0.83**	**54**	P			Pn	22 14 43.9	-0.9
RTZ				S			Sn	22 14 57.1	+0.9
HLRZ	**Highlands Stat**	**0.88**	**12**	P			Pn	22 14 46.2	+0.8
KAHZ	**Kahuranaki**	**0.89**	**140**	P			Pn	22 14 45.3	-0.3
TLZ	**Tolley Road**	**0.91**	**329**	P			Pn	22 14 45.5	-0.3
CKHZ	**Cape Kidnapper**	**0.92**	**127**	P			Pn	22 14 46.2	+0.3
TARZ	**Mount Tarawera**	**0.93**	**19**	P			Pn	22 14 46.2	+0.1
TSZ	**Takapari Road**	**0.95**	**188**	P			Pn	22 14 45.8	-0.6
WPHZ	**Waipukurau**	**0.98**	**166**	P			Pn	22 14 46.0	-0.7
SNGZ	**Shannon Statio**	**1.00**	**71**	P			Pn	22 14 47.2	+0.2
OMRZ	**Omania**	**1.02**	**11**	P			Pn	22 14 47.0

ETAZ	**East Tamaki Re**	**2.36 336**	P	Pn	22 15 05.2	-0.2
AWAZ	**Awhitu Peninsu**	**2.36 330**	P	Pn	22 15 05.6	+0.1
KUZ	**Kuaotunu**	**2.39 352**	P	Pn	22 15 05.4	-0.4
DUWZ	**D'Urville Isla**	**2.39 224**	P	Pn	22 15 03.9	-2.1
MSWZ	**Moikau Station**	**2.40 196**	P	Pn	22 15 02.5	-3.5
WEL	**Wellington**	**2.40 205**	P	Pn	22 15 03.1	-2.9
WIAZ	**Waiheke Island**	**2.45 341**	P	Pn	22 15 07.6	+0.9
TCW	**Tory Channel**	**2.53 214**	P	Pn	22 15 04.9	-2.9
PLWZ	**Palliser**	**2.54 195**	P	Pn	22 15 04.1	-3.9
TUWZ	**Tuamarina**	**2.85 215**	P	Pn	22 15 09.2	-3.0
GRZ	**Great Barrier**	**2.91 349**	P	Pn	22 15 12.6	-0.4
NNZ	**Nelson**	**2.97 224**	P	Pn	22 15 11.0	-2.9
BSWZ	**Blackbirch Sta**	**3.11 213**	P	Pn	22 15 12.5	-3.3
QRZ	**Quartz Range**	**3.25 237**	P	Pn	22 15 17.0	-0.7
WCZ	**Waipu Caves**	**3.47 335**	P	Pn	22 15 21.4	+0.6
THZ	**Tophouse**	**3.61 222**	P	Pn	22 15 19.2	-3.5
KHZ	**Kahutara**	**3.84 210**	P	Pn	22 15 21.3	-4.4
GVZ	**Greta Valley S**	**4.50 210**	P	Pn	22 15 30.8	-4.0
JCZ	**Jackson Bay**	**7.40 226**	P	Pn	22 16 12.0	-2.7

*IDC **07** 22:27:51.4±1.8, 32.°14N×49.°99E, h0km, mb3.6/12, mb1 3.8/16, mb1mx3.6/59, mbtmp3.7/16, ML3.6/4, MS3.1/4, Ms1 3.1/4, ms1mx2.7/81, Error ellipse: s-maj=40.9km s-min=16.6km az=164.0*
*TEH **07** 22:27:51.3, 32.°02N×50.°29E, h11km, ML3.7*
*DSN **07** 22:27:56.9±2.5, 31.°51N×50.°38E, h10km, ML3.6/7, Error ellipse: s-maj=34.0km s-min=14.9km az=21.0*
*OMAN **07** 22:27:59.5±0.1, 31.°77N×50.°58E, h35km, mb5.2/20, ms2.7/5, Error ellipse: s-maj=1.4km s-min=1.2km az=22.0*

ISC 07 22:27:52.1±0.5, 31.°96N±0.°03×50.°27E±0.°03, h16km, n118, σ29.30/156, mb3.5/12, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHK1	**Shahrekord**	**0.64**	**55**	*e*Pg	**Pg**	**22 28 03.0**	**-1.8**
IBRJ	**Brojen**	**0.85**	**93**	*e*Pg	**Pb**	**22 28 08.1**	**-0.5**
AMIS	**Naft Sefid**	**0.89**	**251**	*e*Sg	**Sn**	**22 28 22.9**	**+0.4**
AMIS				*e*Pg	**Pb**	**22 28 08.9**	**-0.2**
AMIS				*e*		22 28 29.0	
	comp=Z,27μm,0.3s						
IPIR	**Pirpir**	**0.90**	**36**	*e*		22 28 23.9	
	comp=Z,27μm,0.6s						
IPIR				*e*Pg	**Pb**	**22 28 07.6**	**-1.9**
ABEH	**Behbahan**	**1.36**	**180**	*e*Pg	**Pg**	**22 28 18.4**	**+0.1**
KLNJ	**Kolanjah**	**1.48**	**130**	*e*Pn	**Pb**	**22 28 19.9**	**+0.5**
KLNJ				*e*		22 28 51.5	
	comp=Z,13μm,0.7s						
AHWZ	**Ahwaz**	**1.52**	**246**	*e*Pg	**Pg**	**22 28 21.8**	**+0.4**
IGAR	**Gharneh**	**1.57**	**73**	*e*Pg	**Pb**	**22 28 21.0**	**+0.1**
IKLH	**Kolahrood**	**1.75**	**39**	*e*Pn	**Pn**	**22 28 22.7**	**+0.6**
KHMZ	**Khomeyn**	**1.79**	**352**	*e*Pg	**Pb**	**22 28 24.3**	**-0.4**
IRAM	**Ramesheh**	**1.81**	**94**	*e*Pg	**Pb**	**22 28 25.5**	**+0.5**
IZEF	**Zefreh**	**1.98**	**61**	*e*Pn	**Pb**	**22 28 28.5**	**+0.6**
QAMS	**Qamsar**	**2.01**	**28**	*e*Pn	**Pn**	**22 28 27.0**	**+1.3**
BMDN	**Meydan**	**2.09**	**325**	*e*Pn	**Pn**	**22 28 27.9**	**+1.2**
BMDN				*e*		22 29 05.2	
	comp=Z,5μm,0.4s						
NASN	**Na'in**	**2.31**	**68**	*e*Pn	**Pb**	**22 28 32.8**	**-0.8**
IDOB	**Doab**	**2.53**	**317**	*e*Pn	**Pn**	**22 28 33.3**	**+0.5**
KRSH	**Karshahi**	**2.55**	**38**	*e*Pn	**Pn**	**22 28 34.6**	**+1.6**
IKFM	**Kafar-mosalman**	**2.57**	**308**	*e*Pn	**Pn**	**22 28 34.3**	**+1.3**
ASAO	**Ashtian**	**2.59**	**356**	*e*Pn	**Pb**	**22 28 37.0**	**-1.3**
KAZ1	**Kazerun**	**2.61**	**153**	*e*Pn	**Pb**	**22 28 36.7**	**-1.9**
KAZ1				*e*		22 29 32.3	
	comp=Z,8μm,0.7s						
GHVR	**GHOM**	**2.66**	**19**	*e*Pn	**Pb**	**22 28 37.1**	**-2.3**
ISFB	**Sefidab**	**2.90**	**34**	*e*Pn	**Pn**	**22 28 40.4**	**+2.6**
ISAD	**Sadrabad**	**2.91**	**90**	*e*Pn	**Pn**	**22 28 40.2**	**+2.2**
ISAD				*e*		22 29 46.8	
	comp=Z,2μm,0.8s						
IQOM	**Qom**	**2.95**	**13**	*e*Pn	**Pn**	**22 28 40.2**	**+1.6**
IQOM				*e*		22 28 48.8	
	comp=Z,2μm,0.5s						
HAGD	**Aghdareh**	**3.00**	**342**	*e*Pn	**Pn**	**22 28 41.3**	**+2.0**
HAGD				*e*		22 29 31.7	
	comp=Z,3μm,0.4s						
SHI	**Shiraz**	**3.01**	**140**	*e*Pn	**Pn**	**22 28 41.4**	**+2.0**
ANAR	**Anarak**	**3.17**	**66**	*e*Pn	**Pn**	**22 28 43.8**	**+2.3**
AHBU	**AHRAM**	**3.21**	**164**	*e*Pn	**Pb**	**22 28 47.0**	**-1.8**
IVRN	**Varamin**	**3.26**	**22**	*e*Pn	**Pn**	**22 28 44.3**	**+1.6**
IVRN				*e*		22 29 49.8	
	comp=Z,1μm,0.5s						
IALM	**Almabolaq**	**3.38**	**329**	*e*Pn	**Pn**	**22 28 46.2**	**+1.6**
IRAZ	**Razeghan**	**3.45**	**355**	*e*Pn	**Pn**	**22 28 47.2**	**+1.8**
ICHK	**Chekchek**	**3.53**	**84**	*e*Pn	**Pn**	**22 28 49.1**	**+2.6**
ICHK				*e*		22 29 06.3	
	comp=Z,871nm,0.4s						
KCHF	**Cheshme Sefid,**	**3.56**	**311**	*e*Pn	**Pn**	**22 28 47.2**	**+0.3**
KCHF				*e*		22 29 03.6	
	comp=Z,2μm,0.4s						
KER	**Kermanshah**	**3.57**	**313**	*e*Pn	**Pn**	**22 28 47.6**	**+0.6**
YZKH	**Yazd**	**3.69**	**82**	*e*Pn	**Pn**	**22 28 51.9**	**+3.3**
IMHD	**Mahdasht**	**3.73**	**5**	*e*Pn	**Pn**	**22 28 50.5**	**+1.3**
IMHD				*e*		22 29 03.6	
	comp=Z,1μm,0.5s						
IMEH	**Mehriz**	**3.75**	**98**	*e*Pn	**Pn**	**22 28 51.5**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.78**	**352**	*e*Pn	**Pn**	**22 28 51.4**	**+1.4**
IDMV	**Damavand**	**3.90**	**22**	*e*Pn	**Pn**	**22 28 53.9**	**+2.3**
DAMV	**Damavand**	**3.93**	**21**	*e*Pn	**Pn**	**22 28 55.3**	**+3.3**
THKV	**Tehran--Karaj**	**3.98**	**7**	*e*Pn	**Pn**	**22 28 56.1**	**+3.4**
CHTH	**Charan**	**4.00**	**10**	*e*Pn	**Pn**	**22 28 55.6**	**+2.6**
ILAS	**Lasjerd**	**4.08**	**33**	*e*Pn	**Pn**	**22 28 56.0**	**+1.8**
IFIR	**Firoozkooh**	**4.21**	**29**	*e*Pn	**Pn**	**22 28 58.3**	**+2.3**
IDHR	**Dehrash**	**4.24**	**311**	*e*Pn	**Pn**	**22 28 56.4**	**+0.1**
GHIR	**Ghir-Karzin**	**4.36**	**147**	*e*Pn	**Pn**	**22 29 00.0**	**+2.2**
IGZV	**Ghazvin**	**4.41**	**359**	*e*Pn	**Pn**	**22 29 01.5**	**+2.8**
QALM	**Alamut, Qazvin**	**4.47**	**4**	*e*Pn	**Pn**	**22 29 01.8**	**+2.3**
QALM				*e*		22 30 26.5	
	comp=Z,847nm,0.9s						
ISHM	**Shahmirzad**	**4.59**	**32**	*e*Pn	**Pn**	**22 29 04.4**	**+3.3**
IANJ	**Anjilo**	**4.63**	**40**	*e*Pn	**Pn**	**22 29 03.0**	**+1.3**
JIR1	**Jirandeh**	**4.75**	**355**	*e*Pn	**Pn**	**22 29 04.6**	**+1.3**
ZNJK	**Zanjan**	**4.88**	**345**	*e*Pn	**Pn**	**22 29 07.2**	**+2.1**
IGLO	**Ghaloghah**	**5.41**	**32**	*e*Pn	**Pn**	**22 29 14.8**	**+2.5**
TPRV	**Parvadeh(Tabas**	**5.53**	**77**	*e*Pn	**Pn**	**22 29 17.1**	**+3.2**
KHGB	**Koh Gabri**	**5.55**	**105**	*e*Pn	**Pn**	**22 29 16.5**	**+2.2**
TVBK	**TV Kerman**	**5.91**	**108**	*e*Pn	**Pn**	**22 29 21.4**	**+2.0**
KRBR	**Kerman**	**5.92**	**108**	*e*Pn	**Pn**	**22 29 22.0**	**+2.6**
SAKB	**Bahrain**	**5.97**	**178**	P	**Pn**	**22 29 22.8**	**+3.0**
SAKB				S	**Sn**	**22 30 31.0**	**+3.2**
TKKS	**Koohdasht(Taba**	**6.00**	**72**	*e*Pn	**Pn**	**22 29 23.1**	**+2.7**
TABS	**Tabas**	**6.01**	**72**	*e*Pn	**Pn**	**22 29 23.5**	**+3.0**
SHMA	**Al-Shehemyia**	**6.11**	**174**	P	**Pn**	**22 29 25.5**	**+3.7**
SHMA				S	**Sn**	**22 30 34.9**	**+3.5**
SHRO	**Shahrood**	**6.24**	**48**	*e*Pn	**Pn**	**22 29 27.0**	**+3.4**
KHOR	**Al-Khor Airpor**	**6.41**	**170**	P	Pn	22 29 33.0	+7.1
KHOR				S	**Sn**	**22 30 42.8**	**+4.1**
GENO	**Geno**	**6.86**	**130**	*e*Pn	**Pn**	**22 29 33.2**	**+1.0**
TRNA	**Turayna**	**7.25**	**173**	P	**Pn**	**22 29 39.8**	**+2.4**
TRNA				S	**Sn**	**22 31 01.7**	**+2.4**
IKOO	**Kooshah**	**7.42**	**84**	*e*Pn	**Pn**	**22 29 43.8**	**+3.8**
BSRN	**Basiran**	**7.53**	**88**	*e*Pn	**Pn**	**22 29 44.8**	**+3.4**
SHME	**Shamm**	**7.82**	**137**	P	**Pn**	**22 29 47.3**	**+2.0**
SHME				S	**Sn**	**22 31 11.0**	**-2.5**
BANOM	**Banah**	**8.01**	**137**	P	**Pn**	**22 29 48.0**	**+0.1**
	SNR=10						
BANOM				S	**Sn**	**22 31 16.7**	**-1.5**
BANOM	**Banah**	**8.01**	**137**	P	**Pn**	**22 29 47.2**	**-0.6**
BANOM				S	**Sn**	**22 31 14.8**	**-3.3**
MASF	**Masafi**	**8.36**	**140**	P	**Pn**	**22 29 53.2**	**+0.4**
	SNR=5.5						
MASF				S	**Sn**	**22 31 25.7**	**-1.1**
	SNR=11						
MSFE	**Esma-Masafi**	**8.37**	**140**	*i* P	**Pn**	**22 29 50.6**	**-2.2**
	SNR=5.5						
ASUD	**Al Ashush, Dub**	**8.56**	**147**	P	**Pn**	**22 29 58.8**	**+3.4**
	SNR=9.3						
ASUD				S	**Sn**	**22 31 33.0**	**+1.3**
ASUD	**Al Ashush, Dub**	**8.56**	**147**	*i* P	**Pn**	**22 29 58.1**	**+2.7**
	SNR=9.3						
FAQ	**Al Faqa, Dubai**	**8.58**	**146**	P	**Pn**	**22 29 58.8**	**+3.0**
	SNR=5.6						
FAQ				S	**Sn**	**22 31 30.3**	**-2.0**
FAQ	**Al Faqa, Dubai**	**8.58**	**146**	*i* P	**Pn**	**22 29 58.5**	**+2.7**
	SNR=5.6						
UOSS	**Minazif**	**8.72**	**142**	P	**Pn**	**22 29 58.6**	**+0.9**
UOSS				S	**Sn**	**22 31 32.5**	**-3.3**
MZWR	**Madinat Zayed**	**8.77**	**158**	P	**Pn**	**22 30 02.3**	**+4.0**
MZWR				S	**Sn**	**22 31 39.2**	**+2.3**
GEYT	**Alibeck**	**8.77**	**45**	LR	LR	22 33 33.6	

	comp=Z,74nm,19.1s,baz=356,slow=39					
HATD	**Hatta, Dubai**	**8.79**	**143**	P	**Pn**	**22 29 59.6**	**+1.0**
HATD				S	**Sn**	**22 31 36.1**	**-1.1**
	SNR=11						
HATD	**Hatta, Dubai**	**8.79**	**143**	P	**Pn**	**22 29 58.9**	**+0.3**
ASHO	**Ashiyiah**	**8.86**	**143**	P	**Pn**	**22 30 00.5**	**+0.9**
	SNR=8.4						
ASHO				S	**Sn**	**22 31 37.0**	**-2.2**
ASHO	**Ashiyiah**	**8.86**	**143**	*i* P	**Pn**	**22 29 59.9**	**+0.2**
	SNR=8.4						
ASHO				S	**Sn**	**22 31 36.5**	**-2.8**
RAYN	**Ar Rayn**	**9.40**	**208**	P	**Pn**	**22 30 08.3**	**+1.3**
RAYN				S	**Sn**	**22 31 52.7**	**+0.2**
RAYN	**Ar Rayn**	**9.40**	**208**	*i* P	**Pn**	**22 30 05.6**	**-1.4**
	SNR=10						
SOHO	**SOHO**	**9.56**	**143**	P	**Pn**	**22 30 08.4**	**-0.7**
SOHO				S	**Sn**	**22 31 54.3**	**-1.9**
SOHO	**SOHO**	**9.56**	**143**	P	**Pn**	**22 30 08.2**	**-0.9**
UMZA	**Um Al Zommool**	**10.18**	**154**	P	**Pn**	**22 30 21.1**	**+3.4**
ARQ	**Araqi**	**10.22**	**146**	P	**Pn**	**22 30 22.3**	**+4.0**
ARQ				S	**Sn**	**22 32 10.2**	**-2.3**
HOQ	**Hoqain**	**10.42**	**142**	P	**Pn**	**22 30 22.7**	**+1.8**
HOQ				P	**Pn**	**22 30 22.7**	**+1.8**
HOQ				S	**Sn**	**22 32 15.5**	**-1.9**
HOQ				S	**Sn**	**22 32 15.5**	**-1.9**
BIDO	**Bidbid**	**10.91**	**138**	P	**Pn**	**22 30 28.9**	**+1.2**
BIDO				S	**Sn**	**22 32 27.4**	**-2.1**
BSY	**Bisya**	**11.05**	**144**	P	**Pn**	**22 30 32.0**	**+2.3**
	SNR=11						
BSY				S	**Sn**	**22 32 27.9**	**-5.1**
SMDO	**Samad**	**11.23**	**140**	P	**Pn**	**22 30 34.0**	**+1.8**
SMDO				P	**Pn**	**22 30 34.0**	**+1.8**
SMDO				S	**Sn**	**22 32 34.3**	**-3.2**
	SNR=7.8						
SMDO				S	**Sn**	**22 32 34.3**	**-3.2**
	SNR=7.8						
ASF	**Jabal al Asfar**	**11.35**	**275**	Pn	**Pn**	**22 30 31.4**	**-2.3**
	comp=Z,1.9nm,0.3s,baz=73,slow=7.0,SNR=12						
ASF				Sn	**Sn**	**22 32 36.5**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=324,slow=23,SNR=1.4						
WSAR	**Wadi Sarin**	**11.42**	**137**	Pn	**Pn**	**22 30 34.3**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=343,slow=13,SNR=21						
WSAR				Sn	**Sn**	**22 32 39.7**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=107,slow=22,SNR=6.2						
WSAR				LR	LR	22 35 37.0	
	comp=Z,78nm,21.1s,baz=334,slow=40						
JMDO	**Jabal Madar**	**11.82**	**142**	P	**Pn**	**22 30 41.7**	**+1.5**
	SNR=11						
JMDO				P	**Pn**	**22 30 41.7**	**+1.5**
	SNR=11						
JMDO				S	**Sn**	**22 32 48.5**	**-3.3**
JMDO				S	**Sn**	**22 32 48.5**	**-3.3**
WBK	**Wadi Bani Khal**	**12.10**	**138**	P	**Pn**	**22 30 44.0**	**0.0**
WBK				S	**Sn**	**22 32 55.5**	**-3.2**
MMAI	**Mount Meron Ar**	**12.60**	**279**	Pn	**Pn**	**22 30 50.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=98,slow=16,SNR=1.8						
JLN	**Jalan Bani Buh**	**12.71**	**138**	P	**Pn**	**22 30 51.7**	**-0.6**
JLN				P	**Pn**	**22 30 51.7**	**-0.6**
JLN				S	**Sn**	**22 33 10.6**	**-3.0**
JLN				S	**Sn**	**22 33 10.6**	**-3.0**
DOK	**Doka**	**13.73**	**164**	P	**Pn**	**22 31 08.9**	**+2.6**
	SNR=5.7						
DOK				S	**Sn**	**22 33 35.3**	**-3.2**
WHFO	**Wadi Hawf**	**14.34**	**166**	P	**Pn**	**22 31 14.1**	**-0.4**
	SNR=22						
WHFO				S	**Sn**	**22 33 48.6**	**-4.8**
ABTO	**Aybut**	**14.80**	**169**	P	**Pn**	**22 31 21.8**	**+0.9**
	SNR=17						
ABTO				S	**Sn**	**22 34 01.9**	**-2.8**
DMTO	**DMTO**	**14.80**	**162**	P	**Pn**	**22 31 20.4**	**-0.5**
	SNR=11						
DMTO				P	**P**	**22 31 23.1**	**-3.6**
	SNR=5.5						
DMTO				S	**Sn**	**22 33 56.8**	**-7.8**
BRTR	**Keskin Array B**	**15.54**	**305**	Pn	**Pn**	**22 31 32.3**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=112,slow=12,SNR=2.3						
AKTO	**Aktyubinsk**	**19.34**	**15**	P	**Pn**	**22 32 18.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=214,slow=7.3,SNR=2.2						
IDI	**Anoyia**	**21.37**	**286**	P	**P**	**22 32 39.1**	**+0.1**
	comp=Z,23nm,1.0s,baz=75,slow=12,SNR=2.4						
ATD	**Arta Tunnel**	**21.45**	**200**	LR	LR	22 42 31.1	
	comp=Z,33nm,19.5s,baz=68,slow=41						
AKASG	**Malin Array Be**	**24.35**	**326**	P	**P**	**22 33 07.6**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=134,slow=8.9,SNR=4.8						
BVAR	**Borovoye Array**	**25.59**	**29**	P	**P**	**22 33 20.0**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=230,slow=8.6,SNR=1.6						
KURBB	**Kurchatov Arra**	**28.00**	**40**	P	**P**	**22 33 44.2**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=242,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**28.61**	**50**	P	**P**	**22 33 49.1**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=243,slow=15,SNR=1.5						
ZALV	**Zalesovo Beam**	**33.00**	**38**	P	**P**	**22 34 28.8**	**+2.6**
	comp=Z,0.5nm,0.5s,baz=263,slow=13,SNR=2.9						
ZALV				LR	LR	22 50 48.9	
	comp=Z,73nm,19.3s,baz=356,slow=42						
FINES	**FINESS Array B**	**33.43**	**339**	P	**P**	**22 34 29.4**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=146,slow=15,SNR=2.3						
NOA	**NORSAR Array B**	**38.61**	**331**	P	**P**	**22 35 13.3**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=109,slow=9.4,SNR=1.4						
ARCES	**ARCESS Array B**	**40.13**	**347**	P	**P**	**22 35 26.2**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=156,slow=6.9,SNR=3.5						
SONM	**Songino Array**	**44.89**	**52**	P	**P**	**22 36 10.1**	**+4.1**
	comp=Z,0.4nm,0.7s,baz=280,slow=10,SNR=3.1						
TORD	**Torodi Ar. Bea**	**48.17**	**259**	P	**P**	**22 36 31.7**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=47,slow=9.3,SNR=7.9						
YKA	**Yellowknife Ar**	**85.09**	**353**	P	**P**	**22 40 26.4**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=11,slow=5.3,SNR=3.5						

NNC 07 22:54:00.3±4.2, 37.°97N×78.°43E, h0km, mb3.5, mpv3.1, 3C-5D, Error ellipse: s-maj=31.6km s-min=23.4km az=12.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**5.30**	**349**	Pg	Pg	22 55 38.7	-3.1
	1.8nm,0.5s						
MDOK				Lg	Lg	22 56 52.1	
	11nm,0.8s						
TKM2	**Tokmak 2**	**5.40**	**337**	⇑Pg	Pb	22 55 37.2	+1.6
	1.6nm,0.7s						
TKM2				⇓Lg	Lg	22 56 54.1	
	4.0nm,1.0s						
AAK	**Ala-Archa**	**5.55**	**328**	⇑Pg	Pb	22 55 40.6	+2.5
	1.9nm,0.9s						
AAK				⇑Lg	Lg	22 56 55.0	
	6.8nm,1.1s						
MAKZ	**Makanchi**	**9.22**	**15**	⇓Pn	Pn	22 56 14.4	0.0
	2.1nm,1.1s						
MAKZ				⇓Sn	Sn	22 57 58.3	-0.5
	0.6nm,0.6s						
MK31	**Makanchi Array**	**9.27**	**17**	⇓Pn	Pn	22 56 16.5	+1.3
	0.4nm,0.5s,baz=188,slow=12,SNR=9.4						
MK31				⇓Sn	Sn	22 58 01.2	+1.0
	2.0nm,0.9s,baz=197,slow=25,SNR=3.2						

IDC 07 23:20:00.9±6.0, 3.°87S×129.°02E, h179km±77km, mb2.9/2, mb1 3.0/4, mb1mx2.7/35, mbtmp3.5/4, Error ellipse: s-maj=104.5km s-min=20.7km az=82.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.73**	**37**	P	Pn	23 20 58.9	+0.3
	2.4nm,0.3s,baz=167,slow=21,SNR=13						
SIJI				S	Sn	23 21 43.9	+0.2
	6.8nm,0.3s,baz=193,slow=22,SNR=12						
WRA	**Warramunga Arr**	**16.80**	**162**	P	P	23 23 44.9	-0.3
	0.2nm,0.3s,baz=341,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**20.25**	**167**	P	P	23 24 22.6	+0.1
	0.6nm,0.3s,baz=347,slow=11,SNR=8.7						
MKAR	**Makanchi Array**	**65.08**	**327**	P	P	23 30 22.3	0.0
	0.2nm,0.7s,baz=122,slow=7.0,SNR=2.8						

*IDC **07** 23:36:34.4±1.4, 13.°23S×167.°25E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.8/35, mbtmp4.0/9, ML3.7/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/60, Error ellipse: s-maj=46.8km s-min=24.0km az=123.0*
*NEIC **07** 23:36:34.2±1.6, 13.°24S±0.°07×167.°6E±0.°2, h10km±2km, mb4.3/9, Error ellipse: s-maj=29.1km s-min=12.5km az=93.0*

ISC 07 23:36:39.1±0.9, 13.°34S±0.°08×167.°4E±0.°2, h35km, n29, σ0.94/26, mb4.0/12, MS3.4/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.10**	**184**	Pn	**Pn**	**23 37 10.4**	**-1.4**
SANVU				Sn	**Sn**	**23 37 38.5**	**+1.8**
LIFNC	**LIFOU**	**7.40**	**181**	Pn	**Pn**	**23 38 24.2**	**-0.4**
MARNC	**Mare, Loyalty**	**8.12**	**176**	Pn	**Pn**	**23 38 33.8**	**-0.7**
HNR	**Honiara**	**8.23**	**297**	LR	LR	23 41 51.2	
	comp=Z,107nm,18.7s,baz=128,slow=39						
DZM	**Mont Dzumac**	**8.73**	**186**	Pn	**Pn**	**23 38 43.5**	**+0.5**
	0.8nm,0.3s,baz=53,slow=15,SNR=11						
DZM				LR	LR	23 41 44.7	
	comp=Z,72nm,21.3s,baz=214,slow=35						
DZM	**Mont Dzumac**	**8.73**	**186**		**Pn**	**23 38 42.9**	**0.0**
ONTNC	**Ouen Toro**	**8.96**	**185**	Pn	**Pn**	**23 38 44.2**	**-1.9**
OUENC	**Ouen Island, N**	**9.04**	**183**	Pn	**Pn**	**23 38 46.0**	**-1.2**
PINNC	**Pines Island,**	**9.22**	**179**	Pn	**Pn**	**23 38 47.9**	**-1.8**
EIDS	**Eidsvold**	**19.44**	**230**	P	**Pn**	**23 41 03.6**	**-0.5**
EIDS				IAmb	IAmb	23 41 06.3	
	comp=Z,8.9nm,0.8s						
PMG	**Port Moresby**	**20.18**	**279**	LR	LR	23 48 54.6	
	comp=Z,69nm,18.5s,baz=98,slow=37						
COEN	**Coen**	**23.50**	**266**	P	**P**	**23 41 47.4**	**+1.3**
STKA	**Stephens Creek**	**29.97**	**228**	P	**P**	**23 42 45.0**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=17,slow=9.3,SNR=3.6						
STKA				LR	LR	23 54 26.1	
	comp=Z,95nm,19.2s,baz=29,slow=36						
STKA	**Stephens Creek**	**29.97**	**228**	IAmb	IAmb	23 42 46.7	
	comp=Z,0.8nm,1.1s						
WB0	**Warramunga Arr**	**32.20**	**254**	P	**P**	**23 43 03.8**	**-0.3**
WB0				IAmb	IAmb	23 43 07.9	
	comp=Z,2.7nm,0.9s						
WB2	**Warramunga Arr**	**32.25**	**254**	P	**P**	**23 43 03.8**	**-0.8**
WB2				IAmb	IAmb	23 43 04.5	
	comp=Z,1.7nm,0.8s						
WRA	**Warramunga Arr**	**32.27**	**254**	P	**P**	**23 43 04.0**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=86,slow=9.2,SNR=5.0						
WRA				LR	LR	23 55 00.3	
	comp=Z,83nm,19.6s,baz=85,slow=34						
ASAR	**Alice Springs**	**33.26**	**247**	P	**P**	**23 43 13.1**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=74,slow=9.5,SNR=24						
ASAR				LR	LR	23 55 03.6	
	comp=Z,63nm,20.0s,baz=94,slow=33						
ASAR	**Alice Springs**	**33.26**	**247**	P	**P**	**23 43 13.5**	**0.0**
BBOO	**Buckleboo**	**34.51**	**231**	P	**P**	**23 43 24.2**	**+0.1**
BBOO				IAmb	IAmb	23 43 43.5	
	comp=Z,8.9nm,1.0s						
FAKI	**Fak Fak**	**36.21**	**284**	P	**P**	**23 43 37.8**	**-1.1**
KNRA	**Kununurra**	**37.40**	**262**	P	**P**	**23 43 48.8**	**-0.2**
KNRA				IAmb	IAmb	23 43 50.8	
	comp=Z,9.3nm,1.1s						
FORT	**Forrest**	**40.09**	**238**	P	**P**	**23 44 11.6**	**+0.2**
PPT	**Papeete**	**41.66**	**101**	LR	LR	23 58 13.1	
	comp=Z,130nm,20.1s,baz=136,slow=31						
CMAR	**Chiang Mai Arr**	**74.47**	**294**	P	**P**	**23 48 14.0**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=139,slow=4.5,SNR=4.3						
SONM	**Songino Array**	**81.44**	**323**	P	**P**	**23 48 53.4**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=117,slow=5.7,SNR=6.2						
ILAR	**Eielson Array**	**85.19**	**18**	P	**P**	**23 49 11.4**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=219,slow=6.5,SNR=4.5						
MKAR	**Makanchi Array**	**96.26**	**316**	P	**P**	**23 50 04.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=90,slow=4.3,SNR=10						
YKA	**Yellowknife Ar**	**96.28**	**27**	P	**P**	**23 50 03.9**	**+0.4**
	comp=

ARCES	ARCESS Array B	85.59	13	LR	LR	00 40 35.0
	comp=Z,48nm,18.2s,baz=316,slow=35					
KIRV	Kirov	86.68	28	LR	LR	00 43 16.9
	comp=Z,75nm,18.2s,baz=279,slow=37					

*IDC **07** 23:50:59.9±0.8, 54°.78N×166°.19E, h0km, mb3.7/14, mb1 3.9/15, mb1mx3.8/35, mbtmp3.7/15, ML2.3/1, Error ellipse: s-maj=26.0km s-min=14.6km az=164.0*
*KRSC **07** 23:51:01.1±1.9, 54°.71N×166°.07E, h40km±14km, ML4.2*

ISC 07 23:51:04.7±0.7, 54°.73N±0°.05×166°.19E±0°.06, h35km, n54, σ1§45/63, mb3.6/14, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.49	345	*i* P	Pn	23 51 11.5	-3.6
BKI				*e*S	Sn	23 51 17.8	-4.6
KBTR	Krutoberegovo	2.42	309	*e*P	Pn	23 51 40.3	-1.4
KBTR				*e*S	Sn	23 52 08.9	-1.2
KBG	Krutoberegovo	2.50	309	*e*P	Pn	23 51 42.0	-0.8
KBG				*e*S	Sn	23 52 12.4	+0.4
MKZ	Mys Kozlova	2.60	268	*e*P	Pn	23 51 43.2	-0.9
MKZ				*e*S	Sn	23 52 11.8	-2.6
SMKR	Semkarok	3.25	307	*e*P	Pn	23 51 53.8	+0.6
SMKR				*e*S	Sn	23 52 31.8	+1.1
BDR	Baidarnaya	3.37	305	*e*P	Pn	23 51 55.2	+0.4
TUMD	Tumrok D	3.37	280	*e*P	Pn	23 51 54.6	-0.2
TUMD				*e*S	Sn	23 52 33.0	-0.5
SRKR	Sorokina	3.43	306	*e*P	Pn	23 51 57.0	+1.4
SRKR				*e*S	Sn	23 52 34.7	-0.4
KLY	Klyuchi	3.52	299	*e*P	Pn	23 51 56.2	-0.6
KLY				*e*S	Sn	23 52 35.3	-1.9
TUMR	Tumrok	3.52	281	*e*P	Pn	23 51 57.5	+0.6
KRSR	Krestovskiy	3.53	297	*e*P	Pn	23 51 57.4	+0.4
KIRR	Kirishev	3.56	292	*e*P	Pn	23 51 56.7	-0.7
KMNR	Kamenistaya	3.56	289	*e*P	Pn	23 51 57.5	+0.1
KPT	Kopyto	3.62	292	*e*P	Pn	23 51 58.0	-0.3
SPN	Mys Shipunski	4.00	248	*e*P	Pn	23 52 02.8	-0.5
SPN				*e*S	Sn	23 52 46.3	-2.6
KII	Karymskiy	4.00	263	*e*P	Pn	23 52 04.2	+0.7
NLC	Nalytchevo	4.33	252	*e*S	Sn	23 52 56.4	-0.8
SDLR	Sedlovina	4.55	254	*e*P	Pn	23 52 11.4	+0.4
SMAR	Somma	4.60	254	*e*P	Pn	23 52 12.3	+0.5
UGLR	Uglovaya	4.61	254	*e*P	Pn	23 52 12.7	+0.9
KRER	Koryakskii	4.62	255	*e*P	Pn	23 52 12.6	+0.6
AVH	Avacha	4.64	255	*e*P	Pn	23 52 12.9	+0.7
AVH				*e*S	Sn	23 53 02.9	-1.9
KOK	Koryaka	4.68	255	*e*P	Pn	23 52 13.6	+0.7
DALK	Dalny	4.72	252	*e*P	Pn	23 52 13.0	-0.2
DALK				*e*S	Sn	23 53 03.5	-3.1
OSSR	Ossora	4.84	341	*e*P	Pn	23 52 14.9	0.0
OSSR				*e*S	Sn	23 53 10.5	+0.9
GNL	Ganaly	4.95	261	*e*P	Pn	23 52 17.5	+0.9
RUS	Russkaya	5.12	246	P	Pn	23 52 18.6	-0.1
KRMR	Karymshinskiy	5.14	252	*e*P	Pn	23 52 18.6	-0.5
KRMR				*e*S	Sn	23 53 15.1	-2.1
PETK	Petropavlovsk-	5.28	255	Pn	Pn	23 52 20.8	-0.2
	0.6nm,0.3s,baz=95,slow=20,SNR=7.9						
PETK				Sn	Sn	23 53 21.3	+0.9
	0.5nm,0.3s,baz=171,slow=31,SNR=6.7						
GRL	Gorelyy	5.30	249	*e*P	Pn	23 52 20.1	-1.2
ASAK	Asacha	5.47	248	*e*P	Pn	23 52 24.5	+0.8
PALN	Palana	5.54	325	*e*P	Pn	23 52 25.3	+0.8
KDTR	Khodutka, Kamc	5.68	242	*e*P	Pn	23 52 25.8	-0.6
KDTR				*e*S	Sn	23 53 25.3	-5.0
TILK	Tilichiki	5.73	360	*e*P	Pn	23 52 27.6	+0.5
KLR	Kul'dur	21.76	270	P	P	23 55 54.1	+1.2
	0.5nm,0.5s,baz=54,slow=9.2,SNR=5.9						
TIXI	Tiksi	23.25	331	P	P	23 56 08.3	-0.1
	0.6nm,0.5s,baz=110,slow=9.5,SNR=9.5						
ILAR	Eielson Array	25.07	48	P	P	23 56 24.7	-0.7
	2.2nm,0.6s,baz=256,slow=8.1,SNR=31						
H11N2	WAKE ISLAND Hy	34.95	179	T	T	00 35 19.5	
	baz=360,slow=76,SNR=156						
H11N3	WAKE ISLAND Hy	34.96	179	T	T	00 34 58.5	
	baz=360,slow=76,SNR=112						
H11N1	WAKE ISLAND Hy	34.96	179	T	T	00 35 18.0	
	baz=360,slow=76,SNR=116						
H11S1	WAKE ISLAND Hy	36.16	179	T	T	00 36 41.5	
	baz=360,slow=76,SNR=9.9						
H11S3	WAKE ISLAND Hy	36.17	179	T	T	00 36 42.6	
	baz=360,slow=76,SNR=3.7						
H11S2	WAKE ISLAND Hy	36.18	179	T	T	00 36 44.7	
	baz=360,slow=76,SNR=18						
SONM	Songino Array	37.01	285	P	P	23 58 11.3	+0.6
	0.7nm,0.6s,baz=52,slow=8.9,SNR=6.8						
YKA	Yellowknife Ar	39.47	46	P	P	23 58 31.2	+0.1
	0.2nm,0.4s,baz=294,slow=7.6,SNR=4.6						
MKAR	Makanchi Array	50.63	298	P	P	23 59 58.8	-1.1
	0.2nm,0.6s,baz=55,slow=7.8,SNR=2.5						
NVAR	Mina Array Bea	51.81	75	P	P	00 00 10.8	+1.6
	0.4nm,0.5s,baz=296,slow=8.9,SNR=3.8						
PDAR	Pinedale Array	53.56	66	P	P	00 00 23.1	+1.1
	0.3nm,0.9s,baz=307,slow=0.7,SNR=3.5						
ULM	Lac du Bonnet	55.03	51	P	P	00 00 31.5	-0.7
	1.1nm,0.4s,baz=11,slow=4.8,SNR=1.9						
NOA	NORSAR Array B	62.88	347	P	P	00 01 26.0	-0.6
	0.4nm,0.5s,baz=12,slow=6.8,SNR=2.1						
TXAR	Lajitas Array	66.69	72	P	P	00 01 52.4	+0.4
	0.4nm,0.7s,baz=331,slow=7.6,SNR=6.1						
GERES	GERESS Array B	74.23	342	P	P	00 02 38.9	+1.3
	0.3nm,0.4s,baz=0.7,slow=7.8,SNR=1.9						
WRA	Warramunga Arr	79.21	210	P	P	00 03 05.8	0.0
	0.7nm,1.0s,baz=20,slow=5.9,SNR=3.1						
ASAR	Alice Springs	82.85	210	P	P	00 03 26.2	+1.1
	0.9nm,0.8s,baz=19,slow=5.7,SNR=7.6						

*TUL **07** 23:52:02.9±1.0, 36°.47N±0°.03×98°.75W±0°.02, h5km±6km, ML2.7, mb_Lg2.3/9(NEIC), Error ellipse: s-maj=3.5km s-min=1.7km az=183.0*

NEIC 07 23:52:03.1±1.2, 36°.46N±0°.03×98°.73W±0°.02, h8km±7km, Error ellipse: s-maj=4.0km s-min=2.7km az=178.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.23	249	Pg	Pg	23 52 07.7	-0.1
U32A				Sg	Sg	23 52 10.8	-0.2
OK035	E0210 Rd and N	0.24	4		Pg	23 52 08.1	+0.1
OK035				Sg	Sg	23 52 11.3	0.0
CROK	Carrier	0.60	86	Pg	Pg	23 52 14.9	+0.1
CROK				Sg	Sg	23 52 23.1	+0.4
KAN14	Manchester OK	0.79	51		Pg	23 52 18.4	+0.1
GC02	Grant County #	0.80	61	Pg	Pg	23 52 18.3	-0.2
KAN10	Anthony SW Sta	0.83	38	Pg	Pg	23 52 18.1	-1.1
KAN16	Harper SW Stat	0.93	35	Pg	Pg	23 52 20.7	-0.3
KAN05	Bluff City Nor	0.94	47	Pg	Pg	23 52 21.0	-0.3
KAN17	Caldwell West	0.97	53		Pg	23 52 21.2	-0.5
KAN08	Anthony NE Sta	0.98	38		Pg	23 52 21.3	-0.5
KAN01	Argonia South	1.04	48		Pg	23 52 22.7	-0.4
KAN06	Argonia West S	1.05	42	Pg	Pg	23 52 22.2	-1.0
KAN13	South Haven SW	1.15	61		Pg	23 52 24.6	-0.5
BCOK	Bluff Creek, N	1.21	131	Pg	Pb	23 52 26.1	-0.3
OK029	Liberty Lake	1.23	122	Pg	Pb	23 52 25.7	-0.8
BLOK	Blackwell	1.25	76	Pn	Pn	23 52 26.4	-0.5
OK025	Westminster Rd	1.43	128	Pn	Pn	23 52 28.9	-0.5
OK031	S. Brethren Rd	1.61	108		Pn	23 52 31.8	-0.1
FNO	Franklin	1.62	138	Pn	Pn	23 52 32.3	+0.3
QUOK	Quay	1.66	100		Pn	23 52 32.8	+0.3
OK030	Cody Creek RV	1.66	108		Pn	23 52 33.0	+0.5
WMOK	Wichita Mounta	1.72	181	Pn	Pn	23 52 33.4	0.0
T35A	Sooner Cattle	1.84	75		Pn	23 52 35.5	+0.5
R32A	Long Quarter,	1.96	0		Pn	23 52 36.6	-0.1
X34A	Smith Ranch, M	2.00	158	Pn	Pb	23 52 38.6	-1.1
TUL1	Leonard	2.44	102	Pn	Pn	23 52 43.4	+0.2
CBKS	Cedar Bluff	2.48	342	Pn	Pn	23 52 44.1	+0.3
LOOK	Love County	2.77	152	Pn	Pn	23 52 48.8	+1.0
KSU1	Kansas State U	3.12	32	Pn	Pn	23 52 52.3	-0.3
U38A	Gravette	3.50	89	Pn	Pn	23 52 58.8	+1.0
U38A				IAmb_Lg		23 53 54.0	
	comp=Z,7.9nm,0.8s						
HHAR	Hobbs	3.87	91	IAmb_Lg		23 54 13.1	
	comp=Z,5.2nm,1.0s						
KSCO	Kaye Shedlock'	4.00	311	IAmb_Lg		23 54 17.1	
	comp=Z,7.1nm,0.7s						
MSTX	Muleshoe	4.14	234	IAmb_Lg		23 54 19.3	
	comp=Z,8.6nm,0.8s						
R40A	Maddies Statio	5.46	69	IAmb_Lg		23 55 05.0	
	comp=Z,5.0nm,1.0s						

ISC 08 00:00:12.0±1.0, 45°.17N±0°.04×14°.77E±0°.03, h13km±8km, n9, σ0§42/17, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	Rijeka	0.25	307	*e*Pg	Pg	00 00 17.2	-0.2
RIY				Sg	Sb	00 00 21.8	-0.9
GBRS	Gornja Briga	0.36	5	*i* Pg	Pg	00 00 19.6	+0.2
GBRS				*i* Sg	Sb	00 00 25.4	-0.5
GBRS				IAML		00 00 25.8	
	comp=Z,1.8nm,0.1s						
SMRN	Sveta Marina	0.46	253	*e*Pg	Pb	00 00 21.8	-0.1
SMRN				Sg	Sb	00 00 28.7	+0.2
BOJS	Bojanci	0.48	46	*i* Pg	Pg	00 00 21.3	-0.1
BOJS				*e*Sg	Sg	00 00 27.6	-0.1
BOJS				IAML		00 00 28.8	
	comp=Z,3.9nm,0.1s						
VISS	Visnje	0.63	5	*i* Pg	Pg	00 00 24.3	-0.1
VISS				*e*Sg	Sb	00 00 34.0	+0.3
SKDS	Skadanscina	0.65	305	*i* Sg	Sb	00 00 35.0	+0.8
SKDS				IAML		00 00 35.6	
	comp=Z,0.5nm,0.1s						
OZLJ	Ozalj	0.66	48	*e*Pg	Pb	00 00 25.6	+0.2
OZLJ				Sg	Sg	00 00 33.5	-0.2
PLIT	Plitvice	0.68	116	*e*Pg	Pb	00 00 26.0	+0.3
PLIT				Sg	Sg	00 00 33.7	-0.4
UDBI	Udbina	0.96	132	*e*Pg	Pn	00 00 31.2	-0.1
UDBI				Sg	Sb	00 00 43.3	+0.2

*TUL **08** 00:10:03.6±1.1, 36°.50N±0°.03×98°.73W±0°.03, h8km±7km, ML3.0, mb_Lg2.9/44(NEIC), Error ellipse: s-maj=4.1km s-min=2.9km az=158.0*

NEIC 08 00:10:03.7±1.1, 36°.51N±0°.01×98°.70W±0°.02, h8km±7km, Error ellipse: s-maj=2.9km s-min=1.6km az=69.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.20	358	Pg	Pg	00 10 08.2	+0.4
OK035				Sg	Sg	00 10 11.7	+1.0
U32A	Winter Ranch,	0.27	243	Pg	Pg	00 10 08.9	-0.2
U32A				Sg	Sg	00 10 12.8	0.0
CROK	Carrier	0.58	90	Pg	Pg	00 10 15.1	+0.2
CROK				Sg	Sg	00 10 23.1	+0.6
KAN14	Manchester OK	0.74	53		Pg	00 10 18.2	+0.1
KAN14				Sg	Sg	00 10 28.3	+0.5
GC02	Grant County #	0.76	63	Pg	Pg	00 10 18.4	0.0
GC02				Sg	Sg	00 10 28.9	+0.6
KAN10	Anthony SW Sta	0.79	38	Pg	Pg	00 10 18.8	0.0
KAN10				Sg	Sg	00 10 28.9	-0.2
KAN16	Harper SW Stat	0.88	35		Pg	00 10 20.2	-0.5
KAN05	Bluff City Nor	0.90	48	Pg	Pg	00 10 20.9	-0.1
KAN17	Caldwell West	0.92	54		Pg	00 10 21.3	-0.2
KAN08	Anthony NE Sta	0.93	39		Pg	00 10 21.4	-0.2
KAN12	Harper NE Stat	0.97	35	Pg	Pg	00 10 22.4	0.0
KAN01	Argonia South	0.99	49		Pg	00 10 22.7	-0.1
KAN06	Argonia West S	1.00	42		Pg	00 10 22.7	-0.3
KAN13	South Haven SW	1.11	62		Pg	00 10 23.9	-1.1
BLOK	Blackwell	1.22	78	Pn	Pb	00 10 26.5	-0.5
BCOK	Bluff Creek, N	1.23	133	Pn	Pb	00 10 26.5	-0.6
OK025	Westminster Rd	1.44	129		Pn	00 10 29.7	-0.4
OKCFA	Oklahoma City	1.49	137		Pn	00 10 30.6	-0.1
OKCSW	OKLAHOMA CITY	1.50	137	Pn	Pn	00 10 30.6	-0.3
OK031	S. Brethren Rd	1.60	110		Pb	00 10 33.0	-0.6
FNO	Franklin	1.63	139		Pn	00 10 33.2	+0.5
QUOK	Quay	1.64	101		Pn	00 10 33.3	+0.4
OK030	Cody Creek RV	1.66	110		Pn	00 10 33.4	+0.3
WMOK	Wichita Mounta	1.77	182	Pn	Pn	00 10 34.3	-0.3
T35A	Sooner Cattle	1.81	76		Pn	00 10 35.4	+0.3
R32A	Long Quarter,	1.91	360		Pb	00 10 38.1	-0.8
X34A	Smith Ranch, M	2.03	159	Pn	Pn	00 10 39.5	+1.3
TUL1	Leonard	2.43	103		Pn	00 10 43.8	+0.2
TUL1				IAmb_Lg		00 11 25.2	
	comp=Z,38nm,0.8s						
CBKS	Cedar Bluff	2.45	341		Pn	00 10 43.9	-0.1
LOOK	Love County	2.80	153		Pn	00 10 49.2	+0.5
LOOK				IAmb_Lg		00 11 34.2	
	comp=Z,32nm,0.8s						
AMTX	Amarillo	2.92	237		Pn	00 10 50.5	+0.1
KSU1	Kansas State U	3.08	32		Pn	00 10 53.4	+0.8
X37A	Clayton	3.32	124		Pn	00 10 56.7	+0.8
X37A				IAmb_Lg		00 11 57.3	
	comp=Z,35nm,0.8s						
Z35A	Perchaven, San	3.38	159		Pn	00 10 56.3	-0.5
U38A	Gravette	3.48	90		Pn	00 10 58.3	+0.1
HHAR	Hobbs	3.85	92		Pn	00 11 01.5	-1.7
MSTX	Muleshoe	4.18	234	IAmb_Lg		00 12 21.9	
	comp=Z,22nm,0.8s						
W39A	Magazine	4.20	107	IAmb_Lg		00 12 25.7	
	comp=Z,33nm,0.8s						
N33A	J Bar K, Exete	4.34	13	Pn	Pn	00 11 09.7	-0.2
N33A				IAmb_Lg		00 12 32.5	
	comp=Z,31nm,1.1s						
S39A	Bolivar	4.46	73	Pn	Pn	00 11 12.8	+1.2
S39A				IAmb_Lg		00 12 36.2	
	comp=Z,22nm,1.1s						
MIAR	Mount Ida	4.62	114	Pn	Pn	00 11 14.0	+0.3
MIAR				IAmb_Lg		00 12 36.4	
	comp=Z,18nm,0.8s						
WHTX	Lake Whitney,	4.62	167	Pn	Pn	00 11 13.5	-0.3
T25A	Trinidad	4.62	280		Pn	00 11 14.8	+0.8
T25A				IAmb_Lg		00 12 41.7	
	comp=Z,23nm,0.9s						
BGNE	Belgrade	4.91	5	Pn	Pn	00 11 17.4	-0.5
N35A	Tabor	4.96	28	Pn	Pn	00 11 18.8	+0.3
P38A	Dawn	5.13	51	Pn	Pn	00 11 20.8	0.0
OGNE	Ogallala	5.14	331	Pn	Pn	00 11 20.2	-0.9
OGNE				IAmb_Lg		00 12 59.6	
	comp=Z,26nm,0.7s						
MGMO	Mountain Grove	5.20	81	Pn	Pn	00 11 22.7	+0.9
FCAR	Ozark Folk Cen	5.36	95	IAmb_Lg		00 12 53.7	
	comp=Z,16nm,0.8s						
W41B	Gary Mavity, V	5.41	102	IAmb_Lg		00 12 59.7	
	comp=Z,17nm,0.8s						
R40A	Maddies Statio	5.42	69	Pn	Pn	00 11 25.5	+0.6
SDCO	Great Sand Dun	5.57	285	Pn	Pn	00 11 27.4	+0.2
L34A	Svendsen Farm,	5.74	18	Pn	Pn	00 11 29.0	-0.3
435B	Jarrell	5.78	170	IAmb_Lg		00 13 15.6	
	comp=Z,15nm,0.9s						
Z41A	Richland Creek	5.83	122	IAmb_Lg		00 13 18.2	
	comp=Z,18nm,0.9s						
P40A	Paris	6.06	58	IAmb_Lg		00 13 22.4	
	comp=Z,21nm,0.8s						
JCT	Junction City	6.08	189	IAmb_Lg		00 13 33.6	
	comp=Z,21nm,0.8s						
K31A	O'Neill	6.11	360	IAmb_Lg		00 13 33.4	
	comp=Z,21nm,1.0s						
CCM	Cathedral Cave	6.14	73	IAmb_Lg		00 13 16.9	
	comp=Z,12nm,0.8s						
PBMO	Poplar Bluff	6.66	85	IAmb_Lg		00 13 41.4	
	comp=Z,13nm,0.8s						
FVM	French Village	6.76	75	IAmb_Lg		00 13 35.1	
	comp=Z,16nm,0.8s						
SCIA	State Center	6.87	37	IAmb_Lg		00 13 47.3	
	comp=Z,20nm,0.7s						
PHWY	Pilot Hill	7.12	314	IAmb_Lg		00 14 04.1	
	comp=Z,11nm,0.8s						

UPP 08 00:20:45.7±0.3, 67°.86N×20°.20E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.11	28	P	Pg	00 20 47.6	-0.2
KUA				S	Sg	00 20 49.5	+0.3
KUA	Kurravaara	0.11	28	P	Pg	00 20 48.1	+0.3
	baz=218						
KUA				S	Sg	00 20 50.0	+0.8
KOVU	Salmi	0.37	358	P	Pg	00 20 52.4	-0.3
KOVU				S	Sg	00 20 57.9	+0.4
KOVU	Salmi	0.37	358	P	Pg	00 20 52.9	+0.1
NIKU	Nikkaluokta	0.44	272	P	Pg	00 20 53.2	-0.9
NIKU				S	Sg	00 20 59.4	-0.4
LANU	Lannavaara	0.70	73	P	Pg	00 20 58.5	-0.7
LANU	Lannavaara	0.70	73	P	Pg	00 20 59.0	-0.1
DUNU	Dundret	0.75	169	P	Pg	00 20 58.2	-1.9
MASU	Masugnsbyn	0.80	120	P	Pg	00 20 59.5	-1.5
SALU	Saltoluokta	0.81	234	P	Pg	00 20 59.7	-1.5
PAJU	Pajala	1.40	125	P	Pn	00 21 09.8	-2.6

DRS 08 00:45:24.0±0.0, 38°.85N×47°.80E, h45km, Northwestern Iran

AZER 08 00:45:24.8±0.0, 40°.20N×48°.60E, h47km, Error ellipse: s-maj=0.7km s-min=0.5km az=333.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDMR	Kurdemir	0.36	299	P	Pn	00 45 34.8	+0.5
	SNR=42						
KDMR				S	Sn	00 45 43.5	+2.5
SAAT	Saatly	0.36	202	P	Pn	00 45 35.4	+1.1
	SNR=4.8						
SAAT				S	Sn	00 45 44.4	+3.4
ALIB	Äli-Bayra	0.40	128	P	Pn	00 45 36.0	+1.3
	SNR=46						
ALIB				S	Sn	00 45 44.8	+3.2
GBS	Qobustan	0.42	38	P	Pn	00 45 36.5	+1.3
	SNR=121						
GBS				S	Sn	00 45 46.6	+4.2
PQL	Pirkuli	0.59	360	P	Pn	00 45 38.0	+0.8
	SNR=54						
PQL				S	Sn	00 45 48.7	+2.6
IML	Ismayilli	0.67	332	P	Pn	00 45 38.8	+0.6
	SNR=221						
IML				S	Sn	00 45 49.7	+1.9
ZRD	Zardab	0.70	277	P	Pn	00 45 39.9	+1.4
	SNR=37						
ZRD				S	Sn	00 45 51.7	+3.3
ATGJ	Altiaghaj	0.71	21	P	Pn	00 45 40.7	+2.0
	SNR=14						
ATGJ				S	Sn	00 45 53.2	+4.5
SIZA	Siyzn	0.90	15	P	Pn	00 45 43.0	+1.7
	SNR=91						
SIZA				S	Sn	00 45 57.9	+4.5
QBL	Gabala	0.94	322	P	Pn	00 45 42.9	+1.1
	SNR=58						
QBL				S	Sn	00 45 57.5	+3.3
GLBA	Clilabad	0.97	189	P	Pn	00 45 42.9	+0.8
	SNR=109						
GLBA				S	Sn	00 45 56.8	+2.1
XNQ	Khinaliq	1.03	340	P	Pn	00 45 44.3	+1.1
	SNR=45						
XNQ				S	Sn	00 45 59.5	+2.9
BRDA	Brd	1.09	274	P	Pn	00 45 46.0	+2.3
	SNR=8.8						
BRDA				S	Sn	00 46 01.2	+3.6
NDR	Nardaran	1.13	70	S	Sn	00 46 01.4	+2.9
AGDM	Agdam	1.15	266	P	Pn	00 45 45.8	+1.3
	SNR=113						
AGDM				S	Sn	00 46 02.2	+3.2
QUBA	Quba, Azerbaij	1.16	356	P	Pn	00 45 46.5	+1.8
	SNR=6.1						
QUBA				S	Sn	00 46 02.7	+3.3
QRD	Qoradiz	1.23	234	P	Pn	00 45 46.2	+0.6
	SNR=16						
QRD				S	Sn	00 46 03.5	+2.4
MNGR	Mingechevir, A	1.29	297	P	Pn	00 45 48.4	+2.0
	SNR=13						
MNGR				S	Sn	00 46 05.7	+3.3
YRD	Yardimli	1.31	192	Pn	Pn	00 45 47.0	+0.1
	SNR=5.1						
YRD				Sn	Sn	00 46 05.8	+2.5
QSAR	Qusar	1.34	349	Pn	Pn	00 45 49.2	+2.1
	SNR=3.7						
QSAR				Sg	Sn	00 46 09.4	+5.6
AKT	Akhty	1.44	333	*e*Pn	Pn	00 45 50.8	+2.2
	25nm,0.2s						
AKT				*e*Sn	Sn	00 46 10.5	+4.1
	412nm,0.4s						
KSMR	Kasumkent	1.45	346	*e*Pn	Pn	00 45 52.2	+3.6
	35nm,0.2s						
KSMR				*e*Sn	Sn	00 46 12.9	+6.5
	159nm,0.3s						
SEKA	Sheki	1.47	314	Pn	Pn	00 45 50.4	+1.4
	SNR=22						
SEKA				Sn	Sn	00 46 09.0	+2.0
LKRN	Lenkeran, Azer	1.50	175	Pn	Pn	00 45 49.0	-0.3
	SNR=15						
LKRN				Sn	Sn	00 46 10.6	+3.0
LRK	Lerik	1.57	187	Pn	Pn	00 45 51.5	+1.1
LRK				Sn	Sn	00 46 12.9	+3.3
ASTR	Astara	1.65	175	Pn	Pn	00 45 50.9	-0.4
	SNR=6.2						
ASTR				Sn	Sn	00 46 14.9	+3.6
GANJ	Ganja	1.79	285	Pn	Pn	00 45 55.1	+1.7
	SNR=8.1						
GANJ				Sn	Sn	00 46 17.1	+2.1
DRN	Derbent	1.84	354	*e*Pn	Pn	00 45 56.5	+2.6
	19nm,0.7s						
DRN				*e*Sn	Sn	00 46 20.5	+4.5
ZKTA	Zakatala	2.07	314	Pn	Pn	00 45 59.6	+2.4
	SNR=4.8						
ZKTA				Sn	Sn	00 46 24.4	+2.5
GDB	GEDABAY	2.23	284	Pn	Pn	00 46 00.7	+1.2
	SNR=12						
GDB				Sn	Sn	00 46 28.6	+2.7
ORD	Ordubad	2.38	239	Pn	Pn	00 46 03.0	+1.6
	SNR=16						
ORD				Sn	Sn	00 46 32.6	+3.2
SBZ	Shahbuz	2.48	252	Pn	Pn	00 46 04.8	+2.0
	SNR=7.2						
SBZ				Sg	Sn	00 46 43.0	+11
QZX	Qazax, Azerbai	2.60	290	Pn	Pn	00 46 06.1	+1.7
	SNR=9.7						
QZX				Sn	Sn	00 46 38.4	+3.6
NAX	Nakhchivan	2.60	248	Pn	Pn	00 46 06.9	+2.4
	SNR=3.6						
NAX				Sn	Sn	00 46 37.7	+2.8
HYR	Heyderabad	2.92	262	Pn	Pn	00 46 11.5	+2.7
HYR				Sg	Sn	00 46 54.5	+12

*IDC **08** 00:51:33.1±1.5, 28°.24N×

UOSS S **Sn** **00 53 06.9 +4.4**
HATD Hatta, Dubai 3.25 175 *e*Pn **Pn** **00 52 29.4 +2.6**
HATD Hatta, Dubai 3.25 175 P **Pn** **00 52 30.9 +4.1**
HATD S **Sn** **00 53 07.9 +2.6**
FAQ Al Faqa, Dubai 3.33 184 *e*Pn **Pn** **00 52 29.7 +1.9**
FAQ Al Faqa, Dubai 3.33 184 P **Pn** **00 52 29.9 +2.0**
ASHO Ashiyiah 3.39 176 *e*Pn **Pn** **00 52 30.3 +1.6**
ASHO Ashiyiah 3.39 176 P **Pn** **00 52 31.5 +2.8**
SNR=9.9
ASHO S **Sn** **00 53 12.8 +4.2**
IMEH Mehriz 3.46 343 *e*Pn **Pn** **00 52 33.5 +3.6**
ASUD Al Ashush, Dub 3.47 188 *e*Pn **Pn** **00 52 32.5 +2.7**
ASUD Al Ashush, Dub 3.47 188 P **Pn** **00 52 33.0 +3.2**
SNR=6.3
KAZ1 Kazerun 3.98 294 *e*Pn **Pn** **00 52 38.9 +2.0**
ALNE Al Ain 4.01 181 *e*Pn **Pn** **00 52 37.9 +0.7**
ICHK Chekchek 4.33 344 *e*Pn **Pn** **00 52 45.1 +3.4**
ZHDN Zahedan 4.57 72 *e*Pn **Pn** **00 52 47.0 +2.0**
MZWR Madinat Zayed 4.65 203 *e*Pn **Pn** **00 52 46.7 +0.8**
KLNJ Kolanjah 4.70 309 *e*Pn **Pn** **00 52 49.9 +2.9**
IRAM Ramesheh 4.77 322 *e*Pn **Pn** **00 52 51.0 +3.2**
NHDN Nehbandan 4.94 47 *e*Pn **Pn** **00 52 51.9 +1.9**
TPRV Parvadeh(Tabas 4.99 8 *e*Pn **Pn** **00 52 52.5 +1.8**
BIDO Bidbid 4.99 155 *e*Pn **Pn** **00 52 51.5 +0.8**
BIDO Bidbid 4.99 155 P **Pn** **00 52 53.3 +2.6**
SMDO Samad 5.39 158 P **Pn** **00 52 59.1 +2.8**
SMDO S **Sn** **00 54 00.3 +2.3**
ANAR Anarak 5.40 341 *e*Pn **Pn** **00 52 59.1 +2.7**
WSAR Wadi Sarin 5.45 152 Pn **Pn** **00 52 57.4 +0.4**
comp=Z,0.9nm,0.3s,baz=354,slow=11,SNR=20
WSAR Sn **Sn** **00 53 57.2 -2.1**
comp=Z,1.1nm,0.3s,baz=5.2,slow=18,SNR=6.7
BSY Bisya 5.46 167 P **Pn** **00 53 00.7 +3.5**
BSY S **Sn** **00 54 04.8 +5.2**
IBRJ Brojen 5.50 315 *e*Pn **Pn** **00 53 01.0 +3.1**
IZEF Zefreh 5.67 329 *e*Pn **Pn** **00 53 02.5 +2.3**
SRVN Saravan 5.86 95 *e*Pn **Pn** **00 53 05.7 +2.9**
TNSJ Nastanj 5.90 6 *e*Pn **Pn** **00 53 05.8 +2.5**
AFRZ Afriz 5.99 26 *e*Pn **Pn** **00 53 07.9 +3.4**
SHK1 Shahrekord 6.02 316 *e*Pn **Pn** **00 53 07.8 +2.8**
JMDO Jabal Madar 6.05 160 P **Pn** **00 53 08.4 +3.1**
JMDO S **Sn** **00 54 13.8 -0.5**
WBK Wadi Bani Khal 6.14 152 P **Pn** **00 53 08.2 +1.6**
SNR=7.3
WBK S **Sn** **00 54 17.8 +1.2**
IPIR Pirpir 6.26 318 *e*Pn **Pn** **00 53 11.1 +2.7**
IKLH Kolahrood 6.37 326 *e*Pn **Pn** **00 53 12.0 +2.1**
AMIS Naft Sefid 6.71 304 *e*Pn **Pn** **00 53 17.1 +2.8**
JLN Jalan Bani Buh 6.74 150 P **Pn** **00 53 15.5 +0.8**
ISFB Sefidab 6.96 335 *e*Pn **Pn** **00 53 20.4 +2.6**
DOK Doka 9.55 190 P **Pn** **00 53 53.9 +0.6**
DOK S **Sn** **00 55 34.4 -5.9**
SHAO Shalim 10.02 181 P **Pn** **00 54 00.6 +0.9**
SNR=8.0
SHAO S **Sn** **00 55 50.2 -1.5**
WHFO Wadi Hawf 10.29 191 P **Pn** **00 54 02.9 -0.6**
SNR=12
WHFO S **Sn** **00 55 52.0 -6.6**
DMTO DMTO 10.35 185 P **Pn** **00 54 03.1 -1.2**
DMTO S **Sn** **00 55 56.4 -3.6**
ABTO Aybut 10.93 193 P **Pn** **00 54 10.8 -1.5**
SNR=18
ABTO S **Sn** **00 56 07.3 -7.0**
MKAR Makanchi Array 27.91 41 P **P** **00 57 22.2 -3.5**
comp=Z,0.2nm,0.8s,baz=230,slow=11,SNR=1.8
ZALV Zalesovo Beam 33.43 31 P **P** **00 58 12.6 -1.7**
comp=Z,0.5nm,0.4s,baz=233,slow=8.8,SNR=4.3
TORD Torodi Ar. Bea 52.40 265 P **P** **01 00 47.6 -0.8**
comp=Z,0.2nm,0.5s,baz=56,slow=8.1,SNR=1.2
YKA Yellowknife Ar 89.42 356 P **P** **01 04 31.6 -0.5**
comp=Z,0.2nm,0.8s,baz=10,slow=5.5,SNR=4.0

*IDC **08** 00:54:58.1±1.2,30.°59N×132.°76E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.4/53, mbtmp3.6/7, ML2.5/2, Error ellipse: s-maj=47.2km s-min=20.4km az=73.0*
*JMA **08** 00:55:00.3±0.2,30.°54N×132.°81E, h63km, M3.1*
ISC 08 00:55:02.5±1.1, 30.°60N±0.°07×132.°81E±0.°07, h35km, n17, σ1.44/25, mb3.6/5, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.58**	**272**	P	**Pn**	**00 55 26.6**	**-1.4**
JTN				S	**Sn**	**00 55 45.9**	**-1.3**
JNAR	**Kushima--Naru**	**1.61**	**305**	P	**Pn**	**00 55 27.7**	**-0.7**
JNAR				S	**Sn**	**00 55 47.7**	**-0.2**
JNKG	**Nichinankitago**	**1.62**	**311**	P	**Pn**	**00 55 28.0**	**-0.6**
JNKG				S	**Sn**	**00 55 47.8**	**-0.4**
JMTN	**Minamitane**	**1.66**	**263**	P	**Pn**	**00 55 27.8**	**-1.3**
JMTN				S	**Sn**	**00 55 47.8**	**-1.4**
JTSR	**Tashiro 2**	**1.72**	**290**	P	**Pn**	**00 55 28.8**	**-1.2**
JTSR				S	**Sn**	**00 55 49.9**	**-0.8**
JTZ	**Takazaki**	**1.96**	**312**	P	**Pn**	**00 55 32.8**	**-0.5**
JTZ				*e*S	**Sn**	**00 55 56.2**	**-0.5**
JTO	**Tosashimizu**	**2.25**	**360**	P	**Pn**	**00 55 35.5**	**-1.8**
JTO				S	**Sn**	**00 55 59.2**	**-4.6**
JNN	**Nakanoshima**	**2.65**	**254**	S	**Sn**	**00 56 12.4**	**-1.3**
JSJ	**Shimokoshiki**	**2.86**	**293**	S	**Sn**	**00 56 17.6**	**-1.3**
JNU	**Nakatsue**	**3.00**	**327**	Pn	**Pn**	**00 55 47.1**	**-0.5**
	0.9nm,0.3s,baz=83,slow=8.7,SNR=2.4						
JNU				Sn	**Sn**	**00 56 23.6**	**+1.3**
	1.7nm,0.3s,baz=166,slow=16,SNR=3.9						
JAMN	**Amaminishikomi**	**3.95**	**234**	P	**Pn**	**00 55 59.8**	**-0.8**
MJAR	**Matsushiro Arr**	**7.44**	**36**	Pn	**Pn**	**00 56 49.4**	**+0.8**
	0.1nm,0.3s,baz=236,slow=14,SNR=4.7						
MKAR	**Makanchi Array**	**41.86**	**307**	P	**P**	**01 02 50.8**	**+1.5**
	0.4nm,0.8s,baz=98,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**50.28**	**178**	P	**P**	**01 03 55.6**	**0.0**
	0.5nm,0.7s,baz=353,slow=8.5,SNR=3.5						
ASAR	**Alice Springs**	**53.97**	**179**	P	**P**	**01 04 24.2**	**+1.2**
	0.5nm,0.8s,baz=12,slow=12,SNR=5.4						
FINES	**FINESS Array B**	**71.03**	**331**	P	**P**	**01 06 16.7**	**+0.2**
	4.8nm,1.1s,baz=75,slow=1.6,SNR=3.5						
AKASG	**Malin Array Be**	**74.80**	**320**	P	**P**	**01 06 39.7**	**+0.7**
	0.6nm,0.6s,baz=57,slow=5.8,SNR=5.0						

*ISU **08** 00:56:36, 39.°16N×72.°77E, h5km*
*KRNET **08** 00:56:37.5±0.1, 39.°24N×72.°54E, h13km, mb3.2*
*SOME **08** 00:56:38.6, 39.°32N×72.°70E, h0km*
*NNC **08** 00:56:42.6±1.5, 39.°34N×72.°84E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=12.0km s-min=6.5km az=173.0*
ISC 08 00:56:35.7±1.5, 38.°82N±0.°08×72.°42E±0.°03, h20km±6km, n54, σ2.01/92, 25C-16D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.82**	**324**	⇓*i*P	**Pb**	**00 56 49.7**	**-1.8**
	baz=93						
DRK				⇓*i*S	**Sb**	**00 56 58.4**	**-3.8**
	baz=93						
SFK	**Sufi-Kurgan**	**1.46**	**35**	⇑*e*P	**Pn**	**00 56 58.0**	**-3.3**
	baz=44						
SFK				⇑*e*S	Sn	00 57 12.6	-7.4
	baz=44						
FRG	**Fergana**	**1.63**	**343**	*e*P	**Pn**	**00 57 03.0**	**-0.4**
FRG				*e*S	**Sn**	**00 57 22.0**	**-1.9**
OHH	**Osh**	**1.73**	**9**	*e*P	**Pn**	**00 57 02.0**	**-2.9**
OHH				*e*S	**Sn**	**00 57 21.0**	**-5.4**
OHH	**Osh**	**1.73**	**9**	⇑*i*P	**Pn**	**00 57 01.9**	**-2.9**
	baz=8.0						
OHH				⇑*i*S	**Sn**	**00 57 20.4**	**-6.0**
	baz=8.0						
BTK	**Batken**	**1.75**	**316**	*e*P	**Pg**	**00 57 09.0**	**-0.5**
BTK				*e*S	**Sg**	**00 57 33.0**	**+0.7**
BTK	**Batken**	**1.75**	**316**	⇑*e*P	**Pb**	**00 57 06.7**	**-0.6**
	baz=2.0						
BTK				⇑*i*S	**Sb**	**00 57 28.0**	**-0.9**
	baz=2.0						
SALK	**Salom-Alik**	**2.33**	**27**	⇑*e*P	**Pn**	**00 57 13.3**	**+0.2**
	baz=31						
SALK				⇑*e*S	**Sn**	**00 57 39.2**	**-2.1**
	baz=31						
CHGR	**Chuyangaron**	**2.55**	**267**	⇓*i*P	**Pg**	**00 57 24.3**	**-0.4**
	baz=59						
CHGR				⇓*i*S	**Sg**	**00 57 58.4**	**+0.5**
	baz=59						
TRKS	**Terek-Say**	**2.88**	**341**	⇑*i*P	**Pn**	**00 57 21.1**	**+0.4**
	baz=35						
TRKS				⇑*i*S	**Sn**	**00 57 52.6**	**-2.3**
	baz=35						
ARK	**Arkit**	**3.00**	**354**	*e*P	**Pn**	**00 57 24.0**	**+1.7**
ARK				*e*S	**Sn**	**00 58 01.0**	**+3.3**
ARK	**Arkit**	**3.00**	**354**	⇓*i*P	**Pn**	**00 57 22.7**	**+0.4**
	baz=50						
ARK				⇓*i*S	**Sn**	**00 57 56.0**	**-1.7**
	baz=50						
YBZ	**Yangibazar**	**3.30**	**320**	*i*P	**Pb**	**00 57 33.0**	**-0.6**
YBZ				*e*S	**Sb**	**00 58 12.0**	**-1.4**
ARLS	**Aral**	**3.37**	**25**	⇑*i*P	**Pn**	**00 57 27.6**	**+0.1**
	baz=27						
ARLS				⇑*i*S	**Sn**	**00 58 04.5**	**-2.5**
	baz=27						
CHRV	**Charvak**	**3.40**	**327**	*e*P	**Pn**	**00 57 30.0**	**+2.3**
CHRV				*e*S	**Sb**	**00 58 15.0**	**-1.1**
MNAS	**Manas**	**3.67**	**1**	⇑*i*P	**Pn**	**00 57 32.7**	**+1.2**
	baz=60						
MNAS				⇑*i*S	**Sn**	**00 58 11.2**	**-3.1**
	baz=60						
UCH	**Uchtor**	**3.77**	**24**	⇓*i*P	**Pn**	**00 57 33.4**	**+0.3**
	baz=26						
UCH				⇓*i*S	**Sn**	**00 58 14.0**	**-3.1**
	baz=26						
IUG	**Iuzhnay**	**3.79**	**332**	*e*P	**Pb**	**00 57 42.8**	**+0.7**
	260nm,0.1s						
IUG				*e*S	**Sb**	**00 58 29.2**	**+1.6**
	48nm,0.1s						
MRKS	**Merke**	**3.97**	**9**	*e*P	**Pb**	**00 57 43.8**	**-1.4**
	20nm,0.4s						
MRKS				*e*S	**Sb**	**00 58 30.7**	**-2.1**
	26nm,0.4s						
EKS2	**Erkin-Say**	**3.98**	**15**	⇑*i*P	**Pn**	**00 57 36.1**	**+0.3**
	baz=15						
EKS2				⇑*i*S	**Sn**	**00 58 18.8**	**-3.1**
	baz=15						
AAK	**Ala-Archa**	**4.13**	**22**	⇑Pn	**Pn**	**00 57 39.8**	**+1.9**
	7.1nm,0.7s						
AAK				⇑Lg	Lg	00 58 31.9	
	20nm,0.8s						
AAK	**Ala-Archa**	**4.13**	**22**	⇑*i*P	**Pn**	**00 57 38.1**	**+0.2**
	baz=23						
AAK				⇑*i*S	**Sn**	**00 58 22.7**	**-3.0**
	baz=23						
KBK	**Karagaybulak**	**4.29**	**26**	⇓*e*P	**Pn**	**00 57 40.5**	**+0.4**
	baz=27						
KBK				⇓*i*S	**Sn**	**00 58 26.5**	**-3.2**
	baz=27						
KK09	**Karatay Array**	**4.54**	**342**	⇓Pn	**Pn**	**00 57 46.1**	**+2.7**
	3.3nm,0.3s						
KK09				⇓Sn	**Sn**	**00 58 38.8**	**+3.2**
	14nm,0.8s						
BOOM	**Boomskoye usch**	**4.54**	**35**	⇑*e*P	**Pn**	**00 57 44.3**	**+0.7**
	baz=37						
BOOM				⇑*i*S	**Sn**	**00 58 33.2**	**-2.7**
	baz=37						
BRLS	**Borolday**	**4.64**	**336**	*e*P	**Pb**	**00 57 56.8**	**+0.3**
	3.0nm,0.6s						
BRLS				*e*S	**Sb**	**00 58 52.9**	**+0.9**
	13nm,0.7s						
TKM2	**Tokmak 2**	**4.76**	**29**	⇓Pg	**Pb**	**00 57 58.9**	**+0.3**
	1.8nm,0.5s						
TKM2				⇓Lg	Lg	00 58 53.7	
	5.6nm,0.7s						
TKM2	**Tokmak 2**	**4.76**	**29**	⇓*i*P	**Pn**	**00 57 47.0**	**+0.5**
	baz=31						
TKM2				⇓*i*S	**Sn**	**00 58 37.9**	**-3.3**
	baz=31						
KST	**Kastek**	**5.00**	**31**	*e*P	**Pb**	**00 58 03.0**	**+0.3**
	3.9nm,0.4s						
KST				*e*S	**Sb**	**00 59 04.2**	**+1.7**
	7.5nm,0.9s						
KST	**Kastek**	**5.00**	**31**	Pg	**Pb**	**00 58 03.0**	**+0.3**
	2.9nm,0.5s						
KST				Lg	Lg	00 59 04.5	
	6.9nm,0.6s						
DGS	**Degeres**	**5.10**	**29**	*e*P	**Pb**	**00 58 04.0**	**-0.3**
	3.1nm,0.6s						
DGS				*e*S	**Sb**	**00 59 05.8**	**+0.6**
	3.9nm,1.2s						
DGS	**Degeres**	**5.10**	**29**	Pg	**Pb**	**00 58 04.0**	**-0.3**
	6.5nm,0.7s						
DGS				Lg	Lg	00 59 05.8	
	4.4nm,0.7s						
MTBS	**Maitube**	**5.27**	**34**	*e*P	**Pb**	**00 58 08.0**	**+0.7**
	2.3nm,0.4s						
MTBS				*e*S	**Sb**	**00 59 12.3**	**+2.1**
	4.5nm,0.5s						
MTBS	**Maitube**	**5.27**	**34**	Pg	**Pb**	**00 58 08.0**	**+0.7**
	2.3nm,0.4s						
MTBS				Lg	Lg	00 59 12.3	
	4.5nm,0.5s						
TNSS	**Tian-Shan**	**5.44**	**38**	*e*P	**Pb**	**00 58 10.6**	**+0.3**
	2.0nm,0.4s						
TNSS				*e*S	**Sb**	**00 59 16.8**	**+1.6**
	4.4nm,0.8s						
TNSS	**Tian-Shan**	**5.44**	**38**	Pg	**Pb**	**00 58 10.6**	**+0.3**
	2.0nm,0.4s						
TNSS				Lg	Lg	00 59 16.8	
	4.4nm,0.8s						
KRBS	**Karabastau**	**5.46**	**26**	*e*P	**Pb**	**00 58 10.3**	**-0.1**
	2.8nm,0.4s						
KRBS				*e*S	**Sb**	**00 59 16.6**	**+1.1**
	4.0nm,0.7s						
KRBS	**Karabastau**	**5.46**	**26**	Pg	**Pb**	**00 58 10.3**	**-0.1**
	2.8nm,0.4s						
KRBS				Lg	Lg	00 59 16.6	
	4.0nm,0.7s						
MDOK	**Medeo**	**5.58**	**37**	*e*P	**Pb**	**00 58 13.3**	**+0.7**
	1.8nm,0.6s						
MDOK				*e*S	**Sb**	**00 59 21.7**	**+2.6**
	5.2nm,0.6s						
MDOK	**Medeo**	**5.58**	**37**	⇑Pg	**Pb**	**00 58 15.0**	**+2.5**
	3.1nm,0.7s						
MDOK				⇑Lg	Lg	00 59 21.2	
	8.1nm,0.8s						
MDOK	**Medeo**	**5.58**	**37**	Pg	**Pb**	**00 58 13.3**	**+0.7**
	1.8nm,0.6s						
MDOK				Lg	Lg	00 59 21.7	
	5.2nm,0.6s						
KOTS	**Kotyrbulak**	**5.67**	**37**	*e*P	**Pb**	**00 58 13.8**	**-0.2**
	3.6nm,0.6s						
KOTS				*e*S	**Sb**	**00 59 22.6**	**+1.1**
	13nm,0.4s						
KOTS	**Kotyrbulak**	**5.67**	**37**	Pg	**Pb**	**00 58 13.8**	**-0.2**
	3.6nm,0.6s						
KOTS				Lg	Lg	00 59 22.6	
	13nm,0.4s						
KTBS	**Karatobe**	**5.85**	**32**	*e*P	**Pb**	**00 58 17.0**	**-0.1**
	1.8nm,0.7s						
KTBS				*e*S	**Sb**	**00 59 28.0**	**+1.2**
	6.9nm,0.6s						
KTBS	**Karatobe**	**5.85**	**32**	Pg	**Pb**	**00 58 17.0**	**-0.1**
	1.8nm,0.7s						
KTBS				Lg	Lg	00 59 28.0	
	6.9nm,0.6s						
KUU	**Kurty**	**5.87**	**29**	*e*P	**Pb**	**00 58 17.2**	**-0.1**
	1.8nm,0.6s						
KUU				*e*S	**Sb**	**00 59 28.5**	**+1.2**
	5.2nm,0.7s						
KUU	**Kurty**	**5.87**	**29**	Pg	**Pb**	**00 58 17.2**	**-0.1**
	1.8nm,0.6s						
KUU				Lg	Lg	00 59 28.5	
	5.2nm,0.7s						
CHKK	**Chushkaly**	**6.10**	**33**	*e*P	**Pb**	**00 58 21.9**	**+0.6**
	1.5nm,0.5s						
CHKK				*e*S	**Sb**	**00 59 36.4**	**+2.6**
	4.2nm,0.6s						
CHKK	**Chushkaly**	**6.10**	**33**	Pg	**Pb**	**00 58 21.9**	**+0.6**
	1.5nm,0.5s						
CHKK				Lg	Lg	00 59 36.4	
	4.2nm,0.6s						
BTLS	**Baital**	**6.34**	**11**	*e*P	**Pb**	**00 58 25.1**	**-0.3**
	1.3nm,0.4s						
BTLS				*e*S	**Sb**	**00 59 42.1**	**+1.4**
	2.3nm,0.6s						
BTLS	**Baital**	**6.34**	**11**	Pg	**Pb**	**00 58 25.1**	**-0.3**
	1.3nm,0.4s						
ARXS	**Arharly**	**6.75**	**35**	*e*P	**Pb**	**00 58 32.8**	**+0.4**
	1.7nm,0.8s						
ARXS				*e*S	**Sb**	**00 59 55.4**	**+2.8**
	4.4nm,0.6s						
ARXS	**Arharly**	**6.75**	**35**	Pg	**Pb**	**00 58 32.8**	**+0.4**
	1.7nm,0.8s						
ARXS				Lg	Lg	00 59 55.4	
	4.4nm,0.6s						
AB31	**Akbulak array**	**13.74**	**323**	Pn	**P**	**00 59 56.6**	**-1.2**
	0.2nm,0.3s,baz=129,slow=14,SNR=20						
AB31				⇑Sn	**Sn**	**01 02 28.3**	**+6.9**
	1.0nm,0.7s,baz=133,slow=24,SNR=5.3						

*IDC **08** 01:00:27.6±1.1, 30.°54N×132.°85E, h0km, mb3.8/9, mb1 3.8/12, mb1mx3.6/44, mbtmp3.8/12, ML3.4/3, MS2.1/1, Ms1 2.1/1, ms1mx1.9/93, Error ellipse: s-maj=36.3km s-min=17.8km az=76.0*
*JMA **08** 01:00:31.3±0.1, 30.°57N×132.°71E, h71km, M3.4*
*NEIC **08** 01:00:32.4±2.8, 30.°55N±0.°05×132.°75E±0.°09, h31km±5km, mb4.0/7, Error ellipse: s-maj=11.7km s-min=6.1km az=70.0*
ISC 08 01:00:27.9±3.4, 30.°62N±0.°06×132.°83E±0.°06, h6km±21km, n38, σ1.65/47, mb3.8/12, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.59**	**272**	P	**Pn**	**01 00 56.4**	**-0.3**
JTN				S	**Sn**	**01 01 15.6**	**-2.0**
JNAR	**Kushima--Naru**	**1.62**	**305**	P	**Pb**	**01 00 57.8**	**-0.3**
JNAR				S	**Sn**	**01 01 17.0**	**-1.1**
JNKG	**Nichinankitago**	**1.63**	**310**	P	**Pn**	**01 00 57.9**	**+0.8**
JNKG				S	**Sn**	**01 01 17.5**	**-0.9**
JMTN	**Minamitane**	**1.68**	**263**	P	**Pn**	**01 00 57.8**	**0.0**
JMTN				*e*S	**Sn**	**01 01 17.9**	**-1.8**
JTSR	**Tashiro 2**	**1.73**	**289**	P	**Pn**	**01 00 58.8**	**+0.3**
JTZ	**Takazaki**	**1.97**	**311**	P	**Pn**	**01 01 02.4**	**+0.6**
JTZ				S	**Sn**	**01 01 26.0**	**-0.8**
JYAK	**Yakushimahirau**	**2.04**	**260**	P	**Pn**	**01 01 02.2**	**-0.6**
JYAK				S	**Sn**	**01 01 25.6**	**-2.9**
JSU	**Suzuyama**	**2.22**	**294**		**Pn**	**01 01 05.3**	**0.0**
JTO	**Tosashimizu**	**2.24**	**359**	P	**Pn**	**01 01 05.6**	**+0.1**
JTO				S	**Sn**	**01 01 29.0**	**-4.5**
JNN	**Nakanoshima**	**2.67**	**254**	P	**Pn**	**01 01 11.7**	**+0.2**
JNN				*e*S	**Sn**	**01 01 42.3**	**-1.9**
JSJ	**Shimokoshiki**	**2.87**	**292**	P	**Pn**	**01 01 14.1**	**-0.1**
JSJ				S	**Sn**	**01 01 47.2**	**-1.9**
JNA	**Nagahama**	**2.95**	**354**	P	**Pn**	**01 01 16.5**	**+1.2**
JNA				S	**Sn**	**01 01 47.7**	**-3.4**
JNU	**Nakatsue**	**3.00**	**327**	Pn	**Pn**	**01 01 17.9**	**+1.9**
	4.6nm,0.3s,baz=211,slow=4.8,SNR=17						
JNU				Sn	**Sn**	**01 01 52.7**	**+0.3**
	5.8nm,0.3s,baz=168,slow=17,SNR=7.4						
JNU	**Nakatsue**	**3.00**	**327**		**Pn**	**01 01 17.3**	**+1.3**
JMN	**Monobe**	**3.23**	**16**	P	**Pn**	**01 01 20.2**	**+1.0**
JMN				S	**Sn**	**01 01 53.7**	**-4.3**
JMN	**Monobe**	**3.23**	**16**	Pn	**Pn**	**01 01 20.3**	**+1.1**
JHS	**Saijyo**	**4.38**	**3**		**Pn**	**01 01 35.9**	**+1.0**
JOW	**Kunigami**	**5.50**	**228**	Pn	**Pn**	**01 01 49.8**	**-0.6**
	6.5nm,0.3s,baz=120,slow=22,SNR=8.3						
MJAR	**Matsushiro Arr**	**7.42**	**36**	Pn	**Pn**	**01 02 18.2**	**+1.4**
	0.1nm,0.3s,baz=241,slow=14,SNR=6.4						
MJAR				LR	LR	01 04 11.3	
	comp=Z,15nm,20.4s,baz=51,slow=30						
USA0B	**Ussuriysk Arra**	**13.58**	**357**	Pn	**Pn**	**01 03 38.3**	**-2.7**
USRK	**Ussuriysk Ar.**	**13.58**	**357**	Pn	**Pn**	**01 03 39.1**	**-1.9**
SONM	**Songino Array**	**26.55**	**318**	P	**P**	**01 06 09.0**	**+2.4**
	0.5nm,0.8s,baz=132,slow=9.5,SNR=3.7						
CHTO	**Chiang Mai**	**32.82**	**257**	P	**P**	**01 07 01.7**	**-0.7**
CHTO				IAmb	IAmb	01 07 19.8	
	comp=Z,1.8nm,0.5s						
MK31	**Makanchi Array**	**41.87**	**307**	P	**P**	**01 08 20.4**	**+1.5**
MKAR	**Makanchi Array**	**41.87**	**307**	P	**P**	**01 08 19.9**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=93,slow=11,SNR=6.5						
MKAR				PcP	**PcP**	**01 10 15.2**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=66,slow=3.6,SNR=3.6						
KURK	**Kurchatov**	**44.63**	**313**	P	**P**	**01 08 42.1**	**+1.0**
KURK	**Kurchatov**	**44.63**	**313**	IAmb	IAmb	01 08 43.5	
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**44.68**	**313**	P	**P**	**01 08 42.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=98,slow=9.1,SNR=7.1						
BVAR	**Borovoye Array**	**49.85**	**316**	P	**P**	**01 09 23.4**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=111,slow=11,SNR=8.6						
WRA	**Warramunga Arr**	**50.29**	**178**	P	**P**	**01 09 25.0**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=355,slow=8.5,SNR=5.2						
WRA	**Warramunga Arr**	**50.29**	**178**	IAmb	IAmb	01 09 26.8	
	comp=Z,0.4nm,1.4s						
AS31	**Alice Springs**	**53.98**	**179**	P	**P**	**01 09 52.5**	**-0.2**
AS31				IAmb	IAmb	01 09 53.8	
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**53.98**	**179**	P	**P**	**01 09 53.4**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=12,slow=11,SNR=8.0						
ARU	**Arti**	**56.55**	**320**	P	**P**	**01 10 11.9**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=105,slow=20,SNR=7.8						
ARU	**Arti**	**56.55**	**320**	IAmb	IAmb	01 10 12.8	
	comp=Z,2.9nm,0.7s						
FINES	**FINESS Array B**	**71.03**	**331**	P	**P**	**01 11 47.0**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=73,slow=6.6,SNR=6.8						
AKASG	**Malin Array Be**	**74.80**	**320**	P	**P**	**01 12 09.5**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=55,slow=6.3,SNR=9.8						
AKASG	**Malin Array Be**	**74.80**	**320**	IAmb	IAmb	01 12 21.7	
	comp=Z,4.5nm,1.5s						

*ISK **08** 01:07:46.6, 39.°26N×29.°26E, h5km, ML2.2/8*
*DDA **08** 01:07:46.3±0.0, 39.°27N×29.°20E, h7km±1km, ML2.2*
ISC 08 01:07:47.0±0.9, 39.°27N±0.°02×29.°20E±0.°02, h10km±7km, n26, σ0.65/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.24**	**225**	PG	**Pb**	**01 07 52.5**	**-1.1**
SMAA				SG	**Sb**	**01 07 56.8**	**+1.3**
SIMA	**Simav-Kutahya**	**0.26**	**222**	PG	**Pg**	**01 07 52.5**	**+0.2**
TVSB	**Tavsanli**	**0.27**	**49**	PG	**Pg**	**01 07 52.0**	**-0.5**
GEDZ	**Gediz**	**0.28**	**145**	PG	**Pg**	**01 07 52.2**	**-0.6**
GDZ	**Gediz**	**0.28**	**130**	P	**Pg**	**01 07 52.7**	**-0.2**
GDZ				S	**Sg**	**01 07 56.3**	**-0.5**
DEMI	**Demirci**	**0.44**	**239**	P	**Pg**	**01 07 55.8**	**+0.1**
DEMI				S	**Sg**	**01 08 01.8**	**+0.2**
USAK	**Uak-Merkez**	**0.58**	**194**	P	**Pg**	**01 07 58.2**	**-0.1**
USAK				S	**Sg**	**01 08 05.9**	**+0.1**
**

plane solution: $M_0$2.84000×10^{17} NP1:ϕ_s168.40000°, δ67.74000°, λ88.49000°. NP2:ϕ_s352.38000°, δ22.31000°, λ93.68000°. Principal axes: T 2.7417, Plg67.0000°, Azm76.0000°; N 0.1937, Plg1.0000°, Azm169.0000°; P -2.9355, Plg23.0000°, Azm260.0000°;

NEIC **08** *01:12:01.0±1.6, 30°.66S±0°.03×71°.64W±0°.06, h24km±3km, mb5.3/409, Ms_20 5.6/123, Mwr5.6/50, Mww5.7, ML6.0(GUC) Error ellipse: s-maj=7.6km s-min=4.6km az=84.0*

VAO **08** *01:12:01.1±0.3, 30°.65S×71°.59W, h31km, mb5.4*

MOS **08** *01:12:02.2±0.9, 30°.60S×71°.55W, h27km, mb5.3/29, MS5.6/10, Error ellipse: s-maj=12.2km s-min=6.9km az=93.2*

IDC **08** *01:12:03.1±2.1, 30°.68S×71°.53W, h48km±19km, mb4.9/16, mb1 4.9/22, mb1mx4.9/29, mbtmp5.1/22, ML4.7/6, MS5.3/46, Ms1 5.3/46, ms1mx5.2/53, Error ellipse: s-maj=18.5km s-min=11.8km az=79.0*

NEIC **08** *01:12:05, 30°.66S×71°.79W, h36km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^{17}Nm; M_{rr}4.37; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-4.35; $M_{r\theta}$0.21; $M_{\theta\phi}$-0.28; $M_{\phi r}$-2.02; Fault plane solution: $M_0$4.82000×10^{17} NP1:ϕ_s8.00000°, δ33.00000°, λ97.00000°. NP2:ϕ_s180.00000°, δ57.00000°, λ86.00000°. Principal axes: T 4.8247, Plg77.0000°, Azm76.0000°; N -0.0173, Plg4.0000°, Azm182.0000°; P -4.8074, Plg12.0000°, Azm273.0000°;*

GCMT **08** *01:12:05.0±0.1, 30°.74S±0°.01×71°.94W±0°.01, h33km, MW5.7/148, Moment Tensor Solution. s140,c256; s148,c284; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}4.07±.05; $M_{\theta\theta}$0.20±.04; $M_{\phi\phi}$-4.28±.04; $M_{r\theta}$0.43±.05; $M_{\theta\phi}$0.21±.03; $M_{\phi r}$-2.70±.07; Best double couple: $M_0$4.99500×10^{17} NP1:ϕ_s1.00000°, δ29.00000°, λ97.00000°. NP2:ϕ_s174.00000°, δ62.00000°, λ86.00000°. Principal axes: T 4.8940, Plg73.0000°, Azm75.0000°; N 0.1980, Plg3.0000°, Azm175.0000°; P -5.0970, Plg17.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 01:12:00.8±0.5, 30°.69S±0°.02×71°.63W±0°.04, h31km±3km, n995, σ1§45/795, mb5.3/234, **MS5.5**/115, **26C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.02**	**341**	⇓*iP*	**Pb**	**01 12 05.4**	**-0.5**
CO06				*i* S	**Sb**	**01 12 09.2**	**-0.2**
CO06	**Fray Jorge**	**0.02**	**341**		**Pb**	**01 12 05.1**	**-0.8**
CO03	**El Pedregal**	**0.82**	**100**	⇓*iP*	**Pb**	**01 12 16.7**	**+0.1**
CO03				*i* S	**Sn**	**01 12 28.9**	**+1.4**
CO03	**El Pedregal**	**0.82**	**100**		**Pb**	**01 12 16.6**	**-0.1**
CO03				Sn	**Sn**	**01 12 29.0**	**+1.4**
CO05	**La Serena**	**0.84**	**24**	⇓*iP*	**Pn**	**01 12 15.8**	**-0.7**
CO05				*i* S	**Sn**	**01 12 27.6**	**-0.2**
CO05				IAML		01 12 32.4	
	comp=E,335μm,0.7s						
CO05	**La Serena**	**0.84**	**24**	Pn	**Pn**	**01 12 15.4**	**-1.1**
CO05				Sn	**Sn**	**01 12 27.8**	**0.0**
GO04	**Tololo Observa**	**0.88**	**54**	⇓*iP*	**Pb**	**01 12 17.5**	**-0.3**
GO04				*i* S	**Sn**	**01 12 30.6**	**+1.4**
GO04	**Tololo Observa**	**0.88**	**54**		**Pb**	**01 12 17.4**	**-0.3**
GO04				Sn	**Sn**	**01 12 31.7**	**+2.4**
GO04	**Tololo Observa**	**0.88**	**54**	*eP*	**Pb**	**01 12 17.6**	**-0.2**
GO04				*eS*	**Sn**	**01 12 31.7**	**+2.4**
LCO	**Las Campanas**	**1.86**	**26**	*eP*	**Pn**	**01 12 31.0**	**+0.2**
LCO	**Las Campanas**	**1.86**	**26**	⇑*iP*	**Pn**	**01 12 30.9**	**+0.2**
LCO	**Las Campanas**	**1.86**	**26**	Pn	**Pn**	**01 12 31.1**	**+0.2**
LCO	**Las Campanas**	**1.86**	**26**	*eP*	**Pn**	**01 12 31.1**	**+0.4**
VA06	**Catapilco**	**1.88**	**171**	*eP*	**Pn**	**01 12 31.2**	**+0.4**
VA06				IAML		01 13 05.7	
	comp=N,188μm,0.4s						
VA03	**San Esteban**	**2.26**	**156**	*eP*	**Pn**	**01 12 37.8**	**+1.6**
VA03				IAML		01 13 19.4	
	comp=E,118μm,0.4s						
VA03	**San Esteban**	**2.26**	**156**		**Pn**	**01 12 37.6**	**+1.5**
VA03	**San Esteban**	**2.26**	**156**	*eP*	**Pn**	**01 12 38.5**	**+2.3**
VA03				*eS*	**Sb**	**01 13 09.4**	**+0.9**
VA03				IAML		01 13 19.3	
	comp=Z,69μm,0.7s						
VA01	**Torpederas**	**2.32**	**180**	*eP*	**Pn**	**01 12 36.5**	**-0.4**
VA01	**Torpederas**	**2.32**	**180**	Pn	**Pn**	**01 12 36.8**	**-0.1**
VA01	**Torpederas**	**2.32**	**180**	*eP*	**Pn**	**01 12 37.0**	**+0.1**
VA01				IAML		01 13 21.0	
	comp=Z,30μm,0.7s						
ROCH	**El Roble**	**2.33**	**167**	*eP*	**Pb**	**01 12 37.7**	**-4.5**
ROCH				*eP*	**Pn**	**01 12 37.4**	**+0.2**
ROCH				*i* S	**Sn**	**01 13 06.0**	**+1.0**
ROCH				IAML		01 13 20.9	
	comp=N,108μm,0.7s						
ROCH				IAML		01 13 21.7	
	comp=N,122μm,0.6s						
ROC1	**El Roble**	**2.33**	**167**	*eP*	**Pn**	**01 12 38.0**	**+0.7**
AUSP	**Uspallata**	**2.45**	**129**	*eP*	**Pb**	**01 12 43.3**	**-1.0**
AC04	**Llanos de Chal**	**2.53**	**11**	⇑*iP*	**Pn**	**01 12 38.8**	**-0.9**
AC04	**Llanos de Chal**	**2.53**	**11**	Pn	**Pn**	**01 12 38.2**	**-1.5**
AC04	**Llanos de Chal**	**2.53**	**11**	*eP*	**Pn**	**01 12 39.0**	**-0.7**
AC04				*eS*	**Sb**	**01 13 18.8**	**+2.7**
PEL	**Peldehue**	**2.57**	**162**	P	**Pn**	**01 12 42.0**	**+1.6**
PEL	**Peldehue**	**2.57**	**162**		**Pn**	**01 12 42.0**	**+1.6**
MT02	**Curacav**	**2.59**	**171**	*eP*	**Pn**	**01 12 40.9**	**+0.3**
MT02	**Curacav**	**2.59**	**171**		**Pn**	**01 12 41.3**	**+0.7**
MT02	**Curacav**	**2.59**	**171**	*eP*	**Pn**	**01 12 41.3**	**+0.7**
MT02				*eS*	**Sb**	**01 13 19.6**	**+1.6**
MT02				IAML		01 13 24.9	
	comp=Z,48μm,0.7s						
ZON	**Zonda**	**2.67**	**109**	P	**Pb**	**01 12 46.1**	**-1.8**
ZON	**Zonda**	**2.67**	**109**	*eP*	**Pb**	**01 12 46.2**	**-1.7**
ZON				IAML		01 13 33.3	
	comp=Z,24μm,0.6s						
MT05	**Renca**	**2.79**	**165**	⇑*iP*	**Pn**	**01 12 44.6**	**+1.1**
MT05				IAML		01 13 32.2	
	comp=E,91μm,0.5s						
MT05	**Renca**	**2.79**	**165**		**Pn**	**01 12 44.8**	**+1.4**
MT05	**Renca**	**2.79**	**165**	*eP*	**Pn**	**01 12 45.0**	**+1.5**
MT05				*eS*	**Sb**	**01 13 25.8**	**+1.9**
MT05				IAML		01 13 46.4	
	comp=Z,63μm,1.2s						
FCH	**Farellones**	**2.86**	**157**	*eP*	**Pn**	**01 12 46.6**	**+2.0**
FCH				IAML		01 13 40.1	
	comp=E,27μm,0.6s						
RTCV	**Cerro Valdivia**	**2.89**	**115**	*eP*	**Pb**	**01 12 49.4**	**-2.3**
VA05	**Santo Domingo**	**2.96**	**180**	*eP*	**Pn**	**01 12 44.4**	**-1.2**
VA05				IAML		01 13 34.6	
	comp=E,53μm,0.4s						
VA05	**Santo Domingo**	**2.96**	**180**	Pn	**Pn**	**01 12 45.5**	**-0.1**
ASAL	**Salagasta**	**3.04**	**129**	*eP*	**Pb**	**01 12 52.7**	**-1.6**
MT09	**Talagante**	**3.12**	**170**	⇑*iP*	**Pn**	**01 12 49.0**	**+0.9**
MT09	**Talagante**	**3.12**	**170**		**Pn**	**01 12 49.1**	**+1.1**
ARCO	**CERRO ARCO**	**3.14**	**134**	*eP*	**Pb**	**01 12 54.3**	**-1.7**
ARCO				IAML		01 13 45.7	
	comp=Z,46μm,0.8s						
MT01	**Popeta**	**3.18**	**174**	*eP*	**Pn**	**01 12 48.9**	**+0.2**
MT01	**Popeta**	**3.18**	**174**		**Pn**	**01 12 49.0**	**+0.4**
MT01	**Popeta**	**3.18**	**174**	*eP*	**Pn**	**01 12 49.4**	**+0.7**
MT01				*eS*	**Sb**	**01 13 36.9**	**+2.1**
MT01				IAML		01 13 43.0	
	comp=Z,33μm,0.7s						
GO03	**Copiap**	**3.32**	**22**	*eP*	**Pn**	**01 12 50.1**	**-0.6**
GO03	**Copiap**	**3.32**	**22**	Pn	**Pn**	**01 12 50.5**	**-0.2**
GO03	**Copiap**	**3.32**	**22**	*eP*	**Pn**	**01 12 50.5**	**-0.2**
AAGR	**Agrelo**	**3.37**	**136**	*eP*	**Pb**	**01 12 57.0**	**-2.8**
VCA	**Vinchina**	**3.56**	**58**	*eP*	**Pb**	**01 12 59.2**	**-3.9**
VCA				IAML		01 13 57.5	
	comp=Z,13μm,0.4s						
BO01	**Tunca**	**3.72**	**173**	Pn	**Pn**	**01 12 56.8**	**+0.7**
BO01	**Tunca**	**3.72**	**173**	*eP*	**Pn**	**01 12 56.6**	**+0.6**
BO01				IAML		01 13 54.5	
	comp=Z,16μm,0.8s						
BO02	**Sierra Bellavi**	**4.15**	**170**		**Pn**	**01 13 03.4**	**+1.3**
BO02	**Sierra Bellavi**	**4.15**	**170**	*eP*	**Pn**	**01 13 03.0**	**+0.9**
BO02				IAML		01 14 13.4	
	comp=Z,28μm,0.8s						
GO05	**Huala**	**4.31**	**183**		**Pn**	**01 13 04.6**	**+0.3**
GO05	**Huala**	**4.31**	**183**	*eP*	**Pn**	**01 13 03.6**	**-0.7**
AC02	**Maricunga**	**4.42**	**30**		**Pn**	**01 13 06.9**	**+0.7**
AC02	**Maricunga**	**4.42**	**30**	*eP*	**Pn**	**01 13 07.0**	**+0.7**
AC02				IAML		01 14 25.9	
	comp=Z,5μm,1.1s						
RFA	**San Rafael**	**4.86**	**148**	*eP*	**Pn**	**01 13 14.7**	**+2.8**
RFA				IAML		01 14 39.4	
	comp=Z,10μm,1.1s						
ML02	**Panimavida**	**5.06**	**178**	Pn	**Pn**	**01 13 14.8**	**+0.3**
PB14	**IPOC Station P**	**6.14**	**10**	*eP*	**Pn**	**01 13 26.0**	**-3.7**
PB14				IAML		01 15 07.5	
	comp=Z,2μm,1.0s						
FSA	**Cafayete**	**6.75**	**49**	*eP*	**Pn**	**01 13 40.8**	**+2.9**
AHML	**Horco Molle**	**6.76**	**56**	*eP*	**Pn**	**01 13 38.2**	**+0.2**
AHML				IAML		01 15 46.8	
	comp=Z,2μm,1.5s						
H03N1	**Juan Fernandez**	**6.76**	**244**	T	T	01 20 30.0	
	baz=72,slow=72,SNR=6875						
H03N3	**Juan Fernandez**	**6.78**	**244**	T	T	01 20 28.9	
	baz=72,slow=72,SNR=3547						
H03N2	**Juan Fernandez**	**6.78**	**244**	T	T	01 20 26.5	
	baz=72,slow=72,SNR=5428						
H03S3	**Juan Fernandez**	**6.91**	**241**	T	T	01 20 36.2	
	SNR=110						
H03S1	**Juan Fernandez**	**6.92**	**241**	T	T	01 20 35.6	
	SNR=132						
H03S2	**Juan Fernandez**	**6.93**	**241**	T	T	01 20 35.6	
	SNR=219						
CANA	**Caviahue**	**7.19**	**176**	*eP*	**Pn**	**01 13 46.0**	**+2.0**
PB10	**IPOC Station P**	**7.21**	**8**		**Pn**	**01 13 42.5**	**-1.6**
PB10	**IPOC Station P**	**7.21**	**8**	*eP*	**Pn**	**01 13 40.0**	**-4.2**
PB15	**IPOC Station P**	**7.70**	**15**	*eP*	**Pn**	**01 13 48.0**	**-3.0**
PB05	**IPOC Station P**	**7.91**	**10**	*eP*	Pn	01 13 49.0	-4.9
LC01	**Cunco**	**8.19**	**181**	*eP*	**Pn**	**01 13 57.0**	**-0.5**
LVC	**Limon Verde**	**8.41**	**17**	P	**Pn**	**01 14 03.5**	**+2.6**
	comp=Z,4.1nm,0.3s,baz=199,slow=9.7,SNR=13						
LVC				S	Sn	01 15 46.6	+12
	comp=Z,20nm,0.3s,baz=153,slow=17,SNR=2.5						
LVC				LR	LR	01 17 06.8	
	comp=Z,33μm,18.1s,baz=210,slow=36						
LVC	**Limon Verde**	**8.41**	**17**	Pn	**Pn**	**01 14 01.0**	**+0.1**
PB04	**IPOC Station P**	**8.43**	**9**	*eP*	Pn	01 13 56.0	-5.0
PLCA	**Paso Flores**	**10.06**	**175**	P	**Pn**	**01 14 23.9**	**+0.7**
	comp=Z,3.0nm,0.3s,baz=337,slow=11,SNR=110						
PLCA				LR	LR	01 18 13.0	
	comp=Z,19μm,20.2s,baz=352,slow=37						
PLCA	**Paso Flores**	**10.06**	**175**	*eP*	**Pn**	**01 14 23.0**	**-0.1**
PLCA	**Paso Flores**	**10.06**	**175**	*eP*	**Pn**	**01 14 24.0**	**+0.9**
PLCA	**Paso Flores**	**10.06**	**175**	Pn	**Pn**	**01 14 23.6**	**+0.4**
LL04	**Puerto Octay**	**10.21**	**183**		**Pn**	**01 14 24.8**	**-0.4**
PB08	**IPOC Station P**	**10.74**	**13**		**Pn**	**01 14 33.3**	**+0.4**
PB12	**IPOC Station P**	**12.08**	**6**	Pn	**Pn**	**01 14 50.4**	**-0.6**
LPA	**La Plata**	**12.26**	**114**	*i* P	**P**	**01 15 01.0**	**-4.2**
LPA	**La Plata**	**12.26**	**114**	PN	**P**	**01 15 07.2**	**+2.0**
LPA				PPP	PPP	01 15 13.8	
LPA				pPP		01 15 44.5	
LPA				S	Sn	01 17 20.0	+11
ITQB	**Itaqui**	**13.02**	**89**	*eP*	**Pn**	**01 15 03.0**	**-0.7**
ITQB	**Itaqui**	**13.02**	**89**	Pn	**Pn**	**01 15 03.1**	**-0.5**
CPUP	**Villa Florida**	**13.30**	**74**	P	**Pn**	**01 15 06.8**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=253,slow=12,SNR=13						
CPUP				S	**Sn**	**01 17 41.3**	**+7.0**
	comp=Z,2.6nm,0.3s,baz=242,slow=13,SNR=3.4						
CPUP				LR	LR	01 20 38.5	
	comp=Z,20μm,21.8s,baz=254,slow=39						
CPUP	**Villa Florida**	**13.30**	**74**	P	**Pn**	**01 15 07.0**	**-0.5**
CPUP	**Villa Florida**	**13.30**	**74**	*eP*	**Pn**	**01 15 07.1**	**-0.4**
CPUP	**Villa Florida**	**13.30**	**74**	Pn	**Pn**	**01 15 07.0**	**-0.5**
LPAZ	**La Paz**	**14.69**	**13**	P	**Pn**	**01 15 27.8**	**+0.7**
	comp=Z,3.1nm,0.3s,baz=185,slow=10,SNR=90						
LPAZ	**La Paz**	**14.69**	**13**	*eP*	**Pn**	**01 15 27.7**	**+0.7**
COYC	**Coyhaique**	**14.86**	**181**	Pn	**Pn**	**01 15 28.3**	**-0.3**
PLTB	**Pedras Altas**	**15.46**	**99**	*eP*	**Pn**	**01 15 34.8**	**-1.8**
PLTB	**Pedras Altas**	**15.46**	**99**	Pn	**Pn**	**01 15 35.3**	**-1.4**
PLTB				IAmb	IAmb	01 15 50.0	
	comp=Z,209nm,1.5s						
CPSB	**Cacapava Do Su**	**15.68**	**94**	*eP*	**Pn**	**01 15 38.5**	**-1.0**
ITAB	**Concordia**	**17.41**	**83**	*eP*	**P**	**01 16 01.9**	**-0.5**
ITAB	**Concordia**	**17.41**	**83**	Pn	**Pn**	**01 16 00.5**	**-0.8**
SIV	**San Ignacio**	**17.53**	**36**	P	**Pn**	**01 16 02.5**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=215,slow=9.8,SNR=116						
SIV				LR	LR	01 24 16.9	
	comp=Z,23μm,20.0s,baz=212,slow=42						
AQDB	**Aquidauana**	**17.59**	**58**	*eP*	**Pn**	**01 16 02.6**	**-1.0**
AQDB	**Aquidauana**	**17.59**	**58**	Pn	**Pn**	**01 16 02.8**	**-0.8**
PTGB	**Pitanga**	**18.31**	**76**	*eP*	**Pn**	**01 16 13.6**	**+1.0**
PTLB	**Pontes e Lacer**	**19.01**	**40**	*eP*	**P**	**01 16 19.6**	**-0.4**
PTLB	**Pontes e Lacer**	**19.01**	**40**	P	**P**	**01 16 19.1**	**-1.0**
NNA	**Nana**	**19.23**	**344**	P	**Pn**	**01 16 23.6**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=179,slow=14,SNR=8.6						
NNA				LR	LR	01 22 16.1	
	comp=Z,6μm,19.7s,baz=168,slow=32						
NNA	**Nana**	**19.23**	**344**	*eP*	**Pn**	**01 16 24.0**	**+0.3**
NNA	**Nana**	**19.23**	**344**	P	**Pn**	**01 16 23.7**	**0.0**
TER01	**Tubaro-SC**	**19.68**	**89**	*eP*	**Pn**	**01 16 28.4**	**-0.6**
PP1B	**Ponte de Pedra**	**20.05**	**53**	*eP*	**P**	**01 16 31.3**	**-0.2**
PCMB	**Pacaembu**	**20.37**	**68**	*eP*	**P**	**01 16 35.4**	**+0.3**
VILB	**Vilhena**	**20.57**	**33**	*eP*	**P**	**01 16 37.0**	**-0.2**
VILB	**Vilhena**	**20.57**	**33**	P	**P**	**01 16 37.0**	**-0.2**
TIJ01	**Guaruva-PR**	**20.66**	**81**	*eP*	**P**	**01 16 36.6**	**-1.7**
SALV	**Santo Antonio**	**20.72**	**48**	*eP*	**P**	**01 16 38.5**	**-0.3**
MG05	**Puerto Natales**	**20.98**	**182**		Pn	01 16 43.5	-0.5
ETMB	**Extrema**	**21.38**	**15**	*eP*	**P**	**01 16 45.8**	**0.0**
ETMB	**Extrema**	**21.38**	**15**	P	**P**	**01 16 46.0**	**+0.2**
ETMB				IAmb	IAmb	01 16 55.3	
	comp=Z,85nm,0.9s						
ITRB	**Iturama**	**22.10**	**65**	*eP*	**P**	**01 16 53.3**	**-0.3**
MG02	**Cerro Sombrero**	**22.14**	**176**	P	**P**	**01 16 54.7**	**+1.0**
PET01	**Itanhaem-SP**	**22.50**	**79**	*eP*	**P**	**01 16 58.6**	**+0.7**
SPB	**Sao Paulo**	**22.64**	**78**	*eP*	**P**	**01 17 00.8**	**+1.4**
SPB	**Sao Paulo**	**22.64**	**78**	P	**P**	**01 16 58.3**	**-1.0**
BB19B	**Bebedouro**	**22.85**	**71**	*eP*	**P**	**01 17 01.0**	**-0.6**
CZSB	**Cruzeiro do Su**	**22.87**	**357**	*eP*	**P**	**01 17 02.2**	**+0.5**
CZSB	**Cruzeiro do Su**	**22.87**	**357**	P	**P**	**01 17 02.0**	**+0.2**
RCLB	**Rio Claro- Sao**	**23.04**	**75**	*eP*	**P**	**01 17 03.6**	**0.0**
EFI	**East Falkland**	**23.24**	**158**	*ceP*	**P**	**01 17 05.4**	**+0.1**
EFI				pmax	pmax		
	comp=Z,38nm,1.1s						
EFI	**East Falkland**	**23.24**	**158**	P	**P**	**01 17 05.6**	**+0.3**
VAO	**Valinhos**	**23.27**	**77**	*eP*	**P**	**01 17 05.7**	**-0.2**
DSPA	**Despedida**	**23.37**	**175**	P	**P**	**01 17 08.3**	**+1.7**
PDRB	**Porto dos Gac**	**23.48**	**39**	*eP*	**P**	**01 17 06.9**	**-1.0**
ARAG	**Araguaiana, MT**	**23.48**	**55**	*eP*	**P**	**01 17 07.1**	**-0.9**
USHA	**Ushuaia**	**24.23**	**175**	P	**P**	**01 17 15.7**	**+1.1**
	comp=Z,253nm,1.1s,baz=359,slow=8.7,SNR=14						
USHA				LR	LR	01 27 25.7	
	comp=Z,12μm,19.2s,baz=357,slow=38						
PARB	**Paraibuna**	**24.26**	**79**	*eP*	**P**	**01 17 15.0**	**-0.4**
ATAH	**Atahualpa**	**24.28**	**343**	P	**P**	**01 17 16.4**	**+0.5**
	comp=Z,13nm,0.8s,baz=154,slow=6.9,SNR=10						
ATAH				LR	LR	01 25 31.0	
	comp=Z,4μm,18.2s,baz=173,slow=33						
MG01	**Puerto William**	**24.39**	**174**	P	**P**	**01 17 17.1**	**+1.0**
CLDB	**Colider**	**24.60**	**40**	*eP*	**P**	**01 17 17.4**	**-0.9**
IPMB	**Ipameri, GO**	**24.74**	**65**	*eP*	**P**	**01 17 18.8**	**-1.0**
MAN01	**Ângra dos Reis**	**25.85**	**79**	*eP*	**P**	**01 17 29.8**	**+0.1**
BSCB	**Bom Sucesso**	**25.97**	**75**	*eP*	**P**	**01 17 30.0**	**-0.9**
BDFB	**Brasilia**	**26.30**	**61**	P	**P**	**01 17 33.4**	**-0.5**
	comp=Z,58nm,0.8s,baz=229,slow=6.9,SNR=71						
BDFB				LR	LR	01 29 03.6	
	comp=Z,22μm,19.0s,baz=233,slow=39						
BDFB	**Brasilia**	**26.30**	**61**	P	**P**	**01 17 33.1**	**-0.8**
TBTG	**Tabatinga, AM**	**26.42**	**4**	*eP*	**P**	**01 17 34.9**	**+0.1**
SNDB	**Serra Nova Dou**	**26.48**	**50**	*eP*	**P**	**01 17 34.7**	**-0.7**
VAS01	**Vassouras-RJ**	**26.53**	**78**	*eP*	**P**	**01 17 36.3**	**+0.5**
DUB01	**Friburgo-RJ**	**27.51**	**79**	*eP*	**P**	**01 17 44.2**	**-0.6**
NPGB	**Novo Progresso**	**28.04**	**36**	*eP*	**P**	**01 17 48.2**	**-1.2**
DIAM	**Diamantina, MG**	**28.19**	**71**	*eP*	**P**	**01 17 50.9**	**-0.1**
CAM01	**Campos-RJ**	**28.22**	**79**	*eP*	**P**	**01 17 52.0**	**+1.0**
PEXB	**Peixe**	**28.42**	**54**	*eP*	**P**	**01 17 52.5**	**-0.4**
MACA	**Manacapuru-AM**	**29.27**	**23**	*eP*	**P**	**01 17 60.0**	**-0.4**
MACA	**Manacapuru-AM**	**29.27**	**23**	P	**P**	**01 17 59.8**	**-0.5**
MACA				IAmb	IAmb	01 18 17.1	
	comp=Z,54nm,0.8s						
JANB	**Januaria**	**29.48**	**64**	*eP*	**P**	**01 18 01.8**	**-0.5**
ALF01	**Guarapari-ES**	**29.52**	**77**	*eP*	**P**	**01 18 02.7**	**+0.1**
SJMB	**Sao Joao De Ma**	**30.02**	**74**	*eP*	**P**	**01 18 06.9**	**-0.2**
ITTB	**Itaituba**	**30.17**	**33**	*eP*	**P**	**01 18 07.7**	**-0.6**
RIB01	**Linhares ES**	**30.39**	**75**	*eP*	**P**	**01 18 10.9**	**+0.6**
SDBA	**SAO DESIDERIO**	**30.67**	**59**	*eP*	**P**	**01 18 13.2**	**+0.3**
PTLC	**Puerto Leguiza**	**30.84**	**354**	*eP*	P	01 18 09.1	-5.2
SMTB	**Santa Maria do**	**31.22**	**51**	*eP*	**P**	**01 18 17.6**	**0.0**
NAN01	**Guarapari, ES**	**31.32**	**73**	*eP*	**P**	**01 18 18.0**	**-0.5**
OTAV	**Otavalo**	**31.44**	**347**	P	**P**	**01 18 20.9**	**+0.9**
OTAV				pmax	pmax		
	comp=Z,14nm,0.9s						
OTAV				MLR	MLR		
	comp=Z,3μm,21.0s						
OTAV	**Otavalo**	**31.44**	**347**	P	**P**	**01 18 20.9**	**+0.9**
PTGA	**Pitinga**	**31.79**	**23**	LR	LR	01 33 26.1	
	comp=Z,10μm,19.3s,baz=191,slow=40						
PRPB	**Paraupebas**	**31.85**	**44**	*eP*	**P**	**01 18 22.5**	**-0.7**
GCUF	**Volcan Galeras**	**32.21**	**349**	*eP*	**P**	**01 18 27.4**	**+0.6**
GUA01	**Guaratinga, BA**	**32.23**	**71**	*eP*	**P**	**01 18 26.4**	**-0.1**
FLOC	**Florencia**	**32.33**	**352**	*eP*	**P**	**01 18 26.4**	**-0.9**
MACC	**Macarena, Meta**	**32.72**	**356**	*eP*	**P**	**01 18 30.2**	**-0.5**
SOTA	**Rioblanco**	**32.99**	**351**	*eP*	**P**	**01 18 31.2**	**-2.4**
MALB	**Monte Alegre**	**33.06**	**33**	*eP*	**P**	**01 18 33.0**	**-0.7**
RPN	**Rapa Nui**	**33.10**	**267**	LR	LR	01 28 17.0	
	comp=Z,7μm,21.0s,baz=104,slow=29						
CMC01	**Camacan, BA**	**33.11**	**70**	*eP*	**P**	**01 18 34.9**	**+0.7**
PCON	**Cinco Dias**	**33.15**	**351**	*eP*	**P**	**01 18 36.0**	**+0.9**
POPC	**Popayan, Colom**	**33.40**	**351**	*eP*	**P**	**01 18 38.0**	**+1.0**
NBIT	**Itapeh - BA**	**33.41**	**69**	*eP*	**P**	**01 18 37.1**	**+0.3**
MARP	**Paez Belalcaza**	**33.60**	**352**	*eP*	**P**	**01 18 38.9**	**+0.1**
GDU01	**Guandu, BA**	**33.98**	**67**	*eP*	**P**	**01 18 41.2**	**-0.6**
PRAC	**Prado**	**34.35**	**354**	*eP*	**P**	**01 18 44.7**	**-0.3**
PMSA	**Palmer Station**	**34.43**	**174**	LR	LR	01 32 43.0	
	comp=Z,7μm,19.7s,baz=344,slow=36						
PMSA	**Palmer Station**	**34.43**	**174**	*eP*	**P**	**01 18 47.0**	**+1.9**
PMSA	**Palmer Station**	**34.43**	**174**	IAMs_20	IAMs_20	01 32 21.8	
	comp=Z,10μm,20.0s						
BOAV	**Boa Vista**	**34.57**	**20**	*eP*	**P**	**01 18 46.2**	**-0.6**
BOAV	**Boa Vista**	**34.57**	**20**	IAmb	IAmb	01 18 48.1	
	comp=Z,53nm,1.0s						
ORTC	**Ortega, Tolima**	**34.58**	**354**	*eP*	**P**	**01 18 45.7**	**-1.3**
VILC	**Villavicencio,**	**34.67**	**356**	*eP*	**P**	**01 18 48.5**	**+0.7**
PTGC	**Puerto Gaitan,**	**34.70**	**359**	*eP*	**P**	**01 18 46.6**	**-1.3**
PAYG	**Puerto Ayora**	**34.71**	**326**	IAMs_20	IAMs_20	01 29 56.1	
	comp=Z,7μm,18.0s						
YOTC	**Yotoco, Valle**	**34.77**	**352**	*eP*	**P**	**01 18 45.7**	**-3.1**
CHIC	**Chingaza**	**35.18**	**356**	*eP*	**P**	**01 18 49.5**	**-3.1**
NBPN	**Ponto Novo - B**	**35.21**	**63**	*eP*	**P**	**01 18 52.1**	**-0.4**
ROSC	**El Rosal**	**35.43**	**355**	P	**P**	**01 18 56.6**	**+2.0**
	comp=Z,41nm,0.9s,baz=74,slow=2.9,SNR=11						
ROSC	**El Rosal**	**35.43**	**355**	*eP*	**P**	**01 18 55.3**	**+0.6**
MCPB	**Macapa, AP**	**35.43**	**35**	*eP*	**P**	**01 18 53.7**	**-0.6**
PLMC	**San Jos del P**	**35.68**	**352**	*eP*	**P**	**01 18 57.2**	**+0.8**
GUY2C	**Guyana, Caldas**	**35.89**	**354**	*eP*	**P**	**01 18 58.2**	**-0.6**
TMAB	**Tom-Au,PA,Br**	**35.91**	**43**	*eP*	**P**	**01 18 59.2**	**+0.8**
NORC	**Norcasia**	**36.19**	**355**	*eP*	**P**	**01 19 02.0**	**+1.3**
SPBC	**San Pablo de B**	**36.22**	**356**	*eP*	**P**	**01 18 58.2**	**-2.9**
RUSC	**La Rusia**	**36.41**	**358**	*eP*	**P**	**01 19 01.1**	**-2.1**
CBOC	**Ciudad Bolivar**	**36.59**	**353**	*eP*	**P**	**01

ZAIG	Zacatecas	60.89	327	P	P	01 22 12.2 +1.2
H06S1	SOCORRO T	62.01	317	T	T	02 29 37.2
	SNR=15					
H06E1	SOCORRO T-PHAS	62.03	317	T	T	02 29 36.2
	SNR=24					
TIGA	Tifton	62.83	349	P	P	01 22 23.5 0.0
	baz=168					
BRAL	Brewton	63.24	345	P	P	01 22 26.3 +0.1
	baz=165					
NHSC	New Hope	63.97	352	P	P	01 22 31.3 +0.4
	baz=172					
152A	Waverly Hall	64.23	348	IAmb	IAmb	01 22 34.9
	comp=Z,22nm,1.0s					
833A	Chaparral WMA,	64.39	333	P	P	01 22 34.9 +1.0
	baz=154					
344A	Westbrook Farm	64.41	342	IAmb	IAmb	01 22 36.5
	comp=Z,31nm,1.0s					
HKT	Hockley	64.56	337	*i* P	P	01 22 36.4 +1.6
HKT				pmax	pmax	
	comp=Z,54nm,1.5s					
HKT	Hockley	64.56	337	P	P	01 22 36.1 +1.3
HKT				IAmb	IAmb	01 22 36.6
	comp=Z,24nm,1.4s					
SACV	Santiago Islan	64.75	53	IAMs_20	IAMs_20	01 51 43.7
	comp=Z,3µm,18.0s					
VBMS	Vicksburg	65.08	342	P	P	01 22 39.1 +0.9
	baz=162					
Y52A	Lilburn	65.28	349	IAmb	IAmb	01 22 42.1
	comp=Z,29nm,1.1s					
Z47A	Carrollton	65.42	345	IAmb	IAmb	01 22 42.0
	comp=Z,26nm,0.9s					
NATX	Nacogdoches	65.84	339	IAmb	IAmb	01 22 45.8
	comp=Z,34nm,0.9s					
NATX	Nacogdoches	65.84	339	P	P	01 22 44.3 +1.0
	baz=158					
CNNC	Cliffs of the	65.85	354	P	P	01 22 43.8 +0.6
	baz=174					
HPIG		65.89	327	P	P	01 22 44.0 +0.1
HPIG				IAmb	IAmb	01 22 46.3
	comp=Z,16nm,0.9s					
LPIG	La Paz	65.90	321	LR	LR	01 46 37.6
	comp=Z,735nm,19.3s,baz=117,slow=32					
435B	Jarrell	65.93	336	IAmb	IAmb	01 22 59.4
	comp=Z,14nm,0.8s					
435B	Jarrell	65.93	336	P	P	01 22 44.6 +0.8
	baz=156					
X48A	Hartselle	66.41	346	IAmb	IAmb	01 22 49.5
	comp=Z,36nm,0.9s					
237A	Washetta, Mont	66.44	338	P	P	01 22 47.4 +0.3
W52A	Murphy	66.45	349	IAmb	IAmb	01 23 03.7
	comp=Z,26nm,1.1s					
JCT	Junction City	66.47	334	IAmb	IAmb	01 22 49.5
	comp=Z,33nm,0.9s					
JCT	Junction City	66.47	334	P	P	01 22 47.8 +0.4
	baz=154					
Z41A	Richland Creek	66.68	341	P	P	01 22 49.3 +0.8
	baz=160					
W50A	Signal Mountai	66.80	348	IAmb	IAmb	01 22 52.1
	comp=Z,32nm,1.0s					
V55A	Taylorsville	66.81	352	IAmb	IAmb	01 22 59.1
	comp=Z,45nm,1.4s					
V53A	Saluda	66.84	350	IAmb	IAmb	01 23 04.0
	comp=Z,26nm,1.1s					
CPCT	Cooper Cave	66.90	349	IAmb	IAmb	01 22 52.7
	comp=Z,30nm,1.0s					
SWET	Sewanee	66.93	347	IAmb	IAmb	01 22 52.8
	comp=Z,26nm,1.0s					
WHTX	Lake Whitney,	66.98	336	IAmb	IAmb	01 22 52.5
	comp=Z,33nm,1.0s					
WHTX	Lake Whitney,	66.98	336	P	P	01 22 50.8 +0.3
	baz=156,SNR=8.0					
TKL	Tuckaleechee C	66.98	349	IAmb	IAmb	01 22 50.9
	comp=Z,47nm,1.3s					
TXAR	Lajitas Array	67.04	330	P	P	01 22 51.4 +0.2
	comp=Z,6.5nm,0.8s,baz=151,slow=7.3,SNR=78					
TXAR				LR	LR	01 47 53.4
	comp=Z,2µm,18.6s,baz=144,slow=32					
TXAR				PKPPKP	P'P'df	01 51 22.0 +8.3
	comp=Z,0.3nm,1.0s,baz=224,slow=5.2,SNR=4.0					
TX31	Lajitas Ar. Si	67.04	330	IAmb	IAmb	01 22 52.7
	comp=Z,30nm,0.9s					
TAOE	Nuku Hiva Isla	67.08	273	*e*S	S	01 31 51.0 +6.9
	comp=Z,1µm,26.6s					
TAOE	Nuku Hiva Isla	67.08	273	*e*LR	LR	01 43 15.8
	comp=Z,2µm,23.0s					
V52A	Sevierville	67.13	349	IAmb	IAmb	01 22 53.2
	comp=Z,31nm,0.9s					
PLAL	Pickwick Lake	67.14	345	IAmb	IAmb	01 22 52.6
	comp=Z,23nm,1.1s					
V51A	Loudon	67.22	349	IAmb	IAmb	01 22 53.9
	comp=Z,27nm,0.9s					
Z38A	Mt. Pleasant	67.33	339	IAmb	IAmb	01 22 55.0
	comp=Z,29nm,0.9s					
VNDA	Vanda	67.40	191	P	P	01 22 53.8 +1.1
	comp=Z,10nm,1.1s,baz=131,slow=4.2,SNR=9.9					
VNDA				LR	LR	01 49 42.9
	comp=Z,722nm,19.5s,baz=140,slow=34					
VNDA	Vanda	67.40	191	P	P	01 22 54.2 +1.5
VNDA				pmax	pmax	
	comp=Z,20nm,1.2s					
VNDA	Vanda	67.40	191	P	P	01 22 54.2 +1.5
VNDA				IAmb	IAmb	01 22 55.4
	comp=Z,20nm,1.1s					
V48A	Smith Brothers	67.61	347	IAmb	IAmb	01 22 56.0
	comp=Z,42nm,1.1s					
X40A	Basin Creek Fa	67.85	341	P	P	01 22 56.6 +0.7
	baz=160					
CLTN	Cedars of Leba	67.85	347	IAmb	IAmb	01 22 58.1
	comp=Z,30nm,1.0s					
BLA	Blacksburg	68.05	352	P	P	01 22 58.1 +0.9
	baz=172					
U49A	Red Boiling Sp	68.16	348	IAmb	IAmb	01 23 07.5
	comp=Z,42nm,1.4s					
WVT	Waverly	68.19	346	P	P	01 22 57.8 -0.3
WVT				pmax	pmax	
	comp=Z,40nm,1.0s					
WVT	Waverly	68.19	346	P	P	01 22 57.8 -0.3
WVT				IAmb	IAmb	01 23 00.7
	comp=Z,40nm,1.0s					
WVT	Waverly	68.19	346	P	P	01 22 57.8 -0.3
	baz=165					
W41B	Gary Mavity, V	68.33	342	IAmb	IAmb	01 23 00.1
	comp=Z,20nm,1.1s					
W41B	Gary Mavity, V	68.33	342	P	P	01 22 59.3 +0.4
	baz=161,SNR=7.1					
WHAR	Wooly Hollow	68.45	342	IAmb	IAmb	01 23 11.9
	comp=Z,39nm,1.4s					
TBI	Tubuai	68.47	255	*e*S	S	01 32 07.3 +7.0
	comp=Z,2µm,26.0s					
TBI	Tubuai	68.47	255	*e*LR	LR	01 43 53.8
	comp=Z,3µm,25.2s,baz=111					
LOOK	Love County	68.71	337	IAmb	IAmb	01 23 15.7
	comp=Z,41nm,1.1s					
CBN	Corbin Frederi	68.75	355	P	P	01 23 02.2 +0.7
	baz=175					
W39A	Magazine	68.78	341	P	P	01 23 02.3 +0.6
	baz=160,SNR=22					
SYO	Syowa Base	68.81	159 ⇑	*i*P	P	01 23 01.0 -0.6
SYO	Syowa Base	68.81	159 ⇑	*i*pP	pP	01 23 08.8 -2.5
SYO	Syowa Base	68.81	159 ⇑	*i*sP	sP	01 23 10.5 -4.4
S51A	Beattyville	68.89	350	IAmb	IAmb	01 23 03.5
	comp=Z,18nm,0.9s					
MBO	M'Bour	69.07	58	P	P	01 23 04.1 +0.1
MBO				IAMs_20	IAMs_20	01 54 01.1
	comp=Z,3µm,19.0s					
Q61A	Milford	69.30	357	P	P	01 23 06.2 +1.3
	baz=177					
PBMO	Poplar Bluff	69.40	344	IAmb	IAmb	01 23 06.9
	comp=Z,27nm,0.8s					
U40A	Yellville	69.61	342	IAmb	IAmb	01 23 08.4
	comp=Z,29nm,0.9s					
U40A	Yellville	69.61	342	P	P	01 23 07.0 +0.1
	baz=161,SNR=5.6					
MEH	Mehetia	69.68	261	*e*T	T	02 39 03.9
	comp=Z,105nm,0.3s					
Q56A	Snyder Ridge,	69.73	354	IAmb	IAmb	01 23 09.4
	comp=Z,33nm,1.1s					
R49A	Shelbyville	69.78	349	IAmb	IAmb	01 23 08.3
	comp=Z,35nm,1.4s					
MNTX	Cornudas Mount	69.82	330	IAMs_20	IAMs_20	01 49 13.4
	comp=Z,3µm,20.0s					
MNTX	Cornudas Mount	69.82	330	P	P	01 23 07.8 -0.6
	baz=150,SNR=18					
WCI	Wyandotte Cave	69.92	348	P	P	01 23 09.0 +0.2
WCI				pmax	pmax	
	comp=Z,17nm,0.9s					
WCI	Wyandotte Cave	69.92	348	P	P	01 23 09.0 +0.2
WCI				IAmb	IAmb	01 23 10.3
	comp=Z,17nm,0.8s					
WCI	Wyandotte Cave	69.92	348	P	P	01 23 07.9 -0.8
	baz=167					
WMOK	Wichita Mounta	69.93	336	P	P	01 23 08.6 -0.4
	baz=155,SNR=9.7					
FNO	Franklin	69.94	338	IAmb	IAmb	01 23 25.5
	comp=Z,16nm,0.9s					
Q52A	Bidwell	70.00	351	IAmb	IAmb	01 23 10.5
	comp=Z,36nm,1.1s					
TUL1	Leonard	70.04	339	P	P	01 23 08.9 -0.6
	baz=158,SNR=12					
P57A	Homestead Farm	70.07	355	IAmb	IAmb	01 23 12.3
	comp=Z,22nm,0.9s					
MGMO	Mountain Grove	70.21	343	P	P	01 23 10.7 +0.1
MGMO				IAmb	IAmb	01 23 12.2
	comp=Z,22nm,0.9s					
Q51A	Peebles	70.22	350	IAmb	IAmb	01 23 11.8
	comp=Z,29nm,1.0s					
P60A	Greenville	70.25	357	P	P	01 23 11.1 +0.4
	baz=176					
OK030	Cody Creek RV	70.36	339	IAmb	IAmb	01 23 12.8
	comp=Z,36nm,1.1s					
BCOK	Bluff Creek, N	70.38	338		P	01 23 12.0 +0.4
BCOK				IAmb	IAmb	01 23 12.9
	comp=Z,25nm,0.8s					
EPT	El Paso	70.38	329	IAMs_20	IAMs_20	01 49 57.2
	comp=Z,4µm,18.0s					
MCWV	Mont Chateau	70.41	353	P	P	01 23 12.2 +0.5
	baz=172					
MVL	Millersville	70.47	356	IAmb	IAmb	01 23 24.5
	comp=Z,38nm,1.3s					
QUOK	Quay	70.56	339	IAmb	IAmb	01 23 14.3
	comp=Z,26nm,1.0s					
P51A	Williamsport	70.62	351	IAmb	IAmb	01 23 13.5
	comp=Z,39nm,1.2s					
P52A	Corning	70.65	351	IAmb	IAmb	01 23 14.3
	comp=Z,36nm,1.1s					
P52A	Corning	70.65	351	P	P	01 23 12.5 -0.6
	baz=170					
MSTX	Muleshoe	70.72	333	P	P	01 23 14.0 +0.2
	baz=152,SNR=17					
OLIL	Olney	70.76	346	IAmb	IAmb	01 23 14.8
	comp=Z,44nm,1.1s					
CCM	Cathedral Cave	70.81	344	P	P	01 23 14.3 +0.1
CCM				pmax	pmax	
	comp=Z,48nm,0.9s					
CCM	Cathedral Cave	70.81	344	P	P	01 23 14.3 +0.1
CCM	Cathedral Cave	70.81	344	P	P	01 23 14.4 +0.3
	baz=162					
O56A	Blue Knob Stat	70.90	354	P	P	01 23 15.1 +0.4
	baz=174					
TIAR	Tiarei	70.91	261	*e*T	T	02 40 36.2
	comp=Z,14nm,0.2s					
P49A	Miami Univ. Ec	70.92	349	IAmb	IAmb	01 23 16.4
	comp=Z,27nm,0.9s					
P49A	Miami Univ. Ec	70.92	349	P	P	01 23 14.0 -0.8
	baz=168					
P48A	Milroy	70.97	349	IAmb	IAmb	01 23 15.8
	comp=Z,29nm,0.9s					
S39A	Bolivar	70.99	342	IAmb	IAmb	01 23 16.9
	comp=Z,39nm,1.0s					
O52A	Adamsville	71.09	352	IAmb	IAmb	01 23 16.3
	comp=Z,28nm,1.1s					
PPT2	Papeete2	71.09	260	*e*S	S	01 32 38.2 +6.8
	comp=Z,2µm,28.2s					
PPT2	Papeete2	71.09	260	*e*LR	LR	01 45 06.7
	comp=Z,3µm,23.8s,baz=116					
PPT2	Papeete2	71.09	260	*e*T	T	02 40 48.6
	comp=Z,2.9nm,0.2s					
PPT	Papeete	71.10	260	LR	LR	01 46 17.6
	comp=Z,1µm,19.6s,baz=120,slow=29					
AMTX	Amarillo	71.11	334	IAmb	IAmb	01 23 30.5
	comp=Z,20nm,1.0s					
AMTX	Amarillo	71.11	334	P	P	01 23 16.4 +0.2
	baz=153					
Q44A	Meyer Farm, Va	71.11	346	IAmb	IAmb	01 23 16.8
	comp=Z,29nm,1.0s					
O53A	New Philadelph	71.14	352	P	P	01 23 15.9 -0.3
	baz=171					
T35A	Sooner Cattle	71.19	339	IAmb	IAmb	01 23 18.4
	comp=Z,33nm,1.1s					
SSPA	Standing Stone	71.21	355	P	P	01 23 17.7 +1.2
SSPA				IAmb	IAmb	01 23 18.0
	comp=Z,45nm,1.3s					
SSPA	Standing Stone	71.21	355	P	P	01 23 17.3 +0.7
	baz=174					
BLOK	Blackwell	71.26	339	IAmb	IAmb	01 23 18.7
	comp=Z,22nm,0.9s					
CROK	Carrier	71.27	338	IAmb	IAmb	01 23 18.6
	comp=Z,25nm,0.9s					
ACSO	Alum Creek Sta	71.35	351	P	P	01 23 16.8 -0.6
	baz=170,SNR=7.8					
N59A	State Game Lan	71.35	357	IAmb	IAmb	01 23 19.5
	comp=Z,42nm,1.3s					
N59A	State Game Lan	71.35	357	P	P	01 23 18.1 +0.6
	baz=176					
PAL	Palisades	71.37	358	P	P	01 23 18.2 +0.7
	baz=178					
ODNJ	Ogdensburg	71.47	358	P	P	01 23 19.3 +1.2
U32A	Winter Ranch,	71.50	337	IAmb	IAmb	01 23 20.2
	comp=Z,33nm,0.8s					
O49A	Covington	71.50	350	IAmb	IAmb	01 23 19.4
	comp=Z,40nm,1.0s					
WSPT	Westport, CT	71.52	359	IAmb	IAmb	01 23 30.4
	comp=Z,20nm,1.0s					
KAN13	South Haven SW	71.58	338	IAmb	IAmb	01 23 20.7
	comp=Z,34nm,0.9s					
121A	Cookes Peak, D	71.60	328	IAmb	IAmb	01 23 37.4
	comp=Z,23nm,0.9s					
121A	Cookes Peak, D	71.60	328	P	P	01 23 19.6 +0.3
	baz=148,SNR=10					
KAN14	Manchester OK	71.68	338	IAmb	IAmb	01 23 29.6
	comp=Z,50nm,1.4s					
KAN17	Caldwell West	71.69	338	IAmb	IAmb	01 23 20.8
	comp=Z,18nm,0.9s					
OK035	E0210 Rd and N	71.70	337	IAmb	IAmb	01 23 21.4
	comp=Z,41nm,0.9s					
N54A	Moraine State	71.72	353	IAmb	IAmb	01 23 20.8
	comp=Z,36nm,1.2s					
N54A	Moraine State	71.72	353	P	P	01 23 20.1 +0.5
	baz=172					
KAN05	Bluff City Nor	71.79	338	IAmb	IAmb	01 23 22.1
	comp=Z,41nm,0.9s					
KAN10	Anthony SW Sta	71.87	338	IAmb	IAmb	01 23 22.5
	comp=Z,24nm,1.0s					
N51A	Ashland	71.94	351	IAmb	IAmb	01 23 30.4
	comp=Z,55nm,1.4s					
KSPA	Keystone Colle	71.99	357	P	P	01 23 22.0 +0.7
KSCT	Kent School, K	72.08	359	IAmb	IAmb	01 23 23.5
	comp=Z,34nm,1.4s					
M55A	Ridgway	72.11	354	IAmb	IAmb	01 23 25.0
	comp=Z,45nm,1.1s					
SFIN	Lafayette	72.16	348	P	P	01 23 22.0 -0.2
	baz=166					
O44A	Mansfield	72.20	347	IAmb	IAmb	01 23 23.2
	comp=Z,27nm,0.9s					
M54A	Oil Creek Stat	72.22	354	IAmb	IAmb	01 23 23.5
	comp=Z,28nm,1.1s					
M54A	Oil Creek Stat	72.22	354	P	P	01 23 22.7 +0.1
	baz=173					
BRYW	Bryant College	72.25	0	IAmb	IAmb	01 23 25.5
	comp=Z,39nm,1.0s					
M53A	WI Miller and	72.26	353	IAmb	IAmb	01 23 23.7
	comp=Z,27nm,1.1s					
M53A	WI Miller and	72.26	353	P	P	01 23 22.5 -0.4
	baz=172					
L64A	Middleborough	72.27	1	IAmb	IAmb	01 23 26.8
	comp=Z,28nm,1.1s					
N47A	Urbana	72.40	349	IAmb	IAmb	01 23 24.3
	comp=Z,44nm,0.9s					
M52A	Chesterland	72.43	352	IAmb	IAmb	01 23 24.7
	comp=Z,27nm,0.9s					
BNM	Barren Site	72.46	330	P	P	01 23 24.9 +0.4
M50A	Fremont	72.51	351	IAmb	IAmb	01 23 25.6
	comp=Z,29nm,0.9s					
Y22D	IRIS PASSCAL I	72.52	330	IAMs_20	IAMs_20	01 51 27.8
	comp=Z,3µm,18.0s					
Y22D	IRIS PASSCAL I	72.52	330	P	P	01 23 25.0 +0.2
	baz=149					
L59A	Walton	72.59	357	IAmb	IAmb	01 23 37.0
	comp=Z,39nm,1.2s					
BINY	Binghamton	72.64	357	IAmb	IAmb	01 23 33.0
	comp=Z,37nm,1.4s					
BINY	Binghamton	72.64	357	P	P	01 23 25.7 +0.6
	baz=176					
L56A	Greenwood	72.68	355	IAmb	IAmb	01 23 28.8
	comp=Z,44nm,1.2s					
HDIL	Hopedale	72.76	346	IAmb	IAmb	01 23 27.6
	comp=Z,28nm,0.8s					
HDIL	Hopedale	72.76	346	P	P	01 23 25.8 0.0
	baz=164					
L61B	Northampton	72.79	359	P	P	01 23 26.4 +0.5
	baz=179,SNR=7.7					
TUC	Tucson	72.82	326	P	P	01 23 26.8 +0.3
TUC				pmax	pmax	
	comp=Z,16nm,1.5s					
TUC	Tucson	72.82	326	P	P	01 23 26.8 +0.3
TUC	Tucson	72.82	326	IAMs_20	IAMs_20	01 50 55.7
	comp=Z,3µm,18.0s					
TUC	Tucson	72.82	326	P	P	01 23 26.6 +0.1
	baz=145					
HRV	Adam Dziewonsk	72.84	0	P	P	01 23 26.9 +0.6
HRV				pmax	pmax	
	comp=Z,22nm,1.0s					
HRV	Adam Dziewonsk	72.84	0	P	P	01 23 26.9 +0.6
HRV				IAmb	IAmb	01 23 29.1
	comp=Z,22nm,0.9s					
HRV	Adam Dziewonsk	72.84	0	P	P	01 23 27.5 +1.2
	baz=180					
ERPA	Erie	72.86	353	IAmb	IAmb	01 23 27.9
	comp=Z,24nm,0.9s					
ERPA	Erie	72.86	353	P	P	01 23 26.2 -0.3
	baz=172					
P38A	Dawn	72.86	342	IAmb	IAmb	01 23 27.8
	comp=Z,34nm,0.8s					
K62A	Royalston	73.00	360	IAmb	IAmb	01 23 33.0
	comp=Z,37nm,1.4s					
WVNY	West Valley, N	73.02	355	IAmb	IAmb	01 23 28.9
	comp=Z,38nm,1.0s					
ANMO	Albuquerque	73.07	331	LR	LR	01 51 22.2
	comp=Z,2µm,19.8s,baz=159,slow=32					
ANMO	Albuquerque	73.07	331	P	P	01 23 28.8 +0.7
ANMO				pmax	pmax	
	comp=Z,29nm,1.5s					
ANMO	Albuquerque	73.07	331	P	P	01 23 28.8 +0.7
ANMO	Albuquerque	73.07	331	P	P	01 23 28.9 +0.7
	baz=149					
TRY	Troy	73.09	358	IAmb	IAmb	01 23 33.5
	comp=Z,48nm,1.2s					
KSU1	Kansas State U	73.23	340	IAmb	IAmb	01 23 37.3
	comp=Z,17nm,0.7s					
KSU1	Kansas State U	73.23	340	P	P	01 23 28.0 -0.7
	baz=158					
L48A	N Adams	73.24	350	IAmb	IAmb	01 23 28.9
	comp=Z,26nm,0.9s					
R32A	Long Quarter,	73.26	338	IAmb	IAmb	01 23 30.2
	comp=Z,21nm,0.9s					
MMNY	Mt. Morris Dam	73.29	355	P	P	01 23 29.7 +0.7
MMNY				IAmb	IAmb	01 23 30.1
	comp=Z,18nm,0.8s					
M44A	Midewin, Midew	73.31	347	IAmb	IAmb	01 23 30.0
	comp=Z,40nm,0.9s					
LIC	Lamto	73.42	72	*e*P	P	01 23 30.8 +0.4
	comp=Z,496nm,2.0s					
AAM	Ann Arbor	73.47	351	P	P	01 23 29.6 -0.4
	baz=169					
214A	Organ Pipe Nat	73.53	324	P	P	01 23 30.9 +0.3
	baz=144					
L46A	Eue Claire	73.60	349	IAmb	IAmb	01 23 31.3
	comp=Z,32nm,0.9s					
TIC	Toumodi	73.66	72	*e*P	P	01 23 32.3 +0.5
J61A	Chester	73.68	359	IAmb	IAmb	01 23 43.8
	comp=Z,52nm,1.5s					
KIC	Kosan Boka	73.73	72	*e*P	P	01 23 32.1 -0.1
	comp=Z,106nm,0.9s					
FFD	Franklin Falls	73.80	360	IAmb	IAmb	01 23 35.1
	comp=Z,43nm,1.2s					
DBIC	Dimbokro	73.81	72	P	P	01 23 32.7 0.0
	comp=Z,29nm,0.6s,baz=235,slow=6.1,SNR=89					
DBIC				LR	LR	01 53 38.3
	comp=Z,5µm,19.4s,baz=242,slow=34					
DBIC	Dimbokro	73.81	72 ⇑	*i*P	P	01 23 32.8 0.0
DBIC	Dimbokro	73.81	72	P	P	01 23 32.6 0.0
J59A	Piesco	73.84	358	IAmb	IAmb	01 23 33.5
	comp=Z,28nm,1.3s					
CBKS	Cedar Bluff	73.95	337	IAmb	IAmb	01 23 35.0
	comp=Z,39nm,0.8s					
CBKS	Cedar Bluff	73.95	337	P	P	01 23 33.4 +0.5
	baz=155,SNR=9.3					
L44A	Lake County Fo	74.05	347	P	P	01 23 33.2 -0.2
	baz=166					
T25A	Trinidad	74.13	333	P	P	01 23 35.3 +1.0
	baz=151,SNR=16					
L42A	Oliver, Polo	74.23	346	IAmb	IAmb	01 23 35.6
	comp=Z,34nm,1.0s					
NCB	Newcomb	74.34	358	P	P	01 23 36.2 +1.1
I63A	Otisfield	74.39	1	IAmb	IAmb	01 23 38.6
	comp=Z,56nm,1.2s					
PECO	Prince Edward	74.43	356	IAmb	IAmb	01 23 38.9
	comp=Z,33nm,1.5s					
CER	Ceres	74.55	120	*e*P	P	01 23 38.7 +1.9
CER				IAmb	IAmb	01 23 39.3
	comp=Z,28nm,1.0s					
J47A	Sunmer	74.56	350	IAmb	IAmb	01 23 37.8
	comp=Z,24nm,0.9s					
LBNH	Lisbon	74.57	360	P	P	01 23 37.8 +1.3
	baz=180					
W18A	Petrified Fore	74.65	328	IAmb	IAmb	01 23 40.1
	comp=Z,50nm,1.2s					
W18A	Petrified Fore	74.65	328	P	P	01 23 37.9 +0.6
	baz=147,SNR=7.9					
WVL	Waterville	74.92	1	IAmb	IAmb	01 23 46.1
	comp=Z,41nm,1.5s					
SCIA	State Center	74.94	343	P	P	01 23 39.5 +0.9
SCIA				IAmb	IAmb	01 23 41.5
	comp=Z,42nm,1.1s					
SCIA	State Center	74.94	343	P	P	01 23 38.6 +0.1
	baz=161,SNR=6.6					
LONY	Lake Ozonia	75.00	358	P	P	01 23 39.3 +0.4
	baz=177					
SDCO	Great Sand Dun	75.09	333	P	P	01 23 40.6 +0.6
	baz=150,SNR=22					
KSCO	Kaye Shedlock'	75.12	335	IAmb	IAmb	01 23 41.8
	comp=Z,28nm,1.1s					
KSCO	Kaye Shedlock'	75.12	335	P	P	01 23 40.7 +0.8
	baz=153					
FRNY	Flat Rock	75.19	359	IAmb	IAmb	01 23 42.2
	comp=Z,29nm,1.1s					
JFWS	Jewell Farm	75.22	346	IAmb	IAmb	01 23 41.8
	comp=Z,38nm,1.0s					
JFWS	Jewell Farm	75.22	346	P	P	01 23 39.9 -0.3
	baz=164,SNR=8.5					
HAL	Halifax	75.33	6	IAmb	IAmb	01 23 43.6
	comp=Z,41nm,0.9s					
SADO	Sadowa	75.41	354	LR	LR	01 58 50.3
	comp=Z,1µm,20.7s,baz=178,slow=37					
SADO	Sadowa	75.41	354	IAmb	IAmb	01 23 42.1
	comp=Z,26nm,1.1s					
GLA	Glamis	75.42	324	P	P	01 23 42.0 +0.4
	baz=143					
K38A	Parkersburg	75.53	344	IAmb	IAmb	01 23 43.8
	comp=Z,41nm,0.9s					
PLVO	Plevna	75.53	356	IAmb	IAmb	01 23 43.2
	comp=Z,30nm,1.3s					
MATJ	Matjiesfontein	75.55	120 ⇑	*i*P	P	01 23 44.6 +1.9
MATJ				IAmb	IAmb	01 23 45.4
	comp=Z,160nm,1.0s					
G62A	West of Eustis	75.56	1	P	P	01 23 43.5 +1.4
G62A				IAmb	IAmb	01 23 45.0
	comp=Z,33nm,0.9s					
GGN	Saint George	75.58	3	IAmb	IAmb	01 23 56.0
	comp=Z,28nm,1.1s					
S22A	4UR Ranch, Cre	75.62	332	P	P	01 23 43.8 +0.8
	baz=149,SNR=16					
PKME	Peaks-Kenny Pk	75.63	2	IAmb	IAmb	01 23 46.4
	comp=Z,23nm,1.1s					
PKME	Peaks-Kenny Pk	75.63	2	P	P	01 23 43.1 +0.7
	baz=182					
WUAZ	Wupatki	75.73	327	IAmb	IAmb	01 23 46.5
	comp=Z,37nm,1.1s					
WUAZ	Wupatki	75.73	327	P	P	01 23 44.6 +1.1
	baz=146,SNR=12					
BGNE	Belgrade	75.81	340	P	P	01 23 43.7 0.

comp=Z,42nm,0.8s
Q24A Divide 76.01 334 P **P** **01 23 45.8 +0.6**
baz=151,SNR=35
GLMI Grayling 76.08 351 IAmb IAmb 01 23 47.3
comp=Z,31nm,0.8s
GLMI Grayling 76.08 351 P **P** **01 23 44.8 -0.3**
baz=168
SUR Sutherland 76.13 119 LR LR 01 55 21.3
comp=Z,2µm,18.2s,baz=232,slow=34
SUR Sutherland 76.13 119 P **P** **01 23 46.7 +0.6**
SUR Sutherland 76.13 119 IAms_20 IAms_20 01 55 29.0
comp=Z,3µm,18.0s
BC3 Big Chuckawall 76.22 324 P **P** **01 23 47.1 +0.8**
baz=142,SNR=5.3
I40A Norwalk 76.23 346 IAmb IAmb 01 23 47.4
comp=Z,32nm,0.9s
F62A Pittston Farm, 76.24 1 IAmb IAmb 01 23 48.2
comp=Z,24nm,1.1s
MAW Mawson 76.24 164 P **P** **01 23 46.1 +0.3**
comp=Z,48nm,0.6s,baz=217,slow=6.6,SNR=43
MAW LR LR 01 56 13.5
comp=Z,4µm,21.8s,baz=232,slow=35
MAW Mawson 76.24 164 P **P** **01 23 47.1 +1.2**
MAW pmax pmax
comp=Z,47nm,1.3s
MAW Mawson 76.24 164 P **P** **01 23 47.1 +1.2**
MAW IAmb IAmb 01 23 48.2
comp=Z,47nm,1.3s
F64A Sherman 76.25 2 IAmb IAmb 01 23 50.2
comp=Z,35nm,1.1s
LMN Caledonia Moun 76.44 5 P **P** **01 23 47.8 +0.8**
IRM Iron Mountain 76.46 324 P **P** **01 23 48.9 +1.4**
baz=142
TRQ Mont Tremblant 76.60 358 IAmb IAmb 01 23 49.8
comp=Z,27nm,1.0s
OGNE Ogallala 76.63 337 P **P** **01 23 48.9 +0.4**
baz=154
TPFO Pinon Flats 76.70 323 P **P** **01 23 49.6 +0.6**
baz=142
PFO Pinyon Flats O 76.71 323 LR LR 01 51 08.1
comp=Z,2µm,19.6s,baz=144,slow=31
PFO Pinyon Flats O 76.71 323 P **P** **01 23 50.4 +1.3**
PFO pmax pmax
comp=Z,30nm,1.4s
PFO Pinyon Flats O 76.71 323 P **P** **01 23 50.4 +1.3**
PFO IAmb IAmb 01 24 08.1
comp=Z,30nm,1.4s
PFO Pinyon Flats O 76.71 323 P **P** **01 23 49.7 +0.6**
baz=142
BELC Belle Mtn. Jos 76.77 323 P **P** **01 23 49.2 -0.2**
baz=142
SMCO Snowmass 76.91 333 IAmb IAmb 01 23 53.4
comp=Z,44nm,0.9s
ISCO Idaho Springs 76.91 334 P **P** **01 23 50.8 +0.5**
ISCO pmax pmax
comp=Z,14nm,0.9s
ISCO Idaho Springs 76.91 334 P **P** **01 23 50.8 +0.5**
ISCO Idaho Springs 76.91 334 P **P** **01 23 51.5 +1.1**
baz=150,SNR=18
PV14 Lion Creek, Pa 77.06 331 IAmb IAmb 01 23 53.5
comp=Z,21nm,0.9s
PQI Presque Isle 77.07 3 P **P** **01 23 51.8 +1.2**
PQI IAmb IAmb 01 23 54.6
comp=Z,41nm,1.0s
MURC Murrieta 77.08 322 P **P** **01 23 52.6 +1.5**
baz=141
GRAN Grantham 77.19 120 *e*P **P** **01 23 53.1 +1.1**
GRAN IAmb IAmb 01 23 54.5
comp=Z,78nm,0.7s
GMRC Granite Mounta 77.22 324 P **P** **01 23 53.3 +1.4**
baz=142,SNR=8.8
ECSD EROS Data Cent 77.52 342 P **P** **01 23 53.1 -0.2**
baz=158,SNR=52
E46A Sault Ste Mari 77.55 351 IAmb IAmb 01 23 54.7
comp=Z,52nm,1.1s
F42A Maple Grove Fa 77.55 348 IAmb IAmb 01 23 55.7
comp=Z,32nm,1.1s
HEC Hector,Ludlow 77.59 324 P **P** **01 23 55.3 +1.3**
baz=142
KNB Kanab 77.62 327 IAmb IAmb 01 23 57.3
comp=Z,33nm,1.0s
BATG Bathurst New B 77.77 4 IAmb IAmb 01 23 57.2
comp=Z,45nm,1.0s
BFSC Mount Baldy Ra 77.82 322 P **P** **01 23 56.6 +1.3**
baz=141
TUQ Turquoise Moun 77.86 324 P **P** **01 23 56.5 +1.0**
baz=142,SNR=11
LMQ La Malbaie 77.89 1 P **P** **01 23 56.3 +1.1**
LMQ IAmb IAmb 01 23 56.8
comp=Z,30nm,1.1s
RAR Rarotonga 77.95 252 LR LR 01 49 42.2
comp=Z,2µm,20.7s,baz=125,slow=29
E43A Lone Tree Farm 77.96 349 IAmb IAmb 01 23 56.6
comp=Z,32nm,1.0s
SPMN Marine on St. 77.98 345 IAmb IAmb 01 23 56.7
comp=Z,30nm,0.8s
SPMN Marine on St. 77.98 345 P **P** **01 23 55.1 -0.7**
baz=162,SNR=11
N23A Red Feather La 77.99 334 IAmb IAmb 01 23 59.0
comp=Z,27nm,1.1s
N23A Red Feather La 77.99 334 P **P** **01 23 57.0 +0.7**
baz=150,SNR=10
GSC Goldstone, Bar 78.20 324 P **P** **01 23 58.4 +1.1**
baz=142,SNR=5.2
O20A White River Ci 78.23 332 IAmb IAmb 01 24 00.2
comp=Z,35nm,1.0s
O20A White River Ci 78.23 332 P **P** **01 23 58.2 +0.6**
baz=148,SNR=19
SRU San Rafael Swe 78.32 330 IAmb IAmb 01 24 00.2
comp=Z,24nm,0.9s
UPI Upington 78.35 116 *e*P **P** **01 23 59.4 +0.8**
UPI IAmb IAmb 01 24 00.7
comp=Z,71nm,1.1s
SHOC Shoshone, Teco 78.40 324 P **P** **01 23 59.5 +1.2**
baz=142
EDW2 Edwards Air Fo 78.49 323 P **P** **01 23 60.0 +1.0**
baz=141
VLDQ Val d'Or 78.62 356 IAmb IAmb 01 24 01.1
comp=Z,32nm,1.0s
P18A Preston Nutter 78.63 331 P **P** **01 24 00.7 +0.8**
P18A IAmb IAmb 01 24 02.6
comp=Z,38nm,0.9s
P17A Butcher Ranch, 78.71 330 IAmb IAmb 01 24 02.5
comp=Z,33nm,1.0s
F36A Milaca 78.74 345 IAmb IAmb 01 24 01.8
comp=Z,40nm,0.9s
LRMC Laurel Mtn Rad 78.79 323 P **P** **01 24 01.4 +0.7**
baz=141
SUSD Miller 78.83 340 IAmb IAmb 01 24 01.8
comp=Z,34nm,0.9s
SUSD Miller 78.83 340 P **P** **01 23 59.9 -0.6**
baz=156,SNR=9.4
PKA Prieska 78.88 118 *e*P **P** **01 24 02.1 +0.7**
PKA IAmb IAmb 01 24 03.6
comp=Z,2.4nm,0.9s
PRN Pahroc Range 78.99 326 IAmb IAmb 01 24 04.9
comp=Z,30nm,0.9s
E38A The Farm, Brul 79.02 346 IAmb IAmb 01 24 03.3
comp=Z,20nm,0.8s
ARVC Arvin 79.12 322 P **P** **01 24 03.0 +0.7**
baz=140
MPMC Manual Prospec 79.14 324 P **P** **01 24 03.5 +0.9**
baz=141
RDMU Red Mountain 79.14 332 IAmb IAmb 01 24 04.7
comp=Z,36nm,0.9s
FURC Furnace Creek, 79.14 324 P **P** **01 24 03.4 +1.1**
baz=142,SNR=8.2
RWWY Rawlins 79.15 334 P **P** **01 24 02.0 -0.6**
RWWY IAmb IAmb 01 24 04.1
comp=Z,40nm,0.9s
ISA Isabella, Lake 79.34 323 IAmb IAmb 01 24 06.6
comp=Z,20nm,0.9s
ISA Isabella, Lake 79.34 323 P **P** **01 24 04.8 +1.2**
baz=140,SNR=9.1
F33A 5 Mile Ranch, 79.39 343 IAmb IAmb 01 24 04.6
comp=Z,19nm,0.8s
PKM Mcpherson Peak 79.46 321 P **P** **01 24 04.3 -0.1**
baz=139
SOE Somerset East 79.50 122 *e*P **P** **01 24 05.3 +0.6**
SOE IAmb IAmb 01 24 07.0
comp=Z,175nm,1.2s
K22A Casper 79.72 335 IAmb IAmb 01 24 08.2
comp=Z,43nm,1.0s
K22A Casper 79.72 335 P **P** **01 24 06.1 +0.5**
baz=150,SNR=13
CWC Cottonwood Cre 79.74 324 P **P** **01 24 06.8 +0.9**
baz=141
VES Vestal, Richgr 79.80 323 P **P** **01 24 06.4 +0.5**
baz=140,SNR=6.8
GRAC Grapevine Rang 79.81 324 P **P** **01 24 07.2 +1.2**
baz=141,SNR=6.2
JLU Jordanelle 79.95 330 IAmb IAmb 01 24 09.2
comp=Z,22nm,0.8s
R11A Troy Canyon, C 80.00 326 P **P** **01 24 08.0 +0.8**
baz=143,SNR=18
RSSD Black Hills 80.13 337 P **P** **01 24 08.5 +0.6**
RSSD pmax pmax
comp=Z,17nm,1.0s
RSSD Black Hills 80.13 337 P **P** **01 24 08.5 +0.6**
RSSD Black Hills 80.13 337 P **P** **01 24 08.0 +0.1**
baz=152
DUG Dugway, Tooele 80.21 329 P **P** **01 24 08.6 +0.3**
baz=145,SNR=20
TIN Tinemaha, Big 80.29 324 P **P** **01 24 08.7 -0.1**
baz=141
EYMN Ely 80.29 347 IAmb IAmb 01 24 09.6
comp=Z,21nm,0.9s
EYMN Ely 80.29 347 P **P** **01 24 07.9 -0.4**
baz=163,SNR=5.4
HVD Gariep Dam 80.49 120 ⇑*i*P **P** **01 24 11.2 +1.0**
HVD IAmb IAmb 01 24 12.6
comp=Z,155nm,1.0s
HWUT Hardware Ranch 80.83 331 IAmb IAmb 01 24 13.5
comp=Z,38nm,0.8s
HWUT IAms_20 IAms_20 01 55 46.8
comp=Z,3µm,19.0s
SPUT South Promonto 80.96 330 IAmb IAmb 01 24 14.3
comp=Z,33nm,0.9s
BW06 Boulder Array 80.98 333 IAms_20 IAms_20 01 56 22.8
comp=Z,2µm,20.0s
BW06 Boulder Array 80.98 333 P **P** **01 24 12.5 0.0**
baz=148,SNR=9.4
PDAR Pinedale Array 80.98 333 P **P** **01 24 12.3 -0.1**
comp=Z,4.5nm,0.8s,baz=143,slow=5.5,SNR=23
PDAR LR LR 01 56 43.2
comp=Z,1µm,20.6s,baz=152,slow=33
PDAR Pinedale Array 80.98 333 P **P** **01 24 12.5 0.0**
MLAC Mammoth, Mammo 81.04 324 P **P** **01 24 13.1 +0.3**
baz=140
B35A Bob, Littlefor 81.15 345 IAmb IAmb 01 24 13.6
comp=Z,35nm,0.7s
E28A Huff 81.28 340 IAmb IAmb 01 24 15.1
comp=Z,37nm,0.8s
BOSA Boshof 81.30 118 P **P** **01 24 14.8 +0.3**
comp=Z,38nm,0.8s,baz=246,slow=4.7,SNR=47
BOSA LR LR 01 56 02.8
comp=Z,3µm,20.3s,baz=246,slow=32
BOSA Boshof 81.30 118 ⇑*i*P **P** **01 24 14.6 0.0**
BOSA IAmb IAmb 01 24 16.1
comp=Z,71nm,1.0s
BOSA Boshof 81.30 118 P **P** **01 24 14.1 -0.5**
NVAR Mina Array Bea 81.38 325 P **P** **01 24 15.1 +0.4**
comp=Z,7.9nm,0.8s,baz=157,slow=6.3,SNR=42
NVAR LR LR 01 56 27.2
comp=Z,304nm,18.1s,baz=131,slow=33
AGMN Agassiz Nation 81.58 344 IAmb IAmb 01 24 16.0
comp=Z,30nm,0.7s
AGMN Agassiz Nation 81.58 344 P **P** **01 24 14.7 -0.5**
baz=159,SNR=35
AHID Auburn Hatcher 81.60 332 IAms_20 IAms_20 01 56 52.1
comp=Z,2µm,19.0s
ELK Elko 81.74 328 LR LR 01 56 02.2
comp=Z,1µm,20.8s,baz=142,slow=32
REDW Red Top Meadow 82.00 332 P **P** **01 24 18.2 +0.4**
MDND Maddock 82.12 341 P **P** **01 24 18.1 0.0**
baz=156,SNR=7.7
YERR Yerington 82.28 324 IAmb IAmb 01 24 22.1
comp=Z,21nm,0.9s
FLWY Flagg Ranch 82.54 333 IAmb IAmb 01 24 22.9
comp=Z,17nm,0.8s
VCNR Virginia City 82.72 324 P **P** **01 24 22.6 +1.0**
H17A Grant Village 82.75 333 P **P** **01 24 22.1 +0.3**
baz=147
TORD Torodi Ar. Bea 82.76 70 P **P** **01 24 21.9 -0.3**
comp=Z,13nm,0.4s,baz=282,slow=6.0,SNR=198
TORD ScS S 01 34 50.2 +12
comp=Z,1.9nm,1.3s,baz=237,slow=5.4,SNR=5.9
RLMT Red Lodge 82.86 334 P **P** **01 24 22.7 +0.4**
baz=148,SNR=12
YMP Mirror Lake Pl 82.88 333 IAmb IAmb 01 24 41.9
comp=Z,17nm,0.9s
PAHR Pah Rah Range 82.90 325 IAmb IAmb 01 24 25.4
comp=Z,31nm,1.0s
MPK Martis Peak 82.91 324 IAmb IAmb 01 24 25.7
comp=Z,32nm,1.0s
LAO LASA Array 83.12 337 IAmb IAmb 01 24 25.2
comp=Z,16nm,0.8s
LAO LASA Array 83.12 337 P **P** **01 24 23.1 -0.3**
baz=151
YMR Madison River 83.14 333 IAmb IAmb 01 24 26.3
comp=Z,23nm,0.9s
CASY Casey 83.32 181 P **P** **01 24 25.0 +0.8**
CASY Casey 83.32 181 IAms_20 IAms_20 02 04 14.8
comp=Z,2µm,20.0s
LBTB Lobatse 83.38 115 LR LR 01 56 32.6
comp=Z,5µm,21.3s,baz=231,slow=32
LBTB Lobatse 83.38 115 ⇑*i*P **P** **01 24 24.8 -0.7**
LBTB IAmb IAmb 01 24 27.0
comp=Z,88nm,0.9s
LBTB Lobatse 83.38 115 P **P** **01 24 25.9 +0.4**
LBTB pmax pmax
comp=Z,95nm,1.0s
LBTB Lobatse 83.38 115 P **P** **01 24 25.9 +0.4**
ULM Lac du Bonnet 83.41 345 P **P** **01 24 24.0 -0.7**
comp=Z,18nm,1.0s,baz=155,slow=3.8,SNR=6.9
HLID Hailey 83.64 330 IAmb IAmb 01 24 28.8
comp=Z,15nm,0.9s
HLID IAms_20 IAms_20 01 57 19.1
comp=Z,2µm,20.0s
HLID Hailey 83.64 330 P **P** **01 24 26.7 +0.5**
baz=144,SNR=30
PRYS Parys 83.76 117 *e*P **P** **01 24 27.6 +0.1**
PRYS IAmb IAmb 01 24 28.6
comp=Z,54nm,1.1s
ORV Oroville 83.85 324 IAmb IAmb 01 24 40.8
comp=Z,24nm,1.2s
KSR Koster 83.96 116 *e*P **P** **01 24 28.8 +0.3**
KSR IAmb IAmb 01 24 30.1
comp=Z,109nm,1.1s
MCMT McKenzie Canyo 84.02 332 P **P** **01 24 28.9 +0.7**
DGMT Dagmar 84.03 339 P **P** **01 24 28.4 +0.4**
baz=152,SNR=21
MFID Camas Ranch 84.14 329 IAms_20 IAms_20 01 58 39.3
comp=Z,3µm,21.0s
BOZ Bozeman (W) 84.17 333 P **P** **01 24 28.8 -0.1**
baz=146
DLMT Dillon 84.36 332 IAmb IAmb 01 24 32.3
comp=Z,22nm,1.4s
HRAO HartRAO 84.55 117 ⇑*i*P **P** **01 24 31.9 +0.5**
O03E Paynes Creek 84.56 324 P **P** **01 24 30.5 -0.4**
baz=138
O02D Mt. Diablo Mer 84.98 323 P **P** **01 24 33.4 +0.4**
baz=138
MOD Modoc Plateau 85.03 326 IAmb IAmb 01 24 35.7
comp=Z,14nm,0.9s
SLR Silverton 85.09 117 *e*P **P** **01 24 33.6 -0.6**
SLR IAmb IAmb 01 24 35.4
comp=Z,80nm,1.2s
NWCL Newcastle 85.26 119 *e*P **P** **01 24 35.3 +0.3**
NWCL IAmb IAmb 01 24 36.3
comp=Z,176nm,1.6s
SCHQ Schefferville 85.28 3 P **P** **01 24 33.5 -0.6**
comp=Z,24nm,1.0s,baz=184,slow=4.2,SNR=13
SCHQ LR LR 02 04 09.0
comp=Z,430nm,21.1s,baz=170,slow=37
SCHQ Schefferville 85.28 3 P **P** **01 24 34.5 +0.4**
MQZ McQueen's Vall 85.49 221 IAms_20 IAms_20 01 50 48.0
comp=Z,3µm,18.0s
EGMT Eagleton 85.50 335 P **P** **01 24 35.9 +0.4**
baz=148
N02D Trinity Center 85.53 324 P **P** **01 24 36.1 +0.4**
baz=138
PLID Pearl Lake 85.54 330 IAmb IAmb 01 24 37.8
comp=Z,18nm,0.8s
M04C Macdoel 85.69 325 P **P** **01 24 37.5 +0.8**
baz=138
M02C Callahan 85.91 324 P **P** **01 24 37.8 +0.2**
baz=138
BMO Blue Mountains 85.92 329 IAms_20 IAms_20 01 59 07.6
comp=Z,2µm,19.0s
K05A Summer Lake 85.94 326 IAmb IAmb 01 24 41.8
comp=Z,20nm,1.1s
YBH Yreka Blue Hor 86.09 324 LR LR 01 56 41.8
comp=Z,667nm,21.1s,baz=139,slow=31
MSO Missoula 86.09 332 P **P** **01 24 38.1 -0.3**
MSO IAms_20 IAms_20 02 00 54.0
comp=Z,2µm,21.0s
MSO Missoula 86.09 332 P **P** **01 24 39.3 +0.9**
baz=144
URZ Urewera 86.14 227 LR LR 01 53 42.6
comp=Z,2µm,21.4s,baz=170,slow=29
URZ Urewera 86.14 227 IAms_20 IAms_20 01 53 21.9
comp=Z,2µm,22.0s
L04D Klamath Falls 86.25 325 P **P** **01 24 40.1 +0.7**
baz=138
K04D Chiloquin, OR 86.28 325 P **P** **01 24 40.7 +1.2**
baz=139
J05D Fort Rock, OR 86.52 326 P **P** **01 24 41.5 +0.8**
baz=139,SNR=7.4
PINE Pine Mountain 86.77 327 IAmb IAmb 01 24 44.6
comp=Z,22nm,0.9s
L02E Cave Junction 86.85 324 P **P** **01 24 42.9 +0.7**
baz=137
J04D Umpqua Nationa 86.91 326 P **P** **01 24 43.6 +0.9**
baz=138
JTMT Jette 86.98 333 IAmb IAmb 01 24 44.0
comp=Z,14nm,0.8s
K02D Willamette Mer 87.28 324 P **P** **01 24 45.4 +1.1**
baz=137
I05D Terrebonne, OR 87.37 327 P **P** **01 24 45.4 +0.7**
baz=139,SNR=5.5
WALA Waterton Lakes 87.90 334 IAmb IAmb 01 24 49.0
comp=Z,23nm,1.0s
AVE Averroes 87.92 49 P **P** **01 24 47.7 +0.2**
AVE S S 01 35 38.9 +10
RAO Raoul Island 87.95 237 LR LR 01 54 35.9
comp=Z,1µm,21.9s,baz=122,slow=29
H04A Detroit Lake 88.03 327 P **P** **01 24 48.7 +0.9**
H04A IAmb IAmb 01 24 49.4
comp=Z,17nm,0.9s
G05D Wamic, OR 88.04 327 P **P** **01 24 48.1 +0.3**
baz=139
MATP Matopo 88.04 113 LR LR 02 02 09.3
comp=Z,2µm,18.3s,baz=236,slow=34
HAWA Hanford 88.10 329 IAmb IAmb 01 25 02.0
comp=Z,31nm,1.5s
MSNA Messina 88.23 115 *e*P **P** **01 24 50.5 +1.1**
MSNA IAmb IAmb 01 24 50.9
comp=Z,40nm,1.3s
NEW Newport 88.53 332 LR LR 02 01 48.6
comp=Z,2µm,18.0s,baz=137,slow=34
NEW Newport 88.53 332 P **P** **01 24 50.5 +0.4**
baz=142
F05D White Salmon 88.59 328 P **P** **01 24 51.2 +0.8**
baz=139
C09A Chrisman Ranch 88.65 331 IAmb IAmb 01 25 07.2
comp=Z,13nm,1.1s
MOPA Mopani 88.66 117 *e*P **P** **01 24 51.8 +0.4**
MOPA IAmb IAmb 01 24 53.1
comp=Z,1.4nm,1.0s
MDT Midelt 89.47 51 LR LR 02 02 32.4
comp=Z,2µm,21.6s,baz=237,slow=34
IFR Ifrane 89.55 50 P **P** **01 24 52.0 -3.4**
IFR S **S** **01 35 37.5 -6.9**
E04D Cinebar 89.60 328 P **P** **01 24 56.1 +1.1**
baz=138
D05A Enumclaw 89.81 328 IAmb IAmb 01 24 57.7
comp=Z,31nm,1.1s
LSZ Lusaka 90.50 108 LR LR 02 02 47.2
comp=Z,2µm,18.6s,baz=236,slow=34
B05A Bryant 90.66 329 P **P** **01 24 59.9 -0.1**
baz=138
SFS San Fernando 90.67 47 P **P** **01 25 00.0 -0.3**
SFS S **S** **01 35 55.6 +1.5**
SFS San Fernando 90.67 47 IAms_20 IAms_20 02 01 55.1
comp=Z,3µm,22.0s
ARNO Arenosillo 90.74 46 P **P** **01 24 59.7 -0.9**
EVO Evora 90.85 45 S S 01 36 08.3 +13
CEU Ceuta 90.85 48 P **P** **01 24 57.8 -3.3**
CEU S **S** **01 35 54.5 -1.3**
EDM Edmonton 91.10 336 IAmb IAmb 01 25 03.6
comp=Z,16nm,1.0s
AFI Afiamalu 91.49 253 LR LR 01 57 33.8
comp=Z,2µm,18.5s,baz=118,slow=30
ESDC Sonseca Array 94.03 46 P **P** **01 25 15.1 -0.9**
comp=Z,2.6nm,0.9s,baz=255,slow=6.2,SNR=8.6
ESDC LR LR 02 08 00.2
comp=Z,3µm,18.0s,baz=211,slow=36
FRB Frobisher Bay 94.15 1 LR LR 02 10 26.9
comp=Z,840nm,20.2s,baz=166,slow=37
TETE Tete 94.40 112 *e*P **P** **01 25 20.8 +2.6**
TETE IAmb IAmb 01 25 29.7
comp=Z,20nm,1.2s
CART Cartagena 94.67 49 IAms_20 IAms_20 02 05 57.1
comp=Z,2µm,20.0s
BBB Bella Bella 96.17 329 LR LR 02 03 44.4
comp=Z,606nm,21.8s,baz=122,slow=32
MSVF Nonsavu 97.55 244 LR LR 02 02 16.6
comp=Z,519nm,18.5s,baz=117,slow=31
SFJD Kangerlussuaq 98.68 8 LR LR 02 12 12.4
comp=Z,488nm,18.5s,baz=196,slow=37
YKA Yellowknife Ar 99.05 341 P **Pdif** **01 25 37.2 -0.8**
comp=Z,1.7nm,0.7s,baz=141,slow=4.4,SNR=27
MBAR Mbarara 100.32 97 IAms_20 IAms_20 02 13 31.1
comp=Z,2µm,18.0s
ABPO Ambohimpanom 103.23 122 IAms_20 IAms_20 02 11 24.5
comp=Z,2µm,19.0s
DZM Mont Dzumac 103.46 234 *e*SP SP 01 39 30.2 +9.4
comp=Z,482nm,26.8s
DZM *e*SS SS 01 45 07.6 +11
comp=Z,728nm,28.7s
DZM Mont Dzumac 103.46 234 *e*LR LR 02 00 06.6
comp=Z,4µm,23.9s
KIBK Kibwezi 105.61 102 IAms_20 IAms_20 02 10 00.8
comp=Z,3µm,22.0s
LODK Lodwar 106.34 96 IAms_20 IAms_20 02 13 00.7
comp=Z,2µm,19.0s
AQU L'Aquila 106.59 50 IAms_20 IAms_20 02 17 54.7
comp=Z,2µm,21.0s
TULEG Thule 106.99 1 IAms_20 IAms_20 02 11 51.0
comp=Z,1µm,18.0s
EPYK Eagle Plains 108.58 337 IAms_20 IAms_20 02 14 33.3
comp=Z,2µm,19.0s
L27K Beaver Creek, 108.62 333 P **PKiKP** **01 30 25.9 +0.1**
baz=121
SCRK Sand Creek 109.92 333 IAms_20 IAms_20 02 14 40.0
comp=Z,1µm,19.0s
CLL Collm 110.17 42 *e*PP **PP** **01 31 03.0 -0.8**
CLL *e*PS **PS** **01 40 40.0 +6.9**
CLL *e*(PPS) 01 41 48.0
CLL *e*SSS SSS 01 50 42.0
CLL *e*SSSS 01 54 18.0
CLL LmH 02 17 00.0
comp=N,1µm,18.9s
CLL LmH 02 17 00.0
comp=E,2µm,18.9s
CLL LmV 02 18 00.0
comp=Z,2µm,18.2s
KDAK Kodiak Island 110.88 326 P **PKiKP** **01 30 30.4 +0.3**
baz=114
GHO Glory Hole Cre 110.90 330 IAms_20 IAms_20 02 25 15.1
comp=Z,1µm,18.0s
RC01 Rabbit Creek A 110.96 329 P **PKiKP** **01 30 31.1 +0.9**
baz=116
ILAR Eielson Array 111.41 334 Pdiff **Pdif** **01 26 32.9 -0.1**
comp=Z,0.5nm,0.8s,baz=173,slow=3.5,SNR=5.1
ILAR PKiKP **PKiKP** **01 30 30.6 -0.4**
comp=Z,0.8nm,0.8s,baz=167,slow=0.8,SNR=6.5
FURI Furi 111.93 93 IAms_20 IAms_20 02 14 33.8
baz=113
TOLK Toolik Lake Re 114.00 337 P **PKiKP** **01 30 36.3 +0.5**
baz=113
HNR Honiara 116.46 240 IAms_20 IAms_20 02 18 37.7
comp=Z,922nm,18.0s
ATD Arta Tunnel 116.78 92 IAms_20 IAms_20 02 20 58.6
comp=Z,2µm,19.0s
SUW Suwalki 116.91 41 PKiKP **PKiKP** **01 30 41.9 +0.1**
SUW MLR MLR
comp=Z,2µm,20.0s
SUW Suwalki 116.91 41 **PKiKP** **01 30 41.9 +0.1**
A21K Barrow 117.17 339 IAms_20 IAms_20 02 21 32.3
comp=Z,1µm,20.0s
AKASG Malin Array Be 119.68 46 PKP **PKPdf** **01 30 45.8 -1.4**
comp=Z,3.2nm,0.9s,baz=279,slow=2.2,SNR=10
AKASG Malin Array Be 119.68 46*c* *i*PKIKP **PKPdf** **01 30 46.9 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 119.68 46 PKPdf **PKPdf** **01 30 46.9 -0.3**
AKBB Malin Array Si 119.68 46*c* *i*PKIKP **PKiKP** **01 30 47.5 +0.2**
MNK Minsk 119.71 41 *i*PKIKP **PKPdf** **01 30 46.4 -0.8**
MNK *i*SSS SSS 01 53 00.1
MNK pmax pmax

comp=N,10.0nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=N,1μm,19.0s
MNK MLR MLR
comp=E,157nm,19.0s
MNK Minsk 119.71 41 *i* PKP **PKPdf 01 30 46.5 -0.7**
comp=E,1.0nm,0.9s
MNK *i* PKP **PKPdf 01 30 46.5 -0.7**
comp=N,10.0nm,0.9s
MNK *i* PKP **PKPdf 01 30 46.5 -0.7**
comp=Z,14nm,0.9s,baz=258
MNK *i* PP PP 01 31 59.4 -11
MNK *i* PPP PPP 01 34 26.2
MNK *i* SKS SKSac 01 37 09.5 -32
MNK *i* PS **PKKPdf 01 41 25.9 -4.8**
MNK *i* SKKS 01 41 39.0
MNK *i* SS SS 01 48 21.4 -12
MNK *i* SSS SSS 01 53 00.1
MNK *i* LR LR 02 17 12.1
MNK *i* LRM MLR 02 24 28.0
comp=Z,1μm,19.0s
MNK *i* LRM MLR 02 24 30.3
comp=N,1μm,19.0s
MNK *i* LRM MLR 02 24 33.1
comp=E,157nm,19.0s
ASAR Alice Springs 120.66 207 PKP **PKPdf 01 30 48.6 -1.5**
comp=E,2.2nm,0.7s,baz=144,slow=2.0,SNR=21
ASAR PP **PP 01 32 20.2 +3.5**
comp=E,1.5nm,1.0s,baz=176,slow=5.1,SNR=4.5
ASAR PKKPbc **PKKPbc 01 40 55.4 +0.7**
comp=E,1.4nm,0.8s,baz=340,slow=3.2,SNR=13
ASAR Alice Springs 120.66 207 PKPdf 01 30 48.0 -2.1
ARCES ARCESS Array B 120.87 24 PKP **PKPdf 01 30 48.6 -0.4**
comp=E,2.2nm,0.8s,baz=57,slow=4.5,SNR=3.8
KEV Kevo 121.41 24 IAMs_20 IAMs_20 02 18 48.4
comp=Z,1μm,21.0s
WB2 Warramunga Arr 123.80 210 PKPdf 01 30 55.8 -0.5
WRA Warramunga Arr 123.81 210 PKP **PKPdf 01 30 55.0 -1.2**
comp=Z,6.4nm,0.7s,baz=165,slow=1.6,SNR=64
WRA PKKPbc **PKKPbc 01 40 43.0 +0.5**
comp=Z,0.7nm,0.8s,baz=347,slow=3.8,SNR=7.8
WRAB Tennant Creek 123.81 210*c i* PKIKP **PKPdf 01 30 56.3 0.0**
WRAB pmax pmax
comp=Z,11nm,1.7s
WRAB Tennant Creek 123.81 210 IAMs_20 IAMs_20 02 15 28.0
comp=Z,1μm,22.0s
WB0 Warramunga Arr 123.94 210 PKPdf **PKPdf 01 30 55.7 -0.9**
RAYN Ar Rayn 124.20 81 IAMs_20 IAMs_20 02 28 55.2
comp=Z,1μm,20.0s
OBN Obninsk 124.77 42 *i* PKIKP **PKPdf 01 30 55.9 -0.9**
OBN *i* SS SS 01 49 49.8 +12
OBN pmax pmax
comp=Z,16nm,1.2s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 124.77 42 PKPdf **PKiKP 01 30 57.1 -0.1**
SOC Sochi 125.22 56 *i* PKIKP **PKPdf 01 30 57.8 -0.3**
SOC *e* 01 32 48.3
SOC *e*PPP PPP 01 35 27.4
SOC *e*PS **PS 01 42 46.0 -3.5**
SOC *e*SS SS 01 49 45.7 +1.6
SOC *e*SSS SSS 01 54 23.5
MOS Moscow 125.42 41 *e*PKIKP **PKPdf 01 30 56.2 -1.9**
MOS *e* 01 32 56.2
PMG Port Moresby 125.46 229 IAMs_20 IAMs_20 02 14 46.4
comp=Z,1μm,21.0s
LPSR Galich'ya Gora 125.94 45 *e*PKIKP **PKPdf 01 30 58.2 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 125.96 47 *e*PKIKP **PKPdf 01 30 57.9 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 126.01 47 *e*PKIKP **PKPdf 01 30 57.8 -1.6**
VORD pmax pmax
comp=Z,5.0nm,0.8s
H11S2 WAKE ISLAND Hyl 126.11 271 T T 03 49 40.4
baz=115,slow=75,SNR=1497
H11S1 WAKE ISLAND Hyl 126.12 271 T T 03 49 40.2
baz=115,slow=75,SNR=80
H11S3 WAKE ISLAND Hyl 126.12 271 T T 03 49 40.0
baz=115,slow=75,SNR=75
H11N3 WAKE ISLAND Hyl 126.44 273 T T 03 50 08.5
baz=117,slow=75,SNR=23
H11N1 WAKE ISLAND Hyl 126.45 273 T T 03 50 07.2
baz=117,slow=75,SNR=16
H11N2 WAKE ISLAND Hyl 126.45 273 T T 03 50 09.5
baz=117,slow=75,SNR=34
KLMR Klimovskoe 126.51 35 *e*PKIKP **PKPdf 01 30 59.0 -1.0**
KLMR Klimovskoe 126.51 35 *e*PKPdf **PKPdf 01 30 59.1 -1.0**
KLMR LQ LQ 02 16 44.3
KLMR LQ LQ 02 16 44.3
KLMR LR LR 02 22 41.2
PSA00 Pilbara Seismi 126.88 193 PKPdf **PKPdf 01 31 01.0 -1.1**
MBWA Marble Bar 127.30 193 IAMs_20 IAMs_20 02 28 03.2
comp=Z,990nm,20.0s
SHA1 Shidzhatmaz 127.35 56 *i* PKIKP **PKPdf 01 31 01.8 -0.7**
KIV Kislovodsk 127.41 56 *i* PKIKP **PKPdf 01 31 01.0 -1.4**
KIV pmax pmax
comp=Z,8.0nm,1.2s
VRH Novokhopyorsk 127.56 47 *e*PKIKP **PKPdf 01 31 01.0 -1.3**
VRH pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 129.39 33 *e*PKIKP **PKiKP 01 31 06.2 0.0**
PRGR *e* 01 33 14.3
PRGR pmax pmax
comp=Z,110nm,1.5s
BILL Bilibino 130.00 335 *i* PKIKP **PKPdf 01 31 06.9 +0.4**
BILL *i* 01 33 17.6
BILL *i* SS SS 01 51 03.8 +22
BILL pmax pmax
comp=Z,11nm,1.1s
BILL MLR MLR
comp=Z,605nm,18.0s
BILL Bilibino 130.00 335 PKPdf **PKPdf 01 31 07.0 +0.4**
MAK Makhachkala 130.75 58 *i* PKIKP **PKPdf 01 31 08.5 -0.2**
MAK *e* 01 33 21.3
MAK pmax pmax
comp=Z,240nm,1.2s
KIRV Kirov 131.71 37*c i* PKIKP **PKiKP 01 31 11.1 +0.1**
UOSS Minazif 133.84 84 IAMs_20 IAMs_20 02 31 07.5
comp=Z,1μm,21.0s
KAAM Kaadhehdhoo 134.96 125 PKPdf **PKPdf 01 31 17.8 +0.2**
ARU Arti 136.98 38 *i* PKIKP **PKiKP 01 31 21.3 -0.5**
ARU 01 34 03.3
ARU MLR MLR
comp=Z,2μm,19.0s
ARU Arti 136.98 38 PKPdf **PKPdf 01 31 20.1 +0.2**
SEY Seymchan 137.31 332 *i* PKIKP **PKPdf 01 31 19.4 -1.0**
PET Petropavlovsk 137.50 317 *e*P **Pdif 01 28 35.1 +5.9**
PET *e* 01 31 22.5
PET *e* 01 34 13.2
PET *e*PS **PS 01 44 31.4 -3.6**
PET *e*PPS PPS 01 46 21.2
PET *e*SS SS 01 52 15.2 +1.9
PET pmax pmax
comp=Z,200nm,15.3s
PET pmax pmax
comp=Z,400nm,15.1s
TIXI Tiksi 137.50 351 *i* PKIKP **PKPdf 01 31 19.7 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 137.50 351 PKPdf 01 31 21.2 +0.8
SVE Sverdlovsk 137.97 37 *i* PKIKP **PKPdf 01 31 20.6 -1.2**
SVE pmax pmax
comp=Z,17nm,1.6s
SVE MLR MLR
comp=Z,2μm,19.0s
PETK Petropavlovsk- 138.05 317 PKP **PKPdf 01 31 21.8 -0.2**
comp=Z,5.8nm,0.9s,baz=156,slow=4.0,SNR=4.1
EDFI Ende, Flores 138.75 200 PKP **PKPdf 01 31 24.8 +0.1**
AB31 Abkulak array 139.31 49 *i* PKHKP PKPpre 01 31 15.7
ABKAR Abkulak array 139.31 49 PKPdf **PKPdf 01 31 25.0 +0.5**
NRIK Noril'sk 139.52 11 PKP **PKPdf 01 31 24.5 +0.2**
comp=Z,1.2nm,0.4s,baz=327,slow=1.0,SNR=6.7
NRIK Noril'sk 139.52 11*c i* PKIKP **PKPdf 01 31 25.1 +0.9**
NRIK pmax pmax
comp=Z,6.0nm,1.3s
NRIK Noril'sk 139.52 11 PKPdf **PKPdf 01 31 24.9 +0.6**
MA2 Magadan 139.55 328*c i* PKIKP **PKPdf 01 31 25.7 +1.1**
MA2 pmax pmax
comp=Z,8.0nm,1.1s
FAKI Fak Fak 139.55 219 IAMs_20 IAMs_20 02 25 01.7
comp=Z,778nm,20.0s
BKSI Bulukumba 142.47 199 PKP **PKPdf 01 31 31.6 +0.3**
SKJI Sukabumi 142.48 177 PKP **PKPdf 01 31 27.7 -3.6**
KAPI Kappang 142.86 199 PKIKP **PKPdf 01 31 30.5 -1.5**
KAPI MLR MLR
comp=Z,1μm,22.0s
KAPI Kappang 142.86 199 PKPdf **PKPdf 01 31 30.5 -1.5**
KAPI Kappang 142.86 199 IAMs_20 IAMs_20 02 32 37.0
comp=Z,972nm,22.0s
BNSI Bone 143.34 200 PKP **PKPdf 01 31 32.6 -0.2**
SANI Sanana 143.37 210 PKP **PKPdf 01 31 32.3 -0.6**
KASI Kota Agung 143.80 173 PKP **PKPdf 01 31 32.6 -1.0**
SPSI Sidrap Palu 143.86 200 PKP PKPbc 01 31 31.8 +0.4
LWLI Liwa 144.25 173 PKP **PKPdf 01 31 34.1 -0.5**
KLI Kotabumi 144.49 174 PKP **PKPdf 01 31 34.4 -0.4**
BRVK Borovoye 144.50 40 *i* PKIKP PKPbc 01 31 32.3 0.0
BRVK Borovoye 144.50 40 PKPdf PKPbc 01 31 32.7 +0.4
KLSI 144.64 174 PKP PKPbc 01 31 34.3 +0.5
TTSI Tana Toraja 144.72 200 PKP **PKPdf 01 31 35.0 -0.2**
MDSI Maura Dua 144.79 173 PKP **PKPab 01 31 34.2 0.0**
BHUJ Bhuj 144.84 93 *e*P **PKPab 01 31 26.5 -7.6**
GOA Goa 144.97 108 *e*P **PKPab 01 31 32.9 -1.9**
PALK Pallekele 145.16 126 IAMs_20 IAMs_20 02 39 30.3
comp=Z,963nm,18.0s
TNTI Ternate 145.21 215 PKP **PKPdf 01 31 37.4 +1.3**
TNTI Ternate 145.21 215 PKPbc **PKPbc 01 31 35.1 -0.6**
LHSI Lahat 145.36 171 PKP PKiKP 01 31 49.2 +8.9
KBKI Kotaburu 145.39 194 PKP **PKPab 01 31 37.0 +0.6**
BBKI Banjar Baru 145.48 191 PKP **PKPab 01 31 37.1 +0.4**
LUWI Luwuk 145.59 206 PKP **PKPab 01 31 39.0 +1.8**
LUWI Luwuk 145.59 206 PKPbc **PKPdf 01 31 36.5 -0.2**
YAK Yakutsk 145.72 342*c i* PKP2 **PKPdf 01 31 35.4 0.0**
YAK *e* 01 34 56.9
YAK *e*SS SS 01 53 53.1 +5.6
YAK pmax pmax
comp=Z,184nm,0.9s
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,20nm,1.4s
YAK pmax pmax
comp=Z,630nm,5.1s
YAK pmax pmax
comp=N,239nm,4.7s
YAK pmax pmax
comp=E,197nm,4.3s
YAK Yakutsk 145.72 342 PKPab 01 31 36.4 +0.2
MASI Maura Aman, Be 145.85 169 PKP **PKPab 01 31 39.2 +1.0**
KUR Kuril'sk 146.01 307 *i* PKP2 **PKPdf 01 31 36.7 +0.3**
KUR *e* 01 34 55.1
KUR pmax pmax
comp=Z,2μm,3.6s
KUR MLR MLR
comp=Z,915nm,14.0s
PMBI Palembang 146.39 173 IAMs_20 IAMs_20 02 34 12.7
comp=Z,1μm,20.0s
POO Poona 146.49 103 *e*P **PKPdf 01 31 35.9 -2.3**
PBKI Pangkalan Bun 146.64 186 PKP **PKiKP 01 31 43.6 +0.7**
KRJI Kerinci 146.74 167 PKP PKiKP 01 31 52.1 +8.8
KBL Kabul 146.79 73 PKP2 **PKPbc 01 31 40.3 0.0**
KBL Kabul 146.79 73 PKPbc **PKPbc 01 31 40.3 0.0**
TAS Tashkent 146.91 60 PKP2 **PKPbc 01 31 39.4 -0.7**
TAS Tashkent 146.91 60 PKPbc **PKPbc 01 31 39.4 -0.7**
SISI Saibi 146.95 163 PKP **PKPab 01 31 42.4 +0.1**
BRLS Borolday 147.08 57 *e*PKIKP **PKPdf 01 31 38.3 -0.1**
BRLS Borolday 147.08 57 *e*PKP **PKPdf 01 31 38.3 -0.1**
baz=58
BKB Balikpapan 147.20 196 IAMs_20 IAMs_20 02 32 25.6
comp=Z,919nm,22.0s
PPBI Pangkal Pinang 147.26 176 PKP **PKPbc 01 31 42.2 +0.4**
MRSI Marisa 147.30 206 PKP **PKPdf 01 31 40.9 +1.3**
IUG Iuzhnay 147.35 59 *e*PKIKP **PKPdf 01 31 38.1 -0.8**
IUG Iuzhnay 147.35 59 *e*PKP **PKPdf 01 31 38.2 -0.8**
baz=59
URV Uravakonda 147.46 112 *e*PKPdf **PKPdf 01 31 36.5 -3.3**
URV *e*PKiKP **PKPbc 01 31 42.2 -0.1**
KKAR Karatay Array 147.56 57 PKIKP **PKPdf 01 31 40.0 +0.8**
KKAR Karatay Array 147.56 57 PKPdf 01 31 40.0 +0.8
NKL Nikolayevsk 147.56 323 *i* PKP2 **PKiKP 01 31 43.1 -0.4**
NKL *e* 01 35 08.6
NKL *e*PPP PPP 01 38 24.3
YUK Yuzh-Kuril'sk 147.65 305 *e*PKHKP PKPpre 01 31 37.8
YUK *e* 01 35 08.8
YUK *e* 01 47 44.9
YUK *e*SS SS 01 54 10.7 -0.7
YUK *e*SSS SSS 01 59 44.4
MPSI Mapaga 147.89 202 PKP **PKPbc 01 31 43.0 -0.5**
PBSI Pulau Batu 147.95 161 PKP **PKPab 01 31 49.9 +3.6**
DZA Taraz 148.19 57 *e*PKIKP **PKPdf 01 31 39.8 -0.4**
DZA Taraz 148.19 57 *e*PKP **PKPdf 01 31 39.8 -0.4**
baz=57
TOLI2 Tolitoli 148.31 204 PKPdf 01 31 42.6 +1.3
KLRI Killari 148.56 106 *e*PKPbc **PKPdf 01 31 42.7 +1.1**
UGL Uglegorsk 148.64 315 *e*PKP2 **PKPbc 01 31 44.5 +0.1**
UGL pmax pmax
comp=Z,40nm,0.9s
UGL pmax pmax
comp=Z,800nm,4.0s
DSRI Dabo 148.79 173 PKP **PKPbc 01 31 46.2 +0.3**
YSS Yuzh-Sakhalins 148.98 311 *i* PKP2 **PKPbc 01 31 45.7 +0.3**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzh-Sakhalins 148.98 311 PKPbc 01 31 45.1 -0.3
YSS IAMs_20 IAMs_20 02 28 17.5
comp=Z,1μm,20.0s
BKNI Bangkinang 149.01 166 PKPbc **PKPdf 01 31 44.0 +1.6**
BKNI IAMs_20 IAMs_20 02 33 12.9
comp=Z,746nm,22.0s
GSI Gunungsitoli 149.03 159 PKP **PKiKP 01 31 47.5 -0.4**
RCLA Racherla 149.10 113 *e*PKiKP **PKPbc 01 31 45.8 -0.8**
MNSI Mandailing Nat 149.12 163 PKP **PKPbc 01 31 46.4 -0.3**
STKI Sintang 149.40 186 PKP **PKiKP 01 31 49.3 +0.7**
BTLS Baital 149.60 52 *e*PKHKP PKPpre 01 31 41.8
BTLS Baital 149.60 52 *e*PKP **PKPdf 01 31 41.9 -0.6**
baz=52
HYB Hyderabad 149.84 109 *e*P **PKPdf 01 31 40.5 -3.2**
HYBB Hyderabad (bro 149.84 109 *e*PKPbc **PKPdf 01 31 44.6 +0.9**
HYBB *e*SKPbc 01 35 21.5
HYBB *e*SKSdf **SKSdf 01 38 47.3 -2.4**
NJS Nagarjunasagar 149.99 111 *e*PKiKP **PKPbc 01 31 46.9 -1.9**
EKS2 Erkin-Say 150.00 57 P **PKiKP 01 31 48.7 -0.4**
SNR=16
AML Almayashu 150.04 58 P **PKPbc 01 31 48.6 -0.1**
SNR=14
CUPL Choutuppal 150.07 110 *e*PKPbc **PKPdf 01 31 44.8 +0.8**
CUPL *e*PP **PP 01 35 21.5 -2.2**
ADKI Addanki 150.12 113 *e*PKiKP **PKPbc 01 31 47.6 -1.5**
ADKI *es*PKPdf **PKPab 01 31 55.5 +0.5**
ADKI *e*PP **PP 01 35 26.2 +2.4**
KURBB Kurchatov Arra 150.17 40 PKIKP **PKPdf 01 31 42.9 -0.2**
KURK Kurchatov 150.17 39 PKIKP **PKPdf 01 31 42.4 -0.7**
KURK Kurchatov 150.17 39 PKPdf **PKPdf 01 31 42.4 -0.7**
KURK PKPbc **PKPbc 01 31 47.9 -0.2**
NIL Nilore 150.21 75 PKIKP **PKPbc 01 31 48.7 -0.2**
NIL Nilore 150.21 75 PKPbc 01 31 48.7 -0.2
NIL Nilore 150.21 75 IAMs_20 IAMs_20 02 45 51.1
comp=Z,839nm,20.0s
USP Ospenovka 150.38 55 P **PKiKP 01 31 49.8 0.0**
SNR=18
SGDS Sogindy 150.43 55 *e*PKP **PKPdf 01 31 43.2 -0.7**
baz=55
SRSP Sriramsagar 150.43 106 *e*PKiKP **PKPbc 01 31 48.4 -1.4**
AAK Ala-Archa 150.52 57 P **PKiKP 01 31 51.2 +1.0**
SNR=24
AAK Ala-Archa 150.52 57 PKIKP **PKPdf 01 31 44.2 0.0**
AAK Ala-Archa 150.52 57 PKPdf **PKPdf 01 31 44.2 0.0**
AAK PKPbc **PKiKP 01 31 50.6 +0.3**
AAK Ala-Archa 150.52 57 IAMs_20 IAMs_20 02 42 00.4
comp=Z,1μm,22.0s
UCH Uchtor 150.62 58 P **PKPdf 01 31 46.2 +1.5**
SNR=20
CHMS Chumysh 150.62 56 P **PKiKP 01 31 51.0 +0.7**
SNR=18
TPTI 150.74 157 PKP **PKiKP 01 31 52.2 +0.9**
KBK Karagaybulak 150.84 57 P **PKiKP 01 31 51.3 +0.4**
SNR=15
KSM Kuching 150.88 184 PKPbc **PKPbc 01 31 50.2 -0.8**
KSM IAMs_20 IAMs_20 02 38 15.5
comp=Z,951nm,20.0s
MYKOM Kota Tinggi 150.94 171 IAMs_20 IAMs_20 02 36 49.7
comp=Z,1μm,20.0s
MYLAV Mylavaram 151.16 112 *e*PKPdf **PKPdf 01 31 43.5 -2.1**
RPR Rampur 151.18 107 *ep*PKPdf **PKPbc 01 31 51.4 -0.1**
ZALV Zalesovo Beam 151.22 29 PKP **PKPdf 01 31 45.0 +0.4**
comp=Z,5.4nm,0.9s,baz=277,slow=2.5,SNR=18
ZALV PKPbc **PKPbc 01 31 50.6 +0.1**
comp=Z,86nm,0.8s,baz=298,slow=2.0,SNR=122
ZALV Zalesovo Beam 151.22 29 PKIKP **PKPdf 01 31 45.0 +0.4**
ZALV Zalesovo Beam 151.22 29 PKPdf **PKPdf 01 31 44.5 -0.1**
ZALV PKPbc **PKiKP 01 31 51.7 +0.6**
TKM2 Tokmak 2 151.24 56 P **PKPbc 01 31 51.3 0.0**
SNR=16
TKM2 Tokmak 2 151.24 56 PKIKP **PKPdf 01 31 43.5 -1.8**
KST Kastek 151.47 55 *e*PKP **PKPdf 01 31 44.5 -1.0**
baz=55
BHPL Bhopal 151.50 98 *e*P **PKPdf 01 31 45.5 -0.6**
KUU Kurty 151.50 53 *e*PKIKP **PKPdf 01 31 44.4 -1.0**
KUU Kurty 151.50 53 *e*PKP **PKPdf 01 31 44.4 -1.0**
baz=54
ULHL Ulahol 151.87 57 P **PKiKP 01 31 54.3 +1.1**
SNR=8.2
CHKK Chushkaly 151.96 53 *e*PKP **PKPdf 01 31 45.8 -0.3**
baz=53
KSH Kashi 152.19 63 PKPbc **PKPdf 01 31 48.0 +1.2**
KSH sPKP 01 32 03.5
KSH PP **PP 01 35 33.6 -2.2**
KSH SS SS 01 55 00.5 -2.2
KSH AMB AMB
comp=Z,700nm,5.3s
KSH LR LR
comp=Z,800nm,21.0s
KSH LR LR
comp=Z,1μm,19.2s
KSH LR LR
comp=Z,1μm,19.8s
MDOK Medeo 152.21 55 *e*PKIKP **PKPdf 01 31 46.0 -0.7**
MDOK Medeo 152.21 55 *e*PKP **PKPdf 01 31 46.0 -0.7**
baz=55
PVM Polavaram 152.22 113 *e*PKPdf **PKPdf 01 31 44.5 -2.7**
TDK Taldyqorghan 152.55 50 *e*PKIKP **PKPdf 01 31 46.6 -0.3**
TDK Taldyqorghan 152.55 50 *e*PKP **PKPdf 01 31 46.7 -0.3**
baz=50
BOD Bodaibo 152.60 353 *e*PKIKP **PKPbc 01 31 53.3 -0.3**
BOD pmax pmax
comp=Z,50nm,1.9s
DHRM DHARAMSHALA 152.65 78 *e*P **PKPdf 01 31 48.0 +0.3**
MYLDM Lahad Datu 152.89 203 IAMs_20 IAMs_20 02 38 20.0
comp=Z,945nm,19.0s
ZHN Zhinishke 153.18 54 *e*PKIKP **PKPdf 01 31 47.5 -0.6**
ZHN Zhinishke 153.18 54 *e*PKP **PKPdf 01 31 47.5 -0.6**
baz=54
SATY Saty 153.19 54 *e*PKIKP **PKPdf 01 31 47.4 -0.7**
SATY Saty 153.19 54 *e*PKP **PKPdf 01 31 47.5 -0.7**
baz=54
ZEA Zeya 153.22 335 *e*PKIKP **PKPdf 01 31 47.2 -0.4**
ZEA pmax pmax
comp=Z,20nm,1.8s
SMLA Simla 153.26 81 *e*P **PKPdf 01 31 45.5 -2.9**
UZB Uzynbulak 153.59 54 *e*PKIKP **PKPdf 01 31 48.0 -0.7**
UZB Uzynbulak 153.59 54 *e*PKP **PKPdf 01 31 48.1 -0.7**
baz=54
KULM Kulim 153.71 162 PKPab **PKPab 01 32 09.2 -0.7**
KULM IAMs_20 IAMs_20 02 39 28.6
comp=Z,929nm,20.0s
VIS Vishakhapatnam 153.83 114 *i x* **PP 01 35 42.1 -2.8**
SHLS Shalkode 153.89 54 *e*PKIKP **PKPdf 01 31 49.0 -0.1**
SHLS Shalkode 153.89 54 *e*PKP **PKPdf 01 31 49.1 -0.1**
baz=53
MAKZ Makanchi 154.04 44 PKIKP **PKPbc 01 31 56.6 -0.5**
MAKZ 01 32 10.7
MAKZ Makanchi 154.04 44 PKPdf **PKPdf 01 31 47.9 -1.2**
MAKZ PKPbc **PKPbc 01 31 56.6 -0.5**
MAKZ PKPab **PKPab 01 32 10.7 0.0**
MK31 Makanchi Array 154.24 44 PKIKP **PKPdf 01 31 49.2 -0.1**
MK31 01 32 11.8
MK31 Makanchi Array 154.24 44 PKPdf 01 31 49.2 -0.1
MK31 PKPab **PKPab 01 32 11.8 +0.2**
MKAR Makanchi Array 154.24 44 PKP **PKPdf 01 31 49.4 0.0**
comp=Z,1.7nm,0.9s,baz=265,slow=1.9,SNR=9.8
MKAR PKPbc **PKPbc 01 31 57.4 -0.2**
comp=Z,6.8nm,0.9s,baz=315,slow=1.6,SNR=34
MKAR PKPab **PKPab 01 32 11.5 -0.1**
comp=Z,11nm,0.9s,baz=289,slow=3.7,SNR=18
MKAR Makanchi Array 154.24 44 PKPdf **PKPdf 01 31 48.7 -0.7**
MKAR **PKPbc 01 31 57.0 -0.6**
MKAR PKPab **PKPab 01 32 12.6 +1.0**
KKM Kota Kinabalu 154.40 198 IAMs_20 IAMs_20 02 44 05.6
comp=Z,733nm,21.0s
MJAR Matsushiro Arr 154.54 291 PKP **PKPdf 01 31 50.1 0.0**
comp=Z,3.6nm,0.8s,baz=254,slow=2.5,SNR=6.7
MJAR PKPab **PKPab 01 32 13.7 +0.5**
comp=Z,14nm,0.8s,baz=109,slow=2.0,SNR=14
MJAR Matsushiro Arr 154.54 291 PKPdf 01 31 49.2 -0.8
MJAR PKPab **sPKPbc 01 32 11.8 -0.5**
MAJO Matsushiro 154.54 291 PKP2 **PKPab 01 32 13.7 +0.5**
MAJO 02 31 50.3
MAJO Matsushiro 154.54 291 PKPdf **PKPdf 01 31 50.3 +0.2**
MAJO PKPab **PKPab 01 32 13.7 +0.5**
CHLP Challavanipeta 154.84 113 *e*PKPdf **PKPdf 01 31 48.1 -2.8**
CHLP *e*PP **PP 01 35 52.9 +2.2**
ZSN Zaisan 155.39 41 *e*PKIKP **PKPdf 01 31 49.8 -1.1**
ZSN Zaisan 155.39 41 *e*PKP **PKPdf 01 31 49.8 -1.1**
baz=40
INU Inuyama 155.58 289 IAMs_20 IAMs_20 02 56 58.9
comp=Z,729nm,22.0s
USRK Ussuriysk Ar. 157.01 312 PKIKP **PKPdf 01 31 52.5 -0.6**
USRK Ussuriysk Ar. 157.01 312 PKPdf **PKPdf 01 31 52.5 -0.6**
IRK Irkutsk 158.26 7 *e*PKIKP **PKPdf 01 31 54.2 -0.2**
IRK *e* 01 32 27.2
IRK pmax pmax
comp=Z,55nm,2.7s
MDJ Mudanjiang 158.28 316 IAMs_20 IAMs_20 02 38 53.1
comp=Z,762nm,21.0s
CIT Chita 158.35 351 *e*PKP2 **PKPab 01 32 29.3 +0.3**
WMQ Urumqi 159.03 46 PKP **PKPdf 01 31 56.4 +0.7**
WMQ pPKP pPKPdf 01 32 05.4 -0.6
WMQ PKPab **PKPab 01 32 33.3 +1.0**
WMQ PP **PP 01 36 11.5 -1.8**
WMQ AMB AMB
comp=Z,480nm,4.1s
WMQ LR LR
comp=Z,1μm,19.9s
WMQ LR LR
comp=Z,2μm,19.9s
WMQ LR LR
comp=Z,990nm,19.9s
HIA Hailar 159.55 338 IAMs_20 IAMs_20 02 56 00.5
comp=Z,778nm,20.0s
ZAK Zakamensk 159.97 10 *e*PKP2 **PKPab 01 32 37.6 +1.5**
ZAK pmax pmax
comp=Z,19nm,1.7s
CN2 Changchun 161.18 319 *e*PKP **PKPdf 01 31 57.3 -0.7**
CN2 PP **PP 01 36 26.9 +2.3**
CN2 AMB AMB
comp=Z,300nm,7.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,700nm,20.0s
CN2 LR LR
comp=Z,800nm,20.0s
KSAR Wonju Array Be 162.50 298 PKIKP **PKPdf 01 31 58.9 -0.6**
KSAR 01 32 47.3
KSAR Wonju Array Be 162.50 298 PKPdf 01 31 58.9 -0.6
KSAR PKPab **PKPab 01 32 47.3 -0.3**
SONM Songino Array 162.81 5 PKP **PKPdf 01 31 59.9 +0.2**
comp=Z,0.2nm,0.3s,baz=32,slow=27,SNR=6.3
SONM PKPab **PKPab 01 32 49.3 +0.6**
comp=Z,8.1nm,0.9s,baz=319,slow=4.4,SNR=19
SONM PP **PP 01 36 34.9 +2.2**
comp=Z,1.5nm,1.0s,baz=353,slow=3.7,SNR=3.5
SONM Songino Array 162.81 5 PKIKP **PKPdf 01 31 59.0 -0.7**
SONM 01 32 48.9
SONM Songino Array 162.81 5 PKPdf 01 31 59.0 -0.7
SONM PKPab **PKPab 01 32 48.9 +0.2**
ULN Ulaanbaatar 162.82 3 PKIKP **PKPdf 01 31 59.5 -0.2**
ULN 01 32 49.4
ULN Ulaanbaatar 162.82 3 PKPdf 01 31 59.5 -0.2
ULN PKPab **PKPab 01 32 49.4 +0.7**
SNY Shenyang 163.48 316 ⇑PKP **PKPdf 01 31 59.6 -0.7**
SNY LR LR
comp=Z,570nm,18.5s
SNY LR LR
comp=Z,710nm,16.6s

SNY				LR	LR	
	comp=Z,1μm,19.6s					
SHL	**Shillong**	**164.59**	**105**	*i* x	**PP**	**01 36 40.4 -3.5**
CMAR	**Chiang Mai Arr**	**165.11**	**143**	PKP	**PKPdf**	**01 32 03.1 +0.6**
	comp=Z,1.3nm,0.3s,baz=256,slow=1.9,SNR=8.7					
CMAR				PKPab	**PKPab**	**01 32 59.1 -0.2**
	comp=Z,11nm,1.0s,baz=227,slow=5.4,SNR=22					
CMAR				PP	**PP**	**01 36 50.0 +4.8**
	comp=Z,0.9nm,0.4s,baz=230,slow=5.3,SNR=4.5					
CMAR	**Chiang Mai Arr**	**165.11**	**143**	PKPdf	**PKPdf**	**01 32 01.3 -1.2**
CMAR				PKPab	**PKPab**	**01 32 58.4 -1.0**
CHTO	**Chiang Mai**	**165.41**	**142**	PKIKP	**PKPdf**	**01 32 01.9 -0.9**
CHTO						01 33 00.0
CHTO	**Chiang Mai**	**165.41**	**142**	PKPdf	**PKPdf**	**01 32 01.9 -0.9**
CHTO				PKPab	**PKPab**	**01 33 00.0 -0.7**
XLT	**XiLinHaoTe**	**165.47**	**337**	*e*PKP	**PKPdf**	**01 32 02.2 0.0**
XLT				pPKP	pPKPdf	01 32 10.9 -1.6
XLT				PKPab	**PKPab**	**01 33 00.7 +0.3**
XLT				PP	**PP**	**01 36 49.5 +2.6**
XLT				AMB	AMB	
	comp=Z,470nm,8.9s					
XLT				LR	LR	
	comp=Z,830nm,19.8s					
XLT				LR	LR	
	comp=Z,450nm,19.3s					
XLT				LR	LR	
	comp=Z,780nm,21.8s					
KOHI	**KOHIMA**	**166.48**	**108**	*e*P	**PKPdf**	**01 32 02.9 -0.8**
KOHI				*i* x	x	01 36 44.9
ITAN	**ITANAGAR**	**166.69**	**102**	*ex*	**PKPdf**	**01 31 59.1 -4.5**
ITAN				*i* x	**PP**	**01 36 54.0 -0.6**
MOKO	**MOKOCHONG**	**167.06**	**106**	*e*P	**PKPdf**	**01 32 02.3 -1.7**
MOKO				*i* x	x	01 36 49.5
GOMU	**GeErMu**	**167.42**	**61**	PKP	**PKPdf**	**01 32 04.1 -0.2**
GOMU				sPKP		01 32 15.3
GOMU				PP	**PP**	**01 36 58.6 +0.1**
GOMU				AMB	AMB	
	comp=Z,270nm,5.3s					
GOMU				LR	LR	
	comp=Z,510nm,18.8s					
GOMU				LR	LR	
	comp=Z,270nm,18.6s					
GOMU				LR	LR	
	comp=Z,590nm,18.0s					
QIZ	**Qiongzhong**	**168.31**	**187**	PKP	**PKPdf**	**01 32 06.2 +1.3**
QIZ				PKPab	**PKPab**	**01 33 15.1 +1.8**
QIZ				PP	**PP**	**01 37 03.8 +2.7**
QIZ				AMB	AMB	
	comp=Z,490nm,14.5s					
QIZ				LR	LR	
	comp=Z,570nm,19.1s					
QIZ				LR	LR	
	comp=Z,570nm,17.5s					
QIZ				LR	LR	
	comp=Z,750nm,21.6s					
LKP	**Lekhapani**	**168.54**	**104**	*e*P	**PKPdf**	**01 32 03.4 -1.5**
BJI	**Beijing**	**168.71**	**328**	PKP	**PKPdf**	**01 32 03.2 -1.3**
BJI				pPKP	**pPKPdf**	**01 32 12.6 -2.2**
BJI				PP	**PP**	**01 37 01.6 -2.0**
BJI				SKKS		01 43 48.0
BJI				SS	SS	01 57 51.0 -3.2
BJI				LR	LR	
	comp=Z,740nm,17.5s					
BJI				LR	LR	
	comp=Z,340nm,17.7s					
BJI				LR	LR	
	comp=Z,1μm,19.9s					
GTA	**Gaotai**	**168.83**	**37**	PKP	**PKPdf**	**01 32 05.0 +0.1**
GTA				pPKP	pPKPdf	01 32 14.2 -0.9
GTA				sPKP		01 32 18.6
GTA				PKPab	**PKPab**	**01 33 16.7 +1.2**
GTA				PP	**PP**	**01 37 03.5 -1.1**
GTA				AMB	AMB	
	comp=Z,510nm,5.4s					
GTA				LR	LR	
	comp=Z,710nm,21.8s					
GTA				LR	LR	
	comp=Z,620nm,20.0s					
GTA				LR	LR	
	comp=Z,860nm,22.2s					
SSE	**Sheshan**	**168.98**	**275**	PKP	**PKPdf**	**01 32 04.8 -0.2**
SSE				PP	**PP**	**01 37 05.3 -1.1**
SSE				SS	SS	01 57 53.8 -5.6
SSE				LR	LR	
	comp=Z,280nm,17.7s					
SSE				LR	LR	
	comp=Z,200nm,17.7s					
QZH	**Quanzhou**	**169.30**	**240**	PKP	**PKPdf**	**01 32 08.1 +2.7**
QZH				LR	LR	
	comp=Z,440nm,17.3s					
QZH				LR	LR	
	comp=Z,460nm,19.2s					
QZH				LR	LR	
	comp=Z,600nm,22.0s					
HHC	**Hu-ho-hao-te**	**169.54**	**347**	*e*PKP	**PKPdf**	**01 32 05.2 0.0**
HHC				sPKP		01 32 15.2
HHC				PP	**PP**	**01 37 03.6 -3.9**
HHC				SS	SS	01 57 53.5 -8.4
HHC				AMB	AMB	
	comp=Z,520nm,8.6s					
HHC				LR	LR	
	comp=Z,640nm,19.7s					
HHC				LR	LR	
	comp=Z,1μm,18.4s					
HHC				LR	LR	
	comp=Z,2μm,19.0s					
TIA	**Tai'an**	**170.85**	**309**	PKP	**PKPdf**	**01 32 06.6 +0.6**
NJ2	**Nanjing**	**170.94**	**281**	*e*PKP	**PKPdf**	**01 32 05.9 -0.2**
HNS	**HongShan**	**171.50**	**324**	⇓PKP	**PKPdf**	**01 32 07.1 +0.9**
HNS				pPKP	**pPKPdf**	**01 32 16.6 +0.1**
HNS				PKPab	**PKPab**	**01 33 28.3 +1.1**
HNS				PP	**PP**	**01 37 18.2 +0.5**
HNS				AMB	AMB	
	comp=Z,400nm,7.1s					
HNS				LR	LR	
	comp=Z,220nm,21.1s					
HNS				LR	LR	
	comp=Z,1μm,20.4s					
HNS				LR	LR	
	comp=Z,1μm,20.6s					
TIY	**Taiyuan**	**172.23**	**335**	PKP	**PKPdf**	**01 32 08.3 +1.6**
TIY				PP	**PP**	**01 37 21.5 +0.4**
TIY				SKKS		01 44 01.6
TIY				AMB	AMB	
	comp=Z,250nm,6.9s					
TIY				LR	LR	
	comp=Z,940nm,21.3s					
TIY				LR	LR	
	comp=Z,680nm,15.8s					
TIY				LR	LR	
	comp=Z,1μm,20.6s					
KMI	**Kunming**	**172.54**	**137**	⇓PKP	**PKPdf**	**01 32 06.0 -1.4**
PZH	**PanZhiHua**	**172.83**	**124**	PKP	**PKPdf**	**01 32 07.3 -0.1**
PZH				pPKP	**pPKPdf**	**01 32 16.1 -1.5**
PZH				PKPab	**PKPab**	**01 33 33.6 -0.1**
PZH				PP	**PP**	**01 37 27.0 +1.8**
PZH				AMB	AMB	
	comp=Z,390nm,8.1s					
PZH				LR	LR	
	comp=Z,620nm,19.4s					
PZH				LR	LR	
	comp=Z,580nm,18.2s					
PZH				LR	LR	
	comp=Z,530nm,19.1s					
LZH	**Lanzhou**	**173.42**	**34**	*e*PKP	**PKPdf**	**01 32 06.6 -0.8**
LZH				pPKP	pPKPdf	01 32 16.6 -1.0
LZH				PP	**PP**	**01 37 26.7 -0.7**
LZH				SS	SS	01 58 42.6 +1.5
LZH				AMB	AMB	
	comp=Z,570nm,5.2s					
LZH				LR	LR	
	comp=Z,840nm,17.9s					
LZH				LR	LR	
	comp=Z,780nm,16.3s					
LZH				LR	LR	
	comp=Z,810nm,18.2s					
LYN	**LuoYang**	**174.83**	**319**	⇑PKP	**PKPdf**	**01 32 05.6 -2.0**
LYN				pPKP	pPKPdf	01 32 17.1 -0.8
LYN				PKPab	**PKPab**	**01 33 42.1 0.0**
LYN				PP	**PP**	**01 37 29.8 -4.4**
LYN				SKS	**SKSdf**	**01 39 01.0 -7.5**
LYN				LR	LR	
	comp=Z,1μm,22.6s					
LYN				LR	LR	
	comp=Z,1μm,22.4s					
LYN				LR	LR	
	comp=Z,910nm,18.1s					
WHN	**Wuhan**	**174.85**	**270**	⇓PKP	**PKPdf**	**01 32 08.8 +1.1**
WHN				PP	**PP**	**01 37 34.6 -0.8**
WHN				SS	SS	01 58 52.4 -4.5
WHN				LR	LR	
	comp=Z,2μm,16.8s					
WHN				LR	LR	
	comp=Z,1μm,14.5s					
WHN				LR	LR	
	comp=Z,2μm,22.0s					
GYA	**Guiyang**	**175.52**	**160**	⇑PKP	**PKPdf**	**01 32 08.1 -0.1**
GYA				SS	SS	01 59 00.0 -0.4
GYA				LR	LR	
	comp=Z,500nm,19.6s					
GYA				LR	LR	
	comp=Z,430nm,19.4s					
GYA				LR	LR	
	comp=Z,900nm,19.2s					
CD2	**Chengdu**	**176.02**	**86**	PKP	**PKPdf**	**01 32 08.5 +0.3**
CD2				PP	**PP**	**01 37 39.3 -1.9**
CD2				SKS	**SKSdf**	**01 39 03.2 -5.9**
CD2				SKKS	**SKKSac**	**01 44 27.8 +2.8**
CD2				SS	**SS**	**01 59 06.4 -1.9**
CD2				AMB	AMB	
	comp=Z,980nm,9.0s					
CD2				LR	LR	
	comp=Z,80nm,19.6s					
CD2				LR	LR	
	comp=Z,670nm,19.6s					
CD2				LR	LR	
	comp=Z,1μm,20.8s					
XAN	**Xi'an**	**176.63**	**352**	PKP	**PKPdf**	**01 32 09.4 +1.2**
XAN				pPKP	pPKPdf	01 32 18.3 -0.2
XAN				PKPab	**PKPab**	**01 33 48.8 -1.2**
XAN				PP	**PP**	**01 37 42.2 +0.2**
XAN				AMB	AMB	
	comp=Z,1μm,10.7s					
XAN				LR	LR	
	comp=Z,1μm,22.3s					
XAN				LR	LR	
	comp=Z,530nm,21.1s					
XAN				LR	LR	
	comp=Z,1μm,20.7s					

TAP ***08*** *01:15:26.5,23°.88N×122°.79E,h31km±1km,ML2.5,D*
JMA ***08*** *01:15:28.3±0.2,24°.00N×122°.62E,h24km±4km,M1.9*
ISC 08 01:15:27.7±1.2,**23°.93N**±0°.05×**122°.68E**±0°.02,**h27**km±13km,
n41,σ0**88**/67,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.58**	**25**	P	**Pb**	**01 15 38.9**	**-0.4**
JYNG				S	**Sb**	**01 15 46.0**	**-1.1**
YOJ	**Yonaguni jima**	**0.61**	**29**	P	**Pn**	**01 15 39.8**	**-0.9**
YOJ				S	**Sb**	**01 15 47.7**	**-0.4**
YOJ	**Yonaguni jima**	**0.61**	**29**	*e*P	**Pb**	**01 15 38.9**	**-1.0**
	baz=18						
YOJ				S	**Sb**	**01 15 47.8**	**-0.4**
	baz=18						
ENA	**Nanau**	**0.99**	**300**	*e*P	**Pb**	**01 15 46.0**	**-0.3**
	baz=299						
ENA				*e*S	**Sb**	**01 16 00.7**	**+1.7**
	baz=299						
TWD	**Chiawan**	**1.00**	**279**	*e*P	**Pb**	**01 15 46.4**	**-0.1**
	baz=281						
TWD				*e*S	**Sn**	**01 15 58.3**	**-1.0**
	baz=281						
TWC	**Suao**	**1.02**	**312**	*e*P	**Pn**	**01 15 46.2**	**0.0**
	baz=310						
TWC				*e*S	**Sb**	**01 16 01.2**	**+1.4**
	baz=310						
NACB	**Ninganchiao**	**1.02**	**284**	*e*P	**Pn**	**01 15 45.4**	**-0.9**
	baz=285						
HATJ	**Hateruma jima**	**1.04**	**83**	*e*S	**Sb**	**01 16 01.9**	**+1.7**
IRIF	**Iriomote-Funau**	**1.04**	**67**	P	**Pb**	**01 15 47.4**	**+0.3**
IRIF				S	**Sb**	**01 16 02.7**	**+2.3**
NDS	**Dongshan**	**1.13**	**309**	*e*P	**Pb**	**01 15 48.1**	**-0.4**
	baz=307						
NDS				*e*S	**Sb**	**01 16 05.3**	**+2.5**
	baz=307						
ETLH	**Xiulin Townshi**	**1.13**	**285**	*e*P	**Pn**	**01 15 47.2**	**-0.7**
	baz=274						
ETLH				*e*S	**Sn**	**01 16 02.5**	**-0.2**
	baz=274						
HGSD	**Ruisui**	**1.23**	**250**	*e*P	**Pn**	**01 15 49.0**	**-0.2**
	baz=254						
HGSD				*e*S	**Sn**	**01 16 05.3**	**+0.4**
	baz=254						
ENTT	**Nioudou**	**1.24**	**305**	*e*P	**Pn**	**01 15 49.1**	**-0.3**
	baz=304						
TWB1	**Santiao Chiao**	**1.25**	**330**	*e*P	**Pn**	**01 15 49.5**	**0.0**
	baz=327						
JKRS	**Kuro-shima**	**1.25**	**75**	P	**Pb**	**01 15 51.3**	**+0.6**
JKRS				*e*S	**Sb**	**01 16 07.6**	**+1.1**
TIPB	**Shuangxi**	**1.30**	**323**	*e*P	**Pb**	**01 15 51.7**	**+0.1**
	baz=335						
TIPB				*e*S	**Sb**	**01 16 08.2**	**+0.4**
	baz=335						
WHF	**Hehuan Shan**	**1.31**	**280**	*e*P	**Pn**	**01 15 50.3**	**-0.4**
	baz=281						
WHF				*e*S	**Sb**	**01 16 08.6**	**0.0**
	baz=281						
FUSS	**Fushou**	**1.35**	**284**	*e*P	**Pn**	**01 15 51.5**	**+0.4**
	baz=285						
NWLT	**Wulai**	**1.37**	**308**	*e*P	**Pb**	**01 15 52.6**	**-0.1**
	baz=307						
NWLT				*e*S	**Sb**	**01 16 10.3**	**+0.5**
	baz=307						
YULB	**Yu-li**	**1.38**	**248**	*e*P	**Pn**	**01 15 50.0**	**-1.2**
	baz=240						
YULB				*e*S	**Sn**	**01 16 07.8**	**-0.8**
	baz=240						
CHGB	**Renai**	**1.38**	**276**	*e*P	**Pn**	**01 15 51.3**	**-0.2**
	baz=268						
CHGB				*e*S	**Sn**	**01 16 09.4**	**+0.4**
	baz=268						
YHNB	**Yeheng**	**1.40**	**302**	*e*P	**Pn**	**01 15 52.3**	**+0.6**
	baz=301						
YHNB				*e*S	**Sb**	**01 16 11.6**	**+0.8**
	baz=301						
NWF	**Wu-fen Shan**	**1.40**	**324**	*e*P	**Pb**	**01 15 53.1**	**-0.2**
	baz=322						
NWF				*e*S	**Sb**	**01 16 11.0**	**+0.1**
	baz=322						
JIJ	**Ishigaki jima**	**1.41**	**72**	P	**Pb**	**01 15 52.5**	**-0.8**
JIJ				S	**Sb**	**01 16 11.6**	**+0.8**
NSK	**Sanguang**	**1.42**	**302**	*e*P	**Pn**	**01 15 52.4**	**+0.6**
	baz=301						
NSK				*e*S	**Sb**	**01 16 11.9**	**+0.6**
	baz=301						
VWDT	**VWDT**	**1.42**	**263**	*e*P	**Pn**	**01 15 51.3**	**-0.4**
	baz=256						
VWDT				*e*S	**Sn**	**01 16 09.6**	**-0.1**
	baz=256						
FULB	**Fuli**	**1.46**	**241**	*e*S	**Sn**	**01 16 09.4**	**-1.3**
	baz=234						
YM01	**YM01**	**1.58**	**320**	*e*P	**Pb**	**01 15 55.2**	**-1.1**
	baz=319						
EDH	**Donghe**	**1.58**	**233**	*e*S	**Sn**	**01 16 11.4**	**-2.2**
	baz=237						
SSLB	**Suanglung**	**1.59**	**265**	*e*P	**Pn**	**01 15 55.0**	**+0.9**
	baz=256						
SSLB				*e*S	**Sn**	**01 16 14.9**	**+1.1**
	baz=256						
WCS	**Beigang Elemen**	**1.62**	**275**	*e*P	**Pn**	**01 15 55.6**	**+1.0**
	baz=268						
WCS				*e*S	**Sb**	**01 16 16.5**	**-0.5**
	baz=268						
WHP	**Taichung City**	**1.62**	**283**	*e*P	**Pn**	**01 15 55.8**	**+1.1**
	baz=274						
WHP				*e*S	**Sb**	**01 16 16.8**	**-0.4**
	baz=274						
JISG	**Ishigakijimahi**	**1.63**	**66**	P	**Pb**	**01 15 56.6**	**-0.5**
JISG				S	**Sb**	**01 16 17.1**	**-0.1**
SMLT	**Sun Moon Lake**	**1.63**	**269**	*e*S	**Sb**	**01 16 16.6**	**-0.7**
	baz=271						
NTST	**Danshui**	**1.67**	**318**	*e*P	**Pn**	**01 15 54.9**	**-0.3**
	baz=317						
ALS	**Alishan**	**1.77**	**257**	*e*S	**Sn**	**01 16 18.9**	**+0.3**
	baz=249						
CHN5	**Tsauling**	**1.86**	**260**	*e*S	**Sn**	**01 16 21.7**	**+1.0**
	baz=262						
TPUB	**Ta-pu**	**1.98**	**252**	*e*P	**Pn**	**01 15 59.6**	**+0.1**
	baz=247						
TPUB				*e*S	**Sn**	**01 16 24.1**	**+0.6**
	baz=247						
SLGT	**Liugui**	**2.09**	**244**	*e*S	**Sn**	**01 16 26.2**	**+0.1**
	baz=239						
CHN1	**Nanshi**	**2.11**	**250**	*e*S	**Sn**	**01 16 27.3**	**+0.6**
	baz=252						
TWK	**Hsinying**	**2.12**	**252**	*e*S	**Sn**	**01 16 27.3**	**+0.4**
	baz=245						

IDC 08 01:18:17.2±6.5,**21°.71S**×**179°.57W,h0**km,**mb4.0**/2,
mb1 4.3/2,**mb1mx3.8**/23,**mbtmp4.0**/2,**Error ellipse:**
s-maj=320.2km s-min=97.6km az=157.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.83**	**258**	P	P	01 26 16.9	-0.5
	2.9nm,0.9s,baz=92,slow=8.6,SNR=21						
WRA	**Warramunga Arr**	**42.99**	**264**	P	P	01 26 19.0	+0.3
	2.0nm,1.0s,baz=100,slow=7.8,SNR=7.2						
AKASG	**Malin Array Be**	**143.32**	**329**	PKP	PKPdf	01 37 52.8	-0.7
	1.1nm,0.7s,baz=43,slow=3.9,SNR=4.3						

KRSC 08 01:18:24.2±2.4,**49°.00N**×**157°.30E,h40**km±47km,**ML3.7,**
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.49**	**353**	*e*P	Pn	01 19 04.7	+2.6
PAU				*e*S	Sn	01 19 34.3	+3.1
KDTR	**Khodutka, Kamc**	**2.86**	**10**	*e*P	Pn	01 19 10.2	+3.1
KDTR				*e*S	Sn	01 19 45.0	+4.8
MIPR	**Malaya Ipel'ka**	**3.30**	**354**	*e*P	Pn	01 19 16.1	+2.9
ASAK	**Asacha**	**3.41**	**6**	*e*P	Pn	01 19 19.1	+4.3
RUS	**Russkaya**	**3.52**	**12**	*e*P	Pn	01 19 19.8	+3.5
RUS				*e*S	Sn	01 20 02.9	+6.2
GRL	**Gorelyy**	**3.59**	**8**	*e*P	Pn	01 19 21.4	+4.0
PET	**Petropavlovsk**	**4.12**	**11**	*e*P	Pn	01 19 28.7	+4.2
DALK	**Dalny**	**4.14**	**12**	*e*P	Pn	01 19 28.9	+4.1
UGLR	**Uglovaya**	**4.32**	**12**	*e*P	Pn	01 19 32.4	+5.0
AVH	**Avacha**	**4.37**	**11**	*e*P	Pn	01 19 32.9	+4.9
SMAR	**Somma**	**4.37**	**12**	*e*P	Pn	01 19 32.9	+4.7
KOK	**Koryaka**	**4.38**	**11**	*e*P	Pn	01 19 33.5	+5.3
SDLR	**Sedlovina**	**4.40**	**13**	*e*P	Pn	01 19 32.7	+4.2
SPN	**Mys Shipunski**	**4.45**	**22**	*e*P	Pn	01 19 34.3	+5.3
SPN				*e*S	Sn	01 20 25.6	+6.1
GNL	**Ganaly**	**4.72**	**5**	*e*P	Pn	01 19 37.5	+4.7
MKZ	**Mys Kozlova**	**6.21**	**25**	*e*P	Pn	01 19 56.9	+3.8
MKZ				*e*S	Sn	01 21 04.9	+2.2
TUMD	**Tumrok D**	**6.50**	**16**	*e*P	Pn	01 20 02.8	+5.6

IDC ***08*** *01:39:09.8±1.0,31°.95S×71°.28W,h0km,mb3.9/2,*
mb1 4.0/3,mb1mx3.8/17,mbtmp3.9/3,ML4.1/1,Error
ellipse: s-maj=33.6km s-min=11.6km az=86.0
SJA ***08*** *01:39:09.8±1.1,30°.64S×72°.20W,h13km,ML4.0,MW3.9*
NEIC ***08*** *01:39:13.6±2.2,30°.60S±0°.05×71°.81W±0°.07,h10km±1km,*
mb4.3/1,ML4.2(GUC),Error ellipse: s-maj=9.1km
s-min=7.1km az=94.0
GUC ***08*** *01:39:15.6±0.8,30°.66S×71°.61W,h26km±3km,ML4.2*
ISC 08 01:39:15.0±0.9,**30°.69S**±0°.02×**71°.79W**±0°.05,**h32**km±6km,
n67,σ2**23**/94,**1C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.14**	**83**	*e*P	**Pb**	**01 39 20.7**	**-0.2**
CO06				*i* S	**Sb**	**01 39 23.9**	**-1.0**
CO06				IAML		01 39 24.8	
	comp=E,66μm,0.4s						
CO06	**Fray Jorge**	**0.14**	**83**		**Pb**	**01 39 20.1**	**-0.8**
CO05	**La Serena**	**0.91**	**32**	*e*P	**Pn**	**01 39 31.4**	**-0.2**
CO05				*i* S	**Sn**	**01 39 42.6**	**-1.0**
CO05	**La Serena**	**0.91**	**32**		**Pn**	**01 39 31.4**	**-0.2**
CO03	**El Pedregal**	**0.96**	**99**	⇓*i*P	**Pn**	**01 39 32.1**	**-0.3**
CO03				*e*S	**Sn**	**01 39 43.8**	**-1.3**
CO03	**El Pedregal**	**0.96**	**99**		**Pn**	**01 39 31.7**	**-0.7**
GO04	**Tololo Observa**	**1.00**	**59**	*e*P	**Pn**	**01 39 33.0**	**0.0**
GO04				*e*S	**Sn**	**01 39 46.0**	**-0.2**
GO04	**Tololo Observa**	**1.00**	**59**		**Pn**	**01 39 32.7**	**-0.4**
GO04	**Tololo Observa**	**1.00**	**59**	*e*P	**Pn**	**01 39 32.8**	**-0.2**
VA06	**Catapilco**	**1.91**	**167**	*e*P	**Pn**	**01 39 46.3**	**+0.9**
VA06				IAML		01 40 17.4	
	comp=N,4μm,0.4s						
LCO	**Las Campanas**	**1.92**	**30**	*e*P	**Pn**	**01 39 46.4**	**+0.6**
LCO	**Las Campanas**	**1.92**	**30**		**Pn**	**01 39 47.0**	**+1.2**
LCO	**Las Campanas**	**1.92**	**30**	*e*P	**Pn**	**01 39 47.0**	**+1.2**
VA03	**San Esteban**	**2.32**	**153**	*e*P	**Pn**	**01 39 53.2**	**+2.1**
VA03				IAML		01 40 30.8	
	comp=N,2μm,0.6s						
VA03	**San Esteban**	**2.32**	**153**		**Pn**	**01 39 52.7**	**+1.5**
VA03	**San Esteban**	**2.32**	**153**	*e*P	**Pn**	**01 39 53.0**	**+1.9**
VA03				*e*P	**Pn**	**01 39 53.2**	**+2.1**
VA03				*e*S	**Sn**	**01 40 16.3**	**-2.3**
VA03				IAML		01 40 32.1	
	comp=Z,1μm,0.4s						
VA01	**Torpederas**	**2.33**	**177**		**Pn**	**01 39 52.6**	**+1.4**
ROCH	**El Roble**	**2.37**	**164**	⇑*e*P	**Pb**	**01 39 53.0**	**-4.2**
ROCH				*e*P	**Pn**	**01 39 52.0**	**+0.1**
ROCH				IAML		01 40 31.7	
	comp=N,2μm,0.4s						
ROCH				IAML		01 40 32.4	
	comp=N,2μm,0.4s						
ROC1	**El Roble**	**2.37**	**164**	*e*P	**Pn**	**01 39 53.0**	**+1.0**
RTLS	**Leoncito**	**2.40**	**118**	*e*P	**Pb**	**01 39 56.2**	**-1.7**
RTLS				*e*S	**Sn**	**01 40 23.8**	**+2.8**
RTLS				IAML		01 40 37.1	
	comp=Z,2μm,0.6s						
AC04	**Llanos de Chal**	**2.56**	**14**	*e*P	**Pn**	**01 39 54.7**	**+0.4**
AC04	**Llanos de Chal**	**2.56**	**14**		**Pn**	**01 39 54.4**	**+0.1**
AC04	**Llanos de Chal**	**2.56**	**14**	*e*P	**Pn**	**01 39 54.6**	**+0.4**
AC04				*e*S	**Sb**	**01 40 28.8**	**-2.4**
AC04				IAML		01 40 39.6	
	comp=Z,576nm,0.7s						
AUSP	**Uspallata**	**2.56**	**127**	*e*P	**Pb**	**01 39 58.6**	**-1.8**
AUSP				*e*S	**Sn**	**01 40 27.8**	**+3.0**
MT02	**Curacav**	**2.62**	**168**	*e*P	**Pn**	**01 39 56.2**	**+1.0**
MT02				IAML		01 40 39.2	
	comp=N,367nm,0.6s						
MT02	**Curacav**	**2.62**	**168**		**Pn**	**01 39 57.1**	**+1.9**
MT02	**Curacav**	**2.62**	**168**	*e*P	**Pn**	**01 39 57.0**	**+1.9**
MT02				*e*S	**Sn**	**01 40 28.3**	**+2.4**
MT02				IAML		01 40 39.1	
	comp=Z,577nm,0.5s						
PEL	**Peldehue**	**2.62**	**159**		**Pn**	**01 39 56.0**	**+0.8**
ZON	**Zonda**	**2.80**	**109**	Pn	**Pn**	**01 40 00.8**	**+3.1**
ZON	**Zonda**	**2.80**	**109**	*e*P	**Pb**	**01 40 02.0**	**-2.4**
ZON				*e*S	**Sb**	**01 40 38.8**	**+0.5**
ZON				IAML		01 40 51.8	
	comp=Z,221nm,0.7s						
MT05	**Renca**	**2.84**	**162**	*e*P	**Pn**	**01 40 01.7**	**+3.5**
MT05	**Renca**	**2.84**	**162**		**Pn**	**01 40 00.9**	**+2.7**
MT05	**Renca**	**2.84**	**162**	*e*P	**Pn**	**01 40 01.8**	**+3.5**
MT05				*e*P	**Pb**	**01 40 02.0**	**-3.1**
MT05				*e*S	**Sb**	**01 40 36.8**	**-2.5**
MT05				IAML		01 40 45.0	
	comp=Z,599nm,0.8s						
FCH	**Farellones**	**2.92**	**155**	*e*P	**Pn**	**01 40 01.6**	**+2.0**
FCH				IAML		01 40 50.0	
	comp=N,436nm,0.6s						
VA05	**Santo Domingo**	**2.96**	**177**	*e*P	**Pn**	**01 40 00.0**	**+0.2**
VA05				IAML		01 40 49.8	
	comp=N,1μm,0.5s						
VA05	**Santo Domingo**	**2.96**	**177**		**Pn**	**01 40 02.1**	**+2.3**
RTCV	**Cerro Valdivia**	**3.02**	**114**	*e*P	**Pb**	**01 40 05.0**	**-3.1**
RTCV				*e*S	**Sb**	**01 40 45.3**	**+0.8**
MT09	**Talagante**	**3.15**	**168**	*e*P	**Pn**	**01 40 03.6**	**+1.0**
MT09				IAML		01 40 55.3	
	comp=N,592nm,0.6s						
MT09	**Talagante**	**3.15**	**168**		**Pn**	**01 40 03.5**	**+1.0**
ASAL	**Salagasta**	**3.15**	**128**	*e*P	**Pb**	**01 40 07.8**	**-2.6**
ASAL				*e*S	**Sb**	**01 40 48.8**	**+0.4**
MT01	**Popeta**	**3.20**	**172**		**Pn**	**01 40 03.8**	**+0.7**
MT01	**Popeta**	**3.20**	**172**	*e*P	**Pn**	**01 40 04.4**	**+1.3**

```
      comp=Z,304nm,0.4s
GO03  Copiap          3.37  24          Pn     01 40 05.8 +0.3
GO03  Copiap          3.37  24  eP      Pn     01 40 06.8 +1.3
GO03                            eS      Sb     01 41 03.1 +8.3
AAGR  Agrelo          3.47 134  eP      Pn     01 40 06.8 -0.1
AAGR                            eP      Pb     01 40 12.0 -3.9
AAGR                            eS      Sb     01 40 59.3 +1.7
BO01  Tunca           3.74 171          Pn     01 40 11.7 +1.2
BO01  Tunca           3.74 171  eP      Pn     01 40 07.8 -2.7
BO01                            eP      Pn     01 40 12.3 +1.8
BO01                            eS      Sb     01 41 09.8 +4.6
BO01                             IAML          01 41 17.9
      comp=Z,163nm,0.8s
BO02  Sierra Bellavi  4.18 169          Pn     01 40 17.9 +1.3
BO02  Sierra Bellavi  4.18 169  eP      Pn     01 40 19.5 +2.9
BO02                            eS      Sb     01 41 14.3 -3.6
BO02                             IAML          01 41 25.3
      comp=Z,188nm,0.4s
GO05  Huala           4.31 182          Pn     01 40 18.5 +0.1
GO05  Huala           4.31 182  eP      Pn     01 40 19.0 +0.6
GO05                            eS      Sb     01 41 27.8 +6.2
AC02  Maricunga       4.50  32          Pn     01 40 22.1 +0.7
AC02  Maricunga       4.50  32  eP      Pn     01 40 23.0 +1.6
AC02                            eS      Sb     01 41 28.3 +0.9
AC02                            eS      Sb     01 41 28.8 +1.4
AC02                             IAML          01 41 39.6
      comp=Z,128nm,0.9s
RFA   San Rafael      4.94 146  eP      Pn     01 40 28.8 +1.7
RFA                             eP      Pn     01 40 31.0 +3.9
RFA                             eS      Sb     01 41 42.8 +3.1
RFA                              IAML          01 42 23.0
      comp=Z,40nm,1.5s
PB14  IPOC Station P  6.17  12  Pn      Pn     01 40 43.8 -0.4
AHML  Horco Molle     6.87  57  eP      Pn     01 40 56.8 +3.1
PB06  IPOC Station P  8.20  15  Pn      Pn     01 41 11.3 -0.7
LPAZ  La Paz         14.72  14  Pn      P      01 42 55.1 +7.7
      comp=Z,0.3nm,0.3s,baz=174,slow=5.6,SNR=9.8
LPAZ  La Paz         14.72  14          Pn     01 42 39.2 -2.5
BDFB  Brasilia       26.42  61  P       P      01 44 48.9 -0.2
      comp=Z,1.2nm,0.4s,baz=235,slow=9.6,SNR=3.1
BDFB  Brasilia       26.42  61  IAmb    IAmb   01 45 01.3
      comp=Z,6.2nm,1.0s
TORD  Torodi Ar. Bea 82.89  70  P       P      01 51 37.4 +0.4
      comp=Z,0.4nm,0.6s,baz=235,slow=5.1,SNR=9.7
BVAR  Borovoye Array 144.66 40  PKPbc   PKPdf  01 58 48.6 +0.6
      comp=Z,0.5nm,0.5s,baz=270,slow=1.5,SNR=5.2
KURBB Kurchatov Arra 150.25 39  PKPbc   PKiKP  01 59 03.4 +0.1
      comp=Z,0.5nm,0.8s,baz=303,slow=3.1,SNR=5.7
KURK  Kurchatov      150.26 39          PKiKP  01 59 03.4 +0.1
ZALV  Zalesovo Beam  151.28 29  PKPbc   PKiKP  01 59 06.0 +0.7
      comp=Z,1.3nm,0.6s,baz=297,slow=4.3,SNR=7.3
```

*CNRM **08** 01:54:36.2,36°57N×9°83W,h119km,ml3.1*
*INMG **08** 01:54:45.9±1.2,36°59N×9°73W,h31km±14km,ML2.0, Error ellipse: s-maj=9.4km s-min=3.8km az=65.0*
*SFS **08** 01:54:45.0,36°71N×9°77W,h30km,ML2.3,SW. CABO DE SAN VICENTE*
*IGIL **08** 01:54:45.3,36°60N×9°74W,h24km,ML1.9*
ISC 08 01:54:44.8±3.0,36°8N±0°2×9°7W±0°1,h17km±6km,n31, σ0°76/44,3C,West of Gibraltar

```
Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
PFVI  Vila Bisbo      0.78  61↑ eP              Pb     01 55 01.0 +1.2
PFVI                            eS              Sn     01 55 12.5 +0.3
PFVI                             A               A     01 55 13.2
      14nm,0.1s
PFVI  Vila Bisbo      0.78  61  P               Pg     01 54 59.8 -0.2
PFVI                             S               Sn     01 55 13.3 +1.1
MORF  Marmelete       0.99  56  eP              Pb     01 55 04.0 +0.6
MORF                            eS              Sb     01 55 17.7 +1.6
MORF                             IAML          01 55 18.8
      comp=N,29nm,0.1s
MORF  Marmelete       0.99  56  eP              Pb     01 55 04.1 +0.6
MORF                            eS              Sb     01 55 17.8 +1.6
MORF                             A               A     01 55 18.8
      comp=N,14nm,0.2s
PTEO  Sao Teotonio    1.09  44  eS              Sb     01 55 20.8 +1.6
PTEO                             A               A     01 55 21.8
      comp=N,11nm,0.1s
PBDV  Barranco-do-Ve  1.48  70↑ eP              Pn     01 55 10.5 -0.1
PBDV                            eS              Sn     01 55 28.8 -0.7
PBDV                             A               A     01 55 29.8
      comp=N,3.9nm,0.4s
PCVE  Castro Verde    1.57  56  ePn             Pn     01 55 12.7 +0.8
PCVE                            eSn             Sn     01 55 32.2 +0.4
PCVE                             A               A     01 55 33.6
      comp=N,6.3nm,0.2s
MESJ  Messejana       1.59  46  eP              Pn     01 55 12.3 +0.3
MESJ                            eS              Sn     01 55 32.2  0.0
MESJ                             IAML          01 55 33.0
      comp=N,6.5nm,0.1s
MESJ  Messejana       1.59  46  eP              Pn     01 55 12.3 +0.3
MESJ                            eS              Sn     01 55 32.2  0.0
MESJ                             iAML          01 55 33.0
PNCL  Nicolau / Gran  1.63  34  ePn             Pn     01 55 13.0 +0.3
PNCL                            eSn             Sn     01 55 33.4 +0.1
PNCL                             A               A     01 55 34.1
      comp=N,5.8nm,0.1s
PVAQ  Vaqueiros       1.69  67  ePn             Pn     01 55 13.5  0.0
PVAQ                            eSn             Sn     01 55 34.0 -0.8
PVAQ                             A               A     01 55 36.2
      comp=N,6.6nm,0.1s
PVAQ  Vaqueiros       1.69  67  P               Pn     01 55 07.9 -5.6
PVAQ                             S               Sn     01 55 33.5 -1.4
PBEJ  Beja            1.92  48  ePn             Pn     01 55 16.9 +0.2
PBEJ                            eSn             Sn     01 55 39.9 -0.5
PBEJ                             A               A     01 55 40.7
      comp=N,4.9nm,0.2s
EVO   Evora           2.21  36  P               Pn     01 55 19.9 -0.8
EVO                              S               Sn     01 55 47.0 -0.6
EVO   Evora           2.21  36  ePn             Pn     01 55 20.6 -0.1
EVO                             eSn             Sn     01 55 47.0 -0.6
EVO                              A               A     01 55 47.5
      comp=N,8.0nm,0.1s
PMAFR Mafra           2.22   8  ePn             Pn     01 55 21.3 +0.5
PMAFR                           eSn             Sn     01 55 47.9 +0.1
PMAFR                            A               A     01 55 48.7
      comp=N,15nm,0.8s
PBAR  Barrancos       2.53  55  eSn             Sn     01 55 54.9 -0.6
PMTG  Montargil       2.58  26↑ ePn             Pn     01 55 26.1 +0.4
PMTG                            eSn             Sn     01 55 56.1 -0.6
PMTG                             A               A     01 55 57.7
      comp=N,3.3nm,0.3s
PESTR Estremoz        2.68  37  ePn             Pn     01 55 27.6 +0.5
PESTR                           eSn             Sn     01 55 58.3 -0.9
PESTR                            A               A     01 56 00.0
      comp=N,3.8nm,0.7s
PESTR Estremoz        2.68  37  P               Pn     01 55 18.9 -8.2
PESTR                            S               Sn     01 55 58.6 -0.6
PMRV  Marv??o         3.22  33  ePn             Pn     01 55 34.8 +0.2
PMRV                            eSn             Sn     01 56 10.8 -1.7
PMRV                             A               A     01 56 13.0
      comp=N,2.8nm,0.2s
PCAS  Casmilo, Conde  3.42  15  eSn             Sn     01 56 17.1 -0.4
PCBR  Castelo Branco  3.53  29  ePn             Pn     01 55 39.1 +0.3
PCBR                            eSn             Sn     01 56 19.8 -0.4
MTE   Manteigas       4.00  24  ePn             Pn     01 55 45.6 +0.2
MVO   Moncorvo        4.86  24  ePn             Pn     01 55 56.9 -0.3
LCRM  LCR             4.99 126  P               Pn     01 55 47.2 -12
LCRM                             S               Sn     01 56 45.5 -11
PBRG  Braganca        5.53  23  ePn             Pn     01 56 06.8 +0.4
MD31  MD31            5.60 132  P               Pn     01 55 57.0 -10
MD31                             S               Sn     01 57 01.8 -10
MDT   Midelt          5.73 132  P               Pn     01 55 57.8 -11
MDT                              S               Sn     01 57 05.0 -10
TTIG  Tnine Tigouga,  6.28 170  P               Pn     01 56 05.6 -11
TTIG                             S               Sn     01 57 14.8 -13
OUZM  OUZ             6.31 157  P               Pn     01 56 06.8 -10
OUZM                             S               Sn     01 57 16.6 -12
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*IDC **08** 01:55:23.9±1.0,30°15S×177°73W,h0km,mb4.5/4, mb1 4.7/5,mb1mx4.2/24,mbtmp4.5/5,ML3.7/1,Error ellipse: s-maj=30.2km s-min=16.1km az=89.0*
*NEIC **08** 01:55:28.5±1.2,30°16S±0°06×177°7W±0°1,h32km±5km, mb4.7/15,Error ellipse: s-maj=15.0km s-min=7.8km az=98.0*
ISC 08 01:55:28.7±0.8,30°19S±0°07×177°8W±0°1,h35km,n38, σ0°98/34,mb4.7/12,Kermadec Islands

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Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
RAO   Raoul Island    0.94 352  Pn              Pn     01 55 45.6 +0.2
      203nm,0.3s,baz=38,slow=19,SNR=8.6
RAO                             Sn              Sn     01 55 57.6 -0.1
      2µm,0.3s,baz=32,slow=22,SNR=22
RAO   Raoul Island    0.94 352  Pn              Pn     01 55 45.8 +0.3
URZ   Urewera         9.09 206  Pn              Pn     01 57 36.0 -1.4
      0.7nm,0.3s,baz=133,slow=6.1,SNR=1.1
URZ                             Sn              Sn     01 59 16.1 -2.4
      6.6nm,0.3s,baz=195,slow=22,SNR=14
URZ   Urewera         9.09 206  Pn              Pn     01 57 38.1 +0.7
EIDS  Eidsvold       27.92 272  P               P      02 01 14.7 -1.0
EIDS                             IAmb            IAmb   02 01 28.6
      comp=Z,18nm,1.4s
TOO   Toolangi       31.23 246  P               P      02 01 45.5 +0.6
TOO                              IAmb            IAmb   02 01 46.1
      comp=Z,19nm,1.4s
CTAO  Charters Tower 33.96 279  P               P      02 02 09.1 +0.1
STKA  Stephens Creek 34.72 257  P               P      02 02 17.3 +1.9
      comp=Z,14nm,1.1s,baz=89,slow=11,SNR=12
STKA  Stephens Creek 34.72 257  P               P      02 02 16.7 +1.3
BBOO  Buckleboo      39.21 254  P               P      02 02 54.2 +0.6
BBOO                             IAmb            IAmb   02 03 11.5
      comp=Z,15nm,1.2s
COEN  Coen           39.40 286  P               P      02 02 55.7 +0.3
AS31  Alice Springs  43.31 267  P               P      02 03 27.2 -0.3
AS31                             IAmb            IAmb   02 03 28.6
      comp=Z,1.5nm,0.5s
ASAR  Alice Springs  43.31 267  P               P      02 03 27.4  0.0
      comp=Z,3.3nm,0.5s,baz=105,slow=7.1,SNR=44
WB2   Warramunga Arr 44.27 272  P               P      02 03 35.3 +0.1
WB2                              IAmb            IAmb   02 03 36.5
      comp=Z,10nm,0.8s
WRA   Warramunga Arr 44.28 272  P               P      02 03 35.3  0.0
      comp=Z,4.7nm,0.3s,baz=110,slow=8.1,SNR=143
WRA   Warramunga Arr 44.28 272  P               P      02 03 35.0 -0.3
WB0   Warramunga Arr 44.31 272  P               P      02 03 35.4  0.0
WB0                              IAmb            IAmb   02 03 38.0
      comp=Z,12nm,0.6s
FORT  Forrest        46.29 255  P               P      02 03 52.5 +1.5
VNDA  Vanda          48.32 186  P               P      02 04 07.7 +1.5
VNDA                             IAmb            IAmb   02 04 26.3
      comp=Z,11nm,1.4s
CASY  Casey          55.42 208  P               P      02 04 59.5 +0.3
CASY                             IAmb            IAmb   02 05 26.8
      comp=Z,19nm,1.4s
QSPA  South Pole Qui 59.92 180  P               P      02 05 33.0 +2.0
      comp=Z,1.4nm,0.5s,baz=23,slow=2.9,SNR=11
QSPA  South Pole Qui 59.92 180  P               P      02 05 30.9 -0.2
QSPA                             IAmb            IAmb   02 05 40.1
      comp=Z,9.8nm,1.1s
H03S2 Juan Fernandez 80.42 123  T               T      03 36 53.7
      baz=238,SNR=17
H03S1 Juan Fernandez 80.43 123  T               T      03 36 53.9
      baz=238,SNR=15
H03S3 Juan Fernandez 80.44 123  T               T      03 36 52.9
      baz=238,SNR=16
H03N3 Juan Fernandez 80.61 123  T               T      03 37 01.7
      baz=242,slow=72,SNR=8.3
H03N2 Juan Fernandez 80.61 123  T               T      03 36 58.3
      baz=242,slow=72,SNR=9.3
H03N1 Juan Fernandez 80.63 123  T               T      03 37 00.6
      baz=242,slow=72,SNR=14
PAGB  Antelope Grade 84.99  44  P               P      02 07 59.1 -1.3
MKAR  Makanchi Array 117.78 310 PKP             PKPdf  02 14 10.3 -0.7
      comp=Z,0.3nm,0.6s,baz=112,slow=1.3,SNR=4.3
ZALV  Zalesovo Beam  118.00 318 PKPdf           PKPdf  02 14 10.3 -0.9
FINES FINESS Array B 145.01 340 PKP             PKPbc  02 15 00.5 -0.4
      comp=Z,8.2nm,0.5s,baz=59,slow=3.5,SNR=59
GURO  Guroymak-BITLI 146.31 295 PKPdf           PKPdf  02 15 04.0 -0.7
NB2   NORSAR Subarra148.57 352  PKP             PKPbc  02 15 11.0 -0.3
      comp=Z,0.8nm,0.6s,baz=16,slow=2.9
NOA   NORSAR Array B 148.57 352 PKPbc           PKPbc  02 15 11.2  0.0
      comp=Z,1.4nm,0.7s,baz=17,slow=4.3,SNR=5.0
AKASG Malin Array Be 151.25 323 PKPbc           PKPbc  02 15 17.7 -0.3
      comp=Z,1.5nm,0.3s,baz=47,slow=3.2,SNR=24
AKASG Malin Array Be 151.25 323                 PKPbc  02 15 16.9 -1.1
TORD  Torodi Ar. Bea 163.03 178 PKPab           PKPab  02 16 18.2 +0.7
      comp=Z,0.5nm,0.5s,baz=167,slow=3.9,SNR=6.3
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*IDC **08** 02:17:17.2±0.5,13°26S×70°72W,h0km,mb4.5/17, mb1 4.6/24,mb1mx4.6/33,mbtmp4.5/24,ML4.0/7,MS4.2/28, Ms1 4.2/28,ms1mx4.0/65,Error ellipse: s-maj=16.8km s-min=11.3km az=54.0*
*VAO **08** 02:17:19.9±0.3,13°34S×70°73W,h10km,mb4.9*
*NEIC **08** 02:17:23.3±1.9,13°29S±0°06×70°62W±0°07,h41km±5km, mb4.9/195,Error ellipse: s-maj=9.5km s-min=8.1km az=69.0*
ISC 08 02:17:22.4±0.3,13°26S±0°04×70°69W±0°05,h35km,n417, σ1°53/338,mb4.9/111,MS4.4/22,2C,Central Peru

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Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
LPAZ  La Paz         3.90 141  Pn              Pn     02 18 20.6 +0.1
      16nm,0.3s,baz=303,slow=8.3,SNR=169
LPAZ                            Sn              Sn     02 19 12.7 +7.4
      194nm,0.3s,baz=160,slow=21,SNR=5.4
LPAZ                            Lg              Lg     02 19 23.1
      330nm,0.3s,baz=24,slow=22,SNR=13
LPAZ  La Paz         3.90 141  eP              Pn     02 18 22.8 +2.3
LPAZ                            eS              Sn     02 19 10.1 +4.7
LPAZ  La Paz         3.90 141  Pn              Pn     02 18 22.8 +2.3
AP01  Chacalluta     5.09 176  eP              Pn     02 18 37.0 +0.7
AP01                            eS              Sn     02 19 35.2 +1.3
AP01  Chacalluta     5.09 176  Pn              Pn     02 18 39.9 +3.6
PB16  IPOC Station P 5.17 167                  Pn     02 18 41.2 +3.3
PB12  IPOC Station P 5.33 176↑ eP              Pn     02 18 40.6 +0.9
PB12  IPOC Station P 5.33 176  Pn              Pn     02 18 42.4 +2.7
ETMB  Extrema        5.57  53  Pn              Pn     02 18 45.5 +2.7
CZSB  Cruzeiro do Su 5.84 340  eP              Pn     02 18 47.6 +1.0
CZSB  Cruzeiro do Su 5.84 340                  Pn     02 18 46.9 +0.3
NNA   Nana           6.13 281  Pn              Pn     02 18 50.7  0.0
      2.6nm,0.3s,baz=112,slow=7.6,SNR=18
NNA                             Sn              Sn     02 20 05.2 +5.5
      2.3nm,0.3s,baz=144,slow=16,SNR=3.7
NNA                             LR              LR     02 21 42.7
      comp=Z,820nm,19.3s,baz=128,slow=43
NNA   Nana           6.13 281                  Pn     02 18 52.4 +1.7
PB11  IPOC Station P 6.54 171                  Pn     02 18 58.0 +1.7
TA02  Huaiquique     6.99 176  eP              Pn     02 19 03.4 +1.0
TA02  Huaiquique     6.99 176                  Pn     02 19 04.4 +2.0
PB08  IPOC Station P 7.00 168  Pn              Pn     02 19 05.3 +2.4
TA01  Diego Aracena  7.28 176  Pn              Pn     02 19 06.8 +0.4
PB01  IPOC Station P 7.82 172  Pn              Pn     02 19 14.2 +0.2
PB07  IPOC Station P 8.45 175                  Pn     02 19 22.8 +0.1
PB09  IPOC Station P 8.60 171                  Pn     02 19 25.5 +0.8
PB04  IPOC Station P 9.04 177  Pn              Pn     02 19 30.1 -0.5
TBTG  Tabatinga, AM  9.05   5  eP              Pn     02 19 32.1 +1.4
TBTG  Tabatinga, AM  9.05   5                  Pn     02 19 31.5 +0.8
LVC   Limon Verde    9.45 170  Pn              Pn     02 19 37.0 +0.5
      4.5nm,0.3s,baz=340,slow=7.7,SNR=24
LVC                             LR              LR     02 24 32.1
      comp=Z,307nm,21.0s,baz=318,slow=46
LVC   Limon Verde    9.45 170  eP              Pn     02 19 37.0 +0.5
LVC   Limon Verde    9.45 170                  Pn     02 19 36.7 +0.2
PB06  IPOC Station P 9.45 174  Pn              Pn     02 19 35.7 -0.7
SIV   San Ignacio    9.70 107  Pn              Pn     02 19 38.7 -0.9
      8.2nm,0.3s,baz=280,slow=11,SNR=81
SIV                             Sn              Sn     02 21 28.5 +1.1
      17nm,0.3s,baz=174,slow=23,SNR=4.4
SIV                             Lg              Lg     02 22 22.6
      34nm,0.3s,baz=266,slow=12,SNR=3.6
SIV                             LR              LR     02 23 47.4
      comp=Z,912nm,19.8s,baz=302,slow=40
ATAH  Atahualpa      9.72 308  Pn              Pn     02 19 38.2 -2.0
      0.2nm,0.3s,baz=66,slow=9.1,SNR=2.5
ATAH                            LR              LR     02 24 10.7
      comp=Z,775nm,18.3s,baz=140,slow=43
PB15  IPOC Station P 9.96 173  Pn              Pn     02 19 42.1 -1.2
PB10  IPOC Station P 10.20 179 Pn              Pn     02 19 45.0 -1.4
VILB  Vilhena        10.23 89  eP              Pn     02 19 46.3 -0.6
VILB  Vilhena        10.23 89  Pn              Pn     02 19 46.5 -0.3
PB14  IPOC Station P 11.31 179 Pn              Pn     02 19 60.0 -1.9
PTLB  Pontes e Lacer 11.41 102 Pn              Pn     02 20 00.9 -2.1
MACA  Manacapuru-AM  14.09  45  Pn              Pn     02 20 37.5 -2.2
AC04  Llanos de Chal 14.87 181                  Pn     02 20 49.4 -0.9
OTAV  Otavalo        15.46 330  eP              Pn     02 20 59.2 +0.7
OTAV  Otavalo        15.46 330  Pn              Pn     02 20 59.0 +0.5
FLOC  Florencia      15.55 341  eP              Pn     02 20 58.4 -0.8
MACC  Macarena, Meta 15.62 348  eP              Pn     02 20 57.4 -2.8
LCO   Las Campanas   15.67 180  Pn              Pn     02 21 01.4 +0.4
CMBC  Cumbal         15.78 333  eP              Pn     02 21 04.1 +1.4
GCUF  Volcan Galeras 15.83 335  eP              Pn     02 20 59.3 -4.0
PP1B  Ponte de Pedra 15.84 108  eP              Pn     02 21 02.3 -0.7
AQDB  Aquidauana     16.04 119  eP              Pn     02 21 06.3 +0.9
AQDB  Aquidauana     16.04 119  Pn              Pn     02 21 05.2 -0.2
GARC  Garzon, Huila  16.07 342  eP              Pn     02 21 03.1 -3.0
PTGA  Pitinga        16.37  41  Pn              Pn     02 21 07.0 -2.6
      20nm,0.3s,baz=228,slow=15,SNR=207
PTGA                            Lg              Lg     02 25 57.0
      2.6nm,0.3s,baz=135,slow=22,SNR=4.0
PTGA                            LR              LR     02 27 54.2
      comp=Z,2µm,19.2s,baz=220,slow=39
SOTA  Rioblanco     16.38 339  eP              Pn     02 21 08.8 -1.5
PCON  Cinco Dias    16.49 340  eP              Pn     02 21 10.7 -1.1
BETC  Betania       16.53 343  eP              Pn     02 21 08.8 -2.9
CO05  La Serena     16.58 182  Pn              Pn     02 21 11.6 -0.7
CO05                             IAmb            IAmb   02 21 12.4
      comp=Z,122nm,0.9s
POPC  Popayan, Colom 16.78 339 eP              Pn     02 21 15.5 +0.3
GO04  Tololo Observa 16.83 180  Pn              Pn     02 21 14.9 -0.7
GO04                             IAmb            IAmb   02 21 16.7
      comp=Z,123nm,0.9s
MARP  Paez Belalcaza 16.83 342  eP              P      02 21 21.2 +3.5
PRAC  Prado          17.37 346  eP              P      02 21 25.0 +1.6
PTGC  Puerto Gaitan, 17.41 355  eP              P      02 21 24.0 +0.3
CO03  El Pedregal    17.49 180                  Pn     02 21 22.7 -1.1
CO03                             IAmb            IAmb   02 21 33.0
      comp=Z,182nm,1.4s
VILC  Villavicencio, 17.52 350  eP              P      02 21 25.0 -0.1
ORTC  Ortega, Tolima 17.65 345  eP              P      02 21 26.9 +0.5
YOTC  Yotoco, Valle  18.03 341  eP              Pn     02 21 29.7 -0.8
CPUP  Villa Florida  18.07 138  P               Pn     02 21 29.1 -1.6
      comp=Z,0.3nm,0.3s,baz=305,slow=11,SNR=15
CPUP  Villa Florida  18.07 138  eP              Pn     02 21 29.9 -0.9
CPUP  Villa Florida  18.07 138                  Pn     02 21 29.3 -1.4
ZON   Zonda          18.29 175  P               P      02 21 32.3 -1.1
ROSC  El Rosal       18.34 348  P               Pn     02 21 35.1 +0.5
      comp=Z,2.2nm,0.3s,baz=177,slow=7.7,SNR=8.4
ROSC                            Lg              Lg     02 27 02.5
      comp=Z,1.0nm,0.3s,baz=4.7,slow=23,SNR=5.1
ROSC                            LR              LR     02 28 09.3
      comp=Z,828nm,18.8s,baz=198,slow=36
ROSC  El Rosal       18.34 348  P               P      02 21 34.4  0.0
ARAG  Araguaiana, MT 18.44 100  eP              Pn     02 21 35.8 +0.4
BOAV  Boa Vista      18.54  34  eP              P      02 21 35.9 -0.3
BOAV  Boa Vista      18.54  34  P               P      02 21 35.4 -0.8
PLMC  San Jos del P  18.88 343  eP              P      02 21 36.4 -3.7
GUY2C Guyana, Caldas 18.94 346  eP              Pn     02 21 43.1 +1.1
SNDB  Serra Nova Dou 18.98  88  eP              Pn     02 21 43.1 +1.2
SPBC  San Pablo de B 19.09 350  eP              Pn     02 21 43.1 -0.3
RUSC  La Rusia       19.18 353  eP              Pn     02 21 48.8 +4.0
VA03  San Esteban    19.41 180  P               P      02 21 45.1 -0.7
TAMC  Tame, Arauca   19.60 357  eP              Pn     02 21 49.7 +0.3
VA01  Torpederas     19.69 182                  P      02 21 47.8 -0.9
CBOC  Ciudad Bolivar 19.72 344  eP              Pn     02 21 54.5 +3.5
PEL   Peldehue       19.79 180  IAmb            IAmb   02 22 03.0
      comp=Z,87nm,1.1s
MALB  Monte Alegre   19.82  56  eP              Pn     02 21 51.8 -0.2
BARC  Barichara      19.88 353  eP              Pn     02 21 52.6 -0.3
MT02  Curacav        19.91 181  P               P      02 21 50.7 -0.4
MT02                             IAmb            IAmb   02 21 53.7
      comp=Z,52nm,1.1s
PTBC  PUERTO BERRIO, 20.02 349  eP              P      02 21 52.6 +0.1
MT05  Renca          20.04 180  P               P      02 21 51.4 -1.1
MT05                             IAmb            IAmb   02 21 55.8
      comp=Z,122nm,1.3s
PCMB  Pacaembu       20.30 117  eP              P      02 21 56.4 +1.0
VA05  Santo Domingo  20.32 182  P               P      02 21 54.7 -0.8
VA05                             IAmb            IAmb   02 22 06.5
      comp=Z,54nm,0.9s
MT09  Talagante      20.43 181  P               P      02 21 56.4 -0.4
MT09                             IAmb            IAmb   02 22 10.5
      comp=Z,53nm,0.8s
ITRB  Iturama        20.51 111  eP              Pn     02 22 00.1 -0.1
MT01  Popeta         20.52 181  P               P      02 21 57.0 -0.7
MT01                             IAmb            IAmb   02 22 08.0
      comp=Z,54nm,1.0s
PAMC  Pamplona, Colo 20.56 354  eP              Pn     02 22 00.2 -1.0
DBBC  Dabeiba        20.88 344  eP              Pn     02 22 04.0 -0.5
ITQB  Itaqui         20.89 144  eP              P      02 22 01.3 -0.5
ITQB  Itaqui         20.89 144  P               P      02 22 00.8 -1.0
PTGB  Pitanga        20.95 126  eP              P      02 22 03.5 +0.9
ZARC  Zaragoza, Cauc 21.03 348  eP              P      02 22 05.9 +2.5
BO01  Tunca          21.04 181  P               P      02 22 02.8 -0.5
UREC  San Jos de Ur  21.42 347  eP              P      02 22 08.8 +1.2
BO02  Sierra Bellavi 21.44 180  P               P      02 22 07.0 -0.7
BO02                             IAmb            IAmb   02 22 09.3
      comp=Z,65nm,0.8s
GO05  Huala          21.68 183  P               P      02 22 08.9 -1.3
PRPB  Parauapebas    21.74  73  eP              P      02 22 11.1 +0.1
PEXB  Peixe          21.88  90  eP              P      02 22 13.1 +0.6
SDV   Santo Domingo  22.00   0  P               P      02 22 13.6 -0.4
      comp=Z,18nm,1.0s,baz=155,slow=2.6,SNR=15
SDV                             Lg              Lg     02 29 05.0
      comp=Z,14nm,0.8s,baz=79,slow=22,SNR=4.5
SDV                             LR              LR     02 31 33.3
      comp=Z,1µm,21.0s,baz=188,slow=39
SDV   Santo Domingo  22.00   0  eP              P      02 22 15.2 +1.1
SDV   Santo Domingo  22.00   0  P               P      02 22 14.0  0.0
BDFB  Brasilia       22.09  99  P               P      02 22 16.5 +1.6
      comp=Z,29nm,1.0s,baz=264,slow=10,SNR=23
BDFB                            Lg              Lg     02 29 02.9
      comp=Z,83nm,0.9s,baz=350,slow=18,SNR=4.6
BDFB                            LR              LR     02 31 15.1
      comp=Z,585nm,19.1s,baz=251,slow=38
BDFB  Brasilia       22.09  99  P               P      02 22 15.2 +0.4
BDFB                             IAmb            IAmb   02 22 19.5
      comp=Z,39nm,1.0s
IPMB  Ipameri, GO    22.15 105  eP              P      02 22 16.8 +1.3
SMLC  San Martn de   22.17 351  eP              P      02 22 12.6 -3.1
BAUV  El Baul        22.22   7  P               P      02 22 16.6 +0.6
ITAB  Concordia      22.24 132  eP              P      02 22 15.3 -0.9
ITAB  Concordia      22.24 132  P               P      02 22 13.4 -2.9
FRTB  Fartura        22.40 120  eP              P      02 22 19.2 +1.1
ML02  Panimavida     22.41 182  P               P      02 22 17.0 -1.0
MCPB  Macapa, AP     22.48  57  eP              P      02 22 20.6 +1.6
BB19B Bebedouro      22.54 113  eP              P      02 22 20.6 +1.0
SMTB  Santa Maria do 23.09  81  eP              P      02 22 27.8 +2.5
SJCC  San Jacinto, C 23.43 349  eP              P      02 22 27.8 -1.0
SJCC  San Jacinto, C 23.43 349  P               P      02 22 27.9 -0.8
RCLB  Rio Claro- Sao 23.83 116  eP              P      02 22 34.2 +1.7
BIRV  Birongo        23.99  11  P               P      02 22 34.2 +0.3
PCRV  Puerto La Cruz 24.05  15  P               P      02 22 35.7 +1.1
      comp=Z,13nm,0.8s,baz=344,slow=1.5,SNR=4.4
PLTB  Pedras Altas   24.19 142  P               P      02 22 33.6 -2.1
SPB   Sao Paulo      24.31 118  eP              P      02 22 37.3 +0.4
VAO   Valinhos       24.51 117  eP              P      02 22 39.1 +0.3
URIC  Uribia, Colomb 24.84 357  eP              P      02 22 39.2 -2.5
SDBA  SAO DESIDERIO  25.16  91  eP              P      02 22 47.0 +2.2
TER01 Tubaro-SC      25.17 130  eP              P      02 22 44.0 -0.7
LC01  Cunco          25.55 182  P               P      02 22 47.1 -1.0
LC01                             IAmb            IAmb   02 22 47.9
      comp=Z,32nm,1.1s
JANB  Januaria       25.64  97  eP              P      02 22 50.8 +1.7
SRBA  San Rafael, Bu 25.64 330  P               P      02 22 50.4 +1.2
PARB  Paraibuna      25.79 116  eP              P      02 22 50.9 +0.5
BSCB  Bom Sucesso    25.91 111  eP              P      02 22 48.5 -3.1
DIAM  Diamantina, MG 26.46 104  eP              P      02 22 57.7 +1.0
JTS   Las Juntas de  27.35 328  LR              LR     02 34 44.8
      comp=Z,369nm,18.9s,slow=38
PLCA  Paso Flores    27.37 180  P               P      02 23 03.5 -1.0
      comp=Z,14nm,0.9s,baz=359,slow=9.2,SNR=13
PLCA  Paso Flores    27.37 180  eP              P      02 23 04.1 -0.4
PLCA  Paso Flores    27.37 180  P               P      02 23 03.5 -1.0
PLCA                             IAmb            IAmb   02 23 08.7
      comp=Z,32nm,1.3s
LL04  Puerto Octay   27.58 183  P               P      02 23 05.5 -0.8
ROSB  Rosrio         28.21  71  eP              P      02 23 14.3 +2.1
RIB01 Linhares ES    29.67 106  eP              P      02 23 25.3 +0.2
NAN01 Guarapari, ES  29.78 103  eP              P      02 23 27.1 +1.0
NBPN  Ponto Novo - B 29.91  89  eP              P      02 23 28.9 +1.6
GUA01 Guaratinga, BA 30.01 100  eP              P      02 23 29.9 +1.7
NBPS  Pedro II - PI  30.18  76  eP              P      02 23 30.5 +0.7
GDU01 Guandu, BA     30.25  95  eP              P      02 23 31.9 +1.6
CMC01 Camacan, BA    30.27  98  eP              P      02 23 33.0 +2.5
NBIT  Itapeh - BA    30.35  97  eP              P      02 23 33.0 +1.8
OBIP  Obispado Ponce 31.37   7  P               P      02 23 39.7 -0.3
CELP  Cerrillos      31.40   8  P               P      02 23 38.9 -1.4
CUPR  Culebra, Puert 31.82  10  P               P      02 23 43.0 -1.0
CUPR                             IAmb            IAmb   02 23 52.2
      comp=Z,19nm,0.8s
NBMO  Morrinhos-CE   31.86  75  eP              P      02 23 46.8 +2.3
NBMA  Muriti-CE      31.93  83  eP              P      02 23 47.2 +2.0
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COYC Coyhaique 32.23 182 P **P 02 23 46.4 -0.9**
COYC IAmb IAmb 02 23 47.3
comp=Z,22nm,1.0s
NBLA Lagarto - SE 32.24 90 *e*P **P 02 23 48.6 +0.8**
MTO3 Montecristo 33.12 325 P **P 02 23 56.3 +0.6**
NBAN Anadia - AL 33.90 88 *e*P **P 02 24 04.2 +1.7**
RCBR Riachuelo 35.06 81 P **P 02 24 12.0 -0.5**
RCBR IAmb IAmb 02 24 25.0
comp=Z,21nm,1.1s
NBRF Rio Formoso - 35.19 86 *e*P **P 02 24 15.1 +1.6**
PETF Flores 35.47 327 P **P 02 24 16.0 +0.3**
NBPV Pedro Velho 35.51 82 *e*P **P 02 24 18.4 +2.2**
CCIG Comitan 36.21 324 P **P 02 24 22.5 +0.2**
CCIG IAmb IAmb 02 24 44.7
comp=Z,14nm,0.8s
MG05 Puerto Natales 38.34 182 P **P 02 24 39.8 -0.1**
RPN Rapa Nui 38.63 243 P **P 02 24 42.3 -0.4**
comp=Z,31nm,1.0s,baz=79,slow=7.9,SNR=4.7
RPN LR LR 02 37 11.4
comp=Z,497nm,18.2s,baz=64,slow=31
RPN Rapa Nui 38.63 243 P **P 02 24 43.0 +0.3**
ZAIG Zacatecas 47.51 319 P **P 02 25 55.0 +0.2**
GOGA Godfrey 47.98 346 P **P 02 25 57.1 -0.8**
baz=163
HOPE Hope Point 48.94 154 P **P 02 26 04.8 -0.2**
KMSC Kings Mountain 49.18 348 P **P 02 26 06.2 -1.0**
baz=166
HKT Hockley 49.32 331 P **P 02 26 09.3 +1.1**
833A Chaparral WMA, 49.81 326 P **P 02 26 12.8 +0.8**
baz=142
TKL Tuckaleechee C 50.20 346 LR LR 02 49 34.8
comp=Z,241nm,18.4s,baz=100,slow=39
435B Jarrell 50.86 330 P **P 02 26 20.6 +0.7**
baz=146
TZTN Tazewell 51.00 347 P **P 02 26 20.3 -0.7**
baz=164
BLA Blacksburg 51.03 350 P **P 02 26 21.1 -0.1**
baz=168
PMSA Palmer Station 51.66 176 LR LR 02 46 37.4
comp=Z,189nm,18.4s,baz=340,slow=34
JCT Junction City 51.73 328 IAmb IAmb 02 26 37.4
comp=Z,13nm,0.9s
JCT Junction City 51.73 328 P **P 02 26 27.7 +1.1**
baz=143
WHTX Lake Whitney, 51.79 331 P **P 02 26 27.4 +0.5**
WHTX Lake Whitney, 51.79 331 P **P 02 26 26.6 -0.3**
baz=146
Q61A Milford 52.05 355 P **P 02 26 27.1 -1.6**
baz=174
W41B Gary Mavity, V 52.33 338 P **P 02 26 29.7 -1.1**
baz=153
W39A Magazine 52.93 336 IAmb IAmb 02 26 35.9
comp=Z,21nm,1.1s
W39A Magazine 52.93 336 P **P 02 26 34.1 -1.2**
baz=151
TXAR Lajitas Array 52.98 323 P **P 02 26 36.3 +0.4**
comp=Z,1.3nm,0.7s,baz=150,slow=8.0,SNR=18
TX31 Lajitas Ar. Si 52.98 323 P **P 02 26 35.9 0.0**
TX31 IAmb IAmb 02 26 48.3
comp=Z,15nm,1.1s
P52A Corning 53.69 349 P **P 02 26 39.4 -1.4**
baz=166
MGMO Mountain Grove 54.10 339 IAmb IAmb 02 26 53.1
comp=Z,16nm,1.1s
O53A New Philadelph 54.13 350 P **P 02 26 43.4 -0.6**
baz=167
FVM French Village 54.23 341 P **P 02 26 43.0 -1.9**
TUL1 Leonard 54.36 335 P **P 02 26 45.0 -0.8**
TUL1 IAmb IAmb 02 26 55.5
comp=Z,23nm,1.1s
TUL1 Leonard 54.36 335 P **P 02 26 45.7 -0.1**
baz=150
ACSO Alum Creek Sta 54.43 348 P **P 02 26 45.6 -0.6**
baz=165
FNO Franklin 54.49 333 **P 02 26 45.4 -1.4**
CCM Cathedral Cave 54.56 340 P **P 02 26 45.3 -1.9**
CCM IAmb IAmb 02 26 48.6
comp=Z,16nm,1.2s
CCM Cathedral Cave 54.56 340 P **P 02 26 46.3 -0.9**
baz=155
N53A Lisbon 54.61 351 IAmb IAmb 02 26 48.5
comp=Z,21nm,1.1s
N54A Moraine State 54.63 351 P **P 02 26 46.4 -1.3**
baz=169
WMOK Wichita Mounta 54.68 332 P **P 02 26 47.3 -0.8**
WMOK Wichita Mounta 54.68 332 P **P 02 26 47.8 -0.3**
baz=146
OK030 Cody Creek RV 54.79 334 IAmb IAmb 02 26 54.3
comp=Z,17nm,0.9s
OK031 S. Brethren Rd 54.84 334 IAmb IAmb 02 27 00.7
comp=Z,15nm,0.8s
SMAI San Martin Ant 54.87 178 P **P 02 26 48.5 -0.5**
BCOK Bluff Creek, N 54.92 333 IAmb IAmb 02 26 50.2
comp=Z,14nm,0.8s
S39A Bolivar 54.96 338 IAmb IAmb 02 26 56.5
comp=Z,13nm,0.9s
M54A Oil Creek Stat 55.12 352 P **P 02 26 50.0 -1.2**
baz=169
M53A Wl Miller and 55.20 351 P **P 02 26 51.2 -0.6**
baz=168
N49A Columbus Grove 55.34 348 IAmb IAmb 02 26 53.1
comp=Z,17nm,0.8s
BINY Binghamton 55.40 355 P **P 02 26 52.6 -0.6**
baz=174
L61B Northampton 55.46 358 P **P 02 26 52.6 -1.1**
baz=178
HRV Adam Dziewonsk 55.50 359 P **P 02 26 52.7 -1.2**
baz=179
MNTX Cornudas Mount 55.72 324 P **P 02 26 55.3 -0.5**
MNTX IAmb IAmb 02 27 02.6
comp=Z,13nm,1.3s
MNTX Cornudas Mount 55.72 324 P **P 02 26 56.0 +0.3**
baz=138,SNR=8.8
ERPA Erie 55.76 352 P **P 02 26 54.7 -1.1**
baz=169
CROK Carrier 55.79 333 P **P 02 26 55.6 -0.5**
CROK IAmb IAmb 02 27 06.3
comp=Z,12nm,0.8s
KAN13 South Haven SW 56.01 334 P **P 02 26 57.0 -0.6**
KAN13 IAmb IAmb 02 27 03.4
comp=Z,21nm,1.2s
MSTX Muleshoe 56.02 328 P **P 02 26 57.3 -0.7**
MSTX IAmb IAmb 02 27 04.6
comp=Z,20nm,1.0s
MSTX Muleshoe 56.02 328 P **P 02 26 57.7 -0.2**
baz=142,SNR=8.2
P40A Paris 56.16 340 IAmb IAmb 02 27 04.4
comp=Z,19nm,1.1s
AMTX Amarillo 56.19 329 P **P 02 26 58.6 -0.5**
AMTX Amarillo 56.19 329 P **P 02 26 59.1 0.0**
baz=143
P38A Dawn 56.75 339 IAmb IAmb 02 27 10.8
comp=Z,8.5nm,0.7s
KSU1 Kansas State U 57.44 336 IAmb IAmb 02 27 17.2
comp=Z,15nm,1.0s
KSU1 Kansas State U 57.44 336 P **P 02 27 07.1 -0.7**
baz=150
LONY Lake Ozonia 57.71 357 P **P 02 27 08.3 -1.3**
baz=175
121A Cookes Peak, D 57.72 323 IAmb IAmb 02 27 24.4
comp=Z,20nm,1.4s
319A Douglas 57.80 321 IAmb IAmb 02 27 22.1
comp=Z,10nm,0.8s
G62A West of Eustis 58.20 0 P **P 02 27 13.3 +0.3**
G62A IAmb IAmb 02 27 22.8
comp=Z,14nm,1.1s
SADO Sadowa 58.26 353 LR LR 02 54 32.9
comp=Z,243nm,19.2s,baz=31,slow=38
JFWS Jewell Farm 58.71 343 P **P 02 27 15.7 -0.9**
baz=158
ANMO Albuquerque 58.73 326 P **P 02 27 17.8 +0.6**
ANMO Albuquerque 58.73 326 P **P 02 27 17.3 +0.1**
baz=138
T25A Trinidad 59.33 329 P **P 02 27 21.0 -0.3**
baz=141,SNR=7.6
TUC Tucson 59.37 321 P **P 02 27 21.9 +0.4**
baz=133
KSCO Kaye Shedlock' 59.94 332 P **P 02 27 25.1 -0.3**
baz=144
D62A Allapoint, All 60.08 1 P **P 02 27 26.4 +0.5**
SDCO Great Sand Dun 60.34 329 P **P 02 27 28.5 +0.1**
baz=140,SNR=20
214A Organ Pipe Nat 60.41 319 P **P 02 27 29.4 +0.9**
baz=131
X18A Snowflake 60.41 323 IAmb IAmb 02 27 36.8
comp=Z,12nm,1.1s
W18A Petrified Fore 60.70 324 P **P 02 27 30.7 0.0**
baz=135
S22A 4UR Ranch, Cre 61.03 328 IAmb IAmb 02 27 35.4
comp=Z,13nm,1.2s
S22A 4UR Ranch, Cre 61.03 328 P **P 02 27 32.8 -0.2**
baz=139,SNR=11
Q24A Divide 61.11 330 IAmb IAmb 02 27 40.3
comp=Z,14nm,1.0s
Q24A Divide 61.11 330 P **P 02 27 33.2 -0.4**
baz=141,SNR=9.6
X16A Lo Mia Camp, P 61.21 322 IAmb IAmb 02 27 44.2
comp=Z,9.2nm,0.9s
OGNE Ogallala 61.24 333 P **P 02 27 34.0 -0.2**
baz=145
ECSD EROS Data Cent 61.46 339 IAmb IAmb 02 27 34.7
comp=Z,10nm,1.4s
ECSD EROS Data Cent 61.46 339 P **P 02 27 34.4 -1.1**
baz=151
MVCO Mesa Verde 61.52 326 P **P 02 27 36.7 +0.4**
MVCO Mesa Verde 61.52 326 P **P 02 27 36.1 -0.1**
baz=137,SNR=14
SPMN Marine on St. 61.56 342 IAmb IAmb 02 27 34.7
comp=Z,10nm,1.2s
SPMN Marine on St. 61.56 342 P **P 02 27 34.4 -1.7**
baz=155
WUAZ Wupatki 61.93 323 P **P 02 27 39.5 +0.5**
baz=134,SNR=15
ISCO Idaho Springs 61.98 330 IAmb IAmb 02 27 46.2
comp=Z,16nm,1.2s
ISCO Idaho Springs 61.98 330 P **P 02 27 39.3 -0.2**
baz=141,SNR=12
SMCO Snowmass 62.18 329 IAmb IAmb 02 27 48.1
comp=Z,9.3nm,0.9s
PV17 East Wray Mesa 62.55 327 IAmb IAmb 02 27 55.0
comp=Z,8.3nm,0.8s
PV04 Paradox Valley 62.60 327 IAmb IAmb 02 27 50.3
comp=Z,15nm,1.1s
SUSD Miller 62.92 338 P **P 02 27 45.3 +0.1**
baz=149
N23A Red Feather La 62.99 331 P **P 02 27 46.3 +0.2**
baz=141
BC3 Big Chuckawall 63.20 319 P **P 02 27 49.0 +1.5**
baz=130
DRLN Deer Lake 63.33 10 P **P 02 27 47.6 -0.2**
O20A White River Ci 63.55 329 IAmb IAmb 02 27 56.6
comp=Z,15nm,1.0s
O20A White River Ci 63.55 329 P **P 02 27 50.7 +1.0**
baz=139,SNR=8.9
SRU San Rafael Swe 63.99 326 IAmb IAmb 02 27 59.5
comp=Z,16nm,1.1s
GMRC Granite Mounta 64.05 320 P **P 02 27 54.4 +1.3**
baz=130
LCMT Little Creek M 64.05 323 IAmb IAmb 02 28 01.5
comp=Z,9.5nm,1.0s
MTPU Mount Pierson 64.15 324 IAmb IAmb 02 28 01.4
comp=Z,12nm,1.2s
P18A Preston Nutter 64.22 327 IAmb IAmb 02 27 56.3
comp=Z,11nm,1.0s
SZCU Shurtz Canyon 64.36 324 IAmb IAmb 02 28 05.3
comp=Z,11nm,1.1s
CCUT Cedar City 64.49 323 IAmb IAmb 02 28 04.8
comp=Z,13nm,1.0s
TMUT Trail Mountain 64.49 326 IAmb IAmb 02 28 07.6
comp=Z,5.8nm,0.7s
RDMU Red Mountain 64.55 328 IAmb IAmb 02 28 03.0
comp=Z,15nm,0.9s
K22A Casper 64.63 331 P **P 02 27 57.3 +0.6**
baz=141
TUQ Turquoise Moun 64.64 320 P **P 02 27 58.1 +1.2**
baz=130
RSSD Black Hills 64.68 334 P **P 02 27 57.1 0.0**
RSSD Black Hills 64.68 334 P **P 02 27 57.8 +0.7**
baz=144
SHPR Sheep Range 64.86 321 P **P 02 27 59.1 +0.8**
SHPR IAmb IAmb 02 28 06.4
comp=Z,12nm,1.2s
RRX Edison Barstow 64.96 319 P **P 02 28 00.1 +1.2**
baz=129
AGMN Agassiz Nation 65.24 342 P **P 02 27 59.4 -1.0**
AGMN IAmb IAmb 02 28 08.9
comp=Z,9.3nm,0.9s
AGMN Agassiz Nation 65.24 342 P **P 02 27 59.2 -1.2**
baz=153
NLU North Lily Min 65.43 326 IAmb IAmb 02 28 09.5
comp=Z,13nm,1.1s
JLU Joanelle 65.56 327 IAmb IAmb 02 28 05.6
comp=Z,23nm,1.3s
CTU Camp Tracy 65.78 327 IAmb IAmb 02 28 11.3
comp=Z,12nm,1.2s
FURC Furnace Creek, 65.88 320 P **P 02 28 06.5 +1.8**
baz=130
DUG Dugway, Tooele 66.00 326 IAmb IAmb 02 28 08.1
comp=Z,17nm,1.0s
DUG Dugway, Tooele 66.00 326 P **P 02 28 07.2 +1.5**
baz=134,SNR=16
MPMC Manual Prospec 66.01 320 P **P 02 28 07.2 +1.3**
baz=129
MDND Maddock 66.07 339 P **P 02 28 05.0 -0.7**
baz=149,SNR=7.4
BW06 Boulder Array 66.17 330 P **P 02 28 06.9 +0.1**
baz=138,SNR=9.1
PDAR Pinedale Array 66.17 330 P **P 02 28 06.8 +0.1**
comp=Z,4.7nm,1.1s,baz=130,slow=8.0,SNR=16
PDAR LR LR 03 02 31.1
comp=Z,126nm,19.2s,baz=52,slow=41
R11A Troy Canyon, C 66.33 323 IAmb IAmb 02 28 18.8
comp=Z,12nm,1.0s
R11A Troy Canyon, C 66.33 323 P **P 02 28 09.1 +1.2**
baz=132,SNR=8.5
HWUT Hardware Ranch 66.34 328 IAmb IAmb 02 28 18.6
comp=Z,9.0nm,0.8s
ISA Isabella, Lake 66.39 319 P **P 02 28 09.8 +1.6**
baz=128
SPUT South Promonto 66.59 327 IAmb IAmb 02 28 19.4
comp=Z,19nm,1.2s
CWC Cottonwood Ce 66.62 320 P **P 02 28 11.1 +1.4**
baz=129
BGU Big Grassy Mou 66.63 326 IAmb IAmb 02 28 12.1
comp=Z,11nm,1.1s
PKM Mcpherson Peak 66.79 317 P **P 02 28 11.8 +0.9**
baz=127
ULM Lac du Bonnet 66.99 343 P **P 02 28 10.2 -1.3**
comp=Z,3.7nm,0.6s,baz=149,slow=5.2,SNR=7.0
ULM LR LR 02 59 23.3
comp=Z,142nm,19.3s,baz=86,slow=38
ULM Lac du Bonnet 66.99 343 P **P 02 28 10.2 -1.3**
ULM IAmb IAmb 02 28 18.5
comp=Z,7.8nm,0.8s
HVU Hansel Valley 67.10 327 IAmb IAmb 02 28 14.7
comp=Z,12nm,1.1s
FLWY Flagg Ranch 67.70 330 IAmb IAmb 02 28 28.5
comp=Z,9.7nm,0.9s
H17A Grant Village 67.87 330 P **P 02 28 19.2 +1.6**
baz=138
OMMB Old Mammoth Mi 67.93 320 IAmb IAmb 02 28 28.5
comp=Z,19nm,1.4s
NVAR Mina Array Bea 68.01 321 P **P 02 28 20.3 +1.7**
comp=Z,0.8nm,0.7s,baz=119,slow=5.2,SNR=6.4
NVAR Mina Array Bea 68.01 321 P **P 02 28 19.4 +0.9**
LIC Lamto 68.02 78 *e*P P 02 28 24.1 +5.3
comp=Z,41nm,1.3s
TIC Toumodi 68.15 77 *e*P **P 02 28 21.0 +1.3**
YMR Madison River 68.26 330 IAmb IAmb 02 28 28.0
comp=Z,7.5nm,0.8s
DGMT Dagmar 68.27 337 P **P 02 28 20.3 +0.5**
baz=145
DBIC Dimbokro 68.31 77 P **P 02 28 20.8 +0.2**
comp=Z,4.7nm,0.9s,baz=279,slow=6.7,SNR=4.9
DBIC LR LR 02 56 17.8
comp=Z,428nm,18.3s,baz=275,slow=34
DBIC Dimbokro 68.31 77 P **P 02 28 20.1 -0.6**
DBIC IAmb IAmb 02 28 29.1
comp=Z,21nm,1.4s
KIC Kosan Boka 68.33 78 *e*P **P 02 28 21.9 +1.1**
comp=Z,18nm,0.9s
YERR Yerington 68.93 321 IAmb IAmb 02 28 32.9
comp=Z,19nm,1.2s
HLID Hailey 69.21 327 P **P 02 28 26.4 +0.5**
HLID IAmb IAmb 02 28 33.3
comp=Z,16nm,1.2s
HLID Hailey 69.21 327 P **P 02 28 27.0 +1.1**
baz=134,SNR=16
PNTR Pine Nut 69.21 321 IAmb IAmb 02 28 34.4
comp=Z,11nm,0.9s
BOZ Bozeman (W) 69.26 331 P **P 02 28 27.1 +0.9**
baz=137
VCNR Virginia City 69.37 321 IAmb IAmb 02 28 37.6
comp=Z,13nm,1.1s
PAHR Pah Rah Range 69.47 322 IAmb IAmb 02 28 38.5
comp=Z,15nm,0.9s
EGMT Eagleton 70.21 333 P **P 02 28 32.4 +0.6**
baz=139
SNAA Sanae 70.59 162 P **P 02 28 33.1 -0.8**
SNAA IAmb IAmb 02 28 46.1
comp=Z,14nm,1.3s
ORV Oroville 70.66 321 IAmb IAmb 02 28 43.5
comp=Z,24nm,1.3s
WVOR Wild Horse Val 70.75 324 IAmb IAmb 02 28 45.7
comp=Z,20nm,1.4s
PLID Pearl Lake 71.08 328 IAmb IAmb 02 28 44.2
comp=Z,13nm,1.0s
MSO Missoula 71.26 330 IAmb IAmb 02 28 41.8
comp=Z,15nm,1.2s
MSO Missoula 71.26 330 P **P 02 28 39.1 +0.9**
baz=135,SNR=9.0
MOD Modoc Plateau 71.38 323 IAmb IAmb 02 28 49.1
comp=Z,17nm,0.9s
BMO Blue Mountains 71.61 327 P **P 02 28 41.0 +0.6**
BMO IAmb IAmb 02 28 47.5
comp=Z,16nm,1.2s
M04C Macdoel 72.21 322 P **P 02 28 45.1 +0.9**
baz=127
F10A Beach Ranch, E 72.32 328 IAmb IAmb 02 28 55.8
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 72.70 322 LR LR 03 03 13.0
comp=Z,236nm,18.9s,baz=339,slow=38
J05D Fort Rock, OR 72.77 324 P **P 02 28 48.7 +1.2**
baz=128
PINE Pine Mountain 72.92 324 IAmb IAmb 02 28 58.7
comp=Z,22nm,1.0s
E09A Wood Farm, Sta 73.15 328 IAmb IAmb 02 28 56.6
comp=Z,13nm,1.0s
J04D Umpqua Nationa 73.25 323 P **P 02 28 51.6 +1.2**
baz=127
I05D Terrebonne, OR 73.48 325 P **P 02 28 53.1 +1.6**
baz=128
HAWA Hanford 73.80 327 P **P 02 28 54.5 +1.2**
NEW Newport 73.81 330 LR LR 03 06 37.9
comp=Z,210nm,19.0s,baz=60,slow=40
NEW Newport 73.81 330 P **P 02 28 54.1 +0.8**
baz=133
D08A Wollman Farm, 73.91 328 IAmb IAmb 02 28 56.9
comp=Z,16nm,1.2s
G05D Wamic, OR 74.03 325 P **P 02 28 56.3 +1.5**
baz=128
E07A Sunnyside 74.08 327 IAmb IAmb 02 28 58.6
comp=Z,14nm,1.0s
F05D White Salmon 74.51 326 P **P 02 28 58.8 +1.3**
baz=129
F04A Amboy 75.07 325 IAmb IAmb 02 29 03.3
comp=Z,17nm,0.9s
EDM Edmonton 75.61 335 IAmb IAmb 02 29 11.6
comp=Z,23nm,1.3s
D04E Lakebay 76.02 326 P **P 02 29 07.2 +1.2**
baz=128
B06A Marblemount 76.17 328 IAmb IAmb 02 29 09.2
comp=Z,18nm,0.9s
B05A Bryant 76.33 327 P **P 02 29 08.5 +0.7**
baz=128
TORD Torodi Ar. Bea 76.38 73 P **P 02 29 08.7 -0.1**
comp=Z,8.3nm,0.9s,baz=265,slow=5.4,SNR=25
D03D Eldon 76.41 326 P **P 02 29 09.6 +1.3**
baz=128
FRB Frobisher Bay 76.79 1 LR LR 03 06 24.6
comp=Z,270nm,18.2s,baz=165,slow=38
QSPA South Pole Qui 76.88 180 LR LR 03 02 00.3
comp=Z,65nm,18.4s,baz=212,slow=35
QSPA South Pole Qui 76.88 180 P **P 02 29 10.2 -0.7**
QSPA IAmb IAmb 02 29 12.2
comp=Z,16nm,0.8s
A04D Lummi Island 76.93 328 P **P 02 29 12.2 +1.0**
baz=128
MDT Midett 77.91 52 LR LR 03 00 28.6
comp=Z,202nm,20.4s,baz=242,slow=33
CBB Campbell River 79.11 328 IAmb IAmb 02 29 25.7
comp=Z,13nm,0.9s
PAB San Pablo 80.94 46 P **P 02 29 34.0 +0.5**
PAB IAmb IAmb 02 29 55.8
comp=Z,20nm,1.5s
ESDC Sonseca Array 81.26 46 P **P 02 29 35.5 +0.3**
comp=Z,1.7nm,0.7s,baz=252,slow=6.2,SNR=8.2
ESDC LR LR 03 03 06.3
comp=Z,208nm,19.6s,baz=270,slow=34
ESDC Sonseca Array 81.26 46 P **P 02 29 36.4 +1.2**
SFJD Kangerlussuaq 81.38 8 LR LR 03 07 42.0
comp=Z,212nm,18.1s,baz=170,slow=37
DY2G Dye2 81.54 10 *i* P **P 02 29 34.1 -2.2**
DY2G IAmb IAmb 02 29 43.1
comp=Z,6.0nm,0.6s
YKA Yellowknife Ar 82.89 341 P **P 02 29 42.2 -0.9**
comp=Z,2.6nm,0.7s,baz=136,slow=5.4,SNR=43
VNDA Vanda 84.62 190 P **P 02 29 51.6 -0.3**
comp=Z,2.0nm,0.8s,baz=114,slow=6.7,SNR=4.1
VNDA LR LR 03 00 57.0
comp=Z,164nm,18.3s,baz=167,slow=31
VNDA Vanda 84.62 190 P **P 02 29 52.4 +0.5**
UPNV Upernavik 86.38 4 *i* P **P 02 29 57.5 -3.0**
SUMG Summit 88.24 9 *i* P **P 02 30 09.6 -0.4**
SUMG IAmb IAmb 02 30 17.8
comp=Z,7.7nm,0.9s
P33M Teslin, Yukon 88.29 334 P **P 02 30 10.6 +0.4**
baz=120
EKA Eskdalemuir Ar 88.54 32 LR LR 03 02 28.9
comp=Z,154nm,21.7s,baz=298,slow=31
TULEG Thule 89.63 0 *i* P P 02 30 10.6 -5.4
TULEG IAmb IAmb 02 30 23.9
comp=Z,5.7nm,0.8s
KEST Kesra 89.74 53 LR LR 03 10 19.0
comp=Z,145nm,19.9s,baz=240,slow=35
SCO Scoresbysund 89.94 15 *i* P P 02 30 22.8 +5.3
SCO IAmb IAmb 02 30 25.8
comp=Z,7.2nm,0.9s
NEEM North Greenlan 91.25 4 *i* P **P 02 30 21.6 -2.3**
NEEM IAmb IAmb 02 30 33.1
comp=Z,20nm,0.9s
A36M Sachs Harbour 92.35 345 IAmb IAmb 02 30 46.7
comp=Z,5.1nm,0.8s
INK Inuvik 92.65 341 P **P 02 30 29.4 -0.8**
comp=Z,2.1nm,0.8s,baz=81,slow=3.9,SNR=6.0
INK Inuvik 92.65 341 P **P 02 30 30.6 +0.5**
baz=120
JMIC Jan Mayen 93.81 17 LR LR 03 10 20.9
comp=Z,48nm,19.9s,baz=82,slow=34
DAG Danmarks Havn 94.81 10 *i* P **P 02 30 39.2 -0.8**
DAG IAmb IAmb 02 30 48.7
comp=Z,0.6nm,0.8s
RIDG Independent Ri 94.93 335 P **P 02 30 40.5 -0.3**
baz=110
ILAR Eielson Array 96.11 335 P **P 02 30 46.0 -0.2**
comp=Z,0.5nm,0.9s,baz=146,slow=4.0,SNR=4.3
GERES GERESS Array B 96.22 41 P **P 02 30 47.3 +0.2**
comp=Z,0.2nm,0.4s,baz=157,slow=24,SNR=2.2
CLL Collm 96.33 39 *e*PP **PP 02 34 36.0 -5.4**
NOA NORSAR Array B 97.61 29 LR LR 03 11 49.6
comp=Z,115nm,19.5s,baz=115,slow=34
NOR Nord 98.12 7 *i* P **P 02 30 54.7 -0.2**
NOR IAmb IAmb 02 31 04.3
comp=Z,1.0nm,0.9s
STKA Stephens Creek 125.48 214 PKP **PKPdf 02 36 20.3 -0.2**
comp=Z,1.4nm,0.7s,baz=136,slow=4.4,SNR=5.3
STKA Stephens Creek 125.48 214 **PKPdf 02 36 19.6 -0.9**
ABKAR Akbulak array 125.99 38 PKPdf **PKiKP 02 36 22.1 +0.8**
ZALV Zalesovo Beam 135.04 20 PKP **PKPdf 02 36 37.5 -0.4**
comp=Z,3.7nm,0.7s,baz=302,slow=2.2,SNR=18
ASAR Alice Springs 136.12 213 PKP **PKPdf 02 36 40.4 -0.5**
comp=Z,1.9nm,0.8s,baz=143,slow=2.3,SNR=17
WRA Warramunga Arr 138.82 217 PKP **PKPdf 02 36 46.0 0.0**
comp=Z,2.4nm,0.7s,baz=146,slow=1.6,SNR=22
MKAR Makanchi Array 139.60 29 PKP **PKPdf 02 36 46.8 +0.1**
comp=Z,0.8nm,0.7s,baz=297,slow=1.8,SNR=7.9
KSH Kashi 140.69 42 PKP **PKiKP 02 36 50.5 -1.0**
WMQ Urumqi 144.34 27 *e*PKP **PKPdf 02 36 54.5 -0.7**
FITZ Fitzroy Crossi 144.92 208 PKP PKPbc 02 36 56.0 +0.1
comp=Z,7.8nm,0.8s,baz=188,slow=5.3,SNR=20
MAJO Matsushiro 145.25 317 PKPbc **PKPbc 02 36 55.3 -1.3**
MAT Matsushiro 145.25 317 PKP **PKPbc 02 36 56.4 -0.2**
MJAR Matsushiro Arr 145.25 317 PKPbc **PKPdf 02 36 57.3 +0.4**
comp=Z,8.8nm,0.8s,baz=37,slow=0.6,SNR=12
MJAR Matsushiro Arr 145.25 317 PKPbc **PKPbc 02 36 55.6 -1.0**
MJB9 Matsu-Tunnel 145.25 317 PKPbc **PKPbc 02 36 55.3 -1.3**
KNRA Kununurra 145.40 214 **PKPbc 02 36 55.6 -1.9**
SONM Songino Array 145.45 3 PKPbc **PKPab 02 36 57.3 +0.1**
comp=Z,9.6nm,0.9s,baz=331,slow=2.6,SNR=56
SONM Songino Array 145.45 3 **PKPbc 02 36 56.3 -0.8**
ULN Ulaanbaatar 145.45 3 **PKPbc 02 36 56.3 -0.8**
MTN Manton Dam 146.22 221 PKPbc **PKPdf 02 36 57.9 -1.3**

XLT XiLinHaoTe 148.92 350 ePKPbc PKPbc 02 37 07.1 +0.2
XLT PKPab pPKPdf 02 37 13.9 -0.7
XLT PP PP 02 40 43.5 +7.0
KSRS Korea Array 150.73 329 PKPbc PKiKP 02 37 12.4 +0.4
comp=Z,2.4nm,0.6s,baz=6.3,slow=1.5,SNR=6.5
HHC Hu-ho-hao-te 152.45 356 ePKPbc PKPdf 02 37 04.4 -4.1
GTA Gaotai 152.64 16 ePKPbc PKPbc 02 37 15.0 -0.9
GOMU GeErMu 153.71 27 PKPbc PKiKP 02 37 24.4 +5.7
GOMU AMB AMB
comp=Z,36nm,5.7s
NJ2 Nanjing 159.35 336 ePKP PKPdf 02 37 17.6 -0.1
CD2 Chengdu 161.71 15 PKP PKPdf 02 37 19.5 -1.0
WHN Wuhan 162.18 346 PKP PKPdf 02 37 25.4 +4.5
PZH PanZhiHua 165.04 27 PKP PKPdf 02 37 23.3 -0.5
KMI Kunming 166.68 27 ⇑PKP PKPdf 02 37 22.9 -2.4

*JMA **08** 02:18:46.4±0.1,40°.16N×142°.38E,h36km±1km,M4.0*
JMA Felt I J1.
*IDC **08** 02:18:49.3±2.3,40°.15N×142°.25E,h68km±21km,mb3.6/15, mb1 3.8/19,mb1mx3.6/37,mbtmp3.9/19,Error ellipse: s-maj=19.2km s-min=14.4km az=107.0*
*NEIC **08** 02:18:49.0±1.3,40°.26N±0°.06×142°.16E±0°.09,h55km±4km, mb4.3/15,Error ellipse: s-maj=10.3km s-min=8.2km az=119.0*
ISC 08 02:18:47.3±1.0,40°.15N±0°.03×142°.25E±0°.06,h45km±8km, n71,σ1^{9}74/77,mb4.2/26,2C-8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.36	235	⇓P	Pn	02 18 56.4	-0.3
JTH				S	Sn	02 19 03.5	+0.2
JKEN	Kujiedanarisaw	0.42	278	⇓P	Pn	02 18 56.9	-0.4
JKEN				S	Sn	02 19 04.4	0.0
JANG	Nango	0.61	292	⇓P	Pn	02 18 59.5	-0.2
JANG				S	Sn	02 19 08.8	+0.2
MIYJ	Miyakonagasawa	0.66	210	⇑P	Pn	02 18 59.9	-0.4
MIYJ				S	Sn	02 19 09.9	+0.2
JKZ	Kuzumaki	0.72	258	⇓P	Pn	02 19 01.8	+0.5
JKZ				S	Sn	02 19 13.1	+1.7
JOM	Ohasama	1.00	228	⇓P	Pn	02 19 05.8	+0.9
JOM				S	Sn	02 19 19.8	+2.0
JARK	Aomorirokkasho	1.09	322	⇓P	Pn	02 19 06.3	+0.1
JARK				eS	Sn	02 19 20.9	+0.7
JTM	Tenmabayashi	1.11	306	⇓P	Pn	02 19 06.9	+0.5
JTM				eS	Sn	02 19 22.0	+1.5
JTM	Tenmabayashi	1.11	306	Pn	Pn	02 19 06.7	+0.3
OFUJ	Ofunato	1.16	203	⇓P	Pn	02 19 07.3	+0.3
OFUJ				S	Sn	02 19 23.1	+1.4
JAH	Hinai	1.24	273	P	Pn	02 19 09.4	+1.2
JAH				S	Sn	02 19 24.6	+0.9
JMK	Ichinoseki	1.43	214	P	Pn	02 19 11.8	+1.0
JMK				eS	Sn	02 19 30.7	+2.2
JRG	Rokugo	1.45	240	⇑P	Pn	02 19 12.9	+1.8
JRG				eS	Sn	02 19 33.4	+4.4
ERM	Erimo	1.99	20	Pn	Pn	02 19 18.1	-0.4
JEM	Erimo	1.99	20	Pn	Sn	02 19 45.8	+3.7
JMM	Marumori	2.54	207		Pn	02 19 27.7	+1.7
JEW	Eniwo	2.76	348		Pn	02 19 29.8	+0.7
JSD	Sado	3.75	237		Pn	02 19 44.1	+1.5
ASAJ	Asahikawa	3.98	4	P	Pn	02 19 46.8	+1.1
ASAJ	14nm,0.3s,baz=249,slow=6.3,SNR=14			S	Sn	02 20 38.3	+7.3
	7.5nm,0.3s,baz=314,slow=25,SNR=4.7						
JKA	Kamikawa-asahi	3.98	4		Pn	02 19 46.6	+0.9
JYT	Yasato	4.23	203	Pn	Pn	02 19 50.7	+1.4
MJB9	Matsu-Tunnel	4.80	223		Pn	02 19 59.6	+2.6
MAJO	Matsushiro	4.80	223	Pn	Pn	02 19 59.1	+2.0
MAT	Matsushiro	4.80	223	P	Pn	02 20 00.5	+3.4
MAT				eS	Sn	02 20 55.6	+4.2
MJAR	Matsushiro Arr	4.80	223	P	Pn	02 19 58.7	+1.7
	1.0nm,0.3s,baz=31,slow=14,SNR=37						
MJAR	Matsushiro Arr	4.80	223	Pn	Pn	02 20 00.2	+3.1
USA0B	Ussuriysk Arra	8.63	301	Pn	Pn	02 20 49.1	-0.4
USRK	Ussuriysk Ar.	8.63	301	P	Pn	02 20 52.2	+2.7
	baz=115,slow=16,SNR=8.3						
KSRS	Korea Array	11.50	261	P	Pn	02 21 32.8	+4.0
	0.3nm,0.3s,baz=75,slow=12,SNR=1.4						
BJT	Baijiatuau	19.94	278	P	P	02 23 15.2	-0.1
BJT				IAmb	IAmb	02 23 29.1	
	comp=Z,12nm,1.3s						
SEY	Seymchan	23.61	12	P	P	02 23 53.4	-0.5
	comp=Z,1.6nm,0.6s,baz=204,slow=12,SNR=4.5						
SONM	Songino Array	26.73	299	P	P	02 24 22.0	-0.6
	comp=Z,1.4nm,0.6s,baz=99,slow=8.6,SNR=16						
SONM	Songino Array	26.73	299	IAmb	IAmb	02 24 24.2	
	comp=Z,1.1nm,0.8s						
H11N2	WAKE ISLAND Hy	29.33	127	T	T	02 55 44.1	
	baz=319,slow=75,SNR=154						
H11N1	WAKE ISLAND Hy	29.34	127	T	T	02 55 45.0	
	baz=319,slow=75,SNR=132						
H11N3	WAKE ISLAND Hy	29.35	127	T	T	02 55 26.4	
	baz=319,slow=75,SNR=210						
H11S1	WAKE ISLAND Hy	30.14	129	T	T	02 56 44.4	
	baz=321,slow=76,SNR=36						
H11S3	WAKE ISLAND Hy	30.14	129	T	T	02 56 40.2	
	baz=321,slow=76,SNR=49						
H11S2	WAKE ISLAND Hy	30.16	129	T	T	02 56 45.7	
	baz=321,slow=76,SNR=35						
ZAA0	Zalesovo Array	40.37	310	P	P	02 26 19.8	-0.6
ZALV	Zalesovo Beam	40.37	310	P	P	02 26 19.5	-0.9
	comp=Z,1.7nm,0.6s,baz=93,slow=7.5,SNR=7.0						
ZALV	Zalesovo Beam	40.37	310	P	P	02 26 19.8	-0.6
MK31	Makanchi Array	43.09	299	P	P	02 26 42.4	-0.5
MKAR	Makanchi Array	43.09	299	P	P	02 26 42.8	-0.1
	comp=Z,1.1nm,0.5s,baz=85,slow=10,SNR=22						
MKAR	Makanchi Array	43.09	299	P	P	02 26 42.6	-0.2
MAKZ	Makanchi	43.30	300	P	P	02 26 44.8	+0.3
MAKZ				IAmb	IAmb	02 26 48.6	
	comp=Z,2.1nm,0.6s						
KURK	Kurchatov	44.59	306	P	P	02 26 53.3	-1.5
KURK				IAmb	IAmb	02 27 12.6	
	comp=Z,8.7nm,0.8s						
IL31		46.53	34	P	P	02 27 10.7	+0.9
IL31				IAmb	IAmb	02 27 35.4	
	comp=Z,9.7nm,1.5s						
ILAR	Eielson Array	46.53	34	P	P	02 27 09.6	-0.3
	comp=Z,0.7nm,0.8s,baz=270,slow=6.6,SNR=8.7						
GUN	Gumba	47.57	273	eP	P	02 27 18.8	-0.1
	comp=Z,8.2nm,0.6s						
DANN	Dangsing	48.97	275	eP	P	02 27 29.8	+0.1
	comp=Z,24nm,0.6s						
KOLN	Koldanda	49.38	274	eP	P	02 27 29.5	-3.2
	comp=Z,2.0nm,0.3s						
PYUN	Piuthan	49.68	275	eP	P	02 27 33.5	-1.5
INK	Inuvik	51.33	28	P	P	02 27 46.9	+0.3
	comp=Z,0.8nm,0.5s,baz=285,slow=5.3,SNR=4.0						
INK	Inuvik	51.33	28	IAmb	IAmb	02 28 14.6	
	comp=Z,3.8nm,1.3s						
NIL	Nilore	54.31	287	P	P	02 28 08.7	-0.5
ARU	Arti	54.49	317	P	P	02 28 09.9	-0.2
ABKAR	Akbulak array	56.47	309	P	P	02 28 23.9	-0.5
ABKAR				IAmb	IAmb	02 28 25.0	
	comp=Z,4.2nm,1.1s						
KBL	Kabul	56.96	289	P	P	02 28 28.2	-0.1
KBL				IAmb	IAmb	02 28 29.2	
	comp=Z,5.2nm,0.8s						
WB0	Warramunga Arr	60.05	189	P	P	02 28 48.6	-1.0
WB0				IAmb	IAmb	02 29 11.3	
	comp=Z,1.7nm,0.8s						
WB2	Warramunga Arr	60.23	189	P	P	02 28 49.3	-1.6
WB2				IAmb	IAmb	02 28 50.7	
	comp=Z,1.8nm,0.8s						
WRA	Warramunga Arr	60.23	189	P	P	02 28 50.0	-0.9
	comp=Z,1.0nm,0.7s,baz=5.7,slow=6.8,SNR=9.6						
YKA	Yellowknife Ar	60.80	31	P	P	02 28 54.4	+0.1
	comp=Z,0.5nm,0.9s,baz=302,slow=6.4,SNR=5.8						
ARCES	ARCESS Array B	61.33	339	P	P	02 28 57.5	-0.3
	comp=Z,4.1nm,1.1s,baz=50,slow=6.5,SNR=3.7						
ASAR	Alice Springs	63.96	189	P	P	02 29 15.6	-0.2
	comp=Z,0.7nm,0.7s,baz=9.1,slow=5.0,SNR=9.5						
FINES	FINESS Array B	66.38	332	P	P	02 29 30.5	-0.6
	comp=Z,2.5nm,0.8s,baz=61,slow=9.0,SNR=7.3						
KBZ	Khabaz	69.39	310	P	P	02 29 50.7	+0.4
	comp=Z,1.9nm,0.6s,baz=35,slow=4.1,SNR=5.4						
ICESG	Greenland Ices	71.07	1	*i* P	P	02 30 00.1	-0.5
ICESG				IAmb	IAmb	02 30 02.4	
	comp=Z,11nm,0.8s						
NOA	NORSAR Array B	71.58	337	P	P	02 30 01.9	-1.4
	comp=Z,0.6nm,0.8s,baz=39,slow=6.1,SNR=3.7						
AKASG	Malin Array Be	72.25	322	P	P	02 30 07.3	-0.2
	comp=Z,1.2nm,0.5s,baz=45,slow=6.1,SNR=10						
PDAR	Pinedale Array	75.03	46	P	P	02 30 24.0	-0.4
	comp=Z,0.1nm,0.5s,baz=302,slow=8.4,SNR=1.1						

*DJA **08** 02:35:31.2±0.4,2°.N±5°.×12°.8E±°.,h221km±3km,M4.5/23, mB5.0/10,mb4.6/23,MLv4.6/14,Mw(mB)4.4/10*
*IDC **08** 02:35:32.1±1.5,2°.36N×128°.58E,h238km±14km,mb3.9/9, mb1 4.1/12,mb1mx3.6/45,mbtmp4.6/12,Error ellipse: s-maj=21.1km s-min=9.9km az=67.0*
*NEIC **08** 02:35:32.1±1.4,2°.34N±0°.09×128°.46E±0°.10,h237km±7km, mb4.6/21,Error ellipse: s-maj=14.9km s-min=11.7km az=52.0*
ISC 08 02:35:32.4±0.5,2°.42N±0°.06×128°.48E±0°.07,h250km,n92, σ1^{9}65/94,mb4.5/17,2D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.98	214	P	Pn	02 36 11.7	-3.0
TNTI	Ternate	1.98	214		Pn	02 36 12.0	-2.7
LBMI	Labuha	3.19	198	P	Pn	02 36 26.7	-0.3
SWI	Sorong	4.28	140	P	Pn	02 36 39.0	-0.6
SIJI	Sorong	4.29	140	P	Pn	02 36 38.7	-1.0
	6.8nm,0.3s,baz=327,slow=19,SNR=8.6						
DDMP	Don Marcelino,	4.59	323	⇓*e*P	Pn	02 36 40.6	-2.6
DDMP				*e*S	S	02 37 33.5	-6.1
KMSI	Cibinong	4.86	248	P	Pn	02 36 44.5	-2.0
SANI	Sanana	5.09	209	P	Pn	02 36 45.9	-3.5
	2.0nm10μm427nm,0.5s						
KCP	Kidapawan	5.68	324	⇓*e*P	Pn	02 36 55.2	-1.5
MSAI	Masohi	5.74	176	P	Pn	02 36 58.6	+1.2
	0.1nm29nm,0.9s						
GTOI	Gorontalo	5.75	252	P	Pn	02 36 56.1	-1.4
	0.6nm2μm148nm,0.6s						
FAKI	Fak Fak	6.50	145	P	Pn	02 37 06.2	-0.7
	0.3nm792nm76nm,0.8s						
FAKI	Fak Fak	6.50	145		Pn	02 37 05.3	-1.6
LUWI	Luwuk	6.67	239	P	Pn	02 37 08.7	-0.2
	1.6nm5μm286nm,0.5s						
LUWI	Luwuk	6.67	239	Pn	Pn	02 37 07.4	-1.5
MRSI	Marisa	6.82	254	P	Pn	02 37 09.6	-1.2
	1.3nm4μm342nm,0.5s						
APSI	Ampana	7.59	244	P	Pn	02 37 18.5	-2.1
	0.6nm3μm132nm,0.6s						
TOLI2	Tolitoli	7.81	261	Pn	Pn	02 37 20.8	-2.5
MPSI	Mapaga	8.83	257	P	Pn	02 37 35.7	-0.5
	33nm,0.8s						
TTSI	Tana Toraja	10.22	238	P	Pn	02 37 52.0	-1.8
	117nm,0.7s						
MYLDM	Lahad Datu	10.33	286	Pn	Pn	02 37 56.1	+0.9
BNSI	Bone	10.77	231	P	Pn	02 38 00.9	+0.2
	27nm,0.7s						
SPSI	Sidrap Palu	10.77	234	P	Pn	02 38 01.8	+1.0
	924m83nm,0.7s						
BKSI	Bulukumba	11.35	227	P	Pn	02 38 08.5	+0.5
	20nm,0.7s						
KAPI	Kappang	11.43	230	P	Pn	02 38 09.8	+0.8
	3.9nm,0.3s,baz=58,slow=10,SNR=8.8						
KAPI	Kappang	11.43	230	Pn	Pn	02 38 05.6	-3.4
MMRI	Maumere	12.62	209	Pn	Pn	02 38 21.4	-2.4
GENI	Genyem	12.70	113	P	P	02 38 25.7	-1.2
	78nm,1.0s						
SOEI	Soe	12.80	199	P	P	02 38 27.1	-1.0
	55nm,0.8s						
SOEI	Soe	12.80	199	Pn	Pn	02 38 24.8	-1.3
EDFI	Ende, Flores	13.00	211	P	P	02 38 30.1	-0.2
	10nm,0.9s						
BATI	Baumata	13.43	201	P	P	02 38 34.2	-0.8
	9.1nm,0.3s,baz=338,slow=1.6,SNR=5.7						
KBKI	Kotabaru	13.56	245	P	Pn	02 38 35.1	-0.2
	29nm,0.8s						
MTKI	Muara Teweh, K	13.99	256	P	P	02 38 41.1	-0.1
BBKI	Banjar Baru	14.83	247	P	Pn	02 38 51.2	+0.4
	4μm19nm,0.4s						
DRS	Darwin Rock St	14.95	171	P	P	02 38 50.5	-1.2
MTN	Manton Dam	15.39	170		P	02 38 55.4	-1.2
MTN	Manton Dam	15.39	170	P	P	02 38 55.4	-1.2
KDU	Kakadu	15.52	165	P	P	02 38 57.4	-0.7
SBUM	Sibu	16.25	270	P	Pn	02 39 08.2	+0.6
SBUM				IAmb	IAmb	02 39 10.9	
	comp=Z,25nm,0.8s						
STKI	Sintang	17.16	262	P	Pn	02 39 20.5	+2.2
KMMI	Kalianget	17.27	237	P	Pn	02 39 21.7	+2.1
JAGI	Jajag, Banyuwa	17.92	233	P	P	02 39 19.3	-5.0
KNRA	Kununurra	17.98	179	P	P	02 39 24.8	-0.1
KNRA	Kununurra	17.98	179	P	P	02 39 25.0	+0.1
KSM	Kuching	18.19	267	P	P	02 39 28.1	+0.9
KSM				IAmb	IAmb	02 39 30.2	
	comp=Z,35nm,0.9s						
UWJI	Ujung Watu	19.59	243	P	Pn	02 39 51.4	+4.6
FITZ	Fitzroy Crossi	20.58	188	P	P	02 39 51.6	-1.1
	comp=Z,5.1nm,0.5s,baz=22,slow=8.7,SNR=23						
COEN	Coen	21.84	139		P	02 40 04.0	-1.1
COEN				IAmb	IAmb	02 40 05.5	
	comp=Z,7.6nm,0.8s						
WB0	Warramunga Arr	22.80	166		P	02 40 12.9	-0.9
WRAB	Tennant Creek	22.95	166	P	P	02 40 14.1	-1.1
WRAB	Tennant Creek	22.95	166	P	P	02 40 15.1	-0.1
WRA	Warramunga Arr	22.95	166	P	P	02 40 14.8	-0.4
	comp=Z,16nm,0.7s,baz=343,slow=10,SNR=126						
WRA				ScP	ScP	02 47 13.0	+1.6
	comp=Z,1.0nm,0.6s,baz=339,slow=3.0,SNR=7.0						
WRA	Warramunga Arr	22.95	166	P	P	02 40 13.9	-1.4
WB2	Warramunga Arr	22.96	166		P	02 40 14.4	-0.9
WB2				IAmb	IAmb	02 40 17.2	
	comp=Z,32nm,0.7s						
WR0	Warramunga Arr	23.02	165	IAmb	IAmb	02 40 17.3	
	comp=Z,24nm,0.8s						
MBWA	Marble Bar	24.95	200	P	P	02 40 33.2	-0.1
PSA00	Pilbara Seismi	25.30	199	P	P	02 40 36.5	+0.1
QIS	Mount Isa	25.30	155	P	P	02 40 36.8	+0.3
AS31	Alice Springs	26.46	169	P	P	02 40 46.2	-0.6
AS31				IAmb	IAmb	02 40 52.2	
	comp=Z,6.6nm,0.5s						
ASAR	Alice Springs	26.46	169	P	P	02 40 46.9	0.0
	comp=Z,11nm,0.6s,baz=356,slow=8.3,SNR=188						
ASAR				PcP	PcP	02 44 06.4	+1.2
	comp=Z,1.2nm,0.4s,baz=352,slow=2.0,SNR=5.8						
ASAR				ScP	ScP	02 47 23.4	+2.1
	comp=Z,1.2nm,0.7s,baz=340,slow=2.7,SNR=9.7						
GIRL	Giralia	28.53	208	P	P	02 41 04.6	-0.6
PSI	Prapat	29.53	271	P	P	02 41 15.0	+0.7
	comp=Z,2.3nm,0.4s,baz=32,slow=2.8,SNR=3.9						
RPSI	Rantau Prapat	29.53	271	P	P	02 41 14.8	+0.7
RPSI				IAmb	IAmb	02 41 16.6	
	comp=Z,5.4nm,0.9s						
MEEK	Meekatharra	30.42	198	P	P	02 41 21.4	-0.4
OOD	Oodnadatta	30.83	167	P	P	02 41 25.4	0.0
GSI	Gunungsitoli	30.91	269	P	P	02 41 26.1	-0.2
GSI				IAmb	IAmb	02 41 28.1	
	comp=Z,26nm,1.2s						
MULG	Mulgathing	32.95	171	P	P	02 41 44.4	+0.6
FORT	Forrest	33.02	181	P	P	02 41 44.2	-0.2
ENH	Enshi	33.04	329	P	P	02 41 45.5	+0.8
ENH				IAmb	IAmb	02 41 55.5	
	comp=Z,6.6nm,0.5s						
CMAR	Chiang Mai Arr	33.04	301	P	P	02 41 47.6	+2.8
	comp=Z,1.6nm,0.3s,baz=121,slow=7.1,SNR=15						
CMAR	Chiang Mai Arr	33.04	301	P	P	02 41 46.3	+1.5
CHTO	Chiang Mai	33.19	301	P	P	02 41 47.3	+1.2
LCRK	Leigh Creek	33.98	165	P	P	02 41 53.1	+0.4
BLDU	Ballidu	34.72	198	P	P	02 41 58.7	-0.3
MJAR	Matsushiro Arr	35.12	14	P	P	02 42 02.8	+0.4
	comp=Z,1.2nm,0.3s,baz=194,slow=9.3,SNR=4.8						
MJAR	Matsushiro Arr	35.12	14	IAmb	IAmb	02 42 05.3	
	comp=Z,4.5nm,1.1s						
BBOO	Buckleboo	35.76	169	P	P	02 42 07.5	-0.4
BBOO	Buckleboo	35.76	169	P	P	02 42 08.1	+0.2
WHYH	Whyalla	36.29	167	P	P	02 42 12.8	+0.5
STKA	Stephens Creek	36.31	161	P	P	02 42 12.8	+0.3
	comp=Z,16nm,0.3s,baz=343,slow=7.8,SNR=93						
STKA	Stephens Creek	36.31	161	P	P	02 42 12.1	-0.4
STKA				IAmb	IAmb	02 42 13.7	
	comp=Z,4.7nm,0.4s						
STKA	Stephens Creek	36.31	161	P	P	02 42 13.0	+0.5
NAPP	Napperby	36.57	166	P	P	02 42 15.5	+0.8
HTT	Hallett	36.99	165	P	P	02 42 19.2	+0.9
SHL	Shillong	42.06	306	P	P	02 43 01.5	+1.2
SHL				IAmb	IAmb	02 43 02.6	
	comp=Z,13nm,0.6s						
SONM	Songino Array	49.10	340	P	P	02 43 55.8	+0.9
	comp=Z,0.4nm,0.7s,baz=145,slow=5.3,SNR=2.5						
SONM	Songino Array	49.10	340	IAmb	IAmb	02 43 58.3	
	comp=Z,1.5nm,1.2s						
MK31	Makanchi Array	59.62	325	P	P	02 45 11.7	+1.3
MKAR	Makanchi Array	59.62	325	P	P	02 45 11.7	+1.3
	comp=Z,0.6nm,0.4s,baz=117,slow=8.2,SNR=19						
MKAR				pP	pP	02 46 01.8	-3.6
	comp=Z,1.1nm,0.7s,baz=127,slow=7.8,SNR=6.6						
VNDA	Vanda	81.92	173	P	P	02 47 24.7	+1.1
	comp=Z,2.8nm,0.5s,baz=322,slow=6.0,SNR=22						
TORD	Torodi Ar. Bea	124.99	288	PKP	PKiKP	02 54 03.9	-0.4
	comp=Z,0.2nm,0.4s,baz=112,slow=1.4,SNR=4.3						

*IDC **08** 03:00:48.0±1.6,30°.88S×71°.73W,h0km,mb3.8/4, mb1 3.8/7,mb1mx3.7/41,mbtmp3.7/7,ML3.5/3,Error ellipse: s-maj=42.6km s-min=40.5km az=173.0*
*GUC **08** 03:00:52.2±0.8,30°.68S×71°.64W,h34km±1km,ML3.9*
*NEIC **08** 03:00:54.3±2.2,30°.55S±0°.04×71°.7W±0°.1,h27km±6km, mb4.2/3,ML3.9(GUC),Error ellipse: s-maj=14.0km s-min=6.2km az=96.0*
ISC 08 03:00:52.3±1.0,30°.71S±0°.02×71°.82W±0°.06,h29km±6km, n64,σ2^{9}29/69,mb4.0/5,7C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.16	78	⇓*e*P	Pb	03 00 58.1	+0.1
CO06				*e*S	Sb	03 01 02.0	+0.1
CO06				IAML		03 01 02.3	
	comp=E,55μm,0.2s						
CO05	La Serena	0.93	33	*e*P	Pb	03 01 08.4	-1.4
CO05				*e*S	Sb	03 01 20.5	-1.4
CO05				IAML		03 01 23.3	
	comp=E,5μm,0.4s						
CO05	La Serena	0.93	33		Pb	03 01 08.7	-1.2
CO03	El Pedregal	0.98	98	⇑*e*P	Pb	03 01 08.5	-2.3
CO03				*e*S	Sb	03 01 21.4	-2.0
CO03				IAML		03 01 26.4	
	comp=E,3μm,0.4s						
CO03	El Pedregal	0.98	98	Pn	Pb	03 01 09.5	-1.2
GO04	Tololo Observa	1.03	59	*e*P	Pb	03 01 10.5	-1.2
GO04				*e*S	Sb	03 01 23.2	-1.7
GO04	Tololo Observa	1.03	59	Pn	Pb	03 01 10.3	-1.3
VA06	Catapilco	1.90	167	*e*P	Pb	03 01 24.3	-2.0
VA06				*e*S	Sb	03 01 49.5	-0.1
VA06				IAML		03 01 55.8	
	comp=E,2μm,0.5s						
LCO	Las Campanas	1.95	30	⇑*e*P	Pb	03 01 23.9	-3.4
LCO				*e*S	Sb	03 01 49.7	-1.6
LCO	Las Campanas	1.95	30		Pb	03 01 23.9	-3.4
VA01	Torpederas	2.31	176	⇑*e*P	Pb	03 01 31.7	-1.6
VA01				*e*S	Sb	03 02 00.8	-0.6
VA01				IAML		03 02 12.0	
	comp=E,243nm,0.4s						
VA01	Torpederas	2.31	176		Pb	03 01 32.4	-0.9
VA03	San Esteban	2.32	153	*e*P	Pb	03 01 30.7	-2.7
VA03				*e*S	Sb	03 01 59.8	-1.9
VA03				IAML		03 02 09.5	
	comp=E,1μm,0.2s						
VA03	San Esteban	2.32	153	Pn	Pb	03 01 30.9	-2.6
ROCH	El Roble	2.36	163	*e*P	Pn	03 01 31.6	+2.3
ROCH				⇑*e*P	Pb	03 01 31.4	-2.9
ROCH				*e*S	Sb	03 02 00.8	-2.3
ROCH				*e*S	Sn	03 02 01.4	+4.0
ROCH				IAML		03 02 11.9	
	comp=N,1μm,0.4s						
ROCH				IAML		03 02 12.4	
	comp=N,2μm,0.3s						
AC04	Llanos de Chal	2.58	15	*e*P	Pb	03 01 34.1	-3.7
AC04				*i* S	Sb	03 02 05.1	-4.0
AC04				IAML		03 02 17.2	
	comp=E,334nm,0.3s						
AC04	Llanos de Chal	2.58	15		Pn	03 01 31.0	-1.1
MT02	Curacav	2.61	167	⇑*e*P	Pn	03 01 34.9	+2.5
MT02				*i* S	Sb	03 02 07.4	-2.6
MT02				IAML		03 02 30.1	
	comp=E,208nm,0.4s						
MT02	Curacav	2.61	167		Pb	03 01 37.3	-1.0
PEL	Peldehue	2.61	159		Pb	03 01 37.1	-1.3
ZON	Zonda	2.82	108		Pb	03 01 38.5	-3.5
MT05	Renca	2.83	161		Pb	03 01 39.4	-2.8
FCH	Farellones	2.92	154	*e*P	Pb	03 01 39.6	-4.2
FCH				*e*S	Sb	03 02 16.0	-3.2
FCH				IAML		03 02 28.1	
	comp=E,271nm,0.2s						
VA05	Santo Domingo	2.95	177	⇑*e*P	Pn	03 01 39.1	+2.0
VA05				⇓*e*S	Sb	03 02 16.0	-3.6
VA05				IAML		03 02 27.3	
	comp=E,589nm,0.4s						
VA05	Santo Domingo	2.95	177		Pb	03 01 41.6	-2.5
MT09	Talagante	3.14	167	*e*P	Pn	03 01 42.8	+2.9
MT09				*e*S	Sb	03 02 21.2	-4.2
MT09				IAML		03 02 34.7	
	comp=E,370nm,0.5s						
MT09	Talagante	3.14	167		Pn	03 01 42.9	+3.0
MT01	Popeta	3.19	171	*e*P	Pb	03 01 44.3	-3.8
MT01				⇑*i*S	Sb	03 02 21.9	-4.6
MT01				IAML		03 02 34.1	
	comp=E,289nm,0.4s						
MT01	Popeta	3.19	171		Pn	03 01 39.9	-0.5
GO03	Copiap	3.40	24	*e*P	Pn	03 01 44.8	+1.4
GO03				*e*S	Sn

mB5.1/3,MLv4.7/13,Mw(mB)4.5/3
*NEIC **08** 03:08:49.8±1.7,4°.86N±0°.07×96°.18E±0°.01,h38km±8km, mb4.5/21,Error ellipse: s-maj=10.3km s-min=1.4km az=176.0*
*IDC **08** 03:08:52.8±3.0,4°.92N×96°.26E,h68km±29km,mb3.8/13, mb1 4.0/15,mb1mx3.5/60,mbtmp4.1/15,ML4.0/2,MS3.6/5, Ms1 3.6/5,ms1mx3.2/88,Error ellipse: s-maj=25.5km s-min=13.3km az=46.0*
ISC 08 03:08:48.4±0.5,**4°.90N**±0°.05×**96°.10E**±0°.05,**h29**km,**n65**, σ1§**36**/62,**mb4.3**/17,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.90**	**69**	P	**Pb**	**03 09 05.0**	**-0.5**
LHMI				S	**Sn**	**03 09 19.1**	**+1.9**
LHMI	**Lhok Sumawe**	**0.90**	**69**		**Pb**	**03 09 05.1**	**-0.5**
TPTI		**1.95**	**146**	P	**Pn**	**03 09 19.2**	**-0.4**
TPTI				S	**Sb**	**03 09 45.6**	**-1.6**
KCSI	**Kotacane, Aceh**	**2.16**	**129**	P	**Pn**	**03 09 23.3**	**+0.9**
KCSI				S	**Sb**	**03 09 52.5**	**-0.6**
SNSI	**Sinabang, Aceh**	**2.48**	**175**	P	**Pn**	**03 09 25.9**	**-1.0**
TSI	**Tuntungan**	**2.82**	**119**	P	**Pn**	**03 09 33.6**	**+2.1**
PSI	**Prapat**	**3.50**	**126**	P	**Pn**	**03 09 43.3**	**+2.3**
	baz=141,slow=20						
PSI				S	**Sn**	**03 10 25.9**	**+4.3**
	12nm,0.3s,baz=324,slow=22,SNR=1.4						
PSI				LR	LR	03 11 27.5	
	comp=Z,482nm,21.9s,baz=293,slow=45						
RPSI	**Rantau Prapat**	**3.57**	**128**	Pn	**Pn**	**03 09 42.2**	**+0.4**
RPSI	**Rantau Prapat**	**3.57**	**128**		**Pn**	**03 09 43.3**	**+1.5**
GSI	**Gunungsitoli**	**3.86**	**158**	P	**Pn**	**03 09 45.8**	**-0.1**
GSI	**Gunungsitoli**	**3.86**	**158**	Pn	**Pn**	**03 09 45.6**	**-0.3**
KULM	**Kulim**	**4.55**	**85**	Pn	**Pn**	**03 09 54.8**	**-0.5**
IPM	**Ipoh**	**4.93**	**95**	Pn	**Pn**	**03 09 59.1**	**-1.4**
SRIT	**Nakonsritamara**	**5.06**	**43**		**Pn**	**03 10 03.7**	**+1.4**
MNSI	**Mandailing Nat**	**5.36**	**139**	P	**Pn**	**03 10 08.1**	**+1.7**
	0.8nm6μm96nm,0.7s						
PBSI	**Pulau Batu**	**5.38**	**156**	P	**Pn**	**03 10 06.7**	**-0.1**
	0.4nm42nm,0.6s						
BKNI	**Bangkinang**	**6.71**	**132**	Pn	**Pn**	**03 10 24.3**	**-0.7**
PPI	**Padang Panjang**	**6.83**	**141**	P	**Pn**	**03 10 29.7**	**+3.0**
SISI	**Saibi**	**6.87**	**154**	P	**Pn**	**03 10 27.2**	**0.0**
	0.2nm640nm10nm,0.7s						
MYKOM	**Kota Tinggi**	**8.33**	**112**	Pn	**Pn**	**03 10 45.7**	**-1.6**
MDSI	**Maura Dua**	**12.33**	**139**	P	**Pn**	**03 11 39.9**	**-2.2**
	17nm,1.0s						
KLSI		**12.85**	**138**	P	**Pn**	**03 11 48.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**13.76**	**11**	P	**Pn**	**03 12 04.2**	**+2.6**
	0.4nm,0.3s,baz=202,slow=14,SNR=5.8						
CMAR				LR	LR	03 17 54.7	
	comp=Z,114nm,19.4s,baz=230,slow=40						
CMAR	**Chiang Mai Arr**	**13.76**	**11**	Pn	**Pn**	**03 12 01.5**	**-0.1**
CHTO	**Chiang Mai**	**14.11**	**11**	Pn	**Pn**	**03 12 04.9**	**-1.5**
PALK	**Pallekele**	**15.49**	**280**	P	**P**	**03 12 30.7**	**+1.5**
	0.4nm,0.3s,baz=209,slow=11,SNR=5.4						
PALK				LR	LR	03 17 37.2	
	comp=Z,102nm,19.8s,baz=121,slow=34						
PALK	**Pallekele**	**15.49**	**280**	IAmb	IAmb	03 12 33.7	
	comp=Z,21nm,1.0s						
SHL	**Shillong**	**20.95**	**349**	P	**P**	**03 13 28.9**	**-0.3**
SHL				IAmb	IAmb	03 13 36.6	
	comp=Z,30nm,0.8s						
TOLI2	**Tolitoli**	**24.93**	**98**	P	**P**	**03 14 08.0**	**-1.4**
LSA	**Lhasa**	**25.11**	**350**	P	**P**	**03 14 12.7**	**+1.4**
LSA				IAmb	IAmb	03 14 29.7	
	comp=Z,6.3nm,0.8s						
KAPI	**Kappang**	**25.59**	**112**	P	**P**	**03 14 15.6**	**+0.2**
	comp=Z,4.3nm,0.3s,baz=170,slow=19,SNR=1.6						
KAPI	**Kappang**	**25.59**	**112**	P	**P**	**03 14 16.6**	**+1.3**
KAPI				IAmb	IAmb	03 14 21.0	
	comp=Z,11nm,1.1s						
H08S2	**Diego Garcia H**	**26.65**	**242**	T	T	03 41 24.7	
	baz=63,slow=75,SNR=24						
H08S3	**Diego Garcia H**	**26.65**	**242**	T	T	03 41 25.0	
	baz=63,slow=75,SNR=75						
H08S1	**Diego Carcia H**	**26.66**	**242**	T	T	03 41 34.1	
	baz=63,slow=75,SNR=6.9						
NIL	**Nilore**	**35.64**	**326**	P	**P**	**03 15 44.0**	**+0.1**
KBL	**Kabul**	**38.70**	**323**	P	**P**	**03 16 08.5**	**-1.7**
WSAR	**Wadi Sarin**	**40.48**	**300**	P	**P**	**03 16 26.7**	**+1.8**
	comp=Z,3.2nm,0.6s,baz=147,slow=4.7,SNR=4.1						
CHGR	**Chuyangaron**	**41.56**	**328**	P	**P**	**03 16 34.1**	**+0.4**
CHGR				IAmb	IAmb	03 16 35.1	
	comp=Z,6.5nm,0.7s						
MK31	**Makanchi Array**	**43.41**	**346**	P	**P**	**03 16 50.2**	**+1.7**
MKAR	**Makanchi Array**	**43.41**	**346**	P	**P**	**03 16 48.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=160,slow=8.4,SNR=5.9						
MKAR	**Makanchi Array**	**43.41**	**346**	P	**P**	**03 16 49.6**	**+1.1**
KS19	**Wonju Array Sl**	**43.52**	**37**	P	**P**	**03 16 48.2**	**-1.2**
KS19				IAmb	IAmb	03 17 13.5	
	comp=Z,18nm,1.4s						
SONM	**Songino Array**	**43.68**	**10**	P	**P**	**03 16 51.3**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=196,slow=9.7,SNR=7.2						
SONM	**Songino Array**	**43.68**	**10**	P	**P**	**03 16 51.3**	**+0.5**
ULN	**Ulaanbaatar**	**43.83**	**11**	P	**P**	**03 16 51.6**	**-0.4**
KKAR	**Karatay Array**	**44.28**	**333**	P	**P**	**03 16 55.7**	**+0.1**
WB0	**Warramunga Arr**	**44.93**	**124**	P	**P**	**03 16 59.1**	**-1.9**
WRA	**Warramunga Arr**	**44.97**	**125**	P	**P**	**03 17 00.3**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=301,slow=9.1,SNR=42						
WB2	**Warramunga Arr**	**44.98**	**125**		**P**	**03 17 00.1**	**-1.4**
AS31	**Alice Springs**	**46.53**	**129**	P	**P**	**03 17 11.8**	**-1.9**
AS31				IAmb	IAmb	03 17 19.9	
	comp=Z,2.1nm,0.5s						
ASAR	**Alice Springs**	**46.53**	**129**	P	**P**	**03 17 13.0**	**-0.7**
	comp=Z,4.0nm,0.5s,baz=299,slow=7.9,SNR=49						
ASAR	**Alice Springs**	**46.53**	**129**	P	**P**	**03 17 12.3**	**-1.4**
ZALV	**Zalesovo Beam**	**49.76**	**351**	P	**P**	**03 17 37.6**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=162,slow=7.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**49.76**	**351**	P	**P**	**03 17 38.3**	**+0.2**
STKA	**Stephens Creek**	**56.66**	**133**	P	**P**	**03 18 28.7**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=315,slow=10,SNR=6.8						
KMBO	**Kilima Mbogo**	**59.09**	**266**	P	**P**	**03 18 48.3**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=66,slow=9.3,SNR=6.8						
KMBO	**Kilima Mbogo**	**59.09**	**266**	IAmb	IAmb	03 18 50.6	
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**76.23**	**332**	P	**P**	**03 20 33.8**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=89,slow=13,SNR=1.4						
ARCES	**ARCESS Array B**	**78.71**	**340**	P	**P**	**03 20 47.4**	**-0.3**
	comp=Z,3.6nm,1.0s,baz=97,slow=6.5,SNR=1.6						
ARCES				LR	LR	03 58 39.8	
	comp=Z,130nm,20.0s,baz=155,slow=38						
GERES	**GERESS Array B**	**81.33**	**319**	P	**P**	**03 21 02.2**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=67,slow=7.6,SNR=1.7						
NOA	**NORSAR Array B**	**83.26**	**331**	LR	LR	04 03 10.7	
	comp=Z,43nm,18.3s,baz=320,slow=39						
TORD	**Torodi Ar. Bea**	**93.18**	**283**	P	**P**	**03 21 60.0**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=91,slow=4.6,SNR=11						
TORD	**Torodi Ar. Bea**	**93.18**	**283**	IAmb	IAmb	03 22 01.9	
	comp=Z,3.7nm,1.3s						
SEW	**Seward**	**97.65**	**27**	P	**P**	**03 22 19.2**	**-0.9**

*IDC **08** 03:09:43.8±1.2,27°.76S×74°.70E,h0km,mb4.2/11, mb1 4.3/11,mb1mx3.9/59,mbtmp4.2/11,MS3.9/11, Ms1 3.9/11,ms1mx3.5/75,Error ellipse: s-maj=36.8km s-min=25.4km az=24.0*
*NEIC **08** 03:09:46.3±1.1,27°.7S±0°.1×74°.7E±0°.1,h10km±1km, mb4.6/20,Error ellipse: s-maj=23.5km s-min=21.8km az=212.0*
ISC 08 03:09:45.7±0.8,**27°.7S**±0°.2×**74°.7E**±0°.1,**h10**km,**n46**, σ0§**73**/30,**mb4.4**/19,**MS3.9**/11,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.03**	**354**	T	T	03 35 24.9	
	baz=176,slow=76,SNR=38						
H08S1	**Diego Carcia H**	**20.04**	**354**	T	T	03 35 23.8	
	baz=176,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**20.05**	**354**	T	T	03 35 30.9	
	baz=176,slow=76,SNR=43						
H01W2	**Cape Leeuwin H**	**34.28**	**112**	T	T	03 52 49.8	
	baz=270,slow=75,SNR=6.5						
H01W3	**Cape Leeuwin H**	**34.29**	**112**	T	T	03 52 50.6	
	baz=270,slow=75,SNR=7.2						
H01W1	**Cape Leeuwin H**	**34.30**	**112**	T	T	03 52 54.7	
	baz=270,slow=75,SNR=7.7						
PSI	**Prapat**	**38.24**	**41**	LR	LR	03 29 16.8	
	comp=Z,120nm,20.4s,baz=30,slow=31						
MATP	**Matopo**	**42.62**	**269**	LR	LR	03 34 43.2	
	comp=Z,80nm,18.4s,baz=71,slow=35						
BOSA	**Boshof**	**43.37**	**257**	P	**P**	**03 17 48.8**	**+0.2**
	4.8nm,1.1s,baz=54,slow=8.7,SNR=3.0						
BOSA				LR	LR	03 32 27.7	
	comp=Z,176nm,18.7s,baz=63,slow=32						
BOSA	**Boshof**	**43.37**	**257**	IAmb	IAmb	03 17 53.7	
	comp=Z,16nm,1.4s						
LSZ	**Lusaka**	**44.77**	**276**	LR	LR	03 34 04.9	
	comp=Z,201nm,20.4s,baz=92,slow=33						
SUR	**Sutherland**	**46.50**	**250**	LR	LR	03 34 01.4	
	comp=Z,193nm,18.6s,baz=90,slow=31						
LODK	**Lodwar**	**48.91**	**303**	P	**P**	**03 18 32.4**	**0.0**
MBAR	**Mbarara**	**49.98**	**295**	LR	LR	03 37 44.7	
	comp=Z,78nm,18.2s,baz=48,slow=34						
CMAR	**Chiang Mai Arr**	**51.52**	**30**	P	**P**	**03 18 53.7**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=222,slow=8.0,SNR=1.2						
CMAR				LR	LR	03 38 17.7	
	comp=Z,52nm,19.1s,baz=195,slow=33						
CHTO	**Chiang Mai**	**51.83**	**30**	P	**P**	**03 18 54.5**	**+0.2**
CHTO				IAmb	IAmb	03 19 10.3	
	comp=Z,6.2nm,1.1s						
ASAR	**Alice Springs**	**53.07**	**100**	P	**P**	**03 19 03.1**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=252,slow=6.9,SNR=8.7						
ASAR				LR	LR	03 39 14.4	
	comp=Z,97nm,19.0s,baz=308,slow=33						
AS31	**Alice Springs**	**53.07**	**100**	P	**P**	**03 19 02.9**	**-0.6**
WRA	**Warramunga Arr**	**54.66**	**96**	P	**P**	**03 19 14.6**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=252,slow=7.5,SNR=7.0						
WRA				LR	LR	03 39 37.5	
	comp=Z,124nm,21.1s,baz=313,slow=33						
WRA	**Warramunga Arr**	**54.66**	**96**	IAmb	IAmb	03 19 22.5	
	comp=Z,0.2nm,0.9s						
WB2	**Warramunga Arr**	**54.67**	**96**	P	**P**	**03 19 14.3**	**-0.9**
WB2				IAmb	IAmb	03 19 22.3	
	comp=Z,4.9nm,0.7s						
WR0	**Warramunga Arr**	**54.83**	**96**	P	**P**	**03 19 16.3**	**-0.1**
SHL	**Shillong**	**55.46**	**19**	P	**P**	**03 19 20.7**	**-0.2**
LSA	**Lhasa**	**59.18**	**17**	P	**P**	**03 19 48.1**	**+0.6**
LSA				IAmb	IAmb	03 19 53.7	
	comp=Z,3.2nm,0.6s						
KBL	**Kabul**	**62.11**	**355**	P	**P**	**03 20 06.8**	**-0.2**
KBL				IAmb	IAmb	03 20 15.6	
	comp=Z,4.3nm,1.1s						
QSPA	**South Pole Qui**	**62.46**	**180**	P	**P**	**03 20 09.6**	**+0.6**
BTK	**Batken**	**67.48**	**357**	P	**P**	**03 20 42.6**	**+0.8**
BTK				IAmb	IAmb	03 20 50.1	
	comp=Z,8.5nm,1.4s						
BOOM	**Boomskoye usch**	**69.83**	**1**	P	**P**	**03 20 57.0**	**+0.5**
AAK	**Ala-Archa**	**69.96**	**360**	P	**P**	**03 20 58.5**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=198,slow=4.7,SNR=5.7						
AAK	**Ala-Archa**	**69.96**	**360**	P	**P**	**03 20 58.7**	**+1.4**
AAK				IAmb	IAmb	03 21 06.4	
	comp=Z,8.3nm,1.3s						
PMG	**Port Moresby**	**70.19**	**90**	LR	LR	03 51 37.8	
	comp=Z,103nm,18.2s,baz=164,slow=36						
KKAR	**Karatay Array**	**70.53**	**357**		**P**	**03 21 00.6**	**0.0**
MK31	**Makanchi Array**	**74.44**	**5**	P	**P**	**03 21 23.5**	**-0.4**
MK31				IAmb	IAmb	03 21 37.6	
	comp=Z,4.0nm,1.2s						
MKAR	**Makanchi Array**	**74.44**	**5**	P	**P**	**03 21 23.5**	**-0.4**
	comp=Z,2.3nm,1.1s,baz=181,slow=4.9,SNR=7.5						
MKAR	**Makanchi Array**	**74.44**	**5**	P	**P**	**03 21 23.0**	**-0.9**
ABKAR	**Akbulak array**	**77.71**	**350**	P	**P**	**03 21 42.3**	**-0.1**
ABKAR				IAmb	IAmb	03 21 50.1	
	comp=Z,4.1nm,1.1s						
KURBB	**Kurchatov Arra**	**78.03**	**2**	P	**P**	**03 21 44.3**	**+0.2**
	comp=Z,1.7nm,1.1s,baz=194,slow=5.7,SNR=5.4						
SONM	**Songino Array**	**80.38**	**21**	P	**P**	**03 21 57.3**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=251,slow=4.5,SNR=4.8						
SONM	**Songino Array**	**80.38**	**21**	IAmb	IAmb	03 21 59.1	
	comp=Z,1.7nm,1.1s						
BVAR	**Borovoye Array**	**80.45**	**357**	P	**P**	**03 21 57.6**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=160,slow=9.0,SNR=17						
BRVK	**Borovoye**	**80.48**	**357**	P	**P**	**03 21 57.7**	**+0.3**
BRVK				IAmb	IAmb	03 22 05.6	
	comp=Z,6.3nm,0.9s						
ZALV	**Zalesovo Beam**	**81.75**	**6**	P	**P**	**03 22 03.1**	**-1.1**
KSAR	**Wonju Array Be**	**81.75**	**40**	P	**P**	**03 22 04.8**	**+0.1**
KSRS	**Korea Array**	**81.78**	**40**	LR	LR	03 56 41.1	
	comp=Z,47nm,20.2s,baz=355,slow=34						
ARU	**Arti**	**84.89**	**351**	P	**P**	**03 22 19.6**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=83,slow=5.8,SNR=4.2						
AKASG	**Malin Array Be**	**87.78**	**333**	P	**P**	**03 22 33.5**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=140,slow=4.2,SNR=4.3						

*IDC **08** 03:10:57.4±7.1,10°.23S×165°.74E,h61km±70km,mb4.0/10, mb1 4.3/12,mb1mx3.6/51,mbtmp4.3/12,ML3.0/1,Error ellipse: s-maj=51.6km s-min=22.0km az=165.0*
*NEIC **08** 03:11:00.6±1.1,10°.31S±0°.08×165°.81E±0°.09,h85km±8km, mb4.5/24,Error ellipse: s-maj=15.0km s-min=8.3km az=127.0*
*NOU **08** 03:11:31.9,12°.59S×166°.60E,h15km,mb5.0/8,Santa Cruz Islands*
ISC 08 03:11:01.3±0.7,**10°.34S**±0°.10×**165°.77E**±0°.09,**h100**km,**n49**, σ1§**16**/47,**mb4.3**/20,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**5.26**	**165**		**Pn**	**03 12 16.7**	**-0.9**
SANVU	**Saraoutou**	**5.26**	**165**	P	**Pn**	**03 12 17.1**	**-0.5**
HNR	**Honiara**	**5.81**	**278**	Pn	**Pn**	**03 12 24.3**	**-0.8**
KOUNC	**Koumac, New Ca**	**10.25**	**188**	P	Pn	03 13 30.7	+5.2
DZM	**Mont Dzumac**	**11.68**	**177**	P	**Pn**	**03 13 43.1**	**-1.8**
	10.0nm,0.3s,baz=64,slow=3.8,SNR=100						
DZM	**Mont Dzumac**	**11.68**	**177**	*e*Pn	**Pn**	**03 13 46.9**	**+2.0**
	16nm,0.2s						
DZM				*e*Sn	Sn	03 15 40.4	-13
	2.9nm,0.3s						
DZM	**Mont Dzumac**	**11.68**	**177**		**Pn**	**03 13 45.1**	**+0.2**
DZM	**Mont Dzumac**	**11.68**	**177**	P	**Pn**	**03 13 46.9**	**+2.0**
NOUC	**Port Laguerre**	**11.70**	**178**	P	**Pn**	**03 13 47.8**	**+2.7**
ONTNC	**Ouen Toro**	**11.91**	**177**		**Pn**	**03 13 47.2**	**-0.7**
ONTNC	**Ouen Toro**	**11.91**	**177**	P	**Pn**	**03 13 50.6**	**+2.7**
OUENC	**Ouen Island, N**	**12.05**	**175**	Pn	**Pn**	**03 13 48.8**	**-1.0**
PMG	**Port Moresby**	**18.36**	**271**	P	**P**	**03 15 07.4**	**-1.0**
	1.6nm,0.3s,baz=92,slow=4.9,SNR=6.6						
PMG	**Port Moresby**	**18.36**	**271**	P	**Pn**	**03 15 10.9**	**+1.3**
PMG				IAmb	IAmb	03 15 13.6	
	comp=Z,34nm,1.2s						
MANU	**Manus Island**	**20.06**	**293**	P	**P**	**03 15 26.8**	**-0.1**
MANU				IAmb	IAmb	03 15 31.5	
	comp=Z,28nm,1.2s						
CTA	**Charters Tower**	**21.16**	**240**	P	**P**	**03 15 38.1**	**-0.6**
	comp=Z,7.2nm,0.7s,baz=72,slow=11,SNR=8.0						
CTAO	**Charters Tower**	**21.16**	**240**	P	**P**	**03 15 38.7**	**+0.1**
COEN	**Coen**	**22.38**	**258**	P	**P**	**03 15 51.6**	**0.0**
STKA	**Stephens Creek**	**30.97**	**223**	P	**P**	**03 17 10.0**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=25,slow=8.0,SNR=5.5						
STKA	**Stephens Creek**	**30.97**	**223**	IAmb	IAmb	03 17 10.8	
	comp=Z,0.7nm,0.8s						
WB2	**Warramunga Arr**	**31.75**	**249**	P	**P**	**03 17 15.6**	**-0.6**
WB2				IAmb	IAmb	03 17 16.5	
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**31.76**	**249**	P	**P**	**03 17 15.5**	**-0.8**
	comp=Z,4.3nm,0.6s,baz=79,slow=9.0,SNR=21						
WRA	**Warramunga Arr**	**31.76**	**249**	P	**P**	**03 17 15.2**	**-1.1**
BBOO	**Buckleboo**	**35.33**	**226**	P	**P**	**03 17 47.5**	**+0.4**
KNRA	**Kununurra**	**36.41**	**258**		**P**	**03 17 56.1**	**-0.5**
PSA00	**Pilbara Seismi**	**45.39**	**250**	P	**P**	**03 19 09.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**71.86**	**293**	P	**P**	**03 22 14.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=124,slow=4.8,SNR=4.3						
N25K	**Chitina, Valde**	**81.49**	**22**	P	**P**	**03 23 07.8**	**+0.3**
GLB	**Gilahina Butte**	**81.67**	**22**	P	**P**	**03 23 09.5**	**+1.2**
GLB				IAmb	IAmb	03 23 10.3	
	comp=Z,6.7nm,0.7s						
CCB	**Clear Creek Bu**	**82.47**	**18**	P	**P**	**03 23 13.6**	**+1.3**
CCB				IAmb	IAmb	03 23 37.5	
	comp=Z,4.0nm,0.6s						
HDA	**Harding Lake**	**82.58**	**19**	P	**P**	**03 23 14.0**	**+1.0**
M26K	**Nabesna, AK**	**82.58**	**21**	P	**P**	**03 23 13.5**	**+0.4**
M26K				IAmb	IAmb	03 23 15.4	
	comp=Z,5.6nm,0.8s						
IL31		**82.84**	**19**	P	**P**	**03 23 15.1**	**+0.8**
IL31				IAmb	IAmb	03 23 16.1	
	comp=Z,3.2nm,0.7s						
ILAR	**Eielson Array**	**82.84**	**19**	P	**P**	**03 23 14.5**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=236,slow=5.0,SNR=36						
ILAR	**Eielson Array**	**82.84**	**19**	P	**P**	**03 23 14.8**	**+0.5**
M27K	**Edge Creek, AK**	**82.96**	**22**	P	**P**	**03 23 15.7**	**+0.5**
YBH	**Yreka Blue Hor**	**83.39**	**46**	P	**P**	**03 23 18.4**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=266,slow=5.9,SNR=4.8						
L27K	**Beaver Creek,**	**83.42**	**21**	P	**P**	**03 23 18.0**	**+0.7**
L27K				IAmb	IAmb	03 23 19.9	
	comp=Z,4.3nm,0.8s						
BCAR	**Beaver Creek A**	**83.44**	**21**	P	**P**	**03 23 18.1**	**+0.7**
EGAK	**Eagle**	**84.71**	**20**	P	**P**	**03 23 25.1**	**+1.3**
NVAR	**Mina Array Bea**	**85.55**	**50**	P	**P**	**03 23 29.4**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=233,slow=8.6,SNR=9.6						
KVN	**Kaiserville**	**85.88**	**49**	P	**P**	**03 23 30.4**	**-0.1**
KVN				IAmb	IAmb	03 23 32.6	
	comp=Z,5.1nm,1.3s						
HVU	**Hansel Valley**	**90.52**	**48**	P	**P**	**03 23 53.0**	**+0.5**
HVU				IAmb	IAmb	03 23 54.5	
	comp=Z,3.9nm,0.7s						
DLMT	**Dillon**	**91.46**	**44**	P	**P**	**03 23 58.3**	**+1.6**
DLMT				IAmb	IAmb	03 24 02.8	
	comp=Z,2.0nm,0.9s						
BOZ	**Bozeman (W)**	**92.18**	**44**	P	**P**	**03 24 00.4**	**+0.4**
BOZ				IAmb	IAmb	03 24 02.2	
	comp=Z,3.4nm,1.0s						
MKAR	**Makanchi Array**	**93.03**	**317**	P	**P**	**03 24 04.2**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=92,slow=7.2,SNR=2.6						
PDAR	**Pinedale Array**	**93.06**	**47**	P	**P**	**03 24 04.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=268,slow=2.5,SNR=4.6						
Y22D	**IRIS PASSCAL I**	**93.50**	**56**	P	**P**	**03 24 03.1**	**-3.3**
YKA	**Yellowknife Ar**	**94.34**	**27**	P	**P**	**03 24 08.8**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=257,slow=4.5,SNR=9.3						

*IDC **08** 03:11:28.3±0.6,29°.72S×71°.96W,h0km,mb4.3/10, mb1 4.4/14,mb1mx4.2/38,mbtmp4.3/14,ML4.0/4,Error ellipse: s-maj=25.0km s-min=17.9km az=85.0*
*NEIC **08** 03:11:28±2.0,29°.64S±0°.02×72°.13W±0°.05,h5km±3km, mb4.6/17,ML4.5(GUC),Error ellipse: s-maj=6.7km s-min=3.0km az=89.0*
*VAO **08** 03:11:28.4±0.6,29°.62S×72°.13W,h10km,mb4.5*
*GUC **08** 03:11:30.0±0.5,29°.66S×72°.04W,h40km±1km,ML4.5*
ISC 08 03:11:30.9±1.4,**29°.66S**±0°.03×**72°.06W**±0°.06,**h24**km±9km, **n141**,σ1§**09**/150,**mb4.5**/13,**8C-2D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.76**	**110**	*e*P	**Pn**	**03 11 44.4**	**-1.8**
CO05				*i* S	**Sb**	**03 11 55.4**	**0.0**
CO05				IAML		03 11 57.5	
	comp=E,20μm,0.4s						
CO05	**La Serena**	**0.76**	**110**		**Pn**	**03 11 44.3**	**-1.8**
CO06	**Fray Jorge**	**1.07**	**160**	*e*P	**Pn**	**03 11 49.2**	**-1.2**
CO06				*e*S	**Sn**	**03 12 03.6**	**-1.0**
CO06	**Fray Jorge**	**1.07**	**160**		**Pn**	**03 11 49.2**	**-1.2**
CO06				Sg	**Sn**	**03 12 03.3**	**-1.3**
GO04	**Tololo Observa**	**1.21**	**115**	*e*P	**Pn**	**03 11 51.6**	**-0.9**
GO04				*e*S	**Sn**	**03 12 08.2**	**-0.1**
GO04	**Tololo Observa**	**1.21**	**115**		**Pn**	**03 11 52.0**	**-0.6**
GO04					**Sb**	**03 12 09.5**	**+1.0**
LCO	**Las Campanas**	**1.35**	**62**	*e*P	**Pn**	**03 11 54.0**	**-0.7**
LCO				*i* S	**Sn**	**03 12 12.2**	**+0.2**
LCO	**Las Campanas**	**1.35**	**62**		**Pn**	**03 11 53.9**	**-0.7**
CO03	**El Pedregal**	**1.67**	**135⇑**	*e*P	**Pn**	**03 11 58.1**	**-0.6**
CO03				*e*S	**Sn**	**03 12 19.3**	**-0.2**
CO03				IAML		03 12 26.4	
	comp=E,6μm,0.4s						
CO03	**El Pedregal**	**1.67**	**135**		**Pn**	**03 11 58.9**	**+0.2**
AC04	**Llanos de Chal**	**1.69**	**31⇑**	*e*P	**Pn**	**03 11 57.6**	**-1.3**
AC04				*e*S	**Sn**	**03 12 18.6**	**-1.3**
AC04	**Llanos de Chal**	**1.69**	**31**	Pn	**Pn**	**03 11 57.7**	**-1.3**
GO03	**Copiap**	**2.61**	**38**	*e*P	**Pn**	**03 12 11.1**	**-0.7**
GO03				*e*S	**Sn**	**03 12 41.8**	**-1.0**
GO03				IAML		03 12 59.2	
	comp=E,1μm,0.7s						
GO03	**Copiap**	**2.61**	**38**	Pn	**Pn**	**03 12 11.0**	**-0.7**
VA06	**Catapilco**	**2.96**	**167**	*e*P	**Pn**	**03 12 16.2**	**-0.2**
VA06		

NPGB	Novo Progresso	27.45	38	eP	P	03 17 14.5	-0.7
PEXB	Peixe	28.15	57	eP	P	03 17 21.5	0.0
DIAM	Diamantina, MG	28.22	73	eP	P	03 17 23.1	+0.8
MACA	Manacapuru-AM	28.48	24	eP	P	03 17 24.0	-0.4
JANB	Januaria	29.39	66	eP	P	03 17 32.4	-0.2
SMTB	Santa Maria do	30.88	53	eP	P	03 17 44.6	-1.1
MACC	Macarena, Meta	31.68	357	eP	P	03 17 52.9	+0.3
NBPN	Ponto Novo - B	35.09	64	eP	P	03 18 22.0	-0.5
CBOC	Ciudad Bolivar	35.53	353	eP	P	03 18 30.0	+3.6
ZARC	Zaragoza, Cauc	37.04	355	eP	P	03 18 38.7	-0.4
NBMA	Muriti-CE	38.35	61	eP	P	03 18 49.2	-1.1
SDV	Santo Domingo	38.35	2	P	P	03 18 51.7	+1.3
	comp=Z,1.3nm,0.4s,baz=235,slow=16,SNR=4.3						
BAUV	El Baul	38.58	6	P	P	03 18 51.9	-0.1
VNA2	Neumayer--Watz	54.02	158	P	P	03 20 54.1	+1.3
	baz=279,slow=8.4						
SNAA	Sanae	55.61	159	P	P	03 21 05.6	+1.2
SNAA	Sanae	55.61	159	P	P	03 21 04.7	+0.3
	comp=Z,6.4nm,0.8s,baz=256,slow=8.6,SNR=8.9						
SNAA	Sanae	55.61	159		P	03 21 04.9	+0.5
SNAA				IAmb	IAmb	03 21 06.5	
	comp=Z,8.5nm,0.9s						
QSPA	South Pole Qui	60.56	180	P	P	03 21 39.7	+0.5
	comp=Z,5.7nm,0.6s,baz=138,slow=1.0,SNR=5.0						
QSPA	South Pole Qui	60.56	180	P	P	03 21 39.8	+0.6
TXAR	Lajitas Array	65.97	330	P	P	03 22 17.6	+2.3
	comp=Z,0.5nm,0.7s,baz=157,slow=8.2,SNR=4.6						
TX31	Lajitas Ar. Si	65.97	330	P	P	03 22 15.6	+0.2
TX31				IAmb	IAmb	03 22 36.5	
	comp=Z,6.5nm,1.1s						
N51A	Ashland	70.87	352	P	P	03 22 45.4	-0.3
N51A				IAmb	IAmb	03 22 54.4	
	comp=Z,9.3nm,0.9s						
DBIC	Dimbokro	73.85	72	P	P	03 23 05.1	+1.0
	comp=Z,3.8nm,0.7s,baz=255,slow=5.7,SNR=7.3						
DBIC	Dimbokro	73.85	72	P	P	03 23 04.6	+0.5
DBIC				IAmb	IAmb	03 23 13.6	
	comp=Z,6.4nm,0.8s						
PDAR	Pinedale Array	79.90	333	P	P	03 23 38.7	+0.9
	comp=Z,0.3nm,0.6s,baz=107,slow=9.5,SNR=3.9						
BOSA	Boshof	82.12	118	P	P	03 23 50.9	+0.8
	comp=Z,3.0nm,0.7s,baz=254,slow=3.7,SNR=4.9						
BOSA	Boshof	82.12	118	P	P	03 23 49.9	-0.2
ULM	Lac du Bonnet	82.32	345	P	P	03 23 51.5	+1.3
	comp=Z,1.7nm,0.5s,baz=128,slow=4.6,SNR=3.0						
HLID	Hailey	82.56	330	P	P	03 23 50.1	-1.7
HLID				IAmb	IAmb	03 24 06.2	
	comp=Z,1.7nm,0.9s						
BCYI	Bear Canyon	82.74	331	P	P	03 23 52.5	-0.3
TORD	Torodi Ar. Bea	82.77	71	P	P	03 23 53.9	+0.5
	comp=Z,5.2nm,0.8s,baz=258,slow=4.6,SNR=31						
MCMT	McKenzie Canyo	82.94	332	P	P	03 23 53.3	-0.6
HRY	Holter Researc	84.09	334	P	P	03 23 58.9	-0.6
CASY	Casey	84.34	181	P	P	03 24 00.9	+0.3
WRA	Warramunga Arr	124.50	211	PKP	PKiKP	03 30 29.1	0.0
	comp=Z,0.5nm,0.8s,baz=158,slow=1.6,SNR=4.7						
H11S2	WAKE ISLAND Hyd	25.70	272	T	T	05 49 20.6	
	baz=114,slow=74,SNR=12						
H11S1	WAKE ISLAND Hyd	25.71	272	T	T	05 49 22.7	
	baz=114,slow=74,SNR=9.6						
H11S3	WAKE ISLAND Hyd	25.72	272	T	T	05 49 22.8	
	baz=114,slow=74,SNR=9.2						
SEY	Seymchan	136.23	332	PKP	PKiKP	03 30 51.8	+0.5
	comp=Z,1.4nm,0.7s,baz=90,slow=4.2,SNR=4.3						
BVAR	Borovoye Array	144.02	30	PKP	PKPdf	03 31 04.2	+0.1
	comp=Z,0.9nm,0.7s,baz=318,slow=12,SNR=5.1						
YAK	Yakutsk	144.63	342	PKPdf	PKPdf	03 31 03.4	-1.4
CHGR	Chuyangaron	146.88	64	PKPbc	PKPab	03 31 11.4	-1.5
KKAR	Karatay Array	147.30	55	PKPbc	PKPbc	03 31 11.4	-0.9
KURK	Kurchatov	149.60	38	PKPbc	PKiKP	03 31 18.3	-0.8
KURBB	Kurchatov Arra	149.60	38	PKPbc	PKiKP	03 31 19.9	+0.8
	comp=Z,3.3nm,0.6s,baz=301,slow=3.2,SNR=31						
AAK	Ala-Archa	150.25	55	PKPbc	PKiKP	03 31 22.6	+1.6
	comp=Z,4.2nm,0.7s,baz=193,slow=3.2,SNR=16						
AAK	Ala-Archa	150.25	55		PKPbc	03 31 19.6	-0.5
ZALV	Zalesovo Beam	150.50	28	PKPbc	PKiKP	03 31 21.9	+1.1
	comp=Z,25nm,0.9s,baz=323,slow=2.2,SNR=16						
ZALV	Zalesovo Beam	150.50	28		PKiKP	03 31 20.5	-0.3
KSH	Kashi	152.03	61	PKPbc	PKiKP	03 31 26.5	+1.8
KLR	Kul'dur	153.36	324	PKPbc	PKiKP	03 31 27.4	+0.5
	comp=Z,1.9nm,0.9s,baz=39,slow=4.0,SNR=4.4						
MKAR	Makanchi Array	153.75	42	PKP	PKPdf	03 31 20.9	+1.0
	comp=Z,0.4nm,0.8s,baz=346,slow=2.5,SNR=3.5						
MKAR				PKPbc	pPKPdf	03 31 28.8	+2.0
	comp=Z,1.4nm,0.8s,baz=318,slow=1.6,SNR=8.4						
MKAR	Makanchi Array	153.75	42	PKPbc	PKiKP	03 31 28.0	+0.2
SONM	Songino Array	161.82	3	PKPab	PKPab	03 32 17.4	+2.0
	comp=Z,0.5nm,0.9s,baz=318,slow=1.9,SNR=3.0						
PZH	PanZhiHua	173.69	118	PKP	PKPdf	03 31 37.7	-1.2

*VAO **08** 03:14:14.0±0.3, 13°.45S×69°.95W, h10km, mb4.8*
*IDC **08** 03:14:16.1±0.5, 13°.38S×69°.92W, h32km±3km, mb4.5/21, mb1 4.6/27, mb1mx4.5/39, mbtmp4.7/27, ML4.2/6, MS4.1/15, Ms1 4.1/15, ms1mx3.8/65, Error ellipse: s-maj=16.5km s-min=11.2km az=45.0*
*NEIC **08** 03:14:17.6±1.7, 13°.37S±0°.06×69°.86W±0°.07, h39km±5km, mb4.9/220, ML5.0(ARE), Error ellipse: s-maj=10.0km s-min=8.2km az=64.0*
*ARE **08** 03:14:19±6.0, 13°.26S±0°.06×69°.71W±0°.07, h123km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=154.0*
ISC 08 03:14:16.6±0.3, 13°.33S±0°.05×69°.87W±0°.05, h35km, n422, σ1**§30**/354, **mb4.9**/134, **MS4.1**/9, **2C, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.38	150	Pn	Pn	03 15 08.8	+1.3
	12nm,0.3s,baz=333,slow=9.6,SNR=137						
LPAZ				Lg	Lg	03 16 00.9	
	226nm,0.3s,baz=188,slow=16,SNR=14						
LPAZ				LR	LR	03 16 31.4	
	comp=Z,906nm,19.4s,baz=343,slow=40						
LPAZ	La Paz	3.38	150	eP	Pn	03 15 07.3	-0.2
LPAZ	La Paz	3.38	150	Pn	Pn	03 15 09.3	+1.7
PB16	IPOC Station P	4.99	176	Pn	Pn	03 15 29.9	+0.4
ETMB	Extrema	5.00	46	Pn	Pn	03 15 32.7	+3.4
PB12	IPOC Station P	5.27	185		Pn	03 15 34.9	+1.8
CZSB	Cruzeiro do Su	6.23	333	eP	Pn	03 15 47.6	+1.5
CZSB	Cruzeiro do Su	6.23	333		Pn	03 15 47.8	+1.7
PB11	IPOC Station P	6.40	178		Pn	03 15 51.0	+2.4
PB08	IPOC Station P	6.80	174	Pn	Pn	03 15 55.6	+1.3
TA02	Huaiquique	6.90	182	Pn	Pn	03 15 57.0	+1.6
NNA	Nana	6.94	280	Pn	Pn	03 15 56.9	+1.0
	5.2nm,0.3s,baz=144,slow=3.8,SNR=8.9						
NNA				Lg	Lg	03 17 55.3	
	8.4nm,0.3s,baz=224,slow=11,SNR=3.5						
NNA				LR	LR	03 18 07.6	
	comp=Z,301nm,18.2s,baz=116,slow=34						
NNA	Nana	6.94	280		Pn	03 15 58.4	+2.5
SIV	San Ignacio	8.91	108	Pn	Pn	03 16 23.3	+0.3
	10nm,0.3s,baz=290,slow=10,SNR=40						
SIV				Sn	Sn	03 18 00.7	-1.6
	59nm,0.3s,baz=281,slow=15,SNR=7.1						
SIV				Lg	Lg	03 18 58.2	
	72nm,0.3s,baz=187,slow=23,SNR=7.1						
SIV				LR	LR	03 20 08.6	
	comp=Z,1μm,18.2s,baz=318,slow=39						
TBTG	Tabatinga, AM	9.09	360	eP	Pn	03 16 27.3	+1.9
TBTG	Tabatinga, AM	9.09	360		Pn	03 16 27.3	+1.9
VILB	Vilhena	9.42	89	eP	Pn	03 16 30.9	+0.9
VILB	Vilhena	9.42	89	Pn	Pn	03 16 30.8	+0.8
ATAH	Atahualpa	10.41	305	Pn	Pn	03 16 44.5	+0.7
	2.0nm,0.3s,baz=144,slow=4.7,SNR=19						
ATAH				LR	LR	03 21 30.0	
	comp=Z,1μm,18.2s,baz=146,slow=42						
PTLB	Pontes e Lacer	10.61	108	eP	Pn	03 16 45.7	-0.5
PTLB	Pontes e Lacer	10.61	103	Pn	Pn	03 16 46.0	-0.2
PDRB	Porto dos Gac	12.94	84	eP	Pn	03 17 19.4	+1.2
CLDB	Colider	13.97	81	eP	Pn	03 17 33.0	+0.8
AQDB	Aquidauana	15.30	120	eP	Pn	03 17 49.2	-0.8
AQDB	Aquidauana	15.30	120	Pn	Pn	03 17 49.4	-0.7
FLOC	Florencia	15.89	338	eP	P	03 18 05.6	+4.5
PTGA	Pitinga	15.90	39	Pn	Pn	03 17 56.5	-1.4
	6.4nm,0.3s,baz=329,slow=23,SNR=47						
PTGA				Sn	Sn	03 20 46.8	-6.5
	15nm,0.3s,baz=143,slow=24,SNR=7.5						
PTGA				LR	LR	03 24 35.8	
	comp=Z,1μm,18.0s,baz=219,slow=39						
OTAV	Otavalo	15.94	327	eP	Pn	03 17 59.1	+0.2
OTAV	Otavalo	15.94	327		Pn	03 17 59.1	+0.2
CMBC	Cumbal	16.23	330	eP	Pn	03 18 03.6	+1.1
BETC	Betania	16.84	340	eP	Pn	03 18 08.5	-1.4
POPC	Popayan, Colom	17.16	336	eP	Pn	03 18 14.4	+0.4
CO03	El Pedregal	17.44	182	Pn	Pn	03 18 15.7	-1.6
CPUP	Villa Florida	17.48	140		Pn	03 18 17.2	-0.5
PTGC	Puerto Gaitan,	17.56	352	eP	Pn	03 18 17.3	-1.5
ARAG	Araguaiana, MT	17.64	100	eP	P	03 18 21.3	+0.8
PRAC	Prado	17.65	343	eP	P	03 18 27.0	+6.4
VILC	Villavicencio,	17.74	347	eP	Pn	03 18 20.2	-0.9
ORTC	Ortega, Tolima	17.94	342	eP	P	03 18 30.0	+6.1
ZON	Zonda	18.16	177	P	P	03 18 26.7	+0.5
BOAV	Boa Vista	18.17	31	P	Pn	03 18 26.6	+0.3
SNDB	Serra Nova Dou	18.17	88	eP	P	03 18 28.1	+1.7
CHIC	Chingaza	18.25	348	eP	Pn	03 18 30.0	+2.3
YOTC	Yotoco, Valle	18.37	339	eP	P	03 18 28.0	-0.6
ROSC	El Rosal	18.59	346	P	P	03 18 32.4	+1.1
	2.1nm,0.3s,baz=148,slow=7.0,SNR=4.9						
ROSC				LR	LR	03 26 14.7	
	comp=Z,619nm,20.0s,baz=196,slow=39						
ROSC	El Rosal	18.59	346	eP	P	03 18 30.0	-1.4
ROSC	El Rosal	18.59	346	P	P	03 18 31.8	+0.4
MALB	Monte Alegre	19.20	55	eP	P	03 18 38.6	+1.0
PLMC	San Jos del P	19.21	340	eP	P	03 18 38.7	+0.9
SPBC	San Pablo de B	19.32	347	eP	Pn	03 18 40.7	+0.4
VA03	San Esteban	19.35	182	P	P	03 18 39.7	+0.4
RUSC	La Rusia	19.36	350	eP	P	03 18 38.7	-1.2
NORC	Norcasia	19.42	345	eP	P	03 18 37.8	-2.3
PCMB	Pacaembu	19.55	117	eP	Pn	03 18 43.2	+0.3
TAMC	Tame, Arauca	19.73	354	eP	Pn	03 18 45.6	+0.4
ITRB	Iturama	19.74	111	eP	P	03 18 44.4	+0.9
MT02	Curacav	19.87	183	P	P	03 18 44.0	-0.8
BARC	Barichara	20.07	350	eP	P	03 18 45.6	-1.8
PTGB	Pitanga	20.26	127	eP	P	03 18 49.8	+0.6
ITQB	Itaqui	20.37	145	eP	P	03 18 50.0	-0.2
MT09	Talagante	20.38	183	P	P	03 18 50.1	-0.4
MT01	Popeta	20.48	183	P	P	03 18 50.8	-0.7
BO01	Tunca	21.00	183	P	P	03 18 57.0	-0.1
BO01				IAmb	IAmb	03 19 00.6	
	comp=Z,29nm,0.8s						
PEXB	Peixe	21.07	89	eP	P	03 18 59.7	+1.6
DBBC	Dabeiba	21.18	342	eP	P	03 18 58.2	-1.0
BDFB	Brasilia	21.28	99	P	P	03 19 01.7	+1.3
	comp=Z,16nm,0.8s,baz=271,slow=14,SNR=12						
BDFB				LR	LR	03 26 23.9	
	comp=Z,296nm,21.4s,baz=290,slow=34						
BDFB	Brasilia	21.28	99	P	P	03 19 02.0	+1.6
IPMB	Ipameri, GO	21.35	105	eP	P	03 19 02.1	+1.0
BO02	Sierra Bellavi	21.38	182	P	P	03 19 00.8	-0.5
ITAB	Concordia	21.59	133	eP	P	03 19 02.5	-1.0
FRTB	Fartura	21.67	120	eP	P	03 19 05.8	+1.4
UREC	San Jos de Ur	21.69	345	eP	P	03 18 59.2	-5.4
OCAC	Ocana	21.70	351	eP	P	03 19 07.0	+2.1
OCAC	Ocana	21.70	351	P	P	03 19 05.5	+0.6
BB19B	Bebedouro	21.77	114	eP	P	03 19 07.2	+1.6
MCPB	Macapa, AP	21.85	55	eP	P	03 19 07.4	+1.0
SDV	Santo Domingo	22.09	358	P	P	03 19 11.0	+1.9
	comp=Z,71nm,0.9s,baz=180,slow=9.4,SNR=52						
SDV				LR	LR	03 28 22.3	
	comp=Z,376nm,20.6s,baz=170,slow=38						
SDV	Santo Domingo	22.09	358	eP	P	03 19 11.0	+1.9
SDV	Santo Domingo	22.09	358	P	P	03 19 09.6	+0.5
SDV				IAmb	IAmb	03 19 12.8	
	comp=Z,61nm,0.8s						
BAUV	El Baul	22.20	5	P	P	03 19 12.4	+2.2
SMTB	Santa Maria do	22.30	81	eP	P	03 19 13.0	+1.7
ML02	Panimavida	22.38	183	P	P	03 19 10.9	-1.0
ML02				IAmb	IAmb	03 19 16.9	
	comp=Z,30nm,0.8s						
TIJ01	Guaruva-PR	22.98	124	eP	P	03 19 19.4	+1.0
RCLB	Rio Claro- Sao	23.07	116	eP	P	03 19 20.2	+0.9
SPB	Sao Paulo	23.57	119	eP	P	03 19 23.7	-0.5
PLTB	Pedras Altas	23.65	144	eP	P	03 19 24.5	-0.4
PLTB	Pedras Altas	23.65	144	P	P	03 19 24.5	-0.4
PLTB				IAmb	IAmb	03 19 26.3	
	comp=Z,33nm,0.8s						
VAO	Valinhos	23.76	117	eP	P	03 19 26.2	+0.1
BIRV	Birongo	23.92	9	P	P	03 19 28.7	+1.2
BIRV				IAmb	IAmb	03 19 31.1	
	comp=Z,45nm,0.8s						
PCRV	Puerto La Cruz	23.93	13	P	P	03 19 28.9	+1.3
	comp=Z,19nm,0.9s,baz=337,slow=14,SNR=5.0						
TMAB	Tom-Au,PA,Br	24.13	65	eP	P	03 19 30.3	+0.8
SDBA	SAO DESIDERIO	24.35	91	eP	P	03 19 33.1	+1.5
JANB	Januaria	24.83	97	eP	P	03 19 37.4	+1.4
MDP	Montagnes des	25.06	44	P	P	03 19 39.9	+2.0
	comp=Z,19nm,0.7s,baz=204,slow=4.9,SNR=4.8						
MDP				LR	LR	03 30 08.2	
	comp=Z,634nm,20.6s,baz=230,slow=38						
BSCB	Bom Sucesso	25.13	111	eP	P	03 19 39.6	+0.9
LC01	Cunco	25.52	184	P	P	03 19 40.5	-1.5
DIAM	Diamantina, MG	25.67	104	eP	P	03 19 45.2	+1.6
AUA1	Aruba	25.67	360	P	P	03 19 43.0	-0.4
RIMA	Rio Macho	26.83	328	P	P	03 19 54.9	+0.7
JACO	JACO, Garabito	27.16	327	P	P	03 19 56.8	-0.1
PLCA	Paso Flores	27.30	181	P	P	03 19 57.4	-0.6
	comp=Z,9.4nm,0.9s,baz=3.6,slow=7.7,SNR=7.2						
PLCA	Paso Flores	27.30	181	eP	P	03 19 57.9	-0.2
PLCA	Paso Flores	27.30	181	P	P	03 19 57.3	-0.8
ROSB	Rosrio	27.48	70	eP	P	03 20 02.1	+2.3
JTS	Las Juntas de	27.84	327	P	P	03 20 04.2	+1.1
	comp=Z,6.6nm,0.9s						
JTS				LR	LR	03 32 05.9	
	comp=Z,244nm,18.2s,slow=38						
JTS	Las Juntas de	27.84	327	P	P	03 20 03.9	+0.9
SJMB	Sao Joao De Ma	28.06	105	eP	P	03 20 06.3	+1.3
RIB01	Linhares ES	28.88	106	eP	P	03 20 13.2	+0.9
MPOM	Morne Pois Mar	29.00	18	P	P	03 20 13.6	+0.3
BIM	Bigot	29.01	18	P	P	03 20 13.8	+0.4
NBPN	Ponto Novo - B	29.11	88	eP	P	03 20 16.0	+1.6
FDF	Fort de France	29.19	17	P	P	03 20 15.4	+0.4
GDU01	Guandu, BA	29.45	94	eP	P	03 20 19.2	+1.8
NBIT	Itapeh - BA	29.54	97	eP	P	03 20 20.6	+2.4
MATN	Matagalpa	30.57	328	P	P	03 20 28.1	+0.8
NBPB	Pedra_Branca-C	30.83	78	eP	P	03 20 32.3	+2.6
NBMA	Muriti-CE	31.15	82	eP	P	03 20 34.9	+2.5
NBLA	Lagarto - SE	31.43	89	eP	P	03 20 36.1	+1.2
NBCL	Cascavel-CE	32.45	77	eP	P	03 20 46.4	+2.5
NBAN	Anadia - AL	33.10	87	eP	P	03 20 51.2	+1.6
MTO3	Montecristo	33.64	324	IAmb	IAmb	03 21 05.7	
	comp=Z,15nm,0.9s						
RCBR	Riachuelo	34.28	81	eP	P	03 21 01.5	+1.6
NBRF	Rio Formoso -	34.39	86	eP	P	03 21 02.9	+2.1
PETF	Flores	35.97	326	P	P	03 21 15.6	+1.4
PETF				IAmb	IAmb	03 21 32.6	
	comp=Z,19nm,0.8s						
CCIG	Comitan	36.75	323	P	P	03 21 21.7	+0.6
CCIG				IAmb	IAmb	03 21 32.5	
	comp=Z,27nm,0.9s						
CMIG	Matias Romero	39.04	320	P	P	03 21 41.6	+1.3
	comp=Z,18nm,0.6s,baz=125,slow=6.6,SNR=70						
RPN	Rapa Nui	39.32	243	LR	LR	03 34 15.4	
	comp=Z,281nm,20.3s,baz=66,slow=31						
MOIG	Morelia	45.02	316	P	P	03 22 29.2	-0.2
ZAIG	Zacatecas	48.10	318	P	P	03 22 54.0	+0.4
ZAIG				IAmb	IAmb	03 22 56.4	
	comp=Z,13nm,0.9s						
KMSC	Kings Mountain	49.42	348	P	P	03 23 01.5	-1.6
	baz=165						
833A	Chaparral WMA,	50.32	326	P	P	03 23 10.1	+0.1
	baz=142						
BLA	Blacksburg	51.24	349	P	P	03 23 15.4	-1.5
	baz=167						
TZTN	Tazewell	51.26	346	P	P	03 23 15.4	-1.6
	baz=163						
JCT	Junction City	52.22	327	P	P	03 23 23.6	-0.8
	baz=142						
X40A	Basin Creek Fa	52.33	336	P	P	03 23 23.9	-1.1
	baz=151						
W41B	Gary Mavity, V	52.70	337	P	P	03 23 26.2	-1.6
	baz=152						
HPIG		53.02	319	P	P	03 23 30.8	+0.2
HPIG				IAmb	IAmb	03 23 31.9	
	comp=Z,18nm,1.1s						
Z35A	Perchaven, San	53.25	331	P	P	03 23 31.1	-0.8
Z35A				IAmb	IAmb	03 23 32.7	
	comp=Z,20nm,0.9s						
W39A	Magazine	53.32	336	P	P	03 23 31.4	-0.9
W39A				IAmb	IAmb	03 23 49.5	
	comp=Z,22nm,1.5s						
W39A	Magazine	53.32	336	P	P	03 23 31.1	-1.3
	baz=151						
PBMO	Poplar Bluff	53.48	339	IAmb	IAmb	03 23 35.1	
	comp=Z,8.2nm,0.8s						
TX32	Lajitas Array	53.52	323	P	P	03 23 33.8	-0.2
TXAR	Lajitas Array	53.52	323	P	P	03 23 33.8	-0.3
	comp=Z,2.0nm,0.6s,baz=162,slow=9.6,SNR=27						
TX31	Lajitas Ar. Si	53.52	323	P	P	03 23 34.0	0.0
TX31				IAmb	IAmb	03 23 53.9	
	comp=Z,16nm,1.0s						
WCI	Wyandotte Cave	53.55	344	P	P	03 23 32.0	-2.0
	baz=160						
P53A	Whipple	53.63	349	P	P	03 23 33.4	-1.1
BRNJ	Basking Ridge	53.92	356	P	P	03 23 35.6	-0.9
BRNJ				IAmb	IAmb	03 23 58.4	
	comp=Z,14nm,1.2s						
P52A	Corning	53.92	348	P	P	03 23 34.8	-1.8
	baz=165						
S44A	Carbondale	53.92	341	P	P	03 23 35.0	-1.7
O56A	Blue Knob Stat	53.94	352	P	P	03 23 36.5	-0.3
	baz=170						
U40A	Yellville	53.98	337	P	P	03 23 35.7	-1.5
	baz=152						
SSPA	Standing Stone	54.20	352	P	P	03 23 36.9	-1.9
	baz=170						
N59A	State Game Lan	54.25	354	P	P	03 23 38.0	-1.1
	baz=173						
HHAR	Hobbs	54.33	336	IAmb	IAmb	03 23 38.8	
	comp=Z,24nm,1.3s						
O53A	New Philadelph	54.34	349	P	P	03 23 38.5	-1.2
	baz=166						
P49A	Miami Univ. Ec	54.38	346	P	P	03 23 38.8	-1.3
	baz=162						
MGMO	Mountain Grove	54.46	338	IAmb	IAmb	03 23 39.8	
	comp=Z,15nm,0.9s						
ACSO	Alum Creek Sta	54.66	348	P	P	03 23 40.1	-2.0
	baz=164						
TUL1	Leonard	54.77	334	IAmb	IAmb	03 23 42.7	
	comp=Z,18nm,1.0s						
TUL1	Leonard	54.77	334	P	P	03 23 41.2	-1.7
	baz=149						
N53A	Lisbon	54.81	350	IAmb	IAmb	03 23 43.1	
	comp=Z,13nm,0.8s						
CCM	Cathedral Cave	54.91	339	P	P	03 23 42.0	-1.8
CCM				IAmb	IAmb	03 23 43.4	
	comp=Z,12nm,0.9s						
CCM	Cathedral Cave	54.91	339	P	P	03 23 42.1	-1.8
	baz=154						
WMOK	Wichita Mounta	55.13	331	P	P	03 23 44.1	-1.5
	baz=145						
M54A	Oil Creek Stat	55.31	351	P	P	03 23 45.3	-1.5
	baz=168						
S39A	Bolivar	55.33	337	IAmb	IAmb	03 23 45.8	
	comp=Z,16nm,0.8s						
M53A	WI Miller and	55.40	350	P	P	03 23 45.0	-2.4
	baz=167						
BINY	Binghamton	55.54	354	IAmb	IAmb	03 23 48.6	
	comp=Z,12nm,0.7s						
BINY	Binghamton	55.54	354	P	P	03 23 46.6	-1.8
	baz=173						
HRV	Adam Dziewonsk	55.58	358	P	P	03 23 47.0	-1.6
	baz=178						
N49A	Columbus Grove	55.58	347	IAmb	IAmb	03 23 47.6	
	comp=Z,20nm,0.9s						
T35A	Sooner Cattle	55.93	334	IAmb	IAmb	03 23 51.1	
	comp=Z,14nm,0.9s						
ERPA	Erie	55.95	351	IAmb	IAmb	03 23 51.3	
	comp=Z,23nm,1.1s						
ERPA	Erie	55.95	351	P	P	03 23 49.5	-1.8
	baz=168						
BLOK	Blackwell	56.10	334	IAmb	IAmb	03 23 52.6	
	comp=Z,15nm,0.9s						
CROK	Carrier	56.22	333	IAmb	IAmb	03 23 53.4	
	comp=Z,21nm,0.9s						
MNTX	Cornudas Mount	56.25	323	P	P	03 23 53.2	-0.5
MNTX				IAmb	IAmb	03 23 54.8	
	comp=Z,12nm,1.3s						
MNTX	Cornudas Mount	56.25	323	P	P	03 23 53.3	-0.4
	baz=137,SNR=8.6						
KAN13	South Haven SW	56.42	334	IAmb	IAmb	03 23 54.9	
	comp=Z,13nm,0.8s						
MSTX	Muleshoe	56.51	327	IAmb	IAmb	03 23 56.0	
	comp=Z,5.8nm,0.5s						
MSTX	Muleshoe	56.51	327	P	P	03 23 54.6	-1.0
	baz=141						
HDIL	Hopedale	56.56	342	P	P	03 23 54.0	-1.7
	baz=157						
KAN17	Caldwell West	56.57	333	IAmb	IAmb	03 23 56.0	
	comp=Z,23nm,1.0s						
KAN14	Manchester OK	56.59	333	IAmb	IAmb	03 23 56.5	
	comp=Z,23nm,1.1s						
KA

WUAZ	Wupatki	62.47	322	P	P	03 24 36.6 -0.2
WUAZ				IAmb	IAmb	03 24 49.2
	comp=Z,8.6nm,1.0s					
WUAZ	Wupatki	62.47	322	P	P	03 24 36.9 +0.1
	baz=134					
PV01	Paradox Valley	62.73	326	IAmb	IAmb	03 24 39.4
	comp=Z,4.6nm,0.6s					
PV15	Paradox Valley	62.84	327	IAmb	IAmb	03 24 57.9
	comp=Z,8.4nm,0.8s					
PV13	Radium Mtn., P	62.89	326	IAmb	IAmb	03 24 42.9
	comp=Z,5.7nm,0.6s					
GLA	Glamis	62.99	318	P	P	03 24 40.3 +0.1
	baz=130					
SUSD	Miller	63.29	337	P	P	03 24 40.3 -1.6
	baz=148,SNR=8.3					
W13A	Hualapai Mount	63.72	321	IAmb	IAmb	03 24 47.3
	comp=Z,13nm,1.4s					
BC3	Big Chuckawall	63.78	318	P	P	03 24 45.3 -0.1
	baz=129					
IRM	Iron Mountain	63.90	319	P	P	03 24 46.1 -0.1
	baz=130,SNR=5.7					
MONP2	Monument Peak	63.94	317	P	P	03 24 47.0 +0.3
	baz=128					
EYMN	Ely	63.98	344	P	P	03 24 44.7 -1.6
	baz=156					
O20A	White River Ci	64.03	328	P	P	03 24 46.5 -0.6
	baz=138					
BELC	Belle Mtn. Jos	64.35	318	P	P	03 24 49.8 +0.6
	baz=129					
KNB	Kanab	64.35	323	P	P	03 24 49.0 -0.2
KNB				IAmb	IAmb	03 24 50.9
	comp=Z,10nm,0.7s					
109C	Camp Elliot, M	64.39	317	P	P	03 24 50.3 +1.0
	baz=128					
TPFO	Pinon Flats	64.40	318	P	P	03 24 50.2 +0.7
	baz=128					
SRU	San Rafael Swe	64.50	326	IAmb	IAmb	03 24 50.9
	comp=Z,5.1nm,0.6s					
GMRC	Granite Mounta	64.63	319	P	P	03 24 51.9 +0.9
	baz=130,SNR=6.3					
P17A	Butcher Ranch,	64.87	326	IAmb	IAmb	03 24 53.2
	comp=Z,5.5nm,0.6s					
MURC	Murrieta	64.88	317	P	P	03 24 52.6 0.0
	baz=128					
CCUT	Cedar City	65.03	323	IAmb	IAmb	03 25 10.6
	comp=Z,11nm,1.3s					
RDMU	Red Mountain	65.04	328	IAmb	IAmb	03 24 54.0
	comp=Z,5.8nm,0.6s					
HEC	Hector,Ludlow	65.09	319	P	P	03 24 55.5 +1.6
	baz=129					
RSSD	Black Hills	65.10	334	P	P	03 24 54.2 +0.2
RSSD				IAmb	IAmb	03 24 54.9
	comp=Z,7.2nm,0.6s					
RSSD	Black Hills	65.10	334	P	P	03 24 54.6 +0.6
	baz=143					
SHPR	Sheep Range	65.42	321	P	P	03 24 56.5 +0.4
SHPR				IAmb	IAmb	03 25 08.1
	comp=Z,15nm,1.3s					
AGMN	Agassiz Nation	65.56	341	P	P	03 24 54.8 -1.8
	baz=152,SNR=31					
CIS	Catalina Islan	65.58	316	P	P	03 24 58.2 +1.2
	baz=127					
BFSC	Mount Baldy Ra	65.58	318	P	P	03 24 58.2 +0.9
	baz=128					
GSC	Goldstone, Bar	65.68	319	P	P	03 24 58.2 +0.4
GSC				IAmb	IAmb	03 24 59.4
	comp=Z,6.8nm,0.8s					
GSC	Goldstone, Bar	65.68	319	P	P	03 24 58.9 +1.1
	baz=129					
SHOC	Shoshone, Teco	65.72	320	P	P	03 24 59.2 +1.2
	baz=130					
QSM	Queen of Sheba	66.14	320	IAmb	IAmb	03 25 12.8
	comp=Z,12nm,1.0s					
GWY	Greenwater Val	66.15	320	IAmb	IAmb	03 25 16.8
	comp=Z,7.5nm,0.8s					
EDW2	Edwards Air Fo	66.19	318	P	P	03 25 02.0 +1.0
	baz=128					
LRMC	Laurel Mtn Rad	66.35	319	P	P	03 25 03.3 +1.1
	baz=128					
MDND	Maddock	66.42	339	P	P	03 25 01.4 -0.8
	baz=148,SNR=26					
FURC	Furnace Creek,	66.45	320	P	P	03 25 03.4 +0.8
	baz=129,SNR=5.5					
DUG	Dugway, Tooele	66.52	325	P	P	03 25 03.9 +0.7
	baz=134					
MPMC	Manual Prospec	66.59	319	P	P	03 25 04.0 +0.3
	baz=129					
BW06	Boulder Array	66.64	329	P	P	03 25 03.5 -0.5
	baz=138					
PDAR	Pinedale Array	66.64	329	P	P	03 25 03.4 -0.6
	comp=Z,1.6nm,0.4s,baz=123,slow=8.8,SNR=30					
PDAR				pP	pP	03 25 13.3 -1.6
	comp=Z,1.3nm,0.6s,baz=72,slow=11,SNR=6.9					
PDAR	Pinedale Array	66.64	329	P	P	03 25 03.9 -0.1
R11A	Troy Canyon, C	66.87	322	P	P	03 25 05.8 +0.3
	baz=131,SNR=6.9					
ARVC	Arvin	66.88	318	P	P	03 25 06.1 +0.7
	baz=127					
ISA	Isabella, Lake	66.98	318	P	P	03 25 06.5 +0.4
ISA				IAmb	IAmb	03 25 22.9
	comp=Z,13nm,1.0s					
ISA	Isabella, Lake	66.98	318	P	P	03 25 07.0 +0.9
	baz=128					
GRAC	Grapevine Rang	67.09	320	P	P	03 25 07.6 +0.9
	baz=129					
CWC	Cottonwood Cre	67.20	319	P	P	03 25 08.9 +1.3
	baz=128					
LIC	Lamto	67.25	77	eP	P	03 25 08.2 +0.1
	comp=Z,38nm,0.9s					
ULM	Lac du Bonnet	67.30	342	P	P	03 25 06.2 -1.4
	comp=Z,30nm,0.7s,baz=151,slow=6.0,SNR=32					
TIC	Toumodi	67.38	77	eP	P	03 25 09.0 0.0
PKM	Mcpherson Peak	67.39	317	P	P	03 25 09.5 +0.6
	baz=126					
LCH	Last Change Ra	67.42	320	IAmb	IAmb	03 25 10.3
	comp=Z,11nm,1.3s					
VES	Vestal, Richgr	67.48	318	P	P	03 25 10.0 +0.8
	baz=127					
DBIC	Dimbokro	67.54	77	P	P	03 25 10.0 0.0
	comp=Z,8.8nm,0.6s,baz=256,slow=5.4,SNR=20					
DBIC				LR	LR	03 52 01.6
	comp=Z,277nm,20.9s,baz=282,slow=34					
DBIC	Dimbokro	67.54	77	P	P	03 25 10.1 +0.1
DBIC				IAmb	IAmb	03 25 10.9
	comp=Z,11nm,0.7s					
KIC	Kosan Boka	67.56	77	eP	P	03 25 10.3 +0.2
	comp=Z,46nm,0.9s					
HVU	Hansel Valley	67.59	327	P	P	03 25 10.3 +0.3
HVU				IAmb	IAmb	03 25 28.8
	comp=Z,7.3nm,0.9s					
SCHQ	Schefferville	67.95	2	P	P	03 25 10.6 -1.1
	comp=Z,3.2nm,0.9s,baz=192,slow=5.4,SNR=7.0					
LAO	LASA Array	68.07	334	IAmb	IAmb	03 25 14.2
	comp=Z,21nm,1.2s					
LAO	LASA Array	68.07	334	P	P	03 25 12.8 +0.1
	baz=142					
FLWY	Flagg Ranch	68.17	329	IAmb	IAmb	03 25 15.0
	comp=Z,7.4nm,0.8s					
H17A	Grant Village	68.33	330	P	P	03 25 15.0 +0.3
	baz=137					
MLAC	Mammoth, Mammo	68.41	320	P	P	03 25 16.1 +0.9
	baz=128					
OMMB	Old Mammoth Mi	68.50	320	P	P	03 25 16.0 +0.1
OMMB				IAmb	IAmb	03 25 32.4
	comp=Z,13nm,0.9s					
NVAR	Mina Array Bea	68.57	321	P	P	03 25 16.5 +0.2
	comp=Z,0.9nm,0.5s,baz=157,slow=5.1,SNR=7.3					
NVAR	Mina Array Bea	68.57	321	P	P	03 25 16.2 0.0
LHV	Little Huntoon	68.58	321	IAmb	IAmb	03 25 18.6
	comp=Z,20nm,1.3s					
DGMT	Dagmar	68.66	336	P	P	03 25 16.4 +0.1
	baz=144,SNR=9.0					
YMR	Madison River	68.72	330	IAmb	IAmb	03 25 28.1
	comp=Z,7.6nm,1.0s					
KVN	Kaiserville	68.83	321	IAmb	IAmb	03 25 19.4
	comp=Z,10nm,1.4s					
YHL	Hebgen Lake	68.96	330	IAmb	IAmb	03 25 31.1
	comp=Z,12nm,1.1s					
YERR	Yerington	69.49	321	IAmb	IAmb	03 25 24.1
	comp=Z,22nm,1.3s					
BCYI	Bear Canyon	69.69	328	P	P	03 25 22.3 -0.8
HLID	Hailey	69.70	327	P	P	03 25 23.2 +0.1
	baz=133,SNR=9.4					
BOZ	Bozeman (W)	69.72	330	P	P	03 25 22.7 -0.4
	baz=136,SNR=6.4					
PNTR	Pine Nut	69.77	321	IAmb	IAmb	03 25 26.8
	comp=Z,12nm,1.0s					
VCNR	Virginia City	69.93	321	IAmb	IAmb	03 25 42.5
	comp=Z,13nm,1.0s					
PAHR	Pah Rah Range	70.02	321	IAmb	IAmb	03 25 37.1
	comp=Z,18nm,1.3s					
SNAA	Sanae	70.27	162	P	P	03 25 25.0 -1.1
MFID	Camas Ranch	70.36	326	IAmb	IAmb	03 25 28.8
	comp=Z,19nm,0.8s					
EGMT	Eagleton	70.64	333	IAmb	IAmb	03 25 39.2
	comp=Z,18nm,0.8s					
EGMT	Eagleton	70.64	333	P	P	03 25 28.1 -0.5
	baz=139,SNR=12					
ORV	Oroville	71.23	320	IAmb	IAmb	03 25 34.6
	comp=Z,19nm,1.3s					
PLID	Pearl Lake	71.57	327	IAmb	IAmb	03 25 35.4
	comp=Z,14nm,1.3s					
MSO	Missoula	71.72	330	IAmb	IAmb	03 25 37.0
	comp=Z,15nm,1.2s					
MSO	Missoula	71.72	330	P	P	03 25 35.9 +0.6
	baz=135,SNR=10					
O03E	Paynes Creek	71.86	321	P	P	03 25 36.4 +0.3
	baz=126					
MOD	Modoc Plateau	71.92	323	IAmb	IAmb	03 25 38.0
	comp=Z,11nm,0.6s					
BMO	Blue Mountains	72.11	327	P	P	03 25 37.6 0.0
BMO				IAmb	IAmb	03 25 38.5
	comp=Z,5.5nm,0.7s					
O02D	Mt. Diablo Mer	72.40	320	P	P	03 25 39.8 +0.4
	baz=126					
M04C	Macdoel	72.76	322	P	P	03 25 42.1 +0.5
	baz=127					
F10A	Beach Ranch, E	72.81	328	IAmb	IAmb	03 25 43.5
	comp=Z,11nm,1.0s					
I07A	Izee	72.81	325	IAmb	IAmb	03 25 44.1
	comp=Z,7.2nm,0.7s					
M02C	Callahan	73.14	321	P	P	03 25 43.9 0.0
	baz=126					
K04D	Chiloquin, OR	73.21	323	P	P	03 25 44.6 +0.4
	baz=127					
YBH	Yreka Blue Hor	73.26	321	P	P	03 25 43.2 -1.3
	comp=Z,1.2nm,0.4s,baz=76,slow=4.5,SNR=6.4					
YBH	Yreka Blue Hor	73.26	321	IAmb	IAmb	03 25 54.4
	comp=Z,21nm,1.5s					
WALA	Waterton Lakes	73.28	331	IAmb	IAmb	03 25 45.4
	comp=Z,20nm,1.1s					
J05D	Fort Rock, OR	73.31	323	P	P	03 25 45.4 +0.6
	baz=128					
PINE	Pine Mountain	73.45	324	IAmb	IAmb	03 26 03.2
	comp=Z,19nm,1.2s					
E09A	Wood Farm, Sta	73.64	328	IAmb	IAmb	03 25 47.7
	comp=Z,7.8nm,0.8s					
J04D	Umpqua Nationa	73.79	323	P	P	03 25 48.3 +0.5
	baz=127					
I05D	Terrebonne, OR	74.01	324	P	P	03 25 49.6 +0.8
	baz=128					
L02E	Cave Junction	74.05	321	P	P	03 25 49.5 +0.5
	baz=125					
NEW	Newport	74.28	329	P	P	03 25 50.0 -0.3
	baz=132					
HAWA	Hanford	74.30	327	P	P	03 25 51.0 +0.7
HAWA				IAmb	IAmb	03 25 52.1
	comp=Z,8.4nm,0.6s					
DBO	Dodson Butte	74.39	322	P	P	03 25 51.6 +0.6
DBO				IAmb	IAmb	03 25 57.0
	comp=Z,26nm,1.4s					
K02D	Willamette Mer	74.39	322	P	P	03 25 51.6 +0.5
	baz=126					
D08A	Wollman Farm,	74.40	328	IAmb	IAmb	03 25 52.6
	comp=Z,7.0nm,0.7s					
C09A	Chrisman Ranch	74.55	328	IAmb	IAmb	03 26 02.8
	comp=Z,7.8nm,0.8s					
G05D	Wamic, OR	74.55	325	P	P	03 25 52.1 +0.2
	baz=128					
E07A	Sunnyside	74.57	327	IAmb	IAmb	03 26 03.8
	comp=Z,9.5nm,1.0s					
HOOD	Mount Hood Mea	74.78	325	IAmb	IAmb	03 25 57.8
	comp=Z,13nm,0.7s					
I03D	Drain, OR	74.79	323	P	P	03 25 53.3 +0.1
	baz=126					
F05D	White Salmon	75.02	325	P	P	03 25 55.2 +0.6
	baz=128					
LTY	Liberty	75.45	327	IAmb	IAmb	03 26 24.8
	comp=Z,12nm,1.4s					
F04A	Amboy	75.58	325	IAmb	IAmb	03 25 59.0
	comp=Z,18nm,0.8s					
TORD	Torodi Ar. Bea	75.63	73	P	P	03 25 59.0 +0.2
	comp=Z,17nm,0.6s,baz=270,slow=5.9,SNR=65					
TORD				pP	pP	03 26 08.8 -1.0
	comp=Z,5.7nm,0.7s,baz=264,slow=4.9,SNR=5.6					
E04D	Cinebar	76.04	326	P	P	03 26 00.9 +0.5
	baz=127					
D05A	Enumclaw	76.11	326	IAmb	IAmb	03 26 12.0
	comp=Z,19nm,0.8s					
PPT	Papeete	76.43	255	LR	LR	03 53 10.3
	comp=Z,152nm,18.6s,baz=346,slow=31					
D04E	Lakebay	76.53	326	P	P	03 26 04.2 +1.1
	baz=127					
QSPA	South Pole Qui	76.81	180	P	P	03 26 04.6 -0.1
	comp=Z,6.4nm,0.6s,baz=155,slow=1.8,SNR=14					
QSPA	South Pole Qui	76.81	180	P	P	03 26 05.2 +0.5
QSPA				IAmb	IAmb	03 26 05.3
	comp=Z,7.8nm,0.8s					
B05A	Bryant	76.83	327	P	P	03 26 04.8 0.0
	baz=128					
D03D	Eldon	76.92	326	P	P	03 26 05.6 +0.3
	baz=127					
A04D	Lummi Island	77.43	327	P	P	03 26 08.2 +0.1
	baz=128					
LLLB	Lillooet	78.16	329	P	P	03 26 11.8 -0.5
LLLB				IAmb	IAmb	03 26 13.1
	comp=Z,14nm,1.4s					
CBB	Campbell River	79.60	327	IAmb	IAmb	03 26 21.7
	comp=Z,15nm,0.9s					
ESDC	Sonseca Array	80.73	46	P	P	03 26 27.8 +1.2
	comp=Z,3.4nm,0.8s,baz=254,slow=5.6,SNR=14					
ESDC	Sonseca Array	80.73	46	P	P	03 26 27.0 +0.5
YKA	Yellowknife Ar	83.22	341	P	P	03 26 38.2 -0.8
	comp=Z,21nm,0.7s,baz=136,slow=5.4,SNR=325					
YKA				pP	pP	03 26 48.4 -1.7
	comp=Z,21nm,0.7s,baz=136,slow=5.3,SNR=26					
SUR	Sutherland	83.55	122	LR	LR	04 01 15.9
	comp=Z,103nm,18.2s,baz=286,slow=34					
SUR	Sutherland	83.55	122	P	P	03 26 42.7 +0.9
SYO	Syowa Base	84.44	160⇑	ePcP	P	03 26 47.2 +1.9
CRAG	Craig	86.50	329	P	P	03 26 55.9 +0.3
	baz=120					
DLBC	Dease Lake	86.57	333	IAmb	IAmb	03 27 07.2
	comp=Z,12nm,0.9s					
BOSA	Boshof	88.12	119	P	P	03 27 03.4 -1.1
	comp=Z,2.3nm,1.0s,baz=258,slow=7.6,SNR=4.9					
BOSA	Boshof	88.12	119	P	P	03 27 03.3 -1.1
BOSA				IAmb	IAmb	03 27 12.2
	comp=Z,17nm,1.5s					
SUMG	Summit	88.18	9	iP	P	03 27 04.0 +0.1
SUMG	Summit	88.18	9	P	P	03 27 04.0 +0.1
P33M	Teslin, Yukon	88.71	334	P	P	03 27 06.7 +0.4
	baz=120					
RES	Resolute Bay	89.23	354	P	P	03 27 08.9 +0.6
RES				IAmb	IAmb	03 27 19.6
	comp=Z,4.8nm,0.9s					
LBTB	Lobatse	89.30	115	P	P	03 27 09.2 -0.8
LBTB				IAmb	IAmb	03 27 25.7
	comp=Z,11nm,1.2s					
TULEG	Thule	89.70	0	P	P	03 27 09.4 -1.0
TULEG				IAmb	IAmb	03 27 27.6
	comp=Z,5.6nm,0.9s					
M31M	Drury Creek, Y	90.35	335	P	P	03 27 14.0 +0.1
	baz=118					
N31M	Braeburn, Yuko	90.60	334	P	P	03 27 15.5 +0.4
	baz=117					
NEEM	North Greenlan	91.26	4	iP	P	03 27 16.6 -1.6
YUK3	Moose Creek	92.74	333	P	P	03 27 25.3 +0.1
	baz=113					
DAVA	Damuels	92.86	42	eP	P	03 27 26.8 +0.7
	comp=Z,1.4nm,0.5s					
INK	Inuvik	92.99	341	P	P	03 27 24.7 -1.2
INK				IAmb	IAmb	03 27 36.9
	comp=Z,7.4nm,0.8s					
INK	Inuvik	92.99	341	P	P	03 27 25.6 -0.3
	baz=119					
EPYK	Eagle Plains	93.18	338	P	P	03 27 26.1 -0.8
	baz=116					
FETA	Feichten	93.34	43	eP	P	03 27 28.8 +0.5
	comp=Z,1.1nm,0.6s					
BGLC	Bering Glacier	93.40	331	P	P	03 27 28.1 +0.2
	baz=111					
SQTA	Sankt Quirin	93.71	42	iP	P	03 27 30.2 +0.3
	comp=Z,11nm,1.2s					
L27K	Beaver Creek,	93.83	334	P	P	03 27 29.7 -0.3
	baz=112					
WATA	Walderalm	93.98	42	eP	P	03 27 31.8 +0.6
	comp=Z,7.5nm,1.1s					
WTTA	Wattenberg	94.00	42	eP	P	03 27 32.1 +0.8
	comp=Z,6.9nm,0.8s					
ABTA	Abfaltersbach	94.45	43	eP	P	03 27 33.9 +0.6
	comp=Z,4.7nm,1.0s					
Q23K	Middleton Isla	94.63	330	P	P	03 27 32.4 -1.2
	baz=108					
SCRK	Sand Creek	95.06	335	P	P	03 27 34.8 -0.9
	baz=110					
KLU	Klutina	95.08	332	P	P	03 27 35.2 -0.6
	baz=108					
KBA	Koelnbreinsper	95.08	43	iP	P	03 27 36.4 +0.1
	comp=Z,2.9nm,0.5s					
MYKA	Terra Mystica	95.17	43	eP	P	03 27 37.2 +0.6
	comp=Z,3.1nm,0.6s					
GERES	GERESS Array B	95.74	41	P	P	03 27 38.9 -0.2
	comp=Z,1.3nm,0.8s,baz=262,slow=3.6,SNR=6.6					
OBKA	Obir	95.76	44	iP	P	03 27 39.9 +0.6
	comp=Z,2.1nm,0.7s					
MOA	Molln	95.87	42	eP	P	03 27 40.0 +0.3
	comp=Z,3.3nm,0.6s					
SML	Sawmill	96.27	332	P	P	03 27 40.3 -0.9
	baz=106					
ILAR	Eielson Array	96.51	335	P	P	03 27 41.4 -0.7
	comp=Z,0.5nm,0.7s,baz=132,slow=2.9,SNR=4.6					
ARU	Arti	121.78	31	PKP	PKPdf	03 33 05.9 -0.9
	comp=Z,0.7nm,0.5s,baz=148,slow=2.4,SNR=4.4					
AKTO	Aktyubinsk	123.94	37	PKP	PKPdf	03 33 09.7 -1.4
	comp=Z,1.5nm,1.0s,baz=310,slow=7.9,SNR=4.0					
BVAR	Borovoye Array	129.40	30	PKP	PKPdf	03 33 21.7 +0.3
	comp=Z,0.9nm,0.7s,baz=298,slow=3.2,SNR=4.5					
KURBB	Kurchatov Arra	134.81	28	PKP	PKPdf	03 33 31.1 -0.7
	comp=Z,1.3nm,0.7s,baz=308,slow=2.6,SNR=6.0					
ZALV	Zalesovo Beam	134.82	21	PKP	PKPdf	03 33 30.9 -0.7
	comp=Z,6.1nm,0.7s,baz=293,slow=2.5,SNR=8.1					
ZALV				pPKP	pPKPdf	03 33 41.7 -1.6
	comp=Z,3.8nm,0.7s,baz=287,slow=2.1,SNR=5.4					
ASAR	Alice Springs	136.50	212	PKP	PKPdf	03 33 34.6 -1.2
	comp=Z,0.6nm,0.7s,baz=139,slow=2.0,SNR=8.2					
ASAR	Alice Springs	136.50	212		PKPdf	03 33 33.9 -1.9
WRA	Warramunga Arr	139.25	216	PKhKP	PKPpre	03 33 30.7
	comp=Z,0.3nm,0.6s,baz=139,slow=2.6,SNR=5.6					
WRA				PKP	PKPdf	03 33 39.9 -1.0
	comp=Z,1.0nm,0.9s,baz=178,slow=1.4,SNR=5.8					
MKAR	Makanchi Array	139.28	29	PKP	PKPdf	03 33 39.3 -0.9
	comp=Z,0.8nm,0.6s,baz=333,slow=1.9,SNR=4.3					
USRK	Ussuriysk Ar.	144.00	333	PKP	PKPbc	03 33 47.7 +1.2
	comp=Z,1.9nm,0.7s,baz=66,slow=2.3,SNR=4.3					
JYT	Yasato	144.69	316	PKPdf	PKPab	03 33 49.2 +0.4
SONM	Songino Array	145.46	4	PKPbc	PKPdf	03 33 51.2 -0.1
	comp=Z,4.0nm,0.7s,baz=339,slow=2.6,SNR=25					
SONM				pPKPbc	pPKPbc	03 34 01.6 -1.3
	comp=Z,6.3nm,0.8s,baz=333,slow=3.0,SNR=12					
SONM	Songino Array	145.46	4	PKPdf	PKPdf	03 33 50.5 -0.7
ULN	Ulaanbaatar	145.48	4	PKPdf	PKPdf	03 33 51.1 -0.2
KNRA	Kununurra	145.79	213	PKPbc	PKPdf	03 33 52.5 -0.1
MJAR	Matsushiro Arr	145.84	318	PKPbc	PKPdf	03 33 52.3 +0.2
	comp=Z,13nm,0.6s,baz=62,slow=2.2,SNR=31					
MJAR				pPKPbc	pPKPdf	03 34 02.4 -1.3
	comp=Z,24nm,0.9s,baz=51,slow=1.6,SNR=16					
MAT	Matsushiro	145.84	318	PKP	PKPdf	03 33 51.7 -0.4
MJB9	Matsu-Tunnel	145.84	318	PKPbc	PKPdf	03 33 52.2 +0.1
MTN	Manton Dam	146.69	220	PKPbc	PKPdf	03 33 55.1 +1.0
KSRS	Korea Array	151.21	330	PKPbc	PKPbc	03 34 06.8 +0.1
	comp=Z,3.4nm,0.7s,baz=18,slow=1.8,SNR=9.2					
KSRS				pPKPbc	sPKPdf	03 34 17.3 +0.9
	comp=Z,7.2nm,0.8s,baz=17,slow=2.1,SNR=11					
GTA	Gaotai	152.47	17	ePKPbc	PKPbc	03 34 09.0 -0.7
GTA				pPKP	pPKPbc	03 34 22.7 +1.4
GTA				sPKP		03 34 30.7
CD2	Chengdu	161.54	18	PKP	PKPdf	03 34 13.0 -1.5
PZH	PanZhiHua	164.72	30	PKP	PKPdf	03 34 16.8 -0.9

*NNC **08** 03:35:09.0±3.3, 38°.73N×70°.54E, h0km, mb4.0, mpv3.6,*
Error ellipse: s-maj=25.8km s-min=15.8km az=1.0
*KRNET **08** 03:35:11.3±0.1, 39°.07N×70°.70E, h5km, mb3.3*
*SOME **08** 03:35:12.3, 39°.35N×71°.50E, h10km*

ISC 08 03:35:12.5±1.1, 39°.02N±0°.05×70°.70E±0°.04, h10km, n30, σ3 8°11/46, 21C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.97	61	↓iP	Pg	03 35 29.6	-1.6
DRK				↓iS	Sg	03 35 42.9	-1.0
	baz=64						
BTK	Batken	1.04	5	↑iP	Pg	03 35 30.1	-2.5
BTK				↑iS	Sg	03 35 44.2	-2.0
	baz=5.0						
CHGR	Chuyangaron	1.26	254	↑eP	Pn	03 35 35.5	-0.8
CHGR				↑iS	Sb	03 35 52.8	+0.1
	baz=52						
OHH	Osh	2.20	46	↑eP	Pn	03 35 50.7	+1.5
OHH				↑iS	Sb	03 36 19.5	-0.3
	baz=47						
SFK	Sufi-Kurgan	2.38	64	↑eP	Pn	03 35 52.9	+1.0
SFK				↑eS	Sn	03 36 23.6	+2.3
	baz=66						
TRKS	Terek-Say	2.53	7	↑iP	Pn	03 35 54.2	+0.3
TRKS				↑iS	Sn	03 36 25.2	+0.3
	baz=9.0						
ARK	Arkit	2.94	19	↑iP	Pn	03 36 00.9	+1.5
ARK				↑iS	Sn	03 36 36.9	+2.0
	baz=19						
SALK	Salom-Alik	3.03	51	↓eP	Pn	03 36 02.5	+1.7
SALK				↓eS	Sn	03 36 39.5	+2.3
	baz=52						
IUG	Iuzhnay	3.17	351	eP	Pb	03 36 09.4	+0.4
IUG				eS	Sb	03 36 48.8	+1.0
	634nm,0.3s						
	139nm,0.8s						
MNAS	Manas	3.73	21	↑eP	Pn	03 36 11.7	+1.4
MNAS				↑iS	Sn	03 36 55.7	+1.4
	baz=21						
AML	Almayashu	3.86	35	P	Pn	03 36 16.3	+4.0
	SNR=26						
ARLS	Aral	3.96	43	↑eP	Pn	03 36 15.2	+1.7
ARLS				↑iS	Sn	03 37 01.7	+1.6
	baz=44						
BRLS	Borolday	4.06	351	eP	Pn	03 36 17.9	+3.1
BRLS				eS	Sn	03 37 03.7	+1.3
	3.3nm,0.3s						
	11nm,0.3s						
KK09	Karatay Array	4.11	358	↑Pn	Pn	03 36 17.2	+1.8
KK09				↑Sn	Sb	03 37 10.5	-4.0
	8.2nm,0.6s,baz=186,slow=13						
	11nm,0.6s,baz=180,slow=28						
MRKS	Merke	4.19	26	eP	Pb	03 36 22.9	-3.5
MRKS				eS	Sb	03 37 12.7	-4.3
	5.1nm,0.2s						
	18nm,0.4s						
UCH	Uchtor	4.32	41	P	Pn	03 36 22.9	+4.2
	SNR=28						
EKS2

2.0nm,0.5s
DGS eS **Sb** **03 37 53.4 -7.1**
5.2nm,0.5s
KRBS Karabastau 5.99 37 eP Pn 03 36 47.6 +6.4
1.4nm,0.8s
KRBS eS **Sn** **03 37 54.6 +4.8**
3.7nm,0.8s
KTBS Karatobe 6.50 42 eP Pb 03 36 58.5 -7.2
0.8nm,0.5s
KTBS eS Sb 03 38 13.0 -10
3.5nm,0.5s
BTLS Baital 6.51 21 eP **Pb** **03 37 05.9 0.0**
1.6nm,0.9s
BTLS eS **Sb** **03 38 26.1 +2.3**
4.0nm,0.0s
AB31 Akbulak array 12.81 327 Pn **Pn** **03 38 12.8 -1.8**
2.0nm,0.6s,baz=138,slow=12,SNR=65
AB31 ⇑Sn **Sn** **03 40 39.6 +2.4**
1.3nm,0.6s,baz=134,slow=24,SNR=5.0
AKTO Aktyubinsk 14.52 326 ⇓Pn **Pn** **03 38 37.2 -0.8**
2.5nm,0.9s
AKTO ⇑Sn **Sn** **03 41 23.0 +4.0**
6.5nm,1.1s

*IDC **08** 03:48:57.2±0.6, 60°.69S×26°.78W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.3/18, mbtmp4.4/9, MS3.7/13, Ms1 3.7/13, ms1mx3.5/42, Error ellipse: s-maj=23.9km s-min=20.8km az=44.0*
*NEIC **08** 03:49:03.5±1.1, 60°.7S±0°.1×26°.8W±0°.3, h48km±6km, mb4.8/33, Error ellipse: s-maj=21.9km s-min=12.7km az=51.0*
ISC 08 03:49:01.2±0.5, 60°.8S±0°.1×26°.6W±0°.1, h35km, n65, σ1§33/48, mb4.8/24, MS3.8/12, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.41**	**316**	Pn	**Pn**	**03 51 01.2**	**+0.8**
SNAA	**Sanae**	**14.37**	**149**	P	**Pn**	**03 52 19.1**	**-2.7**
SNAA				S	Sn	03 54 49.1	-11
SNAA	**Sanae**	**14.37**	**149**	Pn	**Pn**	**03 52 18.8**	**-3.0**
0.3nm,0.3s,baz=5.9,slow=23,SNR=5.9							
SNAA				Sn	Sn	03 54 49.0	-11
0.4nm,0.3s,baz=16,slow=17,SNR=2.2							
SNAA				LR	LR	03 56 43.4	
comp=Z,255nm,21.0s,baz=330,slow=32							
SYO	**Syowa Base**	**27.84**	**135⇑**	eP	**P**	**03 54 46.4**	**-0.3**
QSPA	**South Pole Qui**	**29.45**	**180**	LR	LR	04 06 41.9	
comp=Z,212nm,19.3s,baz=242,slow=36							
QSPA	**South Pole Qui**	**29.45**	**180**	P	**P**	**03 55 03.4**	**+2.0**
QSPA				IAmb	IAmb	03 55 06.1	
comp=Z,27nm,1.3s							
PLCA	**Paso Flores**	**33.42**	**287**	P	**P**	**03 55 35.8**	**-0.5**
comp=Z,0.8nm,0.5s,baz=122,slow=7.6,SNR=5.6							
ITQB	**Itaqui**	**36.99**	**314**	P	**P**	**03 56 06.2**	**-0.8**
ML02	**Panimavida**	**37.82**	**291**	P	**P**	**03 56 15.5**	**+1.5**
ML02				IAmb	IAmb	03 56 19.0	
comp=Z,7.6nm,0.6s							
GO05	**Huala**	**38.68**	**291**	P	**P**	**03 56 21.6**	**+0.3**
GO05				IAmb	IAmb	03 56 23.6	
comp=Z,8.5nm,0.6s							
BO01	**Tunca**	**38.81**	**292**	P	**P**	**03 56 22.1**	**-0.2**
BO01				IAmb	IAmb	03 56 23.7	
comp=Z,13nm,1.1s							
MT09	**Talagante**	**39.28**	**293**	P	**P**	**03 56 25.5**	**-0.9**
MT09				IAmb	IAmb	03 56 27.9	
comp=Z,17nm,0.9s							
MT01	**Popeta**	**39.32**	**293**	P	**P**	**03 56 25.9**	**-0.8**
MT01				IAmb	IAmb	03 56 28.0	
comp=Z,15nm,0.8s							
VA05	**Santo Domingo**	**39.66**	**292**	P	**P**	**03 56 29.5**	**+0.1**
PEL	**Peldehue**	**39.67**	**294**	P	**P**	**03 56 29.5**	**-0.1**
MT02	**Curacav**	**39.78**	**293**	P	**P**	**03 56 30.8**	**+0.4**
ZON	**Zonda**	**40.14**	**297**	P	**P**	**03 56 33.1**	**-0.4**
ZON				IAmb	IAmb	03 56 35.0	
comp=Z,25nm,1.4s							
CPUP	**Villa Florida**	**40.29**	**315**	P	**P**	**03 56 34.5**	**-0.2**
comp=Z,3.7nm,0.4s,baz=159,slow=7.9,SNR=17							
CPUP	**Villa Florida**	**40.29**	**315**	P	**P**	**03 56 34.0**	**-0.7**
CPUP				IAmb	IAmb	03 56 35.3	
comp=Z,13nm,1.1s							
CO03	**El Pedregal**	**41.63**	**296**	P	**P**	**03 56 46.2**	**+0.3**
CO03				IAmb	IAmb	03 56 52.1	
comp=Z,6.2nm,0.5s							
SUR	**Sutherland**	**41.80**	**69**	LR	LR	04 09 45.5	
comp=Z,81nm,18.7s,baz=214,slow=30							
VNDA	**Vanda**	**41.85**	**183**	P	**P**	**03 56 48.4**	**+1.4**
comp=Z,2.4nm,0.7s,baz=208,slow=7.9,SNR=6.4							
VNDA				LR	LR	04 12 55.5	
comp=Z,86nm,21.4s,baz=164,slow=34							
VNDA	**Vanda**	**41.85**	**183**	IAmb	IAmb	03 56 56.8	
comp=Z,7.7nm,1.2s							
GO04	**Tololo Observa**	**42.25**	**296**	IAmb	IAmb	03 56 55.5	
comp=Z,13nm,0.6s							
AC04	**Llanos de Chal**	**44.07**	**297**	P	**P**	**03 57 05.6**	**+0.1**
AQDB	**Aquidauana**	**45.18**	**320**	P	**P**	**03 57 14.2**	**-0.2**
BOSA	**Boshof**	**47.02**	**71**	P	**P**	**03 57 30.3**	**+1.3**
comp=Z,2.0nm,0.8s,baz=225,slow=11,SNR=2.6							
BOSA				LR	LR	04 12 37.2	
comp=Z,58nm,21.1s,baz=216,slow=30							
BOSA	**Boshof**	**47.02**	**71**	IAmb	IAmb	03 57 38.0	
comp=Z,13nm,1.4s							
LVC	**Limon Verde**	**48.07**	**303**	LR	LR	04 16 03.9	
comp=Z,62nm,21.9s,baz=338,slow=34							
PB09	**IPOC Station P**	**48.93**	**303**	IAmb	IAmb	03 57 46.4	
comp=Z,8.9nm,0.8s							
LBTB	**Lobatse**	**50.25**	**69**	LR	LR	04 14 33.6	
comp=Z,65nm,20.2s,baz=222,slow=30							
PB08	**IPOC Station P**	**50.38**	**304**	IAmb	IAmb	03 57 56.3	
comp=Z,4.5nm,0.7s							
PTLB	**Pontes e Lacer**	**50.99**	**318**	P	**P**	**03 57 58.6**	**-0.7**
PTLB				IAmb	IAmb	03 58 00.9	
comp=Z,9.8nm,0.8s							
SIV	**San Ignacio**	**51.14**	**316**	LR	LR	04 19 14.4	
comp=Z,91nm,20.9s,baz=95,slow=36							
PB16	**IPOC Station P**	**52.15**	**305**	P	**P**	**03 58 07.1**	**-1.5**
H10S2	**ASCENSION HYDR**	**52.48**	**15**	T	T	04 55 03.4	
baz=187,slow=74,SNR=7.7							
H10S3	**ASCENSION HYDR**	**52.48**	**15**	T	T	04 55 08.2	
baz=33,slow=74,SNR=8.8							
LPAZ	**La Paz**	**53.45**	**308**	P	**P**	**03 58 18.8**	**+0.5**
comp=Z,5.1nm,0.4s,baz=139,slow=5.2,SNR=27							
LPAZ	**La Paz**	**53.45**	**308**	P	**P**	**03 58 18.3**	**-0.1**
LPAZ				IAmb	IAmb	03 58 22.5	
comp=Z,16nm,1.3s							
VILB	**Vilhena**	**53.68**	**318**	P	**P**	**03 58 18.2**	**-1.0**
ETMB	**Extrema**	**58.67**	**313**	P	**P**	**03 58 54.4**	**-0.5**
LSZ	**Lusaka**	**59.91**	**66**	LR	LR	04 21 14.0	
comp=Z,69nm,18.2s,baz=278,slow=32							
CZSB	**Cruzeiro do Su**	**63.04**	**307**	P	**P**	**03 59 23.8**	**-0.8**
CZSB				IAmb	IAmb	03 59 26.2	
comp=Z,13nm,1.1s							
MDP	**Montagnes des**	**68.77**	**332**	LR	LR	04 30 46.1	
comp=Z,107nm,18.2s,baz=57,slow=36							
LIC	**Lamto**	**68.91**	**23**	eP	**P**	**04 00 02.4**	**+0.2**
comp=Z,17nm,0.8s							
KIC	**Kosan Boka**	**69.10**	**23**	eP	**P**	**04 00 04.0**	**+0.6**
comp=Z,8.6nm,0.8s							
TIC	**Toumodi**	**69.32**	**23**	eP	**P**	**04 00 06.7**	**+1.9**
DBIC	**Dimbokro**	**69.38**	**23**	P	**P**	**04 00 05.5**	**+0.4**
comp=Z,2.3nm,0.4s,baz=187,slow=6.2,SNR=9.9							
DBIC	**Dimbokro**	**69.38**	**23**	IAmb	IAmb	04 00 07.8	
comp=Z,7.0nm,1.1s							
MBAR	**Mbarara**	**74.09**	**61**	LR	LR	04 30 55.3	
comp=Z,40nm,18.4s,baz=240,slow=34							
TORD	**Torodi Ar. Bea**	**77.05**	**28**	P	**P**	**04 00 51.7**	**+1.4**
comp=Z,11nm,0.6s,baz=201,slow=5.6,SNR=66							
TORD	**Torodi Ar. Bea**	**77.05**	**28**	P	**P**	**04 00 50.6**	**+0.2**
TORD				IAmb	IAmb	04 00 53.9	
comp=Z,10nm,0.7s							
SDV	**Santo Domingo**	**77.60**	**315**	P	**P**	**04 00 51.7**	**-2.1**
STKA	**Stephens Creek**	**87.17**	**170**	P	**P**	**04 01 45.7**	**+2.3**
comp=Z,1.1nm,0.7s,baz=162,slow=9.1,SNR=2.8							
STKA				LR	LR	04 40 51.1	
comp=Z,80nm,18.3s,baz=47,slow=36							
ATD	**Arta Tunnel**	**90.23**	**67**	LR	LR	04 38 28.5	
comp=Z,37nm,20.5s,baz=86,slow=33							
ASAR	**Alice Springs**	**94.37**	**162**	P	**P**	**04 02 18.4**	**+1.3**
comp=Z,0.9nm,0.7s,baz=192,slow=4.1,SNR=8.2							
AS31	**Alice Springs**	**94.37**	**162**	P	**P**	**04 02 16.2**	**-1.0**
PDAR	**Pinedale Array**	**123.05**	**299**	PKP	**PKiKP**	**04 07 54.2**	**+0.9**
comp=Z,0.4nm,0.7s,baz=131,slow=5.0,SNR=4.4							
FINES	**FINESS Array B**	**128.40**	**29**	PKP	**PKiKP**	**04 08 05.2**	**+2.2**
comp=Z,0.8nm,0.7s,baz=116,slow=4.4,SNR=4.6							
ARCES	**ARCESS Array B**	**135.20**	**23**	PKP	**PKiKP**	**04 08 17.1**	**+0.5**

comp=Z,3.7nm,1.0s,baz=212,slow=3.2,SNR=1.8
YKA Yellowknife Ar 139.81 314 PKP **PKiKP** **04 08 25.0 -1.1**
comp=Z,0.9nm,0.6s,baz=134,slow=2.4,SNR=12
INK Inuvik 149.55 315 PKPbc **PKiKP** **04 08 45.8 -0.2**
comp=Z,2.3nm,0.6s,baz=58,slow=2.4,SNR=14
INK Inuvik 149.55 315 **PKiKP** **04 08 45.1 -0.9**
SONM Songino Array 150.37 94 PKPbc **PKPab** **04 08 50.4 -3.9**
comp=Z,1.4nm,0.9s,baz=208,slow=3.2,SNR=8.4
ILAR Eielson Array 153.31 305 PKPbc **PKiKP** **04 08 55.2 +1.4**
comp=Z,2.2nm,0.8s,baz=151,slow=1.5,SNR=28

*IDC **08** 04:23:24.4±0.9, 23°.91N×121°.85E, h0km, mb3.4/3, mb1 3.7/3, mb1mx2.9/47, mbtmp3.4/3, Error ellipse: s-maj=38.4km s-min=20.7km az=74.0*
*JMA **08** 04:23:27.8, 23°.94N×121°.61E, h22km±1km, M3.2*
*TAP **08** 04:23:28.9, 23°.98N×121°.63E, h24km, ML3.8, C*
ISC 08 04:23:28.6±0.8, 23°.94N±0°.02×121°.66E±0°.02, h26km±4km, n124, σ1§03/192, mb3.5/3, 12C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.06**	**305**	⇑iP	**Pb**	**04 23 33.5**	**+0.3**
HWA				S	**Sb**	**04 23 37.7**	**+1.4**
TWD	**Chiawan**	**0.15**	**337**	⇑iP	**Pb**	**04 23 33.5**	**-0.3**
TWD				S	**Sb**	**04 23 36.8**	**-0.5**
ETL	**Fush Village**	**0.22**	**351**	iP	**Pb**	**04 23 34.3**	**-0.4**
ETL				S	**Sb**	**04 23 38.0**	**-0.8**
NACB	**Ninganchiao**	**0.24**	**346**	⇑iP	**Pb**	**04 23 34.4**	**-0.5**
NACB				S	**Sb**	**04 23 38.6**	**-0.6**
ESL	**Shilin**	**0.24**	**238**	⇓iP	**Pb**	**04 23 34.9**	**0.0**
ESL				S	**Sb**	**04 23 39.7**	**+0.4**
ETLH	**Xiulin Townshi**	**0.31**	**328**	⇓iP	**Pb**	**04 23 35.4**	**-0.6**
ETLH				S	**Sb**	**04 23 40.2**	**-0.8**
EGFH	**Guangfu**	**0.35**	**218**	⇑P	**Pn**	**04 23 36.6**	**-1.3**
EGFH				eS	**Sn**	**04 23 42.2**	**-1.8**
EHP	**Heping Village**	**0.37**	**12**	eP	**Pb**	**04 23 36.7**	**-0.2**
EHP				eS	**Sb**	**04 23 42.5**	**0.0**
WHF	**Hehuan Shan**	**0.41**	**299**	⇓iP	**Pb**	**04 23 37.1**	**-0.7**
WHF				iS	**Sb**	**04 23 43.1**	**-0.9**
OWD	**Renai**	**0.44**	**272**	⇓iP	**Pn**	**04 23 37.8**	**-1.6**
OWD				eS	**Sb**	**04 23 43.9**	**-0.6**
CHGB	**Renai**	**0.46**	**285**	⇓iP	**Pn**	**04 23 38.1**	**-1.6**
CHGB				S	**Sb**	**04 23 44.5**	**-0.5**
FUSS	**Fushou**	**0.49**	**309**	⇓iP	**Pb**	**04 23 38.5**	**-0.3**
FUSS				S	**Sb**	**04 23 45.0**	**-0.7**
ENA	**Nanau**	**0.49**	**9**	iP	**Pb**	**04 23 38.4**	**-0.3**
ENA				S	**Sb**	**04 23 45.6**	**+0.1**
HGSD	**Ruisui**	**0.50**	**206**	eP	**Pn**	**04 23 39.8**	**-0.3**
HGSD				eS	**Sn**	**04 23 50.0**	**+2.2**
VWDT	**VWDT**	**0.51**	**248**	⇑iP	**Pn**	**04 23 39.3**	**-0.9**
VWDT				S	**Sn**	**04 23 46.5**	**-1.5**
EWUT	**Wuta**	**0.51**	**12**	⇑iP	**Pb**	**04 23 38.9**	**-0.2**
EWUT				S	**Sb**	**04 23 46.0**	**-0.2**
EHY	**Hungye**	**0.53**	**215**	⇑iP	**Pb**	**04 23 38.9**	**-0.6**
EHY				eS	**Sn**	**04 23 49.0**	**+0.3**
TWT	**Tachien**	**0.54**	**305**	⇓iP	**Pn**	**04 23 39.6**	**-1.2**
TWT				S	**Sb**	**04 23 47.0**	**-0.1**
NNSB	**Datong**	**0.55**	**333**	⇓iP	**Pb**	**04 23 39.1**	**-0.6**
NNSB				S	**Sb**	**04 23 46.4**	**-0.9**
TDCB	**Techi**	**0.55**	**304**	⇓iP	**Pn**	**04 23 39.6**	**-1.3**
TDCB				S	**Sb**	**04 23 46.8**	**-0.7**
NNS	**Nan Shan**	**0.56**	**332**	⇓iP	**Pb**	**04 23 39.4**	**-0.6**
NNS				S	**Sb**	**04 23 46.9**	**-0.8**
YULB	**Yu-li**	**0.64**	**211**	eP	**Pb**	**04 23 40.4**	**-0.9**
SSLB	**Suanglung**	**0.66**	**257**	⇑iP	**Pn**	**04 23 41.4**	**-1.0**
SSLB				eS	**Sb**	**04 23 49.4**	**-1.1**
EYUL	**Yuli**	**0.67**	**208**	eP	**Pn**	**04 23 43.0**	**+0.6**
NDT	**Datong Townshi**	**0.67**	**349**	eP	**Pb**	**04 23 41.2**	**-0.5**
NDT				eS	**Sb**	**04 23 50.8**	**+0.1**
TWC	**Suao**	**0.69**	**15**	eP	**Pn**	**04 23 41.9**	**-0.7**
TWC				eS	**Sn**	**04 23 51.7**	**-0.8**
NDS	**Dongshan**	**0.69**	**4**	eP	**Pn**	**04 23 41.8**	**-0.9**
NDS				eS	**Sb**	**04 23 51.3**	**+0.1**
WCS	**Beigang Elemen**	**0.69**	**280**	⇑iP	**Pb**	**04 23 40.7**	**-1.4**
WCS				eS	**Sb**	**04 23 50.2**	**-1.1**
SMLT	**Sun Moon Lake**	**0.70**	**265**	⇑iP	**Pn**	**04 23 42.2**	**-0.7**
SMLT				S	**Sn**	**04 23 51.6**	**-1.3**
ENTT	**Nioudou**	**0.70**	**353**	⇓iP	**Pb**	**04 23 41.7**	**-0.6**
ENTT				eS	**Sb**	**04 23 51.3**	**-0.2**
WHP	**Taichung City**	**0.73**	**297**	eP	**Pn**	**04 23 42.7**	**-0.7**
WHP				eS	**Sn**	**04 23 52.3**	**-1.4**
TYC	**Yuchr**	**0.73**	**267**	⇑iP	**Pn**	**04 23 42.6**	**-0.7**
TYC				eS	**Sn**	**04 23 52.0**	**-1.7**
YHNB	**Yeheng**	**0.77**	**340**	⇓iP	**Pb**	**04 23 42.9**	**-0.6**
YHNB				eS	**Sb**	**04 23 52.4**	**-1.1**
TWE	**Neicheng**	**0.78**	**1**	P	**Pb**	**04 23 43.1**	**-0.4**
NSK	**Sanguang**	**0.78**	**339**	⇓P	**Pb**	**04 23 43.1**	**-0.6**
NSK				eS	**Sb**	**04 23 52.9**	**-0.9**
FULB	**Fuli**	**0.81**	**204**	eP	**Pn**	**04 23 44.2**	**-0.2**
ILA	**Ilan**	**0.82**	**6**	eP	**Pb**	**04 23 42.9**	**-1.4**
ILA				eS	**Sn**	**04 23 55.8**	**-0.1**
NWLT	**Wulai**	**0.84**	**350**	P	**Pb**	**04 23 44.0**	**-0.7**
NWLT				eS	**Sb**	**04 23 54.2**	**-1.4**
WJS	**Zhushan**	**0.86**	**262**	eP	**Pn**	**04 23 45.8**	**+0.7**

WJS				eS	**Sn**	**04 23 58.0**	**+1.2**
baz=261							
CHKT	**Chengkung**	**0.88**	**198**	eP	**Pn**	**04 23 45.0**	**-0.4**
baz=205							
CHKT				eS	**Sn**	**04 23 59.4**	**+2.1**
baz=205							
ALS	**Alishan**	**0.89**	**241**	⇑P	**Pn**	**04 23 45.8**	**+0.1**
baz=238							
WNT	**Mingjian**	**0.90**	**266**	P	**Pn**	**04 23 46.2**	**+0.7**
baz=263							
WNT				S	**Sn**	**04 23 58.7**	**+1.1**
baz=263							
TWQ1	**Liyutan**	**0.90**	**297**	eP	**Pn**	**04 23 46.3**	**+0.7**
baz=294							
TWQ1				eS	**Sn**	**04 23 57.7**	**-0.2**
baz=294							
NSTT	**Nanjuang**	**0.91**	**319**	eP	**Pn**	**04 23 45.8**	**0.0**
baz=317							
NSTT				eS	**Sb**	**04 23 55.9**	**-1.6**
baz=317							
LIOB	**Emei**	**0.91**	**320**	P	**Pn**	**04 23 46.2**	**+0.4**
baz=318							
LIOB				eS	**Sn**	**04 23 57.6**	**-0.5**
baz=318							
NTC	**Toucheng**	**0.92**	**10**	eP	**Pn**	**04 23 46.2**	**+0.3**
baz=360							
TCU	**Taichung**	**0.92**	**283**	eP	**Pn**	**04 23 46.5**	**+0.6**
baz=281							
TCU				eS	**Sn**	**04 23 59.8**	**+1.5**
baz=281							
NSY	**Sanyi**	**0.95**	**300**	eP	**Pn**	**04 23 47.6**	**+1.4**
baz=298							
NSY				eS	**Sn**	**04 23 59.7**	**+0.8**
baz=298							
ELDTW	**Lidau**	**0.95**	**218**	eP	**Pb**	**04 23 45.4**	**-1.2**
baz=205							
CHN5	**Tsauling**	**0.96**	**249**	eP	**Pn**	**04 23 47.3**	**+0.7**
baz=247							
CHN5				eS	**Sn**	**04 24 01.3**	**+1.9**
baz=247							
NMLH	**Miaoli**	**0.99**	**307**	P	**Pn**	**04 23 48.4**	**+1.6**
baz=305							
NMLH				eS	**Sn**	**04 24 01.1**	**+1.2**
baz=305							
WDJ	**Dajia District**	**1.01**	**294**	eP	**Pn**	**04 23 48.2**	**+1.0**
baz=291							
WDJ				eS	**Sn**	**04 24 01.8**	**+1.2**
baz=291							
WCHH	**Zhanghua**	**1.02**	**278**	eP	**Pn**	**04 23 48.1**	**+0.9**
baz=276							
WCHH				eS	**Sn**	**04 24 00.7**	**+0.1**
baz=276							
EDH	**Donghe**	**1.02**	**199**	eP	**Pn**	**04 23 47.0**	**-0.3**
baz=206							
NHDH	**Xindian Distri**	**1.02**	**353**	eP	**Pn**	**04 23 47.2**	**-0.1**
baz=355							
NHDH				eS	**Sb**	**04 23 59.9**	**-0.9**
baz=355							
TWA	**Mucha**	**1.03**	**356**	eP	**Pb**	**04 23 47.3**	**-0.6**
baz=344							
TWA				eS	**Sn**	**04 24 00.7**	**-0.5**
baz=344							
TIPB	**Shuangxi**	**1.04**	**8**	eP	**Pb**	**04 23 47.8**	**-0.1**
baz=358							
TIPB				eS	**Sn**	**04 24 01.8**	**+0.6**
baz=358							
SBCB	**Hsinchu**	**1.04**	**324**	eP	**Pb**	**04 23 49.8**	**+1.7**
baz=322							
SBCB				eS	**Sn**	**04 24 03.9**	**+2.5**
baz=322							
WDLH	**Douliu**	**1.06**	**256**	eP	**Pb**	**04 23 48.2**	**0.0**
baz=254							
HSN	**Hsinchu**	**1.06**	**324**	eP	**Pb**	**04 23 49.1**	**+0.7**
baz=325							
HSN				eS	**Sn**	**04 24 03.5**	**+1.7**
baz=325							
TWB1	**Santiao Chiao**	**1.10**	**16**	eP	**Pb**	**04 23 49.8**	**+0.8**
baz=4.0							
TWB1				eS	**Sn**	**04 24 04.0**	**+1.3**
baz=4.0							
NCUH	**Zhongli**	**1.11**	**337**	eP	**Pb**	**04 23 49.4**	**+0.2**
baz=334							
NCUH				eS	**Sn**	**04 24 04.4**	**+1.4**
baz=334							
NCU	**National Centr**	**1.11**	**337**	eP	**Pb**	**04 23 50.2**	**+1.0**
baz=334							
NCU				eS	**Sn**	**04 24 04.6**	**+1.7**
baz=334							
STYH	**Taoyuan**	**1.12**	**227**	eP	**Pb**	**04 23 49.2**	**-0.1**
baz=209							
NWF	**Wu-fen Shan**	**1.13**	**6**	eP	**Pb**	**04 23 49.2**	**-0.4**
baz=352							
NWF				eS	**Sn**	**04 24 03.9**	**+0.3**
baz=352							
LONT	**Longtian**	**1.14**	**205**	eP	**Pn**	**04 23 47.7**	**-1.2**
baz=186							
TPUB	**Ta-pu**	**1.14**	**236**	eP	**Pb**	**04 23 50.1**	**+0.4**
baz=224							
TPUB				eS	**Sn**	**04 24 05.7**	**+2.0**
baz=224							
CHN2	**Minshiung**	**1.16**	**250**	eP	**Pb**	**04 23 51.2**	**+1.2**
baz=248							
TWS1	**Kuangyinshan**	**1.17**	**349**	eP	**Pb**	**04 23 50.2**	**0.0**
baz=350							
WRL	**Guolierlin Hig**	**1.17**	**268**	eP	**Pb**	**04 23 50.3**	**+0.1**
baz=267							
WRL				eS	**Sn**	**04 24 05.7**	**+1.2**
baz=267							
WTP	**Ta-pu**	**1.18**	**234**	eP	**Pb**	**04 23 50.5**	**+0.1**
baz=231							
WTK	**Tuku**	**1.19**	**258**	eP	**Pb**	**04 23 50.9**	**+0.4**
baz=256							
YM01	**YM01**	**1.20**	**356**	eP	**Pb**	**04 23 50.5**	**-0.3**
baz=357							
CHY	**Chiayi**	**1.22**	**249**	eP	**Pb**	**04 23 51.2**	**+0.3**
baz=247							
NTST	**Danshui**	**1.23**	**351**	eP	**Pb**	**04 23 51.1**	**-0.1**
baz=351							
TWGBT	**Beinan**	**1.24**	**206**	P	**Pn**	**04 23 48.9**	**-1.4**
baz=186							
ANP	**Anpu**	**1.25**	**354**	eP	**Pb**	**04 23 51.2**	**-0.3**
baz=355							
WTCT	**Ta-ch'eng**	**1.26**	**267**	eP	**Pb**	**04 23 51.7**	**-0.1**
baz=279							
WTCT				eS	**Sb**	**04 24 09.7**	**+2.1**
baz=279							
TWK	**Hsinying**	**1.27**	**238**	eP	**Pb**	**04 23 52.2**	**+0.3**
baz=236							
LDUT	**Ludao**	**1.28**	**188**	eP	**Pn**	**04 23 49.3**	**-1.5**
baz=184							
JYNG	**Yonagunijimaku**	**1.28**	**66**	P	**Pb**	**04 23 51.6**	**-0.4**
JYNG				S	**Sb**	**04 24 08.2**	**+0.1**
CHN1	**Nanshi**	**1.28**	**234**	eP	**Pb**	**04 23 52.5**	**+0.4**
baz=233							
CHN1				eS	**Sb**	**04 24 11.2**	**+3.0**
baz=233							
SNST	**Tainan City**	**1.29**	**236**	eP	**Pb**	**04 23 52.6**	**+0.4**
baz=235							
SGST	**Jiashian**	**1.31**	**229**	eP	**Pb**	**04 23 51.9**	**-0.7**
baz=211							
SLGT	**Liugui**	**1.33**	**225**	eP	**Pb**	**04 23 52.9**	**+0.1**
baz=222							
YOJ	**Yonaguni jima**	**1.34**	**67**	P	**Pb**	**04 23 52.4**	**-0.6**
YOJ				eS	**Sb**	**04 24 09.4**	**-0.4**
YOJ	**Yonaguni jima**	**1.34**	**67**	eP	**Pb**	**04 23 52.5**	**-0.6**
baz=71							
WSF	**Szhu**	**1.35**	**257**	eP	**Pb**	**04 23 53.7**	**+0.4**
baz=256							
WSF				eS	**Sb**	**04 24 12.5**	**+2.4**
baz=256							
ICHU	**Yijhu**	**1.39**	**246**	eP	**Pb**	**04 23 53.6**	**-0.4**
baz=245							
ICHU				eS	**Sb**	**04 24 12.7**	**+1.4**
baz=245							
CHN8	**Yiju**	**1.46**	**246**	eP	**Pb**	**04 23 54.7**	**-0.3**
baz=245							
ECL	**Taimali**	**1.49**	**206**	eP	**Pn**	**04 23 53.2**	**-0.4**
baz=189							
SSD	**Sandimen**	**1.52**	**219**	eP	**Pb**	**04 23 56.9**	**+0.7**
baz=214							
TSMG	**Majia**	**1.54**	**217**	eP	**Pb**	**04 23 56.8**	**+0.2**
baz=213							
TWM1	**Shoushan**	**1.59**	**226**	eP	**Pb**	**04 23 58.9**	**+1.5**
baz=222							
MASBT	**Mashibuluo**	**1.63**	**216**	eP	**Pb**	**04 23 56.2**	**-1.7**
baz=211							
EAST	**Anshuo**	**1.72**	**206**	eP	**Pb**	**04 23 58.9**	**-0.7**
baz=191							

SSPT	Xinbi	1.77 215	*e*P		Pb	04 23 59.1	-1.2
	baz=210						
SCZT	Fangliau	1.83 212	*e*P		Pb	04 24 00.4	-1.1
	baz=191						
SLIU	Shizi	1.89 205	*e*P		Pb	04 24 01.0	-1.5
	baz=189						
IRIF	Iriomote-Funau	1.93 78	P		Pn	04 24 00.7	+0.9
IRIF			S		Sn	04 24 24.3	+1.1
LYUB	Lan-yu	1.93 182	*e*P		Pn	04 23 57.2	-2.6
	baz=178						
WDGT	Dungji	1.96 250	*e*P		Pn	04 24 00.6	+0.5
	baz=251						
PHUB	P'eng-hu	1.96 258	*e*P		Pn	04 24 00.8	+0.7
	baz=259						
PNG	Penghu	1.96 259	*e*P		Pn	04 24 00.6	+0.4
	baz=261						
HATJ	Hateruma jima	1.97 86	P		Pn	04 24 01.2	+1.0
HATJ			*e*S		Sn	04 24 24.7	+0.6
HEN	Hengchun	2.11 204	*e*P		Pb	04 24 04.7	-1.4
	baz=189						
TWK1	Hengchun	2.14 202	*e*P		Pb	04 24 05.5	-1.2
	baz=188						
TWKBT	Hengchun	2.14 202	*e*P		Pb	04 24 05.2	-1.6
	baz=188						
JKRS	Kuro-shima	2.17 82	P		Pn	04 24 04.4	+1.4
VCHM	Qimei	2.17 251	*e*P		Pb	04 24 04.2	-3.0
	baz=236						
JIJ	Ishigaki jima	2.31 79	P		Pn	04 24 05.5	+0.6
JIJ			S		Sn	04 24 32.2	-0.3
JISG	Ishigakijimahi	2.50 75	P		Pn	04 24 08.3	+0.7
JISG			S		Sn	04 24 37.0	-0.3
PTMZ	Houxiangcun	2.56 296	*e*P		Pn	04 24 08.6	+0.2
	baz=295						
JTJ	Tarama	2.86 75	P		Pn	04 24 13.6	+1.0
JTJ			*e*S		Sn	04 24 48.6	+2.4
KNM	Kinmen	2.98 280	*e*P		Pn	04 24 16.3	+2.0
	baz=280						
KNMB	Chin-men Tao	3.03 281	*e*P		Pn	04 24 15.0	+0.1
	baz=281						
MHZQ	Yeshan	3.21 313	*e*P		Pn	04 24 17.3	-0.1
	baz=310						
XPSS	Dashiqiu	3.26 336	*e*P		Pn	04 24 17.2	-0.8
	baz=330						
AXDP	Jialang	3.50 287	*e*P		Pn	04 24 21.1	-0.2
	baz=286						
ZPLA	Ao Xicun	3.58 271	*e*P		Pn	04 24 22.6	+0.2
	baz=272						
SXFK	Yanhouchang	4.38 305	*e*P		Pn	04 24 33.1	-0.5
	baz=303						
MKAR	Makanchi Array	38.81 316	P		P	04 30 52.2	+0.9
	0.1nm,0.5s,baz=107,slow=12,SNR=2.1						
WRA	Warramunga Arr	45.34 163	P		P	04 31 43.8	-0.9
	0.5nm,0.8s,baz=344,slow=8.7,SNR=3.3						
YKA	Yellowknife Ar	83.02 23	P		P	04 35 51.2	-0.2
	0.3nm,0.6s,baz=313,slow=4.8,SNR=8.1						

NEIC ***08*** *04:32:22.7±2.6, 4°.04S±0°.08×142°.56E±0°.07, h10km±1km, mb4.6/33, Error ellipse: s-maj=17.1km s-min=5.5km az=41.0*
IDC ***08*** *04:32:34.6±0.6, 4°.07S×142°.18E, h109km±5km, mb4.0/16, mb1 4.2/21, mb1mx4.1/35, mbtmp4.5/21, MS2.8/2, Ms1 2.8/2, ms1mx2.5/58, Error ellipse: s-maj=15.3km s-min=10.9km az=85.0*
DJA ***08*** *04:32:35.7±0.3, 4°.3S×14°.2E±°, h69km±5km, M4.8/24, mB5.1/8, mb4.7/24, MLv5.2/4, Mw(mB)4.4/8*
ISC 08 04:32:34.7±0.4**, 4°.18S**±0°.05×**142°.12E**±0°.07**, h109**km**, n106,** σ1**45**/109**, mb4.4**/30**, 1C, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.17 319		P	Pn	04 33 08.5	-1.4
	22nm,0.3s,baz=168,slow=10,SNR=44						
JAY				S	Sn	04 33 36.0	-0.8
	93nm,0.3s,baz=171,slow=19,SNR=7.0						
JAY				LR	LR	04 33 47.1	
	comp=Z,165nm,20.3s,baz=72,slow=34						
JAY	Jayapura	2.17 319		P	Pn	04 33 10.0	+0.1
GENI	Genyem	2.50 309		P	Pn	04 33 13.9	-0.2
GENI	Genyem	2.50 309		P	Pn	04 33 14.0	-0.2
MMPI	Merauke	4.60 202		P	Pn	04 33 41.5	-0.6
BAKI	Biak	6.70 296		P	Pn	04 34 11.0	+0.5
	61nm,0.9s						
PMG	Port Moresby	7.21 136		P	Pn	04 34 18.4	+0.8
	5.0nm,0.3s,baz=322,slow=3.5,SNR=6.6						
PMG	Port Moresby	7.21 136		Pn	Pn	04 34 06.4	-11
COEN	Coen	9.77 174		Pn	Pn	04 34 50.4	-1.9
FAKI	Fak Fak	9.93 277		P	Pn	04 34 53.8	-0.6
	38nm,0.8s						
FAKI	Fak Fak	9.93 277			Pn	04 34 50.0	-4.4
FAKI	Fak Fak	9.93 277		P	Pn	04 34 54.2	-0.2
SIJI	Sorong	11.33 287		P	Pn	04 35 12.8	-0.6
	5.3nm,0.3s,baz=104,slow=7.7,SNR=5.2						
SIJI				LR	LR	04 39 52.3	
	comp=Z,80nm,21.8s,baz=76,slow=38						
SWI	Sorong	11.33 287		P	Pn	04 35 12.8	-0.6
	22nm,0.4s						
KDU	Kakadu	12.74 228		P	Pn	04 35 30.2	-1.8
DRS	Darwin Rock St	13.79 233		P	Pn	04 35 45.4	-0.3
MTN	Manton Dam	13.86 231		Pn	Pn	04 35 43.3	-3.2
MTN	Manton Dam	13.86 231		P	Pn	04 35 45.4	-1.1
WB0	Warramunga Arr	17.23 205			P	04 36 26.9	-1.6
WB0				IAmb	IAmb	04 36 45.1	
	comp=Z,32nm,1.0s						
WR0	Warramunga Arr	17.34 205		Pn	P	04 36 27.4	-2.3
WR0				IAmb	IAmb	04 36 31.0	
	comp=Z,48nm,0.8s						
WRAB	Tennant Creek	17.39 205			P	04 36 28.2	-2.2
WRAB				IAmb	IAmb	04 36 45.8	
	comp=Z,31nm,0.7s						
WRAB	Tennant Creek	17.39 205		P	P	04 36 30.5	+0.1
WB2	Warramunga Arr	17.40 205		P	P	04 36 29.2	-1.3
WB2				IAmb	IAmb	04 36 34.0	
	comp=Z,25nm,0.8s						
KNRA	Kununurra	17.41 228		Pn	P	04 36 28.8	-1.8
KNRA				IAmb	IAmb	04 36 36.1	
	comp=Z,62nm,0.9s						
KNRA	Kununurra	17.41 228		P	Pn	04 36 31.6	+0.7
WRA	Warramunga Arr	17.41 205		P	P	04 36 30.6	0.0
	comp=Z,4.0nm,0.3s,baz=27,slow=12,SNR=96						
WRA				S	Sn	04 39 44.0	-1.0
	comp=Z,0.6nm,0.3s,baz=17,slow=23,SNR=5.2						
WRA	Warramunga Arr	17.41 205		Pn	P	04 36 28.4	-2.1
SOEI	Soe	18.56 252		P	Pn	04 36 45.6	+0.8
	comp=Z,133nm,0.9s						
SOEI	Soe	18.56 252			P	04 36 43.9	+0.6
SOEI	Soe	18.56 252		P	Pn	04 36 45.3	+0.5
BATI	Baumata	19.26 251		P	Pn	04 36 52.7	-0.3
	comp=Z,11nm,0.3s,baz=75,slow=1.2,SNR=14						
BATI	Baumata	19.26 251		P	Pn	04 36 53.6	+0.6
	comp=Z,81nm,0.8s						
LUWI	Luwuk	19.57 279		P	Pn	04 36 58.9	+2.3
	comp=Z,8μmcomp=Z,64nm,0.7s						
LUWI	Luwuk	19.57 279			P	04 36 54.5	+0.2
MRSI	Marisa	20.68 282		P	Pn	04 37 10.6	+1.0
	comp=Z,77nm,0.7s						
APSI	Ampana	20.70 278		P	Pn	04 37 10.8	+1.0
	comp=Z,563nmcomp=Z,72nm,1.1s						
EDFI	Ende, Flores	20.79 256		P	P	04 37 07.4	-0.1
	comp=Z,10nm,0.8s						
AS31	Alice Springs	20.93 202		P	P	04 37 09.7	+0.8
ASAR	Alice Springs	20.94 202		P	P	04 37 09.6	+0.6
	comp=Z,6.9nm,0.6s,baz=32,slow=10.0,SNR=57						
ASAR				S	S	04 40 55.4	-0.9
	comp=Z,3.8nm,0.8s,baz=20,slow=22,SNR=5.6						
ASAR	Alice Springs	20.94 202		P	P	04 37 09.3	+0.4
FITZ	Fitzroy Crossi	21.25 228		P	P	04 37 12.3	+0.1
	comp=Z,16nm,0.6s,baz=49,slow=10,SNR=24						
BSSI	Bau Bau, Buton	21.63 264		P	P	04 37 19.8	+3.4
	comp=Z,27nm,0.8s						
BKSI	Bulukumba	21.95 266		P	P	04 37 23.7	+4.0
	comp=Z,560nmcomp=Z,49nm,0.9s						
BNSI	Bone	21.95 269		P	P	04 37 22.6	+2.8
	comp=Z,58nm,1.1s						
TOLI2	Tolitoli	21.96 283		P	P	04 37 23.6	+3.7
TOLI2				IAmb	IAmb	04 37 30.7	
	comp=Z,17nm,0.7s						
TOLI2	Tolitoli	21.96 283		P	P	04 37 21.9	+2.0
SPSI	Sidrap Palu	22.29 270		P	P	04 37 26.0	+2.7
	comp=Z,23nm,1.2s						
KAPI	Kappang	22.31 267		P	P	04 37 25.2	+1.7
	comp=Z,7.3nm,0.5s,baz=90,slow=3.7,SNR=9.4						
KAPI	Kappang	22.31 267		P	P	04 37 25.2	+1.7
KAPI				IAmb	IAmb	04 37 30.9	
	comp=Z,12nm,0.6s						
QLP	Quilpie	22.37 175		P	P	04 37 25.3	+1.3
MPSI	Mapaga	22.65 281		P	P	04 37 31.3	+4.3
	comp=Z,15nm,0.9s						
EIDS	Eidsvold	22.76 159		P	P	04 37 30.7	+2.7
OOD	Oodnadatta	24.27 194		P	P	04 37 42.9	+1.1
WRKA	Warakurna	24.63 211		P	P	04 37 46.0	+0.8
LCRK	Leigh Creek	26.39 188		P	P	04 38 01.9	+0.9
STKA	Stephens Creek	27.56 181		P	P	04 38 12.6	+1.1
	comp=Z,1.0nm,0.7s,baz=143,slow=17,SNR=2.8						
PSA00	Pilbara Seismi	27.68 229		P	P	04 38 14.1	+1.4
DZM	Mont Dzumac	29.54 129		P	P	04 38 29.7	+0.5
	comp=Z,3.9nm,0.4s,baz=244,slow=11,SNR=8.4						
MORW	Morawa	34.99 222		P	P	04 39 18.9	+2.2
MORW				IAmb	IAmb	04 39 19.1	
	comp=Z,12nm,0.9s						
MJAR	Matsushiro Arr	40.67 355		P	P	04 40 02.6	-1.8
	comp=Z,2.5nm,0.7s,baz=175,slow=11,SNR=4.5						
MJAR	Matsushiro Arr	40.67 355		IAmb	IAmb	04 40 04.7	
	comp=Z,4.2nm,1.2s						
KSRS	Korea Array	43.48 344		P	P	04 40 26.2	-0.9
	comp=Z,1.9nm,0.7s,baz=149,slow=9.9,SNR=6.5						
USRK	Ussuriysk Ar.	49.01 350		P	P	04 41 10.0	-0.4
	comp=Z,4.6nm,0.9s,baz=124,slow=9.5,SNR=4.2						
XAN	Xi'an	49.25 323		P	P	04 41 13.1	+0.6
XAN				pP	pP	04 41 27.6	-11
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LZH	Lanzhou	53.71 322		*e*P	P	04 41 47.0	+1.2
LZH				pP	pP	04 41 54.6	-17
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
GTA	Gaotai	58.28 322		⇑P	P	04 42 19.2	+0.9
GTA				pP	pP	04 42 35.2	-10
GTA				sP	sP	04 42 45.5	-11
PETK	Petropavlovsk-	58.57 11		P	P	04 42 19.7	-0.1
	comp=Z,8.2nm,0.9s,baz=168,slow=8.0,SNR=10						
PETK				pP	pP	04 42 46.6	+0.1
	comp=Z,5.4nm,1.0s,baz=179,slow=6.9,SNR=1.8						
SONM	Songino Array	60.52 333		P	P	04 42 33.7	+0.2
	comp=Z,0.6nm,0.6s,baz=135,slow=6.8,SNR=5.7						
MK31	Makanchi Array	73.03 322		P	P	04 43 52.4	-0.5
MKAR	Makanchi Array	73.03 322		P	P	04 43 53.0	+0.2
	comp=Z,2.7nm,0.7s,baz=104,slow=7.3,SNR=21						
MKAR				pP	pP	04 44 20.3	-0.1
	comp=Z,2.6nm,0.8s,baz=108,slow=7.8,SNR=6.2						
MAKZ	Makanchi	73.23 322		P	P	04 43 53.5	-0.5
MAKZ				IAmb	IAmb	04 43 54.6	
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	74.05 176		P	P	04 43 59.2	+1.1
	comp=Z,1.0nm,0.5s,baz=333,slow=7.2,SNR=9.4						
VNDA	Vanda	74.05 176		IAmb	IAmb	04 44 09.7	
	comp=Z,6.6nm,1.2s						
ZALV	Zalesovo Beam	74.92 329		P	P	04 44 02.5	-1.2
	comp=Z,1.3nm,0.4s,baz=121,slow=5.8,SNR=10.0						
ZALV				pP	pP	04 44 31.8	+0.5
	comp=Z,2.1nm,0.6s,baz=102,slow=5.6,SNR=6.1						
ZALV	Zalesovo Beam	74.92 329		P	P	04 44 03.4	-0.2
NIL	Nilore	74.93 306		P	P	04 44 04.7	+0.5
NIL				IAmb	IAmb	04 44 05.4	
	comp=Z,6.5nm,0.8s						
KURK	Kurchatov	76.87 324		P	P	04 44 14.4	-0.4
KURK				IAmb	IAmb	04 44 15.0	
	comp=Z,4.2nm,1.1s						
BTK	Batken	78.52 312		P	P	04 44 25.0	+0.7
KBL	Kabul	78.53 306		P	P	04 44 25.0	+0.4
KBL				IAmb	IAmb	04 44 30.8	
	comp=Z,2.4nm,0.5s						
KKAR	Karatay Array	79.56 315		P	P	04 44 29.8	0.0
NRIK	Noril'sk	82.09 343		P	P	04 44 42.3	-0.4
	comp=Z,2.2nm,0.5s,baz=120,slow=3.2,SNR=4.5						
NRIK	Noril'sk	82.09 343		P	P	04 44 43.0	+0.3
NRIK				IAmb	IAmb	04 44 43.3	
	comp=Z,7.1nm,1.1s						
K20K	Telida	82.31 24		P	P	04 44 43.1	-0.8
K20K				IAmb	IAmb	04 44 50.3	
	comp=Z,10nm,1.2s						
BRVK	Borovoye	82.53 325		P	P	04 44 45.3	0.0
BRVK				IAmb	IAmb	04 44 47.1	
	comp=Z,7.9nm,1.3s						
J20K	Nowinta River	82.63 23		P	P	04 44 45.4	-0.2
J20K				IAmb	IAmb	04 44 47.7	
	comp=Z,7.4nm,1.2s						
IMAR	Indian Mountai	83.56 22		P	P	04 44 50.0	-0.4
RND	Reindeer	84.49 25		P	P	04 44 53.0	-2.2
WRH	Wood River Hil	85.18 24		P	P	04 44 56.8	-1.7
IL31		85.77 24		P	P	04 44 59.2	-2.2
ILAR	Eielson Array	85.77 24		P	P	04 44 59.5	-1.9
	comp=Z,5.2nm,0.7s,baz=260,slow=4.5,SNR=60						
ILAR				pP	pP	04 45 27.6	-2.2
	comp=Z,5.1nm,0.9s,baz=256,slow=4.8,SNR=8.6						
QSPA	South Pole Qui	85.78 180		P	P	04 45 02.6	+0.9
BCAR	Beaver Creek A	87.44 26		P	P	04 45 09.5	-0.2
ABKAR	Akbulak array	88.03 319		P	P	04 45 11.6	-1.2
YKA	Yellowknife Ar	99.81 27		P	Pdif	04 46 05.1	-1.3
	comp=Z,0.4nm,0.9s,baz=283,slow=4.6,SNR=5.2						
PLCA	Paso Flores	126.23 149		PKP	PKiKP	04 51 25.9	+0.5
	comp=Z,1.3nm,0.8s,baz=321,slow=2.5,SNR=3.4						
TORD	Torodi Ar. Bea	139.93 285		PKP	PKPdf	04 51 51.4	+0.2
	comp=Z,0.4nm,0.6s,baz=72,slow=2.0,SNR=3.8						
LPAZ	La Paz	143.83 125		PKP	PKPdf	04 51 57.8	-1.2
	comp=Z,10nm,0.6s,baz=292,slow=1.8,SNR=67						
CPUP	Villa Florida	144.30 149		PKP	PKPdf	04 51 57.6	-1.1
	comp=Z,3.2nm,0.7s,baz=269,slow=3.2,SNR=7.6						
KIC	Kosan Boka	146.93 275		*e*PKP1	PKPbc	04 52 05.4	-0.3
	comp=Z,11nm,0.9s						
TBTG	Tabatinga, AM	146.94 104		PKPbc	PKPbc	04 52 05.1	-0.6
DBIC	Dimbokro	147.03 276		PKPbc	PKPbc	04 52 05.2	-0.7
	comp=Z,4.3nm,0.8s,baz=69,slow=3.2,SNR=8.1						
DBIC				pPKPbc	pPKPbc	04 52 34.5	-0.8
	comp=Z,3.5nm,0.6s,baz=136,slow=1.8,SNR=4.6						
DBIC	Dimbokro	147.03 276			PKPbc	04 52 05.1	-0.8
TIC	Toumodi	147.20 276		*e*PKP1	PKPbc	04 52 06.1	-0.3
LIC	Lamto	147.22 275		*e*PKP1	PKPbc	04 52 06.1	-0.4
	comp=Z,20nm,0.9s						
ETMB	Extrema	148.54 116		PKPbc	PKPbc	04 52 09.4	-0.5
AQDB	Aquidauana	149.90 145		PKPbc	PKiKP	04 52 13.8	-0.3

IPEC ***08*** *04:39:41.8±0.3, 51°.52N×16°.35E, h0km, ML2.7/3, Error ellipse: s-maj=2.8km s-min=1.7km az=69.0*
DNK ***08*** *04:39:41.6±1.6, 51°.58N×16°.35E, h0km±77km, ML1.9*
VIE ***08*** *04:39:43.0±0.8, 51°.45N×16°.17E, h0km, mb3.0/10, ml3.1/8, ms4.1/1, Error ellipse: s-maj=11.1km s-min=3.3km az=69.0 70 km NW of Wroclaw Suspected Mining induced.*
IDC ***08*** *04:39:43.1±0.6, 51°.46N×16°.09E, h0km, mb3.6/3, mb1 3.5/11, mb1mx3.4/44, mbtmp3.5/11, ML3.1/8, MS3.0/1, Ms1 3.0/1, ms1mx2.3/89, Error ellipse: s-maj=10.3km s-min=5.8km az=110.0*
PRU ***08*** *04:39:43.5±0.0, 51°.46N×16°.17E, h0km*
BGR ***08*** *04:39:44.3±0.5, 51°.41N×16°.15E, h1km, ML3.2/10, Error ellipse: s-maj=5.6km s-min=3.3km az=31.0*
ISC 08 04:39:40.9±0.6**, 51°.56N**±0°.03×**16°.24E**±0°.02**, h0**km**, n68,** σ1**11**/127**, mb3.7**/3**, 3C-4D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.72 178		*e*Pg	Pg	04 39 55.2	+0.5
KSP				*e*Sg	Sg	04 40 04.0	0.0
KSP	Ksiaz	0.72 178		*e*Pg	Pg	04 39 55.3	+0.5
KSP				*e*Sg	Sg	04 40 02.7	-1.4
CHVC	Chvalec	0.98 187		*e*PG	Pg	04 40 00.2	+0.5
CHVC				*e*SG	Sg	04 40 11.7	-0.7
UPC	Upice	1.06 188		*e*PG	Pg	04 40 01.5	+0.2
UPC				*e*SG	Sg	04 40 14.7	-0.4
	comp=Z,341nm,0.4s						
DPC	Dobruska-Polom	1.21 178		*e*PG	Pg	04 40 04.1	-0.1
DPC				*e*SG	Sg	04 40 17.8	-2.1
	comp=Z,151nm,0.5s						
DPC	Dobruska-Polom	1.21 178		*e*Pg	Pg	04 40 04.0	-0.1
DPC				*e*Sg	Sg	04 40 19.6	-0.3
PVCC	Panska Ves	1.48 226		*e*PG	Pn	04 40 09.0	+0.2
PVCC				*e*SG	Sg	04 40 28.5	+0.1
	comp=Z,308nm,0.3s						
KRLC	Kraliky	1.53 167		*e*PG	Pn	04 40 09.5	0.0
KRLC				*e*SG	Sg	04 40 28.9	-1.0
	comp=Z,68nm,0.4s						
BRG	Berggiesshubel	1.60 245		Pn	Pn	04 40 10.3	-0.2
BRG				Pg	Pb	04 40 11.8	+0.4
BRG				Sg	Sb	04 40 32.5	+0.3
BRG				Amp		04 40 35.7	
	comp=Z,142nm,0.4s						
BRG	Berggiesshubel	1.60 245		*e*Pn	Pn	04 40 10.3	-0.2
BRG				*e*Pg	Pg	04 40 12.0	+0.4
BRG				*e*Sg	Sb	04 40 32.5	+0.3
PRU	Pruhonice	1.91 215		*e*PN	Pn	04 40 14.4	-0.3
PRU				*e*PG	Pb	04 40 16.2	-0.4
PRU				*e*SG	Sn	04 40 40.0	+0.6
	comp=Z,120nm,0.6s						
FBE	Freiberg	1.93 252		*e*Pn	Pb	04 40 16.5	-0.4
FBE				*e*Sg	Sg	04 40 43.1	+0.3
RAC	Raciborz	1.93 139		*e*PG	Pg	04 40 18.5	+0.6
RAC				*e*SG	Sg	04 40 43.1	+0.3
MORC	Moravsky Berou	1.97 155		⇓P	Pn	04 40 15.8	+0.2
MORC				⇑S	Sn	04 40 39.6	-1.3
MORC	Moravsky Berou	1.97 155		*e*Pn	Pn	04 40 15.7	+0.2
	baz=337						
MORC				*e*Sg	Sn	04 40 41.2	+0.2
	comp=Z,43nm,0.4s,baz=337						
MORC	Moravsky Berou	1.97 155		*e*Pn	Pn	04 40 15.8	+0.2
CLL	Collm	2.04 264		*e*Pn	Pn	04 40 17.0	+0.4
CLL				*i* Pg	Pb	04 40 19.6	+0.7
CLL				*i* x	x	04 40 20.8	
CLL				*i* Sg	Sg	04 40 47.4	+0.8
	comp=Z,60nm,0.7s						
CLL	Collm	2.04 264		*e*Pn	Pn	04 40 16.7	+0.1
CLL				*e*Pg	Pg	04 40 21.0	+0.9
CLL				*e*Sg	Sg	04 40 47.8	+1.2
VRAC	Vranov	2.27 174		⇓P	Pn	04 40 20.6	+1.0
VRAC				⇑S	Sb	04 40 50.2	-1.1
VRAC	Vranov	2.27 174		Pn	Pn	04 40 20.9	+1.3
	comp=Z,6.9nm,0.3s,baz=346,slow=14,SNR=20						
VRAC				Lg	Lg	04 40 50.6	
	comp=Z,5.6nm,0.3s,baz=236,slow=18,SNR=6.5						
VRAC	Vranov	2.27 174		*e*Pn	Pn	04 40 19.9	+0.3
	baz=356						
VRAC				*e*Sg	Sb	04 40 51.4	+0.1
	comp=Z,45nm,0.5s,baz=356						
TREC	Trest	2.32 192		*e*SG	Sb	04 40 53.1	+0.3
KRUC	Moravsky	2.50 178		*e*Pn	Pn	04 40 23.3	+0.4
	baz=359						
KRUC				*e*Sg	Sb	04 40 58.6	+0.5
	comp=Z,48nm,0.6s,baz=359						
OJC	Ojcow	2.62 119		*e*Pg	Pg	04 40 31.5	+0.4
OJC				*e*Sg	Sg	04 41 06.6	+1.5
TANN	Tannenbergstha	2.65 246		*e*Pn	Pn	04 40 25.8	+0.8
TANN				*e*Pg	Pg	04 40 32.0	+0.2
TANN				*e*Sg	Sb	04 41 04.2	+1.8
WERD	Werda	2.73 247		*e*Pn	Pn	04 40 26.8	+0.8
WERD				*e*Pg	Pg	04 40 33.1	-0.1
NKC	Novy Kostel	2.75 243		*e*PN	Pn	04 40 27.0	+0.8
NKC				*e*PG	Pg	04 40 33.6	+0.1
NKC				*e*SG	Sg	04 41 09.3	+0.2
JAVC	Velka Javorina	2.86 161		*e*Pn	Pn	04 40 27.6	-0.2
	baz=343						
JAVC	Velka Javorina	2.86 161		*e*PN	Pn	04 40 27.7	-0.1
KHC	Kasperske Hory	2.97 216		*e*PN	Pn	04 40 29.3	-0.1
KHC				*e*PG	Pb	04 40 35.7	+0.9
KHC				*e*SN	Sn	04 41 04.7	-1.0
KHC				*e*SG	Sg	04 41 14.5	-1.9
	comp=Z,41nm,0.6s						
CKRC	Cesky Krumlov	3.01 205		*e*PN	Pn	04 40 30.7	+0.8
CKRC				*e*PG	Pb	04 40 36.7	+1.3
CKRC				*e*SG	Sb	04 41 14.6	+1.8
	comp=Z,46nm,0.6s						
MOX	Moxa	3.06 254		*e*Pn	Pn	04 40 31.9	+1.3
MOX				*e*Pg	Pg	04 40 40.0	+0.4
MOX				*e*Sg	Sg	04 41 18.6	-0.5
GEC2	GERESS Array S	3.17 212		*e*Pn	Pn	04 40 33.1	+1.0
GEC2				*e*Sg	Sb	04 41 18.8	+1.4
GERES	GERESS Array B	3.17 212		Pn	Pn	04 40 32.5	+0.3
	comp=Z,2.0nm,0.3s,baz=31,slow=13,SNR=49						
GERES				Pg	Pb	04 40 39.2	+1.1
	comp=Z,9.5nm,0.3s,baz=32,slow=17,SNR=39						
GERES				Sn	Sn	04 41 07.8	-3.0
	comp=Z,3.9nm,0.3s,baz=35,slow=24,SNR=7.0						
GERES				Lg	Lg	04 41 18.8	
	comp=Z,11nm,0.3s,baz=34,slow=29,SNR=8.1						
LANS	Liptovska Anna	3.18 138		*e*PN	Pn	04 40 33.4	+1.2
LANS				*e*PG	Pg	04 40 42.2	+0.4
LANS				*e*SG	Sg	04 41 22.4	-0.5
WET	Wettzell	3.24 223		*e*Pn	Pn	04 40 33.5	+0.5
WET				*e*Sg	Sb	04 41 21.7	+2.4
MODS	Modra-Piesok	3.26 168		*e*PN	Pn	04 40 34.1	+0.8
MODS				*e*PG	Pg	04 40 43.4	0.0
MODS				*e*SG	Sg	04 41 25.5	-0.1
KOLL	Kolacno	3.29 154		*e*PN	Pn	04 40 35.1	+1.4
NIE	Niedzica	3.36 128		*e*P	Pg	04 40 45.0	-0.3
NIE				*e*S	Sg	04 41 29.7	+0.8
ZST	Bratislava	3.41 170		*e*PG	Pg	04 40 45.6	-0.7
ZST				*e*SG	Sg	04 41 29.2	-1.3
VYHS	Vyhne	3.50 150		*e*PN	Pn	04 40 37.1	+0.6
VYHS				*e*PG	Pg	04 40 48.7	+0.8
VYHS				*e*SG	Sg	04 41 34.9	+1.7
CONA	Conrad Observa	3.65 184		*e*Pn	Pn	04 40 38.9	+0.2
	comp=Z,1.8nm,0.3s,SNR=5.3						
CONA				Sg	Sg	04 41 37.8	-0.1
	comp=Z,26nm,0.5s						
BSD	Bornholm Skovb	3.65 348		*i* P	Pn	04 40 39.1	+0.6
BSD				*i* S	Sn	04 41 21.8	-0.5
BSD				IAML		04 41 29.6	
	comp

ALJI IAML 04 56 39.1
comp=Z,415nm,0.3s
ALJI eS **Sn** **04 56 41.5 +0.9**
TECO Alcaldia de Te 1.56 7 eP **Pb** **04 56 24.3 -0.5**
TECO eS **Sb** **04 56 44.2 -0.8**
COEB Comit de Eme 1.58 16 eP **Pb** **04 56 24.8 -0.2**
COEB eS **Sg** **04 56 46.4 +0.4**
COEB IAML 04 56 52.0
comp=Z,257nm,0.3s
SJTE Alcalda de S 1.63 359 eP **Pb** **04 56 25.6 -0.3**
PQSS Presa 15 de Se 1.69 14 eP **Pb** **04 56 26.7 -0.2**
PQSS eS **Sg** **04 56 49.2 -0.4**
PQSS IAML 04 56 51.9
comp=Z,350nm,0.1s
LCND La Caada 1.70 39 eP **Pb** **04 56 26.5 -0.7**
PAVA Las Pavas 1.73 2 eP **Pb** **04 56 27.0 -0.6**
JAYA Jayaque - finc 1.73 345 eP **Pn** **04 56 26.9 +0.7**
JAYA eS **Sb** **04 56 48.9 -0.9**
JAYA IAML 04 56 49.9
comp=Z,1μm,0.2s
SCLA Alcaldia de Sa 1.73 8 eP **Pb** **04 56 27.2 -0.5**
SCLA eS **Sb** **04 56 49.2 -0.7**
UEES Universidad Ev 1.75 352 eP **Pb** **04 56 27.4 -0.6**
UEES IAML 04 56 56.4
comp=Z,442nm,0.2s
PMON Piamonte 1.75 350 eP **Pg** **04 56 29.2 +0.2**
CEVE Cerro Verde 1.94 341 eP **Pn** **04 56 30.5 +1.2**
CEVE eS **Sn** **04 56 54.7 +0.4**
CEVE IAML 04 56 55.6
comp=Z,614nm,0.4s
CRIN San Cristobal 2.02 69 eP **Pn** **04 56 30.7 +0.5**
NUBE Las Nubes 2.06 338 eP **Pn** **04 56 31.8 +0.9**
NUBE eS **Sn** **04 56 56.2 -0.9**
SLOZ Alcaldia de Sa 2.18 339 eP **Pb** **04 56 34.2 -1.2**
SLOZ eS **Sn** **04 57 00.3 +0.5**
COPN Copaltepe 2.35 85 eP **Pn** **04 56 35.3 +0.6**
MOMN Momotombo 2.43 80 eP **Pn** **04 56 35.6 -0.2**
MGAN Managua 2.69 86 eP **Pn** **04 56 39.9 +0.6**
BOAB BOACO BROADBAN 2.28 81 eP **Pn** **04 56 47.9 +0.4**
ACON Acoyapa 3.73 90 eP **Pn** **04 56 54.1 +0.5**

IDC 08 05:02:23.5±2.4, 6°.56S×129°.91E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.3/37, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=91.2km s-min=30.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.20**	**200**	Pn	Pn	05 05 18.9	+0.3
	0.1nm,0.3s,baz=26,slow=10,SNR=7.5						
FITZ				Sn	Sn	05 07 19.6	-16
	0.2nm,0.3s,baz=340,slow=9.0,SNR=6.1						
WRA	**Warramunga Arr**	**13.98**	**162**	Pn	Pn	05 05 42.5	-0.6
	0.1nm,0.3s,baz=345,slow=13,SNR=6.7						
WRA				Sn	Sn	05 08 05.1	-14
	0.3nm,0.3s,baz=338,slow=20,SNR=11						
ASAR	**Alice Springs**	**17.44**	**168**	P	Pn	05 06 28.5	+0.2
	0.2nm,0.3s,baz=338,slow=9.0,SNR=5.5						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	05 13 23.4	0.0
	0.1nm,0.4s,baz=111,slow=5.3,SNR=1.4						

*IDC **08** 05:08:53.6±0.6, 2°.37S×68°.06E, h0km, mb4.2/20, mb1 4.3/21, mb1mx4.1/52, mbtmp4.2/21, ML4.3/1, MS4.0/54, Ms1 4.0/54, ms1mx3.9/77, Error ellipse: s-maj=17.9km s-min=12.8km az=0.0*

*NEIC **08** 05:08:56.1±1.6, 2°.36S±0°.09×68°.10E±0°.08, h10km±1km, mb4.8/37, Error ellipse: s-maj=15.4km s-min=13.2km az=167.0*

*GCMT **08** 05:08:57.1±0.3, 2°.49S±0°.02×68°.05E±0°.01, h12km, MW4.9/107, Moment Tensor Solution. s22,c24; s107,c150; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.67±.10; $M_{\theta\theta}$-2.38±.09; $M_{\phi\phi}$3.05±.08; $M_{r\theta}$-0.55±.29; $M_{\theta\phi}$-0.67±.09; $M_{\phi r}$-0.27±.26; Best double couple: $M_0$2.88700×10^16^ NP1:ϕ_s129.00000°, δ76.00000°, λ-170.00000°. NP2:ϕ_s37.00000°, δ81.00000°, λ-14.00000°. Principal axes: T 3.1420, Plg3.0000°, Azm83.0000°; N -0.5070, Plg73.0000°, Azm184.0000°; P -2.6310, Plg16.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 05:08:55.4±0.4, 2°.41S±0°.07×68°.05E±0°.06, h11km, n149, σ1§47/111, mb4.7/61, MS4.0/58, 2C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**5.72**	**60**	Pn	**Pn**	**05 10 17.0**	**-3.4**
DGAR	**Diego Garcia**	**6.62**	**139**	Pn	**Pn**	**05 10 31.1**	**-1.6**
MSEY	**Mahe Island**	**12.75**	**260**	Pn	**Pn**	**05 11 57.0**	**+0.2**
PALK	**Pallekele**	**15.87**	**53**	Pn	**Pn**	**05 12 37.9**	**-1.1**
	1.1nm,0.3s,baz=0.6,slow=10,SNR=4.0						
PALK				LR	LR	05 17 25.5	
	comp=Z,659nm,21.6s,baz=335,slow=32						
PALK	**Pallekele**	**15.87**	**53**	Pn	**Pn**	**05 12 37.9**	**-1.1**
URV	**Uravakonda**	**19.51**	**28**	eP	**P**	**05 13 23.1**	**+0.2**
SOCY	**Socotra**	**20.14**	**316**	P	Pn	05 13 32.2	+0.4
RCLA	**Racherla**	**20.77**	**31**	eP	**P**	**05 13 36.6**	**0.0**
POO	**Poona**	**21.58**	**15**	eP	**P**	**05 13 43.0**	**-2.3**
ADKI	**Addanki**	**21.63**	**33**	eP	**P**	**05 13 46.1**	**+0.3**
NJS	**Nagarjunasagar**	**21.88**	**30**	eP	**P**	**05 13 49.1**	**+0.6**
KLRI	**Killari**	**22.02**	**22**	epP	pP	05 13 51.5	-0.6
HYBB	**Hyderabad (bro**	**22.26**	**27**	eP	**P**	**05 13 52.6**	**0.0**
HYBB				eScS	ScS	05 25 09.0	-2.9
CUPL	**Choutuppal**	**22.32**	**28**	eP	**P**	**05 13 53.7**	**+0.4**
WSAR	**Wadi Sarin**	**27.10**	**341**	LR	LR	05 23 33.7	
	comp=Z,343nm,18.7s,baz=172,slow=32						
ATD	**Arta Tunnel**	**28.64**	**299**	LR	LR	05 23 51.4	
	comp=Z,253nm,21.5s,baz=110,slow=31						
KMBO	**Kilima Mbogo**	**30.81**	**272**	P	**P**	**05 15 12.1**	**+0.2**
	1.3nm,0.7s,baz=67,slow=17,SNR=3.7						
KMBO				LR	LR	05 25 28.6	
	comp=Z,346nm,20.0s,baz=92,slow=32						
KMBO	**Kilima Mbogo**	**30.81**	**272**	P	**P**	**05 15 12.3**	**+0.3**
SISI	**Saibi**	**31.04**	**89**	P	**P**	**05 15 14.9**	**+1.3**
	21nm,1.4s						
PSI	**Prapat**	**31.29**	**81**	LR	LR	05 25 56.5	
	comp=Z,580nm,20.7s,baz=269,slow=33						
MNSI	**Mandailing Nat**	**31.68**	**85**	P	**P**	**05 15 20.2**	**+0.9**
BKNI	**Bangkinang**	**33.09**	**86**	P	**P**	**05 15 32.9**	**+1.2**
KULM	**Kulim**	**33.45**	**77**	P	**P**	**05 15 32.9**	**-1.9**
SHL	**Shillong**	**36.14**	**38**	P	**P**	**05 15 57.4**	**-0.7**
SHL				IAmb	IAmb	05 16 07.3	
	comp=Z,28nm,1.5s						
NIL	**Nilore**	**36.20**	**7**	P	**P**	**05 15 58.8**	**+0.4**
NIL				IAmb	IAmb	05 16 02.0	
	comp=Z,18nm,0.8s						
KBL	**Kabul**	**36.77**	**1**	P	**P**	**05 16 04.0**	**+0.6**
KBL				IAmb	IAmb	05 16 17.3	
	comp=Z,14nm,1.2s						
CMAR	**Chiang Mai Arr**	**36.80**	**54**	P	**P**	**05 16 04.5**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=245,slow=9.3,SNR=15						
CMAR				LR	LR	05 29 26.4	
	comp=Z,172nm,21.2s,baz=230,slow=34						
CMAR	**Chiang Mai Arr**	**36.80**	**54**	P	**P**	**05 16 03.0**	**-0.7**
CHTO	**Chiang Mai**	**36.99**	**54**	P	**P**	**05 16 05.0**	**-0.2**
CHTO				IAmb	IAmb	05 16 14.9	
	comp=Z,12nm,1.1s						
HRA	**Herat**	**37.01**	**352**	P	**P**	**05 16 06.3**	**+0.9**
MBAR	**Mbarara**	**37.34**	**272**	P	**P**	**05 16 09.5**	**+0.9**
	comp=Z,1.8nm,0.2s,baz=42,slow=6.3,SNR=5.0						
MBAR				LR	LR	05 28 48.7	
	comp=Z,194nm,21.5s,baz=52,slow=32						
MBAR	**Mbarara**	**37.34**	**272**	P	**P**	**05 16 09.8**	**+1.3**
LSA	**Lhasa**	**38.83**	**33**	P	**P**	**05 16 20.8**	**-0.4**
LSA				IAmb	IAmb	05 16 25.2	
	comp=Z,16nm,1.2s						
LEM	**Lembang**	**39.66**	**98**	P	**P**	**05 16 29.3**	**+1.2**
	comp=Z,15nm,0.3s,baz=228,slow=6.0,SNR=11						
LEM				LR	LR	05 30 12.6	
	comp=Z,428nm,21.6s,baz=172,slow=32						
GEYT	**Alibeck**	**41.18**	**348**	LR	LR	05 32 50.3	
	comp=Z,330nm,20.4s,baz=170,slow=35						
LSZ	**Lusaka**	**41.32**	**250**	P	**P**	**05 16 41.8**	**+0.1**
	comp=Z,11nm,0.8s,baz=72,slow=7.2,SNR=14						
LSZ				LR	LR	05 31 48.8	
	comp=Z,553nm,18.0s,baz=96,slow=33						
BTK	**Batken**	**42.34**	**3**	P	**P**	**05 16 49.4**	**-0.2**
BTK				IAmb	IAmb	05 18 15.4	
	comp=Z,13nm,0.5s						
KSH	**Kashi**	**42.35**	**9**	P	**P**	**05 16 47.1**	**-2.7**
KSH				pP	sP	05 16 53.4	+0.4
KSH				pmax	pmax		
	comp=Z,11nm,1.0s						
MATP	**Matopo**	**42.52**	**242**	LR	LR	05 32 25.5	
	comp=Z,56nm,19.6s,baz=72,slow=33						
KMI	**Kunming**	**43.36**	**49**	⇑P	**P**	**05 16 58.2**	**-0.1**
KMI				sP	pwP	05 17 03.6	-1.6
KMI				PP	**PP**	**05 18 40.6**	**+1.4**
KMI				pmax	pmax		
	comp=Z,14nm,0.8s						
KMI				pmax	pmax		
	comp=Z,160nm,5.9s						
KMI				LR	LR		
	comp=N,240nm,15.6s						
KMI				LR	LR		
	comp=E,230nm,15.6s						
KMI				LR	LR		
	comp=Z,210nm,16.1s						
PZH	**PanZhiHua**	**43.41**	**46**	P	**P**	**05 17 01.2**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.6s						
STKI	**Sintang**	**43.48**	**87**	P	**P**	**05 16 59.9**	**+0.7**
UCH	**Uchtor**	**44.82**	**7**	P	**P**	**05 17 10.8**	**+0.8**
	SNR=8.7						
EIL	**Elat**	**44.94**	**318**	LR	LR	05 33 10.8	
	comp=Z,133nm,19.2s,baz=122,slow=32						
ULHL	**Ulahol**	**45.07**	**9**	P	**P**	**05 17 12.9**	**+1.2**
	SNR=5.3						
EKS2	**Erkin-Say**	**45.16**	**6**	P	**P**	**05 17 15.6**	**+3.2**
	SNR=11						
AAK	**Ala-Archa**	**45.22**	**7**	LR	LR	05 34 42.9	
	comp=Z,114nm,21.9s,baz=202,slow=34						
AAK	**Ala-Archa**	**45.22**	**7**	P	**P**	**05 17 15.5**	**+2.7**
	SNR=6.0						
AAK	**Ala-Archa**	**45.22**	**7**	P	**P**	**05 17 12.5**	**-0.3**
AAK				IAmb	IAmb	05 17 16.2	
	comp=Z,9.9nm,1.1s						
BOOM	**Boomskoye usch**	**45.26**	**8**	P	**P**	**05 17 12.6**	**-0.6**
BOOM				IAmb	IAmb	05 17 34.7	
	comp=Z,9.8nm,1.1s						
KBK	**Karagaybulak**	**45.29**	**7**	P	**P**	**05 17 14.6**	**+1.2**
	SNR=7.2						
KKAR	**Karatay Array**	**45.36**	**3**	P	**P**	**05 17 14.9**	**+1.2**
TKM2	**Tokmak 2**	**45.64**	**8**	P	**P**	**05 17 16.6**	**+0.4**
	SNR=16						
GOMU	**GeErMu**	**45.81**	**31**	P	**P**	**05 17 19.2**	**+1.3**
GOMU				pP	sP	05 17 22.4	+1.2
GOMU				sP	pwP	05 17 24.4	-0.7
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
QIZ	**Qiongzhong**	**46.27**	**61**	P	**P**	**05 17 19.6**	**-1.8**
QIZ				S	**S**	**05 24 15.3**	**+6.8**
QIZ				LR	LR		
	comp=N,200nm,16.7s						
QIZ				LR	LR		
	comp=E,280nm,19.1s						
QIZ				LR	LR		
	comp=Z,280nm,16.7s						
LBTB	**Lobatse**	**46.66**	**237**	LR	LR	05 34 23.3	
	comp=Z,230nm,20.5s,baz=69,slow=33						
MMAI	**Mount Meron Ar**	**46.83**	**322**	LR	LR	05 36 11.3	
	comp=Z,155nm,19.1s,baz=322,slow=35						
GNI	**Garni**	**47.43**	**336**	LR	LR	05 37 15.3	
	comp=Z,86nm,18.9s,baz=140,slow=36						
BOSA	**Boshof**	**48.36**	**233**	P	**P**	**05 17 37.7**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=44,slow=8.6,SNR=4.9						
BOSA				LR	LR	05 35 41.8	
	comp=Z,144nm,18.7s,baz=72,slow=33						
WMQ	**Urumqi**	**49.29**	**19**	eP	**P**	**05 17 46.4**	**+2.0**
WMQ				LR	LR		
	comp=Z,180nm,20.9s						
MAKZ	**Makanchi**	**50.52**	**12**	P	**P**	**05 17 53.8**	**0.0**
MAKZ				IAmb	IAmb	05 18 02.0	
	comp=Z,12nm,1.2s						
MK31	**Makanchi Array**	**50.58**	**13**	P	**P**	**05 17 54.4**	**+0.2**
MKAR	**Makanchi Array**	**50.58**	**13**	P	**P**	**05 17 52.9**	**-1.3**
	comp=Z,3.1nm,0.8s,baz=189,slow=6.1,SNR=22						
MKAR	**Makanchi Array**	**50.58**	**13**	P	**P**	**05 17 54.2**	**0.0**
LZH	**Lanzhou**	**50.80**	**38**	eP	**P**	**05 17 56.8**	**+0.6**
LZH				pP	pwP	05 18 02.1	-1.3
LZH				sP	sP	05 18 04.4	+4.9
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
LZH				LR	LR		
	comp=N,210nm,16.0s						
LZH				LR	LR		
	comp=E,230nm,16.2s						
LZH				LR	LR		
	comp=Z,180nm,18.2s						
GTA	**Gaotai**	**50.83**	**32**	eP	**P**	**05 17 56.1**	**-0.2**
GTA				pP	sP	05 18 00.7	+1.1
GTA				sP	pwP	05 18 03.1	-0.3
GTA				PcP	**PcP**	**05 19 19.2**	**+6.1**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,100nm,5.4s						
GTA				LR	LR		
	comp=N,140nm,19.3s						
GTA				LR	LR		
	comp=E,130nm,18.5s						
GTA				LR	LR		
	comp=Z,180nm,18.2s						
KBZ	**Khabaz**	**51.19**	**337**	P	**P**	**05 17 58.3**	**-0.4**
	comp=Z,9.0nm,0.9s,baz=163,slow=5.8,SNR=9.5						
KBZ				LR	LR	05 39 49.1	
	comp=Z,78nm,19.4s,baz=149,slow=36						
KAPI	**Kappang**	**51.64**	**94**	P	**P**	**05 18 02.2**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=313,slow=6.0,SNR=3.5						
KAPI				LR	LR	05 37 23.7	
	comp=Z,159nm,21.3s,baz=292,slow=33						
KAPI	**Kappang**	**51.64**	**94**	IAmb	IAmb	05 18 09.1	
	comp=Z,5.8nm,1.1s						
MPSI	**Mapaga**	**51.90**	**88**	P	**P**	**05 18 04.0**	**-0.6**
	comp=Z,22nm,1.0s						
ABKAR	**Abkulak array**	**51.94**	**353**	P	**P**	**05 18 03.6**	**-0.6**
ABKAR	**Abkulak array**	**51.94**	**353**	P	**P**	**05 18 03.5**	**-0.8**
ABKAR				IAmb	IAmb	05 18 07.6	
	comp=Z,7.1nm,1.1s						
BSSI	**Bau Bau, Buton**	**52.40**	**96**	P	**P**	**05 18 06.6**	**-1.8**
	comp=Z,13nm,1.7s						
BRTR	**Keskin Array B**	**52.48**	**327**	P	**P**	**05 18 08.4**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=113,slow=8.7,SNR=6.1						
BRTR				LR	LR	05 40 35.1	
	comp=Z,177nm,18.8s,baz=152,slow=36						
TOLI2	**Tolitoli**	**52.83**	**87**	P	**P**	**05 18 10.0**	**-1.6**
TOLI2				IAmb	IAmb	05 18 11.0	
	comp=Z,11nm,0.8s						
XAN	**Xi'an**	**52.84**	**43**	P	**P**	**05 18 12.6**	**+1.3**
XAN				pP	pwP	05 18 18.7	+0.3
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
AKTO	**Aktyubinsk**	**53.34**	**352**	LR	LR	05 42 00.9	
	comp=Z,71nm,19.6s,baz=197,slow=37						
SUR	**Sutherland**	**53.40**	**231**	LR	LR	05 37 39.3	
	comp=Z,362nm,20.5s,baz=66,slow=32						
KURBB	**Kurchatov Arra**	**53.59**	**8**	LR	LR	05 40 57.6	
	comp=Z,143nm,20.7s,baz=199,slow=36						
KURK	**Kurchatov**	**53.69**	**8**	P	**P**	**05 18 16.7**	**-0.5**
KURK				IAmb	IAmb	05 18 25.8	
	comp=Z,16nm,1.1s						
GTOI	**Gorontalo**	**55.03**	**88**	P	**P**	**05 18 25.2**	**-2.4**
	comp=Z,3.9nm,1.6s						
ZAA0	**Zalesovo Array**	**57.88**	**12**	P	**P**	**05 18 47.1**	**0.0**
ZAA0				IAmb	IAmb	05 18 47.9	
	comp=Z,6.2nm,0.9s						
ZALV	**Zalesovo Beam**	**57.88**	**12**	P	**P**	**05 18 46.4**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=223,slow=6.1,SNR=21						
ZALV				LR	LR	05 44 05.8	
	comp=Z,101nm,18.6s,baz=208,slow=36						
ZALV	**Zalesovo Beam**	**57.88**	**12**	P	**P**	**05 18 46.7**	**-0.5**
DAV	**Davao City (W)**	**58.17**	**80**	LR	LR	05 44 21.5	
	comp=Z,69nm,18.5s,baz=320,slow=37						
HHC	**Hu-ho-hao-te**	**58.50**	**38**	eP	**P**	**05 18 55.5**	**+3.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,230nm,5.6s						
NJ2	**Nanjing**	**59.06**	**50**	eP	**P**	**05 18 56.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ARU	**Arti**	**59.16**	**354**	LR	LR	05 43 21.9	
	comp=Z,98nm,19.4s,baz=165,slow=35						
ARU	**Arti**	**59.16**	**354**	P	**P**	**05 18 57.0**	**+0.9**
ARU				IAmb	IAmb	05 18 59.0	
	comp=Z,12nm,1.3s						
SONM	**Songino Array**	**60.19**	**29**	P	**P**	**05 19 04.0**	**+0.5**
	comp=Z,8.0nm,1.0s,baz=216,slow=5.8,SNR=38						
SONM				LR	LR	05 46 08.2	
	comp=Z,88nm,19.7s,baz=190,slow=37						
SONM	**Songino Array**	**60.19**	**29**	P	**P**	**05 19 03.6**	**+0.1**
ULN	**Ulaanbaatar**	**60.53**	**29**	P	**P**	**05 19 06.2**	**+0.3**
ULN				IAmb	IAmb	05 19 14.6	
	comp=Z,19nm,1.8s						
MLR	**Muntele Rosu**	**60.55**	**327**	LR	LR	05 44 33.7	
	comp=Z,118nm,18.9s,baz=112,slow=35						
MSAI	**Masohi**	**60.80**	**92**	P	P	05 19 16.4	+8.2
AKASG	**Malin Array Be**	**62.44**	**333**	P	**P**	**05 19 18.3**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=121,slow=5.6,SNR=6.3						
AKASG				LR	LR	05 47 54.4	
	comp=Z,82nm,19.5s,baz=204,slow=38						
KIRV	**Kirov**	**62.60**	**349**	LR	LR	05 46 29.6	
	comp=Z,75nm,20.8s,baz=181,slow=36						
XLT	**XiLinHaoTe**	**62.99**	**37**	eP	**P**	**05 19 23.8**	**+1.3**
XLT				pP	pwP	05 19 28.3	-1.3
XLT				sP	sP	05 19 30.5	+4.7
XLT				pmax	pmax		
	comp=Z,11nm,0.8s						
XLT				pmax	pmax		
	comp=Z,220nm,6.0s						
JOW	**Kunigami**	**64.87**	**59**	LR	LR	05 49 48.8	
	comp=Z,56nm,18.3s,baz=188,slow=38						
MAW	**Mawson**	**65.17**	**182**	LR	LR	05 40 52.4	
	comp=Z,145nm,20.3s,baz=57,slow=29						
VYHS	**Vyhne**	**66.24**	**327**	eP	P	05 19 49.3	+5.8
NACGM	**Naroch**	**66.45**	**335**	i P	**P**	**05 19 45.8**	**+1.1**
KLMR	**Klimovskoe**	**66.84**	**345**	eP	**P**	**05 19 45.6**	**-1.5**
KLMR				AMP		05 19 55.7	
	comp=Z,26nm,1.3s						
WRA	**Warramunga Arr**	**66.91**	**111**	P	**P**	**05 19 47.4**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=287,slow=5.9,SNR=17						
WRA				LR	LR	05 45 03.5	
	comp=Z,162nm,21.3s,baz=287,slow=32						
WRA	**Warramunga Arr**	**66.91**	**111**	P	**P**	**05 19 47.1**	**-1.3**
WB2	**Warramunga Arr**	**66.92**	**111**	P	**P**	**05 19 47.6**	**-0.8**
WB2				IAmb	IAmb	05 19 56.5	
	comp=Z,8.4nm,0.8s						
WB0	**Warramunga Arr**	**66.94**	**110**	P	**P**	**05 19 47.3**	**-1.3**
ASAR	**Alice Springs**	**66.95**	**115**	P	**P**	**05 19 47.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=286,slow=6.0,SNR=6.5						
ASAR				LR	LR	05 44 55.3	
	comp=Z,88nm,21.9s,baz=282,slow=32						
ASAR	**Alice Springs**	**66.95**	**115**	P	**P**	**05 19 47.7**	**-1.0**
WR0	**Warramunga Arr**	**67.10**	**111**	P	**P**	**05 19 49.0**	**-0.6**
ARSA	**Arzberg**	**67.45**	**324**	i P	**P**	**05 19 51.1**	**-0.2**
	comp=Z,0.4nm,0.2s						
CONA	**Conrad Observa**	**67.61**	**325**	eP	**P**	**05 19 51.9**	**-0.5**
	comp=Z,0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**67.61**	**285**	P	**P**	**05 19 52.2**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=38,slow=2.5,SNR=4.3						
HIA	**Hailar**	**68.03**	**34**	P	**P**	**05 19 55.1**	**+0.2**
HIA				IAmb	IAmb	05 20 30.0	
	comp=Z,8.0nm,0.9s						
KSRS	**Korea Array**	**68.05**	**48**	P	**P**	**05 19 53.1**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=251,slow=7.5,SNR=2.2						
KSRS				LR	LR	05 50 55.5	
	comp=Z,103nm,20.0s,baz=25,slow=37						
SRPI	**Serui, Papua**	**68.13**	**91**	P	**P**	**05 19 57.5**	**+1.3**
	comp=Z,5μmcomp=Z,97nm,0.5s						
CN2	**Changchun**	**68.84**	**41**	eP	**P**	**05 20 00.0**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ABTA	**Abfaltersbach**	**69.00**	**323**	eP	**P**	**05 20 00.9**	**-0.2**
	comp=Z,6.3nm,1.1s						
SYO	**Syowa Base**	**69.18**	**191⇑**	eP	**P**	**05 20 00.4**	**-1.2**
MOTA	**Moosalm**	**70.13**	**323**	eP	**P**	**05 20 07.5**	**-0.7**
	comp=Z,0.9nm,0.4s						
FETA	**Feichten**	**70.21**	**322**	eP	**P**	**05 20 09.2**	**+0.6**
	comp=Z,9.3nm,1.3s						
DAVA	**Damuels**	**70.85**	**322**	eP	**P**	**05 20 11.6**	**-1.0**
	comp=Z,4.6nm,0.5s						
CLL	**Collm**	**70.93**	**327**	eP	**P**	**05 20 15.0**	**+2.3**
FINES	**FINESS Array B**	**71.32**	**340**	LR	LR	05 52 27.9	
	comp=Z,83nm,20.9s,baz=254,slow=37						
SENIN	**Lac Senin/Sane**	**72.07**	**321**	P	**P**	**05 20 20.2**	**+0.2**
SENIN				IAmb	IAmb	05 20 28.4	
	comp=Z,8.4nm,0.8s						
JAY	**Jayapura**	**72.57**	**92**	LR	LR	05 52 02.5	
	comp=Z,60nm,21.6s,baz=354,slow=36						
NRIK	**Noril'sk**	**72.83**	**7**	P	**P**	**05 20 24.4**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=188,slow=9.7,SNR=3.9						
DBIC	**Dimbokro**	**73.33**	**278**	P	**P**	**05 20 27.3**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=99,slow=7.9,SNR=3.3						
DBIC				LR	LR	05 52 10.3	
	comp=Z,159nm,18.6s,baz=91,slow=35						
USRK	**Ussuriysk Ar.**	**73.34**	**42**	LR	LR	05 53 11.1	
	comp=Z,56nm,21.9s,baz=241,slow=36						
STKA	**Stephens Creek**	**74.76**	**122**	P	**P**	**05 20 37.4**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=279,slow=13,SNR=3.6						
STKA				LR	LR	05 53 12.8	
	comp=Z,66nm,18.2s,baz=241,slow=36						
KLR	**Kul'dur**	**75.01**	**37**	LR	LR	05 57 10.8	
	comp=Z,72nm,18.1s,baz=340,slow=39						
HFS	**Hagfors**	**75.22**	**335**	LR	LR	05 54 43.5	
	comp=Z,102nm,18.1s,baz=244,slow=37						
MJAR	**Matsushiro Arr**	**75.62**	**51**	LR	LR	05 53 21.5	
	comp=Z,55nm,21.9s,baz=247,slow=35						
NOA	**NORSAR Array B**	**76.73**	**335**	LR	LR	05 55 18.7	
	comp=Z,67nm,19.9s,baz=285,slow=36						
MDT	**Midelt**	**76.81**	**304**	LR	LR	05 55 56.8	
	comp=Z,70nm,18.0s,baz=114,slow=37						
ARCES	**ARCESS Array B**	**77.31**	**346**	LR	LR	05 55 03.3	
	comp=Z,95nm,21.0s,baz=288,slow=36						
ESDC	**Sonseca Array**	**77.79**	**311**	P	**P**	**05 20 52.9**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=87,slow=5.0,SNR=6.1						
PMG	**Port Moresby**	**78.86**	**99**	LR	LR	05 57 10.3	
	comp=Z,55nm,19.4s,baz=170,slow=37						
YAK	**Yakutsk**	**79.22**	**25**	LR	LR	05 56 40.4	
	comp=Z,131nm,19.7s,baz=264,slow=36						
TIXI	**Tiksi**	**83.42**	**16**	LR	LR	05 59 20.3	
	comp=Z

ML3.5, mb_Lg3.4/84(NEIC), Error ellipse: s-maj=2.9km s-min=1.4km az=99.0
NEIC 08 05:37:45.2±0.7, 36°.667N±0°.008×97°.65W±0°.03, h2km±8km, Error ellipse: s-maj=3.4km s-min=1.1km az=80.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.25**	**318**	Pg	Pg	05 37 50.2	+0.2
KAN13	**South Haven SW**	**0.37**	**22**	Pg	Pg	05 37 52.1	-0.3
KAN13				Sg	Sg	05 37 56.9	-0.4
KAN14	**Manchester OK**	**0.38**	**319**		Pg	05 37 52.6	+0.1
KAN14				Sg	Sg	05 37 57.8	+0.3
KAN17	**Caldwell West**	**0.39**	**347**		Pg	05 37 52.5	-0.2
KAN17				Sg	Sg	05 37 57.6	-0.1
KAN05	**Bluff City Nor**	**0.47**	**338**	Pg	Pg	05 37 54.2	-0.2
KAN01	**Argonia South**	**0.49**	**350**		Pg	05 37 54.4	-0.3
KAN10	**Anthony SW Sta**	**0.58**	**322**	Pg	Pg	05 37 56.2	-0.1
KAN10				Sg	Sg	05 38 04.0	+0.1
KAN06	**Argonia West S**	**0.60**	**344**		Pg	05 37 56.5	-0.3
KAN08	**Anthony NE Sta**	**0.61**	**336**		Pg	05 37 56.8	-0.3
KAN08				Sg	Sg	05 38 04.9	-0.1
KAN16	**Harper SW Stat**	**0.65**	**329**	Pg	Pg	05 37 57.4	-0.3
KAN16				Sg	Sg	05 38 06.2	+0.1
KAN12	**Harper NE Stat**	**0.69**	**336**	Pg	Pg	05 37 58.0	-0.4
OK035	**E0210 Rd and N**	**0.85**	**273**	Pg	Pg	05 38 01.5	-0.1
T35A	**Sooner Cattle**	**0.95**	**74**	Pg	Pg	05 38 02.8	-0.7
OK031	**S. Brethren Rd**	**0.97**	**137**	Pg	Pg	05 38 03.8	0.0
OK025	**Westminster Rd**	**1.11**	**167**	Pg	Pg	05 38 06.7	+0.1
U32A	**Winter Ranch,**	**1.12**	**256**	Pg	Pg	05 38 06.5	-0.3
FNO	**Franklin**	**1.42**	**172**		Pn	05 38 12.0	-0.1
W35A	**Tecumseh**	**1.64**	**157**		Pn	05 38 15.0	-0.1
TUL1	**Leonard**	**1.68**	**116**	Pn	Pn	05 38 15.6	-0.1
TUL1				IAmb_Lg		05 38 41.5	
	comp=Z,246nm,0.9s						
R32A	**Long Quarter,**	**1.94**	**335**		Pn	05 38 19.4	+0.1
X34A	**Smith Ranch, M**	**2.07**	**184**	IAmb_Lg		05 38 55.0	
	comp=Z,112nm,0.8s						
WMOK	**Wichita Mounta**	**2.13**	**206**		Pn	05 38 22.4	+0.5
KSU1	**Kansas State U**	**2.57**	**18**		Pn	05 38 27.3	-0.5
U38A	**Gravette**	**2.64**	**94**	Pn	Pn	05 38 28.9	0.0
X37A	**Clayton**	**2.78**	**137**		Pn	05 38 31.6	+0.8
HHAR	**Hobbs**	**3.02**	**96**	Pn	Pn	05 38 34.3	+0.3
Z35A	**Perchaven, San**	**3.34**	**174**		Pn	05 38 39.3	+0.8
W39A	**Magazine**	**3.47**	**114**		Pn	05 38 40.5	+0.4
W39A				IAmb_Lg		05 39 43.1	
	comp=Z,97nm,0.7s						
S39A	**Bolivar**	**3.61**	**72**		Pn	05 38 42.1	0.0
AMTX	**Amarillo**	**3.73**	**243**		Pn	05 38 45.0	+1.1
AMTX				IAmb_Lg		05 39 46.9	
	comp=Z,78nm,0.8s						
U40A	**Yellville**	**3.88**	**93**		Pn	05 38 46.3	+0.4
MIAR	**Mount Ida**	**3.94**	**121**	IAmb_Lg		05 39 54.4	
	comp=Z,79nm,0.8s						
MGMO	**Mountain Grove**	**4.34**	**82**		Pn	05 38 52.4	+0.1
MGMO				IAmb_Lg		05 40 04.7	
	comp=Z,90nm,0.8s						
P38A	**Dawn**	**4.39**	**46**		Pn	05 38 51.7	-1.2
N35A	**Tabor**	**4.47**	**20**		Pn	05 38 53.8	-0.2
N35A				IAmb_Lg		05 40 10.2	
	comp=Z,114nm,0.9s						
X40A	**Basin Creek Fa**	**4.49**	**118**		Pn	05 38 54.8	+0.5
X40A				IAmb_Lg		05 40 11.9	
	comp=Z,72nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.53**	**98**	IAmb_Lg		05 40 13.8	
	comp=Z,50nm,0.9s						
WHAR	**Wooly Hollow**	**4.56**	**106**		Pn	05 38 55.4	+0.2
WHAR				IAmb_Lg		05 40 13.6	
	comp=Z,47nm,0.9s						
R40A	**Maddies Statio**	**4.58**	**68**		Pn	05 38 55.4	-0.1
R40A				IAmb_Lg		05 40 19.0	
	comp=Z,50nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.58**	**302**		Pn	05 38 55.6	-0.1
KSCO				IAmb_Lg		05 40 10.5	
	comp=Z,62nm,0.7s						
W41B	**Gary Mavity, V**	**4.63**	**107**	IAmb_Lg		05 40 09.9	
	comp=Z,45nm,0.8s						
BGNE	**Belgrade**	**4.75**	**355**		Pn	05 38 57.0	-0.9
BGNE				IAmb_Lg		05 40 26.5	
	comp=Z,81nm,0.7s						
Z41A	**Richland Creek**	**5.24**	**129**	IAmb_Lg		05 40 41.6	
	comp=Z,64nm,0.7s						
P40A	**Paris**	**5.26**	**55**	IAmb_Lg		05 40 34.8	
	comp=Z,68nm,0.9s						
N38A	**Joes South For**	**5.38**	**39**	IAmb_Lg		05 40 43.0	
	comp=Z,82nm,0.7s						
L34A	**Svendsen Farm,**	**5.38**	**10**	IAmb_Lg		05 40 44.6	
	comp=Z,85nm,0.7s						
OGNE	**Ogallala**	**5.47**	**323**	IAmb_Lg		05 40 47.8	
	comp=Z,58nm,0.7s						
NATX	**Nacogdoches**	**5.49**	**152**	IAmb_Lg		05 40 53.0	
	comp=Z,45nm,0.9s						
435B	**Jarrell**	**5.87**	**179**	IAmb_Lg		05 41 04.2	
	comp=Z,32nm,0.7s						
FVM	**French Village**	**5.91**	**75**	IAmb_Lg		05 40 59.0	
	comp=Z,42nm,0.8s						
K31A	**O'Neill**	**6.01**	**352**	IAmb_Lg		05 40 55.9	
	comp=Z,84nm,0.9s						
GNAR	**Gosnell**	**6.20**	**94**	IAmb_Lg		05 41 08.9	
	comp=Z,48nm,0.8s						
SLM	**Saint Louis**	**6.20**	**69**	IAmb_Lg		05 41 09.4	
	comp=Z,54nm,0.7s						
SCIA	**State Center**	**6.26**	**32**	IAmb_Lg		05 41 04.9	
	comp=Z,68nm,0.7s						
Q24A	**Divide**	**6.36**	**293**	IAmb_Lg		05 41 12.3	
	comp=Z,40nm,1.2s						
JCT	**Junction City**	**6.43**	**197**	IAmb_Lg		05 41 24.4	
	comp=Z,31nm,0.8s						
HALT	**Halls**	**6.76**	**94**	IAmb_Lg		05 41 21.8	
	comp=Z,71nm,0.9s						
W45A	**Hickory Valley**	**7.03**	**100**	IAmb_Lg		05 41 46.9	
	comp=Z,32nm,0.8s						
K38A	**Parkersburg**	**7.06**	**31**	IAmb_Lg		05 41 40.2	
	comp=Z,62nm,0.7s						
L40A	**Anamosa**	**7.34**	**41**	IAmb_Lg		05 41 36.9	
	comp=Z,47nm,0.9s						
N23A	**Red Feather La**	**7.73**	**306**	IAmb_Lg		05 41 55.1	
	comp=Z,34nm,0.7s						
SUSD	**Miller**	**7.83**	**353**	IAmb_Lg		05 42 04.6	
	comp=Z,32nm,1.0s						
Y22D	**IRIS PASSCAL I**	**8.00**	**254**	IAmb_Lg		05 42 20.4	
	comp=Z,57nm,1.1s						
JFWS	**Jewell Farm**	**8.45**	**40**	IAmb_Lg		05 42 17.5	
	comp=Z,35nm,0.8s						
M44A	**Midewin, Midew**	**8.84**	**55**	IAmb_Lg		05 42 22.0	
	comp=Z,48nm,1.2s						
RSSD	**Black Hills**	**8.89**	**329**	IAmb_Lg		05 42 46.5	
	comp=Z,20nm,0.9s						
I40A	**Norwalk**	**8.99**	**34**	IAmb_Lg		05 42 41.6	
	comp=Z,22nm,0.9s						
K22A	**Casper**	**9.08**	**314**	IAmb_Lg		05 42 47.8	
	comp=Z,35nm,1.0s						
K43A	**Burlington**	**9.38**	**47**	IAmb_Lg		05 42 52.9	
	comp=Z,40nm,0.8s						
I42A	**Draeger Farm,**	**9.83**	**40**	IAmb_Lg		05 42 57.8	
	comp=Z,20nm,0.8s						

*IDC **08** 05:46:24.7±1.3, 4°.24S×129°.28E, h0km, mb3.8/2, mb1 3.9/6, mb1mx3.7/30, mbtmp3.8/6, ML3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/69, Error ellipse: s-maj=50.8km s-min=22.9km az=82.0*
*DJA **08** 05:46:28.5±0.7, 4°.S±6°.×12°.9E±°, h10km, M3.7/6, MLv3.7/6*
ISC 08 05:46:29.6±0.8, 4°.21S±0°.06×129°.35E±0°.06, h36km, n17, σ1§27/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.64**	**119**	P	**Pn**	**05 46 41.1**	**-1.2**
MSAI	**Masohi**	**0.95**	**334**	P	**Pn**	**05 46 45.4**	**-1.0**
MSAI				S	**Sn**	**05 46 57.3**	**-1.4**
AAI	**Ambon**	**1.26**	**294**	P	**Pn**	**05 46 51.0**	**+0.4**
FAKI	**Fak Fak**	**3.17**	**66**	P	**Pn**	**05 47 17.4**	**+0.5**
FAKI	**Fak Fak**	**3.17**	**66**	P	**Pn**	**05 47 17.7**	**+0.8**
SIJI	**Sorong**	**3.83**	**30**	Pn	**Pn**	**05 47 26.4**	**+0.3**
	20nm,0.3s,baz=234,slow=23,SNR=99						
SIJI				Sn	**Sn**	**05 48 08.2**	**-1.7**
	16nm,0.3s,baz=355,slow=23,SNR=8.4						
SWI	**Sorong**	**3.83**	**30**	P	**Pn**	**05 47 26.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**14.28**	**194**	Pn	**Pn**	**05 49 48.2**	**-1.1**
	0.2nm,0.3s,baz=32,slow=8.3,SNR=1.8						
FITZ				LR	LR	05 55 40.9	
	comp=Z,66nm,18.4s,baz=173,slow=39						
WRA	**Warramunga Arr**	**16.38**	**163**	Pn	**Pn**	**05 50 14.1**	**-2.8**
	0.1nm,0.3s,baz=346,slow=13,SNR=8.0						

COEN	**Coen**	**16.73**	**126**	P	**Pn**	**05 50 21.9**	**+0.5**
QIS	**Mount Isa**	**19.08**	**149**	P	**P**	**05 50 49.9**	**+0.7**
ASAR	**Alice Springs**	**19.84**	**168**	P	**P**	**05 50 58.0**	**+0.4**
	0.5nm,0.3s,baz=348,slow=10,SNR=34						
WRKA	**Warakurna**	**20.74**	**183**	P	**P**	**05 51 09.3**	**+2.1**
CTAO	**Charters Tower**	**22.82**	**135**	P	**P**	**05 51 30.5**	**+1.0**
OOD	**Oodnadatta**	**24.23**	**166**	P	**P**	**05 51 44.2**	**+1.1**
MKAR	**Makanchi Array**	**65.55**	**326**	P	**P**	**05 57 10.3**	**+0.8**
	0.5nm,0.4s,baz=114,slow=7.9,SNR=15						
ZALV	**Zalesovo Beam**	**68.81**	**334**	P	**P**	**05 57 30.2**	**+0.2**
	0.5nm,0.5s,baz=117,slow=5.0,SNR=4.0						

*NNC **08** 05:48:51.4±2.2, 54°.57N×87°.12E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=25.5km s-min=11.8km az=167.0, Suspected Mining explosion.*
*IDC **08** 05:48:55.8±3.2, 54°.19N×86°.95E, h0km, mb1 2.9/1, mb1mx2.8/48, mbtmp2.9/1, ML2.7/1, Error ellipse: s-maj=26.7km s-min=15.2km az=62.0*
ISC 08 05:48:54.6±4.9, 54°.4N±0°.2×86°.9E±0°.2, h0km, n6, σ1§75/9, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**250**	*i*		06 01 10.0	
	baz=87,slow=342,SNR=1.2						
ZAA0	**Zalesovo Array**	**1.31**	**250**	⇑P	**Pg**	**05 49 18.3**	**-1.4**
	0.4nm,0.2s						
ZAA0				⇓S	**Sn**	**05 49 39.1**	**+0.8**
	3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**1.31**	**250**	Pg	**Pg**	**05 49 18.3**	**-1.4**
	2.8nm,0.3s,baz=74,slow=17,SNR=51						
ZALV				Lg	Lg	05 49 36.5	
	2.3nm,0.3s,baz=79,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**6.37**	**237**	⇑Pn	**Pn**	**05 50 30.3**	**+0.7**
	0.8nm,0.2s						
KURBB				⇓Sn	**Sn**	**05 51 44.7**	**+1.8**
	3.3nm,0.7s						
KURBB				⇑Lg	Lg	05 52 20.8	
	3.8nm,0.7s						
MK31	**Makanchi Array**	**8.18**	**203**	Pn	**Pn**	**05 50 55.7**	**+1.3**
	0.2nm,0.5s,baz=30,slow=14,SNR=10						
MK31				Sn	**Sn**	**05 52 29.2**	**+1.7**
	1.4nm,0.9s,baz=23,slow=27,SNR=2.7						
MK31				⇓Lg	Lg	05 53 15.2	
	1.8nm,0.9s						
MKAR	**Makanchi Array**	**8.18**	**203**	Pn	**Pn**	**05 50 54.7**	**+0.2**
	0.1nm,0.3s,baz=24,slow=14,SNR=8.1						
MKAR				Sn	**Sn**	**05 52 25.2**	**-2.3**
	0.1nm,0.3s,baz=24,slow=27,SNR=3.1						
MKAR				Lg	Lg	05 53 10.3	
	0.1nm,0.3s,baz=27,slow=32,SNR=5.7						

*VIE **08** 05:57:10.9±0.5, 45°.28N×14°.59E, h2km, mb2.7/13, ml3.0/15, Error ellipse: s-maj=3.5km s-min=1.8km az=172.0 16 km ESE of Rijeka*
*LJU **08** 05:57:10.5, 45°.27N×14°.55E, h12km, ML2.6*
*PRU **08** 05:57:10.6±0.0, 45°.24N×14°.70E, h0km*
*RHSSO **08** 05:57:10.7±0.4, 45°.25N×14°.46E, h4km±3km, ML3.2/13*
*BEO **08** 05:57:12.0±0.4, 45°.28N×14°.55E, h0km, ML3.1/4*
*LDG **08** 05:57:12.0±0.1, 45°.37N×14°.37E, h2km, Ml3.0/14, Error ellipse: s-maj=3.8km s-min=2.5km az=157.0*
ISC 08 05:57:10.7±0.7, 45°.28N±0°.01×14°.50E±0°.02, h11km±4km, n120, σ1§88/207, 3C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.05**	**349**	⇑*i*Pg	**Pg**	**05 57 12.8**	**-0.1**
RIY				*e*Sg	**Sg**	**05 57 14.0**	**-0.4**
RIY	**Rijeka**	**0.05**	**349**	*e*Pg	**Pg**	**05 57 12.7**	**-0.1**
RIY				Sg	**Sg**	**05 57 13.9**	**-0.5**
RIY	**Rijeka**	**0.05**	**349**	*e*Pg	**Pg**	**05 57 12.8**	**-0.1**
RIY				*e*Sg	**Sg**	**05 57 13.8**	**-0.5**
GBRS	**Gornja Briga**	**0.34**	**41**	⇓*i*Pg	**Pg**	**05 57 17.4**	**-0.1**
GBRS				*i* Sg	**Sg**	**05 57 22.0**	**+0.1**
GBRS				IAML		05 57 23.1	
	comp=Z,329nm,0.1s						
SMRN	**Sveta Marina**	**0.34**	**225**	*e*Pg	**Pg**	**05 57 18.2**	**+0.7**
SMRN				Sg	**Sb**	**05 57 23.9**	**-0.3**
SKDS	**Skadanscina**	**0.43**	**308**	⇑*i*Pg	**Pg**	**05 57 19.4**	**+0.2**
SKDS				*i* Sg	**Sb**	**05 57 26.9**	**-0.1**
SKDS				IAML		05 57 29.3	
	comp=Z,264nm,0.2s						
CEY	**Cerknica**	**0.46**	**354**	*e*Pg	**Pg**	**05 57 19.7**	**-0.1**
CEY				*e*Sg	**Sg**	**05 57 26.8**	**+0.8**
CEY	**Cerknica**	**0.46**	**354**	*e*Pg	**Pg**	**05 57 19.6**	**-0.2**
CEY				*i* Sg	**Sb**	**05 57 27.8**	**-0.1**
CEY				IAML		05 57 28.6	
	comp=Z,389nm,0.1s						
RABC	**Rab**	**0.56**	**159**	*e*Pg	**Pg**	**05 57 21.8**	**+0.2**
RABC				Sg	**Sg**	**05 57 29.7**	**+0.6**
BOJS	**Bojanci**	**0.58**	**67**	⇑*i*Pg	**Pg**	**05 57 21.3**	**-0.6**
BOJS				*e*Sg	**Sg**	**05 57 28.7**	**-0.9**
BOJS				IAML		05 57 29.9	
	comp=Z,171nm,0.2s						
BOJS	**Bojanci**	**0.58**	**67**	*e*Pg	**Pg**	**05 57 21.3**	**-0.6**
BOJS				*e*Sg	**Sg**	**05 57 28.8**	**-0.8**
VISS	**Visnje**	**0.58**	**25**	⇓*i*Pg	**Pg**	**05 57 21.4**	**-0.6**
VISS				*e*Sg	**Sg**	**05 57 29.7**	**+0.1**
VISS				IAML		05 57 31.8	
	comp=Z,168nm,0.1s						
BRJN	**Brijuni**	**0.65**	**235**	*e*Pg	**Pb**	**05 57 24.6**	**+0.6**
BRJN				Sg	**Sb**	**05 57 34.2**	**+1.2**
GBAS	**Gorenja Brezov**	**0.66**	**357**	*i* Pg	**Pg**	**05 57 23.2**	**-0.2**
GBAS				*e*Sg	**Sg**	**05 57 32.9**	**+0.7**
GBAS				IAML		05 57 35.4	
	comp=Z,235nm,0.3s						
TRI	**Trieste**	**0.67**	**310**	*e*Pg	**Pg**	**05 57 23.4**	**-0.3**
TRI				*e*Sg	**Sb**	**05 57 34.0**	**+0.3**
JAVS	**Javornik**	**0.69**	**334**	*i* Pg	**Pg**	**05 57 23.5**	**-0.5**
JAVS				*i* Sg	**Sb**	**05 57 34.7**	**+0.4**
JAVS				IAML		05 57 37.0	
	comp=Z,184nm,0.1s						
OZLJ	**Ozalj**	**0.76**	**63**	*e*Pg	**Pg**	**05 57 24.6**	**-0.8**
OZLJ				Sg	**Sg**	**05 57 34.5**	**-0.8**
NVLJ	**Novalja**	**0.76**	**159**	*e*Pg	**Pg**	**05 57 25.3**	**-0.1**
NVLJ				Sg	**Sb**	**05 57 36.2**	**-0.1**
LJU	**Ljubljana**	**0.77**	**2**	*e*Pg	**Pg**	**05 57 25.8**	**+0.3**
LJU				*e*Sg	**Sg**	**05 57 36.3**	**+0.8**
LJU	**Ljubljana**	**0.77**	**2**	*e*Pg	**Pg**	**05 57 26.1**	**+0.6**
LJU				*e*Sg	**Sb**	**05 57 37.1**	**+0.5**
LJU				IAML		05 57 41.4	
	comp=Z,144nm,0.2s						
LJU	**Ljubljana**	**0.77**	**2**	*e*Pg	**Pg**	**05 57 26.0**	**+0.5**
LJU				*e*Sg	**Sb**	**05 57 37.1**	**+0.5**
CRNS	**Crni Vrh**	**0.82**	**348**	*i* Pg	**Pg**	**05 57 26.2**	**-0.3**
CRNS				*e*Sg	**Sb**	**05 57 39.1**	**+1.0**
CRNS				IAML		05 57 42.2	
	comp=Z,72nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.84**	**10**	*e*Pg	**Pg**	**05 57 26.9**	**0.0**
VNDS				*i* Sg	**Sb**	**05 57 39.3**	**+0.7**
VNDS				IAML		05 57 43.4	
	comp=Z,66nm,0.1s						
PDKS	**Podkum**	**0.86**	**24**	*i* Pg	**Pg**	**05 57 26.6**	**-0.7**
PDKS				*e*Sg	**Sg**	**05 57 38.4**	**-0.1**
PDKS				IAML		05 57 39.6	
	comp=Z,83nm,0.2s						
CRES	**Cresnjev**	**0.87**	**51**	⇓*i*Pg	**Pg**	**05 57 26.8**	**-0.6**
CRES				*e*Sg	**Sb**	**05 57 39.7**	**+0.2**
CRES	**Cresnjev**	**0.87**	**51**	⇓*i*Pg	**Pg**	**05 57 26.9**	**-0.6**
CRES				*e*Sg	**Sg**	**05 57 38.3**	**-0.5**
CRES				IAML		05 57 41.8	
	comp=Z,86nm,0.2s						
LEGS	**Legarje**	**0.88**	**40**	*i* Pg	**Pg**	**05 57 27.1**	**-0.6**
LEGS				*e*Sg	**Sg**	**05 57 39.2**	**0.0**
PLIT	**Plitvice**	**0.89**	**116**	*e*Pg	**Pg**	**05 57 26.9**	**-1.0**
PLIT				Sg	**Sg**	**05 57 39.0**	**-0.6**
SABO	**M.te Sabotino**	**0.94**	**318**	*e*Pg	**Pg**	**05 57 28.1**	**-0.7**
SABO				*e*Sg	**Sb**	**05 57 42.3**	**+0.7**
CESS	**Cesta pri Krsk**	**0.97**	**44**	*e*Pg	**Pg**	**05 57 29.1**	**-0.3**
CESS				*e*Sg	**Sn**	**05 57 43.8**	**-0.3**
CESS				IAML		05 57 46.2	
	comp=Z,69nm,0.1s						
GCIS	**Gornji Cirnik**	**0.99**	**53**	*i* Pg	**Pg**	**05 57 29.3**	**-0.4**
GCIS				*e*Sg	**Sn**	**05 57 44.7**	**+0.2**
GCIS				IAML		05 57 47.6	
	comp=Z,74nm,0.2s						
MOZS	**Mozjanca**	**1.02**	**358**	*e*Pg	**Pg**	**05 57 30.2**	**-0.1**
MOZS				*i* Sg	**Sb**	**05 57 44.8**	**+1.0**
MOZS				IAML		05 57 46.9	
	comp=Z,59nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRE	**Drenchia**	**1.08**	**327**	*e*Pg	**Pg**	**05 57 30.7**	**-0.7**
DRE				*e*Sg	**Sn**	**05 57 47.3**	**+0.5**
GOLS	**Golise**	**1.08**	**47**	*i* Pg	**Pg**	**05 57 31.2**	**-0.3**
GOLS				*e*Sg	**Sn**	**05 57 46.9**	**+0.1**
GOLS				IAML		05 57 50.1	
	comp=Z,132nm,0.2s						
CADS	**Cadrg**	**1.09**	**331**	*e*Pg	**Pg**	**05 57 30.7**	**-1.0**
CADS				*e*Sg	**Sn**	**05 57 48.3**	**+1.2**
CADS				IAML		05 57 51.1	
	comp=Z,128nm,0.2s						
GORS	**Gorjuse**	**1.10**	**342**	*e*Pg	**Pg**	**05 57 31.4**	**-0.4**
GORS				*e*Sg	**Sn**	**05 57 48.5**	**+1.1**
GORS				IAML		05 57 49.8	
	comp=Z,90nm,0.2s						
DOBS	**Dobrina**	**1.11**	**38**	*i* Pg	**Pb**	**05 57 31.1**	**-0.8**
DOBS				IAML		05 57 51.0	
	comp=Z,101nm,0.2s						
UDBI	**Udbina**	**1.17**	**129**	*e*Pg	**Pb**	**05 57 33.1**	**0.0**
UDBI				Sg	**Sn**	**05 57 49.5**	**+0.4**
ZAG	**Zagreb**	**1.18**	**62**	*e*Pg	**Pb**	**05 57 32.7**	**-0.5**
ZAG				*e*Sg	**Sn**	**05 57 49.9**	**+0.6**
ZAG	**Zagreb**	**1.18**	**62**	*e*Pg	**Pg**	**05 57 33.5**	**+0.1**
ZAG				Sg	**Sg**	**05 57 49.0**	**+0.2**
ROBS	**Robic**	**1.19**	**325**	*i* Pg	**Pb**	**05 57 33.4**	**+0.1**
ROBS				*e*Sg	**Sn**	**05 57 52.1**	**+2.7**
ROBS				IAML		05 57 57.3	
	comp=Z,90nm,0.2s						
PTJ	**Puntijarka**	**1.21**	**58**	*e*Pg	**Pb**	**05 57 33.7**	**+0.1**
PTJ				Sg	**Sb**	**05 57 49.6**	**+0.2**
OBKA	**Obir**	**1.23**	**2**	*e*Pg	**Pn**	**05 57 34.1**	**+0.1**
	comp=Z,6.0nm,0.1s,SNR=10						
OBKA				*e*Sg	**Sn**	**05 57 51.2**	**+0.5**
	comp=Z,89nm,0.2s						
DUGI	**Dugi Otok**	**1.35**	**162**	*e*Pg	**Pg**	**05 57 37.0**	**+0.4**
DUGI				Sg	**Sg**	**05 57 56.5**	**+2.4**
LOBO	**Lobor**	**1.41**	**51**	*e*Pg	**Pb**	**05 57 37.3**	**+0.3**
LOBO				Sg	**Sb**	**05 57 55.2**	**+0.2**
SOKA	**Soboth**	**1.45**	**15**	*e*Pg	**Pn**	**05 57 37.8**	**+0.8**
	comp=Z,13nm,0.3s,SNR=9.5						
SOKA				Sg	**Sn**	**05 57 56.5**	**+0.5**
	comp=Z,16nm,0.2s						
MYKA	**Terra Mystica**	**1.48**	**337**	*e*Pg	**Pb**	**05 57 38.9**	**+0.6**
	comp=Z,2.8nm,0.2s						
MYKA				Sg	**Sg**	**05 58 00.1**	**+1.9**
	comp=Z,52nm,0.2s						
PRIJ	**Prijedor**	**1.60**	**100**	*e*Pn	**Pn**	**05 57 39.6**	**+0.7**
PRIJ				*e*Sn	**Sg**	**05 58 01.4**	**-0.7**
KALN	**Kalnik**	**1.62**	**57**	*e*Pg	**Pb**	**05 57 40.7**	**+0.1**
KALN				Sg	**Sg**	**05 58 02.4**	**-0.3**
MORI	**Morici**	**1.66**	**148**	*e*Pn	**Pb**	**05 57 41.4**	**+0.2**
MORI				Sg	**Sg**	**05 58 05.0**	**+1.1**
ZIRJ	**Zirje**	**1.82**	**153**	*e*Pn	**Pb**	**05 57 44.1**	**+0.1**
ZIRJ				Sn	**Sg**	**05 58 09.0**	**-0.1**
KIJV	**Kijevo**	**1.86**	**132**	*e*Pn	**Pb**	**05 57 45.1**	**+0.3**
KIJV				Sn	**Sg**	**05 58 10.3**	**-0.3**
KBA	**Koelnbreinsper**	**1.97**	**336**	*e*Pn	**Pb**	**05 57 47.3**	**+0.6**
	comp=Z,0.5nm,0.1s						
BLY	**Banja Luka**	**1.98**	**105**	*e*Pn	**Pn**	**05 57 44.9**	**+0.8**
BLY				*e*Sn	**Sb**	**05 58 10.6**	**-0.8**
BLY	**Banja Luka**	**1.98**	**105**	*e*Pn	**Pb**	**05 57 45.6**	**-1.1**
BLY				*e*Sn	**Sb**	**05 58 10.9**	**-0.5**
ABTA	**Abfaltersbach**	**2.02**	**317**	*e*Pn	**Pb**	**05 57 47.2**	**-0.3**
	comp=Z,9.7nm,0.3s,SNR=6.6						
MGRS	**Mrkonjic Grad**	**2.03**	**114**	*e*Pn	**Pn**	**05 57 45.3**	**+0.4**
MGRS				*e*Sn	**Sb**	**05 58 12.1**	**-0.9**
ARSA	**Arzberg**	**2.10**	**19**	*e*Pn	**Pn**	**05 57 46.7**	**+0.9**
	comp=Z,0.6nm,0.2s						
HVAR	**Hvar**	**2.52**	**146**	*e*Pn	**Pn**	**05 57 54.0**	**+2.3**
HVAR				Sn	**Sb**	**05 58 26.3**	**-0.8**
MOA	**Molln**	**2.58**	**357**	*e*Pn	**Pn**	**05 57 55.0**	**+2.5**
	comp=Z,1.3nm,0.2s						
MOA				Sn	**Sb**	**05 58 27.6**	**-1.1**
	comp=Z,10nm,0.4s						
RICI	**Ricice**	**2.60**	**132**	*e*Pn	**Pn**	**05 57 54.8**	**+2.1**
RICI				Sn	**Sb**	**05 58 28.4**	**-0.8**
KOVH	**Kovagotottos**	**2.65**	**71**	PN	**Pn**	**05 57 54.4**	**+1.0**
KOVH				SN	**Sn**	**05 58 23.5**	**-2.1**
MAKA	**Makarska**	**2.69**	**137**	*e*Pn	**Pb**	**05 57 56.8**	**-2.1**
MAKA				Sn	**Sb**	**05 58 30.5**	**-1.4

SMRF	**Simiane la Rot**	**6.50 262**	*e*P	**Pn**	**05 58 49.3**	**+3.0**
SMRF			*e*Sn	**Sn**	**05 59 55.5**	**-4.9**
VIVF	**Saint-Julien-l**	**6.97 270**	*e*P	**Pn**	**05 58 54.4**	**+1.6**
VIVF			*e*Sn	**Sn**	**06 00 06.4**	**-5.6**
	comp=Z,1.1nm,0.3s					
MEZF	**Maizieres J'vi**	**7.23 300**	*e*Pn	**Pn**	**05 58 53.8**	**-2.5**
SAVF	**Savonnieres en**	**7.23 301**	*e*Pn	**Pn**	**05 58 54.5**	**-1.8**
	baz=120					
SAVF	**Savonnieres en**	**7.23 301**	*e*P	**Pn**	**05 59 00.1**	**+3.8**
SMF	**Signal de Mont**	**7.55 284**	*e*P	**Pn**	**05 59 02.6**	**+1.9**
SMF			*e*Sn	**Sn**	**06 00 20.7**	**-5.6**
	comp=Z,3.7nm,0.4s					
LOR	**Lormes**	**7.64 289**	*e*P	**Pn**	**05 59 03.9**	**+2.0**
	baz=110					
LOR			*e*Sn	**Sn**	**06 00 21.3**	**-7.1**
	comp=Z,2.4nm,0.4s					
LASF	**Ste Croix**	**7.68 265**	*e*Pn	**Pn**	**05 59 01.4**	**-1.1**
LASF			*e*Sn	**Sn**	**06 00 22.5**	**-7.0**
	comp=Z,0.7nm,0.3s					
SSF	**Saint Saulge**	**7.84 287**	*e*P	**Pn**	**05 59 08.3**	**+3.7**
AVF	**Avril sur Loir**	**7.90 285**	*e*P	**Pn**	**05 59 07.6**	**+2.1**
BGF	**Bois d'Agland**	**8.22 283**	*e*P	**Pn**	**05 59 14.2**	**+4.3**
HYF	**Humbligny**	**8.45 288**	*e*P	**Pn**	**05 59 16.5**	**+3.4**
LFF	**La Frestale**	**9.73 273**	*e*P	**Pn**	**05 59 33.9**	**+3.3**

IDC 08 06:19:35.9±7.6,**6°71**S×**127°11**E,**h439**km±100km,**mb2.8**/2, **mb1 2.9**/5,**mb1mx2.6**/35,**mbtmp3.7**/5,**Error ellipse: s-maj=102.1km s-min=35.1km az=50.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.41**	**187**	P	P	06 22 09.1	+0.6
	0.1nm,0.3s,baz=16,slow=9.4,SNR=1.6						
WRA	**Warramunga Arr**	**14.91**	**153**	P	P	06 22 45.4	-1.1
	0.4nm,0.3s,baz=330,slow=11,SNR=34						
WRA				S	S	06 25 21.1	-2.7
	0.1nm,0.3s,baz=332,slow=21,SNR=9.6						
ASAR	**Alice Springs**	**18.08**	**160**	P	P	06 23 19.6	-0.4
	0.5nm,0.3s,baz=339,slow=9.8,SNR=22						
STKA	**Stephens Creek**	**28.46**	**153**	P	P	06 24 53.8	+0.2
	0.7nm,0.3s,baz=341,slow=9.0,SNR=3.7						
MKAR	**Makanchi Array**	**66.44**	**328**	P	P	06 29 40.3	0.0
	0.2nm,0.5s,baz=119,slow=8.1,SNR=4.3						

*IDC **08** 07:05:53.0±1.6, 10°94N×126°26E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/56, mbtmp3.9/7, MS3.2/8, Ms1 3.2/8, ms1mx2.9/79, Error ellipse: s-maj=128.4km s-min=16.9km az=70.0*
*MAN **08** 07:05:55.6, 11°21N×126°78E, h33km, mb4.8, ML3.7, MS3.7*

ISC 08 07:05:57.2±1.1,**11°22N**±0°07×**126°78E**±0°10,**h35**km,**n22**, σ1§**88**/18,**mb4.0**/7,**MS3.0**/5,**2C-3D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.36**	**286**	⇑*i*P	**Pn**	**07 06 16.7**	**-3.1**
BESP				*e*S	**Sn**	**07 06 35.5**	**-1.2**
SCPH	**Surigao**	**1.91**	**222**	⇑*i*P	**Pn**	**07 06 26.5**	**-0.9**
SCPH				*i* S	**Sn**	**07 06 46.0**	**-4.2**
MSLP	**Maasin**	**2.17**	**240**	⇓*e*P	**Pn**	**07 06 30.4**	**-0.5**
LLP	**Lapu-Lapu**	**2.91**	**252**	*e*P	Pn	07 06 48.5	+7.4
LLP				*i* S	**Sn**	**07 07 17.7**	**+2.9**
TBP	**Tagbilaran**	**3.25**	**242**	*e*P	**Pn**	**07 06 47.8**	**+2.0**
TBP				*i* S	**Sn**	**07 07 23.9**	**+0.8**
BUKP	**Musuan**	**3.73**	**207**	⇓*e*P	**Pn**	**07 06 52.7**	**+0.3**
BUKP				*i* S	**Sn**	**07 07 35.3**	**+0.1**
RCP	**Roxas**	**3.97**	**275**	⇓*e*P	**Pn**	**07 06 55.5**	**-0.1**
JOW	**Kunigami**	**15.59**	**5**	LR	LR	07 14 27.2	
	comp=Z,100nm,21.6s,baz=274,slow=32						
KAPI	**Kappang**	**17.58**	**204**	LR	LR	07 16 41.7	
	comp=Z,27nm,21.9s,baz=60,slow=38						
GUMO	**Guam**	**17.83**	**81**	LR	LR	07 15 30.5	
	comp=Z,49nm,21.9s,baz=165,slow=31						
JHJ	**Hachijo jima 2**	**24.85**	**27**	LR	LR	07 19 03.3	
	comp=Z,46nm,21.5s,baz=278,slow=31						
KSRS	**Korea Array**	**26.14**	**2**	LR	LR	07 21 07.8	
	comp=Z,48nm,21.2s,baz=200,slow=35						
MJAR	**Matsushiro Arr**	**27.24**	**20**	LR	LR	07 21 47.7	
	comp=Z,51nm,19.6s,baz=180,slow=34						
PMG	**Port Moresby**	**28.83**	**135**	LR	LR	07 23 40.0	
	comp=Z,38nm,20.3s,baz=192,slow=37						
FITZ	**Fitzroy Crossi**	**29.16**	**182**	P	**P**	**07 11 54.1**	**-1.2**
	0.9nm,0.5s,baz=346,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**31.85**	**166**	P	**P**	**07 12 17.8**	**-1.4**
	0.6nm,0.4s,baz=347,slow=9.4,SNR=14						
ASAR	**Alice Springs**	**35.37**	**169**	P	**P**	**07 12 49.5**	**-0.3**
	0.8nm,0.3s,baz=354,slow=7.1,SNR=49						
SONM	**Songino Array**	**40.31**	**339**	P	**P**	**07 13 33.8**	**+2.5**
	1.1nm,0.9s,baz=154,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**51.58**	**322**	P	**P**	**07 14 59.6**	**-0.4**
	1.3nm,0.8s,baz=117,slow=9.1,SNR=8.5						
KURBB	**Kurchatov Arra**	**55.58**	**325**	P	**P**	**07 15 29.4**	**+0.2**
	1.8nm,0.6s,baz=123,slow=7.0,SNR=4.2						
BVAR	**Borovoye Array**	**61.17**	**325**	P	**P**	**07 16 08.7**	**+0.5**
	1.2nm,0.8s,baz=120,slow=10,SNR=5.6						
DLBC	**Dease Lake**	**87.33**	**31**	LR	LR	07 56 08.2	
	comp=Z,106nm,19.6s,baz=42,slow=34						

IDC 08 07:12:08.5±7.9,**6°97S**×**150°42E**,**h66**km±57km,**mb3.3**/3, **mb1 3.6**/4,**mb1mx3.2**/47,**mbtmp3.6**/4,**ML1.5**/1,**Error ellipse: s-maj=93.6km s-min=51.5km az=135.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.03**	**233**	P	Pn	07 13 08.0	+0.1
	2.1nm,0.3s,baz=33,slow=13,SNR=2.7						
PMG				S	Sn	07 13 55.3	+1.5
	4.2nm,0.3s,baz=324,slow=7.9,SNR=5.7						
WRA	**Warramunga Arr**	**20.24**	**229**	P	P	07 16 37.9	-0.7
	2.0nm,0.7s,baz=54,slow=11,SNR=16						
ASAR	**Alice Springs**	**22.96**	**222**	P	P	07 17 06.5	-1.1
	0.6nm,0.6s,baz=55,slow=9.0,SNR=6.9						
FITZ	**Fitzroy Crossi**	**26.56**	**243**	P	P	07 17 39.8	-0.7
	0.7nm,0.4s,baz=54,slow=11,SNR=1.6						
TORD	**Torodi Ar. Bea**	**148.62**	**284**	PKPbc	PKiKP	07 31 50.3	-0.4
	0.3nm,0.5s,baz=40,slow=3.2,SNR=1.9						

*IDC **08** 07:36:08.9±6.6, 13°70N×91°10W, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.6/34, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=161.8km s-min=54.2km az=23.0*
*GCG **08** 07:36:29.6±0.6, 14°69N×92°16W, h91km±10km, MD4.0*
*MEX **08** 07:36:30.8±0.7, 14°61N×92°03W, h95km±6km, MD3.6*

ISC 08 07:36:30.9±1.2,**14°7N**±0°1×**92°12W**±0°07,**h88**km±7km,**n17**, σ1§**47**/27,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.28**	**330**	*e*P	**Pn**	**07 36 44.2**	**+0.2**
THIG				*i* S	**Sn**	**07 36 54.6**	**+1.0**
CHUJ	**Union Juarez**	**0.43**	**1**	*e*P	**Pn**	**07 36 44.8**	**-0.4**
CHUJ				*e*S	**Sn**	**07 36 55.9**	**+0.1**
PATR	**El Naranjo**	**0.47**	**346**	*e*P	**Pn**	**07 36 44.8**	**-0.6**
PATR				*e*S	**Sn**	**07 36 55.9**	**-0.4**
PAVE	**Pavencul**	**0.53**	**354**	*e*P	**Pn**	**07 36 45.6**	**-0.4**
PAVE				*e*S	**Sn**	**07 36 57.8**	**+0.7**
STG3	**Santiaguito 3,**	**0.53**	**85**	*e*P	**Pn**	**07 36 45.8**	**-0.1**
FUG	**Fuego 3**	**1.25**	**100**	*e*P	**Pn**	**07 36 53.4**	**-0.2**
FUG				*e*S	**Sn**	**07 37 11.8**	**+1.0**
PCIG		**1.48**	**314**	*e*P	**Pn**	**07 36 56.6**	**+0.3**
PCIG				*e*S	**Sn**	**07 37 16.6**	**+1.0**
PCG	**Pacaya**	**1.49**	**100**	*e*P	**Pn**	**07 36 56.7**	**+0.1**
PCG				*e*S	**Sn**	**07 37 18.4**	**+2.3**
CCIG	**Comitan**	**1.61**	**359**	*e*P	**Pn**	**07 36 58.7**	**+0.6**
CCIG				*e*S	**Sn**	**07 37 20.4**	**+1.6**
NBG	**Las Nubes**	**1.72**	**92**	*e*P	**Pn**	**07 36 59.9**	**+0.3**
TGIG		**2.31**	**335**	*e*P	**Pn**	**07 37 06.9**	**-0.4**
TGIG				*e*S	**Sn**	**07 37 33.4**	**-1.7**
MRL	**Marmol**	**2.39**	**80**	*e*P	**Pn**	**07 37 08.4**	**0.0**
UXUV	**UXUV**	**3.28**	**324**	*e*P	**Pn**	**07 37 20.3**	**+0.1**
UXUV				*i* S	**Sn**	**07 38 03.2**	**+5.0**
CMIG	**Matias Romero**	**3.59**	**313**	Pn	**Pn**	**07 37 24.6**	**+0.2**
	3.0nm,0.3s,baz=134,slow=10,SNR=39						
CMIG				Sn	Sn	07 38 24.4	+19
	7.4nm,0.3s,baz=200,slow=4.6,SNR=9.9						
TXAR	**Lajitas Array**	**18.09**	**326**	P	**P**	**07 40 36.7**	**+0.9**
	0.0nm,0.3s,baz=152,slow=8.1,SNR=4.9						
NVAR	**Mina Array Bea**	**33.09**	**321**	P	**P**	**07 42 59.0**	**+0.4**
	1.7nm,0.6s,baz=132,slow=8.6,SNR=15						
YKA	**Yellowknife Ar**	**50.36**	**347**	P	**P**	**07 45 15.9**	**-2.8**
	0.7nm,0.6s,baz=150,slow=7.4,SNR=13						

*IDC **08** 07:40:51.9±1.0, 4°55N×125°08E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/31, mbtmp3.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/80, Error ellipse: s-maj=27.5km s-min=15.7km az=70.0*
*DJA **08** 07:40:55.3±0.4, 4°N±4°×12°4E±°, h10km, M4.6/8, mb4.6/3, mB5.1/2, MLv4.5/8, Mw(mB)4.5/2*
*MAN **08** 07:40:56.9, 4°62N×124°16E, h15km, mb4.4, ML3.3, MS3.1*

ISC 08 07:40:53.7±0.8,**4°35N**±0°04×**124°19E**±0°10,**h10**km,**n17**, σ1§**84**/21,**mb3.8**/5,**2C-3D,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.89**	**23**	⇓*i*P	**Pn**	**07 41 26.5**	**+0.4**
GSPH				*i* S	**Sn**	**07 41 49.3**	**-0.8**
DDMP	**Don Marcelino,**	**2.31**	**41**	⇓*e*P	**Pn**	**07 41 32.1**	**+0.3**
DDMP				*e*S	**Sn**	**07 41 59.1**	**-1.2**
KCP	**Kidapawan**	**2.79**	**19**	⇓*i*P	**Pn**	**07 41 39.6**	**+1.1**
KCP				*i* S	**Sn**	**07 42 13.4**	**+1.1**
CTBH	**Cotabato--PC H**	**2.86**	**1**	*e*P	Pg	07 41 59.7	+11
CTBH				*i* S	**Sn**	**07 42 11.1**	**-2.7**
PAGZ	**Pagadian**	**3.57**	**347**	⇑*e*P	**Pn**	**07 41 49.4**	**+0.2**
PAGZ				*e*S	**Sn**	**07 42 28.1**	**-3.4**
BUKP	**Musuan**	**3.61**	**14**	⇑*i*P	Pn	07 41 45.6	-4.2
BUKP				*e*S	**Sn**	**07 42 31.9**	**-0.7**
KMSI	**Cibinong**	**3.75**	**183**	P	**Pn**	**07 41 52.4**	**+0.7**
GTOI	**Gorontalo**	**3.87**	**198**	P	**Pn**	**07 41 52.9**	**-0.4**
GTOI				S	**Sn**	**07 42 35.1**	**-3.8**
MRSI	**Marisa**	**4.45**	**210**	P	**Pn**	**07 42 02.8**	**+1.5**
LUWI	**Luwuk**	**5.54**	**195**	P	**Pn**	**07 42 17.6**	**+1.4**
	1.4nm3µm103nm,0.8s						
APSI	**Ampana**	**5.81**	**206**	P	**Pn**	**07 42 22.7**	**+2.7**
	0.7nm939nm81nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.35**	**176**	P	**P**	**07 45 53.3**	**+1.4**
	2.4nm,0.5s,baz=357,slow=7.6,SNR=11						
GUMO	**Guam**	**22.37**	**64**	LR	LR	07 54 52.1	
	comp=Z,24nm,18.6s,baz=146,slow=39						
WRA	**Warramunga Arr**	**26.12**	**158**	P	**P**	**07 46 26.5**	**-1.5**
	1.6nm,0.5s,baz=337,slow=10,SNR=22						
ASAR	**Alice Springs**	**29.41**	**162**	P	**P**	**07 46 56.5**	**-1.0**
	0.2nm,0.6s,baz=337,slow=7.2,SNR=5.8						
STKA	**Stephens Creek**	**39.65**	**156**	P	**P**	**07 48 25.0**	**-0.9**
	1.0nm,0.4s,baz=348,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**55.62**	**326**	P	**P**	**07 50 31.9**	**+2.0**
	0.2nm,0.5s,baz=121,slow=8.4,SNR=2.3						

*IDC **08** 07:54:48.9±0.6, 5°32S×133°91E, h0km, mb4.2/9, mb1 4.4/16, mb1mx4.1/39, mbtmp4.3/16, ML4.1/5, MS3.5/7, Ms1 3.5/7, ms1mx3.1/63, Error ellipse: s-maj=25.6km s-min=14.5km az=73.0*
*DJA **08** 07:54:51.4±0.2, 5°S±2°×13°4E±°, h10km, M4.8/17, mb4.9/17, mB5.4/12, MLv4.9/11, Mw(mB)4.8/12, MwMwp5.9/1, Mwp6.0/1*
*NEIC **08** 07:54:54.1±1.9, 5°31S±0°07×133°97E±0°08, h31km±6km, mb4.5/13, Error ellipse: s-maj=12.0km s-min=9.8km az=67.0*

ISC 08 07:54:53.5±0.4,**5°37S**±0°05×**133°88E**±0°05,**h32**km,**n81**, σ2§**10**/81,**mb4.3**/16,**Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.92**	**326**	P	**Pn**	**07 55 37.0**	**-0.8**
FAKI				S	**Sn**	**07 56 08.7**	**-3.2**
FAKI	**Fak Fak**	**2.92**	**326**		**Pn**	**07 55 37.3**	**-0.5**
FAKI	**Fak Fak**	**2.92**	**326**	P	**Pn**	**07 55 37.6**	**-0.2**
BNDI	**Bandanaira**	**4.05**	**282**	P	**Pn**	**07 55 55.2**	**+2.0**
SRPI	**Serui, Papua**	**4.20**	**34**	P	**Pn**	**07 55 52.8**	**-2.5**
BAKI	**Biak**	**4.71**	**28**	P	**Pn**	**07 56 01.0**	**-1.3**
WAMI	**Wamena**	**5.04**	**73**	P	**Pn**	**07 56 09.1**	**+2.2**
	596nm,1.0s						
SIJI	**Sorong**	**5.17**	**330**	Pn	**Pn**	**07 56 07.5**	**-1.2**
	16nm,0.3s,baz=244,slow=23,SNR=34						
SIJI				Sn	**Sn**	**07 57 00.2**	**-7.2**
	41nm,0.3s,baz=104,slow=22,SNR=6.1						
SWI	**Sorong**	**5.18**	**330**	P	**Pn**	**07 56 07.9**	**-0.9**
	1.2nm5µm65nm,0.6s						
MSAI	**Masohi**	**5.33**	**292**	P	**Pn**	**07 56 11.5**	**+0.6**
AAI	**Ambon**	**5.91**	**286**	P	**Pn**	**07 56 19.7**	**+0.9**
GENI	**Genyem**	**6.85**	**67**	P	**Pn**	**07 56 31.7**	**-0.1**
	0.6nm101nm,0.5s						
JAY	**Jayapura**	**7.38**	**68**	Pn	**Pn**	**07 56 38.5**	**-0.6**
	2.3nm,0.3s,baz=231,slow=15,SNR=5.5						
JAY				Sn	**Sn**	**07 58 00.2**	**-1.5**
	5.5nm,0.3s,baz=75,slow=17,SNR=5.7						
JAY				LR	LR	08 00 14.7	
	comp=Z,395nm,19.9s,baz=352,slow=44						
JAY	**Jayapura**	**7.38**	**68**	P	**Pn**	**07 56 37.8**	**-1.3**
	0.1nm19nm,0.9s						
KDU	**Kakadu**	**7.40**	**191**	P	**Pn**	**07 56 41.2**	**+1.8**
DRS	**Darwin Rock St**	**7.61**	**203**	P	**Pn**	**07 56 45.8**	**+3.6**
MTN	**Manton Dam**	**7.91**	**200**	Pn	**Pn**	**07 56 48.4**	**+2.1**
MTN	**Manton Dam**	**7.91**	**200**	P	**Pn**	**07 56 48.9**	**+2.6**
LBMI	**Labuha**	**7.91**	**306**	P	**Pn**	**07 56 47.0**	**+0.6**
	0.6nm2µm121nm,1.1s						
SANI	**Sanana**	**8.53**	**292**	P	**Pn**	**07 56 53.2**	**-1.7**
	86nm68nm,0.5s						
SANI	**Sanana**	**8.53**	**292**	P	**Pn**	**07 56 53.8**	**-1.1**
SOEI	**Soe**	**10.47**	**245**	P	**Pn**	**07 57 23.3**	**+1.6**
	916nm62nm,1.1s						
SOEI	**Soe**	**10.47**	**245**	Pn	**Pn**	**07 57 22.7**	**+1.1**
BATI	**Baumata**	**11.20**	**244**	Pn	**Pn**	**07 57 32.2**	**+0.7**
	14nm,0.3s,baz=66,slow=4.8,SNR=4.7						
KNRA	**Kununurra**	**11.41**	**206**	Pn	**Pn**	**07 57 34.7**	**+0.4**
KNRA	**Kununurra**	**11.41**	**206**	P	**Pn**	**07 57 34.9**	**+0.6**
LUWI	**Luwuk**	**11.89**	**291**	P	**Pn**	**07 57 41.4**	**+0.5**
LUWI	**Luwuk**	**11.89**	**291**	Pn	**Pn**	**07 57 40.4**	**-0.5**
MMRI	**Maumere**	**12.00**	**254**	Pn	**Pn**	**07 57 45.0**	**+2.6**
COEN	**Coen**	**12.52**	**134**	Pn	**Pn**	**07 57 46.8**	**-2.7**
COEN	**Coen**	**12.52**	**134**	P	**Pn**	**07 57 46.5**	**-3.0**
MRSI	**Marisa**	**13.26**	**296**	P	**Pn**	**07 58 03.0**	**+3.4**
	22nm,1.1s						
BKSI	**Bulukumba**	**13.70**	**270**	P	**Pn**	**07 58 07.9**	**+2.3**
	14nm,1.1s						
PMG	**Port Moresby**	**13.77**	**108**	Pn	**Pn**	**07 58 04.8**	**-1.8**
	0.8nm,0.3s,baz=302,slow=7.7,SNR=8.8						
PMG				LR	LR	08 04 44.7	
	comp=Z,320nm,18.1s,baz=310,slow=43						
PMG	**Port Moresby**	**13.77**	**108**	Pn	**Pn**	**07 58 04.4**	**-2.1**
KAPI	**Kappang**	**14.07**	**271**	LR	LR	08 05 47.4	
	comp=Z,105nm,18.4s,baz=126,slow=47						
KAPI	**Kappang**	**14.07**	**271**	Pn	**Pn**	**07 58 12.4**	**+1.7**
SPSI	**Sidrap Palu**	**14.13**	**275**	P	**Pn**	**07 58 15.3**	**+3.8**
WB0	**Warramunga Arr**	**14.32**	**178**	Pn	**Pn**	**07 58 14.1**	**-0.1**
WRAB	**Tennant Creek**	**14.48**	**178**	P	**Pn**	**07 58 14.1**	**-2.3**
WRA	**Warramunga Arr**	**14.49**	**178**	Pn	**Pn**	**07 58 14.0**	**-2.5**
	0.6nm,0.3s,baz=1.7,slow=13,SNR=30						
WRA				LR	LR	08 04 35.0	
	comp=Z,172nm,18.6s,baz=10.0,slow=40						
WRA	**Warramunga Arr**	**14.49**	**178**		**Pn**	**07 58 15.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**15.00**	**212**	Sn	**Sn**	**08 00 59.5**	**-8.9**
	1.9nm,0.3s,baz=190,slow=17,SNR=5.9						
QIS	**Mount Isa**	**16.09**	**160**	P	**Pn**	**07 58 34.0**	**-3.5**
AS31	**Alice Springs**	**18.19**	**180**	P	**Pn**	**07 59 05.4**	**+1.6**
ASAR	**Alice Springs**	**18.19**	**180**	P	**P**	**07 59 02.9**	**-0.9**
	0.7nm,0.3s,baz=11,slow=12,SNR=41						
ASAR				LR	LR	08 06 23.5	
	comp=Z,107nm,18.8s,baz=3.0,slow=38						
ASAR	**Alice Springs**	**18.19**	**180**	P	**P**	**07 59 04.1**	**+0.3**
MYLDM	**Lahad Datu**	**18.59**	**304**	P	**Pn**	**07 59 08.8**	**+0.2**
CTA	**Charters Tower**	**18.95**	**142**	P	**P**	**07 59 12.2**	**+0.1**
	0.3nm,0.3s,baz=317,slow=17,SNR=15						
CTAO	**Charters Tower**	**18.95**	**142**		**Pn**	**07 59 13.4**	**+0.5**
CTAO				IAmb	IAmb	07 59 17.0	
	comp=Z,21nm,0.8s						
BBKI	**Banjar Baru**	**19.07**	**275**	P	**Pn**	**07 59 16.4**	**+1.9**
SBUM	**Sibu**	**22.98**	**289**	P	**P**	**07 59 57.4**	**+1.7**
HNR	**Honiara**	**26.16**	**100**	LR	LR	08 11 44.9	
	comp=Z,77nm,18.4s,baz=297,slow=39						
STKA	**Stephens Creek**	**27.34**	**166**	P	**P**	**08 00 35.1**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=10,slow=3.9,SNR=5.1						
STKA				LR	LR	08 12 35.2	
	comp=Z,211nm,19.8s,baz=8.2,slow=39						
STKA	**Stephens Creek**	**27.34**	**166**	P	**P**	**08 00 35.6**	**-0.1**
JWT	**Wachi**	**40.46**	**2**	P	**P**	**08 02 29.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**49.37**	**358**	P	**P**	**08 03 39.9**	**0.0**
HHC	**Hu-ho-hao-te**	**50.34**	**338**	*e*P	**P**	**08 03 51.7**	**+4.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,5.9s						
KLR	**Kul'dur**	**54.40**	**358**	P	**P**	**08 04 17.2**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=191,slow=4.6,SNR=11						
GTA	**Gaotai**	**54.53**	**328**	*e*P	P	08 04 24.4	+5.7
GTA				pP	pwP	08 04 33.6	+1.7
GTA				sP	sP	08 04 36.8	+6.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
PETK	**Petropavlovsk-**	**61.64**	**16**	P	**P**	**08 05 08.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=184,slow=4.2,SNR=5.3						
WMQ	**Urumqi**	**64.22**	**325**	*e*P	**P**	**08 05 29.0**	**+3.5**
MK31	**Makanchi Array**	**69.05**	**325**	P	**P**	**08 05 56.9**	**+0.7**
MK31				IAmb	IAmb	08 05 57.9	
	comp=Z,2.1nm,1.0s						
MKAR	**Makanchi Array**	**69.05**	**325**	P	**P**	**08 05 57.0**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=120,slow=7.9,SNR=18						
MKAR	**Makanchi Array**	**69.05**	**325**	P	**P**	**08 05 56.8**	**+0.6**
MAKZ	**Makanchi**	**69.24**	**325**	P	**P**	**08 05 58.0**	**+0.6**
MAKZ				IAmb	IAmb	08 05 58.9	
	comp=Z,6.3nm,1.2s						
ZAA0	**Zalesovo Array**	**71.90**	**332**	P	**P**	**08 06 14.7**	**+1.3**
ZAA0				IAmb	IAmb	08 06 15.6	
	comp=Z,11nm,1.8s						
ZALV	**Zalesovo Beam**	**71.90**	**332**	P	**P**	**08 06 14.8**	**+1.4**
KURBB	**Kurchatov Arra**	**73.20**	**327**	P	**P**	**08 06 20.8**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=123,slow=5.1,SNR=9.5						
KURK	**Kurchatov**	**73.20**	**327**	P	**P**	**08 06 21.2**	**0.0**
KURK				IAmb	IAmb	08 06 21.9	
	comp=Z,11nm,1.6s						
VNDA	**Vanda**	**73.62**	**174**	P	**P**	**08 06 23.6**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=317,slow=2.8,SNR=3.7						
TIXI	**Tiksi**	**76.94**	**358**	P	**P**	**08 06 42.2**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=181,slow=2.4,SNR=6.3						
TIXI	**Tiksi**	**76.94**	**358**	P	**P**	**08 06 42.4**	**+0.1**
TIXI				IAmb	IAmb	08 06 43.0	
	comp=Z,2.7nm,0.7s						
BVAR	**Borovoye Array**	**78.79**	**327**	P	**P**	**08 06 53.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=132,slow=6.2,SNR=5.6						
NRIK	**Noril'sk**	**80.96**	**345**	P	**P**	**08 07 05.0**	**+0.6**
NRIK				IAmb	IAmb	08 10 06.2	
	comp=Z,10nm,1.6s						
ABKAR	**Akbulak array**	**83.67**	**321**	P	**P**	**08 07 19.0**	**0.0**
ILAR	**Eielson Array**	**90.24**	**25**	P	**P**	**08 07 49.2**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=274,slow=4.7,SNR=5.0						
PLCA	**Paso Flores**	**128.94**	**156**	PKP	**PKiKP**	**08 14 00.1**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=314,slow=7.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**132.24**	**283**	PKP	**PKPdf**	**08 14 05.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=32,slow=1.1,SNR=4.3						
CPUP	**Villa Florida**	**146.67**	**161**	PKPbc	**PKPbc**	**08 14 33.5**	**+0.7**
	comp=Z,10nm,0.8s,baz=239,slow=1.8,SNR=12						
LPAZ	**La Paz**	**149.39**	**135**	PKPbc	**PKiKP**	**08 14 42.6**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=170,slow=3.8,SNR=8.3						

*ISK **08** 08:08:37.9, 37°48N×30°89E, h4km, ML2.7/7*
*DDA **08** 08:08:38.3±0.0, 37°49N×30°89E, h7km±5km, ML2.3*

ISC 08 08:08:38.5±1.1,**37°50N**±0°03×**30°90E**±0°02,**h8**km±10km, **n20**, σ0§**66**/33,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.25**	**261**	PG	**Pg**	**08 08 43.2**	**-0.3**
BCK				SG	**Sg**	**08 08 47.4**	**+0.5**
BUCA	**Burdur, Bucak-**	**0.32**	**237**	P	**Pg**	**08 08 44.3**	**-0.5**
BUCA				S	**Sg**	**08 08 49.4**	**+0.4**
BUCA				*i* AML	AML	08 08 51.0	
	comp=E,712nm,0.4s						
BUCA				*i* AML	AML	08 08 52.0	
	comp=N,518nm,0.4s

HRRZ	Handcock Road	13.97 199	P	P	08 19 56.0	+2.2
PRRZ	Plateau Road	14.04 198	P	P	08 19 56.1	+1.6
SNGZ	Shannon Statio	14.06 195	P	P	08 19 55.6	+0.9
SNGZ			S	S	08 22 23.9	-0.3
KNZ	Kokohu	14.22 194	P	P	08 19 56.9	+0.6
KNZ			S	S	08 22 23.5	-3.7
MTHZ	Maungataniwha	14.25 196	P	P	08 19 57.8	+1.0
MTHZ			S	S	08 22 27.7	-0.3
HIZ	Hauiti	14.54 203	P	P	08 20 02.0	+2.2
MCHZ	McNeill Hill	14.85 196	P	P	08 20 04.2	+1.2
MCHZ			S	S	08 22 40.4	+0.8
STKA	Stephens Creek	35.90 250	P	P	08 23 14.9	+0.5
	3.2nm,0.5s,baz=95,slow=11,SNR=24					
ASAR	Alice Springs	43.57 262	P	P	08 24 16.7	0.0
	1.5nm,0.5s,baz=93,slow=6.9,SNR=32					
WRA	Warramunga Arr	44.09 267	P	P	08 24 20.0	-0.7
	1.3nm,0.4s,baz=99,slow=6.8,SNR=31					

IDC 08 08:17:53.1±3.4, 53°.55N×87°.77E, h0km, mb1 2.8/2, mb1mx2.8/55, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=31.6km s-min=15.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.79	284	*i*		08 31 30.0	
	baz=102,slow=336,SNR=4.2						
ZALV	Zalesovo Beam	1.79	284	Pg	Pn	08 18 25.9	+0.6
	0.6nm,0.3s,baz=106,slow=17,SNR=16						
ZALV				Lg	Lg	08 18 49.4	
	0.9nm,0.3s,baz=90,slow=26,SNR=8.3						
KURBB	Kurchatov Arra	6.40	246	Pn	Pn	08 19 29.4	+0.8
	0.0nm,0.3s,baz=62,slow=14,SNR=5.1						
KURBB				Lg	Lg	08 21 12.9	
	0.0nm,0.3s,baz=66,slow=37,SNR=4.4						
MKAR	Makanchi Array	7.62	210	Pn	Pn	08 19 46.3	+0.9
	0.1nm,0.3s,baz=33,slow=14,SNR=9.5						
MKAR				Sn	Sn	08 21 12.9	+0.5
	0.1nm,0.3s,baz=24,slow=21,SNR=2.4						

IDC 08 08:27:29.1±7.2, 4°.19S×154°.07E, h105km±41km, mb3.5/3, mb1 3.8/4, mb1mx3.2/49, mbtmp4.1/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/41, Error ellipse: s-maj=97.7km s-min=53.3km az=14.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	2.04	267	P	Pn	08 28 02.4	0.0
	baz=218,slow=19						
KRVT				S	Sn	08 28 28.5	+0.6
	baz=197,slow=19						
HNR	Honiara	7.82	132	LR	LR	08 32 33.5	
	comp=Z,44nm,20.1s,baz=102,slow=39						
PMG	Port Moresby	8.60	233	P	Pn	08 29 30.6	-0.2
	5.3nm,0.3s,baz=57,slow=4.5,SNR=16						
PMG				S	Sn	08 30 58.5	-7.6
	2.4nm,0.3s,baz=72,slow=20,SNR=2.7						
WRA	Warramunga Arr	24.80	229	P	P	08 32 41.7	+0.1
	2.3nm,0.9s,baz=53,slow=10.0,SNR=17						
ASAR	Alice Springs	27.46	223	P	P	08 33 05.7	+0.1
	0.8nm,0.8s,baz=55,slow=9.0,SNR=10.0						
STKA	Stephens Creek	29.93	202	P	P	08 33 27.0	-0.4
	2.0nm,0.9s,baz=36,slow=17,SNR=3.1						

IDC 08 08:31:08.7±3.7, 55°.43N×86°.34E, h0km, mb1 2.7/2, mb1mx2.6/52, mbtmp2.7/2, ML1.9/1, Error ellipse: s-maj=29.4km s-min=27.9km az=163.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.73	211	*i*		08 44 30.0	
	baz=30,slow=342,SNR=3.2						
ZALV	Zalesovo Beam	1.73	211	Pg	Pn	08 31 38.4	-1.5
	2.8nm,0.3s,baz=34,slow=16,SNR=32						
ZALV				Lg	Lg	08 32 03.8	
	2.2nm,0.3s,baz=15,slow=27,SNR=8.6						
KURBB	Kurchatov Arra	6.73	228	Pn	Pn	08 32 48.6	-0.1
	0.0nm,0.3s,baz=48,slow=14,SNR=2.7						
KURBB				Lg	Lg	08 34 42.9	
	0.0nm,0.3s,baz=30,slow=25,SNR=1.9						
MKAR	Makanchi Array	9.01	198	Pn	Pn	08 33 21.1	+1.1
	baz=22,slow=11,SNR=0.7						

*IDC **08** 08:54:22.3±0.8, 15°.49N×47°.75W, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.7/48, mbtmp4.1/8, ML4.2/1, MS3.8/4, Ms1 3.8/4, ms1mx3.1/83, Error ellipse: s-maj=33.2km s-min=19.4km az=113.0*

ISC 08 08:54:23.7±0.8, 15°.5N±0°.1×47°.8W±0°.2, h10km, n10, σ0°64/9, mb4.2/6, MS3.9/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	Montagnes des	11.36	206	Pn	Pn	08 57 05.9	-0.3
	1.7nm,0.3s,baz=12,slow=15,SNR=119						
MDP				Sn	Sn	08 58 59.9	-13
	1.4nm,0.3s,baz=85,slow=12,SNR=1.5						
MDP				LR	LR	09 00 41.6	
	comp=Z,179nm,21.0s,baz=37,slow=33						
PTGA	Pitinga	20.11	218	P	P	08 58 57.9	-0.1
	2.9nm,0.6s,baz=29,slow=14,SNR=9.8						
PTGA				S	S	09 02 31.7	-12
	1.9nm,0.7s,baz=315,slow=20,SNR=2.3						
PTGA				LR	LR	09 06 24.1	
	comp=Z,193nm,18.2s,baz=21,slow=36						
SIV	San Ignacio	33.91	203	P	P	09 01 07.2	+0.1
	1.2nm,0.7s,baz=46,slow=11,SNR=7.2						
TORD	Torodi Ar. Bea	47.88	86	P	P	09 03 02.3	-0.2
	1.3nm,0.8s,baz=285,slow=7.1,SNR=7.7						
YKA	Yellowknife Ar	65.76	332	P	P	09 05 07.9	-0.7
	0.4nm,0.6s,baz=102,slow=6.9,SNR=5.9						
FINES	FINESS Array B	68.82	30	P	P	09 05 27.6	-0.5
	1.4nm,0.8s,baz=247,slow=5.6,SNR=4.3						
FINES				LR	LR	09 32 00.7	
	comp=Z,229nm,18.2s,baz=74,slow=33						
ARCES	ARCESS Array B	69.78	21	P	P	09 05 34.4	+0.5
	2.9nm,0.9s,baz=251,slow=5.6,SNR=5.3						
ILAR	Eielson Array	80.00	335	P	P	09 06 33.8	+0.6
	2.6nm,0.8s,baz=70,slow=4.5,SNR=14						
SNAA	Sanae	92.02	167	LR	LR	09 46 54.0	
	comp=Z,37nm,18.6s,baz=294,slow=34						
ASAR	Alice Springs	171.69	191	PKPab	PKPab	09 15 55.8	+0.9
	0.4nm,0.8s,baz=165,slow=3.8,SNR=3.1						

*BGR **08** 09:07:02.1±0.0, 36°.13N×71°.97E, h200km±8km, mb5.3*
*NNC **08** 09:07:05.4±2.4, 37°.03N×70°.33E, h0km, mb6.3, mpv6.4, Error ellipse: s-maj=24.7km s-min=12.2km az=158.0*
*BJI **08** 09:07:08.7±0.0, 36°.59N×71°.14E, h200km, mb4.9/67, mB5.1/45*
*MOS **08** 09:07:08.1±0.9, 36°.63N×71°.05E, h220km, mb4.9/45, Error ellipse: s-maj=4.3km s-min=3.2km az=99.8*
*GCMT **08** 09:07:09.4±0.2, 36°.51N±0°.01×70°.82E±0°.02, h221km±1km, MW5.2/108, Moment Tensor Solution. s61,c73; s108,c168; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.17±.18; $M_{\theta\theta}$-2.90±.20; $M_{\phi\phi}$3.07±.19; $M_{r\theta}$-0.29±.16; $M_{r\phi}$6.52±.17; $M_{\theta\phi}$5.26±.16; Best double couple: $M_0$8.86700×10^{16} NP1:ϕ_s79.00000°, δ54.00000°, λ2.00000°. NP2:ϕ_s348.00000°, δ89.00000°, λ144.00000°. Principal axes: T 9.3040, Plg26.0000°, Azm298.0000°; N -0.8790, Plg54.0000°, Azm166.0000°; P -8.4290, Plg23.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DSN **08** 09:07:09.0±0.6, 36°.54N×71°.10E, h212km, mb5.7/20 Error ellipse: s-maj=12.5km s-min=7.3km az=119.0*
*NEIC **08** 09:07:09.4±2.2, 36°.60N±0°.06×70°.97E±0°.08, h223km±4km, mb5.0/132, Error ellipse: s-maj=8.7km s-min=8.6km az=122.0*
*IDC **08** 09:07:10.3±0.3, 36°.54N×71°.03E, h232km±3km, mb4.3/36, mb1 4.4/42, mb1mx4.3/51, mbtmp5.0/42, Error ellipse: s-maj=7.2km s-min=5.8km az=178.0*
*SOME **08** 09:07:18.8, 38°.42N×72°.07E, h15km, MS5.3*

ISC 08 09:07:09.1±0.2, 36°.61N±0°.03×70°.98E±0°.03, h219km±2km, h219km:pP-P, n765, σ1°72/845, mb4.9/211, 109C-120D, Fault plane solution: NP1:ϕ_s88.84420°, δ51.86000°, λ0.41027°. **NP2:ϕ_s358.59082°, δ89.67732°, λ141.85928°. Principal axes:** T Plg26.1473°, Azm306.8732°; N Plg51.8581°, Azm178.1799°; P Plg25.6401°, Azm50.5021°; **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGR	Chuyangaron	2.50	325		Pn	09 07 54.2	-0.1
KBL	Kabul	2.60	218	PN	Pn	09 07 55.3	-0.3
KBL	Kabul	2.60	218	P	Pn	09 07 55.3	-0.3
	SNR=4498						
KBL	Kabul	2.60	218	Pn	Pn	09 07 55.3	-0.3
CEP	Cherat	2.88	164	⇑P	Pn	09 07 58.7	0.0
CEP				S	S	09 08 35.0	-2.2
DRK	Karamyk	2.94	13		Pn	09 07 59.6	+0.3
BTK	Batken	3.44	358	PN	Pn	09 08 06.0	+1.0
BTK	Batken	3.44	358		Pn	09 08 06.0	+1.0
CHCP	Chirah Chowk	3.49	147	⇑P	Pn	09 08 05.9	+0.3
NIL	Nilore	3.49	147	PN	Pn	09 08 05.3	-0.3
NIL	Nilore	3.49	147	Pn	Pn	09 08 05.3	-0.3
THW	Thamme Wali	3.86	170	P	Pn	09 08 09.7	-0.3
SARP	Sargodha	4.88	163	⇑P	Pn	09 08 21.8	-0.8
TAS	Tashkent	4.89	345	PN	Pn	09 08 23.0	+0.5
TAS	Tashkent	4.89	345	Pn	Pn	09 08 23.0	+0.5
IUG	Iuzhnay	5.58	353	*i* PN	Pn	09 08 30.4	-0.9
IUG	Iuzhnay	5.58	353	*e*P	Pn	09 08 34.0	+2.7
	12μm,0.8s						
IUG				*e*S	S	09 09 32.7	-3.7
	17μm,0.9s						
IUG	Iuzhnay	5.58	353	*i* P	Pn	09 08 30.4	-0.9
	baz=352						
CHM	Chimkent	5.80	350	*e*P	Pn	09 08 36.7	+2.7
CHM				*e*S	S	09 09 37.2	-4.2
	12μm,0.7s						
AML	Almayashu	5.90	20	P	Pn	09 08 35.2	-0.5
	SNR=6895						
AML	Almayashu	5.90	20	P	Pn	09 08 35.2	-0.5
AML	Almayashu	5.90	20	*i* P	Pn	09 08 35.2	-0.5
	SNR=7007						
DHRM	DHARAMSHALA	6.18	133	*e*P	Pn	09 08 38.0	-1.3
DHRM				*ex*	x	09 09 45.3	
UCH	Uchtor	6.24	25	P	Pn	09 08 39.6	-0.5
	SNR=6962						
DZA	Taraz	6.28	2	⇓*i*PN	Pn	09 08 40.0	-0.1
DZA	Taraz	6.28	2	*e*P	Pn	09 08 42.9	+2.7
	1μm,0.6s						
DZA				*e*S	S	09 09 48.4	-4.2
	13μm,1.1s						
DZA	Taraz	6.28	2	⇓*i*P	Pn	09 08 40.1	-0.1
	baz=2.0						
MRKS	Merke	6.37	15	*e*P	Pn	09 08 44.0	+2.6
	933nm,0.8s						
MRKS				*e*S	S	09 09 50.6	-4.0
	3μm,0.8s						
EKS2	Erkin-Say	6.42	19	P	Pn	09 08 41.8	-0.2
	SNR=515						
BRLS	Borolday	6.47	353	⇑*i*PN	Pn	09 08 38.8	-3.8
BRLS				pmax	pmax		
	comp=Z,33nm,0.3s						
BRLS	Borolday	6.47	353	*e*P	Pn	09 08 41.2	-1.4
	comp=Z,140nm,0.3s						
BRLS				*e*S	S	09 09 45.1	-12
	comp=Z,3μm,1.4s						
BRLS	Borolday	6.47	353	⇑*i*P	Pn	09 08 38.9	-3.7
	comp=Z,33nm,0.3s,baz=351						
KK31	Karatay Array	6.49	357	PN	Pn	09 08 41.9	-1.0
KKAR	Karatay Array	6.49	357	PN	Pn	09 08 42.4	-0.5
KKAR	Karatay Array	6.49	357		Pn	09 08 42.4	-0.5
KK09	Karatay Array	6.51	357	⇓P	Pn	09 08 38.5	-4.6
	comp=Z,333nm,0.5s,baz=180,slow=12						
KK09				⇑S	S	09 09 48.6	-9.4
	comp=Z,2μm,0.8s,baz=187,slow=22						
AAK	Ala-Archa	6.60	23	P	Pn	09 08 44.5	+0.1
	comp=Z,0.1nm,0.3s,baz=166,slow=13,SNR=3.7						
AAK				S	S	09 09 57.3	-2.9
	comp=Z,140nm,0.3s,baz=201,slow=12,SNR=5.7						
AAK	Ala-Archa	6.60	23	P	Pn	09 08 43.9	-0.5
	SNR=2399						
AAK	Ala-Archa	6.60	23	*d i*PN	Pn	09 08 44.3	-0.1
AAK				pmax	pmax		
	comp=Z,2μm,0.7s						
AAK	Ala-Archa	6.60	23	P	Pn	09 08 44.4	-0.1
AAK				P	Pn	09 08 44.4	-0.1
AAK	Ala-Archa	6.60	23	P	Pn	09 08 44.1	-0.3
	comp=Z,2μm,0.8s						
AAK				S	S	09 09 57.6	-2.7
	comp=Z,2μm,0.8s						
AAK	Ala-Archa	6.60	23	Pn	Pn	09 08 44.4	-0.1
AAK	Ala-Archa	6.60	23	*i* P	Pn	09 08 44.2	-0.3
	SNR=2912						
KBK	Karagaybulak	6.77	26	P	Pn	09 08 46.8	+0.2
	SNR=72						
FRU1	Bishkek	6.80	23	PN	Pn	09 08 47.2	+0.3
FRU1	Bishkek	6.80	23		Pn	09 08 47.1	+0.3
BHK	Bhakra	6.87	137	⇑*i*P	Pn	09 08 46.6	-1.3
ULHL	Ulahol	6.95	34	P	Pn	09 08 48.1	-0.8
	SNR=180						
CHMS	Chumysh	7.01	23	P	Pn	09 08 48.9	-0.6
	SNR=288						
BOOM	Boomskoye usch	7.01	32	PN	Pn	09 08 49.3	-0.4
BOOM	Boomskoye usch	7.01	32		Pn	09 08 49.2	-0.4
USP	Ospenovka	7.18	21	P	Pn	09 08 50.7	-1.0
	SNR=714						
TKM2	Tokmak 2	7.23	28	P	Pn	09 08 52.3	-0.3
	SNR=886						
TKM2	Tokmak 2	7.23	28	*i* PN	Pn	09 08 51.9	-0.7
TKM2				pmax	pmax		
	comp=Z,6μm,1.0s						
TKM2	Tokmak 2	7.23	28	⇑P	Pn	09 08 51.9	-0.7
	comp=Z,6μm,1.0s						
TKM2				⇑S	S	09 10 12.3	-2.9
	comp=Z,2μm,0.9s						
KDJ	Kajisay	7.31	39	PN	Pn	09 08 52.7	-0.8
KDJ	Kajisay	7.31	39		Pn	09 08 52.7	-0.8
TARG	Taragay, Kyrgy	7.36	44		Pn	09 08 53.2	-1.3
SGDS	Sogindy	7.38	21	⇓*i*P	Pn	09 08 53.3	-1.1
	comp=Z,220nm,0.5s,baz=21						
HRA	Herat	7.46	255	Pn	Pn	09 08 55.6	0.0
KST	Kastek	7.48	29	*e*P	Pn	09 08 59.9	+4.2
	comp=Z,1μm,0.8s						
KST				*e*S	S	09 10 18.7	-2.1
	comp=Z,1μm,0.6s						
SMLA	Simla	7.51	135	*e*P	Pn	09 08 54.8	-1.2
SMLA				*e*S	S	09 10 14.8	-6.6
TNSS	Tian-Shan	7.89	34	*i* P	Pn	09 09 00.7	-0.5
	baz=33						
MDOK	Medeo	8.03	34	*i* PN	Pn	09 09 02.3	-0.6
MDOK	Medeo	8.03	34	*i* P	Pn	09 09 02.4	-0.5
	baz=33						
MDOK	Medeo	8.03	34	⇑P	Pn	09 09 02.5	-0.3
	comp=Z,1μm,0.8s						
MDOK				⇓S	S	09 10 37.2	+3.3
	comp=Z,729nm,1.0s						
KNDC	Almaty	8.04	33	PN	Pn	09 09 03.2	+0.4
KNDC	Almaty	8.04	33	⇑P	Pn	09 09 03.3	+0.4
	comp=Z,5μm,0.8s						
KNDC				⇓S	S	09 10 35.4	+1.5
	comp=Z,2μm,1.1s						
PRZ	Przheval'sk	8.20	42	PN	Pn	09 09 04.7	-0.3
PRZ	Przheval'sk	8.20	42		Pn	09 09 04.7	-0.3
KKR	Kurukshetra	8.24	142	*e*P	Pn	09 09 03.8	-1.7
KUU	Kurty	8.35	28	*i* PN	Pn	09 09 05.1	-1.6
KUU				pmax	pmax		
	comp=Z,108nm,1.0s						
KUU	Kurty	8.35	28	*i* P	Pn	09 09 05.1	-1.6
	comp=Z,108nm,1.0s,baz=27						
CHKK	Chushkaly	8.57	31	*i* P	Pn	09 09 08.1	-1.5
	baz=30						
ZHN	Zhinishke	8.70	39	*i* PN	Pn	09 09 10.3	-1.0
ZHN	Zhinishke	8.70	39	*i* P	Pn	09 09 10.4	-1.0
	baz=39						
BTLS	Baital	8.73	14	*e*PN	Pn	09 09 10.8	-0.9
BTLS	Baital	8.73	14	*e*P	Pn	09 09 10.9	-0.8
	baz=14						
UZB	Uzynbulak	8.99	41	*i* PN	Pn	09 09 13.8	-1.3
UZB				pmax	pmax		
	comp=Z,81nm,0.8s						
UZB	Uzynbulak	8.99	41	*i* P	Pn	09 09 13.8	-1.3
	comp=Z,81nm,0.8s,baz=41						
ARXS	Arharly	9.21	32	*e*P	Pn	09 09 16.1	-1.8
SHLS	Shalkode	9.23	42	*i* P	Pn	09 09 19.9	+1.7
SHLS				pmax	pmax		
	comp=Z,66nm,0.9s						
SHLS	Shalkode	9.23	42	*i* P	Pn	09 09 19.9	+1.7
	comp=Z,66nm,0.9s,baz=43						
BHGR	Bahadurgarh	9.36	146	*e*P	Pn	09 09 18.0	-1.9
KHET	Khetri	9.44	153	*e*P	Pn	09 09 18.1	-2.8
NDI	New Delhi	9.49	145	*e*P	Pn	09 09 18.9	-2.7
MERT	Meerut	9.50	141	*e*P	Pn	09 09 21.0	-0.7
KUDL	Kundal	9.64	150	⇑*i*P	Pn	09 09 21.0	-2.5
JASL	Jaisalmer	9.66	180	*e*P	Pn	09 09 21.3	-2.5
SONA	Sohna	9.80	147	*e*P	Pn	09 09 23.3	-2.2
SONA				*e*S	S	09 11 04.7	-11
TDK	Taldyqorghan	10.09	32	*i* P	Pn	09 09 27.7	-1.4
TDK				pmax	pmax		
	comp=Z,121nm,1.3s						
TDK	Taldyqorghan	10.09	32	*i* P	Pn	09 09 27.8	-1.4
	comp=Z,121nm,1.3s,baz=31						
GEYT	Alibeck	10.34	281	P	Pn	09 09 30.4	-2.0
	comp=Z,9.5nm,0.3s,baz=110,slow=13,SNR=60						
GEYT				S	S	09 11 24.4	-3.9
	comp=Z,32nm,0.3s,baz=206,slow=38,SNR=3.0						
GEYT	Alibeck	10.34	281		Pn	09 09 30.2	-2.2
GYA0	ALIBECK ARRAY	10.34	281	P	Pn	09 09 26.6	-5.8
GYA0				S	S	09 11 20.7	-7.6
GYA0B	ALIBECK ARRAY	10.34	281	⇑P	Pn	09 09 26.6	-5.7
GYA0B				⇑S	S	09 11 20.7	-7.5
GYA0B	ALIBECK ARRAY	10.34	281		Pn	09 09 30.1	-2.3
AJM	Ajmer	10.57	162	*e*P	Pn	09 09 33.9	-1.6
AJM				*e*S	S	09 11 21.0	-13
JHNI	Jhansi	12.86	148	*e*P	Pn	09 10 01.1	-3.2
MAKZ	Makanchi	13.07	35	P	Pn	09 10 05.6	-1.2
MAKZ	Makanchi	13.07	35	⇑P	P	09 10 09.7	+0.3
	comp=Z,770nm,0.9s						
MAKZ	Makanchi	13.07	35		Pn	09 10 05.6	-1.2
MK31	Makanchi Array	13.21	36	*d i*P	Pn	09 10 06.8	-1.7
MK31				pmax	pmax		
	comp=Z,624nm,1.1s						
MK31	Makanchi Array	13.21	36	P	P	09 10 11.6	+0.7
	comp=Z,624nm,1.1s,baz=215,slow=5.9,SNR=1201						
MK31	Makanchi Array	13.21	36		Pn	09 10 07.1	-1.4
MKAR	Makanchi Array	13.21	36	P	Pn	09 10 08.0	-0.5
	comp=Z,24nm,0.3s,baz=220,slow=14,SNR=416						
MKAR	Makanchi Array	13.21	36	*i* P	Pn	09 10 07.0	-1.4
MKAR				pmax	pmax		
	comp=Z,212nm,0.8s						
MKAR	Makanchi Array	13.21	36		Pn	09 10 07.1	-1.4
PYUN	Piuthan	13.22	127	*e*P	Pn	09 10 06.5	-2.5
BHUJ	Bhuj	13.36	185	*e*P	Pn	09 10 09.2	-1.3
BHUJ				*e*S	S	09 12 26.5	-12
BRZS	Berezniki	13.42	5	*i* P	Pn	09 10 09.6	-1.4
BRZS				pmax	pmax		
	comp=Z,20nm,0.8s						
BRZS	Berezniki	13.42	5	*i* P	Pn	09 10 09.7	-1.3
	comp=Z,20nm,0.8s,baz=4.6						
DANN	Dangsing	13.56	124	*e*P	Pn	09 10 11.1	-2.2
	comp=Z,184nm,0.4s						
KOLN	Koldanda	13.84	126	*e*P	Pn	09 10 14.6	-2.1
	comp=Z,266nm,0.4s						
VLK	Valmikinagar	14.32	127	⇑*i x*	Pn	09 10 20.6	-1.8
GKN	Gorkha	14.38	123	*e*P	Pn	09 10 21.0	-2.2
	comp=Z,162nm,0.5s						
BHPL	Bhopal	14.44	156	*e*P	Pn	09 10 22.0	-1.9
BHPL				*i x*	P	09 10 26.0	+1.2
BHPL				*ex*	x	09 12 51.7	
WMQ	Urumqi	14.65	55	⇓*i*P	Pn	09 10 25.6	-0.6
WMQ				S	S	09 13 04.3	-3.9
WMQ				pmax	pmax		
	comp=Z,370nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,2μm,4.1s						
WMQ				LR	LR		
	comp=Z,190nm,13.9s						
ZSN	Zaisan	14.93	39	*i* P	Pn	09 10 28.0	-1.6
ZSN				pmax	pmax		
	comp=Z,14nm,0.9s						
ZSN	Zaisan	14.93	39	*i* P	Pn	09 10 28.1	-1.6
	comp=Z,14nm,0.9s,baz=39						
DMN	Daman	14.95	123	*e*P	Pn	09 10 28.9	-1.3
	comp=Z,546nm,0.5s						
KKN	Kakani	14.95	122	*e*P	Pn	09 10 28.0	-2.2
	comp=Z,720nm,0.6s						
AB31	Akbulak array	14.98	331	*e*P	Pn	09 10 28.7	-1.4
AB31	Akbulak array	14.98	331	⇑P	Pn	09 10 27.1	-3.0
	comp=Z,32nm,0.5s,baz=145,slow=11,SNR=1242						
AB31				⇑S	S	09 13 12.5	-3.1
	comp=Z,117nm,0.7s,baz=158,slow=23,SNR=4.8						
ABKAR	Akbulak array	14.98	331	P	Pn	09 10 28.6	-1.5
KURBB	Kurchatov Arra	15.02	19	P	Pn	09 10 29.8	-0.8
	comp=Z,6.5nm,0.3s,baz=209,slow=11,SNR=334						
KURBB	Kurchatov Arra	15.02	19	P	Pn	09 10 28.8	-1.8
KURBB	Kurchatov Arra	15.02	19	⇓P	P	09 10 35.3	+4.5
	comp=Z,498nm,1.1s						
KURK	Kurchatov	15.13	19	*de*P	Pn	09 10 30.1	-1.8
KURK				pmax	pmax		
	comp=Z,662nm,1.7s						
KURK	Kurchatov	15.13	19	P	Pn	09 10 30.3	-1.6
KURK				P	Pn	09 10 30.3	-1.6
KURK	Kurchatov	15.13	19	⇑P	P	09 10 35.0	+3.0
	comp=Z,512nm,1.2s						
KURK	Kurchatov	15.13	19		Pn	09 10 30.0	-1.9
PKIN	Phulchoki	15.17	122	*e*P	Pn	09 10 31.4	-1.5
	comp=Z,192nm,0.5s						
PKI	Pulchoki	15.18	122	*e*P	Pn	09 10 31.6	-1.5
	comp=Z,242nm,0.5s						
GUN	Gumba	15.29	120	*e*P	P	09 10 32.9	-1.5
	comp=Z,464nm,0.7s						
SEM	Semipalatinsk	15.32	23	*i* P	P	09 10 33.2	-1.2
SEM				pmax	pmax		
	comp=Z,62nm,0.8s						
SEM	Semipalatinsk	15.32	23	*i* P	P	09 10 33.3	-1.2
	comp=Z,62nm,0.8s,baz=23						
BVAR	Borovoye Array	16.42	359	P	Pn	09 10 47.0	-0.3
	comp=Z,22nm,0.3s,baz=154,slow=14,SNR=219						
BANOM	Banah	16.44	234	P	P	09 10 46.8	0.0
	SNR=16						
BANOM	Banah	16.44	234	*i* P	P	09 10 46.6	-0.2
	SNR=50						
BRVK	Borovoye	16.45	359	*d i*P	P	09 10 46.9	+0.4
BRVK				pmax	pmax		
	comp=Z,218nm,1.0s						
BRVK	Borovoye	16.45	359	⇓P	Pn	09 10 49.5	+1.8
	comp=Z,218nm,1.0s						
BRVK	Borovoye	16.45	359	P	P	09 10 47.0	+0.4
SHME	Shamm	16.46	234	P	P

	SNR=14				
JLN	Jalan Bani Buh	17.56 218	P	Pn	09 11 00.6 -0.5
	SNR=46				
SOHO	SOHO	17.58 229	P	P	09 10 58.1 -1.0
SOHO	SOHO	17.58 229	*i* P	P	09 10 58.1 -1.0
	SNR=10				
LKRN	Lenkeran, Azer	17.70 284	P	P	09 11 01.4 +1.1
DGZ	Jazzator, Alta	17.70 37	*d i* P	P	09 11 01.1 +0.7
DGZ			pmax	pmax	
	comp=Z,303nm,1.1s				
FAQ	Al Faqa, Dubai	17.72 232	P	P	09 11 01.2 +0.5
	SNR=15				
FAQ	Al Faqa, Dubai	17.72 232	*i* P	P	09 11 01.3 +0.6
	SNR=31				
ASUD	Al Ashush, Dub	17.97 233	P	Pn	09 11 04.9 -1.0
	SNR=8.1				
ASUD	Al Ashush, Dub	17.97 233	*i* P	P	09 11 04.2 +0.8
	SNR=12				
JMDO	Jabal Madar	18.06 222	P	Pn	09 11 06.2 -0.8
	SNR=30				
BOK	Bokaro	18.11 131	*e*P	P	09 11 04.0 -0.9
ALNE	Al Ain	18.12 231	P	P	09 11 05.8 +0.8
	SNR=29				
ALNE	Al Ain	18.12 231	*i* P	P	09 11 05.3 +0.3
	SNR=12				
ARQ	Araqi	18.19 227	P	Pn	09 11 07.2 -1.3
	SNR=24				
POO	Poona	18.19 171	*e*P	P	09 11 06.4 +0.6
POO			IAmb	IAmb	09 11 11.4
	comp=Z,137nm,1.6s				
LSA	Lhasa	18.23 106	P	Pn	09 11 08.8 -0.5
LSA			pmax	pmax	
	comp=Z,128nm,0.7s				
LSA	Lhasa	18.23 106	P	Pn	09 11 09.5 +0.2
LSA			S	S	09 14 16.3 -7.6
LSA			LR	LR	
	comp=Z,610nm,4.1s				
LSA			LR	LR	
	comp=Z,840nm,6.9s				
LSA	Lhasa	18.23 106	P	Pn	09 11 08.8 -0.5
AJN	Ajban	18.24 233	P	P	09 11 07.4 +1.1
	SNR=9.0				
AJN	Ajban	18.24 233	*i* P	P	09 11 06.8 +0.4
	SNR=10.0				
BSY	Bisya	18.25 225	P	Pn	09 11 08.3 -1.0
	SNR=19				
JHSG	JHARSUGUGA	18.51 140	*e*P	P	09 11 09.6 +0.3
SRSP	Sriramsagar	18.77 158	*e*P	P	09 11 10.2 -1.9
SRSP			*e*pP	pP	09 11 47.3 -0.2
SRSP			*e*sP	sP	09 12 16.3 +0.9
SEKA	Sheki	19.05 291	P	P	09 11 15.4 +0.4
MAK	Makhachkala	19.09 297	*e*P	P	09 11 14.5 -0.8
MAK			*e*S	S	09 14 40.1 +0.2
MAK			*e*S	S	09 14 40.1 +0.2
MAK			pmax	pmax	
	comp=Z,1μm,1.7s				
MAK			MLR	MLR	
	comp=Z,208nm,12.0s				
RPR	Rampur	19.14 155	*e*P	P	09 11 16.6 +0.5
RPR			*e*sP	sP	09 12 20.8 +1.3
GOMU	GeErMu	19.18 84	P	P	09 11 17.2 +0.4
GOMU			S	S	09 14 40.1 -2.5
GOMU			pmax	pmax	
	comp=Z,44nm,1.1s				
GOMU			LR	LR	
	comp=Z,360nm,5.5s				
GOMU			LR	LR	
	comp=Z,290nm,5.4s				
GOMU			LR	LR	
	comp=Z,190nm,6.5s				
ZKTA	Zakatala	19.53 292	P	P	09 11 21.2 +1.2
GANJ	Ganja	19.66 289	P	P	09 11 22.6 +1.1
ZAA0	Zalesovo Array	19.82 25	P	P	09 11 22.6 -0.4
ZALV	Zalesovo Beam	19.82 25	P	P	09 11 22.9 -0.1
	comp=Z,50nm,0.3s,baz=219,slow=12,SNR=779				
ZALV	Zalesovo Beam	19.82 25	P	P	09 11 22.7 -0.3
LGD	Lagodekhi	19.83 293	P	P	09 11 25.0 +1.7
DDFL	Dedoflistskaro	19.88 292	P	Pn	09 11 27.9 -0.5
NAX	Nakhchivan	20.26 285	P	P	09 11 28.7 +0.8
HYBB	Hyderabad (bro	20.26 159	*e*P	P	09 11 27.8 -0.3
HYBB			*e*sP	sP	09 12 32.7 +0.9
HYB	Hyderabad	20.26 159	*e*P	P	09 11 26.9 -1.2
HYB			IAmb	IAmb	09 11 35.2
	comp=Z,50nm,0.4s				
MZR	Muzera	20.31 233	P	P	09 11 28.2 -0.4
	SNR=11				
MZR	Muzera	20.31 233	*i* P	P	09 11 27.8 -0.8
	SNR=21				
GROC	Groznyy	20.37 297	*e*P	P	09 11 30.6 +1.6
GROC			*e**PP	pP	09 12 05.1 0.0
GROC			*e*S	S	09 15 08.8 +4.2
GROC			pmax	pmax	
	comp=Z,310nm,1.1s				
DQM	DQM	20.37 219	P	P	09 11 30.4 +1.2
	SNR=7.1				
SAKB	Bahrain	20.39 244	P	P	09 11 29.2 -0.2
RAGD	RAYAGADA	20.48 144	*ex*	P	09 11 33.0 +2.5
CUPL	Choutuppal	20.48 158	*e*P	P	09 11 30.4 -0.1
CUPL			*e*pP	pP	09 12 06.2 -0.3
CUPL			*e*sP	sP	09 12 35.6 +1.3
TRNA	Turayna	20.67 241	P	P	09 11 31.8 -0.6
BWNR	Bhubaneshwar	20.79 137	*e*P	P	09 11 34.5 +0.8
GNI	Garni	20.84 288	P	P	09 11 36.2 +1.9
	comp=Z,106nm,0.9s,baz=124,slow=2.3,SNR=28				
GNI	Garni	20.84 288	P	P	09 11 36.1 +1.9
GNI	Garni	20.84 288	P	P	09 11 37.0 +2.8
SEAG	Tbilisi Sea	20.89 292	P	Pn	09 11 39.3 -1.6
SHL	Shillong	20.97 116	P	P	09 11 35.7 -0.1
SHL			pmax	pmax	
	comp=Z,240nm,0.9s				
SHL	Shillong	20.97 116	*e*P	P	09 11 35.5 -0.2
SHL			*i x*	Pn	09 11 42.3 +0.1
SHL	Shillong	20.97 116	P	P	09 11 37.7 +1.9
	SNR=70				
SHL	Shillong	20.97 116	P	P	09 11 35.6 -0.1
KZRT	Kazreti	21.16 291	P	P	09 11 39.9 +2.5
GOA	Goa	21.19 172	*e*P	P	09 11 39.7 +1.9
GOA			IAmb	IAmb	09 11 43.1
	comp=Z,55nm,1.3s				
GUDG	Gudauri	21.21 294	P	P	09 11 41.4 +3.3
NJS	Nagarjunasagar	21.30 158	*e*P	P	09 11 39.0 0.0
NJS			*e*sP	sP	09 12 44.2 +1.0
NJS			*e*S	S	09 15 21.5 +0.1
SVE	Sverdlovsk	21.38 344	*e*P	P	09 11 41.9 +2.5
SVE			*e*S	S	09 15 24.5 +2.5
SVE			pmax	pmax	
	comp=Z,37nm,0.9s				
CHLP	Challavanipeta	21.40 144	*e*P	P	09 11 39.9 0.0
CHLP			*e*sP	sP	09 12 45.2 +0.6
PVM	Polavaram	21.46 151	*e*P	P	09 11 40.8 +0.2
ARU	Arti	21.52 341	P	P	09 11 41.9 +1.2
	comp=Z,5.4nm,0.6s,baz=152,slow=8.5,SNR=26				
ARU	Arti	21.52 341	*c i* P	P	09 11 41.7 +0.9
ARU			*PP	pP	09 12 15.1 -3.2
ARU			S	S	09 15 28.1 +3.8
ARU			pmax	pmax	
	comp=Z,45nm,1.1s				
ARU	Arti	21.52 341	P	P	09 11 41.1 +0.3
MYLAV	Mylavaram	21.56 154	*e*P	P	09 11 41.3 -0.2
MYLAV			*e*pP	pP	09 12 18.7 +0.5
MYLAV			*e*sP	sP	09 12 51.3 +5.3
SRLM	Srisailam	21.61 159	*e*P	P	09 11 42.0 0.0
VIS	Vishakhapatnam	21.75 147	*e*P	P	09 11 43.8 +0.4
BGD	Bogdanovka	21.76 291	P	P	09 11 47.4 +3.9
VJD	Vijayawada	21.78 154	*e*P	P	09 11 44.2 +0.5
ONI	Oni	21.98 294	P	P	09 11 48.2 +2.7
NCK	Nalchik	22.00 297	*ce*P	P	09 11 46.4 +0.8
NCK			pmax	pmax	
	comp=Z,55nm,0.8s				
ADKI	Addanki	22.18 157	*e*P	P	09 11 46.9 -0.5
ADKI			*e*sP	sP	09 12 53.9 +1.3
ADKI			*e*S	S	09 15 35.5 +0.1
GEVA	Gevas	22.20 283	IAmb	IAmb	09 12 31.5
	comp=Z,64nm,1.2s				
RCLA	Racherla	22.23 159	*e*P	P	09 11 47.2 -0.8
RCLA			*e*sP	sP	09 12 54.4 +1.1
RCLA			*e*S	S	09 15 36.0 -0.4
URV	Uravakonda	22.29 164	*e*P	P	09 11 48.2 -0.4
KBZ	Khabaz	22.53 297	P	P	09 11 51.1 +0.7
	comp=Z,14nm,0.7s,baz=110,slow=6.4,SNR=38				
KBZ	Khabaz	22.53 297	*c i* P	P	09 11 51.0 +0.6
KBZ			pmax	pmax	
	comp=Z,82nm,2.2s				
NEY	Neytrino	22.59 296	*de*P	P	09 11 54.0 +2.8
NEY			pmax	pmax	
	comp=Z,94nm,2.5s				
GOF	Gofitskoye	22.67 301	⇑*i*P	P	09 11 54.1 +2.4
GOF			pmax	pmax	
	comp=Z,472nm,1.1s				
KVAR	Kislovodsk Arr	22.71 298	P	P	09 11 53.7 +1.5
	comp=Z,8.2nm,0.7s,baz=156,slow=19,SNR=2.5				
KIV	Kislovodsk	22.72 298	*c i* P	P	09 11 53.0 +0.7
KIV			*i* *PP	pP	09 12 27.4 -3.6
KIV			pmax	pmax	
	comp=Z,22nm,0.8s				
KIV	Kislovodsk	22.72 298	P	P	09 11 52.5 +0.2
KIV	Kislovodsk	22.72 298	*i* P	P	09 11 53.3 +1.0
	SNR=5.9				
GTA	Gaotai	22.85 74	⇓P	P	09 11 54.8 +1.3
GTA			pP	pP	09 12 36.0 +2.4
GTA			sP	sP	09 13 00.9 -0.8
GTA			S	S	09 15 48.6 +2.3
GTA			SS	SS	09 16 59.7 -31
GTA			pmax	pmax	
	comp=Z,42nm,1.0s				
GTA			pmax	pmax	
	comp=Z,560nm,4.0s				
SHAO	Shalim	22.94 220	*i* P	P	09 11 56.1 +1.7
	SNR=7.3				
DOK	Doka	23.26 224	P	P	09 11 58.7 +1.4
DMTO	DMTO	23.55 221	P	P	09 12 01.4 +1.5
WHFO	Wadi Hawf	24.03 224	P	P	09 12 04.7 +0.4
MARD	Mardin	24.10 281	IAmb	IAmb	09 12 50.7
	comp=Z,38nm,1.0s				
RBK	Rabkut	24.13 222	P	P	09 12 06.0 +0.8
ABTO	Aybut	24.75 224	P	P	09 12 16.0 +5.2
	SNR=6.3				
SOC	Sochi	24.81 296	*e*P	P	09 12 09.8 -1.3
SOC			*e**PP	pP	09 12 50.1 -3.2
SOC			*e**SP	sP	09 13 16.8 -3.2
SOC			*e*S	S	09 16 17.5 +0.4
VRH	Novokhopyorsk	25.42 314	*e*P	P	09 12 16.5 0.0
VRH			*e**PP	pP	09 12 56.1 -3.6
VRH			pmax	pmax	
	comp=Z,90nm,1.6s				
RAYN	Ar Rayn	25.53 246	P	P	09 12 17.7 -0.1
RAYN			pmax	pmax	
	comp=Z,117nm,1.3s				
RAYN	Ar Rayn	25.53 246	P	P	09 12 17.7 -0.1
RAYN	Ar Rayn	25.53 246	*i* P	P	09 12 18.0 +0.2
	SNR=7.5				
MALT	Malatya	25.82 284	P	P	09 12 22.9 +2.5
MOY	Mondy	26.04 45	*e*P	P	09 12 23.9 +1.7
MOY			*e*		09 13 10.5
MOY			pmax	pmax	
	comp=Z,102nm,2.4s				
KIRV	Kirov	26.13 334	P	P	09 12 24.1 +1.4
	comp=Z,67nm,0.6s,baz=138,slow=2.1,SNR=24				
KIRV	Kirov	26.13 334	*c i* P	P	09 12 24.0 +1.3
LZH	Lanzhou	26.41 81	*e*P	P	09 12 27.2 +1.5
LZH			pP	pP	09 13 12.4 +1.7
LZH			sP	PP	09 13 26.5 -3.5
LZH			S	S	09 16 42.0 -0.8
LZH			pmax	pmax	
	comp=Z,32nm,1.1s				
LZH			pmax	pmax	
	comp=Z,160nm,4.6s				
VSR	Storozhevoye	26.91 313	*e*P	P	09 12 28.6 -1.2
VSR			*e**PP	pP	09 13 08.6 -5.1
VSR			pmax	pmax	
	comp=Z,90nm,1.4s				
ZAK	Zakamensk	26.93 49	*e*P	P	09 12 30.7 +0.6
ZAK			pmax	pmax	
	comp=Z,40nm,1.4s				
LPSR	Galich'ya Gora	27.56 316	*e*P	P	09 12 35.9 +0.3
LPSR			*e**PP	pP	09 13 16.5 -3.0
LPSR			pmax	pmax	
	comp=Z,90nm,1.1s				
CD2	Chengdu	27.75 92	P	P	09 12 38.7 +1.1
CD2			pmax	pmax	
	comp=Z,40nm,0.8s				
PZH	PanZhiHua	27.98 102	P	P	09 12 42.0 +2.2
PZH			pmax	pmax	
	comp=Z,10.0nm,0.8s				
PZH			pmax	pmax	
	comp=Z,100nm,4.4s				
IRK	Irkutsk	28.14 46	*e*P	P	09 12 40.3 -0.4
IRK			*e*		09 13 28.7
IRK			pmax	pmax	
	comp=Z,92nm,2.4s				
SONM	Songino Array	28.29 55	P	P	09 12 43.4 +1.2
	comp=Z,22nm,0.7s,baz=262,slow=9.8,SNR=171				
SONM			pP	pP	09 13 29.2 +1.7
	comp=Z,22nm,0.9s,baz=247,slow=10,SNR=6.3				
SONM	Songino Array	28.29 55	P	P	09 12 43.1 +0.9
SONM			IAmb	IAmb	09 12 44.0
	comp=Z,29nm,0.8s				
ASF	Jabal al Asfar	28.38 271	P	P	09 12 44.8 +1.5
	comp=Z,9.1nm,0.8s,baz=278,slow=1.7,SNR=4.8				
ASF			pP	pP	09 13 29.4 +2.1
	comp=Z,19nm,1.0s,baz=98,slow=4.8,SNR=5.2				
TRD	Trivandrum	28.50 168	IAmb	IAmb	09 13 58.8
	comp=Z,108nm,1.5s				
ULN	Ulaanbaatar	28.73 56	*d i* P	P	09 12 47.0 +0.8
ULN			pmax	pmax	
	comp=Z,68nm,1.7s				
ULN	Ulaanbaatar	28.73 56	P	P	09 12 46.8 +0.6
ULN			IAmb	IAmb	09 12 47.8
	comp=Z,28nm,0.8s				
MMAI	Mount Meron Ar	29.32 274	P	P	09 12 53.0 +1.5
	comp=Z,2.0nm,0.4s,baz=67,slow=6.4,SNR=5.2				
BR131	Keskin Array S	29.38 288	IAmb	IAmb	09 12 53.8
	comp=Z,22nm,0.8s				
BRTR	Keskin Array B	29.38 288	P	P	09 12 53.3 +1.2
	comp=Z,11nm,0.6s,baz=100,slow=9.1,SNR=25				
BRTR			pP	pP	09 13 39.4 +3.2
	comp=Z,10nm,0.8s,baz=99,slow=8.2,SNR=5.4				
BRTR	Keskin Array B	29.38 288	P	P	09 12 52.8 +0.8
KMI	Kunming	29.44 104	⇓P	P	09 12 53.2 +0.4
KMI			pP	pP	09 13 36.3 -1.8
KMI			PP	PnPn	09 14 00.0 +1.6
KMI			S	S	09 17 31.2 +0.5
KMI			pmax	pmax	
	comp=Z,19nm,0.6s				
KMI			pmax	pmax	
	comp=Z,160nm,5.9s				
KMI			LR	LR	
	comp=Z,180nm,12.2s				
KMI			LR	LR	
	comp=Z,190nm,13.9s				
KMI			LR	LR	
	comp=Z,180nm,17.1s				
MOS	Moscow	29.56 321	*e*P	P	09 12 52.8 -0.4
MOS			*e**PP	pP	09 13 38.3 +0.8
MOS			*e*		09 13 54.1
MOS			*e*S	S	09 17 30.7 -0.8
MOS			pmax	pmax	
	comp=Z,200nm,1.6s				
MOS			pmax	pmax	
	comp=Z,106nm,1.3s				
PRGR	Permogore	29.66 336	*e*P	P	09 12 55.4 +1.4
PRGR			pmax	pmax	
	comp=Z,71nm,0.7s				
OBN	Obninsk	29.84 319	⇑P	P	09 12 56.1 +0.4
OBN	Obninsk	29.84 319	P	P	09 12 56.7 +1.1
	comp=Z,18nm,0.5s,baz=125,slow=3.6,SNR=16				
OBN	Obninsk	29.84 319	*c i* P	P	09 12 56.6 +0.9
OBN			*i* *PP	pP	09 13 38.2 -1.7
OBN			*i*		09 14 07.2
OBN			*i* S	S	09 17 32.2 -3.7
OBN			pmax	pmax	
	comp=Z,115nm,1.6s				
OBN	Obninsk	29.84 319	P	P	09 12 56.7 +1.1
PALK	Pallekele	30.52 161	P	P	09 13 02.8 +0.7
	comp=Z,16nm,0.8s,baz=82,slow=8.7,SNR=5.6				
CMAR	Chiang Mai Arr	30.52 119	P	P	09 13 02.7 +0.6
	comp=Z,1.8nm,0.3s,baz=305,slow=8.1,SNR=19				
CMAR			pP	pP	09 13 47.7 +0.1
	comp=Z,32nm,0.9s,baz=309,slow=9.9,SNR=6.2				
CMAR			ScP	ScP	09 19 14.8 -2.2
	comp=Z,2.3nm,0.7s,baz=301,slow=6.0,SNR=2.2				
CMAR	Chiang Mai Arr	30.52 119	P	P	09 13 02.0 -0.1
XAN	Xi'an	30.93 83	P	P	09 13 06.6 +1.0
XAN			pmax	pmax	
	comp=Z,47nm,1.0s				
KLMR	Klimovskoe	31.38 331	*e*P	P	09 13 07.1 -2.0
KLMR			*e**SP	sP	09 14 14.0 -5.2
KLMR			*e*		09 14 19.7
KLMR			*e*		09 15 54.0
KLMR			pmax	pmax	
	comp=Z,42nm,0.6s				
KLMR	Klimovskoe	31.38 331	*e*P	P	09 13 07.1 -2.0
KLMR			AMP		09 13 10.3
	comp=Z,42nm,0.6s				
KLMR			*es*P	sP	09 14 14.1 -5.2
KLMR			*e*PP	PnPn	09 14 19.8 -1.9
KLMR			*e*PcP	PcP	09 15 54.0 -3.0
KLMR			*es*S	sS	09 19 16.2 -3.9
KLMR			*es*S	sS	09 19 16.2 -3.9
HHC	Hu-ho-hao-te	31.74 70	*e*P	P	09 13 14.1 +1.4
HHC			S	S	09 18 06.5 +0.4
HHC			sS	sS	09 19 24.2 -2.4
HHC			pmax	pmax	
	comp=Z,31nm,1.1s				
HHC			pmax	pmax	
	comp=Z,170nm,5.6s				
GYA	Guiyang	31.90 98	⇑*i*P	P	09 13 15.2 +1.0
GYA			pP	pP	09 14 02.1 +2.1
GYA			PcP	PcP	09 16 00.7 +1.5
GYA			S	S	09 18 08.6 -0.2
GYA			pmax	pmax	
	comp=Z,28nm,0.6s				
ENH	Enshi	32.59 90	P	P	09 13 20.3 +0.2
TLCR		32.69 298	⇓P	P	09 13 21.7 +1.0
ELL	Elmali	32.76 283	P	P	09 13 22.9 +1.3
AKASG	Malin Array Be	32.86 309	P	P	09 13 22.6 +0.4
	comp=Z,14nm,0.7s,baz=88,slow=7.3,SNR=79				
AKASG			pP	pP	09 14 09.8 +3.0
	comp=Z,14nm,0.7s,baz=86,slow=7.5,SNR=4.7				
AKBB	Malin Array Si	32.86 309	*c i* P	P	09 13 22.6 +0.5
TIY	Taiyuan	32.87 75	⇑P	P	09 13 24.0 +1.5
TIY			pP	pP	09 14 10.6 +2.3
TIY			S	S	09 18 23.3 -0.2
TIY			pmax	pmax	
	comp=Z,18nm,0.5s				
TIY			pmax	pmax	
	comp=Z,170nm,4.3s				
TPGR	Topolog	32.97 298	⇑P	P	09 13 24.3 +1.1
SORM	Soroca	33.13 304	⇓P	P	09 13 25.1 +0.6
SORM	Soroca	33.13 304	P	P	09 13 25.0 +0.6
CFR	Carcaliu	33.17 298	⇑P	P	09 13 25.8 +1.0
CFR	Carcaliu	33.17 298	P	P	09 13 24.8 -0.1
CFR			pmax	pmax	
	comp=Z,24nm,0.8s				
CIT	Chita	33.59 49	*e*P	P	09 13 29.3 +0.8
CIT			*e*		09 14 39.9
CIT			*e*		09 14 49.7
CIT			pmax	pmax	
	comp=Z,190nm,1.4s				
LYN	LuoYang	33.62 81	⇓*i*P	P	09 13 30.5 +1.6
LYN			pP	pP	09 14 17.0 +2.1
LYN			S	S	09 18 38.1 +3.0
LYN			pmax	pmax	
	comp=Z,30nm,1.3s				
LYN			pmax	pmax	
	comp=Z,110nm,8.9s				
NRIK	Noril'sk	34.02 10	P	P	09 13 33.5 +1.6
	comp=Z,57nm,0.5s,baz=202,slow=5.8,SNR=214				
NRIK	Noril'sk	34.02 10	*d i* P	P	09 13 33.3 +1.4
NRIK			pmax	pmax	
	comp=Z,169nm,1.3s				
NRIK	Noril'sk	34.02 10	P	P	09 13 32.4 +0.5
VRI	Vrincioaia	34.16 300	⇓P	P	09 13 34.7 +1.3
VRI	Vrincioaia	34.16 300	P	P	09 13 35.1 +1.7
VRI			pmax	pmax	
	comp=Z,23nm,2.2s				
PLOR	Plostina	34.21 300	⇑P	P	09 13 35.5 +1.6
PLOR	Plostina	34.21 300	P	P	09 13 35.5 +1.6
TESR	Tescani	34.21 301	⇑P	P	09 13 34.7 +0.8
ISR	Istrita	34.30 298	⇑P	P	09 13 36.2 +1.5
ISR	Istrita	34.30 298	P	P	09 13 36.2 +1.5
RAZG	Razgrad	34.40 296	⇑P	P	09 13 36.5 +1.0
MNK	Minsk	34.41 315	*i* P	P	09 13 35.9 +0.5
MNK			*i* *PP	pP	09 14 17.8 -2.5
MNK			*i*		09 14 57.9
MNK			*i* S	S	09 18 50.1 +3.5
MNK			pmax	pmax	
	comp=E,5.0nm,0.8s				
MNK			pmax	pmax	
	comp=Z,41nm,0.8s				
MNK			pmax	pmax	
	comp=N,11nm,0.8s				
MNK	Minsk	34.41 315	*i* P	P	09 13 36.0 +0.6
	comp=E,5.0nm,0.8s				
MNK			*i* P	P	09 13 36.0 +0.6
	comp=N,11nm,0.8s				
MNK			*i* P	P	09 13 36.0 +0.6
	comp=Z,41nm,0.8s,baz=103				
MNK			*i* pP	pP	09 14 17.8 -2.5
MNK			*i* sP	sP	09 14 40.6 -5.0
MNK			*i* PP	PP	09 14 58.0 -0.1
MNK			*i* S	S	09 18 50.2 +3.5
MNK			*i* sS	sS	09 20 37.7 +30
MNK			*i* SS	SS	09 21 45.4 +21
SECR		34.64 298	⇑P	P	09 13 39.0 +1.5
HNS	HongShan	34.70 75	⇓P	P	09 13 39.3 +1.2
HNS			pP	pP	09 14 26.9 +2.6
HNS			S	S	09 18 50.3 -1.2
HNS			pmax	pmax	
	comp=Z,16nm,1.1s				
MLR	Muntele Rosu	34.71 299	⇑P	P	09 13 40.4 +2.1
MLR	Muntele Rosu	34.71 299	P	P	09 13 38.4 +0.1
MLR			pmax	pmax	
	comp=Z,43nm,0.8s				
MLR	Muntele Rosu	34.71 299	P	P	09 13 38.4 +0.1
MLR			IAmb	IAmb	09 13 41.9
	comp=Z,43nm,0.8s				
PUL	Pulkovo	34.81 325	⇑*e*P	P	09 13 40.0 +1.2
PUL			pmax	pmax	
	comp=Z,57nm,0.6s				
XLT	XiLinHaoTe	34.83 64	⇓*i*P	P	09 13 40.4 +1.1
XLT			pP	pP	09 14 23.9 -1.6
XLT			sP	sP	09 14 51.8 +0.6
XLT			S	S	09 18 56.4 +2.8
XLT			sS	sS	09 20 12.2 -2.5
XLT			SS	SS	09 21 20.3 -14
XLT			pmax	pmax	
	comp=Z,23nm,1.5s				
XLT			pmax	pmax	
	comp=Z,300nm,5.4s				
XLT			LR	LR	
	comp=Z,610nm,9.3s				
XLT			LR	LR	
	comp=Z,310nm,8.9s				
XLT			LR	LR	
	comp=Z,370nm,8.6s				
DOPR	Dopca	35.09 300	⇓P	P	09 13 43.4 +2.0
NACGM	Naroch	35.12 316	*i* P	P	09 13 42.5 +1.0
BURAR	Bucovina Array	35.21 303	⇑P	P	09 13 43.7 +1.2
BURAR	Bucovina Array	35.21 303	P	P	09 13 43.7 +1.2
IDID	Didziasalis	35.24 316	*e*P	P	09 13 44.0 +1.5
BOD	Bodaibo	35.27 39	*e*P	P	09 13 43.3 +0.5
BOD			pmax	pmax	
	comp=Z,67nm,1.6s				
BJI	Beijing	35.33 70	P	P	09 13 44.3 +0.8
BJI			pmax	pmax	
	comp=Z,15nm,1.1s				
VOIR		35.34 299	⇓P	P	09 13 44.8 +1.1
VOIR		35.34 299	P	P	09 13 44.7 +1.1
IIGN	Ignalina	35.53 316	*e*P	P	09 13 46.3 +1.3
ARR	Árges	35.64 299	⇑P	P	09 13 46.8 +0.7
ISAL	Salakas	35.64 317	*e*P	P	09 13 47.0 +1.1
ARCR	ARCALIA	35.79 302	⇓P	P	09 13 48.7 +1.3
LVV	L'vov	36.08 307	*e*P	P	09 13 50.5 +0.8
LVV			*e**PP	pP	09 14 37.1 +2.2
LVV			*e*		09 15 00.2
LVV			*e*PPP	PPP	09 15 14.4
LVV			*e*S	S	09 19 15.8 +3.5
LVV			pmax	pmax	
	comp=Z,150nm,1.5s				
VSU	Vasula	36.09 321	*c i* P	P	09 13 50.3 +0.7
VSU			pmax	pmax	
	comp=Z,108nm,0.9s				
VSU	Vasula	36.09 321	*e*P	P	09 13 50.6 +0.9
CNSH	ChangSha	36.18 91	⇑P	P	09 13 51.5 +0.7
CNSH			pmax	pmax	
	comp=Z,27nm,1.0s				
LOT	Lotru	36.24 299	⇑P	P	09 13 52.8 +1.5
WHN	Wuhan	36.40 87	⇑P	P	09 13 53.8 +1.1
WHN			S	S	09 19 15.2 -2.4
WHN			pmax	pmax	
	comp=Z,160nm,1.5s				

WHN LR LR
comp=Z,2µm,15.1s
WHN LR LR
comp=Z,820nm,22.6s
PABE Paberze 36.83 316 *e*P **P 09 13 56.9 +1.0**
PABE Paberze 36.83 316 IAmb IAmb 09 15 25.1
comp=Z,61nm,0.8s
TIA Tai'an 36.86 76 ⇓P **P 09 13 57.7 +1.2**
TIA pmax pmax
comp=Z,23nm,1.3s
VTS Vitosha 36.87 294 ⇑P **P 09 13 58.1 +1.4**
VTS Vitosha 36.87 294 *e*P **P 09 13 58.1 +1.4**
DRGR 36.92 301 ⇑P **P 09 13 57.3 +0.3**
DRGR 36.92 301 P **P 09 13 57.3 +0.3**
KWP Kalwaria Pacla 36.93 306 *e*P **P 09 13 58.2 +1.3**
SUW Suwalki 37.03 313 *e*P **P 09 13 57.0 -0.7**
IDI Anoyia 37.06 282 P **P 09 13 57.7 -0.6**
comp=Z,9.7nm,0.4s,baz=61,slow=16,SNR=11
UZH Uzhgorod 37.18 304 ⇓*i*P **P 09 13 59.0 0.0**
ZAPS Zavoj 37.23 296 *e*P **P 09 14 01.6 +2.0**
HERR Herculane 37.23 298 ⇓P **P 09 13 59.7 +0.2**
HIA Hailar 37.24 54 P **P 09 14 00.2 +0.6**
HIA pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 37.24 54 P **P 09 14 00.2 +0.6**
LVZ Lovozero 37.35 338 P **P 09 14 00.8 +0.5**
LVZ pmax pmax
comp=Z,63nm,1.2s
LVZ Lovozero 37.35 338 P **P 09 14 00.8 +0.5**
LVZ IAmb IAmb 09 14 58.1
comp=Z,63nm,1.2s
FIA1 FINESS Array S 37.38 326 P **P 09 14 00.8 +0.3**
FINES FINESS Array B 37.38 326 P **P 09 14 01.5 +1.0**
comp=Z,38nm,0.5s,baz=117,slow=9.4,SNR=271
BOSS Bosilegrad 37.44 294 *e*P **P 09 14 02.3 +1.0**
ZAGS Zajecar 37.46 297 *e*P **P 09 14 02.2 +0.7**
APA Apatity 37.53 337 ⇓*i*P **P 09 14 02.3 +0.6**
APA pmax pmax
comp=Z,10.0nm,0.7s
MTSE Matsula 37.62 321 *e*P **P 09 14 03.3 +0.7**
SIRR Siria 37.67 301 ⇑P **P 09 14 04.2 +1.0**
CRVS Cervenica-Dubn 37.73 305 *e*P **P 09 14 06.1 +2.4**
CRVS Cervenica-Dubn 37.73 305 *e*P **P 09 14 06.1 +2.4**
CRVS *e* 09 15 01.4
MDVR Moldovita 37.74 298 ⇓P **P 09 14 05.5 +1.6**
BZS Buzias 37.74 300 ⇑P **P 09 14 04.8 +1.0**
BZS Buzias 37.74 300 P **P 09 14 04.8 +1.0**
BARS Barje 37.88 295 *e*P **P 09 14 02.0 -3.0**
BARS Barje 37.88 295 *e*P **P 09 14 06.3 +1.3**
QIZ Qiongzhong 38.27 107 P **P 09 14 07.9 -0.6**
QIZ S **S 09 19 48.0 +2.0**
AMBH Ambrzfalva 38.31 301 P **P 09 14 10.0 +1.5**
AMBH PP **pP 09 14 59.6 +5.3**
KECS Kecovo 38.38 304 *e*PP PP 09 15 45.2 +3.6
NIE Niedzica 38.49 306 *e*P **P 09 14 12.7 +2.6**
FNA Florina 38.52 292 P **P 09 14 11.5 +1.1**
GRUS Gruza 38.55 297 *e*P **P 09 14 11.0 +0.5**
BSZH Besenyszg 38.57 302 P **P 09 14 12.7 +2.0**
TRUS Trudelj 38.73 297 *e*P **P 09 14 11.1 -0.9**
PSZ Piszkesteto 38.80 303 P **P 09 14 15.6 +3.0**
PSZ Piszkesteto 38.80 303 P **P 09 14 14.0 +1.4**
OJC Ojcow 38.82 307 *e*P **P 09 14 13.3 +0.6**
OJC Ojcow 38.82 307 P **P 09 14 13.9 +1.2**
OJC Ojcow 38.82 307 IAmb IAmb 09 14 14.9
comp=Z,76nm,1.5s
KLNR Kaliningrad 38.83 314⇑*e*P **P 09 14 12.9 +0.3**
KLNR pmax pmax
comp=Z,288nm,1.6s
IVAS Ivanjica 38.99 296 *e*P **P 09 14 14.3 0.0**
DIVS Divibare 39.04 297 IAmb IAmb 09 15 45.1
comp=Z,27nm,1.0s
DIVS Divibare 39.04 297 *e*P **P 09 14 15.5 +0.8**
FRGS Fruska Gora 39.05 299 *e*P **P 09 14 14.5 -0.2**
SJES Sjenica 39.16 296 *e*P **P 09 14 17.1 +1.3**
BUD Budapest 39.41 303 P **P 09 14 18.4 +0.8**
BUD PP **pP 09 15 00.5 -2.9**
NJ2 Nanjing 39.48 82 *e*P **P 09 14 18.4 +0.1**
NJ2 pmax pmax
comp=Z,16nm,0.5s
VYHS Vyhne 39.48 304 *e*P **P 09 14 20.0 +1.8**
VYHS *e* 09 15 07.9
VYHS *e* 09 15 58.3
VYHS Vyhne 39.48 304 *e*P **P 09 14 20.0 +1.8**
VYHS *e* 09 15 07.9
VYHS *e*PP **PnPn 09 15 58.3 -0.6**
BBLS Lazići 39.49 297 *e*P **P 09 14 19.1 +0.7**
MORH Mrgy, Hungar 39.76 301 P **P 09 14 20.3 -0.2**
MORH PP **pP 09 15 07.7 +1.1**
PDG Podgorica 39.81 295 ⇑P **P 09 14 21.6 +0.6**
KOVH Kovagotottos 40.15 301 P **P 09 14 23.0 -0.7**
JAVC Velka Javorina 40.23 305 *e*P **P 09 14 26.4 +1.9**
MORC Moravsky Berou 40.28 306 ⇑P **P 09 14 26.0 +1.2**
MORC Moravsky Berou 40.28 306 P **P 09 14 24.8 0.0**
MORC pmax pmax
comp=Z,49nm,1.4s
MORC Moravsky Berou 40.28 306 *e*P **P 09 14 25.9 +1.1**
MORC *e*PP **PP 09 16 04.7 +2.5**
MORC Moravsky Berou 40.28 306 P **P 09 14 24.8 0.0**
MORC IAmb IAmb 09 16 00.6
comp=Z,48nm,1.4s
GKP Gorka Klasztor 40.48 312 *e*P **P 09 14 27.3 +1.0**
GKP Gorka Klasztor 40.48 312 P **P 09 14 29.0 +2.7**
MODS Modra-Piesok 40.52 304 *e*P **P 09 14 28.4 +1.6**
MODS *e* 09 15 17.3
MODS *e* 09 16 06.1
MODS Modra-Piesok 40.52 304 *e*P **P 09 14 28.4 +1.6**
MODS *e* 09 15 17.3
MODS *e*PP **PP 09 16 06.1 +1.3**
ZST Bratislava 40.65 304 *e*PP PP 09 16 09.8 +3.7
KEV Kevo 40.69 338 P **P 09 14 27.6 -0.2**
KEV pmax pmax
comp=Z,96nm,1.6s
KEV Kevo 40.69 338 P **P 09 14 27.6 -0.2**
KEV IAmb IAmb 09 15 50.5
comp=Z,96nm,1.6s
VRAC Vranov 40.92 306 *e*P **P 09 14 31.3 +1.3**
ARA0 ARCESS Array S 41.03 338⇑*i*P **P 09 14 31.9 +1.3**
ARCES ARCESS Array B 41.03 338 P **P 09 14 31.9 +1.3**
comp=Z,22nm,0.6s,baz=112,slow=8.0,SNR=143
ARCES pP **pP 09 15 20.5 +3.0**
comp=Z,7.8nm,0.6s,baz=111,slow=9.2,SNR=2.6
ARCES ARCESS Array B 41.03 338 P **P 09 14 31.5 +0.9**
ARCES IAmb IAmb 09 14 32.9
comp=Z,129nm,1.7s
DPC Dobruska-Polom 41.05 307 *e*P **P 09 14 32.8 +1.7**
DPC *e**PP **pP 09 15 21.6 +4.3**
DPC Dobruska-Polom 41.05 307 *e*P **P 09 14 32.8 +1.7**
DPC *e*pP **pP 09 15 21.6 +4.3**
KSP Ksiaz 41.05 308 P **P 09 14 33.2 +2.2**
SOP Sopron 41.06 303 P **P 09 14 30.1 -0.9**
KRUC Moravsky 41.06 305 *e*P **P 09 14 32.3 +1.2**
KRUC *e*PP **PP 09 16 11.9 +1.4**
CHVC Chvalec 41.21 308 *e*P **P 09 14 34.0 +1.6**
UPC Upice 41.24 308 *e*P **P 09 14 34.1 +1.5**
UPC Upice 41.24 308 *e*P **P 09 14 34.1 +1.5**
KOGS Kog 41.39 301 *e*P **P 09 14 34.7 +0.9**
CONA Conrad Observa 41.50 304 *e*P **P 09 14 35.8 +1.0**
comp=Z,3.8nm,0.5s,SNR=8.9
CONA P **pP 09 15 24.5 +3.4**
comp=Z,9.6nm,0.8s
KTK1 Kautokeino 41.51 336⇑*i*P **P 09 14 35.4 +0.9**
CN2 Changchun 41.57 63 *e*P **P 09 14 35.9 +0.6**
CN2 sP sP 09 15 40.5 -7.8
CN2 S **S 09 20 34.0 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
ARSA Arzberg 41.80 303 *e*P **P 09 14 38.8 +1.6**
comp=Z,8.6nm,1.2s
ZEA Zeya 42.01 48 *e*P **P 09 14 40.1 +1.4**
ZEA *e* 09 15 29.9
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=Z,40nm,0.8s
HAMF Hammerfest 42.12 339⇑*i*P **P 09 14 40.9 +1.6**
PERS Pernice 42.14 302 *i*P **P 09 14 41.0 +1.0**
SOKA Soboth 42.20 302 *e*P **P 09 14 41.3 +0.8**
comp=Z,5.0nm,0.5s,SNR=8.7
SOKA *e*P **pP 09 15 31.0 +4.1**
comp=Z,3.1nm,0.7s

PRU Pruhonice 42.21 307 *e*P **P 09 14 42.0 +1.6**
PRU Pruhonice 42.21 307 *e*P **P 09 14 42.0 +1.6**
IPM Ipoh 42.23 132 P **P 09 14 41.0 0.0**
IPM IAmb IAmb 09 15 28.1
comp=Z,45nm,0.9s
TIP Timpagrande 42.33 291 P **P 09 14 41.9 +0.2**
TIP IAmb IAmb 09 14 43.9
comp=Z,71nm,1.6s
PSI Prapat 42.37 136 P **P 09 14 43.0 +0.8**
comp=Z,8.0nm,0.8s,baz=286,slow=5.1,SNR=6.4
RPSI Rantau Prapat 42.46 136 P **P 09 14 40.6 -2.2**
RPSI IAmb IAmb 09 15 28.8
comp=Z,35nm,1.1s
RPSI Rantau Prapat 42.46 136 P **P 09 14 43.0 +0.3**
SGRT San Giovanni R 42.50 295 IAmb IAmb 09 14 45.5
comp=Z,99nm,1.7s
BRG Berggiesshubel 42.54 308 *e*P **P 09 14 44.4 +1.3**
BRG Amp 09 14 46.4
comp=Z,69nm,1.6s
BRG pP **pP 09 15 30.0 +0.5**
BRG Amp 09 15 30.4
comp=Z,8.8nm,0.7s
BRG sP **sP 09 15 53.4 -1.0**
BRG Amp 09 15 54.6
comp=Z,28nm,1.1s
BRG PP **PP 09 16 28.1 +1.9**
BRG Amp 09 16 29.9
comp=Z,46nm,1.5s
BRG Berggiesshubel 42.54 308 *e*P **P 09 14 44.3 +1.3**
BRG 09 15 30.0
BRG SP 09 15 53.4
BRG 09 16 28.1
BRG pmax pmax
comp=Z,69nm,1.6s
BRG pmax pmax
comp=Z,9.0nm,0.7s
BRG Berggiesshubel 42.54 308 *e*P **P 09 14 45.4 +2.3**
comp=Z,69nm,1.6s,baz=84,slow=8.0
OBKA Obir 42.55 302 *e*P **P 09 14 44.8 +1.5**
comp=Z,20nm,1.7s
DEL Delary 42.57 316 *i*P **P 09 14 43.0 -0.2**
RUE Ruedersdorf 42.58 311 *e*P **P 09 14 45.2 +1.9**
comp=Z,58nm,1.2s,baz=84,slow=8.0
MOZS Mozjanca 42.65 301 *e*P **P 09 14 45.3 +1.3**
JETT Jettan, Norway 42.65 336⇑*i*P **P 09 14 45.9 +2.2**
BNX BinXian 42.65 59 ⇓P **P 09 14 44.4 +0.4**
BNX pmax pmax
comp=Z,16nm,1.2s
BNX pmax pmax
comp=Z,180nm,5.2s
GEC2 GERESS Array S 42.85 305 *e*P **P 09 14 47.9 +2.2**
comp=Z,123nm,2.7s,baz=84,slow=8.0
GERES GERESS Array B 42.85 305 P **P 09 14 46.2 +0.5**
comp=Z,0.6nm,0.4s,baz=104,slow=9.7,SNR=7.7
GERES pP **pP 09 15 35.4 +3.2**
comp=Z,2.2nm,0.8s,baz=84,slow=9.0,SNR=4.4
GERES ScP **ScP 09 20 00.2 -2.1**
comp=Z,1.4nm,0.7s,baz=108,slow=3.2,SNR=4.0
GERES GERESS Array B 42.85 305 P **P 09 14 45.5 -0.2**
GSI Gunungsitoli 42.89 139 P **P 09 14 46.0 -0.3**
GSI IAmb IAmb 09 16 07.8
comp=Z,136nm,1.3s
KHC Kasperske Hory 42.91 306 *e*P **P 09 14 47.1 +1.0**
KHC *e**PP **pP 09 15 36.2 +3.6**
KHC Kasperske Hory 42.91 306 *e*P **P 09 14 47.1 +1.0**
KHC *e*pP **pP 09 15 36.2 +3.6**
KHC *e*x x 09 15 51.0
KHC *e*x x 09 16 12.0
FBE Freiberg 42.91 308 *e*P **P 09 14 48.5 +2.5**
comp=Z,71nm,1.6s,baz=84,slow=8.0
CLL Collm 43.11 309 *i*P **P 09 14 48.4 +0.8**
CLL *e**PP **pP 09 15 31.0 -3.2**
CLL *e*S **S 09 21 00.0 +3.3**
CLL pmax pmax
comp=Z,50nm,1.6s
CLL Collm 43.11 309 *i*P **P 09 14 48.4 +0.8**
comp=Z,50nm,1.6s
CLL *e*pP **pP 09 15 34.0 -0.2**
CLL *e*x x 09 15 55.0
CLL *e*sP **sP 09 16 00.0 +1.0**
CLL *e*PP **PP 09 16 31.0 -1.3**
CLL *e*x x 09 16 45.0
CLL *e*PPP PPP 09 17 15.0
CLL *e*sPP 09 17 36.0
CLL *e*S **S 09 21 00.0 +3.3**
CLL *e*SS **SS 09 24 12.0 -5.9**
CLL Collm 43.11 309 *e*P **P 09 14 49.4 +1.8**
comp=Z,50nm,1.6s,baz=84,slow=8.0
MYKA Terra Mystica 43.15 302 P **P 09 14 49.4 +1.3**
comp=Z,7.2nm,1.0s
TRO Tromso 43.16 336 *e*P **P 09 14 48.2 +0.5**
KBA Koelnbreinsper 43.29 303 *e*P **P 09 14 50.1 +0.8**
comp=Z,9.1nm,1.1s
KBA *e*P **pP 09 15 41.4 +5.4**
comp=Z,4.5nm,0.8s
ROBS Robic 43.30 301 *i*P **P 09 14 49.8 +0.6**
TANN Tannenbergstha 43.51 308 *e*P **P 09 14 53.3 +2.3**
comp=Z,56nm,1.7s,baz=84,slow=8.0
NKC Novy Kostel 43.54 307 *e*P **P 09 14 53.7 +2.6**
NKC Novy Kostel 43.54 307 *e*P **P 09 14 53.7 +2.6**
RJOB Jochberg 43.58 304 *e*P **P 09 14 53.1 +1.6**
comp=Z,73nm,2.2s,baz=84,slow=8.0
GUNZ Gunzen 43.60 308 *e*P **P 09 14 53.9 +2.3**
comp=Z,26nm,1.3s,baz=84,slow=8.0
WERD Werda 43.61 308 *e*P **P 09 14 53.6 +1.9**
comp=Z,60nm,1.6s,baz=84,slow=8.0
FAUS Fauske 43.70 332⇑*i*P **P 09 14 53.0 +1.0**
PLN Plauen 43.70 308 *e*P **P 09 14 54.5 +2.1**
comp=Z,97nm,2.2s,baz=84,slow=8.0
MOR8 Moi Rana 43.71 331⇑*i*P **P 09 14 52.4 +0.2**
ROTZ Rotzenmuhle 43.73 307 *e*P **P 09 14 55.4 +2.8**
comp=Z,18nm,1.6s,baz=84,slow=8.0
MANZ Manzenberg 43.78 307 *e*P **P 09 14 55.5 +2.5**
comp=Z,11nm,1.4s,baz=84,slow=8.0
STEI Steigen 43.87 333⇑*i*P **P 09 14 54.2 +0.9**
NEUB Neuenburg 43.88 309 *e*P **P 09 14 55.8 +2.0**
comp=Z,47nm,1.2s,baz=84,slow=8.0
YAK Yakutsk 43.88 36 P **P 09 14 53.3 -0.2**
comp=Z,40nm,0.6s,baz=147,slow=0.5,SNR=22
YAK Yakutsk 43.88 36*d*i*P **P 09 14 53.4 -0.2**
YAK *e**PP **pP 09 15 36.7 -4.8**
YAK *e* 09 16 36.0
YAK *e* 09 16 40.6
YAK *e*S **S 09 21 09.3 +1.7**
YAK *e* 09 24 30.5
YAK pmax pmax
comp=Z,68nm,0.8s
YAK pmax pmax
comp=E,19nm,1.1s
YAK pmax pmax
comp=Z,73nm,1.1s
YAK pmax pmax
comp=E,72nm,1.3s
YAK smax smax
comp=E,67nm,1.5s
YAK smax smax
comp=N,54nm,1.5s
YAK Yakutsk 43.88 36 P **P 09 14 53.0 -0.6**
MOX Moxa 44.03 308 *e*P **P 09 14 57.3 +2.3**
comp=N,126nm,2.1s,baz=84,slow=8.0
NC405 NORSAR Array S 44.05 323 P **P 09 14 54.0 -1.0**
NC602 NORSAR Array S 44.09 323 *e*P **P 09 14 55.4 +0.1**
NORES NORESS Array B 44.09 323 P **P 09 14 55.6 +0.3**
FLTG Flechtingen 44.14 310 *e*P **P 09 14 57.1 +1.4**
comp=N,111nm,1.6s,baz=84,slow=8.0
STRU Stroemstad 44.15 320 *e*P **P 09 14 55.9 +0.2**
NB2 NORSAR Subarra 44.28 323 P **P 09 14 56.8 0.0**
comp=Z,18nm,0.6s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.28 323 P **P 09 14 56.8 0.0**
baz=97,slow=7.9
NOA NORSAR Array B 44.28 323 P **P 09 14 56.9 +0.1**
comp=Z,18nm,0.6s,baz=97,slow=7.7,SNR=76
NOA pP **pP 09 15 47.0 +3.1**
comp=Z,2.3nm,0.5s,baz=105,slow=7.8,SNR=2.4
KONS Konsvik 44.30 331 *e*P **P 09 14 57.7 +0.9**
STOK Stokkvaagen 44.31 331 *e*P **P 09 14 57.9 +1.0**
GRF Grafenberg Arr 44.38 307 *e*P **P 09 15 00.7 +3.0**
comp=Z,93nm,1.7s,baz=84,slow=8.0
NSS Namsos 44.39 328 *e*P **P 09 14 58.3 +0.8**
WTTA Wattenberg 44.42 303 *e*P **P 09 14 58.8 +0.5**
comp=Z,20nm,1.4s
WATA Walderalm 44.45 303 P **P 09 14 59.2 +0.7**
comp=Z,13nm,1.2s
MURB Monte Urbino 44.52 297 IAmb IAmb 09 15 55.1
comp=Z,101nm,1.1s

NC204 NORSAR Array S 44.52 323 P **P 09 14 58.8 +0.1**
FUR Furstenfeldbru 44.53 304 *e*P **P 09 15 01.3 +2.4**
comp=Z,104nm,1.5s,baz=84,slow=8.0
BSEG Bad Segeberg 44.60 313 *e*P **P 09 15 01.7 +2.4**
comp=Z,128nm,1.6s,baz=84,slow=8.0
CLZ Clausthal 44.71 310 *e*P **P 09 15 02.6 +2.3**
comp=Z,42nm,1.4s,baz=84,slow=8.0
TEOL Teolo 44.71 300 P **P 09 15 00.8 +0.4**
SQTA Sankt Quirin 44.72 303 *e*P **P 09 15 00.7 +0.2**
comp=Z,15nm,0.9s
MOTA Moosalm 44.77 303 *e*P **P 09 15 01.3 +0.3**
comp=Z,6.9nm,0.9s
NRDL Niedersach Rie 44.82 311 *e*P **P 09 15 03.4 +2.4**
comp=Z,68nm,1.5s,baz=84,slow=8.0
KSAR Wonju Array Be 44.83 71 P **P 09 15 01.3 -0.2**
KSAR Wonju Array Be 44.83 71 P **P 09 15 01.3 -0.2**
KSRS Korea Array 44.86 71 P **P 09 15 00.8 -0.8**
comp=Z,2.0nm,0.6s,baz=298,slow=6.5,SNR=7.9
KSRS pP **pP 09 15 50.4 +0.8**
comp=Z,11nm,1.0s,baz=278,slow=7.3,SNR=6.3
GTTG Gottingen 44.99 309 *e*P **P 09 15 04.7 +2.2**
comp=Z,74nm,1.4s,baz=84,slow=8.0
KONO Kongsberg 44.99 321 *e*P **P 09 15 02.5 +0.1**
UBBA Unterbreizbach 45.04 308 *e*P **P 09 15 05.1 +2.4**
comp=Z,113nm,2.0s,baz=84,slow=8.0
FETA Feichten 45.07 303 *e*P **P 09 15 03.1 -0.3**
comp=Z,1.5nm,0.3s
KLR Kul'dur 45.09 54 P **P 09 15 03.3 0.0**
comp=Z,14nm,1.0s,baz=274,slow=8.3,SNR=24
KLR pP **pP 09 15 53.6 +2.0**
comp=Z,5.7nm,0.8s,baz=290,slow=12,SNR=2.3
KLR Kul'dur 45.09 54*d*i*P **P 09 15 03.5 +0.2**
KLR pmax pmax
comp=Z,45nm,1.5s
UBR Ueberruh 45.38 304 *e*P **P 09 15 07.1 +1.4**
comp=Z,30nm,1.2s,baz=84,slow=8.0
DOMB Dombas 45.39 324 *e*P **P 09 15 06.5 +1.0**
HOMB Homborsund 45.52 319 *i*P **P 09 15 06.0 -0.5**
DAVA Damuels 45.60 303 *i*P **P 09 15 07.2 -0.3**
comp=Z,29nm,1.1s,SNR=8.6
TIXI Tiksi 45.68 22 P **P 09 15 07.8 +0.3**
comp=Z,38nm,0.5s,baz=269,slow=4.3,SNR=252
TIXI pP **pP 09 15 58.4 +2.8**
comp=Z,15nm,0.6s,baz=268,slow=2.8,SNR=2.7
TIXI sP **sP 09 16 21.5 +1.0**
comp=Z,55nm,0.8s,baz=271,slow=6.3,SNR=4.7
TIXI Tiksi 45.68 22 P **P 09 15 07.0 -0.5**
TIXI IAmb IAmb 09 15 08.6
comp=Z,55nm,0.6s
SKAR Skarslia 45.68 322 *e*P **P 09 15 09.5 +1.7**
USRK Ussuriysk Ar. 46.13 61 P **P 09 15 10.9 -0.6**
comp=Z,4.8nm,0.8s,baz=284,slow=4.5,SNR=4.8
VLA Vladivostok 46.30 62*d*i*P **P 09 15 12.6 -0.2**
VLA pmax pmax
comp=Z,34nm,1.1s
AKN Aaknes 46.37 324⇑*e*P **P 09 15 13.5 +0.3**
BFO Black Forest 46.45 305 P **P 09 15 14.4 +0.4**
BFO pmax pmax
comp=Z,14nm,1.0s
BFO Black Forest 46.45 305 P **P 09 15 14.4 +0.4**
LODK Lodwar 46.52 233 P **P 09 15 16.4 +1.5**
PGF Pioggiola 47.20 297 *e*P **P 09 15 21.0 +1.0**
PGF pmax pmax
comp=Z,96nm,1.5s
SPA0 Spitsbergen Ar 47.38 347 *e*P **P 09 15 22.4 +1.7**
HINF Hinteralfeld 47.52 305 *e*P **P 09 15 22.6 +0.3**
HINF pmax pmax
comp=Z,15nm,1.2s
WLF Walferdange 47.64 307 IAmb IAmb 09 16 39.2
comp=Z,38nm,1.0s
GRNR Gornyy 47.85 51 ⇓*i*P **P 09 15 25.5 +0.8**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=N,90nm,14.0s
GRNR MLR MLR
comp=Z,170nm,14.0s
GRNR MLR MLR
comp=E,190nm,15.0s
LPG La Plagne 48.07 302 *e*P **P 09 15 27.6 +0.7**
LPG pmax pmax
comp=Z,42nm,1.5s
LPL La Plagne 48.08 302 *e*P **P 09 15 27.6 +0.8**
LPL pmax pmax
comp=Z,43nm,1.4s
BNI Bardonecchia 48.23 301 P **P 09 15 29.8 +1.9**
BNI Bardonecchia 48.23 301 IAmb IAmb 09 16 49.5
comp=Z,57nm,1.4s
MBDF Montbardon 48.24 301 *e*P **P 09 15 28.0 0.0**
MBDF pmax pmax
comp=Z,10.0nm,0.7s
CABF La Chapelle 48.28 303 *e*P **P 09 15 29.0 +0.8**
CABF pmax pmax
comp=Z,89nm,1.6s
KBS Kingsbay 48.50 347 *e*P **P 09 15 31.2 +1.9**
FRF La Foret Royal 48.61 299 *e*P **P 09 15 31.1 +0.4**
FRF pmax pmax
comp=Z,51nm,1.4s
BAIF Baives 48.81 308 *e*P **P 09 15 32.3 +0.3**
BAIF pmax pmax
comp=Z,163nm,2.2s
KMBO Kilima Mbogo 48.89 227 P **P 09 15 33.4 0.0**
comp=Z,4.5nm,0.7s,baz=32,slow=8.5,SNR=9.8
KMBO Kilima Mbogo 48.89 227 P **P 09 15 33.5 +0.2**
KMBO pmax pmax
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 48.89 227 P **P 09 15 33.5 +0.2**
KEST Kesra 48.98 288 P **P 09 15 34.7 +1.0**
comp=Z,17nm,0.5s,baz=330,slow=2.2,SNR=34
KEST pP **pP 09 16 25.1 +3.7**
comp=Z,7.0nm,0.6s,baz=210,slow=4.0,SNR=2.7
KEST Kesra 48.98 288 IAmb IAmb 09 15 35.9
comp=Z,110nm,1.5s
LOR Lormes 49.62 305 *e*P **P 09 15 38.3 +0.1**
LOR pmax pmax
comp=Z,25nm,1.4s
AVF Avril sur Loir 50.07 304 *e*P **P 09 15 40.9 -0.7**
AVF pmax pmax
comp=Z,28nm,1.2s
TCF Toulx Ste Croi 50.96 304 *e*P **P 09 15 47.9 -0.4**
TCF pmax pmax
comp=Z,60nm,1.4s
KKM Kota Kinabalu 51.27 115 P pP 09 16 40.7 +0.3
CAF Calviac 51.42 302 *e*P **P 09 15 52.6 +0.8**
CAF pmax pmax
comp=Z,17nm,1.2s
MTLF Montolieu 51.77 300 *e*P **P 09 15 55.1 +0.8**
MTLF pmax pmax
comp=Z,27nm,1.3s
LDF La Druitiere 51.90 307 *e*P **P 09 15 55.3 +0.2**
LDF pmax pmax
comp=Z,107nm,1.7s
FLN La Foliniere 52.08 307 *e*P **P 09 15 56.9 +0.4**
FLN pmax pmax
comp=Z,67nm,1.4s
EKA Eskdalemuir Ar 52.19 316 P **P 09 15 57.7 +0.5**
LFF La Frestale 52.32 302 *e*P **P 09 15 59.3 +1.0**
LFF pmax pmax
comp=Z,104nm,1.8s
GRR Gorron 52.42 307 *e*P **P 09 15 58.0 -1.0**
GRR pmax pmax
comp=Z,67nm,1.4s
MFF Saint Martin d 52.44 305 *e*P **P 09 15 59.6 +0.4**
MFF pmax pmax
comp=Z,28nm,1.4s
MBAR Mbarara 52.56 234*c*i*P **P 09 16 00.9 +0.3**
MBAR Mbarara 52.56 234 P **P 09 16 00.0 -0.6**
MBAR IAmb IAmb 09 16 02.2
comp=Z,99nm,1.9s
YSS Yuzh-Sakhalins 52.77 55 *e*P **P 09 16 01.9 +0.3**
YSS *e* 09 16 52.1
YSS pmax pmax
comp=Z,30nm,1.3s
YSS Yuzh-Sakhalins 52.77 55 P **P 09 16 01.5 -0.1**
YSS IAmb IAmb 09 16 02.8
comp=Z,63nm,1.3s
MAJO Matsushiro 52.93 69 P pP 09 16 54.1 +1.7
MAT Matsushiro 52.93 69 P **P 09 16 04.1 +1.2**
MAT *e*S **S 09 23 11.2 -3.7**
MJAR Matsushiro Arr 52.93 69 P **P 09 16 03.6 +0.7**
comp=Z,1.6nm,0.7s,baz=297,slow=9.4,SNR=4.2
MJAR pP **pP 09 16 54.0 +1.6**
comp=Z,11nm,0.9s,baz=291,slow=10,SNR=6.5
MJAR Matsushiro Arr 52.93 69 P **P 09 16 01.5 -1.4**
NOR Nord 53.69 349 *i*P **P 09 16 08.0 +0.3**

NOR IAmb IAmb 09 17 27.6
comp=Z,5.4nm,0.8s
ETSF Etsaut 53.84 300 *eP* **P 09 16 09.2 -0.4**
ETSF pmax pmax
comp=Z,7.0nm,0.5s
ROSF Rostrenen 53.98 307 *eP* **P 09 16 10.8 +0.4**
ROSF pmax pmax
comp=Z,137nm,1.6s
QUIF Quistinic 54.04 307 *eP* **P 09 16 11.2 +0.5**
QUIF pmax pmax
comp=Z,93nm,1.6s
MA2 Magadan 54.29 38*d i*P **P 09 16 12.4 0.0**
MA2 pmax pmax
comp=Z,31nm,1.3s
MA2 Magadan 54.29 38 P **P 09 16 12.3 -0.1**
MA2 IAmb IAmb 09 16 14.0
comp=Z,58nm,1.5s
SEY Seymchan 54.34 34⇓*eP* **P 09 16 13.2 +0.6**
DAG Danmarks Havn 54.62 344 *i* P **P 09 16 14.0 -0.5**
DAG IAmb IAmb 09 17 31.4
comp=Z,26nm,0.8s
DBG Daneborg 55.47 341 *i* P **P 09 16 21.5 +0.9**
DBG IAML 09 17 57.7
comp=Z,5.6nm,0.8s
ESDC Sonseca Array 57.39 298 P **P 09 16 34.6 -0.2**
comp=Z,6.5nm,0.8s,baz=58,slow=7.1,SNR=33
ESDC pP **PcP 09 17 25.8 -0.3**
comp=Z,3.2nm,0.6s,baz=57,slow=6.0,SNR=3.6
ESDC sP **sP 09 17 51.9 +3.6**
comp=Z,7.3nm,0.8s,baz=56,slow=7.3,SNR=3.4
ESDC Sonseca Array 57.39 298 IAmb IAmb 09 17 58.2
comp=Z,39nm,1.8s
FIGM Figuig 58.50 289 P **P 09 16 42.4 -0.3**
BILL Bilibino 58.52 26*c i*P **P 09 16 42.8 +0.8**
BILL *i* *PP **pP 09 17 33.5 +1.0**
BILL pmax pmax
comp=Z,43nm,1.3s
BILL Bilibino 58.52 26 P **P 09 16 42.0 0.0**
BILL IAmb IAmb 09 16 44.3
comp=Z,73nm,1.5s
TDRA Tendrara 58.69 290 P **P 09 16 45.0 +1.0**
MTE Manteigas 59.63 300 *eP* **P 09 16 51.3 +1.1**
PVIS Viseu 59.74 300 *eP* **P 09 16 52.1 +1.1**
SMIR Smir Dam 60.05 294 P **P 09 16 52.3 -0.7**
EVO Evora 60.73 298 *eP* **P 09 16 58.3 +0.7**
PBEJ Beja 60.84 297 *eP* **P 09 16 59.1 +0.7**
NEEM North Greenlan 60.92 348 *i* P **P 09 16 59.1 +0.4**
NEEM IAmb IAmb 09 18 30.1
comp=Z,14nm,0.6s
SUMG Summit 60.95 341 P **P 09 16 59.7 +0.7**
SUMG pmax pmax
comp=Z,34nm,0.9s
SUMG Summit 60.95 341 *i* P **P 09 17 00.0 +1.0**
SUMG IAmb IAmb 09 18 29.8
comp=Z,19nm,0.8s
SUMG Summit 60.95 341 P **P 09 16 59.7 +0.7**
SUMG IAmb IAmb 09 18 30.8
comp=Z,34nm,0.9s
PVAQ Vaqueiros 61.00 297 *eP* **P 09 16 59.9 +0.4**
comp=Z,81nm,1.8s
PBDV Barranco-do-Ve 61.23 297 *eP* **P 09 17 01.9 +0.9**
comp=Z,90nm,1.7s
GOLM Goulmima 61.49 290 P **P 09 17 04.0 +1.0**
PTEO Sao Teotonio 61.66 297 *eP* **P 09 17 04.6 +0.7**
comp=Z,98nm,1.7s
TZRR Tazzarine 62.39 289 P **P 09 17 09.3 +0.4**
VOI Vohitsoka 62.53 205 P **P 09 17 08.8 -1.0**
VOI IAmb IAmb 09 18 28.2
comp=Z,42nm,0.9s
VOI Vohitsoka 62.53 205 P **P 09 17 13.3 +3.5**
ZGR Zagora 62.74 289 P **P 09 17 12.0 +0.7**
ICESG Greenland Ices 63.10 338 *i* P **P 09 17 14.6 +1.3**
ICESG IAmb IAmb 09 18 22.0
comp=Z,11nm,0.9s
OUZM OUZ 63.23 290 P **P 09 17 15.0 +0.4**
SANI Sanana 63.90 114 P pP 09 18 09.9 -0.6
OUK Oukaimeden 63.92 291 P **P 09 17 20.0 +0.7**
TULEG Thule 64.32 350 *i* P P 09 17 07.8 -13
TULEG IAmb IAmb 09 19 01.0
comp=Z,10nm,0.7s
TTIG Tnine Tigouga, 64.67 290 P **P 09 17 24.4 +0.5**
UPNV Upernavik 65.02 345 *i* P P 09 17 20.1 -5.2
UPNV IAmb IAmb 09 18 59.0
comp=Z,9.9nm,0.8s
TORD Torodi Ar. Bea 65.70 269 P **P 09 17 28.9 -1.6**
comp=Z,22nm,0.4s,baz=50,slow=6.0,SNR=257
TORD pP **pP 09 18 23.3 +1.7**
comp=Z,19nm,0.6s,baz=44,slow=5.9,SNR=6.3
DY2G Dye2 66.67 337 *i* P **P 09 17 34.3 -1.9**
A21K Barrow 67.21 15 IAmb IAmb 09 17 40.6
comp=Z,19nm,0.6s
A21K Barrow 67.21 15 P **P 09 17 40.1 +0.9**
baz=320
SOEI Soe 68.03 122 P pP 09 18 37.0 -0.1
RDOG Red Dog Mine 68.16 19 P P 09 17 53.5 +8.3
baz=316,SNR=6.6
TNA Tin City 68.46 23 P **P 09 17 47.2 +0.1**
TNA Tin City 68.46 23 P **P 09 17 47.9 +0.9**
baz=312
FAKI Fak Fak 69.13 110 P pP 09 18 45.0 +0.8
MATP Matopo 69.48 223 *i* P **P 09 17 52.2 -1.8**
MATP Matopo 69.48 223 *i* P **P 09 17 52.2 -1.8**
ANM Nome 69.94 23 IAmb IAmb 09 17 58.8
comp=Z,80nm,1.9s
ANM Nome 69.94 23 P **P 09 17 57.0 +0.8**
baz=315,SNR=5.1
TOLK Toolik Lake Re 70.82 15 IAmb IAmb 09 19 30.8
comp=Z,27nm,0.7s
TOLK Toolik Lake Re 70.82 15 P **P 09 18 02.1 +0.6**
baz=326
A36M Sachs Harbour 71.10 5 IAmb IAmb 09 19 29.8
comp=Z,33nm,0.8s
A36M Sachs Harbour 71.10 5 P **P 09 18 03.8 +0.8**
baz=346
SAUI Saumlaki 71.78 115 P pP 09 19 02.4 +1.8
COLD Coldfoot 71.87 16 P **P 09 18 07.8 +0.1**
COLD IAmb IAmb 09 19 35.5
comp=Z,25nm,1.0s
COLD Coldfoot 71.87 16 P **P 09 18 08.4 +0.7**
baz=326
IMAR Indian Mountai 72.07 18 P **P 09 18 08.4 -0.5**
GCSA Galena City Sc 72.25 20 P **P 09 18 10.7 +0.7**
baz=321
H21K Melozitna Rive 72.57 17 IAmb IAmb 09 18 13.7
comp=Z,26nm,1.3s
H21K Melozitna Rive 72.57 17 P **P 09 18 12.1 +0.2**
baz=324,SNR=11
I21K Tanana 73.16 17 P **P 09 18 14.1 -1.2**
I21K Tanana 73.16 17 P **P 09 18 16.0 +0.7**
baz=325
J20K Nowinta River 73.43 19 IAmb IAmb 09 18 18.8
comp=Z,95nm,1.9s
J20K Nowinta River 73.43 19 P **P 09 18 17.8 +0.9**
baz=324
H24K Noodor Dome 73.55 16 P **P 09 18 18.5 +0.8**
baz=328
MLY Manley 73.58 17 IAmb IAmb 09 18 19.7
comp=Z,50nm,1.8s
MLY Manley 73.58 17 P **P 09 18 18.0 +0.1**
baz=326,SNR=6.1
MBWA Marble Bar 73.62 133 P pP 09 19 11.8 +0.7
C36M Paulatuk 73.77 6 IAmb IAmb 09 19 40.0
comp=Z,24nm,0.6s
C36M Paulatuk 73.77 6 P **P 09 18 19.0 +0.2**
baz=348
INK Inuvik 73.80 9 IAmb IAmb 09 19 59.3
comp=Z,22nm,0.8s
INK Inuvik 73.80 9 P **P 09 18 19.8 +0.8**
baz=340
I23K Minto, Yukon-K 73.80 17 IAmb IAmb 09 18 21.2
comp=Z,40nm,1.6s
I23K Minto, Yukon-K 73.80 17 P **P 09 18 19.8 +0.8**
baz=327,SNR=6.3
TTA Tatalina 73.92 20 P **P 09 18 20.6 +0.6**
baz=322
PSA00 Pilbara Seismi 74.00 133 P pP 09 19 14.8 +1.4
K20K Telida 74.11 19 P **P 09 18 21.4 +0.4**
K20K IAmb IAmb 09 18 22.4
comp=Z,17nm,0.7s
K20K Telida 74.11 19 P **P 09 18 21.7 +0.7**
baz=324,SNR=9.0
CHUM Lake Minchumin 74.14 18 P **P 09 18 21.5 +0.4**
baz=325,SNR=8.1
MDM Murphy Dome 74.22 16 IAmb IAmb 09 19 55.9
comp=Z,16nm,0.8s
POKR Poker Plat Res 74.26 16 P **P 09 18 22.1 +0.4**
baz=329,SNR=7.1
PRP Porcupine Dome 74.32 15 P **P 09 18 23.2 +0.9**
baz=330
NEA2 Nenana 74.34 17 IAmb IAmb 09 19 55.7
comp=Z,18nm,0.8s
NEA2 Nenana 74.34 17 P **P 09 18 22.2 0.0**
baz=328,SNR=12
TCOL CIGO, UAF Yank 74.37 16 IAmb IAmb 09 19 56.6
comp=Z,23nm,0.8s
TCOL CIGO, UAF Yank 74.37 16 P **P 09 18 22.2 -0.1**
baz=328,SNR=7.0
COLA College 74.38 16⇑*iP* **P 09 18 23.2 +0.9**
COLA pmax pmax
comp=Z,32nm,1.4s
COLA College 74.38 16 P **P 09 18 21.5 -0.9**
COLA IAmb IAmb 09 19 56.6
comp=Z,23nm,0.8s
COLA College 74.38 16 P **P 09 18 23.0 +0.7**
baz=328
DRS Darwin Rock St 74.52 119 P pP 09 19 17.8 +0.9
CAST Castle Rocks 74.58 19 P **P 09 18 23.5 -0.2**
CAST IAmb IAmb 09 19 43.3
comp=Z,32nm,1.0s
CAST Castle Rocks 74.58 19 P **P 09 18 24.1 +0.5**
baz=325,SNR=16
BWN Browne 74.60 17 IAmb IAmb 09 20 13.2
comp=Z,38nm,0.9s
ILAR Eielson Array 74.68 16 P **P 09 18 23.9 -0.2**
comp=Z,3.7nm,0.8s,baz=303,slow=4.8,SNR=34
ILAR pP **pP 09 19 18.1 +1.0**
comp=Z,5.5nm,1.1s,baz=311,slow=4.9,SNR=4.4
DBIC Dimbokro 74.69 267 P **P 09 18 23.8 -1.3**
comp=Z,7.9nm,0.6s,baz=54,slow=6.4,SNR=16
DBIC pP **pP 09 19 18.3 +0.9**
comp=Z,12nm,0.8s,baz=52,slow=5.3,SNR=6.9
DBIC Dimbokro 74.69 267 P **P 09 18 22.7 -2.3**
DBIC IAmb IAmb 09 19 19.5
comp=Z,17nm,0.9s
LBTB Lobatse 74.75 222 P **P 09 18 25.2 0.0**
LBTB pmax pmax
comp=Z,34nm,1.0s
LBTB Lobatse 74.75 222 *i* P **P 09 18 24.0 -1.2**
LBTB Lobatse 74.75 222 *i* P **P 09 18 24.0 -1.2**
LBTB Lobatse 74.75 222 P **P 09 18 25.2 0.0**
LBTB IAmb IAmb 09 19 20.1
comp=Z,34nm,1.0s
KTH Kantishna Hill 74.76 18 IAmb IAmb 09 20 16.3
comp=Z,21nm,0.9s
KIC Kosan Boka 74.78 267 *eP* **P 09 18 24.2 -1.3**
comp=Z,36nm,0.7s
TIC Toumodi 74.83 267 *eP* **P 09 18 24.5 -1.4**
MTN Manton Dam 74.97 119 P pP 09 19 20.6 +1.1
HDA Harding Lake 74.97 16 P **P 09 18 25.6 -0.3**
baz=329
PPLA Purkeypile 74.99 19 IAmb IAmb 09 20 01.9
comp=Z,23nm,0.9s
PPLA Purkeypile 74.99 19 P **P 09 18 26.3 +0.2**
baz=325
LIC Lamto 75.08 267 *eP* **P 09 18 26.0 -1.3**
comp=Z,47nm,0.8s
MCK McKinley 75.10 17 IAmb IAmb 09 18 29.4
comp=Z,37nm,1.5s
MCK McKinley 75.10 17 P **P 09 18 26.9 +0.3**
baz=328,SNR=5.5
EPYK Eagle Plains 75.15 11 IAmb IAmb 09 20 18.2
comp=Z,17nm,0.8s
EPYK Eagle Plains 75.15 11 P **P 09 18 27.3 +0.4**
baz=337
M19K Big River Lodg 75.20 20 P **P 09 18 28.2 +1.0**
baz=324
KNRA Kununurra 75.30 123 P pP 09 19 22.3 +1.0
RND Reindeer 75.39 17 IAmb IAmb 09 20 19.1
comp=Z,80nm,2.0s
J26L Joseph Creek 75.62 15 P **P 09 18 29.9 +0.3**
baz=332,SNR=11
KDU Kakadu 75.81 118 P pP 09 19 24.9 +0.2
I29M Ogilvie Camp, 75.82 12 P **P 09 18 30.3 -0.3**
baz=336,SNR=10
CUT Chulitna 75.89 18 P **P 09 18 30.7 -0.4**
baz=327
SCRK Sand Creek 75.99 15 P **P 09 18 32.2 +0.4**
baz=332,SNR=9.0
RIDG Independent Ri 76.02 16 IAmb IAmb 09 19 50.8
comp=Z,26nm,1.2s
RIDG Independent Ri 76.02 16 P **P 09 18 31.5 -0.4**
baz=331,SNR=5.5
DHY Denali Highway 76.03 17 P **P 09 18 31.9 -0.2**
DHY IAmb IAmb 09 20 14.2
comp=Z,15nm,0.7s
DHY Denali Highway 76.03 17 P **P 09 18 31.6 -0.4**
baz=329,SNR=7.4
WAT6 Susitna Watana 76.37 17 P **P 09 18 33.2 -0.8**
baz=329,SNR=5.4
PAX Paxson 76.56 16 IAmb IAmb 09 18 36.4
comp=Z,62nm,1.7s
PAX Paxson 76.56 16 P **P 09 18 34.9 0.0**
baz=331,SNR=11
O18K Koktuh Hills 76.62 22 P **P 09 18 36.4 +1.1**
baz=323
J29M Klondike Camp 76.67 13 P **P 09 18 36.4 +0.8**
baz=336
PMR Palmer 76.87 18 P **P 09 18 36.5 -0.1**
baz=328
SML Sawmill 76.88 18 P **P 09 18 37.1 +0.4**
baz=328
L26K Log Cabin Wild 76.97 15 IAmb IAmb 09 19 57.9
comp=Z,35nm,1.6s
L26K Log Cabin Wild 76.97 15 P **P 09 18 38.2 +1.0**
baz=332
SCM Sheep Creek Mo 77.11 18 P **P 09 18 38.4 +0.4**
baz=329
HARP HAARP 77.13 16 P **P 09 18 39.2 +1.1**
baz=331,SNR=5.5
M24K Tolsona, Glenn 77.15 17 P **P 09 18 39.5 +1.3**
baz=330
KNK Knik Glacier 77.19 18 P **P 09 18 39.0 +0.5**
baz=328
L27K Beaver Creek, 77.25 15 P **P 09 18 40.1 +1.3**
baz=334
MEEK Meekatharra 77.26 137 P pP 09 19 33.7 +1.3
M26K Nabesna, AK 77.60 15 P **P 09 18 40.1 -0.6**
M26K Nabesna, AK 77.60 15 P **P 09 18 41.5 +0.8**
baz=333
KLU Klutina 77.74 17 P **P 09 18 42.2 +0.7**
baz=330
BOSA Boshof 77.82 220 P **P 09 18 42.0 -0.4**
comp=Z,9.9nm,0.9s,baz=12,slow=3.8,SNR=12
BOSA pP **pP 09 19 37.7 +1.7**
comp=Z,21nm,0.9s,baz=45,slow=5.4,SNR=5.9
BOSA Boshof 77.82 220 *i* P **P 09 18 41.1 -1.3**
BOSA Boshof 77.82 220 *i* P **P 09 18 41.1 -1.3**
BOSA Boshof 77.82 220 P **P 09 18 41.8 -0.6**
BOSA IAmb IAmb 09 20 05.1
comp=Z,28nm,0.8s
MORW Morawa 77.85 141 P pP 09 19 36.1 +0.6
M27K Edge Creek, AK 77.88 15 IAmb IAmb 09 20 03.5
comp=Z,29nm,1.1s
M27K Edge Creek, AK 77.88 15 P **P 09 18 43.5 +1.2**
baz=334
N25K Chitina, Valde 77.95 17 P **P 09 18 43.9 +1.2**
baz=332
BVCY Beaver Creek 78.03 15 P **P 09 18 44.1 +1.1**
baz=334,SNR=5.2
MCARA McCarthy VSAT 78.50 16 P **P 09 18 46.5 +0.9**
baz=333
BMRM Bremner River 78.51 17 P **P 09 18 46.3 +0.6**
baz=332
EYAK Cordova Ski Ar 78.61 18 P **P 09 18 46.7 +0.6**
baz=331
YUK3 Moose Creek 78.69 15 P **P 09 18 47.5 +0.6**
baz=335
CTG Chitna Glacier 79.24 15 P **P 09 18 50.3 +0.5**
baz=334
OHAK Old Harbor 79.35 23 P **P 09 18 50.5 +0.2**
baz=325
BLDU Ballidu 79.44 141 P pP 09 19 44.6 +0.1
N31M Braeburn, Yuko 79.85 13 P **P 09 18 53.4 +0.5**
baz=338
PINM Pinnacle 80.26 15 P **P 09 18 55.9 +0.6**
baz=335
KLBR Kellerberrin 80.75 141 P pP 09 19 51.6 -0.1
YKA Yellowknife Ar 81.13 3 P **P 09 18 60.0 +0.3**
comp=Z,5.8nm,0.6s,baz=349,slow=5.3,SNR=114
YKA pP **pP 09 19 56.0 +2.7**
comp=Z,5.5nm,0.6s,baz=346,slow=5.2,SNR=3.3
YKA Yellowknife Ar 81.13 3 P **P 09 18 59.8 +0.1**
P33M Teslin, Yukon 81.55 12 P **P 09 19 02.0 -0.1**
baz=341,SNR=5.9
WRKA Warakurna 81.71 130 P pP 09 19 58.2 +1.4
WB0 Warramunga Arr 81.98 122 P **P 09 19 02.8 -1.9**
WB0 IAmb IAmb 09 20 44.5
comp=Z,20nm,1.1s
SCHQ Schefferville 81.99 337 P **P 09 19 04.3 0.0**
comp=Z,2.4nm,0.7s,baz=11,slow=8.2,SNR=5.1
SCHQ pP **pP 09 19 59.9 +2.0**
comp=Z,3.8nm,0.8s,baz=20,slow=3.2,SNR=2.5
WRA Warramunga Arr 82.06 122 P **P 09 19 03.7 -1.4**
comp=Z,3.7nm,0.6s,baz=322,slow=4.8,SNR=62
WRA pP **pP 09 19 59.0 -0.5**
comp=Z,20nm,0.9s,baz=324,slow=5.3,SNR=12
WRA sP **sP 09 20 25.4 +2.3**
comp=Z,8.5nm,0.6s,baz=322,slow=5.0,SNR=2.9
WRA PKKPbc **PKKPbc 09 37 32.5 +0.2**
comp=Z,0.3nm,0.5s,baz=126,slow=2.3,SNR=7.3
WRAB Tennant Creek 82.07 122⇓*eP* **P 09 19 03.2 -1.9**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WRAB Tennant Creek 82.07 122 P **P 09 19 03.3 -1.9**
WRAB IAmb IAmb 09 20 01.1
comp=Z,28nm,0.7s
WB2 Warramunga Arr 82.07 122 P **P 09 19 03.7 -1.5**
WB2 IAmb IAmb 09 20 01.1
comp=Z,23nm,0.8s
WR0 Warramunga Arr 82.21 122 IAmb IAmb 09 20 32.7
comp=Z,17nm,0.9s
AS31 Alice Springs 84.33 125 P **P 09 19 15.3 -1.4**
ASAR Alice Springs 84.33 125 P **P 09 19 15.4 -1.3**
comp=Z,4.2nm,0.7s,baz=311,slow=4.9,SNR=78
ASAR pP **pP 09 20 10.7 -0.2**
comp=Z,7.4nm,0.9s,baz=318,slow=5.4,SNR=5.7
ASAR PKKPbc **PKKPbc 09 37 26.9 -0.4**
comp=Z,0.1nm,0.4s,baz=127,slow=2.6,SNR=5.2
ASAR Alice Springs 84.33 125 P **P 09 19 15.2 -1.5**
COEN Coen 84.46 112 P **P 09 19 15.9 -1.6**
COEN Coen 84.46 112 P pP 09 20 11.8 -0.5
PMG Port Moresby 84.65 106 P pP 09 20 14.2 +1.2
PMG Port Moresby 84.65 106 P pP 09 20 14.3 +1.2
QIS Mount Isa 86.13 119 P pP 09 20 19.9 -0.5
MTSU Mount Surprise 87.95 114 P pP 09 20 30.1 +0.5
EDM Edmonton 90.46 3 P **P 09 19 46.2 +0.5**
EDM pmax pmax
comp=Z,20nm,0.9s
EDM Edmonton 90.46 3 P **P 09 19 46.2 +0.5**
EDM IAmb IAmb 09 21 16.0
comp=Z,20nm,0.9s
AGMN Agassiz Nation 94.65 351 P **P 09 20 05.2 +0.1**
baz=11
NEW Newport 95.19 5 P **P 09 20 07.5 -0.1**
baz=354
SYO Syowa Base 107.84 191⇓*ep*Pdiff pPdif 09 22 00.0 +1.7
SYO Syowa Base 107.84 191⇓*e*PP **PP 09 25 36.4 +1.3**
TXAR Lajitas Array 114.21 355 PP **PP 09 26 17.6 -2.2**
comp=Z,0.2nm,0.7s,baz=28,slow=2.1,SNR=2.1
LC01 Cunco 150.67 254 **PKPdf 09 26 28.3 -1.0**

SJA ***08*** *09:21:15.6±0.7, 22°.33S×67°.81W, h187km±3km, ML4.8, MW4.4*
IDC ***08*** *09:21:17.4±0.7, 22°.28S×67°.60W, h148km±6km, mb4.2/13, mb1 4.3/20, mb1mx4.2/28, mbtmp4.6/20, MS3.5/2, Ms1 3.6/2, ms1mx2.9/58, Error ellipse: s-maj=12.0km s-min=10.9km az=93.0*
NEIC ***08*** *09:21:17.1±1.8, 22°.35S±0°.01×67°.61W±0°.07, h147km±6km, mb4.7/89, ML4.9(GUC), Error ellipse: s-maj=9.9km s-min=1.3km az=82.0*
VAO ***08*** *09:21:18.0±0.2, 22°.26S×67°.71W, h156km, mb4.6*
GUC ***08*** *09:21:19.2±0.8, 22°.35S×67°.95W, h169km±6km, ML4.9*
SCB ***08*** *09:21:20.1±2.9, 22°.30S×67°.84W, h118km±40km, ML4.7/4, Error ellipse: s-maj=10.5km s-min=6.7km az=0.0*
ISC 08 09:21:17.4±0.6, **22°.38S**±0°.03×**67°.76W**±0°.03, **h155**km±5km, **n378**, σ1$**48**/428, **mb4.7**/57, **8C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.09**	**258**	P	**Pn**	**09 21 45.2**	**+1.5**
	748nm,0.3s,baz=69,slow=6.3,SNR=5629						
LVC				S	**Sn**	**09 22 05.1**	**+1.1**
	869nm,0.3s,baz=294,slow=3.7,SNR=7.8						
LVC	**Limon Verde**	**1.09**	**258**	*eP*	**Pn**	**09 21 45.1**	**+1.3**
LVC				*i* S	**Sn**	**09 22 04.3**	**+0.3**
LVC	**Limon Verde**	**1.09**	**258**	*eP*	**Pn**	**09 21 45.3**	**+1.5**
LVC				*e*S	**Sn**	**09 22 05.2**	**+1.3**
LVC	**Limon Verde**	**1.09**	**258**	*eP*	**Pn**	**09 21 45.3**	**+1.5**
LVC				*e*S	**Sn**	**09 22 07.3**	**+3.3**
LVC	**Limon Verde**	**1.09**	**258**	P	**Pn**	**09 21 45.5**	**+1.7**
PB09	**IPOC Station P**	**1.49**	**293**⇓	*i*P	**Pn**	**09 21 49.0**	**+1.6**
PB09				*e*S	**Sn**	**09 22 11.1**	**+0.6**
PB09				IAML		09 22 13.3	
	comp=N,7μm,0.4s						
PB09	**IPOC Station P**	**1.49**	**293**		**Pn**	**09 21 49.2**	**+1.7**
PB09				Sn	**Sn**	**09 22 11.7**	**+1.2**
PB09	**IPOC Station P**	**1.49**	**293**	P	**Pn**	**09 21 49.2**	**+1.7**
PB06	**IPOC Station P**	**1.71**	**259**⇓	*i*P	**Pn**	**09 21 50.4**	**+0.7**
PB06				*e*S	**Sn**	**09 22 14.9**	**+0.4**
PB06				IAML		09 22 18.0	
	comp=E,10μm,0.3s						
PB06	**IPOC Station P**	**1.71**	**259**		**Pn**	**09 21 51.0**	**+1.3**
PB06				Sn	**Sn**	**09 22 15.3**	**+0.8**
PB06	**IPOC Station P**	**1.71**	**259**	*eP*	**Pn**	**09 21 50.6**	**+0.9**
PB06				*e*S	**Sn**	**09 22 16.4**	**+1.9**
PB06				IAML		09 22 18.3	
	comp=Z,5μm,0.2s						
PB06	**IPOC Station P**	**1.71**	**259**	P	**Pn**	**09 21 50.8**	**+1.1**
PB15	**IPOC Station P**	**1.78**	**242**	*i* P	**Pn**	**09 21 52.1**	**+1.5**
PB15				*e*S	**Sn**	**09 22 16.4**	**+0.3**
PB15	**IPOC Station P**	**1.78**	**242**		**Pn**	**09 21 52.1**	**+1.5**
PB15				Sn	**Sn**	**09 22 17.4**	**+1.3**
PB15	**IPOC Station P**	**1.78**	**242**	*eP*	**Pn**	**09 21 52.0**	**+1.5**
PB15				*e*S	**Sn**	**09 22 18.4**	**+2.3**
PB15				IAML		09 22 20.5	
	comp=Z,24μm,0.3s						
PB15	**IPOC Station P**	**1.78**	**242**	P	**Pn**	**09 21 52.3**	**+1.7**
PB03	**IPOC Station P**	**1.88**	**280**⇓	*i*P	**Pn**	**09 21 52.4**	**+0.8**
PB03				*i* S	**Sn**	**09 22 17.3**	**-0.5**
PB03				IAML		09 22 19.0	
	comp=N,14μm,0.2s						
PB03	**IPOC Station P**	**1.88**	**280**	*eP*	**Pn**	**09 21 52.0**	**+0.4**
PB03				*e*S	**Sn**	**09 22 18.1**	**+0.3**
PB03	**IPOC Station P**	**1.88**	**280**	P	**Pn**	**09 21 52.6**	**+1.0**
PB07	**IPOC Station P**	**2.08**	**288**⇓	*i*P	**Pn**	**09 21 54.7**	**+0.8**
PB07				*e*S	**Sn**	**09 22 21.1**	**-0.9**
PB07				IAML		09 22 22.5	
	comp=N,14μm,0.2s						
PB07	**IPOC Station P**	**2.08**	**288**		**Pn**	**09 21 54.8**	**+1.0**
PB07	**IPOC Station P**	**2.08**	**288**	*eP*	**Pn**	**09 21 54.0**	**+0.1**
PB07				*e*S	**Sn**	**09 22 22.3**	**+0.4**
PB07	**IPOC Station P**	**2.08**	**288**	P	**Pn**	**09 21 54.9**	**+1.0**
PB01	**IPOC Station P**	**2.08**	**309**⇑	*i*P	**Pn**	**09 21 54.5**	**+0.6**
PB01				*e*S	**Sn**	**09 22 21.4**	**-0.7**
PB01				IAML		09 22 23.9	
	comp=E,11μm,0.5s						
PB01	**IPOC Station P**	**2.08**	**309**		**Pn**	**09 21 54.6**	**+0.6**
PB01	**IPOC Station P**	**2.08**	**309**	*eP*	**Pn**	**09 21 54.0**	**+0.1**
PB01				*e*S	**Sn**	**09 22 22.6**	**+0.6**
PB01				IAML		09 22 24.9	
	comp=Z,4μm,0.2s						
PB01	**IPOC Station P**	**2.08**	**309**	P	**Pn**	**09 21 54.8**	**+0.9**
PB01				S	**Sn**	**09 22 19.9**	**-2.1**
PB01				IAML		09 22 23.7	
	comp=Z,7μm,0.3s						
YJA	**Yavi**	**2.09**	**85**	*eP*	**Pn**	**09 21 56.0**	**+1.7**
YJA				*e*P	**Pn**	**09 21 56.7**	**+2.3**
YJA				*e*S	**Sn**	**09 22 26.4**	**+3.7**
YJA	**Yavi**	**2.09**	**85**	P	**Pn**	**09 21 57.1**	**+2.8**
PB04	**IPOC Station P**	**2.21**	**271**	*eP*	**Pn**	**09 21 56.0**	**+0.5**
PB04				*e*S	**Sn**	**09 22 23.6**	**-1.2**
PB04				IAML		09 22 28.1	
	comp=E,9μm,0.3s						
PB04	**IPOC Station P**	**2.21**	**271**	Pn	**Pn**	**09 21 56.0**	**+0.5**
PB04	**IPOC Station P**	**2.21**	**271**	*eP*	**Pn**	**09 21 56.0**	**+0.5**
PB04				*e*S	**Sn**	**09 22 24.7**	**0.0**
PB04	**IPOC Station P**	**2.21**	**271**	P	**Pn**	**09 21 56.5**	**+1.0**
MOCB	**Mochara**	**2.27**	**61**	P	**Pn**	**09 21 58.9**	**+2.4**
MOCB				S	**Sn**	**09 22 26.0**	**-0.5**
MOCB				IAML		09 22 30.6	
	comp=E,1μm,0.4s						
PB05	**IPOC Station P**	**2.30**	**258**⇑	*i*P	**Pn**	**09 21 57.1**	**+0.5**
PB05				*e*S	**Sn**	**09 22 24.3**	**-2.4**

PB05 IAML 09 22 27.8
comp=E,4µm,0.6s
PB05 IPOC Station P 2.30 258 eP **Pn 09 21 57.0 +0.5**
PB05 eS **Sn 09 22 26.8 +0.1**
PB05 IAML 09 22 27.4
comp=Z,3µm,0.6s
PB05 IPOC Station P 2.30 258 P **Pn 09 21 57.5 +1.0**
PB05 S **Sn 09 22 23.5 -3.2**
PB05 IAML 09 22 28.6
comp=Z,4µm,0.3s
HJA Humahuaca 2.32 111 eP **Pn 09 21 59.9 +2.9**
PB08 IPOC Station P 2.58 330⇑ iP **Pn 09 22 01.3 +1.2**
PB08 IAML 09 22 37.4
comp=E,3µm,0.3s
PB08 IPOC Station P 2.58 330 Pn 09 22 01.4 +1.3
PB08 IPOC Station P 2.58 330 P **Pn 09 22 01.6 +1.5**
PB10 IPOC Station P 2.81 246⇑ iP **Pn 09 22 02.8 +0.2**
PB10 IAML 09 22 41.7
comp=N,2µm,0.2s
PB10 IPOC Station P 2.81 246 Pn 09 22 03.0 +0.4
PB10 IPOC Station P 2.81 246 eP **Pn 09 22 02.8 +0.2**
PB10 eP **Pn 09 22 03.0 +0.4**
PB10 eS **Sn 09 22 36.7 -0.8**
PB10 IAML 09 22 40.2
comp=Z,1µm,0.4s
PB10 IPOC Station P 2.81 246 P **Pn 09 22 03.2 +0.6**
TA01 Diego Aracena 2.89 308⇑ iP **Pn 09 22 02.8 -0.7**
TA01 eS **Sn 09 22 35.7 -3.6**
TA01 Diego Aracena 2.89 308 Pn **Pn 09 22 03.0 -0.5**
TA01 Diego Aracena 2.89 308 eP **Pn 09 22 03.0 -0.5**
TA01 eS **Sn 09 22 38.2 -1.0**
TA01 IAML 09 22 41.5
comp=Z,2µm,0.3s
TA02 Huaiquique 3.05 313 eP **Pn 09 22 04.5 -1.0**
TA02 Huaiquique 3.05 313 Pn 09 22 04.7 -0.9
TA02 Huaiquique 3.05 313 eP **Pn 09 22 05.0 -0.6**
TA02 eS **Sn 09 22 41.8 -1.1**
TA02 IAML 09 22 44.4
comp=Z,2µm,0.1s
SLA San Lorenzo 3.12 139 eP **Pn 09 22 09.0 +2.4**
SLA eS **Sn 09 22 44.4 -0.4**
PB11 IPOC Station P 3.15 325 eP **Pn 09 22 06.5 -0.5**
PB11 IAML 09 22 47.2
comp=N,3µm,0.4s
PB11 IPOC Station P 3.15 325 Pn 09 22 06.7 -0.4
PB11 IPOC Station P 3.15 325 eP **Pn 09 22 06.0 -1.0**
PB11 eP **Pn 09 22 06.6 -0.4**
PB11 eS **Sn 09 22 45.0 -0.5**
PB11 IAML 09 22 48.2
comp=Z,2µm,0.4s
PB11 IPOC Station P 3.15 325 P **Pn 09 22 08.4 +1.4**
PB11 S **Sn 09 22 42.5 -3.0**
PB11 IAML 09 22 47.5
comp=Z,2µm,0.4s
PB14 IPOC Station P 3.30 227 eP **Pn 09 22 09.1 +0.1**
PB14 IPOC Station P 3.30 227 Pn 09 22 09.4 +0.4
PB14 IPOC Station P 3.30 227 eP **Pn 09 22 09.0 0.0**
PB14 eS **Sn 09 22 47.8 -1.3**
PB14 IAML 09 22 50.7
comp=Z,2µm,0.7s
FSA Cafayete 4.06 157 eP **Pn 09 22 15.4 -3.2**
FSA eP **Pn 09 22 21.0 +2.3**
PB16 IPOC Station P 4.34 338 Pn 09 22 23.1 +0.3
PB16 IPOC Station P 4.34 338 P **Pn 09 22 23.5 +0.6**
PB12 IPOC Station P 4.45 327⇑ iP **Pn 09 22 21.6 -2.2**
PB12 IPOC Station P 4.45 327 Pn **Pn 09 22 22.2 -1.6**
PB12 IPOC Station P 4.45 327 eP **Pn 09 22 21.0 -2.8**
PB12 eP **Pn 09 22 21.7 -2.1**
PB12 eS **Sn 09 23 12.6 -2.9**
PB12 IAML 09 23 14.1
comp=Z,471nm,0.4s
AC02 Maricunga 4.61 195⇑ iP **Pn 09 22 26.8 +0.7**
AC02 Maricunga 4.61 195 Pn 09 22 27.0 +0.8
AC02 Maricunga 4.61 195 eP **Pn 09 22 27.0 +0.8**
AC02 eS **Sn 09 23 15.4 -4.4**
AC02 IAML 09 23 29.3
comp=Z,461nm,0.5s
AP01 Chacalluta 4.67 328 eP **Pn 09 22 24.1 -2.4**
AP01 Chacalluta 4.67 328 Pn 09 22 24.6 -1.9
AP01 Chacalluta 4.67 328 eP **Pn 09 22 26.0 -0.5**
AP01 IAML 09 23 22.9
comp=Z,792nm,0.1s
AHML Horco Molle 4.91 154 eP **Pn 09 22 26.4 -3.3**
AHML eP **Pn 09 22 31.8 +2.0**
BBOE La Paz, Chanca 5.54 358 P **Pn 09 22 41.0 +2.4**
GO03 Copiap 5.66 203 Pn **Pn 09 22 37.9 -1.7**
GO03 Copiap 5.66 203 eP **Pn 09 22 38.2 -1.4**
GO03 eS **Sn 09 23 41.0 -3.0**
BBOD La Paz, Gloria 5.77 352 P **Pn 09 22 43.3 +1.7**
LPAZ La Paz 6.07 357 P **Pn 09 22 46.3 +0.6**
comp=Z,46nm,0.3s,baz=150,slow=2.7,SNR=306
LPAZ S **Sn 09 23 52.2 -2.5**
baz=270,slow=19,SNR=0.8
LPAZ LR LR 09 25 28.5
comp=Z,270nm,20.6s,baz=93,slow=42
LPAZ La Paz 6.07 357 Pn **Pn 09 22 46.7 +1.0**
LPAZ La Paz 6.07 357 eP **Pn 09 22 46.0 +0.3**
LPAZ La Paz 6.07 357 P **Pn 09 22 47.2 +1.5**
AC04 Llanos de Chal 6.53 207 Pn **Pn 09 22 48.0 -3.1**
LCO Las Campanas 7.12 201 Pn **Pn 09 22 56.8 -2.5**
ACDV Cuesta del Vie 7.86 189 eP **Pn 09 23 09.0 0.0**
ACDV eS **Sn 09 24 33.9 -2.8**
AROD Rodeo 7.91 191 eS **Sn 09 24 31.9 -6.3**
CO05 La Serena 8.13 202 Pn 09 23 08.8 -3.7
GO04 Tololo Observa 8.23 199 Pn 09 23 11.3 -2.6
GO04 Tololo Observa 8.23 199 eS **Sn 09 24 40.9 -4.9**
GO04 eS **Sn 09 24 40.9 -4.9**
CO03 El Pedregal 8.82 197 Pn 09 23 18.7 -3.0
CO03 El Pedregal 8.82 197 eP **Pn 09 23 19.1 -2.6**
CO03 eS Sn 09 24 49.9 -10
CO06 Fray Jorge 8.96 202 Pn 09 23 18.9 -4.6
SIV San Ignacio 8.96 46 P **Pn 09 23 20.9 -2.8**
comp=Z,52nm,0.3s,baz=236,slow=9.8,SNR=537
SIV S **Sn 09 24 55.2 -8.1**
comp=Z,46nm,0.3s,baz=290,slow=22,SNR=14
ZON Zonda 9.17 185 Pn 09 23 26.4 +0.1
RTCV Cerro Valdivia 9.47 184 eS **Sn 09 25 10.4 -5.0**
CPUP Villa Florida 10.29 115 P **Pn 09 23 40.0 -1.1**
comp=Z,0.8nm,0.3s,baz=288,slow=11,SNR=11
CPUP Villa Florida 10.29 115 eP **Pn 09 23 41.4 +0.3**
CPUP Villa Florida 10.29 115 Pn 09 23 41.9 +0.8
VA03 San Esteban 10.64 193 Pn 09 23 42.4 -3.4
PTLB Pontes e Lacer 10.68 51 eP **Pn 09 23 44.2 -2.1**
PTLB Pontes e Lacer 10.68 51 Pn **Pn 09 23 43.5 -2.8**
PEL Peldehue 11.03 193 Pn 09 23 48.1 -2.8
MT05 Renca 11.28 193 Pn 09 23 54.3 +0.2
AQDB Aquidauana 11.39 83 eP **Pn 09 23 56.5 +0.8**
VILB Vilhena 11.82 39 eP **Pn 09 24 00.3 -0.9**
VILB Vilhena 11.82 39 Pn **Pn 09 23 59.9 -1.3**
ITQB Itaqui 12.36 128 eP **Pn 09 24 09.4 +1.3**
ITQB Itaqui 12.36 128 Pn 09 24 09.1 +0.9
ETMB Extrema 12.58 7 eP **Pn 09 24 08.7 -2.4**
ETMB Extrema 12.58 7 Pn 09 24 08.1 -3.0
PP1B Ponte de Pedra 13.01 71 eP **Pn 09 24 16.4 -0.2**
SALV Santo Antonio 13.09 63 eP **Pn 09 24 16.9 -0.8**
NNA Nana 13.49 319 P **P 09 24 24.9 -1.7**
comp=Z,2.5nm,0.3s,baz=162,slow=14,SNR=5.5
PTGB Pitanga 14.58 102 eP **P 09 24 38.2 -0.5**
ITAB Concordia 14.99 112 eP **P 09 24 43.4 +0.2**
PDRB Porto dos Gac 15.02 46 eP **Pn 09 24 40.3 -1.7**
CPSB Cacapava Do Su 15.11 125 eP **Pn 09 24 43.4 +0.5**
PCMB Pacaembu 15.32 90 eP **Pn 09 24 45.8 +0.2**
PLTB Pedras Altas 15.68 130 eP **Pn 09 24 49.5 -0.4**
PLTB Pedras Altas 15.68 130 P **Pn 09 24 49.0 -1.0**
CLDB Colider 16.18 47 eP **Pn 09 24 55.5 -0.7**
ITRB Iturama 16.46 84 eP **Pn 09 25 00.0 +0.4**
ARAG Araguaiana, MT 16.47 69 eP **Pn 09 24 59.9 +0.3**
FRTB Fartura 16.80 97 eP **Pn 09 25 04.2 +0.5**
LC01 Cunco 16.84 191 P **P 09 25 02.3 -1.1**
TER01 Tubaro-SC 17.90 114 eP **P 09 25 15.1 -0.1**
BB19B Bebedouro 17.92 89 eP **Pn 09 25 16.4 -0.7**
TBTG Tabatinga, AM 18.20 353 eP **P 09 25 19.1 +0.4**
TBTG Tabatinga, AM 18.20 353 P **P 09 25 19.0 +0.4**
ATAH Atahualpa 18.30 324 P **Pn 09 25 22.2 +0.3**
comp=Z,0.7nm,0.3s,baz=138,slow=8.5,SNR=6.4
PLCA Paso Flores 18.45 187 P **P 09 25 22.2 +1.1**
comp=Z,0.5nm,0.3s,baz=358,slow=11,SNR=21
PLCA Paso Flores 18.45 187 eP **Pn 09 25 22.5 -0.7**
PLCA Paso Flores 18.45 187 P **Pn 09 25 22.4 -0.7**
RCLB Rio Claro- Sao 18.71 94 eP **P 09 25 24.4 +0.2**
SPB Sao Paulo 18.76 98 eP **P 09 25 25.3 +0.7**
SNDB Serra Nova Dou 18.81 59 eP **P 09 25 24.7 -0.5**

IPMB Ipameri, GO 18.86 80 eP **P 09 25 25.5 -0.3**
LL04 Puerto Octay 18.89 191 P **P 09 25 25.8 0.0**
LL04 IAmb IAmb 09 25 31.0
comp=Z,25nm,0.7s
PET01 Itanhaem-SP 18.91 100 eP **P 09 25 26.9 +0.7**
LL03 Petrohue 19.11 191 P **P 09 25 29.2 +1.0**
VAO Valinhos 19.20 96 eP **P 09 25 29.5 0.0**
NPGB Novo Progresso 19.38 40 eP **P 09 25 29.5 -1.8**
LL05 Los Muermos 19.57 193 P **P 09 25 34.1 +0.9**
BDFB Brasilia 19.83 74 P **P 09 25 35.1 -1.2**
comp=Z,1.7nm,0.3s,baz=259,slow=12,SNR=17
BDFB Brasilia 19.83 74 P **P 09 25 35.5 -0.8**
MACA Manacapuru-AM 20.30 21 eP **P 09 25 39.6 -1.6**
MACA Manacapuru-AM 20.30 21 P **P 09 25 38.3 -3.0**
PARB Paraibuna 20.42 97 eP **P 09 25 42.3 -0.3**
LL07 Hotel Espejo d 20.95 192 P **P 09 25 47.8 -0.1**
LL02 Futaleuf 21.03 188 P **P 09 25 50.0 +1.2**
PEXB Peixe 21.18 64 eP **P 09 25 49.6 -1.2**
GO07 Milladeo Hill, 21.25 192 P **P 09 25 50.6 -0.6**
ITTB Itaituba 21.36 35 eP **P 09 25 50.6 -2.0**
BSCB Bom Sucesso 21.40 91 eP **P 09 25 52.9 -0.3**
MAN01 Angra dos Reis 21.97 96 eP **P 09 25 58.7 -0.3**
VAS01 Vassouras-RJ 22.49 94 eP **P 09 26 04.5 +0.4**
PTGA Pitinga 22.82 20 P **P 09 26 05.2 -1.8**
comp=Z,8.6nm,0.3s,baz=204,slow=14,SNR=38
PTGA S **S 09 30 01.8 -2.8**
comp=Z,4.4nm,0.7s,baz=139,slow=19,SNR=2.3
DIAM Diamantina, MG 22.94 84 eP **P 09 26 09.0 +0.6**
JANB Januaria 23.35 76 eP **P 09 26 11.2 -0.9**
DUB01 Friburgo-RJ 23.50 94 eP **P 09 26 14.1 +0.7**
SMTB Santa Maria do 23.58 58 eP **P 09 26 14.2 +0.1**
PRPB Paraiapebas 23.66 50 eP **P 09 26 13.5 -1.3**
SDBA SAO DESIDERIO 23.93 69 eP **P 09 26 16.0 -1.3**
CAM01 Campos-RJ 24.18 94 eP **P 09 26 20.7 +1.1**
MALB Monte Alegre 24.26 35 eP **P 09 26 19.2 -1.0**
OTAV Otavalo 24.78 334 eP **P 09 26 25.3 -0.1**
BOAV Boa Vista 25.62 17 eP **P 09 26 32.8 +0.2**
BOAV Boa Vista 25.62 17 P **P 09 26 31.5 -1.1**
BOAV IAmb IAmb 09 26 33.6
comp=Z,18nm,0.7s
MCPB Macapa, AP 26.70 37 eP **P 09 26 42.7 +0.4**
GUA01 Guaratinga, BA 26.95 83 eP **P 09 26 44.3 -0.3**
ROSC El Rosal 27.80 346 LR LR 09 39 48.7
comp=Z,171nm,19.6s,baz=112,slow=40
GDU01 Guandu, BA 28.11 77 eP **P 09 26 54.4 -0.5**
NBLA Lagarto - SE 30.80 73 eP **P 09 27 17.9 -0.7**
NBPS Pedro II - PI 31.12 59 eP **P 09 27 21.2 -0.3**
NBAN Anadia - AL 32.71 72 eP **P 09 27 34.3 -1.1**
RCBR Riachuelo 34.88 67 P **P 09 27 53.7 -0.6**
NBPV Pedro Velho 35.11 68 eP **P 09 27 56.4 +0.3**
CELP Cerrillos 40.22 2 P **P 09 28 40.9 +2.0**
MTO3 Montecristo 42.24 328 P **P 09 28 56.9 +1.2**
TLIG Tlapa 49.84 320 P **P 09 29 56.2 +1.2**
TLIG IAmb IAmb 09 29 57.9
comp=Z,9.6nm,0.9s
ZAIG Zacatecas 56.23 321 P **P 09 30 43.5 +1.6**
ZAIG IAmb IAmb 09 30 44.4
comp=Z,6.9nm,0.8s
KMSC Kings Mountain 58.64 347 P **P 09 30 58.9 +0.7**
baz=165
833A Chaparral WMA, 58.93 327 P **P 09 31 00.8 +0.5**
833A Chaparral WMA, 58.93 327 P **P 09 31 00.9 +0.5**
baz=146,SNR=7.2
X48A Hartselle 59.42 342 P **P 09 31 03.0 -0.6**
X48A IAmb IAmb 09 31 03.9
comp=Z,13nm,0.9s
V52A Sevierville 59.81 345 P **P 09 31 05.6 -0.6**
V52A IAmb IAmb 09 31 25.1
comp=Z,12nm,1.1s
BLA Blacksburg 60.46 348 P **P 09 31 10.6 -0.1**
baz=167
TZTN Tazewell 60.47 345 P **P 09 31 10.5 -0.3**
baz=163
V48A Smith Brothers 60.56 342 P **P 09 31 10.4 -0.9**
WLAR White Oak Lake 60.76 336 P **P 09 31 14.0 +1.3**
JCT Junction City 60.90 328 P **P 09 31 14.3 +0.5**
JCT IAmb IAmb 09 31 15.1
comp=Z,9.6nm,0.8s
JCT Junction City 60.90 328 P **P 09 31 13.6 -0.2**
baz=146,SNR=5.2
WHTX Lake Whitney, 61.08 331 P **P 09 31 14.4 -0.5**
baz=148
SNAA Sanae 61.10 161 P **P 09 31 15.9 +1.3**
WVT Waverly 61.21 342 P **P 09 31 14.9 -0.8**
WVT Waverly 61.21 342 P **P 09 31 15.5 -0.2**
baz=159
HPIG 61.22 321 P **P 09 31 16.8 +0.6**
MIAR Mount Ida 61.70 336 P **P 09 31 19.1 +0.1**
baz=153
W41B Gary Mavity, V 61.77 337 P **P 09 31 19.4 0.0**
baz=154
T47A Sharon Grove 61.80 342 P **P 09 31 19.0 -0.7**
T47A IAmb IAmb 09 31 20.3
comp=Z,16nm,0.9s
TXAR Lajitas Array 61.96 325 P **P 09 31 21.1 +0.1**
comp=Z,0.7nm,0.7s,baz=142,slow=9.2,SNR=7.2
TXAR Lajitas Array 61.96 325 P **P 09 31 20.9 -0.1**
T45A Paducah 62.28 341 P **P 09 31 21.3 -1.5**
W39A Mazine 62.35 336 P **P 09 31 23.6 +0.3**
baz=153
PBMO Poplar Bluff 62.61 340 P **P 09 31 23.6 -1.5**
PBMO IAmb IAmb 09 31 44.8
comp=Z,11nm,0.7s
MCWV Mont Chateau 62.74 350 P **P 09 31 26.5 +0.7**
baz=168
WCI Wyandotte Cave 62.75 344 P **P 09 31 25.8 -0.1**
baz=161
U40A Yellville 63.05 337 P **P 09 31 27.8 -0.2**
baz=154
O56A Blue Knob Stat 63.13 351 P **P 09 31 29.9 +1.4**
baz=169
MGMO Mountain Grove 63.56 338 P **P 09 31 31.2 -0.2**
FVM French Village 63.71 340 P **P 09 31 31.1 -1.2**
TUL1 Leonard 63.76 335 P **P 09 31 32.5 -0.1**
baz=151
ACSO Alum Creek Sta 63.88 347 P **P 09 31 33.4 +0.1**
baz=164
WMOK Wichita Mounta 63.99 332 P **P 09 31 33.6 -0.6**
baz=148
N54A Moraine State 64.03 350 P **P 09 31 34.9 +0.5**
baz=168
CCM Cathedral Cave 64.04 340 P **P 09 31 34.4 0.0**
CCM Cathedral Cave 64.04 340 P **P 09 31 34.4 0.0**
baz=156
OK031 S. Brethren Rd 64.21 334 P **P 09 31 36.0 +0.4**
OK031 IAmb IAmb 09 31 36.6
comp=Z,13nm,0.8s
QUOK Quay 64.35 334 P **P 09 31 36.9 +0.4**
QUOK IAmb IAmb 09 31 37.6
comp=Z,17nm,1.0s
S39A Bolivar 64.41 338 P **P 09 31 36.7 -0.2**
S39A IAmb IAmb 09 31 37.9
comp=Z,12nm,0.8s
M54A Oil Creek Stat 64.51 350 P **P 09 31 38.0 +0.5**
baz=168
L61B Northampton 64.66 356 P **P 09 31 40.0 +1.7**
baz=175
BINY Binghamton 64.70 353 P **P 09 31 39.4 +0.7**
baz=172
MNTX Cornudas Mount 64.72 325 P **P 09 31 38.9 -0.1**
MNTX Cornudas Mount 64.72 325 P **P 09 31 39.0 -0.1**
baz=142,SNR=8.9
BLOK Blackwell 65.06 334 P **P 09 31 41.5 +0.4**
MSTX Muleshoe 65.20 328 P **P 09 31 41.4 -0.8**
MSTX Muleshoe 65.20 328 P **P 09 31 42.4 +0.2**
baz=144,SNR=9.5
AMTX Amarillo 65.42 330 P **P 09 31 43.5 -0.1**
baz=146
121A Cookes Peak, D 66.66 324 P **P 09 31 53.1 +1.4**
baz=140,SNR=5.8
KSU1 Kansas State U 66.86 336 P **P 09 31 52.4 -0.1**
baz=151
LONY Lake Ozonia 66.96 355 P **P 09 31 54.1 +1.1**
baz=173
R32A Long Quarter, 67.09 334 P **P 09 31 53.6 -0.4**
R32A IAmb IAmb 09 31 55.6
comp=Z,17nm,0.9s
N38A Joes South For 67.17 339 P **P 09 31 53.7 -0.7**
N38A IAmb IAmb 09 31 55.0
comp=Z,13nm,0.9s
BNM Barren Site 67.29 326 P **P 09 31 56.5 +0.8**
PKME Peaks-Kenny Pk 67.33 359 P **P 09 31 56.5 +1.2**
baz=178
LENM Lemitar 67.48 325 P **P 09 31 58.8 +2.0**

LIC Lamto 67.62 73 eP **P 09 31 58.0 +0.1**
comp=Z,11nm,0.5s
L40A Anamosa 67.69 341 P **P 09 31 57.7 0.0**
L40A IAmb IAmb 09 31 58.4
comp=Z,15nm,0.9s
TIC Toumodi 67.81 72 eP **P 09 31 56.1 -3.0**
ANMO Albuquerque 67.82 326 P **P 09 31 59.8 +0.9**
ANMO IAmb IAmb 09 32 01.4
comp=Z,8.5nm,0.9s
ANMO Albuquerque 67.82 326 P **P 09 31 59.7 +0.9**
baz=141
QSPA South Pole Qui 67.82 180 P **P 09 31 59.4 +0.9**
QSPA IAmb IAmb 09 32 00.7
comp=Z,11nm,0.5s
CBKS Cedar Bluff 67.85 333 P **P 09 31 59.6 +0.8**
CBKS Cedar Bluff 67.85 333 P **P 09 31 59.7 +0.8**
baz=148,SNR=6.1
KIC Kosan Boka 67.93 73 eP **P 09 31 59.4 -0.5**
comp=Z,14nm,0.4s
DBIC Dimbokro 67.97 73 P **P 09 31 60.0 -0.1**
comp=Z,3.9nm,0.4s,baz=239,slow=6.0,SNR=18
DBIC Dimbokro 67.97 73 P **P 09 31 58.4 -1.7**
DBIC IAmb IAmb 09 32 00.2
comp=Z,5.3nm,0.5s
N35A Tabor 68.05 338 P **P 09 31 60.0 0.0**
N35A IAmb IAmb 09 32 00.7
comp=Z,16nm,0.8s
SCIA State Center 68.17 340 P **P 09 32 00.2 -0.4**
SCIA IAmb IAmb 09 32 02.0
comp=Z,22nm,1.1s
SCIA State Center 68.17 340 P **P 09 32 00.7 0.0**
baz=155
TUC Tucson 68.18 322 P **P 09 32 02.4 +1.3**
TUC Tucson 68.18 322 P **P 09 32 01.6 +0.4**
baz=137
JFWS Jewell Farm 68.19 342 P **P 09 32 00.8 0.0**
baz=158
T25A Trinidad 68.54 329 P **P 09 32 04.3 +0.9**
T25A Trinidad 68.54 329 P **P 09 32 04.3 +0.9**
baz=144
TRQ Mont Tremblant 68.55 355 P **P 09 32 02.9 -0.1**
TRQ IAmb IAmb 09 32 04.4
comp=Z,9.9nm,0.9s
214A Organ Pipe Nat 69.12 320 P **P 09 32 07.6 +0.8**
baz=136
KSCO Kaye Shedlock' 69.25 332 P **P 09 32 08.6 +1.0**
baz=146
L34A Svendsen Farm, 69.28 338 P **P 09 32 07.2 -0.4**
X18A Snowflake 69.35 324 P **P 09 32 08.8 +0.4**
BGNE Belgrade 69.44 336 P **P 09 32 09.2 +0.5**
BGNE Belgrade 69.44 336 P **P 09 32 09.1 +0.5**
baz=150,SNR=7.3
SDCO Great Sand Dun 69.55 329 P **P 09 32 10.2 +0.5**
SDCO IAmb IAmb 09 32 12.2
comp=Z,12nm,1.0s
SDCO Great Sand Dun 69.55 329 P **P 09 32 11.2 +1.5**
baz=143,SNR=16
W18A Petrified Fore 69.68 324 P **P 09 32 12.1 +1.7**
baz=139
I37A Lemond, Waseca 70.13 341 P **P 09 32 12.1 -0.7**
I37A IAmb IAmb 09 32 13.7
comp=Z,21nm,1.0s
S22A 4UR Ranch, Cre 70.19 328 P **P 09 32 15.1 +1.4**
baz=142
Q24A Divide 70.35 330 P **P 09 32 15.2 +0.6**
Q24A IAmb IAmb 09 32 17.0
comp=Z,14nm,0.9s
Q24A Divide 70.35 330 P **P 09 32 16.0 +1.4**
baz=144,SNR=11
MVCO Mesa Verde 70.61 326 P **P 09 32 17.3 +1.2**
MVCO IAmb IAmb 09 32 18.7
comp=Z,15nm,1.1s
MVCO Mesa Verde 70.61 326 P **P 09 32 17.5 +1.4**
baz=140,SNR=8.5
K31A O'Neill 70.72 336 P **P 09 32 16.7 +0.3**
WUAZ Wupatki 70.87 323 P **P 09 32 18.9 +1.2**
WUAZ IAmb IAmb 09 32 20.7
comp=Z,15nm,0.9s
WUAZ Wupatki 70.87 323 P **P 09 32 19.6 +2.0**
baz=138,SNR=10
ECSD EROS Data Cent 70.92 338 P **P 09 32 17.2 -0.4**
ECSD IAmb IAmb 09 32 18.1
comp=Z,10nm,1.1s
ECSD EROS Data Cent 70.92 338 P **P 09 32 17.4 -0.2**
baz=152,SNR=9.5
SPMN Marine on St. 71.05 342 P **P 09 32 18.0 -0.3**
SPMN IAmb IAmb 09 32 19.0
comp=Z,12nm,1.0s
SPMN Marine on St. 71.05 342 P **P 09 32 18.0 -0.3**
baz=156,SNR=5.3
ISCO Idaho Springs 71.23 330 P **P 09 32 20.3 +0.4**
ISCO Idaho Springs 71.23 330 P **P 09 32 21.2 +1.3**
baz=143,SNR=8.4
PV01 Paradox Valley 71.36 327 P **P 09 32 22.0 +1.4**
PV01 IAmb IAmb 09 32 23.5
comp=Z,9.9nm,1.0s
PV15 Paradox Valley 71.47 327 P **P 09 32 22.9 +1.6**
PV15 IAmb IAmb 09 32 24.3
comp=Z,15nm,1.0s
BC3 Big Chuckawall 71.89 320 P **P 09 32 25.6 +1.9**
baz=134
IRM Iron Mountain 72.05 320 P **P 09 32 26.4 +1.8**
baz=134
N23A Red Feather La 72.26 331 P **P 09 32 27.1 +1.1**
N23A IAmb IAmb 09 32 28.5
comp=Z,9.6nm,0.9s
N23A Red Feather La 72.26 331 P **P 09 32 27.4 +1.4**
baz=143,SNR=7.3
SUSD Miller 72.36 337 P **P 09 32 25.9 -0.2**
SUSD IAmb IAmb 09 32 27.3
comp=Z,20nm,0.9s
SUSD Miller 72.36 337 P **P 09 32 26.3 +0.2**
baz=150,SNR=5.1
BELC Belle Mtn. Jos 72.45 319 P **P 09 32 29.2 +2.1**
baz=134
O20A White River Ci 72.74 329 P **P 09 32 30.0 +1.2**
O20A IAmb IAmb 09 32 31.4
comp=Z,18nm,0.9s
O20A White River Ci 72.74 329 P **P 09 32 30.3 +1.6**
baz=141,SNR=11
GMRC Granite Mounta 72.80 320 P **P 09 32 31.0 +1.9**
baz=134,SNR=6.9
LCMT Little Creek M 72.99 323 P **P 09 32 32.1 +1.9**
GSC Goldstone, Bar 73.83 320 P **P 09 32 37.3 +2.2**
baz=133
K22A Casper 73.92 331 P **P 09 32 37.4 +1.8**
baz=143
SHOC Shoshone, Teco 73.93 321 P **P 09 32 38.3 +2.8**
baz=134
DECC Green Verdugo 74.05 318 P **P 09 32 38.3 +2.0**
baz=132
RSSD Black Hills 74.05 334 P **P 09 32 37.1 +0.8**
RSSD IAmb IAmb 09 32 38.5
comp=Z,10nm,0.8s
RSSD Black Hills 74.05 334 P **P 09 32 38.4 +2.1**
baz=145
EDW2 Edwards Air Fo 74.26 319 P **P 09 32 39.3 +1.7**
baz=132
LRMC Laurel Mtn Rad 74.48 320 P **P 09 32 40.0 +1.1**
baz=133
FURC Furnace Creek, 74.66 321 P **P 09 32 41.9 +2.2**
baz=134,SNR=5.6
AGMN Agassiz Nation 74.73 341 P **P 09 32 40.0 +0.2**
baz=153,SNR=5.8
MPMC Manual Prospec 74.75 320 P **P 09 32 41.8 +1.3**
baz=133
ISA Isabella, Lake 75.08 319 P **P 09 32 43.4 +1.1**
ISA IAmb IAmb 09 32 45.2
comp=Z,11nm,0.9s
ISA Isabella, Lake 75.08 319 P **P 09 32 44.2 +1.9**
baz=132,SNR=5.1
DUG Dugway, Tooele 75.08 326 P **P 09 32 44.1 +1.8**
baz=137,SNR=9.9
SYO Syowa Base 75.31 159⇑ eP **P 09 32 42.6 -0.4**
CWC Cottonwood Cre 75.36 320 P **P 09 32 45.8 +1.8**
baz=133
PKM Mcpherson Peak 75.38 318 P **P 09 32 45.4 +1.2**
baz=131
BW06 Boulder Array 75.40 330 P **P 09 32 44.8 +0.7**
BW06 Boulder Array 75.40 330 P **P 09 32 45.7 +1.6**
baz=140
PDAR Pinedale Array 75.40 330 P **P 09 32 44.9 +0.7**
comp=Z,1.8nm,0.7s,baz=137,slow=7.1,SNR=16
PDAR Pinedale Array 75.40 330 P **P 09 32 44.4 +0.2**
MDND Maddock 75.53 338 P **P 09 32 45.5 +1.1**
baz=150,SNR=9.8

VES	Vestal, Richgr	75.56 319	P	P	09 32 46.1	+1.2
	baz=132					
VNDA	Vanda	76.17 190	P	P	09 32 49.6	+1.8
	comp=Z,5.5nm,1.1s,baz=69,slow=2.9,SNR=3.9					
REDW	Red Top Meadow	76.47 329	P	P	09 32 50.3	+0.1
REDW			IAmb	IAmb	09 32 52.8	
	comp=Z,11nm,0.9s					
ULM	Lac du Bonnet	76.48 342	P	P	09 32 50.0	+0.3
	comp=Z,9.8nm,0.8s,baz=147,slow=5.2,SNR=12					
ULM	Lac du Bonnet	76.48 342	P	P	09 32 49.6	-0.1
ULM			IAmb	IAmb	09 32 50.8	
	comp=Z,11nm,0.8s					
TORD	Torodi Ar. Bea	76.65 70	P	P	09 32 51.3	-0.3
	comp=Z,6.3nm,0.3s,baz=260,slow=5.7,SNR=88					
NVAR	Mina Array Bea	76.84 321	P	P	09 32 53.4	+1.0
	comp=Z,3.7nm,0.9s,baz=157,slow=6.9,SNR=18					
NVAR	Mina Array Bea	76.84 321	P	P	09 32 52.9	+0.5
SCHQ	Schefferville	76.90 1	P	P	09 32 51.9	-0.1
	comp=Z,4.6nm,1.0s,baz=225,slow=5.7,SNR=2.0					
LAO	LASA Array	77.04 334	P	P	09 32 54.2	+1.1
	baz=144,SNR=7.7					
H17A	Grant Village	77.13 330	P	P	09 32 56.0	+2.1
	baz=140					
DGMT	Dagmar	77.70 336	P	P	09 32 57.0	+0.3
DGMT	Dagmar	77.70 336	P	P	09 32 58.2	+1.5
	baz=146,SNR=7.5					
HLID	Hailey	78.35 327	P	P	09 33 02.5	+1.9
	baz=137,SNR=27					
MCMT	McKenzie Canyo	78.52 329	P	P	09 33 03.4	+1.8
BOZ	Bozeman (W)	78.53 330	P	P	09 33 02.6	+1.1
	baz=139,SNR=5.8					
EGMT	Eagleton	79.56 333	P	P	09 33 07.9	+0.9
	baz=141,SNR=5.5					
O03E	Paynes Creek	80.10 321	P	P	09 33 11.0	+0.9
	baz=131					
PLID	Pearl Lake	80.24 328	P	P	09 33 11.9	+1.0
PLID			IAmb	IAmb	09 33 13.4	
	comp=Z,16nm,0.9s					
J08A	Circle Bar Ran	80.30 325	P	P	09 33 12.1	+1.0
MOD	Modoc Plateau	80.31 323	P	P	09 33 12.8	+1.6
MOD			IAmb	IAmb	09 33 13.9	
	comp=Z,13nm,1.0s					
MSO	Missoula	80.51 330	P	P	09 33 13.4	+1.2
MSO	Missoula	80.51 330	P	P	09 33 13.8	+1.7
	baz=138					
O02D	Mt. Diablo Mer	80.61 320	P	P	09 33 14.0	+1.2
	baz=130					
BMO	Blue Mountains	80.73 327	P	P	09 33 13.8	+0.5
BMO			IAmb	IAmb	09 33 15.9	
	comp=Z,16nm,1.1s					
N02D	Trinity Center	81.07 321	P	P	09 33 16.2	+1.0
	baz=130					
M04C	Macdoel	81.09 322	P	P	09 33 16.7	+1.3
	baz=131					
K05A	Summer Lake	81.18 323	P	P	09 33 17.5	+1.6
I07A	Izee	81.34 325	P	P	09 33 17.7	+1.2
I07A			IAmb	IAmb	09 33 19.3	
	comp=Z,12nm,1.1s					
F10A	Beach Ranch, E	81.48 328	P	P	09 33 18.4	+1.2
F10A			IAmb	IAmb	09 33 21.1	
	comp=Z,14nm,1.1s					
J05D	Fort Rock, OR	81.74 324	P	P	09 33 20.4	+1.7
	baz=131,SNR=6.8					
G08A	Pilot Rock	81.88 326	P	P	09 33 20.4	+1.0
PINE	Pine Mountain	81.91 324	P	P	09 33 20.2	+0.5
PINE			IAmb	IAmb	09 33 22.7	
	comp=Z,20nm,0.9s					
BOSA	Boshof	82.10 118	P	P	09 33 21.5	+0.4
	comp=Z,2.1nm,0.3s,baz=252,slow=4.0,SNR=15					
WALA	Waterton Lakes	82.14 331	P	P	09 33 21.7	+1.0
WALA			IAmb	IAmb	09 33 22.7	
	comp=Z,11nm,0.9s					
J04D	Umpqua Nationa	82.19 323	P	P	09 33 22.7	+1.5
	baz=131					
I05D	Terrebonne, OR	82.49 324	P	P	09 33 24.5	+2.0
	baz=131					
K02D	Willamette Mer	82.72 322	P	P	09 33 25.0	+1.3
	baz=130					
HAWA	Hanford	82.92 327	P	P	09 33 25.7	+1.1
NEW	Newport	83.04 329	P	P	09 33 26.6	+1.3
	baz=135					
G05D	Wamic, OR	83.08 325	P	P	09 33 27.0	+1.5
	baz=132					
MAW	Mawson	83.18 163	P	P	09 33 27.1	+1.4
	comp=Z,4.2nm,0.5s,baz=212,slow=7.3,SNR=14					
B05A	Bryant	85.47 327	P	P	09 33 38.1	+0.7
	baz=131					
ESDC	Sonseca Array	85.72 44	P	P	09 33 38.0	-0.9
	comp=Z,1.7nm,1.0s,baz=316,slow=29,SNR=4.6					
ESDC	Sonseca Array	85.72 44	P	P	09 33 38.6	-0.3
LLLB	Lilloet	86.91 329	P	P	09 33 44.6	+0.1
LLLB			IAmb	IAmb	09 33 45.9	
	comp=Z,15nm,1.2s					
YKA	Yellowknife Ar	92.37 340	P	P	09 34 10.2	+0.5
	comp=Z,7.2nm,0.8s,baz=132,slow=4.6,SNR=92					
L27K	Beaver Creek,	102.78 333	P	Pdif	09 34 57.8	+1.1
	baz=114					
RIDG	Independent Ri	104.30 333	P	Pdif	09 35 04.8	+1.4
	baz=111					
GAMB	Gambell	115.99 331	P	PKiKP	09 39 42.6	+1.5
	baz=88					
ASAR	Alice Springs	129.61 206	PKP	PKPdf	09 40 09.0	+0.3
	comp=Z,2.7nm,0.7s,baz=126,slow=1.7,SNR=30					
SEY	Seymchan	131.32 337	PKP	PKPdf	09 40 10.8	+0.3
	comp=Z,4.5nm,0.9s,baz=67,slow=3.1,SNR=11					
WRA	Warramunga Arr	132.72 209	PKP	PKPdf	09 40 15.1	+0.5
	comp=Z,1.7nm,0.4s,baz=156,slow=1.8,SNR=28					
WRA	Warramunga Arr	132.72 209		PKPdf	09 40 14.0	-0.6
PETK	Petropavlovsk-	133.90 323	PKP	PKPdf	09 40 16.2	+0.5
	comp=Z,3.0nm,0.9s,baz=58,slow=5.6,SNR=4.5					
BVAR	Borovoye Array	135.90 35	PKP	PKiKP	09 40 20.9	-0.2
	comp=Z,0.9nm,0.7s,baz=191,slow=3.7,SNR=3.8					
KURBB	Kurchatov Arra	141.47 35	PKhKP	PKPpre	09 40 26.6	
	comp=Z,0.3nm,0.4s,baz=353,slow=5.8,SNR=2.2					
KURBB			PKP	PKPdf	09 40 30.5	+0.8
	comp=Z,0.3nm,0.4s,baz=293,slow=2.2,SNR=4.6					
ZALV	Zalesovo Beam	142.28 26	PKhKP	PKPpre	09 40 27.1	
	comp=Z,1.0nm,0.4s,baz=303,slow=3.7,SNR=3.9					
ZALV			PKP	PKPdf	09 40 31.9	+0.9
	comp=Z,1.5nm,0.4s,baz=302,slow=3.3,SNR=10					
ZALV			SKPbc	SKPbc	09 43 54.0	-0.3
	comp=Z,1.5nm,0.8s,baz=194,slow=2.4,SNR=4.4					
MKAR	Makanchi Array	145.70 37	PKPbc	PKPbc	09 40 38.1	+0.2
	comp=Z,2.3nm,0.4s,baz=330,slow=2.9,SNR=25					
ASAJ	Asahikawa	146.91 318	PKPbc	PKPab	09 40 42.7	-0.5
	comp=Z,13nm,0.8s,baz=249,slow=1.4,SNR=5.0					
KLR	Kul'dur	149.07 335	PKPbc	PKPbc	09 40 47.5	+0.4
	comp=Z,3.2nm,0.5s,baz=35,slow=4.0,SNR=11					
SONM	Songino Array	154.17 9	PKP	PKPdf	09 40 51.1	+0.5
	comp=Z,1.7nm,0.9s,baz=333,slow=2.2,SNR=11					
SONM			PKPbc	PKiKP	09 40 59.3	+0.3
	comp=Z,1.5nm,0.6s,baz=278,slow=1.1,SNR=9.6					
SONM			PKPab	PKPab	09 41 13.8	+0.6
	comp=Z,1.4nm,0.7s,baz=331,slow=4.2,SNR=6.8					
KSRS	Korea Array	159.78 321	PKP	PKPdf	09 40 56.2	-1.7
	comp=Z,2.0nm,0.8s,baz=41,slow=1.5,SNR=5.4					
PZH	PanZhiHua	169.59 65	PKP	PKPdf	09 41 07.3	+0.4

TAP ***08*** *09:30:53.4,24.°29N×121.°93E,h15km,ML3.5,C*
JMA ***08*** *09:30:53.3,24.°21N×121.°92E,h17km±2km,M2.7*
ISC 08 09:30:52.1±0.9,24.°27N±0.°01×122.°02E±0.°02,h13km±7km, n103,σ0.°88/197,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.25 279		eP	Pg	09 30 57.0	-0.5
	baz=282						
EHP				eS	Sg	09 31 00.6	-0.5
	baz=282						
EWUT	Wuta	0.28 308		P	Pg	09 30 58.3	+0.4
	baz=317						
EWUT				S	Sg	09 31 01.6	-0.1
	baz=317						
ENA	Nanau	0.29 302		P	Pg	09 30 58.4	+0.2
	baz=314						
ENA				S	Sg	09 31 02.3	0.0
	baz=314						
TWC	Suao	0.37 336		P	Pb	09 31 00.4	-0.1
	baz=352						
TWC				eS	Sg	09 31 05.3	+0.7
	baz=352						
ETL	Fush Village	0.38 253		P	Pg	09 30 59.9	+0.2
	baz=250						
ETL				eS	Sb	09 31 06.7	+0.2
	baz=250						
NACB	Ninganchiao	0.40 256		P	Pg	09 30 59.9	-0.2
	baz=250						
NACB				eS	Sg	09 31 05.7	+0.3
	baz=250						
TWD	Chiawan	0.43 244		i P	Pb	09 31 01.7	+0.1
	baz=240						
TWD				i S	Sb	09 31 08.6	+0.6
	baz=240						
NDS	Dongshan	0.45 323		P	Pb	09 31 01.8	-0.3
	baz=329						
NDS				S	Sg	09 31 07.2	0.0
	baz=329						
HWA	Hwalien	0.48 232		P	Pb	09 31 03.1	+0.7
	baz=224						
HWA				eS	Sn	09 31 11.7	-1.3
	baz=224						
ETLH	Xiulin Townshi	0.49 263		eP	Pg	09 31 01.5	-0.3
	baz=266						
ETLH				eS	Sg	09 31 09.1	+0.7
	baz=266						
ILA	Ilan	0.55 334		eP	Pg	09 31 02.8	-0.1
	baz=340						
ILA				S	Sb	09 31 11.4	0.0
	baz=340						
TWE	Neicheng	0.55 325		i P	Pb	09 31 03.8	+0.1
	baz=331						
TWE				eS	Sg	09 31 09.7	-0.5
	baz=331						
ENTT	Nioudou	0.55 312		i P	Pb	09 31 03.6	-0.1
	baz=316						
ENTT				eS	Sg	09 31 10.7	+0.5
	baz=316						
TEYL	Yanliau Villag	0.56 224		P	Pn	09 31 04.6	-1.2
	baz=219						
TEYL				eS	Sn	09 31 14.5	-0.4
	baz=219						
NDT	Datong Townshi	0.56 306		i P	Pb	09 31 03.8	-0.1
	baz=309						
NDT				eS	Sg	09 31 10.9	+0.2
	baz=309						
ETM	Tongmen	0.57 238		P	Pb	09 31 04.0	0.0
	baz=238						
ETM				eS	Sb	09 31 12.3	+0.3
	baz=238						
EGS		0.58 352		eP	Pg	09 31 02.9	-0.5
	baz=355						
EGS				eS	Sb	09 31 11.8	-0.4
	baz=355						
NNSB	Datong	0.60 285		P	Pb	09 31 04.4	-0.2
	baz=292						
NNSB				eS	Sg	09 31 12.1	+0.3
	baz=292						
NTC	Toucheng	0.60 344		P	Pb	09 31 04.7	+0.1
	baz=350						
NTC				eS	Sb	09 31 12.5	-0.5
	baz=350						
NNS	Nan Shan	0.61 286		eP	Pg	09 31 04.4	+0.3
	baz=295						
NNS				eS	Sg	09 31 11.8	-0.4
	baz=295						
NWLT	Wulai	0.69 317		eP	Pg	09 31 06.3	+0.8
	baz=321						
NWLT				eS	Sb	09 31 13.7	-1.8
	baz=321						
WHF	Hehuan Shan	0.70 260		P	Pg	09 31 05.6	-0.2
	baz=264						
WHF				eS	Sg	09 31 13.8	-1.2
	baz=264						
ESL	Shilin	0.70 230		P	Pg	09 31 06.2	+0.4
	baz=231						
ESL				eS	Sn	09 31 16.9	-1.6
	baz=231						
FUSS	Fushou	0.71 268		P	Pb	09 31 05.8	-0.6
	baz=274						
FUSS				eS	Sg	09 31 15.8	+0.6
	baz=274						
YHNB	Yeheng	0.71 304		P	Pg	09 31 06.5	+0.6
	baz=311						
YHNB				eS	Sb	09 31 13.9	-2.2
	baz=311						
TEGC	Jichi Village	0.71 218		eP	Pg	09 31 06.8	+0.9
	baz=212						
TEGC				eS	Sn	09 31 19.7	+1.0
	baz=212						
TIPB	Shuangxi	0.72 346		P	Pn	09 31 07.3	-0.8
	baz=351						
TIPB				eS	Sb	09 31 15.5	-0.9
	baz=351						
NSK	Sanguang	0.72 304		P	Pg	09 31 06.7	+0.5
	baz=311						
NSK				eS	Sb	09 31 15.0	-1.5
	baz=311						
TWB1	Santiao Chiao	0.73 358		P	Pn	09 31 07.7	-0.6
	baz=356						
TWB1				eS	Sg	09 31 16.9	+0.9
	baz=356						
TDCB	Techi	0.78 269		P	Pg	09 31 07.8	+0.5
	baz=268						
TDCB				eS	Sg	09 31 18.4	+0.8
	baz=268						
CHGB	Renai	0.80 255		P	Pb	09 31 07.7	-0.3
	baz=253						
CHGB				eS	Sb	09 31 18.4	-0.4
	baz=253						
EGFH	Guangfu	0.81 222		P	Pg	09 31 08.1	+0.4
	baz=232						
EGFH				eS	Sn	09 31 20.6	-0.5
	baz=232						
TWA	Mucha	0.81 331		eP	Pn	09 31 11.1	+1.8
	baz=335						
TWA				eS	Sb	09 31 18.3	-0.7
	baz=335						
NHDH	Xindian Distri	0.82 327		P	Pn	09 31 10.1	+0.7
	baz=331						
NHDH				S	Sg	09 31 19.1	+0.3
	baz=331						
NWF	Wu-fen Shan	0.82 345		eP	Pn	09 31 10.0	+0.4
	baz=342						
NWF				S	Sg	09 31 19.6	+0.7
	baz=342						
WFSB	Wu-fen Shan	0.82 345		P	Pn	09 31 09.5	0.0
	baz=342						
WFSB				eS	Sn	09 31 20.1	-1.5
	baz=342						
OWD	Renai	0.83 248		i P	Pg	09 31 08.7	+0.4
	baz=253						
OWD				eS	Sn	09 31 21.2	-0.7
	baz=253						
TATO	Taipei	0.85 326		P	Pn	09 31 09.3	-0.5
	baz=329						
TATO				S	Sb	09 31 18.2	-1.9
	baz=329						
JYNG	Yonagunijimaku	0.86 78		P	Pn	09 31 11.1	+1.0
JYNG				eS	Sn	09 31 22.9	+0.3
TAP	Taipei	0.89 329		eS	Sb	09 31 20.9	-0.6
	baz=324						
TNOU	National Taiwa	0.90 346		eP	Pn	09 31 10.8	+0.2
	baz=343						
TNOU				eS	Sg	09 31 21.6	+0.2
	baz=343						
YOJ	Yonaguni jima	0.93 78		P	Pn	09 31 12.2	+1.3
YOJ	Yonaguni jima	0.93 78		P	Pn	09 31 12.2	+1.3
	baz=69						
YOJ				eS	Sn	09 31 25.2	+1.1
	baz=69						
HGSD	Ruisui	0.95 215		P	Pg	09 31 10.8	+0.4
	baz=211						
HGSD				eS	Sn	09 31 26.2	+1.7
	baz=211						
VWDT	VWDT	0.95 237		P	Pb	09 31 10.2	-0.3
	baz=235						
VWDT				eS	Sn	09 31 24.1	-0.6
	baz=235						
YM01	YM01	0.96 335		P	Pg	09 31 12.2	+1.5
	baz=330						
YM01				eS	Sn	09 31 23.9	-1.1
	baz=330						
NJD	Zhudong	0.96 299		eP	Pg	09 31 12.3	+1.5
	baz=306						
NTY	Taoyuan	0.98 318		eP	Pg	09 31 11.2	+0.2
	baz=321						
WHP	Taichung City	0.98 271		P	Pg	09 31 12.1	+1.1
	baz=270						
WHP				eS	Sb	09 31 23.4	-0.5
	baz=270						
LIOB	Emei	0.98 292		P	Pg	09 31 12.1	+0.9
	baz=294						
LIOB				eS	Sb	09 31 23.5	-0.5
	baz=294						
TWS1	Kuangyinshan	0.99 327		P	Pg	09 31 12.7	+1.4
	baz=330						
TWS1				eS	Sg	09 31 24.2	+0.1
	baz=330						
YM08	YM08	0.99 337		P	Pg	09 31 12.2	+1.0
	baz=334						
YM08				eS	Sn	09 31 24.9	-0.9
	baz=334						
NSTT	Nanjuang	0.99 291		P	Pg	09 31 12.4	+1.1
	baz=293						
NSTT				eS	Sb	09 31 24.1	-0.2
	baz=293						
EHY	Hungye	0.99 220		P	Pb	09 31 10.4	-0.8
	baz=216						
EHY				eS	Sn	09 31 25.6	-0.1
	baz=216						
WPL	Puli Township	1.00 255		P	Pb	09 31 11.1	-0.3
	baz=254						
WPL				S	Sb	09 31 24.7	+0.1
	baz=254						
ANP	Anpu	1.02 334		P	Pg	09 31 13.1	+1.3
	baz=329						
ANP				eS	Sn	09 31 25.9	-0.6
	baz=329						
DPDB	Guoxing	1.02 257		P	Pb	09 31 11.7	-0.1
	baz=256						
DPDB				S	Sb	09 31 25.0	-0.2
	baz=256						
NCU	National Centr	1.03 313		eP	Pb	09 31 11.1	-0.7
	baz=310						
NCU				eS	Sg	09 31 25.6	+0.2
	baz=310						
NCUH	Zhongli	1.03 313		P	Pg	09 31 13.3	+1.4
	baz=315						
NCUH				S	Sn	09 31 28.3	+1.7
	baz=315						
WCS	Beigang Elemen	1.03 258		P	Pg	09 31 12.5	+0.5
	baz=262						
WCS				S	Sn	09 31 25.8	-0.9
	baz=262						
SBCB	Hsinchu	1.07 299		P	Pg	09 31 13.7	+0.9
	baz=292						
SBCB				eS	Sb	09 31 26.4	-0.1
	baz=292						
ECBN	Changbin	1.08 209		P	Pn	09 31 12.8	-0.2
	baz=188						
ECBN				eS	Sg	09 31 28.9	+1.8
	baz=188						
SSLB	Suanglung	1.08 244		P	Pb	09 31 12.6	-0.3
	baz=251						
SSLB				eS	Sg	09 31 27.8	+0.6
	baz=251						
HSN	Hsinchu	1.09 299		eS	Sg	09 31 28.8	+1.4
	baz=294						
SMLT	Sun Moon Lake	1.09 249		P	Pg	09 31 13.4	+0.2
	baz=248						
SMLT				S	Sg	09 31 30.2	+2.7
	baz=248						
YULB	Yu-li	1.10 217		P	Pb	09 31 11.8	-1.1
	baz=214						
YULB				eS	Sn	09 31 27.6	-0.7
	baz=214						
EYUL	Yuli	1.12 215		P	Pg	09 31 14.0	+0.2
	baz=230						
EYUL				eS	Sg	09 31 29.4	+1.1
	baz=230						
TYC	Yuchr	1.12 251		P	Pb	09 31 13.6	+0.2
	baz=250						
TYC				eS	Sb	09 31 27.8	-0.1
	baz=250						
TWF1	Yuli	1.13 216		P	Pn	09 31 12.5	-1.2
	baz=228						
TWF1				eS	Sg	09 31 29.0	+0.4
	baz=228						
TWQ1	Liyutan	1.14 274		P	Pg	09 31 15.4	+1.3
	baz=274						
TWQ1				eS	Sg	09 31 29.2	+0.4
	baz=274						
NMLH	Miaoli	1.15 284		eP	Pg	09 31 15.4	+1.1
	baz=284						
NSY	Sanyi	1.15 277		eP	Pg	09 31 15.3	+0.9
	baz=284						
NSY				eS	Sg	09 31 31.1	+1.7
	baz=284						
TCU	Taichung	1.23 264		eP	Pg	09 31 16.9	+1.1
	baz=264						
TCU				eS	Sg	09 31 35.2	+3.4
	baz=264						
FULB	Fuli	1.26 212		P	Pb	09 31 15.4	-0.4
	baz=226						
FULB				eS	Sn	09 31 32.3	0.0
	baz=226						
WDJ	Dajia District	1.26 274		eP	Pg	09 31 17.4	+1.1
	baz=274						
WDJ				eS	Sg	09 31 34.0	+1.3
	baz=274						
WJS	Zhushan	1.26 249		P	Pg	09 31 16.6	+0.3
	baz=238						
WJS				eS	Sg	09 31 33.5	+0.7
	baz=238						
WNT	Mingjian	1.28 252		eP	Pg	09 31 17.3	+0.6
	baz=252						
WNT				eS	Sg	09 31 35.0	+1.7
	baz=252						
CHKT	Chengkung	1.31 207		P	Pb	09 31 16.3	-0.3
	baz=190						
CHKT				eS	Sn	09 31 32.8	-0.8
	baz=190						
ALS	Alishan	1.34 236		P	Pb	09 31 17.1	-0.2
	baz=234						
ALS				eS	Sg	09 31 36.4	+0.9
	baz=234						
CHN5	Tsauling	1.40 242		P	Pg	09 31 18.7	-0.3
	baz=241						
CHN5				eS	Sg	09 31 38.5	+1.4
	baz=241						
ELDTW	Lidau	1.42 221		P	Pn	09 31 16.6	-1.1
	baz=218						
ELDTW				eS	Sb	09 31 37.1	+0.6
	baz=218						
EDH	Donghe	1.45 207		P	Pn	09 31 18.0	-0.1
	baz=191						
EDH				eS	Sn	09 31 35.9	-1.1
	baz=191						
WDLH	Douliu	1.47 247		P	Pb	09 31 19.8	+0.4
	baz=246						
WDLH				eS	Sg	09 31 41.1	+1.5
	baz=246						
WRL	Guolierlin Hig	1.54 256		P	Pb	09 31 20.7	+0.1
	baz=256						
WRL				S	Sb	09 31 40.3	+0.2
	baz=256						
IRIF	Iriomote-Funau	1.56 87		P	Pg	09 31 21.7	-0.5
STYH	Taoyuan	1.58 226		P	Pb	09 31 20.5	-0.7
	baz=214						
STYH				eS	Sb	09 31 41.2	0.0
	baz=214						
LONT	Longtian	1.58 211		P	Pn	09 31 18.9	-1.0
	baz=208						
LONT				eS	Sb	09 31 41.5	+0.2
	baz=208						
CHN2	Minshiung	1.59 243		eS	Sg	09 31 44.8	+1.5
	baz=242						
STYT	Tauyuan	1.60 227		P	Pb	09 31 20.9	-0.7
	baz=214						
STYT				S	Sb	09 31 41.3	-0.4
	baz=214						
TPUB	Ta-pu	1.60 233		P	Pb	09 31 21.7	+0.1
	baz=219						
TPUB				eS	Sg	09 31 43.5	0.0
	baz=219						
WTK	Tuku	1.60 249		P	Pb	09 31 21.4	-0.1
	baz=249						
WTK				eS	Sg	09 31 43.6	0.0
	baz=249						
WTP	Ta-pu	1.64 232		eP	Pg	09 31 23.2	-0.4
	baz=230						
WTP				eS	Sb	09 31 44.0	+1.1
	baz=230						
CHY	Chiayi	1.65 242		P	Pb	09 31 23.2	+0.8
	baz=242						
CHY				eS	Sg	09 31 45.4	+0.2
	baz=242						
TWGBT	Beinan	1.68 211		P	Pn	09 31 20.0	-1.4
	baz=194						
TWGBT				eS	Sn	09 31 42.4	-0.5
	baz=194						
TWG	Pinlang	1.69 211		P	Pn	09 31 20.1	-1.2

baz=194
TWG S **Sn** **09 31 41.6 -1.2**
baz=194
TWK Hsinying 1.72 235 P **Pb** **09 31 23.4 -0.3**
baz=234
TWK *e*S **Sg** **09 31 47.6 0.0**
baz=234
CHN1 Nanshi 1.74 232 *e*P **Pg** **09 31 25.1 -0.5**
baz=231
CHN1 S **Sg** **09 31 49.5 +1.4**
baz=231
SNST Tainan City 1.74 233 P **Pb** **09 31 24.0 0.0**
baz=233
SNST *e*S **Sb** **09 31 46.2 +0.4**
baz=233
WSF Szhu 1.76 249 P **Pb** **09 31 23.3 -1.0**
baz=249
WSF *e*S **Sb** **09 31 47.7 +1.4**
baz=249
SGST Jiashian 1.77 228 P **Pb** **09 31 23.3 -1.2**
baz=214
SGST S **Sb** **09 31 46.1 -0.5**
baz=214
JKRS Kuro-shima 1.82 91 *e*S **Sg** **09 31 50.1 -0.6**
JIJ Ishigaki jima 1.94 87 P **Pb** **09 31 27.3 -0.1**
JIJ *e*S **Sg** **09 31 53.4 -1.2**
JISG Ishigakijimahi 2.11 81 P **Pb** **09 31 30.2 -0.1**
JISG *e*S **Sb** **09 31 57.3 +0.8**

IDC 08 09:51:46.8±2.8, 53°.57N×87°.73E, h0km, mb1 3.1/2, mb1mx3.0/50, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=25.0km s-min=15.1km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**283**	*i*		10 05 50.0	
baz=98,slow=340,SNR=10							
ZALV	**Zalesovo Beam**	**1.77**	**283**	Pn	Pn	09 52 19.1	+0.4
1.3nm,0.3s,baz=108,slow=15,SNR=17							
ZALV				Lg	Lg	09 52 43.1	
2.0nm,0.3s,baz=100,slow=26,SNR=12							
KURBB	**Kurchatov Arra**	**6.39**	**246**	Pn	Pn	09 53 22.5	+0.3
0.1nm,0.3s,baz=61,slow=14,SNR=1.5							
KURBB				Lg	Lg	09 55 05.8	
baz=63,slow=32,SNR=4.2							
MKAR	**Makanchi Array**	**7.63**	**209**	Pn	Pn	09 53 40.6	+1.4
0.2nm,0.3s,baz=31,slow=14,SNR=14							
MKAR				Sn	Sn	09 55 06.6	+0.2
0.1nm,0.3s,baz=29,slow=21,SNR=2.7							
MKAR				Lg	Lg	09 55 46.2	
0.1nm,0.3s,baz=28,slow=28,SNR=7.8							

IDC 08 10:19:01.6±2.7, 18°.69S×177°.42W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/22, mbtmp3.5/3, Error ellipse: s-maj=287.1km s-min=34.5km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.42**	**260**	P	P	10 27 22.5	-0.1
0.4nm,0.6s,baz=97,slow=7.8,SNR=12							
ASAR	**Alice Springs**	**45.49**	**255**	P	P	10 27 22.9	-0.2
0.5nm,0.5s,baz=87,slow=8.0,SNR=19							
TXAR	**Lajitas Array**	**85.62**	**57**	P	P	10 31 42.5	0.0
0.2nm,0.6s,baz=216,slow=6.2,SNR=3.5							

*SOME **08** 10:19:45.3, 38°.28N×71°.33E, h0km*
NNC 08 10:19:41.3±6.9, 36°.99N×70°.69E, h0km, mb4.3, mpv3.9, 4C-1D, Error ellipse: s-maj=55.8km s-min=51.5km az=33.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.17**	**355**	*e*P	Pn	10 21 03.1	+2.9
92nm,0.3s							
IUG				*e*S	Sn	10 22 04.1	+3.5
71nm,0.7s							
AML	**Almayashu**	**5.63**	**23**	P	Pn	10 21 07.5	+0.8
SNR=66							
UCH	**Uchtor**	**6.00**	**28**	P	Pn	10 21 12.4	+0.6
SNR=35							
BRLS	**Borolday**	**6.07**	**354**	*e*P	Pn	10 21 10.6	-1.7
1.4nm,0.0s							
BRLS				*e*S	Sn	10 22 17.8	-4.6
7.9nm,0.5s							
MRKS	**Merke**	**6.07**	**18**	*e*P	Pn	10 21 14.8	+2.4
6.0nm,0.8s							
MRKS				*e*S	Sn	10 22 25.2	+2.6
13nm,0.4s							
KK09	**Karatay Array**	**6.13**	**359**	⇓Pn	Pn	10 21 13.3	+0.1
4.7nm,0.7s,baz=172,slow=12							
KK09				⇑Sn	Sn	10 22 24.2	+0.3
4.5nm,0.6s,baz=178,slow=22							
EKS2	**Erkin-Say**	**6.14**	**22**	P	Pn	10 21 14.5	+1.1
SNR=16							
AAK	**Ala-Archa**	**6.35**	**26**	P	Pn	10 21 16.9	+0.5
SNR=10.0							
AAK	**Ala-Archa**	**6.35**	**26**	⇑Pn	Pn	10 21 16.5	+0.1
4.7nm,0.5s							
AAK				⇑Sn	Sn	10 22 32.1	+2.4
9.5nm,0.6s							
KBK	**Karagaybulak**	**6.54**	**29**	P	Pn	10 21 19.4	+0.5
SNR=8.6							
CHMS	**Chumysh**	**6.76**	**26**	P	Pn	10 21 22.3	+0.4
SNR=5.5							
TKM2	**Tokmak 2**	**7.02**	**31**	P	Pn	10 21 25.4	-0.2
SNR=7.5							
TKM2	**Tokmak 2**	**7.02**	**31**	⇑Pn	Pn	10 21 24.9	-0.6
9.6nm,0.5s							

*IDC **08** 10:58:55.5±2.4, 23°.88S×179°.82E, h496km±24km, mb3.2/4, mb1 3.7/5, mb1mx3.2/29, mbtmp4.2/5, Error ellipse: s-maj=52.4km s-min=21.5km az=163.0*
*NEIC **08** 10:58:57.6±1.1, 24°.0S±0°.1×179°.9E±0°.2, h521km±13km, mb4.1/10, Error ellipse: s-maj=22.1km s-min=14.9km az=81.0*
ISC 08 10:58:57.9±0.8, 24°.0S±0°.1×179°.8E±0°.1, h526km, n20, σ1°.07/21, mb4.0/10, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.45**	**345**	P	**P**	**11 00 39.0**	**-0.9**
MARNC	**Mare, Loyalty**	**11.18**	**281**	P	**P**	**11 01 27.8**	**-0.1**
URZ	**Urewera**	**14.41**	**189**	P	**P**	**11 02 00.2**	**-1.1**
2.2nm,0.3s,baz=350,slow=6.1,SNR=8.5							
EIDS	**Eidsvold**	**26.15**	**261**	P	**P**	**11 03 50.9**	**+0.7**
EIDS				IAmb	IAmb	11 03 51.4	
comp=Z,12nm,1.2s							
CTAO	**Charters Tower**	**31.33**	**270**	P	**P**	**11 04 36.0**	**+0.7**
COEN	**Coen**	**35.98**	**279**	P	**P**	**11 05 15.1**	**+0.5**
COEN				IAmb	IAmb	11 05 38.8	
comp=Z,3.5nm,1.1s							
BBOO	**Buckleboo**	**39.27**	**247**	P	**P**	**11 05 40.8**	**-0.4**
AS31	**Alice Springs**	**41.87**	**261**	P	**P**	**11 06 02.0**	**-0.1**
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**11 06 01.8**	**-0.4**
comp=Z,1.7nm,0.5s,baz=97,slow=6.7,SNR=27							
ASAR				ScP	**ScP**	**11 10 48.3**	**+2.3**
comp=Z,0.7nm,0.6s,baz=112,slow=4.4,SNR=10							
WR0	**Warramunga Arr**	**42.07**	**266**	P	**P**	**11 06 02.9**	**-0.8**
WR0				IAmb	IAmb	11 06 03.9	
comp=Z,2.6nm,0.9s							
WB2	**Warramunga Arr**	**42.24**	**266**	P	**P**	**11 06 04.5**	**-0.6**
WB2				IAmb	IAmb	11 06 04.9	
comp=Z,4.9nm,0.7s							
WRAB	**Tennant Creek**	**42.25**	**266**	P	**P**	**11 06 04.2**	**-0.9**
WRAB				IAmb	IAmb	11 06 04.8	
comp=Z,5.7nm,0.8s							
WB0	**Warramunga Arr**	**42.25**	**267**	P	**P**	**11 06 04.3**	**-0.8**
WB0				IAmb	IAmb	11 06 05.3	
comp=Z,6.6nm,0.6s							
WRA	**Warramunga Arr**	**42.25**	**266**	P	**P**	**11 06 04.5**	**-0.7**
comp=Z,4.1nm,0.5s,baz=103,slow=8.5,SNR=109							
WRA				ScP	**ScP**	**11 10 50.2**	**+2.6**
comp=Z,0.8nm,0.7s,baz=99,slow=3.6,SNR=7.2							
WRA	**Warramunga Arr**	**42.25**	**266**	P	**P**	**11 06 04.0**	**-1.2**
QSPA	**South Pole Qui**	**66.09**	**180**	P	**P**	**11 08 53.1**	**+0.6**
SYO	**Syowa Base**	**82.88**	**193**	⇓*e*P	P	11 10 15.5	-11
NVAR	**Mina Array Bea**	**84.92**	**44**	P	**P**	**11 10 37.6**	**0.0**
comp=Z,0.2nm,0.6s,baz=230,slow=5.6,SNR=2.8							
TXAR	**Lajitas Array**	**90.61**	**58**	P	**P**	**11 11 04.4**	**0.0**
comp=Z,0.5nm,0.7s,baz=215,slow=6.2,SNR=9.2							

FINES FINESS Array B 138.49 341 PKP **PKPdf** **11 17 23.3 +0.3**
comp=Z,2.3nm,0.9s,baz=354,slow=1.4,SNR=1.7

*EAF **08** 11:43:00.3±1.7, 23°.28S×26°.77E, h0km±18km, MD3.9*
BUL 08 11:43:00.3±1.7, 23°.28S×26°.77E, h0km±18km, MD4.1, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.04**	**212**	*i* P	Pn	11 43 35.4	-0.6
LBTB				*i* Sg	Sb	11 44 03.4	-0.9
LBTB	**Lobatse**	**2.04**	**212**	*i* P	Pn	11 43 35.4	-0.6
LBTB				*i* Sg	Sb	11 44 03.4	-0.9
MATP	**Matopo**	**3.26**	**30**	*i* P	Pn	11 43 53.8	+1.0
MATP				*i* Sg	Sb	11 44 40.5	+1.1
MATP	**Matopo**	**3.26**	**30**	*i* P	Pn	11 43 53.8	+1.0
MATP				*i* Sg	Sb	11 44 40.5	+1.1
BOSA	**Boshof**	**5.49**	**194**	*i* P	Pn	11 44 22.3	-1.2
BOSA				*i* S	Sn	11 45 22.8	-4.6
BOSA	**Boshof**	**5.49**	**194**	*i* P	Pn	11 44 22.3	-1.2
BOSA				*i* S	Sn	11 45 22.8	-4.6

*KRNET **08** 12:00:21.1±0.1, 40°.48N×74°.17E, h11km, mb3.4*
*SOME **08** 12:00:24.5, 40°.65N×74°.07E, h10km*
*NNC **08** 12:00:25.1±1.6, 40°.65N×74°.06E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=12.8km s-min=7.0km az=166.0*
ISC 08 12:00:20.6±1.2, 40°.48N±0°.03×74°.19E±0°.02, h10km±11km, n71, σ1°.76/110, 35C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.49**	**325**	⇑*e*P	**Pg**	**12 00 31.1**	**+0.9**
baz=27							
SALK				⇑*e*S	**Sg**	**12 00 37.5**	**+0.8**
baz=27							
SFK	**Sufi-Kurgan**	**0.70**	**229**	⇑*e*P	**Pg**	**12 00 34.5**	**+0.3**
baz=28							
SFK				⇑*e*S	**Sg**	**12 00 43.9**	**+0.5**
baz=28							
OHH	**Osh**	**1.07**	**273**	⇑*i*P	**Pg**	**12 00 41.1**	**-0.1**
baz=73							
OHH				⇑*i*S	**Sn**	**12 00 56.3**	**-0.4**
baz=73							
ARLS	**Aral**	**1.38**	**4**	⇓*i*P	**Pn**	**12 00 46.9**	**+0.8**
baz=5.0							
ARLS				⇓*i*S	**Sg**	**12 01 06.6**	**+1.4**
baz=5.0							
AML	**Almayashu**	**1.69**	**347**	P	**Pb**	**12 00 52.3**	**+0.3**
SNR=64							
UCH	**Uchtor**	**1.76**	**8**	P	**Pg**	**12 00 56.1**	**+1.6**
SNR=108							
UCH	**Uchtor**	**1.76**	**8**	⇑*i*P	**Pb**	**12 00 54.2**	**+0.9**
baz=8.0							
UCH				⇑*i*S	**Sg**	**12 01 18.4**	**+1.1**
baz=8.0							
ARK	**Arkit**	**2.14**	**309**	⇑*i*P	**Pb**	**12 01 00.1**	**+0.7**
baz=9.0							
ARK				⇑*i*S	**Sg**	**12 01 28.3**	**-0.9**
baz=9.0							
AAK	**Ala-Archa**	**2.17**	**6**	P	**Pg**	**12 01 02.5**	**+0.3**
SNR=37							
AAK	**Ala-Archa**	**2.17**	**6**	⇑Pn	**Pg**	**12 01 02.3**	**+0.2**
16nm,0.4s							
AAK				⇓Lg	Lg	12 01 31.5	
27nm,0.5s							
AAK	**Ala-Archa**	**2.17**	**6**	⇑*i*P	**Pb**	**12 01 00.5**	**+0.5**
baz=6.0							
AAK				⇑*i*S	**Sb**	**12 01 29.3**	**+2.3**
baz=6.0							
EKS2	**Erkin-Say**	**2.20**	**352**	P	**Pb**	**12 01 01.9**	**+1.4**
SNR=92							
EKS2	**Erkin-Say**	**2.20**	**352**	⇑*i*P	**Pb**	**12 01 00.9**	**+0.4**
baz=52							
EKS2				⇑*i*S	**Sb**	**12 01 30.1**	**+2.2**
baz=52							
KBK	**Karagaybulak**	**2.25**	**14**	P	**Pg**	**12 01 04.0**	**+0.3**
SNR=23							
KBK	**Karagaybulak**	**2.25**	**14**	⇓*i*P	**Pb**	**12 01 01.7**	**+0.3**
baz=15							
KBK				⇓*i*S	**Sb**	**12 01 31.3**	**+2.0**
baz=15							
ULHL	**Ulahol**	**2.35**	**41**	P	**Pg**	**12 01 05.7**	**+0.1**
SNR=7.0							
ULHL	**Ulahol**	**2.35**	**41**	⇑*i*P	**Pb**	**12 01 03.1**	**+0.1**
baz=41							
ULHL				⇑*i*S	**Sb**	**12 01 33.9**	**+1.8**
baz=41							
FRU1	**Bishkek**	**2.35**	**8**	⇑*i*P	**Pb**	**12 01 03.3**	**+0.2**
baz=8.0							
FRU1				⇑*i*S	**Sb**	**12 01 34.2**	**+2.0**
baz=8.0							
MNAS	**Manas**	**2.37**	**328**	⇑*i*P	**Pb**	**12 01 03.3**	**-0.1**
baz=29							
MNAS				⇑*i*S	**Sb**	**12 01 34.1**	**+1.3**
baz=29							
MRKS	**Merke**	**2.38**	**343**	*e*P	**Pg**	**12 01 05.4**	**-0.7**
21nm,0.3s							
MRKS				*e*S	**Sb**	**12 01 34.4**	**+1.5**
59nm,0.4s							
MRKS	**Merke**	**2.38**	**343**	Pg	**Pb**	**12 01 05.1**	**+1.6**
21nm,0.3s							
MRKS				Lg	Lg	12 01 33.9	
59nm,0.4s							
BOOM	**Boomskoye usch**	**2.40**	**33**	⇑*i*P	**Pb**	**12 01 04.0**	**0.0**
baz=33							
BOOM				⇑*i*S	**Sb**	**12 01 35.5**	**+1.8**
baz=33							
TRKS	**Terek-Say**	**2.53**	**295**	⇑*i*P	**Pb**	**12 01 04.6**	**-1.6**
baz=94							
TRKS				⇑*i*S	**Sb**	**12 01 36.9**	**-0.6**
baz=94							
CHMS	**Chumysh**	**2.55**	**9**	P	**Pg**	**12 01 08.9**	**-0.6**
SNR=10							
CHMS	**Chumysh**	**2.55**	**9**	⇓*i*P	**Pb**	**12 01 05.9**	**-0.6**
baz=10.0							
CHMS				⇓*i*S	**Sb**	**12 01 38.2**	**+0.3**
baz=10.0							
BTK	**Batken**	**2.61**	**262**	⇓*i*P	**Pb**	**12 01 06.5**	**-1.0**
baz=62							
BTK				⇓*i*S	**Sb**	**12 01 39.4**	**-0.3**
baz=62							
TKM2	**Tokmak 2**	**2.66**	**23**	P	**Pg**	**12 01 11.1**	**-0.4**
SNR=26							
TKM2	**Tokmak 2**	**2.66**	**23**	⇓Pn	**Pb**	**12 01 10.1**	**+1.7**
11nm,0.6s							
TKM2				⇓Lg	Lg	12 01 46.8	
49nm,0.5s							
TKM2	**Tokmak 2**	**2.66**	**23**	⇑*i*P	**Pb**	**12 01 07.6**	**-0.8**
baz=23							
TKM2				⇑*i*S	**Sb**	**12 01 41.2**	**+0.1**
baz=23							
KDJ	**Kajisay**	**2.79**	**53**	⇑*i*P	**Pb**	**12 01 09.4**	**-1.2**
baz=53							
KDJ				⇑*i*S	**Sb**	**12 01 44.6**	**-0.4**
baz=53							
USP	**Ospenovka**	**2.79**	**5**	P	**Pb**	**12 01 12.0**	**+1.4**
SNR=27							
USP	**Ospenovka**	**2.79**	**5**	⇑*i*P	**Pb**	**12 01 09.1**	**-1.5**
baz=5.0							
USP				⇑*i*S	**Sb**	**12 01 43.7**	**-1.2**
baz=5.0							
KST	**Kastek**	**2.88**	**27**	*e*P	**Pg**	**12 01 15.2**	**-0.7**
37nm,0.4s							
KST				*e*S	**Sg**	**12 01 51.6**	**-1.7**
68nm,0.6s							
KST	**Kastek**	**2.88**	**27**	Pg	**Pg**	**12 01 15.2**	**-0.7**
37nm,0.4s							
KST				Lg	Lg	12 01 51.6	
68nm,0.6s							
DGS	**Degeres**	**3.00**	**23**	*e*P	**Pg**	**12 01 17.5**	**-0.6**
32nm,0.6s							
DGS				*e*S	**Sg**	**12 01 55.2**	**-1.8**
29nm,0.4s							
DGS	**Degeres**	**3.00**	**23**	Pg	**Pg**	**12 01 17.5**	**-0.6**
32nm,0.6s							
DGS				Lg	Lg	12 01 55.2	
29nm,0.4s							
MTBS	**Maitube**	**3.13**	**32**	*e*P	**Pg**	**12 01 20.1**	**-0.5**
9.5nm,0.3s							
MTBS				*e*S	**Sg**	**12 01 59.6**	**-1.6**
37nm,0.3s							
MTBS	**Maitube**	**3.13**	**32**	Pg	**Pg**	**12 01 20.1**	**-0.5**
9.5nm,0.3s							
MTBS				Lg	Lg	12 01 59.6	
37nm,0.3s							
TNSS Tian-Shan	**3.29**	**38**	*e*P	**Pg**	**12 01 22.9**	**-0.6**
19nm,0.4s							
TNSS				*e*S	**Sg**	**12 02 04.6**	**-1.5**
19nm,0.5s							
TNSS Tian-Shan	**3.29**	**38**	Pg	**Pg**	**12 01 22.9**	**-0.6**
19nm,0.4s							
TNSS				Lg	Lg	12 02 04.6	
19nm,0.5s							
KRBS Karabastau	**3.40**	**19**	*e*P	**Pg**	**12 01 24.8**	**-0.8**
11nm,0.4s							
KRBS				*e*S	**Sg**	**12 02 08.0**	**-1.7**
19nm,0.6s							
KRBS Karabastau	**3.40**	**19**	Pg	**Pg**	**12 01 24.8**	**-0.8**
11nm,0.4s							
KRBS				Lg	Lg	12 02 08.0	
19nm,0.6s							
MDOK Medeo	**3.43**	**38**	*e*P	**Pg**	**12 01 25.4**	**-0.9**
8.8nm,0.6s							
MDOK				*e*S	**Sg**	**12 02 08.8**	**-1.9**
24nm,0.9s							
MDOK Medeo	**3.43**	**38**	⇑Pg	**Pg**	**12 01 26.1**	**-0.2**
9.2nm,0.8s							
MDOK				Lg	Lg	12 02 13.6	
20nm,0.6s							
MDOK Medeo	**3.43**	**38**	Pg	**Pg**	**12 01 25.4**	**-0.9**
8.8nm,0.6s							
MDOK				Lg	Lg	12 02 08.8	
24nm,0.9s							
ANVS Anan'yevo	**3.48**	**47**	⇑*i*P	**Pb**	**12 01 19.4**	**-2.9**
baz=48							
ANVS				⇑*i*S	**Sb**	**12 02 01.6**	**-3.1**
baz=48							
KOTS Kotyrbulak	**3.51**	**37**	*e*P	**Pg**	**12 01 28.1**	**+0.2**
14nm,0.3s							
KOTS				*e*S	**Sg**	**12 02 13.1**	**-0.3**
65nm,0.9s							
KOTS Kotyrbulak	**3.51**	**37**	Pg	**Pg**	**12 01 28.1**	**+0.2**
14nm,0.3s							
KOTS				Lg	Lg	12 02 13.1	
65nm,0.9s							
IUG Iuzhnay	**3.55**	**299**	*e*P	**Pg**	**12 01 26.6**	**-1.9**
359nm,0.6s							
IUG				*e*S	**Sg**	**12 02 10.8**	**-3.6**
58nm,0.5s							
IUG Iuzhnay	**3.55**	**299**	Pg	**Pg**	**12 01 26.6**	**-1.9**
359nm,0.6s							
IUG				Lg	Lg	12 02 10.8	
58nm,0.5s							
KTBS Karatobe	**3.73**	**29**	*e*P	**Pg**	**12 01 30.7**	**-1.2**
4.8nm,0.3s							
KTBS				*e*S	**Sg**	**12 02 18.4**	**-1.7**
35nm,0.6s							
KTBS Karatobe	**3.73**	**29**	Pg	**Pg**	**12 01 30.7**	**-1.2**
4.8nm,0.3s							
KTBS				Lg	Lg	12 02 18.4	
35nm,0.6s							
KUU Kurty	**3.77**	**24**	*e*P	**Pg**	**12 01 30.8**	**-1.9**
4.1nm,0.4s							
KUU				*e*S	**Sg**	**12 02 18.4**	**-3.2**
15nm,0.7s							
KUU Kurty	**3.77**	**24**	Pg	**Pg**	**12 01 30.8**	**-1.9**
4.1nm,0.4s							
KUU				Lg	Lg	12 02 18.4	
15nm,0.7s							
KK09 Karatay Array	**3.82**	**315**	Pg	**Pb**	**12 01 29.7**	**+1.7**
4.2nm,0.5s,baz=139,slow=15							
KK09				⇑Lg	Lg	12 02 19.0	
12nm,0.5s,baz=137,slow=30							
CHKK Chushkaly	**3.96**	**31**	*e*P	**Pg**	**12 01 35.5**	**-1.0**
3.5nm,0.4s							
CHKK				*e*S	**Sg**	**12 02 26.0**	**-1.8**
18nm,0.4s							
CHKK Chushkaly	**3.96**	**31**	Pg	**Pg**	**12 01 35.5**	**-1.0**
3.5nm,0.4s							
CHKK				Lg	Lg	12 02 26.0	
18nm,0.4s							
BRLS Borolday	**4.13**	**309**	*e*P	**Pb**	**12 01 36.1**	**+2.7**
5.7nm,0.5s							
BRLS				*e*S	**Sb**	**12 02 27.1**	**+3.7**
23nm,0.6s							
BRLS Borolday	**4.13**	**309**	Pg	**Pb**	**12 01 36.1**	**+2.7**
5.7nm,0.5s							
BRLS				Lg	Lg	12 02 27.1	
23nm,0.6s							
UZB Uzynbulak	**4.49**	**52**	*e*P	**Pg**	**12 01 45.7**	**-0.9**
2.8nm,0.2s							
UZB				*e*S	**Sg**	**12 02 43.8**	**-0.9**
14nm,0.7s							
UZB Uzynbulak	**4.49**	**52**	Pg	**Pg**	**12 01 45.7**	**-0.9**
2.8nm,0.2s							
UZB				Lg	Lg	12 02 43.7	
14nm,0.7s							
BTLS Baital	**4.56**	**359**	*e*P	**Pg**	**12 01 46.1**	**-1.7**
2.5nm,0.6s							
BTLS				*e*S	**Sg**	**12 02 44.4**	**-2.5**
6.5nm,0.6s							
BTLS Baital	**4.56**	**359**	Pg	**Pg**	**12 01 46.2**	**-1.7**
2.5nm,0.6s							
BTLS				Lg	Lg	12 02 44.4	
6.5nm,0.6s							
ARXS Arharly	**4.60**	**35**	*e*P	**Pg**	**12 01 47.0**	**-1.7**
7.5nm,0.7s							
ARXS				*e*S	**Sg**	**12 02 46.0**	**-2.3**
20nm,0.8s							
ARXS Arharly	**4.60**	**35**	Pg	**Pg**	**12 01 47.0**	**-1.7**
7.5nm,0.7s							
ARXS				Lg	Lg	12 02 46.0	
20nm,0.8s							
SHLS Shalkode	**4.76**	**54**	*e*P	**Pg**	**12 01 56.2**	**+4.4**
1.5nm,0.1s							
SHLS				*e*S	**Sg**	**12 03 01.9**	**+8.4**
14nm,0.5s							
SHLS Shalkode	**4.76**	**54**	Pg	**Pg**	**12 01 56.2**	**+4.4**
1.5nm,0.1s							
SHLS				Lg	Lg	12 03 01.9	
14nm,0.5s							
BLB Baldybastay	**4.82**	**40**	*e*P	**Pg**	**12 01 51.6**	**-1.1**
8.5nm,0.4s							
BLB				*e*S	**Sg**	**12 02 53.7**	**-1.4**
18nm,0.5s							
BLB Baldybastay	**4.82**	**40**	Pg	**Pg**	**12 01 51.7**	**-1.1**
8.5nm,0.4s							
BLB				Lg	Lg	12 02 53.7	
18nm,0.5s							
DJR Jarkent	**5.66**	**45**	*e*P	**Pg**	**12 02 07.6**	**-1.3**
1.0nm,0.3s							
DJR				*e*S	**Sg**	**12 03 21.2**	**-0.9**
6.7nm,0.6s							
DJR Jarkent	**5.66**	**45**	Pg	**Pg**	**12 02 07.6**	**-1.3**
1.0nm,0.3s							
DJR				Lg	Lg	12 03 21.2	
6.7nm,0.6s							

*NEIC **08** 12:12:34.9, 41°.69S×74°.17W, h25km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.52; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-2.78; $M_{r\theta}$0.27; $M_{\theta\phi}$-1.31; $M_{\phi r}$-1.51; Fault plane solution: $M_0$3.34000×10^{15} NP1:φs39.60000°, δ35.77000°, λ120.50000°. NP2:φs183.62000°, δ59.76000°, λ69.91000°. Principal axes: T 3.0633, Plg68.0000°, Azm52.0000°; N 0.4994, Plg17.0000°, Azm194.0000°; P -3.5627, Plg13.0000°, Azm288.0000°;*
*NEIC **08** 12:12:34.9±1.6, 41°.69S±0°.04×74°.17W±0°.09, h21km±4km, mb4.8/35, Mwr4.3/29, ML4.5(GUC) Error ellipse: s-maj=10.1km s-min=6.2km az=102.0*
*GUC **08** 12:12:36.1±0.7, 41°.71S×74°.12W, h42km±3km, ML4.5*
*IDC **08** 12:12:41.9±3.4, 41°.64S×73°.71W, h73km±27km, mb4.2/12, mb1 4.3/14, mb1mx4.1/25, mbtmp4.4/14, MS3.7/14, Ms1 3.6/14, ms1mx3.5/48, Error ellipse: s-maj=25.3km s-min=15.8km az=81.0*
*VAO **08** 12:12:44.1±1.9, 41°.49S×73°.55W, h82km±10km, mb4.8*
ISC 08 12:12:36.2±1.9, 41°.68S±0°.04×74°.11W±0°.07, h31km±13km, n139, σ0°.97/137, mb4.7/24, MS3.6/13, 4C-4D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL05	**Los Muermos**	**0.55**	**60**	⇑*i*P	**Pn**	**12 12 47.5**	**-0.4**
LL05				*i* S	**Sb**	**12 12 56.3**	**+1.1**
LL05				IAML		12 12 57.2	
comp=N,54μm,0.2s							
LL05	**Los Muermos**	**0.55**	**60**		**Pn**	**12 12 47.5**	**-0.4**
LL05					**Sn**	**12 12 55.4**	**-0.5**
LL07	**Hotel Espejo d**	**1.24**	**158**

LL07 IAML 12 13 21.3
comp=N,13μm,0.4s
LL07 Hotel Espejo d 1.24 158 Pn Pn 12 12 56.7 -0.7
LL03 Petrohue 1.39 68⇑ *i*P Pn 12 12 59.3 -0.2
LL03 *i* S Sn 12 13 17.8 +1.1
LL03 IAML 12 13 31.2
comp=N,18μm,0.8s
LL03 Petrohue 1.39 68 Pn Pn 12 12 59.6 +0.1
LL01 San Ignacio de 1.44 119⇓ *i*P Pn 12 12 59.8 -0.3
LL01 *i* S Sn 12 13 17.8 -0.2
LL01 IAML 12 13 20.3
comp=E,3μm,0.1s
LL01 San Ignacio de 1.44 119 Pn Pn 12 12 59.9 -0.3
GO07 Milladeo Hill, 1.47 167⇓ *i*P Pn 12 12 60.0 -0.5
GO07 *i* S Sn 12 13 18.6 0.0
GO07 IAML 12 13 26.7
comp=E,27μm,0.2s
GO07 Milladeo Hill, 1.47 167 Pn Pn 12 12 59.8 -0.7
LL04 Puerto Octay 1.50 60 *e*P Pn 12 13 00.7 -0.2
LL04 *i* S Sn 12 13 20.3 +1.1
LL04 IAML 12 13 24.2
comp=N,15μm,0.2s
LL04 Puerto Octay 1.50 60 Pn 12 13 00.9 0.0
LR04 Corral 1.87 16⇑ *i*P Pn 12 13 06.7 +0.7
LR04 IAML 12 13 38.1
comp=E,12μm,0.1s
LR02 Universidad Au 1.98 20 IAML 12 13 47.7
comp=N,33μm,0.7s
LL02 Futaleuf 2.25 133⇓ *i*P Pn 12 13 12.3 +0.9
LL02 *i* S Sn 12 13 39.6 +1.5
LL02 IAML 12 13 43.5
comp=N,558nm,0.7s
LL02 Futaleuf 2.25 133 Pn Pn 12 13 12.2 +0.9
LR03 Panguipulli 2.45 34 *e*P Pn 12 13 14.7 +0.7
LR03 IAML 12 13 57.5
comp=E,6μm,0.3s
LR03 Panguipulli 2.45 34 Pn Pn 12 13 14.6 +0.7
PLCA Paso Flores 2.85 72 P Pn 12 13 21.4 +1.9
comp=E,29nm,0.3s,baz=246,slow=13,SNR=212
PLCA S Sn 12 13 52.2 -0.6
comp=E,18nm,0.3s,baz=152,slow=12,SNR=5.1
PLCA Paso Flores 2.85 72 *e*P Pn 12 13 21.2 +1.7
PLCA Paso Flores 2.85 72 Pn Pn 12 13 20.9 +1.4
LC01 Cunco 3.26 32⇑ *i*P Pn 12 13 25.7 +0.5
LC01 IAML 12 14 21.9
comp=E,1μm,0.7s
LC01 Cunco 3.26 32 Pn Pn 12 13 25.7 +0.5
COYC Coyhaique 4.16 160 IAML 12 14 58.1
comp=E,147nm,0.3s
COYC Coyhaique 4.16 160 Pn Pn 12 13 37.8 +0.4
ML02 Panimavida 6.27 20 Pn Pn 12 14 06.4 -0.1
GO05 Huala 6.88 15 Pn Pn 12 14 13.6 -1.2
BO02 Sierra Bellavi 7.36 22 Pn Pn 12 14 20.9 -0.6
BO01 Tunca 7.66 19 Pn Pn 12 14 24.4 -1.1
MT01 Popeta 8.12 17 Pn 12 14 30.1 -1.8
MT09 Talagante 8.27 18 Pn 12 14 32.8 -1.3
MT02 Curacav 8.73 17 Pn 12 14 38.2 -2.1
PEL Peldehue 8.95 19 Pn 12 14 41.0 -2.2
CO06 Fray Jorge 11.16 11 Pn 12 15 10.7 -2.9
CO03 El Pedregal 11.16 15 Pn 12 15 11.7 -2.0
GO04 Tololo Observa 11.79 14 Pn Pn 12 15 22.4 0.0
AC04 Llanos de Chal 13.67 11 Pn Pn 12 15 45.9 -1.9
GO03 Copiap 14.41 14 Pn Pn 12 15 57.5 -0.5
AC02 Maricunga 15.36 17 Pn 12 16 10.5 -0.7
AC02 IAmb IAmb 12 16 21.5
comp=Z,19nm,0.6s
PB15 IPOC Station P 18.82 13 P P 12 16 52.6 -0.9
LVC Limon Verde 19.51 15 P Pn 12 17 02.6 0.0
comp=Z,0.4nm,0.3s,baz=217,slow=12,SNR=2.2
LVC LR LR 12 25 39.0
comp=Z,182nm,18.5s,baz=172,slow=40
LVC Limon Verde 19.51 15 *e*P P 12 17 01.2 0.0
LVC Limon Verde 19.51 15 P P 12 17 01.0 -0.2
PB07 IPOC Station P 20.21 11 P P 12 17 06.7 -2.0
CPUP Villa Florida 20.63 47 P P 12 17 12.9 -0.1
comp=Z,13nm,0.7s,baz=226,slow=9.0,SNR=17
CPUP LR LR 12 25 58.6
comp=Z,204nm,19.1s,baz=226,slow=39
CPUP Villa Florida 20.63 47 P 12 17 12.2 -0.7
PB01 IPOC Station P 20.94 12 P P 12 17 16.3 -0.1
PB11 IPOC Station P 22.18 11 P P 12 17 28.3 -1.5
PB16 IPOC Station P 23.60 11 P P 12 17 45.5 +0.6
PMSA Palmer Station 23.85 169 LR LR 12 25 45.6
comp=Z,155nm,19.2s,baz=316,slow=33
LPAZ La Paz 25.82 13 P P 12 18 05.9 +0.5
comp=Z,2.6nm,0.8s,baz=176,slow=11,SNR=7.4
LPAZ La Paz 25.82 13 *e*P P 12 18 04.2 -1.1
LPAZ La Paz 25.82 13 P P 12 18 03.6 -1.8
AQDB Aquidauana 26.26 42 *e*P P 12 18 06.8 -1.8
AQDB Aquidauana 26.26 42 P P 12 18 08.2 -0.4
AQDB IAmb IAmb 12 18 08.9
comp=Z,21nm,0.8s
HOPE Hope Point 27.81 130 P P 12 18 22.1 0.0
SIV San Ignacio 27.96 28 P P 12 18 23.6 -0.3
comp=Z,4.2nm,0.8s,baz=229,slow=8.6,SNR=11
SIV LR LR 12 31 21.8
comp=Z,200nm,19.2s,baz=260,slow=40
PTLB Pontes e Lacer 29.17 31 *e*P P 12 18 34.2 -0.4
PTLB Pontes e Lacer 29.17 31 P P 12 18 34.7 +0.1
PTLB IAmb IAmb 12 18 36.0
comp=Z,19nm,1.2s
NNA Nana 29.68 355 LR LR 12 27 35.2
comp=Z,49nm,19.0s,baz=186,slow=30
SALV Santo Antonio 30.20 37 *e*P P 12 18 43.5 -0.3
VILB Vilhena 31.09 27 P P 12 18 51.3 -0.3
VILB IAmb IAmb 12 18 54.9
comp=Z,9.0nm,0.6s
RPN Rapa Nui 32.24 286 LR LR 12 28 57.3
comp=Z,131nm,19.1s,baz=80,slow=30
ETMB Extrema 32.49 15 *e*P P 12 19 03.8 -0.1
ETMB Extrema 32.49 15 P P 12 19 03.5 -0.4
ETMB IAmb IAmb 12 19 05.1
comp=Z,8.5nm,0.8s
PDRB Porto dos Gac 33.60 32 *e*P P 12 19 13.2 -0.5
CZSB Cruzeiro do Su 33.83 3 *e*P P 12 19 16.5 +0.9
CZSB Cruzeiro do Su 33.83 3 P P 12 19 15.1 -0.6
BDFB Brasilia 34.35 49 P P 12 19 18.6 -1.6
comp=Z,13nm,0.7s,baz=217,slow=6.9,SNR=20
BDFB LR LR 12 32 42.6
comp=Z,98nm,18.1s,baz=126,slow=35
BDFB Brasilia 34.35 49 P P 12 19 18.6 -1.6
BDFB IAmb IAmb 12 19 19.3
comp=Z,14nm,0.6s
ATAH Atahualpa 34.61 352 LR LR 12 31 46.1
comp=Z,65nm,20.7s,baz=298,slow=33
CLDB Colider 34.64 33 *e*P P 12 19 22.7 0.0
SNDB Serra Nova Dou 35.69 41 *e*P P 12 19 30.7 -1.0
PEXB Peixe 37.10 45 *e*P P 12 19 43.0 -0.7
NPGB Novo Progresso 38.30 31 *e*P P 12 19 53.2 -0.8
SDBA SAO DESIDERIO 38.72 50 *e*P P 12 19 55.9 -1.6
MACA Manacapuru-AM 40.20 21 *e*P P 12 20 09.1 -0.6
MACA Manacapuru-AM 40.20 21 P P 12 20 09.0 -0.7
SMTB Santa Maria do 40.20 43 *e*P P 12 20 09.2 -0.6
GDU01 Guandu, BA 40.90 57 *e*P P 12 20 14.5 -1.1
OTAV Otavalo 41.91 353 *e*P P 12 20 27.6 +3.3
NBPN Ponto Novo - B 42.73 54 *e*P P 12 20 29.7 -0.9
VNA3 Neumayer Olymp 43.00 155 P P 12 20 32.3 +0.2
VNA2 Neumayer--Watz 43.70 154 P P 12 20 38.0 +0.3
baz=278,slow=8.0
NBLA Lagarto - SE 44.10 57 *e*P P 12 20 40.9 -0.7
SNAA Sanae 45.21 155 P P 12 20 50.1 +0.2
SNAA Sanae 45.21 155 P P 12 20 50.1 +0.2
comp=Z,12nm,1.0s,baz=261,slow=11,SNR=9.4
SNAA Sanae 45.21 155 P P 12 20 49.6 -0.3
BOAV Boa Vista 45.57 19 *e*P P 12 20 52.4 -0.9
BOAV Boa Vista 45.57 19 P P 12 20 52.2 -1.1
BOAV IAmb IAmb 12 20 53.2
comp=Z,7.1nm,0.6s
NBAN Anadia - AL 46.06 57 *e*P P 12 20 56.7 -0.5
NBMA Muriti-CE 46.34 52 *e*P P 12 20 58.4 -1.0
NBPS Pedro II - PI 47.22 47 *e*P P 12 21 05.7 -0.6
NBPB Pedra_Branca-C 47.32 50 *e*P P 12 21 06.9 -0.2
NBCA Caruaru-PE 47.34 56 *e*P P 12 21 06.9 -0.3
QSPA South Pole Qui 48.57 180 P P 12 21 17.6 +1.3
comp=Z,2.8nm,0.9s,baz=196,slow=2.1,SNR=7.8
QSPA South Pole Qui 48.57 180 P P 12 21 14.8 -1.5
QSPA IAmb IAmb 12 21 18.6
comp=Z,5.8nm,1.1s
ZARC Zaragoza, Cauc 48.94 359 P P 12 21 18.8 -0.6
BAUV El Baul 50.68 8 P P 12 21 32.7 0.0
VNDA Vanda 56.26 193 P P 12 22 12.6 -0.4
VNDA IAmb IAmb 12 22 23.1
comp=Z,10.0nm,1.5s

MAW Mawson 66.29 163 LR LR 12 53 04.8
comp=Z,69nm,18.3s,baz=239,slow=37
SUR Sutherland 72.62 118 LR LR 12 53 15.5
comp=Z,29nm,19.6s,baz=268,slow=34
RAR Rarotonga 73.07 257 LR LR 12 50 39.5
comp=Z,45nm,18.9s,baz=115,slow=31
TXAR Lajitas Array 75.75 334 P P 12 24 20.4 +1.6
comp=Z,1.0nm,0.9s,baz=154,slow=8.6,SNR=9.4
TXAR Lajitas Array 75.75 334 P P 12 24 20.2 +1.4
SNZO South Karori 76.60 226 P P 12 24 23.6 +0.2
MBO M'Bour 76.70 57 P P 12 24 23.2 -1.0
BOSA Boshof 77.97 118 P P 12 24 31.3 -0.3
comp=Z,14nm,0.6s,baz=228,slow=4.4,SNR=26
BOSA LR LR 12 54 25.7
comp=Z,29nm,19.3s,baz=194,slow=32
BOSA Boshof 77.97 118 P P 12 24 31.2 -0.4
WVT Waverly 78.45 349 P P 12 24 34.0 +0.4
WVT IAmb IAmb 12 24 59.8
comp=Z,7.8nm,1.1s
LIC Lamto 78.78 71 *e*P P 12 24 35.8 -0.2
comp=Z,35nm,1.0s
KIC Kosan Boka 79.08 71 *e*P P 12 24 37.4 -0.3
comp=Z,9.5nm,0.7s
TIC Toumodi 79.08 71 *e*P P 12 24 37.6 -0.1
DBIC Dimbokro 79.21 71 P P 12 24 38.0 -0.3
comp=Z,6.8nm,0.8s,baz=211,slow=5.7,SNR=11
DBIC LR LR 12 55 42.7
comp=Z,66nm,19.5s,baz=323,slow=33
DBIC Dimbokro 79.21 71 P P 12 24 38.3 -0.1
DBIC IAmb IAmb 12 24 39.1
comp=Z,6.0nm,0.8s
LBTB Lobatse 80.56 115 P P 12 24 45.6 -0.1
CCM Cathedral Cave 80.88 346 P P 12 24 47.6 +0.9
CCM IAmb IAmb 12 24 48.5
comp=Z,6.8nm,0.7s
P40A Paris 82.46 346 P P 12 24 55.4 +0.3
P40A IAmb IAmb 12 24 56.9
comp=Z,14nm,1.2s
L56A Greenwood 83.49 357 P P 12 25 01.6 +1.2
L56A IAmb IAmb 12 25 02.1
comp=Z,7.2nm,0.8s
AFI Afiamalu 86.49 255 LR LR 12 55 21.0
comp=Z,57nm,20.0s,baz=176,slow=30
K31A O'Neill 86.81 342 P P 12 25 17.5 +0.5
ECSD EROS Data Cent 87.41 344 P P 12 25 20.4 +0.5
TORD Torodi Ar. Bea 88.33 71 P P 12 25 24.1 -0.8
comp=Z,1.2nm,0.8s,baz=232,slow=4.4,SNR=5.9
PDAR Pinedale Array 89.93 335 P P 12 25 33.6 +1.5
comp=Z,1.0nm,0.7s,baz=144,slow=7.6,SNR=10
PDAR Pinedale Array 89.93 335 P P 12 25 32.6 +0.6
YMR Madison River 92.09 335 P P 12 25 43.4 +1.3
YMR IAmb IAmb 12 25 45.0
comp=Z,4.0nm,1.0s
ULM Lac du Bonnet 93.52 346 P P 12 25 48.3 +0.1
comp=Z,1.0nm,0.3s,baz=355,slow=4.9,SNR=3.4
ILAR Eielson Array 120.23 332 PKP **PKiKP** 12 31 23.5 +0.5
comp=Z,0.4nm,0.8s,baz=165,slow=3.7,SNR=4.3
PETK Petropavlovsk- 143.88 307 PKP PKPbc 12 32 05.9 +0.6
comp=Z,2.8nm,0.8s,baz=145,slow=5.3,SNR=1.8
SEY Seymchan 145.59 324 PKPbc **PKPab** 12 32 11.3 +0.6
comp=Z,3.9nm,0.7s,baz=89,slow=5.3,SNR=16
NRIK Noril'sk 150.66 13 PKPbc **PKiKP** 12 32 24.3 -0.1
comp=Z,3.0nm,0.4s,baz=66,slow=2.4,SNR=4.3
NRIK Noril'sk 150.66 13 PKiKP 12 32 24.4 0.0
ZALV Zalesovo Beam 161.36 42 PKP **PKPdf** 12 32 32.6 -0.2
comp=Z,0.3nm,0.3s,baz=302,slow=8.5,SNR=3.5
ZALV Zalesovo Beam 161.36 42 PKPdf **PKPdf** 12 32 31.9 -0.9
ZALV PKPab **PKPab** 12 33 16.8 -0.3
MKAR Makanchi Array 162.36 65 PKPab **PKPab** 12 33 21.6 -0.2
comp=Z,0.6nm,0.9s,baz=251,slow=2.2,SNR=3.6
MKAR Makanchi Array 162.36 65 PKPab 12 33 21.1 -0.7
PZH PanZhiHua 164.48 166 PKP **PKPdf** 12 32 35.8 -1.1
SONM Songino Array 173.84 357 PKPab **PKPab** 12 34 12.7 +0.3
comp=Z,1.1nm,0.9s,baz=347,slow=3.1,SNR=5.4
SONM Songino Array 173.84 357 PKPab **PKPab** 12 34 12.0 -0.4

IDC 08 12:16:24.0±1.6, 3°.07S×131°.00E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/34, mbtmp3.7/5, ML3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.3/41, Error ellipse: s-maj=51.4km s-min=20.6km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.20**	**7**	Pn	Pb	12 17 03.6	-1.2
2.8nm,0.3s,baz=248,slow=22,SNR=11							
SIJI				Sn	Sn	12 17 30.1	+0.3
3.8nm,0.3s,baz=234,slow=23,SNR=9.4							
WRA	**Warramunga Arr**	**17.09**	**169**	P	Pn	12 20 24.5	0.0
0.2nm,0.3s,baz=350,slow=11,SNR=12							
PMG	**Port Moresby**	**17.24**	**112**	P	Pn	12 20 24.9	-1.6
1.5nm,0.3s,baz=339,slow=17,SNR=7.4							
ASAR	**Alice Springs**	**20.67**	**172**	P	P	12 21 06.5	+0.8
3.2nm,0.5s,baz=351,slow=10,SNR=62							
JHJ	**Hachijo jima 2**	**36.94**	**12**	LR	LR	12 35 13.9	
comp=Z,74nm,21.1s,baz=131,slow=31							
MKAR	**Makanchi Array**	**65.54**	**325**	P	P	12 27 08.6	-0.8
0.1nm,0.3s,baz=117,slow=7.9,SNR=1.7							

IDC 08 12:30:54.4±2.1, 7°.77S×125°.77E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=185.4km s-min=32.9km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.67**	**146**	Pn	Pn	12 34 22.5	-0.9
0.2nm,0.3s,baz=319,slow=13,SNR=7.1							
WRA				Sn	Sn	12 36 56.2	-11
0.1nm,0.3s,baz=358,slow=38,SNR=1.2							
ASAR	**Alice Springs**	**17.62**	**155**	P	P	12 35 02.1	-0.5
0.1nm,0.3s,baz=334,slow=12,SNR=14							
ASAR				S	Sn	12 38 10.1	-8.6
0.0nm,0.3s,baz=315,slow=21,SNR=3.3							
MKAR	**Makanchi Array**	**66.65**	**329**	P	P	12 41 46.9	0.0
0.2nm,0.5s,baz=126,slow=6.9,SNR=2.8							

*IDC **08** 12:43:20.3±3.7, 54°.86N×162°.58W, h64km±32km, mb3.5/13, mb1 3.7/16, mb1mx3.5/37, mbtmp3.7/16, ML3.6/3, Error ellipse: s-maj=31.3km s-min=14.4km az=11.0*
*NEIC **08** 12:43:21.4±2.2, 54°.63N±0°.08×162°.31W±0°.06, h91km±7km, mb4.0/10, ML3.7/8, ML3.5/51(AEIC), Error ellipse: s-maj=12.9km s-min=2.7km az=160.0*
*AEIC **08** 12:43:21.9±4.0, 54°.51N±0°.08×162°.29W±0°.06, h70km±6km, Error ellipse: s-maj=11.5km s-min=4.9km az=167.0*
ISC 08 12:43:22.0±0.8, 54°.71N±0°.08×162°.28W±0°.04, h90km±6km, n129, σ1s06/132, mb3.9/18, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.40**	**0**		**Pn**	**12 43 36.1**	**0.0**
BALA	**Baldy Mountain**	**0.57**	**330**		**Pn**	**12 43 37.9**	**+0.6**
BALA					**Sn**	**12 43 48.6**	**-0.1**
HAG	**Hague Volcano**	**0.65**	**19**		**Pn**	**12 43 39.1**	**+1.1**
HAG					**Sn**	**12 43 50.5**	**+0.5**
FALS	**False Pass**	**0.67**	**284**		**Pn**	**12 43 37.7**	**-0.5**
FALS	**False Pass**	**0.67**	**284**		**Sn**	**12 43 49.5**	**-0.8**
FALS	**False Pass**	**0.67**	**284**	P	**Pn**	**12 43 37.7**	**-0.5**
baz=118							
FALS				S	**Sn**	**12 43 49.5**	**-0.8**
baz=118							
PS4A	**Pavlof South-4**	**0.69**	**21**		**Pn**	**12 43 39.3**	**+0.9**
PVV	**Pavlof Volcano**	**0.73**	**23**		**Pn**	**12 43 39.8**	**+1.0**
PS1A	**Pavlof South-1**	**0.78**	**23**		**Pn**	**12 43 40.5**	**+1.2**
ISLZ	**Isanotski Laza**	**0.83**	**272**		**Pn**	**12 43 39.3**	**-0.6**
ISLZ					**Sn**	**12 43 52.4**	**-0.8**
BRPK	**Brown Peak**	**0.85**	**267**		**Pn**	**12 43 39.4**	**-0.6**
BRPK					**Sn**	**12 43 52.8**	**-0.7**
ISNN	**Isanotski Nort**	**0.88**	**279**		**Pn**	**12 43 40.5**	**+0.2**
SSLS	**Shishaldin Sou**	**0.99**	**271**		**Pn**	**12 43 41.5**	**-0.2**
SSLN	**Shishaldin Nor**	**1.00**	**277**		**Pn**	**12 43 42.0**	**+0.3**
SSLN					**Sn**	**12 43 57.2**	**+0.7**
SSLW	**Shishaldin Wes**	**1.07**	**274**		**Pn**	**12 43 42.3**	**-0.2**
SDPT	**Sand Point**	**1.23**	**57**		**Pn**	**12 43 45.1**	**+0.8**
SDPT	**Sand Point**	**1.23**	**57**	Sn	**Sn**	**12 44 01.7**	**+0.6**
SDPT				IAML		12 44 02.4	
comp=N,2μm,0.4s							
SDPT				IAML		12 44 02.6	
comp=E,4μm,0.5s							
SDPT	**Sand Point**	**1.23**	**57**	P	**Pn**	**12 43 45.1**	**+0.8**
baz=232							
WESE	**West Dahl East**	**1.36**	**261**		**Pn**	**12 43 45.8**	**-0.2**

WESE **Sn 12 44 03.9 -0.3**
WESP Westdahl Peak 1.43 262 Pn 12 43 46.7 -0.3
WEBT Westdahl Beart 1.44 266 Pn 12 43 46.7 -0.3
WECS Westdahl Cape 1.46 264 Pn 12 43 47.1 -0.2
WECS **Sn 12 44 06.1 -0.3**
CNBA Chernabura Isl 1.57 85 Pn 12 43 48.6 +0.1
CNBA Chernabura Isl 1.57 85 Sn **Sn 12 44 07.4 -1.3**
CNBA IAML 12 44 11.8
comp=E,475nm,0.4s
CHNA Chernabura Isl 1.57 84 P **Pn 12 43 48.6 +0.1**
baz=259
AKSA Akutan Strait 2.07 255 Pn 12 43 55.0 -0.2
AKSA Akutan Strait 2.07 255 Pn 12 43 55.1 0.0
AKSA **Sn 12 44 19.6 -0.8**
AKUT Akutan 2.12 256 Pn 12 43 55.3 -0.3
AKUT Akutan 2.12 256 IAML 12 44 21.4
comp=E,311nm,0.6s
AKLV Akutan Long Va 2.21 257 Pn 12 43 56.4 -0.6
AKBBA Akutan Broad B 2.22 256 Pn 12 43 56.5 -0.5
AKBBA **Sn 12 44 22.6 -1.3**
AKGG Akutan Green G 2.22 258 Pn 12 43 56.9 -0.2
ZRO Akutan Zero 2.25 256 Pn 12 43 57.0 -0.4
LVA Lava Point 2.26 258 Pn 12 43 57.5 -0.1
AKMO Akutan Morgan 2.26 256 Pn 12 43 57.3 -0.4
AKRB Akutan Reef Bi 2.29 257 Pn 12 43 57.7 -0.2
AKRB **Sn 12 44 27.3 +1.9**
UNV Unalaska Valle 2.62 253 Pn 12 44 01.6 -0.8
UNV Unalaska Valle 2.62 253 P **Pn 12 44 01.6 -0.8**
baz=73
MTBL Makushin Table 2.68 256 Pn 12 44 02.9 -0.3
MNAT Makushin Natee 2.71 254 Pn 12 44 02.8 -0.8
MSW Makushin Switc 2.75 255 Pn 12 44 03.5 -0.7
MREP Makushin Rep't 2.77 253 Pn 12 44 03.8 -0.6
MAPS Pakushin South 2.88 254 Pn 12 44 05.2 -0.7
OKFG Magazine Ridge 3.56 251 Pn 12 44 14.6 -0.5
OKNC Okmok New Cone 3.66 252 Pn 12 44 15.8 -0.6
OKSP Okmok Steeple 3.83 250 Pn 12 44 18.2 -0.6
CHIR Chirikof Islan 3.97 71 Pn **Pn 12 44 20.4 -0.2**
NIKH Nikolski High 4.26 249 Pn 12 44 24.0 -0.5
NIKH Nikolski High 4.26 249 P **Pn 12 44 24.0 -0.5**
baz=66
CLCO Concord Point, 4.81 250 Pn 12 44 32.6 +0.5
OHAK Old Harbor 5.65 60 Pn **Pn 12 44 42.5 -0.8**
KDAK Kodiak Island 6.22 56 P **Pn 12 44 50.8 -0.4**
comp=E,5.1nm,0.3s,baz=242,slow=5.0,SNR=49
KDAK S **Sn 12 45 55.5 -5.3**
comp=E,1.9nm,0.3s,baz=148,slow=23,SNR=9.4
KDAK Kodiak Island 6.22 56 Pn 12 44 50.5 -0.7
O18K Koktuh Hills 6.43 34 Pn **Pn 12 44 55.2 +1.2**
SVW2 Sparrevohn 7.33 26 Pn **Pn 12 45 07.2 +0.9**
CNPM China Poot 7.71 47 Pn **Pn 12 45 11.6 +0.2**
BRLK Bradley Lake 7.99 46 Pn **Pn 12 45 14.3 -1.0**
M19K Big River Lodg 8.32 27 Pn **Pn 12 45 20.9 +1.1**
SEW Seward 8.78 47 Pn **Pn 12 45 25.7 -0.3**
TTA Tatalina 8.86 19 Pn **Pn 12 45 27.7 +0.6**
RC01 Rabbit Creek A 9.24 41 Pn **Pn 12 45 31.9 -0.3**
PWL Port Wells 9.66 45 Pn **Pn 12 45 36.7 -1.3**
PMR Palmer 9.78 40 Pn **Pn 12 45 38.5 -1.1**
KNK Knik Glacier 9.93 42 Pn **Pn 12 45 40.6 -1.0**
ANM Nome 10.01 352 Pn **Pn 12 45 43.9 +1.2**
CAST Castle Rocks 10.18 27 Pn **Pn 12 45 45.5 +0.4**
FID Port Fidalgo 10.38 48 Pn **Pn 12 45 46.1 -1.7**
EYAK Cordova Ski Ar 10.61 50 Pn **Pn 12 45 49.4 -1.4**
TRF Thorofare Moun 10.70 30 Pn **Pn 12 45 51.9 -0.4**
DIV Divide 10.87 47 Pn **Pn 12 45 52.9 -1.6**
KLU Klutina 10.99 45 Pn **Pn 12 45 54.7 -1.3**
HMT Hamilton 11.19 52 Pn **Pn 12 45 58.2 -0.6**
TNA Tin City 11.24 348 Pn **Pn 12 46 00.5 +1.1**
DHY Denali Highway 11.37 36 Pn **Pn 12 45 59.2 -2.1**
BERG Berg Lake 11.47 53 Pn **Pn 12 46 01.5 -1.0**
N25K Chitina, Valde 11.59 46 Pn **Pn 12 46 03.2 -1.0**
WAX Waxell Ridge 11.89 53 Pn **Pn 12 46 07.6 -0.6**
TGL Tana Glacier 12.01 52 Pn **Pn 12 46 09.2 -0.6**
IMAR Indian Mountai 12.06 17 Pn **Pn 12 46 11.5 +1.0**
MCARA McCarthy VSAT 12.17 49 Pn **Pn 12 46 10.8 -1.1**
ISLE Juniper Island 12.18 53 Pn **Pn 12 46 11.6 -0.6**
GRNC Granite Creek 12.49 53 Pn **Pn 12 46 15.8 -0.6**
M26K Nabesna, AK 12.64 45 Pn **Pn 12 46 17.2 -1.0**
IL31 12.69 31 Pn **Pn 12 46 16.3 -2.5**
ILAR Eielson Array 12.69 31 P **Pn 12 46 15.9 -3.0**
comp=E,0.1nm,0.3s,baz=225,slow=13,SNR=2.2
ILAR Eielson Array 12.69 31 Pn 12 46 17.1 -1.7
CTGM Chitina Glacie 12.77 52 Pn **Pn 12 46 19.6 -0.5**
PCA Pinnacle 13.01 57 Pn **Pn 12 46 23.2 0.0**
BCAR Beaver Creek A 13.45 43 Pn **Pn 12 46 27.9 -1.1**
COLD Coldfoot 13.82 20 Pn **Pn 12 46 32.2 -1.5**
DAWY Dawson 14.87 42 Pn **Pn 12 46 46.6 -0.8**
WHY Whitehorse 15.74 57 P 12 46 59.9 -0.6
WHY IAmb IAmb 12 47 23.2
comp=Z,6.3nm,1.2s
INK Inuvik 19.07 33 P 12 47 36.6 -0.2
comp=Z,0.1nm,0.3s,baz=249,slow=6.7,SNR=6.2
INK Inuvik 19.07 33 P 12 47 36.4 -0.4
A36M Sachs Harbour 23.36 28 P **P 12 48 22.9 +0.8**
A36M IAmb IAmb 12 48 25.2
comp=Z,3.4nm,0.8s
PEA0B Petropavlovsk- 23.41 283 P **P 12 48 22.2 -0.5**
PETK Petropavlovsk- 23.41 283 P **P 12 48 20.9 -1.9**
comp=Z,2.0nm,0.4s,baz=91,slow=13,SNR=33
PETK Petropavlovsk- 23.41 283 P **P 12 48 20.6 -2.2**
CLRS Cowichan Lake 24.11 88 P **P 12 48 28.5 -0.5**
CLRS IAmb IAmb 12 48 39.2
comp=Z,9.7nm,1.1s
YKA Yellowknife Ar 25.49 53 P **P 12 48 42.7 +1.3**
comp=Z,1.1nm,0.5s,baz=270,slow=9.2,SNR=22
YKA Yellowknife Ar 25.49 53 P **P 12 48 42.2 +0.8**
H04A Detroit Lake 27.45 95 P **P 12 49 00.2 +0.9**
H04A IAmb IAmb 12 49 03.3
comp=Z,4.1nm,0.7s
MCMT McKenzie Canyo 32.78 87 P **P 12 49 47.3 +0.7**
NVAR Mina Array Bea 33.69 100 P **P 12 49 57.4 +2.9**
comp=Z,0.7nm,0.8s,baz=295,slow=8.2,SNR=4.6
PDAR Pinedale Array 35.92 87 P **P 12 50 15.8 +2.1**
comp=Z,0.2nm,0.5s,baz=296,slow=3.5,SNR=5.3
H11N2 WAKE ISLAND Hy 42.03 226 T T 13 35 40.2
baz=26,slow=76,SNR=6.1
H11N3 WAKE ISLAND Hy 42.03 226 T T 13 35 43.1
baz=26,slow=76,SNR=3.9
H11N1 WAKE ISLAND Hy 42.05 226 T T 13 35 42.0
baz=26,slow=76,SNR=5.8
H11S1 WAKE ISLAND Hy 43.20 226 T T 13 37 06.5
baz=26,slow=76,SNR=9.8
H11S2 WAKE ISLAND Hy 43.22 226 T T 13 37 04.8
baz=26,slow=76,SNR=5.0
H11S3 WAKE ISLAND Hy 43.22 226 T T 13 37 06.1
baz=26,slow=76,SNR=4.0
NRIK Noril'sk 46.34 333 P **P 12 51 37.6 -0.8**
comp=Z,1.1nm,0.4s,baz=63,slow=9.0,SNR=4.6
TXAR Lajitas Array 48.64 97 P **P 12 51 59.0 +2.2**
comp=Z,0.2nm,0.5s,baz=300,slow=6.4,SNR=6.0
TXAR PcP **PcP 12 53 21.9 +1.0**
comp=Z,0.1nm,0.4s,baz=106,slow=2.7,SNR=4.1
TXAR Lajitas Array 48.64 97 P **P 12 51 57.5 +0.7**
KSRS Korea Array 49.26 280 P **P 12 52 01.1 -0.1**
comp=Z,0.6nm,0.5s,baz=54,slow=6.6,SNR=2.2
SONM Songino Array 53.65 303 P **P 12 52 34.4 +0.4**
comp=Z,0.5nm,0.4s,baz=49,slow=7.3,SNR=3.4
ZALV Zalesovo Beam 58.44 320 P **P 12 53 07.8 -0.1**
comp=Z,0.2nm,0.3s,baz=60,slow=5.9,SNR=2.6
FINES FINESS Array B 64.01 356 P **P 12 53 45.2 -0.1**
comp=Z,4.1nm,1.1s,baz=46,slow=8.0,SNR=1.0
BRVK Borovoye 64.13 328 P **P 12 53 46.9 +0.6**
BRVK IAmb IAmb 12 53 47.4
comp=Z,1.3nm,0.6s
MKAR Makanchi Array 65.13 317 P **P 12 53 52.4 -0.6**
comp=Z,0.3nm,0.5s,baz=37,slow=6.3,SNR=7.2
MKAR Makanchi Array 65.13 317 P **P 12 53 52.2 -0.8**
MAKZ Makanchi 65.25 317 P **P 12 53 53.3 -0.4**
MAKZ IAmb IAmb 12 54 02.2
comp=Z,2.5nm,1.3s
AKASG Malin Array Be 74.52 352 P **P 12 54 50.1 -0.2**
comp=Z,0.7nm,0.4s,baz=10.0,slow=5.4,SNR=7.1
AKASG Malin Array Be 74.52 352 P **P 12 54 49.4 -1.0**
AKBB Malin Array Si 74.52 352 P **P 12 54 49.9 -0.5**
CMAR Chiang Mai Arr 80.08 288 P **P 12 55 21.8 -0.1**
comp=Z,0.4nm,0.3s,baz=32,slow=5.3,SNR=1.3
H03N2 Juan Fernandez 112.98 116 T T 15 05 10.9
baz=322
H03N1 Juan Fernandez 113.00 116 T T 15 05 12.1
baz=322
H03N3 Juan Fernandez 113.00 116 T T 15 05 11.2
baz=322

TIR **08** *13:07:33.5, 44.′06N×19.°16E, h18km±1km, Md4.6*
BGR **08** *13:07:37.9±0.7, 42.′67N×19.°05E, h10km, ML4.6, Error ellipse: s-maj=16.7km s-min=10.0km az=51.0*
THE **08** *13:07:38.7, 43.′15N×18.°48E, h7km±41km, ML4.5/2, Error ellipse: s-maj=54.9km s-min=2.2km az=321.0*
LDG **08** *13:07:39.9±0.1, 42.′95N×18.°51E, h15km, Ml3.9/19, Error ellipse: s-maj=2.8km s-min=1.7km az=28.0*
PDG **08** *13:07:39.8±0.1, 42.′90N×18.°49E, h17km, MD4.5/14, ML4.4/13, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
MOS **08** *13:07:39.2±1.1, 42.′96N×18.°49E, h18km, mb4.7/18, Error ellipse: s-maj=4.1km s-min=2.7km az=94.5*
RHSSO **08** *13:07:40.4±0.2, 42.′92N×18.°52E, h12km±1km, ML4.4/17*
BEO **08** *13:07:40.5±0.2, 42.′90N×18.°51E, h14km±2km, ML4.4/14*
MED_RC **08** *13:07:41.0±0.3, 42.′89N×18.°42E, h29km±2km, MW4.5/13, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s13,c23; Duration: 1*10^0 *Moment tensor: Scale* 10^{15}*Nm; Mrr5.95±.93; Mθθ-5.96±.63; Mφφ0.01±.56; Mrθ-2.99±.75; Mθφ1.59±.48; Mφr1.44±.74; Best double couple: M0*6.99000×10^{15} *NP1:φs290.00000°, δ59.00000°, λ96.00000°. NP2:φs98.00000°, δ31.00000°, λ80.00000°. Principal axes: T 6.8200, Plg75.0000°, Azm217.0000°; N 0.3400, Plg5.0000°, Azm107.0000°; P -7.1700, Plg14.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
NEIC **08** *13:07:42.2±2.0, 42.′91N±0.′04×18.°52E±0.°06, h27km±5km, mb4.6/30, ML4.5(VIE), ML4.4/2(BUC) Error ellipse: s-maj=6.6km s-min=5.6km az=221.0*
PRU **08** *13:07:42.7±0.0, 43.′09N×18.°64E, h0km, M4.6*
IDC **08** *13:07:44.1±1.4, 42.′97N×18.°45E, h52km±13km, mb3.7/20, mb1 3.9/34, mb1mx3.8/60, mbtmp4.0/34, ML3.7/15, MS3.8/38, Ms1 3.8/38, ms1mx3.7/95, Error ellipse: s-maj=10.8km s-min=9.7km az=170.0*

ISC 08 13:07:40.3±0.7,**42.°92N**±0.′01×**18.°48E**±0.°01,**h18**km±3km, **n586,**σ1°**81**/763,**mb4.4**/39,**MS3.9**/25,**60C-53D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.05**	**114**	*e*P	**Pg**	**13 07 43.0**	**-0.6**
BRY				*e*S	**Sg**	**13 07 46.0**	**0.0**
BRY	**Bratogost**	**0.05**	**114**	⇑*i*Pg	**Pg**	**13 07 43.6**	**-0.1**
BRY				*e*Sg	**Sg**	**13 07 45.2**	**-0.8**
BRY	**Bratogost**	**0.05**	**114**	⇓*i*Pg	**Pg**	**13 07 43.1**	**-0.6**
BRY				*i* Sg	**Sg**	**13 07 45.8**	**-0.2**
TREB	**Trebinje**	**0.23**	**204**	*e*Pg	**Pg**	**13 07 45.4**	**-0.1**
TREB				*e*Sg	**Sb**	**13 07 50.4**	**+1.0**
TREB	**Trebinje**	**0.23**	**204**	*e*P	**Pg**	**13 07 45.5**	**-0.1**
TREB				*e*Sg	**Sb**	**13 07 49.5**	**+0.1**
NKME	**Niksic**	**0.38**	**114**	⇑*i*Pg	**Pg**	**13 07 47.1**	**-1.1**
NKME				*i* Sg	**Sg**	**13 07 53.4**	**-0.2**
NKY	**Niksic**	**0.40**	**106**	P	**Pg**	**13 07 47.9**	**-0.6**
NKY	**Niksic**	**0.40**	**106**	⇑*i*Pg	**Pg**	**13 07 47.4**	**-1.1**
NKY				*i* Sg	**Sg**	**13 07 53.9**	**-0.1**
UPM	**Unac-Piva**	**0.42**	**48**	⇓*i*Pg	**Pg**	**13 07 48.4**	**-0.6**
UPM				*e*Sg	**Sg**	**13 07 54.9**	**0.0**
UPM	**Unac-Piva**	**0.42**	**48**	⇓*i*Pg	**Pg**	**13 07 48.3**	**-0.7**
UPM				*i* Sg	**Sb**	**13 07 55.5**	**0.0**
HCY	**Herceg Novi**	**0.47**	**178**	*e*P	**Pg**	**13 07 49.0**	**-0.9**
HCY				*e*S	**Sg**	**13 07 56.0**	**-0.3**
HCY	**Herceg Novi**	**0.47**	**178**	⇓*i*Pg	**Pg**	**13 07 48.8**	**-1.1**
HCY				*e*Sg	**Sb**	**13 07 56.8**	**0.0**
HCY	**Herceg Novi**	**0.47**	**178**	*e*Pg	**Pg**	**13 07 48.6**	**-1.3**
HCY				*e*Sg	**Sg**	**13 07 56.2**	**-0.1**
CEME	**Cevo**	**0.50**	**139**	*e*Pg	**Pg**	**13 07 48.9**	**-1.4**
CEME				*i* Sg	**Sg**	**13 07 56.9**	**-0.1**
STON	**Ston**	**0.57**	**265**	⇓*i*Pg	**Pg**	**13 07 51.0**	**-0.6**
STON				*e*Sg	**Sb**	**13 08 00.4**	**+0.9**
STON	**Ston**	**0.57**	**265**	*e*Pg	**Pg**	**13 07 51.4**	**-0.3**
STON				Sg	**Sb**	**13 08 00.9**	**+1.3**
STON	**Ston**	**0.57**	**265**	*e*Pg	**Pg**	**13 07 51.3**	**-0.3**
STON				*e*Sg	**Sn**	**13 08 01.4**	**-1.1**
BUM	**Brajici-Budva**	**0.69**	**153**	*e*Pg	**Pb**	**13 07 52.5**	**-1.4**
BUM				*i* Sg	**Sg**	**13 08 03.1**	**0.0**
PDG	**Podgorica**	**0.76**	**130**	⇑S	**Sg**	**13 08 05.7**	**+0.6**
PDG	**Podgorica**	**0.76**	**130**	⇑*i*Pg	**Pb**	**13 07 53.1**	**-1.8**
PDG				*e*Sg	**Sg**	**13 08 05.1**	**0.0**
PDG	**Podgorica**	**0.76**	**130**		**Pb**	**13 07 53.7**	**-1.3**
PDG	**Podgorica**	**0.76**	**130**		**Sg**	**13 08 05.7**	**+0.6**
PDG	**Podgorica**	**0.76**	**130**	*e*Pg	**Pb**	**13 07 53.4**	**-1.5**
PDG				*e*Sg	**Sg**	**13 08 05.7**	**+0.6**
TTG	**Podgorica**	**0.76**	**130**	⇓*i*Pg	**Pb**	**13 07 53.6**	**-1.3**
TTG				*i* Sg	**Sg**	**13 08 05.3**	**+0.2**
KOME	**Kolasin**	**0.77**	**95**	*e*Pg	**Pb**	**13 07 54.0**	**-1.1**
KOME				*i* Sg	**Sg**	**13 08 06.1**	**+0.6**
PLE	**Pljevlja**	**0.78**	**58**	P	**Pb**	**13 07 54.9**	**-0.5**
PLE	**Pljevlja**	**0.78**	**58**	⇓*i*Pg	**Pb**	**13 07 54.6**	**-0.8**
PLE				*i* Sg	**Sn**	**13 08 07.2**	**-0.7**
DRME	**Dracevica, Mon**	**0.90**	**144**	⇓*i*Pg	**Pb**	**13 07 56.3**	**-1.1**
DRME				*e*Sg	**Sb**	**13 08 09.0**	**-0.1**
DRME	**Dracevica, Mon**	**0.90**	**144**	⇑*i*Pg	**Pb**	**13 07 56.2**	**-1.1**
DRME				*i* Sg	**Sg**	**13 08 10.1**	**+0.4**
RUDO	**Rudo**	**0.95**	**43**	⇑*i*Pg	**Pb**	**13 07 56.9**	**-1.4**
RUDO				*e*Sg	**Sb**	**13 08 10.6**	**0.0**
IVA	**Berane**	**1.04**	**92**	⇓*i*Pg	**Pb**	**13 07 59.1**	**-0.7**
IVA				*i* Sg	**Sn**	**13 08 15.3**	**+1.0**
ULC	**Ulcinj**	**1.11**	**149**	⇓*i*Pg	**Pn**	**13 08 00.1**	**-0.9**
ULC				*i* Sg	**Sg**	**13 08 17.2**	**+0.8**
MAKA	**Makarska**	**1.13**	**289**	*i* Pg	**Pb**	**13 08 01.4**	**+0.1**
MAKA				Sg	**Sg**	**13 08 17.8**	**+1.0**
RICI	**Ricice**	**1.14**	**301**	*e*Pg	**Pg**	**13 08 02.0**	**-0.3**
RICI				Sg	**Sg**	**13 08 18.7**	**+1.6**
PVY	**Plav**	**1.14**	**106**	⇑*i*Pg	**Pn**	**13 08 00.7**	**-0.8**
PVY				*i* Sg	**Sg**	**13 08 18.4**	**+1.1**
SJES	**Sjenica**	**1.15**	**72**	*e*Pg	**Pb**	**13 08 01.9**	**+0.2**
SJES				*e*Sg	**Sb**	**13 08 16.5**	**+0.2**
BBLS	**Lazići**	**1.16**	**35**	⇓*i*Pg	**Pn**	**13 08 01.7**	**0.0**
BBLS				*e*Sg	**Sb**	**13 08 16.4**	**-0.2**
BBLS	**Lazići**	**1.16**	**35**	*e*Pg	**Pg**	**13 08 02.3**	**-0.4**
BBLS				*e*Sg	**Sg**	**13 08 17.9**	**0.0**
IVAS	**Ivanjica**	**1.39**	**61**	*e*Pg	**Pb**	**13 08 05.3**	**-0.4**
IVAS				*e*Sg	**Sg**	**13 08 24.4**	**-0.8**
HVAR	**Hvar**	**1.51**	**280**	*e*Pn	**Pb**	**13 08 08.0**	**+0.3**
HVAR				Sn	**Sg**	**13 08 29.1**	**+0.2**
DIVS	**Divibare**	**1.61**	**43**	⇓*i*Pn	**Pn**	**13 08 08.2**	**+0.3**
DIVS				*e*Sn	**Sn**	**13 08 28.6**	**+0.3**
DIVS	**Divibare**	**1.61**	**43**	Pn	**Pn**	**13 08 08.2**	**+0.3**
DIVS	**Divibare**	**1.61**	**43**	*e*Pg	**Pn**	**13 08 08.5**	**+0.6**
DIVS				*e*Sg	**Sg**	**13 08 31.7**	**-0.6**
TEKS	**Tekeris**	**1.80**	**25**	*e*Pn	**Pn**	**13 08 10.1**	**-0.3**
TEKS				*e*Sn	**Sb**	**13 08 33.8**	**-1.1**
TEKS	**Tekeris**	**1.80**	**25**	*e*Pn	**Pn**	**13 08 09.9**	**-0.5**
MGRS	**Mrkonjic Grad**	**1.80**	**326**	*e*Pn	**Pb**	**13 08 11.7**	**-1.1**
MGRS				*e*Sn	**Sb**	**13 08 34.3**	**-0.8**
DOB	**Doboj**	**1.83**	**352**	*e*Pn	**Pb**	**13 08 12.5**	**-0.7**
DOB				*e*Sn	**Sb**	**13 08 35.3**	**-0.5**
KIJV	**Kijevo**	**1.86**	**306**	*i* Pn	**Pb**	**13 08 14.1**	**+0.4**
KIJV				Sn	**Sg**	**13 08 38.6**	**-1.5**
TIR	**Tirane**	**1.88**	**146**	⇑P	**Pb**	**13 08 13.4**	**-0.7**
TIR	**Tirane**	**1.88**	**146**	P	**Pn**	**13 08 12.8**	**+1.3**
TIR				S	**Sg**	**13 08 40.6**	**-0.3**
	6μm,0.9s						
TIR	**Tirane**	**1.88**	**146**	P	**Pb**	**13 08 13.3**	**-0.7**
TIR	**Tirane**	**1.88**	**146**		**Pb**	**13 08 13.3**	**-0.8**
TIR	**Tirane**	**1.88**	**146**	*e*Pg	**Pb**	**13 08 13.4**	**-0.8**
TIR				*e*Sg	**Sg**	**13 08 39.2**	**-1.7**
GRUS	**Gruza**	**1.90**	**59**	*e*Pn	**Pn**	**13 08 12.4**	**+0.7**
PHP	**Peshkopia**	**1.91**	**130**	P	**Pb**	**13 08 13.7**	**-0.9**
PHP	**Peshkopia**	**1.91**	**130**	P	**Pb**	**13 08 13.7**	**-0.9**
PHP				S	**Sg**	**13 08 42.9**	**+1.1**
TRUS	**Trudelj**	**1.91**	**47**	*e*Pn	**Pn**	**13 08 12.3**	**+0.3**
TRUS				*e*Sn	**Sb**	**13 08 37.4**	**-0.8**
BLJ	**Bijeljina**	**1.95**	**17**	*e*Pn	**Pn**	**13 08 11.8**	**-0.6**
BLJ				*e*Sn	**Sn**	**13 08 36.3**	**-0.1**
SELS	**Selova**	**1.96**	**80**	*e*Pn	**Pn**	**13 08 13.0**	**+0.4**
SELS				*e*Sn	**Sn**	**13 08 37.5**	**+0.7**
BLY	**Banja Luka**	**2.05**	**333**	⇓*i*Pn	**Pb**	**13 08 15.7**	**-1.3**
BLY				*e*Sn	**Sb**	**13 08 41.3**	**-0.9**
BLY	**Banja Luka**	**2.05**	**333**	*e*Pn	**Pb**	**13 08 16.1**	**-0.9**
BLY				*e*Sn	**Sb**	**13 08 42.4**	**+0.2**
ZIRJ	**Zirje**	**2.19**	**290**	*e*Pn	**Pb**	**13 08 18.0**	**-1.3**
ZIRJ				Sn	**Sb**	**13 08 45.9**	**-0.4**
MORI	**Morici**	**2.23**	**296**	*e*Pn	**Pb**	**13 08 19.0**	**-0.9**
MORI				Sn	**Sb**	**13 08 47.5**	**+0.2**
SGRT	**San Giovanni R**	**2.34**	**241**		**Pn**	**13 08 18.2**	**+0.3**
SKO	**Skopje**	**2.39**	**112**	*i* Pn	**Pn**	**13 08 20.6**	**+2.0**
SVIS	**Svilajnac**	**2.40**	**55**	*e*Pn	**Pn**	**13 08 19.9**	**+1.2**
PRIJ	**Prijedor**	**2.42**	**329**	*e*Pn	**Pn**	**13 08 19.5**	**+0.6**
PRIJ				*e*Sn	**Sn**	**13 08 49.1**	**+1.1**
FRGS	**Fruska Gora**	**2.43**	**23**	⇓P	**Pn**	**13 08 18.7**	**-0.4**
FRGS				⇑S	**Sn**	**13 08 49.3**	**+0.8**
FRGS	**Fruska Gora**	**2.43**	**23**	*e*Sn	**Sn**	**13 08 49.9**	**+1.4**
FRGS	**Fruska Gora**	**2.43**	**23**		**Pn**	**13 08 18.7**	**-0.4**
FRGS					**Sn**	**13 08 49.3**	**+0.8**
FRGS	**Fruska Gora**	**2.43**	**23**	*e*Pn	**Pn**	**13 08 18.5**	**-0.6**
BARS	**Barje**	**2.46**	**91**	*e*Pn	**Pn**	**13 08 20.4**	**+0.9**
BARS	**Barje**	**2.46**	**91**	*e*Pn	**Pb**	**13 08 23.9**	**0.0**
BARS				*e*Sn	**Sn**	**13 08 49.7**	**+0.7**
BOVS	**Bovan**	**2.46**	**72**	⇓P	**Pn**	**13 08 20.2**	**+0.7**
BOVS				⇓S	**Sn**	**13 08 51.0**	**+1.8**
BOVS	**Bovan**	**2.46**	**72**		**Pn**	**13 08 20.2**	**+0.7**
BOVS					**Sn**	**13 08 51.0**	**+1.8**
BOVS	**Bovan**	**2.46**	**72**	*e*Pn	**Pn**	**13 08 19.7**	**+0.2**
OHR	**Ohrid**	**2.50**	**135**	*i* Pn	**Pn**	**13 08 22.4**	**+2.2**
UDBI	**Udbina**	**2.54**	**310**	*e*Pn	**Pb**	**13 08 23.2**	**-2.1**
VLO	**Vlora**	**2.57**	**162**	P	**Pn**	**13 08 23.0**	**+2.1**
VLO	**Vlora**	**2.57**	**162**		**Pn**	**13 08 23.0**	**+2.1**
DUGI	**Dugi Otok**	**2.71**	**294**	*i* Pn	**Pn**	**13 08 24.7**	**+1.8**
DUGI				Sn	**Sb**	**13 08 58.4**	**-2.7**
KUBS	**Kucevo**	**2.76**	**56**	*e*Pn	**Pn**	**13 08 23.4**	**-0.2**
PLIT	**Plitvice**	**2.84**	**314**	*e*Pn	**Pn**	**13 08 27.3**	**+2.5**
PLIT				Sn	**Sb**	**13 09 02.5**	**-2.4**
SCTE	**Santa Cesarea**	**2.85**	**180**		**Pn**	**13 08 25.6**	**+0.7**
KBN	**Korca**	**2.88**	**142**	P	**Pn**	**13 08 27.6**	**+2.3**
KBN				S	**Sb**	**13 09 05.3**	**-0.6**
	3μm,0.8s						
KBN	**Korca**	**2.88**	**142**	P	**Pn**	**13 08 27.3**	**+2.0**
KBN	**Korca**	**2.88**	**142**	Pn	**Pn**	**13 08 27.2**	**+2.0**
ZAGS	**Zajecar**	**2.88**	**71**	*e*Pn	**Pn**	**13 08 25.5**	**+0.2**
ZAGS				*e*Sn	**Sn**	**13 08 59.0**	**-0.4**
BOSS	**Bosilegrad**	**2.98**	**97**	*e*Pn	**Pn**	**13 08 27.7**	**+1.0**
MDVR	**Moldovita**	**2.99**	**50**	⇑P	**Pn**	**13 08 27.1**	**+0.3**
MDVR				⇓S	**Sn**	**13 09 02.2**	**0.0**
MDVR	**Moldovita**	**2.99**	**50**		**Pn**	**13 08 27.1**	**+0.3**
MDVR					**Sn**	**13 09 02.2**	**0.0**
STIP	**Stip**	**3.01**	**113**	*i* Pn	**Pb**	**13 08 30.4**	**-3.0**
FNA	**Florina**	**3.04**	**134**	P	**Pn**	**13 08 28.8**	**+1.2**
FNA				S	**Sn**	**13 09 06.6**	**+3.0**
FNA	**Florina**	**3.04**	**134**	P	**Pn**	**13 08 28.6**	**+1.0**
FNA	**Florina**	**3.04**	**134**		**Pn**	**13 08 28.6**	**+1.0**
FNA	**Florina**	**3.04**	**134**	P	**Pn**	**13 08 29.4**	**+1.9**
	baz=143						
FNA				S	**Sb**	**13 09 12.1**	**+1.3**
	baz=143						
ZAPS	**Zavoj**	**3.06**	**82**	*e*Pn	**Pn**	**13 08 29.2**	**+1.4**
ZAPS				*e*Sn	**Sn**	**13 09 04.7**	**+0.6**
NVLJ	**Novalja**	**3.08**	**303**	*e*Pn	**Pn**	**13 08 30.0**	**+1.9**
NVLJ				Sn	**Sn**	**13 09 06.7**	**+2.2**
BLKB	**Belogradchik**	**3.15**	**76**	⇑S	**Sn**	**13 09 07.9**	**+1.8**
BLKB	**Belogradchik**	**3.15**	**76**		**Sn**	**13 09 07.9**	**+1.8**
NEST	**Nestorio**	**3.16**	**142**	P	**Pn**	**13 08 31.1**	**+1.9**
KOVH	**Kovagotottos**	**3.18**	**355**	PN	**Pn**	**13 08 29.6**	**+0.3**
LSK	**Leskovik**	**3.20**	**149**	P	**Pn**	**13 08 30.6**	**+0.9**
RABC	**Rab**	**3.24**	**306**	*e*Pn	**Pn**	**13 08 32.3**	**+2.2**
RABC				Sn	**Sn**	**13 09 10.8**	**+2.6**
MORH	**Mrgy, Hungar**	**3.29**	**2**	⇓P	**Pn**	**13 08 31.4**	**+0.5**
MORH	**Mrgy, Hungar**	**3.29**	**2**	*e*Pn	**Pn**	**13 08 31.2**	**+0.3**
MORH				*e*Sn	**Sn**	**13 09 10.6**	**+1.0**
MORH	**Mrgy, Hungar**	**3.29**	**2**		**Pn**	**13 08 31.4**	**+0.5**
MORH	**Mrgy, Hungar**	**3.29**	**2**	PN	**Pn**	**13 08 30.5**	**-0.4**
DJES	**Djerdap**	**3.41**	**58**	⇑P	**Pn**	**13 08 33.2**	**+0.7**
DJES				⇑S	**Sn**	**13 09 12.3**	**-0.2**
DJES	**Djerdap**	**3.41**	**58**		**Pn**	**13 08 33.2**	**+0.7**
DJES					**Sn**	**13 09 12.3**	**-0.2**
DJES	**Djerdap**	**3.41**	**58**	*e*Pn	**Pn**	**13 08 33.7**	**+1.2**
ZAG	**Zagreb**	**3.41**	**329**	*e*Pn	**Pn**	**13 08 34.6**	**+2.1**
ZAG				*e*Sn	**Sn**	**13 09 13.1**	**+0.6**
ZAG	**Zagreb**	**3.41**	**329**	*e*Pn	**Pn**	**13 08 35.2**	**+2.7**
ZAG				Sn	**Sn**	**13 09 15.1**	**+2.6**
TIM	**Timisoara**	**3.43**	**34**	⇑P	**Pn**	**13 08 33.9**	**+1.0**
TIM				⇓S	**Sn**	**13 09 12.7**	**-0.3**
TIM	**Timisoara**	**3.43**	**34**	P	**Pn**	**13 08 33.9**	**+1.0**
TIM						13 09 12.7	
TIM	**Timisoara**	**3.43**	**34**		**Pn**	**13 08 33.9**	**+1.0**
TIM					**Sn**	**13 09 12.7**	**-0.3**
VAY	**Valandovo**	**3.44**	**116**	*i* Pn	**Pn**	**13 08 34.4**	**+1.5**
OZLJ	**Ozalj**	**3.45**	**322**	*e*Pn	**Pn**	**13 08 35.8**	**+2.7**
OZLJ				Sn	**Sn**	**13 09 17.2**	**+3.7**
HERR	**Herculane**	**3.46**	**54**	⇓P	**Pn**	**13 08 33.7**	**+0.5**
HERR				⇓S	**Sn**	**13 09 14.5**	**+0.9**
HERR	**Herculane**	**3.46**	**54**		**Pn**	**13 08 33.7**	**+0.5**
HERR					**Sn**	**13 09 14.5**	**+0.9**
BOJS	**Bojanci**	**3.47**	**319**	*i* Pn	**Pn**	**13 08 36.2**	**+2.8**
BOJS				*e*Sn	**Sn**	**13 09 17.4**	**+3.4**
BOJS				IAML		13 09 20.9	
	comp=Z,563nm,0.6s						
PAOL	**Paolisi**	**3.47**	**238**		**Pn**	**13 08 34.4**	**+1.0**
PTJ	**Puntijarka**	**3.48**	**330**	*e*Pn	**Pn**	**13 08 35.6**	**+2.0**
PTJ				Sn	**Sn**	**13 09 16.8**	**+2.4**
PUNG	**Punghina**	**3.51**	**66**	⇑S	**Sn**	**13 09 15.9**	**+0.9**
PUNG	**Punghina**	**3.51**	**66**		**Sn**	**13 09 15.9**	**+0.9**
BZS	**Buzias**	**3.51**	**39**	⇓P	**Pn**	**13 08 33.8**	**-0.1**
BZS				⇑S	**Sn**	**13 09 14.2**	**-0.8**
BZS	**Buzias**	**3.51**	**39**	P	**Pn**	**13 08 33.8**	**-0.1**
BZS				S	**Sn**	**13 09 14.2**	**-0.8**
BZS	**Buzias**	**3.51**	**39**		**Pn**	**13 08 33.8**	**-0.1**
BZS					**Sn**	**13 09 14.2**	**-0.8**
RMGR	**Halanga-Turnu**	**3.51**	**59**	⇓S	**Sn**	**13 09 16.6**	**+1.6**
RMGR	**Halanga-Turnu**	**3.51**	**59**		**Sn**	**13 09 16.6**	**+1.6**
VTS	**Vitosha**	**3.52**	**93**	⇑P	**Pn**	**13 08 35.6**	**+1.5**
VTS				⇓S	**Sn**	**13 09 16.5**	**+1.1**
VTS	**Vitosha**	**3.52**	**93**	P	**Pn**	**13 08 35.6**	**+1.5**
VTS				S	**Sn**	**13 09 16.5**	**+1.1**
VTS	**Vitosha**	**3.52**	**93**		**Sn**	**13 09 16.5**	**+1.1**
KALN	**Kalnik**	**3.52**	**336**	*e*Pn	**Pn**	**13 08 35.6**	**+1.5**
KALN				Sn	**Sn**	**13 09 17.4**	**+2.2**
GRG	**Griva**	**3.53**	**123**	P	**Pn**	**13 08 35.7**	**+1.5**
GRG	**Griva**	**3.53**	**123**	P	**Pn**	**13 08 35.7**	**+1.5**
KZN	**Kozani**	**3.60**	**136**	P	**Pn**	**13 08 36.5**	**+1.3**
KZN	**Kozani**	**3.60**	**136**	P	**Pn**	**13 08 36.5**	**+1.3**
CRES	**Cresnjev**	**3.62**	**324**	*e*Pn	**Pn**	**13 08 37.2**	**+1.7**
CRES				*e*Sn	**Sn**	**13 09 18.7**	**+1.0**
LOBO	**Lobor**	**3.66**	**333**	*i* Pn	**Pn**	**13 08 37.8**	**+1.8**
LOBO				Sn	**Sn**	**13 09 20.7**	**+1.9**
IGT	**Igoumenitsa**	**3.67**	**157**	P	**Pn**	**13 08 36.2**	**+0.1**
IGT	**Igoumenitsa**	**3.67**	**157**	P	**Pn**	**13 08 36.2**	**+0.1**
KPRO	**Kipourio**	**3.67**	**143**	P	**Pn**	**13 08 38.4**	**+2.1**
KTI	**Kastanea**	**3.72**	**132**	P	**Pn**	**13 08 38.1**	**+1.2**
KNT	**Kendrikon**	**3.73**	**117**	P	**Pn**	**13 08 38.5**	**+1.5**
KNT	**Kendrikon**	**3.73**	**117**	P	**Pn**	**13 08 38.5**	**+1.5**
RIY	**Rijeka**	**3.75**	**311**	*e*Pn	**Pn**	**13 08 38.8**	**+1.6**
RIY				*e*Sn	**Sn**	**13 09 21.8**	**+1.0**
RIY	**Rijeka**	**3.75**	**311**	*e*Pn	**Pn**	**13 08 40.0**	**+2.9**
RIY				Sn	**Sn**	**13 09 24.0**	**+3.2**
SMRN	**Sveta Marina**	**3.77**	**306**	*e*Pn	**Pn**	**13 08 38.9**	**+1.4**
SMRN				Sn	**Sn**	**13 09 23.7**	**+2.4**
AMBH	**Ambrzfalva**	**3.78**	**24**	⇑P	**Pn**	**13 08 38.3**	**+0.6**
AMBH	**Ambrzfalva**	**3.78**	**24**		**Pn**	**13 08 38.3**	**+0.6**
AMBH	**Ambrzfalva**	**3.78**	**24**	PB	**Pb**	**13 08 45.6**	**-0.9**
AQU	**L'Aquila**	**3.79**	**263**	P	**Pn**	**13 08 39.2**	**+1.4**
AQU	**L'Aquila**	**3.79**	**263**	*e*Pn	**Pn**	**13 08 38.3**	**+0.5**
AQU				*e*Sn	**Sn**	**13 09 23.4**	**+1.5**
AQU	**L'Aquila**	**3.79**	**263**		**Pn**	**13 08 39.2**	**+1.4**
SRE	**Strehaia**	**3.84**	**61**	⇑P	**Pn**	**13 08 39.5**	**+1.1**
SRE	**Strehaia**	**3.84**	**61**	P	**Pn**	**13 08 39.5**	**+1.1**
SRE	**Strehaia**	**3.84**	**61**		**Pn**	**13 08 39.5**	**+1.1**
KOGS	**Kog**	**3.87**	**337**	⇓*i*Pn	**Pn**	**13 08 40.1**	**+1.3**
VISS	**Visnje**	**3.88**	**319**	*e*Pn	**Pn**	**13 08 41.8**	**+2.7**
NRCA	**Norcia**	**3.94**	**271**		**Pn**	**13 08 40.9**	**+1.0**
BRJN	**Brijuni**	**3.95**	**302**	*e*Pn	**Pn**	**13 08 41.7**	**+1.8**
BRJN				Sn	**Sn**	**13 09 27.8**	**+2.1**
TIP	**Timpagrande**	**3.96**	**200**		**Pn**	**13 08 39.4**	**-0.8**
TIH	**Tihany**	**4.00**	**354**	PN	**Pn**	**13 08 39.3**	**-1.3**
SIRR	**Siria**	**4.04**	**33**	⇑P	**Pn**	**13 08 42.3**	**+1.0**
SIRR				⇓S	**Sn**	**13 09 28.4**	**+0.2**
SIRR	**Siria**	**4.04**	**33**		**Pn**	**13 08 42.3**	**+1.0**
SIRR					**Sn**	**13 09 28.4**	**+0.2**
CEY	**Cerknica**	**4.04**	**315**	*e*Pn	**Pn**	**13 08 43.0**	**+1.7**
CEY				*e*Sn	**Sn**	**13 09 29.5**	**+1.3**
GROS	**Grobnik**	**4.12**	**330**	⇓*i*Pn	**Pn**	**13 08 44.0**	**+1.6**
HORT	**Hortiatis**	**4.17**	**122**	P	**Pn**	**13 08 44.1**	**+1.1**
SOH	**Sokhos**	**4.20**	**118**	P	**Pn**	**13 08 45.0**	**+1.5**
SOH	**Sokhos**	**4.20**	**118**	P	**Pn**	**13 08 45.0**	**+1.5**
LJU	**Ljubljana**	**4.21**	**319**	*e*Pn	**Pn**	**13 08 45.3**	**+1.8**
LJU				*e*Sn	**Sn**	**13 09 33.2**	**+1.0**
SRS	**Serrai**	**4.22**	**114**	P	**Pn**	**13 08 45.3**	**+1.6**
SRS	**Serrai**	**4.22**	**114**	P	**Pn**	**13 08 45.3**	**+1.6**
TYRN	**Tyrnavos**	**4.28**	**137**	P	**Pn**	**13 08 45.4**	**+0.9**
THL	**Klokotos Trika**	**4.29**	**140**	P	**Pn**	**13 08 45.9**	**+1.3**
DEV	**Deva**	**4.34**	**45**	⇑P	**Pn**	**13 08 46.3**	**+1.0**
DEV				⇑S	**Sn**	**13 09 36.1**	**+0.7**
DEV	**Deva**	**4.34**	**45**	P	**Pn**	**13 08 46.3**	**+1.0**
DEV						13 09 36.1	
DEV	**Deva**	**4.34**	**45**		**Pn**	**13 08 46.3**	**+1.0**
DEV					**Sn**	**13 09 36.1**	**+0.7**
PERS	**Pernice**	**4.42**	**328**	⇓*i*Pn	**Pn**	**13 08 48.4**	**+2.0**
PERS				*e*Sn	**Sn**	**13 09 38.1**	**+0.7**
PERS				IAML		13 09 40.1	
	comp=Z,188nm,0.5s						
CSKK	**Cskako**	**4.44**	**358**	PN	**Pn**	**13 08 47.5**	**+0.7**
VLAD	**Vladila**	**4.45**	**74**	⇓P	**Pn**	**13 08 46.5**	**-0.3**
VLAD	**Vladila**	**4.45**	**74**		**Pn**	**13 08 46.5**	**-0.3**
SOKA	**Soboth**	**4.48**	**328**	*i* Pn	**Pn**	**13 08 49.3**	**+2.0**
	comp=Z,79nm,0.5s,SNR=37						
SOKA				*e*Sn	**Sn**	**13 09 39.5**	**+0.4**
	comp=Z,171nm,0.8s						
SOKA	**Soboth**	**4.48**	**328**		**Pn**	**13 08 49.3**	**+2.0**
SOKA					**Sn**	**13 09 39.5**	**+0.4**
PLG	**Polygyros**	**4.51**	**123**	P	**Pn**	**13 08 49.4**	**+1.7**
PLG	**Polygyros**	**4.51**	**123**	P	**Pn**	**13 08 49.4**	**+1.7**
OBKA	**Obir**	**4.55**	**323**	*i* Pn	**Pn**	**13 08 50.6**	**+2.3**
	comp=Z,13nm,0.2s,SNR=9.9						
OBKA				*e*Sn	**Sn**	**13 09 43.4**	**+2.6**
	comp=Z,198nm,0.6s						
OBKA	**Obir**	**4.55**	**323**	*e*Pn	**

CTI	Castel Tesino	5.80	305	P		Pn	13 09 06.6 +1.2
CTI	Castel Tesino	5.80	305			Pn	13 09 06.6 +1.2
DOPR	Dopca	5.81	56	⇑P		Pn	13 09 06.6 +1.1
DOPR				⇑S		Sn	13 10 12.1 +0.4
DOPR	Dopca	5.81	56			Pn	13 09 06.6 +1.1
DOPR						Sn	13 10 12.1 +0.4
SULR		5.90	70	⇓P		Pn	13 09 06.8 +0.1
SULR		5.90	70			Pn	13 09 06.8 +0.1
BMR	Baia Mare	5.92	35	⇑P		Pn	13 09 07.2 +0.1
BMR	Baia Mare	5.92	35	P		Pn	13 09 07.2 +0.1
BMR	Baia Mare	5.92	35			Pn	13 09 07.2 +0.1
MLR	Muntele Rosu	5.95	62	⇑P		Pn	13 09 08.4 +0.9
MLR				⇑S		Sn	13 10 16.8 +1.5
MLR	Muntele Rosu	5.95	62	P		Pn	13 09 10.0 +2.4
	comp=Z,1.2nm,0.3s,baz=174,slow=8.4,SNR=23						
MLR				S		Sn	13 10 17.1 +1.8
	comp=Z,4.5nm,0.3s,baz=22,slow=22,SNR=5.0						
MLR				LR		LR	13 12 03.0
	comp=Z,2µm,19.8s,baz=242,slow=44						
MLR	Muntele Rosu	5.95	62	P		Pn	13 09 09.0 +1.4
MLR							13 10 16.8
MLR	Muntele Rosu	5.95	62	Pn		Pn	13 09 09.0 +1.4
JAVC	Velka Javorina	5.96	355	ePN		Pn	13 09 08.9 +1.2
ALN	Alexandroupoli	6.00	107	P		Pn	13 09 09.4 +1.3
ALN	Alexandroupoli	6.00	107			Pn	13 09 09.4 +1.3
VLC	Villacollemand	6.01	285	Pn		Pn	13 09 10.4 +2.2
NEHR	Nehoiu	6.16	63	⇑P		Pn	13 09 11.0 +0.7
NEHR	Nehoiu	6.16	63			Pn	13 09 11.0 +0.7
PRMA	PARMA	6.18	290			Pn	13 09 10.8 +0.2
VAE	Valguarnera	6.26	211	P		Pn	13 09 15.2 +3.4
	comp=Z,2.2nm,0.3s,baz=7.1,slow=8.1,SNR=2.5						
LANS	Liptovska Anna	6.27	6	eP		Pn	13 09 14.3 +2.5
LANS	Liptovska Anna	6.27	6	ePN		Pn	13 09 14.3 +2.5
UZH	Uzhgorod	6.30	24	eP		Pn	13 09 15.0 +2.8
UZH				eS		Sn	13 10 26.0 +2.3
UZH				MLR		MLR	
	comp=N,420nm,11.0s						
UZH				MLR		MLR	
	comp=E,110nm,11.0s						
UZH				MLR		MLR	
	comp=Z,300nm,11.0s						
KRUC	Moravsky	6.31	347	P		Pn	13 09 14.6 +2.2
KRUC	Moravsky	6.31	347	ePN		Pn	13 09 13.0 +0.6
KRUC				eSN		Sn	13 10 25.6 +1.7
SALO	Salr	6.31	298	Pn		Pn	13 09 13.0 +0.6
ITM	Ithomi	6.32	154	Pn		Pn	13 09 12.4 -0.1
CRVS	Cervenica-Dubn	6.33	18	eP		Pn	13 09 14.2 +1.5
CRVS	Cervenica-Dubn	6.33	18	ePN		Pn	13 09 14.2 +1.5
CORL	Corleone	6.39	220	Pn		Pn	13 09 15.5 +2.0
BISRR	Bisoca	6.47	63	⇓P		Pn	13 09 14.8 +0.1
BISRR	Bisoca	6.47	63			Pn	13 09 14.8 +0.1
WTTA	Wattenberg	6.50	314	i Pn		Pn	13 09 17.0 +1.9
	comp=Z,25nm,0.3s,SNR=10						
WTTA				eSn		Sn	13 10 31.8 +2.8
	comp=Z,139nm,0.7s						
WTTA	Wattenberg	6.50	314	P		Pn	13 09 17.5 +2.3
WTTA	Wattenberg	6.50	314	ePn		Pn	13 09 17.5 +2.3
WTTA				eSn		Sn	13 10 32.9 +4.0
WTTA	Wattenberg	6.50	314			Pn	13 09 17.0 +1.9
WTTA						Sn	13 10 31.8 +2.8
RAFF	Raffo Rosso	6.51	210	Pn		Pn	13 09 15.0 -0.1
VRAC	Vranov	6.52	349	⇓P		Pn	13 09 15.5 +0.2
VRAC	Vranov	6.52	349	P		Pn	13 09 16.7 +1.5
	comp=Z,0.6nm,0.3s,baz=172,slow=11,SNR=7.9						
VRAC				S		Sn	13 10 29.0 -0.1
	comp=Z,1.0nm,0.3s,baz=108,slow=6.4,SNR=2.0						
VRAC				LR		LR	13 11 37.0
	comp=Z,296nm,19.4s,baz=173,slow=36						
VRAC	Vranov	6.52	349	ePN		Pn	13 09 16.5 +1.2
VRAC	Vranov	6.52	349			Pn	13 09 15.5 +0.2
PLOR	Plostina	6.55	61	⇑P		Pn	13 09 16.5 +0.8
PLOR				⇑S		Sn	13 10 30.1 +0.2
PLOR	Plostina	6.55	61	P		Pn	13 09 16.5 +0.8
PLOR							13 10 30.1
PLOR	Plostina	6.55	61			Pn	13 09 16.5 +0.8
PLOR						Sn	13 10 30.1 +0.2
CKRC	Cesky Krumlov	6.58	335	ePN		Pn	13 09 19.2 +3.2
WATA	Walderalm	6.58	314	ePn		Pn	13 09 18.8 +2.6
	comp=Z,17nm,0.3s,SNR=9.4						
WATA				eSn		Sn	13 10 33.3 +2.5
	comp=Z,39nm,0.4s						
WATA	Walderalm	6.58	314	P		Pn	13 09 18.8 +2.6
WATA							13 10 33.3
WATA	Walderalm	6.58	314			Pn	13 09 18.8 +2.6
WATA						Sn	13 10 33.3 +2.5
VRI	Vrincioaia	6.60	61	⇑P		Pn	13 09 17.5 +1.1
VRI	Vrincioaia	6.60	61	P		Pn	13 09 17.6 +1.1
VRI	Vrincioaia	6.60	61			Pn	13 09 17.6 +1.1
NIE	Niedzica	6.62	10	eP		Pn	13 09 19.2 +2.5
NIE	Niedzica	6.62	10	P		Pn	13 09 19.2 +2.5
MSSA	Maissana	6.65	285	Pn		Pn	13 09 18.4 +1.3
EZN	Ezine	6.67	115	P		Pn	13 09 22.6 +5.4
BURAR	Bucovina Array	6.68	43	⇑P		Pn	13 09 18.9 +1.4
BURAR	Bucovina Array	6.68	43	P		Pn	13 09 18.9 +1.4
BURAR	Bucovina Array	6.68	43	Pn		Pn	13 09 19.7 +2.2
BURAR	Bucovina Array	6.68	43			Pn	13 09 18.9 +1.4
BUR08	Bucovina Ar. S	6.69	43	Pn		Pn	13 09 19.6 +1.9
SQTA	Sankt Quirin	6.70	312	i Pn		Pn	13 09 20.6 +2.7
	comp=Z,22nm,0.3s,SNR=11						
SQTA				i Sn		Sn	13 10 34.7 +0.9
	comp=Z,68nm,0.5s						
SQTA	Sankt Quirin	6.70	312	P		Pn	13 09 20.6 +2.7
SQTA							13 10 34.7
SQTA	Sankt Quirin	6.70	312			Pn	13 09 20.6 +2.7
SQTA						Sn	13 10 34.7 +0.9
GEC2	GERESS Array S	6.79	332	ePn		Pn	13 09 21.5 +2.3
GEC2				eSn		Sn	13 10 36.6 +0.6
GEC2	GERESS Array S	6.79	332	Pn		Pn	13 09 23.0 +3.9
GERES	GERESS Array B	6.79	332	P		Pn	13 09 20.5 +1.4
	comp=Z,3.8nm,0.3s,baz=151,slow=13,SNR=64						
GERES				S		Sn	13 10 36.0 0.0
	comp=Z,5.1nm,0.3s,baz=142,slow=22,SNR=7.3						
GERES				LR		LR	13 12 25.5
	comp=Z,728nm,18.6s,baz=140,slow=42						
GERES	GERESS Array B	6.79	332	P		Pn	13 09 21.3 +2.2
GERES	GERESS Array B	6.79	332			Pn	13 09 21.2 +2.2
MOTA	Moosalm	6.83	313	ePn		Pn	13 09 22.0 +2.3
	comp=Z,22nm,0.5s,SNR=11						
MOTA				i Sn		Sn	13 10 40.3 +3.1
	comp=Z,59nm,0.5s						
MOTA	Moosalm	6.83	313	P		Pn	13 09 22.0 +2.3
MOTA							13 10 40.3
MOTA	Moosalm	6.83	313			Pn	13 09 22.0 +2.3
MOTA						Sn	13 10 40.3 +3.1
TESR	Tescani	6.84	56	⇓P		Pn	13 09 20.7 +1.1
TESR	Tescani	6.84	56			Pn	13 09 20.7 +1.1
FETA	Feichten	6.85	309	ePn		Pn	13 09 21.9 +1.9
	comp=Z,11nm,0.6s						
FETA				eSn		Sn	13 10 39.1 +1.5
	comp=Z,44nm,0.7s						
FETA	Feichten	6.85	309			Pn	13 09 21.9 +1.9
FETA						Sn	13 10 39.1 +1.5
MORC	Moravsky Berou	6.89	355	⇑P		Pn	13 09 21.7 +1.4
MORC				⇑S		Sn	13 10 37.9 -0.4
MORC	Moravsky Berou	6.89	355	ePN		Pn	13 09 21.2 +0.9
MORC				eSN		Sn	13 10 36.7 -1.5
MORC	Moravsky Berou	6.89	355	Pn		Pn	13 09 21.3 +0.9
MORC	Moravsky Berou	6.89	355			Pn	13 09 21.7 +1.4
MORC						Sn	13 10 37.9 -0.4
PGF	Pioggiola	6.99	270	eP		Pn	13 09 22.9 +1.1
KHC	Kasperske Hory	7.08	333	deP		Pn	13 09 26.3 +3.3
KHC	Kasperske Hory	7.08	333	ePN		Pn	13 09 25.5 +2.5
KHC				ex		x	13 09 44.0
KHC				eSN		Sn	13 10 42.3 -0.7
KHC				ex		x	13 10 57.0
KHC	Kasperske Hory	7.08	333	Pn		Pn	13 09 26.1 +3.1
RETA	Reutte	7.11	313	ePn		Pn	13 09 26.1 +2.7
	comp=Z,12nm,0.4s						
RETA				eSn		Sn	13 10 47.7 +4.0
	comp=Z,48nm,0.6s						
RETA	Reutte	7.11	313			Pn	13 09 26.1 +2.7
RETA						Sn	13 10 47.7 +4.0
DAVOX	Davos/Dischmat	7.22	305	P		Pn	13 09 26.0 +0.9
	comp=Z,2.7nm,0.3s,baz=129,slow=13,SNR=19						
DAVOX				S		Sn	13 10 48.2 +1.4
	comp=Z,4.8nm,0.3s,baz=127,slow=16,SNR=6.3						
DAVOX				LR		LR	13 12 42.4
	comp=Z,470nm,20.4s,baz=98,slow=42						
KALB	Balgarevo	7.29	83	⇑P		Pn	13 09 26.6 +0.9
KALB	Balgarevo	7.29	83			Pn	13 09 26.6 +0.9
CFR	Carcaliu	7.32	69	⇑P		Pn	13 09 26.7 +0.6
CFR	Carcaliu	7.32	69	P		Pn	13 09 26.7 +0.6
CFR	Carcaliu	7.32	69			Pn	13 09 26.7 +0.6
WET	Wettzell	7.34	330	P		Pn	13 09 30.0 +3.5
WET	Wettzell	7.34	330	ePn		Pn	13 09 30.1 +3.5
WET				eSn		Sn	13 10 49.2 -0.2
OJC	Ojcow	7.36	7	eP		Pn	13 09 28.3 +1.5
OJC	Ojcow	7.36	7	P		Pn	13 09 27.9 +1.2
OJC	Ojcow	7.36	7			Pn	13 09 27.9 +1.2
TIRR	Tirgusor	7.37	75	P		Pn	13 09 28.9 +2.0
TIRR	Tirgusor	7.37	75	Pn		Pn	13 09 28.9 +2.0
TUE	Stuetta	7.41	302	Pn		Pn	13 09 30.1 +2.5
TPGR	Topolog	7.44	72	⇓P		Pn	13 09 27.6 -0.3
TPGR	Topolog	7.44	72			Pn	13 09 27.6 -0.3
DAVA	Damuels	7.48	309	ePn		Pn	13 09 31.8 +3.2
	comp=Z,7.9nm,0.3s						
DAVA				eSn		Sn	13 10 54.0 +0.9
	comp=Z,49nm,0.5s						
DAVA	Damuels	7.48	309	ePn		Pn	13 09 32.1 +3.5
DAVA				eSn		Sn	13 10 54.3 +1.2
DAVA	Damuels	7.48	309			Pn	13 09 31.9 +3.2
DAVA						Sn	13 10 54.0 +0.9
EDC	Edincik	7.49	107	P		Pn	13 09 31.7 +3.1
PRU	Pruhonice	7.57	340	eP		Pn	13 09 32.7 +3.0
PRU	Pruhonice	7.57	340	ePN		Pn	13 09 32.7 +3.0
DPC	Dobruska-Polom	7.58	349	eP		Pn	13 09 30.8 +1.0
DPC	Dobruska-Polom	7.58	349	ePN		Pn	13 09 30.8 +1.0
UBR	Ueberruh	7.58	312	ePn		Pn	13 09 31.6 +1.7
PLONS	Plons/SG	7.65	306	ePn		Pn	13 09 34.1 +3.2
PLONS				eSn		Sn	13 10 59.4 +2.2
VSL	Villasalto	7.67	247	Pn		Pn	13 09 32.7 +1.7
TLCR		7.78	70	⇓P		Pn	13 09 33.5 +0.9
TLCR		7.78	70	P		Pn	13 09 33.5 +0.9
TLCR		7.78	70			Pn	13 09 33.5 +0.9
BALB	Balikesir	7.80	112			Pn	13 09 35.9 +3.0
LVV	L'vov	7.89	27	eP		Pn	13 09 37.4 +3.3
LVV				eS		Sn	13 11 07.0 +4.1
LVV				pmax		pmax	
	comp=Z,50nm,1.5s						
LVV				MLR		MLR	
	comp=E,500nm,8.0s						
LVV				MLR		MLR	
	comp=N,1µm,9.0s						
LVV				MLR		MLR	
	comp=Z,1µm,10.0s						
KSP	Ksiaz	8.06	350	eP		Pn	13 09 45.6 +9.2
SBF	Sospel	8.10	280	ePn		Pn	13 09 36.5 -0.5
SBF				eSn		Sn	13 11 08.8 +0.7
	comp=Z,8.5nm,0.3s						
MILM	Milestii Mici	8.35	58	⇑i P		Pn	13 09 44.1 +3.7
	comp=Z,8.0nm,1.0s						
MILM	Milestii Mici	8.35	58	⇓P		Pn	13 09 40.2 -0.2
MILM	Milestii Mici	8.35	58	c i P		Pn	13 09 44.0 +3.7
MILM				pmax		pmax	
	comp=Z,80nm,1.0s						
MILM	Milestii Mici	8.35	58			Pn	13 09 40.2 -0.2
NKC	Novy Kostel	8.41	333	eP		Pn	13 09 43.9 +2.8
NKC	Novy Kostel	8.41	333	ePN		Pn	13 09 43.9 +2.8
GRA1	Grafenberg Arr	8.43	326	Pn		Pn	13 09 44.3 +2.9
GRF	Grafenberg Arr	8.43	326	P		Pn	13 09 44.3 +2.9
GRF	Grafenberg Arr	8.43	326	ePn		Pn	13 09 43.5 +2.1
GRFO	Grafenberg	8.43	326	P		Pn	13 09 44.5 +3.1
GRFO	Grafenberg	8.43	326	Pn		Pn	13 09 44.5 +3.1
SLE	Schleitheim	8.54	308	ePn		Pn	13 09 44.1 +1.2
SLE				eSn		Sn	13 11 16.2 -2.5
BRG	Berggiesshubel	8.54	340	eP		Pn	13 09 46.1 +3.2
BRG				Amp			13 09 48.9
	comp=Z,5.0nm,0.7s						
BRG				ex		x	13 10 07.1
BRG				Amp			13 10 07.9
	comp=Z,5.2nm,0.7s						
BRG				ex		x	13 11 07.5
BRG				ex		x	13 11 29.9
BRG				Amp			13 11 43.3
	comp=Z,25nm,1.1s						
BRG				Amp			13 13 24.0
	comp=Z,0.9nm,17.0s						
BRG	Berggiesshubel	8.54	340	eP		Pn	13 09 46.1 +3.2
BRG				e			13 11 29.9
BRG				pmax		pmax	
	comp=Z,5.0nm,0.7s						
BRG				pmax		pmax	
	comp=Z,25nm,1.1s						
BRG				MLR		MLR	
	comp=Z,929nm,17.0s						
MBDF	Montbardon	8.65	286	ePn		Pn	13 09 44.1 -0.6
MBDF				eSn		Sn	13 11 15.1 -6.8
	comp=Z,26nm,0.7s						
FRF	La Foret Royal	8.66	278	ePn		Pn	13 09 44.5 -0.1
FRF				eSn		Sn	13 11 15.2 -6.6
	comp=Z,5.0nm,0.3s						
SENIN	Lac Senin/Sane	8.68	297	Pn		Pn	13 09 46.2 +1.2
STU	Stuttgart	8.72	315	P		Pn	13 09 47.5 +2.0
STU	Stuttgart	8.72	315			Pn	13 09 47.5 +2.0
LMR	La Mourre	8.76	277	ePn		Pn	13 09 44.8 -1.2
LMR				eSn		Sn	13 11 22.8 -1.5
	comp=Z,2.8nm,0.4s						
BNI	Bardonecchia	8.77	288	P		Pn	13 09 46.0 -0.3
BNI	Bardonecchia	8.77	288	Pn		Pn	13 09 46.0 -0.3
LPG	La Plagne	8.81	291	ePn		Pn	13 09 46.2 -0.7
LPG				eSn		Sn	13 11 18.8 -7.0
	comp=Z,86nm,0.6s						
LPL	La Plagne	8.82	291	ePn		Pn	13 09 45.3 -1.8
LPL	La Plagne	8.82	291	eP		Pn	13 09 49.5 +2.4
LPL				eSn		Sn	13 11 19.3 -6.8
	comp=Z,12nm,0.4s						
BFO	Black Forest	8.93	311	eP		Pn	13 09 49.0 +0.7
BFO	Black Forest	8.93	311	ePn		Pn	13 09 49.3 +1.0
BFO				eSn		Sn	13 11 27.7 -0.7
BFO	Black Forest	8.93	311	Pn		Pn	13 09 49.0 +0.7
MOX	Moxa	9.04	331	P		Pn	13 09 52.8 +2.9
MOX	Moxa	9.04	331	ePn		Pn	13 09 52.7 +2.9
MOX				eSn		Sn	13 11 29.1 -2.0
IDI	Anoyia	9.11	145	P		Pn	13 09 49.1 -1.7
	comp=Z,0.6nm,0.3s,baz=333,slow=9.0,SNR=1.8						
IDI				S		Sn	13 11 23.4 -9.5
	comp=Z,1.5nm,0.3s,baz=225,slow=20,SNR=1.9						
CLL	Collm	9.18	338	eP		Pn	13 09 54.0 +2.3
CLL	Collm	9.18	338	ePn		Pn	13 09 54.0 +2.3
CLL				eSn		Sn	13 11 19.0 -15
CLL				ex		Sn	13 11 33.0 -1.4
CLL				ex		x	13 11 40.0
CLL				Lmax			13 12 00.0
CLL				eSb			13 12 02.0
CLL				eSg			13 12 35.0
CLL				eSglp			13 12 36.0
	comp=N,200nm,23.1s						
CLL				eSglp			13 12 36.0
	comp=E,600nm,17.5s						
ORIF	Oris-en-Rattie	9.31	287	ePn		Pn	13 09 52.7 -0.9
ORIF				eSn		Sn	13 11 32.6 -5.2
	comp=E,9.3nm,0.4s						
SMRF	Simiane la Rot	9.45	281	ePn		Pn	13 09 53.7 -1.7
SMRF				eSn		Sn	13 11 34.4 -6.7
	comp=E,3.4nm,0.5s						
HINF	Hinteralfeld	9.53	305	eP		Pn	13 09 57.9 +1.3
HINF				eSn		Sn	13 11 36.3 -6.9
	comp=E,1.5nm,0.2s						
ECH	Echery	9.54	308	P		Pn	13 09 57.4 +0.7
ECH	Echery	9.54	308	Pn		Pn	13 09 57.4 +0.7
CABF	La Chapelle	9.55	297	ePn		Pn	13 09 56.7 -0.2
CABF				eSn		Sn	13 11 37.5 -6.3
	comp=E,5.6nm,0.3s						
CDF	Champ du Feu	9.57	309	ePn		Pn	13 09 54.5 -2.6
CDF				eSn		Sn	13 11 36.6 -7.6
	comp=E,3.6nm,0.4s						
HAU	Haudompre	9.92	305	eP		Pn	13 10 04.2 +2.3
HAU				eSn		Sn	13 11 45.3 -7.4
	comp=E,16nm,0.5s						
TNS	Taunus Mts	10.04	320	ePn		Pn	13 10 05.1 +1.5
TNS				eSn		Sn	13 11 53.5 -2.2
KEST	Kesra	10.07	228	P		Pn	13 10 07.2 +3.1
	comp=E,0.2nm,0.3s,baz=30,slow=16,SNR=2.3						
KEST				LR		LR	13 14 33.7
	comp=E,358nm,19.6s,baz=356,slow=41						
VIVF	Saint-Julien-l	10.15	286	ePn		Pn	13 10 04.4 -0.7
SSB	Saint Sauveur	10.30	288	P		Pn	13 10 06.9 -0.2
SSB	Saint Sauveur	10.30	288	Pn		Pn	13 10 06.9 -0.2
LASF	Ste Croix	10.69	281	eP		Pn	13 10 15.4 +3.0
AKASG	Malin Array Be	10.71	40	P		Pn	13 10 13.8 +1.2
	comp=E,0.2nm,0.3s,baz=230,slow=12,SNR=10						
AKASG				LR		LR	13 15 10.1
	comp=E,295nm,18.0s,baz=238,slow=42						
AKASG	Malin Array Be	10.71	40	i P		Pn	13 10 14.3 +1.7
AKASG				pmax		pmax	
	comp=Z,2.0nm,0.9s						
AKASG	Malin Array Be	10.71	40			Pn	13 10 12.5 0.0
AKBB	Malin Array Si	10.71	40	⇓eP		Pn	13 10 13.5 +0.9
AKBB	Malin Array Si	10.71	40	Pn		Pn	13 10 12.5 0.0
SFTF	Sexfontaines	10.80	304	eP		Pn	13 10 17.7 +3.8
	baz=124						
SMF	Signal de Mont	11.05	295	ePn		Pn	13 10 15.5 -1.8
SMF				eSn		Sn	13 12 12.2 -8.2
	comp=Z,24nm,0.6s						
LOR	Lormes	11.21	298	ePn		Pn	13 10 17.1 -2.4
	baz=105						
LOR				eSn		Sn	13 12 15.4 -8.9
	comp=Z,22nm,0.5s						
SSF	Saint Saulge	11.38	296	ePn		Pn	13 10 19.3 -2.5
SSF				eSn		Sn	13 12 20.1 -8.3
	comp=Z,7.9nm,0.5s						
AVF	Avril sur Loir	11.41	295	ePn		Pn	13 10 20.7 -1.5
AVF				eSn		Sn	13 12 20.2 -9.0
	comp=Z,2.9nm,0.5s						
BGF	Bois d'Agland	11.69	293	ePn		Pn	13 10 23.8 -2.4
BGF	Bois d'Agland	11.69	293	eP		Pn	13 10 30.1 +4.0
BRTR	Keskin Array B	11.84	101	P		Pn	13 10 31.4 +3.1
	comp=Z,0.1nm,0.3s,baz=288,slow=8.9,SNR=5.7						
BRTR				S		Sn	13 12 38.2 -1.8
	comp=Z,0.1nm,0.3s,baz=301,slow=15,SNR=2.2						
BRTR				LR		LR	13 15 40.1
	comp=Z,590nm,19.6s,baz=298,slow=40						
HYF	Humbligny	12.00	297	eP		Pn	13 10 33.7 +3.3
TCF	Toulx Ste Croi	12.07	292	ePn		Pn	13 10 29.5 -1.8
TCF				eSn		Sn	13 12 36.1 -9.4
	comp=Z,4.4nm,0.5s						
MNK	Minsk	13.13	25	i P		Pn	13 10 44.9 -0.8
MNK				i S		Sn	13 13 11.3 +0.1
MNK				pmax		pmax	
	comp=Z,8.0nm,0.8s						
MNK				pmax		pmax	
	comp=E,2.0nm,0.8s						
MNK				pmax		pmax	
	comp=N,18nm,0.8s						
MNK				MLR		MLR	
	comp=E,19nm,16.0s						
MNK				MLR		MLR	
	comp=Z,360nm,16.0s						
MNK				MLR		MLR	
	comp=N,260nm,16.0s						
MNK	Minsk	13.13	25	i P		Pn	13 10 44.9 -0.8
	comp=E,2.0nm,0.8s						
MNK				i P		Pn	13 10 44.9 -0.8
	comp=N,18nm,0.8s						
MNK				i P		Pn	13 10 44.9 -0.8
	comp=Z,8.0nm,0.8s,baz=212						
MNK				i S		Sn	13 13 11.3 +0.1
MNK				i LQ		LQ	13 14 36.5
MNK				i LR		LR	13 15 16.0
MNK				i LRM		MLR	13 16 15.6
	comp=E,19nm,15.9s						
MNK				i LRM		MLR	13 16 15.6
	comp=Z,360nm,15.9s						
MNK				i LRM		MLR	13 16 16.5
	comp=N,260nm,15.9s						
NACGM	Naroch	13.16	21	i P		Pn	13 10 47.2 +1.1
LDF	La Druitiere	14.15	300	eP		Pn	13 11 02.5 +2.8
FLN	La Foliniere	14.43	300	eP		Pn	13 11 06.2 +2.7
	baz=120						
SOC	Sochi	15.49	80	eP		Pn	13 11 15.8 -1.9
SOC				e			13 14 07.8
SOC				MLR		MLR	
	comp=Z,157nm,14.0s						
SGMF	Saint Gilles	15.64	297	eP		P	13 11 22.4 -1.3
VORD	Divnogorie	16.29	53	eP		Pn	13 11 24.5 -3.5
VORD				pmax		pmax	
	comp=Z,8.0nm,0.5s						
VSR	Storozhevoye	16.31	52	eP		Pn	13 11 27.0 -1.3
VSR				pmax		pmax	
	comp=Z,20nm,1.1s						
VSU	Vasula	16.39	16	d i P		Pn	13 11 28.3 -0.9
VSU				pmax		pmax	
	comp=Z,138nm,1.5s						
MMAI	Mount Meron Ar	16.59	121	P		P	13 11 34.8 +0.4
	comp=Z,0.7nm,0.3s,baz=312,slow=17,SNR=2.0						
LPSR	Galich'ya Gora	16.76	48	eP		Pn	13 11 32.1 -1.8
LPSR				pmax		pmax	
	comp=Z,20nm,1.6s						
OBN	Obninsk	16.95	38	P		Pn	13 11 35.4 -0.9
	comp=Z,1.0nm,0.3s,baz=223,slow=19,SNR=9.4						
OBN				LR		LR	13 18 41.0
	comp=Z,123nm,19.4s,baz=192,slow=39						
OBN	Obninsk	16.95	38	c i P		Pn	13 11 34.8 -1.5
OBN				pmax		pmax	
	comp=Z,58nm,1.3s						
OBN				MLR		MLR	
	comp=Z,410nm,18.0s						
OBN	Obninsk	16.95	38	P		Pn	13 11 35.2 -1.1
OBN				IAmb		IAmb	13 11 36.4
	comp=Z,59nm,1.2s						
ESDC	Sonseca Array	17.16	267	P		P	13 11 40.1 -0.6
	comp=Z,0.1nm,0.3s,baz=84,slow=13,SNR=2.3						
HFS	Hagfors	17.48	352	P		Pn	13 11 42.9 0.0
	comp=Z,0.5nm,0.3s,baz=166,slow=13,SNR=10						
HFS				LR		LR	13 19 43.2
	comp=Z,334nm,18.8s,baz=176,slow=41						
KIV	Kislovodsk	17.60	78	i P		P	13 11 47.3 +1.7
KIV				pmax		pmax	
	comp=Z,10.0nm,1.1s						
KIV				MLR		MLR	
	comp=Z,106nm,17.0s						
KVAR	Kislovodsk Arr	17.61	78	P		P	13 11 49.1 +3.5
	baz=289,slow=18,SNR=1.3		

KLMR AMP 13 12 38.2
comp=Z,42nm,1.1s
PRGR Permogore 24.73 31 *eP* **P 13 12 59.0 -1.2**
PRGR pmax pmax
comp=Z,48nm,1.1s
KIRV Kirov 24.77 40 P **P 13 12 59.5 -1.1**
comp=Z,6.1nm,0.6s,baz=225,slow=1.4,SNR=2.4
KIRV LR LR 13 23 14.6
comp=Z,408nm,19.2s,baz=259,slow=38
KIRV Kirov 24.77 40 *ceP* **P 13 12 59.8 -0.8**
ARCES ARCESS Array B 26.93 5 P **P 13 13 19.7 -0.4**
comp=Z,2.0nm,0.8s,baz=179,slow=6.9,SNR=4.3
ARCES LR LR 13 23 43.8
comp=Z,177nm,21.2s,baz=202,slow=36
ARCES ARCESS Array B 26.93 5 P **P 13 13 19.5 -0.6**
ARCES IAmb IAmb 13 13 25.5
comp=Z,26nm,1.4s
AKTO Aktyubinsk 27.88 61 P **P 13 13 30.4 +1.6**
comp=Z,0.4nm,0.5s,baz=299,slow=7.5,SNR=1.8
AKTO LR LR 13 26 03.3
comp=Z,214nm,20.5s,baz=273,slow=39
ARU Arti 28.79 48 P **P 13 13 35.5 -1.3**
comp=Z,0.8nm,0.4s,baz=264,slow=10,SNR=4.8
ARU LR LR 13 25 55.3
comp=Z,268nm,18.2s,baz=259,slow=38
ARU Arti 28.79 48 *c iP* **P 13 13 35.7 -1.1**
ARU 13 14 23.7
ARU S **S 13 18 24.4 -1.0**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU MLR MLR
comp=Z,323nm,17.0s
ABKAR Akbulak array 29.16 63 P 13 13 43.1 +2.9
GEYT Alibeck 30.39 86 LR LR 13 30 05.0
comp=Z,72nm,18.0s,baz=314,slow=44
TORD Torodi Ar. Bea 33.02 211 P **P 13 14 14.3 -0.2**
comp=Z,1.2nm,0.5s,baz=9.1,slow=8.2,SNR=12
TORD Torodi Ar. Bea 33.02 211 P **P 13 14 14.6 +0.1**
HRA Herat 34.90 89 P **P 13 14 30.6 -0.3**
HRA IAmb IAmb 13 14 37.5
comp=Z,5.5nm,1.1s
SPITS Spitsbergen Ar 35.38 359 LR LR 13 31 10.6
comp=Z,144nm,18.2s,baz=107,slow=40
BRVK Borovoye 35.40 55 P **P 13 14 34.6 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 35.40 55 P **P 13 14 34.6 -0.2**
BRVK IAmb IAmb 13 14 48.7
comp=Z,5.1nm,0.8s
KKAR Karatay Array 37.54 71 P **P 13 14 53.1 -0.1**
KKAR Karatay Array 37.54 71 P **P 13 14 53.1 -0.1**
CHGR Chuyangaron 38.14 79 P **P 13 14 58.9 +0.5**
CHGR pmax pmax
comp=Z,22nm,0.8s
CHGR Chuyangaron 38.14 79 P **P 13 14 58.9 +0.5**
WSAR Wadi Sarin 38.50 108 LR LR 13 34 07.1
comp=Z,67nm,21.4s,baz=334,slow=41
AAK Ala-Archa 40.45 71 LR LR 13 34 49.4
comp=Z,156nm,19.0s,baz=312,slow=40
AAK Ala-Archa 40.45 71⇓ *eP* **P 13 15 18.7 +0.9**
AAK pmax pmax
comp=Z,35nm,1.7s
AAK Ala-Archa 40.45 71 P **P 13 15 18.6 +0.9**
AAK IAmb IAmb 13 15 25.7
comp=Z,11nm,1.3s
KURBB Kurchatov Arra 40.83 58 LR LR 13 32 19.4
comp=Z,76nm,20.7s,baz=274,slow=36
DBIC Dimbokro 41.56 216 P **P 13 15 26.5 -0.4**
comp=Z,4.3nm,0.6s,baz=31,slow=9.2,SNR=8.2
DBIC Dimbokro 41.56 216 P **P 13 15 26.9 0.0**
DBIC pmax pmax
comp=Z,7.0nm,0.7s
DBIC Dimbokro 41.56 216 P **P 13 15 26.9 0.0**
DBIC IAmb IAmb 13 15 35.7
comp=Z,6.9nm,0.7s
TIC Toumodi 41.65 217 *eP* **P 13 15 26.9 -0.8**
KIC Kosan Boka 41.79 216 *eP* **P 13 15 28.0 -0.8**
LIC Lamto 42.03 216 *eP* **P 13 15 30.3 -0.5**
LODK Lodwar 42.11 154 P **P 13 15 32.2 +0.8**
NRIK Noril'sk 43.33 29 P **P 13 15 41.2 +0.5**
comp=Z,2.2nm,0.8s,baz=269,slow=6.2,SNR=2.3
NRIK LR LR 13 36 20.2
comp=Z,214nm,18.4s,baz=314,slow=40
NRIK Noril'sk 43.33 29⇑ *eP* **P 13 15 40.9 +0.2**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
NRIK Noril'sk 43.33 29 P **P 13 15 41.2 +0.5**
NRIK IAmb IAmb 13 15 48.0
comp=Z,8.9nm,1.1s
ZALV Zalesovo Beam 43.82 51 P **P 13 15 45.2 +0.4**
comp=Z,0.7nm,0.4s,baz=270,slow=7.2,SNR=2.8
ZALV LR LR 13 35 34.0
comp=Z,220nm,19.2s,baz=273,slow=38
MK31 Makanchi Array 44.30 62⇑ *iP* **P 13 15 49.6 +0.7**
MK31 Makanchi Array 44.30 62 P **P 13 15 49.1 +0.3**
MKAR Makanchi Array 44.30 62 P **P 13 15 47.8 -1.1**
comp=Z,0.6nm,0.7s,baz=270,slow=8.3,SNR=9.4
MKAR LR LR 13 35 30.0
comp=Z,151nm,20.1s,baz=280,slow=38
MKAR Makanchi Array 44.30 62 *ceP* **P 13 15 49.0 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 44.30 62 P **P 13 15 47.4 -1.5**
MBAR Mbarara 44.71 162 LR LR 13 39 02.8
comp=Z,11nm,18.1s,baz=356,slow=42
MBAR Mbarara 44.71 162⇓ *iP* **P 13 15 53.0 +0.4**
DGZ Jazzator, Alta 46.58 57⇑ *eP* **P 13 16 06.5 -0.6**
DGZ pmax pmax
comp=Z,1.0nm,1.1s
KMBO Kilima Mbogo 46.99 154 LR LR 13 40 06.2
comp=Z,54nm,18.4s,baz=86,slow=41
WMQ Urumqi 48.94 64 *eP* **P 13 16 28.7 +3.4**
SCHQ Schefferville 53.97 315 P **P 13 17 02.2 -0.5**
comp=Z,1.1nm,0.5s,baz=17,slow=3.4,SNR=5.5
SCHQ Schefferville 53.97 315 P **P 13 17 02.4 -0.3**
SCHQ IAmb IAmb 13 17 24.5
comp=Z,7.9nm,1.3s
RES Resolute Bay 54.78 343 P **P 13 17 07.5 -0.8**
comp=Z,1.3nm,0.9s,baz=337,slow=8.3,SNR=4.5
RES Resolute Bay 54.78 343 P **P 13 17 08.5 +0.2**
RES pmax pmax
comp=Z,4.0nm,1.2s
RES Resolute Bay 54.78 343 P **P 13 17 08.5 +0.2**
TIXI Tiksi 55.77 21 LR LR 13 45 20.1
comp=Z,169nm,18.3s,baz=343,slow=40
TIXI Tiksi 55.77 21⇓ *eP* **P 13 17 14.3 -1.2**
TIXI pmax pmax
comp=Z,2.0nm,1.3s
SONM Songino Array 58.71 52 P **P 13 17 36.6 -0.2**
comp=Z,0.3nm,0.6s,baz=298,slow=9.2,SNR=4.3
SONM LR LR 13 44 27.4
comp=Z,158nm,19.3s,baz=320,slow=38
SONM Songino Array 58.71 52 P **P 13 17 36.0 -0.8**
GTA Gaotai 59.02 63 *eP* **P 13 17 41.4 +2.3**
GTA sP sP 13 17 54.4 +7.1
GTA pmax pmax
comp=Z,2.0nm,1.2s
YAK Yakutsk 61.76 30 LR LR 13 47 47.6
comp=Z,201nm,19.3s,baz=273,slow=39
A36M Sachs Harbour 62.57 348 P **P 13 18 02.6 +0.1**
A36M IAmb IAmb 13 18 03.1
comp=Z,5.4nm,0.8s
C36M Paulatuk 64.69 346 P **P 13 18 16.3 -0.3**
HHC Hu-ho-hao-te 65.66 56 *eP* **P 13 18 22.9 -0.6**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,160nm,6.0s
BILL Bilibino 66.74 13 *i* P **P 13 18 27.5 -2.3**
BILL *i* 13 18 56.3
BILL pmax pmax
comp=Z,4.0nm,1.4s
INK Inuvik 67.12 349 P **P 13 18 31.2 -1.0**
comp=Z,0.7nm,0.7s,baz=19,slow=9.0,SNR=3.9
PZH PanZhiHua 67.77 74 P **P 13 18 38.6 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,4.7s
YKA Yellowknife Ar 68.41 339 P **P 13 18 39.6 -0.8**
comp=Z,1.6nm,0.7s,baz=38,slow=5.8,SNR=22
YKA Yellowknife Ar 68.41 339 *ceP* **P 13 18 39.5 -0.9**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 68.41 339 P **P 13 18 40.3 -0.1**
CHTO Chiang Mai 70.56 82 P **P 13 18 53.5 -0.9**
CHTO pmax pmax
comp=Z,12nm,1.1s
CHTO Chiang Mai 70.56 82 P **P 13 18 53.5 -0.9**
CMAR Chiang Mai Arr 70.79 82 P **P 13 18 54.8 -1.0**
comp=Z,2.8nm,0.9s,baz=307,slow=7.6,SNR=22
CMAR Chiang Mai Arr 70.79 82 P **P 13 18 55.0 -0.8**
ULM Lac du Bonnet 70.98 322 P **P 13 18 55.7 -0.8**
comp=Z,2.8nm,0.6s,baz=29,slow=5.8,SNR=4.3
KLR Kul'dur 71.21 40⇓ *eP* **P 13 18 57.1 -0.8**
KLR pmax pmax
comp=Z,2.0nm,1.0s
H21K Melozitna Rive 71.55 356 P **P 13 19 00.5 +0.8**
MDM Murphy Dome 71.95 354 P **P 13 19 02.8 +0.6**
MDM IAmb IAmb 13 19 03.2
comp=Z,6.9nm,1.0s
ILAR Eielson Array 72.03 353 P **P 13 19 01.8 -0.8**
comp=Z,0.9nm,0.8s,baz=14,slow=4.9,SNR=8.5
USRK Ussuriysk Ar. 74.89 43 LR LR 13 55 33.2
comp=Z,140nm,19.5s,baz=318,slow=38
E28A Huff 75.86 322 P **P 13 19 25.9 +0.6**
KSRS Korea Array 77.51 50 LR LR 13 56 53.1
comp=Z,69nm,18.1s,baz=345,slow=38
YSS Yuzh-Sakhalins 77.82 35 *eP* P 13 19 42.0 +5.7
YSS pmax pmax
comp=Z,10.0nm,1.2s
PETK Petropavlovsk- 78.11 24 LR LR 13 59 11.7
comp=Z,145nm,18.4s,baz=331,slow=40
LAO LASA Array 78.21 325 P **P 13 19 39.8 +1.2**
EGMT Eagleton 78.59 327 P **P 13 19 40.8 +0.1**
EGMT IAmb IAmb 13 19 41.7
comp=Z,8.3nm,0.8s
ASAJ Asahikawa 79.98 37 LR LR 13 58 17.9
comp=Z,85nm,18.3s,baz=81,slow=38
JNU Nakatsue 82.29 52 LR LR 13 58 07.7
comp=Z,79nm,18.2s,baz=274,slow=37
SHEM Shemya Is, Ala 82.43 15 LR LR 14 03 10.5
comp=Z,43nm,18.1s,baz=1.0,slow=40
PD31 Pinedale Array 82.77 324 P **P 13 20 02.8 -0.6**
PD31 IAmb IAmb 13 20 09.7
comp=Z,3.5nm,1.1s
PDAR Pinedale Array 82.77 324 P **P 13 20 02.3 -1.1**
comp=Z,1.6nm,0.9s,baz=64,slow=4.9,SNR=12
PDAR Pinedale Array 82.77 324 P **P 13 20 02.8 -0.6**
ISCO Idaho Springs 83.37 320 P **P 13 20 06.4 -0.3**
ISCO pmax pmax
comp=Z,7.0nm,1.3s
ISCO Idaho Springs 83.37 320 P **P 13 20 06.4 -0.3**
ISCO IAmb IAmb 13 20 08.1
comp=Z,6.6nm,1.3s
MJAR Matsushiro Arr 83.75 45 LR LR 14 00 48.4
comp=Z,102nm,18.8s,baz=348,slow=38
HWUT Hardware Ranch 84.58 325 P **P 13 20 12.3 -0.4**
HWUT IAmb IAmb 13 20 13.4
comp=Z,7.1nm,1.1s
TX31 Lajitas Ar. Si 90.60 312 P **P 13 20 41.3 -0.5**
TXAR Lajitas Array 90.60 312 P **P 13 20 41.6 -0.2**
comp=Z,2.0nm,1.0s,baz=56,slow=3.2,SNR=15
ASAR Alice Springs 124.06 92 PKP **PKPdf 13 26 35.9 -1.8**
comp=Z,0.7nm,1.0s,baz=326,slow=1.4,SNR=4.7
ASAR Alice Springs 124.06 92 PKIKP **PKPdf 13 26 36.1 -1.6**
ASAR Alice Springs 124.06 92 **PKPdf 13 26 36.1 -1.6**

*IDC **08** 13:08:16.3±1.4, 9.°49S×112.°80E, h0km, mb4.0/9, mb1 4.0/10, mb1mx3.7/38, mbtmp3.9/10, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/71, Error ellipse: s-maj=65.3km s-min=17.6km az=48.0*
*NEIC **08** 13:08:22.2±2.1, 9.°59S±0.°10×112.°88E±0.°05, h45km±9km, mb4.1/18, Error ellipse: s-maj=14.7km s-min=6.5km az=161.0*
*DJA **08** 13:08:22.8±0.5, 10.°5S±4.°×11.°3E±.°, h10km, M4.2/14, mb4.5/3, mB5.2/1, MLv4.1/14, Mw(mB)4.5/1*
ISC 08 13:08:21.0±0.6, **9.°65S**±0.°07×**112.°82E**±0.°06, **h36**km, **n51**, σ1**85**/52, **mb4.0**/15, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.50**	**24**	P	**Pn**	**13 08 46.7**	**+1.3**
GMJI				S	**Sn**	**13 09 00.1**	**-3.6**
JAGI	**Jajag, Banyuwa**	**1.76**	**48**	P	**Pn**	**13 08 49.6**	**+0.6**
JAGI				S	**Sn**	**13 09 12.6**	**+2.4**
JAGI	**Jajag, Banyuwa**	**1.76**	**48**		**Pn**	**13 08 49.4**	**+0.4**
BLJI	**Banyuglugur**	**2.04**	**22**	P	**Pn**	**13 08 55.0**	**+2.2**
PCJI	**Pacitan**	**2.18**	**312**	P	**Pn**	**13 08 56.6**	**+1.9**
PCJI				S	**Sn**	**13 09 22.2**	**+1.8**
ABJI	**Asem Bagus**	**2.31**	**37**	P	**Pn**	**13 08 59.6**	**+3.0**
IGBI	**Denpasar**	**2.44**	**70**	P	**Pn**	**13 09 01.0**	**+2.7**
DNP	**Denpasar**	**2.55**	**68**	P	**Pn**	**13 09 03.4**	**+3.6**
KMMI	**Kalanget**	**2.82**	**24**	P	**Pn**	**13 09 07.1**	**+3.5**
SRBI	**Singaraja**	**2.83**	**57**	P	**Pn**	**13 09 05.3**	**+1.6**
UGM	**Wanagama**	**2.85**	**307**	P	Pn	13 09 10.2	+6.1
UGM	**Wanagama**	**2.85**	**307**		**Pn**	**13 09 06.1**	**+2.0**
BWJI	**Bawean**	**3.78**	**358**	P	**Pn**	**13 09 19.7**	**+2.9**
BBKI	**Banjar Baru**	**6.47**	**18**	P	**Pn**	**13 09 58.0**	**+4.3**
	0.2nm2μm22nm,0.5s						
KAPI	**Kappang**	**8.27**	**57**	LR	LR	13 13 38.9	
	comp=Z,62nm,18.4s,baz=264,slow=39						
BSSI	**Bau Bau, Buton**	**8.36**	**66**	P	**Pn**	**13 10 20.8**	**+1.1**
GIRL	**Giralia**	**12.99**	**174**	Pn	**Pn**	**13 11 22.1**	**-1.1**
PSA00	**Pilbara Seismi**	**13.64**	**151**	Pn	**Pn**	**13 11 29.9**	**-2.2**
FITZ	**Fitzroy Crossi**	**15.00**	**125**	Pn	**Pn**	**13 11 49.6**	**-0.9**
	0.2nm,0.3s,baz=307,slow=12,SNR=7.9						
FITZ				Sn	Sn	13 14 23.8	-12
	0.3nm,0.3s,baz=192,slow=20,SNR=3.0						
KNRA	**Kununurra**	**16.66**	**113**	Pn	**Pn**	**13 12 11.7**	**-0.2**
KNRA				IAmb	IAmb	13 12 30.5	
	comp=Z,11nm,1.0s						
MTN	**Manton Dam**	**18.23**	**102**	P	**Pn**	**13 12 32.6**	**+1.2**
MTN				IAmb	IAmb	13 12 59.4	
	comp=Z,3.9nm,0.7s						
FAKI	**Fak Fak**	**20.42**	**72**	P	**P**	**13 12 53.4**	**-1.9**
FAKI				IAmb	IAmb	13 13 00.1	
	comp=Z,6.1nm,0.7s						
WB0	**Warramunga Arr**	**23.13**	**118**	P	**P**	**13 13 23.5**	**-0.8**
WRA	**Warramunga Arr**	**23.15**	**119**	P	**P**	**13 13 25.8**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=291,slow=11,SNR=14						
WRA				S	**S**	**13 17 37.3**	**+3.6**
	comp=Z,0.2nm,0.7s,baz=295,slow=25,SNR=2.0						
WRA	**Warramunga Arr**	**23.15**	**119**	P	**P**	**13 13 23.5**	**-1.0**
WRAB	**Tennant Creek**	**23.16**	**119**	P	**P**	**13 13 26.4**	**+1.9**
WRAB				IAmb	IAmb	13 13 40.2	
	comp=Z,6.6nm,1.4s						
WB2	**Warramunga Arr**	**23.16**	**119**	P	**P**	**13 13 26.4**	**+1.8**
WB2				IAmb	IAmb	13 13 36.3	
	comp=Z,3.2nm,1.1s						
WR0	**Warramunga Arr**	**23.33**	**119**	P	**P**	**13 13 27.1**	**+0.8**
ASAR	**Alice Springs**	**24.49**	**127**	P	**P**	**13 13 38.8**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=304,slow=8.6,SNR=29						
ASAR	**Alice Springs**	**24.49**	**127**	P	**P**	**13 13 39.6**	**+2.6**
AS31	**Alice Springs**	**24.49**	**127**	P	**P**	**13 13 38.8**	**+1.7**
COEN	**Coen**	**30.00**	**101**	P	**P**	**13 14 27.3**	**+0.7**
COEN				IAmb	IAmb	13 14 31.3	
	comp=Z,5.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**31.11**	**334**	P	**P**	**13 14 36.3**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=170,slow=8.0,SNR=7.4						
SHL	**Shillong**	**40.51**	**330**	P	**P**	**13 15 56.2**	**-0.8**
SHL				IAmb	IAmb	13 15 57.0	
	comp=Z,6.8nm,1.0s						
KSRS	**Korea Array**	**48.95**	**16**	P	**P**	**13 17 02.9**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=210,slow=7.0,SNR=3.0						
SONM	**Songino Array**	**57.52**	**355**	P	**P**	**13 18 06.3**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=174,slow=8.1,SNR=16						
SONM	**Songino Array**	**57.52**	**355**	P	**P**	**13 18 06.8**	**0.0**
SONM				IAmb	IAmb	13 18 07.3	
	comp=Z,2.5nm,0.7s						
BOOM	**Boomskoye usch**	**61.88**	**330**	P	**P**	**13 18 36.2**	**-0.9**
MK31	**Makanchi Array**	**62.45**	**337**	P	**P**	**13 18 40.1**	**-0.5**
MK31				IAmb	IAmb	13 18 40.7	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array**	**62.45**	**337**	P	**P**	**13 18 40.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=149,slow=7.4,SNR=18						
MKAR	**Makanchi Array**	**62.45**	**337**	P	**P**	**13 18 39.7**	**-0.9**
ZAA0	**Zalesovo Array**	**67.65**	**343**	P	**P**	**13 19 13.3**	**-0.8**
ZAA0				IAmb	IAmb	13 19 14.2	
	comp=Z,2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**67.65**	**343**	P	**P**	**13 19 13.5**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=164,slow=4.7,SNR=9.4						
ZALV	**Zalesovo Beam**	**67.65**	**343**	P	**P**	**13 19 12.8**	**-1.4**
YAK	**Yakutsk**	**72.66**	**8**	P	**P**	**13 19 43.9**	**-0.8**
ABKAR	**Akbulak array**	**74.69**	**327**	P	**P**	**13 19 56.5**	**-0.3**
ABKAR	**Akbulak array**	**74.69**	**327**	P	**P**	**13 19 57.0**	**+0.1**
AKTO	**Aktyubinsk**	**76.39**	**327**	P	**P**	**13 20 06.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=90,slow=7.1,SNR=4.9						
MATP	**Matopo**	**81.42**	**251**	LR	LR	13 50 02.2	
	comp=Z,166nm,21.1s,baz=245,slow=31						
TIXI	**Tiksi**	**81.83**	**5**	P	**P**	**13 20 34.5**	**-1.3**
BRTR	**Keskin Array B**	**87.90**	**311**	P	**P**	**13 21 07.6**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=104,slow=6.1,SNR=2.2						

*JMA **08** 13:17:25.4±0.1, 23.°75N×121.°65E, h32km±3km, M2.9*
*TAP **08** 13:17:26.4, 23.°79N×121.°63E, h34km, ML3.5, C*
ISC 08 13:17:26.4±0.9, **23.°77N**±0.°02×**121.°63E**±0.°02, **h33**km±2km, **n113**, σ0**°70**/186, **1C-21D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.10**	**345**	P	**Pb**	**13 17 32.8**	**+0.6**
	baz=349						
TEYL				*eS*	**Sb**	**13 17 37.5**	**+1.3**
	baz=349						
TEGC	**Jichi Village**	**0.10**	**231**	*eP*	**Pb**	**13 17 32.5**	**+0.2**
	baz=222						
TEGC				S	**Sb**	**13 17 37.6**	**+1.5**
	baz=222						
ESL	**Shilin**	**0.18**	**283**	⇓ *iP*	**Pb**	**13 17 32.8**	**-0.1**
	baz=277						
ESL				*eS*	**Sb**	**13 17 37.6**	**+0.3**
	baz=277						
HWA	**Hwalien**	**0.20**	**355**	*eP*	**Pb**	**13 17 33.3**	**+0.2**
	baz=2.0						
HWA				S	**Sb**	**13 17 38.1**	**+0.5**
	baz=2.0						
EGFH	**Guangfu**	**0.21**	**240**	⇓ *iP*	**Pb**	**13 17 33.2**	**0.0**
	baz=247						
EGFH				*eS*	**Sb**	**13 17 37.9**	**+0.2**
	baz=247						
ETM	**Tongmen**	**0.23**	**328**	⇓ *iP*	**Pn**	**13 17 33.3**	**+0.3**
	baz=314						
ETM				*eS*	**Sb**	**13 17 38.1**	**0.0**
	baz=314						
TWD	**Chiawan**	**0.31**	**355**	⇑ *iP*	**Pb**	**13 17 34.1**	**-0.2**
	baz=360						
TWD				*eS*	**Sb**	**13 17 39.9**	**+0.3**
	baz=360						
HGSD	**Ruisui**	**0.34**	**214**	P	**Pn**	**13 17 35.3**	**+0.3**
	baz=225						
HGSD				*eS*	**Sb**	**13 17 42.3**	**+2.1**
	baz=225						
EHY	**Hungye**	**0.39**	**226**	*i* P	**Pb**	**13 17 34.8**	**-0.6**
	baz=231						
ETL	**Fush Village**	**0.39**	**360**	P	**Pb**	**13 17 35.1**	**-0.3**
	baz=2.0						
ETL				*eS*	**Sn**	**13 17 41.6**	**-0.2**
	baz=2.0						
NACB	**Ninganchiao**	**0.40**	**356**	⇓ *iP*	**Pb**	**13 17 35.1**	**-0.5**
	baz=348						
NACB				*eS*	**Sb**	**13 17 41.9**	**+0.1**
	baz=348						
VWDT	**VWDT**	**0.45**	**268**	⇓ *iP*	**Pb**	**13 17 36.4**	**+0.2**
	baz=266						
VWDT				S	**Sb**	**13 17 42.9**	**0.0**
	baz=266						
OWD	**Renai**	**0.45**	**294**	⇓ *iP*	**Pb**	**13 17 36.2**	**-0.2**
	baz=298						
OWD				*eS*	**Sb**	**13 17 42.8**	**-0.5**
	baz=298						
ETLH	**Xiulin Townshi**	**0.45**	**343**	⇓ *iP*	**Pb**	**13 17 35.8**	**-0.6**
	baz=331						
ETLH				*eS*	**Sb**	**13 17 42.2**	**-1.1**
	baz=331						
ECBN	**Changbin**	**0.48**	**200**	*eP*	**Pb**	**13 17 37.0**	**+0.2**
	baz=206						
ECBN				*eS*	**Sn**	**13 17 45.2**	**+1.0**
	baz=206						
YULB	**Yu-li**	**0.48**	**219**	⇓ *iP*	**Pb**	**13 17 36.1**	**-0.7**
	baz=228						
YULB				S	**Sb**	**13 17 42.8**	**-1.1**
	baz=228						
WHF	**Hehuan Shan**	**0.50**	**318**	⇓ *iP*	**Pb**	**13 17 36.7**	**-0.6**
	baz=317						
WHF				*eS*	**Sb**	**13 17 43.5**	**-1.4**
	baz=317						
CHGB	**Renai**	**0.50**	**305**	⇓ *iP*	**Pb**	**13 17 37.1**	**-0.2**
	baz=309						
CHGB				S	**Sb**	**13 17 44.3**	**-0.5**
	baz=309						
EYUL	**Yuli**	**0.51**	**214**	*eP*	**Pn**	**13 17 36.7**	**-0.6**
	baz=225						
EYUL				*eS*	**Sb**	**13 17 43.8**	**-0.8**
	baz=225						
TWF1	**Yuli**	**0.52**	**216**	⇓ *iP*	**Pn**	**13 17 36.6**	**-0.8**
	baz=224						
TWF1				*eS*	**Sb**	**13 17 44.0**	**-0.8**
	baz=224						
EHP	**Heping Village**	**0.55**	**11**	*eP*	**Pb**	**13 17 38.3**	**+0.5**
	baz=20						
FUSS	**Fushou**	**0.59**	**324**	⇓ P	**Pn**	**13 17 38.3**	**-0.3**
	baz=321						
FUSS				*eS*	**Sn**	**13 17 46.4**	**-0.9**
	baz=321						
SSLB	**Suanglung**	**0.62**	**272**	⇓ *iP*	**Pn**	**13 17 38.4**	**-0.5**
	baz=270						
SSLB				*eS*	**Sn**	**13 17 47.6**	**0.0**
	baz=270						
TDCB	**Techi**	**0.64**	**318**	⇓ *iP*	**Pn**	**13 17 39.2**	**-0.1**
	baz=312						
TDCB				*eS*	**Sn**	**13 17 47.5**	**-1.0**
	baz=312						
FULB	**Fuli**	**0.65**	**208**	*eP*	**Pn**	**13 17 39.1**	**-0.2**
	baz=220						
FULB				*eS*	**Sn**	**13 17 48.5**	**+0.1**
	baz=220						
WPL	**Puli Township**	**0.66**	**291**	*eP*	**Pn**	**13 17 39.3**	**-0.1**
	baz=289						
WPL				*eS*	**Sn**	**13 17 48.0**	**-0.6**
	baz=289						
ENA	**Nanau**	**0.66**	**9**	P	**Pn**	**13 17 39.0**	**-0.4**
	baz=20						
ENA				*eS*	**Sn**	**13 17 48.1**	**-0.6**
	baz=20						
SMLT	**Sun Moon Lake**	**0.67**	**280**	⇓ *iP*	**Pn**	**13 17 39.6**	**-0.1**
	baz=280						
SMLT				*eS*	**Sn**	**13 17 49.0**	**-0.2**
	baz=280						
YUS	**Yu-Shan**	**0.68**	**246**	P	**Pn**	**13 17 40.0**	**-0.1**
	baz=238						
EWUT	**Wuta**	**0.68**	**12**	*eP*	**Pn**	**13 17 39.5**	**-0.3**
	baz=22						
EWUT				*eS*	**Sn**	**13 17 49.0**	**-0.3**
	baz=22						
NNSB	**Datong**	**0.69**	**341**	P	**Pn**	**13 17 39.4**	**-0.5**
	baz=340						
NNSB				S	**Sn**	**13 17 48.3**	**-1.3**
	baz=340						
DPDB	**Guoxing**	**0.69**	**292**	⇓ *iP*	**Pn**	**13 17 40.0**	**+0.1**
	baz=290						
DPDB				*eS*	**Sn**	**13 17 49.2**	**-0.3**
	baz=290						
CHKT	**Chengkung**	**0.71**	**200**	*i* P	**Pn**	**13 17 40.1**	**0.0**
	baz=185						
CHKT				*eS*	**Sn**	**13 17 50.1**	**+0.1**
	baz=185						
WCS	**Beigang Elemen**	**0.71**	**294**	⇓ *iP*	**Pn**	**13 17 40.1**	**0.0**
	baz=289						
WCS				S	**Sn**	**13 17 50.3**	**+0.3**
	baz=289						
TYC	**Yuchr**	**0.72**	**281**	⇓ *iP*	**Pn**	**13 17 40.1**	**-0.1**
	baz=283						
TYC				*eS*	**Sn**	**13 17 49.7**	**-0.3**
	baz=283						
ECS	**Chishang**	**0.77**	**209**	*eP*	**Pn**	**13 17 40.3**	**-0.7**
	baz=220						
ECS				*eS*	**Sn**	**13 17 51.8**	**+0.3**
	baz=220						
ALS	**Alishan**	**0.80**	**251**	P	**Pn**	**13 17 41.4**	**-0.2**
	baz=250						
ALS				*eS*	**Sn**	**13 17 52.3**	**-0.2**
	baz=250						
WHP	**Taichung City**	**0.80**	**309**	*eP*	**Pn**	**13 17 41.6**	**+0.2**
	baz=305						
WHP				*eS*	**Sn**	**13 17 52.3**	**0.0**
	baz=305						
ELDTW	**Lidau**	**0.81**	**224**	*eP*	**Pn**	**13 17 40.6**	**-0.9**
	baz=216						
WJS	**Zhushan**	**0.82**	**274**	*eP*	**Pb**	**13 17 42.6**	**+0.2**
	baz=272						
WJS				*eS*	**Sb**	**13 17 54.3**	**+1.1**
	baz=272						
NDT	**Datong Townshi**	**0.83**	**353**	*eP*	**Pn**	**13 17 41.6**	**-0.3**
	baz=352						
EDH	**Donghe**	**0.85**	**200**	*eP*	**Pn**	**13 17 41.6**	**-0.5**

	baz=187							
EDH				*e*S	**Sn**	**13 17 53.6**	**+0.2**
	baz=187							
NDS	**Dongshan**	**0.86**	**5**	*e*P	**Pn**	**13 17 42.3**	**+0.1**
	baz=353							
NDS				*e*S	**Sn**	**13 17 53.5**	**-0.2**
	baz=353							
ENTT	**Nioudou**	**0.86**	**356**	*e*P	**Pn**	**13 17 42.1**	**-0.2**
	baz=347							
ENTT				*e*S	**Sn**	**13 17 53.3**	**-0.5**
	baz=347							
WNT	**Mingjian**	**0.87**	**277**	⇓P	**Pb**	**13 17 43.4**	**+0.3**
	baz=275							
WNT				*e*S	**Sb**	**13 17 55.5**	**+1.0**
	baz=275							
WNT1	**Nantou City**	**0.88**	**279**	*e*P	**Pn**	**13 17 42.6**	**+0.2**
	baz=277							
WNT1				*e*S	**Sn**	**13 17 54.7**	**+0.7**
	baz=277							
CHN5	**Tsauling**	**0.89**	**259**	⇓*i*P	**Pb**	**13 17 43.5**	**0.0**
	baz=258							
CHN5				*e*S	**Sb**	**13 17 55.9**	**+0.8**
	baz=258							
WWF	**Wufeng**	**0.89**	**288**	*e*P	**Pb**	**13 17 43.8**	**+0.3**
	baz=287							
YHNB	**Yeheng**	**0.92**	**346**	*i*P	**Pn**	**13 17 43.2**	**0.0**
	baz=343							
YHNB				*e*S	**Sn**	**13 17 54.0**	**-1.2**
	baz=343							
NSK	**Sanguang**	**0.93**	**345**	⇓P	**Pn**	**13 17 43.3**	**0.0**
	baz=342							
NSK				*e*S	**Sn**	**13 17 54.7**	**-0.8**
	baz=342							
TWE	**Neicheng**	**0.94**	**2**	*e*P	**Pn**	**13 17 43.3**	**-0.1**
	baz=353							
TWE				*e*S	**Sn**	**13 17 55.3**	**-0.4**
	baz=353							
TCU	**Taichung**	**0.95**	**293**	*e*P	**Pb**	**13 17 44.6**	**+0.2**
	baz=292							
TCU				*e*S	**Sb**	**13 17 58.5**	**+1.8**
	baz=292							
LONT	**Longtian**	**0.97**	**208**	*e*P	**Pn**	**13 17 42.7**	**-1.1**
	baz=206							
LONT				*e*S	**Sn**	**13 17 55.1**	**-1.4**
	baz=206							
STYH	**Taoyuan**	**0.98**	**233**	*e*P	**Pn**	**13 17 44.2**	**+0.3**
	baz=226							
STYH				*e*S	**Sn**	**13 17 57.0**	**+0.3**
	baz=226							
WDLH	**Douliu**	**1.00**	**265**	*e*P	**Pb**	**13 17 45.0**	**-0.2**
	baz=264							
WDLH				*e*S	**Sb**	**13 17 58.9**	**+0.7**
	baz=264							
NWLT	**Wulai**	**1.01**	**354**	*e*P	**Pn**	**13 17 44.1**	**-0.2**
	baz=343							
NWLT				*e*S	**Sn**	**13 17 56.8**	**-0.5**
	baz=343							
WCHH	**Zhanghua**	**1.02**	**288**	*e*P	**Pn**	**13 17 45.1**	**+0.7**
	baz=285							
WCHH				*e*S	**Sb**	**13 17 59.9**	**+1.1**
	baz=285							
NSTT	**Nanjuang**	**1.03**	**326**	*e*P	**Pb**	**13 17 45.6**	**-0.1**
	baz=324							
NSTT				*e*S	**Sn**	**13 17 57.9**	**+0.1**
	baz=324							
TPUB	**Ta-pu**	**1.03**	**243**	P	**Pn**	**13 17 45.4**	**+0.8**
	baz=243							
TPUB				*e*S	**Sb**	**13 17 59.3**	**+0.3**
	baz=243							
LIOB	**Emei**	**1.03**	**327**	*e*P	**Pb**	**13 17 45.8**	**-0.1**
	baz=325							
LIOB				*e*S	**Sb**	**13 17 59.1**	**0.0**
	baz=325							
WTP	**Ta-pu**	**1.07**	**241**	P	**Pb**	**13 17 46.1**	**-0.4**
	baz=241							
WDJ	**Dajia District**	**1.07**	**303**	*e*P	**Pb**	**13 17 46.2**	**-0.3**
	baz=301							
WDJ				*e*S	**Sb**	**13 18 00.5**	**+0.3**
	baz=301							
TWGBT	**Beinan**	**1.07**	**208**	P	**Pn**	**13 17 43.6**	**-1.5**
	baz=196							
NMLH	**Miaoli**	**1.08**	**315**	*e*P	**Pn**	**13 17 45.7**	**+0.4**
	baz=313							
NMLH				*e*S	**Sb**	**13 18 00.3**	**-0.1**
	baz=313							
NTC	**Toucheng**	**1.09**	**10**	*e*P	**Pb**	**13 17 47.6**	**+0.7**
	baz=357							
NTC				*e*S	**Sb**	**13 18 00.3**	**-0.5**
	baz=357							
CHY	**Chiayi**	**1.14**	**256**	*e*P	**Pb**	**13 17 47.1**	**-0.5**
	baz=256							
CHY				*e*S	**Sb**	**13 18 03.5**	**+1.4**
	baz=256							
WTK	**Tuku**	**1.14**	**266**	*e*P	**Pb**	**13 17 47.3**	**-0.3**
	baz=265							
WRL	**Guolierlin Hig**	**1.15**	**277**	*e*P	**Pn**	**13 17 47.2**	**+1.0**
	baz=275							
WRL				*e*S	**Sb**	**13 18 02.9**	**+0.4**
	baz=275							
TWK	**Hsinying**	**1.16**	**244**	*e*P	**Pn**	**13 17 47.4**	**+1.0**
	baz=244							
CHN1	**Nanshi**	**1.17**	**240**	*e*P	**Pb**	**13 17 47.6**	**-0.5**
	baz=241							
CHN1				*e*S	**Sb**	**13 18 03.4**	**+0.4**
	baz=241							
SBCB	**Hsinchu**	**1.17**	**330**	*e*P	**Pb**	**13 17 49.7**	**+1.6**
	baz=328							
SNST	**Tainan City**	**1.17**	**242**	*e*P	**Pb**	**13 17 48.2**	**0.0**
	baz=243							
SNST				*e*S	**Sb**	**13 18 03.2**	**0.0**
	baz=243							
SGST	**Jiashian**	**1.18**	**235**	*e*P	**Pn**	**13 17 47.1**	**+0.5**
	baz=228							
SGST				*e*S	**Sb**	**13 18 03.8**	**+0.5**
	baz=228							
SLGT	**Liugui**	**1.19**	**229**	*e*P	**Pb**	**13 17 48.6**	**+0.1**
	baz=240							
NHDH	**Xindian Distri**	**1.19**	**356**	*e*P	**Pn**	**13 17 47.7**	**+0.9**
	baz=352							
NHDH				*e*S	**Sn**	**13 18 02.2**	**+0.5**
	baz=352							
TWA	**Mucha**	**1.20**	**358**	*e*P	**Pb**	**13 17 48.2**	**-0.6**
	baz=356							
TIPB	**Shuangxi**	**1.21**	**9**	*e*P	**Pb**	**13 17 48.4**	**-0.4**
	baz=353							
WTCT	**Ta-ch'eng**	**1.23**	**274**	*e*P	**Pb**	**13 17 48.7**	**-0.6**
	baz=274							
NCUH	**Zhongli**	**1.26**	**341**	*e*P	**Pb**	**13 17 49.4**	**-0.2**
	baz=338							
TWB1	**Santiao Chiao**	**1.27**	**15**	*e*P	**Pn**	**13 17 48.9**	**+1.0**
	baz=16							
WSF	**Szhu**	**1.29**	**264**	*e*P	**Pb**	**13 17 49.8**	**-0.4**
	baz=264							
NWF	**Wu-fen Shan**	**1.30**	**6**	*e*P	**Pn**	**13 17 49.1**	**+0.7**
	baz=352							
ICHU	**Yijhu**	**1.30**	**252**	*e*P	**Pn**	**13 17 49.4**	**+1.1**
	baz=252							
ICHU				*e*S	**Sb**	**13 18 07.1**	**+0.4**
	baz=252							
ECL	**Taimali**	**1.32**	**208**	*e*P	**Pn**	**13 17 46.9**	**-1.6**
	baz=198							
TWS1	**Kuangyinshan**	**1.34**	**352**	*e*P	**Pb**	**13 17 50.1**	**-0.8**
	baz=359							
TWS1				*e*S	**Sb**	**13 18 07.3**	**-0.4**
	baz=359							
CHN3	**Shinhua**	**1.35**	**239**	*e*P	**Pb**	**13 17 50.5**	**-0.7**
	baz=240							
YM01	**YM01**	**1.37**	**358**	*e*P	**Pb**	**13 17 50.9**	**-0.6**
	baz=355							
SSD	**Sandimen**	**1.37**	**222**	*e*P	**Pn**	**13 17 49.7**	**+0.4**
	baz=223							
JYNG	**Yonagunijimaku**	**1.38**	**60**	P	**Pn**	**13 17 49.9**	**+0.5**
JYNG				*e*S	**Sn**	**13 18 06.7**	**+0.2**
TSMG	**Majia**	**1.39**	**221**	*e*P	**Pn**	**13 17 50.1**	**+0.5**
	baz=222							
ANP	**Anpu**	**1.41**	**356**	*e*P	**Pn**	**13 17 50.9**	**+1.0**
	baz=353							
YOJ	**Yonaguni jima**	**1.44**	**61**	P	**Pn**	**13 17 51.0**	**+0.8**
YOJ				*e*S	**Sn**	**13 18 07.8**	**-0.1**
TWM1	**Shoushan**	**1.46**	**230**	*e*P	**Pb**	**13 17 52.9**	**-0.1**
	baz=231							
MASBT	**Mashibuluo**	**1.47**	**219**	*e*P	**Pn**	**13 17 50.7**	**+0.1**
	baz=220							
EAST	**Anshuo**	**1.56**	**208**	*e*P	**Pb**	**13 17 54.4**	**-0.3**
	baz=199							
SSPT	**Xinbi**	**1.61**	**217**	*e*P	**Pn**	**13 17 53.4**	**+0.9**
	baz=220							
SCZT	**Fangliau**	**1.67**	**214**	*e*P	**Pn**	**13 17 54.6**	**+1.2**
	baz=215							
SLIU	**Shizi**	**1.73**	**206**	*e*P	**Pn**	**13 17 55.6**	**+1.5**
	baz=197							
LYUB	**Lan-yu**	**1.76**	**181**	*e*P	**Pn**	**13 17 51.3**	**-3.4**
	baz=181							
PHUB	**P'eng-hu**	**1.90**	**263**	*e*P	**Pn**	**13 17 56.8**	**+0.3**
	baz=250							
PNG	**Penghu**	**1.91**	**264**	*e*P	**Pn**	**13 17 56.3**	**-0.3**
	baz=264							
IRIF	**Iriomote-Funau**	**2.00**	**73**	P	**Pn**	**13 17 58.5**	**+0.6**
IRIF				*e*S	**Sn**	**13 18 22.3**	**+0.5**
HATJ	**Hateruma jima**	**2.01**	**81**	P	**Pn**	**13 17 58.5**	**+0.4**
HATJ				*e*S	**Sn**	**13 18 22.1**	**0.0**
VCHM	**Qimei**	**2.09**	**255**	*e*P	**Pn**	**13 17 58.9**	**-0.3**
	baz=255							
JKRS	**Kuro-shima**	**2.23**	**78**	P	**Pn**	**13 18 02.0**	**+1.0**
JKRS				*e*S	**Sn**	**13 18 27.9**	**+0.5**
JIJ	**Ishigaki jima**	**2.37**	**75**	P	**Pn**	**13 18 03.1**	**+0.1**
JIJ				*e*S	**Sn**	**13 18 30.2**	**-0.8**
JISG	**Ishigakijimahi**	**2.58**	**71**	P	**Pn**	**13 18 06.1**	**+0.2**
JISG				*e*S	**Sn**	**13 18 35.0**	**-1.1**
JTJ	**Tarama**	**2.94**	**72**	P	**Pn**	**13 18 11.6**	**+0.8**
JTJ				*e*S	**Sn**	**13 18 44.7**	**-0.2**
KNMB	**Chin-men Tao**	**3.04**	**284**	*e*P	**Pn**	**13 18 11.5**	**-0.6**
	baz=283							
JIRB	**Irabujima**	**3.40**	**71**	*e*S	**Sn**	**13 18 56.0**	**-0.4**
XPSS	**Dashiqiu**	**3.40**	**338**	*e*P	**Pn**	**13 18 16.7**	**-0.4**
	baz=344							
JMJ2	**Miyako jima3**	**3.51**	**73**	*e*S	**Sn**	**13 18 59.7**	**+0.6**
AXDP	**Jialang**	**3.52**	**289**	*e*P	**Pn**	**13 18 18.9**	**+0.1**
	baz=288							

GCMT 08 13:29:06.0±0.3,**30°.17S**±0°.04×**13°.83W**±0°.03,**h19**km±1km,
MW5.0/84,**Moment Tensor Solution. s21,c21;**
s84,c111; Duration: 0 Moment tensor: Scale 10^{16}
Nm; M_{rr}-3.39±.25; $M_{\theta\theta}$0.73±.17; $M_{\phi\phi}$2.65±.17;
$M_{r\theta}$1.40±.43; $M_{\theta\phi}$-0.87±.10; $M_{\phi r}$1.15±.35; **Best double**
couple: $M_0$3.57100×10^{16} **NP1:**ϕ_s321.00000°,δ43.00000°,
λ-121.00000°. **NP2:**ϕ_s181.00000°,δ54.00000°,
λ-65.00000°. **Principal axes:** T 3.0480, Plg6.0000°,
Azm253.0000°; N 1.0400, Plg20.0000°, Azm345.0000°; P
-4.0950, Plg69.0000°, Azm147.0000°; **nsta1 refers to**
body waves, cutoff=40s. nsta2 refers to surface
waves, cutoff=50s. Surface-wave location Triangular
moment-rate function Southern Mid-Atlantic Ridge

*IDC **08** 13:36:28.8±0.8,36°.57N×98°.72W,h0km,mb3.4/2,*
mb1 3.9/11,mb1mx3.7/52,mbtmp3.7/11,ML3.7/7,MS3.5/6,
Ms1 3.6/6,ms1mx3.2/44 Error ellipse: s-maj=10.0km
s-min=9.1km az=170.0
*ANF **08** 13:36:29.6±0.2,36°.50N×98°.68W,h10km,ML5.1/16,Error*
ellipse: s-maj=2.8km s-min=2.2km az=13.0
*TUL **08** 13:36:29±1.5,36°.51N±0°.03×98°.72W±0°.01,h10km±5km,*
ML4.0,mb_Lg4.1/118(NEIC),Mwr3.8/22(NEIC),Error
ellipse: s-maj=3.7km s-min=1.2km az=181.0
*NEIC **08** 13:36:29,36°.51N×98°.72W,h6km,Moment Tensor*
Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.62;
$M_{\theta\theta}$7.09; $M_{\phi\phi}$-6.47; $M_{r\theta}$1.94; $M_{\theta\phi}$1.80; $M_{\phi r}$-0.70; Fault
plane solution: $M_0$7.33000×10^{14} NP1:ϕ_s127.73000°,
δ87.56000°,λ15.24000°. NP2:ϕ_s37.07000°,δ74.77000°,
λ177.47000°. Principal axes: T 7.7257, Plg12.0000°,
Azm353.0000°; N -0.8751, Plg75.0000°, Azm137.0000°;
P -6.8506, Plg9.0000°, Azm261.0000°;
*NEIC **08** 13:36:29.1±1.2,36°.51N±0°.02×98°.68W±0°.03,h4km±9km*
Error ellipse: s-maj=4.3km s-min=3.2km az=114.0
ISC 08 13:36:29.0±1.0,**36°.49N**±0°.03×**98°.63W**±0°.02,**h9**km±7km,
n187,σ0δ**99**/206,**MS3.8**/3,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.23**	**344**		**Pg**	**13 36 33.3**	**-0.4**
OK035				Sg	**Sg**	**13 36 36.8**	**-0.2**
U32A	**Winter Ranch,**	**0.32**	**251**	Pg	**Pg**	**13 36 34.6**	**-0.8**
U32A				Sg	**Sg**	**13 36 38.8**	**-0.8**
CROK	**Carrier**	**0.52**	**88**		**Pb**	**13 36 40.3**	**-0.1**
KAN14	**Manchester OK**	**0.71**	**49**		**Pg**	**13 36 43.2**	**+0.4**
KAN14				Sg	**Sb**	**13 36 53.5**	**-0.1**
GC02	**Grant County #**	**0.72**	**59**	Pg	**Pg**	**13 36 43.5**	**+0.5**
GC02				Sg	**Sb**	**13 36 54.0**	**+0.2**
KAN10	**Anthony SW Sta**	**0.77**	**34**		**Pg**	**13 36 44.1**	**+0.2**
KAN10				Sg	**Sg**	**13 36 54.4**	**+0.5**
KAN16	**Harper SW Stat**	**0.87**	**31**		**Pg**	**13 36 45.8**	**0.0**
KAN16				Sg	**Sg**	**13 36 57.2**	**+0.1**
KAN05	**Bluff City Nor**	**0.87**	**44**	Pg	**Pg**	**13 36 46.1**	**+0.3**
KAN05				Sg	**Sb**	**13 36 58.2**	**+0.1**
KAN08	**Anthony NE Sta**	**0.91**	**35**		**Pg**	**13 36 46.6**	**+0.1**
KAN08				Sg	**Sg**	**13 36 59.0**	**+0.6**
KAN12	**Harper NE Stat**	**0.96**	**32**		**Pg**	**13 36 47.3**	**-0.1**
KAN12					**Sg**	**13 37 00.4**	**+0.5**
KAN01	**Argonia South**	**0.97**	**46**		**Pg**	**13 36 47.8**	**+0.2**
KAN01				Sg	**Sg**	**13 37 00.9**	**+0.7**
KAN06	**Argonia West S**	**0.98**	**39**		**Pg**	**13 36 47.9**	**0.0**
KAN06				Sg	**Sg**	**13 37 00.6**	**-0.1**
KAN13	**South Haven SW**	**1.06**	**60**		**Pb**	**13 36 49.6**	**-0.1**
KAN13				Sg	**Sb**	**13 37 04.2**	**+0.5**
BCOK	**Bluff Creek, N**	**1.17**	**135**	Pn	**Pb**	**13 36 51.6**	**+0.2**
BCOK				Sg	**Sn**	**13 37 07.9**	**+0.2**
BLOK	**Blackwell**	**1.17**	**76**		**Pb**	**13 36 51.7**	**+0.2**
BLOK					**Sn**	**13 37 08.6**	**+0.8**
OK009	**Oakdale Elemen**	**1.33**	**132**	Pn	**Pb**	**13 36 54.4**	**+0.1**
OK025	**Westminster Rd**	**1.38**	**130**		**Pb**	**13 36 55.4**	**+0.3**
OK001	**Jones High Sch**	**1.43**	**130**	Pn	**Pn**	**13 36 55.4**	**+0.3**
OK005	**Luther M Schoo**	**1.43**	**125**	Pn	**Pb**	**13 36 56.6**	**+0.7**
OKCFA	**Oklahoma City**	**1.43**	**138**		**Pb**	**13 36 56.2**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**1.45**	**138**		**Pb**	**13 36 56.5**	**+0.3**
OK031	**S. Brethren Rd**	**1.54**	**110**		**Pb**	**13 36 57.9**	**+0.1**
FNO	**Franklin**	**1.58**	**140**		**Pb**	**13 36 58.7**	**+0.2**
QUOK	**Quay**	**1.58**	**101**		**Pb**	**13 36 58.7**	**+0.2**
WMOK	**Wichita Mounta**	**1.75**	**184**	Pn	**Pn**	**13 37 00.0**	**+0.4**
WMOK	**Wichita Mounta**	**1.75**	**184**	P	**Pn**	**13 36 60.0**	**+0.4**
	baz=1.6,SNR=341						
WMOK				S	**Sb**	**13 37 23.6**	**+0.2**
	baz=1.6						
T35A	**Sooner Cattle**	**1.76**	**75**	Pn	**Pb**	**13 37 01.2**	**-0.2**
T35A				IAmb_Lg		13 37 29.2	
	comp=Z,1μm,0.9s						
OK011	**Prague**	**1.87**	**122**	Pn	**Pb**	**13 37 03.2**	**-0.1**
R32A	**Long Quarter,**	**1.94**	**358**	Pn	**Pn**	**13 37 03.1**	**+0.9**
X34A	**Smith Ranch, M**	**1.99**	**161**		**Pb**	**13 37 05.0**	**-0.4**
TUL1	**Leonard**	**2.37**	**103**	Pn	**Pn**	**13 37 09.3**	**+1.3**
TUL1	**Leonard**	**2.37**	**103**	P	**Pn**	**13 37 09.5**	**+1.4**
	baz=285,SNR=50						
TUL1				S	**Sb**	**13 37 40.3**	**-0.9**
	baz=285						
CBKS	**Cedar Bluff**	**2.48**	**340**		**Pn**	**13 37 10.1**	**+0.3**
CBKS				IAmb_Lg		13 37 51.6	
	comp=Z,797nm,1.3s						
CBKS	**Cedar Bluff**	**2.48**	**340**	P	**Pn**	**13 37 10.3**	**+0.5**
	baz=160,SNR=87						
LOOK	**Love County**	**2.76**	**154**		**Pn**	**13 37 15.2**	**+1.8**
LOOK				IAmb_Lg		13 37 59.6	
	comp=Z,828nm,0.8s						
AMTX	**Amarillo**	**2.95**	**238**		**Pn**	**13 37 17.8**	**+1.5**
AMTX	**Amarillo**	**2.95**	**238**	P	**Pn**	**13 37 17.3**	**+1.1**
	baz=55						
AMTX				Sb	**Sb**	**13 37 59.6**	**+1.4**
	baz=55						
KSU1	**Kansas State U**	**3.06**	**31**	Pn	**Pn**	**13 37 19.3**	**+1.7**
KSU1				IAmb_Lg		13 38 10.1	
	comp=Z,473nm,0.9s						
KSU1	**Kansas State U**	**3.06**	**31**	P	**Pn**	**13 37 19.0**	**+1.3**
	baz=213,SNR=10						
KSU1				Sb	**Sg**	**13 38 05.3**	**-2.2**
	baz=213						
X37A	**Clayton**	**3.26**	**124**		**Pn**	**13 37 22.0**	**+1.6**
Z35A	**Perchaven, San**	**3.34**	**160**	Pn	**Pn**	**13 37 23.4**	**+1.9**
U38A	**Gravette**	**3.42**	**90**	Pn	**Pn**	**13 37 23.9**	**+1.3**
U38A				IAmb_Lg		13 38 22.7	
	comp=Z,734nm,1.1s						
HHAR	**Hobbs**	**3.79**	**92**	Pn	**Pn**	**13 37 29.3**	**+1.6**
HHAR				IAmb_Lg		13 38 33.9	
	comp=Z,392nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.05**	**310**		**Pn**	**13 37 33.1**	**+1.8**
KSCO	**Kaye Shedlock'**	**4.05**	**310**	P	**Pn**	**13 37 32.1**	**+0.7**
	baz=128						
KSCO				S	**Sn**	**13 38 17.5**	**-1.5**
	baz=128						
W39A	**Magazine**	**4.14**	**107**		**Pn**	**13 37 33.4**	**+0.9**
W39A	**Magazine**	**4.14**	**107**	P	**Pn**	**13 37 33.7**	**+1.2**
	baz=290,SNR=12						
W39A				S	**Sn**	**13 38 22.1**	**+1.0**
	baz=290						
MSTX	**Muleshoe**	**4.22**	**235**	Pn	**Pn**	**13 37 34.3**	**+0.6**
MSTX				IAmb_Lg		13 38 52.7	
	comp=Z,454nm,0.8s						
MSTX	**Muleshoe**	**4.22**	**235**	P	**Pn**	**13 37 34.2**	**+0.5**
	baz=51,SNR=72						
N33A	**J Bar K, Exete**	**4.35**	**12**	Pn	**Pn**	**13 37 34.8**	**-0.6**
N33A				IAmb_Lg		13 38 57.1	
	comp=Z,368nm,1.0s						
Z38A	**Mt. Pleasant**	**4.40**	**136**		**Pn**	**13 37 37.3**	**+1.3**
Z38A				IAmb_Lg		13 38 59.9	
	comp=Z,609nm,0.8s						
S39A	**Bolivar**	**4.41**	**73**	Pn	**Pn**	**13 37 37.0**	**+0.8**
S39A				IAmb_Lg		13 38 50.7	
	comp=Z,402nm,1.0s						
MIAR	**Mount Ida**	**4.55**	**114**	Pn	**Pn**	**13 37 38.8**	**+0.7**
MIAR				IAmb_Lg		13 39 06.1	
	comp=Z,428nm,0.9s						
MIAR	**Mount Ida**	**4.55**	**114**	P	**Pn**	**13 37 39.8**	**+1.6**
	baz=297,SNR=8.4						
MIAR				S	**Sn**	**13 38 32.3**	**+1.1**
	baz=297						
WHTX	**Lake Whitney,**	**4.59**	**167**	Pn	**Pn**	**13 37 39.6**	**+1.0**
WHTX				IAmb_Lg		13 39 01.8	
	comp=Z,307nm,1.2s						
WHTX	**Lake Whitney,**	**4.59**	**167**	P	**Pn**	**13 37 39.6**	**+1.0**
	baz=347,SNR=24						
WHTX				S	**Sn**	**13 38 33.4**	**+1.4**
	baz=347						
U40A	**Yellville**	**4.66**	**90**		**Pn**	**13 37 41.8**	**+2.2**
U40A				IAmb_Lg		13 38 56.8	
	comp=Z,322nm,0.7s						
U40A	**Yellville**	**4.66**	**90**	P	**Pn**	**13 37 40.8**	**+1.1**
	baz=274,SNR=13						
U40A				S	**Sn**	**13 38 34.3**	**+0.5**
	baz=274						
T25A	**Trinidad**	**4.68**	**280**	Pn	**Pn**	**13 37 40.2**	**0.0**
T25A	**Trinidad**	**4.68**	**280**	P	**Pn**	**13 37 40.1**	**0.0**
	baz=96,SNR=29						
T25A				S	**Sn**	**13 38 33.1**	**-1.7**
	baz=96						
BGNE	**Belgrade**	**4.93**	**4**		**Pn**	**13 37 43.5**	**+0.2**
BGNE				IAmb_Lg		13 39 17.5	
	comp=Z,512nm,0.8s						
BGNE	**Belgrade**	**4.93**	**4**	P	**Pn**	**13 37 43.4**	**0.0**
	baz=185,SNR=11						
BGNE				S	**Sn**	**13 38 41.0**	**+0.5**
	baz=185						
N35A	**Tabor**	**4.96**	**27**		**Pn**	**13 37 44.1**	**+0.4**
237A	**Washetta, Mont**	**5.05**	**152**	Pn	**Pn**	**13 37 44.8**	**-0.2**
237A				IAmb_Lg		13 39 21.1	
	comp=Z,393nm,0.8s						
P38A	**Dawn**	**5.10**	**51**	Pn	**Pn**	**13 37 46.9**	**+1.2**
X40A	**Basin Creek Fa**	**5.13**	**111**	Pn	**Pn**	**13 37 47.9**	**+1.8**
X40A	**Basin Creek Fa**	**5.13**	**111**	P	**Pn**	**13 37 47.5**	**+1.4**
	baz=295						
X40A				S	**Sn**	**13 38 47.0**	**+1.5**
	baz=295						
MGMO	**Mountain Grove**	**5.15**	**81**	Pn	**Pn**	**13 37 47.8**	**+1.5**
OGNE	**Ogallala**	**5.19**	**330**	Pn	**Pn**	**13 37 48.3**	**+1.4**
OGNE				IAmb_Lg		13 39 12.8	
	comp=Z,337nm,0.7s						
OGNE	**Ogallala**	**5.19**	**330**	P	**Pn**	**13 37 47.9**	**+1.0**
	baz=149,SNR=8.0						
OGNE				S	**Sn**	**13 38 46.9**	**-0.1**
	baz=149						
WHAR	**Wooly Hollow**	**5.29**	**101**	Pn	**Pn**	**13 37 49.5**	**+1.3**
WHAR				IAmb_Lg		13 39 20.3	
	comp=Z,336nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.30**	**95**	Pn	**Pn**	**13 37 49.1**	**+0.8**
FCAR				IAmb_Lg		13 39 21.2	
	comp=Z,354nm,0.7s						
WLAR	**White Oak Lake**	**5.32**	**120**	Pn	**Pn**	**13 37 48.8**	**+0.1**
WLAR				IAmb_Lg		13 39 30.6	
	comp=Z,347nm,0.7s						
W41B	**Gary Mavity, V**	**5.35**	**102**	Pn	**Pn**	**13 37 49.6**	**+0.6**
W41B				IAmb_Lg		13 39 24.7	
	comp=Z,437nm,0.8s						
W41B	**Gary Mavity, V**	**5.35**	**102**	P	**Pn**	**13 37 49.7**	**+0.6**
	baz=286						
W41B				S	**Sn**	**13 38 50.0**	**-0.8**
	baz=286						
R40A	**Maddies Statio**	**5.38**	**69**	Pn	**Pn**	**13 37 50.1**	**+0.6**
R40A				IAmb_Lg		13 39 24.3	
	comp=Z,308nm,0.8s						
SDCO	**Great Sand Dun**	**5.63**	**285**	Pn	**Pn**	**13 37 53.8**	**+0.4**
SDCO				IAmb_Lg		13 39 35.5	
	comp=Z,241nm,0.9s						
SDCO	**Great Sand Dun**	**5.63**	**285**	P	**Pn**	**13 37 53.7**	**+0.4**
	baz=101,SNR=41						
SDCO				S	**Sn**	**13 38 56.9**	**-1.3**
	baz=101						
Q24A	**Divide**	**5.73**	**298**	Pn	**Pn**	**13 37 53.0**	**-1.7**
Q24A				IAmb_Lg		13 39 37.3	
	comp=Z,339nm,0.9s						
Q24A	**Divide**	**5.73**	**298**	P	**Pn**	**13 37 54.3**	**-0.4**
	baz=114,SNR=11						
L34A	**Svendsen Farm,**	**5.75**	**17**	Pn	**Pn**	**13 37 54.1**	**-0.4**
NATX	**Nacogdoches**	**5.75**	**144**	Pn	**Pn**	**13 37 55.4**	**+0.8**
NATX				IAmb_Lg		13 39 48.4	
	comp=Z,334nm,1.1s						
NATX	**Nacogdoches**	**5.75**	**144**	P	**Pn**	**13 37 55.2**	**+0.6**
	baz=326						
NATX				S	**Sn**	**13 39 00.3**	**-0.4**
	baz=326						
435B	**Jarrell**	**5.75**	**171**	Pn	**Pn**	**13 37 55.0**	**+0.4**
435B	**Jarrell**	**5.75**	**171**	P	**Pn**	**13 37 55.1**	**+0.5**
	baz=351						
Z41A	**Richland Creek**	**5.77**	**122**	Pn	**Pn**	**13 37 56.2**	**+1.3**
Z41A				IAmb_Lg		13 39 45.0	
	comp=Z,287nm,0.8s						
**

S22A IAmb_Lg 13 40 08.2
comp=Z,236nm,1.1s
S22A 4UR Ranch, Cre 6.67 283 P **Pn 13 38 08.1 +0.5**
baz=98
FVM French Village 6.71 75 Pn **Pn 13 38 09.0 +1.2**
FVM IAmb_Lg 13 40 00.8
comp=Z,288nm,0.8s
SCIA State Center 6.85 36 Pn **Pn 13 38 10.0 +0.2**
SCIA IAmb_Lg 13 40 09.4
comp=Z,403nm,1.1s
SCIA State Center 6.85 36 P **Pn 13 38 11.2 +1.5**
baz=220
BNM Barren Site 6.94 253 Pn **Pn 13 38 12.0 +0.8**
GNAR Gosnell 6.98 92 Pn **Pn 13 38 11.6 +0.1**
GNAR IAmb_Lg 13 40 19.9
comp=Z,355nm,0.9s
SLM Saint Louis 7.00 70 IAmb_Lg 13 40 16.0
comp=Z,177nm,0.8s
143A Socs Landing, 7.05 120 **Pn 13 38 13.2 +0.7**
143A IAmb_Lg 13 40 23.4
comp=Z,176nm,0.9s
PARMO Parma 7.15 86 Pn **Pn 13 38 15.3 +1.6**
MET Memphis--Engin 7.20 98 IAmb_Lg 13 40 31.0
comp=Z,381nm,0.9s
LENM Lemitar 7.20 254 Pn **Pn 13 38 12.6 -2.1**
N23A Red Feather La 7.22 310 **Pn 13 38 15.8 +0.8**
N23A Red Feather La 7.22 310 P **Pn 13 38 15.3 +0.3**
baz=126
PENMO Penman 7.25 88 IAmb_Lg 13 40 37.2
comp=Z,290nm,0.7s
441A DeRidder 7.30 140 IAmb_Lg 13 40 39.6
comp=Z,245nm,1.3s
342A Flagon Creek P 7.31 132 IAmb_Lg 13 40 36.4
comp=Z,158nm,1.2s
MNTX Cornudas Mount 7.36 231 Pn **Pn 13 38 17.1 +0.4**
MNTX IAmb_Lg 13 40 19.9
comp=Z,236nm,0.8s
MNTX Cornudas Mount 7.36 231 P **Pn 13 38 16.8 +0.1**
baz=47,SNR=8.7
HENM Henderson Moun 7.37 85 Pn **Pn 13 38 14.9 -1.9**
HENM IAmb_Lg 13 40 38.8
comp=Z,274nm,0.7s
ECSD EROS Data Cent 7.40 11 Pn **Pn 13 38 15.9 -1.4**
ECSD EROS Data Cent 7.40 11 P **Pn 13 38 16.0 -1.3**
baz=193,SNR=11
N41A Harden Midland 7.40 53 Pn **Pn 13 38 16.3 -1.0**
HALT Halls 7.53 92 Pn **Pn 13 38 20.2 +1.1**
GLAT Glass 7.54 89 IAmb_Lg 13 40 43.9
comp=Z,332nm,0.8s
S44A Carbondale 7.59 78 **Pn 13 38 20.3 +0.5**
S44A IAmb_Lg 13 40 44.1
comp=Z,215nm,0.7s
K38A Parkersburg 7.64 35 Pn **Pn 13 38 20.9 +0.4**
735A Kenedy 7.64 175 IAmb_Lg 13 40 49.9
comp=Z,279nm,1.1s
W45A Hickory Valley 7.79 97 Pn **Pn 13 38 23.7 +1.2**
W45A IAmb_Lg 13 40 46.2
comp=Z,270nm,0.8s
Y45A Yeager Farm, C 7.89 107 Pn **Pn 13 38 24.9 +1.0**
MVCO Mesa Verde 7.95 278 IAmb_Lg 13 40 53.9
comp=Z,175nm,1.2s
SUSD Miller 7.95 358 Pn **Pn 13 38 24.6 -0.2**
SUSD IAmb_Lg 13 40 46.8
comp=Z,154nm,0.8s
SUSD Miller 7.95 358 P **Pn 13 38 24.5 -0.3**
baz=179
Q44A Meyer Farm, Va 7.99 70 **Pn 13 38 26.3 +0.9**
L40A Anamosa 8.00 44 **Pn 13 38 24.4 -1.1**
T45A Paducah 8.03 83 Pn **Pn 13 38 26.8 +0.9**
PV15 Paradox Valley 8.05 286 Pn **Pn 13 38 23.6 -2.9**
PV01 Paradox Valley 8.09 285 Pn **Pn 13 38 24.8 -2.2**
833A Chaparral WMA, 8.16 185 IAmb_Lg 13 41 09.4
comp=Z,141nm,1.1s
PV07 Paradox Valley 8.20 287 Pn **Pn 13 38 27.5 -0.9**
TX31 Lajitas Ar. Si 8.29 212 **Pn 13 38 29.2 -0.4**
TX32 Lajitas Array 8.29 212 Pn **Pn 13 38 29.2 -0.4**
TXAR Lajitas Array 8.29 212 Pn **Pn 13 38 29.1 -0.5**
comp=Z,1.7nm,0.3s,baz=42,slow=11,SNR=133
TXAR Pg **Pb 13 38 52.3 -0.6**
comp=Z,2.3nm,0.3s,baz=32,slow=14,SNR=4.1
TXAR Lg Lg 13 40 46.0
comp=Z,11nm,0.3s,baz=46,slow=33,SNR=4.2
TXAR Lajitas Array 8.29 212 **Pn 13 38 29.5 -0.1**
HDIL Hopedale 8.37 58 IAmb_Lg 13 41 15.0
comp=Z,320nm,0.8s
RWWY Rawlins 8.45 311 IAmb_Lg 13 41 15.4
comp=Z,196nm,1.0s
I37A Lemond, Waseca 8.52 26 IAmb_Lg 13 41 11.8
comp=Z,170nm,0.9s
121A Cookes Peak, D 8.52 245 P **Pn 13 38 32.3 -0.6**
baz=59
RSSD Black Hills 8.67 333 Pn **Pn 13 38 36.0 +1.1**
RSSD IAmb_Lg 13 41 14.0
comp=Z,133nm,0.9s
RSSD Black Hills 8.67 333 P **Pn 13 38 35.5 +0.6**
baz=150
WVT Waverly 8.73 89 Pn **Pn 13 38 35.5 0.0**
146A Union 8.78 113 IAmb_Lg 13 41 29.4
comp=Z,126nm,0.8s
L42A Oliver, Polo 8.87 49 **Pn 13 38 37.8 +0.4**
L42A IAmb_Lg 13 41 22.0
comp=Z,177nm,0.9s
JFWS Jewell Farm 9.10 43 **Pn 13 38 40.9 +0.3**
JFWS IAmb_Lg 13 41 27.1
comp=Z,138nm,0.8s
JFWS Jewell Farm 9.10 43 P **Pn 13 38 40.7 0.0**
baz=228
346A Big Creek Wild 9.15 121 **Pn 13 38 42.5 +1.2**
F33A 5 Mile Ranch, 9.51 10 **Pn 13 38 45.4 -0.8**
P46A Rosedale 9.54 67 **Pn 13 38 46.8 +0.2**
M44A Midewin, Midew 9.59 56 Pn **Pn 13 38 48.0 +0.8**
I40A Norwalk 9.60 37 Pn **Pn 13 38 47.7 +0.2**
I40A IAmb_Lg 13 41 39.3
comp=Z,131nm,1.0s
SFIN Lafayette 9.85 63 Pn **Pn 13 38 51.2 +0.5**
SFIN Lafayette 9.85 63 P **Pn 13 38 51.3 +0.5**
baz=251
CLTN Cedars of Leba 9.94 89 Pn **Pn 13 38 52.7 +0.7**
F36A Milaca 10.12 21 **Pn 13 38 53.5 -1.1**
U49A Red Boiling Sp 10.35 86 Pn **Pn 13 38 58.1 +0.4**
I42A Draeger Farm, 10.48 42 Pn **Pn 13 38 59.3 -0.1**
PD31 Pinedale Array 10.50 310 **Pn 13 39 00.2 +0.2**
PDAR Pinedale Array 10.50 310 Pn **Pn 13 38 59.9 0.0**
comp=Z,0.2nm,0.3s,baz=111,slow=16,SNR=9.0
PDAR Pg 13 39 40.4
comp=Z,0.5nm,0.3s,baz=110,slow=12,SNR=4.6
PDAR Sn **Sn 13 40 55.4 -2.4**
comp=Z,0.8nm,0.3s,baz=120,slow=14,SNR=2.0
PDAR Lg Lg 13 41 52.1
comp=Z,1.4nm,0.3s,baz=119,slow=29,SNR=3.1
G40A Rib Lake 10.84 33 **Pn 13 39 04.0 -0.4**
CPCT Cooper Cave 11.48 91 **Pn 13 39 13.7 +0.5**
V51A Loudon 11.57 89 Pn **Pn 13 39 15.7 +1.3**
TKL Tuckaleechee C 12.05 90 Pn **Pn 13 39 21.1 +0.1**
comp=Z,0.5nm,0.3s,baz=231,slow=8.6,SNR=7.0
TKL Sn **Sn 13 41 35.1 -0.5**
comp=Z,0.5nm,0.3s,baz=212,slow=15,SNR=1.9
TKL Lg Lg 13 42 42.4
comp=Z,1.6nm,0.3s,baz=176,slow=18,SNR=6.0
DGMT Dagmar 12.66 343 P **Pn 13 39 26.6 -2.7**
baz=159
ULM Lac du Bonnet 13.90 7 Pn Pn 13 39 41.2 -5.0
comp=Z,0.3nm,0.3s,baz=190,slow=14,SNR=2.1
ULM Sn Sn 13 42 08.4 -12
comp=Z,0.5nm,0.3s,baz=142,slow=15,SNR=2.4
ULM Lg Lg 13 43 36.1
comp=Z,0.5nm,0.3s,baz=90,slow=20,SNR=2.0
NVAR Mina Array Bea 15.74 283 Pn **Pn 13 40 12.8 +1.6**
comp=Z,0.1nm,0.3s,baz=95,slow=16,SNR=2.1
NVAR LR LR 13 46 08.2
comp=Z,135nm,19.4s,baz=90,slow=37
SADO Sadowa 16.92 55 Pn **Pn 13 40 23.1 -2.9**
comp=Z,0.4nm,0.3s,baz=270,slow=12,SNR=2.1
SADO Lg Lg 13 45 11.9
comp=Z,0.4nm,0.3s,baz=272,slow=13,SNR=3.1
YBH Yreka Blue Hor 19.38 293 P **Pn 13 40 56.5 +0.2**
comp=Z,0.2nm,0.3s,baz=69,slow=4.6,SNR=9.2
CMIG Matias Romero 19.60 169 P **Pn 13 41 00.3 +1.3**
comp=Z,0.1nm,0.3s,baz=29,slow=12,SNR=1.7
CMIG LR LR 13 51 38.3
comp=Z,90nm,19.1s,baz=40,slow=46
YKA Yellowknife Ar 27.86 344 P **P 13 42 18.6 -0.1**
comp=Z,0.3nm,0.6s,baz=147,slow=8.6,SNR=5.7
JTS Las Juntas de 28.87 151 LR LR 13 55 15.4
comp=Z,143nm,19.2s,slow=39
INK Inuvik 37.31 339 LR LR 13 59 59.1
comp=Z,153nm,18.9s,baz=52,slow=38
ILAR Eielson Array 40.10 330 P **P 13 44 05.9 +1.2**
comp=Z,0.5nm,0.7s,baz=99,slow=7.1,SNR=5.5
RPN Rapa Nui 64.07 191 LR LR 14 09 50.2
comp=Z,78nm,21.9s,baz=76,slow=31

IDC 08 13:36:34.9±1.9, 17°73S×68°43W, h151km±16km, mb3.3/2, mb1 3.4/3, mb1mx3.1/41, mbtmp3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx2.7/20, Error ellipse: s-maj=119.9km s-min=10.9km az=102.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.47**	**11**	P	Pn	13 37 04.7	-0.2
	10nm,0.3s,baz=234,slow=10.0,SNR=324						
LPAZ				S	Sn	13 37 27.9	+0.1
	3.9nm,0.3s,baz=39,slow=18,SNR=14						
LVC	**Limon Verde**	**4.87**	**185**	P	Pn	13 37 47.7	+0.7
	2.4nm,0.3s,baz=18,slow=9.6,SNR=18						
LVC				S	Sn	13 38 43.3	+0.1
	2.6nm,0.3s,baz=127,slow=22,SNR=12						
PLCA	**Paso Flores**	**22.99**	**184**	P	P	13 41 26.4	-0.1
	1.2nm,0.9s,baz=7.1,slow=8.1,SNR=3.8						
PLCA				LR	LR	13 52 36.9	
	comp=Z,388nm,21.9s,baz=79,slow=42						
TORD	**Torodi Ar. Bea**	**75.69**	**71**	P	P	13 48 04.3	+0.1
	0.2nm,0.5s,baz=256,slow=5.3,SNR=4.5						

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*NOU **08** 13:49:54.2, 24°06S×179°69W, h542km, mb4.5/38, South of Fiji Islands*
*IDC **08** 13:49:55.5±1.4, 24°12S×179°87E, h516km±14km, mb3.6/15, mb1 3.8/18, mb1mx3.5/49, mbtmp4.5/18, Error ellipse: s-maj=16.1km s-min=11.9km az=162.0*
*NEIC **08** 13:49:58±1.4, 24°2S±0°2×179°9E±0°2, h544km±12km, mb4.3/27, Error ellipse: s-maj=25.4km s-min=21.2km az=185.0*

ISC 08 13:49:54.4±0.5, 24°19S±0°06×179°91E±0°08, h500km, n110, σ1$61/115, mb4.2/29, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.41**	**159**	P	**P**	**13 51 27.8**	**+2.8**
GLKZ				S	**S**	**13 52 39.0**	**-0.1**
MSVF	**Nonsavu**	**6.65**	**345**	P	**P**	**13 51 38.2**	**+0.9**
	6.1nm,0.3s,baz=220,slow=22,SNR=26						
MSVF	**Nonsavu**	**6.65**	**345**	P	**P**	**13 51 38.5**	**+1.2**
MSVF	**Nonsavu**	**6.65**	**345**	P	**P**	**13 51 38.3**	**+0.9**
TAVE	**Taveuni**	**7.45**	**1**	P	**P**	**13 51 45.3**	**+0.1**
DGTI	**Dogotuki**	**7.85**	**359**	P	**P**	**13 51 50.4**	**+1.0**
MARNC	**Mare, Loyalty**	**11.28**	**281**	P	**P**	**13 52 27.0**	**+1.7**
PINNC	**Pines Island,**	**11.55**	**275**	P	**P**	**13 52 31.8**	**+3.6**
PINNC	**Pines Island,**	**11.55**	**275**	P	**P**	**13 52 31.8**	**+3.6**
OUENC	**Ouen Island, N**	**12.13**	**276**	P	**P**	**13 52 37.5**	**+3.1**
OUZ	**Omahuta**	**12.28**	**205**	P	**P**	**13 52 38.4**	**+2.7**
DZM	**Mont Dzumac**	**12.56**	**277**	P	**P**	**13 52 41.1**	**+2.1**
	0.9nm,0.3s,baz=84,slow=20,SNR=11						
DZM	**Mont Dzumac**	**12.56**	**277**	P	**P**	**13 52 42.3**	**+3.2**
DZM	**Mont Dzumac**	**12.56**	**277**	P	**P**	**13 52 42.2**	**+3.2**
AFI	**Afiamalu**	**12.89**	**39**	P	P	13 52 38.4	-4.2
	2.2nm,0.3s,baz=306,slow=6.7,SNR=4.7						
KUZ	**Kuaotunu**	**13.02**	**195**	P	P	13 52 49.8	+6.3
WIAZ	**Waiheke Island**	**13.21**	**197**	P	P	13 52 54.6	+9.0
ETAZ	**East Tamaki Re**	**13.42**	**197**	P	**P**	**13 52 51.3**	**+3.5**
AWAZ	**Awhitu Peninsu**	**13.60**	**198**	P	**P**	**13 52 53.2**	**+3.5**
HAZ	**Te Kaha**	**13.64**	**187**	P	**P**	**13 52 52.0**	**+1.9**
HAZ				S	**S**	**13 55 14.7**	**-0.4**
PUZ	**Puketiti**	**13.91**	**185**	P	**P**	**13 52 52.3**	**-0.7**
PUZ				S	**S**	**13 55 15.9**	**-4.4**
TOZ	**Tahuroa Road**	**14.01**	**195**	P	**P**	**13 52 57.3**	**+3.3**
TWGZ	**Tauwhareparae**	**14.04**	**186**	P	**P**	**13 52 55.7**	**+1.3**
TWGZ				S	**S**	**13 55 22.2**	**-0.6**
URZ	**Urewera**	**14.23**	**189**	P	**P**	**13 52 56.5**	**+0.2**
	4.8nm,0.3s,baz=358,slow=1.9,SNR=18						
URZ				S	**S**	**13 55 24.4**	**-1.9**
	0.5nm,0.3s,baz=128,slow=19,SNR=2.3						
URZ	**Urewera**	**14.23**	**189**	P	**P**	**13 52 56.4**	**+0.2**
URZ				S	**S**	**13 55 22.6**	**-3.7**
URZ	**Urewera**	**14.23**	**189**	P	**P**	**13 52 56.7**	**+0.5**
MWZ	**Matawai**	**14.24**	**188**	P	**P**	**13 52 58.4**	**+1.9**
MWZ				S	**S**	**13 55 25.4**	**-1.3**
CNGZ	**Carnagh Statio**	**14.32**	**185**	P	**P**	**13 52 59.7**	**+2.4**
KNZ	**Kokohu**	**14.91**	**187**	P	**P**	**13 53 03.3**	**-0.1**
HIZ	**Hauiti**	**14.91**	**196**	P	P	13 53 08.9	+5.5
HIZ	**Hauiti**	**14.91**	**196**	P	**P**	**13 53 05.6**	**+2.2**
RATZ	**Rangitukua**	**15.05**	**193**	P	**P**	**13 53 06.9**	**+2.0**
BKZ	**Black Stump Fm**	**15.21**	**190**	P	**P**	**13 53 06.6**	**0.0**
ETVZ	**East Tongariro**	**15.32**	**192**	P	**P**	**13 53 09.1**	**+1.2**
OTVZ	**Oturere**	**15.35**	**193**	P	**P**	**13 53 08.0**	**-0.2**
MCHZ	**McNeill Hill**	**15.45**	**189**	P	**P**	**13 53 09.7**	**+0.6**
QRZ	**Quartz Range**	**17.70**	**199**	P	**P**	**13 53 31.8**	**0.0**
KHZ	**Kahutara**	**18.93**	**195**	P	**P**	**13 53 43.1**	**+0.1**
ARMA	**Armidale**	**25.84**	**250**	P	**P**	**13 54 47.6**	**+2.2**
ARMA				IAmb	IAmb	13 54 48.2	
	comp=Z,5.5nm,0.7s						
ARMA	**Armidale**	**25.84**	**250**	P	**P**	**13 54 46.5**	**+1.1**
EIDS	**Eidsvold**	**26.18**	**261**	P	**P**	**13 54 49.5**	**+1.2**
EIDS				IAmb	IAmb	13 54 50.0	
	comp=Z,7.4nm,0.6s						
EIDS	**Eidsvold**	**26.18**	**261**	P	**P**	**13 54 48.9**	**+0.6**
MGCD	**Mangrove Creek**	**26.74**	**244**	P	**P**	**13 54 54.0**	**+0.8**
RMQ	**Roma**	**28.21**	**259**	P	**P**	**13 55 07.8**	**+1.6**
CNB	**Canberra Magne**	**28.63**	**240**	P	**P**	**13 55 11.3**	**+1.4**
CAN	**Canberra**	**28.92**	**240**	P	**P**	**13 55 13.7**	**+1.3**
CMSA	**Cobar Meteorol**	**31.03**	**249**	P	**P**	**13 55 31.2**	**+0.6**
CTA	**Charters Tower**	**31.39**	**277**	P	**P**	**13 55 34.4**	**+0.5**
	comp=Z,20nm,0.4s,baz=91,slow=11,SNR=39						
CTA	**Charters Tower**	**31.39**	**271**	P	**P**	**13 55 34.4**	**+0.5**
CTAO	**Charters Tower**	**31.39**	**271**	P	**P**	**13 55 34.4**	**+0.5**
CTAO	**Charters Tower**	**31.39**	**271**	P	**P**	**13 55 34.4**	**+0.5**
TOO	**Toolangi**	**32.22**	**237**	P	**P**	**13 55 41.6**	**+0.9**
TOO				IAmb	IAmb	13 55 45.7	
	comp=Z,8.7nm,1.1s						
TOO	**Toolangi**	**32.22**	**237**	P	**P**	**13 55 41.8**	**+1.0**
QLP	**Quilpie**	**32.25**	**258**	P	**P**	**13 55 41.8**	**+0.6**
MTSU	**Mount Surprise**	**33.67**	**273**	P	**P**	**13 55 53.9**	**+0.6**
PMG	**Port Moresby**	**34.51**	**290**	P	**P**	**13 56 00.5**	**+0.2**
	comp=Z,15nm,0.7s,baz=88,slow=5.2,SNR=12						
PMG	**Port Moresby**	**34.51**	**290**	P	**P**	**13 56 00.5**	**+0.2**
STKA	**Stephens Creek**	**34.53**	**248**	P	**P**	**13 56 00.5**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=91,slow=12,SNR=12						
STKA	**Stephens Creek**	**34.53**	**248**	P	**P**	**13 56 01.3**	**+0.9**
INKA	**Innaminka**	**35.28**	**256**	P	**P**	**13 56 07.9**	**+1.2**
COEN	**Coen**	**36.08**	**280**	P	**P**	**13 56 13.8**	**+0.3**
COEN				IAmb	IAmb	13 56 16.2	
	comp=Z,5.8nm,0.7s						
COEN	**Coen**	**36.08**	**280**	P	**P**	**13 56 14.0**	**+0.5**
HTT	**Hallett**	**36.88**	**246**	P	**P**	**13 56 20.0**	**+0.1**
LCRK	**Leigh Creek**	**37.40**	**251**	P	**P**	**13 56 24.3**	**+0.1**
NAPP	**Napperby**	**37.51**	**247**	P	**P**	**13 56 25.1**	**0.0**
BBOO	**Buckleboo**	**39.25**	**247**	P	**P**	**13 56 38.8**	**-0.5**
BBOO				IAmb	IAmb	13 56 39.5	
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	**39.25**	**247**	P	**P**	**13 56 38.6**	**-0.7**
OOD	**Oodnadatta**	**39.75**	**255**	P	**P**	**13 56 44.0**	**+0.7**
MULG	**Mulgathing**	**41.00**	**251**	P	**P**	**13 56 52.7**	**-0.6**
AS31	**Alice Springs**	**41.90**	**261**	P	**P**	**13 57 00.6**	**0.0**
ASAR	**Alice Springs**	**41.90**	**261**	P	**P**	**13 57 00.3**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=95,slow=7.2,SNR=154						
ASAR				ScP	**ScP**	**14 01 46.7**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=110,slow=4.3,SNR=6.8						
ASAR				S	**S**	**14 02 40.4**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=97,slow=15,SNR=4.5						
WR0	**Warramunga Arr**	**42.11**	**267**	P	**P**	**13 57 01.6**	**-0.7**
WR0				IAmb	IAmb	13 57 02.3	
	comp=Z,5.6nm,0.7s						
WB2	**Warramunga Arr**	**42.29**	**266**	P	**P**	**13 57 02.8**	**-0.9**
WRAB	**Tennant Creek**	**42.29**	**267**	P	**P**	**13 57 03.2**	**-0.5**
WRAB				IAmb	IAmb	13 57 03.8	
	comp=Z,9.1nm,0.8s						
WRAB	**Tennant Creek**	**42.29**	**267**	P	**P**	**13 57 02.8**	**-0.9**
WB0	**Warramunga Arr**	**42.30**	**267**	P	**P**	**13 57 03.1**	**-0.7**
WRA	**Warramunga Arr**	**42.30**	**266**	P	**P**	**13 57 03.0**	**-0.8**
	comp=Z,9.7nm,0.6s,baz=105,slow=8.5,SNR=140						
WRA				ScP	**ScP**	**14 01 48.1**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=99,slow=3.6,SNR=7.8						
WRA				S	**S**	**14 02 43.3**	**-4.9**
	comp=Z,1.4nm,1.2s,baz=103,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**42.30**	**266**	P	**P**	**13 57 03.0**	**-0.8**
JAY	**Jayapura**	**43.55**	**294**	P	**P**	**13 57 12.9**	**-0.8**
	comp=Z,4.9nm,0.5s,baz=58,slow=3.8,SNR=4.7						
FORT	**Forrest**	**46.13**	**250**	P	**P**	**13 57 32.7**	**-0.6**
FORT	**Forrest**	**46.13**	**250**	P	**P**	**13 57 32.3**	**-1.0**
KDU	**Kakadu**	**46.23**	**276**	P	**P**	**13 57 33.1**	**-1.1**
WRKA	**Warakurna**	**46.69**	**258**	P	**P**	**13 57 37.1**	**-0.6**
MTN	**Manton Dam**	**47.39**	**275**	P	**P**	**13 57 42.7**	**-0.3**
MTN				IAmb	IAmb	13 58 06.3	
	comp=Z,14nm,1.2s						
DRS	**Darwin Rock St**	**47.75**	**275**	P	**P**	**13 57 44.8**	**-1.0**
KNRA	**Kununurra**	**48.60**	**270**	P	**P**	**13 57 51.9**	**-0.2**
KNRA				IAmb	IAmb	13 57 52.6	
	comp=Z,10.0nm,0.9s						
KNRA	**Kununurra**	**48.60**	**270**	P	**P**	**13 57 51.5**	**-0.6**
FAKI	**Fak Fak**	**50.58**	**287**	P	**P**	**13 58 06.2**	**-0.6**
FAKI				IAmb	IAmb	13 58 31.7	
	comp=Z,10nm,1.1s						
SIJI	**Sorong**	**52.45**	**289**	P	**P**	**13 58 19.6**	**-0.8**
	comp=Z,16nm,0.7s,baz=58,slow=23,SNR=8.5						
SOEI	**Soe**	**54.78**	**275**	P	**P**	**13 58 36.0**	**-1.1**
SOEI				IAmb	IAmb	13 58 47.7	
	comp=Z,20nm,0.9s						
PSA00	**Pilbara Seismi**	**55.03**	**260**	P	**P**	**13 58 37.5**	**-1.1**
MORW	**Morawa**	**56.69**	**250**	P	**P**	**13 58 49.2**	**-0.8**
MORW				IAmb	IAmb	13 58 49.8	
	comp=Z,7.3nm,0.6s						
TOLI2	**Tolitoli**	**62.57**	**285**	P	**P**	**13 59 28.6**	**-0.8**
TOLI2				IAmb	IAmb	13 59 33.7	
	comp=Z,7.9nm,0.8s						
QSPA	**South Pole Qui**	**65.89**	**180**	P	**P**	**13 59 50.6**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=244,slow=0.3,SNR=16						
QSPA	**South Pole Qui**	**65.89**	**180**	P	**P**	**13 59 50.3**	**+0.4**
KSM	**Kuching**	**72.07**	**280**	P	**P**	**14 00 27.4**	**-0.6**
KSM				IAmb	IAmb	14 00 40.3	
	comp=Z,9.5nm,1.0s						
PETK	**Petropavlovsk-**	**79.36**	**347**	P	**P**	**14 01 06.6**	**-0.9**
	comp=Z,5.1nm,1.0s,baz=118,slow=6.5,SNR=6.3						
SNAA	**Sanae**	**84.38**	**179**	P	**P**	**14 01 32.3**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=85,slow=12,SNR=1.0						
SNAA	**Sanae**	**84.38**	**179**	P	P	14 01 31.9	-1.2
SNAA				IAmb	IAmb	14 01 49.6	
	comp=Z,7.0nm,1.2s						
NVAR	**Mina Array Bea**	**85.02**	**44**	P	**P**	**14 01 36.6**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=227,slow=7.3,SNR=8.3						
MOD	**Modoc Plateau**	**85.88**	**40**	P	**P**	**14 01 40.8**	**-0.1**
ELK	**Elko**	**88.29**	**43**	P	**P**	**14 01 52.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=245,slow=3.1,SNR=3.6						
TXAR	**Lajitas Array**	**90.66**	**58**	P	**P**	**14 02 03.4**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=216,slow=6.5,SNR=17						
ILAR	**Eielson Array**	**92.33**	**14**	P	P	14 02 08.3	-1.9
	comp=Z,0.4nm,0.8s,baz=215,slow=5.5,SNR=2.2						
PDAR	**Pinedale Array**	**92.96**	**44**	P	**P**	**14 02 13.4**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=221,slow=4.7,SNR=5.8						
ARCES	**ARCESS Array B**	**132.15**	**348**	PKP	**PKPdf**	**14 08 08.6**	**-1.6**
	comp=Z,5.3nm,1.0s,baz=28,slow=2.9,SNR=5.2						
FINES	**FINESS Array B**	**138.69**	**341**	PKP	**PKPdf**	**14 08 22.1**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=94,slow=1.8,SNR=1.4						
NOA	**NORSAR Array B**	**142.35**	**351**	PKP	**PKPdf**	**14 08 25.8**	**-3.4**
	comp=Z,0.1nm,0.4s,baz=58,slow=2.6,SNR=0.9						
AKASG	**Malin Array Be**	**145.17**	**327**	PKPbc	**PKPdf**	**14 08 33.5**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=42,slow=4.2,SNR=5.9						
CLL	**Collm**	**151.11**	**343**	*i* PKPbc	**PKPdf**	**14 08 48.5**	**+4.6**
	comp=Z,6.0nm,0.8s						

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*ANF **08** 14:01:56.6±0.2, 36°54N×98°67W, h10km, ML4.8/16, Error ellipse: s-maj=3.7km s-min=2.4km az=28.0*
*TUL **08** 14:01:56.1±1.8, 36°51N±0°03×98°72W±0°04, h8km±6km, ML3.9, mb_Lg3.7/99(NEIC), Error ellipse: s-maj=4.4km s-min=3.0km az=125.0*
*NEIC **08** 14:01:56.7±1.3, 36°52N±0°03×98°659W±0°009, h5km±2km, Error ellipse: s-maj=5.3km s-min=3.0km az=355.0*
*IDC **08** 14:01:56.1±0.8, 36°58N×98°73W, h0km, mb3.3/2, mb1 3.9/7, mb1mx3.6/40, mbtmp3.6/7, ML3.9/4, Error ellipse: s-maj=11.6km s-min=9.7km az=145.0*

ISC 08 14:01:56.8±0.9, 36°51N±0°03×98°65W±0°02, h10km±7km, n162, σ0$90/175, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.20**	**346**	Pg	**Pg**	**14 02 00.6**	**-0.5**
OK035				Sg	**Sg**	**14 02 03.9**	**-0.1**
U32A	**Winter Ranch,**	**0.32**	**245**	Pg	**Pg**	**14 02 01.6**	**-1.5**
U32A				Sg	**Sg**	**14 02 05.9**	**-1.4**
KAN14	**Manchester OK**	**0.71**	**51**		**Pg**	**14 02 10.2**	**-0.2**
KAN14				Sg	**Sg**	**14 02 20.3**	**+0.6**
GC02	**Grant County #**	**0.72**	**62**	Pg	**Pg**	**14 02 10.6**	**-0.1**
GC02				Sg	**Sb**	**14 02 21.0**	**-0.3**
KAN10	**Anthony SW Sta**	**0.75**	**36**	Pg	**Pg**	**14 02 11.1**	**-0.3**
KAN10				Sg	**Sg**	**14 02 21.6**	**+0.3**
KAN16	**Harper SW Stat**	**0.85**	**33**		**Pg**	**14 02 12.7**	**-0.6**
KAN16				Sg	**Sb**	**14 02 24.5**	**-0.7**
KAN05	**Bluff City Nor**	**0.86**	**46**	Pg	**Pg**	**14 02 13.1**	**-0.3**
KAN05				Sg	**Sg**	**14 02 24.8**	**+0.2**
KAN08	**Anthony NE Sta**	**0.90**	**37**		**Pg**	**14 02 13.5**	**-0.6**
KAN08				Sg	**Sg**	**14 02 25.4**	**-0.4**
KAN12	**Harper NE Stat**	**0.94**	**33**	Pg	**Pg**	**14 02 14.5**	**-0.4**
KAN12				Sg	**Sb**	**14 02 27.3**	**-0.5**
KAN01	**Argonia South**	**0.96**	**48**		**Pg**	**14 02 14.8**	**-0.4**
KAN01				Sg	**Sg**	**14 02 27.9**	**+0.2**
KAN06	**Argonia West S**	**0.97**	**41**		**Pg**	**14 02 15.2**	**-0.3**
KAN06				Sg	**Sg**	**14 02 28.0**	**-0.1**
KAN13	**South Haven SW**	**1.06**	**62**		**Pg**	**14 02 16.8**	**-0.5**
KAN13				Sg	**Sg**	**14 02 31.1**	**0.0**
BLOK	**Blackwell**	**1.18**	**77**		**Pg**	**14 02 18.2**	**-1.2**
BLOK				Sg	**Sb**	**14 02 35.4**	**+0.8**
BCOK	**Bluff Creek, N**	**1.20**	**135**		**Pb**	**14 02 18.7**	**-0.9**
OK009	**Oakdale Elemen**	**1.36**	**133**	Pn	**Pn**	**14 02 21.5**	**-0.4**
OK025	**Westminster Rd

W39A S Sn 14 03 49.8 +0.7
baz=290
MSTX Muleshoe 4.22 234 Pn Pn 14 03 01.4 +0.1
MSTX IAmb_Lg 14 04 14.0
comp=Z,148nm,0.8s
MSTX Muleshoe 4.22 234 P Pn 14 03 01.2 -0.2
baz=51,SNR=17
N33A J Bar K, Exete 4.32 12 Pn 14 03 01.8 -0.9
N33A IAmb_Lg 14 04 21.9
comp=Z,178nm,0.7s
S39A Bolivar 4.42 73 Pn 14 03 04.3 +0.4
S39A IAmb_Lg 14 04 21.8
comp=Z,109nm,0.9s
Z38A Mt. Pleasant 4.43 136 Pn 14 03 04.4 +0.4
Z38A IAmb_Lg 14 04 27.2
comp=Z,155nm,0.9s
MIAR Mount Ida 4.58 114 Pn 14 03 06.3 +0.2
MIAR IAmb_Lg 14 04 33.5
comp=Z,210nm,1.1s
MIAR Mount Ida 4.58 114 P Pn 14 03 06.3 +0.2
baz=297,SNR=7.8
MIAR S Sn 14 03 59.8 +0.5
baz=297
WHTX Lake Whitney, 4.62 167 Pn 14 03 06.3 -0.3
WHTX Lake Whitney, 4.62 167 P Pn 14 03 06.4 -0.2
baz=347,SNR=9.2
T25A Trinidad 4.67 279 Pn Pn 14 03 07.1 -0.5
T25A IAmb_Lg 14 04 25.8
comp=Z,242nm,1.0s
T25A Trinidad 4.67 279 P Pn 14 03 07.0 -0.5
baz=96,SNR=26
U40A Yellville 4.67 90 Pn 14 03 08.5 +1.0
U40A IAmb_Lg 14 04 35.7
comp=Z,130nm,0.7s
U40A Yellville 4.67 90 P Pn 14 03 07.7 +0.3
baz=274
BGNE Belgrade 4.90 4 Pn 14 03 10.8 +0.1
BGNE Belgrade 4.90 4 P Pn 14 03 10.4 -0.3
baz=185,SNR=10
BGNE S Sn 14 04 06.1 -1.4
baz=185
N35A Tabor 4.94 28 Pn Pn 14 03 11.0 -0.1
237A Washetta, Mont 5.08 152 Pn Pn 14 03 12.8 -0.1
237A IAmb_Lg 14 04 51.6
comp=Z,158nm,0.9s
P38A Dawn 5.09 51 Pn 14 03 13.9 +0.8
X40A Basin Creek Fa 5.16 111 Pn 14 03 14.6 +0.6
X40A Basin Creek Fa 5.16 111 P Pn 14 03 14.3 +0.3
baz=295
MGMO Mountain Grove 5.16 81 Pn 14 03 15.2 +1.1
OGNE Ogallala 5.16 330 Pn Pn 14 03 13.1 -1.1
OGNE IAmb_Lg 14 04 44.5
comp=Z,166nm,0.8s
OGNE Ogallala 5.16 330 S Sn 14 04 13.8 +0.1
baz=149
WHAR Wooly Hollow 5.30 101 Pn 14 03 16.9 +0.8
WHAR IAmb_Lg 14 04 59.2
comp=Z,162nm,0.8s
FCAR Ozark Folk Cen 5.31 95 Pn Pn 14 03 16.4 +0.2
FCAR IAmb_Lg 14 04 48.9
comp=Z,108nm,0.8s
WLAR White Oak Lake 5.34 120 Pn Pn 14 03 17.0 +0.4
WLAR IAmb_Lg 14 04 56.1
comp=Z,140nm,0.9s
W41B Gary Mavity, V 5.37 103 Pn Pn 14 03 17.2 +0.2
W41B IAmb_Lg 14 04 53.6
comp=Z,129nm,0.8s
W41B Gary Mavity, V 5.37 103 P Pn 14 03 16.7 -0.3
baz=286
W41B S Sn 14 04 17.4 -1.4
baz=286
R40A Maddies Statio 5.38 69 Pn Pn 14 03 17.5 +0.4
R40A IAmb_Lg 14 04 50.4
comp=Z,120nm,0.8s
SDCO Great Sand Dun 5.61 285 Pn 14 03 21.2 +0.6
SDCO Great Sand Dun 5.61 285 P Pn 14 03 20.7 +0.1
baz=101,SNR=23
Q24A Divide 5.70 297 Pn 14 03 21.5 -0.4
Q24A IAmb_Lg 14 05 03.7
comp=Z,132nm,0.8s
Q24A Divide 5.70 297 P Pn 14 03 21.1 -0.8
baz=114
Q24A S Sn 14 04 26.2 -1.3
baz=114
L34A Svendsen Farm, 5.72 17 Pn Pn 14 03 21.3 -0.5
435B Jarrell 5.78 171 Pn Pn 14 03 22.5 -0.2
435B IAmb_Lg 14 05 10.6
comp=Z,138nm,1.1s
Z41A Richland Creek 5.80 122 Pn Pn 14 03 22.4 -0.5
Z41A IAmb_Lg 14 05 14.9
comp=Z,115nm,0.8s
Z41A Richland Creek 5.80 122 S Sn 14 04 28.7 -0.7
baz=306
N38A Joes South For 6.02 43 Pn 14 03 26.7 +0.8
P40A Paris 6.02 58 Pn 14 03 26.9 +1.0
LCAR Lake Charles 6.07 92 Pn 14 03 27.4 +0.8
LCAR IAmb_Lg 14 05 09.4
comp=Z,86nm,0.8s
T42A Van Buren 6.09 83 Pn Pn 14 03 28.9 +2.0
JCT Junction City 6.09 189 Pn Pn 14 03 25.9 -1.1
JCT IAmb_Lg 14 05 23.6
comp=Z,139nm,0.8s
CCM Cathedral Cave 6.10 73 Pn 14 03 27.4 +0.4
CCM IAmb_Lg 14 05 08.6
comp=Z,138nm,0.8s
K31A O'Neill 6.10 359 Pn Pn 14 03 27.3 +0.2
CCAR Cane Creek 6.20 113 Pn Pn 14 03 30.3 +1.9
CCAR IAmb_Lg 14 05 31.6
comp=Z,120nm,0.8s
ISCO Idaho Springs 6.39 303 Pn 14 03 31.0 -0.4
ISCO Idaho Springs 6.39 303 P Pn 14 03 30.5 -0.9
baz=119
ANMO Albuquerque 6.54 258 Pn Pn 14 03 34.4 +1.1
comp=Z,0.4nm,0.3s,baz=77,slow=17,SNR=9.5
ANMO Pg Pb 14 03 53.1 +2.3
comp=Z,1.5nm,0.3s,baz=73,slow=18,SNR=13
ANMO Lg Lg 14 05 18.2
comp=Z,5.1nm,0.3s,baz=340,slow=18,SNR=7.1
ANMO Albuquerque 6.54 258 Pn 14 03 33.4 +0.1
PBMO Poplar Bluff 6.61 85 Pn Pn 14 03 35.4 +1.4
PBMO IAmb_Lg 14 05 25.5
comp=Z,111nm,0.7s
S22A 4UR Ranch, Cre 6.65 283 Pn Pn 14 03 35.7 +0.8
FVM French Village 6.72 75 Pn Pn 14 03 36.9 +1.4
FVM IAmb_Lg 14 05 28.8
comp=Z,115nm,0.7s
SCIA State Center 6.84 36 Pn 14 03 37.3 +0.1
SCIA IAmb_Lg 14 05 36.7
comp=Z,141nm,0.8s
BNM Barren Site 6.94 252 Pn 14 03 38.7 -0.1
SLM Saint Louis 7.01 70 IAmb_Lg 14 05 35.2
comp=Z,73nm,0.8s
143A Socs Landing, 7.08 120 IAmb_Lg 14 05 52.3
comp=Z,83nm,0.8s
SMCO Snowmass 7.11 294 Pn Pn 14 03 41.6 +0.4
PHWY Pilot Hill 7.14 314 IAmb_Lg 14 05 42.7
comp=Z,101nm,0.9s
PARMO Parma 7.16 86 Pn Pn 14 03 42.9 +1.4
N23A Red Feather La 7.19 310 Pn Pn 14 03 42.6 +0.3
N23A Red Feather La 7.19 310 P Pn 14 03 42.4 +0.2
baz=126
Y22D IRIS PASSCAL I 7.19 253 IAmb_Lg 14 06 00.4
comp=Z,82nm,0.8s
LENM Lemitar 7.20 253 Pn Pn 14 03 44.1 +1.9
PENMO Penman 7.27 88 IAmb_Lg 14 05 56.7
comp=Z,103nm,0.7s
MNTX Cornudas Mount 7.36 231 Pn 14 03 43.5 -0.9
MNTX Cornudas Mount 7.36 231 P Pn 14 03 43.9 -0.5
baz=47,SNR=8.7
ECSD EROS Data Cent 7.38 12 Pn Pn 14 03 43.4 -1.2
ECSD EROS Data Cent 7.38 12 P Pn 14 03 43.1 -1.5
baz=193,SNR=8.2
HALT Halls 7.55 92 IAmb_Lg 14 06 11.0
comp=Z,124nm,0.8s
GLAT Glass 7.55 89 Pn Pn 14 03 47.3 +0.3
GLAT IAmb_Lg 14 06 09.5
comp=Z,123nm,0.7s
HICK Hickman 7.58 87 Pn Pn 14 03 47.9 +0.5
S44A Carbondale 7.60 78 Pn Pn 14 03 48.8 +1.2
S44A IAmb_Lg 14 06 09.0
comp=Z,114nm,0.7s
W45A Hickory Valley 7.80 97 Pn Pn 14 03 52.0 +1.6
W45A IAmb_Lg 14 06 11.6
comp=Z,117nm,0.7s
Y45A Yeager Farm, C 7.91 107 Pn Pn 14 03 53.1 +1.3
Y45A IAmb_Lg 14 06 26.7
comp=Z,82nm,0.8s
SUSD Miller 7.92 358 Pn 14 03 52.3 +0.2
SUSD IAmb_Lg 14 06 16.9
comp=Z,86nm,1.0s
L40A Anamosa 7.99 44 Pn 14 03 53.3 +0.4
Q44A Meyer Farm, Va 8.00 70 Pn Pn 14 03 54.8 +1.8
PV15 Paradox Valley 8.03 286 Pn Pn 14 03 52.2 -1.6
833A Chaparral WMA, 8.19 185 Pn Pn 14 03 55.8 +0.1
PV13 Radium Mtn., P 8.27 285 Pn Pn 14 03 58.0 +1.0
TX31 Lajitas Ar. Si 8.31 212 Pn 14 03 57.2 -0.2
TX32 Lajitas Array 8.31 212 Pn Pn 14 03 57.2 -0.2
TXAR Lajitas Array 8.31 212 Pn Pn 14 03 57.0 -0.5
comp=Z,0.8nm,0.3s,baz=39,slow=12,SNR=41
TXAR Pg Pb 14 04 23.6 +2.7
comp=Z,1.7nm,0.3s,baz=31,slow=14,SNR=11
TXAR Sn Sn 14 05 29.3 -2.1
comp=Z,1.0nm,0.3s,baz=27,slow=14,SNR=1.6
TXAR Lg Lg 14 06 13.2
comp=Z,2.0nm,0.3s,baz=29,slow=25,SNR=3.1
TXAR Lajitas Array 8.31 212 Pn 14 03 57.7 +0.3
HDIL Hopedale 8.37 58 Pn Pn 14 03 58.7 +0.6
RWWY Rawlins 8.43 310 Pn Pn 14 03 59.0 -0.2
RWWY IAmb_Lg 14 06 26.4
comp=Z,62nm,1.0s
I37A Lemond, Waseca 8.50 27 IAmb_Lg 14 06 33.6
comp=Z,65nm,0.8s
K22A Casper 8.63 318 IAmb_Lg 14 06 43.4
comp=Z,93nm,1.1s
RSSD Black Hills 8.64 333 Pn Pn 14 04 03.7 +1.6
RSSD IAmb_Lg 14 06 35.6
comp=Z,55nm,1.0s
RSSD Black Hills 8.64 333 P Pn 14 04 02.4 +0.3
baz=150
O44A Mansfield 8.79 62 Pn Pn 14 04 04.1 +0.2
146A Union 8.80 113 IAmb_Lg 14 06 53.4
comp=Z,48nm,0.8s
L42A Oliver, Polo 8.86 49 IAmb_Lg 14 06 46.7
comp=Z,97nm,0.8s
JFWS Jewell Farm 9.09 43 Pn Pn 14 04 08.4 +0.3
JFWS IAmb_Lg 14 06 51.3
comp=Z,83nm,0.9s
JFWS Jewell Farm 9.09 43 P Pn 14 04 07.3 -0.7
baz=228
T47A Sharon Grove 9.28 84 Pn Pn 14 04 13.3 +2.6
F33A 5 Mile Ranch, 9.48 10 Pn Pn 14 04 12.7 -0.8
F33A IAmb_Lg 14 06 59.5
comp=Z,42nm,0.9s
M44A Midewin, Midew 9.59 56 Pn Pn 14 04 16.1 +1.3
I40A Norwalk 9.59 37 IAmb_Lg 14 07 13.1
comp=Z,45nm,0.7s
SPMN Marine on St. 9.76 25 IAmb_Lg 14 07 15.4
comp=Z,41nm,1.0s
SFIN Lafayette 9.85 63 Pn 14 04 18.8 +0.4
BLO Bloomington 9.95 71 Pn 14 04 20.6 +0.7
CLTN Cedars of Leba 9.95 89 Pn Pn 14 04 21.4 +1.6
K43A Burlington 10.07 49 Pn Pn 14 04 21.0 -0.5
F36A Milaca 10.10 21 Pn Pn 14 04 21.8 -0.1
PD31 Pinedale Array 10.47 310 Pn Pn 14 04 27.5 +0.3
PDAR Pinedale Array 10.47 310 Pn Pn 14 04 26.4 -0.8
comp=Z,0.1nm,0.3s,baz=118,slow=15,SNR=4.9
PDAR Pg 14 05 09.2
comp=Z,0.6nm,0.3s,baz=120,slow=15,SNR=7.9
PDAR Lg Lg 14 07 19.4
comp=Z,1.3nm,0.3s,baz=106,slow=22,SNR=6.9
G40A Rib Lake 10.83 34 Pn 14 04 31.9 0.0
CPCT Cooper Cave 11.50 91 Pn 14 04 41.8 +0.7
V51A Loudon 11.58 89 Pn Pn 14 04 43.7 +1.5
TKL Tuckaleechee C 12.07 90 Pn Pn 14 04 49.3 +0.4
comp=Z,1.0nm,0.3s,baz=238,slow=7.7,SNR=9.7
TKL Sn Sn 14 07 01.0 -2.4
comp=Z,0.4nm,0.3s,baz=328,slow=15,SNR=1.2
TKL Lg Lg 14 08 06.7
comp=Z,0.7nm,0.3s,baz=302,slow=19,SNR=2.5
TKL Tuckaleechee C 12.07 90 Pn 14 04 49.7 +0.9
S51A Beattyville 12.08 80 Pn 14 04 48.9 -0.1
ULM Lac du Bonnet 13.88 7 Pn Pn 14 05 08.6 -4.9
comp=Z,0.3nm,0.3s,baz=184,slow=11,SNR=2.9
ULM Sn Sn 14 07 33.8 -14
comp=Z,0.3nm,0.3s,baz=114,slow=20,SNR=1.4
ULM Lg Lg 14 09 07.8
comp=Z,0.5nm,0.3s,baz=270,slow=19,SNR=2.5
YKA Yellowknife Ar 27.83 344 P P 14 07 47.5 +1.4
comp=Z,0.3nm,0.7s,baz=145,slow=9.2,SNR=6.7
ILAR Eielson Array 40.07 330 P P 14 09 32.5 +0.5
comp=Z,0.4nm,0.7s,baz=119,slow=8.6,SNR=4.1

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*IDC **08** 14:05:55.0±2.4, 11°.49S×166°.35E, h46km±20km, mb4.1/20, mb1 4.3/21, mb1mx4.2/37, mbtmp4.4/21, ML5.5/1, MS4.0/45, Ms1 4.0/45, ms1mx4.0/60, Error ellipse: s-maj=18.2km s-min=14.9km az=100.0*

*GCMT **08** 14:05:57.2±0.2, 11°.60S±0°.02×166°.07E±0°.02, h49km, MW5.1/88, Moment Tensor Solution. s88,c111; s71,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.44±.17; $M_{\theta\theta}$-0.27±.13; $M_{\phi\phi}$-5.18±.11; $M_{r\theta}$-0.17±.11; $M_{\theta\phi}$1.08±.11; $M_{\phi r}$0.26±.12; Best double couple: $M_0$5.43300×10^{16} NP1ϕ_s169.00000°, δ43.00000°, λ92.00000°. NP2ϕ_s347.00000°, δ47.00000°, λ88.00000°. Principal axes: T 5.4500, Plg88.0000°, Azm220.0000°; N -0.0420, Plg1.0000°, Azm348.0000°; P -5.4150, Plg2.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 14:05:58.2±2.2, 11°.48S±0°.09×166°.4E±0°.1, h68km±7km, mb4.7/39 Error ellipse: s-maj=17.8km s-min=11.4km az=63.0*

ISC 08 14:05:56.7±0.4, **11°.48S**±0°.06×**166°.34E**±0°.06, **h59**km, **n152**, σ1**$\$29$**/123, **mb4.5**/37, **MS4.0**/45, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SANVU	**Saraoutou**	**4.03**	**168**	Pn	**Pn**	**14 06 56.4**	**+0.5**
SANVU	**Saraoutou**	**4.03**	**168**	P	**Pn**	**14 06 57.5**	**+1.5**
DVP	**Devils Point**	**6.46**	**164**	P	**Pn**	**14 07 29.6**	**+0.4**
HNR	**Honiara**	**6.61**	**287**	P	**Pn**	**14 07 31.4**	**+0.1**
96nm,0.3s,baz=137,slow=6.6,SNR=35							
HNR				S	**Sn**	**14 08 43.2**	**-2.1**
9.7nm,0.3s,baz=145,slow=16,SNR=0.8							
HNR				LR	LR	14 10 23.5	
comp=Z,3μm,20.0s,baz=120,slow=41							
HNR	**Honiara**	**6.61**	**287**		**Pn**	**14 07 31.0**	**-0.3**
HNR	**Honiara**	**6.61**	**287**	P	**Pn**	**14 07 32.0**	**+0.7**
KOUNC	**Koumac, New Ca**	**9.23**	**192**	P	**Pn**	**14 08 08.1**	**+0.9**
MARNC	**Mare, Loyalty**	**10.07**	**171**	Pn	**Pn**	**14 08 18.4**	**-0.4**
DZM	**Mont Dzumac**	**10.53**	**179**	P	**Pn**	**14 08 26.6**	**+1.5**
1.1nm,0.3s,baz=298,slow=12,SNR=17							
DZM				S	**Sn**	**14 10 19.0**	**-2.6**
1.2nm,0.3s,baz=352,slow=22,SNR=1.8							
DZM	**Mont Dzumac**	**10.53**	**179**	*e*Pn	**Pn**	**14 08 26.5**	**+1.5**
8.9nm,0.2s							
DZM				*e*Sn	Sn	14 10 12.0	-10
4.9nm,0.3s							
DZM				*e*LR	LR	14 10 46.0	
comp=Z,3μm,26.1s							
DZM	**Mont Dzumac**	**10.53**	**179**		**Pn**	**14 08 27.7**	**+2.6**
DZM	**Mont Dzumac**	**10.53**	**179**	P	**Pn**	**14 08 25.9**	**+0.8**
NOUC	**Port Laguerre**	**10.56**	**180**	P	**Pn**	**14 08 26.2**	**+0.8**
ONTNC	**Ouen Toro**	**10.77**	**179**	Pn	**Pn**	**14 08 31.9**	**+3.8**
OUENC	**Ouen Island, N**	**10.89**	**178**	P	**Pn**	**14 08 30.7**	**+0.9**
MSVF	**Nonsavu**	**12.92**	**120**		**P**	**14 09 09.3**	**+2.8**
0.7nm,0.3s,baz=276,slow=8.3,SNR=8.7							
MSVF				LR	LR	14 12 59.4	
comp=Z,2μm,21.4s,baz=336,slow=33							
RABL	**Rabaul**	**15.79**	**296**	P	**Pn**	**14 09 36.4**	**+0.8**
RABL				IAmb	IAmb	14 09 50.1	
comp=Z,35nm,0.7s							
PMG	**Port Moresby**	**18.97**	**274**	P	**Pn**	**14 10 19.3**	**+4.6**
comp=Z,0.5nm,0.3s,baz=98,slow=11,SNR=7.6							
PMG				LR	LR	14 17 02.2	
comp=Z,904nm,20.7s,baz=136,slow=35							
PMG	**Port Moresby**	**18.97**	**274**		**P**	**14 10 12.9**	**-0.6**
PMG				IAmb	IAmb	14 10 38.7	
comp=Z,38nm,1.1s							
PATS	**Pohnpei**	**19.87**	**336**	P	**P**	**14 10 23.3**	**0.0**
EIDS	**Eidsvold**	**19.98**	**224**	P	**P**	**14 10 23.8**	**-0.6**
EIDS				IAmb	IAmb	14 10 42.2	
comp=Z,19nm,0.8s							
EIDS	**Eidsvold**	**19.98**	**224**	P	**P**	**14 10 26.5**	**+2.1**
MANU	**Manus Island**	**21.03**	**295**	P	**P**	**14 10 37.4**	**+1.6**
MANU				IAmb	IAmb	14 11 02.6	
comp=Z,36nm,1.3s							
CTA	**Charters Tower**	**21.12**	**244**	P	**P**	**14 10 40.9**	**+4.2**
comp=Z,2.1nm,0.3s,baz=41,slow=8.0,SNR=1.9							
CTAO	**Charters Tower**	**21.12**	**244**	P	**P**	**14 10 38.1**	**+1.3**
CTAO	**Charters Tower**	**21.12**	**244**	P	**P**	**14 10 38.2**	**+1.4**
AFI	**Afiamalu**	**21.48**	**99**	LR	LR	14 17 23.3	
comp=Z,445nm,20.4s,baz=266,slow=32							
MTSU	**Mount Surprise**	**22.28**	**250**	P	**P**	**14 10 50.1**	**+0.8**
RMQ	**Roma**	**22.30**	**226**	P	**P**	**14 10 51.5**	**+2.2**
COEN	**Coen**	**22.73**	**261**	P	**P**	**14 10 54.8**	**+0.8**
COEN	**Coen**	**22.73**	**261**	P	**P**	**14 10 54.4**	**+0.4**
RAO	**Raoul Island**	**22.98**	**143**	LR	LR	14 17 57.8	
comp=Z,439nm,21.2s,baz=334,slow=32							
ARMA	**Armidale**	**23.27**	**214**	P	**P**	**14 11 00.1**	**+0.6**
ARMA				IAmb	IAmb	14 11 19.8	
comp=Z,25nm,1.1s							
ARMA	**Armidale**	**23.27**	**214**	P	**P**	**14 11 00.7**	**+1.3**
JAY	**Jayapura**	**26.93**	**287**	P	**P**	**14 11 33.4**	**+0.6**
comp=Z,8.5nm,0.8s,baz=80,slow=6.1,SNR=2.4							
JAY				LR	LR	14 23 37.6	
comp=Z,368nm,18.3s,baz=103,slow=39							
QIS	**Mount Isa**	**27.20**	**247**	P	**P**	**14 11 36.5**	**+1.4**
CMSA	**Cobar Meteorol**	**27.60**	**221**	P	**P**	**14 11 38.4**	**-0.2**
URZ	**Urewera**	**28.35**	**162**	P	**P**	**14 11 45.7**	**+0.6**
comp=Z,21nm,1.0s,baz=0.0,slow=2.0,SNR=2.3							
URZ				LR	LR	14 21 10.6	
comp=Z,526nm,21.8s,baz=349,slow=32							
INKA	**Innaminka**	**28.93**	**232**	P	**P**	**14 11 51.2**	**+0.7**
BKZ	**Black Stump Fm**	**29.01**	**164**	P	**P**	**14 11 50.2**	**-0.9**
BKZ	**Black Stump Fm**	**29.01**	**164**	P	**P**	**14 11 50.2**	**-0.9**
H11S2	**WAKE ISLAND Hy**	**29.78**	**1**	T	T	14 42 37.4	
baz=181,slow=76,SNR=60							
H11S3	**WAKE ISLAND Hy**	**29.79**	**1**	T	T	14 42 37.8	
baz=181,slow=76,SNR=44							
H11S1	**WAKE ISLAND Hy**	**29.80**	**1**	T	T	14 42 33.6	
baz=181,slow=76,SNR=37							
STKA	**Stephens Creek**	**30.53**	**225**	P	**P**	**14 12 04.8**	**+0.2**
comp=Z,3.1nm,0.7s,baz=18,slow=9.1,SNR=7.4							
STKA				LR	LR	14 23 26.3	
comp=Z,498nm,21.7s,baz=43,slow=34							
STKA	**Stephens Creek**	**30.53**	**225**	P	**P**	**14 12 05.2**	**+0.5**
STKA	**Stephens Creek**	**30.53**	**225**	P	**P**	**14 12 05.1**	**+0.5**
MSWZ	**Moikau Station**	**30.83**	**167**	P	**P**	**14 12 07.8**	**+0.7**
WR0	**Warramunga Arr**	**31.70**	**251**	P	**P**	**14 12 14.6**	**-0.4**
WB0	**Warramunga Arr**	**31.80**	**251**	P	**P**	**14 12 15.5**	**-0.4**
WB0				IAmb	IAmb	14 12 43.2	
comp=Z,18nm,1.2s							
WRAB	**Tennant Creek**	**31.87**	**251**	P	**P**	**14 12 15.7**	**-1.0**
WRAB				IAmb	IAmb	14 12 36.5	
comp=Z,7.3nm,0.8s							
WRAB	**Tennant Creek**	**31.87**	**251**	P	**P**	**14 12 15.6**	**-1.0**
WB2	**Warramunga Arr**	**31.87**	**251**	P	**P**	**14 12 16.1**	**-0.4**
WB2				IAmb	IAmb	14 12 37.3	
comp=Z,15nm,1.4s							
WRA	**Warramunga Arr**	**31.88**	**251**	P	**P**	**14 12 15.9**	**-0.8**
comp=Z,4.3nm,0.9s,baz=82,slow=9.2,SNR=20							
WRA				PcP	**PcP**	**14 15 05.9**	**-0.4**
comp=Z,0.8nm,0.6s,baz=78,slow=3.3,SNR=5.6							
WRA				ScP	**ScP**	**14 18 47.5**	**+2.6**
comp=Z,0.2nm,0.6s,baz=81,slow=3.6,SNR=1.6							
WRA				LR	LR	14 23 48.6	
comp=Z,350nm,21.5s,baz=74,slow=34							
WRA	**Warramunga Arr**	**31.88**	**251**	P	**P**	**14 12 15.9**	**-0.8**
TOO	**Toolangi**	**32.01**	**212**	P	**P**	**14 12 17.9**	**+0.4**
TOO				IAmb	IAmb	14 12 33.2	
comp=Z,9.8nm,1.0s							
TOO	**Toolangi**	**32.01**	**212**	P	**P**	**14 12 18.0**	**+0.4**
RPZ	**Rata Peaks**	**32.37**	**174**	P	**P**	**14 12 20.6**	**-0.1**
GUMO	**Guam**	**32.77**	**319**	LR	LR	14 26 28.0	
comp=Z,124nm,18.3s,baz=136,slow=38							
AS31	**Alice Springs**	**33.12**	**244**	P	**P**	**14 12 26.6**	**-0.9**
ASAR	**Alice Springs**	**33.12**	**244**	P	**P**	**14 12 26.2**	**-1.3**
comp=Z,4.6nm,0.8s,baz=65,slow=10,SNR=77							
ASAR				PcP	**PcP**	**14 15 08.2**	**-1.5**
comp=Z,1.0nm,0.6s,baz=68,slow=2.4,SNR=7.5							
ASAR				ScP	**ScP**	**14 18 50.8**	**+1.7**
comp=Z,0.7nm,0.8s,baz=77,slow=3.4,SNR=5.0							
ASAR				LR	LR	14 25 03.2	
comp=Z,460nm,20.0s,baz=78,slow=35							
ASAR	**Alice Springs**	**33.12**	**244**	P	**P**	**14 12 26.8**	**-0.7**
KDU	**Kakadu**	**33.12**	**264**	P	**P**	**14 12 27.0**	**-0.6**
HTT	**Hallett**	**33.27**	**225**	P	**P**	**14 12 30.4**	**+1.7**
RAR	**Rarotonga**	**33.86**	**111**	LR	LR	14 23 35.3	
comp=Z,277nm,21.0s,baz=286,slow=31							
TWOA	**Tennyson Woods**	**34.43**	**223**	P	**P**	**14 12 39.4**	**+0.8**
MTN	**Manton Dam**	**34.43**	**264**	P	**P**	**14 12 39.7**	**+0.8**
MTN				IAmb	IAmb	14 13 01.1	
comp=Z,8.5nm,1.1s							
BBOO	**Buckleboo**	**34.96**	**228**	P	**P**	**14 12 44.0**	**+0.7**
BBOO				IAmb	IAmb	14 12 44.8	
comp=Z,22nm,1.4s							
BBOO	**Buckleboo**	**34.96**	**228**	P	**P**	**14 12 44.1**	**+0.7**
MULG	**Mulgathing**	**35.30**	**233**	P	**P**	**14 12 45.5**	**-0.8**
SIJI	**Sorong**	**36.38**	**284**	P	**P**	**14 12 55.7**	**0.0**
comp=Z,2.3nm,0.3s,baz=201,slow=22,SNR=2.0							
SIJI				LR	LR	14 29 03.4	
comp=Z,267nm,20.6s,baz=126,slow=38							
KNRA	**Kununurra**	**36.73**	**259**	P	**P**	**14 12 58.5**	**-0.1**
KNRA				IAmb	IAmb	14 13 16.4	
comp=Z,15nm,0.9s							
KNRA	**Kununurra**	**36.73**	**259**	P	**P**	**14 12 58.0**	**-0.6**
WRKA	**Warakurna**	**38.41**	**244**	P	**P**	**14 13 11.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**39.83**	**256**	LR	LR	14 28 41.3	
comp=Z,600nm,20.2s,baz=92,slow=34							
BATI	**Baumata**	**41.91**	**267**	LR	LR	14 30 26.0	
comp=Z,252nm,21.9s,baz=131,slow=35							
PPT	**Papeete**	**43.03**	**103**	LR	LR	14 29 07.3	
comp=Z,159nm,18.6s,baz=262,slow=32							
PPT2	**Papeete2**	**43.03**	**103**	*e*S	S	14 20 30.4	+18
comp=Z,163nm,29.8s							
PPT2				*e*LQ	LQ	14 24 09.8	
comp=Z,485nm,25.8s							
PPT2				*e*LR	LR	14 25 57.2	
comp=Z,906nm,28.0s							
TBI	**Tubuai**	**43.63**	**112**	*e*LQ	LQ	14 24 24.8	
comp=Z,576nm,28.5s							
TBI				*e*LR	LR	14 26 15.7	
comp=Z,1μm,30.5s							
DAV	**Davao City (W)**	**44.54**	**293**	LR	LR	14 32 41.6	
comp=Z,109nm,19.9s,baz=338,slow=36							
PSA00	**Pilbara Seismi**	**45.54**	**251**	P	**P**	**14 14 10.8**	**-0.1**
PSA00				IAmb	IAmb	14 14 12.4	
comp=Z,12nm,1.2s							
MBWA	**Marble Bar**	**45.61**	**252**	P	**P**	**14 14 11.9**	**+0.4**
KAPI	**Kappang**	**46.50**	**274**	LR	LR	14 33 04.3	
comp=Z,75nm,21.7s,baz=164,slow=35							
TOLI2	**Tolitoli**	**46.97**	**282**	P	**P**	**14 14 22.7**	**+0.4**
TOLI2				IAmb	IAmb	14 14 33.7	
comp=Z,12nm,1.1s							
TOLI2	**Tolitoli**	**46.97**	**282**	P	**P**	**14 14 22.2**	**0.0**
MEEK	**Meekatharra**	**47.28**	**244**	P	**P**	**14 14 24.6**	**0.0**
KLBR	**Kellerberrin**	**48.97**	**238**	P	**P**	**14 14 36.8**	**-0.7**
BLDU	**Ballidu**	**49.64**	**240**	P	**P**	**14 14 42.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**49.70**	**236**	P	**P**	**14 14 42.1**	**-1.0**
MORW	**Morawa**	**49.93**	**242**	P	**P**	**14 14 45.3**	**+0.5**
MYLDM	**Lahad Datu**	**50.39**	**287**	P	**P**	**14 14 50.4**	**+1.8**
JHJ	**Hachijo jima 2**	**51.08**	**331**	LR	LR	14 38 27.5	
comp=Z,42nm,18.0s,baz=101,slow=38							
TAOE	**Nuku Hiva Isla**	**52.68**	**92**	*e*S	S	14 22 48.6	+19
comp=Z,132nm,26.1s							
TAOE				*e*LR	LR	14 30 28.2	
comp=Z,356nm,26.5s							
KKM	**Kota Kinabalu**	**52.82**	**287**	P	**P**	**14 15 06.9**	**+0.1**
KKM	**Kota Kinabalu**	**52.82**	**287**	P	**P**	**14 15 07.2**	**+0.4**
JOW	**Kunigami**	**53.07**	**316**	LR	LR	14 37 24.5	
comp=Z,133nm,19.1s,baz=144,slow=36							
MJAR	**Matsushiro Arr**	**54.62**	**332**	P	**P**	**14 15 18.3**	**-1.2**
comp=Z,1.1nm,0.7s,baz=165,slow=8.4,SNR=2.2							
JNU	**Nakatsue**	**55.77**	**324**	LR	LR	14 37 13.7	
comp=Z,80nm,20.8s,baz=122,slow=34							
LEM	**Lembang**	**58.08**	**269**	LR	LR	14 43 44.1	
comp=Z,72nm,18.5s,baz=136,slow=39							
ASAJ	**Asahikawa**	**59.40**	**340**	LR	LR	14 36 52.7	
comp=Z,208nm,21.8s,baz=168,slow=31							
KSRS	**Korea Array**	**60.56**	**325**	P	**P**	**

comp=Z,97nm,18.9s,baz=169,slow=32
VNDA Vanda 66.07 181 P **P 14 16 36.7 -0.3**
comp=Z,2.6nm,0.8s,baz=345,slow=9.1,SNR=8.9
VNDA Vanda 66.07 181 P **P 14 16 35.9 -1.1**
VNDA IAmb IAmb 14 16 37.4
comp=Z,11nm,1.4s
CASY Casey 66.19 201 P **P 14 16 34.6 -3.3**
KLR Kul'dur 67.69 336 LR LR 14 42 23.3
comp=Z,99nm,22.0s,baz=168,slow=32
GSI Gunungsitoli 69.48 276 P **P 14 16 59.7 +0.1**
CMAR Chiang Mai Arr 72.82 293 P **P 14 17 19.9 +0.2**
comp=Z,0.4nm,0.3s,baz=114,slow=6.1,SNR=4.2
CMAR LR LR 14 46 40.5
comp=Z,48nm,22.0s,baz=90,slow=34
KDAK Kodiak Island 76.77 21 LR LR 14 45 14.8
comp=Z,302nm,20.1s,baz=198,slow=31
QSPA South Pole Qui 78.53 180 P **P 14 17 50.5 -1.1**
comp=Z,5.8nm,0.8s,baz=22,slow=1.0,SNR=18
QSPA South Pole Qui 78.53 180 P **P 14 17 50.3 -1.3**
QSPA IAmb IAmb 14 17 52.8
comp=Z,6.2nm,0.8s
YAK Yakutsk 78.68 343 LR LR 14 53 44.8
comp=Z,72nm,18.0s,baz=151,slow=36
BRLK Bradley Lake 78.84 21 P **P 14 17 55.4 +2.2**
BILL Bilibino 79.31 360 P **P 14 17 55.2 -0.3**
SONM Songino Array 79.36 324 P **P 14 17 56.1 -0.3**
comp=Z,1.0nm,0.5s,baz=144,slow=4.9,SNR=13
SONM Songino Array 79.36 324 P **P 14 17 56.1 -0.3**
IMAR Indian Mountai 82.69 15 P **P 14 18 13.3 -0.3**
TABL Table Mountain 82.88 23 P **P 14 18 15.4 +0.5**
TABL IAmb IAmb 14 18 43.7
comp=Z,12nm,0.9s
CCB Clear Creek Bu 83.37 18 P **P 14 18 16.8 -0.3**
ILAR Eielson Array 83.74 18 P **P 14 18 18.5 -0.5**
comp=Z,0.9nm,0.6s,baz=240,slow=4.7,SNR=18
ILAR LR LR 14 49 45.0
comp=Z,54nm,19.7s,baz=120,slow=31
ILAR Eielson Array 83.74 18 P **P 14 18 19.9 +0.9**
SCRK Sand Creek 84.13 20 P **P 14 18 21.3 +0.1**
SCRK IAmb IAmb 14 18 44.4
comp=Z,13nm,1.4s
BCAR Beaver Creek A 84.29 21 P **P 14 18 22.7 +0.8**
MAW Mawson 84.54 202 LR LR 14 49 30.3
comp=Z,114nm,20.4s,baz=86,slow=31
BBB Bella Bella 84.61 34 LR LR 14 48 40.7
comp=Z,142nm,20.8s,baz=254,slow=30
DAWY Dawson 85.75 21 P **P 14 18 30.2 +1.0**
DAWY IAmb IAmb 14 18 52.6
comp=Z,6.4nm,1.4s
PFO Pinyon Flats O 85.86 55 LR LR 14 48 48.6
comp=Z,187nm,21.2s,baz=209,slow=30
NVAR Mina Array Bea 85.86 50 P **P 14 18 31.6 +1.0**
comp=Z,1.1nm,0.6s,baz=231,slow=8.4,SNR=12
NVAR LR LR 14 48 41.5
comp=Z,220nm,21.8s,baz=234,slow=30
BMAR Burnt Mountain 86.25 17 P **P 14 18 34.5 +2.8**
DLBC Dease Lake 86.52 28 LR LR 14 48 53.2
comp=Z,114nm,21.3s,baz=303,slow=30
TIXI Tiksi 86.63 349 LR LR 14 52 18.8
comp=Z,68nm,21.4s,baz=210,slow=32
PALK Pallekele 87.18 278 LR LR 15 00 45.3
comp=Z,49nm,19.5s,baz=215,slow=38
ELK Elko 88.80 48 LR LR 14 51 12.6
comp=Z,91nm,19.4s,baz=223,slow=31
INK Inuvik 90.12 19 LR LR 14 52 15.6
comp=Z,148nm,20.2s,baz=188,slow=31
PDAR Pinedale Array 93.42 47 P **P 14 19 07.0 +0.9**
comp=Z,0.2nm,0.5s,baz=238,slow=3.0,SNR=3.4
PDAR LR LR 14 56 54.8
comp=Z,39nm,18.1s,baz=196,slow=33
ANMO Albuquerque 94.22 55 LR LR 14 52 35.9
comp=Z,105nm,21.2s,baz=201,slow=30
MK31 Makanchi Array 94.24 317 **P 14 19 09.0 -0.5**
MKAR Makanchi Array 94.24 317 P **P 14 19 08.9 -0.6**
comp=Z,3.6nm,0.5s,baz=86,slow=6.1,SNR=70
ZALV Zalesovo Beam 94.25 324 P **P 14 19 08.0 -1.4**
comp=Z,1.0nm,0.5s,baz=107,slow=4.1,SNR=5.5
ZALV LR LR 14 58 49.5
comp=Z,61nm,21.9s,baz=74,slow=34
MAKZ Makanchi 94.45 317 **P 14 19 10.1 -0.4**
MAKZ IAmb IAmb 14 19 10.8
comp=Z,3.7nm,0.9s
YKA Yellowknife Ar 95.09 27 P **P 14 19 11.3 -1.7**
comp=Z,0.4nm,0.5s,baz=257,slow=4.6,SNR=7.6
TXAR Lajitas Array 95.53 61 P **P 14 19 16.8 +0.8**
comp=Z,0.3nm,0.6s,baz=236,slow=6.0,SNR=4.9
NRIK Noril'sk 96.73 339 LR LR 14 59 53.7
comp=Z,90nm,21.8s,baz=118,slow=34
ARCES ARCESS Array B 116.90 346 PKP **PKPdf 14 24 31.9 -2.3**
comp=Z,3.0nm,1.0s,baz=59,slow=2.3,SNR=5.0
FINES FINESS Array B 122.39 339 PKP **PKPdf 14 24 43.9 -1.0**
comp=Z,2.1nm,0.9s,baz=90,slow=6.0,SNR=4.5
BOSA Boshof 125.19 223 PKP **PKPdf 14 24 51.5 0.0**
comp=Z,2.4nm,0.9s,baz=82,slow=7.1,SNR=3.9
KEST Kesra 148.11 323 PKPbc **PKPbc 14 25 36.2 -0.3**
comp=Z,2.1nm,0.5s,baz=45,slow=5.7,SNR=1.7
ESDC Sonseca Array 150.63 345 PKPbc **PKPbc 14 25 41.0 -1.6**
comp=Z,0.5nm,0.4s,baz=5.5,slow=3.0,SNR=2.2
TORD Torodi Ar. Bea 164.90 278 PKPab **PKPab 14 26 51.3 -0.3**
comp=Z,1.9nm,0.9s,baz=86,slow=4.4,SNR=2.8

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*IDC **08** 14:15:22.8±0.6, 57°.04S×25°.00W, h0km, mb4.4/11, mb1 4.4/12, mb1mx4.3/23, mbtmp4.3/12, ML4.2/1, MS3.4/2, Ms1 3.3/2, ms1mx2.9/40, Error ellipse: s-maj=26.8km s-min=15.6km az=56.0*
*NEIC **08** 14:15:30.5±1.2, 57°.2S±0°.2×25°.3W±0°.2, h47km±7km, mb4.5/12, Error ellipse: s-maj=28.6km s-min=9.4km az=209.0*
ISC 08 14:15:26.3±0.6, **57°.1S**±0°.1×**25°.0W**±0°.1, **h22**km, **n44**, σ0**.85**/40, **mb4.3**/14, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.10**	**288**	Pn	**Pn**	**14 17 10.4**	**+1.6**
VNA1	**Neumayer--Stat**	**15.37**	**159**	P	**Pn**	**14 19 01.8**	**+0.3**
VNA3	**Neumayer Olymp**	**15.60**	**162**	P	**Pn**	**14 19 03.6**	**-1.0**
VNA2	**Neumayer--Watz**	**15.76**	**159**	P	**Pn**	**14 19 06.1**	**-0.5**
	baz=321,slow=15						
SNAA	**Sanae**	**17.29**	**156**	P	**P**	**14 19 27.6**	**+0.3**
SNAA	**Sanae**	**17.29**	**156**	P	**Pn**	**14 19 26.2**	**+0.2**
	0.8nm,0.3s,baz=308,slow=15,SNR=17						
SNAA	**Sanae**	**17.29**	**156**	P	**P**	**14 19 27.0**	**-0.3**
USHA	**Ushuaia**	**24.14**	**257**	P	**P**	**14 20 38.9**	**-1.4**
	26nm,0.6s,baz=165,slow=2.3,SNR=2.1						
QSPA	**South Pole Qui**	**33.16**	**180**	P	**P**	**14 22 01.4**	**+0.6**
	2.0nm,0.5s,baz=143,slow=5.1,SNR=23						
QSPA	**South Pole Qui**	**33.16**	**180**	P	**P**	**14 22 01.1**	**+0.3**
QSPA				IAmb	IAmb	14 22 26.7	
	comp=Z,3.5nm,0.7s						
PLCA	**Paso Flores**	**33.40**	**279**	P	**P**	**14 22 02.0**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=160,slow=3.4,SNR=4.0						
PLCA				LR	LR	14 34 22.7	
	comp=Z,53nm,19.6s,baz=144,slow=34						
PLCA	**Paso Flores**	**33.40**	**279**	P	**P**	**14 22 02.1**	**-1.0**
CPUP	**Villa Florida**	**38.43**	**309**	P	**P**	**14 22 45.5**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=162,slow=6.7,SNR=3.5						
CPUP	**Villa Florida**	**38.43**	**309**	P	**P**	**14 22 46.7**	**+0.6**
CPUP				IAmb	IAmb	14 22 55.7	
	comp=Z,8.6nm,1.1s						
MAW	**Mawson**	**38.57**	**142**	P	**P**	**14 22 47.4**	**+0.6**
	comp=Z,3.6nm,0.9s,baz=261,slow=8.0,SNR=4.1						
AC02	**Maricunga**	**43.45**	**295**	P	**P**	**14 23 27.5**	**-0.5**
BDFB	**Brasilia**	**44.90**	**328**	P	**P**	**14 23 40.1**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=80,slow=12,SNR=2.0						
VNDA	**Vanda**	**45.58**	**182**	P	**P**	**14 23 45.0**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=186,slow=7.6,SNR=5.1						
VNDA	**Vanda**	**45.58**	**182**	P	**P**	**14 23 44.8**	**+0.9**
VNDA				IAmb	IAmb	14 23 57.2	
	comp=Z,5.5nm,1.0s						
PB14	**IPOC Station P**	**45.92**	**295**	P	**P**	**14 23 45.8**	**-1.8**
LBTB	**Lobatse**	**48.16**	**70**	LR	LR	14 41 20.6	
	comp=Z,35nm,18.4s,baz=226,slow=32						
H10S2	**ASCENSION HYDR**	**48.68**	**14**	T	T	15 17 06.0	
	baz=187						
H10S3	**ASCENSION HYDR**	**48.69**	**14**	T	T	15 16 59.6	
	baz=33						
PTLB	**Pontes e Lacer**	**48.91**	**314**	P	**P**	**14 24 11.0**	**+0.5**
PTLB				IAmb	IAmb	14 24 12.8	
	comp=Z,4.8nm,0.8s						
SIV	**San Ignacio**	**49.20**	**311**	P	**P**	**14 24 12.5**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=157,slow=9.6,SNR=8.3						
H10N1	**ASCENSION HYDR**	**49.80**	**14**	T	T	15 18 29.9	
	baz=179						
H10N3	**ASCENSION HYDR**	**49.80**	**14**	T	T	15 18 30.5	
	baz=179						
H10N2	**ASCENSION HYDR**	**49.82**	**14**	T	T	15 18 31.4	
	baz=179						
LPAZ	**La Paz**	**51.99**	**303**	P	**P**	**14 24 34.7**	**+0.1**
	comp=Z,16nm,0.6s,baz=192,slow=6.2,SNR=65						
LPAZ	**La Paz**	**51.99**	**303**	P	**P**	**14 24 34.6**	**+0.1**
ETMB	**Extrema**	**56.89**	**309**	P	**P**	**14 25 09.4**	**0.0**
ETMB				IAmb	IAmb	14 25 12.2	
	comp=Z,5.7nm,0.8s						
RPN	**Rapa Nui**	**64.69**	**259**	LR	LR	14 49 51.1	
	comp=Z,7μm,19.9s,baz=214,slow=32						
BOAV	**Boa Vista**	**65.87**	**320**	P	**P**	**14 26 10.1**	**0.0**
BOAV				IAmb	IAmb	14 26 15.2	
	comp=Z,8.7nm,1.3s						
TORD	**Torodi Ar. Bea**	**73.39**	**27**	P	**P**	**14 26 56.2**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=198,slow=5.9,SNR=7.9						
BIRV	**Birongo**	**75.41**	**318**	P	**P**	**14 27 09.2**	**+1.0**
ASAR	**Alice Springs**	**97.61**	**161**	P	**P**	**14 28 58.8**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=189,slow=3.9,SNR=6.8						
WRA	**Warramunga Arr**	**101.32**	**160**	P	**Pdif**	**14 29 15.4**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=198,slow=4.5,SNR=1.2						
CMAR	**Chiang Mai Arr**	**123.55**	**109**	PKP	**PKPdf**	**14 34 21.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=212,slow=4.3,SNR=2.1						
YKA	**Yellowknife Ar**	**137.78**	**316**	PKP	**PKPdf**	**14 34 44.9**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=120,slow=2.3,SNR=6.5						
YKA				SKP		14 38 20.6	
	comp=Z,0.3nm,0.7s,baz=127,slow=2.0,SNR=3.8						
YKA	**Yellowknife Ar**	**137.78**	**316**		**PKPdf**	**14 34 45.4**	**-1.8**
SONM	**Songino Array**	**149.55**	**87**	PKPbc	**PKPbc**	**14 35 13.0**	**0.0**
	comp=Z,1.7nm,0.6s,baz=219,slow=2.9,SNR=14						
SONM	**Songino Array**	**149.55**	**87**		**PKPbc**	**14 35 12.8**	**-0.3**
ILAR	**Eielson Array**	**151.74**	**310**	PKPbc	**PKPbc**	**14 35 17.4**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=123,slow=1.2,SNR=10						
ILAR				PKPab	**sPKPbc**	**14 35 24.9**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=142,slow=5.0,SNR=6.9						
ILAR	**Eielson Array**	**151.74**	**310**	PKPdf	**PKPdf**	**14 35 11.7**	**+0.6**
ILAR					**PKiKP**	**14 35 17.9**	**0.0**
ILAR					**PKPab**	**14 35 27.1**	**+0.6**

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*DJA **08** 14:17:24.4±0.4, 0°.N±3°.×12°.7E±°, h102km±7km, M4.3/12, mb4.9/1, mB5.8/2, MLv4.0/12, Mw(mB)5.3/2*
*IDC **08** 14:17:27.1±2.9, 0°.29N×127°.38E, h182km±32km, mb3.4/3, mb1 3.5/4, mb1mx3.1/36, mbtmp3.8/4, Error ellipse: s-maj=53.6km s-min=14.7km az=68.0*
ISC 08 14:17:23.8±1.1, **0°.35N**±0°.09×**127°.17E**±0°.08, **h150**km, **n14**, σ2**24**/15, **mb3.8**/3, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.47**	**25**	P	**Pn**	**14 17 41.7**	**-3.3**
LBMI	**Labuha**	**1.03**	**161**	P	**Pn**	**14 17 46.9**	**-2.1**
SANI	**Sanana**	**2.66**	**206**	P	**Pn**	**14 18 03.8**	**-3.1**
KMSI	**Cibinong**	**3.19**	**274**	P	**Pn**	**14 18 11.6**	**-2.1**
MSAI	**Masohi**	**4.07**	**154**	P	**Pn**	**14 18 25.4**	**+0.3**
AAI	**Ambon**	**4.14**	**166**	P	**Pn**	**14 18 25.9**	**0.0**
GTOI	**Gorontalo**	**4.17**	**274**	P	**Pn**	**14 18 26.8**	**+0.5**
SIJI	**Sorong**	**4.27**	**106**	P	**Pn**	**14 18 28.5**	**+0.8**
	0.8nm,0.3s,baz=295,slow=23,SNR=1.4						
APSI	**Ampana**	**5.66**	**257**	P	**Pn**	**14 18 44.1**	**-1.9**
	0.5nm3μm79nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.39**	**185**	P	**P**	**14 21 27.4**	**-0.1**
WRA	**Warramunga Arr**	**21.36**	**161**	P	**P**	**14 21 59.1**	**-0.4**
	2.5nm,0.5s,baz=340,slow=11,SNR=31						
WRA				S	**S**	**14 25 44.3**	**-3.4**
	0.3nm,0.7s,baz=332,slow=17,SNR=2.5						
CBJI	**Citeko**	**21.36**	**251**	P	**P**	**14 22 03.2**	**+3.6**
ASAR	**Alice Springs**	**24.75**	**165**	P	**P**	**14 22 32.0**	**+0.3**
	1.0nm,0.4s,baz=344,slow=8.2,SNR=31						
MKAR	**Makanchi Array**	**60.58**	**326**	P	**P**	**14 27 19.6**	**+1.0**
	0.4nm,0.3s,baz=113,slow=7.6,SNR=10						

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*GCG **08** 14:25:21.8±0.3, 14°.22N×91°.66W, h55km±138km, MD3.6*
*MEX **08** 14:25:21.0±0.6, 13°.94N×91°.82W, h14km±247km, MD3.8*
ISC 08 14:25:21.5±3.4, **14°.2N**±0°.1×**91°.73W**±0°.07, **h27**km±26km, **n8**, σ0**99**/15, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.55**	**17**	*e*P	**Pn**	**14 25 31.8**	**-2.1**
STG3				*e*S	**Sn**	**14 25 43.5**	**+1.2**
FUG	**Fuego 3**	**0.90**	**73**	*e*P	**Pn**	**14 25 37.9**	**-0.7**
CHUJ	**Union Juarez**	**0.98**	**338**	*e*P	**Pn**	**14 25 39.4**	**-0.4**
CHUJ				*e*S	**Sn**	**14 25 53.8**	**+0.9**
PATR	**El Naranjo**	**1.05**	**333**	*e*P	**Pn**	**14 25 40.1**	**-0.7**
PATR				*e*S	**Sn**	**14 25 55.3**	**+0.6**
PAVE	**Pavencul**	**1.10**	**337**	*e*P	**Pn**	**14 25 41.0**	**-0.4**
PAVE				*e*S	**Sn**	**14 25 56.9**	**+1.1**
PCG	**Pacaya**	**1.11**	**79**	*e*P	**Pn**	**14 25 41.0**	**-0.6**
PCG				*e*S	**Sn**	**14 25 56.0**	**-0.2**
NBG	**Las Nubes**	**1.40**	**73**	*e*P	**Pn**	**14 25 46.1**	**+0.5**
NBG				*e*S	**Sb**	**14 26 05.3**	**+0.5**
PCIG		**2.09**	**317**	*e*P	**Pn**	**14 25 54.6**	**-0.2**
PCIG				*e*S	**Sn**	**14 26 19.5**	**-0.5**

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*EAF **08** 14:36:26.5±0.5, 26°.24S×28°.44E, h11km±10km, MD3.8*
BUL 08 14:36:26.5±0.5, **26°.24S**×**28°.44E**, **h11**km±10km, **MD4.0**, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.85**	**295**	*i* P	Pn	14 37 11.5	-0.6
LBTB				*i* Sg	Sb	14 37 55.0	+2.7
LBTB	**Lobatse**	**2.85**	**295**	*i* P	Pn	14 37 11.5	-0.6
LBTB				*i* Sg	Sb	14 37 55.0	+2.7
BOSA	**Boshof**	**3.69**	**229**	*i* P	Pn	14 37 23.5	-0.1
BOSA				*i* Sg	Sg	14 38 21.0	-4.0
BOSA	**Boshof**	**3.69**	**229**	*i* P	Pn	14 37 23.5	-0.1
BOSA				*i* Sg	Sg	14 38 21.0	-4.0
MATP	**Matopo**	**5.79**	**1**	*i* P	Pn	14 37 51.8	-0.8
MATP	**Matopo**	**5.79**	**1**	*i* P	Pn	14 37 51.8	-0.8

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*IDC **08** 14:45:27.7±0.7, 29°.19S×112°.15W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/36, mbtmp4.2/14, MS4.5/32, Ms1 4.5/32, ms1mx4.5/37, Error ellipse: s-maj=24.6km s-min=19.1km az=25.0*
*NEIC **08** 14:45:28.8±1.3, 29°.1S±0°.1×111°.8W±0°.1, h15km±4km, mb5.0/47, Error ellipse: s-maj=19.4km s-min=15.9km az=115.0*
*GCMT **08** 14:45:31.9±0.1, 29°.49S±0°.01×111°.89W±0°.01, h15km, MW5.2/129, Moment Tensor Solution. s76,c112; s129,c215; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.72±.14; $M_{\theta\theta}$-0.85±.13; $M_{\phi\phi}$1.57±.13; $M_{r\theta}$0.09±.39; $M_{\theta\phi}$-6.64±.12; $M_{\phi r}$-1.52±.39; Best double couple: M_o6.91500×10^16 NP1:φ₁95.00000°, δ77.00000°, λ-180.00000°. NP2:φ₂5.00000°, δ90.00000°, λ-13.00000°. Principal axes: T 7.2970, Plg9.0000°, Azm51.0000°; N -0.7630, Plg77.0000°, Azm184.0000°; P -6.5340, Plg9.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 14:45:27.5±0.5, **29°.01S**±0°.09×**112°.03W**±0°.08, **h10**km, **n130**, σ1**51**/97, **mb4.9**/37, **MS4.6**/35, **1C**, **Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**2.94**	**52**	Pn	**Pn**	**14 46 13.8**	**-0.4**
RPN	**Rapa Nui**	**3.03**	**52**	Pn	**Pn**	**14 46 14.8**	**-0.6**
	25nm,0.3s,baz=223,slow=11,SNR=10.0						
RPN				Sn	**Sb**	**14 46 59.2**	**+0.7**
	2.3nm,0.3s,baz=261,slow=19,SNR=1.6						
RPN	**Rapa Nui**	**3.03**	**52**	Pn	**Pn**	**14 46 14.3**	**-1.2**
H03N2	**Juan Fernandez**	**28.57**	**107**	T	T	15 21 00.9	
	baz=274,slow=73,SNR=1403						
H03N3	**Juan Fernandez**	**28.58**	**107**	T	T	15 21 01.9	
	baz=274,slow=73,SNR=3094						
H03N1	**Juan Fernandez**	**28.59**	**107**	T	T	15 21 04.7	
	baz=274,slow=73,SNR=2846						
TAOE	**Nuku Hiva Isla**	**33.15**	**302**	*e*S	**S**	**14 57 19.3**	**-4.8**
	137nm,29.8s						
TAOE				*e*LQ	LQ	14 59 24.9	
	974nm,29.0s						
TAOE				*e*LR	LR	15 00 49.7	
	comp=Z,1μm,25.7s						
TBI	**Tubuai**	**33.97**	**271**	*e*LQ	LQ	14 59 41.1	
	3μm,26.8s						
TBI				*e*LR	LR	15 01 05.2	
	comp=Z,488nm,24.8s						
PLCA	**Paso Flores**	**35.68**	**120**	P	**P**	**14 52 27.5**	**+1.4**
	2.3nm,0.9s,baz=285,slow=9.2,SNR=3.5						
PPT2	**Papeete2**	**36.17**	**280**	*e*LQ	LQ	15 00 37.2	
	891nm,25.5s						
PPT2				*e*LR	LR	15 02 06.8	
	comp=Z,409nm,25.8s						
PPT	**Papeete**	**36.18**	**280**	LR	LR	15 02 40.1	
	comp=Z,151nm,21.5s,baz=106,slow=29						
NNA	**Nana**	**36.86**	**70**	LR	LR	15 04 06.4	
	comp=Z,1μm,18.5s,baz=236,slow=30						
ZON	**Zonda**	**37.34**	**105**	P	**P**	**14 52 39.0**	**-1.3**
ZON				IAmb	IAmb	14 52 58.7	
	comp=Z,26nm,1.3s						
AC02	**Maricunga**	**37.81**	**97**	P	**P**	**14 52 44.0**	**-0.8**
AC02				IAmb	IAmb	14 53 05.0	
	comp=Z,36nm,1.9s						
ATAH	**Atahualpa**	**38.44**	**62**	P	**P**	**14 52 51.7**	**+1.6**
	comp=Z,2.7nm,0.6s,baz=254,slow=8.9,SNR=6.2						
LVC	**Limon Verde**	**39.17**	**91**	P	**P**	**14 52 57.8**	**+1.7**
	comp=Z,1.2nm,0.4s,baz=266,slow=7.1,SNR=4.7						
LVC				LR	LR	15 04 53.9	
	comp=Z,295nm,20.4s,baz=250,slow=30						
LVC	**Limon Verde**	**39.17**	**91**	P	**P**	**14 52 53.5**	**-2.6**
PB16	**IPOC Station P**	**40.17**	**84**	P	**P**	**14 53 02.6**	**-2.2**
LPAZ	**La Paz**	**42.21**	**82**	P	**P**	**14 53 23.4**	**+1.8**
	comp=Z,3.5nm,1.1s,baz=247,slow=9.0,SNR=6.8						
LPAZ				PcP	**PcP**	**14 55 18.4**	**+2.6**
	comp=Z,2.7nm,0.8s,baz=237,slow=5.6,SNR=3.9						
LPAZ				LR	LR	15 07 45.8	
	comp=Z,634nm,19.0s,baz=243,slow=32						
LPAZ	**La Paz**	**42.21**	**82**	P	**P**	**14 53 20.4**	**-1.2**
CZSB	**Cruzeiro do Su**	**42.61**	**68**	P	**P**	**14 53 22.2**	**-1.9**
CZSB				IAmb	IAmb	14 53 35.4	
	comp=Z,24nm,0.9s						
OTAV	**Otavalo**	**43.30**	**54**	P	**P**	**14 53 27.9**	**-2.4**
RAR	**Rarotonga**	**43.69**	**269**	LR	LR	15 06 21.5	
	comp=Z,189nm,21.8s,baz=110,slow=29						
PMSA	**Palmer Station**	**46.59**	**154**	LR	LR	15 08 23.6	
	comp=Z,617nm,18.6s,baz=302,slow=30						
ETMB	**Extrema**	**46.89**	**75**	P	**P**	**14 53 55.8**	**-2.5**
ETMB				IAmb	IAmb	14 54 08.2	
	comp=Z,15nm,1.3s						
JTS	**Las Juntas de**	**47.00**	**38**	LR	LR	15 08 56.7	
	comp=Z,1μm,19.5s,slow=30						
JTS	**Las Juntas de**	**47.00**	**38**	P	**P**	**14 53 58.6**	**-0.5**
JTS				IAmb	IAmb	14 54 03.9	
	comp=Z,21nm,1.4s						
CPUP	**Villa Florida**	**48.16**	**101**	LR	LR	15 10 01.8	
	comp=Z,311nm,19.6s,baz=256,slow=31						
CMIG	**Matias Romero**	**48.73**	**22**	LR	LR	15 09 54.8	
	comp=Z,392nm,19.2s,baz=188,slow=30						
ROSC	**El Rosal**	**49.45**	**53**	LR	LR	15 11 50.3	
	comp=Z,1μm,19.4s,baz=250,slow=32						
PTLB	**Pontes e Lacer**	**50.40**	**86**	P	**P**	**14 54 23.5**	**-1.8**
PTLB				IAmb	IAmb	14 54 27.0	
	comp=Z,26nm,1.8s						
SDV	**Santo Domingo**	**54.88**	**53**	P	P	14 55 03.2	+4.5
	comp=Z,3.1nm,0.3s,baz=107,slow=10,SNR=3.4						
SDV				LR	LR	15 15 33.5	
	comp=Z,599nm,21.9s,baz=215,slow=33						
RAO	**Raoul Island**	**56.83**	**252**	LR	LR	15 13 32.6	
	comp=Z,486nm,21.1s,baz=124,slow=30						
PTGA	**Pitinga**	**57.00**	**70**	P	**P**	**14 55 17.8**	**+4.1**
	comp=Z,5.1nm,0.9s,baz=233,slow=4.9,SNR=4.8						
PTGA				LR	LR	15 18 01.0	
	comp=Z,618nm,18.4s,baz=253,slow=34						
AFI	**Afiamalu**	**57.06**	**272**	LR	LR	15 13 18.7	
	comp=Z,220nm,19.4s,baz=112,slow=29						
833A	**Chaparral WMA,**	**58.27**	**13**	P	**P**	**14 55 22.2**	**-0.1**
BOAV	**Boa Vista**	**58.35**	**67**	P	**P**	**14 55 22.3**	**-0.9**
BOAV				IAmb	IAmb	14 55 33.2	
	comp=Z,23nm,1.3s						
URZ	**Urewera**	**58.43**	**241**	LR	LR	15 15 49.9	
	comp=Z,1μm,20.7s,baz=150,slow=31						
TXAR	**Lajitas Array**	**58.56**	**9**	P	**P**	**14 55 29.0**	**+4.6**
	comp=Z,1.2nm,0.9s,baz=197,slow=12,SNR=4.4						
TXAR	**Lajitas Array**	**58.56**	**9**	P	**P**	**14 55 24.3**	**-0.1**
PCRV	**Puerto La Cruz**	**60.06**	**57**	LR	LR	15 18 41.1	
	comp=Z,836nm,19.1s,slow=33						
BDFB	**Brasilia**	**60.06**	**92**	P	P	14 55 39.2	+4.0
	comp=Z,1.5nm,0.4s,baz=181,slow=22,SNR=2.5						
BDFB	**Brasilia**	**60.06**	**92**	P	**P**	**14 55 33.5**	**-1.8**
BDFB				IAmb	IAmb	14 55 44.4	
	comp=Z,15nm,1.4s						
JCT	**Junction City**	**60.29**	**12**	P	**P**	**14 55 36.7**	**+0.4**
HKT	**Hockley**	**60.63**	**16**	P	**P**	**14 55 38.8**	**+0.3**
MNTX	**Cornudas Mount**	**60.70**	**6**	P	**P**	**14 55 40.0**	**+0.9**
VNDA	**Vanda**	**61.07**	**194**	P	**P**	**14 55 42.8**	**+1.7**
	comp=Z,2.7nm,1.0s,baz=45,slow=7.2,SNR=2.5						
VNDA				LR	LR	15 16 53.7	
	comp=Z,583nm,19.2s,baz=94,slow=31						
QSPA	**South Pole Qui**	**61.17**	**180**	LR	LR	15 19 24.9	
	comp=Z,247nm,18.2s,baz=104,slow=33						
QSPA	**South Pole Qui**	**61.17**	**180**	P	**P**	**14 55 43.5**	**+1.4**
QSPA				IAmb	IAmb	14 55 46.7	
	comp=Z,18nm,1.5s						
WHTX	**Lake Whitney,**	**62.22**	**14**	P	**P**	**14 55 50.0**	**+0.7**
PFO	**Pinyon Flats O**	**62.42**	**356**	LR	LR	15 16 41.7	
	comp=Z,223nm,20.3s,baz=182,slow=30						
X18A	**Snowflake**	**63.22**	**2**	P	**P**	**14 55 56.4**	**+0.2**
X18A				IAmb	IAmb	14 56 19.5	
	comp=Z,16nm,1.4s						
MSTX	**Muleshoe**	**63.24**	**9**	P	**P**	**14 55 57.5**	**+1.2**
MSVF	**Nonsavu**	**64.37**	**263**	LR	LR	15 17 17.2	
	comp=Z,340nm,21.4s,baz=111,slow

PDAR Pinedale Array 71.45 2 P P 14 56 48.5 +0.3
K22A Casper 71.48 4 P P 14 56 48.7 +0.3
K22A IAmb IAmb 14 56 57.6
comp=Z,16nm,1.1s
ECR Eagle Creek 71.71 1 P P 14 56 49.5 -0.2
HLID Hailey 72.25 358 P P 14 56 53.8 +0.9
DZM Mont Dzumac 72.55 254 LR LR 15 20 45.6
comp=Z,440nm,20.9s,baz=178,slow=29
DZM Mont Dzumac 72.55 254 *eS* S 15 06 07.8 -12
comp=Z,171nm,26.4s
DZM Mont Dzumac 72.55 254 *e*LR LR 15 18 54.0
comp=Z,1μm,28.4s
MCMT McKenzie Canyo 73.48 359 P P 14 57 00.7 +0.4
YHL Hebgen Lake 73.51 1 P P 14 57 00.8 +0.3
BMO Blue Mountains 73.66 356 P P 14 57 00.9 -0.3
BMO IAmb IAmb 14 57 06.2
comp=Z,18nm,1.7s
F10A Beach Ranch, E 74.77 356 P P 14 57 08.2 +0.6
DGMT Dagmar 77.44 5 P P 14 57 23.2 +0.6
AGMN Agassiz Nation 78.31 11 P P 14 57 27.6 +0.1
SYO Syowa Base 80.08 170⇑ *eP* **P 14 57 37.0 0.0**
ULM Lac du Bonnet 80.20 10 P P 14 57 40.2 +2.4
comp=Z,4.2nm,0.7s,baz=201,slow=2.6,SNR=5.5
BBB Bella Bella 82.07 350 LR LR 15 25 51.3
comp=Z,179nm,20.1s,baz=214,slow=30
MAW Mawson 83.61 178 LR LR 15 31 15.8
comp=Z,348nm,20.6s,baz=208,slow=33
HNR Honiara 83.78 263 LR LR 15 26 25.1
comp=Z,104nm,21.4s,baz=130,slow=29
STKA Stephens Creek 87.51 235 LR LR 15 33 21.1
comp=Z,260nm,18.2s,baz=145,slow=33
DLBC Dease Lake 88.40 351 LR LR 15 30 44.6
comp=Z,284nm,20.2s,baz=159,slow=31
YKA Yellowknife Ar 91.20 359 P P 14 58 34.0 +1.8
comp=Z,2.7nm,1.1s,baz=170,slow=4.7,SNR=14
YKA LR LR 15 35 16.4
comp=Z,293nm,18.6s,baz=119,slow=33
YKA Yellowknife Ar 91.20 359 P P 14 58 32.3 +0.1
H11S2 WAKE ISLAND Hy 91.48 290 T T 16 40 19.5
baz=117
H11S1 WAKE ISLAND Hy 91.50 290 T T 16 40 23.0
baz=117
H11S3 WAKE ISLAND Hy 91.50 290 T T 16 40 23.7
baz=117
ILAR Eielson Array 97.34 346 P Pdif 14 59 02.2 +1.8
comp=Z,0.3nm,0.8s,baz=323,slow=33,SNR=3.7
ASAR Alice Springs 97.76 238 LR LR 15 38 21.6
comp=Z,401nm,20.2s,baz=143,slow=32
INK Inuvik 98.33 352 LR LR 15 38 38.1
comp=Z,378nm,18.5s,baz=146,slow=32
H01W1 Cape Leeuwin H 102.93 217 T T 16 54 05.3
baz=138,slow=76,SNR=6.2
H01W2 Cape Leeuwin H 102.94 217 T T 16 54 06.3
baz=138,slow=76,SNR=7.1
H01W3 Cape Leeuwin H 102.95 217 T T 16 54 05.4
baz=138,slow=76,SNR=6.3
AKASG Malin Array Be 143.78 42 PKP **PKiKP 15 05 04.6 -1.3**
comp=Z,0.7nm,0.8s,baz=275,slow=3.5,SNR=5.6
AKASG Malin Array Be 143.78 42 PKPdf 15 05 01.9 -0.7
SONM Songino Array 144.97 313 PKPbc **PKPdf 15 05 06.3 +1.4**
comp=Z,3.9nm,1.0s,baz=100,slow=2.6,SNR=21
OBN Obninsk 145.53 32 PKPbc **PKPab 15 05 07.1 +1.4**
comp=Z,2.4nm,0.4s,baz=270,slow=7.1,SNR=3.8
OBN Obninsk 145.53 32 PKPdf 15 05 04.5 -0.9
CMAR Chiang Mai Arr 149.85 257 PKPbc **PKPbc 15 05 18.0 -0.6**
comp=Z,2.4nm,0.9s,baz=179,slow=1.0,SNR=18
BRTR Keskin Array B 149.87 60 PKPbc **PKiKP 15 05 20.2 +1.1**
comp=Z,3.4nm,0.9s,baz=310,slow=2.7,SNR=8.0
BRTR Keskin Array B 149.87 60 PKPdf 15 05 12.1 -1.2
BRTR PKPbc **sPKPdf 15 05 16.9 +0.3**
ARU Arti 151.79 11 PKPbc **PKPbc 15 05 21.9 0.0**
comp=Z,0.3nm,0.3s,baz=270,slow=3.0,SNR=1.7
ZALV Zalesovo Beam 152.21 338 PKP **PKPdf 15 05 18.2 +1.9**
comp=Z,1.7nm,1.0s,baz=168,slow=2.7,SNR=3.9
ZALV PKPbc **pPKPbc 15 05 25.3 0.0**
comp=Z,0.8nm,0.7s,baz=42,slow=2.4,SNR=4.8
ZALV PKPab **pPKPab 15 05 35.8 +0.8**
comp=Z,2.7nm,0.9s,baz=5.7,slow=3.0,SNR=5.8
ZALV Zalesovo Beam 152.21 338 PKPdf 15 05 16.3 +0.1
ZALV **PKPbc 15 05 23.0 0.0**
ZALV PKPab **PKPab 15 05 33.1 +0.4**
BRVK Borovoye 155.91 357 PKPdf **PKPdf 15 05 20.0 -1.5**
BRVK **PKPab 15 05 48.2 -0.2**
BVAR Borovoye Array 155.94 356 PKPab **PKPab 15 05 50.3 +1.8**
comp=Z,2.6nm,0.9s,baz=48,slow=2.2,SNR=7.8
MKAR Makanchi Array 159.01 332 PKPab **PKPab 15 06 03.5 +1.4**
comp=Z,1.9nm,1.2s,baz=8.5,slow=2.5,SNR=4.0
MKAR Makanchi Array 159.01 332 PKPdf **PKPdf 15 05 23.9 -1.7**
MKAR **PKPab 15 06 01.6 -0.4**

*IDC **08** 14:47:52.5±1.3,29.°10S×111.°81W,h0km,mb4.0/5, mb1 4.2/6,mb1mx3.9/37,mbtmp4.0/6,ML3.8/1,Error ellipse: s-maj=32.6km s-min=31.6km az=66.0*
ISC 08 14:47:54.0±1.0,29.°1S±0.°2×111.°8W±0.°2,h10km,n15,
σ0°76/10,mb4.2/6,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**2.89**	**49**	Pn			**Pn**	**14 48 40.0**	**-0.1**
	13nm,0.3s,baz=230,slow=7.5,SNR=4.2								
RPN				Sn			**Sb**	**14 49 20.4**	**-0.6**
	9.0nm,0.3s,baz=236,slow=18,SNR=1.2								
H03N2	**Juan Fernandez**	**28.34**	**107**	T			T	15 23 21.9	
	baz=274,slow=73,SNR=40								
H03N3	**Juan Fernandez**	**28.34**	**107**	T			T	15 23 23.3	
	baz=274,slow=73,SNR=36								
H03N1	**Juan Fernandez**	**28.36**	**107**	T			T	15 23 25.1	
	baz=274,slow=73,SNR=33								
ATAH	**Atahualpa**	**38.26**	**62**	P			**P**	**14 55 16.3**	**+1.1**
	3.3nm,0.6s,baz=234,slow=8.7,SNR=2.5								
USHA	**Ushuaia**	**40.30**	**142**	P			**P**	**14 55 30.9**	**-0.4**
	44nm,0.6s,baz=289,slow=1.2,SNR=2.4								
SIV	**San Ignacio**	**48.22**	**86**	P			**P**	**14 56 35.9**	**+0.3**
	2.7nm,0.8s,baz=250,slow=10,SNR=5.7								
CMIG	**Matias Romero**	**48.70**	**22**	P			**P**	**14 56 38.1**	**-0.6**
	0.9nm,0.4s,baz=209,slow=13,SNR=1.9								
PDAR	**Pinedale Array**	**71.50**	**2**	P			**P**	**14 59 15.2**	**+0.1**
	0.5nm,0.9s,baz=163,slow=6.6,SNR=2.8								
YKA	**Yellowknife Ar**	**91.26**	**359**	P			**P**	**15 00 59.5**	**+0.5**
	0.9nm,1.1s,baz=172,slow=4.7,SNR=3.5								
H01W1	**Cape Leeuwin H**	**103.03**	**217**	T			T	16 56 33.7	
	baz=138,slow=76,SNR=5.4								
H01W2	**Cape Leeuwin H**	**103.03**	**217**	T			T	16 56 34.2	
	baz=138,slow=76,SNR=4.8								
H01W3	**Cape Leeuwin H**	**103.05**	**217**	T			T	16 56 33.5	
	baz=138,slow=76,SNR=6.4								
SONM	**Songino Array**	**145.18**	**313**	PKPbc			**PKPdf**	**15 07 32.1**	**+0.3**
	0.4nm,0.5s,baz=90,slow=1.4,SNR=2.8								
CMAR	**Chiang Mai Arr**	**150.06**	**256**	PKPbc			**PKPbc**	**15 07 44.4**	**-1.2**
	0.3nm,0.3s,baz=137,slow=2.0,SNR=1.8								

*VAO **08** 14:55:09.0±2.0,6.°36N×72.°39W,h10km,mb4.5*
*RSNC **08** 14:55:17.1±1.4,5.°33N×72.°75W,h4km±6km,ML4.2,Mw4.5, Fault plane solution: NP1:φs154.00000°,δ80.00000°, λ18.00000°.*
*NEIC **08** 14:55:19.4±1.9,5.°27N±0.°07×72.°51W±0.°07,h35km±2km, mb4.5/27,Error ellipse: s-maj=12.9km s-min=10.2km az=148.0*
*IDC **08** 14:55:20.4±1.6,5.°36N×72.°66W,h48km±15km,mb3.9/19, mb1 4.2/23,mb1mx4.0/44,mbtmp4.2/23,ML4.1/3,MS3.5/3, Ms1 3.5/3,ms1mx3.1/64,Error ellipse: s-maj=14.9km s-min=12.4km az=63.0*
ISC 08 14:55:15.8±0.9,5.°38N±0.°02×72.°62W±0.°02,h10km±6km, n140,σ2°17/187,mb4.4/33,5C-6D,Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.69**	**318**	⇓*iP*			**Pg**	**14 55 29.0**	**-0.2**
RUSC				*eS*			**Sg**	**14 55 37.8**	**-0.4**
RUSC				*i*				14 55 42.5	
	comp=Z,7μm,0.6s								
PTGC	**Puerto Gaitan,**	**1.27**	**158**	⇓*iP*			**Pn**	**14 55 38.7**	**-0.9**
PTGC				*eS*			**Sb**	**14 55 56.3**	**+0.1**
BARC	**Barichara**	**1.33**	**335⇑**	*eP*			**Pn**	**14 55 40.6**	**-0.1**
BARC				*i*				14 56 08.8	
	comp=Z,2μm,0.4s								
CHIC	**Chingaza**	**1.33**	**236**	⇓*eP*			**Pn**	**14 55 38.5**	**-2.5**
CHIC				*eS*			**Sb**	**14 55 53.9**	**-4.6**
CHIC				*i*				14 56 06.8	
	comp=Z,2μm,0.4s								
TAMC	**Tame, Arauca**	**1.33**	**38**	*eP*			**Pg**	**14 55 42.5**	**+1.1**
TAMC				*eS*			**Sg**	**14 56 04.6**	**+5.8**
TAMC				*i*				14 56 18.1	
	comp=Z,3μm,0.5s								
SPBC	**San Pablo de B**	**1.47**	**281**	⇓*iP*			**Pn**	**14 55 42.0**	**-0.5**
SPBC				*eS*			**Sn**	**14 56 01.7**	**-0.2**
SPBC				*i*				14 56 04.6	
	comp=Z,4μm,0.3s								
VILC	**Villavicencio,**	**1.65**	**220**	*eP*			**Pn**	**14 55 45.2**	**+0.2**
VILC				*eS*			**Sg**	**14 56 09.8**	**+0.8**
VILC				*i*				14 56 20.3	
	comp=Z,176μm,0.5s								
ROSC	**El Rosal**	**1.78**	**253**	P			**Pb**	**14 55 49.0**	**+0.3**
	comp=Z,884nm,0.3s,baz=54,slow=5.5,SNR=600								
ROSC				S			**Sg**	**14 56 15.8**	**+2.9**
	comp=Z,850nm,0.3s,baz=108,slow=18,SNR=8.6								
ROSC	**El Rosal**	**1.78**	**253**	⇓*iP*			**Pb**	**14 55 48.8**	**+0.1**
ROSC				*eS*			**Sg**	**14 56 15.1**	**+2.1**
ROSC				*i*				14 56 22.2	
	comp=Z,2μm,0.5s								
ROSC	**El Rosal**	**1.78**	**253**	Pn			**Pb**	**14 55 48.9**	**+0.1**
PAMC	**Pamplona, Colo**	**1.95**	**358⇑**	*eP*			**Pb**	**14 55 51.6**	**-0.1**
PAMC				*eS*			**Sg**	**14 56 18.8**	**+0.3**
PAMC				*i*				14 56 23.6	
	comp=Z,1μm,0.4s								
BRRC	**Barranca, Sant**	**2.03**	**328⇑**	*eP*			**Pb**	**14 55 52.4**	**-0.4**
BRRC				*eS*			**Sb**	**14 56 19.6**	**+1.4**
BRRC				*i*				14 56 34.9	
	comp=Z,1μm,0.5s								
PTBC	**PUERTO BERRIO,**	**2.16**	**302**	*eP*			**Pn**	**14 55 53.9**	**+2.0**
PTBC				*eS*			**Sb**	**14 56 22.4**	**+0.5**
PTBC				*i*				14 56 25.5	
	comp=Z,4μm,0.5s								
NORC	**Norcasia**	**2.25**	**275**	*eP*			**Pn**	**14 55 54.5**	**+1.4**
NORC				*eS*			**Sn**	**14 56 21.8**	**+0.8**
NORC				*i*				14 56 25.7	
	comp=Z,1μm,0.5s								
GUY2C	**Guyana, Caldas**	**2.74**	**267**	*eP*			**Pn**	**14 56 01.5**	**+1.2**
GUY2C				*eS*			**Sn**	**14 56 37.2**	**+3.5**
GUY2C				*i*				14 56 41.9	
	comp=Z,728nm,0.5s								
PRAC	**Prado**	**2.80**	**234⇓**	*eP*			**Pn**	**14 56 01.8**	**+1.1**
PRAC				*eS*			**Sb**	**14 56 39.3**	**-1.1**
PRAC				*i*				14 56 48.1	
	comp=Z,940nm,0.7s								
GUVC	**San Jose del G**	**2.82**	**180**	*eP*			**Pn**	**14 56 00.8**	**-0.1**
GUVC				*eS*			**Sn**	**14 56 36.4**	**+1.4**
GUVC				*i*				14 56 39.4	
	comp=Z,1μm,0.2s								
OCAC	**Ocana**	**2.92**	**346**	*eP*			**Pn**	**14 56 05.1**	**+2.5**
OCAC				*eS*			**Sb**	**14 56 47.0**	**+2.8**
ORTC	**Ortega, Tolima**	**3.00**	**241**	*eP*			**Pn**	**14 56 03.9**	**+0.4**
ORTC				*eS*			**Sb**	**14 56 47.8**	**+1.7**
ORTC				*i*				14 56 54.4	
	comp=Z,1μm,0.5s								
HELC	**Santa Helena**	**3.00**	**286**	*eP*			**Pn**	**14 56 04.8**	**+0.9**
HELC				*eS*			**Sb**	**14 56 44.8**	**-1.8**
HELC				*i*				14 56 49.2	
	comp=Z,685nm,0.4s								
ZARC	**Zaragoza, Cauc**	**3.06**	**313**	*eP*			**Pn**	**14 56 05.7**	**+1.4**
ZARC				*eS*			**Sn**	**14 56 41.7**	**+0.7**
ZARC				*i*				14 56 56.0	
	comp=Z,873nm,0.4s								
SOCV	**Socops**	**3.38**	**31⇑**	*iP*			**Pn**	**14 56 09.6**	**+0.9**
SOCV				*eS*			**Sg**	**14 57 04.9**	**+0.6**
CBOC	**Ciudad Bolivar**	**3.41**	**278**	*eP*			**Pn**	**14 56 11.5**	**+2.2**
CBOC				*eS*			**Sn**	**14 56 44.3**	**-5.6**
CBOC				*i*				14 57 15.6	
	comp=Z,210nm,0.6s								
MACC	**Macarena, Meta**	**3.44**	**201⇑**	*eP*			**Pn**	**14 56 09.7**	**+0.2**
MACC				*eS*			**Sb**	**14 57 02.8**	**+4.0**
MACC				*i*				14 57 22.5	
	comp=Z,1μm,0.6s								
ELOV	**Elorza**	**3.51**	**63**	*eP*			**Pg**	**14 56 22.4**	**-0.7**
ELOV				*eS*			**Sg**	**14 57 10.1**	**+1.4**
PLMC	**San Jos del P**	**3.68**	**263**	*eP*			**Pn**	**14 56 16.1**	**+3.3**
PLMC				*eS*			**Sb**	**14 57 08.3**	**+2.5**
PLMC				*i*				14 57 15.2	
	comp=Z,162nm,0.6s								
SMLC	**San Martn de**	**3.69**	**337**	*eP*			**Pn**	**14 56 16.0**	**+3.0**
SMLC				*eS*			**Sb**	**14 57 02.2**	**-3.9**
SMLC				*i*				14 57 12.9	
	comp=Z,405nm,0.4s								
UREC	**San Jos de Ur**	**3.73**	**309**	*eP*			**Pn**	**14 56 15.5**	**+1.9**
UREC				*eS*			**Sn**	**14 57 01.9**	**+4.2**
UREC				*i*				14 57 22.0	
	comp=Z,366nm,0.6s								
BETC	**Betania**	**3.89**	**227**	*eP*			**Pb**	**14 56 23.6**	**-0.9**
BETC				*eS*			**Sb**	**14 57 16.4**	**+4.7**
BETC				*i*				14 57 26.0	
	comp=Z,504nm,0.6s								
DBBC	**Dabeiba**	**3.92**	**295**	*eP*			**Pn**	**14 56 19.6**	**+3.3**
YOTC	**Yotoco, Valle**	**3.96**	**250**	*eP*			**Pn**	**14 56 17.4**	**+0.6**
YOTC				*eS*			**Sn**	**14 57 08.3**	**+4.8**
SDV	**Santo Domingo**	**4.00**	**29**	P			**Pn**	**14 56 19.4**	**+1.9**
	comp=Z,42nm,0.3s,baz=197,slow=12,SNR=123								
SDV				S			**Sn**	**14 57 08.9**	**+4.3**
	comp=Z,54nm,0.3s,baz=282,slow=20,SNR=4.3								
SDV				LR			LR	14 58 24.8	
	comp=Z,596nm,20.2s,baz=236,slow=46								
SDV	**Santo Domingo**	**4.00**	**29**	Pn			**Pn**	**14 56 18.6**	**+1.1**
MARP	**Paez Belalcaza**	**4.17**	**233**	*eP*			**Pn**	**14 56 20.1**	**+0.2**
MARP				*eS*			**Sn**	**14 57 12.7**	**+3.8**
LL1C	**La Loma 1 Cana**	**4.24**	**347**	*eS*			**Sb**	**14 57 23.4**	**+1.6**
GARC	**Garzon, Huila**	**4.27**	**222**	*eP*			**Pn**	**14 56 21.9**	**+0.6**
GARC				*eS*			**Sb**	**14 57 27.5**	**+4.4**
GARC				*i*				14 57 38.6	
	comp=Z,546nm,0.3s								
LL6C	**La Loma 6 Bece**	**4.38**	**352**	*eP*			**Pn**	**14 56 24.8**	**+2.4**
LL6C				*eS*			**Sg**	**14 57 33.6**	**-2.8**
LL6C				*i*				14 57 48.2	
	comp=Z,213nm,0.7s								
MOTC	**Monteria, Cord**	**4.53**	**318**	*eP*			**Pn**	**14 56 26.6**	**+2.0**
MOTC				*eS*			**Sb**	**14 57 26.1**	**-4.2**
MOTC				*i*				14 57 45.5	
	comp=Z,156nm,0.6s								
MOTC	**Monteria, Cord**	**4.53**	**318**				**Pn**	**14 56 26.2**	**+1.6**
ARGC	**Ariguani, Magd**	**4.73**	**340**	*eP*			**Pn**	**14 56 30.7**	**+3.4**
ARGC				*eS*			**Sb**	**14 57 31.9**	**-4.2**
ARGC				*i*				14 57 51.3	
	comp=Z,94nm,0.4s								
FLOC	**Florencia**	**4.84**	**219**	*eP*			**Pn**	**14 56 29.8**	**+1.1**
FLOC				*eS*			**Sb**	**14 57 43.7**	**+4.7**
FLOC				*i*				14 57 50.0	
	comp=Z,764nm,0.9s								
PCON	**Cinco Dias**	**4.84**	**231**	*eP*			**Pn**	**14 56 31.2**	**+2.0**
PCON				*eS*			**Sg**	**14 57 48.5**	**-2.8**
PCON				*i*				14 57 55.9	
	comp=Z,209nm,0.6s								
SOLC	**Bahia Solano**	**4.84**	**280**	*eS*			**Sn**	**14 57 31.3**	**+6.4**
POPC	**Popayan, Colom**	**4.93**	**235**	*eP*			**Pn**	**14 56 31.7**	**+1.4**
POPC				*eS*			**Sn**	**14 57 34.7**	**+7.1**
LCBC	**Los crdobas,**	**5.08**	**313**	*eP*			Pn	14 56 37.9	+5.9
LCBC				*eS*			**Sg**	**14 57 57.3**	**-1.6**
SOTA	**Rioblanco**	**5.12**	**231**	*eP*			**Pn**	**14 56 34.2**	**+1.1**
SOTA				*i*				14 57 46.7	
	comp=Z,126nm,0.6s								
SOTA				*eS*			**Sg**	**14 57 55.5**	**-4.9**
SJCC	**San Jacinto, C**	**5.16**	**331**	*eP*			**Pn**	**14 56 34.8**	**+1.7**
SJCC				*eS*			**Sn**	**14 57 36.0**	**+3.1**
SJCC				*i*				14 58 01.6	
	comp=Z,128nm,0.5s								
PTAC	**Punta Ardita,**	**5.45**	**289**	*eP*			**Pn**	**14 56 40.2**	**+3.0**
PTAC				*eS*			**Sn**	**14 57 43.4**	**+3.4**
CRJC	**Cerrejon, Guaj**	**5.61**	**357**	*eP*			**Pn**	**14 56 39.4**	**-0.1**
CRJC				*eS*			**Sn**	**14 57 43.8**	**-0.4**
CRJC				*i*				14 58 15.0	
	comp=Z,146nm,0.5s								
PTLC	**Puerto Leguiza**	**5.61**	**203**	*eP*			**Pn**	**14 56 43.5**	**+4.0**
PTLC				*eS*			**Sg**	**14 58 16.7**	**+0.6**
PTLC				*i*				14 58 36.9	
	comp=Z,384nm,0.5s								
BBAC	**Balboa, Cauca**	**5.70**	**234**	*eS*			**Sb**	**14 58 04.0**	**0.0**
BAUV	**El Baul**	**5.76**	**52**	Pn			**Pn**	**14 56 41.9**	**+0.4**
URIC	**Uribia, Colomb**	**6.31**	**6**	*eP*			**Pn**	**14 56 50.3**	**+1.3**
OTAV	**Otavalo**	**7.75**	**229**	*eP*			**Pn**	**14 57 13.3**	**+4.2**
OTAV	**Otavalo**	**7.75**	**229**				**Pn**	**14 57 09.1**	**-0.1**
BIRV	**Birongo**	**8.07**	**51**	Pn			**Pn**	**14 57 13.8**	**+0.6**
BCIP	**Isla Barro Col**	**8.09**	**298**	Pn			**Pn**	**14 57 16.1**	**+2.7**
PCRV	**Puerto La Cruz**	**9.23**	**58**	P			**Pn**	**14 57 30.7**	**+1.5**
	comp=Z,7.7nm,0.3s,baz=205,slow=8.0,SNR=18								
PCRV				S			**Sn**	**14 59 15.4**	**+2.1**
	baz=204,slow=20,SNR=1.5								
SRBA	**San Rafael, Bu**	**11.32**	**290**				**Pn**	**14 58 00.7**	**+2.8**
BOAV	**Boa Vista**	**12.43**	**103**	Pn			**Pn**	**14 58 10.1**	**-2.8**
JTS	**Las Juntas de**	**13.15**	**293**	P			**Pn**	**14 58 24.8**	**+1.9**
SDDR	**Presa de Saban**	**13.58**	**5**				**Pn**	**14 58 29.7**	**+1.0**
MLPR	**Magueyes Islan**	**13.65**	**23**	Pn			**Pn**	**14 58 27.7**	**-1.9**
ATAH	**Atahualpa**	**13.70**	**205**	P			**Pn**	**14 58 32.1**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=20,slow=15,SNR=6.3								
CELP	**Cerrillos**	**13.93**	**25**	Pn			**Pn**	**14 58 32.1**	**-1.4**
PTGA	**Pitinga**	**14.02**	**115**	P			**Pn**	**14 58 30.9**	**-3.9**
	comp=Z,0.8nm,0.3s,baz=306,slow=16,SNR=8.3								
PTGA				S			**Sn**	**15 01 10.8**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=307,slow=20,SNR=4.2								
PTGA				Lg			Lg	15 02 32.3	
	comp=Z,4.3nm,0.3s,baz=311,slow=20,SNR=4.9								
PTGA				LR			LR	15 03 42.9	
	comp=Z,243nm,20.2s,baz=164,slow=36								
PDPR	**Patillas Dam,**	**14.12**	**27**				**Pn**	**14 58 34.2**	**-1.9**
SJG	**San Juan**	**14.15**	**26**				**Pn**	**14 58 35.1**	**-1.3**
HUMP	**Col San Antoni**	**14.31**	**27**	Pn			**Pn**	**14 58 37.3**	**-1.3**
GCPR	**Guaynabo City**	**14.35**	**26**				**Pn**	**14 58 37.7**	**-1.5**
ETMB	**Extrema**	**16.39**	**157**				**Pn**	**14 59 04.2**	**-1.9**
ITTB	**Itaituba**	**19.45**	**120**	*eP*			**P**	**14 59 38.4**	**-4.4**
MALB	**Monte Alegre**	**19.69**	**111**	*eP*			**P**	**14 59 41.0**	**-4.5**
MDP	**Montagnes des**	**19.90**	**90**	P			**Pn**	**14 59 54.0**	**+4.6**
	comp=Z,1.1nm,0.3s,baz=277,slow=10,SNR=4.4								
MDP				LR			LR	15 07 55.3	
	comp=Z,123nm,19.2s,baz=34,slow=38								
NPGB	**Novo Progresso**	**21.19**	**125**	*eP*			**P**	**15 00 00.2**	**-1.5**
MCPB	**Macapa, AP**	**21.31**	**105**	*eP*			**P**	14 59 55.6	-7.5
LPAZ	**La Paz**	**21.98**	**168**	P			**P**	**15 00 11.0**	**+0.2**
	comp=Z,9.6nm,0.6s,baz=343,slow=7.3,SNR=28								
LPAZ	**La Paz**	**21.98**	**168**	P			**P**	**15 00 09.1**	**-1.7**
LPAZ				IAmb			IAmb	15 00 18.3	
	comp=Z,12nm,0.8s								
VILB	**Vilhena**	**22.00**	**146**	*eP*			**P**	**15 00 10.1**	**-0.4**
PDRB	**Porto dos Gac**	**23.13**	**137**	*eP*			**P**	**15 00 21.3**	**-1.1**
CLDB	**Colider**	**23.26**	**134**	*eP*			**P**	**15 00 22.4**	**-1.4**
SIV	**San Ignacio**	**24.11**	**152**	P			**P**	**15 00 31.0**	**-1.1**
	comp=Z,7.3nm,0.7s,baz=328,slow=9.5,SNR=22								
PTLB	**Pontes e Lacer**	**24.63**	**147**	*eP*			**P**	**15 00 36.0**	**-0.7**
PTLB	**Pontes e Lacer**	**24.63**	**147**	P			**P**	**15 00 35.3**	**-1.5**
PTLB				IAmb			IAmb	15 00 39.6	
	comp=Z,11nm,0.7s								
PRPB	**Parauapebas**	**25.50**	**116**	*eP*			**P**	**15 00 40.4**	**-4.2**
SALV	**Santo Antonio**	**26.98**	**142**	*eP*			**P**	**15 00 56.9**	**-1.1**
BDFB	**Brasilia**	**32.09**	**131**	P			**P**	**15 01 44.7**	**+1.1**
	comp=Z,1.6nm,0.4s,baz=301,slow=5.9,SNR=2.5								
V48A	**Smith Brothers**	**32.92**	**338**	P			**P**	**15 01 50.0**	**-0.5**
V48A				IAmb			IAmb	15 01 52.9	
	comp=Z,8.0nm,0.7s								
LCAR	**Lake Charles**	**34.97**	**333**	P			**P**	**15 02 08.8**	**+0.4**
LCAR				IAmb			IAmb	15 02 10.2	
	comp=Z,8.0nm,1.2s								
P52A	**Corning**	**35.17**	**347**	P			**P**	**15 02 10.7**	**+0.8**
PBMO	**Poplar Bluff**	**35.25**	**335**	P			**P**	**15 02 11.2**	**+0.5**
CCM	**Cathedral Cave**	**36.68**	**335**	P			**P**	**15 02 23.4**	**+0.4**
TXAR	**Lajitas Array**	**37.79**	**313**	P			**P**	**15 02 31.9**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=131,slow=9.0,SNR=8.8								
TXAR				PcP			**PcP**	**15 04 48.6**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=98,slow=5.6,SNR=1.8								
TXAR	**Lajitas Array**	**37.79**	**313**	P			**P**	**15 02 33.2**	**+0.6**
TX32	**Lajitas Array**	**37.79**	**313**	P			**P**	**15 02 33.0**	**+0.4**
TX32				IAmb			IAmb	15 02 54.7	
	comp=Z,6.0nm,1.4s								
MNTX	**Cornudas Mount**	**40.33**	**315**	P			**P**	**15 02 53.8**	**0.0**
E46A	**Sault Ste Mari**	**42.07**	**348**	P			**P**	**15 03 07.8**	**0.0**
E46A				IAmb			IAmb	15 03 11.3	
	comp=Z,9.4nm,0.8s								
SDCO	**Great Sand Dun**	**43.98**	**322**	P			**P**	**15 03 23.7**	**-0.1**
PLCA	**Paso Flores**	**45.93**	**178**	P			**P**	**15 03 39.0**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=349,slow=8.0,SNR=4.1								
PV13	**Radium Mtn., P**	**46.32**	**320**	P			**P**	**15 03 42.8**	**+0.4**
PV13				IAmb			IAmb	15 03 50.2	
	comp=Z,3.9nm,0.7s								
AGMN	**Agassiz Nation**	**47.14**	**339**	P			**P**	**15 03 48.0**	**-0.3**
AGMN				IAmb			IAmb	15 03 50.6	
	comp=Z,4.5nm,0.7s								
ULM	**Lac du Bonnet**	**48.80**	**340**	P			**P**	**15 04 00.8**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=147,slow=8.0,

JAY Jayapura 1.84 82 Pn **Pn 15 00 16.0 -1.3**
12nm,0.3s,baz=236,slow=10,SNR=60
JAY Sn **Sn 15 00 39.6 +0.3**
11nm,0.3s,baz=130,slow=20,SNR=5.8
JAY LR LR 15 01 15.4
comp=Z,142nm,18.9s,baz=262,slow=51
JAY Jayapura 1.84 82 P **Pn 15 00 17.0 -0.3**
JAY S **Sn 15 00 40.9 +1.6**
SRPI Serui, Papua 2.79 289 P **Pn 15 00 30.1 -0.3**
SRPI S **Sn 15 01 03.7 +0.9**
SIJI Sorong 7.84 284 Pn **Pn 15 01 38.7 -1.2**
0.4nm,0.3s,baz=178,slow=22,SNR=1.4
WRA Warramunga Arr 17.63 194 P **P 15 03 53.1 +1.1**
0.1nm,0.3s,baz=14,slow=13,SNR=12
WRA S **Sn 15 07 05.4 -1.4**
0.0nm,0.3s,baz=12,slow=22,SNR=4.2
FITZ Fitzroy Crossi 20.02 220 P Pn 15 04 20.3 +0.3
1.0nm,0.9s,baz=49,slow=9.3,SNR=1.3
ASAR Alice Springs 21.32 193 P **P 15 04 34.1 +1.8**
0.4nm,0.7s,baz=9.1,slow=10,SNR=8.2
MKAR Makanchi Array 69.94 322 P **P 15 10 56.0 0.0**
0.5nm,0.6s,baz=110,slow=7.6,SNR=6.3
BVAR Borovoye Array 79.46 325 P **P 15 11 51.2 +0.2**
0.4nm,0.5s,baz=108,slow=4.7,SNR=4.3

*NEIC **08** 15:00:34.8±1.9, 36°.87N±0°.04×141°.25E±0°.10, h53km±6km, mb4.3/15, Error ellipse: s-maj=11.6km s-min=5.3km az=103.0*
*IDC **08** 15:00:35.0±1.8, 36°.85N×141°.10E, h62km±17km, mb3.5/13, mb1 3.7/19, mb1mx3.4/73, mbtmp3.8/19, Error ellipse: s-maj=15.5km s-min=10.6km az=82.0*
*JMA **08** 15:00:35.0±0.1, 36°.90N×141°.07E, h62km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕ_s20.00000°, δ26.00000°, λ101.00000°. NP2: ϕ_s188.00000°, δ64.00000°, λ85.00000°. Principal axes: T Plg70.0000°, Azm87.0000°; N Plg5.0000°, Azm190.0000°; P Plg19.0000°, Azm282.0000°;*
JMA Felt II J1.
*NIED **08** 15:00:35.1, 36°.90N×141°.07E, h62km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.17; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-2.41; $M_{r\theta}$-0.95; $M_{\theta\phi}$0.01; $M_{\phi r}$-4.42; Fault plane solution: M_o5.07000×10^{14} NP1: ϕ_s191.00000°, δ77.00000°, λ96.00000°. NP2: ϕ_s347.00000°, δ14.00000°, λ67.00000°.*

ISC 08 15:00:34.9±0.9, 36°.88N±0°.04×141°.12E±0°.07, h58km±7km, n72, σ1§06/86, mb4.0/20, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.34**	**311**	⇑P	**Pn**	**15 00 45.3**	**+0.1**
ONAJ				S	**Sn**	**15 00 52.6**	**0.0**
JFFD	**Fukushimafurud**	**0.49**	**295**	⇑P	**Pn**	**15 00 46.8**	**+0.2**
JFFD				S	**Sn**	**15 00 55.0**	**-0.1**
JHO	**Hitachi**	**0.52**	**239**	⇑P	**Pn**	**15 00 47.1**	**+0.3**
JHO				S	**Sn**	**15 00 55.7**	**+0.2**
JFK	**Kawauchi**	**0.52**	**338**	⇑P	**Pn**	**15 00 47.0**	**0.0**
JFK				S	**Sn**	**15 00 55.6**	**-0.1**
JFT	**Otama**	**0.89**	**316**	P	**Pn**	**15 00 51.8**	**+0.4**
JFT				S	**Sn**	**15 01 03.9**	**+0.3**
JYT	**Yasato**	**0.99**	**229**	Pn	**Pn**	**15 00 53.3**	**+0.6**
JYT				Sn	**Sn**	**15 01 05.9**	**+0.1**
JMM	**Marumori**	**1.02**	**345**	⇑P	**Pn**	**15 00 53.0**	**-0.1**
JMM				S	**Sn**	**15 01 06.3**	**-0.2**
JMM	**Marumori**	**1.02**	**345**		**Pn**	**15 00 53.5**	**+0.4**
JMM				Sn	**Sn**	**15 01 06.6**	**+0.1**
JFY	**Yanaizu**	**1.24**	**295**	P	**Pn**	**15 00 56.1**	**0.0**
JFY				S	**Sn**	**15 01 11.8**	**-0.1**
JAG	**Ashikaga**	**1.41**	**252**	⇓P	**Pn**	**15 00 58.5**	**+0.2**
JAG				S	**Sn**	**15 01 15.7**	**-0.2**
JKT	**Katashina**	**1.50**	**266**	P	**Pn**	**15 01 00.2**	**+0.6**
JKT				S	**Sn**	**15 01 18.6**	**+0.4**
JOU	**Okura**	**1.52**	**347**	P	**Pn**	**15 01 00.1**	**+0.2**
JOU				eS	**Sn**	**15 01 18.8**	**+0.1**
JYS	**Shirataka**	**1.58**	**328**	P	**Pn**	**15 01 01.1**	**+0.5**
JYS				S	**Sn**	**15 01 20.3**	**+0.4**
JIO	**Ouri**	**1.58**	**7**	P	**Pn**	**15 01 00.7**	**+0.1**
JIO				eS	**Sn**	**15 01 19.3**	**-0.7**
MJAR	**Matsushiro Arr**	**2.36**	**263**	P	**Pn**	**15 01 11.7**	**+0.4**
6.6nm,0.3s,baz=88,slow=22,SNR=220							
MJAR				S	**Sn**	**15 01 39.8**	**+0.7**
7.0nm,0.3s,baz=83,slow=16,SNR=3.7							
MJAR	**Matsushiro Arr**	**2.36**	**263**		**Pn**	**15 01 12.4**	**+1.2**
MAJO	**Matsushiro**	**2.36**	**263**		**Pn**	**15 01 12.5**	**+1.2**
MAT	**Matsushiro**	**2.36**	**263**	P	**Pn**	**15 01 12.3**	**+1.1**
MAT				S	**Sn**	**15 01 39.6**	**+0.5**
MJB9	**Matsu-Tunnel**	**2.36**	**263**	Pn	**Pn**	**15 01 13.1**	**+1.8**
JSD	**Sado**	**2.55**	**298**	Pn	**Pn**	**15 01 14.0**	**+0.2**
JGF	**Kuroka**	**3.30**	**248**		**Pn**	**15 01 25.9**	**+1.9**
INU	**Inuyama**	**3.65**	**246**		**Pn**	**15 01 30.8**	**+1.9**
JTM	**Tenmabayashi**	**3.90**	**359**	Pn	**Pn**	**15 01 34.0**	**+1.8**
JHJ	**Hachijo jima 2**	**3.91**	**197**	P	**Pn**	**15 01 31.8**	**-0.6**
25nm,0.3s,baz=336,slow=23,SNR=21							
JHJ				S	**Sn**	**15 02 15.9**	**-1.1**
51nm,0.3s,baz=106,slow=23,SNR=6.5							
JHJ2	**Mitsune**	**3.91**	**196**	Pn	**Pn**	**15 01 32.8**	**+0.4**
JWT	**Wachi**	**4.89**	**253**		**Pn**	**15 01 47.6**	**+1.7**
ERM	**Erimo**	**5.37**	**16**		**Pn**	**15 01 51.9**	**-0.4**
JMN	**Monobe**	**6.70**	**244**	Pn	**Pn**	**15 02 12.3**	**+1.6**
JHS	**Saijyo**	**6.75**	**256**	Pn	**Pn**	**15 02 14.0**	**+2.5**
ASAJ	**Asahikawa**	**7.32**	**8**	P	**Pn**	**15 02 17.6**	**-1.4**
1.0nm,0.3s,baz=230,slow=10,SNR=12							
ASAJ				S	**Sn**	**15 03 37.2**	**-3.3**
0.7nm,0.3s,baz=197,slow=20,SNR=2.0							
JKA	**Kamikawa-asahi**	**7.32**	**8**	Pn	**Pn**	**15 02 17.5**	**-1.6**
JNU	**Nakatsue**	**9.20**	**249**	P	**Pn**	**15 02 44.6**	**-0.3**
0.2nm,0.3s,baz=37,slow=5.1,SNR=1.8							
JNU				S	**Sn**	**15 04 22.1**	**-4.8**
0.2nm,0.3s,baz=356,slow=19,SNR=2.1							
USRK	**Ussuriysk Ar.**	**10.08**	**319**	P	**Pn**	**15 02 57.5**	**+0.7**
baz=122,slow=13,SNR=2.0							
KSRS	**Korea Array**	**10.55**	**277**	P	**Pn**	**15 03 04.4**	**+1.1**
0.2nm,0.3s,baz=87,slow=14,SNR=3.1							
SONM	**Songino Array**	**27.67**	**304**	P	**P**	**15 06 15.5**	**-1.9**
0.3nm,0.4s,baz=107,slow=9.5,SNR=0.9							
H11N2	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	15 36 10.9	
baz=313,slow=75,SNR=50							
H11N1	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	15 36 06.1	
baz=313,slow=75,SNR=53							
H11N3	**WAKE ISLAND Hy**	**28.29**	**120**	T	T	15 36 18.5	
baz=313,slow=75,SNR=56							
H11S1	**WAKE ISLAND Hy**	**28.98**	**122**	T	T	15 37 17.9	
baz=314,slow=76,SNR=50							
H11S3	**WAKE ISLAND Hy**	**28.98**	**122**	T	T	15 37 17.8	
baz=314,slow=76,SNR=45							
H11S2	**WAKE ISLAND Hy**	**28.99**	**122**	T	T	15 37 19.0	
baz=314,slow=76,SNR=33							
ZALV	**Zalesovo Beam**	**41.84**	**313**	P	**P**	**15 08 18.0**	**-0.9**
1.5nm,0.5s,baz=92,slow=9.1,SNR=5.7							
MK31	**Makanchi Array**	**44.00**	**302**	P	**P**	**15 08 36.6**	**+0.1**
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**15 08 35.8**	**-0.7**
0.7nm,0.5s,baz=87,slow=13,SNR=13							
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**15 08 36.4**	**-0.1**
MAKZ	**Makanchi**	**44.21**	**302**	P	**P**	**15 08 38.1**	**-0.1**
MAKZ				IAmb	IAmb	15 08 38.8	
comp=Z,2.6nm,1.1s							
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	**P**	**15 08 50.1**	**-1.4**
comp=Z,1.7nm,0.5s,baz=84,slow=8.2,SNR=15							
ILAR	**Eielson Array**	**49.75**	**32**	P	**P**	**15 09 21.1**	**0.0**
comp=Z,0.5nm,0.6s,baz=244,slow=5.4,SNR=6.1							
MTN	**Manton Dam**	**50.34**	**193**	P	**P**	**15 09 27.1**	**+1.1**
BVAR	**Borovoye Array**	**50.50**	**312**	P	**P**	**15 09 27.2**	**+0.3**
comp=Z,0.4nm,0.5s,baz=98,slow=9.1,SNR=4.9							
BCAR	**Beaver Creek A**	**52.16**	**34**	P	**P**	**15 09 40.9**	**+1.7**
KNRA	**Kununurra**	**53.56**	**195**	P	**P**	**15 09 50.6**	**+0.7**
EPYK	**Eagle Plains**	**53.78**	**30**	P	**P**	**15 09 51.9**	**+0.8**
EPYK				IAmb	IAmb	15 10 13.4	
comp=Z,7.8nm,1.4s							
INK	**Inuvik**	**54.63**	**27**	P	**P**	**15 09 57.4**	**+0.3**
comp=Z,1.9nm,1.0s,baz=284,slow=2.5,SNR=5.5							
INK	**Inuvik**	**54.63**	**27**	P	**P**	**15 09 57.5**	**+0.3**
INK				IAmb	IAmb	15 10 00.9	
comp=Z,1.8nm,1.4s							
FITZ	**Fitzroy Crossi**	**56.60**	**198**	P	**P**	**15 10 11.5**	**-0.3**
comp=Z,1.1nm,0.7s,baz=31,slow=6.9,SNR=1.7							
WB0	**Warramunga Arr**	**56.70**	**188**	P	**P**	**15 10 12.1**	**-0.5**
WB0				IAmb	IAmb	15 10 12.5	
comp=Z,2.9nm,0.7s							
WR0	**Warramunga Arr**	**56.87**	**187**	P	**P**	**15 10 13.3**	**-0.4**
WR0				IAmb	IAmb	15 10 29.2	
comp=Z,2.7nm,1.0s							
WB2	**Warramunga Arr**	**56.88**	**188**	P	**P**	**15 10 13.8**	**0.0**
WB2				IAmb	IAmb	15 10 38.1	
comp=Z,3.7nm,1.1s							
WRA	**Warramunga Arr**	**56.88**	**188**	P	**P**	**15 10 12.7**	**-1.1**
comp=Z,1.4nm,0.5s,baz=5.1,slow=7.4,SNR=25							
WRA				PcP	**PcP**	**15 11 08.7**	**0.0**
comp=Z,1.2nm,1.0s,baz=2.1,slow=4.7,SNR=2.4							
WRA	**Warramunga Arr**	**56.88**	**188**	P	**P**	**15 10 13.1**	**-0.7**
ABKAR	**Akbulak array**	**57.86**	**310**	P	**P**	**15 10 20.7**	**+0.3**
ABKAR	**Akbulak array**	**57.86**	**310**	P	**P**	**15 10 20.5**	**+0.1**
ABKAR				IAmb	IAmb	15 10 21.6	
comp=Z,3.7nm,1.4s							
AS31	**Alice Springs**	**60.60**	**188**	P	**P**	**15 10 39.4**	**-0.2**
ASAR	**Alice Springs**	**60.60**	**188**	P	**P**	**15 10 39.1**	**-0.5**
comp=Z,0.5nm,0.6s,baz=4.3,slow=7.4,SNR=11							
ASAR	**Alice Springs**	**60.60**	**188**	P	**P**	**15 10 38.8**	**-0.8**
YKA	**Yellowknife Ar**	**64.06**	**30**	P	**P**	**15 11 02.1**	**-0.1**
comp=Z,0.1nm,0.4s,baz=302,slow=5.4,SNR=2.3							
TULEG	**Thule**	**65.28**	**7**	P	**P**	**15 11 09.5**	**-0.6**
TULEG				IAmb	IAmb	15 11 12.3	
comp=Z,11nm,1.3s							
FORT	**Forrest**	**68.41**	**192**	P	**P**	**15 11 30.6**	**+0.3**
NVAR	**Mina Array Bea**	**75.27**	**53**	P	**P**	**15 12 12.7**	**+0.7**
comp=Z,0.5nm,0.6s,baz=293,slow=6.1,SNR=5.2							
TXAR	**Lajitas Array**	**90.40**	**52**	P	**P**	**15 13 30.2**	**-0.1**
comp=Z,0.4nm,0.7s,baz=298,slow=2.7,SNR=4.7							
LPAZ	**La Paz**	**146.98**	**59**	PKPbc	**PKPbc**	**15 20 12.1**	**-0.1**
comp=Z,1.0nm,0.5s,baz=6.8,slow=3.2,SNR=3.7							

*GUC **08** 15:15:42.4±0.7, 20°.73S×67°.65W, h211km±7km, ML3.8*
*SCB **08** 15:15:45.0±4.2, 20°.73S×67°.53W, h60km±34km, ML3.5/4, Error ellipse: s-maj=13.2km s-min=8.4km az=0.0*

ISC 08 15:15:40.8±1.9, 20°.73S±0°.04×67°.50W±0°.05, h195km±16km, n32, σ1§35/51, 9C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.66**	**290**	⇑iP	**Pn**	**15 16 17.0**	**+1.1**
PB08				eS	**Sn**	**15 16 44.5**	**+1.3**
PB08				IAML		15 16 46.8	
comp=E,205nm,0.3s							
PB08	**IPOC Station P**	**1.66**	**290**	P	**Pn**	**15 16 17.3**	**+1.3**
MOCB	**Mochara**	**1.81**	**107**	P	**Pn**	**15 16 17.9**	**+0.4**
MOCB				S	**Sn**	**15 16 43.5**	**-2.5**
MOCB				IAML		15 16 45.6	
comp=E,236nm,0.4s							
PB01	**IPOC Station P**	**1.88**	**260**	⇑eP	**Pn**	**15 16 18.2**	**+0.4**
PB01				eS	**Sn**	**15 16 46.5**	**-0.2**
PB01				IAML		15 16 48.5	
comp=N,331nm,0.3s							
PB01	**IPOC Station P**	**1.88**	**260**	P	**Pn**	**15 16 18.7**	**+0.9**
PB09	**IPOC Station P**	**1.94**	**237**	⇑eP	**Pn**	**15 16 19.8**	**+1.4**
PB09				i S	**Sn**	**15 16 49.0**	**+1.1**
PB09				IAML		15 16 50.8	
comp=N,54nm,0.3s							
PB09	**IPOC Station P**	**1.94**	**237**	P	**Pn**	**15 16 19.9**	**+1.4**
PB11	**IPOC Station P**	**2.24**	**295**	⇑iP	**Pn**	**15 16 22.1**	**+0.4**
PB11				i S	**Sn**	**15 16 53.1**	**-0.4**
PB11				IAML		15 16 56.4	
comp=N,653nm,0.5s							
PB11	**IPOC Station P**	**2.24**	**295**	P	**Pn**	**15 16 22.3**	**+0.6**
LVC	**Limon Verde**	**2.28**	**215**	eP	**Pn**	**15 16 23.8**	**+1.4**
LVC				eS	**Sn**	**15 16 55.5**	**+0.7**
LVC	**Limon Verde**	**2.28**	**215**	P	**Pn**	**15 16 23.2**	**+0.8**
PB02	**IPOC Station P**	**2.31**	**255**	⇓eP	**Pn**	**15 16 23.0**	**+0.6**
PB02				i S	**Sn**	**15 16 54.0**	**-0.8**
PB02				IAML		15 16 56.1	
comp=E,480nm,0.2s							
PB02	**IPOC Station P**	**2.31**	**255**	P	**Pn**	**15 16 23.6**	**+1.2**
PB02				S	**Sn**	**15 16 52.4**	**-2.4**
PB02				IAML		15 16 56.5	
comp=E,242nm,0.3s							
YJA	**Yavi**	**2.34**	**128**	P	**Pn**	**15 16 23.6**	**+0.5**
PB07	**IPOC Station P**	**2.44**	**246**	⇓eP	**Pn**	**15 16 24.6**	**+0.8**
PB07				eS	**Sn**	**15 16 56.7**	**-0.7**
PB07				IAML		15 16 57.8	
comp=E,329nm,0.2s							
PB07	**IPOC Station P**	**2.44**	**246**	P	**Pn**	**15 16 25.1**	**+1.3**
PB07				S	**Sn**	**15 16 55.5**	**-1.9**
PB07				IAML		15 16 58.8	
comp=E,179nm,0.3s							
PB03	**IPOC Station P**	**2.48**	**238**	⇑eP	**Pn**	**15 16 24.8**	**+0.6**
PB03				i S	**Sn**	**15 16 57.4**	**-0.8**
PB03				IAML		15 16 58.2	
comp=N,230nm,0.2s							
PB03	**IPOC Station P**	**2.48**	**238**	P	**Pn**	**15 16 25.3**	**+1.0**
TA02	**Huaiquique**	**2.51**	**280**	eP	**Pn**	**15 16 24.8**	**+0.3**
TA02				eS	**Sn**	**15 16 57.0**	**-1.5**
TA02				IAML		15 16 59.1	
comp=N,2μm,0.1s							
TA01	**Diego Aracena**	**2.52**	**273**	⇑iP	**Pn**	**15 16 24.6**	**+0.1**
TA01				i S	**Sn**	**15 16 56.9**	**-1.7**
TA01				IAML		15 16 57.7	
comp=E,303nm,0.2s							
PB06	**IPOC Station P**	**2.75**	**224**	⇑eP	**Pn**	**15 16 28.7**	**+1.3**
PB06				eS	**Sn**	**15 17 03.6**	**-0.3**
PB06				IAML		15 17 06.2	
comp=E,94nm,0.5s							
PB04	**IPOC Station P**	**2.94**	**237**	eP	**Pn**	**15 16 30.4**	**+0.8**
PB04				eS	**Sn**	**15 17 06.2**	**-1.5**
PB04				IAML		15 17 09.2	
comp=E,120nm,0.2s							
PB15	**IPOC Station P**	**3.07**	**216**	eP	**Pn**	**15 16 33.3**	**+2.1**
PB15				eS	**Sn**	**15 17 10.9**	**+0.2**
PB15	**IPOC Station P**	**3.07**	**216**	P	**Pn**	**15 16 32.5**	**+1.3**
PB15				S	**Sn**	**15 17 07.4**	**-3.3**
PB15				IAML		15 17 16.5	
comp=E,240nm,0.3s							
PB05	**IPOC Station P**	**3.28**	**229**	eP	**Pn**	**15 16 34.5**	**+0.8**
PB05				eS	**Sn**	**15 17 13.2**	**-1.8**
PB05	**IPOC Station P**	**3.28**	**229**	P	**Pn**	**15 16 34.7**	**+1.0**
PB12	**IPOC Station P**	**3.40**	**308**	⇑iP	**Pn**	**15 16 34.4**	**-0.7**
PB12				eS	**Sn**	**15 17 15.1**	**-2.4**
BBOE	**La Paz, Chanca**	**3.92**	**353**	P	**Pn**	**15 16 44.0**	**+1.9**
PB10	**IPOC Station P**	**3.96**	**225**	P	**Pn**	**15 16 42.7**	**+0.8**
BBOD	**La Paz, Gloria**	**4.20**	**345**	P	**Pn**	**15 16 47.4**	**+1.9**
LPAZ	**La Paz**	**4.46**	**352**	⇑iP	**Pn**	**15 16 49.9**	**+1.0**
LPAZ	**La Paz**	**4.46**	**352**	P	**Pn**	**15 16 50.1**	**+1.2**

IDC 08 16:08:58.6±9.6, 4°.71S×153°.15E, h157km±64km, mb3.0/3, mb1 3.3/4, mb1mx3.1/32, mbtmp3.6/4, Error ellipse: s-maj=110.9km s-min=40.2km az=104.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.56**	**232**	P	Pn	16 10 46.2	+0.1
2.7nm,0.3s,baz=50,slow=7.5,SNR=11							
PMG				S	Sn	16 12 10.6	-0.1
0.2nm,0.3s,baz=334,slow=8.7,SNR=1.5							
WRA	**Warramunga Arr**	**23.77**	**229**	P	P	16 13 57.9	+1.0
1.2nm,0.6s,baz=53,slow=9.6,SNR=18							
ASAR	**Alice Springs**	**26.45**	**223**	P	P	16 14 20.6	-0.5
0.5nm,0.8s,baz=54,slow=8.9,SNR=12							
MKAR	**Makanchi Array**	**80.49**	**319**	P	P	16 20 53.9	+0.7
0.1nm,0.5s,baz=93,slow=7.2,SNR=2.1							
TORD	**Torodi Ar. Bea**	**150.61**	**288**	PKPbc	PKPbc	16 28 31.5	-1.5
0.4nm,0.7s,baz=62,slow=2.8,SNR=2.4							

IDC 08 16:29:24.9±2.2, 1°.99N×126°.57E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.1/40, mbtmp3.3/3, Error ellipse: s-maj=197.5km s-min=25.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.09**	**161**	P	P	16 34 31.5	-0.9
0.4nm,0.5s,baz=340,slow=11,SNR=12							
ASAR	**Alice Springs**	**26.48**	**165**	P	P	16 35 05.0	+1.0
0.3nm,0.8s,baz=343,slow=8.2,SNR=5.2							
MKAR	**Makanchi Array**	**58.90**	**326**	P	P	16 39 25.7	-0.1
0.3nm,0.4s,baz=119,slow=8.4,SNR=7.1							

*IDC **08** 16:43:53.7±1.6, 40°.59N×126°.93W, h0km, mb3.6/5, mb1 4.0/9, mb1mx3.6/52, mbtmp3.8/9, ML4.2/4, MS3.5/10, Ms1 3.5/10, ms1mx3.1/79, Error ellipse: s-maj=26.2km s-min=15.1km az=31.0*
*NEIC **08** 16:43:53.7±1.7, 40°.36N±0°.08×127°.1W±0°.1, h12km±8km, Error ellipse: s-maj=13.7km s-min=10.3km az=58.0*
*NCEDC **08** 16:43:54.5±2.1, 40°.43N±0°.07×127°.0W±0°.1, h2km±2km, ML3.8/14, ML3.6/40(NEIC), Error ellipse: s-maj=13.7km s-min=11.9km az=254.0*
*ANF **08** 16:43:55.1±1.3, 40°.43N×126°.77W, h0km, ML3.9/12, Error ellipse: s-maj=14.9km s-min=6.9km az=72.0*

ISC 08 16:43:55.3±1.1, 40°.48N±0°.07×127°.02W±0°.09, h16km, n100, σ1§39/102, mb3.5/5, MS3.8/5, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**2.30**	**81**		**Pn**	**16 44 30.8**	**-1.8**
JCC	**Jacoby Creek,**	**2.30**	**81**		**Pn**	**16 44 30.9**	**-1.6**
JCC				IAML		16 45 00.2	
comp=E,199nm,0.8s							
JCC				IAML		16 45 02.3	
comp=N,159nm,0.6s							
KCRM	**Chalk Rock**	**2.44**	**90**		**Pn**	**16 44 33.6**	**-1.1**
KHMM	**Horse Mountain**	**2.53**	**80**	Pn	**Pn**	**16 44 34.6**	**-1.4**
KHMM				IAML		16 45 09.8	
comp=E,316nm,0.8s							
KHMM				IAML		16 45 09.9	
comp=N,347nm,0.8s							
KMRM	**Mail Ridge**	**2.55**	**95**	Pn	**Pn**	**16 44 35.2**	**-0.8**
KBSM	**Bell Springs**	**2.69**	**101**		**Pn**	**16 44 36.9**	**-1.1**
KBO	**Bosley Butte**	**2.73**	**50**	Pn	**Pn**	**16 44 37.6**	**-0.9**
KBO				IAML		16 45 01.7	
comp=N,149nm,2.7s							
KBO				IAML		16 45 28.0	
comp=E,161nm,2.3s							
KCPM	**Cahto Peak**	**2.76**	**106**		**Pn**	**16 44 37.6**	**-1.4**
KOMM	**Orleans Mounta**	**2.82**	**72**		**Pn**	**16 44 38.7**	**-1.2**
GNAM	**Navarro Ridge**	**2.91**	**115**		**Pn**	**16 44 39.5**	**-1.5**
L02E	**Cave Junction**	**3.07**	**56**	P	**Pn**	**16 44 42.8**	**-0.4**
L02E				S	**Sn**	**16 45 19.2**	**-0.5**
baz=237,SNR=285							
KEBM	**Edson Butte**	**3.12**	**39**		**Pn**	**16 44 43.2**	**-0.8**
KEBM				IAML		16 45 24.9	
comp=E,168nm,0.8s							
KEBM				IAML		16 45 25.1	
comp=N,194nm,1.3s							
O02D	**Mt. Diablo Mer**	**3.25**	**94**	P	**Pn**	**16 44 44.8**	**-0.9**
baz=276,SNR=1000							
O02D				S	**Sn**	**16 45 23.3**	**-0.9**
baz=276							
M02C	**Callahan**	**3.29**	**73**	P	**Pn**	**16 44 45.0**	**-1.2**
baz=254,SNR=316							
M02C				S	**Sn**	**16 45 23.5**	**-1.6**
baz=254							
N02D	**Trinity Center**	**3.32**	**80**	P	**Pn**	**16 44 45.1**	**-1.5**
baz=262,SNR=20							
N02D				S	**Sn**	**16 45 24.4**	**-1.4**
baz=262							
K02D	**Willamette Mer**	**3.35**	**48**	P	**Pn**	**16 44 46.6**	**-0.5**
baz=229,SNR=431							
K02D				S	**Sn**	**16 45 23.8**	**-2.9**
baz=229							
HOPS	**Hopland Field**	**3.39**	**115**	Pn	**Pn**	**16 44 46.0**	**-1.6**
HOPS				IAML		16 45 30.0	
comp=N,168nm,0.9s							
HOPS				IAML		16 45 31.9	
comp=E,179nm,0.7s							
GASB	**Alder Springs**	**3.41**	**103**		**Pn**	**16 44 47.0**	**-0.9**
WDC	**Whiskeytown Da**	**3.42**	**87**	Pn	**Pn**	**16 44 47.6**	**-0.4**
WDC				IAML		16 45 29.5	
comp=N,102nm,0.8s							
WDC				IAML		16 45 31.6	
comp=E,95nm,0.7s							
YBH	**Yreka Blue Hor**	**3.49**	**68**	Pn	**Pn**	**16 44 48.1**	**-0.9**
comp=E,39nm,0.3s,baz=264,slow=12,SNR=472							
YBH				Sn	**Sn**	**16 45 29.3**	**-0.7**
comp=E,1.4nm,0.3s,baz=280,slow=12,SNR=1.2							
YBH				LR	LR	16 45 54.9	
comp=E,329nm,18.5s,baz=312,slow=36							
YBH	**Yreka Blue Hor**	**3.49**	**68**	Pn	**Pn**	**16 44 48.9**	**-0.1**
FTR	**Fort Ross**	**3.57**	**122**		**Pn**	**16 44 48.5**	**-1.6**
GDXM	**Geysers**	**3.67**	**116**		**Pn**	**16 44 49.3**	**-2.1**
HUMO	**Hull Mountain**	**3.72**	**54**	Pn	**Pn**	**16 44 52.1**	**0.0**
LHEM	**Herd Peak**	**3.81**	**71**		**Pn**	**16 44 54.5**	**+1.0**
DBO	**Dodson Butte**	**3.87**	**46**		**Pn**	**16 44 54.0**	**-0.2**
DBO				IAML		16 45 44.6	
comp=E,52nm,2.1s							
L04D	**Klamath Falls**	**3.95**	**62**	P	**Pn**	**16 44 56.4**	**+1.0**
baz=244,SNR=140							
MCCM	**Marconi Confer**	**3.97**	**125**		**Pn**	**16 44 53.6**	**-1.9**
MCCM	**Marconi Confer**	**3.97**	**125**		**Pn**	**16 44 53.7**	**-1.8**
MCCM				IAML		16 45 40.4	
comp=N,657nm,0.4s							
MCCM				IAML		16 45 41.2	
comp=E,493nm,0.3s							
O03E	**Paynes Creek**	**3.99**	**91**	P	**Pn**	**16 44 55.1**	**-0.9**
baz=274,SNR=30							
O03E				S	**Sn**	**16 45 41.9**	**-0.5**
baz=274							
M04C	**Macdoel**	**4.12**	**70**	P	**Pn**	**16 44 58.8**	**+1.0**
baz=252,SNR=72							
SUTB	**Sutter Butte**	**4.22**	**106**		**Pn**	**16 44 57.8**	**-1.2**
I03D	**Drain, OR**	**4.22**	**39**	P	**Pn**	**16 44

baz=308
BMO Blue Mountains 8.39 55 Pn Pn 16 45 57.6 +1.3
CLRS Cowichan Lake 8.59 13 Pn Pn 16 45 59.0 +0.1
MFID Camas Ranch 8.84 67 Pn Pn 16 46 02.6 0.0
B06A Marblemount 8.96 24 Pn Pn 16 46 04.8 +0.9
QSM Queen of Sheba 9.17 116 Pn Pn 16 46 07.2 +0.1
PLID Pearl Lake 9.32 57 Pn Pn 16 46 10.8 +1.6
GSC Goldstone, Bar 9.59 119 Pn Pn 16 46 12.1 -0.6
B08A Colville Reser 9.60 32 Pn Pn 16 46 13.3 +0.4
CBB Campbell River 9.62 6 Pn Pn 16 46 12.7 -0.4
HLID Hailey 9.88 68 Pn Pn 16 46 16.1 -0.7
NEW Newport 10.52 39 Pn Pn 16 46 26.4 +1.0
comp=N,0.2nm,0.3s,baz=246,slow=18,SNR=1.9
NEW LR LR 16 50 35.8
comp=N,63nm,19.6s,baz=246,slow=39
BCYI Bear Canyon 10.77 65 Pn Pn 16 46 28.1 -1.0
PFO Pinyon Flats O 10.87 126 LR LR 16 50 26.2
comp=N,179nm,19.0s,baz=15,slow=36
MCMT McKenzie Canyo 11.30 63 Pn Pn 16 46 36.4 +0.1
GLA Glamis 12.26 123 Pn Pn 16 46 45.9 -3.5
BOZ Bozeman (W) 12.36 61 Pn Pn 16 46 50.8 +0.1
HRY Holter Researc 12.64 55 Pn Pn 16 46 53.3 -1.3
PDAR Pinedale Array 13.27 74 Pn Pn 16 47 03.2 0.0
comp=N,0.1nm,0.3s,baz=11,slow=15,SNR=3.4
PDAR LR LR 16 52 05.5
comp=N,124nm,21.4s,baz=280,slow=37
ANMO Albuquerque 17.17 102 P P 16 47 57.4 +1.1
comp=N,0.0nm,0.3s,baz=296,slow=12,SNR=5.8
DLBC Dease Lake 18.08 355 P Pn 16 48 05.6 -0.1
comp=N,1.0nm,0.3s,baz=293,slow=12,SNR=2.5
TXAR Lajitas Array 22.08 113 P P 16 48 52.2 +2.4
comp=N,1.2nm,0.9s,baz=301,slow=8.6,SNR=9.7
YKA Yellowknife Ar 23.28 15 P P 16 49 02.7 +0.7
comp=N,1.0nm,0.9s,baz=205,slow=9.7,SNR=5.4
ULM Lac du Bonnet 23.81 55 P P 16 49 07.0 -0.3
comp=N,2.8nm,0.6s,baz=265,slow=5.6,SNR=2.3
ULM LR LR 16 58 17.9
comp=N,161nm,21.0s,baz=326,slow=36
ILAR Eielson Array 26.91 341 P P 16 49 35.8 +0.4
comp=N,1.8nm,0.9s,baz=166,slow=7.5,SNR=12
SADO Sadowa 35.09 67 LR LR 17 04 14.1
comp=N,190nm,19.9s,baz=100,slow=35
CMIG Matias Romero 36.23 121 LR LR 17 05 44.2
comp=N,76nm,19.3s,baz=36,slow=36
H11N3 WAKE ISLAND Hy 59.44 271 T T 17 58 21.7
baz=53,slow=75,SNR=10
H11N2 WAKE ISLAND Hy 59.45 271 T T 17 58 21.1
baz=53,slow=75,SNR=8.2
H11N1 WAKE ISLAND Hy 59.46 271 T T 17 58 23.4
baz=53,slow=75,SNR=12
SONM Songino Array 80.12 327 P P 16 56 04.1 -0.4
comp=N,0.4nm,0.7s,baz=42,slow=2.3,SNR=3.4
ZALV Zalesovo Beam 82.03 342 LR LR 17 36 08.4
comp=N,50nm,18.2s,baz=348,slow=38
DAVOX Davos/Dischmat 85.01 28 LR LR 17 37 04.0
comp=N,113nm,19.3s,baz=268,slow=38

*TUL **08** 16:46:49.2±1.1,36°.49N±0°.03×98°.73W±0°.03,h7km±7km, ML3.0,mb_Lg2.8/16(NEIC),Error ellipse: s-maj=4.9km s-min=2.2km az=150.0*

NEIC 08 16:46:49.4±1.0,36°.46N±0°.01×98°.68W±0°.02,h4km±7km, Error ellipse: s-maj=2.9km s-min=1.3km az=108.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.25	355	Pg	Pg	16 46 54.0	-0.3
U32A	Winter Ranch,	0.27	253	Pg	Pg	16 46 54.3	-0.4
U32A				Sg	Sg	16 46 58.4	+0.2
OK032	Salt Plains WL	0.51	47	Pg	Pg	16 46 59.3	0.0
CROK	Carrier	0.56	85		Pg	16 47 00.8	+0.5
KAN14	Manchester OK	0.76	49		Pg	16 47 03.9	-0.2
KAN14				Sg	Sg	16 47 14.3	+0.3
GC02	Grant County #	0.77	59		Pg	16 47 04.1	-0.1
KAN10	Anthony SW Sta	0.81	35	Pg	Pg	16 47 04.5	-0.6
KAN16	Harper SW Stat	0.91	33	Pg	Pg	16 47 06.3	-0.6
KAN12	Harper NE Stat	1.00	33		Pg	16 47 08.1	-0.6
KAN13	South Haven SW	1.11	60		Pg	16 47 10.2	-0.6
BLOK	Blackwell	1.22	75	Pn	Pg	16 47 11.9	-0.9
OK025	Westminster Rd	1.40	128		Pn	16 47 15.7	-0.1
OKCFA	Oklahoma City	1.44	136	Pn	Pn	16 47 16.1	-0.2
OK031	S. Brethren Rd	1.57	108		Pn	16 47 17.8	-0.4
QUOK	Quay	1.62	100		Pn	16 47 19.0	+0.2
OK030	Cody Creek RV	1.62	108		Pn	16 47 19.1	+0.3
WMOK	Wichita Mounta	1.72	183	Pn	Pn	16 47 20.1	-0.1
T35A	Sooner Cattle	1.80	75	Pn	Pn	16 47 21.6	+0.3
R32A	Long Quarter,	1.96	359	Pn	Pn	16 47 23.7	+0.2
X34A	Smith Ranch, M	1.98	159	Pn	Pb	16 47 25.3	-0.7
TUL1	Leonard	2.40	102	Pn	Pn	16 47 30.0	+0.4
CBKS	Cedar Bluff	2.50	341	Pn	Pn	16 47 32.1	+1.2
KSU1	Kansas State U	3.11	31	Pn	Pn	16 47 38.8	-0.5
X37A	Clayton	3.28	124	IAmb_Lg		16 48 39.0	
	comp=Z,17nm,0.7s						
KSCO	Kaye Shedlock'	4.04	310	IAmb_Lg		16 48 53.8	
	comp=Z,15nm,0.7s						
MSTX	Muleshoe	4.17	235	IAmb_Lg		16 49 07.6	
	comp=Z,20nm,0.9s						
T25A	Trinidad	4.65	280	Pn	Pn	16 48 00.0	-0.6
OGNE	Ogallala	5.19	331	Pn	Pn	16 48 08.7	+0.7
CCM	Cathedral Cave	6.14	73	IAmb_Lg		16 50 05.2	
	comp=Z,10.0nm,0.7s						
PBMO	Poplar Bluff	6.64	85	IAmb_Lg		16 50 22.3	
	comp=Z,10.0nm,0.8s						
N23A	Red Feather La	7.20	310	IAmb_Lg		16 50 39.3	
	comp=Z,12nm,1.0s						
Q44A	Meyer Farm, Va	8.04	69	IAmb_Lg		16 51 15.3	
	comp=Z,11nm,0.9s						
HDIL	Hopedale	8.42	58	IAmb_Lg		16 51 18.9	
	comp=Z,13nm,0.7s						

*IDC **08** 16:49:41.6±7.3,5°.14S×152°.16E,h111km±50km,mb3.4/4, mb1 3.5/5,mb1mx3.0/39,mbtmp3.7/5,MS3.2/1,Ms1 3.2/1, ms1mx2.5/32,Error ellipse: s-maj=83.5km s-min=38.4km az=111.0*

ISC 08 16:49:41.8±2.5,5°.0S±0°.4×152°.0E±0°.5,h100km,n6, σ1§45/7,mb3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.50	228	P	Pn	16 51 14.6	-0.4
	1.7nm,0.3s,baz=63,slow=13,SNR=7.0						
PMG				S	Sn	16 52 29.2	+1.4
	0.4nm,0.3s,baz=286,slow=21,SNR=1.7						
WRA	Warramunga Arr	22.73	228	P	P	16 54 34.9	-0.7
	1.2nm,0.4s,baz=52,slow=9.9,SNR=24						
WRA				LR	LR	17 03 46.3	
	comp=Z,62nm,18.8s,baz=59,slow=37						
ASAR	Alice Springs	25.47	222	P	P	16 54 60.0	-0.8
	0.6nm,0.5s,baz=56,slow=8.9,SNR=19						
FITZ	Fitzroy Crossi	28.88	241	P	P	16 55 30.5	-0.8
	2.2nm,0.7s,baz=53,slow=6.6,SNR=8.9						
MKAR	Makanchi Array	80.00	319	P	P	17 01 40.1	-0.1
	0.2nm,0.6s,baz=85,slow=4.7,SNR=2.3						
TORD	Torodi Ar. Bea	149.65	287	PKPbc	PKPdf	17 09 18.3	+2.1
	0.4nm,0.5s,baz=94,slow=2.4,SNR=2.6						

KRSC 08 16:50:56.0±2.0,53°.73N×163°.30E,h62km±35km,ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.24	313	eP	Pn	16 51 19.6	+2.4
MKZ				eS	Sn	16 51 35.7	+2.6
SPN	Mys Shipunski	2.06	253	eP	Pn	16 51 30.8	+2.6
SPN				eS	Sn	16 51 53.7	+0.9
BKI	Bering	2.15	45	eP	Pn	16 51 30.6	+1.2
BKI				eS	Sn	16 51 53.4	-1.5
TUMD	Tumrok D	2.25	312	eP	Pn	16 51 33.1	+2.3
TUMD				eS	Sn	16 51 59.0	+1.6
KII	Karymskiy	2.30	279	eP	Pn	16 51 34.5	+2.9
KII				eS	Sn	16 52 01.0	+2.2
TUMR	Tumrok	2.41	312	eP	Pn	16 51 36.0	+2.9
TUMR				eS	Sn	16 52 04.2	+2.7
NLC	Nalytchevo	2.43	258	eP	Pn	16 51 36.2	+3.0
NLC				eS	Sn	16 52 03.5	+1.7
KBTR	Krutoberegovo	2.50	354	eP	Pn	16 51 35.5	+1.3
KBTR				eS	Sn	16 52 02.9	-0.6
KBG	Krutoberegovo	2.56	353	eP	Pn	16 51 36.2	+1.3
KBG				eS	Sn	16 52 05.5	+0.7
SDLR	Sedlovina	2.68	262	eP	Pn	16 51 40.1	+3.4
SDLR				eS	Sn	16 52 09.6	+1.6
BZGR	Bezymyannyi-Gr	2.68	327	eP	Pn	16 51 40.2	+3.5
BZGR				eS	Sn	16 52 11.5	+3.4
KMNR	Kamenistaya	2.70	320	eP	Pn	16 51 40.9	+3.9
KMNR				eS	Sn	16 52 11.4	+2.9
ZLN	Zelenaya	2.71	329	eP	Pn	16 51 41.0	+3.9
UGLR	Uglovaya	2.73	261	eP	Pn	16 51 40.9	+3.5
UGLR				eS	Sn	16 52 11.4	+2.2
SMAR	Somma	2.73	262	eP	Pn	16 51 41.0	+3.5
SMAR				eS	Sn	16 52 11.3	+1.9
KRER	Koryakskii	2.75	263	eP	Pn	16 51 41.8	+4.0
KRER				eS	Sn	16 52 11.7	+1.8
AVH	Avacha	2.76	262	eP	Pn	16 51 41.9	+4.0
AVH				eS	Sn	16 52 12.9	+2.8
KIRR	Kirishev	2.81	324	eP	Pn	16 51 42.4	+3.8
DALK	Dalny	2.81	257	eP	Pn	16 51 42.0	+3.6
DALK				eS	Sn	16 52 11.8	+0.7
KOK	Koryaka	2.82	263	eP	Pn	16 51 42.1	+3.5
KOK				eS	Sn	16 52 12.9	+1.4
KPT	Kopyto	2.86	323	eP	Pn	16 51 43.4	+4.2
PET	Petropavlovsk	2.87	258	eP	Pn	16 51 42.6	+3.4
PET				eS	Sn	16 52 14.6	+2.0
KRSR	Krestovskiy	2.95	329	eP	Pn	16 51 43.6	+3.2
KRSR				eS	Sn	16 52 17.5	+2.8
KLY	Klyuchi	3.00	331	eP	Pn	16 51 43.6	+2.5
KLY				eS	Sn	16 52 17.5	+1.7
SMKR	Semkarok	3.05	341	eP	Pn	16 51 44.5	+2.8
KOZ	Kozyrevsk	3.06	321	eP	Pn	16 51 46.2	+4.3
BDR	Baidarnaya	3.09	338	eP	Pn	16 51 45.2	+2.9
RUS	Russkaya	3.17	248	eP	Pn	16 51 45.9	+2.6
RUS				eS	Sn	16 52 21.0	+1.2
SRKR	Sorokina	3.18	338	eP	Pn	16 51 46.4	+2.9
GNL	Ganaly	3.18	272	eP	Pn	16 51 48.1	+4.5
GNL				eS	Sn	16 52 24.5	+4.1
KRMR	Karymshinskiy	3.23	256	eP	Pn	16 51 47.5	+3.3
KRMR				eS	Sn	16 52 23.3	+1.9
GRL	Gorelyy	3.36	252	eP	Pn	16 51 50.0	+3.9
GRL				eS	Sn	16 52 27.0	+2.2
ESO	Esso	3.45	311	eP	Pn	16 51 54.3	+7.1
ESO				eS	Sn	16 52 34.4	+7.5
ASAK	Asacha	3.53	250	eP	Pn	16 51 51.8	+3.5
ASAK				eS	Sn	16 52 31.6	+2.8
KDTR	Khodutka, Kamc	3.71	241	eP	Pn	16 51 53.3	+2.6
KDTR				eS	Sn	16 52 32.8	-0.3
APC	Apacha	3.77	260	eP	Pn	16 51 56.3	+4.8
APC				eS	Sn	16 52 38.3	+3.7
MIPR	Malaya Ipel'ka	4.21	252	eP	Pn	16 52 02.2	+4.6

ROM 08 16:51:45.6±0.5,44°.16N±0°.01×10°.93E±0°.01,h20km±3km, ML1.5/3,Error ellipse: s-maj=1.2km s-min=0.9km az=342.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTCR	Monte La Croce	0.14	158	P	Pb	16 51 50.6	-1.0
MTCR				S	Sb	16 51 53.9	-1.9
FNVD	Fontana Vidola	0.14	85	P	Pb	16 51 49.8	-1.7
FNVD				S	Sb	16 51 53.0	-2.7
FNVD				AML	AML		
	comp=E,236μm,0.5s						
FNVD				AML	AML		
	comp=N,208μm,0.5s						
ZCCA	Zocca	0.20	11	P	Pb	16 51 50.9	-0.6
ZCCA				S	Sb	16 51 55.4	-0.1
ZCCA				AML	AML		
	comp=N,274μm,0.4s						
ZCCA				AML	AML		
	comp=E,210μm,1.1s						
BDI	Bagni Di Lucca	0.26	249	P	Pb	16 51 51.9	0.0
BDI				S	Sb	16 51 56.3	+0.2
SARO	Sassorosso	0.38	274	P	Pb	16 51 53.7	+0.1
SARO				S	Sb	16 51 59.5	+0.4
SARO				AML	AML		
	comp=N,57μm,0.5s						
SARO				AML	AML		
	comp=E,51μm,0.7s						
SARO				AML	AML		
	comp=N,57μm,0.5s						
CPGN	Carpegna, Ital	1.07	109	P	Pb	16 52 02.4	-3.1
EUCT	Pavia	1.65	310	S	Sb	16 52 40.0	+4.3
PP3	Marolino	2.09	111	S	Sb	16 52 50.0	+1.6
SMPL	Sampolo	2.39	211	P	Pn	16 52 18.5	-5.0
SMPL				S	Sb	16 52 56.0	-0.9
MA9	Marino	2.70	151	P	Pn	16 52 26.7	-1.2
VIVA	Pratoni del Vi	2.76	150	S	Sb	16 53 08.0	+0.4
TRIV	Trivento	3.58	131	S	Sb	16 53 31.0	-0.1
CAFE	Carife	4.46	133	P	Pn	16 52 55.5	+3.3
CAFE				AML	AML		
	comp=E,168μm,1.6s						
CAFE				AML	AML		
	comp=N,139μm,1.6s						
STON	Ston	5.09	102	P	Pb	16 53 15.0	+1.0
MCEL	Monticello	5.27	135	P	Pb	16 53 20.0	+3.0
GALF	Gagliano Caste	7.00	156	P	Pb	16 53 41.0	-5.5

*BEO **08** 16:52:54.3±0.6,42°.88N×18°.52E,h11km±7km,ML1.5/6*

RHSSO 08 16:52:54.2±0.3,42°.93N×18°.51E,h7km±3km,ML1.7/6,3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	Bratogost	0.04	139	↑iPg	Pg	16 52 56.7	+1.0
BRY				eSg	Sg	16 52 57.7	+0.9
TREB	Trebinje	0.24	209	ePg	Pg	16 52 58.7	-0.3
TREB				eSg	Sg	16 53 03.2	+1.0
TREB	Trebinje	0.24	209	ePg	Pg	16 52 58.9	-0.1
TREB				eSg	Sg	16 53 03.3	+1.1
UPM	Unac-Piva	0.40	47	ePg	Pg	16 53 01.5	-0.6
UPM				eSg	Sg	16 53 07.5	+0.2
HCY	Herceg Novi	0.48	181	↑iPg	Pg	16 53 02.3	-1.2
HCY				eSg	Sg	16 53 10.0	+0.2
STON	Ston	0.60	265	ePg	Pg	16 53 05.1	-0.6
STON				eSg	Sg	16 53 14.1	+0.7
STON	Ston	0.60	265	ePg	Pg	16 53 04.8	-0.9
STON				Sg	Sg	16 53 14.1	+0.7
STON	Ston	0.60	265	ePg	Pg	16 53 05.1	-0.6
STON				eSg	Sg	16 53 14.3	+0.9
STON	Ston	0.60	265	↑↑P	Pg	16 53 04.7	-0.9
PDG	Podgorica	0.74	132	ePg	Pg	16 53 07.9	-0.6
PDG				eSg	Sg	16 53 18.1	0.0
PDG	Podgorica	0.74	132	ePg	Pg	16 53 07.0	-1.5
PDG				eSg	Sg	16 53 18.1	0.0
DRME	Dracevica, Mon	0.90	146	ePg	Pg	16 53 10.4	-1.0
DRME				eSg	Sg	16 53 23.0	0.0
RUDO	Rudo	0.93	42	ePg	Pg	16 53 10.6	-1.5
RUDO				eSg	Sg	16 53 24.0	-0.3
SJES	Sjenica	1.12	72	ePg	Pg	16 53 15.1	-0.7
SJES				eSg	Sg	16 53 29.9	-0.5
BBLS	Lazići	1.14	35	ePg	Pg	16 53 15.6	-0.5
BBLS				eSg	Sg	16 53 30.4	-0.6
BBLS	Lazići	1.14	35	ePg	Pg	16 53 16.0	-0.1
BBLS				eSg	Sn	16 53 32.7	0.0
MAKA	Makarska	1.15	289	ePg	Pg	16 53 14.9	-1.3
MAKA				Sg	Sb	16 53 31.9	+0.4
RICI	Ricice	1.15	300	ePg	Pg	16 53 16.2	-0.2
RICI				Sg	Sn	16 53 33.2	+0.3
IVAS	Ivanjica	1.36	61	ePg	Pn	16 53 18.2	-1.6
IVAS				eSg	Sb	16 53 37.2	-0.6
HVAR	Hvar	1.53	280	ePn	Pn	16 53 21.0	-1.0
HVAR				Sn	Sb	16 53 42.3	-0.1
DIVS	Divibare	1.59	42	eSg	Sb	16 53 44.4	0.0
KIJV	Kijevo	1.87	306	ePn	Pn	16 53 27.4	+0.8
KIJV				Sn	Sb	16 53 52.2	-0.2
MORI	Morici	2.25	296	ePn	Pn	16 53 31.9	+0.1
MORI				Sn	Sb	16 54 01.4	-1.6

*DNK **08** 16:55:51.4±3.0,59°.88N×10°.51E,h1km±14km,Mc2.0, ML2.9*

BER 08 16:55:52.2±0.9,59°.88N×10°.59E,h0km,ML1.3, Explosion,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSL	Oslo	0.09	52	eP	Pg	16 55 53.8	0.0
OSL				eS	Sg	16 55 55.4	+0.4
OSL				IAML		16 55 57.4	
	comp=Z,320nm,0.4s						
KONO	Kongsberg	0.55	245	eP	Pg	16 56 01.8	-0.9
KONO				eS	Sg	16 56 09.7	-0.2
KONO				IAML		16 56 17.2	
	comp=Z,5.9nm,0.7s						
STRU	Stroemstad	0.91	160	iP	Pg	16 56 08.0	-1.5
STRU				iS	Sg	16 56 20.1	-1.1
NBO00	NORSAR Array S	1.16	5	eP	Pg	16 56 12.2	-2.1
NBO00				eS	Sg	16 56 28.1	-1.2
NBO00				IAML		16 56 30.3	
	comp=Z,5.6nm,0.8s						
SKAR	Skarslia	1.39	306	eP	Pg	16 56 16.6	-2.2
SKAR				eS	Sg	16 56 35.9	-0.9
SKAR				IAML		16 56 42.4	
	comp=Z,11nm,0.7s						
TJOU	Tjoern	1.93	163	iP	Pn	16 56 25.5	-0.8
TJOU				eS	Sn	16 56 50.3	-1.0
HOMB	Homborsund	1.94	214	iP	Pn	16 56 25.7	-0.7
HOMB				iS	Sn	16 56 49.1	-2.4
BORU	Boraas	2.53	152	iP	Pn	16 56 32.8	-1.6
BORU				iS	Sn	16 57 02.9	-3.0
ONAU	Onsala	2.59	164	iP	Pn	16 56 36.2	+0.9
ONAU				iS	Sn	16 57 07.7	+0.3
GID	Gilleleje	3.86	167	iS	Sn	16 57 40.4	+1.6
GID				IAML		16 57 42.1	
	comp=Z,12nm,0.2s						

PRU 08 16:56:03.2±0.0,51°.66N×16°.18E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	Chvalec	1.08	184	eSG	Sb	16 56 38.8	-0.5
CHVC	Chvalec	1.08	184	ePG	Pg	16 56 23.0	-0.8
UPC	Upice	1.16	185	ePG	Pg	16 56 24.8	-0.6
DPC	Dobruska-Polom	1.31	176	eSG	Sg	16 56 44.1	-1.3
DPC	Dobruska-Polom	1.31	176	ePG	Pg	16 56 27.2	-1.2
PVCC	Panska Ves	1.52	222	eSG	Sg	16 56 51.7	-0.3
	comp=Z,12nm,0.3s						
PVCC	Panska Ves	1.52	222	ePG	Pn	16 56 30.9	-0.8
BRG	Berggiesshubel	1.61	242	Pg	Pg	16 56 41.1	+7.0
BRG				Sg	Sg	16 57 01.1	+6.2
BRG				Amp		16 57 01.9	
	comp=Z,3.6nm,0.5s						

*TUL **08** 16:57:48.8±0.6,36°.59N±0°.02×98°.41W±0°.02,h7km±6km, ML3.1,mb_Lg2.5/20(NEIC),Error ellipse: s-maj=2.2km s-min=1.6km az=155.0*

NEIC 08 16:57:48.9±0.8,36°.566N±0°.010×98°.39W±0°.01,h7km±6km, Error ellipse: s-maj=1.8km s-min=1.5km az=95.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.28	31	Pg	Pg	16 57 54.4	+0.1
OK032				Sg	Sg	16 57 58.3	+0.2
OK035	E0210 Rd and N	0.29	299	Pg	Pg	16 57 54.6	-0.1
OK035				Sg	Sg	16 57 58.9	+0.3
CROK	Carrier	0.33	100		Pg	16 57 55.9	+0.5
GC02	Grant County #	0.51	56	Pg	Pg	16 57 58.8	0.0
KAN14	Manchester OK	0.52	41		Pg	16 57 58.9	0.0
KAN14				Sg	Sg	16 58 06.0	+0.3
U32A	Winter Ranch,	0.53	249	Pg	Pg	16 57 58.9	-0.1
KAN10	Anthony SW Sta	0.60	23	Pg	Pg	16 58 00.4	-0.2
KAN16	Harper SW Stat	0.71	21	Pg	Pg	16 58 02.2	-0.4
KAN08	Anthony NE Sta	0.74	27	Pg	Pg	16 58 02.8	-0.3
KAN08				IAmb_Lg		16 58 12.6	
	comp=Z,63nm,1.0s						
KAN12	Harper NE Stat	0.79	23	Pg	Pg	16 58 03.8	-0.4
KAN13	South Haven SW	0.86	58	Pg	Pg	16 58 05.0	-0.4
BLOK	Blackwell	0.96	78	Pg	Pg	16 58 07.1	-0.4
BCOK	Bluff Creek, N	1.11	145	Pg	Pg	16 58 09.7	-0.5
OK031	S. Brethren Rd	1.40	116		Pn	16 58 14.7	-0.1
QUOK	Quay	1.41	106		Pn	16 58 15.3	+0.2
OK030	Cody Creek RV	1.45	116		Pn	16 58 15.6	+0.1
T35A	Sooner Cattle	1.55	76	Pn	Pn	16 58 17.3	+0.3
WMOK	Wichita Mounta	1.85	190	Pn	Pn	16 58 21.3	+0.1
R32A	Long Quarter,	1.87	352		Pn	16 58 22.4	+0.9
X34A	Smith Ranch, M	2.01	167		Pb	16 58 25.1	-0.8
X34A				IAmb_Lg		16 58 53.2	
	comp=Z,18nm,0.7s						
TUL1	Leonard	2.20	107	IAmb_Lg		16 58 59.3	
	comp=Z,25nm,0.8s						
X37A	Clayton	3.15	128	IAmb_Lg		16 59 33.6	
	comp=Z,15nm,0.7s						
N33A	J Bar K, Exete	4.23	10	IAmb_Lg		17 00 06.2	
	comp=Z,11nm,0.7s						
Z38A	Mt. Pleasant	4.33	139	IAmb_Lg		17 00 13.1	
	comp=Z,16nm,0.7s						
MSTX	Muleshoe	4.42	235	IAmb_Lg		17 00 21.4	
	comp=Z,8.5nm,0.9s						
X40A	Basin Creek Fa	4.98	113	IAmb_Lg		17 00 32.3	
	comp=Z,9.3nm,0.7s						
CCM	Cathedral Cave	5.89	73	IAmb_Lg		17 00 57.4	
	comp=Z,11nm,0.8s						
FVM	French Village	6.51	75	IAmb_Lg		17 01 18.8	
	comp=Z,6.9nm,0.8s						

*TUL **08** 17:08:42.8±1.5,36°.71N±0°.02×98°.43W±0°.02,h4km±6km, ML3.1,mb_Lg2.6/22(NEIC),Error ellipse: s-maj=2.8km s-min=1.9km az=116.0*

NEIC 08 17:08:43.6±1.5,36°.72N±0°.02×98°.42W±0°.01,h11km±3km, Error ellipse: s-maj=3.3km s-min=1.1km az=157.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.19	63	Pg	Pg	17 08 47.2	-0.5
OK032				Sg	Sg	17 08 50.3	-0.3
OK035	E0210 Rd and N	0.23	268	Pg	Pg	17 08 47.7	-0.7
OK035				Sg	Sg	17 08 51.2	-0.4
CROK	Carrier	0.41	121	Pg	Pg	17 08 51.3	-0.4
CROK				Sg	Sg	17 08 57.2	+0.1
KAN14	Manchester OK	0.44	57		Pg	17 08 51.7	-0.5
KAN14				Sg	Sg	17 08 58.2	+0.1
GC02	Grant County #	0.47	73	Pg	Pg	17 08 52.4	-0.4
GC02				Sg	Sg	17 08 59.4	+0.3
KAN10	Anthony SW Sta	0.48	33	Pg	Pg	17 08 52.7	-0.3
KAN10				Sg	Sg	17 08 59.5	0.0
U32A	Winter Ranch,	0.57	234	Pg	Pg	17 08 53.9	-0.8
U32A				Sg	Sg	17 09 01.9	-0.4
KAN16	Harper SW Stat	0.58	29	Pg	Pg	17 08 54.4	-0.6
KAN16				Sg	Sg	17 09 02.7	0.0
KAN05	Bluff City Nor	0.59	48	Pg	Pg	17 08 54.7	-0.4
KAN05				Sg	Sg	17 09 03.0	+0.1
KAN08	Anthony NE Sta	0.63	35	Pg	Pg	17 08 55.3	-0.4
KAN08				Sg	Sg	17 09 04.0	+0.1
KAN12	Harper NE Stat	0.67	30	Pg	Pg	17 08 55.0	-1.6
KAN12				Sg	Sg	17 09 05.4	-0.1
KAN01	Argonia South	0.69	50		Pg	17 08 56.4	-0.5
KAN01				Sg	Sg	17 09 05.6	-0.3
KAN06	Argonia West S	0.70

comp=Z,12nm,0.8s
LOOK Love County 2.90 159 Pn Pn 17 09 30.4 +0.7
AMTX Amarillo 3.22 236 Pn Pn 17 09 35.6 +1.5
AMTX IAmb_Lg 17 10 27.2
comp=Z,15nm,1.2s
U38A Gravette 3.26 94 Pn 17 09 35.7 +1.0
U38A IAmb_Lg 17 10 23.9
comp=Z,9.6nm,1.1s
X37A Clayton 3.27 130 Pn Pn 17 09 35.2 +0.5
HHAR Hobbs 3.64 96 Pn Pn 17 09 39.8 0.0
KSCO Kaye Shedlock' 4.04 306 Pn Pn 17 09 45.5 0.0
KSCO IAmb_Lg 17 11 00.2
comp=Z,10nm,0.8s
W39A Magazine 4.06 111 Pn Pn 17 09 45.8 +0.2
W39A IAmb_Lg 17 10 54.5
comp=Z,14nm,0.7s
S39A Bolivar 4.19 75 Pn 17 09 46.0 -1.4
U40A Yellville 4.50 93 Pn Pn 17 09 50.3 -1.4
U40A IAmb_Lg 17 11 05.7
comp=Z,16nm,0.7s
MIAR Mount Ida 4.50 117 Pn Pn 17 09 49.2 -2.5
T25A Trinidad 4.82 277 IAmb_Lg 17 11 20.0
comp=Z,22nm,0.9s
MGMO Mountain Grove 4.95 83 Pn Pn 17 09 55.9 -2.0
MGMO IAmb_Lg 17 11 28.5
comp=Z,8.7nm,0.8s
X40A Basin Creek Fa 5.07 114 Pn Pn 17 09 58.2 -1.2
OGNE Ogallala 5.08 327 Pn Pn 17 09 57.3 -2.4
R40A Maddies Statio 5.14 70 Pn Pn 17 09 59.4 -1.1
FCAR Ozark Folk Cen 5.15 97 Pn Pn 17 09 59.9 -0.8
WHAR Wooly Hollow 5.17 104 Pn Pn 17 09 58.4 -2.6
W41B Gary Mavity, V 5.24 105 Pn Pn 17 10 01.7 -0.2
SDCO Great Sand Dun 5.74 282 Pn Pn 17 10 10.4 +1.4
N38A Joes South For 5.75 43 IAmb_Lg 17 11 49.9
comp=Z,16nm,0.8s
P40A Paris 5.76 59 Pn Pn 17 10 07.0 -1.9
Q24A Divide 5.78 295 IAmb_Lg 17 11 48.6
comp=Z,7.3nm,0.7s
PBMO Poplar Bluff 6.42 87 IAmb_Lg 17 12 10.3
comp=Z,7.3nm,0.7s
ISCO Idaho Springs 6.44 301 Pn Pn 17 10 16.9 -1.7

*IDC **08** 17:46:27.8±1.4, 53°.76N×164°.97W, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.8/50, mbtmp3.9/19, ML3.6/3, Error ellipse: s-maj=38.0km s-min=14.7km az=159.0*
*AEIC **08** 17:46:30.0±2.8, 53°.59N±0°.04×164°.73W±0°.04, h3km±4km, Error ellipse: s-maj=6.7km s-min=2.2km az=158.0*
*NEIC **08** 17:46:33.1±1.9, 53°.69N±0°.06×164°.75W±0°.07, h42km±8km, mb4.0/17, ML3.9/8, ML3.8/44(AEIC), Error ellipse: s-maj=9.4km s-min=6.0km az=168.0*

ISC 08 17:46:29.9±1.6, **53°.50N**±0°.07×**164°.63W**±0°.04, **h23**km±10km, **n146**, σ1°32/146, **mb4.0**/18, **Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.90	316		Pb	17 46 46.8	0.0
AKSA					Sb	17 46 57.9	-0.4
AKSA	Akutan Strait	0.90	316		Pb	17 46 46.7	0.0
AKSA					Sb	17 46 58.0	-0.2
AKUT	Akutan	0.93	314	Pn	Pb	17 46 47.3	+0.1
AKUT				IAML		17 47 01.9	
	comp=E,5μm,0.4s						
AKUT	Akutan	0.93	314		Sb	17 46 58.9	-0.3
AKBBA	Akutan Broad B	0.98	308		Pb	17 46 48.0	-0.1
AKBBA					Sb	17 47 00.5	-0.1
ZRO	Akutan Zero	0.99	307		Pb	17 46 48.4	-0.1
WESP	Westdahl Peak	1.00	357		Pb	17 46 48.6	+0.1
AKMO	Akutan Morgan	1.01	307		Pb	17 46 48.6	-0.1
AKMO					Sb	17 47 01.0	-0.5
AKLV	Akutan Long Va	1.03	311		Pn	17 46 48.6	-0.2
AKLV					Sb	17 47 03.0	+1.0
WECS	Westdahl Cape	1.04	355		Pn	17 46 49.4	+0.3
AKRB	Akutan Reef Bi	1.06	307		Pn	17 46 49.3	0.0
AKRB					Sb	17 47 03.9	+0.9
AKGG	Akutan Green G	1.07	312		Pn	17 46 49.4	0.0
WEBT	Westdahl Beart	1.10	356		Pn	17 46 50.2	+0.4
UNV	Unalaska Valle	1.17	288	Pn	Pn	17 46 50.3	-0.4
SSLS	Shishaldin Sou	1.27	17		Pn	17 46 52.6	+0.3
MNAT	Makushin Natee	1.28	288		Pn	17 46 52.3	0.0
MREP	Makushin Rep't	1.29	285		Pn	17 46 52.7	+0.2
MTBL	Makushin Table	1.30	292		Pn	17 46 52.5	-0.2
SSLW	Shishaldin Wes	1.31	13		Pn	17 46 53.3	+0.5
ISLZ	Isanotski Laza	1.34	23		Pn	17 46 53.5	+0.3
MSW	Makushin Switc	1.34	289		Pn	17 46 53.2	0.0
MGOD	Makushin Gods	1.36	283		Pn	17 46 53.8	+0.2
SSLN	Shishaldin Nor	1.37	16		Pn	17 46 54.3	+0.8
SSLN					Sb	17 47 15.3	+3.5
ISNN	Isanotski Nort	1.43	20		Pb	17 46 55.4	-0.4
FALS	False Pass	1.54	27		Pn	17 46 56.5	+0.7
FALS	False Pass	1.54	27		Sb	17 47 17.3	+0.7
OKFG	Magazine Ridge	1.96	269		Pb	17 47 03.5	-1.4
OKNC	Okmok New Cone	2.09	270		Pn	17 47 05.2	+1.8
OKNC					Sb	17 47 32.9	+0.4
OKCE	Okmok Cone E	2.11	269		Pb	17 47 06.4	-1.1
DT1	Dutton Round H	2.12	40		Pn	17 47 05.4	+1.6
OKSP	Okmok Steeple	2.21	265		Pn	17 47 06.7	+1.7
HAG	Hague Volcano	2.42	40		Pb	17 47 11.2	-1.5
PS4A	Pavlof South-4	2.46	40		Pb	17 47 11.7	-1.7
NIKH	Nikolski High	2.59	260		Pb	17 47 13.4	-2.2
BLHA	Black Hill	2.67	33		Pb	17 47 14.4	-2.5
SDPT	Sand Point	3.06	51	Pn	Pn	17 47 18.4	+1.8
SDPT				IAML		17 48 22.3	
	comp=N,408nm,1.0s						
SDPT				IAML		17 48 23.8	
	comp=E,469nm,2.9s						
CLES	Cleveland East	3.24	260	Pn	Pn	17 47 21.2	+2.0
CNBA	Chernabura Isl	3.25	64	Pn	Pn	17 47 21.6	+2.3
CHGN	Chignik	4.56	49	Pn	Pn	17 47 39.1	+1.8
SPIA	Saint Paul Isl	4.88	321	Pn	Pn	17 47 44.1	+2.3
CHIR	Chirikof Islan	5.72	62	Pn	Pn	17 47 56.2	+2.9
KIWB	Kanaga Island	7.79	263	Pn	Pn	17 48 24.5	+2.9
KDAK	Kodiak Island	8.05	53	Pn	Pn	17 48 26.4	+1.2
	comp=E,0.9nm,0.3s,baz=238,slow=3.8,SNR=13						
KDAK				Sn	Sn	17 49 52.2	-3.2
	baz=64,slow=18,SNR=2.7						
KDAK	Kodiak Island	8.05	53	Pn	Pn	17 48 26.8	+1.5
O18K	Koktuh Hills	8.21	35	Pn	Pn	17 48 29.0	+1.6
SVW2	Sparrevohn	9.05	29	Pn	Pn	17 48 41.8	+2.9
N19K	Bonanza Creek	9.16	33	Pn	Pn	17 48 40.5	0.0
CNPM	China Poot	9.54	45	Pn	Pn	17 48 47.1	+1.4
BRLK	Bradley Lake	9.82	45	Pn	Pn	17 48 51.7	+2.1
M19K	Big River Lodg	10.04	29	Pn	Pn	17 48 54.7	+2.3
TTA	Tatalina	10.48	22	Pn	Pn	17 48 59.8	+1.2
SEW	Seward	10.62	45	Pn	Pn	17 49 01.5	+1.1
RC01	Rabbit Creek A	11.06	41	Pn	Pn	17 49 08.6	+2.2
K20K	Telida	11.31	25	Pn	Pn	17 49 09.1	-0.8
PPLA	Purkeypile	11.46	30	Pn	Pn	17 49 09.8	-2.2
PWL	Port Wells	11.49	44	Pn	Pn	17 49 13.4	+1.1
CUT	Chulitna	11.71	35	Pn	Pn	17 49 16.9	+1.6
KNK	Knik Glacier	11.75	41	Pn	Pn	17 49 15.0	-0.8
GHO	Glory Hole Cre	11.78	39	Pn	Pn	17 49 16.7	+0.3
J20K	Nowinta River	11.98	23		Pn	17 49 20.3	+1.3
SML	Sawmill	12.03	40	Pn	Pn	17 49 19.6	-0.1
FID	Port Fidalgo	12.22	46	Pn	Pn	17 49 21.5	-0.8
KTH	Kantishna Hill	12.33	30	Pn	Pn	17 49 25.1	+1.3
SCM	Sheep Creek Mo	12.43	41	Pn	Pn	17 49 25.6	+0.3
EYAK	Cordova Ski Ar	12.44	48	Pn	Pn	17 49 26.3	+1.0
TRF	Thorofare Moun	12.45	31	Pn	Pn	17 49 25.6	+0.1
DIV	Divide	12.70	46	Pn	Pn	17 49 31.3	+2.4
KLU	Klutina	12.82	44		Pn	17 49 30.4	-0.1
RAGM	Ragged Mountai	12.86	50	Pn	Pn	17 49 32.1	+1.1
HMT	Hamilton	13.03	50	Pn	Pn	17 49 32.8	-0.6
M24K	Tolsona, Glenn	13.04	41	Pn	Pn	17 49 33.3	-0.2
BMRM	Bremner River	13.13	47	Pn	Pn	17 49 35.4	+0.6
DHY	Denali Highway	13.16	36	Pn	Pn	17 49 35.0	-0.2
BERG	Berg Lake	13.31	50	Pn	Pn	17 49 37.2	+0.1
N25K	Chitina, Valde	13.43	45	Pn	Pn	17 49 38.7	-0.1
SNH	Sunshine Point	13.63	52	Pn	Pn	17 49 42.9	+1.3
IMAR	Indian Mountai	13.64	19	Pn	Pn	17 49 43.7	+2.2
GLB	Gilahina Butte	13.69	46	Pn	Pn	17 49 40.2	-2.1
WAX	Waxell Ridge	13.72	51	Pn	Pn	17 49 42.2	-0.5
VRDI	Verde Repeater	13.75	47	Pn	Pn	17 49 43.2	-0.1
PAX	Paxson	13.79	39	Pn	Pn	17 49 43.0	-0.8
WRH	Wood River Hil	13.86	31	Pn	Pn	17 49 41.3	-3.3
MCARA	McCarthy VSAT	14.00	47	Pn	Pn	17 49 44.6	-2.0
ISLE	Juniper Island	14.01	51	Pn	Pn	17 49 47.0	+0.2
CCB	Clear Creek Bu	14.07	31	Pn	Pn	17 49 43.6	-3.9
YAH	Yahtse	14.21	52	Pn	Pn	17 49 50.4	+0.8
GRNC	Granite Creek	14.33	51	Pn	Pn	17 49 51.0	-0.2
IL31		14.44	32	Pn	Pn	17 49 50.3	-2.2
ILAR	Eielson Array	14.44	32	Pn	Pn	17 49 49.9	-2.7
	comp=E,0.1nm,0.3s,baz=224,slow=13,SNR=1.7						
RIDG	Independent Ri	14.47	37	Pn	Pn	17 49 51.9	-1.1
M26K	Nabesna, AK	14.47	43		Pn	17 49 54.3	+1.2
BARN	Barnard Glacie	14.48	49	Pn	Pn	17 49 53.6	+0.2
TABL	Table Mountain	14.52	52	Pn	Pn	17 49 55.0	+1.2
CTGM	Chitina Glacie	14.60	50	Pn	Pn	17 49 55.5	+0.6
LOGN	Logan Glacier	14.70	51	Pn	Pn	17 49 57.0	+0.7
H24K	Noodor Dome	14.91	27	Pn	Pn	17 49 57.1	-1.9
M27K	Edge Creek, AK	14.91	45		Pn	17 49 58.6	-0.5
SCRK	Sand Creek	14.92	37	Pn	Pn	17 49 56.6	-2.5
L27K	Beaver Creek,	15.26	42	Pn	Pn	17 50 04.1	+0.5
BCAR	Beaver Creek A	15.28	42	Pn	Pn	17 50 04.3	+0.4
EGAK	Eagle	16.39	37	Pn	Pn	17 50 17.9	-0.2
DAWY	Dawson	16.69	41		Pn	17 50 20.8	-1.2
DAWY				IAmb	IAmb	17 50 31.1	
	comp=Z,16nm,1.4s						
TOLK	Toolik Lake Re	16.76	19	Pn	Pn	17 50 21.8	-1.1
BMAR	Burnt Mountain	16.98	27	Pn	Pn	17 50 23.3	-2.3
WHY	Whitehorse	17.57	54		Pn	17 50 33.1	+0.1
EPYK	Eagle Plains	18.79	36	P	P	17 50 47.1	-0.2
EPYK				IAmb	IAmb	17 50 55.1	
	comp=Z,28nm,1.6s						
DLBC	Dease Lake	19.84	62	P	Pn	17 51 01.5	+1.0
	comp=Z,0.2nm,0.3s,baz=270,slow=10,SNR=3.1						
DLBC	Dease Lake	19.84	62	IAmb	IAmb	17 51 13.2	
	comp=Z,14nm,1.4s						
INK	Inuvik	20.83	33	P	P	17 51 08.8	-0.6
	comp=Z,1.0nm,0.4s,baz=240,slow=14,SNR=3.2						
INK	Inuvik	20.83	33	P	P	17 51 08.5	-0.9
INK				IAmb	IAmb	17 51 16.0	
	comp=Z,3.6nm,0.5s						
PEA0B	Petropavlovsk-	22.35	284	P	P	17 51 25.3	-0.5
PETK	Petropavlovsk-	22.35	284	P	P	17 51 25.5	-0.3
	comp=Z,2.3nm,0.5s,baz=85,slow=14,SNR=3.4						
PETK	Petropavlovsk-	22.35	284	P	P	17 51 25.4	-0.5
SEY	Seymchan	24.07	310	P	P	17 51 42.0	-1.1
	comp=Z,0.4nm,0.5s,baz=358,slow=23,SNR=15						
A36M	Sachs Harbour	25.07	28	P	P	17 51 51.5	-0.5
A36M				IAmb	IAmb	17 51 58.7	
	comp=Z,4.5nm,0.8s						
YKA	Yellowknife Ar	27.32	51	P	P	17 52 14.3	+1.9
	comp=Z,0.5nm,0.4s,baz=275,slow=9.6,SNR=13						
YKA	Yellowknife Ar	27.32	51	P	P	17 52 12.1	-0.4
EUNU	Eureka	35.81	17	P	P	17 53 27.2	+0.3
FCC	Fort Churchill	37.99	53	P	P	17 53 46.0	+0.5
H11N2	WAKE ISLAND Hy	40.20	224	T	T	18 37 04.2	
	baz=26,slow=76,SNR=80						
H11N3	WAKE ISLAND Hy	40.20	224	T	T	18 37 02.8	
	baz=26,slow=76,SNR=118						
H11N1	WAKE ISLAND Hy	40.21	224	T	T	18 37 06.6	
	baz=26,slow=76,SNR=69						
H11S1	WAKE ISLAND Hy	41.37	224	T	T	18 38 28.0	
	baz=25,slow=76,SNR=172						
H11S2	WAKE ISLAND Hy	41.38	224	T	T	18 38 31.7	
	baz=25,slow=76,SNR=140						
H11S3	WAKE ISLAND Hy	41.39	224	T	T	18 38 32.5	
	baz=25,slow=76,SNR=72						
MJAR	Matsushiro Arr	42.58	270	P	P	17 54 23.9	+0.1
	comp=Z,1.8nm,0.6s,baz=56,slow=9.7,SNR=2.3						
MJAR	Matsushiro Arr	42.58	270	IAmb	IAmb	17 54 25.8	
	comp=Z,5.5nm,1.2s						
FRB	Frobisher Bay	46.36	38	P	P	17 54 54.6	+1.0
	comp=Z,3.5nm,0.6s,baz=311,slow=10						
SONM	Songino Array	53.14	303	P	P	17 55 45.3	-0.3
	comp=Z,0.7nm,0.8s,baz=35,slow=6.4,SNR=5.9						
SONM				PcP	PcP	17 56 54.4	+0.9
	comp=Z,0.5nm,0.5s,baz=90,slow=1.9,SNR=6.2						
SONM	Songino Array	53.14	303	P	P	17 55 45.0	-0.5
SONM				IAmb	IAmb	17 55 58.4	
	comp=Z,1.8nm,1.4s						
HHC	Hu-ho-hao-te	55.15	293	eP	P	17 55 59.9	-0.4
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,6.1s						
ARCES	ARCESS Array B	57.05	356	P	P	17 56 12.5	-0.9
	comp=Z,1.2nm,0.6s,baz=12,slow=7.6,SNR=9.5						
ZALV	Zalesovo Beam	58.47	320	P	P	17 56 22.7	-0.8
	comp=Z,0.5nm,0.3s,baz=38,slow=7.4,SNR=5.3						
ZALV				PcP	PcP	17 57 14.8	+0.9
	comp=Z,0.8nm,0.4s,baz=34,slow=5.1,SNR=7.8						
WMQ	Urumqi	65.04	310	eP	P	17 57 10.0	+2.0
MK31	Makanchi Array	65.05	316	P	P	17 57 07.2	-0.8
MK31				IAmb	IAmb	17 57 27.4	
	comp=Z,2.1nm,1.4s						
MKAR	Makanchi Array	65.05	316	P	P	17 57 06.6	-1.3
	comp=Z,0.4nm,0.5s,baz=50,slow=6.3,SNR=16						
FINES	FINESS Array B	65.09	354	P	P	17 57 07.4	-0.5
	comp=Z,3.0nm,0.7s,baz=20,slow=6.8,SNR=13						
AKASG	Malin Array Be	75.52	351	P	P	17 58 11.7	-0.1
	comp=Z,1.8nm,0.5s,baz=12,slow=6.0,SNR=16						
CHGR	Chuyangaron	77.14	320	P	P	17 58 21.9	+0.4
GERES	GERESS Array B	78.02	1	P	P	17 58 25.6	-0.5
	comp=Z,0.2nm,0.5s,baz=38,slow=5.0,SNR=4.0						
CMAR	Chiang Mai Arr	79.11	286	P	P	17 58 32.6	+0.2
	comp=Z,1.2nm,1.0s,baz=26,slow=4.8,SNR=5.4						
BRTR	Keskin Array B	85.81	346	P	P	17 59 08.2	+0.8
	comp=Z,1.6nm,1.0s,baz=356,slow=2.9,SNR=5.9						
ASAR	Alice Springs	93.35	234	P	P	17 59 43.2	+0.4
	comp=Z,0.4nm,0.9s,baz=14,slow=4.9,SNR=3.2						
H03N2	Juan Fernandez	113.73	114	T	T	20 09 07.5	
	baz=321,slow=76						
H03N1	Juan Fernandez	113.74	114	T	T	20 09 08.7	
	baz=321,slow=76						
H03N3	Juan Fernandez	113.75	114	T	T	20 09 08.6	
	baz=321						

*ANF **08** 17:50:04.7±0.3, 36°.43N×98°.73W, h0km, ML4.2/8, Error ellipse: s-maj=3.3km s-min=3.1km az=105.0*
*NEIC **08** 17:50:04.7±1.6, 36°.52N±0°.02×98°.68W±0°.03, h14km±3km, Error ellipse: s-maj=4.5km s-min=0.6km az=138.0*
*TUL **08** 17:50:04.1±1.1, 36°.51N±0°.03×98°.71W±0°.05, h8km±5km, ML3.5, mb_Lg3.3/73(NEIC), Error ellipse: s-maj=5.4km s-min=3.7km az=115.0*

ISC 08 17:50:04.1±0.8, **36°.52N**±0°.02×**98°.70W**±0°.02, **h14**km±7km, **n104**, σ1°12/112, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.19	358	Pg	Pg	17 50 08.6	+0.1
OK035				Sg	Sg	17 50 11.9	+0.4
U32A	Winter Ranch,	0.28	241	Pg	Pg	17 50 09.6	-0.3
U32A				Sg	Sg	17 50 13.8	0.0
OK032	Salt Plains WL	0.49	54	Pg	Pb	17 50 13.8	-0.7
OK032				Sg	Sg	17 50 20.8	+0.5
CROK	Carrier	0.58	91	Pg	Pg	17 50 15.3	-0.1
CROK				Sg	Sg	17 50 23.5	+0.4
KAN14	Manchester OK	0.74	53		Pg	17 50 18.3	-0.2
KAN14				Sg	Sb	17 50 28.4	-0.3
GC02	Grant County #	0.76	63	Pg	Pg	17 50 18.6	-0.1
GC02				Sg	Sg	17 50 28.8	+0.1
KAN10	Anthony SW Sta	0.78	39	Pg	Pb	17 50 19.1	-0.3
KAN10				Sg	Sb	17 50 29.8	-0.1
KAN16	Harper SW Stat	0.87	36	Pg	Pb	17 50 20.8	-0.3
KAN16				Sg	Sb	17 50 32.6	-0.1
KAN05	Bluff City Nor	0.89	48	Pg	Pb	17 50 21.1	-0.2
KAN05				Sg	Sg	17 50 32.9	-0.1
KAN08	Anthony NE Sta	0.92	39		Pb	17 50 21.6	-0.2
KAN08				Sg	Sb	17 50 34.0	0.0
KAN12	Harper NE Stat	0.96	36		Pb	17 50 22.6	+0.1
KAN12				Sg	Sb	17 50 35.5	+0.3
KAN01	Argonia South	0.99	50		Pb	17 50 22.9	-0.1
KAN01				Sg	Sg	17 50 35.8	-0.3
KAN06	Argonia West S	1.00	43		Pb	17 50 23.1	-0.1
KAN06				Sg	Sb	17 50 36.3	+0.1
KAN13	South Haven SW	1.10	63		Pg	17 50 24.7	-0.6
BLOK	Blackwell	1.22	78	Pn	Pg	17 50 26.8	-0.8
BLOK				Sg	Sb	17 50 43.2	+0.5
BCOK	Bluff Creek, N	1.23	134	Pn	Pg	17 50 26.7	-1.1
BCOK				Sg	Sg	17 50 43.3	-0.5
OK029	Liberty Lake	1.24	125		Pg	17 50 26.8	-1.1
OK029				Sg	Sg	17 50 43.3	-0.8
OK025	Westminster Rd	1.45	130		Pn	17 50 30.3	+0.4
OK025				Sn	Sn	17 50 50.0	+1.3
OKCFA	Oklahoma City	1.50	137	Pn	Pn	17 50 31.1	+0.5
OKCFA				Sn	Sn	17 50 50.9	+1.0
OKCSW	OKLAHOMA CITY	1.51	137		Pn	17 50 31.3	+0.5
OK031	S. Brethren Rd	1.61	110		Pn	17 50 33.0	+0.9
FNO	Franklin	1.64	140		Pn	17 50 33.6	+1.1
QUOK	Quay	1.65	101		Pn	17 50 33.8	+1.2
OK030	Cody Creek RV	1.66	110		Pn	17 50 33.7	+0.9
WMOK	Wichita Mounta	1.77	182	Pn	Pn	17 50 34.9	+0.5
WMOK	Wichita Mounta	1.77	182	P	Pn	17 50 35.1	+0.7
	baz=1.8						
WMOK				S	Sb	17 50 58.8	+0.2
	baz=1.8						
T35A	Sooner Cattle	1.80	77		Pb	17 50 36.4	-0.5
R32A	Long Quarter,	1.90	360	Pn	Pb	17 50 38.2	-0.4
X34A	Smith Ranch, M	2.04	159		Pb	17 50 39.9	-1.0
X34A				IAmb_Lg		17 51 13.4	
	comp=Z,157nm,0.9s						
TUL1	Leonard	2.43	104		Pn	17 50 44.8	+1.4
TUL1				IAmb_Lg		17 51 22.8	
	comp=Z,113nm,0.7s						
TUL1	Leonard	2.43	104	S	Sb	17 51 18.5	+1.1
	baz=285						
CBKS	Cedar Bluff	2.44	341	Pn	Pn	17 50 45.6	+2.1
CBKS	Cedar Bluff	2.44	341	P	Pb	17 50 47.2	-0.5
	baz=160						
CBKS				S	Sb	17 51 19.2	+1.6
	baz=160						
LOOK	Love County	2.81	153		Pn	17 50 49.8	+1.2
LOOK				IAmb_Lg		17 51 34.4	
	comp=Z,84nm,0.9s						
AMTX	Amarillo	2.92	237	Pn	Pn	17 50 52.3	+2.1
AMTX				IAmb_Lg		17 51 40.6	
	comp=Z,120nm,0.8s						
AMTX	Amarillo	2.92	237	Pb	Pb	17 50 56.7	+0.7
	baz=55						
AMTX				Sb	Sb	17 51 34.2	+2.5
	baz=55						
KSU1	Kansas State U	3.07	32		Pn	17 50 54.0	+1.8
KSU1	Kansas State U	3.07	32	P	Pn	17 50 54.8	+2.6
	baz=213						
X37A	Clayton	3.33	124		Pn	17 50 56.8	+1.1
X37A				IAmb_Lg		17 51 58.1	
	comp=Z,98nm,0.7s						
U38A	Gravette	3.48	90		Pn	17 50 59.5	+1.6
U38A				IAmb_Lg		17 51 57.0	
	comp=Z,67nm,0.8s						
HHAR	Hobbs	3.85	92		Pn	17 51 03.8	+0.9
KSCO	Kaye Shedlock'	3.98	310		Pn	17 51 07.1	+2.2
KSCO				IAmb_Lg		17 52 12.5	
	comp=Z,86nm,0.7s						
MSTX	Muleshoe	4.19	234	Pn	Pn	17 51 08.1	+0.4
MSTX	Muleshoe	4.19	234	Pb	Pb	17 51 18.3	+0.7
	baz=51						
W39A	Magazine	4.21	107		Pn	17 51 09.1	+1.3
N33A	J Bar K, Exete	4.33	13		Pn	17 51 08.3	-1.2
N33A				IAmb_Lg		17 52 31.0	
	comp=Z,54nm,0.7s						
S39A	Bolivar	4.46	73	IAmb_Lg		17 52 29.8	
	comp=Z,52nm,0.9s						
Z38A	Mt. Pleasant	4.46	136		Pn	17 51 11.8	+0.5
Z38A				IAmb_Lg		17 52 26.8	
	comp=Z,60nm,0.9s						
MIAR	Mount Ida	4.62	114		Pn	17 51 14.6	+1.1
MIAR				IAmb_Lg		17 52 41.4	
	comp=Z,80nm,1.1s						
T25A	Trinidad	4.62	279		Pn	17 51 14.7	+1.0
T25A				IAmb_Lg		17 52 39.6	
	comp=Z,52nm,0.7s						
T25A	Trinidad	4.62	279	P	Pn	17 51 15.2	+1.4
	baz=96						
T25A				Sb	Sg	17 52 27.9	-4.6
	baz=96						
WHTX	Lake Whitney,	4.63	167		Pn	17 51 13.9	+0.2
WHTX	Lake Whitney,	4.63	167	P	Pn	17 51 14.8	+1.1
	baz=347						
U40A	Yellville	4.72	90		Pn	17 51 15.8	+0.9
U40A				IAmb_Lg		17 52 30.4	
	comp=Z,53nm,0.8s						
BGNE	Belgrade	4.90	5		Pn	17 51 17.9	+0.5
BGNE				IAmb_Lg		17 52 50.6	
	comp=Z,67nm,0.7s						
237A	Washetta, Mont	5.10	151	IAmb_Lg		17 53 00.8	
	comp=Z,60nm,0.9s						
OGNE	Ogallala	5.13	331		Pn	17 51 21.3	+0.7
OGNE				IAmb_Lg		17 52 57.7	
	comp=Z,64nm,0.8s						
X40A	Basin Creek Fa	5.20	111		Pn	17 51 21.2	-0.2
MGMO	Mountain Grove	5.20	81		Pn	17 51 20.9	-0.6
WHAR	Wooly Hollow	5.35	101		Pn	17 51 24.2	+0.7
WHAR				IAmb_Lg		17 53 07.6	
	comp=Z,45nm,0.9s						
FCAR	Ozark Folk Cen	5.36	95		Pn	17 51 25.1	+1.5
FCAR				IAmb_Lg		17 52 59.1	
	comp=Z,44nm,0.8s						
WLAR	White Oak Lake	5.38	120	Pn	Pn	17 51 25.8	+1.8
WLAR				IAmb_Lg		17 53 08.1	
	comp=Z,70nm,1.1s						
W41B	Gary Mavity, V	5.41	102		Pn	17 51 25.2	+0.8
W41B				IAmb_Lg		17 53 01.2	
	comp=Z,42nm,0.7s						
R40A	Maddies Statio	5.42	69	Pn	Pn	17 51 25.1	+0.6
R40A				IAmb_L

s-maj=20.0km s-min=9.4km az=112.0
*HEL **08** 18:00:10.6±0.1, 67°.09N×20°.98E, h0km, ML1.9, ML2.0(UPP), Explosion*
ISC 08 18:00:09.6±0.8, 67°.07N±0°.03×20°.93E±0°.03, h0km, n35, σ1°09/48, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.72**	**136**	P	**Pg**	**18 00 23.2**	**-0.2**
ERTU	**Ertsjaerv**	**0.72**	**136**	*e*P	**Pg**	**18 00 23.1**	**-0.2**
ERTU				*e*S	**Sg**	**18 00 32.4**	**-0.3**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**18 00 25.7**	**-0.4**
PAJU				S	**Sg**	**18 00 37.6**	**+0.4**
PAJU	**Pajala**	**0.86**	**92**	*e*P	**Pg**	**18 00 25.6**	**-0.4**
PAJU				*e*SB	**Sg**	**18 00 37.7**	**+0.6**
SALU	**Saltoluokta**	**0.99**	**289**	P	**Pg**	**18 00 28.6**	**-0.1**
SALU	**Saltoluokta**	**0.99**	**289**	*e*P	**Pg**	**18 00 28.6**	**-0.1**
LANU	**Lannavaara**	**1.06**	**22**	P	**Pg**	**18 00 29.4**	**-0.6**
LANU	**Lannavaara**	**1.06**	**22**	*e*P	**Pg**	**18 00 29.3**	**-0.7**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**18 00 30.0**	**-0.3**
NIKU				S	**Sg**	**18 00 44.7**	**+0.4**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P	**Pg**	**18 00 30.0**	**-0.3**
NIKU				*e*S	**Sg**	**18 00 44.7**	**+0.4**
KOVU	**Salmi**	**1.19**	**346**	P	**Pg**	**18 00 32.1**	**-0.4**
KOVU	**Salmi**	**1.19**	**346**	*e*P	**Pg**	**18 00 32.1**	**-0.4**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**18 00 38.4**	**-0.1**
KALU	**Kalix**	**1.56**	**140**	*e*P	**Pn**	**18 00 38.2**	**-0.4**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**18 00 39.0**	**0.0**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pn**	**18 00 39.0**	**0.0**
TOF	**Tornio**	**1.68**	**125**	*e*P	**Pn**	**18 00 40.4**	**+0.1**
	baz=304						
TOF				MSG		18 01 00.7	
	comp=Z,10.0nm,0.2s						
TOF				*e*SG	**Sn**	**18 01 02.5**	**+0.1**
HEF	**Hetta**	**1.70**	**37**	*e*P	**Pn**	**18 00 40.5**	**0.0**
HEF	**Hetta**	**1.70**	**37**	*e*PG	**Pn**	**18 00 40.5**	**0.0**
	baz=216						
HEF				MSG		18 01 00.7	
	comp=Z,10nm,0.2s						
HEF				*e*SN	**Sb**	**18 01 03.0**	**-0.7**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P	**Pg**	**18 00 46.0**	**-0.8**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*PG	**Pb**	**18 00 45.5**	**-0.3**
KIF				MSG		18 01 09.3	
	comp=Z,14nm,0.2s						
KIF				*e*SG	**Sg**	**18 01 12.9**	**+0.9**
RNF	**Rovaniemi**	**2.06**	**101**	*e*PB	**Pn**	**18 00 46.5**	**+1.0**
RNF				*e*SG	**Sg**	**18 01 16.0**	**+0.1**
BURU	**Burvik**	**2.51**	**176**	*e*P	**Pn**	**18 00 52.8**	**+1.3**
OUL	**Oulu**	**2.84**	**132**	*e*PB	**Pb**	**18 00 59.2**	**-1.9**
OBF0	**Syolatti, Pyha**	**2.92**	**151**	*e*PB	**Pn**	**18 01 00.0**	**+2.7**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**18 00 59.3**	**+0.9**
	baz=218,slow=14,SNR=11						
ARCES				Sn	**Sn**	**18 01 36.5**	**+1.4**
	baz=212,slow=22,SNR=6.5						
OUF	**Merijarvi**	**3.14**	**148**	*e*P	**Pn**	**18 01 01.7**	**+1.4**
OUF				MSG		18 01 42.7	
	comp=Z,1.3nm,0.2s						
VRF	**Varrio**	**3.42**	**75**	*e*PB	**Pb**	**18 01 09.4**	**-1.6**
MSF	**Maaselka**	**3.45**	**106**	*e*P	**Pn**	**18 01 05.8**	**+1.2**
MSF				*e*SG	**Sb**	**18 01 57.0**	**+2.9**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**18 01 06.1**	**+0.8**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**18 01 10.3**	**+1.9**
	baz=295						
HUSU	**Husum**	**3.81**	**192**	*e*P	**Pn**	**18 01 11.0**	**+1.4**
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**18 01 15.2**	**+1.6**
	baz=355						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 01 41.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=5.3						
FINES				Sn	**Sn**	**18 02 49.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=259,slow=19,SNR=1.7						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 01 59.7**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=29,slow=13,SNR=0.9						
NOA				Sn	**Sn**	**18 03 20.8**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=160,slow=17,SNR=1.4						

*SNET **08** 18:04:47.0±2.4, 11°.96N×88°.18W, h15km±20km, ML3.1*
*INET **08** 18:04:49.2±0.7, 12°.08N×88°.00W, h17km±10km, ML2.8, MW3.6*
ISC 08 18:04:42.1±2.9, 11°.79N±0°.10×88°.27W±0°.07, h16km±15km, n26, σ1°05/33, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarın**	**1.46**	**1**	*e*P	**Pb**	**18 05 09.9**	**+0.8**
JUCU				*e*S	**Sn**	**18 05 27.0**	**+0.2**
CRIN	**San Cristobal**	**1.50**	**53**	*e*P	**Pn**	**18 05 09.0**	**+0.5**
CNCH	**Conchagua**	**1.54**	**16**	*e*P	**Pb**	**18 05 10.5**	**+0.1**
LCND	**La Caada**	**1.56**	**14**	*e*P	**Pb**	**18 05 10.8**	**+0.1**
LCND				*e*S	**Sg**	**18 05 32.0**	**-0.5**
LCND				IAML		18 05 32.9	
	comp=Z,359nm,0.4s						
ALJI	**Alcalda de J**	**1.56**	**349**	*e*S	**Sg**	**18 05 31.8**	**-0.7**
LCY	**Lacayo**	**1.63**	**359**	*e*P	**Pb**	**18 05 12.8**	**+0.8**
VSM	**San Miguel**	**1.63**	**360**	*e*P	**Pb**	**18 05 12.9**	**+0.9**
PACA	**Pacayal**	**1.67**	**358**	*e*P	**Pb**	**18 05 13.9**	**+1.2**
COPN	**Copaltepe**	**1.69**	**76**	*e*P	**Pn**	**18 05 12.4**	**+1.4**
COPN				IAML		18 06 07.7	
	comp=Z,171nm,1.3s						
CNGN	**Cerro Negro**	**1.69**	**65**	*e*P	**Pn**	**18 05 11.7**	**+0.6**
CNGN				IAML		18 05 57.5	
	comp=Z,312nm,0.4s						
COEB	**Comit de Eme**	**1.72**	**351**	*e*P	**Pb**	**18 05 13.5**	**0.0**
COEB				*e*S	**Sn**	**18 05 33.8**	**+0.5**
COEB				IAML		18 05 41.6	
	comp=Z,168nm,0.4s						
MOMN	**Momotombo**	**1.80**	**70**	*e*P	**Pn**	**18 05 13.4**	**+0.7**
MOMN				*e*S	**Sn**	**18 05 32.5**	**-2.7**
MOMN				IAML		18 05 40.3	
	comp=Z,99nm,0.6s						
TECO	**Alcaldia de Te**	**1.81**	**344**	*e*S	**Sb**	**18 05 37.6**	**+0.1**
COEG	**Centro de Oper**	**1.92**	**342**	*e*P	**Pb**	**18 05 16.9**	**+0.1**
COEG				IAML		18 05 46.7	
	comp=Z,210nm,0.5s						
SJTE	**Alcalda de S**	**1.96**	**338**	*e*P	**Pb**	**18 05 18.9**	**+1.4**
SJTE				IAML		18 05 50.7	
	comp=Z,118nm,0.4s						
SCLA	**Alcaldia de Sa**	**1.96**	**347**	*e*P	**Pb**	**18 05 18.1**	**+0.6**
SCLA				*e*S	**Sb**	**18 05 40.8**	**-0.9**
LFRS	**El Faro**	**1.98**	**337**	*e*P	**Pb**	**18 05 18.4**	**+0.4**
TISN	**Laguna Tiscapa**	**1.99**	**80**	*e*P	**Pn**	**18 05 16.1**	**+0.9**
MGAN	**Managua**	**2.01**	**80**	*e*P	**Pn**	**18 05 17.2**	**+1.7**
PAVA	**Las Pavas**	**2.02**	**341**	*e*P	**Pb**	**18 05 19.0**	**+0.3**
PAVA				*e*S	**Sb**	**18 05 45.0**	**+1.3**
PMON	**Piamonte**	**2.17**	**332**	*e*P	Pn	18 05 08.8	-9.0
PMON				IAML		18 05 57.3	
	comp=Z,43nm,0.9s						
JAYA	**Jayaque - finc**	**2.19**	**328**	*e*P	**Pb**	**18 05 21.9**	**+0.5**
JAYA				*e*S	**Sb**	**18 05 46.9**	**-1.5**
TGUH	**Tegucigalpa,Un**	**2.46**	**23**	*e*P	**Pn**	**18 05 23.2**	**+1.4**
MATN	**Matagalpa**	**2.56**	**63**	*e*P	**Pn**	**18 05 22.9**	**-0.2**
NUBE	**Las Nubes**	**2.57**	**325**	*e*P	**Pb**	**18 05 27.6**	**-0.4**
NUBE				*e*S	**Sb**	**18 05 57.9**	**-1.6**
MTO3	**Montecristo**	**2.81**	**338**	*e*P	**Pb**	**18 05 30.9**	**-1.2**

KRSC 08 18:18:16.9±2.4, 49°.77N×156°.70E, h49km±30km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.99**	**338**	*e*P	Pn	18 18 35.5	+1.1
SKR				*e*S	Sn	18 18 47.0	-0.2
PAU	**Pauzhetka**	**1.70**	**2**	*e*P	Pn	18 18 45.9	+1.8
PAU				*e*S	Sn	18 19 06.5	+1.9
KDTR	**Khodutka, Kamc**	**2.22**	**23**	*e*P	Pn	18 18 54.6	+3.5
KDTR				*e*S	Sn	18 19 20.9	+3.6
MIPR	**Malaya Ipel'ka**	**2.51**	**1**	*e*P	Pn	18 18 56.2	+1.0
ASAK	**Asacha**	**2.72**	**16**	*e*P	Pn	18 19 02.0	+3.9
RUS	**Russkaya**	**2.90**	**22**	*e*P	Pn	18 19 03.8	+3.3
RUS				*e*S	Sn	18 19 37.2	+3.2
GRL	**Gorelyy**	**2.91**	**17**	*e*P	Pn	18 19 04.9	+4.1
GRL				*e*S	Sn	18 19 40.2	+5.6
KRMR	**Karymshinskiy**	**3.19**	**16**	P	Pn	18 19 06.1	+1.6
PET	**Petropavlovsk**	**3.48**	**20**	*e*P	Pn	18 19 13.4	+5.0
DALK	**Dalny**	**3.51**	**21**	*e*P	Pn	18 19 12.9	+4.1
DALK				*e*S	Sn	18 19 54.7	+5.7
UGLR	**Uglovaya**	**3.69**	**20**	*e*P	Pn	18 19 16.0	+4.6
AVH	**Avacha**	**3.72**	**19**	*e*P	Pn	18 19 16.4	+4.6
KOK	**Koryaka**	**3.73**	**18**	*e*P	Pn	18 19 17.2	+5.3
SDLR	**Sedlovina**	**3.77**	**20**	*e*P	Pn	18 19 16.6	+4.1
NLC	**Nalytchevo**	**3.78**	**25**	*e*S	Sn	18 19 59.8	+4.0
SPN	**Mys Shipunski**	**3.92**	**31**	*e*P	Pn	18 19 17.9	+3.4
SPN				*e*S	Sn	18 20 04.2	+4.9
GNL	**Ganaly**	**4.00**	**11**	*e*P	Pn	18 19 18.4	+2.7
MKZ	**Mys Kozlova**	**5.70**	**31**	*e*P	Pn	18 19 40.9	+2.0
KBTR	**Krutoberegovo**	**7.43**	**27**	*e*P	Pn	18 20 05.4	+2.9

*SJA **08** 18:40:59.4±1.0, 32°.96S×70°.87W, h78km±7km, ML4.1, MW4.4*
*IDC **08** 18:41:01.7±0.7, 32°.89S×70°.52W, h87km±5km, mb4.1/12, mb1 4.2/14, mb1mx3.9/40, mbtmp4.5/14, MS3.3/4, Ms1 3.3/4, ms1mx2.9/47, Error ellipse: s-maj=18.1km s-min=13.3km az=108.0*
*NEIC **08** 18:41:01.4±1.5, 32°.96S±0°.05×70°.61W±0°.05, h87km±4km, mb4.6/22, ML4.7(GUC), Error ellipse: s-maj=7.3km s-min=6.1km az=176.0*
*GUC **08** 18:41:02.1±0.6, 32°.94S×70°.68W, h93km±2km, ML4.7*
*VAO **08** 18:41:02.9±1.4, 32°.89S×70°.34W, h89km, mb4.6*
ISC 08 18:41:00.7±0.5, 32°.92S±0°.03×70°.71W±0°.03, h88km±4km, n147, σ1°76/155, mb4.5/19, 2C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.20**	**41**	⇑*i*P	**Pn**	**18 41 14.5**	**+0.9**
VA03				*i* S	**Sn**	**18 41 24.6**	**+1.5**
VA03				IAML		18 41 25.7	
	comp=E,158μm,0.1s						
PEL	**Peldehue**	**0.23**	**175**		**Pn**	**18 41 14.2**	**+0.6**
PEL				Sn	**Sn**	**18 41 24.1**	**+0.8**
MT05	**Renca**	**0.48**	**183**	⇓*i*P	**Pn**	**18 41 16.4**	**+1.3**
MT05				*i* S	**Sn**	**18 41 27.5**	**+1.6**
MT05				IAML		18 41 28.9	
	comp=N,97μm,0.4s						
MT02	**Curacav**	**0.50**	**226**	⇓*i*P	**Pn**	**18 41 16.7**	**+1.5**
MT02				*i* S	**Sn**	**18 41 27.7**	**+1.7**
MT02				IAML		18 41 28.6	
	comp=N,23μm,0.3s						
VA06	**Catapilco**	**0.61**	**305**	⇑*i*P	**Pn**	**18 41 18.1**	**+1.9**
VA06				*i* S	**Sn**	**18 41 30.0**	**+2.4**
VA06				IAML		18 41 31.3	
	comp=E,111μm,0.5s						
VA01	**Torpederas**	**0.80**	**262**		**Pn**	**18 41 19.8**	**+1.8**
VA01				Sn	**Sn**	**18 41 33.5**	**+2.6**
MT09	**Talagante**	**0.89**	**195**	⇓*i*P	**Pn**	**18 41 20.3**	**+1.1**
MT09				*e*S	**Sn**	**18 41 34.4**	**+1.4**
MT09				IAML		18 41 36.3	
	comp=E,20μm,0.3s						
LMEL	**Las Melosas**	**1.02**	**156**	⇓*i*P	**Pn**	**18 41 21.9**	**+1.2**
LMEL				*e*S	**Sn**	**18 41 37.0**	**+1.3**
LMEL				IAML		18 41 39.4	
	comp=N,20μm,0.4s						
MT01	**Popeta**	**1.05**	**206**	⇓*i*P	**Pn**	**18 41 22.1**	**+1.2**
MT01				*i* S	**Sn**	**18 41 37.6**	**+1.7**
MT01				IAML		18 41 39.2	
	comp=N,18μm,0.2s						
BO04	**La Punta**	**1.07**	**176**	⇓*i*P	**Pn**	**18 41 22.1**	**+1.0**
BO04				*i* S	**Sn**	**18 41 37.6**	**+1.0**
BO04				IAML		18 41 40.1	
	comp=N,15μm,0.3s						
AUSP	**Uspallata**	**1.31**	**59**	*i* P	**Pn**	**18 41 26.1**	**+1.8**
AUSP				*e*S	**Sn**	**18 41 44.0**	**+1.9**
ARCO	**CERRO ARCO**	**1.50**	**88**	*i* P	**Pn**	**18 41 28.4**	**+2.0**
ARCO				*e*S	**Sn**	**18 41 49.3**	**+3.4**
ARCO				IAML		18 41 52.2	
	comp=Z,3μm,0.4s						
BO01	**Tunca**	**1.51**	**192**	⇓*i*P	**Pn**	**18 41 27.6**	**+1.2**
BO01				*e*S	**Sn**	**18 41 46.7**	**+0.9**
BO01				IAML		18 41 48.8	
	comp=N,4μm,0.2s						
AAGR	**Agrelo**	**1.59**	**97**	*i* P	**Pn**	**18 41 29.4**	**+1.8**
AAGR				IAML		18 41 56.0	
	comp=Z,823nm,0.4s						
ASAL	**Salagasta**	**1.61**	**79**	*i* P	**Pn**	**18 41 29.8**	**+1.9**
ASAL				*e*S	**Sn**	**18 41 51.4**	**+2.9**
ASAL				IAML		18 41 53.1	
	comp=Z,1μm,0.5s						
RTLS	**Leoncito**	**1.63**	**47**	*i* P	**Pn**	**18 41 30.8**	**+2.4**
RTLS				*e*S	**Sn**	**18 41 53.2**	**+4.0**
RTLS				IAML		18 41 56.5	
	comp=Z,870nm,0.6s						
BO02	**Sierra Bellavi**	**1.87**	**182**	*e*P	**Pn**	**18 41 32.5**	**+1.3**
BO02				*e*S	**Sn**	**18 41 55.5**	**+1.0**
BO02				IAML		18 41 58.6	
	comp=N,13μm,0.3s						
CO03	**El Pedregal**	**2.07**	**0**	⇓*i*P	**Pn**	**18 41 36.0**	**+2.1**
CO03				*i* S	**Sn**	**18 42 01.8**	**+2.6**
CO03				IAML		18 42 02.2	
	comp=E,11μm,0.2s						
RTCV	**Cerro Valdivia**	**2.11**	**61**	*i* P	**Pn**	**18 41 36.2**	**+1.8**
RTCV				IAML		18 42 08.6	
	comp=Z,270nm,1.8s						
ZON	**Zonda**	**2.20**	**52**		**Pn**	**18 41 37.1**	**+1.6**
ZON				Sn	**Sn**	**18 42 03.8**	**+1.7**
ZON	**Zonda**	**2.20**	**52**	*i* P	**Pn**	**18 41 37.2**	**+1.7**
ZON				*e*S	**Sn**	**18 42 06.0**	**+3.9**
ZON				IAML		18 42 10.7	
	comp=Z,1μm,0.6s						
GO05	**Huala**	**2.32**	**206**		**Pn**	**18 41 37.4**	**+0.2**
CO06	**Fray Jorge**	**2.37**	**340**	*e*P	**Pn**	**18 41 39.7**	**+2.0**
CO06				*e*S	**Sn**	**18 42 08.0**	**+1.9**
CO06				IAML		18 42 16.4	
	comp=E,3μm,0.4s						
RFA	**San Rafael**	**2.63**	**135**	*i* P	**Pn**	**18 41 42.2**	**+1.0**
RFA				IAML		18 42 18.1	
	comp=Z,248nm,0.6s						
ACCO	**Cerro Coronel**	**2.71**	**32**	*i* P	**Pn**	**18 41 44.7**	**+2.1**
ACCO				IAML		18 42 23.5	
	comp=Z,892nm,0.5s						
GO04	**Tololo Observa**	**2.74**	**358**		**Pn**	**18 41 44.1**	**+1.2**
ML02	**Panimavida**	**2.90**	**191**		**Pn**	**18 41 45.5**	**+0.6**
ML02				Sn	**Sn**	**18 42 16.6**	**-2.3**
CO05	**La Serena**	**3.02**	**351**		**Pn**	**18 41 47.5**	**+1.0**
ACDV	**Cuesta del Vie**	**3.05**	**27**	*i* P	**Pn**	**18 41 49.7**	**+2.6**
ACDV				IAML		18 42 30.9	
	comp=Z,404nm,0.5s						
LCO	**Las Campanas**	**3.89**	**0**	Pn	**Pn**	**18 41 58.8**	**+0.2**
LCO	**Las Campanas**	**3.89**	**0**	*i* P	**Pn**	**18 41 59.0**	**+0.5**
LCO				IAML		18 43 11.8	
	comp=Z,3μm,0.6s						
VCA	**Vinchina**	**4.69**	**28**	*i* P	**Pn**	**18 42 10.2**	**+1.0**
VCA				IAML		18 43 33.9	
	comp=Z,510nm,0.7s						
AC04	**Llanos de Chal**	**4.71**	**356**	*e*P	**Pn**	**18 42 10.4**	**+1.1**
AC04				*e*S	**Sn**	**18 43 01.6**	**-1.1**
TCA	**Tanti**	**5.42**	**75**	*i* P	**Pn**	**18 42 18.0**	**-1.1**
H03N1	**Juan Fernandez**	**6.90**	**263**	P	**Pn**	**18 42 41.7**	**+2.8**
	baz=126,slow=23,SNR=27						
H03N1				T	T	18 49 19.0	
	baz=87,slow=73,SNR=204						
H03N3	**Juan Fernandez**	**6.91**	**263**	P	**Pn**	**18 42 41.8**	**+2.7**
	baz=126,slow=23,SNR=37						
H03N3				T	T	18 49 20.2	
	baz=87,slow=73,SNR=85						
H03N2	**Juan Fernandez**	**6.92**	**263**	P	**Pn**	**18 42 41.0**	**+1.9**
	baz=126,slow=23,SNR=21						
H03N2				T	T	18 49 17.9	
	baz=87,slow=73,SNR=130						
H03S1	**Juan Fernandez**	**6.92**	**260**	P	**Pn**	**18 42 40.3**	**+1.1**
	SNR=7.5						
H03S1				T	T	18 49 04.6	
	baz=76						
H03S3	**Juan Fernandez**	**6.92**	**260**	P	**Pn**	**18 42 40.3**	**+1.0**
	SNR=12						
H03S3				T	T	18 49 07.2	
	baz=76						
H03S2	**Juan Fernandez**	**6.94**	**260**	P	**Pn**	**18 42 40.3**	**+0.9**
	SNR=11						
H03S2				T	T	18 49 05.9	
	baz=76						
PLCA	**Paso Flores**	**7.80**	**179**	P	**Pn**	**18 42 49.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=8.8,slow=9.2,SNR=2.3						
PLCA				LR	LR	18 46 01.0	
	comp=Z,139nm,20.9s,baz=333,slow=38						
PLCA	**Paso Flores**	**7.80**	**179**	Pn	**Pn**	**18 42 51.7**	**+0.2**
PLCA	**Paso Flores**	**7.80**	**179**	*i* P	**Pn**	**18 42 52.0**	**+0.5**
PLCA				IAML		18 44 39.6	
	comp=Z,17nm,3.1s						
FSA	**Cafayete**	**7.93**	**32**	*i* P	**Pn**	**18 42 53.0**	**-0.5**
PB14	**IPOC Station P**	**8.26**	**2**		**Pn**	**18 42 55.2**	**-3.0**
PB10	**IPOC Station P**	**9.37**	**1**	Pn	**Pn**	**18 43 10.0**	**-2.9**
PB15	**IPOC Station P**	**9.73**	**7**		**Pn**	**18 43 14.8**	**-3.2**
PB06	**IPOC Station P**	**10.22**	**6**	Pn	Pn	18 43 19.9	-4.8
LVC	**Limon Verde**	**10.39**	**9**	P	Pn	18 43 23.1	-4.1
	comp=Z,2.3nm,0.3s,baz=163,slow=8.7,SNR=19						
LVC				S	Sn	18 45 13.3	-8.6
	comp=Z,1.4nm,0.3s,baz=252,slow=8.7,SNR=2.1						
PB04	**IPOC Station P**	**10.55**	**3**	Pn	Pn	18 43 24.1	-5.1
PB09	**IPOC Station P**	**11.15**	**7**	Pn	Pn	18 43 33.5	-3.8
PB07	**IPOC Station P**	**11.17**	**4**		Pn	18 43 31.3	-6.3
PB01	**IPOC Station P**	**11.88**	**6**		Pn	18 43 41.5	-5.6
ITQB	**Itaqui**	**12.47**	**79**	*e*P	**Pn**	**18 43 53.0**	**-2.0**
ITQB	**Itaqui**	**12.47**	**79**	Pn	Pn	18 43 50.3	-4.6
PB08	**IPOC Station P**	**12.80**	**7**	Pn	Pn	18 43 54.1	-5.6
PB11	**IPOC Station P**	**13.13**	**4**		Pn	18 43 57.1	-6.9
CPUP	**Villa Florida**	**13.35**	**64**	P	Pn	18 44 01.0	-5.7
	comp=Z,0.3nm,0.3s,baz=178,slow=17,SNR=2.3						
CPUP				LR	LR	18 49 38.5	
	comp=Z,87nm,21.0s,baz=241,slow=39						
CPUP	**Villa Florida**	**13.35**	**64**	*e*P	**Pn**	**18 44 04.5**	**-2.2**
CPUP	**Villa Florida**	**13.35**	**64**	Pn	Pn	18 44 00.5	-6.2
PB12	**IPOC Station P**	**14.25**	**1**	Pn	**Pn**	**18 44 16.8**	**-1.7**
PLTB	**Pedras Altas**	**14.51**	**90**	*e*P	**Pn**	**18 44 19.9**	**-1.8**
PLTB	**Pedras Altas**	**14.51**	**90**	Pn	**Pn**	**18 44 17.1**	**-4.6**
PB16	**IPOC Station P**	**14.56**	**5**		**Pn**	**18 44 23.7**	**+0.7**
CPSB	**Cacapava Do Su**	**14.92**	**85**	*e*P	**Pn**	**18 44 25.6**	**-1.4**
LPAZ	**La Paz**	**16.72**	**9**	P	**Pn**	**18 44 50.4**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=176,slow=7,SNR=16						
LPAZ				S	**Sn**	**18 47 48.8**	**-7.1**
	comp=Z,0.2nm,0.3s,baz=231,slow=15,SNR=2.4						
LPAZ	**La Paz**	**16.72**	**9**	*e*P	**P**	**18 44 51.7**	**+0.7**
LPAZ	**La Paz**	**16.72**	**9**		**Pn**	**18 44 48.2**	**-2.0**
ITAB	**Concordia**	**17.04**	**75**	*e*P	**Pn**	**18 44 50.5**	**-2.9**
ITAB	**Concordia**	**17.04**	**75**	P	**Pn**	**18 44 51.7**	**-1.8**
ITAB				IAmb	IAmb	18 45 23.1	
	comp=Z,80nm,1.7s						
AQDB	**Aquidauana**	**18.23**	**51**	*e*P	**P**	**18 45 06.5**	**-0.6**
AQDB	**Aquidauana**	**18.23**	**51**	P	**P**	**18 45 04.7**	**-2.4**
PTGB	**Pitanga**	**18.25**	**68**	*e*P	**P**	**18 45 07.3**	**0.0**
SIV	**San Ignacio**	**18.98**	**30**	P	**P**	**18 45 15.3**	**0.0**
	comp=Z,1.9nm,0.3s,baz=209,slow=9.5,SNR=73						
TER01	**Tubaro-SC**	**19.05**	**82**	*e*P	**P**	**18 45 15.4**	**-0.6**
PTLB	**Pontes e Lacer**	**20.31**	**34**	*e*P	**P**	**18 45 30.0**	**+0.3**
PTLB	**Pontes e Lacer**	**20.31**	**34**	P	**P**	**18 45 29.2**	**-0.5**
PTLB				IAmb	IAmb	18 45 30.7	
	comp=Z,12nm,0.7s						
PCMB	**Pacaembu**	**20.60**	**62**	*e*P	**P**	**18 45 32.1**	**-0.7**
PP1B	**Ponte de Pedra**	**20.87**	**47**	*e*P	**P**	**18 45 35.8**	**-0.1**
EFI	**East Falkland**	**20.89**	**158**	P	**P**	**18 45 34.4**	**-1.3**
NNA	**Nana**	**21.58**	**343**	P	**P**	**18 45 39.8**	**-3.6**
NNA				IAmb	IAmb	18 46 17.3	
	comp=Z,18nm,1.1s						
SALV	**Santo Antonio**	**21.72**	**42**	*e*P	**P**	**18 45 44.1**	**-0.7**
VILB	**Vilhena**	**22.07**	**28**	*e*P	**P**	**18 45 48.6**	**-0.1**
VILB	**Vilhena**	**22.07**	**28**	P	**P**	**18 45 46.2**	**-2.4**
VILB				IAmb	IAmb	18 45 50.4	
	comp=Z,27nm,0.9s						
ITRB	**Iturama**	**22.44**	**59**	*e*P	**P**	**18 45 51.0**	**-1.5**
SPB	**Sao Paulo**	**22.47**	**72**	*e*P	**P**	**18 45 52.1**	**-0.6**
SPB	**Sao Paulo**	**22.47**	**72**	P	**P**	**18 45 51.2**	**-1.5**
BB19B	**Bebedouro**	**22.97**	**65**	*e*P	**P**	**18 45 57.7**	**-0.3**
RCLB	**Rio Claro- Sao**	**22.99**	**69**	*e*P	**P**	**18 45 57.2**	**-1.0**
VAO	**Valinhos**	**23.13**	**71**	*e*P	**P**	**18 45 58.3**	**-1.3**
ETMB	**Extrema**	**23.36**	**11**	*e*P	**P**	**18 46 03.0**	**+1.4**
ETMB	**Extrema**	**23.36**	**11**	P	**P**	**18 46 01.6**	**+0.1**
ETMB				IAmb	IAmb	18 46 03.9	
	comp=Z,22nm,0.7s						
PARB	**Paraibuna**	**24.04**	**73**	*e*P	**P**	**18 46 06.9**	**-0.9**
ARAG	**Araguaiaia, MT**	**24.22**	**49**	*e*P	**P**	**18 46 08.5**	**-0.9**
PDRB	**Porto dos Gac**	**24.78**	**34**	*e*P	**P**	**18 46 14.9**	**+0.4**
IPMB	**Ipameri, GO**	**25.10**	**59**	*e*P	**P**	**18 46 16.6**	**-0.8**
CZSB	**Cruzeiro do Su**	**25.13**	**355**	*e*P	**P**	**18 46 20.1**	**+2.4**
CLDB	**Colider**	**25.87**	**35**	*e*P	**P**	**18 46 25.0**	**+0.6**
BDFB	**Brasilia**	**26.80**	**56**	P	**P**	**18 46 31.8**	**-1.1**
	comp=Z,9.3nm,0.8s,baz=232,slow=8.0,SNR=14						
**BDFB

comp=Z,0.5nm,0.7s,baz=328,slow=3.6,SNR=6.3
CMAR Chiang Mai Arr 162.86 145 PKPab **PKPab 19 01 41.9 -0.6**
comp=Z,0.5nm,0.9s,baz=263,slow=0.7,SNR=4.3

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*TUL **08** 18:43:14.6±1.5, 35.°66N±0.°02×97.°39W±0.°02, h7km±2km, ML3.5, mb_Lg3.3/92(NEIC), Error ellipse: s-maj=2.6km s-min=2.0km az=107.0*

NEIC 08 18:43:14.8±1.4, 35.°68N±0.°02×97.°40W±0.°02, h8km±4km, Error ellipse: s-maj=2.7km s-min=2.2km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**193**	Pg	Pg	18 43 16.9	-0.3
OK009				Sg	Sg	18 43 18.6	-0.2
OK025	**Westminster Rd**	**0.10**	**153**	Pg	Pg	18 43 17.1	-0.2
OK025				Sg	Sg	18 43 19.0	-0.1
OK029	**Liberty Lake**	**0.13**	**339**	Pg	Pg	18 43 17.9	+0.2
OK029				Sg	Sg	18 43 20.4	+0.6
OK001	**Jones High Sch**	**0.14**	**142**	Pg	Pg	18 43 17.8	-0.1
OK001				Sg	Sg	18 43 20.3	+0.3
OK005	**Luther M Schoo**	**0.17**	**97**		Pg	18 43 18.5	+0.2
OK005				Sg	Sg	18 43 21.3	+0.6
BCOK	**Bluff Creek, N**	**0.17**	**264**	Pg	Pg	18 43 18.0	-0.5
BCOK				Sg	Sg	18 43 21.3	+0.4
OKCFA	**Oklahoma City**	**0.26**	**190**		Pg	18 43 20.0	0.0
OKCFA				Sg	Sg	18 43 23.9	+0.3
OKCSW	**OKLAHOMA CITY**	**0.27**	**187**	Pg	Pg	18 43 20.1	-0.1
OKCSW				Sg	Sg	18 43 24.2	+0.4
FNO	**Franklin**	**0.42**	**180**	Pg	Pg	18 43 22.8	-0.1
FNO				Sg	Sg	18 43 28.7	+0.2
OK031	**S. Brethren Rd**	**0.53**	**58**	Pg	Pg	18 43 25.1	0.0
OK031				Sg	Sg	18 43 32.5	+0.5
OK030	**Cody Creek RV**	**0.56**	**63**	Pg	Pg	18 43 25.4	-0.2
OK030				Sg	Sg	18 43 33.4	+0.5
OK034	**N. Norfolk Rd.**	**0.65**	**59**		Pg	18 43 27.2	-0.1
OK034				Sg	Sg	18 43 36.1	+0.3
QUOK	**Quay**	**0.75**	**48**	Pg	Pg	18 43 29.1	-0.1
QUOK				Sg	Sg	18 43 39.2	+0.3
CROK	**Carrier**	**0.95**	**330**	Pg	Pg	18 43 32.9	-0.3
CROK				Sg	Sb	18 43 46.3	-0.1
BLOK	**Blackwell**	**1.09**	**8**		Pg	18 43 35.4	-0.4
BLOK				Sg	Sb	18 43 50.5	+0.2
X34A	**Smith Ranch, M**	**1.13**	**199**		Pg	18 43 36.0	-0.5
X34A				Sg	Sb	18 43 51.9	+0.6
GC02	**Grant County #**	**1.23**	**342**	Pn	Pn	18 43 37.7	-0.6
GC02				Sg	Sn	18 43 54.9	-0.2
OK032	**Salt Plains WL**	**1.30**	**330**		Pn	18 43 38.8	-0.5
OK032				Sn	Sb	18 43 56.4	0.0
TUL1	**Leonard**	**1.33**	**79**		Pn	18 43 38.4	-1.1
KAN13	**South Haven SW**	**1.34**	**357**		Pn	18 43 39.7	0.0
KAN13				Sn	Sn	18 43 57.6	-0.1
KAN14	**Manchester OK**	**1.36**	**340**		Pn	18 43 39.9	-0.1
KAN14				Sn	Sb	18 43 57.9	-0.1
T35A	**Sooner Cattle**	**1.43**	**30**	Pn	Pn	18 43 40.8	-0.3
WMOK	**Wichita Mounta**	**1.47**	**231**	Pn	Pn	18 43 41.1	-0.5
U32A	**Winter Ranch,**	**1.48**	**299**		Pn	18 43 41.6	-0.1
OK035	**E0210 Rd and N**	**1.48**	**315**		Pn	18 43 41.4	-0.3
KAN05	**Bluff City Nor**	**1.48**	**345**		Pn	18 43 41.9	+0.2
KAN01	**Argonia South**	**1.50**	**349**		Pn	18 43 42.4	+0.3
KAN10	**Anthony SW Sta**	**1.55**	**339**		Pn	18 43 42.9	+0.2
KAN06	**Argonia West S**	**1.61**	**347**	Pn	Pn	18 43 43.9	+0.4
KAN08	**Anthony NE Sta**	**1.62**	**344**	Pn	Pn	18 43 44.1	+0.5
KAN16	**Harper SW Stat**	**1.64**	**341**		Pn	18 43 44.3	+0.5
LOOK	**Love County**	**1.69**	**174**		Pn	18 43 45.3	+0.7
LOOK				IAmb	Lg	18 44 09.2	
	comp=Z,139nm,1.1s						
KAN12	**Harper NE Stat**	**1.69**	**344**		Pn	18 43 44.9	+0.4
X37A	**Clayton**	**1.98**	**123**		Pn	18 43 49.1	+0.5
X37A				IAmb	Lg	18 44 18.3	
	comp=Z,124nm,0.8s						
Z35A	**Perchaven, San**	**2.34**	**177**	Pn	Pn	18 43 54.3	+0.8
U38A	**Gravette**	**2.56**	**72**		Pn	18 43 57.4	+0.9
HHAR	**Hobbs**	**2.87**	**77**		Pn	18 44 01.5	+0.7
R32A	**Long Quarter,**	**2.94**	**339**		Pn	18 44 02.6	+0.9
W39A	**Magazine**	**2.99**	**98**		Pn	18 44 02.7	+0.3
W39A				IAmb	Lg	18 44 57.2	
	comp=Z,128nm,1.2s						
Z38A	**Mt. Pleasant**	**3.13**	**140**		Pn	18 44 04.9	+0.6
Z38A				IAmb	Lg	18 44 56.7	
	comp=Z,61nm,0.9s						
MIAR	**Mount Ida**	**3.33**	**109**	Pn	Pn	18 44 07.7	+0.6
MIAR				IAmb	Lg	18 45 09.1	
	comp=Z,62nm,0.9s						
KSU1	**Kansas State U**	**3.48**	**10**		Pn	18 44 09.3	+0.1
KSU1				IAmb	Lg	18 45 11.4	
	comp=Z,93nm,0.8s						
AMTX	**Amarillo**	**3.59**	**259**		Pn	18 44 10.8	0.0
CBKS	**Cedar Bluff**	**3.65**	**330**		Pn	18 44 12.2	+0.7
CBKS				IAmb	Lg	18 45 14.7	
	comp=Z,91nm,0.7s						
WHTX	**Lake Whitney,**	**3.67**	**181**		Pn	18 44 11.8	0.0
U40A	**Yellville**	**3.75**	**78**	IAmb	Lg	18 45 17.0	
	comp=Z,76nm,0.8s						
S39A	**Bolivar**	**3.84**	**57**		Pn	18 44 14.8	+0.6
237A	**Washetta, Mont**	**3.90**	**160**		Pn	18 44 14.2	-0.6
237A				IAmb	Lg	18 45 26.0	
	comp=Z,59nm,1.1s						
X40A	**Basin Creek Fa**	**3.92**	**106**		Pn	18 44 14.8	-0.5
WLAR	**White Oak Lake**	**4.05**	**118**	IAmb	Lg	18 45 33.8	
	comp=Z,46nm,0.9s						
WHAR	**Wooly Hollow**	**4.19**	**94**		Pn	18 44 18.7	-0.2
WHAR				IAmb	Lg	18 45 29.6	
	comp=Z,97nm,1.0s						
W41B	**Gary Mavity, V**	**4.23**	**95**		Pn	18 44 19.7	+0.2
W41B				IAmb	Lg	18 45 34.3	
	comp=Z,86nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.29**	**86**		Pn	18 44 20.4	0.0
FCAR				IAmb	Lg	18 45 32.4	
	comp=Z,83nm,0.8s						
MGMO	**Mountain Grove**	**4.39**	**69**		Pn	18 44 22.1	+0.4
MGMO				IAmb	Lg	18 45 45.0	
	comp=Z,44nm,0.7s						
Z41A	**Richland Creek**	**4.50**	**121**		Pn	18 44 21.4	-1.7
MSTX	**Muleshoe**	**4.74**	**251**		Pn	18 44 24.3	-2.3
R40A	**Maddies Statio**	**4.87**	**56**		Pn	18 44 26.1	-2.1
435B	**Jarrell**	**4.88**	**182**	Pn	Pn	18 44 26.7	-1.8
CCAR	**Cane Creek**	**4.95**	**109**	Pn	Pn	18 44 28.1	-1.2
CCAR				IAmb	Lg	18 45 59.8	
	comp=Z,54nm,0.8s						
P38A	**Dawn**	**4.99**	**37**		Pn	18 44 28.4	-1.6
P38A				IAmb	Lg	18 45 57.7	
	comp=Z,35nm,0.8s						
N33A	**J Bar K, Exete**	**5.05**	**360**	Pn	Pn	18 44 28.2	-2.6
N33A				IAmb	Lg	18 46 01.2	
	comp=Z,50nm,0.8s						
LCAR	**Lake Charles**	**5.08**	**84**	Pn	Pn	18 44 30.0	-1.2
LCAR				IAmb	Lg	18 46 00.2	
	comp=Z,38nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.33**	**310**		Pn	18 44 35.2	+0.4
KSCO				IAmb	Lg	18 46 17.9	
	comp=Z,44nm,1.0s						
CCM	**Cathedral Cave**	**5.47**	**62**		Pn	18 44 35.5	-1.1
CCM				IAmb	Lg	18 46 15.7	
	comp=Z,38nm,0.8s						
JCT	**Junction City**	**5.56**	**202**		Pn	18 44 36.0	-1.8
P40A	**Paris**	**5.73**	**46**		Pn	18 44 40.9	+0.8
P40A				IAmb	Lg	18 46 16.5	
	comp=Z,50nm,0.7s						
PBMO	**Poplar Bluff**	**5.74**	**77**	Pn	Pn	18 44 39.7	-0.5
BGNE	**Belgrade**	**5.75**	**354**		Pn	18 44 40.2	-0.3
T25A	**Trinidad**	**5.84**	**287**	Pn	Pn	18 44 42.1	+0.3
T25A				IAmb	Lg	18 46 26.2	
	comp=Z,66nm,0.8s						
FVM	**French Village**	**6.05**	**66**	Pn	Pn	18 44 42.3	-2.1
FVM				IAmb	Lg	18 46 31.1	
	comp=Z,27nm,0.8s						
N38A	**Joes South For**	**6.07**	**31**	Pn	Pn	18 44 42.5	-2.2
L34A	**Svendsen Farm,**	**6.33**	**7**		Pn	18 44 46.9	-1.4
OGNE	**Ogallala**	**6.40**	**327**		Pn	18 44 49.6	+0.3
OGNE				IAmb	Lg	18 46 45.7	
	comp=Z,59nm,0.9s						
SLM	**Saint Louis**	**6.44**	**61**	IAmb	Lg	18 46 40.6	
	comp=Z,52nm,0.9s						
Y45A	**Yeager Farm, C**	**6.71**	**103**	IAmb	Lg	18 46 59.9	
	comp=Z,44nm,0.8s						
W45A	**Hickory Valley**	**6.72**	**92**	Pn	Pn	18 44 52.6	-1.2
W45A				IAmb	Lg	18 47 00.2	
	comp=Z,64nm,0.8s						
735A	**Kenedy**	**6.81**	**183**	IAmb	Lg	18 47 05.9	
	comp=Z,47nm,0.8s						
SDCO	**Great Sand Dun**	**6.83**	**290**		Pn	18 44 56.3	+0.9
S44A	**Carbondale**	**6.84**	**70**	Pn	Pn	18 44 54.5	-0.9
Q24A	**Divide**	**7.00**	**300**		Pn	18 44 56.9	-0.9
SCIA	**State Center**	**7.03**	**26**	IAmb	Lg	18 47 07.5	
	comp=Z,55nm,1.0s						
N41A	**Harden Midland**	**7.19**	**44**	Pn	Pn	18 44 59.6	-0.5
N41A				IAmb	Lg	18 47 11.9	
	comp=Z,41nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.42**	**62**	IAmb	Lg	18 47 23.8	
	comp=Z,54nm,1.0s						
833A	**Chaparral WMA,**	**7.52**	**194**	IAmb	Lg	18 47 20.9	
	comp=Z,21nm,0.9s						
PLAL	**Pickwick Lake**	**7.65**	**92**	IAmb	Lg	18 47 22.7	
	comp=Z,20nm,0.8s						
ISCO	**Idaho Springs**	**7.70**	**305**		Pn	18 45 07.4	-0.1
BNM	**Barren Site**	**7.73**	**261**	Pn	Pn	18 45 06.0	-1.8
MNTX	**Cornudas Mount**	**7.75**	**241**		Pn	18 45 06.3	-1.5
K38A	**Parkersburg**	**7.83**	**26**	IAmb	Lg	18 47 31.5	
	comp=Z,48nm,0.9s						
S22A	**4UR Ranch, Cre**	**7.85**	**288**		Pn	18 45 07.3	-2.2
L40A	**Anamosa**	**7.99**	**35**	IAmb	Lg	18 47 30.5	
	comp=Z,34nm,1.0s						
OLIL	**Olney**	**8.02**	**65**	IAmb	Lg	18 47 44.6	
	comp=Z,57nm,0.9s						
ECSD	**EROS Data Cent**	**8.07**	**4**	IAmb	Lg	18 47 34.2	
	comp=Z,29nm,1.1s						
TX32	**Lajitas Array**	**8.25**	**222**	Pn	Pn	18 45 11.3	-3.5
O44A	**Mansfield**	**8.35**	**55**	IAmb	Lg	18 47 44.6	
	comp=Z,26nm,0.8s						
PHWY	**Pilot Hill**	**8.45**	**314**	IAmb	Lg	18 47 49.5	
	comp=Z,17nm,1.0s						
N23A	**Red Feather La**	**8.50**	**310**	Pn	Pn	18 45 17.4	-1.0
N23A				IAmb	Lg	18 47 58.4	
	comp=Z,25nm,0.9s						
L42A	**Oliver, Polo**	**8.73**	**41**	IAmb	Lg	18 48 00.1	
	comp=Z,23nm,0.8s						
SUSD	**Miller**	**8.84**	**353**	IAmb	Lg	18 48 01.1	
	comp=Z,36nm,0.9s						
M44A	**Midewin, Midew**	**9.28**	**49**	IAmb	Lg	18 48 10.4	
	comp=Z,26nm,1.0s						
I40A	**Norwalk**	**9.72**	**30**	IAmb	Lg	18 48 25.4	
	comp=Z,23nm,1.2s						
K22A	**Casper**	**9.93**	**317**	IAmb	Lg	18 48 51.4	
	comp=Z,23nm,1.1s						

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*NEIC **08** 18:46:14.6±1.4, 18.°3S±0.°2×177.°9W±0.°2, h599km±9km, mb4.3/38, Error ellipse: s-maj=33.0km s-min=17.6km az=148.0*
*IDC **08** 18:46:16.2±1.4, 18.°30S×178.°00W, h620km±12km, mb3.2/11, mb1 3.5/13, mb1mx3.3/37, mbtmp4.2/13, Error ellipse: s-maj=36.4km s-min=11.6km az=148.0*

ISC 08 18:46:13.9±0.8, 18.°6S±0.°2×177.°8W±0.°1, h600km, n70, σ1§07/69, mb4.1/30, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.04**	**281**	P	**P**	**18 47 40.9**	**+1.1**
	11nm,0.3s,baz=140,slow=8.2,SNR=54						
MSVF				S	**S**	**18 48 52.6**	**+2.9**
	baz=179,slow=23,SNR=1.4						
MSVF	**Nonsavu**	**4.04**	**281**	P	**P**	**18 47 40.7**	**+0.9**
MARNC	**Mare, Loyalty**	**13.65**	**255**	P	**P**	**18 49 08.4**	**-0.8**
PINNC	**Pines Island,**	**14.41**	**251**	P	**P**	**18 49 16.2**	**-0.3**
SANVU	**Saraoutou**	**14.68**	**280**	P	**P**	**18 49 20.3**	**+1.1**
DZM	**Mont Dzumac**	**15.20**	**254**	P	**P**	**18 49 23.2**	**-0.8**
	0.7nm,0.3s,baz=78,slow=23,SNR=9.6						
DZM	**Mont Dzumac**	**15.20**	**254**	IAmb	IAmb	18 49 23.4	
	comp=Z,14nm,1.5s						
CAN	**Canberra**	**33.79**	**234**	P	**P**	**18 52 09.0**	**+1.2**
CTAO	**Charters Tower**	**33.93**	**261**	P	**P**	**18 52 09.5**	**+0.4**
CTAO				IAmb	IAmb	18 52 22.8	
	comp=Z,21nm,1.4s						
TOO	**Toolangi**	**37.23**	**232**	P	**P**	**18 52 37.1**	**+1.0**
TOO				IAmb	IAmb	18 52 40.5	
	comp=Z,9.0nm,1.1s						
COEN	**Coen**	**37.70**	**271**	P	**P**	**18 52 41.2**	**+1.0**
COEN				IAmb	IAmb	18 52 41.4	
	comp=Z,4.2nm,0.5s						
STKA	**Stephens Creek**	**38.85**	**242**	P	**P**	**18 52 49.8**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=77,slow=7.1,SNR=8.2						
STKA	**Stephens Creek**	**38.85**	**242**	IAmb	IAmb	18 52 52.7	
	comp=Z,1.7nm,1.5s						
BBOO	**Buckleboo**	**43.62**	**242**	P	**P**	**18 53 27.5**	**+0.7**
BBOO				IAmb	IAmb	18 53 41.4	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**44.91**	**260**	P	**P**	**18 53 36.8**	**0.0**
WB0	**Warramunga Arr**	**45.07**	**260**	P	**P**	**18 53 38.2**	**+0.1**
WB2	**Warramunga Arr**	**45.09**	**260**	P	**P**	**18 53 38.0**	**-0.2**
WRAB	**Tennant Creek**	**45.09**	**260**	P	**P**	**18 53 38.1**	**-0.1**
WRA	**Warramunga Arr**	**45.10**	**260**	P	**P**	**18 53 38.4**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=98,slow=6.8,SNR=34						
WRA				S	**S**	**18 59 30.1**	**-5.1**
	comp=Z,0.8nm,0.9s,baz=100,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**45.10**	**260**	P	**P**	**18 53 38.3**	**+0.1**
AS31	**Alice Springs**	**45.19**	**255**	P	**P**	**18 53 39.3**	**+0.4**
ASAR	**Alice Springs**	**45.19**	**255**	P	**P**	**18 53 39.3**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=92,slow=7.6,SNR=60						
ASAR				PcP	**PcP**	**18 55 06.4**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=95,slow=5.8,SNR=4.8						
ASAR				S	**S**	**18 59 34.0**	**-2.3**
	comp=Z,0.8nm,0.6s,baz=89,slow=15,SNR=12						
ASAR	**Alice Springs**	**45.19**	**255**	P	**P**	**18 53 38.9**	**-0.1**
MTN	**Manton Dam**	**49.37**	**269**	P	**P**	**18 54 09.9**	**-0.4**
MTN				IAmb	IAmb	18 54 27.5	
	comp=Z,9.7nm,1.6s						
MORW	**Morawa**	**60.77**	**247**	P	**P**	**18 55 30.1**	**+1.0**
MORW				IAmb	IAmb	18 55 46.8	
	comp=Z,15nm,1.4s						
MJAR	**Matsushiro Arr**	**68.77**	**323**	P	**P**	**18 56 18.6**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=160,slow=5.2,SNR=2.3						
PEA0B	**Petropavlovsk-**	**74.45**	**345**	P	**P**	**18 56 51.4**	**-0.2**
PETK	**Petropavlovsk-**	**74.45**	**345**	P	**P**	**18 56 51.0**	**-0.7**
	comp=Z,6.7nm,1.0s,baz=116,slow=7.1,SNR=12						
YBH	**Yreka Blue Hor**	**78.65**	**39**	P	**P**	**18 57 15.2**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=198,slow=3.2,SNR=2.3						
NVAR	**Mina Array Bea**	**79.48**	**43**	P	**P**	**18 57 20.1**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=223,slow=9.7,SNR=9.1						
NV11	**Mina Array Sit**	**79.57**	**44**	P	**P**	**18 57 20.3**	**+0.3**
O18K	**Koktuh Hills**	**80.26**	**11**	P	**P**	**18 57 22.1**	**-0.8**
K05A	**Summer Lake**	**80.32**	**39**	P	**P**	**18 57 24.6**	**+0.7**
K05A				IAmb	IAmb	18 57 36.3	
	comp=Z,11nm,1.6s						
GLI	**Glacier Island**	**82.92**	**15**	P	**P**	**18 57 35.4**	**-1.0**
TTA	**Tatalina**	**83.00**	**10**	P	**P**	**18 57 36.6**	**-0.2**
TTA				IAmb	IAmb	18 58 01.2	
	comp=Z,8.0nm,1.4s						
BMRM	**Bremner River**	**83.61**	**16**	P	**P**	**18 57 39.4**	**-0.5**
BMRM				IAmb	IAmb	18 58 02.9	
	comp=Z,14nm,1.2s						
WAX	**Waxell Ridge**	**83.63**	**17**	P	**P**	**18 57 39.9**	**-0.1**
SCM	**Sheep Creek Mo**	**83.70**	**14**	P	**P**	**18 57 39.6**	**-0.7**
ISLE	**Juniper Island**	**83.90**	**17**	P	**P**	**18 57 40.8**	**-0.6**
TABL	**Table Mountain**	**84.10**	**17**	P	**P**	**18 57 42.4**	**-0.1**
VRDI	**Verde Repeater**	**84.13**	**16**	P	**P**	**18 57 41.9**	**-0.7**
VRDI				IAmb	IAmb	18 57 44.0	
	comp=Z,10nm,1.2s						
N25K	**Chitina, Valde**	**84.16**	**15**	P	**P**	**18 57 42.0**	**-0.6**
N25K				IAmb	IAmb	18 57 42.8	
	comp=Z,6.0nm,0.7s						
GRNC	**Granite Creek**	**84.17**	**17**	P	**P**	**18 57 42.4**	**-0.5**
TNA	**Tin City**	**84.18**	**4**	P	**P**	**18 57 42.1**	**-0.3**
TNA				IAmb	IAmb	18 57 55.0	
	comp=Z,9.9nm,1.5s						
GLB	**Gilahina Butte**	**84.22**	**16**	P	**P**	**18 57 41.8**	**-1.0**
GLB				IAmb	IAmb	18 57 52.3	
	comp=Z,24nm,1.6s						
LOGN	**Logan Glacier**	**84.45**	**17**	P	**P**	**18 57 43.5**	**-0.7**
LOGN				IAmb	IAmb	18 58 10.1	
	comp=Z,19nm,1.4s						
BARN	**Barnard Glacie**	**84.47**	**17**	P	**P**	**18 57 43.7**	**-0.5**
BARN				IAmb	IAmb	18 57 55.0	
	comp=Z,19nm,1.6s						
CTGM	**Chitina Glacie**	**84.48**	**17**	P	**P**	**18 57 43.9**	**-0.4**
CTGM				IAmb	IAmb	18 58 08.3	
	comp=Z,18nm,1.5s						
TRF	**Thorofare Moun**	**84.51**	**12**	P	**P**	**18 57 43.1**	**-1.2**
TRF				IAmb	IAmb	18 58 06.6	
	comp=Z,20nm,1.6s						
PLID	**Pearl Lake**	**84.57**	**39**	P	**P**	**18 57 45.5**	**+0.3**
PLID				IAmb	IAmb	18 58 08.2	
	comp=Z,5.3nm,1.4s						
RND	**Reindeer**	**84.76**	**13**	P	**P**	**18 57 45.1**	**-0.4**
RND				IAmb	IAmb	18 57 46.6	
	comp=Z,16nm,1.4s						
TXAR	**Lajitas Array**	**85.84**	**57**	P	**P**	**18 57 53.0**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=216,slow=6.2,SNR=8.8						
ILAR	**Eielson Array**	**86.38**	**13**	P	**P**	**18 57 51.8**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=216,slow=5.1,SNR=24						
ILAR	**Eielson Array**	**86.38**	**13**	P	**P**	**18 57 52.1**	**-1.0**
PDAR	**Pinedale Array**	**87.41**	**43**	P	**P**	**18 57 58.8**	**0.0**
	comp=Z,0.5nm,0.6s,baz=216,slow=5.8,SNR=5.5						
OK031	**S. Brethren Rd**	**93.65**	**53**		pP	19 00 35.9	-0.9
YKA	**Yellowknife Ar**	**94.66**	**25**	P	**P**	**18 58 30.6**	**-0.8**
GTA	**Gaotai**	**95.89**	**309**	*e*PKPbc		19 01 00.0	
GTA				sPKP		19 01 36.9	
MKAR	**Makanchi Array**	**110.00**	**314**	PKiKP	**PKiKP**	**19 03 36.8**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=86,slow=1.8,SNR=1.9						
ARCES	**ARCESS Array B**	**127.05**	**350**	PKP	**PKPdf**	**19 04 09.1**	**-1.0**
	comp=Z,3.5nm,1.0s,baz=359,slow=1.6,SNR=9.2						
FINES	**FINESS Array B**	**133.96**	**344**	PKP	**PKPdf**	**19 04 22.6**	**-0.7**
	comp=Z,2.5nm,1.0s,baz=82,slow=4.0,SNR=6.0						
AKASG	**Malin Array Be**	**141.40**	**332**	PKhKP	PKPpre	19 04 31.9	
	comp=Z,0.6nm,0.4s,baz=42,slow=4.4,SNR=7.1						
BRTR	**Keskin Array B**	**145.65**	**315**	PKPbc	**PKPdf**	**19 04 46.2**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=13,slow=2.1,SNR=4.6						
CLL	**Collm**	**146.21**	**348**	*i* PKPbc	**PKPbc**	**19 04 47.8**	**-0.1**
	comp=Z,8.0nm,0.6s						
DPC	**Dobruska-Polom**	**146.33**	**344**	*e*PKP	**PKPbc**	**19 04 48.6**	**+0.3**
KRLC	**Kraliky**	**146.45**	**343**	*e*PKP	**PKPdf**	**19 04 43.8**	**-2.3**
PRU	**Pruhonice**	**147.11**	**345**	*e*PKP	**PKPbc**	**19 04 50.2**	**-0.2**
KHC	**Kasperske Hory**	**148.14**	**346**	*e*PKP	**PKPbc**	**19 04 53.3**	**+0.2**
KHC				*ex*	x	19 04 58.4	
CKRC	**Cesky Krumlov**	**148.25**	**345**	*e*PKP	**PKPbc**	**19 04 53.6**	**+0.3**
GERES	**GERESS Array B**	**148.38**	**345**	PKPbc	**PKPbc**	**19 04 53.6**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=46,slow=3.9,SNR=12						

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*IDC **08** 18:56:44.8±1.8, 4.°23S×129.°17E, h149km±20km, mb3.5/6, mb1 3.7/10, mb1mx3.2/42, mbtmp4.1/10, MS2.8/1, Ms1 3.0/1, ms1mx2.2/41, Error ellipse: s-maj=23.1km s-min=13.4km az=80.0*
*NEIC **08** 18:56:45.0±1.9, 4.°34S±0.°04×128.°97E±0.°09, h146km±9km, mb4.1/22, Error ellipse: s-maj=12.6km s-min=6.5km az=89.0*
*DJA **08** 18:56:46.1±0.3, 4.°5S±5.°×12.°9E±.°, h144km±7km, M4.2/10, mb4.1/7, mB3.5/1, MLv4.2/10, Mw(mB)2.4/1*

ISC 08 18:56:44.7±0.5, 4.°30S±0.°05×129.°01E±0.°06, h150km, n69, σ1§66/74, mb4.0/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.92**	**104**	P	**Pn**	**18 57 11.0**	**+2.2**
MSAI	**Masohi**	**0.95**	**355**	P	**Pn**	**18 57 09.2**	**+0.1**
AAI	**Ambon**	**1.02**	**307**	P	**Pn**	**18 57 09.7**	**0.0**
FAKI	**Fak Fak**	**3.51**	**67**	P	**Pn**	**18 57 39.2**	**+0.5**
FAKI	**Fak Fak**	**3.51**	**67**	Pn	**Pn**	**18 57 39.2**	**+0.5**
FAKI	**Fak Fak**	**3.51**	**67**	P	**Pn**	**18 57 39.4**	**+0.7**
SANI	**Sanana**	**3.76**	**306**	P	**Pn**	**18 57 41.0**	**-0.8**
SANI	**Sanana**	**3.76**	**306**	P	**Pn**	**18 57 41.1**	**-0.8**
LBMI	**Labuha**	**3.94**	**337**	P	**Pn**	**18 57 44.7**	**+0.5**
SIJI	**Sorong**	**4.09**	**34**	P	**Pn**	**18 57 45.6**	**-0.5**
	20nm,0.3s,baz=229,slow=12,SNR=78						
SIJI				S	**Sn**	**18 58 30.4**	**-3.5**
	37nm,0.3s,baz=204,slow=6.1,SNR=8.3						
SWI	**Sorong**	**4.09**	**33**	P	**Pn**	**18 57 45.7**	**-0.5**
SAUI	**Saumlaki**	**4.31**	**148**	Pn	**Pn**	**18 57 48.8**	**-0.2**
SAUI				Sn	**Sn**	**18 58 39.5**	**+0.4**
TNTI	**Ternate**	**5.30**	**342**	P	**Pn**	**18 58 02.0**	**-0.2**
	0.1nm28nm,0.7s						
TNTI	**Ternate**	**5.30**	**342**		**Pn**	**18 58 02.4**	**+0.2**
TNTI	**Ternate**	**5.30**	**342**	P	**Pn**	**18 58 02.5**	**+0.3**
BBSI	**Bau Bau**	**6.52**	**259**	P	**Pn**	**18 58 21.9**	**+3.4**
	0.0nm58nm6.4nm,1.0s						
KMSI	**Cibinong**	**6.98**	**314**	P	**Pn**	**18 58 25.6**	**+1.0**
	0.2nm30nm,0.5s						
DRS	**Darwin Rock St**	**8.29**	**167**	P	**Pn**	**18 58 43.6**	**+1.6**
EDFI	**Ende, Flores**	**8.51**	**238**	P	**Pn**	**18 58 48.7**	**+3.6**
	4.6nm,0.8s			

MKAR	Makanchi Array	65.44	327	P		P	19 07 11.5	0.0
MAKZ	Makanchi	65.62	327	P		P	19 07 12.8	+0.1
MAKZ				IAmb		IAmb	19 07 13.4	
	comp=Z,1.8nm,0.8s							
ZALV	Zalesovo Beam	68.74	334	P		P	19 07 32.1	-0.1
	comp=Z,0.7nm,0.7s,baz=64,slow=3.4,SNR=4.2							
VNDA	Vanda	75.23	173	P		P	19 08 10.2	-0.2
	comp=Z,1.0nm,0.8s,baz=0.0,slow=5.1,SNR=1.8							
VNDA	Vanda	75.23	173	P		P	19 08 10.5	+0.1
VNDA				IAmb		IAmb	19 08 37.9	
	comp=Z,12nm,1.5s							
ABKAR	Abkulak array	79.80	322	P		P	19 08 36.4	0.0
ABKAR	Abkulak array	79.80	322	P		P	19 08 36.3	0.0
ABKAR				IAmb		IAmb	19 08 37.0	
	comp=Z,1.0nm,0.7s							

*IDC **08** 19:06:54.3±2.8, 52°.82N×174°.84W, h175km±25km, mb3.6/14, mb1 3.9/17, mb1mx3.4/47, mbtmp4.1/17, Error ellipse: s-maj=19.4km s-min=13.0km az=4.0*
*NEIC **08** 19:06:57.9±1.7, 52°.8N±0°.1×174°.6W±0°.1, h203km±4km, mb4.3/151, ML3.8/30(AEIC), Error ellipse: s-maj=16.2km s-min=8.1km az=163.0*
*AEIC **08** 19:06:58.7±4.8, 52°.3N±0°.1×174°.4W±0°.1, h212km±5km, Error ellipse: s-maj=16.8km s-min=9.3km az=161.0*
*ANF **08** 19:07:04.5±1.9, 52°.89N×173°.64W, h216km±7km, ML4.5/2, Error ellipse: s-maj=23.0km s-min=7.8km az=68.0*
ISC 08 19:06:57.3±0.5, 52°.75N±0°.08×174°.53W±0°.04, h200km, n278, σ1°08/285, mb4.2/61, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
KOKL	Mount Kliuchef	0.47	155		Pn	19 07 26.1	+1.7	
KOFP	Korovin Flat P	0.54	151		Pn	19 07 25.8	+1.1	
ATKA	Atka Island	0.58	159		Pn	19 07 25.5	+0.8	
ATKA					Sn	19 07 47.0	+1.1	
GSIG	Igitkin Island	1.15	229		Pn	19 07 28.6	+0.5	
GSMY	Great Sitkin M	1.17	234		Pn	19 07 28.9	+0.6	
GSTD	Great Sitkin T	1.21	236		Pn	19 07 29.3	+0.6	
GSTD					Sn	19 07 53.6	+0.7	
KIKV	Kanaga Island	1.84	243		Pn	19 07 35.0	+0.8	
KIWB	Kanaga Island	1.84	242		Pn	19 07 34.6	+0.4	
KIMD	Kanaga Island	1.94	240		Pn	19 07 35.5	+0.4	
KIMD					Sn	19 08 04.2	-0.2	
TAFP	Tanaga Falls P	2.28	250		Pn	19 07 39.6	+0.8	
TAFL	Tanaga Flats	2.30	246		Pn	19 07 39.6	+0.7	
TASE	Tanaga Southea	2.34	248		Pn	19 07 40.5	+1.0	
GAEA	Gareloi East	2.77	251		Pn	19 07 45.2	+1.0	
GANO	Gareloi North	2.79	252		Pn	19 07 45.2	+0.8	
GANO					Sn	19 08 21.2	0.0	
CLES	Cleveland East	2.81	87	Pn	Pn	19 07 46.2	+1.5	
NIKH	Nikolski High	3.45	84		Pn	19 07 53.1	+0.9	
NIKH					Sn	19 08 35.3	+0.2	
NIKH	Nikolski High baz=261	3.45	84	P	Pn	19 07 52.9	+0.7	
NIKH				S	Sn	19 08 33.6	-1.6	
	baz=261							
OKSP	Okmok Steeple	3.80	80		Pn	19 07 57.9	+1.3	
OKTU	Okmok Mt. Tuli	3.96	78		Pn	19 08 00.3	+1.7	
OKFG	Magazine Ridge	4.04	78		Pn	19 08 01.8	+2.2	
MAPS	Pakushin South	4.68	74		Pn	19 08 09.3	+1.8	
MSW	Makushin Switc	4.79	73		Pn	19 08 10.6	+1.7	
MNAT	Makushin Natee	4.84	73		Pn	19 08 11.4	+1.8	
UNV	Unalaska Valle	4.94	74	Pn	Pn	19 08 12.3	+1.5	
UNV	Unalaska Valle baz=255	4.94	74	P	Pn	19 08 12.1	+1.3	
UNV				S	Sn	19 09 08.3	-0.4	
	baz=255							
SPIA	Saint Paul Isl	5.08	27	Pn	Pn	19 08 15.2	+2.7	
SPIA	Saint Paul Isl baz=208	5.08	27	P	Pn	19 08 15.4	+2.9	
ZRO	Akutan Zero	5.29	72		Pn	19 08 17.4	+2.1	
AKSA	Akutan Strait	5.46	72		Pn	19 08 19.6	+2.2	
SHEM	Shemya Is, Ala	6.91	274	P	Pn	19 08 37.9	+1.7	
	0.9nm,0.3s,baz=95,slow=19,SNR=1.4							
SDPT	Sand Point	8.67	67	Pn	Pn	19 08 57.9	-1.2	
SDPT	Sand Point baz=255	8.67	67	P	Pn	19 08 58.5	-0.5	
CNBA	Chernabura Isl	9.09	71	Pn	Pn	19 09 03.3	-1.2	
CHNA	Chernabura Isl baz=260	9.09	71	P	Pn	19 09 04.1	-0.4	
O18K	Koktuh Hills	12.84	49		P	19 09 56.1	+0.2	
OHAK	Old Harbor baz=257	12.97	61	P	Pn	19 09 52.0	-2.2	
SVW2	Sparrevohn	13.26	43	P	P	19 10 02.6	+2.0	
TNA	Tin City	13.28	12		Pn	19 09 59.2	+1.3	
KDAK	Kodiak Island	13.46	59	P	Pn	19 09 58.9	-1.4	
	5.8nm,0.3s,baz=298,slow=4.5,SNR=48							
KDAK				S	S	19 12 20.3	-10	
	0.5nm,0.3s,baz=124,slow=20,SNR=2.1							
KDAK	Kodiak Island baz=256	13.46	59	P	Pn	19 09 58.9	-1.4	
N19K	Bonanza Creek	13.59	46	P	P	19 10 06.5	+2.1	
TTA	Tatalina	14.13	37	P	P	19 10 12.7	+2.4	
M19K	Big River Lodg	14.17	42	P	P	19 10 13.3	+2.6	
HOM	Homer	14.44	52	P	P	19 10 15.0	+1.3	
CNPM	China Poot	14.60	53	P	Pn	19 10 13.6	-0.7	
BRLK	Bradley Lake	14.84	52	P	Pn	19 10 16.6	-0.7	
BRSE	Bradley Lake S baz=251	14.90	53	P	Pn	19 10 18.2	+0.2	
J20K	Nowinta River	15.55	35	P	P	19 10 28.2	+2.3	
J20K				IAmb	IAmb	19 10 45.3		
	comp=Z,9.0nm,1.1s							
J20K	Nowinta River baz=231	15.55	35	P	P	19 10 28.0	+2.1	
PPLA	Purkeypile	15.56	40	P	P	19 10 29.1	+2.9	
PPLA	Purkeypile baz=238,SNR=6.7	15.56	40	P	P	19 10 28.7	+2.5	
SEW	Seward	15.63	52	P	P	19 10 25.6	-1.2	
SEW	Seward baz=252	15.63	52	P	P	19 10 26.2	-0.6	
RC01	Rabbit Creek A	15.82	48	P	P	19 10 28.9	0.0	
RC01	Rabbit Creek A baz=248	15.82	48	P	Pn	19 10 30.1	+1.0	
CAST	Castle Rocks	15.87	39	P	Pn	19 10 31.9	+2.1	
CAST				IAmb	IAmb	19 10 38.0		
	comp=Z,10nm,0.7s							
CAST	Castle Rocks baz=237,SNR=9.3	15.87	39	P	Pn	19 10 31.4	+1.7	
CHUM	Lake Minchumin baz=235	16.04	37	P	Pn	19 10 33.4	+1.8	
CUT	Chulitna	16.11	44	P	P	19 10 32.9	+0.8	
KTH	Kantishna Hill	16.39	39	P	Pn	19 10 37.3	+1.3	
PWL	Port Wells	16.39	50	P	P	19 10 34.2	-0.9	
PWL	Port Wells baz=251	16.39	50	P	P	19 10 35.3	+0.1	
GHO	Glory Hole Cre	16.43	47	P	P	19 10 34.6	-1.1	
GHO				IAmb	IAmb	19 10 57.5		
	comp=Z,24nm,1.4s							
KNK	Knik Glacier	16.51	48	P	P	19 10 35.5	-1.0	
KNK				IAmb	IAmb	19 10 39.9		
	comp=Z,14nm,0.9s							
KNK	Knik Glacier baz=249	16.51	48	P	P	19 10 36.6	0.0	
TRF	Thorofare Moun	16.58	40	P	Pn	19 10 39.0	+0.5	
TRF				IAmb	IAmb	19 10 43.9		
	comp=Z,9.3nm,0.8s							
TRF	Thorofare Moun baz=240	16.58	40	P	Pn	19 10 38.8	+0.3	
SML	Sawmill	16.70	47	P	P	19 10 38.2	-0.5	
SML				IAmb	IAmb	19 10 51.2		
	comp=Z,20nm,1.1s							
SML	Sawmill baz=248	16.70	47	P	P	19 10 39.2	+0.5	
IMAR	Indian Mountai	16.85	30	P	P	19 10 40.9	+0.7	
I21K	Tanana	16.91	34	P	P	19 10 40.9	+0.1	
I21K				IAmb	IAmb	19 10 45.0		
	comp=Z,18nm,0.9s							
H21K	Melozitna Rive	16.93	32	P	P	19 10 40.0	-1.1	
H21K				IAmb	IAmb	19 10 44.9		
	comp=Z,5.3nm,0.7s							
GLI	Glacier Island	16.97	51	P	P	19 10 40.8	-0.8	
GLI	Glacier Island baz=252	16.97	51	P	P	19 10 40.7	-0.8	
RND	Reindeer	17.13	41	P	P	19 10 43.7	+0.3	
SCM	Sheep Creek Mo	17.16	47	P	P	19 10 43.2	-0.5	
SCM	Sheep Creek Mo baz=249	17.16	47	P	P	19 10 43.7	0.0	
FID	Port Fidalgo	17.23	51	P	P	19 10 42.8	-1.6	
MLY	Manley	17.25	35	P	Pn	19 10 46.2	0.0	
MLY	Manley baz=235,SNR=16	17.25	35	P	P	19 10 45.8	+1.2	
MCK	McKinley	17.25	40	P	P	19 10 45.5	+0.9	
MCK	McKinley baz=241,SNR=9.6	17.25	40	P	P	19 10 45.2	+0.6	
WAT6	Susitna Watana baz=246	17.25	45	P	P	19 10 44.7	-0.1	
BWN	Browne	17.26	39	P	P	19 10 43.8	-0.8	
DHY	Denali Highway	17.60	43	P	P	19 10 48.8	+0.3	
DHY	Denali Highway baz=245,SNR=31	17.60	43	P	P	19 10 49.4	+0.8	
NEA2	Nenana	17.62	38	P	P	19 10 49.0	+0.4	
NEA2	Nenana baz=239,SNR=7.4	17.62	38	P	P	19 10 48.9	+0.3	
KLU	Klutina	17.69	49	P	P	19 10 49.3	-0.2	
KLU				IAmb	IAmb	19 10 54.2		
	comp=Z,10nm,0.8s							
KLU	Klutina baz=252	17.69	49	P	P	19 10 49.6	+0.1	
M24K	Tolsona, Glenn	17.77	47	P	P	19 10 50.5	+0.2	
M24K	Tolsona, Glenn baz=250	17.77	47	P	P	19 10 51.2	+0.9	
I23K	Minto, Yukon-K	17.80	36	P	P	19 10 51.7	+1.2	
I23K	Minto, Yukon-K baz=237,SNR=25	17.80	36	P	P	19 10 52.0	+1.5	
WRH	Wood River Hil	17.93	39	P	P	19 10 51.8	-0.2	
WRH				IAmb	IAmb	19 10 54.8		
	comp=Z,6.9nm,0.6s							
MDM	Murphy Dome	18.11	37	P	P	19 10 53.3	-0.7	
CCB	Clear Creek Bu	18.12	39	P	P	19 10 53.3	-0.7	
BMRM	Bremner River	18.17	51	P	P	19 10 56.0	+1.3	
BMRM				IAmb	IAmb	19 10 59.6		
	comp=Z,14nm,0.9s							
BMRM	Bremner River baz=255	18.17	51	P	P	19 10 55.3	+0.7	
HMT	Hamilton	18.20	53	P	P	19 10 54.9	-0.1	
HARP	HAARP	18.31	47	P	P	19 10 57.2	+1.0	
	baz=250							
N25K	Chitina, Valde	18.33	49	P	P	19 10 56.3	-0.2	
N25K				IAmb	IAmb	19 11 01.4		
	comp=Z,7.4nm,0.8s							
N25K	Chitina, Valde baz=253	18.33	49	P	P	19 10 56.4	0.0	
HDA	Harding Lake	18.34	40	P	P	19 10 54.7	-1.7	
HDA				IAmb	IAmb	19 10 59.9		
	comp=Z,11nm,0.6s							
PAX	Paxson	18.36	45	P	P	19 10 57.8	+0.9	
PAX				IAmb	IAmb	19 11 00.5		
	comp=Z,8.0nm,0.6s							
PAX	Paxson baz=248,SNR=8.2	18.36	45	P	P	19 10 57.8	+0.9	
BERG	Berg Lake	18.48	53	P	P	19 10 58.1	0.0	
POKR	Poker Plat Res	18.48	37	P	P	19 10 57.9	-0.1	
POKR	Poker Plat Res baz=240	18.48	37	P	P	19 10 59.1	+1.1	
IL31		18.52	39	P	P	19 10 57.3	-1.0	
IL31				IAmb	IAmb	19 11 03.1		
	comp=Z,14nm,1.2s							
ILAR	Eielson Array	18.52	39	P	P	19 10 57.4	-1.1	
	comp=Z,0.6nm,0.3s,baz=240,slow=9.4,SNR=36							
ILAR				S	S	19 14 17.4	-1.4	
	comp=Z,0.1nm,0.3s,baz=238,slow=23,SNR=2.0							
ILAR	Eielson Array	18.52	39	P	P	19 10 57.6	-0.8	
GLB	Gilahina Butte	18.66	50	P	P	19 10 59.8	-0.2	
GLB				IAmb	IAmb	19 11 05.5		
	comp=Z,9.0nm,0.9s							
H24K	Noodor Dome	18.69	35	P	P	19 11 00.1	-0.2	
COLD	Coldfoot	18.74	30	P	P	19 11 00.0	-0.7	
COLD				IAmb	IAmb	19 11 06.2		
	comp=Z,4.7nm,0.7s							
COLD	Coldfoot baz=230	18.74	30	P	P	19 11 01.7	+1.0	
VRDI	Verde Repeater	18.77	51	P	P	19 11 00.8	-0.6	
VRDI				IAmb	IAmb	19 11 16.7		
	comp=Z,16nm,1.2s							
RIDG	Independent Ri	18.91	43	P	P	19 11 02.7	+0.1	
RIDG				IAmb	IAmb	19 11 07.5		
	comp=Z,10nm,0.8s							
RIDG	Independent Ri baz=247	18.91	43	P	P	19 11 02.9	+0.3	
WAX	Waxell Ridge	18.91	53	P	P	19 11 02.4	-0.3	
TGL	Tana Glacier	18.97	53	P	P	19 11 05.2	+1.8	
TGL				IAmb	IAmb	19 11 23.7		
	comp=Z,17nm,1.2s							
MCARA	McCarthy VSAT	19.01	51	P	P	19 11 05.6	+1.9	
MCARA				IAmb	IAmb	19 11 13.9		
	comp=Z,8.0nm,0.8s							
ISLE	Juniper Island	19.18	53	P	P	19 11 05.9	+0.2	
ISLE				IAmb	IAmb	19 11 06.3		
	comp=Z,20nm,1.2s							
DOT	Dot Lake	19.20	43	P	P	19 11 06.2	+0.4	
M26K	Nabesna, AK	19.27	48	P	P	19 11 07.0	+0.4	
M26K				IAmb	IAmb	19 11 14.2		
	comp=Z,7.8nm,0.5s							
MESA	MESA	19.31	54	P	P	19 11 07.7	+0.6	
SCRK	Sand Creek	19.35	43	P	P	19 11 07.6	+0.2	
SCRK	Sand Creek baz=248,SNR=12	19.35	43	P	P	19 11 07.4	-0.1	
YAH	Yahtse	19.44	54	P	P	19 11 10.7	+2.2	
GRNC	Granite Creek	19.49	53	P	P	19 11 10.2	+1.1	
GRNC				IAmb	IAmb	19 11 27.7		
	comp=Z,7.6nm,0.9s							
BARN	Barnard Glacie	19.59	52	P	P	19 11 12.0	+1.8	
BARN				IAmb	IAmb	19 11 22.0		
	comp=Z,24nm,1.4s							
J26L	Joseph Creek baz=247,SNR=14	19.71	41	P	P	19 11 11.1	-0.2	
CTGM	Chitina Glacie	19.73	52	P	P	19 11 13.2	+1.6	
CTGM				IAmb	IAmb	19 11 17.1		
	comp=Z,12nm,1.2s							
TABL	Table Mountain	19.74	54	P	P	19 11 13.9	+2.1	
M27K	Edge Creek, AK	19.77	48	P	P	19 11 12.4	+0.5	
M27K				IAmb	IAmb	19 11 20.2		
	comp=Z,7.3nm,1.1s							
TOLK	Toolik Lake Re	19.83	27	P	P	19 11 13.0	+0.5	
TOLK				IAmb	IAmb	19 11 16.2		
	comp=Z,4.2nm,0.6s							
TOLK	Toolik Lake Re baz=228	19.83	27	P	P	19 11 13.5	+1.0	
LOGN	Logan Glacier	19.87	53	P	P	19 11 14.5	+1.4	
L27K	Beaver Creek,	19.97	46	P	P	19 11 13.5	-0.6	
BCAR	Beaver Creek A	19.99	46	P	P	19 11 14.3	0.0	
SEY	Seymchan	20.11	313	P	P	19 11 15.9	+0.5	
	comp=Z,0.0nm,0.3s,baz=117,slow=8.1,SNR=4.0							
BVCY	Beaver Creek baz=256	20.24	48	P	P	19 11 16.4	-0.6	
YUK3	Moose Creek baz=258	20.29	50	P	P	19 11 18.1	+0.5	
BMAR	Burnt Mountain	20.64	33	P	P	19 11 22.4	+1.3	
EGAK	Eagle	20.78	42	P	P	19 11 23.1	+0.5	
EGAK				IAmb	IAmb	19 11 26.6		
	comp=Z,9.1nm,0.7s							
DAWY	Dawson	21.30	44	P	P	19 11 28.5	+0.5	
DAWY				IAmb	IAmb	19 11 34.1		
	comp=Z,8.9nm,1.4s							
DAWY	Dawson baz=254	21.30	44	P	P	19 11 28.4	+0.3	
INK	Inuvik	24.82	36	P	P	19 12 00.5	-0.1	
	comp=Z,2.5nm,0.3s,baz=235,slow=6.2,SNR=28							
INK	Inuvik	24.82	36	P	P	19 11 59.8	-0.8	
INK				IAmb	IAmb	19 12 01.2		
	comp=Z,9.1nm,1.4s							
INK	Inuvik baz=251	24.82	36	P	P	19 12 00.3	-0.3	
C36M	Paulatuk	28.40	35	P	P	19 12 32.7	+0.2	
C36M				IAmb	IAmb	19 12 33.5		
	comp=Z,4.8nm,1.3s							
C36M	Paulatuk baz=260	28.40	35	P	P	19 12 32.4	-0.2	
A36M	Sachs Harbour	28.60	30	P	P	19 12 35.1	+0.8	
A36M				IAmb	IAmb	19 12 36.0		
	comp=Z,5.9nm,0.7s							
A36M	Sachs Harbour baz=254,SNR=7.1	28.60	30	P	P	19 12 35.0	+0.7	
YKA	Yellowknife Ar	32.36	49	P	P	19 13 07.1	-0.3	
	comp=Z,1.4nm,0.4s,baz=284,slow=7.8,SNR=22							
YKA				PcP	PcP	19 15 49.5	-0.4	
	comp=Z,0.3nm,0.5s,baz=298,slow=2.2,SNR=5.5							
YKA	Yellowknife Ar	32.36	49	P	P	19 13 06.2	-1.2	
B08A	Colville Reser	34.61	75	P	P	19 13 28.2	+1.1	
B08A				IAmb	IAmb	19 13 29.1		
	comp=Z,7.2nm,0.8s							
H04A	Detroit Lake	34.78	82	P	P	19 13 30.6	+2.1	
H04A				IAmb	IAmb	19 13 34.2		
	comp=Z,17nm,1.3s							
DBO	Dodson Butte	35.00	85	P	P	19 13 33.0	+2.5	
HAWA	Hanford	35.47	78	P	P	19 13 35.6	+1.2	
HAWA				IAmb	IAmb	19 13 36.6		
	comp=Z,8.8nm,0.8s							
D08A	Wollman Farm,	35.49	76	P	P	19 13 35.6	+1.1	
D08A				IAmb	IAmb	19 13 36.3		
	comp=Z,4.9nm,0.6s							
EDM	Edmonton	35.84	64	P	P	19 13 37.2	-0.3	
EDM				IAmb	IAmb	19 13 38.2		
	comp=Z,4.4nm,0.8s							
NEW	Newport	35.95	74	P	P	19 13 39.4	+0.9	
NEW				IAmb	IAmb	19 13 40.0		
	comp=Z,5.6nm,0.7s							
NEW	Newport baz=299,SNR=5.6	35.95	74	P	P	19 13 39.0	+0.5	
YBH	Yreka Blue Hor	36.12	87	P	P	19 13 42.4	+2.3	
YBH				IAmb	IAmb	19 13 44.7		
	comp=Z,16nm,1.2s							
K05A	Summer Lake	36.64	84	P	P	19 13 46.8	+2.2	
K05A				IAmb	IAmb	19 13 47.9		
	comp=Z,5.1nm,0.9s							
I07A	Izee	36.72	81	P	P	19 13 46.6	+1.5	
WDC	Whiskeytown Da	36.90	88	P	P	19 13 48.4	+1.8	
WDC				IAmb	IAmb	19 13 54.5		
	comp=Z,12nm,1.5s							
F10A	Beach Ranch, E	37.05	77	P	P	19 13 48.3	+0.4	
H11S1	WAKE ISLAND Hy	37.18	210	T	T	19 51 34.8		
	baz=17,slow=76,SNR=16							
H11S2	WAKE ISLAND Hy	37.20	210	T	T	19 51 39.5		
	baz=17,slow=76,SNR=12							
H11S3	WAKE ISLAND Hy	37.20	210	T	T	19 51 33.6		
	baz=17,slow=76,SNR=6.0							
WALA	Waterton Lakes	37.41	71	P	P	19 13 50.9	0.0	
WALA				IAmb	IAmb	19 14 12.4		
	comp=Z,10.0nm,1.6s							
MOD	Modoc Plateau	37.48	85	P	P	19 13 53.1	+1.5	
MOD				IAmb	IAmb	19 13 54.6		
	comp=Z,13nm,1.5s							
O03E	Paynes Creek baz=307	37.52	88	P	P	19 13 53.0	+1.1	
BMO	Blue Mountains	37.61	79	P	P	19 13 53.6	+1.0	
ORV	Oroville	38.16	88	P	P	19 13 57.8	+0.6	
WVOR	Wild Horse Val	38.17	83	P	P	19 13 57.7	+0.3	
PLID	Pearl Lake	38.26	77	P	P	19 13 58.6	+0.5	
MSO	Missoula	38.53	74	P	P	19 14 00.8	+0.4	
MSO				IAmb	IAmb	19 14 01.0		
	comp=Z,4.0nm,0.6s							
MSO	Missoula baz=301	38.53	74	P	P	19 14 00.3	0.0	
MPK	Martis Peak	39.21	88	P	P	19 14 06.3	+0.1	
RUBR	Rubicon Trail	39.29	88	P	P	19 14 07.5	+0.7	
PAHR	Pah Rah Range	39.35	87	P	P	19 14 08.4	+1.2	
PAHR				IAmb	IAmb	19 14 09.7		
	comp=Z,4.3nm,0.7s							
EMB	Emerald Bay	39.37	88	P	P	19 14 08.9	+1.4	
EMB				IAmb	IAmb	19 14 34.4		
	comp=Z,16nm,1.3s							
PNTR	Pine Nut	39.60	88	P	P	19 14 11.1	+1.7	
CMB	Columbia Colle	39.79	89	P	P	19 14 11.7	+1.0	
CMB				IAmb	IAmb	19 14 13.5		
	comp=Z,7.8nm,1.5s							
HRY	Holter Researc	39.82	73	P	P	19 14 11.1	+0.1	
YERR	Yerington	39.89	87	P	P	19 14 12.4	+0.7	
YERR				IAmb	IAmb	19 14 13.9		
	comp=Z,4.7nm,0.8s							
HLID	Hailey	40.05	78	P	P	19 14 14.0	+1.0	
HLID	Hailey baz=304,SNR=6.6	40.05	78	P	P	19 14 13.7	+0.7	
BCYI	Bear Canyon	40.23	77	P	P	19 14 15.0	+0.5	
MCMT	McKenzie Canyo	40.26	76	P	P	19 14 15.0	+0.2	
BOZ	Bozeman (W)	40.55	74	P	P	19 14 17.3	+0.3	
BOZ				IAmb	IAmb	19 14 18.1		
	comp=Z,4.8nm,0.8s							
BOZ	Bozeman (W) baz=303,SNR=8.9	40.55	74	P	P	19 14 17.1	+0.1	
NVAR	Mina Array Bea	40.81	87	P	P	19 14 21.1	+1.9	
	comp=Z,2.1nm,0.6s,baz=297,slow=7.7,SNR=17							
NVAR				PcP	PcP	19 16 17.0	+0.8	
	comp=Z,0.4nm,0.6s,baz=258,slow=2.7,SNR=1.8							
NVAR	Mina Array Bea	40.81	87	P	P	19 14 21.0	+1.7	
NV11	Mina Array Sit	40.90	87	P	P	19 14 20.7	+0.8	
JCJ	Chichijima	41.04	249	P	P	19 14 21.3	+0.3	
QLMT	Earthquake Lak	41.09	75	P	P	19 14 22.3	+0.8	
ELK	Elko	41.22	82	P	P	19 14 23.6	+0.9	
YHL	Hebgen Lake	41.23	75	P	P	19 14 22.8	+0.1	
PAGB	Antelope Grade	41.37	92	P	P	19 14 25.4	+1.7	
YHH	Holmes Hill	41.46	75	P	P	19 14 24.7	+0.1	
YHH				IAmb	IAmb	19 14 25.8		
	comp=Z,6.8nm,0.6s							
YMR	Madison River	41.46	75	P	P	19 14 24.3	-0.2	
YMR				IAmb	IAmb	19 14 25.9		
	comp=Z,6.4nm,0.9s							
YNR	Norris Junctio	41.60	75	P	P	19 14 25.1	-0.6	
YNR				IAmb	IAmb	19 14 27.7		
	comp=Z,6.2nm,1.0s							
H17A	Grant Village	41.84	75	P	P	19 14 28.7	+1.0	
H17A				IAmb	IAmb	19 14 30.4		
	comp=Z,5.0nm,0.6s							
H17A	Grant Village baz=304,SNR=6.6	41.84	75	P	P	19 14 28.7	+1.0	
LKWY	Lake	41.85	75	P	P	19 14 29.1	+1.4	
FLWY	Flagg Ranch	41.95	75	P	P	19 14 29.1	+0.6	
FLWY				IAmb	IAmb	19 14 30.5		
	comp=Z,5.1nm,0.7s							
HVU	Hansel Valley	42.08	79	P	P	19 14 30.0	+0.5	
HVU				IAmb	IAmb	19 14 31.3		
	comp=Z,4.3nm,0.7s							
MOOW	Moose Ponds	42.12	76	P	P	19 14 30.5	+0.6	
RLMT	Red Lodge	42.19	73	P	P	19 14 31.0	+0.6	
RLMT				IAmb	IAmb	19 14 31.8		
	comp=Z,12nm,1.4s							
LOHW	Long Hollow	42.28	76	P	P	19 14 31.8	+0.6	
BGU	Big Grassy Mou	42.44	81	P	P	19 14 32.5	+0.1	
AHID	Auburn Hatcher	42.49	77	P	P	19 14 33.5	+0.7	
ISA	Isabella, Lake	42.50	91	P	P	19 14 33.2	+0.4	
ISA				IAmb	IAmb	19 14 50.7		
	comp=Z,8.9nm,1.6s							
R11A	Troy Canyon, C	42.51	85	P	P	19 14 33.9	+0.8	
HWUT	Hardware Ranch	42.91	79	P	P	19 14 36.0	-0.1	
DUG	Dugway, Tooele	43.02	81	P	P	19 14 37.8	+0.7	
DU

comp=Z,11nm,1.4s
PV20 West Nyswonger 46.50 81 P **P 19 15 04.6 0.0**
PV04 Paradox Valley 46.51 81 P **P 19 15 05.3 +0.7**
PV19 Morning Glory 46.52 81 P **P 19 15 05.2 +0.4**
PV17 East Wray Mesa 46.55 81 P **P 19 15 05.4 +0.4**
PV17 IAmb IAmb 19 15 06.2
comp=Z,8.0nm,0.6s
PV16 Nyswonger Mesa 46.55 81 P **P 19 15 05.8 +0.8**
PV11 David Mesa, Pa 46.59 81 P **P 19 15 05.6 +0.3**
PV11 IAmb IAmb 19 15 06.5
comp=Z,9.3nm,0.5s
PV12 Saucer Basin, 46.62 81 P **P 19 15 05.4 -0.2**
PV12 IAmb IAmb 19 15 07.3
comp=Z,13nm,1.2s
PV03 Paradox Valley 46.63 81 P **P 19 15 05.5 -0.2**
PV03 IAmb IAmb 19 15 06.5
comp=Z,4.8nm,0.6s
PV07 Paradox Valley 46.63 80 P **P 19 15 05.5 -0.2**
N23A Red Feather La 46.68 76 P **P 19 15 06.1 +0.1**
baz=308
PV13 Radium Mtn., P 46.71 81 P **P 19 15 06.5 +0.3**
PV13 IAmb IAmb 19 15 07.6
comp=Z,12nm,0.7s
PV02 Paradox Valley 46.73 81 P **P 19 15 06.7 +0.3**
PV02 IAmb IAmb 19 15 07.7
comp=Z,6.3nm,0.8s
ISCO Idaho Springs 47.57 77 P **P 19 15 13.4 +0.5**
baz=309
SDCO Great Sand Dun 48.97 79 P **P 19 15 23.2 -0.4**
T25A Trinidad 50.02 79 P **P 19 15 31.4 -0.1**
T25A IAmb IAmb 19 15 33.3
comp=Z,12nm,1.1s
T25A Trinidad 50.02 79 P **P 19 15 32.0 +0.5**
baz=311,SNR=6.2
KAN13 South Haven SW 54.20 74 P **P 19 16 02.6 +0.7**
WMOK Wichita Mounta 54.99 77 P **P 19 16 08.0 +0.2**
WMOK IAmb IAmb 19 16 08.7
comp=Z,4.6nm,0.8s
TX31 Lajitas Ar. Si 55.87 85 P **P 19 16 14.6 +0.4**
TX31 IAmb IAmb 19 16 15.6
comp=Z,8.8nm,0.9s
TX32 Lajitas Array 55.87 85 P **P 19 16 14.6 +0.4**
TXAR Lajitas Array 55.87 85 P **P 19 16 14.1 -0.1**
comp=Z,1.4nm,0.7s,baz=244,slow=4.2,SNR=6.8
TXAR Lajitas Array 55.87 85 P **P 19 16 14.0 -0.2**
ARCES ARCESS Array B 57.15 352 P **P 19 16 21.7 -0.8**
comp=Z,2.7nm,0.9s,baz=34,slow=6.7,SNR=6.6
WMQ Urumqi 60.77 305 *e*P **P 19 16 50.4 +2.6**
WMQ LR LR
comp=N,490nm,29.2s
WMQ LR LR
comp=E,2μm,28.8s
WMQ LR LR
comp=Z,45nm,22.1s
MKAR Makanchi Array 61.21 310 P **P 19 16 49.2 -1.4**
comp=Z,0.4nm,0.6s,baz=50,slow=6.5,SNR=5.9
FINES FINESS Array B 64.98 349 P **P 19 17 14.2 -0.9**
comp=Z,0.7nm,0.4s,baz=9.0,slow=8.3,SNR=10
NOA NORSAR Array B 66.47 357 P **P 19 17 23.7 -1.0**
comp=Z,3.9nm,1.3s,baz=5.4,slow=6.8,SNR=5.7
HFS Hagfors 67.28 356 P **P 19 17 28.8 -0.9**
comp=Z,2.3nm,0.4s,baz=2.6,slow=3.2,SNR=2.7
AKASG Malin Array Be 74.99 345 P **P 19 18 14.8 -1.4**
comp=Z,1.9nm,0.3s,baz=17,slow=5.9,SNR=13
CLL Collm 76.13 355 *i* P **P 19 18 21.5 -1.1**
CLL comp=Z,4.0nm,0.7s *e*PcP **PcP 19 18 32.0 -1.8**
GERES GERESS Array B 78.54 354 P **P 19 18 35.5 -0.7**
comp=Z,0.3nm,0.5s,baz=46,slow=4.2,SNR=6.2
WRA Warramunga Arr 84.86 227 P **P 19 19 07.6 -1.7**
comp=Z,0.3nm,0.8s,baz=33,slow=5.8,SNR=2.4
WRA Warramunga Arr 84.86 227 IAmb IAmb 19 19 11.2
comp=Z,0.4nm,1.6s
ASAR Alice Springs 88.31 226 P **P 19 19 25.6 -0.3**
comp=Z,0.5nm,0.8s,baz=24,slow=6.2,SNR=7.3

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*IDC **08** 19:08:45.3±1.1, 60°.64N×28°.71W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.3/44, mbtmp3.6/7, MS3.5/4, Ms1 3.5/4, ms1mx2.8/78, Error ellipse: s-maj=39.3km s-min=20.4km az=33.0*

ISC 08 19:08:46.6±1.0, 60°.6N±0°.2×28°.7W±0°.2, h10km, n10, σ1§51/7, mb3.5/7, MS3.3/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**19.27**	**71**	LR	LR	19 19 56.7	
	comp=Z,68nm,18.1s,baz=300,slow=35						
HFS	**Hagfors**	**20.71**	**73**	LR	LR	19 21 24.4	
	comp=Z,73nm,18.1s,baz=256,slow=37						
ESDC	**Sonseca Array**	**25.99**	**132**	P	**P**	**19 14 21.7**	**+2.4**
	1.2nm,0.8s,baz=331,slow=9.4,SNR=6.1						
GERES	**GERESS Array B**	**26.67**	**97**	LR	LR	19 25 52.9	
	comp=Z,85nm,18.2s,baz=278,slow=38						
AKASG	**Malin Array Be**	**33.09**	**81**	P	**P**	**19 15 21.1**	**-1.0**
	0.6nm,0.6s,baz=305,slow=8.8,SNR=3.4						
YKA	**Yellowknife Ar**	**38.11**	**311**	P	**P**	**19 16 05.3**	**+0.1**
	0.4nm,0.7s,baz=52,slow=8.9,SNR=6.1						
YKA				LR	LR	19 31 34.0	
	comp=Z,142nm,18.2s,baz=326,slow=36						
ILAR	**Eielson Array**	**46.68**	**329**	P	**P**	**19 17 15.6**	**+0.8**
	0.4nm,0.8s,baz=36,slow=7.8,SNR=3.1						
PDAR	**Pinedale Array**	**49.74**	**288**	P	**P**	**19 17 38.2**	**-0.8**
	0.4nm,0.7s,baz=51,slow=7.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**52.33**	**141**	P	**P**	**19 17 57.4**	**-1.0**
	0.4nm,0.7s,baz=329,slow=7.1,SNR=2.6						
MKAR	**Makanchi Array**	**59.30**	**48**	P	**P**	**19 18 48.3**	**+0.2**
	0.9nm,0.8s,baz=335,slow=5.4,SNR=7.9						

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*IDC **08** 19:19:20.9±2.8, 27°.92S×64°.18E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/37, mbtmp3.6/7, Error ellipse: s-maj=89.7km s-min=34.0km az=48.0*

ISC 08 19:19:21.4±3.3, 28°.05±0°.5×64°.0E±0°.6, h10km, n8, σ0§90/8, mb3.7/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**57.29**	**40**	P	**P**	**19 29 09.7**	**+0.1**
	0.9nm,0.8s,baz=227,slow=6.7,SNR=8.0						
ASAR	**Alice Springs**	**62.31**	**103**	P	**P**	**19 29 44.0**	**-0.3**
	0.5nm,0.9s,baz=242,slow=6.3,SNR=5.2						
WRA	**Warramunga Arr**	**64.03**	**100**	P	**P**	**19 29 55.6**	**-0.1**
	0.5nm,0.9s,baz=241,slow=6.4,SNR=2.6						
MKAR	**Makanchi Array**	**76.30**	**13**	P	**P**	**19 31 10.9**	**+0.6**
	0.4nm,0.9s,baz=191,slow=5.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**79.37**	**9**	P	**P**	**19 31 27.1**	**-0.1**
	0.3nm,0.8s,baz=209,slow=6.5,SNR=3.6						
BVAR	**Borovoye Array**	**80.91**	**4**	P	**P**	**19 31 34.1**	**-1.4**
	0.9nm,0.8s,baz=195,slow=4.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**83.62**	**12**	P	**P**	**19 31 50.4**	**+0.8**
	0.6nm,0.6s,baz=200,slow=2.9,SNR=3.8						
YKA	**Yellowknife Ar**	**145.53**	**359**	PKPbc	**PKPab**	**19 39 00.5**	**+1.0**
	1.2nm,0.8s,baz=345,slow=3.5,SNR=16						

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*IDC **08** 19:42:28.3±2.6, 6°.08S×147°.76E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.5/28, mbtmp3.5/6, ML3.6/2, MS3.0/4, Ms1 3.0/4, ms1mx2.6/43, Error ellipse: s-maj=52.9km s-min=27.3km az=81.0*

ISC 08 19:42:37.8±1.2, 6°.24S±0°.09×147°.3E±0°.1, h50km, n16, σ1§30/13, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.15**	**182**	Pn	**Pn**	**19 43 23.4**	**-1.4**
	3.5nm,0.3s,baz=50,slow=12,SNR=25						
PMG				Sn	**Sn**	**19 44 02.1**	**+0.9**
	12nm,0.3s,baz=192,slow=20,SNR=5.9						
PMG				LR	LR	19 44 46.7	
	comp=Z,98nm,19.5s,baz=30,slow=41						
PMG	**Port Moresby**	**3.15**	**182**	P	**Pn**	**19 43 23.5**	**-1.4**
RABL	**Rabaul**	**5.26**	**67**	P	**Pn**	**19 43 54.5**	**+0.5**
JAY	**Jayapura**	**7.54**	**299**	Pn	**Pn**	**19 44 25.0**	**-0.2**
	0.3nm,0.3s,baz=102,slow=22,SNR=0.7						
COEN	**Coen**	**8.67**	**208**	P	**Pn**	**19 44 39.5**	**-1.2**
MTN	**Manton Dam**	**17.23**	**246**	P	**P**	**19 46 38.1**	**+2.1**
WRAB	**Tennant Creek**	**18.53**	**222**	P	**Pn**	**19 46 52.2**	**+1.3**
WRA	**Warramunga Arr**	**18.54**	**222**	P	**Pn**	**19 46 51.6**	**+0.5**
	0.4nm,0.3s,baz=51,slow=11,SNR=16						
GUMO	**Guam**	**19.85**	**353**	LR	LR	19 54 08.9	
	comp=Z,34nm,19.0s,baz=183,slow=36						
KNRA	**Kununurra**	**20.45**	**241**	P	Pn	19 47 13.6	-0.2
ASAR	**Alice Springs**	**21.59**	**215**	P	**P**	**19 47 23.4**	**-0.1**
	0.4nm,0.6s,baz=52,slow=9.1,SNR=18						
FITZ	**Fitzroy Crossi**	**24.19**	**239**	P	**P**	**19 47 49.3**	**-0.4**
	1.1nm,0.5s,baz=55,slow=11,SNR=2.0						
STKA	**Stephens Creek**	**26.05**	**191**	P	**P**	**19 48 07.6**	**+1.1**
	1.5nm,0.8s,baz=25,slow=7.8,SNR=4.0						
URZ	**Urewera**	**41.79**	**144**	LR	LR	20 05 07.2	
	comp=Z,45nm,20.4s,baz=278,slow=33						
KSRS	**Korea Array**	**47.08**	**339**	LR	LR	20 09 41.3	
	comp=Z,13nm,19.4s,baz=55,slow=35						
TORD	**Torodi Ar. Bea**	**145.43**	**284**	PKPbc	**PKPdf**	**20 02 09.7**	**-1.7**
	1.6nm,0.5s,baz=70,slow=3.9,SNR=16						

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*AUST **08** 20:07:28.5±1.3, 30°.45S×136°.89E, h0km, Error ellipse: s-maj=14.1km s-min=10.8km az=6.0*
*IDC **08** 20:07:30.5±4.7, 29°.99S×137°.27E, h0km, mb1 2.9/3, mb1mx2.9/29, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=99.5km s-min=18.6km az=43.0*

ISC 08 20:07:28.7±0.9, 30°.31S±0°.06×136°.89E±0°.05, h10km, n7, σ1§31/13, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**1.15**	**97**	P	**Pg**	**20 07 50.7**	**-0.2**
	baz=1.1,SNR=7.1						
LCRK				S	**Sg**	**20 08 05.4**	**-0.5**
	baz=1.1						
MULG	**Mulgathing**	**2.45**	**270**	P	**Pn**	**20 08 09.6**	**+0.8**
	baz=2.5						
MULG				S	**Sn**	**20 08 39.6**	**+0.7**
	baz=2.5						
BBOO	**Buckleboo**	**2.60**	**196**	P	**Pn**	**20 08 11.2**	**+0.3**
	baz=2.5						
BBOO				S	**Sn**	**20 08 42.2**	**-0.3**
	baz=2.5						
OOD	**Oodnadatta**	**2.71**	**337**	P	**Pb**	**20 08 15.4**	**-2.0**
	baz=2.9						
OOD				S	**Sb**	**20 08 52.8**	**+2.0**
	baz=2.9						
STKA	**Stephens Creek**	**4.33**	**112**	Pn	**Pn**	**20 08 36.2**	**+1.6**
	0.1nm,0.3s,baz=301,slow=18,SNR=1.9						
STKA				Sn	**Sn**	**20 09 26.0**	**+0.9**
	0.5nm,0.3s,baz=265,slow=12,SNR=7.3						
STKA				Lg	Lg	20 09 41.4	
	0.3nm,0.3s,baz=356,slow=16,SNR=4.9						
ASAR	**Alice Springs**	**7.13**	**337**	Pn	**Pn**	**20 09 14.9**	**+1.8**
	0.1nm,0.3s,baz=157,slow=12,SNR=6.9						
ASAR				Sn	**Sn**	**20 10 33.5**	**-0.8**
	0.1nm,0.3s,baz=158,slow=23,SNR=4.6						
WRA	**Warramunga Arr**	**10.57**	**347**	Pn	**Pn**	**20 09 59.6**	**-0.8**
	0.1nm,0.3s,baz=166,slow=13,SNR=2.4						

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*KOLA **08** 20:13:41.5, 67°.66N×34°.31E, h0km, ML2.2*
*NAO **08** 20:13:43.6±1.8, 67°.70N×33°.84E, ML3.0*
*HEL **08** 20:13:44.5±0.5, 67°.71N×33°.77E, h0km, ML2.1, Explosion*

ISC 08 20:13:41.8±2.1, 67°.63N±0°.04×34°.1E±0°.1, h0km, n29, σ1§51/52, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.27**	**258**	P	**Pg**	**20 13 47.6**	**+0.6**
APA	**Apatity**	**0.27**	**258**	S	**Sb**	**20 13 52.8**	**-1.9**
APA0	**Apatity Array**	**0.42**	**268**	Pg	**Pg**	**20 13 50.1**	**+0.2**
	baz=77,slow=18						
APA0				Lg	Lg	20 13 55.0	
	baz=74,slow=37						
APA0				Rg	Rg	20 13 56.3	
	baz=76,slow=37						
APA0	**Apatity Array**	**0.42**	**268**	Pg	**Pg**	**20 13 50.1**	**+0.2**
	baz=77,slow=18						
APA0				Sg	**Sg**	**20 13 55.0**	**-0.4**
	baz=74,slow=37						
APA0	**Apatity Array**	**0.42**	**268**	P	**Pg**	**20 13 50.3**	**+0.4**
VRF	**Varrio**	**1.72**	**276**	PG	**Pn**	**20 14 12.8**	**-0.1**
	baz=88						
VRF				MSG		20 14 31.9	
	comp=Z,15nm,0.2s						
VRF				SN	**Sn**	**20 14 33.8**	**-1.7**
KU6	**Riekki**	**2.31**	**228**	PG	**Pb**	**20 14 25.0**	**+0.7**
	baz=41						
KU6				MSG		20 14 52.1	
	comp=Z,9.6nm,0.2s						
KU6				SG	**Sg**	**20 14 54.7**	**-1.3**
MSF	**Maaselka**	**2.64**	**232**	PG	**Pb**	**20 14 30.9**	**+0.9**
MSF				SG	**Sb**	**20 15 04.1**	**+1.2**
RNF	**Rovaniemi**	**3.32**	**256**	PN	**Pn**	**20 14 36.5**	**+1.6**
	baz=71						
RNF				SN	**Sn**	**20 15 15.6**	**+0.6**
KEV	**Kevo**	**3.36**	**313**	Pn	**Pn**	**20 14 36.9**	**+1.4**
KEV				Sn	**Sn**	**20 15 15.1**	**-0.8**
KEV				Lg	Lg	20 15 26.3	
KEV	**Kevo**	**3.36**	**313**	*e*P	**Pn**	**20 14 37.0**	**+1.6**
KEV				Sn	**Sn**	**20 15 15.1**	**-0.8**
KEV				Sg	**Sg**	**20 15 26.3**	**-3.2**
KEV	**Kevo**	**3.36**	**313**	PN	**Pn**	**20 14 36.5**	**+1.1**
	baz=129						
KEV				MSG		20 15 18.8	
	comp=Z,6.6nm,0.2s						
KEV				SG	**Sb**	**20 15 22.2**	**-1.2**
ARA0	**ARCESS Array S**	**3.69**	**305**	Pn	**Pn**	**20 14 39.6**	**-0.4**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**20 15 22.8**	**-1.3**
	baz=120,slow=22						
ARA0				Lg	Lg	20 15 33.9	
	baz=113,slow=37						
ARA0	**ARCESS Array S**	**3.69**	**305**	Pn	**Pn**	**20 14 39.6**	**-0.4**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**20 15 22.8**	**-1.3**
	baz=120,slow=22						
ARA0				Sg	**Sb**	**20 15 33.9**	**+0.9**
	baz=113,slow=37						
ARA0	**ARCESS Array S**	**3.69**	**305**	PN	**Pn**	**20 14 39.6**	**-0.4**
ARA0				SN	**Sn**	**20 15 21.7**	**-2.4**
ARCES	**ARCESS Array B**	**3.69**	**305**	P	**Pn**	**20 14 40.0**	**0.0**
ARCES	**ARCESS Array B**	**3.69**	**305**	S	**Sn**	**20 15 22.9**	**-1.1**
HEF	**Hetta**	**4.00**	**286**	Pn	**Pn**	**20 14 45.9**	**+1.7**
HEF				Pg	**Pb**	**20 14 54.8**	**+1.7**
HEF				Sn	**Sn**	**20 15 30.5**	**-1.3**
HEF				Lg	Lg	20 15 44.1	
HEF	**Hetta**	**4.00**	**286**	*e*P	**Pn**	**20 14 46.1**	**+1.8**
HEF				*e*S	**Sn**	**20 15 30.6**	**-1.3**
HEF	**Hetta**	**4.00**	**286**	PN	**Pn**	**20 14 46.0**	**+1.7**
	baz=96						
HEF				SN	**Sn**	**20 15 32.4**	**+0.6**
TOF	**Tornio**	**4.16**	**253**	PG	**Pb**	**20 14 57.1**	**+1.4**
OUL	**Oulu**	**4.17**	**236**	PG	**Pg**	**20 14 59.4**	**-2.3**
OUL				SG	**Sg**	**20 15 54.2**	**-1.4**
KTK1	**Kautokeino**	**4.26**	**294**	*e*P	**Pn**	**20 14 49.1**	**+1.2**
KTK1				*e*S	**Sn**	**20 15 37.1**	**-1.1**
KTK1				IAML		20 15 59.6	
	comp=Z,16nm,0.5s						
PAJU	**Pajala**	**4.29**	**267**	PG	**Pb**	**20 14 59.9**	**+1.8**
PAJU				SN	**Sn**	**20 15 38.0**	**-1.0**
LANU	**Lannavaara**	**4.61**	**281**	PG	**Pb**	**20 15 05.2**	**+1.8**
LANU				SG	**Sb**	**20 16 02.7**	**+3.3**
ERTU	**Ertsjaerv**	**4.78**	**263**	PN	**Pn**	**20 14 56.0**	**+1.1**
ERTU				SN	**Sn**	**20 15 48.8**	**-2.1**
KIF	**Kilpisjarvi**	**5.12**	**292**	*e*P	**Pn**	**20 15 01.1**	**+1.5**
KIF				*e*S	**Sn**	**20 15 56.1**	**-3.1**
FIA0	**FINESS Array S**	**7.10**	**213**	Sn	**Sn**	**20 16 46.8**	**-1.2**
	baz=32,slow=18						
FIA0				Lg	Lg	20 17 19.6	
	baz=36,slow=28						
FIA0	**FINESS Array S**	**7.10**	**213**	Sn	**Sn**	**20 16 46.8**	**-1.2**
	baz=32,slow=18						

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*IDC **08** 20:13:40.5±0.8, 2°.71S×139°.32E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/26, mbtmp3.8/9, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/59, Error ellipse: s-maj=15.2km s-min=12.7km az=138.0*
*NEIC **08** 20:13:43.6±1.8, 2°.7S±0°.1×139°.50E±0°.07, h18km±6km, mb4.0/15, Error ellipse: s-maj=16.3km s-min=9.1km az=169.0*
*DJA **08** 20:13:46.2±0.4, 3°.S±5°.×14°.0E±°, h46km±8km, M4.5/8, mB4.2/1, mb4.5/8, MLv4.6/6, Mw(mB)3.3/1*

ISC 08 20:13:44.5±0.6, 2°.72S±0°.06×139°.48E±0°.05, h27km, n50, σ1§92/51, mb3.9/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.70**	**79**	P	**Pn**	**20 13 59.6**	**+1.1**
GENI	**Genyem**	**0.70**	**79**	P	**Pn**	**20 13 59.9**	**+1.4**
JAY	**Jayapura**	**1.24**	**80**	Pg	**Pn**	**20 14 06.2**	**+0.1**
	24nm,0.3s,baz=233,slow=17,SNR=49						
JAY				Lg	Lg	20 14 25.5	
	152nm,0.3s,baz=114,slow=21,SNR=12						
JAY	**Jayapura**	**1.24**	**80**	P	**Pb**	**20 14 07.1**	**-0.1**
WAMI	**Wamena**	**1.39**	**214**	P	**Pb**	**20 14 12.2**	**+2.5**
SRPI	**Serui, Papua**	**3.35**	**285**	P	**Pn**	**20 14 35.4**	**+0.3**
MMPI	**Merauke**	**5.78**	**171**	P	**Pn**	**20 15 13.1**	**+4.7**
	1.3nm216nm,0.7s						
FAKI	**Fak Fak**	**7.23**	**268**	Pn	**Pn**	**20 15 28.6**	**+0.1**
FAKI	**Fak Fak**	**7.23**	**268**	P	**Pn**	**20 15 28.8**	**+0.4**
SIJI	**Sorong**	**8.42**	**282**	LR	LR	20 19 43.4	
	comp=Z,128nm,18.1s,baz=127,slow=44						
SAUI	**Saumlaki**	**9.68**	**237**	Pn	**Pn**	**20 16 02.2**	**+0.2**
PMG	**Port Moresby**	**10.11**	**131**	Pn	Pn	20 16 14.3	+6.3
	0.5nm,0.3s,baz=108,slow=12,SNR=1.8						
COEN	**Coen**	**11.74**	**162**		**Pn**	**20 16 32.2**	**+1.8**
COEN	**Coen**	**11.74**	**162**	P	**Pn**	**20 16 32.5**	**+2.1**
KDU	**Kakadu**	**12.09**	**215**	P	**Pn**	**20 16 34.2**	**-0.9**
DRS	**Darwin Rock St**	**12.86**	**221**	P	**Pn**	**20 16 46.3**	**+0.8**
MTN	**Manton Dam**	**13.01**	**219**		**Pn**	**20 16 46.0**	**-1.7**
MTN	**Manton Dam**	**13.01**	**219**	P	**Pn**	**20 16 46.9**	**-0.8**
SANI	**Sanana**	**13.50**	**273**	P	**Pn**	**20 16 54.4**	**0.0**
	15nm,0.7s						
SANI	**Sanana**	**13.50**	**273**	P	**Pn**	**20 16 54.8**	**+0.4**
MTSU	**Mount Surprise**	**16.03**	**163**	P	**P**	**20 17 31.1**	**-0.4**
KNRA	**Kununurra**	**16.65**	**219**		**Pn**	**20 17 35.8**	**-0.3**
KNRA				IAmb	IAmb	20 17 49.2	
	comp=Z,20nm,0.9s						
KNRA	**Kununurra**	**16.65**	**219**	P	**Pn**	**20 17 36.3**	**+0.2**
SOEI	**Soe**	**16.65**	**245**	P	**P**	**20 17 39.0**	**+0.5**
	comp=Z,52nm,0.9s						
SOEI	**Soe**	**16.65**	**245**	P	**Pn**	**20 17 35.1**	**-1.1**
BATI	**Baumata**	**17.38**	**244**	P	**P**	**20 17 48.6**	**+2.2**
	comp=Z,3.5nm,0.3s,baz=6.3,slow=0.5,SNR=16						
BATI	**Baumata**	**17.38**	**244**	P	**P**	**20 17 47.5**	**+1.1**
	comp=Z,22nm,0.7s						
WB0	**Warramunga Arr**	**17.65**	**196**	P	**Pn**	**20 17 48.0**	**-0.7**
QIS	**Mount Isa**	**17.73**	**180**	P	**P**	**20 17 51.8**	**+1.6**
WR0	**Warramunga Arr**	**17.80**	**195**	P	**Pn**	**20 17 49.1**	**-1.3**
WR0				IAmb	IAmb	20 18 09.6	
	comp=Z,11nm,1.2s						
WRAB	**Tennant Creek**	**17.82**	**196**	P	**Pn**	**20 17 50.2**	**-0.5**
WRAB				IAmb	IAmb	20 18 26.4	
	comp=Z,8.6nm,0.9s						
WRAB	**Tennant Creek**	**17.82**	**196**	P	**P**	**20 17 51.2**	**-0.1**
WB2	**Warramunga Arr**	**17.83**	**196**	P	**Pn**	**20 17 49.9**	**-1.0**
WB2				IAmb	IAmb	20 18 09.7	
	comp=Z,7.3nm,0.7s						
WRA	**Warramunga Arr**	**17.84**	**196**	P	**Pn**	**20 17 48.9**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=19,slow=12,SNR=9.9						
WRA				S	**Sn**	**20 21 02.1**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=12,slow=22,SNR=3.7						
WRA				LR	LR	20 25 08.0	
	comp=Z,134nm,21.6s,baz=330,slow=39						
CTAO	**Charters Tower**	**18.48**	**160**	P	**P**	**20 17 57.4**	**-1.2**
CTAO				IAmb	IAmb	20 18 00.7	
	comp=Z,31nm,1.6s						
TOLI2	**Tolitoli**	**19.08**	**281**	P	**P**	**20 18 04.2**	**-0.9**
TOLI2				IAmb	IAmb	20 18 21.1	
	comp=Z,6.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.44**	**221**	P	**P**	**20 18 19.4**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=33,slow=14,SNR=9.8						
FITZ				S	**S**	**20 22 01.5**	**-6.1**
	comp=Z,5.6nm,0.8s,baz=172,slow=4.6,SNR=5.7						
AS31	**Alice Springs**	**21.51**	**194**	P	**P**	**20 18 30.8**	**-0.7**
ASAR	**Alice Springs**	**21.51**	**194**	P	**P**	**20 18 31.3**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=20,slow=10,SNR=25						
ASAR				S	**S**	**20 22 31.3**	**+2.5**
	comp=Z,1.3nm,0.9s,baz=7.2,slow=30,SNR=3.5						
ASAR				LR	LR	20 26 30.9	
	comp=Z,49nm,21.0s,baz=27,slow=36						
BBKI	**Banjar Baru**	**24.62**	**268**	P	**P**	**20 19 06.2**	**+3.3**
EIDS	**Eidsvold**	**25.13**	**155**	P	**P**	**20 19 07.4**	**0.0**
PSA00	**Pilbara Seismi**	**26.75**	**224**	P	**P**	**20 19 20.1**	**-2.0**
PSA00				IAmb	IAmb	20 19 24.0	
	comp=Z,7.7nm,1.4s						
SONM	**Songino Array**	**58.06**	**334**	P	**P**	**20 23 35.4**	**0.0**
	comp=Z,0.3nm,0.6s,baz=155,slow=4.8,SNR=2.6						
MK31	**Makanchi Array**	**70.27**	**322**	P	**P**	**20 24 56.3**	**+0.9**
MK31				IAmb	IAmb	20 25 06.3	
	comp=Z,2.1nm,1.2s						
MKAR	**Makanchi Array**	**70.27**	**322**	P	**P**	**20 24 56.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=97,slow=8.1,SNR=8.5						
MAKZ	**Makanchi**	**70.47**	**322**	P	**P**	**20 24 57.1**	**+0.4**
MAKZ				IAmb	IAmb	20 25 00.1	
	comp=Z,1.4nm,0.9s						
ZALV	**Zalesovo Beam**	**72.34**	**330**	P	**P**	**20 25 06.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=112,slow=6.5,SNR=2.2						
KURBB	**Kurchatov Arra**	**74.18**	**325**	P	**P**	**20 25 17.7**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=120,slow=4.2,SNR=2.3						
VNDA	**Vanda**	**75.70**	**175**	P	**P**	**20 25 27.5**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=329,slow=4.7,SNR=6.5						
BVAR	**Borovoye Array**	**79.77**	**325**	P	**P**	**20 25 49.9**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=111,slow=8.1,SNR=6.6						

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*VIE **08** 20:31:36.7±0.4, 50°.33N×18°.93E, h0km, mb2.1/1, ml2.7/2, Error ellipse: s-maj=5.0km s-min=2.0km az=177.0 9 km NNW of Katowice Suspected Mining induced.*
*IPEC **08** 20:31:37.8±0.2, 50°.22N×18°.99E, h1km, ML2.4/3, Error ellipse: s-maj=2.4km s-min=1.1km az=168.0*
*IDC **08** 20:31:38.9±1.0, 50°.09N×19°.09E, h0km, mb1 3.2/3, mb1mx3.0/26, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=26.4km s-min=8.3km az=161.0*
*PRU **08** 20:31:38.6±0.0, 50°.19N×18°.87E, h0km*
*BGR **08** 20:31:38.3±0.4, 50°.20N×18°.96E, h1km, ML3.0/10, Error ellipse: s-maj=8.9km s-min=4.4km az=28.0*

ISC 08 20:31:37.2±0.7, 50°.20N±0°.03×18°.96E±0°.02, h0km, n47, σ1§32/84, 12C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.51**	**257**	*e*PG	**Pb**	**20 31 50.7**	**+1.7**
RAC				*e*SG	**S

CHVC *e*SG **Sn** **20 32 36.5 +0.9**
comp=Z,25nm,0.6s
KECS Kecovo 1.98 149 *e*PN **Pn** **20 32 12.1 +0.1**
KECS *e*SN **Sn** **20 32 37.0 -0.6**
KRUC Moravsky 2.02 237 *e*Pn **Pn** **20 32 13.3 +0.8**
baz=54
KRUC *e*Sg **Sg** **20 32 41.9 -0.1**
20nm,0.4s,baz=54
CRVS Cervenica-Dubn 2.08 128 *e*PN **Pn** **20 32 14.7 +1.3**
PSZ Piszkesteto 2.36 165 ⇊S **Sn** **20 32 45.8 -1.2**
PVCC Panska Ves 2.83 278 *e*SG **Sg** **20 33 09.0 +0.9**
comp=Z,32nm,0.3s
PRU Pruhonice 2.85 267 *e*SG **Sg** **20 33 07.4 -1.4**
comp=Z,11nm,0.5s
CONA Conrad Observa 3.05 223 *i* Pn **Pn** **20 32 27.6 +0.8**
0.2nm,0.2s
CONA *e*Sn **Sn** **20 33 05.4 +1.4**
3.1nm,0.4s
BRG Berggiesshubel 3.27 284 Pg **Pg** **20 32 39.8 -0.1**
BRG Sg **Sg** **20 33 22.5 +0.2**
BRG Amp 20 33 30.3
comp=Z,9.1nm,0.6s
CKRC Cesky Krumlov 3.33 247 *e*SG **Sb** **20 33 20.5 +2.3**
comp=Z,9.0nm,0.4s
FBE Freiberg 3.65 284 *e*Sg **Sg** **20 33 34.0 -0.3**
KHC Kasperske Hory 3.66 255 *e*PN **Pn** **20 32 36.0 +1.0**
KHC *e*PG **Pb** **20 32 41.0 -1.7**
KHC *e*SG **Sb** **20 33 31.1 +3.5**
comp=Z,16nm,0.7s
GEC2 GERESS Array S 3.68 250 *e*Pg **Pg** **20 32 47.6 -0.2**
GEC2 *e*Sg **Sb** **20 33 31.3 +2.9**
GERES GERESS Array B 3.68 250 Pn **Pn** **20 32 37.0 +1.5**
comp=Z,0.2nm,0.3s,baz=68,slow=13,SNR=6.2
GERES Pg **Pg** **20 32 46.4 -1.3**
comp=Z,0.6nm,0.3s,baz=67,slow=17,SNR=11
GERES Sn **Sn** **20 33 21.9 +2.3**
comp=Z,0.8nm,0.3s,baz=69,slow=19,SNR=5.5
GERES Lg Lg 20 33 35.6
comp=Z,3.3nm,0.3s,baz=70,slow=24,SNR=12
MOA Molln 3.88 235 Sn **Sn** **20 33 25.7 +1.3**
comp=Z,5.6nm,0.6s
CLL Collm 3.94 289 *e*Pg **Pg** **20 32 53.0 +0.3**
CLL *e*Sg **Sg** **20 33 44.0 +0.2**
comp=Z,10.0nm,0.4s
MORH Mrgy, Hungar 3.99 183 ⇑P **Pn** **20 32 40.3 +0.7**
MORH ⇑S **Sn** **20 33 24.5 -2.5**
WET Wettzell 4.09 257 *e*Sg **Sg** **20 33 46.5 -2.0**
TANN Tannenbergstha 4.17 275 *e*Pg **Pg** **20 32 55.6 -1.5**
TANN *e*Sg **Sg** **20 33 50.2 -0.9**
DRGR 4.22 142 ⇊P **Pn** **20 32 44.4 +1.6**
DRGR ⇊S **Sn** **20 33 32.3 -0.6**
BURAR Bucovina Array 4.87 120 ⇑P **Pn** **20 32 52.5 +0.7**
BURAR ⇑S **Sn** **20 33 50.2 +1.4**
BZS Buzias 4.92 158 ⇑P **Pn** **20 32 53.6 +1.2**
BZS ⇑S **Sn** **20 33 49.2 -0.8**
FRGS Fruska Gora 5.08 173 ⇑P **Pn** **20 32 55.1 +0.6**
FRGS ⇑S **Sn** **20 33 52.7 -1.1**
AKASG Malin Array Be 6.58 82 Pn **Pn** **20 33 13.0 -2.0**
comp=Z,0.3nm,0.3s,baz=266,slow=14,SNR=2.2
AKASG Sn **Sn** **20 34 25.5 -5.2**
comp=Z,0.4nm,0.3s,baz=254,slow=22,SNR=1.6
AKASG Lg Lg 20 35 04.0
comp=Z,0.6nm,0.3s,baz=121,slow=42,SNR=2.0
FINES FINESS Array B 11.95 17 Pn **Pn** **20 34 25.5 -3.2**
comp=Z,0.1nm,0.3s,baz=197,slow=11,SNR=5.3
FINES Sn Sn 20 36 29.7 -13
comp=Z,0.1nm,0.3s,baz=195,slow=22,SNR=1.9

ASRS 08 20:41:23.5±0.5,52°N±2°×9°7E±°, h9km, MLh3.1/4, 1C, Error ellipse: s-maj=5.5km s-min=3.6km az=54.2, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**1.52**	**248**	Pg	Pg	20 41 56.1	+3.6
KZLR				Sg	Sg	20 42 16.8	+4.7
KNGR	**Kungurtug, Tuv**	**1.76**	**163**	⇑Pg	Pg	20 41 57.4	+0.2
KNGR				Sg	Sg	20 42 19.4	-0.7
MINR	**Mina**	**3.01**	**331**	Pg	Pg	20 42 22.3	+1.2
MINR				Sg	Sg	20 43 05.5	+5.4
CERR	**Cheremushki**	**3.28**	**282**	Sg	Sg	20 43 10.9	+2.1
DJOS	**Djoyskaya Sosn**	**3.28**	**281**	Sg	Sg	20 43 13.2	+4.3
DJO	**Djoy, Khakassi**	**3.39**	**280**	Pg	Pg	20 42 30.0	+1.6
DJO				Sg	Sg	20 43 14.8	+2.5
LUZB	**Luzhba, Kemero**	**4.92**	**289**	Sg	Sg	20 44 00.9	-0.3
TASR	**Tashtagol**	**5.41**	**278**	Sg	Sg	20 44 18.7	+1.5
CUR	**Chagan-Uzun**	**5.70**	**251**	Pg	Pg	20 43 12.1	-0.4
CUR				Sg	Sg	20 44 28.2	+1.9
ULGR	**Ulagan, Altay**	**5.72**	**256**	Pg	Pg	20 43 13.9	+0.9
ULGR				Sg	Sg	20 44 33.4	+6.3

IDC ***08*** *20:44:49.8±0.7, 27°.40N×53°.50E, h0km, mb4.0/26, mb1 4.1/32, mb1mx4.0/47, mbtmp4.0/32, ML3.8/6, MS3.0/5, Ms1 3.0/5, ms1mx2.7/81, Error ellipse: s-maj=15.7km s-min=12.8km az=3.0*
MOS ***08*** *20:44:50.1±1.7, 27°.42N×53°.46E, h13km, mb4.9/5, Error ellipse: s-maj=7.4km s-min=5.6km az=103.1*
TEH ***08*** *20:44:53.0, 27°.45N×53°.61E, h15km, ML4.1*
NEIC ***08*** *20:44:54.2±1.7, 27°.54N±0°.05×53°.48E±0°.07, h24km±4km, mb4.4/45, mb_Lg4.1(TEH), Error ellipse: s-maj=9.1km s-min=7.9km az=75.0*
SGS ***08*** *20:44:55.0, 27°.59N×53°.50E, h6km, Ml4.1*
DSN ***08*** *20:44:55.3±1.6, 27°.30N×53°.56E, h10km, ML4.0/15, Error ellipse: s-maj=20.5km s-min=9.5km az=7.0*
OMAN ***08*** *20:44:55.4±0.1, 27°.38N×53°.59E, h17km±1km, mb5.7/12, ml4.3/19, Error ellipse: s-maj=2.2km s-min=0.5km az=2.0*
ISC 08 20:44:53.7±1.0, 27°.46N±0°.03×53°.52E±0°.03, h25km±7km, n311, σ1$52/334, mb4.3/59, MS3.2/3, 17C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.34**	**249**	*e*Pg	**Pb**	**20 45 01.4**	**+0.1**
LMD1				*e*Sg	**Sb**	**20 45 07.9**	**+1.4**
LMD1	**Lamerd**	**0.34**	**249**		**Pb**	**20 45 01.4**	**+0.1**
LAR1	**LAR**	**0.78**	**74**	*e*		20 45 28.8	
	comp=Z,80μm,0.5s						
LAR1				*e*Pg	**Pb**	**20 45 07.6**	**-1.1**
LAR1	**LAR**	**0.78**	**74**		**Pb**	**20 45 07.6**	**-1.1**
GHIR	**Ghir-Karzin**	**0.95**	**330**	*e*Pg	**Pb**	**20 45 10.6**	**-1.0**
GHIR	**Ghir-Karzin**	**0.95**	**330**		**Pb**	**20 45 10.6**	**-1.0**
JHRM	**Jahrom**	**1.04**	**3**	*e*Pg	**Pn**	**20 45 12.8**	**-0.1**
JHRM				*e*		20 45 39.2	
	comp=Z,87μm,0.5s						
JHRM	**Jahrom**	**1.04**	**3**		**Pn**	**20 45 12.7**	**-0.1**
QIR1	**Qir**	**1.10**	**337**	*e*Pg	**Pb**	**20 45 13.7**	**-0.3**
QIR1				*e*		20 45 47.8	
	comp=Z,81μm,0.5s						
SHI	**Shiraz**	**2.35**	**338**	*e*Pn	**Pn**	**20 45 31.8**	**+1.0**
SHI				*e*		20 46 22.4	
	comp=Z,7μm,0.8s						
GENO	**Geno**	**2.36**	**91**	*e*Pn	**Pn**	**20 45 31.1**	**+0.2**
GENO				*e*		20 46 25.0	
	comp=Z,12μm,0.4s						
GENO	**Geno**	**2.36**	**91**	Pn	**Pn**	**20 45 31.1**	**+0.2**
AHBU	**AHRAM**	**2.41**	**306**	*e*Pn	**Pn**	**20 45 32.6**	**+1.0**
KHOR	**Al-Khor Airpor**	**2.57**	**225**	P	**Pn**	**20 45 36.5**	**+2.8**
KHOR				S	**Sb**	**20 46 08.2**	**-2.0**
IBND	**Bandar-abas**	**2.68**	**90**	*e*Pn	**Pn**	**20 45 36.0**	**+0.8**
UMQ	**Umm Al-Quwin**	**2.72**	**135**	*e*Pn	**Pn**	**20 45 38.9**	**+3.1**
UMQ	**Umm Al-Quwin**	**2.72**	**135**	P	**Pn**	**20 45 38.6**	**+2.9**
UMQ	**Umm Al-Quwin**	**2.72**	**135**	Pn	**Pn**	**20 45 38.9**	**+3.1**
UMQ	**Umm Al-Quwin**	**2.72**	**135**	*e*P	**Pb**	**20 45 39.8**	**-1.8**
	SNR=5.8						
KAZ1	**Kazerun**	**2.72**	**323**	*e*Pn	**Pn**	**20 45 36.4**	**+0.5**
KAZ1				*e*		20 46 48.7	
	comp=Z,9μm,0.8s						
SHME	**Shamm**	**2.73**	**120**	*e*Pn	**Pn**	**20 45 36.8**	**+0.9**
SHME	**Shamm**	**2.73**	**120**	P	**Pb**	**20 45 41.0**	**-0.8**
	SNR=8.0						
SHME				S	**Sn**	**20 46 09.4**	**+1.3**
SHME	**Shamm**	**2.73**	**120**	*e*P	**Pn**	**20 45 36.8**	**+0.8**
	SNR=11						
SHMA	**Al-Shehemyia**	**2.79**	**236**	P	**Pb**	**20 45 40.4**	**-2.5**
SHMA				S	**Sn**	**20 46 13.4**	**+3.7**
BANOM	**Banah**	**2.92**	**121**	*e*Pn	**Pn**	**20 45 39.4**	**+0.8**
BANOM	**Banah**	**2.92**	**121**	P	**Pn**	**20 45 39.2**	**+0.7**
	SNR=24						
BANOM				S	**Sn**	**20 46 14.0**	**+1.1**
BANOM	**Banah**	**2.92**	**121**	*e*P	**Pn**	**20 45 39.0**	**+0.5**
	SNR=18						
SAKB	**Bahrain**	**3.05**	**242**	P	**Pn**	**20 45 43.5**	**+3.2**
SAKB				S	**Sn**	**20 46 19.1**	**+3.1**
NAZ	**Nazwa, Dubai**	**3.12**	**142**	*e*Pn	**Pn**	**20 45 43.9**	**+2.6**
NAZ	**Nazwa, Dubai**	**3.12**	**142**	P	**Pn**	**20 45 43.9**	**+2.6**
	SNR=18						
NAZ				S	**Sn**	**20 46 21.3**	**+3.4**
NAZ	**Nazwa, Dubai**	**3.12**	**142**	*e*P	**Pn**	**20 45 44.0**	**+2.7**
	SNR=18						
MASF	**Masafi**	**3.15**	**131**	P	**Pn**	**20 45 44.0**	**+2.2**
	SNR=18						
MASF				S	**Sn**	**20 46 20.8**	**+2.3**
MSFE	**Esma-Masafi**	**3.16**	**131**	*e*Pn	**Pn**	**20 45 43.9**	**+2.1**
MSFE	**Esma-Masafi**	**3.16**	**131**	*i* P	**Pn**	**20 45 43.8**	**+1.9**
	SNR=18						
AJN	**Ajban**	**3.17**	**155**	*e*Pn	**Pn**	**20 45 45.0**	**+3.0**
AJN	**Ajban**	**3.17**	**155**	P	**Pn**	**20 45 44.7**	**+2.7**
	SNR=9.9						
AJN				S	**Sn**	**20 46 21.7**	**+2.6**
AJN	**Ajban**	**3.17**	**155**	*i* P	**Pn**	**20 45 44.1**	**+2.1**
	SNR=10						
ASUD	**Al Ashush, Dub**	**3.26**	**150**	*e*Pn	**Pn**	**20 45 46.1**	**+2.9**
ASUD	**Al Ashush, Dub**	**3.26**	**150**	P	**Pn**	**20 45 46.0**	**+2.8**
	SNR=11						
ASUD				S	**Sn**	**20 46 24.6**	**+3.5**
ASUD	**Al Ashush, Dub**	**3.26**	**150**	*i* P	**Pn**	**20 45 45.4**	**+2.3**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**3.28**	**145**	*e*Pn	**Pn**	**20 45 46.3**	**+2.8**
FAQ	**Al Faqa, Dubai**	**3.28**	**145**	P	**Pn**	**20 45 46.1**	**+2.5**
	SNR=8.0						
FAQ				S	**Sn**	**20 46 24.1**	**+2.3**
FAQ	**Al Faqa, Dubai**	**3.28**	**145**	*i* P	**Pn**	**20 45 45.6**	**+2.0**
	SNR=8.0						
TRNA	**Turayna**	**3.42**	**218**	P	**Pn**	**20 45 47.6**	**+2.3**
TRNA				S	**Sn**	**20 46 27.6**	**+2.5**
UOSS	**Minazif**	**3.48**	**136**	*e*Pn	**Pn**	**20 45 47.5**	**+1.3**
UOSS	**Minazif**	**3.48**	**136**	P	**Pn**	**20 45 47.4**	**+1.2**
UOSS				S	**Sn**	**20 46 27.2**	**+0.6**
UOSS	**Minazif**	**3.48**	**136**	Pn	**Pn**	**20 45 47.2**	**+1.0**
UOSS	**Minazif**	**3.48**	**136**	*i* P	**Pn**	**20 45 47.0**	**+0.8**
	SNR=23						
HATD	**Hatta, Dubai**	**3.52**	**138**	*e*Pn	**Pn**	**20 45 48.8**	**+2.0**
HATD	**Hatta, Dubai**	**3.52**	**138**	P	**Pn**	**20 45 48.3**	**+1.5**
	SNR=16						
HATD				S	**Sn**	**20 46 29.4**	**+1.7**
HATD	**Hatta, Dubai**	**3.52**	**138**	*i* P	**Pn**	**20 45 49.0**	**+2.2**
	SNR=16						
GHWR	**Ruwais**	**3.53**	**190**	*e*Pn	**Pn**	**20 45 48.7**	**+1.8**
GHWR	**Ruwais**	**3.53**	**190**	P	**Pn**	**20 45 48.5**	**+1.6**
GHWR				S	**Sn**	**20 46 30.4**	**+2.5**
NGRK	**Negar Kerman**	**3.56**	**52**	*e*Pn	**Pn**	**20 45 49.1**	**+1.4**
NGRK				*e*		20 46 33.0	
	comp=Z,2μm,0.3s						
ASHO	**Ashiyiah**	**3.58**	**140**	*e*Pn	**Pn**	**20 45 49.5**	**+1.7**
ASHO	**Ashiyiah**	**3.58**	**140**	P	**Pn**	**20 45 49.4**	**+1.7**
	SNR=61						
ASHO				S	**Sn**	**20 46 30.7**	**+1.4**
ASHO	**Ashiyiah**	**3.58**	**140**	*i* P	**Pn**	**20 45 49.2**	**+1.5**
	SNR=60						
ASHO				S	**Sn**	**20 46 29.7**	**+0.4**
MZWR	**Madinat Zayed**	**3.70**	**175**	*e*Pn	**Pn**	**20 45 49.5**	**+0.3**
MZWR	**Madinat Zayed**	**3.70**	**175**	P	**Pn**	**20 45 51.3**	**+2.1**
MZWR				S	**Sn**	**20 46 34.6**	**+2.6**
KHNJ	**Kahnooj**	**3.74**	**82**	*e*Pn	**Pn**	**20 45 50.4**	**+0.5**
SLWR	**Sila**	**3.76**	**206**	*e*Pn	**Pn**	**20 45 54.2**	**+4.1**
SLWR	**Sila**	**3.76**	**206**	P	**Pn**	**20 45 50.5**	**+0.4**
SLWR				S	**Sn**	**20 46 35.3**	**+1.8**
KRBR	**Kerman**	**3.79**	**48**	*e*Pn	**Pn**	**20 45 53.0**	**+2.1**
TVBK	**TV Kerman**	**3.80**	**48**	*e*Pn	**Pn**	**20 45 52.4**	**+1.5**
TVBK				*e*		20 46 06.5	
	comp=Z,4μm,0.9s						
KHGB	**Koh Gabri**	**3.89**	**41**	*e*Pn	**Pn**	**20 45 53.5**	**+1.4**
KHGB				*e*		20 46 56.0	
	comp=Z,1μm,0.8s						
KLNJ	**Kolanjah**	**3.92**	**335**	*e*Pn	**Pn**	**20 45 52.3**	**-0.3**
KLNJ				*e*		20 46 17.4	
	comp=Z,2μm,0.4s						
ALNE	**Al Ain**	**3.94**	**149**	*e*Pn	**Pn**	**20 45 54.5**	**+1.9**
ALNE	**Al Ain**	**3.94**	**149**	P	**Pn**	**20 45 54.5**	**+1.9**
	SNR=23						
ALNE				S	**Sn**	**20 46 40.3**	**+2.2**
ALNE	**Al Ain**	**3.94**	**149**	*i* P	**Pn**	**20 45 54.4**	**+1.8**
	SNR=23						
IMEH	**Mehriz**	**4.03**	**13**	*e*Pn	**Pn**	**20 45 56.5**	**+2.5**
IMEH				*e*		20 45 57.7	
	comp=Z,3μm,0.2s						
CHMN	**Cheshme madani**	**4.26**	**55**	*e*Pn	**Pn**	**20 45 59.8**	**+2.5**
CHMN				*e*		20 47 13.6	
	comp=Z,1μm,0.6s						
SOHO	**SOHO**	**4.28**	**140**	*e*Pn	**Pn**	**20 45 58.6**	**+1.3**
SOHO	**SOHO**	**4.28**	**140**	P	**Pn**	**20 45 58.6**	**+1.3**
SOHO	**SOHO**	**4.28**	**140**	*i* P	**Pn**	**20 45 58.2**	**+0.9**
	SNR=25						
ZRDN	**Zarand Kerman**	**4.38**	**36**	*e*Pn	**Pn**	**20 46 00.5**	**+1.7**
ZRDN				*e*		20 46 21.9	
	comp=Z,2μm,0.4s						
MZR	**Muzera**	**4.44**	**181**	*e*Pn	**Pn**	**20 46 01.0**	**+1.5**
MZR	**Muzera**	**4.44**	**181**	P	**Pn**	**20 46 01.2**	**+1.7**
	SNR=17						
MZR				S	**Sn**	**20 46 52.9**	**+2.6**
MZR	**Muzera**	**4.44**	**181**	*i* P	**Pn**	**20 46 01.5**	**+2.0**
	SNR=20						
MZR				*i* P	Pb	20 46 01.5	-9.4
	SNR=17						
ISAD	**Sadrabad**	**4.44**	**2**	*e*Pn	**Pn**	**20 46 01.3**	**+1.6**
IRAM	**Ramesheh**	**4.45**	**347**	*e*Pn	**Pn**	**20 46 01.3**	**+1.6**
KBAM	**BAM**	**4.66**	**68**	*e*Pn	**Pn**	**20 46 04.7**	**+2.2**
KBAM				*e*		20 47 03.9	
	comp=Z,2μm,0.6s						
ICHK	**Chekchek**	**4.83**	**9**	*e*Pn	**Pn**	**20 46 06.8**	**+1.8**
IBRJ	**Brojen**	**4.85**	**337**	*e*Pn	**Pn**	**20 46 06.4**	**+1.1**
NHRD	**Haradh**	**4.88**	**237**	P	**Pn**	**20 46 07.9**	**+2.3**
ARQ	**Araqi**	**4.92**	**146**	P	**Pn**	**20 46 07.6**	**+1.5**
	SNR=108						
ARQ				S	**Sn**	**20 47 02.7**	**+0.5**
UMZA	**Um Al Zommool**	**4.95**	**162**	*e*Pn	**Pn**	**20 46 08.1**	**+1.6**
UMZA	**Um Al Zommool**	**4.95**	**162**	P	**Pn**	**20 46 08.1**	**+1.6**
UMZA				S	**Sn**	**20 47 02.3**	**-0.7**
YZKH	**Yazd**	**5.00**	**10**	*e*Pn	**Pn**	**20 46 09.1**	**+1.9**
IGAR	**Gharneh**	**5.09**	**346**	*e*Pn	**Pn**	**20 46 09.7**	**+1.1**
HOQ	**Hoqain**	**5.16**	**138**	P	**Pn**	**20 46 10.6**	**+1.2**
	SNR=27						
HOQ				S	**Sn**	**20 47 07.4**	**-0.7**
NASN	**Na'in**	**5.36**	**354**	*e*Pn	**Pn**	**20 46 13.6**	**+1.3**
SHK1	**Shahrekord**	**5.36**	**335**	*e*Pn	**Pn**	**20 46 11.4**	**-1.0**
IZEF	**Zefreh**	**5.51**	**349**	*e*Pn	**Pn**	**20 46 15.0**	**+0.5**
AMIS	**Naft Sefid**	**5.58**	**320**	*e*Pn	**Pn**	**20 46 15.2**	**0.0**
IPIR	**Pirpir**	**5.68**	**337**	*e*Pn	**Pn**	**20 46 16.1**	**-0.7**
ANAR	**Anarak**	**5.71**	**2**	*e*Pn	**Pn**	**20 46 18.1**	**+1.0**
BIDO	**Bidbid**	**5.72**	**132**	*e*Pn	**Pn**	**20 46 19.6**	**+2.6**
BIDO	**Bidbid**	**5.72**	**132**	P	**Pn**	**20 46 17.0**	**0.0**
BIDO				S	**Sn**	**20 47 20.6**	**-1.3**
BSY	**Bisya**	**5.76**	**144**	P	**Pn**	**20 46 19.0**	**+1.4**
	SNR=39						
BSY				S	**Sn**	**20 47 23.6**	**+0.7**
QYSM	**Um Kedad**	**5.91**	**275**	P	**Pn**	**20 46 20.5**	**+0.9**
SMDO	**Samad**	**6.00**	**136**	P	**Pn**	**20 46 21.9**	**+0.9**
	SNR=40						
SMDO				S	**Sn**	**20 47 28.3**	**-0.7**
IKLH	**Kolahrood**	**6.08**	**344**	*e*Pn	**Pn**	**20 46 22.8**	**+0.6**
TPRV	**Parvadeh(Tabas**	**6.19**	**25**	*e*Pn	**Pn**	**20 46 24.8**	**+1.3**
WSAR	**Wadi Sarin**	**6.25**	**131**	Pn	**Pn**	**20 46 24.6**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=319,slow=7.6,SNR=85						
WSAR				Sn	**Sn**	**20 47 34.0**	**-1.0**
	comp=Z,5.2nm,0.3s,baz=140,slow=17,SNR=9.0						
WSAR				LR	LR	20 49 38.6	
	comp=Z,58nm,20.9s,baz=330,slow=46						
RMAH	**Rumah**	**6.32**	**252**	S	**Sn**	**20 47 35.5**	**-1.2**
RMAH	**Rumah**	**6.32**	**252**	P	**Pn**	**20 46 26.8**	**+1.5**
CHBR	**Chabahar**	**6.50**	**105**	*e*Pn	**Pn**	**20 46 28.1**	**+0.3**
QAMS	**Qamsar**	**6.52**	**344**	*e*Pn	**Pn**	**20 46 29.6**	**+1.4**
JMDO	**Jabal Madar**	**6.55**	**140**	P	**Pn**	**20 46 29.2**	**+0.6**
JMDO				S	**Sn**	**20 47 40.7**	**-1.9**
KRSH	**Karshahi**	**6.60**	**350**	*e*Pn	**Pn**	**20 46 29.8**	**+0.6**
BSRN	**Basiran**	**6.62**	**46**	*e*Pn	**Pn**	**20 46 31.9**	**+2.3**
ZHDN	**Zahedan**	**6.70**	**72**	*e*Pn	**Pn**	**20 46 32.1**	**+1.4**
ZHSF	**Zahedan**	**6.73**	**70**	*e*Pn	**Pn**	**20 46 33.0**	**+1.9**
TKDS	**Koohdasht(Taba**	**6.87**	**26**	*e*Pn	**Pn**	**20 46 34.2**	**+1.2**
TABS	**Tabas**	**6.90**	**26**	*e*Pn	**Pn**	**20 46 34.5**	**+1.1**
WBK	**Wadi Bani Khal**	**6.91**	**133**	P	**Pn**	**20 46 33.5**	**+0.1**
	SNR=114						
WBK				S	**Sn**	**20 47 49.4**	**-1.8**
NHDN	**Nehbandan**	**6.91**	**54**	*e*Pn	**Pn**	**20 46 34.9**	**+1.4**
ISFB	**Sefidab**	**6.96**	**351**	*e*Pn	**Pn**	**20 46 34.1**	**0.0**
KHMZ	**Khomeyn**	**6.97**	**335**	*e*Pn	**Pn**	**20 46 33.8**	**-0.6**
NGCH	**Negor - Chabah**	**7.14**	**105**	*e*Pn	**Pn**	**20 46 36.9**	**+0.4**
GHVR	**GHOM**	**7.25**	**345**	*e*Pn	**Pn**	**20 46 39.4**	**+1.2**
JLN	**Jalan Bani Buh**	**7.52**	**133**	P	**Pn**	**20 46 42.0**	**+0.2**
	SNR=16						
AFRZ	**Afriz**	**7.60**	**37**	*e*Pn	**Pn**	**20 46 44.7**	**+1.7**
IQOM	**Qom**	**7.65**	**345**	*e*Pn	**Pn**	**20 46 43.6**	**-0.2**
IVRN	**Varamin**	**7.67**	**349**	*e*Pn	**Pn**	**20 46 43.9**	**+0.1**
ASAO	**Ashtian**	**7.68**	**338**	*e*Pn	**Pn**	**20 46 44.2**	**+0.1**
IDOB	**Doab**	**7.81**	**325**	*e*Pn	**Pn**	**20 46 47.2**	**+1.3**
LYLS		**7.85**	**228**	P	**Pn**	**20 46 47.1**	**+0.7**
SRVN	**Saravan**	**7.89**	**88**	*e*Pn	**Pn**	**20 46 47.9**	**+1.0**
ILAS	**Lasjerd**	**7.91**	**357**	*e*Pn	**Pn**	**20 46 47.9**	**+0.5**
IANJ	**Anjilo**	**7.99**	**2**	*e*Pn	**Pn**	**20 46 50.4**	**+2.0**
IFIR	**Firoozkooh**	**8.18**	**356**	*e*Pn	**Pn**	**20 46 51.6**	**+0.5**
RAYN	**Ar Rayn**	**8.24**	**243**	P	**Pn**	**20 46 51.8**	**+0.1**
RAYN	**Ar Rayn**	**8.24**	**243**	P	**Pn**	**20 46 52.1**	**+0.4**
RAYN	**Ar Rayn**	**8.24**	**243**	Pn	**Pn**	**20 46 51.8**	**+0.1**
RAYN	**Ar Rayn**	**8.24**	**243**	*i* P	**Pn**	**20 46 52.0**	**+0.3**
	SNR=51						
ISHM	**Shahmirzad**	**8.32**	**359**	*e*Pn	**Pn**	**20 46 55.2**	**+2.2**
IRAZ	**Razeghan**	**8.49**	**340**	*e*Pn	**Pn**	**20 46 54.6**	**-0.7**
CHTH	**Charan**	**8.67**	**347**	*e*Pn	**Pn**	**20 46 57.7**	**0.0**
SHRO	**Shahrood**	**8.76**	**13**	*e*Pn	**Pn**	**20 47 00.4**	**+1.5**
DOK	**Doka**	**8.82**	**176**	P	**Pn**	**20 46 59.2**	**-0.4**
	SNR=19						
QABG	**Abgarm-Qazvin**	**8.88**	**339**	*e*Pn	**Pn**	**20 46 58.8**	**-1.8**
QALM	**Alamut, Qazvin**	**9.27**	**345**	*e*Pn	**Pn**	**20 47 06.5**	**+0.5**
WHFO	**Wadi Hawf**	**9.50**	**179**	P	**Pn**	**20 47 08.2**	**-0.8**
	SNR=131						
SHAO	**Shalim**	**9.59**	**168**	P	**Pn**	**20 47 09.3**	**-0.9**
	SNR=38						
SHAO	**Shalim**	**9.59**	**168**	*i* P	**Pn**	**20 47 09.2**	**-1.1**
	SNR=39						
DMTO	**DMTO**	**9.79**	**172**	P	**Pn**	**20 47 11.7**	**-1.2**
	SNR=16						
RBK	**Rabkut**	**9.93**	**176**	P	**Pn**	**20 47 15.2**	**+0.3**
	SNR=8.3						
ABTO	**Aybut**	**10.06**	**181**	P	**Pn**	**20 47 15.3**	**-1.4**
	SNR=68						
GEYT	**Alibeck**	**11.13**	**19**	Pn	**Pn**	**20 47 30.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=90,slow=7.6,SNR=1.5						
GEYT				LR	LR	20 51 58.7	
	comp=Z,42nm,18.5s,baz=222,slow=38						
GEVA	**Gevas**	**13.93**	**324**	Pn	**Pn**	**20 48 07.4**	**-2.2**
MARD	**Mardin**	**14.56**	**316**		**Pn**	**20 48 16.2**	**-2.0**
GNI	**Garni**	**14.60**	**332**	P	**P**	**20 48 22.2**	**-2.8**
GNI	**Garni**	**14.60**	**332**	P	**P**	**20 48 22.2**	**-2.8**
GURO	**Guroymak-BITLI**	**14.66**	**322**	P	**P**	**20 48 24.6**	**-1.0**
KBL	**Kabul**	**15.06**	**58**	P	**Pn**	**20 48 27.6**	**+2.6**
KBL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KBL	**Kabul**	**15.06**	**58**	Pn	**Pn**	**20 48 27.6**	**+2.6**
ASF	**Jabal al Asfar**	**15.17**	**292**	Pn	**Pn**	**20 48 23.5**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=188,slow=16,SNR=1.8						
SOCY	**Socotra**	**15.20**	**178**	Pn	**Pn**	**20 48 21.9**	**-5.0**
EIL	**Elat**	**16.47**	**282**	Pn	**Pn**	**20 48 42.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=87,slow=17,SNR=1.9						
MMAI	**Mount Meron Ar**	**16.60**	**294**	Pn	**Pn**	**20 48 43.8**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=104,slow=18,SNR=5.3						
ONI	**Oni**	**17.18**	**334**	P	**Pn**	**20 48 52.7**	**+0.7**
ONI				pmax	pmax		
	comp=Z,34nm,1.6s						
ONI	**Oni**	**17.18**	**334**	P	**Pn**	**20 48 52.7**	**+0.7**
ONI				IAmb	IAmb	20 49 35.5	
	comp=Z,34nm,1.6s						
CHGR	**Chuyangaron**	**17.19**	**46**	P	**Pn**	**20 48 52.4**	**+0.2**
CHGR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHGR	**Chuyangaron**	**17.19**	**46**	P	**Pn**	**20 48 52.4**	**+0.2**
NIL	**Nilore**	**18.07**	**65**	P	**P**	**20 49 03.4**	**+0.1**
NIL				pmax

MLR	**Muntele Rosu**	**28.35 317**	P	**P**	**20 50 47.8**	**+2.0**
	comp=Z,1.8nm,0.5s,baz=23,slow=14,SNR=2.2					
AGG	**Agios Georgios**	**28.39 302**	P	**P**	**20 50 45.9**	**-0.2**
AGG			pmax	pmax		
	comp=Z,9.0nm,1.2s					
AGG	**Agios Georgios**	**28.39 302**	P	**P**	**20 50 45.9**	**-0.2**
AGG			IAmb	IAmb	20 51 27.4	
	comp=Z,9.0nm,1.2s					
SORM	**Soroca**	**28.44 323**	⇑P	**P**	**20 50 50.1**	**+3.7**
SORM	**Soroca**	**28.44 323**	⇑P	**P**	**20 50 50.1**	**+3.7**
BRVK	**Borovoye**	**28.45 21**	P	**P**	**20 50 46.7**	**+0.3**
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.8s					
BRVK	**Borovoye**	**28.45 21**	P	**P**	**20 50 46.7**	**+0.3**
BVAR	**Borovoye Array**	**28.45 22**	P	**P**	**20 50 47.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=202,slow=11,SNR=7.2					
VOIR		**28.87 316**	⇑P	**P**	**20 50 51.8**	**+1.4**
VOIR		**28.87 316**	⇑P	**P**	**20 50 51.8**	**+1.4**
DOPR	**Dopca**	**28.93 317**	⇑P	**P**	**20 50 51.6**	**+0.8**
ARR	**Arges**	**29.10 316**	⇑P	**P**	**20 50 54.1**	**+1.7**
AKASG	**Malin Array Be**	**29.66 328**	P	**P**	**20 50 56.8**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=138,slow=8.6,SNR=24					
AKASG	**Malin Array Be**	**29.66 328**	P	**P**	**20 50 55.7**	**-1.4**
AKBB	**Malin Array Si**	**29.66 328**	P	**P**	**20 50 56.4**	**-0.7**
AKBB			pmax	pmax		
	comp=Z,6.0nm,0.5s					
AKBB	**Malin Array Si**	**29.66 328**	P	**P**	**20 50 56.4**	**-0.7**
AKBB			IAmb	IAmb	20 50 57.3	
	comp=Z,6.4nm,0.5s					
MK31	**Makanchi Array**	**29.72 42**	P	**P**	**20 50 57.9**	**+0.1**
MK31			pmax	pmax		
	comp=Z,2.0nm,1.2s					
MK31	**Makanchi Array**	**29.72 42**	P	**P**	**20 50 57.9**	**+0.1**
MKAR	**Makanchi Array**	**29.72 42**	P	**P**	**20 50 58.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=216,slow=7.5,SNR=5.1					
MKAR	**Makanchi Array**	**29.72 42**	P	**P**	**20 50 57.7**	**-0.1**
MKAR	**Makanchi Array**	**29.72 42**	P	**P**	**20 50 57.7**	**-0.1**
BURAR	**Bucovina Array**	**29.88 320**	⇓P	**P**	**20 50 56.6**	**-2.6**
BURAR	**Bucovina Array**	**29.88 320**	P	**P**	**20 50 57.7**	**-1.6**
BURAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
BURAR	**Bucovina Array**	**29.88 320**	P	**P**	**20 50 57.7**	**-1.6**
BUR08	**Bucovina Ar. S**	**29.90 320**	P	**P**	**20 50 57.9**	**-1.6**
BUR08			IAmb	IAmb	20 51 16.9	
	comp=Z,6.0nm,1.2s					
KURBB	**Kurchatov Arra**	**29.94 33**	P	**P**	**20 50 59.9**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=233,slow=8.8,SNR=5.2					
KURK	**Kurchatov**	**30.04 33**	P	**P**	**20 50 59.9**	**-0.7**
KURK	**Kurchatov**	**30.04 33**	P	**P**	**20 50 59.9**	**-0.7**
KURK	**Kurchatov**	**30.04 33**	IAmb	IAmb	20 51 35.4	
	comp=Z,4.0nm,1.3s					
OBN	**Obninsk**	**30.26 341**	P	**P**	**20 51 02.3**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=140,slow=21,SNR=2.0					
OBN	**Obninsk**	**30.26 341**	*i* P	**P**	**20 51 01.3**	**-1.1**
OBN			*i*		20 51 06.5	
OBN			pmax	pmax		
	comp=Z,7.0nm,1.0s					
DRGR		**30.95 317**	⇑P	**P**	**20 51 08.2**	**-0.5**
DRGR		**30.95 317**	⇑P	**P**	**20 51 08.2**	**-0.5**
KIRV	**Kirov**	**31.24 356**	P	**P**	**20 51 11.9**	**+0.9**
	comp=Z,17nm,0.6s,baz=142,slow=3.9,SNR=3.5					
WMQ	**Urumqi**	**31.94 50**	*e*P	**P**	**20 51 19.9**	**+2.5**
WMQ			pmax	pmax		
	comp=Z,7.0nm,0.7s					
CRVS	**Cervenica-Dubn**	**32.69 320**	*e*P	**P**	**20 51 28.7**	**+4.7**
CRVS	**Cervenica-Dubn**	**32.69 320**	*e*P	**P**	**20 51 28.7**	**+4.7**
IDID	**Didziasalis**	**33.92 333**	*e*P	**P**	**20 51 34.7**	**+0.2**
IIGN	**Ignalina**	**34.16 332**	*e*P	**P**	**20 51 36.9**	**+0.4**
OJC	**Ojcow**	**34.28 321**	P	**P**	**20 51 38.1**	**+0.4**
OJC			pmax	pmax		
	comp=Z,6.0nm,0.9s					
OJC	**Ojcow**	**34.28 321**	P	**P**	**20 51 38.1**	**+0.4**
OJC			IAmb	IAmb	20 51 39.1	
	comp=Z,6.4nm,0.9s					
ISAL	**Salakas**	**34.35 332**	*e*P	**P**	**20 51 38.1**	**-0.1**
ZALV	**Zalesovo Beam**	**35.03 32**	P	**P**	**20 51 44.1**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=239,slow=9.0,SNR=9.9					
PABE	**Paberze**	**35.22 331**	*e*P	**P**	**20 51 45.6**	**-0.1**
GOMU	**GeErMu**	**35.93 65**	P	**P**	**20 51 54.4**	**+1.8**
GOMU			pP	pP	20 51 56.0	-4.2
GOMU			sP	sP	20 52 00.3	-3.0
GOMU			pmax	pmax		
	comp=Z,2.0nm,0.8s					
NRCA	**Norcia**	**36.06 306**	P	**P**	**20 51 52.1**	**-1.1**
DPC	**Dobruska-Polom**	**36.33 319**	*e*P	P	20 52 02.7	+7.3
DPC	**Dobruska-Polom**	**36.33 319**	*e*pP	pP	20 52 02.7	-0.4
CHVC	**Chvalec**	**36.58 319**	*e*pP	**P**	**20 51 58.0**	**+0.4**
MOA	**Molln**	**36.63 314**	*e*P	**P**	**20 51 58.0**	**0.0**
	comp=Z,4.1nm,1.0s,SNR=11					
GERES	**GERESS Array B**	**37.33 316**	P	**P**	**20 52 03.4**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=94,slow=8.2,SNR=5.0					
GERES	**GERESS Array B**	**37.33 316**	P	**P**	**20 52 03.9**	**-0.1**
GERES	**GERESS Array B**	**37.33 316**	P	**P**	**20 52 03.9**	**-0.1**
KHC	**Kasperske Hory**	**37.50 316**	*e*P	**P**	**20 52 05.6**	**+0.2**
KHC	**Kasperske Hory**	**37.50 316**	*e*P	**P**	**20 52 05.6**	**+0.2**
KHC	**Kasperske Hory**	**37.50 316**	P	**P**	**20 52 05.9**	**+0.5**
KHC			IAmb	IAmb	20 52 06.3	
	comp=Z,5.0nm,1.1s					
WTTA	**Wattenberg**	**38.15 313**	*e*P	**P**	**20 52 10.2**	**-0.8**
	comp=Z,8.4nm,1.1s					
WATA	**Walderalm**	**38.21 313**	*e*P	**P**	**20 52 11.7**	**+0.2**
	comp=Z,3.0nm,0.6s					
SQTA	**Sankt Quirin**	**38.42 312**	*e*P	**P**	**20 52 13.0**	**-0.2**
	comp=Z,6.2nm,0.7s,SNR=6.6					
MOTA	**Moosalm**	**38.52 313**	*e*P	**P**	**20 52 13.6**	**-0.6**
	comp=Z,7.4nm,1.0s,SNR=4.6					
FIA1	**FINESS Array S**	**38.63 339**	P	**P**	**20 52 14.6**	**-0.1**
FINES	**FINESS Array B**	**38.63 339**	P	**P**	**20 52 14.5**	**-0.2**
	comp=Z,4.4nm,0.4s,baz=143,slow=9.3,SNR=71					
FETA	**Feichten**	**38.68 312**	*e*P	**P**	**20 52 15.3**	**-0.2**
	comp=Z,3.2nm,0.6s					
RETA	**Reutte**	**38.78 313**	*e*P	**P**	**20 52 15.6**	**-0.7**
	comp=Z,2.1nm,0.6s					
DAVA	**Damuels**	**39.31 312**	*e*P	**P**	**20 52 20.2**	**-0.5**
	comp=Z,7.8nm,0.4s,SNR=9.8					
GTA	**Gaotai**	**40.03 61**	⇓P	**P**	**20 52 27.9**	**+1.1**
GTA			pP	pP	20 52 33.1	-1.5
GTA			sP	sP	20 52 36.6	-1.1
GTA			pmax	pmax		
	comp=Z,5.0nm,0.9s					
SENIN	**Lac Senin/Sane**	**40.83 310**	P	**P**	**20 52 33.5**	**0.0**
SENIN			IAmb	IAmb	20 53 00.3	
	comp=Z,17nm,1.6s					
CMAR	**Chiang Mai Arr**	**42.58 92**	P	**P**	**20 52 49.1**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=290,slow=8.4,SNR=2.2					
NC405	**NORSAR Array S**	**43.73 332**	P	**P**	**20 52 55.0**	**-1.6**
NB201	**NORSAR Array S**	**43.87 332**	P	**P**	**20 52 56.5**	**-1.3**
NB2	**NORSAR Subarra**	**43.90 332**	P	**P**	**20 52 56.5**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=121,slow=8.6					
NOA	**NORSAR Array B**	**43.90 332**	P	**P**	**20 52 56.8**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=120,slow=8.0,SNR=5.2					
ARCES	**ARCESS Array B**	**45.15 347**	P	**P**	**20 53 07.7**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=146,slow=8.8,SNR=9.5					
ARCES	**ARCESS Array B**	**45.15 347**	IAmb	IAmb	20 53 14.1	
	comp=Z,29nm,1.6s					
SONM	**Songino Array**	**45.55 49**	P	**P**	**20 53 11.8**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=267,slow=9.9,SNR=4.2					
SONM	**Songino Array**	**45.55 49**	P	**P**	**20 53 11.9**	**+0.4**
SONM			pmax	pmax		
	comp=Z,3.0nm,1.4s					
SONM	**Songino Array**	**45.55 49**	IAmb	IAmb	20 53 12.9	
	comp=Z,3.0nm,1.4s					
OPO	**Ambohidratompo**	**46.17 188**	LR	LR	21 14 20.6	
	comp=Z,24nm,18.1s,baz=118,slow=38					
ESDC	**Sonseca Array**	**48.68 300**	P	**P**	**20 53 35.7**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=64,slow=7.9,SNR=8.8					
PAB	**San Pablo**	**48.98 300**	P	**P**	**20 53 38.3**	**0.0**
PAB			pmax	pmax		
	comp=Z,23nm,1.6s					
PAB	**San Pablo**	**48.98 300**	P	**P**	**20 53 38.3**	**0.0**
TORD	**Torodi Ar. Bea**	**50.31 264**	P	**P**	**20 53 48.3**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=58,slow=8.6,SNR=19					
LBTB	**Lobatse**	**58.71 210**	P	**P**	**20 54 50.3**	**+0.8**
LBTB			pmax	pmax		
	comp=Z,16nm,1.4s					
LBTB	**Lobatse**	**58.71 210**	P	**P**	**20 54 50.3**	**+0.8**
DBIC	**Dimbokro**	**58.96 261**	P	**P**	**20 54 51.4**	**0.0**
	comp=Z,3.2nm,0.7s,baz=68,slow=6.9,SNR=5.5					
DBIC	**Dimbokro**	**58.96 261**	P	**P**	**20 54 51.0**	**-0.4**
DBIC			IAmb	IAmb	20 55 25.8	
	comp=Z,7.8nm,1.3s					
BOSA	**Boshof**	**61.99 208**	P	**P**	**20 55 11.4**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=169,slow=19,SNR=1.3					
BOSA	**Boshof**	**61.99 208**	P	**P**	**20 55 10.8**	**-1.1**
A36M	**Sachs Harbour**	**80.82 360**	P	**P**	**20 57 04.8**	**0.0**
A36M			IAmb	IAmb	20 57 06.0	
	comp=Z,6.0nm,0.8s					
SCHQ	**Schefferville**	**83.44 330**	P	**P**	**20 57 19.2**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=33,slow=6.8,SNR=6.0					
SCHQ	**Schefferville**	**83.44 330**	P	**P**	**20 57 19.1**	**+0.2**
INK	**Inuvik**	**84.38 3**	P	**P**	**20 57 23.5**	**+0.1**
INK			pmax	pmax		
	comp=Z,8.0nm,1.6s					
INK	**Inuvik**	**84.38 3**	P	**P**	**20 57 23.5**	**+0.1**
INK			IAmb	IAmb	20 57 34.5	
	comp=Z,7.8nm,1.6s					
BMAR	**Burnt Mountain**	**84.43 7**	P	**P**	**20 57 24.8**	**+1.0**
IMAR	**Indian Mountai**	**84.53 11**	P	**P**	**20 57 24.3**	**0.0**
ILAR	**Eielson Array**	**86.70 9**	P	**P**	**20 57 34.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=307,slow=4.8,SNR=4.5					
YKA	**Yellowknife Ar**	**89.86 355**	P	**P**	**20 57 50.5**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=7.3,slow=5.0,SNR=21					
WRA	**Warramunga Arr**	**91.27 112**	P	**P**	**20 57 56.6**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=324,slow=3.9,SNR=1.6					
ASAR	**Alice Springs**	**92.69 115**	P	**P**	**20 58 03.0**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=336,slow=6.2,SNR=2.1					

*ASRS **08** 20:51:03.3±0.3,53°N±1°×9°2E±°, h10km, MLh3.8/10, Error ellipse: s-maj=3.4km s-min=2.5km az=147.9*
*NNC **08** 20:51:10.2±3.4, 53°30N×91°42E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=28.4km s-min=22.4km az=30.0, Suspected Mining explosion.*

ISC 08 20:51:04.6±0.9, 52°96N±0°03×92°04E±0°03, h0km, n20, σ1$25/33, 11C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERR	**Cheremushki**	**0.39**	**255**	⇑Pg	**Pg**	**20 51 12.9**	**+0.9**
CERR				Sg	**Sg**	**20 51 17.7**	**+0.7**
DJOS	**Djoyskaya Sosn**	**0.42**	**248**	⇑Pg	**Pg**	**20 51 13.4**	**+0.8**
DJOS				Sg	**Sg**	**20 51 18.7**	**+0.7**
DJO	**Djoy, Khakassi**	**0.53**	**251**	⇑Pg	**Pg**	**20 51 14.4**	**-0.2**
DJO				Sg	**Sg**	**20 51 21.0**	**-0.4**
ABNR	**Abakan**	**0.85**	**335**	Pg	**Pg**	**20 51 20.8**	**0.0**
ABNR				Sg	**Sg**	**20 51 32.1**	**+0.3**
KZLR	**Kyzyl**	**1.94**	**129**	Pg	**Pb**	**20 51 40.9**	**+0.1**
KZLR				Sg	**Sg**	**20 52 06.9**	**0.0**
LUZB	**Luzhba, Kemero**	**2.01**	**292**	Pg	**Pb**	**20 51 41.0**	**-1.0**
LUZB				Sg	**Sb**	**20 52 07.3**	**-0.2**
MINR	**Mina**	**2.33**	**32**	Pg	**Pb**	**20 51 46.7**	**-0.8**
MINR				Sg	**Sg**	**20 52 18.4**	**-1.0**
TASR	**Tashtagol**	**2.53**	**267**	Pg	**Pb**	**20 51 49.2**	**-1.6**
TASR				Sg	**Sb**	**20 52 22.7**	**+0.3**
ERU	**Erunakovo, Kuz**	**3.02**	**295**	Pg	**Pb**	**20 51 57.3**	**-1.9**
ERU				Sg	**Sg**	**20 52 41.7**	**+0.3**
ARTR	**Artybash**	**3.14**	**250**	Pg	**Pb**	**20 52 00.2**	**-0.9**
ARTR				Sg	**Sb**	**20 52 39.6**	**-0.3**
KOST	**Kostenkovo, Ku**	**3.21**	**285**	Sg	**Sg**	**20 52 47.1**	**-0.3**
ULGR	**Ulagan, Altay**	**3.44**	**229**	Pn	**Pb**	**20 52 03.9**	**-2.6**
ULGR				Pg	**Pg**	**20 52 11.9**	**+1.4**
ULGR				Sg	**Sg**	**20 52 53.9**	**-1.2**
BRCR	**Berchikul'**	**3.46**	**323**	Pn	**Pn**	**20 51 59.2**	**-0.5**
BRCR				Pg	Pb	20 52 01.4	-5.2
BRCR				Sg	**Sb**	**20 52 51.9**	**+2.7**
VCHU	**Verkh-Chumysh,**	**3.49**	**289**	Sg	**Sg**	**20 52 57.0**	**+0.3**
ELT	**Eltsovka**	**3.51**	**277**	Sg	**Sg**	**20 52 59.5**	**+2.4**
ZAA0	**Zalesovo Array**	**4.43**	**286**	⇑Pg	**Pb**	**20 52 23.2**	**+0.1**
	0.8nm,0.5s						
ZAA0				⇓Lg	Lg	20 53 17.7	
	1.8nm,0.3s						
KURK	**Kurchatov**	**8.61**	**260**	⇑Pn	**Pn**	**20 53 10.7**	**+0.4**
	2.5nm,0.7s						
KURK				⇓Sn	**Sn**	**20 54 45.2**	**-2.8**
	4.2nm,0.8s						
KURK				⇑Lg	Lg	20 55 32.8	
	6.9nm,0.9s						
KURBB	**Kurchatov Arra**	**8.69**	**260**	⇑Pn	**Pn**	**20 53 12.3**	**+0.9**
	3.7nm,0.7s						
KURBB				⇑Sn	**Sn**	**20 54 51.7**	**+1.6**
	12nm,0.7s						
KURBB				⇑Lg	Lg	20 55 38.9	
	11nm,0.6s						
MK31	**Makanchi Array**	**8.81**	**229**	⇑Pn	Pn	20 53 19.6	+6.5
	0.4nm,0.5s,baz=44,slow=13,SNR=9.4						
MK31				⇓Lg	Lg	20 55 49.4	
	2.8nm,0.7s,baz=45,slow=29,SNR=5.7						
MAKZ	**Makanchi**	**8.94**	**231**	⇑Lg	Lg	20 55 51.5	
	3.4nm,0.8s						

*ARE **08** 21:04:59±2.6, 16°11S±0°06×71°97W±0°09, h19km±7km, Error ellipse: s-maj=14.2km s-min=5.9km az=60.0*
*VAO **08** 21:05:01.0±0.6, 16°20S×72°24W, h10km, mb4.2*
*NEIC **08** 21:05:03.2±1.0, 16°20S±0°07×72°25W±0°09, h26km±9km, mb4.2/5, Mwr4.0/15, ML4.3(ARE), Error ellipse: s-maj=13.4km s-min=9.5km az=66.0*
*NEIC **08** 21:05:04.5, 16°24S×72°26W, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.35; $M_{\theta\theta}$0.52; $M_{\phi\phi}$-0.87; $M_{r\theta}$-0.46; $M_{\theta\phi}$0.81; $M_{\phi r}$-0.30; Fault plane solution: $M_0$1.23000×10^{15} NP1:ϕ_s294.86000°, δ65.80000°, λ21.42000°. NP2:ϕ_s195.72000°, δ70.55000°, λ154.23000°. Principal axes: T 1.2230, Plg32.0000°, Azm154.0000°; N 0.0177, Plg58.0000°, Azm341.0000°; P -1.2408, Plg3.0000°, Azm246.0000°;*
*IDC **08** 21:05:07.6±2.3, 15°99S×71°68W, h45km±20km, mb3.9/6, mb1 4.0/9, mb1mx3.8/31, mbtmp4.1/9, ML4.0/3, MS3.4/7, Ms1 3.4/7, ms1mx3.1/61 Error ellipse: s-maj=23.6km s-min=16.2km az=32.0*

ISC 08 21:05:04.3±0.6, 16°16S±0°06×72°24W±0°09, h35km, n77, σ1$43/75, mb4.0/8, MS3.5/3, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.85**	**141**	*e*P	**Pn**	**21 05 46.7**	**-0.8**
AP01				*i* S	**Sn**	**21 06 23.9**	**+3.3**
AP01				IAML		21 06 28.8	
	comp=N,6μm,0.5s						
AP01	**Chacalluta**	**2.85**	**141**		**Pn**	**21 05 46.6**	**-0.8**
PB12	**IPOC Station P**	**3.05**	**143**	*e*P	**Pn**	**21 05 49.5**	**-0.7**
PB12				*i* S	**Sn**	**21 06 28.7**	**+3.1**
PB12				IAML		21 06 34.9	
	comp=N,865nm,0.6s						
PB12	**IPOC Station P**	**3.05**	**143**	Pn	**Pn**	**21 05 49.5**	**-0.7**
PB16	**IPOC Station P**	**3.40**	**130**	⇓*i*P	**Pn**	**21 05 55.2**	**-0.1**
PB16				*i* S	**Sn**	**21 06 38.8**	**+4.1**
PB16				IAML		21 06 44.0	
	comp=E,789nm,0.6s						
PB16	**IPOC Station P**	**3.40**	**130**	Pn	**Pn**	**21 05 55.2**	**-0.1**
LPAZ	**La Paz**	**3.95**	**92**	P	**Pn**	**21 06 04.8**	**+1.8**
	comp=E,6.4nm,0.3s,baz=319,slow=5.0,SNR=34						
LPAZ				LR	LR	21 07 47.7	
	comp=E,580nm,19.7s,baz=268,slow=47						
LPAZ	**La Paz**	**3.95**	**92**	Pn	**Pn**	**21 06 03.7**	**+0.6**
PB11	**IPOC Station P**	**4.35**	**146**		**Pn**	**21 06 07.2**	**-0.9**
TA01	**Diego Aracena**	**4.80**	**156**	Pn	**Pn**	**21 06 12.9**	**-1.3**
PB08	**IPOC Station P**	**4.93**	**144**		**Pn**	**21 06 15.5**	**-0.9**
PB01	**IPOC Station P**	**5.52**	**152**		**Pn**	**21 06 22.2**	**-1.9**
PB07	**IPOC Station P**	**5.97**	**158**		**Pn**	**21 06 29.6**	**-0.9**
NNA	**Nana**	**6.09**	**312**	P	Pn	21 06 37.7	+5.8
	comp=E,5.1nm,0.3s,baz=143,slow=7.7,SNR=13						
NNA				S	Sn	21 07 52.7	+12
	baz=30,slow=20,SNR=2.0						
NNA				LR	LR	21 09 32.9	
	comp=E,114nm,19.8s,baz=152,slow=42						
NNA	**Nana**	**6.09**	**312**	Pn	**Pn**	**21 06 32.8**	**+0.8**
PB09	**IPOC Station P**	**6.29**	**154**		**Pn**	**21 06 34.3**	**-0.5**
PB04	**IPOC Station P**	**6.46**	**162**	Pn	**Pn**	**21 06 35.7**	**-1.3**
PB06	**IPOC Station P**	**6.99**	**159**		**Pn**	**21 06 42.8**	**-1.5**
LVC	**Limon Verde**	**7.15**	**154**	P	**Pn**	**21 06 46.1**	**-0.7**
	comp=E,4.5nm,0.3s,baz=350,slow=9.4,SNR=26						
LVC				S	**Sn**	**21 08 05.5**	**-1.5**
	comp=E,6.3nm,0.3s,baz=294,slow=20,SNR=9.2						
LVC				LR	LR	21 09 49.7	
	comp=E,170nm,20.9s,baz=339,slow=40						
LVC	**Limon Verde**	**7.15**	**154**	*e*P	**Pn**	**21 06 45.7**	**-1.0**
LVC	**Limon Verde**	**7.15**	**154**	Pn	**Pn**	**21 06 46.0**	**-0.7**
PB15	**IPOC Station P**	**7.49**	**160**		**Pn**	**21 06 50.1**	**-1.2**
PB10	**IPOC Station P**	**7.49**	**168**		**Pn**	**21 06 49.3**	**-1.8**
CZSB	**Cruzeiro do Su**	**8.39**	**357**	*e*P	**Pn**	**21 07 03.1**	**-0.3**
CZSB	**Cruzeiro do Su**	**8.39**	**357**		**Pn**	**21 07 02.7**	**-0.7**
PB14	**IPOC Station P**	**8.60**	**169**		**Pn**	**21 07 04.4**	**-2.2**
ETMB	**Extrema**	**8.61**	**44**	*e*P	**Pn**	**21 07 07.0**	**+0.5**
ETMB	**Extrema**	**8.61**	**44**	Pn	**Pn**	**21 07 07.6**	**+1.0**
SIV	**San Ignacio**	**10.74**	**91**	P	**Pn**	**21 07 33.4**	**-2.4**
	comp=E,1.1nm,0.3s,baz=271,slow=15,SNR=9.8						
SIV	**San Ignacio**	**10.74**	**91**		**Pn**	**21 07 33.4**	**-2.4**
AC02	**Maricunga**	**11.02**	**165**		**Pn**	**21 07 38.3**	**-1.6**
VILB	**Vilhena**	**12.08**	**76**	Pn	**Pn**	**21 07 53.1**	**-1.0**
PTLB	**Pontes e Lacer**	**12.63**	**89**	*e*P	**Pn**	**21 08 00.8**	**-0.8**
PDRB	**Porto dos Gac**	**15.72**	**75**	*e*P	**Pn**	**21 08 43.0**	**-0.3**
SALV	**Santo Antonio**	**15.91**	**91**	*e*P	**Pn**	**21 08 45.1**	**-0.6**
CPUP	**Villa Florida**	**17.18**	**129**	LR	LR	21 17 17.6	
	comp=E,81nm,18.2s,baz=318,slow=43						
CPUP	**Villa Florida**	**17.18**	**129**	*e*P	**Pn**	**21 09 00.5**	**-1.1**
PTGA	**Pitinga**	**19.53**	**39**	P	**P**	**21 09 27.4**	**-1.5**
	comp=E,0.7nm,0.3s,baz=182,slow=8.1,SNR=6.7						
PTGA	**Pitinga**	**19.53**	**39**	P	**P**	**21 09 27.4**	**-1.5**
ARAG	**Araguaiana, MT**	**19.65**	**92**	*e*P	**P**	**21 09 29.5**	**-0.8**
ITQB	**Itaqui**	**19.66**	**136**	*e*P	**P**	**21 09 29.4**	**-0.9**
PCMB	**Pacaembu**	**20.57**	**109**	*e*P	Pn	21 09 40.4	-2.3
PTGB	**Pitanga**	**20.72**	**118**	*e*P	**P**	**21 09 41.7**	**-0.2**
ITRB	**Iturama**	**21.11**	**103**	*e*P	**P**	**21 09 44.8**	**-1.4**
BOAV	**Boa Vista**	**21.77**	**33**	*e*P	**P**	**21 09 54.5**	**+1.3**
BOAV	**Boa Vista**	**21.77**	**33**	P	**P**	**21 09 53.2**	**0.0**
BOAV				IAmb	IAmb	21 10 01.1	
	comp=Z,4.3nm,1.0s						
CPSB	**Cacapava Do Su**	**22.30**	**133**	*e*P	**P**	**21 09 58.5**	**-0.2**
MALB	**Monte Alegre**	**22.71**	**53**	*e*P	**P**	**21 10 02.7**	**-0.5**
PLTB	**Pedras Altas**	**23.00**	**136**	P	**P**	**21 10 05.9**	**-0.3**
PLTB				IAmb	IAmb	21 10 24.6	
	comp=Z,9.3nm,1.2s						
BDFB	**Brasília**	**23.31**	**92**	P	**P**	**21 10 06.4**	**-3.1**
	comp=Z,2.6nm,0.7s,baz=209,slow=6.9,SNR=5.0						
BDFB	**Brasília**	**23.31**	**92**	P	**P**	**21 10 08.4**	**-1.1**
RCLB	**Rio Claro- Sao**	**24.12**	**109**	*e*P	**P**	**21 10 16.8**	**-0.3**
SPB	**Sao Paulo**	**24.45**	**112**	*e*P	**P**	**21 10 19.7**	**-0.4**
PLCA	**Paso Flores**	**24.53**	**177**	P	**P**	**21 10 23.9**	**+3.2**
	comp=Z,1.6nm,0.5s,baz=349,slow=9.7,SNR=11						
PET01	**Itanhaem-SP**	**24.76**	**113**	*e*P	**P**	**21 10 23.6**	**+0.8**
SDV	**Santo Domingo**	**24.93**	**4**	P	**P**	**21 10 24.2**	**-0.4**
	comp=Z,16nm,1.1s,baz=193,slow=6.8,SNR=12						
SDV	**Santo Domingo**	**24.93**	**4**	*e*P	**P**	**21 10 24.5**	**-0.1**
SDV	**Santo Domingo**	**24.93**	**4**	P	**P**	**21 10 23.8**	**-0.8**
SDV				IAmb	IAmb	21 10 26.3	
	comp=Z,14nm,1.0s						
SDV	**Santo Domingo**	**24.93**	**4**	P	**P**	**21 10 24.2**	**-0.4**
SMTB	**Santa Maria do**	**25.12**	**76**	*e*P	**P**	**21 10 26.8**	**+0.6**
BAUV	**El Baul**	**25.28**	**10**	P	**P**	**21 10 27.0**	**-0.6**
MCPB	**Macapa, AP**	**25.35**	**54**	*e*P	**P**	**21 10 27.3**	**-1.0**
JTS	**Las Juntas de**	**29.13**	**334**	LR	LR	21 23 08.9	
	comp=Z,88nm,19.7s,slow=37						
TORD	**Torodi Ar. Bea**	**78.67**	**73**	P	**P**	**21 17 01.8**	**-1.7**
	comp=Z,2.1nm,0.5s,baz=268,slow=5.4,SNR=40						
ESDC	**Sonseca Array**	**84.34**	**46**	P	**P**	**21 17 33.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=256,slow=5.9,SNR=4.2						
YKA	**Yellowknife Ar**	**85.14**	**342**	P	**P**	**21 17 38.2**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=136,slow=5.0,SNR=24						
BOSA	**Boshof**	**88.77**	**119**	LR	LR	21 53 54.5	
	comp=Z,17nm,19.4s,baz=292,slow=33						
LSZ	**Lusaka**	**95.48**	**108**	LR	LR	22 00 58.3	
	comp=Z,47nm,18.3s,baz=302,slow=35						
SEY	**Seymchan**	**123.97**	**337**	PKP	**PKiKP**	**21 24 01.2**	**+2.6**
	comp=Z,0.7nm,0.6s,baz=90,slow=8.1,SNR=6.6						
WRA	**Warramunga Arr**	**135.62**	**217**	PKP	**

MYLDM	**Lahad Datu**	8.77	194	Pn	Pn	21 29 17.6	+3.8
DLV	**T Lat**	11.96	263	Pn	Pn	21 30 00.2	+3.2
SBUM	**Sibu**	13.96	217	P	P	21 30 29.7	+2.3
ENH	**Enshi**	19.39	330	P	P	21 31 28.0	+0.8
ENH				IAmb	IAmb	21 31 36.4	
	comp=Z,6.1nm,0.7s						
CMAR	**Chiang Mai Arr**	21.34	286	P	P	21 31 49.4	+1.2
	comp=Z,1.8nm,0.8s,baz=92,slow=7.0,SNR=21						
CMAR				sP	sP	21 32 23.8	+1.9
	comp=Z,1.3nm,0.9s,baz=91,slow=8.9,SNR=3.4						
JHS	**Saijyo**	23.98	26	P	P	21 32 14.1	0.0
JHS				IAmb	IAmb	21 32 31.5	
	comp=Z,7.4nm,1.0s						
BATI	**Baumata**	23.99	173	P	P	21 32 13.9	-0.5
	comp=Z,17nm,0.5s,baz=16,slow=2.9,SNR=5.9						
KSRS	**Korea Array**	24.49	14	P	P	21 32 18.9	+0.3
	comp=Z,1.0nm,0.7s,baz=192,slow=8.5,SNR=2.8						
JSD	**Sado**	28.82	30	P	P	21 32 56.9	-0.7
SHL	**Shillong**	29.43	298	P	P	21 33 03.0	-0.4
GUN	**Gumba**	35.25	299	*eP*	P	21 33 55.3	+0.9
	comp=Z,15nm,0.4s						
PKI	**Pulchoki**	35.55	298	*eP*	P	21 33 57.0	0.0
	comp=Z,14nm,0.5s						
PKIN	**Phulchoki**	35.57	298	*eP*	P	21 33 57.3	+0.3
	comp=Z,11nm,0.4s						
KKN	**Kakani**	35.72	299	*eP*	P	21 33 58.8	+0.5
DMN	**Daman**	35.82	298	*eP*	P	21 33 59.5	+0.3
	comp=Z,14nm,0.6s						
WB0	**Warramunga Arr**	35.96	158	P	P	21 33 57.9	-2.2
SONM	**Songino Array**	35.99	344	P	P	21 33 59.7	-0.4
	comp=Z,3.8nm,0.7s,baz=162,slow=9.7,SNR=27						
SONM	**Songino Array**	35.99	344	IAmb	IAmb	21 34 01.4	
	comp=Z,2.7nm,0.8s						
WRAB	**Tennant Creek**	36.10	158	P	P	21 34 01.4	+0.2
WRAB				IAmb	IAmb	21 34 06.0	
	comp=Z,9.2nm,1.1s						
WRA	**Warramunga Arr**	36.10	158	P	P	21 33 58.8	-2.5
	comp=Z,0.5nm,0.6s,baz=340,slow=9.3,SNR=9.7						
WRA				pP	pP	21 34 23.8	-2.5
	comp=Z,1.4nm,0.8s,baz=336,slow=9.8,SNR=7.3						
WRA	**Warramunga Arr**	36.10	158	P	P	21 33 59.9	-1.4
WB2	**Warramunga Arr**	36.11	158	P	P	21 33 59.5	-1.8
WR0	**Warramunga Arr**	36.19	157	P	P	21 34 00.3	-1.8
GKN	**Gorkha**	36.33	299	*eP*	P	21 34 03.2	-0.2
KLR	**Kul'dur**	36.55	12	P	P	21 34 03.8	-0.9
	comp=Z,1.1nm,0.6s,baz=243,slow=11,SNR=3.9						
GIRL	**Giralia**	36.70	190	P	P	21 34 06.4	+0.1
PYUN	**Piuthan**	37.76	298	*eP*	P	21 34 15.5	-0.1
ASAR	**Alice Springs**	39.39	161	P	P	21 34 27.4	-1.6
	comp=Z,0.2nm,0.4s,baz=337,slow=6.7,SNR=7.7						
ASAR				pP	pP	21 34 53.6	-0.8
	comp=Z,0.9nm,0.7s,baz=338,slow=6.3,SNR=5.2						
ASAR	**Alice Springs**	39.39	161	P	P	21 34 28.3	-0.6
MK31	**Makanchi Array**	45.94	324	P	P	21 35 22.1	+0.5
MK31				IAmb	IAmb	21 35 22.9	
	comp=Z,3.2nm,0.8s						
MKAR	**Makanchi Array**	45.94	324	P	P	21 35 22.0	+0.4
	comp=Z,3.4nm,0.7s,baz=129,slow=9.0,SNR=36						
MAKZ	**Makanchi**	46.13	323	P	P	21 35 23.8	+0.7
BBOO	**Buckleboo**	48.60	163	P	P	21 35 41.2	-1.1
BBOO				IAmb	IAmb	21 35 59.6	
	comp=Z,6.0nm,1.0s						
ZALV	**Zalesovo Beam**	48.97	333	P	P	21 35 44.1	-0.9
	comp=Z,2.1nm,0.5s,baz=124,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	48.97	333	P	P	21 35 44.2	-0.7
KURK	**Kurchatov**	50.10	326	P	P	21 35 53.8	+0.3
GAR	**Garm**	50.82	309	P	P	21 35 59.2	-0.1
GAR				IAmb	IAmb	21 35 59.9	
	comp=Z,4.4nm,0.5s						
KKAR	**Karatay Array**	51.88	314	P	P	21 36 07.7	+0.6
BRVK	**Borovoye**	55.76	326	P	P	21 36 34.9	-0.2
GEYT	**Alibeck**	60.04	306	P	P	21 37 06.0	+0.7
	comp=Z,1.5nm,0.5s,baz=79,slow=3.1,SNR=3.9						
ABKAR	**Akbulak array**	60.64	319	P	P	21 37 09.0	-0.1
ABKAR				IAmb	IAmb	21 37 09.2	
	comp=Z,2.2nm,0.6s						
ARU	**Arti**	63.30	327	P	P	21 37 25.8	-1.0
ARU				IAmb	IAmb	21 37 26.4	
	comp=Z,3.4nm,0.6s						
ARCES	**ARCESS Array B**	79.01	339	P	P	21 39 00.3	-1.0
	comp=Z,6.2nm,0.9s,baz=98,slow=6.5,SNR=5.6						

IDC 08 21:37:50.8±1.7, 4°.16S×129°.33E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.2/32, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=59.3km s-min=27.6km az=85.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	3.80	31	Pn	Pn	21 38 51.4	+0.7
	7.0nm,0.3s,baz=240,slow=20,SNR=21						
SIJI				Sn	Sn	21 39 32.4	-3.7
	6.2nm,0.3s,baz=223,slow=22,SNR=9.8						
WRA	**Warramunga Arr**	16.43	163	Pn	Pn	21 41 41.5	-1.4
	0.1nm,0.3s,baz=349,slow=12,SNR=2.7						
ASAR	**Alice Springs**	19.89	168	P	P	21 42 24.7	+0.7
	0.2nm,0.3s,baz=344,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	65.50	326	P	P	21 48 35.7	-0.3
	0.2nm,0.7s,baz=115,slow=6.5,SNR=2.1						

*IDC **08** 21:54:47.8±0.5, 18°.82N×107°.18W, h0km, mb4.8/28, mb1 5.0/31, mb1mx4.9/46, mbtmp4.8/31, ML4.8/3, MS4.6/61, Ms1 4.6/61, ms1mx4.6/72, Error ellipse: s-maj=21.3km s-min=11.4km az=64.0*

*MOS **08** 21:54:49.5±1.1, 18°.84N×107°.15W, h13km, mb5.5/34, MS4.6/21, Error ellipse: s-maj=6.4km s-min=3.6km az=93.6*

*MEX **08** 21:54:50.9±3.9, 18°.70N×107°.30W, h36km±345km, MD5.3*

*NEIC **08** 21:54:51.3±1.7, 18°.79N±0°.06×107°.18W±0°.06, h10km±1km, mb5.3/639, Ms_20 4.7/85, Md5.3/138(MEX), Error ellipse: s-maj=11.6km s-min=8.9km az=226.0*

*GCMT **08** 21:54:51.3±0.1, 18°.95N±0°.01×107°.31W±0°.01, h14km, MW5.3/134, Moment Tensor Solution. s99,c147; s134,c239; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.38±.02; Mθθ-1.16±.02; Mφφ0.78±.01; Mrθ-0.10±.03; Mθφ-0.10±.01; Mφr-0.14±.03; Best double couple: M01.00100×10^17 NP1:φ131.00000°, δ75.00000°, λ170.00000°. NP2:φ224.00000°, δ81.00000°, λ15.00000°. Principal axes: T 0.8290, Plg18.0000°, Azm88.0000°; N 0.3440, Plg72.0000°, Azm255.0000°; P -1.1720, Plg4.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 21:54:50.0±0.3, 18°.75N±0°.04×107°.22W±0°.04, h10km, n1425, σ1°.33/1444, mb5.3/363, MS4.6/117, 51C-8D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	2.19	70	*eP*	Pn	21 55 19.8	-6.6
CJM				*eS*	Sn	21 55 44.5	-9.1
PUVA	**Puert Vallarta**	2.65	45		Pn	21 55 30.7	-2.1
PUVA					Sn	21 56 00.4	-4.6
PUVA	**Puert Vallarta**	2.65	45	*eP*	Pn	21 55 30.7	-2.1
PUVA				*eS*	Sn	21 56 00.4	-4.6
CDAR	**Ciudad de Arme**	3.05	86	*eP*	Pn	21 55 35.5	-2.7
CDAR				*eS*	Sn	21 56 10.5	-4.3
R15V		3.09	82		Pn	21 55 36.7	-2.3
R15V		3.09	82	*i P*	Pn	21 55 36.7	-2.3
R15V				*eP*	Pn	21 55 36.7	-2.3
R15V				*eS*	Sn	21 56 13.1	-3.0
COMA	**Comala**	3.32	80	*eP*	Pn	21 55 40.3	-1.8
COMA				*eS*	Sn	21 56 19.6	-2.1
COIG	**Colima**	3.37	82	*eP*	Pn	21 55 40.6	-2.1
COIG				*eS*	Sn	21 56 20.2	-2.7
ANIG	**Ahuacatlan**	3.42	48		Pn	21 55 42.1	-1.4
ANIG	**Ahuacatlan**	3.42	48	*eP*	Pn	21 55 42.1	-1.4
ANIG				*eS*	Sn	21 56 06.6	-18
MNGA	**Volcan de Coli**	3.48	78	*eP*	Pn	21 55 43.7	-0.8
MNGA				*eS*	Sn	21 56 25.5	-0.4
EZ5V		3.50	78	*eP*	Pn	21 55 44.1	-0.7
EZ5V				*eS*	Sn	21 56 27.3	+1.0
TEPI	**Tepic**	3.50	38	*eP*	Pn	21 55 43.4	-1.3
TEPI				*eS*	Sn	21 56 17.1	-9.2
INCO	**Volcan de Coli**	3.51	77	*eP*	Pn	21 55 44.0	-0.9
INCO				*eS*	Sn	21 56 28.1	+1.4
H06E1	**SOCORRO T-PHAS**	3.51	271	T	T	21 59 07.3	
	SNR=7062						
JUBC	**Volcan de Coli**	3.54	77	*eP*	Pn	21 55 44.6	-0.6
JUBC				*eS*	Sn	21 56 27.9	+0.6
MMIG	**Aquila**	3.71	97		Pn	21 55 45.1	-2.2
MMIG					Sn	21 56 25.6	-5.5
MMIG	**Aquila**	3.71	97	*eP*	Pn	21 55 45.1	-2.2
MMIG				*eS*	Sn	21 56 25.6	-5.5
MAIG	**Mazatlaan**	4.47	9		Pn	21 55 54.8	-3.1
MAIG					Sn	21 56 43.1	-6.9
MAIG	**Mazatlaan**	4.47	9	*eP*	Pn	21 55 54.8	-3.1
MAIG				*eS*	Sn	21 56 43.1	-6.9
URUA	**Uruapan**	4.91	81		Pn	21 56 04.3	+0.1
URUA					Sn	21 57 01.9	+0.8
URUA	**Uruapan**	4.91	81	*eP*	Pn	21 56 04.3	+0.1
URUA				*eS*	Sn	21 57 01.9	+0.8
UON	**La Union**	5.20	98	*eP*	Pn	21 56 07.7	0.0
UON				*eS*	Sn	21 57 05.6	-2.2
AAIG	**Aguscalientes**	5.56	54	*eP*	Pn	21 56 13.8	+0.9
AAIG				*eS*	Sn	21 57 14.7	-2.3
ZIIG	**Zihuatanejo**	5.59	101		Pn	21 56 12.1	-1.1
ZIIG					Sn	21 57 12.7	-4.9
ZIIG	**Zihuatanejo**	5.59	101	*eP*	Pn	21 56 12.1	-1.1
ZIIG				*eS*	Sn	21 57 12.7	-4.9
MOIG	**Morelia**	5.78	80	Pn	Pn	21 56 15.1	-1.0
MOIG	**Morelia**	5.78	80	*eP*	Pn	21 56 15.6	-0.4
MOIG				*eS*	Sn	21 57 26.6	+4.1
IGIG	**Irapuato, Guan**	5.90	69	*e*	Pn	21 56 18.5	+0.8
IGIG				*e*		21 57 39.2	
ZAIG	**Zacatecas**	5.91	47		Pn	21 56 17.6	-0.3
ZAIG	**Zacatecas**	5.91	47	*e*	Pn	21 56 17.7	-0.2
ZAIG				*e*		21 57 25.8	
SSIG	**Sanalona**	6.04	1	*e*	Pn	21 56 17.4	-2.0
LPIG	**La Paz**	6.05	332	Pn	Pn	21 56 19.7	+0.2
	7.0nm,0.3s,baz=158,slow=3.2,SNR=8.6						
LPIG				Lg	Lg	21 57 47.0	
	6.9nm,0.3s,baz=137,slow=15,SNR=1.1						
LPIG	**La Paz**	6.05	332		Pn	21 56 19.5	0.0
LPIG	**La Paz**	6.05	332	*i*	Pn	21 56 19.5	0.0
PDIG	**Papasquiaro**	6.48	15	*e*	Pn	21 56 25.7	0.0
PDIG				*e*		21 57 40.3	
ARIG	**Puente Sto Nin**	6.54	93		Pn	21 56 26.1	-0.2
ARIG	**Puente Sto Nin**	6.54	93	*eP*	Pn	21 56 26.1	-0.2
ARIG				*e*		21 56 26.1	
ARIG				*e*		21 57 42.6	
JRQG	**Juriquilla Cam**	6.67	72	*e*	Pn	21 56 29.2	+0.9
JRQG				*e*		21 58 01.7	
CAIG	**El Cayaco**	6.84	103	*e*	Pn	21 56 31.0	+0.6
CAIG				*e*		21 57 51.7	
ACIG	**Acambay**	7.04	79	*e*	Pn	21 56 35.0	+1.7
ACIG				*e*		21 57 57.2	
TOVM	**TOLUCA**	7.16	85	*e*	Pn	21 56 36.0	+0.9
TOVM				*e*		21 58 03.6	
MEIG	**Mezcala**	7.27	95	*e*	Pn	21 56 36.9	+0.5
MEIG				*e*		21 57 52.8	
MAVM	**Malinalco, Edo**	7.32	87	*e*	Pn	21 56 38.1	+0.9
MAVM				*e*		21 58 07.9	
PLIG	**Platanillo**	7.33	92	*e*	Pn	21 56 37.6	+0.4
PLIG				*e*		21 58 00.8	
DAIG	**Los Arroyos**	7.41	102	*e*	Pn	21 56 39.1	+0.8
DAIG				*e*		21 58 03.9	
RPIG	**Rio Verde**	7.47	64	*e*	Pn	21 56 40.0	+0.8
RPIG				*e*		21 58 27.9	
AOVM	**Tlapan**	7.49	85	*e*	Pn	21 56 40.8	+1.0
AOVM				*e*		21 58 19.0	
CJVM	**Cuajimalpa**	7.53	84	*e*	Pn	21 56 41.7	+1.6
CJVM				*e*		21 58 32.6	
MHVM	**Bosque de Chap**	7.61	84	*e*	Pn	21 56 42.3	+1.1
MHVM				*e*		21 58 30.3	
UNM	**Universidad Na**	7.63	84	P	Pn	21 56 42.4	+0.8
UNM	**Universidad Na**	7.63	84		Pn	21 56 42.4	+0.8
BJVM	**Benito Juarez**	7.64	84	*e*	Pn	21 56 43.2	+1.6
BJVM				*e*		21 58 35.8	
TLVM	**San Miguel Top**	7.65	85	*e*	Pn	21 56 43.5	+1.6
TLVM				*e*		21 58 28.7	
XCVM	**Xochimilco**	7.69	85	*e*	Pn	21 56 44.9	+2.6
GMVM	**Gustavo A Made**	7.70	83	*e*	Pn	21 56 43.7	+1.1
PTVM	**Pico Tres Padr**	7.71	82	*e*	Pn	21 56 43.5	+0.9
PTVM				*e*		21 58 32.2	
PBVM	**Pinon**	7.73	84	*e*	Pn	21 56 43.4	+0.8
PBVM				*e*		21 58 31.9	
YAIG	**Yautepec**	7.73	88	*e*	Pn	21 56 43.4	+0.7
YAIG				*e*		21 58 16.1	
THVM	**De Xico**	7.82	85	*e*	Pn	21 56 45.5	+1.3
THVM				*e*		21 58 35.1	
DEIG	**Demacu**	7.87	77	*e*	Pn	21 56 46.0	+1.2
DEIG				*e*		21 58 30.5	
PPM	**Popocatepetl**	8.14	86	*e*	Pn	21 56 49.9	+1.2
HPIG		8.27	10		Pn	21 56 50.1	-0.1
TLIG	**Tlapa**	8.31	97		Pn	21 56 52.1	+1.3
TLIG	**Tlapa**	8.31	97	*e*	Pn	21 56 52.1	+1.3
TLIG				*e*		21 58 34.4	
GTIG	**Gomez Farias**	8.66	59	*e*	Pn	21 56 57.0	+1.5
FTIG	**Fresnillo de T**	8.68	94	*e*	Pn	21 56 56.9	+1.2
FTIG				*e*		21 58 56.2	
PNIG	**Pinotepa**	8.99	104	*e*	Pn	21 57 01.4	+1.5
PNIG				*e*		21 59 02.5	
HLIG	**Huajuapan de L**	8.99	94	*e*	Pn	21 57 01.6	+1.4
HLIG				*e*		21 58 55.8	
TXIG	**Tlaxiaco**	9.12	98	*e*	Pn	21 57 03.7	+1.7
TXIG				*e*		21 59 13.0	
YOIG	**Yosondua**	9.41	100	*e*	Pn	21 57 08.0	+2.1
YOIG				*e*		21 59 11.0	
TOIG	**Toxpalan**	9.66	92	*e*	Pn	21 57 10.6	+1.3
TOIG				*e*		21 59 29.6	
SRIG	**Santa Rosalia**	9.70	332		Pn	21 57 10.4	+0.9
SRIG	**Santa Rosalia**	9.70	332	*e*	Pn	21 57 11.1	+1.5
GUYB	**Guaymas**	9.70	340	*e*	Pn	21 57 10.8	+1.2
JAUV	**Jalcomulco**	9.87	85	*e*	Pn	21 57 13.3	+1.2
JAUV				*e*		21 59 16.4	
PEIG	**Puerto Escondi**	10.00	104	*e*	Pn	21 57 15.9	+2.1
PEIG				*e*		21 59 24.9	
PEIG	**Puerto Escondi**	10.00	104	*eS*	Pn	21 57 16.0	+2.2
VHO	**Vista Hermosa**	10.12	98	*e*	Pn	21 57 17.8	+2.1
VHO				*e*		21 59 35.0	
NEUV	**Arroyo Zacate**	10.90	94	*e*	Pn	21 57 26.9	+0.7
NEUV				*e*		21 59 51.5	
TX31	**Lajitas Ar. Si**	11.02	16		Pn	21 57 28.1	+0.2
TX32	**Lajitas Array**	11.02	16	Pn	Pn	21 57 28.4	+0.5
TXAR	**Lajitas Array**	11.02	16	Pn	Pn	21 57 28.3	+0.5
	3.8nm,0.3s,baz=199,slow=14,SNR=86						
TXAR				Lg	Lg	22 00 14.4	
	0.1nm,0.3s,baz=191,slow=31,SNR=2.1						
TXAR				LR	LR	22 01 36.1	
	comp=Z,8μm,18.3s,baz=194,slow=37						
HUIG	**Huatulco**	11.03	104	*i*	Pn	21 57 30.2	+2.3
BAHB	**Baha de los**	11.68	331	*e*	Pn	21 57 37.8	+1.0
NZIG	**Nacozari, Sono**	11.76	350	*e*	Pn	21 57 40.4	+2.4
CMIG	**Matias Romero**	11.86	96	Pn	Pn	21 57 40.6	+1.3
	25nm,0.3s,baz=291,slow=11,SNR=95						
CMIG				LR	LR	22 02 03.5	
	comp=Z,6μm,19.5s,baz=281,slow=37						
CMIG	**Matias Romero**	11.86	96	*e*	Pn	21 57 40.6	+1.3
CMIG				*e*		22 00 01.4	
833A	**Chaparral WMA,**	11.92	36		Pn	21 57 43.1	+3.0
833A	**Chaparral WMA,**	11.92	36	P	Pn	21 57 43.8	+3.6
	baz=218,SNR=34						
KVTX	**Kingsville**	12.25	43	Pn	Pn	21 57 46.2	+1.7
UXUV	**UXUV**	12.52	94	*e*	Pn	21 57 49.1	+0.8
LAPR	**La Primavera**	12.58	339	*e*	Pn	21 57 51.4	+2.3
319A	**Douglas**	12.71	352		Pn	21 57 52.6	+1.7
MNTX	**Cornudas Mount**	13.00	7	Pn	Pn	21 57 55.6	+0.8
MNTX	**Cornudas Mount**	13.00	7	P	Pn	21 57 56.1	+1.3
	baz=188,SNR=35						
735A	**Kenedy**	13.23	39		Pn	21 58 00.5	+2.5
JCT	**Junction City**	13.48	29	P	Pn	21 58 04.1	+2.7
JCT	**Junction City**	13.48	29	Pn	Pn	21 58 04.1	+2.7
JCT	**Junction City**	13.48	29	P	Pn	21 58 04.6	+3.2
	baz=212,SNR=61						
TGIG		13.58	96	*e*	Pn	21 58 03.2	+0.4
PCIG		13.72	101	*e*	Pn	21 58 06.9	+2.2
121A	**Cookes Peak, D**	13.73	358	Pn	Pn	21 58 07.0	+2.1
121A	**Cookes Peak, D**	13.73	358	P	Pn	21 58 07.3	+2.4
	baz=178,SNR=114						
TUC	**Tucson**	13.87	347	P	Pn	21 58 08.0	+1.2
TUC	**Tucson**	13.87	347	Pn	Pn	21 58 08.0	+1.2
TUC	**Tucson**	13.87	347	*e*	Pn	21 58 08.4	+1.7
TUC	**Tucson**	13.87	347	P	Pn	21 58 08.5	+1.7
	baz=166						
SFX	**San Felipe**	14.04	332	Pn	Pn	21 58 09.7	+0.7
214A	**Organ Pipe Nat**	14.08	340		Pn	21 58 10.8	+1.2
214A	**Organ Pipe Nat**	14.08	340	P	Pn	21 58 10.4	+0.8
	baz=158,SNR=61						
CCIG	**Comitan**	14.60	97	P	Pn	21 58 18.6	+1.7
PATR	**El Naranjo**	14.79	102	*e*	Pn	21 58 19.2	-0.4
PAVE	**Pavencul**	14.82	102	*e*	Pn	21 58 21.5	+1.5
435B	**Jarrell**	14.82	34	P	Pn	21 58 21.7	+2.0
435B	**Jarrell**	14.82	34	P	Pn	21 58 21.4	+1.6
	baz=218						
CHUJ	**Union Juarez**	14.91	102	*e*	Pn	21 58 22.6	+1.3
HKT	**Hockley**	15.22	41	*d iP*	Pn	21 58 24.9	0.0
HKT				pmax	pmax		
	comp=Z,12nm,1.0s						
HKT	**Hockley**	15.22	41		Pn	21 58 25.7	+0.8
HKT				IAmb	IAmb	21 58 48.8	
	comp=Z,260nm,1.6s						
Y22D	**IRIS PASSCAL I**	15.26	1	P	Pn	21 58 27.9	+2.2
Y22D	**IRIS PASSCAL I**	15.26	1	P	Pn	21 58 27.1	+1.4
	baz=181						
BNM	**Barren Site**	15.34	2	Pn	Pn	21 58 28.1	+1.2
LENM	**Lemitar**	15.35	1		Pn	21 58 27.1	+0.2
MBIG	**Mexicali**	15.37	334	*e*	Pn	21 58 29.1	+2.1
HUEH	**Huehuetenango**	15.42	100	P	Pn	21 58 29.7	+1.8
CPBX	**Cerro Prieto**	15.43	333	Pn	Pn	21 58 28.6	+0.8
CPBX				IAmb	IAmb	21 58 29.7	
	comp=Z,207nm,1.5s						
RTAL	**Retalhuleu**	15.46	103	P	P	21 58 32.8	0.0
MSTX	**Muleshoe**	15.67	14	Pn	Pn	21 58 31.5	+0.5
MSTX	**Muleshoe**	15.67	14	P	Pn	21 58 31.2	+0.2
	baz=196,SNR=35						
MSTX				S	S	22 01 38.7	-1.3
	baz=196						
GLA	**Glamis**	15.79	336	P	Pn	21 58 33.8	+1.3
GLA				pmax	pmax		
	comp=Z,339nm,1.2s						
GLA	**Glamis**	15.79	336		Pn	21 58 33.8	+1.3
GLA				IAmb	IAmb	21 58 35.3	
	comp=Z,339nm,1.2s						
GLA	**Glamis**	15.79	336	P	Pn	21 58 33.9	+1.3
	baz=152,SNR=31						
GLA				S	S	22 01 38.9	-3.4
	baz=152						
WHTX	**Lake Whitney,**	15.85	32	Pn	Pn	21 58 34.7	+1.4
WHTX	**Lake Whitney,**	15.85	32	P	Pn	21 58 33.5	+0.3
	baz=216						
WHTX				S	S	22 01 39.9	-3.6
	baz=216						
X18A	**Snowflake**	15.90	352		Pn	21 58 35.5	+1.4
X18A					P	21 58 35.9	-1.9
X18A				IAmb	IAmb	21 58 43.5	
	comp=Z,385nm,1.7s						
RMX	**La Rumorosa**	15.92	332	Pn	Pn	21 58 34.8	+0.5
RMX				IAmb	IAmb	21 58 41.4	
	comp=Z,168nm,1.1s						
IKP	**In-Ko-Pah, Jac**	15.98	332	P	Pn	21 58 35.8	+0.9
	baz=148,SNR=9.0						
Y14A	**Wickenburg**	15.98	342		Pn	21 58 36.1	+1.2
X16A	**Lo Mia Camp, P**	16.05	347		Pn	21 58 37.2	+1.2
SWSC	**Sam W. Stewart**	16.09	333	P	Pn	21 58 37.1	+0.7
	baz=149,SNR=16						
SWSC				S	S	22 01 46.8	-1.6
	baz=149						
TKX	**Tecate**	16.14	330	P	Pn	21 58 37.1	+0.1
ANMO	**Albuquerque**	16.14	2	Pn	Pn	21 58 38.3	+1.1
	comp=Z,0.2nm,0.3s,baz=176,slow=12,SNR=34						
ANMO				LR	LR	22 04 39.2	
	comp=Z,4μm,19.1s,baz=192,slow=37						
ANMO	**Albuquerque**	16.14	2	P	Pn	21 58 38.0	+0.8
ANMO				pmax	pmax		
	comp=Z,90nm,1.1s						
ANMO	**Albuquerque**	16.14	2	Pn	Pn	21 58 38.0	+0.8
ANMO	**Albuquerque**	16.14	2	P	Pn	21 58 37.0	-0.2
	baz=182						
BAR	**Barrett**	16.26	330	P	Pn	21 58 38.9	+0.3
MONP2	**Monument Peak**	16.32	331	P	Pn	21 58 40.6	+1.1
	baz=147,SNR=21						
W18A	**Petrified Fore**	16.45	353	P	Pn	21 58 42.8	+1.7
W18A	**Petrified Fore**	16.45	353	P	Pn	21 58 42.2	+1.1
	baz=172,SNR=24						
BC3	**Big Chuckawall**	16.56	335	P	Pn	21 58 43.7	+1.2
	baz=152,SNR=41						
PETF	**Flores**	16.63	94	P	Pn	21 58 44.2	+0.9
PETF				IAmb	IAmb	21 58 53.3	
	comp=Z,165nm,0.9s						
109C	**Camp Elliot, M**	16.64	330	P	Pn	21 58 44.8	+1.5
109C				IAmb	IAmb	21 58 50.5	
	comp=Z,386nm,1.9s						
109C	**Camp Elliot, M**	16.64	330	P	Pn	21 58 43.5	+0.1
	baz=145						
237A	**Washetta, Mont**	16.73	36	P	Pn	21 58 46.3	+1.8
237A				IAmb	IAmb	21 59 00.4	
	comp=Z,364nm,1.3s						
AMTX	**Amarillo**	16.80	16	Pn	Pn	21 58 45.8	+0.2
AMTX	**Amarillo**	16.80	16	P	Pn	21 58 45.0	-0.5
	baz=198						
AMTX				S	S	22 02 03.9	+0.7
	baz

BFSC Mount Baldy Ra 18.01 331 P Pn 21 59 01.1 +0.5
baz=146,SNR=11
BFSC S S 22 02 30.2 +2.4
baz=146
Z38A Mt. Pleasant 18.13 35 P P 21 59 02.9 +0.6
Z38A IAmb IAmb 21 59 07.4
comp=Z,168nm,1.0s
SNCC San Nicolas Is 18.16 325 P Pn 21 59 03.3 +1.0
baz=140
MWC Mount Wilson 18.18 330 P P 21 59 04.6 +1.5
MWC pmax pmax
comp=Z,274nm,1.6s
MWC Mount Wilson 18.18 330 P P 21 59 04.6 +1.5
MWC IAmb IAmb 21 59 10.1
comp=Z,274nm,1.6s
PASC Pasadena Art C 18.20 330 P Pn 21 59 03.9 +1.0
RRX Edison Barstow 18.25 334 P Pn 21 59 03.9 +0.4
baz=149
TUQ Turquoise Moun 18.32 337 P Pn 21 59 05.4 +1.0
baz=153,SNR=8.5
DECC Green Verdugo 18.34 330 P Pn 21 59 05.1 +0.5
baz=144
342A Flagon Creek P 18.41 44 P Pn 21 59 06.1 +0.6
MVCO Mesa Verde 18.42 357 Pn 21 59 06.3 +0.5
MVCO Mesa Verde 18.42 357 P Pn 21 59 05.8 +0.1
baz=176,SNR=21
T25A Trinidad 18.48 7 P 21 59 07.2 +0.9
T25A Trinidad 18.48 7 P P 21 59 07.0 +0.6
baz=188,SNR=19
GSC Goldstone, Bar 18.54 335 P P 21 59 07.5 +0.6
GSC pmax pmax
comp=Z,368nm,2.0s
GSC Goldstone, Bar 18.54 335 P 21 59 07.5 +0.6
GSC IAmb IAmb 21 59 12.3
comp=Z,368nm,1.9s
GSC Goldstone, Bar 18.54 335 P P 21 59 07.5 +0.6
baz=150,SNR=25
EDW2 Edwards Air Fo 18.70 331 P P 21 59 08.3 -0.3
baz=146,SNR=24
OSI Osito Audit: C 18.82 329 P P 21 59 10.9 +1.0
OSI Osito Audit: C 18.82 329 P P 21 59 09.7 -0.3
baz=144
KNB Kanab 18.85 346 P P 21 59 11.6 +1.2
KNB pmax pmax
comp=Z,270nm,1.4s
KNB Kanab 18.85 346 P P 21 59 11.6 +1.2
KNB IAmb IAmb 21 59 17.5
comp=Z,270nm,1.4s
SHOC Shoshone, Teco 18.86 337 P P 21 59 10.0 -0.3
baz=152
BCOK Bluff Creek, N 18.86 25 Pn 21 59 15.6 +4.7
BCOK IAmb IAmb 21 59 48.8
comp=Z,147nm,1.1s
OK025 Westminster Rd 18.91 26 Pn 21 59 16.8 +5.4
S22A 4UR Ranch, Cre 18.93 1 P 21 59 12.4 +1.1
S22A 4UR Ranch, Cre 18.93 1 P P 21 59 11.4 +0.1
baz=181,SNR=30
LCMT Little Creek M 18.94 345 P P 21 59 12.3 +0.9
LCMT IAmb IAmb 21 59 18.6
comp=Z,396nm,2.0s
X37A Clayton 18.97 31 P Pn 21 59 13.8 +1.6
X37A IAmb IAmb 21 59 18.1
comp=Z,412nm,1.8s
SDCO Great Sand Dun 18.98 4 P P 21 59 12.7 +0.8
SDCO Great Sand Dun 18.98 4 P P 21 59 12.4 +0.5
baz=185,SNR=68
U32A Winter Ranch, 19.00 21 P P 21 59 12.6 +0.8
LRMC Laurel Mtn Rad 19.06 333 P P 21 59 13.5 +0.8
baz=148,SNR=62
QSM Queen of Sheba 19.14 336 P P 21 59 14.5 +1.0
QSM IAmb IAmb 21 59 19.6
comp=Z,232nm,1.4s
PKCU Pink Cliffs 19.15 348 P P 21 59 14.4 +0.6
PKCU IAmb IAmb 21 59 18.4
comp=Z,251nm,1.3s
SBC Santa Barbara 19.18 327 P P 21 59 14.6 +0.9
baz=141
GWY Greenwater Val 19.26 336 P P 21 59 15.1 +0.2
GWY IAmb IAmb 21 59 20.9
comp=Z,246nm,1.8s
ARVC Arvin 19.29 330 P P 21 59 15.0 0.0
baz=145,SNR=13
PV05 Paradox Valley 19.32 356 P P 21 59 16.4 +0.8
PV01 Paradox Valley 19.35 357 P P 21 59 16.2 +0.3
Z41A Richland Creek 19.37 39 P Pn 21 59 17.3 +0.3
Z41A Richland Creek 19.37 39 P P 21 59 15.8 -0.1
baz=225,SNR=13
PV13 Radium Mtn., P 19.39 356 P P 21 59 16.6 +0.3
OK035 E0210 Rd and N 19.39 21 P 21 59 16.2 +0.1
OK035 IAmb IAmb 21 59 28.9
comp=Z,292nm,1.3s
PV02 Paradox Valley 19.43 356 P P 21 59 16.7 -0.1
OK031 S. Brethren Rd 19.43 26 P 21 59 17.2 +0.6
OK031 IAmb IAmb 21 59 45.0
comp=Z,179nm,1.3s
OK030 Cody Creek RV 19.43 26 Pn 21 59 18.0 +0.3
SZCU Shurtz Canyon 19.46 346 P P 21 59 17.6 +0.5
CROK Carrier 19.47 23 P 21 59 17.1 +0.2
MPMC Manual Prospec 19.47 334 P P 21 59 17.5 +0.3
baz=150,SNR=60
PV18 Skein Mesa, Pa 19.48 356 P P 21 59 17.9 +0.6
PV03 Paradox Valley 19.48 356 P P 21 59 17.9 +0.6
CCUT Cedar City 19.48 345 P 21 59 18.9 +1.5
WLAR White Oak Lake 19.50 38 P 21 59 17.9 +0.6
WLAR IAmb IAmb 21 59 54.4
comp=Z,193nm,1.2s
PV17 East Wray Mesa 19.52 356 P P 21 59 18.3 +0.6
PV11 David Mesa, Pa 19.53 356 P P 21 59 18.5 +0.7
PV11 IAmb IAmb 21 59 21.4
comp=Z,266nm,1.6s
344A Westbrook Farm 19.54 47 P 21 59 18.7 +1.0
344A IAmb IAmb 21 59 25.1
comp=Z,210nm,1.0s
PV12 Saucer Basin, 19.54 356 P P 21 59 18.9 +0.9
PV12 IAmb IAmb 21 59 21.8
comp=Z,266nm,1.6s
PV16 Nyswonger Mesa 19.54 356 P P 21 59 18.6 +0.6
PV19 Morning Glory 19.55 356 P P 21 59 18.4 +0.4
PV19 IAmb IAmb 21 59 21.6
comp=Z,382nm,1.8s
PV15 Paradox Valley 19.55 357 P P 21 59 18.9 +0.8
ISA Isabella, Lake 19.56 332 P P 21 59 18.9 +0.8
ISA pmax pmax
comp=Z,57nm,1.0s
ISA Isabella, Lake 19.56 332 P P 21 59 18.9 +0.8
ISA Isabella, Lake 19.56 332 P P 21 59 18.6 +0.5
baz=146,SNR=27
PKM Mcpherson Peak 19.58 328 P P 21 59 18.5 +0.2
baz=142,SNR=13
FURC Furnace Creek, 19.58 336 P P 21 59 18.6 +0.4
baz=152,SNR=18
PV14 Lion Creek, Pa 19.61 356 P P 21 59 19.3 +0.6
PV10 Paradox Valley 19.62 356 P P 21 59 18.7 -0.2
PV04 Paradox Valley 19.62 356 P P 21 59 19.6 +0.8
PV04 IAmb IAmb 21 59 25.9
comp=Z,214nm,1.4s
PV07 Paradox Valley 19.65 357 P P 21 59 19.9 +0.7
PV07 IAmb IAmb 21 59 26.3
comp=Z,220nm,1.4s
QUOK Quay 19.68 26 P 21 59 20.4 +1.2
PV23 Carpenter Ridg 19.69 356 P P 21 59 20.4 +0.7
TGUH Tegucigalpa,Un 19.70 101 Pn 21 59 22.1 +0.9
MTPU Mount Pierson 19.70 348 P 21 59 21.2 +1.3
MTPU IAmb IAmb 21 59 27.2
comp=Z,175nm,1.2s
TPNV Topopah Spring 19.79 338 P P 21 59 21.7 +1.1
TPNV pmax pmax
comp=Z,85nm,1.5s
TPNV Topopah Spring 19.79 338 P P 21 59 21.7 +1.1
PV21 Cone Mtn., Par 19.80 356 P P 21 59 21.5 +0.7
PV21 IAmb IAmb 21 59 27.8
comp=Z,366nm,2.0s
PRN Pahroc Range 19.81 341 P P 21 59 21.9 +1.1
GC02 Grant County # 19.82 23 Pn 21 59 22.6 +0.2
TUL1 Leonard 19.85 28 P 21 59 22.2 +1.0
TUL1 Leonard 19.85 28 P P 21 59 20.3 -0.8
baz=213,SNR=12
TUL1 S S 22 03 02.4 -2.3
baz=213
143A Socs Landing, 19.86 43 P P 21 59 22.2 +0.9
MIAR Mount Ida 19.87 35 P P 21 59 21.5 +0.1
MIAR pmax pmax
comp=Z,45nm,1.0s
MIAR Mount Ida 19.87 35 P P 21 59 21.4 +0.1
MIAR Mount Ida 19.87 35 P P 21 59 21.3 -0.1
baz=221,SNR=18
MIAR S S 22 03 05.3 +0.3
baz=221
KAN14 Manchester OK 19.88 22 P P 21 59 21.2 -0.2
KAN10 Anthony SW Sta 19.98 22 P 21 59 23.9 +1.4
KAN10 IAmb IAmb 21 59 29.2
comp=Z,390nm,1.5s
BLOK Blackwell 19.98 24 Pn 21 59 24.4 +0.1
BLOK IAmb IAmb 21 59 29.1
comp=Z,158nm,1.2s
VES Vestal, Richgr 19.99 331 P P 21 59 22.9 +0.3
baz=145,SNR=26
SMMC Simmler 20.00 328 P P 21 59 23.2 +0.3
baz=142
SMMC S S 22 03 07.0 -0.9
baz=142
KAN05 Bluff City Nor 20.04 22 Pn 21 59 25.4 +0.4
CWC Cottonwood Cre 20.05 334 P P 21 59 24.1 +0.6
baz=149
CWC S Sn 22 03 14.2 +3.4
baz=149
KAN16 Harper SW Stat 20.08 22 P 21 59 24.6 +0.9
KAN16 IAmb IAmb 21 59 30.4
comp=Z,213nm,1.2s
KAN13 South Haven SW 20.10 23 P 21 59 24.6 +0.7
KAN13 IAmb IAmb 21 59 30.5
comp=Z,255nm,1.4s
KAN08 Anthony NE Sta 20.11 22 P P 21 59 25.5 +1.5
KAN08 IAmb IAmb 21 59 30.8
comp=Z,265nm,1.6s
KAN01 Argonia South 20.12 22 P P 21 59 24.3 +0.2
KAN01 IAmb IAmb 21 59 30.8
comp=Z,335nm,1.5s
VBMS Vicksburg 20.14 45 P P 21 59 25.4 +1.1
VBMS Vicksburg 20.14 45 P P 21 59 24.8 +0.5
baz=232,SNR=7.4
MVU Marysvale 20.15 349 P P 21 59 26.0 +1.3
MSU Marysvale 20.16 349 P P 21 59 25.8 +1.1
MSU Marysvale 20.16 349 P P 21 59 25.8 +1.1
KAN12 Harper NE Stat 20.17 22 Pn 21 59 26.4 -0.1
KAN12 IAmb IAmb 21 59 40.9
comp=Z,181nm,1.2s
KAN06 Argonia West S 20.17 22 P P 21 59 25.2 +0.6
KAN06 IAmb IAmb 21 59 40.9
comp=Z,210nm,1.4s
Q24A Divide 20.22 5 P P 21 59 26.5 +1.0
Q24A Divide 20.22 5 P P 21 59 26.1 +0.6
baz=186,SNR=16
X40A Basin Creek Fa 20.24 36 P P 21 59 26.3 +1.0
X40A IAmb IAmb 21 59 32.5
comp=Z,303nm,1.6s
X40A IAMs_20 IAMs_20 22 06 28.9
comp=Z,2μm,19.0s
X40A Basin Creek Fa 20.24 36 P P 21 59 24.9 -0.4
baz=223,SNR=26
X40A S S 22 03 11.8 -0.6
baz=223
GRAC Grapevine Rang 20.24 336 P P 21 59 26.4 +1.0
baz=151,SNR=12
W39A Magazine 20.25 33 P P 21 59 26.3 +0.8
W39A Magazine 20.25 33 P P 21 59 24.9 -0.6
baz=219,SNR=13
W39A S S 22 03 13.9 +1.1
baz=219
TCRU Three Creeks R 20.30 348 P P 21 59 27.4 +1.1
CRIN San Cristobal 20.32 104 P P 21 59 28.5 +2.0
CRIN IAmb IAmb 21 59 38.6
comp=Z,210nm,0.8s
SMCO Snowmass 20.35 1 P P 21 59 27.9 +0.9
Q16A Castle Valley 20.38 351 P P 21 59 28.0 +0.9
Q16A IAmb IAmb 21 59 31.8
comp=Z,163nm,1.1s
346A Big Creek Wild 20.38 48 P P 21 59 27.3 +0.4
346A IAmb IAmb 21 59 32.1
comp=Z,128nm,1.0s
T35A Sooner Cattle 20.39 25 P 21 59 26.9 -0.1
T35A IAmb IAmb 21 59 43.1
comp=Z,109nm,1.0s
CCAR Cane Creek 20.45 39 P P 21 59 28.6 +0.9
CCAR IAmb IAmb 21 59 34.2
comp=Z,197nm,1.2s
PAGB Antelope Grade 20.46 328 P P 21 59 28.6 +0.8
SRU San Rafael Swe 20.49 353 P P 21 59 28.6 +0.3
SRU pmax pmax
comp=Z,97nm,1.1s
SRU San Rafael Swe 20.49 353 P P 21 59 28.6 +0.3
VOG Valley Oaks Go 20.52 331 P P 21 59 28.6 +0.2
baz=145
PSUT Pine Spring 20.54 345 P P 21 59 29.9 +1.1
PSUT IAmb IAmb 21 59 34.6
comp=Z,173nm,1.2s
LCH Last Change Ra 20.55 336 P P 21 59 29.6 +0.6
KSCO Kaye Shedlock' 20.58 10 P P 21 59 29.6 +0.4
KSCO Kaye Shedlock' 20.58 10 P P 21 59 29.5 +0.4
baz=192,SNR=20
KSCO S Sn 22 03 22.2 -1.4
baz=192
TIN Tinemaha, Big 20.63 334 P P 21 59 30.7 +0.9
baz=149
CNGN Cerro Negro 20.71 104 P P 21 59 32.9 +2.2
CNGN IAmb IAmb 21 59 42.3
comp=Z,127nm,1.2s
TMUT Trail Mountain 20.76 351 P P 21 59 32.0 +0.6
R11A Troy Canyon, C 20.84 341 P P 21 59 32.5 +0.4
P17A Butcher Ranch, 20.87 352 P P 21 59 32.8 +0.4
P17A IAmb IAmb 21 59 36.7
comp=Z,354nm,1.6s
U38A Gravette 20.93 30 P P 21 59 32.7 -0.3
R32A Long Quarter, 20.95 19 P P 21 59 32.6 -0.6
P18A Preston Nutter 20.97 353 P P 21 59 33.7 +0.2
P18A IAmb IAmb 21 59 38.8
comp=Z,267nm,1.3s
ISCO Idaho Springs 21.02 3 P P 21 59 34.8 +0.7
ISCO pmax pmax
comp=Z,101nm,1.2s
ISCO MLR MLR
comp=Z,6μm,18.0s
ISCO Idaho Springs 21.02 3 P P 21 59 34.8 +0.7
ISCO Idaho Springs 21.02 3 P P 21 59 34.5 +0.4
baz=184,SNR=34
CBKS Cedar Bluff 21.02 16 P P 21 59 33.8 -0.1
CBKS pmax pmax
comp=Z,205nm,1.2s
CBKS MLR MLR
comp=Z,5μm,19.0s
CBKS Cedar Bluff 21.02 16 P P 21 59 33.8 -0.1
CBKS IAmb IAmb 21 59 37.9
comp=Z,205nm,1.2s
CBKS Cedar Bluff 21.02 16 P P 21 59 33.3 -0.6
baz=200,SNR=19
CBKS S S 22 03 29.7 +1.7
baz=200
HHAR Hobbs 21.02 31 P P 21 59 34.8 +0.9
W41B Gary Mavity, V 21.07 36 P P 21 59 34.9 +0.6
W41B Gary Mavity, V 21.07 36 P P 21 59 34.2 -0.1
baz=223,SNR=16
W41B S S 22 03 31.9 +3.1
baz=223
PMPB Monarch Peak 21.12 328 P P 21 59 35.6 +0.7
PMPB IAmb IAmb 21 59 43.6
comp=Z,116nm,1.0s
WHAR Wooly Hollow 21.13 36 P P 21 59 35.7 +0.7
WHAR IAmb IAmb 22 00 07.2
comp=Z,125nm,1.2s
TPH Tonopah 21.14 338 P P 21 59 36.0 +0.7
TPH pmax pmax
comp=Z,295nm,1.1s
TPH Tonopah 21.14 338 P P 21 59 36.0 +0.7
MATN Matagalpa 21.28 103 P P 21 59 38.1 +1.1
O20A White River Ci 21.33 358 P P 21 59 38.0 +0.7
O20A IAmb IAmb 21 59 57.5
comp=Z,232nm,1.3s
O20A White River Ci 21.33 358 P P 21 59 37.7 +0.4
baz=177,SNR=33
MLAC Mammoth, Mammo 21.38 334 P P 21 59 38.4 +0.4
baz=148
146A Union 21.38 46 P P 21 59 38.5 +0.8
146A IAmb IAmb 21 59 43.1
comp=Z,217nm,1.1s
NLU North Lily Min 21.54 350 P P 21 59 40.3 +0.6
U40A Yellville 21.63 33 P P 21 59 41.7 +1.3
U40A IAMs_20 IAMs_20 22 08 08.7
comp=Z,2μm,22.0s
U40A Yellville 21.63 33 P P 21 59 38.8 -1.6
baz=220
U40A S S 22 03 39.8 -0.2
baz=220
FCAR Ozark Folk Cen 21.66 35 P P 21 59 40.8 +0.1
BOAB BOACO BROADBAN 21.68 104 P P 21 59 42.2 +1.1
LHV Little Huntoon 21.77 335 P P 21 59 43.4 +1.5
LHV IAmb IAmb 21 59 46.9
comp=Z,180nm,1.4s
NV11 Mina Array Sit 21.80 336 P P 21 59 42.7 +0.3
NV11 IAmb IAmb 21 59 47.8
comp=Z,186nm,1.4s
Y45A Yeager Farm, C 21.80 43 P P 21 59 43.3 +1.0
RDMU Red Mountain 21.84 355 P P 21 59 43.1 +0.3
RDMU IAmb IAmb 21 59 48.6
comp=Z,230nm,1.4s
NVAR Mina Array Bea 21.85 336 P P 21 59 43.5 +0.5
comp=Z,22nm,1.0s,baz=156,slow=12,SNR=54
NVAR LR LR 22 07 49.8
comp=Z,1μm,18.8s,baz=157,slow=36
SAO San Andreas Ge 21.87 328 P P 21 59 44.4 +1.4
SAO pmax pmax
comp=Z,95nm,1.5s
SAO MLR MLR
comp=Z,2μm,21.0s
SAO San Andreas Ge 21.87 328 P P 21 59 44.4 +1.4
SAO IAMs_20 IAMs_20 22 06 58.2
comp=Z,2μm,21.0s
DUG Dugway, Tooele 21.91 348 P P 21 59 44.0 +0.5
DUG pmax pmax
comp=Z,299nm,1.4s
DUG MLR MLR
comp=Z,2μm,19.0s
DUG Dugway, Tooele 21.91 348 P P 21 59 44.0 +0.5
DUG IAMs_20 IAMs_20 22 07 30.6
comp=Z,2μm,19.0s
DUG Dugway, Tooele 21.91 348 P P 21 59 43.8 +0.3
baz=166,SNR=125
DUG S S 22 03 48.9 +3.4
baz=166
BRAL Brewton 22.03 52 P P 21 59 45.7 +1.0
BRAL Brewton 22.03 52 P P 21 59 42.8 -2.0
baz=240
BRAL S S 22 03 49.1 +1.3
baz=240
N23A Red Feather La 22.09 3 P P 21 59 45.9 +0.2
N23A IAmb IAmb 22 00 09.1
comp=Z,196nm,1.3s
N23A Red Feather La 22.09 3 P P 21 59 45.9 +0.2
baz=183,SNR=19
N23A S S 22 03 53.0 +3.6
baz=183
RYN Ryan 22.11 336 P P 21 59 46.2 +0.5
CTU Camp Tracy 22.21 351 P P 21 59 47.5 +0.8
CTU IAmb IAmb 21 59 51.8
comp=Z,117nm,1.1s
HBAR Harrisburg 22.25 38 P P 21 59 48.2 +1.2
HBAR IAmb IAmb 21 59 50.5
comp=Z,132nm,0.8s
KSU1 Kansas State U 22.27 22 P P 21 59 47.4 +0.2
KSU1 IAmb IAmb 21 59 54.9
comp=Z,117nm,0.9s
KSU1 Kansas State U 22.27 22 IAMs_20 IAMs_20 22 08 32.7
comp=Z,5μm,19.0s
KSU1 Kansas State U 22.27 22 P P 21 59 46.8 -0.5
baz=207,SNR=15
KSU1 S S 22 03 54.8 +2.5
baz=207
ACON Acoyapa 22.29 104 P P 21 59 49.4 +1.7
ACON IAmb IAmb 21 59 53.0
comp=Z,184nm,1.1s
KVN Kaiserville 22.32 337 P P 21 59 48.4 +0.4
KVN pmax pmax
comp=Z,304nm,1.7s
KVN Kaiserville 22.32 337 P P 21 59 48.4 +0.4
KVN IAmb IAmb 21 59 55.9
comp=Z,304nm,1.7s
LCAR Lake Charles 22.33 36 P P 21 59 48.5 +0.6
LCAR IAmb IAmb 22 00 03.5
comp=Z,150nm,1.3s
HZTE Horizontes, Gu 22.37 108 P P 21 59 51.2 +2.7
Z47A Carrollton 22.38 46 P P 21 59 48.8 +0.3
Z47A IAmb IAmb 22 00 13.3
comp=Z,218nm,1.1s
CMB Columbia Colle 22.38 332 P P 21 59 47.7 -0.8
CMB pmax pmax
comp=Z,65nm,1.3s
CMB MLR MLR
comp=Z,2μm,22.0s
CMB Columbia Colle 22.38 332 P P 21 59 47.7 -0.8
S39A Bolivar 22.44 30 P P 21 59 49.4 +0.3
S39A IAmb IAmb 22 00 10.8
comp=Z,114nm,1.4s
LPAR Lepanto 22.49 38 P P 21 59 50.9 +1.4
PHWY Pilot Hill 22.52 3 P P 21 59 50.2 -0.1
PHWY IAmb IAmb 21 59 54.6
comp=Z,190nm,1.4s
PHWY IAMs_20 IAMs_20 22 08 20.7
comp=Z,4μm,19.0s
MGMO Mountain Grove 22.54 33 P P 21 59 51.0 +0.8
MGMO IAmb IAmb 22 00 16.9
comp=Z,223nm,1.9s
OGNE Ogallala 22.56 10 P P 21 59 50.5 0.0
OGNE IAmb IAmb 21 59 58.1
comp=Z,140nm,1.1s
OGNE IAMs_20 IAMs_20 22 08 23.6
comp=Z,4μm,19.0s
OGNE Ogallala 22.56 10 P P 21 59 49.6 -0.9
baz=193,SNR=6.6
OGNE S S 22 03 59.6 +1.7
baz=193
ORTG Ortega, Santa 22.64 109 P P 21 59 53.5 +2.0
ORTG IAmb IAmb 21 59 56.0
comp=Z,119nm,1.1s
BGU Big Grassy Mou 22.65 349 P P 21 59 51.5 0.0
YERR Yerington 22.70 335 P P 21 59 52.6 +0.6
YERR IAmb IAmb 21 59 57.8
comp=Z,89nm,1.1s
DUNO Dulce Nombre, 22.72 109 P P 21 59 54.4 +2.1
451A Vernon 22.76 55 P P 21 59 52.3 -0.3
W45A Hickory Valley 22.86 41 P P 21 59 53.7 +0.2
RWWY Rawlins 22.86 0 P P 21 59 54.2 +0.4
RWWY IAmb IAmb 22 00 32.1
comp=Z,104nm,1.4s
RWWY IAMs_20 IAMs_20 22 08 39.7
comp=Z,3μm,19.0s
GNAR Gosnell 22.90 38 P P 21 59 54.9 +1.0
GNAR IAmb IAmb 22 00 09.9
comp=Z,141nm,1.0s
SPUT South Promonto 22.92 350 P P 21 59 55.5 +1.2
PNTR Pine Nut 22.93 335 P P 21 59 55.4 +0.9
PNTR IAmb IAmb 22 00 00.2
comp=Z,70nm,0.9s
ELK Elko 22.97 344 P P 21 59 54.4 -0.5
comp=Z,31nm,1.0s,baz=174,slow=7.4,SNR=26
ELK LR LR 22 08 26.2
comp=Z,2μm,18.5s,baz=166,slow=36
ELK Elko 22.97 344 P P 21 59 54.9 -0.1
ELK pmax pmax
comp=Z,46nm,1.1s
ELK MLR MLR
comp=Z,2μm,18.0s
ELK Elko 22.97 344 P P 21 59 54.9 -0.1
ELK IAMs_20 IAMs_20 22 08 15.0
comp=Z,2μm,18.0s
SOR Soroa 22.99 76 P P 21 59 56.0 +1.0
SOR pmax pmax
comp=Z,87nm,0.8s
SOR Soroa 22.99 76 P P 21 59 56.0 +1.0
SOR IAmb IAmb 21 59 56.9
comp=Z,87nm,0.8s
250A Grady 23.01 51 P P 21 59 55.5 +0.4
ESPN Las Esperanzas 23.02 103 P P 21 59 56.9 +1.5
ESPN IAmb IAmb 22 00 15.3
comp=Z,81nm,1.1s
EMB Emerald Bay 23.04 334 P P 21 59 56.5 +0.8
EMB IAmb IAmb 22 00 01.5
comp=Z,167nm,1.3s
HWUT Hardware Ranch 23.08 352 P P 21 59 56.4 +0.4
HWUT IAMs_20 IAMs_20 22 08 21.6
comp=Z,2μm,20.0s
PEBM Pemiscott Bayo 23.10 38 P P 21 59 56.9 +0.9
PEBM IAmb IAmb 22 00 30.9
comp=Z,181nm,1.2s
JTS Las Juntas de 23.12 108 LR LR 22 07 06.6
comp=Z,535nm,18.3s,slow=32
JTS Las Juntas de 23.12 108*c* *i*P P 21 59 57.6 +1.1
JTS pmax pmax

comp=Z,27nm,0.9s
JTS Las Juntas de 23.12 108 P **P 21 59 58.3 +1.8**
VCNR Virginia City 23.13 335 P **P 21 59 57.5 +1.0**
VCNR IAmb IAmb 22 00 01.4
comp=Z,230nm,1.6s
RUBR Rubicon Trail 23.13 334 P **P 21 59 58.0 +1.4**
CAO2 Cobano, Puntar 23.23 110 P **P 21 59 59.0 +1.4**
PBMO Poplar Bluff 23.24 36 P **P 21 59 57.5 +0.1**
BMN Battle Mountai 23.25 340 P **P 21 59 58.5 +0.8**
BMN pmax pmax
comp=Z,301nm,1.6s
BMN Battle Mountai 23.25 340 P **P 21 59 58.5 +0.8**
HALT Halls 23.27 39 P **P 21 59 58.2 +0.5**
MPK Martis Peak 23.28 334 P **P 21 59 59.4 +1.2**
LNXT Lenox 23.31 39 P **P 21 59 58.0 -0.2**
PAHR Pah Rah Range 23.38 336 P **P 21 59 59.4 +0.5**
R40A Maddies Statio 23.43 31 P **P 21 59 59.2 -0.1**
R40A IAmb IAmb 22 00 17.1
comp=Z,86nm,1.2s
HVU Hansel Valley 23.43 350 P **P 21 59 59.5 0.0**
HVU pmax pmax
comp=Z,102nm,1.2s
HVU Hansel Valley 23.43 350 P **P 21 59 59.5 0.0**
HVU IAmb IAmb 22 00 04.0
comp=Z,102nm,1.2s
PLAL Pickwick Lake 23.45 43 P **P 21 59 59.5 -0.1**
COVE Coope Vega, Sa 23.45 107 P **P 22 00 00.8 +1.0**
COVE IAmb IAmb 22 00 03.1
comp=Z,106nm,0.9s
N33A J Bar K, Exete 23.46 19 P **P 22 00 01.2 +1.5**
N33A IAmb IAmb 22 00 07.5
comp=Z,142nm,1.3s
GLAT Glass 23.54 39 P **P 22 00 01.4 +0.9**
PARMO Parma 23.54 37 P **P 22 00 00.9 +0.4**
JACO JACO, Garabito 23.64 109 P **P 22 00 03.3 +1.6**
JACO IAmb IAmb 22 00 33.8
comp=Z,123nm,1.4s
HENM Henderson Moun 23.74 37 P **P 22 00 02.7 +0.3**
CCM Cathedral Cave 23.75 33 P **P 22 00 02.3 -0.2**
CCM pmax pmax
comp=Z,83nm,1.3s
CCM MLR MLR
comp=Z,2μm,20.0s
CCM Cathedral Cave 23.75 33 P **P 22 00 02.3 -0.2**
CCM IAmb IAmb 22 00 07.4
comp=Z,83nm,1.2s
CCM Cathedral Cave 23.75 33 P **P 22 00 02.1 -0.4**
baz=220
CCM S **S 22 04 18.4 +0.5**
baz=220
HICK Hickman 23.76 38 P **P 22 00 03.7 +1.1**
352A Blakely 23.78 54 P **P 22 00 03.1 +0.2**
X48A Hartselle 23.80 45 P **P 22 00 02.4 -0.7**
K22A Casper 23.83 1 P **P 22 00 03.5 +0.1**
K22A Casper 23.83 1 P **P 22 00 02.6 -0.8**
baz=182,SNR=24
K22A S **S 22 04 22.2 +2.8**
baz=182
UTMT University of 23.84 39 P **P 22 00 03.8 +0.4**
BGNE Belgrade 23.88 17 P **P 22 00 05.5 +1.8**
BGNE IAmb IAmb 22 00 07.8
comp=Z,172nm,1.2s
BGNE Belgrade 23.88 17 P **P 22 00 02.7 -1.1**
baz=202
Y49A Blount Mountai 23.89 47 P **P 22 00 03.5 -0.5**
P38A Dawn 23.93 27 P **P 22 00 03.8 -0.4**
P38A IAmb IAmb 22 00 20.0
comp=Z,65nm,1.0s
BW06 Boulder Array 24.02 356 P **P 22 00 04.2 -1.1**
BW06 IAMs_20 IAMs_20 22 08 34.4
comp=Z,2μm,22.0s
BW06 Boulder Array 24.02 356 P **P 22 00 04.0 -1.3**
baz=174,SNR=15
BW06 S **S 22 04 24.0 +1.5**
baz=174
PD31 Pinedale Array 24.02 356 P **P 22 00 04.6 -0.7**
PDAR Pinedale Array 24.02 356 P **P 22 00 04.1 -1.2**
comp=Z,6.8nm,0.7s,baz=166,slow=10,SNR=21
PDAR PcP **PcP 22 03 45.4 -1.7**
comp=Z,2.8nm,1.0s,baz=138,slow=4.3,SNR=4.3
PDAR LR LR 22 09 05.8
comp=Z,1μm,21.7s,baz=163,slow=36
PDAR Pinedale Array 24.02 356 P **P 22 00 03.9 -1.4**
FVM French Village 24.12 34 P **P 22 00 05.3 -0.8**
FVM pmax pmax
comp=Z,185nm,1.7s
FVM French Village 24.12 34 P **P 22 00 05.3 -0.8**
FVM IAmb IAmb 22 00 10.2
comp=Z,185nm,1.7s
ORV Oroville 24.13 332 P **P 22 00 06.1 +0.1**
ORV pmax pmax
comp=Z,192nm,1.6s
ORV MLR MLR
comp=Z,1μm,21.0s
ORV Oroville 24.13 332 P **P 22 00 06.1 +0.1**
ORV IAmb IAmb 22 00 10.9
comp=Z,192nm,1.6s
AHID Auburn Hatcher 24.16 353 P **P 22 00 06.7 +0.1**
AHID IAmb IAmb 22 00 11.1
comp=Z,139nm,1.9s
AHID IAMs_20 IAMs_20 22 09 09.2
comp=Z,2μm,19.0s
N35A Tabor 24.17 22 P **P 22 00 07.6 +1.1**
N35A IAmb IAmb 22 00 42.5
comp=Z,212nm,1.6s
CVTR Volcan Turrial 24.30 108 P **P 22 00 09.7 +1.3**
RIMA Rio Macho 24.31 108 P **P 22 00 10.2 +2.0**
WVT Waverly 24.33 41 P **P 22 00 07.8 -0.2**
WVT pmax pmax
comp=Z,38nm,1.1s
WVT Waverly 24.33 41 P **P 22 00 07.8 -0.2**
WVT Waverly 24.33 41 P **P 22 00 06.1 -1.9**
baz=230
WVT S **S 22 04 26.4 -0.8**
baz=230
HOPS Hopland Field 24.41 329 IAMs_20 IAMs_20 22 08 44.4
comp=Z,3μm,20.0s
T45A Paducah 24.43 38 P **P 22 00 09.8 +0.9**
T45A IAmb IAmb 22 00 30.1
comp=Z,77nm,0.7s
ECR Eagle Creek 24.48 353 P **P 22 00 09.8 +0.3**
Z51A Franklin 24.48 49 P **P 22 00 09.8 +0.4**
Z51A IAmb IAmb 22 00 11.0
comp=Z,53nm,0.8s
152A Waverly Hall 24.49 51 P **P 22 00 08.7 -0.8**
152A IAmb IAmb 22 00 11.1
comp=Z,188nm,1.7s
P40A Paris 24.51 29 P **P 22 00 09.3 -0.3**
P40A IAmb IAmb 22 00 16.6
comp=Z,156nm,1.4s
S44A Carbondale 24.55 36 P **P 22 00 10.1 +0.2**
S44A IAmb IAmb 22 00 15.0
comp=Z,88nm,1.5s
PEZE Perez Zeledon, 24.64 109 P **P 22 00 11.0 -0.1**
PEZE IAmb IAmb 22 00 15.4
comp=Z,113nm,1.2s
SLM Saint Louis 24.71 33 P **P 22 00 12.3 +0.9**
SLM pmax pmax
comp=Z,84nm,1.1s
SLM Saint Louis 24.71 33 P **P 22 00 12.3 +0.9**
SLM IAmb IAmb 22 00 18.7
comp=Z,84nm,1.1s
V48A Smith Brothers 24.72 43 P **P 22 00 10.7 -0.9**
REDW Red Top Meadow 24.72 354 P **P 22 00 11.2 -0.5**
REDW IAmb IAmb 22 00 32.9
comp=Z,82nm,1.2s
TIGA Tifton 24.79 55 P **P 22 00 12.5 +0.3**
TIGA Tifton 24.79 55 P **P 22 00 11.3 -0.9**
baz=245,SNR=15
SNOW Snow King Moun 24.81 354 P **P 22 00 12.7 +0.1**
SNOW IAmb IAmb 22 00 20.4
comp=Z,108nm,1.1s
FPAL Fort Paine 24.83 46 P **P 22 00 12.5 0.0**
FPAL IAmb IAmb 22 00 14.0
comp=Z,88nm,0.9s
656A Willston 24.85 60 P **P 22 00 13.6 +0.9**
K31A O'Neill 24.86 15 P **P 22 00 13.7 +1.0**
K31A IAmb IAmb 22 00 15.9
comp=Z,104nm,1.1s
O03E Paynes Creek 24.87 333 P **P 22 00 12.3 -0.6**
baz=145,SNR=30
L34A Svendsen Farm, 24.91 19 P **P 22 00 15.1 +1.9**
LOHW Long Hollow 24.95 354 P **P 22 00 13.3 -0.5**
LOHW IAmb IAmb 22 00 17.9
comp=Z,114nm,1.1s
LOHW IAMs_20 IAMs_20 22 09 26.0
comp=Z,2μm,21.0s
SRBA San Rafael, Bu 24.98 109 P **P 22 00 15.9 +1.7**
SWET Sewanee 24.99 45 P **P 22 00 13.9 -0.2**
N38A Joes South For 25.03 26 P **P 22 00 15.3 +1.1**
N38A IAmb IAmb 22 00 30.2
comp=Z,67nm,0.9s
MOOW Moose Ponds 25.09 354 P **P 22 00 14.2 -0.9**
MOOW IAmb IAmb 22 00 20.2
comp=Z,121nm,1.6s
KCPM Cahto Peak 25.20 329 P **P 22 00 17.1 +1.2**
KCPM IAmb IAmb 22 00 23.4
comp=Z,88nm,1.3s
O02D Mt. Diablo Mer 25.21 331 P **P 22 00 15.8 -0.2**
baz=143
CLTN Cedars of Leba 25.25 43 P **P 22 00 16.3 0.0**
CLTN IAmb IAmb 22 00 31.6
comp=Z,61nm,1.1s
061Z Ochoppi 25.32 69 P **P 22 00 17.5 +0.4**
T47A Sharon Grove 25.33 40 P **P 22 00 17.2 +0.2**
T47A IAmb IAmb 22 00 21.8
comp=Z,58nm,0.9s
X51A Calhoun 25.36 47 P **P 22 00 17.1 -0.2**
X51A IAmb IAmb 22 00 48.3
comp=Z,73nm,1.1s
DWPF Disney Wildern 25.39 64 P **P 22 00 18.4 +0.9**
DWPF Disney Wildern 25.39 64 P **P 22 00 17.0 -0.6**
baz=254
W50A Signal Mountai 25.40 45 P **P 22 00 17.4 -0.3**
W50A IAmb IAmb 22 00 33.4
comp=Z,57nm,0.8s
FLWY Flagg Ranch 25.42 354 P **P 22 00 18.1 +0.1**
FLWY IAMs_20 IAMs_20 22 10 01.5
comp=Z,1μm,18.0s
WDC Whiskeytown Da 25.42 332 P **P 22 00 16.3 -1.5**
WDC pmax pmax
comp=Z,16nm,0.9s
WDC Whiskeytown Da 25.42 332 P **P 22 00 16.3 -1.5**
RSSD Black Hills 25.43 5 P **P 22 00 19.4 +1.3**
RSSD pmax pmax
comp=Z,35nm,0.9s
RSSD MLR MLR
comp=Z,3μm,18.0s
RSSD Black Hills 25.43 5 P **P 22 00 19.4 +1.3**
RSSD Black Hills 25.43 5 IAMs_20 IAMs_20 22 10 11.7
comp=Z,3μm,18.0s
RSSD Black Hills 25.43 5 P **P 22 00 17.4 -0.8**
baz=187
RSSD S **S 22 04 46.9 +1.7**
baz=187
HLID Hailey 25.46 348 P **P 22 00 18.4 +0.1**
HLID IAmb IAmb 22 00 23.6
comp=Z,79nm,1.4s
HLID IAMs_20 IAMs_20 22 09 30.8
comp=Z,2μm,21.0s
HLID Hailey 25.46 348 P **P 22 00 17.7 -0.7**
baz=164,SNR=47
HLID S **S 22 04 48.1 +2.5**
baz=164
WVOR Wild Horse Val 25.52 340 P **P 22 00 18.8 0.0**
WVOR pmax pmax
comp=Z,94nm,1.1s
WVOR MLR MLR
comp=Z,1μm,19.0s
WVOR Wild Horse Val 25.52 340 P **P 22 00 18.8 0.0**
WVOR IAmb IAmb 22 00 21.8
comp=Z,94nm,1.1s
Q44A Meyer Farm, Va 25.55 34 P **P 22 00 20.6 +1.6**
Y52A Lilburn 25.56 49 P **P 22 00 19.5 +0.4**
MOD Modoc Plateau 25.62 337 P **P 22 00 19.9 +0.1**
MOD IAmb IAmb 22 00 25.7
comp=Z,59nm,1.1s
MOD IAMs_20 IAMs_20 22 09 54.0
comp=Z,3μm,20.0s
MFID Camas Ranch 25.64 345 P **P 22 00 20.0 +0.2**
MFID IAmb IAmb 22 00 24.8
comp=Z,72nm,1.3s
MFID IAMs_20 IAMs_20 22 09 51.4
comp=Z,2μm,19.0s
LCCY Blossom Villag 25.64 83 P **P 22 00 21.2 +1.3**
154A Montrose 25.67 53 P **P 22 00 20.7 +0.6**
KMRM Mail Ridge 25.68 330 P **P 22 00 21.2 +1.0**
CDITO Canoas 25.70 110 P **P 22 00 23.2 +2.7**
CDITO IAmb IAmb 22 01 12.9
comp=Z,134nm,1.4s
H17A Grant Village 25.72 354 P **P 22 00 21.1 +0.3**
H17A IAmb IAmb 22 00 28.6
comp=Z,112nm,1.6s
H17A Grant Village 25.72 354 P **P 22 00 20.2 -0.6**
baz=173,SNR=18
H17A S **S 22 04 54.5 +4.7**
baz=173
GOGA Godfrey 25.77 51 P **P 22 00 20.7 -0.3**
GOGA pmax pmax
comp=Z,46nm,0.7s
GOGA Godfrey 25.77 51 P **P 22 00 20.6 -0.3**
GOGA IAmb IAmb 22 00 23.1
comp=Z,46nm,0.7s
GOGA Godfrey 25.77 51 P **P 22 00 20.1 -0.9**
baz=241,SNR=19
GOGA S **S 22 04 51.5 +1.3**
baz=241
YFT Old Faithful 25.80 354 P **P 22 00 22.7 +1.2**
N02D Trinity Center 25.82 332 P **P 22 00 20.8 -0.7**
baz=144
255A Hazlehurst 25.85 55 P **P 22 00 21.6 -0.2**
U49A Red Boiling Sp 25.86 42 P **P 22 00 21.6 -0.2**
LKWY Lake 25.87 355 P **P 22 00 22.9 +0.7**
LKWY pmax pmax
comp=Z,40nm,1.1s
LKWY MLR MLR
comp=Z,3μm,22.0s
LKWY Lake 25.87 355 P **P 22 00 22.9 +0.7**
LKWY IAMs_20 IAMs_20 22 10 57.5
comp=Z,3μm,22.0s
OLIL Olney 25.93 36 P **P 22 00 22.4 0.0**
OLIL IAmb IAmb 22 00 41.7
comp=Z,84nm,1.1s
SCIA State Center 25.98 24 P **P 22 00 24.3 +1.5**
SCIA IAmb IAmb 22 00 48.0
comp=Z,70nm,1.2s
SCIA IAMs_20 IAMs_20 22 10 48.0
comp=Z,3μm,18.0s
SCIA State Center 25.98 24 P **P 22 00 22.0 -0.9**
baz=211
SCIA S **S 22 04 56.4 +3.0**
baz=211
BCYI Bear Canyon 26.00 350 P **P 22 00 23.4 0.0**
N41A Harden Midland 26.00 29 P **P 22 00 23.3 +0.2**
YMP Mirror Lake Pl 26.03 355 P **P 22 00 26.0 +2.4**
YMR Madison River 26.03 354 P **P 22 00 24.6 +1.1**
YMR IAmb IAmb 22 00 32.9
comp=Z,142nm,1.7s
YUF Upper Falls 26.03 355 P **P 22 00 25.5 +1.9**
YUF IAmb IAmb 22 00 55.0
comp=Z,87nm,1.6s
YNR Norris Junctio 26.05 354 P **P 22 00 25.4 +1.6**
YNR IAmb IAmb 22 00 50.2
comp=Z,103nm,1.7s
CPCT Cooper Cave 26.07 46 P **P 22 00 23.6 -0.2**
M04C Madoel 26.12 335 P **P 22 00 22.7 -1.5**
baz=147,SNR=12
YHH Holmes Hill 26.14 354 P **P 22 00 25.0 +0.4**
KHMM Horse Mountain 26.20 331 P **P 22 00 26.1 +1.0**
KHMM IAmb IAmb 22 01 07.8
comp=Z,115nm,1.6s
M02C Callahan 26.22 333 P **P 22 00 23.9 -1.3**
baz=145
M02C S **S 22 05 06.5 +9.1**
baz=145
YHL Hebgen Lake 26.23 354 P **P 22 00 26.1 +0.7**
YHL IAmb IAmb 22 00 45.6
comp=Z,94nm,1.5s
QLMT Earthquake Lak 26.24 353 P **P 22 00 26.2 +0.8**
W52A Murphy 26.29 47 P **P 22 00 25.5 -0.3**
W52A IAmb IAmb 22 00 26.6
comp=Z,66nm,0.8s
J08A Circle Bar Ran 26.30 341 P **P 22 00 26.2 +0.3**
J08A IAmb IAmb 22 00 28.9
comp=Z,56nm,1.0s
RLMT Red Lodge 26.35 357 P **P 22 00 28.0 +1.6**
RLMT Red Lodge 26.35 357 P **P 22 00 25.9 -0.6**
baz=176,SNR=14
RLMT S **S 22 05 05.1 +5.5**
baz=176
V51A Loudon 26.39 45 P **P 22 00 26.2 -0.4**
V51A IAmb IAmb 22 00 27.3
comp=Z,54nm,0.9s
MCMT McKenzie Canyo 26.42 351 P **P 22 00 27.7 +0.6**
YBH Yreka Blue Hor 26.44 333 P **P 22 00 25.2 -1.9**
comp=Z,6.3nm,0.8s,baz=114,slow=5.8,SNR=8.5
YBH LR LR 22 10 51.9
comp=Z,1μm,19.6s,baz=155,slow=36
YBH Yreka Blue Hor 26.44 333 P **P 22 00 26.0 -1.1**
YBH pmax pmax
comp=Z,36nm,1.6s
YBH Yreka Blue Hor 26.44 333 P **P 22 00 26.0 -1.1**
ECSD EROS Data Cent 26.46 17 P **P 22 00 28.2 +1.1**
ECSD EROS Data Cent 26.46 17 P **P 22 00 26.2 -1.0**
baz=203
ECSD S **S 22 05 05.8 +4.8**
baz=203
SUSD Miller 26.53 13 P **P 22 00 28.6 +0.7**
SUSD IAmb IAmb 22 00 37.7
comp=Z,76nm,1.0s
SUSD Miller 26.53 13 P **P 22 00 27.8 -0.1**
baz=198
SUSD S **S 22 05 04.9 +2.7**
baz=198
K05A Summer Lake 26.56 337 P **P 22 00 28.9 +0.6**
K05A IAmb IAmb 22 00 53.6
comp=Z,95nm,1.4s
WCI Wyandotte Cave 26.62 39 P **P 22 00 29.1 +0.4**
WCI pmax pmax
comp=Z,38nm,0.9s
WCI Wyandotte Cave 26.62 39 P **P 22 00 29.1 +0.4**
WCI Wyandotte Cave 26.62 39 P **P 22 00 26.9 -1.8**
baz=229
WCI S **S 22 05 01.9 -1.8**
baz=229
HDIL Hopedale 26.63 32 P **P 22 00 28.6 -0.2**
L04D Klamath Falls 26.67 334 P **P 22 00 28.5 -0.8**
baz=147,SNR=5.1
TKL Tuckaleechee C 26.70 46 P **P 22 00 28.5 -0.9**
comp=Z,12nm,0.8s,baz=202,slow=8.1,SNR=8.0
TKL LR LR 22 12 21.3
comp=Z,756nm,19.3s,baz=240,slow=40
TKL Tuckaleechee C 26.70 46 P **P 22 00 29.3 -0.2**
TKL pmax pmax
comp=Z,38nm,1.1s
TKL Tuckaleechee C 26.70 46 P **P 22 00 29.3 -0.2**
O44A Mansfield 26.75 33 P **P 22 00 30.0 +0.2**
O44A IAmb IAmb 22 00 57.2
comp=Z,66nm,1.2s
T50A Nancy 26.77 43 P **P 22 00 29.4 -0.6**
K38A Parkersburg 26.79 24 P **P 22 00 30.8 +0.6**
K38A IAmb IAmb 22 00 45.3
comp=Z,48nm,1.0s
K04D Chiloquin, OR 26.80 336 P **P 22 00 29.4 -1.0**
baz=148,SNR=5.4
DLMT Dillon 26.91 352 P **P 22 00 31.9 +0.5**
DLMT IAMs_20 IAMs_20 22 10 46.9
comp=Z,2μm,20.0s
V52A Sevierville 26.92 46 P **P 22 00 31.2 -0.2**
L40A Anamosa 26.93 27 P **P 22 00 32.6 +1.2**
BG3 Lake Jocassee 26.93 48 P **P 22 00 32.3 +0.7**
BG3 IAmb IAmb 22 00 50.8
comp=Z,58nm,1.1s
BOZ Bozeman (W) 27.02 353 P **P 22 00 32.3 -0.1**
BOZ pmax pmax
comp=Z,24nm,1.0s
BOZ MLR MLR
comp=Z,1μm,18.0s
BOZ Bozeman (W) 27.02 353 P **P 22 00 32.3 -0.1**
BOZ IAMs_20 IAMs_20 22 10 42.8
comp=Z,1μm,18.0s
BOZ Bozeman (W) 27.02 353 P **P 22 00 31.6 -0.8**
baz=171,SNR=25
GCMT Greycliff 27.04 356 P **P 22 00 32.3 -0.3**
HODGE Hodges 27.04 50 P **P 22 00 32.9 +0.3**
HODGE IAmb IAmb 22 00 41.0
comp=Z,61nm,1.3s
P46A Rosedale 27.04 36 P **P 22 00 32.7 +0.2**
P46A IAmb IAmb 22 00 47.5
comp=Z,47nm,0.9s
BLO Bloomington 27.12 37 P **P 22 00 34.5 +1.3**
BLO pmax pmax
comp=Z,24nm,0.8s
BLO Bloomington 27.12 37 P **P 22 00 34.5 +1.3**
J05D Fort Rock, OR 27.16 337 P **P 22 00 33.4 -0.3**
baz=150,SNR=32
L02E Cave Junction 27.17 333 P **P 22 00 32.8 -0.8**
baz=144
PLID Pearl Lake 27.26 346 P **P 22 00 34.1 -0.5**
PLID IAmb IAmb 22 00 39.0
comp=Z,108nm,1.9s
PLID IAMs_20 IAMs_20 22 10 53.3
comp=Z,2μm,20.0s
I07A Izee 27.28 340 P **P 22 00 34.3 -0.4**
TZTN Tazewell 27.34 45 P **P 22 00 35.4 +0.2**
TZTN IAmb IAmb 22 00 36.2
comp=Z,57nm,1.1s
TZTN Tazewell 27.34 45 P **P 22 00 33.6 -1.6**
baz=236,SNR=9.7
LRM Limekiln Ridge 27.34 352 P **P 22 00 35.4 0.0**
R49A Shelbyville 27.34 40 P **P 22 00 35.1 0.0**
R49A IAmb IAmb 22 00 36.2
comp=Z,80nm,1.8s
BMO Blue Mountains 27.35 344 P **P 22 00 35.2 -0.1**
BMO pmax pmax
comp=Z,87nm,1.8s
BMO MLR MLR
comp=Z,1μm,20.0s
BMO Blue Mountains 27.35 344 P **P 22 00 35.2 -0.1**
BMO IAmb IAmb 22 00 38.2
comp=Z,86nm,1.8s
BMO IAMs_20 IAMs_20 22 10 35.8
comp=Z,1μm,20.0s
V53A Saluda 27.36 47 P **P 22 00 35.7 +0.2**
J04D Umpqua Nationa 27.46 336 P **P 22 00 35.6 -0.8**
baz=148,SNR=18
PINE Pine Mountain 27.50 338 P **P 22 00 37.1 +0.3**
L42A Oliver, Polo 27.57 29 P **P 22 00 36.4 -0.9**
L42A IAmb IAmb 22 00 43.9
comp=Z,62nm,0.9s
K02D Willamette Mer 27.64 333 P **P 22 00 37.5 -0.4**
baz=145,SNR=9.5
SFIN Lafayette 27.64 35 P **P 22 00 37.6 -0.2**
SFIN Lafayette 27.64 35 P **P 22 00 36.0 -1.8**
baz=224
PAULI Pauline 27.65 50 P **P 22 00 38.9 +0.9**
PAULI IAmb IAmb 22 01 10.5
comp=Z,127nm,1.9s
I37A Lemond, Waseca 27.73 22 P **P 22 00 38.6 0.0**
I37A IAmb IAmb 22 01 34.4
comp=Z,112nm,1.6s
JSC Jenkinsville 27.80 51 P **P 22 00 39.0 -0.3**
JSC pmax pmax
comp=Z,41nm,1.1s
JSC Jenkinsville 27.80 51 P **P 22 00 39.0 -0.3**
DBO Dodson Butte 27.81 334 P **P 22 00 39.2 -0.2**
DBO IAmb IAmb 22 00 42.7
comp=Z,60nm,1.2s
R50A Paris 27.86 41 P **P 22 00 39.7 -0.1**
R50A IAmb IAmb 22 00 44.8
comp=Z,103nm,1.8s
LAO LASA Array 27.87 1 P **P 22 00 39.1 -0.8**
LAO IAmb IAmb 22 00 46.9
comp=Z,130nm,1.6s
LAO LASA Array 27.87 1 P **P 22 00 38.5 -1.4**
baz=182,SNR=13
S51A Beattyville 27.93 43 P **P 22 00 40.1 -0.4**
JFWS Jewell Farm 28.04 27 P **P 22 00 41.7 +0.3**
JFWS pmax pmax
comp=Z,31nm,0.9s
JFWS MLR MLR
comp=Z,2μm,18.0s
JFWS Jewell Farm 28.04 27 P **P 22 00 41.7 +0.3**
JFWS Jewell Farm 28.04 27 IAMs_20 IAMs_20 22 12 10.5
comp=Z,2μm,18.0s
JFWS Jewell Farm 28.04 27 P **P 22 00 40.3 -1.1**
baz=216,SNR=6.4
I04A Tendick Farm, 28.04 336 P **P 22 00 40.8 -0.7**
baz=148
KEBM Edson Butte 28.07 333 P **P 22 00 43.0 +1.3**
NHSC New Hope 28.11 54 P **P 22 00 42.7 +0.7**
NHSC New Hope 28.11 54 P **P 22 00 39.1 -2.9**
baz=246
I05D Terrebonne, OR 28.12 338 P **P 22 00 42.2 0.0**
baz=151,SNR=7.3
HRY Holter Researc 28.14 353 P **P 22 00 42.4 0.0**

KMSC Kings Mountain 28.15 49 P P 22 00 42.7 +0.3
KMSC Kings Mountain 28.15 49 P P 22 00 40.2 -2.2
baz=241
MTDJ Mount Denham 28.15 86 P P 22 00 43.9 +1.1
G08A Pilot Rock 28.21 342 P P 22 00 44.2 +1.2
E28A Huff 28.26 10 P P 22 00 44.4 +1.0
I03D Drain, OR 28.33 335 P P 22 00 42.8 -1.1
baz=146
F10A Beach Ranch, E 28.38 345 P P 22 00 43.4 -1.1
P49A Miami Univ. Ec 28.41 38 P P 22 00 44.6 -0.1
P49A IAmb IAmb 22 00 49.0
comp=Z,74nm,1.3s
P49A Miami Univ. Ec 28.41 38 P P 22 00 43.4 -1.4
baz=230,SNR=9.4
U54A Nelsons Funny 28.50 46 P P 22 00 44.9 -0.7
MSO Missoula 28.54 350 P P 22 00 45.8 -0.2
MSO IAmb IAmb 22 00 48.6
comp=Z,52nm,1.1s
MSO IAMs_20 IAMs_20 22 11 46.2
comp=Z,2µm,20.0s
MSO Missoula 28.54 350 P P 22 00 45.3 -0.6
baz=166,SNR=24
L44A Lake County Fo 28.54 31 IAMs_20 IAMs_20 22 11 51.7
comp=Z,1µm,19.0s
L44A Lake County Fo 28.54 31 P P 22 00 44.9 -0.9
baz=221
BUCK Buck Mountain 28.61 336 P P 22 00 47.5 +1.0
I40A Norwalk 28.68 25 P P 22 00 47.1 0.0
I40A IAmb IAmb 22 00 49.2
comp=Z,39nm,1.1s
H04A Detroit Lake 28.72 337 P P 22 00 47.1 -0.3
H04A IAmb IAmb 22 00 49.8
comp=Z,52nm,1.0s
N47A Urbana 28.75 35 P P 22 00 47.1 -0.6
H04D Lebanon 28.79 337 P P 22 00 47.1 -0.9
baz=148
Y58A Scranton 28.82 53 P P 22 00 49.3 +0.8
I02E Swisshome, OR 28.87 335 P P 22 00 48.3 -0.5
baz=146
G05D Wamic, OR 28.90 339 P P 22 00 48.5 -0.5
baz=152
Q51A Peebles 28.92 41 P P 22 00 49.2 0.0
SPMN Marine on St. 29.00 21 P P 22 00 49.6 -0.2
SPMN IAmb IAmb 22 01 36.1
comp=Z,91nm,1.9s
SPMN Marine on St. 29.00 21 P P 22 00 49.3 -0.6
baz=209
F07A Phinny Hill Vi 29.04 342 P P 22 00 51.4 +1.1
F07A IAmb IAmb 22 00 55.5
comp=Z,85nm,1.9s
COR Corvallis 29.05 336 P P 22 00 51.7 +1.4
COR pmax pmax
comp=Z,407nm,2.0s
COR Corvallis 29.05 336 P P 22 00 51.7 +1.4
O49A Covington 29.05 38 P P 22 00 50.2 -0.2
O49A IAmb IAmb 22 00 57.2
comp=Z,46nm,1.1s
HOOD Mount Hood Mea 29.08 339 P P 22 00 50.9 0.0
HOOD IAmb IAmb 22 00 55.4
comp=Z,70nm,1.2s
E09A Wood Farm, Sta 29.11 344 P P 22 00 51.3 +0.4
W57A Gilead 29.12 50 P P 22 00 51.6 +0.5
W57A IAmb IAmb 22 01 43.0
comp=Z,86nm,1.6s
L46A Eue Claire 29.23 33 P P 22 00 51.5 -0.5
L46A IAmb IAmb 22 00 58.0
comp=Z,42nm,1.1s
EGMT Eagleton 29.27 357 P P 22 00 52.1 -0.2
EGMT IAmb IAmb 22 00 55.9
comp=Z,46nm,1.2s
EGMT Eagleton 29.27 357 P P 22 00 51.2 -1.2
baz=175,SNR=11
F36A Milaca 29.32 20 P P 22 00 52.5 -0.3
X58A Rowland 29.34 52 P P 22 00 52.9 -0.2
P51A Williamsport 29.37 40 P P 22 00 53.2 -0.1
P51A IAmb IAmb 22 00 55.0
comp=Z,37nm,0.8s
HAWA Hanford 29.38 342 P P 22 00 53.3 +0.1
HAWA IAmb IAmb 22 00 56.9
comp=Z,80nm,2.0s
HAWA IAMs_20 IAMs_20 22 12 16.5
comp=Z,2µm,20.0s
R53A Hurricane 29.39 43 P P 22 00 53.6 +0.1
I42A Draeger Farm, 29.41 28 P P 22 00 53.0 -0.6
U56A King 29.41 48 P P 22 00 53.9 +0.2
U56A IAmb IAmb 22 00 54.8
comp=Z,87nm,1.6s
JTMT Jette 29.49 350 P P 22 00 53.5 -0.9
F05D White Salmon 29.51 340 P P 22 00 53.2 -1.3
baz=152,SNR=5.6
S54A Dingess, Beckl 29.52 45 P P 22 00 54.8 +0.1
S54A IAmb IAmb 22 00 55.9
comp=Z,119nm,1.6s
D32A Dogwood Acres, 29.52 14 P P 22 00 54.6 +0.2
Q52A Bidwell 29.55 42 P P 22 00 54.6 -0.3
Q52A IAmb IAmb 22 01 33.1
comp=Z,47nm,1.2s
G03D McMinnville, O 29.57 337 P P 22 00 54.6 -0.4
baz=148
N49A Columbus Grove 29.62 37 P P 22 00 55.4 -0.1
MDND Maddock 29.68 10 P P 22 00 55.4 -0.5
MDND Maddock 29.68 10 P P 22 00 55.0 -0.9
baz=195
DGMT Dagmar 29.74 4 P P 22 00 56.4 -0.1
DGMT IAmb IAmb 22 00 59.2
comp=Z,49nm,1.0s
DGMT Dagmar 29.74 4 P P 22 00 55.9 -0.6
baz=186
BLA Blacksburg 29.81 46 P P 22 00 54.9 -2.4
baz=239
D08A Wollman Farm, 29.82 344 P P 22 00 58.6 +1.5
ACSO Alum Creek Sta 29.88 39 P P 22 00 58.4 +0.6
ACSO IAmb IAmb 22 01 41.7
comp=Z,53nm,1.4s
ACSO Alum Creek Sta 29.88 39 P P 22 00 55.7 -2.1
baz=231
F04A Amboy 29.88 338 P P 22 00 57.9 +0.2
F04A IAmb IAmb 22 01 00.1
comp=Z,54nm,1.1s
G40A Rib Lake 29.99 24 P P 22 00 59.6 +0.8
P52A Corning 30.03 41 P P 22 00 58.7 -0.5
P52A Corning 30.03 41 P P 22 00 57.0 -2.1
baz=233,SNR=5.5
V58A Windy Hill, Pi 30.05 50 P P 22 00 59.7 +0.3
L48A N Adams 30.17 35 P P 22 00 60.0 -0.4
F04D Rainier, OR 30.22 338 P P 22 00 59.8 -0.9
baz=149
GTBY Guantanamo Bay 30.30 82 P P 22 01 03.3 +1.6
GTBY IAmb IAmb 22 01 22.1
comp=Z,44nm,1.2s
C09A Chrisman Ranch 30.34 345 P P 22 01 02.8 +1.0
P53A Whipple 30.41 42 P P 22 01 01.9 -0.6
P53A IAmb IAmb 22 01 06.6
comp=Z,99nm,1.4s
E04D Cinebar 30.47 339 P P 22 01 01.3 -1.6
baz=150
Q54A Coxs Mills 30.48 43 P P 22 01 01.3 -1.8
LTY Liberty 30.49 342 P P 22 01 03.3 +0.2
LTY IAmb IAmb 22 01 06.2
comp=Z,59nm,1.4s
O52A Adamsville 30.50 40 P P 22 01 02.2 -1.1
T57A Hurt 30.52 48 P P 22 01 03.7 +0.3
T57A IAmb IAmb 22 01 04.8
comp=Z,31nm,0.9s
NEW Newport 30.52 347 P P 22 01 02.7 -0.7
comp=Z,16nm,0.9s,baz=156,slow=9.5,SNR=20
NEW LR LR 22 12 58.1
comp=Z,1µm,18.2s,baz=170,slow=36
NEW Newport 30.52 347 P P 22 01 03.0 -0.4
NEW pmax pmax
comp=Z,33nm,1.1s
NEW MLR MLR
comp=Z,1µm,20.0s
NEW Newport 30.52 347 P P 22 01 03.0 -0.4
NEW IAmb IAmb 22 01 07.0
comp=Z,33nm,1.1s
NEW Newport 30.52 347 IAMs_20 IAMs_20 22 12 56.5
comp=Z,1µm,20.0s
NEW Newport 30.52 347 P P 22 01 02.3 -1.1
baz=161,SNR=15
M50A Fremont 30.59 37 P P 22 01 04.1 +0.1
M50A IAmb IAmb 22 01 11.0
comp=Z,42nm,0.9s
N51A Ashland 30.67 39 P P 22 01 04.4 -0.4
N51A IAmb IAmb 22 01 06.1
comp=Z,38nm,0.8s
CNNC Cliffs of the 30.71 52 P P 22 01 04.9 -0.3
CNNC IAmb IAmb 22 01 13.6
comp=Z,102nm,1.5s
CNNC Cliffs of the 30.71 52 P P 22 01 02.9 -2.2
baz=245
WALA Waterton Lakes 30.71 351 P P 22 01 05.3 +0.1
I45A Fountain 30.75 30 P P 22 01 06.3 +1.0
I45A IAmb IAmb 22 01 19.3
comp=Z,49nm,0.8s
E03A Lebam 30.81 338 P P 22 01 07.0 +1.1
D05A Enumclaw 30.84 340 P P 22 01 06.7 +0.6
AAM Ann Arbor 30.84 35 P P 22 01 06.2 0.0
AAM pmax pmax
comp=Z,46nm,0.9s
AAM Ann Arbor 30.84 35 P P 22 01 06.2 0.0
AAM IAmb IAmb 22 01 08.9
comp=Z,46nm,0.9s
AAM Ann Arbor 30.84 35 P P 22 01 04.5 -1.7
baz=228
AGMN Agassiz Nation 30.88 15 P P 22 01 05.5 -1.0
AGMN IAmb IAmb 22 01 10.2
comp=Z,84nm,1.8s
AGMN Agassiz Nation 30.88 15 P P 22 01 05.8 -0.7
baz=201
O53A New Philadelph 30.97 41 P P 22 01 06.8 -0.6
O53A New Philadelph 30.97 41 P P 22 01 05.5 -1.9
baz=234
D04E Lakebay 31.08 339 P P 22 01 06.5 -1.8
baz=150
S57A Dark Hollow, R 31.10 47 P P 22 01 08.7 +0.1
S57A IAmb IAmb 22 01 15.7
comp=Z,88nm,1.8s
B08A Colville Reser 31.13 344 P P 22 01 08.8 +0.1
B08A IAmb IAmb 22 01 11.6
comp=Z,48nm,1.0s
O54A Avella 31.45 42 P P 22 01 11.1 -0.5
O54A IAmb IAmb 22 01 15.7
comp=Z,92nm,1.6s
MCWV Mont Chateau 31.49 43 P P 22 01 12.0 0.0
MCWV IAmb IAmb 22 01 32.0
comp=Z,44nm,1.1s
MCWV Mont Chateau 31.49 43 P P 22 01 10.0 -2.1
baz=236
B35A Bob, Littlefor 31.50 17 P P 22 01 11.1 -0.9
B35A IAmb IAmb 22 01 14.2
comp=Z,125nm,1.9s
N53A Lisbon 31.53 40 P P 22 01 10.9 -1.4
Q56A Snyder Ridge, 31.59 44 P P 22 01 13.1 +0.1
Q56A IAmb IAmb 22 01 13.8
comp=Z,99nm,1.6s
M52A Chesterland 31.66 39 P P 22 01 13.5 0.0
T59A Double "B" Far 31.71 49 P P 22 01 14.2 +0.3
T59A IAmb IAmb 22 01 31.0
comp=Z,33nm,1.1s
K50A Casco 31.72 36 P P 22 01 13.6 -0.4
K50A IAmb IAmb 22 01 16.1
comp=Z,53nm,1.0s
G45A Suttons Bay 31.77 30 P P 22 01 14.7 +0.3
G45A IAmb IAmb 22 01 16.6
comp=Z,28nm,0.7s
EYMN Ely 31.81 20 P P 22 01 13.9 -0.9
EYMN IAmb IAmb 22 01 17.7
comp=Z,56nm,1.4s
EYMN Ely 31.81 20 P P 22 01 13.3 -1.4
baz=209,SNR=9.5
B05A Bryant 31.82 341 P P 22 01 13.6 -1.2
baz=152
B06A Marblemount 31.86 342 P P 22 01 15.0 -0.2
B06A IAmb IAmb 22 01 17.4
comp=Z,35nm,0.8s
R58B Mineral 31.94 47 P P 22 01 16.0 +0.1
R58B IAmb IAmb 22 01 26.0
comp=Z,65nm,1.7s
M53A WI Miller and 32.00 39 P P 22 01 16.0 -0.5
M53A WI Miller and 32.00 39 P P 22 01 14.3 -2.2
baz=233
B04A Port Angeles 32.09 339 P P 22 01 19.5 +2.3
B04A IAmb IAmb 22 01 21.2
comp=Z,88nm,1.4s
GLMI Grayling 32.11 31 P P 22 01 17.8 +0.4
GLMI Grayling 32.11 31 P P 22 01 15.2 -2.2
baz=223
D41A Chassel 32.11 24 P P 22 01 18.3 +0.9
D41A IAmb IAmb 22 01 20.3
comp=Z,71nm,1.3s
N54A Moraine State 32.14 41 P P 22 01 16.7 -1.0
N54A IAmb IAmb 22 01 30.8
comp=Z,57nm,1.1s
N54A Moraine State 32.14 41 P P 22 01 14.3 -3.4
baz=234
E43A Lone Tree Farm 32.20 27 P P 22 01 17.7 -0.5
SJCC San Jacinto, C 32.22 101 eP P 22 01 18.3 -0.5
DBBC Dabeiba 32.34 107 eP P 22 01 21.8 +1.9
CBN Corbin Frederi 32.40 47 P P 22 01 20.3 +0.3
CBN IAmb IAmb 22 01 25.6
comp=Z,57nm,0.9s
CBN IAMs_20 IAMs_20 22 13 51.0
comp=Z,949nm,19.0s
CBN Corbin Frederi 32.40 47 P P 22 01 16.6 -3.4
baz=242
A04D Lummi Island 32.41 341 P P 22 01 19.6 -0.4
baz=152
ALLY Alegheny Colle 32.45 39 P P 22 01 20.4 0.0
ALLY IAmb IAmb 22 01 26.7
comp=Z,53nm,1.1s
PGC Sidney 32.59 340 P P 22 01 23.3 +1.8
PGC IAmb IAmb 22 01 24.3
comp=Z,39nm,1.1s
P57A Homestead Farm 32.60 45 P P 22 01 21.9 +0.1
P57A IAmb IAmb 22 01 25.0
comp=Z,69nm,1.6s
O56A Blue Knob Stat 32.65 43 P P 22 01 21.7 -0.5
O56A IAmb IAmb 22 01 23.5
comp=Z,112nm,1.9s
O56A Blue Knob Stat 32.65 43 P P 22 01 20.6 -1.6
baz=237,SNR=6.4
M54A Oil Creek Stat 32.66 40 P P 22 01 21.4 -0.8
M54A Oil Creek Stat 32.66 40 P P 22 01 20.9 -1.4
baz=234,SNR=9.1
ULM Lac du Bonnet 32.71 14 P P 22 01 20.8 -1.7
comp=Z,21nm,0.7s,baz=200,slow=9.1,SNR=20
ULM LR LR 22 14 48.2
comp=Z,3µm,20.2s,baz=192,slow=37
ULM Lac du Bonnet 32.71 14 P P 22 01 21.1 -1.4
ULM pmax pmax
comp=Z,157nm,1.6s
ULM Lac du Bonnet 32.71 14 P P 22 01 21.1 -1.4
ERPA Erie 32.82 39 IAMs_20 IAMs_20 22 14 58.0
comp=Z,1µm,21.0s
ERPA Erie 32.82 39 P P 22 01 21.6 -2.0
baz=233
CLRS Cowichan Lake 32.96 339 P P 22 01 26.7 +1.9
CLRS IAmb IAmb 22 01 27.8
comp=Z,36nm,1.1s
CBOC Ciudad Bolivar 33.00 109 eP P 22 01 21.6 -4.1
PLMC San Jos del P 33.18 111 eP P 22 01 25.7 -1.5
M55A Ridgway 33.19 41 P P 22 01 26.3 -0.6
M55A IAmb IAmb 22 01 33.2
comp=Z,34nm,0.9s
SSPA Standing Stone 33.28 43 P P 22 01 27.3 -0.4
SSPA IAmb IAmb 22 01 33.6
comp=Z,84nm,1.6s
SSPA Standing Stone 33.28 43 IAMs_20 IAMs_20 22 16 06.3
comp=Z,2µm,19.0s
SSPA Standing Stone 33.28 43 P P 22 01 26.1 -1.7
baz=238
HELC Santa Helena 33.30 108 eP P 22 01 28.2 -0.4
SDMD Soldier's Deli 33.35 45 P P 22 01 28.4 +0.1
SMLC San Martn de 33.62 103 eP P 22 01 30.6 -0.4
OTAV Otavalo 33.71 120 P P 22 01 34.5 +2.3
OTAV pmax pmax
comp=Z,58nm,1.2s
OTAV MLR MLR
comp=Z,1µm,21.0s
OTAV Otavalo 33.71 120 P P 22 01 34.5 +2.3
OTAV IAmb IAmb 22 01 35.5
comp=Z,58nm,1.2s
OTAV Otavalo 33.71 120 IAMs_20 IAMs_20 22 11 40.8
comp=Z,974nm,21.0s
WVNY West Valley, N 33.82 40 P P 22 01 31.6 -0.8
WVNY IAmb IAmb 22 01 45.2
comp=Z,31nm,1.0s
PAGS Pennsylvania G 33.83 44 P P 22 01 32.1 -0.4
PAGS IAmb IAmb 22 01 33.7
comp=Z,35nm,1.1s
GUY2C Guyana, Caldas 33.86 109 eP P 22 01 34.7 +1.2
LLLB Lillooet 33.86 343 P P 22 01 32.5 -0.2
MVL Millersville 33.97 45 P P 22 01 33.7 +0.1
MVL IAmb IAmb 22 01 34.7
comp=Z,58nm,1.5s
SDDR Presa de Saban 33.97 84 P P 22 01 34.9 +0.9
SDDR IAmb IAmb 22 01 40.8
comp=Z,38nm,1.1s
POPC Popayan, Colom 33.97 115 eP P 22 01 34.9 +0.6
LL6C La Loma 6 Bece 34.05 101 eP P 22 01 35.4 +0.6
GCUF Volcan Galeras 34.08 117 eP P 22 01 36.2 +0.7
PTBC PUERTO BERRIO, 34.12 107 eP P 22 01 33.9 -1.4
Q61A Milford 34.14 47 P P 22 01 34.5 -0.6
baz=243
M57A Sunshine Farm, 34.14 42 P P 22 01 34.9 -0.4
M57A IAmb IAmb 22 01 36.4
comp=Z,73nm,1.7s
N58A Sunbury 34.15 43 P P 22 01 34.3 -0.9
N58A IAmb IAmb 22 01 37.6
comp=Z,28nm,1.0s
SOTA Rioblanco 34.23 115 eP P 22 01 37.7 +0.8
L56A Greenwood 34.31 41 P P 22 01 36.1 -0.5
L56A IAmb IAmb 22 02 00.9
comp=Z,32nm,1.1s
PCON Cinco Dias 34.32 115 eP P 22 01 37.6 0.0
P60A Greenville 34.36 46 P P 22 01 37.9 +0.8
P60A Greenville 34.36 46 P P 22 01 35.9 -1.2
baz=242
CBB Campbell River 34.42 339 P P 22 01 38.5 +1.1
CBB IAmb IAmb 22 01 41.3
comp=Z,58nm,1.1s
WUPA West Chester U 34.44 45 P P 22 01 37.5 -0.2
WUPA IAmb IAmb 22 01 38.9
comp=Z,59nm,1.6s
MARP Paez Belalcaza 34.44 114 eP P 22 01 40.1 +1.7
OCAC Ocana 34.52 103 eP P 22 01 38.9 -0.1
OCAC Ocana 34.52 103 P P 22 01 39.4 +0.5
ORTC Ortega, Tolima 34.56 111 eP P 22 01 38.0 -1.1
BRRC Barranca, Sant 34.58 105 eP P 22 01 38.9 -0.4
URIC Uribia, Colomb 34.66 97 P P 22 01 40.3 +0.3
EDM Edmonton 34.73 354 P P 22 01 39.3 -0.9
EDM pmax pmax
comp=Z,73nm,0.8s
EDM Edmonton 34.73 354 P P 22 01 39.2 -0.9
N59A State Game Lan 34.81 44 P P 22 01 40.9 -0.1
N59A IAmb IAmb 22 01 42.0
comp=Z,124nm,1.9s
N59A State Game Lan 34.81 44 P P 22 01 38.2 -2.8
baz=240
LUPA Lehigh Univers 34.91 45 P P 22 01 42.2 +0.3
LUPA IAmb IAmb 22 01 47.1
comp=Z,44nm,1.1s
SADO Sadowa 34.94 36 P P 22 01 40.7 -1.3
comp=Z,6.2nm,0.7s,baz=248,slow=6.0,SNR=3.6
SADO LR LR 22 16 31.9
comp=Z,1µm,18.4s,baz=208,slow=37
SADO Sadowa 34.94 36 P P 22 01 42.7 +0.7
SADO IAmb IAmb 22 01 55.0
comp=Z,96nm,1.8s
ROSC El Rosal 34.96 109 eP P 22 01 40.9 -2.2
BARC Barichara 35.26 106 eP P 22 01 47.0 +1.6
BINY Binghamton 35.33 42 P P 22 01 44.8 -0.6
BINY Binghamton 35.33 42 P P 22 01 43.4 -2.1
baz=238
FLOC Florencia 35.34 115 eP P 22 01 43.8 -2.0
TLCB Telegraph Cove 35.36 338 P P 22 01 46.7 +1.1
TLCB IAmb IAmb 22 01 56.4
comp=Z,68nm,1.2s
PAMC Pamplona, Colo 35.42 104 eP P 22 01 48.2 +1.1
BRNJ Basking Ridge 35.49 45 P P 22 01 47.1 +0.3
BRNJ IAmb IAmb 22 01 51.5
comp=Z,58nm,1.2s
CHIC Chingaza 35.58 109 eP P 22 01 49.6 +1.2
RUSC La Rusia 35.63 107 eP P 22 01 49.6 +0.6
PECO Prince Edward 35.66 39 P P 22 01 48.1 -0.2
PECO IAmb IAmb 22 02 01.2
comp=Z,38nm,1.2s
L59A Walton 35.92 42 P P 22 01 50.5 -0.1
L59A IAmb IAmb 22 01 53.9
comp=Z,51nm,1.1s
TRNY Table Rock, Ra 35.94 44 P P 22 01 51.4 +0.7
J57A Williamstown 35.97 40 P P 22 01 50.9 0.0
PAL Palisades 36.08 45 P P 22 01 51.3 -0.6
PAL pmax pmax
comp=Z,145nm,1.8s
PAL Palisades 36.08 45 P P 22 01 51.3 -0.6
PAL Palisades 36.08 45 P P 22 01 51.0 -0.9
baz=242
TAMC Tame, Arauca 36.60 105 eP P 22 01 58.3 +1.6
MACC Macarena, Meta 36.62 113 eP P 22 01 56.1 -0.7
KSCT Kent School, K 36.70 44 P P 22 01 57.2 0.0
KSCT IAmb IAmb 22 01 58.3
comp=Z,146nm,1.8s
SOCV Socops 36.78 101 eP P 22 01 57.4 -0.9
SDV Santo Domingo 36.79 100 LR LR 22 18 35.1
comp=Z,285nm,18.3s,baz=310,slow=39
SDV Santo Domingo 36.79 100 eP P 22 01 59.5 +1.1
SDV Santo Domingo 36.79 100 P P 22 01 59.6 +1.1
SDV IAmb IAmb 22 02 09.5
comp=Z,70nm,0.8s
PTLC Puerto Leguiza 36.80 116 eP P 22 01 59.4 +1.1
BBB Bella Bella 37.17 339 LR LR 22 17 14.3
comp=Z,923nm,18.3s,baz=166,slow=36
NCB Newcomb 37.35 40 P P 22 02 03.5 +0.7
ACCN Adirondack Com 37.40 42 P P 22 02 03.2 +0.1
LONY Lake Ozonia 37.48 39 P P 22 02 02.2 -1.6
baz=237
L61B Northampton 37.57 43 P P 22 02 03.0 -1.6
baz=242
VLDQ Val d'Or 37.96 33 P P 22 02 08.2 +0.4
VLDQ IAmb IAmb 22 02 13.4
comp=Z,80nm,2.0s
J61A Chester 38.09 42 P P 22 02 10.0 +1.1
FRNY Flat Rock 38.20 40 P P 22 02 09.9 +0.1
FRNY IAmb IAmb 22 02 10.4
comp=Z,77nm,1.9s
AOPR Arecibo Observ 38.31 84 P P 22 02 11.4 +0.2
AOPR IAmb IAmb 22 02 18.9
comp=Z,44nm,0.7s
HRV Adam Dziewonsk 38.34 44 P P 22 02 09.1 -2.0
baz=243
ATAH Atahualpa 38.34 130 LR LR 22 14 31.4
comp=Z,1µm,20.3s,baz=309,slow=31
TRQ Mont Tremblant 38.39 37 P P 22 02 10.9 -0.6
TRQ IAmb IAmb 22 02 39.2
comp=Z,82nm,1.6s
OBIP Obispado Ponce 38.49 84 P P 22 02 12.0 -0.6
OBIP IAmb IAmb 22 02 19.4
comp=Z,74nm,1.1s
MNTQ Montreal, Queb 38.53 39 P P 22 02 14.1 +1.5
SJG San Juan 38.91 84 P P 22 02 15.8 -0.3
SJG pmax pmax
comp=Z,129nm,1.2s
SJG MLR MLR
comp=Z,600nm,21.0s
SJG San Juan 38.91 84 P P 22 02 15.8 -0.3
SJG IAmb IAmb 22 02 23.2
comp=Z,129nm,1.1s
LBNH Lisbon 38.92 41 P P 22 02 14.8 -1.1
baz=241
GCPR Guaynabo City 38.95 84 P P 22 02 16.2 -0.3
GCPR IAmb IAmb 22 02 23.6
comp=Z,54nm,0.9s
PDPR Patillas Dam, 39.04 84 P P 22 02 16.7 -0.5
PDPR IAmb IAmb 22 02 23.5
comp=Z,48nm,0.9s
CBYP Canovanas 39.17 84 P P 22 02 17.8 -0.6
CBYP IAmb IAmb 22 02 28.7
comp=Z,46nm,0.9s
HUMP Col San Antoni 39.19 84 P P 22 02 18.4 0.0
HUMP IAmb IAmb 22 02 25.7
comp=Z,99nm,1.1s
BAUV El Baul 39.19 99 P P 22 02 18.4 -0.2
BAUV IAmb IAmb 22 02 28.6
comp=Z,90nm,0.9s
MOQ Mont Orford 39.25 40 P P 22 02 18.6 -0.2
MTP Monte Pirata 39.48 84 P P 22 02 20.8 -0.1
H62A Milan 39.56 41 P P 22 02 20.5 -0.8
CUPR Culebra, Puert 39.70 84 P P 22 02 22.9 +0.1
STVI Saint Thomas 40.01 84 P P 22 02 25.4 +0.1
STVI IAmb IAmb 22 02 37.0
comp=Z,151nm,1.4s
G62A West of Eustis 40.26 41 P P 22 02 28.6 +1.5
PKME Peaks-Kenny Pk 41.06 41 P P 22 02 33.3 -0.3

baz=242
FCC Fort Churchill 41.09 10 P P 22 02 32.2 -1.5
FCC pmax pmax
comp=Z,63nm,1.0s
FCC Fort Churchill 41.09 10 P P 22 02 32.2 -1.5
FCC IAmb IAmb 22 02 35.5
comp=Z,63nm,1.0s
CRAG Craig 41.58 338 P P 22 02 37.9 +0.2
baz=141
SABA Saba 41.72 84 IAMs_20 IAMs_20 22 18 49.6
comp=Z,867nm,21.0s
SMRT St. Maarten 41.82 84 P P 22 02 39.2 -1.0
SMRT IAMs_20 IAMs_20 22 18 14.2
comp=Z,680nm,20.0s
WRAK Wrangell Islan 42.06 339 P P 22 02 41.7 0.0
baz=143
D62A Allapoint, All 42.06 39 P P 22 02 43.0 +1.1
TAOE Nuku Hiva Isla 42.51 233 *e*LQ LQ 22 12 31.0
comp=Z,3μm,28.0s
TAOE *e*LR LR 22 14 18.8
comp=Z,744nm,24.1s,baz=51
TAOE Nuku Hiva Isla 42.51 233 *e*T T 22 47 46.9
comp=Z,332nm,0.3s
NNA Nana 42.79 133 LR LR 22 17 06.2
comp=Z,550nm,18.7s,baz=318,slow=31
NNA Nana 42.79 133*ce*P **P 22 02 49.7 +1.5**
NNA pmax pmax
comp=Z,74nm,1.3s
NNA Nana 42.79 133 P **P 22 02 49.4 +1.2**
NNA IAmb IAmb 22 02 50.3
comp=Z,87nm,1.6s
NNA Nana 42.79 133 IAMs_20 IAMs_20 22 17 54.3
comp=Z,615nm,18.0s
DLBC Dease Lake 43.01 343 LR LR 22 21 14.0
comp=Z,2μm,18.7s,baz=158,slow=37
DLBC Dease Lake 43.01 343 P **P 22 02 50.0 +0.5**
DLBC IAmb IAmb 22 02 53.3
comp=Z,50nm,0.9s
CZSB Cruzeiro do Su 43.03 125 P **P 22 02 50.8 +0.7**
CZSB IAmb IAmb 22 02 52.5
comp=Z,70nm,1.1s
ANWB Willy Bob 43.09 84 P **P 22 02 51.9 +1.3**
TBTG Tabatinga, AM 43.24 118 *e*P **P 22 02 52.5 +0.6**
SIT Sitka 43.59 338 P **P 22 02 53.6 -0.4**
baz=140
BATG Bathurst New B 43.96 40 P **P 22 02 57.2 0.0**
BATG IAmb IAmb 22 02 58.3
comp=Z,59nm,1.6s
YKA Yellowknife Ar 44.00 355 P **P 22 02 55.8 -1.5**
comp=Z,5.3nm,0.9s,baz=171,slow=7.4,SNR=31
YKA PcP **PP 22 04 41.3 +1.6**
comp=Z,4.1nm,1.0s,baz=163,slow=3.5,SNR=6.1
YKA LR LR 22 21 41.6
comp=Z,2μm,19.9s,baz=163,slow=37
YKA Yellowknife Ar 44.00 355 P **P 22 02 57.0 -0.3**
YKA Yellowknife Ar 44.00 355 P **P 22 02 57.0 -0.3**
LMN Caledonia Moun 44.15 43 P **P 22 02 59.9 +1.0**
FDF Fort de France 44.21 88 P **P 22 03 00.1 +0.4**
FDF pmax pmax
comp=Z,73nm,0.9s
FDF Fort de France 44.21 88 P **P 22 03 00.1 +0.4**
BESE Bessie Mountai 44.60 340 P **P 22 03 04.3 +2.0**
P33M Teslin, Yukon 45.28 342 P **P 22 03 07.2 -0.5**
baz=145
SKAG Skagway 45.45 340 P **P 22 03 09.3 +0.4**
SKAG IAmb IAmb 22 03 12.0
comp=Z,26nm,1.0s
SKAG Skagway 45.45 340 P **P 22 03 09.1 +0.2**
baz=141
HMH Humu'ula Sheep 45.47 279 P **P 22 03 11.8 +1.8**
AIN Ainahou 45.48 279 P **P 22 03 11.9 +1.9**
POHA Pohakuloa 45.49 280 P **P 22 03 11.5 +1.3**
MLOA Mauna Loa Obse 45.56 279 P **P 22 03 12.5 +1.5**
MWH Moku'aweowe 45.59 279 P **P 22 03 12.9 +1.7**
GBN Guysborough 46.14 44 P **P 22 03 14.8 +0.3**
WHY Whitehorse 46.25 342 P **P 22 03 16.9 +1.5**
WHY IAmb IAmb 22 03 18.5
comp=Z,32nm,1.3s
WHY Whitehorse 46.25 342 P **P 22 03 15.6 +0.2**
baz=142,SNR=6.5
PNL Peninsula 46.97 338 P **P 22 03 20.4 -0.5**
baz=136
N31M Braeburn, Yuko 47.18 342 P **P 22 03 21.8 -0.7**
baz=142,SNR=9.5
SCHQ Schefferville 47.30 31 P **P 22 03 22.3 -1.3**
comp=Z,6.2nm,0.7s,baz=232,slow=7.2,SNR=15
SCHQ LR LR 22 24 29.8
comp=Z,814nm,18.2s,baz=240,slow=38
SCHQ Schefferville 47.30 31 P **P 22 03 22.9 -0.7**
SCHQ IAmb IAmb 22 03 25.1
comp=Z,65nm,1.9s
M31M Drury Creek, Y 47.35 343 P **P 22 03 24.1 +0.2**
baz=144,SNR=10
PINM Pinnacle 47.58 338 P **P 22 03 26.0 +0.3**
baz=136
PCA Pinnacle 47.58 338 P **P 22 03 27.0 +1.2**
PCA IAmb IAmb 22 03 29.2
comp=Z,34nm,0.9s
TABL Table Mountain 48.13 338 P **P 22 03 30.6 +0.4**
TABL IAmb IAmb 22 03 33.8
comp=Z,32nm,0.9s
MESA MESA 48.24 338 P **P 22 03 30.5 -0.5**
MESA MESA 48.24 338 P **P 22 03 31.3 +0.3**
baz=134
YAH Yahtse 48.29 338 P **P 22 03 33.5 +2.0**
M30M Minto, Yukon 48.33 342 P **P 22 03 31.5 0.0**
baz=141,SNR=8.3
LOGN Logan Glacier 48.36 339 P **P 22 03 34.0 +2.1**
LOGN IAmb IAmb 22 03 46.6
comp=Z,51nm,1.2s
BOAV Boa Vista 48.51 104 *e*P **P 22 03 33.2 -0.2**
BOAV Boa Vista 48.51 104 P **P 22 03 33.3 -0.2**
GRNC Granite Creek 48.55 338 P **P 22 03 35.1 +1.6**
CTGM Chitina Glacie 48.57 339 P **P 22 03 34.3 +0.8**
CTG Chitna Glacier 48.57 339 P **P 22 03 33.8 +0.3**
baz=135,SNR=5.5
ISLE Juniper Island 48.67 338 P **P 22 03 36.3 +2.0**
ISLE IAmb IAmb 22 03 37.6
comp=Z,41nm,1.0s
BARN Barnard Glacie 48.75 339 P **P 22 03 36.9 +1.9**
BARN IAmb IAmb 22 03 38.5
comp=Z,54nm,1.4s
WAX Waxell Ridge 48.75 337 P **P 22 03 36.4 +1.6**
YUK3 Moose Creek 48.86 340 P **P 22 03 35.7 -0.1**
baz=136,SNR=10
TGL Tana Glacier 48.95 338 P **P 22 03 37.5 +1.1**
KAIM Kayak Island 48.99 336 P **P 22 03 36.8 +0.3**
baz=131
BERG Berg Lake 49.02 337 P **P 22 03 38.6 +1.7**
BERG IAmb IAmb 22 03 40.6
comp=Z,45nm,0.9s
ETMB Extrema 49.42 122 *e*P **P 22 03 39.3 -1.1**
ETMB Extrema 49.42 122 P **P 22 03 39.3 -1.1**
ETMB IAmb IAmb 22 03 39.9
comp=Z,31nm,0.9s
BVCY Beaver Creek 49.45 340 P **P 22 03 40.8 +0.7**
baz=136,SNR=11
MCARA McCarthy VSAT 49.45 338 P **P 22 03 41.1 +1.0**
MCARA McCarthy VSAT 49.45 338 P **P 22 03 41.0 +1.0**
baz=133,SNR=9.1
VRDI Verde Repeater 49.50 338 P **P 22 03 42.2 +1.5**
VRDI IAmb IAmb 22 03 44.0
comp=Z,46nm,1.1s
BMRM Bremner River 49.74 337 P **P 22 03 44.0 +1.7**
BMRM IAmb IAmb 22 03 46.0
comp=Z,54nm,1.2s
BMRM Bremner River 49.74 337 P **P 22 03 43.0 +0.6**
baz=131
M27K Edge Creek, AK 49.74 340 P **P 22 03 43.0 +0.6**
M27K Edge Creek, AK 49.74 340 P **P 22 03 42.1 -0.4**
baz=135
GLB Gilahina Butte 49.77 338 P **P 22 03 43.2 +0.6**
EYAK Cordova Ski Ar 49.90 336 P **P 22 03 45.2 +1.8**
EYAK IAmb IAmb 22 03 47.1
comp=Z,55nm,1.0s
EYAK Cordova Ski Ar 49.90 336 P **P 22 03 44.2 +0.7**
baz=130
M26K Nabesna, AK 50.15 339 P **P 22 03 45.8 +0.4**
M26K IAmb IAmb 22 03 48.7
comp=Z,40nm,1.1s
N25K Chitina, Valde 50.16 338 P **P 22 03 46.5 +1.0**
N25K IAmb IAmb 22 03 49.3
comp=Z,38nm,0.8s
N25K Chitina, Valde 50.16 338 P **P 22 03 45.9 +0.3**
baz=132,SNR=10
J29M Klondike Camp 50.20 343 P **P 22 03 47.1 +1.3**
baz=141
BCAR Beaver Creek A 50.22 340 P **P 22 03 45.6 -0.4**
DAWY Dawson 50.23 342 P **P 22 03 45.8 -0.2**
DAWY IAmb IAmb 22 03 48.8
comp=Z,42nm,1.3s
DAWY Dawson 50.23 342 P **P 22 03 45.7 -0.2**
baz=139,SNR=15
L27K Beaver Creek, 50.23 340 P **P 22 03 46.2 +0.2**
L27K Beaver Creek, 50.23 340 P **P 22 03 46.2 +0.2**
baz=136
DIV Divide 50.28 337 P **P 22 03 48.3 +1.8**
DIV IAmb IAmb 22 03 59.6
comp=Z,101nm,1.7s
PTGA Pitinga 50.28 107 LR LR 22 25 11.2
comp=Z,209nm,21.3s,baz=306,slow=36
FID Port Fidalgo 50.30 336 P **P 22 03 48.6 +2.0**
KLU Klutina 50.57 337 P **P 22 03 49.7 +1.1**
KLU IAmb IAmb 22 03 52.1
comp=Z,53nm,1.0s
KLU Klutina 50.57 337 P **P 22 03 48.4 -0.2**
baz=130,SNR=9.5
GLI Glacier Island 50.62 336 P **P 22 03 51.2 +2.2**
GLI Glacier Island 50.62 336 P **P 22 03 48.6 -0.4**
baz=128,SNR=6.9
L26K Log Cabin Wild 50.70 340 P **P 22 03 51.1 +1.6**
L26K IAmb IAmb 22 03 52.5
comp=Z,36nm,1.2s
L26K Log Cabin Wild 50.70 340 P **P 22 03 49.5 0.0**
baz=134,SNR=9.5
MACA Manacapuru-AM 50.71 111 *e*P **P 22 03 49.5 -0.7**
MACA Manacapuru-AM 50.71 111 P **P 22 03 49.9 -0.4**
MENT Mentasta 50.76 339 P **P 22 03 51.6 +1.6**
HARP HAARP 50.88 338 P **P 22 03 50.8 -0.2**
baz=131,SNR=7.7
I29M Ogilvie Camp, 50.92 344 P **P 22 03 50.5 -0.7**
baz=141,SNR=14
M24K Tolsona, Glenn 51.05 338 P **P 22 03 53.1 +0.8**
M24K Tolsona, Glenn 51.05 338 P **P 22 03 52.0 -0.3**
baz=130,SNR=12
PWL Port Wells 51.09 336 P **P 22 03 54.7 +2.2**
PWL IAmb IAmb 22 03 55.0
comp=Z,34nm,1.0s
PWL Port Wells 51.09 336 P **P 22 03 53.2 +0.7**
baz=127
SEW Seward 51.09 334 P **P 22 03 53.2 +0.7**
baz=125
KDAK Kodiak Island 51.21 331 LR LR 22 23 24.0
comp=Z,218nm,21.0s,baz=135,slow=34
OHAK Old Harbor 51.26 330 P **P 22 03 54.8 +1.0**
baz=119
EGAK Eagle 51.27 342 P **P 22 03 54.0 +0.3**
EGAK IAmb IAmb 22 03 56.4
comp=Z,30nm,0.9s
EGAK Eagle 51.27 342 P **P 22 03 53.9 +0.1**
baz=137,SNR=14
SCM Sheep Creek Mo 51.30 337 P **P 22 03 54.3 +0.1**
baz=128
EPYK Eagle Plains 51.33 345 P **P 22 03 56.0 +1.7**
EPYK Eagle Plains 51.33 345 P **P 22 03 53.7 -0.5**
baz=143,SNR=11
DOT Dot Lake 51.36 340 P **P 22 03 54.9 +0.4**
PAX Paxson 51.37 339 P **P 22 03 54.5 -0.2**
PAX pmax pmax
comp=Z,44nm,0.9s
PAX Paxson 51.37 339 P **P 22 03 54.5 -0.2**
PAX IAmb IAmb 22 03 57.3
comp=Z,44nm,0.9s
PAX Paxson 51.37 339 P **P 22 03 54.1 -0.6**
baz=131,SNR=22
BRSE Bradley Lake S 51.42 334 P **P 22 03 54.8 -0.2**
baz=123
KNK Knik Glacier 51.47 336 P **P 22 03 55.6 +0.2**
KNK IAmb IAmb 22 03 58.7
comp=Z,37nm,1.0s
KNK Knik Glacier 51.47 336 P **P 22 03 54.5 -0.9**
baz=127,SNR=5.0
BRLK Bradley Lake 51.50 333 P **P 22 03 57.4 +1.8**
SCRK Sand Creek 51.56 340 P **P 22 03 56.2 +0.1**
SCRK IAmb IAmb 22 03 59.2
comp=Z,44nm,1.1s
SCRK Sand Creek 51.56 340 P **P 22 03 56.3 +0.2**
baz=134,SNR=20
C36M Paulatuk 51.65 352 P **P 22 03 57.8 +1.3**
C36M IAmb IAmb 22 03 58.5
comp=Z,30nm,1.0s
C36M Paulatuk 51.65 352 P **P 22 03 56.5 +0.1**
baz=160,SNR=5.7
SML Sawmill 51.66 337 P **P 22 03 57.8 +1.0**
SML Sawmill 51.66 337 P **P 22 03 56.8 0.0**
baz=127,SNR=12
RIDG Independent Ri 51.68 340 P **P 22 03 57.2 +0.3**
RIDG Independent Ri 51.68 340 P **P 22 03 56.7 -0.2**
baz=132,SNR=34
HOM Homer 51.76 333 P **P 22 03 56.8 -0.7**
baz=122
CHIR Chirikof Islan 51.77 328 P **P 22 03 56.9 -0.7**
baz=116
RC01 Rabbit Creek A 51.78 335 P **P 22 03 59.5 +1.9**
RC01 IAmb IAmb 22 04 00.2
comp=Z,27nm,0.8s
RC01 Rabbit Creek A 51.78 335 P **P 22 03 56.1 -1.5**
baz=125
J26L Joseph Creek 51.80 341 P **P 22 03 57.5 -0.4**
baz=134,SNR=42
PMR Palmer 51.84 336 P **P 22 03 59.4 +1.4**
PMR pmax pmax
comp=Z,35nm,0.9s
PMR Palmer 51.84 336 P **P 22 03 59.4 +1.4**
PMR IAmb IAmb 22 04 00.6
comp=Z,35nm,0.9s
PMR Palmer 51.84 336 P **P 22 03 58.0 0.0**
baz=126,SNR=6.2
GHO Glory Hole Cre 51.87 336 P **P 22 03 58.5 +0.1**
GHO IAmb IAmb 22 04 00.9
comp=Z,43nm,0.8s
PB12 IPOC Station P 51.88 134 P **P 22 03 59.0 -0.1**
PB12 IAmb IAmb 22 03 59.8
comp=Z,27nm,1.0s
LPAZ La Paz 51.89 130 P **P 22 03 59.5 -0.2**
comp=Z,21nm,0.8s,baz=327,slow=6.9,SNR=83
LPAZ LR LR 22 23 12.7
comp=Z,677nm,20.7s,baz=313,slow=33
LPAZ La Paz 51.89 130 P **P 22 03 59.7 -0.1**
LPAZ pmax pmax
comp=Z,26nm,0.8s
LPAZ La Paz 51.89 130 *e*P **P 22 03 59.6 -0.2**
LPAZ La Paz 51.89 130 P **P 22 03 59.6 -0.1**
LPAZ IAmb IAmb 22 04 00.9
comp=Z,26nm,0.8s
WAT6 Susitna Watana 51.92 338 P **P 22 03 58.6 -0.2**
baz=128,SNR=9.3
FRB Frobisher Bay 52.03 21 LR LR 22 26 26.5
comp=Z,4μm,18.4s,baz=228,slow=36
DHY Denali Highway 52.10 338 P **P 22 04 00.2 0.0**
DHY IAmb IAmb 22 04 02.5
comp=Z,26nm,0.9s
DHY Denali Highway 52.10 338 P **P 22 03 59.8 -0.5**
baz=129,SNR=8.8
VAH Vaihoa 52.19 232 *e*T T 22 59 52.4
comp=Z,3.2nm,0.3s
INK Inuvik 52.23 348 P **P 22 04 00.0 -0.8**
comp=Z,49nm,0.9s,baz=140,slow=7.7,SNR=49
INK LR LR 22 26 51.9
comp=Z,914nm,18.3s,baz=156,slow=37
INK Inuvik 52.23 348 P **P 22 04 01.1 +0.2**
INK pmax pmax
comp=Z,61nm,1.0s
INK Inuvik 52.23 348 P **P 22 04 01.1 +0.2**
INK IAmb IAmb 22 04 03.2
comp=Z,61nm,0.9s
INK Inuvik 52.23 348 P **P 22 04 00.2 -0.6**
baz=148,SNR=45
PB16 IPOC Station P 52.26 133 P **P 22 04 03.1 +0.6**
PB16 IAmb IAmb 22 04 04.6
comp=Z,92nm,1.6s
Q19K Cape Douglas, 52.27 332 P **P 22 04 00.4 -0.9**
baz=120
O20K Slope Mountain 52.41 333 P **P 22 04 00.9 -1.5**
baz=122
J25K Salcha River, 52.44 340 P **P 22 04 02.0 -0.6**
baz=132,SNR=14
CUT Chulitna 52.75 336 P **P 22 04 05.4 +0.6**
CUT Chulitna 52.75 336 P **P 22 04 03.6 -1.2**
baz=126,SNR=5.7
HDA Harding Lake 52.82 340 P **P 22 04 06.0 +0.6**
HDA IAmb IAmb 22 04 07.4
comp=Z,51nm,1.5s
HDA Harding Lake 52.82 340 P **P 22 04 04.7 -0.6**
baz=130,SNR=7.6
RND Reindeer 52.83 338 P **P 22 04 05.4 -0.2**
RND pmax pmax
comp=Z,229nm,1.9s
RND Reindeer 52.83 338 P **P 22 04 05.4 -0.2**
IL31 53.03 340 P **P 22 04 06.1 -0.8**
IL31 IAmb IAmb 22 04 09.1
comp=Z,50nm,1.0s
ILAR Eielson Array 53.03 340 P **P 22 04 05.8 -1.0**
comp=Z,39nm,1.1s,baz=151,slow=6.7,SNR=80
ILAR LR LR 22 27 23.2
comp=Z,420nm,18.9s,baz=138,slow=37
ILAR Eielson Array 53.03 340 P **P 22 04 05.6 -1.3**
MCK McKinley 53.06 338 P **P 22 04 06.8 -0.4**
MCK pmax pmax
comp=Z,43nm,0.9s
MCK McKinley 53.06 338 P **P 22 04 06.8 -0.4**
MCK IAmb IAmb 22 04 09.7
comp=Z,43nm,0.9s
MCK McKinley 53.06 338 P **P 22 04 06.4 -0.8**
baz=128,SNR=12
PRP Porcupine Dome 53.10 341 P **P 22 04 08.7 +1.1**
PRP IAmb IAmb 22 04 10.1
comp=Z,44nm,0.8s
PRP Porcupine Dome 53.10 341 P **P 22 04 07.2 -0.3**
baz=133,SNR=7.9
PB11 IPOC Station P 53.13 134 P **P 22 04 08.4 0.0**
PB11 IAmb IAmb 22 04 09.7
comp=Z,39nm,0.9s
TA02 Huaiquique 53.16 135 P **P 22 04 09.4 +1.0**
TA02 IAmb IAmb 22 04 10.1
comp=Z,42nm,1.1s
O19K Port Alsworth 53.20 333 P **P 22 04 08.1 -0.1**
baz=120
P18K Big Mountain, 53.20 332 P **P 22 04 07.7 -0.6**
baz=118
WRH Wood River Hil 53.24 339 P **P 22 04 08.5 +0.2**
WRH IAmb IAmb 22 04 11.9
comp=Z,29nm,1.0s
CCB Clear Creek Bu 53.25 340 P **P 22 04 07.3 -1.2**
TA01 Diego Aracena 53.34 135 P **P 22 04 10.6 +0.9**
TA01 IAmb IAmb 22 04 11.4
comp=Z,60nm,1.1s
TRF Thorofare Moun 53.38 338 P **P 22 04 09.1 -0.5**
TRF Thorofare Moun 53.38 338 P **P 22 04 08.4 -1.2**
baz=126,SNR=21
CHGN Chignik 53.39 327 P **P 22 04 10.3 +0.7**
baz=113
COLA College 53.41 340*ce*P **P 22 04 10.6 +1.0**
COLA pmax pmax
comp=Z,43nm,1.8s
COLA College 53.41 340 P **P 22 04 10.7 +1.0**
COLA College 53.41 340 P **P 22 04 09.7 0.0**
baz=130
O18K Koktuh Hills 53.42 332 P **P 22 04 11.3 +1.5**
O18K Koktuh Hills 53.42 332 P **P 22 04 10.0 +0.2**
baz=119,SNR=5.0
TCOL CIGO, UAF Yank 53.42 340 P **P 22 04 10.7 +1.0**
TCOL CIGO, UAF Yank 53.42 340 P **P 22 04 09.4 -0.3**
baz=130
POKR Poker Plat Res 53.44 340 P **P 22 04 11.2 +1.3**
POKR IAmb IAmb 22 04 12.1
comp=Z,38nm,1.1s
POKR Poker Plat Res 53.44 340 P **P 22 04 09.6 -0.3**
baz=130,SNR=9.2
BWN Browne 53.52 339 P **P 22 04 10.3 -0.2**
N19K Bonanza Creek 53.58 333 P **P 22 04 10.8 -0.3**
N19K Bonanza Creek 53.58 333 P **P 22 04 10.9 -0.1**
baz=120
MDM Murphy Dome 53.59 340 P **P 22 04 10.9 -0.2**
NEA2 Nenana 53.64 339 P **P 22 04 10.8 -0.6**
NEA2 Nenana 53.64 339 P **P 22 04 10.4 -1.0**
baz=128,SNR=25
KTH Kantishna Hill 53.66 337 P **P 22 04 11.3 -0.3**
PB08 IPOC Station P 53.73 134 P **P 22 04 13.9 +0.8**
PB08 IAmb IAmb 22 04 15.0
comp=Z,38nm,0.9s
FYU Fort Yukon 53.74 342 P **P 22 04 11.8 -0.2**
PPLA Purkeypile 53.76 336 P **P 22 04 11.9 -0.5**
PPLA Purkeypile 53.76 336 P **P 22 04 11.7 -0.7**
baz=124,SNR=13
BPAW Bear Paw Mtn. 54.01 338 P **P 22 04 14.9 +0.8**
BPAW IAmb IAmb 22 05 21.4
comp=Z,51nm,1.3s
BPAW Bear Paw Mtn. 54.01 338 P **P 22 04 12.7 -1.4**
baz=126
CAST Castle Rocks 54.02 337 P **P 22 04 13.1 -1.1**
CAST IAmb IAmb 22 04 15.9
comp=Z,40nm,0.9s
CAST Castle Rocks 54.02 337 P **P 22 04 12.8 -1.4**
baz=124,SNR=15
H24K Noodor Dome 54.05 341 P **P 22 04 14.0 -0.4**
H24K IAmb IAmb 22 04 17.0
comp=Z,50nm,1.0s
H24K Noodor Dome 54.05 341 P **P 22 04 13.8 -0.6**
baz=130
I23K Minto, Yukon-K 54.09 340 P **P 22 04 14.3 -0.3**
I23K Minto, Yukon-K 54.09 340 P **P 22 04 13.8 -0.7**
baz=128,SNR=25
M19K Big River Lodg 54.09 335 P **P 22 04 14.8 +0.1**
M19K Big River Lodg 54.09 335 P **P 22 04 14.0 -0.7**
baz=121,SNR=10
SDPT Sand Point 54.12 326 P **P 22 04 13.6 -1.4**
baz=110
PB01 IPOC Station P 54.13 135 P **P 22 04 16.4 +0.7**
PB01 IAmb IAmb 22 04 17.6
comp=Z,48nm,1.1s
BMAR Burnt Mountain 54.16 343 P **P 22 04 16.2 +1.0**
SVW2 Sparrevohn 54.18 333 P **P 22 04 16.5 +1.1**
L20K Farewell, AK 54.19 335 P **P 22 04 14.5 -1.0**
baz=122,SNR=14
A36M Sachs Harbour 54.26 353 P **P 22 04 15.0 -0.7**
A36M Sachs Harbour 54.26 353 P **P 22 04 14.6 -1.2**
baz=159,SNR=54
PB07 IPOC Station P 54.35 136 P **P 22 04 17.9 +0.6**
PB07 IAmb IAmb 22 04 19.2
comp=Z,41nm,0.8s
CHUM Lake Minchumin 54.36 337 P **P 22 04 15.8 -0.9**
baz=124,SNR=5.6
L19K White Mountain 54.42 335 P **P 22 04 16.4 -0.7**
L19K White Mountain 54.42 335 P **P 22 04 17.1 -0.1**
baz=121,SNR=12
MLY Manley 54.48 339 P **P 22 04 19.0 +1.5**
MLY IAmb IAmb 22 04 19.8
comp=Z,75nm,1.6s
MLY Manley 54.48 339 P **P 22 04 16.9 -0.6**
baz=127,SNR=8.3
K20K Telida 54.73 336 P **P 22 04 19.1 -0.3**
K20K Telida 54.73 336 P **P 22 04 18.4 -0.9**
baz=122
PB09 IPOC Station P 54.82 136 P **P 22 04 22.1 +1.4**
MDP Montagnes des 54.88 97 LR LR 22 28 47.9
comp=Z,174nm,20.9s,baz=298,slow=37
I21K Tanana 54.99 339 P **P 22 04 21.7 +0.6**
I21K Tanana 54.99 339 P **P 22 04 20.5 -0.7**
baz=125
PPT Papeete 55.10 232 LR LR 22 21 51.5
comp=Z,213nm,18.7s,baz=58,slow=29
PPT2 Papeete2 55.12 232 *e*S **S 22 12 03.4 -2.6**
comp=Z,336nm,25.8s
PPT2 *e*LR LR 22 20 10.0
comp=Z,633nm,24.8s,baz=37
J20K Nowinta River 55.20 337 P **P 22 04 21.8 -0.9**
J20K Nowinta River 55.20 337 P **P 22 04 21.6 -1.1**
baz=122
PB06 IPOC Station P 55.24 137 P **P 22 04 23.9 +0.1**
PB06 IAmb IAmb 22 04 25.6
comp=Z,42nm,0.9s
TTA Tatalina 55.27 335 P **P 22 04 22.0 -1.3**
TTA pmax pmax
comp=Z,38nm,0.9s
TTA Tatalina 55.27 335 P **P 22 04 22.0 -1.3**
TTA IAmb IAmb 22 04 24.8
comp=Z,38nm,0.9s
TTA Tatalina 55.27 335 P **P 22 04 22.1 -1.2**
baz=120,SNR=12
H21K Melozitna Rive 55.55 339 P **P 22 04 24.3 -0.9**
FALS False Pass 55.56 324 P **P 22 04 24.4 -1.0**
baz=107
LVC Limon Verde 55.61 136 LR LR 22 23 16.1
comp=Z,356nm,19.4s,baz=304,slow=31
LVC Limon Verde 55.61 136 P **P 22 04 28.0 +1.4**
LVC pmax pmax
comp=Z,67nm,1.4s

LVC Limon Verde 55.61 136 P **P** **22 04 28.0 +1.4**
LVC IAmb IAmb 22 04 29.2
comp=Z,67nm,1.4s
COLD Coldfoot 55.65 341 P **P** **22 04 25.9 0.0**
COLD IAmb IAmb 22 04 28.7
comp=Z,39nm,1.0s
COLD Coldfoot 55.65 341 P **P** **22 04 25.5 -0.5**
baz=128,SNR=22
ITTB Itaituba 55.66 109 *e*P **P** **22 04 25.8 -0.9**
MALB Monte Alegre 55.93 106 *e*P **P** **22 04 28.5 -0.2**
VILB Vilhena 56.04 121 *e*P **P** **22 04 28.8 -0.7**
VILB Vilhena 56.04 121 P **P** **22 04 28.8 -0.7**
IMAR Indian Mountai 56.05 339 P **P** **22 04 29.5 +0.6**
PB14 IPOC Station P 56.09 139 P **P** **22 04 30.2 +0.2**
PB14 IAmb IAmb 22 04 33.9
comp=Z,22nm,0.8s
RES Resolute Bay 56.35 4 P **P** **22 04 29.1 -1.6**
comp=Z,10nm,0.9s,baz=188,slow=10,SNR=33
RES LR LR 22 29 09.3
comp=Z,3µm,18.1s,baz=206,slow=37
RES Resolute Bay 56.35 4 P **P** **22 04 29.2 -1.6**
RES pmax pmax
comp=Z,13nm,0.9s
RES Resolute Bay 56.35 4 P **P** **22 04 29.2 -1.6**
TOLK Toolik Lake Re 56.37 343 P **P** **22 04 30.6 -0.5**
TOLK IAmb IAmb 22 04 33.4
comp=Z,42nm,0.9s
TOLK IAMs_20 IAMs_20 22 30 12.1
comp=Z,863nm,18.0s
TOLK Toolik Lake Re 56.37 343 P **P** **22 04 30.4 -0.6**
baz=130,SNR=31
GCSA Galena City Sc 56.51 337 P **P** **22 04 31.4 -0.7**
baz=120
SIV San Ignacio 57.05 124 LR LR 22 26 28.0
comp=Z,647nm,20.1s,baz=291,slow=33
NPGB Novo Progresso 57.19 112 *e*P **P** **22 04 36.0 -1.7**
MCPB Macapa, AP 57.37 103 *e*P **P** **22 04 38.2 -0.7**
PDRB Porto dos Gac 58.22 117 *e*P **P** **22 04 43.2 -1.7**
PTLB Pontes e Lacer 58.28 122 *e*P **P** **22 04 44.4 -0.8**
PTLB Pontes e Lacer 58.28 122 P **P** **22 04 44.4 -0.8**
PTLB IAmb IAmb 22 04 45.7
comp=Z,51nm,1.1s
GO03 Copiap 58.37 141 P **P** **22 04 46.6 +0.9**
GO03 IAmb IAmb 22 04 47.1
comp=Z,27nm,0.9s
AC02 Maricunga 58.48 140 P **P** **22 04 48.5 +1.4**
H03N2 Juan Fernandez 58.51 152 T T 23 08 16.7
baz=330,slow=78,SNR=493
H03N1 Juan Fernandez 58.52 152 T T 23 08 20.6
baz=330,slow=78,SNR=1008
H03N3 Juan Fernandez 58.52 152 T T 23 08 19.6
baz=330,slow=78,SNR=699
CLDB Colider 58.64 116 *e*P **P** **22 04 46.4 -1.4**
TBI Tubuai 58.75 226 *e*LQ LQ 22 19 34.7
comp=Z,752nm,27.8s
TBI *e*LR LR 22 22 01.2
comp=Z,372nm,22.8s
TBI Tubuai 58.75 226 *e*T T 23 08 04.2
comp=Z,12nm,0.3s
LCO Las Campanas 59.15 143 P **P** **22 04 52.7 +1.3**
LCO pmax pmax
comp=Z,34nm,0.8s
LCO Las Campanas 59.15 143 P **P** **22 04 52.7 +1.3**
CO05 La Serena 59.53 144 P **P** **22 04 54.4 +0.7**
ANM Nome 59.72 335 P **P** **22 04 54.1 -0.5**
ANM pmax pmax
comp=Z,38nm,1.2s
ANM Nome 59.72 335 P **P** **22 04 54.1 -0.5**
ANM IAmb IAmb 22 04 57.0
comp=Z,38nm,1.2s
CO06 Fray Jorge 59.89 145 P **P** **22 04 56.9 +0.7**
A21K Barrow 59.92 344 P **P** **22 04 55.3 -0.5**
A21K IAmb IAmb 22 04 57.1
comp=Z,22nm,0.8s
A21K Barrow 59.92 344 P **P** **22 04 55.1 -0.7**
baz=124
GO04 Tololo Observa 59.97 144 P **P** **22 04 57.8 +0.7**
SFJD Kangerlussuaq 60.08 22 LR LR 22 31 05.5
comp=Z,1µm,19.5s,baz=243,slow=36
SFJD Kangerlussuaq 60.08 22 P **P** **22 04 56.6 -0.3**
SFJD pmax pmax
comp=Z,31nm,1.1s
SFJD Kangerlussuaq 60.08 22 P **P** **22 04 56.6 -0.3**
SFJD IAmb IAmb 22 04 58.8
comp=Z,31nm,1.1s
CO03 El Pedregal 60.54 144 P **P** **22 05 01.2 +0.4**
AROD Rodeo 60.72 143 *e*P **P** **22 05 04.1 +1.8**
ILULI Ilulissat 60.85 20 P **P** **22 05 03.1 +0.9**
ILULI pmax pmax
comp=Z,23nm,0.9s
ILULI Ilulissat 60.85 20 P **P** **22 05 03.1 +0.9**
ILULI IAmb IAmb 22 05 03.9
comp=Z,22nm,0.9s
TULEG Thule 61.01 10 P **P** **22 05 04.0 +0.8**
TULEG IAmb IAmb 22 05 04.8
comp=Z,40nm,1.5s
TNA Tin City 61.08 336 P **P** **22 05 03.5 -0.4**
TNA IAmb IAmb 22 05 05.8
comp=Z,30nm,0.9s
TNA Tin City 61.08 336 P **P** **22 05 04.5 +0.7**
baz=109,SNR=10
UPNV Upernavik 61.16 15 *i* P **P** **22 05 04.6 +0.3**
UPNV IAmb IAmb 22 05 05.4
comp=Z,6.7nm,0.8s
ACCO Cerro Coronel 61.27 143 *e*P **P** **22 05 07.3 +1.3**
SALV Santo Antonio 61.30 121 *e*P **P** **22 05 05.5 -0.6**
DY2G Dye2 61.49 24 *i* P **P** **22 05 04.8 -2.1**
DY2G IAmb IAmb 22 05 08.5
comp=Z,45nm,0.7s
PRPB Parauapebas 61.75 108 *e*P **P** **22 05 08.6 -0.7**
ROC1 El Roble 61.99 146 *e*P **P** **22 05 10.2 -0.5**
RTLS Leoncito 62.04 144 *e*P **P** **22 05 12.4 +1.2**
EUNU Eureka 62.05 4 P **P** **22 05 09.5 -0.8**
EUNU IAmb IAmb 22 05 12.2
comp=Z,49nm,1.4s
VA03 San Esteban 62.08 145 P **P** **22 05 11.8 +0.7**
GAMB Gambell 62.12 333 P **P** **22 05 10.8 0.0**
baz=105
MT02 Curacav 62.15 146 P **P** **22 05 12.1 +0.6**
ZON Zonda 62.20 143 P **P** **22 05 13.1 +1.2**
ZON pmax pmax
comp=Z,33nm,0.9s
ZON Zonda 62.20 143 P **P** **22 05 13.1 +1.2**
VA05 Santo Domingo 62.21 147 P **P** **22 05 10.6 -1.2**
PEL Peldehue 62.30 146 P **P** **22 05 13.1 +0.5**
PEL pmax pmax
comp=Z,49nm,0.9s
PEL Peldehue 62.30 146 P **P** **22 05 13.1 +0.5**
PEL Peldehue 62.30 146 *e*P **P** **22 05 13.0 +0.5**
AUSP Uspallata 62.31 144 *e*P **P** **22 05 14.8 +1.8**
MT05 Renca 62.46 146 P **P** **22 05 14.2 +0.5**
RTCV Cerro Valdivia 62.52 143 *e*P **P** **22 05 15.1 +1.1**
MT01 Popeta 62.56 147 P **P** **22 05 14.2 0.0**
MT09 Talagante 62.63 146 P **P** **22 05 15.2 +0.4**
PP1B Ponte de Pedra 62.87 122 *e*P **P** **22 05 16.2 -0.4**
ASAL Salagasta 62.89 144 *e*P **P** **22 05 17.7 +1.1**
ARCO CERRO ARCO 63.03 144 *e*P **P** **22 05 18.1 +0.5**
SNDB Serra Nova Dou 63.03 115 *e*P **P** **22 05 17.8 +0.1**
BO01 Tunca 63.05 147 P **P** **22 05 18.0 +0.5**
GO05 Huala 63.11 148 P **P** **22 05 18.1 +0.3**
GO05 Huala 63.11 148 *e*P **P** **22 05 18.0 +0.1**
AAGR Agrelo 63.27 144 *e*P **P** **22 05 20.4 +1.3**
BO02 Sierra Bellavi 63.52 147 P **P** **22 05 20.6 -0.1**
AVIZ Vizcacheras 63.73 144 *e*P **P** **22 05 23.6 +1.5**
AQDB Aquidauana 63.79 125 *e*P **P** **22 05 22.4 -0.3**
AQDB Aquidauana 63.79 125 P **P** **22 05 22.2 -0.5**
ML02 Panimavida 63.96 148 P **P** **22 05 22.9 -0.5**
ARAG Araguaiana, MT 64.40 118 *e*P **P** **22 05 26.3 -0.4**
TCA Tanti 64.46 140 *e*P **P** **22 05 27.0 +0.1**
ICESG Greenland Ices 64.66 22 *i* P **P** **22 05 25.9 -2.1**
ANGG Ammassalik, Gr 64.66 25 P **P** **22 05 28.6 +1.0**
NEEM North Greenlan 64.70 12 *i* P **P** **22 05 28.5 +0.3**
NEEM IAML 22 05 29.8
comp=Z,20nm,0.8s
RFA San Rafael 64.73 145 *e*P **P** **22 05 29.3 +0.7**
SMTB Santa Maria do 64.88 110 *e*P **P** **22 05 29.9 -0.1**
RAR Rarotonga 65.00 235 LR LR 22 27 07.5
comp=Z,358nm,18.8s,baz=114,slow=30
ROSB Rosrio 65.66 102 *e*P **P** **22 05 35.0 -0.1**
PEXB Peixe 65.68 113 *e*P **P** **22 05 35.1 -0.1**
SUMG Summit 65.91 18 P **P** **22 05 35.1 -1.1**
SUMG pmax pmax
comp=Z,58nm,1.1s
SUMG Summit 65.91 18 *i* P **P** **22 05 34.5 -1.8**
SUMG Summit 65.91 18 P **P** **22 05 35.1 -1.1**
CPUP Villa Florida 65.99 131 P **P** **22 05 36.7 -0.1**
comp=Z,26nm,0.8s,baz=320,slow=7.3,SNR=34
CPUP LR LR 22 33 36.5
comp=Z,338nm,18.4s,baz=321,slow=35
CPUP Villa Florida 65.99 131 P **P** **22 05 36.8 -0.1**
CPUP pmax pmax
comp=Z,35nm,0.9s
CPUP Villa Florida 65.99 131 *e*P **P** **22 05 36.9 0.0**
CPUP Villa Florida 65.99 131 P **P** **22 05 36.8 -0.1**
LC01 Cunco 66.22 150 P **P** **22 05 38.5 +0.4**
LC01 IAmb IAmb 22 05 47.9
comp=Z,24nm,1.1s
SOEG Soedalen 67.48 23 *i* P **P** **22 05 44.5 -1.3**
SOEG IAmb IAmb 22 05 47.4
comp=Z,28nm,0.8s
BDFB Brasilia 67.56 116 P **P** **22 05 47.2 0.0**
comp=Z,37nm,1.0s,baz=298,slow=6.8,SNR=34
BDFB Brasilia 67.56 116 P **P** **22 05 47.5 +0.3**
BDFB pmax pmax
comp=Z,122nm,1.4s
BDFB Brasilia 67.56 116 P **P** **22 05 47.5 +0.3**
LL04 Puerto Octay 67.59 152 P **P** **22 05 47.5 +0.7**
LL04 IAmb IAmb 22 05 48.2
comp=Z,27nm,1.2s
ITRB Iturama 67.61 121 *e*P **P** **22 05 47.3 -0.1**
PCMB Pacaembu 67.88 124 *e*P **P** **22 05 48.5 -0.5**
PLCA Paso Flores 68.30 151 P **P** **22 05 52.0 +0.6**
comp=Z,13nm,1.0s,baz=318,slow=8.6,SNR=14
PLCA LR LR 22 29 41.0
comp=Z,501nm,18.6s,baz=322,slow=31
PLCA Paso Flores 68.30 151 P **P** **22 05 52.5 +1.2**
PLCA Paso Flores 68.30 151 *e*P **P** **22 05 52.1 +0.7**
PLCA Paso Flores 68.30 151 P **P** **22 05 52.5 +1.2**
PLCA IAmb IAmb 22 05 53.3
comp=Z,32nm,1.1s
SHEM Shemya Is, Ala 68.48 320 LR LR 22 27 58.2
comp=Z,134nm,20.3s,baz=118,slow=29
IPMB Ipameri, GO 68.52 119 *e*P **P** **22 05 52.8 -0.4**
ITQB Itaqui 68.53 134 *e*P **P** **22 05 52.9 0.0**
ITQB Itaqui 68.53 134 P **P** **22 05 52.9 0.0**
NBPS Pedro II - PI 68.70 103 *e*P **P** **22 05 54.7 +0.2**
SDBA SAO DESIDERIO 68.79 112 *e*P **P** **22 05 54.8 -0.2**
PTGB Pitanga 68.93 127 *e*P **P** **22 05 55.5 -0.2**
NBMO Morrinhos-CE 69.60 101 *e*P **P** **22 06 00.1 +0.2**
BB19B Bebedouro 69.78 122 *e*P **P** **22 06 01.1 +0.2**
ITAB Concordia 70.28 129 *e*P **P** **22 06 03.8 -0.1**
ITAB Concordia 70.28 129 P **P** **22 06 04.1 +0.2**
JANB Januaria 70.47 114 *e*P **P** **22 06 05.0 -0.3**
NBPB Pedra_Branca-C 70.84 103 *e*P **P** **22 06 07.0 -0.6**
CPSB Cacapava Do Su 71.17 133 *e*P **P** **22 06 09.0 -0.2**
RCLB Rio Claro- Sao 71.26 122 *e*P **P** **22 06 10.5 +0.5**
DBG Daneborg 71.28 17 *i* P **P** **22 06 08.3 -0.9**
DBG IAmb IAmb 22 06 14.2
comp=Z,4.9nm,0.9s
AFI Afiamalu 71.40 248 LR LR 22 33 21.4
comp=Z,310nm,18.2s,baz=60,slow=32
BILL Bilibino 71.47 337 *i* P **P** **22 06 10.3 -0.1**
BILL *i* 22 06 30.4
BILL pmax pmax
comp=Z,23nm,1.2s
BILL MLR MLR
comp=Z,340nm,21.0s
BILL Bilibino 71.47 337 P **P** **22 06 11.1 +0.6**
BILL IAmb IAmb 22 06 13.5
comp=Z,58nm,1.5s
BORG Borgarnes 71.47 27 LR LR 22 36 48.5
comp=Z,572nm,18.3s,baz=281,slow=35
COYC Coyhaique 71.53 155 P **P** **22 06 11.7 +0.7**
COYC IAmb IAmb 22 06 24.4
comp=Z,24nm,1.0s
DAG Danmarks Havn 71.55 14 P **P** **22 06 11.0 +0.2**
DAG pmax pmax
comp=Z,30nm,1.7s
DAG Danmarks Havn 71.55 14 *i* P **P** **22 06 07.8 -3.0**
DAG IAmb IAmb 22 06 11.4
comp=Z,8.1nm,0.7s
NBCL Cascavel-CE 71.56 101 *e*P **P** **22 06 11.9 0.0**
NOR Nord 71.65 9 *i* P **P** **22 06 09.7 -1.6**
NOR IAmb IAmb 22 06 23.7
comp=Z,4.8nm,0.8s
PLTB Pedras Altas 71.86 134 *e*P **P** **22 06 13.2 -0.1**
PLTB Pedras Altas 71.86 134 P **P** **22 06 13.1 -0.3**
SPB Sao Paulo 71.93 123 *e*P **P** **22 06 14.5 +0.6**
SPB Sao Paulo 71.93 123 P **P** **22 06 13.5 -0.4**
VAO Valinhos 72.00 123 *e*P **P** **22 06 14.7 +0.3**
NBMA Muriti-CE 72.28 104 *e*P **P** **22 06 16.5 +0.2**
NBPN Ponto Novo - B 72.33 108 *e*P **P** **22 06 16.2 -0.3**
PET01 Itanhaem-SP 72.41 124 *e*P **P** **22 06 17.4 +0.7**
DIAM Diamantina, MG 72.47 117 *e*P **P** **22 06 17.5 +0.1**
BSCB Bom Sucesso 72.80 120 *e*P **P** **22 06 19.5 +0.2**
TER01 Tubaro-SC 73.21 129 *e*P **P** **22 06 22.0 +0.5**
PARB Paraibuna 73.24 122 *e*P **P** **22 06 22.2 +0.4**
GDU01 Guandu, BA 74.05 111 *e*P **P** **22 06 26.8 +0.1**
MAN01 Angra dos Reis 74.35 121 *e*P **P** **22 06 29.1 +0.8**
RCBR Riachuelo 74.36 102 P **P** **22 06 28.0 -0.6**
RCBR pmax pmax
comp=Z,66nm,1.5s
RCBR Riachuelo 74.36 102 *e*P **P** **22 06 29.0 +0.5**
RCBR Riachuelo 74.36 102 P **P** **22 06 28.0 -0.6**
RCBR IAmb IAmb 22 06 30.2
comp=Z,66nm,1.4s
VAS01 Vassouras-RJ 74.50 120 *e*P **P** **22 06 29.1 0.0**
NBLA Lagarto - SE 74.56 107 *e*P **P** **22 06 29.5 -0.1**
NBIT Itapeh - BA 74.67 112 *e*P **P** **22 06 30.5 +0.3**
SJMB Sao Joao De Ma 74.76 116 *e*P **P** **22 06 30.7 0.0**
CMC01 Camacan, BA 74.77 112 *e*P **P** **22 06 30.7 -0.1**
GUA01 Guaratinga, BA 75.03 114 *e*P **P** **22 06 32.4 +0.1**
NBPV Pedro Velho 75.13 102 *e*P **P** **22 06 33.6 +0.6**
JMIC Jan Mayen 75.23 20 LR LR 22 40 05.9
comp=Z,1µm,18.3s,baz=272,slow=36
DUB01 Friburgo-RJ 75.28 120 *e*P **P** **22 06 34.2 +0.5**
NAN01 Guarapari, ES 75.29 115 *e*P **P** **22 06 33.2 -0.6**
NBAN Anadia - AL 75.42 106 *e*P **P** **22 06 34.3 -0.4**
RIB01 Linhares ES 75.70 116 *e*P **P** **22 06 36.1 0.0**
CAM01 Campos-RJ 75.75 119 *e*P **P** **22 06 36.9 +0.5**
ALF01 Guarapari-ES 75.99 118 *e*P **P** **22 06 38.1 +0.4**
NBRF Rio Formoso - 76.11 104 *e*P **P** **22 06 39.1 +0.5**
PET Petropavlovsk 77.67 322⇑ *e*P **P** **22 06 48.1 +1.4**
PET pmax pmax
comp=Z,43nm,1.4s
SEY Seymchan 78.11 333⇑ *i* P **P** **22 06 50.6 +1.6**
SPITS Spitsbergen Ar 78.19 10 LR LR 22 41 29.8
comp=Z,684nm,19.4s,baz=350,slow=36
PEA0B Petropavlovsk- 78.21 322 *e*P **P** **22 06 51.3 +1.6**
PETK Petropavlovsk- 78.21 322 P **P** **22 06 50.8 +1.1**
comp=Z,18nm,1.1s,baz=98,slow=7.4,SNR=6.7
PETK LR LR 22 34 49.7
comp=Z,89nm,19.3s,baz=87,slow=31
PETK Petropavlovsk- 78.21 322 P **P** **22 06 50.4 +0.7**
MA2 Magadan 79.94 330 *de*P **P** **22 07 00.2 +1.1**
MA2 pmax pmax
comp=Z,34nm,1.2s
MA2 Magadan 79.94 330 P **P** **22 07 00.0 +1.0**
MA2 IAmb IAmb 22 07 01.7
comp=Z,69nm,1.3s
USHA Ushuaia 80.41 158 LR LR 22 35 19.9
comp=Z,620nm,20.7s,baz=322,slow=30
MSVF Nonsavu 81.89 248 LR LR 22 34 44.7
comp=Z,390nm,18.9s,baz=55,slow=29
MSVF Nonsavu 81.89 248⇑ *e*P **P** **22 07 13.7 +3.4**
MSVF pmax pmax
comp=Z,21nm,1.1s
TIXI Tiksi 82.20 345 LR LR 22 46 34.4
comp=Z,239nm,19.3s,baz=49,slow=38
TIXI Tiksi 82.20 345⇑ *e*P **P** **22 07 09.8 -1.1**
TIXI pmax pmax
comp=Z,34nm,1.1s
EKA Eskdalemuir Ar 82.49 34 LR LR 22 41 26.4
comp=Z,351nm,21.8s,baz=288,slow=34
PCAB Cabril 84.35 48 *e*P **P** **22 07 22.7 0.0**
comp=Z,95nm,1.5s
POLO Lamas de Olo 84.63 48 *e*P **P** **22 07 24.1 -0.1**
comp=Z,40nm,1.9s
PVRL Vila Real 84.72 48 *e*P **P** **22 07 26.8 +2.3**
comp=Z,73nm,1.4s
PVIS Viseu 84.78 49 *e*P **P** **22 07 24.6 -0.3**
PMTG Montargil 85.11 51 *e*P **P** **22 07 25.8 -0.7**
comp=Z,96nm,1.5s
MTE Manteigas 85.14 49 *e*P **P** **22 07 26.4 -0.3**
comp=Z,84nm,1.1s
MTE Manteigas 85.14 49 P **P** **22 07 26.2 -0.6**
MVO Moncorvo 85.24 48 *e*P **P** **22 07 27.2 0.0**
comp=Z,66nm,1.9s
PCBR Castelo Branco 85.39 50 *e*P **P** **22 07 27.6 -0.2**
comp=Z,64nm,1.3s
EVO Evora 85.45 51 *e*P **P** **22 07 28.0 -0.2**
comp=Z,75nm,1.6s
SGMF Saint Gilles 85.56 40 *e*P **P** **22 07 27.9 -0.6**
SGMF pmax pmax
comp=Z,63nm,1.4s
PMRV Marv??o 85.59 50 *e*P **P** **22 07 28.5 -0.4**
comp=Z,69nm,1.4s
PESTR Estremoz 85.64 51 *e*P **P** **22 07 32.0 +2.8**
PCVE Castro Verde 85.74 52 *e*P **P** **22 07 29.6 -0.1**
ARCES ARCESS Array B 85.81 15 P **P** **22 07 27.0 -2.4**
comp=Z,12nm,1.0s,baz=298,slow=4.6,SNR=5.3
ARCES LR LR 22 46 16.0
comp=Z,650nm,20.6s,baz=312,slow=36
ARCES ARCESS Array B 85.81 15 P **P** **22 07 29.7 +0.3**
ARCES pmax pmax
comp=Z,73nm,1.7s
ARCES ARCESS Array B 85.81 15 P **P** **22 07 29.7 +0.3**
GRR Gorron 86.55 40 *e*P **P** **22 07 32.8 -0.6**
GRR pmax pmax
comp=Z,61nm,1.5s
NOA NORSAR Array 86.59 25 P **P** **22 07 33.2 -0.2**
comp=Z,2.8nm,1.0s,baz=312,slow=5.2,SNR=4.3
NOA LR LR 22 48 28.2
comp=Z,150nm,18.4s,baz=305,slow=37
FLN La Foliniere 86.62 39 *e*P **P** **22 07 32.7 -1.0**
FLN pmax pmax
comp=Z,54nm,1.4s
MFF Saint Martin d 87.73 41 *e*P **P** **22 07 40.1 +0.9**
MFF pmax pmax
comp=Z,36nm,1.5s
PAB San Pablo 87.74 49 P **P** **22 07 39.5 0.0**
PAB pmax pmax
comp=Z,24nm,1.3s
PAB San Pablo 87.74 49 P **P** **22 07 39.5 0.0**
PAB IAmb IAmb 22 07 47.9
comp=Z,24nm,1.3s
YAK Yakutsk 87.83 337 *e*P **P** **22 07 39.9 +0.6**
YAK *e* 22 11 05.6
YAK *e*S **SKSac** **22 18 04.0 -3.5**
YAK *e* 22 18 22.0
YAK *e*SS **SS** **22 24 06.5 -1.2**
YAK pmax pmax
comp=Z,80nm,1.1s
YAK pmax pmax
comp=E,28nm,1.5s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=Z,155nm,5.3s
YAK pmax pmax
comp=N,152nm,5.7s
YAK smax smax
comp=N,179nm,5.1s
YAK smax smax
comp=E,106nm,4.2s
YAK Yakutsk 87.83 337 P **P** **22 07 39.7 +0.4**
YAK IAMs_20 IAMs_20 22 51 51.6
comp=Z,291nm,19.0s
ESDC Sonseca Array 87.97 49 P **P** **22 07 39.1 -1.4**
comp=Z,2.8nm,1.1s,baz=304,slow=5.9,SNR=4.4
ESDC LR LR 22 45 56.3
comp=Z,208nm,21.0s,baz=295,slow=35
ESDC Sonseca Array 87.97 49 IAmb IAmb 22 07 42.5
comp=Z,6.7nm,1.4s
HFS Hagfors 88.11 25 LR LR 22 46 28.2
comp=Z,246nm,21.7s,baz=297,slow=35
SJPF Ste Jean 88.49 45 *e*P **P** **22 07 45.3 +2.4**
SJPF pmax pmax
comp=Z,32nm,1.4s
BAIF Baives 88.79 37 *e*P **P** **22 07 44.2 +0.1**
BAIF pmax pmax
comp=Z,24nm,1.2s
BMRD Maredsous 88.99 36 P **P** **22 07 43.8 -1.2**
comp=Z,13nm,1.2s
DOU Dourbes 88.99 37 PcP **P** **22 07 45.8 +0.7**
LFF La Frestale 89.00 43 *e*P **P** **22 07 45.4 +0.2**
LFF pmax pmax
comp=Z,70nm,1.8s
GIVF Givet 89.11 37 *e*P **P** **22 07 46.8 +1.1**
GIVF pmax pmax
comp=Z,36nm,1.3s
BGES Gesves 89.13 36 P **P** **22 07 44.4 -1.3**
comp=Z,9.9nm,1.0s
BCLA Clavier 89.23 36 PcP **P** **22 07 47.1 +0.9**
BSTI Sart Tilman 89.30 36 P **P** **22 07 46.2 -0.3**
BSTI PcP **PcP** **22 07 48.3 +0.4**
RCHB Rochefort 89.32 36 P **P** **22 07 45.9 -0.7**
comp=Z,10nm,1.1s
TCF Toulx Ste Croi 89.33 41 *e*P **P** **22 07 45.3 -1.5**
TCF pmax pmax
comp=Z,25nm,1.2s
RJF Les Rejaudoux 89.34 42 *e*P **P** **22 07 45.5 -1.3**
RJF pmax pmax
comp=Z,51nm,1.6s
YSS Yuzh-Sakhalins 89.39 320 *e*P **P** **22 07 47.8 +0.8**
YSS pmax pmax
comp=Z,20nm,1.2s
MEM Membach 89.53 36 PcP **PcP** **22 07 49.7 +0.8**
PMSA Palmer Station 89.58 163 LR LR 22 38 41.0
comp=Z,161nm,21.4s,baz=308,slow=29
BGF Bois d'Agland 89.60 40 *e*P **P** **22 07 49.6 +1.5**
BGF pmax pmax
comp=Z,16nm,1.2s
BTNL Ternell 89.61 36 P **P** **22 07 48.1 +0.1**
BHOU Houvegnez 89.66 36 PcP **P** **22 07 49.0 +0.8**
SSF Saint Saulge 89.78 40 *e*P **P** **22 07 49.5 +0.7**
SSF pmax pmax
comp=Z,44nm,1.5s
LOR Lormes 89.89 39 *e*P **P** **22 07 47.4 -2.0**
LOR pmax pmax
comp=Z,29nm,1.2s
WLF Walferdange 90.08 37 P **P** **22 07 51.0 +0.8**
WLF pmax pmax
comp=Z,41nm,1.4s
WLF Walferdange 90.08 37 P **P** **22 07 51.0 +0.8**
WLF IAmb IAmb 22 07 53.1
comp=Z,41nm,1.4s
WLF Walferdange 90.08 37 P **P** **22 07 48.8 -1.4**
comp=Z,9.5nm,1.2s
MDT Midelt 90.11 55 LR LR 22 44 29.1
comp=Z,196nm,21.5s,baz=308,slow=33
MTLF Montolieu 90.66 43 *e*P **P** **22 07 53.8 +0.7**
MTLF pmax pmax
comp=Z,226nm,2.8s
URZ Urewera 90.71 230 LR LR 22 38 45.5
comp=Z,198nm,21.8s,baz=48,slow=29
JKA Kamikawa-asahi 90.79 317 P **P** **22 07 54.6 +1.0**
JKA Kamikawa-asahi 90.79 317 IAmb IAmb 22 07 56.0
comp=Z,214nm,2.0s
ASAJ Asahikawa 90.79 317 P **P** **22 07 54.6 +1.0**
comp=Z,20nm,0.9s,baz=333,slow=2.8,SNR=4.6
HAU Haudompre 91.01 38 *e*P **P** **22 07 52.8 -1.8**
HAU pmax pmax
comp=Z,25nm,1.2s
GRNR Gornyy 91.16 325⇑ *i*P **P** **22 07 56.2 +1.0**
GRNR pmax pmax
comp=Z,5.0nm,0.9s
GRNR MLR MLR
comp=N,70nm,11.0s
GRNR MLR MLR
comp=Z,100nm,15.0s
CDF Champ du Feu 91.35 37 *e*P **P** **22 07 57.0 +0.8**
CDF pmax pmax
comp=Z,14nm,1.2s
HINF Hinteralfeld 91.40 38 *e*P **P** **22 07 57.2 +0.7**
HINF pmax pmax
comp=Z,32nm,1.7s
NRIK Noril'sk 91.51 355 P **P** **22 07 56.4 0.0**
comp=Z,9.9nm,0.8s,baz=27,slow=2.6,SNR=14
NRIK LR LR 22 51 05.2
comp=Z,458nm,19.1s,baz=22,slow=37
NRIK Noril'sk 91.51 355 *de*P **P** **22 07 56.7 +0.2**
NRIK pmax pmax
comp=Z,15nm,1.0s
NRIK Noril'sk 91.51 355 P **P** **22 07 56.0 -0.5**
NRIK IAmb IAmb 22 07 58.5
comp=Z,17nm,0.9s
FINES FINESS Array B 91.83 20 P **P** **22 07 55.7 -2.4**
comp=Z,2.6nm,1.0s,baz=297,slow=5.3,SNR=2.2
FINES LR LR 22 49 11.2
comp=Z,847nm,19.5s,baz=318,slow=36
ORIF Oris-en-Rattie 92.25 41 *e*P **P** **22 08 01.0 +0.5**
ORIF pmax pmax
comp=Z,18nm,1.3s

CLL	**Collm**	**92.90**	**33**	*e*PS	PS	22 20 19.0	-2.6
CLL				*e*SS	SS	22 25 30.0	+8.4
CLL				*e*(SSS)		22 29 30.0	
CLL				*e*SSSS		22 32 42.0	
CLL				Lm	MLR	22 47 00.0	
	comp=Z,400nm,20.9s						
DAVA	**Damuels**	**93.43**	**37**	*e*P	**P**	**22 08 05.7**	**-0.3**
	comp=Z,14nm,1.0s						
TUE	**Stuetta**	**93.55**	**38**	P	**P**	**22 08 07.5**	**+0.9**
DZM	**Mont Dzumac**	**93.62**	**248**	LR	LR	22 41 16.4	
	comp=Z,368nm,18.8s,baz=104,slow=30						
DZM	**Mont Dzumac**	**93.62**	**248**	*e*LR	LR	22 38 14.9	
	comp=Z,847nm,26.4s						
DAVOX	**Davos/Dischmat**	**93.70**	**38**	LR	LR	22 49 52.8	
	comp=Z,657nm,20.0s,baz=300,slow=35						
ZEA	**Zeya**	**94.02**	**331**	*e*P	**P**	**22 08 08.9**	**+0.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
FETA	**Feichten**	**94.06**	**37**	*e*P	**P**	**22 08 07.6**	**-1.3**
	comp=Z,19nm,1.2s,SNR=5.4						
MOTA	**Moosalm**	**94.10**	**37**	*e*P	**P**	**22 08 07.8**	**-1.3**
	comp=Z,27nm,1.1s,SNR=12						
SQTA	**Sankt Quirin**	**94.23**	**37**	*e*P	**P**	**22 08 08.6**	**-1.0**
	comp=Z,32nm,1.2s,SNR=12						
WATA	**Walderalm**	**94.37**	**37**	*e*P	**P**	**22 08 10.1**	**-0.2**
	comp=Z,27nm,1.2s						
WTTA	**Wattenberg**	**94.44**	**37**	*e*P	**P**	**22 08 09.7**	**-1.0**
	comp=Z,25nm,1.2s						
KLR	**Kul'dur**	**94.52**	**326**	P	**P**	**22 08 08.8**	**-1.9**
	comp=Z,2.0nm,0.8s,baz=54,slow=2.4,SNR=5.5						
KLR	**Kul'dur**	**94.52**	**326**	*e*P	**P**	**22 08 11.5**	**+0.8**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GERES	**GERESS Array B**	**94.69**	**35**	P	**P**	**22 08 11.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=324,slow=3.6,SNR=3.6						
GERES				PP	**PP**	**22 12 00.6**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=325,slow=8.6,SNR=3.6						
GERES				LR	LR	22 49 48.5	
	comp=Z,332nm,20.1s,baz=312,slow=35						
JMM	**Marumori**	**94.90**	**313**	P	**P**	**22 08 12.9**	**+0.2**
CTI	**Castel Tesino**	**95.13**	**38**	P	**P**	**22 08 13.0**	**-0.7**
CTI				pmax	pmax		
	comp=Z,28nm,1.2s						
CTI	**Castel Tesino**	**95.13**	**38**	P	**P**	**22 08 13.0**	**-0.7**
ABTA	**Abfaltersbach**	**95.23**	**37**	*e*P	**P**	**22 08 13.9**	**-0.3**
	comp=Z,21nm,1.0s,SNR=14						
KBA	**Koelnbreinsper**	**95.51**	**36**	*e*P	**P**	**22 08 15.1**	**-0.5**
	comp=Z,6.1nm,0.9s						
STAL	**STALIGIAL**	**95.62**	**37**	P	**P**	**22 08 14.6**	**-1.3**
HNR	**Honiara**	**95.64**	**262**	LR	LR	22 41 41.4	
	comp=Z,247nm,21.3s,baz=82,slow=29						
MYKA	**Terra Mystica**	**95.94**	**36**	*e*P	**P**	**22 08 16.6**	**-0.8**
	comp=Z,6.7nm,1.0s						
VRAC	**Vranov**	**95.94**	**33**	LR	LR	22 51 27.5	
	comp=Z,320nm,19.3s,baz=302,slow=36						
KLMR	**Klimovskoe**	**96.27**	**16**	*e*P	**P**	**22 08 16.9**	**-1.5**
KLMR				*e*		22 12 07.4	
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLMR	**Klimovskoe**	**96.27**	**16**	*e*P	**P**	**22 08 16.9**	**-1.5**
KLMR				AMP		22 08 19.3	
	comp=Z,10.0nm,1.0s						
KLMR				*e*PP	**PP**	**22 12 07.4**	**-3.5**
KLMR				LQ	LQ	22 44 13.2	
KLMR				LQ	LQ	22 44 13.2	
KLMR				LR	LR	22 48 55.3	
CONA	**Conrad Observa**	**96.39**	**35**	*e*P	**P**	**22 08 18.8**	**-0.6**
	comp=Z,3.3nm,0.9s						
BOD	**Bodaibo**	**96.40**	**339**	*e*P	**P**	**22 08 19.2**	**+0.1**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.6s						
OBKA	**Obir**	**96.52**	**36**	*e*P	**P**	**22 08 19.2**	**-0.9**
	comp=Z,7.8nm,0.9s						
SOKA	**Soboth**	**96.69**	**36**	*e*P	**P**	**22 08 19.5**	**-1.3**
	comp=Z,13nm,1.4s						
MODS	**Modra-Piesok**	**96.87**	**34**	*e*P	**P**	**22 08 22.0**	**+0.5**
MODS	**Modra-Piesok**	**96.87**	**34**	*e*PDIFF	**P**	**22 08 22.0**	**+0.5**
MJAR	**Matsushiro Arr**	**97.34**	**312**	P	**P**	**22 08 23.8**	**-0.1**
	comp=Z,4.3nm,1.0s,baz=26,slow=2.2,SNR=5.4						
MJAR	**Matsushiro Arr**	**97.34**	**312**	P	**P**	**22 08 24.2**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,13nm,1.3s						
MJAR	**Matsushiro Arr**	**97.34**	**312**	P	**P**	**22 08 24.2**	**+0.3**
MJAR				IAmb	IAmb	22 08 27.9	
	comp=Z,13nm,1.2s						
MAJO	**Matsushiro**	**97.34**	**312⇑**	*e*P	**P**	**22 08 25.0**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,11nm,1.0s						
MAT	**Matsushiro**	**97.34**	**312**	P	**P**	**22 08 23.9**	**0.0**
MNK	**Minsk**	**97.58**	**25**	*i* P	**P**	**22 08 22.9**	**-1.6**
MNK				*i* S	**SKSac**	**22 18 57.4**	**-4.7**
MNK				*i* SS	**SS**	**22 26 33.2**	**+5.5**
MNK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,10.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				MLR	MLR		
	comp=Z,325nm,20.0s						
MNK				MLR	MLR		
	comp=E,46nm,20.0s						
MNK				MLR	MLR		
	comp=N,293nm,20.0s						
MNK	**Minsk**	**97.58**	**25**	*i* P	**P**	**22 08 23.0**	**-1.6**
	comp=E,2.0nm,1.0s						
MNK				*i* P	**P**	**22 08 23.0**	**-1.6**
	comp=N,10.0nm,0.9s						
MNK				*i* P	**P**	**22 08 23.0**	**-1.6**
	comp=Z,6.0nm,0.9s,baz=318						
MNK				*i* PP	PP	22 11 54.2	-27
MNK				*i* PPP	PPP	22 14 12.8	
MNK				*i* SKS	SKiKP	22 17 28.3	+54
MNK				*i* S	**SKSac**	**22 18 57.5**	**-4.6**
MNK				*i* PS	**PS**	**22 21 27.2**	**+15**
MNK				*i* SS	**SS**	**22 26 33.3**	**+5.6**
MNK				*i* SSS	SSS	22 30 22.6	
MNK				*i* LR	LR	22 46 00.0	
MNK				*i* LRM	MLR	22 52 03.1	
	comp=Z,325nm,19.7s						
MNK				*i* LRM	MLR	22 52 29.9	
	comp=E,46nm,19.7s						
MNK				*i* LRM	MLR	22 53 11.1	
	comp=N,293nm,19.7s						
KEST	**Kesra**	**99.15**	**47**	P	**Pdif**	**22 08 31.4**	**-0.7**
	comp=N,8.4nm,1.1s,baz=352,slow=5.6,SNR=6.1						
KEST				LR	LR	22 54 11.9	
	comp=N,185nm,19.1s,baz=290,slow=36						
KEST	**Kesra**	**99.15**	**47**	P	**Pdif**	**22 08 32.1**	**0.0**
TIC	**Toumodi**	**99.34**	**80**	*e*P	**Pdif**	**22 08 32.5**	**-0.8**
LIC	**Lamto**	**99.47**	**80**	*e*P	**Pdif**	**22 08 35.0**	**+1.2**
	comp=N,36nm,1.3s						
DBIC	**Dimbokro**	**99.48**	**80**	LR	LR	22 52 12.7	
	comp=N,111nm,18.2s,baz=316,slow=35						
KIC	**Kosan Boka**	**99.69**	**80**	*e*P	**Pdif**	**22 08 33.1**	**-1.7**
	comp=N,9.3nm,1.1s						
AKASG	**Malin Array Be**	**100.96**	**27**	P	**Pdif**	**22 08 36.9**	**-2.8**
	comp=N,0.3nm,0.4s,baz=294,slow=3.6,SNR=2.7						
AKASG				PP	**PP**	**22 12 46.7**	**-0.3**
	comp=N,0.1nm,0.3s,baz=301,slow=6.9,SNR=2.3						
AKASG	**Malin Array Be**	**100.96**	**27**	*i* P	**Pdif**	**22 08 41.0**	**+1.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**103.12**	**71**	PP	**PP**	**22 13 01.9**	**-2.9**
	comp=Z,1.0nm,0.9s,baz=316,slow=8.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**103.12**	**71**		**PP**	**22 12 59.6**	**-5.2**
ZALV	**Zalesovo Beam**	**106.86**	**353**	PP	**PP**	**22 13 29.6**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=357,slow=8.7,SNR=5.5						
ULN	**Ulaanbaatar**	**106.92**	**337**	IAMs_20	IAMs_20	23 00 38.9	
	comp=Z,234nm,18.0s						
SONM	**Songino Array**	**107.19**	**337**	Pdiff	**Pdif**	**22 09 09.9**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=0.0,slow=4.3,SNR=3.8						
SONM				PP	**PP**	**22 13 33.5**	**0.0**
	comp=Z,0.6nm,1.0s,baz=1.4,slow=5.8,SNR=2.6						
BVAR	**Borovoye Array**	**108.49**	**2**	PKKPbc	PKKPbc	22 24 27.5	-2.8
	comp=Z,0.8nm,0.8s,baz=197,slow=4.5,SNR=5.1						
HHC	**Hu-ho-hao-te**	**110.61**	**329**	*e*P	**PKiKP**	**22 13 22.4**	**-1.0**
HHC				LR	LR		
	comp=Z,240nm,14.0s						
HHC				LR	LR		
	comp=Z,240nm,14.0s						
HHC				LR	LR		
	comp=Z,350nm,14.0s						
BRTR	**Keskin Array B**	**111.31**	**32**	PKKP		22 24 38.7	
	comp=Z,1.9nm,1.1s,baz=164,slow=1.0,SNR=4.0						
KIV	**Kislovodsk**	**111.78**	**23**	*i* PKIKP	**PKiKP**	**22 13 27.0**	**+1.5**
KIV				*i*		22 14 06.1	
KIV				pmax	pmax		
	comp=Z,12nm,1.3s						
KIV				MLR	MLR		
	comp=Z,314nm,18.0s						
MK31	**Makanchi Array**	**114.20**	**353⇑**	*i* PKIKP	**PKiKP**	**22 13 29.3**	**-0.6**
MKAR	**Makanchi Array**	**114.20**	**353**	PKP	**PKiKP**	**22 13 27.0**	**-3.0**
	comp=Z,0.9nm,0.9s,baz=12,slow=3.2,SNR=6.3						
MKAR				PKKPbc	**PKKPbc**	**22 24 08.9**	**-2.6**
	comp=Z,0.5nm,0.8s,baz=207,slow=4.8,SNR=4.2						
MKAR	**Makanchi Array**	**114.20**	**353***c*	*i* PKIKP	**PKiKP**	**22 13 29.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MAK	**Makhachkala**	**114.33**	**20**	*i* P	**Pdif**	**22 09 37.4**	**-1.9**
MAK				*i*		22 13 28.1	
MAK				*e*		22 14 23.9	
MAK				pmax	pmax		
	comp=Z,497nm,2.4s						
MAK				MLR	MLR		
	comp=Z,581nm,19.0s						
WMQ	**Urumqi**	**116.25**	**348**	*e*PKP	**PKiKP**	**22 13 34.3**	**+0.3**
WMQ				LR	LR		
	comp=Z,210nm,20.9s						
STKA	**Stephens Creek**	**117.34**	**243**	PKKPbc	PKKPbc	22 23 58.8	-1.1
	comp=Z,0.9nm,0.4s,baz=290,slow=6.9,SNR=4.2						
GEYT	**Alibeck**	**121.96**	**14**	PKP	**PKPdf**	**22 13 43.9**	**-1.2**
	comp=Z,4.4nm,0.8s,baz=54,slow=5.5,SNR=4.2						
KSH	**Kashi**	**121.96**	**357**	PKP	**PKPdf**	**22 13 44.8**	**-0.4**
WR0	**Warramunga Arr**	**122.02**	**258**		**PKPdf**	**22 13 46.1**	**+0.5**
WB0	**Warramunga Arr**	**122.12**	**258**	PKPdf	**PKPdf**	**22 13 46.4**	**+0.7**
WRAB	**Tennant Creek**	**122.19**	**258⇑**	*i* PKIKP	**PKPdf**	**22 13 46.6**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,18nm,2.5s						
WB2	**Warramunga Arr**	**122.19**	**258**		**PKPdf**	**22 13 44.4**	**-1.5**
WRA	**Warramunga Arr**	**122.20**	**258**	PKP	**PKPdf**	**22 13 44.1**	**-1.8**
	comp=Z,3.5nm,0.8s,baz=79,slow=2.4,SNR=19						
WRA				PP	**PP**	**22 15 19.6**	**-1.7**
	comp=Z,0.9nm,1.1s,baz=72,slow=7.4,SNR=6.4						
WRA				PKKPbc	**PKKPbc**	**22 23 40.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=267,slow=2.3,SNR=7.4						
CD2	**Chengdu**	**122.34**	**328**	PKP	**PKPdf**	**22 13 45.2**	**-0.8**
GAR	**Garm**	**122.50**	**2**		**PKPdf**	**22 13 45.6**	**-0.6**
CHGR	**Chuyangaron**	**122.79**	**3**		**PKPdf**	**22 13 46.4**	**-0.3**
ASAR	**Alice Springs**	**123.17**	**254**	PKhKP	PKPpre	22 13 38.3	
	comp=Z,0.2nm,0.7s,baz=85,slow=4.0,SNR=2.1						
ASAR				PKP	**PKPdf**	**22 13 46.9**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=92,slow=1.8,SNR=17						
ASAR				PKKPbc	**PKKPab**	**22 23 37.2**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=261,slow=2.8,SNR=11						
ASAR	**Alice Springs**	**123.17**	**254**	PKPdf	**PKPdf**	**22 13 46.3**	**-1.4**
MTN	**Manton Dam**	**123.74**	**267**	PKPdf	**PKPdf**	**22 13 50.0**	**+1.0**
GYA	**Guiyang**	**124.30**	**323**	⇑PKP	**PKPdf**	**22 13 50.3**	**+0.3**
GYA				PP	**PP**	**22 15 40.1**	**+5.9**
GYA				AMB	AMB		
	comp=Z,200nm,4.7s						
SYO	**Syowa Base**	**125.72**	**166⇑**	*e*Pdiff	**Pdif**	**22 10 28.6**	**-0.6**
HRA	**Herat**	**126.21**	**11**	PKPdf	**PKPdf**	**22 13 54.6**	**+1.0**
PZH	**PanZhiHua**	**126.94**	**327**	PKP	**PKPdf**	**22 13 55.7**	**+0.6**
PZH				sPKP		22 14 08.1	
PZH				AMB	AMB		
	comp=Z,170nm,5.0s						
PZH				LR	LR		
	comp=Z,320nm,17.7s						
PZH				LR	LR		
	comp=Z,300nm,18.3s						
PZH				LR	LR		
	comp=Z,340nm,18.2s						
KMI	**Kunming**	**127.53**	**325**	⇑PKP	**PKPdf**	**22 13 55.7**	**-0.7**
KMI				LR	LR		
	comp=Z,170nm,16.1s						
KMI				LR	LR		
	comp=Z,200nm,24.2s						
KKM	**Kota Kinabalu**	**130.60**	**296**	IAMs_20	IAMs_20	23 00 12.6	
	comp=Z,231nm,22.0s						
CHTO	**Chiang Mai**	**134.68**	**324**	PKIKP	**PKPdf**	**22 14 09.8**	**+0.1**
CHTO	**Chiang Mai**	**134.68**	**324**	PKPdf	**PKPdf**	**22 14 09.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**134.97**	**324**	PKP	**PKPdf**	**22 14 09.8**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=344,slow=2.4,SNR=17						
CMAR	**Chiang Mai Arr**	**134.97**	**324***c*	*i* PKIKP	**PKPdf**	**22 14 10.8**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**134.97**	**324**	PKPdf	**PKPdf**	**22 14 10.6**	**+0.3**
BOSA	**Boshof**	**135.63**	**112**	PKhKP	PKPpre	22 14 03.0	
	comp=Z,3.5nm,0.9s,baz=238,slow=4.3,SNR=4.2						
BOSA				PKP	**PKPdf**	**22 14 10.9**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=348,slow=2.1,SNR=5.0						
BOSA	**Boshof**	**135.63**	**112**	PKIKP	**PKPdf**	**22 14 11.5**	**+0.1**
BOSA	**Boshof**	**135.63**	**112**	PKPdf	**PKPdf**	**22 14 11.5**	**+0.1**
KSM	**Kuching**	**137.99**	**295**	IAMs_20	IAMs_20	22 55 56.6	
	comp=Z,149nm,19.0s						
KMBO	**Kilima Mbogo**	**141.01**	**67**	PKP	**PKPdf**	**22 14 21.0**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=8.6,slow=6.3,SNR=4.1						
KMBO	**Kilima Mbogo**	**141.01**	**67***c*	*i* PKIKP	**PKPdf**	**22 14 23.3**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RPR	**Rampur**	**142.08**	**350**	*e*PKPdf	**PKPdf**	**22 14 23.3**	**0.0**
HYBB	**Hyderabad (bro**	**143.61**	**351**	*e*Pdif	**Pdif**	**22 11 49.5**	**-0.6**
HYBB				*e*PKPdf	PKPbc	22 14 25.4	+2.1
HYBB				*e*SKSdf	**SKSdf**	**22 21 36.9**	**+0.6**
HYBB				*e*SKKSac	**SKKSac**	**22 24 31.5**	**+0.2**
NJS	**Nagarjunasagar**	**144.33**	**349**	*e*PKPdf	**PKPab**	**22 14 26.1**	**+0.9**
ADKI	**Addanki**	**144.90**	**348**	*e*PKPbc	**PKPab**	**22 14 26.2**	**-1.0**
ADKI				*e*SKSdf	**SKSdf**	**22 21 36.8**	**-1.4**
PSI	**Prapat**	**146.52**	**307**	PKPbc	**PKPdf**	**22 14 30.9**	**-0.5**
	comp=Z,64nm,1.0s,baz=333,slow=2.3,SNR=36						
RPSI	**Rantau Prapat**	**146.59**	**307**		**PKPdf**	**22 14 31.0**	**-0.3**
RPSI	**Rantau Prapat**	**146.59**	**307**		**PKPdf**	**22 14 30.9**	**-0.4**
GSI	**Gunungsitoli**	**148.51**	**307**		**PKPdf**	**22 14 37.3**	**+2.8**
COCO	**West Island**	**155.93**	**282**	IAMs_20	IAMs_20	23 34 58.0	
	comp=Z,80nm,20.0s						

MEX 08 21:56:23.7±0.4, 15°.99N×95°.01W, h30km±999km, MD3.5, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.08**	**259**	*e*P	Pn	21 56 40.3	-2.5
HUIG				*e*S	Sn	21 56 54.2	-2.5
HUIG	**Huatulco**	**1.08**	**259⇑**	*e*	Pn	21 56 40.3	-2.5
CMIG	**Matias Romero**	**1.11**	**6**	*e*P	Pn	21 56 40.8	-2.4
CMIG				*e*S	Sn	21 56 54.4	-3.1
UXUV	**UXUV**	**1.56**	**32**	*e*P	Pn	21 56 47.6	-1.9
UXUV				*e*S	Sn	21 57 06.1	-2.6
PCIG		**1.75**	**99**	*e*P	Pn	21 56 49.4	-2.6
PCIG				*e*S	Sn	21 57 09.2	-4.0
PEIG	**Puerto Escondi**	**2.06**	**271**	*e*P	Pn	21 56 53.8	-2.5

*IDC **08** 21:57:21.4±7.3, 0°.31S×122°.69E, h126km±74km, mb3.1/5, mb1 3.3/7, mb1mx3.1/45, mbtmp3.6/7, Error ellipse: s-maj=63.5km s-min=17.2km az=55.0*
*DJA **08** 21:57:21.2±1.1, 0°.5S±3°×12°.3E±°, h27km±12km, M3.8/11, MLv3.8/11*

ISC 08 21:57:19.2±0.9, 0°.20S±0°.06×122°.86E±0°.07, h100km, n16, σ1§25/17, mb3.3/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.84**	**10**	P	**Pn**	**21 57 39.0**	**+1.0**
LUWI	**Luwuk**	**0.84**	**186**	P	**Pn**	**21 57 38.0**	**0.0**
MRSI	**Marisa**	**1.14**	**306**	P	**Pn**	**21 57 40.6**	**-0.5**
KMSI	**Cibinong**	**1.36**	**56**	P	**Pn**	**21 57 44.8**	**+1.1**
APSI	**Ampana**	**1.40**	**240**	P	**Pn**	**21 57 44.9**	**+0.7**
MPSI	**Mapaga**	**3.01**	**280**	P	**Pn**	**21 58 06.7**	**+1.6**
TTSI	**Tana Toraja**	**4.15**	**227**	P	**Pn**	**21 58 21.7**	**+1.3**
SPSI	**Sidrap Palu**	**4.85**	**220**	P	**Pn**	**21 58 32.0**	**+2.1**
BNSI	**Bone**	**5.00**	**213**	P	**Pn**	**21 58 33.8**	**+1.9**
KAPI	**Kappang**	**5.70**	**213**	P	**Pn**	**21 58 42.1**	**+0.7**
	1.8nm,0.3s,baz=101,slow=14,SNR=6.0						
KAPI				S	**Sn**	**21 59 43.6**	**-2.1**
	1.5nm,0.3s,baz=59,slow=23,SNR=9.0						
FITZ	**Fitzroy Crossi**	**18.00**	**171**	P	**Pn**	**22 01 23.2**	**+0.3**
	0.1nm,0.3s,baz=2.9,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**22.61**	**151**	P	**P**	**22 02 11.1**	**-0.7**
	0.3nm,0.4s,baz=326,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.67**	**156**	P	**P**	**22 02 39.8**	**-0.1**
	0.3nm,0.7s,baz=342,slow=15,SNR=7.2						
CMAR	**Chiang Mai Arr**	**29.93**	**310**	P	**P**	**22 03 18.8**	**+0.7**
	0.7nm,0.3s,baz=123,slow=6.5,SNR=2.2						
SONM	**Songino Array**	**49.94**	**346**	P	**P**	**22 06 02.8**	**-0.2**
	0.2nm,0.6s,baz=164,slow=9.4,SNR=3.7						
MKAR	**Makanchi Array**	**58.71**	**328**	P	**P**	**22 07 05.4**	**-1.0**
	0.3nm,0.3s,baz=130,slow=8.5,SNR=15						

*BJI **08** 22:21:29.0±0.0, 9°.50S×117°.70E, h95km, mb5.2/78, mB5.1/41*
*IDC **08** 22:21:30.8±1.5, 9°.13S×117°.76E, h77km±12km, mb4.8/43, mb1 4.8/46, mb1mx4.6/63, mbtmp5.1/46, MS3.9/28, Ms1 3.9/28, ms1mx3.7/69, Error ellipse: s-maj=10.2km s-min=8.4km az=56.0*
*DJA **08** 22:21:30.8±0.2, 10°.5S±2°.×11°.8E±°, h76km±4km, M5.0/59, mb5.3/59, mB5.5/48, MLv5.6/30, Mw(mB)5.0/48, MwMwp4.7/13, Mwp5.1/13*
*NEIC **08** 22:21:31.4±2.9, 9°.44S±0°.06×117°.69E±0°.05, h74km±4km, mb5.4/123, Error ellipse: s-maj=8.4km s-min=7.1km az=193.0*
*GCMT **08** 22:21:32.4±0.2, 9°.53S±0°.01×117°.65E±0°.02, h81km±2km, MW5.1/103, Moment Tensor Solution. s64,c79; s103,c158; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}4.06±.11; $M_{\theta\theta}$-0.88±.12; $M_{\phi\phi}$-3.18±.12; $M_{r\theta}$1.41±.08; $M_{\theta\phi}$2.33±.10; $M_{\phi r}$-1.51±.10; Best double couple: $M_0$4.81400×10^16 NP1:ϕ_s334.00000°, δ33.00000°, λ100.00000°. NP2:ϕ_s143.00000°, δ58.00000°, λ84.00000°. Principal axes: T 4.5480, Plg76.0000°, Azm34.0000°; N 0.5310, Plg5.0000°, Azm146.0000°; P -5.0800, Plg13.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **08** 22:21:32.0±1.3, 9°.11S×117°.74E, h103km, mb5.3/40 Error ellipse: s-maj=7.4km s-min=4.9km az=120.5*

ISC 08 22:21:30.8±0.3, 9°.36S±0°.03×117°.73E±0°.03, h82km±2km, h82km:pP-P, n867, σ1§56/894, mb5.3/160, 38C-9D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.66**	**100**	P	**Pn**	**22 21 57.6**	**-0.7**
WBSI				S	**Sn**	**22 22 18.5**	**-0.7**
DNP	**Denpasar**	**2.58**	**285**	P	**Pn**	**22 22 12.9**	**+2.3**
DNP	**Denpasar**	**2.58**	**285**	P	**Pn**	**22 22 12.8**	**+2.2**
IGBI	**Denpasar**	**2.61**	**282**	P	**Pn**	**22 22 11.3**	**+0.3**
SRBI	**Singaraja**	**2.79**	**297**	P	**Pn**	**22 22 14.1**	**+0.6**
BASI	**Baing, Sumba**	**2.93**	**107**	P	**Pn**	**22 22 15.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.65**	**284**	P	**Pn**	**22 22 25.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.65**	**284**	Pn	**Pn**	**22 22 25.2**	**+0.2**
JAGI				Sn	**Sn**	**22 23 08.7**	**+1.7**
JAGI	**Jajag, Banyuwa**	**3.65**	**284**	P	**Pn**	**22 22 25.9**	**+0.9**
ABJI	**Asem Bagus**	**3.79**	**294**	P	**Pn**	**22 22 28.8**	**+1.8**
EDFI	**Ende, Flores**	**3.95**	**82**	P	**Pn**	**22 22 29.4**	**+0.1**
BSSI	**Bau Bau, Buton**	**4.20**	**41**	P	**Pn**	**22 22 35.2**	**+2.6**
GMJI	**Gumukmas**	**4.38**	**284**	P	**Pn**	**22 22 34.1**	**-0.8**
KMMI	**Kalianget**	**4.38**	**301**	P	**Pn**	**22 22 36.1**	**+1.2**
BLJI	**Banyuglugur**	**4.40**	**291**	P	**Pn**	**22 22 36.1**	**+0.9**
MMRI	**Maumere**	**4.51**	**81**	P	**Pn**	**22 22 37.3**	**+0.6**
MMRI	**Maumere**	**4.51**	**81**	Pn	**Pn**	**22 22 37.9**	**+1.2**
MMRI				Sn	**Sn**	**22 23 30.2**	**+2.3**
MMRI	**Maumere**	**4.51**	**81**	P	**Pn**	**22 22 38.9**	**+2.2**
BKSI	**Bulukumba**	**4.66**	**31**	P	**Pn**	**22 22 41.7**	**+2.9**
KAPI	**Kappang**	**4.76**	**25**	P	**Pn**	**22 22 43.2**	**+3.1**
	71nm,0.3s,baz=228,slow=10,SNR=612						
KAPI				S	**Sn**	**22 23 35.1**	**+1.1**
	168nm,0.3s,baz=123,slow=23,SNR=19						
KAPI	**Kappang**	**4.76**	**25**	Pn	**Pn**	**22 22 43.1**	**+3.1**
KAPI					**Sn**	**22 23 36.2**	**+2.2**
KAPI	**Kappang**	**4.76**	**25**	P	**Pn**	**22 22 44.1**	**+4.0**
BNSI	**Bone**	**5.46**	**26**	P	Pn	22 22 54.7	+5.0
	3.7nm10μm1μm,0.9s						
SPSI	**Sidrap Palu**	**5.73**	**21**	P	**Pn**	**22 22 57.0**	**+3.6**
	1.9nm4μm5μm479nm,1.0s						
BATI	**Baumata**	**5.91**	**99**	P	**Pn**	**22 22 55.8**	**-0.1**
	418nm,0.3s,baz=283,slow=1.9,SNR=253						
BATI				S	**Sn**	**22 23 59.6**	**-2.6**
	478nm,0.3s,baz=28,slow=22,SNR=16						
BATI	**Baumata**	**5.91**	**99**	P	**Pn**	**22 22 55.5**	**-0.3**
	7.3nm2μm19μm1μm,0.8s						
BWJI	**Bawean**	**6.12**	**304**	P	**Pn**	**22 23 02.1**	**+3.4**
	1.6nm5μm436nm,0.8s						
BBSI	**Bau Bau**	**6.15**	**52**	P	**Pn**	**22 23 02.5**

comp=Z,761nmcomp=Z,27nm,0.5s
SBUM Sibu 12.95 335 Pn 22 24 35.3 +3.5
BNDI Bandanaira 13.00 69 P **Pn 22 24 33.5 +1.1**
BLSI Bandar Lampung 13.00 287 P **Pn 22 24 30.2 -2.3**
comp=Z,94nm,0.4s
LBMI Labuha 13.02 49 P **P 22 24 37.5 -2.5**
comp=Z,3µmcomp=Z,209nm,1.1s
DRS Darwin Rock St 13.28 104 P **Pn 22 24 32.9 -3.3**
SAUI Saumlaki 13.48 85 P **Pn 22 24 36.6 -2.2**
comp=Z,541nm,0.6s
SAUI Saumlaki 13.48 85 Pn **Pn 22 24 36.2 -2.6**
SAUI Saumlaki 13.48 85 P **Pn 22 24 37.6 -1.2**
KLI Kotabumi 13.53 288 P **P 22 24 42.7 -3.0**
comp=Z,5µmcomp=Z,238nm,0.7s
MTN Manton Dam 13.60 106 P **Pn 22 24 37.2 -3.1**
baz=14,SNR=178
MTN Manton Dam 13.60 106 Pn **Pn 22 24 36.5 -3.8**
MTN Manton Dam 13.60 106 P **Pn 22 24 37.6 -2.7**
GIRL Giralia 13.63 194 P **Pn 22 24 37.1 -3.6**
baz=14,SNR=118
GIRL Giralia 13.63 194 Pn **Pn 22 24 38.0 -2.7**
GIRL Giralia 13.63 194 P **Pn 22 24 37.6 -3.1**
KASI Kota Agung 13.67 285 P **P 22 24 44.5 -2.6**
comp=Z,2µmcomp=Z,105nm,1.0s
KLSI 13.71 289 P **P 22 24 45.2 -2.5**
comp=Z,745nmcomp=Z,72nm,1.1s
TNTI Ternate 13.90 44 P **P 22 24 49.1 -0.7**
comp=Z,1µmcomp=Z,2µmcomp=Z,118nm,1.1s
TNTI Ternate 13.90 44 **Pn 22 24 46.9 +2.6**
LWLI Liwa 14.23 287 P **Pn 22 24 50.9 +2.2**
comp=Z,153nm,0.7s
MDSI Maura Dua 14.30 289 P **P 22 24 52.5 -1.7**
comp=Z,403nmcomp=Z,29nm,1.0s
PMBI Palembang 14.38 296 P **P 22 24 55.1 0.0**
comp=Z,214nm,0.5s
MYLDM Lahad Datu 14.46 3 **P 22 24 58.9 +2.9**
KDU Kakadu 14.84 104 P **Pn 22 24 54.1 -2.3**
baz=15,SNR=72
KDU Kakadu 14.84 104 P **Pn 22 24 54.2 -2.3**
LHSI Lahat 15.14 290 P **P 22 25 04.1 +0.5**
comp=Z,3µmcomp=Z,256nm,1.1s
KKM Kota Kinabalu 15.38 354 P **P 22 25 06.5 +0.3**
MNAI Manna 15.49 288 Pn **Pn 22 25 01.5 -3.2**
MNAI IAmb IAmb 22 25 09.5
comp=Z,214nm,0.8s
MNAI Manna 15.49 288 P **Pn 22 25 02.7 -2.0**
FAKI Fak Fak 15.78 67 P **Pn 22 25 06.0 -2.4**
comp=Z,2µmcomp=Z,225nm,0.9s
FAKI Fak Fak 15.78 67 Pn **Pn 22 25 05.9 -2.4**
FAKI IAmb IAmb 22 25 31.6
comp=Z,179nm,0.9s
FAKI Fak Fak 15.78 67 P **Pn 22 25 06.0 -2.4**
SWI Sorong 15.89 59 P **Pn 22 25 08.7 -1.0**
SWI pmax pmax
comp=Z,233nm,0.9s
SWI Sorong 15.89 59 P **Pn 22 25 09.0 -0.7**
comp=Z,3µmcomp=Z,231nm,0.9s
SIJI Sorong 15.89 59 P **Pn 22 25 07.9 -1.9**
comp=Z,4.8nm,0.3s,baz=230,slow=6.5,SNR=20
SIJI S **Sn 22 28 00.1 -5.3**
comp=Z,0.8nm,0.3s,baz=198,slow=20,SNR=1.8
SIJI LR LR 22 31 47.9
comp=Z,418nm,18.9s,baz=248,slow=39
JMBI JAMBI 15.98 298 P **P 22 25 15.2 +2.3**
comp=Z,96nm,0.4s
MASI Maura Aman, Be 16.59 291 P **Pn 22 25 18.9 +0.4**
comp=Z,3µmcomp=Z,276nm,1.1s
MEEK Meekatharra 17.21 177 P **Pn 22 25 24.5 -1.5**
baz=17,SNR=44
MEEK Meekatharra 17.21 177 P **Pn 22 25 25.4 -0.6**
KRJI Kerinci 17.72 293 P **P 22 25 31.8 -0.4**
comp=Z,5µmcomp=Z,753nm,1.0s
MYKOM Kota Tinggi 17.72 308 P **P 22 25 31.4 -0.7**
RGRI Rengat 17.75 299 P **Pn 22 25 34.3 +1.6**
DAV Davao City (W) 18.09 26 LR LR 22 32 27.8
comp=Z,303nm,18.7s,baz=229,slow=37
WRKA Warakurna 18.55 148 P **Pn 22 25 42.3 -0.1**
baz=18,SNR=88
WRKA Warakurna 18.55 148 P **Pn 22 25 42.4 0.0**
WB0 Warramunga Arr 19.14 125 P **P 22 25 47.4 -0.3**
WRA Warramunga Arr 19.18 125 P **P 22 25 47.9 -0.3**
comp=Z,3.6nm,0.3s,baz=306,slow=12,SNR=197
WRA S S 22 29 07.9 -14
comp=Z,3.7nm,0.3s,baz=300,slow=21,SNR=4.4
WRA LR LR 22 34 22.2
comp=Z,230nm,19.8s,baz=294,slow=40
WRA Warramunga Arr 19.18 125 P **P 22 25 47.2 -1.0**
WRAB Tennant Creek 19.19 125*c i P* **P 22 25 48.7 +0.5**
WRAB pmax pmax
comp=Z,56nm,0.8s
WRAB Tennant Creek 19.19 125 P **P 22 25 48.2 0.0**
WRAB IAmb IAmb 22 25 53.1
comp=Z,106nm,0.8s
WRAB Tennant Creek 19.19 125 P **P 22 25 48.4 +0.2**
WB2 Warramunga Arr 19.20 125 P **P 22 25 48.1 -0.2**
WB2 IAmb IAmb 22 25 53.0
comp=Z,90nm,0.8s
BKNI Bangkinang 19.21 299 P **P 22 25 49.2 +0.8**
comp=Z,117nm,1.0s
BKNI Bangkinang 19.21 299 P **Pn 22 25 49.6 -0.6**
BKNI IAmb IAmb 22 25 53.4
comp=Z,209nm,1.3s
PPI Padang Panjang 19.39 296 P **P 22 25 50.0 -0.4**
comp=Z,23nm,0.5s
MORW Morawa 19.67 184 P **P 22 25 54.3 +0.9**
baz=20,SNR=22
MORW Morawa 19.67 184 P **P 22 25 53.1 -0.2**
MORW Morawa 19.67 184 P **Pn 22 25 57.4 +1.9**
SRPI Serui, Papua 19.85 69 P **P 22 25 53.7 -1.7**
COCO West Island 20.72 260 P **P 22 26 05.0 +0.2**
COCO pmax pmax
comp=Z,210nm,1.4s
COCO West Island 20.72 260 P **P 22 26 05.0 +0.2**
COCO IAmb IAmb 22 26 07.3
comp=Z,210nm,1.4s
ASAR Alice Springs 21.01 135 P **P 22 26 08.2 +0.3**
comp=Z,40nm,0.6s,baz=324,slow=13,SNR=327
ASAR S **S 22 29 52.2 -5.3**
comp=Z,28nm,1.0s,baz=309,slow=21,SNR=4.6
ASAR LR LR 22 35 07.1
comp=Z,210nm,19.7s,baz=310,slow=39
ASAR Alice Springs 21.01 135 P **P 22 26 08.0 +0.1**
BLDU Ballidu 21.17 182 P **P 22 26 11.6 +2.1**
baz=21,SNR=15
BLDU Ballidu 21.17 182 P **P 22 26 11.6 +2.1**
IPM Ipoh 21.59 309 P **P 22 26 14.6 +0.5**
KLBR Kellerberrin 22.12 180 P **P 22 26 20.4 +0.7**
baz=22,SNR=9.9
KLBR Kellerberrin 22.12 180 P **P 22 26 20.7 +1.0**
RPSI Rantau Prapat 22.24 302 P **P 22 26 21.4 +0.3**
PSI Prapat 22.30 302 P **P 22 26 21.8 0.0**
comp=Z,6.1nm,0.4s,baz=176,slow=9.2,SNR=20
PSI LR LR 22 36 20.7
comp=Z,163nm,18.3s,baz=132,slow=40
KULM Kulim 22.40 310 P **P 22 26 22.7 -0.1**
MUN Mundaring 22.55 183 P **P 22 26 25.5 +1.2**
baz=22,SNR=3.7
GSI Gunungsitoli 22.70 297 P **P 22 26 26.5 +0.5**
DLV T Lat 23.07 336 P **P 22 26 30.9 +1.0**
DLV IAmb IAmb 22 26 33.8
comp=Z,240nm,1.7s
FORT Forrest 23.39 157 P **P 22 26 32.6 +0.2**
baz=23,SNR=14
FORT Forrest 23.39 157 P **P 22 26 32.3 -0.2**
FORT IAmb IAmb 22 26 33.4
comp=Z,148nm,0.7s
FORT Forrest 23.39 157 P **P 22 26 32.8 +0.3**
NWAO Narrogin (SRO) 23.46 181 P **P 22 26 33.3 +0.2**
JAY Jayapura 23.82 75 P **P 22 26 35.1 -1.6**
comp=Z,20nm,0.7s,baz=242,slow=2.2,SNR=9.1
JAY LR LR 22 37 27.3
comp=Z,149nm,20.5s,baz=194,slow=40
QIS Mount Isa 23.85 120 P **P 22 26 37.4 +0.7**
baz=24,SNR=63
QIS Mount Isa 23.85 120 P **P 22 26 37.6 +0.8**
OOD Oodnadatta 24.96 140 P **P 22 26 47.3 +0.6**
LHMI Lhok Sumawe 25.28 304 P **P 22 26 49.5 -0.3**
LHMI IAmb IAmb 22 27 16.9
comp=Z,83nm,0.9s
COEN Coen 25.32 103 P **P 22 26 50.7 +0.5**
COEN IAmb IAmb 22 26 52.1
comp=Z,129nm,0.9s
COEN Coen 25.32 103 P **P 22 26 51.2 +1.0**
SRIT Nakonsritamara 25.38 314 P **P 22 26 50.6 -0.1**
MULG Mulgathing 25.80 146 P **P 22 26 54.7 +0.3**

MTSU Mount Surprise 27.22 112 P **P 22 27 08.8 +1.4**
baz=27,SNR=139
MTSU Mount Surprise 27.22 112 P **P 22 27 09.0 +1.7**
UBPT Khong Chiam 27.33 333 P **P 22 27 09.0 +0.8**
INKA Innaminka 28.37 133 P **P 22 27 19.2 +1.8**
LCRK Leigh Creek 28.38 141 P **P 22 27 18.2 +0.7**
BBOO Buckleboo 28.83 147 P **P 22 27 21.7 +0.2**
baz=29,SNR=58
BBOO Buckleboo 28.83 147 P **P 22 27 21.7 +0.2**
BBOO IAmb IAmb 22 27 23.3
comp=Z,50nm,0.7s
BBOO Buckleboo 28.83 147 P **P 22 27 21.9 +0.4**
PMG Port Moresby 29.03 93 P **P 22 27 24.2 +0.9**
comp=Z,8.3nm,0.4s,baz=265,slow=8.9,SNR=6.0
PMG Port Moresby 29.03 93 P **P 22 27 24.3 +0.9**
PMG pmax pmax
comp=Z,31nm,0.9s
PMG Port Moresby 29.03 93 P **P 22 27 24.3 +0.9**
QIZ Qiongzhong 29.26 345 P **P 22 27 26.5 +1.2**
QIZ S **S 22 32 17.3 +4.8**
QIZ LR LR
comp=Z,260nm,17.5s
QIZ LR LR
comp=Z,200nm,15.1s
QIZ LR LR
comp=Z,240nm,35.0s
CTA Charters Tower 29.52 114 P **P 22 27 29.3 +1.5**
comp=Z,38nm,0.8s,baz=285,slow=13,SNR=27
CTA PcP **PcP 22 30 32.4 +1.0**
comp=Z,17nm,0.7s,baz=272,slow=2.3,SNR=6.2
CTAO Charters Tower 29.52 114 P **P 22 27 28.7 +0.9**
CTAO pmax pmax
comp=Z,62nm,0.9s
CTAO Charters Tower 29.52 114 P **P 22 27 28.7 +0.9**
CTAO IAmb IAmb 22 27 30.4
comp=Z,62nm,0.9s
CTAO Charters Tower 29.52 114 P **P 22 27 29.4 +1.6**
PTPS Port Pirie 30.18 145 P **P 22 27 35.0 +1.6**
NAPP Napperby 30.27 145 P **P 22 27 35.4 +1.2**
MANU Manus Island 30.35 78 P **P 22 27 35.4 +0.3**
QLP Quilpie 30.37 128 P **P 22 27 36.8 +1.6**
baz=30,SNR=16
QLP Quilpie 30.37 128 P **P 22 27 37.2 +2.0**
HTT Hallett 30.90 144 P **P 22 27 40.9 +1.1**
baz=31,SNR=32
HTT Hallett 30.90 144 P **P 22 27 40.9 +1.1**
STKA Stephens Creek 31.49 139 P **P 22 27 45.9 +0.9**
comp=Z,32nm,0.5s,baz=314,slow=9.6,SNR=105
STKA PcP **PcP 22 30 37.1 +0.8**
comp=Z,30nm,0.8s,baz=333,slow=4.9,SNR=6.0
STKA LR LR 22 41 22.2
comp=Z,162nm,18.1s,baz=313,slow=38
STKA Stephens Creek 31.49 139 P **P 22 27 45.9 +0.9**
baz=32,SNR=57
STKA Stephens Creek 31.49 139 P **P 22 27 45.5 +0.6**
STKA Stephens Creek 31.49 139 P **P 22 27 46.0 +1.0**
CMAR Chiang Mai Arr 33.28 326 P **P 22 28 01.1 +0.4**
comp=Z,8.9nm,0.8s,baz=153,slow=6.7,SNR=57
CMAR PcP **PcP 22 30 42.2 +0.8**
comp=Z,11nm,0.9s,baz=182,slow=2.9,SNR=14
CMAR ScP **ScP 22 34 18.1 -0.5**
comp=Z,3.4nm,0.5s,baz=173,slow=3.0,SNR=13
CMAR LR LR 22 42 16.7
comp=Z,165nm,20.4s,baz=135,slow=38
CMAR Chiang Mai Arr 33.28 326 P **P 22 28 00.7 -0.1**
CMAR **PcP 22 30 42.5 +1.1**
CM31 Chiang Mai Arr 33.28 326 P **P 22 28 01.7 +0.9**
CM31 IAmb IAmb 22 28 02.4
comp=Z,17nm,0.7s
SLVN Son La 33.39 336 P **P 22 28 02.6 +0.9**
SLVN IAmb IAmb 22 28 04.2
comp=Z,25nm,1.0s
CHTO Chiang Mai 33.57 327 P **P 22 28 03.8 +0.5**
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 33.57 327 P **P 22 28 03.4 +0.1**
CHTO **PcP 22 30 43.7 +1.5**
RMQ Roma 33.94 124 P **P 22 28 08.6 +2.2**
baz=34,SNR=23
RMQ Roma 33.94 124 P **P 22 28 08.5 +2.0**
CMSA Cobar Meteorol 34.07 134 P **P 22 28 08.8 +1.4**
baz=34,SNR=28
CMSA Cobar Meteorol 34.07 134 P **P 22 28 09.1 +1.6**
RK1H Rockhampton Ha 34.28 118 P **P 22 28 10.5 +1.1**
ARPS Mount Arapiles 34.95 145 P **P 22 28 16.3 +1.3**
baz=35,SNR=52
ARPS Mount Arapiles 34.95 145 P **P 22 28 16.3 +1.3**
EIDS Eidsvold 35.45 121 P **P 22 28 21.0 +1.5**
baz=35,SNR=5.3
EIDS Eidsvold 35.45 121 P **P 22 28 20.2 +0.7**
EIDS IAmb IAmb 22 28 21.9
comp=Z,22nm,1.0s
BRAT Ballarat 36.70 144 P **P 22 28 32.0 +2.1**
GYA Guiyang 37.19 343⇓*i P* **P 22 28 35.4 +1.0**
GYA pP pP 22 28 58.0 +4.2
GYA PcP **PcP 22 30 54.0 +1.1**
GYA pmax pmax
comp=Z,33nm,0.9s
KMI Kunming 37.26 337⇑P **P 22 28 36.6 +1.5**
KMI pP sP 22 28 59.9 -4.4
KMI sP pP 22 29 09.5 +15
KMI pmax pmax
comp=Z,78nm,0.9s
KMI pmax pmax
comp=Z,93nm,5.0s
KMI LR LR
comp=Z,200nm,16.0s
KMI LR LR
comp=Z,240nm,25.7s
JOW Kunigami 37.40 16 LR LR 22 45 02.2
comp=Z,107nm,19.4s,baz=130,slow=38
TOO Toolangi 37.63 143 P **P 22 28 40.0 +2.1**
baz=38,SNR=49
TOO Toolangi 37.63 143 P **P 22 28 39.6 +1.7**
TOO pmax pmax
comp=Z,83nm,0.9s
TOO Toolangi 37.63 143 P **P 22 28 39.5 +1.7**
TOO Toolangi 37.63 143 P **P 22 28 40.2 +2.3**
ARMA Armidale 37.91 128 P **P 22 28 43.1 +2.7**
baz=38,SNR=30
ARMA Armidale 37.91 128 P **P 22 28 42.2 +1.7**
ARMA IAmb IAmb 22 28 44.1
comp=Z,43nm,0.8s
ARMA Armidale 37.91 128 P **P 22 28 43.1 +2.7**
CAN Canberra 38.48 137 P **P 22 28 47.0 +1.9**
CAN pmax pmax
comp=Z,130nm,1.0s
CAN Canberra 38.48 137 P **P 22 28 46.0 +0.8**
CAN IAmb IAmb 22 28 47.8
comp=Z,54nm,0.8s
CAN **PcP 22 30 57.9 +1.2**
CAN Canberra 38.48 137 P **P 22 28 47.0 +1.9**
CNB Canberra Magne 38.73 137 P **P 22 28 48.7 +1.5**
baz=39,SNR=24
CNB Canberra Magne 38.73 137 P **P 22 28 48.7 +1.5**
MGCD Mangrove Creek 38.84 133 P **P 22 28 50.7 +2.7**
baz=39,SNR=13
MGCD Mangrove Creek 38.84 133 P **P 22 28 50.8 +2.7**
PZH PanZhiHua 38.88 337⇑P **P 22 28 49.1 +0.5**
PZH sP **sP 22 29 23.0 +5.1**
PZH PP **PnPn 22 30 27.0 +4.6**
PZH S **S 22 34 44.6 +3.6**
PZH pmax pmax
comp=Z,60nm,1.0s
PZH pmax pmax
comp=Z,130nm,4.7s
PZH LR LR
comp=Z,320nm,16.1s
PZH LR LR
comp=Z,330nm,16.9s
PZH LR LR
comp=Z,400nm,17.2s
RIV Riverview 39.18 133 P **P 22 28 53.5 +2.6**
baz=39,SNR=8.0
MILA Mila 39.59 139 P **P 22 28 57.0 +2.7**
baz=40,SNR=4.2
WHN Wuhan 39.80 355⇓P **P 22 28 57.3 +1.3**
WHN pmax pmax
comp=Z,84nm,1.0s
ENH Enshi 40.19 349 IAmb IAmb 22 29 02.0
comp=Z,40nm,0.7s
PALK Pallekele 40.43 293 LR LR 22 46 06.9
comp=Z,74nm,20.3s,baz=219,slow=37
NJ2 Nanjing 41.19 1⇓*i P* **P 22 29 06.0 -1.4**
NJ2 pP **pP 22 29 24.8 -2.4**

NJ2 sP **sP 22 29 37.8 +1.2**
NJ2 pmax pmax
comp=Z,59nm,1.1s
GLAD Gladstone 41.34 145 P **P 22 29 10.6 +1.9**
HNR Honiara 41.63 94 P **P 22 29 12.2 +0.8**
comp=Z,264nm,0.7s,baz=243,slow=3.0,SNR=21
HNR Honiara 41.63 94 P **P 22 29 11.7 +0.4**
CD2 Chengdu 42.22 342 P **P 22 29 16.2 +0.2**
CD2 pmax pmax
comp=Z,100nm,0.9s
SHL Shillong 42.88 325 P **P 22 29 20.4 -1.1**
SHL pmax pmax
comp=Z,54nm,0.9s
SHL Shillong 42.88 325 P **P 22 29 20.4 -1.1**
SHL IAmb IAmb 22 29 21.5
comp=Z,54nm,0.9s
JCJ Chichijima 43.31 33 P **P 22 29 23.4 -1.3**
LYN LuoYang 43.95 354⇑*i P* **P 22 29 29.6 -0.2**
LYN PP **PcP 22 31 15.6 +1.2**
LYN pmax pmax
comp=Z,30nm,0.8s
XAN Xi'an 43.96 349 P **P 22 29 29.9 0.0**
XAN pP pP 22 29 47.4 -2.6
XAN pmax pmax
comp=Z,28nm,1.1s
JNU Nakatsue 44.06 16 P **P 22 29 29.5 -1.2**
comp=Z,30nm,1.0s,baz=160,slow=7.4,SNR=8.3
JNU LR LR 22 48 53.7
comp=Z,150nm,20.8s,baz=93,slow=38
JNU Nakatsue 44.06 16 IAmb IAmb 22 29 31.3
comp=Z,48nm,1.1s
H08S2 Diego Garcia H 44.75 269 T T 23 16 49.8
baz=95,slow=76,SNR=9.1
H08S3 Diego Garcia H 44.77 269 T T 23 16 49.8
baz=95,slow=76,SNR=6.3
H08S1 Diego Carcia H 44.77 269 T T 23 16 50.4
baz=95,slow=76,SNR=5.8
DGAR Diego Garcia 44.82 269⇑*eP* **P 22 29 36.4 -0.7**
DGAR pmax pmax
comp=Z,35nm,1.0s
ADKI Addanki 45.01 304 *eP* **P 22 29 39.7 +1.3**
ADKI *es*P **sP 22 30 06.4 -1.0**
ADKI *e*PcP **PcP 22 31 19.5 +1.1**
JTU Tsushima 45.02 14 P **P 22 29 38.3 0.0**
JTU IAmb IAmb 22 29 39.4
comp=Z,62nm,0.9s
TIA Tai'an 45.33 359⇑P **P 22 29 39.8 -0.9**
TIA pmax pmax
comp=Z,27nm,1.0s
JMN Monobe 45.51 19 IAmb IAmb 22 29 43.2
comp=Z,70nm,1.1s
RCLA Racherla 45.65 302 *eP* **P 22 29 42.9 -0.7**
TJN Taejon 46.38 11*ceP* **P 22 29 49.1 +0.1**
JHS Saijyo 46.45 17 P **P 22 29 50.1 +0.5**
LSA Lhasa 46.51 328 IAmb IAmb 22 29 51.8
comp=Z,32nm,1.2s
LSA Lhasa 46.51 328 *i* P **P 22 29 50.6 -0.2**
SNR=13
HNS HongShan 46.60 357⇑P **P 22 29 49.9 -0.7**
HNS PcP **PcP 22 31 24.2 +0.7**
HNS S **S 22 36 26.3 -7.2**
HNS pmax pmax
comp=Z,30nm,1.3s
HNS LR LR
comp=Z,600nm,20.6s
HNS LR LR
comp=Z,210nm,18.0s
URV Uravakonda 46.83 301 *eP* **P 22 29 55.5 +2.6**
HYBB Hyderabad (bro 46.98 304 *eP* **P 22 29 54.9 +0.8**
LZH Lanzhou 47.06 345 *eP* **P 22 29 55.1 +0.6**
LZH pP sP 22 30 20.8 -2.9
LZH sP pP 22 30 29.8 +15
LZH PcP **PcP 22 31 26.5 +1.1**
LZH pmax pmax
comp=Z,21nm,1.1s
LZH LR LR
comp=Z,120nm,14.5s
LZH LR LR
comp=Z,180nm,15.3s
LZH LR LR
comp=Z,150nm,15.9s
TIY Taiyuan 47.09 354⇓P **P 22 29 54.4 -0.2**
TIY pmax pmax
comp=Z,21nm,0.6s
JHJ2 Mitsune 47.18 25 P **P 22 29 54.1 -1.2**
JWT Wachi 47.44 20 P **P 22 29 58.2 +1.0**
KSAR Wonju Array Be 47.52 11 P **P 22 29 58.1 +0.3**
KSAR Wonju Array Be 47.52 11 P **P 22 29 58.1 +0.3**
KSRS Korea Array 47.53 11 P **P 22 29 58.2 +0.3**
comp=Z,81nm,0.9s,baz=190,slow=7.8,SNR=149
KSRS PcP **PcP 22 31 27.6 +0.7**
comp=Z,5.7nm,0.8s,baz=187,slow=3.6,SNR=5.0
KSRS LR LR 22 50 50.3
comp=Z,58nm,20.4s,baz=35,slow=37
KS19 Wonju Array Si 47.57 11 IAmb IAmb 22 29 59.6
comp=Z,102nm,1.1s
SRSP Sriramsagar 47.94 306 *eP* **P 22 30 02.8 +1.3**
DL2 Dalian 48.15 4 P **P 22 30 02.1 -0.6**
DL2 pmax pmax
comp=Z,67nm,1.1s
GUN Gumba 48.20 321 *eP* **P 22 30 02.4 -1.3**
comp=Z,71nm,0.8s
NOUC Port Laguerre 48.24 111 P **P 22 30 05.6 +1.9**
PKI Pulchoki 48.25 320 *eP* **P 22 30 02.4 -1.7**
PKIN Phulchoki 48.26 320 *eP* **P 22 30 02.2 -1.9**
DZM Mont Dzumac 48.36 111 P **P 22 30 06.5 +1.7**
DZM IAmb IAmb 22 30 07.8
comp=Z,40nm,1.0s
DZM Mont Dzumac 48.36 111 P **P 22 30 07.0 +2.2**
JGF Kuroka 48.40 21 P **P 22 30 06.1 +1.4**
JGF IAmb IAmb 22 31 46.8
comp=Z,95nm,1.7s
ONTNC Ouen Toro 48.40 111 P **P 22 30 06.3 +1.3**
ONTNC IAmb IAmb 22 30 07.8
comp=Z,65nm,0.9s
DMN Daman 48.47 320 *eP* **P 22 30 04.1 -1.6**
KKN Kakani 48.48 321 *eP* **P 22 30 04.2 -1.6**
comp=Z,56nm,1.0s
SANVU Saraoutou 48.61 102 P **P 22 30 08.3 +1.7**
LIFNC LIFOU 48.96 109 P **P 22 30 09.8 +0.5**
GKN Gorkha 49.04 320 *eP* **P 22 30 08.3 -1.6**
comp=Z,22nm,0.3s
BJT Baijiatuau 49.15 358 IAmb IAmb 22 30 11.0
comp=Z,34nm,0.9s
BJI Beijing 49.17 358 P **P 22 30 09.8 -0.7**
BJI PcP **PcP 22 31 33.6 +1.0**
BJI pmax pmax
comp=Z,46nm,1.1s
BJI pmax pmax
comp=Z,360nm,6.1s
KOLN Koldanda 49.54 319 *eP* **P 22 30 12.0 -1.8**
MAJO Matsushiro 49.55 22*ceP* **P 22 30 11.9 -1.6**
MAJO pmax pmax
comp=Z,58nm,1.0s
MAJO Matsushiro 49.55 22 P **P 22 30 12.4 -1.1**
MAJO IAmb IAmb 22 30 13.1
comp=Z,65nm,0.9s
MAT Matsushiro 49.55 22 P **P 22 30 11.4 -2.1**
MJAR Matsushiro Arr 49.55 22 P **P 22 30 12.2 -1.3**
comp=Z,67nm,0.9s,baz=193,slow=7.3,SNR=78
MJAR LR LR 22 48 49.8
comp=Z,102nm,21.3s,baz=172,slow=33
MJAR Matsushiro Arr 49.55 22 P **P 22 30 12.4 -1.1**
MJAR pmax pmax
comp=Z,74nm,1.0s
MJAR Matsushiro Arr 49.55 22 P **P 22 30 12.3 -1.1**
MJAR IAmb IAmb 22 30 13.1
comp=Z,74nm,0.9s
MJB9 Matsu-Tunnel 49.55 22 IAmb IAmb 22 30 13.1
comp=Z,65nm,0.9s
MARNC Mare, Loyalty 49.76 110 P **P 22 30 15.9 +0.5**
DANN Dangsing 49.83 320 *eP* **P 22 30 14.4 -1.7**
comp=Z,101nm,0.9s
PYUN Piuthan 50.16 319 *eP* **P 22 30 16.7 -1.8**
comp=Z,69nm,1.0s
GOMU GeErMu 50.19 336 P **P 22 30 18.4 -0.4**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU pmax pmax
comp=Z,100nm,5.1s
HHC Hu-ho-hao-te 50.28 354 *eP* **P 22 30 18.7 -0.4**
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,210nm,4.9s

HHC LR LR
comp=Z,220nm,15.9s
HHC LR LR
comp=Z,240nm,15.9s
HHC LR LR
comp=Z,350nm,15.9s
GTA Gaotai 51.30 342 ⇑P P 22 30 26.7 -0.1
GTA pP pP 22 30 50.2 +3.2
GTA sP sP 22 31 00.7 +4.5
GTA PcP **PcP 22 31 41.8 +1.1**
GTA ScP **ScP 22 35 29.8 -0.2**
GTA ScS **ScS 22 40 06.1 -3.5**
GTA pmax pmax
comp=Z,22nm,1.4s
GTA pmax pmax
comp=Z,130nm,5.9s
GTA LR LR
comp=Z,120nm,14.5s
GTA LR LR
comp=Z,160nm,15.3s
GTA LR LR
comp=Z,170nm,15.6s
XLT XiLinHaoTe 53.02 359⇑*i*P P 22 30 38.9 -0.5
XLT pP pP 22 30 59.2 -0.5
XLT sP sP 22 31 09.9 +1.0
XLT S **S 22 37 59.8 -3.3**
XLT pmax pmax
comp=Z,44nm,1.1s
XLT pmax pmax
comp=Z,340nm,4.3s
XLT LR LR
comp=Z,220nm,13.7s
XLT LR LR
comp=Z,270nm,15.4s
XLT LR LR
comp=Z,300nm,18.1s
CN2 Changchun 53.37 7 *e*P P 22 30 40.7 -1.1
CN2 PcP **PcP 22 31 48.5 +0.3**
CN2 S **S 22 38 04.8 -2.8**
CN2 pmax pmax
comp=Z,30nm,0.9s
VLA Vladivostok 53.80 13*c i*P P 22 30 44.3 -0.7
VLA pmax pmax
comp=Z,91nm,1.0s
JTM Tenmabayashi 54.34 22 P P 22 30 48.4 -0.6
JTM IAmb IAmb 22 30 49.2
comp=Z,66nm,0.9s
MDJ Mudanjiang 54.78 10 P P 22 30 52.3 +0.2
MDJ pmax pmax
comp=Z,230nm,0.9s
MDJ pmax pmax
comp=Z,190nm,4.3s
MDJ Mudanjiang 54.78 10 P P 22 30 52.5 +0.4
USRK Ussuriysk Ar. 54.85 13 P P 22 30 52.2 -0.3
comp=Z,93nm,0.7s,baz=189,slow=6.4,SNR=257
USRK LR LR 22 55 40.8
comp=Z,69nm,19.6s,baz=53,slow=38
USRK Ussuriysk Ar. 54.85 13 P P 22 30 52.0 -0.6
BNX BinXian 55.53 8 ⇑P P 22 30 56.0 -1.5
BNX pmax pmax
comp=Z,19nm,0.7s
BNX pmax pmax
comp=Z,120nm,3.8s
MLZ Mavora Lakes 56.07 139 P P 22 31 02.4 +0.9
WHZ Wether Hill Ro 56.17 140 P P 22 31 02.0 -0.2
OUZ Omahuta 56.89 126 P P 22 31 07.9 +0.4
CASY Casey 57.06 183 P P 22 31 07.5 -0.5
CASY IAmb IAmb 22 31 09.3
comp=Z,15nm,1.0s
RPZ Rata Peaks 57.41 136 P P 22 31 11.4 +0.4
RPZ Rata Peaks 57.41 136 P P 22 31 12.3 +1.3
ULN Ulaanbaatar 57.75 352*c i*P P 22 31 12.7 -0.7
ULN pmax pmax
comp=Z,24nm,0.7s
ULN Ulaanbaatar 57.75 352 P P 22 31 12.9 -0.5
ULN IAmb IAmb 22 31 14.0
comp=Z,24nm,0.8s
ASAJ Asahikawa 57.80 21 P P 22 31 12.7 -0.9
comp=Z,21nm,0.6s,baz=243,slow=6.8,SNR=8.0
ASAJ LR LR 22 54 48.3
comp=Z,110nm,21.4s,baz=136,slow=35
JKA Kamikawa-asahi 57.80 21 IAmb IAmb 22 31 14.0
comp=Z,44nm,0.9s
SONM Songino Array 57.82 351 P P 22 31 13.2 -0.6
comp=Z,44nm,0.8s,baz=169,slow=8.6,SNR=300
SONM ScP **ScP 22 35 58.1 -0.3**
comp=Z,1.0nm,0.7s,baz=156,slow=4.4,SNR=4.4
SONM LR LR 22 58 47.2
comp=Z,230nm,21.2s,baz=30,slow=39
SONM Songino Array 57.82 351 P P 22 31 13.1 -0.7
SONM IAmb IAmb 22 31 14.3
comp=Z,43nm,0.8s
OXZ Oxford 57.95 136 P P 22 31 15.2 +0.4
OXZ IAmb IAmb 22 31 16.2
comp=Z,38nm,0.7s
THZ Tophouse 58.07 134 P P 22 31 16.2 +0.5
THZ IAmb IAmb 22 31 30.5
comp=Z,59nm,1.1s
HIA Hailar 58.40 2 P P 22 31 17.5 -0.2
HIA pmax pmax
comp=Z,13nm,1.0s
HIA Hailar 58.40 2 P P 22 31 17.5 -0.2
WIAZ Waiheke Island 58.46 127 P P 22 31 29.2 +11
HIZ Hauiti 58.64 130 P P 22 31 14.6 -5.1
KHZ Kahutara 58.72 134 P P 22 31 20.8 +0.7
KHZ Kahutara 58.72 134 P P 22 31 22.8 +2.7
TUWZ Tuamarina 58.72 133 P P 22 31 20.7 +0.5
MSVF Nonsavu 59.02 105⇓*e*P P 22 31 24.3 +1.5
MSVF pmax pmax
comp=Z,46nm,1.1s
MSVF Nonsavu 59.02 105 P P 22 31 24.1 +1.3
MSVF IAmb IAmb 22 31 26.0
comp=Z,65nm,1.1s
MSVF Nonsavu 59.02 105 P P 22 31 25.3 +2.5
KRVZ Karewarewa 59.37 130 P P 22 31 28.3 +3.4
MYRZ Mayor Island 59.43 128 P P 22 31 26.5 +1.4
WMQ Urumqi 59.54 335 *e*P P 22 31 25.2 -0.6
WMQ pP pP 22 31 46.8 +0.4
WMQ sP sP 22 32 02.8 +7.4
WMQ PcP **PcP 22 32 11.6 -0.8**
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ LR LR
comp=Z,240nm,19.7s
KLR Kul'dur 59.62 11 P P 22 31 25.0 -1.2
comp=Z,15nm,0.7s,baz=206,slow=5.0,SNR=57
KLR LR LR 23 00 24.0
comp=Z,104nm,19.5s,baz=46,slow=39
KLR Kul'dur 59.62 11*c i*P P 22 31 24.9 -1.2
KLR pmax pmax
comp=Z,16nm,0.9s
PLWZ Palliser 59.71 133 P P 22 31 28.9 +1.9
BHHZ Black Hill Sta 59.78 130 P P 22 31 25.7 -2.0
BKZ Black Stump Fm 60.03 130 P P 22 31 26.5 -2.9
BKZ Black Stump Fm 60.03 130 P P 22 31 29.9 +0.5
BKZ IAmb IAmb 22 31 31.5
comp=Z,41nm,1.2s
BKZ Black Stump Fm 60.03 130 P P 22 31 30.4 +1.1
NIL Nilore 60.12 318 P P 22 31 28.4 -1.5
NIL pmax pmax
comp=Z,30nm,0.4s
NIL Nilore 60.12 318 P P 22 31 28.4 -1.5
BFZ Birch Farm 60.20 132 P P 22 31 43.8 +13
MTHZ Maungataniwha 60.23 129 P P 22 31 31.7 +1.0
NMHZ Naumai 60.26 130 P P 22 31 32.6 +1.7
URZ Urewera 60.31 129 LR LR 22 57 55.9
comp=Z,168nm,19.6s,baz=298,slow=36
URZ Urewera 60.31 129 P P 22 31 30.2 -0.9
URZ Urewera 60.31 129 P P 22 31 30.9 -0.2
URZ Urewera 60.31 129 P P 22 31 31.6 +0.5
YSS Yuzh-Sakhalins 60.34 19 *e*P P 22 31 29.7 -1.3
YSS pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 60.34 19 P P 22 31 30.6 -0.5
YSS IAmb IAmb 22 31 31.4
comp=Z,32nm,0.8s
MWZ Matawai 60.64 129 P P 22 31 34.4 +0.9
HAZ Te Kaha 60.72 128 P P 22 31 34.7 +0.7
KUR Kuril'sk 60.74 24⇓*e*P P 22 31 33.7 -0.1
KUR pmax pmax
comp=Z,223nm,1.1s
ZAK Zakamensk 60.81 349 *e*P P 22 31 32.4 -2.0
ZAK *e* 22 32 12.2
ZAK pmax pmax
comp=Z,18nm,1.1s
ZAK pmax pmax
comp=Z,11nm,1.2s
TWGZ Tauwhareparae 60.96 128 P P 22 31 37.8 +2.1
CNGZ Carnagh Statio 61.20 129 P P 22 31 37.5 +0.3
WMGZ Waiomatatini S 61.23 128 P P 22 31 38.4 +1.0
UGL Uglegorsk 61.99 18 *e*P P 22 31 42.2 0.0
UGL pmax pmax
comp=Z,50nm,1.4s
GRNR Gornyy 62.04 13⇑*i*P P 22 31 42.4 -0.1
GRNR pmax pmax
comp=Z,20nm,1.0s
KSH Kashi 62.16 324 P P 22 31 42.4 -1.3
KSH pP pP 22 32 07.2 +2.6
KSH pmax pmax
comp=Z,22nm,1.0s
KSH pmax pmax
comp=Z,190nm,6.5s
MOY Mondy 62.47 348 *e*P P 22 31 43.8 -1.7
MOY pmax pmax
comp=Z,50nm,2.7s
SHLS Shalkode 62.81 329 *e*P P 22 31 44.7 -3.3
SHLS pmax pmax
comp=Z,4.0nm,0.8s
SHLS Shalkode 62.81 329 *e*P P 22 31 44.8 -3.3
comp=Z,4.2nm,0.8s,baz=330
UZB Uzynbulak 63.03 329 *e*P P 22 31 47.3 -2.2
UZB Uzynbulak 63.03 329 *e*P P 22 31 47.3 -2.2
baz=329
ZEA Zeya 63.37 6 *e*P P 22 31 50.9 -0.4
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,40nm,0.9s
ZEA pmax pmax
comp=Z,90nm,0.8s
KBL Kabul 63.47 316 P P 22 31 51.0 -1.7
KBL pmax pmax
comp=Z,30nm,1.0s
KBL Kabul 63.47 316 P P 22 31 51.0 -1.7
KBL IAmb IAmb 22 31 52.7
comp=Z,30nm,0.9s
ZSN Zaisan 63.65 336 *e*P P 22 31 52.0 -1.3
ZSN pmax pmax
comp=Z,7.0nm,1.0s
ZSN Zaisan 63.65 336 *e*P P 22 31 52.0 -1.3
comp=Z,7.0nm,1.0s,baz=336
BOOM Boomskoye usch 64.18 327 P P 22 31 56.8 -0.3
BOOM pmax pmax
comp=Z,82nm,1.6s
BOOM Boomskoye usch 64.18 327 P P 22 31 56.8 -0.3
BOOM IAmb IAmb 22 32 57.8
comp=Z,82nm,1.6s
MK31 Makanchi Array 64.21 334*c i*P P 22 31 55.7 -1.3
MKAR Makanchi Array 64.21 334 P P 22 31 56.1 -0.9
comp=Z,16nm,0.9s,baz=145,slow=7.1,SNR=54
MKAR PKP2bc 23 00 51.2
comp=Z,1.1nm,1.0s,baz=316,slow=4.0,SNR=7.0
MKAR Makanchi Array 64.21 334 P P 22 31 55.9 -1.1
MAKZ Makanchi 64.36 334 P P 22 31 57.6 -0.4
MAKZ pmax pmax
comp=Z,14nm,1.2s
MAKZ Makanchi 64.36 334 P P 22 31 57.6 -0.4
DGZ Jazzator, Alta 64.51 339*c i*P P 22 31 58.4 -0.7
DGZ pmax pmax
comp=Z,32nm,1.0s
CHKK Chushkaly 64.57 328 *e*P P 22 31 57.9 -1.5
baz=328
TDK Taldyqorghan 64.68 330 *e*P P 22 31 58.4 -1.7
TDK pmax pmax
comp=Z,32nm,0.8s
TDK Taldyqorghan 64.68 330 *e*P P 22 31 58.4 -1.7
comp=Z,32nm,0.8s,baz=330
KBK Karagaybulak 64.83 326 P P 22 32 01.8 +0.4
SNR=10
KUU Kurty 64.94 328 *e*P P 22 31 59.6 -2.2
KUU pmax pmax
comp=Z,18nm,0.8s
KUU Kurty 64.94 328 *e*P P 22 31 59.6 -2.2
comp=Z,18nm,0.8s,baz=328
AAK Ala-Archa 65.07 326 P P 22 32 01.9 -1.0
comp=Z,18nm,0.8s,baz=140,slow=5.1,SNR=8.9
AAK PKP2bc 23 00 50.9
comp=Z,1.0nm,0.6s,baz=277,slow=6.9,SNR=3.9
AAK Ala-Archa 65.07 326 P P 22 32 03.2 +0.3
SNR=10
AAK Ala-Archa 65.07 326*c i*P P 22 32 01.8 -1.0
AAK pmax pmax
comp=Z,51nm,0.9s
AAK Ala-Archa 65.07 326 P P 22 32 02.5 -0.4
AAK Ala-Archa 65.07 326 *i* P P 22 32 02.7 -0.2
SNR=11
AML Almayashu 65.18 325 P P 22 32 03.5 -0.4
SNR=9.9
AML Almayashu 65.18 325 *i* P P 22 32 03.5 -0.4
SNR=10.0
EKS2 Erkin-Say 65.48 326 P P 22 32 05.4 -0.1
SNR=8.8
USP Ospenovka 65.49 327 P P 22 32 04.6 -0.8
SNR=5.4
SGDS Sogindy 65.54 327 *e*P P 22 32 03.8 -2.0
comp=Z,8.2nm,1.1s,baz=327
CHGR Chuyangaron 65.75 320 IAmb IAmb 22 32 06.3
comp=Z,53nm,1.1s
WSAR Wadi Sarin 66.25 300 P P 22 32 10.2 -0.5
comp=Z,6.9nm,1.0s,baz=144,slow=6.7,SNR=7.1
WSAR PKP2bc 23 00 43.4
comp=Z,2.9nm,0.9s,baz=351,slow=2.7,SNR=3.7
BTLS Baital 66.92 328 *e*P P 22 32 12.3 -2.2
BTLS Baital 66.92 328 *e*P P 22 32 12.3 -2.2
baz=328
DZA Taraz 67.01 325 *e*P P 22 32 13.4 -1.7
DZA Taraz 67.01 325 *e*P P 22 32 13.5 -1.7
baz=325
BOD Bodaibo 67.01 358 *e*P P 22 32 14.1 -0.7
BOD pmax pmax
comp=Z,43nm,1.3s
SHAO Shalim 67.07 294 P P 22 32 14.8 -1.2
IUG Iuzhnay 67.30 323 *e*P P 22 32 15.5 -1.6
IUG Iuzhnay 67.30 323 *e*P P 22 32 15.5 -1.6
baz=323
KKAR Karatay Array 67.61 324 P P 22 32 17.7 -1.2
KKAR Karatay Array 67.61 324 P P 22 32 17.7 -1.2
BRLS Borolday 67.95 324 *e*P P 22 32 19.2 -1.9
BRLS Borolday 67.95 324 *e*P P 22 32 19.3 -1.9
baz=324
MAW Mawson 68.48 200 P P 22 32 25.5 +1.6
comp=Z,15nm,0.9s,baz=52,slow=7.0,SNR=12
MAW Mawson 68.48 200 P P 22 32 25.7 +1.8
baz=68,SNR=7.9
MAW Mawson 68.48 200 P P 22 32 24.6 +0.7
OPO Ambohidratompo 68.72 254 P P 22 32 27.7 +1.1
comp=Z,5.3nm,0.9s,baz=124,slow=4.6,SNR=6.2
KURBB Kurchatov Arra 68.74 334 P P 22 32 24.4 -1.3
comp=Z,9.4nm,0.9s,baz=148,slow=5.4,SNR=54
KURBB PKP2bc 23 00 40.3
comp=Z,1.5nm,0.9s,baz=307,slow=2.8,SNR=8.2
KURK Kurchatov 68.77 335*c i*P P 22 32 24.5 -1.5
KURK pmax pmax
comp=Z,32nm,1.1s
KURK Kurchatov 68.77 335 P P 22 32 24.7 -1.2
KURK IAmb IAmb 22 32 26.8
comp=Z,39nm,1.1s
ZAA0 Zalesovo Array 68.94 340 P P 22 32 25.6 -1.3
ZAA0 IAmb IAmb 22 32 26.3
comp=Z,35nm,1.1s
ZALV Zalesovo Beam 68.94 340 P P 22 32 25.0 -1.9
comp=Z,12nm,0.5s,baz=144,slow=5.2,SNR=64
ZALV PKP2bc 23 00 38.9
comp=Z,0.8nm,0.7s,baz=310,slow=5.0,SNR=4.8
ZALV Zalesovo Beam 68.94 340 P P 22 32 24.7 -2.2
UOSS Minazif 68.94 301 P P 22 32 26.4 -1.2
UOSS Minazif 68.94 301 *i* P P 22 32 24.2 -3.4
SNR=6.6
HATD Hatta, Dubai 68.96 301 *i* P P 22 32 26.5 -1.3
SNR=6.4
ASHO Ashiyiah 68.97 301 *i* P P 22 32 26.5 -1.3
SNR=9.2
MSFE Esma-Masafi 69.13 302 P P 22 32 28.7 -0.1
BANOM Banah 69.22 302 P P 22 32 29.0 -0.3
ASUD Al Ashush, Dub 69.57 301 P P 22 32 30.8 -0.6
MZR Muzera 70.60 298 *i* P P 22 32 37.0 -0.8
SNR=14
PEA0B Petropavlovsk- 70.91 24⇑*e*P P 22 32 40.1 +1.1
PEA0B Petropavlovsk- 70.91 24 IAmb IAmb 22 32 40.7
comp=Z,61nm,1.1s
PETK Petropavlovsk- 70.91 24 P P 22 32 39.3 +0.3
comp=Z,27nm,0.9s,baz=210,slow=8.6,SNR=20
PETK Petropavlovsk- 70.91 24 P P 22 32 39.1 0.0
BRZS Berezniki 70.93 331 *e*P P 22 32 37.3 -1.9
BRZS pmax pmax
comp=Z,21nm,1.2s
BRZS Berezniki 70.93 331 *e*P P 22 32 37.4 -1.9
comp=Z,22nm,1.2s,baz=331
PET Petropavlovsk 71.23 25⇓*e*P P 22 32 41.2 +0.2
PET pmax pmax
comp=Z,92nm,1.6s
YAK Yakutsk 71.78 6 P P 22 32 42.8 -1.2
comp=Z,42nm,0.8s,baz=189,slow=1.3,SNR=45
YAK Yakutsk 71.78 6*c i*P P 22 32 42.8 -1.2
YAK *e* 22 33 00.5
YAK *e**PP **pP 22 33 07.7 +2.5**
YAK *e*S **S 22 41 55.4 -2.2**
YAK *e* 22 42 36.1
YAK *e*SS **SS 22 46 30.3 -5.1**
YAK pmax pmax
comp=Z,95nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=N,21nm,1.0s
YAK smax smax
comp=N,233nm,4.3s
YAK smax smax
comp=E,117nm,5.4s
YAK Yakutsk 71.78 6 P P 22 32 42.9 -1.2
VNDA Vanda 71.83 171 P P 22 32 45.5 +1.2
comp=E,9.4nm,0.9s,baz=308,slow=8.0,SNR=15
VNDA Vanda 71.83 171 P P 22 32 44.7 +0.4
GEYT Alibeck 72.79 314 LR LR 23 09 55.1
comp=E,623nm,19.4s,baz=346,slow=40
GEYT Alibeck 72.79 314 P P 22 32 51.0 +0.3
MA2 Magadan 73.62 17*c i*P P 22 32 54.7 -0.3
MA2 pmax pmax
comp=Z,51nm,1.3s
MA2 Magadan 73.62 17 P P 22 32 54.9 -0.2
MA2 IAmb IAmb 22 32 56.2
comp=Z,42nm,1.0s
BVAR Borovoye Array 74.03 332 P P 22 32 56.7 -0.9
comp=Z,18nm,0.8s,baz=134,slow=8.5,SNR=36
BRVK Borovoye 74.10 332*c i*P P 22 32 56.5 -1.5
BRVK *i* *PP **pP 22 33 17.9 -1.4**
BRVK pmax pmax
comp=Z,47nm,1.3s
BRVK Borovoye 74.10 332 P P 22 32 57.2 -0.8
BRVK IAmb IAmb 22 32 58.8
comp=Z,41nm,1.1s
SEY Seymchan 76.83 15 P P 22 33 12.9 -0.5
comp=Z,27nm,1.0s,baz=214,slow=4.9,SNR=74
SEY Seymchan 76.83 15⇑*i*P P 22 33 13.1 -0.3
SYO Syowa Base 77.07 201⇑*e*P P 22 33 16.0 +1.3
SYO Syowa Base 77.07 201⇑*e*PcP PcP 22 33 26.6 +1.3
ABKAR Akbulak array 77.14 325 P P 22 33 13.8 -1.6
RAYN Ar Rayn 77.74 297 P P 22 33 18.6 -0.8
RAYN pmax pmax
comp=Z,24nm,0.9s
RAYN Ar Rayn 77.74 297 P P 22 33 18.6 -0.8
RAYN IAmb IAmb 22 33 19.9
comp=Z,24nm,0.9s
RAYN Ar Rayn 77.74 297 *i* P P 22 33 18.8 -0.7
SNR=30
SHEM Shemya Is, Ala 78.22 31 LR LR 23 15 55.6
comp=Z,4.9nm,18.0s,baz=296,slow=42
AKTO Aktyubinsk 78.81 326 P P 22 33 23.9 -0.8
comp=Z,17nm,0.8s,baz=119,slow=5.4,SNR=22
KIBK Kibwezi 79.45 269 P P 22 33 29.7 +0.6
KMBO Kilima Mbogo 80.43 270 P P 22 33 35.7 +1.1
comp=Z,7.5nm,0.9s,baz=59,slow=7.2,SNR=21
KMBO Kilima Mbogo 80.43 270 P P 22 33 35.5 +1.0
KMBO Kilima Mbogo 80.43 270 *i* P P 22 33 35.9 +1.3
SNR=8.0
QSPA South Pole Qui 80.64 180 LR LR 23 09 30.2
comp=Z,114nm,18.5s,baz=333,slow=36
QSPA South Pole Qui 80.64 180 P P 22 33 35.2 +0.7
QSPA IAmb IAmb 22 33 36.6
comp=Z,51nm,1.0s
SVE Sverdlovsk 80.81 332 *e*P P 22 33 34.3 -1.0
SVE pmax pmax
comp=Z,34nm,1.4s
TIXI Tiksi 81.17 4 P P 22 33 35.3 -1.7
comp=Z,61nm,0.8s,baz=151,slow=4.8,SNR=198
TIXI Tiksi 81.17 4*c i*P P 22 33 35.2 -1.7
TIXI pmax pmax
comp=Z,70nm,0.9s
TIXI MLR MLR
comp=Z,71nm,16.0s
NRIK Noril'sk 81.27 350 P P 22 33 35.9 -1.7
comp=Z,5.9nm,0.7s,baz=140,slow=5.2,SNR=14
NRIK PP **PP 22 36 43.7 -0.6**
comp=Z,1.7nm,0.6s,baz=139,slow=7.2,SNR=3.7
NRIK Noril'sk 81.27 350*c e*P P 22 33 36.3 -1.2
NRIK pmax pmax
comp=Z,20nm,1.5s
NRIK Noril'sk 81.27 350 IAmb IAmb 22 33 38.7
comp=Z,30nm,1.4s
ARU Arti 81.57 331 P P 22 33 37.1 -2.3
comp=Z,2.5nm,1.0s,baz=128,slow=3.8,SNR=14
ARU Arti 81.57 331*d i*P P 22 33 37.1 -2.3
ARU *PP **pP 22 34 00.5 -0.2**
ARU 22 36 44.7
ARU S **S 22 43 43.8 -0.8**
ARU pmax pmax
comp=Z,31nm,1.4s
LODK Lodwar 83.04 275 P P 22 33 48.2 +0.1
GEVA Gevas 83.95 310 P P 22 33 52.8 +0.5
GEVA IAmb IAmb 22 33 54.1
comp=Z,64nm,1.7s
BILL Bilibino 84.48 16 *i* P P 22 33 52.2 -2.0
BILL *i* 22 37 10.6
BILL pmax pmax
comp=Z,5.0nm,1.0s
KARS Kars 84.61 313 P P 22 33 56.4 +0.8
KARS pmax pmax
comp=Z,82nm,0.8s
KARS Kars 84.61 313 P P 22 33 56.4 +0.8
GURO Guroymak-BITLI 84.79 310 IAmb IAmb 22 33 59.4
comp=Z,53nm,1.4s
NCK Nalchik 85.09 315⇑*e*P P 22 33 58.5 +0.7
NCK pmax pmax
comp=Z,10.0nm,1.1s
MARD Mardin 85.41 309 P P 22 33 59.9 +0.2
MARD IAmb IAmb 22 34 01.4
comp=Z,47nm,1.3s
NEY Neytrino 85.63 315⇑*e*P P 22 34 02.3 +1.6
NEY pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 85.65 315 P P 22 34 00.4 -0.1
comp=Z,6.5nm,0.8s,baz=131,slow=7.9,SNR=6.2
KBZ PKKPbc **PKKPbc 22 52 05.6 +1.0**
comp=Z,2.9nm,0.8s,baz=269,slow=5.5,SNR=4.8
KBZ Khabaz 85.65 315*c e*P P 22 34 00.3 -0.2
KBZ pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 85.86 316 *i* P P 22 34 03.4 +1.7
KIV pmax pmax
comp=Z,14nm,1.2s
GOF Gofitskoye 85.94 317⇑*e*P P 22 34 01.8 -0.2
GOF pmax pmax
comp=Z,32nm,0.9s
MATP Matopo 86.08 250 P P 22 34 04.5 +1.1
comp=Z,2.9nm,0.6s,baz=112,slow=9.7,SNR=5.2
MATP LR LR 23 08 30.2
comp=Z,42nm,18.4s,baz=268,slow=33
MATP Matopo 86.08 250 *i* P P 22 34 06.8 +3.4
MATP Matopo 86.08 250 *i* P P 22 34 06.8 +3.4
KOPT Kop Dagi 86.33 311 P P 22 34 05.7 +1.3
NVL N'lazarevskaya 86.40 199 *e*P P 22 34 05.4 +1.6
NVL pmax pmax
comp=Z,29nm,1.1s
MBAR Mbarara 86.94 270 P P 22 34 08.7 +0.9
comp=Z,18nm,0.6s,baz=84,slow=8.6
MBAR Mbarara 86.94 270*c i*P P 22 34 08.5 +0.7
MBAR Mbarara 86.94 270 *e*P P 22 33 55.0 -13
MBAR Mbarara 86.94 270 P P 22 34 08.3 +0.5
MBAR IAmb IAmb 22 34 09.9
comp=Z,27nm,0.7s
KIRV Kirov 86.94 331 P P 22 34 05.0 -1.5
comp=Z,5.9nm,0.8s,baz=161,slow=1.5,SNR=6.9
KIRV Kirov 86.94 331⇑*e*P P 22 34 06.4 -0.1
LSZ Lusaka 87.14 255 P P 22 34 09.9 +1.2
comp=Z,25nm,0.9s,baz=103,slow=4.1,SNR=48
LSZ LR LR 23 09 08.5

comp=Z,95nm,20.4s,baz=347,slow=33
ASF Jabal al Asfar 87.27 303 P **P 22 34 10.2 +1.3**
comp=Z,39nm,0.9s,baz=112,slow=3.1,SNR=25
MALT Malatya 87.46 309 P **P 22 34 10.4 +0.7**
BOSA Boshof 87.74 242 P **P 22 34 12.7 +1.4**
comp=Z,5.3nm,0.8s,baz=103,slow=7.3,SNR=6.4
BOSA LR LR 23 11 28.2
comp=Z,70nm,18.1s,baz=234,slow=34
BOSA Boshof 87.74 242 *i* P **P 22 34 13.6 +2.2**
BOSA Boshof 87.74 242 *i* P **P 22 34 13.6 +2.2**
LBTB Lobatse 88.02 245 P **P 22 34 14.4 +1.7**
comp=Z,11nm,0.9s,baz=112,slow=5.9,SNR=8.1
LBTB LR LR 23 06 34.8
comp=Z,68nm,21.5s,baz=46,slow=31
LBTB Lobatse 88.02 245 *i* P **P 22 34 14.7 +2.0**
LBTB Lobatse 88.02 245 *i* P **P 22 34 14.7 +2.0**
GAZ Gaziantep 88.13 308 IAmb IAmb 22 34 13.3
comp=Z,42nm,1.0s
VRH Novokhopyorsk 88.60 322 *e*P **P 22 34 12.9 -1.7**
VRH pmax pmax
comp=Z,40nm,0.9s
MMAI Mount Meron Ar 88.68 304 P **P 22 34 16.9 +1.4**
comp=Z,23nm,1.0s,baz=16,slow=6.5,SNR=6.9
MLOA Mauna Loa Obse 90.00 70 P **P 22 34 22.6 +0.1**
VORD Divnogorie 90.01 322 *e*P **P 22 34 18.9 -2.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
AIN Ainahou 90.08 70 P **P 22 34 23.6 +1.1**
HMH Humu'ula Sheep 90.09 70 P **P 22 34 23.7 +1.0**
VSR Storozhevoye 90.15 322 *e*P **P 22 34 20.0 -1.8**
VSR pmax pmax
comp=Z,20nm,0.9s
MLH Mauna Loa 90.17 70 P **P 22 34 24.7 +1.7**
SNAA Sanae 90.32 196 P **P 22 34 24.1 +1.6**
SNAA Sanae 90.32 196 LR LR 23 10 04.2
comp=Z,186nm,21.6s,baz=157,slow=32
SNAA Sanae 90.32 196‖ *e*P **P 22 34 23.4 +0.9**
SNAA pmax pmax
comp=Z,17nm,1.1s
SNAA Sanae 90.32 196 P **P 22 34 23.4 +0.9**
SNAA IAmb IAmb 22 34 25.1
comp=Z,24nm,1.2s
LPSR Galich'ya Gora 90.64 323 *e*P **P 22 34 22.4 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SUR Sutherland 90.83 237 LR LR 23 08 35.8
comp=Z,74nm,21.3s,baz=242,slow=31
BRTR Keskin Array B 91.41 310 P **P 22 34 26.8 -1.4**
comp=Z,3.2nm,0.8s,baz=130,slow=5.7,SNR=12
BRTR PKKPbc **PKKPbc 22 51 50.2 -0.3**
comp=Z,0.6nm,0.8s,baz=266,slow=3.3,SNR=4.2
BRTR Keskin Array B 91.41 310 *i* P **P 22 34 27.6 -0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 91.41 310 P **P 22 34 27.6 -0.6**
BR131 Keskin Array S 91.41 310 IAmb IAmb 22 34 29.3
comp=Z,45nm,1.9s
VNA2 Neumayer--Watz 91.96 196 P **P 22 34 31.1 +1.2**
baz=102,slow=3.8
TNA Tin City 92.07 24 P **P 22 34 30.7 +0.3**
baz=252
VNA3 Neumayer Olymp 92.35 195 P **P 22 34 33.1 +1.3**
KLMR Klimovskoe 92.42 331 *e*P **P 22 34 29.3 -2.9**
KLMR *e* 22 38 11.7
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR Klimovskoe 92.42 331 *e*P **P 22 34 29.4 -2.8**
KLMR AMP 22 34 34.3
comp=Z,23nm,1.4s
KLMR *e*PP **PP 22 38 11.8 -2.4**
OBN Obninsk 92.59 325 P **P 22 34 31.8 -1.2**
comp=Z,1.3nm,0.4s,baz=31,slow=10,SNR=4.2
OBN Obninsk 92.59 325*c* *i*P **P 22 34 31.5 -1.5**
OBN pmax pmax
comp=Z,15nm,1.2s
ANM Nome 92.81 25 IAmb IAmb 22 34 34.6
comp=Z,8.6nm,1.0s
ANM Nome 92.81 25 P **P 22 34 34.0 +0.1**
baz=254
AKASG Malin Array Be 96.22 320 P **P 22 34 47.9 -1.9**
comp=Z,2.3nm,0.8s,baz=82,slow=4.5,SNR=10
AKBB Malin Array Si 96.22 320‖ *e*P **P 22 34 48.1 -1.7**
KIEV Kiev 96.23 320 P **P 22 34 48.0 -1.9**
APA Apatity 96.42 337‖ *i*P P 22 35 04.0 +14
APA pmax pmax
comp=Z,6.0nm,0.8s
GCSA Galena City Sc 96.42 25 P **P 22 34 50.7 +0.3**
baz=262,SNR=5.9
O18K Koktuh Hills 96.54 30 P **P 22 34 51.6 +0.5**
baz=263
L19K White Mountain 96.99 28 P **P 22 34 54.1 +0.9**
baz=263
MNK Minsk 97.45 324 *i* P **P 22 34 52.3 -3.0**
MNK *i* *SP **sP 22 35 22.9 -2.6**
MNK *i* 22 38 50.0
MNK *i* PPP PPP 22 40 54.6
MNK *i* S **SKSac 22 45 22.2 -3.0**
MNK *i* *SS **SKKSac 22 46 01.3 +8.2**
MNK *i* PS PS 22 47 43.3 -2.8
MNK *i* SS **SS 22 52 51.4 -2.2**
MNK *i* SSS SSS 22 56 37.9
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=Z,15nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK Minsk 97.45 324 *i* P **P 22 34 52.3 -3.0**
comp=E,2.0nm,1.0s
MNK *i* P **P 22 34 52.3 -3.0**
comp=N,7.0nm,1.0s
MNK *i* P **P 22 34 52.3 -3.0**
comp=Z,15nm,1.0s,baz=96
MNK *i* pP **pP 22 35 14.1 -2.8**
MNK *i* sP **sP 22 35 22.9 -2.5**
MNK *i* PP **PP 22 38 50.0 -3.4**
MNK *i* PPP PPP 22 40 54.7
MNK *i* SKS 22 44 56.9
MNK *i* S **SKSac 22 45 22.3 -2.9**
MNK *i* sS **SKKSac 22 46 01.3 +8.3**
MNK *i* PS PS 22 47 43.3 -2.8
MNK *i* SS **SS 22 52 51.4 -2.2**
MNK *i* SSS SSS 22 56 37.9
MNK *i* LR LR 23 19 26.6
MNK *i* LRM MLR 23 24 14.3
comp=E,27nm,19.5s
MNK *i* LRM MLR 23 24 25.8
comp=N,248nm,20.0s
MNK *i* LRM MLR 23 27 15.4
comp=Z,107nm,19.6s
L20K Farewell, AK 97.48 28 P **P 22 34 55.0 -0.3**
baz=264
K20K Telida 97.48 27 P Pdif 22 34 55.4 +0.1
baz=264
J20K Nowinta River 97.53 26 P Pdif 22 34 55.6 +0.1
baz=264
IDI Anoyia 97.64 304 PKKP **PKKPbc 22 51 34.9 +1.2**
comp=Z,12nm,0.9s,baz=278,slow=9.1,SNR=5.1
KDAK Kodiak Island 97.67 33 LR LR 23 12 38.4
comp=Z,126nm,21.3s,baz=61,slow=32
KMPD K-Podol'skiy 97.78 318 P **P 22 34 55.0 -1.9**
IMAR Indian Mountai 97.87 24 P **P 22 34 56.9 -0.1**
NACGM Naroch 98.12 324 *i* P **P 22 34 57.9 -0.4**
H21K Melozitna Rive 98.23 25 IAmb IAmb 22 35 00.7
comp=Z,23nm,1.2s
H21K Melozitna Rive 98.23 25 P Pdif 22 34 59.3 +0.6
baz=266,SNR=7.4
CHUM Lake Minchumin 98.31 27 P Pdif 22 34 59.3 +0.3
baz=266
BURAR Bucovina Array 98.53 317 P Pdif 22 35 00.6 +0.1
BUR08 Bucovina Ar. S 98.54 317 IAmb IAmb 22 35 00.9
comp=Z,5.6nm,1.1s
BPAW Bear Paw Mtn. 98.91 26 P Pdif 22 35 02.2 +0.5
baz=267
FINES FINESS Array B 98.94 331 P **P 22 35 00.4 -1.4**
comp=Z,4.7nm,0.8s,baz=123,slow=7.0,SNR=8.4
FINES FINESS Array B 98.94 331 *i* P **P 22 35 00.8 -1.0**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 98.94 331 P **P 22 35 00.8 -1.0**
MLY Manley 99.06 25 IAmb IAmb 22 35 03.8
comp=Z,9.0nm,1.0s
MLY Manley 99.06 25 P **Pdif 22 35 03.0 +0.6**
baz=267
TRF Thorofare Moun 99.18 27 P **Pdif 22 35 02.3 -0.8**
baz=268
COLD Coldfoot 99.36 23 P **Pdif 22 35 04.0 +0.4**
baz=268
TOLK Toolik Lake Re 99.63 22 P **Pdif 22 35 05.1 +0.3**
baz=269
I23K Minto, Yukon-K 99.64 25 P **Pdif 22 35 05.4 +0.5**
baz=269,SNR=9.5
MCK McKinley 99.80 27 P **Pdif 22 35 06.4 +0.8**
baz=269
KNK Knik Glacier 99.97 29 P **Pdif 22 35 06.9 +0.4**
baz=269
SML Sawmill 100.04 29 P **Pdif 22 35 07.1 +0.2**
baz=269
H24K Noodor Dome 100.27 25 P **Pdif 22 35 07.7 0.0**
baz=270
WAT6 Susitna Watana 100.33 28 P **Pdif 22 35 08.1 -0.1**
baz=270
ILAR Eielson Array 100.70 26 P **Pdif 22 35 07.7 -1.9**
comp=Z,1.1nm,1.0s,baz=249,slow=3.8,SNR=5.5
ILAR PP **PP 22 39 18.6 +0.8**
comp=Z,0.8nm,0.8s,baz=240,slow=6.1,SNR=4.9
ILAR PKKPbc **PKKPbc 22 51 24.6 -1.5**
comp=Z,0.2nm,0.5s,baz=75,slow=2.9,SNR=4.4
M24K Tolsona, Glenn 101.06 28 P **Pdif 22 35 11.4 +0.1**
baz=271
J25K Salcha River, 101.35 26 P **Pdif 22 35 13.1 +0.5**
baz=272
PAX Paxson 101.36 28 P **Pdif 22 35 13.1 +0.4**
baz=272
HAARP 101.53 28 P **Pdif 22 35 13.6 +0.2**
baz=272
BMAR Burnt Mountain 101.53 23 Pdif **Pdif 22 35 14.0 +0.6**
RIDG Independent Ri 101.62 27 P **Pdif 22 35 14.2 +0.4**
baz=272
N25K Chitina, Valde 101.82 29 P **Pdif 22 35 15.1 +0.4**
baz=272
J26L Joseph Creek 102.14 26 P **Pdif 22 35 16.4 +0.3**
baz=274
L27K Beaver Creek, 103.02 27 P **Pdif 22 35 20.9 +0.9**
baz=275
BCAR Beaver Creek A 103.04 27 Pdif **Pdif 22 35 20.9 +0.8**
M27K Edge Creek, AK 103.06 28 P **Pdif 22 35 20.9 +0.5**
baz=275
EGAK Eagle 103.14 26 P **Pdif 22 35 21.1 +0.6**
baz=276
DAWY Dawson 103.99 26 P **Pdif 22 35 24.5 +0.1**
baz=278
I29M Ogilvie Camp, 104.27 25 P **Pdif 22 35 26.4 +0.9**
baz=279
J29M Klondike Camp 104.44 26 P **Pdif 22 35 27.1 +0.7**
baz=279,SNR=12
EPYK Eagle Plains 104.74 24 P **Pdif 22 35 27.9 +0.3**
baz=281
INK Inuvik 105.54 21 Pdiff **Pdif 22 35 30.8 -0.3**
comp=Z,6.9nm,1.2s,baz=320,slow=1.2,SNR=7.1
INK PKiKP **PKiKP 22 39 44.1 +0.1**
comp=Z,2.2nm,0.8s,baz=307,slow=4.2,SNR=9.9
INK Inuvik 105.54 21 P **PKiKP 22 39 44.7 +0.8**
baz=284
GERES GERESS Array B 106.22 318 PKiKP **PKiKP 22 39 45.8 -0.1**
comp=Z,0.4nm,0.7s,baz=66,slow=2.5,SNR=3.7
GERES PKKPbc **PKKPbc 22 51 08.1 -1.1**
comp=Z,0.7nm,0.7s,baz=262,slow=3.0,SNR=8.6
CLL Collm 106.45 321 *e*P **Pdif 22 35 36.0 +0.5**
CLL *e* **PP 22 39 58.0 -3.1**
CLL Collm 106.45 321 *e*PP **PP 22 39 58.0 -3.1**
A36M Sachs Harbour 107.04 17 P **PKiKP 22 39 47.1 +0.5**
baz=293
RES Resolute Bay 112.12 9 PKiKP **PKiKP 22 39 56.3 +0.1**
comp=Z,1.3nm,0.8s,baz=306,slow=2.8,SNR=3.6
RES PP **PP 22 40 40.4 -0.9**
comp=Z,1.2nm,0.5s,baz=299,slow=8.6,SNR=3.6
YKA Yellowknife Ar 115.03 24 PKP **PKiKP 22 40 01.9 0.0**
comp=Z,6.4nm,0.6s,baz=305,slow=1.9,SNR=72
YKA PP **PP 22 41 05.7 +3.5**
comp=Z,0.6nm,0.8s,baz=294,slow=6.6,SNR=4.5
YKA PKKPbc **PKKPbc 22 50 38.5 -2.2**
comp=Z,0.6nm,0.8s,baz=115,slow=3.4,SNR=6.3
YKA PKKP **PKKPdf 22 51 03.8 -0.4**
comp=Z,1.1nm,1.1s,baz=111,slow=4.1,SNR=5.1
YKA Yellowknife Ar 115.03 24 PKIKP **PKiKP 22 40 02.0 0.0**
B05A Bryant 116.84 40 P **PKiKP 22 40 06.1 +0.1**
baz=287
E04D Cinebar 117.02 42 P **PKPdf 22 40 06.3 -0.1**
baz=286
I03D Drain, OR 117.21 46 P **PKiKP 22 40 07.1 +0.3**
baz=284
K02D Willamette Mer 117.22 47 P **PKiKP 22 40 07.3 +0.2**
baz=283
TORD Torodi Ar. Bea 117.29 280 PKP **PKPdf 22 40 07.8 0.0**
comp=Z,2.4nm,0.7s,baz=70,slow=1.7,SNR=16
TORD PKKPbc **PKKPbc 22 50 31.4 +0.1**
comp=Z,0.9nm,0.9s,baz=304,slow=4.7,SNR=6.3
L02E Cave Junction 117.39 47 P **PKPdf 22 40 07.0 -0.2**
baz=283
H04D Lebanon 117.44 45 P **PKPdf 22 40 06.9 -0.4**
baz=285
HUMO Hull Mountain 117.75 47 PKPdf **PKiKP 22 40 09.4 +1.4**
I04A Tendick Farm, 117.85 45 P **PKiKP 22 40 08.6 +0.4**
baz=284
PNT Penticton 118.07 39 PKIKP **PKiKP 22 40 15.9 +7.5**
M02C Callahan 118.10 48 P **PKiKP 22 40 08.8 +0.1**
baz=283
J04D Umpqua Nationa 118.20 46 P **PKPdf 22 40 08.8 -0.2**
baz=284
G05D Wamic, OR 118.22 43 P **PKiKP 22 40 09.7 +0.9**
baz=286
N02D Trinity Center 118.31 48 P **PKiKP 22 40 09.3 +0.2**
baz=283
L04D Klamath Falls 118.31 47 P **PKiKP 22 40 09.5 +0.2**
baz=284
O02D Mt. Diablo Mer 118.42 49 P **PKiKP 22 40 10.0 +0.6**
baz=282
I05D Terrebonne, OR 118.45 44 P **PKiKP 22 40 09.5 +0.2**
baz=286
B08A Colville Reser 118.57 40 PKPdf **PKiKP 22 40 09.6 +0.2**
K04D Chiloquin, OR 118.61 46 P **PKiKP 22 40 09.9 +0.1**
baz=284
M04C Macdoel 118.75 47 P **PKiKP 22 40 10.3 +0.2**
baz=284
J05D Fort Rock, OR 118.81 46 P **PKiKP 22 40 10.8 +0.6**
baz=285
PINE Pine Mountain 118.88 45 PKPdf **PKiKP 22 40 11.3 +0.9**
HAWA Hanford 119.07 42 **PKiKP 22 40 11.1 +0.7**
O03E Paynes Creek 119.13 49 P **PKiKP 22 40 10.9 +0.1**
baz=283
K05A Summer Lake 119.19 46 PKPdf **PKiKP 22 40 11.5 +0.5**
G08A Pilot Rock 119.80 43 **PKiKP 22 40 12.4 +0.4**
MOD Modoc Plateau 119.83 47 PKPdf **PKiKP 22 40 13.0 +0.8**
NEW Newport 119.98 39 P **PKiKP 22 40 13.0 +0.8**
baz=291
ESDC Sonseca Array 120.19 311 PKP **PKiKP 22 40 13.0 +0.1**
comp=Z,1.4nm,0.9s,baz=38,slow=2.3,SNR=5.5
ESDC Sonseca Array 120.19 311 PKPdf **PKiKP 22 40 13.2 +0.4**
EMB Emerald Bay 120.71 50 **PKiKP 22 40 14.8 +0.7**
J08A Circle Bar Ran 120.72 45 **PKiKP 22 40 14.6 +0.7**
F10A Beach Ranch, E 120.72 42 **PKiKP 22 40 14.0 +0.3**
WVOR Wild Horse Val 120.88 46 PKIKP **PKiKP 22 40 14.9 +0.7**
WVOR Wild Horse Val 120.88 46 **PKiKP 22 40 14.8 +0.7**
PNTR Pine Nut 121.06 50 PKPdf **PKiKP 22 40 15.9 +1.1**
SMMC Simmler 121.59 54 P **PKiKP 22 40 16.0 +0.2**
baz=282
PKM Mcpherson Peak 121.82 55 P **PKiKP 22 40 16.4 0.0**
baz=281
SFJD Kangerlussuaq 121.90 355 PKP **PKPdf 22 40 14.7 -0.4**
comp=Z,11nm,0.9s,baz=51,slow=5.6,SNR=4.5
NVAR Mina Array Bea 122.21 50 PKP **PKiKP 22 40 18.0 +0.9**
comp=Z,8.0nm,0.7s,baz=251,slow=1.8,SNR=61
NVAR Mina Array Bea 122.21 50 **PKiKP 22 40 18.1 +1.0**
VES Vestal, Richgr 122.21 53 P **PKiKP 22 40 16.8 -0.1**
baz=282
MSO Missoula 122.52 40 P **PKiKP 22 40 17.8 +0.5**
baz=293
MFID Camas Ranch 122.53 44 PKPdf **PKiKP 22 40 18.2 +0.7**
ARVC Arvin 122.56 54 P **PKPdf 22 40 17.4 0.0**
baz=282
ISA Isabella, Lake 122.73 54 P **PKiKP 22 40 18.0 0.0**
baz=283
CWC Cottonwood Cre 122.86 53 P **PKPdf 22 40 18.2 0.0**
baz=284
LCH Last Change Ra 123.01 52 **PKiKP 22 40 18.9 +0.3**
DBIC Dimbokro 123.14 272 PKP **PKiKP 22 40 19.5 +0.2**
comp=Z,4.9nm,1.1s,baz=114,slow=3.9,SNR=4.3
GRAC Grapevine Rang 123.29 52 P **PKPdf 22 40 18.8 0.0**
baz=284
EDW2 Edwards Air Fo 123.29 54 P **PKiKP 22 40 19.3 +0.2**
baz=283
FMP Fort Macarthur 123.29 56 P **PKiKP 22 40 19.5 +0.5**
baz=282
LRMC Laurel Mtn Rad 123.40 54 P **PKiKP 22 40 19.5 +0.1**
baz=283
MPMC Manual Prospec 123.42 53 P **PKiKP 22 40 19.6 0.0**
baz=284,SNR=9.8
HLID Hailey 123.44 43 P **PKiKP 22 40 19.4 +0.1**
baz=291
BFSC Mount Baldy Ra 123.70 55 P **PKiKP 22 40 20.1 +0.1**
baz=282
FURC Furnace Creek, 123.81 52 P **PKiKP 22 40 20.5 +0.6**
baz=284
GSC Goldstone, Bar 124.14 54 P **PKiKP 22 40 20.8 0.0**
baz=284
MURC Murrieta 124.21 56 P **PKiKP 22 40 21.5 +0.6**
baz=282
R11A Troy Canyon, C 124.29 50 P **PKiKP 22 40 22.0 +0.9**
baz=287
BOZ Bozeman (W) 124.49 40 P **PKiKP 22 40 21.3 0.0**
baz=295
EGMT Eagleton 124.57 37 P **PKiKP 22 40 21.5 +0.3**
baz=298
HEC Hector,Ludlow 124.63 54 P **PKiKP 22 40 22.2 +0.4**
baz=284
TUQ Turquoise Moun 124.81 53 P **PKiKP 22 40 22.1 -0.1**
baz=284
PFO Pinyon Flats O 124.81 56 P **PKiKP 22 40 22.1 -0.2**
baz=283
TPFO Pinon Flats 124.81 56 P **PKiKP 22 40 22.2 -0.1**
baz=283
MONP2 Monument Peak 125.00 56 P **PKPdf 22 40 22.4 0.0**
baz=282
BELC Belle Mtn. Jos 125.09 55 P **PKiKP 22 40 23.0 +0.1**
baz=284
GMRC Granite Mounta 125.18 54 P **PKiKP 22 40 23.2 +0.3**
baz=284
BGU Big Grassy Mou 125.34 46 PKPdf **PKiKP 22 40 23.1 0.0**
SWSC Sam W. Stewart 125.50 56 P **PKiKP 22 40 24.4 +1.0**
baz=283
BC3 Big Chuckawall 125.61 55 P **PKiKP 22 40 23.7 -0.1**
baz=284
H17A Grant Village 125.67 41 P **PKiKP 22 40 24.3 +0.5**
baz=295
IRM Iron Mountain 125.74 55 P **PKiKP 22 40 24.4 +0.5**
baz=284
DUG Dugway, Tooele 125.75 47 P **PKiKP 22 40 24.4 +0.4**
baz=290
GLA Glamis 126.27 56 P **PKiKP 22 40 25.1 0.0**
baz=284
TMUT Trail Mountain 127.22 47 PKPdf **PKiKP 22 40 27.9 +0.8**
LAO LASA Array 127.32 37 P **PKiKP 22 40 27.2 +0.4**
baz=301
DGMT Dagmar 127.53 34 P **PKiKP 22 40 27.8 +0.7**
baz=304
SRU San Rafael Swe 127.78 47 PKIKP **PKiKP 22 40 28.3 +0.2**
SRU San Rafael Swe 127.78 47 PKPdf **PKiKP 22 40 28.3 +0.2**
214A Organ Pipe Nat 128.18 57 P **PKiKP 22 40 29.7 +0.8**
baz=284
WUAZ Wupatki 128.35 52 P **PKiKP 22 40 29.9 +0.6**
baz=288
PV20 West Nyswonger 129.20 48 PKPdf **PKiKP 22 40 31.7 +0.7**
PV16 Nyswonger Mesa 129.25 48 PKPdf **PKiKP 22 40 31.7 +0.6**
PLCA Paso Flores 129.58 172 PKP **PKiKP 22 40 32.8 +1.2**
comp=Z,3.7nm,0.9s,baz=245,slow=3.1,SNR=7.2
PLCA Paso Flores 129.58 172 PKIKP **PKiKP 22 40 31.9 +0.3**
PLCA Paso Flores 129.58 172 *e*P **PKPdf 22 40 30.9 +0.1**
PLCA Paso Flores 129.58 172 PKPdf **PKiKP 22 40 31.9 +0.3**
W18A Petrified Fore 129.75 52 P **PKiKP 22 40 32.9 +0.7**
baz=289
TUC Tucson 129.75 56 P **PKiKP 22 40 32.5 +0.3**
baz=286
RSSD Black Hills 129.95 39 PKIKP **PKPdf 22 40 31.6 +0.1**
RSSD Black Hills 129.95 39 PKPdf **PKPdf 22 40 31.6 +0.1**
MVCO Mesa Verde 129.96 49 P **PKiKP 22 40 32.9 +0.3**
baz=292,SNR=7.8
MDND Maddock 130.38 32 **PKiKP 22 40 32.8 0.0**
MDND Maddock 130.38 32 P **PKiKP 22 40 33.0 +0.1**
baz=308
ULM Lac du Bonnet 130.65 28 PKP **PKPdf 22 40 32.4 +0.1**
comp=Z,7.0nm,0.8s,baz=336,slow=4.9,SNR=8.2
ULM SKPbc **SKPbc 22 43 46.7 -2.3**
comp=Z,3.6nm,0.7s,baz=307,slow=5.2,SNR=4.0
S22A 4UR Ranch, Cre 130.98 47 P **PKiKP 22 40 34.3 -0.4**
baz=294,SNR=12
Q24A Divide 131.68 45 P **PKPdf 22 40 35.5 +0.5**
baz=296
SDCO Great Sand Dun 131.94 47 P **PKPdf 22 40 35.8 +0.2**
baz=295
121A Cookes Peak, D 132.11 54 P **PKPdf 22 40 36.4 +0.5**
baz=288
ANMO Albuquerque 132.33 51 PKIKP **PKiKP 22 40 37.4 0.0**
ANMO Albuquerque 132.33 51 PKPdf **PKiKP 22 40 37.4 0.0**
ANMO Albuquerque 132.33 51 P **PKPdf 22 40 36.8 +0.5**
baz=292
T25A Trinidad 132.99 47 P **PKPdf 22 40 38.0 +0.5**
baz=295,SNR=7.4
MNTX Cornudas Mount 134.31 55 P **PKiKP 22 40 40.7 -0.5**
baz=290
EYMN Ely 134.31 27 P **PKiKP 22 40 40.4 -0.4**
baz=318
SCHQ Schefferville 134.50 4 PKP **PKiKP 22 40 41.2 +0.3**
comp=Z,8.8nm,0.9s,baz=30,slow=2.1,SNR=7.7
ECSD EROS Data Cent 134.58 35 P **PKiKP 22 40 41.0 -0.4**
baz=309
BGNE Belgrade 135.06 39 P **PKiKP 22 40 42.1 -0.5**
baz=305
CBKS Cedar Bluff 135.46 43 P **PKiKP 22 40 43.0 -0.4**
baz=301
MSTX Muleshoe 135.51 50 P **PKPdf 22 40 42.8 +0.6**
baz=294
SPMN Marine on St. 135.64 31 P **PKiKP 22 40 43.1 -0.4**
baz=314
AMTX Amarillo 135.95 49 P **PKiKP 22 40 44.3 -0.3**
baz=296
TX31 Lajitas Ar. Si 136.48 57 PKPdf **PKiKP 22 40 45.6 -0.2**
TX32 Lajitas Array 136.48 57 PKPdf **PKiKP 22 40 45.8 0.0**
TXAR Lajitas Array 136.48 57 PKIKP PKPpre 22 40 32.1
comp=Z,2.3nm,0.9s,baz=270,slow=2.7,SNR=8.0
TXAR PKP **PKiKP 22 40 46.0 +0.2**
comp=Z,1.9nm,0.8s,baz=230,slow=2.2,SNR=6.2
KSU1 Kansas State U 137.35 40 PKPdf **PKPdf 22 40 45.5 +0.3**
KSU1 Kansas State U 137.35 40 P **PKiKP 22 40 46.4 -0.8**
baz=305
WMOK Wichita Mounta 138.14 47 PKIKP **PKiKP 22 40 48.6 -0.4**
WMOK Wichita Mounta 138.14 47 PKPdf **PKiKP 22 40 48.6 -0.4**
WMOK Wichita Mounta 138.14 47 P **PKPdf 22 40 47.4 +0.5**
baz=298
PLTB Pedras Altas 138.28 191 *e*P **PKPdf 22 40 47.4 +0.1**
P38A Dawn 138.95 38 PKPdf **PKPdf 22 40 48.5 +0.3**
JCT Junction City 139.21 54 P **PKPdf 22 40 49.4 +0.3**
baz=293
CPSB Cacapava Do Su 139.57 192 *e*P **PKPdf 22 40 50.5 +0.9**
TUL1 Leonard 139.66 44 P **PKPdf 22 40 49.9 +0.3**
baz=303
P40A Paris 139.89 37 PKPdf **PKPdf 22 40 49.9 0.0**
TER01 Tubaro-SC 140.25 198 *e*P **PKPdf 22 40 51.4 +0.4**
S39A Bolivar 140.26 40 PKPdf **PKPdf 22 40 50.5 -0.2**
L44A Lake County Fo 140.29 30 P **PKPdf 22 40 51.4 +0.8**
baz=318
U38A Gravette 140.31 42 PKPdf **PKPdf 22 40 51.9 +1.1**
833A Chaparral WMA, 140.35 56 P **PKPdf 22 40 51.4 +0.3**
baz=291
R40A Maddies Statio 140.55 38 PKPdf **PKPdf 22 40 52.3 +1.2**
ITQB Itaqui 140.82 188 *e*P **PKPdf 22 40 52.0 +0.1**
MGMO Mountain Grove 141.26 40 PKPdf **PKPdf 22 40 52.3 -0.2**
CCM Cathedral Cave 141.32 38 PKHKP PKPpre 22 40 46.8
CCM Cathedral Cave 141.32 38 PKPpre 22 40 46.8
CCM Cathedral Cave 141.32 38 P **PKPdf 22 40 53.4 +0.8**
baz=310
U40A Yellville 141.36 41 P **PKPdf 22 40 53.8 +1.1**
baz=306
W39A Magazine 141.42 43 P **PKPdf 22 40 54.0 +1.2**
baz=304
FVM French Village 141.86 37 PKIKP **PKPdf 22 40 53.6 +0.1**
FVM French Village 141.86 37 PKPdf **PKPdf 22 40 53.6 +0.1**
MIAR Mount Ida 141.92 44 PKIKP **PKiKP 22 40 57.4 +0.7**
MIAR Mount Ida 141.92 44 PKPdf **PKiKP 22 40 57.4 +0.7**
MIAR Mount Ida 141.92 44 P **PKiKP 22 40 55.3 -1.4**
baz=304
L48A N Adams 142.13 27 PKPdf **PKPdf 22 40 54.2 +0.3**
X40A Basin Creek Fa 142.46 44 P **PKPdf 22 40 55.9 +1.2**
baz=305
CAM01 Campos-RJ 143.00 213 *e*P **PKPdf 22 40 56.2 +0.2**
Z41A Richland Creek 143.17 45 P **PKPdf 22 40 57.1 +1.2**
baz=303
LONY Lake Ozonia 143.28 15 P **PKPdf 22 40 56.9 +1.1**

baz=340
PKME Peaks-Kenny Pk 143.71 8 P PKPdf 22 40 58.0 +1.5
baz=348
P49A Miami Univ. Ec 143.88 30 P PKPdf 22 40 58.2 +1.1
baz=320,SNR=5.3
WCI Wyandotte Cave 144.04 33 PKIKP PKPab 22 40 55.1 +0.2
WCI Wyandotte Cave 144.04 33 PKPdf PKPab 22 40 55.1 +0.2
GBN Guysborough 144.07 359 PKPdf PKPdf 22 40 56.3 -0.9
M53A Wt Miller and 144.15 24 P PKPdf 22 40 58.7 +1.2
baz=328,SNR=8.0
ACSO Alum Creek Sta 144.15 28 P PKPdf 22 40 58.5 +1.0
baz=324,SNR=10
SPB Sao Paulo 144.18 204 *eP* **PKPab 22 40 55.6 -0.3**
CPUP Villa Florida 144.20 188 PKP **PKPdf 22 40 57.2 -0.9**
comp=Z,17nm,0.9s,baz=174,slow=2.5,SNR=16
CPUP Villa Florida 144.20 188 PKIKP PKPdf 22 40 57.6 -0.4
CPUP Villa Florida 144.20 188 *eP* **PKPab 22 40 55.6 -0.3**
CPUP Villa Florida 144.20 188 PKPdf PKPdf 22 40 57.6 -0.4
LBNH Lisbon 144.25 12 P PKPdf 22 40 57.2 -0.3
baz=344
M54A Oil Creek Stat 144.48 23 P PKPab 22 40 56.4 -0.1
baz=330,SNR=9.2
VAO Valinhos 144.52 205 *eP* **PKPab 22 40 56.8 -0.5**
WVT Waverly 144.64 37 PKIKP PKPab 22 40 56.9 -0.3
WVT Waverly 144.64 37 PKPab 22 40 56.9 -0.3
WVT Waverly 144.64 37 P PKPab 22 40 57.1 -0.1
baz=313
PTGB Pitanga 144.70 196 *eP* **PKPab 22 40 57.2 -0.7**
O52A Adamsville 144.76 26 PKPab 22 40 57.2 -0.3
N54A Moraine State 144.82 24 P PKPab 22 40 57.4 -0.4
baz=329,SNR=16
O53A New Philadelph 144.92 26 P PKPab 22 40 57.9 -0.2
baz=326,SNR=17
P52A Corning 145.02 27 P PKPbc 22 40 57.8 -0.7
baz=324,SNR=23
BINY Binghamton 145.13 18 P PKPbc 22 40 58.7 -0.1
baz=336,SNR=15
FRTB Fartura 145.20 201 *eP* **PKPdf 22 41 00.9 +1.0**
SJMB Sao Joao De Ma 145.22 217 *eP* **PKPab 22 40 59.8 0.0**
RCLB Rio Claro- Sao 145.27 204 *eP* **PKPbc 22 40 59.9 0.0**
BSCB Bom Sucesso 145.28 210 *eP* **PKPdf 22 41 00.6 +0.5**
VBMS Vicksburg 145.34 45 P PKPab 22 41 00.6 +0.6
baz=305
L61B Northampton 145.79 14 P PKPdf 22 41 00.3 +0.1
baz=342
SSPA Standing Stone 145.90 21 PKPbc 22 41 01.2 0.0
SSPA Standing Stone 145.90 21 P PKPbc 22 41 00.9 -0.3
baz=332
GUA01 Guaratinga, BA 145.97 221 *eP* **PKPdf 22 41 00.3 -0.9**
O56A Blue Knob Stat 145.97 23 P PKPdf 22 41 01.0 +0.3
baz=330,SNR=12
HRV Adam Dziewonsk 145.99 12 P PKPbc 22 41 01.1 -0.3
baz=344
MCWV Mont Chateau 145.99 25 P PKPbc 22 41 01.3 -0.3
baz=328,SNR=14
N59A State Game Lan 146.37 19 P PKPbc 22 41 02.7 0.0
baz=336,SNR=11
Z47A Carrollton 146.41 41 PKPbc 22 41 02.7 -0.2
CMC01 Camacan, BA 146.67 223 *eP* **PKPdf 22 41 02.1 -0.4**
TZTN Tazewell 146.75 32 P PKPbc 22 41 03.6 -0.3
baz=319
PAL Palisades 146.84 16 P PKPbc 22 41 03.9 0.0
baz=339,SNR=11
BB19B Bebedouro 146.89 204 *eP* **PKPdf 22 41 02.3 -0.6**
NBIT Itapeh - BA 146.92 223 *eP* **PKPdf 22 41 02.7 -0.2**
DIAM Diamantina, MG 146.96 214 *eP* **PKPdf 22 41 02.7 -0.4**
Y49A Blount Mountai 147.03 39 PKPbc 22 41 04.1 -0.7
PCMB Pacaembu 147.39 199 *eP* **PKPdf 22 41 03.2 -0.4**
P60A Greenville 147.41 19 P PKPbc 22 41 04.9 -0.7
baz=335,SNR=6.7
LVC Limon Verde 147.57 168 *eP* **PKPdf 22 41 03.3 -1.0**
NBRF Rio Formoso - 147.57 237 *eP* **PKPdf 22 41 03.9 -0.1**
BLA Blacksburg 147.77 28 P PKPbc 22 41 05.8 -0.9
baz=325
GDU01 Guandu, BA 147.86 225 *eP* **PKPdf 22 41 04.8 +0.3**
NBAN Anadia - AL 147.96 235 *eP* **PKPdf 22 41 04.3 -0.4**
250A Grady 148.35 41 PKPbc PKPbc 22 41 09.1 +0.7
NBLA Lagarto - SE 148.35 231 *eP* **PKPdf 22 41 04.8 -0.5**
Y52A Lilburn 148.44 36 PKPbc PKPbc 22 41 09.0 +0.4
ITRB Iturama 148.83 202 *eP* **PKPdf 22 41 05.7 -0.3**
152A Waverly Hall 148.88 39 PKPdf PKPdf 22 41 06.0 +0.3
152A PKPbc **PKPbc 22 41 10.2 +0.5**
NBPV Pedro Velho 148.88 241 *eP* **PKPdf 22 41 06.4 +0.2**
PB01 IPOC Station P 148.97 167 PKPab PKiKP 22 41 12.8 +1.1
PAULI Pauline 148.98 32 PKPdf PKPdf 22 41 06.0 +0.3
PAULI PKPbc **PKPbc 22 41 10.2 +0.4**
KMSC Kings Mountain 148.98 31 PKPbc PKPbc 22 41 10.5 +0.6
KMSC Kings Mountain 148.98 31 P PKPbc 22 41 08.6 -1.3
baz=321
GOGA Godfrey 149.11 36 P PKPbc 22 41 10.3 +0.1
baz=316
IPMB Ipameri, GO 149.49 207 *eP* **PKPdf 22 41 07.2 0.0**
AQDB Aquidauana 149.66 192 *eP* **PKPdf 22 41 06.9 -0.4**
PB08 IPOC Station P 149.91 167 PKPab PKiKP 22 41 15.2 +1.2
JANB Januaria 149.91 216 *eP* **PKPdf 22 41 07.6 -0.3**
PB11 IPOC Station P 150.16 166 PKPab PKiKP 22 41 14.8 +0.6
NBPN Ponto Novo - B 150.25 228 *eP* **PKPdf 22 41 08.5 +0.1**
PAYG Puerto Ayora 150.37 108 PKPab PKiKP 22 41 16.9 +2.3
TIGA Tifton 150.41 39 P PKPbc 22 41 13.7 +0.3
baz=314
CNNC Cliffs of the 150.55 27 P PKiKP 22 41 14.2 -0.1
baz=327
NHSC New Hope 151.16 32 P PKiKP 22 41 15.4 -0.3
baz=321
NBMA Muriti-CE 151.29 235 *eP* **PKPdf 22 41 10.3 +0.2**
BDFB Brasilia 151.43 210 PKP PKPdf 22 41 10.8 +0.5
comp=Z,4.2nm,0.6s,baz=88,slow=3.5,SNR=6.9
BDFB PKPbc **PKiKP 22 41 17.6 +0.7**
comp=Z,33nm,0.8s,baz=52,slow=1.3,SNR=41
BDFB Brasilia 151.43 210 PKPdf 22 41 12.2 +1.9
BDFB PKPab **PKiKP 22 41 17.8 +0.9**
SDBA SAO DESIDERIO 152.34 219 *eP* **PKPdf 22 41 11.5 -0.1**
NBPB Pedra_Branca-C 152.98 238 *eP* **PKPdf 22 41 12.1 -0.5**
ARAG Araguaiana, MT 153.03 203 *eP* **PKPdf 22 41 12.2 -0.3**
LPAZ La Paz 153.87 167 PKP **PKPdf 22 41 16.2 +1.7**
comp=Z,6.3nm,0.9s,baz=252,slow=0.7,SNR=18
LPAZ PKPbc **PKiKP 22 41 24.2 +1.7**
comp=Z,11nm,1.0s,baz=109,slow=1.6,SNR=16
LPAZ PKPab **pPKPdf 22 41 37.0 +0.2**
comp=Z,23nm,0.9s,baz=153,slow=4.4,SNR=24
LPAZ La Paz 153.87 167 *eP* **PKPdf 22 41 12.8 -1.7**
SALV Santo Antonio 154.07 195 *eP* **PKPdf 22 41 13.7 -0.3**
NBMO Morrinhos-CE 154.53 241 *eP* **PKPdf 22 41 14.8 0.0**
PEXB Peixe 154.56 213 *eP* **PKPdf 22 41 14.0 -0.7**
NBPS Pedro II - PI 155.16 238 *eP* **PKPdf 22 41 15.2 -0.5**
PTLB Pontes e Lacer 155.16 187 *eP* **PKPdf 22 41 15.1 -0.4**
SNDB Serra Nova Dou 156.17 207 *eP* **PKPdf 22 41 15.5 -1.4**
SMTB Santa Maria do 156.74 219 *eP* **PKPdf 22 41 17.3 -0.4**
VILB Vilhena 157.74 185 *eP* **PKPdf 22 41 18.6 -0.3**
ROSB Rosrio 158.21 237 *eP* **PKPdf 22 41 19.5 0.0**
PDRB Porto dos Gac 158.45 195 *eP* **PKPdf 22 41 19.2 -0.6**
CLDB Colider 158.90 198 *eP* **PKPdf 22 41 19.8 -0.5**
CZSB Cruzeiro do Su 160.09 148 *eP* **PKPdf 22 41 21.0 -0.7**
PRPB Parauapebas 160.20 219 *eP* **PKPdf 22 41 21.4 -0.4**
ETMB Extrema 160.55 168 *eP* **PKPdf 22 41 21.6 -0.6**
OTAV Otavalo 161.52 118 *eP* **PKPdf 22 41 21.6 -2.3**
TMAB Tom-Au,PA,Br 161.69 231 *eP* **PKPdf 22 41 23.2 -0.2**
ITTB Itaituba 164.89 206 *eP* **PKPdf 22 41 25.9 -0.6**
MARP Paez Belalcaza 164.93 115 *eP* **PKPdf 22 41 28.0 +1.1**
PLMC San Jos del P 165.41 107 *eP* **PKPdf 22 41 27.8 +0.8**
DBBC Dabeiba 166.00 99 *eP* **PKPab 22 42 29.3 +1.2**
ORTC Ortega, Tolima 166.02 112 *eP* **PKPdf 22 41 27.5 0.0**
MALB Monte Alegre 166.31 216 *eP* **PKPdf 22 41 27.4 -0.2**
GUY2C Guyana, Caldas 166.38 107 *eP* **PKPdf 22 41 28.5 +0.2**
UREC San Jos de Ur 166.78 96 *eP* **PKPdf 22 41 28.4 +0.3**
NORC Norcasia 166.95 106 *eP* **PKPdf 22 41 27.2 -1.0**
SJCC San Jacinto, C 167.25 87 *eP* **PKPdf 22 41 28.8 +0.4**
PTBC PUERTO BERRIO 167.61 102 *eP* **PKPdf 22 41 27.8 -0.8**
CHIC Chingaza 167.69 112 *eP* **PKPdf 22 41 29.0 -0.9**
SPBC San Pablo de B 167.73 107 *eP* **PKPdf 22 41 27.9 -0.9**
SMLC San Martn de 168.33 92 *eP* **PKPdf 22 41 28.4 -0.7**
RUSC La Rusia 168.74 107 *eP* **PKPdf 22 41 29.0 -1.0**
PAMC Pamplona, Colo 169.48 100 *eP* **PKPdf 22 41 30.6 +0.2**
GCPR Guaynabo City 170.36 22 PKPdf PKPdf 22 41 29.7 -0.5
SJG San Juan 170.52 23 PKIKP PKPdf 22 41 29.8 -0.5
SJG San Juan 170.52 23 PKPdf PKPdf 22 41 29.8 -0.5
SJG **PKPab 22 42 47.7 +0.3**
MTP Monte Pirata 170.75 20 PKPdf PKPdf 22 41 30.3 -0.1
SDV Santo Domingo 171.72 93 *eP* **PKPdf 22 41 29.9 -1.3**
SDV Santo Domingo 171.72 93 PKPdf 22 41 31.0 -0.3
SDV PKPab **PKPab 22 42 55.0 +1.4**
BOAV Boa Vista 172.87 194 *eP* **PKPdf 22 41 30.5 -1.1**

2016 JAN

WEL 08 22:21:45.1±1.1, 35°S±19°×17°9E±2°8, h256km±17km, M3.7/6, MLv3.7/6, Error ellipse: s-maj=0.0km s-min=0.0km az=123.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.64**	**196**	P	Pn	22 22 33.8	-0.3
MXZ				S	S	22 23 12.2	-0.7
WMGZ	**Waiomatatini S**	**2.86**	**193**	P	Pn	22 22 37.2	+0.8
WMGZ				S	S	22 23 15.6	-1.6
HAZ	**Te Kaha**	**2.96**	**203**	P	Pn	22 22 38.1	+0.6
HAZ				S	S	22 23 19.7	+0.7
PKGZ	**Pakihiroa**	**3.00**	**198**	P	Pn	22 22 38.4	+0.4
PKGZ				S	S	22 23 20.2	+0.3
PUZ	**Puketiti**	**3.14**	**194**	P	Pn	22 22 38.8	-0.6
PUZ				S	S	22 23 21.9	-0.6
TWGZ	**Tauwhareparae**	**3.30**	**197**	P	Pn	22 22 42.2	+1.0
TWGZ				S	S	22 23 28.1	+2.3
CNGZ	**Carnagh Statio**	**3.55**	**193**	P	Pn	22 22 45.6	+1.7
MWZ	**Matawai**	**3.57**	**202**	P	Pn	22 22 43.9	-0.4
MWZ				S	S	22 23 31.4	+0.2
TKGZ	**Te Karaka**	**3.58**	**198**	P	Pn	22 22 45.0	+0.7
TKGZ				S	S	22 23 31.5	+0.2
URZ	**Urewera**	**3.65**	**207**	P	Pn	22 22 44.7	-0.3
URZ				S	S	22 23 33.1	+0.4
SNGZ	**Shannon Statio**	**4.04**	**201**	P	Pn	22 22 50.2	+0.6
SNGZ				S	S	22 23 42.6	+1.7
MTHZ	**Maungataniwha**	**4.27**	**206**	P	Pn	22 22 53.1	+0.8
MTHZ				S	S	22 23 44.7	-1.1
NMHZ	**Naumai**	**4.50**	**205**	P	Pn	22 22 53.1	-2.0
NMHZ				S	S	22 23 52.2	+1.4
BKZ	**Black Stump Fm**	**4.67**	**207**	P	Pn	22 22 56.4	-0.7
BKZ				S	S	22 23 55.6	+1.0
BHHZ	**Black Hill Sta**	**5.12**	**209**	P	Pn	22 23 01.6	-0.9
BFZ	**Birch Farm**	**6.12**	**202**	P	Pn	22 23 13.5	-1.3
BFZ				S	S	22 24 26.6	0.0

*IDC **08** 22:26:31.9±2.2, 40°.68N×69°.11E, h0km, mb3.6/2, mb1 3.5/9, mb1mx3.2/66, mbtmp3.4/9, ML3.1/7, Error ellipse: s-maj=35.7km s-min=12.9km az=177.0*
*KRNET **08** 22:26:34.9±0.1, 40°.89N×69°.20E, h18km, mb3.8*
*ISU **08** 22:26:35, 40°.86N×69°.27E, h25km*
*SOME **08** 22:26:35.7, 40°.70N×69°.48E, h10km*
*NNC **08** 22:26:36.5±2.8, 40°.96N×69°.12E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=22.4km s-min=11.4km az=18.0*
ISC 08 22:26:34.7±1.0, 40°.88N±0°.02×69°.25E±0°.02, h16km±7km, n71, σ2°53/109, 21C-23D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUMR	**Kumaryk**	**0.33**	**7**	*eP*	**Pb**	**22 26 43.0**	**+0.8**
KUMR				*eS*	**Sb**	**22 26 49.0**	**+1.7**
TAS	**Tashkent**	**0.45**	**5**	*eP*	**Pg**	**22 26 44.0**	**+0.2**
TAS				*eS*	**Sb**	**22 26 51.0**	**+0.2**
TAS	**Tashkent**	**0.45**	**5**	⇓*iP*	**Pg**	**22 26 43.8**	**0.0**
TAS	baz=10.0			⇓*iS*	**Sg**	**22 26 50.1**	**+0.1**
YBZ	**Yangibazar**	**0.50**	**31**	*eP*	**Pb**	**22 26 46.0**	**+0.9**
YBZ				*eS*	**Sn**	**22 26 55.0**	**-0.5**
TGS	**TashGRES**	**0.59**	**21**	*iP*	**Pg**	**22 26 45.0**	**-1.3**
TGS				*eS*	**Sg**	**22 26 53.0**	**-1.2**
CHMG	**Chimgan**	**0.89**	**40**	*iP*	**Pn**	**22 26 53.0**	**+0.3**
CHMG				*eS*	**Sg**	**22 27 05.0**	**+1.3**
DZI	**Dzhizak**	**1.32**	**236**	*eP*	**Pg**	**22 27 00.0**	**-0.2**
DZI				*eS*	**Sg**	**22 27 18.0**	**+0.6**
IUG	**Iuzhnay** 2μm,0.3s	**1.40**	**25**	*eP*	**Pg**	**22 27 03.5**	**+1.8**
IUG	862nm,0.6s			*eS*	**Sg**	**22 27 22.9**	**+2.9**
BTK	**Batken**	**1.45**	**124**	*eP*	**Pb**	**22 27 02.0**	**+0.7**
BTK				*eS*	**Sg**	**22 27 25.0**	**+3.4**
BTK	**Batken**	**1.45**	**124**	⇑*iP*	**Pb**	**22 27 02.1**	**+0.7**
BTK	baz=23			⇑*iS*	**Sg**	**22 27 22.0**	**+0.4**
CHM	**Chimkent** 130nm,0.2s	**1.47**	**10**	*eP*	**Pg**	**22 27 04.8**	**+1.8**
CHM				*eS*	**Sg**	**22 27 24.8**	**+2.7**
TRKS	**Terek-Say**	**1.57**	**65**	⇓*iP*	**Pb**	**22 27 04.0**	**+0.5**
TRKS	baz=68			⇓*iS*	**Sg**	**22 27 25.5**	**0.0**
GAR	**Garm**	**2.05**	**156**	⇓*iP*	**Pb**	**22 27 11.5**	**-0.1**
GAR	baz=55			⇓*iS*	**Sb**	**22 27 38.2**	**+1.4**
SAM	**Samarkand**	**2.10**	**236**	*eP*	**Pg**	**22 27 14.0**	**-1.0**
SAM				*eS*	**Sg**	**22 27 42.0**	**-0.3**
BRLS	**Borolday** 31nm,0.2s	**2.20**	**11**	*eP*	**Pn**	**22 27 12.0**	**+1.4**
BRLS	163nm,0.2s			*eS*	**Sn**	**22 27 36.8**	**-0.6**
CHGR	**Chuyangaron**	**2.22**	**182**	⇓*iP*	**Pb**	**22 27 13.6**	**-0.8**
CHGR	baz=81			⇓*iS*	**Sb**	**22 27 41.5**	**-0.2**
ARK	**Arkit**	**2.25**	**65**	*eP*	**Pb**	**22 27 14.0**	**-1.0**
ARK				*eS*	**Sb**	**22 27 45.0**	**+2.5**
ARK	**Arkit**	**2.25**	**65**	⇑*iP*	**Pb**	**22 27 14.2**	**-0.8**
ARK	baz=65			⇑*iS*	**Sb**	**22 27 43.1**	**+0.6**
DRK	**Karamyk**	**2.40**	**125**	⇑*iP*	**Pb**	**22 27 16.8**	**-0.9**
DRK	baz=24			⇑*iS*	**Sb**	**22 27 47.4**	**+0.2**
KK09	**Karatay Array** 28nm,0.5s,baz=211,slow=16	**2.43**	**22**	⇑Pg	**Pg**	**22 27 23.2**	**+1.8**
KK09	74nm,0.6s,baz=207,slow=30			⇓Lg	Lg	22 27 54.0	
DZA	**Taraz** 71nm,0.3s	**2.55**	**37**	*eP*	**Pg**	**22 27 23.1**	**-0.5**
DZA	344nm,0.3s			*eS*	**Sg**	**22 27 56.2**	**-0.4**
OHH	**Osh** baz=96	**2.71**	**96**	⇑*iP*	**Pn**	**22 27 20.8**	**+3.1**
OHH	baz=96			⇑*iS*	**Sb**	**22 27 54.4**	**-1.6**
MNAS	**Manas** baz=56	**2.92**	**56**	⇑*iP*	**Pn**	**22 27 23.2**	**+2.5**
MNAS	baz=56			⇑*iS*	**Sn**	**22 27 58.7**	**+3.2**
SFK	**Sufi-Kurgan** baz=3.0	**3.36**	**103**	⇓*eP*	**Pn**	**22 27 30.4**	**+3.6**
SFK	baz=3.0			⇓*eS*	**Sn**	**22 28 10.0**	**+3.6**
SALK	**Salom-Alik** baz=89	**3.47**	**88**	⇓*eP*	**Pn**	**22 27 31.9**	**+3.7**
SALK	baz=89			⇓*eS*	**Sn**	**22 28 13.0**	**+4.0**
MRKS	**Merke** 16nm,0.3s	**3.51**	**57**	*eP*	**Pg**	**22 27 40.2**	**-1.8**
MRKS	82nm,0.9s			*eS*	**Sg**	**22 28 26.7**	**-0.9**
MRKS	**Merke** 16nm,0.3s	**3.51**	**57**	Pg	**Pg**	**22 27 41.0**	**-1.1**
MRKS	170nm,0.7s			Lg	Lg	22 28 26.1	
EKS2	**Erkin-Say** baz=61	**3.83**	**61**	⇑*eP*	**Pn**	**22 27 36.4**	**+3.3**
EKS2	baz=61			⇑*iS*	**Sn**	**22 28 21.1**	**+3.2**
BUXR	**Bukhara**	**3.91**	**255**	*eP*	**Pn**	**22 27 35.0**	**+0.9**
BUXR				*eS*	**Sn**	**22 28 19.0**	**-0.7**
ARLS	**Aral** baz=74	**3.95**	**74**	⇓*iP*	**Pn**	**22 27 37.9**	**+3.2**
ARLS	baz=74			⇓*iS*	**Sn**	**22 28 24.3**	**+3.5**
UCH	**Uchtor** baz=70	**4.18**	**69**	⇓*iP*	**Pn**	**22 27 41.3**	**+3.1**
UCH	baz=70			⇓*iS*	**Sn**	**22 28 30.1**	**+3.2**
AAK	**Ala-Archa** 1.5nm,0.3s,baz=210,slow=3.9,SNR=31	**4.30**	**64**	Pn	**Pn**	**22 27 42.6**	**+3.0**
AAK	2.8nm,0.3s,baz=219,slow=3.9,SNR=12			Pg	**Pg**	**22 27 55.4**	**-1.8**
AAK	5.4nm,0.3s,baz=166,slow=17,SNR=4.2			Sn	**Sb**	**22 28 37.3**	**-4.5**
AAK	7.2nm,0.3s,baz=23,slow=19,SNR=7.3			Lg	Lg	22 28 52.3	
AAK	**Ala-Archa** 4.8nm,0.6s	**4.30**	**64**	⇓Pn	Pn	22 27 44.4	+4.7
AAK	15nm,0.8s			⇓Pg	**Pg**	**22 27 55.2**	**-2.0**
AAK	33nm,0.7s			⇑Lg	Lg	22 28 59.8	
AAK	**Ala-Archa** baz=64	**4.30**	**64**	⇑*eP*	**Pn**	**22 27 43.0**	**+3.4**
AAK	baz=64			⇑*iS*	**Sn**	**22 28 32.5**	**+2.9**
FRU1	**Bishkek** baz=63	**4.46**	**63**	⇑*iP*	**Pn**	**22 27 45.1**	**+3.3**
FRU1	baz=63			⇑*iS*	**Sn**	**22 28 35.7**	**+2.3**
USP	**Ospenovka** baz=57	**4.58**	**57**	⇑*iP*	**Pn**	**22 27 46.4**	**+3.0**
USP	baz=57			⇑*iS*	**Sn**	**22 28 38.9**	**+2.6**
KBK	**Karagaybulak** baz=66	**4.62**	**65**	⇓*eP*	**Pn**	**22 27 47.5**	**+3.5**
KBK	baz=66			⇓*iS*	**Sn**	**22 28 40.2**	**+2.8**
CHMS	**Chumysh** baz=61	**4.62**	**61**	⇓*iP*	**Pn**	**22 27 47.1**	**+3.2**
CHMS	baz=61			⇓*iS*	**Sn**	**22 28 40.0**	**+2.7**
DGS	**Degeres** 5.9nm,0.5s	**5.40**	**62**	*eP*	**Pg**	**22 28 14.7**	**-3.5**
DGS	38nm,0.7s			*eS*	**Sg**	**22 29 26.3**	**-1.8**
DGS	**Degeres** 7.9nm,0.7s	**5.40**	**62**	Pg	**Pg**	**22 28 16.4**	**-1.8**
DGS	38nm,0.7s			Lg	Lg	22 29 26.3	
BTLS	**Baital** 3.4nm,0.3s	**5.45**	**39**	*eP*	**Pg**	**22 28 15.5**	**-3.6**
BTLS	26nm,0.6s			*eS*	**Sg**	**22 29 26.5**	**-3.2**
BTLS	**Baital** 3.4nm,0.3s	**5.45**	**39**	Pg	**Pg**	**22 28 16.4**	**-2.7**
BTLS	26nm,0.6s			Lg	Lg	22 29 26.5	
KST	**Kastek** 8.9nm,0.9s	**5.46**	**64**	*eP*	**Pg**	**22 28 15.2**	**-4.0**
KST	56nm,0.9s			*eS*	**Sg**	**22 29 26.8**	**-3.0**
KST	**Kastek** 18nm,0.7s	**5.46**	**64**	Pg	**Pg**	**22 28 16.2**	**-3.0**
KST	56nm,0.9s			Lg	Lg	22 29 26.8	
KRBS	**Karabastau** 4.2nm,0.3s	**5.54**	**57**	*eP*	Pg	22 28 16.5	-4.2
KRBS	21nm,0.6s			*eS*	**Sg**	**22 29 28.1**	**-4.4**
KRBS	**Karabastau** 4.2nm,0.3s	**5.54**	**57**	Pg	**Pg**	**22 28 17.2**	**-3.5**
KRBS	21nm,0.6s			Lg	Lg	22 29 28.1	
MTBS	**Maitube**	**5.81**	**65**	Pg	**Pg**	**22 28 22.8**	**-3.0**
MTBS				Lg	Lg	22 29 37.7	
KUU	**Kurty** 6.5nm,0.4s	**6.06**	**58**	*eP*	Pb	22 28 25.5	+5.7
KUU	34nm,0.8s			*eS*	**Sg**	**22 29 44.0**	**-5.0**
KUU	**Kurty** 6.5nm,0.4s	**6.06**	**58**	Pg	Pg	22 28 26.5	-4.1
KUU	34nm,0.8s			Lg	Lg	22 29 44.0	
TNSS	**Tian-Shan** 3.7nm,0.6s	**6.13**	**67**	*eP*	Pb	22 28 27.1	+5.7
TNSS	16nm,0.5s			*eS*	**Sg**	**22 29 48.3**	**-3.3**
TNSS	**Tian-Shan** 3.7nm,0.6s	**6.13**	**67**	Pg	**Pg**	**22 28 30.2**	**-2.0**
TNSS	16nm,0.5s			Lg	Lg	22 29 49.9	
KTBS	**Karatobe** 6.1nm,0.5s	**6.20**	**60**	*eP*	Pg	22 28 28.7	-4.7
KTBS	38nm,0.9s			*eS*	**Sg**	**22 29 49.0**	**-4.6**
KTBS	**Karatobe** 6.1nm,0.5s	**6.20**	**60**	Pg	**Pg**	**22 28 29.8**	**-3.6**
KTBS	38nm,0.9s			Lg	Lg	22 29 49.0	
MDOK	**Medeo** 3.8nm,0.5s	**6.25**	**66**	*eP*	Pg	22 28 29.4	-4.9
MDOK	20nm,0.7s			*eS*	**Sg**	**22 29 51.5**	**-3.5**
MDOK	**Medeo** 29nm,1.4s	**6.25**	**66**	Pg	**Pg**	**22 28 35.0**	**+0.7**
MDOK	35nm,1.0s			⇑Lg	Lg	22 29 55.5	
MDOK	**Medeo** 3.8nm,0.5s	**6.25**	**66**	Pg	**Pg**	**22 28 30.9**	**-3.4**
MDOK	20nm,0.7s			Lg	Lg	22 29 51.6	
KOTS	**Kotyrbulak** 4.1nm,0.5s	**6.31**	**65**	*eP*	Pg	22 28 31.5	-4.1
KOTS	44nm,0.8s			*eS*	**Sg**	**22 29 54.5**	**-2.8**
KOTS	**Kotyrbulak** 4.1nm,0.5s	**6.31**	**65**	Pg	**Pg**	**22 28 32.6**	**-2.9**
KOTS	44nm,0.8s			Lg	Lg	22 29 54.5	
CHKK	**Chushkaly** 2.7nm,0.4s	**6.46**	**60**	*eP*	Pg	22 28 33.6	-4.8
CHKK	21nm,0.5s			*eS*	**Sg**	**22 29 58.5**	**-3.5**
CHKK	**Chushkaly** 2.7nm,0.4s	**6.46**	**60**	Pg	**Pg**	**22 28 35.1**	**-3.3**
CHKK	21nm,0.5s			Lg	Lg	22 29 58.5	
UZB	**Uzynbulak** 1.5nm,0.2s	**7.63**	**69**	Pg	Pb	22 28 56.4	+10
UZB	10nm,0.8s			Lg	Lg	22 30 35.2	
KAPS	**Kapalarasan**	**8.61**	**56**	Pg	Pn	22 29 12.5	+34
KAPS				Lg	Lg	22 31 02.2	
GEYT	**Alibeck** 0.4nm,0.3s,baz=56,slow=19,SNR=1.4	**9.10**	**255**	Pn	**Pn**	**22 28 43.4**	**-2.0**
GEYT	1.0nm,0.3s,baz=75,slow=26,SNR=2.1			Sn	**Sn**	**22 30 20.7**	**-6.8**
AB31	**Akbulak array** 0.6nm,0.3s,baz=165,slow=11,SNR=49	**10.65**	**325**	Pn	**Pn**	**22 29 04.8**	**-1.7**
AB31	1.6nm,0.5s,baz=152,slow=24,SNR=5.5			Sn	**Sn**	**22 31 05.0**	**-0.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=238,slow=14,SNR=10	**11.12**	**54**	Pn	**Pn**	**22 29 14.8**	**+1.8**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=224,slow=13,SNR=5.5	**11.70**	**30**	Pn	**Pn**	**22 29 19.2**	**-1.7**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=181,slow=11,SNR=2.1	**12.18**	**3**	Pn	**Pn**	**22 29 27.3**	**-0.1**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=137,slow=17,SNR=2.6	**12.36**	**324**	Pn	**Pn**	**22 29 28.9**	**-1.0**
AKTO	0.3nm,0.3s,baz=83,slow=23,SNR=2.3			Sn	Sn	22 31 37.1	-10
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=230,slow=11,SNR=3.6	**16.75**	**33**	Pn	**P**	**22 30 31.6**	**+1.0**
FINES	**FINESS Array B** 1.5nm,0.8s,baz=116,slow=9.4,SNR=1.7	**33.13**	**323**	P	**P**	**22 33 10.7**	**+0.9**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=351,slow=6.9,SNR=2.3	**76.93**	**2**	P	**P**	**22 38 26.5**	**+0.7**

*IDC **08** 22:33:47.6±1.6, 38°.22N×73°.03E, h19km±6km, mb3.7/7, mb1 3.8/12, mb1mx3.5/61, mbtmp3.8/12, ML3.4/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/88, Error ellipse: s-maj=28.3km s-min=21.4km az=138.0*
*NNC **08** 22:33:53.3±2.5, 38°.65N×73°.03E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=18.9km s-min=11.0km az=175.0*
*SOME **08** 22:33:55.7, 38°.88N×72°.68E, h0km*
ISC 08 22:33:46.8±0.7, 38°20N±0°.05×72°98E±0°.05, h10km, n60, σ2°61/60, mb3.8/10, 3C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=14	**3.96**	**8**	P	**Pn**	**22 34 51.7**	**+3.6**
UCH	**Uchtor** SNR=12	**4.19**	**16**	P	**Pb**	**22 34 58.1**	**-2.8**
IUG	**Iuzhnay** 1μm,1.2s	**4.54**	**331**	*eP*	**Pb**	**22 35 07.3**	**+0.6**
IUG	446nm,1.1s			*eS*	**Sb**	**22 35 59.1**	**-2.4**
MRKS	**Merke** 25nm,0.8s	**4.54**	**2**	*eP*	**Pb**	**22 35 08.1**	**+1.4**
MRKS				*eS*	**Sb**	**22 36 00.6**	**-1.0**

58nm,0.6s
AAK Ala-Archa 4.58 14 Pn **Pn 22 34 58.5 +2.3**
3.5nm,0.3s,baz=149,slow=4.3,SNR=23
AAK Sn **Sn 22 35 50.7 +1.1**
2.3nm,0.3s,baz=236,slow=6.5,SNR=3.6
AAK LR LR 22 36 11.4
comp=Z,60nm,20.9s,baz=216,slow=32
AAK Ala-Archa 4.58 14 P **Pb 22 35 03.6 -3.7**
SNR=14
AAK Ala-Archa 4.58 14 Pn Pn 22 35 02.1 +5.9
18nm,0.6s
AAK Lg Lg 22 36 04.7
70nm,1.0s
DZA Taraz 4.85 346 *e*P **Pb 22 35 09.0 -2.9**
44nm,0.3s
DZA *e*S **Sn 22 36 02.0 +5.8**
118nm,0.5s
CHM Chimkent 4.86 329 *e*P **Pb 22 35 15.4 +3.4**
34nm,0.1s
CHM *e*S **Sb 22 36 13.3 +2.8**
267nm,0.6s
CHMS Chumysh 4.98 15 P Pb 22 35 08.9 -5.2
SNR=6.6
USP Ospenovka 5.19 12 P Pn 22 35 11.1 +6.6
SNR=6.0
KK09 Karatay Array 5.27 340 ⇑Pn **Pn 22 35 06.5 +1.0**
KK09 ⇓Sn **Sn 22 36 06.3 -0.1**
27nm,0.6s
KK09 ⇓Lg Lg 22 36 27.2
29nm,0.6s
KST Kastek 5.34 24 *e*P **Pg 22 35 27.2 -1.9**
20nm,0.6s
KST *e*S **Sg 22 36 33.1 -5.2**
63nm,1.0s
KST Kastek 5.34 24 Pg **Pb 22 35 21.6 +1.3**
10.0nm,0.7s
KST Lg Lg 22 36 30.6
63nm,0.9s
BRLS Borolday 5.39 335 *e*P **Pb 22 35 23.9 +2.9**
14nm,0.6s
BRLS *e*S **Sb 22 36 27.6 +2.0**
35nm,1.2s
DGS Degeres 5.46 22 *e*P **Pg 22 35 27.7 -3.7**
17nm,0.7s
DGS *e*S **Sb 22 36 34.1 +6.1**
34nm,0.7s
DGS Degeres 5.46 22 Pg **Pb 22 35 22.6 +0.3**
11nm,0.9s
DGS Lg Lg 22 36 33.4
34nm,0.9s
TNSS Tian-Shan 5.70 31 Pg **Pb 22 35 27.2 +0.7**
6.7nm,0.9s
TNSS Lg Lg 22 36 41.0
20nm,1.0s
MDOK Medeo 5.84 31 Pg Pb 22 35 33.7 +4.9
20nm,0.8s
MDOK Lg Lg 22 36 48.1
72nm,1.2s
MDOK Medeo 5.84 31 Pg **Pb 22 35 32.2 +3.4**
15nm,0.6s
MDOK Lg Lg 22 36 49.0
35nm,1.2s
KNDC Almaty 5.86 30 ⇓Pg **Pg 22 35 36.7 -2.2**
36nm,0.7s
KNDC ⇓Lg Lg 22 36 47.5
118nm,0.8s
KTBS Karatobe 6.18 26 Pg **Pb 22 35 36.9 +2.4**
4.7nm,0.9s
KTBS Lg Lg 22 36 56.9
43nm,1.2s
KUU Kurty 6.23 23 Pg **Pb 22 35 36.3 +1.0**
7.6nm,0.8s
KUU Lg Lg 22 36 56.3
41nm,0.8s
SATY Saty 6.37 39 Pg **Pb 22 35 42.0 +4.2**
18nm,0.8s
SATY Lg Lg 22 37 06.5
40nm,1.1s
CHKK Chushkaly 6.41 27 Pg **Pb 22 35 40.7 +2.3**
4.4nm,0.8s
CHKK Lg Lg 22 37 03.4
16nm,1.1s
ZHN Zhinishke 6.46 38 Pg **Pb 22 35 42.6 +3.2**
7.5nm,0.7s
ZHN Lg Lg 22 37 07.8
22nm,0.9s
UZB Uzynbulak 6.75 41 Pg **Pb 22 35 47.7 +3.5**
6.0nm,0.4s
UZB Lg Lg 22 37 15.9
17nm,1.6s
BTLS Baital 6.88 6 Pg **Pb 22 35 47.9 +1.4**
3.7nm,0.8s
BTLS Lg Lg 22 37 16.7
7.5nm,0.6s
ARXS Arharly 7.03 30 Pg **Pb 22 35 51.5 +2.5**
6.0nm,1.1s
ARXS Lg Lg 22 37 22.3
34nm,1.0s
BLB Baldybastay 7.20 33 Pg Pb 22 35 57.7 +5.7
14nm,0.6s
BLB Lg Lg 22 37 32.8
27nm,1.1s
DJR Jarkent 7.99 38 Pg Pb 22 36 11.6 +6.4
2.2nm,0.3s
DJR Lg Lg 22 37 56.6
9.7nm,1.6s
MKAR Makanchi Array 10.99 36 Pn **Pn 22 36 24.9 +0.9**
0.1nm,0.3s,baz=203,slow=14,SNR=2.9
MKAR Lg Lg 22 39 26.9
0.0nm,0.3s,baz=225,slow=26,SNR=1.8
GEYT Alibeck 11.72 273 Pn **Pn 22 36 33.6 -0.5**
1.5nm,0.3s,baz=134,slow=10,SNR=14
KURBB Kurchatov Arra 13.03 16 Lg Lg 22 40 32.7
0.0nm,0.3s,baz=204,slow=27,SNR=5.5
PYUN Piuthan 13.10 137 *e*P Pn 22 36 48.3 -4.8
11nm,0.3s
DANN Dangsing 13.32 134 *e*P **Pn 22 36 55.1 -1.1**
10nm,0.4s
KOLN Koldanda 13.69 136 *e*P Pn 22 36 55.8 -5.3
GKN Gorkha 14.09 133 *e*P **Pn 22 37 05.7 -0.9**
8.5nm,0.4s
AB31 Akbulak array 14.50 324 Pn **Pn 22 37 14.4 +2.4**
1.4nm,0.5s,baz=131,slow=14,SNR=34
AB31 ⇑Sn **Sn 22 39 53.1 +0.4**
5.0nm,0.8s,baz=132,slow=26,SNR=2.8
KKN Kakani 14.62 132 *e*P **Pn 22 37 13.4 -0.5**
10nm,0.7s
DMN Daman 14.66 133 *e*P **Pn 22 37 11.8 -2.6**
4.8nm,0.3s
PKIN Phulchoki 14.85 132 *e*P **Pn 22 37 14.9 -2.2**
6.6nm,0.5s
PKI Pulchoki 14.86 132 *e*P **Pn 22 37 14.9 -2.4**
4.7nm,0.4s
BVAR Borovoye Array 14.94 354 Pn **Pn 22 37 16.4 -1.5**
0.1nm,0.3s,baz=141,slow=9.3,SNR=3.0
AKTO Aktyubinsk 16.22 324 Sn **Sn 22 40 26.7 -7.8**
0.2nm,0.3s,baz=3.4,slow=17,SNR=1.9
AKTO Aktyubinsk 16.22 324 ⇓Pn **Pn 22 37 36.7 +2.1**
6.7nm,0.7s
AKTO ⇑Sn **Sn 22 40 36.1 +1.6**
5.1nm,1.0s
ZALV Zalesovo Beam 17.72 23 P **Pn 22 37 53.1 -0.4**
0.2nm,0.3s,baz=211,slow=12,SNR=4.7
ARU Arti 20.61 337 pP pP 22 38 30.7 +0.6
0.5nm,0.4s,baz=134,slow=7.2,SNR=3.1
SONM Songino Array 26.08 58 pP pP 22 39 24.5 -0.5
1.0nm,1.1s,baz=249,slow=11,SNR=4.6
FINES FINESS Array B 36.99 324 P **P 22 40 55.8 -0.2**
1.5nm,0.9s,baz=116,slow=9.7,SNR=3.8
ARCES ARCESS Array B 40.20 336 P **P 22 41 22.1 -0.9**
3.6nm,1.1s,baz=106,slow=6.7,SNR=1.3
ARCES pP **pP 22 41 28.1 +0.6**
1.6nm,0.6s,baz=104,slow=7.6,SNR=1.5
HFS Hagfors 42.73 321 P **P 22 41 43.5 -0.3**
1.6nm,0.5s,baz=90,slow=4.5,SNR=9.3
HFS pP **pP 22 41 49.3 +1.0**
2.8nm,0.5s,baz=88,slow=10,SNR=3.3
NB2 NORSAR Subarra 44.00 322 P **P 22 41 53.4 -0.7**
comp=Z,1.7nm,0.7s,baz=92,slow=7.9
NOA NORSAR Array B 44.00 322 P **P 22 41 53.2 -0.9**
comp=Z,0.6nm,0.6s,baz=92,slow=7.8,SNR=2.8
NOA pP **pP 22 41 59.1 +0.5**
comp=Z,1.1nm,0.6s,baz=91,slow=7.8,SNR=4.1
LEM Lembang 55.18 137 LR LR 23 10 27.6
comp=Z,66nm,20.4s,baz=246,slow=40
TORD Torodi Ar. Bea 67.33 269 P **P 22 44 41.5 -0.8**
comp=Z,0.2nm,0.6s,baz=40,slow=6.6,SNR=1.5
INK Inuvik 71.97 10 pP pP 22 45 14.0 -0.6
comp=Z,0.7nm,0.5s,baz=324,slow=5.2,SNR=2.5
ILAR Eielson Array 72.71 17 pP pP 22 45 18.1 -1.1
comp=Z,0.9nm,1.0s,baz=324,slow=4.7,SNR=4.8
YKA Yellowknife Ar 79.47 4 P **P 22 45 53.2 +0.2**
comp=Z,0.3nm,0.6s,baz=72,slow=20,SNR=3.1
WRA Warramunga Arr 81.58 123 P **P 22 46 04.4 -0.6**
comp=Z,0.2nm,0.8s,baz=323,slow=4.3,SNR=1.4

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*IDC **08** 22:45:13.6±2.9, 0°.37N×99°.90E, h132km±21km, mb3.3/7, mb1 3.5/8, mb1mx3.1/52, mbtmp3.7/8, Error ellipse: s-maj=91.0km s-min=15.1km az=57.0*
*DJA **08** 22:45:14.6±0.3, 0°.N±2°×10°.0E±°, h135km±4km, M4.0/12, mb4.1/1, MLv3.9/12*
ISC 08 22:45:14.2±0.8, 0°.45N±0°.05×99°.74E±0°.08, h142km±7km, n18, σ1°22/27, mb3.3/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.38**	**335**	P	**Pn**	**22 45 34.3**	**+0.2**
MNSI				S	**Sn**	**22 45 49.1**	**-0.1**
PPI	**Padang Panjang**	**1.12**	**144**	P	**Pn**	**22 45 39.9**	**+0.6**
PPI				S	**Sn**	**22 45 59.3**	**+0.9**
SISI	**Saibi**	**1.88**	**200**	P	**Pn**	**22 45 47.4**	**-0.1**
SISI				S	**Sn**	**22 46 12.1**	**-0.9**
GSI	**Gunungsitoli**	**2.32**	**291**	P	**Pn**	**22 45 53.9**	**+1.2**
GSI				S	**Sn**	**22 46 22.1**	**-0.3**
PSI	**Prapat**	**2.47**	**341**	P	**Pn**	**22 45 54.5**	**-0.2**
PSI				S	**Sn**	**22 46 22.4**	**-3.5**
TPTI		**3.78**	**318**	P	**Pn**	**22 46 11.7**	**+0.3**
MASI	**Maura Aman, Be**	**4.36**	**145**	P	**Pn**	**22 46 19.0**	**0.0**
MDSI	**Maura Dua**	**6.61**	**138**	P	**Pn**	**22 46 49.2**	**+0.1**
WRA	**Warramunga Arr**	**39.49**	**123**	P	**P**	**22 52 29.9**	**-1.2**
WRA				PcP	**PcP**	**22 54 36.5**	**+0.3**
ASAR	**Alice Springs**	**40.93**	**128**	P	**P**	**22 52 41.0**	**-2.0**
ASAR				PcP	**PcP**	**22 54 41.5**	**+0.6**
SONM	**Songino Array**	**47.55**	**6**	P	**P**	**22 53 36.8**	**+1.5**
MKAR	**Makanchi Array**	**48.61**	**344**	P	**P**	**22 53 44.5**	**+1.1**
STKA	**Stephens Creek**	**50.99**	**133**	P	**P**	**22 54 00.8**	**-0.7**
ZALV	**Zalesovo Beam**	**54.73**	**349**	P	**P**	**22 54 29.4**	**+0.8**
ARCES	**ARCESS Array B**	**84.09**	**340**	P	**P**	**22 57 29.5**	**+0.8**

comp=Z,0.3nm,0.6s,baz=72,slow=20,SNR=3.1
comp=Z,0.2nm,0.8s,baz=323,slow=4.3,SNR=1.4

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*TRN **08** 22:45:24.4, 18°.92N×64°.56W, h74km, M3.5(RSPR)*
*RSPR **08** 22:45:26.1, 18°.95N×64°.55W, h74km±8km, MD3.5/9*
*NEIC **08** 22:45:28.2±1.0, 19°.0N±0°.1×64°.8W±0°.1, h39km±55km, Error ellipse: s-maj=20.2km s-min=13.1km az=142.0*
ISC 08 22:45:27.6±3.4, 19°.0N±0°.2×64°.7W±0°.2, h53km±48km, n45, σ0°97/55, 17C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.57**	**175**	⇑*e*P	**Pn**	**22 45 39.7**	**-0.3**
TBVI	**Tortola**	**0.57**	**175**	⇑*e*P	**Pn**	**22 45 39.7**	**-0.3**
TBVI				*e*S	**Sn**	**22 45 49.8**	**+0.9**
STVI	**Saint Thomas**	**0.69**	**203**	⇓*e*P	**Pn**	**22 45 40.8**	**-0.6**
STVI	**Saint Thomas**	**0.69**	**203**	⇓*e*P	**Pn**	**22 45 40.8**	**-0.6**
STVI				*e*S	**Sn**	**22 45 51.9**	**+0.5**
STVI	**Saint Thomas**	**0.69**	**203**		**Pn**	**22 45 40.8**	**-0.6**
STVI					**Sn**	**22 45 51.9**	**+0.5**
CUPR	**Culebra, Puert**	**0.89**	**220**	⇓*e*P	**Pn**	**22 45 43.1**	**-0.9**
CUPR	**Culebra, Puert**	**0.89**	**220**	*e*S	**Sn**	**22 45 56.5**	**+0.4**
CUPR	**Culebra, Puert**	**0.89**	**220**		**Pn**	**22 45 43.1**	**-0.9**
CUPR					**Sn**	**22 45 54.7**	**-1.3**
CUPR				IAML		22 46 01.1	
	comp=E,178nm,0.5s						
MTP	**Monte Pirata**	**1.22**	**223**	⇓*e*P	**Pn**	**22 45 47.8**	**-0.6**
MTP	**Monte Pirata**	**1.22**	**223**	⇓*e*P	**Pn**	**22 45 47.8**	**-0.6**
MTP				*e*S	**Sn**	**22 46 05.3**	**+1.4**
MTP	**Monte Pirata**	**1.22**	**223**		**Pn**	**22 45 47.8**	**-0.6**
MTP					**Sn**	**22 46 05.1**	**+1.2**
MTP				IAML		22 46 07.8	
	comp=E,147nm,0.2s						
CBYP	**Canovanas**	**1.33**	**238**	⇑*e*P	**Pn**	**22 45 48.6**	**-1.4**
CBYP	**Canovanas**	**1.33**	**238**	⇑*e*P	**Pn**	**22 45 48.6**	**-1.4**
CBYP				*e*S	**Sn**	**22 46 07.2**	**+0.5**
CBYP	**Canovanas**	**1.33**	**238**		**Pn**	**22 45 48.6**	**-1.4**
CBYP	**Canovanas**	**1.33**	**238**		**Sn**	**22 46 07.1**	**+0.4**
HUMP	**Col San Antoni**	**1.40**	**233**	⇑*e*P	**Pn**	**22 45 50.0**	**-0.8**
HUMP	**Col San Antoni**	**1.40**	**233**	⇑*e*P	**Pn**	**22 45 50.0**	**-0.8**
HUMP				*e*S	**Sn**	**22 46 08.9**	**+0.7**
HUMP	**Col San Antoni**	**1.40**	**233**		**Pn**	**22 45 50.0**	**-0.8**
HUMP					**Sn**	**22 46 08.9**	**+0.7**
GCPR	**Guaynabo City**	**1.50**	**243**		**Pn**	**22 45 50.9**	**-1.2**
PDPR	**Patillas Dam,**	**1.61**	**233**		**Pn**	**22 45 53.0**	**-0.5**
PDPR				IAML		22 46 15.6	
	comp=E,71nm,0.6s						
SJG	**San Juan**	**1.65**	**238**		**Pn**	**22 45 53.0**	**-1.3**
SJG				IAML		22 46 16.9	
	comp=E,64nm,0.4s						
SJG				IAML		22 46 23.7	
	comp=E,67nm,0.3s						
CELP	**Cerrillos**	**2.03**	**244**	⇑*e*P	**Pn**	**22 45 58.7**	**-0.7**
CELP	**Cerrillos**	**2.03**	**244**	⇑*e*P	**Pn**	**22 45 58.7**	**-0.7**
CELP				*e*S	**Sn**	**22 46 24.5**	**+1.0**
CELP	**Cerrillos**	**2.03**	**244**		**Sn**	**22 46 24.5**	**+1.0**
CELP	**Cerrillos**	**2.03**	**244**		**Pn**	**22 45 58.2**	**-1.1**
CELP	**Cerrillos**	**2.03**	**244**	IAML		22 46 26.4	
	comp=E,45nm,0.5s						
CELP				IAML		22 46 26.7	
	comp=N,43nm,0.5s						
OBIP	**Obispado Ponce**	**2.06**	**243**	⇑*e*P	**Pn**	**22 45 58.8**	**-1.0**
OBIP	**Obispado Ponce**	**2.06**	**243**	⇑*e*P	**Pn**	**22 45 58.8**	**-1.0**
OBIP	**Obispado Ponce**	**2.06**	**243**		**Pn**	**22 45 58.8**	**-1.0**
OBIP	**Obispado Ponce**	**2.06**	**243**	IAML		22 46 28.3	
	comp=N,47nm,0.6s						
AOPR	**Arecibo Observ**	**2.08**	**252**	⇑*e*P	**Pn**	**22 45 59.8**	**-0.3**
AOPR	**Arecibo Observ**	**2.08**	**252**	⇑*e*P	**Pn**	**22 45 59.8**	**-0.3**
AOPR				*e*S	**Sn**	**22 46 26.5**	**+1.8**
AOPR	**Arecibo Observ**	**2.08**	**252**		**Sn**	**22 46 26.5**	**+1.8**
AOPR	**Arecibo Observ**	**2.08**	**252**		**Pn**	**22 45 59.1**	**-1.0**
AOPR	**Arecibo Observ**	**2.08**	**252**	IAML		22 46 30.5	
	comp=N,110nm,0.5s						
AOPR				IAML		22 46 31.8	
	comp=E,200nm,0.4s						
AGPR	**Aguadilla, PR**	**2.37**	**258**	Pn	**Pn**	**22 46 02.8**	**-1.2**
AGPR				IAML		22 46 54.0	
	comp=E,70nm,2.1s						
LSP	**Las Mesas**	**2.43**	**251**	⇑*e*P	**Pn**	**22 46 05.4**	**+0.5**
LSP	**Las Mesas**	**2.43**	**251**	⇑*e*P	**Pn**	**22 46 05.4**	**+0.5**
MLPR	**Magueyes Islan**	**2.47**	**246**	⇑*e*P	**Pn**	**22 46 04.0**	**-1.4**
MLPR	**Magueyes Islan**	**2.47**	**246**	*e*S	**Sn**	**22 46 34.6**	**+0.2**
MLPR	**Magueyes Islan**	**2.47**	**246**		**Pn**	**22 46 04.0**	**-1.4**
MLPR					**Sn**	**22 46 34.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.51**	**247**	⇑*e*P	**Pn**	**22 46 05.4**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.51**	**247**	⇑*e*P	**Pn**	**22 46 05.4**	**-0.6**
CRPR				*e*S	**Sn**	**22 46 36.8**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.51**	**247**		**Pn**	**22 46 05.4**	**-0.6**
CRPR					**Sn**	**22 46 36.8**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.51**	**247**	IAML		22 46 45.9	
	comp=E,39nm,1.6s						
CRPR				IAML		22 46 49.1	
	comp=N,32nm,0.8s						

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*IDC **08** 22:47:28.8±2.9, 30°.40S×177°.66W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.5/33, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=67.4km s-min=28.4km az=109.0*
ISC 08 22:47:29.6±2.6, 30°.40S±0°.08×177°.7W±0°.4, h10km, n5, σ1°55/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.16**	**352**	Pn	**Pg**	**22 47 52.6**	**+0.7**
	118nm,0.3s,baz=107,slow=19,SNR=2.2						
RAO				Sn	**Sb**	**22 48 04.8**	**-2.0**
	111nm,0.3s,baz=15,slow=22,SNR=6.5						
URZ	**Urewera**	**8.92**	**207**	Pn	**Pn**	**22 49 38.5**	**-0.1**
	0.2nm,0.3s,baz=24,slow=15,SNR=1.5						
URZ				Sn	**Sn**	**22 51 17.6**	**-1.5**
	0.5nm,0.3s,baz=4.1,slow=16,SNR=1.1						
ASAR	**Alice Springs**	**43.34**	**267**	P	**P**	**22 55 33.2**	**+1.0**
	0.4nm,0.6s,baz=101,slow=7.7,SNR=6.4						
WRA	**Warramunga Arr**	**44.33**	**272**	P	**P**	**22 55 41.5**	**+1.3**
	0.8nm,0.4s,baz=110,slow=7.9,SNR=20						
FINES	**FINESS Array B**	**145.23**	**340**	PKPbc	**PKPdf**	**23 07 06.4**	**-0.4**
	0.8nm,0.3s,baz=64,slow=3.2,SNR=11						

IDC 08 22:54:16.2±17.0, 1°.45S×12°.22W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/47, mbtmp3.5/3, MS4.1/1, Ms1 4.1/1, ms1mx2.9/43, Error ellipse: s-maj=473.3km s-min=112.5km az=162.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.73**	**200**	T	T	23 00 50.0	
	baz=28,slow=74,SNR=97						
H10N1	**ASCENSION HYDR**	**6.74**	**199**	T	T	23 00 51.5	
	baz=28,slow=74,SNR=100						
H10N3	**ASCENSION HYDR**	**6.75**	**200**	T	T	23 00 51.3	
	baz=28,slow=74,SNR=121						
H10S3	**ASCENSION HYDR**	**7.84**	**198**	T	T	23 02 11.7	
	baz=25,slow=74,SNR=51						
H10S2	**ASCENSION HYDR**	**7.84**	**198**	T	T	23 02 11.6	
	baz=195,slow=74,SNR=21						
TORD	**Torodi Ar. Bea**	**20.02**	**43**	P	P	22 58 50.9	0.0
	2.6nm,0.7s,baz=213,slow=11,SNR=16						
GERES	**GERESS Array B**	**54.89**	**21**	P	P	23 03 48.2	-0.5
	0.2nm,0.6s,baz=200,slow=7.4,SNR=1.8						
SDV	**Santo Domingo**	**59.09**	**281**	LR	LR	23 27 24.0	
	comp=Z,162nm,22.0s,baz=62,slow=34						
AKASG	**Malin Array Be**	**62.80**	**28**	P	P	23 04 43.9	+0.4
	0.3nm,0.5s,baz=228,slow=5.5,SNR=1.9						

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*KRNET **08** 23:02:14.5±0.1, 40°.89N×69°.21E, h12km, mb4.5*
*MOS **08** 23:02:14.5±1.3, 40°.97N×69°.11E, h16km, mb4.5/13, Error ellipse: s-maj=5.6km s-min=4.2km az=70.8*
*BJI **08** 23:02:15.0±0.0, 40°.85N×69°.18E, h8km, mb4.2/17, mB4.6/7, ML4.0/3, Ms4.0/3, Ms7 4.0/3*
*NNC **08** 23:02:15.1±1.1, 41°.00N×69°.02E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=13.9km s-min=7.0km az=168.0*
*IDC **08** 23:02:15.4±0.8, 40°.84N×69°.18E, h14km±5km, mb3.8/14, mb1 4.0/23, mb1mx3.9/52, mbtmp4.0/23, ML3.5/9, MS3.6/2, Ms1 3.6/2, ms1mx2.8/88, Error ellipse: s-maj=14.2km s-min=8.5km az=170.0*
*SOME **08** 23:02:16.3, 40°.90N×69°.43E, h10km, MS3.9*
*ISU **08** 23:02:16, 40°.92N×69°.11E, h25km*
*NEIC **08** 23:02:16.5±2.2, 40°.95N±0°.05×69°.14E±0°.07, h10km±1km, mb4.3/25, Error ellipse: s-maj=9.5km s-min=8.5km az=282.0*
ISC 08 23:02:15.8±0.5, 40°.96N±0°.02×69°.20E±0°.02, h12km±2km, h12km:pP-P, n272, σ2°34/320, mb4.2/41, 41C-30D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNGY	**Yangiyul**	**0.19**	**321**	*i*P	**Pg**	**23 02 22.0**	**+1.9**
YNGY				*i*S	**Sg**	**23 02 26.0**	**+3.0**
KUMR	**Kumaryk**	**0.25**	**18**	*e*P	**Pb**	**23 02 24.0**	**+1.7**
KUMR				*e*S	**Sb**	**23 02 29.0**	**+2.3**
TAS	**Tashkent**	**0.37**	**11**	PG	**Pb**	**23 02 24.6**	**+0.2**
TAS	**Tashkent**	**0.37**	**11**	*i*P	**Pb**	**23 02 25.0**	**+0.6**
TAS				*e*S	**Sb**	**23 02 32.0**	**+1.8**
TAS	**Tashkent**	**0.37**	**11**	⇓*i*P	**Pg**	**23 02 23.6**	**+0.3**
	baz=9.0						
TAS				⇓*i*S	**Sb**	**23 02 30.1**	**-0.1**
	baz=9.0						
TAS	**Tashkent**	**0.37**	**11**	Pg	**Pb**	**23 02 24.6**	**+0.2**
YBZ	**Yangibazar**	**0.45**	**40**	*i*P	**Pb**	**23 02 27.0**	**+1.3**
YBZ				*e*S	**Sb**	**23 02 35.0**	**+2.6**
TGS	**TashGRES**	**0.52**	**28**	*i*P	**Pg**	**23 02 26.0**	**-0.1**
TGS				*e*S	**Sg**	**23 02 34.0**	**+1.0**
CHMG	**Chimgan**	**0.85**	**46**	*i*P	**Pn**	**23 02 34.0**	**+0.3**
CHMG				*e*S	**Sb**	**23 02 46.0**	**+2.0**
IUG	**Iuzhnay**	**1.34**	**27**	*e*PG	**Pg**	**23 02 42.2**	**+0.6**
IUG				*e*S	**Sn**	**23 03 01.6**	**+3.3**
IUG	**Iuzhnay**	**1.34**	**27**	*e*P	**Pg**	**23 02 42.6**	**+1.0**
	11μm,0.3s						
IUG				*e*S	**Sn**	**23 03 02.3**	**+4.1**
	5μm,0.4s						
IUG	**Iuzhnay**	**1.34**	**27**	*e*P	**Pg**	**23 02 42.3**	**+0.6**
	baz=30						
IUG				*e*S	**Sn**	**23 03 01.6**	**+3.3**
	baz=30						
DZI	**Dzhizak**	**1.34**	**232**	*e*P	**Pn**	**23 02 41.0**	**+0.6**
DZI				*e*S	**Sb**	**23 02 58.0**	**-0.1**
BTK	**Batken**	**1.53**	**126**	PN	**Pn**	**23 02 43.2**	**+0.2**
BTK	**Batken**	**1.53**	**126**	*e*P	**Pn**	**23 02 44.0**	**+1.0**
BTK				*e*S	**Sg**	**23 03 05.0**	**0.0**
BTK	**Batken**	**1.53**	**126**	⇑*e*P	**Pn**	**23 02 42.7**	**-0.3**
	baz=24						
BTK				⇑*i*S	**Sn**	**23 03 02.8**	**-0.1**
	baz=24						
BTK	**Batken**	**1.53**	**126**	Pn	**Pn**	**23 02 43.2**	**+0.2**
TRKS	**Terek-Say**	**1.57**	**68**	⇑*i*P	**Pn**	**23 02 44.6**	**+0.9**
	baz=68						
TRKS				⇑*i*S	**Sg**	**23 03 06.3**	**-0.1**
	baz=68						
FRG	**Fergana**	**2.05**	**106**	*i*P	**Pb**	**23 02 54.0**	**+1.0**
FRG				*e*S	**Sg**	**23 03 23.0**	**+1.2**
BRLS	**Borolday**	**2.12**	**13**	*e*PN	**Pn**	**23 02 49.2**	**-1.9**
BRLS				*e*S	**Sn**	**23 03 15.5**	**-1.9**
BRLS	**Borolday**	**2.12**	**13**	*e*P	**Pn**	**23 02 52.2**	**+1.1**
	128nm,0.3s						
BRLS				*e*S	**Sn**	**23 03 17.5**	**+0.1**
	985nm,0.3s						
BRLS	**Borolday**	**2.12**	**13**	*e*P	**Pn**	**23 02 49.2**	**-1.9**
	baz=14						
BRLS				*e*S	**Sn**	**23 03 15.6**	**-1.9**
	baz=14						
SAM	**Samarkand**	**2.12**	**233**	*i*P	**Pn**	**23 02 52.0**	**+0.8**
SAM				*e*S	**Sg**	**23 03 24.0**	**-0.1**
GAR	**Garm**	**2.14**	**156**		**Pn**	**23 02 52.5**	**+1.0**
ARK	**Arkit**	**2.24**	**67**	*e*P	**Pn**	**23 02 55.0**	**+2.1**
ARK				*e*S	**Sb**	**23 03 25.0**	**+0.9**
ARK	**Arkit**	**2.24**	**67**	⇓*e*P	**Pb**	**23 02 55.5**	**-0.8**
	baz=65						
ARK				⇓*i*S	**Sb**	**23 03 25.4**	**+1.3**
	baz=65						
CHGR	**Chuyangaron**	**2.30**	**181**	PN	**Pn**	**23 02 55.2**	**+1.5**
CHGR	**Chuyangaron**	**2.30**	**181**	⇑*i*P	**Pn**	**23 02 55.1**	**+1.4**
	baz=81						
CHGR				⇑*i*S	**Sn**	**23 03 24.1**	**+2.2**
	baz=81						
CHGR	**Chuyangaron**	**2.30**	**181**		**Pn**	**23 02 54.9**	**+1.3**
KKAR	**Karatay Array**	**2.35**	**24**	PN	**Pn**	**23 02 55.7**	**+1.4**
KKAR	**Karatay Array**	**2.35**	**24**	Pn	**Pn**	**23 02 55.7**	**+1.4**
KK09	**Karatay Array**	**2.37**	**24**	⇑Pn	**Pb**	**23 02 57.7**	**-0.7**
	138nm,0.5s						
KK09				⇓Lg	Lg	23 03 32.3	
	363nm,0.4s						
DRK	**Karamyk**	**2.48**	**126**	⇓*i*P	**Pn**	**23 02 58.0**	**+1.7**
	baz=24						
DRK				⇓*i*S	**Sn**	**23 03 29.4**	**+2.8**
	baz=24						
DRK	**Karamyk**	**2.48**	**126**		**Pn**	**23 02 57.1**	**+0.8**
DZA	**Taraz**	**2.50**	**39**	*e*P	**Pg**	**23 03 03.3**	**-0.5**
	101nm,0.5s						
DZA				*e*S	**Sg**	**23 03 37.0**	**+0.8**
	3μm,0.2s						
NUT	**Nurota**	**2.71**	**263**	*i*P	**Pn**	**23 03 00.0**	**+0.9**
NUT				*e*S	**Sg**	**23 03 41.0**	**-1.7**
OHH	**Osh**	**2.76**	**98**	⇓*e*P	**Pn**	**23 03 02.1**	**+2.2**
	baz=96						
OHH				⇓*i*S	**Sn**	**23 03 36.3**	**+3.1**
	baz=96						
MNAS	**Manas**	**2.91**	**57**	⇑*i*P	**Pn**	**23 03 04.2**	**+2.2**
	baz=56						
MNAS				⇑*i*S	**Sb**	**23 03 41.3**	**-1.9**
	baz=56						
SFK	**Sufi-Kurgan**	**3.42**	**105**	⇑*e*P	**Pn**	**23 03 10.5**	**+1.4**
	baz=3.0						
SFK				⇑*e*S	**Sn**	**23 03 51.7**	**+2.1**
	baz=3.0						
MRKS	**Merke**	**3.50**	**58**	*e*P	**Pb**	**23 03 20.3**	**+2.6**
	105nm,0.5s						
MRKS				*e*S	**Sg**	**23 04 06.2**	**-1.9**
	560n

MRKS Merke 3.50 58 Pg **Pg 23 03 21.1 -1.7**
105nm,0.5s
MRKS Lg Lg 23 04 06.7
560nm,0.4s
SALK Salom-Alik 3.50 90⇑*eP* **Pn 23 03 12.4 +2.2**
baz=89
SALK ⇑*eS* **Sn 23 03 55.2 +3.5**
baz=89
AML Almayashu 3.57 69 P **Pn 23 03 13.0 +1.6**
SNR=26
EKS2 Erkin-Say 3.82 62 P **Pn 23 03 17.3 +2.8**
SNR=121
EKS2 Erkin-Say 3.82 62⇓*iP* **Pn 23 03 17.4 +2.8**
baz=61
EKS2 ⇓*iS* **Sn 23 04 03.1 +3.6**
baz=61
BUXR Bukhara 3.90 253 *i* P **Pn 23 03 16.0 +0.4**
BUXR *eS* **Sg 23 04 19.0 -2.2**
ARLS Aral 3.96 75⇑*eP* **Pn 23 03 19.0 +2.5**
baz=74
ARLS ⇑*iS* **Sn 23 04 06.1 +3.2**
baz=74
UCH Uchtor 4.18 71 P **Pn 23 03 21.4 +1.6**
SNR=29
UCH Uchtor 4.18 71⇓*eP* **Pn 23 03 22.4 +2.6**
baz=70
UCH ⇓*iS* **Sn 23 04 11.9 +3.1**
baz=70
AAK Ala-Archa 4.30 65 Pn **Pn 23 03 23.6 +2.5**
8.9nm,0.3s,baz=218,slow=3.9,SNR=98
AAK Pg **Pg 23 03 35.9 -2.3**
16nm,0.3s,baz=238,slow=11,SNR=13
AAK Lg Lg 23 04 32.5
44nm,0.3s,baz=115,slow=23,SNR=9.3
AAK Ala-Archa 4.30 65 P **Pn 23 03 23.9 +2.7**
SNR=36
AAK Ala-Archa 4.30 65 ⇑Pn **Pn 23 03 23.6 +2.5**
26nm,0.6s
AAK ⇓Pg **Pg 23 03 38.8 +0.6**
52nm,0.5s
AAK ⇑Lg Lg 23 04 38.5
211nm,0.8s
AAK Ala-Archa 4.30 65⇓*iP* **Pn 23 03 23.9 +2.7**
baz=64
AAK ⇓*iS* **Sn 23 04 14.6 +3.3**
baz=64
AAK Ala-Archa 4.30 65 Pn **Pn 23 03 23.8 +2.7**
DZN Dzhankel'dy 4.44 270 *eP* **Pn 23 03 23.0 0.0**
DZN *eS* **Sg 23 04 37.0 -1.4**
FRU1 Bishkek 4.46 64 PN **Pn 23 03 25.8 +2.6**
FRU1 Bishkek 4.46 64⇑*iP* **Pn 23 03 25.9 +2.6**
baz=63
FRU1 ⇑*iS* **Sn 23 04 18.1 +3.1**
baz=63
FRU1 Bishkek 4.46 64 **Pn 23 03 25.8 +2.6**
USP Ospenovka 4.57 58 P **Pn 23 03 26.5 +1.8**
SNR=51
USP Ospenovka 4.57 58⇓*eP* **Pn 23 03 26.9 +2.1**
baz=57
USP ⇓*eS* **Sn 23 04 21.2 +3.5**
baz=57
CHMS Chumysh 4.61 62 P **Pn 23 03 27.3 +1.9**
SNR=15
KBK Karagaybulak 4.62 67 P **Pn 23 03 28.2 +2.6**
SNR=52
SGDS Sogindy 4.74 57 *eP* **Pn 23 03 28.7 +1.5**
baz=56
BOOM Boomskoye usch 5.27 71 PN **Pn 23 03 37.0 +2.5**
BOOM Boomskoye usch 5.27 71⇑*iP* **Pn 23 03 36.7 +2.2**
baz=70
BOOM ⇑*iS* **Sn 23 04 37.9 +2.6**
baz=70
BOOM Boomskoye usch 5.27 71 **Pn 23 03 37.0 +2.5**
KSH Kashi 5.38 103 Pn **Pn 23 03 35.3 -0.7**
KSH Sg **Sb 23 04 52.5 -1.9**
KSH smax smax
comp=N,250nm,0.7s
KSH smax smax
comp=E,230nm,0.7s
DGS Degeres 5.39 63 *eP* **Pb 23 03 54.6 +4.6**
46nm,0.4s
DGS *eS* **Sg 23 05 04.7 -4.2**
252nm,0.6s
DGS Degeres 5.39 63 Pg **Pb 23 03 54.6 +4.6**
46nm,0.4s
DGS Lg Lg 23 05 04.7
252nm,0.6s
BTLS Baital 5.41 39 *i* PN **Pn 23 03 38.1 +1.9**
BTLS Baital 5.41 39 *eP* **Pg 23 03 56.1 -3.2**
48nm,0.4s
BTLS *eS* **Sg 23 05 07.7 -1.7**
260nm,0.7s
BTLS Baital 5.41 39 *i* P **Pn 23 03 38.2 +1.9**
baz=40
BTLS Baital 5.41 39 Pg **Pg 23 03 56.1 -3.2**
48nm,0.4s
BTLS Lg Lg 23 05 07.7
260nm,0.7s
ULHL Ulahol 5.43 74 P **Pn 23 03 38.7 +1.9**
SNR=22
KST Kastek 5.45 65 *eP* **Pb 23 03 55.4 +4.4**
63nm,0.8s
KST *eS* **Sg 23 05 06.6 -4.2**
397nm,0.9s
KST Kastek 5.45 65 *eP* **Pn 23 03 38.7 +1.7**
baz=65
KST Kastek 5.45 65 Pg **Pb 23 03 55.4 +4.4**
63nm,0.8s
KST Lg Lg 23 05 06.6
397nm,0.9s
KRBS Karabastau 5.52 58 *eP* Pb 23 03 57.1 +4.9
35nm,0.8s
KRBS *eS* **Sg 23 05 08.6 -4.5**
187nm,0.6s
KRBS Karabastau 5.52 58 Pg Pb 23 03 57.1 +4.9
35nm,0.8s
KRBS Lg Lg 23 05 08.6
187nm,0.6s
MTBS Maitube 5.80 66 *eP* **Pg 23 04 02.5 -4.4**
15nm,0.4s
MTBS *eS* **Sg 23 05 18.5 -3.6**
192nm,0.8s
MTBS Maitube 5.80 66 Pg **Pg 23 04 02.5 -4.4**
15nm,0.4s
MTBS Lg Lg 23 05 18.5
192nm,0.8s
KUU Kurty 6.04 59⇑*i*PN **Pn 23 03 46.1 +1.1**
KUU Kurty 6.04 59 *eP* Pb 23 04 06.0 +5.1
37nm,0.4s
KUU *eS* **Sg 23 05 24.3 -5.3**
266nm,0.7s
KUU Kurty 6.04 59⇑*iP* **Pn 23 03 46.1 +1.1**
baz=59
KUU Kurty 6.04 59 Pg Pb 23 04 06.0 +5.1
37nm,0.4s
KUU Lg Lg 23 05 24.3
266nm,0.7s
TNSS Tian-Shan 6.13 68 *eP* **Pg 23 04 10.0 -3.3**
43nm,0.5s
TNSS *eS* **Sg 23 05 30.6 -2.1**
88nm,0.8s
TNSS Tian-Shan 6.13 68⇑*iP* **Pn 23 03 48.9 +2.3**
baz=67
KTBS Karatobe 6.19 61 *eP* **Pg 23 04 10.1 -4.2**
38nm,0.6s
KTBS *eS* **Sg 23 05 30.6 -3.9**
243nm,0.7s
KTBS Karatobe 6.19 61 Pg **Pg 23 04 10.1 -4.2**
38nm,0.6s
KTBS Lg Lg 23 05 30.6
243nm,0.7s
KNDC Almaty 6.20 66⇑Pg **Pg 23 04 12.3 -2.3**
132nm,0.8s
KNDC ⇑Lg Lg 23 05 36.1
486nm,0.8s
MDOK Medeo 6.24 67 *e*PN **Pn 23 03 49.5 +1.6**
MDOK Medeo 6.24 67 *eP* **Pg 23 04 11.3 -4.1**
27nm,0.5s
MDOK *eS* **Sg 23 05 33.1 -3.1**
108nm,0.7s
MDOK Medeo 6.24 67 *eP* **Pn 23 03 49.6 +1.6**
baz=66
MDOK Medeo 6.24 67⇑Pn **Pn 23 03 49.5 +1.6**
14nm,0.5s
MDOK ⇑Pg **Pg 23 04 12.0 -3.3**
30nm,0.6s
MDOK ⇓Lg Lg 23 05 38.5
106nm,0.6s

MDOK Medeo 6.24 67 Pg **Pg 23 04 11.3 -4.1**
27nm,0.5s
MDOK Lg Lg 23 05 33.1
108nm,0.7s
KOTS Kotyrbulak 6.31 66 *eP* Pg 23 04 11.6 -5.0
16nm,0.6s
KOTS *eS* **Sg 23 05 33.7 -4.6**
218nm,0.8s
KOTS Kotyrbulak 6.31 66 Pg Pg 23 04 11.6 -5.0
16nm,0.6s
KOTS Lg Lg 23 05 33.7
218nm,0.8s
KBL Kabul 6.41 181 PN **Pn 23 03 50.8 +0.6**
KBL Kabul 6.41 181 Pn **Pn 23 03 50.8 +0.6**
CHKK Chushkaly 6.45 61 *eP* Pb 23 04 13.6 +5.6
16nm,0.5s
CHKK *eS* **Sg 23 05 37.5 -5.3**
143nm,0.9s
CHKK Chushkaly 6.45 61 *eP* **Pn 23 03 51.7 +1.1**
baz=61
CHKK Chushkaly 6.45 61 Pg Pb 23 04 13.6 +5.6
16nm,0.5s
CHKK Lg Lg 23 05 37.5
143nm,0.9s
TARG Taragay, Kyrgy 6.52 80 Pn **Pn 23 03 53.0 +1.1**
PRZ Przheval'sk 7.05 75 PN **Pn 23 04 01.3 +2.3**
PRZ Przheval'sk 7.05 75 Pn **Pn 23 04 01.3 +2.3**
ARXS Arharly 7.15 60 *eP* **Pn 23 04 00.7 +0.5**
SATY Saty 7.17 70 *eP* Pb 23 04 26.9 +6.6
12nm,0.5s
SATY *eS* **Sg 23 06 00.2 -5.7**
67nm,1.4s
SATY Saty 7.17 70 Pg Pb 23 04 26.9 +6.6
12nm,0.5s
SATY Lg Lg 23 06 00.2
67nm,1.4s
ZHN Zhinishke 7.22 69 *i* P **Pn 23 04 03.2 +2.0**
ZHN Zhinishke 7.22 69 *eP* Pb 23 04 27.4 +6.3
6.5nm,0.3s
ZHN *eS* **Sg 23 06 01.5 -5.9**
30nm,1.5s
ZHN Zhinishke 7.22 69 *i* P **Pn 23 04 03.2 +2.0**
baz=69
ZHN Zhinishke 7.22 69 Pg Pb 23 04 27.3 +6.3
6.5nm,0.3s
ZHN Lg Lg 23 06 01.5
30nm,1.5s
UZB Uzynbulak 7.63 70 *eP* **Pn 23 04 08.3 +1.4**
UZB Uzynbulak 7.63 70 *eP* Pg 23 04 35.8 -6.1
9.4nm,0.5s
UZB *eS* **Sg 23 06 15.7 -4.9**
55nm,0.9s
UZB Uzynbulak 7.63 70 *eP* **Pn 23 04 08.3 +1.4**
baz=70
UZB Uzynbulak 7.63 70 Pg Pg 23 04 35.8 -6.1
9.4nm,0.5s
UZB Lg Lg 23 06 15.7
55nm,0.9s
TDK Taldyqorghan 7.87 56 *eP* **Pn 23 04 12.5 +2.5**
TDK Taldyqorghan 7.87 56 *eP* Pb 23 04 39.5 +7.4
36nm,0.7s
TDK *eS* **Sg 23 06 21.6 -6.5**
423nm,1.1s
TDK Taldyqorghan 7.87 56 *eP* **Pn 23 04 12.6 +2.5**
baz=56
TDK Taldyqorghan 7.87 56 Pg Pb 23 04 39.5 +7.4
36nm,0.7s
TDK Lg Lg 23 06 21.6
423nm,1.1s
SHLS Shalkode 7.95 71 *eP* Pn 23 04 16.8 +5.6
SHLS Shalkode 7.95 71 *eP* **Pg 23 04 48.5 +0.7**
6.9nm,0.8s
SHLS *eS* **Sg 23 06 37.0 +6.3**
63nm,0.6s
SHLS Shalkode 7.95 71 *eP* Pn 23 04 16.8 +5.6
baz=71
SHLS Shalkode 7.95 71 Pg **Pg 23 04 48.5 +0.7**
6.9nm,0.8s
SHLS Lg Lg 23 06 37.0
63nm,0.6s
NIL Nilore 7.98 155 P **Pn 23 04 12.2 +0.6**
NIL Nilore 7.98 155 Pn **Pn 23 04 12.2 +0.6**
DJR Jarkent 8.50 63 *eP* Pg 23 04 52.1 -6.4
5.2nm,0.7s
DJR *eS* **Sg 23 06 43.4 -5.1**
46nm,1.0s
DJR Jarkent 8.50 63 Pg Pg 23 04 52.1 -6.4
5.2nm,0.7s
DJR Lg Lg 23 06 43.4
46nm,1.0s
HRA Herat 8.57 222 Pn **Pn 23 04 19.3 -0.5**
KAPS Kapalarasan 8.59 56 *eP* Pg 23 04 52.7 -7.5
6.6nm,0.5s
KAPS *eS* **Sg 23 06 44.2 -7.2**
93nm,0.8s
KAPS Kapalarasan 8.59 56 Pg Pg 23 04 52.7 -7.5
6.6nm,0.5s
KAPS Lg Lg 23 06 44.2
93nm,0.8s
GEYT Alibeck 9.09 254 Pn **Pn 23 04 25.0 -1.8**
1.4nm,0.3s,baz=96,slow=14,SNR=8.2
GEYT Sn **Sn 23 06 01.9 -7.2**
3.1nm,0.3s,baz=55,slow=24,SNR=1.7
GEYT Alibeck 9.09 254 **Pn 23 04 25.7 -1.2**
GYA0 ALIBECK ARRAY 9.09 254 P **Pn 23 04 25.9 -1.0**
GYA0 S **Sn 23 06 07.9 -1.2**
GYA0B ALIBECK ARRAY 9.09 254⇓Pn **Pn 23 04 25.9 -1.0**
GYA0B ⇑Sn **Sn 23 06 07.1 -2.0**
GYA0B ALIBECK ARRAY 9.09 254 **Pn 23 04 26.2 -0.6**
BRZS Berezniki 9.35 14 *eP* **Pn 23 04 31.0 +0.8**
BRZS Berezniki 9.35 14 *eP* **Pn 23 04 31.1 +0.8**
baz=14
DHRM DHARAMSHALA 10.39 145 *eP* **Pn 23 04 42.2 -2.7**
AB31 Akbulak array 10.56 325 *i* P **Pn 23 04 45.0 -1.8**
AB31 pmax pmax
comp=Z,7.0nm,0.4s
AB31 Akbulak array 10.56 325⇓Pn **Pn 23 04 44.8 -2.0**
comp=Z,6.9nm,0.5s,baz=170,slow=10,SNR=296
AB31 ⇑Sn **Sn 23 06 41.9 -3.0**
comp=Z,19nm,0.5s
ABKAR Akbulak array 10.56 325 Pn **Pn 23 04 44.8 -2.1**
ABKAR Akbulak array 10.56 325 Pn **Pn 23 04 45.1 -1.7**
MAKZ Makanchi 10.91 53 P **Pn 23 04 52.3 +0.5**
MAKZ Makanchi 10.91 53⇓Pn **Pn 23 04 52.0 +0.3**
comp=Z,3.4nm,0.8s
MAKZ ⇓Lg Lg 23 08 06.4
comp=Z,43nm,0.8s
MAKZ Makanchi 10.91 53 Pn **Pn 23 04 52.3 +0.5**
MK31 Makanchi Array 11.10 54*d i*P **Pn 23 04 54.8 +0.5**
MK31 Makanchi Array 11.10 54⇓Pn **Pn 23 04 54.8 +0.5**
comp=Z,2.2nm,0.6s,baz=238,slow=15,SNR=77
MK31 ⇓Lg Lg 23 08 11.9
comp=Z,18nm,0.6s,baz=241,slow=28,SNR=4.7
MK31 Makanchi Array 11.10 54 Pn **Pn 23 04 54.8 +0.5**
MKAR Makanchi Array 11.10 54 Pn **Pn 23 04 54.8 +0.5**
comp=Z,1.0nm,0.3s,baz=238,slow=14,SNR=57
MKAR Lg Lg 23 08 04.2
comp=Z,2.2nm,0.3s,baz=239,slow=28,SNR=5.7
MKAR Makanchi Array 11.10 54 *i* P **Pn 23 04 54.7 +0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
KURBB Kurchatov Arra 11.64 31 Pn **Pn 23 04 59.9 -1.8**
comp=Z,0.1nm,0.3s,baz=223,slow=13,SNR=16
KURBB Lg Lg 23 08 23.4
comp=Z,0.4nm,0.3s,baz=216,slow=28,SNR=6.9
KURBB Kurchatov Arra 11.64 31 P **Pn 23 05 02.0 +0.3**
KURBB Kurchatov Arra 11.64 31⇑Pn **Pn 23 05 02.0 +0.3**
comp=Z,5.2nm,1.1s
KURBB ⇑Lg Lg 23 08 28.1
comp=Z,89nm,0.7s
KURK Kurchatov 11.75 31⇑*eP* **Pn 23 05 02.1 -1.0**
KURK pmax pmax
comp=Z,2.0nm,1.2s
KURK Kurchatov 11.75 31 ⇑Lg Lg 23 08 28.2
comp=Z,73nm,0.9s
KURK Kurchatov 11.75 31 **Pn 23 05 02.2 -0.9**
BVAR Borovoye Array 12.10 3 Pn **Pn 23 05 06.7 -1.2**
comp=Z,1.0nm,0.3s,baz=181,slow=12,SNR=14
BVAR Sn **Sn 23 07 17.1 -5.5**
comp=Z,1.4nm,0.3s,baz=184,slow=21,SNR=2.7
BRVK Borovoye 12.12 3⇑*eP* **Pn 23 05 08.0 -0.3**
BRVK pmax pmax
comp=Z,1.0nm,0.2s
BRVK Borovoye 12.12 3 Pn **Pn 23 05 08.2 0.0**
SEM Semipalatinsk 12.19 36 *eP* **Pn 23 05 09.6 +0.2**
SEM Semipalatinsk 12.19 36 *eP* **Pn 23 05 09.6 +0.2**

baz=36
AKTO Aktyubinsk 12.27 324 Pn **Pn 23 05 08.4 -1.9**
comp=Z,1.0nm,0.3s,baz=142,slow=14,SNR=7.1
AKTO Sn Sn 23 07 19.1 -7.7
comp=Z,2.0nm,0.3s,baz=348,slow=22,SNR=8.3
AKTO Lg Lg 23 08 45.5
comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=1.1
AKTO Aktyubinsk 12.27 324⇓Pn **Pn 23 05 09.9 -0.3**
comp=Z,3.7nm,0.5s
AKTO ⇑Sn **Sn 23 07 22.7 -4.1**
comp=Z,16nm,0.6s
WMQ Urumqi 13.97 72 *eP* **Pn 23 05 38.0 +4.5**
DGZ Jazzator, Alta 15.48 50⇓*eP* **Pn 23 05 53.2 -0.9**
DGZ pmax pmax
comp=Z,1.0nm,0.5s
MAK Makhachkala 16.26 284 *eP* **Pn 23 06 02.1 -1.8**
MAK *eS* **Sn 23 09 03.4 -0.7**
MAK pmax pmax
comp=Z,492nm,2.4s
MAK MLR MLR
comp=Z,281nm,11.0s
ZAA0 Zalesovo Array 16.69 34 **Pn 23 06 09.7 +0.3**
ZALV Zalesovo Beam 16.69 34 Pn **Pn 23 06 09.3 0.0**
comp=Z,0.7nm,0.3s,baz=232,slow=12,SNR=22
ZALV Zalesovo Beam 16.69 34 *i* P **P 23 06 12.3 +0.6**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 16.69 34 **Pn 23 06 10.3 +0.9**
SVE Sverdlovsk 16.82 344 *eP* **Pn 23 06 12.5 +1.5**
SVE *eS* **Sn 23 09 10.5 -7.2**
ARU Arti 16.96 339 P **Pn 23 06 12.1 -0.7**
comp=Z,0.0nm,0.3s,baz=102,slow=13,SNR=4.4
ARU Sn Sn 23 09 09.0 -12
comp=Z,0.0nm,0.3s,baz=82,slow=23,SNR=3.7
ARU Lg Lg 23 11 19.6
baz=133,slow=19,SNR=3.5
ARU Arti 16.96 339 P **Pn 23 06 10.7 -2.1**
ARU S **Sn 23 09 19.9 -1.2**
ARU Arti 16.96 339 Pn **Pn 23 06 12.1 -0.7**
PYUN Piuthan 17.11 134 *eP* **Pn 23 06 09.4 -5.6**
comp=Z,39nm,0.4s
DANN Dangsing 17.34 132 *eP* **Pn 23 06 13.5 -4.5**
comp=Z,16nm,0.6s
KOLN Koldanda 17.70 134 *eP* **Pn 23 06 18.1 -4.3**
comp=Z,6.8nm,0.4s
GKN Gorkha 18.10 131 *eP* **Pn 23 06 23.8 -3.5**
comp=Z,51nm,0.4s
GNI Garni 18.59 276 P **P 23 06 32.5 -0.5**
GNI pmax pmax
comp=Z,27nm,1.2s
GNI Garni 18.59 276 P **P 23 06 32.5 -0.5**
GNI lAmb lAmb 23 06 51.5
comp=Z,27nm,1.1s
KKN Kakani 18.64 130 *eP* **P 23 06 30.9 -2.7**
comp=Z,20nm,0.5s
DMN Daman 18.67 131 *eP* **P 23 06 31.0 -3.0**
PKIN Phulchoki 18.86 130 *eP* **P 23 06 33.6 -2.5**
comp=Z,6.0nm,0.3s
PKI Pulchoki 18.88 130 *eP* **P 23 06 34.6 -1.7**
comp=Z,8.5nm,0.4s
GUN Gumba 18.90 128 *eP* **P 23 06 35.1 -1.5**
comp=Z,29nm,0.5s
BHPL Bhopal 18.97 156 *eP* **P 23 06 36.5 -0.6**
NCK Nalchik 19.11 286⇓*eP* **P 23 06 38.1 -0.3**
NCK pmax pmax
comp=Z,6.0nm,0.9s
ONI Oni 19.25 283 P **P 23 06 40.1 0.0**
ONI pmax pmax
comp=Z,6.0nm,1.0s
ONI Oni 19.25 283 P **P 23 06 40.1 0.0**
KBZ Khabaz 19.61 287 P **P 23 06 44.3 +0.4**
comp=Z,0.4nm,0.3s,baz=152,slow=10,SNR=9.5
KBZ Khabaz 19.61 287⇑*eP* **P 23 06 42.7 -1.2**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 19.76 288 *i* P **P 23 06 46.4 +0.7**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 19.76 288 P **P 23 06 46.4 +0.7**
KIV lAmb lAmb 23 06 58.2
comp=Z,16nm,0.7s
GOMU GeErMu 20.55 95 P **P 23 06 54.7 +0.1**
GOMU pmax pmax
comp=Z,1.0nm,0.5s
SIRT Sirnak 20.98 269 P **P 23 06 58.0 -1.0**
LSA Lhasa 21.08 115 P **P 23 07 01.3 +0.8**
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 21.08 115 P **P 23 07 01.3 +0.8**
LSA lAmb lAmb 23 07 06.3
comp=Z,6.9nm,0.8s
VRH Novokhopyorsk 21.52 308 *eP* **P 23 07 06.7 +2.2**
VRH pmax pmax
comp=Z,20nm,0.6s
KIRV Kirov 21.64 331 P **P 23 07 08.9 +3.3**
comp=Z,6.5nm,0.5s,baz=115,slow=7.4,SNR=4.4
KIRV Kirov 21.64 331⇑*eP* **P 23 07 05.4 -0.2**
BOK Bokaro 22.11 136 *eP* **P 23 07 10.4 -0.7**
BOK lAmb lAmb 23 07 12.9
comp=Z,12nm,0.6s
VORD Divnogorie 22.93 306 *eP* **P 23 07 22.7 +3.2**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 23.07 307 *eP* **P 23 07 21.7 +0.8**
VSR pmax pmax
comp=Z,7.0nm,0.5s
GTA Gaotai 23.39 84 *eP* **P 23 07 25.1 +0.6**
GTA pP sP 23 07 32.5 +2.8
GTA sP pP 23 07 36.5 +8.4
GTA pmax pmax
comp=Z,3.0nm,1.2s
LPSR Galich'ya Gora 23.59 310 *eP* **P 23 07 25.9 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
SHL Shillong 24.30 122 P **P 23 07 32.1 -1.3**
ZAK Zakamensk 25.41 57 *eP* **P 23 07 42.2 -1.0**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
KOHI KOHIMA 25.65 119 *eP* **P 23 07 45.5 -0.1**
KLMR Klimovskoe 26.93 328 *eP* **P 23 07 57.2 +0.5**
KLMR pmax pmax
comp=Z,17nm,1.4s
KLMR Klimovskoe 26.93 328 *eP* **P 23 07 57.2 +0.5**
KLMR AMP 23 08 06.0
comp=Z,17nm,1.4s
BR131 Keskin Array S 27.02 279 P **P 23 07 56.5 -1.4**
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 27.02 279 P **P 23 07 56.5 -1.4**
BR131 lAmb lAmb 23 08 03.2
comp=Z,4.4nm,0.8s
BRTR Keskin Array B 27.02 279 P **P 23 07 58.2 +0.4**
comp=Z,1.5nm,0.6s,baz=76,slow=7.5,SNR=1.6
BRTR pP **sP** 23 08 02.5 -0.7
comp=Z,1.4nm,0.6s,baz=92,slow=7.2,SNR=5.5
BRTR Keskin Array B 27.02 279 P **P 23 07 57.6 -0.3**
SONM Songino Array 27.25 63 P **P 23 08 00.5 +0.7**
comp=Z,0.9nm,0.7s,baz=269,slow=9.5,SNR=6.7
SONM Songino Array 27.25 63 P **P 23 08 00.8 +1.0**
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 27.25 63 P **P 23 08 00.8 +1.0**
ULN Ulaanbaatar 27.69 63⇑*eP* **P 23 08 04.7 +0.9**
ULN pmax pmax
comp=Z,6.0nm,1.6s
AKASG Malin Array Be 29.19 303 P **P 23 08 17.4 +0.5**
comp=Z,0.4nm,0.6s,baz=77,slow=7.6,SNR=7.3
HHC Hu-ho-hao-te 31.79 76 *eP* **P 23 08 42.2 +2.1**
HHC pmax pmax
comp=Z,11nm,1.0s
BURAR Bucovina Array 31.84 297 P **P 23 08 43.2 +2.7**
ALN Alexandroupoli 32.36 284 P **P 23 08 46.5 +1.5**
ALN pmax pmax
comp=Z,6.0nm,1.1s
ALN Alexandroupoli 32.36 284 P **P 23 08 46.5 +1.5**
ALN lAmb lAmb 23 09 03.4
comp=Z,6.4nm,1.1s
LVZ Lovozero 32.80 337 P **P 23 08 49.7 +1.1**
LVZ pmax pmax
comp=Z,12nm,1.1s
LVZ Lovozero 32.80 337 P **P 23 08 49.7 +1.1**
FIA1 FINESS Array S 33.04 323 P **P 23 08 50.6 0.0**
FINES FINESS Array B 33.04 323 P **P 23 08 50.5 -0.2**
comp=Z,2.3nm,0.6s,baz=118,slow=7.5,SNR=12
FINES FINESS Array B 33.04 323 *i* P **P 23 08 53.5 +2.8**

FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 33.04 323 P **P** **23 08 50.6 0.0**
CMAR Chiang Mai Arr 33.94 122 P **P** **23 08 57.9 -1.1**
comp=Z,1.0nm,0.3s,baz=327,slow=9.7,SNR=4.5
DIVS Divibare 35.97 292 P **P** **23 09 17.6 +1.3**
DIVS IAmb IAmb 23 09 21.9
comp=Z,1.5nm,0.8s
ARCES ARCESS Array B 36.50 336 P **P** **23 09 20.5 0.0**
comp=Z,3.3nm,0.9s,baz=104,slow=7.7,SNR=6.4
ARCES pP **sP** **23 09 24.7 -1.2**
comp=Z,5.7nm,1.1s,baz=98,slow=7.5,SNR=2.1
ARCES ARCESS Array B 36.50 336 P **P** **23 09 23.4 +2.9**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 36.50 336 P **P** **23 09 23.4 +2.9**
ARCES IAmb IAmb 23 09 34.3
comp=Z,4.6nm,0.9s
ITM Ithomi 36.55 280 P **P** **23 09 20.9 -0.4**
DPC Dobruska-Polom 37.42 303 *eP* **P** **23 09 33.0 +4.4**
DPC Dobruska-Polom 37.42 303 *eP* **P** **23 09 33.0 +4.4**
CKRC Cesky Krumlov 38.93 301 *eP* P 23 09 46.9 +5.6
GERES GERESS Array B 39.32 301 pP pP 23 09 49.0 +0.5
comp=Z,0.9nm,0.5s,baz=54,slow=9.2,SNR=7.9
GERES GERESS Array B 39.32 301 P **P** **23 09 47.4 +2.7**
GERES GERESS Array B 39.32 301 P **P** **23 09 47.4 +2.7**
KHC Kasperske Hory 39.35 301 *eP* **P** **23 09 48.7 +3.8**
KHC Kasperske Hory 39.35 301 *eP* **P** **23 09 48.7 +3.8**
KHC Kasperske Hory 39.35 301 P **P** **23 09 45.9 +1.1**
KHC IAmb IAmb 23 09 50.8
comp=Z,3.1nm,0.6s
NC303 NORSAR Array S 39.95 320 P **P** **23 09 50.6 +1.0**
NC303 IAmb IAmb 23 09 57.5
comp=Z,4.7nm,0.9s
NB201 NORSAR Array S 39.98 320 P **P** **23 09 52.6 +2.7**
NB201 IAmb IAmb 23 10 09.2
comp=Z,6.7nm,0.9s
NB2 NORSAR Subarra 40.02 320 P **P** **23 09 50.2 0.0**
comp=Z,5.2nm,1.0s,baz=94,slow=8.6
NOA NORSAR Array B 40.02 320 P **P** **23 09 50.4 +0.2**
comp=Z,1.7nm,0.7s,baz=100,slow=8.0,SNR=5.8
NOA LR LR 23 25 58.5
comp=Z,38nm,18.2s,baz=280,slow=36
NBO00 NORSAR Array S 40.23 320 P **P** **23 09 53.3 +1.3**
NRCA Norcia 41.13 292 P **P** **23 10 01.4 +1.6**
NRCA IAmb IAmb 23 10 07.6
comp=Z,9.2nm,1.1s
YAK Yakutsk 41.25 38 *eP* **P** **23 10 00.5 +0.1**
YAK *e**PP **sP** **23 10 06.0 +0.2**
YAK *e* 23 11 59.2
YAK *e*S **S** **23 16 15.0 +1.3**
YAK *e**SS **sS** **23 16 24.2 +4.1**
YAK *e* 23 20 04.3
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=E,95nm,4.8s
YAK smax smax
comp=N,52nm,4.5s
YAK Yakutsk 41.25 38 P **P** **23 10 00.1 -0.3**
TIXI Tiksi 42.22 24 *eP* **P** **23 10 08.3 +0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 42.22 24 P **P** **23 10 08.7 +0.5**
TIXI IAmb IAmb 23 10 09.3
comp=Z,3.6nm,0.6s
KEST Kesra 46.44 284 pP pP 23 10 47.0 +0.6
comp=Z,2.9nm,0.7s,baz=63,slow=14,SNR=3.5
KEST Kesra 46.44 284 P **P** **23 10 44.7 +2.1**
KEST IAmb IAmb 23 10 55.7
comp=Z,4.5nm,1.1s
DGAR Diego Garcia 48.23 176 *eP* **P** **23 10 54.9 -1.5**
DGAR pmax pmax
comp=Z,86nm,1.7s
ESDC Sonseca Array 54.23 294 pP pP 23 11 45.3 -0.1
comp=Z,1.5nm,0.8s,baz=59,slow=6.3,SNR=7.4
ESDC Sonseca Array 54.23 294 **P** **23 11 43.5 +2.0**
BILL Bilibino 55.25 27 *i* P **P** **23 11 50.3 +2.0**
BILL pmax pmax
comp=Z,3.0nm,1.3s
TORD Torodi Ar. Bea 64.54 265 P **P** **23 12 51.3 -1.7**
comp=Z,0.4nm,0.8s,baz=42,slow=6.3,SNR=1.9
TORD pP **pP** **23 12 56.2 -0.7**
comp=Z,1.0nm,0.8s,baz=57,slow=6.1,SNR=5.7
INK Inuvik 69.73 9 P **P** **23 13 25.0 0.0**
comp=Z,0.6nm,0.6s,baz=1,8,slow=7.9,SNR=3.7
ILAR Eielson Array 70.87 15 P **P** **23 13 31.8 -0.3**
comp=Z,0.2nm,0.7s,baz=329,slow=5.4,SNR=2.5
YKA Yellowknife Ar 76.85 2 P **P** **23 14 06.8 -0.3**
comp=Z,1.5nm,0.7s,baz=352,slow=6.2,SNR=20
YKA Yellowknife Ar 76.85 2 *i* P **P** **23 14 07.1 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.7s
LBTB Lobatse 77.12 220 LR LR 23 49 06.6
comp=Z,65nm,20.3s,baz=42,slow=36
SCHQ Schefferville 77.45 336 P **P** **23 14 10.8 +0.1**
comp=Z,2.6nm,1.0s,baz=67,slow=7.7,SNR=1.8
WRA Warramunga Arr 85.52 121 P **P** **23 14 52.2 -1.6**
comp=Z,0.9nm,0.7s,baz=323,slow=4.6,SNR=14
WRAB Tennant Creek 85.52 121 *ceP* **P** **23 14 53.0 -0.8**
WRAB pmax pmax
comp=Z,8.0nm,2.5s
ASAR Alice Springs 87.93 124 P **P** **23 15 04.0 -1.6**
comp=Z,0.6nm,0.7s,baz=312,slow=4.8,SNR=11
ASAR Alice Springs 87.93 124 P **P** **23 15 04.0 -1.6**

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*IDC **08** 23:14:41.0±3.2, 14°.53N×93°.65W, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.7/31, mbtmp3.7/7, ML3.6/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/65, Error ellipse: s-maj=100.5km s-min=44.1km az=41.0*
*MEX **08** 23:14:41.7±0.4, 14°.29N×93°.94W, h8km±41km, MD4.2*
ISC 08 23:14:41.7±2.5, 14°.49N±0°.09×93°.77W±0°.05, h6km±13km, n19, σ1°55/27, mb3.7/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.32**	**24**	*eP*	**Pg**	**23 15 06.4**	**-0.7**
PCIG				*eS*	**Sn**	**23 15 24.8**	**+0.1**
THIG		**1.52**	**74**	*eP*	**Pn**	**23 15 09.3**	**0.0**
THIG				*eS*	**Sn**	**23 15 29.4**	**0.0**
PATR	**El Naranjo**	**1.61**	**67**	*eP*	**Pn**	**23 15 10.4**	**-0.6**
PATR				*eS*	**Sg**	**23 15 34.1**	**+0.5**
PAVE	**Pavencul**	**1.70**	**65**	*eP*	**Pn**	**23 15 11.8**	**-0.3**
PAVE				*eS*	**Sb**	**23 15 35.0**	**-0.1**
CHUJ	**Union Juarez**	**1.72**	**69**	*eP*	**Pn**	**23 15 12.0**	**-0.4**
CHUJ				*eS*	**Sn**	**23 15 31.6**	**-3.3**
TGIG		**2.36**	**15**	*eP*	**Pn**	**23 15 22.9**	**+1.8**
TGIG				*eS*	**Sb**	**23 15 53.5**	**-0.7**
CCIG	**Comitan**	**2.38**	**41**	*eP*	**Pn**	**23 15 23.7**	**+2.2**
CCIG				*eS*	**Sb**	**23 15 53.3**	**-1.6**
HUIG	**Huatulco**	**2.59**	**300**	*eS*	Sn	23 15 46.9	-9.2
CMIG	**Matias Romero**	**2.80**	**338**	Pn	**Pn**	**23 15 26.0**	**-1.1**
	5.4nm,0.3s,baz=163,slow=11,SNR=38						
CMIG				Sn	**Sn**	**23 15 58.5**	**-2.8**
	13nm,0.3s,baz=18,slow=19,SNR=9.4						
CMIG	**Matias Romero**	**2.80**	**338**	*eP*	**Pn**	**23 15 25.9**	**-1.1**
CMIG				*eS*	**Sn**	**23 15 58.2**	**-3.0**
UXUV	**UXUV**	**2.84**	**353**	*eP*	**Pn**	**23 15 28.9**	**+1.4**
UXUV				*eS*	**Sn**	**23 16 03.4**	**+1.3**
TXAR	**Lajitas Array**	**17.38**	**330**	Pn	**P**	**23 18 48.5**	**+2.0**
	0.1nm,0.3s,baz=144,slow=12,SNR=4.0						
ELK	**Elko**	**32.17**	**329**	**P**	**P**	**23 21 10.6**	**+0.1**
	0.6nm,0.6s,baz=164,slow=6.3,SNR=4.0						
NVAR	**Mina Array Bea**	**32.23**	**322**	**P**	**P**	**23 21 13.0**	**+1.9**
	0.7nm,0.7s,baz=134,slow=7.7,SNR=6.3						
SIV	**San Ignacio**	**44.28**	**132**	LR	LR	23 40 57.5	
	comp=Z,80nm,18.7s,baz=112,slow=36						
YKA	**Yellowknife Ar**	**50.17**	**348**	P	**P**	**23 23 37.5**	**-0.4**
	1.9nm,0.6s,baz=155,slow=7.3,SNR=28						
ILAR	**Eielson Array**	**61.72**	**337**	P	**P**	**23 25 00.2**	**-0.4**
	0.6nm,1.0s,baz=148,slow=5.3,SNR=6.2						
NOA	**NORSAR Array B**	**84.53**	**28**	P	**P**	**23 27 16.4**	**+0.8**
	0.7nm,0.9s,baz=295,slow=5.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**144.95**	**339**	PKP	**PKPab**	**23 34 19.3**	**-0.6**
	0.3nm,0.3s,baz=340,slow=4.1,SNR=1.4						

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*UCR **08** 23:35:44.5±1.0, 10°.10N×86°.00W, h10km, MW4.0*
*INET **08** 23:35:46.5±0.8, 10°.04N×85°.87W, h31km±367km, ML2.9*
*IDC **08** 23:35:48.0±24.0, 11°.31N×85°.29W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/23, mbtmp3.6/5, Error ellipse: s-maj=481.3km s-min=58.9km az=172.0*
ISC 08 23:35:41.8±1.9, 10°.05N±0°.06×86°.13W±0°.08, h25km±11km, n36, σ0°86/40, mb3.4/5, 10C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAJU	**San Juanillo,**	**0.41**	**87**	*eP*	**Pb**	**23 35 50.7**	**+0.2**
SAJU				*eS*	**Sb**	**23 35 55.4**	**-1.1**
INDI	**Punta indio, G**	**0.64**	**106**	*eP*	**Pn**	**23 35 55.2**	**-0.1**
INDI				*eS*	**Sb**	**23 36 04.3**	**+1.4**
GUAI	**GUAI**	**0.65**	**70**	↓*iP*	**Pb**	**23 35 54.5**	**0.0**
GUAI				*i* S	**Sb**	**23 36 02.2**	**-0.8**
HZTE	**Horizontes, Gu**	**0.84**	**38**	*eP*	**Pn**	**23 35 58.9**	**+0.8**
GBS3	**Finca Las Img**	**0.98**	**42**	↑*iP*	**Pb**	**23 36 00.7**	**+0.5**
LAPC	**Finca la Perla**	**0.99**	**44**	↑*iP*	**Pb**	**23 36 00.7**	**+0.4**
LAPC				*i* S	**Sb**	**23 36 13.4**	**+0.5**
GPS3	**Bodega del ICE**	**1.03**	**47**	*i* P	**Pb**	**23 36 01.3**	**+0.3**
BUEV	**Buena Vista**	**1.03**	**43**	↑*iP*	**Pb**	**23 36 01.3**	**+0.3**
GB1A	**Borinquen Arri**	**1.05**	**43**	↑*iP*	**Pb**	**23 36 01.6**	**+0.3**
GB1A				*i* S	**Sn**	**23 36 15.1**	**+0.2**
CAO2	**Cobano, Puntar**	**1.07**	**109**	*eP*	**Pn**	**23 36 01.3**	**+0.1**
LIM1	**Limonal**	**1.08**	**53**	↑*iP*	**Pb**	**23 36 01.9**	**+0.2**
COLC	**Colonia**	**1.10**	**56**	↑*iP*	**Pb**	**23 36 02.2**	**+0.1**
GUAB	**Guayabo de Bag**	**1.10**	**53**	*i* P	**Pb**	**23 36 02.1**	**-0.1**
GUAB				*i* S	**Sb**	**23 36 17.4**	**+1.2**
CUI	**Cuipilapa**	**1.12**	**57**	↑*iP*	**Pb**	**23 36 02.6**	**0.0**
CUI				*i* S	**Sn**	**23 36 16.8**	**+0.1**
BUAI	**Buenos Aires**	**1.14**	**43**	↑*iP*	**Pb**	**23 36 03.1**	**+0.3**
HORNC	**Hornillas**	**1.14**	**55**	↑*iP*	**Pb**	**23 36 02.8**	**-0.1**
JTS	**Las Juntas de**	**1.18**	**78**	LR	LR	23 36 09.5	
	comp=Z,70nm,18.7s,slow=20						
JTS	**Las Juntas de**	**1.18**	**78**	*eP*	**Pn**	**23 36 02.9**	**+0.1**
JTS	**Las Juntas de**	**1.18**	**78**	*eP*	**Pn**	**23 36 02.9**	**+0.1**
JTS				*eS*	**Sn**	**23 36 15.2**	**-2.9**
JTS				IAML		23 36 26.7	
	comp=Z,346nm,0.8s						
ACAL	**Aguas Claras**	**1.22**	**61**	↑*iP*	**Pb**	**23 36 04.1**	**-0.1**
LAFE	**Finca La Fe, P**	**1.22**	**101**	*eP*	**Pn**	**23 36 02.9**	**-0.4**
VMAR	**Armenia, Volca**	**1.25**	**52**	*eP*	**Pb**	**23 36 04.8**	**+0.1**
CASO	**Castillo**	**1.42**	**74**	*i* P	**Pb**	**23 36 08.0**	**+0.3**
ARE1	**Arenal 1**	**1.45**	**73**	*eP*	**Pb**	**23 36 07.6**	**-0.4**
CEDE	**Laguna Cedeo**	**1.47**	**73**	*i* P	**Pb**	**23 36 08.2**	**-0.2**
FORC	**Fortuna**	**1.49**	**74**	*i* P	**Pb**	**23 36 09.4**	**+0.6**
JACO	**JACO, Garabito**	**1.50**	**105**	*eP*	**Pb**	**23 36 09.8**	**+0.9**
COVE	**Coope Vega, Sa**	**1.82**	**68**	*eP*	**Pb**	**23 36 13.9**	**-0.6**
ACON	**Acoyapa**	**2.12**	**26**	*eP*	**Pb**	**23 36 17.6**	**-2.0**
RIMA	**Rio Macho**	**2.25**	**97**	*eP*	**Pb**	**23 36 20.4**	**-1.5**
MOMN	**Momotombo**	**2.38**	**350**	*eP*	**Pb**	**23 36 23.0**	**-1.0**
TXAR	**Lajitas Array**	**25.25**	**322**	P	P	23 41 12.2	+6.0
	comp=Z,0.6nm,0.6s,baz=131,slow=11,SNR=4.3						
PDAR	**Pinedale Array**	**38.49**	**332**	P	P	23 43 06.2	+3.9
	comp=Z,0.3nm,0.5s,baz=126,slow=9.1,SNR=2.6						
NVAR	**Mina Array Bea**	**40.36**	**320**	P	P	23 43 24.9	+7.0
	comp=Z,0.7nm,0.5s,baz=124,slow=7.7,SNR=9.7						
SCHQ	**Schefferville**	**47.22**	**15**	P	**P**	**23 44 12.1**	**-0.4**
	comp=Z,2.2nm,1.0s,baz=194,slow=12,SNR=1.7						
YKA	**Yellowknife Ar**	**56.26**	**345**	P	**P**	**23 45 21.2**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=144,slow=7.2,SNR=2.5						

DJA 08 23:51:59.7±0.6, 1°N±6°×12°1E±°, h10km, M4.0/6, MLv4.0/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.91**	**140**	P	Pg	23 52 16.7	-0.6
MRSI				S	Sg	23 52 29.5	+0.2
MPSI	**Mapaga**	**1.68**	**240**	P	Pn	23 52 28.9	-0.2
MPSI				S	Sb	23 52 51.4	-0.4
GTOI	**Gorontalo**	**1.75**	**108**	P	Pn	23 52 27.5	-2.6
GTOI				S	Sn	23 52 48.3	-4.1
APSI	**Ampana**	**2.10**	**172**	P	Pn	23 52 34.3	-0.6
LUWI	**Luwuk**	**2.62**	**147**	P	Pn	23 52 42.7	+0.5
LUWI				S	Sn	23 53 15.5	+1.4
KMSI	**Cibinong**	**2.70**	**103**	P	Pn	23 52 43.7	+0.5
TTSI	**Tana Toraja**	**4.47**	**200**	P	Pn	23 53 07.5	0.0
MSAI	**Masohi**	**8.81**	**121**	P	Pn	23 53 54.4	-13
BLJI	**Banyuglugur**	**11.77**	**221**	P	Pn	23 54 44.7	-3.0

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*IDC **08** 23:52:08.5±1.8, 0°.03N×122°.92E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=146.8km s-min=26.3km az=64.0*
*NEIC **08** 23:52:38.1±0.8, 0°.67S±0°.08×122°.3E±0°.1, h273km±10km, mb4.1/8, Error ellipse: s-maj=16.7km s-min=8.9km az=62.0*
ISC 08 23:52:36.4±0.8, 0°.62S±0°.10×122°.3E±0°.1, h250km, n19, σ1°77/19, mb4.1/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.61**	**133**	Pn	**Pn**	**23 53 13.9**	**+4.2**
KAPI	**Kappang**	**5.06**	**211**	Pn	**Pn**	**23 53 53.4**	**+0.4**
MYLDM	**Lahad Datu**	**6.92**	**326**	Pn	**Pn**	**23 54 14.7**	**-1.4**
KKM	**Kota Kinabalu**	**9.01**	**317**	Pn	**Pn**	**23 54 46.1**	**+3.5**
FAKI	**Fak Fak**	**10.17**	**103**	Pn	**Pn**	**23 54 58.3**	**+1.1**
MTN	**Manton Dam**	**14.95**	**145**	P	**P**	**23 55 55.4**	**-0.4**
KNRA	**Kununurra**	**16.25**	**157**		**P**	**23 56 10.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**17.67**	**170**	P	**P**	**23 56 23.9**	**-1.6**
	0.3nm,0.3s,baz=15,slow=10,SNR=7.9						
PSA00	**Pilbara Seismi**	**20.96**	**186**	P	**P**	**23 57 00.1**	**-0.6**
PSA00				IAmb	IAmb	23 57 18.4	
	comp=Z,14nm,1.1s						
WB0	**Warramunga Arr**	**22.39**	**149**	P	**P**	**23 57 13.0**	**-1.1**
WB0				IAmb	IAmb	23 57 13.9	
	comp=Z,3.7nm,0.5s						
KULM	**Kulim**	**22.43**	**285**	P	**P**	**23 57 13.4**	**-1.2**
KULM				IAmb	IAmb	23 57 18.9	
	comp=Z,7.1nm,1.0s						
WRA	**Warramunga Arr**	**22.51**	**149**	P	**P**	**23 57 13.6**	**-1.6**
	comp=Z,3.4nm,0.5s,baz=328,slow=11,SNR=53						
WB2	**Warramunga Arr**	**22.52**	**149**	P	**P**	**23 57 14.3**	**-0.9**
WR0	**Warramunga Arr**	**22.63**	**149**	P	**P**	**23 57 15.8**	**-0.5**
YULB	**Yu-li**	**23.89**	**358**	P	**P**	**23 57 27.2**	**-0.6**
ASAR	**Alice Springs**	**25.51**	**155**	P	**P**	**23 57 41.0**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=343,slow=15,SNR=14						
ASAR	**Alice Springs**	**25.51**	**155**	P	**P**	**23 57 41.3**	**-1.1**
MORW	**Morawa**	**28.92**	**191**	P	**P**	**23 58 11.4**	**-1.1**
MORW				IAmb	IAmb	23 58 15.1	
	comp=Z,4.8nm,1.1s						
MKAR	**Makanchi Array**	**58.79**	**329**	P	**P**	**00 02 07.1**	**-1.6**
	comp=Z,0.2nm,0.8s,baz=124,slow=8.5,SNR=1.9						

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*IDC **09** 00:10:30.6±10.0, 4°.74S×153°.60E, h131km±68km, mb3.3/2, mb1 3.7/3, mb1mx2.7/37, mbtmp4.0/3, Error ellipse: s-maj=128.9km s-min=58.5km az=119.0*
*NEIC **09** 00:10:31.4±1.6, 4°.6S±0°.1×153°.64E±0°.09, h133km±9km, mb4.5/14, Error ellipse: s-maj=18.5km s-min=12.6km az=168.0*
ISC 09 00:10:32.2±1.0, 4°.65S±0°.10×153°.6E±0°.1, h150km, n22, σ0°97/23, mb4.3/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.46**	**288**		**Pn**	**00 10 59.5**	**-1.9**
RABL				Sn	**Sn**	**00 11 24.0**	**+0.2**
PMG	**Port Moresby**	**7.91**	**233**	P	**Pn**	**00 12 22.6**	**-1.9**
	6.8nm,0.3s,baz=26,slow=11,SNR=5.8						
PMG				S	**Sn**	**00 13 51.8**	**-0.9**
	1.8nm,0.3s,baz=266,slow=18,SNR=1.3						
PMG	**Port Moresby**	**7.91**	**233**		**Pn**	**00 12 24.6**	**+0.1**
COEN	**Coen**	**13.79**	**227**	Pn	**Pn**	**00 13 42.2**	**+0.6**
LIFNC	**LIFOU**	**20.83**	**141**	P	Pn	00 15 03.5	-3.0
DZM	**Mont Dzumac**	**21.35**	**145**	P	**P**	**00 15 06.4**	**-1.4**
DZM				IAmb	IAmb	00 15 39.7	
	comp=Z,84nm,1.9s						
WB0	**Warramunga Arr**	**23.96**	**230**	P	**P**	**00 15 34.3**	**+1.4**
WB0				IAmb	IAmb	00 15 48.4	
	comp=Z,11nm,1.6s						
WR0	**Warramunga Arr**	**23.96**	**229**	P	**P**	**00 15 33.0**	**+0.1**
WR0				IAmb	IAmb	00 16 18.3	
	comp=Z,8.8nm,1.4s						
WB2	**Warramunga Arr**	**24.10**	**229**	P	**P**	**00 15 35.5**	**+1.3**
WB2				IAmb	IAmb	00 16 06.5	
	comp=Z,8.7nm,1.4s						
WRA	**Warramunga Arr**	**24.11**	**229**	P	**P**	**00 15 34.9**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=54,slow=9.9,SNR=16						
WRA	**Warramunga Arr**	**24.11**	**229**	P	**P**	**00 15 35.2**	**+0.9**
KNRA	**Kununurra**	**26.71**	**244**	P	**P**	**00 15 58.8**	**+1.0**
KNRA				IAmb	IAmb	00 16 57.0	
	comp=Z,14nm,1.3s						
AS31	**Alice Springs**	**26.77**	**223**	P	**P**	**00 15 58.4**	**+0.1**
ASAR	**Alice Springs**	**26.77**	**223**	P	**P**	**00 15 57.4**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=54,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**26.77**	**223**	P	**P**	**00 15 58.4**	**+0.1**
STKA	**Stephens Creek**	**29.31**	**201**	P	**P**	**00 16 21.4**	**+0.6**
FORT	**Forrest**	**35.38**	**220**	P	**P**	**00 17 13.7**	**0.0**
FORT				IAmb	IAmb	00 17 26.1	
	comp=Z,14nm,0.8s						
MLZ	**Mavora Lakes**	**42.50**	**165**	P	**P**	**00 18 13.3**	**+0.6**
MLZ				IAmb	IAmb	00 19 43.5	
	comp=Z,86nm,1.4s						
ODZ	**Otahua Downs**	**42.92**	**162**	P	**P**	**00 18 15.5**	**-0.6**
MORW	**Morawa**	**43.02**	**231**	P	**P**	**00 18 17.8**	**+0.7**
MORW				IAmb	IAmb	00 19 54.2	
	comp=Z,43nm,1.9s						
ERM	**Erimo**	**47.40**	**349**	P	**P**	**00 18 51.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**150.97**	**289**	PKPbc	**PKiKP**	**00 30 09.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=73,slow=1.7,SNR=4.7						

IDC 09 00:25:29.9±4.1, 7°.39N×127°.30E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/36, mbtmp3.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/24, Error ellipse: s-maj=329.5km s-min=30.5km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.03**	**166**	P	P	00 31 22.9	-0.2
	0.2nm,0.8s,baz=348,slow=9.7,SNR=1.4						
ASAR	**Alice Springs**	**31.54**	**168**	P	P	00 31 54.2	+0.1
	0.3nm,0.7s,baz=339,slow=7.2,SNR=5.1						
KLR	**Kul'dur**	**41.86**	**4**	LR	LR	00 51 47.0	
	comp=Z,24nm,19.2s,baz=200,slow=38						
MKAR	**Makanchi Array**	**54.92**	**324**	P	P	00 35 02.5	-0.1
	0.1nm,0.5s,baz=117,slow=8.3,SNR=1.7						

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*IDC **09** 00:55:06.8±2.5, 60°.26S×152°.45E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/31, mbtmp4.0/4, ML3.8/1, MS3.8/27, Ms1 3.8/27, ms1mx3.6/48, Error ellipse: s-maj=164.5km s-min=28.7km az=75.0*
*NEIC **09** 00:55:07.5±1.1, 60°.2S±0°.1×153°.1E±0°.1, h10km±1km, mb4.4/20, Error ellipse: s-maj=18.3km s-min=10.0km az=204.0*
ISC 09 00:55:07.4±0.7, 60°.17S±0°.10×153°.0E±0°.1, h10km, n59, σ1°05/29, mb4.3/13, MS3.9/26, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**17.35**	**38**	Pn	**Pn**	**00 59 08.0**	**-1.5**
VNDA	**Vanda**	**17.68**	**174**	P	**Pn**	**00 59 12.9**	**-0.4**
	0.3nm,0.3s,baz=334,slow=10,SNR=13						
VNDA				LR	LR	01 05 34.0	
	comp=Z,468nm,20.7s,baz=350,slow=36						
VNDA	**Vanda**	**17.68**	**174**	IAmb	IAmb	00 59 19.1	
	comp=Z,3.2nm,0.8s						
BFZ	**Birch Farm**	**24.26**	**47**	P	**P**	**01 00 25.3**	**+0.9**
BFZ				IAmb	IAmb	01 00 40.1	
	comp=Z,3.4nm,0.7s						
URZ	**Urewera**	**26.71**	**46**	LR	LR	01 11 20.8	
	comp=Z,380nm,18.1s,baz=214,slow=36						
STKA	**Stephens Creek**	**29.29**	**340**	LR	LR	01 10 47.7	
	comp=Z,115nm,18.6s,baz=183,slow=32						
BBOO	**Buckleboo**	**29.56**	**330**	P	**P**	**01 01 11.4**	**-0.6**
BBOO				IAmb	IAmb	01 01 19.2	
	comp=Z,7.5nm,1.1s						
ARMA	**Armidale**	**29.77**	**358**	P	**P**	**01 01 13.8**	**-0.2**
QSPA	**South Pole Qui**	**29.93**	**180**	LR	LR	01 14 19.6	
	comp=Z,454nm,18.1s,baz=11,slow=39						
FORT	**Forrest**	**33.78**	**319**	P	**P**	**01 01 52.0**	**+2.8**
H01W1	**Cape Leeuwin H**	**35.58**	**298**	T	T	01 38 43.1	
	baz=147,slow=74,SNR=43						
H01W2	**Cape Leeuwin H**	**35.58**	**298**	T	T	01 38 42.5	
	baz=147,slow=74,SNR=36						
H01W3	**Cape Leeuwin H**	**35.59**	**298**	T	T	01 38 40.1	
	baz=147,slow=74,SNR=32						
RAO	**Raoul Island**	**36.60**	**45**	LR	LR	01 16 58.9	
	comp=Z,287nm,18.5s,baz=186,slow=36						
MAW	**Mawson**	**36.91**	**220**	LR	LR	01 15 43.5	
	comp=Z,158nm,21.5s,baz=62,slow=34						
ASAR	**Alice Springs**	**38.84**	**331**	P	**P**	**01 02 32.8**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=163,slow=9.8,SNR=20						
ASAR				LR	LR	01 16 08.6	
	comp=Z,129nm,20.8s,baz=177,slow=32						
ASAR	**Alice Springs**	**38.84**	**331**	P	**P**	**01 02 32.5**	**0.0**
AS31	**Alice Springs**	**38.84**	**331**	P	**P**	**01 02 32.9**	**+0.4**
PINNC	**Pines Island,**	**38.88**	**22**	P	**P**	**01 02 33.2**	**+0.4**
PINNC				IAmb	IAmb	01 02 40.6	
	comp=Z,17nm,0.9s						
OUENC	**Ouen Island, N**	**38.96**	**21**	P	**P**	**01 02 33.6**	**+0.2**
OUENC				IAmb	IAmb	01 02 50.2	
	comp=Z,26nm,1.1s						
ONTNC	**Ouen Toro**	**39.00**	**20**	P	**P**	**01 02 33.4**	**-0.4**
DZM	**Mont Dzumac**	**39.23**	**20**	LR	LR	01 16 41.5	
	comp=Z,220nm,18.5s,baz=206,slow=33						
MORW	**Morawa**	**39.79**	**305**	P	**P**	**01 02 40.0**	**-0.4**
MORW				IAmb	IAmb	01 02 42.9	
	comp=Z,7.8nm,1.1s						
WB2	**Warramunga Arr**	**42.33**	**333**	P	**P**	**01 03 01.2**	**-0.1**
WB2				IAmb	IAmb	01 03 04.7	
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**42.33**	**333**	P	**P**	**01 03 01.4**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=164,slow=7.4,SNR=18						
WRA				PcP	**PcP**	**01 04 56.0**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=167,slow=2.6,SNR=2.0						
WRA	**Warramunga Arr**	**42.33**	**333**	P	**P**	**

YKA Yellowknife Ar 140.97 47 PKP **PKPdf 01 14 36.3 +0.3**
comp=Z,0.5nm,1.0s,baz=243,slow=2.7,SNR=1.6
OBN Obninsk 146.79 290 PKPbc **PKPbc 01 14 48.2 0.0**
comp=Z,0.6nm,0.4s,baz=165,slow=23,SNR=1.6
AKASG Malin Array Be 147.68 279 PKPbc **PKPbc 01 14 49.7 -1.2**
comp=Z,0.8nm,0.7s,baz=103,slow=2.6,SNR=2.8
GERES GERESS Array B 154.23 262 PKPbc **PKiKP 01 15 07.6 +1.0**
comp=Z,0.1nm,0.3s,baz=166,slow=5.0,SNR=2.2

*IDC **09** 01:08:45.6±1.2, 37.°91N×72.°87E, h0km, mb3.6/8, mb1 3.7/15, mb1mx3.5/42, mbtmp3.7/15, ML3.3/7, MS3.0/3, Ms1 3.0/3, ms1mx2.5/85, Error ellipse: s-maj=21.0km s-min=18.5km az=119.0*
*NNC **09** 01:08:47.2±5.2, 37.°87N×72.°30E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=40.7km s-min=31.5km az=157.0*
ISC 09 01:08:46.5±0.7, 37.°82N±0.°07×72.°65E±0.°08, h10km, n28, σ2°35/31, mb3.7/7, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.01**	**16**	P	**Pn**	**01 10 03.9**	**+2.0**
	1.0nm,0.3s,baz=158,slow=6.3,SNR=20						
AAK				Sn	**Sn**	**01 11 03.6**	**+3.6**
	1.2nm,0.3s,baz=328,slow=23,SNR=3.6						
AAK				LR	LR	01 11 25.0	
	comp=Z,50nm,18.1s,baz=217,slow=33						
AAK	**Ala-Archa**	**5.01**	**16**	⇑Pn	**Pn**	**01 10 03.7**	**+1.8**
	11nm,0.5s						
AAK				⇓Sn	**Sn**	**01 11 04.3**	**+4.3**
	34nm,0.8s						
KK01	**Karatay Array**	**5.53**	**343**	⇑Pn	**Pn**	**01 10 10.2**	**+1.4**
	8.5nm,0.4s						
KK01				⇑Sn	**Sn**	**01 11 14.0**	**+1.6**
	14nm,0.7s						
MKAR	**Makanchi Array**	**11.45**	**35**	Pn	**Pn**	**01 11 29.6**	**-0.5**
	0.1nm,0.3s,baz=213,slow=15,SNR=4.0						
GEYT	**Alibeck**	**11.49**	**275**	Pn	**Pn**	**01 11 32.8**	**+2.1**
	0.4nm,0.3s,baz=96,slow=15,SNR=1.5						
PYUN	**Piuthan**	**13.00**	**135**	*eP*	**Pn**	**01 11 51.9**	**+0.4**
	19nm,0.4s						
DANN	**Dangsing**	**13.26**	**132**	*eP*	**Pn**	**01 11 54.9**	**-0.1**
	9.1nm,0.4s						
KURBB	**Kurchatov Arra**	**13.47**	**16**	Pn	**Pn**	**01 11 54.0**	**-3.5**
	0.0nm,0.3s,baz=205,slow=12,SNR=5.7						
KOLN	**Koldanda**	**13.60**	**134**	*eP*	**Pn**	**01 11 59.5**	**-0.2**
	6.7nm,0.4s						
GKN	**Gorkha**	**14.03**	**131**	*eP*	**Pn**	**01 12 04.5**	**-1.0**
	8.8nm,0.3s						
KKN	**Kakani**	**14.58**	**130**	*eP*	**Pn**	**01 12 10.6**	**-2.4**
	2.4nm,0.2s						
AB31	**Akbulak array**	**14.66**	**325**	⇓Pn	**Pn**	**01 12 11.3**	**-2.5**
	1.0nm,0.5s,baz=130,slow=13,SNR=61						
AB31				⇓Sn	**Sn**	**01 14 49.5**	**-6.7**
	1.2nm,0.7s,baz=130,slow=26,SNR=2.6						
PKIN	**Phulchoki**	**14.80**	**130**	*eP*	**Pn**	**01 12 13.8**	**-2.3**
	8.3nm,0.5s						
PKI	**Pulchoki**	**14.81**	**130**	*eP*	**Pn**	**01 12 14.4**	**-2.0**
	8.6nm,0.5s						
GUN	**Gumba**	**14.86**	**128**	*eP*	**Pn**	**01 12 14.1**	**-2.9**
	2.6nm,0.3s						
BVAR	**Borovoye Array**	**15.29**	**355**	Pn	**Pn**	**01 12 19.4**	**-2.8**
	0.2nm,0.3s,baz=159,slow=13,SNR=13						
AKTO	**Aktyubinsk**	**16.37**	**325**	Pn	**Pn**	**01 12 36.0**	**-0.3**
	0.5nm,0.3s,baz=122,slow=11,SNR=15						
AKTO				LR	LR	01 19 21.4	
	comp=Z,30nm,18.9s,baz=9.2,slow=39						
AKTO	**Aktyubinsk**	**16.37**	**325**	⇑Pn	**Pn**	**01 12 37.1**	**+0.8**
	5.5nm,0.8s						
ZALV	**Zalesovo Beam**	**18.17**	**24**	P	**Pn**	**01 12 56.0**	**-2.7**
	0.4nm,0.3s,baz=212,slow=11,SNR=18						
ARU	**Arti**	**20.86**	**338**	P	**P**	**01 13 27.8**	**-0.6**
	0.3nm,0.3s,baz=156,slow=8.4,SNR=3.4						
SONM	**Songino Array**	**26.51**	**57**	P	**P**	**01 14 23.7**	**-0.5**
	1.2nm,0.9s,baz=254,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**37.15**	**325**	P	**P**	**01 15 58.4**	**+1.3**
	2.0nm,0.9s,baz=124,slow=9.7,SNR=5.4						
ARCES	**ARCESS Array B**	**40.44**	**337**	P	**P**	**01 16 25.5**	**+0.8**
	2.6nm,0.8s,baz=61,slow=10.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**67.06**	**269**	P	**P**	**01 19 40.5**	**+0.2**
	0.4nm,0.5s,baz=53,slow=5.5,SNR=2.3						
BATI	**Baumata**	**67.48**	**124**	LR	LR	01 52 40.8	
	comp=Z,43nm,18.0s,baz=76,slow=39						
INK	**Inuvik**	**72.39**	**10**	P	**P**	**01 20 12.0**	**-0.2**
	0.4nm,0.6s,baz=343,slow=2.9,SNR=1.4						
YKA	**Yellowknife Ar**	**79.86**	**3**	P	**P**	**01 20 55.0**	**+0.1**
	0.2nm,0.6s,baz=352,slow=5.1,SNR=4.1						
WRA	**Warramunga Arr**	**81.59**	**123**	P	**P**	**01 21 05.7**	**+1.0**
	0.3nm,0.6s,baz=324,slow=4.7,SNR=7.1						

*SNET **09** 01:23:18.0±0.8, 13.°25N×91.°31W, h13km±8km, ML3.2*
*GCG **09** 01:23:22.0±0.3, 13.°72N×91.°49W, h28km±3km, MD3.9*
*IDC **09** 01:23:23.6±4.1, 15.°22N×90.°78W, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.5/38, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=102.8km s-min=41.6km az=14.0*
ISC 09 01:23:17.1±1.6, 13.°4N±0.°2×91.°46W±0.°09, h21km±8km, n19, σ1°18/25, mb3.5/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.19**	**30**	*eP*	**Pb**	**01 23 39.9**	**+0.9**
PCG	**Pacaya**	**1.27**	**40**	*eP*	**Pb**	**01 23 40.8**	**+0.3**
STG3	**Santiaguito 3,**	**1.29**	**355**	*eP*	**Pn**	**01 23 40.5**	**+0.3**
NBG	**Las Nubes**	**1.59**	**43**	*eP*	**Pb**	**01 23 46.5**	**+0.6**
NBG				*eS*	**Sb**	**01 24 05.6**	**0.0**
NUBE	**Las Nubes**	**1.70**	**73**	*eP*	**Pn**	**01 23 45.8**	**0.0**
NUBE				IAML		01 24 13.0	
	comp=Z,194nm,0.6s						
SLOZ	**Alcaldia de Sa**	**1.74**	**69**	*eP*	**Pn**	**01 23 46.7**	**+0.6**
SLOZ				*eS*	**Sb**	**01 24 09.7**	**0.0**
SLOZ				IAML		01 24 20.1	
	comp=Z,300nm,0.4s						
JAYA	**Jayaque - finc**	**1.97**	**83**	*eP*	**Pn**	**01 23 49.3**	**-0.1**
JAYA				*eS*	**Sn**	**01 24 12.9**	**-0.7**
JAYA				IAML		01 24 22.4	
	comp=Z,618nm,0.3s						
TACO	**Tacachico**	**2.12**	**75**	*eP*	**Pn**	**01 23 52.1**	**+0.7**
TACO				*eS*	**Sn**	**01 24 18.1**	**+1.0**
TACO				IAML		01 24 35.6	
	comp=Z,71nm,0.4s						
MTO3	**Montecristo**	**2.26**	**64**	*eP*	**Pn**	**01 23 54.7**	**+1.2**
MTO3				*eS*	**Sb**	**01 24 23.6**	**-1.4**
LFRS	**El Faro**	**2.34**	**85**	*eP*	**Pn**	**01 23 54.9**	**+0.4**
PAVA	**Las Pavas**	**2.47**	**83**	*eP*	**Pn**	**01 23 56.5**	**+0.3**
PAVA				IAML		01 24 39.1	
	comp=Z,148nm,0.6s						
SCLA	**Alcaldia de Sa**	**2.67**	**84**	*eP*	**Pn**	**01 23 59.9**	**+0.9**
LCND	**La Caada**	**3.47**	**91**	*eP*	**Pn**	**01 24 09.7**	**-0.3**
LCND				IAML		01 25 06.0	
	comp=Z,104nm,0.5s						
CMIG	**Matias Romero**	**4.93**	**318**	Pn	**Pn**	**01 24 31.4**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=123,slow=10,SNR=12						
CMIG				Sn	**Sn**	**01 25 25.1**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=117,slow=11,SNR=5.6						
TXAR	**Lajitas Array**	**19.47**	**326**	P	**P**	**01 27 40.8**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=135,slow=12,SNR=8.7						
NVAR	**Mina Array Bea**	**34.45**	**321**	P	**P**	**01 30 04.8**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=120,slow=8.9,SNR=4.1						
YKA	**Yellowknife Ar**	**51.71**	**347**	P	**P**	**01 32 20.9**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=149,slow=7.9,SNR=5.0						
ILAR	**Eielson Array**	**63.58**	**337**	P	**P**	**01 33 45.3**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=138,slow=5.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**146.71**	**342**	PKPbc	**PKiKP**	**01 43 04.2**	**+2.9**
	comp=Z,1.5nm,0.3s,baz=348,slow=3.8,SNR=2.4						

*IDC **09** 01:23:53.2±1.2, 35.°32S×179.°99W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/39, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=33.5km s-min=30.6km az=163.0*
*NEIC **09** 01:23:58.4±1.2, 35.°40S±0.°08×179.°9E±0.°2, h23km±8km, mb4.2/5, ML4.1(WEL), Error ellipse: s-maj=21.1km s-min=8.4km az=63.0*
*WEL **09** 01:24:02.7±1.2, 36.°S±6.°×18.°0E±1.°2, h33km, M4.2/16, ML4.4/18, MLv4.2/16, Error ellipse: s-maj=0.0km s-min=0.0km az=94.1*
ISC 09 01:24:04.6±3.5, 35.°6S±0.°1×179.°5E±0.°2, h70km±26km, n45, σ1°20/48, mb4.1/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.15**	**206**	Pn	**Pn**	**01 24 37.7**	**-0.5**
WMGZ	**Waiomatatini S**	**2.35**	**201**	P	**Pn**	**01 24 41.1**	**+0.2**
WMGZ				S	**Sn**	**01 25 11.0**	**+2.3**
PKGZ	**Pakihiroa**	**2.52**	**206**	P	**Pn**	**01 24 43.2**	**-0.2**
PKGZ				S	**Sn**	**01 25 13.8**	**+0.8**
HAZ	**Te Kaha**	**2.52**	**212**	P	**Pn**	**01 24 43.8**	**+0.6**
PUZ	**Puketiti**	**2.63**	**202**	P	**Pn**	**01 24 44.3**	**-0.5**
PUZ				S	**Sn**	**01 25 15.5**	**-0.1**
RUGZ	**Raukumara Rang**	**2.75**	**211**	P	**Pn**	**01 24 46.3**	**-0.2**
RUGZ				S	**Sn**	**01 25 20.6**	**+2.0**
TWGZ	**Tauwhareparae**	**2.81**	**205**	P	**Pn**	**01 24 46.9**	**-0.4**
TWGZ				S	**Sn**	**01 25 22.0**	**+1.9**
CNGZ	**Carnagh Statio**	**3.03**	**199**	P	**Pn**	**01 24 50.0**	**-0.2**
TKGZ	**Te Karaka**	**3.10**	**204**	P	**Pn**	**01 24 50.2**	**-0.8**
TKGZ				S	**Sn**	**01 25 26.2**	**-0.7**
MWZ	**Matawai**	**3.12**	**209**	P	**Pn**	**01 24 50.7**	**-0.7**
MWZ				S	**Sn**	**01 25 28.2**	**+0.6**
OPRZ	**Ohinepanea**	**3.23**	**226**	P	**Pn**	**01 24 51.6**	**-1.2**
KUZ	**Kuaotunu**	**3.24**	**249**	P	**Pn**	**01 24 52.1**	**-0.8**
URZ	**Urewera**	**3.24**	**215**	Pn	**Pn**	**01 24 52.3**	**-0.8**
	21nm,0.3s,baz=358,slow=2.4,SNR=84						
URZ				Sn	**Sn**	**01 25 28.3**	**-2.1**
	19nm,0.3s,baz=156,slow=19,SNR=7.2						
URZ	**Urewera**	**3.24**	**215**	P	**Pn**	**01 24 52.1**	**-0.9**
URZ	**Urewera**	**3.24**	**215**		**Pn**	**01 24 52.6**	**-0.4**
MARZ	**Manawahe**	**3.26**	**223**	P	**Pn**	**01 24 53.4**	**+0.1**
RAGZ	**Rawiri**	**3.31**	**209**	P	**Pn**	**01 24 53.2**	**-0.8**
GRZ	**Great Barrier**	**3.32**	**258**	P	**Pn**	**01 24 53.3**	**-0.9**
RIGZ	**Rimuhau**	**3.37**	**204**	P	**Pn**	**01 24 53.6**	**-1.2**
RIGZ				S	**Sn**	**01 25 34.3**	**+0.8**
KARZ	**Kaharoa**	**3.53**	**226**	P	**Pn**	**01 24 56.4**	**-0.5**
PRRZ	**Paritu Road**	**3.53**	**201**	P	**Pn**	**01 24 55.6**	**-1.3**
MUGZ	**Murupara**	**3.58**	**216**	P	**Pn**	**01 24 56.6**	**-1.0**
RTZ	**Ruatahuna**	**3.59**	**213**	P	**Pn**	**01 24 56.8**	**-1.0**
WIAZ	**Waiheke Island**	**3.70**	**250**	P	**Pn**	**01 24 59.2**	**-0.1**
MHGZ	**Mahia Peninsul**	**3.73**	**199**	P	**Pn**	**01 24 57.9**	**-1.9**
MHGZ				S	**Sn**	**01 25 40.7**	**-1.9**
BKZ	**Black Stump Fm**	**4.26**	**213**		**Pn**	**01 25 05.4**	**-1.6**
OUZ	**Omahuta**	**4.82**	**273**		**Pn**	**01 25 13.6**	**-1.0**
AS31	**Alice Springs**	**41.03**	**274**	P	**P**	**01 31 42.3**	**+1.1**
AS31				IAmb	IAmb	01 31 43.8	
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**41.03**	**274**	P	**P**	**01 31 42.1**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=116,slow=7.7,SNR=38						
WB2	**Warramunga Arr**	**42.49**	**279**	P	**P**	**01 31 54.2**	**+1.1**
WRA	**Warramunga Arr**	**42.50**	**279**	P	**P**	**01 31 53.3**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=121,slow=7.5,SNR=47						
WRA	**Warramunga Arr**	**42.50**	**279**	P	**P**	**01 31 54.4**	**+1.2**
WB0	**Warramunga Arr**	**42.55**	**280**	P	**P**	**01 31 54.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**50.48**	**275**	P	**P**	**01 32 55.8**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=104,slow=9.8,SNR=3.5						
QSPA	**South Pole Qui**	**54.49**	**180**	P	**P**	**01 33 24.8**	**0.0**
	comp=Z,0.7nm,0.3s,baz=122,slow=1.7,SNR=4.8						
H03S2	**Juan Fernandez**	**79.33**	**124**	T	T	03 04 06.4	
	baz=230						
H03S1	**Juan Fernandez**	**79.34**	**124**	T	T	03 04 07.5	
	baz=230						
H03S3	**Juan Fernandez**	**79.35**	**124**	T	T	03 04 08.6	
	baz=230						
H03N3	**Juan Fernandez**	**79.56**	**124**	T	T	03 04 21.9	
	baz=237,slow=72,SNR=7.5						
H03N2	**Juan Fernandez**	**79.56**	**124**	T	T	03 04 22.4	
	baz=237,slow=72,SNR=4.7						
H03N1	**Juan Fernandez**	**79.57**	**124**	T	T	03 04 20.2	
	baz=237,slow=72,SNR=4.0						
NVAR	**Mina Array Bea**	**93.48**	**44**	P	P	01 37 08.3	-4.2
	comp=Z,0.3nm,0.2s,baz=236,slow=7.5,SNR=3.2						
FINES	**FINESS Array B**	**149.16**	**335**	PKPbc	**PKPdf**	**01 43 42.8**	**+3.0**
	comp=Z,2.7nm,0.8s,baz=31,slow=4.6,SNR=11						
BRTR	**Keskin Array B**	**152.75**	**289**	PKPbc	**PKPbc**	**01 43 51.3**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=153,slow=3.8,SNR=1.4						
AKASG	**Malin Array Be**	**153.81**	**314**	PKPbc	**PKPbc**	**01 43 53.9**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=56,slow=3.5,SNR=2.1						

*IDC **09** 01:28:14.4±2.6, 5.°25S×153.°63E, h69km±21km, mb3.6/8, mb1 3.9/9, mb1mx3.6/34, mbtmp4.0/9, Error ellipse: s-maj=26.6km s-min=19.7km az=136.0*
*NEIC **09** 01:28:14.4±1.4, 5.°2S±0.°1×153.°8E±0.°1, h76km±12km, mb4.2/6, Error ellipse: s-maj=19.7km s-min=14.3km az=207.0*
ISC 09 01:28:12.7±0.7, 5.°24S±0.°09×153.°78E±0.°08, h50km, n22, σ1°91/24, mb4.0/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.92**	**303**		**Pn**	**01 28 44.6**	**+1.7**
MANU	**Manus Island**	**7.14**	**296**	Pn	**Pn**	**01 29 56.4**	**+1.7**
HNR	**Honiara**	**7.40**	**125**	Pn	**Pn**	**01 29 59.1**	**+0.9**
PMG	**Port Moresby**	**7.76**	**237**	P	**Pn**	**01 30 04.2**	**+1.1**
	1.8nm,0.3s,baz=78,slow=6.4,SNR=1.3						
PMG				S	**Sn**	**01 31 28.8**	**-0.9**
	2.0nm,0.3s,baz=133,slow=5.6,SNR=3.7						
PMG	**Port Moresby**	**7.76**	**237**		**Sn**	**01 31 32.9**	**+3.2**
DZM	**Mont Dzumac**	**20.74**	**145**	P	**P**	**01 32 50.5**	**+1.1**
	4.4nm,0.4s,baz=278,slow=10,SNR=15						
WR0	**Warramunga Arr**	**23.76**	**230**	P	**P**	**01 33 19.8**	**-1.0**
WR0				IAmb	IAmb	01 33 21.0	
	comp=Z,9.1nm,0.9s						
WB0	**Warramunga Arr**	**23.76**	**231**	P	**P**	**01 33 19.8**	**-1.0**
WB0				IAmb	IAmb	01 33 21.0	
	comp=Z,7.3nm,0.8s						
WB2	**Warramunga Arr**	**23.89**	**231**	P	**P**	**01 33 20.2**	**-1.8**
WB2				IAmb	IAmb	01 33 22.4	
	comp=Z,5.6nm,0.8s						
WRA	**Warramunga Arr**	**23.90**	**231**	P	**P**	**01 33 21.1**	**-1.0**
	comp=Z,3.7nm,0.6s,baz=53,slow=9.8,SNR=24						
WRA				PcP	**PcP**	**01 37 02.7**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=60,slow=3.2,SNR=2.4						
WRA				ScP	**ScP**	**01 40 35.7**	**-2.7**
	comp=Z,0.6nm,0.9s,baz=61,slow=3.5,SNR=3.5						
WRA	**Warramunga Arr**	**23.90**	**231**	P	**P**	**01 33 20.4**	**-1.7**
ASAR	**Alice Springs**	**26.50**	**224**	P	**P**	**01 33 44.9**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=58,slow=9.2,SNR=18						
ASAR				PcP	**PcP**	**01 37 07.7**	**-2.1**
	comp=Z,0.2nm,0.6s,baz=72,slow=3.0,SNR=2.2						
ASAR				ScP	**ScP**	**01 40 43.1**	**-2.7**
	comp=Z,0.5nm,1.0s,baz=64,slow=2.2,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**26.80**	**28**	T	T	02 02 06.7	
	baz=209,slow=76,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**26.80**	**28**	T	T	02 02 07.0	
	baz=209,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**26.82**	**28**	T	T	02 02 08.0	
	baz=209,slow=76,SNR=8.1						
FITZ	**Fitzroy Crossi**	**30.32**	**243**	P	**P**	**01 34 18.0**	**-1.6**
	comp=Z,4.9nm,0.6s,baz=89,slow=6.6,SNR=28						
SONM	**Songino Array**	**67.22**	**327**	P	**P**	**01 39 01.8**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=164,slow=5.7,SNR=2.4						
MK31	**Makanchi Array**	**81.30**	**319**	P	**P**	**01 40 21.5**	**-2.4**
MK31				IAmb	IAmb	01 40 59.8	
	comp=Z,7.4nm,1.9s						
MKAR	**Makanchi Array**	**81.30**	**319**	P	**P**	**01 40 22.7**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=109,slow=4.0,SNR=6.4						
ILAR	**Eielson Array**	**82.20**	**22**	P	**P**	**01 40 28.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=229,slow=5.3,SNR=2.1						
NVAR	**Mina Array Bea**	**91.59**	**52**	P	**P**	**01 41 15.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=268,slow=6.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**151.37**	**288**	PKPbc	**PKPdf**	**01 48 00.1**	**+4.1**
	comp=Z,0.7nm,0.8s,baz=64,slow=1.9,SNR=5.0						

*NEIC **09** 01:42:19.8±1.9, 17.°8S±0.°2×178.°6W±0.°2, h572km±9km, mb4.3/18, Error ellipse: s-maj=37.1km s-min=15.0km az=142.0*
*IDC **09** 01:42:21.2±1.8, 17.°50S×178.°85W, h588km±17km, mb3.2/6, mb1 3.6/8, mb1mx3.2/32, mbtmp4.1/8, Error ellipse: s-maj=72.8km s-min=15.1km az=149.0*
ISC 09 01:42:21.4±1.0, 17.°8S±0.°3×178.°8W±0.°2, h600km, n32, σ0°77/34, mb4.2/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.03**	**270**	P	**P**	**01 43 39.5**	**-1.3**
	3.9nm,0.3s,baz=99,slow=1.8,SNR=25						
MSVF	**Nonsavu**	**3.03**	**270**	P	**P**	**01 43 38.4**	**-2.5**
PINNC	**Pines Island,**	**13.81**	**247**	P	**P**	**01 45 19.1**	**+0.7**
DZM	**Mont Dzumac**	**14.55**	**250**	P	**P**	**01 45 25.3**	**-0.3**
	1.1nm,0.3s,baz=80,slow=18,SNR=9.8						
EIDS	**Eidsvold**	**28.99**	**250**	P	**P**	**01 47 34.5**	**-0.1**
EIDS				IAmb	IAmb	01 47 35.5	
	comp=Z,5.2nm,0.8s						
ARMA	**Armidale**	**29.72**	**239**	P	**P**	**01 47 41.2**	**+0.4**
CTAO	**Charters Tower**	**33.13**	**260**	P	**P**	**01 48 09.6**	**-0.3**
CTAO				IAmb	IAmb	01 48 29.1	
	comp=Z,10.0nm,1.2s						
COEN	**Coen**	**36.76**	**270**	P	**P**	**01 48 41.2**	**+1.2**
COEN				IAmb	IAmb	01 48 42.3	
	comp=Z,5.9nm,0.8s						
TOO	**Toolangi**	**36.99**	**230**	P	**P**	**01 48 42.1**	**+0.4**
STKA	**Stephens Creek**	**38.40**	**241**	P	**P**	**01 48 54.0**	**+0.9**
	comp=Z,6.8nm,0.5s,baz=93,slow=11,SNR=28						
STKA	**Stephens Creek**	**38.40**	**241**	P	**P**	**01 48 52.0**	**-1.1**
BBOO	**Buckleboo**	**43.17**	**241**	P	**P**	**01 49 30.6**	**-0.3**
BBOO				IAmb	IAmb	01 49 31.9	
	comp=Z,12nm,0.9s						
WR0	**Warramunga Arr**	**44.13**	**259**	P	**P**	**01 49 38.9**	**+0.5**
WB0	**Warramunga Arr**	**44.28**	**260**	P	**P**	**01 49 39.4**	**-0.2**
WB0				IAmb	IAmb	01 49 40.4	
	comp=Z,5.0nm,0.6s						
WB2	**Warramunga Arr**	**44.30**	**259**	P	**P**	**01 49 39.0**	**-0.8**
WB2				IAmb	IAmb	01 49 40.7	
	comp=Z,5.9nm,0.7s						
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	**01 49 39.9**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=94,slow=8.0,SNR=56						
WRA				PcP	**PcP**	**01 51 10.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=107,slow=3.8,SNR=2.0						
AS31	**Alice Springs**	**44.49**	**254**	P	**P**	**01 49 41.8**	**+0.6**
AS31				IAmb	IAmb	01 49 42.4	
	comp=Z,9.5nm,0.8s						
ASAR	**Alice Springs**	**44.50**	**254**	P	**P**	**01 49 41.9**	**+0.6**
	comp=Z,36nm,0.6s,baz=88,slow=8.4,SNR=514						
ASAR				PcP	**PcP**	**01 51 11.7**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=105,slow=4.1,SNR=4.0						
MTN	**Manton Dam**	**48.45**	**268**	P	**P**	**01 50 11.6**	**+0.5**
MTN				IAmb	IAmb	01 50 12.0	
	comp=Z,4.9nm,0.7s						
FORT	**Forrest**	**49.76**	**244**	P	**P**	**01 50 20.6**	**+0.2**
KNRA	**Kununurra**	**50.16**	**264**	P	**P**	**01 50 23.4**	**-0.1**
KNRA				IAmb	IAmb	01 50 25.1	
	comp=Z,6.6nm,0.6s						
PSA00	**Pilbara Seismi**	**57.61**	**255**	P	**P**	**01 51 15.6**	**-0.2**
INCN	**Inchon**	**75.19**	**318**	P	**P**	**01 53 04.7**	**+0.9**
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**01 53 27.1**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=224,slow=8.8,SNR=8.2						
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**01 53 57.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=222,slow=5.2,SNR=9.6						
TX32	**Lajitas Array**	**86.21**	**58**	P	**P**	**01 54 01.5**	**+0.7**
TXAR	**Lajitas Array**	**86.21**	**58**	P	**P**	**01 54 01.8**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=223,slow=6.9,SNR=11						
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**01 54 06.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=209,slow=4.3,SNR=6.9						
LODK	**Lodwar**	**143.64**	**251**	PKPdf	**PKPdf**	**02 00 50.0**	**0.0**
BR131	**Keskin Array S**	**144.43**	**315**	PKPdf	**PKPab**	**02 00 51.3**	**-0.2**
BRTR	**Keskin Array B**	**144.43**	**315**	PKP	**PKPab**	**02 00 51.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=112,slow=2.6,SNR=6.2						
GERES	**GERESS Array B**	**147.38**	**345**	PKPbc	**PKiKP**	**02 00 59.3**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=15,slow=4.1,SNR=1.8						

*IDC **09** 01:46:21.5±0.6, 49.°52S×117.°06W, h0km, mb4.1/12, mb1 4.4/12, mb1mx4.3/23, mbtmp4.1/12, MS4.6/40, Ms1 4.6/40, ms1mx4.6/43, Error ellipse: s-maj=24.6km s-min=18.4km az=118.0*
*NEIC **09** 01:46:25.4±2.5, 49.°83S±0.°09×116.°6W±0.°2, h10km±1km, mb4.8/49, Error ellipse: s-maj=23.8km s-min=15.5km az=280.0*
*GCMT **09** 01:46:28.2±0.1, 49.°65S±0.°01×116.°85W±0.°01, h14km±1km, MW5.3/136, Moment Tensor Solution. s100, c160; s136, c220; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.08±.01; $M_{\theta\theta}$-0.22±.02; $M_{\phi\phi}$0.30±.02; $M_{r\theta}$-0.23±.04; $M_{r\phi}$0.94±.01; $M_{\theta\phi}$0.07±.03; Best double couple: $M_0$1.01100×10^{17} NP1:ϕ_s173.00000°, δ77.00000°, λ-173.00000°. NP2:ϕ_s81.00000°, δ83.00000°, λ-13.00000°. Principal axes: T 1.0270, Plg

RAO	**Raoul Island**	**49.90**	270	LR	LR	02 10 37.0	
	comp=Z,339nm,22.0s,baz=134,slow=29						
SNAA	**Sanae**	**50.38**	158	P	**P**	**01 55 20.1**	**0.0**
SNAA	**Sanae**	**50.38**	158	P	**P**	**01 55 20.2**	**0.0**
	comp=Z,2.6nm,0.9s,baz=355,slow=13,SNR=3.1						
SNAA				LR	LR	02 14 08.5	
	comp=Z,2μm,21.7s,baz=238,slow=33						
SNAA	**Sanae**	**50.38**	158	P	**P**	**01 55 21.2**	**+1.1**
SNAA				IAmb	IAmb	01 55 34.2	
	comp=Z,12nm,1.2s						
CPUP	**Villa Florida**	**50.87**	86	P	**P**	**01 55 23.4**	**-0.8**
	comp=Z,3.9nm,1.1s,baz=207,slow=3.5,SNR=3.2						
LPAZ	**La Paz**	**51.42**	67	P	**P**	**01 55 29.8**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=164,slow=3.3,SNR=2.3						
LPAZ	**La Paz**	**51.42**	67	P	**P**	**01 55 29.4**	**+0.1**
ATAH	**Atahualpa**	**53.23**	50	LR	LR	02 12 42.6	
	comp=Z,1μm,21.8s,baz=219,slow=30						
SIV	**San Ignacio**	**55.97**	74	LR	LR	02 16 45.2	
	comp=Z,217nm,19.2s,baz=256,slow=32						
AFI	**Afiamalu**	**57.04**	289	LR	LR	02 14 49.9	
	comp=Z,574nm,19.2s,baz=135,slow=30						
ETMB	**Extrema**	**57.66**	64	P	**P**	**01 56 12.7**	**-1.2**
ETMB				IAmb	IAmb	01 56 31.8	
	comp=Z,9.2nm,1.3s						
OTAV	**Otavalo**	**59.60**	46	P	**P**	**01 56 29.7**	**+1.8**
OTAV				IAmb	IAmb	01 56 46.2	
	comp=Z,14nm,1.5s						
MSVF	**Nonsavu**	**60.61**	277	LR	LR	02 16 07.8	
	comp=Z,325nm,22.0s,baz=127,slow=30						
MAW	**Mawson**	**63.04**	180	P	**P**	**01 56 51.6**	**+1.7**
	comp=Z,8.8nm,0.6s,baz=191,slow=7.1,SNR=12						
MAW	**Mawson**	**63.04**	180	P	**P**	**01 56 51.9**	**+1.9**
BDFB	**Brasilia**	**64.55**	84	LR	LR	02 22 07.8	
	comp=Z,379nm,20.6s,baz=179,slow=33						
DZM	**Mont Dzumac**	**65.00**	265	LR	LR	02 19 31.6	
	comp=Z,208nm,19.9s,baz=154,slow=31						
DZM	**Mont Dzumac**	**65.00**	265	*e*LR	LR	02 16 06.4	
	comp=Z,552nm,24.9s						
ROSC	**El Rosal**	**65.59**	48	LR	LR	02 21 27.7	
	comp=Z,716nm,18.6s,baz=218,slow=32						
JTS	**Las Juntas de**	**65.93**	35	LR	LR	02 19 10.5	
	comp=Z,603nm,18.5s,slow=30						
MACA	**Manacapuru-AM**	**66.24**	65	P	**P**	**01 57 11.0**	**-0.6**
PTGA	**Pitinga**	**68.62**	64	LR	LR	02 22 45.8	
	comp=Z,512nm,19.6s,baz=218,slow=32						
TLIG	**Tlapa**	**68.88**	19	P	P	01 57 31.6	+3.4
TLIG				IAmb	IAmb	01 57 38.1	
	comp=Z,9.1nm,1.3s						
CMIG	**Matias Romero**	**69.26**	22	LR	LR	02 20 37.8	
	comp=Z,532nm,21.5s,baz=194,slow=30						
SDV	**Santo Domingo**	**70.88**	49	LR	LR	02 25 45.2	
	comp=Z,695nm,18.0s,baz=186,slow=33						
STKA	**Stephens Creek**	**73.21**	241	LR	LR	02 25 27.3	
	comp=Z,433nm,18.4s,baz=139,slow=32						
ZAIG	**Zacatecas**	**73.23**	14	P	P	01 57 58.5	+3.8
ZAIG				IAmb	IAmb	01 58 20.7	
	comp=Z,12nm,1.4s						
LPIG	**La Paz**	**73.68**	6	LR	LR	02 23 18.2	
	comp=Z,319nm,19.9s,baz=196,slow=30						
PCRV	**Puerto La Cruz**	**75.02**	54	LR	LR	02 27 14.4	
	comp=Z,2μm,20.6s,slow=33						
HPIG		**76.92**	10	P	**P**	**01 58 17.8**	**+2.0**
HPIG				IAmb	IAmb	01 58 45.8	
	comp=Z,10nm,0.9s						
MDP	**Montagnes des**	**77.62**	67	LR	LR	02 27 45.8	
	comp=Z,246nm,21.4s,baz=220,slow=32						
HNR	**Honiara**	**78.49**	269	LR	LR	02 29 29.3	
	comp=Z,150nm,18.9s,baz=122,slow=33						
SDDR	**Presa de Saban**	**79.36**	43	P	**P**	**01 58 28.4**	**-1.0**
SDDR				IAmb	IAmb	01 58 31.3	
	comp=Z,20nm,1.5s						
TX31	**Lajitas Ar. Si**	**79.53**	12	P	P	01 58 33.6	+3.5
TX32	**Lajitas Array**	**79.53**	12	P	P	01 58 33.6	+3.5
TXAR	**Lajitas Array**	**79.53**	12	P	**P**	**01 58 30.2**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=188,slow=7.6,SNR=12						
TXAR				LR	LR	02 28 17.1	
	comp=Z,193nm,20.1s,baz=167,slow=32						
TXAR	**Lajitas Array**	**79.53**	12	P	P	01 58 33.1	+3.0
319A	**Douglas**	**80.97**	7	P	**P**	**01 58 39.6**	**+1.8**
JCT	**Junction City**	**81.23**	15	P	P	01 58 42.7	+3.6
JCT				IAmb	IAmb	01 58 42.9	
	comp=Z,8.0nm,1.1s						
TUC	**Tucson**	**81.80**	5	P	**P**	**01 58 43.5**	**+1.3**
TUC				IAmb	IAmb	01 58 46.4	
	comp=Z,11nm,1.5s						
PFO	**Pinyon Flats O**	**82.92**	0	LR	LR	02 28 15.0	
	comp=Z,201nm,18.5s,baz=186,slow=30						
Y14A	**Wickenburg**	**83.32**	3	P	P	01 58 53.6	+3.6
Y14A				IAmb	IAmb	01 58 56.8	
	comp=Z,8.2nm,1.4s						
AS31	**Alice Springs**	**83.85**	241	P	**P**	**01 58 52.9**	**-0.4**
ASAR	**Alice Springs**	**83.85**	241	P	**P**	**01 58 51.5**	**-1.8**
	comp=Z,1.8nm,0.9s,baz=146,slow=5.0,SNR=13						
ASAR				LR	LR	02 30 32.1	
	comp=Z,452nm,19.1s,baz=170,slow=32						
X16A	**Lo Mia Camp, P**	**83.87**	4	P	P	01 58 56.4	+3.4
X18A	**Snowflake**	**84.06**	6	P	P	01 58 57.6	+3.6
H01W1	**Cape Leeuwin H**	**84.44**	220	T	T	03 33 07.3	
	baz=148,slow=76,SNR=4.9						
H01W2	**Cape Leeuwin H**	**84.44**	220	T	T	03 33 04.7	
	baz=148,slow=76,SNR=5.8						
H01W3	**Cape Leeuwin H**	**84.45**	220	T	T	03 33 04.1	
	baz=148,slow=76,SNR=5.4						
ANMO	**Albuquerque**	**84.76**	9	LR	LR	02 31 02.7	
	comp=Z,131nm,20.4s,baz=178,slow=32						
ANMO	**Albuquerque**	**84.76**	9	P	P	01 59 00.4	+2.9
ANMO				IAmb	IAmb	01 59 04.6	
	comp=Z,5.3nm,1.1s						
WUAZ	**Wupatki**	**84.96**	4	P	P	01 59 00.8	+2.3
ISA	**Isabella, Lake**	**84.98**	359	P	P	01 59 01.5	+3.1
ISA				IAmb	IAmb	01 59 05.3	
	comp=Z,7.4nm,1.1s						
QSM	**Queen of Sheba**	**85.27**	360	P	P	01 59 02.0	+2.2
QSM				IAmb	IAmb	01 59 03.9	
	comp=Z,13nm,1.5s						
COEN	**Coen**	**85.82**	253	P	P	01 59 06.9	+3.7
COEN				IAmb	IAmb	01 59 13.8	
	comp=Z,6.3nm,1.1s						
U15A	**North Rim**	**85.83**	4	P	P	01 59 06.6	+3.7
U15A				IAmb	IAmb	01 59 07.9	
	comp=Z,12nm,1.5s						
TPNV	**Topopah Spring**	**86.26**	0	P	P	01 59 08.0	+3.1
WRA	**Warramunga Arr**	**86.52**	243	P	**P**	**01 59 05.5**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=139,slow=4.7,SNR=3.1						
PMG	**Port Moresby**	**86.76**	259	LR	LR	02 30 27.8	
	comp=Z,139nm,21.5s,baz=128,slow=30						
NVAR	**Mina Array Bea**	**87.74**	359	P	**P**	**01 59 11.1**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=186,slow=7.3,SNR=1.8						
NVAR				LR	LR	02 31 00.1	
	comp=Z,324nm,19.0s,baz=182,slow=31						
MGMO	**Mountain Grove**	**89.16**	19	P	P	01 59 21.2	+2.6
MGMO				IAmb	IAmb	01 59 25.6	
	comp=Z,8.3nm,1.2s						
NLU	**North Lily Min**	**89.35**	4	P	P	01 59 22.2	+2.5
NLU				IAmb	IAmb	01 59 34.4	
	comp=Z,6.1nm,1.3s						
TKL	**Tuckaleechee C**	**89.88**	26	LR	LR	02 32 43.7	
	comp=Z,182nm,20.8s,baz=190,slow=31						
SUR	**Sutherland**	**90.06**	145	LR	LR	02 33 09.0	
	comp=Z,490nm,18.4s,baz=206,slow=31						
YBH	**Yreka Blue Hor**	**91.18**	356	LR	LR	02 30 55.0	
	comp=Z,328nm,20.9s,baz=186,slow=29						
PD31	**Pinedale Array**	**92.29**	5	IAmb	IAmb	01 59 38.7	
	comp=Z,4.1nm,1.4s						
PDAR	**Pinedale Array**	**92.29**	5	P	**P**	**01 59 33.1**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=158,slow=4.3,SNR=7.3						
PDAR				LR	LR	02 34 05.6	
	comp=Z,144nm,18.6s,baz=178,slow=31						
PDAR	**Pinedale Array**	**92.29**	5	P	P	01 59 36.2	+2.9
HLID	**Hailey**	**92.89**	2	P	P	01 59 39.2	+3.2
PLID	**Pearl Lake**	**94.39**	1	P	P	01 59 45.6	+2.7
PLID				IAmb	IAmb	01 59 47.3	
	comp=Z,5.8nm,1.3s						
BOSA	**Boshof**	**95.07**	147	LR	LR	02 34 26.4	
	comp=Z,558nm,21.7s,baz=198,slow=30						
H11S2	**WAKE ISLAND Hy 95.47**		292	T	T	03 45 58.0	
	baz=142,slow=75,SNR=470						
H11S3	**WAKE ISLAND Hy 95.48**		292	T	T	03 45 51.6	
	baz=142,slow=75,SNR=287						
H11S1	**WAKE ISLAND Hy 95.48**		292	T	T	03 45 51.8	
	baz=142,slow=75,SNR=333						
H11N3	**WAKE ISLAND Hy 96.29**		293	T	T	03 46 48.4	
	baz=142,slow=75,SNR=187						
H11N1	**WAKE ISLAND Hy 96.29**		293	T	T	03 46 51.9	
	baz=142,slow=75,SNR=196						
H11N2	**WAKE ISLAND Hy 96.30**		293	T	T	03 46 49.3	
	baz=142,slow=75,SNR=145						
NEW	**Newport**	**97.56**	360	LR	LR	02 36 59.6	
	comp=Z,269nm,18.2s,baz=182,slow=31						
LBTB	**Lobatse**	**98.48**	146	LR	LR	02 37 23.9	
	comp=Z,696nm,19.2s,baz=208,slow=31						
SADO	**Sadowa**	**99.64**	26	LR	LR	02 40 50.0	
	comp=Z,202nm,19.3s,baz=196,slow=33						
ILAR	**Eielson Array**	**116.48**	346	PKP	**PKiKP**	**02 05 04.1**	**-1.8**
	comp=Z,0.3nm,0.9s,baz=145,slow=3.3,SNR=1.9						
ILAR	**Eielson Array**	**116.48**	346		**PKiKP**	**02 05 07.9**	**+2.0**
CEL	**Celeste**	**144.68**	91		**PKiKP**	**02 06 01.0**	**-2.5**
DAVA	**Damuels**	**145.22**	73	*e*P	**PKiKP**	**02 06 03.9**	**-0.6**
	comp=Z,16nm,1.6s						
STU	**Stuttgart**	**145.38**	70	PKPbc	**PKiKP**	**02 06 02.7**	**-1.8**
TEOL	**Teolo**	**145.52**	77	PKPbc	**PKiKP**	**02 06 02.8**	**-2.1**
FETA	**Feichten**	**145.64**	74	*e*P	**PKiKP**	**02 06 05.1**	**-0.2**
	comp=Z,15nm,1.1s						
RETA	**Reutte**	**145.85**	73	*e*P	**PKiKP**	**02 06 08.2**	**+2.6**
	comp=Z,18nm,1.4s						
MOTA	**Moosalm**	**146.00**	74	*e*P	**PKiKP**	**02 06 06.5**	**+0.4**
	comp=Z,17nm,1.5s						
SQTA	**Sankt Quirin**	**146.02**	74	*e*P	**PKiKP**	**02 06 04.0**	**-2.1**
	comp=Z,17nm,1.5s						
WTTA	**Wattenberg**	**146.30**	74	*e*P	**PKiKP**	**02 06 05.6**	**-1.1**
	comp=Z,8.4nm,1.2s						
ABTA	**Abfaltersbach**	**146.64**	75	*e*P	**PKiKP**	**02 06 09.4**	**+2.1**
	comp=Z,15nm,1.2s						
KBA	**Koelnbreinsper**	**147.30**	75	*e*P	**PKiKP**	**02 06 10.6**	**+1.8**
	comp=Z,13nm,1.1s						
LZH	**Lanzhou**	**147.65**	261	*e*PKPbc	PKPab	02 06 17.2	+7.1
LZH				pPKP	sPKPab	02 06 25.8	+12
GEC2	**GERESS Array S**	**148.18**	72	PKPbc	**PKPab**	**02 06 10.9**	**-0.9**
GERES	**GERESS Array B**	**148.18**	72	PKPbc	**PKPbc**	**02 06 07.7**	**-1.0**
	comp=Z,3.3nm,0.9s,baz=219,slow=1.7,SNR=12						
GERES	**GERESS Array B**	**148.18**	72		**PKiKP**	**02 06 08.7**	**-1.7**
KHC	**Kasperske Hory**	**148.21**	72	*e*PKPDF	**PKiKP**	**02 06 08.0**	**-2.4**
KHC				*e*PKPAB	**sPKPab**	**02 06 13.9**	**-1.2**
CKRC	**Cesky Krumlov**	**148.55**	73	*e*PKP	**PKiKP**	**02 06 08.8**	**-2.3**
CKRC				*ex*	**PKPab**	**02 06 14.6**	**+1.5**
CLL	**Collm**	**148.55**	67	*e*PKPbc	**PKPab**	**02 06 12.0**	**-1.0**
CLL				*i* PKiKP	**sPKPab**	**02 06 14.5**	**-1.9**
	comp=Z,12nm,1.2s						
CLL				*ex*	x	02 06 18.0	
CLL				*ex*	x	02 28 18.0	
ARSA	**Arzberg**	**148.74**	76	*e*P	**PKPab**	**02 06 12.2**	**-1.7**
	comp=Z,7.3nm,1.1s						
BRG	**Berggiesshubel**	**148.99**	69	*e*PKP	**PKPab**	**02 06 14.0**	**-0.8**
BRG				Amp		02 06 17.4	
	comp=Z,9.0nm,1.1s						
PRU	**Pruhonice**	**149.08**	70⇑	*e*PKP	**PKPab**	**02 06 13.7**	**-1.5**
CONA	**Conrad Observa**	**149.20**	75	*e*P	**PKPab**	**02 06 15.1**	**-0.8**
	comp=Z,12nm,1.2s						
AGG	**Agios Georgios**	**149.28**	95	PKPbc	**PKPab**	**02 06 13.3**	**-3.1**
KRUC	**Moravsky**	**149.93**	73	*e*PKP	**PKPbc**	**02 06 10.2**	**-2.8**
VRAC	**Vranov**	**150.13**	73	*e*PKP	**PKPbc**	**02 06 10.7**	**-2.8**
MODS	**Modra-Piesok**	**150.25**	75	*e*PKP	**PKiKP**	**02 06 12.8**	**-1.8**
DPC	**Dobruska-Polom**	**150.28**	70⇑	*e*PKP	**PKPab**	**02 06 19.7**	**-0.5**
DPC				*e*PKPAB	**sPKPab**	**02 06 23.0**	**-0.6**
KRLC	**Kraliky**	**150.48**	71	*e*PKPAB	**PKPab**	**02 06 20.0**	**-1.0**
JAVC	**Velka Javorina**	**150.65**	74	*e*PKP	**PKPbc**	**02 06 11.4**	**-3.4**
MORC	**Moravsky Berou**	**150.86**	72	*e*PKP	**PKPbc**	**02 06 12.3**	**-2.9**
VYHS	**Vyhne**	**151.26**	75	*e*PKP	**PKiKP**	**02 06 16.2**	**-0.5**
SONM	**Songino Array**	**151.72**	283	PKPbc	**PKiKP**	**02 06 16.2**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=141,slow=5.0,SNR=3.6						
VTS	**Vitosha**	**151.72**	89		**PKiKP**	**02 06 18.8**	**+0.8**
GTA	**Gaotai**	**152.18**	262	*e*PKPbc	**PKiKP**	**02 06 20.1**	**+1.1**
GTA				pPKP	PKPab	02 06 24.9	-3.6
GTA				sPKP		02 06 27.7	
GTA				LR	LR		
	comp=Z,85nm,18.9s						
GTA				LR	LR		
	comp=Z,170nm,19.6s						
GTA				LR	LR		
	comp=Z,210nm,18.9s						
ARCES	**ARCESS Array B**	**153.20**	28	PKPbc	**PKiKP**	**02 06 20.4**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=275,slow=4.3,SNR=2.8						
GOMU	**GeErMu**	**153.42**	252	P	**PKPab**	**02 06 31.6**	**-2.5**
GOMU				pP	pPKPab	02 06 34.0	-2.7
GOMU				sP	sPKPab	02 06 36.2	-1.4
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,61nm,5.0s						
BRTR	**Keskin Array B**	**156.92**	104	PKPbc	PKPdf	02 06 27.7	+9.1
	comp=Z,0.9nm,0.8s,baz=226,slow=6.2,SNR=3.9						
BRTR				PKPab	**PKPab**	**02 06 48.2**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=208,slow=2.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**165.95**	296	PKPab	**PKPab**	**02 07 26.0**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=30,slow=3.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**165.95**	296	PKPdf	**PKPdf**	**02 06 29.8**	**+2.4**
MKAR	**Makanchi Array**	**166.92**	265	PKPab	**PKPab**	**02 07 31.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=108,slow=4.9,SNR=2.4						

IDC 09 02:01:59.7±10.0, 4°.05N×93°.49E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/43, mbtmp3.4/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/50, Error ellipse: s-maj=476.4km s-min=31.8km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.56**	**103**	LR	LR	02 05 04.5	
	comp=Z,53nm,19.4s,baz=85,slow=33						
MKAR	**Makanchi Array**	**43.67**	**349**	P	P	02 10 06.2	-0.1
	0.5nm,0.9s,baz=168,slow=7.4,SNR=3.8						
WRA	**Warramunga Arr**	**46.68**	**122**	P	P	02 10 30.3	-0.3
	0.7nm,0.8s,baz=302,slow=8.7,SNR=5.1						
ASAR	**Alice Springs**	**48.06**	**127**	P	P	02 10 41.4	0.0
	0.3nm,0.7s,baz=289,slow=6.8,SNR=3.4						

IDC 09 02:06:23.9±7.2, 7°.59S×158°.50E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/28, mbtmp3.6/4, Error ellipse: s-maj=211.2km s-min=36.3km az=113.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.44**	**240**	P	P	02 12 04.3	+1.6
	0.2nm,0.4s,baz=65,slow=9.2,SNR=5.4						
H11S3	**WAKE ISLAND Hy 27.15**		**17**	T	T	02 40 37.8	
	baz=194,slow=76,SNR=284						
H11S2	**WAKE ISLAND Hy 27.15**		**17**	T	T	02 40 39.9	
	baz=194,slow=76,SNR=327						
H11S1	**WAKE ISLAND Hy 27.16**		**17**	T	T	02 40 39.0	
	baz=194,slow=76,SNR=148						
H11N1	**WAKE ISLAND Hy 28.36**		**17**	T	T	02 42 11.0	
	baz=193,slow=76,SNR=271						
H11N3	**WAKE ISLAND Hy 28.37**		**17**	T	T	02 42 11.5	
	baz=193,slow=76,SNR=236						
H11N2	**WAKE ISLAND Hy 28.38**		**17**	T	T	02 42 12.4	
	baz=193,slow=76,SNR=430						
ASAR	**Alice Springs**	**28.50**	**233**	P	P	02 12 19.4	-1.7
	0.2nm,0.6s,baz=63,slow=9.9,SNR=4.2						
SONM	**Songino Array**	**71.74**	**326**	P	P	02 17 48.5	+0.4
	0.5nm,0.6s,baz=132,slow=4.3,SNR=3.0						
MKAR	**Makanchi Array**	**86.16**	**318**	P	P	02 19 06.8	-0.3
	0.3nm,0.5s,baz=88,slow=6.6,SNR=5.7						

*SNET **09** 02:43:05.7±0.7, 12°.92N×90°.66W, h12km±7km, ML2.9*
*GCG **09** 02:43:09.8±0.3, 14°.36N×90°.61W, h195km±3km, MD3.6*

ISC 09 02:43:07.3±2.9, 12°.9N±0°.1×90°.59W±0°.10, h23km±20km, n16, σ0s93/22, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**1.29**	**38**	*e*P	**Pn**	**02 43 28.7**	**-1.4**
NUBE				*e*S	**Sn**	**02 43 46.4**	**-0.4**
CEVE	**Cerro Verde**	**1.34**	**45**	*e*P	**Pn**	**02 43 30.0**	**-0.8**
CEVE				IAML		02 43 58.6	
	comp=Z,862nm,0.3s						
SBLS	**San Blas**	**1.34**	**45**	*e*P	**Pn**	**02 43 30.0**	**-1.0**
JAYA	**Jayaque - finc**	**1.36**	**55**	*e*P	**Pn**	**02 43 30.1**	**-0.9**
JAYA				*e*S	**Sn**	**02 43 48.9**	**+0.5**
JAYA				IAML		02 43 54.7	
	comp=Z,339nm,0.4s						
RTR	**El Retiro**	**1.37**	**42**	*e*P	**Pn**	**02 43 30.7**	**-0.6**
SNJE	**San Jose**	**1.38**	**44**	*e*P	**Pn**	**02 43 30.6**	**-0.8**
SLOZ	**Alcaldia de Sa**	**1.39**	**35**	*e*P	**Pn**	**02 43 30.3**	**-1.0**
SLOZ				*e*S	**Sn**	**02 43 49.1**	**+0.1**
SLOZ				IAML		02 44 00.1	
	comp=Z,203nm,0.5s						
FUG	**Fuego 3**	**1.58**	**351**	*e*P	**Pb**	**02 43 36.5**	**+0.5**
FUG				*e*S	**Sb**	**02 43 57.2**	**+1.5**
TACO	**Tacachico**	**1.62**	**48**	*e*P	**Pn**	**02 43 33.9**	**-0.7**
TACO				IAML		02 43 40.6	
	comp=Z,74nm,0.4s						
TACO				*e*S	**Sn**	**02 43 56.3**	**+1.5**
NBG	**Las Nubes**	**1.72**	**8**	*e*P	**Pb**	**02 43 37.0**	**-1.4**
NBG				*e*S	**Sn**	**02 43 58.3**	**+0.8**
PAVA	**Las Pavas**	**1.81**	**63**	*e*P	**Pn**	**02 43 37.4**	**+0.1**
PAVA				IAML		02 43 46.9	
	comp=Z,94nm,0.4s						
COEG	**Centro de Oper**	**1.82**	**66**	*e*P	**Pn**	**02 43 37.4**	**0.0**
MTO3	**Montecristo**	**1.93**	**38**	*e*P	**Pn**	**02 43 38.6**	**-0.3**
MTO3				IAML		02 44 08.1	
	comp=Z,37nm,0.5s						
SCLA	**Alcaldia de Sa**	**1.99**	**65**	*e*P	**Pn**	**02 43 39.9**	**+0.2**
STG3	**Santiaguito 3,**	**2.06**	**333**	*e*P	**Pn**	**02 43 40.1**	**-0.6**
LCND	**La Caada**	**2.67**	**80**	*e*P	**Pn**	**02 43 48.7**	**-0.3**

*IDC **09** 02:58:57.2±1.1, 28°.52S×176°.19W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.6/28, mbtmp3.8/4, MS3.6/2, Ms1 3.6/2, ms1mx2.9/57, Error ellipse: s-maj=55.1km s-min=20.0km az=155.0*

ISC 09 02:59:02.7±1.0, 28°.4S±0°.3×176°.3W±0°.2, h36km, n11, σ0s83/11, mb3.7/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.69**	**240**	Pn	**Pn**	**02 59 29.8**	**+0.2**
	227nm,0.3s,baz=222,slow=22,SNR=10						
RAO				Sn	**Sn**	**02 59 50.8**	**+0.7**
	602nm,0.3s,baz=155,slow=23,SNR=6.1						
ASAR	**Alice Springs**	**44.79**	**264**	P	**P**	**03 07 12.7**	**-0.5**
	0.3nm,0.4s,baz=100,slow=6.8,SNR=12						
ASAR				LR	LR	03 25 59.8	
	comp=Z,76nm,18.1s,baz=150,slow=36						
WRA	**Warramunga Arr**	**45.60**	**269**	P	**P**	**03 07 19.3**	**-0.3**
	1.3nm,0.9s,baz=109,slow=8.0,SNR=5.8						
GUMO	**Guam**	**56.20**	**313**	LR	LR	03 29 14.4	
	comp=Z,44nm,21.0s,baz=118,slow=32						
NVAR	**Mina Array Bea**	**85.74**	**42**	P	**P**	**03 11 39.0**	**+0.7**
	1.0nm,0.9s,baz=223,slow=7.5,SNR=6.0						
TXAR	**Lajitas Array**	**90.02**	**56**	P	**P**	**03 11 59.8**	**+1.0**
	0.3nm,0.8s,baz=234,slow=4.3,SNR=3.5						
NB2	**NORSAR Subarra**	**146.98**	**353**	PKPdf	**PKPab**	**03 18 41.6**	**-0.8**
	comp=Z,15nm,2.0s,baz=68,slow=1.9						
NB2	**NORSAR Subarra**	**146.98**	**353**	PKPdf	**PKPab**	**03 18 41.6**	**-0.8**
	baz=68,slow=1.9						
NOA	**NORSAR Array B**	**146.98**	**353**	PKPbc	**PKPbc**	**03 18 40.8**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=9.3,slow=2.8,SNR=4.7						
AKASG	**Malin Array Be**	**150.57**	**326**	PKPbc	**PKiKP**	**03 18 50.6**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=52,slow=2.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**164.70**	**172**	PKPab	**PKPab**	**03 19 57.4**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=206,slow=3.3,SNR=7.7						

*BJI **09** 03:05:23.0±0.0, 16°.10S×28°.40E, h5km, mb4.6/21, mB5.2/9*
*IDC **09** 03:05:23.7±0.5, 16°.03S×28°.30E, h0km, mb4.4/20, mb1 4.5/24, mb1mx4.4/29, mbtmp4.4/24, ML4.2/5, MS3.6/5, Ms1 3.6/5, ms1mx3.1/66, Error ellipse: s-maj=19.1km s-min=8.1km az=81.0*
*LSZ **09** 03:05:25.5±0.3, 15°.64S×27°.62E, h10km, MD4.7, ML4.5*
*EAF **09** 03:05:25.4±4.4, 16°.08S×28°.31E, h0km±38km, MD4.4*
*NEIC **09** 03:05:25.7±1.1, 16°.06S±0°.08×28°.42E±0°.07, h10km±1km, mb4.6/32, Error ellipse: s-maj=14.1km s-min=10.2km az=157.0*
*BUL **09** 03:05:25.5±2.0, 16°.05S×28°.52E, h10km, MD5.0*
*PRE **09** 03:05:34.2±0.8, 17°.12S×28°.71E, h5km, ML4.2*

ISC 09 03:05:24.5±0.3, 16°.05S±0°.03×28°.35E±0°.05, h10km, n148, σ2s59/164, mb4.6/48, 1D, Zambia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**0.79**	**349**	Pg	**Pg**	**03 05 39.4**	**-0.3**
	1μm,0.3s,baz=166,slow=15,SNR=9610						
LSZ				Lg	Lg	03 05 48.2	
	3μm,0.3s,baz=248,slow=19,SNR=37						
LSZ	**Lusaka**	**0.79**	**349**	*i* P	**Pg**	**03 05 39.7**	**0.0**
LSZ				*i* S	**Sg**	**03 05 51.0**	**+1.0**
LSZ	**Lusaka**	**0.79**	**349**	*i* P	**Pg**	**03 05 39.7**	**0.0**
LSZ				*i* S	**Sg**	**03 05 51.0**	**+1.0**
MATP	**Matopo**	**4.35**	**178**	Pn	**Pn**	**03 06 31.6**	**+0.7**
	5.0nm,0.3s,ba

BOSA				Lg		Lg		03 12 00.3
	comp=Z,5.2nm,0.3s,baz=98,slow=22,SNR=2.4							
BOSA				LR		LR		03 13 32.9
	comp=Z,115nm,19.2s,baz=12,slow=38							
BOSA	**Boshof**	**12.82**	**192**	*i* P		**Pn**	**03 08 25.8**	**-1.3**
BOSA				*i* S		Sn	03 10 36.5	-13
BOSA				*i* S			03 12 00.9	
BOSA	**Boshof**	**12.82**	**192**	*i* P		**Pn**	**03 08 25.8**	**-1.3**
BOSA				*i* S		Sn	03 10 36.5	-13
BOSA				*i* S			03 12 00.9	
BOSA	**Boshof**	**12.82**	**192**	Pn		**Pn**	**03 08 25.0**	**-2.1**
UPI	**Upington**	**13.90**	**207**	*eP*		**Pn**	**03 08 42.6**	**+1.0**
UPI				*eS*		Sn	03 11 01.9	-14
UPI				IAML			03 12 34.3	
	comp=Z,27nm,2.2s							
HVD	**Gariep Dam**	**14.72**	**190**	*eP*		**Pn**	**03 08 51.5**	**-1.4**
HVD				*eS*		Sn	03 11 15.6	-21
HVD				IAML			03 11 30.8	
	comp=Z,78nm,0.8s							
AUSN	**Aus**	**15.43**	**225**	*eP*		**P**	**03 09 07.4**	**+0.3**
AUSN				*eS*		**Sn**	**03 11 45.2**	**-8.5**
AUSN				IAML			03 12 47.5	
	comp=Z,31nm,0.9s							
MBAR	**Mbarara**	**15.53**	**9**	Pn		**Pn**	**03 09 02.1**	**-1.7**
	comp=Z,2.6nm,0.3s,baz=171,slow=18,SNR=8.8							
MBAR				Sn		**Sn**	**03 11 49.3**	**-6.9**
	comp=Z,3.2nm,0.3s,baz=49,slow=21,SNR=2.1							
MBAR				Lg		Lg	03 13 28.2	
	comp=Z,4.1nm,0.3s,baz=261,slow=23,SNR=9.5							
MBAR				LR		LR	03 15 16.1	
	comp=Z,327nm,20.7s,baz=178,slow=38							
MBAR	**Mbarara**	**15.53**	**9**	*i* P		**Pn**	**03 09 03.0**	**-0.9**
MBAR				*i* S		**Sn**	**03 11 47.1**	**-9.1**
MBAR	**Mbarara**	**15.53**	**9**	*i* P		**Pn**	**03 09 03.0**	**-0.9**
MBAR				*i* S		**Sn**	**03 11 47.1**	**-9.1**
MBAR	**Mbarara**	**15.53**	**9**			**Pn**	**03 09 03.5**	**-0.4**
TEBE	**Entebbe**	**16.51**	**15**	*eP*		**Pn**	**03 09 15.3**	**-1.2**
TEBE				*eS*		Sn	03 12 05.0	-15
KIBK	**Kibwezi**	**16.64**	**36**	Pn		**Pn**	**03 09 17.8**	**-0.2**
SOE	**Somerset East**	**16.78**	**188**	*eP*		**P**	**03 09 20.1**	**-1.9**
SOE				*eS*		Sn	03 12 03.8	-22
SOE				IAML			03 12 57.3	
	comp=Z,33nm,1.1s							
KMBO	**Kilima Mbogo**	**17.23**	**31**	P		**Pn**	**03 09 25.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=214,slow=15,SNR=6.7							
KMBO				S		**Sn**	**03 12 29.8**	**-7.9**
	comp=Z,0.6nm,0.3s,baz=219,slow=17,SNR=2.0							
KMBO				Lg		Lg	03 14 20.6	
	comp=Z,0.8nm,0.3s,baz=103,slow=20,SNR=6.8							
KMBO	**Kilima Mbogo**	**17.23**	**31**	*i* P		**Pn**	**03 09 21.1**	**-4.6**
KMBO				*i* S		Sn	03 12 13.7	-24
KMBO	**Kilima Mbogo**	**17.23**	**31**	*i* P		**Pn**	**03 09 21.1**	**-4.6**
KMBO				*i* S		Sn	03 12 13.7	-24
KMBO	**Kilima Mbogo**	**17.23**	**31**	Pn		**Pn**	**03 09 24.8**	**-0.9**
CVNA	**Calvinia**	**17.24**	**205**	*eP*		**P**	**03 09 29.3**	**+2.2**
CVNA				*eS*		Sn	03 12 19.8	-18
CVNA				IAML			03 13 44.1	
	comp=Z,35nm,1.0s							
SUR	**Sutherland**	**17.64**	**201**	P		**Pn**	**03 09 27.4**	**-3.2**
	comp=Z,1.6nm,0.3s,baz=34,slow=13,SNR=24							
SUR				S		**Sn**	**03 12 38.6**	**-8.6**
	comp=Z,1.2nm,0.3s,baz=359,slow=21,SNR=3.0							
SUR				LR		LR	03 16 19.9	
	comp=Z,396nm,18.2s,baz=26,slow=37							
SUR	**Sutherland**	**17.64**	**201**	Pn		**Pn**	**03 09 26.6**	**-4.0**
SUR				IAmb		IAmb	03 09 37.0	
	comp=Z,44nm,0.7s							
OPO	**Ambohidratompo**	**18.16**	**101**	P		**P**	**03 09 40.0**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=274,slow=9.6,SNR=7.4							
ABPO	**Ambohimpanom**	**18.24**	**102**	Pn		**Pn**	**03 09 35.3**	**-2.8**
LODK	**Lodwar**	**20.55**	**20**	P		**P**	**03 10 01.5**	**-2.0**
TORD	**Torodi Ar. Bea**	**39.20**	**316**	P		**P**	**03 12 53.3**	**+0.2**
	comp=Z,9.1nm,0.7s,baz=131,slow=7.7,SNR=93							
KIC	**Kosan Boka**	**39.61**	**302**	*eP*		**P**	**03 12 56.7**	**+0.2**
	comp=Z,12nm,0.5s							
LIC	**Lamto**	**39.77**	**301**	*eP*		**P**	**03 12 57.8**	**0.0**
	comp=Z,22nm,1.1s							
DBIC	**Dimbokro**	**39.88**	**302**	P		**P**	**03 12 58.8**	**0.0**
	comp=Z,5.7nm,0.4s,baz=139,slow=8.2,SNR=24							
DBIC	**Dimbokro**	**39.88**	**302**	P		**P**	**03 12 58.4**	**-0.4**
DBIC				IAmb		IAmb	03 12 59.4	
	comp=Z,15nm,1.1s							
TIC	**Toumodi**	**39.99**	**302**	*eP*		**P**	**03 13 00.0**	**+0.2**
WSAR	**Wadi Sarin**	**49.01**	**38**	LR		LR	03 34 49.1	
	comp=Z,97nm,18.4s,baz=6.5,slow=36							
KEST	**Kesra**	**54.56**	**341**	P		**P**	**03 14 55.5**	**+2.5**
	comp=Z,4.7nm,1.0s,baz=273,slow=13,SNR=4.4							
KEST	**Kesra**	**54.56**	**341**	IAmb		IAmb	03 14 59.0	
	comp=Z,6.2nm,0.9s							
BRTR	**Keskin Array B**	**55.70**	**5**	P		**P**	**03 15 02.5**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=184,slow=11,SNR=8.3							
GEVA	**Gevas**	**55.81**	**14**	P		**P**	**03 15 04.7**	**+2.6**
GEVA				IAmb		IAmb	03 15 12.5	
	comp=Z,9.6nm,1.4s							
MAW	**Mawson**	**56.12**	**165**	P		**P**	**03 15 05.4**	**+1.6**
	comp=Z,10.0nm,0.7s,baz=322,slow=8.3,SNR=12							
MAW	**Mawson**	**56.12**	**165**	P		**P**	**03 15 04.9**	**+1.1**
SNAA	**Sanae**	**58.61**	**191**	P		**P**	**03 15 22.5**	**+1.1**
SNAA	**Sanae**	**58.61**	**191**	P		**P**	**03 15 22.7**	**+1.3**
SNAA				IAmb		IAmb	03 15 23.7	
	comp=Z,7.3nm,0.9s							
VNA1	**Neumayer--Stat**	**58.91**	**193**	P		**P**	**03 15 24.9**	**+1.5**
VNA2	**Neumayer--Watz**	**58.93**	**193**	P		**P**	**03 15 24.7**	**+1.2**
	baz=30,slow=7.3							
HRA	**Herat**	**59.63**	**32**	P		**P**	**03 15 29.8**	**+0.7**
HRA				IAmb		IAmb	03 15 35.7	
	comp=Z,2.4nm,0.6s							
VNA3	**Neumayer Olymp**	**59.66**	**193**	P		**P**	**03 15 29.5**	**+0.8**
MLR	**Muntele Rosu**	**61.29**	**358**	P		**P**	**03 15 40.6**	**+0.5**
ESDC	**Sonseca Array**	**63.10**	**332**	P		**P**	**03 15 52.8**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=151,slow=7.1,SNR=13							
ESDC	**Sonseca Array**	**63.10**	**332**	P		**P**	**03 15 53.2**	**+0.9**
BURAR	**Bucovina Array**	**63.44**	**358**	P		**P**	**03 15 56.8**	**+2.4**
KBA	**Koelnbreinsper**	**64.27**	**349**	*i* P		**P**	**03 16 01.6**	**+1.6**
	comp=Z,5.4nm,1.0s							
CONA	**Conrad Observa**	**64.66**	**351**	*eP*		**P**	**03 16 04.1**	**+1.7**
	comp=Z,2.7nm,0.6s							
FETA	**Feichten**	**64.75**	**347**	*eP*		**P**	**03 16 03.8**	**+0.6**
	comp=Z,9.0nm,1.3s							
VYHS	**Vyhne**	**64.81**	**353**	*eP*		**P**	**03 16 03.1**	**-0.2**
SQTA	**Sankt Quirin**	**64.83**	**347**	*eP*		**P**	**03 16 04.9**	**+1.2**
	comp=Z,3.5nm,0.6s							
MOA	**Molln**	**64.85**	**350**	*eP*		**P**	**03 16 05.1**	**+1.5**
	comp=Z,3.1nm,0.6s							
WATA	**Walderalm**	**64.87**	**347**	*i* P		**P**	**03 16 04.8**	**+0.9**
	comp=Z,2.3nm,0.7s							
CRVS	**Cervenica-Dubn**	**64.95**	**355**	*eP*		**P**	**03 16 05.8**	**+1.6**
MOTA	**Moosalm**	**64.98**	**347**	*eP*		**P**	**03 16 05.6**	**+1.0**
	comp=Z,2.8nm,0.7s							
RETA	**Reutte**	**65.18**	**347**	*i* P		**P**	**03 16 06.8**	**+0.9**
	comp=Z,8.2nm,1.6s							
DAVA	**Damuels**	**65.19**	**346**	*i* P		**P**	**03 16 06.8**	**+0.8**
	comp=Z,3.5nm,0.5s							
LANS	**Liptovska Anna**	**65.39**	**354**	*eP*		**P**	**03 16 08.7**	**+1.6**
CKRC	**Cesky Krumlov**	**65.78**	**350**	*eP*		**P**	**03 16 11.1**	**+1.5**
GERES	**GERESS Array B**	**65.91**	**349**	P		**P**	**03 16 11.6**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=145,slow=4.9,SNR=12							
KHC	**Kasperske Hory**	**66.20**	**349**	*eP*		**P**	**03 16 12.9**	**+0.5**
KHC	**Kasperske Hory**	**66.20**	**349**	P		**P**	**03 16 13.4**	**+1.0**
KHC				IAmb		IAmb	03 16 17.8	
	comp=Z,4.4nm,1.0s							
AKASG	**Malin Array Be**	**66.47**	**1**	P		**P**	**03 16 14.3**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=187,slow=5.8,SNR=16							
DPC	**Dobruska-Polom**	**66.95**	**352**	*eP*		**P**	**03 16 21.4**	**+4.2**
DRK	**Karamyk**	**68.52**	**35**	P		**P**	**03 16 28.4**	**+0.8**
MNK	**Minsk**	**70.27**	**360**	*i* P		**P**	**03 16 38.0**	**+0.3**
MNK				*i* P		**P**	**03 16 38.0**	**+0.3**
MNK				*i* P		**P**	**03 16 38.0**	**+0.3**
	comp=Z,8.0nm,0.8s,baz=180							
MNK				*i* PP		PP	03 19 04.3	-9.2
MNK				*i* S		**S**	**03 25 51.4**	**+1.9**
MNK				*i* SS		SS	03 30 33.4	+13
MNK				*i* SSS		SSS	03 33 33.2	
MNK				*i* LQ		LQ	03 42 11.2	
MNK				*i* LR		LR	03 46 51.7	
MNK				*i* LRM		MLR	03 49 23.7	
	comp=E,15nm,18.0s							
MNK				*i* LRM		MLR	03 49 27.5	
	comp=N,166nm,20.7s							
MNK				*i* LRM		MLR	03 49 45.3	
	comp=Z,117nm,19.1s							
KKAR	**Karatay Array**	**70.43**	**31**	P		**P**	**03 16 40.1**	**+1.1**
NACGM	**Naroch**	**70.69**	**359**	*i* P		P	03 16 45.2	+5.0
ABKAR	**Akbulak array**	**70.79**	**21**	P		**P**	**03 16 41.6**	**+0.6**
ABKAR	**Akbulak array**	**70.79**	**21**	P		**P**	**03 16 41.7**	**+0.7**
KSH	**Kashi**	**70.91**	**37**	P		**P**	**03 16 42.1**	**0.0**
KSH				pmax		pmax		
	comp=Z,5.0nm,0.8s							
IDID	**Didziasalis**	**71.10**	**359**	*eP*		**P**	**03 16 44.0**	**+1.3**
IIGN	**Ignalina**	**71.14**	**359**	*eP*		**P**	**03 16 44.4**	**+1.4**
ISAL	**Salakas**	**71.37**	**359**	*eP*		**P**	**03 16 45.7**	**+1.4**
BDFB	**Brasilia**	**73.02**	**258**	P		**P**	**03 16 55.9**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=104,slow=9.5,SNR=5.8							
BDFB	**Brasilia**	**73.02**	**258**	IAmb		IAmb	03 16 56.0	
	comp=Z,5.7nm,1.1s							
QSPA	**South Pole Qui**	**74.08**	**180**	P		**P**	**03 17 01.7**	**+1.0**
QSPA				IAmb		IAmb	03 17 02.5	
	comp=Z,5.9nm,0.8s							
VSU	**Vasula**	**74.25**	**359**	*eP*		**P**	**03 17 01.6**	**+0.2**
KULM	**Kulim**	**74.58**	**80**	P		**P**	**03 17 03.4**	**-0.9**
FINES	**FINESS Array B**	**77.25**	**359**	P		**P**	**03 17 18.9**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=180,slow=5.3,SNR=6.0							
FINES	**FINESS Array B**	**77.25**	**359**	P		**P**	**03 17 19.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**77.48**	**67**	P		**P**	**03 17 21.3**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=255,slow=6.5,SNR=9.3							
CMAR	**Chiang Mai Arr**	**77.48**	**67**	P		**P**	**03 17 21.4**	**+0.6**
BRVK	**Borovoye**	**77.72**	**24**	P		**P**	**03 17 22.5**	**+1.1**
BRVK				IAmb		IAmb	03 17 26.6	
	comp=Z,3.6nm,0.8s							
NB2	**NORSAR Subarra**	**78.05**	**352**	P		**P**	**03 17 24.2**	**+1.2**
	comp=Z,7.3nm,1.2s,baz=167,slow=5.3							
NOA	**NORSAR Array B**	**78.05**	**352**	P		**P**	**03 17 24.3**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=168,slow=5.0,SNR=5.2							
MAKZ	**Makanchi**	**78.93**	**34**	P		**P**	**03 17 28.8**	**+0.5**
MK31	**Makanchi Array**	**79.09**	**34**	P		**P**	**03 17 29.9**	**+0.8**
MK31				IAmb		IAmb	03 17 35.0	
	comp=Z,7.1nm,0.9s							
MKAR	**Makanchi Array**	**79.09**	**34**	P		**P**	**03 17 30.3**	**+1.1**
	comp=Z,8.2nm,0.8s,baz=229,slow=5.5,SNR=32							
MKAR	**Makanchi Array**	**79.09**	**34**	P		**P**	**03 17 29.9**	**+0.8**
KURK	**Kurchatov**	**79.71**	**30**	P		**P**	**03 17 33.1**	**+0.8**
KURK				IAmb		IAmb	03 17 38.0	
	comp=Z,7.8nm,0.9s							
WMQ	**Urumqi**	**80.49**	**39**	*eP*		**P**	**03 17 36.9**	**+0.1**
WMQ				pmax		pmax		
	comp=Z,85nm,4.5s							
GOMU	**GeErMu**	**81.43**	**49**	P		**P**	**03 17 44.6**	**+2.2**
GOMU				pP		sP	03 17 46.7	-0.7
GOMU				sP		PcP	03 17 48.4	-0.1
GOMU				pmax		pmax		
	comp=Z,2.0nm,0.5s							
PZH	**PanZhiHua**	**82.86**	**60**	P		**P**	**03 17 51.5**	**+1.7**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,150nm,6.3s							
VNDA	**Vanda**	**82.86**	**171**	P		**P**	**03 17 49.8**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=252,slow=3.2,SNR=1.8							
PTLB	**Pontes e Lacer**	**83.49**	**256**	P		**P**	**03 17 54.9**	**+1.7**
PTLB				IAmb		IAmb	03 17 56.0	
	comp=Z,6.1nm,1.0s							
ZAA0	**Zalesovo Array**	**84.70**	**30**	IAmb		IAmb	03 18 04.1	
	comp=Z,6.8nm,1.1s							
ZALV	**Zalesovo Beam**	**84.70**	**30**	P		**P**	**03 17 58.9**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=231,slow=5.5,SNR=9.6							
ARCES	**ARCESS Array B**	**85.38**	**359**	P		**P**	**03 18 02.5**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=179,slow=4.9,SNR=11							
ARCES	**ARCESS Array B**	**85.38**	**359**	IAmb		IAmb	03 18 03.2	
	comp=Z,5.0nm,1.1s							
PLCA	**Paso Flores**	**86.24**	**229**	P		**P**	**03 18 07.9**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=121,slow=5.9,SNR=1.7							
GTA	**Gaotai**	**86.39**	**47**	*eP*		**P**	**03 18 09.0**	**+1.6**
GTA				pP		sP	03 18 12.8	+0.4
GTA				sP		pP	03 18 16.0	+4.9
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
ETMB	**Extrema**	**91.65**	**259**	P		**P**	**03 18 34.0**	**+1.3**
ETMB				IAmb		IAmb	03 18 34.1	
	comp=Z,1.6nm,0.8s							
SONM	**Songino Array**	**93.95**	**41**	P		**P**	**03 18 43.7**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=237,slow=4.0,SNR=3.9							
WHN	**Wuhan**	**94.65**	**60**	‖P		**P**	**03 18 43.7**	**-2.4**
HHC	**Hu-ho-hao-te**	**95.33**	**49**	*eP*		**P**	**03 18 50.3**	**+1.1**
HHC				pmax		pmax		
	comp=Z,12nm,1.1s							
HHC				pmax		pmax		
	comp=Z,77nm,6.0s							
ASAR	**Alice Springs**	**97.28**	**117**	P		Pdif	03 18 59.4	+0.9
	comp=Z,0.5nm,0.8s,baz=246,slow=3.4,SNR=10.0							
NJ2	**Nanjing**	**98.76**	**59**	*eP*		Pdif	03 19 05.0	+0.2
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
WRA	**Warramunga Arr**	**98.98**	**114**	P		Pdif	03 19 06.6	+0.5
	comp=Z,0.5nm,0.7s,baz=252,slow=2.3,SNR=4.0							
XLT	**XiLinHaoTe**	**99.34**	**47**	*eP*		**Pdif**	**03 19 08.6**	**+1.4**
XLT				pP		sP	03 19 13.7	+1.5
XLT				sP		pP	03 19 16.6	+5.7
XLT				pmax		pmax		
	comp=Z,4.0nm,1.2s							
YKA	**Yellowknife Ar**	**126.85**	**340**	PKP		**PKiKP**	**03 24 28.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=36,slow=1.6,SNR=7.5							
YKA	**Yellowknife Ar**	**126.85**	**340**	PKPdf		**PKiKP**	**03 24 28.6**	**+0.1**
IMAR	**Indian Mountai**	**130.09**	**1**	PKPdf		**PKiKP**	**03 24 35.9**	**+0.9**
ILAR	**Eielson Array**	**131.22**	**357**	PKP		**PKiKP**	**03 24 36.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=342,slow=3.3,SNR=5.0							
TXAR	**Lajitas Array**	**134.10**	**295**	PKP		**PKiKP**	**03 24 43.6**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=131,slow=2.7,SNR=2.1							
PDAR	**Pinedale Array**	**135.34**	**315**	PKP		**PKPdf**	**03 24 44.6**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=120,slow=3.2,SNR=4.0							
NVAR	**Mina Array Bea**	**143.22**	**314**	PKP		**PKPdf**	**03 24 57.7**	**-1.9**
	comp=Z,2.0nm,0.6s,baz=61,slow=4.5,SNR=22							
NVAR	**Mina Array Bea**	**143.22**	**314**	PKPdf		PKPbc	03 24 57.4	+0.8

*SNET **09** 03:16:00.6±0.8, 12°.92N×90°.61W, h17km±5km, ML3.0*
*GCG **09** 03:16:02.6±0.3, 14°.02N×90°.48W, h201km±5km, MD3.6*

ISC 09 03:16:00.7±2.8, 12°.9N±0°.1×90°.54W±0°.09, h14km±17km, n13, σ0s60/19, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.25**	**36**	*eP*		**Pn**	**03 16 23.1**	**-0.9**
NUBE				*eS*		**Sb**	**03 16 39.8**	**-0.5**
NUBE				IAML			03 16 48.4	
	comp=Z,138nm,0.4s							
CEVE	**Cerro Verde**	**1.29**	**43**	*eP*		**Pn**	**03 16 24.1**	**-0.5**
CEVE				IAML			03 16 56.8	
	comp=Z,924nm,0.5s							
JAYA	**Jayaque - finc**	**1.31**	**54**	*eP*		**Pn**	**03 16 24.3**	**-0.4**
JAYA				*eS*		**Sn**	**03 16 42.9**	**+0.8**
JAYA				IAML			03 16 49.9	
	comp=Z,381nm,0.3s							
SLOZ	**Alcaldia de Sa**	**1.35**	**33**	*eP*		**Pn**	**03 16 24.6**	**-0.6**
SLOZ				*eS*		**Sb**	**03 16 42.9**	**-0.2**
SLOZ				IAML			03 16 56.5	
	comp=Z,204nm,0.4s							
UEES	**Universidad Ev**	**1.51**	**57**	*eP*		**Pn**	**03 16 27.5**	**0.0**
UEES				IAML			03 16 56.7	
	comp=Z,289nm,0.3s							
TACO	**Tacachico**	**1.58**	**47**	*eP*		**Pn**	**03 16 28.3**	**-0.1**
TACO				*eS*		**Sb**	**03 16 49.7**	**+0.1**
TACO				IAML			03 17 03.1	
	comp=Z,57nm,0.4s							
FUG	**Fuego 3**	**1.58**	**349**	*eP*		**Pg**	**03 16 30.9**	**-0.3**
FUG				*eS*		**Sg**	**03 16 53.0**	**+1.2**
SJTE	**Alcalda de S**	**1.66**	**64**	*eP*		**Pn**	**03 16 29.3**	**-0.2**
NBG	**Las Nubes**	**1.70**	**6**	*eP*		**Pb**	**03 16 31.4**	**-0.6**
NBG				*eS*		**Sb**	**03 16 53.9**	**+0.5**
COEG	**Centro de Oper**	**1.77**	**65**	*eP*		**Pn**	**03 16 31.2**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.94**	**65**	*eP*		**Pn**	**03 16 34.2**	**+0.8**
STG3	**Santiaguito 3,**	**2.08**	**331**	*eP*		**Pn**	**03 16 35.5**	**+0.1**
LCND	**La Caada**	**2.61**	**80**	*eP*		**Pn**	**03 16 42.5**	**-0.1**
LCND				IAML			03 16 55.5	
	comp=Z,86nm,0.3s							

*IDC **09** 03:25:43.3±1.7, 16°.72N×147°.97E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.5/59, mbtmp3.7/11, ML3.7/1, Error ellipse: s-maj=51.2km s-min=16.6km az=89.0*

ISC 09 03:25:48.4±1.3, 16°.7N±0°.1×147°.9E±0°.2, h35km, n11, σ0s57/12, mb3.9/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.28**	**224**	Pn		**Pn**	**03 26 50.9**	**-0.1**
	4.6nm,0.3s,baz=24,slow=13,SNR=2.5							
GUMO				Sn		**Sn**	**03 27 39.4**	**-0.3**
	1.3nm,0.3s,baz=26,slow=12,SNR=1.4							
MJAR	**Matsushiro Arr**	**21.58**	**338**	P		**P**	**03 30 35.9**	**+0.8**
	0.7nm,0.3s,baz=178,slow=9.8,SNR=4.4							
KLR	**Kul'dur**	**35.03**	**341**	P		**P**	**03 32 36.9**	**-0.7**
	1.2nm,0.7s,baz=174,slow=9.2							
WRA	**Warramunga Arr**	**38.77**	**201**	P		**P**	**03 33 10.7**	**+0.9**
	1.2nm,0.6s,baz=25,slow=9.2,SNR=18							
ASAR	**Alice Springs**	**42.39**	**199**	P		**P**	**03 33 39.7**	**+0.1**
	0.2nm,0.7s,baz=17,slow=7.1,SNR=2.3							
SONM	**Songino Array**	**46.04**	**322**	P		**P**	**03 34 08.7**	**-0.1**
	0.3nm,0.5s,baz=133,slow=6.3,SNR=2.4							
CMAR	**Chiang Mai Arr**	**46.63**	**280**	P		**P**	**03 34 14.1**	**+0.3**
	1.0nm,0.3s,baz=80,slow=5.8,SNR=4.7							
STKA	**Stephens Creek**	**48.67**	**187**	P		**P**	**03 34 28.9**	**-0.3**
	0.7nm,0.5s,baz=346,slow=4.2,SNR=1.5							
ZALV	**Zalesovo Beam**	**60.90**	**323**	P		**P**	**03 35 56.9**	**-0.7**
	0.4nm,0.4s,baz=103,slow=6.2,SNR=1.7							
MKAR	**Makanchi Array**	**61.39**	**315**	P		**P**	**03 36 01.5**	**+0.4**
	0.2nm,0.5s,baz=91,slow=7.9,SNR=5.2							
KURBB	**Kurchatov Arra**	**64.23**	**319**	P		**P**	**03 36 19.9**	**+0.1**
	1.1nm,0.5s,baz=97,slow=7.3,SNR=14							

*NIED **09** 03:28:08.5, 31°.12N×128°.74E, h9km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.03; $M_{\theta\theta}$0.37; $M_{\phi\phi}$-0.40; $M_{r\theta}$-1.18; $M_{\theta\phi}$2.54; $M_{\phi r}$-0.03; Fault plane solution: $M_0$2.83000×10^{14} NP1: ϕ_s275.00000°, δ88.00000°, λ25.00000°. NP2: ϕ_s184.00000°, δ65.00000°, λ178.00000°.*

JMA 09 03:28:08.4±0.6, 31°.12N×128°.74E, h9km±4km, M3.5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**1.00**	**56**	P		Pg	03 28 26.9	-0.8
JKC	**Kuchinoerabu**	**1.41**	**117**	P		Pb	03 28 35.0	+0.1
JSU	**Suzuyama**	**1.52**	**75**	P		Pb	03 28 36.4	-0.3
JFU	**Fukue jima 2**	**1.53**	**0**	P		Pn	03 28 36.1	+0.2
JFU				*eS*		Sn	03 28 55.3	-0.7
JNN	**Nakanoshima**	**1.61**	**142**	P		Pn	03 28 37.2	+0.2
JYAK	**Yakushimahirau**	**1.76**	**120**	P		Pn	03 28 38.6	-0.5
JTN	**Tanegashima 3**	**1.98**	**103**	P		Pn	03 28 42.3	+0.2
JMTN	**Minamitane**	**1.99**	**111**	P		Pn	03 28 42.5	+0.2
JTZ	**Takazaki**	**2.15**	**68**	P		Pn	03 28 45.2	+0.7

*IDC **09** 03:35:02.8±1.5, 19°.19S×169°.32E, h247km±17km, mb3.7/11, mb1 3.8/14, mb1mx3.6/41, mbtmp4.3/14, Error ellipse: s-maj=23.9km s-min=12.8km az=163.0*
*NOU **09** 03:35:02.5, 19°.17S×169°.59E, h240km, ML4.5/13, Vanuatu Islands*
*NEIC **09** 03:35:03.6±0.9, 19°.13S±0°.09×169°.3E±0°.1, h247km±3km, mb4.3/10, Error ellipse: s-maj=13.9km s-min=12.0km az=115.0*

ISC 09 03:35:03.0±0.6, 19°.18S±0°.06×169°.36E±0°.08, h250km, n43, σ1s00/43, mb4.1/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.64**	**327**	P		**Pn**	**03 35 42.8**	**+0.4**
DVP	**Devils Point**	**1.83**	**322**	P		**Pn**	**03 35 43.9**	**-0.1**
LIFNC	**LIFOU**	**2.54**	**231**	Pn		**Pn**	**03 35 49.5**	**-1.2**
LIFNC						**S**	**03 36 28.0**	**-0.3**
LIFNC	**LIFOU**	**2.54**	**231**	P		**Pn**	**03 35 50.6**	**-0.1**

485nm,0.4s
HRKL Herakleio 0.96 349 P Pb 03 51 20.9 -0.4
HRKL S Sb 03 51 32.6 -1.1
2µm,0.7s
HRKL Herakleio 0.96 349 PG Pb 03 51 22.2 +0.9
HRKL SG Sn 03 51 36.3 +2.7
IDI Anoyia 0.99 339 Pg Pn 03 51 19.3 -2.0
31nm,0.3s,baz=153,slow=16,SNR=202
IDI Lg Lg 03 51 32.8
42nm,0.3s,baz=57,slow=19,SNR=14
IDI Anoyia 0.99 339 P Pn 03 51 20.8 -0.4
IDI S Sb 03 51 33.1 -1.4
595nm,0.6s
IDI Anoyia 0.99 339 P Pn 03 51 20.9 -0.4
IDI S Sb 03 51 31.6 -2.9
IDI AML AML 03 51 36.7
comp=E,1186µm,0.6s
IDI AML AML 03 51 39.5
comp=N,1199µm,0.7s
STIA Sitia Lasithi 1.05 37 P Pb 03 51 24.1 +1.4
STIA S Sn 03 51 38.7 +3.0
ZKR Zakros 1.05 44 P Pb 03 51 24.3 +1.5
ZKR S Sn 03 51 39.0 +3.2
comp=N,858nm,0.6s
ZKR Zakros 1.05 44 P Pb 03 51 24.3 +1.5
ZKR Zakros 1.05 44 PG Pb 03 51 24.5 +1.8
ZKR SG Sn 03 51 39.3 +3.5
GVD Gavdhos 1.13 295 P Pb 03 51 24.5 +0.4
GVD S Sb 03 51 39.7 +1.4
GVD AML AML 03 51 48.8
comp=E,1964µm,0.8s
GVD AML AML 03 51 50.3
comp=N,1362µm,0.5s
GVD Gavdhos 1.13 295 PG Pb 03 51 25.0 +1.0
GVDS Gavdos 1.13 295 PG Pb 03 51 24.6 +0.6
GVDS SG Sb 03 51 40.8 +2.5
VAM Vamos 1.39 319 P Pb 03 51 27.9 -0.6
VAM Vamos 1.39 319 P Pb 03 51 28.0 -0.6
IMMV Iera Moni Meta 1.56 315 P Pb 03 51 31.1 -0.3
IMMV Iera Moni Meta 1.56 315 PN Pb 03 51 30.6 -0.7
KNDR Palaiochora Ch 1.60 303 PN Pb 03 51 31.7 -0.5
THR6 Thira Island, 1.99 2 P Pn 03 51 36.2 +1.2
SANT Santorini 2.00 3 PN Pn 03 51 35.6 +0.4
SANT Santorini 2.00 3 P Pn 03 51 35.1 -0.2
THR3 Thira Island, 2.04 2 P Pn 03 51 37.0 +1.3
THR2 Thira island, 2.08 2 P Pn 03 51 36.5 +0.3
KOSK Kos Island 2.74 29 PN Pn 03 51 46.0 +0.8
ARG Arkhangelos 2.94 50 PN Pn 03 51 49.3 +1.2
DAT Datca 2.99 37 PN Pn 03 51 49.8 +1.0
BODT Bodrum 3.11 30 PN Pn 03 51 51.5 +0.7
TURN Turunc 3.38 44 PN Pn 03 51 55.0 +0.9
TURN Turunc 3.38 44 P Pn 03 51 54.0 -0.1
TURN S Sn 03 52 29.2 -4.1
YER Yerkesik 3.66 40 P Pn 03 52 00.1 +2.0
YER Yerkesik 3.66 40 PN Pn 03 51 58.8 +0.7
MULA Mugla, Merkez- 3.77 39 P Pn 03 52 01.0 +1.4
MULA S Sn 03 52 39.0 -4.1
AYDN Tasoluk 3.89 31 P Pn 03 52 02.4 +1.3
AKAS Kas 3.96 61 P Pn 03 52 02.8 +0.5
AKAS S Sn 03 52 41.3 -6.6
AKAS *i* AML AML 03 53 07.0
comp=N,67nm,1.2s
TAVA DENIZLI_Tavas 4.25 42 P Pn 03 52 07.7 +1.6
CAEL Denizli, Camel 4.26 49 P Pn 03 52 08.0 +1.7
GOLH Golhisar 4.48 49 P Pn 03 52 10.5 +1.2
GOLH *i* AML AML 03 52 59.0
comp=N,29nm,2.3s
GOLH S Sn 03 53 00.0 -0.5
AKUM Antalya-Kumluc 4.54 63 P Pn 03 52 10.8 +0.8
AKUM *i* AML AML 03 52 54.0
comp=N,49nm,2.2s
AKUM S Sn 03 52 58.7 -3.2
AKUM *i* AML AML 03 53 15.0
comp=N,68nm,2.1s
KORT Korkueli 4.86 56 P Pn 03 52 17.1 +2.5
PASA Karahalli, USA 5.20 39 P Pn 03 52 19.8 +0.6
USAK Uak-Merkez 5.26 33 P Pn 03 52 19.8 -0.2
KZIT Kziot 8.39 112 Pn Pn 03 53 04.5 +1.6
KZIT Sn Sn 03 54 31.4 -5.3
SLTI Sal'it 8.40 102 Pn Pn 03 53 04.0 +0.9
MMAI Mount Meron Ar 8.51 96 Pn Pn 03 53 05.4 +0.8
comp=N,0.9nm,0.3s,baz=266,slow=12,SNR=9.8
MMAI Sn Sn 03 54 37.6 -2.0
comp=N,2.6nm,0.3s,baz=276,slow=22,SNR=7.4
BRTR Keskin Array B 8.53 49 Pn Pn 03 53 07.7 +2.8
comp=N,0.1nm,0.3s,baz=229,slow=16,SNR=2.5
AMAZ Amatzia 8.54 107 Pn Pn 03 53 06.3 +1.3
AMAZ Sn Sn 03 54 36.4 -4.0
MMLI Mount Malkishu 8.66 100 Pn Pn 03 53 07.8 +1.2
HMDT Nahal Hemdat 8.79 101 Pn Pn 03 53 09.8 +1.4
HMDT Sn Sn 03 54 42.6 -4.0
DSI Dead Sea 8.89 105 Pn Pn 03 53 11.3 +1.4
DSI Sn Sn 03 54 45.1 -4.0
KRMI Paran Flat 9.02 115 Pn Pn 03 53 13.3 +1.8
KRMI Sn Sn 03 54 47.1 -5.0
PRNI Paran 9.11 113 Pn Pn 03 53 14.1 +1.3
ZFRI Zfri 9.15 112 Pn Pn 03 53 14.3 +1.0
HRFI Mount Harif 9.29 115 Pn Pn 03 53 16.5 +1.2
HRFI Sn Sn 03 54 54.6 -4.3
EIL Elat 9.41 117 Pn Pn 03 53 17.7 +0.7
comp=N,0.5nm,0.3s,baz=66,slow=10.0,SNR=10
EIL Sn Sn 03 54 59.0 -2.9
comp=N,0.8nm,0.3s,baz=193,slow=8.4,SNR=9.2
EIL Elat 9.41 117 Pn Pn 03 53 18.8 +1.8
ASF Jabal al Asfar 9.93 99 Pn Pn 03 53 27.4 +3.2
comp=N,0.2nm,0.3s,baz=179,slow=8.9,SNR=1.8
ASF Sn Sn 03 55 11.9 -2.8
comp=N,0.3nm,0.3s,baz=44,slow=11,SNR=2.1
KBZ Khabaz 16.52 50 Pn P 03 54 57.2 +2.1
comp=N,0.1nm,0.3s,baz=246,slow=20,SNR=4.5
AKASG Malin Array Be 16.57 9 Pn Pn 03 54 52.9 -0.5
comp=N,0.6nm,0.3s,baz=198,slow=10,SNR=6.6
GERES GERESS Array B 16.85 333 Pn P 03 54 58.3 -0.6
comp=N,0.1nm,0.3s,baz=160,slow=12,SNR=1.6
FINES FINESS Array B 27.10 1 P P 03 56 42.2 -1.0
comp=N,0.6nm,0.6s,baz=140,slow=7.2,SNR=3.6
TORD Torodi Ar. Bea 30.09 231 P P 03 57 11.5 +1.1
comp=N,0.6nm,0.6s,baz=36,slow=8.7,SNR=4.5
MKAR Makanchi Array 44.10 56 P P 03 59 10.2 +1.3
comp=N,0.1nm,0.3s,baz=268,slow=8.0,SNR=5.7
ZALV Zalesovo Beam 45.46 46 P P 03 59 20.2 +0.7
comp=N,0.5nm,0.4s,baz=287,slow=10.0,SNR=2.3

*IDC **09** 03:59:02.4±1.1,21°.33S×68°.19W,h118km±15km,mb3.4/2, mb1 3.5/4,mb1mx3.2/27,mbtmp3.7/4,Error ellipse: s-maj=40.9km s-min=18.2km az=114.0*
*GUC **09** 03:59:03.3±0.6,21°.25S×68°.53W,h118km±4km,ML3.2*
ISC 09 03:59:02.1±0.9,21°.21S±0°.05×68°.53W±0°.09,h123km±9km, n21,σ0°86/32,1C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.88**	**229**	⇓*i* P	**Pn**	**03 59 24.2**	**+0.8**
PB09				*e*S	**Sn**	**03 59 39.8**	**+0.1**
PB09				IAML		03 59 42.5	
comp=E,476nm,0.3s							
PB01	**IPOC Station P**	**0.91**	**281**	*i* P	**Pn**	**03 59 23.6**	**0.0**
PB01				*e*S	**Sn**	**03 59 39.7**	**-0.2**
PB01				IAML		03 59 41.9	
comp=N,692nm,0.2s							
PB08	**IPOC Station P**	**1.22**	**331**	*i* P	**Pn**	**03 59 28.0**	**+1.0**
PB08				*i* S	**Sn**	**03 59 46.7**	**+0.8**
PB08				IAML		03 59 48.3	
comp=E,399nm,0.2s							
PB02	**IPOC Station P**	**1.28**	**265**	⇓*i* P	**Pn**	**03 59 27.6**	**+0.3**
PB02				*i* S	**Sn**	**03 59 46.2**	**-0.3**
PB02				IAML		03 59 51.2	
comp=E,918nm,0.3s							
PB07	**IPOC Station P**	**1.36**	**248**	*e*P	**Pn**	**03 59 28.4**	**+0.1**
PB07				*e*S	**Sn**	**03 59 47.9**	**-0.3**
PB07				IAML		03 59 49.7	
comp=E,656nm,0.3s							
PB03	**IPOC Station P**	**1.41**	**234**	*e*P	**Pn**	**03 59 29.1**	**+0.3**
PB03				*e*S	**Sn**	**03 59 48.7**	**-0.5**
PB03				IAML		03 59 49.8	
comp=E,594nm,0.1s							
LVC	**Limon Verde**	**1.43**	**194**	P	**Pn**	**03 59 30.0**	**+0.7**
comp=E,26nm,0.3s,baz=35,slow=12,SNR=274							
LVC				S	**Sn**	**03 59 49.6**	**-0.4**
comp=E,24nm,0.3s,baz=156,slow=18,SNR=52							
LVC	**Limon Verde**	**1.43**	**194**	*i* P	**Pn**	**03 59 30.0**	**+0.7**
LVC				*e*S	**Sn**	**03 59 49.6**	**-0.4**
TA01	**Diego Aracena**	**1.67**	**292**	*e*P	**Pn**	**03 59 31.9**	**+0.3**
TA01				*i* S	**Sn**	**03 59 54.0**	**-0.3**
TA02	**Huaiquique**	**1.77**	**302**	*e*P	**Pn**	**03 59 32.8**	**0.0**
TA02				*i* S	**Sn**	**03 59 55.9**	**-0.4**
PB06	**IPOC Station P**	**1.77**	**213**	⇑*i* P	**Pn**	**03 59 33.5**	**+0.4**
PB06				*e*S	**Sn**	**03 59 56.2**	**-0.5**
PB06				IAML		03 59 57.7	
comp=E,327nm,0.2s							
PB04	**IPOC Station P**	**1.87**	**233**	*e*P	**Pn**	**03 59 34.3**	**+0.1**
PB04				IAML		04 00 06.0	
comp=N,214nm,0.3s							
PB15	**IPOC Station P**	**2.17**	**204**	*e*P	**Pn**	**03 59 37.4**	**-0.5**
PB05	**IPOC Station P**	**2.25**	**223**	*e*P	**Pn**	**03 59 38.6**	**-0.3**
PB05				IAML		04 00 17.4	
comp=E,82nm,0.3s							
PB10	**IPOC Station P**	**2.96**	**219**	*e*P	**Pn**	**03 59 47.8**	**0.0**
PB10				IAML		04 00 35.3	
comp=E,34nm,0.3s							
PB12	**IPOC Station P**	**3.09**	**327**	*e*P	**Pn**	**03 59 48.7**	**-1.0**
PB12				IAML		04 00 32.1	
comp=N,56nm,0.3s							
LPAZ	**La Paz**	**4.92**	**5**	P	**Pn**	**04 00 16.6**	**+2.0**
comp=N,1.4nm,0.3s,baz=193,slow=7.9,SNR=47							
SIV	**San Ignacio**	**8.77**	**55**	P	**Pn**	**04 01 03.0**	**-3.0**
comp=N,0.6nm,0.3s,baz=250,slow=12,SNR=6.2							
TORD	**Torodi Ar. Bea**	**76.93**	**70**	P	**P**	**04 10 40.9**	**-0.5**
comp=N,0.6nm,0.4s,baz=252,slow=5.5,SNR=12							
YKA	**Yellowknife Ar**	**91.04**	**340**	P	**P**	**04 11 52.5**	**+0.6**
comp=N,0.2nm,0.6s,baz=138,slow=4.5,SNR=2.9							
MKAR	**Makanchi Array**	**145.20**	**36**	PKPbc	**PKPdf**	**04 18 25.9**	**+0.8**
comp=N,0.4nm,0.7s,baz=314,slow=4.1,SNR=5.1							

*NEIC **09** 04:09:36.0±1.3,18°.3S±0°.1×177°.9W±0°.1,h579km±7km, mb4.3/21,Error ellipse: s-maj=22.5km s-min=19.2km az=143.0*
*IDC **09** 04:09:36.8±1.3,18°.26S×178°.03W,h592km±14km, mb3.4/14,mb1 3.6/16,mb1mx3.4/39,mbtmp4.3/16,Error ellipse: s-maj=20.1km s-min=11.4km az=145.0*
ISC 09 04:09:37.1±0.6,18°.2S±0°.1×178°.0W±0°.1,h600km,n75, σ0°85/75,mb4.2/24,8C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.78**	**277**	P	**P**	**04 11 00.9**	**-0.2**
8.7nm,0.3s,baz=127,slow=12,SNR=64							
MSVF	**Nonsavu**	**3.78**	**277**	P	**P**	**04 11 00.2**	**-1.0**
DZM	**Mont Dzumac**	**15.08**	**253**	P	**P**	**04 12 47.5**	**+1.3**
0.4nm,0.3s,baz=68,slow=19,SNR=1.6							
DZM	**Mont Dzumac**	**15.08**	**253**	IAmb	IAmb	04 12 57.0	
comp=Z,43nm,1.5s							
URZ	**Urewera**	**20.40**	**191**	P	**P**	**04 13 33.3**	**-0.9**
comp=Z,7.1nm,0.3s,baz=40,slow=18,SNR=11							
URZ	**Urewera**	**20.40**	**191**	IAmb	IAmb	04 13 33.5	
comp=Z,29nm,1.1s							
EIDS	**Eidsvold**	**29.51**	**251**	P	**P**	**04 14 55.1**	**+0.4**
EIDS				IAmb	IAmb	04 14 55.7	
comp=Z,4.4nm,0.7s							
ARMA	**Armidale**	**30.10**	**240**	P	**P**	**04 15 00.6**	**+0.7**
ARMA				IAmb	IAmb	04 15 07.3	
comp=Z,8.0nm,1.1s							
CAN	**Canberra**	**33.81**	**233**	P	**P**	**04 15 30.3**	**-0.8**
CAN				IAmb	IAmb	04 15 48.5	
comp=Z,24nm,1.5s							
PMG	**Port Moresby**	**34.88**	**280**	P	**P**	**04 15 40.5**	**+0.3**
COEN	**Coen**	**37.48**	**271**	P	**P**	**04 16 02.2**	**+0.6**
STKA	**Stephens Creek**	**38.80**	**242**	P	**P**	**04 16 11.5**	**-0.5**
comp=Z,4.4nm,0.8s,baz=71,slow=12,SNR=7.0							
STKA	**Stephens Creek**	**38.80**	**242**	IAmb	IAmb	04 16 14.1	
comp=Z,1.3nm,1.0s							
BBOO	**Buckleboo**	**43.58**	**241**	P	**P**	**04 16 50.3**	**+0.7**
BBOO				IAmb	IAmb	04 16 51.2	
comp=Z,6.9nm,0.8s							
WR0	**Warramunga Arr**	**44.75**	**260**	P	**P**	**04 16 58.8**	**-0.1**
WB0	**Warramunga Arr**	**44.91**	**260**	P	**P**	**04 16 59.5**	**-0.6**
WB0				IAmb	IAmb	04 17 00.7	
comp=Z,8.6nm,0.5s							
WB2	**Warramunga Arr**	**44.93**	**260**	P	**P**	**04 17 00.2**	**0.0**
WB2				IAmb	IAmb	04 17 00.8	
comp=Z,8.0nm,0.6s							
WRA	**Warramunga Arr**	**44.94**	**260**	P	**P**	**04 17 00.1**	**-0.2**
comp=Z,4.1nm,0.4s,baz=94,slow=7.0,SNR=193							
WRA				PcP	**PcP**	**04 18 29.6**	**+1.1**
comp=Z,0.7nm,0.6s,baz=88,slow=3.5,SNR=3.5							
WRA	**Warramunga Arr**	**44.94**	**260**	P	**P**	**04 16 59.7**	**-0.6**
AS31	**Alice Springs**	**45.06**	**255**	P	**P**	**04 17 01.1**	**-0.1**
AS31				IAmb	IAmb	04 17 02.7	
comp=Z,5.4nm,0.6s							
ASAR	**Alice Springs**	**45.06**	**255**	P	**P**	**04 17 01.8**	**+0.5**
comp=Z,15nm,0.6s,baz=88,slow=8.8,SNR=233							
ASAR				PcP	**PcP**	**04 18 29.6**	**+0.7**
comp=Z,0.9nm,0.4s,baz=102,slow=3.8,SNR=6.6							
ASAR				ScP	**ScP**	**04 21 28.2**	**+3.2**
comp=Z,0.4nm,0.8s,baz=98,slow=5.2,SNR=2.6							
ASAR				S	**S**	**04 22 57.2**	**-0.6**
comp=Z,1.5nm,0.8s,baz=90,slow=16,SNR=13							
ASAR	**Alice Springs**	**45.06**	**255**	P	**P**	**04 17 01.5**	**+0.3**
MTN	**Manton Dam**	**49.16**	**269**	P	**P**	**04 17 30.9**	**-1.0**
MTN				IAmb	IAmb	04 17 32.3	
comp=Z,9.0nm,0.7s							
KNRA	**Kununurra**	**50.83**	**264**	P	**P**	**04 17 44.1**	**0.0**
SIJI	**Sorong**	**52.67**	**283**	P	**P**	**04 17 57.8**	**+0.4**
comp=Z,24nm,0.7s,baz=97,slow=16,SNR=8.6							
FITZ	**Fitzroy Crossi**	**53.34**	**261**	P	**P**	**04 18 01.9**	**-0.1**
comp=Z,0.9nm,0.3s,baz=112,slow=9.4,SNR=12							
MJAR	**Matsushiro Arr**	**68.39**	**323**	P	**P**	**04 19 39.9**	**-0.1**
comp=Z,2.7nm,0.5s,baz=160,slow=5.7,SNR=6.6							
QSPA	**South Pole Qui**	**71.83**	**180**	P	**P**	**04 19 59.9**	**-0.2**
QSPA				IAmb	IAmb	04 20 03.0	
comp=Z,13nm,1.4s							
PETK	**Petropavlovsk-**	**74.09**	**345**	P	**P**	**04 20 12.8**	**-0.1**
comp=Z,3.7nm,0.7s,baz=120,slow=8.7,SNR=7.4							
KSRS	**Korea Array**	**75.19**	**318**	P	**P**	**04 20 20.1**	**+0.8**
comp=Z,0.8nm,0.5s,baz=134,slow=7.3,SNR=2.5							
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**04 20 43.1**	**+0.7**
comp=Z,0.7nm,0.7s,baz=222,slow=9.6,SNR=7.5							
B04A	**Port Angeles**	**81.98**	**33**	P	**P**	**04 20 56.0**	**+0.8**
ENH	**Enshi**	**84.76**	**304**	P	**P**	**04 21 09.2**	**-0.2**
ENH				IAmb	IAmb	04 21 11.8	
comp=Z,7.3nm,0.9s							
HDA	**Harding Lake**	**85.79**	**13**	IAmb	IAmb	04 21 34.7	
comp=Z,6.5nm,1.2s							
TXAR	**Lajitas Array**	**85.85**	**57**	P	**P**	**04 21 16.6**	**+1.8**
comp=Z,0.3nm,0.8s,baz=231,slow=5.7,SNR=3.5							
IL31		**86.12**	**13**	P	**P**	**04 21 15.2**	**+0.2**
ILAR	**Eielson Array**	**86.12**	**13**	P	**P**	**04 21 14.4**	**-0.6**
comp=Z,0.9nm,0.4s,baz=218,slow=5.1,SNR=20							
ILAR	**Eielson Array**	**86.12**	**13**	P	**P**	**04 21 14.7**	**-0.4**
PDAR	**Pinedale Array**	**87.33**	**43**	P	**P**	**04 21 20.9**	**-0.7**
comp=Z,0.5nm,0.8s,baz=234,slow=5.1,SNR=4.4							
YKA	**Yellowknife Ar**	**94.47**	**29**	P	**P**	**04 21 53.5**	**-0.1**
comp=Z,0.3nm,0.6s,baz=242,slow=4.3,SNR=6.2							
MKAR	**Makanchi Array**	**109.63**	**314**	PKiKP	**PKiKP**	**04 26 58.8**	**-1.8**
comp=Z,0.2nm,0.5s,baz=45,slow=2.2,SNR=5.1							
ARCES	**ARCESS Array B**	**126.70**	**350**	PKP	**PKiKP**	**04 27 33.0**	**-0.2**
comp=Z,3.8nm,1.0s,baz=20,slow=3.2,SNR=7.5							
FINES	**FINESS Array B**	**133.60**	**344**	PKP	**PKpdf**	**04 27 45.3**	**-0.6**
comp=Z,1.3nm,0.8s,baz=17,slow=6.1,SNR=3.8							
AKASG	**Malin Array Be**	**141.02**	**332**	PKhKP	PKPpre	04 27 54.4	
comp=Z,0.3nm,0.4s,baz=44,slow=4.4,SNR=4.3							
AKASG				PKP	**PKiKP**	**04 28 02.0**	**-0.7**
comp=Z,0.6nm,0.5s,baz=46,slow=2.7,SNR=3.3							
AKASG	**Malin Array Be**	**141.02**	**332**	PKPdf	**PKPdf**	**04 27 59.8**	**0.0**
SORM	**Soroca**	**143.25**	**330**	⇑P	PKPbc	04 28 02.3	-0.1
BURAR	**Bucovina Array**	**145.07**	**332**	⇓P	**PKiKP**	**04 28 09.7**	**-1.7**
TESR	**Tescani**	**145.22**	**330**	⇑P	**PKiKP**	**04 28 10.1**	**-1.4**
BR131	**Keskin Array S**	**145.27**	**315**	PKPbc	**PKPab**	**04 28 09.9**	**-0.6**
BRTR	**Keskin Array B**	**145.27**	**315**	PKPbc	**PKPab**	**04 28 09.3**	**-1.1**
comp=Z,1.5nm,0.5s,baz=120,slow=3.8,SNR=11							
TPGR	**Topolog**	**145.47**	**326**	⇑P	**PKPab**	**04 28 10.7**	**-0.2**
CHVC	**Chvalec**	**145.82**	**344**	*e*PKP	**PKPab**	**04 28 11.3**	**-0.8**
CLL	**Collm**	**145.86**	**348**	⇓*i*PKPbc	**PKPab**	**04 28 10.8**	**-1.3**
comp=Z,8.0nm,0.7s							
CLL	**Collm**	**145.86**	**348**		**PKPbc**	**04 28 09.8**	**-0.4**
DPC	**Dobruska-Polom**	**145.96**	**344**	*e*PKP	**PKPab**	**04 28 11.7**	**-1.0**
KRLC	**Kraliky**	**146.09**	**343**	*e*PKP	**PKiKP**	**04 28 12.0**	**-1.3**
DOPR	**Dopca**	**146.22**	**330**	⇑P	**PKiKP**	**04 28 13.1**	**-0.6**
PRU	**Pruhonice**	**146.75**	**345**	*e*PKP	**PKiKP**	**04 28 13.5**	**-1.1**
VOIR		**146.77**	**330**	⇑P	**PKiKP**	**04 28 14.3**	**-0.6**
DRGR		**146.79**	**334**	⇑P	**PKiKP**	**04 28 13.8**	**-1.0**
ARR	**Arges**	**147.02**	**330**	⇓P	**PKPab**	**04 28 15.6**	**-1.5**
KHC	**Kasperske Hory**	**147.78**	**346**	*e*PKP	**PKiKP**	**04 28 16.5**	**-0.3**
KHC				*ex*	**PKPab**	**04 28 21.2**	**+1.2**
CKRC	**Cesky Krumlov**	**147.89**	**345**	*e*PKP	**PKiKP**	**04 28 16.7**	**-0.3**
GERES	**GERESS Array B**	**148.02**	**345**	PKPbc	**PKiKP**	**04 28 16.9**	**-0.4**
comp=Z,1.4nm,0.5s,baz=30,slow=3.5,SNR=17							
GERES	**GERESS Array B**	**148.02**	**345**		**PKPbc**	**04 28 15.8**	**-0.3**
CONA	**Conrad Observa**	**148.28**	**342**	*i* P	**PKiKP**	**04 28 18.2**	**+0.2**
comp=Z,5.6nm,1.3s							
HERR	**Herculane**	**148.41**	**332**	⇑P	**PKiKP**	**04 28 17.8**	**-0.4**
SOKA	**Soboth**	**149.66**	**342**	*e*P	**PKiKP**	**04 28 19.8**	**-1.0**
comp=Z,4.9nm,1.2s							
VTS	**Vitosha**	**149.73**	**328**	⇑P	**PKiKP**	**04 28 21.3**	**+0.2**
KBA	**Koelnbreinsper**	**149.75**	**344**	*e*P	**PKiKP**	**04 28 20.7**	**-0.4**
comp=Z,2.5nm,0.6s							
WTTA	**Wattenberg**	**149.98**	**347**	*i* P	**PKiKP**	**04 28 21.8**	**+0.3**
comp=Z,4.6nm,0.6s							
MOTA	**Moosalm**	**150.01**	**348**	*e*P	**PKiKP**	**04 28 22.4**	**+0.8**
comp=Z,5.4nm,1.2s							
SQTA	**Sankt Quirin**	**150.11**	**347**	*e*P	**PKiKP**	**04 28 21.9**	**+0.1**
comp=Z,4.9nm,1.2s							
ABTA	**Abfaltersbach**	**150.26**	**345**	*e*P	**PKiKP**	**04 28 21.6**	**-0.5**
comp=Z,6.2nm,0.7s							
FETA	**Feichten**	**150.40**	**348**	*e*P	**PKiKP**	**04 28 22.7**	**+0.2**
comp=Z,5.4nm,1.0s							

*VAO **09** 04:23:26.4±0.8,24°.17S×67°.39W,h209km,mb3.8*
*IDC **09** 04:23:27.3±2.3,23°.93S×67°.15W,h184km±24km,mb3.5/1, mb1 3.5/5,mb1mx3.2/28,mbtmp3.9/5,MS2.0/1,Ms1 2.0/1, ms1mx1.9/26,Error ellipse: s-maj=37.4km s-min=22.4km az=150.0*
*GUC **09** 04:23:29.0±0.5,23°.90S×67°.51W,h215km±8km,ML4.0*
ISC 09 04:23:26.2±0.8,24°.02S±0°.07×67°.27W±0°.09, h196km±11km,n47,σ1°20/57,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.06**	**313**	P	**Pn**	**04 24 07.1**	**+1.6**
5.9nm,0.3s,baz=132,slow=8.3,SNR=121							
LVC				S	**Sn**	**04 24 35.9**	**-0.1**
55nm,0.3s,baz=249,slow=22,SNR=67							
LVC				LR	LR	04 24 54.8	
comp=Z,34nm,19.9s,baz=4.5,slow=42							
LVC	**Limon Verde**	**2.06**	**313**	*i* P	**Pn**	**04 24 07.0**	**+1.5**
LVC				*e*S	**Sn**	**04 24 35.7**	**-0.2**
LVC	**Limon Verde**	**2.06**	**313**	*e*P	**Pn**	**04 24 07.1**	**+1.6**
PB15	**IPOC Station P**	**2.17**	**291**	⇑*i* P	**Pn**	**04 24 08.0**	**+1.5**
PB15				*e*S	**Sn**	**04 24 37.7**	**-0.1**
PB06	**IPOC Station P**	**2.49**	**301**	⇑*i* P	**Pn**	**04 24 11.4**	**+1.5**
PB06				*e*S	**Sn**	**04 24 43.7**	**-0.2**
PB06				IAML		04 24 45.7	
comp=N,763nm,0.5s							
PB09	**IPOC Station P**	**2.87**	**320**	*i* P	**Pn**	**04 24 16.4**	**+2.1**
PB09				*e*S	**Sn**	**04 24 51.6**	**-0.2**
PB09				IAML		04 24 54.5	
comp=N,220nm,0.6s							
PB14	**IPOC Station P**	**2.92**	**257**	*i* P	**Pn**	**04 24 15.8**	**+0.7**
PB05	**IPOC Station P**	**2.93**	**293**	*e*P	**Pn**	**04 24 15.9**	**+0.9**
PB05				*i* S	**Sn**	**04 24 50.7**	**-2.4**
PB05				IAML		04 24 55.1	
comp=N,228nm,0.2s							
PB03	**IPOC Station P**	**3.02**	**310**	*e*P	**Pn**	**04 24 17.3**	**+1.3**
PB10	**IPOC Station P**	**3.05**	**279**	*e*P	**Pn**	**04 24 17.6**	**+1.3**
PB10				IAML		04 24 58.5	
comp=N,111nm,0.3s							
PB04	**IPOC Station P**	**3.14**	**302**	*e*P	**Pn**	**04 24 18.6**	**+1.1**
PB04				*i* S	**Sn**	**04 24 56.1**	**-1.4**
PB04				IAML		04 25 03.8	
comp=N,299nm,0.3s							
PB04	**IPOC Station P**	**3.14**	**302**		**Pn**	**04 24 18.9**	**+1.4**
AC02	**Maricunga**	**3.27**	**211**	*i* P	**Pn**	**04 24 19.8**	**+0.5**
PB07	**IPOC Station P**	**3.32**	**313**	*e*P	**Pn**	**04 24 20.8**	**+1.0**
PB07				*i* S	**Sn**	**04 25 00.0**	**-1.5**
PB07	**IPOC Station P**	**3.32**	**313**		**Pn**	**04 24 20.7**	**+0.9**
PB01	**IPOC Station P**	**3.60**	**325**	*e*P	**Pn**	**04 24 23.8**	**+0.7**
PB01	**IPOC Station P**	**3.60**	**325**		**Pn**	**04 24 23.8**	**+0.7**
PB08	**IPOC Station P**	**4.24**	**335**	*e*P	**Pn**	**04 24 32.9**	**+1.6**
GO03	**Copiap**	**4.45**	**216**	*e*P	**Pn**	**04 24 32.5**	**-1.1**
LPAZ	**La Paz**	**7.74**	**354**	P	**Pn**	**04 25 18.4**	**+1.7**
comp=N,1.5nm,0.3s,baz=154,slow=6.9,SNR=41							
LPAZ				S	**Sn**	**04 26 43.2**	**-1.2**
comp=N,0.0nm,0.3s,baz=343,slow=21,SNR=2.0							
LPAZ	**La Paz**	**7.74**	**354**	*e*P	**Pn**	**04 25 18.1**	**+1.4**
SIV	**San Ignacio**	**9.88**	**37**	P	**Pn**	**04 25 45.1**	**+1.0**
comp=N,0.6nm,0.3s,baz=232,slow=13,SNR=13							
SIV				S	**Sn**	**04 27 31.0**	**-3.7**
comp=N,0.2nm,0.3s,baz=292,slow=19,SNR=1.8							
AQDB	**Aquidauana**	**11.28**	**74**	*e*P	**Pn**	**04 26 02.9**	**+0.8**
PTLB	**Pontes e Lacer**	**11.46**	**43**	*e*P	**P**	**04 26 08.1**	**-2.0**
VILB	**Vilhena**	**12.88**	**33**	*e*P	**P**	**04 26 24.9**	**-1.2**
PCMB	**Pacaembu**	**14.96**	**84**	*e*P	**P**	**04 26 50.5**	**+1.5**
PDRB	**Porto dos Gac**	**15.89**	**41**	*e*P	**P**	**04 26 59.4**	**0.0**
ITRB	**Iturama**	**16.27**	**78**	*e*P	**P**	**04 27 05.6**	**+1.5**
TIJ01	**

baz=296,slow=74
H11N1 WAKE ISLAND Hy 32.59 101 T T 05 20 37.6
baz=296
H11N3 WAKE ISLAND Hy 32.60 101 T T 05 20 40.6
baz=296,slow=74
MKAR Makanchi Array 41.85 307 P **P** **04 47 36.4 +0.5**
0.2nm,0.7s,baz=90,slow=7.2,SNR=2.8
MKAR LR LR 05 07 02.8
comp=Z,63nm,18.8s,baz=83,slow=39
KURBB Kurchatov Arra 44.65 313 P **P** **04 47 58.9 +0.5**
0.8nm,0.8s,baz=95,slow=8.9,SNR=4.7
KURBB LR LR 05 08 40.3
comp=Z,67nm,18.5s,baz=51,slow=39
FITZ Fitzroy Crossi 48.93 189 P **P** **04 48 33.1 +1.1**
1.6nm,0.9s,baz=18,slow=7.8,SNR=3.8
WRA Warramunga Arr 50.30 178 P **P** **04 48 42.3 -0.2**
1.7nm,1.0s,baz=351,slow=7.9,SNR=7.4
ASAR Alice Springs 53.99 179 P **P** **04 49 10.8 +0.8**
0.6nm,0.7s,baz=11,slow=14,SNR=12
ILAR Eielson Array 58.66 30 P **P** **04 49 42.9 +0.2**
0.3nm,0.8s,baz=291,slow=7.6,SNR=2.3
STKA Stephens Creek 62.72 172 P **P** **04 50 11.1 +0.4**
2.3nm,0.8s,baz=348,slow=7.3,SNR=4.6
INK Inuvik 63.25 25 P **P** **04 50 14.3 +0.4**
1.0nm,0.9s,baz=254,slow=7.2,SNR=2.3
FINES FINESS Array B 71.01 331 P **P** **04 51 02.7 -0.5**
2.1nm,1.0s,baz=64,slow=6.3,SNR=4.4
FINES LR LR 05 26 48.9
comp=Z,49nm,18.4s,baz=260,slow=40
YKA Yellowknife Ar 72.83 27 P **P** **04 51 14.3 +0.3**
0.2nm,0.6s,baz=301,slow=6.0,SNR=5.4
AKASG Malin Array Be 74.78 320 P **P** **04 51 25.9 +0.2**
0.6nm,0.6s,baz=51,slow=6.2,SNR=5.3
BRTR Keskin Array B 77.48 309 P P 04 51 44.3 +2.8
1.8nm,1.0s,baz=53,slow=7.4,SNR=4.3
RAR Rarotonga 82.73 120 LR LR 05 24 04.7
comp=Z,29nm,19.1s,baz=251,slow=32
GERES GERESS Array B 84.06 325 P **P** **04 52 16.4 0.0**
0.1nm,0.3s,baz=52,slow=8.0,SNR=2.6
NVAR Mina Array Bea 84.57 48 P **P** **04 52 20.4 +0.9**
0.4nm,0.7s,baz=318,slow=3.9,SNR=4.4

*JMA **09** 04:40:12.4±0.2,24°.38N×122°.11E,h67km±3km,M2.9*
*TAP **09** 04:40:13.1,24°.48N×122°.17E,h60km,ML3.4,B*
ISC 09 04:40:14.1±1.2,**24°.48N**±0°.03×**122°.16E**±0°.02,**h52**km±7km,
n90,σ0s80/166,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.31**	**295**	P	**Pn**	**04 40 23.5**	**0.0**
	baz=293						
TWC				S	**Sn**	**04 40 30.8**	**+0.7**
	baz=293						
EWUT	**Wuta**	**0.35**	**265**	P	**Pn**	**04 40 23.7**	**-0.1**
	baz=264						
EWUT				S	**Sn**	**04 40 31.4**	**+0.7**
	baz=264						
ENA	**Nanau**	**0.39**	**263**	P	**Pn**	**04 40 24.1**	**0.0**
	baz=261						
ENA				S	**Sn**	**04 40 32.2**	**+0.8**
	baz=261						
NDS	**Dongshan**	**0.43**	**291**	P	**Pn**	**04 40 24.8**	**+0.1**
	baz=290						
NDS				S	**Sn**	**04 40 33.1**	**+0.8**
	baz=290						
ILA	**Ilan**	**0.47**	**307**	eS	**Sn**	**04 40 33.9**	**+0.9**
	baz=306						
NTC	**Toucheng**	**0.48**	**321**	P	**Pn**	**04 40 24.9**	**-0.3**
	baz=319						
NTC				S	**Sn**	**04 40 32.8**	**-0.4**
	baz=319						
TWE	**Neicheng**	**0.51**	**298**	P	**Pn**	**04 40 25.8**	**+0.2**
	baz=297						
TWE				S	**Sn**	**04 40 34.4**	**+0.7**
	baz=297						
TWB1	**Santiao Chiao**	**0.55**	**344**	P	**Pn**	**04 40 25.4**	**-0.7**
	baz=342						
TWB1				S	**Sn**	**04 40 33.7**	**-0.9**
	baz=342						
ENTT	**Nioudou**	**0.56**	**287**	P	**Pn**	**04 40 26.2**	**0.0**
	baz=285						
ENTT				S	**Sn**	**04 40 35.2**	**+0.2**
	baz=285						
TIPB	**Shuangxi**	**0.58**	**328**	P	**Pn**	**04 40 25.9**	**-0.5**
	baz=327						
TIPB				eS	**Sn**	**04 40 34.8**	**-0.5**
	baz=327						
LATG	**Datong**	**0.58**	**276**	P	**Pn**	**04 40 26.2**	**-0.2**
	baz=275						
LATG				S	**Sn**	**04 40 35.7**	**+0.3**
	baz=275						
ETL	**Fush Village**	**0.58**	**237**	P	**Pn**	**04 40 25.8**	**-0.7**
	baz=237						
ETL				S	**Sn**	**04 40 35.1**	**-0.3**
	baz=237						
FUSB	**Fushanzhiwuyua**	**0.59**	**298**	P	**Pn**	**04 40 26.8**	**+0.2**
	baz=297						
FUSB				S	**Sn**	**04 40 36.2**	**+0.5**
	baz=297						
NACB	**Ninganchiao**	**0.60**	**240**	P	**Pn**	**04 40 25.7**	**-0.9**
	baz=239						
NACB				S	**Sn**	**04 40 35.3**	**-0.4**
	baz=239						
NDT	**Datong Townshi**	**0.60**	**282**	P	**Pn**	**04 40 26.8**	**+0.1**
	baz=281						
NDT				S	**Sn**	**04 40 36.4**	**+0.6**
	baz=281						
TWD	**Chiawan**	**0.65**	**232**	P	**Pn**	**04 40 26.5**	**-0.7**
	baz=232						
TWD				S	**Sn**	**04 40 37.2**	**+0.4**
	baz=232						
SXI1	**Grass Mountain**	**0.67**	**337**	P	**Pn**	**04 40 26.9**	**-0.6**
	baz=336						
SXI1				eS	**Sn**	**04 40 36.6**	**-0.7**
	baz=336						
NWLT	**Wulai**	**0.67**	**297**	P	**Pn**	**04 40 27.9**	**+0.4**
	baz=295						
NWLT				S	**Sn**	**04 40 37.9**	**+0.6**
	baz=295						
ETLH	**Xiulin Townshi**	**0.68**	**247**	P	**Pn**	**04 40 26.9**	**-0.7**
	baz=246						
ETLH				S	**Sn**	**04 40 36.8**	**-0.7**
	baz=246						
NWF	**Wu-fen Shan**	**0.68**	**330**	P	**Pn**	**04 40 27.2**	**-0.5**
	baz=328						
NWF				eS	**Sn**	**04 40 37.0**	**-0.7**
	baz=328						
WFSB	**Wu-fen Shan**	**0.68**	**330**	P	**Pn**	**04 40 27.2**	**-0.5**
	baz=328						
WFSB				S	**Sn**	**04 40 36.9**	**-0.7**
	baz=328						
NNSB	**Datong**	**0.71**	**266**	P	**Pn**	**04 40 27.8**	**-0.3**
	baz=265						
NNSB				S	**Sn**	**04 40 37.9**	**-0.5**
	baz=265						
HWA	**Hwalien**	**0.71**	**226**	eP	**Pn**	**04 40 27.5**	**-0.5**
	baz=225						
HWA				eS	**Sn**	**04 40 39.5**	**+1.3**
	baz=225						
JYNG	**Yonagunijimaku**	**0.72**	**92**	P	**Pn**	**04 40 28.2**	**+0.1**
JYNG				eS	**Sn**	**04 40 38.8**	**+0.6**
NNS	**Nan Shan**	**0.72**	**267**	P	**Pn**	**04 40 27.8**	**-0.5**
	baz=266						
NNS				S	**Sn**	**04 40 38.4**	**-0.1**
	baz=266						
TWA	**Mucha**	**0.72**	**314**	eP	**Pn**	**04 40 27.8**	**-0.4**
	baz=313						
TWA				eS	**Sn**	**04 40 39.7**	**+1.2**
	baz=313						
YHNB	**Yeheng**	**0.74**	**285**	P	**Pn**	**04 40 28.2**	**-0.3**
	baz=284						
YHNB				S	**Sn**	**04 40 38.7**	**-0.2**
	baz=284						
NHDH	**Xindian Distri**	**0.75**	**310**	eP	**Pn**	**04 40 28.2**	**-0.3**
	baz=309						
NHDH				eS	**Sn**	**04 40 39.9**	**+0.8**
	baz=309						
TNOU	**National Taiwa**	**0.76**	**332**	eP	**Pn**	**04 40 27.8**	**-0.8**
	baz=331						
TNOU				eS	**Sn**	**04 40 38.4**	**-0.8**
	baz=331						
NSK	**Sanguang**	**0.76**	**285**	P	**Pn**	**04 40 28.4**	**-0.3**
	baz=284						
NSK				S	**Sn**	**04 40 39.0**	**-0.3**
	baz=284						
YOJ	**Yonaguni jima**	**0.78**	**91**	P	**Pn**	**04 40 28.9**	**0.0**
YOJ				S	**Sn**	**04 40 40.6**	**+1.0**
	baz=90						
YOJ	**Yonaguni jima**	**0.78**	**91**	eP	**Pn**	**04 40 28.8**	**0.0**
	baz=90						
YOJ				eS	**Sn**	**04 40 40.7**	**+1.0**
	baz=90						
TATO	**Taipei**	**0.79**	**309**	eP	**Pn**	**04 40 28.8**	**-0.2**
	baz=308						
TATO				eS	**Sn**	**04 40 39.9**	**0.0**
	baz=308						
ETM	**Tongmen**	**0.80**	**230**	eP	**Pn**	**04 40 28.4**	**-0.8**
	baz=230						
ETM				eS	**Sn**	**04 40 39.4**	**-0.7**
	baz=230						
TEYL	**Yanliau Villag**	**0.80**	**220**	P	**Pn**	**04 40 28.4**	**-0.7**
	baz=222						
TEYL				S	**Sn**	**04 40 39.9**	**-0.1**
	baz=222						
YM01	**YM01**	**0.85**	**321**	eP	**Pn**	**04 40 29.3**	**-0.7**
	baz=320						
YM01				eS	**Sn**	**04 40 40.4**	**-1.1**
	baz=320						
FUSS	**Fushou**	**0.87**	**255**	eP	**Pn**	**04 40 29.9**	**-0.4**
	baz=254						
FUSS				eS	**Sn**	**04 40 41.3**	**-0.9**
	baz=254						
YM08	**YM08**	**0.88**	**324**	eS	**Sn**	**04 40 40.4**	**-1.6**
	baz=322						
WHF	**Hehuan Shan**	**0.88**	**248**	eP	**Pn**	**04 40 30.1**	**-0.5**
	baz=247						
WHF				eS	**Sn**	**04 40 42.5**	**-0.3**
	baz=247						
TWT	**Tachien**	**0.93**	**256**	eP	**Pn**	**04 40 31.5**	**+0.5**
	baz=255						
TWT				eS	**Sn**	**04 40 43.5**	**+0.1**
	baz=255						
ESL	**Shilin**	**0.94**	**225**	eP	**Pn**	**04 40 29.9**	**-1.1**
	baz=225						
ESL				eS	**Sn**	**04 40 42.0**	**-1.4**
	baz=225						
TDCB	**Techi**	**0.94**	**256**	eP	**Pn**	**04 40 31.4**	**+0.2**
	baz=256						
TDCB				eS	**Sn**	**04 40 43.3**	**-0.5**
	baz=256						
TWY	**Chenhua**	**0.94**	**327**	eS	**Sn**	**04 40 43.0**	**-0.6**
	baz=326						
NFF	**Wufeng Townshi**	**0.96**	**279**	P	**Pn**	**04 40 31.3**	**-0.1**
	baz=278						
NFF				eS	**Sn**	**04 40 44.1**	**0.0**
	baz=278						
CHGB	**Renai**	**0.99**	**245**	eP	**Pn**	**04 40 31.7**	**-0.2**
	baz=245						
CHGB				S	**Sn**	**04 40 45.0**	**-0.1**
	baz=245						
NCU	**National Centr**	**1.01**	**299**	eP	**Pn**	**04 40 31.7**	**-0.3**
	baz=298						
NCU				eS	**Sn**	**04 40 45.3**	**+0.1**
	baz=298						
NCUH	**Zhongli**	**1.01**	**299**	eP	**Pn**	**04 40 31.6**	**-0.4**
	baz=298						
NCUH				eS	**Sn**	**04 40 45.2**	**0.0**
	baz=298						
OWD	**Renai**	**1.04**	**240**	eP	**Pn**	**04 40 31.9**	**-0.6**
	baz=240						
OWD				eS	**Sn**	**04 40 45.2**	**-0.9**
	baz=240						
EGFH	**Guangfu**	**1.05**	**220**	eP	**Pn**	**04 40 31.3**	**-1.2**
	baz=220						
EGFH				eS	**Sn**	**04 40 45.0**	**-1.1**
	baz=220						
LIOB	**Emei**	**1.05**	**279**	eP	**Pn**	**04 40 32.5**	**0.0**
	baz=278						
LIOB				eS	**Sn**	**04 40 46.5**	**+0.2**
	baz=278						
NSTT	**Nanjuang**	**1.07**	**278**	eP	**Pn**	**04 40 32.6**	**-0.1**
	baz=277						
NSTT				eS	**Sn**	**04 40 46.6**	**0.0**
	baz=277						
WUSB	**Renai**	**1.07**	**243**	eP	**Pn**	**04 40 32.6**	**-0.3**
	baz=243						
WUSB				eS	**Sn**	**04 40 46.4**	**-0.3**
	baz=243						
WHP	**Taichung City**	**1.12**	**260**	eP	**Pn**	**04 40 34.2**	**+0.6**
	baz=259						
WHP				eS	**Sn**	**04 40 48.1**	**0.0**
	baz=259						
VWDT	**VWDT**	**1.18**	**232**	eP	**Pn**	**04 40 33.8**	**-0.4**
	baz=232						
VWDT				eS	**Sn**	**04 40 48.4**	**-0.8**
	baz=232						
HGSD	**Ruisui**	**1.19**	**215**	eP	**Pn**	**04 40 33.4**	**-1.0**
	baz=214						
HGSD				eS	**Sn**	**04 40 49.6**	**+0.1**
	baz=214						
WPL	**Puli Township**	**1.19**	**247**	eS	**Sn**	**04 40 49.2**	**-0.3**
	baz=247						
WCS	**Beigang Elemen**	**1.21**	**250**	eP	**Pn**	**04 40 35.4**	**+0.7**
	baz=249						
WCS				eS	**Sn**	**04 40 50.7**	**+0.6**
	baz=249						
EHY	**Hungye**	**1.23**	**219**	eP	**Pn**	**04 40 33.2**	**-1.8**
	baz=218						
EHY				eS	**Sn**	**04 40 48.3**	**-2.3**
	baz=218						
NMLH	**Miaoli**	**1.25**	**273**	eP	**Pn**	**04 40 35.0**	**-0.1**
	baz=272						
NMLH				eS	**Sn**	**04 40 51.0**	**+0.1**
	baz=272						
SMLT	**Sun Moon Lake**	**1.29**	**243**	eP	**Pn**	**04 40 36.1**	**+0.2**
	baz=242						
SMLT				eS	**Sn**	**04 40 53.5**	**+1.3**
	baz=242						
SSLB	**Suanglung**	**1.30**	**238**	eP	**Pn**	**04 40 35.8**	**-0.1**
	baz=238						
SSLB				eS	**Sn**	**04 40 53.2**	**+1.0**
	baz=238						
TYC	**Yuchr**	**1.32**	**245**	eP	**Pn**	**04 40 36.5**	**+0.4**
	baz=244						
TYC				eS	**Sn**	**04 40 53.0**	**+0.3**
	baz=244						
ECBN	**Changbin**	**1.33**	**209**	eP	**Pn**	**04 40 35.1**	**-1.1**
	baz=209						
YULB	**Yu-li**	**1.34**	**216**	eP	**Pn**	**04 40 34.8**	**-1.6**
	baz=216						
EYUL	**Yuli**	**1.36**	**215**	eP	**Pn**	**04 40 36.4**	**-0.4**
	baz=214						
TWF1	**Yuli**	**1.37**	**215**	eP	**Pn**	**04 40 35.3**	**-1.5**
	baz=215						
TWF1				eS	**Sn**	**04 40 53.9**	**-0.1**
	baz=215						
WWF	**Wufeng**	**1.40**	**252**	eP	**Pn**	**04 40 37.6**	**+0.3**
	baz=252						
WWF				eS	**Sn**	**04 40 56.1**	**+1.5**
	baz=252						
IRIF	**Iriomote-Funau**	**1.44**	**95**	P	**Pn**	**04 40 37.4**	**-0.3**
IRIF				S	**Sn**	**04 40 55.3**	**-0.2**
WNT1	**Nantou City**	**1.47**	**247**	eS	**Sn**	**04 40 58.3**	**+2.0**
	baz=247						
FULB	**Fuli**	**1.50**	**212**	eP	**Pn**	**04 40 37.5**	**-1.1**
	baz=212						
FULB				eS	**Sn**	**04 40 56.5**	**-0.6**
	baz=212						
ALS	**Alishan**	**1.57**	**232**	eP	**Pn**	**04 40 40.4**	**+0.6**
	baz=232						
ALS				eS	**Sn**	**04 40 59.2**	**0.0**
	baz=232						
CHN5	**Tsauling**	**1.61**	**237**	eS	**Sn**	**04 41 02.1**	**+2.1**
	baz=237						
EDH	**Donghe**	**1.69**	**208**	eP	**Pn**	**04 40 39.8**	**-1.5**
	baz=207						
EDH				eS	**Sn**	**04 40 59.5**	**-2.2**
	baz=207						
JKRS	**Kuro-shima**	**1.70**	**98**	P	**Pn**	**04 40 41.4**	**+0.1**
JKRS				S	**Sn**	**04 41 02.7**	**+0.7**
WRL	**Guolierlin Hig**	**1.73**	**251**	eP	**Pn**	**04 40 41.3**	**-0.4**
	baz=250						
WRL				eS	**Sn**	**04 41 02.4**	**-0.2**
	baz=250						
WTK	**Tuku**	**1.80**	**244**	eP	**Pn**	**04 40 42.8**	**+0.1**
	baz=244						
WTK				eS	**Sn**	**04 41 04.7**	**+0.3**
	baz=244						
JIJ	**Ishigaki jima**	**1.81**	**93**	P	**Pn**	**04 40 42.3**	**-0.5**
JIJ				eS	**Sn**	**04 41 03.8**	**-0.8**
STYH	**Taoyuan**	**1.82**	**225**	eP	**Pn**	**04 40 43.1**	**+0.2**
	baz=224						
STYH				eS	**Sn**	**04 41 04.9**	**+0.1**
	baz=224						
CHN4	**Tsaushan**	**1.82**	**232**	eP	**Pn**	**04 40 43.5**	**+0.5**
	baz=232						
CHN4				eS	**Sn**	**04 41 07.0**	**+2.1**
	baz=232						
TPUB	**Ta-pu**	**1.83**	**230**	eP	**Pn**	**04 40 43.9**	**+0.8**
	baz=230						
TPUB				eS	**Sn**	**04 41 06.7**	**+1.6**
	baz=230						
WTP	**Ta-pu**	**1.87**	**229**	eP	**Pn**	**04 40 44.7**	**+1.0**
	baz=229						
WTP				eS	**Sn**	**04 41 08.2**	**+1.9**
	baz=229						
TWK	**Hsinying**	**1.95**	**232**	eS	**Sn**	**04 41 09.1**	**+1.0**
	baz=231						
WSF	**Szhu**	**1.96**	**245**	eS	**Sn**	**04 41 08.4**	**+0.2**
	baz=244						
JISG	**Ishigakijimahi**	**1.96**	**86**	P	**Pn**	**04 40 44.4**	**-0.5**
JISG				eS	**Sn**	**04 41 07.4**	**-0.9**
CHN1	**Nanshi**	**1.97**	**230**	eS	**Sn**	**04 41 08.9**	**+0.2**
	baz=229						
SGST	**Jiashian**	**2.00**	**226**	eS	**Sn**	**04 41 10.1**	**+0.6**
	baz=226						
WSL	**Shuilin Townsh**	**2.01**	**242**	eS	**Sn**	**04 41 09.9**	**+0.4**
	baz=241						
SLGT	**Liugui**	**2.03**	**223**	eP	**Pn**	**04 40 47.0**	**+1.2**
	baz=223						
SLGT				eS	**Sn**	**04 41 11.8**	**+1.9**
	baz=223						
JTJ	**Tarama**	**2.32**	**85**	P	**Pn**	**04 40 50.3**	**+0.5**
JTJ				S	**Sn**	**04 41 19.0**	**+1.9**
MASBT	**Mashibuluo**	**2.33**	**217**	eP	**Pn**	**04 40 50.1**	**+0.2**
	baz=217						
MASBT				eS	**Sn**	**04 41 17.6**	**+0.3**
	baz=217						

*IDC **09** 04:44:02.8±0.6,30°.65N×132°.81E,h0km,mb3.9/15,*
mb1 4.1/18,mb1mx3.9/45,mbtmp3.9/18,ML3.7/3,Error
ellipse: s-maj=22.9km s-min=13.2km az=80.0
*NIED **09** 04:44:06.4,30°.65N×132°.70E,h79km,MW4.2,Moment*
Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm;
M_{rr}=1.85; $M_{\theta\theta}$0.89; $M_{\phi\phi}$0.96; $M_{r\theta}$0.23; $M_{\theta\phi}$0.30; $M_{\phi r}$1.31;
Fault plane solution: $M_0$2.01000×1015 NP1:
ϕ_s=201.00000°,δ65.00000°,λ-98.00000°. NP2:ϕ_s=40.00000°,
δ26.00000°,λ-73.00000°.
*JMA **09** 04:44:06.3±0.1,30°.65N×132°.70E,h79km±5km,M3.5*
*NEIC **09** 04:44:07.6±1.6,30°.61N±0°.03×132°.72E±0°.09,h30km±5km,*
mb4.3/20,Error ellipse: s-maj=11.1km s-min=3.4km
az=74.0
ISC 09 04:44:06.5±3.2,**30°.57N**±0°.05×**132°.68E**±0°.05,**h25**km±23km,
n58,σ0s95/53,mb4.2/22,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.47**	**274**	P	Pn	04 44 31.8	+0.4
JTN				S	**Sn**	**04 44 50.9**	**+1.1**
JNAR	**Kushima--Naru**	**1.54**	**309**	P	Pn	04 44 32.1	-0.2
JMTN	**Minamitane**	**1.54**	**264**	P	Pn	04 44 33.2	+0.7
JMTN				eS	**Sn**	**04 44 53.0**	**+1.3**
JNKG	**Nichinankitago**	**1.56**	**315**	P	Pn	04 44 32.2	-0.4
JNKG				eS	**Sn**	**04 44 51.9**	**-0.1**
JTSR	**Tashiro 2**	**1.62**	**292**	P	Pn	04 44 33.4	-0.1
JTZ	**Takazaki**	**1.90**	**315**	P	Pn	04 44 37.0	-0.3
JTZ				eS	**Sn**	**04 45 00.2**	**-0.3**
JYAK	**Yakushimahirau**	**1.90**	**260**	P	Pn	04 44 37.8	+0.4
JYAK				eS	**Sn**	**04 45 01.1**	**+0.5**
JSU	**Suzuyama**	**2.12**	**297**		Pn	04 44 40.4	0.0
JTO	**Tosashimizu**	**2.28**	**3**	P	Pn	04 44 39.5	-3.1
JTO				eS	Sn	04 45 03.2	-6.7
JNN	**Nakanoshima**	**2.53**	**254**	P	Pn	04 44 46.7	+0.6
JNU	**Nakatsue**	**2.97**	**329**	Pn	**Pn**	**04 44 52.0**	**-0.1**
	9.0nm,0.3s,baz=141,slow=10,SNR=13						
JNU				Sn	**Sn**	**04 45 27.1**	**+0.2**
	24nm,0.3s,baz=202,slow=20,SNR=16						
JNU	**Nakatsue**	**2.97**	**329**		**Pn**	**04 44 52.3**	**+0.3**
JMN	**Monobe**	**3.31**	**18**	Pn	**Pn**	**04 44 55.7**	**-1.0**
JHS	**Saijyo**	**4.43**	**5**		**Pn**	**04 45 11.0**	**-1.2**
JOW	**Kunigami**	**5.37**	**227**	Pn	**Pn**	**04 45 25.9**	**+0.8**
	18nm,0.3s,baz=101,slow=20,SNR=26						
JOW				Sn	**Sn**	**04 46 23.3**	**-2.9**
	5.9nm,0.3s,baz=132,slow=29,SNR=7.3						
JOW	**Kunigami**	**5.37**	**227**		**Pn**	**04 45 26.0**	**+0.9**
KSRS	**Korea Array**	**7.92**	**331**	Pn	**Pn**	**04 46 02.4**	**+2.4**
	0.3nm,0.3s,baz=148,slow=13,SNR=2.6						
KLR	**Kul'dur**	**18.65**	**358**	P	**P**	**04 48 22.2**	**-0.2**
	0.1nm,0.3s,baz=165,slow=9.8,SNR=3.5						
ENH	**Enshi**	**20.00**	**275**	P	**P**	**04 48 35.6**	**-1.7**
ENH				IAmb	IAmb	04 48 48.5	
	comp=Z,6.6nm,0.5s						
SONM	**Songino Array**	**26.49**	**318**	P	**P**	**04 49 42.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=133,slow=11,SNR=2.3						
ZAA0	**Zalesovo Array**	**41.38**	**318**	P	**P**	**04 51 50.9**	**+0.4**
ZAA0				IAmb	IAmb	04 52 03.6	
	comp=Z,4.1nm,1.5s						
ZALV	**Zalesovo Beam**	**41.38**	**318**	PcP	**PcP**	**04 53 47.6**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=86,slow=4.5,SNR=1.8						
ZALV	**Zalesovo Beam**	**41.38**	**318**	P	**P**	**04 51 50.9**	**+0.4**
MK31	**Makanchi Array**	**41.79**	**307**	P	**P**	**04 51 52.7**	**-1.3**
MKAR	**Makanchi Array**	**41.79**	**307**	P	**P**	**04 51 55.9**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=106,slow=7.2,SNR=4.4						
MKAR				PcP	**PcP**	**04 53 50.0**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=88,slow=2.0,SNR=3.8						
MTN	**Manton Dam**	**43.19**	**182**	P	**P**	**04 52 05.2**	**-0.3**
MTN				IAmb	IAmb	04 52 06.6	
	comp=Z,7.5nm,0.8s						
KURK	**Kurchatov**	**44.56**	**313**	P	**P**	**04 52 17.3**	**+1.1**
KURK	**Kurchatov**	**44.56**	**313**		**PcP**	**04 53 57.8**	**-1.2**
KURK	**Kurchatov**	**44.56**	**313**	IAmb	IAmb	04 52 26.9	
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**44.61**	**313**	P	**P**	**04 52 17.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=102,slow=8.3,SNR=4.5						
KURBB				PcP	**PcP**	**04 53 57.8**	**-1.3**
	comp=Z,0.4nm,0.2s,baz=98,slow=3.3,SNR=8.0						
KNRA	**Kununurra**	**46.14**	**185**	P	**P**	**04 52 28.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**48.86**	**189**	P	**P**	**04 52 51.3**	**+1.2**
	comp=Z,3.0nm,0.7s,baz=24,slow=8.6,SNR=6.7						
BRVK	**Borovoye**	**49.85**	**316**	P	**P**	**04 52 57.6**	**+0.1**
BRVK				IAmb	IAmb	04 53 07.3	
	comp=Z,2.5nm,0.8s						
WB0	**Warramunga Arr**	**50.08**	**178**	P	**P**	**04 52 58.9**	**-0.6**
WRA	**Warramunga Arr**	**50.25**	**178**	P	**P**	**04 53 00.9**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=353,slow=8.6,SNR=15						
WRA	**Warramunga Arr**	**50.25**	**178**	P	**P**	**04 53 01.6**	**+0.8**
WB2	**Warramunga Arr**	**50.25**	**178**	P	**P**	**04 53 00.7**	**0.0**
WB2				IAmb	IAmb	04 53 02.2	
	comp=Z,4.9nm,1.0s						
WR0	**Warramunga Arr**	**50.27**	**178**	P	**P**	**04 53 00.1**	**-0.8**
AS31	**Alice Springs**	**53.94**	**179**	P	**P**	**04 53 29.2**	**+1.0**
AS31				IAmb	IAmb	04 53 30.3	
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**53.94**	**179**	P	**P**	**04 53 28.9**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=11,slow=13,SNR=28						
IL31		**58.76**	**30**	P	**P**	**04 54 02.0**	**0.0**
IL31				IAmb	IAmb	04 54 08.3	
	comp=Z,3.8nm,1.2s						
ILAR	**Eielson Array**	**58.76**	**30**	P	**P**	**04 54 01.4**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=264,slow=5.7,SNR=4.3						
STKA	**Stephens Creek**	**62.68**	**171**	P	**P**	**04 54 29.8**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=346,slow=8.2,SNR=6.9						
STKA	**Stephens Creek**	**62.68**	**171**	IAmb	IAmb	04 54 30.9	
	comp=Z,0.7nm,0.8s						
INK	**Inuvik**	**63.35**	**25**	P	**P**	**04 54 32.2**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=291,slow=4.7,SNR=6.8						
INK	**Inuvik**	**63.35**	**25**	IAmb	IAmb	04 54 33.0	
	comp=Z,4.1nm,1.4s						
A36M	**Sachs Harbour**	**64.86**	**20**	P	**P**	**04 54 43.4**	**+0.4**
FINES	**FINESS Array B**	**71.01**	**331**	P	**P**	**04 55 21.1**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=75,slow=4.4,SNR=14						
YKA	**Y

NVAR Mina Array Bea 84.69 48 P **P 04 56 39.0 +0.3**
comp=Z,0.6nm,0.7s,baz=292,slow=6.4,SNR=4.9

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*IDC **09** 04:48:00.8±0.6, 30°.65N×132°.74E, h0km, mb3.9/16, mb1 4.0/20, mb1mx3.8/46, mbtmp3.9/20, ML3.4/4, MS2.9/3, Ms1 3.0/3, ms1mx2.5/90, Error ellipse: s-maj=21.5km s-min=13.5km az=83.0*
*NIED **09** 04:48:03.6, 30°.63N×132°.81E, h57km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=2.28; Mθθ0.67; Mφφ 1.61; Mrθ0.40; Mrφ0.25; Mθφ1.28; Fault plane solution: M0 2.38000×10^15^ NP1: φs196.00000°, δ62.00000°, λ-89.00000°. NP2: φs13.00000°, δ28.00000°, λ-92.00000°.*
*JMA **09** 04:48:03.6±0.2, 30°.63N×132°.81E, h57km, M3.5*
*NEIC **09** 04:48:06.3±1.5, 30°.64N±0°.07×132°.62E±0°.09, h32km±6km, mb4.3/14, Error ellipse: s-maj=11.9km s-min=10.0km az=121.0*
ISC 09 04:48:04.5±0.6, 30°.65N±0°.05×132°.74E±0°.06, h25km, n50, σ1ŝ15/52, mb4.1/24, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.52**	**271**	P	**Pn**	**04 48 29.8**	**-0.2**
JTN				S	**Sn**	**04 48 49.1**	**+0.2**
JNAR	**Kushima--Naru**	**1.53**	**305**	P	**Pn**	**04 48 30.3**	**+0.1**
JNKG	**Nichinankitago**	**1.54**	**311**	P	**Pn**	**04 48 30.4**	**0.0**
JNKG				*e*S	**Sn**	**04 48 50.3**	**+0.7**
JMTN	**Minamitane**	**1.60**	**262**	P	**Pn**	**04 48 31.1**	**-0.1**
JTSR	**Tashiro 2**	**1.64**	**289**	P	**Pn**	**04 48 31.3**	**-0.5**
JTZ	**Takazaki**	**1.89**	**312**	P	**Pn**	**04 48 35.3**	**+0.2**
JYAK	**Yakushimahirau**	**1.97**	**259**	P	**Pn**	**04 48 36.1**	**-0.1**
JSU	**Suzuyama**	**2.14**	**294**		**Pn**	**04 48 37.6**	**-0.9**
JTO	**Tosashimizu**	**2.21**	**1**	P	**Pn**	**04 48 37.7**	**-1.8**
JTO				*e*S	**Sn**	**04 49 01.1**	**-4.9**
JNU	**Nakatsue**	**2.93**	**328**	Pn	**Pn**	**04 48 50.5**	**+1.0**
	14nm,0.3s,baz=206,slow=0.7,SNR=22						
JNU				Sn	**Sn**	**04 49 25.6**	**+1.7**
	32nm,0.3s,baz=16,slow=19,SNR=7.9						
JNU	**Nakatsue**	**2.93**	**328**		**Pn**	**04 48 50.0**	**+0.5**
JMN	**Monobe**	**3.22**	**17**	Pn	**Pn**	**04 48 54.5**	**+1.0**
JHS	**Saijyo**	**4.35**	**4**		**Pn**	**04 49 08.4**	**-0.6**
JOW	**Kunigami**	**5.46**	**227**	Pn	**Pn**	**04 49 24.1**	**-0.1**
	5.7nm,0.3s,baz=104,slow=26,SNR=18						
JOW				Sn	**Sn**	**04 50 23.9**	**-2.3**
	4.5nm,0.3s,baz=134,slow=27,SNR=2.1						
MJAR	**Matsushiro Arr**	**7.44**	**36**	Pn	**Pn**	**04 49 52.3**	**+0.8**
	0.1nm,0.3s,baz=235,slow=15,SNR=4.9						
KSRS	**Korea Array**	**7.88**	**331**	Pn	Pn	04 50 03.5	+6.1
	0.1nm,0.3s,baz=142,slow=14,SNR=3.2						
KSRS				LR	LR	04 52 22.2	
	comp=Z,37nm,21.9s,baz=160,slow=33						
KLR	**Kul'dur**	**18.58**	**358**	P	**P**	**04 52 20.1**	**+0.6**
	0.1nm,0.3s,baz=169,slow=9.9,SNR=3.8						
GUMO	**Guam**	**20.33**	**144**	LR	LR	04 59 28.6	
	comp=Z,54nm,19.2s,baz=80,slow=34						
SONM	**Songino Array**	**26.47**	**318**	P	**P**	**04 53 37.8**	**-1.8**
	0.2nm,0.5s,baz=131,slow=6.5,SNR=2.5						
CMAR	**Chiang Mai Arr**	**32.92**	**256**	LR	LR	05 10 36.3	
	comp=Z,26nm,19.0s,baz=55,slow=41						
MK31	**Makanchi Array**	**41.79**	**307**	P	**P**	**04 55 50.6**	**-1.3**
MKAR	**Makanchi Array**	**41.79**	**307**	P	**P**	**04 55 51.6**	**-0.2**
	0.4nm,0.6s,baz=91,slow=9.0,SNR=3.5						
BILL	**Bilibino**	**42.25**	**18**	P	**P**	**04 55 56.1**	**+0.8**
BILL				IAmb	IAmb	04 56 19.7	
	comp=Z,3.6nm,0.9s						
MTN	**Manton Dam**	**43.27**	**182**	P	**P**	**04 56 03.3**	**-0.7**
MTN				IAmb	IAmb	04 56 04.8	
	comp=Z,7.5nm,0.9s						
KURBB	**Kurchatov Arra**	**44.60**	**313**	P	**P**	**04 56 15.7**	**+1.2**
	comp=Z,0.3nm,0.2s,baz=96,slow=10.0,SNR=2.6						
FITZ	**Fitzroy Crossi**	**48.94**	**189**	P	**P**	**04 56 47.6**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=21,slow=8.6,SNR=3.5						
BRVK	**Borovoye**	**49.84**	**316**	P	**P**	**04 56 55.3**	**0.0**
BRVK				IAmb	IAmb	04 56 57.5	
	comp=Z,3.0nm,0.9s						
NIL	**Nilore**	**49.85**	**290**	P	**P**	**04 56 55.2**	**-0.5**
NIL				IAmb	IAmb	04 57 16.6	
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**50.31**	**178**	P	**P**	**04 56 59.5**	**+0.4**
WRAB				IAmb	IAmb	04 57 01.0	
	comp=Z,8.4nm,1.4s						
WRA	**Warramunga Arr**	**50.32**	**178**	P	**P**	**04 56 59.3**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=354,slow=7.8,SNR=10						
WRA	**Warramunga Arr**	**50.32**	**178**	P	**P**	**04 56 59.8**	**+0.5**
WR0	**Warramunga Arr**	**50.34**	**178**	P	**P**	**04 56 59.8**	**+0.4**
WR0				IAmb	IAmb	04 57 00.6	
	comp=Z,5.9nm,1.0s						
KBL	**Kabul**	**53.02**	**292**	P	**P**	**04 57 20.4**	**+0.7**
AS31	**Alice Springs**	**54.01**	**179**	P	**P**	**04 57 26.5**	**-0.2**
ASAR	**Alice Springs**	**54.02**	**179**	P	**P**	**04 57 27.4**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=358,slow=4.7,SNR=12						
ABKAR	**Akbulak array**	**56.62**	**311**	P	**P**	**04 57 43.9**	**-1.4**
IL31		**58.67**	**30**	P	**P**	**04 58 01.0**	**+1.7**
IL31				IAmb	IAmb	04 58 02.0	
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**58.67**	**30**	P	**P**	**04 57 59.4**	**0.0**
	comp=Z,0.4nm,0.8s,baz=278,slow=5.9,SNR=4.6						
STKA	**Stephens Creek**	**62.75**	**172**	P	**P**	**04 58 28.1**	**+0.6**
	comp=Z,0.6nm,0.2s,baz=351,slow=12,SNR=4.5						
INK	**Inuvik**	**63.26**	**25**	P	**P**	**04 58 31.4**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=277,slow=6.9,SNR=6.2						
A36M	**Sachs Harbour**	**64.77**	**20**	P	**P**	**04 58 41.7**	**+1.4**
KBZ	**Khabaz**	**69.44**	**309**	P	**P**	**04 59 11.6**	**+1.1**
	comp=Z,3.3nm,0.9s,baz=75,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**70.97**	**331**	P	**P**	**04 59 19.2**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=69,slow=6.3,SNR=11						
YKA	**Yellowknife Ar**	**72.84**	**27**	P	**P**	**04 59 29.3**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=298,slow=5.6,SNR=7.0						
AKASG	**Malin Array Be**	**74.73**	**320**	P	**P**	**04 59 42.1**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=52,slow=6.4,SNR=8.8						
BR131	**Keskin Array S**	**77.42**	**309**	P	**P**	**04 59 56.9**	**-0.9**
BRTR	**Keskin Array B**	**77.42**	**309**	P	**P**	**04 59 58.2**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=78,slow=5.3,SNR=5.8						
BURAR	**Bucovina Array**	**78.58**	**319**	P	**P**	**05 00 03.9**	**-0.1**
BURAR				IAmb	IAmb	05 00 06.5	
	comp=Z,1.9nm,0.8s						
GERES	**GERESS Array B**	**84.00**	**324**	P	**P**	**05 00 33.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=49,slow=4.3,SNR=5.3						
NVAR	**Mina Array Bea**	**84.60**	**48**	P	**P**	**05 00 37.3**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=295,slow=3.5,SNR=5.9						

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*TIR **09** 05:02:02.8, 40°.31N×19°.37E, h8km±1km, Md2.8, Ml1.7*
ISC 09 05:02:02.0±1.3, 40°.31N±0°.03×19°.23E±0°.04, h6km±11km, n18, σ1ŝ19/28, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.25**	**52**	P	**Pg**	**05 02 06.2**	**-0.7**
	baz=30						
VLO				S	**Sg**	**05 02 09.9**	**-0.4**
	baz=30						
VLO				AMP			
	comp=N,128nm,0.2s,baz=30						
SCTE	**Santa Cesarea**	**0.63**	**248**	P	**Pb**	**05 02 17.4**	**+1.9**
	baz=252						
SCTE				S	**Sn**	**05 02 28.4**	**+0.4**
	baz=252						
SRN	**Sarande**	**0.73**	**126**	P	**Pg**	**05 02 15.6**	**-0.4**
	baz=131						
SRN				S	**Sg**	**05 02 25.7**	**+0.3**
	baz=131						
SRN				AMP			
	comp=N,1.1nm,0.5s,baz=131						
LSK	**Leskovik**	**1.06**	**98**	P	**Pb**	**05 02 21.5**	**-1.4**
	baz=99						
LSK				S	**Sg**	**05 02 36.7**	**+0.7**
	baz=99						
LSK				AMP			
	comp=N,1.5nm,0.8s,baz=99						
TIR	**Tirane**	**1.14**	**25**	P	**Pb**	**05 02 25.1**	**+0.9**
	baz=19						
TIR				S	**Sn**	**05 02 41.3**	**+0.7**
	baz=19						
TIR				AMP			
	comp=N,0.4nm,0.5s,baz=19						
IGT	**Igoumenitsa**	**1.15**	**132**	P	**Pb**	**05 02 23.9**	**-0.4**
	baz=136						
IGT				S	**Sg**	**05 02 39.7**	**+0.8**
	baz=136						
KBN	**Korca**	**1.23**	**75**	P	**Pn**	**05 02 25.3**	**-0.5**
	baz=73						
KBN				S	**Sb**	**05 02 41.9**	**+0.1**
	baz=73						
OHR	**Ohrid**	**1.43**	**56**	*i* Pn	**Pb**	**05 02 29.7**	**+0.5**
PHP	**Peshkopia**	**1.65**	**33**	P	**Pn**	**05 02 33.1**	**+1.5**
	baz=30						
PHP				S	**Sg**	**05 02 55.9**	**+0.9**
	baz=30						
PHP				AMP			
	comp=N,0.3nm,0.4s,baz=30						
BCI	**Bajram Curri**	**2.15**	**17**	P	**Pb**	**05 02 41.8**	**+0.5**
	baz=14						
BCI				S	**Sb**	**05 03 09.6**	**+1.3**
	baz=14						
STIP	**Stip**	**2.63**	**57**	*e*Pn	**Pn**	**05 02 46.8**	**+1.8**
STON	**Ston**	**2.81**	**336**	*e*Pn	**Pn**	**05 02 45.7**	**-1.8**
HVAR	**Hvar**	**3.54**	**325**	*e*Pn	**Pn**	**05 02 56.4**	**-1.2**
RICI	**Ricice**	**3.55**	**334**	*e*Pn	**Pn**	**05 02 56.4**	**-1.3**
KIJV	**Kijevo**	**4.25**	**331**	*e*Pn	**Pn**	**05 03 07.1**	**-0.2**
MORI	**Morici**	**4.42**	**325**	*e*Pn	**Pn**	**05 03 09.0**	**-0.5**
MORI				Sn	**Sn**	**05 03 58.2**	**-3.1**
PLIT	**Plitvice**	**5.29**	**331**	*e*Pn	**Pn**	**05 03 21.6**	**0.0**
NVLJ	**Novalja**	**5.34**	**324**	*e*Pn	**Pn**	**05 03 21.8**	**-0.4**

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*IDC **09** 05:29:31.6±0.8, 18°.68S×67°.19W, h255km±14km, mb3.2/2, mb1 3.3/5, mb1mx3.0/30, mbtmp4.0/5, Error ellipse: s-maj=29.2km s-min=11.0km az=101.0*
*NEIC **09** 05:29:32.4±1.3, 18°.66S±0°.08×67°.2W±0°.1, h265km±16km, mb4.1/4, Error ellipse: s-maj=20.0km s-min=9.0km az=110.0*
*VAO **09** 05:29:33.1±0.5, 18°.70S×67°.03W, h247km, mb3.6*
*SCB **09** 05:29:38.9±3.2, 18°.94S×67°.28W, h57km±32km, ML3.7/4, Error ellipse: s-maj=17.6km s-min=12.0km az=1.0*
ISC 09 05:29:31.8±0.7, 18°.76S±0°.04×67°.21W±0°.07, h253km±9km, n83, σ1ŝ74/95, 2C, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOE	**La Paz, Chanca**	**2.07**	**339**	P	**Pn**	**05 30 18.0**	**+2.1**
PB16	**IPOC Station P**	**2.22**	**281**		**Pn**	**05 30 19.3**	**+2.0**
PB08	**IPOC Station P**	**2.30**	**233**	*e*P	**Pn**	**05 30 19.6**	**+1.9**
PB08				*i* S	**S**	**05 30 55.3**	**+1.4**
PB08	**IPOC Station P**	**2.30**	**233**		**Pn**	**05 30 20.0**	**+2.2**
BBOD	**La Paz, Gloria**	**2.49**	**328**	P	**Pn**	**05 30 21.7**	**+1.8**
PB11	**IPOC Station P**	**2.52**	**246**	*i* P	**Pn**	**05 30 20.9**	**+1.2**
PB11				*i* S	**S**	**05 30 57.7**	**+0.2**
PB11	**IPOC Station P**	**2.52**	**246**		**Pn**	**05 30 21.1**	**+1.4**
PB11	**IPOC Station P**	**2.52**	**246**	P	**Pn**	**05 30 21.0**	**+1.3**
LPAZ	**La Paz**	**2.61**	**340**	P	**Pn**	**05 30 22.2**	**+1.1**
	47nm,0.3s,baz=151,slow=4.9,SNR=1544						
LPAZ				S	**S**	**05 30 59.0**	**-1.1**
	3.0nm,0.3s,baz=59,slow=18,SNR=6.4						
LPAZ	**La Paz**	**2.61**	**340**	⇑*i*P	**Pn**	**05 30 22.2**	**+1.1**
LPAZ				*e*S	**S**	**05 30 57.3**	**-2.8**
LPAZ	**La Paz**	**2.61**	**340**	*e*P	**Pn**	**05 30 22.2**	**+1.1**
LPAZ	**La Paz**	**2.61**	**340**		**Pn**	**05 30 21.8**	**+0.6**
LPAZ	**La Paz**	**2.61**	**340**	P	**Pn**	**05 30 22.3**	**+1.1**
MOCB	**Mochara**	**2.89**	**150**	P	**Pn**	**05 30 25.8**	**+2.0**
PB12	**IPOC Station P**	**2.96**	**272**	⇑*i*P	**Pn**	**05 30 24.6**	**+0.4**
PB12				*i* S	**S**	**05 31 04.5**	**-1.1**
PB12	**IPOC Station P**	**2.96**	**272**		**Pn**	**05 30 25.4**	**+1.1**
AP01	**Chacalluta**	**3.00**	**277**	*e*P	**Pn**	**05 30 25.1**	**+0.6**
AP01				*e*S	**S**	**05 31 04.3**	**-1.8**
AP01	**Chacalluta**	**3.00**	**277**		**Pn**	**05 30 25.9**	**+1.4**
PB01	**IPOC Station P**	**3.13**	**223**	*e*P	**Pn**	**05 30 27.2**	**+1.2**
PB01				*i* S	**S**	**05 31 08.3**	**-0.5**
PB01	**IPOC Station P**	**3.13**	**223**		**Pn**	**05 30 27.8**	**+1.8**
PB01	**IPOC Station P**	**3.13**	**223**	P	**Pn**	**05 30 27.3**	**+1.3**
TA02	**Huaiquique**	**3.14**	**241**	*e*P	**Pn**	**05 30 27.5**	**+1.5**
TA02				*e*S	**S**	**05 31 07.4**	**-1.5**
TA02	**Huaiquique**	**3.14**	**241**		**Pn**	**05 30 27.7**	**+1.7**
TA01	**Diego Aracena**	**3.33**	**237**		**Pn**	**05 30 29.7**	**+1.6**
PB09	**IPOC Station P**	**3.58**	**212**	*e*P	**Pn**	**05 30 33.2**	**+2.2**
PB09	**IPOC Station P**	**3.58**	**212**		**Pn**	**05 30 33.8**	**+2.8**
PB09	**IPOC Station P**	**3.58**	**212**	P	**Pn**	**05 30 33.3**	**+2.2**
PB09				S	**S**	**05 31 13.4**	**-4.7**
PB09				IAML		05 31 27.0	
	38nm,0.4s						
YJA	**Yavi**	**3.75**	**155**	P	**Pn**	**05 30 35.2**	**+1.9**
PB07	**IPOC Station P**	**3.88**	**220**	*e*P	**Pn**	**05 30 35.8**	**+1.2**
PB07	**IPOC Station P**	**3.88**	**220**		**Pn**	**05 30 36.5**	**+2.0**
PB07	**IPOC Station P**	**3.88**	**220**	P	**Pn**	**05 30 36.3**	**+1.8**
PB03	**IPOC Station P**	**4.05**	**216**	*e*P	**Pn**	**05 30 38.1**	**+1.5**
PB03	**IPOC Station P**	**4.05**	**216**	P	**Pn**	**05 30 38.7**	**+2.2**
PB03				S	**S**	**05 31 23.1**	**-4.9**
PB03				IAML		05 31 30.8	
	51nm,0.3s						
LVC	**Limon Verde**	**4.15**	**202**	P	**Pn**	**05 30 39.6**	**+1.8**
	7.8nm,0.3s,baz=31,slow=8.3,SNR=80						
LVC				S	**S**	**05 31 31.4**	**+0.9**
	6.2nm,0.3s,baz=258,slow=22,SNR=13						
LVC	**Limon Verde**	**4.15**	**202**	*e*P	**Pn**	**05 30 39.7**	**+1.8**
LVC	**Limon Verde**	**4.15**	**202**		**Pn**	**05 30 39.7**	**+1.8**
LVC	**Limon Verde**	**4.15**	**202**	P	**Pn**	**05 30 39.7**	**+1.8**
PB04	**IPOC Station P**	**4.50**	**217**		**Pn**	**05 30 43.2**	**+1.3**
PB04	**IPOC Station P**	**4.50**	**217**	P	**Pn**	**05 30 43.3**	**+1.4**
PB06	**IPOC Station P**	**4.51**	**209**		**Pn**	**05 30 43.5**	**+1.6**
PB06	**IPOC Station P**	**4.51**	**209**	P	**Pn**	**05 30 43.7**	**+1.8**
PB06				S	**S**	**05 31 32.7**	**-5.1**
PB06				IAML		05 31 40.2	
	120nm,0.5s						
PB15	**IPOC Station P**	**4.91**	**205**		**Pn**	**05 30 48.8**	**+2.0**
PB15	**IPOC Station P**	**4.91**	**205**	P	**Pn**	**05 30 48.5**	**+1.7**
PB15				S	**S**	**05 31 41.8**	**-4.8**
PB15				S	S	05 31 43.4	-3.2
PB15				IAML		05 31 50.7	
	484nm,0.3s						
PB05	**IPOC Station P**	**4.95**	**214**	P	**Pn**	**05 30 48.5**	**+1.3**
PB10	**IPOC Station P**	**5.67**	**213**	Pn	**Pn**	**05 30 56.1**	**+0.1**
PB10	**IPOC Station P**	**5.67**	**213**	P	**Pn**	**05 30 57.1**	**+1.2**
SIV	**San Ignacio**	**6.47**	**66**	P	**Pn**	**05 31 04.4**	**-1.6**
	5.8nm,0.3s,baz=254,slow=10.0,SNR=70						
PB14	**IPOC Station P**	**6.55**	**206**		**Pn**	**05 31 07.4**	**+0.2**
AC02	**Maricunga**	**8.23**	**192**	Pn	**Pn**	**05 31 28.9**	**+0.3**
PTLB	**Pontes e Lacer**	**8.39**	**68**	*e*P	**Pn**	**05 31 28.7**	**-1.4**
PTLB	**Pontes e Lacer**	**8.39**	**68**		**Pn**	**05 31 28.8**	**-1.4**
VILB	**Vilhena**	**8.87**	**50**	*e*P	**Pn**	**05 31 35.1**	**-1.2**
VILB	**Vilhena**	**8.87**	**50**		**Pn**	**05 31 34.5**	**-1.8**
ETMB	**Extrema**	**8.94**	**6**	*e*P	**Pn**	**05 31 36.1**	**-1.0**
PDRB	**Porto dos Gac**	**12.35**	**56**	*e*P	**Pn**	**05 32 17.9**	**-1.9**
CO03	**El Pedregal**	**12.44**	**194**		**Pn**	**05 32 22.8**	**+1.9**
CLDB	**Colider**	**13.53**	**56**	*e*P	**Pn**	**05 32 34.0**	**-0.3**
ITQB	**Itaqui**	**14.52**	**140**	*e*P	**P**	**05 32 46.5**	**+0.3**
PTGB	**Pitanga**	**15.26**	**116**	*e*P	**P**	**05 32 55.8**	**+1.2**
ITRB	**Iturama**	**15.94**	**96**	*e*P	**P**	**05 33 02.2**	**+0.2**
ITAB	**Concordia**	**16.23**	**124**	*e*P	**P**	**05 33 06.6**	**+1.6**
ITAB	**Concordia**	**16.23**	**124**	P	**P**	**05 33 05.5**	**+0.4**
NPGB	**Novo Progresso**	**16.39**	**46**	*e*P	**P**	**05 33 06.9**	**0.0**
SNDB	**Serra Nova Dou**	**16.75**	**69**	*e*P	**P**	**05 33 10.9**	**+0.1**
MACA	**Manacapuru-AM**	**16.76**	**23**	*e*P	**P**	**05 33 11.6**	**+0.7**
CPSB	**Cacapava Do Su**	**17.05**	**135**	*e*P	**P**	**05 33 14.2**	**+0.3**
BB19B	**Bebedouro**	**17.71**	**101**	*e*P	**P**	**05 33 21.9**	**+0.5**
PLTB	**Pedras Altas**	**17.84**	**139**	*e*P	**P**	**05 33 22.4**	**-0.1**
PLTB	**Pedras Altas**	**17.84**	**139**	P	**P**	**05 33 22.5**	**0.0**
PLTB				IAmb	IAmb	05 33 23.0	
	comp=Z,5.4nm,0.8s						
IPMB	**Ipameri, GO**	**18.05**	**91**	*e*P	**P**	**05 33 25.5**	**+0.5**
ITTB	**Itaituba**	**18.17**	**39**	*e*P	**P**	**05 33 25.6**	**-0.7**
BDFB	**Brasilia**	**18.59**	**83**	P	**P**	**05 33 31.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=273,slow=4.8,SNR=5.8						
BDFB	**Brasilia**	**18.59**	**83**	IAmb	IAmb	05 33 50.0	
	comp=Z,6.8nm,1.2s						
RCLB	**Rio Claro- Sao**	**18.78**	**105**	*e*P	**P**	**05 33 32.9**	**+0.1**
PEXB	**Peixe**	**19.38**	**73**	*e*P	**P**	**05 33 39.6**	**+0.4**
BOAV	**Boa Vista**	**22.02**	**18**	P	**P**	**05 34 05.9**	**-0.1**
PLCA	**Paso Flores**	**22.09**	**187**	*e*P	**P**	**05 34 08.7**	**+2.3**
JANB	**Januaria**	**22.21**	**84**	*e*P	**P**	**05 34 07.4**	**-0.4**
DIAM	**Diamantina, MG**	**22.32**	**93**	*e*P	**P**	**05 34 08.6**	**-0.2**
SDBA	**SAO DESIDERIO**	**22.38**	**77**	*e*P	**P**	**05 34 09.6**	**+0.3**
SDV	**Santo Domingo**	**27.68**	**353**	*e*P	**P**	**05 34 58.6**	**+1.6**
SNAA	**Sanae**	**64.35**	**162**	P	**P**	**05 39 41.6**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=353,slow=17,SNR=1.2						
TORD	**Torodi Ar. Bea**	**74.93**	**70**	P	**P**	**05 40 44.0**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=256,slow=5.5,SNR=9.5						

IDC 09 05:43:01.5±2.8, 22°.44S×148°.04E, h0km, mb1 3.5/3, mb1mx3.2/30, mbtmp3.3/3, ML3.4/3, Error ellipse: s-maj=30.9km s-min=23.2km az=67.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.87**	**324**	Pn	Pn	05 43 48.3	-0.2
	5.3nm,0.3s,baz=140,slow=15,SNR=64						
CTA				Pg	Pg	05 43 55.4	-1.2
	17nm,0.3s,baz=143,slow=18,SNR=14						
CTA				Lg	Lg	05 44 30.6	
	37nm,0.3s,baz=37,slow=19,SNR=21						
WRA	**Warramunga Arr**	**13.02**	**278**	Pn	Pn	05 46 06.9	-1.0
	0.2nm,0.3s,baz=94,slow=12,SNR=12						
WRA				Sn	Sn	05 48 35.1	+1.5
	0.1nm,0.3s,baz=99,slow=21,SNR=2.4						
WRA				Lg	Lg	05 49 54.8	
	0.1nm,0.3s,baz=108,slow=30,SNR=4.7						
I07AU	**WARRAMUNGA INI**	**13.03**	**278**	*i*		07 00 40.0	
	baz=104,slow=295,SNR=1.0						
ASAR	**Alice Springs**	**13.07**	**262**	Pn	Pn	05 46 09.3	+0.7
	0.1nm,0.3s,baz=89,slow=14,SNR=3.2						
ASAR				Sn	Sn	05 48 35.7	+0.8
	0.1nm,0.3s,baz=84,slow=25,SNR=4.2						
ASAR				Lg	Lg	05 49 60.0	
	0.1nm,0.3s,baz=73,slow=30,SNR=5.2						
TORD	**Torodi Ar. Bea**	**146.72**	**260**	PKPbc	PKPbc	06 02 45.5	-0.7
	0.2nm,0.6s,baz=134,slow=4.0,SNR=1.5						

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*IDC **09** 05:50:30.4±3.6, 36°.49N×71°.43E, h149km±31km, mb3.4/13, mb1 3.5/19, mb1mx3.4/45, mbtmp3.9/19, Error ellipse: s-maj=23.9km s-min=14.7km az=16.0*
*NEIC **09** 05:50:34.3±1.7, 36°.70N±0°.04×71°.4E±0°.1, h178km±7km, mb4.2/9, Error ellipse: s-maj=12.5km s-min=5.8km az=84.0*
*NNC **09** 05:50:37.9±4.1, 37°.10N×71°.30E, h192km±42km, mb3.1, mpv4.2, Error ellipse: s-maj=36.6km s-min=23.1km az=25.0*
ISC 09 05:50:34.7±0.6, 36°.71N±0°.05×71°.42E±0°.06, h200km, n73, σ2ŝ49/79, mb3.7/15, 7C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.44**	**339**		**Pn**	**05 51 15.8**	**-2.2**
CHGR	**Chuyangaron**	**2.64**	**318**		**Pn**	**05 51 17.8**	**-2.5**
DRK	**Karamyk**	**2.78**	**6**		**Pn**	**05 51 20.9**	**-1.1**
KBL	**Kabul**	**2.90**	**222**	Pn	**Pn**	**05 51 21.1**	**-2.3**
BTK	**Batken**	**3.37**	**352**	Pn	**Pn**	**05 51 28.1**	**-0.7**
NIL	**Nilore**	**3.41**	**153**		**Pn**	**05 51 28.4**	**-0.9**
AML	**Almayashu**	**5.69**	**17**	P	**Pn**	**05 51 56.8**	**-1.4**
	SNR=190						
DHRM	**DHARAMSHALA**	**6.01**	**136**	*e*P	**Pn**	**05 52 00.9**	**-1.3**
DHRM				*e*S	**Sn**	**05 53 06.5**	**-4.9**
DHRM				IAML		05 53 09.2	
	comp=E,331nm,0.6s						
DHRM				IAML		05 53 10.7	
	comp=N,212nm,0.7s						
UCH	**Uchtor**	**6.01**	**23**	P	**Pn**	**05 52 01.1**	**-1.3**
	SNR=27						
EKS2	**Erkin-Say**	**6.21**	**16**	P	**Pn**	**05 52 03.9**	**-0.9**
	SNR=10.0						
AAK	**Ala-Archa**	**6.38**	**21**	P	**Pn**	**05 52 06.1**	**-0.8**
	comp=N,6.4nm,0.3s,baz=183,slow=4.6,SNR=33						
AAK				S	**Sn**	**05 53 16.2**	**-3.7**
	comp=N,5.4nm,0.3s,baz=331,slow=23,SNR=11						
AAK	**Ala-Archa**	**6.38**	**21**	P	**Pn**	**05 52 06.0**	**-0.9**
	SNR=15						
AAK	**Ala-Archa**	**6.38**	**21**	⇑P	**Pn**	**05 52 05.8**	**-1.1**
	comp=N,5.7nm,0.3s						
AAK				⇑S	**Sn**	**05 53 16.0**	**-3.9**
	comp=N,17nm,0.5s						
AAK	**Ala-Archa**	**6.38**	**21**	Pn	**Pn**	**05 52 06.4**	**-0.5**
KKAR	**Karatay Array**	**6.42**	**354**	Pn	**Pn**	**05 52 06.3**	**-1.0**
KK01	**Karatay Array**	**6.42**	**354**	⇓P	**Pn**	**05 52 05.8**	**-1.5**
	comp=N,33nm,0.6s						
KK01				⇓S	**Sn**	**05 53 14.8**	**-6.0**
	comp=N,30nm,0.6s						
KBK	**Karagaybulak**	**6.53**	**24**	P	**Pn**	**05 52 05.5**	**-3.4**
	SNR=10						
BOOM	**Boomskoye usch**	**6.74**	**30**	Pn	**Pn**	**05 52

comp=Z,2.8nm,1.1s,baz=118,slow=11,SNR=10
ARCES **ARCESS Array B 41.08 337** P **P** **05 58 00.8 +2.5**
comp=Z,3.5nm,1.0s,baz=105,slow=8.9,SNR=7.6
NC405 **NORSAR Array S 44.18 323** P **P** **05 58 24.1 +0.8**
NB2 **NORSAR Subarra 44.41 323** P **P** **05 58 26.9 +1.7**
comp=Z,0.9nm,0.5s,baz=97,slow=7.9
NOA **NORSAR Array B 44.41 323** P **P** **05 58 27.1 +1.8**
comp=Z,0.5nm,0.5s,baz=106,slow=7.2,SNR=12
ESDC **Sonseca Array 57.65 298** P **P** **06 00 06.3 +2.2**
comp=Z,0.8nm,0.8s,baz=57,slow=7.0,SNR=4.7
TORD **Torodi Ar. Bea 66.06 269** P **P** **06 01 00.3 0.0**
comp=Z,1.1nm,0.5s,baz=50,slow=5.7,SNR=13
INK **Inuvik 73.64 9** P **P** **06 01 48.2 +2.6**
comp=Z,0.7nm,0.7s,baz=354,slow=7.7,SNR=5.1
INK **Inuvik 73.64 9** IAmb IAmb 06 01 49.2
comp=Z,19nm,1.9s
YKA **Yellowknife Ar 81.02 3** P **P** **06 02 29.3 +2.6**
comp=Z,0.4nm,0.5s,baz=348,slow=5.3,SNR=13
WRA **Warramunga Arr 81.82 122** P **P** **06 02 32.3 +0.8**
comp=Z,0.4nm,0.6s,baz=323,slow=4.7,SNR=9.2
ASAR **Alice Springs 84.10 125** P **P** **06 02 44.1 +0.9**
comp=Z,0.7nm,0.6s,baz=308,slow=4.9,SNR=11

*CNRM **09** 06:25:26.8, 35.°97N×12.°33W, h13km, ml3.5*
*IGIL **09** 06:25:33.1, 36.°52N×12.°26W, h5km, ML3.4*
*INMG **09** 06:25:33.8±1.9, 36.°38N×12.°60W, h10km, ML3.4, Error ellipse: s-maj=5.3km s-min=3.7km az=128.0*
*LDG **09** 06:25:34.8±1.1, 36.°72N×12.°19W, h30km, Ml3.5/6, Error ellipse: s-maj=21.0km s-min=17.4km az=32.0*
ISC 09 06:25:28.8±2.7, 36.°48N±0.°08×12.°3W±0.°1, h10km, n74, σ2s17/94, 2C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.88**	**76**	⇑*e*Pn	**Pn**	**06 26 16.7**	**+1.9**
PFVI				*e*Sn	**Sn**	**06 26 49.3**	**-0.2**
PFVI				A	A	06 26 52.4	
	46nm,0.3s						
PFVI	**Vila Bisbo**	**2.88**	**76**	P	**Pn**	**06 26 16.8**	**+2.0**
PFVI				S	**Sn**	**06 26 50.2**	**+0.7**
MORF	**Marmelete**	**3.06**	**73**	*e*P	**Pn**	**06 26 19.6**	**+2.3**
MORF				*e*S	**Sn**	**06 26 53.3**	**-0.6**
MORF				IAML		06 26 56.4	
	comp=N,77nm,0.2s						
MORF	**Marmelete**	**3.06**	**73**	*e*Pn	**Pn**	**06 26 19.6**	**+2.3**
MORF				*e*Sn	**Sn**	**06 26 54.2**	**+0.3**
MORF				A	A	06 26 56.2	
	comp=N,41nm,0.2s						
PTEO	**Sao Teotonio**	**3.07**	**69**	*e*Pn	**Pn**	**06 26 19.8**	**+2.4**
PTEO				*e*Sn	**Sn**	**06 26 53.9**	**-0.3**
PTEO				A	A	06 26 56.7	
	comp=N,36nm,0.7s						
PMST	**Lisbon--Monsan**	**3.36**	**47**	*e*Pn	**Pn**	**06 26 23.7**	**+2.3**
PMST				*e*Sn	**Sn**	**06 27 01.3**	**0.0**
PMST				A	A	06 27 03.2	
	comp=N,140nm,0.3s						
LIS	**Lisbon**	**3.37**	**48**	*e*S	**Sn**	**06 27 00.7**	**-0.8**
LIS				IAML		06 27 02.9	
	comp=N,461nm,0.2s						
LIS	**Lisbon**	**3.37**	**48**	*e*Sn	**Sn**	**06 27 01.4**	**-0.1**
LIS				A	A	06 27 02.9	
	comp=N,194nm,0.2s						
PNCL	**Nicolau / Gran**	**3.44**	**61**	*e*Pn	**Pn**	**06 26 24.6**	**+2.2**
PNCL				*e*Sn	**Sn**	**06 27 02.8**	**-0.4**
PNCL				A	A	06 27 04.4	
	comp=N,30nm,0.6s						
PMAFR	**Mafra**	**3.45**	**43**	⇑*e*Pn	**Pn**	**06 26 24.7**	**+2.1**
PMAFR				*e*Sn	**Sn**	**06 27 03.5**	**-0.1**
PMAFR				A	A	06 27 04.2	
	comp=N,766nm,0.2s						
MESJ	**Messejana**	**3.55**	**66**	*e*P	**Pn**	**06 26 26.2**	**+2.3**
MESJ				*e*S	**Sn**	**06 27 04.7**	**-1.2**
MESJ				IAML		06 27 10.7	
	comp=N,45nm,0.3s						
MESJ	**Messejana**	**3.55**	**66**	*e*P	**Pn**	**06 26 26.2**	**+2.3**
MESJ				*e*S	**Sn**	**06 27 04.7**	**-1.2**
MESJ				iAML		06 27 10.7	
PBDV	**Barranco-do-Ve**	**3.60**	**77**	*e*Pn	**Pn**	**06 26 27.1**	**+2.3**
PBDV				*e*Sn	**Sn**	**06 27 07.5**	**+0.1**
PBDV				A	A	06 27 14.2	
	comp=N,22nm,0.4s						
PCVE	**Castro Verde**	**3.62**	**70**	*e*Pn	**Pn**	**06 26 27.2**	**+2.3**
PCVE				*e*Sn	**Sn**	**06 27 07.1**	**-0.5**
PCVE				A	A	06 27 20.9	
	comp=N,35nm,0.4s						
PVAQ	**Vaqueiros**	**3.80**	**75**	*e*Pn	**Pn**	**06 26 29.8**	**+2.4**
PVAQ				*e*Sn	**Sn**	**06 27 11.8**	**-0.5**
PVAQ				A	A	06 27 17.5	
	comp=N,26nm,0.5s						
PVAQ	**Vaqueiros**	**3.80**	**75**	P	**Pn**	**06 26 29.8**	**+2.4**
PVAQ				S	**Sn**	**06 27 13.2**	**+1.0**
PBEJ	**Beja**	**3.88**	**65**	*e*Pn	**Pn**	**06 26 31.3**	**+2.8**
PBEJ				*e*Sn	**Sn**	**06 27 12.9**	**-1.2**
PBEJ				A	A	06 27 15.3	
	comp=N,16nm,0.2s						
EVO	**Evora**	**3.99**	**58**	P	**Pn**	**06 26 32.0**	**+1.9**
EVO				S	**Sn**	**06 27 15.9**	**-1.0**
EVO	**Evora**	**3.99**	**58**	*e*Pn	**Pn**	**06 26 32.3**	**+2.2**
EVO				*e*Sn	**Sn**	**06 27 16.1**	**-0.8**
EVO				A	A	06 27 18.8	
	comp=N,42nm,0.5s						
PSBE	**So Bento**	**4.12**	**42**	*e*Pn	**Pn**	**06 26 34.1**	**+2.3**
PSBE				*e*Sn	**Sn**	**06 27 19.8**	**-0.2**
PSBE				A	A	06 27 28.4	
	comp=N,62nm,0.3s						
PMTG	**Montargil**	**4.15**	**50**	*e*Pn	**Pn**	**06 26 33.9**	**+1.7**
PMTG				*e*Sn	**Sn**	**06 27 19.2**	**-1.6**
PMTG				A	A	06 27 21.4	
	comp=N,24nm,0.2s						
PESTR	**Estremoz**	**4.45**	**56**	*e*Pn	**Pn**	**06 26 38.4**	**+2.0**
PESTR				*e*Sn	**Sn**	**06 27 26.3**	**-1.9**
PESTR				A	A	06 27 30.3	
	comp=N,20nm,0.4s						
PESTR	**Estremoz**	**4.45**	**56**	P	**Pn**	**06 26 38.4**	**+2.0**
PESTR				S	**Sn**	**06 27 28.2**	**+0.1**
PBAR	**Barrancos**	**4.54**	**67**	*e*Pn	**Pn**	**06 26 40.3**	**+2.7**
PBAR				*e*Sn	**Sn**	**06 27 28.4**	**-2.0**
PBAR				A	A	06 27 30.9	
	comp=N,20nm,0.5s						
PCAS	**Casmilo, Conde**	**4.67**	**39**	*e*Pn	**Pn**	**06 26 40.6**	**+1.3**
PCAS				*e*Sn	**Sn**	**06 27 31.8**	**-1.8**
PCAS				A	A	06 27 34.2	
	comp=N,34nm,0.5s						
PMPST	**Porto Santo, M**	**4.73**	**225**	*e*Pn	Pn	06 26 34.4	-5.9
PMPST				*e*Sn	Sn	06 27 20.4	-15
PMPST				A	A	06 27 24.5	
	comp=N,84nm,0.4s						
PMPS	**Porto Santo**	**4.75**	**225**	*e*Pn	Pn	06 26 35.1	-5.3
PMPS				*e*Sn	Sn	06 27 20.4	-15
PMPS				A	A	06 27 23.2	
	comp=N,45nm,0.3s						
COI	**Coimbra**	**4.83**	**38**	*e*Pn	**Pn**	**06 26 43.5**	**+2.0**
COI				*e*Sn	**Sn**	**06 27 35.9**	**-1.6**
COI				A	A	06 27 38.8	
	comp=N,84nm,0.4s						
PMRV	**Marv??o**	**4.88**	**51**	*e*Pn	**Pn**	**06 26 44.0**	**+1.7**
PMRV				*e*Sn	**Sn**	**06 27 36.5**	**-2.4**
PMRV				A	A	06 27 38.7	
	comp=N,44nm,0.3s						
PCBR	**Castelo Branco**	**5.08**	**47**	*e*Pn	**Pn**	**06 26 46.9**	**+1.9**
PCBR				*e*Sn	**Sn**	**06 27 42.3**	**-1.5**
PCBR				A	A	06 27 45.7	
	comp=N,16nm,0.6s						
AVE	**Averroes**	**5.13**	**127**	P	**Pn**	**06 26 47.8**	**+2.0**
AVE				S	Sn	06 27 38.8	-6.4
AVE	**Averroes**	**5.13**	**127**	P	Pn	06 26 41.9	-3.9
AVE				S	Sn	06 27 36.5	-8.6
PMAR	**Madeira**	**5.33**	**227**	*e*Pn	Pn	06 26 42.6	-6.0
PMAR				*e*Sn	Sn	06 27 34.2	-16
PMAR				A	A	06 27 37.9	
	comp=N,60nm,0.2s						
PMAR	**Madeira**	**5.33**	**227**	P	Pn	06 26 41.5	-7.0
PMAR				S	Sn	06 27 37.2	-13
FUL	**Funchal**	**5.37**	**226**	*e*Pn	Pn	06 26 43.4	-5.6
FUL				*e*Sn	Sn	06 27 36.4	-14
FUL				A	A	06 27 43.1	
	comp=N,77nm,0.2s						
MTE	**Manteigas**	**5.42**	**42**	*e*Pn	**Pn**	**06 26 51.8**	**+2.0**
MTE				*e*Sn	**Sn**	**06 27 50.1**	**-2.1**
MTE				A	A	06 27 57.6	
	comp=N,37nm,0.4s						
PMOZ	**Porto Moniz, M**	**5.42**	**229**	*e*Pn	Pn	06 26 44.7	-5.2
PMOZ				*e*Sn	Sn	06 27 39.0	-13
PMOZ				A	A	06 27 41.7	
	comp=N,100nm,0.4s						
PMOZ	**Porto Moniz, M**	**5.42**	**229**	P	Pn	06 26 42.1	-7.8
PMOZ				S	Sn	06 27 38.7	-14
PVIS	**Viseu**	**5.47**	**38**	*e*Pn	**Pn**	**06 26 52.2**	**+1.8**
PVIS				*e*Sn	**Sn**	**06 27 50.5**	**-2.9**
PVIS				A	A	06 27 52.4	
	comp=N,26nm,0.2s						
CEU	**Ceuta**	**5.65**	**94**	P	**Pn**	**06 26 54.1**	**+1.3**
CEU				S	**Sn**	**06 27 51.8**	**-6.0**
PVRL	**Vila Real**	**5.99**	**35**	*e*Pn	**Pn**	**06 26 59.3**	**+1.8**
PVRL				*e*Sn	**Sn**	**06 28 02.5**	**-3.6**
PVRL				A	A	06 28 08.9	
	comp=N,28nm,0.3s						
POLO	**Lamas de Olo**	**6.03**	**34**	*e*Pn	**Pn**	**06 26 59.7**	**+1.6**
POLO				*e*Sn	**Sn**	**06 28 02.6**	**-4.6**
POLO				A	A	06 28 06.1	
	comp=N,27nm,0.6s						
PCAB	**Cabril**	**6.20**	**31**	*e*Pn	**Pn**	**06 27 03.5**	**+3.1**
PCAB				*e*Sn	**Sn**	**06 28 06.3**	**-5.0**
PCAB				A	A	06 28 11.1	
	comp=N,29nm,0.5s						
MVO	**Moncorvo**	**6.24**	**40**	*e*Pn	**Pn**	**06 27 02.7**	**+1.7**
MVO				*e*Sn	**Sn**	**06 28 09.2**	**-3.2**
MVO				A	A	06 28 11.3	
	comp=N,56nm,0.3s						
PGAV	**Gavieira, Arco**	**6.32**	**29**	*e*Pn	**Pn**	**06 27 04.2**	**+2.1**
PGAV				*e*Sn	**Sn**	**06 28 10.5**	**-3.8**
PGAV				A	A	06 28 14.3	
	comp=N,24nm,0.4s						
EMAL	**Malaga-Limoner**	**6.36**	**85**	P	**Pn**	**06 27 04.4**	**+1.9**
EMAL				S	**Sn**	**06 28 10.1**	**-5.1**
OUK	**Oukaimeden**	**6.44**	**144**	P	Pn	06 27 00.7	-3.3
OUK				S	Sn	06 28 04.8	-13
IFR	**Ifrane**	**6.61**	**114**	P	**Pn**	**06 27 06.1**	**-0.1**
IFR				S	Sn	06 28 13.5	-8.1
LCRM	**LCR**	**6.73**	**112**	P	Pn	06 27 05.2	-2.6
TTIG	**Tnine Tigouga,**	**6.75**	**150**	P	Pn	06 27 01.0	-7.1
PBRG	**Braganca**	**6.86**	**38**	*e*Pn	**Pn**	**06 27 11.2**	**+1.7**
PBRG				*e*Sn	**Sn**	**06 28 23.1**	**-4.6**
PBRG				A	A	06 28 28.8	
	comp=N,12nm,0.2s						
PALE	**Palemas**	**6.93**	**98**	P	**Pn**	**06 27 09.4**	**-1.0**
PAB	**San Pablo**	**7.00**	**62**	P	**Pn**	**06 27 13.0**	**+1.5**
OUZM	**OUZ**	**7.24**	**139**	P	Pn	06 27 11.9	-2.9
MDT	**Midelt**	**7.34**	**118**	P	Pn	06 27 14.9	-1.1
TZRR	**Tazzarine**	**8.00**	**133**	P	Pn	06 27 21.7	-3.5
UCM	**Universidad Co**	**8.09**	**59**	P	**Pn**	**06 27 28.1**	**+1.7**
UCM				S	**Sn**	**06 28 53.9**	**-4.0**
TANT	**Tantan**	**8.10**	**173**	P	Pn	06 27 20.8	-5.8
ZGR	**Zagora**	**8.47**	**137**	P	Pn	06 27 27.0	-4.7
SJPF	**Ste Jean**	**10.80**	**49**	*e*P	**Pn**	**06 28 05.3**	**+1.8**
SJPF				*e*Sn	Sn	06 29 48.4	-16
	comp=N,5.2nm,0.4s						
ETSF	**Etsaut**	**11.10**	**51**	*e*P	**Pn**	**06 28 09.3**	**+1.7**
ETSF				*e*Sn	Sn	06 29 55.4	-16
	comp=N,1.3nm,0.3s						
EPF	**Esparros**	**11.73**	**52**	*e*P	**Pn**	**06 28 18.2**	**+1.9**
EPF				*e*Sn	Sn	06 30 11.1	-16
	comp=N,0.8nm,0.2s						
LFF	**La Frestale**	**13.01**	**45**	*e*P	**Pn**	**06 28 35.5**	**+1.8**
MTLF	**Montolieu**	**13.09**	**54**	*e*P	**Pn**	**06 28 36.6**	**+1.8**
ROSF	**Rostrenen**	**13.59**	**27**	*e*P	**Pn**	**06 28 43.3**	**+1.7**
MFF	**Saint Martin d**	**13.60**	**38**	*e*P	**Pn**	**06 28 43.6**	**+1.9**
RJF	**Les Rejaudoux**	**13.67**	**46**	*e*P	**Pn**	**06 28 43.4**	**+0.7**
CAF	**Calviac**	**13.78**	**48**	*e*P	**Pn**	**06 28 43.9**	**-0.3**
CAF				*e*Sn	Sn	06 30 57.6	-20
	comp=N,1.0nm,0.3s						
LASF	**Ste Croix**	**14.48**	**53**	*e*P	**Pn**	**06 28 54.5**	**+0.7**
GRR	**Gorron**	**14.58**	**32**	*e*P	**Pn**	**06 28 55.7**	**+0.6**
TCF	**Toulx Ste Croi**	**14.64**	**44**	*e*P	**Pn**	**06 28 56.2**	**+0.2**
TCF				*e*Sn	Sn	06 31 19.8	-18
	comp=N,0.8nm,0.3s						
FLN	**La Foliniere**	**15.03**	**32**	*e*Pn	Pn	06 28 57.1	-4.1
FLN	**La Foliniere**	**15.03**	**32**	*e*P	**Pn**	**06 29 02.4**	**+1.2**
	baz=212						
BGF	**Bois d'Agland**	**15.16**	**44**	*e*P	**Pn**	**06 29 03.2**	**+0.3**

*NNC **09** 07:03:43.0±1.4, 42.°20N×83.°30E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=10.5km s-min=5.8km az=157.0*
*SOME **09** 07:03:45.2, 42.°30N×83.°37E, h5km*
ISC 09 07:03:46.3±2.4, 42.°4N±0.°1×83.°30E±0.°07, h10km, n18, σ1s80/25, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.42**	**297**	*e*P	**Pg**	**07 04 32.0**	**-0.7**
	9.8nm,0.6s						
KTMS				*e*S	**Sg**	**07 05 05.3**	**+1.3**
	16nm,0.3s						
KTMS	**Ketmen**	**2.42**	**297**	Pg	**Pb**	**07 04 29.4**	**-0.6**
	9.8nm,0.6s						
KTMS				Lg	Lg	07 05 05.3	
	16nm,0.3s						
DJR	**Jarkent**	**3.23**	**309**	*e*P	**Pb**	**07 04 45.5**	**+1.8**
	0.8nm,0.3s						
DJR				*e*S	**Sg**	**07 05 28.6**	**-1.4**
	7.1nm,0.2s						
DJR	**Jarkent**	**3.23**	**309**	Pg	**Pb**	**07 04 42.9**	**-0.8**
	1.6nm,0.2s						
DJR				Lg	Lg	07 05 28.6	
	7.1nm,0.2s						
SATY	**Saty**	**3.67**	**282**	*e*P	**Pg**	**07 04 55.5**	**-1.1**
	2.1nm,0.7s						
SATY				*e*S	**Sg**	**07 05 45.8**	**+1.5**
	6.1nm,0.6s						
SATY	**Saty**	**3.67**	**282**	Pg	**Pb**	**07 04 50.3**	**-1.1**
	3.6nm,0.6s						
SATY				Lg	Lg	07 05 41.2	
	6.1nm,0.6s						
BLB	**Baldybastay**	**3.93**	**298**	*e*P	**Pg**	**07 04 59.0**	**-2.4**
	3.1nm,0.4s						
BLB				*e*S	**Sg**	**07 05 52.0**	**-0.3**
	10.0nm,0.6s						
BLB	**Baldybastay**	**3.93**	**298**	Pg	**Pb**	**07 04 55.4**	**-0.3**
	7.1nm,0.4s						
BLB				Lg	Lg	07 05 50.0	
	10.0nm,0.6s						
KAPS	**Kapalarasan**	**4.08**	**317**	*e*P	**Pg**	**07 05 02.3**	**-2.1**
	1.6nm,0.5s						
KAPS				*e*S	**Sg**	**07 05 57.4**	**+0.1**
	5.1nm,0.3s						
KAPS	**Kapalarasan**	**4.08**	**317**	Pg	**Pb**	**07 04 58.9**	**+0.7**
	3.6nm,0.6s						
KAPS				Lg	Lg	07 05 56.1	
	5.1nm,0.3s						
ARXS	**Arharly**	**4.40**	**297**	Pg	**Pb**	**07 05 04.6**	**+0.9**
	2.5nm,0.6s						
ARXS				Lg	Lg	07 06 05.8	
	6.2nm,0.4s						
MK31	**Makanchi Array**	**4.48**	**351**	Pn	**Pn**	**07 04 55.9**	**+1.6**
	baz=168,slow=12,SNR=11						
MK31				⇓Pg	**Pb**	**07 05 07.9**	**+2.8**
	0.7nm,0.5s,baz=171,slow=15,SNR=19						
MK31				⇓Lg	Lg	07 06 10.4	
	3.6nm,0.5s,baz=171,slow=25,SNR=9.2						
MAKZ	**Makanchi**	**4.54**	**348**	⇑Pg	**Pb**	**07 05 09.0**	**+3.0**
	2.6nm,1.2s						
MAKZ				⇑Lg	Lg	07 06 11.7	
	3.0nm,0.5s						
KOTS	**Kotyrbulak**	**4.64**	**283**	Pg	**Pb**	**07 05 08.0**	**+0.2**
	3.1nm,0.3s						
KOTS				Lg	Lg	07 06 11.5	
KTBS	**Karatobe**	**5.04**	**288**	Pg	**Pb**	**07 05 15.6**	**+1.1**
	1.8nm,0.7s						
KTBS				Lg	Lg	07 06 24.6	
	7.3nm,0.4s						
ZSN	**Zaisan**	**5.20**	**12**	*e*P	**Pg**	**07 05 22.2**	**-3.6**
	1.3nm,0.3s						
ZSN				*e*S	**Sg**	**07 06 31.9**	**-1.3**
	9.7nm,0.7s						
ZSN	**Zaisan**	**5.20**	**12**	Pg	**Pb**	**07 05 19.0**	**+1.7**
	2.2nm,0.1s						
ZSN				Lg	Lg	07 06 30.6	
	9.7nm,0.6s						
KUU	**Kurty**	**5.32**	**289**	Pg	**Pb**	**07 05 22.1**	**+2.8**
	1.4nm,0.1s						
KUU				Lg	Lg	07 06 36.3	
	3.3nm,0.5s						

IDC 09 07:12:10.4±2.5, 4.°60S×133.°20E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/30, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=86.9km s-min=30.0km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.29**	**176**	Pn	Pn	07 15 45.8	-2.0
	0.2nm,0.3s,baz=354,slow=12,SNR=6.6						
WRA				Sn	Sn	07 18 28.2	-10
	0.1nm,0.3s,baz=1.7,slow=23,SNR=4.7						
FITZ	**Fitzroy Crossi**	**15.32**	**208**	Pn	Pn	07 15 48.5	+0.4
	0.3nm,0.3s,baz=24,slow=11,SNR=7.8						
FITZ				Sn	Sn	07 18 33.6	-5.0
	baz=233,slow=12						
ASAR	**Alice Springs**	**18.97**	**178**	P	Pn	07 16 34.1	0.0
	0.2nm,0.3s,baz=3.8,slow=11,SNR=38						
MKAR	**Makanchi Array**	**68.04**	**325**	P	P	07 23 11.8	0.0
	0.2nm,0.5s,baz=111,slow=8.4,SNR=4.1						

NNC 09 07:25:03.0±3.8, 37.°09N×70.°16E, h0km, mb3.8, mpv3.6, 5C-1D, Error ellipse: s-maj=30.9km s-min=25.0km az=164.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK01	**Karatay Array**	**6.02**	**2**	⇑Pn	Pn	07 26 34.7	+1.4
	1.6nm,0.6s						
KK01				⇓Sn	Sn	07 27 44.2	+1.3
	1.4nm,0.4s						
AAK	**Ala-Archa**	**6.47**	**30**	⇑Pn	Pn	07 26 39.4	-0.3
	2.5nm,0.5s						
AAK				⇑Sn	Sn	07 27 56.3	+2.0
	5.6nm,0.6s						
TKM2	**Tokmak 2**	**7.17**	**34**	⇑Pn	Pn	07 26 49.3	+0.1
	6.2nm,0.8s						
TKM2				⇑Sn	Sn	07 28 11.1	-0.3
	7.1nm,1.3s						
AB31	**Akbulak array**	**14.24**	**332**	Pn	Pn	07 28 23.9	-2.0
	0.4nm,0.4s,baz=152,slow=12,SNR=20						
AB31				Sn	Sn	07 31 04.5	-0.1
	0.5nm,0.4s,baz=154,slow=24,SNR=3.5						

*KRNET **09** 07:32:10.4±0.1, 42.°27N×73.°10E, h18km, mb3.4*
*NNC **09** 07:32:10.1±0.7, 42.°29N×73.°09E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=6.5km s-min=3.1km az=179.0*
*KNET **09** 07:32:11.9±0.4, 42.°30N×73.°21E, h7km±1km, ml2.6, Error ellipse: s-maj=2.6km s-min=1.9km az=88.0*
*SOME **09** 07:32:11.5, 42.°35N×73.°10E, h15km*
ISC 09 07:32:09.8±1.0, 42.°25N±0.°02×73.°11E±0.°02, h9km±9km, n87, σ1s66/145, 47C-27D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.45**	**105**	⇓P	**Pg**	**07 32 19.7**	**+1.0**
	58nm,0.1s,SNR=273						
AML				⇑S	**Sb**	**07 32 26.8**	**-0.4**
	281nm,0.2s						
MRKS	**Merke**	**0.50**	**10**	*e*P	**Pb**	**07 32 20.7**	**-0.2**
	86nm,0.2s						
MRKS				*e*S	**Sb**	**07 32 27.4**	**-1.0**
	532nm,0.2s						
MRKS	**Merke**	**0.50**	**10**	P	**Pb**	**07 32 20.7**	**-0.2**
	86nm,0.2s						
MRKS				S	**Sb**	**07 32 27.4**	**-1.0**
	532nm,0.2s						
MNAS	**Manas**	**0.51**	**298**	⇑*i*P	**Pg**	**07 32 19.9**	**+0.2**
	baz=97						
MNAS				⇑*i*S	**Sg**	**07 32 26.6**	**+0.3**
	baz=97						
EKS2	**Erkin-Say**	**0.64**	**50**	⇑P	**Pb**	**07 32 23.0**	**-0.3**
	13nm,0.2s,SNR=47						
EKS2				⇑S	**Sg**	**07 32 30.9**	**+0.2**
	65nm,0.2s						
EKS2	**Erkin-Say**	**0.64**	**50**	⇑*i*P	**Pb**	**07 32 22.9**	**-0.5**
	baz=52						
EKS2				⇑*i*S	**Sg**	**07 32 31.4**	**+0.7**
	baz=52						
ARK	**Arkit**	**0.96**	**242**	⇑*i*P	**Pn**	**07 32 29.0**	**-0.7**
	baz=41						
ARK				⇑*i*S	**Sg**	**07 32 41.7**	**+0.8**
	baz=41						
ARLS	**Aral**	**0.99**	**113**	⇓*i*P	**Pb**	**07 32 29.4**	**+0.2**
	baz=14						
ARLS				⇓*i*S	**Sg**	**07 32 42.7**	**+1.1**
	baz=14						
UCH	**Uchtor**	**1.04**	**91**	⇓P	**Pb**	**07 32 30.4**	**0.0**
	14nm,0.1s,SNR=45						
UCH				⇑S	**Sn**	**07 32 45.2**	**-0.9**
	158nm,0.3s						
UCH	**Uchtor**	**1.04**	**91**	⇑*i*P	**Pb**	**07 32 30.1**	**-0.3**
	baz=92						
UCH				⇑*e*S	**Sb**	**07 32 44.1**	**-0.3**
	baz=92						
AAK	**Ala-Archa**	**1.10**	**69**	⇑P	**Pn**	**07 32 31.3**	**-0.3**
	16nm,0.2s,SNR=24						
AAK				⇓S	**Sn**	**07 32 45.9**	**-1.1**
	64nm,0.3s						
AAK	**Ala-Archa**	**1.10**	**69**	⇑P	**Pn**	**07 32 31.3**	**-0.3**
	7.1nm,0.3s						
AAK				⇑S	**Sn**	**07 32 45.7**	**-1.3**
	19nm,0.3s						
AAK	**Ala-Archa**	**1.10**	**69**	⇓*i*P	**Pn**	**07 32 31.1**	**-0.5**
	baz=70						
AAK				⇓*i*S	**Sn**	**07 32 45.9**	**-1.1**
	baz=70						
FRU1	**Bishkek**	**1.26**	**63**	⇑*i*P	**Pb**	**07 32 33.8**	**0.0**
	baz=63						
FRU1				⇑*i*S	**Sg**	**07 32 50.8**	**+0.5**
	baz=63						
KBK	**Karagaybulak**	**1.42**	**73**	⇑P	**Pg**	**07 32 37.4**	**+0.3**
	33nm,0.2s,SNR=27						
KBK				⇓S	**Sg**	**07 32 57.4**	**+1.9**
	125nm,0.2s						
KBK	**Karagaybulak**	**1.42**	**73**	⇓*i*P	**Pb**	**07 32 36.7**	**+0.1**
	baz=73						
KBK				⇓*i*S	**Sb**	**07 32 55.2**	**+0.2**
	baz=73						
CHMS	**Chumysh**	**1.43**	**58**	⇑P	**Pg**	**07 32 37.2**	**+0.1**
	28nm,0.2s,SNR=17						
CHMS				⇓S	**Sg**	**07 32 57.0**	**+1.3**
	68nm,0.2s						
CHMS	**Chumysh**	**1.43**	**58**	⇑*i*P	**Pb**	**07 32 36.7**	**+0.1**
	baz=58						
CHMS				⇑*i*S	**Sg**	**07 32 55.5**	**-0.2**
	baz=58						
USP	**Ospenovka**	**1.44**	**45**	⇑P	**Pg**	**07 32 37.6**	**+0.1**

	117nm,0.5s							
DGS	**Degeres**	**2.20**	**62**	Pg		**Pb**	**07 32 50.8**	**+1.0**
	63nm,0.4s							
DGS				Lg		Lg	07 33 19.1	
	117nm,0.5s							
KST	**Kastek**	**2.25**	**68**	*e*P		**Pb**	**07 32 51.8**	**+1.0**
	43nm,0.3s							
KST				*e*S		**Sg**	**07 33 20.7**	**-1.4**
	234nm,0.3s							
KST	**Kastek**	**2.25**	**68**	Pg		**Pb**	**07 32 51.8**	**+1.0**
	43nm,0.3s							
KST				Lg		Lg	07 33 20.7	
	234nm,0.3s							
SFK	**Sufi-Kurgan**	**2.26**	**172**	⇓*e*P		**Pb**	**07 32 50.2**	**-0.7**
	baz=72							
SFK				⇓*e*S		**Sb**	**07 33 19.0**	**0.0**
	baz=72							
IUG	**Iuzhnay**	**2.29**	**268**	*e*P		**Pb**	**07 32 51.0**	**-0.4**
	620nm,0.5s							
IUG				*e*S		**Sb**	**07 33 19.6**	**-0.2**
	222nm,0.2s							
IUG	**Iuzhnay**	**2.29**	**268**	Pg		**Pb**	**07 32 51.0**	**-0.4**
	620nm,0.5s							
IUG				Lg		Lg	07 33 19.6	
	222nm,0.2s							
ULHL	**Ulahol**	**2.33**	**89**	⇑*i*P		**Pb**	**07 32 51.1**	**-1.0**
	baz=89							
ULHL				⇑*i*S		**Sb**	**07 33 20.4**	**-0.7**
	baz=89							
KRBS	**Karabastau**	**2.37**	**52**	*e*P		**Pb**	**07 32 53.4**	**+0.6**
	22nm,0.2s							
KRBS				*e*S		**Sb**	**07 33 23.6**	**+1.4**
	215nm,0.3s							
KRBS	**Karabastau**	**2.37**	**52**	Pg		**Pb**	**07 32 53.4**	**+0.6**
	22nm,0.2s							
KRBS				Lg		Lg	07 33 23.6	
	215nm,0.3s							
BRLS	**Borolday**	**2.54**	**289**	*e*P		**Pb**	**07 32 55.7**	**+0.2**
	6.2nm,0.3s							
BRLS				*e*S		**Sb**	**07 33 27.5**	**+0.6**
	50nm,0.3s							
BRLS	**Borolday**	**2.54**	**289**	Pg		**Pb**	**07 32 55.7**	**+0.2**
	6.2nm,0.3s							
BRLS				Lg		Lg	07 33 27.5	
	50nm,0.3s							
MTBS	**Maitube**	**2.60**	**69**	*e*P		**Pb**	**07 32 58.0**	**+1.3**
	18nm,0.2s							
MTBS				*e*S		**Sg**	**07 33 31.6**	**-1.8**
	82nm,0.3s							
MTBS	**Maitube**	**2.60**	**69**	Pg		**Pb**	**07 32 58.0**	**+1.3**
	18nm,0.2s							
MTBS				Lg		Lg	07 33 31.6	
	82nm,0.3s							
IZV	**Izvestkoviy**	**2.70**	**72**	*e*P		**Pb**	**07 33 00.2**	**+1.7**
	23nm,0.1s							
IZV				*e*S		**Sg**	**07 33 35.2**	**-1.5**
	68nm,0.1s							
IZV	**Izvestkoviy**	**2.70**	**72**	Pg		**Pb**	**07 33 00.2**	**+1.7**
	23nm,0.1s							
IZV				Lg		Lg	07 33 35.2	
	68nm,0.1s							
BTK	**Batken**	**2.79**	**219**	⇓*i*P		**Pb**	**07 32 57.7**	**-2.2**
	baz=19							
BTK				⇓*i*S		**Sb**	**07 33 31.2**	**-3.1**
	baz=19							
BTLS	**Baital**	**2.87**	**13**	*e*P		**Pb**	**07 33 00.6**	**-0.7**
	7.3nm,0.3s							
BTLS				*e*S		**Sb**	**07 33 35.3**	**-1.2**
	6.2nm,0.2s							
BTLS	**Baital**	**2.87**	**13**	Pg		**Pb**	**07 33 00.6**	**-0.7**
	7.3nm,0.3s							
BTLS				Lg		Lg	07 33 35.3	
	6.2nm,0.2s							
KUU	**Kurty**	**2.88**	**54**	*e*P		**Pb**	**07 33 02.9**	**+1.5**
	6.1nm,0.3s							
KUU				*e*S		**Sg**	**07 33 39.8**	**-2.5**
	85nm,0.4s							
KUU	**Kurty**	**2.88**	**54**	Pg		**Pb**	**07 33 02.9**	**+1.5**
	6.1nm,0.3s							
KUU				Lg		Lg	07 33 39.8	
	85nm,0.4s							
TNSS	**Tian-Shan**	**2.94**	**73**	*e*P		**Pg**	**07 33 05.3**	**-0.8**
	12nm,0.2s							
TNSS				*e*S		**Sg**	**07 33 44.0**	**-0.2**
	34nm,0.3s							
TNSS	**Tian-Shan**	**2.94**	**73**	Pg		**Pg**	**07 33 05.3**	**-0.8**
	12nm,0.2s							
TNSS				Lg		Lg	07 33 44.0	
	34nm,0.3s							
DRK	**Karamyk**	**2.94**	**200**	⇓*i*P		**Pn**	**07 32 59.5**	**+2.5**
	baz=0.0							
DRK				⇓*i*S		**Sb**	**07 33 35.9**	**-2.9**
	baz=0.0							
KTBS	**Karatobe**	**3.00**	**60**	*e*P		**Pb**	**07 33 04.9**	**+1.4**
	7.7nm,0.3s							
KTBS				*e*S		**Sg**	**07 33 43.3**	**-2.9**
	112nm,0.5s							
KTBS	**Karatobe**	**3.00**	**60**	Pg		**Pb**	**07 33 04.9**	**+1.4**
	7.7nm,0.3s							
KTBS				Lg		Lg	07 33 43.3	
	112nm,0.5s							
KDJ	**Kajisay**	**3.03**	**91**	⇑*i*P		**Pb**	**07 33 01.3**	**-2.8**
	baz=91							
KDJ				⇑*i*S		**Sb**	**07 33 37.4**	**-3.8**
	baz=91							
MDOK	**Medeo**	**3.04**	**71**	*e*P		**Pg**	**07 33 06.7**	**-1.5**
	6.9nm,0.4s							
MDOK				*e*S		**Sg**	**07 33 46.3**	**-1.3**
	38nm,0.3s							
MDOK	**Medeo**	**3.04**	**71**	⇑Pg		**Pb**	**07 33 04.7**	**+0.4**
	6.2nm,0.7s							
MDOK				⇓Lg		Lg	07 33 45.9	
	24nm,0.5s							
MDOK	**Medeo**	**3.04**	**71**	Pg		**Pg**	**07 33 06.7**	**-1.5**
	6.9nm,0.4s							
MDOK				Lg		Lg	07 33 46.3	
	38nm,0.3s							
KOTS	**Kotyrbulak**	**3.11**	**70**	*e*P		**Pg**	**07 33 07.6**	**-1.8**
	8.2nm,0.3s							
KOTS				*e*S		**Sg**	**07 33 48.0**	**-1.6**
	57nm,0.3s							
KOTS	**Kotyrbulak**	**3.11**	**70**	Pg		**Pg**	**07 33 07.6**	**-1.8**
	8.2nm,0.3s							
KOTS				Lg		Lg	07 33 48.0	
	57nm,0.3s							
CHKK	**Chushkaly**	**3.27**	**59**	*e*P		**Pb**	**07 33 09.7**	**+1.7**
	2.1nm,0.0s							
CHKK				*e*S		**Sg**	**07 33 51.4**	**-3.2**
	52nm,0.1s							
CHKK	**Chushkaly**	**3.27**	**59**	Pg		**Pb**	**07 33 09.7**	**+1.7**
	2.1nm,0.0s							
CHKK				Lg		Lg	07 33 51.4	
	52nm,0.1s							
ANVS	**Anan'yevo**	**3.41**	**80**	⇑*i*P		**Pn**	**07 33 06.0**	**+2.6**
	baz=80							
ANVS				⇑*i*S		**Sn**	**07 33 46.8**	**+2.7**
	baz=80							
TARG	**Taragay, Kyrgy**	**3.54**	**97**	⇑*i*P		**Pn**	**07 33 07.7**	**+2.3**
	baz=97							
TARG				⇑*i*S		**Sn**	**07 33 49.7**	**+2.1**
	baz=97							
GAR	**Garm**	**3.88**	**214**	⇑*i*P		**Pn**	**07 33 12.3**	**+2.5**
	baz=14							
GAR				⇑*i*S		**Sn**	**07 33 57.6**	**+2.0**
	baz=14							
KURS	**Kuram**	**3.92**	**70**	*e*P		**Pg**	**07 33 22.6**	**-2.3**
	6.2nm,0.3s							
KURS				*e*S		**Sg**	**07 34 13.2**	**-2.5**
	13nm,0.7s							
KURS	**Kuram**	**3.92**	**70**	Pg		**Pg**	**07 33 22.6**	**-2.3**
	6.2nm,0.3s							
KURS				Lg		Lg	07 34 13.2	
	13nm,0.7s							
ARXS	**Arharly**	**3.97**	**59**	*e*P		**Pg**	**07 33 23.5**	**-2.3**
	15nm,0.5s							
ARXS				*e*S		**Sg**	**07 34 15.1**	**-2.1**
	50nm,0.4s							
ARXS	**Arharly**	**3.97**	**59**	Pg		**Pg**	**07 33 23.5**	**-2.3**
	15nm,0.5s							
ARXS				Lg		Lg	07 34 15.1	
	50nm,0.4s							
SATY	**Saty**	**3.99**	**77**	*e*P		**Pg**	**07 33 23.8**	**-2.5**
	5.8nm,0.3s							
SATY				*e*S		**Sg**	**07 34 15.9**	**-2.1**
	13nm,0.3s							
SATY	**Saty**	**3.99**	**77**	Pg		**Pg**	**07 33 23.8**	**-2.5**
	5.8nm,0.3s							
SATY				Lg		Lg	07 34 15.9	
	13nm,0.3s							
BLB	**Baldybastay**	**4.34**	**63**	*e*P		**Pb**	**07 33 29.7**	**+3.4**
	31nm,0.5s							
BLB				*e*S		**Sg**	**07 34 25.8**	**-3.3**
	22nm,0.4s							
BLB	**Baldybastay**	**4.34**	**63**	Pg		**Pb**	**07 33 29.7**	**+3.4**
	31nm,0.5s							
BLB				Lg		Lg	07 34 25.8	
	22nm,0.4s							
UZB	**Uzynbulak**	**4.45**	**76**	*e*P		**Pg**	**07 33 32.3**	**-2.7**
	5.7nm,0.3s							
UZB				*e*S		**Sg**	**07 34 30.1**	**-2.6**
	18nm,0.6s							
UZB	**Uzynbulak**	**4.45**	**76**	Pg		**Pg**	**07 33 32.3**	**-2.7**
	5.7nm,0.3s							
UZB				Lg		Lg	07 34 30.1	
	18nm,0.6s							
TDK	**Taldyqorghan**	**4.73**	**53**	*e*P		**Pb**	**07 33 36.2**	**+3.3**
	62nm,0.5s							
TDK				*e*S		**Sg**	**07 34 36.5**	**-5.1**
	70nm,0.7s							
TDK	**Taldyqorghan**	**4.73**	**53**	Pg		**Pb**	**07 33 36.2**	**+3.3**
	62nm,0.5s							
TDK				Lg		Lg	07 34 36.5	
	70nm,0.7s							
DJR	**Jarkent**	**5.30**	**65**	*e*P		**Pg**	**07 33 50.1**	**-1.2**
	1.6nm,0.3s							
DJR				*e*S		**Sg**	**07 35 00.8**	**+0.8**
	8.7nm,0.4s							
DJR	**Jarkent**	**5.30**	**65**	Pg		**Pg**	**07 33 50.1**	**-1.2**
	1.6nm,0.3s							
DJR				Lg		Lg	07 35 00.8	
	8.7nm,0.4s							
KAPS	**Kapalarasan**	**5.45**	**54**	*e*P		**Pg**	**07 33 52.8**	**-1.3**
	2.7nm,0.2s							
KAPS				*e*S		**Sg**	**07 35 05.1**	**+0.4**
	10nm,0.6s							
KAPS	**Kapalarasan**	**5.45**	**54**	Pg		**Pg**	**07 33 52.8**	**-1.3**
	2.7nm,0.2s							
KAPS				Lg		Lg	07 35 05.1	
	10nm,0.6s							
KTMS	**Ketmen**	**5.46**	**75**	*e*P		**Pg**	**07 33 54.0**	**-0.3**
	3.2nm,0.5s							
KTMS				*e*S		**Sg**	**07 35 07.4**	**+2.3**
	5.9nm,0.3s							
KTMS	**Ketmen**	**5.46**	**75**	Pg		**Pg**	**07 33 54.0**	**-0.3**
	3.2nm,0.5s							
KTMS				Lg		Lg	07 35 07.4	
	5.9nm,0.3s							
MK31	**Makanchi Array**	**7.98**	**52**	Pn		**Pn**	**07 34 09.6**	**+3.6**
	0.1nm,0.2s,baz=229,slow=13,SNR=9.5							
MK31				⇓Sn		**Sn**	**07 35 39.1**	**+2.8**
	0.4nm,0.5s							
MK31				⇑Lg		Lg	07 36 18.1	
	2.0nm,0.7s,baz=236,slow=25,SNR=3.9							
KURBB	**Kurchatov Arra**	**9.17**	**22**	⇑Pn		**Pn**	**07 34 22.7**	**+0.5**
	1.5nm,0.8s							
KURBB				⇑Sn		**Sn**	**07 36 05.0**	**-0.5**
	3.8nm,0.7s							
KURBB				⇓Lg		Lg	07 37 00.5	
	10nm,0.6s							
KURK	**Kurchatov**	**9.28**	**22**	⇑Sn		**Sn**	**07 36 05.9**	**-2.3**
	3.5nm,1.4s							
KURK				⇑Lg		Lg	07 37 02.3	
	8.7nm,1.0s							
AB31	**Akbulak array**	**11.55**	**312**	Pn		**Pn**	**07 34 54.8**	**0.0**
	0.3nm,0.5s,baz=118,slow=15,SNR=14							

*JMA **09** 07:37:50.2±0.1,23°.90N×122°.15E,h33km±3km,M2.5*
*TAP **09** 07:37:51.4,23°.96N×122°.05E,h49km,ML3.1,C*
ISC 09 07:37:50.2±1.1,23°.91N±0°.02×122°.15E±0°.02,h33km±4km,
n85,σ0°.76/129,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.50**	**278**	P	**Pn**	**07 38 01.6**	**+0.6**
	baz=266						
HWA				*e*S	**Sn**	**07 38 10.2**	**+1.6**
	baz=266						
TEYL	**Yanliau Villag**	**0.50**	**265**	*i* P	**Pn**	**07 38 01.8**	**+0.7**
	baz=259						
TEYL				S	**Sn**	**07 38 10.1**	**+1.4**
	baz=259						
TWD	**Chiawan**	**0.53**	**289**	*i* P	**Pb**	**07 38 01.3**	**0.0**
	baz=286						
TWD				*i* S	**Sb**	**07 38 09.2**	**+0.2**
	baz=286						
ETL	**Fush Village**	**0.54**	**297**	P	**Pn**	**07 38 01.7**	**0.0**
	baz=297						
ETL				S	**Sn**	**07 38 10.0**	**+0.4**
	baz=297						
NACB	**Ninganchiao**	**0.57**	**298**	*i* P	**Pb**	**07 38 01.8**	**-0.1**
	baz=297						
NACB				*i* S	**Sb**	**07 38 10.1**	**+0.2**
	baz=297						
EWUT	**Wuta**	**0.63**	**328**	*i* P	**Pb**	**07 38 03.4**	**+0.5**
	baz=333						
EWUT				S	**Sn**	**07 38 12.5**	**+0.7**
	baz=333						
ENA	**Nanau**	**0.64**	**324**	*i* P	**Pb**	**07 38 03.1**	**+0.1**
	baz=322						
ENA				S	**Sn**	**07 38 12.1**	**+0.2**
	baz=322						
ESL	**Shilin**	**0.66**	**262**	*i* P	**Pn**	**07 38 03.2**	**-0.1**
	baz=253						
ESL				S	**Sn**	**07 38 12.6**	**+0.1**
	baz=253						
ETLH	**Xiulin Townshi**	**0.68**	**296**	*i* P	**Pn**	**07 38 03.5**	**-0.1**
	baz=295						
ETLH				*i* S	**Sb**	**07 38 13.0**	**0.0**
	baz=295						
EGFH	**Guangfu**	**0.70**	**250**	*i* P	**Pb**	**07 38 04.2**	**+0.1**
	baz=238						
EGFH				*e*S	**Sb**	**07 38 14.9**	**+1.3**
	baz=238						
TWC	**Suao**	**0.75**	**339**	*i* P	**Pb**	**07 38 05.0**	**+0.2**
	baz=353						
TWC				*e*S	**Sn**	**07 38 14.1**	**-0.6**
	baz=353						
HGSD	**Ruisui**	**0.78**	**238**	P	**Pb**	**07 38 05.2**	**-0.2**
	baz=227						
NDS	**Dongshan**	**0.82**	**331**	P	**Pn**	**07 38 05.8**	**+0.3**
	baz=335						
NDS				S	**Sn**	**07 38 16.9**	**+0.4**
	baz=335						
WHF	**Hehuan Shan**	**0.84**	**286**	*i* P	**Pn**	**07 38 06.3**	**+0.1**
	baz=284						
WHF				S	**Sn**	**07 38 17.5**	**0.0**
	baz=284						
EHY	**Hungye**	**0.86**	**242**	*i* P	**Pb**	**07 38 06.3**	**-0.4**
	baz=245						
NNSB	**Datong**	**0.87**	**307**	P	**Pn**	**07 38 06.5**	**+0.2**
	baz=299						
NNSB				S	**Sn**	**07 38 18.1**	**+0.3**
	baz=299						
NNS	**Nan Shan**	**0.88**	**307**	*i* P	**Pn**	**07 38 06.7**	**+0.3**
	baz=308						
OWD	**Renai**	**0.89**	**273**	*i* P	**Pb**	**07 38 07.2**	**-0.1**
	baz=269						
FUSS	**Fushou**	**0.89**	**292**	P	**Pn**	**07 38 07.0**	**+0.4**
	baz=291						
FUSS				*e*S	**Sb**	**07 38 19.4**	**+0.2**
	baz=291						
ENTT	**Nioudou**	**0.90**	**324**	*i* P	**Pb**	**07 38 07.2**	**-0.3**
	baz=327						
NDT	**Datong Townshi**	**0.90**	**320**	*i* P	**Pb**	**07 38 07.2**	**-0.2**
	baz=328						
CHGB	**Renai**	**0.90**	**280**	P	**Pb**	**07 38 07.5**	**-0.1**
	baz=273						
JYNG	**Yonagunijimaku**	**0.91**	**53**	P	**Pn**	**07 38 06.8**	**+0.1**
JYNG				*e*S	**Sn**	**07 38 18.4**	**-0.2**
TWE	**Neicheng**	**0.92**	**332**	P	**Pb**	**07 38 07.5**	**-0.2**
	baz=336						
VWDT	**VWDT**	**0.93**	**261**	*e*P	**Pb**	**07 38 07.9**	**-0.1**
	baz=248						
VWDT				*e*S	**Sb**	**07 38 19.9**	**-0.1**
	baz=248						
YULB	**Yu-li**	**0.93**	**237**	*e*P	**Pn**	**07 38 07.4**	**+0.4**
	baz=242						
YULB				*e*S	**Sb**	**07 38 19.6**	**-0.5**
	baz=242						
EYUL	**Yuli**	**0.94**	**234**	P	**Pb**	**07 38 08.0**	**-0.2**
	baz=223						
EYUL				*e*S	**Sb**	**07 38 21.1**	**+0.8**
	baz=223						
EGS		**0.95**	**348**	S	**Sn**	**07 38 19.9**	**+0.2**
	baz=1.0						
TWF1	**Yuli**	**0.96**	**235**	*i* P	**Pb**	**07 38 08.1**	**-0.3**
	baz=225						
YOJ	**Yonaguni jima**	**0.96**	**55**	P	**Pn**	**07 38 07.7**	**+0.3**
YOJ				*e*S	**Sn**	**07 38 20.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.96**	**55**	*e*P	**Pn**	**07 38 07.9**	**+0.5**
	baz=60						
YOJ				*e*S	**Sb**	**07 38 21.9**	**+1.1**
	baz=60						
TDCB	**Techi**	**0.97**	**291**	P	**Pb**	**07 38 08.2**	**-0.4**
	baz=283						
TDCB				*e*S	**Sn**	**07 38 20.6**	**+0.3**
	baz=283						
NTC	**Toucheng**	**0.98**	**343**	P	**Pb**	**07 38 08.5**	**-0.3**
	baz=358						
NTC				*e*S	**Sb**	**07 38 21.4**	**-0.1**
	baz=358						
YHNB	**Yeheng**	**1.03**	**317**	P	**Pn**	**07 38 09.0**	**+0.5**
	baz=309						
YHNB				*e*S	**Sn**	**07 38 21.8**	**0.0**
	baz=309						
NWLT	**Wulai**	**1.04**	**326**	*e*P	**Pn**	**07 38 09.2**	**+0.6**
	baz=328						
NWLT				*e*S	**Sn**	**07 38 22.5**	**+0.5**
	baz=328						
NSK	**Sanguang**	**1.05**	**317**	P	**Pb**	**07 38 09.4**	**-0.5**
	baz=318						
FULB	**Fuli**	**1.06**	**228**	*e*P	**Pn**	**07 38 09.1**	**+0.4**
	baz=214						
FULB				*e*S	**Sb**	**07 38 23.8**	**+0.3**
	baz=214						
TIPB	**Shuangxi**	**1.10**	**345**	P	**Pb**	**07 38 10.2**	**-0.5**
	baz=358						
TIPB				S	**Sn**	**07 38 23.8**	**+0.4**
	baz=358						
SSLB	**Suanglung**	**1.10**	**264**	*e*P	**Pb**	**07 38 10.5**	**-0.3**
	baz=253						
TWB1	**Santiao Chiao**	**1.10**	**353**	*e*P	**Pb**	**07 38 10.4**	**-0.4**
	baz=357						
WCS	**Beigang Elemen**	**1.14**	**278**	*e*P	**Pb**	**07 38 10.9**	**-0.5**
	baz=275						
SMLT	**Sun Moon Lake**	**1.14**	**269**	P	**Pb**	**07 38 11.2**	**-0.3**
	baz=259						
WHP	**Taichung City**	**1.16**	**289**	P	**Pb**	**07 38 11.5**	**-0.3**
	baz=287						
WHP				*e*S	**Sn**	**07 38 24.9**	**0.0**
	baz=287						
ECS	**Chishang**	**1.18**	**227**	P	**Pn**	**07 38 10.5**	**+0.1**
	baz=221						
TYC	**Yuchr**	**1.18**	**270**	*e*P	**Pb**	**07 38 11.5**	**-0.6**
	baz=260						
TWA	**Mucha**	**1.18**	**334**	P	**Pb**	**07 38 11.5**	**-0.7**
	baz=349						
TWA				*e*S	**Sn**	**07 38 26.4**	**+0.9**
	baz=349						
NWF	**Wu-fen Shan**	**1.20**	**344**	*e*P	**Pn**	**07 38 11.6**	**+0.8**
	baz=348						
NWF				*e*S	**Sn**	**07 38 26.1**	**0.0**
	baz=348						
EDH	**Donghe**	**1.21**	**220**	*e*P	**Pb**	**07 38 12.7**	**0.0**
	baz=208						
EDH				*e*S	**Sn**	**07 38 25.9**	**-0.2**
	baz=208						
ELDTW	**Lidau**	**1.26**	**236**	P	**Pn**	**07 38 12.0**	**+0.3**
	baz=222						
LIOB	**Emei**	**1.27**	**306**	*i* P	**Pb**	**07 38 13.7**	**+0.1**
	baz=315						
NSTT	**Nanjuang**	**1.27**	**305**	*e*P	**Pb**	**07 38 13.4**	**-0.2**
	baz=299						
NSTT				*e*S	**Sn**	**07 38 27.6**	**+0.1**
	baz=299						
ALS	**Alishan**	**1.29**	**252**	*e*P	**Pb**	**07 38 13.8**	**-0.4**
	baz=248						
ALS				*e*S	**Sb**	**07 38 30.1**	**-0.5**
	baz=248						
TWQ1	**Liyutan**	**1.33**	**289**	*e*P	**Pb**	**07 38 14.2**	**-0.4**
	baz=288						
WWF	**Wufeng**	**1.33**	**276**	*e*P	**Pb**	**07 38 15.5**	**+0.8**
	baz=273						
YM01	**YM01**	**1.34**	**337**	*e*P	**Pn**	**07 38 13.2**	**+0.5**
	baz=339						
WNT	**Mingjian**	**1.34**	**269**	*e*P	**Pb**	**07 38 15.0**	**+0.2**
	baz=266						
NSY	**Sanyi**	**1.36**	**292**	*e*P	**Pb**	**07 38 14.6**	**-0.6**
	baz=291						
LONT	**Longtian**	**1.37**	**223**	*e*P	**Pn**	**07 38 13.9**	**+0.9**
	baz=218						
LONT				*e*S	**Sb**	**07 38 31.6**	**-0.9**
	baz=218						
LDUT	**Ludao**	**1.38**	**207**	*e*P	**Pb**	**07 38 15.1**	**-0.4**
	baz=202						
CHN5	**Tsauling**	**1.38**	**257**	*e*P	**Pb**	**07 38 15.6**	**0.0**
	baz=254						
WDJ	**Dajia District**	**1.44**	**288**	*e*P	**Pn**	**07 38 14.3**	**+0.2**
	baz=286						
STYH	**Taoyuan**	**1.46**	**240**	*e*P	**Pb**	**07 38 15.7**	**-1.0**
	baz=236						
STYH				*e*S	**Sn**	**07 38 33.4**	**+1.2**
	baz=236						
WCHH	**Zhanghua**	**1.46**	**277**	*e*P	**Pb**	**07 38 16.5**	**-0.4**
	baz=274						
IRIF	**Iriomote-Funau**	**1.51**	**73**	P	**Pn**	**07 38 15.9**	**+1.0**
IRIF				*e*S	**Sn**	**07 38 34.2**	**+0.8**
TPUB	**Ta-pu**	**1.52**	**247**	*e*P	**Pb**	**07 38 17.4**	**-0.5**
	baz=243						
TPUB				*e*S	**Sn**	**07 38 34.5**	**+0.8**
	baz=243						
CHN4	**Tsaushan**	**1.53**	**249**	P	**Pb**	**07 38 17.1**	**-0.9**
	baz=245						
WTP	**Ta-pu**	**1.55**	**245**	*e*P	**Pb**	**07 38 17.5**	**-0.9**
	baz=241						
WRL	**Guolierlin Hig**	**1.62**	**270**	*e*P	**Pb**	**07 38 18.5**	**-1.0**
	baz=267						
TWK	**Hsinying**	**1.65**	**248**	*e*P	**Pn**	**07 38 18.3**	**+1.3**
	baz=244						
CHN1	**Nanshi**	**1.65**	**244**	*e*P	**Pb**	**07 38 19.2**	**-0.9**
	baz=241						
SLGT	**Liugui**	**1.65**	**237**	*e*P	**Pb**	**07 38 19.0**	**-1.1**
	baz=222						
JKRS	**Kuro-shima**	**1.73**	**79**	P	**Pn**	**07 38 19.0**	**+1.0**
JKRS				*e*S	**Sn**	**07 38 40.3**	**+1.3**
TSMG	**Majia**	**1.83**	**229**	P	**Pb**	**07 38 21.1**	**-1.9**
	baz=221						
JIJ	**Ishigaki jima**	**1.88**	**76**	P	**Pn**	**07 38 20.2**	**+0.2**
JIJ				*e*S	**Sn**	**07 38 41.6**	**-1.0**
MASBT	**Mashibuluo**	**1.90**	**227**	*e*P	**Pb**	**07 38 22.3**	**-2.0**
	baz=223						
MASBT				*e*S	**Sb**	**07 38 46.5**	**-1.1**
	baz=223						
JISG	**Ishigakijimahi**	**2.09**	**71**	P	**Pn**	**07 38 22.7**	**-0.2**
JISG				S	**Sn**	**07 38 47.0**	**-0.7**
PHUB	**P'eng-hu**	**2.39**	**261**	*e*P	**Pn**	**07 38 28.7**	**+1.6**
	baz=273						
PHUB				*e*S	**Sn**	**07 38 55.1**	**-0.2**
	baz=273						
PTMZ	**Houxiangcun**	**2.98**	**293**	*e*P	**Pn**	**07 38 35.7**	**+0.6**
	baz=282						
PTMZ				*e*S	**Sn**	**07 39 08.2**	**-1.6**
	baz=282						
MATB	**Ma-tsu**	**3.00**	**319**	*e*S	**Sn**	**07 39 08.3**	**-1.8**
	baz=319						
LYJJ	**Jianjiangzhen**	**3.40**	**321**	*e*S	**Sn**	**07 39 17.9**	**-2.3**
	baz=322						
KNM	**Kinmen**	**3.43**	**279**	P	**Pn**	**07 38 43.6**	**+2.3**
	baz=277						
KNMB	**Chin-men Tao**	**3.48**	**280**	*e*P	**Pn**	**07 38 42.6**	**+0.6**
	baz=279						
XPSS	**Dashiqiu**	**3.49**	**330**	*e*P	**Pn**	**07 38 41.7**	**-0.5**
	baz=331						
XPSS				*e*S	**Sn**	**07 39 20.0**	**-2.3**
	baz=331						
AXDP	**Jialang**	**3.93**	**285**	P	**Pn**	**07 38 48.8**	**+0.5**
	baz=284						
ZPLA	**Ao Xicun**	**4.02**	**271

PCDR Sn 08 05 50.0 +1.6
PCDR Punta Cana, DR 0.97 168 IAML 08 05 53.5
comp=N,494nm,0.6s
PCDR IAML 08 05 53.8
comp=E,235nm,0.6s
PCDR Punta Cana, DR 0.97 168 *i* P Pn **08 05 36.7 +0.8**
PCDR IAML 08 05 59.4
comp=Z,162nm,0.3s
IDE Isla Desecheo 1.52 135⇑ *e*P Pn **08 05 43.5 +0.2**
IDE Isla Desecheo 1.52 135 *e*S Sn **08 06 03.5 +1.6**
SDD Santo Domingo 1.60 231 *i* P Pn **08 05 43.3 -1.1**
AGPR Aguadilla, PR 1.73 125⇑ *e*P Pn **08 05 48.1 +1.9**
AGPR Aguadilla, PR 1.73 125 Pn **08 05 48.1 +1.9**
AGPR Aguadilla, PR 1.73 125 IAML 08 06 15.0
comp=E,226nm,0.3s
AGPR IAML 08 06 16.3
comp=N,224nm,0.6s
AGPR Aguadilla, PR 1.73 125 *i* P Pn **08 05 48.0 +1.9**
AGPR IAML 08 06 13.9
comp=Z,129nm,0.1s
PRSN Puerto Rico Se 1.86 132⇑ *e*P Pn **08 05 48.0 -0.1**
PRSN Puerto Rico Se 1.86 132 *e*S Sn **08 06 11.0 +0.7**
PRSN Puerto Rico Se 1.86 132 Pn **08 05 48.0 -0.1**
PRSN Sn **08 06 11.0 +0.7**
LSP Las Mesas 1.93 132⇑ *e*P Pn **08 05 49.1 0.0**
LSP Las Mesas 1.93 132 *e*S Sn **08 06 12.0 -0.1**
SC01 Santiago de lo 2.01 269 Pn **08 05 52.0 +1.9**
SC01 IAML 08 06 27.3
comp=N,134nm,0.6s
SC01 IAML 08 06 27.6
comp=E,146nm,0.6s
SC01 Santiago de lo 2.01 269 *i* P Pn **08 05 52.7 +2.6**
SC01 IAML 08 06 25.7
comp=Z,56nm,0.3s
CRPR Cabo Rojo, PR 2.03 136⇑ *e*P Pn **08 05 48.6 -1.7**
CRPR Cabo Rojo, PR 2.03 136 Pn **08 05 48.6 -1.7**
CRPR Cabo Rojo, PR 2.03 136 *i* P Pn **08 05 48.5 -1.9**
CRPR IAML 08 06 22.8
comp=Z,56nm,0.3s
AOPR Arecibo Observ 2.08 122⇑ *e*P Pn **08 05 51.6 +0.6**
AOPR Arecibo Observ 2.08 122 *e*S Sn **08 06 15.7 0.0**
AOPR Arecibo Observ 2.08 122 Pn **08 05 51.6 +0.6**
AOPR Sn **08 06 15.7 0.0**
UUPR Utuado, UPR, P 2.15 124⇑ *e*P Pn **08 05 52.5 +0.4**
UUPR Utuado, UPR, P 2.15 124 *e*S Sn **08 06 17.6 0.0**
UUPR Utuado, UPR, P 2.15 124 Pn **08 05 52.5 +0.4**
UUPR Sn **08 06 17.6 0.0**
EMPR Esperanza - Ma 2.19 116⇑ *e*P Pn **08 05 54.5 +1.8**
EMPR Esperanza - Ma 2.19 116 *e*S Sn **08 06 20.1 +1.5**
EMPR Esperanza - Ma 2.19 116 Pn **08 05 54.5 +1.8**
EMPR Sn **08 06 20.1 +1.5**
EMPR Esperanza - Ma 2.19 116 IAML 08 06 34.6
comp=N,150nm,0.7s
OBIP Obispado Ponce 2.36 127⇑ *e*P Pn **08 05 54.3 -0.7**
OBIP Obispado Ponce 2.36 127 *e*S Sn **08 06 22.7 0.0**
OBIP Obispado Ponce 2.36 127 Pn **08 05 54.3 -0.7**
OBIP Sn **08 06 22.7 0.0**
CELP Cerrillos 2.37 126⇑ *e*P Pn **08 05 54.5 -0.6**
CELP Cerrillos 2.37 126 *e*S Sn **08 06 23.0 +0.2**
CELP Cerrillos 2.37 126 Pn **08 05 54.5 -0.6**
CELP Sn **08 06 23.0 +0.2**
CELP Cerrillos 2.37 126 IAML 08 06 26.6
comp=E,121nm,0.7s
CELP IAML 08 06 28.7
comp=N,111nm,0.4s
SDDR Presa de Saban 2.58 260 *i* P Pn **08 05 57.6 -0.5**
SDDR IAML 08 06 35.2
comp=Z,20nm,0.5s
GCPR Guaynabo City 2.65 115⇑ *e*P Pn **08 05 59.0 +0.1**
GCPR Guaynabo City 2.65 115 *e*S Sn **08 06 29.5 -0.3**
GCPR Guaynabo City 2.65 115 Pn **08 05 59.0 +0.1**
GCPR Sn **08 06 29.5 -0.3**
GCPR Guaynabo City 2.65 115 IAML 08 06 35.9
comp=E,44nm,0.7s
LOBA2 Hotel Casa Bon 2.74 240 *i* P Pn 08 05 53.9 -6.2
LOBA2 IAML 08 06 23.2
comp=Z,27nm,1.3s
CBYP Canovanas 2.86 114⇑ *e*P Pn **08 06 01.4 -0.5**
CBYP Canovanas 2.86 114 *e*S Sn **08 06 34.0 -1.0**
CBYP Canovanas 2.86 114 Pn **08 06 01.4 -0.5**
CBYP Sn **08 06 34.0 -1.0**
LONE2 Loma La Sidra 2.87 252 *i* P Pn **08 05 58.8 -3.2**
LONE2 IAML 08 06 33.9
comp=Z,24nm,1.9s
HUMP Col San Antoni 2.92 116⇑ *e*P Pn **08 06 02.5 -0.1**
HUMP Col San Antoni 2.92 116 *e*S Sn **08 06 35.1 -1.4**
HUMP Col San Antoni 2.92 116 Pn **08 06 02.5 -0.1**
HUMP Sn **08 06 35.1 -1.4**
HUMP Col San Antoni 2.92 116 IAML 08 06 42.6
comp=N,72nm,0.2s
MTP Monte Pirata 3.19 115⇑ *e*P Pn **08 06 06.5 +0.1**
MTP Monte Pirata 3.19 115 *e*S Sn **08 06 42.0 -1.3**
MTP Monte Pirata 3.19 115 Pn **08 06 06.5 +0.1**
MTP Sn **08 06 42.0 -1.3**
MTP Monte Pirata 3.19 115 IAML 08 06 48.9
comp=E,41nm,0.3s
MTP IAML 08 06 51.5
comp=N,35nm,0.2s
CUPR Culebra, Puert 3.35 110⇓ *i*P Pn **08 06 08.5 0.0**
CUPR Culebra, Puert 3.35 110 *e*S Sn **08 06 45.9 -1.1**
CUPR Culebra, Puert 3.35 110 Pn **08 06 08.5 0.0**
CUPR Sn **08 06 45.9 -1.1**
STVI Saint Thomas 3.63 107 *e*S Sn **08 06 53.6 -0.4**
STVI Saint Thomas 3.63 107 Sn **08 06 53.6 -0.4**
TBVI Tortola 3.91 105 *e*S Sn **08 07 00.4 -0.6**

IDC 09 08:22:35.6±2.0, 6°89S×129°18E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.5/28, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=80.7km s-min=27.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.66**	**197**	Pn	Pn	08 25 22.4	-1.0
	0.7nm,0.3s,baz=21,slow=10,SNR=6.5						
FITZ				Sn	Sn	08 27 17.2	-17
	baz=234,slow=14						
WRA	**Warramunga Arr**	**13.91**	**159**	Pn	Pn	08 25 54.2	0.0
	0.6nm,0.3s,baz=339,slow=12,SNR=25						
WRA				Sn	Sn	08 28 18.5	-11
	0.7nm,0.3s,baz=287,slow=18,SNR=8.2						
ASAR	**Alice Springs**	**17.29**	**165**	P	P	08 26 39.5	-0.6
	0.2nm,0.3s,baz=344,slow=9.6,SNR=7.3						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	08 33 34.8	0.0
	0.4nm,0.5s,baz=122,slow=8.1,SNR=6.8						

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*IDC **09** 08:34:43.6±3.2, 6°10S×146°37E, h153km±41km, mb3.1/6, mb1 3.3/8, mb1mx3.0/36, mbtmp3.6/8, Error ellipse: s-maj=43.1km s-min=24.5km az=126.0*
ISC 09 08:34:43.5±0.9, 6°08S±0°09×146°3E±0°2, h150km, n9, σ0°81/10, mb3.4/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.41**	**166**	P	Pn	**08 35 36.1**	**+0.1**
	39nm,0.3s,baz=343,slow=6.7,SNR=56						
PMG				S	Sn	**08 36 16.9**	**0.0**
	25nm,0.3s,baz=205,slow=0.9,SNR=21						
WRA	**Warramunga Arr**	**18.05**	**219**	P	P	**08 38 43.1**	**-0.3**
	0.1nm,0.3s,baz=38,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**21.19**	**213**	P	P	**08 39 18.4**	**+1.2**
	0.3nm,0.9s,baz=37,slow=11,SNR=4.0						
FITZ	**Fitzroy Crossi**	**23.46**	**238**	P	P	**08 39 38.3**	**-1.4**
	0.6nm,0.5s,baz=46,slow=8.0,SNR=1.6						
MJAR	**Matsushiro Arr**	**43.07**	**350**	P	P	**08 42 28.8**	**+0.2**
	0.8nm,0.8s,baz=163,slow=8.9,SNR=1.6						
CMAR	**Chiang Mai Arr**	**52.70**	**299**	P	P	**08 43 43.3**	**+0.3**
	0.7nm,0.3s,baz=119,slow=8.3,SNR=4.5						
MKAR	**Makanchi Array**	**77.13**	**321**	P	P	**08 46 20.8**	**+0.3**
	0.1nm,0.4s,baz=94,slow=7.6,SNR=2.0						
ILAR	**Eielson Array**	**85.81**	**23**	P	P	**08 47 05.0**	**-0.8**
	0.8nm,0.9s,baz=258,slow=5.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**144.47**	**284**	PKP	**PKPdf**	**08 54 03.7**	**+0.7**
	0.3nm,0.3s,baz=72,slow=3.1,SNR=5.5						

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*NEIC **09** 09:03:38.4±2.1, 19°87S±0°04×69°05W±0°08, h96km±4km, mb4.4/37, ML4.6(GUC), Error ellipse: s-maj=10.4km s-min=5.1km az=92.0*
*GUC **09** 09:03:38.7±0.7, 19°83S×69°12W, h104km±2km, ML4.6*
*VAO **09** 09:03:39.4±0.6, 19°81S×68°93W, h100km±5km, mb4.3*

*IDC **09** 09:03:39.6±1.1, 19°87S×68°85W, h116km±12km, mb3.7/9, mb1 4.0/14, mb1mx3.8/29, mbtmp4.2/14, MS3.0/3, Ms1 3.0/3, ms1mx2.6/60, Error ellipse: s-maj=16.7km s-min=11.2km az=91.0*
ISC 09 09:03:38.4±0.6, 19°84S±0°03×69°07W±0°05, h101km±5km, n154, σ1°05/173, mb4.3/20, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.31**	**195**⇓	*e*P	Pn	**09 03 54.3**	**+0.6**
PB08				*e*S	Sn	**09 04 05.9**	**+0.9**
PB08				IAML		09 04 06.5	
	comp=N,42μm,0.3s						
PB08	**IPOC Station P**	**0.31**	**195**		Pn	**09 03 54.3**	**+0.6**
PB08					Sn	**09 04 05.8**	**+0.9**
PB11	**IPOC Station P**	**0.56**	**278**	*e*P	Pn	**09 03 54.7**	**-0.2**
PB11				*i*S	Sn	**09 04 06.7**	**-0.6**
PB11				IAML		09 04 07.6	
	comp=E,17μm,0.5s						
PB11	**IPOC Station P**	**0.56**	**278**		Pn	**09 03 54.7**	**-0.2**
PB11					Sn	**09 04 06.7**	**-0.6**
TA02	**Huaiquique**	**1.08**	**247**⇑	*e*P	Pn	**09 03 59.5**	**-0.3**
TA02				*e*S	Sn	**09 04 15.1**	**-0.8**
TA02				IAML		09 04 18.8	
	comp=N,28μm,0.2s						
TA02	**Huaiquique**	**1.08**	**247**		Pn	**09 03 59.5**	**-0.3**
PB01	**IPOC Station P**	**1.26**	**198**	*e*P	Pn	**09 04 02.3**	**+0.4**
PB01				*e*S	Sn	**09 04 19.9**	**+0.2**
PB01				IAML		09 04 21.8	
	comp=N,22μm,0.4s						
PB01	**IPOC Station P**	**1.26**	**198**		Pn	**09 04 02.3**	**+0.4**
PB01				Sn	Sn	**09 04 20.0**	**+0.3**
TA01	**Diego Aracena**	**1.27**	**235**⇑	*e*P	Pn	**09 04 01.5**	**-0.4**
TA01				*e*S	Sn	**09 04 18.5**	**-1.2**
TA01	**Diego Aracena**	**1.27**	**235**		Pn	**09 04 01.5**	**-0.4**
PB16	**IPOC Station P**	**1.55**	**344**	Pn	Pn	**09 04 07.5**	**+1.6**
PB12	**IPOC Station P**	**1.70**	**316**	*e*P	Pn	**09 04 06.6**	**-0.7**
PB12				*e*S	Sn	**09 04 28.1**	**-1.2**
PB12				IAML		09 04 37.7	
	comp=N,4μm,0.4s						
PB12	**IPOC Station P**	**1.70**	**316**		Pn	**09 04 06.7**	**-0.6**
AP01	**Chacalluta**	**1.89**	**320**	*e*P	Pn	**09 04 09.2**	**-0.4**
AP01				*e*S	Sn	**09 04 32.7**	**-0.8**
AP01				IAML		09 04 42.1	
	comp=E,5μm,0.4s						
AP01	**Chacalluta**	**1.89**	**320**		Pn	**09 04 09.8**	**+0.2**
PB09	**IPOC Station P**	**1.95**	**185**	*e*P	Pn	**09 04 11.4**	**+0.8**
PB09				*e*S	Sn	**09 04 36.1**	**+1.0**
PB09	**IPOC Station P**	**1.95**	**185**		Pn	**09 04 11.6**	**+1.0**
PB07	**IPOC Station P**	**2.03**	**202**	*e*P	Pn	**09 04 11.5**	**0.0**
PB07				*e*S	Sn	**09 04 36.7**	**-0.1**
PB07				IAML		09 04 45.5	
	comp=E,5μm,0.4s						
PB07	**IPOC Station P**	**2.03**	**202**		Pn	**09 04 11.6**	**+0.1**
PB03	**IPOC Station P**	**2.29**	**196**	*e*P	Pn	**09 04 14.8**	**-0.1**
PB03				*i*S	Sn	**09 04 43.0**	**+0.2**
PB03				IAML		09 04 49.6	
	comp=E,2μm,0.1s						
PB04	**IPOC Station P**	**2.68**	**202**	*e*P	Pn	**09 04 19.9**	**-0.1**
PB04				*e*S	Sn	**09 04 51.9**	**-0.1**
PB04				IAML		09 05 03.9	
	comp=E,2μm,0.6s						
PB04	**IPOC Station P**	**2.68**	**202**		Pn	**09 04 19.6**	**-0.4**
LVC	**Limon Verde**	**2.76**	**177**	P	Pn	**09 04 23.3**	**+2.0**
	comp=E,33nm,0.3s,baz=20,slow=12,SNR=84						
LVC				S	Sn	**09 04 55.7**	**+1.5**
	comp=E,80nm,0.3s,baz=283,slow=22,SNR=17						
LVC	**Limon Verde**	**2.76**	**177**	*e*P	Pn	**09 04 21.7**	**+0.4**
LVC				*e*S	Sn	**09 04 55.0**	**+0.7**
LVC	**Limon Verde**	**2.76**	**177**	*e*P	Pn	**09 04 22.9**	**+1.6**
LVC	**Limon Verde**	**2.76**	**177**		Pn	**09 04 22.8**	**+1.5**
PB06	**IPOC Station P**	**2.89**	**189**	*e*P	Pn	**09 04 22.5**	**-0.3**
PB06				*i*S	Sn	**09 04 57.2**	**+0.2**
PB06				IAML		09 05 06.0	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**2.89**	**189**		Pn	**09 04 22.6**	**-0.3**
PB05	**IPOC Station P**	**3.18**	**199**	*e*P	Pn	**09 04 26.2**	**-0.4**
PB05				*e*S	Sn	**09 05 03.1**	**-0.8**
PB05				IAML		09 05 17.8	
	comp=E,1μm,0.4s						
PB15	**IPOC Station P**	**3.37**	**186**⇑	*e*P	Pn	**09 04 30.0**	**+0.6**
PB15				*i*S	Sn	**09 05 09.6**	**+1.0**
PB15	**IPOC Station P**	**3.37**	**186**		Pn	**09 04 29.5**	**+0.2**
LPAZ	**La Paz**	**3.65**	**14**	P	Pn	**09 04 36.1**	**+2.7**
	comp=E,6.6nm,0.3s,baz=196,slow=6.6,SNR=151						
LPAZ				LR	LR	09 06 16.3	
	comp=E,85nm,20.6s,baz=223,slow=43						
LPAZ	**La Paz**	**3.65**	**14**	Pn	Pn	**09 04 36.4**	**+3.0**
PB10	**IPOC Station P**	**3.91**	**200**	*e*P	Pn	**09 04 35.2**	**-1.2**
PB10				*i*S	Sn	**09 05 20.1**	**-1.1**
PB10	**IPOC Station P**	**3.91**	**200**		Pn	**09 04 35.1**	**-1.3**
PB14	**IPOC Station P**	**4.92**	**194**		Pn	**09 04 49.9**	**-0.4**
AC02	**Maricunga**	**6.96**	**180**		Pn	**09 05 17.3**	**-0.9**
SIV	**San Ignacio**	**8.52**	**65**	P	Pn	**09 05 38.2**	**-0.9**
	comp=E,10nm,0.3s,baz=252,slow=11,SNR=214						
ETMB	**Extrema**	**10.34**	**16**	*e*P	Pn	**09 06 02.9**	**-0.9**
ETMB	**Extrema**	**10.34**	**16**	Pn	Pn	**09 06 03.5**	**-0.2**
GO04	**Tololo Observa**	**10.41**	**188**	Pn	Pn	**09 06 03.2**	**-1.6**
PTLB	**Pontes e Lacer**	**10.43**	**67**	*e*P	Pn	**09 06 03.6**	**-1.3**
PTLB	**Pontes e Lacer**	**10.43**	**67**	Pn	Pn	**09 06 03.5**	**-1.4**
NNA	**Nana**	**10.81**	**315**	P	Pn	**09 06 12.3**	**+2.2**
	baz=175,slow=11,SNR=1.5						
NNA				S	Sn	**09 08 16.2**	**+7.0**
	comp=E,1.4nm,0.3s,baz=223,slow=15,SNR=1.8						
NNA				LR	LR	09 10 59.4	
	comp=E,24nm,18.4s,baz=224,slow=40						
VILB	**Vilhena**	**10.92**	**53**	*e*P	Pn	**09 06 11.2**	**-0.5**
VILB	**Vilhena**	**10.92**	**53**	Pn	Pn	**09 06 10.9**	**-0.8**
CO06	**Fray Jorge**	**11.03**	**192**	Pn	Pn	**09 06 12.9**	**-0.2**
AQDB	**Aquidauana**	**12.57**	**95**	*e*P	Pn	**09 06 33.4**	**-0.3**
AQDB	**Aquidauana**	**12.57**	**95**	Pn	Pn	**09 06 31.7**	**-1.9**
CPUP	**Villa Florida**	**12.59**	**123**	P	Pn	**09 06 32.8**	**-0.9**
	comp=E,0.8nm,0.3s,baz=296,slow=13,SNR=13						
CPUP	**Villa Florida**	**12.59**	**123**	*e*P	Pn	**09 06 33.5**	**-0.2**
CPUP	**Villa Florida**	**12.59**	**123**	Pn	Pn	**09 06 33.4**	**-0.4**
SALV	**Santo Antonio**	**13.32**	**75**	*e*P	Pn	**09 06 42.2**	**-1.3**
MT02	**Curacav**	**13.49**	**187**		Pn	**09 06 45.5**	**-0.1**
PP1B	**Ponte de Pedra**	**13.63**	**83**	*e*P	Pn	**09 06 46.5**	**-1.0**
MT01	**Popeta**	**14.10**	**187**		Pn	**09 06 53.2**	**-0.3**
BO01	**Tunca**	**14.60**	**187**	Pn	Pn	**09 06 59.5**	**-0.5**
CLDB	**Colider**	**15.59**	**57**	*e*P	Pn	**09 07 11.6**	**-0.9**
PTGB	**Pitanga**	**16.47**	**110**	*e*P	P	**09 07 24.0**	**-0.4**
ARAG	**Araguaiana, MT**	**16.94**	**79**	*e*P	P	**09 07 29.9**	**+0.3**
ITAB	**Concordia**	**17.18**	**119**	*e*P	Pn	**09 07 31.6**	**-0.5**
ITAB	**Concordia**	**17.18**	**119**	P	P	**09 07 32.1**	**0.0**
ITAB				IAmb	IAmb	09 07 34.6	
	comp=Z,26nm,0.6s						
CPSB	**Cacapava Do Su**	**17.61**	**130**	*e*P	Pn	**09 07 37.2**	**-0.1**
PLTB	**Pedras Altas**	**18.27**	**134**	*e*P	P	**09 07 43.8**	**-0.4**
PLTB	**Pedras Altas**	**18.27**	**134**	P	P	**09 07 43.8**	**-0.4**
NPGB	**Novo Progresso**	**18.41**	**48**	*e*P	Pn	**09 07 47.0**	**0.0**
FRTB	**Fartura**	**18.47**	**104**	*e*P	Pn	**09 07 46.9**	**-0.9**
MACA	**Manacapuru-AM**	**18.49**	**27**	*e*P	Pn	**09 07 48.0**	**0.0**
SNDB	**Serra Nova Dou**	**18.79**	**68**	*e*P	P	**09 07 49.7**	**-0.2**
LC01	**Cunco**	**19.15**	**187**	P	P	**09 07 53.2**	**-0.4**
IPMB	**Ipameri, GO**	**19.82**	**88**	*e*P	P	**09 08 00.8**	**-0.4**
TER01	**Tubaro-SC**	**20.12**	**119**	*e*P	P	**09 08 03.9**	**-0.4**
ITTB	**Itaituba**	**20.14**	**42**	*e*P	P	**09 08 03.3**	**-1.3**
RCLB	**Rio Claro- Sao**	**20.25**	**101**	*e*P	P	**09 08 05.5**	**-0.4**
BDFB	**Brasilia**	**20.48**	**82**	P	P	**09 08 05.7**	**-2.8**
	comp=Z,3.2nm,0.4s,baz=260,slow=9.6,SNR=8.4						
PET01	**Itanhaem-SP**	**20.67**	**106**	*e*P	P	**09 08 09.9**	**-0.4**
VAO	**Valinhos**	**20.81**	**103**	*e*P	P	**09 08 11.1**	**-0.8**
PLCA	**Paso Flores**	**20.86**	**183**	P	P	**09 08 12.2**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=2,slow=12,SNR=8.9						
PLCA	**Paso Flores**	**20.86**	**183**	*e*P	P	**09 08 13.5**	**+1.2**
PLCA	**Paso Flores**	**20.86**	**183**	P	P	**09 08 11.5**	**-0.7**
PTGA	**Pitinga**	**20.98**	**26**	P	P	**09 08 11.4**	**-2.2**
	comp=Z,1.1nm,0.4s,baz=201,slow=15,SNR=9.6						
LL04	**Puerto Octay**	**21.19**	**187**	P	P	**09 08 15.7**	**0.0**
LL04				IAmb	IAmb	09 08 35.7	
	comp=Z,16nm,1.5s						
PEXB	**Peixe**	**21.38**	**72**	*e*P	P	**09 08 17.8**	**-0.2**
PARB	**Paraibuna**	**22.07**	**103**	*e*P	P	**09 08 25.0**	**-0.3**
BSCB	**Bom Sucesso**	**22.80**	**97**	*e*P	P	**09 08 31.8**	**-1.0**
MALB	**Monte Alegre**	**23.00**	**41**	*e*P	P	**09 08 34.6**	**-0.2**
PRPB	**Parauapebas**	**23.12**	**57**	*e*P	P	**09 08 35.8**	**-0.2**
SMTB	**Santa Maria do**	**23.47**	**65**	*e*P	P	**09 08 39.1**	**0.0**
MAN01	**Angra dos Reis**	**23.57**	**102**	*e*P	P	**09 08 40.5**	**+0.4**
BOAV	**Boa Vista**	**23.64**	**22**	*e*P	P	**09 08 40.6**	**0.0**
BOAV	**Boa Vista**	**23.64**	**22**	P	P	**09 08 40.1**	**-0.5**
VAS01	**Vassouras-RJ**	**24.03**	**100**	*e*P	P	**09 08 44.1**	**-0.1**
DIAM	**Diamantina, MG**	**24.05**	**91**	*e*P	P	**09 08 43.9**	**-0.6**
JANB	**Januaria**	**24.08**	**83**	*e*P	P	**09 08 43.9**	**-0.8**
SDBA	**SAO DESIDERIO**	**24.34**	**76**	*e*P	P	**09 08 46.7**	**-0.4**
MCPB	**Macapa, AP**	**25.54**	**43**	*e*P	P	**09 08 59.2**	**+1.3**
SJMB	**Sao Joao De Ma**	**26.34**	**92**	*e*P	P	**09 09 04.8**	**-0.2**
TMAB	**Tom-Au,PA,Br**	**26.86**	**52**	*e*P	P	**09 09 08.8**	**-1.0**
NAN01	**Guarapari, ES**	**27.45**	**91**	*e*P	P	**09 09 15.2**	**+0.1**
ZARC	**Zaragoza, Cauc**	**27.75**	**348**	P	P	**09 09 15.9**	**-1.7**
GUA01	**Guaratinga, BA**	**27.97**	**88**	*e*P	P	**09 09 20.0**	**+0.3**
NBIT	**Itapeh - BA**	**28.68**	**85**	*e*P	P	**09 09 25.7**	**-0.2**
GDU01	**Guandu, BA**	**28.86**	**82**	*e*P	P	**09 09 27.3**	**-0.3**
NBPN	**Ponto Novo - B**	**29.20**	**76**	*e*P	P	**09 09 30.5**	**-0.2**
PCRV	**Puerto La Cruz**	**30.14**	**9**	LR	LR	09 24 14.4	
	comp=Z,238nm,19.6s,slow=41						
NBLA	**Lagarto - SE**	**31.36**	**78**	*e*P	P	**09 09 49.2**	**-0.5**
NBMA	**Muriti-CE**	**31.89**	**71**	*e*P	P	**09 09 54.6**	**+0.3**
NBPB	**Pedra_Branca-C**	**32.00**	**68**	*e*P	P	**09 09 55.8**	**+0.5**
NBAN	**Anadia - AL**	**33.23**	**77**	*e*P	P	**09 10 06.5**	**+0.5**
NBPV	**Pedro Velho**	**35.41**	**73**	*e*P	P	**09 10 25.5**	**+0.7**
CELP	**Cerrillos**	**37.76**	**4**	P	P	**09 10 44.5**	**-0.2**
MTO3	**Montecristo**	**39.45**	**328**	P	P	**09 11 00.5**	**+1.4**
MTO3				IAmb	IAmb	09 11 01.1	
	comp=Z,3.6nm,0.8s						
V52A	**Sevierville**	**57.06**	**346**	P	P	**09 13 13.6**	**-0.3**
V52A				IAmb	IAmb	09 13 14.1	
	comp=Z,5.4nm,0.9s						
U49A	**Red Boiling Sp**	**58.23**	**344**	P	P	**09 13 21.2**	**-0.9**
U49A				IAmb	IAmb	09 13 34.6	
	comp=Z,11nm,1.4s						
WVT	**Waverly**	**58.43**	**342**	P	P	**09 13 22.6**	**-0.9**
WVT				IAmb	IAmb	09 13 22.9	
	comp=Z,4.8nm,0.9s						
W41B	**Gary Mavity, V**	**58.97**	**338**	P	P	**09 13 26.5**	**-0.8**
W41B				IAmb	IAmb	09 13 40.2	
	comp=Z,3.3nm,1.3s						
LCAR	**Lake Charles**	**59.41**	**339**	P	P	**09 13 29.9**	**-0.3**
LCAR				IAmb	IAmb	09 13 30.1	
	comp=Z,2.5nm,0.8s						
P52A	**Corning**	**60.41**	**348**	P	P	**09 13 37.1**	**0.0**
FVM	**French Village**	**60.92**	**341**	P	P	**09 13 40.4**	**-0.2**
S39A	**Bolivar**	**61.61**	**338**	P	P	**09 13 44.7**	**-0.5**
S39A				IAmb	IAmb	09 13 45.4	
	comp=Z,5.0nm,0.7s						
SFIN	**Lafayette**	**62.22**	**345**	P	P	**09 13 48.0**	**-1.2**
N47A	**Urbana**	**62.35**	**346**	P	P	**09 13 49.8**	**-0.4**
JFWS	**Jewell Farm**	**65.42**	**343**	P	P	**09 14 10.0**	**-0.2**
I42A	**Draeger Farm,**	**65.98**	**344**	P	P	**09 14 13.2**	**-0.6**
SDCO	**Great Sand Dun**	**66.75**	**329**	P	P	**09 14 20.5**	**+1.2**
G40A	**Rib Lake**	**67.59**	**344**	P	P	**09 14 23.7**	**-0.3**
G40A				IAmb	IAmb	09 14 38.3	
	comp=Z,9.5nm,1.2s						
DBIC	**Dimbokro**	**68.42**	**74**	P	P	**09 14 28.6**	**-1.3**
	comp=Z,9.6nm,1.1s,baz=253,slow=4.4,SNR=5.1						
DBIC	**Dimbokro**	**68.42**	**74**	P	P	**09 14 29.4**	**-0.4**
DBIC				IAmb	IAmb	09 14 31.0	
	comp=Z,8.5nm,1.1s						
ISCO	**Idaho Springs**	**68.44**	**330**	P	P	**09 14 30.9**	**+1.1**
KNB	**Kanab**	**70.00**	**324**	P	P	**09 14 41.6**	**+2.2**
KNB				IAmb	IAmb	09 14 42.3	
	comp=Z,5.6nm,1.1s						
QSPA	**South Pole Qui**	**70.34**	**180**	P	P	**09 14 42.7**	**+1.6**
QSPA				IAmb	IAmb	09 14 42.9	
	comp=Z,3.2nm,0.8s						
EYMN	**Ely**	**70.41**	**344**	P	P	**09 14 41.1**	**-0.3**
P18A	**Preston Nutter**	**70.56**	**327**	P	P	**09 14 44.6**	**+1.8**
P18A				IAmb	IAmb	09 14 56.4	
	comp=Z,4.3nm,1.4s						
CCUT	**Cedar City**	**70.68**	**324**	P	P	**09 14 45.8**	**+2.2**
CCUT				IAmb	IAmb	09 14 47.1	
	comp=Z,3.4nm,1.1s						
PDAR	**Pinedale Array**	**72.61**	**330**	P	P	**09 14 55.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=118,slow=7.7,SNR=5.5						
ULM	**Lac du Bonnet**	**73.70**	**342**	P	P	**09 15 00.1**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=139,slow=7.9,SNR=3.6						
ULM	**Lac du Bonnet**	**73.70**	**342**	P	P	**09 15 00.3**	**-0.6**
ULM				IAmb	IAmb	09 15 06.1	
	comp=Z,6.9nm,1.2s						
NVAR	**Mina Array Bea**	**74.10**	**322**	P	P	**09 15 04.5**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=164,slow=5.5,SNR=5.3						
GCMT	**Greycliff**	**74.98**	**332**	P	P	**09 15 09.9**	**+1.2**
HLID	**Hailey**	**75.56**	**328**	P	P	**09 15 12.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.95**	**71**	P	P	**09 15 18.9**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=253,slow=5.4,SNR=19						
FCC	**Fort Churchill**	**80.99**	**347**	P	P	**09 15 41.8**	**+0.4**
EDM	**Edmonton**	**82.20**	**335**	P	P	**09 15 47.7**	**-0.3**
EDM				IAmb	IAmb	09 15 48.3	
	comp=Z,6.3nm,0.7s						
YKA	**Yellowknife Ar**	**89.58**	**341**	P	P	**09 16 24.2**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=134,slow=4.7,SNR=78						
YKA

SKY			S	Sg	10 00 12.0	-0.3
SKY			AML	AML	10 00 13.2	
	comp=N,30038μm,0.1s					
SKY			AML	AML	10 00 14.2	
	comp=E,25762μm,0.2s					
ALNA	**Alonissos**	**0.57 333**	P	**Pg**	**10 00 11.0**	**+0.1**
ALNA			S	**Sg**	**10 00 18.5**	**0.0**
ALNA			AML	AML	10 00 21.9	
	comp=E,13162μm,0.5s					
ALNA			AML	AML	10 00 22.2	
	comp=N,8986μm,0.5s					
DION	**Dionisos Attik**	**0.60 200**	P	**Pg**	**10 00 11.5**	**0.0**
DION			S	**Sg**	**10 00 20.4**	**+0.9**
	comp=N,9μm,0.2s					
DION	**Dionisos Attik**	**0.60 200**	P	**Pg**	**10 00 11.5**	**0.0**
DION			S	**Sg**	**10 00 19.8**	**+0.3**
DION			AML	AML	10 00 23.4	
	comp=N,9940μm,0.2s					
DION			AML	AML	10 00 23.5	
	comp=E,12772μm,0.3s					
KARY	**Karystos**	**0.64 163**	P	**Pg**	**10 00 11.7**	**-0.5**
KARY			S	**Sg**	**10 00 20.0**	**-0.7**
PTL	**Penteli**	**0.65 204**	P	**Pg**	**10 00 12.4**	**0.0**
PTL	**Penteli**	**0.65 204**	P	**Pg**	**10 00 12.5**	**0.0**
PTL			S	**Sg**	**10 00 20.0**	**-0.9**
PTL			AML	AML	10 00 24.4	
	comp=N,7213μm,0.5s					
PTL			AML	AML	10 00 24.7	
	comp=E,4352μm,0.5s					
ATHU	**Athens Univers**	**0.75 206**	P	**Pg**	**10 00 14.1**	**-0.2**
ATHU	**Athens Univers**	**0.75 206**	P	**Pg**	**10 00 14.0**	**-0.2**
ATHU			AML	AML	10 00 27.2	
	comp=N,2469μm,0.3s					
ATHU			AML	AML	10 00 28.2	
	comp=E,1053μm,0.2s					
ATH	**Athens Observa**	**0.77 210**	P	**Pg**	**10 00 14.7**	**0.0**
ATH			S	**Sb**	**10 00 25.7**	**+0.9**
	comp=E,4μm,0.2s					
ATH	**Athens Observa**	**0.77 210**	P	**Pg**	**10 00 14.5**	**-0.1**
VIL2	**Platees**	**0.85 240**	P	**Pg**	**10 00 15.9**	**-0.3**
VIL2			S	**Sg**	**10 00 27.6**	**+0.3**
VIL2			AML	AML	10 00 30.0	
	comp=N,10527μm,0.4s					
VIL2			AML	AML	10 00 30.0	
	comp=E,17456μm,0.7s					
VLY	**Voula,Athens**	**0.85 202**	P	**Pg**	**10 00 16.0**	**-0.2**
VLY	**Voula,Athens**	**0.85 202**	P	**Pg**	**10 00 16.1**	**-0.2**
ATAL	**Atalanti**	**0.92 274**	P	**Pb**	**10 00 16.9**	**-0.4**
ATAL			S	**Sg**	**10 00 29.0**	**-0.7**
ATAL			AML	AML	10 00 32.1	
	comp=E,1199μm,0.3s					
ATAL			AML	AML	10 00 32.6	
	comp=N,2708μm,0.4s					
LKR	**Lokris**	**0.94 271**	P	**Pb**	**10 00 17.1**	**-0.5**
LKR	**Lokris**	**0.94 271**	P	**Pb**	**10 00 17.0**	**-0.5**
LKR			AML	AML	10 00 34.4	
	comp=E,2930μm,0.2s					
LKR			AML	AML	10 00 35.2	
	comp=N,2537μm,0.2s					
NEO	**Neokhori**	**1.01 312**	P	**Pb**	**10 00 19.0**	**+0.2**
NEO	**Neokhori**	**1.01 312**	P	**Pb**	**10 00 19.2**	**+0.3**
NEO			S	**Sb**	**10 00 31.6**	**-0.2**
NEO			AML	AML	10 00 35.4	
	comp=N,5882μm,0.5s					
NEO			AML	AML	10 00 36.1	
	comp=E,5629μm,0.3s					
XOR	**Xorichti**	**1.07 313**	P	**Pb**	**10 00 19.2**	**-0.6**
XOR	**Xorichti**	**1.07 313**	P	**Pb**	**10 00 20.1**	**+0.3**
XOR			AML	AML	10 00 36.1	
	comp=N,3247μm,0.3s					
XOR			AML	AML	10 00 37.9	
	comp=E,1782μm,0.3s					
PSRA	**Psara**	**1.08 95**	P	**Pg**	**10 00 20.5**	**0.0**
EFSA	**Agios Efstrati**	**1.09 34**	P	**Pn**	**10 00 20.5**	**+0.2**
LTK	**Loutraki**	**1.15 238**	P	**Pn**	**10 00 21.0**	**-0.1**
LTK	**Loutraki**	**1.15 238**	P	**Pn**	**10 00 21.4**	**+0.3**
EPID	**Epidavros**	**1.33 220**	P	**Pn**	**10 00 23.8**	**+0.1**
PAIG	**Paliouri**	**1.35 343**	P	**Pn**	**10 00 23.4**	**-0.4**
THAL	**Thalero**	**1.35 244**	P	**Pb**	**10 00 25.1**	**+0.5**
SIGR	**SIGRI**	**1.41 66**	P	**Pn**	**10 00 24.1**	**-0.6**
SIGR	**SIGRI**	**1.41 66**	PN	**Pn**	**10 00 24.9**	**+0.2**
SIGR			SN	**Sg**	**10 00 45.5**	**+0.2**
LIA	**Limnos Island**	**1.47 31**	P	**Pn**	**10 00 24.7**	**-0.8**
CHOS	**Chios island**	**1.48 99**	P	**Pn**	**10 00 25.2**	**-0.5**
CHOS	**Chios island**	**1.48 99**	PN	**Pn**	**10 00 25.6**	**-0.1**
KRND	**KRANIDI**	**1.50 214**	P	**Pn**	**10 00 25.6**	**-0.4**
AGG	**Agios Georgios**	**1.51 285**	PN	**Pn**	**10 00 26.7**	**+0.6**
AGG			SN	**Sb**	**10 00 47.7**	**+1.5**
MAKR	**Makrakomi, Fth**	**1.66 284**	P	**Pn**	**10 00 29.1**	**+1.0**
TRIZ	**Trizonia**	**1.69 261**	P	**Pn**	**10 00 29.1**	**+0.6**
OUR	**Ouranopolis**	**1.70 354**	PN	**Pn**	**10 00 28.2**	**-0.5**
KOCA	**Canakkale, Ayv**	**1.74 60**	P	**Pn**	**10 00 28.7**	**-0.5**
KOCA			*i* AML	AML	10 00 58.0	
	comp=E,166nm,0.6s					
KOCA			*i* AML	AML	10 01 00.0	
	comp=E,122nm,0.4s					
LAKA	**Lakka**	**1.79 258**	P	**Pn**	**10 00 31.1**	**+1.2**
ZEYE	**Izmir, Urla-Ze**	**1.85 102**	P	**Pn**	**10 00 30.5**	**-0.3**
ZEYE			S	**Sn**	**10 00 54.6**	**+0.7**
BOZC	**Bozcaada**	**1.88 50**	PN	**Pn**	**10 00 31.2**	**+0.1**
BOZC	**Bozcaada**	**1.88 50**	P	**Pn**	**10 00 30.4**	**-0.8**
BOZC			S	**Sn**	**10 00 51.7**	**-2.8**
URLA	**Izmir**	**1.90 98**	PN	**Pn**	**10 00 32.7**	**+1.2**
URLA	**Izmir**	**1.90 98**	P	**Pn**	**10 00 31.0**	**-0.5**
URLA			S	**Sg**	**10 01 00.3**	**-0.6**
THAS	**Thassos island**	**2.00 11**	P	**Pn**	**10 00 31.9**	**-1.0**
EZN	**Ezine**	**2.03 54**	PN	**Pn**	**10 00 34.1**	**+0.8**
GADA	**Gvkgeada**	**2.03 40**	PN	**Pn**	**10 00 34.1**	**+0.8**
GOKA	**anakkale-Gk**	**2.04 40**	P	**Pb**	**10 00 36.1**	**-0.2**
GOKA			S	**Sn**	**10 00 58.5**	**0.0**
GOKA			*i* AML	AML	10 01 06.0	
	comp=E,180nm,0.5s					
AYVA	**Ayvalik**	**2.06 70**	P	**Pn**	**10 00 33.8**	**+0.2**
AYVA			*i* AML	AML	10 01 11.0	
	comp=E,111nm,0.6s					
ECEA	**Canakkale, Ece**	**2.08 47**	P	**Pg**	**10 00 42.0**	**+2.4**
ECEA			S	**Sg**	**10 01 06.7**	**+0.1**
HORT	**Hortiatis**	**2.13 337**	PN	**Pn**	**10 00 35.1**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**2.13 58**	P	**Pn**	**10 00 34.8**	**+0.1**
BAYC			S	**Sn**	**10 00 57.1**	**-3.7**
DGB	**zmir**	**2.19 105**	P	**Pn**	**10 00 35.6**	**+0.1**
KAVA	**Kavala**	**2.37 6**	P	**Pn**	**10 00 37.1**	**-0.7**
BUHA	**Balikesir, Bur**	**2.40 68**	P	**Pb**	**10 00 42.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.49 44**	PN	**Pn**	**10 00 40.6**	**+1.1**
CAVK	**Edirne/Enez-Ca**	**2.55 36**	P	**Pb**	**10 00 45.2**	**+0.2**
ENEZ	**Enez**	**2.58 35**	PN	**Pn**	**10 00 42.3**	**+1.5**
LPK	**Lapseki**	**2.63 48**	PN	**Pn**	**10 00 42.9**	**+1.4**
ALN	**Alexandroupoli**	**2.67 32**	PN	**Pn**	**10 00 43.4**	**+1.4**
GRG	**Griva**	**2.69 330**	PN	**Pn**	**10 00 42.6**	**+0.2**
ERIK	**Erikli-Kesan**	**2.70 41**	PN	**Pn**	**10 00 44.1**	**+1.6**
KNT	**Kendrikon**	**2.71 339**	PN	**Pn**	**10 00 43.2**	**+0.6**
STEP	**BALIKESIR_Sava**	**2.84 74**	P	**Pg**	**10 00 53.3**	**-0.9**
STEP			S	**Sg**	**10 01 31.2**	**+0.2**
KESN	**Edirne-Kesan**	**2.90 40**	P	**Pn**	**10 00 43.5**	**-2.1**
BODT	**Bodrum**	**2.92 122**	PN	**Pn**	**10 00 46.9**	**+1.3**
MMB	**Musomiste**	**2.97 353**	P	**Pn**	**10 00 45.7**	**-0.5**
KRBG	**Karabiga-Canak**	**2.97 53**	PN	**Pn**	**10 00 47.8**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**2.99 102**	PN	**Pn**	**10 00 47.8**	**+1.3**
BALB	**Balikesir**	**3.03 70**	PN	**Pn**	**10 00 48.2**	**+1.2**
RZN	**Rozhen**	**3.07 7**	P	**Pn**	**10 00 47.5**	**-0.2**
RKY	**Sarkoy-Tekirda**	**3.08 47**	PN	**Pn**	**10 00 49.1**	**+1.4**
KDZ	**Kurdzhali**	**3.15 17**	P	**Pn**	**10 00 47.6**	**-1.0**
GZKV	**Gazikoy-Tekird**	**3.20 48**	PN	**Pn**	**10 00 50.8**	**+1.5**
MAR4	**Marsite Statio**	**3.21 47**	PN	**Pn**	**10 00 51.1**	**+1.5**
MRMT	**Marmara Adasi**	**3.28 52**	PN	**Pn**	**10 00 52.0**	**+1.6**
EDRB	**Edirne**	**3.75 31**	PN	**Pn**	**10 00 58.6**	**+1.7**

IDC 09 10:00:25.5±9.5, 4°.64S×153°.30E, h146km±63km, mb3.3/4, mb1 3.5/5, mb1mx3.1/38, mbtmp3.8/5, Error ellipse: s-maj=111.0km s-min=34.2km az=102.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.31**	**285**	P	Pn	10 00 49.8	-3.1
KRVT				S	Sn	10 01 12.2	-1.5
PMG	**Port Moresby**	**7.71**	**232**	P	Pn	10 02 15.2	+0.1
	7.4nm,0.3s,baz=46,slow=12,SNR=14						
PMG				S	Sn	10 03 41.8	+0.7
	0.7nm,0.3s,baz=145,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**23.92**	**229**	P	P	10 05 26.9	+0.7
	1.5nm,0.6s,baz=54,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**26.60**	**223**	P	P	10 05 49.8	-0.6
	0.4nm,0.4s,baz=55,slow=9.0,SNR=17						
MKAR	**Makanchi Array**	**80.53**	**319**	P	P	10 12 22.2	+0.7
	0.4nm,0.9s,baz=103,slow=6.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**81.30**	**326**	P	P	10 12 24.8	-0.6
	0.4nm,0.5s,baz=90,slow=6.0,SNR=2.3						

*NEIC **09** 10:23:44.9±2.0, 17°.6S±0°.1×178°.73W±0°.07, h557km±9km, mb4.4/21, Error ellipse: s-maj=18.2km s-min=4.7km az=148.0*
*IDC **09** 10:23:44.3±1.3, 17°.68S×178°.67W, h556km±14km, mb3.6/12, mb1 3.7/15, mb1mx3.3/46, mbtmp4.5/15, Error ellipse: s-maj=22.7km s-min=14.9km az=139.0*
ISC 09 10:23:44.1±0.5, 17°.56S±0°.09×178°.73W±0°.08, h550km, n54, σ1°21/54, mb4.4/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.08**	**266**	P	**P**	**10 25 02.2**	**+2.5**
	5.7nm,0.3s,baz=28,slow=5.9,SNR=38						
MSVF	**Nonsavu**	**3.08**	**266**	P	**P**	**10 25 02.4**	**+2.7**
AFI	**Afiamalu**	**7.61**	**63**	P	**P**	**10 25 38.1**	**-0.1**
	4.7nm,0.3s,baz=324,slow=1.8,SNR=9.5						
NIUE	**Niue**	**8.49**	**102**	P	**P**	**10 25 49.4**	**+2.6**
FUNA	**Funafuti**	**9.20**	**347**	P	**P**	**10 25 55.0**	**+1.0**
RAO	**Raoul Island**	**11.66**	**176**	P	**P**	**10 26 21.7**	**+2.7**
PINNC	**Pines Island,**	**13.93**	**247**	P	**P**	**10 26 42.0**	**-0.5**
DZM	**Mont Dzumac**	**14.66**	**250**	P	**P**	**10 26 48.9**	**-1.2**
	0.8nm,0.3s,baz=84,slow=19,SNR=6.7						
DZM	**Mont Dzumac**	**14.66**	**250**	P	**P**	**10 26 49.0**	**-1.1**
ONTNC	**Ouen Toro**	**14.71**	**249**	P	**P**	**10 26 50.7**	**+0.1**
URZ	**Urewera**	**20.94**	**189**	P	**P**	**10 27 47.1**	**-1.4**
	4.3nm,0.3s,baz=260,slow=2.8,SNR=6.4						
URZ	**Urewera**	**20.94**	**189**	P	**P**	**10 27 47.2**	**-1.3**
EIDS	**Eidsvold**	**29.10**	**249**	P	**P**	**10 29 00.6**	**-0.3**
EIDS				IAmb	IAmb	10 29 00.8	
	comp=Z,6.7nm,0.7s						
ARMA	**Armidale**	**29.86**	**239**	P	**P**	**10 29 07.9**	**+0.5**
ARMA				IAmb	IAmb	10 29 08.4	
	comp=Z,9.0nm,0.7s						
WHZ	**Wether Hill Ro**	**30.35**	**199**	P	**P**	**10 29 10.7**	**-0.6**
CTAO	**Charters Tower**	**33.21**	**260**	P	**P**	**10 29 34.1**	**-1.9**
CTAO				IAmb	IAmb	10 29 54.4	
	comp=Z,13nm,1.2s						
CAN	**Canberra**	**33.68**	**232**	P	**P**	**10 29 40.3**	**+0.4**
CAN				IAmb	IAmb	10 29 40.6	
	comp=Z,5.8nm,0.8s						
PMG	**Port Moresby**	**34.10**	**279**	P	**P**	**10 29 44.3**	**+0.7**
	comp=Z,7.1nm,0.6s,baz=130,slow=7.9,SNR=3.1						
COEN	**Coen**	**36.80**	**270**	P	**P**	**10 30 05.9**	**-0.1**
COEN				IAmb	IAmb	10 30 06.4	
	comp=Z,7.1nm,0.7s						
TOO	**Toolangi**	**37.16**	**230**	P	**P**	**10 30 09.3**	**+0.7**
TOO				IAmb	IAmb	10 30 10.4	
	comp=Z,21nm,1.2s						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**10 30 20.2**	**+0.3**
	comp=Z,6.0nm,0.5s,baz=82,slow=7.0,SNR=32						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**10 30 20.2**	**+0.3**
JAY	**Jayapura**	**42.52**	**286**	P	**P**	**10 30 52.3**	**+0.4**
	comp=Z,19nm,1.0s,baz=174,slow=9.2,SNR=1.9						
BBOO	**Buckleboo**	**43.31**	**241**	P	**P**	**10 30 57.6**	**-0.2**
BBOO				IAmb	IAmb	10 30 58.3	
	comp=Z,13nm,0.9s						
WR0	**Warramunga Arr**	**44.21**	**259**	P	**P**	**10 31 03.8**	**-1.2**
WB2	**Warramunga Arr**	**44.39**	**259**	P	**P**	**10 31 05.0**	**-1.3**
WRAB	**Tennant Creek**	**44.39**	**259**	P	**P**	**10 31 05.1**	**-1.2**
WRA	**Warramunga Arr**	**44.40**	**259**	P	**P**	**10 31 05.2**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=96,slow=7.9,SNR=73						
WRA				PcP	**PcP**	**10 32 38.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=97,slow=2.7,SNR=2.5						
WRA	**Warramunga Arr**	**44.40**	**259**	P	**P**	**10 31 04.7**	**-1.7**
AS31	**Alice Springs**	**44.59**	**254**	P	**P**	**10 31 07.4**	**-0.6**
AS31				IAmb	IAmb	10 31 07.9	
	comp=Z,8.1nm,0.6s						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**10 31 07.2**	**-0.8**
	comp=Z,24nm,0.6s,baz=88,slow=8.1,SNR=512						
ASAR				PcP	**PcP**	**10 32 38.9**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=104,slow=4.2,SNR=5.3						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**10 31 07.5**	**-0.4**
PTCN	**Pitcairn Islan**	**45.72**	**108**	P	**P**	**10 31 13.0**	**-3.6**
MTN	**Manton Dam**	**48.51**	**268**	P	**P**	**10 31 36.9**	**-0.7**
MTN				IAmb	IAmb	10 31 37.3	
	comp=Z,9.8nm,0.8s						
FORT	**Forrest**	**49.88**	**244**	P	**P**	**10 31 46.7**	**-0.8**
KNRA	**Kununurra**	**50.22**	**264**	P	**P**	**10 31 49.6**	**-0.6**
KNRA				IAmb	IAmb	10 31 50.2	
	comp=Z,14nm,0.7s						
SIJI	**Sorong**	**51.86**	**283**	P	**P**	**10 32 02.3**	**+0.1**
	comp=Z,22nm,0.7s,baz=79,slow=10,SNR=6.3						
FITZ	**Fitzroy Crossi**	**52.79**	**260**	P	**P**	**10 32 08.8**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=100,slow=5.4,SNR=16						
MORW	**Morawa**	**60.34**	**246**	P	**P**	**10 32 59.6**	**-0.9**
MORW				IAmb	IAmb	10 33 12.7	
	comp=Z,12nm,1.2s						
MJAR	**Matsushiro Arr**	**67.45**	**323**	P	**P**	**10 33 45.2**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=163,slow=4.8,SNR=2.4						
TPUB	**Ta-pu**	**71.82**	**302**	P	**P**	**10 34 11.2**	**-0.5**
SEY	**Seymchan**	**83.37**	**347**	P	**P**	**10 35 13.7**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=45,slow=22,SNR=10						
ILAR	**Eielson Array**	**85.62**	**13**	P	**P**	**10 35 22.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=201,slow=4.8,SNR=8.0						
CMAR	**Chiang Mai Arr**	**88.48**	**290**	P	**P**	**10 35 39.9**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=108,slow=2.9,SNR=5.2						
MKAR	**Makanchi Array**	**108.67**	**314**	PKiKP	**PKiKP**	**10 41 10.0**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=90,slow=1.8,SNR=4.7						
MKAR	**Makanchi Array**	**108.67**	**314**		**PKiKP**	**10 41 10.3**	**-0.5**
BRTR	**Keskin Array B**	**144.32**	**315**	PKP	PKPbc	10 42 18.4	+0.3
	comp=Z,1.1nm,0.6s,baz=113,slow=3.4,SNR=5.3						
BRTR	**Keskin Array B**	**144.32**	**315**		PKPbc	10 42 17.6	-0.4
CLL	**Collm**	**145.06**	**347**	*e*PKPbc	**PKPbc**	**10 42 21.0**	**+1.3**
GERES	**GERESS Array B**	**147.20**	**345**	PKPbc	**PKPbc**	**10 42 26.2**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=15,slow=2.5,SNR=7.5						
GERES	**GERESS Array B**	**147.20**	**345**		**PKPbc**	**10 42 26.7**	**+0.8**
WATA	**Walderalm**	**149.12**	**346**	*i* P	**PKPbc**	**10 42 31.4**	**+0.6**
	comp=Z,1.3nm,0.4s						
WTTA	**Wattenberg**	**149.17**	**346**	*i* P	**PKPbc**	**10 42 31.8**	**+0.8**
	comp=Z,1.4nm,0.4s						
SQTA	**Sankt Quirin**	**149.31**	**347**	*i* P	**PKPbc**	**10 42 32.0**	**+0.8**
	comp=Z,2.7nm,0.5s						

IDC 09 11:20:39.4±6.8, 6°.59S×148°.09E, h109km±59km, mb2.6/1, mb1 3.0/3, mb1mx2.8/34, mbtmp3.2/3, Error ellipse: s-maj=120.8km s-min=57.9km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.94**	**198**	P	Pn	11 21 23.5	-1.2
	3.0nm,0.3s,baz=14,slow=8.3,SNR=7.1						
PMG				S	Sn	11 22 01.1	+1.6
	2.4nm,0.3s,baz=50,slow=6.8,SNR=1.4						
WRA	**Warramunga Arr**	**18.82**	**224**	P	P	11 24 49.4	-1.4
	0.1nm,0.3s,baz=51,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**21.77**	**217**	P	P	11 25 22.1	-0.5
	0.2nm,0.4s,baz=44,slow=8.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**146.29**	**284**	PKPbc	PKPbc	11 40 08.8	+0.3
	0.2nm,0.5s,baz=71,slow=3.7,SNR=1.7						

*JMA **09** 11:38:30.8±0.5, 41°.91N×145°.43E, h18km±2km, M3.7*
*IDC **09** 11:38:30.1±2.1, 42°.24N×145°.58E, h0km, mb3.6/4, mb1 3.5/5, mb1mx3.3/33, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=86.2km s-min=26.5km az=39.0*
*NIED **09** 11:38:30.9, 41°.91N×145°.43E, h18km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.58; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-1.24; $M_{r\theta}$0.03; $M_{\theta\phi}$-1.16; $M_{\phi r}$0.49; Fault plane solution: $M_0$1.88000×10^{14} NP1:ϕ_s24.00000°, δ53.00000°, λ76.00000°. NP2:ϕ_s226.00000°, δ40.00000°, λ108.00000°.*
*SKHL **09** 11:38:34.6±0.5, 42°.00N×145°.20E, h47km±3km, mb4.4/5*
*MOS **09** 11:38:34.1±1.0, 42°.03N×145°.15E, h38km, mb4.0/1, Error ellipse: s-maj=25.8km s-min=10.0km az=87.3*
ISC 09 11:38:31.4±2.2, 41°.97N±0°.08×145°.31E±0°.06, h11km±12km, n33, σ1°16/45, mb3.6/4, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKK	**Akkeshi**	**1.10**	**342**	*e*P	**Pb**	**11 38 52.8**	**+0.4**
AKK				*e*S	**Sb**	**11 39 06.8**	**0.0**
JKHN	**Kushirohamanak**	**1.12**	**355**	P	**Pg**	**11 38 53.3**	**+0.5**
JKHN				*e*S	**Sn**	**11 39 08.5**	**+0.2**
JAK	**Akkeshi**	**1.12**	**337**	P	**Pn**	**11 38 52.7**	**-0.3**
JAK				*e*S	**Sb**	**11 39 07.6**	**+0.3**
NEM2	**Nemuro 2**	**1.43**	**13**	P	**Pb**	**11 38 57.5**	**-0.5**
NEM2				*e*S	**Sn**	**11 39 15.0**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.43**	**12**	⇑*i*PN	**Pb**	**11 38 57.5**	**-0.6**
NMR				*e*S	**Sn**	**11 39 15.5**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.43**	**12**	*i* P	**Pb**	**11 38 57.5**	**-0.6**
NMR				*e*S	**Sn**	**11 39 15.5**	**-0.6**
JOB	**Onbets**	**1.43**	**311**	P	**Pn**	**11 38 56.9**	**-0.4**
JTHR	**Tokachihiroo**	**1.53**	**283**	P	**Pn**	**11 38 58.0**	**-0.6**
JCH	**Churui**	**1.58**	**295**	P	**Pn**	**11 38 58.8**	**-0.5**
JEM	**Erimo**	**1.60**	**272**	P	**Pn**	**11 38 59.3**	**-0.3**
JNK	**Nakash**	**1.67**	**345**	P	**Pn**	**11 39 00.0**	**-0.6**
JNK				*e*S	**Sn**	**11 39 19.9**	**-2.1**
GLVR	**Golovnino**	**1.77**	**5**	*e*PN	**Pb**	**11 39 02.7**	**-1.2**
GLVR				*e*S	**Sn**	**11 39 24.1**	**-0.4**
GLVR				pmax	pmax		
	comp=Z,43nm,0.1s						
GLVR				smax	smax		
	comp=N,464nm,0.3s						
GLVR				smax	smax		
	comp=E,359nm,0.2s						
GLVR	**Golovnino**	**1.77**	**5**	*e*P	**Pb**	**11 39 02.7**	**-1.2**
GLVR				AMB	AMB	11 39 04.1	
	comp=E,40nm,0.1s						
GLVR				*e*S	**Sn**	**11 39 24.1**	**-0.4**
GLVR				A	A	11 39 27.5	
	comp=E,460nm,0.3s						
GLVR				A	A	11 39 27.5	
	comp=E,360nm,0.3s						
GRPR	**Tuman**	**2.05**	**9**	*e*PN	**Pn**	**11 39 06.5**	**+0.7**
GRPR				*e*S	**Sn**	**11 39 29.7**	**-1.6**
GRPR				pmax	pmax		
	comp=Z,51nm,0.1s						
GRPR				smax	smax		
	comp=N,323nm,0.2s						
GRPR				smax	smax		
	comp=E,382nm,0.2s						
GRPR	**Tuman**	**2.05**	**9**	*e*P	**Pn**	**11 39 06.5**	**+0.7**
GRPR				AMB	AMB	11 39 07.2	
	comp=E,50nm,0.2s						
GRPR				*e*S	**Sn**	**11 39 30.2**	**-1.1**
GRPR				A	A	11 39 31.0	
	comp=E,320nm,0.2s						
GRPR				A	A	11 39 31.0	
	comp=E,380nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.10**	**11**	*e*PN	**Pn**	**11 39 07.1**	**+0.6**
YUK				*e*S	**Sn**	**11 39 31.5**	**-1.1**
YUK				pmax	pmax		
	comp=N,29nm,0.2s						
YUK				pmax	pmax		
	comp=Z,113nm,0.2s						
YUK				pmax	pmax		
	comp=E,22nm,0.1s						
YUK				smax	smax		
	comp=E,172nm,0.2s						
YUK				smax	smax		
	comp=N,284nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.10**	**11**	*e*P	**Pn**	**11 39 07.1**	**+0.6**
YUK				AMB	AMB	11 39 10.5	
	comp=N,60nm,0.3s						
YUK				*e*S	**Sn**	**11 39 31.5**	**-1.1**
YUK				A	A	11 39 36.5	
	comp=N,280nm,0.3s						
YUK				A	A	11 39 36.5	
	comp=N,170nm,0.3s						
RUSJ	**Misakicho**	**2.13**	**359**	*e*PN	**Pn**	**11 39 07.7**	**+0.8**
RUSJ				*e*S	**Sn**	**11 39 33.4**	**0.0**
SHO	**Shikotan**	**2.20**	**30**	*e*PN	**Pb**	**11 39 09.0**	**-2.2**
SHO				*e*S	**Sn**	**11 39 33.5**	**-1.6**
SHO				pmax	pmax		
	comp=Z,7.0nm,0.1s						
SHO				smax	smax		
	comp=N,71nm,0.2s						
SHO				smax	smax		
	comp=E,120nm,0.3s						
SHO	**Shikotan**	**2.20**	**30**	*e*P	**Pb**	**11 39 09.0**	**-2.2**
SHO				AMB	AMB	11 39 12.6	
	comp=E,10.0nm,0.2s						
SHO				*e*S	**Sn**	**11 39 34.0**	**-1.1**
SHO				A	A	11 39 38.7	
	comp=E,100nm,0.3s						
SHO				A	A	11 39 38.7	
	comp=E,170nm,0.3s						
JKA	**Kamikawa-asahi**	**2.92**	**318**	*e*P	**Pn**	**11 39 16.7**	**-1.0**
ASAJ	**Asahikawa**	**2.92**	**318**	Pn	**Pn**	**11 39 16.6**	**-1.1**
	comp=E,6.4nm,0.3s,baz=142,slow=13,SNR=24						
ASAJ				Sn	**Sn**	**11 39 55.3**	**+2.4**
	comp=E,2.5nm,0.3s,baz=8.3,slow=29,SNR=4.0						
ASAJ				Lg	Lg	11 40 01.3	
	comp=E,4.2nm,0.3s,baz=190,slow=31,SNR=14						
KUR	**Kuril'sk**	**3.75**	**29**	*e*P	**Pn**	**11 39 32.1**	**+2.9**
KUR	

baz=20
BFSC Mount Baldy Ra 0.94 310 P Pg 11 43 27.3 -1.3
baz=128,SNR=36
BFSC S **Sg 11 43 39.4 -1.6**
baz=128
BAR Barrett 0.96 175 Pg 11 43 28.2 -0.7
SWSC Sam W. Stewart 1.07 130 P Pb 11 43 29.0 -1.6
baz=311,SNR=43
SWSC S **Sg 11 43 45.5 +0.5**
baz=311
TKX Tecate 1.07 172 Pb 11 43 30.1 -0.6
BC3 Big Chuckawall 1.11 89 P Pb 11 43 30.1 -1.2
baz=270,SNR=43
BC3 S **Sb 11 43 45.1 -0.5**
baz=270
IKP In-Ko-Pah, Jac 1.13 150 Pn Pb 11 43 30.9 -0.8
baz=331
IKP Pg **Pg 11 43 32.0 -0.2**
baz=331,SNR=26
IKP S **Sb 11 43 46.7 +0.4**
baz=331
TJX Tijuana 1.15 192 Pb 11 43 31.1 -0.8
RMX La Rumorosa 1.19 150 Pb 11 43 32.8 +0.1
RMX IAML 11 43 51.2
comp=E,265nm,0.2s
RMX IAML 11 43 51.2
comp=N,191nm,0.2s
MWC Mount Wilson 1.21 299 Pn 11 43 32.2 -0.8
HEC Hector,Ludlow 1.25 17 Pb Pn 11 43 32.6 -0.8
baz=197,SNR=29
HEC S **Sb 11 43 49.1 -0.5**
baz=197
RRX Edison Barstow 1.25 352 Pg Pn 11 43 33.3 -0.1
baz=171,SNR=9.1
RRX Sg **Sb 11 43 49.7 +0.1**
baz=171
FMP Fort Macarthur 1.26 274 P Pn 11 43 33.4 -0.1
baz=92
PASC Pasadena Art C 1.28 295 Pn 11 43 32.5 -1.4
PASC IAML 11 43 51.1
comp=E,230nm,0.4s
PASC IAML 11 43 51.4
comp=N,348nm,0.5s
CIS Catalina Islan 1.39 261 P Pn 11 43 34.3 -1.0
baz=79,SNR=7.5
CIS S **Sn 11 43 52.8 -0.5**
baz=79
DECC Green Verdugo 1.43 296 Pb Pn 11 43 35.6 -0.2
baz=114,SNR=5.1
DECC Sb **Sn 11 43 54.7 +0.2**
baz=114
IRM Iron Mountain 1.46 69 P Pn 11 43 34.9 -1.3
baz=250,SNR=68
IRM Sb **Sn 11 43 55.7 +0.6**
baz=250
GMRC Granite Mounta 1.47 39 P Pn 11 43 35.4 -1.2
baz=220,SNR=21
GMRC Sb **Sn 11 43 55.8 +0.1**
baz=220
EDW2 Edwards Air Fo 1.60 321 Pb Pn 11 43 38.1 -0.1
baz=140,SNR=18
EDW2 Sb **Sn 11 43 59.7 +1.1**
baz=140
GSC Goldstone, Bar 1.66 359 Pn 11 43 39.2 +0.1
GSC IAML 11 44 06.2
comp=E,104nm,0.5s
GSC Goldstone, Bar 1.66 359 Pg Pb 11 43 41.0 +0.3
baz=179,SNR=30
CPBX Cerro Prieto 1.73 134 Pn 11 43 41.0 +0.9
GLA Glamis 1.74 109 Pn 11 43 39.8 -0.3
GLA IAML 11 44 09.5
comp=N,197nm,0.5s
GLA IAML 11 44 13.9
comp=E,201nm,0.4s
GLA Glamis 1.74 109 Pb Pb 11 43 41.7 -0.3
baz=291,SNR=10
GLA S **Sn 11 44 01.7 -0.4**
baz=291
CCX Cicese 1.77 177 Pn 11 43 41.8 +1.3
CCX IAML 11 44 05.9
comp=E,137nm,0.4s
CCX IAML 11 44 07.0
comp=N,142nm,0.4s
OSI Osito Audit: C 1.88 302 Pn 11 43 42.3 +0.2
OSI IAML 11 44 14.3
comp=E,115nm,0.9s
OSI IAML 11 44 20.1
comp=N,155nm,0.8s
OSI Osito Audit: C 1.88 302 P Pn 11 43 42.5 +0.4
baz=120,SNR=6.7
OSI Sb **Sn 11 44 07.0 +1.3**
baz=120
TUQ Turquoise Moun 1.93 21 Sb Sb 11 44 10.0 +0.7
baz=202
NEE2 Needles Airpor 2.12 57 Pg Pb 11 43 49.0 +0.6
baz=239,SNR=12
NEE2 Sb **Sb 11 44 15.7 +1.1**
baz=239
ARVC Arvin 2.25 312 P Pn 11 43 47.3 +0.2
baz=130,SNR=6.7
ARVC Sb **Sb 11 44 20.1 +1.5**
baz=130
SHOC Shoshone, Teco 2.29 10 Sb Sg 11 44 22.4 -1.7
baz=190
QSM Queen of Sheba 2.32 358 Pn 11 43 47.7 -0.4
QSM IAML 11 44 23.8
comp=N,72nm,0.2s
QSM IAML 11 44 25.4
comp=E,54nm,0.5s
ISA Isabella, Lake 2.46 326 Pn 11 43 49.4 -0.6
ISA IAML 11 44 33.7
comp=E,42nm,0.7s
ISA Isabella, Lake 2.46 326 Pg Pb 11 43 55.2 +0.9
baz=145,SNR=8.7
MPMC Manual Prospec 2.48 347 Pn Pn 11 43 50.4 -0.2
baz=166
MPMC Pg **Pg 11 43 56.9 -1.1**
baz=166,SNR=13
GWY Greenwater Val 2.54 2 Pn 11 43 51.9 +0.6
GWY IAML 11 44 30.8
comp=N,37nm,0.4s
GWY IAML 11 44 36.1
comp=E,42nm,0.6s
W13A Hualapai Mount 2.80 58 Pn 11 43 55.0 +0.1
SFX San Felipe 3.06 147 Pn 11 43 58.9 +0.6
SMMC Simmler 3.14 303 P Pn 11 43 59.6 +0.2
baz=121
SHPR Sheep Range 3.16 24 Pn 11 44 01.1 +1.3
Y14A Wickenburg 3.16 83 Pn 11 43 59.2 -0.4
Y14A IAML 11 44 56.1
comp=E,27nm,0.7s
Y14A IAML 11 44 56.5
comp=N,53nm,1.0s
TPNV Topopah Spring 3.33 7 Pn 11 44 02.9 +0.7
TPNV Topopah Spring 3.33 7 P Pn 11 44 02.9 +0.7
baz=188
PAGB Antelope Grade 3.54 307 Pn Pn 11 44 03.3 -1.5
PAGB IAML 11 45 28.4
comp=E,32nm,4.5s
LCH Last Change Ra 3.66 349 Pn 11 44 07.3 +0.7
214A Organ Pipe Nat 3.74 116 Pn Pn 11 44 08.8 +1.2
PRN Pahroc Range 4.02 20 Pn 11 44 12.7 +1.1
PRN IAML 11 45 27.1
comp=N,11nm,0.6s
PRN IAML 11 45 36.3
comp=E,12nm,0.9s
PMPB Monarch Peak 4.19 309 Pn Pn 11 44 14.3 +0.6
LCMT Little Creek M 4.44 40 Pn 11 44 17.9 +0.5
TPH Tonopah 4.44 355 Pn 11 44 20.5 +3.0
X16A Lo Mia Camp, P 4.50 79 Pn 11 44 17.8 -0.4
X16A IAML 11 45 46.0
comp=N,8.7nm,1.5s
X16A IAML 11 45 47.5
comp=E,7.9nm,2.4s
U15A North Rim 4.62 52 Pn 11 44 20.1 +0.2
U15A IAML 11 45 45.3
comp=N,10nm,3.3s
U15A IAML 11 45 48.7
comp=E,13nm,4.9s
KNB Kanab 4.67 43 Pn 11 44 21.8 +1.2
KNB IAML 11 45 40.8
comp=N,9.8nm,1.3s
KNB IAML 11 45 43.2
comp=E,11nm,3.7s
CCUT Cedar City 4.80 35 Pn Pn 11 44 23.4 +1.1
CCUT IAML 11 45 42.2
comp=E,7.6nm,3.9s
CCUT IAML 11 46 07.8
comp=N,5.9nm,4.7s
R11A Troy Canyon, C 4.80 11 Pn Pn 11 44 22.0 -0.4
LHV Little Huntoon 4.81 344 Pn Pn 11 44 20.7 -1.6
LHV IAML 11 45 27.1
comp=N,13nm,4.7s
LHV IAML 11 46 32.2
comp=E,12nm,5.0s
WUAZ Wupatki 4.84 66 Pn Pn 11 44 23.5 +0.6
WUAZ IAML 11 45 43.3
comp=E,12nm,0.7s
WUAZ IAML 11 45 45.4
comp=E,9.7nm,1.0s
NVAR Mina Array Bea 4.94 346 Pn Pn 11 44 25.0 +0.7
SZCU Shurtz Canyon 4.96 36 Pn Pn 11 44 26.2 +1.5
SZCU IAML 11 46 20.7
comp=E,6.9nm,3.8s
SZCU IAML 11 47 19.1
comp=N,6.0nm,4.0s
CMB Columbia Colle 5.28 327 Pn Pn 11 44 28.8 +0.1
CMB IAML 11 46 11.4
comp=E,6.3nm,4.8s
CMB IAML 11 46 51.0
comp=N,8.0nm,4.9s
KVN Kaiserville 5.51 349 Pn Pn 11 44 33.2 +1.1
YERR Yerington 5.70 340 Pn Pn 11 44 35.6 +0.9
X18A Snowflake 5.74 79 Pn Pn 11 44 35.7 +0.4
MTPU Mount Pierson 5.77 39 Pn Pn 11 44 38.5 +2.7
MVU Marysvale 6.10 36 Pn Pn 11 44 41.6 +1.3

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*IDC **09** 12:10:35.4±1.3,23°.86S×66°.82W,h205km±11km,mb3.1/5, mb1 3.4/10,mb1mx3.3/30,mbtmp3.7/10, Error ellipse: s-maj=18.1km s-min=17.1km az=127.0*
*GUC **09** 12:10:35.2±0.6,24°.02S×67°.23W,h242km±9km,ML4.1*
ISC 09 12:10:34.4±0.8,24°.02S±0°.07×66°.89W±0°.07,h200km,n27, σ1°22/40,mb3.3/5,12C,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.33**	**307**	P	**Pn**	**12 11 17.8**	**+1.0**
	34nm,0.3s,baz=111,slow=8.8,SNR=347						
LVC				S	**Sn**	**12 11 50.6**	**+0.8**
	42nm,0.3s,baz=90,slow=20,SNR=25						
LVC	**Limon Verde**	**2.33**	**307**	⇑*i*P	**Pn**	**12 11 17.8**	**+1.0**
LVC				*i* S	**Sn**	**12 11 50.5**	**+0.7**
PB15	**IPOC Station P**	**2.51**	**288**	⇑*i*P	**Pn**	**12 11 19.2**	**+0.7**
PB15				*i* S	**Sn**	**12 11 52.4**	**-0.5**
PB06	**IPOC Station P**	**2.79**	**297**	⇑*i*P	**Pn**	**12 11 22.5**	**+0.7**
PB06				*i* S	**Sn**	**12 11 58.3**	**-0.4**
PB06				IAML		12 11 59.5	
	comp=N,556nm,0.3s						
AHML	**Horco Molle**	**3.09**	**153**	*e*P	**Pn**	**12 11 23.2**	**-1.9**
PB09	**IPOC Station P**	**3.10**	**315**	⇑*i*P	**Pn**	**12 11 26.6**	**+1.2**
PB09				*i* S	**Sn**	**12 12 06.3**	**+0.9**
PB09				IAML		12 12 10.8	
	comp=E,174nm,0.3s						
PB05	**IPOC Station P**	**3.26**	**290**	⇑*i*P	**Pn**	**12 11 27.4**	**+0.2**
PB05				*i* S	**Sn**	**12 12 06.2**	**-2.3**
PB05				IAML		12 12 13.4	
	comp=N,154nm,0.2s						
PB03	**IPOC Station P**	**3.29**	**306**	⇑*i*P	**Pn**	**12 11 28.1**	**+0.4**
PB03				*i* S	**Sn**	**12 12 08.0**	**-1.4**
PB03				IAML		12 12 11.4	
	comp=E,328nm,0.6s						
PB10	**IPOC Station P**	**3.40**	**278**	⇑*i*P	**Pn**	**12 11 28.7**	**0.0**
PB10				*i* S	**Sn**	**12 12 08.6**	**-2.8**
PB10				IAML		12 12 11.0	
	comp=N,124nm,0.4s						
PB04	**IPOC Station P**	**3.44**	**299**	⇑*i*P	**Pn**	**12 11 29.6**	**+0.1**
PB04				*i* S	**Sn**	**12 12 11.1**	**-1.4**
PB07	**IPOC Station P**	**3.59**	**309**	⇑*i*P	**Pn**	**12 11 31.5**	**+0.3**
PB07				*i* S	**Sn**	**12 12 14.2**	**-1.6**
PB01	**IPOC Station P**	**3.82**	**320**	⇑*i*P	**Pn**	**12 11 34.1**	**+0.1**
PB01				*i* S	**Sn**	**12 12 19.7**	**-1.1**
PB08	**IPOC Station P**	**4.40**	**331**	⇑*i*P	**Pn**	**12 11 42.5**	**+0.9**
PB08				*i* S	**Sn**	**12 12 35.1**	**+0.7**
PB11	**IPOC Station P**	**4.96**	**328**	⇑*i*P	**Pn**	**12 11 47.6**	**-0.8**
PB11				*i* S	**Sn**	**12 12 44.5**	**-2.3**
LPAZ	**La Paz**	**7.78**	**351**	P	**Pn**	**12 12 25.7**	**+0.3**
	comp=N,1.0nm,0.3s,baz=107,slow=5.0,SNR=21						
LPAZ				S	**Sn**	**12 13 51.9**	**-1.8**
	baz=137,slow=19,SNR=1.5						
SIV	**San Ignacio**	**9.68**	**35**	P	**Pn**	**12 12 49.1**	**-0.4**
	comp=N,0.3nm,0.3s,baz=212,slow=18,SNR=2.3						
PLCA	**Paso Flores**	**16.95**	**190**	P	**Pn**	**12 14 22.7**	**+2.7**
	comp=N,0.3nm,0.3s,baz=346,slow=9.7,SNR=9.9						
BDFB	**Brasilia**	**19.60**	**68**	P	**P**	**12 14 46.9**	**-0.8**
	comp=N,0.4nm,0.3s,baz=259,slow=10.0,SNR=3.5						
TXAR	**Lajitas Array**	**63.76**	**324**	P	**P**	**12 20 45.5**	**+0.4**
	comp=N,0.4nm,0.8s,baz=142,slow=7.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**76.48**	**69**	P	**P**	**12 22 01.8**	**-0.8**
	comp=N,0.3nm,0.4s,baz=268,slow=6.4,SNR=4.6						
PDAR	**Pinedale Array**	**77.22**	**329**	P	**P**	**12 22 07.4**	**+1.0**
	comp=N,0.2nm,0.4s,baz=127,slow=8.8,SNR=2.7						
NVAR	**Mina Array Bea**	**78.62**	**321**	P	**P**	**12 22 13.8**	**-0.5**
	comp=N,0.1nm,0.5s,baz=90,slow=10,SNR=2.0						
YKA	**Yellowknife Ar**	**94.18**	**340**	P	**P**	**12 23 30.2**	**+0.3**
	comp=N,0.4nm,0.5s,baz=134,slow=4.6,SNR=16						
ASAR	**Alice Springs**	**128.48**	**205**	PKP	**PKPdf**	**12 29 16.9**	**-1.1**
	comp=N,0.2nm,0.4s,baz=128,slow=1.7,SNR=4.9						
WRA	**Warramunga Arr**	**131.65**	**207**	PKP	**PKPdf**	**12 29 24.1**	**0.0**
	comp=N,0.3nm,0.4s,baz=152,slow=1.7,SNR=11						
ZALV	**Zalesovo Beam**	**143.36**	**28**	PKP	PKPbc	12 29 42.6	+0.4
	comp=N,0.9nm,0.5s,baz=313,slow=5.7,SNR=6.3						
MKAR	**Makanchi Array**	**146.47**	**40**	PKPbc	**PKPdf**	**12 29 51.0**	**+0.9**
	comp=N,1.5nm,0.6s,baz=296,slow=3.2,SNR=13						

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*IDC **09** 12:19:55.9±1.0,23°.78N×44°.92W,h0km,mb3.9/12, mb1 4.0/12,mb1mx3.8/43,mbtmp3.9/12,MS3.6/15, Ms1 3.7/15,ms1mx3.2/87, Error ellipse: s-maj=29.9km s-min=19.5km az=175.0*
ISC 09 12:19:58.2±0.9,23°.8N±0°.2×44°.9W±0°.1,h15km,n28, σ0°70/12,mb4.0/12,MS3.7/15,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**37.91**	**55**	LR	LR	12 38 14.8	
	comp=Z,117nm,20.9s,baz=305,slow=29						
FRB	**Frobisher Bay**	**42.92**	**345**	LR	LR	12 45 08.0	
	comp=Z,84nm,18.2s,baz=193,slow=35						
H10N2	**ASCENSION HYDR**	**43.24**	**133**	T	T	13 14 08.5	
	baz=317,slow=75,SNR=14						
H10N3	**ASCENSION HYDR**	**43.24**	**133**	T	T	13 14 03.5	
	baz=317,slow=75,SNR=5.6						
H10N1	**ASCENSION HYDR**	**43.26**	**133**	T	T	13 14 05.9	
	baz=317,slow=75,SNR=13						
H10S3	**ASCENSION HYDR**	**43.95**	**134**	T	T	13 14 48.4	
	baz=317,slow=74,SNR=17						
H10S2	**ASCENSION HYDR**	**43.97**	**134**	T	T	13 14 49.6	
	baz=263,slow=74,SNR=8.8						
TORD	**Torodi Ar. Bea**	**45.27**	**95**	P	**P**	**12 28 14.9**	**-0.7**
	3.1nm,0.8s,baz=297,slow=8.8,SNR=18						
LPAZ	**La Paz**	**45.83**	**212**	P	**P**	**12 28 20.5**	**-0.1**
	0.7nm,0.6s,baz=26,slow=13,SNR=4.4						
LPAZ				LR	LR	12 47 01.2	
	comp=Z,58nm,18.7s,baz=319,slow=36						
CMIG	**Matias Romero**	**47.11**	**272**	LR	LR	12 48 34.5	
	comp=Z,37nm,19.2s,baz=70,slow=36						
NNA	**Nana**	**47.31**	**225**	LR	LR	12 47 43.2	
	comp=Z,34nm,20.7s,baz=326,slow=35						
KEST	**Kesra**	**48.05**	**63**	P	**P**	**12 28 38.0**	**+0.7**
	6.3nm,0.9s,baz=343,slow=2.0,SNR=5.3						
KEST				LR	LR	12 48 04.2	
	comp=Z,71nm,18.2s,baz=314,slow=35						
CPUP	**Villa Florida**	**51.24**	**194**	LR	LR	12 51 49.1	
	comp=Z,31nm,18.4s,baz=19,slow=37						
GERES	**GERESS Array B**	**51.96**	**46**	P	**P**	**12 29 06.3**	**-0.5**
	0.3nm,0.7s,baz=287,slow=10,SNR=3.5						
TXAR	**Lajitas Array**	**52.39**	**290**	P	**P**	**12 29 11.0**	**+0.7**
	0.3nm,0.9s,baz=64,slow=6.1,SNR=2.6						
NOA	**NORSAR Array B**	**53.22**	**30**	P	**P**	**12 29 15.1**	**-0.8**
	1.5nm,0.8s,baz=252,slow=7.7,SNR=3.4						
NOA				LR	LR	12 47 00.8	
	comp=Z,49nm,21.8s,baz=290,slow=30						
HFS	**Hagfors**	**54.13**	**32**	LR	LR	12 48 34.3	
	comp=Z,54nm,19.1s,baz=244,slow=32						
PDAR	**Pinedale Array**	**55.94**	**307**	P	**P**	**12 29 35.3**	**-0.8**
	1.3nm,0.9s,baz=97,slow=6.1,SNR=6.7						
YKA	**Yellowknife Ar**	**59.82**	**330**	P	**P**	**12 30 02.5**	**-0.2**
	0.3nm,0.8s,baz=97,slow=7.6,SNR=2.9						
FINES	**FINESS Array B**	**60.33**	**32**	LR	LR	12 52 05.1	
	comp=Z,111nm,18.1s,baz=279,slow=32						
NEW	**Newport**	**60.97**	**313**	LR	LR	12 54 43.1	
	comp=Z,62nm,18.3s,baz=71,slow=34						
AKASG	**Malin Array Be**	**62.05**	**44**	P	**P**	**12 30 18.2**	**+0.1**
	1.7nm,0.7s,baz=274,slow=5.9,SNR=12						
BRTR	**Keskin Array B**	**66.70**	**55**	P	**P**	**12 30 49.3**	**+0.3**
	1.2nm,0.8s,baz=258,slow=4.3,SNR=3.6						
INK	**Inuvik**	**67.64**	**336**	LR	LR	12 57 54.5	
	comp=Z,53nm,20.5s,baz=86,slow=34						
ILAR	**Eielson Array**	**73.70**	**334**	P	**P**	**12 31 31.3**	**+0.1**
	1.2nm,0.9s,baz=69,slow=4.5,SNR=11						
ILAR				LR	LR	13 04 29.9	
	comp=Z,47nm,18.9s,baz=102,slow=36						
ARU	**Arti**	**77.60**	**34**	LR	LR	13 02 26.2	
	comp=Z,43nm,19.3s,baz=144,slow=33						
AKTO	**Aktyubinsk**	**79.80**	**39**	P	**P**	**12 32 07.0**	**+1.1**
	1.1nm,0.7s,baz=267,slow=7.0,SNR=4.3						
SHEM	**Shemya Is, Ala**	**96.58**	**337**	LR	LR	13 19 03.5	
	comp=Z,36nm,18.5s,baz=170,slow=37						

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*IDC **09** 12:34:06.1±1.4,37°.29N×73°.39E,h0km,mb3.6/7, mb1 3.8/9,mb1mx3.4/36,mbtmp3.6/9,ML2.9/2,MS3.5/1, Ms1 3.5/1,ms1mx2.4/78, Error ellipse: s-maj=37.3km s-min=22.6km az=58.0*
*NNC **09** 12:34:11.2±7.2,37°.34N×73°.31E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=61.4km s-min=44.1km az=141.0*
ISC 09 12:34:08.8±0.9,36°.97N±0°.08×73°.2E±0°.1,h35km,n20, σ1°77/21,mb3.4/7,4C-4D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.74**	**9**	⇓Pn	**Pn**	**12 35 33.5**	**+1.9**
	3.3nm,0.5s						
AAK				⇑Sn	**Sn**	**12 36 37.8**	**+1.6**
	8.9nm,0.8s						
TKM2	**Tokmak 2**	**6.20**	**16**	⇓Pn	**Pn**	**12 35 40.4**	**+2.4**
	4.6nm,0.6s						
TKM2				⇑Sn	**Sn**	**12 36 47.7**	**-0.1**
	6.8nm,0.6s						
KK01	**Karatay Array**	**6.50**	**342**	⇑Pn	**Pn**	**12 35 43.1**	**+1.2**
	1.9nm,0.3s,baz=151,slow=11						
KK01				⇓Sn	**Sn**	**12 36 54.6**	**-0.1**
	14nm,0.7s,baz=151,slow=22						
MKAR	**Makanchi Array**	**11.88**	**31**	Pn	**Pn**	**12 36 54.4**	**-1.2**
	0.1nm,0.3s,baz=208,slow=10,SNR=3.5						
PYUN	**Piuthan**	**12.03**	**135**	*e*P	**Pn**	**12 36 57.4**	**-0.6**
	4.7nm,0.3s						
DANN	**Dangsing**	**12.30**	**131**	*e*P	**Pn**	**12 37 01.1**	**-0.6**
	3.8nm,0.3s						
KOLN	**Koldanda**	**12.63**	**134**	*e*P	**Pn**	**12 37 05.2**	**-1.0**
	1.9nm,0.2s						
GKN	**Gorkha**	**13.08**	**130**	*e*P	**Pn**	**12 37 10.8**	**-1.5**
	3.7nm,0.3s						
DMN	**Daman**	**13.65**	**130**	*e*P	**Pn**	**12 37 17.3**	**-2.8**
AB31	**Akbulak array**	**15.66**	**326**	⇓Pn	**Pn**	**12 37 43.9**	**-2.7**
	1.5nm,0.7s,baz=132,slow=13,SNR=25						
AKTO	**Aktyubinsk**	**17.37**	**326**	⇑Pn	**P**	**12 38 08.9**	**-0.5**
	1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**18.76**	**22**	P	**P**	**12 38 23.0**	**-1.6**
	0.2nm,0.3s,baz=212,slow=10,SNR=17						
SONM	**Songino Array**	**26.55**	**55**	P	**P**	**12 39 43.3**	**-0.1**
	0.3nm,0.5s,baz=245,slow=9.4,SNR=2.5						
CMAR	**Chiang Mai Arr**	**29.09**	**122**	P	P	12 40 11.5	+5.3
	0.4nm,0.4s,baz=44,slow=7.8,SNR=2.1						
FINES	**FINESS Array B**	**38.15**	**325**	P	**P**	**12 41 26.1**	**+1.8**
	1.3nm,0.9s,baz=106,slow=6.8,SNR=3.7						
ARCES	**ARCESS Array B**	**41.43**	**337**	P	**P**	**12 41 51.5**	**0.0**
	2.8nm,1.0s,baz=101,slow=6.3,SNR=5.0						
ASAJ	**Asahikawa**	**51.73**	**59**	LR	LR	13 06 26.5	
	comp=Z,45nm,18.9s,baz=90,slow=38						
YKA	**Yellowknife Ar**	**80.68**	**4**	P	**P**	**12 46 17.5**	**-0.3**
	0.3nm,0.9s,baz=320,slow=5.0,SNR=1.4						
WRA	**Warramunga Arr**	**80.68**	**123**	P	**P**	**12 46 21.6**	**+3.2**
	0.3nm,0.9s,baz=320,slow=5.0,SNR=1.4						
ASAR	**Alice Springs**	**83.02**	**126**	P	**P**	**12 46 33.0**	**+2.4**
	0.2nm,0.7s,baz=310,slow=4.6,SNR=1.7						

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*JMA **09** 13:05:50.9±0.1,24°.26N×122°.25E,h61km±2km,M2.2*
*TAP **09** 13:05:51.3,24°.33N×122°.25E,h57km,ML2.9,B*
ISC 09 13:05:52.1±1.2,24°.31N±0°.03×122°.28E±0°.02,h46km±12km, n91,σ0°87/163,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.48**	**287**	*e*S	**Sn**	**13 06 11.4**	**+0.9**
	baz=288						
TWC	**Suao**	**0.50**	**307**	P	**Pn**	**13 06 03.0**	**-0.1**
	baz=308						
TWC				*i* S	**Sn**	**13 06 10.8**	**0.0**
	baz=308						
ENA	**Nanau**	**0.51**	**284**	P	**Pn**	**13 06 03.3**	**+0.2**
	baz=285						
ENA				*e*S	**Sn**	**13 06 11.8**	**+0.8**
	baz=285						
NDS	**Dongshan**	**0.61**	**302**	*i* P	**Pn**	**13 06 04.5**	**0.0**
	baz=302						
NDS				*i* S	**Sn**	**13 06 13.8**	**+0.4**
	baz=302						
ETL	**Fush Village**	**0.62**	**256**	P	**Pn**	**13 06 04.2**	**-0.5**
	baz=245						
ETL				*i* S	**Sn**	**13 06 13.8**	**+0.2**
	baz=245						
JYNG	**Yonagunijimaku**	**0.62**	**77**	P	**Pn**	**13 06 04.9**	**+0.3**
JYNG				*e*S	**Sn**	**13 06 14.5**	**+0.9**
NACB	**Ninganchiao**	**0.64**	**258**	*i* P	**Pn**	**13 06 04.3**	**-0.6**
	baz=247						
NACB				*e*S	**Sn**	**13 06 13.8**	**-0.4**
	baz=247						
TWD	**Chiawan**	**0.67**	**250**	*e*P	**Pn**	**13 06 04.7**	**-0.5**
	baz=239						
TWD				*e*S	**Sn**	**13 06 14.5**	**-0.1**
	baz=239						
YOJ	**Yonaguni jima**	**0.68**	**77**	P	**Pn**	**13 06 05.5**	**+0.1**
YOJ				*e*S	**Sn**	**13 06 16.0**	**+1.0**
YOJ	**Yonaguni jima**	**0.68**	**77**	P	**Pn**	**13 06 05.6**	**+0.2**
	baz=78						
YOJ				S	**Sn**	**13 06 15.8**	**+0.8**
	baz=78						
NTC	**Toucheng**	**0.68**	**323**	*e*P	**Pn**	**13 06 06.1**	**+0.7**
	baz=332						
TWE	**Neicheng**	**0.69**	**306**	*i* P	**Pn**	**13 06 05.7**	**+0.1**
	baz=313						
TWE				*i* S	**Sn**	**13 06 16.0**	**+0.6**
	baz=313						
ENTT	**Nioudou**	**0.73**	**297**	*i* P	**Pn**	**13 06 06.1**	**0.0**
	baz=290						
ENTT				*i* S	**Sn**	**13 06 16.5**	**+0.2**
	baz=290						
ETLH	**Xiulin Townshi**	**0.74**	**262**	*e*P	**Pn**	**13 06 05.6**	**-0.6**
	baz=254						
ETLH				*e*S	**Sn**	**13 06 15.9**	**-0.6**
	baz=254						
TWB1	**Santiao Chiao**	**0.75**	**339**	P	**Pn**	**13 06 05.4**	**-0.9**
	baz=331						
TWB1				*e*S	**Sn**	**13 06 15.6**	**-0.9**
	baz=331						
NDT	**Datong Townshi**	**0.76**	**293**	*i* P	**Pn**	**13 06 06.5**	**+0.1**
	baz=286						
NDT				*i* S	**Sn**	**13 06 17.6**	**+0.6**
	baz=286						
TEYL	**Yanliau Villag**	**0.76**	**235**	*e*P	**Pn**	**13 06 06.0**	**-0.5**
	baz=229						
TEYL				*e*S	**Sn**	**13 06 17.6**	**+0.7**
	baz=229						
TIPB	**Shuangxi**	**0.78**	**328**	*e*P	**Pn**	**13 06 06.1**	**-0.7**
	baz=337						
TIPB				*e*S	**Sn**	**13 06 16.0**	**-1.4**
	baz=337						
ETM	**Tongmen**	**0.80**	**245**	P	**Pn**	**13 06 06.2**	**-0.8**
	baz=242						
ETM				S	**Sn**	**13 06 17.3**	**-0.5**
	baz=242						
NNSB	**Datong**	**0.83**	**278**	P	**Pn**	**13 06 07.0**	**-0.6**
	baz=277						
NNSB				S	**Sn**	**13 06 18.2**	**-0.5**
	baz=277						
NNS	**Nan Shan**	**0.84**	**279**	P	**Pn**	**13 06 07.1**	**-0.6**
	baz=278						
NNS				*e*S	**Sn**	**13 06 18.6**	**-0.4**
	baz=278						
NWLT	**Wulai**	**0.85**	**303**	*i* P	**Pn**	**13 06 07.7**	**-0.1**
	baz=308						
NWLT				*i* S	**Sn**	**13 06 19.0**	**-0.1**
	baz=308						
NWF	**Wu-fen Shan**	**0.89**	**329**	*e*P	**Pn**	**13 06 07.5**	**-0.7**
	baz=330						

NWF			eS	Sn	13 06 18.9	-1.1
	baz=330					
WFSB	**Wu-fen Shan**	**0.89 329**	eP	Pn	13 06 07.4	-0.7
	baz=330					
WFSB		S		Sn	13 06 18.9	-1.0
	baz=330					
YHNB	**Yeheng**	**0.90 294**	i P	Pn	13 06 08.1	-0.3
	baz=285					
YHNB			i S	Sn	13 06 20.3	-0.1
	baz=285					
NSK	**Sanguang**	**0.92 294**	i P	Pn	13 06 08.4	-0.3
	baz=284					
NSK		S		Sn	13 06 20.9	+0.1
	baz=284					
ESL	**Shilin**	**0.92 238**	P	Pn	13 06 07.7	-0.9
	baz=235					
ESL			eS	Sn	13 06 20.1	-0.7
	baz=235					
TWA	**Mucha**	**0.92 317**	eP	Pn	13 06 08.6	0.0
	baz=327					
TWA		S		Sn	13 06 19.6	-1.2
	baz=327					
WHF	**Hehuan Shan**	**0.94 260**	eP	Pn	13 06 08.7	-0.7
	baz=250					
WHF		S		Sn	13 06 21.3	-0.6
	baz=250					
NHDH	**Xindian Distri**	**0.95 314**	eP	Pn	13 06 09.0	0.0
	baz=322					
NHDH			eS	Sn	13 06 20.8	-0.7
	baz=322					
FUSS	**Fushou**	**0.95 267**	P	Pn	13 06 08.9	-0.4
	baz=265					
FUSS			eS	Sn	13 06 21.2	-0.6
	baz=265					
TNOU	**National Taiwa**	**0.96 331**	eS	Sn	13 06 20.5	-1.1
	baz=339					
TATO	**Taipei**	**0.98 313**	eP	Pn	13 06 09.4	0.0
	baz=324					
TATO			eS	Sn	13 06 22.4	+0.1
	baz=324					
EGFH	**Guangfu**	**1.01 231**	eP	Pn	13 06 08.8	-1.0
	baz=222					
EGFH			eS	Sn	13 06 22.4	-0.4
	baz=222					
TWT	**Tachien**	**1.01 267**	eP	Pn	13 06 10.1	+0.1
	baz=265					
TWT			eS	Sn	13 06 23.5	+0.3
	baz=265					
TDCB	**Techi**	**1.03 267**	eP	Pn	13 06 09.1	-1.1
	baz=266					
CHGB	**Renai**	**1.04 257**	eP	Pn	13 06 10.2	-0.3
	baz=247					
CHGB			eS	Sn	13 06 24.0	0.0
	baz=247					
YM01	**YM01**	**1.06 322**	eP	Pn	13 06 10.4	-0.1
	baz=332					
YM01			eS	Sn	13 06 23.0	-1.1
	baz=332					
OWD	**Renai**	**1.07 251**	eP	Pn	13 06 10.6	-0.2
	baz=243					
OWD			eS	Sn	13 06 23.6	-1.0
	baz=243					
NFF	**Wufeng Townshi**	**1.11 287**	eP	Pn	13 06 11.4	+0.1
	baz=286					
NFF			eS	Sn	13 06 25.0	-0.4
	baz=286					
TWS1	**Kuangyinshan**	**1.11 315**	eP	Pn	13 06 11.2	-0.1
	baz=327					
HGSD	**Ruisui**	**1.13 224**	eP	Pn	13 06 10.7	-0.8
	baz=218					
HGSD			eS	Sn	13 06 25.7	-0.2
	baz=218					
VWDT	**VWDT**	**1.18 242**	eP	Pn	13 06 11.9	-0.3
	baz=232					
VWDT			eS	Sn	13 06 26.5	-0.6
	baz=232					
EHY	**Hungye**	**1.19 228**	eP	Pn	13 06 11.2	-1.1
	baz=235					
LIOB	**Emei**	**1.20 286**	eP	Pn	13 06 12.7	+0.3
	baz=286					
LIOB			eS	Sn	13 06 28.2	+0.6
	baz=286					
NSTT	**Nanjuang**	**1.21 286**	eP	Pn	13 06 12.7	+0.1
	baz=285					
NSTT			eS	Sn	13 06 28.2	+0.4
	baz=285					
WHP	**Taichung City**	**1.22 269**	eP	Pn	13 06 13.3	+0.5
	baz=268					
WHP			eS	Sn	13 06 28.1	0.0
	baz=268					
WPL	**Puli Township**	**1.25 257**	eP	Pn	13 06 13.1	0.0
	baz=250					
WPL			eS	Sn	13 06 29.2	+0.5
	baz=250					
ECBN	**Changbin**	**1.25 218**	eS	Sn	13 06 27.8	-0.9
	baz=208					
WCS	**Beigang Elemen**	**1.28 259**	eP	Pn	13 06 13.7	+0.2
	baz=253					
WCS			eS	Sn	13 06 29.3	-0.1
	baz=253					
YULB	**Yu-li**	**1.28 225**	eP	Pn	13 06 12.4	-1.1
	baz=234					
YULB			eS	Sn	13 06 28.0	-1.6
	baz=234					
EYUL	**Yuli**	**1.30 223**	eP	Pn	13 06 13.5	-0.4
	baz=231					
EYUL			eS	Sn	13 06 29.4	-0.6
	baz=231					
TWF1	**Yuli**	**1.31 224**	eP	Pn	13 06 13.3	-0.7
	baz=232					
IRIF	**Iriomote-Funau**	**1.32 89**	P	Pn	13 06 13.8	-0.2
IRIF		S		Sn	13 06 30.4	-0.1
SSLB	**Suanglung**	**1.32 247**	eP	Pn	13 06 14.0	-0.1
	baz=246					
SSLB			eS	Sn	13 06 30.1	-0.5
	baz=246					
SMLT	**Sun Moon Lake**	**1.33 252**	eP	Pn	13 06 14.4	+0.1
	baz=243					
SMLT			eS	Sn	13 06 30.9	-0.1
	baz=243					
TYC	**Yuchr**	**1.36 253**	eP	Pn	13 06 15.2	+0.5
	baz=245					
TYC			eS	Sn	13 06 31.9	+0.3
	baz=245					
FULB	**Fuli**	**1.43 220**	eP	Pn	13 06 14.7	-0.9
	baz=209					
FULB			eS	Sn	13 06 32.4	-0.8
	baz=209					
YUS	**Yu-Shan**	**1.47 236**	eS	Sn	13 06 33.8	-0.9
	baz=235					
CHKT	**Chengkung**	**1.47 215**	eS	Sn	13 06 32.0	-2.1
	baz=205					
WJS	**Zhushan**	**1.50 251**	eP	Pn	13 06 17.8	+1.2
	baz=242					
WJS			eS	Sn	13 06 36.9	+1.9
	baz=242					
WNT	**Mingjian**	**1.52 254**	eP	Pn	13 06 16.6	-0.2
	baz=252					
WNT			eS	Sn	13 06 37.4	+2.0
	baz=252					
ALS	**Alishan**	**1.57 240**	eP	Pn	13 06 18.5	+0.7
	baz=231					
ALS			eS	Sn	13 06 36.8	-0.2
	baz=231					
JKRS	**Kuro-shima**	**1.58 92**	P	Pn	13 06 17.9	+0.3
JKRS		S		Sn	13 06 37.6	+0.8
EDH	**Donghe**	**1.60 214**	eP	Pn	13 06 16.6	-1.4
	baz=206					
EDH			eS	Sn	13 06 34.9	-2.6
	baz=206					
ELDTW	**Lidau**	**1.61 226**	eP	Pn	13 06 17.2	-1.0
	baz=220					
ELDTW			eS	Sn	13 06 36.2	-1.6
	baz=220					
CHN5	**Tsauling**	**1.63 245**	eP	Pn	13 06 19.7	+1.3
	baz=234					
CHN5			eS	Sn	13 06 39.5	+1.2
	baz=234					
JIJ	**Ishigaki jima**	**1.70 88**	P	Pn	13 06 19.2	0.0
JIJ		S		Sn	13 06 39.2	-0.6
WDLH	**Douliu**	**1.71 249**	eS	Sn	13 06 41.8	+1.7
	baz=248					
STYH	**Taoyuan**	**1.79 231**	eP	Pn	13 06 20.7	+0.3
	baz=225					
STYH			eS	Sn	13 06 41.8	-0.1
	baz=225					
WRL	**Guolierlin Hig**	**1.79 257**	eP	Pn	13 06 20.5	0.0
	baz=256					
WRL			eS	Sn	13 06 42.3	+0.4
	baz=256					
STYT	**Tauyuan**	**1.80 231**	eP	Pn	13 06 21.1	+0.4
	baz=225					
STYT			eS	Sn	13 06 43.4	+0.9
	baz=225					
TPUB	**Ta-pu**	**1.82 237**	eP	Pn	13 06 21.7	+0.8
	baz=230					
TPUB			eS	Sn	13 06 43.6	+0.9
	baz=230					
CHN4	**Tsaushan**	**1.82 239**	eP	Pn	13 06 22.1	+1.2
	baz=229					
CHN4			eS	Sn	13 06 44.7	+2.0
	baz=229					
WTK	**Tuku**	**1.84 251**	eS	Sn	13 06 44.6	+1.4
	baz=249					
TWGBT	**Beinan**	**1.85 217**	eP	Pn	13 06 19.9	-1.5
	baz=223					
TWGBT			eS	Sn	13 06 41.6	-1.9
	baz=223					
WTP	**Ta-pu**	**1.86 236**	eP	Pn	13 06 22.2	+0.7
	baz=234					
WTP			eS	Sn	13 06 44.7	+0.9
	baz=234					
TTN	**Taitung**	**1.87 214**	eS	Sn	13 06 44.2	+0.3
	baz=223					
JISG	**Ishigakijimahi**	**1.87 81**	P	Pn	13 06 20.9	-0.7
JISG			eS	Sn	13 06 43.4	-0.6
WTCT	**Ta-ch'eng**	**1.88 257**	eS	Sn	13 06 45.3	+1.0
	baz=255					
CHY	**Chiayi**	**1.88 245**	eS	Sn	13 06 46.2	+1.9
	baz=235					
TWK	**Hsinying**	**1.94 238**	eP	Pn	13 06 23.8	+1.2
	baz=237					
TWK			eS	Sn	13 06 47.4	+1.5
	baz=237					
CHN1	**Nanshi**	**1.96 236**	eP	Pn	13 06 24.3	+1.4
	baz=234					
CHN1			eS	Sn	13 06 47.6	+1.3
	baz=234					
SGST	**Jiashian**	**1.98 232**	eP	Pn	13 06 24.2	+1.1
	baz=231					
SGST			eS	Sn	13 06 47.8	+1.0
	baz=231					
SLGT	**Liugui**	**1.99 229**	eP	Pn	13 06 24.1	+0.9
	baz=228					
SLGT			eS	Sn	13 06 47.6	+0.6
	baz=228					
WSL	**Shuilin Townsh**	**2.04 248**	eS	Sn	13 06 49.7	+1.6
	baz=247					
JTJ	**Tarama**	**2.23 81**	S	Sn	13 06 52.9	+0.1
MASBT	**Mashibuluo**	**2.27 222**	eP	Pn	13 06 27.8	+0.7
	baz=221					
MASBT			eS	Sn	13 06 55.8	+1.9
	baz=221					
EAST	**Anshuo**	**2.33 215**	eP	Pn	13 06 27.7	-0.2
	baz=214					
SCZT	**Fangliau**	**2.46 219**	eP	Pn	13 06 30.5	+0.8
	baz=209					
SCZT			eS	Sn	13 06 59.5	+1.0
	baz=209					
PHUB	**P'eng-hu**	**2.60 253**	eS	Sn	13 06 59.6	-2.5
	baz=252					

*JMA **09** 13:21:18.1±0.6, 32°.17N×138°.13E, h406km±5km, M3.4*
*IDC **09** 13:21:24.8±0.7, 32°.99N×139°.31E, h403km±8km, mb2.9/5, mb1 3.0/7, mb1mx2.7/52, mbtmp3.7/7, Error ellipse: s-maj=47.0km s-min=13.7km az=64.0*
ISC 09 13:21:25.2±1.1, 32°.63N±0°.09×138°.1E±0°.1, h376km, n22, σ1ᵠ55/24, mb3.2/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**1.40**	**322**	P	**Pn**	**13 22 14.1**	**-0.9**
TTO1	**TONANKAI O.B.S**	**1.45**	**313**	P	**Pn**	**13 22 14.1**	**-1.2**
JHJ	**Hachijo jima 2**	**1.53**	**71**	P	**Pn**	**13 22 14.8**	**-1.3**
	15nm,0.3s,baz=340,slow=15,SNR=22						
JHJ				S	**S**	**13 22 55.8**	**-1.4**
	14nm,0.3s,baz=338,slow=11,SNR=6.0						
JIE	**Ise**	**2.08**	**328**	P	**Pn**	**13 22 18.3**	**-1.1**
JKN2	**Miekihoku**	**2.19**	**318**	P	**Pn**	**13 22 18.5**	**-1.6**
JTNC	**Tanabenakahech**	**2.37**	**301**	P	**Pn**	**13 22 19.5**	**-2.0**
JWY	**Kouya**	**2.60**	**308**	P	**Pn**	**13 22 22.0**	**-1.3**
JAO	**Obara**	**2.71**	**346**	P	**Pn**	**13 22 23.7**	**-0.4**
JYTA	**Yamagatataniai**	**3.15**	**340**	P	**Pn**	**13 22 27.3**	**-0.5**
JAI	**Aioi**	**3.24**	**292**	P	**Pn**	**13 22 26.6**	**-2.0**
JHU	**Hanno**	**3.37**	**17**	P	**Pn**	**13 22 28.8**	**-0.9**
JRY	**Ryogami san**	**3.45**	**11**	P	**Pn**	**13 22 30.4**	**-0.1**
MAT	**Matsushiro**	**3.90**	**2**	P	**Pn**	**13 22 34.9**	**+0.1**
MAT				S	**S**	**13 23 28.0**	**-3.1**
MJAR	**Matsushiro Arr**	**3.90**	**2**	P	**Pn**	**13 22 34.3**	**-0.4**
	0.5nm,0.3s,baz=185,slow=10.0,SNR=22						
MJAR				S	**S**	**13 23 28.4**	**-2.6**
	0.1nm,0.3s,baz=85,slow=25,SNR=2.2						
JFK	**Kawauchi**	**5.26**	**25**	P	**Pn**	**13 22 47.6**	**-1.2**
USRK	**Ussuriysk Ar.**	**12.48**	**339**	P	**P**	**13 24 12.3**	**+1.4**
	baz=170,slow=7.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**43.00**	**316**	P	**P**	**13 28 50.0**	**+1.1**
	0.5nm,0.3s,baz=71,slow=7.8,SNR=4.3						
MKAR	**Makanchi Array**	**44.27**	**306**	P	**P**	**13 29 00.7**	**+1.7**
	0.5nm,0.5s,baz=85,slow=10,SNR=13						
KURBB	**Kurchatov Arra**	**46.66**	**311**	P	**P**	**13 29 19.0**	**+1.5**
	0.6nm,0.4s,baz=90,slow=9.0,SNR=7.8						
BVAR	**Borovoye Array**	**51.58**	**315**	P	**P**	**13 29 56.1**	**+1.8**
	0.6nm,0.5s,baz=85,slow=7.9,SNR=5.3						
WRA	**Warramunga Arr**	**52.40**	**184**	P	**P**	**13 30 00.8**	**+0.2**
	0.4nm,0.3s,baz=360,slow=7.6,SNR=7.0						
PLCA	**Paso Flores**	**155.75**	**118**	PKPab	PKPab	13 40 56.3	-7.3
	0.7nm,0.5s,baz=286,slow=9.5,SNR=4.9						

JMA 09 13:49:14.5, 35°.22N×135°.91E, h9km, M2.6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.31**	**11**	P	Pg	13 49 21.2	+0.5
JFM				S	Sg	13 49 25.7	+0.8
JWT	**Wachi**	**0.42**	**279**	P	Pg	13 49 22.6	-0.1
JWT				S	Sg	13 49 28.2	-0.1
MAT	**Matsushiro**	**2.29**	**54**	P	Pn	13 49 53.5	+1.1

*MAN **09** 13:55:52.3, 5°.90N×125°.91E, h140km, mb4.6, ML3.5, MS3.3*
*IDC **09** 13:55:52.7±0.6, 6°.00N×126°.04E, h152km±6km, mb3.6/9, mb1 3.7/10, mb1mx3.4/36, mbtmp4.0/10, Error ellipse: s-maj=24.6km s-min=10.6km az=70.0*
*DJA **09** 13:55:53.0±0.4, 6°N±4°×12°6E±°, h127km±4km, M4.5/15, mB4.9/3, mb4.3/15, MLv4.6/9, Mw(mB)4.1/3*
ISC 09 13:55:52.6±0.7, 5°.94N±0°.04×126°.00E±0°.06, h146km±6km, n45, σ1ᵠ34/59, mb3.9/9, 5C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.33**	**299**	⇓i P	**Pn**	**13 56 12.5**	**-0.3**
DDMP				eS	**Sn**	**13 56 27.9**	**-0.2**
MATI	**Mati**	**1.03**	**14⇑**	eP	**Pn**	**13 56 17.3**	**0.0**
MATI				eS	**Sn**	**13 56 37.1**	**+0.9**
GSPH	**General Santos**	**1.06**	**278⇑**	eP	**Pn**	**13 56 16.7**	**-1.0**
GSPH				i S	**Sn**	**13 56 35.1**	**-1.6**
DAV	**Davao City (W)**	**1.20**	**339**	P	**Pn**	**13 56 19.2**	**+0.4**
	53nm,0.3s,baz=256,slow=17,SNR=16						
DAV				S	**Sn**	**13 56 39.2**	**+0.3**
	264nm,0.3s,baz=160,slow=5.2,SNR=37						
KCP	**Kidapawan**	**1.39**	**319**	⇓i P	**Pn**	**13 56 20.8**	**-0.1**
KCP				i S	**Sn**	**13 56 42.3**	**-0.2**
CTBH	**Cotabato--PC H**	**2.16**	**306**	⇓i P	**Pn**	**13 56 28.9**	**-0.5**
BIPH	**Bislig**	**2.25**	**9⇑**	eP	**Pn**	**13 56 32.2**	**+1.6**
BIPH				eS	**Sn**	**13 56 60.0**	**+0.1**
SGSI	**Sangihe**	**2.29**	**192**	P	**Pn**	**13 56 31.6**	**+0.6**
SGSI				S	**Sn**	**13 57 01.9**	**+1.3**
BUTP	**Butuan**	**3.03**	**353⇑**	eP	**Pn**	**13 56 41.6**	**+1.4**
BUTP				eS	**Sn**	**13 57 18.5**	**+1.4**
PAGZ	**Pagadian**	**3.22**	**306**	⇓i P	**Pn**	**13 56 42.2**	**-0.5**
TBP	**Tagbilaran**	**4.29**	**330**	⇓i P	**Pn**	**13 56 56.3**	**-0.3**
MSLP	**Maasin**	**4.32**	**345⇑**	eP	**Pn**	**13 56 56.8**	**-0.2**
TNTI	**Ternate**	**5.31**	**165**	P	**Pn**	**13 57 11.0**	**+0.8**
	0.7nm1μm37nm,0.6s						
TNTI	**Ternate**	**5.31**	**165**	P	**Pn**	**13 57 10.4**	**+0.2**
KMSI	**Cibinong**	**5.70**	**201**	P	**Pn**	**13 57 17.2**	**+1.8**
	0.3nm73nm,0.7s						
GTOI	**Gorontalo**	**6.06**	**210**	P	**Pn**	**13 57 20.9**	**+0.8**
	0.1nm292nm24nm,0.8s						
LBMI	**Labuha**	**6.71**	**167**	P	**Pn**	**13 57 29.0**	**+0.2**
	0.4nm30nm,0.8s						
MRSI	**Marisa**	**6.78**	**217**	P	**Pn**	**13 57 30.0**	**+0.3**
	0.2nm32nm,0.6s						
TOLI2	**Tolitoli**	**7.08**	**228**	P	**Pn**	**13 57 35.0**	**+1.2**
SANI	**Sanana**	**7.94**	**180**	P	**Pn**	**13 57 41.6**	**-3.7**
SANI	**Sanana**	**7.94**	**180**	P	**Pn**	**13 57 43.8**	**-1.5**
SWI	**Sorong**	**8.56**	**142**	P	**Pn**	**13 57 50.7**	**-2.9**
	29nm,0.8s						
SIJI	**Sorong**	**8.57**	**142**	P	**Pn**	**13 57 54.4**	**+0.7**
	3.2nm,0.3s,baz=246,slow=20,SNR=12						
SIJI				S	**Sn**	**13 59 26.8**	**-2.2**
	0.4nm,0.3s,baz=51,slow=24,SNR=1.4						
FAKI	**Fak Fak**	**10.79**	**145**	P	**Pn**	**13 58 22.8**	**-0.5**
	26nm,1.3s						
FAKI	**Fak Fak**	**10.79**	**145**	P	**Pn**	**13 58 24.8**	**+1.5**
TTSI	**Tana Toraja**	**10.86**	**215**	P	**Pn**	**13 58 27.1**	**+3.0**
	29nm,1.1s						
BNSI	**Bone**	**11.84**	**210**	P	**Pn**	**13 58 39.9**	**+2.8**
	17nm,0.8s						
EDFI	**Ende, Flores**	**15.21**	**196**	P	**P**	**13 59 23.0**	**+1.3**
	5.0nm,0.8s						
GENI	**Genyem**	**16.49**	**121**	P	**Pn**	**13 59 35.7**	**0.0**
	3μm44nm,0.7s						
KMMI	**Kalianget**	**17.63**	**223**	P	**Pn**	**13 59 50.0**	**+0.6**
	25nm,0.9s						
JAGI	**Jajag, Banyuwa**	**18.56**	**220**	P	**Pn**	**14 00 00.4**	**-0.1**
MTN	**Manton Dam**	**19.35**	**165**	P	**P**	**14 00 08.8**	**+1.8**
KDU	**Kakadu**	**19.59**	**161**	P	**P**	**14 00 11.2**	**+1.6**
KNRA	**Kununurra**	**21.65**	**173**	P	**P**	**14 00 32.6**	**+0.9**
LEM	**Lembang**	**22.30**	**236**	P	**P**	**14 00 39.8**	**+1.2**
	22nm,0.7s,baz=326,slow=18,SNR=5.6						
KLSI		**23.72**	**244**	P	**P**	**14 00 53.8**	**+2.2**
FITZ	**Fitzroy Crossi**	**23.89**	**181**	P	**P**	**14 00 53.1**	**+0.1**
	2.7nm,0.4s,baz=14,slow=8.0,SNR=26						
WRA	**Warramunga Arr**	**27.00**	**163**	P	**P**	**14 01 21.0**	**-0.1**
	0.3nm,0.3s,baz=343,slow=10,SNR=5.7						
WRA				PcP	**PcP**	**14 04 38.0**	**-1.1**
	0.4nm,0.6s,baz=337,slow=2.2,SNR=1.8						
WRA				S	**S**	**14 05 46.6**	**-1.3**
	0.3nm,0.8s,baz=1.4,slow=15,SNR=1.4						
CMAR	**Chiang Mai Arr**	**29.17**	**298**	P	**P**	**14 01 41.3**	**+0.9**
	0.5nm,0.6s,baz=98,slow=6.3,SNR=5.6						
ASAR	**Alice Springs**	**30.42**	**166**	P	**P**	**14 01 52.0**	**+0.5**
	1.0nm,0.4s,baz=337,slow=7.1,SNR=58						
ASAR				PcP	**PcP**	**14 04 47.0**	**-0.6**
	0.6nm,0.6s,baz=348,slow=2.8,SNR=8.2						
ASAR				S	**S**	**14 06 41.0**	**-0.7**
	0.2nm,0.7s,baz=347,slow=16,SNR=4.4						
STKA	**Stephens Creek**	**40.44**	**159**	P	**P**	**14 03 17.9**	**+1.1**
	1.1nm,0.6s,baz=334,slow=11,SNR=3.5						
PETK	**Petropavlovsk-**	**53.68**	**23**	P	**P**	**14 04 59.4**	**+0.2**
	3.1nm,0.9s,baz=182,slow=4.5,SNR=4.6						
MKAR	**Makanchi Array**	**55.34**	**325**	P	**P**	**14 05 09.7**	**-1.6**
	0.9nm,0.5s,baz=117,slow=7.1,SNR=16						
MKAR				PcP	**PcP**	**14 06 08.3**	**-1.8**
	0.2nm,0.4s,baz=106,slow=3.6,SNR=4.6						
ILAR	**Eielson Array**	**83.43**	**26**	P	**P**	**14 08 02.9**	**-0.6**
	0.4nm,0.9s,baz=219,slow=7.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**121.53**	**289**	PKP	**PKPdf**	**14 14 28.5**	**-1.4**
	0.5nm,0.4s,baz=64,slow=1.5,SNR=8.0						

*SNET **09** 13:55:54.8±0.8, 13°.28N×89°.57W, h50km±6km, ML3.5*
*UCR **09** 13:55:54.7±0.8, 13°.26N×89°.58W, h48km±6km, ML3.6*
*INET **09** 13:55:56.2±0.7, 13°.34N×89°.47W, h45km±9km, ML2.8*
ISC 09 13:55:54.3±2.6, 13°.2N±0°.1×89°.60W±0°.09, h46km±14km, n56, σ0ᵠ29/67, 6C-16D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.39**	**45**	i P	**Pn**	**13 56 04.0**	**0.0**
LALI				eS	**Sn**	**13 56 10.9**	**-0.1**
LALI	**Alcalda de L**	**0.39**	**45**	eP	**Pn**	**13 56 04.0**	**0.0**
LALI	**Alcalda de L**	**0.39**	**45**	i P	**Pn**	**13 56 04.0**	**0.0**
LALI				eS	**Sn**	**13 56 10.9**	**-0.1**
JAYA	**Jayaque - finc**	**0.47**	**19**	⇓i P	**Pn**	**13 56 04.9**	**-0.3**
JAYA				eS	**Sn**	**13 56 13.0**	**+0.2**
JAYA				IAML		13 56 13.8	
	comp=Z,4μm,0.4s						
JAYA	**Jayaque - finc**	**0.47**	**19**	⇓i P	**Pn**	**13 56 04.9**	**-0.3**
JAYA				eS	**Sn**	**13 56 13.0**	**+0.2**
JAYA				IAML		13 56 13.8	
	comp=Z,4μm,0.4s						
SNET	**Serv Nac Est T**	**0.59**	**37**	eP	**Pn**	**13 56 06.4**	**-0.2**
SNET				eS	**Sn**	**13 56 15.7**	**+0.2**
SNET				IAML		13 56 17.9	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**0.59**	**37**	eP	**Pn**	**13 56 06.4**	**-0.2**
SNET	**Serv Nac Est T**	**0.59**	**37**	eP	**Pn**	**13 56 06.4**	**-0.2**
SNET				eS	**Sn**	**13 56 15.7**	**+0.2**
SNET				IAML		13 56 17.9	
	comp=Z,2μm,0.3s						
BOQS	**Boqueron**	**0.61**	**31**	⇓i P	**Pn**	**13 56 06.9**	**-0.1**
BOQS				eS	**Sn**	**13 56 16.1**	**+0.1**
BOQS	**Boqueron**	**0.61**	**31**	⇓i P	**Pn**	**13 56 06.9**	**-0.1**
BOQS				eS	**Sn**	**13 56 16.1**	**+0.1**
CEVE	**Cerro Verde**	**0.61**	**358**	⇑i P	**Pn**	**13 56 07.2**	**+0.1**
CEVE	**Cerro Verde**	**0.61**	**358**	⇑i P	**Pn**	**13 56 07.2**	**+0.1**
UEES	**Universidad Ev**	**0.61**	**35**	⇓i P	**Pn**	**13 56 06.8**	**-0.2**
UEES				IAML		13 56 18.8	
	comp=Z,3μm,0.2s						
UEES	**Universidad Ev**	**0.61**	**35**	⇓i P	**Pn**	**13 56 06.8**	**-0.2**
UEES				IAML		13 56 18.8	
	comp=Z,3μm,0.2s						
CEDA	**San Andres**	**0.62**	**19**	i P	**Pn**	**13 56 07.0**	**0.0**
CEDA				IAML		13 56 21.2	
	comp=Z,3μm,0.3s						
CEDA	**San Andres**	**0.62**	**19**	i P	**Pn**	**13 56 07.0**	**0.0**
CEDA				IAML		13 56 21.2	
	comp=Z,3μm,0.3s						
SBLS	**San Blas**	**0.62**	**358**	eP	**Pn**	**13 56 07.2**	**0.0**
SBLS	**San Blas**	**0.62**	**358**	eP	**Pn**	**13 56 07.2**	**0.0**
OPAM	**Oficina de Pla**	**0.63**	**38**	eP	**Pn**	**13 56 07.1**	**-0.1**
OPAM				IAML		13 56 18.4	
	comp=Z,2μm,0.3s						
OPAM	**Oficina de Pla**	**0.63**	**38**	eP	**Pn**	**13 56 07.1**	**-0.1**
OPAM				IAML		13 56 18.4	
	comp=Z,2μm,0.3s						
SNJE	**San Jose**	**0.65**	**360**	eP	**Pn**	**13 56 07.6**	**+0.1**
SNJE	**San Jose**	**0.65**	**360**	eP	**Pn**	**13 56 07.6**	**+0.1**
LFRS	**El Faro**	**0.67**	**52**	⇓i P	**Pn**	**13 56 07.4**	**-0.2**
LFRS	**El Faro**	**0.67**	**52**	⇓i P	**Pn**	**13 56 07.4**	**-0.2**
RTR	**El Retiro**	**0.68**	**357**	eP	**Pn**	**13 56 08.7**	**+0.8**
RTR	**El Retiro**	**0.68**	**357**	eP	**Pn**	**13 56 08.7**	**+0.8**
SJTE	**Alcalda de S**	**0.70**	**55**	eP	**Pn**	**13 56 08.0**	**-0.1**
SJTE				eS	**Sn**	**13 56 18.4**	**+0.4**
SJTE	**Alcalda de S**	**0.70**	**55**	eP	**Pn**	**13 56 08.0**	**-0.1**
SJTE				eS	**Sn**	**13 56 18.4**	**+0.4**
NUBE	**Las Nubes**	**0.71**	**346**	⇓i P	**Pn**	**13 56 07.9**	**-0.3**
NUBE				IAML		13 56 19.2	
	comp=Z,1μm,0.3s						
NUBE	**Las Nubes**	**0.71**	**346**	⇓i P	**Pn**	**13 56 07.9**	**-0.3**
NUBE				IAML		13 56 19.2	

LCND	La Caada	1.67	86	eP	Pn	13 56 21.3 +0.2
LCND	La Caada	1.67	86	eP	Pn	13 56 21.3 +0.2
CNCH	Conchagua	1.72	88	eP	Pn	13 56 22.1 +0.1
CNCH	Conchagua	1.72	88	eP	Pn	13 56 22.1 +0.1

BJI **09** *14:12:32.9±0.0,27°.71N×129°.94E,h35km,mb5.0/80, mB5.3/64,Ms5.3/95,Ms7 5.2/90*
IDC **09** *14:12:34.0±0.3,28°.10N×129°.40E,h0km,mb5.0/40, mb1 5.1/43,mb1mx5.1/46,mbtmp5.0/43,ML4.7/3,MS4.9/80, Ms1 4.9/80,ms1mx4.8/93,Error ellipse: s-maj=11.7km s-min=8.5km az=82.0*
MOS **09** *14:12:36.7±1.4,28°.06N×129°.48E,h28km,mb5.7/71, MS5.2/32,Error ellipse: s-maj=5.9km s-min=3.4km az=114.1*
NEIC **09** *14:12:37.1±1.8,27°.91N±0°.06×129°.60E±0°.07,h24km±1km, mb5.6/110,Ms_20 5.1/96,Mwb5.2/55,Mww5.4,Error ellipse: s-maj=12.0km s-min=8.5km az=122.0*
NEIC **09** *14:12:37,27°.79N×129°.74E,h20km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr5.93; Mθθ-6.22; Mφφ0.29; Mrθ3.62; Mθφ0.29; Mφr-3.36; Fault plane solution: M0 7.84000×10^16^ NP1:φs114.94000°, δ64.71000°,λ110.46000°. NP2:φs253.81000°,δ32.10000°, λ53.50000°. Principal axes: T 8.2044, Plg64.0000°, Azm60.0000°; N -0.7932, Plg18.0000°, Azm286.0000°; P -7.4112, Plg17.0000°, Azm190.0000°;*
JMA **09** *14:12:38.3±0.2,28°.05N×129°.49E,h28km±3km,M5.4*
JMA Felt IV J1.
NIED **09** *14:12:38.4,28°.05N×129°.49E,h28km,MW5.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^17^Nm; Mrr1.00; Mθθ-1.03; Mφφ0.03; Mrθ0.45; Mθφ0.12; Mφr-0.52; Fault plane solution: M0 1.23000×10^17^ NP1: φs117.00000°,δ62.00000°,λ111.00000°. NP2: φs258.00000°,δ35.00000°,λ56.00000°.*
GCMT **09** *14:12:38.5±0.1,27°.92N±0°.01×129°.50E±0°.01,h29km, MW5.5/136,Moment Tensor Solution. s128,c227; s136,c251; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr1.07±.02; Mθθ-1.38±.02; Mφφ0.30±.02; Mrθ1.01±.03; Mθφ0.20±.01; Mφr-1.17±.04; Best double couple: M0 1.99600×10^17^ NP1:φs251.00000°,δ29.00000°, λ37.00000°. NP2:φs127.00000°,δ73.00000°,λ114.00000°. Principal axes: T 2.0700, Plg56.0000°, Azm68.0000°; N -0.1510, Plg23.0000°, Azm300.0000°; P -1.9220, Plg24.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR **09** *14:12:39.0±0.0,28°.40N×130°.10E,h31km,mb5.9, mB_BB6.1,Ms5.3*
NEIC **09** *14:12:40,27°.82N×129°.71E,h24km,Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^17^Nm; Mrr1.45; Mθθ-1.06; Mφφ-0.39; Mrθ1.15; Mθφ-0.12; Mφr-0.38; Fault plane solution: M0 1.78000×10^17^ NP1: φs256.00000°,δ25.00000°,λ70.00000°. NP2:φs99.00000°, δ67.00000°,λ99.00000°. Principal axes: T 1.9624, Plg67.0000°, Azm25.0000°; N -0.4561, Plg8.0000°, Azm275.0000°; P -1.5062, Plg21.0000°, Azm182.0000°;*
KEA **09** *14:12:44.7,28°.23N×129°.58E,h35km,MS4.9/3*
ISC 09 14:12:38.7±0.3,28°.03N±0°.02×129°.53E±0°.02,h30km±1km, h30km:pP-P,n1183,σ1s85/1249,mb5.5/310,MS5.1/156, 83C-43D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.38**	**304**	P	**Pb**	**14 12 46.2**	**-0.9**
JAMN				S	**Sb**	**14 12 52.3**	**-0.6**
JAM	**Amami Oshima**	**0.39**	**10**	P	**Pb**	**14 12 46.2**	**-1.1**
JAM				S	**Sb**	**14 12 52.6**	**-0.6**
JZK	**Kikaishima**	**0.48**	**54**	P	**Pb**	**14 12 48.7**	**-0.1**
JZK				eS	**Sn**	**14 12 57.7**	**+0.6**
JTK	**Tokunoshima**	**0.56**	**245**	P	**Pb**	**14 12 49.1**	**-1.0**
JTK				S	**Sb**	**14 12 56.8**	**-1.2**
JOKE	**Okinoerabujima**	**1.08**	**232**	P	**Pn**	**14 12 57.6**	**-0.2**
JOKE				S	**Sn**	**14 13 11.4**	**-0.3**
JTAJ	**Takarajima**	**1.15**	**346**	P	**Pn**	**14 12 58.1**	**-0.7**
JTAJ				S	**Sn**	**14 13 14.0**	**+0.4**
JYRO	**Yoronjima**	**1.38**	**224**	P	**Pn**	**14 13 02.0**	**0.0**
JYRO				eS	**Sn**	**14 13 19.7**	**+0.4**
JOW	**Kunigami**	**1.63**	**223**	Pn	**Pn**	**14 13 05.2**	**-0.2**
	6μm,0.3s,baz=99,slow=22,SNR=1884						
JOW				Sn	**Sn**	**14 13 25.8**	**+0.4**
	3μm,0.3s,baz=127,slow=27,SNR=17						
JOW				LR	LR	14 13 45.8	
	comp=Z,27μm,18.3s,baz=42,slow=45						
JOW	**Kunigami**	**1.63**	**223**	P	**Pn**	**14 13 05.3**	**-0.1**
JOW				S	**Sn**	**14 13 25.9**	**+0.5**
JOW	**Kunigami**	**1.63**	**223**		**Pn**	**14 13 05.3**	**-0.1**
JOW	**Kunigami**	**1.63**	**223**	P	**Pb**	**14 13 06.7**	**-1.4**
JIH	**Iheya**	**1.70**	**235**	P	**Pn**	**14 13 06.4**	**0.0**
JIH				S	**Sn**	**14 13 27.9**	**+0.8**
JNN	**Nakanoshima**	**1.83**	**10**	P	**Pn**	**14 13 08.4**	**+0.3**
JNN				S	**Sn**	**14 13 30.3**	**0.0**
JNTH	**Nagotoyohara**	**2.02**	**222**	P	**Pn**	**14 13 10.6**	**0.0**
JYAK	**Yakushimahirau**	**2.36**	**21**	P	**Pn**	**14 13 15.9**	**+0.5**
JYAK				S	**Sn**	**14 13 45.5**	**+2.1**
JJT3	**Tamagusuku3**	**2.44**	**220**	P	**Pn**	**14 13 16.5**	**0.0**
JAGN	**Aguni-jima**	**2.49**	**235**	P	**Pn**	**14 13 17.1**	**-0.1**
JAGN				S	**Sn**	**14 13 47.6**	**+1.1**
JKC	**Kuchinoerabu**	**2.49**	**13**	P	**Pn**	**14 13 18.0**	**+0.8**
JKC				S	**Sn**	**14 13 47.6**	**+1.0**
JKDJ	**Kitadaitoujima**	**2.61**	**142**	P	**Pn**	**14 13 17.1**	**-1.7**
JKDJ				eS	**Sn**	**14 13 45.3**	**-4.1**
JMTN	**Minamitane**	**2.65**	**27**	P	**Pn**	**14 13 19.8**	**+0.4**
JMTN				S	**Sn**	**14 13 52.4**	**+1.9**
JMZ	**Minamidaito 2**	**2.67**	**145**	P	**Pn**	**14 13 17.8**	**-1.9**
JMZ				S	**Sn**	**14 13 47.3**	**-3.8**
JTN	**Tanegashima 3**	**2.91**	**26**	P	**Pn**	**14 13 23.5**	**+0.6**
JTN				S	**Sn**	**14 13 59.0**	**+2.1**
JKE	**Kume jima 2**	**2.97**	**236**	P	**Pn**	**14 13 23.5**	**-0.3**
JKE				S	**Sn**	**14 14 00.5**	**+2.0**
JSU	**Suzuyama**	**3.56**	**13**	Pn	**Pn**	**14 13 32.4**	**+0.6**
JZO	**Okuchi**	**4.20**	**13**	P	**Pn**	**14 13 42.6**	**+1.9**
JOGS	**Gusukube**	**4.92**	**230**	P	**Pn**	**14 13 50.0**	**-0.7**
JMJ	**Miyako jima 2**	**4.96**	**231**	P	**Pn**	**14 13 51.2**	**0.0**
JMJ2	**Miyako jima3**	**4.99**	**230**	P	**Pn**	**14 13 50.8**	**-0.8**
JTA	**Tamana**	**4.99**	**10**	P	**Pn**	**14 13 54.7**	**+3.1**
JNU	**Nakatsue**	**5.21**	**13**	Pn	**Pn**	**14 13 56.9**	**+2.3**
	280nm,0.3s,baz=192,slow=9.1,SNR=701						
JNU				Sn	**Sn**	**14 14 54.0**	**+0.3**
	baz=90,slow=3.4,SNR=1.4						
JNU	**Nakatsue**	**5.21**	**13**		**Pn**	**14 13 55.1**	**+0.5**
JNU	**Nakatsue**	**5.21**	**13**	P	**Pn**	**14 13 58.9**	**+4.3**
JISG	**Ishigakijimahi**	**5.80**	**235**	P	**Pn**	**14 14 00.7**	**-2.0**
JIJ	**Ishigaki jima**	**6.06**	**234**	P	**Pn**	**14 14 03.9**	**-2.4**
IRIF	**Iriomote-Funau**	**6.38**	**236**	P	**Pn**	**14 14 08.2**	**-2.4**
JTU	**Tsushima**	**6.47**	**359**	Pn	**Pn**	**14 14 16.3**	**+4.4**
JMN	**Monobe**	**6.80**	**32**	Pn	**Pn**	**14 14 16.9**	**+0.4**
YOJ	**Yonaguni jima**	**6.84**	**240**	P	**Pn**	**14 14 15.1**	**-1.9**
YOJ	**Yonaguni jima**	**6.84**	**240**	Pn	**Pn**	**14 14 15.1**	**-1.9**
YOJ	**Yonaguni jima**	**6.84**	**240**	P	**Pn**	**14 14 16.9**	**-0.2**
JHS	**Saijyo**	**7.59**	**23**	Pn	**Pn**	**14 14 27.5**	**+0.2**
TATO	**Taipei**	**7.82**	**249**	Pn	**Pn**	**14 14 29.4**	**-1.0**
SSE	**Sheshan**	**7.88**	**295**	P	**Pn**	**14 14 31.5**	**+0.3**
SSE				S	**Sn**	**14 16 01.1**	**+1.7**
SSE				pmax	pmax		
	comp=Z,21nm,0.6s						
SSE				LR	LR		
	comp=N,5μm,21.6s						
SSE				LR	LR		
	comp=E,4μm,15.7s						
YHNB	**Yeheng**	**8.04**	**247**	Pn	**Pn**	**14 14 31.4**	**-2.1**
YHNB	**Yeheng**	**8.04**	**247**	P	**Pn**	**14 14 34.6**	**+1.0**
NACB	**Ningan chiao**	**8.10**	**243**		**Pn**	**14 14 31.5**	**-2.7**
TJN	**Taejon**	**8.52**	**348**	ceP	**Pn**	**14 14 43.5**	**+3.5**
TJN	**Taejon**	**8.52**	**348**	P	Pn	14 14 45.3	+5.3
YULB	**Yu-li**	**8.74**	**240**	Pn	**Pn**	**14 14 39.0**	**-4.1**
JWT	**Wachi**	**8.79**	**33**	Pn	**Pn**	**14 14 44.3**	**+0.6**
SSLB	**Suanglung**	**8.80**	**243**	Pn	**Pn**	**14 14 41.1**	**-2.8**
SSLB	**Suanglung**	**8.80**	**243**	P	**Pn**	**14 14 41.9**	**-2.0**
TWG	**Pinlang**	**9.23**	**238**	Pn	**Pn**	**14 14 45.4**	**-4.4**
TPUB	**Ta-pu**	**9.30**	**242**	Pn	**Pn**	**14 14 47.0**	**-3.9**
TPUB	**Ta-pu**	**9.30**	**242**	P	**Pn**	**14 14 48.9**	**-2.0**
KSAR	**Wonju Array Be**	**9.49**	**352**	P	**Pn**	**14 14 56.7**	**+3.4**
KSAR	**Wonju Array Be**	**9.49**	**352**	Pn	**Pn**	**14 14 56.7**	**+3.4**
KSRS	**Korea Array**	**9.49**	**352**	Pn	**Pn**	**14 14 57.6**	**+4.3**
	2.6nm,0.3s,baz=172,slow=13,SNR=53						
KSRS				LR	LR	14 18 50.7	
	comp=Z,14μm,19.1s,baz=170,slow=40						
KS19	**Wonju Array Si**	**9.55**	**352**		**Pn**	**14 14 57.3**	**+3.2**
INU	**Inuyama**	**9.69**	**39**		**Pn**	**14 14 57.3**	**+1.3**
INU	**Inuyama**	**9.69**	**39**	P	**Pn**	**14 14 58.6**	**+2.6**
INCN	**Inchon**	**9.73**	**346**	P	**Pn**	**14 15 00.7**	**+4.0**
INCN	**Inchon**	**9.73**	**346**	P	**Pn**	**14 15 00.9**	**+4.2**
INCN	**Inchon**	**9.73**	**346**	Pn	**Pn**	**14 15 00.7**	**+4.0**
INCN	**Inchon**	**9.73**	**346**	P	**Pn**	**14 15 00.9**	**+4.2**
	317nm,1.1s						
NJ2	**Nanjing**	**10.08**	**296**	⇓P	**Pn**	**14 15 02.8**	**+1.4**
NJ2				S	**Sn**	**14 16 54.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,140nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,710nm,3.6s						
NJ2				LR	LR		
	comp=N,6μm,9.0s						
NJ2				LR	LR		
	comp=E,8μm,14.3s						
NJ2				LR	LR		
	comp=Z,9μm,14.9s						
JHJ	**Hachijo jima 2**	**10.19**	**58**	Pn	**Pn**	**14 15 04.2**	**+1.3**
	50nm,0.3s,baz=70,slow=20,SNR=40						
JHJ				Sn	**Sn**	**14 16 56.3**	**+0.1**
	2.1nm,0.3s,baz=279,slow=19,SNR=1.5						
JHJ				LR	LR	14 18 38.1	
	comp=Z,6μm,21.5s,baz=224,slow=36						
BBP	**Basco**	**10.23**	**224**	⇑eP	**Pn**	**14 14 59.0**	**-4.5**
QZH	**Quanzhou**	**10.27**	**255**	⇓iP	**Pn**	**14 15 03.9**	**-0.1**
QZH				S	**Sn**	**14 16 58.4**	**+0.3**
QZH				SS	**SnSn**	**14 17 21.1**	**+11**
QZH				LR	LR		
	comp=N,8μm,13.3s						
QZH				LR	LR		
	comp=E,7μm,12.8s						
QZH				LR	LR		
	comp=Z,12μm,13.3s						
HJU	**Haeju**	**10.48**	**343**	P	**Pn**	**14 15 10.0**	**+3.1**
HJU				pP		14 15 16.9	
HJU				S	**Sn**	**14 17 11.3**	**+8.1**
HJU				AMS	AMS		
	comp=N,8μm,4.0s						
HJU				AMS	AMS		
	comp=E,15μm,7.4s						
HJU				AMS	AMS		
	comp=Z,35μm,16.9s						
KNMB	**Chin-men Tao**	**10.61**	**253**	Pn	**Pn**	**14 15 07.8**	**-0.9**
MAJO	**Matsushiro**	**11.22**	**39**	iP	**Pn**	**14 15 17.6**	**+0.6**
MAJO	**Matsushiro**	**11.22**	**39**	Pn	**Pn**	**14 15 15.9**	**-1.1**
MAJO	**Matsushiro**	**11.22**	**39**	P	**Pn**	**14 15 19.5**	**+2.5**
MAT	**Matsushiro**	**11.22**	**39**	P	**Pn**	**14 15 17.0**	**0.0**
MAT				eS	**Sn**	**14 17 25.4**	**+4.0**
MJAR	**Matsushiro Arr**	**11.22**	**39**	Pn	**Pn**	**14 15 17.5**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=247,slow=14,SNR=49						
MJAR				LR	LR	14 19 46.6	
	comp=Z,3μm,18.9s,baz=224,slow=38						
MJAR	**Matsushiro Arr**	**11.22**	**39**	Pn	**Pn**	**14 15 16.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**11.22**	**39**	Pn	**Pn**	**14 15 15.8**	**-1.2**
JCJ	**Chichijima**	**11.27**	**92**	Pn	**Pn**	**14 15 16.2**	**-1.6**
PYAG	**Pyongyang**	**11.43**	**345**	P	**Pn**	**14 15 23.8**	**+3.9**
PYAG				pP		14 15 31.1	
PYAG				S	**Sn**	**14 17 31.1**	**+4.6**
PYAG				AMS	AMS		
	comp=N,2μm,4.2s						
PYAG				AMS	AMS		
	comp=E,2μm,5.6s						
PYAG				AMS	AMS		
	comp=Z,2μm,3.6s						
SGCP	**Gonzaga**	**11.92**	**217**	⇓iP	**Pn**	**14 15 23.8**	**-2.9**
HHU	**Hamhung**	**11.98**	**353**	P	**Pn**	**14 15 28.9**	**+1.6**
DL2	**Dalian**	**12.69**	**331**	⇑iP	**Pn**	**14 15 40.1**	**+3.1**
DL2				pP	**P**	**14 15 47.2**	**-0.7**
DL2				S	Sn	14 18 11.2	+14
DL2				pmax	pmax		
	comp=Z,61nm,1.3s						
DL2				pmax	pmax		
	comp=Z,690nm,3.7s						
DL2				LR	LR		
	comp=Z,12μm,13.7s						
DL2				LR	LR		
	comp=Z,7μm,16.9s						
DL2				LR	LR		
	comp=Z,14μm,15.1s						
SUJ	**Sinuiju**	**12.74**	**342**	P	**Pn**	**14 15 40.5**	**+2.7**
SUJ				pP	**P**	**14 15 48.0**	**-0.6**
SUJ				S	**Sn**	**14 17 52.7**	**-5.9**
SUJ				AMS	AMS		
	comp=N,3μm,2.8s						
SUJ				AMS	AMS		
	comp=E,9μm,8.2s						
SUJ				AMS	AMS		
	comp=Z,5μm,5.0s						
CAUP	**Cauayan**	**13.12**	**214**	⇑eP	**Pn**	**14 15 43.2**	**0.0**
TIA	**Tai'an**	**13.29**	**311**	P	**Pn**	**14 15 49.2**	**+3.8**
TIA				S	**S**	**14 18 27.8**	**-8.1**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TIA				pmax	pmax		
	comp=Z,770nm,4.4s						
TIA				LR	LR		
	comp=Z,5μm,13.5s						
TIA				LR	LR		
	comp=Z,7μm,11.4s						
TIA				LR	LR		
	comp=Z,11μm,12.8s						
WHN	**Wuhan**	**13.48**	**284**	⇓P	**Pn**	**14 15 52.1**	**+4.2**
WHN				sP	**P**	**14 15 59.5**	**+2.7**
WHN				S	Sn	14 18 27.8	+11
WHN				pmax	pmax		
	comp=Z,310nm,1.4s						
WHN				LR	LR		
	comp=Z,5μm,6.2s						
WHN				LR	LR		
	comp=Z,17μm,11.8s						
WHN				LR	LR		
	comp=Z,19μm,14.1s						
SAMP	**Sagada Mountai**	**13.49**	**218**	⇑eP	**Pn**	**14 15 46.5**	**-1.6**
SMPP	**San Manuel, Pa**	**14.38**	**217**	⇑eP	**Pn**	**14 15 57.7**	**-2.6**
SNY	**Shenyang**	**14.60**	**342**	⇑P	**Pn**	**14 16 05.5**	**+2.4**
SNY				S	**S**	**14 18 57.8**	**-4.6**
SNY				pmax	pmax		
	comp=Z,110nm,1.3s						
SNY				pmax	pmax		
	comp=Z,3μm,3.8s						
SNY				LR	LR		
	comp=Z,13μm,14.4s						
SNY				LR	LR		
	comp=Z,8μm,11.5s						
SNY				LR	LR		
	comp=Z,20μm,13.6s						
JCNP	**Jose Panganiba**	**15.08**	**206**	⇓eP	**Pn**	**14 16 09.6**	**-0.1**
VLA	**Vladivostok**	**15.18**	**7**	iP	**P**	**14 16 14.7**	**-0.9**
HNS	**HongShan**	**15.57**	**311**	⇑P	**Pn**	**14 16 17.9**	**+1.9**
HNS				pP	**pP**	**14 16 26.9**	**-0.9**
HNS				PP	**sP**	**14 16 31.1**	**-0.5**
HNS				S	**S**	**14 19 21.4**	**-0.9**
HNS				sS	sS	14 19 24.4	-10
HNS				SS	**SnSn**	**14 19 31.8**	**+11**
HNS				pmax	pmax		
	comp=Z,130nm,1.2s						
HNS				LR	LR		
	comp=Z,4μm,14.1s						
HNS				LR	LR		
	comp=Z,8μm,13.8s						
HNS				LR	LR		
	comp=Z,9μm,13.8s						
JTM	**Tenmabayashi**	**15.87**	**34**	P	**Pn**	**14 16 21.0**	**+1.1**
LYN	**LuoYang**	**15.96**	**298**	⇓P	**P**	**14 16 23.3**	**-1.0**
LYN				pP	pP	14 16 27.1	-5.1
LYN				S	**S**	**14 19 25.4**	**-4.9**
LYN				pmax	pmax		
	comp=Z,70nm,1.4s						
LYN				pmax	pmax		
	comp=Z,620nm,4.7s						
LYN				LR	LR		
	comp=Z,4μm,18.6s						
LYN				LR	LR		
	comp=Z,4μm,20.6s						
MACP	**Maragondon, Ca**	**15.96**	**213**	⇓iP	P	14 16 34.2	+10
CN2	**Changchun**	**16.08**	**349**	eP	**P**	**14 16 24.4**	**-1.2**
CN2				PP	**sP**	**14 16 37.4**	**+0.1**
CN2				S	**Sn**	**14 19 21.6**	**+1.8**
CN2				pmax	pmax		
	comp=Z,50nm,1.6s						
CN2				pmax	pmax		
	comp=Z,780nm,5.0s						
CN2				LR	LR		
	comp=Z,15μm,14.0s						
CN2				LR	LR		
	comp=Z,6μm,14.0s						
CN2				LR	LR		
	comp=Z,15μm,14.0s						
BOAC	**Boac**	**16.17**	**208**	⇑eP	**Pn**	**14 16 24.6**	**+0.7**
USA0B	**Ussuriysk Arra**	**16.26**	**6**	iP	**P**	**14 16 27.4**	**-0.2**
USA0B	**Ussuriysk Arra**	**16.26**	**6**	Pn	**Pn**	**14 16 25.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**16.26**	**6**	Pn	**Pn**	**14 16 25.6**	**+0.8**
	baz=185,slow=9.6,SNR=14						
USRK				LR	LR	14 22 25.4	
	comp=Z,4μm,21.1s,baz=173,slow=36						
USRK	**Ussuriysk Ar.**	**16.26**	**6**	P	**P**	**14 16 26.6**	**-1.0**
USRK	**Ussuriysk Ar.**	**16.26**	**6**		**P**	**14 16 26.6**	**-1.0**
BJI	**Beijing**	**16.29**	**321**	P	**P**	**14 16 27.2**	**-0.7**
BJI				pP	**pP**	**14 16 33.7**	**-2.1**
BJI				PP	**sP**	**14 16 40.3**	**+0.7**
BJI				pmax	pmax		
	comp=Z,220nm,1.4s						
BJI				pmax	pmax		
	comp=Z,3μm,6.1s						
BJI				LR	LR		
	comp=Z,5μm,16.4s						
BJI				LR	LR		
	comp=Z,3μm,16.5s						
BJI				LR	LR		
	comp=Z,5μm,17.5s						
PGP	**Puerto Galera**	**16.52**	**211**	⇓eP	**Pn**	**14 16 28.3**	**0.0**
MDJ	**Mudanjiang**	**16.55**	**0**	P	**P**	**14 16 31.6**	**+0.7**
MDJ				PP	**sP**	**14 16 42.1**	**-0.3**
MDJ				sP	pP	14 16 45.8	+7.2
MDJ				S	**S**	**14 19 40.0**	**-2.4**
MDJ				SS	**SnSn**	**14 19 55.0**	**+10**
MDJ				pmax	pmax		
	comp=Z,16nm,1.2s						
MDJ				LR	LR		
	comp=Z,5μm,13.7s						
MDJ				LR	LR		
	comp=Z,3μm,12.4s						
MDJ				LR	LR		
	comp=Z,7μm,15.1s						
MDJ	**Mudanjiang**	**16.55**	**0**	P	**P**	**14 16 32.3**	**+1.4**
	comp=Z,91nm,1.9s						
LUBP	**Lubang**	**16.65**	**213**	⇑eP	**Pn**	**14 16 30.1**	**+0.2**
TIY	**Taiyuan**	**17.28**	**308**	P	**P**	**14 16 41.2**	**+2.1**
TIY				S	**S**	**14 19 58.2**	**+0.7**
TIY				SS	Sn	14 20 20.2	+31
TIY				pmax	pmax		
	comp=Z,85nm,0.9s						
TIY				pmax	pmax		
	comp=Z,1μm,4.3s						
TIY				LR	LR		
	comp=Z,8μm,15.1s						
TIY				LR	LR		
	comp=Z,8μm,13.1s						
TIY				LR	LR		
	comp=Z,12μm,14.4s						
GULI	**GuiLin**	**17.34**	**265**	⇓P	**P**	**14 16 46.9**	**+7.1**
GULI				S	**Sn**	**14 19 50.4**	**-0.4**
GULI				pmax	pmax		
	comp=Z,20nm,1.8s						
GULI				LR	LR		
	comp=N,5μm,12.8s						
GULI				LR	LR		
	comp=E,3μm,11.4s						
GULI				LR	LR		
	comp=Z,5μm,22.8s						
SJMP	**San Jose**	**17.37**	**209**	⇑eP	**P**	**14 16 40.0**	**-0.1**
OCLP	**Ormoc**	**17.51**	**196**	⇑eP	**P**	**14 16 44.5**	**+2.8**
RCP	**Roxas**	**17.57**	**203**	⇑eP	**P**	**14 16 43.2**	**+0.8**
ENH	**Enshi**	**17.65**	**282**	P	**P**	**14 16 44.2**	**+1.1**
BNX	**BinXian**	**17.76**	**355**	⇓P	**P**	**14 16 44.0**	**-0.2**
BNX				pP	**pP**	**14 16 49.0**	**-2.9**
BNX				PP	**sP**	**14 16 58.5**	**+2.8**
BNX				S	**S**	**14 20 05.8**	**-1.1**
BNX				sS	**sS**	**14 20 18.3**	**-0.7**
BNX				pmax	pmax		
	comp=Z,26nm,1.2s						
BNX				pmax	pmax		
	comp=Z,710nm,4.9s						
BNX				LR	LR		
	comp=Z,7μm,15.7s						
BNX				LR	LR		
	comp=Z,2μm,13.3s						
BNX				LR	LR		
	comp=Z,9μm,17.9s						
ERM	**Erimo**	**17.84**	**35**	ceP	**Pn**	**14 16 42.7**	**-1.8**
ERM				pmax	pmax		
	comp=Z,293nm,1.7s						
ERM	**Erimo**	**17.84**	**35**	P	**Pn**	**14 16 44.5**	**0.0**
ERM	**Erimo**	**17.84**	**35**	P	**P**	**14 16 46.8**	**+1.8**
MSLP	**Maasin**	**18.34**	**195**	⇓iP	**Pn**	**14 16 53.1**	**+2.2**
XAN	**Xi'an**	**18.63**	**294**	P	**Pn**	**14 16 55.1**	**+0.7**
XAN				PP	sP	14 17 15.7	+10
XAN				S	**S**	**14 20 24.1**	**-0.6**
XAN				pmax	pmax		
	comp=Z,46nm,1.3s						
XAN				pmax	pmax		
	comp=Z,990nm,5.4s						
XAN				LR	LR		
	comp=Z,4μm,13.5s						
XAN				LR	LR		
	comp=Z,6μm,14.9s						
XAN				LR	LR		
	comp=Z,10μm,14.4s						
CUYO	**Cuyo Island**	**18.87**	**207**	⇑eP	**P**	**14 16 52.1**	**-4.5**
TBP	**Tagbilaran**	**19.01**	**197**	⇓iP	**Pn**	**14 16 59.5**	**+0.5**
TBP				iS	**S**	**14 20 39.2**	**+6.9**
XLT	**XiLinHaoTe**	**19.17**	**329**	eP	**P**	**14 16 59.5**	**-0.4**
XLT				pP	pP	14 17 07.7	-0.1
XLT				sP	sP	14 17 12.1	+0.6
XLT				S	**Sn**	**14 20 34.8**	**-0.1**
XLT				sS	sS	14 20 44.3	-3.6
XLT				pmax	pmax		
	comp=Z,140nm,1.1s						
XLT				pmax	pmax		
	comp=Z,940nm,5.4s						
XLT				LR	LR		
	comp=Z,8μm,14.7s						
XLT				LR	LR		
	comp=Z,9μm,16.8s						
XLT				LR	LR		
	comp=Z,13μm,15.6s						
ASAJ	**Asahikawa**	**19.18**	**30**	P	**P**	**14 16 58.5**	**-1.3**
	comp=Z,7.1nm,0.3s,baz=216,slow=11,SNR=19						
ASAJ				LR	LR	14 24 28.6	
	comp=Z,6μm,21.1s,baz=245,slow=37						
JKA	**Kamikawa-asahi**	**19.18**	**30**	P	**P**	**14 16 56.4**	**-3.4**
JKA				IAmb	IAmb	14 17 14.5	
	comp=Z,213nm,1.0s						
CNOP	**Candoni, Negro**	**19.23**	**201**	⇑eP	**Pn**	**14 17 02.1**	**+0.4**
ENPP	**El Nido**	**19.23**	**211**	⇓iP	**Pn**	**14 17 02.0**	**+0.3**
BUTP	**Butuan**	**19.32**	**192**	⇓iP	**P**	**14 16 57.8**	**-3.8**
HHC	**Hu-ho-hao-te**	**19.52**	**316**	eP	**P**	**14 17 04.3**	**+0.5**
HHC				pP	pP	14 17 12.8	+1.1
HHC				S	**Sn**	**14 20 43.4**	**0.0**
HHC				sS	sS	14 20 53.8	-1.3
HHC				pmax	pmax		
	comp=Z,290nm,1.2s						
HHC				pmax	pmax		
	comp=Z,1μm,7.2s						
HHC				LR	LR		
	comp=Z,5μm,14.7s						
HHC				LR

GUMO LR LR 14 23 33.6
comp=Z,3μm,20.6s,baz=318,slow=32
GYA Guiyang 20.39 271⇑ *i*P Pn 14 17 14.9 -0.6
GYA pP sP 14 17 25.5 +0.5
GYA S **S** **14 20 59.3 -1.0**
GYA sS pS 14 21 18.7 +3.0
GYA pmax pmax
comp=Z,120nm,1.2s
GYA pmax pmax
comp=Z,810nm,3.8s
GYA LR LR
comp=Z,4μm,10.5s
GYA LR LR
comp=Z,8μm,14.0s
GYA LR LR
comp=Z,9μm,14.3s
YUK Yuzh-Kuril'sk 20.66 35*c* *i*P **P** **14 17 16.0 0.0**
YUK *i* 14 17 33.6
YUK *i* S **S** **14 21 06.9 +1.6**
YUK *i* SS **SnSn** **14 21 26.8 +1.2**
YUK pmax pmax
comp=Z,767nm,1.6s
YUK pmax pmax
comp=E,951nm,1.3s
YUK pmax pmax
comp=N,729nm,0.9s
PAGZ Pagadian 20.90 197⇑ *e*P **P** **14 17 18.2 -0.5**
DAV Davao City (W) 21.18 191 P **P** **14 17 22.2 +0.5**
comp=N,131nm,0.3s,baz=26,slow=9.2,SNR=2.2
DAV LR LR 14 27 06.4
comp=N,5μm,18.0s,baz=44,slow=41
DAV Davao City (W) 21.18 191 IAMs_20 IAMs_20 14 26 55.4
comp=Z,6μm,18.0s
MATI Mati 21.20 189⇓ *i*P **P** **14 17 21.4 -0.6**
KLR Kul'dur 21.24 4 P **P** **14 17 19.9 -2.2**
comp=Z,25nm,0.8s,baz=183,slow=8.8,SNR=63
KLR LR LR 14 25 56.6
comp=Z,3μm,18.2s,baz=180,slow=38
KLR Kul'dur 21.24 4 *i*P **P** **14 17 20.1 -2.0**
KLR pmax pmax
comp=Z,43nm,1.1s
KCP Kidapawan 21.33 192⇓ *e*P **P** **14 17 22.8 -0.6**
YSS Yuzh-Sakhalins 21.55 25 *e*P **P** **14 17 26.6 +1.1**
YSS *e* 14 17 38.2
YSS *e* 14 17 47.9
YSS *e*S **S** **14 21 25.5 +2.7**
YSS pmax pmax
comp=Z,2μm,1.8s
YSS pmax pmax
comp=Z,510nm,1.2s
YSS smax smax
comp=N,40nm,2.5s
YSS smax smax
comp=E,60nm,2.0s
YSS Yuzh-Sakhalins 21.55 25 P **P** **14 17 24.9 -0.6**
YSS Yuzh-Sakhalins 21.55 25 P **P** **14 17 28.3 +2.8**
BATP Bataraza 22.10 212⇓ *i*P **P** **14 17 32.7 +1.1**
HIA Hailar 22.50 343 P **P** **14 17 36.6 +0.9**
HIA pmax pmax
comp=Z,47nm,1.1s
HIA MLR MLR
comp=Z,5μm,20.0s
HIA Hailar 22.50 343 P **P** **14 17 36.6 +0.9**
HIA Hailar 22.50 343 IAMs_20 IAMs_20 14 27 00.3
comp=Z,5μm,20.0s
KUR Kuril'sk 22.53 35*d* *i*P **P** **14 17 37.2 +1.2**
KUR *e*PPP PPP 14 18 10.3
KUR *e*S **S** **14 21 44.0 +2.8**
KUR *e*SS **SnSn** **14 22 11.3 +0.1**
KUR pmax pmax
comp=Z,3μm,1.9s
KUR pmax pmax
comp=N,317nm,1.5s
KUR pmax pmax
comp=E,227nm,1.5s
KUR pmax pmax
comp=Z,965nm,1.5s
KUR MLR MLR
comp=E,5μm,18.0s
KUR MLR MLR
comp=Z,4μm,18.0s
KUR MLR MLR
comp=N,2μm,16.0s
CD2 Chengdu 22.60 284 P **P** **14 17 36.8 -0.2**
CD2 pP pP 14 17 43.6 -1.4
CD2 S **S** **14 21 38.1 -4.9**
CD2 sS Sn 14 21 59.9 +2.4
CD2 pmax pmax
comp=N,170nm,1.0s
CD2 pmax pmax
comp=N,230nm,3.9s
CD2 LR LR
comp=N,9μm,13.3s
CD2 LR LR
comp=N,9μm,13.3s
UGL Uglegorsk 23.13 21 *e*P **P** **14 17 43.0 +0.8**
UGL *e*S **S** **14 21 55.9 +4.3**
UGL pmax pmax
comp=Z,3μm,3.2s
UGL pmax pmax
comp=Z,400nm,1.4s
UGL smax smax
comp=N,2μm,9.0s
UGL smax smax
comp=E,3μm,9.0s
UGL MLR MLR
comp=N,3μm,14.0s
UGL MLR MLR
comp=Z,4μm,16.0s
LZH Lanzhou 23.15 297 *e*P **P** **14 17 44.3 +1.5**
LZH pP pP 14 17 52.2 +1.3
LZH sP sP 14 17 58.6 +3.9
LZH PP **PnPn** **14 18 13.4 +4.8**
LZH S **S** **14 21 46.5 -6.1**
LZH sS pS 14 22 03.4 +2.2
LZH SS **SnSn** **14 22 40.5 +14**
LZH pmax pmax
comp=Z,81nm,1.3s
LZH pmax pmax
comp=Z,420nm,4.1s
LZH LR LR
comp=Z,4μm,11.9s
LZH LR LR
comp=Z,6μm,12.2s
LZH LR LR
comp=Z,5μm,12.7s
GRNR Gornyy 23.30 11⇑ *i*P **P** **14 17 43.2 -0.8**
GRNR *e*S **S** **14 21 56.1 +1.6**
GRNR pmax pmax
comp=N,5.0nm,0.9s
GRNR pmax pmax
comp=Z,7.0nm,0.9s
GRNR smax smax
comp=N,3.0nm,0.9s
GRNR MLR MLR
comp=N,3μm,16.0s
GRNR MLR MLR
comp=E,1μm,16.0s
GRNR MLR MLR
comp=Z,4μm,15.0s
KMI Kunming 24.11 269 ⇑P **P** **14 17 52.8 +0.6**
KMI pP pP 14 17 59.3 -1.4
KMI sP sP 14 18 05.1 +0.8
KMI S **S** **14 22 09.2 +0.8**
KMI sS pS 14 22 19.4 +1.9
KMI pmax pmax
comp=Z,250nm,1.1s
KMI pmax pmax
comp=Z,500nm,3.5s
KMI LR LR
comp=Z,4μm,16.3s
KMI LR LR
comp=Z,4μm,15.6s
KMI LR LR
comp=Z,5μm,14.9s
SLVN Son La 24.19 260 IAMs_20 IAMs_20 14 28 02.4
comp=Z,6μm,20.0s
SGSI Sangihe 24.51 190 P **P** **14 17 55.5 -0.1**
comp=Z,144nm,0.6s
PZH PanZhiHua 24.73 273 P **P** **14 17 56.4 -1.3**
PZH pP **pP** **14 18 03.8 -2.4**
PZH PP **PnPn** **14 18 33.8 +3.7**
PZH S **S** **14 22 15.6 -2.4**
PZH sS **sS** **14 22 33.6 +1.6**
PZH SS **SnSn** **14 23 14.0 +8.5**
PZH ScS **ScS** **14 28 56.7 -2.6**
PZH pmax pmax
comp=Z,90nm,1.2s
PZH pmax pmax
comp=Z,420nm,3.9s
PZH LR LR
comp=Z,10μm,19.1s
PZH LR LR
comp=Z,9μm,18.6s
PZH LR LR
comp=Z,5μm,15.7s
TYV Tymovskoe 24.88 20 *e*P **P** **14 17 59.4 +0.8**
TYV *e*S **S** **14 22 23.6 +3.8**
TYV pmax pmax
comp=Z,63nm,1.4s
TYV pmax pmax
comp=Z,2μm,6.1s
TYV smax smax
comp=E,9.0nm,1.3s
TYV smax smax
comp=N,400nm,6.4s
TYV smax smax
comp=E,1μm,6.4s
KKM Kota Kinabalu 25.25 212 P **P** **14 18 05.2 +2.8**
comp=E,120nm,1.7s
DLV T Lat 25.37 235 P **P** **14 18 06.0 +2.4**
comp=E,76nm,1.4s
ZEA Zeya 25.74 357 *e*P **P** **14 18 06.5 +0.1**
ZEA *e* 14 18 47.1
ZEA *e*S **S** **14 22 28.1 -5.3**
ZEA pmax pmax
comp=N,90nm,1.4s
ZEA pmax pmax
comp=Z,140nm,0.8s
ZEA pmax pmax
comp=Z,400nm,3.7s
ZEA smax smax
comp=N,300nm,6.0s
ZEA smax smax
comp=E,400nm,8.4s
ZEA MLR MLR
comp=E,1μm,15.0s
SPMM Sapulut 26.31 211 P **P** **14 18 12.0 0.0**
ULN Ulaanbaatar 26.41 325*ce*P **P** **14 18 12.1 -0.6**
ULN pmax pmax
comp=Z,41nm,1.3s
ULN Ulaanbaatar 26.41 325 P **P** **14 18 12.8 +0.1**
ULN Ulaanbaatar 26.41 325 P **P** **14 18 12.3 -0.5**
ULN Ulaanbaatar 26.41 325 IAMs_20 IAMs_20 14 29 57.7
comp=Z,3μm,19.0s
NKL Nikolayevsk 26.42 15 *e*P **P** **14 18 11.3 -1.2**
NKL pmax pmax
comp=N,4.0nm,0.9s
NKL pmax pmax
comp=Z,57nm,1.0s
NKL pmax pmax
comp=E,3.0nm,1.3s
NKL MLR MLR
comp=N,17nm,16.0s
NKL MLR MLR
comp=E,18nm,16.0s
NKL MLR MLR
comp=Z,4μm,16.0s
SONM Songino Array 26.73 324 P **P** **14 18 15.2 -0.4**
comp=Z,16nm,0.7s,baz=133,slow=11,SNR=46
SONM ScP **ScP** **14 25 18.4 +2.0**
comp=Z,0.2nm,0.4s,baz=177,slow=1.0,SNR=2.5
SONM LR LR 14 30 19.7
comp=Z,2μm,20.2s,baz=126,slow=40
SONM Songino Array 26.73 324 P **P** **14 18 16.4 +0.8**
SONM pmax pmax
comp=Z,93nm,1.3s
SONM Songino Array 26.73 324 P **P** **14 18 16.4 +0.8**
CIT Chita 26.78 338 *e*P **P** **14 18 15.2 -0.8**
CIT *e* 14 18 27.2
CIT *e* 14 19 07.2
CIT pmax pmax
comp=Z,98nm,1.9s
GTA Gaotai 27.08 302 ⇑P **P** **14 18 16.8 -2.0**
GTA PcP **PcP** **14 21 40.6 +1.2**
GTA S **S** **14 22 52.3 -2.8**
GTA sS sS 14 23 09.4 +0.3
GTA pmax pmax
comp=Z,240nm,6.5s
GTA LR LR
comp=Z,2μm,12.7s
GTA LR LR
comp=Z,5μm,13.1s
GTA LR LR
comp=Z,6μm,13.8s
TNTI Ternate 27.18 185 P **P** **14 18 18.5 -1.3**
comp=Z,2μmcomp=Z,113nm,1.3s
TNTI Ternate 27.18 185 P **P** **14 18 23.5 +3.7**
comp=Z,113nm,1.4s
GTOI Gorontalo 27.95 194 P **P** **14 18 24.7 -1.9**
comp=Z,238nmcomp=Z,18nm,1.4s
TOLI2 Tolitoli 28.05 199 IAMs_20 IAMs_20 14 28 48.5
comp=Z,3μm,21.0s
TOLI2 Tolitoli 28.05 199 P **P** **14 18 29.2 +1.7**
comp=Z,63nm,1.3s
MRSI Marisa 28.34 196 P **P** **14 18 29.3 -0.9**
comp=Z,799nmcomp=Z,30nm,1.7s
LBMI Labuha 28.57 184 P **P** **14 18 30.2 -2.0**
comp=Z,821nmcomp=Z,64nm,1.2s
SWI Sorong 28.78 176 P **P** **14 18 33.2 -0.8**
comp=Z,2μmcomp=Z,34nm,1.2s
SIJI Sorong 28.78 176 P **P** **14 18 33.0 -1.1**
comp=Z,11nm,0.8s,baz=360,slow=15,SNR=3.7
SIJI LR LR 14 29 18.1
comp=Z,4μm,19.5s,baz=12,slow=35
MPSI Mapaga 29.04 200 P **P** **14 18 35.6 -0.7**
comp=Z,534nmcomp=Z,24nm,1.1s
CHTO Chiang Mai 29.46 259 P **P** **14 18 39.4 -0.7**
CHTO pmax pmax
comp=Z,158nm,1.5s
CHTO MLR MLR
comp=Z,4μm,18.0s
CHTO Chiang Mai 29.46 259 P **P** **14 18 40.6 +0.5**
CHTO Chiang Mai 29.46 259 P **P** **14 18 39.4 -0.7**
CHTO IAmb IAmb 14 18 42.1
comp=Z,158nm,1.4s
CHTO Chiang Mai 29.46 259 IAMs_20 IAMs_20 14 31 40.8
comp=Z,4μm,18.0s
CHTO Chiang Mai 29.46 259 P **P** **14 18 40.2 +0.1**
comp=Z,43nm,1.3s
CM31 Chiang Mai Arr 29.60 258 P **P** **14 18 37.7 -3.7**
CMAR Chiang Mai Arr 29.60 258 P **P** **14 18 41.8 +0.4**
comp=Z,12nm,0.9s,baz=54,slow=7.6,SNR=94
CMAR PcP **PcP** **14 21 46.2 +0.4**
comp=Z,2.9nm,0.9s,baz=43,slow=2.3,SNR=5.5
CMAR ScP **ScP** **14 25 26.9 +1.2**
comp=Z,0.3nm,0.4s,baz=64,slow=2.1,SNR=2.5
CMAR LR LR 14 32 05.6
comp=Z,4μm,18.1s,baz=65,slow=40
CMAR Chiang Mai Arr 29.60 258 P **P** **14 18 39.1 -2.3**
BAKI Biak 29.73 167 P **P** **14 18 43.0 +0.5**
comp=Z,52nm,1.6s
APSI Ampana 29.75 196 P **P** **14 18 41.8 -0.9**
comp=Z,39nm,1.6s
ZAK Zakamensk 29.92 325 *e*P **P** **14 18 42.2 -1.8**
ZAK *e* 14 25 08.4
ZAK pmax pmax
comp=Z,12nm,1.1s
ZAK pmax pmax
comp=Z,6.0nm,1.6s
SANI Sanana 30.10 187 P **P** **14 18 42.7 -3.0**
comp=Z,815nmcomp=Z,54nm,1.1s
SANI Sanana 30.10 187 P **P** **14 18 44.3 -1.4**
comp=Z,55nm,1.1s
SKR Severo-Kuril's 30.28 34 *e*P **P** **14 18 44.9 -2.1**
SKR pmax pmax
comp=Z,200nm,14.8s
SKR MLR MLR
comp=Z,1μm,17.0s
SBUM Sibu 30.34 216 P **P** **14 18 48.0 +0.1**
GOMU GeErMu 30.38 294 P **P** **14 18 48.5 -0.1**
GOMU PcP **PcP** **14 21 48.9 +0.9**
GOMU S **S** **14 23 49.3 +1.7**
GOMU pmax pmax
comp=Z,14nm,0.9s
GOMU LR LR
comp=Z,890nm,14.7s
GOMU LR LR
comp=Z,1μm,14.6s
GOMU LR LR
comp=Z,1μm,14.5s
SRPI Serui, Papua 30.42 167 P **P** **14 18 47.1 -1.5**
comp=Z,6μmcomp=Z,64nm,0.5s
SMKI Samarinda 30.68 205 P **P** **14 18 50.9 0.0**
FAKI Fak Fak 30.88 175 P **P** **14 18 52.5 -0.1**
comp=Z,1μmcomp=Z,128nm,1.1s
FAKI Fak Fak 30.88 175 IAMs_20 IAMs_20 14 29 25.1
comp=Z,3μm,20.0s
SMPI Sarmi 31.13 162 P **P** **14 18 56.6 +1.8**
comp=Z,25nm,1.1s
MSAI Masohi 31.20 181 P **P** **14 18 56.3 +0.9**
comp=Z,8.7nm,1.3s
AAI Ambon 31.56 183 P P 14 18 52.5 -6.1
comp=Z,2μmcomp=Z,144nm,0.9s
BOD Bodaibo 31.71 344 *e*P **P** **14 18 58.9 -0.6**
BOD pmax pmax
comp=Z,23nm,1.2s
MOY Mondy 31.85 326 *e*P **P** **14 19 00.1 -0.9**
MOY pmax pmax
comp=Z,27nm,1.5s
MTKI Muara Teweh, K 32.05 208 P **P** **14 19 04.3 +1.4**
GENI Genyem 32.12 160 P **P** **14 19 04.7 +1.1**
comp=Z,35nm,1.7s
KSM Kuching 32.18 218 P **P** **14 19 05.0 +1.0**
KSM Kuching 32.18 218 P **P** **14 19 05.1 +1.0**
comp=Z,52nm,1.3s
JAY Jayapura 32.22 159 LR LR 14 32 35.9
comp=Z,2μm,18.0s,baz=352,slow=37
TTSI Tana Toraja 32.28 198 P **P** **14 19 02.6 -2.3**
comp=Z,19nm,1.3s
KDI Kendari 32.49 193 P P 14 19 11.5 +4.7
PEA0B Petropavlovsk- 32.56 32*ce*P **P** **14 19 06.8 -0.3**
PEA0B Petropavlovsk- 32.56 32 P **P** **14 19 05.2 -1.9**
PEA0B IAmb IAmb 14 19 08.4
comp=Z,91nm,1.1s
PETK Petropavlovsk- 32.56 32 P **P** **14 19 06.6 -0.5**
comp=Z,31nm,0.9s,baz=219,slow=11,SNR=19
PETK LR LR 14 31 53.4
comp=Z,3μm,21.6s,baz=230,slow=36
PET Petropavlovsk 32.96 33 *e*P **P** **14 19 08.5 -2.1**
PET *e* 14 20 23.5
PET *e*S **S** **14 24 26.3 -0.4**
PET *e*SS **SS** **14 26 50.6 +1.4**
PET pmax pmax
comp=Z,1μm,6.5s
PET pmax pmax
comp=Z,146nm,1.4s
PET pmax pmax
comp=Z,400nm,8.4s
PET MLR MLR
comp=Z,3μm,17.0s
PET Petropavlovsk 32.96 33 IAMs_20 IAMs_20 14 31 34.3
comp=Z,3μm,22.0s
PET Petropavlovsk 32.96 33 P **P** **14 19 11.2 +0.6**
comp=Z,421nm,1.5s
BNSI Bone 33.50 197 P **P** **14 19 12.9 -2.7**
comp=Z,12nm,1.2s
LSA Lhasa 33.55 282 P **P** **14 19 15.9 -0.7**
LSA pmax pmax
comp=Z,21nm,0.9s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 33.55 282 P **P** **14 19 16.9 +0.3**
LSA S **S** **14 24 33.4 -3.9**
LSA LR LR
comp=Z,3μm,12.6s
LSA LR LR
comp=Z,6μm,24.7s
LSA Lhasa 33.55 282 P **P** **14 19 15.9 -0.7**
LSA Lhasa 33.55 282 P **P** **14 19 17.3 +0.8**
SHL Shillong 33.60 275 P **P** **14 19 16.4 -0.3**
SNR=46
KBKI Kotabaru 33.70 205 P **P** **14 19 16.2 -1.2**
comp=Z,33nm,1.2s
YAK Yakutsk 34.00 0 LR LR 14 33 38.5
comp=Z,2μm,18.2s,baz=164,slow=37
YAK Yakutsk 34.00 0*d* *i*P **P** **14 19 18.6 -0.9**
YAK *e**PP **pP** **14 19 28.2 +0.1**
YAK *e* 14 20 32.2
YAK *e*PPP PPP 14 20 44.4
YAK *e* 14 21 55.9
YAK *e*S **S** **14 24 42.3 -0.3**
YAK *e**SS **sS** **14 24 58.5 +1.6**
YAK *e*SS **SnSn** **14 26 50.2 -0.2**
YAK *e* 14 29 38.4
YAK pmax pmax
comp=Z,160nm,1.3s
YAK pmax pmax
comp=N,95nm,1.3s
YAK pmax pmax
comp=E,28nm,1.4s
YAK pmax pmax
comp=Z,60nm,1.8s
YAK pmax pmax
comp=N,44nm,1.6s
YAK pmax pmax
comp=E,29nm,2.0s
YAK smax smax
comp=N,127nm,1.6s
YAK smax smax
comp=E,71nm,1.6s
YAK MLR MLR
comp=Z,2μm,19.0s
YAK MLR MLR
comp=N,1μm,20.0s
YAK MLR MLR
comp=E,1μm,16.0s
YAK Yakutsk 34.00 0 P **P** **14 19 17.3 -2.2**
YAK IAmb IAmb 14 19 19.9
comp=Z,114nm,0.9s
KAPI Kappang 34.18 198 LR LR 14 32 44.6
comp=Z,1μm,21.7s,baz=32,slow=35
BBKI Banjar Baru 34.36 207 P **P** **14 19 22.5 -0.6**
comp=Z,2μmcomp=Z,30nm,1.3s
BKSI Bulukumba 34.38 197 P **P** **14 19 20.2 -3.0**
comp=Z,18nm,1.1s
MA2 Magadan 34.74 19*ce*P **P** **14 19 24.8 -1.2**
MA2 pmax pmax
comp=Z,63nm,0.8s
MA2 Magadan 34.74 19 P **P** **14 19 24.7 -1.3**
MA2 IAmb IAmb 14 19 26.4
comp=Z,76nm,1.0s
MA2 IAMs_20 IAMs_20 14 34 50.1
comp=Z,2μm,19.0s
MA2 Magadan 34.74 19 P **P** **14 19 28.6 +2.6**
H11N2 WAKE ISLAND Hy 35.05 95 T T 14 56 45.3
baz=290,slow=74,SNR=340
H11N1 WAKE ISLAND Hy 35.05 95 T T 14 56 45.4
baz=290,slow=74,SNR=251
H11N3 WAKE ISLAND Hy 35.06 95 T T 14 56 46.6
baz=290,slow=74,SNR=342
BSSI Bau Bau, Buton 35.08 196 P P 14 19 40.1 +11
JRMM Jerantut 35.22 232 P **P** **14 19 32.0 +1.5**
H11S3 WAKE ISLAND Hy 35.32 97 T T 14 57 05.0
baz=290,slow=74,SNR=166
H11S1 WAKE ISLAND Hy 35.32 97 T T 14 57 07.3
baz=290,slow=74,SNR=77
H11S2 WAKE ISLAND Hy 35.34 97 T T 14 57 06.7
baz=290,slow=74,SNR=79
KULM Kulim 35.55 236 P **P** **14 19 35.0 +1.6**
MYKOM Kota Tinggi 35.82 228 P **P** **14 19 37.0 +1.3**
IPM Ipoh 35.83 234 P **P** **14 19 37.0 +1.2**
IPM Ipoh 35.83 234 P **P** **14 19 36.4 +0.6**
comp=Z,86nm,1.4s
WMQ Urumqi 36.93 307 *e*P **P** **14 19 45.5 +0.4**
WMQ pP pP 14 19 55.4 +1.6
WMQ sP sP 14 20 02.3 +4.9
WMQ pmax pmax
comp=Z,29nm,1.7s
WMQ pmax pmax
comp=Z,230nm,4.7s
WMQ LR LR
comp=Z,3μm,17.3s
WMQ LR LR
comp=Z,4μm,13.9s
WMQ LR LR
comp=Z,2μm,18.3s
MMRI Maumere 37.13 192 P P 14 19 55.2 +8.4
EDFI Ende, Flores 37.34 193 P **P** **14 19 46.2 -2.5**
comp=Z,247nmcomp=Z,14nm,1.2s
PPBI Pangkal Pinang 37.51 221 P **P** **14 19 50.6 +0.5**
SOEI Soe 37.91 188 P **P** **14 19 51.0 -2.5**
comp=Z,989nmcomp=Z,59nm,1.7s
SOEI Soe 37.91 188 P **P** **14 19 52.1 -1.4**
comp=Z,60nm,1.0s
SEY Seymchan 37.97 17 LR LR 14 37 19.7
comp=Z,3μm,18.2s,baz=184,slow=39
KMMI Kalianget 37.98 206 P P 14 20 07.6 +14

TSI Tuntungan 38.28 236 P **P 14 19 55.3 -1.3**
comp=Z,87nm,0.7s
GUN Gumba 38.39 280 *eP* **P 14 19 58.3 +0.4**
comp=Z,248nm,0.9s
BATI Baumata 38.43 189 P **P 14 19 55.4 -2.4**
comp=Z,31nm,0.7s,baz=253,slow=6.1,SNR=2.8
BATI LR LR 14 35 19.4
comp=Z,1μm,21.8s,baz=355,slow=36
BATI Baumata 38.43 189 P **P 14 19 54.1 -3.8**
comp=Z,28nm,1.0s
PSI Prapat 38.49 235 P **P 14 19 58.9 +0.3**
comp=Z,18nm,1.0s,baz=3.4,slow=3.7,SNR=2.9
PSI LR LR 14 35 28.1
comp=Z,957nm,21.8s,baz=43,slow=36
PSI Prapat 38.49 235 P **P 14 19 59.4 +0.8**
comp=Z,27nm,1.0s
JMBI JAMBI 38.58 224 P **P 14 20 00.5 +1.4**
comp=Z,112nm,0.7s
DGZ Jazzator, Alta 38.61 316 *i* P **P 14 19 57.8 -1.4**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
UWJI Ujung Watu 38.66 210 P **P 14 19 57.8 -2.0**
comp=Z,2μmcomp=Z,84nm,1.0s
WBSI Waikabubak, Su 38.71 196 P **P 14 19 59.7 -0.5**
comp=Z,43nm,1.3s
BLJI Banyuglugur 38.76 206 P **P 14 19 57.8 -2.8**
comp=Z,26nm,1.6s
RABL Rabaul 38.76 142 P **P 14 20 03.5 +2.9**
comp=Z,133nm,1.2s
BKNI Bangkinang 38.78 230 P **P 14 20 00.8 0.0**
comp=Z,239nm,1.2s
BKNI Bangkinang 38.78 230 P **P 14 20 02.7 +1.9**
comp=Z,240nm,1.2s
KCSI Kotacane, Aceh 38.85 237 P **P 14 20 00.1 -1.3**
comp=Z,23nm,1.2s
PKI Pulchoki 38.87 280 *eP* **P 14 20 01.2 -0.7**
comp=Z,315nm,0.9s
PKIN Phulchoki 38.88 280 *eP* **P 14 20 01.3 -0.6**
KKN Kakani 38.94 280 *eP* **P 14 20 02.1 -0.2**
DMN Daman 39.12 280 *eP* **P 14 20 03.6 -0.4**
comp=Z,290nm,1.1s
MNSI Mandailing Nat 39.43 232 P **P 14 20 06.2 -0.1**
comp=Z,936nmcomp=Z,60nm,1.0s
GKN Gorkha 39.45 281 *eP* **P 14 20 06.2 -0.4**
comp=Z,249nm,0.9s
TPTI 39.46 237 P **P 14 20 04.5 -2.0**
comp=Z,8.1nm,1.3s
ZSN Zaisan 39.64 312 *eP* **P 14 20 05.9 -1.8**
ZSN Zaisan 39.64 312 *eP* **P 14 20 05.9 -1.8**
baz=312
PPI Padang Panjang 39.78 230 P **P 14 20 10.2 +1.0**
comp=Z,652nmcomp=Z,34nm,1.0s
PCJI Pacitan 40.15 209 P **P 14 20 12.1 -0.1**
comp=Z,54nm,1.2s
DANN Dangsing 40.15 282 *eP* **P 14 20 12.4 -0.1**
comp=Z,181nm,0.8s
UGM Wanagama 40.18 210 P **P 14 20 12.5 0.0**
comp=Z,218nm,1.8s
UGM Wanagama 40.18 210 P **P 14 20 14.5 +2.0**
comp=Z,219nm,1.8s
DRS Darwin Rock St 40.24 178 P **P 14 20 17.1 +4.2**
comp=Z,31nm,0.9s
KRJI Kerinci 40.31 227 P **P 14 20 14.6 +0.9**
comp=Z,11μmcomp=Z,180nm,1.4s
KLSI 40.37 220 P **P 14 20 15.2 +1.1**
comp=Z,562nmcomp=Z,30nm,1.4s
LHSI Lahat 40.38 222 P **P 14 20 15.7 +1.6**
comp=Z,2μmcomp=Z,82nm,1.2s
KOLN Koldanda 40.40 281 *eP* **P 14 20 14.1 -0.4**
KLI Kotabumi 40.44 220 P **P 14 20 14.7 +0.1**
comp=Z,117nm,0.6s
GSI Gunungsitoli 40.50 235 P **P 14 20 14.8 -0.3**
comp=Z,2μmcomp=Z,76nm,1.6s
GSI Gunungsitoli 40.50 235 P **P 14 20 12.9 -2.2**
GSI IAmb IAmb 14 20 16.0
comp=Z,86nm,1.1s
GSI IAMs_20 IAMs_20 14 35 56.6
comp=Z,2μm,22.0s
GSI Gunungsitoli 40.50 235 P **P 14 20 15.4 +0.3**
comp=Z,76nm,1.6s
MDSI Maura Dua 40.52 221 P **P 14 20 16.2 +0.9**
comp=Z,699nmcomp=Z,21nm,0.9s
LEM Lembang 40.60 215 LR LR 14 37 00.4
comp=Z,741nm,21.6s,baz=18,slow=36
LEM Lembang 40.60 215 P **P 14 20 17.3 +1.1**
comp=Z,1μmcomp=Z,54nm,1.3s
MASI Maura Aman, Be 40.62 225 P **P 14 20 17.2 +1.0**
comp=Z,11μmcomp=Z,4μmcomp=Z,231nm,1.5s
CBJI Citeko 40.65 216 P **P 14 20 19.0 +2.6**
comp=Z,114nm,1.1s
MTN Manton Dam 40.66 178 P **P 14 20 15.4 -1.0**
comp=Z,116nm,1.0s
SBJI Serang 40.78 217 P **P 14 20 17.9 +0.5**
comp=Z,6μmcomp=Z,174nm,1.2s
DBJI Dramaga 40.82 216 P **P 14 20 19.0 +1.3**
comp=Z,112nm,1.3s
PYUN Piuthan 40.86 281 *eP* **P 14 20 18.4 0.0**
comp=Z,156nm,1.0s
PMG Port Moresby 40.94 153 P **P 14 20 18.8 +0.1**
comp=Z,32nm,0.9s
PMG LR LR 14 35 02.5
comp=Z,2μm,20.9s,baz=320,slow=33
PMG Port Moresby 40.94 153 IAMs_20 IAMs_20 14 34 51.5
comp=Z,2μm,21.0s
PMG Port Moresby 40.94 153 P **P 14 20 19.8 +1.1**
comp=Z,63nm,1.2s
LWLI Liwa 41.02 221 P **P 14 20 19.4 -0.2**
comp=Z,70μmcomp=Z,76nm,0.9s
MK31 Makanchi Array 41.23 310 P **P 14 20 19.4 -1.5**
MK31 pmax pmax
comp=Z,13nm,0.9s
MK31 Makanchi Array 41.23 310 P **P 14 20 19.4 -1.5**
MKAR Makanchi Array 41.23 310 P **P 14 20 19.7 -1.2**
comp=Z,4.1nm,0.5s,baz=97,slow=10,SNR=35
MKAR PcP **PcP 14 22 19.4 -0.1**
comp=Z,12nm,0.9s,baz=89,slow=5.0,SNR=5.4
MKAR ScP **ScP 14 26 07.2 -0.1**
comp=Z,2.7nm,1.0s,baz=108,slow=4.0,SNR=4.3
MKAR LR LR 14 39 06.8
comp=Z,2μm,18.3s,baz=96,slow=39
MKAR Makanchi Array 41.23 310 P **P 14 20 18.8 -2.1**
CNJI Cibinong 41.26 215 P **P 14 20 20.6 -0.8**
comp=Z,57nm,1.4s
SISI Saibi 41.30 230 P **P 14 20 21.1 -0.7**
comp=Z,620nmcomp=Z,32nm,1.2s
CGJI Cibinong 41.42 217 P **P 14 20 21.6 -1.1**
comp=Z,806nmcomp=Z,34nm,1.3s
MAKZ Makanchi 41.45 310 P **P 14 20 21.4 -1.2**
MAKZ pmax pmax
comp=Z,15nm,0.9s
MAKZ MLR MLR
comp=Z,2μm,18.0s
MAKZ Makanchi 41.45 310 P **P 14 20 21.4 -1.2**
MAKZ IAMs_20 IAMs_20 14 39 19.9
comp=Z,2μm,18.0s
ZAA0 Zalesovo Array 41.54 321 P **P 14 20 22.6 -0.7**
ZALV Zalesovo Beam 41.54 321 P **P 14 20 21.4 -1.9**
comp=Z,13nm,0.6s,baz=111,slow=8.7,SNR=50
ZALV PcP **PcP 14 22 19.4 -0.9**
comp=Z,18nm,1.0s,baz=122,slow=2.9,SNR=5.6
ZALV ScP **ScP 14 26 08.5 +0.2**
comp=Z,1.7nm,0.8s,baz=330,slow=2.4,SNR=3.6
ZALV Zalesovo Beam 41.54 321 *i* P **P 14 20 21.3 -2.0**
ZALV pmax pmax
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 41.54 321 P **P 14 20 21.8 -1.5**
CHLP Challavanipeta 42.63 267 *eP* **P 14 20 33.5 +0.9**
SHLS Shalkode 42.79 304 *eP* P 14 20 29.0 -4.8
SHLS Shalkode 42.79 304 *eP* **P 14 20 29.1 -4.7**
baz=304
UZB Uzynbulak 43.11 304 *eP* **P 14 20 34.7 -1.7**
UZB pmax pmax
comp=Z,27nm,1.6s
UZB Uzynbulak 43.11 304 *eP* **P 14 20 34.8 -1.7**
comp=Z,27nm,1.6s,baz=304
SEM Semipalatinsk 43.26 315 *eP* **P 14 20 34.6 -3.0**
SEM Semipalatinsk 43.26 315 *eP* **P 14 20 34.7 -3.0**
baz=315
KNRA Kununurra 43.45 181 P **P 14 20 36.1 -3.1**
KNRA IAmb IAmb 14 20 47.6
comp=Z,122nm,0.9s
KNRA Kununurra 43.45 181 P **P 14 20 39.2 +0.1**
comp=Z,134nm,1.2s
ZHN Zhinishke 43.54 304 *eP* **P 14 20 38.4 -1.4**
ZHN *e*S **S 14 27 06.0 -1.1**
ZHN Zhinishke 43.54 304 *eP* **P 14 20 38.5 -1.4**
baz=304
ZHN *e*S **S 14 27 06.1 -1.1**
baz=304
SATY Saty 43.55 304 *eP* **P 14 20 38.0 -2.0**
SATY Saty 43.55 304 *eP* **P 14 20 38.1 -2.0**
baz=304
TIXI Tiksi 43.66 360 P **P 14 20 39.0 -1.3**
comp=Z,16nm,0.7s,baz=169,slow=5.0,SNR=5.1
TIXI PcP **PcP 14 22 26.6 -0.4**
comp=Z,12nm,1.2s,baz=142,slow=3.5,SNR=3.3
TIXI LR LR 14 40 11.7
comp=Z,2μm,18.2s,baz=182,slow=38
TIXI Tiksi 43.66 360*ce*P **P 14 20 38.3 -2.0**
TIXI pmax pmax
comp=Z,32nm,1.0s
TIXI Tiksi 43.66 360 P **P 14 20 39.4 -0.9**
TIXI IAMs_20 IAMs_20 14 40 50.8
comp=Z,2μm,20.0s
TDK Taldyqorghan 43.69 307 *eP* **P 14 20 38.8 -2.1**
TDK pmax pmax
comp=Z,94nm,2.1s
TDK Taldyqorghan 43.69 307 *eP* **P 14 20 38.8 -2.1**
comp=Z,94nm,2.1s,baz=307
COEN Coen 43.78 161 P **P 14 20 44.0 +2.1**
comp=Z,44nm,1.3s
TARG Taragay, Kyrgy 43.95 302 P **P 14 20 43.8 +0.2**
TARG IAmb IAmb 14 21 01.2
comp=Z,37nm,0.8s
ARXS Arharly 44.04 306 *eP* **P 14 20 43.1 -0.7**
KURK Kurchatov 44.34 315*ce*P **P 14 20 44.4 -1.6**
KURK pmax pmax
comp=Z,48nm,1.7s
KURK Kurchatov 44.34 315 P **P 14 20 44.9 -1.1**
KURK Kurchatov 44.34 315 P **P 14 20 44.8 -1.1**
KURBB Kurchatov Arra 44.38 315 P **P 14 20 43.7 -2.6**
comp=Z,6.4nm,0.4s,baz=100,slow=9.2,SNR=3.0
KURBB PcP **PcP 14 22 29.8 -0.1**
comp=Z,5.1nm,1.0s,baz=96,slow=2.4,SNR=1.9
KURBB LR LR 14 40 57.5
comp=Z,3μm,19.0s,baz=83,slow=38
KURBB Kurchatov Arra 44.38 315 P **P 14 20 44.5 -1.8**
MDOK Medeo 44.55 304 *eP* **P 14 20 46.7 -1.3**
MDOK Medeo 44.55 304 *eP* **P 14 20 46.8 -1.3**
baz=304
TNSS Tian-Shan 44.62 304 *eP* **P 14 20 47.2 -1.7**
baz=304
CHKK Chushkaly 44.62 305 *eP* **P 14 20 47.3 -1.1**
baz=305
KUU Kurty 45.09 305 *eP* **P 14 20 50.1 -2.1**
KUU pmax pmax
comp=Z,78nm,2.0s
KUU Kurty 45.09 305 *eP* **P 14 20 50.2 -2.1**
comp=Z,78nm,2.0s,baz=305
PVM Polavaram 45.24 267 *eP* **P 14 20 54.4 +0.8**
PVM *ep*P **pP 14 21 00.5 -2.0**
KST Kastek 45.34 304 *eP* **P 14 20 52.8 -1.5**
baz=304
BOOM Boomskoye usch 45.35 303 P **P 14 20 54.2 -0.2**
BOOM pmax pmax
comp=Z,7.0nm,0.8s
BOOM Boomskoye usch 45.35 303 P **P 14 20 54.2 -0.2**
KSH Kashi 45.37 299 P **P 14 20 57.7 +3.1**
KSH S **S 14 27 39.6 +5.8**
KSH SS **ScS 14 30 52.3 +3.0**
KSH pmax pmax
comp=Z,17nm,1.4s
KSH pmax pmax
comp=Z,190nm,3.8s
KSH LR LR
comp=Z,3μm,16.0s
KSH LR LR
comp=Z,3μm,14.6s
KSH LR LR
comp=Z,2μm,16.0s
BILL Bilibino 45.60 18*d* P **P 14 20 55.5 -0.3**
BILL *i* *PP **pP 14 21 05.8 +1.2**
BILL *i* S **S 14 27 38.9 +2.7**
BILL *e*SS **SS 14 30 57.1 -2.9**
BILL *e*SSS SSS 14 31 57.8
BILL pmax pmax
comp=Z,271nm,1.3s
BILL MLR MLR
comp=Z,1μm,17.0s
BILL Bilibino 45.60 18 P **P 14 20 56.6 +0.7**
BILL IAMs_20 IAMs_20 14 40 07.2
comp=Z,2μm,20.0s
TKM2 Tokmak 2 45.61 304 P **P 14 20 56.7 +0.1**
SNR=34
TKM2 Tokmak 2 45.61 304 *i* P **P 14 20 56.2 -0.3**
TKM2 pmax pmax
comp=Z,30nm,0.9s
FITZ Fitzroy Crossi 46.01 185 P **P 14 20 59.3 -0.2**
comp=Z,12nm,0.7s,baz=12,slow=7.6,SNR=32
FITZ LR LR 14 41 04.2
comp=Z,331nm,21.7s,baz=26,slow=37
KBK Karagaybulak 46.09 303 P **P 14 21 00.2 0.0**
SNR=13
CHMS Chumysh 46.23 304 P **P 14 21 00.9 -0.2**
SNR=11
MYLAV Mylavaram 46.31 267 *eP* **P 14 21 03.1 +1.0**
MYLAV *ep*P **pP 14 21 09.5 -1.4**
SGDS Sogindy 46.32 305 *eP* **P 14 21 00.5 -1.4**
baz=305
UCH Uchtor 46.41 303 P **P 14 21 03.8 +0.7**
SNR=31
USP Ospenovka 46.42 304 P **P 14 21 02.2 -0.4**
SNR=6.8
USP Ospenovka 46.42 304 P **P 14 21 02.6 -0.1**
USP pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 46.42 303 P **P 14 21 01.1 -1.8**
comp=Z,2.3nm,0.4s,baz=104,slow=8.3,SNR=1.5
AAK LR LR 14 43 30.4
comp=Z,1μm,18.0s,baz=84,slow=40
AAK Ala-Archa 46.42 303 P **P 14 21 02.6 -0.2**
SNR=15
AAK Ala-Archa 46.42 303 *i* P **P 14 21 02.3 -0.5**
AAK pmax pmax
comp=Z,12nm,0.5s
AAK Ala-Archa 46.42 303 P **P 14 21 02.6 -0.2**
AAK Ala-Archa 46.42 303 P **P 14 21 02.8 -0.1**
AAK Ala-Archa 46.42 303 IAMs_20 IAMs_20 14 43 18.5
comp=Z,1μm,18.0s
AAK Ala-Archa 46.42 303 *i* P **P 14 21 02.4 -0.4**
SNR=20
RPR Rampur 46.71 270 *eP* **P 14 21 06.1 +0.9**
RPR *ep*P **pP 14 21 12.0 -2.1**
AML Almayashu 47.02 303 P **P 14 21 08.1 +0.3**
SNR=12
AML Almayashu 47.02 303 P **P 14 21 07.5 -0.3**
AML Almayashu 47.02 303 *i* P **P 14 21 07.8 0.0**
SNR=14
ADKI Addanki 47.25 266 *eP* **P 14 21 11.2 +1.8**
ADKI *ep*P **pP 14 21 16.4 -1.9**
HNR Honiara 47.47 137 LR LR 14 38 42.9
comp=Z,586nm,21.9s,baz=311,slow=33
SRSP Sriramsagar 47.52 271 *eP* **P 14 21 12.4 +0.8**
SRSP *ep*P **pP 14 21 17.5 -2.9**
NJS Nagarjunasagar 47.56 267 *eP* **P 14 21 12.4 +0.6**
NJS *ep*P **pP 14 21 18.3 -2.4**
CUPL Choutuppal 47.62 268 *eP* **P 14 21 12.9 +0.6**
CUPL *ep*P **pP 14 21 19.3 -1.9**
ATKA Atka Island 47.89 44 P **P 14 21 13.9 0.0**
comp=Z,204nm,1.2s
HYBB Hyderabad (bro 47.89 269 *eP* **P 14 21 15.1 +0.6**
HYBB *ep*P **pP 14 21 20.7 -2.7**
HYBB *e*PcP **PcP 14 22 43.7 +0.9**
HYBB *e*PP **PP 14 23 08.9 +2.3**
HYBB *e*ScP **ScP 14 26 34.8 -0.3**
HYBB *e*S **S 14 28 10.0 -0.1**
HYBB *e*ScS **ScS 14 31 06.1 -0.1**
NRIK Noril'sk 47.91 341 P **P 14 21 12.8 -1.1**
comp=Z,102nm,0.9s,baz=120,slow=8.1,SNR=89
NRIK PcP **PcP 14 22 41.9 0.0**
comp=Z,17nm,0.8s,baz=101,slow=5.2,SNR=1.7
NRIK LR LR 14 43 11.3
comp=Z,4μm,18.0s,baz=130,slow=38
NRIK Noril'sk 47.91 341*ce*P **P 14 21 12.7 -1.1**
NRIK pmax pmax
comp=Z,140nm,0.9s
NRIK Noril'sk 47.91 341 P **P 14 21 13.0 -0.8**
WRAB Tennant Creek 47.91 174 *i* P **P 14 21 14.1 -0.3**
WRAB Tennant Creek 47.91 174 P **P 14 21 13.4 -1.0**
WRAB IAmb IAmb 14 21 23.3
comp=Z,55nm,1.1s
WRAB Tennant Creek 47.91 174 P **P 14 21 14.3 -0.1**
comp=Z,55nm,1.1s
WRA Warramunga Arr 47.92 174 P **P 14 21 13.9 -0.5**
comp=Z,7.2nm,0.6s,baz=352,slow=8.4,SNR=45
WRA S **S 14 28 07.3 -2.8**
comp=Z,3.2nm,1.4s,baz=348,slow=14,SNR=7.5
WRA LR LR 14 40 33.4
comp=Z,930nm,21.2s,baz=360,slow=35
WRA Warramunga Arr 47.92 174 *i* P **P 14 21 13.8 -0.7**
WRA pmax pmax
comp=Z,8.0nm,0.6s
WRA Warramunga Arr 47.92 174 P **P 14 21 13.7 -0.7**
WB2 Warramunga Arr 47.92 174 P **P 14 21 14.4 -0.1**
WB2 IAmb IAmb 14 21 23.4
comp=Z,54nm,1.0s
BRZS Berezniki 48.00 313 *eP* **P 14 21 12.7 -2.1**
BRZS Berezniki 48.00 313 *eP* **P 14 21 12.8 -2.1**
baz=313
MTSU Mount Surprise 48.08 161 P **P 14 21 17.2 +1.5**
comp=Z,31nm,1.2s
SRLM Srisailam 48.10 267 *eP* **P 14 21 17.3 +1.2**
SRLM *ep*P **pP 14 21 22.3 -2.7**
NIL Nilore 48.15 291 P **P 14 21 16.7 +0.4**
NIL pmax pmax
comp=Z,33nm,0.7s
NIL MLR MLR
comp=Z,1μm,20.0s
NIL Nilore 48.15 291 P **P 14 21 16.7 +0.4**
NIL IAmb IAmb 14 21 32.5
comp=Z,34nm,0.7s
NIL Nilore 48.15 291 IAMs_20 IAMs_20 14 43 06.5
comp=Z,1μm,20.0s
RCLA Racherla 48.30 266 *eP* **P 14 21 18.3 +0.7**
QIS Mount Isa 49.28 168 P **P 14 21 25.0 +0.1**
comp=Z,33nm,1.4s
KKAR Karatay Array 49.34 304 P **P 14 21 25.4 +0.1**
KKAR Karatay Array 49.34 304 P **P 14 21 25.4 +0.1**
KLRI Killari 49.38 270 *eP* **P 14 21 26.3 +0.4**
IUG Iuzhnay 49.74 303 *eP* **P 14 21 26.9 -1.5**
IUG Iuzhnay 49.74 303 *eP* **P 14 21 27.0 -1.5**
baz=303
GAR Garm 49.79 299 P **P 14 21 29.2 +0.3**
GAR IAmb IAmb 14 21 46.0
comp=Z,75nm,1.0s
BRVK Borovoye 49.79 317 *i* P **P 14 21 26.9 -1.6**
BRVK pmax pmax
comp=Z,31nm,0.9s
BRVK Borovoye 49.79 317 P **P 14 21 28.2 -0.3**
MBWA Marble Bar 49.81 192 P **P 14 21 30.2 +1.3**
comp=Z,57nm,1.2s
BRLS Borolday 49.84 304 *eP* **P 14 21 27.8 -1.2**
BRLS Borolday 49.84 304 *eP* **P 14 21 27.8 -1.2**
baz=304
URV Uravakonda 50.00 266 *eP* **P 14 21 31.2 +0.5**
URV *ep*P **pP 14 21 37.2 -2.4**
PSA00 Pilbara Seismi 50.19 192 P **P 14 21 32.6 +0.8**
comp=Z,69nm,1.1s
PALK Pallekele 50.49 255 LR LR 14 45 04.7
comp=Z,2μm,19.1s,baz=160,slow=39
PALK Pallekele 50.49 255 IAMs_20 IAMs_20 14 44 34.1
comp=Z,2μm,20.0s
CTA Charters Tower 50.50 159 P **P 14 21 34.9 +0.8**
comp=Z,26nm,0.8s,baz=342,slow=8.0,SNR=7.2
CTA Charters Tower 50.50 159 P **P 14 21 38.0 +3.8**
comp=Z,47nm,0.9s
CTAO Charters Tower 50.50 159 IAMs_20 IAMs_20 14 43 52.8
comp=Z,1μm,19.0s
CTAO Charters Tower 50.50 159 P **P 14 21 35.7 +1.5**
comp=Z,52nm,0.9s
CHGR Chuyangaron 50.73 298 P **P 14 21 34.8 -1.1**
CHGR pmax pmax
comp=Z,166nm,1.2s
CHGR Chuyangaron 50.73 298 P **P 14 21 34.8 -1.1**
KBL Kabul 51.44 293 P **P 14 21 41.8 +0.3**
KBL pmax pmax
comp=Z,36nm,0.7s
KBL Kabul 51.44 293 P **P 14 21 41.4 -0.1**
SNR=26
KBL Kabul 51.44 293 P **P 14 21 41.8 +0.3**
KBL IAmb IAmb 14 21 55.5
comp=Z,36nm,0.7s
ASAR Alice Springs 51.57 175 P **P 14 21 42.4 +0.2**
comp=Z,7.0nm,0.8s,baz=5.3,slow=14,SNR=52
ASAR LR LR 14 44 31.0
comp=Z,526nm,19.6s,baz=358,slow=37
POO Poona 51.64 272 *eP* P 14 21 38.0 -5.0
WRKA Warakurna 52.77 181 P **P 14 21 51.5 +0.4**
comp=Z,73nm,1.1s
TNA Tin City 53.51 27 P **P 14 21 57.1 +1.1**
baz=257,SNR=36
ANM Nome 54.38 29 P **P 14 22 03.0 +0.5**
ANM pmax pmax
comp=Z,104nm,1.2s
ANM Nome 54.38 29 P **P 14 22 03.0 +0.5**
ANM IAmb IAmb 14 22 05.2
comp=Z,104nm,1.2s
ANM Nome 54.38 29 P **P 14 22 04.1 +1.6**
baz=260,SNR=29
RK1H Rockhampton Ha 54.98 156 P **P 14 22 10.4 +3.2**
comp=Z,16nm,1.0s
MEEK Meekatharra 55.36 192 P **P 14 22 10.9 +0.9**
comp=Z,16nm,1.0s
SVE Sverdlovsk 55.56 322⇑ *eP* **P 14 22 10.5 -0.6**
SVE pmax pmax
comp=Z,39nm,1.4s
SVE MLR MLR
comp=Z,5μm,15.0s
OOD Oodnadatta 55.82 173 P **P 14 22 14.0 +0.8**
comp=Z,40nm,1.2s
RDOG Red Dog Mine 55.94 25 IAMs_20 IAMs_20 14 46 19.5
comp=Z,2μm,21.0s
RDOG Red Dog Mine 55.94 25 P P 14 22 25.0 +11
baz=260
QLP Quilpie 56.11 164 P **P 14 22 15.7 +0.4**
comp=Z,30nm,1.1s
AB31 Akbulak array 56.27 312 *i* P **P 14 22 14.7 -1.6**
ABKAR Akbulak array 56.27 312 P **P 14 22 15.1 -1.3**
INKA Innaminka 56.49 168 P **P 14 22 19.1 +1.1**
SANVU Saraoutou 56.57 135 P **P 14 22 21.4 +2.7**
comp=Z,49nm,0.9s
ARU Arti 56.71 321 LR LR 14 49 05.3
comp=Z,2μm,21.3s,baz=83,slow=39
ARU Arti 56.71 321*c i*P **P 14 22 17.4 -1.9**
ARU 14 23 12.2
ARU 14 24 23.2
ARU PPP PPP 14 25 45.1
ARU S **S 14 30 08.7 -1.2**
ARU SS **SS 14 33 53.6 -3.9**
ARU pmax pmax
comp=Z,39nm,1.2s
ARU MLR MLR
comp=Z,4μm,17.0s
ARU Arti 56.71 321 P **P 14 22 17.9 -1.4**
ARU IAmb IAmb 14 22 20.0
comp=Z,66nm,1.5s
ARU IAMs_20 IAMs_20 14 48 53.4
comp=Z,2μm,22.0s
CHNA Chernabura Isl 56.72 41 P **P 14 22 18.6 -0.7**
baz=272,SNR=7.6
EIDS Eidsvold 57.00 157 P **P 14 22 23.1 +1.4**
comp=Z,27nm,1.2s
RMQ Roma 57.27 159 P **P 14 22 25.1 +1.5**
comp=Z,14nm,1.0s
CHGN Chignik 57.32 39 P **P 14 22 23.6 0.0**
baz=272
AKTO Aktyubinsk 57.41 314 LR LR 14 50 12.4
comp=Z,1μm,19.4s,baz=86,slow=39
AKTO Aktyubinsk 57.41 314 P **P 14 22 22.8 -1.6**
GCSA Galena City Sc 58.04 29 P **P 14 22 29.0 +0.5**
baz=268
MULG Mulgathing 58.15 175 P **P 14 22 30.0 +0.4**
comp=Z,88nm,1.1s
MORW Morawa 58.23 194 P **P 14 22 27.9 -2.4**
MORW Morawa 58.23 194 P **P 14 22 31.3 +1.1**
comp=Z,24nm,1.1s
TTA Tatalina 58.40 31 P **P 14 22 32.2 +1.0**
baz=270,SNR=11
FORT Forrest 58.50 181 P **P 14 22 34.8 +2.7**
comp=Z,82nm,1.1s
A21K Barrow 58.55 21 IAMs_20 IAMs_20 14 49 39.4
comp=Z,1μm,19.0s
A21K Barrow 58.55 21 P **P 14 22 32.8 +0.8**
baz=264,SNR=7.9
LCRK Leigh Creek 58.74 171 P **P 14 22 35.1 +1.3**
comp=Z,62nm,1.1s
O18K Koktuh Hills 58.87 35 P **P 14 22 36.1 +1.6**
baz=273,SNR=8.8

N19K	**Bonanza Creek**	59.18	34	P	P	14 22 36.1	-0.6
N19K				IAmb	IAmb	14 22 39.3	
	comp=Z,31nm,0.9s						
N19K	**Bonanza Creek**	59.18	34	P	P	14 22 38.3	+1.6
	baz=273						
J20K	**Nowinta River**	59.22	30	P	P	14 22 36.5	-0.2
J20K	**Nowinta River**	59.22	30	P	P	14 22 38.2	+1.4
	baz=271						
K20K	**Telida**	59.27	31	P	P	14 22 39.0	+1.8
	baz=272						
IMAR	**Indian Mountai**	59.36	28	P	P	14 22 38.3	+0.6
L20K	**Farewell, AK**	59.39	32	P	P	14 22 39.7	+1.6
	baz=272						
GEYT	**Alibeck**	59.40	299	P	P	14 22 37.0	-1.5
	comp=Z,6.1nm,0.6s,baz=212,slow=14,SNR=8.0						
BLDU	**Ballidu**	59.59	193	P	P	14 22 39.9	+0.2
	comp=Z,40nm,1.1s						
H21K	**Melozitna Rive**	59.76	28	P	P	14 22 39.8	-0.7
H21K				IAmb	IAmb	14 22 43.2	
	comp=Z,82nm,1.1s						
H21K	**Melozitna Rive**	59.76	28	P	P	14 22 42.0	+1.5
	baz=271						
CHUM	**Lake Minchumin**	60.03	30	P	P	14 22 44.2	+1.8
	baz=273,SNR=11						
OHAK	**Old Harbor**	60.07	38	P	P	14 22 40.9	-1.8
OHAK				IAmb	IAmb	14 22 44.1	
	comp=Z,72nm,1.0s						
I21K	**Tanana**	60.12	28	P	P	14 22 44.4	+1.5
	baz=272						
PPLA	**Purkeypile**	60.15	31	P	P	14 22 42.2	-1.2
PPLA	**Purkeypile**	60.15	31	P	P	14 22 44.5	+1.1
	baz=274,SNR=9.9						
CAST	**Castle Rocks**	60.16	31	P	P	14 22 44.8	+1.4
	baz=273,SNR=17						
FUNA	**Funafuti**	60.20	120	IAMs_20	IAMs_20	14 48 27.2	
	comp=Z,857nm,20.0s						
KLBR	**Kellerberrin**	60.34	192	P	P	14 22 46.2	+1.4
	comp=Z,81nm,1.1s						
KDAK	**Kodiak Island**	60.39	37	LR	LR	14 50 48.7	
	comp=Z,583nm,19.4s,baz=278,slow=38						
KDAK	**Kodiak Island**	60.39	37	P	P	14 22 44.7	-0.2
KDAK				pmax	pmax		
	comp=Z,132nm,1.0s						
KDAK	**Kodiak Island**	60.39	37	P	P	14 22 44.7	-0.2
KDAK	**Kodiak Island**	60.39	37	P	P	14 22 45.8	+0.9
	baz=276						
BPAW	**Bear Paw Mtn.**	60.60	30	P	P	14 22 47.7	+1.3
	baz=274,SNR=5.3						
MLY	**Manley**	60.65	29	P	P	14 22 48.2	+1.5
	baz=274						
KTH	**Kantishna Hill**	60.67	30	P	P	14 22 46.8	-0.1
KTH				IAmb	IAmb	14 22 50.3	
	comp=Z,67nm,1.4s						
STKA	**Stephens Creek**	60.67	168	P	P	14 22 47.3	+0.2
	comp=Z,4.8nm,0.6s,baz=350,slow=7.4,SNR=11						
STKA				LR	LR	14 48 34.6	
	comp=Z,858nm,21.4s,baz=344,slow=36						
STKA	**Stephens Creek**	60.67	168	P	P	14 22 49.4	+2.3
	comp=Z,3.3nm,0.9s						
COLD	**Coldfoot**	60.74	26	P	P	14 22 48.9	+1.7
	baz=273,SNR=17						
BBOO	**Buckleboo**	60.82	174	P	P	14 22 44.4	-3.7
BBOO				IAmb	IAmb	14 22 55.9	
	comp=Z,30nm,1.1s						
TOLK	**Toolik Lake Re**	60.91	24	P	P	14 22 49.2	+0.9
TOLK	**Toolik Lake Re**	60.91	24	IAMs_20	IAMs_20	14 49 21.7	
	comp=Z,2µm,21.0s						
TOLK	**Toolik Lake Re**	60.91	24	P	P	14 22 49.7	+1.4
	baz=273,SNR=71						
TRF	**Thorofare Moun**	60.97	30	P	P	14 22 49.5	+0.5
	baz=275						
MUN	**Mundaring**	61.01	193	P	P	14 22 53.6	+4.2
	comp=Z,19nm,1.0s						
CUT	**Chulitna**	61.07	32	P	P	14 22 50.4	+1.0
	baz=275,SNR=6.1						
BRSE	**Bradley Lake S**	61.12	35	P	P	14 22 51.7	+1.8
	baz=276,SNR=5.1						
M22K	**Willow**	61.21	32	P	P	14 22 50.9	+0.5
	baz=276						
CMSA	**Cobar Meteorol**	61.21	164	P	P	14 22 52.3	+1.6
	comp=Z,47nm,1.2s						
I23K	**Minto, Yukon-K**	61.22	28	P	P	14 22 51.8	+1.4
	baz=275,SNR=12						
DZM	**Mont Dzumac**	61.25	141	P	P	14 22 51.5	+0.1
	comp=Z,12nm,0.7s,baz=348,slow=6.5,SNR=9.3						
DZM				LR	LR	14 46 37.5	
	comp=Z,488nm,20.8s,baz=344,slow=33						
DZM	**Mont Dzumac**	61.25	141	*e*P	P	14 22 53.3	+2.0
	comp=Z,60nm,1.2s						
DZM				*e*S	S	14 31 06.6	-3.1
	comp=Z,544nm,25.7s						
DZM				*e*LR	LR	14 40 58.5	
	comp=Z,1µm,24.2s						
NEA2	**Nenana**	61.40	29	P	P	14 22 52.9	+1.2
	baz=275,SNR=15						
NAPP	**Napperby**	61.43	172	P	P	14 22 53.3	+1.2
	comp=Z,48nm,0.8s						
KIRV	**Kirov**	61.46	324	LR	LR	14 52 54.9	
	comp=Z,4µm,18.1s,baz=82,slow=40						
KIRV	**Kirov**	61.46	324	*c i*P	P	14 22 51.2	-1.0
RC01	**Rabbit Creek A**	61.46	33	P	P	14 22 52.8	+0.7
	baz=277,SNR=5.4						
MCK	**McKinley**	61.54	30	P	P	14 22 53.1	+0.4
	baz=276,SNR=12						
RND	**Reindeer**	61.61	30	P	P	14 22 53.3	0.0
RND				pmax	pmax		
	comp=Z,96nm,1.0s						
RND	**Reindeer**	61.61	30	P	P	14 22 53.3	0.0
PMR	**Palmer**	61.69	32	P	P	14 22 53.2	-0.5
	baz=277,SNR=9.0						
SEW	**Seward**	61.72	34	P	P	14 22 54.2	+0.3
	baz=277						
NWAO	**Narrogin (SRO)**	61.74	192	P	P	14 22 55.6	+1.3
NWAO				pmax	pmax		
	comp=Z,63nm,1.2s						
NWAO	**Narrogin (SRO)**	61.74	192	P	P	14 22 54.9	+0.6
	comp=Z,63nm,1.2s						
H24K	**Noodor Dome**	61.77	28	IAmb	IAmb	14 22 57.2	
	comp=Z,84nm,1.1s						
H24K	**Noodor Dome**	61.77	28	P	P	14 22 55.9	+1.6
	baz=276						
WAT1	**Susitna Watana**	61.81	31	P	P	14 22 54.8	+0.2
	baz=277						
ARMA	**Armidale**	61.84	158	P	P	14 22 56.8	+1.7
	comp=Z,43nm,1.3s						
TCOL	**CIGO, UAF Yank**	61.88	29	P	P	14 22 56.2	+1.2
	baz=276						
COLA	**College**	61.89	29	*i* P	P	14 22 55.9	+1.0
COLA				pmax	pmax		
	comp=Z,100nm,2.5s						
CCB	**Clear Creek Bu**	61.93	29	P	P	14 22 55.7	+0.4
KNK	**Knik Glacier**	62.04	33	P	P	14 22 56.3	+0.2
	baz=278,SNR=11						
POKR	**Poker Plat Res**	62.04	28	P	P	14 22 57.5	+1.5
	baz=276,SNR=24						
SML	**Sawmill**	62.04	32	P	P	14 22 56.7	+0.6
	baz=277,SNR=6.8						
PWL	**Port Wells**	62.17	33	P	P	14 22 56.4	-0.6
PWL				IAmb	IAmb	14 23 21.1	
	comp=Z,106nm,1.4s						
PWL	**Port Wells**	62.17	33	P	P	14 22 56.8	-0.2
	baz=278						
WAT6	**Susitna Watana**	62.22	31	P	P	14 22 57.7	+0.3
	baz=278,SNR=9.7						
IL31		62.31	29	P	P	14 22 57.8	0.0
ILAR	**Eielson Array**	62.31	29	P	P	14 22 57.0	-0.8
	comp=Z,10nm,0.9s,baz=285,slow=5.6,SNR=34						
ILAR				LR	LR	14 50 20.8	
	comp=Z,686nm,21.5s,baz=295,slow=36						
ILAR	**Eielson Array**	62.31	29	P	P	14 22 57.5	-0.3
ILAR	**Eielson Array**	62.31	29	P	P	14 22 57.5	-0.3
DHY	**Denali Highway**	62.32	31	P	P	14 22 57.7	-0.4
DHY	**Denali Highway**	62.32	31	P	P	14 22 59.9	+1.9
	baz=278						
HDA	**Harding Lake**	62.33	29	IAmb	IAmb	14 22 59.0	
	comp=Z,89nm,1.2s						
HDA	**Harding Lake**	62.33	29	P	P	14 22 57.9	-0.1
	baz=277,SNR=24						
SCM	**Sheep Creek Mo**	62.51	32	P	P	14 22 60.0	+0.7
	baz=278,SNR=7.3						
FYU	**Fort Yukon**	62.76	27	P	P	14 22 58.8	-1.9
PRP	**Porcupine Dome**	62.78	28	P	P	14 23 02.9	+1.7
	baz=278						
BMAR	**Burnt Mountain**	62.89	26	P	P	14 23 02.4	+0.7
PRGR	**Permogore**	62.90	328	*e*P	P	14 23 01.3	-0.4
PRGR				pmax	pmax		
	comp=Z,188nm,1.5s						

JLN	**Jalan Bani Buh**	63.00	282	P	P	14 23 03.6	+0.5
M24K	**Tolsona, Glenn**	63.01	32	P	P	14 23 03.9	+1.3
	baz=279						
PAX	**Paxson**	63.19	31	P	P	14 23 04.5	+0.7
	baz=279,SNR=9.1						
WBK	**Wadi Bani Khal**	63.22	283	P	P	14 23 05.2	+0.6
KLU	**Klutina**	63.23	32	P	P	14 23 04.7	+0.6
	baz=280,SNR=6.1						
WSAR	**Wadi Sarin**	63.29	283	LR	LR	14 53 53.0	
	comp=Z,761nm,21.2s,baz=99,slow=39						
RIDG	**Independent Ri**	63.34	30	P	P	14 23 05.5	+0.7
	baz=279,SNR=6.4						
SCRK	**Sand Creek**	63.68	29	P	P	14 23 07.1	+0.1
SCRK	**Sand Creek**	63.68	29	P	P	14 23 07.2	+0.2
	baz=280,SNR=26						
DOT	**Dot Lake**	63.70	30	P	P	14 23 07.1	0.0
DOT				IAmb	IAmb	14 23 08.6	
	comp=Z,105nm,1.3s						
J26L	**Joseph Creek**	63.77	29	P	P	14 23 07.6	0.0
	baz=280						
N25K	**Chitina, Valde**	63.83	32	P	P	14 23 08.4	+0.3
N25K				IAmb	IAmb	14 23 27.2	
	comp=Z,65nm,1.3s						
N25K	**Chitina, Valde**	63.83	32	P	P	14 23 09.3	+1.3
	baz=281,SNR=8.6						
SMDO	**Samad**	63.85	283	P	P	14 23 08.6	-0.2
	SNR=8.1						
BMRM	**Bremner River**	63.95	33	P	P	14 23 10.2	+1.3
	baz=281,SNR=7.2						
JMDO	**Jabal Madar**	64.05	283	P	P	14 23 09.9	-0.2
L26K	**Log Cabin Wild**	64.14	30	IAMs_20	IAMs_20	14 51 09.9	
	comp=Z,2µm,18.0s						
L26K	**Log Cabin Wild**	64.14	30	P	P	14 23 11.2	+1.3
	baz=281,SNR=15						
GLB	**Gilahina Butte**	64.23	32	P	P	14 23 11.2	+0.5
BANOM	**Banah**	64.34	287	P	P	14 23 12.2	+0.3
M26K	**Nabesna, AK**	64.42	31	P	P	14 23 12.4	+0.5
M26K	**Nabesna, AK**	64.42	31	P	P	14 23 12.9	+1.0
	baz=282						
SHME	**Shamm**	64.43	287	P	P	14 23 13.8	+1.2
MCARA	**McCarthy VSAT**	64.62	32	P	P	14 23 14.9	+1.8
	baz=282,SNR=7.0						
BSY	**Bisya**	64.69	283	P	P	14 23 14.7	+0.4
	SNR=5.7						
EGAK	**Eagle**	64.73	28	P	P	14 23 14.4	+0.6
	baz=282						
SOHO	**SOHO**	64.77	285	P	P	14 23 14.5	-0.3
L27K	**Beaver Creek,**	64.81	30	IAmb	IAmb	14 23 17.1	
	comp=Z,69nm,1.3s						
L27K				IAMs_20	IAMs_20	14 51 26.7	
	comp=Z,1µm,20.0s						
L27K	**Beaver Creek,**	64.81	30	P	P	14 23 15.7	+1.4
	baz=282						
BCAR	**Beaver Creek A**	64.82	30	P	P	14 23 15.4	+0.8
HATD	**Hatta, Dubai**	64.86	286	P	P	14 23 15.7	+0.3
M27K	**Edge Creek, AK**	64.94	31	IAmb	IAmb	14 23 17.6	
	comp=Z,54nm,1.2s						
M27K	**Edge Creek, AK**	64.94	31	P	P	14 23 16.3	+0.9
	baz=283						
ASHO	**Ashiyiah**	64.98	286	P	P	14 23 16.6	+0.5
	SNR=6.1						
ASHO	**Ashiyiah**	64.98	286	P	P	14 23 16.2	+0.1
ISLE	**Juniper Island**	65.11	33	P	P	14 23 14.7	-1.8
ISLE				IAmb	IAmb	14 23 18.3	
	comp=Z,60nm,1.2s						
BVCY	**Beaver Creek**	65.39	31	P	P	14 23 20.0	+1.9
	baz=283,SNR=5.6						
MSVF	**Nonsavu**	65.39	128	P	P	14 23 20.1	+1.3
	comp=Z,13nm,0.9s,baz=269,slow=7.5,SNR=5.8						
MSVF	**Nonsavu**	65.39	128	*i* P	P	14 23 17.6	-1.2
MSVF				pmax	pmax		
	comp=Z,33nm,1.3s						
ARPS	**Mount Arapiles**	65.49	169	P	P	14 23 21.6	+2.7
	comp=Z,27nm,0.9s						
CTG	**Chitna Glacier**	65.51	32	P	P	14 23 20.5	+1.4
	baz=284,SNR=5.6						
DGTI	**Dogotuki**	65.61	126	P	P	14 23 22.5	+2.3
DAWY	**Dawson**	65.64	29	P	P	14 23 19.9	+0.2
DAWY				IAmb	IAmb	14 23 21.9	
	comp=Z,40nm,1.2s						
DAWY	**Dawson**	65.64	29	P	P	14 23 20.6	+0.8
	baz=284,SNR=16						
CAN	**Canberra**	65.64	163	IAMs_20	IAMs_20	14 53 46.8	
	comp=Z,1µm,18.0s						
CAN	**Canberra**	65.64	163	P	P	14 23 22.3	+2.3
	comp=Z,57nm,1.5s						
YUK3	**Moose Creek**	65.72	31	P	P	14 23 21.4	+0.9
	baz=284,SNR=13						
CNB	**Canberra Magne**	65.73	162	P	P	14 23 23.3	+2.7
I29M	**Ogilvie Camp,**	65.77	27	P	P	14 23 22.3	+1.7
	baz=284,SNR=23						
KLMR	**Klimovskoe**	65.95	328	*e*P	P	14 23 18.5	-3.2
KLMR				*e*		14 25 43.5	
KLMR				pmax	pmax		
	comp=Z,181nm,1.3s						
KLMR				MLR	MLR		
	comp=Z,2µm,16.0s						
KLMR	**Klimovskoe**	65.95	328	*e*P	P	14 23 18.5	-3.2
KLMR				AMP		14 23 22.8	
	comp=Z,181nm,1.3s						
KLMR				*e*PP	PP	14 25 43.6	-3.1
KLMR				LQ	LQ	14 46 48.6	
KLMR				LQ	LQ	14 46 48.6	
KLMR				LR	LR	14 51 42.2	
KLMR				AMP		14 55 38.9	
	comp=Z,2µm,15.6s						
MAK	**Makhachkala**	65.95	307	*e*P	P	14 23 21.4	-0.7
MAK				*e*		14 25 46.0	
MAK				*e*PPP	PPP	14 27 19.3	
MAK				*e*S	S	14 32 10.3	+2.7
MAK				*e*SS	SS	14 36 25.6	+3.0
MAK				pmax	pmax		
	comp=Z,87nm,1.1s						
PINM	**Pinnacle**	66.24	33	P	P	14 23 25.0	+1.2
	baz=285,SNR=6.5						
LKRN	**Lenkeran, Azer**	66.27	302	P	P	14 23 24.7	+0.5
BRAT	**Ballarat**	66.62	168	P	P	14 23 29.9	+3.7
	comp=Z,14nm,1.0s						
SEKA	**Sheki**	66.68	305	P	P	14 23 27.0	+0.1
APA	**Apatity**	66.70	335	‖ *i* P	P	14 23 24.0	-2.4
APA				pmax	pmax		
	comp=Z,51nm,1.0s						
APA				MLR	MLR		
	comp=Z,2µm,16.0s						
PNL	**Peninsula**	66.77	34	P	P	14 23 29.0	+1.9
	baz=286						
INK	**Inuvik**	66.78	24	P	P	14 23 27.0	+0.1
	comp=Z,45nm,1.2s,baz=283,slow=7.0,SNR=6.1						
INK				LR	LR	14 56 48.6	
	comp=Z,700nm,18.2s,baz=270,slow=40						
INK	**Inuvik**	66.78	24	P	P	14 23 27.0	+0.1
INK	**Inuvik**	66.78	24	P	P	14 23 26.7	-0.2
INK				IAmb	IAmb	14 23 28.9	
	comp=Z,60nm,1.1s						
INK	**Inuvik**	66.78	24	P	P	14 23 27.7	+0.7
	baz=287,SNR=44						
MNGR	**Mingechevir, A**	66.89	305	P	P	14 23 28.7	+0.6
TOO	**Toolangi**	66.95	166	P	P	14 23 31.8	+3.4
	comp=Z,34nm,1.2s						
ZKTA	**Zakatala**	66.97	306	P	P	14 23 28.9	+0.3
GROC	**Groznyy**	67.08	308	*e*P	P	14 23 29.0	-0.3
GROC				*e*		14 24 01.1	
GROC				*e*		14 25 56.3	
GROC				pmax	pmax		
	comp=Z,19nm,0.6s						
M30M	**Minto, Yukon**	67.17	30	P	P	14 23 30.7	+1.1
	baz=287						
LGD	**Lagodekhi**	67.18	306	P	P	14 23 29.9	-0.1
SPB2	**Spitsbergen Ar**	67.31	348	P	P	14 23 30.0	-0.2
SPA0	**Spitsbergen Ar**	67.31	348	*e*P	P	14 23 29.8	-0.4
SPITS	**Spitsbergen Ar**	67.31	348	LR	LR	14 56 02.0	
	comp=Z,1µm,18.1s,baz=258,slow=39						
SPITS	**Spitsbergen Ar**	67.31	348	P	P	14 23 29.3	-0.9
SPITS				pmax	pmax		
	comp=Z,130nm,1.1s						
VRH	**Novokhopyorsk**	67.38	317	*e*P	P	14 23 29.9	-1.1
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRH				MLR	MLR		
	comp=Z,1µm,15.0s						
DDFL	**Dedoflistskaro**	67.38	306	P	P	14 23 34.4	+3.0
GANJ	**Ganja**	67.48	305	P	P	14 23 32.3	+0.3
KBS	**Kingsbay**	67.70	349	P	P	14 23 33.7	+1.1
KBS	**Kingsbay**	67.70	349	*e*P	P	14 23 31.9	-0.7
N31M	**Braeburn, Yuko**	67.95	31	P	P	14 23 35.5	+1.0
	baz=288,SNR=7.9						

HSPB	**Hornsund (broa**	68.04	347	*e*P	P	14 23 34.6	-0.2
A36M	**Sachs Harbour**	68.16	19	P	P	14 23 36.2	+0.6
A36M	**Sachs Harbour**	68.16	19	P	P	14 23 36.1	+0.6
	baz=293,SNR=215						
KEV	**Kevo**	68.19	339	P	P	14 23 34.4	-1.4
KEV				pmax	pmax		
	comp=Z,35nm,1.0s						
KEV				MLR	MLR		
	comp=Z,2µm,19.0s						
KEV	**Kevo**	68.19	339	P	P	14 23 34.4	-1.4
KEV				IAmb	IAmb	14 23 36.1	
	comp=Z,35nm,1.0s						
GUDG	**Gudauri**	68.23	307	P	P	14 23 38.3	+1.4
M31M	**Drury Creek, Y**	68.34	30	P	P	14 23 38.2	+1.2
	baz=289,SNR=14						
MOS	**Moscow**	68.35	323	*e*P	P	14 23 34.6	-2.4
MOS				*e*		14 23 44.5	
MOS				*e*S	S	14 32 32.1	-4.0
MOS				pmax	pmax		
	comp=Z,300nm,2.0s						
MOS				pmax	pmax		
	comp=Z,129nm,1.4s						
MOS				MLR	MLR		
	comp=Z,3µm,18.0s						
GOF	**Gofitskoye**	68.39	310	⇑ *e*P	P	14 23 37.6	0.0
GOF				pmax	pmax		
	comp=Z,25nm,0.6s						
NCK	**Nalchik**	68.51	309	*i* P	P	14 23 37.3	-1.1
NCK				pmax	pmax		
	comp=Z,16nm,0.5s						
NAX	**Nakhchivan**	68.56	304	P	P	14 23 39.9	+1.1
DMTO	**DMTO**	68.56	279	P	P	14 23 39.3	+0.2
LPSR	**Galich'ya Gora**	68.60	319	*e*P	P	14 23 37.0	-1.7
LPSR				pmax	pmax		
	comp=Z,60nm,1.6s						
LPSR				MLR	MLR		
	comp=Z,1µm,18.0s						
WHY	**Whitehorse**	68.63	32	P	P	14 23 39.9	+1.0
	baz=289,SNR=14						
KZRT	**Kazreti**	68.63	306	P	P	14 23 39.9	+0.7
ARA0	**ARCESS Array S**	68.76	339	*e*P	P	14 23 38.9	-0.5
ARCES	**ARCESS Array B**	68.76	339	P	P	14 23 38.1	-1.3
	comp=Z,16nm,0.9s,baz=67,slow=7.6,SNR=22						
ARCES				LR	LR	14 58 51.9	
	comp=Z,2µm,19.5s,baz=60,slow=40						
ARCES	**ARCESS Array B**	68.76	339	P	P	14 23 38.1	-1.3
ARCES				IAmb	IAmb	14 23 39.7	
	comp=Z,57nm,1.3s						
GNI	**Garni**	68.79	305	P	P	14 23 40.4	0.0
SKAG	**Skagway**	68.81	33	P	P	14 23 41.3	+1.5
	baz=289,SNR=11						
HAMF	**Hammerfest**	68.88	340	*e*P	P	14 23 40.2	0.0
VSR	**Storozhevoye**	68.90	318	*e*P	P	14 23 39.2	-1.4
VSR				pmax	pmax		
	comp=Z,50nm,1.8s						
VSR				MLR	MLR		
	comp=Z,2µm,16.0s						
ONI	**Oni**	68.91	308	P	P	14 23 42.2	+1.3
VORD	**Divnogorie**	68.91	317	*e*P	P	14 23 39.3	-1.3
VORD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DOK	**Doka**	68.92	280	P	P	14 23 41.1	-0.2
KBZ	**Khabaz**	68.92	309	P	P	14 23 40.6	-0.2
	comp=Z,33nm,1.0s,baz=102,slow=4.7,SNR=24						
KBZ				LR	LR	14 57 40.8	
	comp=Z,1µm,18.4s,baz=61,slow=39						
KBZ	**Khabaz**	68.92	309	*i* P	P	14 23 37.3	-3.5
KBZ				pmax	pmax		
	comp=Z,34nm,1.0s						
KVAR	**Kislovodsk Arr**	68.98	309	LR	LR	14 57 36.7	
	comp=Z,1µm,19.7s,baz=194,slow=39						
KIV	**Kislovodsk**	68.99	309	⇑ P	P	14 23 42.4	+1.0
KIV	**Kislovodsk**	68.99	309	*c i* P	P	14 23 41.4	0.0
KIV				*i* *PP	pP	14 23 50.4	-0.2
KIV				*i* *SP	sP	14 23 53.7	-0.4
KIV				*i*		14 24 04.6	
KIV				*e*S	S	14 32 41.4	-3.0
KIV				*e*		14 33 34.4	
KIV				*e*SS	SS	14 37 04.7	-5.1
KIV				pmax	pmax		
	comp=Z,59nm,1.2s						
KIV				MLR	MLR		
	comp=Z,615nm,17.0s						
KIV	**Kislovodsk**	68.99	309	IAMs_20	IAMs_20	14 57 54.6	
	comp=Z,713nm,18.0s						
KIV	**Kislovodsk**	68.99	309	*i* P	P	14 23 42.4	+1.0
	SNR=5.9						
SHA1	**Shidzhatmaz**	69.08	309	*i* P	P	14 23 40.6	-1.6
OBN	**Obninsk**	69.12	322	LR	LR	14 56 50.1	
	comp=Z,523nm,19.9s,baz=62,slow=38						
OBN	**Obninsk**	69.12	322	*c i* P	P	14 23 40.7	-1.1
OBN				*e* *PP	pP	14 23 50.6	-0.4
OBN				*e*		14 24 08.6	
OBN				*e*S	S	14 32 43.0	-2.2
OBN				*e*SS	SS	14 37 15.6	+4.6
OBN				pmax	pmax		
	comp=Z,59nm,1.3s						
OBN				MLR	MLR		
	comp=Z,3µm,17.0s						
NEY	**Neytrino**	69.20	309	*i* P	P	14 23 39.6	-3.2
NEY				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BGD	**Bogdanovka**	69.24	306	P	P	14 23 44.4	+1.2
NOR	**Nord**	69.25	355	*i* P	P	14 23 39.4	-2.8
AKH	**Akhalkalaki**	69.27	307	⇑ P	P	14 23 44.9	+1.5
AKH	**Akhalkalaki**	69.27	307	P	P	14 23 44.8	+1.5
WHFO	**Wadi Hawf**	69.51	280	P	P	14 23 44.4	-0.5
C36M	**Paulatuk**	69.60	21	P	P	14 23 44.2	-0.4
C36M	**Paulatuk**	69.60	21	P	P	14 23 45.0	+0.4
	baz=295,SNR=104						
KTK1	**Kautokeino**	69.71	338	*e*P	P	14 23 44.3	-1.0
P33M	**Teslin, Yukon**	69.74	32	P	P	14 23 46.6	+0.8
	baz=291,SNR=15						
VALR	**Valaam**	69.78	329	*i* P	P	14 23 44.8	-1.0
VALR				pmax	pmax		
	comp=Z,156nm,1.0s						
ABTO	**Aybut**	70.15	280	P	P	14 23 49.1	+0.1
EUNU	**Eureka**	70.37	6	P	P	14 23 49.1	-0.2
EUNU				IAmb	IAmb	14 23 51.8	
	comp=Z,50nm,1.1s						
PUL	**Pulkovo**	70.63	328	*i* P	P	14 23 50.3	-0.7
PUL				pmax	pmax		
	comp=Z,140nm,1.0s						
TRO	**Tromso**	70.79	340	*e*P	P	14 23 50.6	-1.2
SOC	**Sochi**	71.14	310	*e*P	P	14 23 48.6	-5.9
SOC				*e*		14 26 30.2	
SOC				*e*PPP	PPP	14 28 14.2	
SOC				*e*S	S	14 33 01.5	-7.8

MNK MLR MLR
comp=N,1μm,20.0s
MNK Minsk 74.00 324 *i* P **P 14 24 11.2 0.0**
comp=E,15nm,1.4s,baz=245
MNK *i* P **P 14 24 11.2 0.0**
comp=N,27nm,1.1s
MNK *i* P **P 14 24 11.2 0.0**
comp=Z,92nm,1.2s
MNK *i* PP PP 14 26 44.1 -12
MNK *i* PPP PPP 14 28 37.9
MNK *i* S **S 14 33 43.8 +2.3**
MNK *i* SS SS 14 38 02.6 -23
MNK *i* SSS SSS 14 41 52.5
MNK *i* LQ LQ 14 51 39.1
MNK *i* LR LR 14 56 25.3
MNK *i* LRM MLR 14 59 56.5
comp=Z,3μm,18.2s
MNK *i* LRM MLR 14 59 59.6
comp=E,356nm,19.4s
MNK *i* LRM MLR 15 00 05.4
comp=N,1μm,19.6s
MALT Malatya 74.02 305 P **P 14 24 13.0 +1.1**
MOR8 Moi Rana 74.04 337 *e*P **P 14 24 09.3 -2.1**
MTSE Matsula 74.11 329 *e*P **P 14 24 12.3 +0.5**
IDID Didziasalis 74.23 325 *e*P **P 14 24 12.8 +0.1**
KONS Konsvik 74.30 338 *e*P **P 14 24 12.2 -0.6**
RAYN Ar Rayn 74.33 289 IAMs_20 IAMs_20 15 02 17.5
comp=Z,551nm,19.0s
RAYN Ar Rayn 74.33 289 *i* P **P 14 24 14.2 +0.3**
SNR=18
SIM Simferopol' 74.34 313 *e*P **P 14 24 10.6 -2.9**
ISAL Salakas 74.43 325 *e*P **P 14 24 14.2 +0.5**
IIGN Ignalina 74.48 325 *e*P **P 14 24 14.6 +0.5**
KVT Kavak 74.61 308 P **P 14 24 16.6 +1.4**
NEEM North Greenlan 74.77 0 *i* P **P 14 24 14.0 -1.8**
NEEM IAmb IAmb 14 24 19.6
comp=Z,29nm,0.6s
AKASG Malin Array Be 74.92 320 P **P 14 24 15.6 -1.1**
comp=Z,6.8nm,0.4s,baz=54,slow=6.4,SNR=85
AKASG LR LR 15 00 02.4
comp=Z,2μm,19.2s,baz=62,slow=38
AKASG Malin Array Be 74.92 320 IAmb IAmb 14 24 17.8
comp=Z,48nm,1.1s
AKBB Malin Array Si 74.92 320 IAmb IAmb 14 24 17.8
comp=Z,49nm,1.1s
KIEV Kiev 74.93 320 P **P 14 24 15.0 -1.7**
TULEG Thule 75.06 4 *i* P **P 14 24 15.0 -2.0**
TULEG Thule 75.06 4 P **P 14 24 16.9 -0.1**
TULEG IAmb IAmb 14 24 17.9
comp=Z,113nm,1.1s
AAL Aland 75.10 331 *e*P **P 14 24 17.4 -0.1**
SLIT Slitere, Latvi 75.33 328 *e*P **P 14 24 19.5 +0.6**
PABE Paberze 75.55 326 *e*P **P 14 24 20.5 +0.3**
PABE Paberze 75.55 326 P **P 14 24 20.0 -0.2**
NSS Namsos 75.84 337 *e*P **P 14 24 20.5 -1.2**
DBG Daneborg 76.00 352 *i* P **P 14 24 18.8 -3.7**
UPP Uppsala 76.28 331 *e*P **P 14 24 24.1 -0.1**
PBUR Paburge 76.30 327 *e*P **P 14 24 25.3 +0.8**
YKA Yellowknife Ar 76.41 25 P **P 14 24 25.3 +0.3**
comp=Z,16nm,0.8s,baz=302,slow=5.5,SNR=174
YKA PKKPbc **PKKPbc 14 43 43.8 +5.6**
comp=Z,0.7nm,1.1s,baz=123,slow=3.0,SNR=3.7
YKA LR LR 15 02 02.5
comp=Z,278nm,18.5s,baz=296,slow=39
YKA Yellowknife Ar 76.41 25 P **P 14 24 25.0 0.0**
SORM Soroca 76.56 317 ⇓P **P 14 24 25.7 -0.5**
SORM Soroca 76.56 317 ⇓P **P 14 24 25.7 -0.5**
SUW Suwalki 76.67 324 *e*P **P 14 24 26.1 -0.5**
SUW Suwalki 76.67 324 *e*P **P 14 24 26.6 0.0**
KIS Kishinev 76.80 316 *e*P **P 14 24 26.0 -1.5**
KIS *e*LQ LQ 14 53 43.0
comp=Z,400nm,21.0s
KIS LRM MLR 15 03 40.0
comp=Z,500nm,16.5s
KIS Kishinev 76.80 316 *e*P **P 14 24 26.0 -1.5**
MILM Milestii Mici 76.84 316 ⇑*i*P **P 14 24 26.3 -1.4**
MILM *e*LQ LQ 14 52 43.0
comp=Z,700nm,16.0s
MILM LRM MLR 15 03 44.0
comp=Z,1μm,17.0s
MILM Milestii Mici 76.84 316*c i*P **P 14 24 26.3 -1.4**
MILM pmax pmax
comp=Z,100nm,1.5s
BR131 Keskin Array S 76.84 308*c i*P **P 14 24 26.7 -1.4**
BR131 Keskin Array S 76.84 308 P **P 14 24 28.6 +0.5**
BR131 IAmb IAmb 14 24 29.1
comp=Z,76nm,1.2s
BRTR Keskin Array B 76.84 308 P **P 14 24 27.8 -0.3**
comp=Z,16nm,1.0s,baz=99,slow=3.9,SNR=50
BRTR LR LR 15 03 26.9
comp=Z,806nm,20.2s,baz=62,slow=40
BRTR Keskin Array B 76.84 308 *i* P **P 14 24 28.1 0.0**
BRTR pmax pmax
comp=Z,16nm,1.0s
JMIC Jan Mayen 76.92 347 LR LR 15 02 09.5
comp=Z,728nm,18.5s,baz=36,slow=39
HORU Horodok 77.20 319 P **P 14 24 29.0 -0.7**
ANTO Ankara 77.37 308 P **P 14 24 32.1 +1.1**
ANTO Ankara 77.37 308 IAMs_20 IAMs_20 15 03 10.4
comp=Z,702nm,21.0s
IAS Iasi 77.47 317 P **P 14 24 32.9 +1.6**
KMPD K-Podol'skiy 77.49 318 P **P 14 24 30.0 -1.3**
TLCR 77.62 315 ⇓P **P 14 24 32.5 +0.3**
TLCR 77.62 315 ⇓P **P 14 24 32.5 +0.3**
HFS Hagfors 77.76 333 LR LR 15 01 06.2
comp=Z,1μm,20.9s,baz=48,slow=38
JURR Jurilovca 77.78 314 ⇑P **P 14 24 33.4 +0.4**
NC405 NORSAR Array S 77.97 334 P **P 14 24 32.3 -1.5**
NC300 NORSAR Array S 78.00 334 P **P 14 24 33.4 -0.6**
NC300 IAmb IAmb 14 24 36.0
comp=Z,56nm,0.9s
TPGR Topolog 78.02 314 ⇓P **P 14 24 34.5 +0.1**
CFR Carcaliu 78.05 315 ⇓P **P 14 24 34.5 0.0**
NB201 NORSAR Array S 78.17 334 P **P 14 24 33.9 -1.0**
NB201 IAmb IAmb 14 24 36.9
comp=Z,70nm,0.9s
NB2 NORSAR Subarra 78.21 334 P **P 14 24 34.0 -1.2**
comp=Z,113nm,1.7s,baz=52,slow=5.9
NB2 NORSAR Subarra 78.21 334 P **P 14 24 34.0 -1.2**
baz=52,slow=5.9
NOA NORSAR Array B 78.21 334 P **P 14 24 34.4 -0.8**
comp=Z,28nm,0.9s,baz=51,slow=5.6,SNR=41
NOA LR LR 15 02 30.8
comp=Z,1μm,18.3s,baz=50,slow=38
MSEY Mahe Island 78.21 258 IAMs_20 IAMs_20 14 55 31.9
comp=Z,1μm,22.0s
TIRR Tirgusor 78.21 314 ⇓P **P 14 24 35.5 +0.1**
TIRR Tirgusor 78.21 314 ⇓P **P 14 24 35.5 +0.1**
NC602 NORSAR Array S 78.27 334 *e*P **P 14 24 34.5 -1.0**
NORES NORESS Array B 78.27 334 P **P 14 24 37.8 +2.4**
LVV L'vov 78.28 320 *e*P **P 14 24 35.1 -0.6**
LVV *e* 14 24 52.3
LVV *e*S **S 14 34 27.7 -1.1**
LVV *e*PS **PnS 14 35 21.6 +9.5**
LVV pmax pmax
comp=Z,200nm,1.5s
LVV MLR MLR
comp=E,2μm,19.0s
LVV MLR MLR
comp=N,1μm,15.0s
LVV MLR MLR
comp=Z,2μm,16.0s
MFTR Murfatlar 78.34 314 ⇑P **P 14 24 36.2 +0.1**
TESR Tescani 78.34 317 ⇓P **P 14 24 36.0 -0.2**
DOMB Dombas 78.40 336 *e*P **P 14 24 35.2 -1.0**
TLBR Topalu 78.40 314 ⇑P **P 14 24 37.4 +0.9**
HARR Harsova 78.41 314 ⇑P **P 14 24 37.4 +0.9**
HARR Harsova 78.41 314 ⇑P **P 14 24 37.4 +0.9**
KSV Kosov 78.42 319 P **P 14 24 36.0 -0.6**
MMAI Mount Meron Ar 78.46 301 LR LR 15 05 37.0
comp=Z,321nm,18.5s,baz=226,slow=41
VRI Vrincioaia 78.60 316 ⇑P **P 14 24 38.8 +1.1**
VRI Vrincioaia 78.60 316 ⇑P **P 14 24 38.8 +1.1**
MOL Molde 78.61 336 *e*P **P 14 24 37.5 +0.2**
PLOR Plostina 78.66 316 ⇑P **P 14 24 39.1 +1.1**
PLOR Plostina 78.66 316 ⇑P **P 14 24 39.1 +1.1**
BUR08 Bucovina Ar. S 78.67 318 P **P 14 24 37.8 -0.3**
BURAR Bucovina Array 78.67 318 ⇑P **P 14 24 38.0 -0.1**
BURAR Bucovina Array 78.67 318 ⇑P **P 14 24 38.0 -0.1**
BURAR Bucovina Array 78.67 318 P **P 14 24 37.9 -0.2**
MORS Morshin 78.69 320 P **P 14 24 38.0 0.0**
BISRR Bisoca 78.77 316 ⇓P **P 14 24 39.7 +1.1**
BORA Eskisehir 78.97 309 P **P 14 24 39.5 -0.4**
BORA IAmb IAmb 14 24 44.4
comp=Z,24nm,0.7s
BEL Belsk 79.02 323 *e*P **P 14 24 40.0 +0.2**
BEL Belsk 79.02 323 P **P 14 24 41.8 +2.0**
BEL pmax pmax
comp=Z,179nm,1.3s
AKN Aaknes 79.06 336 *e*P **P 14 24 40.5 +0.7**
OZUR 79.07 316 ⇓P **P 14 24 41.3 +1.1**
ISR Istrita 79.08 315 ⇓P **P 14 24 41.0 +0.7**
ISR Istrita 79.08 315 ⇓P **P 14 24 41.0 +0.7**
OSL Oslo 79.08 333 *e*P **P 14 24 39.5 -0.4**
NEHR Nehoiu 79.08 316 ⇑P **P 14 24 41.5 +1.2**
KWP Kalwaria Pacla 79.11 321 *e*P **P 14 24 40.4 +0.1**
MLR Muntele Rosu 79.27 316 ⇑P **P 14 24 42.3 +0.9**
MLR Muntele Rosu 79.27 316 LR LR 15 04 51.4
comp=Z,818nm,19.6s,baz=52,slow=40
MLR Muntele Rosu 79.27 316 ⇑P **P 14 24 42.3 +0.9**
MLR Muntele Rosu 79.27 316 IAMs_20 IAMs_20 15 04 40.2
comp=Z,1μm,21.0s
SUMG Summit 79.32 356 P **P 14 24 41.8 +0.2**
SUMG pmax pmax
comp=Z,94nm,1.0s
SUMG Summit 79.32 356 *i* P **P 14 24 41.0 -0.6**
SUMG Summit 79.32 356 P **P 14 24 41.8 +0.2**
SUMG IAmb IAmb 14 24 43.4
comp=Z,94nm,1.0s
DOPR Dopca 79.37 317 ⇓P **P 14 24 42.2 +0.3**
UPNV Upernavik 79.38 2 *i* P **P 14 24 39.5 -1.8**
SECR 79.41 315 ⇓P **P 14 24 43.4 +1.3**
ARCR ARCALIA 79.44 318 ⇑P **P 14 24 43.3 +1.1**
PRD Provadia 79.45 313 P **P 14 24 41.0 -1.3**
SULR 79.47 315 ⇑P **P 14 24 43.7 +1.3**
SKAR Skarslia 79.55 335 *e*P **P 14 24 42.5 -0.1**
URZ Urewera 79.56 144 LR LR 14 57 26.1
comp=Z,339nm,19.1s,baz=322,slow=34
BMR Baia Mare 79.65 319 ⇑P **P 14 24 44.7 +1.4**
BMR Baia Mare 79.65 319 ⇑P **P 14 24 44.7 +1.4**
SCO Scoresbysund 79.67 351 *i* P **P 14 24 42.7 -0.3**
KONO Kongsberg 79.70 333 *e*P **P 14 24 44.3 +1.0**
DEL Delary 79.83 329 *i* P **P 14 24 44.0 -0.1**
VOIR 79.84 316 ⇑P **P 14 24 45.0 +0.5**
VOIR 79.84 316 ⇑P **P 14 24 45.0 +0.5**
RAZG Razgrad 79.84 314 ⇑P **P 14 24 44.2 -0.3**
UZH Uzhgorod 79.86 320 *e*P **P 14 24 44.0 -0.4**
UZH *i* 14 24 48.2
UZH *e* 14 24 53.5
UZH *e* 14 24 58.9
UZH *e*S **S 14 34 41.8 -3.9**
UZH *e* 14 35 34.3
UZH *e* 14 39 52.1
UZH *e* 14 43 15.9
ISP Isparta 79.87 307 IAMs_20 IAMs_20 15 05 47.6
comp=Z,649nm,20.0s
HYA Hoyanger 80.02 336 *e*P **P 14 24 44.6 -0.4**
GKP Gorka Klasztor 80.07 326 *e*P **P 14 24 45.5 0.0**
GKP Gorka Klasztor 80.07 326 *e*P **P 14 24 46.6 +1.1**
CJR Cluj-Napoca 80.08 318 ⇓P **P 14 24 46.6 +0.9**
CJR Cluj-Napoca 80.08 318 ⇓P **P 14 24 46.6 +0.9**
A04D Lummi Island 80.12 40 P **P 14 24 48.0 +2.2**
baz=301
ARR Arges 80.13 316 ⇑P **P 14 24 46.5 +0.5**
FOO Floro 80.14 336 *e*P **P 14 24 45.0 -0.6**
BSD Bornholm Skovb 80.15 328 *i* P **P 14 24 46.0 +0.2**
BSD IAmb IAmb 14 24 51.2
comp=Z,13nm,0.6s
BSD Bornholm Skovb 80.15 328 *e*P **P 14 24 46.7 +0.9**
CRVS Cervenica-Dubn 80.19 320 *e*P **P 14 24 46.6 +0.4**
CRVS pmax pmax
comp=Z,262nm,2.0s
CRVS Cervenica-Dubn 80.19 320 *e*P **P 14 24 46.6 +0.4**
EIL Elat 80.28 298 LR LR 15 05 30.5
comp=Z,332nm,19.0s,baz=85,slow=40
SZH Strazhica 80.36 314 P **P 14 24 46.0 -1.2**
COPA Copaceanca 80.38 315 ⇓P **P 14 24 47.5 +0.2**
OJC Ojcow 80.41 322 *e*P **P 14 24 47.6 +0.2**
OJC Ojcow 80.41 322 P **P 14 24 47.4 +0.1**
OJC pmax pmax
comp=Z,246nm,1.5s
OJC Ojcow 80.41 322 P **P 14 24 47.4 +0.1**
D03D Eldon 80.51 41 P **P 14 24 49.9 +1.9**
baz=301
EDRB Edirne 80.53 312 P **P 14 24 47.8 -0.3**
DRGR 80.56 318 ⇓P **P 14 24 48.5 +0.1**
DRGR 80.56 318 ⇓P **P 14 24 48.5 +0.1**
NIE Niedzica 80.56 321 *e*P **P 14 24 49.5 +1.2**
SUE Sulen 80.60 336 *e*P **P 14 24 48.4 +0.3**
LOT Lotru 80.62 317 ⇓P **P 14 24 48.9 +0.1**
ODD1 Odda 80.68 335 *e*P **P 14 24 48.4 -0.3**
B05A Bryant 80.70 40 P **P 14 24 50.3 +1.4**
baz=302,SNR=11
LTVH Ltavrtes, Hu 80.73 319 P **P 14 24 47.9 -1.2**
ELL Elmali 80.80 307 P **P 14 24 50.3 +0.4**
ELL pmax pmax
comp=Z,138nm,1.4s
D04E Lakebay 80.88 41 P **P 14 24 51.7 +1.8**
baz=301
DEV Deva 80.92 317 ⇑P **P 14 24 51.3 +1.2**
DEV Deva 80.92 317 ⇑P **P 14 24 51.3 +1.2**
KECS Kecovo 80.96 320 *e*P **P 14 24 51.1 +0.8**
KECS pmax pmax
comp=Z,37nm,1.8s
KECS Kecovo 80.96 320 *e*P **P 14 24 51.1 +0.8**
BLS5 Blasjo 81.07 334 *e*P **P 14 24 51.4 +0.7**
LANS Liptovska Anna 81.17 321 *e*P **P 14 24 53.0 +1.5**
LANS pmax pmax
comp=Z,42nm,1.6s
LANS Liptovska Anna 81.17 321 *e*P **P 14 24 53.0 +1.5**
E04D Cinebar 81.33 42 P **P 14 24 53.8 +1.5**
baz=302
IZAB Izabela 81.35 321 *e*P **P 14 24 53.0 +0.6**
FETY Fethiye 81.44 307 P **P 14 24 51.8 -1.3**
ALN Alexandroupoli 81.45 312 P **P 14 24 52.4 -0.7**
KDZ Kurdzhali 81.49 313 P **P 14 24 52.0 -1.3**
SNART Snartemo 81.50 333 *i* P **P 14 24 53.0 +0.1**
SNART Snartemo 81.50 333 *e*P **P 14 24 53.4 +0.4**
OKC Ostrava-Krasne 81.51 322 *e*P **P 14 24 54.4 +1.2**
OKC MLR MLR
comp=Z,2μm,15.9s
OKC Ostrava-Krasne 81.51 322 *e*P **P 14 24 54.4 +1.2**
OKC AMS AMS 15 04 20.0
comp=Z,2μm,15.9s
C06D Leavenworth 81.56 40 P **P 14 24 54.7 +1.1**
baz=303
PSZ Piszkesteto 81.60 320 ⇑P **P 14 24 54.9 +1.1**
PSZ Piszkesteto 81.60 320 ⇑P **P 14 24 54.9 +1.1**
PSZ Piszkesteto 81.60 320 P **P 14 24 54.1 +0.3**
RDO Rodhopi 81.66 312 P **P 14 24 53.0 -1.2**
BSZH Besenyszg 81.72 320 P **P 14 24 53.7 -0.7**
PUNG Punghina 81.73 316 ⇓P **P 14 24 55.7 +1.3**
YER Yerkesik 81.76 308 P **P 14 24 54.7 -0.2**
ATD Arta Tunnel 81.78 279 LR LR 15 02 09.3
comp=Z,196nm,19.2s,baz=80,slow=36
DJES Djerdap 81.78 316 *e*P **P 14 24 53.8 -1.0**
EZN Ezine 81.79 311 P **P 14 24 55.8 +0.9**
BZS Buzias 81.82 318 ⇑P **P 14 24 55.5 +0.5**
BZS Buzias 81.82 318 ⇑P **P 14 24 55.5 +0.5**
MORC Moravsky Berou 81.87 323 ⇑P **P 14 24 55.5 +0.3**
MORC Moravsky Berou 81.87 323 ⇑P **P 14 24 55.5 +0.3**
MORC Moravsky Berou 81.87 323 *e*P **P 14 24 55.0 -0.2**
VYHS Vyhne 81.88 321 *e*P **P 14 24 55.7 +0.5**
VYHS pmax pmax
comp=Z,116nm,1.5s
VYHS Vyhne 81.88 321 *e*P **P 14 24 55.7 +0.5**
GADA Gvkgeada 81.90 311 P **P 14 24 54.8 -0.6**
MUD Monsted U'grnd 81.90 331 *i* P **P 14 24 54.0 -1.1**
MUD IAmb IAmb 14 24 59.9
comp=Z,18nm,0.9s
KSP Ksiaz 81.93 324 *e*P **P 14 24 55.7 +0.3**
KSP Ksiaz 81.93 324 P **P 14 24 56.2 +0.8**
KSP pmax pmax
comp=Z,46nm,1.6s
AMBH Ambrzfalva 81.96 319 P **P 14 24 53.9 -1.8**
LTY Liberty 82.05 40 P **P 14 24 55.2 -1.1**
LTY IAmb IAmb 14 24 58.2
comp=Z,41nm,1.1s
KRLC Kraliky 82.11 323 *e*P **P 14 24 56.6 +0.2**
KRLC MLR MLR
comp=Z,2μm,14.2s
KRLC Kraliky 82.11 323 *e*P **P 14 24 56.6 +0.2**
KRLC AMS AMS 15 05 00.0
comp=Z,2μm,14.2s
PRK Paraskevi 82.11 310 P **P 14 24 57.0 +0.4**
DPC Dobruska-Polom 82.19 324 *e*P **P 14 24 57.5 +0.6**
DPC MLR MLR
comp=Z,2μm,17.4s
DPC Dobruska-Polom 82.19 324 *e*P **P 14 24 57.5 +0.6**
DPC AMS AMS 15 05 10.0
comp=Z,2μm,17.4s
CHVC Chvalec 82.20 324 *e*P **P 14 24 57.2 +0.3**
CHVC *e*x x 14 25 02.2
CHVC AMS AMS 15 05 00.0
comp=Z,2μm,15.4s
MDVR Moldovita 82.21 317 ⇑P **P 14 24 57.9 +0.8**
RUE Ruedersdorf 82.24 326 *e*P **P 14 24 58.3 +1.3**
RUE Ruedersdorf 82.24 326 *e*P **P 14 24 58.0 +1.0**
comp=Z,300nm,1.7s,baz=51,slow=5.1
UPC Upice 82.27 324 *e*P **P 14 24 58.7 +1.5**
UPC MLR MLR
comp=Z,3μm,17.4s
UPC Upice 82.27 324 *e*P **P 14 24 58.7 +1.5**
UPC AMS AMS 15 05 10.0
comp=Z,3μm,17.4s
H04D Lebanon 82.30 43 P **P 14 24 59.3 +1.8**
baz=302
JAVC Velka Javorina 82.32 322 *e*P **P 14 24 58.9 +1.3**
BUD Budapest 82.33 320 P **P 14 24 57.0 -0.6**
F05D White Salmon 82.34 42 P **P 14 24 59.7 +2.0**
baz=302
I03D Drain, OR 82.36 44 P **P 14 24 59.5 +1.7**
baz=302,SNR=5.3
VTS Vitosha 82.39 314 ⇑P **P 14 24 59.3 +1.1**
VTS Vitosha 82.39 314 ⇑P **P 14 24 59.3 +1.1**
VTS Vitosha 82.39 314 P **P 14 24 57.0 -1.2**
ZAGS Zajecar 82.40 316 *e*P **P 14 24 56.9 -1.1**
KAVA Kavala 82.40 312 P **P 14 24 56.9 -1.2**
SIGR SIGRI 82.41 310 P **P 14 24 56.8 -1.4**
KUBS Kucevo 82.42 317 *e*P **P 14 24 56.6 -1.6**
ZAPS Zavoj 82.43 315 *e*P **P 14 24 58.9 +0.6**
THAS Thassos island 82.47 312 P **P 14 24 56.7 -1.7**
BODT Bodrum 82.48 308 P **P 14 24 56.8 -1.8**
SMG Samos 82.49 309 P **P 14 24 57.5 -1.1**
SRO Srobarova 82.55 321 *e*P **P 14 24 59.5 +0.8**
SRO Srobarova 82.55 321 *e*P **P 14 24 59.5 +0.8**
VRAC Vranov 82.65 323 ⇑P **P 14 25 00.4 +1.2**
VRAC Vranov 82.65 323 LR LR 15 05 51.8
comp=Z,2μm,18.5s,baz=52,slow=39
VRAC Vranov 82.65 323 ⇑P **P 14 25 00.4 +1.2**
VRAC Vranov 82.65 323 *e*P **P 14 24 59.4 +0.2**
NVR Nevrokopi 82.65 313 P **P 14 24 58.2 -1.2**
K02D Willamette Mer 82.68 45 P **P 14 25 00.9 +1.3**
baz=301,SNR=6.1
CHOS Chios island 82.69 310 P **P 14 24 58.3 -1.4**
G05D Wamic, OR 82.77 42 P **P 14 25 01.3 +1.4**
baz=303
MODS Modra-Piesok 82.81 322 *e*P **P 14 25 00.6 +0.5**
MODS pmax pmax
comp=Z,133nm,1.7s
MODS Modra-Piesok 82.81 322 *e*P **P 14 25 00.6 +0.5**
BOVS Bovan 82.82 316 *e*P **P 14 24 59.8 -0.4**
ICESG Greenland Ices 82.84 356 *i* P **P 14 24 59.7 -0.6**
I04A Tendick Farm, 82.88 44 P **P 14 25 01.8 +1.2**
baz=302,SNR=11
KRUC Moravsky 82.89 322 *e*P **P 14 25 00.5 0.0**
BOSS Bosilegrad 82.94 315 *e*P **P 14 25 01.3 +0.4**
SRS Serrai 82.94 313 P **P 14 24 59.9 -1.0**
BSEG Bad Segeberg 83.00 329 *e*P **P 14 25 01.5 +0.6**
comp=Z,136nm,1.7s,baz=51,slow=5.1
BSEG *e*pP **pP 14 25 10.4 +0.1**
baz=51,slow=5.2
L02E Cave Junction 83.00 46 P **P 14 25 02.6 +1.4**
baz=302
PVCC Panska Ves 83.00 324 AMS AMS 15 06 10.0
comp=Z,2μm,17.0s
ZST Bratislava 83.00 321 *e*P **P 14 25 01.8 +0.7**
ZST pmax pmax
comp=Z,226nm,1.8s
ZST Bratislava 83.00 321 *e*P **P 14 25 01.8 +0.7**
ILULI Ilulissat 83.04 0 P **P 14 25 00.5 -0.3**
ILULI pmax pmax
comp=Z,83nm,1.0s
ILULI Ilulissat 83.04 0 *i* P **P 14 25 00.2 -0.6**
ILULI Ilulissat 83.04 0 P **P 14 25 00.5 -0.3**
OUR Ouranopolis 83.09 312 P **P 14 25 00.4 -1.2**
BRG Berggiesshubel 83.12 325 ⇑*i*P **P 14 25 01.7 +0.1**
BRG Amp 14 25 04.2
comp=Z,127nm,1.8s
BRG Berggiesshubel 83.12 325 S **S 14 35 27.0 +7.6**
BRG Amp 15 06 26.0
comp=Z,3.7nm,16.4s
BRG Amp 15 06 30.0
comp=N,1.4nm,15.6s
BRG Amp 15 06 30.0
comp=E,2.4nm,15.6s
BRG Berggiesshubel 83.12 325 ⇑*i*P **P 14 25 01.7 +0.1**
BRG pmax pmax
comp=Z,127nm,1.8s
BRG MLR MLR
comp=N,1μm,15.6s
BRG MLR MLR
comp=E,2μm,15.6s
BRG Berggiesshubel 83.12 325 *e*P **P 14 25 02.1 +0.5**
comp=E,127nm,1.8s,baz=51,slow=5.1
FRGS Fruska Gora 83.14 318 ⇑P **P 14 25 01.9 0.0**
FRGS Fruska Gora 83.14 318 *e*P **P 14 25 00.8 -1.1**
D08A Wollman Farm, 83.16 40 P **P 14 25 00.7 -1.2**
D08A IAmb IAmb 14 25 04.3
comp=Z,58nm,1.0s
BARS Barje 83.18 315 *e*P P 14 24 56.5 -5.6
BARS Barje 83.18 315 *e*P **P 14 25 01.9 -0.2**
I05D Terrebonne, OR 83.24 43 P **P 14 25 03.8 +1.3**
baz=303,SNR=9.7
TREC Trest 83.25 323 AMS AMS 15 05 40.0
comp=Z,2μm,16.2s
MORH Mrgy, Hungar 83.25 319 ⇑P **P 14 25 03.1 +0.7**
MORH Mrgy, Hungar 83.25 319 P **P 14 25 02.1 -0.2**
SOH Sokhos 83.25 313 P **P 14 25 01.3 -1.3**
GRUS Gruza 83.29 316 *e*P **P 14 25 02.2 -0.4**
TRUS Trudelj 83.30 317 *e*P **P 14 25 02.7 0.0**
EGYH Egyhazaskeszo 83.32 321 P **P 14 25 01.7 -1.0**
CLL Collm 83.33 326 ⇑*i*P **P 14 25 02.5 -0.2**
CLL *e**PP **pP 14 25 11.0 -1.1**
CLL *e*S **S 14 35 17.0 -4.5**
CLL pmax pmax
comp=Z,124nm,1.6s
CLL Collm 83.33 326 ⇑*i*P **P 14 25 02.5 -0.2**
comp=Z,124nm,1.6s
CLL *e*pP **pP 14 25 11.0 -1.1**
CLL *e*S **S 14 35 17.0 -4.5**
CLL *e*SP **SPn 14 36 00.0 -11**
CLL *e*PPS PPS 14 36 33.0
CLL *e*x x 14 37 30.0
CLL *e*SS **SS 14 40 42.0 -3.8**
CLL *e*SSS SSS 14 44 12.0
CLL *e*x x 14 45 37.0
CLL *e*SSSS 14 47 13.0
CLL Lmax 15 06 00.0
CLL Collm 83.33 326 *e*P **P 14 25 02.8 +0.1**
comp=Z,124nm,1.6s,baz=51,slow=5.1
CLL Collm 83.33 326 P **P 14 25 02.4 -0.3**
CLL IAmb IAmb 14 25 05.7
comp=Z,26nm,0.8s
PRU Pruhonice 83.34 324 *e*P **P 14 25 03.2 +0.4**
PRU *e* 14 25 08.4
PRU MLR MLR
comp=Z,2μm,18.2s
PRU Pruhonice 83.34 324 *e*P **P 14 25 03.2 +0.4**
PRU *e*pP **PcP 14 25 08.4 +1.2**
PRU AMS AMS 15 05 50.0
comp=Z,2μm,18.2s
J04D Umpqua Nationa 83.36 44 P **P 14 25 05.2 +1.9**
baz=302,SNR=8.9
KNT Kendrikon 83.37 313 P **P 14 25 02.2 -0.9**
FBE Freiberg 83.39 325 *e*P **P 14 25 03.8 +0.8**
comp=Z,146nm,1.5s,baz=51,slow=5.1
FBE *e*pP **pP 14 25 12.8 +0.4**
baz=51,slow=5.2
SELS Selova 83.40 316 *e*P **P 14 25 03.4 +0.1**
NEW Newport 83.47 38 LR LR 15 02 50.5
comp=Z,91nm,21.3s,baz=336,slow=36
NEW Newport 83.47 38 P **P 14 25 04.3 +0.8**
baz=305,SNR=35
VAY Valandovo 83.49 314 *i* P **P 14 25 02.9 -0.8**
PAIG Paliouri 83.50 312 P **P 14 25 02.9 -0.9**
HORT Hortiatis 83.53 313 P **P 14 25 01.7 -2.4**
STIP Stip 83.54 314 *i* P **P 14 25 02.3 -1.7**
FLTG Flechtingen 83.57 327 *e*P **P 14 25 04.1 +0.2**
comp=Z,137nm,1.5s,baz=51,slow=5.1

FLTG *e*pP **pP** **14 25 13.0 -0.3**
baz=51,slow=5.2
SOP Sopron 83.60 321 P **P** **14 25 04.2 +0.1**
DIVS Divibare 83.61 317 P **P** **14 25 03.6 -0.9**
DIVS IAmb IAmb 14 25 07.0
comp=Z,42nm,1.3s
DIVS IAMs_20 IAMs_20 15 05 57.3
comp=Z,968nm,18.0s
DIVS Divibare 83.61 317 *e*P **P** **14 25 03.9 -0.5**
KOVH Kovagotottos 83.63 319 P **P** **14 25 03.4 -1.0**
L04D Klamath Falls 83.79 45 P **P** **14 25 06.7 +1.3**
baz=302,SNR=13
YBH Yreka Blue Hor 83.79 46 LR LR 14 57 01.4
comp=Z,327nm,19.8s,baz=302,slow=32
GRG Griva 83.79 313 P **P** **14 25 03.5 -1.8**
PBCC Pribram 83.80 324 *e*P **P** **14 25 05.2 0.0**
IVAS Ivanjica 83.80 316 *e*P **P** **14 25 04.2 -1.2**
CONA Conrad Observa 83.84 322 *e*P **P** **14 25 06.2 +0.7**
comp=Z,84nm,1.4s,SNR=31
SKO Skopje 83.87 315 *i*P **P** **14 25 05.8 +0.2**
J05D Fort Rock, OR 83.88 44 P **P** **14 25 07.1 +1.2**
baz=303,SNR=28
M02C Callahan 83.88 46 P **P** **14 25 07.5 +1.7**
baz=302
KYMI Kymi, Euboea I 83.89 311 P **P** **14 25 04.9 -0.9**
K04D Chiloquin, OR 83.91 45 P **P** **14 25 07.5 +1.5**
baz=303,SNR=9.3
ASSE Asse, Remlinge 83.97 327 *e*P **P** **14 25 06.5 +0.6**
comp=Z,206nm,2.1s,baz=51,slow=5.1
NEUB Neuenburg 84.00 326 *e*P **P** **14 25 06.7 +0.6**
comp=Z,129nm,1.5s,baz=51,slow=5.1
NEUB *e*pP **pP** **14 25 15.7 +0.1**
baz=51,slow=5.2
NRDL Niedersach Rie 84.00 328 *e*P **P** **14 25 06.8 +0.8**
comp=Z,258nm,2.2s,baz=51,slow=5.1
RAR Rarotonga 84.00 118 LR LR 14 56 30.4
comp=Z,101nm,19.2s,baz=289,slow=31
SJES Sjenica 84.08 316 *e*P **P** **14 25 04.7 -2.2**
BBLS Lazići 84.10 317 *e*P **P** **14 25 07.3 +0.4**
SANT Santorini 84.11 308 IAMs_20 IAMs_20 15 08 44.9
comp=Z,388nm,19.0s
TANN Tannenbergstha 84.15 325 *e*P **P** **14 25 07.4 +0.4**
comp=Z,142nm,2.1s,baz=51,slow=5.1
TANN *e*pP **pP** **14 25 16.4 -0.1**
baz=51,slow=5.2
CKRC Cesky Krumlov 84.15 323 *e*P **P** **14 25 07.3 +0.3**
CKRC AMS AMS 15 06 00.0
comp=Z,2μm,17.1s
N02D Trinity Center 84.20 46 P **P** **14 25 09.4 +1.9**
baz=302,SNR=6.9
RETH Rethem/Aller, 84.20 328 *e*P **P** **14 25 07.6 +0.5**
comp=Z,510nm,2.6s,baz=51,slow=5.1
RETH *e*pP **pP** **14 25 16.5 0.0**
baz=51,slow=5.2
WERD Werda 84.21 325 *e*P **P** **14 25 07.7 +0.5**
comp=Z,122nm,2.0s,baz=51,slow=5.1
GUNZ Gunzen 84.25 325 *e*P **P** **14 25 08.0 +0.5**
comp=Z,238nm,2.2s,baz=51,slow=5.1
GUNZ *e*pP **pP** **14 25 17.0 +0.1**
baz=51,slow=5.2
PLN Plauen 84.26 325 *e*P **P** **14 25 08.0 +0.5**
comp=Z,58nm,1.5s,baz=51,slow=5.1
PLN *e*pP **pP** **14 25 17.2 +0.2**
baz=51,slow=5.2
NKC Novy Kostel 84.27 325 *e*P **P** **14 25 07.7 +0.2**
NKC *e* 14 25 12.3
NKC MLR MLR
comp=Z,5μm,17.8s
NKC Novy Kostel 84.27 325 *e*P **P** **14 25 07.7 +0.2**
NKC *e*pP **PcP** **14 25 12.3 +1.0**
NKC AMS AMS 15 07 10.0
comp=Z,5μm,17.8s
WERN Wernitzgruen 84.27 325 *e*P **P** **14 25 08.2 +0.6**
comp=Z,195nm,2.3s,baz=51,slow=5.1
WERN *e*pP **pP** **14 25 17.1 +0.1**
baz=51,slow=5.2
CLZ Clausthal 84.29 327 *e*P **P** **14 25 08.5 +0.8**
comp=Z,183nm,1.6s,baz=51,slow=5.1
CLZ *e*pP **pP** **14 25 17.5 +0.4**
baz=51,slow=5.2
M04C Macdoel 84.31 45 P **P** **14 25 09.5 +1.3**
baz=303,SNR=18
KHC Kasperske Hory 84.35 324 *i*P **P** **14 25 08.0 0.0**
KHC pmax pmax
comp=Z,46nm,2.1s
KHC Kasperske Hory 84.35 324 *e*P **P** **14 25 08.2 +0.2**
KHC AMS AMS 15 06 20.0
comp=Z,2μm,17.0s
ARSA Arzberg 84.42 321 *e*P **P** **14 25 08.5 +0.2**
comp=Z,38nm,1.7s,SNR=14
MOX Moxa 84.43 326 *e*P **P** **14 25 08.7 +0.4**
comp=Z,171nm,2.4s,baz=51,slow=5.1
MOX *e*pP **pP** **14 25 17.7 0.0**
baz=51,slow=5.2
MOX *e*L L 15 08 30.2
GEC2 GERESS Array S 84.46 323 *e*P **P** **14 25 08.9 +0.2**
comp=Z,133nm,2.2s,baz=51,slow=5.1
GEC2 *e*pP **pP** **14 25 17.8 -0.2**
baz=51,slow=5.2
GERES GERESS Array B 84.46 323 P **P** **14 25 08.4 -0.3**
comp=Z,5.8nm,0.8s,baz=53,slow=5.1,SNR=37
GERES LR LR 15 06 56.9
comp=Z,2μm,18.2s,baz=55,slow=39
KOGS Kog 84.48 320 *i*P **P** **14 25 08.2 -0.5**
I07A Izee 84.48 43 P **P** **14 25 07.9 -1.0**
I07A IAmb IAmb 14 25 11.7
comp=Z,48nm,1.2s
VLY Voula,Athens 84.50 310 P **P** **14 25 06.9 -2.0**
FNA Florina 84.54 314 P **P** **14 25 08.2 -1.0**
FNA pmax pmax
comp=Z,23nm,1.0s
FNA Florina 84.54 314 P **P** **14 25 08.2 -1.0**
FNA IAmb IAmb 14 25 10.4
comp=Z,22nm,1.0s
KZN Kozani 84.55 313 P **P** **14 25 07.7 -1.5**
O02D Mt. Diablo Mer 84.57 47 P **P** **14 25 10.9 +1.5**
baz=302,SNR=9.2
MANZ Manzenberg 84.59 325 *e*P **P** **14 25 09.7 +0.5**
comp=Z,50nm,2.2s,baz=51,slow=5.1
MANZ *e*pP **pP** **14 25 18.7 +0.1**
baz=51,slow=5.2
PHP Peshkopia 84.65 315 P **P** **14 25 08.7 -1.0**
ROTZ Rotzenmuhle 84.67 325 *e*P **P** **14 25 10.3 +0.7**
comp=Z,69nm,2.2s,baz=51,slow=5.1
ROTZ *e*pP **pP** **14 25 19.4 +0.3**
baz=51,slow=5.2
GTTG Gottingen 84.68 327 *e*P **P** **14 25 10.2 +0.6**
comp=Z,184nm,1.7s,baz=51,slow=5.1
WET Wettzell 84.71 324 *e*P **P** **14 25 10.4 +0.6**
comp=Z,102nm,2.0s,baz=51,slow=5.1
OHR Ohrid 84.74 314 *i*P **P** **14 25 11.0 +0.8**
MOA Molln 84.75 322 *e*P **P** **14 25 10.5 +0.4**
comp=Z,25nm,1.1s,SNR=8.6
BORG Borgarnes 84.77 348 LR LR 15 04 27.7
comp=Z,372nm,20.4s,baz=32,slow=37
AGG Agios Georgios 84.86 312 P **P** **14 25 08.3 -2.5**
AGG Agios Georgios 84.86 312 P **P** **14 25 08.9 -1.9**
AGG pmax pmax
comp=Z,41nm,1.1s
AGG Agios Georgios 84.86 312 P **P** **14 25 08.9 -1.9**
AGG IAmb IAmb 14 25 11.9
comp=Z,41nm,1.1s
PDG Podgorica 84.98 316 ⇑P **P** **14 25 12.4 +1.2**
SOKA Soboth 85.03 321 *e*P **P** **14 25 11.4 -0.2**
comp=Z,80nm,1.6s,SNR=21
IDI Anoyia 85.06 307 LR LR 15 09 02.9
comp=Z,424nm,19.4s,baz=29,slow=40
GOLS Golise 85.09 320 *i*P **P** **14 25 11.3 -0.4**
comp=Z,186nm,2.2s
UBBA Unterbreizbach 85.12 326 *e*P **P** **14 25 12.2 +0.5**
comp=Z,227nm,2.2s,baz=51,slow=5.1
O03E Paynes Creek 85.14 47 P **P** **14 25 12.6 +0.4**
baz=303,SNR=11
TIR Tirane 85.20 315 ⇑P **P** **14 25 14.2 +1.8**
TIR Tirane 85.20 315 ⇑P **P** **14 25 14.2 +1.8**
TIR Tirane 85.20 315 IAMs_20 IAMs_20 15 09 59.3
comp=Z,1μm,18.0s
GRF Grafenberg Arr 85.22 325 *e*P **P** **14 25 13.1 +0.7**
comp=Z,272nm,1.8s,baz=51,slow=5.1
GRF *e*L L 15 11 34.9
comp=Z,2μm,18.4s
IBBN Ibbenburen 85.23 328 *e*P **P** **14 25 12.5 +0.2**
comp=Z,135nm,1.2s,baz=51,slow=5.1
SFJD Kangerlussuaq 85.27 0 LR LR 15 05 21.3
comp=Z,528nm,18.8s,baz=340,slow=37
SFJD Kangerlussuaq 85.27 0 P **P** **14 25 11.6 -0.6**
SFJD pmax pmax
comp=Z,99nm,1.1s
SFJD Kangerlussuaq 85.27 0 *i*P **P** **14 25 10.8 -1.4**
SFJD Kangerlussuaq 85.27 0 P **P** **14 25 11.6 -0.6**
OBKA Obir 85.40 321 *e*P **P** **14 25 12.2 -1.2**
comp=Z,27nm,1.1s,SNR=6.5
VAM Vamos 85.48 308 P **P** **14 25 12.8 -1.1**
JAN Janina 85.49 313 P **P** **14 25 11.4 -2.5**
RJOB Jochberg 85.61 323 *e*P **P** **14 25 15.2 +0.8**
comp=Z,103nm,1.6s,baz=51,slow=5.1
KBA Koelnbreinsper 85.72 322 *i*P **P** **14 25 14.7 -0.4**
comp=Z,32nm,1.0s,SNR=14
DY2G Dye2 85.74 358 *i*P **P** **14 25 13.5 -1.4**
DY2G IAmb IAmb 14 25 16.8
comp=Z,24nm,0.7s
MYKA Terra Mystica 85.83 322 *e*P **P** **14 25 15.9 +0.4**
comp=Z,27nm,1.2s,SNR=10.0
CEY Cerknica 85.92 321 *i*P **P** **14 25 15.6 -0.4**
comp=Z,278nm,2.1s
MSO Missoula 86.06 38 P **P** **14 25 17.4 +0.6**
baz=308,SNR=30
ITM Ithomi 86.11 310 P **P** **14 25 15.0 -2.0**
ITM Ithomi 86.11 310 P **P** **14 25 16.4 -0.7**
ANGG Ammassalik, Gr 86.13 355 *i*P **P** **14 25 12.4 -4.0**
ISOG Isortoq, Green 86.30 355 *i*P **P** **14 25 15.6 -1.7**
ABTA Abfaltersbach 86.37 322 *e*P **P** **14 25 18.3 0.0**
comp=Z,55nm,1.1s,SNR=13
WATA Walderalm 86.51 323 *i*P **P** **14 25 19.8 +0.9**
comp=Z,37nm,1.3s,SNR=10
WTTA Wattenberg 86.52 323 *e*P **P** **14 25 20.2 +1.1**
comp=Z,90nm,1.6s,SNR=18
STAL STALIGIAL 86.56 322 P **P** **14 25 18.3 -0.8**
STAL IAmb IAmb 14 25 21.2
comp=Z,68nm,1.2s
MOTA Moosalm 86.75 323 *e*P **P** **14 25 19.9 -0.3**
comp=Z,22nm,0.8s,SNR=6.1
SQTA Sankt Quirin 86.78 323 *e*P **P** **14 25 19.8 -0.4**
comp=Z,51nm,1.6s,SNR=9.5
RETA Reutte 86.84 323 *e*P **P** **14 25 21.7 +1.2**
comp=Z,28nm,1.5s,SNR=6.5
BTNL Ternell 87.13 328 PcP **P** **14 25 22.1 +0.4**
FETA Feichten 87.16 323 *e*P **P** **14 25 22.0 -0.1**
comp=Z,23nm,1.0s,SNR=8.8
MEM Membach 87.18 328 x x 14 25 24.4
MEM x x 14 25 27.1
BHOU Houvegnez 87.35 328 PcP **P** **14 25 22.6 -0.2**
BSTI Sart Tilman 87.40 328 P **P** **14 25 21.2 -1.8**
BSTI x P 14 25 29.0 +6.0
FRB Frobisher Bay 87.42 8 LR LR 15 07 12.3
comp=Z,1μm,19.3s,baz=346,slow=38
DAVA Damuels 87.44 324 *e*P **P** **14 25 23.4 -0.1**
comp=Z,61nm,1.8s,SNR=7.9
EGMT Eagleton 87.52 35 P **P** **14 25 24.6 +0.8**
baz=310,SNR=62
BCLA Clavier 87.63 328 x P 14 25 29.1 +4.9
EKA Eskdalemuir Ar 87.64 335 LR LR 15 09 54.6
comp=Z,2μm,18.0s,baz=38,slow=39
EKA Eskdalemuir Ar 87.64 335 P **P** **14 25 23.5 -0.6**
ESK Eskdalemuir 87.67 335 P **P** **14 25 23.1 -1.1**
ESK pmax pmax
comp=Z,35nm,1.1s
ESK Eskdalemuir 87.67 335 P **P** **14 25 23.1 -1.1**
ESK IAmb IAmb 14 25 24.9
comp=Z,35nm,1.1s
WLF Walferdange 87.74 327 x **P** **14 25 27.4 +2.7**
BGES Gesves 87.76 328 x **P** **14 25 27.3 +2.6**
DAVOX Davos/Dischmat 87.76 323 LR LR 15 10 08.2
comp=Z,1μm,18.4s,baz=46,slow=39
HLID Hailey 87.78 41 P **P** **14 25 26.7 +1.4**
baz=307,SNR=49
RCHB Rochefort 87.85 328 P **P** **14 25 23.5 -1.6**
RCHB PcP **PcP** **14 25 25.6 -1.4**
BMRD Maredsous 87.97 328 P **P** **14 25 24.3 -1.4**
BMRD PcP **PcP** **14 25 25.6 -1.9**
BMRD x x 14 25 28.6
BMRD x x 14 25 31.1
BOZ Bozeman (W) 88.08 38 P **P** **14 25 27.3 +0.7**
baz=309,SNR=34
TUE Stuetta 88.24 323 P **P** **14 25 27.1 -0.3**
TUE IAmb IAmb 14 25 31.1
comp=Z,40nm,1.0s
TIP Timpagrande 88.38 314 IAmb IAmb 14 25 31.4
comp=Z,19nm,1.1s
TIP IAMs_20 IAMs_20 15 12 12.6
comp=Z,683nm,19.0s
NVAR Mina Array Bea 88.43 47 P **P** **14 25 29.5 +1.0**
comp=Z,6.9nm,0.7s,baz=278,slow=4.2,SNR=55
NVAR LR LR 15 01 53.5
comp=Z,182nm,19.2s,baz=282,slow=33
MLAC Mammoth, Mammo 88.54 48 P **P** **14 25 31.1 +2.0**
baz=305
AQU L'Aquila 88.55 318 P **P** **14 25 32.0 +3.2**
HINF Hinteralfeld 88.64 325 *e*P **P** **14 25 28.3 -0.8**
HINF pmax pmax
comp=Z,30nm,1.7s
HAU Haudompre 88.77 326 *e*P **P** **14 25 33.7 +4.1**
HAU pmax pmax
comp=Z,28nm,1.2s
ELK Elko 88.99 43 LR LR 15 00 24.9
comp=Z,329nm,21.1s,baz=323,slow=32
SENIN Lac Senin/Sane 89.38 324 P **P** **14 25 32.8 0.0**
VES Vestal, Richgr 89.39 49 P **P** **14 25 33.6 +0.9**
baz=305
H17A Grant Village 89.42 38 P **P** **14 25 36.1 +3.1**
baz=310,SNR=44
PKM Mcpherson Peak 89.44 50 P **P** **14 25 34.7 +1.4**
baz=304
CEL Celeste 89.47 314 IAMs_20 IAMs_20 15 08 33.3
comp=Z,633nm,21.0s
RLMT Red Lodge 89.66 37 P **P** **14 25 35.4 +1.3**
baz=311,SNR=46
CWC Cottonwood Cre 89.72 48 P **P** **14 25 35.3 +0.8**
baz=305
GRAC Grapevine Rang 89.86 47 P **P** **14 25 36.6 +1.5**
baz=306,SNR=5.3
DGMT Dagmar 89.95 32 P **P** **14 25 36.4 +1.2**
baz=314,SNR=26
LAO LASA Array 90.20 35 P **P** **14 25 37.6 +1.3**
baz=313,SNR=38
LPL La Plagne 90.24 324 *e*P **P** **14 25 38.8 +2.0**
LPL pmax pmax
comp=Z,12nm,1.0s
LPG La Plagne 90.24 324 *e*P **P** **14 25 38.4 +1.5**
LPG pmax pmax
comp=Z,11nm,0.8s
MPMC Manual Prospec 90.33 48 P **P** **14 25 37.7 +0.3**
baz=306,SNR=8.8
PPT Papeete 90.39 110 LR LR 14 57 35.8
comp=Z,286nm,21.8s,baz=282,slow=30
PPT2 Papeete2 90.40 110 *e*S **S** **14 36 26.0 -4.9**
comp=Z,776nm,26.2s
PPT2 Papeete2 90.40 110 *e*LR LR 14 54 30.5
comp=Z,637nm,23.2s
PAE Paea 90.43 110 *e*P **P** **14 25 38.7 +0.9**
comp=Z,7.9nm,0.9s
LOR Lormes 90.50 326 *e*P **P** **14 25 41.7 +4.0**
LOR pmax pmax
comp=Z,28nm,1.6s
FURC Furnace Creek, 90.50 48 P **P** **14 25 39.4 +1.5**
baz=306,SNR=12
PMOR Pomariorio Ree 90.57 107 *e*P **P** **14 25 39.9 +1.5**
comp=Z,91nm,1.4s
PMOR Pomariorio Ree 90.57 107 *e*T T 16 05 40.0
comp=Z,9.6nm,0.2s
TPNV Topopah Spring 90.62 47 P **P** **14 25 39.9 +1.2**
baz=306,SNR=23
DUG Dugway, Tooele 90.79 43 P **P** **14 25 41.2 +1.8**
baz=308,SNR=49
VAE Valguarnera 90.87 314 LR LR 15 12 51.7
comp=Z,333nm,18.8s,baz=57,slow=40
PGF Pioggiola 90.97 320 *e*P **P** **14 25 36.9 -3.2**
PGF pmax pmax
comp=Z,62nm,1.5s
NRS Narsarsuaq 91.04 358 *i*P **P** **14 25 40.6 +0.8**
BW06 Boulder Array 91.04 39 P **P** **14 25 41.4 +0.7**
baz=311,SNR=24
PD31 Pinedale Array 91.04 39 P **P** **14 25 39.8 -0.9**
PD31 IAmb IAmb 14 25 42.7
comp=Z,32nm,1.2s
PDAR Pinedale Array 91.04 39 P **P** **14 25 41.0 +0.3**
comp=Z,8.9nm,0.8s,baz=311,slow=0.9,SNR=63
PDAR PP **PP** **14 29 12.9 -3.7**
comp=Z,0.8nm,0.9s,baz=305,slow=5.4,SNR=3.2
PDAR Pinedale Array 91.04 39 P **P** **14 25 39.8 -0.9**
SHOC Shoshone, Teco 91.22 48 P **P** **14 25 42.7 +1.4**
baz=306,SNR=7.9
GSC Goldstone, Bar 91.22 49 P **P** **14 25 42.5 +1.1**
baz=306,SNR=10
FLN La Foliniere 91.46 330 *e*P **P** **14 25 45.0 +2.9**
FLN pmax pmax
comp=Z,289nm,2.4s
TUQ Turquoise Moun 91.72 48 P **P** **14 25 45.2 +1.4**
baz=306,SNR=18
VIVF Saint-Julien-l 91.76 324 *e*P **P** **14 25 47.5 +3.8**
VIVF pmax pmax
comp=Z,175nm,2.7s
HEC Hector,Ludlow 91.81 49 P **P** **14 25 45.2 +1.0**
baz=306,SNR=6.2
MURC Murrieta 91.95 50 P **P** **14 25 46.3 +1.5**
baz=306
ABPO Ambohimpanom 92.25 250 IAMs_20 IAMs_20 15 02 53.0
comp=Z,442nm,20.0s
GMRC Granite Mounta 92.28 48 P **P** **14 25 47.8 +1.4**
baz=307,SNR=14
ULM Lac du Bonnet 92.30 27 P **P** **14 25 46.1 +0.1**
comp=Z,35nm,0.9s,baz=318,slow=5.2,SNR=34
ULM LR LR 15 10 36.5
comp=Z,256nm,18.6s,baz=323,slow=38
KIBK Kibwezi 92.39 269 IAMs_20 IAMs_20 15 07 21.4
comp=Z,514nm,20.0s
PFO Pinyon Flats O 92.44 50 LR LR 15 03 26.4
comp=Z,329nm,19.4s,baz=291,slow=33
PFO Pinyon Flats O 92.44 50 P **P** **14 25 44.1 -3.1**
PFO pmax pmax
comp=Z,80nm,1.5s
PFO Pinyon Flats O 92.44 50 P **P** **14 25 44.1 -3.1**
PFO Pinyon Flats O 92.44 50 P **P** **14 25 48.3 +1.1**
baz=306,SNR=9.5
BELC Belle Mtn. Jos 92.53 49 P **P** **14 25 48.2 +0.7**
baz=306,SNR=6.7
MDND Maddock 92.53 31 P **P** **14 25 48.6 +1.5**
baz=318,SNR=8.1
KMBO Kilima Mbogo 92.53 270 P **P** **14 25 47.7 -0.3**
comp=Z,2.2nm,0.7s,baz=51,slow=14,SNR=2.8
KMBO LR LR 15 07 26.6
comp=Z,350nm,21.9s,baz=84,slow=36
KMBO Kilima Mbogo 92.53 270 IAMs_20 IAMs_20 15 06 17.8
comp=Z,392nm,22.0s
VSL Villasalto 92.72 318 IAMs_20 IAMs_20 15 13 55.1
comp=Z,994nm,19.0s
K22A Casper 92.79 38 P **P** **14 25 49.5 +0.9**
baz=313,SNR=6.5
SRU San Rafael Swe 92.85 42 P **P** **14 25 47.3 -1.7**
SRU pmax pmax
comp=Z,46nm,1.2s
SRU San Rafael Swe 92.85 42 P **P** **14 25 47.3 -1.7**
SRU IAmb IAmb 14 25 51.5
comp=Z,46nm,1.2s
IRM Iron Mountain 93.00 49 P **P** **14 25 51.1 +1.5**
baz=307,SNR=21
RJF Les Rejaudoux 93.04 326 *e*P **P** **14 25 54.0 +4.5**
RJF pmax pmax
comp=Z,56nm,1.8s
RSSD Black Hills 93.08 35 P **P** **14 25 51.4 +1.4**
RSSD Black Hills 93.08 35 P **P** **14 25 51.0 +1.0**
baz=315
BC3 Big Chuckawall 93.09 49 P **P** **14 25 51.5 +1.3**
baz=307,SNR=15
IKP In-Ko-Pah, Jac 93.25 50 P **P** **14 25 51.9 +1.1**
baz=306,SNR=5.7
O20A White River Ci 93.52 41 P **P** **14 25 53.3 +1.2**
baz=312,SNR=13
AGMN Agassiz Nation 93.82 28 P **P** **14 25 53.3 +0.3**
baz=321
VOI Vohitsoka 93.99 247 IAMs_20 IAMs_20 15 12 15.1
comp=Z,666nm,18.0s
N23A Red Feather La 94.30 39 P **P** **14 25 57.1 +1.3**
baz=313,SNR=14
WUAZ Wupatki 94.61 46 P **P** **14 25 58.6 +1.5**
baz=309,SNR=22
KEST Kesra 95.15 315 P **P** **14 25 58.2 -1.3**
comp=Z,7.7nm,1.1s,baz=106,slow=7.4,SNR=3.7
KEST LR LR 15 14 48.2
comp=Z,591nm,18.7s,baz=337,slow=39
ISCO Idaho Springs 95.23 39 P **P** **14 26 01.6 +1.5**
baz=313,SNR=6.0
MVCO Mesa Verde 95.29 43 P **P** **14 26 01.7 +1.3**
baz=311
214A Organ Pipe Nat 95.89 49 P **P** **14 26 04.5 +1.6**
baz=308,SNR=18
S22A 4UR Ranch, Cre 95.93 42 P **P** **14 26 04.6 +1.3**
baz=312,SNR=7.5
SCHQ Schefferville 96.28 9 P **P** **14 26 03.2 -0.9**
comp=Z,6.7nm,1.0s,baz=359,slow=7.1,SNR=5.1
SCHQ LR LR 15 11 33.1
comp=Z,965nm,21.6s,baz=332,slow=37
SCHQ Schefferville 96.28 9 P **P** **14 26 03.1 -1.1**
SDCO Great Sand Dun 96.70 41 P **P** **14 26 06.9 +0.1**
baz=313,SNR=6.8
ECSD EROS Data Cent 97.00 32 P Pdif 14 26 07.8 0.0
baz=320
TUC Tucson 97.01 48 P Pdif 14 26 09.9 +1.8
TUC Tucson 97.01 48 P Pdif 14 26 09.1 +0.9
baz=309
ANMO Albuquerque 98.03 43 P Pdif 14 26 14.1 +1.3
baz=312
MBAR Mbarara 98.04 274 LR LR 15 11 56.3
comp=Z,307nm,20.9s,baz=32,slow=36
ESDC Sonseca Array 99.92 325 P **Pdif** **14 26 19.9 -1.0**
comp=Z,1.2nm,0.8s,baz=18,slow=4.6,SNR=3.8
ESDC LR LR 15 17 10.6
comp=Z,916nm,18.8s,baz=18,slow=39
OK025 Westminster Rd 102.82 38 IAMs_20 IAMs_20 15 10 46.4
comp=Z,675nm,18.0s
TXAR Lajitas Array 103.57 46 Pdiff **Pdif** **14 26 39.0 +1.7**
comp=Z,1.2nm,0.8s,baz=314,slow=2.5,SNR=11
TXAR PP **PP** **14 30 48.4 -4.7**
comp=Z,1.5nm,1.0s,baz=305,slow=4.4,SNR=6.3
TXAR PKKP **PKKPdf** **14 42 37.1 -0.2**
comp=Z,0.5nm,0.8s,baz=149,slow=2.9,SNR=3.7
TORD Torodi Ar. Bea 114.99 302 PKP **PKiKP** **14 31 15.9 -1.6**
comp=Z,1.6nm,0.9s,baz=13,slow=2.2,SNR=5.6
TORD PKKP **PKKPdf** **14 42 22.7 +6.6**
comp=Z,0.7nm,0.8s,baz=282,slow=2.3,SNR=3.6
DBIC Dimbokro 124.07 301 PKP **PKPdf** **14 31 32.9 -2.1**
comp=Z,4.6nm,1.0s,baz=0.0,slow=2.0,SNR=2.1
SMRT St. Maarten 132.59 16 IAMs_20 IAMs_20 15 30 42.7
comp=Z,560nm,21.0s
SABA Saba 132.96 17 IAMs_20 IAMs_20 15 37 31.8
comp=Z,507nm,18.0s
SEUS St. Eustatius 133.15 16 IAMs_20 IAMs_20 15 24 57.5
comp=Z,501nm,21.0s
SDV Santo Domingo 138.44 31 *e*P **PKPdf** **14 32 01.9 -0.5**
SDV Santo Domingo 138.44 31 IAMs_20 IAMs_20 15 38 07.5
comp=Z,358nm,19.0s
ROSC El Rosal 140.04 39 PKP **PKPdf** **14 32 06.4 +0.8**
comp=Z,10nm,0.3s,baz=68,slow=6.7,SNR=6.4
MDP Montagnes des 147.00 4 PKPbc **PKPbc** **14 32 19.7 +0.5**
comp=Z,40nm,0.9s,baz=69,slow=2.4,SNR=10
PTGA Pitinga 151.37 20 PKP **PKPdf** **14 32 24.4 +0.1**
comp=Z,2.0nm,0.3s,baz=341,slow=4.8
PTGA PKPbc **PKPbc** **14 32 30.3 0.0**
PLCA Paso Flores 159.20 133 PKPab **PKPab** **14 33 12.8 +1.5**
comp=Z,3.7nm,0.9s,baz=283,slow=4.1,SNR=4.9
LPAZ La Paz 159.93 58 PKP **PKPdf** **14 32 36.4 +0.1**
comp=Z,0.6nm,0.3s,baz=39,slow=2.9,SNR=7.4
LPAZ PKPab **PKPab** **14 33 15.9 +0.2**
comp=Z,11nm,1.0s,baz=345,slow=5.7,SNR=7.9
LPAZ PP **PP** **14 36 55.2 -2.1**
comp=Z,0.6nm,0.4s,baz=355,slow=6.7,SNR=2.8
LPAZ La Paz 159.93 58 *e*P **PKPdf** **14 32 37.9 +1.6**
SIV San Ignacio 164.52 42 PKP **PKPdf** **14 32 40.4 +0.1**
comp=Z,3.8nm,1.0s,baz=282,slow=0.9
SIV PKPab **PKPab** **14 33 34.9 -0.1**
comp=Z,4.0nm,0.7s,baz=303,slow=3.9,SNR=4.8
SIV PP **PP** **14 37 20.3 -0.2**
comp=Z,1.2nm,0.4s,baz=327,slow=3.8,SNR=7.2
BDFB Brasilia 167.46 349 PKP **PKPdf** **14 32 42.9 +0.2**
comp=Z,2.1nm,0.9s,baz=263,slow=4.2,SNR=1.7
BDFB PKPab **PKPab** **14 33 46.6 -1.4**
comp=Z,7.4nm,0.9s,baz=1.7,slow=3.6,SNR=5.9
BDFB PP **PP** **14 37 35.8 +0.8**
comp=Z,1.5nm,0.5s,baz=145,slow=3.9,SNR=3.0

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*IDC **09** 14:17:51.3±0.8,28°.12N×129°.61E,h0km,mb3.9/18, mb1 4.1/20,mb1mx4.0/43,mbtmp4.0/20,ML3.8/2, Error ellipse: s-maj=21.4km s-min=16.0km az=111.0*
*NEIC **09** 14:17:54.5±2.1,28°.14N±0°.09×129°.3E±0°.1,h10km±2km, mb4.6/4, Error ellipse: s-maj=24.1km s-min=9.3km az=121.0*
*JMA **09** 14:17:56.7±0.2,28°.08N×129°.51E,h30km±3km,M4.1*

JMA Felt II J1.

ISC 09 14:17:55.3±1.0, 27°.99N±0°.03×129°.60E±0°.04, h29km±7km, n72, σ1§39/80, mb3.9/18, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.42**	**1**	P	**Pb**	**14 18 04.4**	**0.0**
JAM				S	**Sb**	**14 18 09.8**	**-0.7**
JAMN	**Amaminishikomi**	**0.45**	**304**	P	**Pb**	**14 18 04.7**	**-0.2**
JAMN				S	**Sb**	**14 18 10.6**	**-0.8**
JZK	**Kikaishima**	**0.46**	**46**	P	**Pn**	**14 18 06.7**	**+0.7**
JZK				S	**Sn**	**14 18 15.2**	**+2.0**
JTK	**Tokunoshima**	**0.61**	**251**	P	**Pn**	**14 18 07.7**	**-0.3**
JTK				S	**Sb**	**14 18 15.5**	**-0.3**
JOKE	**Okinoerabujima**	**1.11**	**236**	P	**Pb**	**14 18 16.2**	**+0.4**
JOKE				S	**Sn**	**14 18 30.0**	**+0.8**
JTAJ	**Takarajima**	**1.21**	**343**	P	**Pn**	**14 18 15.9**	**-0.4**
JTAJ				*e*S	**Sn**	**14 18 31.3**	**-0.4**
JYRO	**Yoronjima**	**1.40**	**227**	P	**Pb**	**14 18 20.6**	**-0.2**
JYRO				*e*S	**Sb**	**14 18 38.3**	**0.0**
JOW	**Kunigami**	**1.65**	**226**	Pn	**Pn**	**14 18 23.9**	**+1.5**
	273nm,0.3s,baz=131,slow=25,SNR=64						
JOW				Sn	**Sb**	**14 18 45.4**	**0.0**
	267nm,0.3s,baz=137,slow=27,SNR=17						
JOW	**Kunigami**	**1.65**	**226**	P	**Pn**	**14 18 23.9**	**+1.5**
JOW	**Kunigami**	**1.65**	**226**	Pn	**Pn**	**14 18 24.0**	**+1.7**
JIH	**Iheya**	**1.73**	**237**	P	**Pn**	**14 18 25.1**	**+1.6**
JIH				S	**Sn**	**14 18 46.2**	**+1.5**
JNN	**Nakanoshima**	**1.86**	**7**	P	**Pn**	**14 18 26.1**	**+0.9**
JNTH	**Nagotoyohara**	**2.03**	**224**	P	**Pn**	**14 18 29.2**	**+1.6**
JYAK	**Yakushimahirau**	**2.38**	**19**	P	**Pn**	**14 18 33.7**	**+1.4**
JYAK				*e*S	**Sn**	**14 19 02.4**	**+1.9**
JJT3	**Tamagusuku3**	**2.45**	**222**	P	**Pn**	**14 18 35.0**	**+1.6**
JKC	**Kuchinoerabu**	**2.52**	**12**	P	**Pn**	**14 18 35.7**	**+1.4**
JAGN	**Aguni-jima**	**2.52**	**237**	P	**Pn**	**14 18 35.9**	**+1.6**
JAGN				S	**Sn**	**14 19 05.7**	**+1.6**
JKDJ	**Kitadaitoujima**	**2.54**	**143**	P	**Pn**	**14 18 36.0**	**+1.5**
JKDJ				*e*S	**Sn**	**14 19 05.2**	**+0.7**
JMZ	**Minamidaito 2**	**2.60**	**146**	*e*S	**Sn**	**14 19 05.5**	**-0.6**
JMTN	**Minamitane**	**2.65**	**25**	P	**Pn**	**14 18 37.8**	**+1.6**
JTN	**Tanegashima 3**	**2.91**	**24**	P	**Pn**	**14 18 41.3**	**+1.6**
JKE	**Kume jima 2**	**3.01**	**237**	P	**Pn**	**14 18 42.1**	**+1.1**
JKE				*e*S	**Sn**	**14 19 17.2**	**+1.1**
JSU	**Suzuyama**	**3.58**	**12**	Pn	**Pn**	**14 18 51.0**	**+2.1**
JNU	**Nakatsue**	**5.23**	**12**	Pn	**Pn**	**14 19 15.2**	**+3.6**
	26nm,0.3s,baz=196,slow=8.8,SNR=88						
JNU				Sn	**Sn**	**14 20 12.3**	**+1.3**
	baz=212,slow=5.0,SNR=0.8						
JMN	**Monobe**	**6.80**	**32**	Pn	**Pn**	**14 19 35.0**	**+1.8**
JHS	**Saijyo**	**7.60**	**22**	Pn	**Pn**	**14 19 45.1**	**+0.9**
YHNB	**Yeheng**	**8.09**	**248**	Pn	**Pn**	**14 19 52.5**	**+1.6**
NACB	**Ninganchiao**	**8.14**	**244**	Pn	**Pn**	**14 19 50.7**	**-0.9**
YULB	**Yu-li**	**8.78**	**240**	Pn	**Pn**	**14 19 57.5**	**-2.8**
JWT	**Wachi**	**8.79**	**33**	Pn	**Pn**	**14 20 02.5**	**+2.0**
SSLB	**Suanglung**	**8.84**	**244**	Pn	**Pn**	**14 19 59.9**	**-1.3**
TPUB	**Ta-pu**	**9.34**	**242**	Pn	**Pn**	**14 20 07.2**	**-0.9**
KSRS	**Korea Array**	**9.54**	**352**	Pn	**Pn**	**14 20 14.8**	**+4.0**
	0.2nm,0.3s,baz=180,slow=14,SNR=5.0						
INU	**Inuyama**	**9.68**	**39**	Pn	**Pn**	**14 20 16.0**	**+3.3**
JHJ	**Hachijo jima 2**	**10.15**	**57**	Pn	**Pn**	**14 20 18.7**	**-0.5**
	4.8nm,0.3s,baz=229,slow=17,SNR=1.7						
MAJO	**Matsushiro**	**11.21**	**38**	Pn	**Pn**	**14 20 34.7**	**+1.1**
MJAR	**Matsushiro Arr**	**11.21**	**38**	Pn	**Pn**	**14 20 35.5**	**+1.9**
	0.1nm,0.3s,baz=248,slow=13,SNR=6.2						
MJAR	**Matsushiro Arr**	**11.21**	**38**		**Pn**	**14 20 34.8**	**+1.2**
MJB9	**Matsu-Tunnel**	**11.21**	**38**	Pn	**Pn**	**14 20 34.8**	**+1.2**
ASAJ	**Asahikawa**	**19.18**	**30**	P	**P**	**14 22 15.7**	**-0.9**
	0.5nm,0.3s,baz=143,slow=33,SNR=2.3						
JKA	**Kamikawa-asahi**	**19.18**	**30**	P	**P**	**14 22 16.0**	**-0.6**
JKA				IAmb	IAmb	14 22 38.6	
	comp=Z,71nm,1.4s						
SONM	**Songino Array**	**26.80**	**324**	P	**P**	**14 23 33.5**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=126,slow=10.0,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**34.98**	**95**	T	T	15 02 03.1	
	baz=290						
H11N1	**WAKE ISLAND Hy**	**34.98**	**95**	T	T	15 01 59.8	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**34.99**	**95**	T	T	15 02 04.7	
	baz=290						
H11S3	**WAKE ISLAND Hy**	**35.25**	**97**	T	T	15 02 25.2	
	baz=286						
H11S1	**WAKE ISLAND Hy**	**35.25**	**97**	T	T	15 02 24.5	
	baz=286						
H11S2	**WAKE ISLAND Hy**	**35.27**	**97**	T	T	15 02 24.0	
	baz=286						
MKAR	**Makanchi Array**	**41.30**	**310**	P	**P**	**14 25 36.7**	**-1.6**
	comp=Z,1.1nm,0.9s,baz=77,slow=13,SNR=2.1						
MKAR	**Makanchi Array**	**41.30**	**310**	P	**P**	**14 25 37.3**	**-1.0**
ZAA0	**Zalesovo Array**	**41.62**	**321**	P	**P**	**14 25 39.1**	**-1.5**
ZALV	**Zalesovo Beam**	**41.62**	**321**	P	**P**	**14 25 39.1**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=110,slow=9.9,SNR=2.4						
TIXI	**Tiksi**	**43.70**	**360**	P	**P**	**14 25 57.0**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=0,3,slow=0.4,SNR=2.5						
TIXI	**Tiksi**	**43.70**	**360**	P	**P**	**14 25 57.2**	**-0.2**
TIXI				IAmb	IAmb	14 26 19.1	
	comp=Z,9.9nm,1.4s						
KURBB	**Kurchatov Arra**	**44.45**	**315**	P	**P**	**14 26 02.6**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=101,slow=9.1,SNR=2.4						
WRA	**Warramunga Arr**	**47.87**	**174**	P	**P**	**14 26 32.2**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=353,slow=8.2,SNR=2.2						
NRIK	**Noril'sk**	**47.97**	**341**	P	**P**	**14 26 30.4**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=117,slow=9.5,SNR=2.5						
ASAR	**Alice Springs**	**51.52**	**175**	P	**P**	**14 26 59.8**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=8.6,slow=13,SNR=2.2						
ILAR	**Eielson Array**	**62.31**	**29**	P	**P**	**14 28 15.2**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=288,slow=7.2,SNR=2.6						
ILAR	**Eielson Array**	**62.31**	**29**	P	**P**	**14 28 12.7**	**-1.9**
ARCES	**ARCESS Array B**	**68.82**	**339**	P	**P**	**14 28 56.7**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=79,slow=9.3,SNR=1.4						
KBZ	**Khabaz**	**68.99**	**309**	P	**P**	**14 28 59.1**	**+1.1**
	comp=Z,4.8nm,0.9s,baz=74,slow=3.9,SNR=3.6						
FIA1	**FINESS Array S**	**71.93**	**331**	P	**P**	**14 29 15.5**	**-0.1**
FINES	**FINESS Array B**	**71.94**	**331**	P	**P**	**14 29 16.1**	**+0.5**
	comp=Z,2.4nm,0.4s,baz=71,slow=5.8,SNR=15						
AKASG	**Malin Array Be**	**74.99**	**320**	P	**P**	**14 29 33.6**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=60,slow=6.4,SNR=4.9						
YKA	**Yellowknife Ar**	**76.42**	**25**	P	**P**	**14 29 40.5**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=295,slow=6.1,SNR=2.8						
BRTR	**Keskin Array B**	**76.92**	**308**	P	**P**	**14 29 45.9**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=57,slow=1.5,SNR=5.5						
NB2	**NORSAR Subarra**	**78.27**	**334**	P	**P**	**14 29 51.9**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**78.27**	**334**	P	**P**	**14 29 51.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=50,slow=5.5,SNR=4.0						
NVAR	**Mina Array Bea**	**88.41**	**47**	P	**P**	**14 30 44.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=201,slow=4.6,SNR=2.5						
PDAR	**Pinedale Array**	**91.03**	**39**	P	**P**	**14 30 56.8**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=118,slow=5.7,SNR=2.9						
PTGA	**Pitinga**	**151.39**	**20**	PKPbc	**PKPbc**	**14 37 47.2**	**0.0**
	comp=Z,3.0nm,0.4s,baz=338,slow=23,SNR=3.5						

*IDC **09** 14:20:18.3±0.7, 28°.14N×129°.39E, h0km, mb3.8/19, mb1 4.0/22, mb1mx3.9/42, mbtmp3.9/22, ML3.2/3, Error ellipse: s-maj=20.0km s-min=13.9km az=117.0*
*JMA **09** 14:20:22.7±0.2, 28°.08N×129°.51E, h30km±3km, M4.0*
JMA Felt II J1.

ISC 09 14:20:20.7±1.5, 28°.08N±0°.03×129°.51E±0°.04, h17km±9km, n54, σ1§24/64, mb3.8/20, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.34**	**299**	P	**Pn**	**14 20 30.6**	**-0.2**
JAMN				S	**Sn**	**14 20 36.5**	**-0.7**
JAM	**Amami Oshima**	**0.34**	**14**	P	**Pn**	**14 20 30.3**	**-0.6**
JAM				S	**Sn**	**14 20 35.7**	**-1.7**
JZK	**Kikaishima**	**0.47**	**60**	P	**Pn**	**14 20 32.6**	**-0.1**
JZK				*e*S	**Sn**	**14 20 41.0**	**+0.4**
JTK	**Tokunoshima**	**0.57**	**240**	P	**Pn**	**14 20 33.7**	**-0.4**
JTK				S	**Sn**	**14 20 41.5**	**-1.6**
JOKE	**Okinoerabujima**	**1.10**	**230**	P	**Pg**	**14 20 42.2**	**+0.2**
JOKE				*e*S	**Sn**	**14 20 56.6**	**+0.6**
JTAJ	**Takarajima**	**1.10**	**346**	P	**Pg**	**14 20 41.9**	**-0.2**
JTAJ				S	**Sn**	**14 20 57.3**	**+1.1**
JYRO	**Yoronjima**	**1.41**	**222**	P	**Pb**	**14 20 46.5**	**0.0**
JYRO				S	**Sb**	**14 21 04.7**	**+0.5**
JOW	**Kunigami**	**1.66**	**222**	Pn	**Pb**	**14 20 50.0**	**-0.8**
	307nm,0.3s,baz=30,slow=10,SNR=13						
JOW				Sn	**Sn**	**14 21 09.2**	**-0.6**
	284nm,0.3s,baz=159,slow=27,SNR=9.6						
JOW	**Kunigami**	**1.66**	**222**	P	**Pn**	**14 20 49.7**	**+0.7**
JIH	**Iheya**	**1.72**	**233**	P	**Pb**	**14 20 51.1**	**-0.7**
JIH				S	**Sb**	**14 21 12.7**	**-0.4**
JNN	**Nakanoshima**	**1.79**	**10**	P	**Pb**	**14 20 52.0**	**-1.0**
JNTH	**Nagotoyohara**	**2.04**	**221**	P	**Pn**	**14 20 55.1**	**+0.8**
JYAK	**Yakushimahirau**	**2.32**	**22**	P	**Pn**	**14 20 59.6**	**+1.4**
JYAK				S	**Sb**	**14 21 28.5**	**-2.0**
JKC	**Kuchinoerabu**	**2.45**	**14**	P	**Pn**	**14 21 01.7**	**+1.8**
JKC				S	**Sn**	**14 21 31.2**	**+1.8**
JJT3	**Tamagusuku3**	**2.46**	**219**	P	**Pn**	**14 21 01.1**	**+1.0**
JAGN	**Aguni-jima**	**2.50**	**234**	P	**Pn**	**14 21 01.9**	**+1.3**
JAGN				*e*S	**Sn**	**14 21 31.8**	**+1.1**
JMTN	**Minamitane**	**2.61**	**27**	P	**Pn**	**14 21 03.8**	**+1.7**
JMTN				S	**Sn**	**14 21 35.6**	**+2.2**
JKDJ	**Kitadaitoujima**	**2.65**	**143**	P	**Pn**	**14 21 01.7**	**-1.0**
JMZ	**Minamidaito 2**	**2.72**	**145**	P	**Pn**	**14 21 02.4**	**-1.2**
JTN	**Tanegashima 3**	**2.87**	**26**	P	**Pn**	**14 21 07.2**	**+1.5**
JTN				*e*S	**Sn**	**14 21 41.9**	**+2.1**
JKE	**Kume jima 2**	**2.99**	**235**	P	**Pn**	**14 21 08.0**	**+0.7**
JKE				*e*S	**Sn**	**14 21 42.8**	**+0.1**
JNU	**Nakatsue**	**5.16**	**13**	Pn	**Pn**	**14 21 41.1**	**+3.9**
	27nm,0.3s,baz=190,slow=6.9,SNR=65						
JNU				Sn	**Sn**	**14 22 36.6**	**+0.2**
	baz=243,slow=13,SNR=0.9						
KSRS	**Korea Array**	**9.44**	**352**	Pn	Pn	14 22 41.4	+5.5
	0.3nm,0.3s,baz=173,slow=14,SNR=7.9						
JHJ	**Hachijo jima 2**	**10.18**	**58**	Pn	**Pn**	**14 22 48.2**	**+2.2**
	1.5nm,0.3s,baz=173,slow=8.9,SNR=1.1						
MJAR	**Matsushiro Arr**	**11.19**	**39**	Pn	**Pn**	**14 23 01.6**	**+1.6**
	0.1nm,0.3s,baz=247,slow=13,SNR=7.3						
ASAJ	**Asahikawa**	**19.14**	**30**	P	**P**	**14 24 42.5**	**-0.5**
	0.1nm,0.3s,baz=145,slow=34,SNR=1.2						
KLR	**Kul'dur**	**21.19**	**4**	P	**P**	**14 25 04.8**	**-0.5**
	1.5nm,0.7s,baz=53,slow=17,SNR=3.1						
CMAR	**Chiang Mai Arr**	**29.60**	**258**	P	**P**	**14 26 25.1**	**+0.1**
	0.4nm,0.7s,baz=58,slow=6.9,SNR=1.7						
CMAR				PcP	**PcP**	**14 29 30.9**	**+1.1**
	0.7nm,0.8s,baz=69,slow=1.8,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**35.07**	**95**	T	T	15 04 29.2	
	baz=289						
H11N1	**WAKE ISLAND Hy**	**35.07**	**95**	T	T	15 04 30.8	
	baz=289						
H11N3	**WAKE ISLAND Hy**	**35.08**	**95**	T	T	15 04 29.2	
	baz=289						
H11S3	**WAKE ISLAND Hy**	**35.34**	**97**	T	T	15 04 48.2	
	baz=308						
H11S1	**WAKE ISLAND Hy**	**35.35**	**97**	T	T	15 04 49.6	
	baz=308						
H11S2	**WAKE ISLAND Hy**	**35.36**	**97**	T	T	15 04 55.4	
	baz=308						
MKAR	**Makanchi Array**	**41.19**	**310**	P	**P**	**14 28 04.6**	**+0.2**
	0.5nm,0.5s,baz=94,slow=9.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**41.50**	**321**	P	**P**	**14 28 06.0**	**-0.7**
	1.1nm,0.5s,baz=105,slow=8.0,SNR=3.7						
TIXI	**Tiksi**	**43.62**	**360**	P	**P**	**14 28 22.9**	**-0.7**
	1.1nm,0.4s,baz=118,slow=3.5,SNR=2.0						
KURBB	**Kurchatov Arra**	**44.33**	**315**	P	**P**	**14 28 29.1**	**-0.6**
	0.7nm,0.5s,baz=98,slow=9.1,SNR=5.9						
AAK	**Ala-Archa**	**46.38**	**303**	P	**P**	**14 28 46.5**	**+0.1**
	1.0nm,0.7s,baz=92,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**47.97**	**174**	P	**P**	**14 28 57.6**	**-1.0**
	0.3nm,0.6s,baz=354,slow=8.3,SNR=1.1						
ASAR	**Alice Springs**	**51.62**	**175**	P	**P**	**14 29 27.4**	**+1.0**
	0.4nm,0.6s,baz=6.8,slow=13,SNR=6.2						
ILAR	**Eielson Array**	**62.28**	**29**	P	**P**	**14 30 43.2**	**+1.8**
	0.3nm,0.7s,baz=294,slow=9.7,SNR=4.2						
INK	**Inuvik**	**66.75**	**24**	P	**P**	**14 31 12.5**	**+2.0**
	0.3nm,0.5s,baz=354,slow=5.6,SNR=1.2						
ARCES	**ARCESS Array B**	**68.71**	**339**	P	**P**	**14 31 21.8**	**-1.1**
	9.7nm,1.2s,baz=312,slow=9.6,SNR=1.9						
KBZ	**Khabaz**	**68.88**	**309**	P	**P**	**14 31 25.3**	**+0.9**
	3.5nm,0.8s,baz=94,slow=6.3,SNR=4.6						
FINES	**FINESS Array B**	**71.82**	**331**	P	**P**	**14 31 40.8**	**-1.3**
	3.1nm,0.5s,baz=66,slow=5.6,SNR=17						
AKASG	**Malin Array Be**	**74.87**	**320**	P	**P**	**14 31 58.7**	**-1.6**
	0.4nm,0.3s,baz=60,slow=7.0,SNR=5.0						
YKA	**Yellowknife Ar**	**76.37**	**25**	P	**P**	**14 32 08.9**	**+0.2**
	0.5nm,0.7s,baz=303,slow=5.7,SNR=5.5						
BRTR	**Keskin Array B**	**76.80**	**308**	P	**P**	**14 32 12.2**	**+0.4**
	1.8nm,0.8s,baz=91,slow=7.5,SNR=7.0						
NB2	**NORSAR Subarra**	**78.16**	**334**	P	**P**	**14 32 17.7**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**78.16**	**334**	P	**P**	**14 32 17.0**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=51,slow=5.7,SNR=5.4						
GERES	**GERESS Array B**	**84.41**	**323**	P	**P**	**14 32 52.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=46,slow=6.3,SNR=4.7						
PDAR	**Pinedale Array**	**91.02**	**39**	P	**P**	**14 33 24.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=324,slow=4.5,SNR=3.0						
PTGA	**Pitinga**	**151.33**	**20**	PKPbc	**PKPbc**	**14 40 13.6**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=344,slow=6.4,SNR=5.3						

SKO 09 14:23:39.0, 41°.67N×22°.31E, h15km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.10**	**285**	*i* Pg	Pg	14 23 42.4	+0.1
STIP				*i* Sg	Sg	14 23 44.9	+0.4
VAY	**Valandovo**	**0.40**	**151**	*i* Pg	Pb	14 23 47.9	+0.1
VAY				*i* Sg	Sb	14 23 53.8	+0.1
VAY				*e*Lg	Lg	14 23 54.1	
	comp=E,24nm,0.3s						
VAY				*e*Lg	Lg	14 23 54.2	
	comp=N,13nm,0.5s						
KNT	**Kendrikon**	**0.67**	**139**	*i* Pg	Pg	14 23 52.1	-0.1
KNT				*i* Sg	Sb	14 24 02.0	+0.4
VTS	**Vitosha**	**1.17**	**36**	*e*Pg	Pg	14 24 01.6	0.0
VTS				*i* Sg	Sg	14 24 17.0	+0.1

*JMA **09** 15:08:14.2±0.9, 46°.75N×153°.40E, h30km, M4.7*
*SKHL **09** 15:08:15.3±0.6, 46°.70N×153°.40E, h67km±7km, mb4.9/10*
*MOS **09** 15:08:16.6±1.1, 46°.84N×153°.04E, h69km, mb4.3/8, Error ellipse: s-maj=9.5km s-min=6.2km az=59.6*
*NEIC **09** 15:08:18.3±1.9, 47°.0N±0°.1×152°.8E±0°.1, h63km±7km, mb4.6/49, Error ellipse: s-maj=17.2km s-min=10.7km az=137.0*
*IDC **09** 15:08:20.2±2.5, 47°.03N×152°.92E, h75km±22km, mb3.8/25, mb1 3.9/28, mb1mx3.8/48, mbtmp4.1/28, MS3.5/3, Ms1 3.5/3, ms1mx2.8/95, Error ellipse: s-maj=16.6km s-min=10.6km az=147.0*

ISC 09 15:08:16.6±0.5, 46°.76N±0°.07×153°.10E±0°.06, h56km, n225, σ1§85/234, mb4.4/62, 15C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.95**	**249**	*c i* PN	**Pn**	**15 09 16.7**	**+2.1**
KUR				*e*S	**Sn**	**15 10 02.9**	**+3.2**
KUR				pmax	pmax		
	comp=Z,157nm,0.4s						
KUR				pmax	pmax		
	comp=N,53nm,0.3s						
KUR				pmax	pmax		
	comp=E,40nm,0.2s						
KUR				smax	smax		
	comp=N,398nm,0.5s						
KUR				smax	smax		
	comp=E,82nm,0.3s						
KUR	**Kuril'sk**	**3.95**	**249**	*i* P	**Pn**	**15 09 16.8**	**+2.1**
KUR				AMB	AMB	15 09 25.7	
	comp=E,160nm,0.6s						
KUR				*e*S	**Sn**	**15 10 02.5**	**+2.8**
KUR				A	A	15 10 10.2	
	comp=E,390nm,0.5s						
KUR				A	A	15 10 10.2	
	comp=E,310nm,0.5s						
SKR	**Severo-Kuril's**	**4.40**	**26**	*e*PN	**Pn**	**15 09 20.9**	**+0.1**
SKR				pmax	pmax		
	comp=Z,44nm,0.7s						
SKR	**Severo-Kuril's**	**4.40**	**26**	*e*P	**Pn**	**15 09 19.0**	**-1.8**
SKR				AMB	AMB	15 09 31.4	
	comp=Z,110nm,0.7s						
SKR				*e*S	**Sn**	**15 10 07.2**	**-3.5**
SKR				A	A	15 10 10.0	
	comp=Z,160nm,0.3s						
SKR				A	A	15 10 10.0	
	comp=Z,130nm,0.3s						
SHO	**Shikotan**	**5.28**	**239**	⇓ *i* PN	**Pn**	**15 09 32.8**	**0.0**
SHO				*i* S	**Sn**	**15 10 32.8**	**+0.5**
SHO				pmax	pmax		
	comp=Z,60nm,0.3s						
SHO				pmax	pmax		
	comp=E,55nm,0.2s						
SHO				smax	smax		
	comp=E,42nm,0.2s						
SHO				smax	smax		
	comp=N,94nm,0.5s						
SHO	**Shikotan**	**5.28**	**239**	*i* P	**Pn**	**15 09 32.8**	**0.0**
SHO				AMB	AMB	15 09 38.7	
	comp=N,60nm,0.3s						
SHO				*i* S	**Sn**	**15 10 31.2**	**-1.1**
SHO				A	A	15 10 35.1	
	comp=N,90nm,0.3s						
SHO				A	A	15 10 35.1	
	comp=N,40nm,0.3s						
PAU	**Pauzhetka**	**5.30**	**26**	*e*P	**Pn**	**15 09 31.9**	**-1.2**
PAU				AMB	AMB	15 09 37.3	
	comp=N,40nm,0.5s						
PAU				*e*S	**Sn**	**15 10 28.5**	**-4.3**
PAU				A	A	15 10 31.7	
	comp=N,260nm,0.5s						
PAU				A	A	15 10 31.7	
	comp=N,330nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.78**	**244**	*e*PN	**Pn**	**15 09 41.5**	**+1.9**
YUK				*e*S	**Sn**	**15 10 46.9**	**+2.4**
YUK				pmax	pmax		
	comp=E,98nm,0.1s						
YUK				pmax	pmax		
	comp=Z,265nm,0.1s						
YUK				pmax	pmax		
	comp=N,28nm,0.2s						
YUK				smax	smax		
	comp=N,181nm,0.7s						
YUK				smax	smax		
	comp=E,104nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.78**	**244**	*e*P	**Pn**	**15 09 41.5**	**+1.9**
YUK				AMB	AMB	15 09 45.5	
	comp=E,130nm,0.4s						
YUK				*e*S	**Sn**	**15 10 47.0**	**+2.4**
YUK				A	A	15 10 53.8	
	comp=E,180nm,0.6s						
YUK				A	A	15 10 53.8	
	comp=E,100nm,0.6s						
GRPR	**Tuman**	**5.86**	**244**	*e*PN	**Pn**	**15 09 42.1**	**+1.4**
GRPR				S	**Sn**	**15 10 49.1**	**+2.7**
GRPR				pmax	pmax		
	comp=Z,130nm,0.3s						
GRPR				smax	smax		
	comp=N,150nm,0.6s						
GRPR				smax	smax		
	comp=E,58nm,0.3s						
GRPR	**Tuman**	**5.86**	**244**	*e*P	**Pn**	**15 09 42.4**	**+1.7**
GRPR				AMB	AMB	15 09 44.7	
	comp=E,130nm,0.3s						
GRPR				*e*S	**Sn**	**15 10 49.1**	**+2.7**
GRPR				A	A	15 10 52.0	
	comp=E,150nm,0.6s						
GRPR				A	A	15 10 52.0	
	comp=E,60nm,0.6s						
RUSJ	**Misakicho**	**6.13**	**247**	*e*PN	**Pn**	**15 09 47.1**	**+2.7**
RUSJ				S	**Sn**	**15 10 57.6**	**+4.5**
GLVR	**Golovnino**	**6.14**	**243**	*e*PN	**Pn**	**15 09 46.0**	**+1.4**
GLVR				S	**Sn**	**15 10 56.6**	**+3.1**
GLVR	**Golovnino**	**6.14**	**243**	*e*P	**Pn**	**15 09 46.0**	**+1.4**
GLVR				*e*S	**Sn**	**15 10 56.6**	**+3.1**
NEM2	**Nemuro 2**	**6.22**	**240**	P	**Pn**	**15 09 45.6**	**-0.1**
NEM2				*e*S	**Sn**	**15 10 53.3**	**-2.0**
NMR	**Nemuro--Hokkai**	**6.22**	**240**	⇑ *i* PN	**Pn**	**15 09 45.6**	**-0.1**
NMR	**Nemuro--Hokkai**	**6.22**	**240**	*i* P	**Pn**	**15 09 45.6**	**-0.1**
JRA	**Rausu**	**6.29**	**246**	P	**Pn**	**15 09 49.1**	**+2.5**
JNK	**Nakash**	**6.72**	**245**	P	**Pn**	**15 09 54.1**	**+1.6**
PEA0B	**Petropavlovsk-**	**7.01**	**23**	PN	**Pn**	**15 09 56.6**	**+0.1**
PEA0B	**Petropavlovsk-**	**7.01**	**23**	Pn	**Pn**	**15 09 56.6**	**+0.1**
PETK	**Petropavlovsk-**	**7.01**	**23**	P	**Pn**	**15 09 55.9**	**-0.6**
	comp=E,0.4nm,0.3s,baz=177,slow=11,SNR=22						
PETK				S	**Sn**	**15 11 20.3**	**+5.6**
	baz=156,slow=20,SNR=1.3						
PETK	**Petropavlovsk-**	**7.01**	**23**	PN	**Pn**	**15 09 56.4**	**-0.1**
PETK	**Petropavlovsk-**	**7.01**	**23**		**Pn**	**15 09 56.4**	**-0.1**
JTKR	**Abashiri--Toko**	**7.05**	**250**	P	**Pn**	**15 09 59.6**	**+2.6**
JAK	**Akkeshi**	**7.05**	**241**	P	**Pn**	**15 09 56.8**	**-0.3**
JAK				*e*S	**Sn**	**15 11 12.5**	**-3.4**
YSS	**Yuzh-Sakhalins**	**7.09**	**275**	*e*PN	**Pn**	**15 10 00.6**	**+3.

comp=Z,11nm,0.7s
YAK Yakutsk 20.30 327 *e*P Pn 15 12 48.5 -1.4
KSRS Korea Array 20.79 252 P Pn 15 12 56.0 +0.1
comp=Z,2.5nm,0.6s,baz=53,slow=11,SNR=9.6
KSRS Korea Array 20.79 252 P Pn 15 12 56.0 +0.1
KSRS Korea Array 20.79 252 *e*P Pn 15 12 56.0 +0.1
JNU Nakatsue 21.72 239 P **P 15 13 05.0 +2.1**
comp=Z,5.8nm,0.7s,baz=62,slow=13,SNR=1.8
JNU Nakatsue 21.72 239 P **P 15 13 02.6 -0.4**
JNU IAmb IAmb 15 13 09.4
comp=Z,30nm,1.3s
JOW Kunigami 27.92 233 P **P 15 14 03.8 +2.4**
comp=Z,4.5nm,0.5s,baz=327,slow=26,SNR=1.2
H11N2 WAKE ISLAND Hy 29.24 153 T T 15 45 39.5
baz=340,slow=75,SNR=955
H11N1 WAKE ISLAND Hy 29.25 153 T T 15 45 40.0
baz=340,slow=75,SNR=953
H11N3 WAKE ISLAND Hy 29.25 153 T T 15 45 37.8
baz=340,slow=75,SNR=645
H11S1 WAKE ISLAND Hy 30.33 154 T T 15 47 02.1
baz=341,slow=76,SNR=1904
H11S3 WAKE ISLAND Hy 30.33 154 T T 15 47 02.8
baz=341,slow=76,SNR=1649
H11S2 WAKE ISLAND Hy 30.34 154 T T 15 47 00.5
baz=341,slow=76,SNR=1287
SONM Songino Array 31.32 289 P **P 15 14 31.8 +0.4**
comp=Z,0.4nm,0.5s,baz=80,slow=25,SNR=2.1
TTA Tatalina 32.42 41 P **P 15 14 41.7 +0.9**
TTA pmax pmax
comp=Z,1.0nm,0.6s
TTA Tatalina 32.42 41 P **P 15 14 41.7 +0.9**
IMAR Indian Mountai 33.76 36 P **P 15 14 52.6 +0.2**
NACB Ninganchiao 33.79 239 P **P 15 14 52.7 -0.4**
A21K Barrow 34.00 26 P **P 15 14 55.2 +0.8**
H21K Melozitna Rive 34.11 37 P **P 15 14 56.3 +0.8**
H21K IAmb IAmb 15 14 59.3
comp=Z,9.5nm,1.5s
KTH Kantishna Hill 34.76 41 P **P 15 15 02.8 +1.6**
KTH IAmb IAmb 15 15 06.0
comp=Z,16nm,1.4s
TPUB Ta-pu 35.02 239 P **P 15 15 04.1 +0.3**
COLD Coldfoot 35.33 34 P **P 15 15 07.1 +1.2**
COLD IAmb IAmb 15 15 07.8
comp=Z,8.1nm,1.3s
MCK McKinley 35.65 40 P **P 15 15 10.4 +1.6**
MCK pmax pmax
comp=Z,11nm,1.3s
MCK McKinley 35.65 40 P **P 15 15 10.4 +1.6**
MCK IAmb IAmb 15 15 13.8
comp=Z,11nm,1.3s
TOLK Toolik Lake Re 35.74 32 P **P 15 15 10.9 +1.4**
TOLK IAmb IAmb 15 15 11.5
comp=Z,4.6nm,0.6s
SML Sawmill 35.97 44 P **P 15 15 12.1 +0.6**
MDM Murphy Dome 35.97 38 P **P 15 15 12.1 +0.6**
MDM IAmb IAmb 15 15 13.6
comp=Z,4.5nm,1.0s
DHY Denali Highway 36.36 41 P **P 15 15 1.1 +0.1**
DHY IAmb IAmb 15 15 16.4
comp=Z,6.2nm,1.1s
IL31 36.55 39 P **P 15 15 16.0 -0.3**
ILAR Eielson Array 36.55 39 P **P 15 15 15.9 -0.5**
comp=Z,0.8nm,0.6s,baz=265,slow=8.3,SNR=13
ILAR Eielson Array 36.55 39 P **P 15 15 16.2 -0.2**
BMAR Burnt Mountain 37.51 34 P **P 15 15 25.2 +0.6**
SCRK Sand Creek 37.83 40 P **P 15 15 27.3 -0.1**
L27K Beaver Creek, 38.88 41 P **P 15 15 37.8 +1.7**
L27K IAmb IAmb 15 15 41.8
comp=Z,8.4nm,1.4s
BCAR Beaver Creek A 38.90 41 P **P 15 15 34.9 -1.5**
EGAK Eagle 39.00 38 P **P 15 15 37.8 +0.8**
EGAK IAmb IAmb 15 15 50.4
comp=Z,8.0nm,1.4s
INK Inuvik 41.64 32 P **P 15 16 00.0 +1.2**
comp=Z,2.8nm,0.7s,baz=280,slow=6.8,SNR=12
INK Inuvik 41.64 32 P **P 15 16 00.1 +1.3**
ZAA0 Zalesovo Array 42.59 306 P **P 15 16 06.1 -0.7**
ZALV Zalesovo Beam 42.59 306 P **P 15 16 05.7 -1.1**
comp=Z,0.4nm,0.4s,baz=64,slow=6.7,SNR=2.7
ZALV PcP **PcP 15 17 58.0 0.0**
comp=Z,0.9nm,0.6s,baz=106,slow=3.2,SNR=4.3
ZALV LR LR 15 35 29.7
comp=Z,70nm,18.8s,baz=278,slow=38
BESE Bessie Mountai 43.15 47 P **P 15 16 11.0 -0.3**
BESE IAmb IAmb 15 16 22.0
comp=Z,27nm,1.4s
A36M Sachs Harbour 43.84 26 P **P 15 16 18.2 +1.7**
A36M IAmb IAmb 15 16 19.5
comp=Z,13nm,0.8s
C36M Paulatuk 44.81 30 P **P 15 16 25.6 +1.2**
C36M IAmb IAmb 15 16 26.3
comp=Z,6.9nm,0.5s
MK31 Makanchi Array 46.92 297 P **P 15 16 39.8 -1.6**
MK31 pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 46.92 297 P **P 15 16 39.8 -1.6**
MKAR Makanchi Array 46.92 297 P **P 15 16 40.7 -0.6**
comp=Z,0.8nm,0.6s,baz=60,slow=6.9,SNR=12
MKAR PcP **PcP 15 18 13.9 +0.8**
comp=Z,0.4nm,0.6s,baz=61,slow=4.5,SNR=2.6
MKAR Makanchi Array 46.92 297 P **P 15 16 40.0 -1.3**
MAKZ Makanchi 47.11 297 P **P 15 16 40.9 -1.9**
MAKZ pmax pmax
comp=Z,2.0nm,1.1s
MAKZ Makanchi 47.11 297 P **P 15 16 40.9 -1.9**
KURK Kurchatov 47.35 304 P **P 15 16 44.4 -0.1**
KURK 15 18 15.2
KURK Kurchatov 47.35 304 P **P 15 16 42.5 -2.1**
KURK Kurchatov NN 47.35 304 *e*P **P 15 16 44.4 -0.1**
KURBB Kurchatov Arra 47.44 304 P **P 15 16 44.4 -0.8**
comp=Z,1.2nm,0.5s,baz=70,slow=8.3,SNR=11
KURBB PcP **PcP 15 18 15.2 +0.4**
comp=Z,0.5nm,0.8s,baz=62,slow=3.8,SNR=3.2
EUNU Eureka 49.12 11 P **P 15 16 57.8 -0.1**
EUNU IAmb IAmb 15 16 58.9
comp=Z,4.5nm,0.8s
RES Resolute Bay 50.83 19 P **P 15 17 11.1 +0.3**
RES pmax pmax
comp=Z,2.0nm,1.2s
RES Resolute Bay 50.83 19 P **P 15 17 11.1 +0.3**
YKA Yellowknife Ar 50.92 37 P **P 15 17 12.9 +1.3**
comp=Z,3.0nm,0.8s,baz=295,slow=7.1,SNR=21
YKA PcP **PcP 15 18 28.2 +1.0**
comp=Z,0.5nm,0.7s,baz=295,slow=3.5,SNR=5.6
YKA Yellowknife Ar 50.92 37 P **P 15 17 10.7 -1.0**
YKA Yellowknife Ar 50.92 37 P **P 15 17 10.7 -1.0**
CMAR Chiang Mai Arr 52.36 256 P **P 15 17 24.8 +1.8**
comp=Z,1.1nm,0.3s,baz=35,slow=7.5,SNR=11
FAKI Fak Fak 52.78 207 P **P 15 17 25.4 -0.6**
GUN Gumba 54.99 275 *e*P **P 15 17 42.8 +0.3**
comp=Z,6.0nm,0.5s
KKN Kakani 55.47 275 *e*P **P 15 17 46.2 +0.3**
PKI Pulchoki 55.52 275 *e*P **P 15 17 46.2 -0.2**
PKIN Phulchoki 55.53 275 *e*P **P 15 17 46.5 +0.2**
comp=Z,4.1nm,0.5s
DMN Daman 55.71 275 *e*P **P 15 17 48.4 +0.8**
comp=Z,7.5nm,0.3s
GKN Gorkha 55.78 276 *e*P **P 15 17 49.1 +1.1**
comp=Z,13nm,0.8s
KKAR Karatay Array 55.98 299 P **P 15 17 47.7 -1.4**
KKAR Karatay Array 55.98 299 P **P 15 17 47.7 -1.4**
DANN Dangsing 56.16 277 *e*P **P 15 17 52.1 +1.2**
comp=Z,12nm,0.7s
KOLN Koldanda 56.63 276 *e*P **P 15 17 55.0 +0.9**
comp=Z,12nm,0.8s
PYUN Piuthan 56.84 277 *e*P **P 15 17 56.4 +0.8**
ARCES ARCESS Array B 57.84 341 P **P 15 18 01.5 -0.3**
comp=Z,1.5nm,0.8s,baz=21,slow=5.9,SNR=8.2
ARCES ARCESS Array B 57.84 341 P **P 15 18 00.1 -1.7**
ABKAR Akbulak array 58.41 310 P **P 15 18 05.1 -0.9**
WALA Waterton Lakes 58.44 50 P **P 15 18 07.7 +1.3**
WALA IAmb IAmb 15 18 15.1
comp=Z,6.0nm,1.4s
PLID Pearl Lake 59.67 55 P **P 15 18 15.7 +0.5**
PLID IAmb IAmb 15 18 18.1
comp=Z,3.9nm,0.9s
SUMG Summit 60.69 4 P **P 15 18 20.9 -1.0**
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 60.69 4 *i*P **P 15 18 22.0 +0.1**
SUMG Summit 60.69 4 P **P 15 18 20.9 -1.0**
LRM Limekiln Ridge 61.20 53 P **P 15 18 26.8 +1.2**
FCC Fort Churchill 61.26 33 P **P 15 18 25.9 +0.5**
FCC pmax pmax
comp=Z,4.0nm,0.8s
FCC Fort Churchill 61.26 33 P **P 15 18 25.9 +0.5**
FCC IAmb IAmb 15 18 26.6
comp=Z,3.7nm,0.8s
NVAR Mina Array Bea 62.44 62 P **P 15 18 35.7 +1.7**
comp=Z,0.8nm,0.7s,baz=288,slow=7.5,SNR=7.2
NVAR Mina Array Bea 62.44 62 P **P 15 18 34.9 +0.9**
FIA1 FINESS Array S 64.02 335 P **P 15 18 42.4 -1.4**
FINES FINESS Array B 64.02 335 P **P 15 18 43.0 -0.8**
comp=Z,3.1nm,0.4s,baz=38,slow=7.3,SNR=28
FINES PcP **PcP 15 19 17.9 -0.8**
comp=Z,1.6nm,0.6s,baz=46,slow=6.0,SNR=2.1
FINES FINESS Array B 64.02 335 P **P 15 18 42.8 -1.0**
PDAR Pinedale Array 64.75 54 P **P 15 18 50.5 +1.3**
comp=Z,1.2nm,0.7s,baz=284,slow=1.2,SNR=14
NC303 NORSAR Array S 68.01 341 P **P 15 19 09.5 +0.1**
NC303 IAmb IAmb 15 19 21.8
comp=Z,3.7nm,0.8s
NC405 NORSAR Array S 68.03 341 P **P 15 19 08.0 -1.6**
NC204 NORSAR Array S 68.10 341 P **P 15 19 08.7 -1.4**
NB201 NORSAR Array S 68.18 341 P **P 15 19 10.4 -0.1**
NB2 NORSAR Subarra 68.21 341 P **P 15 19 10.3 -0.4**
comp=Z,2.9nm,0.7s,baz=28,slow=6.5
NOA NORSAR Array B 68.21 341 P **P 15 19 10.5 -0.2**
comp=Z,2.7nm,0.6s,baz=27,slow=6.4,SNR=17
WRA Warramunga Arr 68.52 199 P **P 15 19 14.5 +1.5**
comp=Z,0.3nm,0.7s,baz=13,slow=6.2,SNR=2.7
KBZ Khabaz 70.84 314 P **P 15 19 27.5 +0.4**
comp=Z,1.6nm,0.5s,baz=297,slow=3.1,SNR=6.0
AKASG Malin Array Be 71.53 326 P **P 15 19 30.2 -0.9**
comp=Z,4.7nm,0.3s,baz=34,slow=6.2,SNR=49
AKASG Malin Array Be 71.53 326 P **P 15 19 30.7 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 71.53 326 P **P 15 19 30.7 -0.4**
AKASG IAmb IAmb 15 19 31.5
comp=Z,1.9nm,0.5s
AKBB Malin Array Si 71.53 326 P **P 15 19 30.4 -0.8**
AKBB pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 71.53 326 P **P 15 19 30.4 -0.8**
AKBB IAmb IAmb 15 19 31.1
comp=Z,6.3nm,0.7s
AS31 Alice Springs 72.22 198 P **P 15 19 37.4 +1.8**
ASAR Alice Springs 72.22 198 P **P 15 19 38.0 +2.5**
comp=Z,0.7nm,0.7s,baz=11,slow=5.4,SNR=11
ASAR Alice Springs 72.22 198 P **P 15 19 37.1 +1.6**
ASAR Alice Springs 72.22 198 P **P 15 19 37.1 +1.6**
SCHQ Schefferville 73.30 23 P **P 15 19 42.0 +0.3**
comp=Z,1.3nm,0.6s,baz=138,slow=3.5,SNR=2.0
SCHQ Schefferville 73.30 23 P **P 15 19 42.0 +0.3**
SCHQ IAmb IAmb 15 19 58.4
comp=Z,14nm,1.4s
SORM Soroca 73.93 325 ⇑P **P 15 19 45.0 -0.5**
BUR08 Bucovina Ar. S 75.55 327 P **P 15 19 55.2 +0.2**
BUR08 IAmb IAmb 15 19 55.8
comp=Z,6.4nm,0.6s
BURAR Bucovina Array 75.57 327 ⇑P **P 15 19 55.1 0.0**
BURAR Bucovina Array 75.57 327 P **P 15 19 55.3 +0.2**
TESR Tescani 75.93 325 ⇑P **P 15 19 57.2 +0.2**
DPC Dobruska-Polom 76.31 333 *e*P **P 15 19 59.4 +0.2**
DPC Dobruska-Polom 76.31 333 *e*P **P 15 19 59.4 +0.2**
CFR Carcaliu 76.42 323 ⇑P **P 15 19 59.6 -0.2**
MORC Moravsky Berou 76.42 332 ⇑P **P 15 20 00.7 +0.9**
VRI Vrincioaia 76.42 325 ⇑P **P 15 19 58.3 -1.5**
CLL Collm 76.45 336 *i* P **P 15 19 59.5 -0.4**
comp=Z,8.0nm,1.1s
TPGR Topolog 76.56 323 ⇑P **P 15 20 00.9 +0.2**
OZUR 76.61 325 ⇑P **P 15 20 02.4 +1.4**
HARR Harsova 76.90 323 ⇑P **P 15 20 03.3 +0.8**
MLR Muntele Rosu 77.05 325 ⇑P **P 15 20 04.4 +0.8**
VRAC Vranov 77.13 332 ⇓P **P 15 20 04.6 +0.8**
DRGR 77.19 328 ⇑P **P 15 20 04.4 +0.1**
VOIR 77.44 325 ⇑P **P 15 20 06.2 +0.5**
TX31 Lajitas Ar. Si 77.50 61 P **P 15 20 07.2 +0.9**
TX31 IAmb IAmb 15 20 23.1
comp=Z,6.9nm,0.9s
TX32 Lajitas Array 77.50 61 P **P 15 20 07.0 +0.7**
TXAR Lajitas Array 77.50 61 P **P 15 20 07.8 +1.5**
comp=Z,1.1nm,0.5s,baz=301,slow=5.1,SNR=17
TXAR Lajitas Array 77.50 61 P **P 15 20 07.7 +1.4**
KHC Kasperske Hory 78.22 334 *e*P **P 15 20 10.3 +0.4**
KHC Kasperske Hory 78.22 334 *e*P **P 15 20 10.3 +0.4**
CKRC Cesky Krumlov 78.28 334 *e*P **P 15 20 09.7 -0.5**
BRTR Keskin Array B 78.37 317 P **P 15 20 11.3 +0.3**
comp=Z,1.6nm,0.9s,baz=76,slow=5.5,SNR=6.9
GERES GERESS Array B 78.44 334 P **P 15 20 11.2 +0.1**
comp=Z,1.3nm,0.7s,baz=41,slow=5.7,SNR=8.9
GERES GERESS Array B 78.44 334 P **P 15 20 10.0 -1.2**
GERES GERESS Array B 78.44 334 P **P 15 20 10.0 -1.2**
CONA Conrad Observa 78.58 332 *e*P **P 15 20 12.9 +1.0**
comp=Z,4.5nm,1.0s
BZS Buzias 78.59 328 ⇑P **P 15 20 12.3 +0.3**
SOKA Soboth 79.95 332 *e*P **P 15 20 20.2 +0.8**
comp=Z,5.8nm,1.0s
KBA Koelnbreinsper 80.12 333 *e*P **P 15 20 21.3 +0.8**
comp=Z,4.2nm,0.7s
WATA Walderalm 80.42 335 *e*P **P 15 20 23.2 +1.1**
comp=Z,3.9nm,0.5s
MYKA Terra Mystica 80.43 333 *e*P **P 15 20 22.4 +0.3**
comp=Z,1.3nm,0.5s
WTTA Wattenberg 80.47 335 *e*P **P 15 20 23.4 +1.0**
comp=Z,3.2nm,0.4s
MOTA Moosalm 80.55 335 *i* P **P 15 20 23.8 +1.1**
comp=Z,6.0nm,1.2s
ABTA Abfaltersbach 80.67 334 *e*P **P 15 20 24.5 +1.1**
comp=Z,5.1nm,1.2s
H03N2 Juan Fernandez 138.76 90 T T 18 03 05.5
baz=308,slow=77,SNR=66
H03N1 Juan Fernandez 138.78 90 T T 18 02 58.3
baz=308,slow=77,SNR=118
H03N3 Juan Fernandez 138.78 90 T T 18 03 05.3
baz=308,slow=77,SNR=81

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*IDC **09** 15:09:01.2±0.8, 28°.15N×129°.41E, h0km, mb3.8/15, mb1 4.0/17, mb1mx3.7/47, mbtmp3.9/17, ML3.6/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/92, Error ellipse: s-maj=22.8km s-min=15.1km az=105.0*
*NEIC **09** 15:09:02.9±2.0, 28°.06N±0°.07×129°.5E±0°.1, h10km±1km, mb4.5/22, Error ellipse: s-maj=18.2km s-min=8.6km az=123.0*
*JMA **09** 15:09:05.8±0.2, 28°.10N×129°.50E, h32km±3km, M3.9*
JMA Felt II J1.
*NIED **09** 15:09:05.8, 28°.10N×129°.50E, h32km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; Mrr8.35; Mθθ-8.57; Mφφ0.22; Mrθ4.10; Mθφ-1.33; Mφr-0.67; Fault plane solution: M0 9.52000×10^14^ NP1:φs89.00000°, δ58.00000°, λ99.00000°. NP2:φs254.00000°, δ33.00000°, λ77.00000°.*

ISC 09 15:09:04.9±1.0, 28°.03N±0°.03×129°.57E±0°.04, h28km±7km, n91, σ1°.22/102, mb4.2/23, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.38**	**5**	P	**Pb**	**15 09 13.3**	**-0.1**
JAM				S	**Sb**	**15 09 18.7**	**-0.5**
JAMN	**Amaminishikomi**	**0.41**	**302**	P	**Pb**	**15 09 13.7**	**-0.1**
JAMN				S	**Sn**	**15 09 19.8**	**-1.8**
JZK	**Kikaishima**	**0.46**	**51**	P	**Pb**	**15 09 15.6**	**+1.0**
JZK				*e*S	**Sn**	**15 09 24.2**	**+1.4**
JTK	**Tokunoshima**	**0.60**	**246**	P	**Pb**	**15 09 17.0**	**+0.1**
JTK				S	**Sb**	**15 09 24.9**	**-0.1**
JOKE	**Okinoerabujima**	**1.11**	**233**	P	**Pn**	**15 09 25.5**	**+1.0**
JOKE				S	**Sn**	**15 09 39.5**	**+0.7**
JTAJ	**Takarajima**	**1.17**	**344**	P	**Pn**	**15 09 24.8**	**-0.5**
JTAJ				*e*S	**Sn**	**15 09 38.8**	**-1.5**
JYRO	**Yoronjima**	**1.41**	**225**	P	**Pn**	**15 09 29.8**	**+1.1**
JYRO				S	**Sn**	**15 09 48.0**	**+1.7**
JOW	**Kunigami**	**1.66**	**224**	Pn	**Pn**	**15 09 33.0**	**+1.0**
	86nm,0.3s,baz=101,slow=18,SNR=38						
JOW				Sn	**Sn**	**15 09 54.4**	**+2.0**
	176nm,0.3s,baz=203,slow=27,SNR=14						
JOW	**Kunigami**	**1.66**	**224**	P	**Pn**	**15 09 33.1**	**+1.0**
JOW				*e*S	**Sn**	**15 09 54.1**	**+1.7**
JOW	**Kunigami**	**1.66**	**224**		**Pn**	**15 09 32.9**	**+0.8**
JIH	**Iheya**	**1.73**	**236**	P	**Pn**	**15 09 34.4**	**+1.3**
JIH				S	**Sn**	**15 09 56.2**	**+1.9**
JNN	**Nakanoshima**	**1.83**	**8**	P	**Pn**	**15 09 34.7**	**+0.3**
JNN				*e*S	**Sn**	**15 09 56.6**	**0.0**
JNTH	**Nagotoyohara**	**2.04**	**223**	P	**Pn**	**15 09 38.4**	**+1.1**
JNTH				*e*S	**Sn**	**15 10 03.3**	**+1.5**
JYAK	**Yakushimahirau**	**2.35**	**20**	P	**Pn**	**15 09 42.6**	**+1.0**
JYAK				S	**Sn**	**15 10 10.5**	**+1.0**
JJT3	**Tamagusuku3**	**2.46**	**221**	P	**Pn**	**15 09 44.2**	**+1.1**
JKC	**Kuchinoerabu**	**2.49**	**13**	P	**Pn**	**15 09 44.4**	**+0.9**
JKC				*e*S	**Sn**	**15 10 13.8**	**+0.9**
JAGN	**Aguni-jima**	**2.52**	**236**	P	**Pn**	**15 09 45.1**	**+1.2**
JKDJ	**Kitadaitoujima**	**2.58**	**143**	P	**Pn**	**15 09 44.6**	**-0.2**
JKDJ				*e*S	**Sn**	**15 10 13.6**	**-1.6**
JMTN	**Minamitane**	**2.63**	**26**	P	**Pn**	**15 09 46.6**	**+1.1**
JMZ	**Minamidaito 2**	**2.65**	**146**	P	**Pn**	**15 09 45.1**	**-0.6**
JMZ				S	**Sn**	**15 10 14.3**	**-2.6**
JTN	**Tanegashima 3**	**2.89**	**25**	P	**Pn**	**15 09 50.2**	**+1.1**
JKE	**Kume jima 2**	**3.00**	**236**	P	**Pn**	**15 09 51.4**	**+0.8**
JKE				*e*S	**Sn**	**15 10 26.1**	**+0.5**
JSU	**Suzuyama**	**3.55**	**12**	P	**Pn**	**15 09 59.8**	**+1.7**
JNU	**Nakatsue**	**5.20**	**12**	Pn	**Pn**	**15 10 23.7**	**+2.9**
	25nm,0.3s,baz=215,slow=7.1,SNR=356						
JNU				Sn	**Sn**	**15 11 19.3**	**-0.6**
	baz=83,slow=5.4,SNR=0.7						
JNU	**Nakatsue**	**5.20**	**12**		**Pn**	**15 10 24.1**	**+3.3**
JMN	**Monobe**	**6.78**	**32**	Pn	**Pn**	**15 10 44.0**	**+1.4**
JHS	**Saijyo**	**7.58**	**23**	Pn	**Pn**	**15 10 54.4**	**+0.9**
YHNB	**Yeheng**	**8.07**	**247**	Pn	**Pn**	**15 11 02.4**	**+2.0**
NACB	**Ninganchiao**	**8.13**	**244**	Pn	**Pn**	**15 10 59.8**	**-1.3**
YULB	**Yu-li**	**8.77**	**240**	Pn	**Pn**	**15 11 06.2**	**-3.7**
JWT	**Wachi**	**8.77**	**33**	Pn	**Pn**	**15 11 11.5**	**+1.6**
SSLB	**Suanglung**	**8.83**	**243**		**Pn**	**15 11 09.4**	**-1.3**
TPUB	**Ta-pu**	**9.34**	**242**	Pn	**Pn**	**15 11 17.3**	**-0.3**
KSRS	**Korea Array**	**9.50**	**352**	Pn	Pn	15 11 25.2	+5.4
	0.2nm,0.3s,baz=174,slow=13,SNR=7.3						
INU	**Inuyama**	**9.67**	**39**	Pn	**Pn**	**15 11 25.2**	**+3.1**
JHJ	**Hachijo jima 2**	**10.16**	**58**	Pn	**Pn**	**15 11 30.8**	**+1.9**
	9.0nm,0.3s,baz=79,slow=20,SNR=7.4						
JHJ2	**Mitsune**	**10.18**	**58**	Pn	**Pn**	**15 11 30.6**	**+1.4**
MAJO	**Matsushiro**	**11.20**	**39**	P	**Pn**	**15 11 44.0**	**+0.9**
MAJO	**Matsushiro**	**11.20**	**39**	Pn	**Pn**	**15 11 44.0**	**+0.9**
MJAR	**Matsushiro Arr**	**11.20**	**39**	Pn	**Pn**	**15 11 43.2**	**+0.1**
	0.1nm,0.3s,baz=248,slow=14,SNR=6.8						
MJAR	**Matsushiro Arr**	**11.20**	**39**	P	**Pn**	**15 11 43.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**11.20**	**39**	Pn	**Pn**	**15 11 43.9**	**+0.8**
JTM	**Tenmabayashi**	**15.86**	**34**	Pn	Pn	15 12 35.7	-10
JTM				IAmb	IAmb	15 12 59.2	
	comp=Z,42nm,0.9s						
JKA	**Kamikawa-asahi**	**19.16**	**30**	P	**P**	**15 13 25.2**	**-0.8**
JKA				IAmb	IAmb	15 13 52.0	
	comp=Z,42nm,1.4s						
DAV	**Davao City (W)**	**21.19**	**191**	LR	LR	15 22 23.6	
	comp=Z,89nm,20.0s,baz=304,slow=38						
TOLI2	**Tolitoli**	**28.06**	**199**	P	**P**	**15 14 52.0**	**-2.0**
TOLI2				IAmb	IAmb	15 15 17.3	
	comp=Z,13nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**35.01**	**95**	T	T	15 53 13.9	
	baz=293						
H11N1	**WAKE ISLAND Hy**	**35.01**	**95**	T	T	15 53 07.1	
	baz=293						
H11N3	**WAKE ISLAND Hy**	**35.02**	**95**	T	T	15 53 12.8	
	baz=293						
ZAA0	**Zalesovo Array**	**41.57**	**321**	P	**P**	**15 16 49.1**	**-0.8**
ZALV	**Zalesovo Beam**	**41.57**	**321**	P	**P**	**15 16 49.0**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=102,slow=8.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**41.57**	**321**	P	**P**	**15 16 49.7**	**-0.2**
KNRA	**Kununurra**	**43.45**	**181**	P	**P**	**15 17 04.8**	**-0.8**
KNRA				IAmb	IAmb	15 17 33.6	
	comp=Z,13nm,1.3s						
TIXI	**Tiksi**	**43.67**	**360**	P	**P**	**15 17 04.9**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=66,slow=0.5,SNR=2.5						
KURBB	**Kurchatov Arra**	**44.40**	**315**	P	**P**	**15 17 12.2**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=98,slow=8.8,SNR=7.9						
FITZ	**Fitzroy Crossi**	**46.01**	**185**	LR	LR	15 39 51.3	
	comp=Z,32nm,19.7s,baz=252,slow=40						
AAK	**Ala-Archa**	**46.45**	**303**	P	**P**	**15 17 29.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=141,slow=8.2,SNR=4.4						
AAK	**Ala-Archa**	**46.45**	**303**	P	**P**	**15 17 29.5**	**0.0**
AAK	**Ala-Archa**	**46.45**	**303**	P	**P**	**15 17 29.4**	**-0.1**
AAK				IAmb	IAmb	15 17 37.2	
	comp=Z,4.1nm,1.5s						
WB0	**Warramunga Arr**	**47.74**	**174**	P	**P**	**15 17 39.4**	**-0.1**
WB0				IAmb	IAmb	15 17 49.0	
	comp=Z,3.9nm,1.2s						
WRA	**Warramunga Arr**	**47.91**	**174**	P	**P**	**15 17 41.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=354,slow=8.3,SNR=2.8						
WB2	**Warramunga Arr**	**47.91**	**174**	P	**P**	**15 17 40.4**	**-0.4**
WB2				IAmb	IAmb	15 17 53.0	
	comp=Z,6.3nm,1.4s						
NRIK	**Noril'sk**	**47.92**	**341**	P	**P**	**15 17 40.1**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=125,slow=12,SNR=4.5						
NRIK	**Noril'sk**	**47.92**	**341**	P	**P**	**15 17 39.7**	**-0.6**
NRIK				IAmb	IAmb	15 17 40.6	
	comp=Z,2.4nm,0.7s						
WR0	**Warramunga Arr**	**47.95**	**174**	P	**P**	**15 17 41.1**	**0.0**
WR0				IAmb	IAmb	15 18 07.9	
	comp=Z,5.8nm,1.4s						
KKAR	**Karatay Array**	**49.37**	**304**	P	**P**	**15 17 51.9**	**0.0**
BRVK	**Borovoye**	**49.82**	**317**	P	**P**	**15 17 53.9**	**-1.2**
ASAR	**Alice Springs**	**51.56**	**175**	P	**P**	**15 18 10.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=2.2,slow=15,SNR=7.8						
ABKAR	**Akbulak array**	**56.30**	**312**	P	**P**	**15 18 42.5**	**-0.5**
ILAR	**Eielson Array**	**62.29**	**29**	P	**P**	**15 19 25.9**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=285,slow=8.0,SNR=4.4						
BMAR	**Burnt Mountain**	**62.88**	**26**	P	**P**	**15 19 29.3**	**+1.3**
INK	**Inuvik**	**66.77**	**24**	P	**P**	**15 19 53.4**	**+0.1**
A36M	**Sachs Harbour**	**68.15**	**19**	P	**P**	**15 20 03.4**	**+1.5**
A36M				IAmb	IAmb	15 20 04.8	
	comp=Z,3.7nm,0.8s						
ARCES	**ARCESS Array B**	**68.77**	**339**	P	**P**	**15 20 05.3**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=79,slow=9.3,SNR=1.5						
C36M	**Paulatuk**	**69.59**	**21**	P	**P**	**15 20 11.7**	**+0.7**
FIA1	**FINESS Array S**	**71.89**	**331**	P	**P**	**15 20 24.8**	**-0.3**
FINES	**FINESS Array B**	**71.89**	**331**	P	**P**	**15 20 24.2**	**-0.8**
	comp=Z,2.0nm,0.4s,baz=62,slow=5.6,SNR=12						
FINES	**FINESS Array B**	**71.89**	**331**	P	**P**	**15 20 24.8**	**-0.3**
RES	**Resolute Bay**	**73.56**	**11**	P	**P**	**15 20 35.4**	**+0.6**
AKASG	**Malin Array Be**	**74.94**	**320**	P	**P**	**15 20 42.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=63,slow=6.3,SNR=4.9						
AKBB	**Malin Array Si**	**74.94**	**320**	P	**P**	**15 20 42.8**	**-0.4**
AKBB				IAmb	IAmb	15 21 04.3	
	comp=Z,7.3nm,1.5s						
YKA	**Yellowknife Ar**	**76.40**	**25**	P	**P**	**15 20 51.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=301,slow=5.9,SNR=6.1						
BRTR	**Keskin Array B**	**76.87**	**308**	P	**P**	**15 20 54.8**	**+0.1**
	comp=Z,2.5nm,1.1s,baz=94,slow=5.2,SNR=6.0						
NB2	**NORSAR Subarra**	**78.23**	**334**	P	**P**	**15 21 01.0**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=48,slow=5.9						
NOA	**NORSAR Array B**	**78.23**	**334**	P	**P**	**15 21 01.1**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=51,slow=5.7,SNR=4.5						
NC204	**NORSAR Array S**	**78.26**	**334**	P	**P**	**15 21 01.7**	**-0.2**
BUR08	**Bucovina Ar. S**	**78.69**	**318**	P	**P**	**15 21 04.9**	**+0.3**
BURAR	**Bucovina Array**	**78.70**	**318**	P	**P**	**15 21 05.4**	**+0.7**
SUMG	**Summit**	**79.33**	**356**	P	**P**	**15 21 09.0**	**+1.0**
SUMG				IAmb	IAmb	15 21 19.0	
	comp=Z,3.3nm,

JTS	Las Juntas de	1.60	319	eP	Pn	15 27 33.8 -0.1
JTS	Las Juntas de	1.60	319	eP	Pn	15 27 33.9 -0.1
JTS				eS	Sn	15 27 54.8 +1.2
ARE1	Arenal 1	1.60	329	eP	Pb	15 27 35.6 -1.0
COVE	Coope Vega, Sa	1.71	343	eP	Pn	15 27 36.5 +1.1
SAJU	San Juanillo,	2.05	299	eP	Pn	15 27 40.7 +0.6

*TUL **09** 15:46:40.1±0.6,36°.80N±0°.02×98°.35W±0°.02, h6km±6km, ML2.7, mb_Lg2.5/23(NEIC), Error ellipse: s-maj=2.7km s-min=1.8km az=157.0*

NEIC 09 15:46:40.1±1.3,36°.78N±0°.02×98°.37W±0°.02, h11km±3km, Error ellipse: s-maj=2.6km s-min=2.1km az=188.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.28	255		Pg	15 46 45.7	-0.1
OK035				Sg	Sg	15 46 49.8	+0.1
KAN14	Manchester OK	0.37	62		Pg	15 46 47.3	-0.1
KAN10	Anthony SW Sta	0.40	33	Pg	Pg	15 46 48.0	-0.1
GC02	Grant County #	0.41	80	Pg	Pg	15 46 48.2	0.0
KAN16	Harper SW Stat	0.50	29		Pg	15 46 49.7	-0.2
KAN05	Bluff City Nor	0.51	51	Pg	Pg	15 46 50.0	-0.1
KAN12	Harper NE Stat	0.59	30		Pg	15 46 51.4	-0.2
KAN01	Argonia South	0.61	53	Pg	Pg	15 46 51.8	-0.2
KAN06	Argonia West S	0.62	41	Pg	Pg	15 46 51.9	-0.2
KAN13	South Haven SW	0.75	72	Pg	Pg	15 46 54.1	-0.5
BLOK	Blackwell	0.93	91		Pg	15 46 57.3	-0.6
OK025	Westminster Rd	1.46	145		Pb	15 47 07.0	-0.3
QUOK	Quay	1.47	114		Pb	15 47 07.1	-0.3
OK031	S. Brethren Rd	1.49	123	Pn	Pb	15 47 07.5	-0.2
T35A	Sooner Cattle	1.50	84		Pn	15 47 07.4	+0.5
R32A	Long Quarter,	1.66	351		Pn	15 47 09.8	+0.6
R32A				IAmb_Lg		15 47 33.2	
	comp=Z,33nm,0.9s						
FNO	Franklin	1.71	152		Pb	15 47 11.1	-0.5
WMOK	Wichita Mounta	2.07	189	Pn	Pn	15 47 15.5	+0.7
X34A	Smith Ranch, M	2.22	169	Pn	Pn	15 47 17.4	+0.5
TUL1	Leonard	2.25	112	Pn	Pn	15 47 18.9	+1.6
TUL1				IAmb_Lg		15 47 56.8	
	comp=Z,25nm,1.1s						
U38A	Gravette	3.22	95	Pn	Pn	15 47 32.1	+1.5
U38A				IAmb_Lg		15 48 22.4	
	comp=Z,12nm,0.7s						
AMTX	Amarillo	3.29	236	IAmb_Lg		15 48 32.3	
	comp=Z,21nm,0.7s						
KSCO	Kaye Shedlock'	4.04	305	IAmb_Lg		15 48 58.6	
	comp=Z,6.8nm,0.8s						
S39A	Bolivar	4.13	76	IAmb_Lg		15 49 01.1	
	comp=Z,8.4nm,1.0s						
U40A	Yellville	4.46	94	IAmb_Lg		15 49 03.9	
	comp=Z,19nm,0.7s						
MSTX	Muleshoe	4.56	233	IAmb_Lg		15 49 09.6	
	comp=Z,11nm,0.9s						
P38A	Dawn	4.75	52	IAmb_Lg		15 49 11.0	
	comp=Z,8.1nm,0.7s						
MGMO	Mountain Grove	4.90	84	IAmb_Lg		15 49 13.9	
	comp=Z,7.6nm,0.9s						
OGNE	Ogallala	5.04	327	IAmb_Lg		15 49 28.2	
	comp=Z,10nm,0.8s						
P40A	Paris	5.69	59	IAmb_Lg		15 49 44.9	
	comp=Z,10nm,0.8s						
PHWY	Pilot Hill	7.13	311	IAmb_Lg		15 50 33.4	
	comp=Z,3.7nm,0.9s						

*IDC **09** 15:48:01.7±0.8,28°.11N×129°.55E, h0km, mb3.7/16, mb1 3.9/16, mb1mx3.7/37, mbtmp3.7/16, MS3.1/7, Ms1 3.1/7, ms1mx2.8/91, Error ellipse: s-maj=24.3km s-min=15.1km az=100.0*
*JMA **09** 15:48:06.7±0.2,28°.08N×129°.51E, h30km±3km, M3.8*
JMA Felt II J1.
*NIED **09** 15:48:06.8,28°.08N×129°.51E, h30km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.99; $M_{\theta\theta}$-0.35; $M_{\phi\phi}$-0.64; $M_{r\theta}$-0.84; $M_{\phi\phi}$0.42; $M_{\phi r}$0.13; Fault plane solution: $M_0$1.27000×10^{15} NP1: ϕ_s299.00000°, δ65.00000°, λ70.00000°. NP2: ϕ_s161.00000°, δ31.00000°, λ127.00000°.*

ISC 09 15:48:04.1±1.5,28°.06N±0°.03×129°.58E±0°.04, h16km±9km, n59, σ1°46/75, mb3.8/19, MS3.0/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.36	4	P	Pn	15 48 14.3	-0.3
JAM				S	Sn	15 48 19.7	-1.7
JAMN	Amaminishikomi	0.40	298	P	Pn	15 48 14.7	-0.6
JAMN				S	Sn	15 48 20.6	-1.9
JZK	Kikaishima	0.43	53	P	Pn	15 48 16.6	+0.9
JZK				S	Sn	15 48 25.0	+1.7
JTK	Tokunoshima	0.62	244	P	Pn	15 48 17.7	-0.5
JTK				eS	Sb	15 48 25.8	+0.8
JOKE	Okinoerabujima	1.13	233	P	Pg	15 48 26.2	+0.2
JTAJ	Takarajima	1.14	343	P	Pg	15 48 26.1	-0.1
JTAJ				S	Sn	15 48 41.3	+0.5
JYRO	Yoronjima	1.44	225	P	Pb	15 48 30.6	+0.1
JYRO				S	Sb	15 48 49.2	+0.7
JOW	Kunigami	1.68	224	Pn	Pn	15 48 33.9	+1.0
	95nm,0.3s,baz=96,slow=20,SNR=96						
JOW				Sn	Sn	15 48 55.1	+1.0
	71nm,0.3s,baz=152,slow=28,SNR=16						
JOW				LR	LR	15 49 03.6	
	comp=Z,230nm,19.9s,baz=102,slow=36						
JOW	Kunigami	1.68	224	P	Pn	15 48 33.9	+1.0
JOW	Kunigami	1.68	224	P	Pb	15 48 34.1	-0.6
JIH	Iheya	1.76	235	P	Pb	15 48 35.2	-0.8
JIH				eS	Sb	15 48 57.3	-0.5
JNN	Nakanoshima	1.80	8	P	Pb	15 48 36.2	-0.5
JNN				S	Sb	15 48 58.3	-0.7
JNTH	Nagotoyohara	2.06	223	P	Pn	15 48 39.1	+1.0
JNTH				eS	Sn	15 49 03.9	+0.3
JYAK	Yakushimahirau	2.32	20	P	Pn	15 48 43.4	+1.7
JYAK				eS	Sb	15 49 11.7	-2.4
JKC	Kuchinoerabu	2.46	12	P	Pb	15 48 45.7	-2.2
JKC				S	Sb	15 49 15.2	-2.8
JJT3	Tamagusuku3	2.49	220	P	Pn	15 48 44.8	+0.8
JAGN	Aguni-jima	2.54	235	P	Pn	15 48 46.0	+1.3
JAGN				eS	Sn	15 49 16.2	+0.9
JKDJ	Kitadaitoujima	2.60	143	P	Pn	15 48 45.4	-0.1
JKDJ				eS	Sn	15 49 15.1	-1.6
JMTN	Minamitane	2.60	26	P	Pn	15 48 47.5	+1.9
JMTN				eS	Sn	15 49 18.6	+1.7
JMZ	Minamidaito 2	2.67	146	P	Pn	15 48 45.8	-0.6
JMZ				eS	Sn	15 49 15.4	-3.0
JTN	Tanegashima 3	2.86	25	P	Pn	15 48 51.3	+2.2
JTN				eS	Sn	15 49 25.9	+2.6
JKE	Kume jima 2	3.03	236	P	Pn	15 48 52.2	+0.8
JKE				eS	Sn	15 49 27.0	-0.3
JMJ	Miyako jima 2	5.02	231	P	Pn	15 49 19.6	+0.8
JNU	Nakatsue	5.17	12	Pn	Pn	15 49 24.8	+3.9
	9.7nm,0.3s,baz=190,slow=10,SNR=104						
JNU				Sn	Sn	15 50 23.2	+2.9
	baz=1.8,slow=24,SNR=0.9						
JNU				LR	LR	15 51 44.4	
	comp=Z,114nm,18.8s,baz=267,slow=44						
JNU	Nakatsue	5.17	12	P	Pn	15 49 25.1	+4.2
SSLB	Suanglung	8.85	243	P	Pn	15 50 11.4	-0.1
TPUB	Ta-pu	9.36	242	P	Pn	15 50 18.5	+0.1
KSRS	Korea Array	9.48	352	Pn	Pn	15 50 25.3	+5.4
	0.1nm,0.3s,baz=171,slow=14,SNR=3.3						
KSRS				LR	LR	15 54 15.1	
	comp=Z,92nm,19.6s,baz=165,slow=40						
INU	Inuyama	9.64	39	P	Pn	15 50 25.9	+3.7
JHJ	Hachijo jima 2	10.14	58	LR	LR	15 53 51.0	
	comp=Z,68nm,19.2s,baz=168,slow=34						
MAJO	Matsushiro	11.17	39	P	Pn	15 50 45.8	+2.6
MJAR	Matsushiro Arr	11.17	39	Pn	Pn	15 50 44.9	+1.7
	0.1nm,0.3s,baz=305,slow=33,SNR=4.5						
DAV	Davao City (W)	21.21	191	LR	LR	16 02 01.6	
	comp=Z,62nm,19.4s,baz=296,slow=40						
SONM	Songino Array	26.73	324	P	P	15 53 42.5	-0.5
	0.2nm,0.4s,baz=134,slow=8.3,SNR=1.5						
CMAR	Chiang Mai Arr	29.65	258	P	P	15 54 09.3	+0.1
	0.4nm,0.6s,baz=55,slow=6.9,SNR=4.3						
CMAR				PcP	PcP	15 57 14.3	+0.8
	0.5nm,0.6s,baz=56,slow=2.1,SNR=5.1						
CMAR				LR	LR	16 07 18.6	
	comp=Z,39nm,18.8s,baz=300,slow=39						
JAY	Jayapura	32.22	159	LR	LR	16 05 08.9	
	comp=Z,29nm,21.8s,baz=336,slow=32						
SEY	Seymchan	37.93	17	P	P	15 55 21.3	+0.8
	0.5nm,0.5s,baz=175,slow=23,SNR=1.3						
GUN	Gumba	38.44	280	eP	P	15 55 25.6	0.0
PKI	Pulchoki	38.91	280	eP	P	15 55 29.5	-0.1
	9.2nm,0.8s						
PKIN	Phulchoki	38.92	280	eP	P	15 55 28.8	-0.8
KKN	Kakani	38.98	280	eP	P	15 55 29.3	-0.8
DMN	Daman	39.17	280	eP	P	15 55 31.6	-0.1
GKN	Gorkha	39.50	281	eP	P	15 55 34.2	-0.1
DANN	Dangsing	40.19	282	eP	P	15 55 40.4	+0.1
	9.8nm,0.8s						
KOLN	Koldanda	40.44	281	eP	P	15 55 42.3	+0.1
PYUN	Piuthan	40.91	281	eP	P	15 55 45.8	-0.3
	9.6nm,0.9s						
MKAR	Makanchi Array	41.25	310	P	P	15 55 47.0	-1.5
	0.4nm,0.7s,baz=89,slow=10,SNR=3.3						
ZALV	Zalesovo Beam	41.55	321	P	P	15 55 50.1	-0.7
	0.6nm,0.6s,baz=115,slow=11,SNR=3.7						
NRIK	Noril'sk	47.90	341	P	P	15 56 39.4	-1.8
	1.2nm,0.5s,baz=134,slow=7.1,SNR=4.3						
WRA	Warramunga Arr	47.94	174	P	P	15 56 41.6	-0.4
	1.6nm,1.1s,baz=343,slow=8.6,SNR=5.0						
ASAR	Alice Springs	51.59	175	P	P	15 57 10.1	+0.3
	0.5nm,0.9s,baz=7.8,slow=13,SNR=12						
ILAR	Eielson Array	62.27	29	P	P	15 58 24.0	-1.0
	0.3nm,0.9s,baz=284,slow=6.9,SNR=2.1						
KBZ	Khabaz	68.94	309	P	P	15 59 09.2	+0.8
	2.8nm,0.8s,baz=39,slow=3.4,SNR=4.5						
FINES	FINESS Array B	71.87	331	P	P	15 59 26.1	+0.1
	1.2nm,0.6s,baz=72,slow=5.2,SNR=7.0						
AKASG	Malin Array Be	74.93	320	P	P	15 59 43.9	-0.4
	0.9nm,0.6s,baz=62,slow=6.6,SNR=4.4						
YKA	Yellowknife Ar	76.37	25	P	P	15 59 53.3	+1.0
	0.3nm,0.8s,baz=305,slow=5.3,SNR=4.8						
BRTR	Keskin Array B	76.86	308	P	P	15 59 55.7	-0.1
	1.2nm,0.8s,baz=60,slow=7.4,SNR=6.4						
NOA	NORSAR Array B	78.21	334	P	P	16 00 02.0	-0.7
	0.7nm,0.9s,baz=32,slow=8.4,SNR=3.9						
NOA				LR	LR	16 39 24.9	
	comp=Z,17nm,18.0s,baz=245,slow=40						
GERES	GERESS Array B	84.47	323	P	P	16 00 36.8	+0.6
	0.5nm,0.8s,baz=53,slow=5.2,SNR=4.6						

*IDC **09** 15:50:37.8±1.4,37°.70N×142°.54E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.3/35, mbtmp3.7/6, ML2.3/1, Error ellipse: s-maj=37.5km s-min=23.0km az=75.0*
*JMA **09** 15:50:38.0±0.1,38°.41N×142°.19E, h29km±2km, M4.0*
JMA Felt I J1.

ISC 09 15:50:35.2±2.1,38°.30N±0°.05×142°.25E±0°.08, h7km±12km, n26, σ1°72/30, mb3.8/5, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.61	271	⇑P	Pb	15 50 49.2	+1.0
JIKH				S	Sb	15 50 56.7	-0.3
JIO	Ouri	0.72	282	⇑P	Pb	15 50 50.9	+0.9
JIO				S	Sb	15 50 59.4	-0.7
JKMT	Kesennumamotoy	0.79	310	⇓P	Pg	15 50 51.4	+1.0
JKMT				S	Sg	15 51 00.5	-0.1
OFUJ	Ofunato	0.90	330	⇓P	Pg	15 50 52.5	+0.1
OFUJ				S	Sg	15 51 02.8	-1.3
JMK	Ichinoseki	1.03	309	P	Pg	15 50 55.1	+0.1
JMK				S	Sg	15 51 07.7	-0.7
JMM	Marumori	1.23	250	P	Pn	15 50 58.8	+0.1
JMM				S	Sn	15 51 14.0	-1.5
JOU	Okura	1.25	273	P	Pn	15 50 59.3	+0.3
JOU				S	Sb	15 51 14.9	-0.4
JOM	Ohasama	1.39	328	⇓P	Pn	15 51 00.2	-0.7
JOM				S	Sg	15 51 16.8	-2.9
JFK	Kawauchi	1.43	230	P	Pn	15 51 01.9	+0.3
JFK				S	Sn	15 51 19.2	-1.5
JYK	Kaneyama	1.60	293	P	Pn	15 51 04.1	+0.2
JRG	Rokugo	1.67	311	P	Pn	15 51 05.2	+0.4
MJAR	Matsushiro Arr	3.66	243	Pn	Pn	15 51 34.6	+2.3
	0.2nm,0.3s,baz=1.4,slow=8.7,SNR=17						
MJAR				Sn	Sb	15 52 21.4	-3.4
	0.2nm,0.3s,baz=347,slow=31,SNR=1.6						
MAT	Matsushiro	3.66	243	P	Pn	15 51 35.1	+2.8
MAT				eS	Sn	15 52 18.9	+3.2
JHJ	Hachijo jima 2	5.55	202	Pn	Pn	15 51 59.5	+1.4
	11nm,0.3s,baz=146,slow=22,SNR=3.2						
JHJ				Sn	Sn	15 52 59.0	-3.1
	5.1nm,0.3s,baz=52,slow=15,SNR=1.4						
ASAJ	Asahikawa	5.81	2	Pn	Pn	15 52 04.6	+2.8
	0.4nm,0.3s,baz=188,slow=10,SNR=4.7						
ASAJ				Sn	Sn	15 53 09.9	+1.2
	0.4nm,0.3s,baz=171,slow=18,SNR=1.7						
H11N2	WAKE ISLAND Hy	28.27	124	T	T	16 26 44.6	
	baz=316,slow=75,SNR=78						
H11N1	WAKE ISLAND Hy	28.28	124	T	T	16 26 45.2	
	baz=316,slow=75,SNR=112						
H11N3	WAKE ISLAND Hy	28.29	124	T	T	16 26 45.9	
	baz=316,slow=75,SNR=67						
H11S1	WAKE ISLAND Hy	29.03	126	T	T	16 27 44.9	
	baz=318,slow=76,SNR=54						
H11S3	WAKE ISLAND Hy	29.03	126	T	T	16 27 44.0	
	baz=318,slow=76,SNR=70						
H11S2	WAKE ISLAND Hy	29.05	126	T	T	16 27 45.1	
	baz=318,slow=81,slow=9.3,SNR=3.2						
ZALV	Zalesovo Beam	41.56	311	P	P	15 58 31.3	+8.1
	0.6nm,0.6s,baz=81,slow=9.3,SNR=3.2						
MKAR	Makanchi Array	44.02	301	P	P	15 58 51.1	+7.9
	0.6nm,0.8s,baz=86,slow=7.7,SNR=6.2						
WRA	Warramunga Arr	58.41	189	P	P	16 00 31.9	+0.5
	0.7nm,0.7s,baz=7.8,slow=7.3,SNR=8.2						
ASAR	Alice Springs	62.14	189	P	P	16 00 56.4	-0.5
	0.4nm,0.7s,baz=8.1,slow=5.7,SNR=10						
ARCES	ARCESS Array B	63.04	339	P	P	16 01 10.6	+8.1
	9.2nm,1.2s,baz=50,slow=4.8,SNR=6.2						

*IDC **09** 16:22:38.3±1.7,6°.75S×155°.55E, h74km±15km, mb3.9/15, mb1 4.1/19, mb1mx4.0/31, mbtmp4.3/19, MS3.5/17, Ms1 3.5/17, ms1mx3.2/61, Error ellipse: s-maj=14.6km s-min=13.6km az=49.0*
*DJA **09** 16:22:40.2±0.5,7°.5±4°×155°.5E±°, h77km±7km, M4.7/14, mB4.4/3, mb4.5/14, MLv4.9/2, Mw(mB)3.5/3*
*NEIC **09** 16:22:40.2±1.6,6°.8S±0°.1×155°.56E±0°.09, h98km±7km, mb4.4/30, Error ellipse: s-maj=16.5km s-min=9.8km az=213.0*

ISC 09 16:22:40.3±0.4,6°.87S±0°.06×155°.51E±0°.06, h100km, n93, σ1°35/81, mb4.3/29, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	4.26	308		Pn	16 23 43.3	+0.2
HNR	Honiara	5.08	120	P	Pn	16 23 52.9	-1.2
	15nm,0.3s,baz=230,slow=9.5,SNR=6.7						
HNR				S	Sn	16 24 51.1	-0.5
	19nm,0.3s,baz=291,slow=15,SNR=1.8						
HNR				LR	LR	16 25 49.4	
	comp=Z,474nm,19.1s,baz=325,slow=37						
HNR	Honiara	5.08	120		Pn	16 23 52.8	-1.3
PMG	Port Moresby	8.64	252	P	Pn	16 24 42.0	-0.5
	8.0nm,0.3s,baz=53,slow=12,SNR=24						
PMG				S	Sn	16 26 15.3	-3.0
	1.2nm,0.3s,baz=100,slow=15,SNR=1.5						
PMG				LR	LR	16 27 40.1	
	comp=Z,183nm,21.7s,baz=60,slow=35						
PMG	Port Moresby	8.64	252	Pn	Pn	16 24 41.8	-0.7
PMG	Port Moresby	8.64	252	P	Pn	16 24 42.1	-0.5
PMG	Port Moresby	8.64	252	P	Pn	16 24 42.5	0.0
COEN	Coen	14.02	239		Pn	16 25 54.8	+0.2
COEN	Coen	14.02	239	P	Pn	16 25 55.5	+0.9
JAY	Jayapura	15.37	286	LR	LR	16 32 34.5	
	comp=Z,50nm,18.2s,baz=342,slow=39						
MTSU	Mount Surprise	15.63	223	P	Pn	16 26 16.7	+1.6
CTA	Charters Tower	15.91	213	P	P	16 26 21.4	+1.1
	0.5nm,0.3s,baz=38,slow=13,SNR=10						
CTAO	Charters Tower	15.91	213	P	Pn	16 26 19.8	+1.2
CTAO				IAmb	IAmb	16 26 23.1	
	comp=Z,26nm,0.9s						
CTAO	Charters Tower	15.91	213	P	Pn	16 26 20.0	+1.4
SMPI	Sarmi	17.43	285	P	P	16 26 37.0	0.0
	comp=Z,12nm,1.0s						
DZM	Mont Dzumac	18.43	146	P	Pn	16 26 49.2	-0.2
	comp=Z,1.0nm,0.3s,baz=277,slow=11,SNR=9.0						
DZM				LR	LR	16 32 10.4	
	comp=Z,202nm,19.7s,baz=354,slow=31						
DZM	Mont Dzumac	18.43	146	P	P	16 26 47.9	-0.3
EIDS	Eidsvold	18.88	192	P	P	16 26 53.4	+0.6
MARNC	Mare, Loyalty	18.91	141	P	P	16 26 50.0	-3.2
OUENC	Ouen Island, N	18.93	146	P	P	16 26 52.7	-0.7
OUENC				IAmb	IAmb	16 27 09.6	
	comp=Z,25nm,1.1s						
PINNC	Pines Island,	19.43	145	P	P	16 26 58.8	0.0
PINNC				IAmb	IAmb	16 27 03.7	
	comp=Z,26nm,1.1s						
QIS	Mount Isa	20.56	227	P	P	16 27 12.3	+1.2
QLP	Quilpie	22.35	207	P	P	16 27 31.1	+1.0
GUMO	Guam	22.91	333	LR	LR	16 35 29.5	
	comp=Z,26nm,21.2s,baz=140,slow=34						
KDU	Kakadu	23.41	254	P	P	16 27 41.5	+0.8
FAKI	Fak Fak	23.50	278	P	P	16 27 42.8	+1.3
	comp=Z,27nm,1.1s						
ARMA	Armidale	23.71	188	P	P	16 27 44.0	+0.8
ARMA				IAmb	IAmb	16 27 45.1	
	comp=Z,16nm,1.1s						
ARMA	Armidale	23.71	188	P	P	16 27 43.7	+0.4
WR0	Warramunga Arr	24.15	235	P	P	16 27 48.1	+0.8
WR0				IAmb	IAmb	16 27 48.8	
	comp=Z,13nm,0.8s						
WB0	Warramunga Arr	24.18	236		P	16 27 48.4	+0.9
WB0				IAmb	IAmb	16 27 50.8	
	comp=Z,9.5nm,0.8s						
WRAB	Tennant Creek	24.29	236	P	P	16 27 49.3	+0.8
WRAB				IAmb	IAmb	16 27 51.3	
	comp=Z,11nm,0.9s						
WB2	Warramunga Arr	24.30	236		P	16 27 49.6	+1.0
WB2				IAmb	IAmb	16 27 51.4	
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	24.30	236	P	P	16 27 49.7	+1.0
	comp=Z,6.0nm,0.6s,baz=62,slow=9.9,SNR=65						
WRA				ScP	ScP	16 35 00.7	+4.7
	comp=Z,0.4nm,0.8s,baz=61,slow=2.8,SNR=5.2						
WRA	Warramunga Arr	24.30	236	P	P	16 27 48.5	-0.2
MTN	Manton Dam	24.73	254	P	P	16 27 52.6	0.0
MTN				IAmb	IAmb	16 28 10.0	
	comp=Z,8.6nm,0.7s						
MTN	Manton Dam	24.73	254	P	P	16 27 54.2	+1.7
SIJI	Sorong	24.90	283	P	P	16 27 54.6	+0.5
	comp=Z,7.8nm,0.4s,baz=53,slow=13,SNR=10.0						
INKA	Innaminka	25.04	212	P	P	16 27 56.5	+1.3
CMSA	Cobar Meteorol	26.20	199	P	P	16 28 06.5	+0.8
AS31	Alice Springs	26.63	229		P	16 28 09.9	+0.1
ASAR	Alice Springs	26.64	229	P	P	16 28 10.0	+0.2
	comp=Z,4.4nm,0.7s,baz=62,slow=9.0,SNR=107						
ASAR				ScP	ScP	16 35 08.0	+5.3
	comp=Z,1.6nm,1.0s,baz=64,slow=3.1,SNR=8.6						
ASAR				LR	LR	16 37 31.7	
	comp=Z,82nm,19.4s,baz=129,slow=33						
ASAR	Alice Springs	26.64	229	P	P	16 28 08.7	-1.1
H11S3	WAKE ISLAND Hy	27.51	23	T	T	16 56 33.9	
	baz=203,slow=75,SNR=163						
H11S2	WAKE ISLAND Hy	27.52	24	T	T	16 56 29.1	
	baz=203,slow=75,SNR=183						
H11S1	WAKE ISLAND Hy	27.53	23	T	T	16 56 33.3	
	baz=203,slow=75,SNR=149						
KNRA	Kununurra	27.62	249	P	P	16 28 18.9	+0.2
KNRA	Kununurra	27.62	249	P	P	16 28 21.1	+2.5
STKA	Stephens Creek	28.07	206	P	P	16 28 24.7	+2.3
	comp=Z,7.7nm,0.9s,baz=19,slow=12,SNR=12						
STKA				LR	LR	16 39 21.9	
	comp=Z,87nm,18.4s,baz=17,slow=36						
STKA	Stephens Creek	28.07	206	P	P	16 28 22.8	+0.4
LBMI	Labuha	28.61	281	P	P	16 28 22.5	-5.0
H11N1	WAKE ISLAND Hy	28.70	23	T	T	16 58 11.7	
	baz=212,slow=78,SNR=11						
H11N3	WAKE ISLAND Hy	28.71	23	T	T	16 58 13.2	
	baz=212,slow=78,SNR=15						
H11N2	WAKE ISLAND Hy	28.71	23	T	T	16 58 15.9	
	baz=212,slow=78,SNR=5.6						
BBOO	Buckleboo	31.51	212	P	P	16 28 51.7	-1.2
BBOO				IAmb	IAmb	16 28 54.7	
	comp=Z,8.4nm,0.9s						
MMRI	Maumere	33.01	265	P	P	16 29 05.0	-1.2
FORT	Forrest	35.03	224	P	P	16 29 22.4	-1.1
TAU	Tasmania Unive	36.61	190	P	P	16 29 37.4	+0.6
PSA00	Pilbara Seismi	37.41	243	P	P	16 29 42.9	-1.0
PSA00				IAmb	IAmb	16 29 58.6	
	comp=Z,4.5nm,1.1s						
TUWZ	Tuamarina	38.13	157	P	P	16 29 50.0	+0.4
KKM	Kota Kinabalu	41.25	287	P	P	16 30 15.9	-0.2
MORW	Morawa	43.24	234	P	P	16 30 31.4	-0.6
MORW				IAmb	IAmb	16 30 33.5	
	comp=Z,7.2nm,0.9s						
YULB	Yu-li	44.97	313	P	P	16 30 44.9	-0.9
TPUB	Ta-pu	45.40	312	P	P	16 30 47.5	-1.7
KSM	Kuching	45.86	279	P	P	16 30 52.0	-1.0
KSM				IAmb	IAmb	16 31 00.5	
	comp=Z,8.7nm,1.1s						
MJAR	Matsushiro Arr	46.13	341	P	P	16 30 54.2	-0.6
	comp=Z,2.1nm,0.7s,baz=167,slow=7.5,SNR=7.0						
MJAR	Matsushiro Arr	46.13	341	P	P	16 30 54.1	-0.6
MAJO	Matsushiro	46.13	341	P	P	16 30 54.0	-0.7
MAJO				IAmb	IAmb	16 31 06.9	
	comp=Z,12nm,1.1s						
MJB9	Matsu-Tunnel	46.14	341	P	P	16 30 54.0	-0.7
MJB9				IAmb	IAmb	16 30 57.3	
	comp=Z,5.1nm,0.8s						
JTM	Tenmabayashi	49.25	346	P	P	16 31 19.0	+0.3

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baz=205
H10N2 ASCENSION HYDR 105.95 135 T T 18 43 41.3
baz=205,slow=74
MKAR Makanchi Array 146.37 275 PKPbc PKPdf 16 49 39.2 +0.4
0.9nm,0.8s,baz=113,slow=5.0,SNR=10

*IDC **09** 16:42:06.4±1.1, 1°.34N×128°.63E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/38, mbtmp3.8/6, ML3.3/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/69, Error ellipse: s-maj=58.5km s-min=18.6km az=67.0*
*DJA **09** 16:42:10.4±0.9, 1°.N±3°×12°.9E±°, h19km±9km, M4.0/13, mb4.2/8, MLv4.0/13*
ISC 09 16:42:11.5±1.0, **1°.32N**±0°.08×**128°.86E**±0°.06, **h35**km, **n20**, σ0°.80/24, **mb3.9/4, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.59**	**250**	P	**Pn**	**16 42 37.0**	**-0.1**
TNTI				S	**Sn**	**16 42 57.1**	**+0.7**
LBMI	**Labuha**	**2.37**	**215**	P	**Pn**	**16 42 48.2**	**+0.3**
LBMI				S	**Sn**	**16 43 16.5**	**+0.7**
SWI	**Sorong**	**3.24**	**132**	P	**Pn**	**16 43 01.0**	**+1.2**
SWI				S	**Sn**	**16 43 37.5**	**+0.3**
SIJI	**Sorong**	**3.25**	**132**	Pn	**Pn**	**16 43 00.9**	**+1.0**
	5.6nm,0.3s,baz=105,slow=23,SNR=73						
SIJI				Sn	**Sn**	**16 43 38.6**	**+1.2**
	5.1nm,0.3s,baz=357,slow=14,SNR=10						
SIJI				LR	LR	16 44 29.4	
	comp=Z,233nm,20.4s,baz=196,slow=42						
SANI	**Sanana**	**4.41**	**221**	P	**Pn**	**16 43 14.8**	**-1.1**
MSAI	**Masohi**	**4.64**	**179**	P	**Pn**	**16 43 18.4**	**-0.7**
KMSI	**Cibinong**	**4.93**	**261**	P	**Pn**	**16 43 22.1**	**-1.0**
AAI	**Ambon**	**5.02**	**188**	P	**Pn**	**16 43 23.3**	**-1.0**
GTOI	**Gorontalo**	**5.88**	**263**	P	**Pn**	**16 43 37.2**	**+1.0**
	0.0nm13nm,0.7s						
MRSI	**Marisa**	**6.96**	**263**	P	**Pn**	**16 43 51.9**	**+0.8**
	0.1nm22nm,1.0s						
TTSI	**Tana Toraja**	**10.02**	**244**	P	**Pn**	**16 44 33.1**	**+0.1**
	26nm,0.8s						
BNSI	**Bone**	**10.43**	**237**	P	**Pn**	**16 44 38.4**	**-0.2**
	16nm,0.9s						
SPSI	**Sidrap Palu**	**10.49**	**240**	P	**Pn**	**16 44 39.6**	**+0.2**
	16nm,0.5s						
BKSI	**Bulukumba**	**10.94**	**233**	P	**Pn**	**16 44 46.6**	**+1.0**
	8.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.55**	**189**	P	**Pn**	**16 46 37.0**	**-0.8**
	0.1nm,0.3s,baz=19,slow=10,SNR=1.7						
WRA	**Warramunga Arr**	**21.80**	**166**	P	**P**	**16 47 01.3**	**+0.6**
	2.4nm,0.7s,baz=344,slow=10,SNR=17						
ASAR	**Alice Springs**	**25.32**	**169**	P	**P**	**16 47 35.5**	**+0.4**
	2.7nm,0.6s,baz=348,slow=11,SNR=81						
ASAR				PcP	**PcP**	**16 51 07.2**	**-0.4**
	0.6nm,0.9s,baz=5.1,slow=1.8,SNR=4.6						
JOW	**Kunigami**	**25.37**	**359**	LR	LR	16 56 51.4	
	comp=Z,50nm,20.5s,baz=82,slow=35						
SONM	**Songino Array**	**50.25**	**340**	P	**P**	**16 51 04.4**	**0.0**
	0.4nm,0.7s,baz=157,slow=7.0,SNR=2.2						
MKAR	**Makanchi Array**	**60.73**	**325**	P	**P**	**16 52 18.9**	**-0.8**
	0.6nm,0.4s,baz=116,slow=7.9,SNR=29						

*TUL **09** 16:50:05.8±1.0, 36°.52N±0°.02×98°.70W±0°.03, h6km±7km, ML3.0, mb_Lg2.7/32(NEIC), Error ellipse: s-maj=4.0km s-min=3.2km az=73.0*
NEIC 09 16:50:05.7±1.0, **36°.49N**±0°.02×**98°.68W**±0°.02, **h5**km±2km, **Error ellipse: s-maj=4.3km s-min=3.1km az=215.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.22**	**354**	Pg	Pg	16 50 10.0	0.0
OK035				Sg	Sg	16 50 13.4	+0.4
OK032	**Salt Plains WL**	**0.49**	**50**	Pg	Pg	16 50 15.3	+0.2
OK032				Sg	Sg	16 50 22.3	+0.7
KAN14	**Manchester OK**	**0.74**	**51**	Pg	Pg	16 50 19.6	-0.3
GC02	**Grant County #**	**0.75**	**61**	Pg	Pg	16 50 20.1	-0.1
GC02				Sg	Sg	16 50 30.3	+0.4
KAN16	**Harper SW Stat**	**0.89**	**34**	Pg	Pg	16 50 22.5	-0.2
BCOK	**Bluff Creek, N**	**1.20**	**133**		Pg	16 50 28.4	-0.2
OK029	**Liberty Lake**	**1.21**	**124**		Pg	16 50 28.6	-0.2
BLOK	**Blackwell**	**1.21**	**76**	Pg	Pg	16 50 28.4	-0.5
OK025	**Westminster Rd**	**1.41**	**129**	Pn	Pn	16 50 32.0	0.0
OKCSW	**OKLAHOMA CITY**	**1.48**	**137**	Pn	Pn	16 50 32.7	-0.2
OK031	**S. Brethren Rd**	**1.58**	**109**		Pn	16 50 34.7	+0.3
FNO	**Franklin**	**1.61**	**139**	Pn	Pn	16 50 35.2	+0.5
QUOK	**Quay**	**1.62**	**101**		Pb	16 50 35.6	-0.5
WMOK	**Wichita Mounta**	**1.75**	**183**		Pn	16 50 36.9	+0.3
T35A	**Sooner Cattle**	**1.79**	**76**		Pn	16 50 37.8	+0.5
R32A	**Long Quarter,**	**1.93**	**359**	Pn	Pn	16 50 40.0	+0.8
X34A	**Smith Ranch, M**	**2.00**	**160**	Pn	Pn	16 50 40.5	+0.3
X34A				IAmb_Lg		16 51 15.8	
	comp=Z,37nm,0.7s						
TUL1	**Leonard**	**2.41**	**103**	IAmb_Lg		16 51 21.4	
	comp=Z,23nm,0.8s						
LOOK	**Love County**	**2.77**	**153**	IAmb_Lg		16 51 33.6	
	comp=Z,19nm,0.8s						
AMTX	**Amarillo**	**2.92**	**238**	IAmb_Lg		16 51 42.0	
	comp=Z,35nm,0.7s						
KSU1	**Kansas State U**	**3.08**	**32**	IAmb_Lg		16 51 47.0	
	comp=Z,19nm,1.0s						
HHAR	**Hobbs**	**3.83**	**92**	IAmb_Lg		16 52 12.6	
	comp=Z,16nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.02**	**310**	IAmb_Lg		16 52 15.8	
	comp=Z,21nm,0.9s						
W39A	**Magazine**	**4.18**	**106**	IAmb_Lg		16 52 19.3	
	comp=Z,20nm,0.7s						
N33A	**J Bar K, Exete**	**4.35**	**12**	IAmb_Lg		16 52 25.8	
	comp=Z,14nm,0.8s						
T25A	**Trinidad**	**4.64**	**280**	IAmb_Lg		16 52 35.4	
	comp=Z,25nm,1.2s						
U40A	**Yellville**	**4.70**	**90**	IAmb_Lg		16 52 45.3	
	comp=Z,11nm,0.8s						
OGNE	**Ogallala**	**5.17**	**331**	IAmb_Lg		16 53 03.4	
	comp=Z,13nm,0.8s						
X40A	**Basin Creek Fa**	**5.17**	**111**	IAmb_Lg		16 52 57.4	
	comp=Z,24nm,1.0s						
WLAR	**White Oak Lake**	**5.35**	**120**	IAmb_Lg		16 52 55.2	
	comp=Z,16nm,0.9s						
JCT	**Junction City**	**6.06**	**189**	IAmb_Lg		16 53 28.1	
	comp=Z,9.0nm,0.8s						
CCM	**Cathedral Cave**	**6.13**	**73**	IAmb_Lg		16 53 18.2	
	comp=Z,9.2nm,0.8s						

*NNC **09** 17:15:53.7±3.3, 42°.99N×80°.47E, h0km, mb2.3, mpv2.5, Error ellipse: s-maj=35.5km s-min=9.0km az=154.0*
*SOME **09** 17:15:55.0, 42°.80N×80°.33E, h10km*
ISC 09 17:15:51.6±2.6, **42°.7N**±0°.1×**80°.55E**±0°.09, **h10**km, **n6**, σ0°.87/12, **1C-1D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**1.20**	**291**	*e*P	**Pn**	**17 16 15.2**	**+0.6**
	2.7nm,0.3s						
UZB				*e*S	**Sn**	**17 16 29.7**	**-1.3**
	3.0nm,0.3s						
UZB	**Uzynbulak**	**1.20**	**291**	P	**Pn**	**17 16 15.2**	**+0.6**
	2.7nm,0.3s						
UZB				S	**Sn**	**17 16 29.7**	**-1.3**
	3.0nm,0.3s						
SATY	**Saty**	**1.61**	**282**	*e*P	**Pb**	**17 16 21.9**	**+0.3**
	1.5nm,0.5s						
SATY				*e*S	**Sb**	**17 16 41.3**	**-0.7**
	3.2nm,0.2s						
SATY	**Saty**	**1.61**	**282**	P	**Pb**	**17 16 21.9**	**+0.3**
	1.5nm,0.5s						
SATY				S	**Sb**	**17 16 41.3**	**-0.7**
	3.2nm,0.2s						
DJR	**Jarkent**	**1.69**	**341**	*e*P	**Pg**	**17 16 24.9**	**+0.9**
	0.3nm,0.3s						
DJR				*e*S	**Sg**	**17 16 46.3**	**+0.4**
	2.2nm,0.3s						
MK31	**Makanchi Array**	**4.24**	**16**	⇑Pn	**Pn**	**17 16 55.5**	**-0.8**
	baz=211,slow=11,SNR=3.6						
MK31				⇓Sn	**Sn**	**17 17 45.5**	**-0.4**
	0.1nm,0.5s,baz=184,slow=21,SNR=5.8						

*NORS **09** 17:20:11.4±0.0, 42°.30N×42°.96E, h6km, MPVA3.4*
*MOS **09** 17:20:11.9±0.0, 42°.39N×43°.01E, h6km, MPVA3.3*
*TIF **09** 17:20:11.7, 42°.33N×43°.08E, h0km±1km*
*DDA **09** 17:20:13.3±0.0, 42°.36N×42°.86E, h6km±2km, ML2.4*
ISC 09 17:20:12.3±0.8, **42°.34N**±0°.02×**43°.00E**±0°.02, **h5**km±5km, **n50**, σ1°.47/92, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKB	**Tkibuli**	**0.01**	**355**	P	**Pg**	**17 20 13.4**	**0.0**
TKB				S	**Sg**	**17 20 14.5**	**+0.4**
ONI	**Oni**	**0.42**	**53**	P	**Pg**	**17 20 20.5**	**+0.1**
ONI				S	**Sb**	**17 20 26.8**	**-2.1**
ONI	**Oni**	**0.42**	**53**	*e*Pg	**Pg**	**17 20 20.5**	**+0.1**
ONI				*e*Sg	**Sb**	**17 20 27.2**	**-1.7**
ABS	**Abastumani**	**0.60**	**193**	P	**Pb**	**17 20 25.1**	**-0.2**
ABS				S	**Sb**	**17 20 34.8**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.71**	**37**	*e*Pg	**Pg**	**17 20 25.8**	**-0.1**
DIGR				*e*Sg	**Sb**	**17 20 37.1**	**-0.2**
EPOS	**Posof**	**0.86**	**194**	P	**Pb**	**17 20 29.7**	**0.0**
EPOS				S	**Sb**	**17 20 42.8**	**+1.2**
EPOS				*i* AML	AML	17 20 50.0	
	comp=N,88nm,0.5s						
EPOS				*i* AML	AML	17 20 51.0	
	comp=E,50nm,0.5s						
NEY	**Neytrino**	**0.93**	**348**	*e*Pg	**Pb**	**17 20 30.8**	**-0.2**
NEY				*e*Sg	**Sb**	**17 20 43.9**	**+0.2**
BRNG	**Burnasheti**	**0.95**	**139**	P	**Pb**	**17 20 31.2**	**0.0**
AKH	**Akhalkalaki**	**1.00**	**158**	P	**Pg**	**17 20 31.4**	**0.0**
AKH	**Akhalkalaki**	**1.00**	**158**	*e*Pg	**Pg**	**17 20 31.4**	**0.0**
LACR	**Lac**	**1.08**	**63**	*e*Pg	**Pn**	**17 20 33.3**	**-0.8**
LACR				*e*Sg	**Sn**	**17 20 49.7**	**+0.2**
KORR	**Kora**	**1.09**	**46**	*e*Pg	**Pn**	**17 20 33.7**	**-0.5**
KORR				*e*Sg	**Sn**	**17 20 50.0**	**+0.4**
GUDG	**Gudauri**	**1.10**	**83**	P	**Pn**	**17 20 34.0**	**-0.5**
GUDG	**Gudauri**	**1.10**	**83**	*e*Pg	**Pn**	**17 20 34.0**	**-0.5**
LSNR	**Lesken**	**1.12**	**33**	*e*Pg	**Pn**	**17 20 34.5**	**-0.1**
LSNR				*e*Sg	**Sn**	**17 20 51.1**	**+0.7**
TRLG	**Trialeti**	**1.15**	**134**	P	**Pb**	**17 20 34.4**	**-0.3**
TRLG				S	**Sn**	**17 20 50.4**	**-0.9**
TRLG	**Trialeti**	**1.15**	**134**	*e*Pg	**Pb**	**17 20 34.4**	**-0.3**
TRLG				*e*Sg	**Sn**	**17 20 50.4**	**-0.9**
BGD	**Bogdanovka**	**1.17**	**157**	P	**Pn**	**17 20 35.1**	**-0.2**
BGD				S	**Sn**	**17 20 52.0**	**+0.2**
PNSH	**Pansheti**	**1.23**	**76**	P	**Pg**	**17 20 35.2**	**-0.7**
NCK	**Nalchik**	**1.24**	**21**	*e*Pg	**Pn**	**17 20 37.1**	**+0.9**
NCK				*e*Sg	**Sn**	**17 20 55.0**	**+1.7**
ARNR	**Ardon**	**1.27**	**48**	*e*Pg	**Pn**	**17 20 37.5**	**+0.9**
ARNR				*e*Sg	**Sn**	**17 20 56.9**	**+2.9**
STDR	**Stavd-Durt**	**1.29**	**37**	*e*Pg	**Pg**	**17 20 38.1**	**+1.0**
STDR				*e*Sg	**Sn**	**17 20 56.3**	**+1.6**
DMNI	**Dmanisi**	**1.35**	**138**	P	**Pb**	**17 20 37.6**	**-0.4**
DMNI				S	**Sn**	**17 20 56.4**	**+0.3**
KBZ	**Khabaz**	**1.39**	**357**	*e*Pg	**Pg**	**17 20 39.3**	**+0.4**
KBZ				*e*Sg	**Sg**	**17 21 00.2**	**+3.3**
DBOC	**Borcka**	**1.40**	**225**	P	**Pg**	**17 20 39.5**	**+0.4**
DBOC				S	**Sg**	**17 20 59.5**	**+2.1**
DBOC				*i* AML	AML	17 21 01.0	
	comp=E,121nm,0.7s						
SHA1	**Shidzhatmaz**	**1.42**	**350**	*e*Pg	**Pg**	**17 20 40.0**	**+0.5**
SHA1				*e*Sg	**Sn**	**17 21 00.7**	**+2.6**
SEAG	**Tbilisi Sea**	**1.46**	**112**	P	**Pg**	**17 20 40.4**	**+0.1**
SEAG				S	**Sg**	**17 21 00.3**	**+1.1**
BTNK	**Botanikuri**	**1.50**	**115**	P	**Pn**	**17 20 37.0**	**-2.7**
DAGI	**Agillar**	**1.50**	**213**	P	**Pg**	**17 20 41.4**	**+0.4**
DAGI				S	**Sg**	**17 21 02.3**	**+1.9**
DAGI				*i* AML	AML	17 21 08.0	
	comp=E,40nm,0.5s						
DAGI				*i* AML	AML	17 21 08.0	
	comp=N,36nm,0.6s						
KMGR	**Komgaron**	**1.55**	**62**	*e*Pg	**Pg**	**17 20 43.8**	**+1.7**
KMGR				*e*Sg	**Sg**	**17 21 06.4**	**+4.2**
KIV	**Kislovodsk**	**1.63**	**352**	*e*Pg	**Pg**	**17 20 44.0**	**+0.4**
KIV				*e*Sg	**Sg**	**17 21 06.6**	**+1.9**
DBAD	**Bademkaya**	**1.64**	**217**	P	**Pg**	**17 20 43.5**	**-0.2**
DBAD				S	**Sg**	**17 21 06.3**	**+1.4**
DBAD				*i* AML	AML	17 21 10.0	
	comp=N,111nm,0.5s						
DBAD				*i* AML	AML	17 21 12.0	
	comp=E,77nm,1.0s						
BEYR	**Belyy Ugol+**	**1.68**	**356**	*e*Pg	**Pg**	**17 20 45.0**	**+0.6**
BEYR				*e*Sg	**Sg**	**17 21 07.3**	**+1.2**
DDEM	**Demirkent**	**1.72**	**213**	P	**Pg**	**17 20 45.0**	**-0.2**
DDEM				S	**Sg**	**17 21 08.6**	**+1.0**
DDEM				*i* AML	AML	17 21 17.0	
	comp=E,122nm,0.7s						
PYA1	**Pyatigorsk**	**1.72**	**2**	*e*Pg	**Pg**	**17 20 44.7**	**-0.6**
PYA1				*e*Sg	**Sg**	**17 21 09.0**	**+1.4**
DGRG	**David-gareji**	**1.98**	**116**	P	**Pb**	**17 20 48.4**	**-0.4**
DGRG				S	**Sg**	**17 21 18.2**	**+2.2**
DGRG	**David-gareji**	**1.98**	**116**	*e*Pg	**Pb**	**17 20 48.4**	**-0.4**
DGRG				*e*Sg	**Sg**	**17 21 18.2**	**+2.2**
AHMR	**Akhmetovskaya**	**2.31**	**323**	*e*Pn	**Pb**	**17 20 53.8**	**-0.6**
AHMR				*e*Sn	**Sg**	**17 21 24.8**	**-1.7**
DVE	**Vedeno**	**2.39**	**74**	*e*Pn	**Pb**	**17 20 55.6**	**-0.1**
DVE				*e*Sn	**Sg**	**17 21 27.4**	**-1.6**
ALER	**Alexandrovskoy**	**2.42**	**359**	*e*Pn	**Pb**	**17 20 55.2**	**-1.1**
ALER				*e*Sn	**Sg**	**17 21 27.5**	**-2.6**
VSLR	**Vesyoloye**	**2.45**	**298**	*e*Pn	**Pb**	**17 20 56.6**	**-0.1**
VSLR				*e*Sn	**Sb**	**17 21 27.4**	**+0.2**
LGD	**Lagodekhi**	**2.47**	**101**	P	**Pb**	**17 20 56.0**	**-1.1**
LGD				S	**Sg**	**17 21 30.4**	**-1.1**
LGD	**Lagodekhi**	**2.47**	**101**	*e*Pn	**Pb**	**17 20 56.0**	**-1.1**
LGD				*e*Sn	**Sg**	**17 21 30.4**	**-1.1**
DDFL	**Dedoflistskaro**	**2.50**	**110**	P	**Pg**	**17 20 59.8**	**-0.3**
DDFL				S	**Sg**	**17 21 37.0**	**+4.6**
DDFL	**Dedoflistskaro**	**2.50**	**110**	P	**Pg**	**17 20 59.6**	**-0.5**
DDFL				S	**Sg**	**17 21 35.9**	**+3.5**
DDFL				*i* AML	AML	17 21 38.0	
	comp=N,49nm,0.7s						
DDFL				*i* AML	AML	17 21 47.0	
	comp=E,42nm,1.3s						
KRIK	**Erzurum-spir**	**2.54**	**219**	P	**Pg**	**17 21 00.1**	**-0.7**
KRIK				S	**Sg**	**17 21 35.8**	**+2.1**
GNI	**Garni**	**2.55**	**148**	*e*Pn	**Pb**	**17 20 59.4**	**+0.8**
GUZR	**Guzeripl'**	**2.68**	**309**	*e*Pn	**Pb**	**17 20 59.0**	**-1.7**
GUZR				*e*Sn	**Sb**	**17 21 31.3**	**-2.6**
UNCR	**Uncukul**	**2.83**	**81**	*e*Pn	**Pb**	**17 21 00.4**	**-2.9**
UNCR				*e*Sn	**Sb**	**17 21 37.2**	**-1.1**
BAYB	**BAYBURT**	**2.93**	**226**	P	**Pb**	**17 21 03.3**	**-1.7**
BAYB				S	**Sg**	**17 21 44.5**	**-1.8**
BAYB				*i* AML	AML	17 21 49.0	
	comp=E,17nm,0.7s						
BAYB				*i* AML	AML	17 21 49.0	
	comp=N,19nm,1.0s						

*NIED **09** 17:39:07.4, 28°.07N×129°.51E, h27km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; M_{rr}8.68; $M_{\theta\theta}$-6.20; $M_{\phi\phi}$-2.48; $M_{r\theta}$-0.28; $M_{\theta\phi}$-2.96; $M_{r\phi}$0.12; Fault plane solution: $M_0$8.27000×10^14^ NP1: ϕ_s242.00000°, δ46.00000°, λ92.00000°. NP2:ϕ_s60.00000°, δ44.00000°, λ88.00000°.*
JMA 09 17:39:07.3±0.2, **28°.07N**×**129°.51E, h27**km±3km, **M3.8, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.34**	**300**	P	Pb	17 39 15.2	+0.1
JAMN				S	Sb	17 39 21.2	+0.8
JAM	**Amami Oshima**	**0.35**	**14**	P	Pb	17 39 14.9	-0.3
JAM				S	Sb	17 39 20.4	-0.2
JZK	**Kikaishima**	**0.47**	**59**	P	Pb	17 39 17.3	+0.1
JZK				*e*S	Sn	17 39 25.8	0.0
JTK	**Tokunoshima**	**0.57**	**240**	P	Pb	17 39 18.3	-0.5
JTK				S	Sb	17 39 26.2	-0.4
JOKE	**Okinoerabujima**	**1.09**	**230**	P	Pn	17 39 26.8	0.0
JOKE				*e*S	Sn	17 39 41.0	-0.1
JTAJ	**Takarajima**	**1.11**	**346**	P	Pn	17 39 26.9	-0.2
JTAJ				*e*S	Sn	17 39 41.3	-0.3
JYRO	**Yoronjima**	**1.40**	**222**	P	Pn	17 39 31.4	+0.3
JYRO				*e*S	Sn	17 39 49.0	+0.3
JOW	**Kunigami**	**1.65**	**222**	P	Pn	17 39 34.4	-0.1
JOW				*e*S	Sn	17 39 55.1	+0.2
JIH	**Iheya**	**1.71**	**233**	P	Pn	17 39 35.7	+0.3
JIH				S	Sn	17 39 57.6	+1.2
JNN	**Nakanoshima**	**1.79**	**10**	P	Pn	17 39 36.8	+0.3
JNN				S	Sn	17 39 59.4	+1.0
JNTH	**Nagotoyohara**	**2.04**	**221**	P	Pn	17 39 39.9	+0.1
JNTH				*e*S	Sn	17 40 04.6	+0.3
JYAK	**Yakushimahirau**	**2.33**	**22**	P	Pn	17 39 44.4	+0.5
JYAK				*e*S	Sn	17 40 12.8	+1.2
JKC	**Kuchinoerabu**	**2.46**	**14**	P	Pn	17 39 46.5	+0.9
JJT3	**Tamagusuku3**	**2.46**	**219**	P	Pn	17 39 46.4	+0.8
JJT3				S	Sn	17 40 16.2	+1.4
JAGN	**Aguni-jima**	**2.50**	**234**	P	Pn	17 39 46.8	+0.6
JMTN	**Minamitane**	**2.62**	**27**	P	Pn	17 39 48.6	+0.8
JMTN				*e*S	Sn	17 40 20.7	+2.0
JKDJ	**Kitadaitoujima**	**2.65**	**143**	P	Pn	17 39 46.3	-1.9
JKDJ				S	Sn	17 40 14.4	-5.0
JMZ	**Minamidaito 2**	**2.71**	**145**	P	Pn	17 39 46.7	-2.4
JMZ				*e*S	Sn	17 40 16.4	-4.7
JTN	**Tanegashima 3**	**2.88**	**26**	P	Pn	17 39 52.2	+0.8
JTN				*e*S	Sn	17 40 27.0	+1.9
JKE	**Kume jima 2**	**2.98**	**235**	P	Pn	17 39 52.8	-0.1
JKE				*e*S	Sn	17 40 27.8	0.0

*NCEDC **09** 17:43:30.1±2.4, 36°.85N±0°.02×121°.58W±0°.06, h6km±6km, ML3.1/30, ML3.1/76(NEIC), Error ellipse: s-maj=7.1km s-min=0.6km az=62.0*
NEIC 09 17:43:30.2±2.1, **36°.84N**±0°.03×**121°.61W**±0°.06, **h8**km±3km, **Error ellipse: s-maj=7.6km s-min=2.0km az=60.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCOM	**Corn Cob Canyo**	**0.09**	**304**		Pg	17 43 32.9	+0.5
HSFM	**Saint Francis**	**0.10**	**105**		Pg	17 43 32.1	-0.4
SAO	**San Andreas Ge**	**0.15**	**119**		Pg	17 43 32.7	-0.7
SAO				Sg	Sg	17 43 35.0	-0.5
HFEM	**San Felipe**	**0.22**	**49**		Pg	17 43 34.8	+0.1
SCZ	**Santa Cruz**	**0.29**	**145**		Pg	17 43 35.6	-0.4
PACP	**Pacheco Peak**	**0.31**	**57**		Pg	17 43 36.5	+0.1
PACP					Sg	17 43 41.2	+0.7
BLRM	**Lewis Ranch**	**0.32**	**122**		Pg	17 43 36.3	-0.2
BJCM	**Johnson Can.**	**0.34**	**148**		Pg	17 43 36.6	-0.3
HAST	**Hastings Reser**	**0.45**	**174**		Pg	17 43 39.0	+0.1
HAST					Sg	17 43 45.5	+0.7
C072	**Blauer Lane Sa**	**0.46**	**346**		Pb	17 43 40.0	-0.6
C054	**Valleyhaven Wa**	**0.47**	**339**		Pg	17 43 39.6	+0.3
BSMM	**Soledad Missio**	**0.48**	**162**		Pg	17 43 39.6	+0.1
SCCB	**Santa Clara Co**	**0.49**	**336**		Pg	17 43 40.3	+0.5
MHC	**Mount Hamilton**	**0.50**	**357**		Pg	17 43 40.5	+0.5
BBNM	**San Benito**	**0.54**	**127**		Pg	17 43 40.5	-0.2
C041	**El Campo Drive**	**0.56**	**343**		Pb	17 43 41.9	-0.5
COSM	**Mount Oso**	**0.70**	**16**		Pg	17 43 44.0	+0.3
C001	**Firth Court Fr**	**0.73**	**340**		Pb	17 43 44.9	-0.3
JRSC	**Jasper Ridge**	**0.76**	**319**		Pg	17 43 44.2	-0.6
WENL	**Wente Vineyard**	**0.79**	**352**		Pb	17 43 46.1	-0.1
C048	**Posada Way Fre**	**0.80**	**338**		Pg	17 43 45.8	+0.3
PMPB	**Monarch Peak**	**0.90**	**133**		Pg	17 43 46.6	-0.9
PMPB				Sg	Sg	17 43 59.5	+0.3
PAPM	**Alder Peak**	**0.94**	**168**		Pg	17 43 48.1	-0.2
CMCM	**Mills College**	**1.04**	**335**		Pb	17 43 50.4	-0.1
PDRM	**Domengine Ranc**	**1.12**	**116**		Pg	17 43 51.6	-0.1
BDM	**Black Diamond**	**1.13**	**350**		Pg	17 43 50.9	-1.0
BKS	**Berkeley--Byer**	**1.15**	**335**		Pg	17 43 50.7	-1.6
BL67	**Building 67, L**	**1.16**	**334**		Pg	17 43 50.7	-1.7
VAK	**Adit at Lawren**	**1.16**	**334**		Pg	17 43 50.7	-1.7
BRK	**Berkeley--Havi**	**1.16**	**334**		Pg	17 43 52.2	-0.2
PKD	**Bear Valley Ra**	**1.24**	**136**		Pn	17 43 52.0	-1.9
RAMR	**Ramage Ranch**	**1.34**	**153**		Pn	17 43 53.7	-1.6
TCHL	**Shandon**	**1.51**	**139**		Pn	17 43 56.3	-1.2
CMB	**Columbia Colle**	**1.54**	**39**		Pn	17 43 56.7	-1.4
CMB				Sn	Sn	17 44 16.1	-2.3
PAGB	**Antelope Grade**	**1.56**	**135**		Pn	17 43 56.5	-1.8
PAGB				Sn	Sg	17 44 20.4	0.0
PAGB				IAML		17 44 24.9	
	comp=N,227nm,0.8s						
TRAM	**Private Proper**	**1.59**	**136**		Pn	17 43 57.4	-1.3
TSCN	**Private Proper**	**1.65**	**141**		Pn	17 43 58.4	-1.1
CVS	**Carmenet Viney**	**1.65**	**336**		Pn	17 43 57.4	-2.1
MCCM	**Marconi Confer**	**1.65**	**323**		Pn	17 43 57.3	-2.2
MCCM				Sn	Sn	17 44 20.7	-0.2
MCCM				IAML		17 44 31.0	
	comp=N,181nm,1.1s						
MCCM				IAML		17 44 36.5	
	comp=E,189nm,1.3s						
KCC	**Kaiser Creek**	**1.90**	**74**		Pn	17 44 02.1	-0.9
GDXM	**Geysers**	**2.18**	**335**		Pn	17 44 04.8	-2.0
HOPS	**Hopland Field**	**2.44**	**332**	Pn	Pn	17 44 08.4	-2.0
HOPS				IAML		17 45 20.0	
	comp=E,74nm,3.7s						
HOPS				IAML		17 45 27.5	
	comp=N,109nm,3.3s						
EMB	**Emerald Bay**	**2.45**	**29**		Pn	17 44 08.1	-2.6
EMB				IAML		17 44 47.7	
	comp=N,123nm,0.7s						
EMB				IAML

109C	Camp Elliot, M	5.41 135	Pn	Pn	17 44 49.9	-1.3
PSUT	Pine Spring	6.38 72	Pn	Pn	17 45 03.6	-1.2

*IDC **09** 17:43:50.5±2.4, 27°.59N×86°.43E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/44, mbtmp3.4/6, ML3.6/1, Error ellipse: s-maj=90.8km s-min=23.6km az=69.0*
*NDI **09** 17:43:56.4±3.2, 27°.66N×85°.62E, h10km, ML3.7*
ISC 09 17:43:52.4±0.8, 27°.47N±0°.06×85°.78E±0°.06, h19km, n17, σ1§43/22, mb3.5/5, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLK	Valmikinagar	1.71	265	eP	Pg	17 44 24.5	-0.8
VLK				eS	Sg	17 44 47.1	-0.5
BOK	Bokaro	3.66	179	eP	Pb	17 44 56.5	-0.1
BOK				eS	Sb	17 45 40.3	-0.2
SHL	Shillong	5.79	108	ex	x	17 44 56.3	
SHL				IAML		17 46 55.7	
	comp=E,87nm,0.8s						
JHNI	Jhansi	6.79	255	ex	x	17 45 56.4	
JHNI				eS	Sn	17 46 46.9	-1.0
BWNR	Bhubaneshwar	7.14	180	ex	Pn	17 45 37.6	+1.7
KUDL	Kundal	8.26	277	ex	Pn	17 46 04.6	+13
KUDL				ex	Sn	17 47 26.1	+2.2
SMLA	Simla	8.36	298	eP	Pn	17 45 54.8	+2.3
SMLA				ex	Sn	17 47 26.7	+0.3
SMLA				IAML		17 47 33.7	
	comp=E,50nm,0.3s						
RAGD	RAYAGADA	8.46	195	ex	Pn	17 45 55.1	+1.1
RAGD				eS	Sn	17 47 30.3	+1.3
BHPL	Bhopal	8.65	243	eP	Pn	17 45 56.5	-0.1
BHPL				eS	Sn	17 47 31.2	-2.6
BHPL				eS	Sn	17 47 32.6	-1.1
DHRM	DHARAMSHALA	9.51	302	eP	Pn	17 46 10.7	+2.1
DHRM				ex	Sn	17 47 54.3	-0.8
DHRM				IAML		17 47 57.5	
	comp=N,37nm,1.8s						
DHRM				IAML		17 47 57.8	
	comp=E,32nm,0.8s						
AJM	Ajmer	9.99	267	ex	x	17 46 52.0	
MKAR	Makanchi Array	19.48	353	P	Pn	17 48 19.7	+0.3
	comp=E,0.2nm,0.3s,baz=172,slow=11,SNR=11						
KURBB	Kurchatov Arra	23.77	348	P	P	17 49 03.9	+0.4
	comp=E,0.4nm,0.8s,baz=158,slow=8.6,SNR=3.5						
SONM	Songino Array	25.92	33	P	P	17 49 21.1	-2.3
	comp=E,0.4nm,0.7s,baz=213,slow=11,SNR=1.4						
ZALV	Zalesovo Beam	26.46	359	P	P	17 49 27.6	-0.5
	comp=E,0.4nm,0.4s,baz=171,slow=10,SNR=2.4						
WRA	Warramunga Arr	66.57	130	P	P	17 54 40.3	-1.2
	comp=E,0.7nm,0.5s,baz=324,slow=6.6,SNR=3.1						
ASAR	Alice Springs	68.86	133	P	P	17 54 55.1	-0.9
	comp=E,0.5nm,0.7s,baz=309,slow=5.9,SNR=2.6						

*NIC **09** 17:51:26.9±0.0, 35°.85N×29°.40E, h29km±2km, Ml3.6/5*
*DDA **09** 17:51:26.8±0.0, 35°.86N×29°.18E, h33km±1km, ML2.5*
*ISK **09** 17:51:26.7, 35°.86N×29°.17E, h18km, ML2.7/10*
ISC 09 17:51:23.6±1.3, 35°.74N±0°.04×29°.32E±0°.03, h12km±10km, n31, σ1§10/43, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.55	25	PG	Pn	17 51 37.4	+0.1
AKAS				SG	Sn	17 51 45.6	-0.9
AKAS	Kas	0.55	25	P	Pn	17 51 37.6	+0.2
AKAS				S	Sn	17 51 45.8	-0.7
FETY	Fethiye	0.92	348	PG	Pn	17 51 41.9	-0.4
FETY				SG	Sg	17 51 53.4	+0.1
FETY	Fethiye	0.92	348	P	Pn	17 51 42.1	-0.2
FETY				S	Sb	17 51 53.8	+0.1
FETY				i AML	AML	17 51 56.0	
	comp=N,298nm,0.2s						
FETY				i AML	AML	17 51 59.0	
	comp=E,360nm,0.3s						
AKUM	Antalya-Kumluc	1.02	55	P	Pn	17 51 44.5	+0.9
ARG	Arkhangelos	1.08	297	PG	Pn	17 51 45.2	+0.7
ARG	Arkhangelos	1.08	297	P	Pn	17 51 45.2	+0.7
ARG				S	Sn	17 52 01.0	+1.7
ELL	Elmali	1.12	25	PG	Pg	17 51 46.3	+1.2
ELL	Elmali	1.12	25	P	Pb	17 51 44.2	-0.7
ELL				S	Sb	17 51 58.6	-0.8
CAME	Cameli-Denizli	1.21	359	PN	Pg	17 51 46.9	+0.1
MRSB	Marmaris-Mugla	1.33	318	PN	Pg	17 51 48.7	-0.5
TURN	Turunc	1.35	320	PN	Pg	17 51 49.4	-0.1
TURN	Turunc	1.35	320	P	Pg	17 51 49.5	-0.1
TURN				S	Sg	17 52 08.2	+1.0
TURN				i AML	AML	17 52 11.0	
	comp=E,50nm,0.4s						
TURN				i AML	AML	17 52 17.0	
	comp=N,55nm,0.6s						
GOLH	Golhisar	1.51	7	P	Pg	17 51 52.3	-0.3
GOLH				S	Sb	17 52 11.0	+0.2
GOLH				i AML	AML	17 52 25.0	
	comp=E,77nm,1.1s						
GOLH				i AML	AML	17 52 26.0	
	comp=N,81nm,1.1s						
KORT	Korkueli	1.51	33	PN	Pg	17 51 52.6	0.0
KORT	Korkueli	1.51	33	P	Pg	17 51 52.7	0.0
KORT				S	Sg	17 52 13.0	+0.6
KORT				i AML	AML	17 52 26.0	
	comp=E,98nm,0.5s						
KORT				i AML	AML	17 52 32.0	
	comp=N,76nm,0.7s						
ANTB	Antalya	1.59	43	PN	Pg	17 51 54.6	+0.6
YER	Yerkesik	1.63	329	PN	Pb	17 51 53.3	-0.2
DAT	Datca	1.72	306	PN	Pb	17 51 54.5	-0.7
DAT	Datca	1.72	306	P	Pb	17 51 54.9	-0.3
TAVA	DENIZLI_Tavas	1.76	349	P	Pg	17 51 57.3	-0.1
TAVA				S	Sn	17 52 15.7	-0.5
TAVA				i AML	AML	17 52 17.0	
	comp=N,56nm,0.4s						
TAVA				i AML	AML	17 52 29.0	
	comp=E,56nm,0.5s						
BASM	Basmaki-Afyon	2.26	15	PN	Pb	17 52 03.1	-1.2
AKMS	Akamas	2.57	105	P	Pn	17 52 06.4	+1.4
AKMS				AML	AML	17 52 34.4	
	0.7nm,0.6s						
AKMS				AML	AML	17 52 34.4	
	0.7nm,0.6s						
AKMS				AML	AML	17 52 36.0	
	1.0nm,0.5s						
AKMS				AML	AML	17 52 36.0	
	1.0nm,0.5s						
AKMS				S	Sn	17 52 36.6	+0.5
ZKR	Zakros	2.61	257	P	Pb	17 52 08.5	-1.7
ALFC	Alefka	2.74	101	P	Pn	17 52 08.6	+1.2
ALFC				AML	AML	17 52 40.4	
	0.6nm,0.3s						
ALFC				AML	AML	17 52 40.4	
	0.6nm,0.3s						
ALFC				AML	AML	17 52 40.5	
	1.1nm,0.2s						
ALFC				AML	AML	17 52 40.5	
	1.1nm,0.2s						
ALFC				S	Sn	17 52 40.8	+0.3
OSC1	CSNet OBS 1	2.75	144	P	Pb	17 52 09.1	-3.6
NATA	Nata	2.83	109	P	Pn	17 52 10.1	+1.5
NATA				AML	AML	17 52 44.0	
	0.6nm,0.2s						
NATA				AML	AML	17 52 44.1	
	0.6nm,0.2s						
ASGA	Asgata	3.35	105	P	Pn	17 52 16.9	+1.2
ASGA				AML	AML	17 52 55.7	
	0.3nm,0.2s						
ASGA				AML	AML	17 52 56.3	
	0.2nm,0.2s						
CSS	Mathiatis	3.37	102	P	Pn	17 52 17.3	+1.2
MVOU	Mavrovouni	3.60	100	P	Pn	17 52 20.1	+1.0
MVOU				AML	AML	17 53 00.8	
	0.1nm,1.3s						
OSC2	CSNet OBS 4	3.60	137	P	Pn	17 52 22.0	+2.8

*IDC **09** 17:54:02.4±0.7, 28°.13N×129°.41E, h0km, mb3.8/19, mb1 4.1/21, mb1mx4.0/40, mbtmp3.9/21, ML3.8/2, MS3.2/11, Ms1 3.3/11, ms1mx3.0/89, Error ellipse: s-maj=19.8km s-min=14.1km az=109.0*
*NEIC **09** 17:54:03.9±2.7, 28°.02N±0°.06×129°.58E±0°.09, h10km±1km, mb4.5/21, Error ellipse: s-maj=16.2km s-min=7.1km az=123.0*
*JMA **09** 17:54:06.9±0.2, 28°.08N×129°.50E, h30km±3km, M3.9*
JMA Felt I J1.
*NIED **09** 17:54:07.0, 28°.08N×129°.50E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr0.63; Mθθ-0.64; Mφφ0.01; Mrθ1.04; Mθφ-0.01; Mφr-0.37; Fault plane solution: M0 1.27000×10 15 NP1: φs107.00000°, δ76.00000°, λ99.00000°. NP2: φs254.00000°, δ17.00000°, λ59.00000°.*
ISC 09 17:54:05.6±1.0, 27°.97N±0°.03×129°.49E±0°.04, h27km±7km, n107, σ1§36/112, mb4.0/28, MS3.2/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	Amaminishikomi	0.39	315	P	Pn	17 54 14.8	-0.8
JAMN				S	Sn	17 54 20.7	-1.5
JAM	Amami Oshima	0.45	13	P	Pb	17 54 14.6	-0.6
JAM				S	Sb	17 54 20.3	-1.4
JTK	Tokunoshima	0.51	249	P	Pn	17 54 17.9	+0.7
JTK				S	Sn	17 54 25.8	+0.7
JZK	Kikaishima	0.55	51	P	Pb	17 54 17.0	+0.3
JZK				S	Sb	17 54 25.5	+1.2
JOKE	Okinoerabujima	1.01	234	P	Pn	17 54 26.4	+2.2
JOKE				eS	Sn	17 54 40.2	+2.6
JTAJ	Takarajima	1.21	348	P	Pn	17 54 26.5	-0.3
JYRO	Yoronjima	1.32	225	P	Pb	17 54 30.7	+1.0
JYRO				eS	Sb	17 54 48.5	+2.3
JOW	Kunigami	1.56	224	Pn	Pb	17 54 34.0	+0.1
	184nm,0.3s,baz=92,slow=14,SNR=472						
JOW				Sn	Sb	17 54 55.3	+2.0
	184nm,0.3s,baz=130,slow=28,SNR=18						
JOW				LR	LR	17 55 14.3	
	comp=Z,230nm,20.9s,baz=40,slow=44						
JOW	Kunigami	1.56	224	P	Pb	17 54 34.0	+0.1
JOW	Kunigami	1.56	224	P	Pb	17 54 34.7	+0.8
JIH	Iheya	1.64	236	P	Pb	17 54 35.4	+0.2
JIH				eS	Sb	17 54 56.7	+1.2
JNN	Nakanoshima	1.90	10	P	Pn	17 54 36.4	+0.1
JNN				eS	Sn	17 54 59.1	-0.3
JNTH	Nagotoyohara	1.95	223	P	Pb	17 54 39.3	-1.1
JNTH				eS	Sb	17 55 04.1	-0.2
JJT3	Tamagusuku3	2.37	220	P	Pb	17 54 45.2	-2.5
JAGN	Aguni-jima	2.43	236	P	Pb	17 54 46.3	-2.3
JYAK	Yakushimahirau	2.43	21	P	Pn	17 54 44.0	+0.4
JKC	Kuchinoerabu	2.56	14	P	Pn	17 54 46.2	+0.8
JKDJ	Kitadaitoujima	2.58	141	P	Pn	17 54 45.8	+0.2
JKDJ				S	Sn	17 55 14.0	-2.1
JMZ	Minamidaito 2	2.64	144	P	Pn	17 54 46.3	-0.2
JMZ				S	Sn	17 55 15.4	-2.2
JMTN	Minamitane	2.72	27	P	Pn	17 54 48.2	+0.6
JMTN				eS	Sn	17 55 19.0	-0.6
JKE	Kume jima 2	2.91	236	P	Pn	17 54 52.2	+2.0
JKE				eS	Sb	17 55 26.9	-5.2
JTN	Tanegashima 3	2.98	26	P	Pn	17 54 51.6	+0.5
JTN				eS	Sn	17 55 26.3	+0.3
JSU	Suzuyama	3.62	13		Pn	17 55 00.7	+0.6
JMJ	Miyako jima 2	4.90	231	P	Pn	17 55 19.8	+2.2
JNU	Nakatsue	5.28	13	Pn	Pn	17 55 25.1	+2.4
	30nm,0.3s,baz=282,slow=2.9,SNR=176						
JNU				Sn	Sn	17 56 22.3	-0.5
	baz=257,slow=6.9,SNR=0.8						
JNU				LR	LR	17 57 48.8	
	comp=Z,178nm,18.5s,baz=204,slow=44						
JNU	Nakatsue	5.28	13		Pn	17 55 24.9	+2.2
JNU	Nakatsue	5.28	13	P	Pn	17 55 25.6	+2.8
JMN	Monobe	6.87	32	Pn	Pn	17 55 44.8	+0.1
JHS	Saijyo	7.66	23	Pn	Pn	17 55 55.7	+0.1
TATO	Taipei	7.76	249	Pn	Pn	17 55 58.9	+1.9
YHNB	Yeheng	7.99	248	Pn	Pn	17 56 01.8	+1.7
NACB	Ninganchiao	8.04	244	Pn	Pn	17 55 59.8	-0.9
YULB	Yu-li	8.68	240	Pn	Pn	17 56 07.6	-1.9
SSLB	Suanglung	8.74	243	Pn	Pn	17 56 09.5	-0.9
SSLB	Suanglung	8.74	243	P	Pn	17 56 10.5	+0.1
JWT	Wachi	8.86	33	Pn	Pn	17 56 11.3	-0.6
TWG	Pinlang	9.17	238	Pn	Pn	17 56 14.4	-1.9
TPUB	Ta-pu	9.25	242	Pn	Pn	17 56 17.2	-0.1
TPUB	Ta-pu	9.25	242	P	Pn	17 56 18.8	+1.5
KSRS	Korea Array	9.55	352	Pn	Pn	17 56 25.4	+4.1
	0.2nm,0.3s,baz=173,slow=14,SNR=8.9						
INU	Inuyama	9.76	39		Pn	17 56 25.4	+1.2
INU	Inuyama	9.76	39	P	Pn	17 56 27.3	+3.1
JHJ	Hachijo jima 2	10.25	57	Pn	Pn	17 56 32.7	+1.7
	4.6nm,0.3s,baz=54,slow=1.4,SNR=2.1						
JHJ				LR	LR	18 00 04.7	
	comp=Z,67nm,21.2s,baz=194,slow=35						
JHJ2	Mitsune	10.27	58	Pn	Pn	17 56 32.3	+1.0
MAJO	Matsushiro	11.29	39	Pn	Pn	17 56 44.9	-0.3
MAJO	Matsushiro	11.29	39	P	Pn	17 56 47.2	+2.0
MJAR	Matsushiro Arr	11.29	39	Pn	Pn	17 56 46.8	+1.6
	0.1nm,0.3s,baz=248,slow=13,SNR=9.3						
MJAR				LR	LR	18 01 41.3	
	comp=Z,61nm,18.1s,baz=224,slow=41						
MJAR	Matsushiro Arr	11.29	39		Pn	17 56 44.4	-0.8
MJB9	Matsu-Tunnel	11.29	39	Pn	Pn	17 56 44.8	-0.5
ASAJ	Asahikawa	19.25	30	P	P	17 58 26.9	-0.9
	0.5nm,0.3s,baz=224,slow=15,SNR=5.8						
ASAJ				LR	LR	18 05 55.4	
	comp=Z,75nm,19.5s,baz=200,slow=37						
DAV	Davao City (W)	21.11	191	LR	LR	18 08 25.7	
	comp=Z,56nm,18.0s,baz=351,slow=41						
KLR	Kul'dur	21.30	4	P	P	17 58 48.5	-1.6
	1.8nm,0.8s,baz=203,slow=6.8,SNR=5.5						
KLR				LR	LR	18 06 25.0	
	comp=Z,51nm,20.3s,baz=202,slow=35						
SONM	Songino Array	26.76	324	P	P	17 59 43.0	-0.2
	0.6nm,0.7s,baz=142,slow=11,SNR=4.2						
CMAR	Chiang Mai Arr	29.56	258	P	P	18 00 08.4	0.0
	0.3nm,0.6s,baz=60,slow=5.6,SNR=4.2						
CMAR				PcP	PcP	18 03 13.1	0.0
	0.4nm,0.7s,baz=149,slow=0.5,SNR=4.4						
CMAR				LR	LR	18 13 15.0	
	comp=Z,42nm,18.8s,baz=50,slow=39						
PETK	Petropavlovsk-	32.63	32	LR	LR	18 13 41.7	
	comp=Z,48nm,19.4s,baz=256,slow=36						
H11N2	WAKE ISLAND Hy	35.07	95	T	T	18 38 10.7	
	baz=290						
H11N1	WAKE ISLAND Hy	35.07	95	T	T	18 38 15.2	
	baz=290						
H11N3	WAKE ISLAND Hy	35.09	95	T	T	18 38 15.6	
	baz=290						
H11S3	WAKE ISLAND Hy	35.34	97	T	T	18 38 34.2	
	baz=291						
H11S1	WAKE ISLAND Hy	35.35	97	T	T	18 38 35.8	
	baz=291						
H11S2	WAKE ISLAND Hy	35.36	97	T	T	18 38 38.8	
	baz=291						
MKAR	Makanchi Array	41.25	310	P	P	18 01 47.4	-1.1
	0.3nm,0.6s,baz=92,slow=11,SNR=6.2						
ZALV	Zalesovo Beam	41.58	321	P	P	18 01 49.8	-1.1
	0.9nm,0.7s,baz=111,slow=7.6,SNR=4.6						
KNRA	Kununurra	43.39	181		P	18 02 04.9	-1.1
KNRA				IAmb	IAmb	18 02 16.5	
	comp=Z,13nm,1.2s						
TIXI	Tiksi	43.73	360	LR	LR	18 19 21.2	
	comp=Z,50nm,21.1s,baz=227,slow=35						
BILL	Bilibino	45.67	18	P	P	18 02 23.3	-0.4
BILL				IAmb	IAmb	18 02 25.2	
	comp=Z,4.8nm,1.0s						
AAK	Ala-Archa	46.43	303	LR	LR	18 25 06.8	
	comp=Z,61nm,19.0s,baz=282,slow=40						
WB0	Warramunga Arr	47.69	174	P	P	18 02 40.8	+0.8
WB0				IAmb	IAmb	18 03 03.7	
	comp=Z,5.8nm,1.4s						
WRAB	Tennant Creek	47.85	174	P	P	18 02 41.6	+0.4
WRA	Warramunga Arr	47.86	174	P	P	18 02 42.3	+0.9
	comp=Z,0.8nm,1.1s,baz=352,slow=8.5,SNR=3.4						
WRA	Warramunga Arr	47.86	174	P	P	18 02 40.5	-0.8
WB2	Warramunga Arr	47.86	174	P	P	18 02 40.5	-0.8
WB2				IAmb	IAmb	18 02 52.3	
	comp=Z,6.6nm,1.5s						
WR0	Warramunga Arr	47.89	174	P	P	18 02 41.0	-0.6
WR0				IAmb	IAmb	18 03 11.8	
	comp=Z,3.4nm,1.1s						
NRIK	Noril'sk	47.96	341	P	P	18 02 39.9	-1.7
	comp=Z,2.8nm,0.6s,baz=138,slow=8.0,SNR=7.6						
NRIK	Noril'sk	47.96	341	P	P	18 02 41.4	-0.2
NRIK				IAmb	IAmb	18 02 41.7	
	comp=Z,3.7nm,0.8s						
KKAR	Karatay Array	49.35	304	P	P	18 02 52.5	-0.2
BVAR	Borovoye Array	49.75	317	P	P	18 02 55.9	+0.3
	comp=Z,1.2nm,0.6s,baz=87,slow=12,SNR=8.2						
GAR	Garm	49.79	299	P	P	18 02 54.9	-1.4
GAR				IAmb	IAmb	18 03 11.8	
	comp=Z,7.9nm,1.3s						
BRVK	Borovoye	49.82	317	P	P	18 02 56.2	+0.2
ASAR	Alice Springs	51.51	175	P	P	18 03 11.0	+1.9
	comp=Z,0.3nm,0.6s,baz=5.6,slow=14,SNR=9.1						
ABKAR	Akbulak array	56.29	312	P	P	18 03 42.4	-1.5
ABKAR	Akbulak array	56.29	312	P	P	18 03 43.5	-0.4
ABKAR				IAmb	IAmb	18 03 49.7	
	comp=Z,1.2nm,0.9s						
KIRV	Kirov	61.49	324	LR	LR	18 34 06.5	
	comp=Z,95nm,20.6s,baz=309,slow=39						
RND	Reindeer	61.68	30	P	P	18 04 21.3	+0.2
ILAR	Eielson Array	62.38	29	P	P	18 04 25.6	-0.1
	comp=Z,0.3nm,0.6s,baz=289,slow=5.6,SNR=2.8						
BMAR	Burnt Mountain	62.96	26	P	P	18 04 30.7	+1.1
KBZ	Khabaz	68.94	309	P	P	18 05 08.1	-0.2
	comp=Z,2.8nm,0.8s,baz=26,slow=17,SNR=2.8						
C36M	Paulatuk	69.67	21	P	P	18 05 13.5	+1.1
C36M				IAmb	IAmb	18 05 13.8	
	comp=Z,3.0nm,1.0s						
FIA1	FINESS Array S	71.91	331	P	P	18 05 26.6	+0.4
FINES	FINESS Array B	71.91	331	P	P	18 05 26.8	+0.6
	comp=Z,2.2nm,0.5s,baz=73,slow=6.4,SNR=19						
FINES	FINESS Array B	71.91	331	P	P	18 05 26.0	-0.2
RES	Resolute Bay	73.64	11	P	P	18 05 36.8	+0.6
RES				IAmb	IAmb	18 05 37.9	
	comp=Z,2.8nm,0.8s						
AKASG	Malin Array Be	74.94	320	P	P	18 05 43.5	-0.8
	comp=Z,0.8nm,0.6s,baz=59,slow=6.6,SNR=4.5						
AKASG	Malin Array Be	74.94	320	IAmb	IAmb	18 05 51.5	
	comp=Z,1.8nm,1.3s						
YKA	Yellowknife Ar	76.48	25	P	P	18 05 53.5	+0.7
	comp=Z,0.6nm,0.7s,baz=310,slow=5.8,SNR=9.5						
BRTR	Keskin Array B	76.86	308	P	P	18 05 56.4	+0.8
	comp=Z,1.1nm,0.8s,baz=90,slow=6.2,SNR=6.7						
BRTR	Keskin Array B	76.86	308	P	P	18 05 56.1	+0.5
NB201	NORSAR Array S	78.22	334	P	P	18 06 03.2	+0.5
NB2	NORSAR Subarra	78.25	334	P	P	18 06 02.6	-0.2
	comp=Z,2.8nm,0.8s,baz=52,slow=5.9						
NOA	NORSAR Array B	78.25	334	P	P	18 06 02.8	-0.1
	comp=Z,1.0nm,0.6s,baz=51,slow=5.7,SNR=5.1						
NC204	NORSAR Array S	78.28	334	P	P	18 06 02.9	-0.1
BUR08	Bucovina Ar. S	78.69	318	P	P	18 06 06.5	+0.9
BURAR	Bucovina Array	78.70	318	P	P	18 06 06.2	+0.6
BURAR				IAmb	IAmb	18 06 08.2	
	comp=Z,4.4nm,1.4s						
SUMG	Summit	79.38	356	P	P	18 06 09.3	0.0
GERES	GERESS Array B	84.49	323	P	P	18 06 36.1	-0.1
	comp=Z,0.4nm,0.7s,baz=71,slow=5.8,SNR=4.0						
NVAR	Mina Array Bea	88.50	47	P	P	18 06 57.9	+1.7
	comp=Z,0.1nm,0.3s,baz=292,slow=3.8,SNR=2.7						
PDAR	Pinedale Array	91.11	39	P	P	18 07 09.1	+0.7
	comp=Z,0.7nm,0.9s,baz=304,slow=0.5,SNR=4.6						

*OTT **09** 18:10:57.9±1.3, 72°.33N×71°.46W, h18km, MN3.3/4, 223km east from Pond Inlet, Nu Baffin Bay Seismic Zone.*
ISC 09 18:10:58.1±0.8, 72°.01N±0°.06×72°.74W±0°.06, h10km, n9, σ2§37/14, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLRN	Clyde River	2.04	137	PN	Pg	18 11 37.7	+0.6
CLRN				Trac		18 12 22.0	
	comp=Z,29nm,0.1s						
TULEG	Thule	4.68	11	e	Pn	18 12 12.8	+4.2
	baz=216,slow=10						
TULEG				i P	Pb	18 12 13.4	-6.7
TULEG				i S	Sn	18 13 04.8	+2.0
TULEG				IAML		18 13 06.5	
	comp=Z,4.1nm,0.3s						
UPNV	Upernavik	5.10	73	i P	Pb	18 12 26.0	-1.1
UPNV				i S	Sb	18 13 24.6	-3.8
UPNV				IAML		18 13 30.3	
	comp=Z,1.6nm,0.3s						
RES	Resolute Bay	6.88	303	PN	Pn	18 12 39.3	+0.5
RES				SN	Sn	18 13 54.0	-3.0
RES				Trac		18 14 56.5	
	comp=Z,381nm,3.9s						
FRB	Frobisher Bay	8.44	167	PN	Pn	18 12 60.0	-0.3
FRB				SN	Sn	18 14 34.9	-0.5
FRB				Trac		18 15 29.9	
	comp=Z,6.9nm,0.3s						
FRB				LG	Lg	18 15 30.2	
EUNU	Eureka	8.70	344	PN	Pn	18 13 01.4	-2.3
KNGQ	Kangiqsujuaq	10.47	178	PN	Pn	18 13 28.7	+0.7
KNGQ				SN	Sn	18 15 23.8	-1.4
KNGQ				LG	Lg	18 16 31.6	
KNGQ				Trac		18 16 42.0	
	comp=Z,8.1nm,0.5s						
CB12	Cambridge Bay	11.06	271	SN	Sn	18 15 41.0	+1.5
CB12				LG	Lg	18 16 47.0	
KAJQ	Kangiqsualujju	13.65	165	PN	Pn	18 14 13.6	+2.2
KAJQ				Trac		18 18 11.7	
	comp=Z,5.8nm,0.3s						

*NEIC **09** 18:47:18.3±2.0, 31°.76S±0°.05×68°.17W±0°.09, h94km±4km, mb4.7/131, Mwr4.6/27, Md4.5(SJA), Error ellipse: s-maj=11.4km s-min=7.6km az=88.0*
*NEIC **09** 18:47:18.2, 31°.76S×68°.14W, h97km, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr-7.00; Mθθ5.76; Mφφ1.25; Mrθ1.19; Mθφ3.85; Mφr4.42; Fault plane solution: M0 8.81000×10 15 NP1: φs80.64000°, δ37.11000°, λ-54.70000°. NP2: φs219.04000°, δ60.50000°, λ-113.62000°. Principal axes: T 8.6822, Plg12.0000°, Azm326.0000°; N 0.2596, Plg20.0000°, Azm231.0000°; P -8.9418, Plg66.0000°, Azm85.0000°;*
*VAO **09** 18:47:18.8±0.6, 31°.79S×68°.30W, h95km, mb4.5*
*SJA **09** 18:47:19.3±0.7, 31°.72S×68°.30W, h111km±3km, ML4.4, MW4.4*
*IDC **09** 18:47:20.0±0.5, 31°.69S×68°.27W, h104km±3km, mb4.3/12, mb1 4.4/17, mb1mx4.2/26, mbtmp4.6/17, MS3.2/2, Ms1 3.1/2, ms1mx2.8/49, Error ellipse: s-maj=15.4km s-min=11.3km az=79.0*
ISC 09 18:47:19.6±0.4, 31°.71S±0°.03×68°.33W±0°.03, h105km±3km, h105km:pP-P, n310, σ1§41/335, mb4.7/74, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	Cerro Valdivia	0.24	230	eP	Pn	18 47 35.5	+1.0
ZON	Zonda	0.34	298		Pn	18 47 35.9	+0.9
ZON				Sn	Sn	18 47 46

CO03 El Pedregal 2.20 293 Pn 18 47 57.0 +2.0
CO03 Sn **Sn** 18 48 23.6 +1.5
CO03 El Pedregal 2.20 293 *eP* **Pn** 18 47 57.1 +2.1
CO03 *eS* **Sn** 18 48 25.4 +3.3
CO03 IAML 18 48 26.4
comp=Z,7µm,0.5s
PEL Peldehue 2.46 234 Pn 18 47 59.3 +1.1
PEL Peldehue 2.46 234 *eP* **Pn** 18 47 59.5 +1.3
PEL *eS* **Sn** 18 48 31.3 +3.4
ROC1 El Roble 2.60 240 *eP* **Pn** 18 48 00.5 +0.1
ROC1 *eS* **Sn** 18 48 32.5 +0.8
GO04 Tololo Observa 2.62 305 Pn 18 48 01.8 +1.2
GO04 Sn **Sn** 18 48 33.1 +1.0
GO04 Tololo Observa 2.62 305 *eP* **Pn** 18 48 02.0 +1.4
GO04 *eS* Sn 18 48 22.6 -10
MT05 Renca 2.64 230 Pn **Pn** 18 48 01.9 +1.2
MT05 Sn **Sn** 18 48 34.1 +1.9
MT05 Renca 2.64 230 *eP* **Pn** 18 48 02.0 +1.3
MT05 *eS* **Sn** 18 48 36.1 +3.8
MT05 IAML 18 48 38.6
comp=Z,1µm,0.8s
MT02 Curacav 2.83 236 Pn 18 48 03.3 +0.1
MT02 Sn **Sn** 18 48 35.0 -1.8
MT02 Curacav 2.83 236 *eP* **Pn** 18 48 03.6 +0.4
MT02 *eS* **Sn** 18 48 38.0 +1.2
MT02 IAML 18 48 42.9
comp=Z,703nm,0.6s
VCA Vinchina 2.96 2 *eP* **Pn 18 48 06.9 +1.8**
VCA *eS* **Sn** 18 48 43.0 +2.9
VCA IAML 18 48 49.2
comp=Z,1µm,0.3s
CO06 Fray Jorge 3.02 289 Pn 18 48 05.3 -0.3
MT09 Talagante 3.05 227 Pn 18 48 06.3 +0.1
MT09 Sn **Sn** 18 48 38.8 -3.3
RFA San Rafael 3.06 182 *eP* **Pn** 18 48 06.8 +0.6
RFA *eS* Sn 18 48 22.6 -20
RFA IAML 18 48 37.5
comp=Z,1µm,0.5s
RFA *eS* **Sn 18 48 42.8 +0.6**
CO05 La Serena 3.08 305 Pn 18 48 06.7 +0.3
CO05 Sn **Sn** 18 48 41.8 -0.7
VA01 Torpederas 3.10 244 Pn **Pn** 18 48 05.9 -0.8
VA01 Torpederas 3.10 244 *eP* **Pn 18 48 07.1 +0.4**
VA01 IAML 18 49 10.2
comp=Z,465nm,1.9s
TCA Tanti 3.21 84 *eP* **Pn 18 48 08.8 +0.6**
TCA *eS* **Sn** 18 48 45.3 -0.5
TCA IAML 18 49 02.8
comp=Z,1µm,0.5s
MT01 Popeta 3.27 228 Pn 18 48 08.4 -0.6
MT01 Sn **Sn** 18 48 45.6 -1.6
MT01 Popeta 3.27 228 *eP* **Pn** 18 48 08.8 -0.2
MT01 *eS* **Sn** 18 48 47.8 +0.6
MT01 IAML 18 48 53.7
comp=Z,528nm,0.6s
LCO Las Campanas 3.38 322 Pn **Pn 18 48 11.8 +1.0**
LCO Las Campanas 3.38 322 *eP* **Pn 18 48 11.8 +1.0**
VA05 Santo Domingo 3.38 234 Pn 18 48 10.3 -0.2
BO01 Tunca 3.54 220 Pn 18 48 12.4 -0.2
BO01 Tunca 3.54 220 *eP* **Pn 18 48 12.7 +0.1**
BO01 *eS* **Sn** 18 48 54.8 +1.2
BO01 IAML 18 49 04.8
comp=Z,333nm,0.6s
BO02 Sierra Bellavi 3.70 213 Pn 18 48 15.0 +0.1
BO02 Sierra Bellavi 3.70 213 *eP* **Pn** 18 48 15.7 +0.9
BO02 *eS* **Sn** 18 49 03.0 +5.4
BO02 IAML 18 49 06.3
comp=Z,406nm,0.2s
EDS3 Malargue 4.15 192 *eP* **Pn 18 48 21.6 +0.6**
EDS3 *eS* **Sn** 18 49 08.3 -0.2
AC04 Llanos de Chal 4.23 325 Pn **Pn 18 48 22.0 +0.1**
GO03 Copiap 4.42 337 Pn **Pn** 18 48 25.3 +0.7
GO03 Copiap 4.42 337 *eS* **Sn 18 49 15.1 -0.1**
GO05 Huala 4.46 222 Pn **Pn 18 48 23.1 -2.0**
ML02 Panimavida 4.79 212 Pn 18 48 28.4 -1.1
AC02 Maricunga 4.91 352 Pn **Pn 18 48 32.9 +1.3**
AHML Horco Molle 5.56 29 *eS* **Sn 18 49 42.4 -0.2**
AHML IAML 18 50 33.0
comp=Z,137nm,0.6s
PB14 IPOC Station P 7.29 345 Pn **Pn 18 49 02.5 -1.2**
LC01 Cunco 7.74 201 Pn **Pn 18 49 07.1 -2.3**
PB10 IPOC Station P 8.40 346 Pn 18 49 16.0 -2.5
PB15 IPOC Station P 8.53 353 Pn 18 49 19.3 -1.1
LR03 Panguipulli 8.55 201 Pn **Pn 18 49 17.5 -3.0**
PB06 IPOC Station P 9.04 353 Pn 18 49 25.3 -2.0
LVC Limon Verde 9.08 357 P **Pn 18 49 26.8 -1.3**
comp=Z,20nm,0.3s,baz=183,slow=8.6,SNR=101
LVC Limon Verde 9.08 357 Pn **Pn 18 49 26.1 -2.0**
PLCA Paso Flores 9.18 191 P **Pn 18 49 28.9 -0.2**
comp=Z,0.3nm,0.3s,baz=15,slow=12,SNR=13
PLCA LR LR 18 53 01.0
comp=Z,50nm,19.2s,baz=12,slow=37
PLCA Paso Flores 9.18 191 Pn **Pn 18 49 25.2 -3.9**
PB04 IPOC Station P 9.48 350 Pn 18 49 29.7 -3.6
LL04 Puerto Octay 9.75 199 Pn **Pn 18 49 32.9 -3.8**
PB09 IPOC Station P 9.91 355 Pn 18 49 37.5 -1.7
PB07 IPOC Station P 10.04 352 Pn 18 49 37.6 -3.4
ITQB Itaqui 10.28 82 *eP* **Pn 18 49 43.6 -0.4**
ITQB Itaqui 10.28 82 Pn **Pn 18 49 40.9 -3.0**
PB01 IPOC Station P 10.67 354 Pn 18 49 45.7 -3.7
CPUP Villa Florida 11.01 64 P **Pn 18 49 52.8 -1.1**
comp=Z,0.4nm,0.3s,baz=246,slow=11,SNR=7.4
CPUP Villa Florida 11.01 64 *eP* **Pn 18 49 53.5 -0.5**
CPUP Villa Florida 11.01 64 Pn 18 49 50.7 -3.3
TA01 Diego Aracena 11.22 351 Pn Pn 18 49 50.3 -6.5
TA02 Huaiquique 11.51 351 Pn **Pn 18 49 57.6 -2.9**
PB08 IPOC Station P 11.54 356 Pn 18 49 57.9 -3.6
PB11 IPOC Station P 11.96 354 Pn Pn 18 50 01.9 -4.8
PLTB Pedras Altas 12.54 94 *eP* **Pn 18 50 13.8 -0.3**
PLTB Pedras Altas 12.54 94 Pn **Pn 18 50 10.2 -4.0**
CPSB Cacapava Do Su 12.83 88 *eP* **Pn 18 50 17.2 -0.9**
PB12 IPOC Station P 13.16 352 Pn Pn 18 50 17.4 -5.2
PB16 IPOC Station P 13.36 355 Pn 18 50 22.1 -3.5
ITAB Concordia 14.79 77 Pn Pn 18 50 35.2 -8.2
LPAZ La Paz 15.35 1 P **Pn 18 50 51.0 -0.1**
comp=Z,1.0nm,0.3s,baz=187,slow=4.9,SNR=19
LPAZ La Paz 15.35 1 *eP* **Pn 18 50 51.8 +0.7**
LPAZ La Paz 15.35 1 Pn 18 50 49.8 -1.4
AQDB Aquidauana 15.91 48 Pn 18 50 56.7 -0.8
TER01 Tubaro-SC 16.91 84 *eP* **Pn 18 51 09.3 -0.5**
SIV San Ignacio 16.98 25 P **Pn 18 51 10.6 -0.2**
comp=Z,1.0nm,0.3s,baz=206,slow=12,SNR=46
PTLB Pontes e Lacer 18.23 29 *eP* **Pn 18 51 26.0 +0.2**
PTLB Pontes e Lacer 18.23 29 P **P** 18 51 24.1 -0.6
PCMB Pacaembu 18.25 61 *eP* **P 18 51 25.4 +0.5**
PP1B Ponte de Pedra 18.59 44 *eP* **Pn 18 51 29.9 -0.2**
SALV Santo Antonio 19.50 39 *eP* **P 18 51 39.5 +1.0**
PET01 Itanhaem-SP 19.98 74 *eP* **P 18 51 43.6 -0.1**
ITRB Iturama 20.09 58 *eP* **P 18 51 45.3 +0.3**
VILB Vilhena 20.11 24 *eP* **P 18 51 45.7 +0.5**
VILB Vilhena 20.11 24 P **P 18 51 44.1 -1.0**
VILB IAmb IAmb 18 51 56.3
comp=Z,27nm,0.7s
SPB Sao Paulo 20.18 72 *eP* **P 18 51 46.4 +0.6**
BB19B Bebedouro 20.63 64 *eP* **P 18 51 50.7 -0.1**
RCLB Rio Claro- Sao 20.67 69 *eP* **P 18 51 51.6 +0.4**
VAO Valinhos 20.83 71 *eP* **P 18 51 53.6 +0.6**
EFI East Falkland 21.33 162 P **P 18 51 58.5 +0.6**
PARB Paraibuna 21.76 73 *eP* **P 18 52 02.6 -0.3**
ETMB Extrema 21.87 6 *eP* **P 18 52 05.2 +1.2**
ETMB Extrema 21.87 6 P **P 18 52 04.5 +0.5**
ETMB IAmb IAmb 18 52 07.2
comp=Z,85nm,1.5s
ARAG Araguaiana, MT 21.92 47 *eP* **P 18 52 03.9 -0.5**
PDRB Porto dos Gac 22.68 31 *eP* **P 18 52 12.6 +0.2**
IPMB Ipameri, GO 22.75 58 *eP* **P 18 52 12.3 -0.8**
MAN01 Ângra dos Reis 23.34 74 *eP* **P 18 52 19.1 +0.4**
BSCB Bom Sucesso 23.60 69 *eP* **P 18 52 21.0 -0.1**
CLDB Colider 23.75 32 *eP* **P 18 52 21.7 -0.7**
VAS01 Vassouras-RJ 24.03 73 *eP* **P 18 52 25.4 +0.5**
CZSB Cruzeiro do Su 24.20 349 *eP* **P 18 52 27.8 +1.3**
CZSB Cruzeiro do Su 24.20 349 P **P 18 52 27.1 +0.6**
BDFB Brasilia 24.46 54 P **P 18 52 28.8 -0.2**
comp=Z,11nm,0.8s,baz=223,slow=9.0,SNR=14
BDFB Brasilia 24.46 54 P **P 18 52 26.7 -2.3**
SNDB Serra Nova Dou 25.14 42 *eP* **P 18 52 35.4 +0.3**
DIAM Diamantina, MG 25.95 65 *eP* **P 18 52 42.8 +0.3**
PEXB Peixe 26.85 48 *eP* **P 18 52 50.5 +0.1**
ALF01 Guarapari-ES 27.05 73 *eP* **P 18 52 52.7 +0.5**
NPGB Novo Progresso 27.36 29 *eP* **P 18 52 55.2 +0.1**
TBTG Tabatinga, AM 27.42 357 *eP* **P 18 52 56.4 +0.9**

TBTG Tabatinga, AM 27.42 357 P **P 18 52 55.7 +0.2**
JANB Januaria 27.48 58 *eP* **P 18 52 55.7 -0.5**
SJMB Sao Joao De Ma 27.67 69 *eP* **P 18 52 58.1 +0.3**
SDBA SAO DESIDERIO 28.87 54 *eP* **P 18 53 08.0 -0.5**
ITTB Itaituba 29.66 26 *eP* **P 18 53 15.9 +0.5**
SMTB Santa Maria do 29.80 45 *eP* **P 18 53 17.0 +0.3**
GUA01 Guaratinga, BA 29.95 67 *eP* **P 18 53 17.5 -0.5**
CMC01 Camacan, BA 30.89 65 *eP* **P 18 53 24.8 -1.5**
NBIT Itapeh - BA 31.21 64 *eP* **P 18 53 27.3 -1.8**
MALB Monte Alegre 32.53 27 *eP* **P 18 53 40.3 -0.3**
OTAV Otavalo 33.19 341 *eP* **P 18 53 48.2 +1.3**
NBPN Ponto Novo - B 33.26 58 *eP* **P 18 53 46.7 -0.4**
BOAV Boa Vista 34.72 14 *eP* **P 18 53 60.0 +0.4**
BOAV Boa Vista 34.72 14 P **P 18 53 59.4 -0.2**
MCPB Macapa, AP 34.77 29 *eP* **P 18 54 00.9 +0.8**
ORTC Ortega, Tolima 36.03 348 *eP* **P 18 54 12.4 +1.5**
CHIC Chingaza 36.50 351 *eP* **P 18 54 15.9 +0.6**
NBMA Muriti-CE 36.69 55 *eP* **P 18 54 16.6 +0.1**
NBAN Anadia - AL 36.91 61 *eP* **P 18 54 17.8 -0.6**
NBPS Pedro II - PI 37.08 48 *eP* **P 18 54 19.8 -0.1**
GUY2C Guyana, Caldas 37.33 348 *eP* **P 18 54 23.5 +1.1**
NBPB Pedra_Branca-C 37.44 52 *eP* **P 18 54 23.0 +0.1**
RUSC La Rusia 37.66 352 *eP* **P 18 54 26.1 +0.8**
CBOC Ciudad Bolivar 38.08 348 *eP* **P 18 54 29.1 +0.8**
HELC Santa Helena 38.31 348 *eP* **P 18 54 31.0 +0.5**
BARC Barichara 38.37 352 *eP* **P 18 54 30.1 -0.8**
PTBC PUERTO BERRIO, 38.48 350 *eP* **P 18 54 30.1 -1.5**
NBMO Morrinhos-CE 38.80 49 *eP* **P 18 54 35.8 +1.5**
DBBC Dabeiba 39.24 348 *eP* **P 18 54 38.6 +0.7**
NBCL Cascavel-CE 39.27 52 *eP* **P 18 54 39.5 +1.3**
ZARC Zaragoza, Cauc 39.48 350 *eP* **P 18 54 39.1 -0.7**
RCBR Riachuelo 39.78 56 *eP* **P 18 54 44.0 +1.5**
NBPV Pedro Velho 39.81 58 *eP* **P 18 54 42.5 -0.1**
BAUV El Baul 40.42 0 P **P 18 54 46.8 -0.8**
BAUV IAmb IAmb 18 54 47.9
comp=Z,23nm,1.1s
SDV Santo Domingo 40.42 356 *eP* **P 18 54 48.0 +0.1**
SDV Santo Domingo 40.42 356 P **P 18 54 46.9 -1.0**
SDV IAmb IAmb 18 54 48.1
comp=Z,6.2nm,0.7s
SMLC San Martn de 40.65 351 *eP* **P 18 54 46.2 -3.3**
SJCC San Jacinto, C 41.89 350 *eP* **P 18 55 00.1 +0.4**
CRPR Cabo Rojo, PR 49.44 2 P **P 18 55 57.6 -1.4**
OBIP Obispado Ponce 49.49 2 P **P 18 55 58.0 -1.5**
CELP Cerrillos 49.53 2 P **P 18 55 58.1 -1.6**
VNA3 Neumayer Olymp 50.33 159 P **P 18 56 06.0 +0.8**
VNA1 Neumayer--Stat 50.59 158 P **P 18 56 05.0 -2.1**
VNA2 Neumayer--Watz 50.94 158 P **P 18 56 10.5 +0.7**
baz=285,slow=8.4
SNAA Sanae 52.55 159 P **P 18 56 22.1 +0.3**
SNAA Sanae 52.55 159 P **P 18 56 22.5 +0.6**
comp=Z,3.5nm,0.6s,baz=284,slow=6.9,SNR=22
SNAA pP **pP 18 56 48.9 +1.8**
comp=Z,3.8nm,0.4s,baz=285,slow=8.9,SNR=6.2
SNAA Sanae 52.55 159 P **P 18 56 21.1 -0.7**
833A Chaparral WMA, 66.62 330 P **P 18 57 60.0 +1.1**
VNDA Vanda 66.94 190 P **P 18 58 01.3 +1.1**
comp=Z,3.9nm,0.9s,baz=338,slow=1.8,SNR=7.7
VNDA Vanda 66.94 190 IAmb IAmb 18 58 02.9
comp=Z,9.5nm,1.1s
143A Socs Landing, 67.68 339 P **P 18 58 05.7 +0.4**
X51A Calhoun 67.73 345 P **P 18 58 05.6 -0.1**
JCT Junction City 68.68 331 P **P 18 58 11.6 -0.2**
JCT IAmb IAmb 18 58 13.6
comp=Z,11nm,0.8s
WLAR White Oak Lake 69.12 338 P **P 18 58 15.0 +0.7**
V48A Smith Brothers 69.30 344 P **P 18 58 14.8 -0.6**
V48A IAmb IAmb 18 58 16.2
comp=Z,12nm,0.7s
TX32 Lajitas Array 69.38 327 P **P 18 58 17.1 +0.9**
TX32 pP **PcP 18 58 39.5 +0.5**
TXAR Lajitas Array 69.38 327 P **P 18 58 17.2 +1.0**
comp=Z,1.9nm,0.6s,baz=151,slow=8.0,SNR=23
TXAR pP **pP 18 58 44.8 +2.0**
comp=Z,2.1nm,0.7s,baz=147,slow=7.8,SNR=5.7
TXAR Lajitas Array 69.38 327 P **P 18 58 16.5 +0.3**
TXAR **PcP 18 58 39.7 +0.8**
TX31 Lajitas Ar. Si 69.38 327 P **P 18 58 17.1 +0.9**
TX31 pP **PcP 18 58 39.6 +0.7**
TX31 IAmb IAmb 18 58 45.1
comp=Z,18nm,1.2s
WVT Waverly 69.92 343 P **P 18 58 18.7 -0.5**
WVT pP **PcP 18 58 40.8 -0.1**
W41B Gary Mavity, V 70.23 339 P **P 18 58 21.2 +0.2**
W41B IAmb IAmb 18 58 22.0
comp=Z,9.0nm,1.0s
T47A Sharon Grove 70.56 344 P **P 18 58 22.3 -0.8**
T47A IAmb IAmb 18 58 23.5
comp=Z,7.4nm,0.8s
W39A Magazine 70.72 338 P **P 18 58 24.6 +0.5**
LCAR Lake Charles 70.74 341 P **P 18 58 23.3 -0.9**
LCAR **PcP 18 58 46.5 +2.2**
LIC Lamto 71.07 70 *eP* **P 18 58 26.7 0.0**
comp=Z,27nm,0.9s
PBMO Poplar Bluff 71.20 341 P **P 18 58 26.9 0.0**
PBMO IAmb IAmb 18 58 28.0
comp=Z,18nm,0.9s
TIC Toumodi 71.32 70 *eP* **P 18 58 28.5 +0.2**
KIC Kosan Boka 71.38 70 *eP* **P 18 58 28.8 +0.2**
comp=Z,17nm,0.7s
P57A Homestead Farm 71.40 352 P **P 18 58 28.9 +0.8**
P57A IAmb IAmb 18 58 30.2
comp=Z,12nm,0.9s
DBIC Dimbokro 71.47 70 P **P 18 58 29.8 +0.6**
comp=Z,9.4nm,0.7s,baz=217,slow=6.4,SNR=16
DBIC pP **pP 18 58 56.0 +0.1**
comp=Z,7.6nm,0.8s,baz=233,slow=6.4,SNR=6.1
DBIC LR LR 19 26 49.3
comp=Z,35nm,18.1s,baz=319,slow=33
DBIC Dimbokro 71.47 70 P **P 18 58 28.9 -0.2**
DBIC IAmb IAmb 18 59 08.3
comp=Z,13nm,0.8s
X34A Smith Ranch, M 71.56 335 P **P 18 58 29.2 -0.1**
WCI Wyandotte Cave 71.57 345 P **P 18 58 28.4 -0.7**
WCI IAmb IAmb 18 58 29.2
comp=Z,12nm,0.8s
S44A Carbondale 71.76 343 P **P 18 58 29.6 -0.7**
S44A IAmb IAmb 18 58 30.8
comp=Z,12nm,0.6s
HHAR Hobbs 71.77 338 P **P 18 58 29.9 -0.5**
HHAR IAmb IAmb 18 58 31.2
comp=Z,11nm,0.6s
MNTX Cornudas Mount 72.16 327 P **P 18 58 32.5 -0.4**
MNTX IAmb IAmb 18 58 33.7
comp=Z,5.6nm,0.8s
MNTX pP **PcP 18 58 54.5 +3.9**
OK025 Westminster Rd 72.27 335 P **P 18 58 33.4 0.0**
OK025 **PcP 18 58 54.2 +3.3**
FVM French Village 72.33 342 P **P 18 58 33.7 0.0**
FVM IAmb IAmb 18 58 34.7
comp=Z,14nm,0.7s
S39A Bolivar 72.88 339 P **P 18 58 37.0 0.0**
S39A IAmb IAmb 18 58 38.3
comp=Z,20nm,1.0s
MSTX Muleshoe 72.95 331 P **P 18 58 37.9 +0.3**
O49A Covington 73.06 347 P **P 18 58 37.6 -0.3**
O49A IAmb IAmb 18 58 38.5
comp=Z,14nm,0.8s
AMTX Amarillo 73.29 332 P **P 18 58 39.5 -0.1**
AMTX IAmb IAmb 18 58 41.1
comp=Z,11nm,0.8s
N49A Columbus Grove 73.74 348 IAmb IAmb 18 58 42.6
comp=Z,25nm,1.2s
121A Cookes Peak, D 73.98 326 IAmb IAmb 18 58 46.5
comp=Z,9.3nm,0.8s
MAW Mawson 74.45 163 P **P 18 58 46.6 +0.7**
comp=Z,8.5nm,0.6s,baz=202,slow=6.9,SNR=8.6
P38A Dawn 74.73 340 IAmb IAmb 18 58 49.5
comp=Z,7.5nm,0.7s
ANMO Albuquerque 75.37 328 P **P 18 58 52.6 +0.8**
ANMO IAmb IAmb 18 58 54.5
comp=Z,14nm,1.5s
T25A Trinidad 76.35 331 P **P 18 58 57.3 0.0**
T25A IAmb IAmb 18 58 59.9
comp=Z,9.5nm,0.8s
L40A Anamosa 76.38 343 P **P 18 58 56.8 -0.2**
L40A **pP 18 59 20.9 -3.1**
W18A Petrified Fore 77.03 326 IAmb IAmb 18 59 03.6
comp=Z,13nm,1.1s
X16A Lo Mia Camp, P 77.29 325 P **P 18 59 03.3 +0.7**
X16A IAmb IAmb 18 59 05.9
comp=Z,10nm,1.1s
Y14A Wickenburg 77.69 323 IAmb IAmb 18 59 07.0
comp=Z,11nm,1.4s
S22A 4UR Ranch, Cre 77.88 330 P **P 18 59 06.8 +0.8**
MVCO Mesa Verde 78.17 328 P **P 18 59 07.8 +0.2**
MVCO IAmb IAmb 18 59 09.9
comp=Z,10nm,1.2s
Q24A Divide 78.21 331 IAmb IAmb 18 59 10.1
comp=Z,12nm,0.7s
BOSA Boshof 78.33 116 P **P 18 59 09.2 +0.5**
comp=Z,6.1nm,0.7s,baz=269,slow=5.4,SNR=15
BOSA Boshof 78.33 116 IAmb IAmb 18 59 10.0
comp=Z,7.8nm,0.8s
PV13 Radium Mtn., P 79.10 329 IAmb IAmb 18 59 14.8
comp=Z,6.3nm,0.8s
ISCO Idaho Springs 79.11 332 P **P 18 59 13.6 +0.9**
SMCO Snowmass 79.15 330 IAmb IAmb 18 59 15.8
comp=Z,8.5nm,0.8s
PV05 Paradox Valley 79.16 328 P **P 18 59 13.1 +0.2**
PV05 IAmb IAmb 18 59 14.9
comp=Z,24nm,1.6s
PV03 Paradox Valley 79.19 329 P **P 18 59 13.8 +0.8**
ECSD EROS Data Cent 79.41 340 P **P 18 59 13.4 -0.5**
ECSD IAmb IAmb 18 59 14.9
comp=Z,12nm,0.8s
ECSD pP **pP 18 59 38.8 -2.2**
KNB Kanab 80.03 325 IAmb IAmb 18 59 20.4
comp=Z,16nm,1.1s
N23A Red Feather La 80.17 332 P **P 18 59 18.8 +0.5**
TORD Torodi Ar. Bea 80.48 68 P **P 18 59 20.6 +0.4**
comp=Z,7.9nm,0.9s,baz=270,slow=5.8,SNR=33
TORD pP **pP 18 59 47.4 -0.5**
comp=Z,6.2nm,0.7s,baz=260,slow=4.9,SNR=9.0
TORD Torodi Ar. Bea 80.48 68 P **P 18 59 20.8 +0.5**
TORD IAmb IAmb 18 59 21.7
comp=Z,9.7nm,1.0s
MTPU Mount Pierson 80.55 326 P **P 18 59 21.0 +0.5**
CCUT Cedar City 80.72 325 P **P 18 59 22.4 +1.1**
CCUT IAmb IAmb 18 59 24.3
comp=Z,8.1nm,1.0s
Q16A Castle Valley 80.78 327 IAmb IAmb 18 59 24.7
comp=Z,15nm,1.5s
P18A Preston Nutter 80.94 329 P **P 18 59 23.3 +0.8**
P18A IAmb IAmb 18 59 24.9
comp=Z,12nm,1.1s
P17A Butcher Ranch, 81.03 328 IAmb IAmb 18 59 24.9
comp=Z,9.3nm,1.2s
RWWY Rawlins 81.35 332 IAmb IAmb 18 59 25.8
comp=Z,17nm,1.0s
RDMU Red Mountain 81.41 329 IAmb IAmb 18 59 26.8
comp=Z,9.4nm,0.9s
PRN Pahroc Range 81.44 324 IAmb IAmb 18 59 27.9
comp=Z,11nm,1.2s
TPNV Topopah Spring 81.69 323 P **P 18 59 27.0 +0.6**
K22A Casper 81.89 333 IAmb IAmb 18 59 29.6
comp=Z,18nm,1.1s
RSSD Black Hills 82.21 335 P **P 18 59 29.0 -0.1**
RSSD IAmb IAmb 18 59 30.6
comp=Z,7.8nm,1.0s
LCH Last Change Ra 82.63 322 P **P 18 59 30.8 -0.5**
B35A Bob, Littlefor 82.89 343 IAmb IAmb 18 59 32.9
comp=Z,11nm,0.7s
BW06 Boulder Array 83.22 331 P **P 18 59 34.2 -0.1**
PDAR Pinedale Array 83.22 331 P **P 18 59 34.5 +0.2**
comp=Z,2.4nm,0.7s,baz=132,slow=6.7,SNR=22
PDAR pP **pP 19 00 02.1 +0.5**
comp=Z,1.6nm,0.9s,baz=121,slow=5.5,SNR=4.1
AGMN Agassiz Nation 83.38 342 IAmb IAmb 18 59 35.6
comp=Z,7.0nm,0.8s
HVU Hansel Valley 83.81 328 P **P 18 59 37.5 +0.3**
HVU IAmb IAmb 18 59 38.6
comp=Z,5.7nm,0.9s
LHV Little Huntoon 83.84 323 IAmb IAmb 18 59 39.6
comp=Z,5.2nm,0.7s
AHID Auburn Hatcher 83.86 330 IAmb IAmb 18 59 40.0
comp=Z,15nm,1.5s
NVAR Mina Array Bea 83.87 323 P **P 18 59 38.5 +0.8**
comp=Z,3.6nm,0.9s,baz=154,slow=6.3,SNR=20
NVAR pP **pP 19 00 06.0 +1.0**
comp=Z,1.5nm,0.8s,baz=143,slow=6.1,SNR=5.3
KVN Kaiserville 84.24 323 P **P 18 59 39.7 +0.2**
FLWY Flagg Ranch 84.77 331 IAmb IAmb 18 59 44.3
comp=Z,12nm,1.2s
PNTR Pine Nut 85.04 322 IAmb IAmb 18 59 46.1
comp=Z,12nm,0.8s
RLMT Red Lodge 85.04 332 IAmb IAmb 18 59 44.7
comp=Z,4.5nm,0.7s
ULM Lac du Bonnet 85.18 343 P **P 18 59 43.7 0.0**
comp=Z,7.6nm,0.8s,baz=138,slow=3.9,SNR=8.3
LAO LASA Array 85.20 335 P **P 18 59 44.1 +0.1**
LAO IAmb IAmb 18 59 45.0
comp=Z,6.9nm,0.8s
YMR Madison River 85.36 331 IAmb IAmb 18 59 47.5
comp=Z,11nm,0.9s
PAHR Pah Rah Range 85.39 323 IAmb IAmb 18 59 47.8
comp=Z,18nm,1.5s
GCMT Greycliff 85.75 332 P **P 18 59 47.1 +0.2**
HLID Hailey 85.95 328 IAmb IAmb 18 59 50.3
comp=Z,9.4nm,1.0s
SCHQ Schefferville 86.20 1 P **P 18 59 48.6 -0.1**
comp=Z,4.6nm,0.6s,baz=183,slow=5.2,SNR=18
SCHQ Schefferville 86.20 1 P **P 18 59 48.1 -0.5**
SCHQ IAmb IAmb 18 59 49.6
comp=Z,13nm,1.2s
ORV Oroville 86.38 322 P **P 18 59 50.6 +0.7**
ORV IAmb IAmb 18 59 52.4
comp=Z,7.5nm,1.1s
DLMT Dillon 86.60 330 IAmb IAmb 18 59 53.2
comp=Z,12nm,1.2s
HRY Holter Researc 87.37 332 P **P 18 59 54.7 0.0**
MOD Modoc Plateau 87.48 324 IAmb IAmb 18 59 57.5
comp=Z,6.7nm,0.8s
EGMT Eagleton 87.63 334 IAmb IAmb 18 59 57.0
comp=Z,8.4nm,0.9s
PLID Pearl Lake 87.86 328 IAmb IAmb 18 59 59.1
comp=Z,9.3nm,0.8s
K05A Summer Lake 88.39 324 P **P 18 59 59.5 -0.2**
JTMT Jette 89.20 331 IAmb IAmb 19 00 05.1
comp=Z,4.7nm,0.7s
FCC Fort Churchill 92.66 347 P **P 19 00 18.6 -0.3**
YKA Yellowknife Ar 100.94 340 P **Pdif 19 00 56.4 +0.1**
comp=Z,0.6nm,0.6s,baz=143,slow=4.2,SNR=12
BRTR Keskin Array B 117.98 59 PKP **PKPdf 19 05 53.2 -0.9**
comp=Z,0.5nm,0.7s,baz=141,slow=1.8,SNR=4.0
AKASG Malin Array Be 118.35 46 PKP **PKPdf 19 05 53.4 -0.8**
comp=Z,0.5nm,0.6s,baz=267,slow=2.8,SNR=5.4
ASAR Alice Springs 120.97 204 PKP **PKPdf 19 05 59.5 -0.7**
comp=Z,1.4nm,0.6s,baz=133,slow=1.8,SNR=27
ASAR pPKP **pPKPdf 19 06 28.4 -0.7**
comp=Z,0.7nm,0.6s,baz=135,slow=1.6,SNR=4.3
ASAR PKKPbc **PKKPbc 19 16 03.2 0.0**
comp=Z,0.4nm,0.8s,baz=335,slow=3.3,SNR=6.9
WRA Warramunga Arr 124.23 206 PKP **PKPdf 19 06 06.1 -0.5**
comp=Z,4.1nm,0.6s,baz=166,slow=1.6,SNR=44
WRA pPKP **pPKPdf 19 06 34.9 -0.5**
comp=Z,1.5nm,0.5s,baz=162,slow=1.7,SNR=7.4
WRA PKKPbc **PKKPbc 19 15 50.5 -0.1**
comp=Z,0.5nm,1.1s,baz=348,slow=4.9,SNR=5.2
FITZ Fitzroy Crossi 128.70 197 PKP **PKPdf 19 06 15.1 0.0**
comp=Z,2.0nm,0.8s,baz=187,slow=5.5,SNR=4.2
SEY Seymchan 139.52 333 PKP **PKPdf 19 06 34.4 +0.5**
comp=Z,1.8nm,0.7s,baz=116,slow=5.5,SNR=7.1
RCLA Racherla 146.10 111 *e*PKPab **PKPbc 19 06 47.9 -0.2**
HYBB Hyderabad (bro 146.84 108 *e*PKPbc **PKPdf 19 06 48.8 +0.6**
ADKI Addanki 147.12 111 *e*PKPbc **PKPdf 19 06 48.6 -0.1**
SRSP Sriramsagar 147.43 105 *e*PKPbc **PKPdf 19 06 49.1 0.0**
SRSP *e*pPKPbc **pPKPdf 19 07 16.1 -1.9**
YAK Yakutsk 147.50 344 PKPbc **PKPbc 19 06 50.2 -0.4**
comp=Z,10nm,0.7s,baz=336,slow=0.6,SNR=14
YAK Yakutsk 147.50 344 PKPbc 19 06 50.7 0.0
EKS2 Erkin-Say 148.13 59 P **PKiKP 19 06 54.3 -0.5**
SNR=12
AML Almayashu 148.14 60 P **PKiKP 19 06 54.8 -0.4**
SNR=7.8
AAK Ala-Archa 148.66 59 P **PKiKP 19 06 56.0 +0.1**
SNR=18
UCH Uchtor 148.73 60 P **PKiKP 19 06 56.5 0.0**
SNR=20
CHMS Chumysh 148.79 58 P **PKiKP 19 06 55.8 -0.3**
SNR=14
PSI Prapat 148.84 155 PKPbc **PKPbc 19 06 55.5 -0.3**
comp=Z,7.0nm,0.6s,baz=201,slow=1.6,SNR=13
KBK Karagaybulak 148.99 59 P **PKiKP 19 06 56.5 -0.2**
SNR=13
KURBB Kurchatov Arra 149.07 43 PKP **PKPdf 19 06 51.9 +1.1**
comp=Z,7.5nm,0.7s,baz=300,slow=3.0,SNR=32
KURBB PKPbc **PKiKP 19 06 55.7 -0.6**
comp=Z,7.5nm,0.7s,baz=298,slow=3.2,SNR=55
KURK Kurchatov 149.08 42 PKiKP 19 06 55.7 -0.6

TKM2	Tokmak 2	149.42	58	P	PKiKP	19 06 57.5	-0.1
	SNR=20						
ULHL	Ulahol	150.00	59	P	PKiKP	19 06 59.5	+0.7
	SNR=5.4						
ZALV	Zalesovo Beam	150.62	33	PKPbc	PKPbc	19 06 59.0	+0.3
	comp=Z,17nm,0.7s,baz=305,slow=3.9,SNR=87						
ZALV				PKPab	PKPab	19 07 07.2	+1.3
	comp=Z,1.5nm,0.6s,baz=304,slow=5.0,SNR=6.2						
ZALV				pPKPbc	pPKPbc	19 07 26.1	-1.5
	comp=Z,7.3nm,0.6s,baz=300,slow=3.4,SNR=6.8						
ZALV	Zalesovo Beam	150.62	33		PKPbc	19 06 58.9	+0.2
MKAR	Makanchi Array	152.91	48	PKP	PKPdf	19 06 57.2	+0.3
	comp=Z,0.3nm,0.7s,baz=86,slow=0.6,SNR=3.8						
MKAR				PKPbc	PKiKP	19 07 04.5	+0.1
	comp=Z,4.9nm,0.8s,baz=305,slow=2.4,SNR=38						
MKAR				PKPab	PKPab	19 07 16.2	+0.4
	comp=Z,3.8nm,0.6s,baz=297,slow=3.9,SNR=17						
MKAR				pPKPbc	pPKPbc	19 07 31.5	-1.6
	comp=Z,1.0nm,0.5s,baz=299,slow=1.6,SNR=2.9						
MKAR				pPKPab	sPKPbc	19 07 44.7	+0.8
	comp=Z,2.3nm,0.6s,baz=284,slow=3.0,SNR=4.9						
MKAR	Makanchi Array	152.91	48		PKPbc	19 07 04.3	+0.1
MKAR					PKPab	19 07 15.4	-0.4
MJAR	Matsushiro Arr	157.54	290	PKPab	PKPab	19 07 36.4	+0.5
	comp=Z,2.2nm,0.7s,baz=86,slow=3.6,SNR=4.6						
WMQ	Urumqi	157.60	51	*e*P	PKPdf	19 07 02.5	-0.9
CMAR	Chiang Mai Arr	162.50	136	PKP	PKPdf	19 07 09.6	0.0
	comp=Z,0.9nm,0.8s,baz=260,slow=2.9,SNR=6.9						
CMAR				PKPab	PKPab	19 07 57.5	-0.3
	comp=Z,0.8nm,0.8s,baz=239,slow=4.3,SNR=4.4						
SONM	Songino Array	163.40	13	PKPab	PKPab	19 08 01.8	+0.7
	comp=Z,1.7nm,0.8s,baz=327,slow=4.2,SNR=12						
XLT	XiLinHaoTe	167.34	345	*e*P	PKPdf	19 07 13.8	+0.7
GTA	Gaotai	167.67	48	*e*P	PKPdf	19 07 14.1	+0.6
PZH	PanZhiHua	169.89	118	PKP	PKPdf	19 07 14.0	-1.3
HHC	Hu-ho-hao-te	170.88	1	*e*P	PKPdf	19 07 14.3	-1.1
LZH	Lanzhou	172.16	54	*e*PKP	PKPdf	19 07 21.1	+4.8
LZH				pPKP	pPKPdf	19 07 38.7	-6.6
NJ2	Nanjing	173.88	275	*e*P	PKPdf	19 07 17.0	+0.2

*IDC **09** 18:52:08.9±1.8, 6°.59S×130°.18E, h144km±21km, mb3.3/1, mb1 3.1/6, mb1mx2.6/35, mbtmp3.5/6, Error ellipse: s-maj=38.5km s-min=15.1km az=99.0*

ISC 09 18:52:08.3±1.0, 6.72S±0°.07×130.4E±0°.2, h150km, n6, σ2.9 90/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.88	9	P	Pn	18 53 34.3	+0.8
	1.3nm,0.3s,baz=56,slow=20,SNR=40						
SIJI				S	Sn	18 54 37.8	-2.3
	0.9nm,0.3s,baz=257,slow=23,SNR=1.9						
BATI	Baumata	7.48	242	P	Pn	18 53 54.4	-0.5
	1.9nm,0.3s,baz=92,slow=0.8,SNR=4.1						
FITZ	Fitzroy Crossi	12.22	202	P	Pn	18 54 57.1	-0.4
	0.2nm,0.3s,baz=24,slow=9.3,SNR=25						
FITZ				S	Sn	18 57 04.8	-7.8
	0.1nm,0.3s,baz=297,slow=23,SNR=1.7						
WRA	Warramunga Arr	13.70	164	P	Pn	18 55 18.9	+2.4
	0.1nm,0.3s,baz=350,slow=13,SNR=12						
WRA				S	Sn	18 57 44.3	-4.1
	0.1nm,0.3s,baz=337,slow=22,SNR=4.0						
ASAR	Alice Springs	17.19	169	P	Pn	18 56 03.3	+3.7
	0.1nm,0.3s,baz=334,slow=9.3,SNR=7.8						
MKAR	Makanchi Array	68.19	327	P	P	19 02 52.4	-0.1
	0.3nm,0.4s,baz=117,slow=7.8,SNR=11						

*IDC **09** 19:30:11.6±3.0, 32°.93S×71°.23W, h0km, mb3.8/1, mb1 3.5/2, mb1mx3.4/21, mbtmp3.5/2, ML3.4/1, Error ellipse: s-maj=142.0km s-min=42.8km az=98.0*

*GUC **09** 19:30:18.2±0.7, 33°.16S×71°.47W, h55km±3km, ML3.8*

ISC 09 19:30:18.1±1.0, 33.15S±0°.04×71.50W±0°.05, h52km±7km, n23, σ0.37/35, 5C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.18	316	⇑*i*P	Pn	19 30 26.9	+0.4
VA01				*i* S	Sn	19 30 32.6	+0.1
VA01				IAML		19 30 34.0	
	comp=N,19μm,0.1s						
MT02	Curacav	0.32	109	⇓*i*P	Pn	19 30 27.7	+0.1
MT02				*i* S	Sn	19 30 34.1	-0.4
MT02				IAML		19 30 34.4	
	comp=N,12μm,0.3s						
ROCH	El Roble	0.45	66	⇓*i*P	Pn	19 30 29.2	+0.1
ROCH				*i* P	Pn	19 30 28.6	-0.5
ROCH				*i* S	Sn	19 30 36.4	-0.6
ROCH				*i* S	Sn	19 30 36.8	-0.2
ROCH				IAML		19 30 37.5	
	comp=N,11μm,0.6s						
ROCH				IAML		19 30 38.0	
	comp=N,13μm,0.4s						
VA05	Santo Domingo	0.51	191	*e*P	Pn	19 30 29.9	+0.2
VA05				*i* S	Sn	19 30 38.3	+0.4
VA05				IAML		19 30 39.1	
	comp=N,7μm,0.3s						
VA06	Catapilco	0.61	16	⇓*i*P	Pn	19 30 31.3	+0.5
VA06				*i* S	Sn	19 30 40.7	+0.6
VA06				IAML		19 30 42.0	
	comp=N,16μm,0.2s						
MT05	Renca	0.68	111	⇓*i*P	Pn	19 30 31.8	+0.1
MT05				*i* S	Sn	19 30 41.9	+0.2
MT05				IAML		19 30 42.5	
	comp=N,5μm,0.6s						
PEL	Peldehue	0.68	89	⇓*i*P	Pn	19 30 31.9	+0.2
PEL				*i* S	Sn	19 30 42.3	+0.6
PEL				IAML		19 30 44.1	
	comp=E,6μm,0.4s						
MT01	Popeta	0.74	164	⇑*i*P	Pn	19 30 32.6	+0.1
MT01				*i* S	Sn	19 30 42.6	-0.3
MT09	Talagante	0.75	146	⇑*i*P	Pn	19 30 33.0	+0.2
MT09				IAML		19 30 44.9	
	comp=N,5μm,0.4s						
VA03	San Esteban	0.89	64	⇓*i*P	Pn	19 30 34.5	+0.1
VA03				*i* S	Sn	19 30 46.5	+0.1
VA03				IAML		19 30 47.6	
	comp=E,10μm,0.1s						
FCH	Farellones	1.03	100	⇓*i*P	Pn	19 30 36.7	+0.2
FCH				*i* S	Sn	19 30 50.3	+0.2
FCH				IAML		19 30 51.5	
	comp=N,6μm,0.3s						
BO04	La Punta	1.12	139	⇑*i*P	Pn	19 30 37.8	+0.3
BO04				*i* S	Sn	19 30 52.4	+0.5
BO04				IAML		19 30 54.2	
	comp=E,2μm,0.5s						
BO01	Tunca	1.28	165	⇑*i*P	Pn	19 30 39.9	+0.2
BO01				*i* S	Sn	19 30 55.6	-0.2
LMEL	Las Melosas	1.28	123	*e*P	Pn	19 30 40.3	+0.4
LMEL				*i* S	Sn	19 30 56.8	+0.7
LMEL				IAML		19 30 57.7	
	comp=N,4μm,0.3s						
BO02	Sierra Bellavi	1.74	160	*e*P	Pn	19 30 46.3	+0.3
BO02				IAML		19 31 13.1	
	comp=E,1μm,0.3s						
GO05	Hualá	1.89	191	*e*P	Pn	19 30 47.5	-0.4
H03N1	Juan Fernandez	6.22	265	T	T	19 38 22.8	
	baz=89,slow=74,SNR=138						
H03N3	Juan Fernandez	6.23	265	T	T	19 38 20.9	
	baz=89,slow=74,SNR=161						
H03N2	Juan Fernandez	6.23	265	T	T	19 38 22.7	
	baz=89,slow=74,SNR=128						
PLCA	Paso Flores	7.60	175	Pn	Pn	19 32 06.7	+0.3
	comp=E,0.1nm,0.3s,baz=349,slow=10,SNR=10						
TORD	Torodi Ar. Bea	83.50	70	P	P	19 42 40.1	-0.5
	comp=E,0.6nm,1.0s,baz=260,slow=5.5,SNR=3.7						
ZALV	Zalesovo Beam	153.27	32	PKPbc	PKPbc	19 50 09.9	+0.2
	comp=E,0.7nm,0.5s,baz=285,slow=0.7,SNR=4.5						
MKAR	Makanchi Array	155.87	48	PKPab	PKPab	19 50 33.0	-0.2
	comp=E,0.2nm,0.6s,baz=300,slow=2.6,SNR=2.1						

IDC 09 19:37:14.3±2.2, 1°.25S×127°.23E, h0km, mb3.1/2, mb1 3.3/3, mb1mx2.8/42, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=159.2km s-min=28.7km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.84	160	P	P	19 41 47.1	+0.2
	0.0nm,0.3s,baz=340,slow=12,SNR=2.4						
ASAR	Alice Springs	23.20	164	P	P	19 42 22.9	-0.1
	0.7nm,0.8s,baz=336,slow=10,SNR=9.9						
MKAR	Makanchi Array	61.94	327	P	P	19 47 36.0	0.0
	0.1nm,0.4s,baz=114,slow=7.5,SNR=1.8						

*TEH **09** 19:47:41.3, 28°.47N×56°.97E, h9km, ML3.3*

*IDC **09** 19:47:46.2±4.8, 28°.18N×56°.97E, h68km±65km, mb3.2/5, mb1 3.4/6, mb1mx3.0/36, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=42.8km s-min=27.9km az=34.0*

*OMAN **09** 19:47:46.1±0.2, 28°.49N×56°.20E, h76km±13km, ml3.3/7, Error ellipse: s-maj=12.2km s-min=3.5km az=285.0*

ISC 09 19:47:45.6±0.8, 28.37N±0°.04×57.01E±0°.05, h50km, n32, σ1.38/35, mb3.3/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.74	124	*e*Pg	Pn	19 47 57.9	-2.0
IBND	Bandar-abas	1.00	205	*e*		19 48 04.0	
	comp=Z,9μm,0.3s						
IBND				*e*Pg	Pn	19 48 02.6	-0.8
GENO	Geno	1.22	218	*e*Pg	Pn	19 48 05.8	-0.6
NGRK	Negar Kerman	1.30	349	*e*		19 48 28.1	
	comp=Z,5μm,0.2s						
NGRK				*e*Pg	Pn	19 48 04.4	-3.3
KBAM	BAM	1.48	58	*e*		19 48 31.2	
	comp=Z,4μm,0.3s						
KBAM				*e*Pg	Pn	19 48 08.5	-1.4
CHMN	Cheshme madani	1.56	17	*e*Pg	Pn	19 48 10.1	-1.1
CHMN				*e*		19 48 31.7	
	comp=Z,4μm,1.0s						
KRBR	Kerman	1.62	352	*e*Pg	Pn	19 48 10.2	-1.9
TVBK	TV Kerman	1.63	352	*e*Pg	Pn	19 48 10.4	-1.8
TVBK				*e*		19 48 13.5	
	comp=Z,8μm,0.2s						
KHGB	Koh Gabri	2.06	347	*e*Pn	Pn	19 48 17.2	-0.7
KHGB				*e*		19 48 22.3	
	comp=Z,2μm,0.3s						
SHME	Shamm	2.44	199	P	Pn	19 48 22.2	-0.6
	SNR=6.7						
SHME				S	Sn	19 48 53.0	+1.6
BANOM	Banah	2.52	195	P	Pn	19 48 23.3	-0.7
	SNR=17						
BANOM				S	Sn	19 48 56.7	+3.2
MASF	Masafi	3.08	195	P	Pn	19 48 30.6	-1.2
UOSS	Minazif	3.48	192	P	Pn	19 48 38.6	+1.3
ZHSF	Zahedan	3.52	68	*e*Pn	Pn	19 48 40.4	+2.5
GHIR	Ghir-Karzin	3.55	270	*e*Pn	Pn	19 48 37.3	-1.0
NAZ	Nazwa, Dubai	3.58	200	P	Pn	19 48 38.7	+0.2
ASHO	Ashiyiah	3.77	193	P	Pn	19 48 42.9	+1.7
ASHO				S	Sn	19 49 26.4	+2.1
FAQ	Al Faqa, Dubai	3.82	200	P	Pn	19 48 41.9	-0.1
	SNR=9.7						
FAQ				S	Sn	19 49 25.9	+0.2
NHDN	Nehbandan	4.01	40	*e*Pn	Pn	19 48 45.1	+0.5
ASUD	Al Ashush, Dub	4.02	202	P	Pn	19 48 45.0	+0.4
	SNR=25						
ASUD				S	Sn	19 49 29.6	-0.9
BSRN	Basiran	4.03	27	*e*Pn	Pn	19 48 46.2	+1.4
YZKH	Yazd	4.52	333	*e*Pn	Pn	19 48 51.2	-0.4
TPRV	Parvadeh(Tabas	4.66	357	*e*Pn	Pn	19 48 52.4	-1.0
TKDS	Koohdasht(Taba	5.23	1	*e*Pn	Pn	19 48 59.8	-1.5
WSAR	Wadi Sarin	5.31	164	P	Pn	19 49 00.9	-1.5
	comp=Z,1.6nm,0.3s,baz=17,slow=9.8,SNR=25						
WSAR				S	Sn	19 49 59.1	-3.1
	comp=Z,1.3nm,0.3s,baz=85,slow=20,SNR=6.5						
AFRZ	Afriz	5.33	18	*e*Pn	Pn	19 49 02.9	+0.2
IGAR	Gharneh	5.88	314	*e*Pn	Pn	19 49 09.8	-0.6
BRTR	Keskin Array B	22.37	306	P	P	19 52 40.4	+0.7
	comp=Z,0.9nm,0.7s,baz=132,slow=12,SNR=6.7						
MKAR	Makanchi Array	27.01	40	P	P	19 53 23.6	+0.7
	comp=Z,0.2nm,0.7s,baz=242,slow=9.2,SNR=2.7						
ZALV	Zalesovo Beam	32.65	31	P	P	19 54 12.9	+0.3
	comp=Z,0.4nm,0.3s,baz=233,slow=9.1,SNR=3.6						
FINES	FINESS Array B	38.95	337	P	P	19 55 05.4	-1.0
	comp=Z,1.2nm,0.8s,baz=144,slow=11,SNR=3.4						
YKA	Yellowknife Ar	89.21	356	P	P	20 00 35.4	-0.3
	comp=Z,0.1nm,0.6s,baz=6.2,slow=4.9,SNR=5.4						

*IDC **09** 20:06:16.3±0.8, 49°.16S×121°.75E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/33, mbtmp4.1/9, Error ellipse: s-maj=44.6km s-min=15.2km az=99.0*

*NEIC **09** 20:06:17.4±1.4, 49°.25±0°.1×121°.4E±0°.2, h10km±1km, mb4.5/17, Error ellipse: s-maj=28.0km s-min=18.4km az=106.0*

*GCMT **09** 20:06:19.4±0.2, 49°.19S±0°.01×121°.66E±0°.02, h15km, MW5.0/101, Moment Tensor Solution. s40,c52; s101,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.19±.14; $M_{\theta\theta}$=1.50±.11; $M_{\phi\phi}$=1.69±.13; $M_{r\theta}$=2.44±.37; $M_{\theta\phi}$=3.70±.08; $M_{\phi r}$=0.57±.39; Best double couple: M_0=4.70100×10^{16} NP1:ϕ_s=9.00000°, δ62.00000°, λ=-10.00000°. NP2:ϕ_s=103.00000°, δ81.00000°, λ=-152.00000°. Principal axes: T 4.3200, Plg13.0000°, Azm233.0000°; N 0.7610, Plg61.0000°, Azm119.0000°; P -5.0830, Plg26.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 20:06:17.3±0.6, 49.15S±0°.08×121.3E±0°.1, h10km, n54, σ1.46/44, mb4.4/15, MS4.2/3, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.18	337	T	T	20 25 25.2	
	baz=160,slow=74,SNR=133						
H01W2	Cape Leeuwin H	15.18	337	T	T	20 25 33.4	
	baz=160,slow=74,SNR=126						
H01W3	Cape Leeuwin H	15.19	337	T	T	20 25 41.0	
	baz=160,slow=74,SNR=157						
CASY	Casey	18.06	194		Pn	20 10 26.9	-1.1
TAU	Tasmania Unive	19.09	81	P	P	20 10 38.4	-1.6
ARPS	Mount Arapiles	19.42	58	P	P	20 10 43.2	-0.4
BBOO	Buckleboo	19.72	40	P	P	20 10 45.9	-1.1
BBOO				IAmb	IAmb	20 10 52.2	
	comp=Z,13nm,1.0s						
BRAT	Ballarat	20.07	63	P	P	20 10 50.8	+0.1
MORW	Morawa	20.45	347	P	P	20 10 54.9	+0.1
MORW				IAmb	IAmb	20 10 58.9	
	comp=Z,82nm,1.8s						
MORW	Morawa	20.45	347	P	Pn	20 10 58.7	+1.7
TOO	Toolangi	20.98	66		P	20 10 60.0	-0.7
TOO				IAmb	IAmb	20 11 01.7	
	comp=Z,19nm,0.9s						
TOO	Toolangi	20.98	66	P	P	20 11 00.8	+0.1
MEEK	Meekatharra	22.57	354	P	P	20 11 19.5	+1.8
LCRK	Leigh Creek	22.68	41	P	P	20 11 18.1	-0.7
STKA	Stephens Creek	23.05	49	P	P	20 11 19.9	-2.8
	comp=Z,1.5nm,0.7s,baz=197,slow=11,SNR=4.2						
STKA	Stephens Creek	23.05	49	P	P	20 11 21.3	-1.4
STKA	Stephens Creek	23.05	49	P	P	20 11 22.5	-0.2
WRKA	Warakurna	24.69	15	P	P	20 11 40.1	+1.6
	comp=Z,12nm,1.3s						
CMSA	Cobar Meteorol	25.44	55	P	P	20 11 46.2	+1.0
ASAR	Alice Springs	27.32	26	P	P	20 12 01.3	-0.9
	comp=Z,3.0nm,0.8s,baz=193,slow=9.5,SNR=30						
ASAR	Alice Springs	27.32	26	P	P	20 12 00.9	-1.4
AS31	Alice Springs	27.32	26	P	P	20 12 00.5	-1.8
ARMA	Armidale	29.62	62	P	P	20 12 21.9	-0.9
ARMA				IAmb	IAmb	20 12 24.2	
	comp=Z,3.6nm,0.8s						
WRA	Warramunga Arr	30.97	24	P	P	20 12 32.9	-1.8
	comp=Z,1.6nm,0.9s,baz=196,slow=9.2,SNR=8.4						
WRA	Warramunga Arr	30.97	24	P	P	20 12 33.0	-1.7
WB2	Warramunga Arr	30.98	24	P	P	20 12 33.1	-1.6
WB2				IAmb	IAmb	20 12 51.4	
	comp=Z,15nm,1.8s						
FITZ	Fitzroy Crossi	31.18	8	P	P	20 12 37.4	+1.0
	comp=Z,1.5nm,0.7s,baz=204,slow=10,SNR=5.7						
VNDA	Vanda	32.37	165	P	P	20 12 46.5	0.0
	comp=Z,3.1nm,0.7s,baz=332,slow=8.2,SNR=7.0						
VNDA	Vanda	32.37	165	P	P	20 12 46.1	-0.3
KNRA	Kununurra	33.94	13	P	P	20 13 00.3	-0.4
KNRA				IAmb	IAmb	20 13 26.1	
	comp=Z,14nm,1.3s						
MTN	Manton Dam	37.11	16	P	P	20 13 26.8	-1.2
MTN				IAmb	IAmb	20 13 39.6	
	comp=Z,11nm,1.4s						
BATI	Baumata	38.87	4	P	P	20 13 45.1	+2.3
	comp=Z,3.5nm,0.3s,baz=212,slow=3.9,SNR=6.3						
COEN	Coen	39.45	35	P	P	20 13 45.9	-1.8
COEN				IAmb	IAmb	20 14 08.1	
	comp=Z,19nm,1.4s						
QSPA	South Pole Qui	40.98	180	P	P	20 14 00.3	+0.3
	comp=Z,2.7nm,0.7s,baz=15,slow=0.8,SNR=34						
QSPA	South Pole Qui	40.98	180	P	P	20 14 00.3	+0.3
DZM	Mont Dzumac	44.68	69	*e*S	S	20 21 12.8	+5.8
	comp=Z,134nm,24.8s						
DZM				*e*LR	LR	20 27 17.3	
	comp=Z,351nm,22.2s						
SNAA	Sanae	53.20	199	P	P	20 15 35.8	+0.7
SNAA	Sanae	53.20	199	P	P	20 15 35.9	+0.7
	comp=Z,4.5nm,0.9s,baz=158,slow=15,SNR=8.1						
SNAA	Sanae	53.20	199	P	P	20 15 35.4	+0.2
SNAA				IAmb	IAmb	20 15 58.4	
	comp=Z,10.0nm,1.1s						
VNA2	Neumayer--Watz	54.73	198	P	P	20 15 46.9	+0.7
	baz=142,slow=5.0						
VNA3	Neumayer Olymp	54.93	197	P	P	20 15 48.1	+0.3
H08S2	Diego Garcia H	58.08	299	T	T	21 19 15.7	
	baz=144,slow=76,SNR=8.7						
H08S1	Diego Carcia H	58.09	299	T	T	21 19 13.0	
	baz=144,slow=76,SNR=5.9						
H08S3	Diego Garcia H	58.10	299	T	T	21 19 18.8	
	baz=144,slow=76,SNR=11						
CMAR	Chiang Mai Arr	70.17	337	P	P	20 17 30.2	+0.2
	comp=Z,0.6nm,0.8s,baz=187,slow=5.3,SNR=4.7						
CMAR	Chiang Mai Arr	70.17	337	P	P	20 17 29.6	-0.5
BOSA	Boshof	72.60	246	P	P	20 17 45.5	+0.5
PPT2	Papeete2	76.37	101	*e*LR	LR	20 41 23.4	
	comp=Z,79nm,21.5s						
TAOE	Nuku Hiva Isla	88.95	102	*e*LR	LR	20 47 13.5	
	comp=Z,188nm,25.4s						
PDAR	Pinedale Array	144.67	81	PKP	PKPdf	20 25 54.7	+0.8
	comp=Z,0.5nm,0.8s,baz=123,slow=2.7,SNR=3.3						
PDAR	Pinedale Array	144.67	81		PKPbc	20 25 52.6	-0.1
HRY	Holter Researc	144.95	73	PKPdf	PKPdf	20 25 53.7	-0.3
YKA	Yellowknife Ar	147.05	45	PKPbc	PKPbc	20 25 59.0	-0.1
	comp=Z,1.7nm,0.8s,baz=269,slow=2.1,SNR=20						
YKA	Yellowknife Ar	147.05	45		PKPbc	20 25 58.2	-0.8

*IDC **09** 20:11:30.6±0.6, 49°.12S×121°.72E, h0km, mb4.7/12, mb1 4.8/12, mb1mx4.5/31, mbtmp4.7/12, MS4.1/30, Ms1 4.1/30, ms1mx4.0/49, Error ellipse: s-maj=30.0km s-min=13.1km az=104.0*

*NEIC **09** 20:11:32.0±1.6, 49°.20S±0°.08×121°.6E±0°.2, h10km±1km, mb4.6/39, Error ellipse: s-maj=19.6km s-min=10.6km az=123.0*

*GCMT **09** 20:11:33.0±0.2, 49°.11S±0°.01×121°.65E±0°.02, h18km±1km, MW5.1/107, Moment Tensor Solution. s41,c56; s107,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.26±.14; $M_{\theta\theta}$=2.15±.13; $M_{\phi\phi}$=2.41±.14; $M_{r\theta}$=0.78±.27; $M_{\theta\phi}$=-4.39±.10; $M_{\phi r}$=0.93±.28; Best double couple: M_0=5.08000×10^{16} NP1:ϕ_s=14.00000°, δ80.00000°, λ=7.00000°. NP2:ϕ_s=283.00000°, δ83.00000°, λ=170.00000°. Principal axes: T 5.3350, Plg12.0000°, Azm238.0000°; N -0.5110, Plg78.0000°, Azm70.0000°; P -4.8240, Plg2.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 20:11:32.6±0.4, 49.22S±0°.06×121.66E±0°.09, h13km, n147, σ1.36/108, mb4.7/44, MS4.2/30, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.35	336	T	T	20 30 47.2	
	baz=160,slow=74,SNR=260						
H01W2	Cape Leeuwin H	15.35	336	T	T	20 30 43.7	
	baz=160,slow=74,SNR=344						
H01W3	Cape Leeuwin H	15.36	336	T	T	20 30 47.2	
	baz=160,slow=74,SNR=303						
CASY	Casey	18.05	195		Pn	20 15 40.1	-2.7
CASY				IAmb	IAmb	20 15 45.1	
	comp=Z,36nm,1.0s						
TAU	Tasmania Unive	18.84	80	P	P	20 15 49.6	-2.4
TAU				IAmb	IAmb	20 16 01.3	
	comp=Z,33nm,0.8s						
TAU	Tasmania Unive	18.84	80	P	Pn	20 15 55.0	+2.4
FORT	Forrest	19.04	17	P	P	20 15 51.6	-2.7
FORT				IAmb	IAmb	20 16 03.8	
	comp=Z,27nm,0.9s						
ARPS	Mount Arapiles	19.23	57	P	Pn	20 15 57.5	+0.2
BBOO	Buckleboo	19.61	39	P	P	20 15 58.5	-2.0
BBOO	Buckleboo	19.61	39	P	Pn	20 16 02.2	+0.3
GEXS	Deakin Univers	19.64	64	P	Pn	20 16 04.9	+2.6
BRAT	Ballarat	19.87	62	P	Pn	20 16 06.7	+1.8
NAPP	Napperby	20.19	44	P	Pn	20 16 09.1	+0.3
GLAD	Gladstone	20.26	76	P	Pn	20 16 11.7	+2.1
HTT	Hallett	20.34	46	P	P	20 16 09.2	+0.6
MORW	Morawa	20.57	346	P	P	20 16 09.2	-1.9
MORW	Morawa	20.57	346	P	P	20 16 11.5	+0.5
TOO	Toolangi	20.77	65	P	P	20 16 13.0	-0.2
TOO				IAmb	IAmb	20 16 24.5	
	comp=Z,26nm,0.8s						
TOO	Toolangi	20.77	65	P	Pn	20 16 14.9	-0.7
MULG	Mulgathing	21.13	31	P	P	20 16 16.5	-0.5
LCRK	Leigh Creek	22.56	40	P	P	20 16 32.4	0.0
MEEK	Meekatharra	22.67	353	P	P	20 16 32.4	-1.2
STKA	Stephens Creek	22.90	48	P	P	20 16 34.0	-1.9
	comp=Z,20nm,1.1s,baz=197,slow=11,SNR=9.9						
STKA				LR	LR	20 23 52.0	
	comp=Z,848nm,21.0s,baz=203,slow=32						
STKA	Stephens Creek	22.90	48	P	P	20 16 35.0	-0.9
STKA	Stephens Creek	22.90	48	P	P	20 16 38.0	+2.1
OOD	Oodnadatta	23.97	32	P	P	20 16 47.1	+0.6
CAN	Canberra	24.38	66	P	P	20 16 50.1	-0.3
CAN	Canberra	24.38	66	P	P	20 16 53.7	+3.3
WRKA	Warakurna	24.69	15	P	P	20 16 52.8

BATI	Baumata	38.92	3	P	P	20 18 58.4	+0.4
	comp=Z,18nm,0.9s						
COEN	Coen	39.36	34	P	P	20 19 01.5	-0.2
COEN				IAmb	IAmb	20 19 11.6	
	comp=Z,7.5nm,0.7s						
SOEI	Soe	39.40	4	P	P	20 19 02.0	-0.1
SOEI				IAmb	IAmb	20 19 17.2	
	comp=Z,27nm,1.0s						
BKZ	Black Stump Fm	39.78	97		P	20 19 05.3	+0.2
BKZ				IAmb	IAmb	20 19 25.4	
	comp=Z,8.5nm,1.0s						
MMRI	Maumere	40.45	1	P	P	20 19 10.4	-0.3
MMRI				IAmb	IAmb	20 19 34.8	
	comp=Z,12nm,0.9s						
URZ	Urewera	40.69	96	LR	LR	20 34 41.0	
	comp=Z,302nm,18.4s,baz=236,slow=34						
QSPA	South Pole Qui	40.91	180	P	P	20 19 15.5	+1.2
	comp=Z,6.2nm,0.5s,baz=175,slow=0.5,SNR=70						
QSPA				LR	LR	20 35 17.0	
	comp=Z,364nm,20.7s,baz=342,slow=35						
QSPA	South Pole Qui	40.91	180	P	P	20 19 14.7	+0.4
QSPA				IAmb	IAmb	20 19 18.0	
	comp=Z,40nm,1.6s						
LEM	Lembang	43.88	340	LR	LR	20 35 19.4	
	comp=Z,96nm,19.3s,baz=186,slow=33						
KAPI	Kappang	44.08	357	P	P	20 19 39.7	-0.5
KAPI				IAmb	IAmb	20 20 13.9	
	comp=Z,6.2nm,0.9s						
DZM	Mont Dzumac	44.46	69	LR	LR	20 35 04.0	
	comp=Z,346nm,20.4s,baz=276,slow=32						
PMG	Port Moresby	45.05	37	LR	LR	20 39 24.2	
	comp=Z,366nm,18.3s,baz=204,slow=37						
SPSI	Sidrap Palu	45.12	357	P	P	20 19 48.6	0.0
	comp=Z,25nm,1.0s						
BBKI	Banjar Baru	45.96	351	P	P	20 19 55.8	+0.6
	comp=Z,23nm,1.7s						
FAKI	Fak Fak	47.01	15	P	P	20 20 02.7	-0.7
LBMI	Labuha	48.65	8	P	P	20 20 17.2	+1.0
	comp=Z,23nm,1.1s						
STKI	Sintang	49.87	347	P	P	20 20 25.5	0.0
	comp=Z,3μmcomp=Z,6.3nm,0.5s						
TOLI2	Tolitoli	50.14	359	P	P	20 20 27.5	-0.1
TOLI2				IAmb	IAmb	20 20 43.8	
	comp=Z,14nm,0.9s						
HNR	Honiara	50.90	52	LR	LR	20 40 44.5	
	comp=Z,300nm,18.7s,baz=208,slow=34						
SBUM	Sibu	52.11	348	P	P	20 20 41.5	-0.8
SBUM				IAmb	IAmb	20 20 46.7	
	comp=Z,4.7nm,1.0s						
BKNI	Bangkinang	52.45	334	P	P	20 20 44.5	-0.4
SNAA	Sanae	53.22	199	P	P	20 20 50.2	+0.1
SNAA	Sanae	53.22	199	P	P	20 20 50.1	0.0
	comp=Z,20nm,1.1s,baz=141,slow=10,SNR=25						
SNAA	Sanae	53.22	199	P	P	20 20 49.8	-0.3
MYLDM	Lahad Datu	54.24	356	P	P	20 20 58.4	+0.4
VNA2	Neumayer--Watz	54.74	198	P	P	20 21 01.1	0.0
	baz=142,slow=7.4						
MSVF	Nonsavu	54.94	76	LR	LR	20 41 16.8	
	comp=Z,240nm,18.3s,baz=171,slow=33						
VNA3	Neumayer Olymp	54.95	197	P	P	20 21 02.3	-0.3
VNA1	Neumayer--Stat	55.14	198	P	P	20 21 04.4	+0.4
RPSI	Rantau Prapat	55.33	332	P	P	20 21 05.2	-0.7
RPSI				IAmb	IAmb	20 21 33.7	
	comp=Z,8.6nm,1.2s						
PSI	Prapat	55.43	332	LR	LR	20 40 17.6	
	comp=Z,122nm,21.9s,baz=149,slow=31						
H08S2	Diego Garcia H	58.34	298	T	T	21 24 23.2	
	baz=145,slow=76,SNR=24						
H08S1	Diego Carcia H	58.35	298	T	T	21 24 28.0	
	baz=145,slow=76,SNR=14						
H08S3	Diego Garcia H	58.36	298	T	T	21 24 24.8	
	baz=145,slow=76,SNR=31						
AFI	Afiamalu	64.31	81	LR	LR	20 44 25.2	
	comp=Z,160nm,21.9s,baz=198,slow=31						
GUMO	Guam	65.81	25	LR	LR	20 51 25.6	
	comp=Z,64nm,18.2s,baz=196,slow=36						
PMSA	Palmer Station	66.26	177	LR	LR	20 50 03.5	
	comp=Z,85nm,21.5s,baz=164,slow=35						
PALK	Pallekele	66.65	315	LR	LR	20 46 39.4	
	comp=Z,182nm,18.6s,baz=249,slow=32						
RAR	Rarotonga	66.87	96	LR	LR	20 47 53.0	
	comp=Z,53nm,19.2s,baz=298,slow=33						
CM31	Chiang Mai Arr	70.33	337	P	P	20 22 44.7	-1.1
CM31				IAmb	IAmb	20 22 55.1	
	comp=Z,3.9nm,0.8s						
CMAR	Chiang Mai Arr	70.33	337	P	P	20 22 45.4	-0.4
	comp=Z,2.9nm,0.9s,baz=190,slow=5.3,SNR=15						
CMAR				LR	LR	20 51 32.1	
	comp=Z,58nm,20.9s,baz=185,slow=34						
CMAR	Chiang Mai Arr	70.33	337	P	P	20 22 44.3	-1.5
SUR	Sutherland	72.66	241	LR	LR	20 48 07.0	
	comp=Z,191nm,19.9s,baz=146,slow=30						
SUR	Sutherland	72.66	241	P	P	20 22 59.1	-1.0
BOSA	Boshof	72.81	246	LR	LR	20 49 34.1	
	comp=Z,212nm,18.1s,baz=170,slow=31						
BOSA	Boshof	72.81	246	P	P	20 22 59.8	-1.2
LBTB	Lobatse	75.24	249	LR	LR	20 50 06.5	
	comp=Z,263nm,20.3s,baz=142,slow=31						
LBTB	Lobatse	75.24	249	P	P	20 23 13.9	-1.3
USHA	Ushuaia	75.98	174	LR	LR	20 54 01.6	
	comp=Z,251nm,21.1s,baz=232,slow=34						
PPT	Papeete	76.12	101	LR	LR	20 51 18.4	
	comp=Z,127nm,18.4s,baz=228,slow=31						
PZH	PanZhiHua	77.45	342	P	P	20 23 30.4	+3.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
SHL	Shillong	79.05	333	P	P	20 23 35.5	-0.9
LSZ	Lusaka	80.83	257	P	P	20 23 46.6	+0.2
	comp=Z,3.5nm,0.2s,baz=131,slow=6.6,SNR=8.4						
LSZ				LR	LR	20 55 16.7	
	comp=Z,167nm,18.1s,baz=142,slow=32						
NJ2	Nanjing	80.94	358	*eP*	P	20 23 49.5	+3.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PKI	Pulchoki	83.00	328	*eP*	P	20 24 05.4	+7.8
PKIN	Phulchoki	83.01	328	*eP*	P	20 24 05.3	+7.7
DMN	Daman	83.14	328	*eP*	P	20 24 06.4	+8.1
LSA	Lhasa	83.14	334	P	P	20 23 57.9	-0.5
LSA				IAmb	IAmb	20 24 07.2	
	comp=Z,6.0nm,1.0s						
GUN	Gumba	83.15	329	*eP*	P	20 24 02.8	+4.4
	comp=Z,9.9nm,0.7s						
KKN	Kakani	83.25	328	*eP*	P	20 24 04.5	+5.7
GKN	Gorkha	83.67	328	*eP*	P	20 24 03.9	+3.1
KOLN	Koldanda	83.82	327	*eP*	P	20 24 07.0	+5.3
	comp=Z,44nm,1.4s						
DANN	Dangsing	84.29	327	*eP*	P	20 24 02.8	-1.4
	comp=Z,20nm,0.7s						
PYUN	Piuthan	84.34	326	*eP*	P	20 24 05.7	+1.3
	comp=Z,14nm,0.9s						
PLCA	Paso Flores	89.79	171	P	P	20 24 33.0	+2.2
	comp=Z,4.2nm,1.1s,baz=160,slow=5.2,SNR=3.7						
PLCA				LR	LR	21 01 59.7	
	comp=Z,77nm,19.9s,baz=178,slow=34						
HHC	Hu-ho-hao-te	90.13	352	*eP*	P	20 24 34.0	+2.1
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,66nm,4.9s						
MBAR	Mbarara	90.15	269	LR	LR	20 58 08.3	
	comp=Z,106nm,19.2s,baz=130,slow=31						
GTA	Gaotai	90.34	343	*eP*	P	20 24 34.2	+1.2
GTA				pP	sP	20 24 38.4	+1.5
GTA				sP	pwP	20 24 41.3	-0.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.7s						
WSAR	Wadi Sarin	91.30	305	LR	LR	20 57 19.8	
	comp=Z,170nm,20.9s,baz=157,slow=30						
XLT	XiLinHaoTe	92.86	356	*eP*	P	20 24 47.2	+2.7
XLT				pP	pwP	20 24 51.2	-1.9
XLT				sP	sP	20 24 54.2	+5.8
XLT				pmax	pmax		
	comp=Z,9.0nm,1.4s						
XLT				pmax	pmax		
	comp=Z,140nm,4.0s						
USRK	Ussuriysk Ar.	93.47	7	LR	LR	21 07 10.6	
	comp=Z,47nm,20.6s,baz=174,slow=36						
WMQ	Urumqi	97.31	336	*eP*	Pdif	20 25 06.6	+1.7
KLR	Kul'dur	98.45	7	LR	LR	21 13 38.6	
	comp=Z,25nm,19.0s,baz=188,slow=38						
H10S2	ASCENSION HYDR	10.58	227	T	T	22 30 53.5	
	baz=148,slow=74,SNR=10						
H10S3	ASCENSION HYDR	10.60	227	T	T	22 30 54.3	
	baz=72,slow=74,SNR=24						
TORD	Torodi Ar. Bea	119.32	255	PKP	PKPdf	20 30 20.7	-1.0
	comp=Z,1.0nm,1.0s,baz=354,slow=1.5,SNR=3.9						
TORD	Torodi Ar. Bea	119.32	255		PKPdf	20 30 21.2	-0.5
FINES	FINESS Array B	133.85	318	PKP	PKiKP	20 30 48.6	-0.6
	comp=Z,2.7nm,0.9s,baz=207,slow=3.8,SNR=3.5						
NVAR	Mina Array Bea	136.48	81	PKP	PKPdf	20 30 51.6	-2.3
	comp=Z,0.1nm,0.5s,baz=208,slow=1.7,SNR=1.8						
NVAR	Mina Array Bea	136.48	81		PKPdf	20 30 53.5	-0.5
INK	Inuvik	139.75	34	PKP	PKiKP	20 30 59.9	-1.1
	comp=Z,1.4nm,1.0s,baz=288,slow=4.3,SNR=3.3						
TXAR	Lajitas Array	140.41	103	PKP	PKiKP	20 31 02.9	-1.0
	comp=Z,0.9nm,0.9s,baz=211,slow=4.1,SNR=5.6						
TXAR	Lajitas Array	140.41	103		PKPdf	20 31 01.3	+0.1
BOZ	Bozeman (W)	144.38	75	PKPdf	PKPbc	20 31 06.8	+0.4
BW06	Boulder Array	144.42	81	PKPdf	PKPbc	20 31 07.4	+0.7
PDAR	Pinedale Array	144.42	81	PKP	PKPab	20 31 06.5	0.0
	comp=Z,2.5nm,1.0s,baz=195,slow=4.0,SNR=10						
PDAR	Pinedale Array	144.42	81	PKPdf	PKPbc	20 31 07.1	+0.4
YHH	Holmes Hill	144.52	77	PKPdf	PKPdf	20 31 08.3	0.0
ISCO	Idaho Springs	145.50	88	PKPdf	PKPdf	20 31 08.8	-1.4
YKA	Yellowknife Ar	146.91	45	PKPbc	PKPbc	20 31 13.1	-0.3
	comp=Z,3.9nm,0.8s,baz=269,slow=2.3,SNR=38						
YKA	Yellowknife Ar	146.91	45	PKPdf	PKPdf	20 31 12.2	+0.8
FNO	Franklin	148.28	101	PKPbc	PKPbc	20 31 17.9	-0.1
GCPR	Guaynabo City	148.54	166		PKPdf	20 31 16.4	+0.9
RSSD	Black Hills	148.61	82	PKPbc	PKPbc	20 31 18.6	-0.4

UCR 09 20:20:02.3±1.5, 9°.68N×84°.43W, h38km±5km, MW3.6, 2C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	JACO, Garabito	0.23	265	*eP*	Pn	20 20 09.2	-1.5
JACO				*eS*	Sn	20 20 15.5	-2.3
SRA1	San Ramn	0.40	352	*eP*	Pn	20 20 11.2	-0.5
SRA1				*eS*	Sn	20 20 18.5	-0.1
LCR2	La Lucha 2	0.42	82	*eP*	Pn	20 20 11.8	-0.1
LCR2				*eS*	Sn	20 20 19.4	+0.4
HDC	Heredia	0.44	44	*eP*	Pn	20 20 11.9	-0.3
HDC				*eS*	Sn	20 20 20.2	+0.9
LAFE	Finca La Fe, P	0.49	285	*eP*	Pn	20 20 12.8	-0.1
LAFE				*eS*	Sn	20 20 21.7	+1.4
RIMA	Rio Macho	0.56	81	*eP*	Pn	20 20 13.6	-0.4
EDDO	Dominical	0.70	128	*eP*	Pn	20 20 15.8	+0.1
PEZE	Perez Zeledon,	0.80	112	*eP*	Pn	20 20 17.3	+0.2
PEZE				*eS*	Sn	20 20 29.5	+1.7
JTS	Las Juntas de	0.80	319	*eP*	Pn	20 20 16.5	-0.6
JTS				*eS*	Sn	20 20 27.6	-0.1
FORC	Fortuna	0.81	343	⇓*iP*	Pn	20 20 17.5	+0.2
FORC				*i S*	Sn	20 20 29.7	+1.5
ARE1	Arenal 1	0.82	340	*eP*	Pn	20 20 17.6	+0.1
ARE1				*eS*	Sn	20 20 30.1	+1.6
CEDE	Laguna Cedeo	0.84	341	⇑*iP*	Pn	20 20 17.9	+0.1
CEDE				*i S*	Sn	20 20 30.9	+1.9
COVE	Coope Vega, Sa	1.03	1	*eP*	Pn	20 20 20.1	-0.1
INDI	Punta indio, G	1.08	280	*eP*	Pn	20 20 19.7	-1.1
ACAL	Aguas Claras	1.12	328	*i P*	Pn	20 20 21.8	+0.2
PTEN	Parque Tenorio	1.17	332	*i P*	Pn	20 20 22.6	+0.5
CUI	Cuipilapa	1.21	323	⇑*iP*	Pn	20 20 22.7	-0.1
CUI				*i S*	Sn	20 20 39.2	+1.3
COLC	Colonia	1.24	322	⇓*iP*	Pn	20 20 23.3	+0.1
HORNC	Hornillas	1.26	324	*i P*	Pn	20 20 23.3	-0.2
GUAB	Guayabo de Bag	1.29	322	*i P*	Pn	20 20 24.3	+0.4
LIM1	Limonal	1.30	321	*i P*	Pn	20 20 23.8	-0.1
BUEV	Buena Vista	1.47	319	*i P*	Pn	20 20 26.1	-0.2
GB1A	Borinquen Arri	1.48	320	*i P*	Pn	20 20 27.2	+0.7
BUAI	Buenos Aires	1.48	323	*i P*	Pn	20 20 26.4	-0.1
GBS3	Finca Las Img	1.49	317	*i P*	Pn	20 20 27.0	+0.4
HZTE	Horizontes, Gu	1.54	312	*eP*	Pn	20 20 27.5	+0.3

IDC 09 21:00:34.9±4.8, 16°.07S×173°.30W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/32, mbtmp3.8/4, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/64, Error ellipse: s-maj=216.7km s-min=26.8km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.60	35	Pn	Pn	21 01 16.7	-1.7
	16nm,0.3s,baz=196,slow=2.3,SNR=23						
AFI				Sn	Sn	21 01 46.5	-4.3
	26nm,0.3s,baz=241,slow=18,SNR=9.2						
MSVF	Nonsavu	8.45	257	LR	LR	21 05 38.8	
	comp=Z,121nm,20.6s,baz=330,slow=36						
STKA	Stephens Creek	43.79	241	P	P	21 08 42.8	+0.1
	1.1nm,0.7s,baz=87,slow=12,SNR=3.4						
WRA	Warramunga Arr	49.79	257	P	P	21 09 29.3	-0.6
	0.2nm,0.3s,baz=95,slow=8.3,SNR=12						
ASAR	Alice Springs	50.00	252	P	P	21 09 30.7	-0.8
	1.3nm,0.5s,baz=89,slow=7.8,SNR=22						
BRTR	Keskin Array B	146.74	320	PKPbc	PKPab	21 20 20.9	+0.3
	0.5nm,0.5s,baz=64,slow=2.9,SNR=4.2						

*GUC **09** 21:15:13.8±0.8, 19°.80S×69°.23W, h99km±3km, ML3.6*
*IDC **09** 21:15:14.9±1.6, 19°.91S×68°.82W, h118km±17km, mb3.3/2, mb1 3.4/5, mb1mx3.2/34, mbtmp3.6/5, Error ellipse: s-maj=40.5km s-min=15.2km az=102.0*

ISC 09 21:15:13.0±0.9, 19°.82S±0°.04×69°.27W±0°.08, h101km±8km, n19, σ1°.23/31, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.34	161	⇓*iP*	Pn	21 15 28.8	+0.4
PB08				*i S*	Sn	21 15 40.3	+0.6
PB08				IAML		21 15 41.0	
	comp=E,4μm,0.3s						
PB11	IPOC Station P	0.37	279	⇑*iP*	Pn	21 15 28.4	+0.2
PB11				*i S*	Sn	21 15 39.9	+0.3
PB11				IAML		21 15 40.6	
	comp=E,4μm,0.5s						
TA02	Huaiquique	0.93	241	⇑*iP*	Pn	21 15 33.2	+0.6
TA02				*i S*	Sn	21 15 48.2	+0.8
TA02				IAML		21 15 49.5	
	comp=E,4μm,0.1s						
TA01	Diego Aracena	1.13	229	*eP*	Pn	21 15 35.2	+0.3
TA01				*i S*	Sn	21 15 52.0	+0.6
PB01	IPOC Station P	1.23	189	⇑*iP*	Pn	21 15 36.8	+0.6
PB01				*i S*	Sn	21 15 54.6	+0.9
PB01				IAML		21 15 55.7	
	comp=N,3μm,0.2s						
PB16	IPOC Station P	1.49	351	⇑*eP*	Pn	21 15 40.9	+1.2
PB16				*i S*	Sn	21 16 01.9	+1.9
PB12	IPOC Station P	1.56	320	⇑*iP*	Pn	21 15 40.1	0.0
PB12				*i S*	Sn	21 16 01.0	+0.2
PB12				IAML		21 16 02.7	
	comp=E,496nm,0.3s						
PB02	IPOC Station P	1.60	201	*eP*	Pn	21 15 40.9	+0.3
PB02				*i S*	Sn	21 16 02.3	+0.6
PB02				IAML		21 16 08.2	
	comp=E,880nm,0.2s						
AP01	Chacalluta	1.76	325	*i P*	Pn	21 15 43.1	+0.5
AP01				*i S*	Sn	21 16 05.0	0.0
AP01				IAML		21 16 10.9	
	comp=N,541nm,0.4s						
PB09	IPOC Station P	1.97	179	*i P*	Pn	21 15 46.4	+1.1
PB09				*i S*	Sn	21 16 11.0	+1.1
PB07	IPOC Station P	1.98	197	*eP*	Pn	21 15 46.5	+0.9
PB03	IPOC Station P	2.26	191	*i P*	Pn	21 15 49.4	+0.2
PB03				*eS*	Sn	21 16 15.9	-0.9
PB03				IAML		21 16 24.7	
	comp=E,186nm,0.4s						
PB04	IPOC Station P	2.63	198	*i P*	Pn	21 15 55.1	+1.1
LVC	Limon Verde	2.80	173	P	Pn	21 15 58.4	+2.1
	comp=E,4.3nm,0.3s,baz=20,slow=8.4,SNR=36						
LVC				S	Sn	21 16 30.3	+0.6
	comp=E,7.7nm,0.3s,baz=37,slow=19,SNR=9.7						
PB06	IPOC Station P	2.89	186	*i P*	Pn	21 15 57.7	+0.4
LPAZ	La Paz	3.68	17	P	Pn	21 16 10.8	+2.5
	comp=E,0.9nm,0.3s,baz=183,slow=9.0,SNR=25						
SIV	San Ignacio	8.68	65	P	Pn	21 17 12.1	-3.7
	comp=E,0.5nm,0.3s,baz=253,slow=10,SNR=16						
TORD	Torodi Ar. Bea	77.12	71	P	P	21 26 54.4	-1.6
	comp=E,0.3nm,0.4s,baz=257,slow=5.3,SNR=5.7						
YKA	Yellowknife Ar	89.50	341	P	P	21 27 58.6	+0.2
	comp=E,0.4nm,0.7s,baz=136,slow=4.9,SNR=7.8						

IDC 09 21:15:54.9±0.8, 3°.82N×125°.58E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.2/36, mbtmp3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/44, Error ellipse: s-maj=18.2km s-min=12.3km az=78.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.78	180	P	P	21 20 48.5	+0.1
	1.9nm,0.4s,baz=13,slow=9.2,SNR=14						
WRA	Warramunga Arr	25.13	160	P	P	21 21 21.8	0.0
	0.5nm,0.3s,baz=334,slow=10,SNR=21						
ASAR	Alice Springs	28.50	164	P	P	21 21 51.3	-0.8
	0.1nm,0.4s,baz=338,slow=7.1,SNR=1.9						
JNU	Nakatsue	29.57	9	LR	LR	21 34 44.2	
	comp=Z,32nm,18.7s,baz=206,slow=38						
MKAR	Makanchi Array	56.84	326	P	P	21 25 41.3	0.0
	0.4nm,0.9s,baz=122,slow=8.2,SNR=4.6						

IDC 09 21:26:50.2±1.2, 1°.98N×125°.39E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/34, mbtmp3.5/4, MS3.5/1, Ms1 3.4/1, ms1mx2.3/44, Error ellipse: s-maj=150.0km s-min=12.6km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.49	158	P	P	21 32 02.0	+0.1
	0.6nm,0.5s,baz=337,slow=11,SNR=15						
ASAR	Alice Springs	26.81	162	P	P	21 32 31.9	-0.5
	0.3nm,0.7s,baz=350,slow=7.4,SNR=6.6						
STKA	Stephens Creek	37.02	157	P	P	21 34 00.9	-0.9
	1.3nm,0.6s,baz=352,slow=8.4,SNR=3.1						
STKA				LR	LR	21 49 30.3	
	comp=Z,61nm,18.7s,baz=1.2,slow=37						
MKAR	Makanchi Array	58.24	326	P	P	21 36 46.5	0.0
	0.1nm,0.4s,baz=123,slow=7.8,SNR=4.3						

*NEIC **09** 21:33:26.6±1.6, 21°.8S±0°.1×179°.3W±0°.1, h587km±7km, mb4.4/40, Error ellipse: s-maj=16.3km s-min=15.7km az=128.0*
*IDC **09** 21:33:27.9±1.6, 21°.71S×179°.46W, h597km±18km, mb3.3/12, mb1 3.6/13, mb1mx3.3/34, mbtmp4.3/13, Error ellipse: s-maj=20.4km s-min=14.6km az=128.0*

ISC 09 21:33:27.1±0.4, 21°.83S±0°.07×179°.35W±0°.08, h600km, n99, σ1°.05/99, mb4.2/30, 9C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.76	329	P	P	21 34 58.4	+0.1
	44nm,0.3s,baz=177,slow=5.2,SNR=284						
MSVF	Nonsavu	4.76	329		P	21 34 58.1	-0.3
AFI	Afiamalu	10.68	44	P	P	21 35 48.5	-4.3
	4.5nm,0.3s,baz=224,slow=6.2,SNR=6.3						
SANVU	Saraoutou	14.23	294	P	P	21 36 27.6	-0.7
SANVU	Saraoutou	14.23	294	P	P	21 36 28.9	+0.6
URZ	Urewera	16.66	190	P	P	21 36 47.8	-2.4
	2.8nm,0.3s,baz=258,slow=3.1,SNR=12						
URZ				S	S	21 39 30.9	-4.7
	0.6nm,0.3s,baz=69,slow=22,SNR=6.7						
URZ	Urewera	16.66	190	P	P	21 36 48.2	-2.0
URZ				IAmb	IAmb	21 36 52.1	
	comp=Z,39nm,1.4s						
RPZ	Rata Peaks	23.23	198	P	P	21 37 49.6	+0.1
EIDS	Eidsvold	27.30	257	P	P	21 38 25.4	-0.1
ARMA	Armidale	27.36	246	P	P	21 38 26.8	+0.5
ARMA				IAmb	IAmb	21 38 28.1	
	comp=Z,5.4nm,0.8s						
CAN	Canberra	30.73	237	P	P	21 38 55.7	+0.6
CAN				IAmb	IAmb	21 39 21.2	
	comp=Z,18nm,1.5s						
TOO	Toolangi	34.10	235	P	P	21 39 23.4	-0.1
TOO				IAmb	IAmb	21 39 24.8	
	comp=Z,5.9nm,0.7s						
STKA	Stephens Creek	36.09	246	P	P	21 39 40.5	+0.6
	comp=Z,2.5nm,0.4s,baz=93,slow=11,SNR=14						
STKA	Stephens Creek	36.09	246	P	P	21 39 40.3	+0.3
COEN	Coen	36.44	276	P	P	21 39 43.4	+0.3
COEN				IAmb	IAmb	21 40 09.6	
	comp=Z,9.7nm,1.2s						
BBOO	Buckleboo	40.84	245	P	P	21 40 17.9	-0.3
BBOO				IAmb	IAmb	21 40 18.4	
	comp=Z,6.2nm,0.5s						
WR0	Warramunga Arr	43.00	264	P	P	21 40 34.1	-1.2
AS31	Alice Springs	43.00	258	P	P	21 40 34.7	-0.7
ASAR	Alice Springs	43.00	258	P	P	21 40 35.5	+0.1
	comp=Z,0.8nm,0.6s,baz=94,slow=8.0,SNR=16						
ASAR				ScP	ScP	21 45 08.3	+1.8
	comp=Z,0.3nm,0.6s,baz=108,slow=4.6,SNR=4.1						
ASAR				S	S	21 46 17.2	-1.5
	comp=Z,1.4nm,0.8s,baz=95,slow=16,SNR=12						
ASAR	Alice Springs	43.00	258	P	P	21 40 34.8	-0.7
WRA	Warramunga Arr	43.19	264	P	P	21 40 36.1	-0.8
	comp=Z,0.6nm,0.3s,baz=96,slow=7.6,SNR=34						
WRA	Warramunga Arr	43.19	264	P	P	21 40 35.9	-1.0
MTN	Manton Dam	47.94	272	P	P	21 41 12.2	-0.7
MTN				IAmb	IAmb	21 41 12.6	
	comp=Z,5.5nm,0.7s						
KNRA	Kununurra	49.33	268	P	P	21 41 22.9	-0.3
KNRA				IAmb	IAmb	21 41 24.5	
	comp=Z,4.9nm,0.7s						
SOEI	Soe	55.30	273	P	P	21 42 06.2	+0.3
SOEI				IAmb	IAmb	21 42 08.1	
	comp=Z,15nm,0.8s						
VNDA	Vanda	56.48	185	P	P	21 42 15.0	+2.1
	comp=Z,1.3nm,0.5s,baz=24,slow=6.9,SNR=8.7						
VNDA	Vanda	56.48	185	P	P	21 42 14.6

comp=Z,4.8nm,1.5s
ILAR Eielson Array 89.89 13 P **P 21 45 22.6 -0.1**
comp=Z,0.9nm,0.6s,baz=216,slow=4.9,SNR=11
ILAR Eielson Array 89.89 13 P **P 21 45 22.8 +0.2**
INK Inuvik 95.88 16 P **P 21 45 49.7 -0.2**
comp=Z,0.5nm,0.6s,baz=204,slow=2.6,SNR=1.7
ARCES ARCESS Array B 129.99 349 PKP **PKiKP 21 51 29.3 -0.5**
comp=Z,2.4nm,0.7s,baz=30,slow=1.3,SNR=11
ARCES SKPbc SKPab 21 53 58.3 +1.6
comp=Z,5.2nm,1.2s,baz=27,slow=3.0,SNR=4.1
ARCES ARCESS Array B 129.99 349 PKPdf 21 51 28.8 -0.1
NB2 NORSAR Subarra140.13 352 PKP PKPpre 21 51 41.5
comp=Z,0.6nm,0.5s,baz=16,slow=3.2
NOA NORSAR Array B 140.13 352 PKhKP PKPpre 21 51 40.8
comp=Z,1.0nm,1.0s,baz=6.1,slow=1.3,SNR=5.2
AKASG Malin Array Be 143.54 329 PKP PKPab 21 51 52.5 -0.6
comp=Z,2.1nm,0.3s,baz=44,slow=4.4,SNR=46
AKASG Malin Array Be 143.54 329 PKPbc 21 51 52.7 -0.5
AKBB Malin Array Si 143.54 329 PKPab 21 51 52.5 -0.6
SUW Suwalki 143.61 338 PKPbc 21 51 53.0 -0.3
SORM Soroca 145.65 327 ⇑P **PKPbc 21 51 59.5 -0.1**
BR131 Keskin Array S 146.76 310 PKPbc 21 52 02.9 -0.3
BRTR Keskin Array B 146.76 310 PKPbc **PKPbc 21 52 03.1 -0.1**
comp=Z,1.5nm,0.5s,baz=135,slow=4.3,SNR=11
BURAR Bucovina Array 147.56 328 ⇑P **PKiKP 21 52 05.9 -0.5**
TESR Tescani 147.58 326 ⇑P **PKPbc 21 52 04.5 -0.4**
CFR Carcaliu 147.60 322 ⇑P **PKPbc 21 52 04.0 -1.0**
TPGR Topolog 147.63 322 ⇓P **PKiKP 21 52 05.5 -1.0**
ODBI Odobesti 147.84 324 ⇑P **PKiKP 21 52 06.0 -0.9**
VRI Vrincioaia 147.96 325 ⇓P **PKiKP 21 52 06.1 -1.1**
HARR Harsova 148.01 322 ⇓P **PKPbc 21 52 06.1 0.0**
MLR Muntele Rosu 148.62 325 ⇑P **PKiKP 21 52 08.0 -0.8**
DPC Dobruska-Polom 148.98 340 *e*PKP **PKiKP 21 52 09.3 +0.1**
CJR Cluj-Napoca 148.98 329 ⇓P **PKiKP 21 52 09.1 -0.3**
CLL Collm 149.04 345 PKiKP 21 52 08.7 -0.5
KRLC Kraliky 149.07 340 *e*PKP **PKiKP 21 52 09.4 0.0**
VOIR 149.13 325 ⇑P **PKiKP 21 52 09.3 -0.4**
PVCC Panska Ves 149.34 342 *e*PKP **PKiKP 21 52 10.1 +0.2**
PVCC *ex* x 21 52 23.5
DRGR 149.35 330 ⇓P **PKiKP 21 52 10.2 0.0**
ARR Arges 149.39 326 ⇓P **PKiKP 21 52 11.3 +1.0**
PRU Pruhonice 149.84 342 *e*PKP **PKiKP 21 52 10.8 -0.1**
PBCC Pribram 150.26 342 *e*PKP **PKiKP 21 52 11.9 +0.1**
PBCC *ex* **PKPab 21 52 20.9 +0.6**
BZS Buzias 150.73 329 ⇑P **PKiKP 21 52 12.3 -0.5**
KHC Kasperske Hory 150.88 342 *e*PKP **PKiKP 21 52 13.4 +0.2**
KHC *ex* **PKPab 21 52 23.8 +0.9**
CKRC Cesky Krumlov 150.95 341 *e*PKP **PKiKP 21 52 13.5 +0.2**
GERES GERESS Array B 151.10 342 PKPbc **PKiKP 21 52 13.7 0.0**
comp=Z,1.0nm,0.4s,baz=25,slow=2.2,SNR=12
GERES PKPab **PKPab 21 52 24.2 +0.3**
comp=Z,0.8nm,0.6s,baz=29,slow=6.1,SNR=4.2
MORH Mrgy, Hungar 151.60 333 ⇑P **PKiKP 21 52 14.3 -0.3**

NOU 09 21:34:52.4, 21°.83S×169°.49E, h61km, mb4.3/7, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	1.40	284	P	Pn	21 35 16.0	+0.2
OUENC	**Ouen Island, N**	2.52	256	P	Pn	21 35 31.2	+0.2
DZM	**Mont Dzumac**	2.84	265	P	Pn	21 35 35.0	-0.4
ONTNC	**Ouen Toro**	2.86	260	P	Pn	21 35 36.0	+0.5
NOUC	**Port Laguerre**	2.97	264	P	Pn	21 35 36.7	-0.4

*IDC **09** 21:40:43.7±2.2, 43°.34N×105°.23W, h0km, mb1 3.6/3, mb1mx3.3/39, mbtmp3.4/3, ML3.6/3, Error ellipse: s-maj=46.6km s-min=9.9km az=155.0*
*NEIC **09** 21:40:46.7±0.9, 43°.70N±0°.05×105°.27W±0°.07, h0km±2km, ML3.0/56, Error ellipse: s-maj=9.4km s-min=7.8km az=36.0*

ISC 09 21:40:46.0±1.0, 43°.70N±0°.05×105°.33W±0°.06, h0km, n44, σ0°.99/44, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	1.03	65	Pg	**Pg**	**21 41 05.5**	**-0.1**
K22A	**Casper**	1.36	220		**Pg**	**21 41 11.1**	**-1.1**
PHWY	**Pilot Hill**	2.40	182	Pn	**Pn**	**21 41 27.4**	**+0.6**
PHWY				IAML		21 42 02.0	
78nm,0.4s
RWWY Rawlins 2.44 215 Pn 21 41 28.1 +0.7
N23A Red Feather La 2.84 189 Pn **Pn 21 41 34.0 +1.1**
N23A IAML 21 42 14.0
comp=E,59nm,0.8s
N23A IAML 21 42 18.5
comp=N,62nm,0.8s
LAO LASA Array 3.06 348 Pn **Pn 21 41 36.2 +0.6**
RLMT Red Lodge 3.16 298 Pn 21 41 38.3 +1.1
RLMT IAML 21 42 32.2
comp=N,33nm,0.3s
RLMT IAML 21 42 37.2
comp=N,37nm,0.3s
PD31 Pinedale Array 3.23 255 Pn 21 41 38.9 +0.8
PDAR Pinedale Array 3.23 255 Pn **Pn 21 41 38.8 +0.6**
comp=N,5.2nm,0.3s,baz=86,slow=18,SNR=80
PDAR Lg Lg 21 42 24.7
comp=N,16nm,0.3s,baz=79,slow=34,SNR=5.7
PDAR Pinedale Array 3.23 255 Pn 21 41 38.5 +0.4
YMP Mirror Lake Pl 3.62 288 Pn 21 41 44.9 +1.2
OGNE Ogallala 3.68 137 Pn **Pn 21 41 44.3 0.0**
GCMT Greycliff 3.73 306 Pn 21 41 45.9 +0.9
LKWY Lake 3.75 285 Pn 21 41 46.4 +1.0
LKWY IAML 21 43 08.4
comp=N,22nm,0.9s
LKWY IAML 21 43 44.1
comp=N,16nm,4.8s
LOHW Long Hollow 3.83 271 Pn 21 41 47.7 +1.3
H17A Grant Village 3.85 282 Pn 21 41 46.9 +0.2
H17A IAML 21 42 49.3
comp=N,17nm,0.3s
FLWY Flagg Ranch 3.90 277 Pn 21 41 48.6 +1.2
FLWY IAML 21 42 59.6
comp=N,22nm,1.0s
ISCO Idaho Springs 3.90 183 Pn **Pn 21 41 48.1 +0.6**
MOOW Moose Ponds 3.93 273 Pn **Pn 21 41 49.4 +1.6**
REDW Red Top Meadow 4.03 267 Pn **Pn 21 41 51.0 +1.8**
REDW IAML 21 43 04.3
comp=N,29nm,1.3s
REDW IAML 21 43 04.9
comp=N,29nm,0.7s
YHH Holmes Hill 4.11 287 Pn 21 41 51.1 +0.7
YHH IAML 21 42 25.9
comp=E,12nm,5.0s
YMR Madison River 4.17 285 Pn 21 41 52.4 +1.4
YMR IAML 21 43 11.3
comp=N,24nm,0.9s
YMR IAML 21 44 28.8
comp=E,17nm,4.5s
O20A White River Ci 4.17 212 Pn 21 41 52.1 +1.0
O20A IAML 21 43 06.1
comp=E,25nm,0.7s
O20A IAML 21 43 22.1
comp=N,26nm,3.8s
AHID Auburn Hatcher 4.32 259 Pn **Pn 21 41 54.3 +1.2**
AHID IAML 21 43 03.3
comp=N,21nm,0.3s
AHID IAML 21 43 07.7
comp=N,19nm,1.0s
E28A Huff 4.36 47 Pn **Pn 21 41 54.5 +0.9**
RDMU Red Mountain 4.44 227 Pn **Pn 21 41 56.9 +2.1**
RDMU IAML 21 43 13.4
comp=E,18nm,1.0s
RDMU IAML 21 43 16.7
comp=N,18nm,1.0s
Q24A Divide 4.73 178 Pn 21 41 59.2 +0.3
DGMT Dagmar 4.84 9 Pn 21 42 01.3 +1.2
BOZ Bozeman (W) 4.88 295 Pn 21 42 00.9 +0.2
BOZ IAML 21 43 17.7
comp=N,8.8nm,4.2s
BOZ IAML 21 43 22.3
comp=N,9.8nm,2.8s
KSCO Kaye Shedlock' 5.11 156 Pn **Pn 21 42 03.0 -0.9**
EGMT Eagleton 5.32 326 Pn **Pn 21 42 07.3 +0.6**
P18A Preston Nutter 5.49 224 Pn 21 42 09.8 +0.6
HRY Holter Researc 5.49 306 Pn 21 42 09.3 +0.2
LRM Limekiln Ridge 5.50 295 Pn **Pn 21 42 08.9 -0.4**
PV07 Paradox Valley 5.82 207 Pn 21 42 14.9 +1.1
SDCO Great Sand Dun 5.95 181 Pn **Pn 21 42 17.2 +1.6**
S22A 4UR Ranch, Cre 6.05 191 Pn **Pn 21 42 17.3 +0.3**

ECSD	**EROS Data Cent**	6.32	87	Pn	**Pn**	**21 42 19.8**	**-0.6**
T25A	**Trinidad**	6.59	174	Pn	**Pn**	**21 42 25.0**	**+0.6**
F33A	**5 Mile Ranch,**	6.78	68	Pn	**Pn**	**21 42 27.0**	**+0.3**
MSO	**Missoula**	6.83	300	Pn	**Pn**	**21 42 28.0**	**+0.5**
JTMT	**Jette**	7.46	306	Pn	**Pn**	**21 42 36.9**	**+0.8**
ULM	**Lac du Bonnet**	9.20	41	Pn	**Pn**	**21 42 58.3**	**-1.5**
comp=N,2.4nm,0.3s,baz=236,slow=11,SNR=12
YKA Yellowknife Ar 19.59 347 P **Pn 21 45 16.8 +0.1**
comp=N,0.1nm,0.3s,baz=154,slow=11,SNR=6.5

*NEIC **09** 21:59:21.7±1.3, 18°.4N±0°.1×68°.90W±0°.07, h120km±17km, Error ellipse: s-maj=18.6km s-min=8.8km az=192.0*
*RSPR **09** 21:59:21.2, 18°.33N×68°.97W, h111km±3km, MD3.8/13*
*OSPL **09** 21:59:22.4±0.8, 18°.14N×68°.93W, h125km±11km, ML2.8*

ISC 09 21:59:19.8±1.2, 18°.45N±0°.09×68°.93W±0°.03, h134km, n68, σ1°.04/76, 15C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	0.53	83	⇑*e*P	**Pn**	**21 59 37.7**	**-1.7**
PCDR	**Punta Cana, DR**	0.53	83	*e*S	**Sn**	**21 59 52.1**	**-2.2**
PCDR	**Punta Cana, DR**	0.53	83		**Pn**	**21 59 37.7**	**-1.7**
PCDR					**Sn**	**21 59 52.1**	**-2.2**
SDD	**Santo Domingo**	0.93	270	Pn	**Pn**	**21 59 43.6**	**+1.2**
SDD	**Santo Domingo**	0.93	270	*i* P	**Pn**	**21 59 44.1**	**+1.6**
SDD				*e*S	**Sn**	**21 59 59.2**	**-0.5**
LOSC1	**San Cristbal**	1.12	268	*i* P	**Pn**	**21 59 44.7**	**+0.6**
LOSC1				*e*S	**Sn**	**22 00 02.4**	**-0.3**
IDE	**Isla Desecheo**	1.39	93	⇑*e*P	**Pn**	**21 59 46.0**	**-1.0**
IDE	**Isla Desecheo**	1.39	93	*e*S	**Sn**	**22 00 06.9**	**-0.7**
PRSN	**Puerto Rico Se**	1.71	98	Pn	**Pn**	**21 59 51.5**	**+0.9**
AGPR	**Aguadilla, PR**	1.73	89	⇑*e*P	**Pn**	**21 59 51.8**	**+1.0**
AGPR	**Aguadilla, PR**	1.73	89	*e*S	**Sn**	**22 00 15.4**	**+1.0**
AGPR	**Aguadilla, PR**	1.73	89		**Pn**	**21 59 51.8**	**+1.0**
AGPR					**Sn**	**22 00 15.4**	**+1.0**
AGPR	**Aguadilla, PR**	1.73	89	IAML		22 00 18.6
comp=N,251nm,0.4s
AGPR Aguadilla, PR 1.73 89 *i* P **Pn 21 59 51.8 +1.1**
LSP Las Mesas 1.77 99 ⇑*e*P **Pn 21 59 52.4 +1.1**
LSP Las Mesas 1.77 99 *e*S **Sn 22 00 14.7 -0.7**
CRPR Cabo Rojo, PR 1.79 104 ⇑*e*P **Pn 21 59 51.6 +0.2**
CRPR Cabo Rojo, PR 1.79 104 *e*S **Sn 22 00 15.1 -0.6**
CRPR Cabo Rojo, PR 1.79 104 Pn 21 59 51.6 +0.2
CRPR **Sn 22 00 15.1 -0.6**
CRPR Cabo Rojo, PR 1.79 104 IAML 22 00 26.7
comp=N,67nm,0.6s
CRPR Cabo Rojo, PR 1.79 104 *i* P **Pn 21 59 51.7 +0.2**
CRPR IAML 22 00 24.6
comp=Z,64nm,0.5s
MLPR Magueyes Islan 1.86 105 ⇑*e*P **Pn 21 59 51.2 -1.1**
MLPR Magueyes Islan 1.86 105 *e*S **Sn 22 00 16.0 -1.2**
MLPR Magueyes Islan 1.86 105 Pn 21 59 51.2 -1.1
MLPR **Sn 22 00 16.0 -1.2**
SC01 Santiago de Io 1.96 300 Pn 21 59 54.6 +1.2
SC01 Santiago de Io 1.96 300 IAML 22 00 30.9
comp=Z,98nm,0.3s
GBPR Guanica, Bosqu 2.01 103 ⇑*e*P **Pn 21 59 55.4 +1.3**
GBPR Guanica, Bosqu 2.01 103 *e*S **Sn 22 00 20.7 +0.4**
AOPR Arecibo Observ 2.07 93 ⇑*e*P **Pn 21 59 55.8 +0.9**
AOPR Arecibo Observ 2.07 93 *e*S **Sn 22 00 22.6 +0.8**
AOPR Arecibo Observ 2.07 93 Pn 21 59 55.8 +0.9
AOPR **Sn 22 00 22.6 +0.8**
LOBA2 Hotel Casa Bon 2.09 260 *i* P **Pn 21 59 55.1 0.0**
LOBA2 *e*S **Sn 22 00 19.9 -2.1**
LOBA2 IAML 22 00 22.8
comp=Z,22nm,0.5s
OBIP Obispado Ponce 2.25 100 ⇑*e*P **Pn 21 59 57.8 +0.8**
OBIP Obispado Ponce 2.25 100 *e*S **Sn 22 00 25.6 0.0**
OBIP Obispado Ponce 2.25 100 Pn 21 59 57.8 +0.8
OBIP **Sn 22 00 25.6 0.0**
OBIP Obispado Ponce 2.25 100 IAML 22 00 33.3
comp=N,52nm,0.3s
CELP Cerrillos 2.27 99 Pn 21 59 57.6 +0.3
CELP IAML 22 00 30.2
comp=E,78nm,0.4s
CELP IAML 22 00 31.1
comp=N,100nm,0.3s
EMPR Esperanza - Ma 2.28 89 ⇑*e*P **Pn 21 59 58.2 +0.8**
EMPR Esperanza - Ma 2.28 89 *e*S **Sn 22 00 26.5 +0.2**
EMPR Esperanza - Ma 2.28 89 Pn 21 59 58.2 +0.8
EMPR **Sn 22 00 26.5 +0.2**
SDDR Presa de Saban 2.29 284 Pn 21 59 59.5 +1.9
SDDR IAML 22 00 33.5
comp=N,86nm,0.7s
SDDR IAML 22 00 36.1
comp=N,69nm,0.7s
LONE2 Loma La Sidra 2.41 273 *i* P **Pn 22 00 00.5 +1.2**
SJG San Juan 2.67 97 Pn **Pn 22 00 02.8 +0.5**
SJG IAML 22 00 39.2
comp=N,79nm,0.5s
SJG IAML 22 00 42.8
comp=N,66nm,0.3s
GCPR Guaynabo City 2.71 93 ⇑*e*P **Pn 22 00 03.6 +0.8**
GCPR Guaynabo City 2.71 93 *e*S **Sn 22 00 36.5 +0.5**
GCPR Guaynabo City 2.71 93 Pn 22 00 03.6 +0.8
GCPR **Sn 22 00 36.5 +0.5**
GCPR Guaynabo City 2.71 93 IAML 22 00 39.3
comp=N,48nm,0.4s
GCPR IAML 22 00 40.9
comp=E,50nm,0.3s
PDPR Patillas Dam, 2.80 98 Pn 22 00 04.4 +0.4
PDPR IAML 22 00 44.0
comp=E,57nm,0.2s
CBYP Canovanas 2.93 93 ⇑*e*P **Pn 22 00 05.8 +0.1**
CBYP Canovanas 2.93 93 *e*S **Sn 22 00 40.8 -0.2**
CBYP Canovanas 2.93 93 Pn 22 00 05.8 +0.1
CBYP **Sn 22 00 40.8 -0.2**
HUMP Col San Antoni 2.94 96 ⇑*e*P **Pn 22 00 06.2 +0.4**
HUMP Col San Antoni 2.94 96 *e*S **Sn 22 00 41.9 +0.5**
HUMP Col San Antoni 2.94 96 Pn 22 00 06.2 +0.4
HUMP **Sn 22 00 41.9 +0.5**
MTP Monte Pirata 3.23 96 ⇑*e*P **Pn 22 00 10.7 +1.2**
MTP Monte Pirata 3.23 96 *e*S **Sn 22 00 49.1 +1.1**
MTP Monte Pirata 3.23 96 Pn 22 00 10.7 +1.2
MTP **Sn 22 00 49.1 +1.1**
MTP Monte Pirata 3.23 96 IAML 22 00 52.8
comp=E,28nm,0.2s
MTP IAML 22 00 54.6
comp=N,32nm,0.2s
CUPR Culebra, Puert 3.47 92 ⇑*e*P **Pn 22 00 12.5 -0.2**
CUPR Culebra, Puert 3.47 92 *e*S **Sn 22 00 52.4 -1.1**
CUPR Culebra, Puert 3.47 92 Pn 22 00 12.5 -0.2
CUPR **Sn 22 00 52.4 -1.1**
CUPR Culebra, Puert 3.47 92 IAML 22 00 58.6
comp=E,15nm,0.6s
STVI Saint Thomas 3.78 91 *e*S **Sn 22 01 00.3 -0.5**
STVI Saint Thomas 3.78 91 Pn 22 00 17.1 +0.4
STVI IAML 22 01 03.1
comp=N,25nm,0.5s
STVI Saint Thomas 3.78 91 Sn 22 01 00.3 -0.5
TBVI Tortola 4.10 90 *e*S **Sn 22 01 04.8 -3.5**
AUA1 Aruba 6.00 190 Pn **Pn 22 00 46.8 +0.3**
BIRV Birongo 8.34 162 Pn **Pn 22 01 19.1 +1.2**

*NEIC **09** 22:05:50.4±1.1, 19°.13N±0°.10×64°.60W±0°.05, h40km±52km, Error ellipse: s-maj=14.2km s-min=5.8km az=167.0*
*TRN **09** 22:05:50.9, 18°.85N×64°.66W, h75km, M3.5(RSPR)*
*RSPR **09** 22:05:52.3, 18°.87N×64°.62W, h78km±5km, MD3.5/5*

ISC 09 22:05:51.0±2.4, 19°.0N±0°.3×64°.61W±0°.07, h74km±24km, n33, σ0°.40/41, 15C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	0.55	180	⇑*e*P	**Pn**	**22 06 04.9**	**+0.3**
TBVI	**Tortola**	0.55	180	⇑*e*P	**Pn**	**22 06 04.9**	**+0.3**
TBVI				*e*S	**Sn**	**22 06 15.0**	**+0.3**
STVI	**Saint Thomas**	0.69	208	⇑*e*P	**Pn**	**22 06 06.1**	**0.0**
STVI	**Saint Thomas**	0.69	208	⇑*e*P	**Pn**	**22 06 06.1**	**0.0**
STVI				*e*S	**Sn**	**22 06 17.3**	**0.0**
STVI	**Saint Thomas**	0.69	208		**Pn**	**22 06 06.1**	**0.0**
STVI					**Sn**	**22 06 17.3**	**0.0**
CUPR	**Culebra, Puert**	0.91	224	⇑*e*P	**Pn**	**22 06 08.4**	**-0.3**
CUPR	**Culebra, Puert**	0.91	224	*e*S	**Sn**	**22 06 21.6**	**-0.2**
CUPR	**Culebra, Puert**	0.91	224		**Pn**	**22 06 08.4**	**-0.3**
CUPR					**Sn**	**22 06 21.6**	**-0.2**
MTP	**Monte Pirata**	1.24	226	⇑*e*P	**Pn**	**22 06 13.1**	**+0.3**
MTP	**Monte Pirata**	1.24	226	⇑*e*P	**Pn**	**22 06 13.1**	**+0.3**
MTP				*e*S	**Sn**	**22 06 28.3**	**-0.8**
MTP	**Monte Pirata**	1.24	226		**Pn**	**22 06 13.1**	**+0.3**
MTP					**Sn**	**22 06 28.3**	**-0.8**

CBYP	**Canovanas**	1.37	240	⇑*e*P	**Pn**	**22 06 14.1**	**-0.3**
CBYP	**Canovanas**	1.37	240	⇑*e*P	**Pn**	**22 06 14.1**	**-0.3**
CBYP				*e*S	**Sn**	**22 06 32.0**	**0.0**
CBYP	**Canovanas**	1.37	240		**Pn**	**22 06 14.1**	**-0.3**
CBYP					**Sn**	**22 06 32.0**	**0.0**
HUMP	**Col San Antoni**	1.43	235	⇑*e*P	**Pn**	**22 06 15.7**	**+0.5**
HUMP	**Col San Antoni**	1.43	235	⇑*e*P	**Pn**	**22 06 15.7**	**+0.5**
HUMP				*e*S	**Sn**	**22 06 33.4**	**0.0**
HUMP	**Col San Antoni**	1.43	235		**Pn**	**22 06 15.7**	**+0.5**
HUMP					**Sn**	**22 06 33.4**	**0.0**
GCPR	**Guaynabo City**	1.54	245		**Pn**	**22 06 15.9**	**-0.7**
PDPR	**Patillas Dam,**	1.64	235		**Pn**	**22 06 18.2**	**+0.3**
PDPR				IAML		22 07 00.6
comp=E,41nm,2.6s
SJG San Juan 1.69 240 Pn 22 06 19.2 +0.6
SJG IAML 22 06 44.7
comp=E,27nm,0.2s
SJG IAML 22 06 46.8
comp=E,34nm,0.2s
SMRT St. Maarten 1.72 122 Pn **Pn 22 06 18.9 -0.2**
SMRT IAML 22 06 55.0
comp=E,56nm,0.3s
SMRT IAML 22 06 55.5
comp=N,59nm,0.5s
CELP Cerrillos 2.07 245 ⇑*e*P **Pn 22 06 24.2 +0.6**
CELP Cerrillos 2.07 245 ⇑*e*P **Pn 22 06 24.2 +0.6**
CELP Cerrillos 2.07 245 Pn 22 06 24.2 +0.6
CELP Cerrillos 2.07 245 IAML 22 06 51.8
comp=N,22nm,0.5s
OBIP Obispado Ponce 2.10 244 Pn **Pn 22 06 24.5 +0.4**
OBIP IAML 22 07 10.9
comp=N,18nm,3.4s
AOPR Arecibo Observ 2.12 253 Pn **Pn 22 06 24.9 +0.6**
AOPR IAML 22 06 52.1
comp=N,37nm,0.8s
AGPR Aguadilla, PR 2.42 259 Pn **Pn 22 06 28.6 +0.2**
MLPR Magueyes Islan 2.51 247 Pn **Pn 22 06 29.1 -0.5**
MLPR IAML 22 07 40.4
comp=N,21nm,4.1s
MLPR IAML 22 07 59.4
comp=E,18nm,3.3s
CRPR Cabo Rojo, PR 2.56 248 ⇑*e*P **Pn 22 06 30.3 +0.1**
CRPR Cabo Rojo, PR 2.56 248 ⇑*e*P **Pn 22 06 30.3 +0.1**
CRPR Cabo Rojo, PR 2.56 248 Pn 22 06 30.3 +0.1
CRPR Cabo Rojo, PR 2.56 248 IAML 22 07 20.7
comp=N,29nm,3.8s
CRPR IAML 22 07 22.6
comp=E,23nm,3.4s

IDC 09 22:14:36.0±2.3, 2°.17N×128°.07E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.0/34, mbtmp3.2/3, Error ellipse: s-maj=146.2km s-min=28.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.82**	**165**	P	P	22 19 41.2	+0.5
0.5nm,0.4s,baz=345,slow=11,SNR=11
ASAR Alice Springs 26.30 168 P P 22 20 12.9 -0.6
0.2nm,0.5s,baz=347,slow=7.5,SNR=6.8
MKAR Makanchi Array 59.59 325 P P 22 24 41.9 +0.2
0.1nm,0.3s,baz=113,slow=7.8,SNR=1.6

IDC 09 22:17:46.7±0.8, 7°.58S×126°.39E, h0km, mb3.5/1, mb1 3.8/5, mb1mx3.4/32, mbtmp3.6/5, ML3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/41, Error ellipse: s-maj=10.0km s-min=4.5km az=171.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.76**	**226**	Pn	Pn	22 18 46.2	+0.2
4.5nm,0.3s,baz=105,slow=3.7,SNR=5.6
BATI Sn Sn 22 19 32.3 +1.4
2.7nm,0.3s,baz=357,slow=23,SNR=9.0
FITZ Fitzroy Crossi 10.48 184 Pn Pn 22 20 16.6 -1.8
0.2nm,0.3s,baz=12,slow=10,SNR=11
FITZ Sn Sn 22 22 09.0 -7.7
0.4nm,0.3s,baz=257,slow=2.9,SNR=3.6
FITZ LR LR 22 24 44.7
comp=Z,60nm,20.6s,baz=284,slow=40
WRA Warramunga Arr 14.51 149 Pn Pn 22 21 11.5 -2.0
0.2nm,0.3s,baz=322,slow=15,SNR=13
WRA Sn Sn 22 23 47.5 -7.7
0.3nm,0.3s,baz=327,slow=24,SNR=7.7
ASAR Alice Springs 17.55 157 P Pn 22 21 53.5 +0.5
0.4nm,0.3s,baz=337,slow=13,SNR=26
ASAR S Sn 22 25 00.1 -9.0
0.1nm,0.3s,baz=313,slow=18,SNR=4.4
MKAR Makanchi Array 66.80 329 P P 22 28 39.2 -1.0
0.1nm,0.6s,baz=123,slow=7.8,SNR=4.9

ASRS 09 22:32:03.9±1.0, 51°.N±3°.×9°.8E±°, h9km, MLh3.3/4, Error ellipse: s-maj=10.0km s-min=6.1km az=97.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.52**	**246**	Pg	Pg	22 32 14.1	+0.2
KNGR Sg Sb 22 32 23.2 +0.4
KZLR Kyzyl 2.55 292 Pg Pg 22 32 51.5 -1.3
KZLR Sg Sg 22 33 29.9 +4.1
DJOS Djoyskaya Sosn 4.70 298 Sg Sg 22 34 39.5 +4.9
CERR Cheremushki 4.71 298 Pg Pg 22 33 32.1 -1.9
CERR Sg Sg 22 34 39.3 +4.3
MINR Mina 4.78 331 Pg Pg 22 33 40.1 +4.8
MINR Sg Sg 22 34 45.9 +8.8
DJO Djoy, Khakassi 4.79 297 Pg Pg 22 33 32.3 -3.3
DJO Sg Sg 22 34 40.3 +2.6

*IDC **09** 22:35:24.8±4.0, 50°.95N×174°.89E, h0km, mb3.3/4, mb1 3.6/6, mb1mx3.3/59, mbtmp3.5/6, ML3.0/2, Error ellipse: s-maj=89.9km s-min=27.8km az=177.0*
*NEIC **09** 22:35:34.4±0.8, 51°.63N±0°.09×174°.6E±0°.2, h37km±11km, mb3.9/9, Error ellipse: s-maj=16.5km s-min=13.0km az=84.0*

ISC 09 22:35:33.6±1.3, 51°.5N±0°.1×174°.50E±0°.09, h35km, n23, σ1°.38/24, mb3.7/6, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.22**	**348**	LR	LR	22 36 33.0	
comp=Z,231nm,19.2s,baz=184,slow=37
SMY Shemya 1.22 348 Pn **Pn 22 35 53.4 -0.8**
SMY Sn **Sn 22 36 11.1 +1.7**
PEA0B Petropavlovsk- 10.41 285 Pn **Pn 22 38 01.5 +1.3**
PETK Petropavlovsk- 10.41 285 Pn **Pn 22 38 01.6 +1.4**
0.2nm,0.3s,baz=312,slow=31,SNR=12
PETK Sn **Sn 22 39 51.4 -4.1**
0.1nm,0.3s,baz=73,slow=30,SNR=1.3
PETK Petropavlovsk- 10.41 285 Pn 22 38 01.5 +1.3
SEY Seymchan 16.43 322 Pn **P 22 39 23.6 +0.1**
0.2nm,0.3s,baz=128,slow=12,SNR=15
TNA Tin City 16.69 26 Pn **Pn 22 39 23.8 -0.5**
TNA IAmb IAmb 22 39 34.9
comp=Z,11nm,1.2s
TTA Tatalina 19.41 43 P **P 22 39 56.0 -0.4**
TTA IAmb IAmb 22 40 05.8
comp=Z,7.3nm,1.4s
J20K Nowinta River 20.66 40 P **P 22 40 09.1 -0.8**
J20K IAmb IAmb 22 40 15.4
comp=Z,8.1nm,1.2s
H24K Noodor Dome 23.74 39 P **P 22 40 41.7 -0.6**
ILAR Eielson Array 23.83 41 P **P 22 40 41.0 -2.0**
comp=Z,0.4nm,1.0s,baz=252,slow=7.6,SNR=4.7
SCRK Sand Creek 24.88 44 P **P 22 40 51.0 -1.8**
SCRK IAmb IAmb 22 41 17.0
comp=Z,5.5nm,1.4s
BMAR Burnt Mountain 25.50 36 P **P 22 40 57.8 -0.4**
BARN Barnard Glacie 25.65 51 P **P 22 40 59.1 -0.7**
YKA Yellowknife Ar 38.13 45 P **P 22 42 48.6 -0.2**
comp=Z,0.2nm,0.6s,baz=288,slow=8.4,SNR=2.1
KURK Kurchatov 55.79 310 P **P 22 45 08.4 +1.7**
MK31 Makanchi Array 56.57 305 P **P 22 45 12.3 -0.1**
MKAR Makanchi Array 56.57 305 P **P 22 45 12.7 +0.3**
comp=Z,0.4nm,0.6s,baz=53,slow=5.1,SNR=4.7
MKAR Makanchi Array 56.57 305 P **P 22 45 12.8 +0.5**
KKAR Karatay Array 65.09 308 P **P 22 46 11.0 +0.6**
ABKAR Akbulak array 65.17 319 P **P 22 46 11.3 +0.6**
ABKAR Akbulak array 65.17 319 P **P 22 46 11.8 +1.1**
ABKAR IAmb IAmb 22 46 24.3
comp=Z,1.0nm,0.8s

NOA NORSAR Array B 66.98 351 P P 22 46 21.8 -0.4
comp=Z,0.5nm,0.6s,baz=11,slow=6.2,SNR=3.4

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*KRSC **09** 22:44:38.0±3.3, 48°.99N×156°.61E, h8km±51km, ML5.3*
*BJI **09** 22:44:39.5±0.0, 49°.20N×155°.20E, h55km, mb4.4/36, mB4.8/25, Ms4.1/9, Ms7 3.9/9*
*SKHL **09** 22:44:40.2±0.4, 49°.00N×155°.60E, h78km±6km, mb5.1/10*
*MOS **09** 22:44:40.9±1.1, 49°.15N×155°.38E, h78km, mb4.6/20, Error ellipse: s-maj=7.1km s-min=3.7km az=73.7*
*IDC **09** 22:44:41.3±0.6, 49°.22N×155°.11E, h58km±5km, mb3.9/22, mb1 4.2/29, mb1mx4.0/57, mbtmp4.3/29, MS3.7/43, Ms1 3.7/43, ms1mx3.4/96, Error ellipse: s-maj=14.5km s-min=9.7km az=147.0*
*NEIC **09** 22:44:42.2±1.6, 49°.21N±0°.08×155°.2E±0°.1, h66km±2km, mb4.6/102, Error ellipse: s-maj=14.3km s-min=8.6km az=131.0*
ISC 09 22:44:41.1±0.5, 49°.06N±0°.05×155°.43E±0°.04, h64km±3km, h64km: pP-P, n412, σ1§58/430, mb4.6/111, 12C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.69**	**15**	*e*PN	**Pn**	**22 45 07.4**	**-0.9**
SKR				*e*S	**Sn**	**22 45 26.9**	**-2.1**
SKR				pmax	pmax		
	comp=Z,406nm,0.7s						
SKR				smax	smax		
	comp=N,3μm,0.6s						
SKR				smax	smax		
	comp=E,3μm,0.5s						
SKR	**Severo-Kuril's**	**1.69**	**15**	*e*P	**Pn**	**22 45 07.5**	**-0.9**
SKR				*e*S	**Sn**	**22 45 27.4**	**-1.6**
SKR	**Severo-Kuril's**	**1.69**	**15**	*e*P	**Pn**	**22 45 07.5**	**-0.9**
SKR				AMB	AMB	22 45 09.4	
	comp=E,410nm,0.7s						
SKR				*e*S	**Sn**	**22 45 27.7**	**-1.3**
SKR				A	A	22 45 31.4	
	comp=E,3μm,0.6s						
SKR				A	A	22 45 31.4	
	comp=E,4μm,0.6s						
PAU	**Pauzhetka**	**2.57**	**20**	PN	**Pn**	**22 45 20.3**	**0.0**
PAU				S	**Sn**	**22 45 50.7**	**+0.3**
PAU	**Pauzhetka**	**2.57**	**20**	*e*P	**Pn**	**22 45 20.3**	**0.0**
PAU				*e*S	**Sn**	**22 45 50.7**	**+0.3**
PAU	**Pauzhetka**	**2.57**	**20**	*e*P	**Pn**	**22 45 20.5**	**+0.2**
PAU				AMB	AMB	22 45 21.8	
	comp=E,390nm,0.4s						
PAU				*e*S	**Sn**	**22 45 51.0**	**+0.6**
PAU				A	A	22 45 52.3	
	comp=E,4μm,0.5s						
PAU				A	A	22 45 52.3	
	comp=E,4μm,0.5s						
KDTR	**Khodutka, Kamc**	**3.23**	**31**	PN	**Pn**	**22 45 28.9**	**-0.4**
KDTR				S	**Sn**	**22 46 03.8**	**-2.8**
KDTR	**Khodutka, Kamc**	**3.23**	**31**	*e*P	**Pn**	**22 45 28.9**	**-0.4**
KDTR				*e*S	**Sn**	**22 46 03.8**	**-2.8**
ASAK	**Asacha**	**3.68**	**24**	PN	**Pn**	**22 45 36.8**	**+1.2**
ASAK				S	**Sn**	**22 46 20.6**	**+2.9**
ASAK	**Asacha**	**3.68**	**24**	*e*P	**Pn**	**22 45 36.8**	**+1.2**
ASAK				*e*S	**Sn**	**22 46 20.6**	**+2.9**
GRL	**Gorelyy**	**3.88**	**25**	PN	**Pn**	**22 45 39.3**	**+1.0**
GRL				S	**Sn**	**22 46 24.0**	**+1.4**
GRL	**Gorelyy**	**3.88**	**25**	*e*P	**Pn**	**22 45 39.3**	**+1.0**
GRL				*e*S	**Sn**	**22 46 24.0**	**+1.4**
RUS	**Russkaya**	**3.91**	**29**	PN	**Pn**	**22 45 38.0**	**-0.5**
RUS				S	**Sn**	**22 46 19.9**	**-3.2**
RUS	**Russkaya**	**3.91**	**29**	*e*P	**Pn**	**22 45 38.0**	**-0.5**
RUS				*e*S	**Sn**	**22 46 19.9**	**-3.2**
RUS	**Russkaya**	**3.91**	**29**	*e*P	**Pn**	**22 45 38.0**	**-0.5**
KRMR	**Karymshinskiy**	**4.15**	**23**	PN	**Pn**	**22 45 42.7**	**+0.9**
KRMR	**Karymshinskiy**	**4.15**	**23**	*e*P	**Pn**	**22 45 42.7**	**+0.9**
PEA0B	**Petropavlovsk-**	**4.30**	**19**	*ce*PN	**Pn**	**22 45 45.1**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.30**	**19**		**Pn**	**22 45 44.9**	**+0.9**
PETK	**Petropavlovsk-**	**4.30**	**19**	P	**Pn**	**22 45 44.4**	**+0.4**
	comp=E,13nm,0.3s,baz=181,slow=12,SNR=120						
PETK				LR	LR	22 47 47.0	
	comp=E,469nm,20.8s,baz=185,slow=44						
PETK	**Petropavlovsk-**	**4.30**	**19**		**Pn**	**22 45 44.6**	**+0.6**
PET	**Petropavlovsk**	**4.46**	**26**	*ce*PN	**Pn**	**22 45 46.6**	**+0.5**
PET				pmax	pmax		
	comp=Z,104nm,0.5s						
PET	**Petropavlovsk**	**4.46**	**26**		**Pn**	**22 45 46.5**	**+0.5**
PET				Sn	**Sn**	**22 46 37.0**	**+0.3**
PET	**Petropavlovsk**	**4.46**	**26**	*e*P	**Pn**	**22 45 46.6**	**+0.5**
PET				AMB	AMB	22 45 47.5	
	comp=Z,280nm,0.5s						
PET				*e*S	**Sn**	**22 46 36.4**	**-0.3**
PET				A	A	22 46 50.2	
	comp=Z,1μm,0.6s						
PET				A	A	22 46 50.2	
	comp=Z,1μm,0.6s						
DALK	**Dalny**	**4.50**	**26**	PN	**Pn**	**22 45 47.2**	**+0.6**
DALK				S	**Sn**	**22 46 37.6**	**0.0**
DALK	**Dalny**	**4.50**	**26**	*e*P	**Pn**	**22 45 47.2**	**+0.6**
DALK				*e*S	**Sn**	**22 46 37.6**	**0.0**
UGLR	**Uglovaya**	**4.67**	**26**	PN	**Pn**	**22 45 50.3**	**+1.2**
UGLR	**Uglovaya**	**4.67**	**26**	*e*P	**Pn**	**22 45 50.3**	**+1.2**
UGLR				*e*S	**Sn**	**22 46 48.9**	**+6.8**
KOK	**Koryaka**	**4.70**	**24**	PN	**Pn**	**22 45 51.5**	**+2.1**
KOK				S	**Sn**	**22 46 45.7**	**+3.1**
KOK	**Koryaka**	**4.70**	**24**	*e*P	**Pn**	**22 45 51.5**	**+2.1**
KOK				*e*S	**Sn**	**22 46 45.7**	**+3.1**
KOK	**Koryaka**	**4.70**	**24**	*e*P	**Pn**	**22 45 51.5**	**+2.1**
AVH	**Avacha**	**4.70**	**25**	PN	**Pn**	**22 45 51.1**	**+1.6**
AVH	**Avacha**	**4.70**	**25**	*e*P	**Pn**	**22 45 51.1**	**+1.6**
SMAR	**Somma**	**4.72**	**25**	PN	**Pn**	**22 45 50.9**	**+1.1**
SMAR	**Somma**	**4.72**	**25**	*e*P	**Pn**	**22 45 50.9**	**+1.1**
KRER	**Koryakskii**	**4.74**	**25**	PN	**Pn**	**22 45 51.6**	**+1.5**
KRER	**Koryakskii**	**4.74**	**25**	*e*P	**Pn**	**22 45 51.6**	**+1.5**
SDLR	**Sedlovina**	**4.75**	**26**	PN	**Pn**	**22 45 50.8**	**+0.6**
SDLR				S	**Sn**	**22 46 48.5**	**+4.5**
SDLR	**Sedlovina**	**4.75**	**26**	*e*P	**Pn**	**22 45 50.8**	**+0.6**
SDLR				*e*S	**Sn**	**22 46 48.5**	**+4.5**
GNL	**Ganaly**	**4.90**	**18**	PN	**Pn**	**22 45 53.8**	**+1.5**
GNL	**Ganaly**	**4.90**	**18**	*e*P	**Pn**	**22 45 53.8**	**+1.5**
SPN	**Mys Shipunski**	**4.97**	**34**	PN	**Pn**	**22 45 52.7**	**-0.4**
SPN				S	**Sn**	**22 46 46.7**	**-2.6**
SPN	**Mys Shipunski**	**4.97**	**34**	*e*P	**Pn**	**22 45 52.7**	**-0.4**
SPN				*e*S	**Sn**	**22 46 46.7**	**-2.6**
KII	**Karymskiy**	**5.58**	**25**	PN	**Pn**	**22 46 02.6**	**+1.1**
KII	**Karymskiy**	**5.58**	**25**	*e*P	**Pn**	**22 46 02.6**	**+1.1**
KUR	**Kuril'sk**	**6.42**	**236**	*e*PN	**Pn**	**22 46 15.2**	**+2.3**
KUR				*e*S	**Sn**	**22 47 29.8**	**+5.0**
KUR				pmax	pmax		
	comp=Z,165nm,0.7s						
KUR				pmax	pmax		
	comp=E,56nm,0.3s						
KUR				pmax	pmax		
	comp=N,22nm,0.5s						
KUR				smax	smax		
	comp=N,184nm,0.8s						
KUR				smax	smax		
	comp=E,114nm,1.0s						
KUR	**Kuril'sk**	**6.42**	**236**	*e*P	**Pn**	**22 46 15.2**	**+2.3**
KUR				AMB	AMB	22 46 16.6	
	comp=E,120nm,0.6s						
KUR				*e*S	**Sn**	**22 47 24.0**	**-0.8**
KUR				A	A	22 47 30.3	
	comp=E,100nm,0.7s						
KUR				A	A	22 47 30.3	
	comp=E,90nm,0.7s						
MKZ	**Mys Kozlova**	**6.75**	**33**	PN	**Pn**	**22 46 15.6**	**-1.8**
MKZ	**Mys Kozlova**	**6.75**	**33**	*e*P	**Pn**	**22 46 15.6**	**-1.8**
TUMD	**Tumrok D**	**6.87**	**25**	*e*P	**Pn**	**22 46 19.1**	**0.0**
TUMR	**Tumrok**	**6.88**	**23**	PN	**Pn**	**22 46 19.1**	**-0.1**
TUMR	**Tumrok**	**6.88**	**23**	*e*P	**Pn**	**22 46 20.9**	**+1.7**
SHO	**Shikotan**	**7.88**	**232**	*e*PN	**Pn**	**22 46 30.9**	**-2.0**
SHO				pmax	pmax		
	comp=N,17nm,0.3s						
SHO				pmax	pmax		
	comp=E,29nm,0.3s						
SHO				pmax	pmax		
	comp=Z,37nm,0.3s						
SHO	**Shikotan**	**7.88**	**232**	*e*P	**Pn**	**22 46 31.2**	**-1.7**
SHO				AMB	AMB	22 46 34.8	
	comp=Z,40nm,0.3s						
SHO				*e*S	**Sn**	**22 47 55.4**	**-5.2**
YUK	**Yuzh-Kuril'sk**	**8.29**	**236**	*e*PN	**Pn**	**22 46 39.6**	**+1.1**
YUK				pmax	pmax		
	comp=N,59nm,0.7s						
YUK				pmax	pmax		
	comp=Z,162nm,0.7s						
YUK				pmax	pmax		
	comp=E,133nm,0.6s						
YUK				pmax	pmax		
	comp=Z,331nm,1.4s						
YUK	**Yuzh-Kuril'sk**	**8.29**	**236**	*e*P	**Pn**	**22 46 39.2**	**+0.7**
YUK				AMB	AMB	22 46 40.6	
	comp=Z,160nm,0.7s						
GRPR	**Tuman**	**8.36**	**236**	*e*PN	**Pn**	**22 46 39.7**	**+0.2**
GRPR				pmax	pmax		
	comp=Z,84nm,0.2s						
GRPR	**Tuman**	**8.36**	**236**	*e*P	**Pn**	**22 46 39.7**	**+0.2**
GRPR				AMB	AMB	22 46 44.1	
	comp=Z,80nm,0.3s						
TYV	**Tymovskoe**	**8.44**	**287**	*e*PN	**Pn**	**22 46 43.5**	**+3.0**
TYV				pmax	pmax		
	comp=Z,24nm,1.0s						
TYV				pmax	pmax		
	comp=Z,100nm,5.0s						
TYV	**Tymovskoe**	**8.44**	**287**	*e*P	**Pn**	**22 46 42.0**	**+1.5**
TYV				AMB	AMB	22 46 45.3	
	comp=Z,20nm,0.5s						
RUSJ	**Misakicho**	**8.58**	**239**	*e*PN	**Pn**	**22 46 44.9**	**+2.4**
RUSJ				S	**Sn**	**22 48 25.1**	**+7.3**
YSS	**Yuzh-Sakhalins**	**8.76**	**261**	‖*e*PN	**Pn**	**22 46 47.0**	**+2.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.3s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.76**	**261**	Pn	**Pn**	**22 46 45.6**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.76**	**261**	*e*P	**Pn**	**22 46 46.3**	**+1.4**
YSS				AMB	AMB	22 46 48.0	
	comp=Z,20nm,0.3s						
UGL	**Uglegorsk**	**8.78**	**275**	*e*PN	**Pn**	**22 46 48.3**	**+3.1**
UGL				pmax	pmax		
	comp=Z,60nm,0.8s						
UGL	**Uglegorsk**	**8.78**	**275**	*e*P	**Pn**	**22 46 47.7**	**+2.5**
UGL				AMB	AMB	22 46 49.0	
	comp=Z,60nm,0.8s						
NMR	**Nemuro--Hokkai**	**8.81**	**233**	*e*PN	**Pn**	**22 46 42.8**	**-2.8**
NMR	**Nemuro--Hokkai**	**8.81**	**233**	*e*P	**Pn**	**22 46 42.8**	**-2.8**
JKA	**Kamikawa-asahi**	**10.12**	**246**	Pn	**Pn**	**22 47 05.5**	**+2.0**
JKA	**Kamikawa-asahi**	**10.12**	**246**	*e*P	**Pn**	**22 47 05.5**	**+2.0**
ASAJ	**Asahikawa**	**10.12**	**246**	P	**Pn**	**22 47 03.9**	**+0.4**
	comp=Z,2.8nm,0.3s,baz=68,slow=15,SNR=9.5						
ASAJ				LR	LR	22 50 33.0	
	comp=Z,189nm,20.9s,baz=54,slow=35						
ASAJ	**Asahikawa**	**10.12**	**246**	PN	**Pn**	**22 47 05.5**	**+2.0**
MA2	**Magadan**	**10.88**	**347**	*ce*PN	**Pn**	**22 47 13.3**	**-0.5**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MA2	**Magadan**	**10.88**	**347**	Pn	**Pn**	**22 47 13.3**	**-0.5**
MA2	**Magadan**	**10.88**	**347**	*e*P	**Pn**	**22 47 13.3**	**-0.5**
ERM	**Erimo**	**11.11**	**235**	*i* PN	**Pn**	**22 47 15.8**	**-1.2**
ERM	**Erimo**	**11.11**	**235**	Pn	**Pn**	**22 47 16.0**	**-1.0**
JEW	**Eniwo**	**11.54**	**243**	Pn	**Pn**	**22 47 22.6**	**-0.3**
SHEM	**Shemya Is, Ala**	**12.34**	**66**	P	**Pn**	**22 47 33.0**	**-0.8**
	comp=Z,19nm,0.3s,baz=133,slow=0.8,SNR=13						
SHEM				LR	LR	22 52 02.0	
	comp=Z,123nm,21.6s,baz=268,slow=35						
SMY	**Shemya**	**12.34**	**66**	PN	**Pn**	**22 47 33.2**	**-0.5**
SMY	**Shemya**	**12.34**	**66**	Pn	**Pn**	**22 47 33.2**	**-0.5**
GRNR	**Gornyy**	**12.37**	**285**	*e*PN	**Pn**	**22 47 37.0**	**+2.8**
GRNR				MLR	MLR		
	comp=N,60nm,14.0s						
GRNR				MLR	MLR		
	comp=E,160nm,14.0s						
GRNR	**Gornyy**	**12.37**	**285**	*e*P	**Pn**	**22 47 37.0**	**+2.8**
SEY	**Seymchan**	**14.01**	**354**	P	**Pn**	**22 47 56.1**	**-0.1**
	comp=E,0.5nm,0.3s,baz=161,slow=10,SNR=32						
SEY				LR	LR	22 53 47.2	
	comp=E,170nm,20.0s,baz=212,slow=40						
JMM	**Marumori**	**15.40**	**229**	Pn	**Pn**	**22 48 11.7**	**-2.6**
KLR	**Kul'dur**	**15.49**	**280**	P	**Pn**	**22 48 14.9**	**-0.6**
	comp=E,0.1nm,0.3s,baz=85,slow=13,SNR=11						
KLR				LR	LR	22 54 13.2	
	comp=E,264nm,21.5s,baz=92,slow=38						
KLR	**Kul'dur**	**15.49**	**280**	*ce*P	**Pn**	**22 48 14.7**	**-0.7**
KLR	**Kul'dur**	**15.49**	**280**	*e*P	**Pn**	**22 48 14.1**	**-1.3**
USA0B	**Ussuriysk Arra**	**16.79**	**262**	P	**Pn**	**22 48 31.9**	**0.0**
USA0B				pmax	pmax		
	comp=Z,25nm,1.5s						
USA0B	**Ussuriysk Arra**	**16.79**	**262**		**Pn**	**22 48 31.9**	**0.0**
USRK	**Ussuriysk Ar.**	**16.79**	**262**	P	**Pn**	**22 48 31.9**	**0.0**
	baz=60,slow=13,SNR=9.5						
USRK				LR	LR	22 54 43.5	
	comp=Z,108nm,19.8s,baz=47,slow=36						
USRK	**Ussuriysk Ar.**	**16.79**	**262**	Pn	**Pn**	**22 48 30.4**	**-1.5**
MAJO	**Matsushiro**	**17.73**	**232**	‖*i*P	**P**	**22 48 44.6**	**+1.1**
MAJO	**Matsushiro**	**17.73**	**232**		**Pn**	**22 48 41.5**	**-1.9**
MAT	**Matsushiro**	**17.73**	**232**	P	**Pn**	**22 48 41.7**	**-1.7**
MJAR	**Matsushiro Arr**	**17.73**	**232**	P	**P**	**22 48 44.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=18,slow=14,SNR=11						
MJAR				LR	LR	22 55 41.8	
	comp=Z,71nm,19.8s,baz=11,slow=37						
MJAR	**Matsushiro Arr**	**17.73**	**232**		**Pn**	**22 48 42.4**	**-1.0**
ZEA	**Zeya**	**18.14**	**296**	*e*P	**Pn**	**22 48 49.7**	**+1.5**
ZEA				pmax	pmax		
	comp=E,20nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.1s						
ZEA				MLR	MLR		
	comp=Z,100nm,16.0s						
ZEA	**Zeya**	**18.14**	**296**	*e*P	**Pn**	**22 48 49.7**	**+1.5**
ZEA				AMB	AMB	22 49 03.9	
	comp=Z,20nm,1.0s						
MDJ	**Mudanjiang**	**18.19**	**266**	P	**P**	**22 48 47.5**	**-1.0**
MDJ				pmax	pmax		
	comp=Z,13nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,190nm,3.5s						
MDJ	**Mudanjiang**	**18.19**	**266**	P	**P**	**22 48 46.1**	**-2.4**
JGF	**Kuroka**	**18.89**	**231**	P	**P**	**22 48 55.0**	**-1.3**
INU	**Inuyama**	**19.26**	**232**	P	**P**	**22 48 59.9**	**-0.4**
YAK	**Yakutsk**	**19.34**	**322**	P	**P**	**22 49 00.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=283,slow=0.8,SNR=33						
YAK				LR	LR	22 56 11.6	
	comp=Z,140nm,20.9s,baz=89,slow=36						
YAK	**Yakutsk**	**19.34**	**322**	*e*P	**Pn**	**22 49 02.0**	**-0.6**
YAK				*e*S	**S**	**22 52 36.4**	**+0.2**
YAK				pmax	pmax		
	comp=Z,101nm,1.0s						
YAK				pmax	pmax		
	comp=N,14nm,1.0s						
YAK				pmax	pmax		
	comp=E,17nm,1.1s						
YAK				smax	smax		
	comp=E,60nm,3.0s						
YAK				smax	smax		
	comp=N,84nm,2.8s						
YAK	**Yakutsk**	**19.34**	**322**	P	**P**	**22 48 59.9**	**-1.1**
YAK	**Yakutsk**	**19.34**	**322**	*e*P	**Pn**	**22 49 02.0**	**-0.6**
BILL	**Bilibino**	**19.80**	**12**	‖*e*P	**P**	**22 49 04.3**	**-1.6**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,49nm,15.0s						
BILL	**Bilibino**	**19.80**	**12**	P	**P**	**22 49 04.6**	**-1.3**
BILL	**Bilibino**	**19.80**	**12**	*e*P	**P**	**22 49 04.3**	**-1.6**
JWT	**Wachi**	**20.16**	**234**	P	**P**	**22 49 09.6**	**-0.5**
JWT				IAmb	IAmb	22 49 20.1	
	comp=Z,72nm,1.5s						
KSRS	**Korea Array**	**23.02**	**250**	P	**P**	**22 49 40.0**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=49,slow=9.9,SNR=11						
KSRS				LR	LR	22 57 54.7	
	comp=Z,84nm,19.3s,baz=35,slow=35						
KS19	**Wonju Array Si**	**23.02**	**250**	P	**P**	**22 49 40.0**	**-0.6**
KS19				IAmb	IAmb	22 49 55.7	
	comp=Z,34nm,1.3s						
GAMB	**Gambell**	**23.04**	**38**	P	**P**	**22 49 40.2**	**-0.3**
GAMB				IAmb	IAmb	22 50 08.6	
	comp=Z,30nm,1.4s						
JNU	**Nakatsue**	**24.25**	**238**	LR	LR	22 59 21.5	
	comp=Z,50nm,18.4s,baz=64,slow=36						
JNU	**Nakatsue**	**24.25**	**238**	P	**P**	**22 49 51.9**	**-0.1**
JNU				IAmb	IAmb	22 50 08.4	
	comp=Z,26nm,1.1s						
TIXI	**Tiksi**	**25.74**	**341**	P	**P**	**22 50 02.9**	**-2.3**
	comp=Z,6.2nm,0.8s,baz=135,slow=9.6,SNR=19						
TIXI				LR	LR	23 00 48.0	
	comp=Z,87nm,18.1s,baz=196,slow=38						
TIXI	**Tiksi**	**25.74**	**341**	*ce*P	**P**	**22 50 02.2**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIXI	**Tiksi**	**25.74**	**341**	P	**P**	**22 50 03.5**	**-1.6**
TIXI				IAmb	IAmb	22 50 23.1	
	comp=Z,20nm,0.9s						
TIXI	**Tiksi**	**25.74**	**341**	*e*P	**P**	**22 50 02.2**	**-2.9**
BOD	**Bodaibo**	**25.82**	**306**	*e*P	**P**	**22 50 07.9**	**+1.9**
BOD				pmax	pmax		
	comp=Z,13nm,1.6s						
XLT	**XiLinHaoTe**	**27.36**	**274**	*e*P	**P**	**22 50 19.4**	**-0.7**
XLT				pP	pP	22 50 31.8	-3.6
XLT				sP	sP	22 50 39.6	-3.3
XLT				sS	sS	22 55 14.3	-7.3
XLT				SS	**SnSn**	**22 56 11.7**	**+1.9**
XLT				pmax	pmax		
	comp=Z,13nm,1.0s						
XLT				pmax	pmax		
	comp=Z,150nm,4.5s						
XLT				LR	LR		
	comp=Z,190nm,10.5s						
XLT				LR	LR		
	comp=Z,260nm,12.4s						
XLT				LR	LR		
	comp=Z,210nm,14.3s						
TTA	**Tatalina**	**29.67**	**44**	P	**P**	**22 50 41.0**	**+0.6**
TTA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TTA	**Tatalina**	**29.67**	**44**	P	**P**	**22 50 41.0**	**+0.6**
JOW	**Kunigami**	**30.55**	**233**	LR	LR	23 02 40.8	
	comp=Z,40nm,21.5s,baz=38,slow=35						
JOW	**Kunigami**	**30.55**	**233**	P	**P**	**22 50 49.3**	**+0.9**
JOW				IAmb	IAmb	22 51 15.2	
	comp=Z,20nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**30.67**	**158**	T	T	23 23 19.9	
	baz=345,slow=76,SNR=117						
H11N1	**WAKE ISLAND Hy**	**30.69**	**158**	T	T	23 23 19.0	
	baz=345,slow=76,SNR=169						
H11N3	**WAKE ISLAND Hy**	**30.69**	**158**	T	T	23 23 17.3	
	baz=345,slow=76,SNR=138						
IMAR	**Indian Mountai**	**30.99**	**38**	P	**P**	**22 50 52.8**	**+0.9**
PPLA	**Purkeypile**	**31.41**	**44**	P	**P**	**22 50 57.3**	**+1.4**
PPLA				IAmb	IAmb	22 51 19.6	
	comp=Z,20nm,1.5s						
HNS	**HongShan**	**31.51**	**264**	⇑P	**P**	**22 50 57.6**	**+0.8**
HNS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**31.73**	**272**	*e*P	**P**	**22 50 58.9**	**0.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,69nm,6.5s						
H11S1	**WAKE ISLAND Hy**	**31.80**	**159**	T	T	23 24 39.7	
	baz=346,slow=76,SNR=2290						
H11S3	**WAKE ISLAND Hy**	**31.82**	**159**	T	T	23 24 43.6	
	baz=346,slow=76,SNR=2977						
H11S2	**WAKE ISLAND Hy**	**31.82**	**159**	T	T	23 24 41.1	
	baz=346,slow=76,SNR=2021						
CNPM	**China Poot**	**31.98**	**51**	P	**P**	**22 51 01.0**	**+0.2**
KTH	**Kantishna Hill**	**32.00**	**43**	P	**P**	**22 51 01.8**	**+0.9**
SONM	**Songino Array**	**32.10**	**287**	P	**P**	**22 51 01.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=88,slow=8.6,SNR=2.4						
SONM				pPcP		22 54 06.3	
	comp=Z,1.3nm,0.7s,baz=92,slow=1.8,SNR=7.5						
SONM				LR	LR	23 05 30.5	
	comp=Z,126nm,18.1s,baz=63,slow=39						
NJ2	**Nanjing**	**32.18**	**252**	*e*P	**P**	**22 51 02.0**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
COLD	**Coldfoot**	**32.55**	**36**	P	**P**	**22 51 06.1**	**+0.5**
COLD				IAmb	IAmb	22 51 10.3	
	comp=Z,4.9nm,0.6s						
COLD	**Coldfoot**	**32.55**	**36**	P	**P**	**22 51 06.2**	**+0.6**
	baz=264						
RND	**Reindeer**	**32.93**	**43**	P	**P**	**22 51 09.0**	**0.0**
RND				pmax	pmax		
	comp=Z,27nm,1.4s						
RND	**Reindeer**	**32.93**	**43**	P	**P**	**22 51 09.0**	**0.0**
TOLK	**Toolik Lake Re**	**32.96**	**33**	P	**P**	**22 51 09.4**	**+0.1**
TOLK				IAmb	IAmb	22 51 24.9	
	comp=Z,4.9nm,0.6s						
TOLK	**Toolik Lake Re**	**32.96**	**33**	P	**P**	**22 51 10.0**	**+0.8**
	baz=262,SNR=6.0						
SML	**Sawmill**	**33.23**	**46**	P	**P**	**22 51 12.7**	**+1.0**
	baz=274						
COLA	**College**	**33.36**	**40**	*i* P	**P**	**22 51 12.3**	**-0.4**
COLA				pmax	pmax		
	comp=Z,58nm,4.3s						
H24K	**Noodor Dome**	**33.37**	**39**	P	**P**	**22 51 14.2**	**+1.3**
	baz=268						
CCB	**Clear Creek Bu**	**33.38**	**41**	P	**P**	**22 51 13.5**	**+0.6**
CCB				IAmb	IAmb	22 51 22.2	
	comp=Z,14nm,1.5s						
POKR	**Poker Plat Res**	**33.54**	**40**	P	**P**	**22 51 14.6**	**+0.3**
POKR				IAmb	IAmb	22 51 20.1	
	comp=Z,11nm,1.0s						
HDA	**Harding Lake**	**33.75**	**41**	P	**P**	**22 51 16.5**	**+0.4**
HDA				IAmb	IAmb	22 51 31.7	
	comp=Z,7.5nm,0.6s						
HDA	**Harding Lake**	**33.75**	**41**	P	**P**	**22 51 16.5**	**+0.4**
	baz=271						
IL31		**33.78**	**41**	P	**P**	**22 51 16.6**	**+0.4**
IL31				IAmb	IAmb	22 51 32.5	
	comp=Z,4.0nm,0.7s						
ILAR	**Eielson Array**	**33.78**	**41**	P	**P**	**22 51 16.9**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=253,slow=6.8,SNR=14						
ILAR				pP	**pP**	**22 51 31.1**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=264,slow=5.0,SNR=11						
ILAR	**Eielson Array**	**33.78**	**41**	P	**P**	**22 51 17.1**	**+0.7**
BMAR	**Burnt Mountain**	**34.73**	**36**	P	**P**	**22 51 26.0**	**+1.4**
SCRK	**Sand Creek**	**35.07**	**42**	P	**P**	**22 51 28.1**	**+0.4**
	baz=275						
M26K	**Nabesna, AK**	**35.67**	**45**	P

comp=Z,1.4nm,0.8s,baz=70,slow=4.9,SNR=5.1
ZALV pPcP 22 54 37.7
comp=Z,4.3nm,0.8s,baz=72,slow=3.4,SNR=13
ZALV LR LR 23 09 45.3
comp=Z,75nm,20.6s,baz=47,slow=36
ZALV Zalesovo Beam 42.56 304 *i* P **P 22 52 29.0 -1.2**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
DGZ Jazzator, Alta 42.88 298 *i* P **P 22 52 31.5 -1.5**
DGZ pmax pmax
comp=Z,10.0nm,3.5s
DLBC Dease Lake 42.88 48 P **P 22 52 34.8 +2.0**
comp=Z,5.4nm,0.9s,baz=288,slow=9.1,SNR=5.2
GOMU GeErMu 45.26 277 P **P 22 52 52.0 -0.5**
GOMU pmax pmax
comp=Z,6.0nm,0.7s
WMQ Urumqi 45.57 290 *e*P **P 22 52 55.9 +1.4**
EUNU Eureka 46.55 12 P **P 22 53 01.9 +0.1**
EUNU IAmb IAmb 22 53 16.9
comp=Z,5.7nm,0.8s
PZH PanZhiHua 46.89 262 P **P 22 53 04.8 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,5.3s
MK31 Makanchi Array 47.29 297 P **P 22 53 06.3 -1.6**
MK31 pmax pmax
comp=Z,4.0nm,1.2s
MK31 Makanchi Array 47.29 297 P **P 22 53 06.3 -1.6**
MKAR Makanchi Array 47.29 297 P **P 22 53 06.5 -1.4**
comp=Z,2.2nm,0.6s,baz=68,slow=7.8,SNR=26
MKAR pPcP **PcP 22 54 39.0 +1.1**
comp=Z,0.3nm,0.3s,baz=66,slow=4.6,SNR=6.2
MKAR pPcP 22 54 54.0
comp=Z,1.6nm,0.8s,baz=46,slow=3.9,SNR=4.0
MKAR LR LR 23 14 22.0
comp=Z,136nm,18.2s,baz=37,slow=38
MKAR Makanchi Array 47.29 297 P **P 22 53 05.9 -2.0**
KURK Kurchatov 47.41 303 *ce*P **P 22 53 06.4 -2.3**
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 47.41 303 P **P 22 53 07.2 -1.4**
KURK IAmb IAmb 22 53 08.8
comp=Z,6.4nm,0.9s
KURK Kurchatov 47.41 303 *e*P **P 22 53 06.4 -2.3**
MAKZ Makanchi 47.47 297 P **P 22 53 07.6 -1.6**
MAKZ pmax pmax
comp=Z,4.0nm,1.3s
MAKZ Makanchi 47.47 297 P **P 22 53 07.6 -1.6**
KURBB Kurchatov Arra 47.50 303 LR LR 23 13 55.8
comp=Z,76nm,19.1s,baz=48,slow=37
YKA Yellowknife Ar 48.14 39 P **P 22 53 15.3 +1.1**
comp=Z,2.1nm,0.7s,baz=297,slow=7.6,SNR=27
YKA pP **pP 22 53 30.0 -0.4**
comp=Z,4.4nm,0.7s,baz=293,slow=6.7,SNR=16
YKA Yellowknife Ar 48.14 39 P **P 22 53 14.5 +0.3**
RES Resolute Bay 48.15 20 LR LR 23 16 40.9
comp=Z,92nm,18.4s,baz=45,slow=40
RES Resolute Bay 48.15 20 P **P 22 53 14.6 +0.6**
RES pmax pmax
comp=Z,3.0nm,1.1s
RES Resolute Bay 48.15 20 P **P 22 53 14.6 +0.6**
BRVK Borovoye 50.65 309 *ce*P **P 22 53 31.4 -2.0**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 50.65 309 P **P 22 53 32.5 -0.9**
BRVK Borovoye 50.65 309 *e*P **P 22 53 31.4 -2.0**
LSA Lhasa 51.71 273 P **P 22 53 42.7 +0.4**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 51.71 273 P **P 22 53 42.7 +0.4**
LSA IAmb IAmb 22 53 45.3
comp=Z,6.2nm,0.7s
BOOM Boomskoye usch 53.44 295 P **P 22 53 53.4 -1.2**
BOOM pmax pmax
comp=Z,9.0nm,1.0s
BOOM Boomskoye usch 53.44 295 P **P 22 53 53.4 -1.2**
BOOM IAmb IAmb 22 54 10.6
comp=Z,9.0nm,1.0s
EDM Edmonton 53.60 48 P **P 22 53 55.7 +0.3**
EDM pmax pmax
comp=Z,8.0nm,0.9s
EDM Edmonton 53.60 48 P **P 22 53 55.7 +0.3**
EDM IAmb IAmb 22 53 57.4
comp=Z,8.4nm,0.9s
CHTO Chiang Mai 54.16 257 P **P 22 53 59.8 -0.1**
CHTO pmax pmax
comp=Z,12nm,1.2s
CHTO Chiang Mai 54.16 257 P **P 22 53 59.8 -0.1**
CHTO IAmb IAmb 22 54 03.3
comp=Z,12nm,1.1s
AAK Ala-Archa 54.21 296 LR LR 23 18 21.1
comp=Z,113nm,18.1s,baz=40,slow=37
AAK Ala-Archa 54.21 296 *i* P **P 22 53 58.8 -1.4**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 54.21 296 *e*P **P 22 53 58.8 -1.4**
ARU Arti 54.37 317 *d i*P **P 22 53 59.4 -1.4**
ARU S **S 23 01 34.3 +0.3**
ARU SS **SKiKP 23 05 10.3 +5.9**
ARU pmax pmax
comp=Z,13nm,1.3s
ARU Arti 54.37 317 P **P 22 53 59.5 -1.4**
ARU Arti 54.37 317 *e*P **P 22 53 59.6 -1.3**
CM31 Chiang Mai Arr 54.43 257 P **P 22 54 01.6 -0.2**
CM31 IAmb IAmb 22 54 05.6
comp=Z,7.8nm,1.0s
CMAR Chiang Mai Arr 54.43 257 P **P 22 54 02.2 +0.4**
comp=Z,1.4nm,0.4s,baz=29,slow=7.2,SNR=22
E09A Wood Farm, Sta 55.04 57 P **P 22 54 07.0 +1.1**
E09A IAmb IAmb 22 54 08.3
comp=Z,7.0nm,0.9s
PINE Pine Mountain 55.09 61 P **P 22 54 08.8 +2.3**
PINE IAmb IAmb 22 54 34.1
comp=Z,11nm,1.4s
J05D Fort Rock, OR 55.23 62 P **P 22 54 10.3 +2.8**
baz=308,SNR=7.0
L04D Klamath Falls 55.25 64 P **P 22 54 09.8 +2.2**
baz=308
YBH Yreka Blue Hor 55.30 64 LR LR 23 16 31.9
comp=Z,26nm,18.5s,baz=304,slow=34
YBH Yreka Blue Hor 55.30 64 P **P 22 54 10.2 +2.2**
K05A Summer Lake 55.77 62 P **P 22 54 13.7 +2.3**
M04C Macdoel 55.79 64 P **P 22 54 14.0 +2.5**
baz=308
ARCES ARCESS Array B 56.18 341 P **P 22 54 13.2 -0.6**
comp=Z,2.1nm,0.8s,baz=35,slow=7.7,SNR=8.1
ARCES LR LR 23 21 38.7
comp=Z,137nm,18.5s,baz=50,slow=40
KKAR Karatay Array 56.26 299 P **P 22 54 14.0 -0.7**
KKAR Karatay Array 56.26 299 P **P 22 54 14.0 -0.7**
GUN Gumba 56.35 275 *e*P **P 22 54 17.0 +1.0**
comp=Z,21nm,0.6s
BMO Blue Mountains 56.51 58 P **P 22 54 18.1 +1.5**
BMO IAmb IAmb 22 54 19.5
comp=Z,6.7nm,1.2s
MOD Modoc Plateau 56.62 63 P **P 22 54 18.7 +1.2**
MOD IAmb IAmb 22 54 39.0
comp=Z,7.3nm,0.9s
KKN Kakani 56.83 275 *e*P **P 22 54 20.7 +1.5**
comp=Z,19nm,0.6s
KIRV Kirov 56.87 323 LR LR 23 20 20.1
comp=Z,58nm,20.1s,baz=45,slow=38
PKIN Phulchoki 56.89 275 *e*P **P 22 54 21.0 +1.3**
comp=Z,8.2nm,0.6s
DMN Daman 57.06 275 *e*P **P 22 54 21.6 +0.7**
comp=Z,28nm,0.9s
PLID Pearl Lake 57.09 58 P **P 22 54 22.6 +1.7**
GKN Gorkha 57.10 276 *e*P **P 22 54 21.8 +0.7**
comp=Z,29nm,0.8s
MSO Missoula 57.14 55 P **P 22 54 22.0 +1.0**
MSO IAmb IAmb 22 54 23.4
comp=Z,6.3nm,1.1s
MSO Missoula 57.14 55 P **P 22 54 22.3 +1.3**
baz=309
WVOR Wild Horse Val 57.26 61 P **P 22 54 24.6 +2.7**
WVOR pmax pmax
comp=Z,10.0nm,1.3s
ORV Oroville 57.38 66 P **P 22 54 23.5 +0.9**
ORV pmax pmax
comp=Z,7.0nm,1.4s
ORV Oroville 57.38 66 P **P 22 54 23.5 +0.9**
ORV IAmb IAmb 22 54 24.4
comp=Z,7.4nm,1.4s
DANN Dangsing 57.45 277 *e*P **P 22 54 25.1 +1.5**
comp=Z,23nm,0.6s

BTK Batken 57.98 296 P **P 22 54 26.0 -1.0**
BTK pmax pmax
comp=Z,6.0nm,1.4s
BTK Batken 57.98 296 P **P 22 54 25.9 -1.0**
BTK IAmb IAmb 22 54 28.0
comp=Z,6.1nm,1.4s
PYUN Piuthan 58.12 277 *e*P **P 22 54 29.8 +1.6**
comp=Z,7.3nm,0.5s
ABKAR Akbulak array 58.15 310 P **P 22 54 26.6 -1.3**
ABKAR IAmb IAmb 22 54 28.3
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 58.15 310 P **P 22 54 26.2 -1.6**
SUMG Summit 58.28 5 P **P 22 54 28.8 -0.1**
SUMG pmax pmax
comp=Z,24nm,1.5s
SUMG Summit 58.28 5 *i* P **P 22 54 28.0 -0.9**
SUMG Summit 58.28 5 P **P 22 54 28.8 -0.1**
HRY Holter Researc 58.34 54 P **P 22 54 30.8 +1.3**
AKTO Aktyubinsk 58.35 312 LR LR 23 19 57.4
comp=Z,60nm,19.5s,slow=36
HNR Honiara 58.37 175 LR LR 23 14 33.1
comp=Z,48nm,20.9s,baz=317,slow=31
FCC Fort Churchill 58.48 35 P **P 22 54 30.3 +0.3**
FCC pmax pmax
comp=Z,4.0nm,0.8s
FCC Fort Churchill 58.48 35 P **P 22 54 30.2 +0.3**
FCC IAmb IAmb 22 54 33.7
comp=Z,4.5nm,0.8s
PAHR Pah Rah Range 58.54 64 P **P 22 54 32.6 +1.6**
LRM Limekiln Ridge 58.57 55 P **P 22 54 32.9 +1.7**
EGMT Eagleton 58.59 52 P **P 22 54 32.2 +1.1**
baz=310
PNTR Pine Nut 58.81 65 P **P 22 54 35.2 +2.3**
KLMR Klimovskoe 58.94 329 *e*P **P 22 54 31.5 -1.6**
KLMR pmax pmax
comp=Z,6.0nm,1.1s
KLMR Klimovskoe 58.94 329 *e*P **P 22 54 31.5 -1.6**
KLMR AMP 22 54 40.8
comp=Z,6.0nm,1.1s
HLID Hailey 58.94 58 P **P 22 54 34.5 +0.7**
HLID IAmb IAmb 22 54 37.5
comp=Z,5.8nm,1.1s
HLID Hailey 58.94 58 P **P 22 54 35.9 +2.2**
baz=310,SNR=5.5
GAR Garm 58.96 295 P **P 22 54 32.4 -1.5**
GAR IAmb IAmb 22 54 52.6
comp=Z,6.8nm,1.1s
MCMT McKenzie Canyo 58.99 56 P **P 22 54 35.3 +1.1**
BCYI Bear Canyon 59.02 57 P **P 22 54 35.6 +1.3**
YERR Yerington 59.09 65 P **P 22 54 36.0 +1.2**
YERR IAmb IAmb 22 54 37.9
comp=Z,4.8nm,0.8s
BOZ Bozeman (W) 59.16 55 P **P 22 54 37.0 +1.8**
BOZ Bozeman (W) 59.16 55 P **P 22 54 37.1 +1.9**
baz=310,SNR=11
BMN Battle Mountai 59.35 62 P **P 22 54 37.7 +1.2**
KVN Kaiserville 59.73 64 P **P 22 54 40.4 +1.2**
KVN IAmb IAmb 22 54 41.8
comp=Z,5.5nm,0.9s
CHGR Chuyangaron 59.87 295 P **P 22 54 38.3 -1.8**
NVAR Mina Array Bea 60.01 65 P **P 22 54 43.5 +2.3**
comp=Z,3.3nm,0.8s,baz=295,slow=7.1,SNR=18
NVAR Mina Array Bea 60.01 65 P **P 22 54 42.6 +1.4**
GCMT Greycliff 60.08 54 P **P 22 54 43.2 +1.8**
NV11 Mina Array Sit 60.10 65 P **P 22 54 43.3 +1.6**
ELK Elko 60.29 61 LR LR 23 21 16.9
comp=Z,22nm,18.3s,baz=3.0,slow=36
H17A Grant Village 60.51 55 P **P 22 54 48.3 +3.7**
baz=311,SNR=7.3
NIL Nilore 60.66 289 P **P 22 54 44.7 -0.7**
NIL pmax pmax
comp=Z,6.0nm,0.9s
NIL Nilore 60.66 289 P **P 22 54 44.7 -0.7**
NIL IAmb IAmb 22 54 46.1
comp=Z,6.1nm,0.9s
RLMT Red Lodge 60.73 54 P **P 22 54 47.6 +1.6**
RLMT Red Lodge 60.73 54 P **P 22 54 48.4 +2.3**
baz=312,SNR=7.4
CWC Cottonwood Cre 61.45 66 P **P 22 54 52.5 +1.6**
baz=312
R11A Troy Canyon, C 61.67 63 P **P 22 54 53.5 +1.0**
R11A IAmb IAmb 22 54 54.7
comp=Z,4.3nm,1.0s
R11A Troy Canyon, C 61.67 63 P **P 22 54 54.1 +1.6**
baz=312,SNR=7.8
DUG Dugway, Tooele 62.05 60 P **P 22 54 57.4 +2.5**
DUG pmax pmax
comp=Z,9.0nm,1.2s
DUG Dugway, Tooele 62.05 60 P **P 22 54 57.0 +2.1**
baz=312,SNR=7.7
MPMC Manual Prospec 62.06 66 P **P 22 54 56.7 +1.6**
baz=312
BW06 Boulder Array 62.14 56 P **P 22 54 57.6 +2.0**
baz=312,SNR=11
PD31 Pinedale Array 62.14 56 P **P 22 54 55.7 +0.1**
PD31 IAmb IAmb 22 54 58.3
comp=Z,7.7nm,0.9s
PDAR Pinedale Array 62.14 56 P **P 22 54 57.4 +1.7**
comp=Z,5.8nm,0.8s,baz=320,slow=2.3,SNR=46
PDAR Pinedale Array 62.14 56 P **P 22 54 56.7 +1.1**
FURC Furnace Creek, 62.16 66 P **P 22 54 57.9 +2.5**
baz=312,SNR=5.1
TPNV Topopah Spring 62.21 65 P **P 22 54 57.7 +1.7**
TPNV IAmb IAmb 22 54 58.9
comp=Z,3.8nm,1.0s
TPNV Topopah Spring 62.21 65 P **P 22 54 58.1 +2.1**
baz=312,SNR=6.1
FRB Frobisher Bay 62.35 20 P **P 22 54 54.7 -1.6**
FRB pmax pmax
comp=Z,8.0nm,0.8s
FIA1 FINESS Array S 62.61 335 P **P 22 54 55.8 -2.2**
FINES FINESS Array B 62.61 335 P **P 22 54 56.1 -2.0**
comp=Z,1.2nm,0.5s,baz=32,slow=7.5,SNR=12
FINES LR LR 23 24 22.8
comp=Z,118nm,18.4s,baz=28,slow=38
FINES FINESS Array B 62.61 335 P **P 22 54 55.7 -2.4**
HEC Hector,Ludlow 63.58 67 P **P 22 55 06.8 +1.7**
baz=313,SNR=5.0
RDMU Red Mountain 63.62 58 P **P 22 55 07.3 +1.9**
COEN Coen 63.67 193 P **P 22 55 06.2 +0.6**
COEN IAmb IAmb 22 55 12.4
comp=Z,11nm,1.3s
GMRC Granite Mounta 64.02 66 P **P 22 55 10.0 +1.9**
baz=313
RSSD Black Hills 64.16 52 P **P 22 55 09.7 +0.8**
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD Black Hills 64.16 52 P **P 22 55 09.7 +0.8**
RSSD IAmb IAmb 22 55 11.2
comp=Z,9.2nm,0.8s
RSSD Black Hills 64.16 52 P **P 22 55 10.0 +1.1**
baz=314
OBN Obninsk 64.28 326 ⇓ *e*P **P 22 55 07.3 -1.9**
OBN *PP **pP 22 55 27.0 +0.9**
OBN *SP **sP 22 55 36.0 +2.8**
OBN 22 55 44.0
OBN SS SS 23 07 48.0 -3.2
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,94nm,18.0s
OBN Obninsk 64.28 326 *e*P **P 22 55 07.2 -1.9**
IRM Iron Mountain 64.76 66 P **P 22 55 14.6 +1.9**
baz=314
N23A Red Feather La 65.39 56 P **P 22 55 19.1 +2.1**
baz=315
PV17 East Wray Mesa 65.54 59 P **P 22 55 18.9 +0.9**
SMCO Snowmass 66.03 57 P **P 22 55 22.6 +1.3**
SMCO IAmb IAmb 22 55 23.8
comp=Z,5.6nm,0.8s
WUAZ Wupatki 66.06 63 P **P 22 55 23.5 +2.2**
baz=314
ISCO Idaho Springs 66.34 56 P **P 22 55 23.4 +0.2**
ISCO pmax pmax
comp=Z,8.0nm,0.9s
ISCO Idaho Springs 66.34 56 P **P 22 55 23.4 +0.2**
ISCO IAmb IAmb 22 55 26.2
comp=Z,7.9nm,0.9s
ISCO Idaho Springs 66.34 56 P **P 22 55 25.3 +2.1**
baz=315,SNR=9.5
NC204 NORSAR Array S 66.41 342 P **P 22 55 22.6 -0.4**
NOA NORSAR Array B 66.53 342 LR LR 23 28 20.1
comp=Z,50nm,19.7s,baz=280,slow=40
MVCO Mesa Verde 66.55 60 P **P 22 55 26.2 +1.7**
baz=315

GEYT Alibeck 66.75 301 LR LR 23 26 23.7
comp=Z,74nm,19.5s,baz=48,slow=38
HFS Hagfors 66.83 340 LR LR 23 26 46.1
comp=Z,50nm,18.2s,baz=43,slow=38
S22A 4UR Ranch, Cre 67.11 58 P **P 22 55 30.4 +2.3**
baz=315,SNR=5.5
X18A Snowflake 67.59 63 P **P 22 55 32.5 +1.5**
X18A IAmb IAmb 22 55 34.7
comp=Z,7.3nm,1.2s
MNK Minsk 67.79 330 *i* P **P 22 55 29.8 -1.9**
MNK *i* *PP **pP 22 55 48.3 -0.5**
MNK *i* S **S 23 04 25.4 +0.9**
MNK *i* SS **SS 23 08 45.5 -0.2**
MNK pmax pmax
comp=Z,7.0nm,1.0s
MNK MLR MLR
comp=E,17nm,32.0s
MNK MLR MLR
comp=N,270nm,25.0s
MNK MLR MLR
comp=Z,298nm,25.0s
MNK Minsk 67.79 330 *i* P **P 22 55 29.8 -1.9**
MNK *i* P **P 22 55 29.8 -1.9**
MNK *i* P **P 22 55 29.8 -1.9**
comp=Z,7.0nm,1.0s,baz=214
MNK *i* pP **pP 22 55 48.4 -0.4**
MNK *i* PP PP 22 57 47.0 -14
MNK *i* PPP PPP 22 59 58.4
MNK *i* S **S 23 04 25.4 +1.0**
MNK *i* SS **SS 23 08 45.5 -0.2**
MNK *i* SSS SSS 23 12 00.9
MNK *i* LQ LQ 23 20 30.5
MNK *i* LR LR 23 23 49.0
MNK *i* LRM MLR 23 27 27.8
comp=E,17nm,32.4s
MNK *i* LRM MLR 23 27 32.4
comp=N,270nm,24.6s
MNK *i* LRM MLR 23 27 39.5
comp=Z,298nm,24.9s
SDCO Great Sand Dun 67.86 58 P **P 22 55 34.4 +1.6**
baz=316
ECSD EROS Data Cent 68.17 48 P **P 22 55 34.1 -0.2**
ECSD IAmb IAmb 22 55 35.4
comp=Z,4.0nm,0.8s
ECSD EROS Data Cent 68.17 48 P **P 22 55 34.9 +0.6**
baz=318
TUC Tucson 68.66 65 P **P 22 55 39.5 +1.8**
baz=316
T25A Trinidad 68.89 57 P **P 22 55 40.9 +1.7**
baz=316
AFI Afiamalu 69.08 146 LR LR 23 18 07.8
comp=Z,39nm,21.8s,baz=42,slow=29
ANMO Albuquerque 69.31 60 P **P 22 55 43.4 +1.5**
ANMO Albuquerque 69.31 60 P **P 22 55 43.6 +1.8**
baz=316
MSVF Nonsavu 69.47 157 LR LR 23 18 34.0
comp=Z,78nm,21.7s,baz=33,slow=29
KBZ Khabaz 70.36 315 P **P 22 55 46.9 -0.9**
comp=Z,2.9nm,1.0s,baz=95,slow=2.4,SNR=4.8
KBZ LR LR 23 29 12.2
comp=Z,69nm,18.2s,baz=21,slow=38
AKASG Malin Array Be 70.48 327 P **P 22 55 45.8 -2.6**
comp=Z,0.7nm,0.5s,baz=34,slow=6.1,SNR=8.1
AKASG LR LR 23 28 12.8
comp=Z,88nm,18.5s,baz=16,slow=37
AKASG Malin Array Be 70.48 327 *i* P **P 22 55 48.7 +0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 70.48 327 P **P 22 55 47.2 -1.2**
AKBB pmax pmax
comp=Z,7.0nm,1.5s
AKBB Malin Array Si 70.48 327 P **P 22 55 47.2 -1.2**
SCHQ Schefferville 70.57 24 P **P 22 55 48.7 -0.2**
comp=Z,2.0nm,0.3s,baz=5.6,slow=7.5,SNR=9.5
SCHQ pP **pP 22 56 05.0 -1.1**
comp=Z,1.7nm,0.3s,baz=307,slow=2.7,SNR=3.7
SCHQ Schefferville 70.57 24 P **P 22 55 49.0 +0.1**
SCHQ IAmb IAmb 22 56 10.6
comp=Z,9.2nm,1.1s
WB0 Warramunga Arr 71.03 201 P **P 22 55 52.1 +0.1**
WRAB Tennant Creek 71.20 201 *i* P **P 22 55 52.6 -0.5**
WRAB pmax pmax
comp=Z,4.0nm,1.2s
WB2 Warramunga Arr 71.21 201 P **P 22 55 53.5 +0.4**
WB2 IAmb IAmb 22 56 14.0
comp=Z,4.0nm,0.7s
WRA Warramunga Arr 71.21 201 P **P 22 55 53.4 +0.3**
comp=Z,1.8nm,0.8s,baz=16,slow=6.3,SNR=9.8
WRA Warramunga Arr 71.21 201 *i* P **P 22 55 53.7 +0.6**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 71.21 201 P **P 22 55 53.5 +0.3**
DZM Mont Dzumac 71.48 169 LR LR 23 22 24.2
comp=Z,72nm,18.9s,baz=236,slow=32
DZM Mont Dzumac 71.48 169 P **P 22 55 56.1 +1.3**
MNTX Cornudas Mount 72.28 62 P **P 22 56 01.1 +1.5**
baz=317
KWP Kalwaria Pacla 73.62 330 P **P 22 56 07.0 -0.2**
KWP pmax pmax
comp=Z,103nm,1.3s
KWP Kalwaria Pacla 73.62 330 P **P 22 56 07.0 -0.2**
BUR08 Bucovina Ar. S 74.48 328 P **P 22 56 11.3 -1.2**
BURAR Bucovina Array 74.50 328 ⇑P **P 22 56 12.1 -0.5**
BURAR Bucovina Array 74.50 328 P **P 22 56 11.4 -1.1**
BURAR pmax pmax
comp=Z,1.0nm,0.8s
BURAR Bucovina Array 74.50 328 P **P 22 56 11.4 -1.1**
ASAR Alice Springs 74.90 200 P **P 22 56 16.0 +1.1**
comp=Z,1.3nm,0.7s,baz=14,slow=5.6,SNR=10
ASAR pP **pP 22 56 31.9 -0.3**
comp=Z,0.9nm,0.5s,baz=14,slow=5.4,SNR=4.7
ASAR Alice Springs 74.90 200 P **P 22 56 15.6 +0.7**
TESR Tescani 74.92 326 ⇑P **P 22 56 14.2 -0.7**
TX32 Lajitas Array 75.02 63 P **P 22 56 17.3 +1.4**
TXAR Lajitas Array 75.02 63 P **P 22 56 17.4 +1.5**
comp=Z,3.6nm,0.7s,baz=301,slow=4.4,SNR=34
TXAR pP **pP 22 56 33.5 +0.5**
comp=Z,2.0nm,0.6s,baz=300,slow=5.2,SNR=8.1
TXAR Lajitas Array 75.02 63 P **P 22 56 17.0 +1.1**
LANS Liptovska Anna 75.08 332 *e*P **P 22 56 17.2 +1.5**
LANS Liptovska Anna 75.08 332 *e*P **P 22 56 17.2 +1.5**
MORC Moravsky Berou 75.10 333 P **P 22 56 14.7 -1.2**
CCM Cathedral Cave 75.12 49 P **P 22 56 16.6 +0.4**
baz=322
VRI Vrincioaia 75.44 326 ⇓P **P 22 56 20.6 +2.7**
TPGR Topolog 75.65 324 ⇑P **P 22 56 17.3 -1.9**
VRAC Vranov 75.80 334 LR LR 23 34 35.2
comp=Z,120nm,18.0s,baz=23,slow=40
MLR Muntele Rosu 76.05 326 ⇓P **P 22 56 18.1 -3.4**
MLR Muntele Rosu 76.05 326 P **P 22 56 21.2 -0.3**
MLR pmax pmax
comp=Z,4.0nm,1.0s
MLR Muntele Rosu 76.05 326 P **P 22 56 21.2 -0.3**
VOIR 76.42 327 ⇓P **P 22 56 24.7 +1.2**
MIAR Mount Ida 76.67 52 P **P 22 56 25.5 +0.5**
MIAR Mount Ida 76.67 52 P **P 22 56 25.5 +0.5**
MIAR Mount Ida 76.67 52 P **P 22 56 26.2 +1.2**
baz=321
KHC Kasperske Hory 76.82 335 *e*P **P 22 56 25.5 -0.2**
KHC *e* 22 56 45.5
KHC Kasperske Hory 76.82 335 *e*P **P 22 56 25.5 -0.2**
KHC *ex* x 22 56 45.5
E62A Clayton Lake 77.01 30 P **P 22 56 26.8 +0.1**
GERES GERESS Array B 77.04 335 P **P 22 56 26.2 -0.8**
comp=Z,0.5nm,0.6s,baz=45,slow=5.8,SNR=5.8
GERES LR LR 23 34 05.2
comp=Z,127nm,19.2s,baz=24,slow=39
GERES GERESS Array B 77.04 335 P **P 22 56 26.5 -0.5**
WSAR Wadi Sarin 77.07 290 LR LR 23 34 39.1
comp=Z,44nm,18.9s,baz=53,slow=39
WCI Wyandotte Cave 77.37 45 P **P 22 56 27.9 -1.0**
WCI pmax pmax
comp=Z,21nm,0.9s
BRTR Keskin Array B 77.75 318 P **P 22 56 32.0 +0.8**
comp=Z,1.1nm,0.8s,baz=79,slow=3.2,SNR=4.5
BRTR LR LR 23 37 18.7
comp=Z,33nm,18.1s,baz=340,slow=41
BRTR Keskin Array B 77.75 318 P **P 22 56 31.1 -0.1**
BRTR Keskin Array B 77.75 318 P **P 22 56 31.1 -0.1**
KBA Koelnbreinsper 78.75 335 P **P 22 56 37.2 +0.6**
KBA pmax pmax
comp=Z,13nm,0.9s
OBKA Obir 78.92 334 *e*P **P 22 56 39.3 +1.9**
comp=Z,8.7nm,1.2s
WATA Walderalm 79.00 336 *e*P **P 22 56 39.1 +1.1**

comp=Z,6.4nm,1.3s
WTTA Wattenberg 79.05 336 *e*P **P 22 56 39.6 +1.3**
comp=Z,4.7nm,0.9s
MOTA Moosalm 79.12 336 *e*P **P 22 56 38.8 +0.2**
comp=Z,11nm,1.5s
SQTA Sankt Quirin 79.20 336 *e*P **P 22 56 40.3 +1.3**
comp=Z,4.8nm,1.2s
DIVS Divibare 79.36 329 P **P 22 56 38.8 -1.1**
DIVS IAmb IAmb 22 56 40.5
comp=Z,7.1nm,1.2s
VTS Vitosha 79.52 326 P **P 22 56 42.6 +1.8**
VTS pmax pmax
comp=Z,5.0nm,1.1s
TUE Stuetta 80.39 337 P **P 22 56 45.2 -0.3**
RAR Rarotonga 80.52 138 LR LR 23 26 40.5
comp=Z,64nm,20.3s,baz=295,slow=31
STKA Stephens Creek 81.51 192 LR LR 23 31 14.8
comp=Z,52nm,20.3s,baz=22,slow=34
NRCA Norcia 82.69 333 P **P 22 56 57.4 -0.2**
RAYN Ar Rayn 84.66 300 P **P 22 57 07.2 -0.8**
RAYN pmax pmax
comp=Z,8.0nm,1.2s
RAYN Ar Rayn 84.66 300 P **P 22 57 07.2 -0.8**
RAYN IAmb IAmb 22 57 12.5
comp=Z,7.9nm,1.2s
EIL Elat 85.38 311 LR LR 23 41 06.5
comp=Z,37nm,18.5s,baz=53,slow=40
CMIG Matias Romero 89.54 64 LR LR 23 36 47.2
comp=Z,27nm,21.5s,baz=50,slow=35
ESDC Sonseca Array 89.79 344 LR LR 23 42 22.8
comp=Z,61nm,19.5s,baz=312,slow=39
ATD Arta Tunnel 95.63 295 LR LR 23 45 03.4
comp=Z,53nm,19.0s,baz=68,slow=38
H03N2 Juan Fernandez 137.19 89 T T 01 37 02.6
baz=311,slow=77,SNR=73
H03N1 Juan Fernandez 137.20 89 T T 01 37 04.0
baz=311,slow=77,SNR=77
H03N3 Juan Fernandez 137.20 89 T T 01 37 03.3
baz=311,slow=77,SNR=70
PLCA Paso Flores 146.82 93 PKPbc **PKPbc 23 04 16.0 +0.5**
comp=Z,2.8nm,0.8s,baz=308,slow=3.0,SNR=7.1
PLCA Paso Flores 146.82 93 PKP2 **PKPbc 23 04 15.6 +0.1**
PLCA Paso Flores 146.82 93 PKPbc 23 04 15.6 +0.1

*IDC **09** 22:46:57.9±1.9, 3˚.20S×102˚.89E, h190km±16km, mb3.8/11, mb1 3.9/14, mb1mx3.5/44, mbtmp4.3/14, Error ellipse: s-maj=30.0km s-min=9.5km az=53.0*
*NEIC **09** 22:46:59.5±1.6, 3˚.19S±0˚.06×102˚.92E±0˚.08, h197km±5km, mb4.2/34, Error ellipse: s-maj=11.0km s-min=9.3km az=81.0*
*DJA **09** 22:46:59.0±0.2, 3˚S±2˚×10˚3E±˚, h195km±2km, M4.4/26, mB5.0/6, mb4.4/18, MLv4.5/26, Mw(mB)4.3/6*
ISC 09 22:46:59.1±0.6, 3˚26S±0˚05×102˚94E±0˚05, h203km±5km, n116, σ1§25/128, mb4.2/25, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.71**	**279**	P	**Pn**	**22 47 28.5**	**+1.0**
MASI				S	**Sn**	**22 47 50.8**	**+1.3**
LHSI	**Lahat**	**0.81**	**134**	P	**Pn**	**22 47 28.6**	**+0.5**
MNAI	**Manna**	**1.09**	**179**	P	**Pn**	**22 47 30.1**	**+0.2**
MNAI				S	**Sn**	**22 47 53.2**	**-0.7**
MNAI	**Manna**	**1.09**	**179**	Pn	**Pn**	**22 47 30.2**	**+0.3**
MNAI				Sn	**Sn**	**22 47 53.6**	**-0.3**
MDSI	**Maura Dua**	**1.74**	**135**	P	**Pn**	**22 47 35.6**	**+0.3**
MDSI				S	**Sn**	**22 48 02.0**	**-1.5**
JMBI	**JAMBI**	**1.76**	**24**	P	**Pn**	**22 47 34.0**	**-1.5**
JMBI				S	**Sn**	**22 48 01.8**	**-2.1**
PMBI	**Palembang**	**1.86**	**80**	P	**Pn**	**22 47 36.1**	**-0.4**
PMBI				S	**Sn**	**22 48 03.6**	**-1.9**
PMBI	**Palembang**	**1.86**	**80**	P	**Pn**	**22 47 35.9**	**-0.5**
PMBI				Sn	**Sn**	**22 48 03.7**	**-1.9**
PMBI	**Palembang**	**1.86**	**80**	P	**Pn**	**22 47 36.4**	**-0.1**
KRJI	**Kerinci**	**1.88**	**308**	P	**Pn**	**22 47 37.6**	**+0.9**
KRJI				S	**Sn**	**22 48 04.9**	**-1.1**
LWLI	**Liwa**	**2.08**	**147**	P	**Pn**	**22 47 38.6**	**-0.2**
KLSI		**2.29**	**129**	P	**Pn**	**22 47 41.7**	**+0.8**
KLI	**Kotabumi**	**2.49**	**130**	P	**Pn**	**22 47 43.5**	**+0.4**
KASI	**Kota Agung**	**2.73**	**145**	P	**Pn**	**22 47 45.5**	**-0.4**
KASI				S	**Sn**	**22 48 20.2**	**-2.3**
PPSI	**Pulau Pagai**	**2.96**	**279**	P	**Pn**	**22 47 49.1**	**+0.6**
BLSI	**Bandar Lampung**	**3.11**	**132**	P	**Pn**	**22 47 50.9**	**+0.6**
PPBI	**Pangkal Pinang**	**3.38**	**71**	P	**Pn**	**22 47 54.1**	**+0.7**
PPI	**Padang Panjang**	**3.77**	**318**	P	**Pn**	**22 47 57.8**	**-0.4**
BKNI	**Bangkinang**	**4.04**	**332**	P	**Pn**	**22 48 01.6**	**+0.1**
BKNI	**Bangkinang**	**4.04**	**332**	Pn	**Pn**	**22 48 01.0**	**-0.5**
SBJI	**Serang**	**4.27**	**132**	P	**Pn**	**22 48 03.9**	**-0.5**
SISI	**Saibi**	**4.30**	**296**	P	**Pn**	**22 48 02.2**	**-2.5**
CGJI	**Cibinong**	**4.32**	**141**	P	**Pn**	**22 48 03.1**	**-1.9**
TPRI	**Tanjung Pinang**	**4.44**	**21**	P	**Pn**	**22 48 06.4**	**-0.2**
DBJI	**Dramaga**	**5.01**	**131**	P	**Pn**	**22 48 13.9**	**+0.1**
SKJI	**Sukabumi**	**5.18**	**136**	P	**Pn**	**22 48 14.6**	**-1.3**
MNSI	**Mandailing Nat**	**5.24**	**320**	P	**Pn**	**22 48 16.2**	**-0.5**
LEM	**Lembang**	**5.86**	**127**	P	**Pn**	**22 48 23.8**	**-1.0**
9.4nm,0.3s,baz=206,slow=9.9,SNR=5.7							
LEM	**Lembang**	**5.86**	**127**	P	**Pn**	**22 48 25.5**	**+0.7**
0.1nm26nm,0.8s							
GSI	**Gunungsitoli**	**7.02**	**310**	P	**Pn**	**22 48 37.9**	**-1.8**
1.3nm6μm296nm,0.5s							
GSI	**Gunungsitoli**	**7.02**	**310**	Pn	**Pn**	**22 48 37.9**	**-1.8**
GSI	**Gunungsitoli**	**7.02**	**310**	P	**Pn**	**22 48 39.0**	**-0.7**
RPSI	**Rantau Prapat**	**7.15**	**326**		**Pn**	**22 48 39.9**	**-1.4**
RPSI	**Rantau Prapat**	**7.15**	**326**		**Pn**	**22 48 39.5**	**-1.8**
PSI	**Prapat**	**7.23**	**326**	P	**Pn**	**22 48 39.5**	**-3.1**
2.7nm,0.3s,baz=162,slow=1.8,SNR=27							
XMI	**Christmas Isla**	**7.65**	**159**	P	**Pn**	**22 48 45.5**	**-2.4**
IPM	**Ipoh**	**7.92**	**346**	Pn	**Pn**	**22 48 51.4**	**0.0**
IPM	**Ipoh**	**7.92**	**346**	P	**Pn**	**22 48 53.2**	**+1.8**
SMRI	**Semarang**	**8.37**	**117**	P	**Pn**	**22 48 58.5**	**+1.3**
53nm,0.8s							
YOGI	**Yogyakarta**	**8.61**	**122**	P	**Pn**	**22 48 59.6**	**-0.7**
51nm,0.9s							
TPTI		**8.66**	**318**	P	**Pn**	**22 48 58.2**	**-2.8**
557nm22nm,0.4s							
KULM	**Kulim**	**8.79**	**345**	Pn	**Pn**	**22 49 02.2**	**-0.5**
UGM	**Wanagama**	**8.85**	**122**	Pn	**Pn**	**22 49 02.8**	**-0.7**
UGM	**Wanagama**	**8.85**	**122**	P	**Pn**	**22 49 04.2**	**+0.7**
STKI	**Sintang**	**9.15**	**69**	P	**Pn**	**22 49 09.1**	**+1.7**
PCJI	**Pacitan**	**9.55**	**121**	P	**Pn**	**22 49 11.9**	**-0.7**
50nm,0.9s							
LHMI	**Lhok Sumawe**	**10.34**	**325**	P	**Pn**	**22 49 19.9**	**-2.8**
72nm,0.7s							
LHMI	**Lhok Sumawe**	**10.34**	**325**	Pn	**Pn**	**22 49 19.8**	**-3.0**
SBUM	**Sibu**	**10.87**	**59**	Pn	**Pn**	**22 49 31.6**	**+1.9**
BBKI	**Banjar Baru**	**11.88**	**91**	P	**Pn**	**22 49 45.3**	**+2.7**
54nm,0.8s							
JAGI	**Jajag, Banyuwa**	**12.30**	**115**	Pn	**Pn**	**22 49 47.2**	**-0.6**
JAGI	**Jajag, Banyuwa**	**12.30**	**115**	P	**Pn**	**22 49 47.9**	**+0.1**
KBKI	**Kotabaru**	**13.21**	**91**	P	**Pn**	**22 49 58.4**	**-0.8**
1μm18nm,0.9s							
KKM	**Kota Kinabalu**	**16.16**	**55**	P	**P**	**22 50 35.5**	**+0.6**
KKM	**Kota Kinabalu**	**16.16**	**55**	P	**Pn**	**22 50 37.6**	**+2.1**
TTSI	**Tana Toraja**	**16.86**	**90**	P	**Pn**	**22 50 45.1**	**+1.4**
12nm,0.8s							
KAPI	**Kappang**	**16.86**	**97**	P	**P**	**22 50 43.7**	**+1.2**
3.5nm,0.3s,baz=278,slow=11,SNR=6.5							
KAPI	**Kappang**	**16.86**	**97**	P	**Pn**	**22 50 44.0**	**+0.3**
KAPI	**Kappang**	**16.86**	**97**	P	**Pn**	**22 50 46.0**	**+2.3**
BNSI	**Bone**	**17.17**	**94**	P	**Pn**	**22 50 48.2**	**+0.8**
32nm,0.9s							
BKSI	**Bulukumba**	**17.26**	**97**	P	**Pn**	**22 50 49.0**	**+0.6**
42nm,0.7s							
MPSI	**Mapaga**	**17.32**	**78**	P	**Pn**	**22 50 50.0**	**+0.8**
26nm,1.2s							
WBSI	**Waikabubak, Su**	**17.53**	**112**	P	**P**	**22 50 48.3**	**-1.5**
41nm,0.7s							
MYLDM	**Lahad Datu**	**17.66**	**62**	P	**P**	**22 50 51.9**	**+0.7**
TOLI2	**Tolitoli**	**18.36**	**77**	P	**P**	**22 51 00.2**	**+1.4**
TOLI2	**Tolitoli**	**18.36**	**77**	P	**Pn**	**22 51 00.9**	**-0.4**
UBPT	**Khong Chiam**	**18.59**	**8**	P	**P**	**22 51 01.2**	**-0.1**
UBPT				IAmb	IAmb	22 51 02.3	
comp=Z,8.9nm,0.9s							
MRSI	**Marisa**	**19.35**	**79**	P	**P**	**22 51 10.5**	**+1.0**
LUWI	**Luwuk**	**19.94**	**84**	P	**P**	**22 51 17.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**21.93**	**350**	P	**P**	**22 51 34.3**	**-2.2**
comp=Z,2.2nm,0.6s,baz=189,slow=10,SNR=4.1							
CMAR	**Chiang Mai Arr**	**21.93**	**350**	P	**P**	**22 51 36.0**	**-0.6**
PSA00	**Pilbara Seismi**	**24.53**	**139**	P	**P**	**22 52 01.4**	**+1.2**
PSA00				IAmb	IAmb	22 52 05.7	
comp=Z,19nm,1.4s							
PSA00	**Pilbara Seismi**	**24.53**	**139**	P	**P**	**22 52 00.8**	**+0.6**
PSA00				IAmb	IAmb	22 52 05.7	
comp=Z,6.6nm,1.5s							
FITZ	**Fitzroy Crossi**	**26.69**	**125**	P	**P**	**22 52 20.1**	**+0.4**
comp=Z,2.5nm,0.8s,baz=324,slow=8.2,SNR=8.3							
KNRA	**Kununurra**	**28.26**	**118**	P	**P**	**22 52 33.6**	**0.0**
KNRA				IAmb	IAmb	22 52 43.6	
comp=Z,6.6nm,1.1s							
SIJI	**Sorong**	**28.41**	**86**	P	**P**	**22 52 34.9**	**-0.1**
comp=Z,6.8nm,0.5s,baz=246,slow=8.5,SNR=5.8							
MORW	**Morawa**	**28.53**	**155**	P	**P**	**22 52 37.3**	**+1.4**
MORW				IAmb	IAmb	22 52 54.7	
comp=Z,11nm,1.4s							
FAKI	**Fak Fak**	**29.27**	**90**	P	**P**	**22 52 43.0**	**+0.3**
MTN	**Manton Dam**	**29.46**	**110**	P	**P**	**22 52 44.2**	**-0.1**
MTN				IAmb	IAmb	22 53 04.8	
comp=Z,10nm,1.4s							
SSLB	**Suanglung**	**32.10**	**32**	P	**P**	**22 53 08.3**	**+0.9**
WRA	**Warramunga Arr**	**34.83**	**121**	P	**P**	**22 53 30.9**	**-0.2**
comp=Z,1.3nm,0.4s,baz=314,slow=9.3,SNR=91							
WRA				PcP	**PcP**	**22 56 00.1**	**+0.5**
comp=Z,1.7nm,0.5s,baz=305,slow=2.2,SNR=16							
WRA	**Warramunga Arr**	**34.83**	**121**	P	**P**	**22 53 31.1**	**0.0**
WB2	**Warramunga Arr**	**34.84**	**121**	P	**P**	**22 53 30.7**	**-0.4**
WB2				IAmb	IAmb	22 53 32.7	
comp=Z,6.4nm,1.4s							
ASAR	**Alice Springs**	**36.15**	**127**	P	**P**	**22 53 42.8**	**+0.5**
comp=Z,5.6nm,0.5s,baz=300,slow=8.0,SNR=156							
ASAR				PcP	**PcP**	**22 56 04.4**	**+0.9**
comp=Z,1.3nm,0.5s,baz=316,slow=2.4,SNR=12							
ASAR				S	**S**	**22 59 02.5**	**-4.5**
comp=Z,1.2nm,1.0s,baz=300,slow=18,SNR=7.4							
ASAR				ScP	**ScP**	**22 59 30.4**	**-0.3**
comp=Z,0.6nm,0.8s,baz=308,slow=4.2,SNR=4.6							
AS31	**Alice Springs**	**36.15**	**127**	P	**P**	**22 53 42.7**	**+0.4**
AS31				IAmb	IAmb	22 53 43.8	
comp=Z,2.7nm,0.5s							
BBOO	**Buckleboo**	**42.73**	**137**	P	**P**	**22 54 37.2**	**+0.8**
BBOO				IAmb	IAmb	22 54 41.8	
comp=Z,7.2nm,0.9s							
CTAO	**Charters Tower**	**45.41**	**115**	P	**P**	**22 54 57.9**	**0.0**
CTAO				IAmb	IAmb	22 55 12.9	
comp=Z,14nm,1.2s							
STKA	**Stephens Creek**	**46.13**	**133**	P	**P**	**22 55 04.7**	**+1.2**
comp=Z,6.3nm,0.5s,baz=309,slow=7.6,SNR=19							
STKA	**Stephens Creek**	**46.13**	**133**	P	**P**	**22 55 04.2**	**+0.8**
SONM	**Songino Array**	**50.97**	**3**	P	**P**	**22 55 40.4**	**+0.3**
comp=Z,1.3nm,0.5s,baz=185,slow=8.9,SNR=11							
SONM				PcP	**PcP**	**22 56 53.1**	**-0.2**
comp=Z,0.8nm,0.5s,baz=178,slow=5.2,SNR=4.4							
SONM	**Songino Array**	**50.97**	**3**	P	**P**	**22 55 40.6**	**+0.5**
EIDS	**Eidsvold**	**51.19**	**120**	P	**P**	**22 55 42.2**	**+0.1**
EIDS				IAmb	IAmb	22 55 43.4	
comp=Z,4.1nm,0.6s							
MK31	**Makanchi Array**	**53.07**	**342**	P	**P**	**22 55 55.0**	**-0.5**
MKAR	**Makanchi Array**	**53.07**	**342**	P	**P**	**22 55 54.5**	**-0.9**
comp=Z,0.7nm,0.5s,baz=152,slow=8.8,SNR=10							
MKAR	**Makanchi Array**	**53.07**	**342**	P	**P**	**22 55 55.0**	**-0.5**
CAN	**Canberra**	**53.20**	**133**	P	**P**	**22 55 57.5**	**+0.8**
CAN				IAmb	IAmb	22 55 58.2	
comp=Z,9.9nm,1.2s							
ARMA	**Armidale**	**53.29**	**126**	P	**P**	**22 55 58.9**	**+1.3**
ARMA				IAmb	IAmb	22 56 00.4	
comp=Z,5.4nm,0.9s							
USRK	**Ussuriysk Ar.**	**53.95**	**26**	P	**P**	**22 56 02.4**	**+0.6**
comp=Z,1.4nm,0.6s,baz=204,slow=2.7,SNR=5.9							
USRK	**Ussuriysk Ar.**	**53.95**	**26**	P	**P**	**22 56 02.0**	**+0.2**
KURK	**Kurchatov**	**57.67**	**342**	P	**P**	**22 56 27.5**	**-0.6**
ZAA0	**Zalesovo Array**	**58.98**	**348**	P	**P**	**22 56 36.1**	**-1.1**
ZALV	**Zalesovo Beam**	**58.98**	**348**	P	**P**	**22 56 36.7**	**-0.5**
comp=Z,2.1nm,0.4s,baz=166,slow=6.6,SNR=17							
ZALV	**Zalesovo Beam**	**58.98**	**348**	P	**P**	**22 56 36.1**	**-1.0**
ABKAR	**Abkulak array**	**64.16**	**330**	P	**P**	**22 57 10.8**	**-1.1**
ABKAR	**Abkulak array**	**64.16**	**330**	P	**P**	**22 57 10.8**	**-1.1**
ABKAR				IAmb	IAmb	22 57 11.4	
comp=Z,1.8nm,0.7s							
BKZ	**Black Stump Fm**	**75.21**	**130**	P	**P**	**22 58 20.0**	**+0.3**
BRTR	**Keskin Array B**	**76.33**	**312**	P	**P**	**22 58 25.6**	**-0.5**
comp=Z,1.1nm,0.7s,baz=145,slow=7.5,SNR=5.3							
BRTR	**Keskin Array B**	**76.33**	**312**	P	**P**	**22 58 25.2**	**-0.9**
MLR	**Muntele Rosu**	**83.23**	**316**	P	**P**	**22 59 03.4**	**+0.4**
MLR				IAmb	IAmb	22 59 27.8	
comp=Z,6.4nm,1.3s							
BURAR	**Bucovina Array**	**84.14**	**318**	P	**P**	**22 59 08.8**	**+1.2**
BUR08	**Bucovina Ar. S**	**84.16**	**318**	P	**P**	**22 59 08.6**	**+0.9**
BUR08				IAmb	IAmb	22 59 09.4	
comp=Z,4.7nm,1.4s							
QSPA	**South Pole Qui**	**86.71**	**180**	P	**P**	**22 59 21.7**	**+1.8**
TXAR	**Lajitas Array**	**143.80**	**41**	PKP	PKPab	23 06 09.2	+0.9
comp=Z,0.8nm,0.5s,baz=240,slow=0.5,SNR=20							
TXAR	**Lajitas Array**	**143.80**	**41**		PKPab	23 06 09.2	+0.9
CPUP	**Villa Florida**	**144.93**	**212**	PKP	**PKPdf**	**23 06 13.6**	**+0.8**
comp=Z,1.2nm,0.5s,baz=210,slow=5.7,SNR=3.1							
CPUP	**Villa Florida**	**144.93**	**212**		**PKPdf**	**23 06 13.4**	**+0.6**

*ANF **09** 23:06:14.1±0.8, 37˚.53N×113˚.83W, h9km±8km, ML3.7/20, Error ellipse: s-maj=4.9km s-min=3.5km az=92.0*
*UUSS **09** 23:06:14.2±1.4, 37˚.51N±0˚.02×113˚.94W±0˚.04, h2km±7km, ML3.3/20, ML3.2/7(REN), ML3.3/97(NEIC), Error ellipse: s-maj=4.9km s-min=2.9km az=66.0*
*REN **09** 23:06:14.3±1.7, 37˚.52N±0˚.02×113˚.93W±0˚.04, h6km±6km, Error ellipse: s-maj=5.0km s-min=3.0km az=61.0*
*NEIC **09** 23:06:14.7±1.5, 37˚.51N±0˚.02×113˚.95W±0˚.04, h6km±6km, Error ellipse: s-maj=4.3km s-min=2.9km az=58.0*
ISC 09 23:06:14.7±0.8, 37˚52N±0˚.02×113˚94W±0˚.02, h10km, n93, σ1§43/102, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.37**	**178**		**Pg**	**23 06 21.4**	**-0.8**
ICU	**Indian Springs**	**0.37**	**178**		**Sg**	**23 06 26.8**	**-0.3**
CCUT	**Cedar City**	**0.46**	**86**		**Pg**	**23 06 23.4**	**-0.4**
CCUT	**Cedar City**	**0.46**	**86**		**Sg**	**23 06 30.0**	**+0.1**
ARUT	**Antelope Range**	**0.48**	**56**		**Pg**	**23 06 24.0**	**-0.1**
ZNPU	**Zion National**	**0.67**	**104**		**Pg**	**23 06 27.4**	**-0.3**
SZCU	**Shurtz Canyon**	**0.68**	**84**		**Pg**	**23 06 27.8**	**-0.2**
LCMT	**Little Creek M**	**0.75**	**132**		**Pg**	**23 06 28.5**	**-0.8**
LCMT	**Little Creek M**	**0.75**	**132**		**Sb**	**23 06 39.4**	**-1.0**
LCMT	**Little Creek M**	**0.75**	**132**	IAML		23 06 30.9	
comp=N,481nm,0.2s							
PRN	**Pahroc Range**	**0.89**	**263**		**Pg**	**23 06 31.5**	**-0.4**
DWU	**Dry Willow Pea**	**0.95**	**52**		**Pg**	**23 06 32.6**	**-0.3**
PSUT	**Pine Spring**	**1.01**	**4**		**Pg**	**23 06 33.8**	**-0.4**
PSUT	**Pine Spring**	**1.01**	**4**		**Sb**	**23 06 47.8**	**-0.2**
PSUT	**Pine Spring**	**1.01**	**4**	IAML		23 06 52.0	
comp=E,1μm,0.6s							
PSUT				IAML		23 06 52.1	
comp=N,1μm,0.4s							
KNB	**Kanab**	**1.03**	**119**		**Pg**	**23 06 33.6**	**-0.8**
KNB	**Kanab**	**1.03**	**119**		**Sg**	**23 06 47.5**	**-0.3**
EKU	**East Kanab**	**1.23**	**111**		**Pb**	**23 06 37.8**	**-0.5**
IMU	**Iron Mountain**	**1.27**	**29**		**Pn**	**23 06 38.7**	**0.0**
PKCU	**Pink Cliffs**	**1.30**	**93**		**Pg**	**23 06 39.5**	**-0.2**
PKCU	**Pink Cliffs**	**1.30**	**93**	IAML		23 07 01.3	
comp=N,647nm,1.1s							
PKCU				IAML		23 07 03.4	
comp=E,701nm,0.3s							
NMUT	**North Mineral**	**1.31**	**41**		**Pn**	**23 06 39.3**	**-0.1**
SHPR	**Sheep Range**	**1.41**	**224**		**Pn**	**23 06 39.9**	**-0.6**
SHPR				IAML		23 07 00.1	
comp=E,395nm,0.7s							
SHPR				IAML		23 07 00.2	
comp=N,362nm,0.6s							
MTPU	**Mount Pierson**	**1.49**	**69**		**Pg**	**23 06 43.0**	**-0.3**
SPR3	**Spring Creek 3**	**1.51**	**348**		**Pn**	**23 06 41.2**	**-0.9**
SPR3				IAML		23 07 03.7	
comp=N,592nm,0.4s							
SPR3				IAML		23 07 07.6	
comp=E,398nm,0.5s							
R11A	**Troy Canyon, C**	**1.54**	**303**		**Pn**	**23 06 42.3**	**-0.1**
R11A				IAML		23 07 05.5	
comp=N,631nm,0.7s							
R11A	**Troy Canyon, C**	**1.54**	**303**	P	**Pn**	**23 06 42.3**	**-0.1**
baz=122,SNR=550							
R11A				S	**Sg**	**23 07 04.9**	**+0.6**
baz=122							
TCRU	**Three Creeks R**	**1.60**	**47**		**Pb**	**23 06 43.9**	**-0.7**
TCRU				IAML		23 07 13.5	
comp=N,322nm,0.7s							
TCRU				IAML		23 07 26.4	
comp=E,303nm,0.8s							
BTU	**Barney Top**	**1.66**	**81**		**Pg**	**23 06 46.2**	**-0.3**
MVU	**Marysvale**	**1.68**	**54**		**Pb**	**23 06 45.5**	**-0.4**
MSU	**Marysvale**	**1.71**	**54**		**Pb**	**23 06 45.8**	**-0.6**
U15A	**North Rim**	**1.71**	**129**		**Pb**	**23 06 45.9**	**-0.6**
U15A				IAML		23 07 13.7	
comp=N,409nm,0.7s							
U15A				IAML		23 07 13.9	
comp=E,448nm,0.7s							
TPNV	**Topopah Spring**	**1.93**	**253**	Pn	**Pn**	**23 06 48.0**	**+0.3**
TPNV				IAML		23 07 23.9	
comp=E,188nm,0.6s							
TPNV				IAML		23 07 31.1	
comp=E,171nm,0.5s							
TPNV	**Topopah Spring**	**1.93**	**253**	P	**Pn**	**23 06 48.0**	**+0.3**
baz=73,SNR=102							
TPNV				S	**Sb**	**23 07 14.1**	**-0.2**
baz=73							
MMU	**Miners Mountai**	**2.20**	**71**		**Pb**	**23 06 53.1**	**-1.7**
W13A	**Hualapai Mount**	**2.42**	**179**	Pn	**Pn**	**23 06 54.4**	**-0.1**
W13A				IAML		23 07 32.8	
comp=N,107nm,0.5s							
W13A				IAML		23 07 33.6	
comp=E,117nm,0.7s							
SHOC	**Shoshone, Teco**	**2.48**	**230**	Pb	**Pb**	**23 06 59.9**	**+0.5**
baz=49,SNR=48							
GWY	**Greenwater Val**	**2.56**	**239**	Pn	**Pn**	**23 06 56.7**	**+0.3**
GWY				IAML		23 07 38.3	
comp=E,202nm,0.7s							
GWY				IAML		23 07 39.7	
comp=N,173nm,0.5s							
FURC	**Furnace Creek,**	**2.56**	**247**	P	**Pn**	**23 06 57.5**	**+1.2**
baz=65,SNR=43							
FURC				Sb	**Sg**	**23 07 36.4**	**-0.8**
baz=65							
Q16A	**Castle Valley**	**2.59**	**57**	Pn	**Pn**	**23 06 58.1**	**+1.2**
TUQ	**Turquoise Moun**	**2.62**	**218**	P	**Pn**	**23 06 57.8**	**+0.5**
baz=38,SNR=68							
TUQ				S	**Sn**	**23 07 29.9**	**+0.6**
baz=38							
TPH	**Tonopah**	**2.66**	**283**	Pn	**Pn**	**23 06 58.0**	**+0.2**
GRAC	**Grapevine Rang**	**2.78**	**260**	P	**Pn**	**23 07 00.1**	**+0.7**
baz=79,SNR=18							
TMUT	**Trail Mountain**	**2.78**	**50**	Pn	**Pn**	**23 07 00.2**	**+0.5**
TMUT				IAML		23 08 12.8	
comp=N,69nm,0.6s							
NEE2	**Needles Airpor**	**2.80**	**191**	Sb	**Sb**	**23 07 41.8**	**+2.5**
baz=12							
DUG	**Dugway, Tooele**	**2.81**	**18**	Pn	**Pn**	**23 07 00.5**	**+0.6**
DUG				IAML		23 07 49.0	
comp=N,149nm,1.4s							
DUG				IAML		23 07 50.0	
comp=N,148nm,0.9s							
DUG	**Dugway, Tooele**	**2.81**	**18**	Pb	**Pb**	**23 07 05.1**	**0.0**
baz=198,SNR=90							
QSM	**Queen of Sheba**	**2.82**	**237**	Pn	**Pn**	**23 07 00.1**	**+0.2**
QSM				IAML		23 07 46.8	
comp=N,91nm,0.7s							
QSM				IAML		23 07 49.4	
comp=E,80nm,1.1s							
WUAZ	**Wupatki**	**2.88**	**133**		**Pn**	**23 07 01.4**	**+0.6**
WUAZ	**Wupatki**	**2.88**	**133**	Pb	**Pn**	**23 07 03.1**	**+2.4**
baz=315,SNR=43							
LCH	**Last Change Ra**	**2.96**	**266**	Pn	**Pn**	**23 07 02.4**	**+0.4**
LCH				IAML		23 07 54.1	
comp=N,67nm,1.0s							
LCH				IAML		23 07 57.6	
comp=E,92nm,0.7s							
GMRC	**Granite Mounta**	**3.06**	**207**	P	**Pn**	**23 07 03.3**	**0.0**
baz=27,SNR=20							
GMRC				Sb	**Sb**	**23 07 49.8**	**+2.9**
baz=27							
MPU	**Maple Canyon**	**3.08**	**35**		**Pn**	**23 07 04.6**	**+1.1**
SRU	**San Rafael Swe**	**3.12**	**58**		**Pn**	**23 07 05.1**	**+0.9**
SRU				IAML		23 08 04.4	
comp=E,53nm,0.8s							
MPMC	**Manual Prospec**	**3.20**	**244**	Pn	**Pn**	**23 07 05.5**	**+0.3**
baz=62							
MPMC				Pb	**Pg**	**23 07 14.2**	**-1.8**
baz=62,SNR=24							
GSC	**Goldstone, Bar**	**3.20**	**227**	Pn	**Pn**	**23 07 05.1**	**0.0**
GSC				IAML		23 08 02.6	
comp=E,95nm,0.9s							
GSC				IAML		23 08 02.7	
comp=N,75nm,1.0s							
GSC	**Goldstone, Bar**	**3.20**	**227**	Pb	**Pb**	**23 07 13.0**	**+1.3**
baz=46,SNR=38							
HEC	**Hector,Ludlow**	**3.31**	**216**	Pn	**Pn**	**23 07 07.0**	**+0.3**
baz=36							
HEC				Pb	**Pb**	**23 07 15.7**	**+2.1**
baz=36,SNR=14							
HEC				Sb	**Sg**	**23 07 58.8**	**-2.3**
baz=36							
ELK	**Elko**	**3.37**	**343**	Pn	**Pn**	**23 07 08.0**

VCNR	Virginia City	4.82 293		Pn	23 07 28.4	+0.8
CMB	Columbia Colle	5.13 278		Pn	23 07 33.5	+1.8
214A	Organ Pipe Nat	5.63 170		Pn	23 07 39.7	+1.1
S22A	4UR Ranch, Cre	5.65 86		Pn	23 07 39.3	+0.3
S22A	4UR Ranch, Cre	5.65 86	Pg	Pg	23 08 00.3	-2.6
	baz=270					
TUC	Tucson	5.81 153	Pn	Pn	23 07 41.7	+0.7
WVOR	Wild Horse Val	6.09 325		Pn	23 07 46.3	+1.4
PD31	Pinedale Array	6.22 31	Pn	Pn	23 07 48.9	+2.1
SDCO	Great Sand Dun	6.70 86	Pg	Pg	23 08 20.4	-2.6
	baz=270					

*IDC **09** 23:09:01.6±1.6, 0.°79N×126.°51E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/42, mbtmp3.8/4, Error ellipse: s-maj=171.0km s-min=20.1km az=66.0*
*DJA **09** 23:09:05.5±0.3, 1.°N±3.°×12.°6E±.°, h10km, M3.6/11, mb3.6/1, MLv3.5/11*

ISC 09 23:09:07.0±1.0, 0.°62N±0.°09×126.°17E±0.°05, h35km, n14, σ1°§15/13, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.20	83	P	Pn	23 09 26.5	-0.9
TNTI				S	Sn	23 09 43.9	+1.4
LBMI	Labuha	1.83	133	P	Pn	23 09 35.3	-0.7
KMSI	Cibinong	2.19	269	P	Pn	23 09 41.5	+0.5
SANI	Sanana	2.66	184	P	Pn	23 09 46.6	-0.9
GTOI	Gorontalo	3.16	270	P	Pn	23 09 58.6	+4.3
LUWI	Luwuk	3.78	244	P	Pn	23 10 05.9	+3.0
AAI	Ambon	4.74	155	P	Pn	23 10 17.0	+1.0
MPSI	Mapaga	6.28	267	P	Pn	23 10 35.0	-2.3
BBSI	Bau Bau	7.06	211	P	Pn	23 10 48.1	+0.2
	0.0nm2.9nm,0.6s						
TTSI	Tana Toraja	7.32	240	P	Pn	23 10 51.4	-0.2
WRA	Warramunga Arr	21.95	159	P	P	23 13 56.5	-1.4
	1.2nm,0.4s,baz=338,slow=11,SNR=44						
ASAR	Alice Springs	25.29	163	P	P	23 14 31.3	+0.9
	1.1nm,0.5s,baz=346,slow=13,SNR=46						
MKAR	Makanchi Array	59.80	327	P	P	23 19 09.0	+0.2
	0.7nm,0.4s,baz=125,slow=8.2,SNR=12						
KURBB	Kurchatov Arra	64.06	328	P	P	23 19 37.4	+0.1
	0.6nm,0.5s,baz=126,slow=6.4,SNR=13						

*DJA **09** 23:09:11.4±0.7, 5.°S±8.°×15.°4E±.°, h44km±10km, M4.9/10, mB4.2/1, mb4.4/10, MLv5.2/4, Mw(mB)3.3/1*
*NEIC **09** 23:09:13.6±1.2, 4.°9S±0.°09×153.°67E±0.°08, h65km±8km, mb4.4/23, Error ellipse: s-maj=14.8km s-min=10.0km az=212.0*
*IDC **09** 23:09:13.7±0.7, 4.°91S×153.°74E, h82km±5km, mb3.8/10, mb1 4.0/12, mb1mx3.7/43, mbtmp4.2/12, MS3.4/5, Ms1 3.4/5, ms1mx2.9/58, Error ellipse: s-maj=18.7km s-min=15.8km az=91.0*

ISC 09 23:09:12.3±0.5, 4.°88S±0.°06×153.°70E±0.°06, h56km, n54, σ1°§41/56, mb4.3/22, MS3.6/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.67	294	Pn	Pn	23 09 40.6	+1.3
RABL				Sn	Sn	23 10 04.0	+4.4
HNR	Honiara	7.67	126	P	Pn	23 11 03.9	+2.4
	7.1nm,0.3s,baz=168,slow=14,SNR=2.3						
HNR				S	Sn	23 12 27.1	+0.1
	5.8nm,0.3s,baz=302,slow=1.6,SNR=2.0						
HNR	Honiara	7.67	126		Pn	23 11 02.6	+1.1
PMG	Port Moresby	7.89	235	P	Pn	23 11 06.0	+1.6
	3.6nm,0.3s,baz=86,slow=12,SNR=4.5						
PMG				S	Sn	23 12 32.0	-0.3
	14nm,0.3s,baz=353,slow=18,SNR=15						
PMG	Port Moresby	7.89	235		Pn	23 11 06.8	+2.4
PATS	Pohnpei	12.52	22	Pn	Pn	23 12 08.2	+0.5
SMPI	Sarmi	15.23	280	P	Pn	23 12 45.7	+1.7
	17nm,0.9s						
CTAO	Charters Tower	16.76	205		Pn	23 13 04.1	+0.7
GUMO	Guam	20.34	335	LR	LR	23 21 24.7	
	comp=Z,11nm,18.4s,baz=118,slow=36						
EIDS	Eidsvold	20.53	187	P	P	23 13 46.4	+0.3
EIDS				IAmb	IAmb	23 13 52.1	
	comp=Z,20nm,1.4s						
DZM	Mont Dzumac	21.08	145	P	P	23 13 54.6	+2.4
	comp=Z,3.3nm,0.5s,baz=265,slow=8.5,SNR=6.9						
DZM	Mont Dzumac	21.08	145	P	P	23 13 54.3	+2.1
DZM				IAmb	IAmb	23 13 55.0	
	comp=Z,22nm,1.3s						
FAKI	Fak Fak	21.48	274	P	P	23 13 57.8	+1.3
FAKI				IAmb	IAmb	23 14 09.4	
	comp=Z,15nm,1.0s						
SIJI	Sorong	22.75	279	LR	LR	23 23 21.5	
	comp=Z,77nm,18.6s,baz=52,slow=37						
MTN	Manton Dam	23.64	249	P	P	23 14 18.1	-0.5
MTN				IAmb	IAmb	23 14 36.3	
	comp=Z,4.9nm,0.7s						
WB0	Warramunga Arr	23.92	230	P	P	23 14 20.5	-0.8
WB0				IAmb	IAmb	23 14 21.2	
	comp=Z,6.5nm,0.8s						
WRA	Warramunga Arr	24.07	230	P	P	23 14 21.4	-1.2
	comp=Z,5.2nm,0.7s,baz=54,slow=10.0,SNR=29						
WRA	Warramunga Arr	24.07	230	P	P	23 14 21.6	-1.0
ARMA	Armidale	25.48	184	P	P	23 14 35.4	0.0
ARMA				IAmb	IAmb	23 14 37.4	
	comp=Z,13nm,0.8s						
H11S3	WAKE ISLAND Hy	26.52	29	T	T	23 43 16.2	
	baz=209,slow=76,SNR=6.0						
H11S2	WAKE ISLAND Hy	26.53	29	T	T	23 43 16.7	
	baz=209,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy	26.54	29	T	T	23 43 18.4	
	baz=209,slow=76,SNR=7.9						
AS31	Alice Springs	26.70	224	P	P	23 14 44.9	-1.6
ASAR	Alice Springs	26.70	224	P	P	23 14 45.0	-1.5
	comp=Z,2.7nm,0.6s,baz=59,slow=8.9,SNR=28						
ASAR				PcP	PcP	23 18 08.0	-1.0
	comp=Z,0.4nm,0.8s,baz=78,slow=2.3,SNR=5.0						
ASAR	Alice Springs	26.70	224	P	P	23 14 45.1	-1.3
KNRA	Kununurra	26.74	244	P	P	23 14 45.7	-1.1
STKA	Stephens Creek	29.15	201	P	P	23 15 07.3	-1.0
	comp=Z,2.4nm,0.8s,baz=13,slow=9.3,SNR=6.2						
STKA	Stephens Creek	29.15	201	P	P	23 15 07.8	-0.4
BATI	Baumata	30.23	258	LR	LR	23 29 05.8	
	comp=Z,154nm,18.7s,baz=233,slow=39						
FITZ	Fitzroy Crossi	30.41	242	P	P	23 15 18.1	-1.3
	comp=Z,4.9nm,0.6s,baz=69,slow=7.7,SNR=25						
CAN	Canberra	30.60	188	P	P	23 15 21.7	+0.6
CAN				IAmb	IAmb	23 15 22.8	
	comp=Z,9.7nm,1.1s						
BBOO	Buckleboo	32.30	209	P	P	23 15 35.0	-1.0
BBOO				IAmb	IAmb	23 15 45.4	
	comp=Z,9.3nm,1.2s						
FORT	Forrest	35.30	220	P	P	23 16 01.0	-1.0
MORW	Morawa	42.99	232	P	P	23 17 04.5	-1.8
LEM	Lembang	45.87	265	LR	LR	23 43 20.1	
	comp=Z,68nm,18.1s,baz=258,slow=45						
KULM	Kulim	53.93	280	P	P	23 18 29.4	-1.4
CMAR	Chiang Mai Arr	58.72	295	P	P	23 19 04.7	-0.1
	comp=Z,0.8nm,0.3s,baz=108,slow=4.7,SNR=4.5						
CMAR	Chiang Mai Arr	58.72	295	P	P	23 19 04.9	+0.2
SONM	Songino Array	66.87	327	P	P	23 19 58.3	-0.3
	comp=Z,0.4nm,0.4s,baz=16,slow=42,SNR=3.3						
BILL	Bilibino	73.29	5	P	P	23 20 39.0	+1.6
BILL				IAmb	IAmb	23 21 03.6	
	comp=Z,6.8nm,1.3s						
MK31	Makanchi Array	80.97	319	P	P	23 21 20.6	-0.4
MKAR	Makanchi Array	80.97	319	P	P	23 21 19.5	-1.4
	comp=Z,0.8nm,0.7s,baz=96,slow=7.1,SNR=7.8						
MKAR				pP	pwP	23 21 42.8	+1.5
	comp=Z,1.4nm,0.9s,baz=101,slow=6.3,SNR=7.2						
MKAR	Makanchi Array	80.97	319	P	P	23 21 20.6	-0.3
MAKZ	Makanchi	81.18	319	P	P	23 21 21.8	-0.3
MAKZ				IAmb	IAmb	23 21 45.7	
	comp=Z,3.8nm,1.1s						
ILAR	Eielson Array	81.90	22	P	P	23 21 22.8	-2.6
	comp=Z,0.2nm,0.6s,baz=248,slow=5.0,SNR=4.6						
ILAR				pP	pwP	23 21 45.8	+0.5
	comp=Z,1.8nm,0.8s,baz=233,slow=5.5,SNR=4.3						
KURK	Kurchatov	84.38	322	P	P	23 21 38.5	0.0
KURK				IAmb	IAmb	23 22 01.7	
	comp=Z,3.0nm,0.9s						
KURBB	Kurchatov Arra	84.41	322	P	P	23 21 36.1	-2.6
	comp=Z,0.4nm,0.7s,baz=109,slow=4.2,SNR=5.1						
KURBB				pP	sP	23 21 59.3	+0.5
	comp=Z,1.6nm,1.0s,baz=112,slow=4.3,SNR=6.7						
NIL	Nilore	84.76	304	P	P	23 21 40.2	-0.6
QSPA	South Pole Qui	85.08	180	P	P	23 21 41.5	-0.4
QSPA				IAmb	IAmb	23 21 42.4	
	comp=Z,3.5nm,0.8s						
MAW	Mawson	85.84	203	P	P	23 21 46.0	+0.5
MAW				IAmb	IAmb	23 21 47.3	
	comp=Z,4.7nm,1.2s						
KKAR	Karatay Array	88.33	313	P	P	23 21 57.8	-0.4
BVAR	Borovoye Array	89.84	323	P	P	23 22 02.6	-2.4
	comp=Z,1.2nm,0.8s,baz=120,slow=8.8,SNR=6.9						
BVAR				pP	sP	23 22 25.6	+0.4
	comp=Z,2.5nm,0.7s,baz=114,slow=6.6,SNR=12						
PFO	Pinyon Flats O	92.54	57	LR	LR	23 57 08.8	
	comp=Z,55nm,19.1s,baz=163,slow=31						
TORD	Torodi Ar. Bea	151.18	288	PKPbc	PKPbc	23 28 58.8	-1.6
	comp=Z,2.2nm,0.7s,baz=67,slow=1.8,SNR=14						
TORD				PKPab	PKPab	23 29 07.5	-0.8
	comp=Z,1.8nm,0.7s,baz=62,slow=4.0,SNR=9.0						
TORD				pPKPbc	sPKPbc	23 29 20.8	-0.2
	comp=Z,1.9nm,0.7s,baz=60,slow=1.9,SNR=6.8						

*SEA **09** 23:16:53.4±3.0, 47.°418N±0.°009×122.°93W±0.°02, h2km±7km, ML2.3/71, ML2.2/16(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=102.0*

NEIC 09 23:16:52.6±1.4, 47.°44N±0.°01×122.°93W±0.°04, h19km±5km, Error ellipse: s-maj=3.5km s-min=1.7km az=92.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMR	Kitsap County	0.12	60		Pg	23 16 56.2	-0.4
KIMR					Sg	23 16 59.2	-0.2
GNW	Green Mountain	0.14	29		Pg	23 16 56.4	-0.5
GNW					Sg	23 16 59.3	-0.5
GMW	Gold Mountain	0.14	42		Pg	23 16 56.5	-0.5
GMW					Sg	23 16 59.3	-0.5
D03D	Eldon	0.14	310		Pg	23 16 56.6	-0.3
D03D					Sg	23 16 59.9	0.0
HDW	Hoodsport	0.23	337		Pg	23 16 58.1	0.0
HDW					Sg	23 17 02.5	+0.7
C04A	Brinnon	0.28	354		Pb	23 16 58.9	0.0
C04A					Sg	23 17 03.8	+0.7
D04E	Lakebay	0.28	158		Pb	23 16 59.1	+0.1
D04E					Sb	23 17 05.0	+1.7
SMW	South Mountain	0.31	247		Pg	23 16 59.3	-0.1
VVHS	Vashon High Sc	0.32	93		Pb	23 16 59.9	+0.1
EGRN	Evergreen Coll	0.37	185		Pg	23 16 59.9	-0.5
EGRN					Sb	23 17 06.7	+0.7
B013	Quilcene	0.37	2		Pg	23 17 00.5	+0.1
B013					Sb	23 17 06.6	+0.5
B013	Quilcene	0.37	2		Pg	23 17 00.5	+0.1
CPW	Capitol Peak	0.49	197		Pg	23 17 01.8	-0.7
GHW	Garrison Hill	0.60	132		Pb	23 17 04.2	-0.2
OLQ	Olympics--Lake	0.60	277		Pb	23 17 04.2	-0.3
NLWA	Neilton Lookou	0.64	266		Pb	23 17 05.0	-0.1
NLWA				IAML		23 17 15.2	
	92nm,0.4s						
OSD	Olympics--Snow	0.65	306		Pg	23 17 05.6	+0.1
WISH	Wishkah	0.66	241		Pb	23 17 05.5	+0.1
WISH				IAML		23 17 16.7	
	comp=E,119nm,3.6s						
WISH				IAML		23 17 17.5	
	comp=N,118nm,3.2s						
B941	Kapowsin	0.66	133		Pb	23 17 04.8	-0.7
D05A	Enumclaw	0.69	111	Pg	Pg	23 17 06.3	+0.1
B04A	Port Angeles	0.73	328		Pg	23 17 07.2	+0.2
B04A	Port Angeles	0.73	328		Pg	23 17 07.2	+0.2
B04A				IAML		23 17 18.7	
	comp=N,55nm,0.5s						
B04A				IAML		23 17 18.8	
	comp=E,68nm,0.4s						
RATT	Rattlesnake La	0.76	91		Pb	23 17 07.4	+0.1
RVC	Mount Rainier-	0.82	127		Pb	23 17 08.3	+0.1
HTW	Haystack Looko	0.86	65		Pg	23 17 09.4	0.0
E04D	Cinebar	0.92	164		Pb	23 17 09.2	-0.7
REMR	Mount Rainier-	0.97	130		Pb	23 17 10.2	-0.7
BMW	Boistfort Moun	0.99	192		Pb	23 17 10.2	-1.0
FMW	Mount Fremont	1.00	120		Pb	23 17 10.6	-0.7
JCW	Jim Creek	1.01	41		Pb	23 17 11.6	+0.1
LON	Longmire	1.03	132		Pb	23 17 11.2	-0.6
P403	Sandy Floe Qua	1.03	308		Pg	23 17 14.0	+1.4
ERK	Elk Rock	1.21	160		Pn	23 17 13.6	-0.9
B201	Coldwater, Mou	1.23	158		Pn	23 17 13.9	-0.9
JRO	Jston Ridge Ob	1.26	157		Pn	23 17 14.9	-0.5
STD	Studebaker Rid	1.30	158		Pn	23 17 15.8	-0.1
RVW	Rose Valley	1.30	174		Pn	23 17 15.3	-0.4
FL2	Flat Top 2	1.31	162		Pn	23 17 15.5	-0.5
SOSW	Source of Smit	1.31	155		Pn	23 17 15.6	-0.4
VALT	Mount Saint He	1.33	157		Pn	23 17 16.1	-0.2
BOLM	Sugar Bowl	1.33	157		Pn	23 17 16.3	-0.1
B203	Quarry, Mount	1.34	162		Pn	23 17 15.9	-0.4
SHW	Mount Saint He	1.34	159		Pn	23 17 16.1	-0.3
SEPW	September Lobe	1.34	158		Pn	23 17 16.3	-0.2
GPW	Glacier Peak	1.38	60		Pb	23 17 18.5	+0.5
RPW	Rockport	1.39	43		Pb	23 17 18.6	+0.7
B06A	Marblemount	1.45	41		Pb	23 17 19.6	+0.6
B06A				IAML		23 17 40.4	
	comp=E,57nm,0.3s						
LTY	Liberty	1.54	96	Pn	Pb	23 17 21.2	+0.5
LTY				IAML		23 17 50.4	
	comp=N,18nm,3.5s						
F04A	Amboy	1.55	167	Pn	Pn	23 17 19.4	+0.2
F04A				IAML		23 17 40.7	
	comp=N,55nm,0.5s						
TBM	Table Mountain	1.61	99		Pg	23 17 23.8	+0.2
VDB	Vedder Mountai	1.68	19		Pb	23 17 23.8	+0.9
EBG	Ellensburg	1.69	107		Pb	23 17 24.0	+0.8
ETW	Entiat	1.77	84		Pb	23 17 25.5	+1.0
PALME	Palmer Lift, M	2.25	157		Pn	23 17 27.6	-1.5
WIW	Wooded Island	2.69	111		Pn	23 17 33.5	-1.4
H04A	Detroit Lake	2.81	169	Pn	Pn	23 17 38.9	+2.4

*IDC **09** 23:45:00.4±3.2, 35.°86N×69.°38E, h75km±27km, mb3.4/10, mb1 3.6/13, mb1mx3.3/47, mbtmp3.8/13, Error ellipse: s-maj=22.7km s-min=19.0km az=175.0*
*NEIC **09** 23:45:04.8±1.8, 36.°13N±0.°05×69.°37E±0.°04, h102km±9km, mb4.0/6, Error ellipse: s-maj=7.8km s-min=2.7km az=148.0*
*NNC **09** 23:45:15.3±7.2, 36.°97N×69.°75E, h250km±96km, mb2.7, mpv3.9, Error ellipse: s-maj=67.0km s-min=45.0km az=17.0*

ISC 09 23:45:03.7±0.5, 36.°06N±0.°05×69.°55E±0.°05, h112km, n68, σ2°§00/76, mb3.5/10, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.57	195	Pn	Pn	23 45 32.6	+0.8
KBL				Sn	Sn	23 45 54.6	+1.6
CHGR	Chuyangaron	2.61	353	Pn	Pn	23 45 45.1	+0.5
GAR	Garm	3.00	12		Pn	23 45 50.4	+0.6
DRK	Karamyk	3.85	27		Pn	23 46 02.7	+1.4
NIL	Nilore	3.88	127	Pn	Pn	23 46 03.1	+1.6
BTK	Batken	4.11	14	Pn	Pn	23 46 06.4	+1.7
HRA	Herat	6.21	256	Pn	Pn	23 46 32.0	-1.1
DHRM	DHARAMSHALA	6.77	122	eP	Pn	23 46 41.2	+0.5
DHRM				eS	Sn	23 47 54.6	-1.8
DHRM				IAML		23 47 57.3	
	comp=E,76nm,0.5s						
DHRM				IAML		23 47 57.8	
	comp=N,149nm,0.5s						
AML	Almayashu	6.86	27	P	Pn	23 46 42.4	+0.3
	SNR=58						
KKAR	Karatay Array	7.07	6	Pn	Pn	23 46 44.4	-0.1
KK01	Karatay Array	7.07	6	⇑P	Pn	23 46 44.1	-0.4
	comp=N,6.6nm,0.4s						
KK01				⇓S	Sn	23 47 58.3	-5.0
	comp=N,22nm,0.7s						
UCH	Uchtor	7.26	31	P	Pn	23 46 48.3	+0.7
	SNR=15						
EKS2	Erkin-Say	7.36	25	P	Pn	23 46 48.8	+0.3
	SNR=13						
AAK	Ala-Archa	7.60	29	P	Pn	23 46 52.5	+0.7
	comp=N,5.2nm,0.3s,baz=185,slow=7.0,SNR=70						
AAK				S	Sn	23 48 13.5	-3.0
	comp=N,2.1nm,0.3s,baz=344,slow=22,SNR=13						
AAK	Ala-Archa	7.60	29	P	Pn	23 46 52.5	+0.7
	SNR=21						
AAK	Ala-Archa	7.60	29	⇓P	Pn	23 46 52.4	+0.6
	comp=N,3.4nm,0.3s						
AAK				⇓S	Sn	23 48 14.1	-2.3
	comp=N,14nm,0.6s						
AAK	Ala-Archa	7.60	29	Pn	Pn	23 46 52.4	+0.6
KBK	Karagaybulak	7.80	31	P	Pn	23 46 55.3	+0.8
	SNR=10						
FRU1	Bishkek	7.80	29		Pn	23 46 55.8	+1.3
CHMS	Chumysh	8.01	29	P	Pn	23 46 57.6	+0.4
	SNR=12						
SMLA	Simla	8.04	126	eP	Pn	23 46 58.0	+0.3
SMLA				eS	Sn	23 48 23.5	-3.4
SMLA				IAML		23 48 28.3	
	comp=E,36nm,0.2s						
USP	Ospenovka	8.14	26	P	Pn	23 46 59.3	+0.2
	SNR=19						
TKM2	Tokmak 2	8.29	32	P	Pn	23 47 01.6	+0.3
	SNR=9.8						
TKM2	Tokmak 2	8.29	32	⇑P	Pn	23 47 00.7	-0.5
	comp=E,4.8nm,0.7s						
TKM2				⇑S	Sn	23 48 28.4	-4.9
	comp=E,5.0nm,0.6s						
TARG	Taragay, Kyrgy	8.57	46	Pn	Pn	23 47 05.9	+0.7
MDOK	Medeo	9.15	37	⇑P	Pn	23 47 13.1	+0.3
	comp=E,2.1nm,0.6s						
MDOK				⇑S	Sn	23 48 43.0	-11
	comp=E,3.8nm,1.0s						
GEYT	Alibeck	9.33	285	P	Pn	23 47 12.3	-2.9
	comp=E,1.0nm,0.3s,baz=112,slow=15,SNR=8.5						
GEYT				S	Sn	23 48 53.1	-5.2
	comp=E,0.7nm,0.3s,baz=158,slow=20,SNR=2.5						
GEYT	Alibeck	9.33	285		Pn	23 47 13.3	-1.8
GYA0B	ALIBECK ARRAY	9.33	285		Pn	23 47 13.4	-1.8
PRZ	Przheval'sk	9.39	44	Pn	Pn	23 47 16.2	+0.2
KUDL	Kundal	9.85	141	eP	Pn	23 47 20.6	-1.6
KUDL				eS	Sn	23 49 02.8	-8.0
PYUN	Piuthan	13.88	121	eP	Pn	23 48 15.4	-0.4
	comp=E,8.2nm,0.4s						
MAKZ	Makanchi	14.20	37	Pn	Pn	23 48 20.4	+0.8
DANN	Dangsing	14.27	119	eP	Pn	23 48 19.0	-1.9
	comp=E,3.6nm,0.3s						
MK31	Makanchi Array	14.34	38	P	Pn	23 48 22.5	+1.1
	comp=E,1.6nm,0.7s,baz=214,slow=11,SNR=19						
MK31	Makanchi Array	14.34	38	Pn	Pn	23 48 22.1	+0.6
MKAR	Makanchi Array	14.34	38	P	Pn	23 48 20.9	-0.6
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=2.3						
MKAR	Makanchi Array	14.34	38	Pn	Pn	23 48 21.4	0.0
AB31	Akbulak array	14.94	335	P	Pn	23 48 27.2	-1.7
	comp=E,0.8nm,0.3s,baz=160,slow=12,SNR=63						
AB31				⇑S	Sn	23 51 00.2	-14
	comp=E,0.8nm,0.3s,baz=42,slow=57,SNR=5.5						
ABKAR	Akbulak array	14.94	335		Pn	23 48 27.2	-1.7
ABKAR	Akbulak array	14.94	335		Pn	23 48 27.3	-1.6
GKN	Gorkha	15.10	118	eP	Pn	23 48 30.1	-1.2
	comp=E,5.0nm,0.3s						
DMN	Daman	15.67	118	eP	Pn	23 48 38.5	0.0
	comp=E,3.0nm,0.3s						
KKN	Kakani	15.69	117	eP	Pn	23 48 38.1	-0.6
	comp=E,1.8nm,0.3s						
PKIN	Phulchoki	15.89	118	eP	Pn	23 48 40.7	-0.6
	comp=E,4.7nm,0.4s						
PKI	Pulchoki	15.91	118	eP	Pn	23 48 40.8	-0.7
	comp=E,2.5nm,0.3s						
KURBB	Kurchatov Arra	15.93	21	P	Pn	23 48 38.9	-2.4
	comp=E,0.0nm,0.3s,baz=257,slow=27,SNR=3.5						
GUN	Gumba	16.05	116	eP	Pn	23 48 42.1	-1.2
	comp=E,3.2nm,0.4s						
BRVK	Borovoye	17.00	2		P	23 48 54.9	+0.4
BRVK				IAmb	IAmb	23 48 56.5	
	comp=Z,4.0nm,0.8s						
ZAA0	Zalesovo Array	20.81	26		P	23 49 37.1	+1.2
ZAA0				IAmb	IAmb	23 49 38.9	
	comp=Z,5.4nm,0.7s						
ZALV	Zalesovo Beam	20.81	26	P	P	23 49 37.3	+1.4
	comp=Z,4.8nm,0.5s,baz=222,slow=10,SNR=28						
ZALV	Zalesovo Beam	20.81	26		P	23 49 37.5	+1.6
ARU	Arti	21.69	343	P	P	23 49 46.1	+0.8
	comp=Z,0.8nm,0.5s,baz=134,slow=6.3,SNR=4.3						
ARU	Arti	21.69	343	P	P	23 49 45.4	+0.1
NRIK	Noril'sk	34.77	11	P	P	23 51 45.9	+2.9
	comp=Z,1.4nm,0.4s,baz=0.0,slow=4.0,SNR=2.7						
ARCES	ARCESS Array B	41.11	338	P	P	23 52 37.4	+1.3
	comp=Z,1.5nm,0.8s,baz=107,slow=7.0,SNR=6.0						
NOA	NORSAR Array B	44.03	323	P	P	23 53 00.3	+0.4
	comp=Z,0.7nm,0.8s,baz=100,slow=7.9,SNR=1.8						
TORD	Torodi Ar. Bea	64.53	268	P	P	23 55 28.6	-0.3
	comp=Z,0.2nm,0.5s,baz=52,slow=5.9,SNR=5.5						
A36M	Sachs Harbour	71.74	5	P	P	23 56 16.4	+3.3
A36M				IAmb	IAmb	23 56 18.8	
	comp=Z,3.8nm,1.0s						
BMAR	Burnt Mountain	73.64	13	P	P	23 56 26.9	+2.4
C36M	Paulatuk	74.42	5	P	P	23 56 31.4	+2.5
INK	Inuvik	74.52	9	P	P	23 56 32.8	+3.3
	comp=Z,0.8nm,0.5s,baz=352,slow=7.1,SNR=7.6						
INK	Inuvik	74.52	9	P	P	23 56 31.6	+2.1
INK				IAmb	IAmb	23 56 38.2	
	comp=Z,3.9nm,1.4s						
YKA	Yellowknife Ar	81.73	2	P	P	23 57 11.1	+1.7
	comp=Z,0.5nm,0.6s,baz=350,slow=5.5,SNR=12						
YKA	Yellowknife Ar	81.73	2	P	P	23 57 12.2	+2.9
NWAO	Narrogin (SRO)	81.86	141	P	P	23 57 11.8	+1.4
	comp=Z,0.0nm,0.6s,baz=238,slow=14,SNR=2.1						
WRA	Warramunga Arr	82.77	121	P	P	23 57 16.5	+1.1
	comp=Z,0.4nm,1.0s,baz=324,slow=4.6,SNR=1.3						
ASAR	Alice Springs	84.98	124	P	P	23 57 26.9	+0.2
	comp=Z,0.2nm,0.5

*UPP **10** 00:17:19.3±0.2, 67°.85N×20°.20E, h1km, ML1.9, Explosion*
HEL 10 00:17:19.2±0.2, 67°.82N×20°.22E, h0km, ML1.8, ML1.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVU	**Salmi**	**0.41**	**357**	P	Pg	00 17 26.6	-0.4
	baz=187						
KOVU				S	Sg	00 17 31.3	-0.9
KOVU	**Salmi**	**0.41**	**357**	*i* P	Pg	00 17 26.6	-0.4
KOVU				*i* S	Sg	00 17 31.3	-0.9
NIKU	**Nikkaluokta**	**0.45**	**277**	P	Pg	00 17 27.7	-0.1
NIKU	**Nikkaluokta**	**0.45**	**277**	*i* P	Pg	00 17 27.7	-0.1
LANU	**Lannavaara**	**0.71**	**70**	S	Sg	00 17 41.7	-0.2
LANU	**Lannavaara**	**0.71**	**70**	*e*PB	Pg	00 17 32.4	-0.3
LANU				*e*S	Sg	00 17 41.6	-0.3
DUNU	**Dundret**	**0.71**	**169**	S	Sg	00 17 43.4	+1.3
DUNU	**Dundret**	**0.71**	**169**	*i* S	Sg	00 17 43.4	+1.3
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Sg	00 17 56.8	-1.3
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 17 40.8	-1.6
KIF				MSG		00 17 56.6	
	comp=Z,7.3nm,0.2s						
KIF				*e*S	Sg	00 17 57.5	-0.5
PAJU	**Pajala**	**1.37**	**124**	*e*SN	Sb	00 18 03.9	+0.1
HEF	**Hetta**	**1.42**	**64**	*e*P	Sg	00 18 04.5	-0.2
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	00 17 44.8	-1.4
HEF				MSG		00 18 02.8	
	comp=Z,7.4nm,0.2s						
HEF				*e*SB	Sg	00 18 03.6	-1.1
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	00 17 44.6	-2.5
ERTU				*e*SN	Sn	00 18 07.4	+0.2
TOF	**Tornio**	**2.38**	**135**	*e*PB	Pn	00 18 01.1	+1.7
TOF				MSG		00 18 29.2	
	comp=Z,3.6nm,0.2s						
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB	Pn	00 18 03.9	+2.0
RNF				*e*SG	Sb	00 18 38.5	+0.5
KEV	**Kevo**	**3.14**	**49**	MSG		00 18 52.0	
	comp=Z,2.5nm,0.2s						
KEV				*e*SB	Sb	00 18 54.2	-0.4
VRF	**Varrio**	**3.57**	**87**	*e*PG	Pb	00 18 23.0	-0.1
	baz=271						
MSF	**Maaselka**	**3.97**	**115**	*e*PG	Pb	00 18 31.5	+1.5
	baz=306						
KU6	**Riekki**	**4.21**	**111**	*e*PG	Pb	00 18 34.9	+0.8
	baz=299						

UPP 10 00:17:39.7±0.1, 67°.85N×20°.20E, h1km, ML2.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVU	**Salmi**	**0.38**	**358**	P	Pg	00 17 46.8	0.0
KOVU				S	Sg	00 17 51.6	-0.1
NIKU	**Nikkaluokta**	**0.44**	**273**	S	Sg	00 17 54.1	+0.2
LANU	**Lannavaara**	**0.70**	**73**	S	Sg	00 18 02.3	0.0
DUNU	**Dundret**	**0.75**	**169**	S	Sg	00 18 03.6	0.0
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	00 17 54.5	-0.3
SALU	**Saltoluokta**	**0.80**	**235**	S	Sg	00 18 05.3	-0.1
PAJU	**Pajala**	**1.40**	**125**	P	Pn	00 18 05.1	-1.2
PAJU				S	Sg	00 18 23.6	-0.9
ERTU	**Ertsjaerv**	**1.52**	**148**	S	Sb	00 18 28.0	-0.2

*IDC **10** 00:36:55.0±0.8, 47°.83N×103°.12E, h0km, mb3.5/8, mb1 3.7/11, mb1mx3.4/62, mbtmp3.5/11, ML2.7/2, Error ellipse: s-maj=26.2km s-min=11.0km az=7.0*
ISC 10 00:36:57.0±0.7, 48°.0N±0°.1×103°.17E±0°.06, h12km, n22, σ0°98/21, mb3.9/14, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**2.17**	**92**	Pn	**Pn**	**00 37 33.9**	**+0.8**
	78nm,0.3s,baz=271,slow=14,SNR=1944						
SONM				Pg	**Pb**	**00 37 35.9**	**-0.4**
	98nm,0.3s,baz=275,slow=16,SNR=91						
SONM				Sn	**Sb**	**00 38 02.9**	**-0.4**
	92nm,0.3s,baz=264,slow=24,SNR=10						
SONM				Lg	Lg	00 38 06.0	
	901nm,0.3s,baz=274,slow=31,SNR=68						
ZALV	**Zalesovo Beam**	**13.01**	**304**	Lg	Lg	00 43 38.8	
	0.1nm,0.3s,baz=115,slow=26,SNR=6.7						
MKAR	**Makanchi Array**	**14.20**	**273**	Pn	**Pn**	**00 40 16.7**	**-1.1**
	0.0nm,0.3s,baz=84,slow=13,SNR=1.7						
MKAR				Lg	Lg	00 44 12.5	
	0.0nm,0.3s,baz=62,slow=34,SNR=3.5						
KURBB	**Kurchatov Arra**	**16.27**	**289**	Pn	**Pn**	**00 40 44.7**	**-0.5**
	0.0nm,0.3s,baz=92,slow=13,SNR=5.5						
KURBB				Lg	Lg	00 45 26.9	
	0.0nm,0.3s,baz=90,slow=31,SNR=8.1						
KLR	**Kul'dur**	**18.90**	**75**	Lg	Lg	00 46 58.5	
	0.1nm,0.3s,baz=202,slow=15,SNR=3.8						
AAK	**Ala-Archa**	**20.80**	**266**	P	**P**	**00 41 37.6**	**-0.5**
	2.7nm,0.9s,baz=102,slow=7.3,SNR=9.1						
KSRS	**Korea Array**	**20.92**	**111**	P	Pn	00 41 43.0	+1.3
	2.3nm,0.7s,baz=306,slow=8.4,SNR=9.5						
GUN	**Gumba**	**24.12**	**220**	*e*P	**P**	**00 42 14.7**	**+1.7**
	11nm,0.6s						
KKN	**Kakani**	**24.49**	**221**	*e*P	**P**	**00 42 17.9**	**+1.7**
	11nm,0.5s						
GKN	**Gorkha**	**24.59**	**222**	*e*P	**P**	**00 42 18.7**	**+1.6**
	2.0nm,0.4s						
PKI	**Pulchoki**	**24.62**	**221**	*e*P	**P**	**00 42 18.2**	**+0.6**
	7.5nm,0.7s						
PKIN	**Phulchoki**	**24.62**	**221**	*e*P	**P**	**00 42 17.9**	**+0.4**
	8.4nm,0.6s						
DANN	**Dangsing**	**24.70**	**224**	*e*P	**P**	**00 42 19.5**	**+1.2**
DMN	**Daman**	**24.72**	**221**	*e*P	**P**	**00 42 19.3**	**+0.9**
	5.3nm,0.4s						
PYUN	**Piuthan**	**25.28**	**226**	*e*P	**P**	**00 42 23.4**	**0.0**
	9.0nm,0.7s						
ARU	**Arti**	**28.18**	**304**	P	**P**	**00 42 49.9**	**+0.9**
	0.5nm,0.4s,baz=181,slow=19,SNR=3.7						
BRTR	**Keskin Array B**	**49.26**	**288**	P	**P**	**00 45 45.1**	**-0.4**
	0.7nm,0.8s,baz=67,slow=2.8,SNR=4.9						
NOA	**NORSAR Array B**	**50.53**	**321**	P	**P**	**00 45 55.1**	**+0.4**
	1.3nm,0.9s,baz=58,slow=7.4,SNR=2.8						
ILAR	**Eielson Array**	**55.19**	**29**	P	**P**	**00 46 29.7**	**+0.6**
	0.6nm,0.9s,baz=310,slow=7.0,SNR=4.1						
YKA	**Yellowknife Ar**	**65.84**	**18**	P	**P**	**00 47 40.9**	**-0.8**
	0.1nm,0.4s,baz=333,slow=6.6,SNR=3.2						
WRA	**Warramunga Arr**	**73.15**	**149**	P	**P**	**00 48 26.3**	**-1.0**
	0.3nm,0.7s,baz=335,slow=4.3,SNR=7.0						
ASAR	**Alice Springs**	**76.46**	**151**	P	**P**	**00 48 45.9**	**-0.6**
	0.2nm,0.6s,baz=344,slow=6.1,SNR=6.7						

GCMT 10 00:37:36.0±0.4, 38°.62S±0°.05×92°.54W±0°.03, h12km, MW4.8/76, Moment Tensor Solution. s10,c10; s76,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.49±.07; $M_{\theta\theta}$0.27±.07; $M_{\phi\phi}$1.22±.06; $M_{r\theta}$-1.65±.38; $M_{\theta\phi}$-0.24±.05; $M_{\phi r}$-0.62±.24; **Best double couple:** M_o2.00500×10^{16} **NP1:**ϕ_s173.00000°, δ27.00000°, λ-137.00000°. **NP2:**ϕ_s44.00000°, δ72.00000°, λ-70.00000°. **Principal axes:** T 1.4150, Plg25.0000°, Azm118.0000°; N 1.1780, Plg19.0000°, Azm217.0000°; P -2.5950, Plg58.0000°, Azm341.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAOE	**Nuku Hiva Isla**	**51.91**	**292**	*e*LR	LR	01 01 31.0	
	comp=Z,193nm,25.4s						
PPT2	**Papeete2**	**53.61**	**276**	*e*S	S	00 54 22.4	-8.5
	120nm,25.2s						
PPT2				*e*LR	LR	01 02 15.2	
	comp=Z,212nm,25.0s						
DZM	**Mont Dzumac**	**84.64**	**246**	*e*LR	LR	01 16 36.1	
	comp=Z,206nm,27.4s						

IDC 10 01:08:30.1±3.4, 8°.38S×107°.87E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.1/42, mbtmp3.4/5 Error ellipse: s-maj=156.9km s-min=23.6km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.07**	**117**	P	P	01 14 23.1	-0.5
	0.4nm,0.8s,baz=290,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**29.19**	**124**	P	P	01 14 34.2	+0.6
	0.1nm,0.5s,baz=305,slow=8.9,SNR=1.3						
SONM	**Songino Array**	**55.98**	**359**	P	P	01 18 11.4	+0.9
	0.2nm,0.4s,baz=179,slow=8.4,SNR=2.3						
MKAR	**Makanchi Array**	**59.47**	**340**	P	P	01 18 34.7	-0.2
	0.4nm,0.4s,baz=151,slow=7.9,SNR=13						
ZALV	**Zalesovo Beam**	**65.08**	**345**	P	P	01 19 11.8	-0.5
	0.4nm,0.3s,baz=158,slow=5.5,SNR=4.1						

*ATH **10** 01:14:33.0, 36°.65N×26°.59E, h244km±9km, ML3.6/8, Error ellipse: s-maj=9.4km s-min=2.4km az=47.0*
*IDC **10** 01:14:48.2±0.9, 36°.40N×26°.53E, h167km±25km, mb3.1/2, mb1 2.9/8, mb1mx2.6/54, mbtmp3.4/8, Error ellipse: s-maj=30.6km s-min=14.8km az=19.0*
*ISK **10** 01:14:49.0, 36°.64N×26°.58E, h140km±1km, ML2.7/13*
*THE **10** 01:14:50.3, 36°.56N×26°.60E, h179km±1km, ML3.4/7, Error ellipse: s-maj=1.6km s-min=0.4km az=41.0*
ISC 10 01:14:47.6±0.8, 36°.56N±0°.04×26°.62E±0°.04, h154km±6km, n78, σ1°29/95, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.42**	**83**	P	**Pn**	**01 15 10.8**	**+1.8**
BODT	**Bodrum**	**0.75**	**48**	P	**Pn**	**01 15 11.6**	**+0.7**
BODT				S	**Sn**	**01 15 28.5**	**-0.2**
BODT	**Bodrum**	**0.75**	**48**	PG	**Pn**	**01 15 11.5**	**+0.7**
BODT				SG	**Sn**	**01 15 26.8**	**-1.9**
DAT	**Datca**	**0.79**	**77**	P	**Pn**	**01 15 12.2**	**+0.9**
DAT				S	**Sn**	**01 15 29.4**	**+0.1**
DAT	**Datca**	**0.79**	**77**	PG	**Pn**	**01 15 11.8**	**+0.5**
DAT				SG	**Sn**	**01 15 28.1**	**-1.2**
THR8	**Santorini-Mono**	**0.93**	**261**	P	**Pn**	**01 15 14.1**	**+2.0**
SANT	**Santorini**	**0.95**	**259**	P	**Pn**	**01 15 13.3**	**+0.9**
SANT				S	**Sn**	**01 15 31.3**	**0.0**
	232nm,0.7s						
SANT	**Santorini**	**0.95**	**259**	P	**Pn**	**01 15 13.3**	**+0.9**
SANT				AML	AML	01 15 31.8	
	comp=N,370μm,0.6s						
SANT				AML	AML	01 15 32.0	
	comp=E,233μm,0.2s						
SANT	**Santorini**	**0.95**	**259**	PG	**Pn**	**01 15 12.9**	**+0.5**
SANT				SG	**Sn**	**01 15 29.9**	**-1.4**
THR2	**Thira island,**	**0.96**	**264**	P	**Pn**	**01 15 13.4**	**+1.0**
THR2	**Thira island,**	**0.96**	**264**	P	**Pn**	**01 15 13.5**	**+1.1**
THT2	**Imerovigli**	**0.97**	**263**	P	**Pn**	**01 15 13.6**	**+1.0**
CMBO	**Columbo, Santo**	**0.98**	**265**	P	**Pn**	**01 15 13.7**	**+1.1**
CMBO				S	**Sn**	**01 15 31.9**	**+0.3**
	comp=E,410nm,0.5s						
CMBO	**Columbo, Santo**	**0.98**	**265**	P	**Pn**	**01 15 13.6**	**+1.1**
STAX	**Taxiarchis Har**	**0.99**	**261**	P	**Pn**	**01 15 13.8**	**+1.2**
STAX	**Taxiarchis Har**	**0.99**	**261**	P	**Pn**	**01 15 13.7**	**+1.1**
THR3	**Thira Island,**	**0.99**	**262**	P	**Pn**	**01 15 15.0**	**+2.3**
THR6	**Thira Island,**	**1.00**	**259**	P	**Pn**	**01 15 13.9**	**+1.1**
THR6	**Thira Island,**	**1.00**	**259**	P	**Pn**	**01 15 13.9**	**+1.1**
SMG	**Samos**	**1.16**	**9**	P	**Pn**	**01 15 14.5**	**+0.3**
ARG	**Arkhangelos**	**1.27**	**105**	P	**Pn**	**01 15 16.7**	**+1.6**
ARG				S	**Sn**	**01 15 37.1**	**+0.9**
	comp=E,710nm,0.2s						
ARG	**Arkhangelos**	**1.27**	**105**	P	**Pn**	**01 15 16.5**	**+1.3**
ARG				AML	AML	01 15 38.1	
	comp=N,845μm,0.2s						
ARG				AML	AML	01 15 39.7	
	comp=E,1969μm,0.2s						
ARG	**Arkhangelos**	**1.27**	**105**	PN	**Pn**	**01 15 16.4**	**+1.3**
TURN	**Turunc**	**1.33**	**80**	PN	**Pn**	**01 15 17.2**	**+1.5**
STIA	**Sitia Lasithi**	**1.42**	**198**	P	**Pn**	**01 15 18.0**	**+1.3**
STIA				S	**Sn**	**01 15 39.3**	**+0.4**
YER	**Yerkesik**	**1.46**	**66**	P	**Pn**	**01 15 18.6**	**+1.5**
YER				S	**Sn**	**01 15 40.1**	**+0.4**
YER	**Yerkesik**	**1.46**	**66**	PN	**Pn**	**01 15 18.3**	**+1.2**
ZKR	**Zakros**	**1.48**	**193**	P	**Pn**	**01 15 18.9**	**+1.6**
ZKR				S	**Sn**	**01 15 40.7**	**+0.7**
	comp=E,135nm,0.2s						
ZKR	**Zakros**	**1.48**	**193**	P	**Pn**	**01 15 18.7**	**+1.4**
ZKR				AML	AML	01 15 43.9	
	comp=E,384μm,0.2s						
ZKR				AML	AML	01 15 44.0	
	comp=N,169μm,0.3s						
ZKR	**Zakros**	**1.48**	**193**	PN	**Pn**	**01 15 19.2**	**+1.9**
NPS	**Neapolis**	**1.53**	**212**	P	**Pn**	**01 15 18.8**	**+1.0**
NPS	**Neapolis**	**1.53**	**212**	P	**Pn**	**01 15 18.9**	**+1.0**
NPS				AML	AML	01 15 42.3	
	comp=N,2104μm,0.1s						
NPS				AML	AML	01 15 42.3	
	comp=E,2241μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**1.72**	**36**	PN	**Pn**	**01 15 20.4**	**+0.5**
HRKL	**Herakleio**	**1.75**	**225**	P	**Pn**	**01 15 21.3**	**+1.2**
HRKL				S	**Sn**	**01 15 45.3**	**+0.2**
	comp=E,2μm,0.6s						
HRKL	**Herakleio**	**1.75**	**225**	PN	**Pn**	**01 15 21.4**	**+1.3**
KSTL	**Kastelli Herak**	**1.77**	**225**	P	**Pn**	**01 15 21.0**	**+0.6**
KSTL				S	**Sn**	**01 15 44.8**	**-0.7**
	comp=E,258nm,0.4s						
MHLO	**Agia Marina, M**	**1.79**	**275**	P	**Pn**	**01 15 21.0**	**+0.4**
IDI	**Anoyia**	**1.89**	**228**	P	**Pn**	**01 15 22.5**	**+0.7**
	comp=E,11nm,0.3s,baz=48,slow=5.7,SNR=576						
IDI				S	**Sn**	**01 15 47.2**	**-0.8**
	comp=E,16nm,0.3s,baz=55,slow=18,SNR=35						
IDI	**Anoyia**	**1.89**	**228**	P	**Pn**	**01 15 22.6**	**+0.7**
IDI	**Anoyia**	**1.89**	**228**	P	**Pn**	**01 15 22.5**	**+0.7**
IDI				AML	AML	01 15 47.9	
	comp=E,935μm,0.2s						
IDI				AML	AML	01 15 48.4	
	comp=N,918μm,0.3s						
FETY	**Fethiye**	**1.99**	**87**	P	**Pn**	**01 15 24.2**	**+1.3**
FETY	**Fethiye**	**1.99**	**87**	PN	**Pn**	**01 15 24.5**	**+1.6**
SIVA	**Sivas**	**2.12**	**224**	P	**Pn**	**01 15 26.1**	**+1.6**
CAME	**Cameli-Denizli**	**2.19**	**79**	PN	**Pn**	**01 15 26.5**	**+1.1**
VAM	**Vamos**	**2.27**	**240**	P	**Pn**	**01 15 27.1**	**+0.9**
VAM	**Vamos**	**2.27**	**240**	P	**Pn**	**01 15 27.4**	**+1.2**
VAM				AML	AML	01 15 56.1	
	comp=N,1202μm,0.2s						
VAM				AML	AML	01 15 57.7	
	comp=E,1091μm,0.3s						
IMMV	**Iera Moni Meta**	**2.40**	**244**	P	**Pn**	**01 15 28.1**	**+0.4**
IMMV				AML	AML	01 16 03.6	
	comp=E,785μm,0.3s						
IMMV				AML	AML	01 16 04.0	
	comp=N,836μm,0.3s						
AKAS	**Kas**	**2.43**	**97**	PN	**Pn**	**01 15 30.1**	**+1.8**
VLY	**Voula,Athens**	**2.60**	**301**	P	**Pn**	**01 15 31.1**	**+1.0**
DION	**Dionisos Attik**	**2.62**	**306**	P	**Pn**	**01 15 31.3**	**+0.9**
PTL	**Penteli**	**2.65**	**305**	P	**Pn**	**01 15 31.7**	**+0.9**
ELL	**Elmali**	**2.66**	**85**	PN	**Pn**	**01 15 32.6**	**+1.7**
ATHU	**Athens Univers**	**2.66**	**303**	P	**Pn**	**01 15 31.9**	**+1.0**
DEMR	**Demre-Antalya**	**2.67**	**96**	PN	**Pn**	**01 15 32.4**	**+1.4**
GVD	**Gavdhos**	**2.68**	**231**	P	**Pn**	**01 15 32.3**	**+1.2**
GVD				AML	AML	01 16 09.5	
	comp=E,857μm,0.3s						
GVD				AML	AML	01 16 12.1	
	comp=N,593μm,0.4s						
ANKY	**Antikythira Is**	**2.77**	**257**	P	**Pn**	**01 15 32.8**	**+0.6**
ANKY	**Antikythira Is**	**2.77**	**257**	P	**Pn**	**01 15 32.9**	**+0.7**
MNVA	**Monemvasia**	**2.88**	**274**	P	**Pn**	**01 15 34.2**	**+0.6**
KTHA	**Kythira Island**	**2.88**	**265**	P	**Pn**	**01 15 34.5**	**+0.8**
KTHA	**Kythira Island**	**2.88**	**265**	P	**Pn**	**01 15 34.4**	**+0.7**
KRND	**KRANIDI**	**2.89**	**288**	P	**Pn**	**01 15 34.8**	**+1.0**
KTHR	**Kythira**	**2.93**	**265**	P	**Pn**	**01 15 35.2**	**+1.0**
VLI	**Veliai**	**2.96**	**274**	P	**Pn**	**01 15 35.0**	**+0.4**
VLI	**Veliai**	**2.96**	**274**	P	**Pn**	**01 15 35.2**	**+0.6**
KORT	**Korkueli**	**3.03**	**81**	PN	**Pn**	**01 15 37.4**	**+1.8**
BASM	**Basmaki-Afyon**	**3.06**	**63**	PN	**Pn**	**01 15 37.0**	**+1.1**
BCK	**Bucak**	**3.31**	**73**	PN	**Pn**	**01 15 40.4**	**+1.3**
ITM	**Ithomi**	**3.81**	**281**	P	**Pn**	**01 15 46.6**	**+1.1**
PYL	**PYLOS**	**3.93**	**276**	P	**Pn**	**01 15 46.9**	**-0.1**
AGG	**Agios Georgios**	**4.19**	**307**	P	**Pn**	**01 15 51.8**	**+1.3**
BRTR	**Keskin Array B**	**6.37**	**58**	P	**Pn**	**01 16 21.7**	**+2.2**
	comp=N,0.1nm,0.3s,baz=246,slow=12,SNR=4.1						
MMAI	**Mount Meron Ar**	**8.05**	**113**	P	**Pn**	**01 16 41.3**	**-0.4**
	comp=N,3.7nm,0.3s,baz=310,slow=12,SNR=66						
MMAI				S	**Sn**	**01 18 07.9**	**-3.5**
	comp=N,3.9nm,0.3s,baz=310,slow=25,SNR=13						
ASF	**Jabal al Asfar**	**9.56**	**114**	P	**Pn**	**01 17 03.2**	**+1.4**
	comp=N,0.3nm,0.3s,baz=305,slow=5.6,SNR=1.8						
ASF				S	**Sn**	**01 18 49.1**	**+1.3**
	comp=N,0.2nm,0.3s,baz=180,slow=20,SNR=1.7						
EIL	**Elat**	**9.80**	**132**	P	**Pn**	**01 17 04.2**	**-0.8**
	comp=N,0.2nm,0.3s,baz=304,slow=3.6,SNR=6.2						
EIL				S	**Sn**	**01 18 48.6**	**-4.9**
	comp=N,0.9nm,0.3s,baz=187,slow=9.9,SNR=11						
AKASG	**Malin Array Be**	**14.26**	**7**	P	**P**	**01 18 05.4**	**+0.2**
	comp=N,0.3nm,0.3s,baz=190,slow=11,SNR=5.1						
GERES	**GERESS Array B**	**15.49**	**326**	P	**P**	**01 18 18.9**	**0.0**
	comp=N,0.0nm,0.3s,baz=134,slow=11,SNR=4.1						
HFS	**Hagfors**	**25.01**	**345**	P	**P**	**01 19 56.7**	**-0.2**
	comp=N,2.9nm,0.8s,baz=161,slow=9.2,SNR=2.4						
MKAR	**Makanchi Array**	**42.02**	**58**	P	**P**	**01 22 24.5**	**+0.7**
	comp=N,0.1nm,0.4s,baz=276,slow=7.5,SNR=2.2						

*IDC **10** 01:30:45.8±1.4, 2°.02N×128°.04E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.2/61, mbtmp3.5/6, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.4/39, Error ellipse: s-maj=66.1km s-min=20.4km az=65.0*
*DJA **10** 01:30:47.7±0.8, 2°.N±3°.×12°.8E±°, h25km±6km, M4.0/13, mb4.2/4, MLv4.0/13*
ISC 10 01:30:49.5±1.1, 2°.33N±0°.08×128°.47E±0°.08, h35km, n21, σ1°38/17, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.90**	**215**	P	**Pn**	**01 31 18.2**	**-1.2**
TNTI				S	**Sn**	**01 31 42.8**	**+0.6**
LBMI	**Labuha**	**3.10**	**198**	P	**Pn**	**01 31 36.3**	**+0.3**
SGSI	**Sangihe**	**3.23**	**295**	P	**Pn**	**01 31 35.6**	**-2.1**
SWI	**Sorong**	**4.22**	**139**	P	**Pn**	**01 31 52.6**	**+1.2**
SWI				S	**Sn**	**01 32 38.9**	**-0.7**
SIJI	**Sorong**	**4.23**	**139**	Pn	**Pn**	**01 31 52.2**	**+0.7**
	6.3nm,0.3s,baz=330,slow=20,SNR=17						
SIJI				Sn	**Sn**	**01 32 40.1**	**+0.3**
	3.7nm,0.3s,baz=180,slow=19,SNR=9.2						
KMSI	**Cibinong**	**4.81**	**249**	P	**Pn**	**01 31 59.9**	**+0.4**
SANI	**Sanana**	**5.01**	**210**	P	**Pn**	**01 32 02.0**	**-0.2**
	0.1nm10nm,1.1s						
GTOI	**Gorontalo**	**5.71**	**253**	P	**Pn**	**01 32 13.6**	**+1.8**
	0.0nm6.1nm,0.5s						
MRSI	**Marisa**	**6.78**	**254**	P	**Pn**	**01 32 26.6**	**0.0**
FITZ	**Fitzroy Crossi**	**20.49**	**188**	P	**P**	**01 35 22.5**	**-2.1**
	0.7nm,0.8s,baz=11,slow=10,SNR=2.1						
WRA	**Warramunga Arr**	**22.87**	**166**	P	**P**	**01 35 49.0**	**-1.1**
	2.2nm,0.9s,baz=343,slow=10,SNR=14						
ASAR	**Alice Springs**	**26.38**	**169**	P	**P**	**01 36 21.6**	**-1.1**
	0.6nm,0.8s,baz=345,slow=11,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**40.74**	**64**	T	T	02 21 46.9	
	baz=251,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**40.75**	**64**	T	T	02 21 47.1	
	baz=251,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**40.75**	**64**	T	T	02 21 44.7	
	baz=251,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**41.32**	**62**	T	T	02 22 25.9	
	baz=249,slow=74,SNR=19						
H11N2	**WAKE ISLAND Hy**	**41.33**	**62**	T	T	02 22 34.9	
	baz=249						
H11N3	**WAKE ISLAND Hy**	**41.34**	**62**	T	T	02 22 28.2	
	baz=249,slow=74						
SONM	**Songino Array**	**49.18**	**340**	LR	LR	02 01 29.2	
	comp=Z,56nm,19.6s,baz=84,slow=37						
MKAR	**Makanchi Array**	**59.69**	**325**	P	**P**	**01 40 51.6**	**+1.0**
	0.3nm,0.5s,baz=117,slow=8.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**63.85**	**327**	P	**P**	**01 41 21.0**	**+2.6**
	0.3nm,0.6s,baz=128,slow=6.1,SNR=3.7						

*IDC **10** 01:35:44.6±6.6, 36°.81N×71°.97E, h109km±33km, mb3.4/4, mb1 3.4/10, mb1mx3.0/66, mbtmp3.7/10, Error ellipse: s-maj=84.7km s-min=27.4km az=158.0*
*NNC **10** 01:35:54.0±5.9, 37°.67N×71°.62E, h124km±142km, mb2.9, mpv3.5, Error ellipse: s-maj=53.2km s-min=37.3km az=5.0*
ISC 10 01:35:44.2±0.9, 36°.95N±0°.08×71°.88E±0°.08, h100km, n29, σ2°08/33, mb3.5/4, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.36**	**15**	P	**Pn**	**01 37 04.2**	**+2.1**
	SNR=12						
UCH	**Uchtor**	**5.65**	**20**	P	**Pn**	**01 37 08.2**	**+2.2**
	SNR=11						
AAK	**Ala-Archa**	**6.03**	**19**	P	**Pn**	**01 37 13.0**	**+2.0**
	1.7nm,0.3s,baz=197,slow=7.4,SNR=24						
AAK				S	**Sn**	**01 38 14.6**	**-4.0**
	0.7nm,0.3s,baz=145,slow=23,SNR=13						
AAK	**Ala-Archa**	**6.03**	**19**	P	**Pn**	**01 37 12.9**	**+2.0**
	SNR=11						
AAK	**Ala-Archa**	**6.03**	**19**	⇑P	**Pn**	**01 37 12.9**	**+1.9**
	3.2nm,0.5s						
AAK				⇑S	**Sn**	**01 38 14.6**	**-4.0**
	5.9nm,0.5s						
KK08	**Karatay Array**	**6.24**	**351**	⇓P	**Pn**	**01 37 14.7**	**+1.0**
	2.6nm,0.4s,baz=178,slow=13						
KK08				⇑S	Sn	01 38 16.6	-7.0
	9.2nm,0.5s						
CHMS	**Chumysh**	**6.43**	**19**	P	**Pn**	**01 37 18.4**	**+2.1**
	SNR=5.6						
TKM2	**Tokmak 2**	**6.61**	**24**	P	**Pn**	**01 37 21.0**	**+2.1**
	SNR=8.2						
TKM2	**Tokmak 2**	**6.61**	**24**

TIXI	Tiksi	29.31 330	P	P		01 42 57.8	-11
	1.7nm,0.9s,baz=114,slow=12,SNR=7.1						
YKA	Yellowknife Ar	35.98 47	P	P		01 44 07.1	+0.4
	0.3nm,0.6s,baz=280,slow=8.0,SNR=4.6						
NVAR	Mina Array Bea	45.06 82	P	P		01 45 22.4	+0.5
	0.4nm,0.5s,baz=289,slow=8.2,SNR=6.1						
PDAR	Pinedale Array	47.64 71	P	P		01 45 41.4	-0.6
	0.4nm,0.7s,baz=329,slow=6.8,SNR=4.7						
TXAR	Lajitas Array	60.14 80	P	P		01 47 12.8	+0.1
	0.2nm,0.5s,baz=303,slow=6.7,SNR=6.0						

*GCMT **10** 01:40:40.1±0.3,5˙05S±0˙03×153˙98E±0˙03,h116km±4km, MW4.9/66,Moment Tension Solution. s22,c24; s66,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.98±.10; $M_{\theta\theta}$0.32±.13; $M_{\phi\phi}$-2.30±.12; $M_{r\theta}$-0.84±.09; $M_{\phi\theta}$1.55±.13; $M_{\phi r}$0.24±.10; Best double couple: $M_0$2.72600×10^{16} NP1:ϕ_s180.00000°,δ45.00000°,λ128.00000°. NP2: ϕ_s312.00000°,δ57.00000°,λ58.00000°. Principal axes: T 2.3660, Plg63.0000°, Azm167.0000°; N 0.7140, Plg26.0000°, Azm331.0000°; P -3.0850, Plg7.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 01:40:41.1±1.1,4˙79S±0˙09×153˙80E±0˙08,h102km±6km, mb4.5/39 Error ellipse: s-maj=15.0km s-min=9.9km az=215.0*

*DJA **10** 01:40:42.1±0.8,5˙S±4˙×15˙4E±˙,h127km±5km,M5.0/32, mB5.2/7,mb4.7/32,MLv5.4/2,Mw(mB)4.6/7*

*IDC **10** 01:40:43.8±1.8,4˙90S×153˙73E,h128km±17km,mb4.0/24, mb1 4.1/26,mb1mx4.0/47,mbtmp4.4/26,MS3.5/7, Ms1 3.5/7,ms1mx3.0/61,Error ellipse: s-maj=13.7km s-min=10.1km az=120.0*

ISC 10 01:40:40.9±0.4,4˙79S±0˙05×153˙71E±0˙06,h100km,n142, σ1^{2}40/143,mb4.5/66,1C,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.65 291			Pn	01 41 10.5	+1.4
RABL				Sn	Sn	01 41 32.9	+2.4
RABL	Rabaul	1.65 291		P	Pn	01 41 12.5	+3.4
MANU	Manus Island	6.89 293			Pn	01 42 21.6	+2.1
HNR	Honiara	7.72 127		P	Pn	01 42 33.4	+2.7
	7.4nm,0.3s,baz=249,slow=8.6,SNR=1.8						
HNR				S	Sn	01 43 58.2	+1.8
	12nm,0.3s,baz=149,slow=21,SNR=5.6						
PMG	Port Moresby	7.96 234		P	Pn	01 42 36.2	+2.3
	14nm,0.3s,baz=56,slow=4.1,SNR=31						
PMG				S	Sn	01 44 03.4	+1.1
	5.1nm,0.3s,baz=18,slow=20,SNR=2.5						
PMG				LR	LR	01 45 53.9	
	comp=Z,227nm,18.5s,baz=70,slow=39						
PMG	Port Moresby	7.96 234		Pn	Pn	01 42 36.0	+2.1
PMG	Port Moresby	7.96 234		P	Pn	01 42 36.6	+2.7
PMG	Port Moresby	7.96 234		P	Pn	01 42 36.7	+2.8
JAY	Jayapura	13.18 279		P	P	01 43 51.3	+0.8
	1.4nm,0.3s,baz=104,slow=1.7,SNR=6.9						
JAY				LR	LR	01 47 44.6	
	comp=Z,215nm,20.9s,baz=289,slow=32						
JAY	Jayapura	13.18 279		P	Pn	01 43 44.1	-0.2
	16nm,1.2s						
GENI	Genyem	13.69 279		P	P	01 43 55.4	-0.8
COEN	Coen	13.82 228		Pn	Pn	01 43 52.8	+0.2
COEN	Coen	13.82 228		P	Pn	01 43 55.2	+2.6
SMPI	Sarmi	15.23 280		P	Pn	01 44 13.2	+2.5
BAKI	Biak	17.94 281		P	P	01 44 43.0	-0.3
	32nm,1.0s						
RK1H	Rockhampton Ha	18.75 189		P	Pn	01 44 53.6	-0.1
GUMO	Guam	20.26 334		LR	LR	01 52 45.2	
	comp=Z,16nm,19.3s,baz=136,slow=35						
EIDS	Eidsvold	20.62 187		P	P	01 45 12.1	-0.3
EIDS				IAmb	IAmb	01 45 15.8	
	comp=Z,13nm,0.8s						
QIS	Mount Isa	20.83 220		P	P	01 45 16.3	+1.6
DZM	Mont Dzumac	21.15 145		P	P	01 45 17.5	-0.7
	comp=Z,1.9nm,0.4s,baz=166,slow=13,SNR=1.4						
DZM	Mont Dzumac	21.15 145		P	P	01 45 16.9	-1.3
DZM	Mont Dzumac	21.15 145		P	P	01 45 18.6	+0.4
FAKI	Fak Fak	21.49 274		P	P	01 45 21.1	-0.8
	comp=Z,26nm,1.2s						
FAKI	Fak Fak	21.49 274		P	P	01 45 20.8	-1.0
FAKI				IAmb	IAmb	01 45 29.8	
	comp=Z,29nm,1.1s						
RMQ	Roma	22.09 192		P	P	01 45 27.8	-0.3
PINNC	Pines Island,	22.15 144		P	P	01 45 29.2	+0.5
	comp=Z,80nm,2.5s						
SAUI	Saumlaki	22.50 261		P	P	01 45 33.3	+0.9
	comp=Z,98nm,0.8s						
SAUI	Saumlaki	22.50 261		P	P	01 45 32.9	+0.5
SIJI	Sorong	22.75 279		P	P	01 45 35.5	+0.4
	comp=Z,7.3nm,0.5s,baz=103,slow=11,SNR=8.2						
SWI	Sorong	22.76 279		P	P	01 45 33.1	-2.0
	comp=Z,27nm,1.2s						
QLP	Quilpie	23.49 202		P	P	01 45 41.8	-0.1
MTN	Manton Dam	23.69 249		P	P	01 45 43.9	+0.1
MTN				IAmb	IAmb	01 45 44.9	
	comp=Z,28nm,1.1s						
MTN	Manton Dam	23.69 249		P	P	01 45 44.1	+0.3
WB0	Warramunga Arr	24.00 230		P	P	01 45 46.8	+0.3
WB0				IAmb	IAmb	01 45 48.3	
	comp=Z,29nm,1.1s						
WRAB	Tennant Creek	24.13 230		P	P	01 45 48.8	+1.1
WB2	Warramunga Arr	24.13 230		P	P	01 45 47.7	0.0
WB2				IAmb	IAmb	01 45 49.7	
	comp=Z,16nm,0.8s						
WRA	Warramunga Arr	24.14 230		P	P	01 45 47.6	-0.2
	comp=Z,16nm,0.8s,baz=54,slow=10,SNR=54						
ARMA	Armidale	25.57 184		P	P	01 46 01.1	+0.2
ARMA				IAmb	IAmb	01 46 02.3	
	comp=Z,11nm,0.8s						
ARMA	Armidale	25.57 184		P	P	01 46 01.5	+0.7
INKA	Innaminka	25.95 207		P	P	01 46 03.9	-0.3
H11S3	WAKE ISLAND Hy	26.44 29		T	T	02 14 55.1	
	baz=213,slow=74						
H11S2	WAKE ISLAND Hy	26.44 29		T	T	02 14 53.4	
	baz=213,slow=74						
H11S1	WAKE ISLAND Hy	26.45 29		T	T	02 14 55.5	
	baz=213						
LBMI	Labuha	26.50 278		P	P	01 46 07.7	-1.6
	comp=Z,18nm,0.8s						
AS31	Alice Springs	26.78 224		P	P	01 46 11.3	-0.4
ASAR	Alice Springs	26.78 224		P	P	01 46 11.3	-0.4
	comp=Z,2.7nm,0.4s,baz=54,slow=9.0,SNR=69						
ASAR				S	S	01 50 39.1	-1.5
	comp=Z,1.8nm,1.2s,baz=23,slow=22,SNR=4.2						
KNRA	Kununurra	26.79 244		P	P	01 46 11.9	+0.1
KNRA				IAmb	IAmb	01 46 12.3	
	comp=Z,13nm,1.1s						
KNRA	Kununurra	26.79 244		P	P	01 46 12.0	+0.1
MSVF	Nonsavu	27.07 120		LR	LR	01 55 28.7	
	comp=Z,130nm,21.3s,baz=2.9,slow=33						
CMSA	Cobar Meteorol	27.66 195		P	P	01 46 18.7	-0.7
SANI	Sanana	27.80 275		P	P	01 46 18.5	-2.5
	comp=Z,10nm,0.7s						
OOD	Oodnadatta	28.60 215		P	P	01 46 27.4	-0.4
STKA	Stephens Creek	29.25 201		P	P	01 46 32.9	-0.6
	comp=Z,8.0nm,0.8s,baz=39,slow=14,SNR=20						
STKA	Stephens Creek	29.25 201		P	P	01 46 33.0	-0.6
STKA	Stephens Creek	29.25 201		P	P	01 46 33.1	-0.5
LCRK	Leigh Creek	29.41 208		P	P	01 46 34.9	-0.1
BATI	Baumata	30.26 258		P	P	01 46 44.3	+1.5
	comp=Z,8.6nm,0.3s,baz=113,slow=3.8,SNR=5.0						
FITZ	Fitzroy Crossi	30.46 242		P	P	01 46 43.7	-0.8
	comp=Z,15nm,1.0s,baz=60,slow=7.3,SNR=16						
CAN	Canberra	30.70 188		P	P	01 46 46.6	+0.2
LUWI	Luwuk	31.12 276		P	P	01 46 50.0	-0.3
GTOI	Gorontalo	31.14 279		P	P	01 46 50.2	-0.3
	comp=Z,7.3nm,0.9s						
MMRI	Maumere	31.48 261		P	P	01 46 52.6	-0.9
	comp=Z,26nm,1.3s						
MMRI	Maumere	31.48 261		P	P	01 46 51.6	-2.0
MMRI				IAmb	IAmb	01 46 54.2	
	comp=Z,22nm,0.9s						
EDFI	Ende, Flores	32.03 261		P	P	01 46 54.8	-3.7
	comp=Z,14nm,1.2s						
BBOO	Buckleboo	32.39 208		P	P	01 46 59.7	-1.5
BBOO				IAmb	IAmb	01 47 01.4	
	comp=Z,14nm,0.9s						
TOO	Toolangi	33.48 192		P	P	01 47 09.6	-1.1
MPSI	Mapaga	34.16 278		P	P	01 47 15.1	-1.8
	comp=Z,2μmcomp=Z,12nm,1.1s						
WBSI	Waikabubak, Su	34.37 260		P	P	01 47 18.0	-0.8
	comp=Z,49nm,0.8s						
FORT	Forrest	35.38 220		P	P	01 47 26.7	-0.4
MTKI	Muara Teweh, K	38.95 274		P	P	01 47 55.6	-2.0
JOW	Kunigami	39.92 323		P	P	01 48 06.7	+1.3
	comp=Z,6.4nm,0.7s,baz=151,slow=9.9,SNR=5.7						
GIRL	Giralia	42.07 241		P	P	01 48 23.5	+0.3
MLZ	Mavora Lakes	42.33 165		P	P	01 48 23.9	-1.1
MORW	Morawa	43.06 232		P	P	01 48 30.7	-0.4
JNU	Nakatsue	43.48 332		P	P	01 48 34.6	+0.2
	comp=Z,9.9nm,0.8s,baz=8.6,slow=6.6,SNR=4.1						
JNU	Nakatsue	43.48 332		P	P	01 48 33.9	-0.5
JNU				IAmb	IAmb	01 48 35.8	
	comp=Z,10nm,0.9s						
CNJI	Cibinong	46.38 264		P	P	01 48 55.3	-2.4
	comp=Z,135nm,1.1s						
KSRS	Korea Array	48.40 332		P	P	01 49 14.3	+1.3
	comp=Z,0.7nm,0.5s,baz=149,slow=8.7,SNR=2.6						
MDSI	Maura Dua	49.36 268		P	P	01 49 18.8	-2.0
NJ2	Nanjing	49.41 320		*e*P	P	01 49 23.0	+2.2
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
ENH	Enshi	54.81 312		P	P	01 50 00.5	-0.4
KLR	Kul'dur	57.09 343		P	P	01 50 17.5	+0.7
	comp=Z,1.4nm,0.6s,baz=135,slow=4.3,SNR=6.3						
XAN	Xi'an	57.24 316		P	P	01 50 19.5	+1.3
XAN				pP	pP	01 50 38.1	-3.3
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
PETK	Petropavlovsk-	57.78 3		P	P	01 50 22.6	+1.0
	comp=Z,3.7nm,0.8s,baz=180,slow=8.2,SNR=4.7						
PETK	Petropavlovsk-	57.78 3		P	P	01 50 22.1	+0.5
CMAR	Chiang Mai Arr	58.70 295		P	P	01 50 29.2	+0.6
	comp=Z,1.5nm,0.3s,baz=117,slow=5.2,SNR=11						
CMAR	Chiang Mai Arr	58.70 295		P	P	01 50 29.1	+0.5
PZH	PanZhiHua	59.11 305		P	P	01 50 34.1	+2.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,4.3s						
XLT	XiLinHaoTe	59.12 329		*e*P	P	01 50 31.5	+0.3
XLT				pP	pP	01 50 54.6	+0.1
XLT				sP	sP	01 51 06.5	+1.4
XLT				pmax	pmax		
	comp=Z,17nm,0.6s						
XLT				pmax	pmax		
	comp=Z,120nm,4.6s						
HHC	Hu-ho-hao-te	59.57 324		*e*P	P	01 50 36.2	+1.9
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
LZH	Lanzhou	61.86 315		*e*P	P	01 50 51.9	+1.9
LZH				pP	pP	01 51 15.3	+1.8
LZH				sP	PcP	01 51 28.2	-1.9
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
MA2	Magadan	64.20 358		P	P	01 51 04.6	-0.3
MA2				IAmb	IAmb	01 51 06.7	
	comp=Z,6.6nm,0.7s						
GTA	Gaotai	66.27 317		⇑P	P	01 51 20.2	+1.4
GTA				pP	pP	01 51 44.1	+1.5
GTA				sP	sP	01 51 55.2	+2.1
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ULN	Ulaanbaatar	66.47 328		P	P	01 51 20.1	+0.2
ULN				IAmb	IAmb	01 51 22.8	
	comp=Z,4.5nm,1.1s						
SONM	Songino Array	66.80 327		P	P	01 51 22.5	+0.5
	comp=Z,2.0nm,0.8s,baz=140,slow=6.5,SNR=9.9						
SONM	Songino Array	66.80 327		P	P	01 51 22.2	+0.2
SHL	Shillong	67.08 300		P	P	01 51 23.7	-0.6
SHL				IAmb	IAmb	01 51 25.9	
	comp=Z,13nm,1.1s						
SEY	Seymchan	67.54 359		P	P	01 51 27.3	+1.2
	comp=Z,1.5nm,0.7s,baz=188,slow=4.4,SNR=7.8						
GOMU	GeErMu	68.43 312		P	P	01 51 33.8	+1.0
GOMU				sP	pP	01 51 42.6	-14
GOMU				PcP	PcP	01 52 00.0	+2.5
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,80nm,4.5s						
LSA	Lhasa	68.98 304		P	P	01 51 36.6	+0.1
LSA				IAmb	IAmb	01 51 38.4	
	comp=Z,6.8nm,1.1s						
GUN	Gumba	72.89 301		*e*P	P	01 52 00.8	+0.7
	comp=Z,40nm,0.8s						
BILL	Bilibino	73.20 5		P	P	01 52 00.6	0.0
BILL				IAmb	IAmb	01 52 02.5	
	comp=Z,5.3nm,0.9s						
PKI	Pulchoki	73.21 301		*e*P	P	01 52 02.3	+0.4
PKIN	Phulchoki	73.22 301		*e*P	P	01 52 02.2	+0.3
KKN	Kakani	73.37 301		*e*P	P	01 52 03.4	+0.7
DMN	Daman	73.48 300		*e*P	P	01 52 04.1	+0.7
	comp=Z,65nm,1.1s						
GKN	Gorkha	73.98 301		*e*P	P	01 52 07.1	+0.9
KOLN	Koldanda	74.81 300		*e*P	P	01 52 11.5	+0.4
DANN	Dangsing	74.81 301		*e*P	P	01 52 11.1	-0.1
	comp=Z,21nm,0.8s						
PYUN	Piuthan	75.41 300		*e*P	P	01 52 14.6	0.0
	comp=Z,47nm,1.0s						
KDAK	Kodiak Island	75.76 26		LR	LR	02 22 19.3	
	comp=Z,63nm,21.4s,baz=217,slow=33						
WMQ	Urumqi	76.35 317		*e*P	P	01 52 21.5	+2.1
TIXI	Tiksi	78.01 352		P	P	01 52 28.4	+0.5
	comp=Z,0.5nm,0.3s,baz=109,slow=3.4,SNR=5.3						
IMAR	Indian Mountai	80.07 19		P	P	01 52 39.0	-0.3
MK31	Makanchi Array	80.91 319		P	P	01 52 44.0	-0.3
MKAR	Makanchi Array	80.91 319		P	P	01 52 44.5	+0.3
	comp=Z,3.3nm,0.9s,baz=101,slow=5.8,SNR=23						
MKAR	Makanchi Array	80.91 319		P	P	01 52 44.0	-0.3
MAKZ	Makanchi	81.12 319		P	P	01 52 45.1	-0.3
ZALV	Zalesovo Beam	81.65 326		P	P	01 52 47.6	-0.4
	comp=Z,1.8nm,0.7s,baz=112,slow=4.7,SNR=9.7						
ZALV	Zalesovo Beam	81.65 326		P	P	01 52 47.3	-0.6
IL31		81.81 22		P	P	01 52 46.6	-1.9
ILAR	Eielson Array	81.81 22		P	P	01 52 47.8	-0.8
	comp=Z,1.5nm,0.9s,baz=248,slow=3.8,SNR=12						
KSH	Kashi	83.62 310		P	P	01 53 01.3	+2.6
KSH				pP	pwP	01 53 30.4	+1.4
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	Kurchatov	84.32 322		P	P	01 53 01.1	-0.7
KURK				IAmb	IAmb	01 53 02.7	
	comp=Z,6.8nm,1.1s						
KURBB	Kurchatov Arra	84.35 322		P	P	01 53 01.7	-0.2
	comp=Z,2.7nm,0.9s,baz=106,slow=4.1,SNR=23						
NIL	Nilore	84.72 304		P	P	01 53 03.6	-0.7
AAK	Ala-Archa	85.32 313		P	P	01 53 07.4	+0.2
AAK				IAmb	IAmb	01 53 08.5	
	comp=Z,3.7nm,0.9s						
MAW	Mawson	85.93 203		P	P	01 53 08.8	-0.7
	comp=Z,6.6nm,0.9s,baz=92,slow=14,SNR=2.3						
NRIK	Noril'sk	86.25 341		P	P	01 53 11.1	0.0
	comp=Z,0.8nm,0.4s,baz=108,slow=5.1,SNR=3.7						
DRK	Karamyk	86.79 310		P	P	01 53 14.1	-0.6
DRK				IAmb	IAmb	01 53 16.0	
	comp=Z,6.5nm,1.1s						
BTK	Batken	87.62 310		P	P	01 53 18.7	+0.2
BTK				IAmb	IAmb	01 53 19.2	
	comp=Z,3.7nm,1.0s						
INK	Inuvik	88.12 21		LR	LR	02 28 05.2	
	comp=Z,46nm,21.7s,baz=140,slow=32						
KKAR	Karatay Array	88.28 313		P	P	01 53 21.0	-0.5
BRVK	Borovoye	89.84 323		P	P	01 53 27.5	-1.0
BRVK				IAmb	IAmb	01 53 28.4	
	comp=Z,5.7nm,1.1s						
NVAR	Mina Array Bea	91.36 52		P	P	01 53 36.4	+0.2
	comp=Z,0.2nm,0.5s,baz=265,slow=6.2,SNR=2.6						
NVAR	Mina Array Bea	91.36 52		P	P	01 53 36.0	-0.2
HRA	Herat	93.88 304		P	P	01 53 46.5	-1.4
HRA				IAmb	IAmb	01 53 48.3	
	comp=Z,2.4nm,1.1s						
YKA	Yellowknife Ar	94.99 28		P	P	01 53 52.1	+0.1
	comp=Z,0.5nm,0.8s,baz=268,slow=4.5,SNR=8.5						
PDAR	Pinedale Array	98.17 48		LR	LR	02 33 51.6	
	comp=Z,28nm,18.7s,baz=311,slow=32						
MNK	Minsk	114.05 329		*i* PKP	PKPdf	01 59 04.2	-4.1
	comp=E,1.0nm,1.0s,baz=62						
MNK				*i* PKP	PKPdf	01 59 04.2	-4.1
	comp=N,9.0nm,1.0s						
MNK				*i* PKP	PKPdf	01 59 04.2	-4.1
	comp=Z,8.0nm,1.3s						
MNK				*i* pPKP	PKiKP	01 59 31.7	+23
MNK				*i* PP	PP	01 59 59.9	-3.8
MNK				*i* PPP	PPP	02 02 25.0	
MNK				*i* SKP		02 02 29.1	
MNK				*i* PKS	PKSdf	02 02 40.2	-4.5
MNK				*i* SKS	SKSdf	02 06 07.7	-3.6
MNK				*i* PS	PS	02 09 38.9	-3.7
MNK				*i* SS	SS	02 15 43.9	-2.0
MNK				*i* SSS	SSS	02 19 57.0	
MNK				*i* LR	LR	02 44 38.0	
MNK				*i* LRM	MLR	02 46 40.1	
	comp=N,112nm,14.0s						
MNK				*i* LRM	MLR	02 46 55.4	
	comp=E,9.0nm,14.0s						
MNK				*i* LRM	MLR	02 46 59.2	
	comp=Z,68nm,16.5s						
GERES	GERESS Array B	124.52 329		PKP	PKPdf	01 59 28.4	-0.4
	comp=Z,0.3nm,0.6s,baz=222,slow=2.5,SNR=2.1						
TORD	Torodi Ar. Bea	151.16 289		PKPbc	PKPbc	02 00 22.5	-1.1
	comp=Z,1.1nm,0.4s,baz=82,slow=1.8,SNR=26						

IDC 10 01:44:08.1±17.0,22˙05S×174˙53W,h0km,mb4.3/5, mb1 4.5/5,mb1mx4.0/38,mbtmp4.3/5,Error ellipse: s-maj=317.8km s-min=147.8km az=83.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.58 266		P	P	01 51 16.6	+0.5
	5.2nm,0.3s,baz=91,slow=10,SNR=7.2						
STKA	Stephens Creek	40.08 246		P	P	01 51 45.5	0.0
	1.2nm,0.4s,baz=90,slow=9.1,SNR=5.2						
ASAR	Alice Springs	47.33 258		P	P	01 52 43.4	-0.6
	2.2nm,0.6s,baz=94,slow=7.2,SNR=37						
WRA	Warramunga Arr	47.60 263		P	P	01 52 45.3	-0.8
	1.8nm,0.3s,baz=102,slow=8.1,SNR=91						
FITZ	Fitzroy Crossi	56.03 263		P	P	01 53 49.6	+0.5
	1.0nm,0.4s,baz=90,slow=5.1,SNR=14						

*GCMT **10** 01:53:42.2±0.4,3˙77S±0˙02×136˙52E±0˙02,h18km±2km, MW4.8/64,Moment Tension Solution. s10,c11; s64,c77; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07±.14; $M_{\theta\theta}$0.79±.11; $M_{\phi\phi}$-0.71±.10; $M_{r\theta}$-0.25±.23; $M_{\phi\theta}$1.67±.07; $M_{\phi r}$-0.60±.26; Best double couple: $M_0$1.94200×10^{16} NP1:ϕ_s283.00000°,δ71.00000°,λ2.00000°. NP2: ϕ_s192.00000°,δ88.00000°,λ161.00000°. Principal axes: T 2.0100, Plg15.0000°, Azm146.0000°; N -0.1350, Plg71.0000°, Azm7.0000°; P -1.8740, Plg12.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **10** 01:53:42.5±0.3,4˙S±2˙×13˙6E±˙,h39km±5km,M4.7/37, mb5.0/37,mB5.2/20,MLv5.0/9,Mw(mB)4.6/20, MwMwp4.9/1,Mwp5.2/1*

*NEIC **10** 01:53:45.2±2.6,3˙96S±0˙07×136˙38E±0˙06,h38km±6km, mb4.7/55,Error ellipse: s-maj=10.9km s-min=9.3km az=186.0*

*IDC **10** 01:53:46.1±2.1,3˙89S×136˙46E,h55km±21km,mb4.2/17, mb1 4.4/24,mb1mx4.2/38,mbtmp4.6/24,ML4.3/5,MS3.7/31, Ms1 3.7/31,ms1mx3.6/60,Error ellipse: s-maj=14.3km s-min=12.6km az=89.0*

ISC 10 01:53:42.8±0.3,4˙01S±0˙04×136˙37E±0˙04,h27km,n205, σ2^{2}24/193,mb4.8/58,MS3.8/28,2C-1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	2.13 356		P	Pn	01 54 11.8	-4.9
SRPI				S	Sn	01 54 35.7	-6.6
BAKI	Biak	2.82 355		P	Pn	01 54 22.3	-3.8
SMPI	Sarmi	3.08 49		P	Pn	01 54 27.4	-2.3
GENI	Genyem	4.04 70		P	Pn	01 54 43.4	+0.4
FAKI	Fak Fak	4.26 285		P	Pn	01 54 46.0	+0.1
FAKI				S	Sn	01 55 36.2	+1.4
FAKI	Fak Fak	4.26 285		Pn	Pn	01 54 46.0	+0.1
JAY	Jayapura	4.57 71		P	Pn	01 54 51.2	+0.9
	7.9nm,0.3s,baz=241,slow=7.1,SNR=32						
JAY				S	Sn	01 55 43.0	+0.3
	14nm,0.3s,baz=300,slow=21,SNR=3.9						
JAY				LR	LR	01 56 14.3	
	comp=Z,518nm,19.6s,baz=196,slow=33						
JAY	Jayapura	4.57 71		P	Pn	01 54 50.4	+0.1
MMPI	Merauke	5.96 138		P	Pn	01 55 11.1	+1.9
	16nm19μm1μm,0.6s						
SIJI	Sorong	5.98 301		P	Pn	01 55 09.1	-0.6
	33nm,0.3s,baz=92,slow=9.4,SNR=116						
SIJI				S	Sn	01 56 16.1	-1.2
	baz=240,slow=20,SNR=1.5						
SIJI				LR	LR	01 57 45.4	
	comp=Z,1μm,19.9s,baz=61,slow=40						
SWI	Sorong	5.99 301		P	Pn	01 55 08.9	-0.8
	1.2nm4μm375nm,0.6s						
SAUI	Saumlaki	6.40 232		P	Pn	01 55 18.2	+2.8
	2.1nm8μm387nm,1.0s						
SAUI	Saumlaki	6.40 232		Pn	Pn	01 55 17.8	+2.4
BNDI	Bandanaira	6.47 265		P	Pn	01 55 31.6	-3.1
MSAI	Masohi	7.46 275		P	Pn	01 55 30.3	+0.4
	0.1nm793nm27nm,0.6s						
AAI	Ambon	8.17 272		P	Pn	01 55 37.0	-2.7
	134nm,0.7s						
KDU	Kakadu	9.44 204		P	Pn	01 55 58.5	+1.4
	baz=9.5,SNR=214						
KDU				S	Sn	01 57 42.5	+0.1
	baz=9.5						
KDU	Kakadu	9.44 204		P	Pn	01 55 59.1	+2.0
LBMI	Labuha	9.48 290		P	Pn	01 55 57.1	-0.5
	2μm213nm,1.0s						
DRS	Darwin Rock St	9.96 213		P	Pn	01 56 08.8	+4.5
TNTI	Ternate	10.18 298		Pn	Pn	01 56 08.1	+0.8
MTN	Manton Dam	10.19 210		P	Pn	01 56 10.7	+3.4
	baz=10,SNR=94						
MTN				S	Sn	01 58 03.7	+2.9
	baz=10						
MTN	Manton Dam	10.19 210		Pn	Pn	01 56 10.8	+3.4
MTN	Manton Dam	10.19 210		P	Pn	01 56 11.5	+4.1
SANI	Sanana	10.55 280		P	Pn	01 56 10.2	-2.2
	769nm100nm,0.7s						
MANU	Manus Island	11.15 80			Pn	01 56 22.8	+2.2
COEN	Coen	11.94 146		Pn	Pn	01 56 30.4	-1.0
COEN	Coen	11.94 146

MTSU Mount Surprise 16.04 152 P **Pn 01 57 25.6 -1.1**
baz=16,SNR=11
MTSU S **Sn 02 00 14.6 -9.4**
baz=16
TOLI2 Tolitoli 16.39 288 Pn **Pn 01 57 30.6 -0.6**
TOLI2 IAmb IAmb 01 57 39.2
comp=Z,30nm,0.7s
TTSI Tana Toraja 16.55 273 P **Pn 01 57 32.2 -1.0**
comp=Z,686nmcomp=Z,50nm,1.0s
KAPI Kappang 16.60 266 P **P 01 57 35.8 -0.3**
comp=Z,0.2nm,0.3s,baz=62,slow=15,SNR=1.7
QIS Mount Isa 16.74 169 P **Pn 01 57 35.4 -0.2**
baz=17,SNR=12
QIS Mount Isa 16.74 169 P **Pn 01 57 35.9 +0.3**
MPSI Mapaga 17.02 284 P **Pn 01 57 35.8 -3.3**
comp=Z,2μmcomp=Z,376nmcomp=Z,22nm,1.4s
FITZ Fitzroy Crossi 17.50 216 P **P 01 57 47.2 +1.1**
comp=Z,2.0nm,0.3s,baz=40,slow=11,SNR=43
FITZ S **Sn 02 00 55.2 -4.1**
comp=Z,4.1nm,0.3s,baz=86,slow=14,SNR=8.1
WBSI Waikabubak, Su 17.76 251 P **Pn 01 57 47.0 -1.3**
comp=Z,41nm,0.9s
CTA Charters Tower 18.66 150 P **Pn 01 57 59.7 +0.4**
comp=Z,0.5nm,0.3s,baz=330,slow=14,SNR=8.3
CTAO Charters Tower 18.66 150 **P 01 57 58.6 -0.2**
CTAO Charters Tower 18.66 150 P **Pn 01 58 00.3 +1.1**
GUMO Guam 19.41 26 LR LR 02 06 00.0
comp=Z,90nm,19.2s,baz=206,slow=38
AS31 Alice Springs 19.68 187 P **Pn 01 58 12.0 +0.5**
AS31 IAmb IAmb 01 58 31.5
comp=Z,30nm,0.7s
ASAR Alice Springs 19.68 187 P **Pn 01 58 11.9 +0.3**
comp=Z,5.8nm,0.3s,baz=10,slow=11,SNR=181
ASAR S **S 02 01 45.8 -4.9**
comp=Z,0.6nm,0.3s,baz=11,slow=26,SNR=3.8
ASAR LR LR 02 06 28.8
comp=Z,299nm,21.4s,baz=14,slow=38
ASAR Alice Springs 19.68 187 P **Pn 01 58 11.6 0.0**
MYLDM Lahad Datu 20.05 297 P Pn 01 58 15.2 -0.8
MYLDM IAmb IAmb 01 58 25.7
comp=Z,61nm,1.1s
KBKI Kotabaru 20.18 271 P **P 01 58 13.4 -2.1**
comp=Z,30nm,0.8s
BBKI Banjar Baru 21.49 271 P **P 01 58 31.8 +2.1**
WRKA Warakurna 22.30 200 P **P 01 58 41.3 +3.0**
baz=22,SNR=96
WRKA Warakurna 22.30 200 P **P 01 58 40.3 +2.0**
KKM Kota Kinabalu 22.47 296 P **P 01 58 41.6 +1.3**
KKM IAmb IAmb 01 58 46.0
comp=Z,30nm,0.9s
KMMI Kalianget 22.50 261 P **P 01 58 43.0 +2.5**
comp=Z,53nm,0.9s
MBWA Marble Bar 23.50 222 P **P 01 58 54.6 +3.9**
TGY Tagaytay City 23.63 320 P **P 01 58 52.5 +0.5**
comp=Z,59nm,0.3s,baz=108,slow=20,SNR=1.0
OOD Oodnadatta 23.66 182 P **P 01 58 54.2 +2.1**
QLP Quilpie 23.67 162 P **P 01 58 54.1 +1.9**
baz=24,SNR=28
QLP Quilpie 23.67 162 P **P 01 58 54.7 +2.4**
PSA00 Pilbara Seismi 23.71 221 P **P 01 58 54.6 +1.9**
PSA00 IAmb IAmb 01 59 15.6
comp=Z,17nm,1.0s
PSA00 Pilbara Seismi 23.71 221 P **P 01 58 56.0 +3.3**
INKA Innaminka 23.96 170 P **P 01 58 57.3 +2.3**
HNR Honiara 24.01 104 LR LR 02 09 21.9
comp=Z,74nm,19.2s,baz=316,slow=39
SBUM Sibu 24.98 285 P **P 01 59 05.6 +1.1**
RMQ Roma 25.30 153 P **P 01 59 09.6 +2.3**
baz=25,SNR=7.0
EIDS Eidsvold 25.51 148 P **P 01 59 09.6 +0.5**
MULG Mulgathing 26.22 185 P **P 01 59 17.8 +2.3**
LCRK Leigh Creek 26.35 176 P **P 01 59 18.5 +1.8**
FORT Forrest 27.75 196 P **P 01 59 30.0 +0.6**
FORT Forrest 27.75 196 P **P 01 59 33.2 +3.9**
STKA Stephens Creek 28.15 171 P **P 01 59 34.1 +1.2**
comp=Z,5.0nm,0.6s,baz=348,slow=8.4,SNR=7.4
STKA Stephens Creek 28.15 171 P **P 01 59 34.0 +1.1**
baz=28,SNR=7.3
STKA Stephens Creek 28.15 171 P **P 01 59 32.5 -0.4**
BBOO Buckleboo 28.65 181 P **P 01 59 39.3 +2.0**
BBOO IAmb IAmb 02 00 07.0
comp=Z,14nm,0.8s
BBOO Buckleboo 28.65 181 P **P 01 59 40.7 +3.4**
ARMA Armidale 29.96 153 P **P 01 59 49.6 +0.5**
ARMA IAmb IAmb 02 00 07.8
comp=Z,13nm,1.3s
JOW Kunigami 31.65 346 LR LR 02 11 47.5
comp=Z,85nm,20.8s,baz=153,slow=34
KLBR Kellerberrin 32.54 210 P **P 02 00 13.4 +1.7**
baz=33,SNR=4.6
DZM Mont Dzumac 34.23 124 LR LR 02 14 18.7
comp=Z,298nm,21.7s,baz=329,slow=36
DZM Mont Dzumac 34.23 124 *eP* **P 02 00 30.5 +3.8**
comp=Z,51nm,2.1s
DZM *e*LR LR 02 09 40.6
comp=Z,457nm,23.7s
JNU Nakatsue 37.30 352 P **P 02 00 51.5 -1.2**
comp=Z,38nm,0.7s,baz=167,slow=1.5,SNR=12
JNU LR LR 02 13 48.4
comp=Z,93nm,21.8s,baz=180,slow=32
JWT Wachi 39.10 359 P **P 02 01 07.2 -0.6**
NJ2 Nanjing 39.55 336 *eP* **P 02 01 15.7 +4.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
JYT Yasato 40.19 5 P **P 02 01 16.2 -0.7**
MJAR Matsushiro Arr 40.38 2 P **P 02 01 17.1 -1.5**
comp=Z,3.0nm,0.7s,baz=186,slow=8.2,SNR=5.5
MJAR LR LR 02 15 22.7
comp=Z,136nm,19.9s,baz=182,slow=32
MAJO Matsushiro 40.38 2 P **P 02 01 18.6 +0.1**
MAJO IAmb IAmb 02 01 47.1
comp=Z,13nm,1.2s
MAT Matsushiro 40.38 2 P **P 02 01 17.3 -1.2**
JMM Marumori 41.87 5 P **P 02 01 30.0 -0.7**
KSAR Wonju Array Be 41.99 350 P **P 02 01 32.1 +0.4**
KSRS Korea Array 42.00 350 P **P 02 01 31.2 -0.5**
comp=Z,3.9nm,0.9s,baz=159,slow=8.4,SNR=11
KSRS LR LR 02 17 19.2
comp=Z,37nm,21.4s,baz=165,slow=34
ENH Enshi 42.70 325 P **P 02 01 37.7 0.0**
ENH IAmb IAmb 02 01 40.6
comp=Z,14nm,0.8s
MSVF Nonsavu 43.02 112 P **P 02 01 39.9 -0.6**
comp=Z,0.8nm,0.2s,baz=123,slow=4.9,SNR=3.6
MSVF LR LR 02 20 26.1
comp=Z,138nm,18.6s,baz=358,slow=37
MSVF Nonsavu 43.02 112 IAmb IAmb 02 01 40.6
comp=Z,16nm,1.2s
CM31 Chiang Mai Arr 43.11 302 P **P 02 01 42.5 +1.4**
CM31 IAmb IAmb 02 01 54.5
comp=Z,22nm,1.3s
CMAR Chiang Mai Arr 43.11 302 P **P 02 01 42.6 +1.5**
comp=Z,2.9nm,0.6s,baz=127,slow=6.8,SNR=19
CMAR Chiang Mai Arr 43.11 302 P **P 02 01 42.0 +0.9**
CHTO Chiang Mai 43.27 303 P **P 02 01 42.0 -0.4**
KMI Kunming 43.65 313 ⇓P **P 02 01 49.6 +3.9**
KMI pmax pmax
comp=Z,16nm,1.0s
LYN LuoYang 44.48 331 ⇑P **P 02 01 54.0 +2.1**
LYN sP pP 02 02 01.4 +0.8
LYN PP **PP 02 03 42.8 +6.8**
LYN S **S 02 08 31.6 +6.1**
LYN SS **SS 02 11 37.7 -8.0**
LYN pmax pmax
comp=Z,10.0nm,0.8s
LYN pmax pmax
comp=Z,80nm,5.0s
LYN LR LR
comp=N,120nm,15.6s
PZH PanZhiHua 45.20 314 P **P 02 02 01.4 +3.5**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.3s
XAN Xi'an 45.86 328 P **P 02 02 03.8 +0.8**
XAN pP pP 02 02 11.5 -0.3
XAN pmax pmax
comp=Z,7.0nm,0.7s
HNS HongShan 45.87 336 ⇑P **P 02 02 02.9 0.0**
HNS pmax pmax
comp=Z,11nm,1.1s
BJI Beijing 47.61 339 P **P 02 02 18.0 +1.6**
BJI pmax pmax
comp=Z,9.0nm,1.2s
USA0B Ussuriysk Arra 48.16 356 P **P 02 02 20.9 +0.3**
USRK Ussuriysk Ar. 48.16 356 P **P 02 02 20.1 -0.5**
comp=Z,7.0nm,0.7s,baz=185,slow=6.6,SNR=9.5
USRK LR LR 02 20 08.4
comp=Z,87nm,19.1s,baz=151,slow=33
ASAJ Asahikawa 48.24 6 LR LR 02 20 25.6
comp=Z,66nm,21.5s,baz=130,slow=33
HHC Hu-ho-hao-te 50.09 335 *eP* **P 02 02 38.5 +2.9**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,84nm,4.2s
LZH Lanzhou 50.17 325 *eP* **P 02 02 37.0 +0.6**
LZH pP pP 02 02 43.3 -2.0
LZH pmax pmax
comp=Z,47nm,0.9s
URZ Urewera 50.36 138 LR LR 02 24 53.0
comp=Z,248nm,18.5s,baz=352,slow=37
SHL Shillong 52.20 307 P **P 02 02 52.9 +1.1**
KLR Kul'dur 53.18 356 P **P 02 02 57.3 -1.1**
comp=Z,7.2nm,0.7s,baz=164,slow=7.4
KLR LR LR 02 23 16.7
comp=Z,90nm,19.8s,baz=210,slow=33
LSA Lhasa 54.76 311 P **P 02 03 11.2 +0.2**
LSA IAmb IAmb 02 03 16.8
comp=Z,7.0nm,0.7s
GTA Gaotai 54.77 326 *eP* **P 02 03 10.3 -0.2**
GTA pP sP 02 03 23.4 +0.5
GTA sP pP 02 03 28.8 +9.4
GTA pmax pmax
comp=Z,6.0nm,0.8s
GOMU GeErMu 55.74 320 P **P 02 03 21.9 +4.1**
GOMU PcP **PcP 02 04 13.0 -3.9**
GOMU pmax pmax
comp=Z,2.0nm,0.6s
PALK Pallekele 56.68 281 LR LR 02 32 43.4
comp=Z,64nm,18.2s,baz=205,slow=41
ULN Ulaanbaatar 57.71 337 P **P 02 03 32.2 +0.9**
SONM Songino Array 57.94 337 P **P 02 03 32.1 -0.8**
comp=Z,1.0nm,0.8s,baz=152,slow=7.3,SNR=6.7
SONM LR LR 02 28 33.2
comp=Z,99nm,19.2s,baz=121,slow=36
SONM Songino Array 57.94 337 P **P 02 03 32.9 +0.1**
GUN Gumba 58.05 306 *eP* **P 02 03 36.0 +1.7**
comp=Z,26nm,0.8s
PKI Pulchoki 58.28 306 *eP* **P 02 03 36.9 +1.0**
comp=Z,16nm,0.8s
PKIN Phulchoki 58.30 306 *eP* **P 02 03 37.7 +1.8**
comp=Z,18nm,0.9s
KKN Kakani 58.48 306 *eP* **P 02 03 38.9 +1.8**
DMN Daman 58.54 306 *eP* **P 02 03 38.9 +1.2**
comp=Z,11nm,0.6s
GKN Gorkha 59.08 306 *eP* **P 02 03 42.5 +1.2**
comp=Z,12nm,0.4s
PETK Petropavlovsk- 59.68 15 P **P 02 03 43.4 -1.3**
comp=Z,5.3nm,0.9s,baz=162,slow=0.5,SNR=4.6
KOLN Koldanda 59.83 305 *eP* **P 02 03 47.3 +0.8**
DANN Dangsing 59.93 306 *eP* **P 02 03 47.8 +0.5**
comp=Z,26nm,0.7s
PYUN Piuthan 60.46 305 *eP* **P 02 03 51.0 +0.2**
comp=Z,55nm,0.6s
RAR Rarotonga 64.20 112 LR LR 02 30 55.4
comp=Z,32nm,19.3s,baz=218,slow=35
WMQ Urnqi 64.61 323 *eP* **P 02 04 21.6 +3.5**
SHEM Shemya Is, Ala 64.87 24 LR LR 02 27 15.0
comp=Z,75nm,21.7s,baz=224,slow=31
YAK Yakutsk 66.06 357 LR LR 02 31 03.2
comp=Z,67nm,19.7s,baz=238,slow=34
MK31 Makanchi Array 69.42 324 **P 02 04 48.7 +0.1**
MK31 IAmb IAmb 02 04 52.2
comp=Z,5.6nm,0.8s
MKAR Makanchi Array 69.42 324 P **P 02 04 48.6 +0.1**
comp=Z,8.1nm,0.6s,baz=112,slow=7.9,SNR=79
MAKZ Makanchi 69.61 323 **P 02 04 49.1 -0.7**
TARG Taragay, Kyrgy 69.92 317 IAmb IAmb 02 05 11.4
comp=Z,8.4nm,1.0s
NIL Nilore 70.25 308 **P 02 04 53.1 -0.9**
NIL IAmb IAmb 02 04 59.0
comp=Z,6.9nm,0.8s
KSH Kashi 70.30 314 P **P 02 04 58.1 +3.9**
KSH sP PcP 02 05 13.7 -2.1
KSH pmax pmax
comp=Z,6.0nm,1.1s
ZAA0 Zalesovo Array 71.91 331 P **P 02 05 03.7 +0.3**
ZALV Zalesovo Beam 71.91 331 P **P 02 05 01.6 -1.9**
comp=Z,3.8nm,0.9s,baz=116,slow=6.8,SNR=13
ZALV Zalesovo Beam 71.91 331 P **P 02 05 02.7 -0.8**
AAK Ala-Archa 72.54 317 P **P 02 05 08.6 +0.8**
comp=Z,1.7nm,0.6s,baz=92,slow=7.8,SNR=3.7
AAK Ala-Archa 72.54 317 P **P 02 05 08.6 +0.8**
AAK IAmb IAmb 02 05 11.4
comp=Z,12nm,1.5s
DRK Karamyk 73.29 313 P **P 02 05 13.7 +1.2**
DRK IAmb IAmb 02 05 17.8
comp=Z,8.4nm,1.1s
KURK Kurchatov 73.46 326 P **P 02 05 12.0 -0.8**
KURK Kurchatov 73.46 326 IAmb IAmb 02 05 18.8
comp=Z,5.7nm,0.9s
KURBB Kurchatov Arra 73.47 326 P **P 02 05 12.0 -0.8**
comp=Z,6.4nm,1.1s,baz=118,slow=5.0,SNR=19
PPT Papeete 73.60 107 LR LR 02 37 45.7
comp=Z,33nm,18.2s,baz=282,slow=36
PPT2 Papeete2 73.60 107 *e*LR LR 02 27 58.8
comp=Z,97nm,23.2s
KBL Kabul 73.85 308 **P 02 05 15.4 -0.4**
BTK Batken 74.20 313 P **P 02 05 18.8 +1.2**
BTK IAmb IAmb 02 05 36.5
comp=Z,16nm,1.5s
VNDA Vanda 74.71 174 LR LR 02 39 04.7
comp=Z,133nm,18.5s,baz=344,slow=36
CHGR Chuyangaron 74.98 312 **P 02 05 22.4 +0.4**
CHGR IAmb IAmb 02 05 26.7
comp=Z,9.4nm,0.7s
KKAR Karatay Array 75.44 316 P **P 02 05 25.5 +1.0**
TIXI Tiksi 75.68 358 LR LR 02 36 36.5
comp=Z,62nm,20.1s,baz=200,slow=34
BRVK Borovoye 79.13 326 **P 02 05 44.6 -0.3**
BRVK IAmb IAmb 02 05 47.7
comp=Z,8.3nm,0.8s
NRIK Noril'sk 80.32 344 P **P 02 05 51.3 +0.2**
comp=Z,2.1nm,0.4s,baz=149,slow=5.2,SNR=3.6
NRIK LR LR 02 43 16.7
comp=Z,32nm,20.0s,baz=158,slow=37
NRIK Noril'sk 80.32 344 P **P 02 05 51.1 0.0**
NRIK IAmb IAmb 02 06 03.1
comp=Z,8.6nm,1.2s
TAOE Nuku Hiva Isla 82.96 98 *e*LR LR 02 32 19.7
comp=Z,88nm,25.0s
GEYT Alibeck 83.22 309 P **P 02 06 06.8 -0.3**
comp=Z,2.5nm,0.9s,baz=217,slow=19,SNR=3.3
GEYT LR LR 02 48 10.3
comp=Z,24nm,18.1s,baz=40,slow=39
KDAK Kodiak Island 83.40 31 LR LR 02 39 43.8
comp=Z,63nm,20.8s,baz=138,slow=33
TTA Tatalina 83.57 25 P **P 02 06 07.7 -0.7**
TTA IAmb IAmb 02 06 12.4
comp=Z,12nm,1.2s
ABKAR Akbulak array 84.21 320 P **P 02 06 10.6 -1.3**
IMAR Indian Mountai 85.58 23 P **P 02 06 18.1 -0.3**
AKTO Aktyubinsk 85.68 321 LR LR 02 45 47.8
comp=Z,23nm,20.9s,baz=93,slow=36
H21K Melozitna Rive 85.84 23 IAmb IAmb 02 06 23.2
comp=Z,9.4nm,1.1s
QSPA South Pole Qui 85.94 180 LR LR 02 45 23.0
comp=Z,147nm,19.4s,baz=14,slow=36
QSPA South Pole Qui 85.94 180 P **P 02 06 19.5 -0.9**
QSPA IAmb IAmb 02 06 26.0
comp=Z,8.5nm,1.1s
COLD Coldfoot 87.32 22 P **P 02 06 27.4 +0.5**
DHY Denali Highway 87.36 26 P **P 02 06 28.0 +0.6**
ILAR Eielson Array 87.98 25 P **P 02 06 28.5 -1.6**
comp=Z,3.1nm,0.9s,baz=266,slow=4.0,SNR=20
ILAR Eielson Array 87.98 25 P **P 02 06 29.0 -1.2**
BMAR Burnt Mountain 89.48 22 P **P 02 06 37.6 +0.4**
KBZ Khabaz 95.26 313 LR LR 02 54 47.3
comp=Z,28nm,18.8s,baz=82,slow=38
KLMR Klimovskoe 96.83 331 *eP* **P 02 07 10.0 -1.1**
KLMR AMP 02 07 10.8
comp=Z,13nm,1.5s
ARCES ARCESS Array B 100.96 340 P **Pdif 02 07 30.6 +1.1**
comp=Z,3.9nm,1.0s,baz=40,slow=6.3,SNR=6.5
YKA Yellowknife Ar 102.27 27 P **Pdif 02 07 34.2 -1.2**
comp=Z,0.2nm,0.6s,baz=283,slow=5.2,SNR=4.3
CLL Collm 113.49 325 *i* PKiKP **PKiKP 02 12 13.4 -5.1**
comp=Z,9.0nm,1.4s
GERES GERESS Array B 114.08 322 PKP PKPdf 02 12 19.2 -0.7
comp=Z,0.2nm,0.5s,baz=116,slow=2.3,SNR=1.3
TORD Torodi Ar. Bea 134.35 284 PKP **PKiKP 02 13 00.3 -0.4**
comp=Z,0.7nm,0.8s,baz=27,slow=2.3,SNR=3.7
PB11 IPOC Station P 145.17 134 PKPbc **PKPbc 02 13 17.9 -0.8**
PB16 IPOC Station P 146.18 132 PKPbc **PKPdf 02 13 21.3 -0.1**
CPUP Villa Florida 147.05 157 PKPbc **PKPbc 02 13 23.6 -0.3**
comp=Z,5.6nm,1.1s,baz=231,slow=3.5,SNR=2.0
LPAZ La Paz 148.47 130 PKPbc **PKPbc 02 13 28.7 -0.2**
comp=Z,2.3nm,0.8s,baz=187,slow=2.0,SNR=6.7
LPAZ La Paz 148.47 130 **PKiKP 02 13 29.8 -0.7**

IDC ***10*** *02:03:30.6±0.9, 32°.97N×100°.88W, h0km, mb3.4/2, mb1 3.9/10, mb1mx3.6/50, mbtmp3.6/10, ML3.5/8, MS3.3/4, Ms1 3.3/4, ms1mx2.9/42, Error ellipse: s-maj=13.2km s-min=8.2km az=110.0*

NEIC ***10*** *02:03:30.7, 32°.88N×100°.85W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr=0.64; Mθθ 1.65; Mφφ-1.01; Mrθ 0.49; Mθφ 3.11; Mφr-0.07; Fault plane solution: M0 3.47000×10^14 NP1:φs281.35000°, δ88.09000°, λ-8.91000°. NP2:φs11.65000°, δ81.10000°, λ-178.06000°. Principal axes: T 3.7357, Plg5.0000°, Azm327.0000°; N -0.6255, Plg81.0000°, Azm89.0000°; P -3.1102, Plg8.0000°, Azm236.0000°;*

NEIC ***10*** *02:03:31.9±1.5, 32°.94N±0°.04×100°.84W±0°.06, h3km±7km, mb_Lg3.8/111, Mwr3.6/18 Error ellipse: s-maj=7.9km s-min=6.0km az=67.0*

ANF ***10*** *02:03:31.2±1.2, 32°.92N×100°.83W, h2km±8km, ML4.9/12, Error ellipse: s-maj=4.4km s-min=2.3km az=35.0*

ISC 10 02:03:31.2±0.6, 32°.98N±0°.03×100°.76W±0°.03, h10km, n163, σ1°75/170, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSTX	**Muleshoe**	**1.95**	**301**		**Pn**	**02 04 04.5**	**+0.1**
MSTX					**Sb**	**02 04 30.6**	**-0.6**
MSTX	**Muleshoe**	**1.95**	**301**	P	**Pn**	**02 04 04.6**	**+0.1**
baz=124,SNR=1000							
MSTX				S	**Sb**	**02 04 30.7**	**-0.6**
baz=124							
AMTX	**Amarillo**	**2.05**	**338**	Pn	**Pb**	**02 04 07.7**	**-0.9**
AMTX					**Sb**	**02 04 35.5**	**+1.4**
AMTX	**Amarillo**	**2.05**	**338**	P	**Pb**	**02 04 07.5**	**-1.0**
baz=161							
AMTX				S	**Sg**	**02 04 36.3**	**-0.7**
baz=161							
WMOK	**Wichita Mounta**	**2.41**	**43**		**Pn**	**02 04 12.8**	**+2.1**
WMOK					**Sb**	**02 04 45.4**	**+0.9**
WMOK	**Wichita Mounta**	**2.41**	**43**	P	**Pb**	**02 04 13.0**	**-1.7**
baz=224,SNR=123							
WMOK				S	**Sb**	**02 04 45.5**	**+1.0**
baz=224							
JCT	**Junction City**	**2.62**	**162**		**Pn**	**02 04 14.1**	**+0.4**
JCT	**Junction City**	**2.62**	**162**	P	**Pn**	**02 04 14.3**	**+0.6**
baz=340,SNR=75							
JCT				S	**Sn**	**02 04 47.6**	**+2.0**
baz=340							
X34A	**Smith Ranch, M**	**2.93**	**56**	Pn	**Pn**	**02 04 20.4**	**+2.6**
X34A				IAmb_Lg		02 05 08.8	
comp=Z,389nm,0.8s							
WHTX	**Lake Whitney,**	**2.96**	**109**	Pn	**Pn**	**02 04 19.8**	**+1.5**
WHTX	**Lake Whitney,**	**2.96**	**109**	P	**Pn**	**02 04 19.7**	**+1.4**
baz=288,SNR=23							
WHTX				Sn	**Sn**	**02 04 55.9**	**+1.9**
baz=288							
WHTX				Sb	**Sg**	**02 05 04.9**	**-1.5**
baz=288							
Z35A	**Perchaven, San**	**2.96**	**82**		**Pn**	**02 04 20.1**	**+1.7**
LOOK	**Love County**	**3.16**	**70**		**Pn**	**02 04 23.3**	**+2.3**
435B	**Jarrell**	**3.48**	**128**		**Pn**	**02 04 26.8**	**+1.4**
435B	**Jarrell**	**3.48**	**128**	P	**Pn**	**02 04 26.8**	**+1.4**
baz=308,SNR=26							
435B				Sb	**Sg**	**02 05 22.1**	**-0.8**
baz=308							
FNO	**Franklin**	**3.60**	**50**	Pn	**Pn**	**02 04 28.9**	**+1.8**
OKCFA	**Oklahoma City**	**3.67**	**48**		**Pn**	**02 04 30.1**	**+2.1**
OKCFA				IAmb_Lg		02 05 32.6	
comp=Z,230nm,0.7s							
OKCSW	**OKLAHOMA CITY**	**3.67**	**48**	Pn	**Pn**	**02 04 30.4**	**+2.3**
BCOK	**Bluff Creek, N**	**3.73**	**43**		**Pn**	**02 04 31.6**	**+2.6**
OK025	**Westminster Rd**	**3.84**	**47**		**Pn**	**02 04 32.2**	**+1.8**
W35A	**Tecumseh**	**3.89**	**55**	Pn	**Pn**	**02 04 32.3**	**+1.3**
OK035	**E0210 Rd and N**	**4.08**	**24**	Pn	**Pn**	**02 04 36.8**	**+3.0**
MNTX	**Cornudas Mount**	**4.11**	**253**	Pn	**Pn**	**02 04 32.9**	**-1.2**
MNTX	**Cornudas Mount**	**4.11**	**253**	P	**Pn**	**02 04 33.9**	**-0.2**
baz=71,SNR=36							
237A	**Washetta, Mont**	**4.30**	**102**	Pn	**Pn**	**02 04 38.5**	**+1.9**
OK032	**Salt Plains WL**	**4.35**	**28**		**Pn**	**02 04 39.2**	**+1.7**
OK032				IAmb_Lg		02 06 03.4	
comp=Z,166nm,0.9s							
OK031	**S. Brethren Rd**	**4.39**	**46**		**Pn**	**02 04 40.6**	**+2.6**
OK031				IAmb_Lg		02 06 02.0	
comp=Z,141nm,0.8s							
TX31	**Lajitas Ar. Si**	**4.40**	**215**		**Pn**	**02 04 37.1**	**-1.1**
TXAR	**Lajitas Array**	**4.40**	**215**	Pn	**Pn**	**02 04 37.0**	**-1.2**
comp=Z,4.0nm,0.3s,baz=46,slow=12,SNR=172							
TXAR				Pg	**Pb**	**02 04 48.4**	**-0.4**
comp=Z,27nm,0.3s,baz=36,slow=15,SNR=105							
TXAR				Sn	**Sn**	**02 05 29.9**	**+0.3**
comp=Z,13nm,0.3s,baz=43,slow=15,SNR=4.5							
TXAR				Lg		02 05 44.2	
comp=Z,40nm,0.3s,baz=43,slow=17,SNR=9.8							
TXAR	**Lajitas Array**	**4.40**	**215**	Pn	**Pn**	**02 04 37.3**	**-0.9**
TX32	**Lajitas Array**	**4.41**	**215**	Pn	**Pn**	**02 04 37.1**	**-1.1**
OK030	**Cody Creek RV**	**4.41**	**47**		**Pn**	**02 04 40.2**	**+2.0**
OK030				IAmb_Lg		02 05 55.8	
comp=Z,178nm,0.7s							
KAN14	**Manchester OK**	**4.59**	**29**		**Pn**	**02 04 42.3**	**+1.7**
KAN14				IAmb_Lg		02 06 00.4	
comp=Z,137nm,0.8s							
QUOK	**Quay**	**4.62**	**45**	Pn	**Pn**	**02 04 42.8**	**+1.7**
KAN10	**Anthony SW Sta**	**4.68**	**27**	Pn	**Pn**	**02 04 43.6**	**+1.7**
KAN10				IAmb_Lg		02 06 05.6	
comp=Z,132nm,0.9s							
BLOK	**Blackwell**	**4.77**	**37**	Pn	**Pn**	**02 04 45.2**	**+2.0**
BLOK				IAmb_Lg		02 06 06.4	
comp=Z,189nm,1.0s							
X37A	**Clayton**	**4.77**	**69**	Pn	**Pn**	**02 04 44.6**	**+1.5**
X37A				IAmb_Lg		02 06 16.0	
comp=Z,186nm,0.8s							
KAN16	**Harper SW Stat**	**4.78**	**27**		**Pn**	**02 04 45.3**	**+2.0**
KAN16				IAmb_Lg		02 06 10.8	
comp=Z,213nm,1.2s							
833A	**Chaparral WMA,**	**4.79**	**165**	Pn	**Pn**	**02 04 43.6**	**+0.2**
833A	**Chaparral WMA,**	**4.79**	**165**	P	**Pn**	**02 04 43.4**	**0.0**
baz=345,SNR=8.3							
KAN08	**Anthony NE Sta**	**4.82**	**28**	IAmb_Lg		02 06 09.8	
comp=Z,209nm,1.1s							
735A	**Kenedy**	**4.83**	**148**		**Pn**	**02 04 44.8**	**+0.8**
Z38A	**Mt. Pleasant**	**4.86**	**85**		**Pn**	**02 04 46.4**	**+2.0**
KAN12	**Harper NE Stat**	**4.87**	**27**	Pn	**Pn**	**02 04 46.8**	**+2.3**
KAN06	**Argonia West S**	**4.88**	**28**		**Pn**	**02 04 46.4**	**+1.7**
BNM	**Barren Site**	**5.03**	**285**	Pn	**Pn**	**02 04 46.9**	**-0.2**
TUL1	**Leonard**	**5.04**	**53**	Pn	**Pn**	**02 04 48.0**	**+1.1**
TUL1				IAmb_Lg		02 06 17.5	
comp=Z,168nm,0.9s							
TUL1	**Leonard**	**5.04**	**53**	P	**Pn**	**02 04 47.9**	**+1.0**
baz=236,SNR=5.8							
T25A	**Trinidad**	**5.12**	**325**	Pn	**Pn**	**02 04 49.2**	**+1.1**
T25A	**Trinidad**	**5.12**	**325**	P	**Pn**	**02 04 49.9**	**+1.8**
baz=145,SNR=50							
T25A				Sb	**Sb**	**02 06 08.6**	**+6.1**
baz=145							
ANMO	**Albuquerque**	**5.12**	**294**	Pn	**Pn**	**02 04 48.4**	**+0.2**
comp=Z,1.1nm,0.3s,baz=117,slow=14,SNR=20							
ANMO				Pg	**Pb**	**02 05 01.3**	**+0.3**
comp=Z,10nm,0.3s,baz=111,slow=17,SNR=34							
ANMO				Lg	Lg	02 06 06.4	
comp=Z,52nm,0.3s,baz=30,slow=20,SNR=19							
ANMO				LR	LR	02 06 25.3	
comp=Z,58nm,18.3s,baz=104,slow=35							
ANMO	**Albuquerque**	**5.12**	**294**	Pn	**Pn**	**02 04 48.5**	**+0.2**
ANMO				IAmb_Lg		02 06 15.7	
comp=Z,199nm,0.7s							
ANMO	**Albuquerque**	**5.12**	**294**	P	**Pn**	**02 04 48.5**	**+0.3**
baz=112							
ANMO				Sb	**Sb**	**02 06 06.0**	**+3.3**
baz=112							
HKT	**Hockley**	**5.18**	**124**	Pn	**Pn**	**02 04 50.2**	**+1.4**
HKT				IAmb_Lg		02 06 21.5	
comp=Z,115nm,0.9s							
T35A	**Sooner Cattle**	**5.25**	**40**	Pn	**Pn**	**02 04 51.5**	**+1.7**
T35A				IAmb_Lg		02 06 29.9	
comp=Z,200nm,1.0s							
NATX	**Nacogdoches**	**5.30**	**102**		**Pn**	**02 04 52.1**	**+1.6**

NATX IAmb_Lg 02 06 25.4
comp=Z,203nm,0.8s
NATX Nacogdoches 5.30 102 P Pn 02 04 52.9 +2.4
baz=284,SNR=5.5
LENM Lemitar 5.32 285 Pn Pn 02 04 50.3 -0.5
R32A Long Quarter, 5.68 17 Pn Pn 02 04 56.8 +1.1
R32A IAmb_Lg 02 06 41.7
comp=Z,179nm,0.7s
CBKS Cedar Bluff 5.88 8 Pn Pn 02 04 59.9 +1.4
CBKS IAmb_Lg 02 06 51.6
comp=Z,151nm,0.7s
CBKS Cedar Bluff 5.88 8 P Pn 02 05 00.2 +1.7
baz=189
121A Cookes Peak, D 5.93 268 Pn Pn 02 04 58.6 -0.7
121A IAmb_Lg 02 06 49.5
comp=Z,193nm,0.8s
121A Cookes Peak, D 5.93 268 P Pn 02 04 58.7 -0.7
baz=85,SNR=14
SDCO Great Sand Dun 6.13 322 Pn 02 05 02.8 +0.7
SDCO IAmb_Lg 02 06 54.4
comp=Z,139nm,1.1s
SDCO Great Sand Dun 6.13 322 Pn Pn 02 05 04.0 +1.9
baz=141,SNR=18
SDCO Pb **Pb 02 05 21.0 +2.7**
baz=141
SDCO Sb **Sg 02 06 41.0 -7.1**
baz=141
MIAR Mount Ida 6.19 73 Pn 02 05 04.3 +1.7
MIAR IAmb_Lg 02 06 58.3
comp=Z,131nm,0.8s
MIAR Mount Ida 6.19 73 P Pn 02 05 04.5 +1.9
baz=257,SNR=11
W39A Magazine 6.20 67 Pn Pn 02 05 03.2 +0.5
W39A IAmb_Lg 02 07 02.6
comp=Z,95nm,0.8s
W39A Magazine 6.20 67 P Pn 02 05 03.5 +0.8
baz=251,SNR=8.9
KSCO Kaye Shedlock' 6.21 346 Pn Pn 02 05 04.3 +1.3
KSCO IAmb_Lg 02 07 05.6
comp=Z,172nm,0.7s
KSCO Kaye Shedlock' 6.21 346 P Pn 02 05 04.3 +1.3
baz=166,SNR=20
U38A Gravette 6.28 55 Pn Pn 02 05 04.7 +0.7
U38A IAmb_Lg 02 06 56.0
comp=Z,101nm,0.8s
WLAR White Oak Lake 6.44 82 Pn Pn 02 05 07.0 +0.9
WLAR IAmb_Lg 02 07 02.0
comp=Z,157nm,0.8s
HHAR Hobbs 6.52 58 Pn Pn 02 05 07.7 +0.5
HHAR IAmb_Lg 02 07 08.8
comp=Z,99nm,0.8s
Z41A Richland Creek 6.68 85 Pn 02 05 10.8 +1.3
Z41A IAmb_Lg 02 07 14.1
comp=Z,110nm,0.8s
Z41A Richland Creek 6.68 85 P Pn 02 05 10.6 +1.2
baz=269,SNR=11
X40A Basin Creek Fa 6.77 75 Pn 02 05 11.4 +0.7
X40A Basin Creek Fa 6.77 75 P Pn 02 05 11.4 +0.7
baz=259,SNR=8.3
441A DeRidder 6.81 107 IAmb_Lg 02 07 21.9
comp=Z,76nm,0.8s
S22A 4UR Ranch, Cre 6.87 316 Pn Pn 02 05 13.3 +1.0
S22A 4UR Ranch, Cre 6.87 316 Pn Pn 02 05 14.5 +2.3
baz=133,SNR=14
S22A Pb **Pb 02 05 34.2 +3.4**
baz=133
Q24A Divide 6.95 330 Pn 02 05 14.0 +0.6
Q24A IAmb_Lg 02 07 14.8
comp=Z,142nm,1.0s
Q24A Divide 6.95 330 P Pn 02 05 15.1 +1.7
baz=149,SNR=7.6
KSU1 Kansas State U 6.97 28 Pn Pn 02 05 14.4 +1.0
KSU1 IAmb_Lg 02 07 25.5
comp=Z,150nm,0.8s
KSU1 Kansas State U 6.97 28 P Pn 02 05 14.1 +0.7
baz=210
342A Flagon Creek P 7.33 100 IAmb_Lg 02 07 45.2
comp=Z,75nm,0.9s
U40A Yellville 7.33 60 Pn 02 05 18.6 +0.2
U40A IAmb_Lg 02 07 39.6
comp=Z,85nm,0.7s
U40A Yellville 7.33 60 P Pn 02 05 18.6 +0.2
baz=245,SNR=6.8
HPIG 7.37 216 Pn Pn 02 05 17.9 -1.2
WHAR Wooly Hollow 7.39 70 Pn Pn 02 05 20.6 +1.4
319A Douglas 7.40 260 Pn Pn 02 05 18.1 -1.3
319A IAmb_Lg 02 07 30.8
comp=Z,116nm,1.0s
W41B Gary Mavity, V 7.40 70 Pn 02 05 20.4 +1.2
W41B Gary Mavity, V 7.40 70 P Pn 02 05 20.7 +1.4
baz=255,SNR=30
CCAR Cane Creek 7.57 80 Pn Pn 02 05 22.9 +1.3
MVCO Mesa Verde 7.62 306 Pn 02 05 23.0 +0.5
MVCO IAmb_Lg 02 07 34.8
comp=Z,80nm,1.1s
S39A Bolivar 7.68 50 Pn Pn 02 05 23.3 +0.1
S39A IAmb_Lg 02 07 50.9
comp=Z,74nm,0.8s
FCAR Ozark Folk Cen 7.70 65 Pn 02 05 23.9 +0.4
FCAR IAmb_Lg 02 07 52.5
comp=Z,78nm,0.9s
W18A Petrified Fore 7.75 288 Pn Pn 02 05 24.6 +0.4
W18A IAmb_Lg 02 07 50.9
comp=Z,68nm,1.0s
W18A Petrified Fore 7.75 288 Sb **Sb 02 07 24.6 +6.4**
baz=104
X18A Snowflake 7.81 284 Pn 02 05 24.5 -0.6
X18A IAmb_Lg 02 07 46.7
comp=E,126nm,1.1s
ISCO Idaho Springs 7.85 332 Pn Pn 02 05 27.2 +1.5
ISCO IAmb_Lg 02 07 45.8
comp=Z,79nm,1.0s
ISCO Idaho Springs 7.85 332 Sb **Sg 02 07 34.4 -8.7**
baz=150
143A Socs Landing, 7.88 89 Pn Pn 02 05 26.9 +1.1
143A IAmb_Lg 02 07 55.1
comp=Z,80nm,0.8s
SMCO Snowmass 7.97 323 Pn 02 05 28.1 +0.6
OGNE Ogallala 8.02 353 Pn Pn 02 05 28.7 +0.9
OGNE Ogallala 8.02 353 P Pn 02 05 28.5 +0.7
baz=173,SNR=12
MGMO Mountain Grove 8.11 57 Pn 02 05 29.2 +0.2
MGMO IAmb_Lg 02 08 13.8
comp=Z,88nm,0.9s
N33A J Bar K, Exete 8.19 18 Pn Pn 02 05 29.0 -1.1
PV03 Paradox Valley 8.43 311 IAmb_Lg 02 08 13.4
comp=Z,62nm,1.3s
PV12 Saucer Basin, 8.44 311 IAmb_Lg 02 08 13.2
comp=Z,77nm,1.2s
PV18 Skein Mesa, Pa 8.46 311 IAmb_Lg 02 08 04.5
comp=Z,64nm,1.2s
LCAR Lake Charles 8.51 66 Pn 02 05 34.4 0.0
PV17 East Wray Mesa 8.51 311 IAmb_Lg 02 08 12.5
comp=Z,63nm,1.1s
PV14 Lion Creek, Pa 8.61 311 IAmb_Lg 02 08 20.7
comp=Z,69nm,1.3s
BGNE Belgrade 8.67 13 Pn Pn 02 05 36.0 -0.7
BGNE Belgrade 8.67 13 P Pn 02 05 36.7 +0.1
baz=195
R40A Maddies Statio 8.71 50 Pn 02 05 37.1 -0.1
R40A IAmb_Lg 02 08 11.7
comp=Z,55nm,0.8s
HBAR Harrisburg 8.75 70 Pn Pn 02 05 37.9 +0.1
P38A Dawn 8.83 39 Pn Pn 02 05 40.2 +1.3
P38A IAmb_Lg 02 08 27.2
comp=Z,104nm,1.1s
T42A Van Buren 8.90 60 Pn 02 05 40.1 +0.2
T42A IAmb_Lg 02 08 29.9
comp=Z,57nm,0.7s
N23A Red Feather La 8.92 334 Pn Pn 02 05 42.0 +1.6
N23A Red Feather La 8.92 334 P Pn 02 05 41.7 +1.3
baz=152
PHWY Pilot Hill 9.11 337 IAmb_Lg 02 08 34.6
comp=Z,74nm,0.8s
WUAZ Wupatki 9.14 289 P Pn 02 05 45.3 +2.0
baz=104,SNR=5.4
CCM Cathedral Cave 9.26 54 Pn 02 05 44.3 -0.5
CCM IAmb_Lg 02 08 46.6
comp=Z,62nm,0.8s
CCM Cathedral Cave 9.26 54 P Pn 02 05 44.4 -0.5
baz=240
P40A Paris 9.60 45 Pn 02 05 50.0 +0.6
FVM French Village 9.79 56 Pn 02 05 51.2 -0.9
W45A Hickory Valley 9.85 74 Pn **Pn 02 05 52.8 0.0**
SRU San Rafael Swe 9.99 311 IAmb_Lg 02 09 07.2
comp=Z,45nm,1.2s

S44A Carbondale 10.51 60 Pn 02 06 01.8 -0.1
Z47A Carrollton 10.65 85 Pn **Pn 02 06 04.4 +0.6**
SCIA State Center 10.74 32 Pn **Pn 02 06 06.2 +1.2**
N41A Harden Midland 11.06 43 Pn 02 06 09.2 -0.2
WVT Waverly 11.12 70 Pn **Pn 02 06 09.2 -1.0**
WVT Waverly 11.12 70 P **Pn 02 06 09.1 -1.0**
baz=257
Q44A Meyer Farm, Va 11.20 55 Pn **Pn 02 06 10.8 -0.6**
ECSD EROS Data Cent 11.22 16 Pn 02 06 11.9 +0.3
ECSD EROS Data Cent 11.22 16 P **Pn 02 06 09.9 -1.7**
baz=198
P43A Skaggs, Pawnee 11.24 51 Pn 02 06 11.1 -0.7
SUSD Miller 11.53 6 Pn **Pn 02 06 16.8 +0.9**
T47A Sharon Grove 11.89 67 Pn 02 06 20.5 -0.4
PDAR Pinedale Array 11.98 327 Pn **Pn 02 06 24.6 +2.3**
comp=Z,0.1nm,0.3s,baz=134,slow=15,SNR=8.7
PDAR Pg Pg 02 07 09.0
comp=Z,0.2nm,0.3s,baz=122,slow=17,SNR=1.9
PDAR Lg Lg 02 09 44.7
comp=Z,0.3nm,0.3s,baz=116,slow=25,SNR=1.7
PDAR LR LR 02 11 37.1
comp=Z,101nm,20.5s,baz=126,slow=41
SWET Sewanee 12.49 76 Pn 02 06 27.3 -1.9
L42A Oliver, Polo 12.59 41 Pn 02 06 29.0 -1.3
AHID Auburn Hatcher 12.72 323 Pn **Pn 02 06 34.3 +1.9**
P46A Rosedale 12.78 55 Pn 02 06 31.9 -1.0
U49A Red Boiling Sp 12.82 70 Pn **Pn 02 06 32.6 -0.8**
WCI Wyandotte Cave 12.88 62 Pn 02 06 32.8 -1.6
WCI Wyandotte Cave 12.88 62 P **Pn 02 06 33.0 -1.3**
baz=250
JFWS Jewell Farm 12.92 37 Pn **Pn 02 06 34.3 -0.5**
BLO Bloomington 13.07 58 Pn 02 06 36.0 -0.8
LOHW Long Hollow 13.12 327 Pn Pn 02 06 39.0 +1.2
SFIN Lafayette 13.21 52 P **Pn 02 06 37.2 -1.7**
baz=240
V51A Loudon 13.84 74 Pn 02 06 45.5 -2.0
TKL Tuckaleechee C 14.29 75 Pn **Pn 02 06 52.1 -1.6**
comp=Z,0.6nm,0.3s,baz=276,slow=18,SNR=6.5
TKL Lg Lg 02 10 51.6
comp=Z,0.6nm,0.3s,baz=296,slow=22,SNR=2.3
NVAR Mina Array Bea 15.25 296 Pn **P 02 07 09.3 -2.4**
comp=Z,0.1nm,0.3s,baz=100,slow=18,SNR=4.6
CMIG Matias Romero 16.69 160 Pn **P 02 07 27.5 0.0**
comp=Z,0.2nm,0.3s,baz=343,slow=18,SNR=3.2
ULM Lac du Bonnet 17.63 10 P **P 02 07 38.0 +0.2**
comp=Z,0.3nm,0.3s,baz=185,slow=11,SNR=1.4
NEW Newport 19.62 326 P Pn 02 08 01.0 0.0
comp=Z,0.1nm,0.3s,baz=129,slow=14,SNR=2.8
NEW LR LR 02 16 04.6
comp=Z,132nm,21.2s,baz=139,slow=38
SADO Sadowa 20.47 49 P **P 02 08 09.8 +0.8**
comp=Z,3.1nm,0.6s,baz=266,slow=9.5,SNR=5.2
YKA Yellowknife Ar 30.82 347 P **P 02 09 48.6 +1.7**
comp=Z,0.4nm,1.0s,baz=157,slow=8.0,SNR=4.7
DLBC Dease Lake 32.17 331 LR LR 02 23 58.3
comp=Z,271nm,19.3s,baz=225,slow=38

*IDC **10** 02:20:27.6±1.1, 36°.10N×30°.00E, h49km±19km, mb3.4/2, mb1 3.5/8, mb1mx3.2/45, mbtmp3.5/8, ML3.3/6, Error ellipse: s-maj=15.4km s-min=10.8km az=164.0*
*ISK **10** 02:20:28.7, 36°.23N×30°.04E, h26km, ML3.2/17*
*NIC **10** 02:20:28.2±0.0, 36°.21N×30°.06E, h34km±21km, Ml3.6/4*
*DDA **10** 02:20:29.5±0.0, 36°.24N×30°.05E, h31km±1km, ML2.9*
*HLW **10** 02:20:31.5, 35°.69N×30°.00E, h10km±32km, Md3.7, Ml3.8*
*GII **10** 02:20:32.2±0.0, 35°.83N×30°.29E, h27km, MD2.5/4*
ISC 10 02:20:27.7±1.0, 36°.11N±0°.03×30°.07E±0°.02, h34km±2km, n77, σ1.66/112, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMR	**Demre-Antalya**	**0.18**	**314**	PG	**Pb**	**02 20 34.7**	**+0.5**
AKUM	**Antalya-Kumluc**	**0.31**	**47**	P	**Pn**	**02 20 35.8**	**+0.1**
AKUM				*i* AML	AML	02 20 42.0	
	comp=E,1μm,0.4s						
AKUM				*i* AML	AML	02 20 42.0	
	comp=N,1μm,0.3s						
AKUM				S	**Sb**	**02 20 42.1**	**+1.0**
AKAS	**Kas**	**0.39**	**288**	PG	**Pb**	**02 20 37.2**	**+0.3**
AKAS				SG	**Sn**	**02 20 43.9**	**+0.8**
AKAS	**Kas**	**0.39**	**288**	P	**Pb**	**02 20 37.3**	**+0.4**
AKAS				S	**Sn**	**02 20 44.5**	**+1.4**
KEMT	**Kemer-ANTALYA**	**0.63**	**39**	PG	**Pb**	**02 20 40.3**	**-0.1**
KEMT				SG	**Sn**	**02 20 49.9**	**+0.9**
ELL	**Elmali**	**0.65**	**349**	PG	**Pn**	**02 20 39.4**	**-1.1**
ELL				SG	**Sb**	**02 20 48.7**	**-1.1**
ELL	**Elmali**	**0.65**	**349**	P	**Pn**	**02 20 39.4**	**-1.1**
ELL				S	**Sb**	**02 20 48.5**	**-1.3**
KORT	**Korkueli**	**0.92**	**14**	PG	**Pn**	**02 20 43.7**	**-0.6**
KORT				SG	**Sn**	**02 20 55.9**	**-0.4**
KORT	**Korkueli**	**0.92**	**14**	P	**Pn**	**02 20 43.7**	**-0.6**
KORT				S	**Sn**	**02 20 56.5**	**+0.2**
KORT				*i* AML	AML	02 20 59.0	
	comp=N,598nm,0.5s						
KORT				*i* AML	AML	02 21 04.0	
	comp=E,578nm,0.4s						
ANTB	**Antalya**	**0.92**	**31**	PG	**Pb**	**02 20 44.9**	**-0.3**
ANTB				SG	**Sb**	**02 20 57.3**	**+0.2**
FETY	**Fethiye**	**0.95**	**304**	PG	**Pn**	**02 20 45.2**	**+0.6**
FETY	**Fethiye**	**0.95**	**304**	P	**Pn**	**02 20 45.1**	**+0.4**
FETY				S	**Sb**	**02 20 58.7**	**+0.6**
FETY				*i* AML	AML	02 21 04.0	
	comp=E,340nm,0.3s						
FETY				*i* AML	AML	02 21 04.0	
	comp=N,210nm,0.5s						
CAME	**Cameli-Denizli**	**1.03**	**324**	PG	**Pn**	**02 20 46.3**	**+0.4**
CAEL	**Denizli, Camel**	**1.17**	**329**	P	**Pn**	**02 20 48.1**	**+0.3**
CAEL				S	**Sb**	**02 21 05.6**	**+1.1**
CAEL				*i* AML	AML	02 21 07.0	
	comp=N,380nm,0.8s						
CAEL				*i* AML	AML	02 21 12.0	
	comp=E,531nm,0.7s						
GOLH	**Golhisar**	**1.19**	**340**	P	**Pn**	**02 20 48.9**	**+0.9**
GOLH				*i* AML	AML	02 21 10.0	
	comp=E,240nm,0.6s						
GOLH				*i* AML	AML	02 21 14.0	
	comp=N,242nm,0.7s						
BUCA	**Burdur, Bucak-**	**1.28**	**18**	P	**Pn**	**02 20 50.2**	**+1.0**
BUCA				S	**Sb**	**02 21 09.9**	**+2.4**
BUCA				*i* AML	AML	02 21 15.0	
	comp=N,148nm,0.4s						
BUCA				*i* AML	AML	02 21 19.0	
	comp=E,156nm,0.7s						
BCK	**Bucak**	**1.41**	**17**	PN	**Pn**	**02 20 52.1**	**+1.1**
ARG	**Arkhangelos**	**1.57**	**274**	PN	**Pn**	**02 20 54.3**	**+1.1**
ARG	**Arkhangelos**	**1.57**	**274**	P	**Pn**	**02 20 53.9**	**+0.7**
ARG				S	**Sn**	**02 21 13.1**	**+0.7**
TURN	**Turunc**	**1.61**	**295**	PN	**Pn**	**02 20 55.3**	**+1.6**
TURN	**Turunc**	**1.61**	**295**	P	**Pn**	**02 20 55.1**	**+1.4**
TURN				S	**Sn**	**02 21 15.2**	**+2.0**
TURN				*i* AML	AML	02 21 20.0	
	comp=N,220nm,0.3s						
TURN				*i* AML	AML	02 21 23.0	
	comp=E,87nm,0.6s						
MRSB	**Marmaris-Mugla**	**1.62**	**292**	PN	**Pn**	**02 20 55.3**	**+1.4**
TAVA	**DENIZLI_Tavas**	**1.64**	**326**	P	**Pn**	**02 20 55.2**	**+1.0**
TAVA				S	**Sb**	**02 21 17.9**	**+0.2**
TAVA				*i* AML	AML	02 21 18.0	
	comp=E,200nm,0.4s						
TAVA				*i* AML	AML	02 21 19.0	
	comp=N,171nm,0.3s						
ISP	**Isparta**	**1.75**	**12**	PN	**Pn**	**02 20 57.1**	**+1.4**
YER	**Yerkesik**	**1.76**	**306**	PN	**Pn**	**02 20 57.6**	**+1.8**
BASM	**Basmaki-Afyon**	**1.80**	**360**	PN	**Pn**	**02 20 57.2**	**+0.8**
GAZI	**Gazipasa**	**1.82**	**86**	PN	**Pn**	**02 20 57.8**	**+1.1**
SEYD	**Seydisehir-KON**	**1.92**	**47**	PN	**Pn**	**02 20 59.7**	**+1.6**
DAT	**Datca**	**2.10**	**288**	PN	**Pn**	**02 21 02.3**	**+1.8**
HDMB	**Hadim**	**2.13**	**66**	PN	**Pn**	**02 21 02.9**	**+1.9**
AKMS	**Akamas**	**2.15**	**120**	P	**Pn**	**02 21 02.8**	**+1.7**
AKMS				S	**Sn**	**02 21 28.1**	**+1.5**
AKMS				AML	AML	02 21 29.4	
	0.9nm,0.3s						
AKMS				AML	AML	02 21 29.4	
	0.9nm,0.3s						
AKMS				AML	AML	02 21 30.1	
	1.0nm,0.2s						
AKMS				AML	AML	02 21 30.1	
	1.0nm,0.2s						
ALFC	**Alefka**	**2.27**	**114**	P	**Pn**	**02 21 04.4**	**+1.5**
ALFC				S	**Sn**	**02 21 32.0**	**+2.3**
ALFC				AML	AML	02 21 32.1	
	0.7nm,0.2s						
ALFC				AML	AML	02 21 32.1	
	0.7nm,0.2s						
ALFC				AML	AML	02 21 32.3	
	1.0nm,0.2s						
ALFC				AML	AML	02 21 32.3	
	1.0nm,0.2s						
BODT	**Bodrum**	**2.41**	**294**	PN	**Pn**	**02 21 05.6**	**+0.9**
NATA	**Nata**	**2.44**	**122**	P	**Pn**	**02 21 07.0**	**+1.8**
NATA				AML	AML	02 21 37.1	
	1.3nm,0.3s						
NATA				AML	AML	02 21 37.4	
	1.7nm,0.2s						
SHUT	**Suhut-Afyon**	**2.47**	**9**	PN	**Pn**	**02 21 06.9**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.53**	**317**	PN	**Pn**	**02 21 07.8**	**+1.4**
KULA	**Kula-Manisa**	**2.65**	**335**	PN	**Pn**	**02 21 07.9**	**-0.1**
GCAM	**G?zelcaml?**	**2.77**	**306**	PN	**Pn**	**02 21 11.4**	**+1.8**
OSC1	**CSNet OBS 1**	**2.79**	**159**	S	**Sn**	**02 21 44.9**	**+2.6**
CSS	**Mathiatis**	**2.90**	**112**	P	**Pn**	**02 21 12.0**	**+0.5**
ASGA	**Asgata**	**2.92**	**116**	P	**Pn**	**02 21 13.2**	**+1.6**
ASGA				AML	AML	02 21 51.0	
	0.4nm,0.3s						
ASGA				AML	AML	02 21 57.3	
	0.2nm,0.3s						
ZKR	**Zakros**	**3.29**	**254**	P	**Pn**	**02 21 18.4**	**+1.6**
OSC2	**CSNet OBS 4**	**3.53**	**148**	S	**Sn**	**02 22 04.8**	**+4.1**
IDI	**Anoyia**	**4.29**	**260**	P	**Pn**	**02 21 31.6**	**+1.0**
	1.0nm,0.3s,baz=24,slow=8.2,SNR=24						
IDI				S	**Sn**	**02 22 17.6**	**-1.9**
	2.2nm,0.3s,baz=285,slow=21,SNR=7.3						
BRTR	**Keskin Array B**	**4.58**	**37**	P	**Pn**	**02 21 35.9**	**+1.2**
	0.5nm,0.3s,baz=218,slow=16,SNR=25						
BRTR				S	**Sn**	**02 22 27.8**	**+1.0**
	1.5nm,0.3s,baz=210,slow=33,SNR=18						
HNTI	**Hanita**	**5.18**	**124**	Pn	**Pn**	**02 21 44.2**	**+1.3**
HNTI				Sn	**Sn**	**02 22 39.6**	**-1.9**
OFRI	**`Ofer**	**5.36**	**129**	Pn	**Pn**	**02 21 46.7**	**+1.5**
MMA0B	**Mount Meron ar**	**5.38**	**124**	Pn	**Pn**	**02 21 46.5**	**+0.9**
MMA0B				Sn	**Sn**	**02 22 45.1**	**-1.3**
MMAI	**Mount Meron Ar**	**5.38**	**124**	P	**Pn**	**02 21 46.6**	**+1.0**
	7.1nm,0.3s,baz=308,slow=12,SNR=74						
MMAI				S	**Sn**	**02 22 44.0**	**-2.4**
	19nm,0.3s,baz=312,slow=23,SNR=13						
NATI	**Neve Ativ**	**5.47**	**120**	Pn	**Pn**	**02 21 47.8**	**+1.1**
NATI				Sn	**Sn**	**02 22 45.9**	**-2.5**
MMLI	**Mount Malkishu**	**5.75**	**128**	Pn	**Pn**	**02 21 52.0**	**+1.3**
MMLI				Sn	**Sn**	**02 22 54.4**	**-1.1**
HMDT	**Nahal Hemdat**	**5.94**	**129**	Pn	**Pn**	**02 21 54.5**	**+1.3**
HMDT				Sn	**Sn**	**02 22 58.4**	**-1.7**
AMAZ	**Amatzia**	**6.09**	**137**	Pn	**Pn**	**02 21 55.9**	**+0.5**
SLUM	**Salum**	**6.13**	**223**	P	**Pn**	**02 21 57.0**	**+1.2**
baz=225							
KZIT	**Kziot**	**6.33**	**144**	Pn	**Pn**	**02 21 59.7**	**+1.1**
KZIT				Sn	**Sn**	**02 23 07.9**	**-1.8**
HMYD	**Mayadein**	**6.33**	**174**	P	**Pn**	**02 22 00.5**	**+1.9**
baz=173							
DSI	**Dead Sea**	**6.33**	**134**	Pn	**Pn**	**02 22 00.0**	**+1.4**
YTIR	**Yattir**	**6.33**	**137**	Pn	**Pn**	**02 21 59.6**	**+0.9**
YTIR				Sn	**Sn**	**02 23 08.1**	**-1.8**
KOT	**Kottamia**	**6.34**	**166**	⇑P	**Pn**	**02 22 00.6**	**+1.8**
baz=164							
KOT				S	**Sn**	**02 23 02.8**	**-7.3**
baz=164							
HHAG	**Hagoal**	**6.38**	**164**	⇑P	**Pn**	**02 22 01.0**	**+1.7**
baz=162							
HNAT	**Natroun**	**6.48**	**176**	⇑P	**Pn**	**02 22 02.5**	**+1.9**
baz=174							
GLL	**Jalalah**	**6.66**	**168**	P	**Pn**	**02 22 04.9**	**+1.7**
baz=166							
SUZ	**Suez**	**6.67**	**159**	P	**Pn**	**02 22 04.8**	**+1.5**
baz=157							
ASF	**Jabal al Asfar**	**6.89**	**123**	P	**Pn**	**02 22 07.0**	**+0.6**
	0.2nm,0.3s,baz=37,slow=7.8,SNR=1.1						
ASF				S	**Sn**	**02 23 24.3**	**+0.6**
	1.0nm,0.3s,baz=22,slow=14,SNR=6.7						
RYAN	**Fayoum**	**7.01**	**178**	⇑P	**Pn**	**02 22 09.3**	**+1.4**
baz=177							
RYAN				S	**Sn**	**02 23 21.3**	**-5.2**
baz=177							
PRNI	**Paran**	**7.08**	**143**	Pn	**Pn**	**02 22 09.5**	**+0.6**
PRNI				Sn	**Sn**	**02 23 26.4**	**-1.8**
ZAF	**Zafarana**	**7.12**	**162**	⇑P	**Pn**	**02 22 10.8**	**+1.3**
baz=160							
KRMI	**Paran Flat**	**7.14**	**146**	Pn	**Pn**	**02 22 10.3**	**+0.5**
KRMI				Sn	**Sn**	**02 23 27.4**	**-2.3**
HRFI	**Mount Harif**	**7.36**	**144**	Pn	**Pn**	**02 22 13.5**	**+0.8**
HRFI				Sn	**Sn**	**02 23 32.2**	**-2.8**
MBRI	**Mt Berech**	**7.50**	**146**	Pn	**Pn**	**02 22 15.6**	**+0.8**
EIL	**Elat**	**7.62**	**146**	P	**Pn**	**02 22 17.0**	**+0.6**
	1.3nm,0.3s,baz=356,slow=4.5,SNR=26						
EIL				S	**Sn**	**02 23 38.5**	**-3.1**
	1.7nm,0.3s,baz=111,slow=16,SNR=12						
EIL	**Elat**	**7.62**	**146**	Pn	**Pn**	**02 22 17.0**	**+0.6**
EIL				Sn	**Sn**	**02 23 39.2**	**-2.4**
TR2	**Tor 2**	**8.30**	**157**	P	**Pn**	**02 22 26.6**	**+0.9**
baz=155							
HFRF	**Wahat Farafira**	**9.06**	**190**	⇓P	**Pn**	**02 22 36.6**	**+0.5**
baz=191							
MLR	**Muntele Rosu**	**9.87**	**343**	P	**Pn**	**02 22 46.5**	**-0.8**
	0.1nm,0.3s,baz=149,slow=22,SNR=1.9						
MKAR	**Makanchi Array**	**39.90**	**58**	P	**P**	**02 27 57.4**	**-0.8**
	0.3nm,0.4s,baz=271,slow=7.6,SNR=9.3						
ZALV	**Zalesovo Beam**	**41.45**	**47**	P	**P**	**02 28 09.1**	**-1.8**
	0.6nm,0.4s,baz=262,slow=9.6,SNR=4.7						

IDC 10 02:26:42.7±2.1, 24°.06N×96°.84E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.2/48, mbtmp3.5/4, Error ellipse: s-maj=288.3km s-min=22.6km az=56.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.51**	**336**	P	P	02 32 12.5	-0.3
	0.2nm,0.5s,baz=150,slow=10,SNR=5.8						
WRA	**Warramunga Arr**	**56.98**	**137**	P	P	02 36 31.0	+0.7
	0.2nm,0.3s,baz=324,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**59.53**	**140**	P	P	02 36 47.1	-1.0
	0.2nm,0.4s,baz=321,slow=6.8,SNR=8.0						
NOA	**NORSAR Array B**	**67.17**	**328**	P	P	02 37 38.6	+0.4
	0.9nm,0.8s,baz=66,slow=5.4,SNR=3.8						

GUC 10 02:43:50.3±0.8, 30°.44S×71°.58W, h35km±3km, ML3.8, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.24**	**192**	⇑*i*P	Pn	02 43 56.9	-0.8
CO06				*i*S	Sn	02 44 01.8	-1.3
CO05	**La Serena**	**0.59**	**30**	*e*P	Pn	02 44 01.5	-0.7
CO05				*e*S	Sn	02 44 08.2	-2.5
CO05				IAML		02 44 14.3	
	comp=E,6μm,0.4s						
GO04	**Tololo Observa**	**0.72**	**69**	⇓*i*P	Pn	02 44 04.3	+0.1
GO04				*e*S	Sn	02 44 14.3	+0.1
CO03	**El Pedregal**	**0.86**	**118**	⇓*i*P	Pn	02 44 06.7	+0.6
CO03				*e*S	Sn	02 44 17.9	+0.3
CO03				IAML		02 44 19.9	
	comp=E,3μm,0.3s						
LCO	**Las Campanas**	**1.61**	**28**	*e*P	Pn	02 44 17.0	+0.5
VA06	**Catapilco**	**2.13**	**174**	*e*P	Pn	02 44 24.1	+0.7
VA06				IAML		02 45 00.2	
	comp=N,1μm,0.4s						
AC04	**Llanos de Chal**	**2.27**	**11**	*e*P	Pn	02 44 24.8	-0.5
AC04				IAML		02 45 02.6	
	comp=E,634nm,0.4s						
VA03	**San Esteban**	**2.48**	**160**	*e*P	Pn	02 44 30.7	+2.4
VA03				IAML		02 45 12.7	
	comp=E,680nm,0.3s						
ROCH	**El Roble**	**2.57**	**169**	*e*P		02 44 30.9	
ROCH				*e*P	Pn	02 44 30.1	+0.4
ROCH				IAML		02 45 18.8	
	comp=N,425nm,0.4s						
ROCH				IAML		02 45 19.5	
	comp=N,586nm,0.3s						
PEL	**Peldehue**	**2.80**	**165**	*e*P	Pn	02 44 34.6	+1.9
PEL				IAML		02 45 23.4	
	comp=E,306nm,0.4s						
MT02	**Curacav**	**2.84**	**173**	*e*P	Pn	02 44 34.2	+1.1
MT05	**Renca**	**3.03**	**167**	*e*P	Pn	02 44 37.5	+1.6
GO03	**Copiap**	**3.07**	**23**	*e*P	Pn	02 44 36.5	+0.2
GO03				IAML		02 45 29.4	
	comp=E,440nm,0.5s						
FCH	**Farellones**	**3.08**	**160**	*e

VA05				IAML		02 45 33.8	
	comp=N,344nm,0.5s						
MT09	**Talagante**	**3.37 172**	*eP*		Pn	02 44 42.0	+1.4
MT09				IAML		02 45 39.6	
	comp=E,195nm,0.3s						
MT01	**Popeta**	**3.43 175**	*eP*		Pn	02 44 42.0	+0.8
MT01				IAML		02 45 42.2	
	comp=E,148nm,0.4s						
LMEL	**Las Melosas**	**3.60 161**	*eP*		Pn	02 44 46.2	+2.6
BO04	**La Punta**	**3.64 167**	*eP*		Pn	02 44 45.7	+1.6
BO01	**Tunca**	**3.97 174**	*eP*		Pn	02 44 49.5	+0.9
AC02	**Maricunga**	**4.18 32**	*eP*		Pn	02 44 53.2	+1.1
BO02	**Sierra Bellavi**	**4.40 171**	*eP*		Pn	02 44 55.6	+1.0

*SKHL **10** 03:28:47.9±0.6, 44°.90N×144°.80E, h32km±4km, mb3.7/5*
*JMA **10** 03:28:48.3±0.1, 44°.77N×144°.66E, h22km±2km, M2.9*
ISC 10 03:28:48.0±2.0, 44°.79N±0°.06×144°.71E±0°.04, h25km±20km, n15, σ0°.96/24, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**0.90 161**		P	**Pn**	**03 29 04.6**	**-0.5**
JRA				*eS*	**Sn**	**03 29 15.6**	**-1.7**
JTKR	**Abashiri--Toko**	**1.00 215**		P	**Pn**	**03 29 05.6**	**-0.8**
JTKR				*eS*	**Sn**	**03 29 18.1**	**-1.6**
JNSB	**Nemuroshibetsu**	**1.04 168**		P	**Pn**	**03 29 07.0**	**+0.1**
JNSB				*eS*	**Sn**	**03 29 20.6**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.12 132**		*eP*	**Pb**	**03 29 08.6**	**-0.1**
YUK				AMB	AMB	03 29 09.3	
	30nm,0.2s						
YUK				*eS*	**Sn**	**03 29 22.8**	**+0.1**
YUK				A	A	03 29 24.9	
	410nm,0.4s						
YUK				A	A	03 29 24.9	
	330nm,0.4s						
JNK	**Nakash**	**1.21 180**		P	**Pn**	**03 29 09.2**	**-0.1**
JNK				*eS*	**Sn**	**03 29 24.1**	**-0.7**
JMP	**Maruseppu**	**1.24 231**		P	**Pn**	**03 29 09.7**	**-0.1**
JMP				*eS*	**Sn**	**03 29 25.7**	**-0.1**
JSE	**Soyaes**	**1.52 277**		P	**Pn**	**03 29 13.9**	**+0.3**
NMR	**Nemuro--Hokkai**	**1.60 152**		*eP*	**Pn**	**03 29 16.4**	**+1.7**
NMR				AMB	AMB	03 29 22.2	
	30nm,0.4s						
NMR				*eS*	**Sn**	**03 29 36.4**	**+1.9**
NMR				A	A	03 29 39.0	
	40nm,0.4s						
NMR				A	A	03 29 39.0	
	30nm,0.4s						
NEM2	**Nemuro 2**	**1.61 152**		P	**Pn**	**03 29 15.7**	**+0.9**
JAR	**Ashorobuto**	**1.64 205**		P	**Pn**	**03 29 16.4**	**+1.2**
ASAJ	**Asahikawa**	**1.65 247**		P	**Pn**	**03 29 16.2**	**+0.8**
JKK2	**Kamakawa 2**	**1.68 238**		P	**Pn**	**03 29 16.4**	**+0.6**
JKK2				*eS*	**Sn**	**03 29 37.4**	**+0.9**
AKK	**Akkeshi**	**1.78 177**		*eP*	**Pn**	**03 29 16.7**	**-0.4**
SHO	**Shikotan**	**1.78 120**		*eP*	**Pn**	**03 29 17.1**	**-0.1**
SHO				AMB	AMB	03 29 19.0	
	30nm,0.4s						
SHO				*eS*	**Sn**	**03 29 38.2**	**-0.8**
SHO				A	A	03 29 42.3	
	70nm,0.5s						
SHO				A	A	03 29 42.3	
	160nm,0.5s						
YSS	**Yuzh-Sakhalins**	**2.56 328**		*eP*	**Pn**	**03 29 27.6**	**-0.2**
YSS				AMB	AMB	03 29 42.1	
	20nm,0.8s						

*IDC **10** 03:29:15.3±1.1, 6°.60S×77°.08W, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.6/25, mbtmp3.5/6, ML3.5/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/28, Error ellipse: s-maj=17.6km s-min=14.3km az=162.0*
ISC 10 03:29:16.9±0.9, 6°.59S±0°.09×77°.1W±0°.1, h10km, n9, σ1°.28/8, mb3.3/3, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.38 247**		Pn	**Pg**	**03 29 42.3**	**-1.1**
	41nm,0.3s,baz=6.7,slow=5.7,SNR=378						
ATAH				Lg	Lg	03 30 00.4	
	54nm,0.3s,baz=158,slow=19,SNR=18						
NNA	**Nana**	**5.37 177**		Pn	**Pn**	**03 30 38.5**	**+1.3**
	1.6nm,0.3s,baz=282,slow=5.9,SNR=8.7						
NNA				Sn	**Sn**	**03 31 39.8**	**+0.7**
	7.0nm,0.3s,baz=307,slow=20,SNR=13						
NNA				Lg	Lg	03 32 06.3	
	7.3nm,0.3s,baz=344,slow=19,SNR=3.3						
NNA				LR	LR	03 32 36.1	
	comp=Z,84nm,19.1s,baz=350,slow=38						
ROSC	**El Rosal**	**11.69 14**		LR	LR	03 37 36.8	
	comp=Z,108nm,18.0s,baz=44,slow=43						
LPAZ	**La Paz**	**13.05 138**		Pn	**Pn**	**03 32 22.6**	**-0.5**
	0.1nm,0.3s,baz=320,slow=6.1,SNR=4.7						
LPAZ				Lg	Lg	03 36 07.4	
	0.1nm,0.3s,baz=342,slow=20,SNR=2.3						
SIV	**San Ignacio**	**18.29 122**		P	**P**	**03 33 29.6**	**-1.5**
	0.2nm,0.3s,baz=303,slow=12,SNR=9.9						
TXAR	**Lajitas Array**	**43.91 326**		P	**P**	**03 37 25.5**	**+1.5**
	0.4nm,0.9s,baz=150,slow=9.1,SNR=2.6						
YBH	**Yreka Blue Hor**	**63.59 323**		LR	LR	04 04 33.4	
	comp=Z,64nm,21.6s,baz=344,slow=33						
YKA	**Yellowknife Ar**	**74.63 343**		P	**P**	**03 40 55.7**	**-0.3**
	0.3nm,0.9s,baz=140,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**80.68 76**		P	**P**	**03 41 30.6**	**-0.2**
	0.5nm,0.7s,baz=281,slow=5.2,SNR=4.1						

*NNC **10** 03:35:00.9±0.8, 47°.44N×82°.49E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=5.1km s-min=3.9km az=42.0*
*SOME **10** 03:35:02.1, 47°.48N×82°.07E, h5km*
*ASRS **10** 03:35:04.0±0.3, 47°.N±2°.8°.2E±°, h9km, MLh3.9/5, Error ellipse: s-maj=6.2km s-min=2.9km az=122.5*
ISC 10 03:35:00.5±0.8, 47°.42N±0°.03×82°.22E±0°.03, h10km, n43, σ1°.99/69, 4C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.62 175**		⇓P	**Pn**	**03 35 14.9**	**-0.5**
	22nm,0.1s,baz=24,slow=18,SNR=9000						
MK31				⇑S	**Sb**	**03 35 23.8**	**+1.5**
	63nm,0.2s,baz=14,slow=28,SNR=31						
MKAR	**Makanchi Array**	**0.62 175**		Pg	**Pn**	**03 35 15.0**	**-0.4**
MKAR				Sg	**Sn**	**03 35 24.0**	**-1.4**
MAKZ	**Makanchi**	**0.63 195**		Pg	**Pn**	**03 35 15.5**	**0.0**
MAKZ				Sg	**Sn**	**03 35 25.1**	**-0.5**
ZSN	**Zaisan**	**1.80 88**		*eP*	**Pb**	**03 35 33.6**	**+0.1**
	46nm,0.2s						
ZSN				*eS*	**Sg**	**03 35 57.5**	**-0.8**
	133nm,0.2s						
KAPS	**Kapalarasan**	**2.91 224**		*eP*	**Pg**	**03 35 56.4**	**+0.2**
	3.2nm,0.1s						
KAPS				*eS*	**Sg**	**03 36 35.2**	**+1.3**
	48nm,0.3s						
KAPS	**Kapalarasan**	**2.91 224**		Pg	**Pg**	**03 35 56.4**	**+0.2**
	3.2nm,0.1s						
KAPS				Lg	Lg	03 36 35.2	
	48nm,0.3s						
SEM	**Semipalatinsk**	**3.26 337**		*eP*	**Pg**	**03 36 01.2**	**-1.9**
	12nm,0.2s						
SEM				*eS*	**Sg**	**03 36 43.9**	**-1.4**
	60nm,0.3s						
SEM	**Semipalatinsk**	**3.26 337**		Pg	**Pg**	**03 36 01.2**	**-1.9**
	12nm,0.2s						
SEM				Lg	Lg	03 36 43.9	
	60nm,0.3s						
DJR	**Jarkent**	**3.52 210**		*eP*	**Pg**	**03 36 06.5**	**-1.3**
	2.1nm,0.2s						
DJR				*eS*	**Sg**	**03 36 52.6**	**-0.9**
	9.7nm,0.3s						
DJR	**Jarkent**	**3.52 210**		Pg	**Pg**	**03 36 06.5**	**-1.3**
	2.1nm,0.2s						
DJR				Lg	Lg	03 36 52.6	
	9.7nm,0.3s						
TDK	**Taldyqorghan**	**3.58 229**		*eP*	**Pb**	**03 36 05.5**	**+1.7**
	16nm,0.3s						
TDK				*eS*	**Sg**	**03 36 51.7**	**-3.8**
	55nm,0.5s						
TDK	**Taldyqorghan**	**3.58 229**		Pg	**Pg**	**03 36 11.6**	**+2.5**
	28nm,0.4s						
UKR	**Ust'-Kan**	**3.90 24**		Sg	**Sg**	**03 37 05.1**	**-0.7**
KURBB	**Kurchatov Arra**	**4.02 324**		⇓Pg	**Pg**	**03 36 16.4**	**-1.1**
	2.9nm,0.2s						
KURBB				⇑Lg	Lg	03 37 11.9	
	70nm,0.5s						
KURK	**Kurchatov**	**4.06 326**		⇑Pg	**Pg**	**03 36 17.0**	**-1.2**
	2.6nm,0.3s						
KURK				⇑Lg	Lg	03 37 12.1	
	42nm,0.5s						
KURK	**Kurchatov**	**4.06 326**		Sg	**Sg**	**03 37 13.9**	**+3.1**
DGZ	**Jazzator, Alta**	**4.15 55**		Pn	**Pn**	**03 36 08.0**	**+4.0**
DGZ				Pg	**Pg**	**03 36 17.8**	**-2.2**
DGZ				Sg	**Sg**	**03 37 11.1**	**-2.6**
BLB	**Baldybastay**	**4.23 220**		*eP*	**Pg**	**03 36 21.8**	**+0.4**
	9.7nm,0.3s						
BLB				*eS*	**Sg**	**03 37 19.1**	**+2.9**
	27nm,0.4s						
BLB	**Baldybastay**	**4.23 220**		Pg	**Pg**	**03 36 21.8**	**+0.4**
	9.7nm,0.3s						
BLB				Lg	Lg	03 37 19.1	
	27nm,0.4s						
ARXS	**Arharly**	**4.43 225**		*eP*	**Pg**	**03 36 25.3**	**-0.1**
	2.5nm,0.3s						
ARXS				*eS*	**Sg**	**03 37 25.2**	**+2.3**
	34nm,0.5s						
ARXS	**Arharly**	**4.43 225**		Pg	**Pg**	**03 36 25.3**	**-0.1**
	2.5nm,0.3s						
ARXS				Lg	Lg	03 37 25.2	
	34nm,0.5s						
CHBI	**Chibit, Altay**	**4.54 48**		Pn	Pn	03 36 14.5	+5.2
CHBI				Pg	**Pg**	**03 36 26.9**	**-0.5**
CHBI				Sg	**Sg**	**03 37 23.7**	**-2.3**
AKAR	**Aktash**	**4.60 49**		Pn	**Pn**	**03 36 13.7**	**+3.5**
AKAR				Pg	**Pg**	**03 36 28.1**	**-0.5**
AKAR				Sg	**Sg**	**03 37 26.0**	**-2.1**
UZB	**Uzynbulak**	**4.83 209**		*eP*	**Pg**	**03 36 30.7**	**-2.2**
	4.1nm,0.4s						
UZB				*eS*	**Sg**	**03 37 35.2**	**-0.3**
	14nm,0.2s						
UZB	**Uzynbulak**	**4.83 209**		Pg	**Pg**	**03 36 30.7**	**-2.2**
	4.1nm,0.4s						
UZB				Lg	Lg	03 37 35.2	
	14nm,0.2s						
KURS	**Kuram**	**4.85 217**		*eP*	**Pg**	**03 36 33.0**	**-0.4**
	5.4nm,1.0s						
KURS				*eS*	**Sg**	**03 37 37.8**	**+1.6**
	14nm,0.7s						
KURS	**Kuram**	**4.85 217**		Pg	**Pg**	**03 36 32.9**	**-0.4**
	5.4nm,1.0s						
KURS				Lg	Lg	03 37 37.8	
	14nm,0.7s						
CUR	**Chagan-Uzun**	**4.87 54**		Pn	**Pn**	**03 36 15.8**	**+2.0**
CUR				Pg	**Pg**	**03 36 30.1**	**-3.5**
CUR				Sg	**Sg**	**03 37 32.3**	**-4.3**
ULGR	**Ulagan, Altay**	**4.96 48**		Pn	**Pn**	**03 36 19.2**	**+4.1**
ULGR				Pg	**Pb**	**03 36 28.4**	**+1.0**
ULGR				Sg	**Sg**	**03 37 37.1**	**-2.5**
CHKK	**Chushkaly**	**5.11 228**		*eP*	**Pg**	**03 36 36.7**	**-1.6**
	1.0nm,0.1s						
CHKK				*eS*	**Sg**	**03 37 44.3**	**-0.2**
	16nm,0.4s						
CHKK	**Chushkaly**	**5.11 228**		Pg	**Pg**	**03 36 36.7**	**-1.6**
	1.0nm,0.1s						
CHKK				Lg	Lg	03 37 44.3	
	16nm,0.4s						
SATY	**Saty**	**5.12 213**		*eP*	**Pg**	**03 36 37.8**	**-0.7**
	2.2nm,0.2s						
SATY				*eS*	**Sg**	**03 37 46.0**	**+1.2**
	7.7nm,0.4s						
SATY	**Saty**	**5.12 213**		Pg	**Pg**	**03 36 37.8**	**-0.7**
	2.2nm,0.2s						
SATY				Lg	Lg	03 37 46.0	
	7.7nm,0.4s						
KTBS	**Karatobe**	**5.37 228**		Pg	**Pg**	**03 36 41.8**	**-1.4**
	1.4nm,0.3s						
KTBS				Lg	Lg	03 37 53.0	
	22nm,0.6s						
KUU	**Kurty**	**5.42 232**		*eP*	**Pg**	**03 36 42.3**	**-1.9**
	2.3nm,0.5s						
KUU				*eS*	**Sg**	**03 37 53.9**	**-0.6**
	11nm,0.4s						
KUU	**Kurty**	**5.42 232**		Pg	**Pg**	**03 36 42.3**	**-1.9**
	2.3nm,0.5s						
KUU				Lg	Lg	03 37 53.9	
	11nm,0.4s						
TNSS	**Tian-Shan**	**5.75 222**		Pg	**Pg**	**03 36 49.6**	**-0.9**
	1.9nm,0.4s						
TNSS				Lg	Lg	03 38 06.7	
	2.9nm,0.4s						
MTBS	**Maitube**	**5.92 226**		*eP*	**Pg**	**03 36 51.2**	**-2.6**
	2.0nm,0.3s						
MTBS				*eS*	**Sg**	**03 38 09.1**	**-1.4**
	8.7nm,0.5s						
MTBS	**Maitube**	**5.92 226**		Pg	**Pg**	**03 36 51.2**	**-2.6**
	2.0nm,0.3s						
MTBS				Lg	Lg	03 38 09.1	
	8.7nm,0.5s						
BTLS	**Baital**	**6.14 250**		*eP*	**Pg**	**03 36 55.4**	**-2.7**
	2.0nm,0.2s						
BTLS				*eS*	**Sg**	**03 38 16.4**	**-1.2**
	2.8nm,0.7s						
BTLS	**Baital**	**6.14 250**		Pg	**Pg**	**03 36 55.4**	**-2.7**
	2.0nm,0.2s						
BTLS				Lg	Lg	03 38 16.5	
	2.8nm,0.7s						
KST	**Kastek**	**6.21 228**		Pg	**Pg**	**03 36 56.8**	**-2.6**
	4.7nm,0.8s						
KST				Lg	Lg	03 38 18.6	
	5.9nm,0.5s						
BRZS	**Berezniki**	**6.82 296**		Pg	**Pg**	**03 37 07.4**	**-3.5**
	1.7nm,0.2s						
BRZS				Lg	Lg	03 38 36.8	
	8.6nm,0.4s						

*IDC **10** 03:44:20.4±2.8, 7°.11S×128°.85E, h0km, mb3.2/1, mb1 3.9/3, mb1mx3.5/23, mbtmp3.6/3, ML4.1/2, Error ellipse: s-maj=278.5km s-min=32.3km az=67.0*
*DJA **10** 03:44:34.2±0.6, 7°.5±6°×12°.9E±°, h172km±13km, M4.2/7, mB4.8/3, mb4.2/5, MLv4.2/7, Mw(mB)4.0/3*
ISC 10 03:44:34.1±1.0, 7°.59S±0°.09×129°.22E±0°.06, h150km, n7, σ3°.78/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.10 101**		P	**Pn**	**03 45 12.4**	**+2.0**
SAUI				S	**Sn**	**03 45 39.5**	**+1.2**
SOEI	**Soe**	**5.35 246**		P	**Pn**	**03 45 55.3**	**+3.0**
	0.3nm19nm,0.5s						
SOEI				S	**Sn**	**03 46 49.6**	**-3.7**
	0.3nm19nm,0.5s						
FAKI	**Fak Fak**	**5.53 33**		P	**Pn**	**03 45 51.6**	**-3.0**
	0.2nm884nm12nm,0.7s						
BATI	**Baumata**	**6.07 244**		P	**Pn**	**03 46 04.7**	**+2.8**
	0.1nm21nm,0.6s						
WRA	**Warramunga Arr**	**13.25 159**		Pn	**Pn**	**03 47 37.1**	**+0.5**
	1.1nm,0.3s,baz=337,slow=14,SNR=35						
WRA				Sn	Sn	03 49 57.9	-5.4
	1.4nm,0.3s,baz=334,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.61 165**		P	**Pn**	**03 48 22.2**	**+3.9**
	0.4nm,0.3s,baz=338,slow=9.2,SNR=25						
ASAR				S	**S**	**03 51 16.9**	**-6.2**
	0.2nm,0.3s,baz=349,slow=27,SNR=5.9						
MKAR	**Makanchi Array**	**68.29 327**		P	**P**	**03 55 19.6**	**+0.7**
	0.1nm,0.4s,baz=123,slow=6.9,SNR=4.3						

*PGC **10** 03:59:14.5±1.3, 48°.44N×128°.81W, h10km, MLSn3.1/33, Mw3.7/33, Mw3.7/33, 226km Wsw of Tofino, Bc Vancouver Island, Canada Region*
*IDC **10** 03:59:17.8±1.2, 48°.68N×128°.39W, h0km, mb3.8/5, mb1 3.8/15, mb1mx3.6/62, mbtmp3.6/15, ML2.9/8, MS3.3/14, Ms1 3.3/14, ms1mx3.0/90, Error ellipse: s-maj=24.4km s-min=9.8km az=63.0*
*NEIC **10** 03:59:22.0±2.3, 49°.02N±0°.04×128°.44W±0°.10, h10km±2km, mb4.0/28, Mwr3.7(OTT), Error ellipse: s-maj=12.7km s-min=3.5km az=301.0*
ISC 10 03:59:20.5±1.7, 48°.87N±0°.05×128°.21W±0°.05, h4km±10km, n161, σ1°.88/172, mb3.9/7, MS3.4/6, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC89	**ODP889**	**0.92 102**		P	**Pg**	**03 59 38.9**	**+0.8**
KEMF	**NEPTUNE Canada**	**1.10 213**		P	Pn	03 59 26.2	-16
NC27	**ODP1027**	**1.15 165**		P	Pn	03 59 31.9	-11
ETB	**Estevan Point**	**1.21 65**		Pn	**Pb**	**03 59 43.1**	**-0.7**
EDB	**Eliza Dome**	**1.23 35**		Pn	**Pn**	**03 59 43.2**	**-1.2**
EDB				Sn	**Sn**	**04 00 02.7**	**+1.3**
TOFB	**Tofino**	**1.54 79**		Pn	**Pn**	**03 59 46.5**	**-2.2**
TOFB				Sn	**Sg**	**04 00 09.7**	**-0.2**
PACB	**Port Alice, BC**	**1.63 16**		Pn	**Pn**	**03 59 48.1**	**-1.9**
MAYB	**Maynard**	**1.67 23**		Pn	**Pn**	**03 59 50.0**	**-0.7**
WOSB	**Woss**	**1.67 39**		Pn	**Pn**	**03 59 50.4**	**-0.3**
GDR	**Gold River**	**1.69 57**		Pn	**Pn**	**03 59 50.1**	**-0.6**
HOLB	**Holberg**	**1.77 2**		Pn	**Pn**	**03 59 49.9**	**-2.0**
HOLB				Sn	**Sg**	**04 00 17.1**	**-0.3**
BTB	**Buttle Lake**	**1.86 70**		Pn	**Pn**	**03 59 52.2**	**-1.1**
TLCB	**Telegraph Cove**	**1.90 27**			**Pn**	**03 59 53.6**	**0.0**
TLCB	**Telegraph Cove**	**1.90 27**		Pn	**Pn**	**03 59 53.4**	**-0.2**
TLCB				Sn	**Sg**	**04 00 21.5**	**+0.1**
PHC	**Port Hardy**	**1.90 15**		Pn	**Pn**	**03 59 52.7**	**-1.0**
SPLB	**Strathcona Par**	**1.96 58**		Pn	**Pn**	**03 59 54.2**	**-0.2**
BFSB	**Bamfield**	**2.03 90**		Pn	**Pn**	**03 59 52.9**	**-2.5**
BFSB				Sn	**Sn**	**04 00 20.8**	**-0.3**
B928	**Bamfield**	**2.03 90**		Pn	**Pn**	**03 59 53.1**	**-2.2**
B928				Sn	**Sn**	**04 00 20.7**	**-0.4**
NCRB	**Newcastle Ridg**	**2.08 42**		Pn	**Pn**	**03 59 56.4**	**+0.2**
MWAB	**Mount Washingt**	**2.09 64**		Pn	**Pn**	**03 59 56.5**	**+0.2**
CBB	**Campbell River**	**2.19 57**		Pn	**Pn**	**03 59 57.1**	**-0.5**
B927	**Port Alberni**	**2.26 80**		Pn	**Pn**	**03 59 56.8**	**-1.7**
B927				Sn	**Sb**	**04 00 28.3**	**-1.7**
MGB	**Mount Grey**	**2.32 86**		Pn	**Pn**	**03 59 57.0**	**-2.6**
MGB				Sn	**Sn**	**04 00 28.6**	**0.0**
OCP	**Olym-Cheeka Pk**	**2.45 102**		Pn	**Pn**	**03 59 58.2**	**-3.0**
PFB	**Port Renfrew**	**2.51 95**		Pn	**Pn**	**03 59 59.4**	**-2.7**
PFB				Sn	**Sn**	**04 00 31.8**	**-1.4**
TXB	**Texada**	**2.60 70**		Pn	**Pn**	**04 00 03.1**	**-0.3**
GHNB	**Nanoose**	**2.65 79**		Pn	**Pn**	**04 00 03.1**	**-0.7**
GHNB				Sn	**Sb**	**04 00 38.4**	**-2.7**
B926	**Mesachie Lake**	**2.69 90**		Pn	**Pn**	**04 00 02.6**	**-1.9**
B926				Sn	**Sn**	**04 00 36.8**	**-0.7**
CLRS	**Cowichan Lake**	**2.69 90**		Pn	**Pn**	**04 00 02.5**	**-2.0**
CLRS				Sn	**Sn**	**04 00 36.7**	**-0.8**
NLLB	**Nanaimo Lost L**	**2.80 81**		Pn	**Pn**	**04 00 05.2**	**-0.8**
NLLB				Sn	**Sb**	**04 00 43.0**	**-2.5**
OBC	**Olympics--Boni**	**2.87 105**		Pn	**Pn**	**04 00 05.0**	**-2.1**
OBC				Pg	**Pb**	**04 00 10.1**	**-2.3**
OBC				Sn	**Sn**	**04 00 41.1**	**-1.0**
SHB	**Sechelt**	**2.93 74**		Pn	**Pn**	**04 00 06.9**	**-1.0**
SHB				Sn	**Sb**	**04 00 46.6**	**-2.9**
GOBB	**Galiano Island**	**3.10 87**		Pn	**Pn**	**04 00 08.9**	**-1.2**
STW	**Striped Peak**	**3.10 102**		Pn	**Pn**	**04 00 08.1**	**-2.0**
B009	**North Saanich**	**3.15 92**		Pn	**Pn**	**04 00 08.5**	**-2.4**
B009				Sn	**Sn**	**04 00 49.0**	**+0.2**
B010	**North Saanich**	**3.15 92**		Pn	**Pn**	**04 00 08.7**	**-2.1**
B010				Sn	**Sn**	**04 00 49.6**	**+0.7**
PGC	**Sidney**	**3.15 92**		Pn	**Pn**	**04 00 09.0**	**-1.9**
PGC				Sn	**Sn**	**04 00 48.8**	**-0.1**
B011	**North Saanich**	**3.15 92**		Pn	**Pn**	**04 00 07.9**	**-2.9**
B011				Sn	**Sn**	**04 00 49.7**	**+0.7**
PA12	**PA12 Sannich**	**3.15 92**		Pn	**Pn**	**04 00 08.4**	**-2.4**
PA12				Sn	**Sn**	**04 00 49.6**	**+0.7**
PA01	**PA01 North**	**3.16 92**		Sn	**Sn**	**04 00 49.5**	**+0.6**
BIB	**Bowen Island**	**3.26 79**		Pn	**Pn**	**04 00 11.2**	**-1.1**
VGZ	**Gonzales**	**3.27 96**		Sn	**Sn**	**04 00 50.0**	**-1.8**
BBB	**Bella Bella**	**3.32 1**		Pn	**Pn**	**04 00 12.5**	**-0.6**
	28nm,0.3s,baz=195,slow=15,SNR=156						
BBB				Sn	**Sn**	**04 00 53.1**	**+0.2**
	4.2nm,0.3s,baz=94,slow=23,SNR=5.2						
BBB				LR	LR	04 01 10.8	
	comp=Z,120nm,19.6s,baz=96,slow=32						
BBB	**Bella Bella**	**3.32 1**			**Pn**	**04 00 12.2**	**-0.9**
BBB	**Bella Bella**	**3.32 1**		Pn	**Pn**	**04 00 12.1**	**-0.9**
BBB				Sn	**Sn**	**04 00 51.5**	**-1.4**
SNB	**Saturna Island**	**3.33 90**		Pn	**Pn**	**04 00 11.1**	**-2.2**
SNB				Sn	**Sn**	**04 00 55.2**	**+2.0**
WPB	**Watts Point**	**3.37 75**		Pn	**Pn**	**04 00 13.0**	**-0.8**
WSLR	**Whistler**	**3.67 68**		Pn	**Pn**	**04 00 18.2**	**+0.2**
HNBB	**Haney**	**3.73 81**		Pn	**Pn**	**04 00 18.0**	**-0.8**
GNW	**Green Mountain**	**3.83 108**		Pn	**Pn**	**04 00 18.0**	**-2.1**
VDB	**Vedder Mountai**	**4.03 86**		Pn	**Pn**	**04 00 21.1**	**-1.7**
A05A	**Maple Falls**	**4.04 86**		Pn	**Pn**	**04 00 21.5**	**-1.5**
CMW	**Cultus Mountai**	**4.06 94**		Pn	**Pn**	**04 00 22.4**	**-1.0**
BUTB	**Butedale**	**4.20 358**		Pn	**Pn**	**04 00 24.4**	**-1.0**
JCW	**Jim Creek**	**4.22 97**		Pn	**Pn**	**04 00 24.6**	**-1.1**
JCW				Sn	**Sn**	**04 01 16.4**	**+0.9**
LLLB	**Lillooet**	**4.45 65**		Pn	**Pn**	**04 00 29.4**	**+0.6**
RPW	**Rockport**	**4.46 93**		Pn	**Pn**	**04 00 27.8**	**-1.0**
B06A	**Marblemount**	**4.47 92**		Pn	**Pn**	**04 00 27.9**	**-1.0**
D05A	**Enumclaw**	**4.50 110**		Pn	**Pn**	**04 00 31.2**	**+1.9**
D05A	**Enumclaw**	**4.50 110**		Pn	**Pn**	**04 00 28.0**	**-1.4**
BNKB	**Banks Island**	**4.59 347**		Pn	**Pn**	**04 00 28.7**	**-1.9**
HWKB	**Hawksbury Isla**	**4.77 353**		Pn	**Pn**	**04 00 32.4**	**-0.8**
FMW	**Mount Fremont**	**4.80 111**		Pn	**Pn**	**04 00 32.0**	**-1.8**
GRNB	**Grenville Isla**	**5.10 348**		Pn	**Pn**	**04 00 36.3**	**-1.4**
KITB	**Kitimat**	**5.22 357**		Pn	**Pn**	**04 00 38.7**	**-0.6**
LTY	**Liberty**	**5.30 105**		Pn	**Pn**	**04 00 42.3**	**+1.8**
LTY	**Liberty**	**5.30 105**		Pn	**Pn**	**04 00 40.5**	**0.0**
LTY				Sn	**Sn**	**04 01 42.0**	**0.0**
PNT	**Penticton**	**5.66 82**		Pn	**Pn**	**04 00 44.7**	**-0.7**
HOOD	**Mount Hood Mea**	**5.71 126**		Pn	**Pn**	**04 00 49.2**	**+3.1**
H04A	**Detroit Lake**	**5.88 133**			**Pn**	**04 00 51.9**	**+3.4**
B08A	**Colville Reser**	**5.91 92**			**Pn**	**04 00 51.4**	**+2.6**
B08A	**Colville Reser**	**5.91 92**		Pn	**Pn**	**04 00 49.5**	**+0.7**
FSJB	**Fort St James**	**6.10 22**		P	**Pn**	**04 00 52.1**	**+0.7**
FSB	**Fort Saint Jam**	**6.11 22**		P	**Pn**	**04 00 52.6**	**+1.1

P18A Preston Nutter 15.81 119 Pn **Pn 04 03 05.6 +1.5**
DGMT Dagmar 15.86 82 Pn **Pn 04 03 04.3 -0.1**
DGMT IAmb IAmb 04 03 12.9
comp=Z,10nm,0.9s
LCMT Little Creek M 16.11 132 Pn **Pn 04 03 08.4 +0.6**
KDAK Kodiak Island 16.99 311 LR LR 04 07 41.6
comp=Z,156nm,19.4s,baz=154,slow=30
WUAZ Wupatki 18.21 131 P **P 04 03 36.1 +1.5**
WUAZ IAmb IAmb 04 03 40.3
comp=Z,7.2nm,1.1s
MVCO Mesa Verde 18.47 122 P **Pn 04 03 40.0 +2.5**
MVCO IAmb IAmb 04 03 44.1
comp=Z,10nm,1.2s
Y14A Wickenburg 18.72 137 P **Pn 04 03 43.6 +3.2**
Y14A IAmb IAmb 04 03 50.3
comp=Z,5.8nm,1.0s
ILAR Eielson Array 18.80 335 P **P 04 03 39.3 -1.3**
comp=Z,0.0nm,0.3s,baz=144,slow=14,SNR=5.9
ILAR LR LR 04 10 16.9
comp=Z,153nm,18.4s,baz=142,slow=35
S22A 4UR Ranch, Cre 19.05 118 P **Pn 04 03 48.4 +3.8**
X16A Lo Mia Camp, P 19.06 133 P **Pn 04 03 48.3 +3.7**
INK Inuvik 19.67 354 P **P 04 03 50.0 -0.1**
comp=Z,0.0nm,0.3s,baz=198,slow=6.4,SNR=2.9
X18A Snowflake 19.70 130 P **Pn 04 03 54.3 +2.0**
SDCO Great Sand Dun 19.84 116 P **Pn 04 03 56.9 +2.9**
BMAR Burnt Mountain 20.39 342 P **P 04 03 55.8 -2.2**
KSCO Kaye Shedlock' 20.80 109 P Pn 04 04 05.7 +0.5
T25A Trinidad 20.89 115 P Pn 04 04 07.2 +1.0
T25A IAmb IAmb 04 04 14.6
comp=Z,17nm,1.4s
ULM Lac du Bonnet 20.93 74 P **P 04 04 02.9 -1.1**
comp=Z,1.4nm,0.5s,baz=283,slow=12,SNR=1.6
TUC Tucson 21.10 135 P **P 04 04 09.6 +3.6**
TUC IAmb IAmb 04 04 10.4
comp=Z,6.7nm,1.2s
ANMO Albuquerque 21.25 123 P **P 04 04 07.1 -0.6**
comp=Z,2.6nm,0.8s,baz=318,slow=9.4,SNR=12
ANMO LR LR 04 12 34.7
comp=Z,49nm,20.7s,baz=342,slow=38
ANMO Albuquerque 21.25 123 P **P 04 04 09.3 +1.7**
ANMO IAmb IAmb 04 04 14.9
comp=Z,6.4nm,0.8s
BNM Barren Site 21.74 125 P **P 04 04 16.3 +3.2**
FCC Fort Churchill 22.20 51 P **P 04 04 18.4 +0.9**
FCC IAmb IAmb 04 04 19.1
comp=Z,8.4nm,0.9s
FCC Fort Churchill 22.20 51 P **P 04 04 17.9 +0.4**
ECSD EROS Data Cent 22.32 91 P **P 04 04 23.1 +4.1**
ECSD IAmb IAmb 04 04 32.8
comp=Z,8.3nm,1.3s
121A Cookes Peak, D 22.39 129 P **P 04 04 23.4 +3.5**
319A Douglas 22.58 134 P **P 04 04 23.9 +2.0**
AMTX Amarillo 24.04 116 P **P 04 04 38.6 +2.0**
MSTX Muleshoe 24.04 119 P **P 04 04 39.8 +3.1**
TXAR Lajitas Array 27.06 127 P **P 04 05 03.3 -0.8**
comp=Z,1.6nm,1.0s,baz=323,slow=5.5,SNR=9.5
TXAR LR LR 04 16 12.0
comp=Z,84nm,19.0s,baz=340,slow=38
TXAR Lajitas Array 27.06 127 P **P 04 05 06.4 +2.3**
LPIG La Paz 28.46 144 LR LR 04 17 21.6
comp=Z,114nm,19.8s,baz=298,slow=38
FCAR Ozark Folk Cen 29.35 103 P **P 04 05 27.4 +3.1**
V48A Smith Brothers 32.88 98 P **P 04 05 57.3 +1.8**
LG4Q La Grande 4 33.51 61 P **P 04 05 59.4 -1.2**
SCHQ Schefferville 37.29 57 P **P 04 06 32.8 -0.4**
comp=Z,2.0nm,0.7s,baz=274,slow=5.5,SNR=3.8
SFJD Kangerlussuaq 41.72 35 LR LR 04 24 53.1
comp=Z,148nm,18.9s,baz=192,slow=37
SEY Seymchan 43.67 319 P **P 04 07 22.9 -2.9**
comp=Z,0.4nm,0.3s,baz=42,slow=16,SNR=11
PETK Petropavlovsk- 44.90 305 LR LR 04 24 30.3
comp=Z,19nm,18.4s,baz=53,slow=34
H11N2 WAKE ISLAND Hy 58.94 265 T T 05 12 40.4
baz=44,slow=75,SNR=103
H11N3 WAKE ISLAND Hy 58.94 265 T T 05 12 40.4
baz=44,slow=75,SNR=75
H11N1 WAKE ISLAND Hy 58.96 265 T T 05 12 41.6
baz=44,slow=75,SNR=68
H11S1 WAKE ISLAND Hy 59.95 264 T T 05 13 55.6
baz=44,slow=76,SNR=13
H11S2 WAKE ISLAND Hy 59.95 264 T T 05 13 56.0
baz=44,slow=76,SNR=29
H11S3 WAKE ISLAND Hy 59.96 264 T T 05 14 00.1
baz=44,slow=76,SNR=15
ZALV Zalesovo Beam 73.83 340 LR LR 04 46 31.3
comp=Z,33nm,18.0s,baz=50,slow=38

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*IDC **10** 04:07:03.7±4.7,23°.41N×122°.39E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.4/41,mbtmp3.6/6,ML3.5/1,MS3.1/1, Ms1 3.1/1,ms1mx2.4/74,Error ellipse: s-maj=98.1km s-min=51.3km az=1.0*
*JMA **10** 04:07:14.2±0.1,24°.88N×122°.65E,h7km±4km,M2.6*
ISC 10 04:07:13.7±1.3,24°.8N±0°.2×122°.5E±0°.2,h10km,n10, σ1$06/11,mb3.4/5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.50**	**128**	P	**Pg**	**04 07 24.1**	**+0.6**
JYNG				eS	**Sg**	**04 07 30.8**	**+0.7**
YOJ	**Yonaguni jima**	**0.55**	**124**	P	**Pg**	**04 07 24.4**	**+0.1**
YOJ				S	**Sg**	**04 07 31.6**	**+0.1**
IRIF	**Iriomote-Funau**	**1.19**	**111**	S	**Sg**	**04 07 50.7**	**-1.3**
KSRS	**Korea Array**	**13.47**	**19**	Pn	**P**	**04 10 35.8**	**+1.5**
	0.2nm,0.3s,baz=194,slow=12,SNR=4.4						
SONM	**Songino Array**	**26.33**	**335**	P	**P**	**04 12 50.6**	**+0.7**
	0.9nm,1.0s,baz=154,slow=10,SNR=4.5						
KAPI	**Kappang**	**29.72**	**186**	LR	LR	04 26 08.5	
	comp=Z,33nm,18.2s,baz=144,slow=40						
MKAR	**Makanchi Array**	**38.78**	**315**	P	**P**	**04 14 38.2**	**-0.2**
	0.8nm,0.8s,baz=116,slow=8.2,SNR=6.4						
ZALV	**Zalesovo Beam**	**40.43**	**326**	P	**P**	**04 14 51.9**	**-0.1**
	0.5nm,0.5s,baz=130,slow=8.1,SNR=2.1						
KURBB	**Kurchatov Arra**	**42.45**	**319**	P	**P**	**04 15 07.9**	**-0.9**
	0.3nm,0.3s,baz=115,slow=7.6,SNR=4.0						
YKA	**Yellowknife Ar**	**81.96**	**23**	P	**P**	**04 19 31.8**	**-1.7**
	0.2nm,0.6s,baz=305,slow=4.9,SNR=4.3						

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*SJA **10** 04:36:35.2±1.0,36°.33S×73°.09W,h50km,ML4.6,MW4.7*
*GUC **10** 04:36:38.3±0.6,36°.40S×72°.74W,h39km±3km,ML4.9*
*NEIC **10** 04:36:38.9,36°.38S×72°.66W,h53km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}1.59; $M_{\theta\theta}$-0.72; $M_{\phi\phi}$-0.86; $M_{r\theta}$-0.49; $M_{\theta\phi}$-0.66; $M_{r\phi}$0.08; Fault plane solution: $M_0$1.60000×10^16^ NP1:ϕ_s235.00000°, δ51.55000°,λ106.11000°. NP2:ϕ_s30.09000°,δ41.20000°, λ70.74000°. Principal axes: T 1.7043, Plg76.0000°, Azm201.0000°; N -0.2273, Plg13.0000°, Azm45.0000°; P -1.4771, Plg5.0000°, Azm314.0000°;*
*VAO **10** 04:36:39.9±0.4,36°.32S×72°.50W,h47km,mb4.6*
*IDC **10** 04:36:39.8±0.5,36°.41S×72°.53W,h52km±3km,mb4.1/10, mb1 4.3/14,mb1mx4.1/31,mbtmp4.3/14,MS3.9/33, Ms1 3.9/33,ms1mx3.8/47,Error ellipse: s-maj=20.0km s-min=10.7km az=75.0*
*NEIC **10** 04:36:39±1.6,36°.38S±0°.05×72°.7W±0°.1,h41km±3km, mb4.8/99,Mwr4.7/37,ML4.9(GUC),Error ellipse: s-maj=12.6km s-min=7.2km az=100.0*
*GCMT **10** 04:36:42.9±0.4,36°.27S±0°.02×72°.54W±0°.05,h50km±1km, MW4.9/46,Moment Tensor Solution. s34,c40; s46,c71; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}2.58±.17; $M_{\theta\theta}$-1.34±.11; $M_{\phi\phi}$-1.24±.14; $M_{r\theta}$-0.57±.07; $M_{\theta\phi}$-1.53±.07; $M_{r\phi}$-0.02±.13; Best double couple: $M_0$2.76300×10^16^ NP1:ϕ_s37.00000°,δ41.00000°,λ77.00000°. NP2: ϕ_s235.00000°,δ50.00000°,λ102.00000°. Principal axes: T 2.6720, Plg80.0000°, Azm200.0000°; N 0.1810, Plg9.0000°, Azm47.0000°; P -2.8530, Plg4.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 04:36:38.9±0.4,36°.41S±0°.03×72°.73W±0°.06,h49km±3km, h49km:pP-P,n263,σ1$23/242,mb4.8/56,MS4.0/32,3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ML02	**Panimavida**	**1.24**	**59**	eP	**Pn**	**04 36 59.8**	**0.0**
ML02				eS	**Sn**	**04 37 15.1**	**-0.2**
ML02				IAML		04 37 22.1	
	comp=N,26μm,0.5s						

ML02	**Panimavida**	**1.24**	**59**	Pn	**Pn**	**04 36 59.0**	**-0.7**
GO05	**Huala**	**1.54**	**25**	eP	**Pn**	**04 37 04.2**	**+0.3**
GO05				eS	**Sn**	**04 37 17.8**	**-4.9**
GO05	**Huala**	**1.54**	**25**	Pn	**Pn**	**04 37 03.7**	**-0.2**
GO05	**Huala**	**1.54**	**25**	eP	**Pn**	**04 37 04.1**	**+0.2**
GO05				eS	**Sn**	**04 37 17.7**	**-4.9**
CANA	**Caviahue**	**1.99**	**139**	eP	**Pn**	**04 37 12.0**	**+1.8**
CANA				eS	**Sn**	**04 37 26.0**	**-8.0**
BO02	**Sierra Bellavi**	**2.26**	**45**	eP	**Pn**	**04 37 13.9**	**+0.1**
BO02				eS	**Sn**	**04 37 41.2**	**+0.7**
BO02				IAML		04 37 55.1	
	comp=N,11μm,0.6s						
BO02	**Sierra Bellavi**	**2.26**	**45**		**Pn**	**04 37 13.1**	**-0.7**
BO02	**Sierra Bellavi**	**2.26**	**45**	eP	**Pn**	**04 37 14.0**	**+0.2**
BO02				eS	**Sn**	**04 37 45.3**	**+4.8**
BO02				IAML		04 37 51.6	
	comp=Z,4μm,0.2s						
BO01	**Tunca**	**2.42**	**34**	eP	**Pn**	**04 37 15.7**	**-0.2**
BO01				eS	**Sn**	**04 37 44.8**	**+0.5**
BO01	**Tunca**	**2.42**	**34**		**Pn**	**04 37 15.9**	**0.0**
BO01	**Tunca**	**2.42**	**34**	eP	**Pn**	**04 37 15.8**	**0.0**
BO01				eS	**Sn**	**04 37 46.5**	**+2.2**
BO01				IAML		04 37 56.6	
	comp=Z,3μm,0.6s						
LC01	**Cunco**	**2.58**	**165**	eP	**Pn**	**04 37 18.5**	**+0.4**
LC01				eS	**Sn**	**04 37 47.5**	**-0.7**
LC01	**Cunco**	**2.58**	**165**	Pn	**Pn**	**04 37 18.0**	**-0.1**
EDS3	**Malargue**	**2.77**	**78**	eP	**Pn**	**04 37 23.2**	**+2.4**
MT01	**Popeta**	**2.81**	**26**	eP	**Pn**	**04 37 21.1**	**-0.2**
MT01				eS	**Sn**	**04 37 54.3**	**+0.4**
MT01				IAML		04 38 11.1	
	comp=E,2μm,0.2s						
MT01	**Popeta**	**2.81**	**26**		**Pn**	**04 37 20.6**	**-0.6**
MT01	**Popeta**	**2.81**	**26**	eP	**Pn**	**04 37 21.2**	**-0.1**
MT01				eS	Sn	04 38 05.7	+12
MT01				IAML		04 38 15.1	
	comp=Z,2μm,0.7s						
VA05	**Santo Domingo**	**2.89**	**19**		**Pn**	**04 37 21.7**	**-0.7**
BO04	**La Punta**	**2.97**	**36**	eP	**Pn**	**04 37 23.5**	**-0.1**
BO04				eS	**Sn**	**04 37 58.1**	**+0.2**
BO04				IAML		04 38 22.0	
	comp=N,3μm,0.7s						
MT09	**Talagante**	**2.98**	**29**	eP	**Pn**	**04 37 23.9**	**+0.1**
MT09				*i* S	**Sn**	**04 37 58.7**	**+0.2**
MT09				IAML		04 38 15.8	
	comp=N,4μm,0.3s						
MT09	**Talagante**	**2.98**	**29**		**Pn**	**04 37 23.6**	**-0.2**
LR03	**Panguipulli**	**3.24**	**175**	eP	**Pn**	**04 37 27.5**	**+0.3**
LR03				eS	**Sn**	**04 38 04.5**	**+0.1**
LR03				IAML		04 38 26.0	
	comp=E,5μm,0.4s						
LR03	**Panguipulli**	**3.24**	**175**		**Pn**	**04 37 28.1**	**+1.0**
LMEL	**Las Melosas**	**3.28**	**40**	eP	**Pn**	**04 37 28.3**	**+0.4**
LMEL				eS	**Sn**	**04 38 05.0**	**+0.2**
LMEL				IAML		04 38 27.7	
	comp=E,2μm,0.6s						
MT02	**Curacav**	**3.40**	**23**		**Pn**	**04 37 28.1**	**-1.3**
MT05	**Renca**	**3.42**	**29**	Pn	**Pn**	**04 37 29.7**	**-0.1**
MT05	**Renca**	**3.42**	**29**	eP	**Pn**	**04 37 29.9**	**+0.2**
MT05				eS	Sn	04 38 24.2	+15
MT05				IAML		04 38 30.6	
	comp=Z,3μm,1.6s						
VA01	**Torpederas**	**3.49**	**15**	eP	**Pn**	**04 37 30.1**	**-0.5**
VA01				*i* S	**Sn**	**04 38 09.9**	**-0.7**
VA01				IAML		04 38 11.7	
	comp=N,983nm,0.2s						
VA01	**Torpederas**	**3.49**	**15**	Pn	**Pn**	**04 37 29.5**	**-1.1**
VA01	**Torpederas**	**3.49**	**15**	eP	**Pn**	**04 37 30.4**	**-0.2**
VA01				eS	**Sn**	**04 38 09.6**	**-1.1**
VA01				IAML		04 38 35.3	
	comp=Z,551nm,1.2s						
LR04	**Corral**	**3.51**	**189**	eP	**Pn**	**04 37 31.5**	**+0.6**
LR04				eS	**Sn**	**04 38 09.8**	**-1.3**
LR04				IAML		04 38 14.9	
	comp=E,3μm,0.3s						
PEL	**Peldehue**	**3.66**	**28**		**Pn**	**04 37 33.1**	**+0.1**
PEL	**Peldehue**	**3.66**	**28**	eP	**Pn**	**04 37 33.2**	**+0.1**
PEL				eS	**Sn**	**04 38 16.9**	**+1.9**
ROC1	**El Roble**	**3.70**	**23**	eP	**Pn**	**04 37 33.3**	**-0.4**
ROC1				eS	**Sn**	**04 38 17.8**	**+1.5**
RFA	**San Rafael**	**3.83**	**66**	eP	**Pn**	**04 37 37.2**	**+1.7**
RFA				IAML		04 38 45.0	
	comp=Z,443nm,1.8s						
VA03	**San Esteban**	**4.05**	**27**		**Pn**	**04 37 37.9**	**-0.6**
VA03	**San Esteban**	**4.05**	**27**	eP	**Pn**	**04 37 38.5**	**+0.1**
VA03				eS	**Sn**	**04 38 25.0**	**+0.3**
VA03				IAML		04 38 57.1	
	comp=Z,838nm,0.6s						
LL04	**Puerto Octay**	**4.50**	**177**	Pn	**Pn**	**04 37 44.5**	**-0.1**
AAGR	**Agrelo**	**4.61**	**45**	eP	**Pn**	**04 37 48.0**	**+1.9**
PLCA	**Paso Flores**	**4.64**	**159**	P	**Pn**	**04 37 48.3**	**+1.8**
	comp=Z,14nm,0.3s,baz=326,slow=11,SNR=503						
PLCA				S	**Sn**	**04 38 39.8**	**+0.6**
	comp=Z,16nm,0.3s,baz=255,slow=17,SNR=4.4						
PLCA				LR	LR	04 39 39.9	
	comp=Z,2μm,19.2s,baz=328,slow=39						
PLCA	**Paso Flores**	**4.64**	**159**	eP	**Pn**	**04 37 48.8**	**+2.3**
PLCA	**Paso Flores**	**4.64**	**159**	Pn	**Pn**	**04 37 48.0**	**+1.5**
PLCA	**Paso Flores**	**4.64**	**159**	eP	**Pn**	**04 37 48.7**	**+2.1**
PLCA				IAML		04 39 11.1	
	comp=Z,235nm,1.5s						
LL03	**Petrohue**	**4.73**	**177**		**Pn**	**04 37 47.9**	**+0.2**
ARCO	**CERRO ARCO**	**4.74**	**42**	eP	**Pn**	**04 37 49.4**	**+1.5**
ARCO				IAML		04 39 22.5	
	comp=Z,247nm,3.1s						
H03S1	**Juan Fernandez**	**5.67**	**295**	T	T	04 43 44.2	
	baz=113						
H03S3	**Juan Fernandez**	**5.68**	**295**	T	T	04 43 45.1	
	baz=113						
H03S2	**Juan Fernandez**	**5.69**	**295**	T	T	04 43 44.6	
	baz=113						
LL01	**San Ignacio de**	**5.97**	**178**	Pn	**Pn**	**04 38 02.5**	**-2.1**
CO05	**La Serena**	**6.59**	**11**		**Pn**	**04 38 12.2**	**-0.9**
LCO	**Las Campanas**	**7.57**	**14**	Pn	**Pn**	**04 38 25.9**	**-0.9**
AC04	**Llanos de Chal**	**8.29**	**10**	Pn	**Pn**	**04 38 35.0**	**-1.6**
COYC	**Coyhaique**	**9.17**	**177**	Pn	**Pn**	**04 38 49.7**	**+1.3**
PB14	**IPOC Station P**	**11.91**	**10**	Pn	**Pn**	**04 39 22.6**	**-3.7**
LVC	**Limon Verde**	**14.14**	**15**	P	**Pn**	**04 39 56.7**	**0.0**
	comp=Z,0.9nm,0.3s,baz=183,slow=9.6,SNR=7.6						
LVC				LR	LR	04 45 30.2	
	comp=Z,686nm,21.7s,baz=200,slow=38						
LVC	**Limon Verde**	**14.14**	**15**	eP	**Pn**	**04 39 56.2**	**-0.5**
ITQB	**Itaqui**	**15.07**	**68**	eP	**Pn**	**04 40 07.1**	**-1.5**
PB01	**IPOC Station P**	**15.57**	**11**		**Pn**	**04 40 14.0**	**-1.2**
PB01				IAmb	IAmb	04 40 21.8	
	comp=Z,106nm,1.5s						
TA01	**Diego Aracena**	**15.94**	**9**	Pn	**Pn**	**04 40 19.9**	**0.0**
TA02	**Huaiquique**	**16.24**	**9**	Pn	**Pn**	**04 40 22.1**	**-1.5**
PLTB	**Pedras Altas**	**16.50**	**79**	eP	**Pn**	**04 40 25.4**	**-1.6**
CPUP	**Villa Florida**	**16.53**	**57**	P	**P**	**04 40 27.2**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=229,slow=11,SNR=3.9						
CPUP				LR	LR	04 47 22.0	
	comp=Z,558nm,19.9s,baz=232,slow=39						
CPUP	**Villa Florida**	**16.53**	**57**	eP	**Pn**	**04 40 24.6**	**-2.6**
PB11	**IPOC Station P**	**16.80**	**10**	Pn	**Pn**	**04 40 30.5**	**-0.4**
CPSB	**Cacapava Do Su**	**17.17**	**75**	eP	**Pn**	**04 40 34.5**	**-0.7**
USHA	**Ushuaia**	**18.66**	**172**	P	**P**	**04 40 52.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=2.0,SNR=1.3						
USHA				LR	LR	04 47 35.3	
	comp=Z,474nm,19.6s,baz=18,slow=35						
ITAB	**Concordia**	**19.71**	**68**	eP	**P**	**04 41 02.9**	**-1.4**
ITAB	**Concordia**	**19.71**	**68**		**P**	**04 41 03.8**	**-0.5**
ITAB				IAmb	IAmb	04 41 04.6	
	comp=Z,30nm,0.7s						
LPAZ	**La Paz**	**20.45**	**13**	P	Pn	04 41 14.6	-0.8
	comp=Z,3.7nm,0.5s,baz=209,slow=9.1,SNR=20						
PTGB	**Pitanga**	**21.22**	**62**	eP	**P**	**04 41 19.2**	**-1.5**
TER01	**Tubaro-SC**	**21.37**	**75**	eP	**P**	**04 41 20.5**	**-1.6**
AQDB	**Aquidauana**	**21.76**	**48**	eP	**P**	**04 41 25.5**	**-0.9**
AQDB	**Aquidauana**	**21.76**	**48**	P	**P**	**04 41 25.7**	**-0.7**
AQDB				IAmb	IAmb	04 41 45.3	
	comp=Z,55nm,1.0s						
SIV	**San Ignacio**	**22.82**	**30**	P	**P**	**04 41 36.9**	**-0.9**
	comp=Z,18nm,0.9s,baz=219,slow=9.3,SNR=50						
PCMB	**Pacaembu**	**23.80**	**58**	eP	**P**	**04 41 46.1**	**-1.1**
FRTB	**Fartura**	**23.86**	**63**	eP	**P**	**04 41 47.6**	**-0.2**
PTLB	**Pontes e Lacer**	**24.13**	**34**	eP	**P**	**04 41 49.5**	**-0.8**
PTLB	**Pontes e Lacer**	**24.13**	**34**	P	**P**	**04 41 50.1**	**-0.2**
PTLB				IAmb	IAmb	04 41 51.1	
	comp=Z,30nm,1.1s						
PP1B	**Ponte de Pedra**	**24.49**	**45**	eP	**P**	**04 41 53.4**	**-0.2**
NNA	**Nana**	**24.59**	**350**	LR	LR	04 49 35.6	
	comp=Z,166nm,18.8s,baz=178,slow=32						

PET01	**Itanhaem-SP**	**24.98**	**68**	eP	**P**	**04 41 57.1**	**-0.9**
SPB	**Sao Paulo**	**25.27**	**67**	eP	**P**	**04 42 00.1**	**-0.5**
SPB	**Sao Paulo**	**25.27**	**67**	P	**P**	**04 41 59.2**	**-1.3**
SALV	**Santo Antonio**	**25.43**	**41**	eP	**P**	**04 42 01.8**	**-0.3**
ITRB	**Iturama**	**25.72**	**56**	eP	**P**	**04 42 04.3**	**-0.4**
RCLB	**Rio Claro- Sao**	**25.90**	**64**	eP	**P**	**04 42 05.0**	**-1.5**
VILB	**Vilhena**	**25.93**	**29**	eP	**P**	**04 42 06.4**	**-0.2**
VILB	**Vilhena**	**25.93**	**29**	P	**P**	**04 42 05.8**	**-0.8**
VILB				IAmb	IAmb	04 42 33.9	
	comp=Z,16nm,0.8s						
VAO	**Valinhos**	**25.96**	**66**	eP	**P**	**04 42 06.1**	**-0.9**
BB19B	**Bebedouro**	**26.05**	**61**	eP	**P**	**04 42 07.7**	**0.0**
PARB	**Paraibuna**	**26.77**	**68**	eP	**P**	**04 42 14.6**	**+0.3**
ETMB	**Extrema**	**27.12**	**14**	eP	**P**	**04 42 18.2**	**+0.9**
ETMB	**Extrema**	**27.12**	**14**	P	**P**	**04 42 17.1**	**-0.2**
ARAG	**Araguaiana, MT**	**27.78**	**48**	eP	**P**	**04 42 23.7**	**+0.5**
CZSB	**Cruzeiro do Su**	**28.54**	**0**	eP	**P**	**04 42 31.4**	**+1.3**
CZSB	**Cruzeiro do Su**	**28.54**	**0**	P	**P**	**04 42 29.7**	**-0.4**
PDRB	**Porto dos Gac**	**28.60**	**34**	eP	**P**	**04 42 30.3**	**-0.3**
BSCB	**Bom Sucesso**	**28.79**	**65**	eP	**P**	**04 42 30.6**	**-1.8**
PMSA	**Palmer Station**	**28.88**	**172**	LR	LR	04 53 39.5	
	comp=Z,412nm,19.2s,baz=320,slow=35						
PMSA	**Palmer Station**	**28.88**	**172**	P	**P**	**04 42 33.3**	**+0.8**
ATAH	**Atahualpa**	**29.59**	**349**	LR	LR	04 52 27.7	
	comp=Z,123nm,20.9s,baz=251,slow=32						
CLDB	**Colider**	**29.68**	**35**	eP	**P**	**04 42 39.6**	**-0.5**
BDFB	**Brasilia**	**30.19**	**53**	P	**P**	**04 42 44.4**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=244,slow=10,SNR=4.0						
BDFB				LR	LR	04 56 06.0	
	comp=Z,354nm,20.1s,baz=176,slow=39						
CAM01	**Campos-RJ**	**30.63**	**70**	eP	**P**	**04 42 48.3**	**-0.2**
SNDB	**Serra Nova Dou**	**31.06**	**44**	eP	**P**	**04 42 51.0**	**-1.3**
TBTG	**Tabatinga, AM**	**32.17**	**5**	eP	**P**	**04 43 03.3**	**+1.2**
TBTG	**Tabatinga, AM**	**32.17**	**5**	P	**P**	**04 43 01.9**	**-0.1**
RPN	**Rapa Nui**	**32.31**	**276**	LR	LR	04 52 59.7	
	comp=Z,126nm,18.7s,baz=88,slow=30						
PEXB	**Peixe**	**32.70**	**48**	eP	**P**	**04 43 06.4**	**-0.4**
SJMB	**Sao Joao De Ma**	**32.86**	**66**	eP	**P**	**04 43 07.4**	**-0.7**
JANB	**Januaria**	**33.06**	**57**	eP	**P**	**04 43 08.6**	**-1.4**
RIB01	**Linhares ES**	**33.06**	**68**	eP	**P**	**04 43 09.4**	**-0.5**
NPGB	**Novo Progresso**	**33.26**	**33**	eP	**P**	**04 43 10.6**	**-1.0**
NAN01	**Guarapari, ES**	**34.17**	**66**	eP	**P**	**04 43 20.3**	**+0.7**
SDBA	**SAO DESIDERIO**	**34.59**	**53**	eP	**P**	**04 43 22.6**	**-0.7**
MACA	**Manacapuru-AM**	**34.90**	**21**	eP	**P**	**04 43 26.0**	**+0.2**
MACA	**Manacapuru-AM**	**34.90**	**21**	IAmb	IAmb	04 43 26.9	
	comp=Z,12nm,0.6s						
GUA01	**Guaratinga, BA**	**35.22**	**65**	eP	**P**	**04 43 29.0**	**+0.4**
ITTB	**Itaituba**	**35.51**	**30**	eP	**P**	**04 43 29.9**	**-1.2**
SMTB	**Santa Maria do**	**35.69**	**46**	eP	**P**	**04 43 32.2**	**-0.5**
OTAV	**Otavalo**	**36.84**	**350**	eP	**P**	**04 43 42.8**	**-0.2**
OTAV	**Otavalo**	**36.84**	**350**	P	**P**	**04 43 42.4**	**-0.6**
OTAV				IAmb	IAmb	04 43 48.3	
	comp=Z,13nm,1.3s						
NBPN	**Ponto Novo - B**	**38.86**	**57**	eP	**P**	**04 43 58.2**	**-1.3**
BOAV	**Boa Vista**	**40.24**	**19**	eP	**P**	**04 44 10.6**	**-0.4**
TMAB	**Tom-Au,PA,Br**	**40.80**	**40**	eP	**P**	**04 44 15.9**	**+0.3**
ROSC	**El Rosal**	**41.06**	**358**	LR	LR	05 01 26.7	
	comp=Z,160nm,18.2s,baz=210,slow=36						
NBMA	**Muriti-CE**	**42.36**	**55**	eP	**P**	**04 44 27.9**	**-0.6**
NBPS	**Pedro II - PI**	**42.91**	**50**	eP	**P**	**04 44 32.9**	**-0.1**
NBPB	**Pedra_Branca-C**	**43.19**	**53**	eP	**P**	**04 44 34.6**	**-0.6**
NBCL	**Cascavel-CE**	**45.02**	**53**	eP	**P**	**04 44 49.8**	**0.0**
SDV	**Santo Domingo**	**45.09**	**3**	LR	LR	05 03 58.7	
	comp=Z,40nm,20.0s,baz=175,slow=36						
SDV	**Santo Domingo**	**45.09**	**3**	eP	**P**	**04 44 50.9**	**+0.4**
BAUV	**El Baul**	**45.32**	**7**	P	**P**	**04 44 51.4**	**-0.7**
MDP	**Montagnes des**	**45.37**	**29**	LR	LR	05 06 06.2	
	comp=Z,126nm,18.8s,baz=236,slow=39						
VNA3	**Neumayer Olymp**	**47.36**	**157**	P	**P**	**04 45 08.6**	**+1.1**
VNA1	**Neumayer--Stat**	**47.70**	**156**	P	**P**	**04 45 11.5**	**+1.4**
JTS	**Las Juntas de**	**47.85**	**344**	LR	LR	05 00 23.0	
	comp=Z,75nm,20.3s,slow=30						
VNA2	**Neumayer--Watz**	**48.03**	**156**	P	**P**	**04 45 13.8**	**+1.1**
	baz=276,slow=8.0						
COVE	**Coope Vega, Sa**	**48.15**	**345**	P	**P**	**04 45 14.5**	**+0.3**
SNAA	**Sanae**	**49.59**	**157**	P	**P**	**04 45 25.8**	**+1.0**
SNAA	**Sanae**	**49.59**	**157**	P	**P**	**04 45 25.7**	**+1.0**
	comp=Z,7.6nm,0.8s,baz=274,slow=8.6,SNR=15						
SNAA				LR	LR	05 04 15.7	
	comp=Z,93nm,21.5s,baz=348,slow=33						
SNAA	**Sanae**	**49.59**	**157**	P	**P**	**04 45 25.3**	**+0.6**
SNAA				IAmb	IAmb	04 45 46.0	
	comp=Z,17nm,1.0s						
TGUH	**Tegucigalpa,Un**	**52.04**	**342**	P	**P**	**04 45 43.7**	**-0.1**
QSPA	**South Pole Qui**	**53.84**	**180**	LR	LR	05 08 25.7	
	comp=Z,83nm,18.6s,baz=174,slow=35						
QSPA	**South Pole Qui**	**53.84**	**180**

DBIC	**Dimbokro**	**76.48 71**	P	**P**	**04 48 23.1**	**-0.8**
DBIC			IAmb	IAmb	04 48 25.0	
	comp=Z,20nm,1.2s					
DBIC			pP	**PcP**	**04 48 35.5**	**+0.1**
CASY	**Casey**	**77.61 181**	P	**P**	**04 48 30.3**	**+0.9**
CASY			IAmb	IAmb	04 48 31.7	
	comp=Z,14nm,0.9s					
ANMO	**Albuquerque**	**77.63 332**	LR	LR	05 17 49.3	
	comp=Z,168nm,19.5s,baz=128,slow=32					
ANMO	**Albuquerque**	**77.63 332**	P	**P**	**04 48 31.4**	**+1.3**
ANMO			pP	**pP**	**04 48 45.0**	**+0.7**
ANMO			IAmb	IAmb	04 48 47.2	
	comp=Z,8.5nm,1.1s					
T25A	**Trinidad**	**78.85 335**	IAmb	IAmb	04 48 54.0	
	comp=Z,20nm,1.1s					
BOSA	**Boshof**	**79.45 118**	P	**P**	**04 48 39.7**	**-0.7**
	comp=Z,6.1nm,0.9s,baz=232,slow=5.1,SNR=6.9					
BOSA			LR	LR	05 19 10.8	
	comp=Z,70nm,19.7s,baz=192,slow=32					
PFO	**Pinyon Flats O**	**80.74 324**	LR	LR	05 18 55.3	
	comp=Z,77nm,18.6s,baz=118,slow=31					
PFO	**Pinyon Flats O**	**80.74 324**	P	**P**	**04 48 48.4**	**+1.4**
PFO			IAmb	IAmb	04 48 51.2	
	comp=Z,10nm,1.2s					
SADO	**Sadowa**	**81.01 355**	LR	LR	05 27 09.2	
	comp=Z,78nm,18.4s,baz=174,slow=37					
SMCO	**Snowmass**	**81.57 334**	IAmb	IAmb	04 48 55.1	
	comp=Z,10nm,1.2s					
KNB	**Kanab**	**81.97 329**	IAmb	IAmb	04 48 57.4	
	comp=Z,19nm,1.3s					
SZCU	**Shurtz Canyon**	**82.57 329**	IAmb	IAmb	04 49 00.5	
	comp=Z,14nm,1.4s					
CCUT	**Cedar City**	**82.65 329**	IAmb	IAmb	04 49 15.2	
	comp=Z,13nm,1.3s					
ECSD	**EROS Data Cent**	**82.67 343**	IAmb	IAmb	04 49 12.6	
	comp=Z,18nm,1.1s					
Q16A	**Castle Valley**	**82.92 331**	IAmb	IAmb	04 49 15.8	
	comp=Z,12nm,1.3s					
P18A	**Preston Nutter**	**83.18 332**	IAmb	IAmb	04 49 03.1	
	comp=Z,11nm,1.2s					
PRN	**Pahroc Range**	**83.25 327**	IAmb	IAmb	04 49 04.2	
	comp=Z,12nm,1.2s					
RDMU	**Red Mountain**	**83.74 333**	IAmb	IAmb	04 49 19.3	
	comp=Z,11nm,1.2s					
MPU	**Maple Canyon**	**84.05 331**	P	**P**	**04 49 05.0**	**+0.8**
MPU			pP	**pP**	**04 49 17.9**	**-0.7**
MPU			IAmb	IAmb	04 49 21.3	
	comp=Z,12nm,1.4s					
NLU	**North Lily Min**	**84.17 331**	IAmb	IAmb	04 49 08.1	
	comp=Z,7.3nm,1.3s					
R11A	**Troy Canyon, C**	**84.27 327**	IAmb	IAmb	04 49 23.1	
	comp=Z,8.9nm,1.2s					
SPR3	**Spring Creek 3**	**84.28 329**	IAmb	IAmb	04 49 22.6	
	comp=Z,9.8nm,1.2s					
DUG	**Dugway, Tooele**	**84.67 330**	IAmb	IAmb	04 49 24.7	
	comp=Z,17nm,1.5s					
RSSD	**Black Hills**	**85.04 338**	P	**P**	**04 49 09.8**	**+0.6**
RSSD			IAmb	IAmb	04 49 11.2	
	comp=Z,8.5nm,1.1s					
RSSD			pP	**pP**	**04 49 22.2**	**-1.2**
BGU	**Big Grassy Mou**	**85.38 331**	IAmb	IAmb	04 49 15.2	
	comp=Z,6.8nm,1.4s					
LHV	**Little Huntoon**	**85.49 326**	IAmb	IAmb	04 49 15.3	
	comp=Z,10nm,1.2s					
NVAR	**Mina Array Bea**	**85.54 326**	P	**P**	**04 49 13.7**	**+1.9**
	comp=Z,1.7nm,0.9s,baz=147,slow=5.3,SNR=10.0					
NVAR			pP	**pP**	**04 49 27.9**	**+1.8**
	comp=Z,1.8nm,0.9s,baz=143,slow=6.4,SNR=7.9					
NVAR	**Mina Array Bea**	**85.54 326**	P	**P**	**04 49 13.2**	**+1.4**
NVAR			pP	**pP**	**04 49 26.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**85.56 70**	P	**P**	**04 49 11.3**	**-0.8**
	comp=Z,4.1nm,1.1s,baz=249,slow=3.1,SNR=14					
TORD			pP	**pP**	**04 49 26.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=232,slow=5.5,SNR=4.2					
TORD	**Torodi Ar. Bea**	**85.56 70**	P	**P**	**04 49 11.1**	**-1.1**
TORD			IAmb	IAmb	04 49 13.1	
	comp=Z,11nm,1.4s					
BW06	**Boulder Array**	**85.66 334**	IAmb	IAmb	04 49 28.4	
	comp=Z,8.3nm,1.4s					
PD31	**Pinedale Array**	**85.66 334**	IAmb	IAmb	04 49 28.4	
	comp=Z,8.6nm,1.4s					
PDAR	**Pinedale Array**	**85.66 334**	P	**P**	**04 49 11.9**	**-0.4**
	comp=Z,1.7nm,1.1s,baz=145,slow=5.4,SNR=7.6					
PDAR			pP	**pP**	**04 49 27.5**	**+0.9**
	comp=Z,1.5nm,1.1s,baz=128,slow=6.0,SNR=4.6					
PDAR			LR	LR	05 23 23.0	
	comp=Z,97nm,18.2s,baz=121,slow=33					
RYN	**Ryan**	**85.80 326**	IAmb	IAmb	04 49 36.6	
	comp=Z,7.5nm,1.3s					
ELK	**Elko**	**86.12 329**	P	**P**	**04 49 15.0**	**+0.4**
ELK			pP	**pP**	**04 49 29.1**	**+0.1**
ELK			IAmb	IAmb	04 49 31.6	
	comp=Z,5.9nm,1.2s					
YERR	**Yerington**	**86.42 325**	IAmb	IAmb	04 49 19.9	
	comp=Z,7.8nm,1.3s					
FLWY	**Flagg Ranch**	**87.21 334**	IAmb	IAmb	04 49 36.7	
	comp=Z,10nm,1.2s					
YMR	**Madison River**	**87.81 334**	IAmb	IAmb	04 49 25.8	
	comp=Z,6.9nm,1.2s					
YHH	**Holmes Hill**	**87.88 334**	IAmb	IAmb	04 49 40.1	
	comp=Z,9.3nm,1.5s					
ORV	**Oroville**	**87.92 324**	IAmb	IAmb	04 49 40.8	
	comp=Z,11nm,1.4s					
LSZ	**Lusaka**	**89.58 109**	LR	LR	05 24 59.5	
	comp=Z,81nm,19.9s,baz=194,slow=32					
PLID	**Pearl Lake**	**90.06 331**	IAmb	IAmb	04 49 36.3	
	comp=Z,11nm,1.4s					
MDT	**Midelt**	**93.76 52**	LR	LR	05 31 29.9	
	comp=Z,82nm,19.1s,baz=256,slow=35					
ESDC	**Sonseca Array**	**98.64 47**	LR	LR	05 34 13.3	
	comp=Z,64nm,18.1s,baz=294,slow=35					
DZM	**Mont Dzumac**	**99.37 234**	LR	LR	05 29 37.9	
	comp=Z,54nm,18.0s,baz=52,slow=32					
DZM	**Mont Dzumac**	**99.37 234**	*e*LR	LR	05 22 36.8	
	comp=Z,143nm,25.2s					
GERES	**GERESS Array B**	**114.23 46**	PKiKP	PKPdf	04 55 12.7	+0.2
	comp=Z,0.2nm,0.4s,baz=298,slow=2.9,SNR=4.7					
ASAR	**Alice Springs**	**115.17 207**	PKP	**PKiKP**	**04 55 14.7**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=129,slow=1.7,SNR=5.7					
WRA	**Warramunga Arr**	**118.39 209**	PKP	**PKPdf**	**04 55 21.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=156,slow=1.8,SNR=35					
WRA			pPKP	**pPKPdf**	**04 55 36.4**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=155,slow=1.7,SNR=5.7					
WRA	**Warramunga Arr**	**118.39 209**		**PKPdf**	**04 55 21.4**	**0.0**
BRTR	**Keskin Array B**	**123.47 63**	PKP	**PKPdf**	**04 55 30.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=253,slow=1.5,SNR=4.0					
BRTR			pPKP	**pPKPdf**	**04 55 45.7**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=183,slow=8.7,SNR=3.6					
AKASG	**Malin Array Be**	**124.21 49**	PKP	**PKPdf**	**04 55 30.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=259,slow=2.6,SNR=7.6					
AKASG			pPKP	**pPKPdf**	**04 55 46.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=262,slow=2.8,SNR=4.7					
ARCES	**ARCESS Array B**	**126.43 26**	PKP	**PKPdf**	**04 55 35.4**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=237,slow=4.2,SNR=1.1					
ARCES			pPKP	**pPKPdf**	**04 55 50.0**	**-0.1**
	comp=Z,2.6nm,1.0s,baz=64,slow=2.8,SNR=1.5					
TIXI	**Tiksi**	**142.95 349**	PKPdf	**PKPdf**	**04 56 07.2**	**+1.3**
ABKAR	**Akbulak array**	**143.58 54**	PKPdf	PKPbc	04 56 06.3	+1.2
GSI	**Gunungsitoli**	**143.94 163**	PKPdf	**PKPdf**	**04 56 09.3**	**-0.2**
KSM	**Kuching**	**145.13 185**	PKPdf	**PKPbc**	**04 56 11.6**	**+0.6**
NRIK	**Noril'sk**	**145.28 12**	PKPbc	**PKPbc**	**04 56 10.2**	**+0.3**
NRIK			pPKPbc	pPKPab	04 56 25.2	+0.6
	comp=Z,8.5nm,1.0s,baz=56,slow=2.5,SNR=5.6					
NRIK	**Noril'sk**	**145.28 12**	PKPbc	**PKPdf**	**04 56 11.2**	**+1.2**
MYKOM	**Kota Tinggi**	**145.41 174**		**PKPdf**	**04 56 11.6**	**-0.4**
PSI	**Prapat**	**145.68 165**	PKPbc	**PKPdf**	**04 56 12.7**	**0.0**
	comp=Z,8.5nm,0.7s,baz=186,slow=6.8,SNR=11					
URV	**Uravakonda**	**145.76 121**	*e*PKPbc	**PKPdf**	**04 56 12.0**	**-0.5**
SBUM	**Sibu**	**145.90 189**	PKPbc	**PKPdf**	**04 56 12.3**	**-0.6**
RCLA	**Racherla**	**147.28 122**	*e*PKPbc	**PKPdf**	**04 56 16.5**	**+1.5**
RCLA			*e*PKiKP	**PKPab**	**04 56 19.6**	**+0.4**
RCLA			*ep*PKPbc	**pPKPdf**	**04 56 28.7**	**-1.3**
SRLM	**Srisailam**	**147.69 121**	*e*PKPbc	**PKPbc**	**04 56 18.1**	**-0.4**
SRLM			*ep*PKPbc	**pPKPdf**	**04 56 29.8**	**-0.8**
ADKI	**Addanki**	**148.24 123**	*e*PKPbc	**PKPdf**	**04 56 18.2**	**+1.6**
NJS	**Nagarjunasagar**	**148.29 121**	*e*PKPbc	**PKPbc**	**04 56 19.5**	**-0.6**
HYBB	**Hyderabad (bro**	**148.35 119**	*e*PKPbc	**PKPbc**	**04 56 19.7**	**-0.6**
HYBB			*ep*PKPdf	**pPKPdf**	**04 56 28.9**	**-2.8**
HYBB			*e*PP	**PP**	**04 59 49.2**	**0.0**
HYBB			*e*SKSdf	**SKSdf**	**05 03 21.1**	**-0.3**
KBL	**Kabul**	**148.94 82**		**PKPab**	**04 56 24.9**	**-0.9**
SRSP	**Sriramsagar**	**149.19 117**	*e*PKPbc	**PKPbc**	**04 56 21.8**	**-0.5**
BRVK	**Borovoye**	**149.32 45**	PKPbc	**PKPdf**	**04 56 19.8**	**+2.5**
MYLAV	**Mylavaram**	**149.33 123**	*e*PKPbc	**PKPbc**	**04 56 22.2**	**-0.5**
BVAR	**Borovoye Array**	**149.39 45**	PKP	**PKPdf**	**04 56 17.8**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=222,slow=2.0,SNR=6.9					
BVAR			PKPbc	**PKPbc**	**04 56 22.5**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=336,slow=3.2,SNR=14					
BVAR			pPKPbc	**pPKPbc**	**04 56 37.9**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=318,slow=2.0,SNR=5.8					
CHGR	**Chuyangaron**	**149.83 74**	PKPbc	**PKPbc**	**04 56 23.2**	**-0.3**
ZALV	**Zalesovo Beam**	**156.54 35**	PKP	**PKPdf**	**04 56 27.4**	**-0.3**
	comp=Z,5.5nm,1.0s,baz=270,slow=1.4,SNR=18					
ZALV			pPKP	**pPKPdf**	**04 56 42.4**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=288,slow=1.4,SNR=5.9					
ZALV			PKPab	**PKPab**	**04 56 56.9**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=286,slow=5.8,SNR=4.4					
MKAR	**Makanchi Array**	**158.71 53**	PKP	**PKPdf**	**04 56 30.4**	**-0.3**
	comp=Z,3.4nm,1.1s,baz=281,slow=1.9,SNR=16					
MKAR			pPKP	**pPKPdf**	**04 56 45.8**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=289,slow=1.4,SNR=8.4					
MKAR			PKPab	**PKPab**	**04 57 05.3**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=287,slow=4.1,SNR=6.4					
CMAR	**Chiang Mai Arr**	**160.67 155**	PKPab	**PKPab**	**04 57 14.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=226,slow=5.0,SNR=4.7					
CMAR	**Chiang Mai Arr**	**160.67 155**	PKPdf	**PKPdf**	**04 56 32.7**	**-1.1**
SONM	**Songino Array**	**168.56 3**	PKPab	**PKPab**	**04 57 50.4**	**+0.7**
	comp=Z,1.4nm,1.1s,baz=324,slow=2.8,SNR=5.8					
PZH	**PanZhiHua**	**169.06 153**	PKP	**PKPdf**	**04 56 40.5**	**-0.4**

IDC 10 04:38:27.9±2.4, 27°.76N×86°.49E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.2/41, mbtmp3.3/5, ML3.6/1, Error ellipse: s-maj=90.2km s-min=23.4km az=70.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.29**	**351**	P	P	04 42 54.1	-0.2
	0.2nm,0.3s,baz=175,slow=11,SNR=12						
KURBB	**Kurchatov Arra**	**23.62**	**347**	P	P	04 43 40.7	+0.1
	0.4nm,0.7s,baz=167,slow=9.9,SNR=4.6						
SONM	**Songino Array**	**25.35**	**32**	P	P	04 43 56.8	+0.1
	0.3nm,0.7s,baz=225,slow=10.0,SNR=3.2						
WRA	**Warramunga Arr**	**66.27**	**130**	P	P	04 49 18.2	-0.1
	0.5nm,0.8s,baz=322,slow=6.8,SNR=8.2						
ASAR	**Alice Springs**	**68.60**	**134**	P	P	04 49 33.1	+0.1
	0.2nm,0.6s,baz=318,slow=5.9,SNR=4.2						

IDC 10 04:52:51.0±2.5, 3°.92N×127°.35E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/29, Error ellipse: s-maj=182.1km s-min=29.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**22.80**	**2**	LR	LR	05 07 34.6	
	comp=Z,25nm,20.8s,baz=336,slow=39						
WRA	**Warramunga Arr**	**24.69**	**164**	P	P	04 58 13.0	-0.9
	0.7nm,0.6s,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.16**	**167**	P	P	04 58 46.5	+1.3
	0.1nm,0.4s,baz=350,slow=12,SNR=1.2						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	05 02 43.8	-0.1
	0.1nm,0.4s,baz=125,slow=7.9,SNR=1.8						

*IDC **10** 04:57:28.2±8.5, 14°.13N×92°.21W, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/31, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=193.1km s-min=81.2km az=23.0*
*UCR **10** 04:57:44.6±1.0, 14°.89N×92°.82W, h19km±293km, ML3.5*
*SNET **10** 04:57:44.9±0.8, 15°.12N×92°.73W, h108km±32km, ML3.9*
*MEX **10** 04:57:46.0±0.6, 14°.99N×92°.81W, h80km±9km, MD3.7*
*GCG **10** 04:57:48.1±0.9, 15°.20N×92°.46W, h2km±29km, MD3.9*

ISC 10 04:57:45.4±1.1, 14°.97N±0°.08×92°.87W±0°.06, h62km±10km, n24, σ1s40/42, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.59**	**96**	*e*P	**Pn**	**04 57 58.3**	**-0.2**
THIG				*i* S	**Sn**	**04 58 08.6**	**+0.6**
PATR	**El Naranjo**	**0.63**	**76**	*e*P	**Pn**	**04 57 58.7**	**-0.5**
PATR				*e*S	**Sn**	**04 58 09.6**	**+0.3**
PAVE	**Pavencul**	**0.71**	**71**	*e*P	**Pn**	**04 58 00.0**	**-0.1**
PAVE				*e*S	**Sn**	**04 58 11.4**	**+0.6**
CHUJ	**Union Juarez**	**0.75**	**80**	*e*P	**Pn**	**04 58 00.4**	**-0.2**
CHUJ				*e*S	**Sn**	**04 58 11.8**	**+0.1**
PCIG		**0.81**	**335**	*e*P	**Pn**	**04 58 01.4**	**+0.4**
PCIG				*e*S	**Sn**	**04 58 13.2**	**+0.7**
STG3	**Santiaguito 3,**	**1.28**	**101**	*e*P	**Pn**	**04 58 07.8**	**+0.4**
STG3				*e*S	**Sn**	**04 58 19.1**	**-4.8**
HUEH	**Huehuetenango**	**1.37**	**75**	⇓*i*P	**Pn**	**04 58 09.0**	**+0.5**
HUEH				*e*S	**Sn**	**04 58 27.9**	**+2.0**
HUEH	**Huehuetenango**	**1.37**	**75**	⇓*i*P	**Pn**	**04 58 09.0**	**+0.5**
HUEH				*e*S	**Sn**	**04 58 27.9**	**+2.0**
CCIG	**Comitan**	**1.49**	**28**	*e*P	**Pn**	**04 58 11.3**	**+1.2**
CCIG				*i* S	**Sn**	**04 58 27.7**	**-1.0**
TGIG		**1.82**	**352**	*e*P	**Pn**	**04 58 14.0**	**-0.5**
TGIG				*i* S	**Sn**	**04 58 35.0**	**-1.5**
FUG	**Fuego 3**	**2.03**	**105**	*e*P	**Pn**	**04 58 19.0**	**+1.5**
FUG				*e*S	**Sn**	**04 58 44.0**	**+2.1**
UXUV	**UXUV**	**2.64**	**333**	*e*P	**Pn**	**04 58 26.3**	**+0.7**
UXUV				*e*S	**Sn**	**04 58 58.3**	**+1.8**
CMIG	**Matias Romero**	**2.86**	**318**	Pn	**Pn**	**04 58 28.8**	**+0.1**
	1.7nm,0.3s,baz=162,slow=13,SNR=17						
CMIG				Sn	**Sn**	**04 59 01.2**	**-0.8**
	9.7nm,0.3s,baz=122,slow=16,SNR=9.0						
CMIG	**Matias Romero**	**2.86**	**318**	*e*P	**Pn**	**04 58 28.9**	**+0.2**
CMIG				*e*S	**Sn**	**04 59 04.3**	**+2.3**
MRL	**Marmol**	**3.08**	**88**	*e*P	**Pn**	**04 58 33.1**	**+1.3**
CEVE	**Cerro Verde**	**3.34**	**109**	*e*P	**Pn**	**04 58 36.0**	**+0.5**
CEVE				*e*S	**Sn**	**04 59 16.0**	**+1.8**
CEVE				IAML		04 59 25.2	
	comp=Z,282nm,0.3s						
CEVE	**Cerro Verde**	**3.34**	**109**	*e*P	**Pn**	**04 58 36.0**	**+0.5**
CEVE				*e*S	**Sn**	**04 59 16.0**	**+1.8**
CEVE				IAML		04 59 25.2	
	comp=Z,282nm,0.3s						
MTO3	**Montecristo**	**3.44**	**99**	*e*P	**Pn**	**04 58 36.2**	**-0.6**
MTO3	**Montecristo**	**3.44**	**99**	*e*P	**Pn**	**04 58 36.2**	**-0.6**
JAYA	**Jayaque - finc**	**3.56**	**111**	*e*P	**Pn**	**04 58 38.5**	**+0.1**
JAYA				*e*S	**Sn**	**04 59 19.3**	**-0.1**
JAYA				IAML		04 59 26.5	
	comp=Z,184nm,0.3s						
JAYA	**Jayaque - finc**	**3.56**	**111**	*e*P	**Pn**	**04 58 38.5**	**+0.1**
JAYA				*e*S	**Sn**	**04 59 19.3**	**-0.1**
JAYA				IAML		04 59 26.5	
	comp=Z,184nm,0.3s						
TXAR	**Lajitas Array**	**17.43**	**327**	P	**P**	**05 01 46.8**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=156,slow=13,SNR=6.9						
NVAR	**Mina Array Bea**	**32.39**	**321**	P	**P**	**05 04 09.6**	**0.0**
	comp=Z,0.4nm,0.7s,baz=138,slow=8.2,SNR=5.0						
YKA	**Yellowknife Ar**	**49.90**	**347**	P	**P**	**05 06 29.9**	**-2.5**
	comp=Z,0.2nm,0.7s,baz=149,slow=7.3,SNR=4.1						

*TUL **10** 05:13:51.8±1.2, 35°.62N±0°.01×97°.09W±0°.02, h6km±1km, ML2.9, mb_Lg2.5/23(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=138.0*

NEIC 10 05:13:52±0.9, 35°.63N±0°.01×97°.08W±0°.02, h6km±4km, Error ellipse: s-maj=2.1km s-min=1.5km az=140.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.10**	**288**		Pg	05 13 54.2	0.0
OK005				Sg	Sg	05 13 55.8	+0.2
OK001	**Jones High Sch**	**0.18**	**249**	Pg	Pg	05 13 55.7	0.0
OK001				Sg	Sg	05 13 58.5	+0.4
OK025	**Westminster Rd**	**0.21**	**258**	Pg	Pg	05 13 56.3	+0.1
OK025				Sg	Sg	05 13 59.6	+0.5
OKCSW	**OKLAHOMA CITY**	**0.36**	**233**		Pg	05 13 59.1	0.0
OKCSW				Sg	Sg	05 14 04.4	+0.5
OKCFA	**Oklahoma City**	**0.37**	**235**	Pg	Pg	05 13 59.1	0.0
OKCFA				Sg	Sg	05 14 04.4	+0.4
OK031	**S. Brethren Rd**	**0.38**	**31**	Pg	Pg	05 13 59.8	+0.3
OK031				Sg	Sg	05 14 05.4	+0.9
BCOK	**Bluff Creek, N**	**0.43**	**274**	Pg	Pg	05 14 00.3	0.0
BCOK				Sg	Sg	05 14 06.5	+0.4
FNO	**Franklin**	**0.45**	**216**	Pg	Pg	05 14 00.6	-0.1
FNO				Sg	Sg	05 14 07.0	+0.4
W35A	**Tecumseh**	**0.50**	**160**	Pg	Pg	05 14 01.6	0.0
W35A				Sg	Sg	05 14 08.7	+0.5
QUOK	**Quay**	**0.62**	**29**	Pg	Pg	05 14 04.1	+0.1
QUOK				Sg	Sg	05 14 12.8	+0.6
TUL1	**Leonard**	**1.09**	**74**	Pg	Pg	05 14 11.8	-1.0
BLOK	**Blackwell**	**1.14**	**355**		Pg	05 14 13.0	-0.9
T35A	**Sooner Cattle**	**1.37**	**19**		Pn	05 14 17.0	-0.6
T35A					Sb	05 14 35.7	0.0
GC02	**Grant County #**	**1.38**	**333**		Pn	05 14 17.6	-0.2
KAN13	**South Haven SW**	**1.42**	**347**	Pn	Pn	05 14 18.0	-0.4
KAN14	**Manchester OK**	**1.51**	**332**		Pn	05 14 19.4	-0.2
KAN14				Sn	Sg	05 14 40.2	-0.3
KAN17	**Caldwell West**	**1.52**	**339**		Pn	05 14 19.6	-0.1
KAN01	**Argonia South**	**1.62**	**340**	Pn	Pn	05 14 21.4	+0.3
KAN01				IAmb_Lg		05 14 44.7	
	comp=Z,22nm,0.8s						
LOOK	**Love County**	**1.63**	**183**		Pn	05 14 21.5	+0.3
LOOK				IAmb_Lg		05 14 44.2	
	comp=Z,22nm,1.0s						
WMOK	**Wichita Mounta**	**1.65**	**238**		Pn	05 14 21.4	-0.1
OK035	**E0210 Rd and N**	**1.71**	**310**		Pb	05 14 23.1	-0.6
KAN06	**Argonia West S**	**1.74**	**339**	IAmb_Lg		05 14 48.9	
	comp=Z,27nm,0.8s						
X37A	**Clayton**	**1.74**	**126**		Pb	05 14 23.6	-0.7
Z35A	**Perchaven, San**	**2.29**	**184**	IAmb_Lg		05 15 07.3	
	comp=Z,17nm,0.9s						
U38A	**Gravette**	**2.33**	**69**		Pn	05 14 31.4	+0.5
W39A	**Magazine**	**2.73**	**98**	Pn	Pn	05 14 36.8	+0.5
MIAR	**Mount Ida**	**3.07**	**110**	Pn	Pn	05 14 41.7	+0.7
MIAR				IAmb_Lg		05 15 33.1	
	comp=Z,14nm,1.2s						
KSU1	**Kansas State U**	**3.49**	**6**	IAmb_Lg		05 15 48.6	
	comp=Z,12nm,1.0s						
CBKS	**Cedar Bluff**	**3.82**	**327**	Pn	Pn	05 14 50.8	-0.6
CBKS				IAmb_Lg		05 15 58.9	
	comp=Z,12nm,0.8s						
AMTX	**Amarillo**	**3.84**	**260**	IAmb_Lg		05 15 55.1	
	comp=Z,8.3nm,0.7s						
WHAR	**Wooly Hollow**	**3.93**	**93**	Pn	Pn	05 14 53.2	+0.4
W41B	**Gary Mavity, V**	**3.97**	**95**		Pn	05 14 54.2	+0.8
FCAR	**Ozark Folk Cen**	**4.04**	**85**	Pn	Pn	05 14 53.6	-0.7
R40A	**Maddies Statio**	**4.68**	**54**	IAmb_Lg		05 16 23.2	
	comp=Z,12nm,0.8s						
435B	**Jarrell**	**4.85**	**185**	IAmb_Lg		05 16 38.2	
	comp=Z,6.1nm,0.8s						
T42A	**Van Buren**	**5.03**	**72**	IAmb_Lg		05 16 38.3	
	comp=Z,8.9nm,0.9s						
JCT	**Junction City**	**5.62**	**205**	IAmb_Lg		05 16 57.9	
	comp=Z,8.3nm,0.9s						

*REN **10** 05:24:33.9±0.6, 38°.01N±0°.02×118°.42W±0°.04, h9km±6km, ML2.7/9, ML2.4/36(NEIC), Error ellipse: s-maj=4.4km s-min=2.1km az=103.0*

NEIC 10 05:24:33.8±0.7, 38°.02N±0°.02×118°.42W±0°.01, h7km±6km, Error ellipse: s-maj=2.3km s-min=1.4km az=153.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHV	**Little Huntoon**	**0.24**	**343**		Pg	05 24 39.2	+0.5
BENR	**Benton**	**0.33**	**202**		Pg	05 24 40.3	0.0
NVAR	**Mina Array Bea**	**0.42**	**12**	Pg	Pg	05 24 42.1	0.0
MLNR	**Milner Canyon**	**0.43**	**172**		Pg	05 24 42.4	+0.2
ORC	**Owens River**	**0.43**	**207**		Pg	05 24 42.2	0.0
NV11	**Mina Array Sit**	**0.46**	**26**		Pg	05 24 42.9	+0.1
NV11				IAML		05 24 49.8	
	comp=E,325nm,0.5s						
RCCR	**Rock Creek Can**	**0.58**	**205**		Pg	05 24 45.1	-0.1
LUL	**Lundy Lake**	**0.61**	**273**		Pg	05 24 45.8	+0.2
RYN	**Ryan**	**0.61**	**352**		Pg	05 24 45.9	+0.2
RYN				IAML		05 24 56.0	
	comp=N,260nm,0.3s						
POCCA	**Poleta Canyon**	**0.66**	**171**		Pg	05 24 46.5	-0.1
DSP	**Deep Springs**	**0.74**	**151**		Pg	05 24 48.2	+0.2
TPH	**Tonopah**	**0.94**	**86**		Pg	05 24 52.0	0.0
LCH	**Last Change Ra**	**0.99**	**142**		Pg	05 24 52.7	-0.2
LCH				IAML		05 25 10.5	
	comp=N,95nm,0.4s						
LCH				IAML		05 25 13.0	
	comp=E,90nm,0.5s						
KCC	**Kaiser Creek**	**1.00**	**226**

51nm,0.5s
MRKS S **Sg** **05 36 28.9 -0.5**
88nm,0.3s
ARLS Aral 1.12 80⇑iP Pg 05 36 14.0 -1.2
baz=82
ARLS ⇑iS **Sg** **05 36 28.2 -1.6**
baz=82
OHH Osh 1.15 182⇓iP Pn 05 36 16.5 -0.1
baz=86
OHH ⇓iS **Sn** **05 36 31.9 -0.9**
baz=86
EKS2 Erkin-Say 1.21 35⇓P Pn 05 36 15.6 -2.0
4.9nm,0.1s,SNR=21
EKS2 ⇑S **Sg** **05 36 30.2 -2.3**
26nm,0.1s
EKS2 Erkin-Say 1.21 35⇓iP Pn 05 36 15.3 -2.3
baz=33
EKS2 ⇓iS **Sg** **05 36 30.1 -2.4**
baz=33
TRKS Terek-Say 1.28 264⇓iP Pg 05 36 19.3 +1.1
baz=60
TRKS ⇓iS **Sn** **05 36 37.7 +1.3**
baz=60
UCH Uchtor 1.36 65⇑P Pn 05 36 18.4 -1.6
36nm,0.1s,SNR=229
UCH ⇓S **Sb** **05 36 35.7 -2.5**
52nm,0.1s
UCH Uchtor 1.36 65⇑iP Pn 05 36 18.3 -1.7
baz=66
UCH ⇑iS **Sb** **05 36 35.6 -2.5**
baz=66
AAK Ala-Archa 1.56 51⇑P Pn 05 36 21.9 -0.6
31nm,0.2s,SNR=61
AAK ⇑S **Sn** **05 36 41.2 -2.1**
42nm,0.2s
AAK Ala-Archa 1.56 51⇓P Pn 05 36 22.1 -0.4
13nm,0.3s
AAK S **Sn** **05 36 41.2 -2.1**
15nm,0.3s
AAK Ala-Archa 1.56 51⇓iP Pn 05 36 21.6 -0.9
baz=51
AAK ⇓iS **Sn** **05 36 41.3 -2.0**
baz=51
DZA Taraz 1.66 318 eP Pg 05 36 25.6 +0.2
67nm,0.1s
DZA eS **Sg** **05 36 47.8 +0.9**
169nm,0.3s
DZA Taraz 1.66 318 P Pg 05 36 25.6 +0.2
67nm,0.1s
DZA S **Sg** **05 36 47.8 +0.9**
169nm,0.3s
SFK Sufi-Kurgan 1.73 163⇑eP Pg 05 36 26.6 -0.2
baz=66
SFK ⇑eS **Sg** **05 36 49.9 +0.7**
baz=66
FRU1 Bishkek 1.75 49⇑iP Pn 05 36 25.0 +0.1
baz=48
FRU1 ⇑iS **Sn** **05 36 47.1 -0.7**
baz=48
KBK Karagaybulak 1.85 57⇑P Pn 05 36 27.3 +0.9
39nm,0.2s,SNR=38
KBK ⇑S **Sn** **05 36 50.4 0.0**
184nm,0.4s
KBK Karagaybulak 1.85 57⇓iP Pn 05 36 26.6 +0.2
baz=57
KBK ⇓iS **Sn** **05 36 50.0 -0.4**
baz=57
CHMS Chumysh 1.94 46⇑P Pn 05 36 28.7 +1.1
13nm,0.3s,SNR=12
CHMS ⇑S **Sn** **05 36 53.6 +1.1**
60nm,0.2s
CHMS Chumysh 1.94 46⇑iP Pn 05 36 27.9 +0.4
baz=46
CHMS ⇑iS **Sn** **05 36 52.1 -0.3**
baz=46
USP Ospenovka 2.01 37⇑P Pn 05 36 29.7 +1.2
9.8nm,0.2s,SNR=13
USP ⇑S **Sn** **05 36 55.2 +1.0**
128nm,0.4s
USP Ospenovka 2.01 37⇑iP Pn 05 36 29.0 +0.5
baz=36
USP ⇑iS **Sn** **05 36 54.0 -0.2**
baz=36
IUG Iuzhnay 2.15 284 eP Pg 05 36 35.1 +0.2
9.5nm,0.3s
IUG eS **Sg** **05 37 03.6 +0.9**
124nm,0.4s
IUG Iuzhnay 2.15 284 Pg Pg 05 36 35.1 +0.2
843nm,0.3s
IUG Lg Lg 05 37 03.6
210nm,0.3s
SGDS Sogindy 2.22 36 eP Pb 05 36 34.0 -0.4
8.4nm,0.2s
SGDS eS **Sb** **05 37 01.7 -0.5**
29nm,0.2s
SGDS Sogindy 2.22 36 Pg Pb 05 36 34.0 -0.4
8.4nm,0.2s
SGDS Lg Lg 05 37 01.7
29nm,0.2s
BTK Batken 2.23 224⇑iP Pb 05 36 33.9 -0.6
baz=25
BTK ⇑iS **Sb** **05 37 02.1 -0.4**
baz=25
KK08 Karatay Array 2.26 310 ⇓Pg Pg 05 36 35.7 -1.2
4.8nm,0.5s,baz=132,slow=15
KK08 ⇑Lg Lg 05 37 06.7
18nm,0.4s,baz=130,slow=28
DRK Karamyk 2.33 200⇑iP Pb 05 36 35.3 -1.1
baz=2.0
DRK ⇑iS **Sb** **05 37 04.9 -0.7**
baz=2.0
TKM2 Tokmak 2 2.40 58⇑P Pn 05 36 35.9 +1.9
24nm,0.4s,SNR=30
TKM2 Tokmak 2 2.40 58⇑Pg Pb 05 36 36.2 -1.3
11nm,0.5s
TKM2 ⇓Lg Lg 05 37 06.7
30nm,0.4s
TKM2 Tokmak 2 2.40 58⇑iP Pn 05 36 34.1 +0.2
baz=58
TKM2 ⇑iS **Sn** **05 37 03.2 -0.7**
baz=58
BOOM Boomskoye usch 2.45 69⇓iP Pn 05 36 34.9 +0.3
baz=70
BOOM ⇓iS **Sn** **05 37 04.4 -0.7**
baz=70
ULHL Ulahol 2.60 76⇓iP Pn 05 36 37.0 +0.3
baz=77
ULHL ⇓iS **Sn** **05 37 08.1 -0.8**
baz=77
BRLS Borolday 2.61 302 eP Pg 05 36 43.2 -0.4
6.6nm,0.2s
BRLS eS **Sg** **05 37 17.3 -0.2**
39nm,0.3s
BRLS Borolday 2.61 302 Pg Pg 05 36 43.2 -0.4
6.6nm,0.2s
BRLS Lg Lg 05 37 17.3
39nm,0.3s
DGS Degeres 2.68 53 eP Pb 05 36 42.0 -0.3
12nm,0.4s
DGS eS **Sb** **05 37 15.8 +0.3**
35nm,0.4s
DGS Degeres 2.68 53 Pg Pb 05 36 42.0 -0.3
12nm,0.4s
DGS Lg Lg 05 37 15.8
35nm,0.4s
KST Kastek 2.69 58 eP Pb 05 36 42.3 -0.1
30nm,0.3s
KST eS **Sb** **05 37 15.8 -0.1**
76nm,0.6s
KST Kastek 2.69 58 Pg Pb 05 36 42.3 -0.1
30nm,0.3s
KST Lg Lg 05 37 15.8
76nm,0.6s
KRBS Karabastau 2.91 45 eP Pb 05 36 45.6 -0.5
4.5nm,0.3s
KRBS eS **Sb** **05 37 21.4 -0.7**
40nm,0.3s
KRBS Karabastau 2.91 45 Pg Pb 05 36 45.6 -0.5
4.5nm,0.3s
KRBS Lg Lg 05 37 21.4
40nm,0.3s
MTBS Maitube 3.03 60 eP Pb 05 36 48.2 -0.1
9.7nm,0.4s
MTBS eS **Sb** **05 37 25.8 +0.1**
36nm,0.4s
MTBS Maitube 3.03 60 Pg Pb 05 36 48.2 -0.1
9.7nm,0.4s
MTBS Lg Lg 05 37 25.8
36nm,0.4s

IZV Izvestkoviy 3.11 63 eP Pb 05 36 49.7 +0.1
9.9nm,0.4s
IZV eS **Sb** **05 37 28.5 +0.4**
22nm,0.5s
IZV Izvestkoviy 3.11 63 Pg Pb 05 36 49.7 +0.1
9.9nm,0.4s
IZV Lg Lg 05 37 28.5
22nm,0.5s
KDJ Kajisay 3.27 80⇑iP Pn 05 36 46.4 +0.5
baz=81
KDJ ⇑iS **Sn** **05 37 24.7 -0.7**
baz=81
TNSS Tian-Shan 3.33 64 eP Pb 05 36 54.0 +0.3
8.5nm,0.4s
TNSS eS **Sb** **05 37 35.9 +1.1**
13nm,0.4s
TNSS Tian-Shan 3.33 64 Pg Pb 05 36 53.9 +0.3
8.5nm,0.4s
TNSS Lg Lg 05 37 35.9
13nm,0.4s
KUU Kurty 3.40 48 eP Pb 05 36 54.9 +0.4
2.0nm,0.2s
KUU eS **Sb** **05 37 37.2 +1.0**
27nm,0.6s
KUU Kurty 3.40 48 Pg Pb 05 36 54.9 +0.4
2.0nm,0.2s
KUU Lg Lg 05 37 37.2
27nm,0.6s
MDOK Medeo 3.45 63 eP Pb 05 36 55.5 0.0
14nm,0.3s
MDOK eS **Sb** **05 37 38.2 +0.3**
24nm,0.5s
MDOK Medeo 3.45 63 Pg Pb 05 36 55.2 -0.3
7.0nm,0.4s
MDOK Lg Lg 05 37 40.2
15nm,0.7s
MDOK Medeo 3.45 63 Pg Pb 05 36 55.5 0.0
14nm,0.3s
MDOK Lg Lg 05 37 38.2
24nm,0.5s
BTLS Baital 3.48 14 eP Pb 05 36 56.7 +0.8
5.6nm,0.4s
BTLS eS **Sb** **05 37 40.4 +1.8**
12nm,0.4s
BTLS Baital 3.48 14 Pg Pb 05 36 56.7 +0.8
5.6nm,0.4s
BTLS Lg Lg 05 37 40.3
12nm,0.4s
KTBS Karatobe 3.49 53 eP Pb 05 36 56.1 0.0
2.9nm,0.3s
KTBS eS **Sb** **05 37 40.3 +1.5**
42nm,0.8s
KTBS Karatobe 3.49 53 Pg Pb 05 36 56.1 0.0
2.9nm,0.3s
KTBS Lg Lg 05 37 40.3
42nm,0.8s
KOTS Kotyrbulak 3.52 62 eP Pb 05 36 57.6 +0.9
10nm,0.4s
KOTS eS **Sb** **05 37 42.0 +2.0**
30nm,0.5s
KOTS Kotyrbulak 3.52 62 Pg Pb 05 36 57.6 +0.9
10nm,0.4s
KOTS Lg Lg 05 37 42.0
30nm,0.5s
ANVS Anan'yevo 3.75 71⇑iP Pn 05 36 53.0 +0.4
baz=71
ANVS ⇑iS **Sn** **05 37 35.5 -1.8**
baz=71
CHKK Chushkaly 3.75 53 eP Pb 05 37 00.9 +0.3
1.3nm,0.1s
CHKK eS **Sb** **05 37 47.5 +1.2**
20nm,0.3s
CHKK Chushkaly 3.75 53 Pg Pb 05 37 00.9 +0.3
1.3nm,0.1s
CHKK Lg Lg 05 37 47.6
20nm,0.3s
KURS Kuram 4.33 63 eP Pb 05 37 11.3 +0.9
8.0nm,0.9s
KURS eS **Sb** **05 38 07.4 +4.3**
8.6nm,0.6s
KURS Kuram 4.33 63 Pg Pb 05 37 11.3 +0.9
8.0nm,0.9s
KURS Lg Lg 05 38 07.4
8.6nm,0.6s
SATY Saty 4.35 70 eP Pb 05 37 13.0 +2.3
4.7nm,0.6s
SATY eS **Sb** **05 38 08.4 +4.7**
8.3nm,0.5s
SATY Saty 4.35 70 Pg Pb 05 37 13.0 +2.3
4.7nm,0.6s
SATY Lg Lg 05 38 08.4
8.3nm,0.5s
ARXS Arharly 4.46 54 eP Pb 05 37 13.8 +1.3
3.8nm,0.4s
ARXS eS **Sb** **05 38 09.7 +3.1**
15nm,0.3s
ARXS Arharly 4.46 54 Pg Pb 05 37 13.8 +1.3
3.8nm,0.4s
ARXS Lg Lg 05 38 09.7
15nm,0.3s
UZB Uzynbulak 4.81 70 eP Pb 05 37 21.0 +2.4
4.2nm,0.3s
UZB eS **Sb** **05 38 22.3 +5.4**
3.5nm,0.5s
UZB Uzynbulak 4.81 70 Pg Pb 05 37 21.0 +2.4
4.2nm,0.3s
UZB Lg Lg 05 38 22.3
3.5nm,0.5s

WEL 10 05:51:45.6±1.0, 36°S±10°×17°8E±1°2, h200km±12km, M3.5/12, ML3.9/19, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=72.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.02**	**182**	P	Pn	05 52 24.3	+0.1
MXZ				S	Sn	05 52 54.3	-0.1
HAZ	**Te Kaha**	**2.26**	**192**	P	Pn	05 52 26.8	+0.1
HAZ				S	Sn	05 52 58.9	-0.1
WMGZ	**Waiomatatini S**	**2.27**	**180**	P	Pn	05 52 27.4	+0.5
WMGZ				S	Sn	05 52 59.2	0.0
PKGZ	**Pakihiroa**	**2.35**	**186**	P	Pn	05 52 28.1	+0.2
PKGZ				S	Sn	05 53 01.1	+0.1
KUZ	**Kuaotunu**	**2.47**	**240**	P	Pn	05 52 29.2	+0.2
GRZ	**Great Barrier**	**2.48**	**253**	P	Pn	05 52 29.0	-0.2
RUGZ	**Raukumara Rang**	**2.48**	**193**	P	Pn	05 52 29.1	-0.2
RUGZ				S	Sn	05 53 01.4	-2.3
PUZ	**Puketiti**	**2.52**	**182**	P	Pn	05 52 29.7	0.0
PUZ				S	Sn	05 53 03.3	-1.0
TWGZ	**Tauwhareparae**	**2.65**	**187**	P	Pn	05 52 31.8	+0.7
TWGZ				S	Sn	05 53 07.9	+1.0
MWZ	**Matawai**	**2.87**	**194**	P	Pn	05 52 34.0	+0.4
MWZ				S	Sn	05 53 11.4	0.0
URZ	**Urewera**	**2.90**	**200**	P	Pn	05 52 34.3	+0.4
URZ				S	Sn	05 53 12.1	+0.2
CNGZ	**Carnagh Statio**	**2.94**	**183**	P	Pn	05 52 34.7	+0.2
RAGZ	**Rawiri**	**3.05**	**195**	P	Pn	05 52 36.3	+0.4
RAGZ				S	Sn	05 53 17.2	+2.0
RIGZ	**Rimuhau**	**3.19**	**189**	P	Pn	05 52 37.4	-0.1
RIGZ				S	Sn	05 53 18.7	+0.4
MUGZ	**Murupara**	**3.20**	**203**	P	Pn	05 52 38.6	+1.0
HRRZ	**Handcock Road**	**3.30**	**210**	P	Pn	05 52 38.8	0.0
SNGZ	**Shannon Statio**	**3.34**	**194**	P	Pn	05 52 39.6	+0.4
SNGZ				S	Sn	05 53 22.9	+1.5
RAHZ	**Arahi**	**3.52**	**197**	P	Pn	05 52 41.7	+0.2
MHGZ	**Mahia Peninsul**	**3.62**	**186**	P	Pn	05 52 42.4	-0.2
NMHZ	**Naumai**	**3.76**	**199**	P	Pn	05 52 44.7	+0.2
ARHZ	**Aropaoanui**	**3.87**	**196**	P	Pn	05 52 45.6	-0.1
BKZ	**Black Stump Fm**	**3.92**	**202**	P	Pn	05 52 46.8	+0.5
KWHZ	**Kaweka Forest**	**4.18**	**201**	P	Pn	05 52 49.1	-0.4
BHHZ	**Black Hill Sta**	**4.35**	**204**	P	Pn	05 52 51.6	-0.1
KRHZ	**Kereru**	**4.39**	**201**	P	Pn	05 52 51.1	-1.2
KAHZ	**Kahuranaki**	**4.41**	**195**	P	Pn	05 52 51.7	-0.8
PNHZ	**Pukenui**	**4.69**	**201**	P	Pn	05 52 54.8	-1.2
PRHZ	**Porangahau**	**4.91**	**196**	P	Pn	05 52 57.6	-1.2

*NEIC **10** 05:58:19.9±0.8, 38°65N±0°02×118°79W±0°02, h9km±7km, Error ellipse: s-maj=2.6km s-min=1.6km az=220.0*
*REN **10** 05:58:19.8±0.7, 38°65N±0°02×118°80W±0°02, h7km±7km, ML3.3/14, ML3.2/36(NEIC), Error ellipse: s-maj=2.5km s-min=1.6km az=203.0*
*ANF **10** 05:58:19.5±0.6, 38°64N×118°74W, h1km±4km, ML3.3/11, Error ellipse: s-maj=3.6km s-min=2.7km az=108.0*

ISC 10 05:58:19.8±0.9, 38°65N±0°02×118°79W±0°02, h13km±9km, n59, σ0§83/67, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RYN	**Ryan**	**0.21**	**96**		**Pg**	**05 58 24.5**	**-0.1**
RYN				Sg	**Sg**	**05 58 27.8**	**0.0**
NVAR	**Mina Array Bea**	**0.44**	**120**	Pg	**Pg**	**05 58 28.3**	**-0.3**
LHV	**Little Huntoon**	**0.46**	**150**		**Pg**	**05 58 29.1**	**+0.2**
LHV				Sg	**Sg**	**05 58 35.7**	**+0.8**
YERR	**Yerington**	**0.48**	**314**		**Pg**	**05 58 29.2**	**-0.1**
YERR				Sg	**Sg**	**05 58 36.1**	**+0.3**
YERR				IAML		05 58 36.8	
	comp=N,1μm,0.5s						
YERR				IAML		05 58 37.0	
	comp=E,2μm,0.2s						
NV11	**Mina Array Sit**	**0.55**	**113**		**Pg**	**05 58 30.3**	**-0.2**
NV11				Sg	**Sg**	**05 58 37.7**	**-0.1**
LUL	**Lundy Lake**	**0.67**	**207**		**Pg**	**05 58 32.9**	**0.0**
KVN	**Kaiserville**	**0.67**	**53**		**Pg**	**05 58 32.7**	**-0.2**
KVN				IAML		05 58 42.5	
	comp=E,1μm,0.5s						
BFC	**Buffalo Canyon**	**0.68**	**291**		**Pg**	**05 58 32.9**	**-0.2**
PNTR	**Pine Nut**	**0.77**	**305**	Pg	**Pg**	**05 58 34.5**	**-0.2**
GNO	**Genoa**	**0.87**	**289**		**Pg**	**05 58 36.6**	**-0.1**
VCNR	**Virginia City**	**0.93**	**314**		**Pg**	**05 58 37.2**	**-0.5**
BENR	**Benton**	**0.95**	**169**		**Pg**	**05 58 37.9**	**-0.3**
MLAC	**Mammoth, Mammo**	**1.02**	**182**	P	**Pb**	**05 58 39.3**	**-0.2**
	baz=1.4						
MLAC				S	**Sb**	**05 58 53.5**	**+0.6**
	baz=1.4						
ORC	**Owens River**	**1.02**	**174**		**Pb**	**05 58 39.2**	**-0.3**
EMB	**Emerald Bay**	**1.07**	**288**		**Pb**	**05 58 40.1**	**-0.3**
EMB				IAML		05 58 58.3	
	comp=N,630nm,0.6s						
EMB				IAML		05 59 04.5	
	comp=E,452nm,0.6s						
MLNR	**Milner Canyon**	**1.11**	**161**		**Pb**	**05 58 40.9**	**-0.2**
RUBR	**Rubicon Trail**	**1.14**	**291**		**Pb**	**05 58 41.2**	**-0.3**
RUBR				IAML		05 59 00.1	
	comp=N,531nm,0.7s						
RUBR				IAML		05 59 04.3	
	comp=E,397nm,0.7s						
PAHR	**Pah Rah Range**	**1.15**	**337**	Pg	**Pb**	**05 58 41.6**	**-0.1**
PAHR				IAML		05 58 57.3	
	comp=N,509nm,0.3s						
PAHR				IAML		05 58 58.6	
	comp=E,441nm,0.3s						
MPK	**Martis Peak**	**1.16**	**304**		**Pb**	**05 58 41.6**	**-0.2**
MPK				IAML		05 58 45.7	
	comp=N,618nm,0.5s						
MPK				IAML		05 59 03.4	
	comp=E,474nm,0.7s						
RCCR	**Rock Creek Can**	**1.16**	**177**		**Pb**	**05 58 41.7**	**-0.2**
Q09A	**Carvers**	**1.27**	**81**		**Pb**	**05 58 43.9**	**+0.1**
PEAR	**Peavine Mounta**	**1.32**	**317**		**Pb**	**05 58 44.5**	**-0.1**
POCCA	**Poleta Canyon**	**1.35**	**162**		**Pb**	**05 58 45.0**	**0.0**
TPH	**Tonopah**	**1.36**	**114**		**Pb**	**05 58 45.1**	**-0.2**
DONR	**Donner Summit**	**1.38**	**301**		**Pn**	**05 58 45.3**	**+0.2**
KCC	**Kaiser Creek**	**1.39**	**198**		**Pb**	**05 58 45.5**	**-0.2**
BABR	**Babbit Peak**	**1.40**	**313**		**Pb**	**05 58 46.1**	**+0.2**
CMB	**Columbia Colle**	**1.40**	**244**	Pn	**Pb**	**05 58 45.6**	**-0.2**
CMB				IAML		05 59 07.3	
	comp=N,325nm,0.6s						
CMB				IAML		05 59 08.1	
	comp=E,208nm,0.6s						
KBF	**Kyburz Flat**	**1.40**	**308**		**Pn**	**05 58 45.6**	**+0.4**
IND	**Independence**	**1.41**	**304**		**Pb**	**05 58 45.9**	**-0.2**
DSP	**Deep Springs**	**1.44**	**153**		**Pb**	**05 58 46.5**	**+0.2**
LOY	**Loyalton**	**1.51**	**312**		**Pn**	**05 58 47.0**	**+0.3**
WVA	**Winnemucca Val**	**1.52**	**329**		**Pn**	**05 58 47.0**	**+0.2**
TIN	**Tinemaha, Big**	**1.66**	**164**	Sb	**Sg**	**05 59 13.4**	**+0.3**
	baz=344						
LCH	**Last Change Ra**	**1.68**	**147**		**Pn**	**05 58 49.7**	**+0.6**
GRAC	**Grapevine Rang**	**2.00**	**145**	Pb	**Pb**	**05 58 56.7**	**+0.6**
	baz=326						
BMN	**Battle Mountai**	**2.15**	**34**		**Pn**	**05 58 55.4**	**-0.2**
CWC	**Cottonwood Cre**	**2.28**	**165**	Sb	**Sg**	**05 59 31.9**	**-1.2**
	baz=346						
ORV	**Oroville**	**2.29**	**294**		**Pn**	**05 58 58.1**	**+0.8**
MCA	**Marble Canyon**	**2.33**	**149**		**Pn**	**05 58 58.9**	**+1.0**
VOG	**Valley Oaks Go**	**2.37**	**192**	Pb	**Pb**	**05 59 03.2**	**+0.8**
	baz=11						
VOG				Sb	**Sg**	**05 59 34.7**	**-1.3**
	baz=11						
R11A	**Troy Canyon, C**	**2.54**	**96**		**Pn**	**05 59 00.6**	**-0.2**
R11A				IAML		05 59 40.0	
	comp=N,133nm,0.9s						
R11A				IAML		05 59 40.9	
	comp=E,92nm,0.3s						
R11A	**Troy Canyon, C**	**2.54**	**96**	P	**Pn**	**05 59 00.5**	**-0.3**
	baz=278						
R11A				Sb	**Sg**	**05 59 39.4**	**-1.9**
	baz=278						
S11A	**Rachel**	**2.60**	**112**		**Pn**	**05 59 04.0**	**+2.3**
TPNV	**Topopah Spring**	**2.64**	**129**	Pn	**Pn**	**05 59 03.0**	**+0.8**
TPNV	**Topopah Spring**	**2.64**	**129**	Pb	**Pb**	**05 59 07.3**	**+0.4**
	baz=311						
MPMC	**Manual Prospec**	**2.79**	**158**	Pg	**Pg**	**05 59 12.0**	**-1.3**
	baz=338						
VES	**Vestal, Richgr**	**2.81**	**185**	Sb	**Sg**	**05 59 48.0**	**-2.2**
	baz=4.5						
O03E	**Paynes Creek**	**2.85**	**306**	P	**Pn**	**05 59 06.8**	**+1.8**
	baz=124						
GWY	**Greenwater Val**	**2.99**	**145**	Pn	**Pn**	**05 59 07.7**	**+0.6**
ISA	**Isabella, Lake**	**2.99**	**175**	Pb	**Pb**	**05 59 14.4**	**+1.4**
	baz=355						
ISA				Sb	**Sg**	**05 59 53.2**	**-2.7**
	baz=355						
QSM	**Queen of Sheba**	**3.09**	**150**	Pn	**Pn**	**05 59 09.1**	**+0.8**
PRN	**Pahroc Range**	**3.21**	**112**	Pn	**Pn**	**05 59 10.5**	**+0.5**
ELK	**Elko**	**3.45**	**52**	Pn	**Pn**	**05 59 13.9**	**+0.5**
WDC	**Whiskeytown Da**	**3.48**	**305**		**Pn**	**05 59 14.9**	**+1.2**
WDC	**Whiskeytown Da**	**3.48**	**305**	Pn	**Pn**	**05 59 14.7**	**+1.1**
SPR3	**Spring Creek 3**	**3.50**	**83**		**Pn**	**05 59 14.7**	**+0.4**
SHPR	**Sheep Range**	**3.59**	**125**		**Pn**	**05 59 16.8**	**+1.4**
GSC	**Goldstone, Bar**	**3.70**	**154**		**Pn**	**05 59 16.9**	**+0.1**

*NEIC **10** 06:01:02.9±1.7, 52°0N±0°2×178°5E±0°1, h103km±5km, mb3.8/15, Error ellipse: s-maj=27.2km s-min=9.0km az=188.0*
*IDC **10** 06:01:05.5±5.4, 52°07N×178°48E, h131km±46km, mb2.9/7, mb1 3.3/9, mb1mx3.1/55, mbtmp3.5/9, Error ellipse: s-maj=53.9km s-min=16.4km az=177.0*

ISC 10 06:01:03.5±1.0, 52°2N±0°2×178°49E±0°06, h113km, n35, σ1§43/35, mb3.5/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**2.71**	**95**		**Pn**	**06 01 44.3**	**-1.5**
SMY	**Shemya**	**2.75**	**284**	Pn	**Pn**	**06 01 46.1**	**-0.1**
SMY				Sn	**Sn**	**06 02 19.2**	**+0.2**
GSTR	**Great Sitkin T**	**3.36**	**89**	Pn	**Pn**	**06 01 52.0**	**-2.4**
SPIA	**Saint Paul Isl**	**8.24**	**48**	Pn	**Pn**	**06 02 58.0**	**-2.0**
UNV	**Unalaska Valle**	**9.21**	**74**	Pn	**Pn**	**06 03 12.5**	**-0.7**
PETK	**Petropavlovsk-**	**12.66**	**283**	P	**Pn**	**06 04 01.6**	**+2.2**
	0.1nm,0.3s,baz=116,slow=16,SNR=1.8						
PETK				S	**Sn**	**06 06 14.4**	**-4.2**
	0.1nm,0.3s,baz=228,slow=52,SNR=1.3						
TTA	**Tatalina**	**17.29**	**42**		**Pn**	**06 04 58.4**	**+0.7**
KDAK	**Kodiak Island**	**17.45**	**60**	P	**Pn**	**06 04 59.0**	**-0.5**
	0.7nm,0.3s,baz=243,slow=4.5,SNR=6.9						
KDAK	**Kodiak Island**	**17.45**	**60**	P	**Pn**	**06 04 58.6**	**-0.9**
BRLK	**Bradley Lake**	**18.62**	**54**	P	**Pn**	**06 05 12.3**	**-1.2**
BRLK				IAmb	IAmb	06 05 24.9	
	comp=Z,6.1nm,0.9s						
H21K	**Melozitna Rive**	**19.81**	**36**	P	**Pn**	**06 05 27.2**	**-0.3**
SML	**Sawmill**	**20.27**	**49**	P	Pn	06 05 31.1	-1.7
SML				IAmb	IAmb	06 05 35.4	
	comp=Z,3.3nm,1.0s						
SCM	**Sheep Creek Mo**	**20.74**	**49**	P	Pn	06 05 36.1	-2.3
SCM				IAmb	IAmb	06 05 45.4	
	comp=Z,11nm,1.0s						
MDM	**Murphy Dome**	**21.25**	**40**	P	**P**	**06 05 40.9**	**+0.6**
M24K	**Tolsona, Glenn**	**21.33**	**48**	P	**P**	**06 05 43.2**	**+2.0**
M24K				IAmb	IAmb	06 05 55.8	
	comp=Z,9.2nm,1.0s						
ILAR	**Eielson Array**	**21.73**	**41**	P	**P**	**06 05 47.2**	**+1.9**
	comp=Z,0.4nm,1.0s,baz=239,slow=8.3,SNR=4.1						
GLB	**Gilahina Butte**	**22.33**	**51**	P	**P**	**06 05 52.9**	**+1.2**
GLB				IAmb	IAmb	06 06 03.2	
	comp=Z,9.4nm,1.2s						

SCRK	**Sand Creek**	22.71	44	P	**P**	06 05 55.0	-0.6
SCRK				IAmb	IAmb	06 05 58.7	
	comp=Z,2.3nm,1.1s						
GRNC	**Granite Creek**	23.25	53	P	**P**	06 06 01.8	+0.9
BARN	**Barnard Glacie**	23.32	52	P	**P**	06 06 03.0	+1.5
BARN				IAmb	IAmb	06 06 27.8	
	comp=Z,3.1nm,1.0s						
CTGM	**Chitina Glacie**	23.48	52	P	**P**	06 06 03.6	+0.8
L27K	**Beaver Creek,**	23.48	47	P	**P**	06 06 04.4	+1.7
BCAR	**Beaver Creek A**	23.50	47	P	**P**	06 06 05.1	+2.1
LOGN	**Logan Glacier**	23.63	53	P	**P**	06 06 05.5	+1.3
KLR	**Kul'dur**	29.35 283		P	**P**	06 06 55.6	+0.1
	comp=Z,0.3nm,0.3s,baz=42,slow=4.8,SNR=4.1						
YKA	**Yellowknife Ar**	35.92	47	P	**P**	06 07 53.5	+1.1
	comp=Z,0.1nm,0.5s,baz=285,slow=7.4,SNR=5.7						
YKA	**Yellowknife Ar**	35.92	47	P	**P**	06 07 52.4	-0.1
KHMM	**Horse Mountain**	40.31	83	P	**P**	06 08 30.7	+1.0
NVAR	**Mina Array Bea**	45.12	82	P	**P**	06 09 08.9	+0.2
	comp=Z,0.2nm,0.6s,baz=302,slow=7.3,SNR=2.5						
KURK	**Kurchatov**	57.25 312		P	**P**	06 10 39.9	+1.2
KURK				IAmb	IAmb	06 10 41.6	
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	58.22 307		P	**P**	06 10 46.0	+0.4
MK31				IAmb	IAmb	06 11 12.1	
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	58.22 307		P	**P**	06 10 45.8	+0.2
	comp=Z,0.4nm,0.5s,baz=48,slow=5.9,SNR=9.7						
TXAR	**Lajitas Array**	60.19	80	P	**P**	06 10 59.0	-0.5
	comp=Z,0.1nm,0.5s,baz=280,slow=4.3,SNR=4.1						
AKASG	**Malin Array Be**	74.27 340		P	**P**	06 12 27.3	-0.5
	comp=Z,0.1nm,0.3s,baz=23,slow=6.1,SNR=2.7						
BOSA	**Boshof**	149.19 309		PKPbc	**PKiKP**	06 20 39.0	-0.8
	comp=Z,1.0nm,0.5s,baz=45,slow=1.4,SNR=5.0						

*IDC **10** 06:01:35.1±1.4, 32°.50S×178°.07W, h0km, mb4.8/1, mb1 4.8/3, mb1mx3.9/41, mbtmp4.6/3, ML4.3/2, MS3.8/3, Ms1 3.8/3, ms1mx2.9/62, Error ellipse: s-maj=55.1km s-min=24.0km az=107.0*

ISC 10 06:01:38.1±0.9, 32°.47S±0°.08×178°.1W±0°.2, h20km, n38, σ1§87/50, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	3.20	3	P	**Pn**	06 02 25.2	-2.2
GLKZ				S	**Sn**	06 03 01.1	-3.9
RAO	**Raoul Island**	3.21	3	Pn	**Pn**	06 02 28.1	+0.6
	124nm,0.3s,baz=233,slow=20,SNR=3.0						
RAO				Sn	**Sn**	06 03 05.7	+0.5
	85nm,0.3s,baz=90,slow=20,SNR=2.1						
MXZ	**Matakaoa Point**	5.87 209		P	**Pn**	06 03 03.6	-0.3
MXZ				S	**Sn**	06 04 12.1	+1.5
WMGZ	**Waiomatatini S**	6.04 207		P	**Pn**	06 03 05.7	-0.7
WMGZ				S	**Sn**	06 04 17.5	+2.5
PKGZ	**Pakihiroa**	6.24 209		P	**Pn**	06 03 08.2	-0.9
PKGZ				S	**Sn**	06 04 19.2	-0.7
HAZ	**Te Kaha**	6.25 211		P	**Pn**	06 03 08.2	-1.0
HAZ				S	**Sn**	06 04 22.1	+2.0
PUZ	**Puketiti**	6.33 207		P	**Pn**	06 03 09.6	-0.6
PUZ				S	**Sn**	06 04 22.9	+1.0
TKGZ	**Te Karaka**	6.80 208		S	**Sn**	06 04 33.3	-0.3
MWZ	**Matawai**	6.85 210		P	**Pn**	06 03 15.7	-1.7
MWZ				S	**Sn**	06 04 33.8	-1.0
URZ	**Urewera**	6.97 213		Pn	**Pn**	06 03 18.5	-0.5
	1.3nm,0.3s,baz=270,slow=8.1,SNR=1.9						
URZ				Sn	**Sn**	06 04 37.0	-0.6
	4.2nm,0.3s,baz=35,slow=11,SNR=3.5						
URZ	**Urewera**	6.97 213		P	**Pn**	06 03 18.6	-0.5
URZ				S	**Sn**	06 04 37.5	-0.2
OUZ	**Omahuta**	7.42 246		P	Pn	06 03 31.1	+5.8
MTHZ	**Maungataniwha**	7.58 211		P	**Pn**	06 03 25.6	-1.9
MTHZ				P	**Sn**	06 04 53.7	+0.9
NMHZ	**Naumai**	7.79 211		P	**Pn**	06 03 29.5	-1.0
NMHZ				S	**Sn**	06 04 58.8	+0.7
ARHZ	**Aropaoanui**	7.85 209		S	**Sn**	06 04 57.8	-1.6
BKZ	**Black Stump Fm**	7.99 212		P	**Pn**	06 03 34.6	+1.5
BKZ				S	**Sn**	06 05 02.5	-0.3
KWHZ	**Kaweka Forest**	8.23 211		S	**Sn**	06 05 06.8	-2.1
KRHZ	**Kereru**	8.43 210		S	**Sn**	06 05 10.3	-3.5
BHHZ	**Black Hill Sta**	8.44 212		P	**Pn**	06 03 39.5	+0.2
BHHZ				S	**Sn**	06 05 10.6	-3.5
MOVZ	**Moawhango**	8.52 214		S	**Sn**	06 05 12.3	-3.7
WNVZ	**Wahianoa**	8.53 215		P	**Pn**	06 03 40.4	-0.3
WNVZ				P	**Sn**	06 05 15.6	-0.9
WPHZ	**Waipukurau**	8.76 209		S	**Sn**	06 05 18.8	-3.0
PRHZ	**Porangahau**	8.86 207		S	**Sn**	06 05 17.2	-6.9
DZM	**Mont Dzumac**	17.18 303		LR	LR	06 10 57.2	
	comp=Z,223nm,19.1s,baz=182,slow=33						
RAR	**Rarotonga**	19.80 60		LR	LR	06 12 56.1	
	comp=Z,68nm,20.4s,baz=272,slow=34						
CMSA	**Cobar Meteorol**	30.62 262		P	**P**	06 07 52.9	+2.0
	baz=29,SNR=14						
WRA	**Warramunga Arr**	44.12 274		P	**P**	06 09 46.5	+1.1
	7.8nm,0.5s,baz=116,slow=7.4,SNR=2.4						
BATI	**Baumata**	57.84 279		LR	LR	06 36 22.9	
	comp=Z,436nm,20.4s,baz=250,slow=36						
SNAA	**Sanae**	76.09 178		P	**P**	06 13 24.8	+0.8
VNA3	**Neumayer Olymp**	76.25 176		P	**P**	06 13 25.9	+1.1
VNA2	**Neumayer--Watz**	76.68 177		P	**P**	06 13 28.3	+1.1
	baz=166,slow=5.1						
MKAR	**Makanchi Array**	119.02 309		PKP	**PKPdf**	06 20 24.3	-0.8
	0.2nm,0.6s,baz=134,slow=1.0,SNR=2.3						
FINES	**FINESS Array B**	147.04 339		PKPbc	**PKPbc**	06 21 19.1	+0.3
	5.2nm,0.8s,baz=38,slow=3.7,SNR=10.0						
NB2	**NORSAR Subarra**	150.78 351		PKP	**PKiKP**	06 21 29.2	+0.2
	comp=Z,0.6nm,0.6s,baz=19,slow=2.5						
NOA	**NORSAR Array B**	150.78 351		PKPbc	**PKPbc**	06 21 27.8	-0.5
	comp=Z,1.6nm,1.0s,baz=13,slow=4.1,SNR=3.1						
AKASG	**Malin Array Be**	152.86 320		PKPbc	**PKiKP**	06 21 33.5	0.0
	comp=Z,0.4nm,0.6s,baz=50,slow=2.5,SNR=3.1						
BRTR	**Keskin Array B**	153.44 295		PKPbc	**PKiKP**	06 21 35.5	+0.2
	comp=Z,0.5nm,0.5s,baz=86,slow=2.0,SNR=4.7						
BRTR				PKPab	**PKPab**	06 21 47.0	-0.6
	comp=Z,1.3nm,0.8s,baz=154,slow=5.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	160.76 179		PKPab	**PKPab**	06 22 19.9	+0.7
	comp=Z,0.7nm,0.8s,baz=177,slow=2.9,SNR=2.4						

*IDC **10** 06:01:52.5±0.7, 7°.69S×128°.10E, h0km, mb4.1/11, mb1 4.2/15, mb1mx4.0/43, mbtmp4.2/15, ML3.1/3, MS3.5/28, Ms1 3.5/28, ms1mx3.3/68, Error ellipse: s-maj=20.3km s-min=15.7km az=69.0*

*NEIC **10** 06:01:53.7±2.3, 7°.93S±0°.06×128°.03E±0°.04, h10km±1km, mb4.5/22, Error ellipse: s-maj=10.9km s-min=6.9km az=175.0*

*DJA **10** 06:01:56.0±0.5, 8°.S±2°.×12°.8E±°, h22km±4km, M4.5/37, mB5.1/19, mb4.8/37, MLv4.8/14, Mw(mB)4.4/19*

ISC 10 06:01:53.6±0.4, 7°.92S±0°.04×128°.11E±0°.04, h10km, n131, σ1§98/119, mb4.5/24, MS3.6/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	3.16	91	P	**Pn**	06 02 42.9	-0.5
SAUI	**Saumlaki**	3.16	91	Pn	**Pn**	06 02 44.0	+0.5
AAI	**Ambon**	4.21	1	P	**Pn**	06 02 59.7	+1.8
SOEI	**Soe**	4.22	244	P	**Pn**	06 03 01.7	+3.6
SOEI	**Soe**	4.22	244	Pn	**Pn**	06 02 54.9	-3.2
SOEI				Sn	**Sn**	06 03 43.9	-3.7
SOEI	**Soe**	4.22	244	P	**Pb**	06 03 09.3	+1.3
MSAI	**Masohi**	4.62	10	P	**Pn**	06 03 01.0	-2.5
BATI	**Baumata**	4.95	242	Pn	**Pn**	06 03 10.7	+2.5
	26nm,0.3s,baz=122,slow=2.2,SNR=22						
BATI				Sn	**Sn**	06 04 10.1	+4.6
	21nm,0.3s,baz=307,slow=24,SNR=7.8						
BATI	**Baumata**	4.95	242	P	**Pn**	06 03 11.7	+3.6
	0.7nm2μm171nm,0.7s						
DRS	**Darwin Rock St**	5.25	149	P	**Pn**	06 03 15.1	+2.8
MTN	**Manton Dam**	5.72	149	P	**Pn**	06 03 20.9	+2.2
	baz=5.8,SNR=126						
MTN				S	**Sn**	06 04 26.3	+1.7
	baz=5.8						
MTN	**Manton Dam**	5.72	149	Pn	**Pn**	06 03 20.5	+1.7
MTN	**Manton Dam**	5.72	149	P	**Pn**	06 03 21.3	+2.5
MMRI	**Maumere**	5.86	263	P	**Pn**	06 03 20.8	+0.2
	0.8nm4μm260nm,1.1s						
MMRI	**Maumere**	5.86	263	Pn	**Pn**	06 03 18.9	-1.7
SANI	**Sanana**	6.20	340	P	**Pn**	06 03 24.5	-0.9
	0.2nm736nm70nm,0.6s						
KDU	**Kakadu**	6.39	138	P	**Pn**	06 03 29.4	+1.5
	baz=6.5,SNR=32						
KDU				S	**Sn**	06 04 40.0	-1.0
	baz=6.5						
KDU	**Kakadu**	6.39	138	P	**Pn**	06 03 29.8	+1.9

EDFI	**Ende, Flores**	6.41	262	P	**Pn**	06 03 30.4	+2.1
	0.2nm467nm57nm,0.9s						
FAKI	**Fak Fak**	6.45	40	P	**Pn**	06 03 29.7	+0.9
	0.5nm1μm123nm,0.6s						
FAKI	**Fak Fak**	6.45	40	Pn	**Pn**	06 03 29.6	+0.8
SIJI	**Sorong**	7.68	24	Pn	**Pn**	06 03 45.0	-0.6
	2.3nm,0.3s,baz=221,slow=1.8,SNR=6.3						
SIJI				Sn	**Sn**	06 05 09.1	-3.6
	baz=53,slow=20,SNR=1.3						
SIJI				LR	LR	06 07 02.1	
	comp=Z,307nm,20.9s,baz=58,slow=41						
SWI	**Sorong**	7.68	24	P	**Pn**	06 03 45.2	-0.4
	0.3nm2μm96nm,0.9s						
KNRA	**Kununurra**	7.74	175	P	**Pn**	06 03 47.6	+1.2
	baz=7.8,SNR=27						
KNRA				S	**Sn**	06 05 15.4	+1.2
	baz=7.8						
KNRA	**Kununurra**	7.74	175	Pn	**Pn**	06 03 46.3	-0.1
KNRA	**Kununurra**	7.74	175	P	**Pn**	06 03 48.2	+1.8
BSSI	**Bau Bau, Buton**	7.77	283	P	**Pn**	06 03 46.9	0.0
	0.2nm51nm,0.8s						
BKSI	**Bulukumba**	8.35	288	P	**Pn**	06 03 54.4	-0.4
	711nm38nm,1.3s						
LUWI	**Luwuk**	8.66	322	Pn	Pn	06 04 04.1	+5.0
TNTI	**Ternate**	8.67	355	P	**Pn**	06 03 58.0	-1.2
	33nm,0.9s						
TNTI	**Ternate**	8.67	355	Pn	**Pn**	06 03 59.0	-0.1
BNSI	**Bone**	8.69	293	P	**Pn**	06 04 02.2	+2.6
	743nm53nm,0.7s						
WBSI	**Waikabubak, Su**	8.79	258	P	**Pn**	06 04 03.2	+2.3
	51nm,0.8s						
KAPI	**Kappang**	8.80	289	Pn	**Pn**	06 04 00.4	-0.6
	0.3nm,0.3s,baz=174,slow=17,SNR=2.1						
KAPI				Sn	**Sn**	06 05 42.7	+2.5
	0.4nm,0.3s,baz=105,slow=19,SNR=1.2						
KAPI				LR	LR	06 07 14.7	
	comp=Z,225nm,21.8s,baz=119,slow=37						
KAPI	**Kappang**	8.80	289	Pn	**Pn**	06 04 02.2	+1.2
SPSI	**Sidrap Palu**	9.18	295	P	**Pn**	06 04 07.2	+0.9
	894nm31nm,1.1s						
TTSI	**Tana Toraja**	9.57	300	P	**Pn**	06 04 10.7	-0.9
	26nm,1.1s						
FITZ	**Fitzroy Crossi**	10.40	193	Pn	**Pn**	06 04 23.2	+0.3
	1.0nm,0.3s,baz=25,slow=11,SNR=24						
FITZ				Sn	**Sn**	06 06 15.7	-3.9
	2.1nm,0.3s,baz=335,slow=19,SNR=3.9						
FITZ				LR	LR	06 09 00.5	
	comp=Z,302nm,21.2s,baz=330,slow=40						
TOLI2	**Tolitoli**	11.57	321	Pn	**Pn**	06 04 39.1	+0.1
MPSI	**Mapaga**	11.59	315	P	**Pn**	06 04 40.3	+1.0
	10.0nm,0.7s						
MMPI	**Merauke**	12.16	93	P	Pn	06 05 04.0	+17
WB0	**Warramunga Arr**	13.26	153	Pn	**Pn**	06 04 59.4	-2.7
WRAB	**Tennant Creek**	13.38	154		**Pn**	06 05 01.7	-2.1
WRA	**Warramunga Arr**	13.39	154	Pn	**Pn**	06 05 00.7	-3.2
	1.4nm,0.3s,baz=321,slow=14,SNR=96						
WRA				Sn	Sn	06 07 23.5	-9.4
	2.3nm,0.3s,baz=331,slow=24,SNR=12						
WRA				LR	LR	06 10 52.4	
	comp=Z,434nm,18.3s,baz=332,slow=40						
WB2	**Warramunga Arr**	13.39	154	Pn	**Pn**	06 05 01.8	-2.1
WR0	**Warramunga Arr**	13.49	153		**Pn**	06 05 02.9	-2.4
JAY	**Jayapura**	13.64	67	LR	LR	06 12 12.2	
	comp=Z,87nm,19.3s,baz=288,slow=46						
DAV	**Davao City (W)**	15.10	350	LR	LR	06 11 56.9	
	comp=Z,42nm,19.6s,baz=160,slow=41						
PSA00	**Pilbara Seismi**	15.74	210		**Pn**	06 05 33.6	-2.0
PSA00				IAmb	IAmb	06 05 59.8	
	comp=Z,24nm,0.7s						
COEN	**Coen**	15.95	113	Pn	**Pn**	06 05 38.2	-0.2
COEN				IAmb	IAmb	06 06 01.6	
	comp=Z,20nm,0.8s						
AS31	**Alice Springs**	16.61	161		**Pn**	06 05 45.9	-0.9
ASAR	**Alice Springs**	16.61	161	Pn	**Pn**	06 05 45.5	-1.4
	comp=Z,0.7nm,0.3s,baz=338,slow=9.9,SNR=63						
ASAR				Sn	**Sn**	06 08 44.6	-6.9
	comp=Z,0.2nm,0.3s,baz=240,slow=14,SNR=1.4						
ASAR				LR	LR	06 12 53.6	
	comp=Z,309nm,21.2s,baz=334,slow=39						
ASAR	**Alice Springs**	16.61	161		**Pn**	06 05 46.1	-0.7
QIS	**Mount Isa**	16.77	140	P	**Pn**	06 05 48.3	-0.6
	baz=17,SNR=9.6						
WRKA	**Warakurna**	17.02	179	P	**Pn**	06 05 50.6	-1.4
	baz=17,SNR=17						
MTSU	**Mount Surprise**	18.75	124	P	**P**	06 06 13.5	+0.6
	baz=19,SNR=18						
PMG	**Port Moresby**	18.89	96	P	**Pn**	06 06 16.2	+1.2
	comp=Z,0.4nm,0.3s,baz=290,slow=12,SNR=4.4						
PMG				LR	LR	06 14 51.3	
	comp=Z,308nm,21.3s,baz=270,slow=41						
PMG	**Port Moresby**	18.89	96	P	**P**	06 06 14.3	-0.2
SBUM	**Sibu**	18.91	302	P	**P**	06 06 13.8	-0.9
GIRL	**Giralia**	19.81	221	P	**Pn**	06 06 25.3	-0.7
	baz=20,SNR=3.2						
KSM	**Kuching**	20.06	297	P	**P**	06 06 26.2	-1.0
KSM				IAmb	IAmb	06 06 41.1	
	comp=Z,20nm,1.0s						
MEEK	**Meekatharra**	20.69	205	P	Pn	06 06 38.5	+2.1
	baz=21,SNR=4.0						
CTA	**Charters Tower**	21.33	126	P	**P**	06 06 42.7	+1.7
	comp=Z,4.4nm,0.7s,baz=331,slow=2.0,SNR=2.7						
CTAO	**Charters Tower**	21.33	126	P	**P**	06 06 39.8	-1.2
CTAO				IAmb	IAmb	06 07 03.7	
	comp=Z,20nm,0.9s						
XMIS	**Christmas Isla**	22.32	262	P	**P**	06 06 47.7	-4.0
FORT	**Forrest**	22.74	180	P	**P**	06 06 57.9	+1.8
	baz=23,SNR=6.7						
FORT	**Forrest**	22.74	180	P	**P**	06 06 53.9	-2.1
MORW	**Morawa**	23.91	207	P	**P**	06 07 08.4	+0.6
	baz=24,SNR=4.6						
MORW	**Morawa**	23.91	207	P	**P**	06 07 06.0	-1.8
MORW				IAmb	IAmb	06 07 32.0	
	comp=Z,23nm,1.1s						
QLP	**Quilpie**	24.06	142	P	**P**	06 07 12.5	+3.3
	baz=24,SNR=8.8						
BLDU	**Ballidu**	24.98	204	P	**P**	06 07 19.6	+2.1
	baz=25,SNR=6.9						
KLBR	**Kellerberrin**	25.46	201	P	**P**	06 07 23.8	+1.9
	baz=26,SNR=7.5						
BBOO	**Buckleboo**	25.84	165	P	**P**	06 07 27.0	+1.6
	baz=26,SNR=14						
BBOO	**Buckleboo**	25.84	165	P	**P**	06 07 25.8	+0.4
BBOO				IAmb	IAmb	06 07 47.4	
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	26.94	154	P	**P**	06 07 36.5	+1.2
	comp=Z,4.8nm,0.6s,baz=318,slow=12,SNR=14						
STKA				LR	LR	06 19 30.2	
	comp=Z,185nm,20.4s,baz=330,slow=39						
STKA	**Stephens Creek**	26.94	154	P	**P**	06 07 37.1	+1.8
	baz=27,SNR=6.1						
GUMO	**Guam**	27.08	38	LR	LR	06 18 57.3	
	comp=Z,28nm,20.9s,baz=186,slow=38						
HTT	**Hallett**	27.29	160	P	**P**	06 07 43.5	+5.1
	baz=27,SNR=6.3						
EIDS	**Eidsvold**	27.94	131	P	**P**	06 07 44.3	-0.1
HNR	**Honiara**	31.50	95	LR	LR	06 20 44.2	
	comp=Z,128nm,19.5s,baz=325,slow=36						
JOW	**Kunigami**	34.55	0	LR	LR	06 20 56.6	
	comp=Z,104nm,20.8s,baz=165,slow=33						
CMAR	**Chiang Mai Arr**	38.93	313	P	**P**	06 09 19.7	-0.3
	comp=Z,2.2nm,0.3s,baz=146,slow=6.6,SNR=10						
CMAR				LR	LR	06 28 10.2	
	comp=Z,44nm,19.0s,baz=145,slow=41						
CHTO	**Chiang Mai**	39.16	313	P	**P**	06 09 22.2	+0.3
DZM	**Mont Dzumac**	39.47	115	LR	LR	06 25 56.3	
	comp=Z,144nm,18.6s,baz=236,slow=36						
NJ2	**Nanjing**	40.72	348	*e*P	**P**	06 09 36.9	+2.3
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
JNU	**Nakatsue**	40.90	4	LR	LR	06 26 39.7	
	comp=Z,54nm,18.4s,baz=106,slow=37						
PZH	**PanZhiHua**	42.73	324	P	**P**	06 09 54.8	+3.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,4.7s						
KSRS	**Korea Array**	45.14	360	P	**P**	06 10 08.7	-1.7
	comp=Z,0.8nm,0.7s,baz=182,slow=9.7,SNR=2.5						
KSRS				LR	LR	06 27 27.0	
	comp=Z,45nm,21.2s,baz=180,slow=34						
MJAR	**Matsushiro Arr**	45.23	11	LR	LR	06 27 10.4	
	comp=Z,43nm,20.3s,baz=208,slow=34						
XAN	**Xi'an**	45.53	338	P	**P**	06 10 16.4	+2.8
XAN				pP	pwP	06 10 22.4	+3.4
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LZH	**Lanzhou**	49.37	334	*e*P	P	06 10 38.5	-5.2

LZH				sP	pP	06 10 46.0	-0.1
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
MSVF	**Nonsavu**	49.53	106	LR	LR	06 31 03.3	
	comp=Z,75nm,18.7s,baz=0.4,slow=35						
PALK	**Pallekele**	49.62	287	LR	LR	06 32 05.8	
	comp=Z,58nm,20.2s,baz=214,slow=37						
HHC	**Hu-ho-hao-te**	50.87	344	*e*P	**P**	06 10 58.3	+3.4
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
XLT	**XiLinHaoTe**	52.72	349	*e*P	**P**	06 11 11.4	+2.8
XLT				pP	pwP	06 11 16.8	+2.8
XLT				sP	sP	06 11 17.9	+5.8
XLT				pmax	pmax		
	comp=Z,13nm,0.9s						
XLT				pmax	pmax		
	comp=Z,240nm,5.8s						
URZ	**Urewera**	53.41	132	P	**P**	06 11 14.5	+0.7
ASAJ	**Asahikawa**	53.43	13	LR	LR	06 32 45.2	
	comp=Z,56nm,21.9s,baz=107,slow=35						
GTA	**Gaotai**	53.90	333	*e*P	**P**	06 11 17.8	+0.3
GTA				pP	pwP	06 11 24.8	+1.9
GTA				sP	sP	06 11 27.8	+6.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ULN	**Ulaanbaatar**	58.58	344	P	**P**	06 11 50.3	-0.5
ULN				IAmb	IAmb	06 12 08.1	
	comp=Z,4.1nm,0.9s						
SONM	**Songino Array**	58.74	343	P	**P**	06 11 50.2	-1.6
	comp=Z,0.7nm,0.7s,baz=168,slow=7.5,SNR=3.3						
SONM	**Songino Array**	58.74	343	P	**P**	06 11 51.2	-0.7
SONM				IAmb	IAmb	06 12 02.5	
	comp=Z,5.0nm,1.2s						
WMQ	**Urumqi**	63.16	328	*e*P	**P**	06 12 24.7	+2.7
PETK	**Petropavlovsk-**	65.79	19	P	**P**	06 12 37.5	-1.3
	comp=Z,3.1nm,0.9s,baz=165,slow=4.0,SNR=1.7						
PETK	**Petropavlovsk-**	65.79	19	P	**P**	06 12 38.4	-0.4
MK31	**Makanchi Array**	67.99	328	P	**P**	06 12 52.0	-1.0
MKAR	**Makanchi Array**	67.99	328	P	**P**	06 12 51.5	-1.6
	comp=Z,0.6nm,0.7s,baz=128,slow=6.9,SNR=8.3						
MKAR	**Makanchi Array**	67.99	328	P	**P**	06 12 52.9	-0.2
YAK	**Yakutsk**	69.75	1	LR	LR	06 46 24.1	
	comp=Z,23nm,18.2s,baz=248,slow=38						
ZAA0	**Zalesovo Array**	71.59	335	P	**P**	06 13 15.6	+0.6
ZAA0				IAmb	IAmb	06 13 25.4	
	comp=Z,6.4nm,1.3s						
ZALV	**Zalesovo Beam**	71.59	335	P	**P**	06 13 13.2	-1.8
	comp=Z,0.7nm,0.6s,baz=143,slow=2.9,SNR=3.0						
ZALV				LR	LR	06 46 35.4	
	comp=Z,10nm,18.3s,baz=124,slow=38						
ZALV	**Zalesovo Beam**	71.59	335	P	**P**	06 13 13.3	-1.7
VNDA	**Vanda**	71.77	173	LR	LR	06 45 47.7	
	comp=Z,103nm,18.1s,baz=338,slow=37						
VNDA	**Vanda**	71.77	173	P	**P**	06 13 15.8	0.0
KURK	**Kurchatov**	72.34	330	P	**P**	06 13 19.3	-0.3
KURK				IAmb	IAmb	06 13 30.1	
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	72.81	320	P	**P**	06 13 22.2	-0.4
SEY	**Seymchan**	73.06	11	P	**P**	06 13 22.2	-1.4
	comp=Z,1.2nm,0.5s,baz=159,slow=3.0,SNR=5.8						
MAW	**Mawson**	73.42	201	LR	LR	06 42 05.3	
	comp=Z,45nm,21.9s,baz=64,slow=33						
WSAR	**Wadi Sarin**	74.59	297	LR	LR	06 45 41.2	
	comp=Z,20nm,21.4s,baz=124,slow=35						
BRVK	**Borovoye**	77.92	329	P	**P**	06 13 50.3	-1.5
BRVK				IAmb	IAmb	06 13 59.7	
	comp=Z,4.2nm,1.2s						
TIXI	**Tiksi**	79.40	0	P	**P**	06 13 58.9	-0.6
	comp=Z,0.7nm,0.3s,baz=244,slow=0.2,SNR=5.0						
TIXI				LR	LR	06 52 03.4	
	comp=Z,28nm,18.3s,baz=246,slow=38						
PPT	**Papeete**	80.36	106	LR	LR	06 45 14.3	
	comp=Z,34nm,21.4s,baz=309,slow=32						
QSPA	**South Pole Qui**	82.06	180	P	**P**	06 14 15.2	+1.1
	comp=Z,5.6nm,0.8s,baz=333,slow=0.6,SNR=3.3						
QSPA	**South Pole Qui**	82.06	180	P	**P**	06 14 14.7	+0.6
QSPA		

UZB	**Uzynbulak**	**1.62**	**6**	P	**Pb**	**06 37 48.0**	**-0.4**
	6.8nm,0.5s						
UZB				S	**Sg**	**06 38 10.0**	**-0.5**
	23nm,0.5s						
ZHN	**Zhinishke**	**1.66 351**		*e*P	**Pg**	**06 37 49.0**	**-1.0**
	9.0nm,0.3s						
ZHN				*e*S	**Sg**	**06 38 11.2**	**-0.3**
	30nm,0.3s						
ZHN	**Zhinishke**	**1.66 351**		P	**Pg**	**06 37 49.0**	**-1.0**
	9.0nm,0.3s						
ZHN				S	**Sg**	**06 38 11.2**	**-0.3**
	30nm,0.3s						
KURS	**Kuram**	**2.01 347**		*e*P	**Pg**	**06 37 55.1**	**-1.6**
	11nm,0.5s						
KURS				*e*S	**Sg**	**06 38 21.8**	**-0.9**
	28nm,0.4s						
KURS	**Kuram**	**2.01 347**		Pg	**Pg**	**06 37 55.1**	**-1.6**
	11nm,0.5s						
KURS				Lg	Lg	06 38 21.8	
	28nm,0.4s						
ULHL	**Ulahol**	**2.02 292**	⇓	*i*P	**Pb**	**06 37 54.9**	**-0.3**
	baz=92						
ULHL			⇓	*i*S	**Sg**	**06 38 22.4**	**-0.9**
	baz=92						
TNSS	**Tian-Shan**	**2.03 319**		*e*P	**Pb**	**06 37 55.5**	**+0.1**
	14nm,0.5s						
TNSS				*e*S	**Sg**	**06 38 22.6**	**-0.8**
	50nm,0.4s						
TNSS	**Tian-Shan**	**2.03 319**		Pg	**Pb**	**06 37 55.5**	**+0.1**
	14nm,0.5s						
TNSS				Lg	Lg	06 38 22.6	
	50nm,0.4s						
MDOK	**Medeo**	**2.07 322**		*e*P	**Pb**	**06 37 55.8**	**-0.3**
	18nm,0.4s						
MDOK				*e*S	**Sg**	**06 38 22.9**	**-2.0**
	53nm,0.5s						
MDOK	**Medeo**	**2.07 322**	⇑	Pg	**Pb**	**06 37 55.8**	**-0.3**
	10nm,0.4s						
MDOK			⇓	Lg	Lg	06 38 24.2	
	49nm,0.6s						
MDOK	**Medeo**	**2.07 322**		Pg	**Pb**	**06 37 55.8**	**-0.3**
	18nm,0.4s						
MDOK				Lg	Lg	06 38 22.9	
	53nm,0.5s						
KOTS	**Kotyrbulak**	**2.10 325**		*e*P	**Pb**	**06 37 56.6**	**0.0**
	11nm,0.4s						
KOTS				*e*S	**Sg**	**06 38 25.2**	**-0.6**
	95nm,0.3s						
KOTS	**Kotyrbulak**	**2.10 325**		Pg	**Pb**	**06 37 56.6**	**0.0**
	11nm,0.4s						
KOTS				Lg	Lg	06 38 25.2	
	95nm,0.3s						
KNDC	**Almaty**	**2.15 322**	⇑	Lg	Lg	06 38 26.6	
	105nm,0.6s						
IZV	**Izvestkoviy**	**2.20 314**		*e*P	**Pb**	**06 37 58.6**	**+0.4**
	9.0nm,0.6s						
IZV				*e*S	**Sg**	**06 38 27.6**	**-1.3**
	44nm,0.6s						
IZV	**Izvestkoviy**	**2.20 314**		Pg	**Pb**	**06 37 58.6**	**+0.4**
	9.0nm,0.6s						
IZV				Lg	Lg	06 38 27.6	
	44nm,0.6s						
KTMS	**Ketmen**	**2.24 31**		*e*P	**Pb**	**06 37 58.8**	**-0.1**
	7.5nm,0.3s						
KTMS				*e*S	**Sg**	**06 38 28.1**	**-2.1**
	42nm,0.3s						
KTMS	**Ketmen**	**2.24 31**		Pg	**Pb**	**06 37 58.8**	**-0.1**
	7.5nm,0.3s						
KTMS				Lg	Lg	06 38 28.1	
	42nm,0.3s						
BOOM	**Boomskoye usch**	**2.32 295**	⇑	*e*P	**Pb**	**06 37 59.1**	**-1.2**
	baz=96						
BOOM			⇑	*i*S	**Sb**	**06 38 29.8**	**+0.7**
	baz=96						
MTBS	**Maitube**	**2.36 313**		*e*P	**Pb**	**06 38 00.4**	**-0.5**
	8.1nm,0.3s						
MTBS				*e*S	**Sg**	**06 38 31.6**	**-2.5**
	23nm,0.2s						
MTBS	**Maitube**	**2.36 313**		Pg	**Pb**	**06 38 00.4**	**-0.5**
	8.1nm,0.3s						
MTBS				Lg	Lg	06 38 31.6	
	23nm,0.2s						
BLB	**Baldybastay**	**2.57 355**		*e*P	**Pb**	**06 38 05.0**	**+0.4**
	20nm,0.5s						
BLB				*e*S	**Sg**	**06 38 38.6**	**-2.4**
	98nm,0.3s						
BLB	**Baldybastay**	**2.57 355**		Pg	**Pb**	**06 38 05.0**	**+0.4**
	20nm,0.5s						
BLB				Lg	Lg	06 38 38.6	
	98nm,0.3s						
KST	**Kastek**	**2.58 307**		*e*P	**Pb**	**06 38 04.5**	**-0.2**
	6.3nm,0.4s						
KST				*e*S	**Sg**	**06 38 38.4**	**-2.7**
	48nm,0.6s						
KST	**Kastek**	**2.58 307**		Pg	**Pb**	**06 38 04.5**	**-0.2**
	6.3nm,0.4s						
KST				Lg	Lg	06 38 38.4	
	48nm,0.6s						
CHKK	**Chushkaly**	**2.67 331**		*e*P	**Pb**	**06 38 06.0**	**-0.2**
	9.4nm,0.4s						
CHKK				*e*S	**Sb**	**06 38 40.3**	**+1.3**
	36nm,0.5s						
CHKK	**Chushkaly**	**2.67 331**		Pg	**Pb**	**06 38 06.0**	**-0.2**
	9.4nm,0.4s						
CHKK				Lg	Lg	06 38 40.3	
	36nm,0.5s						
KTBS	**Karatobe**	**2.67 325**		*e*P	**Pb**	**06 38 06.4**	**+0.2**
	7.9nm,0.4s						
KTBS				*e*S	**Sg**	**06 38 41.0**	**-3.1**
	44nm,0.4s						
KTBS	**Karatobe**	**2.67 325**		Pg	**Pb**	**06 38 06.4**	**+0.2**
	7.9nm,0.4s						
KTBS				Lg	Lg	06 38 41.0	
	44nm,0.4s						
TKM2	**Tokmak 2**	**2.74 302**	⇑	Pg	**Pg**	**06 38 11.7**	**+1.0**
	7.1nm,0.7s						
TKM2			⇑	Lg	Lg	06 38 44.0	
	8.2nm,0.4s						
TKM2	**Tokmak 2**	**2.74 302**	⇑	*i*P	**Pb**	**06 38 05.3**	**-2.1**
	baz=2.0						
TKM2			⇑	*i*S	**Sb**	**06 38 40.5**	**-0.7**
	baz=2.0						
ARXS	**Arharly**	**2.77 346**		*e*P	**Pb**	**06 38 07.1**	**-0.8**
	6.7nm,0.6s						
ARXS				*e*S	**Sb**	**06 38 42.2**	**+0.3**
	71nm,0.6s						
ARXS	**Arharly**	**2.77 346**		Pg	**Pb**	**06 38 07.1**	**-0.8**
	6.7nm,0.6s						
ARXS				Lg	Lg	06 38 42.2	
	71nm,0.6s						
DGS	**Degeres**	**2.81 309**		*e*P	**Pb**	**06 38 08.2**	**-0.4**
	21nm,0.6s						
DGS				*e*S	**Sb**	**06 38 44.0**	**+1.0**
	22nm,0.6s						
DGS	**Degeres**	**2.81 309**		Pg	**Pb**	**06 38 08.1**	**-0.4**
	21nm,0.6s						
DGS				Lg	Lg	06 38 44.0	
	22nm,0.6s						
DJR	**Jarkent**	**2.90 15**		*e*P	**Pb**	**06 38 10.3**	**+0.2**
	4.6nm,0.4s						
DJR				*e*S	**Sg**	**06 38 47.7**	**-3.6**
	33nm,0.4s						
DJR	**Jarkent**	**2.90 15**		Pg	**Pb**	**06 38 10.3**	**+0.2**
	4.6nm,0.4s						
DJR				Lg	Lg	06 38 47.7	
	33nm,0.4s						
KUU	**Kurty**	**2.97 324**		*e*P	**Pb**	**06 38 11.2**	**0.0**
	4.4nm,0.7s						
KUU				*e*S	**Sb**	**06 38 49.4**	**+1.9**
	11nm,0.6s						
KUU	**Kurty**	**2.97 324**		Pg	**Pb**	**06 38 11.2**	**0.0**
	4.4nm,0.7s						
KUU				Lg	Lg	06 38 49.4	
	11nm,0.6s						
KRBS	**Karabastau**	**3.15 314**		*e*P	**Pb**	**06 38 15.2**	**+0.8**
	4.8nm,0.5s						
KRBS				*e*S	**Sg**	**06 38 56.0**	**-3.4**
	17nm,0.5s						
KRBS	**Karabastau**	**3.15 314**		Pg	**Pb**	**06 38 15.2**	**+0.8**
	4.8nm,0.5s						
KRBS				Lg	Lg	06 38 56.0	
	17nm,0.5s						
UCH	**Uchtor**	**3.26 284**	⇑	*i*P	**Pn**	**06 38 11.8**	**+2.0**
	baz=84						
UCH			⇑	*i*S	**Sn**	**06 38 51.4**	**+2.5**
	baz=84						
AAK	**Ala-Archa**	**3.37 291**	⇓	Pg	**Pg**	**06 38 21.6**	**-1.2**
	1.7nm,0.5s						
AAK			⇓	Lg	Lg	06 39 03.7	
	10.0nm,0.7s						
AAK	**Ala-Archa**	**3.37 291**	⇑	*i*P	**Pn**	**06 38 13.6**	**+2.5**
	baz=91						
AAK			⇑	*i*S	**Sn**	**06 38 54.6**	**+3.3**
	baz=91						
MRKS	**Merke**	**4.30 288**		*e*P	**Pg**	**06 38 37.3**	**-3.4**
	2.4nm,0.5s						
MRKS				*e*S	**Sg**	**06 39 34.1**	**-2.3**
	2.9nm,0.4s						
MRKS	**Merke**	**4.30 288**		Pg	**Pg**	**06 38 37.3**	**-3.4**
	2.4nm,0.5s						
MRKS				Lg	Lg	06 39 34.1	
	2.9nm,0.4s						
MK31	**Makanchi Array**	**5.84 24**	⇑	Pg	**Pb**	**06 38 58.9**	**-1.2**
	0.1nm,0.3s,baz=211,slow=17,SNR=7.5						
MK31				Sn	**Sn**	**06 39 54.3**	**+2.5**
	0.8nm,0.6s,baz=206,slow=21,SNR=4.0						
MK31				Lg	Lg	06 40 18.5	
	1.1nm,0.6s,baz=193,slow=31,SNR=4.8						
KURBB	**Kurchatov Arra**	**9.10 359**	⇓	Lg	Lg	06 42 02.8	
	7.7nm,0.9s						
KURK	**Kurchatov**	**9.19 359**	⇑	Lg	Lg	06 42 05.7	
	6.0nm,1.1s						

*IDC **10** 06:43:27.4±0.7,2°.43N×127°.15E,h0km,mb3.9/13, mb1 4.1/13,mb1mx4.0/33,mbtmp4.0/13,MS3.2/3, Ms1 3.3/3,ms1mx2.7/72, Error ellipse: s-maj=37.7km s-min=13.5km az=77.0*

*NEIC **10** 06:43:33.4±1.6,2°.37N±0°.09×127°.13E±0°.10,h39km±10km, mb4.1/15, Error ellipse: s-maj=17.2km s-min=6.9km az=49.0*

*DJA **10** 06:43:33.3±1.3,2°N±3°×12°7E±°,h35km±29km,M4.2/7, mb4.5/2,mB4.7/1,MLv4.0/7,Mw(mB)3.9/1*

ISC 10 06:43:32.3±0.6,2°.47N±0°.06×127°.31E±0°.09,h35km,n45, σ1§30/48,mb4.1/18,MS3.0/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.69**	**178**	P	**Pn**	**06 43 59.6**	**+0.2**
TNTI	**Ternate**	**1.69**	**178**	Pn	**Pn**	**06 43 59.1**	**-0.3**
SGSI	**Sangihe**	**2.15**	**304**	P	**Pn**	**06 44 05.1**	**-0.6**
SGSI				S	**Sn**	**06 44 30.2**	**-1.0**
KMSI	**Cibinong**	**3.83**	**241**	P	**Pn**	**06 44 30.1**	**+1.3**
GTOI	**Gorontalo**	**4.67**	**247**	P	**Pn**	**06 44 41.5**	**+1.1**
MRSI	**Marisa**	**5.72**	**250**	P	**Pn**	**06 44 54.5**	**-0.4**
	0.3nm69nm,0.6s						
LUWI	**Luwuk**	**5.73**	**232**	Pn	**Pn**	**06 44 51.4**	**-3.5**
TOLI2	**Tolitoli**	**6.67**	**258**	Pn	**Pn**	**06 45 06.6**	**-1.2**
MPSI	**Mapaga**	**7.71**	**254**	P	**Pn**	**06 45 21.0**	**-1.1**
MYLDM	**Lahad Datu**	**9.19**	**287**	Pn	**Pn**	**06 45 41.4**	**-1.1**
MTKI	**Muara Teweh, K**	**12.87**	**255**	P	**Pn**	**06 46 36.2**	**+3.3**
KNRA	**Kununurra**	**18.09**	**175**		**Pn**	**06 47 41.4**	**+0.4**
KNRA				IAmb	IAmb	06 47 52.0	
	comp=Z,5.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.51**	**185**	P	**P**	**06 48 08.3**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=3.3,slow=7.5,SNR=5.1						
TPUB	**Ta-pu**	**21.69**	**343**	P	**P**	**06 48 19.3**	**-1.1**
LEM	**Lembang**	**21.72**	**245**	LR	LR	06 57 38.9	
	comp=Z,127nm,19.4s,baz=342,slow=40						
WB0	**Warramunga Arr**	**23.17**	**163**	P	**P**	**06 48 35.5**	**-0.5**
WB0				IAmb	IAmb	06 48 41.0	
	comp=Z,6.4nm,0.7s						
WRAB	**Tennant Creek**	**23.31**	**163**	P	**P**	**06 48 35.7**	**-1.7**
WRAB				IAmb	IAmb	06 48 42.5	
	comp=Z,5.3nm,0.8s						
WRA	**Warramunga Arr**	**23.32**	**163**	P	**P**	**06 48 36.6**	**-0.9**
	comp=Z,3.0nm,0.5s,baz=342,slow=10,SNR=47						
WRA				PcP	**PcP**	**06 52 24.5**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=318,slow=2.2,SNR=2.3						
WRA				S	**S**	**06 52 44.1**	**-3.7**
	comp=Z,0.3nm,0.8s,baz=347,slow=6.6,SNR=2.5						
WRA	**Warramunga Arr**	**23.32**	**163**	P	**P**	**06 48 35.5**	**-2.0**
WB2	**Warramunga Arr**	**23.32**	**163**	P	**P**	**06 48 36.7**	**-0.8**
WB2				IAmb	IAmb	06 48 42.6	
	comp=Z,5.7nm,0.8s						
WR0	**Warramunga Arr**	**23.39**	**163**	P	**P**	**06 48 37.3**	**-0.9**
WR0				IAmb	IAmb	06 48 41.2	
	comp=Z,7.4nm,1.4s						
AS31	**Alice Springs**	**26.76**	**166**	P	**P**	**06 49 08.9**	**-0.1**
ASAR	**Alice Springs**	**26.76**	**166**	P	**P**	**06 49 09.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=350,slow=8.1,SNR=24						
ASAR				PcP	**PcP**	**06 52 32.6**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=347,slow=1.9,SNR=10						
ASAR	**Alice Springs**	**26.76**	**166**	P	**P**	**06 49 11.4**	**+2.4**
CMAR	**Chiang Mai Arr**	**32.01**	**302**	P	**P**	**06 49 54.3**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=112,slow=7.2,SNR=1.8						
CMAR				LR	LR	07 03 07.1	
	comp=Z,33nm,19.7s,baz=145,slow=37						
KSRS	**Korea Array**	**34.82**	**1**	P	**P**	**06 50 21.4**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=180,slow=10,SNR=5.8						
MJAR	**Matsushiro Arr**	**35.37**	**15**	P	**P**	**06 50 25.9**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=196,slow=7.8,SNR=4.6						
MJAR				LR	LR	07 03 32.7	
	comp=Z,25nm,21.5s,baz=197,slow=34						
MJAR	**Matsushiro Arr**	**35.37**	**15**	P	**P**	**06 50 24.6**	**0.0**
MJAR				IAmb	IAmb	06 50 27.0	
	comp=Z,4.0nm,1.2s						
STKA	**Stephens Creek**	**36.76**	**159**	P	**P**	**06 50 36.7**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=332,slow=6.4,SNR=18						
STKA	**Stephens Creek**	**36.76**	**159**	P	**P**	**06 50 37.0**	**+0.4**
ARMA	**Armidale**	**40.10**	**146**	P	**P**	**06 51 03.9**	**-1.0**
SONM	**Songino Array**	**48.67**	**341**	P	**P**	**06 52 13.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=161,slow=9.2,SNR=3.7						
SONM	**Songino Array**	**48.67**	**341**	P	**P**	**06 52 13.3**	**+0.2**
SONM				IAmb	IAmb	06 52 22.6	
	comp=Z,1.5nm,1.0s						
PETK	**Petropavlovsk-**	**56.37**	**21**	P	**P**	**06 53 09.3**	**-0.7**
	comp=Z,3.2nm,1.0s,baz=197,slow=4.5,SNR=1.4						
MK31	**Makanchi Array**	**58.91**	**325**	P	**P**	**06 53 27.9**	**-0.2**
MK31				IAmb	IAmb	06 53 55.4	
	comp=Z,2.5nm,1.3s						
MKAR	**Makanchi Array**	**58.91**	**325**	P	**P**	**06 53 27.6**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=123,slow=8.7,SNR=13						
MKAR	**Makanchi Array**	**58.91**	**325**	P	**P**	**06 53 28.0**	**0.0**
MAKZ	**Makanchi**	**59.10**	**325**	P	**P**	**06 53 29.3**	**0.0**
MAKZ				IAmb	IAmb	06 53 51.5	
	comp=Z,4.5nm,1.5s						
ZALV	**Zalesovo Beam**	**61.96**	**333**	P	**P**	**06 53 48.6**	**0.0**
	comp=Z,0.5nm,0.4s,baz=100,slow=8.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**61.96**	**333**	P	**P**	**06 53 48.2**	**-0.5**
KURK	**Kurchatov**	**63.11**	**328**	P	**P**	**06 53 56.4**	**+0.1**
KKAR	**Karatay Array**	**64.54**	**317**	P	**P**	**06 54 05.7**	**-0.3**
NRIK	**Noril'sk**	**71.78**	**346**	P	**P**	**06 54 51.6**	**+0.8**
	comp=Z,0.0nm,0.7s,baz=107,slow=7.9,SNR=4.4						
ABKAR	**Akbulak array**	**73.48**	**321**	P	**P**	**06 55 01.7**	**+0.4**
ILAR	**Eielson Array**	**85.98**	**25**	P	**P**	**06 56 10.5**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=254,slow=6.5,SNR=1.4						

*REN **10** 07:10:52.3±0.6,38°.44N±0°.05×118°.27W±0°.06,h9km±3km, ML2.5/9,ML2.7/36(NEIC), Error ellipse: s-maj=7.6km s-min=5.5km az=222.0*

NEIC 10 07:10:52.1±0.6,38°.48N±0°.05×118°.27W±0°.06,h9km±8km, Error ellipse: s-maj=8.3km s-min=5.8km az=213.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**0.05**	**209**	Pg	Pg	07 10 53.4	-0.9
NV11	**Mina Array Sit**	**0.10**	**116**		Pg	07 10 54.9	+0.2
NV11				IAML		07 10 57.0	
	comp=N,3μm,0.3s						
RYN	**Ryan**	**0.25**	**307**		Pg	07 10 58.0	+0.7
RYN				IAML		07 11 03.5	
	comp=N,2μm,0.2s						
LHV	**Little Huntoon**	**0.29**	**219**		Pg	07 10 57.8	-0.1
LHV				IAML		07 11 02.5	
	comp=N,874nm,0.5s						
LHV				IAML		07 11 03.6	
	comp=E,811nm,0.7s						
KVN	**Kaiserville**	**0.59**	**13**		Pg	07 11 04.1	+0.5
YERR	**Yerington**	**0.91**	**304**		Pg	07 11 09.8	+0.1
TPH	**Tonopah**	**0.92**	**116**		Pg	07 11 09.4	-0.4
PNTR	**Pine Nut**	**1.21**	**301**		Pb	07 11 14.8	-0.4
PNTR				IAML		07 11 34.7	
	comp=N,251nm,0.5s						
LCH	**Last Change Ra**	**1.34**	**158**		Pn	07 11 16.7	-0.4
LCH				IAML		07 11 36.9	
	comp=N,73nm,0.6s						
LCH				IAML		07 11 39.0	
	comp=E,111nm,0.5s						
VCNR	**Virginia City**	**1.35**	**308**		Pn	07 11 17.3	-0.1
VCNR				IAML		07 11 37.2	
	comp=N,118nm,0.5s						
VCNR				IAML		07 11 38.9	
	comp=E,208nm,0.5s						
PAHR	**Pah Rah Range**	**1.50**	**325**		Pn	07 11 19.5	0.0
PAHR				IAML		07 11 42.3	
	comp=N,90nm,0.2s						
PAHR				IAML		07 11 45.6	
	comp=E,54nm,0.5s						
EMB	**Emerald Bay**	**1.52**	**290**	Pn	Pn	07 11 19.7	0.0
EMB				IAML		07 11 43.5	
	comp=E,104nm,0.4s						
MPK	**Martis Peak**	**1.60**	**301**		Pn	07 11 20.9	0.0
MPK				IAML		07 11 46.4	
	comp=N,145nm,0.6s						
CMB	**Columbia Colle**	**1.72**	**256**	Pn	Pn	07 11 22.0	-0.4
R11A	**Troy Canyon, C**	**2.11**	**93**		Pn	07 11 27.6	-0.3
R11A				IAML		07 12 00.9	
	comp=E,29nm,0.3s						
R11A				IAML		07 12 00.9	
	comp=N,34nm,0.2s						
BMN	**Battle Mountai**	**2.11**	**22**		Pn	07 11 27.7	-0.2
GWY	**Greenwater Val**	**2.62**	**150**		Pn	07 11 34.4	-0.4
ORV	**Oroville**	**2.74**	**294**		Pn	07 11 36.8	+0.5
QSM	**Queen of Sheba**	**2.75**	**156**	Pn	Pn	07 11 36.1	-0.3
PRN	**Pahroc Range**	**2.76**	**112**		Pn	07 11 36.5	-0.2
SHPR	**Sheep Range**	**3.16**	**128**		Pn	07 11 42.5	+0.3
ELK	**Elko**	**3.26**	**45**	Pn	Pn	07 11 43.7	+0.1
PSUT	**Pine Spring**	**3.46**	**88**	Pn	Pn	07 11 46.4	0.0
KNB	**Kanab**	**4.56**	**107**	Pn	Pn	07 12 00.4	-1.1
TCRU	**Three Creeks R**	**4.57**	**87**	Pn	Pn	07 12 01.9	+0.2

IDC 10 07:21:48.8±2.9,6°.32S×129°.69E,h87km±40km,mb3.2/1, mb1 3.3/5,mb1mx2.9/47,mbtmp3.5/5,Error ellipse: s-maj=68.9km s-min=20.7km az=94.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.63**	**16**	P	Pn	07 23 10.2	+0.1
	1.5nm,0.3s,baz=197,slow=17,SNR=9.8						
SIJI				S	Sn	07 24 06.8	-6.6
	1.9nm,0.3s,baz=288,slow=23,SNR=7.6						
FITZ	**Fitzroy Crossi**	**12.36**	**198**	P	Pn	07 24 41.6	0.0
	0.0nm,0.3s,baz=14,slow=12,SNR=1.2						
FITZ				S	Sn	07 26 57.1	-0.4
	0.1nm,0.3s,baz=329,slow=5.5,SNR=1.9						
WRA	**Warramunga Arr**	**14.28**	**162**	P	Pn	07 25 06.5	-0.5
	0.1nm,0.3s,baz=350,slow=13,SNR=1.6						
WRA				S	Sn	07 27 32.6	-11
	0.1nm,0.3s,baz=338,slow=23,SNR=2.8						
ASAR	**Alice Springs**	**17.72**	**167**	P	Pn	07 25 50.3	+0.3
	0.1nm,0.3s,baz=348,slow=10,SNR=18						
ASAR				S	Sn	07 28 56.5	-11
	0.0nm,0.3s,baz=354,slow=28,SNR=3.2						
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	07 32 35.5	-0.1
	0.4nm,0.7s,baz=128,slow=6.9,SNR=4.0						

*NNC **10** 07:33:06.0±4.3,49°.43N×76°.04E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=32.4km s-min=11.2km az=86.0, Suspected Mining explosion.*

*IDC **10** 07:33:13.2±1.4,49°.28N×76°.96E,h0km,mb1 2.5/3, mb1mx2.5/54,mbtmp2.5/3,ML2.1/3,Error ellipse: s-maj=14.1km s-min=10.3km az=49.0*

ISC 10 07:33:13.7±1.1,49°.40N±0°.05×77°.02E±0°.06,h0km,n9, σ1§95/14,5C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**1.57**	**38**	Pg	**Pg**	**07 33 43.4**	**-0.3**
	0.3nm,0.3s,baz=238,slow=16,SNR=8.4						
KURBB				Lg	Lg	07 34 08.2	
	0.4nm,0.3s,baz=218,slow=26,SNR=14						
KURBB	**Kurchatov Arra**	**1.57**	**38**	⇑Pg	**Pn**	**07 33 42.7**	**0.0**
	1.4nm,0.3s,baz=236,slow=14						
KURBB				⇑Lg	Lg	07 34 09.7	
	21nm,0.6s,baz=217,slow=25						
KURK	**Kurchatov**	**1.68**	**37**	⇓Pg	**Pb**	**07 33 44.8**	**-0.6**
	0.5nm,0.3s						
KURK				⇑Lg	Lg	07 34 12.0	
	9.4nm,0.6s						
MAKZ	**Makanchi**	**4.21**	**126**	⇑Pg	**Pb**	**07 34 29.9**	**+1.3**
	0.9nm,0.5s						
MAKZ				⇑Sn	**Sb**	**07 35 17.4**	**-2.6**
	1.0nm,0.6s						
MAKZ				⇓Lg	Lg	07 35 34.8	
	2.5nm,0.8s						
MK31	**Makanchi Array**	**4.39**	**124**	Pg	**Pb**	**07 34 34.0**	**+2.4**
	0.9nm,0.6s,baz=311,slow=12,SNR=12						
MK31				⇓Sn	**Sb**	**07 35 21.6**	**-3.4**
	0.7nm,0.5s						
MK31				⇓Lg	Lg	07 35 40.8	
	1.0nm,0.6s,baz=320,slow=29,SNR=6.0						
MKAR	**Makanchi Array**	**4.39**	**124**	Pn	**Pn**	**07 34 21.4**	**-0.1**
	0.1nm,0.3s,baz=300,slow=12,SNR=8.0						
MKAR				Pg	**Pb**	**07 34 33.4**	**+1.8**
	0.4nm,0.3s,baz=313,slow=13,SNR=15						
MKAR				Sn	**Sn**	**07 35 13.2**	**-0.1**
	0.1nm,0.3s,baz=274,slow=19,SNR=1.0						
MKAR				Lg	Lg	07 35 36.9	
	0.2nm,0.3s,baz=302,slow=25,SNR=6.6						
BVAR	**Borovoye Array**	**5.53**	**314**	Pn	**Pn**	**07 34 36.4**	**-0.7**
	0.1nm,0.3s,baz=132,slow=20,SNR=1.7						
BVAR				Sn	**Sn**	**07 35 42.9**	**+1.5**
	0.1nm,0.3s,baz=141,slow=28,SNR=3.3						
ZALV	**Zalesovo Beam**	**6.65**	**44**	Pn	**Pn**	**07 34 52.3**	**-0.3**
	0.1nm,0.3s,baz=220,slow=13,SNR=1.4						
ZALV				Sn	**Sn**	**07 36 12.2**	**+3.1**
	0.2nm,0.3s,baz=229,slow=22,SNR=5.9						
I46RU	**ZALESOVO INFRA**	**6.66**	**44**	*i*		08 19 00.0	
	baz=226,slow=322,SNR=1.7						

*ROM **10** 07:33:25.5±0.5,36°.46N±0°.02×11°.89E±0°.05,h35km, ML3.5/9,Error ellipse: s-maj=4.6km s-min=2.6km az=262.0*

*LDG **10** 07:33:25.2±0.4,36°.63N×11°.98E,h11km,Ml3.2/4,Error ellipse: s-maj=10.0km s-min=4.8km az=8.0*

ISC 10 07:33:21.7±0.9,36°.65N±0°.05×11°.88E±0°.04,h10km,n49, σ1§89/41,4D,Tunisia

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

GALF	Gagliano Caste	2.39	63	AML	AML		
	comp=N,705μm,0.5s						
GALF				AML	AML		
	comp=E,124μm,0.6s						
GALF				AML	AML		
	comp=N,143μm,0.8s						
GALF				AML	AML		
	comp=E,497μm,0.6s						
GALF				AML	AML		
	comp=E,496μm,0.6s						
ECNV	Catenanuova	2.45	67	P	Pb	07 34 06.1	+0.2
MEU	Monte Lauro	2.49	79	P	Pn	07 34 03.6	+1.3
HLNI	Lentini	2.49	73	P	Pb	07 34 04.7	-1.9
HLNI				S	Sb	07 34 34.0	-3.3
HLNI				AML	AML		
	comp=E,347μm,0.9s						
HLNI				AML	AML		
	comp=N,330μm,1.0s						
MSFR	San Fratello	2.56	57	P	Pb	07 34 07.8	0.0
HPAC	Pachino	2.60	88	P	Pn	07 34 04.3	+0.5
HPAC				AML	AML		
	comp=E,478μm,0.9s						
HPAC				AML	AML		
	comp=N,518μm,0.6s						
SSY	Sortino	2.61	78	P	Pb	07 34 06.0	-2.5
SSY				S	Sb	07 34 36.7	-4.0
SSY				AML	AML		
	comp=E,600μm,1.6s						
SSY				AML	AML		
	comp=N,1030μm,0.6s						
HAVL	Avola	2.62	82	P	Pn	07 34 05.4	+1.2
HAVL				AML	AML		
	comp=E,560μm,0.3s						
HAVL				AML	AML		
	comp=N,822μm,0.2s						
EPZF	Pizzo Felice	2.65	63	P	Pb	07 34 09.3	0.0
HAGA	Augusta	2.70	75	P	Pn	07 34 06.8	+1.7
HAGA				AML	AML		
	comp=E,250μm,0.7s						
HAGA				AML	AML		
	comp=N,228μm,0.4s						
EMSG	Monte Spagnolo	2.71	64	P	Pb	07 34 10.1	-0.3
MUCR	Ucria	2.76	59	P	Pb	07 34 10.4	-0.8
MCRV	Calabrutti - M	4.86	31	⇓P	Pn	07 34 31.0	-4.0
GIUL	Giuliano Di Ro	5.02	12	S	Sn	07 35 36.0	+0.9
CAFE	Carife	5.10	30	P	Pn	07 34 41.6	+3.5
VIVA	Pratoni del Vi	5.14	7	S	Sn	07 35 38.0	-0.1
TRIV	Trivento	5.51	21	⇓P	Pn	07 34 50.4	+6.5
RM33	Pellescritta (	5.94	10	P	Pn	07 34 59.2	+9.4
TERO	Teramo	6.11	12	P	Pn	07 35 00.5	+8.4
PGF	Pioggiola	6.30	340	*e*P	Pn	07 35 02.6	+7.9
PGF				*e*Sn	Sn	07 36 05.6	-1.1
	comp=N,25nm,1.0s						
ATFO	Monte Foce - G	6.73	4	P	Pn	07 34 59.5	-1.1
VLO	Vlora	7.08	55	⇓P	Pn	07 35 11.0	+5.7
LMR	La Mourre	7.84	330	*e*P	Pn	07 35 22.5	+6.7
LMR				*e*Sn	Sn	07 36 40.8	-3.8
	comp=N,0.5nm,0.3s						
SBF	Sospel	7.96	336	*e*P	Pn	07 35 23.7	+6.2
SBF				*e*Sn	Sn	07 36 44.5	-3.2
	comp=N,4.3nm,0.3s						
FRF	La Foret Royal	7.98	331	*e*P	Pn	07 35 22.9	+5.2
MBDF	Montbardon	8.95	336	*e*P	Pn	07 35 39.2	+8.1
MBDF				*e*Sn	Sn	07 37 08.5	-3.5
	comp=N,0.4nm,0.3s						
ORIF	Oris-en-Rattie	9.43	333	*e*P	Pn	07 35 43.6	+6.0
LASF	Ste Croix	9.61	323	*e*P	Pn	07 35 47.0	+6.9
LPG	La Plagne	9.65	338	*e*Pn	Pn	07 35 42.5	+1.7
LPL	La Plagne	9.67	338	*e*P	Pn	07 35 48.1	+7.1
VIVF	Saint-Julien-I	9.85	329	*e*Pn	Pn	07 35 45.2	+1.9

*IDC **10** 07:43:38.4±1.1, 36°.47N×12°.08E, h0km, mb3.5/5, mb1 3.6/12, mb1mx3.4/51, mbtmp3.5/12, ML3.5/7, MS3.0/4, Ms1 3.0/4, ms1mx2.5/63, Error ellipse: s-maj=29.5km s-min=17.0km az=152.0*

*LDG **10** 07:43:38.8±0.3, 36°.47N×12°.06E, h10km, Ml3.2/10, Error ellipse: s-maj=8.7km s-min=3.5km az=12.0*

*ROM **10** 07:43:38.7±0.2, 36°.474N±0°.004×11°.804E±0°.004, h38km, ML3.7/25, Error ellipse: s-maj=0.9km s-min=0.5km az=47.0*

*CRAAG **10** 07:43:38.8, 36°.46N×12°.04E, Ml3.7*

ISC 10 07:43:39.4±0.7, 36°.48N±0°.05×12°.04E±0°.04, h10km, n83, σ2°.26/85, mb3.4/5, 1C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPDG	Lampedusa Capo	1.07	153	P	Pn	07 43 59.0	-1.5
MMGO	Monte Magaggia	1.40	32	P	Pn	07 44 02.5	-2.5
CLTB	Caltabellotta	1.44	40	P	Pn	07 44 05.9	+0.3
CLTB				AML	AML		
	comp=E,1995μm,0.5s						
CLTB				AML	AML		
	comp=N,4495μm,0.5s						
CLTB				AML	AML		
	comp=E,3265μm,0.6s						
CLTB				AML	AML		
	comp=N,5855μm,0.8s						
MFNL	Monte Finestre	1.48	28	P	Pn	07 44 05.0	-1.2
FAVR	Favara	1.52	58	P	Pn	07 44 06.6	0.0
CLTA	Licata	1.68	66	P	Pn	07 44 08.0	-0.8
CLTA				AML	AML		
	comp=E,990μm,1.1s						
CLTA				AML	AML		
	comp=N,1752μm,1.1s						
CLTA				AML	AML		
	comp=N,1752μm,1.1s						
CLTA				AML	AML		
	comp=E,990μm,1.1s						
CORL	Corleone	1.73	35	P	Pn	07 44 08.2	-1.4
CORL				AML	AML		
	comp=N,842μm,0.7s						
CORL				AML	AML		
	comp=N,1415μm,1.0s						
CORL				AML	AML		
	comp=E,1175μm,1.5s						
ALJA	Alia	1.86	47	P	Pn	07 44 11.6	+0.2
ALJA				AML	AML		
	comp=E,673μm,0.9s						
ALJA				AML	AML		
	comp=N,642μm,1.1s						
ALJA				AML	AML		
	comp=N,882μm,1.1s						
ALJA				AML	AML		
	comp=E,800μm,1.0s						
MPG	Monte Pellegri	1.98	32	P	Pn	07 44 11.4	-1.5
RESU	Resuttano	1.99	54	P	Pn	07 44 14.4	+1.3
RESU				AML	AML		
	comp=E,568μm,1.1s						
RESU				AML	AML		
	comp=N,755μm,1.3s						
SOLUN	Solunto	2.00	36	P	Pn	07 44 11.9	-1.3
SOLUN				AML	AML		
	comp=E,248μm,1.6s						
SOLUN				AML	AML		
	comp=N,370μm,0.8s						
SOLUN				AML	AML		
	comp=E,356μm,1.3s						
SOLUN				AML	AML		
	comp=N,370μm,0.8s						
WDD	Wied Dalam	2.11	107	P	Pn	07 44 13.5	-1.2
WDD				S	Sn	07 44 38.7	-2.3
PETRA	Petralia Sopra	2.13	50	P	Pn	07 44 15.9	+0.6
PETRA				AML	AML		
	comp=E,572μm,1.4s						
PETRA				AML	AML		
	comp=N,578μm,1.6s						
VAE	Valguarnera	2.14	62	Pn	Pn	07 44 15.7	+0.5
	comp=N,13nm,0.3s,baz=331,slow=8.0,SNR=24						
VAE				Sn	Sn	07 44 39.2	-2.7
	comp=N,15nm,0.3s,baz=343,slow=13,SNR=7.1						
CSLB	Castelbuono	2.17	47	P	Pn	07 44 15.1	-0.4
CSLB				AML	AML		
	comp=N,286μm,0.8s						
CSLB				AML	AML		
	comp=E,242μm,1.0s						
GIB	Gibilmanna	2.18	46	P	Pn	07 44 15.9	0.0
GIB				AML	AML		
	comp=N,1018μm,1.0s						
GIB				AML	AML		
	comp=E,1400μm,0.5s						
HMDC	Modica	2.25	77	P	Pn	07 44 14.9	-1.8
HVZN	Vizzini	2.25	71	P	Pn	07 44 15.6	-1.2
KEST	Kesra	2.31	252	Pn	Pn	07 44 17.8	+0.2
	comp=E,23nm,0.3s,baz=38,slow=6.1,SNR=132						
KEST				Sn	Sn	07 44 45.9	-0.1
	comp=E,34nm,0.3s,baz=265,slow=19,SNR=8.5						
KEST				LR	LR	07 44 54.8	
	comp=E,88nm,20.5s,baz=340,slow=33						
GALF	Gagliano Caste	2.36	58	P	Pn	07 44 19.2	+0.9
GALF				AML	AML		
	comp=N,1090μm,0.5s						
GALF				AML	AML		
	comp=E,976μm,0.7s						
MEU	Monte Lauro	2.40	74	P	Pn	07 44 17.3	-1.5
MEU				S	Sn	07 44 45.6	-2.7
MEU				AML	AML		
	comp=E,880μm,0.4s						
MEU				AML	AML		
	comp=N,1270μm,1.5s						
ECNV	Catenanuova	2.41	62	P	Pn	07 44 19.6	+0.7
ECNV				S	Sn	07 44 49.6	+1.2
ECNV				AML	AML		
	comp=E,993μm,1.6s						
ECNV				AML	AML		
	comp=N,1050μm,1.2s						
TAMR	Tamra	2.42	284	P	Pn	07 44 18.5	-0.5
TAMR	Tamra	2.42	284	AML	AML		
	comp=N,1026μm,0.7s						
TAMR				AML	AML		
	comp=E,1088μm,0.9s						
HLNI	Lentini	2.43	68	⇓P	Pn	07 44 18.2	-0.9
HLNI				S	Sn	07 44 47.5	-1.3
HLNI				AML	AML		
	comp=E,475μm,0.5s						
HLNI				AML	AML		
	comp=N,684μm,0.2s						
HPAC	Pachino	2.48	84	P	Pn	07 44 17.4	-2.3
SSY	Sortino	2.52	74	P	Pn	07 44 19.3	-1.1
SSY				AML	AML		
	comp=E,1006μm,1.1s						
SSY				AML	AML		
	comp=N,1230μm,1.2s						
HAVL	Avola	2.52	78	P	Pn	07 44 18.9	-1.6
HAVL				S	Sn	07 44 49.2	-2.0
HAVL				AML	AML		
	comp=N,872μm,1.3s						
HAVL				AML	AML		
	comp=E,842μm,0.8s						
MSFR	San Fratello	2.56	52	P	Pn	07 44 21.1	+0.2
MSFR				AML	AML		
	comp=E,313μm,1.2s						
MSFR				AML	AML		
	comp=N,484μm,1.0s						
EPZF	Pizzo Felice	2.62	58	P	Pn	07 44 22.6	+0.8
EPZF				AML	AML		
	comp=E,835μm,0.7s						
EPZF				AML	AML		
	comp=N,1295μm,0.6s						
ESLN	Serra La Nave	2.64	62	P	Pn	07 44 22.4	+0.2
ESLN				AML	AML		
	comp=E,1485μm,0.8s						
ESLN				AML	AML		
	comp=N,2060μm,1.1s						
EMSG	Monte Spagnolo	2.68	59	P	Pn	07 44 23.2	+0.5
EMSG				AML	AML		
	comp=E,1205μm,0.6s						
EMSG				AML	AML		
	comp=N,1120μm,0.7s						
MUCR	Ucria	2.74	55	P	Pn	07 44 23.9	+0.3
MUCR				S	Sn	07 44 58.0	+1.2
MUCR				AML	AML		
	comp=N,918μm,0.6s						
MUCR				AML	AML		
	comp=E,736μm,1.0s						
AIO	Antillo	2.95	59	P	Pn	07 44 25.8	-0.5
AIO				AML	AML		
	comp=N,284μm,1.4s						
AIO				AML	AML		
	comp=E,252μm,0.7s						
MCSR	Castroreale	3.01	57	P	Pn	07 44 26.6	-0.5
MCSR				AML	AML		
	comp=N,667μm,0.9s						
MCSR				AML	AML		
	comp=E,509μm,1.1s						
MSRU	Castanea	3.28	56	P	Pn	07 44 30.6	-0.3
MSRU				AML	AML		
	comp=N,212μm,0.4s						
MSRU				AML	AML		
	comp=E,272μm,0.5s						
GMB	Gambarie	3.46	60	P	Pn	07 44 33.2	-0.1
GMB				AML	AML		
	comp=E,1160μm,1.4s						
GMB				AML	AML		
	comp=N,700μm,1.2s						
VSL	Villasalto	3.67	326	AML	AML		
	comp=E,195μm,0.6s						
VSL				AML	AML		
	comp=N,226μm,1.4s						
CMAH	Djebel Manchou	3.73	274	P	Pn	07 44 36.3	-0.7
DGI	Dorgali Grotta	4.28	334	P	Pn	07 44 44.1	-0.5
CKFL	Kef-Lekhel	4.29	270	P	Pn	07 44 45.1	+0.2
CTEI	Djebel Teioual	4.57	266	P	Pn	07 44 49.4	+0.7
DFRA	Djebel Bou Aff	4.97	273	P	Pn	07 44 54.5	+0.4
LATB	Latina	5.06	8	P	Pn	07 44 53.3	-1.9
PTRJ	Pietraroja	5.25	21	P	Pn	07 44 59.0	+1.1
RMP	Rome, Mte Porz	5.35	5	⇑P	Pn	07 44 59.1	-0.1
PGF	Pioggiola	6.50	340	*e*P	Pn	07 45 16.5	+1.4
PGF				*e*Sn	Sn	07 46 22.9	-6.5
	comp=N,34nm,0.5s						
EL6	Elcito	6.89	6	P	Pn	07 45 17.2	-3.2
LMR	La Mourre	8.05	330	*e*Pn	Pn	07 45 35.0	-1.4
LMR				*e*Sn	Sn	07 46 58.8	-8.7
	comp=N,1.6nm,0.4s						
LMR				*e*Sg	Sg	07 47 51.1	-6.7
	comp=N,1.0nm,0.4s						
SBF	Sospel	8.17	336	*e*Pn	Pn	07 45 36.5	-1.6
SBF	Sospel	8.17	336	*e*P	Pn	07 45 40.7	+2.6
SBF				*e*Sn	Sn	07 47 02.2	-8.3
	comp=N,3.1nm,0.3s						
FRF	La Foret Royal	8.19	331	*e*Sn	Sn	07 47 03.9	-7.0
	comp=N,1.8nm,0.3s						
SMRF	Simiane la Rot	8.97	329	*e*P	Pn	07 45 52.3	+3.3
SMRF				*e*Sn	Sn	07 47 22.7	-7.3
	comp=N,0.3nm,0.2s						
MBDF	Montbardon	9.16	336	*e*P	Pn	07 45 54.6	+3.0
MBDF				*e*Sn	Sn	07 47 26.8	-8.0
	comp=N,2.7nm,0.3s						
ORIF	Oris-en-Rattie	9.63	333	*e*P	Pn	07 45 59.8	+1.6
LASF	Ste Croix	9.83	323	*e*Pn	Pn	07 45 58.3	-2.4
LASF	Ste Croix	9.83	323	*e*P	Pn	07 46 02.3	+1.6
LASF				*e*Sn	Sn	07 47 42.1	-9.0
	comp=N,0.2nm,0.2s						
LPG	La Plagne	9.85	338	*e*P	Pn	07 46 05.7	+4.4
LPG				*e*Sn	Sn	07 47 44.1	-8.0
	comp=N,0.5nm,0.3s						
LPL	La Plagne	9.87	338	*e*Pn	Pn	07 45 59.6	-1.9
LPL	La Plagne	9.87	338	*e*P	Pn	07 46 05.5	+4.0
VIVF	Saint-Julien-I	10.06	329	*e*P	Pn	07 46 06.4	+2.5
MTLF	Montolieu	10.19	315	*e*Pn	Pn	07 46 03.1	-2.5
MTLF				*e*Sn	Sn	07 47 51.2	-8.7
	comp=N,1.1nm,0.4s						
DAVOX	Davos/Dischmat	10.42	352	Pn	Pn	07 46 13.2	+4.3
	comp=N,1.0nm,0.3s,baz=172,slow=12,SNR=20						
DAVOX				Sn	Sn	07 48 09.7	+3.9
	comp=N,0.2nm,0.3s,baz=335,slow=23,SNR=1.7						
IDI	Anoyia	10.49	93	Pn	Pn	07 46 08.1	-1.8
	comp=N,0.1nm,0.3s,baz=236,slow=14,SNR=1.5						
IDI				Sn	Sn	07 47 58.9	-8.7
	comp=N,0.2nm,0.3s,baz=38,slow=17,SNR=1.5						
SQTA	Sankt Quirin	10.75	357	*e*Pn	Pn	07 46 19.6	+6.2
	comp=N,1.6nm,0.5s						
WTTA	Wattenberg	10.78	359	*e*Pn	Pn	07 46 20.4	+6.5
	comp=N,0.5nm,0.3s						
MOTA	Moosalm	10.88	357	*e*Pn	Pn	07 46 22.9	+7.7
	comp=N,3.5nm,0.7s						
DAVA	Damuels	10.91	352	*i* Pn	Pn	07 46 23.1	+7.3
	comp=N,3.9nm,0.5s						
RETA	Reutte	11.04	355	*i* Pn	Pn	07 46 24.0	+6.6
	comp=N,2.3nm,0.5s						
EPF	Esparros	11.13	310	*e*P	Pn	07 46 20.0	+1.5
SJPF	Ste Jean	12.16	307	*e*Pn	Pn	07 46 30.2	-2.4
GERES	GERESS Array B	12.42	5	Pn	Pn	07 46 40.8	+4.6
	comp=N,0.1nm,0.3s,baz=175,slow=12,SNR=1.6						
GERES				LR	LR	07 51 50.3	
	comp=N,61nm,19.2s,baz=206,slow=40						
ESDC	Sonseca Array	13.01	289	Pn	Pn	07 46 46.5	+2.2
	comp=N,0.3nm,0.3s,baz=94,slow=14,SNR=21						
VRAC	Vranov	13.24	13	LR	LR	07 52 03.1	
	comp=N,54nm,18.8s,baz=216,slow=38						
MDT	Midelt	14.19	260	Pn	Pn	07 47 01.1	+0.6
	comp=N,0.2nm,0.3s,baz=171,slow=8.6,SNR=9.5						
BRTR	Keskin Array B	17.30	73	P	P	07 47 42.3	-0.2
	comp=N,0.1nm,0.3s,baz=276,slow=13,SNR=2.7						
AKASG	Malin Array Be	18.82	36	P	P	07 47 59.3	+0.2
	comp=N,0.2nm,0.3s,baz=231,slow=9.2,SNR=2.4						
NOA	NORSAR Array B	24.58	359	P	P	07 49 00.1	+0.7
	comp=N,0.5nm,0.7s,baz=265,slow=15,SNR=3.4						
TORD	Torodi Ar. Bea	25.02	204	P	P	07 49 04.6	+0.9
	comp=N,0.6nm,0.7s,baz=26,slow=8.6,SNR=4.1						
FINES	FINESS Array B	26.51	15	P	P	07 49 16.6	-0.1
	comp=N,2.1nm,0.8s,baz=225,slow=9.4,SNR=2.4						
SFJD	Kangerlussuaq	46.38	331	LR	LR	08 10 08.8	
	comp=N,56nm,19.1s,baz=159,slow=34						
MKAR	Makanchi Array	51.88	55	P	P	07 52 48.2	+0.3
	comp=N,0.5nm,0.8s,baz=285,slow=5.6,SNR=6.3						
YKA	Yellowknife Ar	72.48	337	P	P	07 55 06.5	+0.7
	comp=N,0.2nm,0.7s,baz=49,slow=6.3,SNR=2.8						

*IDC **10** 08:11:08.1±0.8, 7°.30N×34°.57W, h0km, mb3.9/14, mb1 4.1/15, mb1mx4.0/34, mbtmp3.9/15, ML3.4/1, MS3.7/48, Ms1 3.7/48, ms1mx3.6/83, Error ellipse: s-maj=26.1km s-min=16.7km az=159.0*

*NEIC **10** 08:11:08.9±1.9, 7°.28N±0°.06×34°.32W±0°.09, h10km±1km, mb4.7/24, Error ellipse: s-maj=17.9km s-min=5.2km az=120.0*

ISC 10 08:11:08.6±0.4, 7°.18N±0°.06×34°.41W±0°.07, h10km, n107, σ1°.20/66, mb4.2/24, MS3.8/47, 1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBMO	Morrinhos-CE	11.84	209	*e*P	Pn	08 13 58.3	+0.6
NBCL	Cascavel-CE	11.97	199	*e*P	Pn	08 14 01.3	+1.8
RCBR	Riachuelo	13.00	187	Pn	Pn	08 14 15.5	+1.9
RCBR				Sn	Sn	08 16 35.4	-3.1
SACV	Santiago Islan	13.12	53	Pn	Pn	08 14 13.7	-1.5
SACV				Sn	Sn	08 16 27.8	-14
NBPB	Pedra_Branca-C	13.65	202	*e*P	Pn	08 14 23.5	+1.1
ROSB	Rosrio	13.94	224	*e*P	Pn	08 14 28.1	+1.8
NBMA	Muriti-CE	15.09	197	*e*P	Pn	08 14 44.1	+2.1
TMAB	Tom-Au,PA,Br	16.63	236	*e*P	P	08 15 03.6	-0.8
NBAN	Anadia - AL	16.84	186	*e*P	Pn	08 15 05.7	+1.0
MDP	Montagnes des	18.25	265	P	Pn	08 15 22.2	+0.1
	0.1nm,0.3s,baz=90,slow=13,SNR=1.6						
MDP				LR	LR	08 20 52.4	
	comp=Z,331nm,21.7s,baz=58,slow=32						
MBO	M'Bour	18.57	66	P	P	08 15 22.9	-3.1
MBO				IAmb	IAmb	08 15 45.6	
	comp=Z,67nm,1.0s						
MALB	Monte Alegre	21.75	246	*e*P	P	08 16 01.2	+0.7
SDBA	SAO DESIDERIO	22.08	208	*e*P	P	08 16 05.8	+1.7
ITTB	Itaituba	24.18	242	*e*P	P	08 16 25.3	-0.1
H10N3	ASCENSION HYDR	24.83	127	T	T	08 42 55.6	
	baz=306,slow=75,SNR=19						
H10N2	ASCENSION HYDR	24.83	127	T	T	08 42 52.2	
	baz=306,slow=75,SNR=19						
H10N1	ASCENSION HYDR	24.85	127	T	T	08 42 57.0	
	baz=306,slow=75,SNR=30						
ASCN	Ascension	25.00	127	P	P	08 16 31.6	-1.3
NPGB	Novo Progresso	25.22	236	*e*P	P	08 16 34.5	-0.4
SNDB	Serra Nova Dou	25.38	222	*e*P	P	08 16 38.0	+1.7
BDFB	Brasilia	26.38	211	P	P	08 16 46.5	+1.1
	comp=Z,2.5nm,0.8s,baz=43,slow=4.6,SNR=4.2						
BDFB				LR	LR	08 26 30.9	
	comp=Z,269nm,19.2s,baz=11,slow=35						
BDFB	Brasilia	26.38	211	P	P	08 16 47.0	+1.5
BOAV	Boa Vista	26.45	261	*e*P	P	08 16 46.5	+0.5
BOAV	Boa Vista	26.45	261	P	P	08 16 46.1	+0.1
DBIC	Dimbokro	29.34	89	P	P	08 17 13.8	+1.9
	comp=Z,3.3nm,0.8s,baz=289,slow=7.3,SNR=4.6						
DBIC				LR	LR	08 26 39.9	
	comp=Z,166nm,18.9s,baz=306,slow=32						
DBIC	Dimbokro	29.34	89	P	P	08 17 10.9	-1.0
BIRV	Birongo	31.64	278	P	P	08 17 32.0	-0.3
BIRV				IAmb	IAmb	08 17 33.6	
	comp=Z,18nm,1.3s						
RCLB	Rio Claro- Sao	32.10	203	*e*P	P	08 17 36.5	+0.3
MTP	Monte Pirata	32.21	293	P	P	08 17 36.7	-0.5
MTP				IAmb	IAmb	08 17 39.5	
	comp=Z,8.5nm,1.0s						
SJG	San Juan	32.76	292	P	P	08 17 41.8	-0.3
SJG				IAmb	IAmb	08 17 44.1	
	comp=Z,11nm,1.1s						
EMPR	Esperanza - Ma	33.21	293	P	P	08 17 45.5	-0.4
CRPR	Cabo Rojo, PR	33.62	292	P	P	08 17 49.8	+0.3
PRSN	Puerto Rico Se	33.70	292	P	P	08 17 49.1	-1.2
FRTB	Fartura	33.76	206	*e*P	P	08 17 51.4	+0.7
SIV	San Ignacio	35.03	229	LR	LR	08 31 47.1	
	comp=Z,329nm,18.8s,baz=90,slow=35						
SDV	Santo Domingo	35.90	275	LR	LR	08 32 05.5	
	comp=Z,88nm,20.2s,baz=105,slow=35						
SDV	Santo Domingo	35.90	275	P	P	08 18 08.3	-1.2
TORD	Torodi Ar. Bea	36.00	78	P	P	08 18 12.3	+2.1
	comp=Z,2.6nm,0.7s,baz=272,slow=7.9,SNR=9.5						
TBTG	Tabatinga, AM	37.19	253	P	P	08 18 19.4	-0.9
TBTG				IAmb	IAmb	08 18 42.3	
	comp=Z,5.9nm,0.5s						
MDT	Midelt	37.63	43	LR	LR	08 32 31.4	
	comp=Z,105nm,20.0s,baz=247,slow=34						
ROSC	El Rosal	39.75	269	LR	LR	08 34 06.8	
	comp=Z,221nm,21.2s,baz=109,slow=35						
CPUP	Villa Florida	40.05	213	LR	LR	08 34 22.3	
	comp=Z,97nm,18.8s,baz=42,slow=35						
LPAZ	La Paz	40.71	235	P	P	08 18 51.1	+0.6
	comp=Z,1.6nm,0.8s,baz=69,slow=8.6,SNR=5.6						
LPAZ	La Paz	40.71	235	*e*P	P	08 18 50.4	-0.1
LPAZ	La Paz	40.71	235	P	P	08 18 50.6	0.0
CZSB	Cruzeiro do Su	40.96	250	*e*P	P	08 18 51.2	-0.7
CZSB	Cruzeiro do Su	40.96	250	P	P	08 18 51.2	-0.7
GTBY	Guantanamo Bay	41.43	292	P	P	08 18 54.8	-0.9
ESDC	Sonseca Array	42.34	35	LR	LR	08 36 26.4	
	comp=Z,134nm,18.1s,baz=244,slow=36						
LVC	Limon Verde	44.91	228	LR	LR	08 38 38.0	
	comp=Z,144nm,18.6s,baz=16,slow=37						
ATAH	Atahualpa	46.12	253	LR	LR	08 40 05.9	
	comp=Z,154nm,18.1s,baz=78,slow=38						
NNA	Nana	46.29	246	LR	LR	08 38 38.9	
	comp=Z,139nm,20.2s,baz=38,slow=36						
KEST	Kesra	49.06	48	LR	LR	08 40 31.9	
	comp=Z,144nm,19.5s,baz=239,slow=36						
JTS	Las Juntas de	50.02	277	LR	LR	08 42 56.6	
	comp=Z,43nm,18.4s,slow=38						
BOAB	BOACO BROADBAN	50.72	280	P	P	08 20 09.4	+0.3
BOAB				IAmb	IAmb	08 20 33.4	
	comp=Z,14nm,1.0s						
MEDO	Medina	52.67	320	P	P	08 20 23.3	+0.1
MEDO				IAmb	IAmb	08 20 41.0	
	comp=Z,15nm,0.9s						
SADO	Sadowa	53.90	322	LR	LR	08 38 39.2	
	comp=Z,49nm,19.6s,baz=132,slow=31						
EKA	Eskdalemuir Ar	54.09	21	LR	LR	08 38 46.9	
	comp=Z,54nm,19.9s,baz=196,slow=31						
SCHQ	Schefferville	54.14	337	P	P	08 20 33.3	-0.5
	comp=Z,2.8nm,1.1s,baz=148,slow=9.5,SNR=1.9						
SCHQ				LR	LR	08 40 54.1	
	comp=Z,66nm,18.4s,baz=86,slow=33						
SCHQ	Schefferville	54.14	337	P	P	08 20 33.8	0.0
SCHQ				IAmb	IAmb	08 20 55.9	
	comp=Z,9.5nm,1.4s						
DAVOX	Davos/Dischmat	54.67	36	LR	LR	08 42 35.4	
	comp=Z,113nm,18.1s,baz=256,slow=34						
STAL	STALIGIAL	56.09

comp=Z,48nm,21.3s,baz=230,slow=32
HFS Hagfors 63.95 24 LR LR 08 46 39.0
comp=Z,44nm,18.4s,baz=256,slow=33
ECSD EROS Data Cent 65.11 315 P **P** **08 21 49.7 -0.1**
ECSD IAmb IAmb 08 21 51.3
comp=Z,5.0nm,1.2s
SUMG Summit 65.38 359 *i* P **P** **08 21 53.0 +1.6**
MBAR Mbarara 65.44 94 LR LR 08 46 41.1
comp=Z,60nm,21.8s,baz=262,slow=32
SUR Sutherland 65.62 130 LR LR 08 44 45.5
comp=Z,60nm,21.4s,baz=302,slow=31
LSZ Lusaka 65.90 110 LR LR 08 46 52.8
comp=Z,63nm,18.9s,baz=7.0,slow=32
ULM Lac du Bonnet 66.46 322 LR LR 08 46 36.0
comp=Z,60nm,19.2s,baz=126,slow=32
LBTB Lobatse 66.56 121 LR LR 08 46 13.2
comp=Z,44nm,19.0s,baz=278,slow=32
BOSA Boshof 67.57 125 LR LR 08 46 58.8
comp=Z,62nm,18.2s,baz=299,slow=32
AKASG Malin Array Be 67.91 38 P **P** **08 22 09.1 +1.6**
comp=Z,0.4nm,0.4s,baz=254,slow=6.7,SNR=4.1
AKASG LR LR 08 50 55.9
comp=Z,18nm,19.4s,baz=262,slow=35
TXAR Lajitas Array 68.45 299 P **P** **08 22 11.9 +0.5**
comp=Z,0.4nm,0.6s,baz=109,slow=6.7,SNR=6.2
TXAR LR LR 08 52 47.7
comp=Z,33nm,18.0s,baz=47,slow=37
TXAR Lajitas Array 68.45 299 P **P** **08 22 11.0 -0.4**
EIL Elat 68.56 61 LR LR 08 52 55.4
comp=Z,123nm,19.6s,baz=276,slow=36
BRTR Keskin Array B 68.59 50 P **P** **08 22 14.3 +2.2**
comp=Z,0.8nm,0.8s,baz=263,slow=5.7,SNR=4.7
BRTR LR LR 08 52 25.2
comp=Z,46nm,21.8s,baz=272,slow=36
BRTR Keskin Array B 68.59 50 P **P** **08 22 11.8 -0.4**
FINES FINESS Array B 69.90 26 LR LR 08 51 16.3
comp=Z,57nm,18.9s,baz=250,slow=34
ANMO Albuquerque 71.22 304 LR LR 08 51 52.1
comp=Z,33nm,18.1s,baz=90,slow=34
ARCES ARCESS Array B 73.08 19 P **P** **08 22 38.9 +0.2**
comp=Z,1.3nm,0.6s,baz=188,slow=2.5,SNR=10
ARCES ARCESS Array B 73.08 19 P **P** **08 22 39.4 +0.7**
LPIG La Paz 74.26 293 LR LR 08 54 58.5
comp=Z,21nm,18.3s,baz=14,slow=36
PDAR Pinedale Array 74.26 312 P **P** **08 22 46.9 +0.4**
comp=Z,0.7nm,0.8s,baz=101,slow=6.3,SNR=5.5
PDAR LR LR 08 52 51.3
comp=Z,42nm,18.7s,baz=85,slow=34
PDAR Pinedale Array 74.26 312 P **P** **08 22 45.7 -0.8**
KBZ Khabaz 75.90 47 LR LR 08 58 55.2
comp=Z,13nm,18.2s,baz=266,slow=38
ATD Arta Tunnel 76.16 80 LR LR 08 58 03.7
comp=Z,29nm,18.7s,baz=40,slow=37
EUNU Eureka 76.80 352 P **P** **08 22 59.2 -0.9**
EUNU IAmb IAmb 08 23 03.4
comp=Z,4.2nm,0.9s
EDM Edmonton 77.67 323 P **P** **08 23 06.0 +0.5**
YKA Yellowknife Ar 79.14 332 P **P** **08 23 12.6 -0.7**
comp=Z,0.9nm,0.6s,baz=101,slow=5.8,SNR=23
PFO Pinyon Flats O 79.46 303 LR LR 08 56 58.7
comp=Z,42nm,18.7s,baz=58,slow=35
NEW Newport 79.84 318 LR LR 08 55 56.0
comp=Z,75nm,18.8s,baz=93,slow=34
RPN Rapa Nui 80.00 241 LR LR 08 56 35.4
comp=Z,42nm,18.6s,baz=54,slow=34
KIRV Kirov 80.70 32 LR LR 08 57 54.4
comp=Z,27nm,18.8s,baz=258,slow=35
NVAR Mina Array Bea 80.81 308 P **P** **08 23 22.8 -0.4**
comp=Z,0.2nm,0.7s,baz=103,slow=6.6,SNR=2.7
ARU Arti 85.72 34 LR LR 09 01 33.5
comp=Z,42nm,18.4s,baz=150,slow=35
WSAR Wadi Sarin 89.98 67 LR LR 09 06 36.5
comp=Z,101nm,19.0s,baz=296,slow=37
SYO Syowa Base 90.99 160⇓ *eP* **P** **08 24 10.6 -2.0**
AAK Ala-Archa 98.83 45 LR LR 09 11 22.0
comp=Z,29nm,20.9s,baz=296,slow=37

IDC 10 08:48:46.0±30.0, 22°.98S×173°.35W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/28, mbtmp3.9/4, Error ellipse: s-maj=554.3km s-min=166.4km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.60**	**267**	P	P	08 56 03.1	+0.4
	1.6nm,0.3s,baz=98,slow=9.5,SNR=1.5						
STKA	**Stephens Creek**	**40.72**	**247**	P	P	08 56 28.1	-0.6
	0.6nm,0.4s,baz=84,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**48.20**	**258**	P	P	08 57 28.4	-0.2
	0.2nm,0.4s,baz=96,slow=8.9,SNR=12						
WRA	**Warramunga Arr**	**48.57**	**263**	P	P	08 57 31.5	0.0
	1.4nm,0.6s,baz=102,slow=8.1,SNR=26						

*TRN **10** 09:04:07.4, 19°.04N×65°.42W, h86km, M3.5(RSPR)*
*RSPR **10** 09:04:08.8, 18°.99N×65°.41W, h98km±4km, MD3.5/16*
*NEIC **10** 09:04:09.0±1.4, 19°.2N±0°.2×65°.45W±0°.04, h57km±38km, Error ellipse: s-maj=22.3km s-min=5.7km az=179.0*
ISC 10 09:04:10.7±1.7, 19°.0N±0°.1×65°.47W±0°.04, h68km±24km, n64, σ0°.94/78, 26C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**0.75**	**167⇑**	*eP*	**Pn**	**09 04 25.3**	**-0.7**
CUPR	**Culebra, Puert**	**0.75**	**167**	*eS*	**Sn**	**09 04 38.1**	**+0.7**
CUPR	**Culebra, Puert**	**0.75**	**167**		**Pn**	**09 04 25.3**	**-0.7**
CUPR					**Sn**	**09 04 38.1**	**+0.7**
STVI	**Saint Thomas**	**0.84**	**145⇑**	*eP*	**Pn**	**09 04 26.4**	**-0.7**
STVI	**Saint Thomas**	**0.84**	**145⇑**	*eP*	**Pn**	**09 04 26.4**	**-0.7**
STVI				*eS*	**Sn**	**09 04 39.8**	**+0.6**
STVI	**Saint Thomas**	**0.84**	**145**		**Pn**	**09 04 26.5**	**-0.7**
STVI	**Saint Thomas**	**0.84**	**145**		**Sn**	**09 04 39.8**	**+0.6**
CBYP	**Canovanas**	**0.85**	**206⇑**	*eP*	**Pn**	**09 04 26.1**	**-1.3**
CBYP	**Canovanas**	**0.85**	**206⇑**	*eP*	**Pn**	**09 04 26.1**	**-1.3**
CBYP				*eS*	**Sn**	**09 04 40.5**	**+0.9**
CBYP	**Canovanas**	**0.85**	**206**		**Pn**	**09 04 25.9**	**-1.4**
CBYP	**Canovanas**	**0.85**	**206**		**Sn**	**09 04 40.5**	**+0.9**
GCPR	**Guaynabo City**	**0.93**	**219**		**Pn**	**09 04 26.8**	**-1.5**
GCPR	**Guaynabo City**	**0.93**	**219**		**Sn**	**09 04 42.2**	**+0.9**
MTP	**Monte Pirata**	**0.94**	**185⇑**	*eP*	**Pn**	**09 04 28.1**	**-0.3**
MTP	**Monte Pirata**	**0.94**	**185⇑**	*eP*	**Pn**	**09 04 28.1**	**-0.3**
MTP				*eS*	**Sn**	**09 04 42.5**	**+1.0**
MTP	**Monte Pirata**	**0.94**	**185**		**Pn**	**09 04 28.3**	**-0.1**
MTP	**Monte Pirata**	**0.94**	**185**		**Sn**	**09 04 42.5**	**+1.0**
HUMP	**Col San Antoni**	**0.96**	**202⇓**	*eP*	**Pn**	**09 04 27.6**	**-1.1**
HUMP	**Col San Antoni**	**0.96**	**202⇓**	*eP*	**Pn**	**09 04 27.6**	**-1.1**
HUMP				*eS*	**Sn**	**09 04 42.9**	**+0.9**
HUMP	**Col San Antoni**	**0.96**	**202**		**Pn**	**09 04 27.5**	**-1.1**
HUMP	**Col San Antoni**	**0.96**	**202**		**Sn**	**09 04 42.9**	**+0.9**
TBVI	**Tortola**	**1.01**	**127⇑**	*eP*	**Pn**	**09 04 28.3**	**-1.0**
TBVI	**Tortola**	**1.01**	**127⇑**	*eP*	**Pn**	**09 04 28.3**	**-1.0**
TBVI				*eS*	**Sn**	**09 04 43.0**	**-0.1**
SJG	**San Juan**	**1.13**	**215**		**Pn**	**09 04 29.9**	**-0.8**
SJG			IAML			09 04 52.6	
	176nm,0.3s						
SJG			IAML			09 04 57.2	
	203nm,0.4s						
PDPR	**Patillas Dam,**	**1.15**	**208**		**Pn**	**09 04 30.3**	**-0.7**
PDPR			IAML			09 04 55.1	
	comp=E,210nm,0.7s						
EMPR	**Esperanza - Ma**	**1.15**	**241⇑**	*eP*	**Pn**	**09 04 30.6**	**-0.4**
EMPR	**Esperanza - Ma**	**1.15**	**241**	*eS*	**Sn**	**09 04 48.4**	**+2.2**
EMPR	**Esperanza - Ma**	**1.15**	**241**		**Pn**	**09 04 30.1**	**-0.9**
EMPR			IAML			09 04 51.8	
	comp=N,342nm,0.7s						
AOPR	**Arecibo Observ**	**1.40**	**241⇑**	*eP*	**Pn**	**09 04 32.9**	**-1.5**
AOPR	**Arecibo Observ**	**1.40**	**241⇑**	*eP*	**Pn**	**09 04 32.9**	**-1.5**
AOPR				*eS*	**Sn**	**09 04 53.9**	**+1.8**
AOPR	**Arecibo Observ**	**1.40**	**241**		**Pn**	**09 04 32.7**	**-1.7**
AOPR	**Arecibo Observ**	**1.40**	**241**		**Sn**	**09 04 53.9**	**+1.8**
UUPR	**Utuado, UPR, P**	**1.42**	**237⇑**	*eP*	**Pn**	**09 04 33.4**	**-1.2**
UUPR	**Utuado, UPR, P**	**1.42**	**237**	*eS*	**Sn**	**09 04 53.4**	**+0.8**
UUPR	**Utuado, UPR, P**	**1.42**	**237**		**Pn**	**09 04 33.4**	**-1.2**
UUPR					**Sn**	**09 04 53.4**	**+0.8**
CELP	**Cerrillos**	**1.43**	**228⇑**	*eP*	**Pn**	**09 04 33.9**	**-0.8**
CELP	**Cerrillos**	**1.43**	**228⇑**	*eP*	**Pn**	**09 04 33.9**	**-0.8**
CELP				*eS*	**Sn**	**09 04 53.4**	**+0.7**
CELP	**Cerrillos**	**1.43**	**228**		**Pn**	**09 04 33.9**	**-0.8**
CELP					**Sn**	**09 04 53.4**	**+0.7**
CELP	**Cerrillos**	**1.43**	**228**	IAML		09 05 00.1	
	comp=N,149nm,0.5s						
CELP			IAML			09 05 01.4	
	comp=E,127nm,0.5s						
OBIP	**Obispado Ponce**	**1.47**	**228⇓**	*eP*	**Pn**	**09 04 34.4**	**-0.8**
OBIP	**Obispado Ponce**	**1.47**	**228⇓**	*eP*	**Pn**	**09 04 34.4**	**-0.8**
OBIP				*eS*	**Sn**	**09 04 54.4**	**+0.8**
OBIP	**Obispado Ponce**	**1.47**	**228**		**Pn**	**09 04 34.4**	**-0.8**
OBIP			IAML			09 05 01.6	
	comp=N,122nm,0.4s						
OBIP	**Obispado Ponce**	**1.47**	**228**		**Sn**	**09 04 54.4**	**+0.8**
AGPR	**Aguadilla, PR**	**1.66**	**250⇓**	*eP*	**Pn**	**09 04 37.1**	**-0.6**
AGPR	**Aguadilla, PR**	**1.66**	**250⇓**	*eP*	**Pn**	**09 04 37.1**	**-0.6**
AGPR				*eS*	**Sn**	**09 04 59.4**	**+1.2**
AGPR	**Aguadilla, PR**	**1.66**	**250**	Pn	**Pn**	**09 04 37.8**	**0.0**
AGPR			IAML			09 05 07.7	
	comp=N,160nm,0.7s						
AGPR	**Aguadilla, PR**	**1.66**	**250**		**Sn**	**09 04 59.4**	**+1.2**
GBPR	**Guanica, Bosqu**	**1.71**	**232⇑**	*eP*	**Pn**	**09 04 38.0**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.71**	**232⇑**	*eP*	**Pn**	**09 04 38.0**	**-0.4**
LSP	**Las Mesas**	**1.76**	**241⇑**	*eP*	**Pn**	**09 04 38.6**	**-0.5**
LSP	**Las Mesas**	**1.76**	**241⇑**	*eP*	**Pn**	**09 04 38.6**	**-0.5**
LSP				*eS*	**Sn**	**09 05 00.6**	**0.0**
PRSN	**Puerto Rico Se**	**1.79**	**243**		**Pn**	**09 04 39.5**	**0.0**
MLPR	**Magueyes Islan**	**1.84**	**235⇑**	*eP*	**Pn**	**09 04 38.6**	**-1.5**
MLPR	**Magueyes Islan**	**1.84**	**235**	*eS*	**Sn**	**09 05 02.1**	**-0.4**
MLPR	**Magueyes Islan**	**1.84**	**235**		**Pn**	**09 04 39.6**	**-0.5**
MLPR	**Magueyes Islan**	**1.84**	**235**		**Sn**	**09 05 02.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.87**	**237⇑**	*eP*	**Pn**	**09 04 39.8**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.87**	**237⇑**	*eP*	**Pn**	**09 04 39.8**	**-0.7**
CRPR				*eS*	**Sn**	**09 05 03.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.87**	**237**		**Pn**	**09 04 40.2**	**-0.3**
CRPR			IAML			09 05 22.5	
	comp=E,71nm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.87**	**237**		**Sn**	**09 05 03.4**	**+0.2**
IDE	**Isla Desecheo**	**2.01**	**251⇑**	*eP*	**Pn**	**09 04 41.2**	**-1.3**
IDE	**Isla Desecheo**	**2.01**	**251⇑**	*eP*	**Pn**	**09 04 41.2**	**-1.3**
IDE				*eS*	**Sn**	**09 05 06.5**	**-0.2**
SMRT	**St. Maarten**	**2.47**	**113**	Pn	**Pn**	**09 04 48.9**	**+0.1**
SMRT			IAML			09 05 31.1	
	comp=N,75nm,0.3s						
SMRT			IAML			09 05 35.9	
	comp=E,99nm,0.5s						
SDDR	**Presa de Saban**	**5.51**	**270**	Pn	**Pn**	**09 05 30.2**	**-0.1**

TRN 10 09:08:01.2, 18°.26N×62°.59W, h14km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.51**	**246**	*eP*	Pn	09 08 14.0	-0.1
SMRT				*eS*	Sn	09 08 21.8	-0.8
SEUS	**St. Eustatius**	**0.85**	**206**	*eP*	Pn	09 08 19.8	+1.0
SEUS				*eS*	Sn	09 08 34.5	+3.4
SABA	**Saba**	**0.89**	**224**	*eP*	Pn	09 08 20.4	+1.0
SABA				*eS*	Sn	09 08 35.7	+3.6
ANWB	**Willy Bob**	**0.96**	**128**	*eP*	Pn	09 08 22.0	+1.6
ANWB				*eS*	Sn	09 08 36.3	+2.4
SKOC	**St. Kitts, UWI**	**0.97**	**188**	*eP*	Pn	09 08 23.0	+2.5
SKOC				*eS*	Sn	09 08 37.5	+3.4
NVDO	**Nevis, Disaste**	**1.14**	**181**	*eP*	Pg	09 08 25.1	+1.9
NVDO				*eS*	Sn	09 08 41.8	+3.6
ANBD	**Bethesda, Anti**	**1.44**	**147**	*eP*	Pg	09 08 29.3	+0.4
ANBD				*eS*	Sg	09 08 49.2	+1.6

*IDC **10** 09:09:10.2±0.5, 6°.86S×154°.59E, h0km, mb4.6/16, mb1 4.7/18, mb1mx4.6/30, mbtmp4.6/18, ML3.0/2, MS3.9/44, Ms1 3.9/44, ms1mx3.8/64, Error ellipse: s-maj=16.4km s-min=15.0km az=167.0*
*NEIC **10** 09:09:13.1±2.4, 6°.79S±0°.08×154°.53E±0°.07, h10km±1km, mb4.8/53, Error ellipse: s-maj=14.0km s-min=10.9km az=39.0*
*GCMT **10** 09:09:18.1±0.3, 7°.07S±0°.03×154°.53E±0°.03, h22km±1km, MW4.9/73, Moment Tensor Solution. s29,c31; s73,c97; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.21±.19; $M_{\theta\theta}$-1.65±.11; $M_{\phi\phi}$-1.56±.12; $M_{r\theta}$0.81±.18; $M_{\theta\phi}$0.69±.07; $M_{\phi r}$-1.50±.19; Best double couple: $M_0$3.23000×10^16 NP1:ϕ_s310.00000°, δ30.00000°, λ80.00000°. NP2: ϕ_s142.00000°, δ61.00000°, λ96.00000°. Principal axes: T 3.7080, Plg74.0000°, Azm67.0000°; N -0.9560, Plg5.0000°, Azm319.0000°; P -2.7520, Plg16.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **10** 09:09:19.8±0.5, 7°.5±3°.×15°.4E±°, h65km±5km, M4.6/24, mb4.7/24, mB4.8/7, MLv5.0/3, Mw(mB)4.0/7, MwMwp5.1/1, Mwp5.3/1*
ISC 10 09:09:16.4±0.3, 6°.86S±0°.06×154°.61E±0°.05, h39km, n181, σ1°.14/163, mb4.8/70, MS3.9/47, 2C-2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.60**	**317**		**Pn**	**09 10 09.1**	**-0.5**
HNR	**Honiara**	**5.87**	**116**	Pn	**Pn**	**09 10 40.3**	**-0.6**
	3.9nm,0.3s,baz=178,slow=8.8,SNR=2.2						
HNR					**Sn**	**09 11 46.1**	**-0.9**
	8.7nm,0.3s,baz=98,slow=7.6,SNR=5.4						
HNR				LR	LR	09 13 10.3	
	comp=Z,2μm,18.2s,baz=276,slow=41						
HNR	**Honiara**	**5.87**	**116**	Pn	**Pn**	**09 10 44.0**	**+3.1**
PMG	**Port Moresby**	**7.80**	**251**	Pn	**Pn**	**09 11 06.6**	**-0.8**
	2.7nm,0.3s,baz=65,slow=9.5,SNR=12						
PMG					**Sn**	**09 12 36.1**	**+1.7**
	2.9nm,0.3s,baz=79,slow=21,SNR=15						
PMG				LR	LR	09 13 50.5	
	comp=Z,772nm,20.7s,baz=40,slow=36						
PMG	**Port Moresby**	**7.80**	**251**	Pn	**Pn**	**09 11 07.7**	**+0.4**
MANU	**Manus Island**	**8.66**	**303**		**Pn**	**09 11 18.7**	**-0.5**
COEN	**Coen**	**13.27**	**237**	Pn	**Pn**	**09 12 22.8**	**+0.4**
PATS	**Pohnpei**	**14.10**	**15**	Pn	**Pn**	**09 12 31.4**	**-2.1**
SANVU	**Saraoutou**	**15.01**	**126**		**Pn**	**09 12 48.2**	**+2.3**
SANVU				IAmb	IAmb	09 12 59.8	
	comp=Z,39nm,1.0s						
CTA	**Charters Tower**	**15.45**	**211**	Pn	**P**	**09 12 54.4**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=35,slow=16,SNR=15						
CTAO	**Charters Tower**	**15.45**	**211**		**Pn**	**09 12 51.7**	**0.0**
EIDS	**Eidsvold**	**18.72**	**190**	P	**P**	**09 13 31.9**	**+0.1**
DZM	**Mont Dzumac**	**18.96**	**144**	P	**Pn**	**09 13 36.6**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=302,slow=9.9,SNR=13						
DZM	**Mont Dzumac**	**18.96**	**144**	*eP*	**Pn**	**09 13 35.8**	**+0.4**
	comp=Z,24nm,0.7s						
DZM				*e*LR	LR	09 18 08.4	
	comp=Z,355nm,21.2s						
DZM	**Mont Dzumac**	**18.96**	**144**	P	**Pn**	**09 13 36.2**	**+0.8**
OUENC	**Ouen Island, N**	**19.46**	**144**	P	**Pn**	**09 13 41.3**	**0.0**
GUMO	**Guam**	**22.50**	**335**	LR	LR	09 22 55.0	
	comp=Z,88nm,18.4s,baz=150,slow=37						
FAKI	**Fak Fak**	**22.61**	**279**	P	**P**	**09 14 14.2**	**+0.1**
FAKI				IAmb	IAmb	09 14 40.2	
	comp=Z,37nm,1.1s						
SAUI	**Saumlaki**	**23.14**	**266**	P	**P**	**09 14 18.0**	**-1.5**
WR0	**Warramunga Arr**	**23.43**	**234**	P	**P**	**09 14 21.0**	**-1.2**
WR0				IAmb	IAmb	09 14 34.4	
	comp=Z,29nm,0.9s						
WB0	**Warramunga Arr**	**23.45**	**235**	P	**P**	**09 14 21.4**	**-1.1**
WB0				IAmb	IAmb	09 14 34.0	
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**23.57**	**235**	P	**P**	**09 14 22.0**	**-1.6**
WRAB				IAmb	IAmb	09 14 35.1	
	comp=Z,27nm,1.1s						
WB2	**Warramunga Arr**	**23.57**	**235**	P	**P**	**09 14 22.2**	**-1.5**
WB2				IAmb	IAmb	09 14 35.3	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**23.58**	**235**	P	**P**	**09 14 22.0**	**-1.8**
	comp=Z,15nm,0.9s,baz=58,slow=9.6,SNR=85						
WRA				PcP	**PcP**	**09 18 09.1**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=50,slow=2.2,SNR=4.1						
WRA				LR	LR	09 23 10.4	
	comp=Z,121nm,19.1s,baz=68,slow=36						
WRA	**Warramunga Arr**	**23.58**	**235**	P	**P**	**09 14 21.8**	**-2.0**
ARMA	**Armidale**	**23.61**	**186**	P	**P**	**09 14 24.0**	**0.0**
ARMA				IAmb	IAmb	09 14 29.1	
	comp=Z,37nm,1.4s						
MTN	**Manton Dam**	**23.87**	**254**	P	**P**	**09 14 25.9**	**-0.6**
MTN				IAmb	IAmb	09 14 27.5	
	comp=Z,23nm,0.8s						
SIJI	**Sorong**	**24.03**	**283**	P	**P**	**09 14 27.2**	**-0.7**
	comp=Z,40nm,1.1s,baz=44,slow=7.7,SNR=7.9						
SIJI				LR	LR	09 23 24.5	
	comp=Z,160nm,21.0s,baz=102,slow=36						
SWI	**Sorong**	**24.03**	**283**	P	**P**	**09 14 26.1**	**-1.9**
	comp=Z,39nm,0.9s						
MSVF	**Nonsavu**	**25.29**	**117**	P	**P**	**09 14 39.8**	**+0.3**
	comp=Z,16nm,0.7s,baz=273,slow=14,SNR=17						
MSVF				LR	LR	09 23 25.8	
	comp=Z,145nm,18.1s,baz=318,slow=34						
MSVF	**Nonsavu**	**25.29**	**117**	P	**P**	**09 14 41.4**	**+1.9**
MSVF				IAmb	IAmb	09 14 53.5	
	comp=Z,52nm,1.4s						
AS31	**Alice Springs**	**25.98**	**228**	P	**P**	**09 14 44.5**	**-1.1**
ASAR	**Alice Springs**	**25.98**	**228**	P	**P**	**09 14 44.2**	**-1.4**
	comp=Z,5.6nm,0.7s,baz=62,slow=8.9,SNR=77						
ASAR				PcP	**PcP**	**09 18 12.5**	**-1.1**
	comp=Z,1.3nm,1.0s,baz=52,slow=3.6,SNR=3.5						
ASAR				ScP	**ScP**	**09 21 55.6**	**+5.3**
	comp=Z,1.4nm,0.8s,baz=56,slow=3.1,SNR=11						
ASAR				LR	LR	09 24 00.0	
	comp=Z,268nm,21.1s,baz=94,slow=34						
ASAR	**Alice Springs**	**25.98**	**228**	P	**P**	**09 14 44.6**	**-1.0**
KNRA	**Kununurra**	**26.79**	**249**	P	**P**	**09 14 52.1**	**-0.9**
KNRA				IAmb	IAmb	09 15 16.6	
	comp=Z,31nm,0.9s						
STKA	**Stephens Creek**	**27.70**	**204**	P	**P**	**09 14 59.2**	**-1.8**
	comp=Z,4.8nm,0.6s,baz=28,slow=14,SNR=13						
STKA				LR	LR	09 26 49.3	
	comp=Z,340nm,18.2s,baz=24,slow=38						
STKA	**Stephens Creek**	**27.70**	**204**	P	**P**	**09 14 59.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**30.36**	**246**	LR	LR	09 27 15.0	
	comp=Z,220nm,20.6s,baz=54,slow=36						
BATI	**Baumata**	**30.77**	**262**	LR	LR	09 30 24.7	
	comp=Z,323nm,19.1s,baz=220,slow=41						
BBOO	**Buckleboo**	**31.05**	**211**	P	**P**	**09 15 29.2**	**-1.6**
DAV	**Davao City (W)**	**32.09**	**295**	LR	LR	09 28 20.7	
	comp=Z,132nm,18.4s,baz=143,slow=36						
GTOI	**Gorontalo**	**32.40**	**282**	P	**P**	**09 15 43.9**	**+1.1**
	comp=Z,12nm,0.7s						
EDFI	**Ende, Flores**	**32.66**	**265**	P	**P**	**09 15 43.7**	**-1.5**
	comp=Z,9.0nm,0.9s						
AFI	**Afiamalu**	**33.77**	**105**	LR	LR	09 29 06.8	
	comp=Z,246nm,18.4s,baz=65,slow=35						
RAO	**Raoul Island**	**34.16**	**134**	LR	LR	09 27 01.5	
	comp=Z,123nm,20.0s,baz=356,slow=31						
FORT	**Forrest**	**34.43**	**223**	P	**P**	**09 15 59.1**	**-1.2**
KAPI	**Kappang**	**34.71**	**271**	LR	LR	09 33 04.2	
	comp=Z,62nm,19.6s,baz=154,slow=41						
PSA00	**Pilbara Seismi**	**36.62**	**243**	P	**P**	**09 16 17.7**	**-1.6**
URZ	**Urewera**	**37.32**	**150**	LR	LR	09 31 00.1	
	comp=Z,408nm,18.4s,baz=13,slow=35						
JOW	**Kunigami**	**42.10**	**324**	LR	LR	09 32 07.8	
	comp=Z,102nm,21.7s,baz=185,slow=33						
MORW	**Morawa**	**42.53**	**234**	P	**P**	**09 17 07.7**	**-0.7**
NACB	**Ningnanchiao**	**44.59**	**315**	P	**P**	**09 17 24.9**	**-0.1**
JNU	**Nakatsue**	**45.71**	**332**	P	**P**	**09 17 32.1**	**-1.7**
JNU				IAmb	IAmb	09 17 51.8	
	comp=Z,27nm,1.3s						
RAR	**Rarotonga**	**46.32**	**113**	LR	LR	09 34 36.0	
	comp=Z,71nm,18.1s,baz=291,slow=33						
DLV	**T Lat**	**49.52**	**292**	P	**P**	**09 18 04.3**	**+0.4**
MDSI	**Maura Dua**	**50.22**	**270**	P	**P**	**09 18 08.4**	**-0.6**
KSRS	**Korea Array**	**50.64**	**332**	P	**P**	**09 18 10.7**	**-1.1**
	comp=Z,4.8nm,1.0s,baz=154,slow=8.0,SNR=10						
KSRS				LR	LR	09 36 46.5	
	comp=Z,42nm,21.9s,baz=125,slow=33						
KSAR	**Wonju Array Be**	**50.65**	**332**	P	**P**	**09 18 11.6**	**-0.2**
NJ2	**Nanjing**	**51.56**	**321**	*e*P	**P**	**09 18 19.4**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
ASAJ	**Asahikawa**	**51.88**	**349**	LR	LR	09 39 28.7	
	comp=Z,76nm,19.6s,baz=130,slow=35						
PPI	**Padang Panjang**	**54.44**	**274**	P	**P**	**09 18 39.4**	**-0.9**
	comp=Z,17nm,0.9s						
PPT	**Papeete**	**55.41**	**107**	LR	LR	09 39 23.3	
	comp=Z,56nm,18.6s,baz=280,slow=33						
PPT2	**Papeete2**	**55.41**	**107**	*e*LR	LR	09 34 53.6	
	comp=Z,57nm,21.5s						
MNSI	**Mandailing Nat**	**55.43**	**276**	P	**P**	**09 18 46.5**	**-1.0**
ENH	**Enshi**	**56.86**	**313**	P	**P**	**09 18 57.9**	**+0.4**
GYA	**Guiyang**	**57.06**	**308**	⇓P	**P**	**09 19 00.9**	**+1.8**
GYA				S	**S**	**09 26 53.5**	**+1.9**
GYA				pmax	pmax		
	comp=Z,30nm,0.7s						
LYN	**LuoYang**	**57.26**	**319**	⇓P	**P**	**09 19 00.9**	**+0.7**
LYN				sP	pwP	09 19 22.9	+5.6
LYN				S	**S**	**09 26 56.3**	**+2.6**
LYN				sS	sS	09 27 18.9	+8.6
LYN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LYN				pmax	pmax		
	comp=Z,60nm,7.8s						
LYN				LR	LR		
	comp=E,350nm,16.2s						
LYN				LR	LR		
	comp=Z,220nm,9.1s						
GSI	**Gunungsitoli**	**57.49**	**276**	P	**P**	**09 19 01.5**	**-0.7**
	comp=Z,24nm,0.9s						
HNS	**HongShan**	**57.66**	**323**	⇑P	**P**	**09 19 02.7**	**-0.2**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KLR	**Kul'dur**	**59.32**	**343**	LR	LR	09 45

comp=E,130nm,18.2s
GTA LR LR
comp=Z,74nm,17.1s
ULN Ulaanbaatar 68.68 328 P **P** **09 20 16.3 +0.3**
ULN IAmb IAmb 09 20 19.1
comp=Z,7.4nm,1.2s
SHL Shillong 68.89 301 P **P** **09 20 17.3 -0.5**
SONM Songino Array 69.01 327 P **P** **09 20 18.3 +0.2**
comp=Z,3.9nm,0.8s,baz=133,slow=5.5,SNR=18
SONM LR LR 09 50 34.4
comp=Z,40nm,19.0s,baz=54,slow=36
SONM Songino Array 69.01 327 P **P** **09 20 18.6 +0.5**
SONM IAmb IAmb 09 20 20.2
comp=Z,4.9nm,1.0s
GOMU GeErMu 70.47 312 P **P** **09 20 28.2 +0.6**
GOMU pP pwP 09 20 46.0 +0.3
GOMU sP PcP 09 20 52.0 +3.2
GOMU pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 70.73 178 LR LR 09 48 36.3
comp=Z,47nm,18.1s,baz=303,slow=34
LSA Lhasa 70.88 305 P **P** **09 20 31.5 +1.1**
LSA IAmb IAmb 09 20 33.0
comp=Z,10nm,1.0s
YAK Yakutsk 71.34 348 P **P** **09 20 31.1 -0.7**
GUN Gumba 74.72 301 *eP* **P** **09 20 53.9 +0.9**
comp=Z,45nm,0.8s
PKI Pulchoki 75.02 301 *eP* **P** **09 20 55.1 +0.3**
comp=Z,31nm,1.0s
PKIN Phulchoki 75.04 301 *eP* **P** **09 20 55.7 +0.9**
comp=Z,12nm,0.6s
BILL Bilibino 75.17 5 P **P** **09 20 53.7 -0.7**
BILL IAmb IAmb 09 21 03.0
comp=Z,17nm,1.4s
KKN Kakani 75.19 301 *eP* **P** **09 20 56.5 +0.9**
comp=Z,30nm,0.8s
DMN Daman 75.29 301 *eP* **P** **09 20 57.0 +0.8**
comp=Z,63nm,0.9s
GKN Gorkha 75.80 301 *eP* **P** **09 20 59.5 +0.5**
KOLN Koldanda 76.62 301 *eP* **P** **09 21 04.1 +0.3**
comp=Z,40nm,0.9s
DANN Dangsing 76.64 301 *eP* **P** **09 21 04.5 +0.6**
comp=Z,20nm,0.7s
KDAK Kodiak Island 77.21 26 LR LR 09 52 22.6
comp=Z,24nm,19.6s,baz=216,slow=34
PYUN Piuthan 77.23 301 *eP* **P** **09 21 07.3 +0.1**
comp=Z,40nm,0.9s
WMQ Urumqi 78.46 317 *eP* **P** **09 21 14.3 +0.8**
WMQ pP sP 09 21 26.3 -0.9
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ pmax pmax
comp=Z,150nm,3.7s
CAST Castle Rocks 80.73 21 P **P** **09 21 26.0 +0.6**
ZSN Zaisan 81.59 320 *eP* **P** **09 21 30.4 +0.1**
baz=320
IMAR Indian Mountai 81.72 19 P **P** **09 21 31.8 +1.3**
MK31 Makanchi Array 83.05 319 P **P** **09 21 38.5 +0.6**
MK31 IAmb IAmb 09 21 39.3
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 83.05 319 P **P** **09 21 38.2 +0.3**
comp=Z,11nm,0.8s,baz=104,slow=5.3,SNR=101
MKAR LR LR 09 58 36.8
comp=Z,56nm,19.6s,baz=56,slow=36
MKAR Makanchi Array 83.05 319 P **P** **09 21 38.1 +0.2**
QSPA South Pole Qui 83.12 180 P **P** **09 21 38.2 +0.1**
MAKZ Makanchi 83.26 319 P **P** **09 21 39.0 0.0**
IL31 83.39 22 P **P** **09 21 38.2 -0.9**
ILAR Eielson Array 83.39 22 P **P** **09 21 38.2 -1.0**
comp=Z,3.1nm,1.0s,baz=260,slow=5.0,SNR=16
ILAR LR LR 09 57 06.0
comp=Z,206nm,18.3s,baz=262,slow=34
ILAR Eielson Array 83.39 22 P **P** **09 21 38.4 -0.8**
ZAA0 Zalesovo Array 83.85 326 P **P** **09 21 40.9 -0.9**
ZAA0 IAmb IAmb 09 21 41.9
comp=Z,11nm,1.5s
ZALV Zalesovo Beam 83.85 326 P **P** **09 21 40.8 -1.0**
comp=Z,2.2nm,0.6s,baz=114,slow=5.2,SNR=13
ZALV LR LR 10 02 18.7
comp=Z,34nm,18.3s,baz=100,slow=38
UZB Uzynbulak 84.26 315 *eP* **P** **09 21 44.0 -0.3**
comp=Z,10.0nm,1.1s,baz=314
MAW Mawson 84.38 203 LR LR 09 56 28.4
comp=Z,53nm,19.1s,baz=55,slow=34
MAW Mawson 84.38 203 P **P** **09 21 45.2 +0.9**
BCAR Beaver Creek A 84.52 24 P **P** **09 21 46.4 +1.2**
PRZ Przheval'sk 84.53 314 P **P** **09 21 46.8 +0.9**
SATY Saty 84.67 314 *eP* **P** **09 21 46.1 -0.3**
comp=Z,8.3nm,1.1s,baz=314
TARG Taragay, Kyrgy 84.78 313 P **P** **09 21 47.4 0.0**
TARG IAmb IAmb 09 21 49.5
comp=Z,8.9nm,1.1s
TDK Taldyqorghan 85.16 316 *eP* **P** **09 21 48.5 -0.2**
baz=316
BMAR Burnt Mountain 85.55 20 P **P** **09 21 51.0 +0.9**
KSH Kashi 85.63 310 P **P** **09 21 53.6 +2.3**
KSH pmax pmax
comp=Z,15nm,1.2s
MDOK Medeo 85.66 314 *eP* **P** **09 21 51.2 -0.2**
baz=314
CHKK Chushkaly 85.86 315 *eP* **P** **09 21 52.6 +0.3**
baz=315
DAWY Dawson 85.92 24 P **P** **09 21 53.8 +1.7**
BOOM Boomskoye usch 86.30 313 P **P** **09 21 54.8 +0.2**
BOOM IAmb IAmb 09 21 56.5
comp=Z,17nm,1.3s
KUU Kurty 86.33 315 *eP* **P** **09 21 53.8 -0.7**
comp=Z,9.1nm,1.0s,baz=315
KST Kastek 86.41 314 *eP* **P** **09 21 54.9 -0.2**
comp=Z,5.2nm,1.5s,baz=314
KURK Kurchatov 86.49 322 P **P** **09 21 54.7 -0.3**
KURK IAmb IAmb 09 21 59.9
comp=Z,8.0nm,1.4s
AAK Ala-Archa 87.38 313 P **P** **09 21 59.4 -0.5**
AAK IAmb IAmb 09 22 13.2
comp=Z,2.4nm,0.6s
BBB Bella Bella 87.64 37 LR LR 09 57 24.9
comp=Z,129nm,18.3s,baz=270,slow=33
EPYK Eagle Plains 87.88 22 P **P** **09 22 01.9 +0.4**
BTLS Baital 88.18 316 *eP* **P** **09 22 03.2 -0.2**
comp=Z,5.0nm,1.2s,baz=316
DLBC Dease Lake 88.22 31 LR LR 09 57 55.3
comp=Z,100nm,18.8s,baz=52,slow=33
NRIK Noril'sk 88.48 341 P **P** **09 22 02.1 -2.1**
comp=Z,4.1nm,0.9s,baz=115,slow=7.1,SNR=7.6
NRIK Noril'sk 88.48 341 P **P** **09 22 03.0 -1.3**
NRIK IAmb IAmb 09 22 03.5
comp=Z,5.1nm,1.0s
YBH Yreka Blue Hor 89.08 48 LR LR 09 57 02.2
comp=Z,165nm,19.9s,baz=266,slow=32
INK Inuvik 89.72 21 LR LR 10 01 44.9
comp=Z,128nm,18.9s,baz=232,slow=35
NVAR Mina Array Bea 91.94 52 P **P** **09 22 22.6 +1.1**
comp=Z,5.0nm,0.8s,baz=255,slow=6.8,SNR=36
NVAR LR LR 09 59 02.3
comp=Z,67nm,18.7s,baz=274,slow=32
NVAR Mina Array Bea 91.94 52 P **P** **09 22 21.7 +0.3**
NV11 Mina Array Sit 92.05 52 P **P** **09 22 22.6 +0.7**
RPN Rapa Nui 92.27 118 LR LR 09 56 34.6
comp=Z,60nm,18.8s,baz=246,slow=31
PFO Pinyon Flats O 92.86 57 LR LR 09 59 25.0
comp=Z,146nm,18.5s,baz=256,slow=32
NEW Newport 93.91 42 LR LR 10 00 13.8
comp=Z,191nm,19.1s,baz=262,slow=33
ELK Elko 94.54 50 LR LR 09 59 55.3
comp=Z,99nm,19.0s,baz=292,slow=32
W13A Hualapai Mount 95.12 55 P **P** **09 22 35.3 -0.9**
W13A IAmb IAmb 09 22 39.0
comp=Z,7.5nm,1.4s
YKA Yellowknife Ar 96.39 28 P **P** **09 22 40.9 -0.1**
comp=Z,2.5nm,0.9s,baz=265,slow=4.7,SNR=28
YKA LR LR 10 02 59.8
comp=Z,61nm,18.4s,baz=315,slow=34
YKA Yellowknife Ar 96.39 28 P **P** **09 22 40.5 -0.5**
U15A North Rim 96.51 54 P **P** **09 22 43.1 +0.6**
U15A IAmb IAmb 09 22 45.0
comp=Z,4.8nm,1.0s
LPIG La Paz 97.39 67 LR LR 10 00 16.7
comp=Z,134nm,19.7s,baz=270,slow=32
PDAR Pinedale Array 98.89 48 P **P** **09 22 52.4 -0.7**
comp=Z,0.8nm,0.9s,baz=202,slow=1.6,SNR=6.3
PDAR LR LR 10 03 59.1
comp=Z,101nm,18.8s,baz=298,slow=33
ARU Arti 99.02 326 LR LR 10 08 44.7
comp=Z,56nm,20.4s,baz=108,slow=36
FRB Frobisher Bay 115.36 20 PKP **PKiKP** **09 27 52.3 -1.2**
comp=Z,0.8nm,0.8s,baz=233,slow=5.1,SNR=1.9
AKASG Malin Array Be 117.20 324 PKP **PKPdf** **09 27 56.4 -1.1**
comp=Z,2.1nm,0.7s,baz=55,slow=2.4,SNR=5.0
AKASG Malin Array Be 117.20 324 **PKPdf** **09 27 57.1 -0.4**
BRTR Keskin Array B 118.00 311 PKP **PKPdf** **09 27 59.0 -0.6**
comp=Z,0.9nm,0.9s,baz=277,slow=3.2,SNR=4.2
NOA NORSAR Array B 119.44 341 PKP **PKPdf** **09 28 01.1 -0.5**
comp=Z,1.2nm,0.9s,baz=52,slow=2.1,SNR=3.5
CRVS Cervenica-Dubn 122.49 325 *e*PKP **PKiKP** **09 28 08.6 +0.7**
MODS Modra-Piesok 125.11 326 *e*PKP **PKiKP** **09 28 13.8 +0.7**
CLL Collm 125.51 331 *e*PKiKP **PKPdf** **09 28 13.0 -0.4**
comp=Z,13nm,1.4s
CONA Conrad Observa 126.14 327 *i* P **PKPdf** **09 28 15.0 +0.1**
comp=Z,1.0nm,0.6s
CKRC Cesky Krumlov 126.44 328 *e*PKPDF **PKPdf** **09 28 15.6 +0.3**
CKRC *ex* x 09 28 28.8
NKC Novy Kostel 126.48 331 *e*PKPDF **PKiKP** **09 28 16.3 +0.5**
KHC Kasperske Hory 126.62 329 *e*PKPDF **PKPdf** **09 28 14.6 -1.1**
KHC *ex* x 09 28 28.3
GERES GERESS Array B 126.73 329 PKP **PKiKP** **09 28 16.5 0.0**
comp=Z,2.4nm,0.7s,baz=86,slow=1.9,SNR=24
GERES GERESS Array B 126.73 329 **PKPdf** **09 28 16.2 +0.3**
MOA Molln 127.05 327 *i* P **PKPdf** **09 28 16.1 -0.4**
comp=Z,0.5nm,0.5s
KBA Koelnbreinsper 128.02 327 *i* P **PKPdf** **09 28 17.4 -1.2**
comp=Z,0.5nm,0.4s
WATA Walderalm 128.79 328 *e*P **PKPdf** **09 28 20.4 +0.4**
comp=Z,1.5nm,0.4s
WTTA Wattenberg 128.81 328 *e*P **PKiKP** **09 28 20.7 -0.1**
comp=Z,2.8nm,0.6s
MOTA Moosalm 129.03 329 *e*P **PKPdf** **09 28 20.9 +0.4**
comp=Z,2.2nm,0.6s
FETA Feichten 129.44 329 *i* P **PKiKP** **09 28 21.9 -0.1**
comp=Z,2.1nm,0.8s
LPAZ La Paz 131.86 119 PKP **PKiKP** **09 28 28.2 -0.1**
comp=Z,0.6nm,0.5s,baz=233,slow=1.9,SNR=2.5
MDT Midelt 147.75 326 PKPbc **PKPbc** **09 28 58.2 +0.5**
comp=Z,5.2nm,0.9s,baz=46,slow=3.8,SNR=7.2
BDFB Brasilia 148.35 135 PKPbc **PKPdf** **09 28 57.4 +1.1**
comp=Z,5.0nm,0.9s,baz=237,slow=0.9,SNR=5.8
TORD Torodi Ar. Bea 152.62 285 PKP **PKPdf** **09 29 03.1 +0.3**
comp=Z,0.9nm,0.9s,baz=38,slow=0.7,SNR=3.9
TORD PKPbc **PKPbc** **09 29 09.9 0.0**
comp=Z,3.9nm,0.7s,baz=56,slow=2.6,SNR=23
TORD PKPab **pPKPbc** **09 29 18.3 -1.4**
comp=Z,3.3nm,0.8s,baz=67,slow=2.8,SNR=5.3

*IDC **10** 09:18:19.1±2.1, 7°.48S×128°.55E, h169km±21km, mb3.2/1, mb1 3.2/5, mb1mx2.9/31, mbtmp3.7/5, Error ellipse: s-maj=48.1km s-min=19.5km az=87.0*
ISC 10 09:18:17.9±0.9, **7°.57S**±0°.06×**128°.62E**±0°.10, **h151**km, **n11**, σ**3**°**03/16, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.82**	**243**	P	**Pn**	**09 19 32.9**	**+3.8**
DRS	**Darwin Rock St**	**5.33**	**155**	P	**Pn**	**09 19 39.8**	**+4.1**
MTN	**Manton Dam**	**5.79**	**155**	P	**Pn**	**09 19 45.7**	**+3.8**
FAKI	**Fak Fak**	**5.86**	**38**	P	**Pn**	**09 19 43.1**	**+0.2**
KDU	**Kakadu**	**6.34**	**144**	P	**Pn**	**09 19 53.2**	**+4.0**
SIJI	**Sorong**	**7.16**	**22**	P	**Pn**	**09 20 01.4**	**+1.3**
	1.8nm,0.3s,baz=251,slow=22,SNR=11						
SIJI				S	**Sn**	**09 21 18.1**	**-2.4**
	1.0nm,0.3s,baz=224,slow=23,SNR=1.5						
KNRA	**Kununurra**	**8.06**	**179**	P	**Pn**	**09 20 14.5**	**+2.4**
FITZ	**Fitzroy Crossi**	**10.86**	**195**	P	**Pn**	**09 20 50.4**	**+1.1**
	baz=26,slow=9.2						
FITZ				S	**Sn**	**09 22 46.6**	**-2.8**
	0.5nm,0.3s,baz=136,slow=18,SNR=5.7						
WRA	**Warramunga Arr**	**13.49**	**156**	P	**Pn**	**09 21 24.3**	**+0.9**
	0.5nm,0.3s,baz=342,slow=12,SNR=19						
WRA				S	**Sn**	**09 23 49.1**	**-3.8**
	0.5nm,0.3s,baz=332,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**16.79**	**163**	P	**Pn**	**09 22 06.6**	**+2.3**
	0.4nm,0.3s,baz=343,slow=9.6,SNR=36						
ASAR				S	**S**	**09 25 09.0**	**-2.0**
	0.1nm,0.3s,baz=349,slow=21,SNR=2.4						
ASAR				ScP	**ScP**	**09 30 01.4**	**-2.8**
	0.1nm,0.3s,baz=354,slow=2.1,SNR=5.3						
MKAR	**Makanchi Array**	**67.96**	**328**	P	**P**	**09 28 58.8**	**-1.7**
	0.3nm,0.4s,baz=124,slow=7.9,SNR=9.0						

*INET **10** 09:52:48.6±1.1, 12°.66N×88°.13W, h11km±11km, ML3.7*
*NEIC **10** 09:52:49.7±2.8, 12°.64N±0°.09×88°.17W±0°.03, h44km±18km, mb4.2/18, Md4.0(SNET), Error ellipse: s-maj=13.4km s-min=1.8km az=200.0*
ISC 10 09:52:49.0±1.1, **12°.59N**±0°.05×**88°.22W**±0°.04, **h49**km±13km, **n96**, σ**0**°**83/121, mb4.2/8, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.78**	**24**	*i* P	**Pn**	**09 53 03.5**	**-0.3**
LCND				*e*S	**Sn**	**09 53 14.9**	**+0.4**
LCND	**La Caada**	**0.78**	**24**	*i* P	**Pn**	**09 53 03.5**	**-0.3**
LCND				*e*S	**Sn**	**09 53 14.9**	**+0.4**
ALJI	**Alcalda de J**	**0.81**	**335**	*e*P	**Pn**	**09 53 03.9**	**-0.3**
ALJI				*e*S	**Sn**	**09 53 14.9**	**-0.3**
ALJI	**Alcalda de J**	**0.81**	**335**	*e*P	**Pn**	**09 53 03.9**	**-0.3**
ALJI				*e*S	**Sn**	**09 53 14.9**	**-0.3**
VSM	**San Miguel**	**0.83**	**356**	*e*P	**Pn**	**09 53 05.0**	**+0.2**
VSM	**San Miguel**	**0.83**	**356**	*e*P	**Pn**	**09 53 05.0**	**+0.2**
PACA	**Pacayal**	**0.88**	**353**	*e*P	**Pn**	**09 53 05.2**	**-0.1**
PACA	**Pacayal**	**0.88**	**353**	*e*P	**Pn**	**09 53 05.2**	**-0.1**
COEB	**Comit de Eme**	**0.95**	**341**	*e*P	**Pn**	**09 53 05.6**	**-0.6**
COEB				*e*S	**Sn**	**09 53 19.1**	**+0.3**
COEB				IAML		09 53 21.9	
	comp=Z,2μm,0.2s						
COEB	**Comit de Eme**	**0.95**	**341**	*e*P	**Pn**	**09 53 05.7**	**-0.5**
COEB				IAML		09 53 21.5	
	comp=Z,827nm,0.2s						
COEB	**Comit de Eme**	**0.95**	**341**	*e*P	**Pn**	**09 53 05.6**	**-0.6**
COEB				*e*S	**Sn**	**09 53 19.1**	**+0.3**
COEB				IAML		09 53 21.9	
	comp=Z,2μm,0.2s						
PQSS	**Presa 15 de Se**	**1.08**	**342**	*e*P	**Pn**	**09 53 08.0**	**+0.2**
PQSS				*e*S	**Sn**	**09 53 22.7**	**+1.0**
PQSS	**Presa 15 de Se**	**1.08**	**342**	*e*P	**Pn**	**09 53 08.0**	**+0.2**
PQSS				*e*S	**Sn**	**09 53 22.7**	**+1.0**
CRIN	**San Cristobal**	**1.14**	**84**	Pn	**Pn**	**09 53 08.2**	**-0.5**
CRIN	**San Cristobal**	**1.14**	**84**	*e*P	**Pn**	**09 53 08.2**	**-0.5**
CRIN				IAML		09 53 25.6	
	comp=N,4μm,0.2s						
COEG	**Centro de Oper**	**1.21**	**328**	*e*P	**Pn**	**09 53 09.3**	**-0.4**
COEG				*e*Sn	**Sn**	**09 53 24.8**	**-0.3**
COEG	**Centro de Oper**	**1.21**	**328**	*e*P	**Pn**	**09 53 09.3**	**-0.4**
COEG				*e*S	**Sn**	**09 53 24.8**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.21**	**336**	*e*P	**Pn**	**09 53 09.8**	**+0.2**
SCLA				*e*S	**Sn**	**09 53 26.4**	**+1.4**
SCLA	**Alcaldia de Sa**	**1.21**	**336**	*e*P	**Pn**	**09 53 09.8**	**+0.2**
SCLA				*e*S	**Sn**	**09 53 26.4**	**+1.4**
SJTE	**Alcalda de S**	**1.28**	**323**	*e*P	**Pn**	**09 53 10.2**	**-0.4**
SJTE				*e*Sn	**Sn**	**09 53 26.3**	**-0.4**
SJTE	**Alcalda de S**	**1.28**	**323**	*e*P	**Pn**	**09 53 10.2**	**-0.4**
SJTE				*e*S	**Sn**	**09 53 26.3**	**-0.4**
LFRS	**El Faro**	**1.32**	**321**	*e*P	**Pn**	**09 53 10.7**	**-0.5**
LFRS	**El Faro**	**1.32**	**321**	*e*P	**Pn**	**09 53 10.7**	**-0.5**
PAVA	**Las Pavas**	**1.32**	**328**	*e*P	**Pn**	**09 53 11.2**	**0.0**
PAVA				*e*Sn	**Sn**	**09 53 28.1**	**+0.4**
PAVA	**Las Pavas**	**1.32**	**328**	*e*P	**Pn**	**09 53 11.2**	**0.0**
PAVA				*e*S	**Sn**	**09 53 28.1**	**+0.4**
LALI	**Alcalda de L**	**1.40**	**310**	*e*P	**Pn**	**09 53 11.6**	**-0.5**
LALI				*e*Sn	**Sn**	**09 53 28.9**	**-0.6**
LALI	**Alcalda de L**	**1.40**	**310**	*e*P	**Pn**	**09 53 11.6**	**-0.5**
LALI				*e*S	**Sn**	**09 53 28.9**	**-0.6**
LFU	**La Fuente**	**1.45**	**323**	*e*P	**Pn**	**09 53 12.9**	**0.0**
LFU	**La Fuente**	**1.45**	**323**	*e*P	**Pn**	**09 53 12.9**	**0.0**
OPAM	**Oficina de Pla**	**1.47**	**319**	*e*P	**Pn**	**09 53 11.7**	**-1.5**
OPAM				*e*Sn	**Sn**	**09 53 31.4**	**+0.1**
OPAM	**Oficina de Pla**	**1.47**	**319**	*e*P	**Pn**	**09 53 11.7**	**-1.5**
OPAM				*e*S	**Sn**	**09 53 31.4**	**+0.1**
SNET	**Serv Nac Est T**	**1.47**	**318**	*e*P	**Pn**	**09 53 12.8**	**-0.4**
SNET	**Serv Nac Est T**	**1.47**	**318**	Pn	**Pn**	**09 53 12.9**	**-0.4**
SNET	**Serv Nac Est T**	**1.47**	**318**	*e*P	**Pn**	**09 53 12.8**	**-0.4**
UEES	**Universidad Ev**	**1.50**	**318**	*e*P	**Pn**	**09 53 13.4**	**-0.2**
UEES	**Universidad Ev**	**1.50**	**318**	*e*P	**Pn**	**09 53 13.4**	**-0.2**
BOQS	**Boqueron**	**1.54**	**318**	*e*P	**Pn**	**09 53 14.3**	**+0.1**
BOQS	**Boqueron**	**1.54**	**318**	*e*P	**Pn**	**09 53 14.3**	**+0.1**
JAYA	**Jayaque - finc**	**1.60**	**311**	*e*P	**Pn**	**09 53 14.9**	**-0.2**
JAYA	**Jayaque - finc**	**1.60**	**311**	*e*P	**Pn**	**09 53 14.9**	**-0.2**
COPN	**Copaltepe**	**1.64**	**104**	*e*P	**Pn**	**09 53 13.9**	**-1.5**
CEDA	**San Andres**	**1.66**	**316**	*e*P	**Pn**	**09 53 15.3**	**-0.6**
CEDA				*e*Sn	**Sn**	**09 53 36.4**	**+0.4**
CEDA	**San Andres**	**1.66**	**316**	*e*P	**Pn**	**09 53 15.3**	**-0.6**
CEDA				*e*S	**Sn**	**09 53 36.4**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.72**	**32**	*e*P	**Pn**	**09 53 17.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.72**	**32**	Pn	**Pn**	**09 53 17.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.72**	**32**	*e*P	**Pn**	**09 53 17.1**	**+0.4**
CEVE	**Cerro Verde**	**1.84**	**312**	*e*P	**Pn**	**09 53 17.9**	**-0.5**
CEVE				IAML		09 53 46.9	
	comp=Z,747nm,0.4s						
CEVE	**Cerro Verde**	**1.84**	**312**	*e*P	**Pn**	**09 53 17.9**	**-0.5**
CEVE				IAML		09 53 46.9	
	comp=Z,747nm,0.4s						
SBLS	**San Blas**	**1.85**	**312**	*e*P	**Pn**	**09 53 18.5**	**0.0**
SBLS	**San Blas**	**1.85**	**312**	*e*P	**Pn**	**09 53 18.5**	**0.0**
SNJE	**San Jose**	**1.86**	**313**	*e*P	**Pn**	**09 53 19.2**	**+0.6**
SNJE	**San Jose**	**1.86**	**313**	*e*P	**Pn**	**09 53 19.2**	**+0.6**
RTR	**El Retiro**	**1.90**	**313**	*e*P	**Pn**	**09 53 19.7**	**+0.4**
RTR	**El Retiro**	**1.90**	**313**	*e*P	**Pn**	**09 53 19.7**	**+0.4**
NUBE	**Las Nubes**	**2.00**	**311**	*e*P	**Pn**	**09 53 20.6**	**0.0**
NUBE				*e*Sn	**Sn**	**09 53 44.2**	**-0.4**
NUBE	**Las Nubes**	**2.00**	**311**	*e*P	**Pn**	**09 53 20.6**	**0.0**
NUBE				*e*S	**Sn**	**09 53 44.2**	**-0.4**
HUEN		**2.01**	**97**	*e*P	**Pn**	**09 53 19.4**	**-1.1**
HUEN				*e*S	**Sn**	**09 53 44.1**	**-0.3**
SLOZ	**Alcaldia de Sa**	**2.09**	**313**	*e*P	**Pn**	**09 53 21.2**	**-0.5**
MTO3	**Montecristo**	**2.11**	**328**	*i* P	**Pn**	**09 53 22.3**	**+0.2**
MTO3	**Montecristo**	**2.11**	**328**	Pn	**Pn**	**09 53 22.3**	**+0.2**
MTO3	**Montecristo**	**2.11**	**328**	*i* P	**Pn**	**09 53 22.3**	**+0.2**
ESQI	**Esquipulas**	**2.24**	**331**	Pn	**Pn**	**09 53 24.5**	**+0.6**
ESQI	**Esquipulas**	**2.24**	**331**	*e*P	**Pn**	**09 53 24.4**	**+0.6**
MATN	**Matagalpa**	**2.26**	**81**	Pn	**Pn**	**09 53 22.1**	**-1.9**
BOAB	**BOACO BROADBAN**	**2.49**	**93**	Pn	**Pn**	**09 53 24.7**	**-2.5**
ACON	**Acoyapa**	**3.04**	**101**	Pn	**Pn**	**09 53 34.7**	**+0.1**
HZTE	**Horizontes, Gu**	**3.17**	**126**	Pn	**Pn**	**09 53 36.3**	**-0.2**
ORTG	**Ortega, Santa**	**3.49**	**129**	Pn	**Pn**	**09 53 40.2**	**-0.8**
DUNO	**Dulce Nombre,**	**3.66**	**133**	Pn	**Pn**	**09 53 42.6**	**-0.5**
ESPN	**Las Esperanzas**	**3.84**	**95**	Pn	**Pn**	**09 53 45.6**	**-0.1**
JTS	**Las Juntas de**	**3.93**	**125**	Pn	**Pn**	**09 53 47.8**	**+0.8**
CAO2	**Cobano, Puntar**	**4.20**	**133**	Pn	**Pn**	**09 53 50.0**	**-0.5**
JACO	**JACO, Garabito**	**4.54**	**129**	Pn	**Pn**	**09 53 57.8**	**+2.5**
RIMA	**Rio Macho**	**5.11**	**123**		**Pn**	**09 54 05.3**	**+2.0**
PEZE	**Perez Zeledon,**	**5.48**	**125**	Pn	**Pn**	**09 54 09.7**	**+1.4**
SRBA	**San Rafael, Bu**	**5.82**	**125**	Pn	**Pn**	**09 54 13.9**	**+1.0**
CDITO	**Canoas**	**6.60**	**127**	Pn	**Pn**	**09 54 26.2**	**+2.7**
LGNH	**Logne**	**16.14**	**67**		**Pn**	**09 56 33.5**	**+0.8**
LGNH				IAmb	IAmb	09 56 58.0	
	comp=Z,25nm,1.1s						
ZAIG	**Zacatecas**	**17.00**	**308**	P	**Pn**	**09 56 44.0**	**+0.3**
735A	**Kenedy**	**18.49**	**333**	P	**P**	**09 57 00.0**	**-1.1**
VBMS	**Vicksburg**	**19.65**	**354**	P	**Pn**	**09 57 15.4**	**-0.1**
435B	**Jarrell**	**20.07**	**336**	P	**P**	**09 57 18.6**	**+0.2**
435B				IAmb	IAmb	09 57 43.0	
	comp=Z,4.9nm,1.1s						
Y45A	**Yeager Farm, C**	**21.21**	**357**	P	**P**	**09 57 30.8**	**+0.1**
Y45A				IAmb	IAmb	09 57 46.1	
	comp=Z,16nm,1.0s						
Y52A	**Lilburn**	**21.51**	**9**	P	**P**	**09 57 35.9**	**+2.0**
SJG	**San Juan**	**21.96**	**73**	P	**P**	**09 57 37.6**	**-1.3**
SJG				IAmb	IAmb	09 57 38.0	
	comp=Z,12nm,1.1s						
FPAL	**Fort Paine**	**21.98**	**6**	P	**P**	**09 57 36.6**	**-2.3**
FPAL				IAmb	IAmb	09 57 56.2	
	comp=Z,14nm,1.3s						
TX31	**Lajitas Ar. Si**	**22.00**	**322**	P	**P**	**09 57 39.7**	**+0.4**
TX31				IAmb	IAmb	09 57 43.2	
	comp=Z,7.8nm,1.4s						
TX32	**Lajitas Array**	**22.00**	**322**	P	**P**	**09 57 39.7**	**+0.4**
TXAR	**Lajitas Array**	**22.00**	**322**	P	**P**	**09 57 39.9**	**+0.6**
W52A	**Murphy**	**22.74**	**9**	P	**P**	**09 57 48.5**	**+1.5**
W52A				IAmb	IAmb	09 58 03.3	
	comp=Z,13nm,1.4s						
WHAR	**Wooly Hollow**	**22.90**	**351**	P	**P**	**09 57 48.4**	**-0.3**
WHAR				IAmb	IAmb	09 58 11.8	
	comp=Z,19nm,1.4s						
CPCT	**Cooper Cave**	**23.00**	**8**	P	**P**	**09 57 48.3**	**-1.4**
CPCT				IAmb	IAmb	09 58 13.2	
	comp=Z,18nm,1.5s						
TKL	**Tuckaleechee C**	**23.31**	**9**	P	**P**	**09 57 52.9**	**+0.1**
FCAR	**Ozark Folk Cen**	**23.46**	**352**	P	**P**	**09 57 52.7**	**-1.5**
FCAR				IAmb	IAmb	09 58 03.6	
	comp=Z,6.8nm,1.3s						
SDCO	**Great Sand Dun**	**29.43**	**331**	P	**P**	**09 58 47.1**	**-1.2**
W13A	**Hualapai Mount**	**32.28**	**318**	P	**P**	**09 59 14.3**	**+0.8**

*NEIC **10** 09:53:00.8±1.8, 36°.27N±0°.02×121°.92W±0°.03, h15km±5km, Error ellipse: s-maj=3.5km s-min=2.5km az=84.0*
*NCEDC **10** 09:53:02.1±2.1, 36°.35N±0°.03×121°.85W±0°.05, h16km±5km, ML3.2/38, ML2.9/60(NEIC), Error ellipse: s-maj=6.2km s-min=3.1km az=58.0*
*ANF **10** 09:53:02.6±1.4, 36°.20N×121°.62W, h0km, ML3.1/6, Error ellipse: s-maj=16.6km s-min=5.0km az=78.0*
ISC 10 09:52:59.7±1.2, **36°.27N**±0°.04×**121°.97W**±0°.05, **h11**km, **n71**, σ**0**°**90/74, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAST	**Hastings Reser**	**0.36**	**71**		**Pg**	**09 53 07.3**	**+0.4**
HAST					**Sg**	**09 53 10.7**	**-1.0**
MOBB	**Monterey Bay O**	**0.45**	**340**		**Pn**	**09 53 11.8**	**-0.1**
BSMM	**Soledad Missio**	**0.45**	**75**		**Pg**	**09 53 09.1**	**+0.4**
BJCM	**Johnson Can.**	**0.54**	**59**		**Pg**	**09 53 10.4**	**+0.1**
SCZ	**Santa Cruz**	**0.56**	**54**		**Pg**	**09 53 10.8**	**+0.1**
SCZ					**Sg**	**09 53 16.5**	**-1.6**
PAPM	**Alder Peak**	**0.61**	**126**		**Pb**	**09 53 13.3**	**+1.0**
SAO	**San Andreas Ge**	**0.65**	**40**	Pg	**Pg**	**09 53 12.4**	**+0.1**
SAO	**San Andreas Ge**	**0.65**	**40**		**Sg**	**09 53 19.5**	**-1.4**
HCOM	**Corn Cob Canyo**	**0.65**	**19**		**Pb**	**09 53 13.2**	**+0.2**
HSFM	**Saint Francis**	**0.66**	**35**		**Pg**	**09 53 13.1**	**+0.5**
BLRM	**Lewis Ranch**

OSI IAML 09 54 49.9
comp=N,32nm,1.1s
OSI IAML 09 54 54.0
comp=E,34nm,0.8s
RUBR Rubicon Trail 3.13 27 Pn **Pn 09 53 50.9 +1.8**
ORV Oroville 3.30 6 Pn 09 53 51.9 +0.6
PNTR Pine Nut 3.39 33 Pn 09 53 54.6 +1.9
MPK Martis Peak 3.39 26 Pn 09 53 54.7 +1.9
MPK IAML 09 54 54.2
comp=E,31nm,1.2s
LHV Little Huntoon 3.40 53 Pn 09 53 55.1 +2.5
YERR Yerington 3.47 38 Pn 09 53 54.9 +1.0
YERR IAML 09 54 51.7
comp=E,27nm,0.8s
YERR IAML 09 54 54.0
comp=N,25nm,2.1s
VCNR Virginia City 3.54 31 Pn 09 53 55.6 +0.9
VCNR IAML 09 55 03.4
comp=E,18nm,0.7s
LRMC Laurel Mtn Rad 3.57 101 P **Pn 09 53 55.1 0.0**
baz=286
LCH Last Change Ra 3.61 73 Pn 09 53 57.4 +1.8
LCH IAML 09 54 59.5
comp=E,18nm,0.7s
RYN Ryan 3.62 48 Pn 09 53 57.0 +1.2
RYN IAML 09 54 52.5
comp=E,22nm,0.6s
RYN IAML 09 55 01.9
comp=N,16nm,1.4s
NV11 Mina Array Sit 3.73 53 Pn 09 53 58.1 +0.8
PASC Pasadena Art C 3.74 123 Pn **Pn 09 53 57.6 +0.2**
PASC IAML 09 54 52.3
comp=E,14nm,4.5s
MWC Mount Wilson 3.80 121 Pn 09 53 59.0 +0.7
MWC IAML 09 54 44.8
comp=E,23nm,1.0s
MWC IAML 09 54 45.4
comp=N,19nm,1.7s
PAHR Pah Rah Range 4.00 30 Pn 09 54 02.4 +1.4
PAHR IAML 09 55 20.0
comp=E,13nm,4.5s
BFSC Mount Baldy Ra 4.07 119 P **Pn 09 54 02.1 +0.2**
baz=303
KVN Kaiserville 4.14 47 Pn 09 54 03.5 +0.5
KVN IAML 09 55 15.0
comp=E,13nm,2.6s
KVN IAML 09 55 19.5
comp=N,11nm,3.2s
QSM Queen of Sheba 4.14 93 Pn 09 54 03.2 +0.3
TPH Tonopah 4.20 63 Pn 09 54 04.0 +0.1
GWY Greenwater Val 4.29 90 Pn **Pn 09 54 07.2 +2.2**
GWY IAML 09 55 17.4
comp=E,14nm,3.7s
GWY IAML 09 56 08.8
comp=N,11nm,4.8s
GSC Goldstone, Bar 4.31 101 Pn 09 54 05.2 -0.1
GSC IAML 09 55 14.3
comp=E,15nm,4.2s
GSC IAML 09 56 19.7
comp=N,11nm,2.8s
TPNV Topopah Spring 4.65 80 Pn 09 54 10.8 +0.8
TPNV IAML 09 55 32.7
comp=N,8.0nm,4.4s
PFO Pinyon Flats O 5.25 119 Pn **Pn 09 54 17.5 -0.6**
PFO IAML 09 56 11.5
comp=N,6.8nm,4.7s
PFO IAML 09 56 59.6
comp=N,7.4nm,4.7s
SHPR Sheep Range 5.50 86 Pn 09 54 22.8 +1.1
SHPR IAML 09 56 22.7
comp=N,4.6nm,4.7s
SHPR IAML 09 57 11.0
comp=E,5.5nm,4.3s
BAR Barrett 5.66 128 Pn **Pn 09 54 24.2 +0.5**

*IDC **10** 09:53:00.5±0.6, 35°.29N×140°.98E, h0km, mb3.8/22, mb1 3.9/27, mb1mx3.8/45, mbtmp3.8/27, ML3.3/4, MS3.2/10, Ms1 3.2/10, ms1mx2.9/93, Error ellipse: s-maj=18.4km s-min=14.2km az=108.0*
*JMA **10** 09:53:03.2±0.1, 35°.34N×141°.17E, h37km±2km, M3.8*
*NIED **10** 09:53:03.3, 35°.34N×141°.17E, h37km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.36; Mθθ=0.60; Mφφ0.96; Mrθ0.43; Mθφ0.18; Mφr0.69; Fault plane solution: M0 1.15000×10^15 NP1: φs=219.00000°, δ79.00000°, λ-53.00000°. NP2: φs=324.00000°, δ39.00000°, λ-162.00000°.*
*NEIC **10** 09:53:05.3±1.4, 35°.27N±0°.04×141°.2E±0°.1, h30km±6km, mb4.3/14 Error ellipse: s-maj=13.7km s-min=4.3km az=109.0*
ISC 10 09:53:03.0±1.1, 35°.27N±0°.04×141°.20E±0°.05, h19km±4km, n79, σ1.938/77, mb3.9/30, MS3.3/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.52**	**328**	P	**Pg**	**09 53 13.0**	**-0.4**
CHOJ				S	**Sg**	**09 53 19.8**	**-0.6**
BSO1	**Boso 1**	**0.64**	**196**	P	**Pn**	**09 53 16.3**	**-0.3**
JSMT	**Sammumatsuo**	**0.72**	**302**	P	**Pb**	**09 53 16.6**	**-0.3**
BSO3	**Boso 3**	**0.73**	**231**	P	**Pg**	**09 53 17.6**	**+0.3**
KTR	**Katsuura**	**0.73**	**261**	P	**Pb**	**09 53 17.0**	**-0.1**
KTR				*e*S	**Sb**	**09 53 27.0**	**+0.3**
BSO4	**Boso 4**	**0.75**	**249**	P	**Pg**	**09 53 17.9**	**+0.1**
JCN	**Nagara**	**0.83**	**281**	P	**Pb**	**09 53 19.0**	**+0.2**
JYT	**Yasato**	**1.26**	**320**	P	**Pn**	**09 53 23.9**	**-1.7**
JYT	**Yasato**	**1.26**	**320**		**Pn**	**09 53 25.8**	**+0.2**
JHJ2	**Mitsune**	**2.43**	**208**	Pn	**Pn**	**09 53 42.8**	**+1.0**
JHJ	**Hachijo jima 2**	**2.44**	**209**	Pn	**Pn**	**09 53 41.1**	**-0.7**
	25nm,0.3s,baz=334,slow=21,SNR=8.1						
JHJ				Sn	**Sn**	**09 54 07.4**	**-3.8**
	38nm,0.3s,baz=74,slow=22,SNR=2.5						
JSG	**Sagara**	**2.54**	**257**	Pn	**Pn**	**09 53 44.2**	**+0.9**
JMM	**Marumori**	**2.62**	**353**		**Pn**	**09 53 45.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.74**	**299**	Pn	**Pn**	**09 53 45.8**	**-0.2**
	1.7nm,0.3s,baz=224,slow=19,SNR=50						
MJAR				Sn	**Sn**	**09 54 19.7**	**+1.1**
	1.4nm,0.3s,baz=174,slow=28,SNR=6.4						
MJAR				LR	LR	09 54 50.5	
	comp=Z,180nm,18.3s,baz=173,slow=43						
MJAR	**Matsushiro Arr**	**2.74**	**299**		**Pn**	**09 53 47.2**	**+1.2**
MAJO	**Matsushiro**	**2.74**	**299**		**Pn**	**09 53 46.4**	**+0.4**
MAT	**Matsushiro**	**2.74**	**299**	P	**Pn**	**09 53 47.3**	**+1.3**
MAT				*e*S	**Sn**	**09 54 20.2**	**+1.6**
MJB9	**Matsu-Tunnel**	**2.74**	**299**	Pn	**Pn**	**09 53 47.6**	**+1.6**
JGF	**Kuroka**	**3.15**	**277**		**Pn**	**09 53 52.5**	**+0.8**
INU	**Inuyama**	**3.42**	**273**		**Pn**	**09 53 56.6**	**+1.3**
JSD	**Sado**	**3.63**	**320**	Pn	**Pn**	**09 53 59.3**	**+1.0**
JWT	**Wachi**	**4.74**	**272**	Pn	**Pn**	**09 54 16.0**	**+2.5**
JTM	**Tenmabayashi**	**5.51**	**359**	Pn	**Pn**	**09 54 24.0**	**-0.1**
JHS	**Saijyo**	**6.62**	**270**	Pn	**Pn**	**09 54 43.4**	**+4.0**
JNU	**Nakatsue**	**8.81**	**259**	Pn	**Pn**	**09 55 06.7**	**-2.8**
	0.1nm,0.3s,baz=95,slow=4.4,SNR=2.2						
JNU				LR	LR	09 58 39.7	
	comp=Z,82nm,21.2s,baz=141,slow=39						
ASAJ	**Asahikawa**	**8.90**	**7**	Pn	**Pn**	**09 55 09.2**	**-1.4**
	0.8nm,0.3s,baz=205,slow=12,SNR=13						
ASAJ				Sn	**Sn**	**09 56 46.0**	**-4.5**
	baz=56,slow=12,SNR=1.7						
KSRS	**Korea Array**	**10.92**	**285**	Pn	**Pn**	**09 55 35.2**	**-3.1**
	baz=98,slow=14,SNR=2.6						
KSRS				LR	LR	10 00 01.2	
	comp=Z,119nm,18.3s,baz=100,slow=39						
KLR	**Kul'dur**	**15.59**	**336**	Pn	**Pn**	**09 56 40.3**	**-1.4**
	0.1nm,0.3s,baz=124,slow=11,SNR=2.7						
KLR				LR	LR	10 02 29.4	
	comp=Z,60nm,20.1s,baz=146,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.44**	**118**	T	T	10 27 49.0	
	baz=310,slow=75,SNR=130						
H11N1	**WAKE ISLAND Hy**	**27.45**	**118**	T	T	10 27 46.7	
	baz=310,slow=75,SNR=120						
H11N3	**WAKE ISLAND Hy**	**27.46**	**118**	T	T	10 27 49.0	
	baz=310,slow=75,SNR=101						
YAK	**Yakutsk**	**27.76**	**348**	P	**P**	**09 58 48.6**	**-1.7**
	6.4nm,0.5s,baz=178,slow=5.3,SNR=2.4						
YAK				LR	LR	10 09 54.9	
	comp=Z,66nm,18.8s,baz=96,slow=37						
H11S3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	10 28 30.7	
	baz=312,slow=75,SNR=505						
H11S1	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	10 28 30.7	
	baz=312,slow=75,SNR=572						
H11S2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	10 28 31.6	
	baz=312,slow=75,SNR=421						
SEY	**Seymchan**	**28.56**	**11**	P	**P**	**09 58 58.4**	**+1.0**
	1.0nm,0.7s,baz=239,slow=2.5,SNR=5.4						
SONM	**Songino Array**	**28.66**	**307**	P	**P**	**09 58 58.1**	**-0.5**
	0.9nm,0.8s,baz=104,slow=8.9,SNR=6.6						
SONM				LR	LR	10 10 52.0	
	comp=Z,52nm,19.1s,baz=158,slow=38						
SONM	**Songino Array**	**28.66**	**307**	P	**P**	**09 58 58.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**40.90**	**257**	P	**P**	**10 00 42.4**	**-1.9**
	0.7nm,0.3s,baz=55,slow=9.4,SNR=1.5						
CMAR				LR	LR	10 20 01.4	
	comp=Z,25nm,20.6s,baz=195,slow=40						
ZALV	**Zalesovo Beam**	**42.99**	**314**	P	**P**	**10 01 00.8**	**-0.1**
	1.1nm,0.6s,baz=97,slow=8.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**42.99**	**314**	P	**P**	**10 01 00.6**	**-0.3**
NRIK	**Noril'sk**	**44.80**	**336**	LR	LR	10 19 14.0	
	comp=Z,56nm,20.1s,baz=226,slow=35						
MK31	**Makanchi Array**	**44.93**	**304**	P	**P**	**10 01 15.9**	**-0.7**
MK31				IAmb	IAmb	10 01 42.3	
	comp=Z,1.8nm,1.0s						
MKAR	**Makanchi Array**	**44.93**	**304**	P	**P**	**10 01 16.3**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=84,slow=9.8,SNR=10						
MKAR				LR	LR	10 18 56.5	
	comp=Z,40nm,20.1s,baz=60,slow=35						
MKAR	**Makanchi Array**	**44.93**	**304**	P	**P**	**10 01 16.1**	**-0.5**
KURK	**Kurchatov**	**46.90**	**309**	P	**P**	**10 01 31.6**	**-0.4**
KURK				IAmb	IAmb	10 01 36.1	
	comp=Z,3.7nm,0.8s						
MTN	**Manton Dam**	**48.79**	**193**	P	**P**	**10 01 45.6**	**-1.4**
BOOM	**Boomskoye usch**	**50.20**	**299**	P	**P**	**10 01 56.1**	**-1.6**
BOOM				IAmb	IAmb	10 02 14.7	
	comp=Z,2.7nm,1.2s						
ILAR	**Eielson Array**	**51.09**	**32**	P	**P**	**10 02 04.7**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=267,slow=5.8,SNR=3.0						
AAK	**Ala-Archa**	**51.19**	**300**	LR	LR	10 25 05.0	
	comp=Z,44nm,18.0s,baz=112,slow=38						
BMAR	**Burnt Mountain**	**51.97**	**28**	P	**P**	**10 02 13.1**	**+2.6**
KNRA	**Kununurra**	**52.02**	**195**	P	**P**	**10 02 11.7**	**+0.3**
WB0	**Warramunga Arr**	**55.11**	**188**	P	**P**	**10 02 33.9**	**-0.1**
WB0				IAmb	IAmb	10 02 37.8	
	comp=Z,4.1nm,0.8s						
WRAB	**Tennant Creek**	**55.28**	**188**	P	**P**	**10 02 35.4**	**+0.1**
WRAB				IAmb	IAmb	10 02 39.5	
	comp=Z,3.3nm,0.8s						
WR0	**Warramunga Arr**	**55.28**	**188**	P	**P**	**10 02 35.4**	**+0.1**
WR0				IAmb	IAmb	10 02 37.5	
	comp=Z,2.9nm,0.8s						
WB2	**Warramunga Arr**	**55.29**	**188**	P	**P**	**10 02 35.6**	**+0.3**
WB2				IAmb	IAmb	10 02 37.6	
	comp=Z,4.2nm,0.9s						
WRA	**Warramunga Arr**	**55.29**	**188**	P	**P**	**10 02 35.4**	**0.0**
	comp=Z,2.6nm,0.7s,baz=4.3,slow=7.6,SNR=31						
WRA	**Warramunga Arr**	**55.29**	**188**	P	**P**	**10 02 35.5**	**+0.1**
INK	**Inuvik**	**56.04**	**27**	P	**P**	**10 02 41.2**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=295,slow=3.5,SNR=1.5						
ABKAR	**Akbulak array**	**58.95**	**311**	P	**P**	**10 03 00.8**	**-0.3**
AS31	**Alice Springs**	**59.02**	**188**	P	**P**	**10 03 03.9**	**+2.2**
ASAR	**Alice Springs**	**59.02**	**188**	P	**P**	**10 03 01.9**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=12,slow=9.4,SNR=9.8						
ASAR	**Alice Springs**	**59.02**	**188**	P	**P**	**10 03 02.6**	**+0.9**
EUNU	**Eureka**	**61.96**	**8**	P	**P**	**10 03 22.1**	**+0.9**
EUNU				IAmb	IAmb	10 03 32.2	
	comp=Z,3.6nm,1.4s						
RES	**Resolute Bay**	**64.35**	**14**	P	**P**	**10 03 37.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=320,slow=7.1,SNR=3.1						
YKA	**Yellowknife Ar**	**65.42**	**30**	P	**P**	**10 03 44.7**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=304,slow=6.9,SNR=2.5						
ARCES	**ARCESS Array B**	**65.59**	**340**	P	**P**	**10 03 44.0**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=70,slow=7.8,SNR=3.5						
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**10 04 14.4**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=57,slow=5.1,SNR=6.1						
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**10 04 15.2**	**+0.4**
KBZ	**Khabaz**	**71.92**	**311**	P	**P**	**10 04 24.1**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=63,slow=7.0,SNR=2.5						
AKASG	**Malin Array Be**	**75.59**	**322**	P	**P**	**10 04 45.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=47,slow=6.1,SNR=4.5						
NC204	**NORSAR Array S**	**75.71**	**338**	P	**P**	**10 04 46.9**	**-0.1**
NOA	**NORSAR Array B**	**75.75**	**337**	P	**P**	**10 04 47.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=40,slow=8.1,SNR=1.6						
NVAR	**Mina Array Bea**	**76.19**	**53**	P	**P**	**10 04 51.4**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=301,slow=7.0,SNR=2.1						
PDAR	**Pinedale Array**	**79.03**	**45**	P	**P**	**10 05 07.8**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=285,slow=4.5,SNR=1.4						
BRTR	**Keskin Array B**	**79.89**	**312**	P	**P**	**10 05 12.0**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=46,slow=6.2,SNR=2.6						
GERES	**GERESS Array B**	**84.12**	**328**	P	**P**	**10 05 32.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=54,slow=5.2,SNR=2.4						
TXAR	**Lajitas Array**	**91.34**	**52**	P	**P**	**10 06 09.6**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=323,slow=1.4,SNR=2.3						
LPAZ	**La Paz**	**147.71**	**62**	PKPbc	**PKiKP**	**10 12 48.9**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=275,slow=6.5,SNR=2.5						

*IDC **10** 10:16:48.1±0.7, 20°.92S×68°.64E, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.8/52, mbtmp3.9/16, MS3.7/25, Ms1 3.7/25, ms1mx3.4/71, Error ellipse: s-maj=22.6km s-min=17.4km az=28.0*
*NEIC **10** 10:16:51.3±0.9, 20°.9S±0°.1×68°.6E±0°.2, h16km±4km, mb4.4/21, Error ellipse: s-maj=20.9km s-min=16.8km az=93.0*
ISC 10 10:16:50.4±0.6, 20°.9S±0°.1×68°.7E±0°.1, h13km, n63, σ0.968/42, mb4.2/23, MS3.8/25, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.68**	**16**	T	T	10 34 02.5	
	baz=197,slow=76,SNR=37						
H08S2	**Diego Garcia H**	**13.68**	**16**	T	T	10 34 07.8	
	baz=197,slow=76,SNR=145						
H08S3	**Diego Garcia H**	**13.70**	**16**	T	T	10 34 08.9	
	baz=197,slow=76,SNR=79						
PALK	**Pallekele**	**30.39**	**24**	LR	LR	10 33 04.4	
	comp=Z,131nm,20.4s,baz=311,slow=32						
SOCY	**Socotra**	**35.91**	**335**	P	**P**	**10 23 52.5**	**+1.9**
KMBO	**Kilima Mbogo**	**36.42**	**299**	P	**P**	**10 23 55.6**	**+0.3**
	0.8nm,0.4s,baz=56,slow=23,SNR=1.9						
PSI	**Prapat**	**37.86**	**55**	LR	LR	10 35 54.4	
	comp=Z,204nm,20.4s,baz=236,slow=30						
LSZ	**Lusaka**	**38.81**	**271**	LR	LR	10 37 16.9	
	comp=Z,84nm,20.8s,baz=152,slow=32						
LBTB	**Lobatse**	**39.76**	**256**	LR	LR	10 37 27.0	
	comp=Z,122nm,21.3s,baz=102,slow=31						
BOSA	**Boshof**	**40.00**	**250**	P	**P**	**10 24 24.3**	**-0.9**
	1.2nm,0.7s,baz=100,slow=8.0,SNR=3.9						
BOSA				LR	LR	10 37 53.9	
	comp=Z,123nm,18.7s,baz=94,slow=32						
BOSA	**Boshof**	**40.00**	**250**	P	**P**	**10 24 25.0**	**-0.2**
BOSA				IAmb	IAmb	10 24 35.4	
	comp=Z,7.8nm,1.1s						
LEM	**Lembang**	**40.18**	**75**	LR	LR	10 39 53.5	
	comp=Z,84nm,18.3s,baz=186,slow=34						
SUR	**Sutherland**	**43.96**	**245**	LR	LR	10 39 25.5	
	comp=Z,138nm,21.9s,baz=120,slow=31						
WSAR	**Wadi Sarin**	**44.95**	**347**	LR	LR	10 38 56.4	
	comp=Z,89nm,21.8s,baz=164,slow=30						
MAW	**Mawson**	**46.84**	**183**	LR	LR	10 39 53.1	
	comp=Z,124nm,21.4s,baz=45,slow=30						
CMAR	**Chiang Mai Arr**	**49.09**	**39**	P	**P**	**10 25 39.3**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=240,slow=7.1,SNR=5.0						
CMAR				LR	LR	10 42 45.9	
	comp=Z,106nm,21.9s,baz=220,slow=32						
CMAR	**Chiang Mai Arr**	**49.09**	**39**	P	**P**	**10 25 37.6**	**-0.1**
SHL	**Shillong**	**51.39**	**27**	P	**P**	**10 25 55.0**	**-0.3**
KAPI	**Kappang**	**51.98**	**80**	LR	LR	10 45 02.2	
	comp=Z,52nm,19.6s,baz=256,slow=33						
NIL	**Nilore**	**54.42**	**5**	P	**P**	**10 26 17.0**	**-0.3**
NIL				IAmb	IAmb	10 26 17.8	
	comp=Z,4.6nm,1.1s						
ASAR	**Alice Springs**	**59.95**	**106**	P	**P**	**10 26 56.5**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=262,slow=6.1,SNR=29						
ASAR				LR	LR	10 49 05.3	
	comp=Z,69nm,20.6s,baz=294,slow=32						
ASAR	**Alice Springs**	**59.95**	**106**	P	**P**	**10 26 56.8**	**0.0**
AS31	**Alice Springs**	**59.95**	**106**	P	**P**	**10 26 56.6**	**-0.2**
BBOO	**Buckleboo**	**60.40**	**117**	P	**P**	**10 26 59.2**	**-0.5**
WRA	**Warramunga Arr**	**61.14**	**102**	P	**P**	**10 27 04.8**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=257,slow=6.4,SNR=20						
WRA				LR	LR	10 51 30.7	
	comp=Z,49nm,18.9s,baz=300,slow=34						
WRA	**Warramunga Arr**	**61.14**	**102**	P	**P**	**10 27 05.3**	**+0.4**
WB2	**Warramunga Arr**	**61.15**	**102**	P	**P**	**10 27 04.8**	**-0.3**
WB2				IAmb	IAmb	10 27 06.0	
	comp=Z,2.6nm,0.8s						
WRAB	**Tennant Creek**	**61.15**	**102**	P	**P**	**10 27 05.0**	**0.0**
WB0	**Warramunga Arr**	**61.23**	**102**	P	**P**	**10 27 05.3**	**-0.3**
WB0				IAmb	IAmb	10 27 06.6	
	comp=Z,5.3nm,1.1s						
WR0	**Warramunga Arr**	**61.32**	**102**	P	**P**	**10 27 06.1**	**-0.1**
WR0				IAmb	IAmb	10 27 16.8	
	comp=Z,2.3nm,0.8s						
DAV	**Davao City (W)**	**62.40**	**70**	LR	LR	10 51 30.4	
	comp=Z,66nm,20.3s,baz=280,slow=33						
BOOM	**Boomskoye usch**	**63.42**	**6**	P	**P**	**10 27 19.8**	**-0.1**
BOOM				IAmb	IAmb	10 27 21.0	
	comp=Z,2.6nm,1.1s						
AAK	**Ala-Archa**	**63.44**	**5**	LR	LR	10 52 39.4	
	comp=Z,61nm,20.6s,baz=182,slow=34						
SNAA	**Sanae**	**64.52**	**199**	P	**P**	**10 27 27.1**	**+0.5**
STKA	**Stephens Creek**	**65.17**	**116**	P	**P**	**10 27 31.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=320,slow=9.0,SNR=3.1						
STKA	**Stephens Creek**	**65.17**	**116**	P	**P**	**10 27 32.7**	**+1.2**
MK31	**Makanchi Array**	**68.49**	**10**	P	**P**	**10 27 51.2**	**-1.0**
MK31				IAmb	IAmb	10 28 03.0	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**68.49**	**10**	P	**P**	**10 27 52.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=197,slow=6.1,SNR=14						
MKAR				LR	LR	10 55 58.3	
	comp=Z,63nm,20.1s,baz=180,slow=34						
MKAR	**Makanchi Array**	**68.49**	**10**	P	**P**	**10 27 51.2**	**-1.0**
BR131	**Keskin Array S**	**68.61**	**332**	P	**P**	**10 27 52.5**	**-0.7**
BR131				IAmb	IAmb	10 27 55.2	
	comp=Z,3.1nm,0.9s						
BRTR	**Keskin Array B**	**68.61**	**332**	P	**P**	**10 27 52.8**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=160,slow=6.1,SNR=7.1						
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**10 27 56.6**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=249,slow=20,SNR=2.2						
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**10 27 56.9**	**+0.1**
QSPA				IAmb	IAmb	10 28 04.7	
	comp=Z,3.0nm,1.2s						
ABKAR	**Akbulak array**	**70.27**	**354**	P	**P**	**10 28 02.5**	**-0.6**
AKTO	**Aktyubinsk**	**71.64**	**353**	P	**P**	**10 28 11.0**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=170,slow=7.6,SNR=2.1						
KURBB	**Kurchatov Arra**	**71.73**	**7**	LR	LR	10 58 13.4	
	comp=Z,58nm,18.6s,baz=45,slow=35						
KURK	**Kurchatov**	**71.84**	**7**	P	**P**	**10 28 13.0**	**+0.4**
KURK				IAmb	IAmb	10 28 19.9	
	comp=Z,2.4nm,0.9s						
BVAR	**Borovoye Array**	**73.62**	**1**	P	**P**	**10 28 22.5**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=140,slow=4.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**73.97**	**291**	P	**P**	**10 28 26.1**	**0.0**
	comp=Z,0.4nm,0.7s,baz=121,slow=8.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**75.83**	**10**	P	**P**	**10 28 35.7**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=203,slow=6.0,SNR=8.6						
ZALV				LR	LR	10 59 56.0	
	comp=Z,35nm,19.4s,baz=186,slow=34						
ZALV	**Zalesovo Beam**	**75.83**	**10**	P	**P**	**10 28 36.0**	**+0.1**
PMG	**Port Moresby**	**76.01**	**95**	LR	LR	11 00 44.8	
	comp=Z,49nm,20.4s,baz=211,slow=35						
SONM	**Songino Array**	**76.33**	**25**	P	**P**	**10 28 39.9**	**+0.8**
	comp=Z,1.0nm,1.0s,baz=211,slow=6.4,SNR=5.4						
SONM				LR	LR	11 01 53.3	
	comp=Z,73nm,19.9s,baz=197,slow=35						
SONM	**Songino Array**	**76.33**	**25**	P	**P**	**10 28 39.2**	**+0.1**
DBIC	**Dimbokro**	**77.15**	**282**	P	**P**	**10 28 45.2**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=177,slow=7.8,SNR=2.2						
AKASG	**Malin Array Be**	**79.31**	**336**	P	**P**	**10 28 54.6**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=137,slow=4.4,SNR=6.1						
AKASG	**Malin Array Be**	**79.31**	**336**	P	**P**	**10 28 53.9**	**-1.5**
KSRS	**Korea Array**	**80.46**	**44**	LR	LR	11 04 47.8	
	comp=Z,49nm,18.7s,baz=215,slow=36						
GUMO	**Guam**	**82.29**	**72**	LR	LR	11 05 38.9	
	comp=Z,14nm,18.1s,baz=286,slow=36						
MJAR	**Matsushiro Arr**	**86.96**	**49**	LR	LR	11 07 43.0	
	comp=Z,33nm,19.9s,baz=232,slow=35						
KLR	**Kul'dur**	**89.44**	**36**	LR	LR	11 12 34.5	
	comp=Z,41nm,18.0s,baz=224,slow=37						
YAK	**Yakutsk**	**95.69**	**24**	LR	LR	11 13 55.8	
	comp=Z,43nm,20.6s,baz=268,slow=36						
YKA	**Yellowknife Ar**	**138.37**	**2**	PKP	**PKPdf**	**10 36 14.4**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=346,slow=2.0,SNR=4.5						

*IDC **10** 10:21:25.3±0.8, 17°.14S×66°.50W, h0km, mb4.0/8, mb1 4.1/11, mb1mx4.0/28, mbtmp4.0/11, ML3.8/3, MS3.8/12, Ms1 3.8/12, ms1mx3.4/53, Error ellipse: s-maj=23.9km s-min=12.4km az=30.0*
*VAO **10** 10:21:30.1±0.3, 16°.87S×66°.50W, h10km, mb4.4*
*SCB **10** 10:21:30.8±5.0, 16°.89S×66°.72W, h65km±179km, ML4.5/1, Error ellipse: s-maj=43.4km s-min=37.0km az=2.0*
*NEIC **10** 10:21:31±2.0, 17°.02S±0°.06×66°.60W±0°.07, h25km±4km, mb4.5/21, Error ellipse: s-maj=9.5km s-min=9.2km az=140.0*
ISC 10 10:21:31.2±0.4, 16°.99S±0°.05×66°.62W±0°.05, h35km, n127, σ1.954/121, mb4.3/12, MS3.8/11, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOE	**La Paz, Chanca**	**1.32**	**277**	Pg	**Pn**	**10 21 54.2**	**+0.6**
LPAZ	**La Paz**	**1.61**	**295**	Pg	**Pn**	**10 21 58.7**	**+1.0**
	225nm,0.3s,baz=108,slow=13,SNR=1536						
LPAZ				Lg	Lg	10 22 22.0	
	1μm,0.3s,baz=239,slow=25,SNR=17						
LPAZ				LR	LR	10 22 46.6	
	comp=Z,366nm,19.5s,baz=170,slow=46						
LPAZ	**La Paz**	**1.61**	**295**	*e*P	**Pn**	**10 21 59.0**	**+1.3**
LPAZ	**La Paz**	**1.61**	**295**		**Pn**	**10 21 58.4**

BO01 Tunca 17.79 192 P **Pn 10 25 35.8 -0.3**
BO01 IAmb IAmb 10 25 36.6
comp=Z,13nm,0.7s
BDFB Brasilia 17.91 88 P **Pn 10 25 35.3 -2.5**
comp=Z,0.2nm,0.3s,baz=93,slow=24,SNR=1.3
BDFB Brasilia 17.91 88 P **Pn 10 25 35.7 -2.1**
CPSB Cacapava Do Su 17.98 140 *eP* **P 10 25 39.9 +1.1**
BO02 Sierra Bellavi 18.12 191 P **Pn 10 25 40.8 +0.6**
PEXB Peixe 18.38 77 *eP* **Pn 10 25 44.0 +0.4**
TIJ01 Guaruva-PR 18.39 120 *eP* **P 10 25 43.8 +0.4**
PLTB Pedras Altas 18.86 144 P **P 10 25 48.6 +0.1**
MALB Monte Alegre 19.34 40 *eP* **P 10 25 54.0 +0.2**
BOAV Boa Vista 20.18 18 *eP* Pn 10 26 05.3 +0.4
BOAV Boa Vista 20.18 18 P Pn 10 26 04.5 -0.5
BOAV IAmb IAmb 10 26 11.8
comp=Z,18nm,1.3s
SMTB Santa Maria do 20.22 69 *eP* **P 10 26 04.5 +1.1**
BSCB Bom Sucesso 21.03 104 *eP* **P 10 26 14.0 +1.8**
SDBA SAO DESIDERIO 21.49 81 *eP* **P 10 26 19.1 +2.0**
POPC Popayan, Colom 21.80 332 *eP* **P 10 26 23.8 +3.2**
MCPB Macapa, AP 21.88 42 *eP* **P 10 26 21.1 -0.3**
LC01 Cunco 22.31 191 P **P 10 26 25.7 0.0**
LC01 IAmb IAmb 10 26 26.3
comp=Z,16nm,1.1s
ORTC Ortega, Tolima 22.45 337 *eP* **P 10 26 27.4 0.0**
CHIC Chingaza 22.60 341 *eP* **P 10 26 28.2 -1.2**
ROSC El Rosal 22.99 340 P **P 10 26 35.0 +1.5**
comp=Z,7.2nm,0.4s,baz=121,slow=17,SNR=2.3
ROSC El Rosal 22.99 340 P **P 10 26 34.0 +0.6**
ROSC IAmb IAmb 10 26 48.6
comp=Z,20nm,1.1s
TMAB Tom-Au,PA,Br 23.29 53 *eP* **P 10 26 37.9 +1.7**
DUB01 Friburgo-RJ 23.39 106 *eP* **P 10 26 38.7 +1.6**
RUSC La Rusia 23.62 344 *eP* **P 10 26 41.7 +1.9**
GUY2C Guyana, Caldas 23.70 338 *eP* **P 10 26 41.8 +1.2**
PLMC San Jos del P 23.76 335 *eP* **P 10 26 41.0 +0.4**
NORC Norcasia 23.85 339 *eP* **P 10 26 42.4 +0.9**
PLCA Paso Flores 23.90 187 P **P 10 26 39.9 -2.0**
comp=Z,5.9nm,0.9s,baz=12,slow=10,SNR=13
PLCA LR LR 10 36 34.2
comp=Z,210nm,19.2s,baz=354,slow=38
PLCA Paso Flores 23.90 187 P **P 10 26 40.5 -1.3**
CAM01 Campos-RJ 24.02 106 *eP* **P 10 26 46.0 +3.0**
BARC Barichara 24.31 344 *eP* **P 10 26 45.9 -0.1**
PTBC PUERTO BERRIO, 24.63 341 *eP* **P 10 26 47.3 -1.3**
HELC Santa Helena 24.66 338 *eP* **P 10 26 54.7 +5.4**
PAMC Pamplona, Colo 24.91 346 *eP* **P 10 26 50.9 -0.8**
ZARC Zaragoza, Cauc 25.65 341 *eP* **P 10 26 57.8 -0.1**
ZARC Zaragoza, Cauc 25.65 341 P **P 10 26 57.6 -0.3**
ZARC IAmb IAmb 10 27 10.9
comp=Z,12nm,0.9s
DBBC Dabeiba 25.67 338 *eP* **P 10 26 58.5 +0.4**
BAUV El Baul 25.80 357 P **P 10 26 60.0 +0.7**
MDP Montagnes des 25.93 33 P **P 10 27 01.0 +0.6**
comp=Z,8.6nm,0.9s,baz=190,slow=3.2,SNR=2.6
MDP LR LR 10 38 00.7
comp=Z,268nm,19.6s,baz=226,slow=38
SDV Santo Domingo 26.01 351 P **P 10 27 02.4 +1.0**
comp=Z,2.4nm,0.3s,baz=209,slow=8.9,SNR=1.4
SDV LR LR 10 36 57.7
comp=Z,138nm,19.9s,baz=256,slow=36
UREC San Jos de Ur 26.11 340 *eP* **P 10 27 03.1 +1.0**
SMLC San Martn de 26.66 343 *eP* **P 10 27 05.4 -1.6**
SJCC San Jacinto, C 28.02 342 *eP* **P 10 27 17.4 -1.8**
SJCC San Jacinto, C 28.02 342 P **P 10 27 19.7 +0.5**
NBPV Pedro Velho 32.37 75 *eP* **P 10 27 58.4 +0.5**
CELP Cerrillos 34.84 0 P **P 10 28 19.4 +0.2**
TKL Tuckaleechee C 54.83 343 LR LR 10 55 43.8
comp=Z,111nm,19.5s,baz=118,slow=37
TXAR Lajitas Array 58.31 322 P **P 10 31 21.7 -1.2**
comp=Z,0.1nm,0.8s,baz=157,slow=4.9,SNR=1.3
DBIC Dimbokro 65.41 74 LR LR 10 58 56.6
comp=Z,63nm,18.6s,baz=264,slow=34
SNAA Sanae 65.84 162 P **P 10 32 13.2 +0.3**
SNAA IAmb IAmb 10 32 13.9
comp=Z,11nm,1.4s
ULM Lac du Bonnet 71.74 341 LR LR 11 05 57.1
comp=Z,60nm,18.3s,baz=188,slow=37
QSPA South Pole Qui 73.18 180 P **P 10 32 58.5 +0.2**
QSPA IAmb IAmb 10 32 58.9
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 73.37 320 P **P 10 33 01.4 +1.5**
comp=Z,0.1nm,0.5s,baz=174,slow=3.2,SNR=1.8
TORD Torodi Ar. Bea 73.81 70 P **P 10 33 01.8 -0.9**
comp=Z,0.9nm,0.5s,baz=261,slow=6.1,SNR=7.9
TORD Torodi Ar. Bea 73.81 70 P **P 10 33 02.2 -0.6**
TORD IAmb IAmb 10 33 13.0
comp=Z,4.2nm,0.9s
YBH Yreka Blue Hor 78.05 321 LR LR 11 08 03.7
comp=Z,42nm,19.3s,baz=40,slow=36
TLCB Telegraph Cove 85.43 326 P **P 10 34 06.0 +1.0**
RAR Rarotonga 86.83 249 P **P 10 34 13.2 +0.5**
YKA Yellowknife Ar 87.70 340 P **P 10 34 14.9 -1.0**
comp=Z,0.5nm,0.6s,baz=132,slow=4.7,SNR=20
LSZ Lusaka 90.08 106 LR LR 11 12 32.1
comp=Z,37nm,18.3s,baz=208,slow=34
DLBC Dease Lake 91.24 332 LR LR 11 18 53.1
comp=Z,44nm,21.9s,baz=194,slow=38
VRAC Vranov 98.37 41 LR LR 11 19 01.1
comp=Z,35nm,18.6s,baz=274,slow=35
NOA NORSAR Array B 98.95 29 LR LR 11 15 37.2
comp=Z,28nm,19.0s,baz=250,slow=33
ASAR Alice Springs 134.89 207 PKP **PKPdf 10 40 45.9 -1.5**
comp=Z,0.4nm,0.8s,baz=133,slow=2.0,SNR=7.2
ASAR Alice Springs 134.89 207 **PKPdf 10 40 46.5 -0.9**
ZALV Zalesovo Beam 136.97 24 PKP **PKPdf 10 40 50.2 0.0**
comp=Z,1.6nm,0.7s,baz=325,slow=2.3,SNR=8.4
ZALV Zalesovo Beam 136.97 24 **PKPdf 10 40 49.4 -0.8**
WRA Warramunga Arr 137.92 210 PKP **PKPdf 10 40 52.1 -1.0**
comp=Z,0.7nm,0.9s,baz=143,slow=1.2,SNR=5.3
WRA Warramunga Arr 137.92 210 **PKPdf 10 40 52.4 -0.6**
MKAR Makanchi Array 140.72 34 PKP **PKPdf 10 40 56.9 -0.5**
comp=Z,0.4nm,0.9s,baz=250,slow=4.3,SNR=3.0
MKAR Makanchi Array 140.72 34 **PKPdf 10 40 57.5 +0.2**
USRK Ussuriysk Ar. 148.65 334 PKPbc **PKPbc 10 41 14.5 -0.3**
comp=Z,1.4nm,0.8s,baz=147,slow=11,SNR=5.6
USRK Ussuriysk Ar. 148.65 334 **PKPbc 10 41 14.8 +0.1**
SONM Songino Array 148.71 9 PKPbc **PKPbc 10 41 14.7 -0.4**
comp=Z,1.1nm,0.7s,baz=307,slow=1.8,SNR=10.0
SONM Songino Array 148.71 9 PKPdf **PKPdf 10 41 10.4 -0.8**
SONM **PKPbc 10 41 14.9 -0.1**
SONM PKPab **PKPab 10 41 18.8 +0.1**

*IDC **10** 10:30:40.0±1.5, 49°.10N×156°.73E, h0km, mb3.4/7, mb1 3.7/8, mb1mx3.4/54, mbtmp3.4/8, ML2.6/1, MS2.8/4, Ms1 2.8/4, ms1mx2.5/65, Error ellipse: s-maj=54.1km s-min=19.9km az=149.0*
*MOS **10** 10:30:42.8±1.1, 49°.10N×156°.70E, h32km, mb4.0/1, Error ellipse: s-maj=23.1km s-min=4.5km az=79.4*
*KRSC **10** 10:30:44.4±2.3, 49°.41N×157°.15E, h16km±36km, ML4.4*
ISC 10 10:30:45.6±0.9,**49°.24N**±0°.07×**156°.65E**±0°.08,**h34**km,**n63,** σ1§**35**/64,**mb3.5/7,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.48**	**347**	*e*PN	**Pn**	**10 31 08.3**	**-1.5**
SKR				*e*S	**Sn**	**10 31 25.2**	**-2.8**
SKR				pmax	pmax		
	comp=Z,812nm,0.5s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
SKR				smax	smax		
	comp=E,2μm,0.4s						
SKR	**Severo-Kuril's**	**1.48**	**347**	*e*P	**Pn**	**10 31 09.2**	**-0.6**
SKR				*e*S	**Sn**	**10 31 27.2**	**-0.8**
PAU	**Pauzhetka**	**2.23**	**3**	PN	**Pn**	**10 31 20.3**	**+0.2**
PAU				S	**Sn**	**10 31 46.3**	**-0.1**
PAU	**Pauzhetka**	**2.23**	**3**	*e*P	**Pn**	**10 31 20.3**	**+0.2**
PAU				*e*S	**Sn**	**10 31 46.3**	**-0.1**
KDTR	**Khodutka, Kamc**	**2.73**	**19**	PN	**Pn**	**10 31 26.4**	**-0.5**
KDTR	**Khodutka, Kamc**	**2.73**	**19**	*e*P	**Pn**	**10 31 26.4**	**-0.5**
KDTR				*e*S	**Sn**	**10 31 57.4**	**-1.3**
MIPR	**Malaya Ipel'ka**	**3.04**	**1**	PN	**Pn**	**10 31 31.5**	**+0.3**
MIPR	**Malaya Ipel'ka**	**3.04**	**1**	*e*P	**Pn**	**10 31 31.5**	**+0.3**
ASAK	**Asacha**	**3.25**	**14**	PN	**Pn**	**10 31 35.8**	**+1.7**
ASAK	**Asacha**	**3.25**	**14**	*e*P	**Pn**	**10 31 35.8**	**+1.7**
RUS	**Russkaya**	**3.41**	**20**	PN	**Pn**	**10 31 35.7**	**-0.5**
RUS	**Russkaya**	**3.41**	**20**	*e*P	**Pn**	**10 31 35.7**	**-0.5**
RUS				*e*S	**Sn**	**10 32 12.7**	**-2.7**
GRL	**Gorelyy**	**3.44**	**15**	PN	**Pn**	**10 31 37.4**	**+0.6**
GRL	**Gorelyy**	**3.44**	**15**	*e*P	**Pn**	**10 31 37.4**	**+0.6**
APC	**Apacha**	**3.70**	**5**	PN	**Pn**	**10 31 42.1**	**+1.8**
APC	**Apacha**	**3.70**	**5**	*e*P	**Pn**	**10 31 42.1**	**+1.8**
KRMR	**Karymshinskiy**	**3.71**	**14**	PN	**Pn**	**10 31 41.9**	**+1.5**
KRMR	**Karymshinskiy**	**3.71**	**14**	*e*P	**Pn**	**10 31 41.9**	**+1.5**
PETK	**Petropavlovsk-**	**3.93**	**9**	Pn	**Pn**	**10 31 44.1**	**+0.6**
	comp=E,1.8nm,0.3s,baz=201,slow=14,SNR=62						
PETK				Sn	**Sb**	**10 32 41.7**	**+0.6**
	baz=257,slow=24,SNR=1.7						
PETK				LR	LR	10 33 11.6	
	comp=E,66nm,19.6s,baz=198,slow=37						
PET	**Petropavlovsk**	**3.99**	**18**	*e*PN	**Pn**	**10 31 44.5**	**+0.2**
PET				pmax	pmax		
	comp=Z,15nm,0.3s						
PET	**Petropavlovsk**	**3.99**	**18**	*e*P	**Pn**	**10 31 44.8**	**+0.5**
PET				*e*S	**Sn**	**10 32 28.8**	**-1.0**
DALK	**Dalny**	**4.02**	**18**	PN	**Pn**	**10 31 44.8**	**+0.1**
DALK	**Dalny**	**4.02**	**18**	*e*P	**Pn**	**10 31 44.8**	**+0.1**
UGLR	**Uglovaya**	**4.20**	**18**	PN	**Pn**	**10 31 48.8**	**+1.5**
UGLR	**Uglovaya**	**4.20**	**18**	*e*P	**Pn**	**10 31 48.8**	**+1.5**
AVH	**Avacha**	**4.24**	**17**	PN	**Pn**	**10 31 50.3**	**+2.6**
AVH	**Avacha**	**4.24**	**17**	*e*P	**Pn**	**10 31 50.3**	**+2.6**
AVH				*e*S	**Sn**	**10 32 38.4**	**+2.4**
KOK	**Koryaka**	**4.24**	**16**	PN	**Pn**	**10 31 49.7**	**+1.9**
KOK	**Koryaka**	**4.24**	**16**	*e*P	**Pn**	**10 31 49.7**	**+1.9**
SMAR	**Somma**	**4.25**	**18**	PN	**Pn**	**10 31 49.7**	**+1.7**
SMAR	**Somma**	**4.25**	**18**	*e*P	**Pn**	**10 31 49.7**	**+1.7**
KRER	**Koryakskii**	**4.28**	**17**	PN	**Pn**	**10 31 49.6**	**+1.2**
KRER	**Koryakskii**	**4.28**	**17**	*e*P	**Pn**	**10 31 49.6**	**+1.2**
SDLR	**Sedlovina**	**4.28**	**18**	PN	**Pn**	**10 31 48.6**	**+0.2**
SDLR	**Sedlovina**	**4.28**	**18**	*e*P	**Pn**	**10 31 48.6**	**+0.2**
NLC	**Nalytchevo**	**4.29**	**22**	PN	**Pn**	**10 31 50.9**	**+2.6**
NLC	**Nalytchevo**	**4.29**	**22**	*e*P	**Pn**	**10 31 50.9**	**+2.6**
SPN	**Mys Shipunski**	**4.41**	**27**	PN	**Pn**	**10 31 49.9**	**-0.1**
SPN	**Mys Shipunski**	**4.41**	**27**	*e*P	**Pn**	**10 31 49.9**	**-0.1**
GNL	**Ganaly**	**4.53**	**10**	PN	**Pn**	**10 31 53.4**	**+1.6**
GNL	**Ganaly**	**4.53**	**10**	*e*P	**Pn**	**10 31 53.4**	**+1.6**
MKZ	**Mys Kozlova**	**6.18**	**29**	PN	**Pn**	**10 32 13.4**	**-0.9**
MKZ	**Mys Kozlova**	**6.18**	**29**	*e*P	**Pn**	**10 32 13.4**	**-0.9**
TUMD	**Tumrok D**	**6.40**	**20**	*e*P	**Pn**	**10 32 18.0**	**+0.6**
TUMR	**Tumrok**	**6.42**	**18**	PN	**Pn**	**10 32 18.0**	**+0.3**
TUMR	**Tumrok**	**6.42**	**18**	*e*P	**Pn**	**10 32 19.0**	**+1.3**
SHO	**Shikotan**	**8.64**	**235**	*e*PN	**Pn**	**10 32 47.4**	**-0.6**
ASAJ	**Asahikawa**	**10.93**	**247**	Pn	**Pn**	**10 33 21.5**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=336,slow=29,SNR=2.0						
KLR	**Kul'dur**	**16.25**	**279**	LR	LR	10 40 35.5	
	comp=Z,44nm,18.4s,baz=297,slow=36						
KSRS	**Korea Array**	**23.83**	**251**	P	**P**	**10 35 54.7**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=60,slow=9.8,SNR=5.2						
KSRS				LR	LR	10 45 46.4	
	comp=Z,20nm,18.1s,baz=195,slow=38						
H11N2	**WAKE ISLAND Hy**	**30.57**	**161**	T	T	11 09 50.8	
	baz=343						
H11N3	**WAKE ISLAND Hy**	**30.58**	**161**	T	T	11 09 52.0	
	baz=343						
H11N1	**WAKE ISLAND Hy**	**30.59**	**161**	T	T	11 09 56.5	
	baz=343						
H11S1	**WAKE ISLAND Hy**	**31.71**	**162**	T	T	11 11 18.7	
	baz=347,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**31.72**	**162**	T	T	11 11 19.2	
	baz=347,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**31.73**	**162**	T	T	11 11 19.3	
	baz=347,slow=76,SNR=22						
ILAR	**Eielson Array**	**33.11**	**41**	P	**P**	**10 37 18.2**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=263,slow=7.7,SNR=2.5						
INK	**Inuvik**	**38.26**	**34**	P	**P**	**10 38 01.7**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=292,slow=5.2,SNR=2.7						
YKA	**Yellowknife Ar**	**47.50**	**39**	P	**P**	**10 39 17.8**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=298,slow=7.6,SNR=3.9						
MKAR	**Makanchi Array**	**47.92**	**297**	P	**P**	**10 39 19.3**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=67,slow=8.5,SNR=4.2						
CMAR	**Chiang Mai Arr**	**55.25**	**258**	P	**P**	**10 40 16.2**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=32,slow=7.0,SNR=5.8						
OBN	**Obninsk**	**64.57**	**327**	LR	LR	11 10 24.3	
	comp=Z,9.4nm,19.5s,baz=284,slow=37						
TXAR	**Lajitas Array**	**74.22**	**63**	P	**P**	**10 42 17.9**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=311,slow=6.8,SNR=2.5						

*RSNC **10** 10:33:48.3±1.3, 5°.85N×76°.52W, h8km±3km, ML4.0, Mw4.3, Fault plane solution: NP1:φs28.00000°, δ78.00000°, λ7.00000°.*
*UPA **10** 10:33:49.7±2.5, 6°.08N×76°.68W, h10km±35km, MW4.7*
*NEIC **10** 10:33:51.9±2.1, 5°.95N±0°.06×76°.45W±0°.05, h45km±6km, mb4.4/18, Error ellipse: s-maj=9.2km s-min=6.4km az=191.0*
*IDC **10** 10:33:55.1±1.5, 5°.91N×76°.34W, h93km±14km, mb3.5/16, mb1 3.7/20, mb1mx3.6/37, mbtmp3.9/20, MS3.4/5, Ms1 3.4/5, ms1mx3.0/41, Error ellipse: s-maj=15.9km s-min=10.3km az=58.0*
ISC 10 10:33:47.4±1.1,**5°.90N**±0°.02×**76°.55W**±0°.02,**h23**km±8km, **n143,** σ1§**87**/185,**mb4.1**/22,**MS3.3**/4,**15C-22D,Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	**Ciudad Bolivar**	**0.53**	**94**	↑*i*P	**Pb**	**10 33 58.4**	**+0.2**
CBOC				*e*S	**Sb**	**10 34 05.4**	**-0.2**
CBOC				*i*		10 34 06.0	
	comp=Z,16μm,0.3s						
SOLC	**Bahia Solano**	**0.92**	**291**	↑*e*P	**Pn**	**10 34 05.5**	**+0.5**
SOLC				*e*S	**Sn**	**10 34 18.1**	**+0.7**
SOLC				*i*		10 34 22.7	
	comp=Z,5μm,0.3s						
PLMC	**San Jos del P**	**1.02**	**165**	↓*i*P	**Pn**	**10 34 05.1**	**-1.4**
PLMC				*e*S	**Sb**	**10 34 17.9**	**-1.7**
PLMC				*i*		10 34 20.5	
	comp=Z,6μm,0.7s						
HELC	**Santa Helena**	**1.05**	**74**	↑*i*P	**Pn**	**10 34 06.2**	**-0.9**
HELC				*e*S	**Sb**	**10 34 20.1**	**-0.6**
HELC				*i*		10 34 21.5	
	comp=Z,5μm,0.5s						
HELC	**Santa Helena**	**1.05**	**74**	↑*i*P	**Pn**	**10 34 06.2**	**-0.9**
HELC				*e*S	**Sb**	**10 34 20.2**	**-0.4**
DBBC	**Dabeiba**	**1.16**	**17**	↓*i*P	**Pn**	**10 34 08.5**	**+0.1**
DBBC				*e*S	**Sb**	**10 34 25.9**	**+2.4**
PIZC	**Pizarro, Choco**	**1.23**	**221**	*e*P	**Pb**	**10 34 11.4**	**+1.3**
PIZC				*e*S	**Sb**	**10 34 29.7**	**+4.2**
PIZC				*i*		10 34 34.0	
	comp=Z,3μm,0.4s						
GUY2C	**Guyana, Caldas**	**1.35**	**120**	↓*i*P	**Pn**	**10 34 11.7**	**+0.3**
GUY2C				*e*S	**Sn**	**10 34 29.0**	**+0.1**
GUY2C				*i*		10 34 33.8	
	comp=Z,7μm,0.7s						
NORC	**Norcasia**	**1.70**	**101**	↑*i*P	**Pn**	**10 34 17.0**	**+1.2**
NORC				*e*S	**Sn**	**10 34 37.7**	**+0.7**
NORC				*i*		10 34 40.5	
	comp=Z,3μm,0.6s						
PTAC	**Punta Ardita,**	**1.76**	**315**	↓*e*P	**Pn**	**10 34 17.1**	**+0.5**
PTAC				*e*S	**Sn**	**10 34 38.0**	**-0.4**
PTAC				*i*		10 34 38.1	
	comp=Z,1μm,0.3s						
PTAC	**Punta Ardita,**	**1.76**	**315**	↓*i*P	**Pn**	**10 34 17.1**	**+0.5**
YOTC	**Yotoco, Valle**	**1.91**	**174**	↓*i*P	**Pn**	**10 34 18.0**	**-0.9**
YOTC				*e*S	**Sn**	**10 34 39.1**	**-3.2**
YOTC				*i*		10 34 39.8	
	comp=Z,1μm,0.4s						
UREC	**San Jos de Ur**	**2.10**	**29**	↓*e*P	**Pn**	**10 34 22.9**	**+1.7**
UREC				*e*S	**Sb**	**10 34 49.4**	**-1.0**
UREC				*i*		10 34 52.1	
	comp=Z,3μm,0.5s						
UREC	**San Jos de Ur**	**2.10**	**29**	↓*i*P	**Pn**	**10 34 22.9**	**+1.7**
UREC				*i* S	**Sb**	**10 34 49.5**	**-1.0**
PTBC	**PUERTO BERRIO,**	**2.17**	**73**	↑*i*P	**Pn**	**10 34 23.9**	**+1.6**
PTBC				*e*S	**Sn**	**10 34 50.5**	**+2.0**
PTBC				*i*		10 34 57.6	
	comp=Z,1μm,0.4s						
ZARC	**Zaragoza, Cauc**	**2.31**	**47**	↑*e*P	**Pn**	**10 34 25.3**	**+1.2**
ZARC				*e*S	**Sb**	**10 34 55.1**	**-1.3**
ZARC	**Zaragoza, Cauc**	**2.31**	**47**	Pn	**Pn**	**10 34 26.1**	**+2.1**
ORTC	**Ortega, Tolima**	**2.36**	**147**	↓*i*P	**Pb**	**10 34 27.8**	**-1.6**
ORTC				*e*S	**Sb**	**10 34 57.4**	**-0.8**
ORTC				*i*		10 34 60.0	
	comp=Z,666nm,0.6s						
ROSC	**El Rosal**	**2.45**	**115**	P	**Pb**	**10 34 29.9**	**-1.2**
	comp=Z,120nm,0.3s,baz=30,slow=3.0,SNR=91						
ROSC				S	**Sb**	**10 35 01.0**	**-0.1**
	comp=Z,274nm,0.3s,baz=126,slow=14,SNR=6.2						
ROSC	**El Rosal**	**2.45**	**115**		**Pb**	**10 34 30.4**	**-0.7**
SPBC	**San Pablo de B**	**2.47**	**96**	↑*e*P	**Pn**	**10 34 28.4**	**+1.9**
SPBC				*e*S	**Sn**	**10 34 58.1**	**+2.0**
SPBC				*i*		10 35 01.6	
	comp=Z,924nm,0.4s						
RAC02	**Cali,SGC**	**2.51**	**180**	↑*e*P	**Pn**	**10 34 27.1**	**0.0**
RAC02				*e*S	**Sn**	**10 34 55.1**	**-2.0**
PRAC	**Prado**	**2.73**	**143**	↓*i*P	**Pn**	**10 34 32.8**	**+2.8**
PRAC				*e*S	**Sb**	**10 35 08.7**	**0.0**
PRAC				*i*		10 35 16.1	
	comp=Z,628nm,0.7s						
CAPC	**Capurgana**	**2.83**	**344**	*e*P	**Pn**	**10 34 30.7**	**-0.7**
CAPC				*e*S	**Sn**	**10 35 05.1**	**+0.3**
CAPC				*i*		10 35 09.9	
	comp=Z,470nm,0.4s						
CAP2	**Capurgana**	**2.85**	**344**	↓*i*P	**Pn**	**10 34 30.6**	**-0.9**
CAP2				*i* S	**Sn**	**10 35 04.2**	**-1.1**
LCBC	**Los crdobas,**	**2.94**	**3**	*e*P	**Pn**	**10 34 35.4**	**+2.5**
LCBC				*e*S	**Sn**	**10 35 10.1**	**+2.5**
LCBC				*i*		10 35 40.0	
	comp=Z,174nm,0.5s						
MOTC	**Monteria, Cord**	**2.99**	**17**	↓*e*P	**Pn**	**10 34 34.9**	**+1.4**
MOTC				*e*S	**Sn**	**10 35 10.8**	**+2.1**
MOTC				*i*		10 35 33.2	
	comp=Z,172nm,0.6s						
UPD2	**Meteti**	**3.01**	**331**	↑*i*P	**Pn**	**10 34 34.7**	**+1.0**
BRRC	**Barranca, Sant**	**3.06**	**67**	↑*e*P	**Pn**	**10 34 36.2**	**+1.8**
BRRC				*e*S	**Sn**	**10 35 15.0**	**+4.6**
BRRC				*i*		10 35 48.3	
	comp=Z,168nm,0.6s						
CHIC	**Chingaza**	**3.07**	**114**	↓*e*P	**Pn**	**10 34 38.2**	**+3.1**
CHIC				*e*S	**Sb**	**10 35 21.7**	**+2.8**
CHIC				*i*		10 35 30.6	
	comp=Z,373nm,0.6s						
POPC	**Popayan, Colom**	**3.34**	**182**	↓*i*P	**Pn**	**10 34 39.4**	**+0.8**
POPC				*e*S	**Sn**	**10 35 17.1**	**-0.6**
POPC				*i*		10 35 19.9	
	comp=Z,393nm,0.4s						
BETC	**Betania**	**3.38**	**161**	*e*P	**Pn**	**10 34 41.7**	**+2.7**
BETC				*e*S	**Sn**	**10 35 21.9**	**+3.5**
BETC				*i*		10 35 24.6	
	comp=Z,427nm,0.6s						
BARC	**Barichara**	**3.41**	**78**	*e*P	**Pn**	**10 34 41.5**	**+1.9**
BARC				*e*S	**Sn**	**10 35 22.0**	**+2.5**
BARC				*i*		10 35 27.6	
	comp=Z,439nm,0.6s						
RUSC	**La Rusia**	**3.44**	**90**	*e*P	**Pn**	**10 34 41.6**	**+1.4**
RUSC				*e*S	**Sn**	**10 35 22.1**	**+1.5**
RUSC				*i*		10 35 39.0	
	comp=Z,355nm,0.7s						
SMLC	**San Martn de**	**3.79**	**40**	*e*P	**Pn**	**10 34 45.3**	**+0.8**
SMLC				*e*S	**Sn**	**10 35 29.8**	**+1.4**
SMLC				*i*		10 35 43.0	
	comp=Z,329nm,0.5s						
GARC	**Garzon, Huila**	**3.83**	**164**	*e*P	**Pn**	**10 34 47.4**	**+2.0**
GARC				*e*S	**Sn**	**10 35 31.9**	**+2.0**
GARC				*i*		10 35 36.6	
	comp=Z,367nm,0.3s						
ACHO3	**Achotines, Los**	**3.91**	**293**	↓*e*P	**Pn**	**10 34 46.5**	**+0.4**
ACHO3				*i* S	**Sn**	**10 35 29.8**	**-1.5**
BBAC	**Balboa, Cauca**	**3.92**	**190**	*e*S	**Sn**	**10 35 32.8**	**+0.9**
PCRI3	**Pocri, Los San**	**3.96**	**296**	↓*e*P	**Pn**	**10 34 47.4**	**+0.6**
OCAC	**Ocana**	**3.96**	**54**	*e*P	**Pn**	**10 34 49.1**	**+2.2**
OCAC				*e*S	**Sn**	**10 35 34.0**	**+1.3**
OCAC	**Ocana**	**3.96**	**54**		**Pn**	**10 34 48.6**	**+1.7**
CNTA3	**Canitas, Panam**	**4.04**	**325**	*e*P	**Pn**	**10 34 47.2**	**-0.7**
PAMC	**Pamplona, Colo**	**4.08**	**69**	↑*e*P	**Pn**	**10 34 51.0**	**+2.1**
PAMC				*e*S	**Sn**	**10 35 38.8**	**+2.6**
PAMC				*i*		10 35 58.7	
	comp=Z,305nm,0.5s						
CHPO	**Chepo, Panama**	**4.13**	**322**	↓*e*P	**Pn**	**10 34 48.6**	**-0.5**
TABO3	**Taboga, Panama**	**4.14**	**314**	*e*P	**Pn**	**10 34 49.9**	**+0.5**
TOSI3	**Tonosi**	**4.15**	**291**	↓*e*P	**Pn**	**10 34 49.9**	**+0.5**
TOSI3				*i* S	**Sn**	**10 35 33.5**	**-3.8**
AZU	**Azuero**	**4.15**	**297**	↑*i*P	**Pn**	**10 34 50.0**	**+0.5**
AZU				*i* S	**Sn**	**10 35 34.6**	**-2.7**
SJCC	**San Jacinto, C**	**4.20**	**19**	Pn	**Pn**	**10 34 50.8**	**+0.7**
SJCC	**San Jacinto, C**	**4.20**	**19**	*i* P	**Pn**	**10 34 51.0**	**+0.8**
UPA	**Univ. de Panam**	**4.26**	**316**	*e*P	**Pn**	**10 34 52.3**	**+1.3**
ARRA3	**Arraijan, Pana**	**4.34**	**315**	*e*P	**Pn**	**10 34 51.2**	**-0.9**
CHIT3	**Chitre**	**4.35**	**298**	*e*P	**Pn**	**10 34 53.0**	**+0.7**
CHIT3				*e*S	**Sn**	**10 35 40.1**	**-2.2**
CHOR3	**La Chorrera**	**4.37**	**313**	*e*P	**Pn**	**10 34 52.1**	**-0.3**
FLOC	**Florencia**	**4.38**	**168**	↓*i*P	**Pn**	**10 34 54.7**	**+2.1**
FLOC				*e*S	**Sn**	**10 35 43.6**	**+0.6**
FLOC				*i*		10 35 55.9	
	comp=Z,142nm,0.8s						
VTON	**El Valle, Cocl**	**4.45**	**307**	↑*e*P	**Pn**	**10 34 54.0**	**+0.3**
ZANG	**Zanguenga, Cho**	**4.48**	**313**	*e*P	**Pn**	**10 34 53.8**	**-0.2**
PESE3	**Pese, Herrera**	**4.50**	**297**	↓*e*P	**Pn**	**10 34 55.5**	**+1.2**
PESE3				*i* S	**Sn**	**10 35 44.7**

comp=Z,15nm,0.9s
LPAZ La Paz 23.57 159 P P 10 38 56.6 -0.6
comp=Z,1.7nm,0.4s,baz=56,slow=2.0,SNR=12
LPAZ La Paz 23.57 159 P P 10 38 57.2 0.0
LPAZ IAmb IAmb 10 39 01.6
comp=Z,11nm,1.4s
MDP Montagnes des 23.81 91 P P 10 38 57.8 -1.2
comp=Z,5.8nm,0.8s,baz=350,slow=6.9,SNR=1.7
PB16 IPOC Station P 25.06 164 P P 10 39 10.9 -0.1
PB16 IAmb IAmb 10 39 14.7
comp=Z,4.5nm,0.7s
PB11 IPOC Station P 26.39 165 P P 10 39 22.5 0.0
PB11 IAmb IAmb 10 39 26.7
comp=Z,9.6nm,0.7s
SIV San Ignacio 26.60 145 P P 10 39 24.0 -0.4
comp=Z,3.5nm,0.5s,baz=314,slow=8.8,SNR=20
TA01 Diego Aracena 27.03 167 P P 10 39 29.2 +1.0
TA01 IAmb IAmb 10 39 49.8
comp=Z,28nm,1.4s
LVC Limon Verde 29.30 165 P P 10 39 49.2 +0.3
comp=Z,2.8nm,0.8s,baz=264,slow=20,SNR=1.7
LVC LR LR 10 54 30.7
comp=Z,64nm,18.1s,baz=292,slow=42
PBMO Poplar Bluff 33.26 339 P P 10 40 24.4 +1.3
TXAR Lajitas Array 34.63 316 P P 10 40 35.9 +0.6
comp=Z,0.1nm,0.5s,baz=132,slow=8.8,SNR=5.2
TXAR LR LR 10 58 47.6
comp=Z,37nm,18.0s,baz=70,slow=43
BDFB Brasilia 35.45 127 P P 10 40 40.8 -1.7
comp=Z,1.2nm,0.6s,baz=333,slow=18,SNR=1.8
CPUP Villa Florida 37.06 151 P P 10 40 53.6 -2.4
comp=Z,1.0nm,0.4s,baz=335,slow=6.8,SNR=3.6
SADO Sadowa 38.78 357 LR LR 11 01 16.4
comp=Z,50nm,18.0s,baz=158,slow=42
ANMO Albuquerque 39.95 320 P P 10 41 22.3 +1.7
comp=Z,0.7nm,0.6s,baz=128,slow=7.2,SNR=4.5
ANMO LR LR 11 01 30.2
comp=Z,43nm,18.3s,baz=132,slow=41
ANMO Albuquerque 39.95 320 P P 10 41 21.8 +1.3
PLCA Paso Flores 46.73 174 P P 10 42 14.7 -0.2
comp=Z,2.4nm,0.8s,baz=337,slow=6.3,SNR=6.7
PLCA Paso Flores 46.73 174 P P 10 42 15.1 +0.2
PLCA IAmb IAmb 10 42 15.8
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 46.89 327 P P 10 42 18.7 +2.2
comp=Z,0.3nm,0.7s,baz=120,slow=5.5,SNR=2.8
REDW Red Top Meadow 48.00 326 P P 10 42 26.6 +1.6
REDW IAmb IAmb 10 42 50.2
comp=Z,4.3nm,1.1s
MOOW Moose Ponds 48.19 327 P P 10 42 28.1 +1.6
SCHQ Schefferville 49.41 7 P P 10 42 36.0 +0.5
comp=Z,1.8nm,0.8s,baz=198,slow=13,SNR=2.3
SCHQ Schefferville 49.41 7 P P 10 42 36.3 +0.8
NVAR Mina Array Bea 49.76 317 P P 10 42 39.9 +1.3
comp=Z,0.4nm,0.7s,baz=120,slow=8.9,SNR=4.4
NVAR Mina Array Bea 49.76 317 P P 10 42 40.8 +2.2
YKA Yellowknife Ar 62.99 341 P P 10 44 10.9 -1.4
comp=Z,0.3nm,0.4s,baz=133,slow=6.5,SNR=9.7
SUMG Summit 70.53 11 *i* P P 10 44 59.0 -1.7
SUMG Summit 70.53 11 P P 10 44 59.7 -1.0
DBIC Dimbokro 71.20 85 P P 10 45 02.8 -2.5
comp=Z,3.5nm,1.0s,baz=175,slow=17,SNR=2.0
DBIC Dimbokro 71.20 85 P P 10 45 04.2 -1.2
DBIC IAmb IAmb 10 45 23.1
comp=Z,10.0nm,1.1s
INK Inuvik 72.76 341 P P 10 45 14.2 +0.6
INK IAmb IAmb 10 45 16.7
comp=Z,6.3nm,1.4s
BCAR Beaver Creek A 73.70 334 P P 10 45 20.5 +1.1
L27K Beaver Creek, 73.72 334 P P 10 45 21.0 +1.5
L27K IAmb IAmb 10 45 27.8
comp=Z,5.5nm,1.2s
BMAR Burnt Mountain 76.24 338 P P 10 45 35.9 +1.9
ILAR Eielson Array 76.37 335 P P 10 45 35.2 +0.5
comp=Z,0.2nm,0.5s,baz=70,slow=5.2,SNR=1.8
ILAR Eielson Array 76.37 335 P P 10 45 36.2 +1.6
TORD Torodi Ar. Bea 77.26 78 P P 10 45 39.7 -0.9
comp=Z,0.5nm,0.6s,baz=286,slow=7.1,SNR=4.9
SNAA Sanae 90.49 162 P P 10 46 49.1 +2.0
ASAR Alice Springs 145.80 236 PKPbc PKPdf 10 53 24.4 -0.9
comp=Z,0.8nm,0.7s,baz=118,slow=3.7,SNR=13
ASAR Alice Springs 145.80 236 PKPdf 10 53 24.8 -0.5
WRA Warramunga Arr 146.91 242 PKPbc PKPbc 10 53 29.9 +0.8
comp=Z,0.6nm,0.6s,baz=106,slow=3.3,SNR=9.0
WRA Warramunga Arr 146.91 242 PKPdf 10 53 27.7 +0.5

*JMA **10** 10:37:19.5,24.°39N×122.°01E,h31km±4km,M2.6*
*TAP **10** 10:37:19.4,24.°44N×122.°01E,h19km,ML3.1,C*
ISC 10 10:37:19.2±0.8,24.°43N±0.°01×122.°04E±0.°02,h17km±6km, n105,σ0.°85/183,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta** baz=277	**0.24**	**273**	P	**Pg**	**10 37 24.7**	**0.0**
EWUT	baz=277			S	**Sg**	**10 37 28.2**	**-0.2**
TWC	**Suao** baz=320	**0.25**	**315**	⇓*i*P	**Pg**	**10 37 24.9**	**+0.1**
TWC	baz=320			*i* S	**Sg**	**10 37 28.2**	**-0.5**
ENA	**Nanau** baz=272	**0.27**	**269**	*i* P	**Pg**	**10 37 25.2**	**0.0**
ENA	baz=272			*i* S	**Sg**	**10 37 29.2**	**-0.1**
EHP	**Heping Village** baz=246	**0.30**	**246**	P	**Pb**	**10 37 26.0**	**-0.1**
EHP	baz=246			S	**Sg**	**10 37 31.1**	**+0.9**
NDS	**Dongshan** baz=301	**0.36**	**304**	P	**Pb**	**10 37 26.8**	**-0.3**
NDS	baz=301			S	**Sb**	**10 37 31.6**	**-0.8**
EGS	baz=348	**0.42**	**346**	*i* P	**Pb**	**10 37 28.4**	**+0.2**
EGS	baz=348			*e*S	**Sb**	**10 37 34.2**	**0.0**
ILA	**Ilan** baz=321	**0.42**	**321**	*i* P	**Pb**	**10 37 28.3**	**0.0**
ILA	baz=321			*i* S	**Sb**	**10 37 34.5**	**+0.1**
TWE	**Neicheng** baz=313	**0.44**	**310**	*i* P	**Pb**	**10 37 28.3**	**-0.3**
TWE	baz=313			*i* S	**Sg**	**10 37 34.1**	**-0.2**
NTC	**Toucheng** baz=339	**0.46**	**335**	*i* P	**Pb**	**10 37 28.8**	**-0.1**
NTC	baz=339			S	**Sb**	**10 37 35.1**	**-0.3**
ETL	**Fush Village** baz=234	**0.47**	**234**	P	**Pg**	**10 37 28.6**	**-0.1**
ETL	baz=234			S	**Sb**	**10 37 36.0**	**+0.3**
ENTT	**Nioudou** baz=297	**0.48**	**295**	⇓*i*P	**Pb**	**10 37 28.9**	**-0.3**
ENTT	baz=297			*i* S	**Sb**	**10 37 35.4**	**-0.6**
NACB	**Ninganchiao** baz=235	**0.48**	**238**	P	**Pg**	**10 37 28.5**	**-0.4**
NACB	baz=235			S	**Sb**	**10 37 36.0**	**-0.1**
NDT	**Datong Townshi** baz=290	**0.51**	**289**	*i* P	**Pb**	**10 37 29.6**	**-0.2**
NDT	baz=290			S	**Sb**	**10 37 36.0**	**-0.8**
TWD	**Chiawan** baz=228	**0.54**	**229**	*i* P	**Pb**	**10 37 29.9**	**-0.3**
TWD	baz=228			*e*S	**Sb**	**10 37 37.9**	**+0.3**
ETLH	**Xiulin Townshi** baz=250	**0.56**	**246**	P	**Pb**	**10 37 30.0**	**-0.6**
ETLH	baz=250			S	**Sg**	**10 37 38.3**	**+0.4**
TIPB	**Shuangxi** baz=343	**0.57**	**340**	*i* P	**Pg**	**10 37 30.9**	**+0.3**
TIPB	baz=343			*i* S	**Sg**	**10 37 38.6**	**+0.4**
TWB1	**Santiao Chiao** baz=351	**0.57**	**355**	*i* P	**Pg**	**10 37 30.9**	**+0.3**
TWB1	baz=351			*i* S	**Sb**	**10 37 38.2**	**-0.5**
NWLT	**Wulai** baz=301	**0.60**	**305**	*i* P	**Pg**	**10 37 31.2**	**+0.1**
NWLT	baz=301			*i* S	**Sg**	**10 37 38.6**	**-0.5**
NNSB	**Datong** baz=269	**0.60**	**270**	P	**Pg**	**10 37 31.0**	**-0.2**
NNSB	baz=269			S	**Sg**	**10 37 39.0**	**-0.2**
HWA	**Hwalien** baz=218	**0.60**	**221**	*i* P	**Pn**	**10 37 32.7**	**-0.3**
NNS	**Nan Shan** baz=270	**0.61**	**271**	*i* P	**Pb**	**10 37 31.0**	**-0.5**
NNS	baz=270			*i* S	**Sg**	**10 37 39.0**	**-0.5**
YHNB	**Yeheng** baz=292	**0.65**	**291**	P	**Pg**	**10 37 32.1**	**+0.1**
YHNB	baz=292			S	**Sg**	**10 37 40.5**	**-0.2**
NSK	**Sanguang** baz=292	**0.67**	**291**	*i* P	**Pg**	**10 37 32.2**	**-0.2**
NSK	baz=292			*i* S	**Sb**	**10 37 40.5**	**-1.0**
NWF	**Wu-fen Shan** baz=333	**0.68**	**340**	*i* P	**Pg**	**10 37 33.2**	**+0.6**
NWF	baz=333			*i* S	**Sg**	**10 37 42.5**	**+0.9**
WFSB	**Wu-fen Shan** baz=333	**0.68**	**340**	P	**Pn**	**10 37 33.2**	**-0.8**
WFSB	baz=333			S	**Sg**	**10 37 42.0**	**+0.4**
ETM	**Tongmen** baz=227	**0.68**	**227**	*i* P	**Pg**	**10 37 32.7**	**0.0**
ETM	baz=227			*e*S	**Sn**	**10 37 43.3**	**-1.0**
TWA	**Mucha** baz=332	**0.68**	**323**	*i* P	**Pn**	**10 37 33.2**	**-0.9**
TWA	baz=332			*i* S	**Sg**	**10 37 42.0**	**+0.2**
TEYL	**Yanliau Villag** baz=214	**0.69**	**216**	*e*S	**Sn**	**10 37 44.6**	**0.0**
NHDH	**Xindian Distri** baz=310	**0.70**	**318**	*i* P	**Pn**	**10 37 34.2**	**-0.2**
NHDH	baz=310			*i* S	**Sg**	**10 37 42.5**	**+0.1**
TATO	**Taipei** baz=309	**0.74**	**317**	P	**Pn**	**10 37 34.2**	**-0.6**
TATO	baz=309			S	**Sg**	**10 37 43.6**	**+0.2**
NHY	**Taipei** baz=333	**0.74**	**325**	*e*P	**Pn**	**10 37 34.3**	**-0.6**
NHY	baz=333			S	**Sn**	**10 37 44.3**	**-1.4**
FUSS	**Fushou** baz=261	**0.75**	**256**	*i* P	**Pb**	**10 37 33.6**	**-0.3**
FUSS	baz=261			S	**Sn**	**10 37 44.8**	**-1.5**
TNOU	**National Taiwa** baz=336	**0.75**	**341**	P	**Pn**	**10 37 34.4**	**-0.7**
TNOU	baz=336			S	**Sg**	**10 37 44.5**	**+0.5**
WHF	**Hehuan Shan** baz=252	**0.76**	**248**	*i* P	**Pb**	**10 37 34.0**	**-0.3**
WHF	baz=252			S	**Sn**	**10 37 45.7**	**-1.2**
TAP	**Taipei** baz=314	**0.77**	**321**	*i* P	**Pn**	**10 37 35.4**	**0.0**
TAP	baz=314			S	**Sn**	**10 37 46.1**	**-0.5**
TWT	**Tachien** baz=256	**0.81**	**257**	*i* P	**Pg**	**10 37 34.9**	**-0.1**
TWT	baz=256			S	**Sn**	**10 37 47.0**	**-0.7**
TDCB	**Techi** baz=256	**0.82**	**258**	P	**Pb**	**10 37 34.8**	**-0.4**
JYNG	**Yonagunijimaku**	**0.82**	**89**	P	**Pb**	**10 37 35.4**	**+0.3**
JYNG				*e*S	**Sb**	**10 37 46.9**	**+1.0**
YM01	**YM01** baz=337	**0.83**	**329**	P	**Pn**	**10 37 36.2**	**+0.1**
YM01	baz=337			S	**Sn**	**10 37 47.0**	**-1.0**
ESL	**Shilin** baz=237	**0.83**	**222**	*i* P	**Pg**	**10 37 35.5**	**0.0**
ESL	baz=237			*e*S	**Sn**	**10 37 49.5**	**+1.5**
TWS1	**Kuangyinshan** baz=313	**0.87**	**320**	*i* P	**Pn**	**10 37 37.3**	**+0.6**
TWS1	baz=313			*i* S	**Sn**	**10 37 49.7**	**+0.7**
CHGB	**Renai** baz=249	**0.87**	**245**	P	**Pg**	**10 37 36.2**	**-0.1**
CHGB	baz=249			*e*S	**Sn**	**10 37 49.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.89**	**88**	P	**Pb**	**10 37 36.3**	**+0.2**
YOJ				*e*S	**Sb**	**10 37 48.4**	**+0.8**
YOJ	**Yonaguni jima** baz=80	**0.89**	**88**	P	**Pb**	**10 37 36.4**	**+0.2**
YOJ	baz=80			S	**Sb**	**10 37 48.5**	**+0.8**
ANP	**Anpu** baz=329	**0.89**	**328**	*i* P	**Pn**	**10 37 36.6**	**-0.4**
NTST	**Danshui** baz=326	**0.90**	**324**	*i* P	**Pn**	**10 37 37.8**	**+0.7**
NTST	baz=326			*i* S	**Sn**	**10 37 51.2**	**+1.4**
OWD	**Renai** baz=237	**0.92**	**239**	*i* P	**Pb**	**10 37 36.9**	**0.0**
NCU	**National Centr** baz=313	**0.94**	**305**	S	**Sn**	**10 37 51.9**	**+1.2**
NCUH	**Zhongli** baz=312	**0.94**	**305**	*i* P	**Pg**	**10 37 38.3**	**+0.7**
NCUH	baz=312			*i* S	**Sn**	**10 37 51.2**	**+0.5**
EGFH	**Guangfu** baz=231	**0.95**	**216**	*i* P	**Pg**	**10 37 37.7**	**+0.1**
EGFH	baz=231			*e*S	**Sn**	**10 37 51.6**	**+0.8**
LIOB	**Emei** baz=283	**0.96**	**283**	*i* P	**Pg**	**10 37 38.1**	**+0.3**
LIOB	baz=283			*e*S	**Sn**	**10 37 50.6**	**-0.5**
NSTT	**Nanjuang** baz=287	**0.97**	**282**	*i* P	**Pg**	**10 37 38.8**	**+0.8**
NSTT	baz=287			S	**Sn**	**10 37 52.0**	**+0.6**
WHP	**Taichung City** baz=260	**1.01**	**261**	*i* P	**Pg**	**10 37 38.9**	**0.0**
SBCB	**Hsinchu** baz=292	**1.02**	**291**	P	**Pg**	**10 37 40.2**	**+1.1**
SBCB	baz=292			S	**Sg**	**10 37 55.2**	**+2.6**
HSN	**Hsinchu** baz=295	**1.04**	**291**	*i* P	**Pg**	**10 37 39.8**	**+0.4**
HSN	baz=295			*i* S	**Sg**	**10 37 54.3**	**+1.2**
VWDT	**VWDT** baz=228	**1.06**	**231**	P	**Pg**	**10 37 40.0**	**+0.1**
VWDT	baz=228			S	**Sg**	**10 37 56.0**	**+2.2**
HGSD	**Ruisui** baz=194	**1.09**	**211**	P	**Pg**	**10 37 40.6**	**+0.1**
WCS	**Beigang Elemen** baz=256	**1.10**	**250**	P	**Pg**	**10 37 40.8**	**+0.3**
EHY	**Hungye** baz=213	**1.13**	**216**	*i* P	**Pn**	**10 37 39.7**	**-0.6**
NMLH	**Miaoli** baz=287	**1.14**	**275**	*i* P	**Pg**	**10 37 42.2**	**+0.9**
NMLH	baz=287			*e*S	**Sg**	**10 37 57.2**	**+0.8**
TWQ1	**Liyutan** baz=273	**1.16**	**266**	*i* P	**Pg**	**10 37 43.0**	**+1.3**
NSY	**Sanyi** baz=282	**1.17**	**269**	P	**Pg**	**10 37 42.7**	**+0.9**
NSY	baz=282			*e*S	**Sg**	**10 37 58.8**	**+1.7**
SMLT	**Sun Moon Lake** baz=229	**1.18**	**242**	*i* P	**Pg**	**10 37 42.2**	**+0.2**
SSLB	**Suanglung** baz=235	**1.18**	**237**	P	**Pg**	**10 37 41.7**	**-0.4**
PCYT	**Pengchaiyu** baz=3.0	**1.19**	**1**	*e*P	**Pg**	**10 37 42.1**	**-0.1**
TYC	**Yuchr** baz=232	**1.20**	**244**	*i* P	**Pg**	**10 37 42.9**	**+0.4**
YULB	**Yu-li** baz=211	**1.24**	**213**	P	**Pn**	**10 37 41.5**	**-0.3**
EYUL	**Yuli** baz=226	**1.27**	**212**	*i* P	**Pg**	**10 37 44.2**	**+0.4**
TCU	**Taichung** baz=257	**1.28**	**257**	P	**Pg**	**10 37 44.5**	**+0.6**
TCU	baz=257			*e*S	**Sg**	**10 38 02.3**	**+1.7**
WDJ	**Dajia District** baz=267	**1.28**	**266**	*e*P	**Pg**	**10 37 43.4**	**-0.5**
WDJ	baz=267			*e*S	**Sg**	**10 38 02.1**	**+1.5**
WJS	**Zhushan** baz=241	**1.34**	**243**	*i* P	**Pg**	**10 37 45.6**	**+0.4**
WJS	baz=241			*i* S	**Sg**	**10 38 06.7**	**+3.9**
WNT	**Mingjian** baz=244	**1.36**	**246**	P	**Pb**	**10 37 44.4**	**+0.2**
WNT	baz=244			*e*S	**Sg**	**10 38 05.2**	**+2.0**
FULB	**Fuli** baz=222	**1.41**	**209**	*i* P	**Pb**	**10 37 45.2**	**+0.1**
ALS	**Alishan** baz=213	**1.46**	**231**	*i* P	**Pb**	**10 37 46.4**	**+0.4**
ALS	baz=213			*e*S	**Sg**	**10 38 08.0**	**+1.6**
CHN5	**Tsauling** baz=234	**1.50**	**236**	*i* P	**Pg**	**10 37 47.5**	**-0.6**
CHN5	baz=234			S	**Sg**	**10 38 07.8**	**+0.1**
IRIF	**Iriomote-Funau**	**1.54**	**93**	P	**Pn**	**10 37 45.4**	**-0.5**
IRIF				*e*S	**Sn**	**10 38 04.9**	**-0.7**
ELDTW	**Lidau** baz=202	**1.55**	**217**	*i* P	**Pb**	**10 37 46.8**	**-0.8**
WDLH	**Douliu** baz=240	**1.56**	**242**	*i* P	**Pg**	**10 37 49.2**	**-0.1**
WDLH	baz=240			S	**Sg**	**10 38 10.4**	**+0.8**
EDH	**Donghe** baz=189	**1.60**	**205**	*e*S	**Sn**	**10 38 06.9**	**-0.1**
WRL	**Guolierlin Hig** baz=250	**1.61**	**251**	P	**Pb**	**10 37 48.5**	**0.0**
WRL	baz=250			S	**Sg**	**10 38 10.7**	**-0.5**
WTK	**Tuku** baz=242	**1.68**	**244**	P	**Pb**	**10 37 50.0**	**+0.2**
WTK	baz=242			*e*S	**Sg**	**10 38 13.3**	**-0.2**
CHN4	**Tsaushan** baz=228	**1.71**	**231**	*i* P	**Pg**	**10 37 51.1**	**-1.0**
CHN4	baz=228			*i* S	**Sg**	**10 38 15.5**	**+1.2**
STYH	**Taoyuan** baz=206	**1.71**	**223**	P	**Pb**	**10 37 49.9**	**-0.3**
STYH	baz=206			S	**Sg**	**10 38 12.8**	**-1.6**
TPUB	**Ta-pu** baz=212	**1.71**	**229**	P	**Pb**	**10 37 51.0**	**+0.7**
TPUB	baz=212			S	**Sg**	**10 38 13.1**	**-1.5**
CHY	**Chiayi** baz=235	**1.75**	**238**	*e*P	**Pg**	**10 37 52.1**	**-0.8**
CHY	baz=235			*e*S	**Sg**	**10 38 14.8**	**-0.8**
WTP	**Ta-pu** baz=225	**1.76**	**228**	*i* P	**Pb**	**10 37 51.6**	**+0.5**
WTP	baz=225			*e*S	**Sg**	**10 38 15.3**	**-0.7**
JKRS	**Kuro-shima**	**1.81**	**96**	P	**Pn**	**10 37 49.8**	**+0.2**
JKRS				S	**Sn**	**10 38 11.5**	**-0.6**
LDUT	**Ludao** baz=191	**1.83**	**197**	P	**Pn**	**10 37 50.2**	**+0.4**
LDUT	baz=191			*e*S	**Sn**	**10 38 11.4**	**-1.2**
TWGBT	**Beinan** baz=194	**1.83**	**209**	P	**Pn**	**10 37 48.6**	**-1.4**
TWG	**Pinlang** baz=194	**1.83**	**209**	*e*P	**Pn**	**10 37 50.0**	**0.0**
TWK	**Hsinying** baz=228	**1.84**	**231**	*i* P	**Pb**	**10 37 52.6**	**+0.3**
TWK	baz=228			*e*S	**Sg**	**10 38 16.9**	**-1.5**
SNST	**Tainan City** baz=227	**1.86**	**230**	*e*P	**Pb**	**10 37 53.2**	**+0.5**
SNST	baz=227			*e*S	**Sg**	**10 38 18.1**	**-1.1**
CHN1	**Nanshi** baz=225	**1.86**	**228**	*i* P	**Pb**	**10 37 53.3**	**+0.5**
CHN1	baz=225			*e*S	**Sb**	**10 38 17.2**	**+1.4**
SGST	**Jiashian** baz=208	**1.90**	**225**	*i* P	**Pb**	**10 37 52.5**	**-0.8**
JIJ	**Ishigaki jima**	**1.92**	**92**	P	**Pn**	**10 37 50.8**	**-0.3**
JIJ				S	**Sn**	**10 38 13.1**	**-1.7**
SLGT	**Liugui** baz=218	**1.92**	**222**	*i* P	**Pb**	**10 37 53.6**	**-0.2**
SLGT	baz=218			*e*S	**Sb**	**10 38 18.6**	**+1.1**
ICHU	**Yijhu** baz=234	**1.93**	**237**	*i* P	**Pb**	**10 37 53.6**	**-0.5**
JISG	**Ishigakijimahi**	**2.07**	**85**	P	**Pn**	**10 37 52.6**	**-0.6**
JISG				*e*S	**Sn**	**10 38 18.1**	**-0.6**
ECL	**Taimali** baz=195	**2.08**	**209**	*e*P	**Pn**	**10 37 54.4**	**+1.0**
SSD	**Sandimen** baz=214	**2.12**	**218**	*i* P	**Pb**	**10 37 57.0**	**-0.2**
SSD	baz=214			*e*S	**Sb**	**10 38 23.3**	**+0.1**
TSMG	**Majia** baz=213	**2.15**	**217**	*i* P	**Pb**	**10 37 56.9**	**-0.7**
TSMG	baz=213			*e*S	**Sb**	**10 38 24.9**	**+1.0**
MASBT	**Mashibuluo** baz=212	**2.23**	**216**	P	**Pn**	**10 37 57.0**	**+1.6**
MASBT	baz=212			S	**Sb**	**10 38 27.9**	**+1.6**
EAST	**Anshuo** baz=193	**2.32**	**208**	*e*P	**Pb**	**10 37 59.0**	**-1.6**
SSPT	**Xinbi** baz=198	**2.37**	**215**	*e*P	**Pb**	**10 38 01.0**	**-0.4**
PHUB	**P'eng-hu** baz=247	**2.44**	**248**	*e*P	**Pn**	**10 37 58.8**	**+0.6**
PHUB	baz=247			*e*S	**Sb**	**10 38 29.8**	**-2.5**

NNC 10 10:37:32.9±16.0,38.°68N×73.°05E,h0km,mb3.5,mpv3.0, 3C-4D,Error ellipse: s-maj=123.4km s-min=76.8km az=161.0,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 2.0nm,0.6s	**4.10**	**15**	⇓Pg	Pb	10 38 47.5	+1.3
AAK	7.5nm,1.1s			⇑Lg	Lg	10 39 39.0	
TKM2	**Tokmak 2** 3.0nm,1.2s	**4.66**	**24**	⇑Pg	Pg	10 39 03.6	+1.4
TKM2	2.7nm,0.8s			⇓Lg	Lg	10 40 06.7	
KK08	**Karatay Array** 3.0nm,0.7s,baz=144,slow=24	**4.83**	**337**	⇓Sn	Sn	10 39 45.1	+1.6
KK09	**Karatay Array** 1.7nm,0.6s,baz=150,slow=12	**4.84**	**337**	⇓Pn	Pn	10 38 43.6	-3.5
AKTO	**Aktyubinsk** 1.2nm,0.8s	**15.87**	**323**	⇑P	Pn	10 41 15.7	-1.7

*TAP **10** 10:39:53.7,24.°44N×122.°01E,h18km,ML2.8,C*
*JMA **10** 10:39:53.8±0.1,24.°40N×122.°02E,h21km,M2.1*
ISC 10 10:39:53.8±0.9,24.°42N±0.°02×122.°03E±0.°02,h20km±3km, n73,σ0.°71/132,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao** baz=321	**0.25**	**318**	⇓*i*P	**Pb**	**10 39 59.1**	**-0.5**
TWC	baz=321			*i* S	**Sb**	**10 40 02.4**	**-1.0**
ENA	**Nanau** baz=273	**0.27**	**271**	⇓*i*P	**Pb**	**10 39 59.3**	**-0.6**
ENA	baz=273			*i* S	**Sb**	**10 40 03.1**	**-0.9**
EHP	**Heping Village** baz=247	**0.29**	**247**	P	**Pg**	**10 40 00.1**	**-0.2**
NDS	**Dongshan** baz=302	**0.36**	**306**	P	**Pg**	**10 40 01.0**	**-0.5**
NDS	baz=302			S	**Sg**	**10 40 06.3**	**-0.3**
ILA	**Ilan** baz=318	**0.43**	**323**	*i* P	**Pb**	**10 40 02.7**	**-0.1**
ILA	baz=318			S	**Sg**	**10 40 07.7**	**-1.0**
EGS	baz=345	**0.43**	**348**	*i* P	**Pg**	**10 40 02.5**	**-0.2**
TWE	**Neicheng** baz=313	**0.45**	**312**	*i* P	**Pg**	**10 40 02.7**	**-0.3**
TWE	baz=313			S	**Sg**	**10 40 08.1**	**-1.1**

ETL	Fush Village	0.46	235	P		Pb	10 40 03.0 -0.3
	baz=238						
ETL				S		Sb	10 40 10.1 +0.4
	baz=238						
NTC	Toucheng	0.47	337	*i* P		Pg	10 40 03.0 -0.4
	baz=339						
NTC				S		Sg	10 40 09.5 -0.3
	baz=339						
NACB	Ninganchiao	0.47	238	P		Pg	10 40 02.8 -0.7
	baz=236						
NACB				S		Sb	10 40 09.9 0.0
	baz=236						
ENTT	Nioudou	0.48	297	*i* P		Pg	10 40 03.2 -0.4
	baz=297						
ENTT				*i* S		Sb	10 40 09.9 -0.3
	baz=297						
NDT	Datong Townshi	0.51	291	*i* P		Pb	10 40 03.8 -0.2
	baz=291						
NDT				S		Sg	10 40 10.3 -0.7
	baz=291						
TWD	Chiawan	0.53	230	*i* P		Pg	10 40 04.1 -0.4
	baz=229						
TWD				S		Sb	10 40 12.3 +0.8
	baz=229						
ETLH	Xiulin Townshi	0.55	247	P		Pb	10 40 04.2 -0.5
	baz=253						
ETLH				S		Sg	10 40 12.5 +0.2
	baz=253						
TIPB	Shuangxi	0.58	341	*i* P		Pb	10 40 05.1 -0.1
	baz=343						
TIPB				S		Sb	10 40 12.9 -0.2
	baz=343						
TWB1	Santiao Chiao	0.58	356	*i* P		Pb	10 40 05.2 -0.1
	baz=351						
TWB1				S		Sb	10 40 12.7 -0.5
	baz=351						
NNSB	Datong	0.59	271	P		Pb	10 40 04.9 -0.6
	baz=277						
NNSB				S		Sg	10 40 13.3 -0.5
	baz=277						
NWLT	Wulai	0.60	306	*i* P		Pb	10 40 05.4 -0.2
	baz=301						
NWLT				*i* S		Sb	10 40 12.8 -0.8
	baz=301						
NNS	Nan Shan	0.60	272	*i* P		Pb	10 40 05.1 -0.6
	baz=270						
NNS				*i* S		Sb	10 40 13.1 -0.8
	baz=270						
YHNB	Yeheng	0.65	292	P		Pg	10 40 06.3 -0.4
	baz=297						
YHNB				S		Sb	10 40 14.8 -0.3
	baz=297						
NSK	Sanguang	0.67	292	*i* P		Pg	10 40 06.6 -0.4
	baz=297						
NSK				*i* S		Sb	10 40 14.6 -1.0
	baz=297						
ETM	Tongmen	0.67	227	P		Pb	10 40 06.6 -0.2
	baz=228						
ETM				*e*S		Sn	10 40 17.3 -0.8
	baz=228						
NWF	Wu-fen Shan	0.69	340	*i* P		Pg	10 40 07.3 0.0
	baz=333						
NWF				*i* S		Sg	10 40 16.4 -0.2
	baz=333						
WFSB	Wu-fen Shan	0.69	340	P		Pg	10 40 07.2 -0.2
	baz=333						
WFSB				S		Sg	10 40 16.5 -0.1
	baz=333						
TWA	Mucha	0.69	324	*i* P		Pg	10 40 07.5 0.0
	baz=325						
TWA				*i* S		Sb	10 40 16.1 -0.2
	baz=325						
NHDH	Xindian Distri	0.71	319	*i* P		Pg	10 40 07.9 +0.1
	baz=310						
NHDH				*i* S		Sb	10 40 16.7 -0.1
	baz=310						
FUSS	Fushou	0.74	257	*i* P		Pg	10 40 08.0 -0.5
	baz=262						
FUSS				*i* S		Sn	10 40 19.4 -0.8
	baz=262						
TATO	Taipei	0.74	318	P		Pn	10 40 08.9 -0.2
	baz=309						
TATO				S		Sb	10 40 17.7 0.0
	baz=309						
WHF	Hehuan Shan	0.75	249	*i* P		Pb	10 40 07.8 -0.7
	baz=255						
WHF				S		Sn	10 40 20.4 -0.4
	baz=255						
TNOU	National Taiwa	0.76	342	P		Pg	10 40 08.9 +0.1
	baz=335						
TNOU				*e*S		Sg	10 40 18.8 -0.2
	baz=335						
TWT	Tachien	0.80	258	P		Pn	10 40 11.4 +1.3
	baz=257						
TWT				S		Sn	10 40 20.4 -1.2
	baz=257						
ESL	Shilin	0.82	222	*i* P		Pg	10 40 09.4 -0.4
	baz=237						
ESL				*e*S		Sn	10 40 22.3 +0.6
	baz=237						
JYNG	Yonagunijimaku	0.83	88	P		Pb	10 40 09.8 +0.2
JYNG				*e*S		Sb	10 40 21.0 +0.7
YM01	YM01	0.83	330	P		Pn	10 40 10.3 -0.2
	baz=331						
YM01				S		Sg	10 40 21.1 -0.1
	baz=331						
CHGB	Renai	0.86	245	P		Pb	10 40 10.1 -0.2
	baz=250						
CHGB				S		Sn	10 40 23.1 -0.1
	baz=250						
TWS1	Kuangyinshan	0.88	320	*i* P		Pn	10 40 11.6 +0.6
	baz=313						
TWS1				*i* S		Sn	10 40 24.0 +0.8
	baz=313						
YOJ	Yonaguni jima	0.89	87	P		Pb	10 40 10.5 0.0
YOJ				*e*S		Sb	10 40 22.7 +0.6
YOJ	Yonaguni jima	0.89	87	P		Pb	10 40 10.6 0.0
	baz=78						
YOJ				*e*S		Sn	10 40 24.2 +0.6
	baz=78						
ANP	Anpu	0.89	329	*e*P		Pn	10 40 11.5 +0.2
	baz=331						
ANP				*e*S		Sn	10 40 23.3 -0.5
	baz=331						
NTST	Danshui	0.91	324	P		Pg	10 40 12.1 +0.5
	baz=326						
NTST				S		Sn	10 40 25.2 +1.2
	baz=326						
OWD	Renai	0.91	239	*i* P		Pg	10 40 11.1 -0.6
	baz=242						
OWD				*e*S		Sn	10 40 24.3 0.0
	baz=242						
EGFH	Guangfu	0.93	217	P		Pb	10 40 11.2 -0.1
	baz=232						
EGFH				S		Sn	10 40 25.9 +1.3
	baz=232						
NCU	National Centr	0.94	305	P		Pg	10 40 13.4 +1.2
	baz=306						
NCU				S		Sn	10 40 26.0 +1.2
	baz=306						
NCUH	Zhongli	0.94	305	P		Pg	10 40 12.8 +0.6
	baz=306						
NCUH				*i* S		Sn	10 40 26.6 +1.7
	baz=306						
LIOB	Emei	0.95	284	*i* P		Pg	10 40 12.7 +0.3
	baz=284						
LIOB				*e*S		Sn	10 40 26.2 +1.0
	baz=284						
NSTT	Nanjuang	0.96	283	*i* P		Pg	10 40 12.8 +0.2
	baz=288						
NSTT				S		Sn	10 40 26.4 +1.0
	baz=288						
WHP	Taichung City	1.00	262	*i* P		Pg	10 40 13.2 -0.1
	baz=269						
WHP				*i* S		Sn	10 40 27.1 +0.7
	baz=269						
SBCB	Hsinchu	1.02	291	S		Sg	10 40 29.9 +2.7
	baz=292						
HSN	Hsinchu	1.04	292	*e*S		Sg	10 40 29.1 +1.4
	baz=295						
VWDT	VWDT	1.05	231	P		Pg	10 40 14.4 +0.1
	baz=228						
VWDT				S		Sg	10 40 29.7 +1.6
	baz=228						
HGSD	Ruisui	1.08	211	P		Pg	10 40 15.5 +0.7
	baz=194						
WCS	Beigang Elemen	1.09	251	P		Pg	10 40 15.1 +0.1
	baz=258						
EHY	Hungye	1.12	216	P		Pg	10 40 15.8 +0.2
	baz=213						
NMLH	Miaoli	1.14	276	P		Pg	10 40 16.6 +0.8
	baz=287						
NMLH				*e*S		Sg	10 40 31.6 +0.8
	baz=287						
SMLT	Sun Moon Lake	1.17	243	P		Pg	10 40 16.7 +0.3
	baz=241						
SSLB	Suanglung	1.17	238	P		Pg	10 40 16.0 -0.5
	baz=236						
SSLB				*e*S		Sg	10 40 31.7 -0.3
	baz=236						
TYC	Yuchr	1.19	245	*i* P		Pg	10 40 16.8 -0.1
	baz=243						
YULB	Yu-li	1.23	213	P		Pb	10 40 16.4 +0.1
	baz=211						
WJS	Zhushan	1.33	244	P		Pg	10 40 19.1 -0.5
	baz=242						
WJS				*e*S		Sg	10 40 37.6 +0.5
	baz=242						
FULB	Fuli	1.40	209	*e*P		Pb	10 40 19.1 -0.1
	baz=222						
ALS	Alishan	1.45	231	P		Pg	10 40 21.0 -0.7
	baz=213						
ALS				*e*S		Sg	10 40 42.2 +1.5
	baz=213						
CHN5	Tsauling	1.49	237	*i* P		Pg	10 40 21.9 -0.7
	baz=235						
CHN5				*e*S		Sg	10 40 42.6 +0.6
	baz=235						
IRIF	Iriomote-Funau	1.55	93	P		Pn	10 40 19.8 -0.5
IRIF				*e*S		Sn	10 40 39.7 -0.1
CHN4	Tsaushan	1.70	231	*i* P		Pg	10 40 25.7 -0.7
	baz=228						
CHN4				S		Sg	10 40 48.5 -0.1
	baz=228						
TPUB	Ta-pu	1.70	229	P		Pb	10 40 24.6 +0.1
	baz=210						
TPUB				*e*S		Sg	10 40 47.8 -1.0
	baz=210						
WTP	Ta-pu	1.75	228	P		Pg	10 40 26.1 -1.4
	baz=224						
WTP				*e*S		Sg	10 40 49.8 -0.5
	baz=224						
JKRS	Kuro-shima	1.81	95	P		Pn	10 40 24.2 +0.3
JKRS				*e*S		Sn	10 40 45.9 -0.4
TWK	Hsinying	1.82	231	*e*P		Pg	10 40 28.2 -0.7
	baz=228						
CHN1	Nanshi	1.85	229	P		Pg	10 40 28.2 -1.2
	baz=226						
SLGT	Liugui	1.91	222	P		Pg	10 40 29.0 -1.5
	baz=218						
SLGT				*e*S		Sb	10 40 52.7 +1.4
	baz=218						
JIJ	Ishigaki jima	1.92	91	P		Pn	10 40 25.4 0.0
JIJ				*e*S		Sn	10 40 47.8 -1.3
JISG	Ishigakijimahi	2.08	85	P		Pn	10 40 27.4 -0.2
JISG				*e*S		Sn	10 40 53.2 +0.3
MASBT	Mashibuluo	2.21	216	*e*P		Pb	10 40 32.4 -0.8
	baz=213						

TAP ***10*** *10:43:06.8,24.27N×121.72E,h49km,ML2.5,D*
JMA ***10*** *10:43:06.8±0.1,24.24N×121.74E,h48km±2km*
ISC 10 10:43:08.4±1.0,24.27N±0.02×121.73E±0.03,h33km±2km,
n67,σ0.97/122,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	Fush Village	0.15	224	P	Pb	10 43 15.0	+0.4
	baz=232						
ETL				S	Sb	10 43 20.9	+2.1
	baz=232						
NACB	Ninganchiao	0.16	234	P	Pb	10 43 14.5	-0.1
	baz=233						
NACB				*e*S	Sb	10 43 20.6	+1.8
	baz=233						
ENA	Nanau	0.16	2	*i* P	Pb	10 43 14.9	+0.2
ENA				*i* S	Sb	10 43 21.6	+2.6
EWUT	Wuta	0.18	13	P	Pb	10 43 15.1	+0.2
	baz=8.0						
EWUT				S	Sb	10 43 21.6	+2.3
	baz=8.0						
TWD	Chiawan	0.22	214	*i* P	Pn	10 43 15.4	+0.6
	baz=224						
TWD				*i* S	Sb	10 43 21.0	+1.1
	baz=224						
ETLH	Xiulin Townshi	0.24	256	P	Pn	10 43 15.4	+0.2
	baz=255						
ETLH				S	Sb	10 43 21.7	+1.3
	baz=255						
HWA	Hwalien	0.31	202	*e*S	Sb	10 43 23.9	+2.3
	baz=211						
TWC	Suao	0.36	17	*i* P	Pb	10 43 17.1	+0.2
	baz=14						
TWC				*i* S	Sb	10 43 24.5	+1.7
	baz=14						
NNSB	Datong	0.36	297	P	Pb	10 43 16.6	-0.5
	baz=297						
NNSB				S	Sb	10 43 24.1	+1.1
	baz=297						
NDS	Dongshan	0.37	357	P	Pb	10 43 16.8	-0.3
	baz=350						
NDS				S	Sb	10 43 24.0	+1.0
	baz=350						
ETM	Tongmen	0.37	216	P	Pb	10 43 16.2	-0.9
	baz=215						
ETM				S	Sn	10 43 22.7	-0.6
	baz=215						
NNS	Nan Shan	0.37	298	*i* P	Pb	10 43 16.6	-0.6
	baz=298						
NNS				*i* S	Sb	10 43 24.3	+1.0
	baz=298						
NDT	Datong Townshi	0.39	329	*i* P	Pb	10 43 16.9	-0.5
	baz=329						
NDT				*i* S	Sb	10 43 24.2	+0.6
	baz=329						
ENTT	Nioudou	0.40	338	*i* P	Pb	10 43 17.1	-0.5
	baz=338						
ENTT				*i* S	Sn	10 43 24.6	+0.3
	baz=338						
TEYL	Yanliau Villag	0.41	197	*e*P	Pb	10 43 17.3	-0.4
	baz=207						
TEYL				S	Sn	10 43 27.1	+2.6
	baz=207						
WHF	Hehuan Shan	0.45	254	*i* P	Pb	10 43 17.9	-0.6
	baz=253						
WHF				*i* S	Sb	10 43 25.6	+0.1
	baz=253						
FUSS	Fushou	0.45	268	*i* P	Pb	10 43 18.0	-0.4
	baz=268						
FUSS				S	Sb	10 43 26.1	+0.8
	baz=268						
TWE	Neicheng	0.46	352	*i* P	Pb	10 43 17.9	-0.5
	baz=349						
TWE				*i* S	Sn	10 43 25.8	+0.2
	baz=349						
ILA	Ilan	0.50	1	*e*P	Pb	10 43 18.3	-0.6
	baz=357						
TWT	Tachien	0.51	269	*i* P	Pn	10 43 19.1	-0.4
	baz=268						
TWT				*i* S	Sn	10 43 27.8	+0.6
	baz=268						
YHNB	Yeheng	0.52	321	P	Pn	10 43 18.6	-0.9
	baz=321						
YHNB				S	Sb	10 43 26.8	-0.1
	baz=321						
ESL	Shilin	0.53	212	*i* P	Pn	10 43 17.5	-2.0
	baz=217						
ESL				S	Sb	10 43 25.9	-1.1
	baz=217						
NSK	Sanguang	0.53	320	*i* P	Pn	10 43 18.7	-1.0
	baz=315						
NSK				*i* S	Sn	10 43 26.8	-0.8
	baz=315						
CHGB	Renai	0.55	248	P	Pn	10 43 19.4	-0.7
	baz=243						
CHGB				S	Sn	10 43 28.5	+0.3
	baz=243						
NWLT	Wulai	0.55	338	*i* P	Pn	10 43 19.2	-0.7
	baz=338						
NWLT				*i* S	Sn	10 43 27.6	-0.4
	baz=338						
NTC	Toucheng	0.59	8	*i* P	Pn	10 43 20.0	-0.5
	baz=359						
NTC				S	Sb	10 43 29.9	+1.1
	baz=359						
OWD	Renai	0.60	239	*i* P	Pn	10 43 19.6	-1.0
	baz=234						
OWD				*i* S	Sn	10 43 28.4	-0.9
	baz=234						
EGS		0.60	17	*e*P	Pn	10 43 20.7	+0.1
	baz=13						
EGS				*e*S	Sb	10 43 30.5	+1.4
	baz=13						
EGFH	Guangfu	0.66	205	*i* P	Pn	10 43 19.1	-2.3
	baz=212						
EGFH				*i* S	Sn	10 43 28.4	-2.1
	baz=212						
TIPB	Shuangxi	0.71	7	*i* P	Pn	10 43 21.6	-0.5
	baz=360						
TIPB				*i* S	Sb	10 43 32.3	+0.4
	baz=360						
NHDH	Xindian Distri	0.72	345	*i* P	Pn	10 43 21.2	-1.1
	baz=337						
NHDH				*i* S	Sn	10 43 31.5	-0.6
	baz=337						
WHP	Taichung City	0.72	271	*i* P	Pn	10 43 22.1	-0.1
	baz=271						
WHP				*i* S	Sn	10 43 32.5	+0.3
	baz=271						
TWA	Mucha	0.72	349	*e*S	Sn	10 43 32.5	+0.2
	baz=337						
VWDT	VWDT	0.74	227	P	Pn	10 43 21.5	-1.0
	baz=220						
VWDT				S	Sn	10 43 31.7	-1.0
	baz=220						
LIOB	Emei	0.76	300	*i* P	Pn	10 43 22.3	-0.4
	baz=299						
LIOB				*i* S	Sb	10 43 33.9	+0.6
	baz=299						
NSTT	Nanjuang	0.76	299	*i* P	Pn	10 43 22.0	-0.8
	baz=298						
NSTT				*i* S	Sn	10 43 33.1	-0.1
	baz=298						
TWB1	Santiao Chiao	0.78	17	*i* P	Pn	10 43 22.8	-0.2
	baz=24						
TWB1				*i* S	Sb	10 43 34.5	+0.7
	baz=24						
WCS	Beigang Elemen	0.78	255	P	Pn	10 43 23.1	+0.1
	baz=253						
WCS				S	Sn	10 43 34.2	+0.6
	baz=253						
NWF	Wu-fen Shan	0.80	3	*i* P	Pn	10 43 22.5	-0.9
	baz=352						
NWF				*i* S	Sn	10 43 34.3	0.0
	baz=352						
HGSD	Ruisui	0.82	200	P	Pn	10 43 22.9	-0.7
	baz=212						
HGSD				*e*S	Sn	10 43 34.2	-0.4
	baz=212						
EHY	Hungye	0.84	207	P	Pn	10 43 21.5	-2.4
	baz=207						
SMLT	Sun Moon Lake	0.85	244	*i* P	Pn	10 43 24.0	-0.1
	baz=237						
SMLT				*e*S	Sn	10 43 35.5	0.0
	baz=237						
SSLB	Suanglung	0.86	236	P	Pn	10 43 24.5	+0.4
	baz=234						
SSLB				S	Sn	10 43 35.0	-0.5
	baz=234						
NCUH	Zhongli	0.86	325	*e*S	Sn	10 43 34.5	-1.1
	baz=323						
TYC	Yuchr	0.88	246	*i* P	Pn	10 43 24.4	0.0
	baz=241						
TYC				S	Sn	10 43 36.6	+0.7
	baz=241						
TWS1	Kuangyinshan	0.88	341	*e*P	Pn	10 43 23.2	-1.2
	baz=339						
TWS1				S	Sn	10 43 35.3	-0.7
	baz=339						
YM01	YM01	0.89	350	*e*P	Pn	10 43 24.3	-0.3
	baz=338						
YULB	Yu-li	0.96	205	P	Pn	10 43 23.9	-1.6
	baz=206						
YULB				*e*S	Sn	10 43 37.2	-0.8
	baz=206						
EYUL	Yuli	0.99	203	*i* P	Pn	10 43 25.3	-0.6
	baz=210						
WJS	Zhushan	1.02	245	P	Pn	10 43 26.8	+0.4
	baz=245						
WJS				*i* S	Sb	10 43 41.0	+0.3
	baz=245						
WNT	Mingjian	1.03	248	*e*S	Sb	10 43 41.5	+0.4
	baz=249						
JYNG	Yonagunijimaku	1.12	80	P	Pn	10 43 26.6	-1.1
ALS	Alishan	1.14	229	P	Pn	10 43 28.1	-0.1
	baz=221						
ALS				S	Sb	10 43 44.4	+0.1
	baz=221						
FULB	Fuli	1.14	201	P	Pn	10 43 26.7	-1.2
	baz=211						
FULB				*e*S	Sn	10 43 42.0	-0.4
	baz=211						
CHN5	Tsauling	1.17	236	*i* P	Pn	10 43 28.7	+0.1
	baz=237						
CHN5				*i* S	Sb	10 43 45.0	-0.2
	baz=237						
WDLH	Douliu	1.23	243	S	Sb	10 43 46.9	+0.1
	baz=244						
ELDTW	Lidau	1.26	212	*i* P	Pn	10 43 28.8	-0.9
	baz=206						
ELDTW				S	Sn	10 43 45.4	-0.2
	baz=206						
WRL	Guolierlin Hig	1.29	254	*e*P	Pn	10 43 29.6	-0.5
	baz=255						
WRL				S	Sn	10 43 47.0	+0.7
	baz=255						
CHN4	Tsaushan	1.39	229	*i* P	Pn	10 43 31.9	+0.5
	baz=231						
CHN4				*i* S	Sb	10 43 50.9	-0.2
	baz=231						
TPUB	Ta-pu	1.40	227	P	Pn	10 43 31.6	+0.1
	baz=217						
TPUB				S	Sn	10 43 50.4	+1.5
	baz=217						
STYH	Taoyuan	1.40	219	P	Pn	10 43 31.9	+0.4
	baz=221						
STYH				S	Sn	10 43 50.6	+1.7
	baz=221						
CHY	Chiayi	1.42	238	*e*S	Sb	10 43 52.6	+0.4
	baz=250						
WTP	Ta-pu	1.44	226	P	Pn	10 43 33.1	+0.9
	baz=227						
WTP				S	Sb	10 43 52.4	-0.4
	baz=227						
TWK	Hsinying	1.51	229	*i* P	Pn	10 43 33.1	-0.1
	baz=231						
TWK				*i* S	Sn	10 43 53.8	+2.0
	baz=231						
CHN1	Nanshi	1.54	226	*i* P	Pn	10 43 33.6	+0.1
	baz=228						
CHN1				*i* S	Sn	10 43 54.0	+1.6
	baz=228						
SLGT	Liugui	1.61	218	P	Pn	10 43 35.1	+0.6
	baz=212						
SLGT				S	Sb	10 43 56.9	-0.7
	baz=212						
MASBT	Mashibuluo	1.93	212	*e*P	Pn	10 43 39.6	+0.7
	baz=217						

DJA ***10*** *10:43:36.4±0.3,8.3S±2.3×11.4E±.4,h10km,M2.9/9,MLv2.9/9*
IDC ***10*** *10:43:43.2±7.6,8.77S×114.70E,h0km,mb3.6/3,*
mb1 3.9/3,mb1mx3.2/36,mbtmp3.7/3,Error ellipse:
s-maj=193.1km s-min=106.1km az=29.0
ISC 10 10:43:36.6±0.9,8.07S±0.04×114.17E±0.04,h10km,n11,
σ0.66/13,mb3.7/3,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABJI	Asem Bagus	0.28	14	P	Pg	10 43 41.9	-0.4
JAGI	Jajag, Banyuwa	0.40	182	P	Pg	10 43 44.5	0.0
JAGI				S	Sb	10 43 50.8	-1.2
BLJI	Banyuglugur	0.65	300	P	Pb	10 43 50.1	0.0
GMJI	Gumukmas	0.74	254	P	Pg	10 43 50.7	-0.3
KMMI	Kalianget	1.03	349	P	Pg	10 43 56.1	-0.4
SRBI	Singaraja	1.04	91	P	Pg	10 43 56.4	-0.2
SRBI				S	Sb	10 44 10.6	+0.2
IGBI	Denpasar	1.22	128	P	Pb	10 43 59.7	-0.1
PCJI	Pacitan	2.96	267	P	Pn	10 44 24.3	+0.6
WRA	Warramunga Arr	22.82	123	P	P	10 48 38.9	-1.1
	0.6nm,0.4s,baz=299,slow=12,SNR=10						
ASAR	Alice Springs	24.46	132	P	P	10 48 56.0	0.0
	1.5nm,0.7s,baz=307,slow=9.5,SNR=27						

STKA	Stephens Creek	34.81 137	P		P	10 50 28.7 +0.9
	1.0nm,0.5s,baz=313,slow=9.0,SNR=3.4					

IDC 10 10:45:35.5±4.4, 4°.15S×153°.24E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/37, mbtmp3.2/3, Error ellipse: s-maj=155.3km s-min=40.4km az=109.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.21	228	P	P	10 50 52.6	-1.5
	0.2nm,0.5s,baz=53,slow=9.8,SNR=1.7						
ASAR	Alice Springs	26.93	222	P	P	10 51 20.7	+2.0
	0.2nm,0.5s,baz=55,slow=7.8,SNR=2.2						
MKAR	Makanchi Array	80.12	319	P	P	10 57 48.5	+1.0
	0.2nm,0.5s,baz=90,slow=3.9,SNR=1.9						
TORD	Torodi Ar. Bea	150.51	289	PKPbc	PKPbc	11 05 28.4	-1.9
	0.2nm,0.3s,baz=60,slow=1.5,SNR=1.6						

*IDC **10** 10:46:14.1±0.9, 24°.30N×122°.17E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.5/41, mbtmp3.7/10, ML3.5/1, MS3.3/2, Ms1 3.4/2, ms1mx2.7/80, Error ellipse: s-maj=29.0km s-min=18.3km az=65.0*
*TAP **10** 10:46:18.7, 24°.18N×122°.00E, h31km, ML4.4, B*
*NIED **10** 10:46:18.2, 24°.08N×122°.00E, h27km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.33; $M_{\theta\theta}$1.01; $M_{\phi\phi}$-0.67; $M_{r\theta}$-0.02; $M_{\theta\phi}$-0.97; $M_{\phi r}$1.17; Fault plane solution: $M_0$1.75000×10^{15} NP1: ϕ_s157.00000°, δ79.00000°, λ-40.00000°. NP2: ϕ_s256.00000°, δ51.00000°, λ-166.00000°.*
*JMA **10** 10:46:18.1±0.1, 24°.08N×122°.00E, h27km±3km, M3.5*
ISC 10 10:46:18.8±0.8, 24°.15N±0°.02×122°.00E±0°.02, h32km±6km, n157, σ0s84/231, mb3.5/9, 26C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.28	304	eP	Pb	10 46 25.9	-0.3
	baz=305						
EHP				eS	Sn	10 46 32.2	+0.3
	baz=305						
ETL	Fush Village	0.34	271	P	Pb	10 46 26.9	0.0
	baz=256						
ETL				eS	Sn	10 46 33.1	-0.3
	baz=256						
EWUT	Wuta	0.35	326	⇓iP	Pb	10 46 26.9	-0.2
	baz=328						
EWUT				i S	Sn	10 46 33.4	-0.3
	baz=328						
ENA	Nanau	0.36	320	⇓iP	Pb	10 46 26.8	-0.4
	baz=322						
ENA				eS	Sn	10 46 33.7	-0.2
	baz=322						
NACB	Ninganchiao	0.37	274	⇑iP	Pb	10 46 27.0	-0.3
	baz=259						
NACB				i S	Sb	10 46 32.9	-0.2
	baz=259						
TWD	Chiawan	0.37	259	⇑iP	Pb	10 46 27.2	-0.1
	baz=244						
TWD				i S	Sn	10 46 34.1	0.0
	baz=244						
HWA	Hwalien	0.40	244	⇑iP	Pn	10 46 28.4	0.0
	baz=238						
HWA				i S	Sn	10 46 35.9	+1.2
	baz=238						
TEYL	Yanliau Villag	0.46	232	⇑iP	Pb	10 46 28.8	+0.1
	baz=231						
TEYL				eS	Sb	10 46 35.8	+0.3
	baz=231						
ETLH	Xiulin Townshi	0.47	277	⇑iP	Pb	10 46 28.7	-0.3
	baz=272						
ETLH				S	Sb	10 46 36.1	+0.2
	baz=272						
TWC	Suao	0.47	344	⇑iP	Pb	10 46 28.6	-0.3
	baz=349						
TWC				S	Sn	10 46 35.5	-1.2
	baz=349						
ETM	Tongmen	0.49	248	⇑iP	Pb	10 46 29.1	-0.1
	baz=239						
ETM				eS	Sn	10 46 37.1	-0.1
	baz=239						
NDS	Dongshan	0.54	332	⇓iP	Pn	10 46 29.9	-0.4
	baz=337						
NDS				i S	Sn	10 46 37.8	-0.6
	baz=337						
TEGC	Jichi Village	0.61	224	eP	Pb	10 46 30.9	-0.1
	baz=210						
ESL	Shilin	0.61	237	⇑iP	Pb	10 46 30.7	-0.5
	baz=233						
ESL				eS	Sn	10 46 40.7	+0.6
	baz=233						
NNSB	Datong	0.62	296	⇓iP	Pb	10 46 31.2	-0.2
	baz=294						
NNSB				i S	Sb	10 46 39.8	-0.3
	baz=294						
ENTT	Nioudou	0.62	321	⇓iP	Pn	10 46 31.1	-0.4
	baz=320						
ENTT				S	Sn	10 46 40.5	+0.1
	baz=320						
NDT	Datong Townshi	0.63	316	⇓iP	Pn	10 46 31.2	-0.4
	baz=314						
NDT				S	Sn	10 46 40.8	+0.3
	baz=314						
NNS	Nan Shan	0.64	297	⇓iP	Pb	10 46 31.4	-0.3
	baz=295						
NNS				i S	Sn	10 46 40.5	-0.3
	baz=295						
TWE	Neicheng	0.64	332	⇓iP	Pn	10 46 31.6	-0.1
	baz=332						
TWE				S	Sn	10 46 40.5	-0.3
	baz=332						
ILA	Ilan	0.65	340	eP	Pn	10 46 31.8	0.0
	baz=340						
ILA				S	Sn	10 46 42.0	+1.0
	baz=340						
WHF	Hehuan Shan	0.67	270	⇑iP	Pb	10 46 32.0	-0.4
	baz=266						
WHF				eS	Sb	10 46 41.5	0.0
	baz=266						
EGS		0.69	355	eP	Pn	10 46 32.7	+0.3
	baz=4.0						
EGS				eS	Sn	10 46 42.5	+0.4
	baz=4.0						
FUSS	Fushou	0.69	278	⇑iP	Pn	10 46 32.6	-0.1
	baz=275						
FUSS				i S	Sn	10 46 42.1	-0.3
	baz=275						
EGFH	Guangfu	0.71	227	⇑eP	Pn	10 46 32.1	-0.5
	baz=213						
EGFH				eS	Sb	10 46 42.5	+0.3
	baz=213						
NTC	Toucheng	0.72	348	eP	Pn	10 46 32.8	0.0
	baz=4.0						
NTC				eS	Sn	10 46 43.9	+1.3
	baz=4.0						
TWT	Tachien	0.76	278	eP	Pb	10 46 33.6	0.0
	baz=275						
TWT				eS	Sn	10 46 43.9	+0.1
	baz=275						
CHGB	Renai	0.76	263	⇑iP	Pn	10 46 33.5	0.0
	baz=250						
CHGB				S	Sb	10 46 43.7	-0.1
	baz=250						
YHNB	Yeheng	0.77	313	⇓iP	Pb	10 46 33.5	-0.3
	baz=311						
YHNB				S	Sn	10 46 43.7	-0.2
	baz=311						
NWLT	Wulai	0.77	324	eP	Pb	10 46 33.6	-0.2
	baz=324						
NWLT				S	Sn	10 46 44.4	+0.4
	baz=324						
TDCB	Techi	0.77	278	⇑iP	Pb	10 46 33.7	-0.2
	baz=275						
TDCB				eS	Sn	10 46 44.2	0.0
	baz=275						
OWD	Renai	0.77	256	⇑iP	Pn	10 46 33.7	0.0
	baz=253						
OWD				eS	Sb	10 46 44.3	+0.1
	baz=253						
NSK	Sanguang	0.78	312	⇓iP	Pb	10 46 33.6	-0.4
	baz=301						
NSK				S	Sn	10 46 44.5	+0.2
	baz=301						
TIPB	Shuangxi	0.83	349	eP	Pb	10 46 35.0	+0.1
	baz=3.0						
TIPB				S	Sn	10 46 46.0	+0.5
	baz=3.0						
HGSD	Ruisui	0.84	219	eP	Pn	10 46 33.7	-0.7
	baz=207						
TWB1	Santiao Chiao	0.85	360	⇑iP	Pb	10 46 35.1	-0.1
	baz=2.0						
TWB1				eS	Sn	10 46 46.8	+0.8
	baz=2.0						
VWDT	VWDT	0.88	243	⇑iP	Pn	10 46 35.2	+0.3
	baz=232						
EHY	Hungye	0.89	224	⇑iP	Pn	10 46 34.4	-0.7
	baz=231						
TWA	Mucha	0.91	336	⇓iP	Pb	10 46 36.1	+0.1
	baz=336						
TWA				eS	Sb	10 46 48.5	+0.7
	baz=336						
NHDH	Xindian Distri	0.92	332	eP	Pb	10 46 36.4	+0.2
	baz=318						
NHDH				eS	Sb	10 46 48.4	+0.3
	baz=318						
JYNG	Yonagunijimaku	0.92	71	P	Pn	10 46 35.6	+0.1
JYNG				eS	Sn	10 46 47.3	-0.3
NWF	Wu-fen Shan	0.94	348	eP	Pb	10 46 36.8	+0.1
	baz=349						
NWF				eS	Sb	10 46 49.5	+0.8
	baz=349						
TATO	Taipei	0.94	331	⇓iP	Pb	10 46 36.5	-0.1
	baz=330						
NHY	Taipei	0.97	336	eP	Pb	10 46 37.1	+0.1
	baz=337						
NHY				eS	Sb	10 46 51.4	+1.9
	baz=337						
WHP	Taichung City	0.97	278	eP	Pb	10 46 37.1	0.0
	baz=267						
YOJ	Yonaguni jima	0.98	71	P	Pn	10 46 36.5	+0.2
YOJ				eS	Sb	10 46 49.4	-0.4
YOJ	Yonaguni jima	0.98	71	⇓P	Pb	10 46 36.6	-0.6
	baz=83						
YOJ				eS	Sb	10 46 49.5	-0.3
	baz=83						
BACT	New Taipei Cit	0.98	329	eP	Pn	10 46 35.4	-1.0
	baz=329						
BACT				eS	Sb	10 46 50.7	+0.7
	baz=329						
TAP	Taipei	0.99	333	eP	Pb	10 46 38.1	+0.7
	baz=333						
YULB	Yu-li	0.99	220	⇑iP	Pn	10 46 35.7	-0.8
	baz=228						
WCS	Beigang Elemen	0.99	265	eP	Pb	10 46 37.1	-0.4
	baz=254						
WCS				eS	Sn	10 46 49.7	+0.2
	baz=254						
EYUL	Yuli	1.01	218	eP	Pn	10 46 36.5	-0.3
	baz=208						
TNOU	National Taiwa	1.01	349	eP	Pb	10 46 37.9	+0.1
	baz=350						
TNOU				eS	Sb	10 46 51.1	+0.2
	baz=350						
SSLB	Suanglung	1.02	249	⇑iP	Pn	10 46 37.2	+0.3
	baz=246						
LIOB	Emei	1.02	299	P	Pb	10 46 38.2	+0.3
	baz=290						
LIOB				eS	Sb	10 46 51.7	+0.7
	baz=290						
NSTT	Nanjuang	1.02	298	eP	Pb	10 46 38.2	+0.2
	baz=296						
NSTT				eS	Sb	10 46 51.6	+0.5
	baz=296						
SMLT	Sun Moon Lake	1.04	255	⇑iP	Pn	10 46 37.8	+0.6
	baz=246						
SMLT				eS	Sb	10 46 51.5	-0.1
	baz=246						
NTY	Taoyuan	1.06	323	eP	Pb	10 46 38.3	-0.2
	baz=323						
NTY				eS	Sb	10 46 52.1	0.0
	baz=323						
YM01	YM01	1.06	339	eP	Pb	10 46 38.4	-0.3
	baz=339						
YM01				eS	Sn	10 46 50.8	-0.5
	baz=339						
TYC	Yuchr	1.07	257	⇑iP	Pn	10 46 38.2	+0.6
	baz=244						
TYC				eS	Sb	10 46 52.5	+0.1
	baz=244						
TWS1	Kuangyinshan	1.08	331	eP	Pb	10 46 38.8	-0.2
	baz=320						
TWS1				eS	Sb	10 46 54.4	+1.6
	baz=320						
HSN1	Hsinchu	1.09	305	eP	Pb	10 46 38.7	-0.4
	baz=304						
HSN1				eS	Sb	10 46 52.7	-0.3
	baz=304						
NCUH	Zhongli	1.10	318	eP	Pb	10 46 38.5	-0.8
	baz=317						
NCUH				eS	Sb	10 46 54.6	+1.3
	baz=317						
NCU	National Centr	1.10	318	eP	Pb	10 46 38.6	-0.6
	baz=318						
NCU				eS	Sb	10 46 54.3	+1.0
	baz=318						
ANP	Anpu	1.12	337	eP	Pb	10 46 38.9	-0.8
	baz=338						
SBCB	Hsinchu	1.12	305	P	Pb	10 46 39.4	-0.3
	baz=304						
SBCB				i S	Sb	10 46 55.3	+1.4
	baz=304						
NTST	Danshui	1.12	334	eP	Pb	10 46 39.1	-0.6
	baz=334						
TWQ1	Liyutan	1.13	280	P	Pb	10 46 40.1	+0.2
	baz=278						
TWQ1				eS	Sb	10 46 54.4	+0.1
	baz=278						
HSN	Hsinchu	1.14	305	eP	Pb	10 46 39.8	-0.1
	baz=306						
HSN				eS	Sb	10 46 55.4	+1.0
	baz=306						
FULB	Fuli	1.15	214	eP	Pn	10 46 38.5	-0.2
	baz=201						
NSY	Sanyi	1.16	283	P	Pb	10 46 40.8	+0.5
	baz=281						
NSY				eS	Sb	10 46 57.0	+2.0
	baz=281						
NMLH	Miaoli	1.16	290	eP	Pb	10 46 40.6	+0.3
	baz=287						
TWY	Chenhua	1.18	342	eP	Pb	10 46 40.1	-0.5
	baz=344						
TWY				eS	Sb	10 46 54.8	-0.7
	baz=344						
CHKT	Chengkung	1.20	209	eP	Pn	10 46 38.2	-1.1
	baz=193						
TCU	Taichung	1.21	270	P	Pb	10 46 41.6	+0.5
	baz=267						
TCU				eS	Sb	10 46 58.7	+2.4
	baz=267						
WJS	Zhushan	1.21	254	eP	Pb	10 46 41.3	+0.3
	baz=249						
WJS				eS	Sb	10 46 57.0	+0.6
	baz=249						
WNT	Mingjian	1.23	257	eP	Pb	10 46 41.7	+0.2
	baz=242						
WDJ	Dajia District	1.25	279	eP	Pb	10 46 41.8	-0.1
	baz=277						
ALS	Alishan	1.26	240	⇑iP	Pn	10 46 41.4	+0.8
	baz=225						
ELDTW	Lidau	1.31	223	⇑iP	Pn	10 46 40.5	-0.6
	baz=219						
WCHH	Zhanghua	1.31	267	eP	Pb	10 46 42.8	-0.1
	baz=264						
CHN5	Tsauling	1.33	246	⇑P	Pb	10 46 42.6	-0.5
	baz=242						
EDH	Donghe	1.33	209	eP	Pb	10 46 40.4	-0.8
	baz=195						
WDLH	Douliu	1.41	251	eP	Pb	10 46 44.0	-0.5
	baz=247						
LONT	Longtian	1.47	213	eP	Pn	10 46 42.2	-0.9
	baz=209						
PCYT	Pengchaiyu	1.47	3	eP	Pn	10 46 43.4	+0.2
	baz=5.0						
STYH	Taoyuan	1.48	229	eP	Pn	10 46 44.2	+0.9
	baz=215						
WRL	Guolierlin Hig	1.50	261	eP	Pb	10 46 45.0	-1.0
	baz=258						
WRL				eS	Sb	10 47 05.1	+0.4
	baz=258						
TPUB	Ta-pu	1.51	236	P	Pb	10 46 45.3	-0.9
	baz=224						
TPUB				eS	Sb	10 47 05.5	+0.4
	baz=224						
CHN4	Tsaushan	1.51	238	⇑iP	Pb	10 46 45.4	-0.8
	baz=226						
CHN4				eS	Sb	10 47 05.7	+0.6
	baz=226						
CHN2	Minshiung	1.52	246	eP	Pb	10 46 46.4	-0.1
	baz=243						
CHN2				eS	Sb	10 47 08.3	+3.0
	baz=243						
WTK	Tuku	1.54	253	eP	Pb	10 46 46.1	-0.6
	baz=250						
WTK				eS	Sb	10 47 06.6	+0.7
	baz=250						
LDUT	Ludao	1.55	198	eP	Pn	10 46 43.0	-1.2
	baz=195						
WTP	Ta-pu	1.55	235	⇑iP	Pn	10 46 45.8	+1.5
	baz=230						
TWG	Pinlang	1.57	213	eP	Pn	10 46 43.3	-1.2
	baz=209						
CHY	Chiayi	1.58	246	eP	Pb	10 46 46.8	-0.5
	baz=243						
CHY				eS	Sb	10 47 07.7	+0.7
	baz=243						
IRIF	Iriomote-Funau	1.59	83	P	Pn	10 46 45.1	+0.3
IRIF				eS	Sn	10 47 05.3	+1.0
WTCT	Ta-ch'eng	1.59	260	P	Pb	10 46 46.8	-0.8
	baz=257						
WTCT				eS	Sb	10 47 07.5	+0.1
	baz=257						
TWK	Hsinying	1.64	238	eP	Pn	10 46 47.1	+1.6
	baz=233						
CHN1	Nanshi	1.65	235	eP	Pn	10 46 47.3	+1.7
	baz=232						
CHN1				eS	Sb	10 47 09.5	+0.3
	baz=232						
HATJ	Hateruma jima	1.66	93	P	Pn	10 46 46.3	+0.7
SNST	Tainan City	1.66	236	eP	Pb	10 46 47.5	-1.2
	baz=233						
SNST				eS	Sb	10 47 09.4	+0.2
	baz=233						
SGST	Jiashian	1.68	231	P	Pb	10 46 46.9	+1.0
	baz=219						
SLGT	Liugui	1.69	227	eP	Pb	10 46 48.4	-0.9
	baz=223						
WSF	Szhu	1.70	253	eP	Pb	10 46 48.2	-1.3
	baz=250						
WSF				eS	Sb	10 47 11.4	+0.9
	baz=250						
ICHU	Yijhu	1.76	244	eP	Pn	10 46 48.8	+1.7
	baz=240						
ICHU				eS	Sb	10 47 12.6	+0.5
	baz=240						
ECL	Taimali	1.82	212	eP	Pn	10 46 46.2	-1.7
	baz=208						
CHN8	Yiju	1.82	244	eP	Pn	10 46 49.6	+1.7
	baz=240						
CHN3	Shinhua	1.84	235	eP	Pb	10 46 51.0	-0.8
	baz=230						
JKRS	Kuro-shima	1.84	87	P	Pn	10 46 49.0	+0.8
SSD	Sandimen	1.88	222	eP	Pn	10 46 49.9	+1.2
	baz=217						
TSMG	Majia	1.90	221	eP	Pn	10 46 50.5	+1.5
	baz=216						
SCLT	Jiali	1.92	240	eP	Pn	10 46 51.2	+2.0
	baz=235						
TWM1	Shoushan	1.96	228	eP	Pb	10 46 52.9	-0.9
	baz=223						
JIJ	Ishigaki jima	1.97	83	P	Pn	10 46 50.1	+0.1
JIJ				eS	Sn	10 47 14.0	+0.4
MASBT	Mashibuluo	1.98	220	eP	Pn	10 46 50.8	+0.7
	baz=215						
SGLT	Jiouru	1.98	225	eP	Pb	10 46 53.8	-0.4
	baz=207						
EAST	Anshuo	2.05	211	eP	Pn	10 46 50.5	-0.6
	baz=207						
TAW	Tawu	2.05	210	eP	Pn	10 46 50.8	-0.3
	baz=206						
SNJT	Kaohsiung City	2.06	228	eP	Pn	10 46 53.6	+2.4
	baz=223						
SSPT	Xinbi	2.12	219	eP	Pn	10 46 53.6	+1.6
	baz=214						
LAY	Lan-yu	2.14	191	eP	Pn	10 46 51.1	-1.3
	baz=188						
JISG	Ishigakijimahi	2.15	78	P	Pn	10 46 52.5	0.0
JISG				eS	Sn	10 47 18.4	+0.3
LYUB	Lan-yu	2.17	190	eP	Pn	10 46 51.1	-1.7
	baz=187						
SCZT	Fangliau	2.18	216	eP	Pn	10 46 53.5	+0.7
	baz=205						
SLIU	Shizi	2.22	210	eP	Pn	10 46 52.7	-0.7
	baz=197						
PHUB	P'eng-hu	2.31	255	eP	Pn	10 46 54.8	+0.2
	baz=250						
PNG	Penghu	2.31	256	eP	Pn	10 46 55.3	+0.7
	baz=251						
WDGT	Dungji	2.32	248	eP	Pn	10 46 56.0	+1.2
	baz=243						
TWKBT	Hengchun	2.46	207	eP	Pn	10 46 56.5	-0.1
	baz=194						
TWK1	Hengchun	2.46	207	eP	Pn	10 46 56.7	+0.1
	baz=194						
TSEB	Hengchuen, Pin	2.46	204	eP	Pn	10 46 57.3	+0.7
	baz=193						
JTJ	Tarama	2.52	78	P	Pn	10 46 58.3	+0.8
VCHM	Qimei	2.53	249	eP	Pn	10 46 58.7	+1.0
	baz=231						
MATB	Ma-tsu	2.72	317	eP	Pn	10 46 59.5	-0.8
	baz=317						
PTMZ	Houxiangcun	2.76	289	eP	Pn	10 47 00.5	-0.4
	baz=287						
JIRB	Irabujima	2.97	76	P	Pn	10 47 04.4	+0.7
JMJ2	Miyako jima3	3.09	78	P	Pn	10 47 06.6	+1.2
JMJ2				eS	Sn	10 47 44.1	+2.8
LYJJ	Jianjiangzhen	3.13	320	eP	Pn	10 47 04.9	-1.0
	baz=320						
JOGS	Gusukube	3.17	78	P	Pn	10 47 08.6	+2.2
XPSS	Dashiqiu	3.21	330	eP	Pn	10 47 06.8	-0.3
	baz=331						
KNM	Kinmen	3.26	275	eP	Pn	10 47 09.5	+1.8
	baz=272						
KNMB	Chin-men Tao	3.31	276	eP	Pn	10 47 08.0	-0.3
	baz=273						
MHZQ	Yeshan	3.31	306	eP	Pn	10 47 07.9	-0.6
	baz=305						
AXDP	Jialang	3.74	282	eP	Pn	10 47 14.3	0.0
	baz=279						
ZPLA	Ao Xicun	3.89	268	eP	Pn	10 47 16.6	+0.3
	baz=264						
JOW	Kunigami	6.27	63	Pn	Pn	10 47 46.3	-2.8
	2.4nm,0.3s,baz=124,slow=20,SNR=16						
KSRS	Korea Array	14.20	20	Pn	P	10 49 42.6	-2.0
	0.3nm,0.3s,baz=203,slow=13,SNR=7.9						
CMAR	Chiang Mai Arr	22.20	260	P	P	10 51 14.0	+1.4
	0.7nm,0.3s,baz=64,slow=8.1,SNR=2.0						
CMAR				LR	LR	11 00 53.4	
	comp=Z,78nm,18.2s,baz=75,slow=39						
ASAJ	Asahikawa	26.09	35	LR	LR	11 02 54.3	
	comp=Z,61nm,19.1s,baz=292,slow=39						
SONM	Songino Array	26.69	336	P	P	10 51 54.5	-0.6
	0.9nm,0.7s,baz=152,slow=7.4,SNR=7.3						
MKAR	Makanchi Array	38.88	316	P	P	10 53 41.8	+0.6
	0.3nm,0.5s,baz=108,slow=7.8,SNR=6.1						
ZALV	Zalesovo Beam	40.68	327	P	P	10 53 56.0	0.0
	0.7nm,0.5s,baz=110,slow=6.6,SNR=2.4						
WRA	Warramunga Arr	45.45	164	P	P	10 54 34.9	-0.1
	0.6nm,0.7s,baz=344,slow=8.9,SNR=4.9						
ASAR	Alice Springs	48.92	165	P	P	10 55 03.8	+1.8
	0.2nm,0.4s,baz=342,slow=7.1,SNR=4.8						
STKA	Stephens Creek	58.78	161	P	P	10 56 14.9	+0.9
	0.7nm,0.7s,baz=349,slow=16,SNR=1.9						
FINES	FINESS Array B	71.85	330	P	P	10 57 37.6	-0.6
	1.1nm,0.7s,baz=98,slow=10.0,SNR=1.5						
YKA	Yellowknife Ar	82.71	23	P	P	10 58 37.8	-1.3
	0.3nm,0.7s,baz=311,slow=4.9,SNR=8.3						

TAP 10 10:48:24.6, 23°.78N×121°.70E, h44km±1km, ML2.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	Yanliau Villag	0.13	311	P	Pn	10 48 31.6	-0.2
	baz=321						
TEYL				S	Sn	10 48 38.9	+2.0
	baz=321						
TEGC	Jichi Village	0.17	244	P	Pn	10 48 32.3	+0.3
	baz=242						
TEGC				S	Sn	10 48 38.5	+1.3
	baz=242						

ESL	**Shilin**	**0.25 277**	P	Pn	10 48 32.8	+0.1
	baz=276					
ESL			S	Sn	10 48 38.7	+0.3
	baz=276					
ETM	**Tongmen**	**0.27 313**	P	Pn	10 48 33.2	+0.3
	baz=313					
ETM			S	Sn	10 48 39.7	+1.0
	baz=313					
EGFH	**Guangfu**	**0.28 246**	P	Pn	10 48 33.2	+0.2
	baz=245					
EGFH			S	Sn	10 48 39.6	+0.7
	baz=245					
TWD	**Chiawan**	**0.31 341**	P	Pn	10 48 33.6	+0.3
	baz=342					
TWD			S	Sn	10 48 40.0	+0.6
	baz=342					
HGSD	**Ruisui**	**0.39 222**	P	Pn	10 48 34.6	+0.5
	baz=221					
HGSD			S	Sn	10 48 42.1	+1.3
	baz=221					
NACB	**Ninganchiao**	**0.40 346**	P	Pn	10 48 34.5	+0.2
	baz=345					
EHY	**Hungye**	**0.45 232**	*i* P	Pn	10 48 35.4	+0.5
	baz=230					
EHY			*e*S	Sn	10 48 41.8	-0.3
	baz=230					
ETLH	**Xiulin Townshi**	**0.47 334**	*e*P	Pn	10 48 35.6	+0.4
	baz=334					
OWD	**Renai**	**0.51 289**	P	Pn	10 48 36.4	+0.6
	baz=289					
OWD			S	Sn	10 48 44.2	+0.4
	baz=289					
VWDT	**VWDT**	**0.52 267**	P	Pn	10 48 36.3	+0.6
	baz=266					
VWDT			S	Sn	10 48 44.7	+1.1
	baz=266					
WHF	**Hehuan Shan**	**0.54 312**	*i* P	Pn	10 48 36.7	+0.3
	baz=312					
YULB	**Yu-li**	**0.54 224**	P	Pn	10 48 36.0	0.0
	baz=223					
YULB			*e*S	Sn	10 48 43.5	-0.6
	baz=223					
CHGB	**Renai**	**0.56 300**	P	Pn	10 48 36.9	+0.4
	baz=299					
CHGB			S	Sn	10 48 45.6	+0.7
	baz=299					
TWF1	**Yuli**	**0.57 221**	*i* P	Pn	10 48 36.5	+0.1
	baz=220					
TWF1			*e*S	Sn	10 48 44.8	-0.1
	baz=220					
WUSB	**Renai**	**0.57 291**	P	Pn	10 48 37.3	+0.7
	baz=291					
WUSB			S	Sn	10 48 46.4	+1.2
	baz=291					
FUSS	**Fushou**	**0.62 318**	P	Pn	10 48 37.9	+0.6
	baz=317					
SSLB	**Suanglung**	**0.69 270**	P	Pn	10 48 38.8	+0.8
	baz=270					
FULB	**Fuli**	**0.69 213**	*i* P	Pn	10 48 38.9	+0.8
	baz=212					
FULB			S	Sn	10 48 49.2	+1.5
	baz=212					
NNS	**Nan Shan**	**0.72 335**	*i* P	Pn	10 48 38.9	+0.3
	baz=335					
WPL	**Puli Township**	**0.72 289**	P	Pn	10 48 39.2	+0.8
	baz=288					
WPL			S	Sn	10 48 49.4	+1.0
	baz=288					
SMLT	**Sun Moon Lake**	**0.74 278**	P	Pn	10 48 39.3	+0.5
	baz=277					
LATG	**Datong**	**0.77 348**	P	Pn	10 48 39.6	+0.4
	baz=347					

*JMA **10** 10:48:32.5±0.2, 23°.95N×121°.95E, h40km±3km*
*TAP **10** 10:48:34.4, 24°.15N×121°.98E, h25km, ML3.0, C*
ISC 10 10:48:34.4±1.0, 24°.14N±0°.03×122°.00E±0°.02, h28km±8km, n50, σ0°48/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.29 305**		*e*P	**Pb**	**10 48 41.4**	**-0.2**
	baz=305						
ETL	**Fush Village**	**0.34 273**		*e*P	**Pb**	**10 48 42.0**	**-0.4**
	baz=270						
ETL				*e*S	**Sn**	**10 48 48.7**	**-1.0**
	baz=270						
EWUT	**Wuta**	**0.36 326**		*i* P	**Pb**	**10 48 42.5**	**-0.1**
	baz=327						
EWUT				S	**Sb**	**10 48 48.5**	**+0.3**
	baz=327						
ENA	**Nanau**	**0.37 320**		*i* P	**Pb**	**10 48 42.4**	**-0.3**
	baz=321						
ENA				S	**Sn**	**10 48 49.3**	**-0.9**
	baz=321						
NACB	**Ninganchiao**	**0.37 275**		*i* P	**Pb**	**10 48 42.0**	**-0.8**
	baz=273						
NACB				*i* S	**Sb**	**10 48 48.9**	**+0.5**
	baz=273						
TWD	**Chiawan**	**0.38 260**		*i* P	**Pb**	**10 48 43.1**	**+0.4**
	baz=258						
TWD				*e*S	**Sn**	**10 48 50.0**	**-0.4**
	baz=258						
HWA	**Hwalien**	**0.40 245**		P	**Pn**	**10 48 43.8**	**-0.5**
	baz=242						
HWA				*e*S	**Sn**	**10 48 52.0**	**+1.1**
	baz=242						
TEYL	**Yanliau Villag**	**0.46 233**		*i* P	**Pb**	**10 48 44.4**	**+0.3**
	baz=234						
TEYL				*e*S	**Sn**	**10 48 52.6**	**+0.2**
	baz=234						
ETLH	**Xiulin Townshi**	**0.48 278**		*e*P	**Pb**	**10 48 43.1**	**-1.4**
	baz=276						
ETLH				*i* S	**Sb**	**10 48 51.6**	**+0.3**
	baz=276						
TWC	**Suao**	**0.48 343**		*i* P	**Pb**	**10 48 44.5**	**+0.1**
	baz=346						
TWC				*i* S	**Sb**	**10 48 51.0**	**-0.4**
	baz=346						
ETM	**Tongmen**	**0.50 249**		P	**Pb**	**10 48 44.7**	**0.0**
	baz=247						
ETM				S	**Sn**	**10 48 52.5**	**-0.9**
	baz=247						
NDS	**Dongshan**	**0.55 332**		P	**Pb**	**10 48 45.4**	**-0.2**
	baz=333						
NDS				S	**Sn**	**10 48 54.1**	**-0.7**
	baz=333						
LATG	**Datong**	**0.58 312**		*i* P	**Pb**	**10 48 46.0**	**-0.2**
	baz=312						
LATG				S	**Sb**	**10 48 54.3**	**+0.1**
	baz=312						
ESL	**Shilin**	**0.61 238**		*i* P	**Pb**	**10 48 46.4**	**-0.3**
	baz=235						
ESL				*i* S	**Sb**	**10 48 55.2**	**+0.3**
	baz=235						
NNSB	**Datong**	**0.63 297**		P	**Pb**	**10 48 46.7**	**-0.3**
	baz=296						
NNSB				S	**Sb**	**10 48 55.7**	**+0.2**
	baz=296						
ENTT	**Nioudou**	**0.63 321**		*i* P	**Pb**	**10 48 47.0**	**+0.1**
	baz=322						
ENTT				*e*S	**Sn**	**10 48 56.7**	**-0.1**
	baz=322						
NDT	**Datong Townshi**	**0.64 316**		*i* P	**Pb**	**10 48 47.1**	**0.0**
	baz=316						
NDT				*e*S	**Sn**	**10 48 56.4**	**-0.5**
	baz=316						
NNS	**Nan Shan**	**0.64 297**		*i* P	**Pb**	**10 48 47.0**	**-0.2**
	baz=297						
NNS				*i* S	**Sb**	**10 48 56.1**	**+0.2**
	baz=297						
TWE	**Neicheng**	**0.65 332**		*i* P	**Pb**	**10 48 47.2**	**0.0**
	baz=334						
TWE				*e*S	**Sn**	**10 48 56.7**	**-0.4**
	baz=334						
ILA	**Ilan**	**0.66 340**		*i* P	**Pn**	**10 48 47.7**	**-0.3**
	baz=341						
ILA				*e*S	**Sn**	**10 48 57.9**	**+0.5**
	baz=341						
WHF	**Hehuan Shan**	**0.67 270**		*i* P	**Pb**	**10 48 47.5**	**-0.3**
	baz=269						
WHF				*i* S	**Sn**	**10 48 57.8**	**-0.5**
	baz=269						
FUSS	**Fushou**	**0.70 279**		S	**Sn**	**10 48 58.0**	**-0.7**
	baz=277						
EGS		**0.70 355**		P	**Pn**	**10 48 48.2**	**-0.3**
	baz=357						
EGS				S	**Sn**	**10 48 58.4**	**0.0**
	baz=357						
EGFH	**Guangfu**	**0.71 228**		P	**Pb**	**10 48 48.1**	**0.0**
	baz=226						
EGFH				S	**Sn**	**10 48 58.3**	**-0.3**
	baz=226						
FUSB	**Fushanzhiwuyua**	**0.72 329**		P	**Pb**	**10 48 48.4**	**-0.1**
	baz=329						
FUSB				S	**Sn**	**10 48 58.6**	**-0.4**
	baz=329						
NTC	**Toucheng**	**0.72 348**		P	**Pb**	**10 48 48.4**	**-0.1**
	baz=348						
NTC				S	**Sn**	**10 48 58.8**	**-0.2**
	baz=348						
CHGB	**Renai**	**0.76 264**		*i* P	**Pb**	**10 48 49.2**	**-0.1**
	baz=262						
CHGB				S	**Sn**	**10 49 00.6**	**+0.4**
	baz=262						
TWT	**Tachien**	**0.76 278**		P	**Pb**	**10 48 48.8**	**-0.4**
	baz=277						
TWT				S	**Sn**	**10 49 00.4**	**+0.2**
	baz=277						
YHNB	**Yeheng**	**0.77 313**		P	**Pb**	**10 48 49.2**	**-0.1**
	baz=312						
YHNB				S	**Sb**	**10 48 59.5**	**0.0**
	baz=312						
NWLT	**Wulai**	**0.78 324**		P	**Pb**	**10 48 49.1**	**-0.3**
	baz=324						
NWLT				S	**Sn**	**10 49 00.1**	**-0.3**
	baz=324						
OWD	**Renai**	**0.78 256**		*i* P	**Pb**	**10 48 48.9**	**-0.6**
	baz=254						
OWD				S	**Sn**	**10 49 00.3**	**-0.2**
	baz=254						
NSK	**Sanguang**	**0.79 312**		*i* P	**Pb**	**10 48 49.2**	**-0.4**
	baz=312						
NSK				*i* S	**Sn**	**10 49 00.2**	**-0.6**
	baz=312						
WUSB	**Renai**	**0.82 260**		P	**Pb**	**10 48 49.9**	**-0.3**
	baz=258						
WUSB				S	**Sb**	**10 49 00.9**	**0.0**
	baz=258						
TIPB	**Shuangxi**	**0.84 349**		*i* P	**Pn**	**10 48 50.5**	**0.0**
	baz=350						
TIPB				S	**Sn**	**10 49 02.3**	**+0.4**
	baz=350						
TWB1	**Santiao Chiao**	**0.86 359**		*i* P	**Pn**	**10 48 50.8**	**+0.1**
TWB1				*i* S	**Sn**	**10 49 02.5**	**+0.1**
VWDT	**VWDT**	**0.88 244**		P	**Pn**	**10 48 51.7**	**+0.7**
	baz=242						
VWDT				S	**Sn**	**10 49 03.5**	**+0.8**
	baz=242						
JYNG	**Yonagunijimaku**	**0.92 70**		P	**Pb**	**10 48 51.1**	**-0.6**
JYNG				*e*S	**Sb**	**10 49 03.4**	**-0.1**
NHDH	**Xindian Distri**	**0.92 332**		P	**Pb**	**10 48 51.5**	**-0.3**
	baz=332						
NHDH				S	**Sn**	**10 49 04.7**	**+0.8**
	baz=332						
NWF	**Wu-fen Shan**	**0.94 348**		P	**Pn**	**10 48 52.6**	**+0.6**
	baz=348						
NWF				S	**Sn**	**10 49 05.5**	**+1.0**
	baz=348						
WFSB	**Wu-fen Shan**	**0.94 348**		P	**Pn**	**10 48 52.5**	**+0.6**
	baz=348						
WFSB				S	**Sn**	**10 49 04.8**	**+0.4**
	baz=348						
TATO	**Taipei**	**0.95 331**		P	**Pn**	**10 48 52.6**	**+0.7**
	baz=331						
TATO				S	**Sn**	**10 49 05.0**	**+0.4**
	baz=331						
SXI1	**Grass Mountain**	**0.95 353**		P	**Pn**	**10 48 52.4**	**+0.4**
	baz=354						
SXI1				S	**Sn**	**10 49 04.8**	**+0.1**
	baz=354						
YOJ	**Yonaguni jima**	**0.97 71**		P	**Pn**	**10 48 52.0**	**-0.2**
YOJ				*e*S	**Sb**	**10 49 05.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.97 71**		*e*S	**Sb**	**10 49 05.5**	**+0.3**
	baz=60						
YOJ	**Yonaguni jima**	**0.97 71**		*e*P	**Pn**	**10 48 52.0**	**-0.2**
	baz=71						
YOJ				*e*S	**Sn**	**10 49 05.8**	**+0.6**
	baz=71						
LIOB	**Emei**	**1.03 299**		*e*P	**Pb**	**10 48 54.4**	**+0.8**
	baz=299						
IRIF	**Iriomote-Funau**	**1.59 83**		P	**Pn**	**10 49 00.1**	**-0.6**
JKRS	**Kuro-shima**	**1.84 87**		P	**Pn**	**10 49 04.9**	**+0.8**
JJJ	**Ishigaki jima**	**1.97 83**		P	**Pn**	**10 49 05.6**	**-0.3**
JISG	**Ishigakijimahi**	**2.15 78**		P	**Pn**	**10 49 08.3**	**-0.2**

IDC 10 11:11:59.0±1.5, 24°.46N×141°.68E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.2/45, mbtmp3.5/4, Error ellipse: s-maj=62.7km s-min=33.2km az=89.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.71 190**		P	P	11 20 14.0	-0.1
	0.2nm,0.4s,baz=11,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**51.83 311**		P	P	11 21 09.9	+1.0
	0.1nm,0.4s,baz=89,slow=7.7,SNR=1.6						
YKA	**Yellowknife Ar**	**74.67 28**		P	P	11 23 40.8	+0.7
	0.1nm,0.4s,baz=295,slow=6.0,SNR=2.7						
FINES	**FINESS Array B**	**80.10 334**		P	P	11 24 08.9	-1.7
	4.7nm,1.1s,baz=58,slow=4.2,SNR=2.2						

*IDC **10** 11:12:03.5±2.2, 9°.19S×160°.67E, h76km±13km, mb3.4/5, mb1 3.6/5, mb1mx3.2/40, mbtmp3.7/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/29, Error ellipse: s-maj=44.1km s-min=28.0km az=127.0*

ISC 10 11:12:06.2±1.3, 9°.2S±0°.2×160°.4E±0°.3, h100km, n7, σ1°86/7, mb3.4/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.50 246**		P	**Pn**	**11 12 19.9**	**-2.0**
	320nm,0.3s,baz=118,slow=1.4,SNR=173						
HNR				S	**Sn**	**11 12 32.6**	**-1.1**
	1μm,0.3s,baz=25,slow=23,SNR=25						
PMG	**Port Moresby**	**13.08 268**		LR	LR	11 19 58.7	
	comp=Z,48nm,19.9s,baz=78,slow=36						
WRA	**Warramunga Arr**	**27.35 244**		P	**P**	**11 17 43.8**	**+1.8**
	0.5nm,0.5s,baz=71,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**29.12 237**		P	**P**	**11 17 59.1**	**+1.3**
	0.5nm,0.3s,baz=64,slow=10,SNR=21						
SONM	**Songino Array**	**74.15 325**		P	**P**	**11 23 33.4**	**+1.5**
	0.3nm,0.7s,baz=130,slow=6.9,SNR=2.9						
QSPA	**South Pole Qui**	**80.76 180**		P	**P**	**11 24 09.0**	**+0.6**
	1.3nm,0.8s,baz=240,slow=6.6,SNR=5.1						
ILAR	**Eielson Array**	**83.54 20**		P	**P**	**11 24 21.6**	**-1.1**
	0.3nm,0.6s,baz=224,slow=5.0,SNR=2.1						

*IDC **10** 11:14:25.5±0.6, 49°.14S×125°.01E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.2/38, mbtmp4.3/8, MS3.6/9, Ms1 3.6/9, ms1mx3.3/41, Error ellipse: s-maj=38.4km s-min=17.1km az=109.0*
*NEIC **10** 11:14:28.7±2.0, 49°.0S±0°.1×124°.9E±0°.3, h15km±4km, mb4.3/17, Error ellipse: s-maj=28.8km s-min=15.6km az=95.0*

ISC 10 11:14:27.7±0.5, 49°.02S±0°.08×124°.9E±0°.2, h10km, n57, σ1°34/48, mb4.3/14, MS3.6/9, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.19 327**		T	T	11 34 53.3	
	baz=152,slow=74,SNR=85						
H01W2	**Cape Leeuwin H**	**16.19 327**		T	T	11 34 53.1	
	baz=152,slow=74,SNR=80						
H01W3	**Cape Leeuwin H**	**16.20 327**		T	T	11 34 54.4	
	baz=152,slow=74,SNR=99						
BBOO	**Buckleboo**	**18.23 31**		P	**P**	**11 18 41.9**	**+0.9**
FORT	**Forrest**	**18.38 9**		P	**Pn**	**11 18 41.4**	**-1.1**
FORT				IAmb	IAmb	11 18 58.9	
	comp=Z,16nm,0.8s						
CASY	**Casey**	**18.84 198**		P	**P**	**11 18 46.4**	**-1.1**
CASY				IAmb	IAmb	11 18 54.0	
	comp=Z,22nm,1.2s						
MORW	**Morawa**	**21.04 338**		P	**P**	**11 19 12.2**	**+0.5**
MORW				IAmb	IAmb	11 19 16.3	
	comp=Z,19nm,1.1s						
STKA	**Stephens Creek**	**21.25 42**		P	**P**	**11 19 14.1**	**+0.2**
	comp=Z,10nm,0.9s,baz=200,slow=12,SNR=26						
STKA	**Stephens Creek**	**21.25 42**		P	**P**	**11 19 13.7**	**-0.2**
ASAR	**Alice Springs**	**26.28 19**		P	**P**	**11 20 02.1**	**-1.2**
	comp=Z,5.2nm,0.9s,baz=190,slow=9.3,SNR=47						
ASAR				PcP	**PcP**	**11 23 28.3**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=177,slow=1.5,SNR=10						
AS31	**Alice Springs**	**26.29 19**		P	**P**	**11 20 02.2**	**-1.1**
WRA	**Warramunga Arr**	**29.99 18**		P	**P**	**11 20 35.2**	**-1.2**
	comp=Z,1.8nm,1.0s,baz=193,slow=9.9,SNR=7.3						
WRA				PcP	**PcP**	**11 23 37.2**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=208,slow=2.5,SNR=9.5						
WRA				LR	LR	11 31 28.2	
	comp=Z,293nm,21.6s,baz=172,slow=34						
WRA	**Warramunga Arr**	**29.99 18**		P	**P**	**11 20 35.7**	**-0.7**
WB2	**Warramunga Arr**	**29.99 18**		P	**P**	**11 20 35.4**	**-1.0**
WB2				IAmb	IAmb	11 20 36.1	
	comp=Z,3.5nm,1.1s						
WR0	**Warramunga Arr**	**30.01 18**		P	**P**	**11 20 36.0**	**-0.6**
WR0				IAmb	IAmb	11 20 47.0	
	comp=Z,6.3nm,1.2s						
WB0	**Warramunga Arr**	**30.17 18**		P	**P**	**11 20 37.3**	**-0.7**
WB0				IAmb	IAmb	11 20 51.8	
	comp=Z,3.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.85 1**		LR	LR	11 31 54.6	
	comp=Z,125nm,21.6s,baz=192,slow=34						
VNDA	**Vanda**	**31.89 166**		LR	LR	11 32 36.0	
	comp=Z,144nm,19.2s,baz=302,slow=34						
VNDA	**Vanda**	**31.89 166**		P	**P**	**11 20 54.3**	**+1.7**
MAW	**Mawson**	**35.55 216**		LR	LR	11 32 20.2	
	comp=Z,111nm,19.2s,baz=62,slow=30						
COEN	**Coen**	**38.07 30**		P	**P**	**11 21 44.8**	**-1.7**
COEN				IAmb	IAmb	11 21 47.2	
	comp=Z,13nm,1.3s						
QSPA	**South Pole Qui**	**41.11 180**		P	**P**	**11 22 09.2**	**-2.3**
	comp=Z,7.3nm,1.2s,baz=340,slow=2.6,SNR=9.7						
QSPA	**South Pole Qui**	**41.11 180**		P	**P**	**11 22 10.0**	**-1.6**
QSPA				IAmb	IAmb	11 22 12.1	
	comp=Z,9.6nm,1.2s						
JAY	**Jayapura**	**48.27 21**		LR	LR	11 42 56.9	
	comp=Z,91nm,21.5s,baz=260,slow=35						
SIJI	**Sorong**	**48.28 9**		LR	LR	11 43 12.4	
	comp=Z,55nm,20.2s,baz=102,slow=36						
HNR	**Honiara**	**49.14 49**		LR	LR	11 42 55.5	
	comp=Z,71nm,18.1s,baz=170,slow=35						
BKNI	**Bangkinang**	**53.28 330**		P	**P**	**11 23 46.7**	**0.0**
SNAA	**Sanae**	**54.08 198**		P	**P**	**11 23 50.3**	**-1.8**
	comp=Z,4.5nm,0.9s,baz=156,slow=7.8,SNR=7.5						
SNAA	**Sanae**	**54.08 198**		P	**P**	**11 23 53.2**	**+1.2**
DAV	**Davao City (W)**	**55.85 1**		LR	LR	11 49 45.3	
	comp=Z,37nm,18.0s,baz=150,slow=38						
GUMO	**Guam**	**64.79 22**		LR	LR	11 53 48.7	
	comp=Z,18nm,19.2s,baz=172,slow=36						
CM31	**Chiang Mai Arr**	**71.03 334**		P	**P**	**11 25 45.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**71.03 334**		P	**P**	**11 25 46.4**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=185,slow=5.4,SNR=22						
CMAR	**Chiang Mai Arr**	**71.03 334**		P	**P**	**11 25 45.8**	**+0.1**
CHTO	**Chiang Mai**	**71.37 334**		P	**P**	**11 25 47.0**	**-0.7**
CHTO				IAmb	IAmb	11 25 50.3	
	comp=Z,4.0nm,1.1s						
BOSA	**Boshof**	**74.82 244**		P	**P**	**11 26 07.2**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=101,slow=4.2,SNR=5.3						
KSAR	**Wonju Array Be**	**86.12 2**		P	**P**	**11 27 08.4**	**0.0**
KSRS	**Korea Array**	**86.14 2**		P	**P**	**11 27 09.1**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=187,slow=4.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**121.41 253**		PKP	**PKPdf**	**11 33 21.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=132,slow=1.7,SNR=2.0						
ILAR	**Eielson Array**	**132.17 35**		PKP	**PKPdf**	**11 33 39.9**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=286,slow=2.9,SNR=7.4						
ILAR	**Eielson Array**	**132.17 35**			**PKPdf**	**11 33 40.5**	**+0.1**
NVAR	**Mina Array Bea**	**134.36 79**		PKP	**PKPdf**	**11 33 46.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=217,slow=4.2,SNR=6.0						
NVAR	**Mina Array Bea**	**134.36 79**			**PKPdf**	**11 33 47.6**	**+2.0**
FINES	**FINESS Array B**	**135.12 318**		PKP	**PKPdf**	**11 33 46.8**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=76,slow=5.9,SNR=2.3						
FINES	**FINESS Array B**	**135.12 318**			**PKPdf**	**11 33 47.3**	**+1.3**
GERES	**GERESS Array B**	**136.24 297**		PKP	**PKPdf**	**11 33 48.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=73,slow=3.4,SNR=3.5						
GERES	**GERESS Array B**	**136.24 297**			**PKPdf**	**11 33 49.4**	**+0.8**
ARCES	**ARCESS Array B**	**137.93 329**		PKP	**PKPdf**	**11 33 51.2**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=345,slow=1.0,SNR=4.1						
TXAR	**Lajitas Array**	**138.37 100**		PKP	**PKPdf**	**11 33 52.3**	**-0.9**
	comp=Z,0.7nm,1.1s,baz=180,slow=2.5,SNR=3.8						
INK	**Inuvik**	**138.41 33**		PKP	**PKPdf**	**11 33 52.2**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=293,slow=1.7,SNR=6.6						
INK	**Inuvik**	**138.41 33**			**PKPdf**	**11 33 53.1**	**+1.2**
PDAR	**Pinedale Array**	**142.29 78**		PKhKP	PKPpre	11 33 55.0	
	comp=Z,0.4nm,0.8s,baz=122,slow=1.2,SNR=2.5						
YKA	**Yellowknife Ar**	**145.27 45**		PKPbc	**PKPbc**	**11 34 03.4**	**-0.8**
	comp=Z,8.2nm,0.7s,baz=269,slow=3.5,SNR=160						
YKA	**Yellowknife Ar**	**145.27 45**			**PKPbc**	**11 34 03.7**	**-0.4**
EKA	**Eskdalemuir Ar**	**148.16 301**		PKPbc	**PKPdf**	**11 34 12.1**	**+2.7**
	comp=Z,3.1nm,0.8s,baz=81,slow=4.6,SNR=3.5						
RES	**Resolute Bay**	**149.33 19**		PKPbc	**PKPdf**	**11 34 14.6**	**+3.8**
	comp=Z,5.8nm,0.7s,baz=266,slow=2.5,SNR=34						
RES	**Resolute Bay**	**149.33 19**			**PKPdf**	**11 34 14.2**	**+3.5**
RES				PKPab	**PKPab**	**11 34 20.9**	**+1.0**

*JMA **10** 11:16:22.4±0.1, 24°.08N×121°.99E, h32km±3km, M2.4*
*TAP **10** 11:16:23.1, 24°.17N×121°.98E, h24km, ML3.5, C*
ISC 10 11:16:23.0±1.0, 24°.13N±0°.02×121°.99E±0°.02, h26km±9km, n66, σ0°55/122, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.29 307**		*e*P	**Pn**	**11 16 31.0**	**-0.6**
	baz=303						
ETL	**Fush Village**	**0.34 274**		*i* P	**Pn**	**11 16 31.2**	**-1.0**
	baz=268						
ETL				*e*S	**Sn**	**11 16 37.4**	**-0.9**
	baz=268						
NACB	**Ninganchiao**	**0.36 276**		*i* P	**Pb**	**11 16 31.4**	**+0.3**
	baz=271						
NACB				*i* S	**Sb**	**11 16 37.2**	**+0.5**
	baz=271						
EWUT	**Wuta**	**0.37 328**		*i* P	**Pb**	**11 16 31.0**	**-0.2**
	baz=326						
EWUT				S	**Sb**	**11 16 37.2**	**+0.6**
	baz=326						
TWD	**Chiawan**	**0.37 262**		*i* P	**Pn**	**11 16 31.8**	**-0.8**
	baz=256						
TWD				*i* S	**Sn**	**11 16 38.4**	**-0.4**
	baz=256						
ENA	**Nanau**	**0.37 322**		*i* P	**Pb**	**11 16 31.1**	**-0.1**
	baz=320						
ENA				*e*S	**Sb**	**11 16 35.7**	**-1.1**
	baz=320						
HWA	**Hwalien**	**0.39 246**		P	**Pn**	**11 16 32.7**	**-0.1**
	baz=240						
HWA				*e*S	**Sn**	**11 16 40.1**	**+0.7**
	baz=240						
TEYL	**Yanliau Villag**	**0.45 234**		P	**Pn**	**11 16 33.4**	**-0.3**
	baz=233						
TEYL				*e*S	**Sn**	**11 16 41.5**	**+0.6**
	baz=233						
ETLH	**Xiulin Townshi**	**0.47 279**		*i* P	**Pb**	**11 16 33.0**	**+0.1**
	baz=275						
ETLH				*i* S	**Sn**	**11 16 40.3**	**-1.4**
	baz=275						
ETM	**Tongmen**	**0.49 250**		P	**Pn**	**11 16 33.4**	**-0.9**
	baz=245						
ETM				S	**Sn**	**11 16 41.6**	**-0.3**
	baz=245						
TWC	**Suao**	**0.49 345**		*i* P	**Pb**	**11 16 32.8**	**-0.3**
	baz=345						
TWC				*i* S	**Sb**	**11 16 40.0**	**+0.1**
	baz=345						
NDS	**Dongshan**	**0.56 333**		*i* P	**Pb**	**11 16 34.0**	**-0.2**
	baz=332						

	baz=321						
NDT	**Datong Townshi**	**0.64 317**	*i* P		**Pb**	**11 16 35.6**	**0.0**
	baz=315						
NDT			*e*S		**Sb**	**11 16 44.4**	**+0.2**
	baz=315						
NNS	**Nan Shan**	**0.64 298**	*i* P		**Pb**	**11 16 35.6**	**-0.2**
	baz=296						
NNS			*i* S		**Sb**	**11 16 44.8**	**+0.4**
	baz=296						
TWE	**Neicheng**	**0.66 333**	*i* P		**Pb**	**11 16 35.7**	**-0.1**
	baz=333						
TWE			*i* S		**Sb**	**11 16 44.8**	**+0.1**
	baz=333						
WHF	**Hehuan Shan**	**0.66 271**	*i* P		**Pb**	**11 16 36.2**	**-0.1**
	baz=268						
WHF			S		**Sn**	**11 16 46.2**	**-0.7**
	baz=268						
ILA	**Ilan**	**0.67 341**	P		**Pn**	**11 16 36.3**	**-0.4**
	baz=340						
ILA			*e*S		**Sn**	**11 16 46.0**	**-0.4**
	baz=340						
FUSS	**Fushou**	**0.69 280**	*i* P		**Pn**	**11 16 37.0**	**-0.3**
	baz=276						
FUSS			*i* S		**Sn**	**11 16 46.9**	**-0.5**
	baz=276						
EGFH	**Guangfu**	**0.69 228**	*i* P		**Pn**	**11 16 37.1**	**0.0**
	baz=225						
EGFH			S		**Sn**	**11 16 47.4**	**+0.4**
	baz=225						
EGS		**0.71 356**	P		**Pb**	**11 16 36.6**	**-0.2**
	baz=357						
EGS			S		**Sb**	**11 16 46.7**	**+0.5**
	baz=357						
FUSB	**Fushanzhiwuyua**	**0.72 329**	P		**Pb**	**11 16 36.7**	**-0.4**
	baz=328						
FUSB			S		**Sn**	**11 16 47.3**	**-0.6**
	baz=328						
NTC	**Toucheng**	**0.73 348**	P		**Pb**	**11 16 37.1**	**0.0**
	baz=348						
NTC			S		**Sn**	**11 16 47.7**	**-0.3**
	baz=348						
CHGB	**Renai**	**0.75 265**	*i* P		**Pn**	**11 16 38.0**	**-0.1**
	baz=261						
CHGB			*e*S		**Sn**	**11 16 49.5**	**+0.7**
	baz=261						
TWT	**Tachien**	**0.76 279**	P		**Pn**	**11 16 38.5**	**+0.4**
	baz=276						
TWT			*e*S		**Sn**	**11 16 48.5**	**-0.3**
	baz=276						
OWD	**Renai**	**0.77 257**	*i* P		**Pn**	**11 16 37.9**	**-0.4**
	baz=254						
OWD			*e*S		**Sn**	**11 16 48.9**	**-0.1**
	baz=254						
TDCB	**Techi**	**0.77 279**	P		**Pn**	**11 16 38.5**	**+0.2**
	baz=276						
TDCB			*e*S		**Sn**	**11 16 48.5**	**-0.6**
	baz=276						
YHNB	**Yeheng**	**0.77 314**	P		**Pb**	**11 16 37.7**	**-0.2**
	baz=312						
YHNB			*e*S		**Sb**	**11 16 48.0**	**-0.1**
	baz=312						
NWLT	**Wulai**	**0.78 325**	P		**Pb**	**11 16 37.6**	**-0.3**
	baz=324						
NWLT			S		**Sb**	**11 16 48.2**	**0.0**
	baz=324						
NSK	**Sanguang**	**0.79 313**	*i* P		**Pb**	**11 16 37.9**	**-0.3**
	baz=311						
NSK			S		**Sb**	**11 16 48.3**	**-0.3**
	baz=311						
WUSB	**Renai**	**0.81 260**	*i* P		**Pn**	**11 16 38.7**	**-0.1**
	baz=257						
WUSB			S		**Sn**	**11 16 50.9**	**+0.8**
	baz=257						
HGSD	**Ruisui**	**0.82 219**	*e*P		**Pn**	**11 16 38.3**	**-0.6**
	baz=217						
HGSD			S		**Sn**	**11 16 50.6**	**+0.4**
	baz=217						
TIPB	**Shuangxi**	**0.85 350**	*i* P		**Pn**	**11 16 39.0**	**-0.3**
	baz=349						
TIPB			S		**Sn**	**11 16 50.7**	**-0.1**
	baz=349						
VWDT	**VWDT**	**0.87 244**	P		**Pb**	**11 16 39.5**	**+0.1**
	baz=241						
VWDT			S		**Sn**	**11 16 51.4**	**+0.2**
	baz=241						
TWB1	**Santiao Chiao**	**0.87 360**	*i* P		**Pn**	**11 16 39.3**	**-0.2**
TWB1			S		**Sb**	**11 16 50.3**	**-0.4**
EHY	**Hungye**	**0.88 225**	*e*P		**Pn**	**11 16 38.9**	**-0.7**
	baz=222						
TWA	**Mucha**	**0.92 336**	P		**Pb**	**11 16 40.7**	**+0.3**
	baz=336						
TWA			*e*S		**Sn**	**11 16 53.4**	**+0.7**
	baz=336						
JYNG	**Yonagunijimaku**	**0.93 70**	P		**Pn**	**11 16 39.8**	**-0.5**
JYNG			*e*S		**Sn**	**11 16 52.6**	**-0.1**
NHDH	**Xindian Distri**	**0.93 333**	P		**Pb**	**11 16 40.7**	**+0.3**
	baz=332						
NHDH			S		**Sn**	**11 16 53.6**	**+0.8**
	baz=332						
NFF	**Wufeng Townshi**	**0.94 302**	P		**Pb**	**11 16 40.7**	**0.0**
	baz=300						
NFF			S		**Sb**	**11 16 52.4**	**-0.4**
	baz=300						
NWF	**Wu-fen Shan**	**0.95 348**	*i* P		**Pb**	**11 16 41.4**	**+0.4**
	baz=348						
NWF			*e*S		**Sn**	**11 16 54.5**	**+0.9**
	baz=348						
WFSB	**Wu-fen Shan**	**0.95 348**	P		**Pb**	**11 16 41.2**	**+0.3**
	baz=348						
WFSB			*e*S		**Sn**	**11 16 54.7**	**+1.3**
	baz=348						
WPL	**Puli Township**	**0.95 263**	*i* P		**Pb**	**11 16 40.9**	**0.0**
	baz=260						
TATO	**Taipei**	**0.95 331**	P		**Pb**	**11 16 41.2**	**+0.3**
	baz=331						
TATO			*e*S		**Sn**	**11 16 54.4**	**+0.9**
	baz=331						
SXI1	**Grass Mountain**	**0.96 354**	*e*P		**Pb**	**11 16 41.7**	**+0.6**
	baz=353						
SXI1			*e*S		**Sn**	**11 16 54.8**	**+1.0**
	baz=353						
WHP	**Taichung City**	**0.97 279**	*i* P		**Pb**	**11 16 41.5**	**+0.4**
	baz=276						
WHP			*e*S		**Sn**	**11 16 54.8**	**+1.0**
	baz=276						
DPDB	**Guoxing**	**0.98 264**	*i* P		**Pb**	**11 16 41.6**	**+0.2**
	baz=262						
YOJ	**Yonaguni jima**	**0.98 70**	P		**Pn**	**11 16 40.6**	**-0.5**
YOJ			*e*S		**Sn**	**11 16 54.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.98 70**	P		**Pn**	**11 16 41.0**	**-0.1**
	baz=72						
YOJ			*e*S		**Sb**	**11 16 54.6**	**+0.6**
	baz=72						
TWF1	**Yuli**	**1.01 219**	*e*P		**Pn**	**11 16 40.8**	**-0.6**
	baz=217						
SSLB	**Suanglung**	**1.01 250**	P		**Pb**	**11 16 41.4**	**-0.5**
	baz=248						
SSLB			S		**Sb**	**11 16 55.6**	**+0.8**
	baz=248						
LIOB	**Emei**	**1.02 300**	*e*P		**Pb**	**11 16 43.0**	**+0.8**
	baz=298						
NSTT	**Nanjuang**	**1.03 299**	*e*P		**Pb**	**11 16 42.9**	**+0.7**
	baz=297						
NSTT			*e*S		**Sb**	**11 16 56.0**	**+0.7**
	baz=297						
SMLT	**Sun Moon Lake**	**1.03 256**	*i* P		**Pb**	**11 16 42.2**	**-0.1**
	baz=253						
SMLT			*e*S		**Sb**	**11 16 57.1**	**+1.7**
	baz=253						
TYC	**Yuchr**	**1.06 258**	*i* P		**Pb**	**11 16 42.4**	**-0.4**
	baz=255						
ALS	**Alishan**	**1.25 240**	P		**Pb**	**11 16 46.0**	**-0.2**
	baz=238						
ALS			S		**Sb**	**11 17 01.6**	**-0.3**
	baz=238						
CHN5	**Tsauling**	**1.32 246**	*e*P		**Pb**	**11 16 47.4**	**+0.3**
	baz=244						
IRIF	**Iriomote-Funau**	**1.60 82**	P		**Pn**	**11 16 49.3**	**-0.2**
IRIF			*e*S		**Sn**	**11 17 09.6**	**+0.3**
JKRS	**Kuro-shima**	**1.84 86**	P		**Pn**	**11 16 53.7**	**+0.8**
SSD	**Sandimen**	**1.86 222**	*e*P		**Pb**	**11 16 55.8**	**-0.6**
	baz=221						
JIJ	**Ishigaki jima**	**1.98 83**	P		**Pn**	**11 16 54.6**	**-0.1**
JIJ			*e*S		**Sn**	**11 17 17.9**	**-0.8**
JISG	**Ishigakijimahi**	**2.16 77**	P		**Pn**	**11 16 57.1**	**-0.2**
JISG			*e*S		**Sn**	**11 17 22.1**	**-1.1**

NEIC ***10*** *11:17:09.5±1.6, 31°.18S±0°.08×176°.5W±0°.2, h10km±2km, mb4.2/12, Error ellipse: s-maj=23.4km s-min=12.3km az=76.0*

IDC ***10*** *11:17:10.4±2.6, 31°.42S×176°.86W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.5/33, mbtmp4.1/5, ML3.6/1, MS3.7/2, Ms1 3.7/2, ms1mx2.8/58, Error ellipse: s-maj=61.8km s-min=35.6km az=125.0*

ISC 10 11:17:10.1±1.3, 31°.25S±0°.07×176°.8W±0°.2, h10km, n26, σ1$67/27, mb4.1/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.21**	**334**	Sn	**Sn**	**11 18 12.8**	**-1.3**
	198nm,0.3s,baz=112,slow=23,SNR=6.1						
RAO	**Raoul Island**	**2.21**	**334**	Pn	**Pn**	**11 17 44.8**	**-2.0**
RAO				Sn	**Sn**	**11 18 11.1**	**-3.1**
URZ	**Urewera**	**8.59**	**214**	Pn	**Pn**	**11 19 13.1**	**-1.4**
	0.8nm,0.3s,baz=137,slow=20,SNR=1.6						
URZ				Sn	**Sn**	**11 20 48.6**	**-2.9**
	1.4nm,0.3s,baz=258,slow=22,SNR=8.6						
URZ	**Urewera**	**8.59**	**214**		**Pn**	**11 19 13.6**	**-1.0**
TUWZ	**Tuamarina**	**12.59**	**214**	Pn	**Pn**	**11 20 08.2**	**-1.0**
CTA	**Charters Tower**	**34.94**	**280**	P	**P**	**11 24 05.2**	**+2.8**
	7.0nm,0.9s,baz=119,slow=4.1,SNR=2.4						
CTAO	**Charters Tower**	**34.94**	**280**	P	**P**	**11 24 04.8**	**+2.4**
STKA	**Stephens Creek**	**35.29**	**258**	P	**P**	**11 24 07.9**	**+2.6**
	0.8nm,0.4s,baz=127,slow=18,SNR=2.9						
STKA	**Stephens Creek**	**35.29**	**258**	P	**P**	**11 24 06.7**	**+1.4**
BBOO	**Buckleboo**	**39.73**	**255**	P	**P**	**11 24 44.0**	**+1.1**
BBOO				IAmb	IAmb	11 24 48.8	
	comp=Z,2.8nm,0.8s						
PMG	**Port Moresby**	**39.89**	**295**	LR	LR	11 38 46.5	
	comp=Z,92nm,20.7s,baz=174,slow=32						
AS31	**Alice Springs**	**44.08**	**267**	P	**P**	**11 25 19.9**	**+1.3**
ASAR	**Alice Springs**	**44.09**	**267**	P	**P**	**11 25 19.8**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=104,slow=7.5,SNR=21						
ASAR				PcP	**PcP**	**11 27 06.0**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=116,slow=3.7,SNR=2.4						
ASAR	**Alice Springs**	**44.09**	**267**	P	**P**	**11 25 19.3**	**+0.6**
WR0	**Warramunga Arr**	**44.97**	**272**	P	**P**	**11 25 26.9**	**+1.2**
WR0				IAmb	IAmb	11 25 27.4	
	comp=Z,2.9nm,1.2s						
WB2	**Warramunga Arr**	**45.14**	**272**	P	**P**	**11 25 27.6**	**+0.5**
WB2				IAmb	IAmb	11 25 29.0	
	comp=Z,3.3nm,1.1s						
WRAB	**Tennant Creek**	**45.15**	**272**	P	**P**	**11 25 27.6**	**+0.5**
WRAB				IAmb	IAmb	11 25 30.0	
	comp=Z,4.2nm,1.4s						
WRA	**Warramunga Arr**	**45.15**	**272**	P	**P**	**11 25 27.7**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=112,slow=7.8,SNR=26						
WRA	**Warramunga Arr**	**45.15**	**272**	P	**P**	**11 25 27.9**	**+0.7**
WB0	**Warramunga Arr**	**45.18**	**273**	P	**P**	**11 25 28.1**	**+0.7**
WB0				IAmb	IAmb	11 25 28.2	
	comp=Z,6.4nm,1.5s						
KNRA	**Kununurra**	**51.79**	**274**	P	**P**	**11 26 19.6**	**+1.2**
FITZ	**Fitzroy Crossi**	**53.38**	**270**	LR	LR	11 49 57.4	
	comp=Z,91nm,18.2s,baz=287,slow=37						
QSPA	**South Pole Qui**	**58.86**	**180**	P	**P**	**11 27 07.1**	**-1.8**
MAW	**Mawson**	**71.87**	**200**	P	**P**	**11 28 32.7**	**-0.1**
MAW				IAmb	IAmb	11 28 57.9	
	comp=Z,5.2nm,1.4s						
FINES	**FINESS Array B**	**146.29**	**340**	PKPbc	**PKPab**	**11 36 51.5**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=48,slow=2.1,SNR=8.3						
FINES	**FINESS Array B**	**146.29**	**340**		**PKPdf**	**11 36 49.0**	**0.0**

IDC ***10*** *11:23:24.9±3.6, 41°.40N×141°.90E, h62km±29km, mb3.3/8, mb1 3.4/10, mb1mx3.2/51, mbtmp3.5/10, ML3.2/1, MS2.2/1, Ms1 2.2/1, ms1mx1.9/37, Error ellipse: s-maj=29.5km s-min=19.5km az=147.0*

JMA ***10*** *11:23:24.7±0.1, 41°.48N×141°.96E, h64km±2km, M3.2*

ISC 10 11:23:25.0±0.9, 41°.46N±0°.04×141°.97E±0°.04, h60km±8km, n28, σ0$76/39, mb3.6/8, 1C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.52**	**248**	⇓P	**Pn**	**11 23 37.5**	**+0.4**
JAHD				S	**Sn**	**11 23 46.9**	**+1.0**
JARK	**Aomorirokkasho**	**0.64**	**225**	⇓P	**Pn**	**11 23 38.5**	**0.0**
JARK				S	**Sn**	**11 23 48.5**	**+0.1**
JOT	**Ohata**	**0.70**	**264**	⇓P	**Pn**	**11 23 39.1**	**-0.1**
JOT				S	**Sn**	**11 23 50.0**	**+0.4**
JKB	**Kayabe**	**0.82**	**302**	⇓P	**Pn**	**11 23 40.2**	**-0.5**
JKB				*e*S	**Sn**	**11 23 52.0**	**-0.3**
JTM	**Tenmabayashi**	**0.96**	**226**	⇓P	**Pn**	**11 23 42.8**	**+0.3**
JTM				S	**Sn**	**11 23 55.8**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.00**	**35**	P	**Pn**	**11 23 42.3**	**-0.8**
JNBK				*e*S	**Sn**	**11 23 56.0**	**-0.5**
JEM	**Erimo**	**1.05**	**58**	P	**Pn**	**11 23 43.4**	**-0.2**
JEM				*e*S	**Sn**	**11 23 57.7**	**+0.3**
JANG	**Nango**	**1.14**	**198**	⇑P	**Pn**	**11 23 45.0**	**+0.1**
JANG				S	**Sn**	**11 23 59.7**	**0.0**
JIAM	**Iburiatsuma**	**1.16**	**358**	P	**Pn**	**11 23 45.6**	**+0.5**
JIAM				*e*S	**Sn**	**11 24 01.0**	**+0.9**
JSR	**Shiriuchi**	**1.17**	**274**	P	**Pn**	**11 23 45.4**	**+0.2**
JNB	**Noboribetsu**	**1.22**	**326**	P	**Pn**	**11 23 45.2**	**-0.7**
JBT2	**Biratori 2**	**1.35**	**12**	P	**Pn**	**11 23 48.1**	**+0.5**
JYM2	**Yakumo 2**	**1.36**	**299**	⇓P	**Pn**	**11 23 48.1**	**+0.3**
JEW	**Eniwo**	**1.43**	**344**	⇓P	**Pn**	**11 23 48.6**	**-0.1**
JEW				S	**Sn**	**11 24 06.5**	**-0.1**
JCH	**Churui**	**1.55**	**42**	P	**Pn**	**11 23 50.9**	**+0.6**
JAH	**Hinai**	**1.63**	**219**	P	**Pn**	**11 23 52.2**	**+0.9**
JAH				*e*S	**Sn**	**11 24 12.6**	**+1.3**
JOSM	**Okushiri--Mats**	**1.97**	**289**	P	**Pn**	**11 23 55.6**	**-0.3**
ASAJ	**Asahikawa**	**2.69**	**10**	P	**Pn**	**11 24 07.0**	**+1.2**
	2.6nm,0.3s,baz=214,slow=17,SNR=33						
ASAJ				S	**Sn**	**11 24 39.2**	**+1.9**
	1.6nm,0.3s,baz=352,slow=30,SNR=7.5						
ASAJ				LR	LR	11 25 30.4	
	comp=Z,40nm,18.6s,baz=322,slow=45						
USRK	**Ussuriysk Ar.**	**7.83**	**294**	P	**Pn**	**11 25 17.5**	**+1.3**
	baz=107,slow=14,SNR=1.6						
KSRS	**Korea Array**	**11.57**	**254**	P	Pn	11 26 12.3	+5.0
	0.2nm,0.3s,baz=66,slow=14,SNR=1.9						
SONM	**Songino Array**	**25.93**	**296**	P	**P**	**11 28 51.1**	**-0.5**
	0.3nm,0.8s,baz=82,slow=10,SNR=3.0						
ZALV	**Zalesovo Beam**	**39.37**	**308**	P	**P**	**11 30 47.2**	**-1.1**
	0.4nm,0.3s,baz=81,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**42.27**	**298**	P	**P**	**11 31 12.0**	**-0.3**
	0.5nm,0.6s,baz=85,slow=12,SNR=4.4						
KURBB	**Kurchatov Arra**	**43.73**	**304**	P	**P**	**11 31 23.4**	**-0.6**
	0.7nm,0.4s,baz=78,slow=8.9,SNR=6.2						
ILAR	**Eielson Array**	**45.57**	**35**	P	**P**	**11 31 39.8**	**+1.3**
	0.4nm,0.7s,baz=269,slow=7.8,SNR=4.8						
BVAR	**Borovoye Array**	**48.00**	**310**	P	**P**	**11 31 57.8**	**+0.2**
	0.4nm,0.4s,baz=71,slow=11,SNR=4.3						
INK	**Inuvik**	**50.27**	**29**	P	**P**	**11 32 14.9**	**+0.2**
	0.9nm,0.5s,baz=300,slow=5.1,SNR=7.7						
WRA	**Warramunga Arr**	**61.50**	**188**	P	**P**	**11 33 34.2**	**-1.3**
	0.2nm,0.4s,baz=5.4,slow=7.0,SNR=2.3						

SOME ***10*** *11:23:20.2, 40°.77N×70°.35E, h20km*

NNC ***10*** *11:23:21.5±3.6, 40°.80N×70°.29E, h0km, mb3.0, mpv3.1, Error ellipse: s-maj=26.1km s-min=15.4km az=26.0*

KRNET ***10*** *11:23:23.9±0.1, 41°.13N×70°.21E, h11km, mb2.2*

ISC 10 11:23:25.5±1.4, 41°.10N±0°.04×70°.40E±0°.05, h6km±13km, n11, σ2$25/20, 5C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.70**	**52**	⇑*i*P	**Pb**	**11 23 39.3**	**-1.0**
	baz=65						
TRKS				⇑*i*S	**Sb**	**11 23 50.9**	**+0.7**
	baz=65						
IUG	**Iuzhnay**	**1.08**	**345**	*e*P	**Pg**	**11 23 46.9**	**+0.6**
	3.7nm,0.1s						
IUG				*e*S	**Sn**	**11 24 06.8**	**+4.1**
	51nm,0.3s						
IUG	**Iuzhnay**	**1.08**	**345**	P	**Pg**	**11 23 46.9**	**+0.6**
	156nm,0.2s						
IUG				S	**Sn**	**11 24 06.8**	**+4.1**
	51nm,0.3s						
BTK	**Batken**	**1.09**	**163**	⇓*i*P	**Pg**	**11 23 46.4**	**-0.1**
	baz=56						
BTK				⇓*i*S	**Sg**	**11 24 02.4**	**+1.8**
	baz=56						
ARK	**Arkit**	**1.36**	**59**	⇑*i*P	**Pb**	**11 23 52.0**	**+0.5**
	baz=62						
ARK				⇑*i*S	**Sg**	**11 24 12.4**	**+3.0**
	baz=62						
BRLS	**Borolday**	**1.97**	**348**	*e*P	**Pn**	**11 23 57.8**	**-1.7**
	2.3nm,0.2s						
BRLS				*e*S	**Sb**	**11 24 24.8**	**-1.9**
	4.9nm,0.5s						
BRLS	**Borolday**	**1.97**	**348**	P	**Pn**	**11 23 57.0**	**-2.5**
	3.9nm,0.3s						
BRLS				S	**Sb**	**11 24 23.0**	**-3.7**
	3.2nm,0.3s						
KK07	**Karatay Array**	**1.98**	**2**	⇓P	**Pb**	**11 24 01.8**	**-0.3**
	1.2nm,0.5s,baz=180,slow=17						
KK07				⇑S	**Sg**	**11 24 30.4**	**+1.1**
	3.9nm,0.7s,baz=188,slow=28						
MRKS	**Merke**	**2.67**	**51**	*e*P	**Pb**	**11 24 13.3**	**-0.4**
	2.5nm,0.5s						
MRKS				*e*S	**Sg**	**11 24 52.2**	**+0.9**
	3.8nm,0.7s						
MRKS	**Merke**	**2.67**	**51**	Pg	**Pb**	**11 24 13.3**	**-0.4**
	2.5nm,0.5s						
MRKS				Lg	Lg	11 24 52.2	
	3.8nm,0.7s						
TKM2	**Tokmak 2**	**4.27**	**63**	⇓Pg	**Pg**	**11 24 45.5**	**-2.0**
	0.7nm,0.6s						
TKM2				⇓Lg	Lg	11 25 44.5	
	1.6nm,0.8s						

IDC 10 11:26:53.5±1.3, 54°.97S×129°.51W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/19, mbtmp3.6/3, MS3.7/12, Ms1 3.7/12, ms1mx3.4/47, Error ellipse: s-maj=266.6km s-min=33.8km az=165.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**31.47**	**36**	LR	LR	11 42 49.6	
	comp=Z,112nm,19.5s,baz=186,slow=30						
PMSA	**Palmer Station**	**32.77**	**134**	LR	LR	11 42 59.0	
	comp=Z,110nm,20.4s,baz=280,slow=30						
QSPA	**South Pole Qui**	**35.20**	**180**	LR	LR	11 46 31.7	
	comp=Z,229nm,18.7s,baz=86,slow=34						
URZ	**Urewera**	**39.23**	**273**	LR	LR	11 46 47.0	
	comp=Z,145nm,19.4s,baz=188,slow=30						
PPT	**Papeete**	**40.38**	**330**	LR	LR	11 45 57.6	
	comp=Z,72nm,19.0s,baz=124,slow=28						
RAR	**Rarotonga**	**40.66**	**314**	LR	LR	11 46 23.6	
	comp=Z,106nm,21.3s,baz=237,slow=29						
H03S2	**Juan Fernandez**	**40.75**	**80**	T	T	12 17 55.8	
	baz=219						
H03S1	**Juan Fernandez**	**40.76**	**80**	T	T	12 17 56.0	
	baz=219						
H03S3	**Juan Fernandez**	**40.77**	**80**	T	T	12 17 52.8	
	baz=219						
PLCA	**Paso Flores**	**40.80**	**95**	LR	LR	11 47 05.6	
	comp=Z,99nm,18.6s,baz=225,slow=30						
H03N3	**Juan Fernandez**	**41.03**	**80**	T	T	12 18 09.9	
	baz=224,slow=72,SNR=724						
H03N2	**Juan Fernandez**	**41.04**	**80**	T	T	12 18 12.5	
	baz=224,slow=72,SNR=1134						
H03N1	**Juan Fernandez**	**41.05**	**80**	T	T	12 18 09.3	
	baz=224,slow=72,SNR=1378						
SNAA	**Sanae**	**48.23**	**160**	LR	LR	11 54 54.9	
	comp=Z,180nm,20.6s,baz=124,slow=35						
CPUP	**Villa Florida**	**58.75**	**92**	LR	LR	11 58 52.4	
	comp=Z,88nm,18.2s,baz=222,slow=33						
NNA	**Nana**	**59.29**	**65**	LR	LR	11 55 55.9	
	comp=Z,57nm,20.6s,baz=284,slow=29						
LPAZ	**La Paz**	**60.46**	**76**	P	P	11 37 05.7	0.0
	0.7nm,0.7s,baz=217,slow=8.0,SNR=4.0						
ATAH	**Atahualpa**	**62.61**	**60**	LR	LR	11 58 21.2	
	comp=Z,75nm,20.5s,baz=353,slow=30						
SIV	**San Ignacio**	**64.69**	**82**	LR	LR	12 02 04.0	
	comp=Z,21nm,20.8s,baz=281,slow=33						
ASAR	**Alice Springs**	**74.61**	**251**	P	P	11 38 34.0	-0.4
	0.8nm,1.1s,baz=142,slow=5.9,SNR=2.9						
H01W1	**Cape Leeuwin H**	**75.23**	**230**	T	T	13 02 04.6	
	baz=147,slow=76,SNR=34						
H01W2	**Cape Leeuwin H**	**75.23**	**230**	T	T	13 02 04.7	
	baz=147,slow=76,SNR=28						
H01W3	**Cape Leeuwin H**	**75.24**	**230**	T	T	13 02 04.0	
	baz=147,slow=76,SNR=32						
WRA	**Warramunga Arr**	**77.36**	**253**	P	P	11 38 50.7	+0.6
	0.6nm,1.0s,baz=145,slow=5.2,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**90.91**	**302**	T	T	13 20 46.9	
	baz=148,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**90.92**	**302**	T	T	13 20 49.0	
	baz=148,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**90.93**	**302**	T	T	13 20 48.3	
	baz=148,slow=75,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**91.86**	**302**	T	T	13 21 50.2	
	baz=148,slow=76,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**91.86**	**302**	T	T	13 21 50.4	
	baz=148,slow=76,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**91.87**	**302**	T	T	13 21 51.4	
	baz=148,slow=76,SNR=8.6						
SONM	**Songino Array**	**145.24**	**282**	PKPbc	PKPbc	11 46 31.0	-0.9
	0.3nm,0.7s,baz=150,slow=2.9,SNR=2.6						
MKAR	**Makanchi Array**	**158.49**	**261**	PKPab	PKPab	11 47 26.4	-0.5
	0.2nm,0.6s,baz=123,slow=5.1,SNR=1.6						

NNC 10 11:38:00.5±9.4, 37°.33N×70°.16E, h0km, mb4.0, mpv3.6, 3C-1D, Error ellipse: s-maj=73.8km s-min=68.8km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.51**	**28**	P	Pn	11 39 24.6	+0.4
	SNR=46						
KK09	**Karatay Array**	**5.79**	**2**	⇑P	Pn	11 39 29.1	+1.4
	1.4nm,0.5s,baz=176,slow=13						
KK09				⇓S	Sn	11 40 34.5	-0.3
	0.8nm,0.4s,baz=194,slow=23						
UCH	**Uchtor**	**5.93**	**33**	P	Pn	11 39 29.8	-0.2
	SNR=24						
EKS2	**Erkin-Say**	**6.00**	**26**	P	Pn	11 39 31.2	+0.5
	SNR=13						
AAK	**Ala-Archa**	**6.26**	**31**	P	Pn	11 39 33.9	-0.3
	SNR=6.5						
AAK	**Ala-Archa**	**6.26**	**31**	P	Pn	11 39 33.6	-0.6
	2.1nm,0.5s						
AAK				S	Sn	11 40 50.0	+3.5
	4.6nm,0.7s						
TKM2	**Tokmak 2**	**6.96**	**35**	P	Pn	11 39 43.0	-0.9
	SNR=6.0						
TKM2	**Tokmak 2**	**6.96**	**35**	⇑P	Pn	11 39 42.7	-1.2

23nm,0.3s
DZM Mont Dzumac 48.98 298 *e*LR LR 12 15 55.9
comp=Z,239nm,28.1s
TAOE Nuku Hiva Isla 49.86 10 *e*LR LR 12 15 49.5
comp=Z,269nm,27.0s
H03S2 Juan Fernandez 50.89 92 T T 12 57 40.3
baz=217
H03S1 Juan Fernandez 50.89 92 T T 12 57 41.0
baz=217
H03S3 Juan Fernandez 50.91 92 T T 12 57 40.4
baz=217
H03N3 Juan Fernandez 51.19 92 T T 12 58 01.1
baz=221,slow=72,SNR=15
H03N2 Juan Fernandez 51.19 92 T T 12 57 59.2
baz=221,slow=72,SNR=98
H03N1 Juan Fernandez 51.20 92 T T 12 58 01.8
baz=221,slow=72,SNR=16
STKA Stephens Creek 53.56 267 P P 12 02 45.6 +0.4
0.4nm,0.3s,baz=151,slow=3.6,SNR=2.9
ASAR Alice Springs 64.18 267 P P 12 03 59.0 -0.2
1.1nm,1.1s,baz=140,slow=6.1,SNR=6.8
H01W1 Cape Leeuwin H 65.00 244 T T 13 15 33.8
baz=143,slow=76,SNR=7.9
H01W2 Cape Leeuwin H 65.01 244 T T 13 15 34.2
baz=143,slow=76,SNR=8.8
H01W3 Cape Leeuwin H 65.02 244 T T 13 15 36.0
baz=143,slow=76,SNR=6.9
WRA Warramunga Arr 67.01 269 P P 12 04 17.2 -0.3
1.2nm,1.1s,baz=146,slow=5.7,SNR=4.6
H10N3 ASCENSION HYDR 103.88 132 T T 14 05 13.3
baz=205
H10N1 ASCENSION HYDR 103.89 132 T T 14 05 07.4
baz=205
H10N2 ASCENSION HYDR 103.90 132 T T 14 05 12.0
baz=205
MKAR Makanchi Array 148.31 270 PKPbc PKPbc 12 13 09.2 -0.8
1.2nm,0.6s,baz=117,slow=1.6,SNR=15
ZALV Zalesovo Beam 151.15 284 PKPbc PKPbc 12 13 16.6 +0.1
0.3nm,0.4s,baz=111,slow=7.9,SNR=1.7

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*IDC **10** 12:08:12.0±3.4,21°.95S×173°.20E,h79km±29km,mb3.6/4, mb1 3.8/6,mb1mx3.5/26,mbtmp3.9/6,Error ellipse: s-maj=64.3km s-min=13.7km az=155.0*
*NEIC **10** 12:08:12.2±2.6,21°.9S±0°.2×173°.18E±0°.09,h68km±6km, mb4.4/11,Error ellipse: s-maj=22.9km s-min=11.3km az=171.0*
ISC 10 12:08:08.2±0.8,22°.3S±0°.1×173°.35E±0°.10,h35km,n23, σ1§93/26,mb4.1/11,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**5.47**	**265**	Pn	**Pn**	**12 09 29.2**	**+1.9**
MSVF	**Nonsavu**	**6.31**	**45**	P	**Pn**	**12 09 40.2**	**+1.3**
	3.7nm,0.3s,baz=223,slow=15,SNR=26						
MSVF				S	**Sn**	**12 10 51.4**	**+1.6**
	baz=2.5,slow=20,SNR=0.9						
MSVF	**Nonsavu**	**6.31**	**45**		**Pn**	**12 09 41.1**	**+2.2**
DZM	**Mont Dzumac**	**6.41**	**270**	P	**Pn**	**12 09 42.1**	**+1.9**
	0.4nm,0.3s,baz=134,slow=18,SNR=13						
DZM				S	**Sn**	**12 10 53.1**	**+0.9**
	0.4nm,0.3s,baz=14,slow=23,SNR=1.5						
ARMA	**Armidale**	**21.07**	**243**	P	**P**	**12 12 52.2**	**+2.6**
ARMA				IAmb	IAmb	12 12 57.7	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**29.76**	**244**	P	**P**	**12 14 12.8**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=91,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**29.76**	**244**	P	**P**	**12 14 12.4**	**+0.7**
BBOO	**Buckleboo**	**34.54**	**244**	P	**P**	**12 14 52.7**	**-0.8**
BBOO				IAmb	IAmb	12 14 57.8	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**36.21**	**266**	P	**P**	**12 15 06.8**	**-1.3**
WR0				IAmb	IAmb	12 15 08.0	
	comp=Z,1.7nm,0.9s						
ASAR	**Alice Springs**	**36.27**	**260**	P	**P**	**12 15 06.8**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=84,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**36.27**	**260**	P	**P**	**12 15 07.6**	**-1.0**
WB0	**Warramunga Arr**	**36.39**	**267**	P	**P**	**12 15 08.7**	**-0.9**
WB0				IAmb	IAmb	12 15 11.1	
	comp=Z,4.1nm,1.5s						
WB2	**Warramunga Arr**	**36.39**	**266**	P	**P**	**12 15 09.1**	**-0.4**
WB2				IAmb	IAmb	12 15 23.9	
	comp=Z,3.6nm,1.2s						
WRA	**Warramunga Arr**	**36.40**	**266**	P	**P**	**12 15 07.2**	**-2.5**
	comp=Z,0.2nm,0.4s,baz=96,slow=8.4,SNR=7.1						
WRA	**Warramunga Arr**	**36.40**	**266**	P	**P**	**12 15 07.3**	**-2.4**
FORT	**Forrest**	**41.18**	**248**	P	**P**	**12 15 48.4**	**-1.2**
FORT				IAmb	IAmb	12 16 15.7	
	comp=Z,17nm,0.9s						
VNDA	**Vanda**	**55.59**	**183**	P	**P**	**12 17 42.7**	**+2.8**
VNDA				IAmb	IAmb	12 18 10.3	
	comp=Z,22nm,1.3s						
BERG	**Berg Lake**	**89.44**	**20**	P	**P**	**12 20 58.8**	**-2.2**
ILAR	**Eielson Array**	**92.01**	**16**	P	**P**	**12 21 11.4**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=222,slow=6.1,SNR=5.6						
ILAR	**Eielson Array**	**92.01**	**16**	P	**P**	**12 21 10.6**	**-2.3**
CLL	**Collm**	**147.22**	**337**	*e*PKPbc	**PKPbc**	**12 27 46.0**	**-1.6**
TORD	**Torodi Ar. Bea**	**167.95**	**223**	PKPab	**PKPab**	**12 29 16.8**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=103,slow=3.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**167.95**	**223**	PKPdf	**PKPdf**	**12 28 08.4**	**-3.4**
TORD					**PKPab**	**12 29 19.1**	**+0.1**

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*NOU **10** 12:11:22.4,37°.55S×176°.02E,h290km,MLv4.0/7,North Island, New Zealand*
*WEL **10** 12:11:38.1,38°.5±7°.×17°.6E±1°.1,h165km±14km,M2.9/55, MLv2.9/55,Error ellipse: s-maj=0.0km s-min=0.0km az=105.1*
ISC 10 12:11:28.5±2.0,37°.95S±0°.08×175°.97E±0°.06, h250km±14km,n118,σ0§60/118,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRZ	**Kaimai**	**0.11**	**347**	P	**Pn**	**12 12 00.1**	**-0.7**
KARZ	**Kaharoa**	**0.23**	**108**	P	**Pn**	**12 12 00.0**	**-0.8**
TGRZ	**Tauranga**	**0.32**	**46**	P	**Pn**	**12 12 00.1**	**-0.8**
OMRZ	**Omania**	**0.35**	**116**	P	**Pn**	**12 12 00.4**	**-0.6**
OPRZ	**Ohinepanea**	**0.47**	**77**	P	**Pn**	**12 12 00.4**	**-0.9**
TARZ	**Mount Tarawera**	**0.51**	**124**	P	**Pn**	**12 12 01.8**	**+0.3**
TLZ	**Tolley Road**	**0.51**	**222**	P	**Pn**	**12 12 01.3**	**-0.1**
RRRZ	**Republican Roa**	**0.58**	**132**	P	**Pn**	**12 12 01.2**	**-0.4**
WPRZ	**Whakapapatarin**	**0.59**	**165**	P	**Pn**	**12 12 01.6**	**-0.1**
EDRZ	**Edgecumbe**	**0.63**	**105**	P	**Pn**	**12 12 01.3**	**-0.5**
PRRZ	**Plateau Road**	**0.64**	**149**	P	**Pn**	**12 12 01.6**	**-0.2**
MUGZ	**Murupara**	**0.82**	**130**	P	**Pn**	**12 12 01.8**	**-0.8**
HATZ	**Hinemaiaia**	**0.94**	**174**	P	**Pn**	**12 12 02.9**	**-0.3**
MRHZ	**Matea Rd**	**0.95**	**158**	P	**Pn**	**12 12 02.7**	**-0.6**
URZ	**Urewera**	**0.95**	**109**	P	**Pn**	**12 12 02.4**	**-0.9**
URZ	**Urewera**	**0.95**	**109**	P	**Pn**	**12 12 02.3**	**-0.9**
RTZ	**Ruatahuna**	**1.04**	**130**	P	**Pn**	**12 12 03.3**	**-0.5**
HIZ	**Hauiti**	**1.04**	**237**	P	**Pn**	**12 12 03.7**	**0.0**
HIZ	**Hauiti**	**1.04**	**237**	P	**Pn**	**12 12 03.9**	**+0.2**
KATZ	**Kakaramea**	**1.05**	**192**	P	**Pn**	**12 12 03.8**	**-0.1**
MTHZ	**Maungataniwha**	**1.13**	**143**	P	**Pn**	**12 12 04.0**	**-0.3**
NTVZ	**North Tongarir**	**1.17**	**191**	P	**Pn**	**12 12 04.9**	**+0.3**
KRVZ	**Karewarewa**	**1.17**	**193**	P	**Pn**	**12 12 05.6**	**+1.0**
TMVZ	**Te Maari**	**1.18**	**190**	P	**Pn**	**12 12 04.9**	**+0.2**
TWVZ	**Taurewa**	**1.20**	**200**	P	**Pn**	**12 12 04.8**	**0.0**
WTVZ	**West Tongariro**	**1.20**	**194**	P	**Pn**	**12 12 04.9**	**+0.1**
ETVZ	**East Tongariro**	**1.20**	**190**	P	**Pn**	**12 12 04.9**	**+0.1**
NNVZ	**North Ngauruho**	**1.21**	**193**	P	**Pn**	**12 12 05.1**	**+0.1**
KUZ	**Kuaotunu**	**1.22**	**351**	P	**Pn**	**12 12 04.8**	**0.0**
OTVZ	**Oturere**	**1.23**	**191**	P	**Pn**	**12 12 05.2**	**+0.2**
NGZ	**Ngauruhoe**	**1.26**	**193**	P	**Pn**	**12 12 05.3**	**+0.1**
SNVZ	**South Ngauruho**	**1.26**	**192**	P	**Pn**	**12 12 05.6**	**+0.3**
RAGZ	**Rawiri**	**1.26**	**116**	P	**Pn**	**12 12 05.1**	**0.0**
BKZ	**Black Stump Fm**	**1.28**	**162**	P	**Pn**	**12 12 04.9**	**-0.4**
BKZ	**Black Stump Fm**	**1.28**	**162**	P	**Pn**	**12 12 05.2**	**0.0**
MWZ	**Matawai**	**1.29**	**108**	P	**Pn**	**12 12 04.9**	**-0.3**
RAHZ	**Arahi**	**1.30**	**138**	P	**Pn**	**12 12 05.7**	**+0.3**
NMHZ	**Naumai**	**1.32**	**150**	P	**Pn**	**12 12 06.2**	**+0.6**
WIAZ	**Waiheke Island**	**1.33**	**330**	P	**Pn**	**12 12 06.0**	**+0.4**
TUVZ	**Tukino**	**1.34**	**191**	P	**Pn**	**12 12 06.0**	**+0.2**
FWVZ	**Far West T-bar**	**1.34**	**194**	P	**Pn**	**12 12 06.1**	**+0.2**
RUGZ	**Raukumara Rang**	**1.35**	**91**	P	**Pn**	**12 12 04.6**	**-1.2**
SNGZ	**Shannon Statio**	**1.36**	**128**	P	**Pn**	**12 12 06.0**	**+0.2**
TRVZ	**Turoa**	**1.39**	**194**	P	**Pn**	**12 12 06.5**	**+0.3**
WNVZ	**Wahianoa**	**1.41**	**192**	P	**Pn**	**12 12 06.2**	**0.0**
PKVZ	**Pokaka**	**1.42**	**200**	P	**Pn**	**12 12 06.4**	**+0.1**
HAZ	**Te Kaha**	**1.45**	**83**	P	**Pn**	**12 12 05.6**	**-0.7**
MBAZ	**Motutapu North**	**1.46**	**324**	P	**Pn**	**12 12 07.1**	**+0.6**
MOVZ	**Moawhango**	**1.47**	**187**	P	**Pn**	**12 12 06.1**	**-0.4**
MTVZ	**Mangateitei**	**1.48**	**195**	P	**Pn**	**12 12 06.7**	**0.0**
VRZ	**Vera Road**	**1.51**	**219**	P	**Pn**	**12 12 07.6**	**+0.8**
KWHZ	**Kaweka Forest**	**1.51**	**167**	P	**Pn**	**12 12 07.1**	**+0.1**
ARHZ	**Aropaoanui**	**1.54**	**149**	P	**Pn**	**12 12 07.6**	**+0.6**
BHHZ	**Black Hill Sta**	**1.54**	**177**	P	**Pn**	**12 12 06.8**	**-0.3**
TKGZ	**Te Karaka**	**1.56**	**109**	P	**Pn**	**12 12 07.6**	**+0.4**
MCHZ	**McNeill Hill**	**1.60**	**159**	P	**Pn**	**12 12 08.2**	**+0.8**
RIGZ	**Rimuhau**	**1.60**	**119**	P	**Pn**	**12 12 08.0**	**+0.5**
TWGZ	**Tauwhareparae**	**1.60**	**99**	P	**Pn**	**12 12 08.3**	**+0.7**
PKGZ	**Pakihiroa**	**1.67**	**89**	P	**Pn**	**12 12 08.3**	**+0.1**
KNZ	**Kokohu**	**1.71**	**129**	P	**Pn**	**12 12 08.8**	**+0.5**
KRHZ	**Kereru**	**1.72**	**170**	P	**Pn**	**12 12 08.7**	**+0.2**
PRGZ	**Paritu Road**	**1.79**	**123**	P	**Pn**	**12 12 09.6**	**+0.5**
PUZ	**Puketiti**	**1.81**	**95**	P	**Pn**	**12 12 09.3**	**+0.1**
CNGZ	**Carnagh Statio**	**1.84**	**108**	P	**Pn**	**12 12 10.7**	**+1.2**
MXZ	**Matakaoa Point**	**1.89**	**79**	P	**Pn**	**12 12 10.6**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.91**	**153**	P	**Pn**	**12 12 10.9**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.94**	**129**	P	**Pn**	**12 12 11.3**	**+0.9**
WMGZ	**Waiomatatini S**	**1.94**	**87**	P	**Pn**	**12 12 10.8**	**+0.4**
LREZ	**Lake Rotokare**	**1.94**	**219**	P	**Pn**	**12 12 11.5**	**+1.1**
WAZ	**Wanganui**	**1.96**	**203**	P	**Pn**	**12 12 11.0**	**+0.4**
PNHZ	**Pukenui**	**1.97**	**175**	P	**Pn**	**12 12 10.7**	**0.0**
KAHZ	**Kahuranaki**	**1.97**	**159**	P	**Pn**	**12 12 11.5**	**+0.8**
NEZ	**North Egmont**	**1.97**	**228**	P	**Pn**	**12 12 12.4**	**+1.7**
PKE	**Pukeiti**	**1.99**	**231**	P	**Pn**	**12 12 12.3**	**+1.5**
KHEZ	**Kahui Hut**	**2.04**	**228**	P	**Pn**	**12 12 13.1**	**+1.7**
TSZ	**Takapari Road**	**2.11**	**180**	P	**Pn**	**12 12 12.0**	**+0.2**
NBEZ	**Newall Road No**	**2.11**	**231**	P	**Pn**	**12 12 13.8**	**+1.9**
WPHZ	**Waipukurau**	**2.14**	**170**	P	**Pn**	**12 12 12.5**	**+0.3**
PXZ	**Pawanui**	**2.19**	**162**	P	**Pn**	**12 12 13.1**	**+0.5**
DVHZ	**Dannevirke**	**2.35**	**176**	P	**Pn**	**12 12 14.2**	**0.0**
PRHZ	**Porangahau**	**2.37**	**168**	P	**Pn**	**12 12 14.8**	**+0.5**
POWZ	**Post Office Ro**	**2.44**	**184**	P	**Pn**	**12 12 15.1**	**0.0**
ANWZ	**Angora Road**	**2.54**	**171**	P	**Pn**	**12 12 16.5**	**+0.5**
PRWZ	**Pori Road**	**2.60**	**180**	P	**Pn**	**12 12 17.0**	**+0.3**
MRZ	**Mangatainoka R**	**2.72**	**186**	P	**Pn**	**12 12 17.6**	**-0.3**
BFZ	**Birch Farm**	**2.74**	**176**	P	**Pn**	**12 12 18.2**	**+0.1**
BFZ	**Birch Farm**	**2.74**	**176**	P	**Pn**	**12 12 18.7**	**+0.6**
TIWZ	**Tintock**	**2.82**	**181**	P	**Pn**	**12 12 19.2**	**+0.2**
OGWZ	**Otaki Gorge**	**2.93**	**192**	P	**Pn**	**12 12 20.1**	**0.0**
HOWZ	**Holdsworth Sta**	**2.96**	**187**	P	**Pn**	**12 12 20.1**	**-0.4**
KIW	**Kapiti Island**	**3.02**	**195**	P	**Pn**	**12 12 20.7**	**-0.4**
MTW	**Mount Morrison**	**3.22**	**186**	P	**Pn**	**12 12 22.7**	**-0.6**
CAW	**Cannon Point**	**3.23**	**192**	P	**Pn**	**12 12 23.1**	**-0.3**
DUWZ	**D'Urville Isla**	**3.26**	**209**	P	**Pn**	**12 12 23.7**	**0.0**
TRWZ	**Traveller**	**3.45**	**184**	P	**Pn**	**12 12 25.7**	**-0.2**
PAWZ	**Paruwai Farm**	**3.45**	**187**	P	**Pn**	**12 12 25.6**	**-0.4**
WEL	**Wellington**	**3.46**	**195**	P	**Pn**	**12 12 25.5**	**-0.4**
SNZO	**South Karori**	**3.50**	**196**	P	**Pn**	**12 12 26.9**	**+0.6**
MSWZ	**Moikau Station**	**3.51**	**189**	P	**Pn**	**12 12 26.0**	**-0.5**
TCW	**Tory Channel**	**3.51**	**201**	P	**Pn**	**12 12 26.2**	**-0.3**
PLWZ	**Palliser**	**3.66**	**188**	P	**Pn**	**12 12 27.6**	**-0.6**
TUWZ	**Tuamarina**	**3.81**	**204**	P	**Pn**	**12 12 29.8**	**-0.2**
NNZ	**Nelson**	**3.83**	**211**	P	**Pn**	**12 12 29.8**	**-0.4**
QRZ	**Quartz Range**	**3.92**	**222**	P	**Pn**	**12 12 30.6**	**-0.6**
QRZ	**Quartz Range**	**3.92**	**222**	P	**Pn**	**12 12 30.2**	**-1.0**
BSWZ	**Blackbirch Sta**	**4.09**	**203**	P	**Pn**	**12 12 33.3**	**+0.1**
THZ	**Tophouse**	**4.48**	**211**	P	**Pn**	**12 12 37.6**	**-0.3**
KHZ	**Kahutara**	**4.83**	**202**	P	**Pn**	**12 12 42.2**	**+0.1**
KHZ	**Kahutara**	**4.83**	**202**	P	**Pn**	**12 12 42.4**	**+0.3**
DSZ	**Denniston Nort**	**4.96**	**219**	P	**Pn**	**12 12 42.8**	**-1.0**
GVZ	**Greta Valley S**	**5.49**	**203**	P	**Pn**	**12 12 50.1**	**0.0**
LTZ	**Lake Taylor**	**5.59**	**209**	P	**Pn**	**12 12 51.2**	**-0.3**
OXZ	**Oxford**	**6.15**	**208**	P	**Pn**	**12 12 57.6**	**-0.8**
OKCZ	**Okains Bay**	**6.17**	**200**	P	**Pn**	**12 12 59.1**	**+0.4**
MQZ	**McQueen's Vall**	**6.28**	**203**	P	**Pn**	**12 12 59.1**	**-0.8**
RACZ	**Rakaia**	**6.46**	**206**	P	**Pn**	**12 13 01.5**	**-0.7**
MHCZ	**Mount Hutt**	**6.50**	**210**	P	**Pn**	**12 13 02.4**	**-0.4**
TMZ	**Timaru**	**7.44**	**209**	P	**Pn**	**12 13 14.4**	**-0.1**

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*IDC **10** 12:11:59.7±0.6,57°.25S×148°.00W,h0km,mb4.5/8, mb1 4.6/8,mb1mx4.4/26,mbtmp4.5/8,MS5.2/47, Ms1 5.2/47,ms1mx5.2/48,Error ellipse: s-maj=33.4km s-min=16.7km az=8.0*
*NEIC **10** 12:12:02.4±1.9,57°.7S±0°.1×148°.0W±0°.2,h4km±1km, mb5.0/40,Ms_20 5.5/236,Mwb5.6/17,Error ellipse: s-maj=22.2km s-min=17.6km az=13.0*
*NEIC **10** 12:12:03.6,57°.71S×147°.88W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.24; $M_{\theta\theta}$=2.72; $M_{\phi\phi}$=-2.49; $M_{r\theta}$=-0.13; $M_{\theta\phi}$=1.99; $M_{\phi r}$=0.28; Fault plane solution: M_0=3.30000×10^{17} NP1:ϕ_s=206.45000°, δ=85.47000°,λ=-176.09000°. NP2:ϕ_s=116.14000°, δ=86.10000°,λ=-4.54000°. Principal axes: T 3.3943, Plg=0.0000°, Azm=161.0000°; N -0.2035, Plg=84.0000°, Azm=256.0000°; P -3.1908, Plg=6.0000°, Azm=71.0000°;*
*GCMT **10** 12:12:06.4±0.1,57°.69S±0°.01×147°.82W±0°.01,h16km, MW5.7/141,Moment Tensor Solution. s133,c232; s141,c267; Duration: 1§7 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.42±.04; $M_{\theta\theta}$=3.37±.05; $M_{\phi\phi}$=-2.95±.04; $M_{r\theta}$=-0.30±.11; $M_{\theta\phi}$=2.58±.04; $M_{\phi r}$=-0.53±.10; Best double couple: M_0=4.12400×10^{17} NP1:ϕ_s=295.00000°,δ=81.00000°, λ=-1.00000°. NP2:ϕ_s=25.00000°,δ=89.00000°,λ=-171.00000°. Principal axes: T 4.3340, Plg=6.0000°, Azm=160.0000°; N -0.4210, Plg=81.0000°, Azm=30.0000°; P -3.9140, Plg=6.0000°, Azm=251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 12:12:03.1±0.3,57°.78S±0°.09×147°.87W±0°.07,h10km, n286,σ1§75/124,mb5.0/25,MS5.4/166,1C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**26.02**	**202**	LR	LR	12 45 46.9	
	comp=Z,5μm,18.4s,baz=73,slow=31						
MQZ	**McQueen's Vall**	**28.20**	**283**	IAMs_20	IAMs_20	12 26 18.6	
	comp=Z,10μm,19.0s						
ODZ	**Otahua Downs**	**28.35**	**279**	IAMs_20	IAMs_20	12 26 04.7	
	comp=Z,7μm,19.0s						
BFZ	**Birch Farm**	**28.55**	**291**	IAMs_20	IAMs_20	12 28 27.5	
	comp=Z,7μm,18.0s						
KHZ	**Kahutara**	**28.65**	**286**	IAMs_20	IAMs_20	12 25 32.3	
	comp=Z,7μm,18.0s						
OXZ	**Oxford**	**28.79**	**283**	IAMs_20	IAMs_20	12 26 05.1	
	comp=Z,7μm,20.0s						
RPZ	**Rata Peaks**	**29.03**	**281**	IAMs_20	IAMs_20	12 28 10.7	
	comp=Z,9μm,19.0s						
LBZ	**Lake Benmore**	**29.04**	**279**	IAMs_20	IAMs_20	12 26 57.8	
	comp=Z,7μm,19.0s						
WHZ	**Wether Hill Ro**	**29.23**	**275**	IAMs_20	IAMs_20	12 27 03.2	
	comp=Z,8μm,21.0s						
WKZ	**Wanaka**	**29.36**	**277**	IAMs_20	IAMs_20	12 26 49.4	
	comp=Z,9μm,19.0s						
FOZ	**Fox Glacier**	**29.81**	**280**	IAMs_20	IAMs_20	12 27 31.3	
	comp=Z,10μm,19.0s						
URZ	**Urewera**	**29.99**	**295**	LR	LR	12 28 01.5	
	comp=Z,6μm,19.2s,baz=138,slow=32						
QSPA	**South Pole Qui**	**32.37**	**180**	P	**P**	**12 18 35.2**	**+2.8**
	comp=Z,4.0nm,0.8s,baz=60,slow=2.7,SNR=13						
QSPA				LR	LR	12 30 06.2	
	comp=Z,8μm,18.7s,baz=61,slow=33						
QSPA	**South Pole Qui**	**32.37**	**180**	P	**P**	**12 18 34.5**	**+2.0**
QSPA				IAmb	IAmb	12 18 50.9	
	comp=Z,22nm,1.2s						
QSPA	**South Pole Qui**	**32.37**	**180**	IAMs_20	IAMs_20	12 29 36.1	
	comp=Z,8μm,20.0s						
OUZ	**Omahuta**	**34.11**	**295**	IAMs_20	IAMs_20	12 30 11.6	
	comp=Z,6μm,18.0s						
TBI	**Tubuai**	**34.41**	**357**	*e*S	**S**	**12 24 18.4**	**+0.3**
	comp=Z,669nm,40.5s						
TBI				*e*LQ	LQ	12 26 28.2	
	comp=Z,2μm,31.2s						
TBI				*e*LR	LR	12 27 41.2	
	comp=Z,15μm,28.0s,baz=181						
TBI	**Tubuai**	**34.41**	**357**	*e*T	T	12 54 35.0	
	comp=Z,43nm,0.3s						
RAO	**Raoul Island**	**35.34**	**311**	LR	LR	12 29 42.2	
	comp=Z,4μm,21.8s,baz=142,slow=30						
RAR	**Rarotonga**	**37.54**	**342**	LR	LR	12 31 08.0	
	comp=Z,6μm,18.1s,baz=178,slow=31						
RAR	**Rarotonga**	**37.54**	**342**	IAMs_20	IAMs_20	12 30 30.5	
	comp=Z,8μm,19.0s						
PMSA	**Palmer Station**	**38.04**	**136**	LR	LR	12 31 00.9	
	comp=Z,5μm,20.8s,baz=234,slow=30						
PMSA	**Palmer Station**	**38.04**	**136**	IAMs_20	IAMs_20	12 31 00.8	
	comp=Z,5μm,20.0s						
MEH	**Mehetia**	**39.84**	**360**	*e*T	T	13 01 27.3	
	comp=Z,59nm,0.3s						
PPT2	**Papeete2**	**40.14**	**357**	*e*S	**S**	**12 25 46.0**	**+0.5**
	comp=Z,972nm,25.0s						
PPT2				*e*LQ	LQ	12 28 55.7	
	comp=Z,3μm,32.0s						
PPT2				*e*LR	LR	12 30 31.3	
	comp=Z,15μm,25.5s,baz=184						
PPT2	**Papeete2**	**40.14**	**357**	*e*T	T	13 01 35.2	
	comp=Z,4.8nm,0.3s						
PPT	**Papeete**	**40.16**	**357**	LR	LR	12 31 34.0	
	comp=Z,4μm,20.0s,baz=202,slow=30						
RPN	**Rapa Nui**	**40.85**	**58**	LR	LR	12 32 47.6	
	comp=Z,3μm,18.2s,baz=202,slow=31						
RPN	**Rapa Nui**	**40.85**	**58**	IAMs_20	IAMs_20	12 32 41.7	
	comp=Z,4μm,18.0s						
USHA	**Ushuaia**	**41.80**	**121**	LR	LR	12 32 26.0	
	comp=Z,3μm,21.6s,baz=232,slow=29						
NIUE	**Niue**	**41.93**	**328**	P	**P**	**12 19 52.6**	**-1.1**
TAU	**Tasmania Unive**	**42.24**	**261**	IAMs_20	IAMs_20	12 32 52.9	
	comp=Z,6μm,20.0s						
VAH	**Vaihoa**	**42.46**	**0**	*e*T	T	13 04 44.2	
	comp=Z,63nm,0.3s						
CASY	**Casey**	**43.23**	**215**	P	**P**	**12 20 04.3**	**+0.5**
CASY				IAmb	IAmb	12 20 17.0	
	comp=Z,33nm,1.2s						
CASY	**Casey**	**43.23**	**215**	IAMs_20	IAMs_20	12 36 22.6	
	comp=Z,5μm,18.0s						
CAN	**Canberra**	**46.84**	**270**	IAMs_20	IAMs_20	12 35 30.5	
	comp=Z,4μm,21.0s						
TOO	**Toolangi**	**47.04**	**265**	P	**P**	**12 20 36.3**	**+1.8**
TOO				IAmb	IAmb	12 20 43.7	
	comp=Z,18nm,1.1s						
MSVF	**Nonsavu**	**47.27**	**313**	LR	LR	12 35 55.1	
	comp=Z,4μm,21.6s,baz=150,slow=31						
MSVF	**Nonsavu**	**47.27**	**313**	IAMs_20	IAMs_20	12 35 44.2	
	comp=Z,4μm,21.0s						
AFI	**Afiamalu**	**47.36**	**328**	LR	LR	12 36 12.2	
	comp=Z,3μm,19.5s,baz=165,slow=31						
VNA3	**Neumayer Olymp**	**47.95**	**163**	P	**P**	**12 20 42.3**	**+1.1**
DZM	**Mont Dzumac**	**48.50**	**298**	LR	LR	12 39 18.6	
	comp=Z,2μm,18.1s,baz=150,slow=34						
DZM	**Mont Dzumac**	**48.50**	**298**	*e*S	**S**	**12 27 49.1**	**+2.0**
	comp=Z,2μm,28.2s						
DZM				*e*LQ	LQ	12 32 26.9	
	comp=Z,8μm,24.9s						
DZM				*e*LR	LR	12 34 29.2	
	comp=Z,5μm,26.4s						
SNAA	**Sanae**	**48.54**	**166**	P	**P**	**12 20 43.0**	**-2.8**
SNAA	**Sanae**	**48.54**	**166**	LR	LR	12 39 00.2	
	comp=Z,2μm,21.4s,baz=212,slow=33						
SNAA	**Sanae**	**48.54**	**166**	IAmb	IAmb	12 21 04.1	
	comp=Z,24nm,1.5s						
SNAA	**Sanae**	**48.54**	**166**	P	**P**	**12 20 46.5**	**+0.8**
SNAA				IAmb	IAmb	12 21 04.1	
	comp=Z,24nm,1.5s						
SNAA	**Sanae**	**48.54**	**166**	P	**P**	**12 20 46.5**	**+0.8**
VNA2	**Neumayer--Watz**	**48.58**	**164**	P	**P**	**12 20 47.2**	**+1.2**
	baz=209,slow=8.1						
VNA1	**Neumayer--Stat**	**48.70**	**163**	P	**P**	**12 20 47.6**	**+0.8**
TAOE	**Nuku Hiva Isla**	**49.17**	**10**	*e*S	**S**	**12 27 58.9**	**+2.3**
	comp=Z,655nm,25.4s						
TAOE				*e*LR	LR	12 34 51.0	
PLCA	**Paso Flores**	**50.34**	**106**	P	**P**	**12 21 00.1**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=236,slow=12,SNR=6.1						
PLCA				LR	LR	12 37 22.2	
	comp=Z,2μm,18.1s,baz=223,slow=30						
PLCA	**Paso Flores**	**50.34**	**106**	P	**P**	**12 21 01.8**	**+1.9**
LC01	**Cunco**	**51.01**	**103**	P	**P**	**12 21 05.2**	**+0.3**
H03S2	**Juan Fernandez**	**51.08**	**93**	T	T	13 16 19.5	
	baz=218						
H03S1	**Juan Fernandez**	**51.09**	**93**	T	T	13 16 23.8	

LPAZ				LR	LR	12 47 22.2	
	comp=Z,794nm,21.3s,baz=209,slow=30						
LPAZ	**La Paz**	**70.91**	**90**	P	**P**	**12 23 21.2**	**+0.1**
LPAZ				IAmb	IAmb	12 23 38.9	
	comp=Z,15nm,1.4s						
FITZ	**Fitzroy Crossi**	**73.03**	**263**	LR	LR	12 52 33.9	
	comp=Z,4μm,19.5s,baz=141,slow=33						
ATAH	**Atahualpa**	**73.11**	**76**	LR	LR	12 48 08.4	
	comp=Z,2μm,19.0s,baz=218,slow=30						
PSA00	**Pilbara Seismi**	**73.21**	**256**	P	**P**	**12 23 35.2**	**+1.1**
KNRA	**Kununurra**	**73.36**	**267**	P	**P**	**12 23 35.2**	**+0.3**
KNRA				IAmb	IAmb	12 23 43.7	
	comp=Z,19nm,1.1s						
MBWA	**Marble Bar**	**73.61**	**256**	IAMs_20	IAMs_20	12 51 41.8	
	comp=Z,1μm,20.0s						
MTN	**Manton Dam**	**74.44**	**271**	P	**P**	**12 23 41.1**	**-0.2**
MTN				IAmb	IAmb	12 23 50.2	
	comp=Z,23nm,1.2s						
SIV	**San Ignacio**	**74.93**	**96**	LR	LR	12 52 59.4	
	comp=Z,421nm,18.4s,baz=218,slow=33						
CZSB	**Cruzeiro do Su**	**75.60**	**82**		**P**	**12 23 48.9**	**+0.9**
CZSB				IAmb	IAmb	12 23 58.6	
	comp=Z,13nm,0.8s						
ETMB	**Extrema**	**77.31**	**88**	P	**P**	**12 23 58.4**	**+0.7**
JAY	**Jayapura**	**78.03**	**285**	LR	LR	12 57 05.7	
	comp=Z,1μm,18.7s,baz=176,slow=35						
SAUI	**Saumlaki**	**78.40**	**273**	IAMs_20	IAMs_20	12 56 15.4	
	comp=Z,3μm,20.0s						
BATI	**Baumata**	**80.63**	**266**	LR	LR	12 57 57.8	
	comp=Z,3μm,19.2s,baz=180,slow=34						
SOEI	**Soe**	**80.69**	**267**	P	**P**	**12 24 16.4**	**0.0**
SOEI				IAmb	IAmb	12 24 38.9	
	comp=Z,25nm,1.2s						
SOEI				IAMs_20	IAMs_20	12 57 40.0	
	comp=Z,4μm,20.0s						
BDFB	**Brasilia**	**82.08**	**107**	P	**P**	**12 24 22.5**	**-1.3**
	comp=Z,4.0nm,0.7s,baz=206,slow=4.0,SNR=6.4						
BDFB				LR	LR	12 57 19.2	
	comp=Z,2μm,18.1s,baz=193,slow=33						
BDFB	**Brasilia**	**82.08**	**107**	P	**P**	**12 24 22.6**	**-1.1**
BDFB				IAmb	IAmb	12 24 42.7	
	comp=Z,16nm,1.3s						
FAKI	**Fak Fak**	**82.14**	**277**	IAMs_20	IAMs_20	12 57 02.4	
	comp=Z,2μm,22.0s						
MMRI	**Maumere**	**82.71**	**265**	IAMs_20	IAMs_20	12 58 19.6	
	comp=Z,2μm,20.0s						
SIJI	**Sorong**	**84.39**	**277**	LR	LR	13 00 36.7	
	comp=Z,1μm,20.4s,baz=147,slow=35						
JTS	**Las Juntas de**	**84.83**	**62**	LR	LR	12 53 55.2	
	comp=Z,1μm,19.5s,slow=30						
JTS	**Las Juntas de**	**84.83**	**62**	IAMs_20	IAMs_20	12 54 00.1	
	comp=Z,1μm,19.0s						
ROSC	**El Rosal**	**85.39**	**73**	LR	LR	12 56 31.2	
	comp=Z,2μm,19.0s,baz=217,slow=31						
BCIP	**Isla Barro Col**	**86.32**	**67**	IAMs_20	IAMs_20	12 53 57.7	
	comp=Z,3μm,21.0s						
CMIG	**Matias Romero**	**86.45**	**50**	LR	LR	12 56 28.5	
	comp=Z,384nm,18.7s,baz=212,slow=31						
KAPI	**Kappang**	**87.07**	**265**	LR	LR	13 01 05.3	
	comp=Z,2μm,20.2s,baz=174,slow=34						
KAPI	**Kappang**	**87.07**	**265**	IAMs_20	IAMs_20	13 00 54.2	
	comp=Z,3μm,20.0s						
LPIG	**La Paz**	**87.41**	**34**	LR	LR	12 56 15.6	
	comp=Z,676nm,18.2s,baz=210,slow=30						
LUWI	**Luwuk**	**88.78**	**270**	IAMs_20	IAMs_20	13 02 45.6	
	comp=Z,1μm,20.0s						
SUR	**Sutherland**	**89.69**	**170**	LR	LR	13 01 14.9	
	comp=Z,3μm,20.2s,baz=182,slow=33						
SUR	**Sutherland**	**89.69**	**170**	IAMs_20	IAMs_20	13 01 04.7	
	comp=Z,3μm,20.0s						
GUMO	**Guam**	**89.75**	**296**	LR	LR	13 03 55.9	
	comp=Z,284nm,18.2s,baz=145,slow=35						
BOAV	**Boa Vista**	**90.59**	**86**	P	**P**	**12 25 06.2**	**+0.8**
SDV	**Santo Domingo**	**90.72**	**75**	LR	LR	13 00 41.7	
	comp=Z,1μm,18.9s,baz=208,slow=32						
SDV	**Santo Domingo**	**90.72**	**75**	IAMs_20	IAMs_20	13 00 30.5	
	comp=Z,1μm,20.0s						
TOLI2	**Tolitoli**	**91.65**	**269**	IAMs_20	IAMs_20	13 03 36.7	
	comp=Z,2μm,21.0s						
BKB	**Balikpapan**	**91.74**	**265**	IAMs_20	IAMs_20	13 03 27.4	
	comp=Z,2μm,20.0s						
LEM	**Lembang**	**91.93**	**254**	LR	LR	12 58 58.0	
	comp=Z,713nm,21.8s,baz=138,slow=31						
BOSA	**Boshof**	**93.75**	**174**	LR	LR	13 03 26.3	
	comp=Z,4μm,20.6s,baz=175,slow=33						
DAV	**Davao City (W)**	**94.08**	**277**	LR	LR	13 05 48.9	
	comp=Z,435nm,20.3s,baz=152,slow=34						
TXAR	**Lajitas Array**	**94.37**	**38**	LR	LR	12 59 17.2	
	comp=Z,308nm,19.8s,baz=206,slow=30						
PFO	**Pinyon Flats O**	**94.80**	**26**	LR	LR	12 59 19.4	
	comp=Z,1μm,19.2s,baz=208,slow=30						
PCRV	**Puerto La Cruz**	**94.94**	**79**	LR	LR	13 02 49.6	
	comp=Z,4μm,19.3s,slow=32						
PASC	**Pasadena Art C**	**94.94**	**24**	IAMs_20	IAMs_20	12 58 21.6	
	comp=Z,1μm,20.0s						
EPT	**El Paso**	**95.73**	**34**	IAMs_20	IAMs_20	13 00 42.0	
	comp=Z,1μm,18.0s						
RCBR	**Riachuelo**	**96.56**	**112**	IAMs_20	IAMs_20	13 01 36.9	
	comp=Z,1μm,22.0s						
MDP	**Montagnes des**	**97.08**	**92**	LR	LR	13 03 56.1	
	comp=Z,751nm,19.6s,baz=162,slow=32						
LBTB	**Lobatse**	**97.35**	**174**	LR	LR	13 05 34.6	
	comp=Z,4μm,20.8s,baz=178,slow=33						
KSM	**Kuching**	**97.54**	**261**	IAMs_20	IAMs_20	13 08 41.9	
	comp=Z,1μm,20.0s						
MCCM	**Marconi Confer**	**97.84**	**20**	IAMs_20	IAMs_20	13 00 41.2	
	comp=Z,2μm,18.0s						
GTBY	**Guantanamo Bay**	**97.86**	**65**	IAMs_20	IAMs_20	13 00 24.4	
	comp=Z,2μm,22.0s						
GRGR	**Grenville**	**98.15**	**80**	IAMs_20	IAMs_20	13 04 25.3	
	comp=Z,1μm,20.0s						
CMB	**Columbia Colle**	**98.20**	**22**	IAMs_20	IAMs_20	13 02 21.9	
	comp=Z,1μm,21.0s						
KKM	**Kota Kinabalu**	**98.23**	**268**	IAMs_20	IAMs_20	13 08 19.1	
	comp=Z,1μm,21.0s						
ANMO	**Albuquerque**	**98.71**	**33**	LR	LR	13 03 18.1	
	comp=Z,445nm,18.2s,baz=204,slow=31						
NVAR	**Mina Array Bea**	**99.01**	**23**	LR	LR	13 00 44.0	
	comp=Z,860nm,20.5s,baz=200,slow=30						
VOI	**Vohitsoka**	**99.68**	**194**	IAMs_20	IAMs_20	13 10 18.2	
	comp=Z,2μm,18.0s						
WDC	**Whiskeytown Da**	**100.27**	**19**	IAMs_20	IAMs_20	13 02 55.1	
	comp=Z,2μm,18.0s						
FDF	**Fort de France**	**100.59**	**79**	IAMs_20	IAMs_20	13 06 43.0	
	comp=Z,2μm,19.0s						
SVN	**Savane Anatole**	**100.67**	**79**	IAMs_20	IAMs_20	13 06 54.1	
	comp=Z,2μm,19.0s						
SJG	**San Juan**	**100.81**	**73**	IAMs_20	IAMs_20	13 07 23.7	
	comp=Z,947nm,19.0s						
YBH	**Yreka Blue Hor**	**101.36**	**19**	IAMs_20	IAMs_20	13 00 21.9	
	comp=Z,3μm,22.0s						
SABA	**Saba**	**101.90**	**76**	IAMs_20	IAMs_20	13 06 40.7	
	comp=Z,2μm,19.0s						
SEUS	**St. Eustatius**	**101.93**	**76**	IAMs_20	IAMs_20	13 06 09.5	
	comp=Z,1μm,20.0s						
HUMO	**Hull Mountain**	**102.17**	**19**	IAMs_20	IAMs_20	13 01 00.3	
	comp=Z,1μm,20.0s						
SMRT	**St. Maarten**	**102.35**	**76**	IAMs_20	IAMs_20	13 06 42.5	
	comp=Z,1μm,20.0s						
WVOR	**Wild Horse Val**	**102.80**	**22**	IAMs_20	IAMs_20	13 03 47.4	
	comp=Z,1μm,19.0s						
ISCO	**Idaho Springs**	**103.46**	**32**	IAMs_20	IAMs_20	13 04 37.5	
	comp=Z,1μm,20.0s						
H10N3	**ASCENSION HYDR**	**104.48**	**132**	T	T	14 24 00.5	
	baz=204,slow=75,SNR=52						
H10N1	**ASCENSION HYDR**	**104.49**	**132**	T	T	14 24 00.8	
	baz=204,slow=75,SNR=54						
RPSI	**Rantau Prapat**	**104.50**	**251**	IAMs_20	IAMs_20	13 10 57.2	
	comp=Z,1μm,20.0s						
H10N2	**ASCENSION HYDR**	**104.50**	**132**	T	T	14 24 01.9	
	baz=204,slow=75,SNR=62						
HLID	**Hailey**	**104.77**	**24**	IAMs_20	IAMs_20	13 04 18.7	
	comp=Z,2μm,20.0s						
IPM	**Ipoh**	**104.94**	**254**	IAMs_20	IAMs_20	13 12 51.0	
	comp=Z,788nm,19.0s						
BW06	**Boulder Array**	**105.17**	**28**	IAMs_20	IAMs_20	13 04 47.5	
	comp=Z,1μm,18.0s						
OGNE	**Ogallala**	**105.57**	**34**	IAMs_20	IAMs_20	13 20 30.4	
	comp=Z,1μm,18.0s						
PLID	**Pearl Lake**	**105.88**	**23**	IAMs_20	IAMs_20	13 11 33.1	
	comp=Z,1μm,19.0s						
DLMT	**Dillon**	**106.88**	**25**	IAMs_20	IAMs_20	13 05 06.7	
	comp=Z,1μm,21.0s						
RLMT	**Red Lodge**	**107.45**	**28**	IAMs_20	IAMs_20	13 20 09.8	
	comp=Z,764nm,19.0s						
LAO	**LASA Array**	**109.68**	**29**	IAMs_20	IAMs_20	13 09 04.0	
	comp=Z,1μm,19.0s						
DGMT	**Dagmar**	**111.86**	**30**	IAMs_20	IAMs_20	13 08 51.6	
	comp=Z,1μm,19.0s						
MAJO	**Matsushiro**	**112.40**	**303**	IAMs_20	IAMs_20	13 09 12.5	
	comp=Z,943nm,22.0s						
QIZ	**Qiongzhong**	**112.43**	**270**	Pdif	**Pdif**	**12 26 43.1**	**-0.3**
QIZ				PP	**PP**	**12 31 24.5**	**-0.6**
QIZ				SS	SS	12 47 08.0	+2.7
QIZ				LR	LR		
	comp=Z,490nm,22.9s						
QIZ				LR	LR		
	comp=Z,200nm,19.8s						
QIZ				LR	LR		
	comp=Z,600nm,22.9s						
M53A	**WI Miller and**	**113.61**	**49**	IAMs_20	IAMs_20	13 16 05.1	
	comp=Z,783nm,20.0s						
ERPA	**Erie**	**114.46**	**49**	IAMs_20	IAMs_20	13 14 54.8	
	comp=Z,890nm,18.0s						
ERM	**Erimo**	**114.82**	**310**	IAMs_20	IAMs_20	13 08 52.3	
	comp=Z,2μm,22.0s						
MSEY	**Mahe Island**	**114.96**	**206**	IAMs_20	IAMs_20	13 16 54.8	
	comp=Z,1μm,18.0s						
N59A	**State Game Lan**	**115.22**	**53**	IAMs_20	IAMs_20	13 13 52.0	
	comp=Z,1μm,20.0s						
P18K	**Big Mountain,**	**116.97**	**356**	IAMs_20	IAMs_20	13 08 10.3	
	comp=Z,2μm,20.0s						
PALK	**Pallekele**	**117.25**	**237**	IAMs_20	IAMs_20	13 11 14.7	
	comp=Z,1μm,20.0s						
O19K	**Port Alsworth**	**117.74**	**356**	IAMs_20	IAMs_20	13 13 27.6	
	comp=Z,2μm,21.0s						
CMAR	**Chiang Mai Arr**	**117.77**	**260**	PKP	**PKPdf**	**12 30 48.8**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=172,slow=1.8,SNR=1.9						
CMAR	**Chiang Mai Arr**	**117.77**	**260**		**PKPdf**	**12 30 48.6**	**-0.7**
CHTO	**Chiang Mai**	**118.06**	**261**	IAMs_20	IAMs_20	13 19 18.7	
	comp=Z,804nm,20.0s						
NJ2	**Nanjing**	**118.16**	**286**	*e*PKP	**PKiKP**	**12 30 51.1**	**+1.4**
N19K	**Bonanza Creek**	**118.36**	**356**	IAMs_20	IAMs_20	13 13 34.1	
	comp=Z,2μm,21.0s						
PET	**Petropavlovsk**	**118.70**	**326**	IAMs_20	IAMs_20	13 10 38.4	
	comp=Z,2μm,21.0s						
DHY	**Denali Highway**	**120.52**	**0**	IAMs_20	IAMs_20	13 15 01.2	
	comp=Z,2μm,20.0s						
K20K	**Telida**	**120.90**	**357**	IAMs_20	IAMs_20	13 15 26.1	
	comp=Z,1μm,19.0s						
CAST	**Castle Rocks**	**120.91**	**358**	IAMs_20	IAMs_20	13 15 31.4	
	comp=Z,2μm,20.0s						
TRF	**Thorofare Moun**	**120.91**	**359**	IAMs_20	IAMs_20	13 12 42.5	
	comp=Z,2μm,21.0s						
KTH	**Kantishna Hill**	**121.02**	**358**	IAMs_20	IAMs_20	13 18 33.5	
	comp=Z,2μm,19.0s						
KMI	**Kunming**	**121.18**	**268**	⇑PKP	**PKiKP**	**12 30 56.9**	**+0.8**
KMI				sPKP		12 31 01.2	
KMI				PP	**PP**	**12 32 26.2**	**-0.3**
KMI				SS	SS	12 49 03.5	+3.6
KMI				AMB	AMB		
	comp=Z,120nm,4.3s						
KMI				LR	LR		
	comp=Z,420nm,21.0s						
KMI				LR	LR		
	comp=Z,290nm,20.5s						
KMI				LR	LR		
	comp=Z,560nm,26.1s						
J20K	**Nowinta River**	**121.72**	**357**	IAMs_20	IAMs_20	13 20 38.9	
	comp=Z,2μm,19.0s						
NEA2	**Nenana**	**122.05**	**359**	IAMs_20	IAMs_20	13 19 52.6	
	comp=Z,2μm,19.0s						
CCB	**Clear Creek Bu**	**122.10**	**0**	IAMs_20	IAMs_20	13 16 55.9	
	comp=Z,2μm,19.0s						
ILAR	**Eielson Array**	**122.23**	**0**	PKP	**PKPdf**	**12 30 54.4**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=190,slow=1.1,SNR=11						
ILAR	**Eielson Array**	**122.23**	**0**	PKPdf	**PKPdf**	**12 30 56.0**	**-0.4**
COLA	**College**	**122.33**	**0**	IAMs_20	IAMs_20	13 17 30.9	
	comp=Z,2μm,18.0s						
TCOL	**CIGO, UAF Yank**	**122.33**	**0**	IAMs_20	IAMs_20	13 17 30.9	
	comp=Z,2μm,18.0s						
MDM	**Murphy Dome**	**122.41**	**360**	IAMs_20	IAMs_20	13 18 35.2	
	comp=Z,1μm,19.0s						
I23K	**Minto, Yukon-K**	**122.61**	**359**	IAMs_20	IAMs_20	13 19 19.3	
	comp=Z,2μm,18.0s						
YKA	**Yellowknife Ar**	**122.67**	**18**	PKP	**PKPdf**	**12 30 54.3**	**-3.0**
	comp=Z,0.5nm,0.8s,baz=201,slow=2.0,SNR=7.1						
MDJ	**Mudanjiang**	**122.77**	**303**	IAMs_20	IAMs_20	13 14 05.0	
	comp=Z,1μm,22.0s						
PZH	**PanZhiHua**	**122.82**	**268**	PKP	**PKiKP**	**12 30 59.9**	**+0.7**
PZH				AMB	AMB		
	comp=Z,140nm,7.6s						
PZH				LR	LR		
	comp=Z,510nm,19.6s						
PZH				LR	LR		
	comp=Z,320nm,20.0s						
H21K	**Melozitna Rive**	**123.17**	**358**	IAMs_20	IAMs_20	13 16 50.2	
	comp=Z,2μm,20.0s						
HNS	**HongShan**	**124.45**	**287**	*e*PKP	**PKiKP**	**12 31 04.8**	**+2.9**
HNS				PP	PP	12 32 56.6	+8.2
HNS				AMB	AMB		
	comp=Z,95nm,7.4s						
HNS				LR	LR		
	comp=Z,270nm,16.7s						
HNS				LR	LR		
	comp=Z,550nm,17.1s						
HNS				LR	LR		
	comp=Z,640nm,22.8s						
CD2	**Chengdu**	**125.22**	**273**	PKP	**PKiKP**	**12 31 03.8**	**+0.1**
RDOG	**Red Dog Mine**	**126.01**	**353**	IAMs_20	IAMs_20	13 16 24.2	
	comp=Z,2μm,21.0s						
MA2	**Magadan**	**126.59**	**326**	IAMs_20	IAMs_20	13 15 42.0	
	comp=Z,1μm,22.0s						
C36M	**Paulatuk**	**127.99**	**10**	IAMs_20	IAMs_20	13 18 38.8	
	comp=Z,1μm,19.0s						
XLT	**XiLinHaoTe**	**128.62**	**293**	*e*PKP	**PKiKP**	**12 31 09.9**	**-0.2**
XLT				PP	**PP**	**12 33 22.2**	**+6.0**
XLT				AMB	AMB		
	comp=Z,140nm,5.7s						
XLT				LR	LR		
	comp=Z,240nm,20.1s						
XLT				LR	LR		
	comp=Z,570nm,21.1s						
XLT				LR	LR		
	comp=Z,810nm,20.1s						
HHC	**Hu-ho-hao-te**	**128.66**	**287**	*e*PKP	**PKPdf**	**12 31 07.4**	**-2.3**
HHC				LR	LR		
	comp=Z,310nm,16.5s						
HHC				LR	LR		
	comp=Z,320nm,17.1s						
HHC				LR	LR		
	comp=Z,490nm,17.4s						
A21K	**Barrow**	**128.95**	**356**	IAMs_20	IAMs_20	13 16 53.0	
	comp=Z,2μm,21.0s						
TORD	**Torodi Ar. Bea**	**129.86**	**140**	PKP	**PKPdf**	**12 31 12.8**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=201,slow=1.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**129.86**	**140**		**PKiKP**	**12 31 13.2**	**-0.2**
A36M	**Sachs Harbour**	**130.43**	**9**	PKPdf	**PKPdf**	**12 31 11.9**	**0.0**
A36M				IAMs_20	IAMs_20	13 20 49.4	
	comp=Z,1μm,20.0s						
HIA	**Hailar**	**130.74**	**300**	IAMs_20	IAMs_20	13 19 09.9	
	comp=Z,1μm,22.0s						
FURI	**Furi**	**130.97**	**189**	IAMs_20	IAMs_20	13 26 08.2	
	comp=Z,2μm,21.0s						
SOCY	**Socotra**	**131.55**	**209**	IAMs_20	IAMs_20	13 20 45.4	
	comp=Z,1μm,19.0s						
ATD	**Arta Tunnel**	**133.13**	**194**	IAMs_20	IAMs_20	13 31 18.5	
	comp=Z,1μm,20.0s						
GTA	**Gaotai**	**133.75**	**277**	*e*PKP	**PKiKP**	**12 31 25.1**	**+4.4**
GTA				PP	**PP**	**12 33 48.3**	**-1.0**
GTA				AMB	AMB		
	comp=Z,190nm,5.5s						
GTA				LR	LR		
	comp=Z,190nm,22.9s						
GTA				LR	LR		
	comp=Z,420nm,22.9s						
GTA				LR	LR		
	comp=Z,470nm,24.7s						
TIXI	**Tiksi**	**141.35**	**330**	PKPdf	**PKPdf**	**12 31 32.6**	**+0.4**
TIXI				IAMs_20	IAMs_20	13 30 21.7	
	comp=Z,800nm,20.0s						
UOSS	**Minazif**	**142.96**	**218**	IAMs_20	IAMs_20	13 47 29.4	
	comp=Z,643nm,18.0s						
WMQ	**Urumqi**	**143.31**	**272**	*e*PKP	**PKiKP**	**12 31 38.3**	**-1.7**
WMQ				LR	LR		
	comp=Z,580nm,19.7s						
WMQ				LR	LR		
	comp=Z,440nm,25.5s						
NIL	**Nilore**	**143.36**	**247**		**PKPdf**	**12 31 35.7**	**-1.3**
RAYN	**Ar Rayn**	**144.44**	**201**	PKPdf	PKPbc	12 31 38.3	+0.6
RAYN	**Ar Rayn**	**144.44**	**201**	IAMs_20	IAMs_20	13 30 51.4	
	comp=Z,1μm,22.0s						
KBL	**Kabul**	**146.12**	**243**		**PKPbc**	**12 31 42.4**	**-0.6**
KSH	**Kashi**	**146.51**	**256**	PKPbc	**PKPbc**	**12 31 43.4**	**-0.5**
KSH				AMB	AMB		
	comp=Z,400nm,5.0s						
KSH				LR	LR		
	comp=Z,430nm,14.4s						
KSH				LR	LR		
	comp=Z,480nm,12.4s						
KSH				LR	LR		
	comp=Z,720nm,15.3s						
NEEM	**North Greenlan**	**146.91**	**23**	*i* P	**PKPdf**	**12 31 42.6**	**+0.4**
TARG	**Taragay, Kyrgy**	**147.15**	**261**		**PKPbc**	**12 31 46.1**	**0.0**
ZSN	**Zaisan**	**147.17**	**275**	*e*PKPbc	**PKPdf**	**12 31 44.0**	**+0.9**
	baz=275						
SATY	**Saty**	**147.76**	**263**	*e*PKPbc	**PKPdf**	**12 31 45.2**	**+0.8**
	baz=263						
ICESG	**Greenland Ices**	**148.02**	**40**	*i* P	**PKPab**	**12 31 52.2**	**+2.0**
MK31	**Makanchi Array**	**148.14**	**272**		**PKPbc**	**12 31 46.3**	**-1.7**
MKAR	**Makanchi Array**	**148.14**	**272**	PKPbc	**PKPbc**	**12 31 46.3**	**-1.7**
	comp=Z,13nm,0.8s,baz=135,slow=1.2,SNR=47						
MAKZ	**Makanchi**	**148.31**	**272**		**PKPbc**	**12 31 46.7**	**-1.8**
MAKZ				IAMs_20	IAMs_20	13 39 01.4	
	comp=Z,597nm,22.0s						
MDOK	**Medeo**	**148.55**	**262**	*e*PKPbc	**PKPbc**	**12 31 47.5**	**-1.9**
	baz=262						
BOOM	**Boomskoye usch**	**148.67**	**260**		**PKPbc**	**12 31 49.0**	**-0.8**
KST	**Kastek**	**149.05**	**261**	*e*PKPbc	**PKPbc**	**12 31 48.8**	**-1.8**
	baz=261						
CHKK	**Chushkaly**	**149.06**	**263**	*e*PKPbc	**PKPbc**	**12 31 49.2**	**-1.2**
	baz=263						
TDK	**Taldyqorghan**	**149.07**	**266**	*e*PKPbc	**PKPbc**	**12 31 49.0**	**-1.4**
	baz=266						
HRA	**Herat**	**149.09**	**234**		**PKPbc**	**12 31 49.7**	**-1.4**
SUMG	**Summit**	**149.18**	**34**	*i* P	**PKPdf**	**12 31 48.0**	**+1.9**
SUMG	**Summit**	**149.18**	**34**		**PKiKP**	**12 31 51.2**	**-0.4**
CHGR	**Chuyangaron**	**149.33**	**248**		**PKPbc**	**12 31 51.6**	**+0.2**
AAK	**Ala-Archa**	**149.54**	**259**	IAMs_20	IAMs_20	13 39 16.2	
	comp=Z,835nm,19.0s						
BTK	**Batken**	**149.57**	**251**		**PKPbc**	**12 31 51.5**	**-0.4**
ESDC	**Sonseca Array**	**150.58**	**112**	PKPbc	**PKPbc**	**12 31 54.0**	**-0.4**
	comp=Z,4.7nm,1.0s,baz=243,slow=1.3,SNR=11						
ZAA0	**Zalesovo Array**	**150.81**	**285**		**PKPbc**	**12 31 51.9**	**-2.4**
ZALV	**Zalesovo Beam**	**150.81**	**285**	PKPbc	**PKPbc**	**12 31 51.7**	**-2.7**
	comp=Z,1.5nm,0.6s,baz=37,slow=0.7,SNR=8.2						
ZALV	**Zalesovo Beam**	**150.81**	**285**	PKPdf	**PKPbc**	**12 31 51.8**	**-2.5**
BTLS	**Baital**	**151.42**	**262**	*e*PKPbc	**PKPbc**	**12 31 54.7**	**-1.4**
	baz=262						
IUG	**Iuzhnay**	**151.51**	**253**	*e*PKPbc	**PKPbc**	**12 31 54.4**	**-2.1**
	baz=253						
KKAR	**Karatay Array**	**151.94**	**255**		**PKPbc**	**12 31 55.6**	**-1.8**
KKAR				PKPab	**PKPab**	**12 32 05.3**	**-1.5**
BRLS	**Borolday**	**152.24**	**254**	*e*PKPbc	**PKPbc**	**12 31 55.9**	**-2.2**
	baz=254						
KURK	**Kurchatov**	**152.41**	**275**		**PKPbc**	**12 31 56.9**	**-1.2**
KURK					**PKPab**	**12 32 05.3**	**-3.2**
KURK	**Kurchatov**	**152.41**	**275**	IAMs_20	IAMs_20	13 55 24.5	
	comp=Z,640nm,19.0s						
NOR	**Nord**	**152.50**	**14**	*i* P	**PKPbc**	**12 31 56.2**	**-1.4**
NRIK	**Noril'sk**	**153.80**	**319**	PKPab	**PKPab**	**12 32 07.7**	**-6.1**
	comp=Z,1.2nm,0.3s,baz=100,slow=2.5,SNR=5.9						
NRIK	**Noril'sk**	**153.80**	**319**	PKPdf	**PKPdf**	**12 31 52.2**	**-0.5**
NRIK					**PKPab**	**12 32 12.6**	**-1.2**
DAG	**Danmarks Havn**	**154.11**	**24**	*i* P	**PKiKP**	**12 32 06.2**	**+5.1**
DAG				IVMs_BB	IVMs_BB	13 35 22.0	
	comp=Z,736nm,19.0s						
DBG	**Daneborg**	**154.36**	**30**	*i* P	**PKiKP**	**12 32 07.4**	**+5.6**
VSL	**Villasalto**	**156.52**	**131**	IAMs_20	IAMs_20	13 38 44.3	
	comp=Z,1μm,20.0s						
CSS	**Mathiatis**	**157.17**	**183**	IAMs_20	IAMs_20	13 40 36.1	
	comp=Z,1μm,21.0s						
KBS	**Kingsbay**	**157.76**	**10**	IAMs_20	IAMs_20	13 39 45.7	
	comp=Z,1μm,19.0s						
CEL	**Celeste**	**157.77**	**144**	IAMs_20	IAMs_20	13 47 28.1	
	comp=Z,1μm,21.0s						
BRVK	**Borovoye**	**158.05**	**274**	IAMs_20	IAMs_20	13 49 19.7	
	comp=Z,1μm,20.0s						
SANT	**Santorini**	**158.13**	**165**	IAMs_20	IAMs_20	13 50 54.2	
	comp=Z,770nm,19.0s						
TIP	**Timpagrande**	**158.88**	**145**	IAMs_20	IAMs_20	13 51 31.4	
	comp=Z,1μm,21.0s						
ABKAR	**Akbulak array**	**161.51**	**255**	PKPab	**PKPab**	**12 32 46.9**	**-0.8**
ABKAR	**Akbulak array**	**161.51**	**255**	PKPab	**PKPab**	**12 32 46.2**	**-1.4**
BRTR	**Keskin Array B**	**161.91**	**184**	PKPab	**PKPab**	**12 32 48.9**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=171,slow=8.7,SNR=4.7						
BRTR	**Keskin Array B**	**161.91**	**184**	PKPdf	**PKPdf**	**12 32 01.

*IDC **10** 12:18:21.6±0.9, 57°.42S×148°.41W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/29, mbtmp4.0/5, Error ellipse: s-maj=39.8km s-min=25.5km az=5.0*
*NEIC **10** 12:18:23.6±1.9, 57°.4S±0°.1×148°.1W±0°.2, h15km±4km, mb4.7/22, Error ellipse: s-maj=21.3km s-min=17.3km az=207.0*
*GCMT **10** 12:18:25.6±0.3, 57°.65S±0°.02×147°.63W±0°.03, h17km±2km, MW5.2/82, Moment Tensor Solution. s12,c12; s82,c115; Duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr=0.56±.34; Mθθ5.27±.33; Mφφ-4.71±.31; Mrθ1.89±.77; Mrφ3.12±.21; Mθφ4.51±1.12; Best double couple: M0=7.66200×10^16 NP1:φs=117.00000°, δ51.00000°, λ-5.00000°. NP2:φs=210.00000°, δ86.00000°, λ-140.00000°. Principal axes: T 7.5110, Plg24.0000°, Azm337.0000°; N 0.3070, Plg50.0000°, Azm215.0000°; P -7.8130, Plg30.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 12:18:22.6±0.6, 57°.5S±0°.1×148°.2W±0°.1, h10km, n57, σ1§01/39, mb4.7/16, MS4.7/3, 1C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**26.25**	**202**	P	**P**	**12 23 56.7**	**-0.6**
VNDA				IAmb	IAmb	12 24 25.8	
	comp=Z,29nm,1.5s						
MCQ	**Macquarie Isla**	**29.11**	**253**	P	**P**	**12 24 24.2**	**+1.2**
QSPA	**South Pole Qui**	**32.69**	**180**	P	**P**	**12 24 55.4**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=69,slow=3.6,SNR=8.4						
QSPA	**South Pole Qui**	**32.69**	**180**	P	**P**	**12 24 54.9**	**+0.2**
TBI	**Tubuai**	**34.09**	**358**	eLR	LR	12 34 01.2	
	comp=Z,2μm,28.0s						
TBI	**Tubuai**	**34.09**	**358**	eT	T	13 00 56.2	
	comp=Z,15nm,0.3s						
MEH	**Mehetia**	**39.52**	**0**	eT	T	13 07 46.2	
	comp=Z,21nm,0.4s						
PPT2	**Papeete2**	**39.82**	**358**	eLR	LR	12 36 49.8	
	comp=Z,2μm,25.5s						
PPT2	**Papeete2**	**39.82**	**358**	eT	T	13 08 10.0	
	comp=Z,3.6nm,0.4s						
NIUE	**Niue**	**41.58**	**328**	P	**P**	**12 26 09.3**	**-1.0**
VAH	**Vaihoa**	**42.15**	**1**	eT	T	13 11 02.8	
	comp=Z,19nm,0.3s						
CASY	**Casey**	**43.39**	**215**	P	**P**	**12 26 24.6**	**-0.1**
CASY				IAmb	IAmb	12 26 47.8	
	comp=Z,24nm,1.4s						
MSVF	**Nonsavu**	**46.93**	**314**	P	**P**	**12 26 52.4**	**-1.0**
MSVF				IAmb	IAmb	12 27 08.5	
	comp=Z,8.9nm,1.2s						
SNAA	**Sanae**	**48.89**	**166**	P	**P**	**12 27 09.0**	**+1.0**
SNAA				IAmb	IAmb	12 27 29.0	
	comp=Z,5.3nm,1.0s						
TAOE	**Nuku Hiva Isla**	**48.89**	**11**	eLR	LR	12 40 55.5	
	comp=Z,972nm,28.5s						
ARMA	**Armidale**	**49.01**	**277**	P	**P**	**12 27 09.5**	**+0.1**
H03S2	**Juan Fernandez**	**51.27**	**94**	T	T	13 22 26.0	
	baz=220						
H03S1	**Juan Fernandez**	**51.27**	**94**	T	T	13 22 30.1	
	baz=220						
H03S3	**Juan Fernandez**	**51.28**	**94**	T	T	13 22 36.7	
	baz=220						
H03N3	**Juan Fernandez**	**51.56**	**93**	T	T	13 22 45.1	
	baz=221,slow=72,SNR=82						
H03N2	**Juan Fernandez**	**51.56**	**93**	T	T	13 22 43.5	
	baz=221,slow=72,SNR=69						
H03N1	**Juan Fernandez**	**51.58**	**93**	T	T	13 22 45.3	
	baz=221,slow=72,SNR=80						
STKA	**Stephens Creek**	**53.29**	**267**	P	**P**	**12 27 42.6**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=118,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**53.29**	**267**	P	**P**	**12 27 41.9**	**+0.5**
EIDS	**Eidsvold**	**53.31**	**280**	P	**P**	**12 27 42.5**	**+0.8**
EIDS				IAmb	IAmb	12 27 44.0	
	comp=Z,7.5nm,1.2s						
SYO	**Syowa Base**	**53.71**	**183⇑**	ePP	**P**	**12 27 41.1**	**-2.8**
BBOO	**Buckleboo**	**55.55**	**262**	P	**P**	**12 27 59.0**	**+1.1**
BBOO				IAmb	IAmb	12 28 16.4	
	comp=Z,13nm,1.4s						
CTAO	**Charters Tower**	**60.17**	**279**	P	**P**	**12 28 30.1**	**-0.3**
CTAO				IAmb	IAmb	12 28 47.6	
	comp=Z,11nm,1.3s						
AS31	**Alice Springs**	**63.92**	**267**	P	**P**	**12 28 55.9**	**+0.3**
ASAR	**Alice Springs**	**63.92**	**267**	P	**P**	**12 28 55.6**	**0.0**
	comp=Z,1.8nm,0.9s,baz=146,slow=4.8,SNR=15						
ASAR	**Alice Springs**	**63.92**	**267**	P	**P**	**12 28 55.8**	**+0.1**
H01W1	**Cape Leeuwin H**	**65.17**	**244**	T	T	13 40 45.2	
	baz=143,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**65.18**	**244**	T	T	13 40 50.8	
	baz=143,slow=76,SNR=12						
H01W3	**Cape Leeuwin H**	**65.19**	**244**	T	T	13 40 42.5	
	baz=143,slow=76,SNR=12						
WR0	**Warramunga Arr**	**66.58**	**269**	P	**P**	**12 29 13.6**	**+0.7**
WB2	**Warramunga Arr**	**66.70**	**269**	P	**P**	**12 29 13.9**	**+0.3**
WB2				IAmb	IAmb	12 29 15.5	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**66.70**	**269**	P	**P**	**12 29 13.8**	**+0.1**
	comp=Z,2.5nm,1.0s,baz=145,slow=5.6,SNR=12						
WRA	**Warramunga Arr**	**66.70**	**269**	P	**P**	**12 29 13.3**	**-0.4**
WRAB	**Tennant Creek**	**66.71**	**269**	P	**P**	**12 29 13.9**	**+0.2**
WRAB				IAmb	IAmb	12 29 25.4	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**66.82**	**269**	P	**P**	**12 29 15.3**	**+0.9**
WB0				IAmb	IAmb	12 29 30.9	
	comp=Z,11nm,1.4s						
COEN	**Coen**	**66.88**	**281**	P	**P**	**12 29 14.4**	**-0.4**
COEN				IAmb	IAmb	12 29 32.1	
	comp=Z,10nm,1.2s						
LPAZ	**La Paz**	**71.08**	**91**	P	**P**	**12 29 44.4**	**+2.7**
	comp=Z,1.7nm,1.0s,baz=188,slow=1.8,SNR=3.8						
LPAZ	**La Paz**	**71.08**	**91**	P	**P**	**12 29 41.3**	**-0.3**
LPAZ				IAmb	IAmb	12 30 02.7	
	comp=Z,6.6nm,1.4s						
AQDB	**Aquidauana**	**74.30**	**103**	P	**P**	**12 29 58.7**	**-1.3**
SOEI	**Soe**	**80.54**	**267**	P	**P**	**12 30 33.6**	**-1.5**
H10N3	**ASCENSION HYDR**	**104.82**	**132**	T	T	14 30 04.0	
	baz=204,slow=75,SNR=19						
H10N1	**ASCENSION HYDR**	**104.82**	**132**	T	T	14 30 06.7	
	baz=204,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**104.83**	**132**	T	T	14 30 10.8	
	baz=204,slow=75,SNR=20						
ILAR	**Eielson Array**	**121.91**	**1**	PKP	**PKPdf**	**12 37 15.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=231,slow=1.2,SNR=6.5						
ILAR	**Eielson Array**	**121.91**	**1**		**PKPdf**	**12 37 15.8**	**+0.4**
YKA	**Yellowknife Ar**	**122.42**	**18**	PKP	**PKiKP**	**12 37 17.5**	**+0.9**
	comp=Z,0.2nm,0.9s,baz=186,slow=3.3,SNR=3.6						
YKA	**Yellowknife Ar**	**122.42**	**18**		**PKiKP**	**12 37 18.0**	**+1.4**
MKAR	**Makanchi Array**	**147.96**	**273**	PKPbc	**PKPdf**	**12 38 05.2**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=104,slow=1.5,SNR=25						
MKAR	**Makanchi Array**	**147.96**	**273**		**PKPbc**	**12 38 06.4**	**-0.7**
ZALV	**Zalesovo Beam**	**150.57**	**286**	PKPbc	**PKPbc**	**12 38 12.6**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=122,slow=1.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**150.57**	**286**	PKPdf	**PKPdf**	**12 38 08.0**	**+0.1**
ZALV					**PKPab**	**12 38 21.3**	**+1.1**
ESDC	**Sonseca Array**	**150.85**	**112**	PKPbc	**PKPbc**	**12 38 14.9**	**+0.4**
	comp=Z,1.3nm,1.1s,baz=222,slow=1.7,SNR=2.4						

IDC 10 12:20:44.8±4.2, 5°.02S×69°.01E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.3/48, mbtmp3.5/5, MS3.0/1, Ms1 3.0/1, ms1mx2.6/67, Error ellipse: s-maj=139.9km s-min=30.0km az=63.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**4.32**	**127**	T	T	12 26 48.8	
	baz=312,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**4.33**	**127**	T	T	12 26 42.5	
	baz=312,slow=75,SNR=8.6						
H08S2	**Diego Garcia H**	**4.34**	**127**	T	T	12 26 46.7	
	baz=312,slow=75,SNR=16						
PALK	**Pallekele**	**16.89**	**44**	LR	LR	12 30 04.7	
	comp=Z,49nm,18.5s,baz=324,slow=33						
MKAR	**Makanchi Array**	**52.91**	**11**	P	P	12 30 02.2	-0.5
	0.4nm,0.7s,baz=201,slow=7.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**60.23**	**11**	P	P	12 30 53.8	-0.9
	0.4nm,0.6s,baz=218,slow=9.1,SNR=2.6						
SONM	**Songino Array**	**62.02**	**28**	P	P	12 31 07.9	+0.8
	0.4nm,0.8s,baz=224,slow=5.6,SNR=4.1						
ASAR	**Alice Springs**	**65.03**	**114**	P	P	12 31 27.0	-0.4
	0.3nm,0.8s,baz=280,slow=5.9,SNR=6.8						
WRA	**Warramunga Arr**	**65.13**	**110**	P	P	12 31 28.4	+0.2
	1.1nm,1.0s,baz=281,slow=6.3,SNR=7.2						
NVAR	**Mina Array Bea**	**146.08**	**10**	PKPbc	PKPbc	12 40 27.2	-0.3
	0.4nm,0.8s,baz=25,slow=3.0,SNR=4.0						

*BJI **10** 12:45:06.1±0.0, 3°.68N×128°.15E, h116km, mb4.7/55, mbB4.9/31*
*MAN **10** 12:45:12.2, 4°.28N×127°.44E, h140km, mb5.5, ML4.5, MS4.8*
*NEIC **10** 12:45:13.0±1.3, 4°.34N±0°.06×127°.76E±0°.06, h106km±6km, mb4.9/89, Error ellipse: s-maj=9.1km s-min=8.8km az=73.0*
*IDC **10** 12:45:12.5±1.1, 4°.32N×127°.79E, h113km±10km, mb4.3/25, mb1 4.4/30, mb1mx4.2/41, mbtmp4.7/30, MS4.4/9, Ms1 4.4/9, ms1mx3.6/72, Error ellipse: s-maj=14.0km s-min=7.2km az=72.0*
*KLM **10** 12:45:13, 4°.34N×127°.87E, h122km, mb5.0*
*DJA **10** 12:45:14.9±0.3, 4°N±3°×12°8E±°, h82km±5km, M4.8/31, mb5.0/31, mB5.3/16, MLv5.2/12, Mw(mB)4.7/16, MwMwp5.8/1, Mwp5.9/1*

ISC 10 12:45:11.7±0.3, 4°.34N±0°.03×127°.73E±0°.04, h100km, n343, σ1§15/349, mb4.8/90, 81C-23D, Fault plane solution: NP1:φs198.12460°, δ49.91919°, λ83.50543°. **NP2:** φs28.15122°, δ40.51579°, λ97.65540°. **Principal axes:** T Plg83.1417°, Azm66.0750°; N Plg4.9648°, Azm202.3168°; P Plg4.7196°, Azm292.7277°; **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.29**	**254**	P	**Pn**	**12 45 48.2**	**+0.1**
SGSI				S	**Sn**	**12 46 16.5**	**+0.5**
DDMP	**Don Marcelino,**	**2.67**	**311⇓**	eP	**Pn**	**12 45 53.6**	**+0.6**
DDMP				eS	**Sn**	**12 46 26.0**	**+1.2**
MATI	**Mati**	**2.98**	**331⇓**	eP	**Pn**	**12 45 58.2**	**+1.0**
MATI				eS	**Sn**	**12 46 29.0**	**-3.2**
GSPH	**General Santos**	**3.27**	**302⇑**	iP	**Pn**	**12 45 60.0**	**-1.2**
GSPH				i S	**Sn**	**12 46 37.6**	**-1.8**
DAV	**Davao City (W)**	**3.46**	**322**	P	**Pn**	**12 46 05.8**	**+2.3**
	89nm,0.3s,baz=108,slow=6.4,SNR=7.7						
DAV				S	**Sn**	**12 46 47.3**	**+3.6**
	126nm,0.3s,baz=253,slow=23,SNR=6.0						
DAV				LR	LR	12 47 18.2	
	comp=Z,615nm,20.9s,baz=196,slow=36						
DAV	**Davao City (W)**	**3.46**	**322**	Pn	**Pn**	**12 46 06.8**	**+3.2**
DAV	**Davao City (W)**	**3.46**	**322**	P	**Pn**	**12 46 05.9**	**+2.3**
TNTI	**Ternate**	**3.56**	**186**	P	**Pn**	**12 46 07.0**	**+1.9**
TNTI	**Ternate**	**3.56**	**186**		**Pn**	**12 46 06.5**	**+1.4**
TNTI	**Ternate**	**3.56**	**186**	P	**Pn**	**12 46 06.9**	**+1.9**
KCP	**Kidapawan**	**3.73**	**315⇓**	iP	**Pn**	**12 46 07.9**	**+0.5**
KCP				i S	**Sn**	**12 46 55.0**	**+4.5**
BIPH	**Bislig**	**4.05**	**340⇓**	iP	Pn	12 46 19.0	+7.3
BIPH				i S	**Sn**	**12 46 54.0**	**-4.2**
BUKP	**Musuan**	**4.41**	**323⇓**	eP	**Pn**	**12 46 18.1**	**+1.7**
BUKP				eS	**Sn**	**12 47 08.0**	**+1.3**
CTBH	**Cotabato--PC H**	**4.50**	**310⇑**	iP	**Pn**	**12 46 17.5**	**-0.1**
LBMI	**Labuha**	**4.95**	**183**	P	**Pn**	**12 46 26.2**	**+2.4**
BUTP	**Butuan**	**5.05**	**336⇓**	eP	**Pn**	**12 46 26.6**	**+1.4**
BUTP				eS	**Sn**	**12 47 24.2**	**+1.8**
KMSI	**Cibinong**	**5.29**	**225**	P	**Pn**	**12 46 29.6**	**+1.2**
	7.4nm18μm2μm,0.8s						
PAGZ	**Pagadian**	**5.55**	**309⇓**	eP	**Pn**	**12 46 31.6**	**-0.4**
PAGZ				eS	**Sn**	**12 47 33.8**	**-0.7**
SCPH	**Surigao**	**5.85**	**338⇓**	eP	**Pn**	**12 46 36.5**	**+0.5**
GTOI	**Gorontalo**	**5.98**	**232**	P	**Pn**	**12 46 38.7**	**+0.9**
	2.2nm5μm601nm,0.8s						
ZCP	**Zamboanga City**	**6.19**	**295⇓**	iP	**Pn**	**12 46 40.2**	**-0.4**
ZCP				i S	**Sn**	**12 47 45.7**	**-4.3**
SWI	**Sorong**	**6.26**	**146**	P	**Pn**	**12 46 42.6**	**+1.1**
	0.8nm2μm121nm,0.5s						
SIJI	**Sorong**	**6.26**	**146**	P	**Pn**	**12 46 42.4**	**+0.8**
	25nm,0.3s,baz=333,slow=17,SNR=57						
SIJI				S	**Sn**	**12 47 51.0**	**-0.9**
	33nm,0.3s,baz=28,slow=23,SNR=20						
MSLP	**Maasin**	**6.42**	**334⇓**	eP	**Pn**	**12 46 45.0**	**+1.2**
MSLP				eS	**Sn**	**12 47 53.7**	**-2.0**
TBP	**Tagbilaran**	**6.56**	**324**	eP	**Pn**	**12 46 45.5**	**-0.2**
TBP				eS	**Sn**	**12 47 58.1**	**-0.9**
SANI	**Sanana**	**6.58**	**195**	P	**Pn**	**12 46 44.3**	**-1.6**
	0.7nm3μm127nm,0.8s						
SANI	**Sanana**	**6.58**	**195**	P	**Pn**	**12 46 44.6**	**-1.3**
SNPH	**Sibulan**	**6.68**	**318**	eP	Pn	12 46 34.3	-13
MRSI	**Marisa**	**6.94**	**237**	P	**Pn**	**12 46 52.2**	**+1.4**
	6.6nm16μm2μm,0.8s						
LUWI	**Luwuk**	**7.29**	**223**	P	**Pn**	**12 46 58.0**	**+2.4**
	1.7nm4μm507nm,0.9s						
LUWI	**Luwuk**	**7.29**	**223**		**Pn**	**12 46 56.7**	**+1.1**
LUWI	**Luwuk**	**7.29**	**223**	P	**Pn**	**12 46 57.5**	**+1.9**
TOLI2	**Tolitoli**	**7.65**	**245**		**Pn**	**12 46 60.0**	**-0.5**
TOLI2	**Tolitoli**	**7.65**	**245**	P	**Pn**	**12 47 00.5**	**+0.1**
MSAI	**Masohi**	**7.73**	**171**	P	Pn	12 47 08.8	+7.2
AAI	**Ambon**	**7.99**	**177**	P	Pn	12 47 16.0	+11
APSI	**Ampana**	**8.01**	**230**	P	**Pn**	**12 47 05.6**	**+0.2**
	2μm174nm,0.5s						
FAKI	**Fak Fak**	**8.51**	**148**	P	**Pn**	**12 47 13.4**	**+1.2**
	726nm64nm,0.9s						
FAKI	**Fak Fak**	**8.51**	**148**	Pn	**Pn**	**12 47 12.6**	**+0.4**
FAKI	**Fak Fak**	**8.51**	**148**	P	**Pn**	**12 47 13.8**	**+1.6**
RCP	**Roxas**	**8.71**	**326⇓**	eP	**Pn**	**12 47 18.3**	**+3.4**
MPSI	**Mapaga**	**8.78**	**243**	P	**Pn**	**12 47 16.6**	**+0.8**
	1μm73nm,0.7s						
MYLDM	**Lahad Datu**	**9.24**	**276**		**Pn**	**12 47 24.1**	**+2.0**
BAKI	**Biak**	**10.01**	**123**	P	Pn	12 47 38.5	+5.9
	2μm287nm,1.0s						
SRPI	**Serui, Papua**	**10.50**	**126**	P	Pn	12 47 46.0	+6.6
	70nm,0.5s						
TTSI	**Tana Toraja**	**10.79**	**227**	P	**Pn**	**12 47 44.6**	**+1.4**
	668nm64nm,0.9s						
SPMM	**Sapulut**	**11.24**	**272**	P	**Pn**	**12 47 50.0**	**+0.7**
SPSI	**Sidrap Palu**	**11.46**	**224**	P	**Pn**	**12 47 53.1**	**+0.8**
	36nm,0.7s						
BNSI	**Bone**	**11.55**	**221**	P	**Pn**	**12 47 52.7**	**-0.8**
	30nm,0.7s						
KKM	**Kota Kinabalu**	**11.59**	**279**	Pn	**Pn**	**12 47 55.1**	**+1.0**
KKM	**Kota Kinabalu**	**11.59**	**279**	P	**Pn**	**12 47 55.6**	**+1.4**
BKSI	**Bulukumba**	**12.24**	**218**	P	**Pn**	**12 48 02.8**	**+0.1**
	26nm,0.7s						
KAPI	**Kappang**	**12.24**	**221**	P	**Pn**	**12 48 03.1**	**+0.5**
	1.4nm,0.3s,baz=46,slow=7.7,SNR=7.4						
KAPI	**Kappang**	**12.24**	**221**		**Pn**	**12 48 02.3**	**-0.4**
KAPI	**Kappang**	**12.24**	**221**	P	**Pn**	**12 48 03.5**	**+0.8**
SMPI	**Sarmi**	**12.64**	**120**	P	**Pn**	**12 48 11.6**	**+3.6**
	60nm,1.5s						
KBKI	**Kotabaru**	**13.82**	**237**	P	**Pn**	**12 48 23.5**	**0.0**
	48nm,0.8s						
MTKI	**Muara Teweh, K**	**13.86**	**248**	P	**P**	**12 48 27.5**	**-1.4**
	9μm123nm,0.7s						
GENI	**Genyem**	**14.21**	**119**	P	**P**	**12 48 31.9**	**-0.9**
	2μm142nm,1.0s						
EDFI	**Ende, Flores**	**14.33**	**205**	P	**Pn**	**12 48 31.3**	**+1.2**
	25nm,0.6s						
SOEI	**Soe**	**14.42**	**194**	P	**P**	**12 48 35.0**	**-0.2**
	90nm,0.9s						
SOEI	**Soe**	**14.42**	**194**		**Pn**	**12 48 30.9**	**-0.4**
SOEI	**Soe**	**14.42**	**194**	P	**Pn**	**12 48 29.9**	**-1.4**
BATI	**Baumata**	**15.01**	**196**	P	**Pn**	**12 48 39.8**	**+1.1**
	9.2nm,0.3s,baz=23,slow=4.0,SNR=9.6						
BATI	**Baumata**	**15.01**	**196**	P	**P**	**12 48 41.1**	**-0.6**
	37nm,0.8s						
BBKI	**Banjar Baru**	**15.03**	**239**	P	**Pn**	**12 48 39.8**	**+0.8**
	56nm,0.8s						
SBUM	**Sibu**	**15.60**	**264**	Pn	**Pn**	**12 48 46.6**	**+0.5**
SBUM				IAmb	IAmb	12 48 51.1	
	comp=Z,51nm,0.7s						
WBSI	**Waikabubak, Su**	**16.18**	**211**	P	**P**	**12 48 58.2**	**+3.5**
	comp=Z,91nm,0.9s						
STKI	**Sintang**	**16.78**	**256**	P	**P**	**12 49 01.7**	**+0.3**
	comp=Z,59nm,0.8s						
DRS	**Darwin Rock St**	**16.96**	**169**	P	**Pn**	**12 49 01.7**	**-1.2**
MTN	**Manton Dam**	**17.40**	**169**	P	**P**	**12 49 06.2**	**-1.9**
	baz=18,SNR=107						
MTN	**Manton Dam**	**17.40**	**169**	P	**P**	**12 49 07.3**	**-0.8**
MTN	**Manton Dam**	**17.40**	**169**	P	**P**	**12 49 06.7**	**-1.4**
SRBI	**Singaraja**	**17.56**	**225**	P	**Pn**	**12 49 11.3**	**+1.1**
	comp=Z,70nm,0.8s						
KDU	**Kakadu**	**17.56**	**164**	P	**P**	**12 49 08.3**	**-1.6**
	baz=18,SNR=50						
KDU	**Kakadu**	**17.56**	**164**	P	**P**	**12 49 08.5**	**-1.3**
KSM	**Kuching**	**17.63**	**261**		**Pn**	**12 49 11.8**	**+0.6**
KSM	**Kuching**	**17.63**	**261**	P	**P**	**12 49 11.0**	**+0.3**
KSM	**Kuching**	**17.63**	**261**	P	**Pn**	**12 49 11.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**18.58**	**227**	P	**Pn**	**12 49 28.3**	**+5.8**
JAGI	**Jajag, Banyuwa**	**18.58**	**227**	P	**Pn**	**12 49 23.1**	**+0.5**
JAGI				IAmb	IAmb	12 49 29.4	
	comp=Z,51nm,0.8s						
JAGI	**Jajag, Banyuwa**	**18.58**	**227**	P	**Pn**	**12 49 22.6**	**+0.1**
GUMO	**Guam**	**19.25**	**60**	P	**P**	**12 49 28.5**	**+0.2**
	comp=Z,5.8nm,0.3s,baz=232,slow=12,SNR=2.2						
GUMO	**Guam**	**19.25**	**60**	P	**P**	**12 49 29.1**	**+0.8**
GUMO	**Guam**	**19.25**	**60**	P	**Pn**	**12 49 30.6**	**+0.2**
KNRA	**Kununurra**	**19.91**	**177**	P	**P**	**12 49 35.8**	**+0.3**
	baz=20,SNR=255						
KNRA	**Kununurra**	**19.91**	**177**	P	**P**	**12 49 36.1**	**+0.5**
KNRA	**Kununurra**	**19.91**	**177**	P	**P**	**12 49 36.1**	**+0.5**
YULB	**Yu-li**	**19.93**	**342**	P	**P**	**12 49 33.8**	**-2.0**
YULB				IAmb	IAmb	12 49 40.5	
	comp=Z,64nm,1.5s						
TPUB	**Ta-pu**	**20.06**	**341**	P	**P**	**12 49 36.4**	**-0.8**
TPUB				IAmb	IAmb	12 49 47.3	
	comp=Z,35nm,0.6s						
TPUB	**Ta-pu**	**20.06**	**341**	P	**P**	**12 49 36.4**	**-0.8**
SSLB	**Suanglung**	**20.41**	**342**	P	**P**	**12 49 40.7**	**-0.2**
SSLB	**Suanglung**	**20.41**	**342**	P	**P**	**12 49 41.1**	**+0.2**
DLV	**T Lat**	**20.48**	**293**	P	**P**	**12 49 41.7**	**-0.3**
DLV				IAmb	IAmb	12 49 44.0	
	comp=Z,99nm,1.2s						
NACB	**Ninganchiao**	**20.59**	**344**	P	**P**	**12 49 44.5**	**+1.7**
NACB				IAmb	IAmb	12 50 12.0	
	comp=Z,60nm,1.4s						
MANU	**Manus Island**	**20.62**	**108**	P	**P**	**12 49 43.0**	**-0.2**
UGM	**Wanagama**	**21.04**	**235**	P	**P**	**12 49 48.7**	**+0.9**
UGM				IAmb	IAmb	12 49 58.9	
	comp=Z,96nm,1.1s						
YHNB	**Yeheng**	**21.12**	**344**	P	**P**	**12 49 48.5**	**-0.1**
YHNB				IAmb	IAmb	12 49 52.0	
	comp=Z,34nm,0.5s						
YHNB	**Yeheng**	**21.12**	**344**	P	**P**	**12 49 49.6**	**+1.0**
KNMB	**Chin-men Tao**	**21.94**	**337**	P	**P**	**12 49 57.4**	**+0.2**
KNMB				IAmb	IAmb	12 50 12.1	
	comp=Z,43nm,0.8s						
JOW	**Kunigami**	**22.37**	**1**	P	**P**	**12 50 02.8**	**+1.0**
	comp=Z,24nm,0.7s,baz=193,slow=6.0,SNR=7.4						
JOW	**Kunigami**	**22.37**	**1**	P	**P**	**12 50 03.5**	**+1.7**
JOW				IAmb	IAmb	12 50 31.7	
	comp=Z,25nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.39**	**185**	P	**P**	**12 50 00.8**	**-1.2**
	comp=Z,14nm,0.5s,baz=6.6,slow=9.3,SNR=25						
LEM	**Lembang**	**22.94**	**241**	P	**P**	**12 50 07.4**	**-0.4**
	comp=Z,19nm,0.4s,baz=86,slow=15,SNR=5.9						
COEN	**Coen**	**23.77**	**140**	P	**P**	**12 50 14.5**	**-0.8**
COEN	**Coen**	**23.77**	**140**	P	**P**	**12 50 13.8**	**-1.5**
WB0	**Warramunga Arr**	**24.84**	**165**	P	**P**	**12 50 24.6**	**-0.3**
WRAB	**Tennant Creek**	**24.98**	**165**	P	**P**	**12 50 26.2**	**0.0**
WRAB	**Tennant Creek**	**24.98**	**165**	P	**P**	**12 50 26.3**	**+0.1**
WRA	**Warramunga Arr**	**24.99**	**165**	P	**P**	**12 50 25.2**	**-1.1**
	comp=Z,56nm,0.6s,baz=343,slow=10,SNR=388						
WRA				ScP	**ScP**	**12 57 28.2**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=346,slow=3.0,SNR=2.8						
WRA	**Warramunga Arr**	**24.99**	**165**	P	**P**	**12 50 25.1**	**-1.1**
WB2	**Warramunga Arr**	**24.99**	**165**	P	**P**	**12 50 25.8**	**-0.5**
WR0	**Warramunga Arr**	**25.06**	**165**	P	**P**	**12 50 26.6**	**-0.3**
WR0				IAmb	IAmb	12 50 28.8	
	comp=Z,54nm,0.7s						
JCJ	**Chichijima**	**26.51**	**30**	P	**P**	**12 50 39.6**	**-0.3**
MBWA	**Marble Bar**	**26.53**	**197**	P	**P**	**12 50 40.5**	**+0.3**
IPM	**Ipoh**	**26.63**	**271**	P	**P**	**12 50 40.4**	**-0.8**
PSA00	**Pilbara Seismi**	**26.89**	**196**	P	**P**	**12 50 43.6**	**+0.2**
PSA00				IAmb	IAmb	12 50 45.4	
	comp=Z,39nm,0.8s						
PSA00	**Pilbara Seismi**	**26.89**	**196**	P	**P**	**12 50 42.2**	**-1.1**
PSA00				IAmb	IAmb	12 50 45.4	
	comp=Z,17nm,0.9s						
PSA00	**Pilbara Seismi**	**26.89**	**196**	P	**P**	**12 50 43.9**	**+0.5**
JSU	**Suzuyama**	**27.14**	**5**	P	**P**	**12 50 44.5**	**-1.1**
JSU				IAmb	IAmb	12 50 48.2	
	comp=Z,17nm,0.8s						
QIS	**Mount Isa**	**27.35**	**155**	P	**P**	**12 50 46.6**	**-0.9**
	baz=28,SNR=60						
QIS	**Mount Isa**	**27.35**	**155**	P	**P**	**12 50 47.1**	**-0.5**
MTSU	**Mount Surprise**	**27.68**	**144**	P	**P**	**12 50 50.0**	**-0.5**
	baz=28,SNR=5.1						
MTSU	**Mount

baz=35,SNR=16
QLP Quilpie 34.64 153 P P 12 51 51.4 -0.2
CD2 Chengdu 34.76 322 *eP* **P 12 51 54.0 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
FORT Forrest 34.92 180 P P 12 51 54.2 +0.2
baz=35,SNR=131
FORT Forrest 34.92 180 P P 12 51 54.1 +0.2
FORT Forrest 34.92 180 P P 12 51 54.3 +0.4
MULG Mulgathing 34.95 170 P P 12 51 54.8 +0.6
HNS HongShan 35.00 342 ⇑P **P 12 51 55.8 +1.3**
HNS pmax pmax
comp=Z,13nm,1.0s
MORW Morawa 35.06 198 P P 12 51 55.2 0.0
baz=35,SNR=9.5
MORW Morawa 35.06 198 P P 12 51 55.2 0.0
MORW IAmb IAmb 12 51 56.2
comp=Z,24nm,1.2s
MORW Morawa 35.06 198 P P 12 51 55.4 +0.2
RK1H Rockhampton Ha 35.40 142 P P 12 51 58.3 +0.2
JMM Marumori 35.44 18 P P 12 51 58.1 -0.1
LCRK Leigh Creek 36.02 164 P P 12 52 03.9 +0.6
BLDU Ballidu 36.32 196 P P 12 52 05.8 -0.1
baz=36,SNR=60
BLDU Ballidu 36.32 196 P P 12 52 06.0 +0.1
RMQ Roma 36.79 148 P P 12 52 09.6 -0.4
baz=37,SNR=8.5
RMQ Roma 36.79 148 P P 12 52 11.5 +1.5
comp=Z,7.5nm,0.6s
KLBR Kellerberrin 36.98 194 P P 12 52 11.6 +0.1
baz=37,SNR=43
KLBR Kellerberrin 36.98 194 P P 12 52 11.6 +0.1
BJI Beijing 37.04 345 P P 12 52 13.2 +1.3
BJI pmax pmax
comp=Z,17nm,0.9s
BJI LR LR
comp=Z,250nm,27.0s
BJI LR LR
comp=Z,420nm,26.1s
BJI LR LR
comp=Z,800nm,22.8s
EIDS Eidsvold 37.23 144 P P 12 52 13.1 -0.6
baz=37,SNR=4.1
EIDS Eidsvold 37.23 144 P P 12 52 12.9 -0.8
EIDS IAmb IAmb 12 52 13.2
comp=Z,13nm,1.3s
MUN Mundaring 37.74 196 P P 12 52 18.2 +0.2
baz=38,SNR=13
MUN Mundaring 37.74 196 P P 12 52 18.5 +0.5
BBOO Buckleboo 37.78 169 P P 12 52 18.3 0.0
baz=38,SNR=225
BBOO Buckleboo 37.78 169 P P 12 52 18.3 0.0
BBOO Buckleboo 37.78 169 P P 12 52 18.5 +0.2
WHYH Whyalla 38.32 167 P P 12 52 23.3 +0.5
STKA Stephens Creek 38.36 161 P P 12 52 23.2 +0.1
comp=Z,26nm,0.3s,baz=336,slow=8.5,SNR=130
STKA LR LR 13 08 55.4
comp=Z,241nm,18.4s,baz=338,slow=37
STKA Stephens Creek 38.36 161 P P 12 52 23.1 -0.1
baz=38,SNR=102
STKA Stephens Creek 38.36 161 P P 12 52 23.0 -0.1
STKA IAmb IAmb 12 52 24.6
comp=Z,13nm,0.9s
STKA Stephens Creek 38.36 161 P P 12 52 23.6 +0.5
NWAO Narrogin (SRO) 38.38 194 P P 12 52 24.1 +0.8
LZH Lanzhou 38.50 328 *eP* **P 12 52 28.6 +4.1**
LZH pP pwP 12 52 50.7 -0.7
LZH sP sP 12 53 02.0 +4.7
LZH pmax pmax
comp=Z,23nm,1.1s
LZH LR LR
comp=Z,140nm,15.1s
LZH LR LR
comp=Z,120nm,15.2s
LZH LR LR
comp=Z,120nm,17.2s
NAPP Napperby 38.60 166 P P 12 52 25.7 +0.6
HTT Hallett 39.03 165 P P 12 52 29.1 +0.3
baz=39,SNR=33
HTT Hallett 39.03 165 P P 12 52 29.4 +0.6
HHC Hu-ho-hao-te 39.15 340 *eP* **P 12 52 30.8 +1.0**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,83nm,5.6s
HHC LR LR
comp=Z,280nm,18.4s
HHC LR LR
comp=Z,310nm,18.4s
HHC LR LR
comp=Z,510nm,19.0s
CMSA Cobar Meteorol 39.57 156 P P 12 52 33.1 -0.1
baz=40,SNR=16
CMSA Cobar Meteorol 39.57 156 P P 12 52 33.3 +0.1
USRK Ussuriysk Ar. 39.87 5 P P 12 52 36.3 +0.7
comp=Z,4.7nm,0.8s,baz=195,slow=5.7,SNR=5.6
MDJ Mudanjiang 40.15 2 P P 12 52 39.0 +1.2
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ pmax pmax
comp=Z,200nm,5.1s
SHL Shillong 40.33 305 P P 12 52 39.7 -0.2
TWOA Tennyson Woods 40.47 166 P P 12 52 41.5 +0.9
XLT XiLinHaoTe 40.72 347 *eP* **P 12 52 44.1 +1.4**
XLT pP pwP 12 53 13.0 +2.6
XLT sP sP 12 53 18.8 +3.5
XLT pmax pmax
comp=Z,11nm,0.6s
XLT pmax pmax
comp=Z,170nm,5.2s
ARMA Armidale 41.44 148 P P 12 52 49.3 +0.5
baz=42,SNR=23
ARMA Armidale 41.44 148 P P 12 52 48.5 -0.3
ARMA IAmb IAmb 12 52 49.9
comp=Z,21nm,0.8s
ARMA Armidale 41.44 148 P P 12 52 49.3 +0.5
ASAJ Asahikawa 41.73 16 LR LR 13 12 45.1
comp=Z,168nm,19.4s,baz=154,slow=40
ARPS Mount Arapiles 42.97 163 P P 12 53 01.7 +0.8
baz=43,SNR=19
ARPS Mount Arapiles 42.97 163 P P 12 53 01.8 +0.8
GTA Gaotai 43.10 328 *eP* **P 12 53 03.3 +1.1**
GTA pP pP 12 53 25.3 +1.0
GTA pmax pmax
comp=Z,5.0nm,0.6s
GTA pmax pmax
comp=Z,120nm,5.4s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,120nm,18.2s
GTA LR LR
comp=Z,120nm,18.2s
MGCD Mangrove Creek 43.42 151 P P 12 53 05.3 +0.7
GOMU GeErMu 43.84 321 P P 12 53 09.1 +0.6
GOMU pmax pmax
comp=Z,2.0nm,0.5s
CAN Canberra 44.22 155 P P 12 53 12.4 +1.2
CAN IAmb IAmb 12 53 13.0
comp=Z,27nm,1.0s
BRAT Ballarat 44.32 161 P P 12 53 13.5 +1.7
CNB Canberra Magne 44.37 154 P P 12 53 13.5 +1.1
baz=44,SNR=5.3
CNB Canberra Magne 44.37 154 P P 12 53 13.7 +1.3
TOO Toolangi 44.85 160 P P 12 53 17.3 +1.3
baz=45,SNR=52
TOO Toolangi 44.85 160 P P 12 53 17.2 +1.1
TOO IAmb IAmb 12 53 18.3
comp=Z,24nm,0.8s
TOO Toolangi 44.85 160 P P 12 53 17.5 +1.4
MILA Mila 45.77 156 P P 12 53 24.4 +1.0
baz=46,SNR=3.4
DZM Mont Dzumac 46.08 126 P P 12 53 25.8 -0.3
DZM Mont Dzumac 46.08 126 P P 12 53 25.8 -0.3
GUN Gumba 46.19 305 *eP* **P 12 53 25.8 -1.4**
comp=Z,36nm,0.7s
PKI Pulchoki 46.44 304 *eP* **P 12 53 28.4 -0.8**
comp=Z,1.2nm,0.3s
PKIN Phulchoki 46.45 304 *eP* **P 12 53 28.2 -1.0**
comp=Z,6.1nm,0.4s
KKN Kakani 46.63 305 *eP* **P 12 53 29.7 -0.8**
comp=Z,7.2nm,0.4s
DMN Daman 46.70 304 *eP* **P 12 53 30.9 -0.3**
comp=Z,3.3nm,0.3s
ULN Ulaanbaatar 46.86 341 P P 12 53 33.2 +1.3
SONM Songino Array 47.05 340 P P 12 53 33.8 +0.4
comp=Z,3.1nm,0.6s,baz=156,slow=10,SNR=25
SONM Songino Array 47.05 340 P P 12 53 33.7 +0.4
GKN Gorkha 47.24 305 *eP* **P 12 53 34.8 -0.4**
comp=Z,3.6nm,0.3s
KOLN Koldanda 48.01 304 *eP* **P 12 53 41.3 +0.1**
comp=Z,8.6nm,0.2s
DANN Dangsing 48.08 305 *eP* **P 12 53 41.5 -0.4**
comp=Z,35nm,0.5s
PYUN Piuthan 48.63 304 *eP* **P 12 53 46.0 0.0**
comp=Z,26nm,0.6s
GLAD Gladstone 48.77 160 P P 12 53 47.5 +1.0
TAU Tasmania Unive 50.27 161 P P 12 53 58.2 +0.4
WMQ Urumqi 52.81 324 *eP* **P 12 54 18.6 +1.7**
WMQ pP pP 12 54 42.3 +2.5
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,180nm,4.7s
MSVF Nonsavu 54.26 115 P P 12 54 28.8 +0.9
MSVF Nonsavu 54.26 115 P P 12 54 28.7 +0.7
PEA0B Petropavlovsk- 54.49 22 P P 12 54 29.7 +0.7
PETK Petropavlovsk- 54.49 22 P P 12 54 28.5 -0.5
comp=Z,24nm,0.6s,baz=183,slow=5.3,SNR=75
PETK Petropavlovsk- 54.49 22 P P 12 54 28.9 -0.1
PET Petropavlovsk 54.78 22 P P 12 54 30.9 -0.1
PET Petropavlovsk 54.78 22 P P 12 54 31.5 +0.5
DGTI Dogotuki 55.35 113 P P 12 54 36.1 +0.3
YAK Yakutsk 57.58 1 LR LR 13 21 22.6
comp=Z,263nm,21.8s,baz=94,slow=38
YAK Yakutsk 57.58 1 P P 12 54 50.6 -0.2
MK31 Makanchi Array 57.63 325 P P 12 54 52.4 +0.9
MK31 IAmb IAmb 12 55 20.5
comp=Z,6.1nm,0.8s
MKAR Makanchi Array 57.63 325 P P 12 54 51.9 +0.5
comp=Z,6.4nm,0.5s,baz=115,slow=7.7,SNR=139
MKAR Makanchi Array 57.63 325 P P 12 54 52.0 +0.5
UZB Uzynbulak 57.80 319 *eP* **P 12 54 52.5 -0.4**
baz=320
MAKZ Makanchi 57.82 324 P P 12 54 52.6 -0.2
MAKZ IAmb IAmb 12 55 15.3
comp=Z,8.0nm,0.8s
MA2 Magadan 57.88 14 P P 12 54 53.3 +0.4
MA2 IAmb IAmb 12 54 54.1
comp=Z,12nm,0.8s
TARG Taragay, Kyrgy 57.97 317 P P 12 54 54.6 +0.1
SATY Saty 58.16 319 *eP* **P 12 54 55.5 +0.1**
comp=Z,3.7nm,0.8s,baz=319
KSH Kashi 58.33 314 P P 12 54 58.7 +2.1
KSH pP pwP 12 55 23.5 -0.6
KSH S **S 13 02 53.3 +1.7**
KSH pmax pmax
comp=Z,5.0nm,1.0s
KSH pmax pmax
comp=Z,140nm,6.2s
KSH LR LR
comp=Z,250nm,8.1s
KSH LR LR
comp=Z,390nm,15.1s
KSH LR LR
comp=Z,410nm,13.1s
NIL Nilore 58.35 307 P 12 54 57.8 +1.0
NIL IAmb IAmb 12 55 23.0
comp=Z,14nm,0.8s
TDK Taldyorghan 59.06 321 *eP* **P 12 55 01.7 +0.2**
comp=Z,3.7nm,0.6s,baz=321
MDOK Medeo 59.10 319 *eP* **P 12 55 02.2 +0.3**
baz=319
TNSS Tian-Shan 59.11 319 *eP* **P 12 55 02.2 -0.2**
baz=318
CHKK Chushkaly 59.44 319 *eP* **P 12 55 04.0 -0.1**
baz=319
BOOM Boomskoye usch 59.55 318 P P 12 55 05.3 +0.2
KST Kastek 59.77 318 *eP* **P 12 55 06.7 +0.2**
comp=Z,7.0nm,0.6s,baz=318
KUU Kurty 59.88 319 *eP* **P 12 55 06.9 -0.2**
comp=Z,11nm,1.0s,baz=319
TKM2 Tokmak 2 59.96 318 P P 12 55 08.6 +0.7
SNR=14
UCH Uchtor 60.41 317 P P 12 55 12.8 +1.5
SNR=12
ZAA0 Zalesovo Array 60.51 332 P P 12 55 11.0 -0.1
ZAA0 IAmb IAmb 12 55 37.0
comp=Z,5.9nm,0.8s
ZALV Zalesovo Beam 60.51 332 P P 12 55 10.2 -0.9
comp=Z,2.1nm,0.5s,baz=125,slow=6.1,SNR=11
ZALV Zalesovo Beam 60.51 332 P P 12 55 11.2 +0.1
AAK Ala-Archa 60.59 317 P P 12 55 12.7 +0.6
SEM Semipalatinsk 60.73 327 *eP* **P 12 55 11.7 -1.3**
baz=327
SGDS Sogindy 60.82 318 *eP* **P 12 55 12.8 -0.8**
baz=318
USP Ospenovka 60.83 318 P P 12 55 14.0 +0.4
SNR=11
AML Almayashu 60.93 316 P P 12 55 15.8 +1.0
SNR=10
EKS2 Erkin-Say 61.08 317 P P 12 55 16.4 +0.9
SNR=9.8
DRK Karamyk 61.32 313 P P 12 55 17.8 +0.5
DRK IAmb IAmb 12 55 44.7
comp=Z,7.9nm,0.7s
RPZ Rata Peaks 61.69 146 P P 12 55 19.2 -0.1
KURK Kurchatov 61.77 327 P P 12 55 19.9 +0.1
BTLS Baital 61.86 320 *eP* **P 12 55 19.7 -0.7**
baz=320
BTK Batken 62.23 313 P P 12 55 23.3 +0.1
BTK IAmb IAmb 12 55 50.5
comp=Z,7.1nm,0.8s
KHZ Kahutara 62.34 143 P P 12 55 22.6 -1.0
BKZ Black Stump Fm 62.37 139 P P 12 55 22.9 -1.2
BKZ IAmb IAmb 12 55 23.8
comp=Z,20nm,0.9s
BKZ Black Stump Fm 62.37 139 P P 12 55 23.3 -0.7
DZA Taraz 62.84 317 *eP* **P 12 55 26.8 -0.3**
baz=316
CHGR Chuyangaron 63.01 311 P P 12 55 28.2 -0.2
CHGR IAmb IAmb 12 55 56.2
comp=Z,11nm,0.7s
KKAR Karatay Array 63.48 317 P P 12 55 31.0 -0.3
IUG Iuzhnay 63.48 315 *eP* **P 12 55 31.6 +0.2**
baz=315
BRLS Borolday 63.91 316 *eP* **P 12 55 34.1 -0.1**
baz=316
BRZS Berezniki 64.78 324 *eP* **P 12 55 39.7 +0.1**
baz=324
TIXI Tiksi 67.23 0 LR LR 13 29 45.9
comp=Z,530nm,19.1s,baz=132,slow=40
TIXI Tiksi 67.23 0 P P 12 55 53.8 -1.1
TIXI IAmb IAmb 12 55 54.6
comp=Z,11nm,1.2s
ATKA Atka Island 67.43 34 P P 12 55 56.4 -0.1
BRVK Borovoye 67.43 327 P P 12 55 56.4 -0.1
BRVK IAmb IAmb 12 56 23.3
comp=Z,14nm,0.9s
WSAR Wadi Sarin 69.10 293 LR LR 13 27 45.8
comp=Z,626nm,21.5s,baz=184,slow=37
NRIK Noril'sk 70.08 346 P P 12 56 12.3 -0.3
comp=Z,2.3nm,0.6s,baz=101,slow=6.5,SNR=5.1
NRIK Noril'sk 70.08 346 P P 12 56 12.5 -0.2
GEYT Alibeck 71.30 309 P P 12 56 21.3 +0.5
comp=Z,2.9nm,0.6s,baz=120,slow=8.8,SNR=4.4
GEYT LR LR 13 33 39.3
comp=Z,578nm,19.2s,baz=182,slow=41
CASY Casey 71.54 187 P P 12 56 22.2 +0.8
CASY IAmb IAmb 12 56 23.1
comp=Z,22nm,0.8s
ABKAR Akbulak array 72.32 320 P P 12 56 26.1 -0.4
ABKAR Akbulak array 72.32 320 P P 12 56 26.2 -0.4
ABKAR IAmb IAmb 12 56 50.9
comp=Z,6.6nm,0.9s
UNV Unalaska Valle 72.36 35 P P 12 56 26.8 +0.1
SOCY Socotra 73.22 281 P P 12 56 31.6 -1.0
SOCY IAmb IAmb 12 56 32.6
comp=Z,21nm,0.8s
ARU Arti 74.96 327 P P 12 56 41.1 -0.7
ARU IAmb IAmb 12 57 05.5
comp=Z,15nm,0.7s
L19K White Mountain 80.31 28 P P 12 57 12.2 +0.6
KDAK Kodiak Island 80.84 32 P P 12 57 14.2 -0.3
A21K Barrow 81.33 18 P P 12 57 17.2 +0.5
A21K IAmb IAmb 12 57 18.1
comp=Z,14nm,0.8s
IMAR Indian Mountai 81.38 24 P P 12 57 17.6 +0.5
PPLA Purkeypile 81.63 27 P P 12 57 19.4 +0.7
PPLA IAmb IAmb 12 57 29.6
comp=Z,23nm,1.4s
CAST Castle Rocks 81.74 27 P P 12 57 19.2 +0.1
OPO Ambohidratompo 82.44 251 P P 12 57 23.3 -0.5
comp=Z,2.7nm,0.6s,baz=79,slow=3.9,SNR=5.7
COLD Coldfoot 82.95 23 P P 12 57 26.1 +0.8
COLD IAmb IAmb 12 57 27.0
comp=Z,12nm,0.9s
VOI Vohitsoka 83.22 247 P P 12 57 27.3 -0.5
VOI IAmb IAmb 12 57 28.2
comp=Z,9.2nm,0.7s
KBZ Khabaz 83.29 313 P P 12 57 27.9 +0.4
comp=Z,1.2nm,0.7s,baz=72,slow=9.6,SNR=2.3
H24K Noodor Dome 83.76 24 P P 12 57 29.8 +0.2
H24K IAmb IAmb 12 57 31.9
comp=Z,7.1nm,0.8s
VNDA Vanda 83.90 173 P P 12 57 29.6 -0.3
comp=Z,3.7nm,0.8s,baz=322,slow=4.9,SNR=7.1
VNDA Vanda 83.90 173 P P 12 57 30.1 +0.2
VNDA IAmb IAmb 12 57 46.4
comp=Z,32nm,1.4s
HDA Harding Lake 84.09 26 P P 12 57 30.0 -1.1
HDA IAmb IAmb 12 57 31.8
comp=Z,7.1nm,0.7s
IL31 84.13 25 P P 12 57 30.9 -0.4
ILAR Eielson Array 84.13 25 P P 12 57 30.5 -0.9
comp=Z,2.4nm,0.6s,baz=247,slow=5.8,SNR=35
ILAR Eielson Array 84.13 25 P P 12 57 30.8 -0.6
MAW Mawson 84.67 200 P P 12 57 35.1 +1.2
BMAR Burnt Mountain 85.13 23 P P 12 57 37.3 +0.8
KLMR Klimovskoe 85.37 331 *eP* **P 12 57 36.5 -1.1**
KLMR AMP 12 57 45.3
comp=Z,11nm,1.0s
KLMR *e*S S 13 07 49.5 -11
KLMR *e*S S 13 07 49.5 -11
WHY Whitehorse 89.87 29 P P 12 57 58.5 -0.9
ARCES ARCESS Array B 90.22 340 P P 12 57 58.8 -2.0
comp=Z,2.1nm,0.8s,baz=82,slow=6.5,SNR=13
ARCES ARCESS Array B 90.22 340 P P 12 57 58.6 -2.2
ARCES IAmb IAmb 12 58 25.3
comp=Z,7.6nm,1.1s
BRTR Keskin Array B 90.40 310 P P 12 58 00.9 -1.5
comp=Z,0.4nm,0.5s,baz=136,slow=5.9,SNR=2.7
FINES FINESS Array B 91.77 332 P P 12 58 06.4 -1.6
comp=Z,1.8nm,0.7s,baz=83,slow=6.1,SNR=4.8
FINES FINESS Array B 91.77 332 P P 12 58 07.1 -1.0
AKASG Malin Array Be 92.05 321 P P 12 58 07.4 -2.2
comp=Z,1.4nm,0.8s,baz=68,slow=4.9,SNR=5.3
HFS Hagfors 97.94 333 LR LR 13 45 22.0
comp=Z,1μm,21.1s,baz=324,slow=37
YKA Yellowknife Ar 98.53 25 P P 12 58 37.1 -1.8
comp=Z,0.3nm,0.5s,baz=298,slow=4.5,SNR=10
YKA PKiKP **PKiKP 13 03 08.9 -1.2**
comp=Z,0.1nm,0.5s,baz=298,slow=1.9,SNR=6.0
YKA Yellowknife Ar 98.53 25 P P 12 58 37.5 -1.3
CLL Collm 101.73 324 *e*(PKiKP) 13 03 13.0
CLL *ep*PP 13 03 30.0
PDAR Pinedale Array 110.24 41 PKKPab PKKPab 13 14 43.4 -2.7
comp=Z,0.7nm,0.8s,baz=123,slow=5.5,SNR=6.2
SCHQ Schefferville 119.81 10 PKP PKPdf 13 03 49.6 -0.6
comp=Z,0.8nm,0.5s,baz=302,slow=3.5,SNR=1.6
TXAR Lajitas Array 120.44 52 PKP PKPdf 13 03 51.7 -0.6
comp=Z,0.3nm,0.7s,baz=40,slow=1.5,SNR=5.8
TXAR PKKPbc **PKKPbc 13 13 58.7 -0.6**
comp=Z,0.4nm,0.8s,baz=127,slow=6.0,SNR=4.6
TXAR Lajitas Array 120.44 52 PKPdf 13 03 51.5 -0.8
TORD Torodi Ar. Bea 123.67 289 PKP PKPdf 13 03 57.4 -1.4
comp=Z,0.9nm,0.6s,baz=47,slow=2.2,SNR=5.7
TORD Torodi Ar. Bea 123.67 289 PKPdf 13 03 58.0 -0.8

JMA 10 13:12:21.9,24°.12N×124°.04E,h11km±1km,M1.2,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**0.12**	**346**	P	Pg	13 12 25.0	+0.1
JKRS				S	Sg	13 12 27.5	+0.4
HATJ	**Hateruma jima**	**0.22**	**254**	P	Pg	13 12 26.6	0.0
HATJ				S	Sg	13 12 30.3	+0.5
JIJ	**Ishigaki jima**	**0.26**	**21**	P	Pg	13 12 27.5	+0.2
JIJ				S	Sg	13 12 31.3	+0.4
IRIF	**Iriomote-Funau**	**0.35**	**307**	P	Pg	13 12 29.0	0.0
IRIF				*e*S	Sg	13 12 34.2	+0.5
JISG	**Ishigakijimahi**	**0.53**	**28**	P	Pg	13 12 32.4	+0.2
JISG				S	Sg	13 12 39.9	+0.7
JTJ	**Tarama**	**0.80**	**49**	P	Pg	13 12 36.9	-0.4
JTJ				S	Sb	13 12 48.4	-0.1

TAP ***10*** *13:12:24.9,24°.17N×121°.99E,h28km,ML2.5,B*
ISC 10 13:12:24.8±1.1,24°.16N±0°.02×122°.01E±0°.03,h29km±9km,
n63,σ0°58/115,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.35**	**323**	P	**Pb**	**13 12 33.2**	**+0.2**
	baz=324						
EWUT				S	**Sn**	**13 12 39.6**	**-0.4**
	baz=324						
ETL	**Fush Village**	**0.36**	**270**	P	**Pb**	**13 12 33.2**	**+0.1**
	baz=268						
ETL				S	**Sn**	**13 12 39.6**	**-0.5**
	baz=268						
ENA	**Nanau**	**0.36**	**317**	P	**Pb**	**13 12 33.1**	**0.0**
	baz=319						
ENA				S	**Sn**	**13 12 39.5**	**-0.8**
	baz=319						
NACB	**Ninganchiao**	**0.38**	**272**	P	**Pb**	**13 12 33.4**	**0.0**
	baz=270						
NACB				S	**Sn**	**13 12 39.8**	**-0.9**
	baz=270						
TWD	**Chiawan**	**0.39**	**258**	P	**Pb**	**13 12 33.7**	**+0.2**
	baz=255						
TWD				S	**Sn**	**13 12 40.6**	**-0.3**
	baz=255						
TWC	**Suao**	**0.47**	**341**	P	**Pb**	**13 12 34.9**	**+0.2**
	baz=344						
TWC				S	**Sn**	**13 12 42.0**	**-0.8**
	baz=344						
ETLH	**Xiulin Townshi**	**0.49**	**275**	P	**Pb**	**13 12 35.0**	**-0.1**
	baz=274						
ETLH				S	**Sb**	**13 12 42.2**	**+0.1**
	baz=274						
NDS	**Dongshan**	**0.54**	**330**	P	**Pb**	**13 12 36.1**	**+0.2**
	baz=331						
NDS				S	**Sn**	**13 12 44.5**	**-0.2**
	baz=331						
LATG	**Datong**	**0.58**	**310**	P	**Pb**	**13 12 36.5**	**-0.1**
	baz=310						
LATG				S	**Sb**	**13 12 44.8**	**+0.1**
	baz=310						
ENTT	**Nioudou**	**0.63**	**320**	P	**Pn**	**13 12 37.5**	**-0.3**
	baz=320						
ENTT				S	**Sn**	**13 12 46.1**	**-0.7**
	baz=320						
NDT	**Datong Townshi**	**0.63**	**314**	P	**Pn**	**13 12 37.8**	**-0.1**
	baz=314						
NDT				S	**Sn**	**13 12 46.2**	**-0.7**
	baz=314						
ESL	**Shilin**	**0.63**	**237**	P	**Pb**	**13 12 37.1**	**-0.3**
	baz=234						
ESL				*e*S	**Sn**	**13 12 47.1**	**+0.2**
	baz=234						
NNSB	**Datong**	**0.63**	**295**	P	**Pb**	**13 12 37.5**	**0.0**
	baz=294						
NNSB				S	**Sn**	**13 12 46.6**	**-0.5**
	baz=294						
TWE	**Neicheng**	**0.64**	**331**	P	**Pn**	**13 12 38.0**	**+0.1**
	baz=332						
TWE				S	**Sn**	**13 12 47.5**	**+0.5**
	baz=332						
NNS	**Nan Shan**	**0.65**	**295**	P	**Pb**	**13 12 37.6**	**-0.1**
	baz=295						
NNS				S	**Sn**	**13 12 47.0**	**-0.5**
	baz=295						
WHF	**Hehuan Shan**	**0.68**	**269**	P	**Pb**	**13 12 38.3**	**-0.2**
	baz=267						
WHF				S	**Sn**	**13 12 48.2**	**-0.6**
	baz=267						
FUSS	**Fushou**	**0.71**	**277**	P	**Pn**	**13 12 38.9**	**-0.2**
	baz=276						
FUSS				*e*S	**Sn**	**13 12 48.7**	**-0.4**
	baz=276						
FUSB	**Fushanzhiwuyua**	**0.71**	**327**	P	**Pb**	**13 12 38.7**	**-0.1**
	baz=328						
FUSB				S	**Sn**	**13 12 48.6**	**-0.3**
	baz=328						
EGFH	**Guangfu**	**0.73**	**228**	*e*P	**Pb**	**13 12 38.9**	**-0.1**
	baz=225						

EGFH eS Sn 13 12 49.6 +0.4
baz=225
NWLT Wulai 0.77 323 P Pn 13 12 39.6 -0.1
baz=323
NWLT S Sn 13 12 50.3 -0.1
baz=323
TWT Tachien 0.77 277 eP Pn 13 12 40.4 +0.5
baz=276
TWT eS Sn 13 12 50.5 -0.1
baz=276
YHNB Yeheng 0.77 311 P Pn 13 12 39.8 0.0
baz=311
YHNB S Sn 13 12 50.1 -0.3
baz=311
CHGB Renai 0.77 263 P Pb 13 12 39.7 -0.2
baz=261
CHGB eS Sn 13 12 51.2 +0.6
baz=261
TDCB Techi 0.79 277 eP Pn 13 12 40.6 +0.5
baz=276
TDCB eS Sn 13 12 50.8 -0.1
baz=276
NSK Sanguang 0.79 311 P Pb 13 12 39.9 -0.2
baz=311
NSK eS Sn 13 12 50.5 -0.3
baz=311
OWD Renai 0.79 255 eP Pb 13 12 39.9 -0.3
baz=253
OWD eS Sn 13 12 51.0 -0.1
baz=253
TIPB Shuangxi 0.82 348 eP Pn 13 12 41.3 +0.8
baz=349
TIPB eS Sn 13 12 52.7 +1.0
baz=349
WUSB Renai 0.84 258 P Pn 13 12 40.7 0.0
baz=257
WUSB eS Sn 13 12 51.7 -0.4
baz=257
HGSD Ruisui 0.86 219 eP Pn 13 12 40.5 -0.4
baz=217
HGSD eS Sn 13 12 55.3 +2.9
baz=217
VWDT VWDT 0.90 243 eP Pn 13 12 41.5 +0.1
baz=241
VWDT eS Sn 13 12 53.5 +0.1
baz=241
EHY Hungye 0.91 224 eP Pn 13 12 40.8 -0.8
baz=222
NWF Wu-fen Shan 0.93 347 eP Pb 13 12 43.6 +1.1
baz=348
NWF eS Sn 13 12 56.7 +2.3
baz=348
SXI1 Grass Mountain 0.94 352 eP Pb 13 12 42.8 +0.2
baz=353
SXI1 eS Sn 13 12 56.4 +1.9
baz=353
NFF Wufeng Townshi 0.94 300 eP Pb 13 12 43.0 +0.3
baz=300
NFF eS Sn 13 12 54.7 +0.1
baz=300
YOJ Yonaguni jima 0.96 72 eS Sn 13 12 54.7 -0.2
YOJ Yonaguni jima 0.96 72 eP Pn 13 12 41.2 -1.1
baz=72
YOJ eS Sn 13 12 55.0 +0.1
baz=72
YOJ Yonaguni jima 0.96 72 P Pn 13 12 40.8 -1.5
WHP Taichung City 0.98 277 eP Pb 13 12 43.2 -0.1
baz=276
WHP eS Sn 13 12 55.8 +0.1
baz=276
YULB Yu-li 1.01 221 eP Pn 13 12 42.1 -0.9
baz=219
YULB eS Sn 13 12 56.4 +0.2
baz=219
WCS Beigang Elemen 1.01 264 eP Pn 13 12 43.1 +0.1
baz=263
LIOB Emei 1.03 298 eP Pb 13 12 44.3 +0.2
baz=298
EYUL Yuli 1.03 218 eP Pn 13 12 43.5 +0.3
baz=216
NSTT Nanjuang 1.03 297 eP Pn 13 12 43.2 -0.1
baz=297
NSTT eS Sb 13 12 56.9 -0.5
baz=297
SSLB Suanglung 1.04 249 eP Pn 13 12 43.3 -0.1
baz=248
SSLB eS Sn 13 12 56.8 -0.2
baz=248
SMLT Sun Moon Lake 1.05 255 eP Pn 13 12 43.7 0.0
baz=253
SMLT eS Sn 13 12 57.1 -0.4
baz=253
YM01 YM01 1.06 338 eP Pn 13 12 43.8 +0.1
baz=338
YM01 eS Sb 13 12 57.8 -0.3
baz=338
TYC Yuchr 1.09 257 eP Pn 13 12 43.9 -0.1
baz=255
TYC eS Sb 13 12 58.4 -0.5
baz=255
ANP Anpu 1.11 336 eP Pn 13 12 44.5 0.0
baz=337
FULB Fuli 1.16 215 eP Pn 13 12 45.5 +0.3
baz=213
FULB eS Sb 13 13 00.7 -0.4
baz=213
NMLH Miaoli 1.18 289 eP Pn 13 12 45.5 +0.2
baz=288
NMLH eS Sn 13 13 00.4 0.0
baz=288
TCU Taichung 1.22 270 eP Pn 13 12 46.0 +0.1
baz=268
TCU eS Sn 13 13 01.4 0.0
baz=268
WJS Zhushan 1.22 254 eP Pn 13 12 46.2 +0.3
baz=253
WJS eS Sn 13 13 01.8 +0.3
baz=253
ALS Alishan 1.28 240 eP Pn 13 12 46.9 -0.2
baz=238
CHN5 Tsauling 1.34 246 eP Pn 13 12 47.9 +0.2
baz=244
CHN5 eS Sn 13 13 04.5 -0.2
baz=244
EDH Donghe 1.35 209 eP Pn 13 12 48.0 +0.3
baz=207
EDH eS Sn 13 13 05.4 +0.7
baz=207
STYH Taoyuan 1.50 229 eP Pn 13 12 50.1 +0.4
baz=228
STYH eS Sn 13 13 08.4 0.0
baz=228
TPUB Ta-pu 1.53 236 eP Pn 13 12 50.4 +0.2
baz=235
TPUB eS Sn 13 13 09.0 -0.1
baz=235
CHN4 Tsaushan 1.53 238 eP Pn 13 12 50.7 +0.5
baz=237
CHN4 eS Sn 13 13 09.4 +0.3
baz=237
WTK Tuku 1.56 253 eP Pn 13 12 50.8 +0.3
baz=251
LDUT Ludao 1.56 199 eS Sn 13 13 11.0 +1.1
baz=197
WTP Ta-pu 1.57 235 eP Pn 13 12 50.9 +0.1
baz=233
CHN1 Nanshi 1.67 235 eP Pn 13 12 52.6 +0.4
baz=233
CHN1 eS Sn 13 13 12.7 0.0
baz=233
SLGT Liugui 1.71 227 eP Pn 13 12 53.3 +0.6
baz=226
SLGT eS Sn 13 13 13.8 +0.3
baz=226

IDC 10 13:25:41.2±4.3, 57.°34S×147.°98W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/39, mbtmp3.7/3, MS3.9/4, Ms1 3.9/4, ms1mx3.4/46, Error ellipse: s-maj=133.2km s-min=45.9km az=55.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**32.80**	**180**	P	P	13 32 15.9	0.0
	1.1nm,0.8s,baz=267,slow=5.3,SNR=3.0						
QSPA				LR	LR	13 43 32.8	
	comp=Z,146nm,18.4s,baz=22,slow=33						
TBI	**Tubuai**	**33.98**	**358**	eLR	LR	13 41 20.3	
	comp=Z,296nm,28.2s						
TBI	**Tubuai**	**33.98**	**358**	eT	T	14 08 24.0	
	6.6nm,0.3s						
PPT2	**Papeete2**	**39.71**	**358**	eLR	LR	13 44 08.8	
	comp=Z,305nm,25.8s						
PPT	**Papeete**	**39.73**	**358**	LR	LR	13 45 12.9	
	comp=Z,193nm,20.4s,baz=267,slow=30						
VAH	**Vaihoa**	**42.03**	**1**	eT	T	14 18 27.7	
	9.7nm,0.2s						
MSVF	**Nonsavu**	**46.93**	**313**	LR	LR	13 52 12.8	
	comp=Z,83nm,18.4s,baz=86,slow=34						
H03S2	**Juan Fernandez**	**51.16**	**94**	T	T	14 29 49.4	
	baz=217						
H03S1	**Juan Fernandez**	**51.17**	**94**	T	T	14 29 47.1	
	baz=217						
H03S3	**Juan Fernandez**	**51.18**	**94**	T	T	14 29 48.9	
	baz=217						
H03N3	**Juan Fernandez**	**51.46**	**93**	T	T	14 30 12.5	
	baz=221,slow=72,SNR=47						
H03N2	**Juan Fernandez**	**51.46**	**93**	T	T	14 30 10.1	
	baz=221,slow=72,SNR=44						
H03N1	**Juan Fernandez**	**51.47**	**93**	T	T	14 30 04.5	
	baz=221,slow=72,SNR=54						
ASAR	**Alice Springs**	**64.04**	**266**	P	P	13 36 14.8	-1.8
	0.9nm,1.2s,baz=138,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**66.82**	**269**	P	P	13 36 36.5	+1.9
	0.8nm,1.1s,baz=148,slow=6.2,SNR=2.0						
SIJI	**Sorong**	**84.28**	**277**	LR	LR	14 15 07.0	
	comp=Z,90nm,19.7s,baz=87,slow=35						
H10N3	**ASCENSION HYDR**	**104.82**	**132**	T	T	15 37 20.0	
	baz=204,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**104.82**	**132**	T	T	15 37 22.2	
	baz=204,slow=75,SNR=18						
H10N2	**ASCENSION HYDR**	**104.83**	**132**	T	T	15 37 18.4	
	baz=204,slow=75,SNR=16						
MKAR	**Makanchi Array**	**148.06**	**273**	PKPbc	PKPbc	13 45 26.8	-0.8
	0.6nm,0.6s,baz=113,slow=4.3,SNR=5.3						

*SJA **10** 13:33:29.9±0.8, 31.°29S×72.°15W, h10km±4km, ML4.9, MW4.6*
*IDC **10** 13:33:30.8±0.5, 31.°29S×71.°64W, h0km, mb4.7/13, mb1 4.8/18, mb1mx4.8/21, mbtmp4.7/18, ML4.5/5, MS4.2/20, Ms1 4.2/20, ms1mx4.0/50, Error ellipse: s-maj=20.7km s-min=16.0km az=83.0*
*NEIC **10** 13:33:34.8, 31.°32S×71.°79W, h36km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.16; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-1.39; $M_{r\theta}$0.17; $M_{\theta\phi}$0.05; $M_{\phi r}$-0.64; Fault plane solution: $M_0$1.45000×10^{16} NP1:ϕ_s170.93000°, δ58.83000°, λ81.47000°. NP2:ϕ_s7.10000°, δ32.21000°, λ103.78000°. Principal axes: T 1.3279, Plg75.0000°, Azm58.0000°; N 0.2158, Plg7.0000°, Azm175.0000°; P -1.5437, Plg13.0000°, Azm267.0000°;*
*VAO **10** 13:33:34.8±0.4, 31.°26S×71.°50W, h16km, mb5.1*
*MOS **10** 13:33:35.5±1.1, 31.°33S×71.°99W, h36km, mb5.2/25, Error ellipse: s-maj=16.3km s-min=7.8km az=101.4*
*NEIC **10** 13:33:35.8±1.8, 31.°33S±0.°03×71.°75W±0.°07, h26km±3km, mb5.1/135, Mwr4.7/52, Mwr5.0(GUC), Error ellipse: s-maj=8.3km s-min=4.7km az=94.0*
*GUC **10** 13:33:35.5±0.7, 31.°32S×71.°73W, h42km±3km, ML5.0, MW5.0*
*BJI **10** 13:33:36.0±0.0, 31.°30S×71.°70W, h30km, mB4.5/2*
ISC 10 13:33:35.3±0.7, **31.°33S**±0.°02×**71.°79W**±0.°04, **h31**km±4km, **n547**, σ1§47/582, **mb5.0**/87, **MS4.2**/19, **23C-16D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.67**	**12**	↓iP	**Pn**	**13 33 48.6**	**0.0**
CO06				*i* S	**Sn**	**13 33 57.5**	**-0.5**
CO06				IAML		13 33 60.0	
	comp=N,237μm,0.3s						
CO06	**Fray Jorge**	**0.67**	**12**	Pn	**Pn**	**13 33 48.7**	**0.0**
CO06				Sg	**Sn**	**13 33 57.6**	**-0.5**
CO03	**El Pedregal**	**1.07**	**63**	↓iP	**Pb**	**13 33 53.9**	**-1.4**
CO03				eS	**Sb**	**13 34 07.4**	**-1.5**
CO03				IAML		13 34 09.7	
	comp=E,80μm,0.3s						
CO03	**El Pedregal**	**1.07**	**63**		**Pb**	**13 33 53.8**	**-1.5**
CO03					**Sb**	**13 34 07.4**	**-1.5**
VA06	**Catapilco**	**1.30**	**161**	↓iP	**Pn**	**13 33 57.9**	**+0.6**
VA06				eS	**Sn**	**13 34 14.5**	**+1.0**
VA06				IAML		13 34 21.5	
	comp=E,36μm,0.5s						
GO04	**Tololo Observa**	**1.44**	**37**	↓iP	**Pb**	**13 34 00.2**	**-1.4**
GO04				eS	**Sb**	**13 34 18.2**	**-1.4**
GO04	**Tololo Observa**	**1.44**	**37**	Pn	**Pb**	**13 34 00.2**	**-1.4**
GO04	**Tololo Observa**	**1.44**	**37**	eP	**Pb**	**13 34 00.3**	**-1.3**
GO04				eS	**Sb**	**13 34 19.4**	**-0.3**
CO05	**La Serena**	**1.49**	**19**	eP	**Pb**	**13 34 00.8**	**-1.5**
CO05				*i* S	**Sb**	**13 34 19.5**	**-1.3**
CO05				IAML		13 34 26.2	
	comp=N,42μm,0.4s						
CO05	**La Serena**	**1.49**	**19**		**Pb**	**13 34 01.0**	**-1.3**
CO05				Sn	**Sb**	**13 34 19.5**	**-1.3**
VA01	**Torpederas**	**1.69**	**176**	↓eP	**Pn**	**13 34 03.1**	**+0.4**
VA01				eS	**Sn**	**13 34 25.5**	**+2.2**
VA01	**Torpederas**	**1.69**	**176**	Pn	**Pn**	**13 34 03.1**	**+0.4**
VA01	**Torpederas**	**1.69**	**176**	eP	**Pn**	**13 34 03.0**	**+0.4**
VA01				eS	**Sb**	**13 34 26.6**	**-0.1**
VA01				IAML		13 34 35.5	
	comp=Z,4μm,0.7s						
ROCH	**El Roble**	**1.77**	**158**	↑iP	**Pb**	**13 34 05.0**	**-2.2**
ROCH				↑iP	**Pb**	**13 34 04.3**	**+0.3**
ROCH				eS	**Sn**	**13 34 26.7**	**+1.2**
ROCH				eS	**Sb**	**13 34 26.8**	**-2.2**
ROCH				IAML		13 34 31.3	
	comp=N,17μm,0.4s						
ROCH				IAML		13 34 32.0	
	comp=N,17μm,0.5s						
ROC1	**El Roble**	**1.77**	**158**	eP	**Pn**	**13 34 04.5**	**+0.5**
ROC1				eS	**Sn**	**13 34 27.3**	**+1.7**
VA03	**San Esteban**	**1.78**	**144**	↑iP	**Pn**	**13 34 05.5**	**+1.6**
VA03				eS	**Sb**	**13 34 28.0**	**-1.2**
VA03				IAML		13 34 32.3	
	comp=E,20μm,0.4s						
VA03	**San Esteban**	**1.78**	**144**	Pn	**Pn**	**13 34 05.4**	**+1.4**
VA03	**San Esteban**	**1.78**	**144**	eP	**Pb**	**13 34 05.7**	**-1.6**
VA03				eS	**Sb**	**13 34 30.4**	**+1.2**
VA03				IAML		13 34 37.6	
	comp=Z,10μm,1.2s						
MT02	**Curacav**	**2.00**	**164**	↑eP	**Pn**	**13 34 07.5**	**+0.5**
MT02				eS	**Sn**	**13 34 33.5**	**+2.5**
MT02	**Curacav**	**2.00**	**164**		**Pn**	**13 34 08.2**	**+1.2**
MT02	**Curacav**	**2.00**	**164**	eP	Pn	13 34 02.6	-4.4
MT02				eP	Pb	13 34 04.1	-7.0
MT02				eP		13 34 08.0	
MT02				eS	**Sb**	**13 34 37.3**	**+1.7**
MT02				IAML		13 34 43.2	
	comp=Z,3μm,0.4s						
PEL	**Peldehue**	**2.04**	**153**	P	**Pn**	**13 34 08.9**	**+1.4**
PEL	**Peldehue**	**2.04**	**153**	↑iP	**Pn**	**13 34 08.9**	**+1.4**
PEL				eS	**Sn**	**13 34 34.0**	**+2.1**
PEL				IAML		13 34 38.6	
	comp=N,11μm,0.4s						
PEL	**Peldehue**	**2.04**	**153**		**Pn**	**13 34 08.8**	**+1.4**
PEL	**Peldehue**	**2.04**	**153**	eP	**Pn**	**13 34 09.0**	**+1.4**
PEL				eS	**Sb**	**13 34 38.0**	**+1.3**
RTLS	**Leoncito**	**2.18**	**103**	eP	**Pb**	**13 34 13.2**	**-1.1**
RTLS				eS	**Sb**	**13 34 43.7**	**+2.6**
RTLS				IAML		13 34 46.6	
	comp=Z,5μm,1.0s						
AUSP	**Uspallata**	**2.23**	**114**	eP	**Pb**	**13 34 13.8**	**-1.4**
AUSP				eS	**Sb**	**13 34 47.2**	**+4.6**
MT05	**Renca**	**2.24**	**157**	↑iP	**Pn**	**13 34 11.4**	**+1.1**
MT05				eS	**Sn**	**13 34 39.2**	**+2.2**
MT05				IAML		13 34 50.8	
	comp=E,20μm,0.4s						
MT05	**Renca**	**2.24**	**157**	Pn	**Pn**	**13 34 11.7**	**+1.4**
MT05	**Renca**	**2.24**	**157**	eP	**Pn**	**13 34 11.8**	**+1.4**
MT05				eS	**Sb**	**13 34 43.8**	**+1.3**
MT05				IAML		13 34 55.0	
	comp=Z,7μm,1.4s						
AROD	**Rodeo**	**2.31**	**60**	eP	**Pb**	**13 34 15.0**	**-1.5**
VA05	**Santo Domingo**	**2.33**	**176**	eP	**Pn**	**13 34 11.8**	**+0.4**
VA05				eS	**Sn**	**13 34 38.3**	**-0.6**
VA05				IAML		13 34 49.8	
	comp=E,11μm,0.4s						
VA05	**Santo Domingo**	**2.33**	**176**	Pn	**Pn**	**13 34 11.7**	**+0.4**
FCH	**Farellones**	**2.36**	**148**	↑iP	**Pn**	**13 34 13.9**	**+1.7**
FCH				eS	**Sb**	**13 34 43.7**	**-2.6**
ACCO	**Cerro Coronel**	**2.46**	**73**	eP	**Pb**	**13 34 17.2**	**-1.8**
ACCO				IAML		13 35 07.2	
	comp=Z,2μm,2.1s						
LCO	**Las Campanas**	**2.50**	**23**	P	**Pn**	**13 34 14.9**	**+0.9**
LCO	**Las Campanas**	**2.50**	**23**	↑iP	**Pn**	**13 34 15.0**	**+1.0**
LCO				eS	**Sn**	**13 34 45.2**	**+1.6**
LCO	**Las Campanas**	**2.50**	**23**	Pn	**Pn**	**13 34 14.9**	**+0.9**
LCO	**Las Campanas**	**2.50**	**23**	eP	**Pn**	**13 34 15.1**	**+1.0**
LCO				IAML		13 34 59.6	
	comp=Z,46μm,0.4s						
MT09	**Talagante**	**2.53**	**165**	↑iP	**Pn**	**13 34 15.8**	**+1.4**
MT09				eS	**Sn**	**13 34 44.9**	**+0.6**
MT09				IAML		13 34 59.1	
	comp=N,6μm,0.5s						
MT09	**Talagante**	**2.53**	**165**	Pn	**Pn**	**13 34 16.1**	**+1.7**
MT01	**Popeta**	**2.57**	**170**	eP	**Pn**	**13 34 15.6**	**+0.8**
MT01				eS	**Sn**	**13 34 45.8**	**+0.8**
MT01	**Popeta**	**2.57**	**170**	Pn	**Pn**	**13 34 15.6**	**+0.8**
MT01	**Popeta**	**2.57**	**170**	eP	**Pn**	**13 34 15.7**	**+1.0**
MT01				eS	**Sb**	**13 34 49.6**	**-2.3**
MT01				IAML		13 34 57.4	
	comp=Z,2μm,0.9s						
ZON	**Zonda**	**2.67**	**95**	P	**Pb**	**13 34 20.1**	**-2.4**
ZON	**Zonda**	**2.67**	**95**	Pn	**Pb**	**13 34 20.1**	**-2.4**
ZON	**Zonda**	**2.67**	**95**	eP	**Pb**	**13 34 20.1**	**-2.4**
ZON				eS	**Sb**	**13 34 57.0**	**+2.1**
ZON				IAML		13 35 06.6	
	comp=Z,7μm,0.6s						
ASAL	**Salagasta**	**2.81**	**117**	eP	**Pb**	**13 34 22.7**	**-2.1**
ASAL				eP	Pn	13 34 23.4	+5.2
ASAL				eS	**Sb**	**13 35 05.8**	**+6.8**
ASAL				IAML		13 35 10.7	
	comp=Z,2μm,1.5s						
BO04	**La Punta**	**2.83**	**160**	↑eP	**Pn**	**13 34 19.8**	**+1.3**
BO04				eS	**Sn**	**13 34 53.4**	**+1.8**
BO04				IAML		13 35 04.8	
	comp=N,5μm,0.6s						
LMEL	**Las Melosas**	**2.85**	**152**	↑eP	**Pn**	**13 34 20.8**	**+2.0**
LMEL				eS	**Sn**	**13 34 54.5**	**+2.4**
LMEL				IAML		13 35 05.7	
	comp=N,4μm,0.3s						
ARCO	**CERRO ARCO**	**2.86**	**123**	eP	**Pb**	**13 34 23.5**	**-2.2**
ARCO				eS	**Sb**	**13 35 02.6**	**+2.2**
ARCO				IAML		13 35 12.8	
	comp=Z,4μm,0.6s						
BO01	**Tunca**	**3.11**	**169**	eP	**Pn**	**13 34 23.3**	**+1.1**
BO01				eS	**Sn**	**13 34 58.9**	**+0.6**
BO01	**Tunca**	**3.11**	**169**		**Pn**	**13 34 23.0**	**+0.8**
BO01	**Tunca**	**3.11**	**169**	eP	**Pn**	**13 34 23.5**	**+1.3**
BO01				eS	**Sb**	**13 35 04.1**	**-3.4**
BO01				IAML		13 35 15.2	
	comp=Z,2μm,1.1s						
AC04	**Llanos de Chal**	**3.18**	**12**	↑eP	**Pn**	**13 34 23.3**	**+0.2**
AC04				eS	**Sn**	**13 34 60.0**	**0.0**
AC04				IAML		13 35 15.2	
	comp=E,7μm,0.5s						
AC04	**Llanos de Chal**	**3.18**	**12**	Pn	**Pn**	**13 34 23.1**	**-0.1**
AC04	**Llanos de Chal**	**3.18**	**12**	eP	**Pn**	**13 34 23.4**	**+0.2**
AC04				eP	Pb	13 34 23.5	-7.6
AC04				eS	**Sn**	**13 35 01.6**	**+1.6**
AC04				IAML		13 35 15.2	
	comp=Z,7μm,0.5s						
BO02	**Sierra Bellavi**	**3.56**	**166**	eP	**Pn**	**13 34 29.8**	**+1.4**
BO02				eS	**Sn**	**13 35 11.4**	**+2.0**
BO02				IAML		13 35 27.8	
	comp=N,3μm,0.4s						
BO02	**Sierra Bellavi**	**3.56**	**166**	Pn	**Pn**	**13 34 29.8**	**+1.4**
GO05	**Hualа**	**3.67**	**182**	↓eP	**Pn**	**13 34 29.6**	**-0.4**
GO05	**Hualа**	**3.67**	**182**	Pn	**Pn**	**13 34 29.6**	**-0.4**
GO03	**Copiap**	**3.96**	**20**	↑eP	**Pn**	**13 34 34.4**	**+0.3**
GO03				eS	**Sn**	**13 35 19.7**	**+0.2**
GO03	**Copiap**	**3.96**	**20**	Pn	**Pn**	**13 34 34.1**	**+0.1**
ML02	**Panimavida**	**4.43**	**176**	eP	**Pn**	**13 34 41.1**	**+0.7**
ML02	**Panimavida**	**4.43**	**176**	Pn	**Pn**	**13 34 40.9**	**+0.5**
AC02	**Maricunga**	**5.05**	**28**	Pn	**Pn**	**13 34 50.0**	**+0.7**
H03N1	**Juan Fernandez**	**6.38**	**249**	T	T	13 41 52.0	
	baz=78,slow=72,SNR=5556						
H03N3	**Juan Fernandez**	**6.39**	**249**	T	T	13 41 50.9	
	baz=78,slow=72,SNR=4017						
H03N2	**Juan Fernandez**	**6.39**	**249**	T	T	13 41 50.2	
	baz=78,slow=72,SNR=5390						
PB14	**IPOC Station P**	**6.79**	**11**	Pn	**Pn**	**13 35 10.4**	**-2.8**
LC01	**Cunco**	**7.55**	**180**	Pn	**Pn**	**13 35 21.9**	**-1.3**
PB10	**IPOC Station P**	**7.86**	**8**	Pn	**Pn**	**13 35 25.9**	**-1.7**
PB15	**IPOC Station P**	**8.35**	**15**	Pn	**Pn**	**13 35 32.7**	**-1.7**
LVC	**Limon Verde**	**9.06**	**17**	Pn	**Pn**	**13 35 41.5**	**-2.8**
	comp=N,1.4nm,0.3s,baz=184,slow=11,SNR=10						
LVC				Sn	**Sn**	**13 37 30.5**	**+5.1**
	comp=N,5.0nm,0.3s,baz=274,slow=3.8,SNR=3.6						
LVC				LR	LR	13 39 00.8	
	comp=N,987nm,21.6s,baz=213,slow=37						
LVC	**Limon Verde**	**9.06**	**17**	P	**Pn**	**13 35 41.1**	**-3.2**
LVC						13 37 30.6	
LVC	**Limon Verde**	**9.06**	**17**	eP	**Pn**	**13 35 42.0**	**-2.3**
LVC	**Limon Verde**	**9.06**	**17**	Pn	**Pn**	**13 35 41.1**	**-3.2**
PLCA	**Paso Flores**	**9.44**	**174**	Pn	**Pn**	**13 35 50.4**	**+1.2**
	comp=N,1.4nm,0.3s,baz=337,slow=12,SNR=57						
PLCA				LR	LR	13 39 28.4	
	comp=N,972nm,19.8s,baz=346,slow=38						
PLCA	**Paso Flores**	**9.44**	**174**	P	**Pn**	**13 35 50.2**	**+1.1**
PLCA	**Paso Flores**	**9.44**	**174**	eP	**Pn**	**13 35 50.5**	**+1.4**
PLCA	**Paso Flores**	**9.44**	**174**	Pn	**Pn**	**13 35 50.2**	**+1.1**
LL04	**Puerto Octay**	**9.57**	**183**	Pn	**Pn**	**13 35 50.4**	**-0.6**
LL03	**Petrohue**	**9.80**	**183**	Pn	**Pn**	**13 35 53.8**	**-0.3**
PB08	**IPOC Station P**	**11.39**	**13**	Pn	**Pn**	**13 36 17.0**	**+0.7**
PB12	**IPOC Station P**	**12.73**	**6**	Pn	**Pn**	**13 36 32.2**	**-2.1**
PB16	**IPOC Station P**	**13.10**	**10**	Pn	**Pn**	**13 36 37.7**	**-2.2**
ITQB	**Itaqui**	**13.19**	**87**	eP	**Pn**	**13 36 38.6**	**-1.8**
ITQB	**Itaqui**	**13.19**	**87**	Pn	**Pn**	**13 36 38.4**	**-2.0**
CPUP	**Villa Florida**	**13.62**	**72**	Pn	**Pn**	**13 36 43.5**	**-2.8**
	comp=N,0.7nm,0.3s,baz=243,slow=12,SNR=15						
CPUP				Sn	**Sn**	**13 39 15.9**	**-0.7**
	comp=N,1.6nm,0.3s,baz=259,slow=12,SNR=3.6						
CPUP				LR	LR	13 42 27.1	
	comp=N,2μm,18.6s,baz=249,slow=40						
CPUP	**Villa Florida**	**13.62**	**72**	eP	**Pn**	**13 36 45.7**	**-0.6**
CPUP	**Villa Florida**	**13.62**	**72**	Pn	**Pn**	**13 36 44.0**	**-2.4**
LPAZ	**La Paz**	**15.34**	**13**	Pn	**Pn**	**13 37 10.1**	**-0.1**
	comp=N,1.3nm,0.3s,baz=181,slow=6.1,SNR=72						
LPAZ	**La Paz**	**15.34**	**13**	P	**Pn**	**13 37 11.2**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,24nm,0.9s						
LPAZ	**La Paz**	**15.34**	**13**	eP	**Pn**	**13 37 10.8**	**+0.6**
LPAZ	**La Paz**	**15.34**	**13**		**Pn**	**13 37 11.2**	**+0.9**
PLTB	**Pedras Altas**	**15.52**	**96**	eP	**Pn**	**13 37 08.7**	**-3.2**
PLTB	**Pedras Altas**	**15.52**	**96**	Pn	**Pn**	**13 37 09.0**	**-2.9**
CPSB	**Cacapava Do Su**	**15.79**	**91**	eP	**Pn**	**13 37 11.7**	**-3.8**
AQDB	**Aquidauana**	**18.05**	**57**	eP	**Pn**	**13 37 42.0**	**-1.8**
AQDB	**Aquidauana**	**18.05**	**57**	Pn	**Pn**	**13 37 42.0**	**-1.8**
SIV	**San Ignacio**	**18.14**	**35**	P	**Pn**	**13 37 43.1**	**-1.8**
	comp=Z,1.5nm,0.3s,baz=224,slow=12,SNR=54						
SIV				LR	LR	13 45 59.2	
	comp=Z,456nm,22.0s,baz=216,slow=42						
PTGB	**Pitanga**	**18.61**	**74**	eP	**P**	**13 37 48.6**	**-1.7**
PTLB	**Pontes e Lacer**	**19.59**	**39**	eP	**P**	**13 37 59.5**	**-1.4**
PTLB	**Pontes e Lacer**	**19.59**	**39**	P	**P**	**13 37 59.1**	**-1.8**
NNA	**Nana**	**19.81**	**345**	P	**Pn**	**13 38 09.0**	**+3.9**
	comp=Z,0.9nm,0.3s,baz=199,slow=11,SNR=4.4						
NNA				LR	LR	13 44 19.0	
	comp=Z,409nm,18.3s,baz=164,slow=33						
TER01	**Tubaro-SC**	**19.84**	**88**	eP	**P**	**13 38 02.7**	**-0.9**
PP1B	**Ponte de Pedra**	**20.55**	**52**	eP	**P**	**13 38 10.6**	**-0.8**
PCMB	**Pacaembu**	**20.75**	**67**	eP	**P**	**13 38 12.7**	**-0.8**
VILB	**Vilhena**	**21.18**	**33**	eP	**P**	**13 38 17.4**	**-0.8**
VILB	**Vilhena**	**21.18**	**33**	P	**P**	**13 38 14.9**	**-3.4**
VILB				IAmb	IAmb	13 38 43.0	
	comp=Z,68nm,0.8s						
SALV	**Santo Antonio**	**21.25**	**47**	eP	**P**	**13 38 17.8**	**-1.2**
FRTB	**Fartura**	**21.27**	**73**	eP	**P**	**13 38 17.6**	**-1.5**
ETMB	**Extrema**	**22.03**	**15**	eP	**P**	**13 38 27.9**	**+0.6**
ETMB	**Extrema**	**22.03**	**15**	P	**P**	**13 38 27.3**	**0.0**
ETMB				IAmb	IAmb	13 38 31.1	
	comp=Z,69nm,0.9s						
ITRB	**Iturama**	**22.50**	**64**	eP	**P**	**13 38 30.3**	**-2.1**
EFI	**East Falkland**	**22.71**	**157**	↑eP	**P**	**13 38 38.0**	**+3.7**
EFI				pmax	pmax		
	comp=Z,237nm,2.5s						
PET01	**Itanhaem-SP**	**22.76**	**78**	eP	**P**	**13 38 34.1**	**-1.0**
SPB	**Sao Paulo**	**22.92**	**76**	eP	**P**	**13 38 36.1**	**-0.7**
SPB	**Sao Paulo**	**22.92**	**76**	P	**P**	**13 38 35.3**	**-1.4**
BB19B	**Bebedouro**	**23.20**	**69**	eP	**P**	**13 38 37.8**	**-1.9**
RCLB	**Rio Claro- Sao**	**23.35**	**74**	eP	**P**	**13 38 40.1**	**-1.1**

CZSB Cruzeiro do Su 23.50 358 P **P 13 38 43.2 +0.7**
VAO Valinhos 23.56 75 *e*P **P 13 38 41.7 -1.5**
USHA Ushuaia 23.61 175 P **P 13 38 44.4 +1.1**
comp=Z,29nm,0.9s,baz=19,slow=3.8,SNR=6.4
USHA LR LR 13 48 32.0
comp=Z,819nm,18.1s,baz=352,slow=38
ARAG Araguaiana, MT 23.97 54 *e*P **P 13 38 45.2 -1.8**
PDRB Porto dos Gac 24.06 39 *e*P **P 13 38 46.7 -1.3**
PARB Paraibuna 24.53 78 *e*P **P 13 38 51.2 -1.1**
ATAH Atahualpa 24.85 344 P **P 13 38 58.7 +3.2**
comp=Z,12nm,1.0s,baz=86,slow=7.1,SNR=3.3
ATAH LR LR 13 47 23.0
comp=Z,298nm,18.6s,baz=166,slow=34
IPMB Ipameri, GO 25.15 64 *e*P **P 13 38 56.4 -1.5**
CLDB Colider 25.18 40 *e*P **P 13 38 57.0 -1.1**
MAN01 Angra dos Reis 26.12 78 *e*P **P 13 39 06.1 -0.5**
BSCB Bom Sucesso 26.28 73 *e*P **P 13 39 07.3 -0.8**
BDFB Brasilia 26.74 60 P **P 13 39 11.2 -1.2**
comp=Z,38nm,0.9s,baz=233,slow=6.4,SNR=37
BDFB LR LR 13 50 56.5
comp=Z,2μm,19.0s,baz=221,slow=39
BDFB Brasilia 26.74 60 P **P 13 39 10.9 -1.4**
BDFB pmax pmax
comp=Z,67nm,1.1s
BDFB Brasilia 26.74 60 P **P 13 39 10.9 -1.4**
BDFB IAmb IAmb 13 39 26.5
comp=Z,67nm,1.1s
VAS01 Vassouras-RJ 26.80 77 *e*P **P 13 39 12.1 -0.7**
SNDB Serra Nova Dou 27.00 49 *e*P **P 13 39 13.7 -0.9**
TBTG Tabatinga, AM 27.06 4 *e*P **P 13 39 16.3 +1.2**
TBTG Tabatinga, AM 27.06 4 P **P 13 39 15.3 +0.2**
DUB01 Friburgo-RJ 27.78 78 *e*P **P 13 39 21.2 -0.4**
CAM01 Campos-RJ 28.49 78 *e*P **P 13 39 27.4 -0.4**
DIAM Diamantina, MG 28.54 70 *e*P **P 13 39 28.0 -0.5**
NPGB Novo Progresso 28.64 36 *e*P **P 13 39 27.6 -1.6**
PEXB Peixe 28.91 54 *e*P **P 13 39 31.0 -0.7**
ALF01 Guarapari-ES 29.80 77 *e*P **P 13 39 38.5 -1.0**
JANB Januaria 29.89 63 *e*P **P 13 39 39.5 -0.9**
MACA Manacapuru-AM 29.91 23 *e*P **P 13 39 40.5 0.0**
MACA Manacapuru-AM 29.91 23 P **P 13 39 39.9 -0.6**
MACA IAmb IAmb 13 39 54.7
comp=Z,29nm,0.7s
SJMB Sao Joao De Ma 30.34 73 *e*P **P 13 39 43.7 -0.7**
ITTB Itaituba 30.78 33 *e*P **P 13 39 46.9 -1.3**
SDBA SAO DESIDERIO 31.12 59 *e*P **P 13 39 50.2 -1.0**
SMTB Santa Maria do 31.73 50 *e*P **P 13 39 56.6 0.0**
PRPB Parauapebas 32.41 44 *e*P **P 13 40 01.2 -1.4**
GUA01 Guaratinga, BA 32.57 71 *e*P **P 13 40 03.3 -0.6**
RPN Rapa Nui 32.92 268 LR LR 13 49 38.5
comp=Z,340nm,21.8s,baz=85,slow=29
VA02 Isla de Pascua 33.00 268 P **P 13 40 08.6 +1.0**
CMC01 Camacan, BA 33.47 69 *e*P **P 13 40 11.9 +0.1**
NBIT Itapeh - BA 33.77 69 *e*P **P 13 40 15.5 +1.0**
PMSA Palmer Station 33.81 174 LR LR 13 53 27.9
comp=Z,524nm,20.6s,baz=322,slow=35
POPC Popayan, Colom 34.00 351 *e*P **P 13 40 17.1 +0.4**
GDU01 Guandu, BA 34.36 67 *e*P **P 13 40 18.8 -0.7**
PRAC Prado 34.97 355 *e*P **P 13 40 27.6 +2.7**
ORTC Ortega, Tolima 35.20 354 *e*P **P 13 40 29.7 +3.0**
BOAV Boa Vista 35.21 20 *e*P **P 13 40 26.6 -0.3**
BOAV Boa Vista 35.21 20 P **P 13 40 26.3 -0.6**
BOAV IAmb IAmb 13 40 27.6
comp=Z,14nm,0.9s
VILC Villavicencio, 35.29 357 *e*P **P 13 40 30.0 +2.3**
PTGC Puerto Gaitan, 35.33 359 *e*P **P 13 40 28.5 +0.7**
NBPN Ponto Novo - B 35.63 62 *e*P **P 13 40 29.2 -1.4**
CHIC Chingaza 35.81 357 *e*P **P 13 40 34.5 +2.1**
MCPB Macapa, AP 36.03 35 *e*P **P 13 40 33.3 -0.6**
ROSC El Rosal 36.05 356 P **P 13 40 38.9 +4.4**
comp=Z,16nm,0.6s,baz=315,slow=3.6,SNR=6.2
ROSC El Rosal 36.05 356 P **P 13 40 38.9 +4.4**
ROSC pmax pmax
comp=Z,17nm,0.7s
ROSC El Rosal 36.05 356 IAmb IAmb 13 40 40.3
comp=Z,17nm,0.7s
TMAB Tom-Au,PA,Br 36.47 42 *e*P **P 13 40 38.1 +0.4**
PIZC Pizarro, Choco 36.48 351 *e*P **P 13 40 35.8 -1.9**
GUY2C Guyana, Caldas 36.51 354 *e*P **P 13 40 41.1 +2.6**
NORC Norcasia 36.80 355 *e*P **P 13 40 42.8 +2.3**
SMAI San Martin Ant 36.94 177 P **P 13 40 41.5 +0.4**
RUSC La Rusia 37.03 358 *e*P **P 13 40 45.0 +2.0**
CBOC Ciudad Bolivar 37.20 353 *e*P **P 13 40 44.8 +0.8**
NBLA Lagarto - SE 37.38 65 *e*P **P 13 40 43.9 -1.6**
HELC Santa Helena 37.48 354 *e*P **P 13 40 48.2 +1.6**
TAMC Tame, Arauca 37.55 0 *e*P **P 13 40 47.8 +1.0**
DBBC Dabeiba 38.36 353 *e*P **P 13 40 56.5 +2.7**
PAMC Pamplona, Colo 38.46 359 *e*P **P 13 40 55.6 +0.5**
ZARC Zaragoza, Cauc 38.71 355 *e*P **P 13 40 56.4 -0.2**
NBMA Muriti-CE 38.97 59 *e*P **P 13 40 57.8 -1.1**
NBPS Pedro II - PI 39.13 53 *e*P **P 13 40 59.4 -0.9**
NBAN Anadia - AL 39.37 65 *e*P **P 13 41 00.7 -1.5**
NBPB Pedra_Branca-C 39.62 56 *e*P **P 13 41 03.9 -0.3**
SMLC San Martn de 39.96 356 *e*P **P 13 41 06.3 -0.7**
SDV Santo Domingo 40.00 2 LR LR 13 58 53.1
comp=Z,264nm,18.6s,baz=156,slow=38
SDV Santo Domingo 40.00 2 *e*P **P 13 41 07.9 +0.3**
SDV Santo Domingo 40.00 2 P **P 13 41 07.3 -0.2**
BAUV El Baul 40.20 6 P **P 13 41 08.9 -0.1**
MDP Montagnes des 40.58 30 LR LR 14 00 06.7
comp=Z,436nm,19.1s,baz=178,slow=39
BCIP Isla Barro Col 41.00 348 P **P 13 41 17.9 +2.3**
BCIP pmax pmax
comp=Z,57nm,1.2s
BCIP Isla Barro Col 41.00 348 P **P 13 41 17.9 +2.3**
BCIP IAmb IAmb 13 41 19.4
comp=Z,57nm,1.2s
BIRV Birongo 41.90 8 P **P 13 41 23.2 +0.2**
BIRV IAmb IAmb 13 41 24.3
comp=Z,29nm,0.8s
NBPV Pedro Velho 42.18 62 *e*P **P 13 41 25.2 -0.2**
COVE Coope Vega, Sa 43.52 342 P **P 13 41 38.0 +1.8**
COVE IAmb IAmb 13 41 39.7
comp=Z,36nm,1.0s
TOSP Speyside 43.74 16 P **P 13 41 38.2 +0.3**
MPOM Morne Pois Mar 46.71 15 P **P 13 41 59.2 -2.2**
BIM Bigot 46.73 14 P **P 13 41 59.2 -2.5**
FDF Fort de France 46.93 14 P **P 13 42 00.5 -2.7**
FDF pmax pmax
comp=Z,74nm,1.1s
FDF Fort de France 46.93 14 P **P 13 42 00.5 -2.7**
MLPR Magueyes Islan 49.23 6 P **P 13 42 19.5 -1.3**
CRPR Cabo Rojo, PR 49.26 6 P **P 13 42 19.9 -1.2**
OBIP Obispado Ponce 49.34 7 P **P 13 42 21.3 -0.4**
CELP Cerrillos 49.38 7 P **P 13 42 22.1 +0.1**
PDPR Patillas Dam, 49.38 7 P **P 13 42 20.9 -1.1**
HUMP Col San Antoni 49.52 7 P **P 13 42 23.7 +0.6**
HUMP IAmb IAmb 13 42 34.7
comp=Z,20nm,1.3s
CBYP Canovanas 49.65 7 P **P 13 42 23.9 -0.3**
CBYP IAmb IAmb 13 42 24.3
comp=Z,27nm,0.9s
SMRT St. Maarten 49.81 11 P **P 13 42 23.9 -1.4**
SMRT IAmb IAmb 13 42 24.4
comp=Z,38nm,1.4s
GTBY Guantanamo Bay 51.06 356 P **P 13 42 35.6 +0.9**
VNA3 Neumayer Olymp 51.75 159 P **P 13 42 40.4 +0.9**
VNA1 Neumayer--Stat 52.05 158 P **P 13 42 42.3 +0.7**
VNA2 Neumayer--Watz 52.40 158 P **P 13 42 45.1 +0.9**
baz=281,slow=7.9
CMIG Matias Romero 53.01 332 LR LR 13 59 59.8
comp=Z,136nm,19.5s,baz=190,slow=30
SNAA Sanae 53.98 159 P **P 13 42 56.7 +0.8**
SNAA Sanae 53.98 159 LR LR 14 04 01.4
comp=Z,162nm,20.4s,baz=352,slow=34
SNAA Sanae 53.98 159 *ce*P **P 13 42 56.5 +0.6**
SNAA pmax pmax
comp=Z,42nm,1.3s
SNAA Sanae 53.98 159 P **P 13 42 56.1 +0.2**
NVL N'lazarevskaya 58.69 157 *e*P P 13 43 23.8 -5.6
NVL pmax pmax
comp=Z,14nm,0.9s
QSPA South Pole Qui 58.90 180 LR LR 14 08 03.4
comp=Z,135nm,19.5s,baz=180,slow=35
QSPA South Pole Qui 58.90 180 P **P 13 43 32.1 +1.0**
QSPA IAmb IAmb 13 43 34.3
comp=Z,30nm,1.5s
BBSR BB Station 63.71 7 P **P 13 44 04.8 +1.1**
833A Chaparral WMA, 64.89 333 P **P 13 44 12.9 +1.3**
833A IAmb IAmb 13 44 23.3
comp=Z,19nm,0.9s
833A Chaparral WMA, 64.89 333 P **P 13 44 13.4 +1.8**
baz=154
143A Socs Landing, 66.33 342 P **P 13 44 22.5 +1.7**
HPIG 66.35 327 P **P 13 44 22.5 +1.2**
HPIG IAmb IAmb 13 44 33.4
comp=Z,20nm,1.4s
X51A Calhoun 66.69 348 P **P 13 44 24.0 +0.9**
JCT Junction City 66.98 334 P **P 13 44 26.3 +1.2**
JCT pmax pmax
comp=Z,14nm,1.0s
JCT Junction City 66.98 334 P **P 13 44 26.3 +1.2**
JCT IAmb IAmb 13 44 36.4
comp=Z,14nm,1.0s
JCT Junction City 66.98 334 P **P 13 44 26.6 +1.6**
baz=154
TAOE Nuku Hiva Isla 66.98 274 *e*LR LR 14 04 34.5
comp=Z,184nm,27.1s
Z41A Richland Creek 67.24 341 P **P 13 44 28.1 +1.6**
W50A Signal Mountai 67.39 348 P **P 13 44 28.4 +0.8**
W50A IAmb IAmb 13 44 38.0
comp=Z,21nm,1.1s
V55A Taylorsville 67.41 352 P **P 13 44 27.9 +0.3**
V55A IAmb IAmb 13 44 38.2
comp=Z,23nm,1.1s
V53A Saluda 67.45 350 P **P 13 44 28.0 +0.1**
V53A IAmb IAmb 13 44 38.8
comp=Z,17nm,1.1s
CPCT Cooper Cave 67.50 349 P **P 13 44 28.2 0.0**
WHTX Lake Whitney, 67.50 337 P **P 13 44 28.6 +0.3**
WHTX IAmb IAmb 13 44 30.1
comp=Z,18nm,0.8s
SWET Sewanee 67.52 347 P **P 13 44 28.5 +0.2**
SWET IAmb IAmb 13 44 38.8
comp=Z,16nm,1.0s
TX32 Lajitas Array 67.52 330 P **P 13 44 29.2 +0.6**
TXAR Lajitas Array 67.52 330 P **P 13 44 30.1 +1.5**
comp=Z,1.9nm,0.8s,baz=144,slow=8.7,SNR=13
TXAR Lajitas Array 67.52 330 P **P 13 44 29.4 +0.8**
TXAR Lajitas Array 67.52 330 P **P 13 44 29.4 +0.8**
TX31 Lajitas Ar. Si 67.52 330 P **P 13 44 29.8 +1.2**
TX31 IAmb IAmb 13 44 31.2
comp=Z,12nm,0.9s
TKL Tuckaleechee C 67.58 349 P **P 13 44 28.7 0.0**
TKL pmax pmax
comp=Z,10.0nm,0.9s
TKL Tuckaleechee C 67.58 349 P **P 13 44 28.7 0.0**
TKL IAmb IAmb 13 44 38.8
comp=Z,10.0nm,0.9s
V52A Sevierville 67.73 350 P **P 13 44 29.9 +0.2**
V51A Loudon 67.81 349 P **P 13 44 30.7 +0.5**
V51A IAmb IAmb 13 44 40.8
comp=Z,14nm,1.0s
TBI Tubuai 68.17 255 *e*LR LR 14 05 10.0
comp=Z,324nm,27.8s
TBI Tubuai 68.17 255 *e*T T 14 58 39.3
comp=Z,14nm,0.2s
V48A Smith Brothers 68.19 347 P **P 13 44 32.4 -0.2**
SYO Syowa Base 68.27 159 ⇑*e*X P 13 44 27.8 -4.9
SYO Syowa Base 68.27 159 ⇑*e*sP sP 13 44 42.0 -3.5
CLTN Cedars of Leba 68.44 347 P **P 13 44 34.4 +0.3**
CLTN IAmb IAmb 13 44 44.4
comp=Z,22nm,1.1s
Z35A Perchaven, San 68.66 337 P **P 13 44 36.4 +0.9**
WVT Waverly 68.77 346 P **P 13 44 36.4 +0.3**
WVT pmax pmax
comp=Z,25nm,1.1s
WVT Waverly 68.77 346 P **P 13 44 36.4 +0.3**
WVT IAmb IAmb 13 44 46.5
comp=Z,25nm,1.1s
WVT Waverly 68.77 346 P **P 13 44 36.8 +0.7**
baz=165
W41B Gary Mavity, V 68.89 342 P **P 13 44 37.0 +0.1**
JSRW J. Sargeant Re 68.90 355 P **P 13 44 37.0 +0.2**
WHAR Wooly Hollow 69.01 342 P **P 13 44 38.6 +0.9**
WHAR IAmb IAmb 13 44 49.2
comp=Z,24nm,1.4s
W39A Magazine 69.33 341 P **P 13 44 40.4 +0.8**
W39A Magazine 69.33 341 P **P 13 44 41.3 +1.7**
baz=160
MEH Mehetia 69.44 261 *e*T T 15 00 13.2
comp=Z,39nm,0.2s
T47A Sharon Grove 69.46 347 P **P 13 44 40.9 +0.5**
T47A IAmb IAmb 13 44 51.3
comp=Z,21nm,1.1s
LCAR Lake Charles 69.47 343 P **P 13 44 40.4 0.0**
LCAR IAmb IAmb 13 44 42.3
comp=Z,11nm,0.8s
PBMO Poplar Bluff 69.97 344 P **P 13 44 43.9 +0.4**
PBMO IAmb IAmb 13 44 45.0
comp=Z,9.4nm,0.8s
U40A Yellville 70.17 342 P **P 13 44 45.2 +0.4**
U40A IAmb IAmb 13 44 46.5
comp=Z,13nm,0.9s
R50A Paris 70.23 350 P **P 13 44 45.5 +0.4**
R50A IAmb IAmb 13 44 55.8
comp=Z,22nm,1.4s
MNTX Cornudas Mount 70.30 330 P **P 13 44 45.9 +0.2**
MNTX Cornudas Mount 70.30 330 P **P 13 44 46.1 +0.4**
baz=150
WMOK Wichita Mounta 70.46 337 P **P 13 44 47.0 +0.4**
WMOK pmax pmax
comp=Z,7.0nm,1.3s
WMOK Wichita Mounta 70.46 337 P **P 13 44 47.0 +0.4**
S44A Carbondale 70.58 345 P **P 13 44 47.2 -0.1**
S44A IAmb IAmb 13 44 57.0
comp=Z,11nm,0.8s
TUL1 Leonard 70.58 340 P **P 13 44 47.3 0.0**
TUL1 IAmb IAmb 13 44 51.5
comp=Z,14nm,1.1s
TUL1 Leonard 70.58 340 P **P 13 44 48.7 +1.4**
baz=158
TIAR Tiarei 70.66 261 *e*T T 15 01 45.5
comp=Z,3.0nm,0.2s
Q51A Peebles 70.82 350 P **P 13 44 48.9 +0.2**
Q51A IAmb IAmb 13 44 59.0
comp=Z,18nm,1.1s
PPT2 Papeete2 70.84 261 *e*LR LR 14 06 22.3
comp=Z,162nm,24.8s
FVM French Village 71.12 345 P **P 13 44 50.4 -0.1**
FVM pmax pmax
comp=Z,23nm,1.2s
FVM French Village 71.12 345 P **P 13 44 50.4 -0.1**
FVM IAmb IAmb 13 45 01.7
comp=Z,22nm,1.2s
MSTX Muleshoe 71.22 333 P **P 13 44 51.5 +0.2**
MSTX Muleshoe 71.22 333 P **P 13 44 52.4 +1.0**
baz=152
P52A Corning 71.25 352 P **P 13 44 50.6 -0.8**
P52A IAmb IAmb 13 45 01.5
comp=Z,26nm,1.1s
CCM Cathedral Cave 71.38 344 P **P 13 44 52.9 +0.8**
CCM pmax pmax
comp=Z,17nm,0.9s
CCM Cathedral Cave 71.38 344 P **P 13 44 52.9 +0.8**
CCM IAmb IAmb 13 44 53.9
comp=Z,17nm,0.9s
CCM Cathedral Cave 71.38 344 P **P 13 44 53.2 +1.1**
baz=163
S39A Bolivar 71.55 342 P **P 13 44 53.5 +0.4**
S39A IAmb IAmb 13 44 54.9
comp=Z,12nm,1.1s
P48A Milroy 71.56 349 P **P 13 44 53.5 +0.3**
P48A IAmb IAmb 13 44 54.1
comp=Z,28nm,1.3s
AMTX Amarillo 71.62 334 P **P 13 44 54.7 +1.0**
AMTX IAmb IAmb 13 45 04.7
comp=Z,20nm,1.1s
AMTX Amarillo 71.62 334 P **P 13 44 55.7 +2.0**
baz=153
319A Douglas 71.78 327 P **P 13 44 56.2 +1.3**
319A IAmb IAmb 13 45 06.8
comp=Z,11nm,1.0s
R40A Maddies Statio 71.85 343 P **P 13 44 55.4 +0.4**
R40A IAmb IAmb 13 44 56.6
comp=Z,16nm,0.8s
121A Cookes Peak, D 72.07 329 P **P 13 44 58.1 +1.5**
121A IAmb IAmb 13 44 59.9
comp=Z,12nm,1.0s
121A Cookes Peak, D 72.07 329 P **P 13 44 59.0 +2.4**
baz=148
P40A Paris 72.97 344 P **P 13 45 01.9 +0.4**
P40A IAmb IAmb 13 45 03.3
comp=Z,25nm,0.9s
N47A Urbana 72.99 349 P **P 13 45 01.6 -0.1**
N47A IAmb IAmb 13 45 02.3
comp=Z,21nm,0.9s
LENM Lemitar 73.10 330 P **P 13 45 04.1 +1.4**
L56A Greenwood 73.30 356 P **P 13 45 04.3 +0.8**
L56A IAmb IAmb 13 45 15.2
comp=Z,34nm,1.3s
ANMO Albuquerque 73.55 331 P **P 13 45 06.5 +1.1**
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 73.55 331 P **P 13 45 06.5 +1.1**
ANMO Albuquerque 73.55 331 P **P 13 45 07.6 +2.2**
baz=150
WVNY West Valley, N 73.64 355 P **P 13 45 06.7 +1.2**
WVNY IAmb IAmb 13 45 07.1
comp=Z,32nm,1.2s
LIC Lamto 73.75 72 *e*P **P 13 45 06.4 -0.4**
comp=Z,65nm,0.9s
214A Organ Pipe Nat 73.96 325 P **P 13 45 08.8 +1.1**
TIC Toumodi 73.99 72 *e*P **P 13 45 07.9 -0.3**
KIC Kosan Boka 74.06 72 *e*P **P 13 45 08.4 -0.2**
comp=Z,58nm,0.8s
DBIC Dimbokro 74.14 72 P **P 13 45 08.7 -0.4**
comp=Z,31nm,0.8s,baz=231,slow=5.6,SNR=54
DBIC LR LR 14 14 34.6
comp=Z,448nm,21.4s,baz=13,slow=33
DBIC Dimbokro 74.14 72 P **P 13 45 08.6 -0.4**
DBIC pmax pmax
comp=Z,34nm,0.8s
DBIC Dimbokro 74.14 72 P **P 13 45 08.6 -0.4**
CBKS Cedar Bluff 74.48 338 P **P 13 45 11.2 +0.7**
CBKS pmax pmax
comp=Z,15nm,1.0s
CBKS Cedar Bluff 74.48 338 P **P 13 45 11.2 +0.7**
CBKS IAmb IAmb 13 45 12.9
comp=Z,15nm,0.9s
CBKS Cedar Bluff 74.48 338 P **P 13 45 12.2 +1.7**
baz=156
T25A Trinidad 74.64 333 P **P 13 45 13.6 +1.9**
T25A IAmb IAmb 13 45 23.7
comp=Z,21nm,1.1s
T25A Trinidad 74.64 333 P **P 13 45 13.8 +2.1**
baz=152
X18A Snowflake 74.72 328 P **P 13 45 13.8 +1.6**
J47A Sunmer 75.16 350 P **P 13 45 14.7 +0.4**
L40A Anamosa 75.19 345 P **P 13 45 14.5 0.0**
L40A IAmb IAmb 13 45 16.3
comp=Z,22nm,0.9s
X16A Lo Mia Camp, P 75.31 327 P **P 13 45 17.2 +1.6**
SDCO Great Sand Dun 75.59 333 P **P 13 45 18.4 +1.2**
SDCO Great Sand Dun 75.59 333 P **P 13 45 19.0 +1.8**
baz=151
LONY Lake Ozonia 75.63 358 P **P 13 45 17.7 +0.7**
LONY IAmb IAmb 13 45 19.0
comp=Z,22nm,1.1s
MAW Mawson 75.67 164 P **P 13 45 18.0 +0.9**
comp=Z,10nm,0.9s,baz=225,slow=2.9,SNR=3.3
MAW LR LR 14 21 37.4
comp=Z,220nm,18.2s,baz=236,slow=38
MAW Mawson 75.67 164 P **P 13 45 17.8 +0.7**
MAW pmax pmax
comp=Z,4.0nm,1.3s
MAW Mawson 75.67 164 P **P 13 45 17.8 +0.7**
FRNY Flat Rock 75.82 359 P **P 13 45 19.0 +1.0**
FRNY IAmb IAmb 13 45 20.1
comp=Z,14nm,1.0s
SUR Sutherland 75.94 119 P **P 13 45 20.1 +0.5**
SADO Sadowa 76.03 355 LR LR 14 21 55.2
comp=Z,184nm,19.8s,baz=53,slow=38
S22A 4UR Ranch, Cre 76.11 332 P **P 13 45 22.3 +2.1**
baz=150
WUAZ Wupatki 76.19 328 P **P 13 45 22.1 +1.6**
WUAZ Wupatki 76.19 328 P **P 13 45 23.5 +2.9**
baz=146
G62A West of Eustis 76.19 1 P **P 13 45 21.6 +1.4**
G62A IAmb IAmb 13 45 22.7
comp=Z,26nm,1.0s
PKME Peaks-Kenny Pk 76.27 2 P **P 13 45 21.6 +1.1**
baz=182
MVCO Mesa Verde 76.34 331 P **P 13 45 23.7 +2.2**
baz=148
Q24A Divide 76.52 334 P **P 13 45 23.9 +1.4**
Q24A IAmb IAmb 13 45 25.4
comp=Z,13nm,0.8s
Q24A Divide 76.52 334 P **P 13 45 24.5 +2.0**
baz=151
BC3 Big Chuckawall 76.65 324 P **P 13 45 25.4 +2.2**
baz=143
IRM Iron Mountain 76.89 324 P **P 13 45 27.0 +2.5**
baz=143
PFO Pinyon Flats O 77.13 323 P **P 13 45 27.5 +1.6**
PFO pmax pmax
comp=Z,5.0nm,1.0s
PFO Pinyon Flats O 77.13 323 P **P 13 45 27.5 +1.6**
PFO Pinyon Flats O 77.13 323 P **P 13 45 28.5 +2.6**
baz=142
PV01 Paradox Valley 77.16 331 P **P 13 45 27.8 +1.7**
PV13 Radium Mtn., P 77.28 331 P **P 13 45 28.4 +1.7**
PV05 Paradox Valley 77.33 331 P **P 13 45 28.3 +1.3**
PV03 Paradox Valley 77.37 331 P **P 13 45 28.9 +1.6**
PV18 Skein Mesa, Pa 77.39 331 P **P 13 45 28.9 +1.5**
PV12 Saucer Basin, 77.41 331 P **P 13 45 28.8 +1.3**
ISCO Idaho Springs 77.42 334 P **P 13 45 28.6 +1.0**
ISCO pmax pmax
comp=Z,11nm,1.4s
ISCO Idaho Springs 77.42 334 P **P 13 45 28.6 +1.0**
ISCO Idaho Springs 77.42 334 P **P 13 45 29.5 +1.8**
baz=151
PV17 East Wray Mesa 77.44 331 P **P 13 45 28.9 +1.3**
PV16 Nyswonger Mesa 77.45 331 P **P 13 45 28.7 +1.0**
MURC Murrieta 77.50 323 P **P 13 45 30.1 +2.3**
baz=142
GMRC Granite Mounta 77.65 324 P **P 13 45 31.2 +2.4**
baz=143
K31A O'Neill 77.65 340 P **P 13 45 29.3 +0.8**
HEC Hector,Ludlow 78.02 324 P **P 13 45 33.3 +2.5**
baz=142
ECSD EROS Data Cent 78.08 342 P **P 13 45 31.4 +0.6**
ECSD IAmb IAmb 13 45 32.5
comp=Z,15nm,0.9s
ECSD EROS Data Cent 78.08 342 P **P 13 45 31.6 +0.8**
baz=158
D62A Allapoint, All 78.09 2 P **P 13 45 31.6 +0.9**
D62A IAmb IAmb 13 45 33.0
comp=Z,27nm,0.9s
E46A Sault Ste Mari 78.16 351 P **P 13 45 31.8 +0.7**
TUQ Turquoise Moun 78.29 325 P **P 13 45 34.6 +2.2**
baz=143
N23A Red Feather La 78.50 334 P **P 13 45 34.4 +0.9**
N23A IAmb IAmb 13 45 45.4
comp=Z,14nm,1.3s
N23A Red Feather La 78.50 334 P **P 13 45 35.4 +1.8**
baz=151
GSC Goldstone, Bar 78.63 324 P **P 13 45 36.6 +2.5**
baz=142
O20A White River Ci 78.73 332 P **P 13 45 36.8 +2.1**
baz=149
CCUT Cedar City 78.77 327 P **P 13 45 36.8 +1.8**
SHPR Sheep Range 78.77 326 P **P 13 45 36.8 +1.8**
SRU San Rafael Swe 78.80 330 P **P 13 45 35.7 +0.6**
SRU pmax pmax
comp=Z,7.0nm,1.1s
SRU San Rafael Swe 78.80 330 P **P 13 45 35.7 +0.6**
MSU Marysvale 79.02 329 P **P 13 45 37.7 +1.3**
MSU Marysvale 79.02 329 P **P 13 45 37.7 +1.3**
MVU Marysvale 79.03 329 P **P 13 45 38.0 +1.6**
MVU IAmb IAmb 13 45 48.5
comp=Z,32nm,1.2s
P18A Preston Nutter 79.11 331 P **P 13 45 38.2 +1.2**
QSM Queen of Sheba 79.18 324 P **P 13 45 38.3 +1.2**
LRMC Laurel Mtn Rad 79.21 323 P **P 13 45 39.7 +2.3**
baz=141
F36A Milaca 79.32 345 P **P 13 45 37.2 -0.3**
F36A IAmb IAmb 13 45 39.1
comp=Z,12nm,1.0s
TPNV Topopah Spring 79.65 325 P **P 13 45 42.1 +2.3**
baz=143
RWWY Rawlins 79.66 334 P **P 13 45 40.1 +0.2**
RWWY IAmb IAmb 13 45 50.4
comp=Z,24nm,1.4s
ISA Isabella, Lake 79.76 323 P **P 13 45 42.6 +2.3**
baz=141
CWC Cottonwood Cre 80.16 324 P **P 13 45 45.1 +2.5**
baz=141
VES Vestal, Richgr 80.22 323 P **P 13 45 45.0 +2.3**
baz=140
K22A Casper 80.24 335 P **P 13 45 45.1 +2.3**
baz=150
R11A Troy Canyon, C 80.45 327 P **P 13 45 46.5 +2.4**
baz=143

RSSD Black Hills 80.66 337 P **P** **13 45 46.8 +1.6**
baz=152
DUG Dugway, Tooele 80.68 329 P **P** **13 45 47.0 +1.7**
DUG pmax pmax
comp=Z,4.0nm,1.2s
BOSA Boshof 81.13 118 P **P** **13 45 48.2 +0.1**
comp=Z,11nm,0.8s,baz=240,slow=5.0,SNR=18
BOSA Boshof 81.13 118 P **P** **13 45 48.6 +0.5**
BOSA pmax pmax
comp=Z,17nm,1.0s
PDAR Pinedale Array 81.48 333 P **P** **13 45 50.0 +0.4**
comp=Z,0.6nm,0.7s,baz=142,slow=4.6,SNR=5.7
NVAR Mina Array Bea 81.82 325 P **P** **13 45 52.9 +1.5**
comp=Z,1.4nm,0.8s,baz=160,slow=5.7,SNR=11
AGMN Agassiz Nation 82.15 344 P **P** **13 45 53.4 +0.7**
baz=159
CASY Casey 82.69 181 P **P** **13 45 56.3 +0.9**
CASY IAmb IAmb 13 45 58.0
comp=Z,19nm,0.9s
TORD Torodi Ar. Bea 83.11 70 P **P** **13 45 58.3 -0.2**
comp=Z,35nm,0.8s,baz=257,slow=4.9,SNR=171
TORD Torodi Ar. Bea 83.11 70 P **P** **13 45 58.0 -0.4**
LBTB Lobatse 83.24 115 P **P** **13 45 58.7 -0.5**
LBTB pmax pmax
comp=Z,12nm,0.8s
LBTB Lobatse 83.24 115 P **P** **13 45 58.7 -0.5**
LBTB IAmb IAmb 13 45 60.0
comp=Z,12nm,0.8s
RLMT Red Lodge 83.37 334 P **P** **13 46 00.2 +0.8**
baz=148
YHH Holmes Hill 83.69 333 P **P** **13 46 02.2 +1.1**
ULM Lac du Bonnet 83.98 345 P **P** **13 46 01.7 -0.3**
comp=Z,9.5nm,1.0s,baz=169,slow=3.8,SNR=8.5
ULM Lac du Bonnet 83.98 345 P **P** **13 46 01.6 -0.5**
ULM pmax pmax
comp=Z,9.0nm,0.9s
ULM Lac du Bonnet 83.98 345 P **P** **13 46 01.6 -0.5**
ULM IAmb IAmb 13 46 03.6
comp=Z,8.8nm,0.9s
HLID Hailey 84.12 330 P **P** **13 46 05.4 +2.2**
baz=144
MCMT McKenzie Canyo 84.51 332 P **P** **13 46 06.3 +1.1**
DGMT Dagmar 84.57 339 P **P** **13 46 05.9 +0.7**
DGMT IAmb IAmb 13 46 07.3
comp=Z,15nm,0.8s
DGMT Dagmar 84.57 339 P **P** **13 46 06.7 +1.5**
baz=153
SCHQ Schefferville 85.92 3 P **P** **13 46 11.4 -0.3**
comp=Z,9.0nm,1.0s,baz=116,slow=3.6,SNR=7.9
SCHQ Schefferville 85.92 3 P **P** **13 46 11.4 -0.3**
SCHQ IAmb IAmb 13 46 12.9
comp=Z,17nm,1.1s
I05D Terrebonne, OR 87.82 327 P **P** **13 46 23.2 +1.9**
baz=139
LSZ Lusaka 90.44 108 LR LR 14 23 57.6
comp=Z,168nm,19.2s,baz=335,slow=34
FCC Fort Churchill 91.66 349 P **P** **13 46 38.9 +0.1**
FCC pmax pmax
comp=Z,10.0nm,1.1s
FCC Fort Churchill 91.66 349 P **P** **13 46 38.9 +0.1**
FCC IAmb IAmb 13 46 40.6
comp=Z,9.8nm,1.1s
ESDC Sonseca Array 94.58 46 P **P** **13 46 53.1 +0.2**
comp=Z,1.2nm,0.9s,baz=243,slow=5.6,SNR=3.6
ESDC LR LR 14 27 15.4
comp=Z,192nm,19.4s,baz=332,slow=34
YKA Yellowknife Ar 99.60 341 P **Pdif** **13 47 14.8 -0.1**
comp=Z,0.5nm,0.7s,baz=147,slow=4.3,SNR=9.6
DZM Mont Dzumac 102.97 234 *e*LR LR 14 21 24.0
comp=Z,314nm,26.1s
Q19K Cape Douglas, 112.30 326 P **PKiKP** **13 52 10.6 +3.2**
baz=114
ASAR Alice Springs 120.03 207 PKP **PKPdf** **13 52 22.8 -0.7**
comp=Z,1.1nm,0.9s,baz=138,slow=1.7,SNR=10
AKASG Malin Array Be 120.22 46 PKP **PKPdf** **13 52 21.7 -1.0**
comp=Z,1.8nm,0.7s,baz=268,slow=2.4,SNR=16
AKASG Malin Array Be 120.22 46 PKIKP **PKPdf** **13 52 21.6 -1.1**
AKBB Malin Array Si 120.22 46 ‖ *i* PKIKP **PKPdf** **13 52 22.3 -0.4**
BR131 Keskin Array S 120.33 59 *d i* PKIKP **PKPdf** **13 52 23.2 -0.3**
BRTR Keskin Array B 120.33 59 PKP **PKPdf** **13 52 23.1 -0.5**
comp=Z,1.5nm,0.8s,baz=173,slow=2.9,SNR=9.0
VSU Vasula 120.46 37 ‖ *i* PKIKP **PKPdf** **13 52 23.1 +0.2**
ARCES ARCESS Array B 121.51 24 PKP **PKiKP** **13 52 25.2 +0.3**
comp=Z,2.6nm,0.9s,baz=254,slow=3.3,SNR=2.0
WRA Warramunga Arr 123.18 210 PKP **PKPdf** **13 52 29.1 -0.4**
comp=Z,2.2nm,0.8s,baz=162,slow=1.5,SNR=21
WRAB Tennant Creek 123.19 210 ‖ *i* PKIKP **PKPdf** **13 52 29.6 +0.1**
OBN Obninsk 125.34 42 *e*PKIKP **PKPdf** **13 52 31.1 -1.3**
OBN *e* 13 54 22.1
OBN pmax pmax
comp=Z,9.0nm,1.0s
H11S2 WAKE ISLAND Hyl 25.98 271 T T 16 11 26.4
baz=116,slow=75,SNR=150
H11S1 WAKE ISLAND Hyl 25.99 271 T T 16 11 24.1
baz=116,slow=75,SNR=105
H11S3 WAKE ISLAND Hyl 25.99 271 T T 16 11 25.2
baz=116,slow=75,SNR=137
H11N3 WAKE ISLAND Hyl 26.32 272 T T 16 11 49.3
baz=116,slow=75,SNR=82
H11N1 WAKE ISLAND Hyl 26.34 272 T T 16 11 52.8
baz=116,slow=75,SNR=22
H11N2 WAKE ISLAND Hyl 26.34 272 T T 16 11 53.6
baz=116,slow=75,SNR=169
KLMR Klimovskoe 127.12 35 *e*PKIKP **PKPdf** **13 52 35.4 -0.2**
KLMR pmax pmax
comp=Z,25nm,1.2s
KLMR Klimovskoe 127.12 35 *e*PKPdf **PKPdf** **13 52 35.4 -0.2**
KLMR AMP 13 52 37.4
comp=Z,25nm,1.2s
KIV Kislovodsk 127.88 56 *e*PKIKP **PKiKP** **13 52 38.8 +0.5**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 127.99 57 PKP **PKiKP** **13 52 38.4 0.0**
comp=Z,3.3nm,0.9s,baz=346,slow=0.5,SNR=6.0
KBZ Khabaz 127.99 57 ⇑ *i* PKIKP **PKPdf** **13 52 37.6 -0.2**
PRGR Permogore 130.00 34 *e*PKIKP **PKPdf** **13 52 41.7 +0.6**
PRGR pmax pmax
comp=Z,7.0nm,0.8s
BILL Bilibino 130.52 335 *e*PKIKP **PKiKP** **13 52 42.9 +0.1**
BILL *e* 13 54 55.9
BILL pmax pmax
comp=Z,3.0nm,1.0s
KIRV Kirov 132.30 37 ⇑ *e*PKIKP **PKiKP** **13 52 46.7 +0.1**
ARU Arti 137.57 39 *i* PKIKP **PKPdf** **13 52 56.2 +0.7**
ARU 13 55 40.3
ARU Arti 137.57 39 PKPdf **PKPdf** **13 52 56.0 +0.6**
TIXI Tiksi 138.11 350 ‖ *e*PKIKP **PKPdf** **13 52 56.2 +0.2**
TIXI Tiksi 138.11 350 PKPdf **PKPdf** **13 52 56.6 +0.6**
AB31 Akbulak array 139.83 49 *i* PKIKP **PKPdf** **13 52 59.3 -0.5**
ABKAR Akbulak array 139.83 49 PKPdf **PKPdf** **13 53 00.0 +0.2**
ABKAR Akbulak array 139.83 49 PKPdf **PKPdf** **13 53 00.1 +0.2**
NRIK Noril'sk 140.17 11 ‖ *i* PKIKP **PKPdf** **13 53 00.8 +0.9**
PALK Pallekele 144.89 127 PKP2 **PKPab** **13 53 09.2 +0.1**
PALK Pallekele 144.89 127 PKPdf **PKPab** **13 53 09.2 +0.1**
BRVK Borovoye 145.08 40 *c i* PKIKP **PKPdf** **13 53 09.2 +0.1**
BRVK Borovoye 145.08 40 **PKPdf** **13 53 09.2 +0.1**
YAK Yakutsk 146.28 342 *e*PKP2 **PKPbc** **13 53 12.1 +0.1**
YAK pmax pmax
comp=Z,63nm,1.0s
YAK Yakutsk 146.28 342 PKPdf **PKPbc** **13 53 11.9 -0.1**
POO Poona 146.48 104 *e*P **PKPdf** **13 53 10.0 -2.6**
KBL Kabul 147.11 74 PKIKP **PKPdf** **13 53 13.8 +0.4**
KBL Kabul 147.11 74 PKPdf **PKPdf** **13 53 13.8 +0.4**
URV Uravakonda 147.35 113 *e*PKPbc **PKPdf** **13 53 13.3 -0.8**
URV *ep*PKPbc **pPKPbc** **13 53 26.1 -0.5**
CHGR Chuyangaron 147.37 66 PKIKP **PKPdf** **13 53 14.1 +0.6**
CHGR Chuyangaron 147.37 66 PKPdf **PKPdf** **13 53 14.1 +0.6**
BRLS Borolday 147.54 58 *e*PKIKP **PKPbc** **13 53 15.5 -0.7**
BRLS Borolday 147.54 58 *e*PKPbc **PKPbc** **13 53 15.6 -0.7**
baz=58
TOLI2 Tolitoli 147.67 204 **PKPbc** **13 53 16.9 -0.5**
IUG luzhnay 147.80 60 *e*PKP2 **PKPbc** **13 53 16.5 -0.6**
IUG luzhnay 147.80 60 *e*PKPbc **PKPbc** **13 53 16.6 -0.6**
baz=60
KK31 Karatay Array 148.02 58 PKIKP **PKPdf** **13 53 15.3 +0.9**
KKAR Karatay Array 148.02 58 PKIKP **PKPdf** **13 53 14.8 +0.4**
KKAR Karatay Array 148.02 58 PKPdf **PKPdf** **13 53 14.8 +0.4**
DZA Taraz 148.65 58 *e*PKP2 **PKPbc** **13 53 19.4 +0.2**
DZA Taraz 148.65 58 *e*PKPbc **PKPbc** **13 53 19.4 +0.2**
baz=58
RCLA Racherla 148.98 114 *e*PKPdf **PKPdf** **13 53 13.4 -3.3**
RCLA *e*PKPbc **PKPbc** **13 53 17.9 -2.8**
RCLA *e*PKPab **PKiKP** **13 53 21.4 -0.6**
RCLA *e*SKSdf **SKSdf** **14 00 18.4 -4.6**
YSS Yuzh-Sakhalins 149.29 310 *e*PKP2 **PKPbc** **13 53 21.3 +0.7**
YSS pmax pmax
comp=Z,10.0nm,0.9s
SRLM Srisailam 149.30 113 *e*PKPdf **PKPdf** **13 53 14.4 -2.9**
SRLM *e*PKPab **PKiKP** **13 53 22.6 -0.1**
SRLM *ep*PKPbc **pPKPbc** **13 53 31.5 +0.2**
DRK Karamyk 149.39 64 PKPdf **PKPdf** **13 53 17.9 +0.8**
HYBB Hyderabad (bro 149.76 110 *e*PKPdf **PKPdf** **13 53 15.0 -3.0**
HYBB *e*PKPbc **PKPbc** **13 53 19.6 -3.1**
HYBB *ep*PKPdf **PKPab** **13 53 28.1 +0.1**
HYBB *e*SKSdf **SKSdf** **14 00 19.5 -4.5**
HYBB *e*SKKSac **SKKSac** **14 03 38.8 -6.8**
NJS Nagarjunasagar 149.88 113 *e*PKPbc **PKPdf** **13 53 19.8 +1.7**
NJS *ep*PKPbc **pPKPbc** **13 53 33.2 +0.5**
BTLS Baital 150.10 53 *e*PKIKP **PKPbc** **13 53 22.9 +0.3**
BTLS Baital 150.10 53 *e*PKPbc **PKPbc** **13 53 23.0 +0.3**
baz=53
KSM Kuching 150.24 184 **PKPbc** **13 53 23.9 -0.1**
SRSP Sriramsagar 150.38 108 *e*PKPbc **PKPdf** **13 53 21.4 +2.5**
EKS2 Erkin-Say 150.46 58 P **PKiKP** **13 53 24.8 +0.2**
SNR=18
AML Almayashu 150.50 59 P **PKiKP** **13 53 24.9 -0.1**
SNR=13
NIL Nilore 150.51 76 PKIKP **PKPbc** **13 53 23.9 -0.1**
NIL Nilore 150.51 76 **PKPbc** **13 53 23.9 -0.1**
KURBB Kurchatov Arra 150.75 40 PKIKP **PKPdf** **13 53 19.0 +0.6**
KURK Kurchatov 150.75 40 ‖ *i* PKIKP **PKPdf** **13 53 19.1 +0.7**
KURK Kurchatov 150.75 40 PKPdf **PKPdf** **13 53 18.9 +0.5**
KURK PKPbc **PKPbc** **13 53 24.4 +0.4**
USP Ospenovka 150.85 56 P **PKiKP** **13 53 25.2 0.0**
SNR=19
SGDS Sogindy 150.90 56 *e*PKPbc **PKPbc** **13 53 24.8 +0.1**
baz=56
AAK Ala-Archa 150.98 58 P **PKiKP** **13 53 26.2 +0.5**
SNR=22
AAK Ala-Archa 150.98 58 ‖ *i* PKIKP **PKPdf** **13 53 20.3 +1.0**
AAK Ala-Archa 150.98 58 PKPdf **PKPdf** **13 53 20.0 +0.7**
AAK PKPbc **PKiKP** **13 53 26.0 +0.4**
SBUM Sibu 151.03 188 **PKPbc** **13 53 26.1 +0.3**
UCH Uchtor 151.08 58 P **PKiKP** **13 53 26.7 +0.4**
SNR=20
CHMS Chumysh 151.09 57 P **PKiKP** **13 53 25.9 +0.2**
SNR=8.3
KBK Karagaybulak 151.31 57 P **PKiKP** **13 53 26.9 +0.5**
SNR=8.7
TKM2 Tokmak 2 151.71 57 P **PKPdf** **13 53 21.0 +0.5**
SNR=5.9
TKM2 Tokmak 2 151.71 57 PKIKP **PKPdf** **13 53 20.7 +0.2**
SEM Semipalatinsk 151.80 39 *e*PKIKP **PKPbc** **13 53 26.4 -0.3**
SEM Semipalatinsk 151.80 39 *e*PKPbc **PKPbc** **13 53 26.5 -0.3**
baz=39
ZAA0 Zalesovo Array 151.84 30 **PKPdf** **13 53 20.1 +0.2**
ZAA0 PKPbc **PKPbc** **13 53 26.6 +0.2**
ZALV Zalesovo Beam 151.84 30 PKP **PKPdf** **13 53 20.0 0.0**
comp=Z,4.0nm,0.8s,baz=303,slow=2.5,SNR=17
ZALV PKPbc **PKPbc** **13 53 26.8 +0.3**
comp=Z,46nm,0.7s,baz=299,slow=3.2,SNR=118
KST Kastek 151.95 56 *e*PKPbc **PKPbc** **13 53 27.4 +0.2**
baz=56
KUU Kurty 151.99 54 *e*PKIKP **PKPbc** **13 53 26.9 -0.3**
KUU Kurty 151.99 54 *e*PKPbc **PKPbc** **13 53 26.9 -0.3**
baz=54
BOOM Boomskoye usch 152.06 57 PKIKP **PKiKP** **13 53 28.0 +0.1**
BOOM Boomskoye usch 152.06 57 **PKiKP** **13 53 28.0 +0.1**
ULHL Ulahol 152.33 58 P **PKiKP** **13 53 29.4 +0.8**
SNR=9.2
IPM Ipoh 152.45 164 **PKPbc** **13 53 28.5 -0.6**
KSH Kashi 152.60 64 PKPbc **PKiKP** **13 53 29.2 +0.1**
KSH PP PP 13 57 22.6 +10
KSH SKS 14 02 36.5
TNSS Tian-Shan 152.65 56 *e*PKPbc **PKPbc** **13 53 28.9 -0.3**
baz=56
MDOK Medeo 152.69 56 PKIKP **PKPbc** **13 53 28.7 -0.2**
MDOK Medeo 152.69 56 *e*PKPbc **PKPbc** **13 53 29.0 0.0**
baz=56
MDOK *e*PKPab **pPKPbc** **13 53 38.7 -0.1**
baz=56
BOD Bodaibo 153.22 353 *e*PKIKP **PKPdf** **13 53 18.8 -3.1**
BOD pmax pmax
comp=Z,14nm,0.9s
SATY Saty 153.67 55 *e*PKIKP **PKPbc** **13 53 30.6 -0.5**
SATY Saty 153.67 55 *e*PKPbc **PKPbc** **13 53 30.6 -0.5**
baz=55
SATY *e*PKPab **PKPab** **13 53 43.0 -0.9**
baz=55
MAKZ Makanchi 154.60 45 PKIKP **PKPbc** **13 53 32.5 -0.3**
MK31 Makanchi Array 154.79 45 *i* PKIKP **PKPdf** **13 53 22.8 -1.8**
MK31 Makanchi Array 154.79 45 PKPbc **PKPbc** **13 53 33.1 -0.1**
MKAR Makanchi Array 154.79 45 PKP **PKPdf** **13 53 24.8 +0.2**
comp=Z,1.6nm,0.8s,baz=298,slow=1.2,SNR=16
MKAR PKPbc **PKPbc** **13 53 33.0 -0.2**
comp=Z,5.9nm,0.8s,baz=294,slow=1.9,SNR=16
MKAR Makanchi Array 154.79 45 PKIKP **PKPdf** **13 53 24.1 -0.5**
MKAR Makanchi Array 154.79 45 PKPdf **PKPdf** **13 53 24.1 -0.5**
KLR Kul'dur 154.82 322 ‖ *e*PKIKP **PKPdf** **13 53 24.6 +0.1**
DGZ Jazzator, Alta 155.93 34 ‖ *e*PKIKP **PKPdf** **13 53 26.2 0.0**
ZSN Zaisan 155.96 41 *e*PKP2 **PKPab** **13 53 53.0 -0.3**
ZSN Zaisan 155.96 41 *e*PKPab **PKPab** **13 53 53.0 -0.3**
baz=41
WMQ Urumqi 159.58 47 *e*PKP **PKPdf** **13 53 31.8 +1.0**
ZAK Zakamensk 160.62 10 *e*PKP2 **PKPab** **13 54 07.6 -5.8**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 163.46 4 PKP **PKPdf** **13 53 34.5 -0.2**
comp=Z,1.3nm,0.9s,baz=338,slow=1.6,SNR=7.1
SONM PKPab **PKPab** **13 54 27.0 +1.0**
comp=Z,2.0nm,1.0s,baz=352,slow=3.8,SNR=6.3
ULN Ulaanbaatar 163.46 3 PKP2 **PKPab** **13 54 27.1 +1.1**
ULN Ulaanbaatar 163.46 3 PKPab **PKPab** **13 54 27.1 +1.1**
CMAR Chiang Mai Arr 164.69 145 PKP **PKPdf** **13 53 37.3 +0.7**
comp=Z,0.6nm,0.5s,baz=254,slow=2.5,SNR=8.5
CMAR PKPab **PKPab** **13 54 31.2 -0.7**
comp=Z,0.6nm,0.4s,baz=228,slow=5.7,SNR=7.9
CMAR Chiang Mai Arr 164.69 145 PKIKP **PKPdf** **13 53 35.6 -1.0**
CMAR Chiang Mai Arr 164.69 145 **PKPdf** **13 53 35.6 -1.0**
GOMU GeErMu 167.85 63 PKP **PKPdf** **13 53 39.9 +0.8**
GOMU AMB AMB
comp=Z,75nm,4.7s
GTA Gaotai 169.43 38 *e*PKP **PKPdf** **13 53 41.1 +1.4**
GTA pPKP pPKPdf 13 53 50.3 +0.6
GTA sPKP 13 53 54.3
GTA PKPab **PKPab** **13 54 53.2 +0.6**
HHC Hu-ho-hao-te 170.12 345 *e*PKP **PKPdf** **13 53 37.8 -2.2**
NJ2 Nanjing 170.90 277 *e*PKP **PKPdf** **13 53 41.8 +1.3**
HNS HongShan 171.91 320 ⇑ PKP **PKPdf** **13 53 41.8 +1.0**
KMI Kunming 172.16 141 ⇑ PKP **PKPdf** **13 53 42.1 +0.4**
PZH PanZhiHua 172.57 129 PKP **PKPdf** **13 53 42.1 +0.4**
LZH Lanzhou 174.02 36 *e*PKP **PKPdf** **13 53 41.6 -0.4**
CD2 Chengdu 176.16 95 PKP **PKPdf** **13 53 43.0 +0.4**

NEIC ***10*** *13:58:00.7±1.7, 5°56.56S±0°.06×151°.88E±0°.09, h53km±4km, mb4.6/33, Error ellipse: s-maj=14.4km s-min=7.5km az=118.0*
DJA ***10*** *13:58:01.5±0.4, 6°S±3°×15°2E±°, h68km±5km, M4.8/20, mb4.6/20, mB5.0/4, MLv5.0/3, Mw(mB)4.3/4, MwMwp5.0/1, Mwp5.3/1*
IDC ***10*** *13:58:03.4±2.1, 5°.65S×151°.79E, h77km±18km, mb4.1/18, mb1 4.2/19, mb1mx4.0/39, mbtmp4.4/19, MS3.7/10, Ms1 3.7/10, ms1mx3.4/61, Error ellipse: s-maj=18.3km s-min=9.7km az=124.0*
ISC 10 13:57:59.6±0.5, 5°60S±0°.06×151°.90E±0°.08, h45km, n85, σ1§24/85, mb4.5/45, MS3.8/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.43**	**11**	Pn	**Pn**	**13 58 23.4**	**+0.4**
MANU	**Manus Island**	**5.74**	**308**		**Pn**	**13 59 24.9**	**+2.7**
PMG	**Port Moresby**	**6.03**	**231**	P	**Pn**	**13 59 28.3**	**+2.1**
	5.3nm,0.3s,baz=46,slow=9.0,SNR=19						
PMG				S	**Sn**	**14 00 34.3**	**+0.3**
	5.0nm,0.3s,baz=316,slow=18,SNR=12						
PMG				LR	LR	14 01 14.3	
	comp=Z,167nm,21.4s,baz=28,slow=32						
PMG	**Port Moresby**	**6.03**	**231**	Pn	**Pn**	**13 59 25.7**	**-0.6**
PMG	**Port Moresby**	**6.03**	**231**	P	**Pn**	**13 59 29.0**	**+2.7**
HNR	**Honiara**	**8.84**	**116**	LR	LR	14 03 03.7	
	comp=Z,273nm,20.9s,baz=310,slow=34						
JAY	**Jayapura**	**11.57**	**285**	LR	LR	14 05 46.0	
	comp=Z,452nm,18.7s,baz=342,slow=40						
QIS	**Mount Isa**	**19.07**	**218**	P	**Pn**	**14 02 20.0**	**+0.5**
EIDS	**Eidsvold**	**19.67**	**182**		**P**	**14 02 24.0**	**-0.9**
GUMO	**Guam**	**20.30**	**340**	LR	LR	14 08 35.7	
	comp=Z,96nm,21.2s,baz=157,slow=31						
KDU	**Kakadu**	**20.42**	**248**	P	**P**	**14 02 32.9**	**-0.2**
SIJI	**Sorong**	**21.12**	**282**	P	**P**	**14 02 42.7**	**+2.0**
	12nm,0.8s,baz=111,slow=8.6,SNR=4.9						
DZM	**Mont Dzumac**	**21.59**	**141**	P	**P**	**14 02 47.8**	**+2.0**
	2.8nm,0.6s,baz=287,slow=17,SNR=1.3						
DZM				LR	LR	14 10 08.7	
	comp=Z,425nm,20.1s,baz=252,slow=34						
DZM	**Mont Dzumac**	**21.59**	**141**	IAmb	IAmb	14 03 09.4	
	comp=Z,41nm,1.4s						
MTN	**Manton Dam**	**21.71**	**249**	P	**P**	**14 02 45.5**	**-1.6**
MTN				IAmb	IAmb	14 02 56.1	
	comp=Z,14nm,0.8s						
MTN	**Manton Dam**	**21.71**	**249**	P	**P**	**14 02 49.3**	**+2.3**
DRS	**Darwin Rock St**	**21.81**	**250**	P	**P**	**14 02 48.5**	**+0.4**
WR0	**Warramunga Arr**	**22.10**	**228**	P	**P**	**14 02 51.0**	**-0.2**
WR0				IAmb	IAmb	14 03 07.5	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**22.23**	**229**	P	**P**	**14 02 52.4**	**-0.2**
WRAB				IAmb	IAmb	14 03 02.1	
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**22.23**	**229**		**P**	**14 02 52.4**	**-0.3**
WB2				IAmb	IAmb	14 03 02.3	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**22.24**	**229**	P	**P**	**14 02 52.7**	**-0.1**
	comp=Z,9.2nm,0.8s,baz=53,slow=9.9,SNR=39						
WRA				S	**S**	**14 06 51.6**	**-3.4**
	comp=Z,4.6nm,1.1s,baz=54,slow=18,SNR=6.8						
WRA				LR	LR	14 10 45.0	
	comp=Z,239nm,21.0s,baz=60,slow=34						
AAI	**Ambon**	**23.70**	**274**	P	**P**	**14 03 07.9**	**+0.3**
	comp=Z,2μmcomp=Z,52nm,0.5s						
INKA	**Innaminka**	**24.44**	**204**	P	**P**	**14 03 14.4**	**+0.2**
KNRA	**Kununurra**	**24.81**	**244**	P	**P**	**14 03 17.7**	**-0.1**
KNRA	**Kununurra**	**24.81**	**244**	P	**P**	**14 03 18.1**	**+0.4**
AS31	**Alice Springs**	**24.95**	**222**	P	**P**	**14 03 18.6**	**-0.4**
ASAR	**Alice Springs**	**24.95**	**222**	P	**P**	**14 03 18.9**	**-0.1**
	comp=Z,13nm,0.8s,baz=60,slow=8.3,SNR=85						
ASAR				S	**S**	**14 07 38.3**	**-1.5**
	comp=Z,0.2nm,0.8s,baz=40,slow=16,SNR=0.9						
ASAR				LR	LR	14 13 14.8	
	comp=Z,148nm,18.4s,baz=62,slow=37						
SANI	**Sanana**	**26.09**	**277**	P	**P**	**14 03 29.1**	**-0.2**
	comp=Z,8.5nm,0.9s						
SOEI	**Soe**	**27.68**	**260**	P	**P**	**14 03 44.0**	**+0.2**
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**27.86**	**199**	P	**P**	**14 03 46.6**	**+1.5**
	comp=Z,1.6nm,0.4s,baz=9.0,slow=13,SNR=2.2						
STKA				LR	LR	14 15 02.6	
	comp=Z,165nm,18.1s,baz=24,slow=37						
BATI	**Baumata**	**28.33**	**259**	P	**P**	**14 03 50.0**	**+0.5**
	comp=Z,25nm,0.8s,baz=100,slow=5.9,SNR=5.8						
BATI				LR	LR	14 17 25.0	
	comp=Z,359nm,19.7s,baz=34,slow=41						
BATI	**Baumata**	**28.33**	**259**	P	**P**	**14 03 49.8**	**+0.3**
	comp=Z,18nm,1.0s						
FITZ	**Fitzroy Crossi**	**28.49**	**242**	P	**P**	**14 03 49.9**	**-0.9**
	comp=Z,19nm,0.8s,baz=61,slow=9.9,SNR=22						
WRKA	**Warakurna**	**29.76**	**227**	P	**P**	**14 04 01.7**	**-0.4**
JOW	**Kunigami**	**39.53**	**326**	P	**P**	**14 05 26.8**	**+0.5**
	comp=Z,15nm,0.9s,baz=116,slow=6.7,SNR=4.0						
JOW	**Kunigami**	**39.53**	**326**	IAmb	IAmb	14 05 29.6	
	comp=Z,32nm,1.2s						
MORW	**Morawa**	**41.15**	**231**	P	**P**	**14 05 37.7**	**-2.0**
MORW				IAmb	IAmb	14 05 44.7	
	comp=Z,21nm,1.5s						
TPUB	**Ta-pu**	**41.92**	**314**	P	**P**	**14 05 45.9**	**-0.2**
SSLB	**Suanglung**	**42.00**	**315**	P	**P**	**14 05 47.0**	**+0.2**
SSLB				IAmb	IAmb	14 05 52.4	
	comp=Z,9.4nm,0.8s						
JGF	**Kuroka**	**43.20**	**343**	P	**P**	**14 05 55.7**	**-0.6**
JGF				IAmb	IAmb	14 06 18.8	
	comp=Z,22nm,1.4s						
JNU	**Nakatsue**	**43.37**	**334**	P	**P**	**14 05 56.8**	**-0.9**
NJ2	**Nanjing**	**48.91**	**322**	*e*P	**P**	**14 06 42.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	**Enshi**	**54.05**	**314**	P	**P**	**14 07 19.1**	**-0.7**
CN2	**Changchun**	**54.66**	**337**	*e*P	**P**	**14 07 26.5**	**+2.5**
CN2				*e*S	**S**	**14 14 56.3**	**-4.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s						
CN2				LR	LR		
	comp=Z,300nm,20.0s						
KLR	**Kul'dur**	**57.36**	**344**	P	**P**	**14 07 45.4**	**+2.2**
	comp=Z,1.6nm,0.8s,baz=180,slow=2.0,SNR=4.4						
CM31	**Chiang Mai Arr**	**57.41**	**296**	P	**P**	**14 07 43.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**57.41**	**296**	P	**P**	**14 07 44.5**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=124,slow=5.6,SNR=11						
CMAR	**Chiang Mai Arr**	**57.41**	**296**	P	**P**	**14 07 43.4**	**-0.7**
PZH	**PanZhiHua**	**58.10**	**306**	P	**P**	**14 07 50.0**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
PETK	**Petropavlovsk-**	**58.69**	**4**	P	**P**	**14 07 52.6**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=179,slow=7.2,SNR=5.5						
XLT	**XiLinHaoTe**	**58.91**	**330**	*e*P	**P**	**14 07 54.0**	**-0.2**
XLT				pP	pP	14 08 05.9	-1.2
XLT				sP	sP	14 08 10.1	-2.3
XLT				pmax	pmax		
	comp=Z,12nm,1.0s						
XLT				pmax	pmax		
	comp=Z,190nm,6.0s						
HHC	**Hu-ho-hao-te**	**59.18**	**325**	*e*P	**P**	**14 07 56.7**	**+0.5**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,80nm,5.8s						
LZH	**Lanzhou**	**61.18**	**317**	*e*P	**P**	**14 08 11.5**	**+1.4**
LZH				pP	pP	14 08 18.0	-5.1
LZH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA	**Gaotai**	**65.64**	**318**	*e*P	**P**	**14 08 39.5**	**+0.1**
GTA				pP	pP	14 08 43.1	-9.5
GTA				sP	sP	14 08 46.2	-12
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SHL	**Shillong**	**65.94**	**301**	P	**P**	**14 08 40.5**	**-1.2**
SHL				IAmb	IAmb	14 08 41.9	
	comp=Z,11nm,1.3s						
ULN	**Ulaanbaatar**	**66.20**	**329**	P	**P**	**14 08 42.1**	**-0.9**
SONM	**Songino Array**	**66.52**	**328**	P	**P**	**14 08 45.1**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=144,slow=4.7,SNR=21						
SONM	**Songino Array**	**66.52**	**328**	P	**P**	**14 08 44.7**	**-0.3**
SONM				IAmb	IAmb	14 08 46.5	
	comp=Z,3.3nm,0.8s						
GOMU	**GeErMu**	**67.64**	**313**	P	**P**	**14 08 51.8**	**-0.7**
GOMU				pP	pP	14 08 56.6	-9.2
GOMU				sP	sP	14 09 00.5	-10
GOMU				PcP	**PcP**	**14 09 18.4**	**-1.0**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,81nm,5.1s						
BILL	**Bilibino**	**74.17**	**6**	P	**P**	**14 09 31.9**	**+0.8**
WMQ	**Urumqi**	**75.72**	**318**	*e*P	**P**

BOOM	Boomskoye usch	83.49	314	P	P	14 10 21.9	-1.2
BOOM				IAmb	IAmb	14 10 25.9	
comp=Z,3.7nm,0.8s							
KURK	Kurchatov	83.84	322	P	P	14 10 23.6	-0.8
KURK				IAmb	IAmb	14 10 25.1	
comp=Z,12nm,1.3s							
AAK	Ala-Archa	84.56	314	P	P	14 10 27.9	-0.6
AAK				IAmb	IAmb	14 10 29.5	
comp=Z,5.0nm,1.1s							
KKAR	Karatay Array	87.52	314	P	P	14 10 42.2	-0.6
BRVK	Borovoye	89.41	323	P	P	14 10 50.4	-1.1
BRVK				IAmb	IAmb	14 10 51.9	
comp=Z,4.1nm,0.9s							
A36M	Sachs Harbour	93.08	18	P	P	14 11 08.4	+0.3
C36M	Paulatuk	93.09	21	P	P	14 11 08.2	0.0
NVAR	Mina Array Bea	93.28	52	P	P	14 11 11.3	+1.1
comp=Z,1.5nm,0.8s,baz=254,slow=6.4,SNR=12							
NVAR				LR	LR	14 49 52.1	
comp=Z,127nm,18.0s,baz=359,slow=33							
YKA	Yellowknife Ar	96.55	28	P	P	14 11 24.1	-0.1
comp=Z,0.8nm,0.8s,baz=270,slow=4.6,SNR=15							
PDAR	Pinedale Array	100.05	48	P	Pdif	14 11 40.7	0.0
comp=Z,0.6nm,0.8s,baz=232,slow=1.7,SNR=5.5							
GERES	GERESS Array B	124.25	328	PKP	PKPdf	14 16 53.6	-0.1
comp=Z,1.3nm,0.8s,baz=90,slow=2.0,SNR=12							
TORD	Torodi Ar. Bea	149.68	286	PKPbc	PKPbc	14 17 45.1	-0.4
comp=Z,16nm,0.8s,baz=66,slow=2.7,SNR=78							
BDFB	Brasilia	151.12	137	PKPbc	PKPbc	14 17 48.8	-0.2
comp=Z,4.8nm,0.8s,baz=202,slow=4.6,SNR=7.7							

*IDC **10** 14:11:20.4±1.9, 5°.56S×147°.20E, h199km±20km, mb3.7/11, mb1 3.9/13, mb1mx3.6/33, mbtmp4.2/13, Error ellipse: s-maj=25.8km s-min=15.4km az=126.0*
*NEIC **10** 14:11:22.1±1.6, 5°.57S±0°.07×147°.1E±0°.1, h205km±4km, mb4.4/23, Error ellipse: s-maj=14.6km s-min=10.6km az=94.0*

ISC 10 14:11:20.6±0.5, 5°.55S±0°.06×147°.05E±0°.08, h195km, n44, σ1s 03/46, mb4.2/16, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.83	178	P	Pn	14 12 21.1	+0.9
22nm,0.3s,baz=54,slow=11,SNR=130							
PMG				S	Sn	14 13 06.3	-0.6
40nm,0.3s,baz=79,slow=19,SNR=8.9							
PMG	Port Moresby	3.83	178		Pn	14 12 20.8	+0.7
RABL	Rabaul	5.27	75	Pn	Pn	14 12 40.4	+2.0
COEN	Coen	9.18	204		Pn	14 13 31.6	+2.2
HNR	Honiara	13.35	108	Pn	Pn	14 14 20.7	-2.0
CTAO	Charters Tower	14.47	183	P	P	14 14 38.7	+0.7
MTN	Manton Dam	17.30	244	P	Pn	14 15 10.4	-0.4
MTN				IAmb	IAmb	14 15 12.1	
comp=Z,13nm,0.3s							
WB0	Warramunga Arr	18.74	220	P	P	14 15 26.0	+1.0
WB0				IAmb	IAmb	14 15 27.1	
comp=Z,4.3nm,0.8s							
WR0	Warramunga Arr	18.79	219	P	P	14 15 26.7	+1.2
WR0				IAmb	IAmb	14 15 27.1	
comp=Z,7.9nm,0.6s							
WRAB	Tennant Creek	18.89	220	P	P	14 15 27.6	+1.1
WRAB				IAmb	IAmb	14 15 32.1	
comp=Z,6.5nm,0.6s							
WB2	Warramunga Arr	18.90	220	P	P	14 15 27.7	+1.0
WB2				IAmb	IAmb	14 15 32.2	
comp=Z,6.9nm,0.7s							
WRA	Warramunga Arr	18.91	220	P	P	14 15 26.9	+0.2
comp=Z,2.1nm,0.3s,baz=48,slow=12,SNR=96							
WRA				S	S	14 18 50.6	-0.7
comp=Z,0.1nm,0.3s,baz=50,slow=18,SNR=5.7							
WRA				PcP	PcP	14 19 43.5	-0.8
comp=Z,0.1nm,0.3s,baz=31,slow=1.9,SNR=4.7							
WRA	Warramunga Arr	18.91	220	P	P	14 15 26.6	-0.1
KNRA	Kununurra	20.58	239	P	P	14 15 44.7	0.0
KNRA				IAmb	IAmb	14 15 48.2	
comp=Z,11nm,0.8s							
AS31	Alice Springs	22.01	214	P	P	14 16 00.5	+1.0
ASAR	Alice Springs	22.02	214	P	P	14 16 00.7	+1.2
comp=Z,2.4nm,0.5s,baz=45,slow=8.4,SNR=67							
ASAR				S	S	14 19 48.7	+0.3
comp=Z,3.1nm,0.8s,baz=32,slow=22,SNR=14							
ASAR	Alice Springs	22.02	214	P	P	14 16 00.2	+0.7
SOEI	Soe	22.96	258	P	P	14 16 08.6	+0.2
SOEI				IAmb	IAmb	14 16 13.8	
comp=Z,9.2nm,0.5s							
BATI	Baumata	23.62	257	P	P	14 16 16.1	+1.9
comp=Z,11nm,0.3s,baz=348,slow=1.3,SNR=5.9							
FITZ	Fitzroy Crossi	24.35	237	P	P	14 16 21.6	+0.8
comp=Z,14nm,0.4s,baz=88,slow=22,SNR=243							
MMRI	Maumere	24.81	261	P	P	14 16 24.4	-0.6
MMRI				IAmb	IAmb	14 16 25.5	
comp=Z,10nm,0.7s							
DAV	Davao City (W)	24.83	300	P	P	14 16 25.1	-0.1
PSA00	Pilbara Seismi	30.78	236	P	P	14 17 17.5	-0.6
PSA00				IAmb	IAmb	14 17 29.3	
comp=Z,3.8nm,1.2s							
PSA00	Pilbara Seismi	30.78	236	P	P	14 17 17.9	-0.3
PSA00				IAmb	IAmb	14 17 22.8	
comp=Z,18nm,1.5s							
GIRL	Giralia	35.94	239	P	P	14 18 03.9	+1.2
MORW	Morawa	37.51	228	P	P	14 18 16.2	+0.3
MORW				IAmb	IAmb	14 18 18.2	
comp=Z,11nm,1.4s							
NACB	Ninganchiao	38.58	321	P	P	14 18 25.1	+0.2
NACB				IAmb	IAmb	14 18 30.1	
comp=Z,32nm,1.3s							
PEA0B	Petropavlovsk-	59.13	7	P	P	14 21 01.2	+0.7
PETK	Petropavlovsk-	59.13	7	P	P	14 21 00.8	+0.2
comp=Z,1.5nm,0.6s,baz=174,slow=6.1,SNR=10							
ULN	Ulaanbaatar	63.74	331	P	P	14 21 31.6	-0.1
SONM	Songino Array	64.04	331	P	P	14 21 33.8	+0.1
comp=Z,0.4nm,0.5s,baz=130,slow=5.7,SNR=4.2							
SONM	Songino Array	64.04	331	IAmb	IAmb	14 21 35.5	
comp=Z,0.7nm,0.7s							
GSTR	Great Sitkin T	65.45	24	P	P	14 21 42.5	-0.1
VNDA	Vanda	72.35	177	P	P	14 22 24.9	+0.2
MKAR	Makanchi Array	77.19	320	P	P	14 22 51.9	-1.1
comp=Z,0.3nm,0.5s,baz=99,slow=6.8,SNR=4.9							
ZALV	Zalesovo Beam	78.66	328	P	P	14 22 59.0	-1.9
comp=Z,0.5nm,0.3s,baz=302,slow=41,SNR=1.5							
P18K	Big Mountain,	79.08	26	P	P	14 23 04.5	+1.4
SVW2	Sparrevohn	79.82	25	P	P	14 23 07.6	+0.6
SVW2				IAmb	IAmb	14 23 10.1	
comp=Z,14nm,1.3s							
QSPA	South Pole Qui	84.41	180	P	P	14 23 30.2	-0.8
comp=Z,2.0nm,0.7s,baz=274,slow=7.6,SNR=4.3							
QSPA	South Pole Qui	84.41	180	P	P	14 23 30.7	-0.3
ILAR	Eielson Array	85.05	23	P	P	14 23 32.2	-1.8
comp=Z,1.5nm,0.7s,baz=251,slow=5.2,SNR=17							
NVAR	Mina Array Bea	97.05	52	P	Pdif	14 24 31.4	+0.4
comp=Z,0.3nm,0.7s,baz=256,slow=7.3,SNR=2.5							
YKA	Yellowknife Ar	98.75	28	P	P	14 24 37.4	-0.3
comp=Z,0.2nm,0.7s,baz=270,slow=5.6,SNR=4.1							
TORD	Torodi Ar. Bea	145.03	285	PKPbc	PKPbc	14 30 33.5	-2.0
comp=Z,0.7nm,0.4s,baz=67,slow=4.2,SNR=9.2							

*IDC **10** 14:13:21.7±0.9, 57°.91S×25°.31W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/23, mbtmp4.0/4, Error ellipse: s-maj=44.9km s-min=31.7km az=74.0*
*NEIC **10** 14:13:27.5±1.5, 58°.05S±0°.1×25°.4W±0°.2, h35km±2km, mb4.5/11, Error ellipse: s-maj=22.5km s-min=18.1km az=48.0*

ISC 10 14:13:28.4±0.6, 57°.97S±0°.10×25°.4W±0°.1, h49km, n31, σ0s 85/25, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.63	157	P	Pn	14 16 51.3	-0.7
VNA3	Neumayer Olymp	14.84	160	P	Pn	14 16 53.7	-1.0
VNA2	Neumayer--Watz	15.02	157	P	Pn	14 16 55.6	-1.5
baz=322,slow=15							
ESPZ	Base Esperanza	16.30	237	Pn	Pn	14 17 12.4	-1.1
ESPZ				IAmb	IAmb	14 17 24.4	
comp=Z,59nm,1.3s							
SNAA	Sanae	16.57	155	P	Pn	14 17 16.9	0.0
SNAA	Sanae	16.57	155	Pn	Pn	14 17 16.4	-0.5
MG05	Puerto Natales	27.41	263	P	P	14 19 10.5	+1.6
QSPA	South Pole Qui	32.27	180	P	P	14 19 53.0	+1.0
PLTB	Pedras Altas	32.53	311	P	P	14 19 54.3	-0.1
PLTB				IAmb	IAmb	14 20 18.1	
comp=Z,18nm,1.5s							
PLCA	Paso Flores	33.35	281	P	P	14 20 01.7	+0.1
PLCA				IAmb	IAmb	14 20 20.0	
comp=Z,3.1nm,1.2s							
VNDA	Vanda	44.69	182	P	P	14 21 37.5	+1.9
comp=Z,4.4nm,0.9s,baz=210,slow=9.0,SNR=1.7							
VNDA	Vanda	44.69	182	IAmb	IAmb	14 21 55.9	
comp=Z,17nm,1.2s							
H10S2	ASCENSION HYDR	49.59	14	T	T	15 16 10.2	
baz=189							
H10S3	ASCENSION HYDR	49.60	14	T	T	15 16 48.8	
baz=31,SNR=5.1							
H10N1	ASCENSION HYDR	50.71	14	T	T	15 17 49.6	
baz=194							
H10N3	ASCENSION HYDR	50.71	14	T	T	15 18 15.3	
baz=194,slow=74,SNR=3.7							
H10N2	ASCENSION HYDR	50.73	14	T	T	15 18 13.5	
baz=194,slow=74,SNR=2.3							
LPAZ	La Paz	52.31	304	P	P	14 22 35.5	-0.1
comp=Z,0.7nm,0.4s,baz=194,slow=4.2,SNR=7.0							
LPAZ	La Paz	52.31	304	P	P	14 22 35.5	-0.1
LPAZ				IAmb	IAmb	14 23 04.3	
comp=Z,1.9nm,1.1s							
BOAV	Boa Vista	66.42	321	P	P	14 24 11.5	-0.8
BOAV				IAmb	IAmb	14 24 12.3	
comp=Z,7.5nm,1.0s							
DBIC	Dimbokro	66.53	22	P	P	14 24 13.2	+0.3
DBIC				IAmb	IAmb	14 24 19.1	
comp=Z,10nm,1.4s							
TORD	Torodi Ar. Bea	74.27	27	P	P	14 25 00.8	+0.8
comp=Z,0.6nm,0.4s,baz=201,slow=6.5,SNR=5.9							
BIRV	Birongo	75.93	318	P	P	14 25 09.7	0.0
TUWZ	Tuamarina	79.65	195	P	P	14 25 29.8	-0.4
ASAR	Alice Springs	96.84	161	P	P	14 26 53.0	-0.9
comp=Z,0.4nm,0.8s,baz=190,slow=3.2,SNR=4.4							
MKAR	Makanchi Array	136.53	72	PKP	PKPdf	14 32 44.2	+0.5
comp=Z,0.4nm,0.8s,baz=212,slow=5.1,SNR=2.9							
YKA	Yellowknife Ar	138.27	316	PKP	PKPdf	14 32 46.0	-0.4
comp=Z,0.7nm,0.8s,baz=133,slow=2.1,SNR=15							
YKA	Yellowknife Ar	138.27	316		PKiKP	14 32 47.9	-0.6
INK	Inuvik	147.93	318	PKPdf	PKPbc	14 33 05.6	-0.7
SONM	Songino Array	149.81	88	PKPbc	PKPbc	14 33 11.8	-0.1
comp=Z,1.1nm,0.6s,baz=229,slow=3.6,SNR=7.5							
ILAR	Eielson Array	152.13	309	PKPbc	PKiKP	14 33 16.8	-0.2
comp=Z,0.7nm,0.4s,baz=145,slow=2.6,SNR=17							

IDC 10 14:18:34.5±4.5, 2°.31S×76°.62W, h0km, mb3.3/4, mb1 3.8/4, mb1mx3.6/30, mbtmp3.3/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/26, Error ellipse: s-maj=161.1km s-min=99.7km az=47.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	12.62	28	LR	LR	14 27 43.6	
comp=Z,70nm,20.7s,baz=88,slow=44							
TXAR	Lajitas Array	40.75	323	P	P	14 26 17.8	+0.2
0.2nm,0.7s,baz=133,slow=9.1,SNR=2.3							
NVAR	Mina Array Bea	55.85	321	P	P	14 28 14.0	-0.4
0.2nm,0.6s,baz=138,slow=8.2,SNR=2.3							
YKA	Yellowknife Ar	70.72	342	P	P	14 29 51.9	-0.2
0.2nm,0.5s,baz=139,slow=6.5,SNR=6.1							
ILAR	Eielson Array	83.77	336	P	P	14 31 05.8	+0.4
0.6nm,0.9s,baz=153,slow=3.5,SNR=4.9							
WRA	Warramunga Arr	142.43	233	PKP	PKPdf	14 38 09.4	-1.0
0.2nm,0.7s,baz=117,slow=1.9,SNR=2.0							

*NEIC **10** 14:20:12.3±1.7, 22°.64S±0°.08×173°.49E±0°.08, h10km±1km, mb4.8/37, Error ellipse: s-maj=13.7km s-min=12.9km az=172.0*
*IDC **10** 14:20:15.7±3.7, 22°.61S×173°.48E, h38km±30km, mb4.1/11, mb1 4.3/14, mb1mx4.2/31, mbtmp4.3/14, ML5.2/1, MS3.9/28, Ms1 3.9/28, ms1mx3.7/58, Error ellipse: s-maj=23.8km s-min=17.9km az=153.0*
*GCMT **10** 14:20:17.3±0.4, 22°.74S±0°.02×173°.54E±0°.05, h20km±1km, MW4.9/73, Moment Tensor Solution. s31,c32; s73,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.62±.23; $M_{\theta\theta}$-2.57±.15; $M_{\phi\phi}$-0.05±.14; $M_{r\theta}$0.48±.23; $M_{r\phi}$-0.53±.08; $M_{\theta\phi}$-0.20±.36; Best double couple: $M_0$2.70000×10^{16} NP1:ϕ_S252.00000°, δ41.00000°, λ81.00000°. NP2: ϕ_S85.00000°, δ50.00000°, λ98.00000°. Principal axes: T 2.6870, Plg82.0000°, Azm42.0000°; N 0.0190, Plg6.0000°, Azm260.0000°; P -2.7130, Plg5.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 14:20:16.3±0.4, 22°.67S±0°.06×173°.47E±0°.05, h44km, n164, σ1s 15/138, mb4.8/32, MS3.9/26, 15C-3D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	5.56	269		Pn	14 21 36.6	+0.1
LIFNC	LIFOU	6.09	287	Pn	Pn	14 21 42.8	-1.0
OUENC	Ouen Island, N	6.13	271	Pn	Pn	14 21 44.2	-0.1
ONTNC	Ouen Toro	6.50	272	Pn	Pn	14 21 47.9	-1.4
DZM	Mont Dzumac	6.53	274	Pn	Pn	14 21 48.5	-1.4
0.6nm,0.3s,baz=100,slow=5.0,SNR=21							
DZM				Sn	Sn	14 23 01.7	-1.4
1.0nm,0.3s,baz=88,slow=21,SNR=2.5							
DZM	Mont Dzumac	6.53	274	*e*Pn	Pn	14 21 49.7	-0.2
9.4nm,0.3s							
DZM				*e*Sn	Sn	14 23 03.8	+0.6
13nm,0.3s							
DZM	Mont Dzumac	6.53	274	Pn	Pn	14 21 49.5	-0.4
MSVF	Nonsavu	6.53	42	Pn	Pn	14 21 48.2	-1.7
1.8nm,0.3s,baz=197,slow=12,SNR=27							
MSVF				Sn	Sn	14 23 05.5	+2.3
0.4nm,0.3s,baz=141,slow=23,SNR=0.9							
MSVF				LR	LR	14 23 55.0	
comp=Z,850nm,18.4s,baz=234,slow=34							
MSVF	Nonsavu	6.53	42	Pn	Pn	14 21 47.8	-2.1
NFK	Norfolk Island	8.06	217	P	Pn	14 22 09.2	-1.7
baz=8.0,SNR=3.1							
RAO	Raoul Island	10.14	132	LR	LR	14 25 44.6	
comp=Z,920nm,18.7s,baz=318,slow=32							
URZ	Urewera	15.85	169	Pn	P	14 24 00.3	+0.9
0.4nm,0.3s,baz=332,slow=11,SNR=2.8							
URZ				LR	LR	14 28 34.4	
comp=Z,983nm,21.5s,baz=38,slow=31							
URZ	Urewera	15.85	169	Pn	Pn	14 23 55.4	-0.9
URZ				IAmb	IAmb	14 24 11.5	
comp=Z,80nm,1.3s							
BFZ	Birch Farm	18.11	173	P	P	14 24 24.3	-0.1
BFZ				IAmb	IAmb	14 24 30.7	
comp=Z,64nm,1.2s							
HNR	Honiara	18.48	313	P	Pn	14 24 29.7	+0.6
baz=226,slow=8.6,SNR=6.4							
HNR				LR	LR	14 30 40.4	
comp=Z,204nm,19.5s,baz=126,slow=34							
HNR	Honiara	18.48	313	P	P	14 24 28.3	-0.4
LTZ	Lake Taylor	20.08	183	P	P	14 24 45.9	-0.1
LTZ				IAmb	IAmb	14 24 57.2	
comp=Z,86nm,1.3s							
EIDS	Eidsvold	20.62	258	P	Pn	14 24 55.3	+0.7
baz=21,SNR=5.0							
EIDS	Eidsvold	20.62	258	P	P	14 24 52.9	+0.9
EIDS				IAmb	IAmb	14 24 59.3	
comp=Z,28nm,0.9s							
OXZ	Oxford	20.63	183	P	P	14 24 50.9	-1.1
OXZ				IAmb	IAmb	14 24 55.6	
comp=Z,49nm,0.9s							
ARMA	Armidale	20.98	244	P	Pn	14 24 58.5	-0.5
baz=21,SNR=8.9							
ARMA	Armidale	20.98	244	P	P	14 24 56.0	-0.1
ARMA				IAmb	IAmb	14 25 05.6	
comp=Z,38nm,1.2s							
RMQ	Roma	22.78	255	P	P	14 25 17.5	+2.3
baz=23,SNR=43							
CNB	Canberra Magne	24.49	234	P	P	14 25 32.4	+0.9
baz=25,SNR=7.3							
RAR	Rarotonga	24.85	92	LR	LR	14 33 02.6	
comp=Z,77nm,22.0s,baz=292,slow=31							
CMSA	Cobar Meteorol	26.20	244	P	P	14 25 48.1	+1.2
baz=26,SNR=13							
QLP	Quilpie	26.83	256	P	P	14 25 53.4	+0.7
baz=27,SNR=5.9							
MTSU	Mount Surprise	27.67	274	P	P	14 26 01.5	+1.1
baz=28,SNR=7.3							
TOO	Toolangi	28.25	232	P	P	14 26 06.9	+1.4
baz=28,SNR=5.7							
STKA	Stephens Creek	29.69	245	P	P	14 26 19.0	+0.9
comp=Z,7.4nm,0.9s,baz=75,slow=9.1,SNR=14							
STKA				LR	LR	14 36 18.3	
comp=Z,147nm,21.0s,baz=61,slow=32							
STKA	Stephens Creek	29.69	245	P	P	14 26 20.0	+1.9
baz=30,SNR=9.2							
STKA	Stephens Creek	29.69	245	P	P	14 26 18.3	+0.2
HTT	Hallett	32.18	243	P	P	14 26 41.5	+1.3
baz=32,SNR=7.9							
MANU	Manus Island	32.60	305	P	P	14 26 43.9	0.0
MANU				IAmb	IAmb	14 26 54.3	
comp=Z,14nm,1.4s							
TBI	Tubuai	34.07	99	*e*LR	LR	14 35 48.6	
comp=Z,196nm,27.2s							
BBOO	Buckleboo	34.46	245	P	P	14 27 00.6	+0.7
baz=35,SNR=18							
BBOO	Buckleboo	34.46	245	P	P	14 27 00.0	0.0
PPT2	Papeete2	35.00	89	*e*LR	LR	14 36 15.2	
comp=Z,146nm,24.5s							
PPTF	Pamatai, Papee	35.01	89	P	P	14 27 04.2	-0.8
PPTF				IAmb	IAmb	14 27 32.9	
comp=Z,17nm,0.9s							
WR0	Warramunga Arr	36.30	267	P	P	14 27 14.1	-1.8
AS31	Alice Springs	36.31	260	P	P	14 27 15.5	-0.5
ASAR	Alice Springs	36.31	260	P	P	14 27 16.0	0.0
comp=Z,4.9nm,0.9s,baz=87,slow=8.8,SNR=27							
ASAR				PcP	PcP	14 29 40.5	+0.2
comp=Z,0.8nm,0.8s,baz=114,slow=2.2,SNR=2.8							
ASAR	Alice Springs	36.31	260	P	P	14 27 15.1	-1.0
WB0	Warramunga Arr	36.47	267	P	P	14 27 16.6	-0.8
WB2	Warramunga Arr	36.47	267	P	P	14 27 15.8	-1.6
WRAB	Tennant Creek	36.48	267	P	P	14 27 15.6	-1.9
WRA	Warramunga Arr	36.49	267	P	P	14 27 16.3	-1.2
comp=Z,1.3nm,0.6s,baz=96,slow=7.9,SNR=15							
WRA	Warramunga Arr	36.49	267	P	P	14 27 15.7	-1.9
JAY	Jayapura	37.56	298	P	P	14 27 24.2	-2.6
comp=Z,13nm,1.3s							
GENI	Genyem	37.96	297	P	P	14 27 29.7	-0.4
FORT	Forrest	41.13	249	P	P	14 27 54.2	-2.0
WRKA	Warakurna	41.24	257	P	P	14 27 57.7	+0.4
baz=41,SNR=11							
MTN	Manton Dam	41.36	276	P	P	14 27 57.5	-0.8
MTN				IAmb	IAmb	14 28 19.5	
comp=Z,16nm,1.2s							
KNRA	Kununurra	42.67	271	P	P	14 28 08.9	-0.2
KNRA				IAmb	IAmb	14 28 18.4	
comp=Z,15nm,1.1s							
FITZ	Fitzroy Crossi	44.92	267	P	P	14 28 27.6	+0.5
comp=Z,15nm,0.9s,baz=112,slow=10,SNR=13							
GUMO	Guam	45.65	319	LR	LR	14 47 10.1	
comp=Z,71nm,18.0s,baz=134,slow=35							
SIJI	Sorong	46.38	292	LR	LR	14 47 36.5	
comp=Z,172nm,20.7s,baz=153,slow=35							
SOEI	Soe	48.74	277	P	P	14 28 58.2	+1.0
comp=Z,17nm,1.0s							
BATI	Baumata	49.13	276	P	P	14 29 03.0	+2.9
comp=Z,12nm,0.7s,baz=349,slow=5.5,SNR=4.1							
PSA00	Pilbara Seismi	49.46	260	P	P	14 29 01.7	-0.7
MEEK	Meekatharra	49.70	254	P	P	14 29 04.4	+0.1
baz=50,SNR=4.0							
KLBR	Kellerberrin	49.92	247	P	P	14 29 06.3	+0.4
baz=50,SNR=5.3							
SANI	Sanana	50.40	287	P	P	14 29 08.7	-0.9
comp=Z,17nm,0.9s							
BLDU	Ballidu	50.90	248	P	P	14 29 13.4	+0.2
baz=51,SNR=4.9							
MMRI	Maumere	51.02	277	P	P	14 29 13.7	-0.6
comp=Z,32nm,1.0s							
EDFI	Ende, Flores	51.48	277	P	P	14 29 17.0	-0.9
comp=Z,10nm,1.1s							
MORW	Morawa	51.64	250	P	P	14 29 18.6	-0.2
MORW				IAmb	IAmb	14 29 32.4	
comp=Z,11nm,0.9s							
KAPI	Kappang	54.70	280	LR	LR	14 55 14.4	
comp=Z,75nm,18.7s,baz=248,slow=38							
VNDA	Vanda	55.19	183	LR	LR	14 49 11.1	
comp=Z,199nm,21.9s,baz=352,slow=31							
DAV	Davao City (W)	55.40	297	LR	LR	14 52 00.9	
comp=Z,107nm,20.4s,baz=12,slow=34							
CASY	Casey	58.63	205	P	P	14 30 10.1	+1.5
CASY				IAmb	IAmb	14 30 18.7	
comp=Z,8.8nm,0.9s							
JOW	Kunigami	65.82	316	LR	LR	14 55 57.7	
comp=Z,62nm,21.1s,baz=74,slow=33							
QSPA	South Pole Qui	67.40	180	P	P	14 31 07.4	+0.3
comp=Z,4.4nm,1.0s,baz=351,slow=1.1,SNR=15							
QSPA				LR	LR	14 56 17.0	
comp=Z,170nm,21.7s,baz=340,slow=32							
QSPA	South Pole Qui	67.40	180	P	P	14 31 07.5	+0.5
MJAR	Matsushiro Arr	67.66	330	P	P	14 31 07.9	-1.0
comp=Z,6.3nm,1.2s,baz=156,slow=5.9,SNR=4.5							
MJAR				LR	LR	14 56 15.6	
comp=Z,65nm,22.0s,baz=114,slow=32							
MJAR	Matsushiro Arr	67.66	330	P	P	14 31 08.0	-0.8
MJAR				IAmb	IAmb	14 31 21.0	
comp=Z,5.7nm,1.1s							
MAJO	Matsushiro	67.66	330	P	P	14 31 08.4	-0.5
MAT	Matsushiro	67.66	330	P	P	14 31 06.8	-2.0
MJB9	Matsu-Tunnel	67.66	330	P	P	14 31 08.4	-0.5
JNU	Nakatsue	68.76	322	LR	LR	14 57 47.4	
comp=Z,62nm,21.2s,baz=101,slow=33							
RPN	Rapa Nui	69.13	112	LR	LR	14 52 37.6	
comp=Z,55nm,21.0s,baz=296,slow=28							
ASAJ	Asahikawa	72.23	337	LR	LR	14 57 31.6	
comp=Z,113nm,20.8s,baz=99,slow=31							
KSRS	Korea Array	73.58	324	P	P	14 31 46.2	+1.4
comp=Z,1.5nm,1.0s,baz=117,slow=5.9,SNR=2.5							
KSRS				LR	LR	15 00 23.5	
comp=Z,37nm,21.1s,baz=15,slow=33							
SHEM	Shemya Is, Ala	75.08	0	LR	LR	14 58 46.7	
comp=Z,

ILAR	Eielson Array	92.38	16	LR	LR	15 07 35.6
	comp=Z,47nm,21.3s,baz=184,slow=31					
PLCA	Paso Flores	93.34	137	P	P	14 33 28.1 +1.2
	comp=Z,3.1nm,1.0s,baz=193,slow=11,SNR=3.6					
PLCA	Paso Flores	93.34	137	IAmb	IAmb	14 33 33.0
	comp=Z,6.6nm,1.1s					
COLD	Coldfoot	93.63	13	P	P	14 33 27.6 +0.3
COLD				IAmb	IAmb	14 33 28.6
	comp=Z,5.5nm,1.1s					
TXAR	Lajitas Array	94.97	60	P	P	14 33 35.8 +1.3
	comp=Z,0.2nm,0.8s,baz=224,slow=3.8,SNR=2.9					
TIXI	Tiksi	98.93	347	LR	LR	15 16 27.7
	comp=Z,31nm,18.3s,baz=256,slow=34					
ARCES	ARCESS Array B	129.36	346	PKP	PKPdf	14 39 17.8 -1.5
	comp=Z,2.0nm,0.8s,baz=27,slow=0.3,SNR=6.0					
TESR	Tescani	144.20	320	⇑P	PKPbc	14 39 46.3 +0.7
HARR	Harsova	144.27	316	⇑P	PKPbc	14 39 46.3 +0.5
BURAR	Bucovina Array	144.45	322	⇑P	PKPdf	14 39 47.3 -0.6
VRI	Vrincioaia	144.47	319	⇑P	PKPdf	14 39 47.4 -0.5
PLOR	Plostina	144.53	319	⇑P	PKPbc	14 39 46.7 0.0
OZUR		144.93	320	⇑P	PKPdf	14 39 48.7 +0.1
MLR	Muntele Rosu	145.14	319	⇑P	PKPbc	14 39 48.4 -0.4
DOPR	Dopca	145.23	320	⇑P	PKPdf	14 39 50.0 +0.8
ARCR	ARCALIA	145.23	322	⇑P	PKPdf	14 39 49.8 +0.7
CRVS	Cervenica-Dubn	145.71	327	ePKP	PKPab	14 39 50.9 +0.3
VOIR		145.71	319	⇑P	PKPab	14 39 50.9 0.0
ARR	Arges	145.99	319	⇓P	PKiKP	14 39 54.0 -0.7
DRGR		146.33	323	⇑P	PKPbc	14 39 52.5 +0.2
LANS	Liptovska Anna	146.53	329	ePKP	PKPab	14 39 53.6 -0.2
MORC	Moravsky Berou	146.98	331	⇑P	PKPbc	14 39 53.2 -0.9
MORC	Moravsky Berou	146.98	331	ePKP	PKPdf	14 39 52.0 0.0
CHVC	Chvalec	147.03	333	ePKP	PKPbc	14 39 54.1 0.0
CHVC				ex	x	14 40 03.8
DPC	Dobruska-Polom	147.09	333	ePKP	PKPbc	14 39 53.5 -0.9
DPC				ex	x	14 40 04.1
UPC	Upice	147.10	333	ePKP	PKiKP	14 39 59.2 +2.5
UPC				ex	x	14 40 04.5
KOLL	Kolacno	147.43	329	ePKP	PKPab	14 39 56.5 -0.8
HERR	Herculane	147.58	320	⇑P	PKPbc	14 39 56.0 +0.2
JAVC	Velka Javorina	147.58	330	ePKP	PKPbc	14 39 55.8 0.0
BZS	Buzias	147.63	322	⇑P	PKPdf	14 39 51.7 -1.5
CLL	Collm	147.65	337	ePKPbc	PKPbc	14 39 55.0 -0.8
CLL				ePKiKP	PKPab	14 39 59.0 +1.0
	comp=Z,11nm,1.0s					
BRG	Berggiesshubel	147.65	336	ePKP	PKPbc	14 39 56.5 +0.7
BRG				Amp		14 39 57.3
	comp=Z,13nm,1.1s					
VRAC	Vranov	147.75	331	ePKP	PKPbc	14 39 54.8 -1.4
KRUC	Moravsky	148.02	331	ePKP	PKPbc	14 39 55.4 -1.5
PRU	Pruhonice	148.11	334	ePKP	PKPbc	14 39 55.9 -1.2
MODS	Modra-Piesok	148.11	329	ePKP	PKPab	14 40 00.3 +0.2
MODS				e		14 40 07.0
VTS	Vitosha	148.25	316	⇑P	PKPbc	14 39 58.6 +0.7
PBCC	Pribram	148.57	334	ePKP	PKPab	14 40 03.0 +1.2
PBCC				ex	x	14 40 07.7
NKC	Novy Kostel	148.73	336	ePKP	PKPab	14 40 03.8 +1.3
NKC				ex	x	14 40 09.0
CONA	Conrad Observa	149.09	330	eP	PKPbc	14 40 00.1 +0.3
	comp=Z,7.5nm,1.4s					
CKRC	Cesky Krumlov	149.11	333	ePKP	PKPbc	14 39 58.9 -0.8
CKRC				ex	x	14 40 09.1
KHC	Kasperske Hory	149.17	334	ePKP	PKPbc	14 39 57.9 -2.0
GERES	GERESS Array B	149.34	333	PKPbc	PKPbc	14 39 59.3 -1.1
	comp=Z,2.3nm,1.1s,baz=48,slow=2.0,SNR=9.5					
SOKA	Soboth	150.39	329	eP	PKPbc	14 40 02.3 -0.7
	comp=Z,8.9nm,1.3s					
KBA	Koelnbreinsper	150.86	331	eP	PKPbc	14 40 03.6 -0.6
	comp=Z,7.8nm,1.1s					
WATA	Walderalm	151.41	334	eP	PKPbc	14 40 03.6 -1.8
	comp=Z,12nm,1.1s					
WTTA	Wattenberg	151.44	334	eP	PKiKP	14 40 05.9 -0.1
	comp=Z,16nm,1.8s					
ABTA	Abfaltersbach	151.48	332	eP	PKPbc	14 40 04.5 -1.1
	comp=Z,7.5nm,1.2s					
MOTA	Moosalm	151.59	334	eP	PKPbc	14 40 05.2 -0.7
	comp=Z,4.2nm,1.0s					
RETA	Reutte	151.61	335	eP	PKiKP	14 40 07.4 +1.1
	comp=Z,5.3nm,1.2s					
SQTA	Sankt Quirin	151.65	334	eP	PKPbc	14 40 05.5 -0.5
	comp=Z,6.4nm,1.1s					
FETA	Feichten	152.01	334	eP	PKPbc	14 40 06.2 -0.6
	comp=Z,8.6nm,1.5s					
TORD	Torodi Ar. Bea	167.72	221	PKPab	PKPab	14 41 25.0 0.0
	comp=Z,3.4nm,0.9s,baz=151,slow=3.3,SNR=9.0					

*EAF **10** 14:45:32.3±2.8, 25°.94S×29°.01E, h0km±56km, MD3.8*
BUL 10 14:45:32.3±2.8, 25°.94S×29°.01E, h0km±56km, MD4.1, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	3.22	286	*i* P	Pn	14 46 24.9	+0.6
LBTB				*i* Sg	Sb	14 47 12.8	+2.4
LBTB	Lobatse	3.22	286	*i* P	Pn	14 46 24.9	+0.6
LBTB				*i* Sg	Sb	14 47 12.8	+2.4
BOSA	Boshof	4.27	231	*i* P	Pn	14 46 39.9	+1.2
BOSA				*i* Sg	Sb	14 47 43.0	+2.4
BOSA	Boshof	4.27	231	*i* P	Pn	14 46 39.9	+1.2
BOSA				*i* Sg	Sb	14 47 43.0	+2.4
MATP	Matopo	5.51	355	eP	Pn	14 46 54.3	-1.5
MATP				*i* S	Sn	14 47 54.1	-5.9
MATP	Matopo	5.51	355	eP	Pn	14 46 54.3	-1.5
MATP				*i* S	Sn	14 47 54.1	-5.9

*CNRM **10** 14:46:21.7, 35°.58N×4°.63W, h101km, ml2.3*
*LDG **10** 14:46:23.7±0.4, 35°.83N×4°.52W, h75km, Ml2.6/3, Error ellipse: s-maj=8.3km s-min=4.4km az=175.0*
*IGIL **10** 14:46:24.1, 35°.69N×4°.72W, h16km, ML2.3*
*INMG **10** 14:46:24.1±1.4, 35°.68N×4°.66W, h31km±9km, ML2.4, Error ellipse: s-maj=3.9km s-min=2.9km az=2.0*
*SFS **10** 14:46:24.0, 35°.71N×4°.57W, h75km, ML3.4, ALBORAN OESTE*
ISC 10 14:46:22.5±1.1, 35°.68N±0°.03×4°.64W±0°.03, h35km, n40, σ1§64/70, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIR	Smir Dam	0.60	271	P	Pn	14 46 40.8	+6.3
SMIR				S	Sn	14 46 53.2	+10
CEU	Ceuta	0.63	291	P	Pn	14 46 38.1	+3.2
CEU				S	Sn	14 46 48.3	+4.5
PALE	Palemas	0.73	129	P	Pn	14 46 38.9	+2.5
PALE				S	Sn	14 46 51.0	+4.6
EMAL	Malaga-Limoner	1.09	9	P	Pn	14 46 43.3	+2.0
EMAL				S	Sn	14 46 57.5	+2.2
GOG	Mont Gurugu	1.42	108	P	Pn	14 46 46.5	+0.7
GOG				S	Sn	14 47 03.7	+0.4
TAF	Taforalt	2.02	115	P	Pn	14 46 54.5	+0.4
TAF				S	Sn	14 47 19.6	+1.5
JBK	JBK	2.17	128	P	Pn	14 46 56.1	-0.2
JBK				S	Sn	14 47 21.1	-0.8
IFR	Ifrane	2.19	191	P	Pn	14 46 56.8	+0.2
IFR				S	Sn	14 47 21.2	-1.4
ZHG	ZHG	2.77	217	P	Pn	14 47 05.3	+0.8
ZHG				S	Sn	14 47 38.9	+2.2
MD31	MD31	2.81	182	P	Pn	14 47 05.6	+0.7
MD31				S	Sn	14 47 35.4	-2.1
MDT	Midelt	2.86	179	P	Pn	14 47 05.9	+0.3
MDT				S	Sn	14 47 37.6	-1.2
PVAQ	Vaqueiros	3.02	306	ePn	Pn	14 47 08.8	+1.1
PVAQ				eSn	Sn	14 47 42.1	-0.5
PVAQ				A	A	14 47 43.9	
	9.7nm,0.3s						
PVAQ	Vaqueiros	3.02	306	P	Pn	14 47 08.8	+1.1
PVAQ				S	Sn	14 47 44.0	+1.3
PBDV	Barranco-do-Ve	3.08	301	⇑ePn	Pn	14 47 09.8	+1.2
PBDV				eSn	Sn	14 47 43.9	-0.3
PBDV				A	A	14 47 48.5	
	8.2nm,0.7s						
PCVE	Castro Verde	3.36	307	ePn	Pn	14 47 13.5	+1.1
PBEJ	Beja	3.49	313	ePn	Pn	14 47 15.5	+1.3
PBEJ				eSn	Sn	14 47 54.0	-0.3
MESJ	Messejana	3.59	308	eP	Pn	14 47 16.9	+1.2
MESJ				eS	Sn	14 47 55.5	-1.4
MESJ				IAML		14 47 60.0	
	comp=N,7.4nm,0.3s						
MESJ	Messejana	3.59	308	ePn	Pn	14 47 16.9	+1.2
MESJ				eSn	Sn	14 47 55.5	-1.4
MORF	Marmelete	3.62	298	eP	Pn	14 47 17.0	+1.0
MORF				eS	Sn	14 47 55.7	-1.8
MORF				IAML		14 47 58.9	
	comp=N,10nm,0.2s						
MORF	Marmelete	3.62	298	ePn	Pn	14 47 17.0	+1.0
MORF				eSn	Sn	14 47 57.2	-0.3
MORF				A	A	14 48 04.3	
	comp=N,7.0nm,0.7s						
PFVI	Vila Bisbo	3.67	294	ePn	Pn	14 47 18.0	+1.2
PFVI				eSn	Sn	14 47 58.1	-0.8
PFVI				A	A	14 48 02.6	
	comp=N,14nm,0.6s						
PTEO	Sao Teotonio	3.78	301	ePn	Pn	14 47 19.5	+1.3
PTEO				eSn	Sn	14 48 00.8	-0.6
EVO	Evora	3.92	318	ePn	Pn	14 47 21.6	+1.4
EVO				eSn	Sn	14 48 03.8	-1.2
EVO				A	A	14 48 05.3	
	comp=N,12nm,0.1s						
PNCL	Nicolau / Gran	3.95	309	ePn	Pn	14 47 21.6	+1.0
PNCL				eSn	Sn	14 48 04.6	-1.1
PNCL				A	A	14 48 05.9	
	comp=N,3.4nm,0.3s						
PESTR	Estremoz	3.96	324	ePn	Pn	14 47 22.2	+1.5
PESTR				eSn	Sn	14 48 04.8	-1.1
PESTR				A	A	14 48 06.6	
	comp=N,2.7nm,0.1s						
PESTR	Estremoz	3.96	324	P	Pn	14 47 22.4	+1.7
PESTR				S	Sn	14 48 06.2	+0.3
PMRV	Marv??o	4.33	331	ePn	Pn	14 47 27.3	+1.4
PMRV				eSn	Sn	14 48 13.0	-2.2
PMRV				A	A	14 48 13.6	
	comp=N,4.0nm,0.5s						
PMTG	Montargil	4.43	321	ePn	Pn	14 47 28.4	+1.3
PMTG				eSn	Sn	14 48 15.6	-1.8
PMTG				A	A	14 48 22.9	
	comp=N,3.9nm,0.5s						
PCBR	Castelo Branco	4.72	332	ePn	Pn	14 47 32.6	+1.4
PCBR				eSn	Sn	14 48 22.1	-2.6
PCBR				A	A	14 48 24.1	
	comp=N,4.3nm,0.3s						
PSBE	So Bento	5.05	320	ePn	Pn	14 47 37.4	+1.6
PSBE				eSn	Sn	14 48 31.1	-1.8
OUZM	OUZ	5.08	201	P	Pn	14 47 36.4	+0.2
OUZM				S	Sn	14 48 33.5	-0.1
OUK	Oukaimeden	5.21	212	P	Pn	14 47 38.0	-0.3
OUK				S	Sn	14 48 34.8	-2.5
PCAS	Casmilo, Conde	5.33	326	ePn	Pn	14 47 40.8	+1.3
PVIS	Viseu	5.64	334	ePn	Pn	14 47 45.7	+1.8
PVIS				eSn	Sn	14 48 46.5	-1.0
PVRL	Vila Real	6.09	338	ePn	Pn	14 47 51.3	+1.3
PVRL				eSn	Sn	14 48 55.8	-2.6
PVRL				A	A	14 48 59.7	
	comp=N,13nm,0.4s						
POLO	Lamas de Olo	6.20	337	ePn	Pn	14 47 53.0	+1.4
ETSF	Etsaut	7.87	22	eP	Pn	14 48 14.5	0.0
ETSF				eSn	Sn	14 49 33.4	-9.0
	comp=N,0.3nm,0.2s						
SJPF	Ste Jean	7.88	19	ePn	Pn	14 48 12.2	-2.4
SJPF				eSn	Sn	14 49 34.2	-8.3
	comp=N,0.4nm,0.3s						
EPF	Esparros	8.29	26	ePn	Pn	14 48 16.6	-3.6
EPF				eSn	Sn	14 49 43.9	-8.8
	comp=N,0.2nm,0.2s						
MFF	Saint Martin d	11.43	16	ePn	Pn	14 49 01.2	-1.8

*NEIC **10** 14:57:44.3±1.5, 16°.4S±0°.2×176°.2W±0°.1, h383km±7km, mb4.0/18, Error ellipse: s-maj=31.7km s-min=12.3km az=155.0*
*IDC **10** 14:57:44.6±1.6, 16°.23S×176°.40W, h377km±18km, mb3.2/5, mb1 3.5/7, mb1mx3.1/38, mbtmp4.0/7, Error ellipse: s-maj=85.1km s-min=17.6km az=152.0*
ISC 10 14:57:43.3±0.7, 16°.4S±0°.2×176°.2W±0°.1, h364km, n26, σ1§38/25, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.98	60	P	Pn	14 59 04.4	+1.0
	8.3nm,0.3s,baz=195,slow=0.4,SNR=16						
MSVF	Nonsavu	5.62	256	P	Pn	14 59 13.1	+2.7
	2.1nm,0.3s,baz=88,slow=11,SNR=23						
MSVF	Nonsavu	5.62	256		Pn	14 59 12.6	+2.2
ARMA	Armidale	32.48	239	P	P	15 03 41.7	+0.3
ARMA				IAmb	IAmb	15 03 55.1	
	comp=Z,11nm,1.3s						
CTAO	Charters Tower	35.76	258	P	P	15 04 10.0	+0.6
CTAO				IAmb	IAmb	15 04 36.9	
	comp=Z,11nm,1.4s						
COEN	Coen	39.20	268	P	P	15 04 37.9	-0.1
COEN				IAmb	IAmb	15 04 49.4	
	comp=Z,11nm,1.2s						
TOO	Toolangi	39.71	230	P	P	15 04 42.6	+0.7
TOO				IAmb	IAmb	15 04 47.8	
	comp=Z,16nm,1.4s						
STKA	Stephens Creek	41.16	240	P	P	15 04 54.0	+0.3
	comp=Z,1.0nm,0.4s,baz=89,slow=12,SNR=5.6						
STKA	Stephens Creek	41.16	240	IAmb	IAmb	15 04 56.0	
	comp=Z,0.8nm,1.2s						
BBOO	Buckleboo	45.94	240	P	P	15 05 30.6	-0.9
BBOO				IAmb	IAmb	15 05 48.4	
	comp=Z,10nm,1.4s						
WR0	Warramunga Arr	46.77	258	P	P	15 05 36.4	-1.6
WB0	Warramunga Arr	46.92	258	P	P	15 05 37.5	-1.7
WB2	Warramunga Arr	46.95	258	P	P	15 05 37.7	-1.6
WB2				IAmb	IAmb	15 05 40.6	
	comp=Z,7.3nm,1.4s						
WRAB	Tennant Creek	46.95	258	P	P	15 05 37.8	-1.6
WRA	Warramunga Arr	46.96	258	P	P	15 05 37.9	-1.5
	comp=Z,1.7nm,0.5s,baz=94,slow=7.0,SNR=74						
WRA	Warramunga Arr	46.96	258	P	P	15 05 37.8	-1.7
AS31	Alice Springs	47.20	253	P	P	15 05 40.2	-1.1
AS31				IAmb	IAmb	15 05 40.9	
	comp=Z,3.7nm,0.5s						
ASAR	Alice Springs	47.20	253	P	P	15 05 40.4	-0.9
	comp=Z,10nm,0.5s,baz=89,slow=7.8,SNR=545						
MTN	Manton Dam	50.94	267	P	P	15 06 08.4	-0.9
MTN				IAmb	IAmb	15 06 27.5	
	comp=Z,13nm,1.3s						
KNRA	Kununurra	52.72	263	P	P	15 06 21.6	-0.8
PSA00	Pilbara Seismi	60.30	254	P	P	15 07 14.6	-0.6
MORW	Morawa	62.98	245	P	P	15 07 32.3	-0.5
QSPA	South Pole Qui	73.62	180	P	P	15 08 36.8	-0.8
QSPA				IAmb	IAmb	15 08 50.4	
	comp=Z,2.4nm,1.2s						
KMRM	Mail Ridge	74.55	39	P	P	15 08 41.7	-1.5
TXAR	Lajitas Array	83.45	57	P	P	15 09 33.4	+2.0
	comp=Z,0.2nm,0.8s,baz=230,slow=8.1,SNR=2.3						
ILAR	Eielson Array	83.99	12	P	P	15 09 32.4	-0.7
	comp=Z,0.2nm,0.5s,baz=209,slow=5.6,SNR=1.7						

*IDC **10** 15:09:09.8±8.3, 31°.37N×138°.08E, h80km±103km, mb3.0/3, mb1 3.2/4, mb1mx2.9/42, mbtmp3.4/4, ML2.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/17, Error ellipse: s-maj=82.1km s-min=31.3km az=63.0*
*JMA **10** 15:09:13.3±0.4, 32°.45N×139°.23E, h190km, M2.9*
ISC 10 15:09:14.1±1.2, 32°.65N±0°.09×139°.10E±0°.10, h200km, n14, σ1§96/16, mb3.1/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	0.74	50	P	Pn	15 09 45.6	+3.3
	4.9nm,0.3s,baz=270,slow=19,SNR=2.0						
JHJ				S	Sn	15 10 13.3	+9.1
	11nm,0.3s,baz=146,slow=23,SNR=5.8						
JHJ				LR	LR	15 10 23.5	
	comp=Z,185nm,21.4s,baz=58,slow=32						
BSO3	Boso 3	2.45	28	eS	Sn	15 10 32.0	+1.2
BSO1	Boso 1	2.54	37	P	Pn	15 09 58.1	+0.3
BSO1				S	Sn	15 10 33.2	+1.1
JOD2	Odawara 2	2.61	360	P	Pn	15 10 01.1	+1.9
JOD2				eS	Sn	15 10 37.2	+2.6
JIE	Ise	2.65	312	P	Pn	15 10 01.0	+1.3
JKN2	Miekihoku	2.85	305	P	Pn	15 10 03.1	+1.2
JNY	Yasuok	2.90	339	P	Pn	15 10 04.2	+1.7
JHU	Hanno	3.20	3	P	Pn	15 10 06.6	+0.5
JHU				eS	Sn	15 10 45.7	-1.2
JRY	Ryogami san	3.37	357	P	Pn	15 10 09.5	+1.4
JYT	Yasato	3.68	14	S	Sn	15 10 54.4	-3.0
JAG	Ashikaga	3.78	4	P	Pn	15 10 12.5	-0.6
SONM	Songino Array	28.95	311	P	P	15 15 03.6	+8.7
	0.2nm,0.4s,baz=103,slow=8.4,SNR=2.0						
WRA	Warramunga Arr	52.49	186	P	P	15 18 04.4	-2.3
	0.2nm,0.4s,baz=1.9,slow=7.7,SNR=11						
ASAR	Alice Springs	56.22	186	P	P	15 18 32.3	-1.2
	0.1nm,0.3s,baz=19,slow=10,SNR=6.5						

*TUL **10** 15:12:01.9±0.9, 36°.61N±0°.03×98°.10W±0°.03, h7km±7km, ML3.1, mb_Lg2.8/45(NEIC), Error ellipse: s-maj=4.9km s-min=2.8km az=141.0*
NEIC 10 15:12:02.0±1.1, 36°.59N±0°.03×98°.06W±0°.03, h8km±7km, Error ellipse: s-maj=5.1km s-min=1.1km az=146.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.25	331	Pg	Pg	15 12 06.6	-0.4
OK032				Sg	Sg	15 12 09.3	-1.0
GC02	Grant County #	0.31	31	Pg	Pg	15 12 08.4	+0.2
KAN14	Manchester OK	0.38	12	Pg	Pg	15 12 09.3	-0.1
KAN17	Caldwell West	0.51	27		Pg	15 12 11.9	0.0
KAN10	Anthony SW Sta	0.54	357	Pg	Pg	15 12 12.1	-0.3
KAN10				Sg	Sg	15 12 18.5	-0.9
OK035	E0210 Rd and N	0.54	283	Pg	Pg	15 12 11.6	-0.8
OK035				Sg	Sg	15 12 18.4	-1.0
KAN05	Bluff City Nor	0.54	16		Pg	15 12 12.3	-0.2
KAN05				Sg	Sg	15 12 18.9	-0.7
KAN01	Argonia South	0.61	23		Pg	15 12 13.7	-0.2
KAN13	South Haven SW	0.63	48	Pg	Pg	15 12 14.2	0.0
KAN16	Harper SW Stat	0.64	360	Pg	Pg	15 12 13.9	-0.4
KAN08	Anthony NE Sta	0.64	6		Pg	15 12 14.0	-0.4
KAN08				Sg	Sg	15 12 21.6	-1.2
KAN06	Argonia West S	0.68	14		Pg	15 12 14.8	-0.3
BLOK	Blackwell	0.70	76	Pg	Pg	15 12 15.7	+0.2
KAN12	Harper NE Stat	0.71	4	Pg	Pg	15 12 15.3	-0.4
BCOK	Bluff Creek, N	1.00	158	Pg	Pg	15 12 20.7	-0.5
OK025	Westminster Rd	1.16	150		Pb	15 12 23.9	-0.4
QUOK	Quay	1.17	110		Pb	15 12 24.2	-0.2
OK031	S. Brethren Rd	1.17	122		Pb	15 12 24.2	-0.2
OK030	Cody Creek RV	1.22	122		Pb	15 12 25.1	-0.2
OKCFA	Oklahoma City	1.27	157		Pn	15 12 25.4	-0.6
OKCSW	OKLAHOMA CITY	1.28	157		Pn	15 12 25.7	-0.5
T35A	Sooner Cattle	1.28	75		Pn	15 12 26.2	0.0
FNO	Franklin	1.43	158	Pn	Pn	15 12 28.2	-0.1
W35A	Tecumseh	1.73	146		Pn	15 12 32.3	0.0
W35A				IAmb_Lg		15 13 02.0	
	comp=Z,45nm,0.8s						
R32A	Long Quarter,	1.90	344		Pn	15 12 35.1	+0.4
WMOK	Wichita Mounta	1.94	198		Pn	15 12 35.5	+0.3
TUL1	Leonard	1.95	110		Pn	15 12 36.1	+0.7
TUL1				IAmb_Lg		15 13 06.5	
	comp=Z,41nm,0.7s						
X34A	Smith Ranch, M	1.99	175	IAmb_Lg		15 13 09.2	
	comp=Z,47nm,0.8s						
CBKS	Cedar Bluff	2.59	330	Pn	Pn	15 12 44.4	+0.2
LOOK	Love County	2.69	164	Pn	Pn	15 12 46.3	+0.8
LOOK				IAmb_Lg		15 13 30.5	
	comp=Z,24nm,0.8s						
KSU1	Kansas State U	2.76	24	Pn	Pn	15 12 46.8	+0.3
U38A	Gravette	2.96	92	Pn	Pn	15 12 50.2	+0.9
X37A	Clayton	2.96	132	Pn	Pn	15 12 50.2	+1.0
Z35A	Perchaven, San	3.32	168	Pn	Pn	15 12 54.1	0.0
HHAR	Hobbs	3.34	94	Pn	Pn	15 12 54.8	+0.4
AMTX	Amarillo	3.40	241	IAmb_Lg		15 13 55.8	
	comp=Z,22nm,1.0s						
W39A	Magazine	3.74	111	Pn	Pn	15 13 00.7	+0.7
W39A				IAmb_Lg		15 14 08.5	
	comp=Z,22nm,0.7s						
S39A	Bolivar	3.94	72	Pn	Pn	15 13 03.1	+0.4
MIAR	Mount Ida	4.18	118	Pn	Pn	15 13 06.5	+0.4
MIAR				IAmb_Lg		15 14 19.1	
	comp=Z,15nm,0.8s						
U40A	Yellville	4.20	92	Pn	Pn	15 13 06.8	+0.4
U40A				IAmb_Lg		15 14 24.0	
	comp=Z,26nm,0.9s						
KSCO	Kaye Shedlock'	4.35	305	Pn	Pn	15 13 08.7	+0.2
MSTX	Muleshoe	4.66	237	Pn	Pn	15 13 12.4	-0.3
MGMO	Mountain Grove	4.68	81	Pn	Pn	15 13 13.5	+0.7
MGMO				IAmb_Lg		15 14 38.0	
	comp=Z,21nm,0.7s						
P38A	Dawn	4.68	48	IAmb_Lg		15 14 39.5	
	comp=Z,26nm,1.1s						
X40A	Basin Creek Fa	4.75	115	IAmb_Lg		15 14 37.6	
	comp=Z,16nm,0.7s						
BGNE	Belgrade	4.81	359	Pn	Pn	15 13 14.6	-0.1
WHAR	Wooly Hollow	4.86	104	IAmb_Lg		15 14 42.7	
	comp=Z,26nm,0.7s						
R40A	Maddies Statio	4.91	68	Pn	Pn	15 13 16.4	+0.3
R40A				IAmb_Lg		15 14 44.9	
	comp=Z,23nm,1.1s						
W41B	Gary Mavity, V	4.92	105	IAmb_Lg		15 14 43.1	
	comp=Z,18nm,0.8s						
P40A	Paris	5.58	56	IAmb_Lg		15 15 05.2	
	comp=Z,19nm,0.7s						
LCAR	Lake Charles	5.60	93	IAmb_Lg		15 15 04.4	
	comp=Z,15nm,0.8s						
T42A	Van Buren	5.61	83	IAmb_Lg		15 15 05.6	
	comp=Z,18nm,0.9s						
CCM	Cathedral Cave	5.62	73	IAmb_Lg		15 15 06.3	
	comp=Z,18nm,0.7s						
N38A	Joes South For	5.64	40	IAmb_Lg		15 15 07.5	
	comp=Z,21nm,0.7s						
435B	Jarrell	5.80	176	IAmb_Lg		15 15 18.1	
	comp=Z,20nm,0.9s						
Q24A	Divide	6.10	295	IAmb_Lg		15 15 19.6	
	comp=Z,13nm,0.7s						
FVM	French Village	6.24	75	IAmb_Lg		15 15 23.9	
	comp=Z,18nm,0.7s						
JCT	Junction City	6.26	194	IAmb_Lg		15 15 28.5	
	comp=Z,15nm,0.8s						

*IDC **10** 15:23:08.7±0.7, 58°.48S×148°.60W, h0km, mb4.0/9, m

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.15**	**285**	⇑P	**Pn**	**15 37 09.7**	**-0.1**
JTHR	**Tokachihiroo**	**0.26**	**79**	⇑P	**Pn**	**15 37 10.3**	**-0.1**
JTHR				*e*S	**Sn**	**15 37 16.8**	**-0.6**
JEM	**Erimo**	**0.27**	**146**	⇑P	**Pn**	**15 37 11.2**	**+0.8**
ERM	**Erimo**	**0.27**	**146**	*c i* PN	**Pn**	**15 37 10.9**	**+0.5**
ERM				pmax	pmax		
comp=Z,3μm,0.7s							
ERM	**Erimo**	**0.27**	**146**	Pn	**Pn**	**15 37 11.2**	**+0.7**
ERM				Sn	**Sn**	**15 37 17.5**	**0.0**
JSHD	**Hidakashinhida**	**0.40**	**295**	⇓P	**Pn**	**15 37 11.9**	**+0.4**
JCH	**Churui**	**0.48**	**39**	⇑P	**Pn**	**15 37 11.8**	**-0.6**
JCH				*e*S	**Sn**	**15 37 19.9**	**-0.9**
JBT2	**Biratori 2**	**0.69**	**321**	⇓P	**Pn**	**15 37 14.5**	**-0.3**
JIAM	**Iburiatsuma**	**0.86**	**297**	⇓P	**Pn**	**15 37 18.0**	**+1.2**
JOB	**Onbets**	**0.93**	**44**	⇑P	**Pn**	**15 37 17.9**	**+0.2**
JFR	**Furan**	**0.96**	**344**	P	**Pn**	**15 37 17.2**	**-1.0**
JAR	**Ashorobuto**	**1.22**	**29**	P	**Pn**	**15 37 20.9**	**-0.6**
JAR				*e*S	**Sn**	**15 37 35.3**	**-1.8**
JEW	**Eniwo**	**1.26**	**299**	P	**Pn**	**15 37 22.8**	**+0.6**
JEW	**Eniwo**	**1.26**	**299**	Pn	**Pn**	**15 37 22.5**	**+0.3**
JEW				Sn	**Sn**	**15 37 37.5**	**-0.8**
JAB	**Ashibetsu**	**1.37**	**337**	P	**Pn**	**15 37 23.9**	**+0.3**
AKK	**Akkeshi**	**1.59**	**60**	*e*P	**Pn**	**15 37 26.2**	**-0.4**
AKK				*e*S	**Sn**	**15 37 45.5**	**-0.7**
JKA	**Kamikawa-asahi**	**1.89**	**352**	Pn	**Pn**	**15 37 30.9**	**+0.2**
ASAJ	**Asahikawa**	**1.89**	**352**	P	**Pn**	**15 37 31.4**	**+0.7**
comp=Z,65nm,0.3s,baz=196,slow=16,SNR=250							
ASAJ				S	**Sn**	**15 37 54.0**	**+0.6**
comp=Z,25nm,0.3s,baz=350,slow=23,SNR=11							
ASAJ				LR	LR	15 38 36.4	
comp=Z,174nm,20.1s,baz=102,slow=54							
JTM	**Tenmabayashi**	**2.03**	**225**	Pn	**Pn**	**15 37 33.5**	**+1.0**
NMR	**Nemuro--Hokkai**	**2.33**	**60**	*e*P	**Pn**	**15 37 35.4**	**-1.2**
NMR				*e*S	**Sn**	**15 38 01.7**	**-2.4**
GLVR	**Golovnino**	**2.41**	**51**	*e*PN	**Pn**	**15 37 38.4**	**+0.8**
GLVR				*e*S	**Sn**	**15 38 06.9**	**+1.0**
GLVR				pmax	pmax		
comp=N,89nm,0.2s							
GLVR				pmax	pmax		
comp=E,97nm,0.2s							
GLVR				pmax	pmax		
comp=Z,246nm,0.2s							
GLVR				smax	smax		
comp=N,1μm,0.3s							
GLVR				smax	smax		
comp=E,575nm,0.3s							
GLVR	**Golovnino**	**2.41**	**51**	*e*P	**Pn**	**15 37 38.4**	**+0.8**
GLVR				AMB	AMB	15 37 41.6	
comp=E,250nm,0.3s							
GLVR				*e*S	**Sn**	**15 38 06.9**	**+1.0**
GLVR				A	A	15 38 08.0	
comp=E,1μm,0.5s							
GLVR				A	A	15 38 08.0	
comp=E,580nm,0.5s							
RUSJ	**Misakicho**	**2.51**	**41**	*e*PN	**Pn**	**15 37 41.6**	**+2.6**
RUSJ				*e*S	**Sn**	**15 38 12.3**	**+3.9**
YUK	**Yuzh-Kuril'sk**	**2.78**	**49**	*d i* PN	**Pn**	**15 37 44.1**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**2.78**	**49**	*e*P	**Pn**	**15 37 43.2**	**+0.4**
YUK				AMB	AMB	15 37 48.7	
comp=E,200nm,0.7s							
YUK				*e*S	**Sn**	**15 38 15.1**	**0.0**
YUK				A	A	15 38 20.7	
comp=E,480nm,0.5s							
YUK				A	A	15 38 20.7	
comp=E,460nm,0.5s							
SHO	**Shikotan**	**3.27**	**59**	*e*PN	**Pn**	**15 37 49.4**	**-0.1**
SHO				*e*S	**Sn**	**15 38 25.8**	**-1.4**
SHO				pmax	pmax		
comp=Z,33nm,0.2s							
SHO				smax	smax		
comp=E,221nm,0.3s							
SHO				smax	smax		
comp=N,230nm,0.5s							
SHO	**Shikotan**	**3.27**	**59**	*e*P	**Pn**	**15 37 49.4**	**-0.1**
SHO				AMB	AMB	15 37 50.1	
comp=N,30nm,0.4s							
SHO				*e*S	**Sn**	**15 38 25.8**	**-1.4**
SHO				A	A	15 38 28.9	
comp=N,220nm,0.3s							
SHO				A	A	15 38 28.9	
comp=N,230nm,0.3s							
KUR	**Kuril'sk**	**4.65**	**48**	PN	**Pn**	**15 38 08.6**	**+0.3**
KUR				*e*S	**Sn**	**15 39 02.8**	**+1.9**
KUR				pmax	pmax		
comp=Z,57nm,0.5s							
KUR				smax	smax		
comp=N,94nm,0.5s							
KUR				smax	smax		
comp=E,42nm,0.4s							
KUR	**Kuril'sk**	**4.65**	**48**	*e*P	**Pn**	**15 38 09.3**	**+1.0**
KUR				AMB	AMB	15 38 14.9	
comp=E,170nm,0.9s							
KUR				*e*S	**Sn**	**15 39 01.0**	**+0.1**
KUR				A	A	15 39 12.0	
comp=E,210nm,0.9s							
KUR				A	A	15 39 12.0	
comp=E,200nm,0.9s							
JMM	**Marumori**	**4.67**	**202**		**Pn**	**15 38 08.2**	**-0.4**
YSS	**Yuzh-Sakhalins**	**4.71**	**358**	*e*PN	**Pn**	**15 38 10.9**	**+1.7**
YSS				*e*S	**Sn**	**15 39 01.9**	**-0.6**
YSS				pmax	pmax		
comp=Z,40nm,0.9s							
YSS				smax	smax		
comp=N,20nm,0.9s							
YSS	**Yuzh-Sakhalins**	**4.71**	**358**	Pn	**Pn**	**15 38 10.4**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.71**	**358**	*e*P	**Pn**	**15 38 10.9**	**+1.7**
YSS				AMB	AMB	15 38 13.1	
comp=N,40nm,0.9s							
YSS				*e*S	**Sn**	**15 39 01.9**	**-0.6**
MJB9	**Matsu-Tunnel**	**6.77**	**214**	Pn	**Pn**	**15 38 36.3**	**-1.1**
MAJO	**Matsushiro**	**6.77**	**214**	⇑*e*PN	**Pn**	**15 38 40.1**	**+2.6**
MAJO	**Matsushiro**	**6.77**	**214**	Pn	**Pn**	**15 38 36.3**	**-1.2**
MJAR	**Matsushiro Arr**	**6.77**	**214**	P	**Pn**	**15 38 39.2**	**+1.7**
comp=N,0.2nm,0.3s,baz=29,slow=12,SNR=10							
JGF	**Kuroka**	**7.93**	**215**	Pn	**Pn**	**15 38 51.3**	**-2.1**
USRK	**Ussuriysk Ar.**	**8.25**	**287**	P	**Pn**	**15 38 59.3**	**+1.8**
baz=106,slow=13,SNR=5.5							
TYV	**Tymovskoe**	**8.63**	**359**	*e*PN	**Pn**	**15 39 06.6**	**+3.9**
TYV				*e*S	**Sn**	**15 40 41.0**	**+2.5**
TYV				pmax	pmax		
comp=Z,10.0nm,1.0s							
TYV				pmax	pmax		
comp=Z,300nm,4.6s							
TYV				smax	smax		
comp=N,7.0nm,1.4s							
TYV				smax	smax		
comp=E,7.0nm,1.4s							
TYV	**Tymovskoe**	**8.63**	**359**	*e*P	**Pn**	**15 39 05.0**	**+2.3**
TYV				AMB	AMB	15 39 08.4	
comp=E,10.0nm,0.7s							
TYV				*e*S	**Sn**	**15 40 38.5**	**0.0**
KLR	**Kul'dur**	**10.49**	**316**	P	**Pn**	**15 39 30.6**	**+2.4**
comp=E,0.1nm,0.3s,baz=122,slow=16,SNR=4.3							
KLR				LR	LR	15 43 35.7	
comp=E,70nm,19.4s,baz=175,slow=38							
KLR	**Kul'dur**	**10.49**	**316**	⇑*e*PN	**Pn**	**15 39 30.8**	**+2.6**
KLR				pmax	pmax		
comp=Z,14nm,2.4s							
KLR	**Kul'dur**	**10.49**	**316**	*e*P	**Pn**	**15 39 30.0**	**+1.8**
SKR	**Severo-Kuril's**	**12.38**	**43**	*e*PN	**Pn**	**15 39 54.8**	**+0.8**
SKR				*e*S	**Sn**	**15 42 13.7**	**+3.6**
SKR				pmax	pmax		
comp=Z,200nm,4.3s							
SKR				MLR	MLR		
comp=Z,300nm,16.0s							
SKR	**Severo-Kuril's**	**12.38**	**43**	*e*P	**Pn**	**15 39 53.5**	**-0.5**
SKR				AMB	AMB	15 40 00.4	
comp=Z,200nm,4.3s							
KSRS	**Korea Array**	**12.50**	**252**	P	**Pn**	**15 39 57.9**	**+2.2**
comp=Z,0.1nm,0.3s,baz=62,slow=13,SNR=4.5							
KSRS				LR	LR	15 44 16.3	
comp=Z,46nm,21.4s,baz=55,slow=34							
JOW	**Kunigami**	**19.51**	**223**	LR	LR	15 49 06.4	
comp=Z,51nm,20.7s,baz=46,slow=37							
YAK	**Yakutsk**	**21.35**	**343**	P	**P**	**15 41 39.6**	**-3.0**
comp=Z,4.0nm,0.6s,baz=350,slow=3.3,SNR=6.3							
YAK				LR	LR	15 50 18.9	
comp=Z,35nm,19.2s,baz=235,slow=38							
YAK	**Yakutsk**	**21.35**	**343**	⇑*e*P	**P**	**15 41 40.6**	**-2.0**
YAK				pmax	pmax		
comp=Z,10.0nm,0.9s							
SEY	**Seymchan**	**21.46**	**12**	P	**P**	**15 41 40.9**	**-3.0**
comp=Z,1.2nm,0.4s,baz=186,slow=9.9,SNR=17							
HHC	**Hu-ho-hao-te**	**23.47**	**277**	*e*P	**P**	**15 42 03.7**	**-1.4**
HHC				pmax	pmax		
comp=Z,15nm,1.1s							
HHC				pmax	pmax		
comp=Z,80nm,7.2s							
ULN	**Ulaanbaatar**	**25.82**	**295**	⇑*e*P	**P**	**15 42 25.7**	**-0.7**
ULN				pmax	pmax		
comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**25.82**	**295**	*e*P	**P**	**15 42 25.7**	**-0.7**
SONM	**Songino Array**	**26.26**	**295**	P	**P**	**15 42 30.3**	**-0.1**
comp=Z,2.4nm,0.7s,baz=75,slow=8.5,SNR=16							
SONM	**Songino Array**	**26.26**	**295**	P	**P**	**15 42 30.0**	**-0.4**
SONM				pmax	pmax		
comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**26.26**	**295**	P	**P**	**15 42 30.0**	**-0.4**
XAN	**Xi'an**	**27.85**	**264**	P	**P**	**15 42 45.2**	**+0.5**
XAN				pP	pP	15 42 52.6	-6.5
XAN				pmax	pmax		
comp=Z,3.0nm,0.5s							
ZAK	**Zakamensk**	**28.31**	**300**	*e*P	P	15 42 41.8	-6.9
ZAK				pmax	pmax		
comp=Z,3.0nm,1.1s							
BILL	**Bilibino**	**28.71**	**18**	*e*P	**P**	**15 42 55.9**	**+4.0**
BILL				*e*		15 43 47.2	
BILL				*e*		15 46 00.2	
BILL				pmax	pmax		
comp=Z,2.0nm,1.3s							
H11N2	**WAKE ISLAND Hy**	**30.22**	**131**	T	T	16 14 31.8	
baz=323,slow=75,SNR=31							
H11N1	**WAKE ISLAND Hy**	**30.23**	**131**	T	T	16 14 37.1	
baz=323,slow=75,SNR=39							
H11N3	**WAKE ISLAND Hy**	**30.24**	**131**	T	T	16 14 37.5	
baz=323,slow=75,SNR=31							
H11S1	**WAKE ISLAND Hy**	**31.09**	**132**	T	T	16 15 42.3	
baz=325,slow=76,SNR=39							
H11S3	**WAKE ISLAND Hy**	**31.10**	**132**	T	T	16 15 46.3	
baz=325,slow=76,SNR=36							
H11S2	**WAKE ISLAND Hy**	**31.11**	**132**	T	T	16 15 47.2	
baz=325,slow=76,SNR=27							
GTA	**Gaotai**	**32.51**	**280**	⇓P	**P**	**15 43 26.5**	**+0.6**
GTA				pP	pP	15 43 30.2	-10
GTA				sP	sP	15 43 32.8	-15
GTA				pmax	pmax		
comp=Z,5.0nm,0.9s							
PZH	**PanZhiHua**	**37.07**	**258**	P	**P**	**15 44 05.0**	**-0.4**
PZH				pmax	pmax		
comp=Z,10.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,100nm,5.1s							
GOMU	**GeErMu**	**37.38**	**277**	P	**P**	**15 44 08.2**	**+0.1**
GOMU				pP	pP	15 44 13.6	-9.4
GOMU				sP	sP	15 44 20.7	-9.2
GOMU				PcP	PcP	15 46 04.4	-22
GOMU				pmax	pmax		
comp=Z,4.0nm,0.6s							
DGZ	**Jazzator, Alta**	**38.53**	**301**	*d i* P	**P**	**15 44 18.4**	**+1.0**
DGZ				pmax	pmax		
comp=Z,6.0nm,0.9s							
ZAA0	**Zalesovo Array**	**39.47**	**308**	P	**P**	**15 44 23.4**	**-1.6**
ZAA0				IAmb	IAmb	15 44 25.4	
comp=Z,3.6nm,0.7s							
ZALV	**Zalesovo Beam**	**39.47**	**308**	P	**P**	**15 44 24.3**	**-0.7**
comp=Z,3.6nm,0.7s,baz=80,slow=7.6,SNR=13							
ZALV				PcP	**PcP**	**15 46 31.4**	**-0.3**
comp=Z,0.6nm,0.5s,baz=130,slow=4.6,SNR=3.8							
ZALV				LR	LR	16 01 39.7	
comp=Z,26nm,18.3s,baz=82,slow=38							
ZALV	**Zalesovo Beam**	**39.47**	**308**	P	**P**	**15 44 23.6**	**-1.4**
WMQ	**Urumqi**	**39.79**	**292**	*e*P	**P**	**15 44 29.1**	**+1.2**
IMAR	**Indian Mountai**	**41.61**	**33**	P	**P**	**15 44 42.6**	**+0.1**
H21K	**Melozitna Rive**	**41.99**	**34**	P	**P**	**15 44 47.7**	**+2.1**
I21K	**Tanana**	**42.33**	**35**	P	**P**	**15 44 50.1**	**+1.8**
MK31	**Makanchi Array**	**42.56**	**298**	P	**P**	**15 44 49.9**	**-0.6**
MK31				pmax	pmax		
comp=Z,3.0nm,0.7s							
MK31	**Makanchi Array**	**42.56**	**298**	P	**P**	**15 44 49.9**	**-0.6**
MK31				IAmb	IAmb	15 44 51.1	
comp=Z,2.7nm,0.7s							
MKAR	**Makanchi Array**	**42.56**	**298**	P	**P**	**15 44 50.5**	**-0.1**
comp=Z,3.4nm,0.8s,baz=83,slow=10,SNR=14							
MKAR				PcP	**PcP**	**15 46 41.7**	**-0.3**
comp=Z,0.4nm,0.5s,baz=54,slow=4.7,SNR=3.4							
MKAR	**Makanchi Array**	**42.56**	**298**	P	**P**	**15 44 49.9**	**-0.6**
MAKZ	**Makanchi**	**42.76**	**298**	P	**P**	**15 44 51.2**	**-0.9**
MAKZ				pmax	pmax		
comp=Z,4.0nm,0.9s							
MAKZ	**Makanchi**	**42.76**	**298**	P	**P**	**15 44 51.2**	**-0.9**
MAKZ				IAmb	IAmb	15 44 52.8	
comp=Z,3.8nm,0.9s							
KURK	**Kurchatov**	**43.83**	**304**	*d i* P	**P**	**15 45 00.3**	**-0.3**
KURK				pmax	pmax		
comp=Z,4.0nm,0.7s							
KURK	**Kurchatov**	**43.83**	**304**	P	**P**	**15 44 59.8**	**-0.8**
KURK				IAmb	IAmb	15 45 01.1	
comp=Z,7.4nm,0.8s							
KURK	**Kurchatov**	**43.83**	**304**	*e*P	**P**	**15 45 00.3**	**-0.3**
CHTO	**Chiang Mai**	**43.90**	**252**	P	**P**	**15 45 01.8**	**+0.2**
CHTO				pmax	pmax		
comp=Z,2.0nm,0.8s							
CHTO	**Chiang Mai**	**43.90**	**252**	P	**P**	**15 45 01.8**	**+0.2**
CHTO				IAmb	IAmb	15 45 03.2	
comp=Z,2.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**44.14**	**251**	P	**P**	**15 45 04.3**	**+0.8**
comp=Z,0.7nm,0.6s,baz=41,slow=6.7,SNR=9.2							
CMAR				LR	LR	16 04 35.4	
comp=Z,26nm,18.6s,baz=165,slow=37							
ILAR	**Eielson Array**	**44.51**	**35**	P	**P**	**15 45 05.4**	**-0.5**
comp=Z,0.6nm,0.8s,baz=267,slow=6.8,SNR=5.4							
FID	**Port Fidalgo**	**45.19**	**41**	P	**P**	**15 45 13.1**	**+1.7**
BMAR	**Burnt Mountain**	**45.23**	**31**	P	**P**	**15 45 13.0**	**+1.3**
L27K	**Beaver Creek,**	**46.96**	**37**	P	**P**	**15 45 26.1**	**+0.8**
L27K				IAmb	IAmb	15 45 31.3	
comp=Z,4.4nm,1.2s							
BCAR	**Beaver Creek A**	**46.98**	**37**	P	**P**	**15 45 26.2**	**+0.8**
GUN	**Gumba**	**48.01**	**272**	*e*P	**P**	**15 45 33.7**	**-0.6**
comp=Z,15nm,0.4s							
BRVK	**Borovoye**	**48.13**	**309**	⇓*e*P	**P**	**15 45 34.6**	**+0.2**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.7s							
BRVK	**Borovoye**	**48.13**	**309**	*e*P	**P**	**15 45 34.6**	**+0.2**
BOOM	**Boomskoye usch**	**48.30**	**294**	P	**P**	**15 45 36.4**	**+0.2**
BOOM				pmax	pmax		
comp=Z,4.0nm,0.8s							
BOOM	**Boomskoye usch**	**48.30**	**294**	P	**P**	**15 45 36.4**	**+0.2**
BOOM				IAmb	IAmb	15 45 37.2	
comp=Z,4.2nm,0.8s							
PKI	**Pulchoki**	**48.54**	**272**	*e*P	**P**	**15 45 38.3**	**-0.1**
comp=Z,3.8nm,0.5s							
AAK	**Ala-Archa**	**49.22**	**295**	⇓*e*P	**P**	**15 45 42.8**	**-0.4**
AAK				pmax	pmax		
comp=Z,11nm,1.5s							
AAK	**Ala-Archa**	**49.22**	**295**	P	**P**	**15 45 43.0**	**-0.2**
AAK	**Ala-Archa**	**49.22**	**295**	*e*P	**P**	**15 45 42.6**	**-0.6**
INK	**Inuvik**	**49.24**	**29**	P	**P**	**15 45 42.0**	**-0.7**
comp=Z,0.7nm,0.8s,baz=276,slow=5.4,SNR=3.7							
INK	**Inuvik**	**49.24**	**29**	P	**P**	**15 45 42.4**	**-0.3**
INK				IAmb	IAmb	15 46 00.1	
comp=Z,4.5nm,1.5s							
DANN	**Dangsing**	**49.34**	**274**	*e*P	**P**	**15 45 44.5**	**+0.1**
comp=Z,14nm,0.5s							
KOLN	**Koldanda**	**49.77**	**273**	*e*P	**P**	**15 45 47.7**	**+0.1**
comp=Z,3.8nm,0.3s							
PYUN	**Piuthan**	**50.05**	**274**	*e*P	**P**	**15 45 49.5**	**-0.2**
comp=Z,3.0nm,0.4s							
A36M	**Sachs Harbour**	**51.00**	**24**	P	**P**	**15 45 57.0**	**+0.9**
A36M				IAmb	IAmb	15 46 14.9	
comp=Z,4.2nm,1.2s							
KKAR	**Karatay Array**	**51.68**	**297**	P	**P**	**15 46 01.1**	**-0.5**
KKAR	**Karatay Array**	**51.68**	**297**	P	**P**	**15 46 01.1**	**-0.5**
SVE	**Sverdlovsk**	**52.12**	**316**	*e*P	**P**	**15 46 04.4**	**-0.2**
SVE				pmax	pmax		
comp=Z,13nm,0.8s							
ARU	**Arti**	**53.33**	**316**	LR	LR	16 11 58.2	
comp=Z,43nm,18.9s,baz=94,slow=39							
ARU	**Arti**	**53.33**	**316**	*d i* P	**P**	**15 46 13.0**	**-0.5**
ARU				*PP	**pP**	**15 46 27.7**	**-1.5**
ARU				S	**S**	**15 53 41.4**	**+0.8**
ARU				pmax	pmax		
comp=Z,7.0nm,0.8s							
ARU	**Arti**	**53.33**	**316**	P	**P**	**15 46 12.8**	**-0.7**
ARU	**Arti**	**53.33**	**316**	*e*P	**P**	**15 46 12.7**	**-0.8**
CHGR	**Chuyangaron**	**54.63**	**293**	P	**P**	**15 46 23.0**	**-0.4**
CHGR				pmax	pmax		
comp=Z,9.0nm,0.7s							
CHGR	**Chuyangaron**	**54.63**	**293**	P	**P**	**15 46 23.0**	**-0.4**

MOS ***10*** *15:37:00.1±0.9, 42°.22N×143°.02E, h78km, mb4.5/20, Error ellipse: s-maj=8.5km s-min=6.1km az=86.5*

SKHL ***10*** *15:37:00.4±0.2, 42°.20N×143°.00E, h74km±5km, mb4.7/4*

NIED ***10*** *15:37:01.8, 42°.34N×142°.98E, h49km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.13; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-0.82; $M_{r\theta}$0.52; $M_{\theta\phi}$-0.37; $M_{r\phi}$0.85; Fault plane solution: $M_0$1.46000×10^{15} NP1:ϕ_s30.00000°, δ66.00000°, λ92.00000°. NP2:ϕ_s206.00000°, δ24.00000°, λ86.00000°.*

NEIC ***10*** *15:37:01±1.5, 42°.21N±0°.04×142°.87E±0°.07, h59km±6km, mb4.3/28 Error ellipse: s-maj=7.6km s-min=6.6km az=85.0*

JMA ***10*** *15:37:01.8±0.1, 42°.34N×142°.98E, h49km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕ_s211.00000°, δ36.00000°, λ83.00000°. NP2:ϕ_s40.00000°, δ54.00000°, λ95.00000°. Principal axes: T Plg80.0000°, Azm330.0000°; N Plg4.0000°, Azm217.0000°; P Plg9.0000°, Azm126.0000°;*

JMA Felt I J1.

IDC ***10*** *15:37:02.2±2.0, 42°.41N×142°.93E, h70km±16km, mb3.5/18, mb1 3.7/21, mb1mx3.6/44, mbtmp3.8/21, MS3.2/8, Ms1 3.2/8, ms1mx2.8/72 Error ellipse: s-maj=18.0km s-min=13.2km az=125.0*

ISC 10 15:37:00.7±0.6,**42°.24N**±0°.04×**142°.96E**±0°.03,**h59**km±5km, **n165**,σ1**24**/177,**mb4.3**/58,**MS3.2**/5,**10C-13D**,**Hokkaido region**

ABKAR	Akbulak array	55.59	308	P	P	15 46 29.6	-0.3
NOR	Nord	55.94	356	*i* P	P	15 46 29.5	-2.5
NOR				IAmb	IAmb	15 46 30.7	
	comp=Z,1.2nm,0.6s						
KIRV	Kirov	56.87	321	‖ *e*P	P	15 46 38.3	-0.7
YKA	Yellowknife Ar	58.74	32	P	P	15 46 51.0	-1.0
	comp=Z,0.1nm,0.4s,baz=306,slow=6.9,SNR=7.1						
KNRA	Kununurra	59.09	196	P	P	15 46 55.6	+0.7
NEEM	North Greenlan	60.27	3	*i* P	P	15 47 01.1	-1.6
NEEM				IAmb	IAmb	15 47 02.9	
	comp=Z,3.5nm,0.8s						
DAG	Danmarks Havn	60.69	355	*i* P	P	15 47 03.4	-1.9
DAG				IAmb	IAmb	15 47 04.3	
	comp=Z,1.4nm,0.6s						
WB0	Warramunga Arr	62.20	189	P	P	15 47 16.4	+0.3
WB0				IAmb	IAmb	15 47 32.8	
	comp=Z,3.3nm,1.1s						
WR0	Warramunga Arr	62.37	189	P	P	15 47 17.5	+0.3
WR0				IAmb	IAmb	15 47 34.7	
	comp=Z,3.8nm,1.2s						
WRA	Warramunga Arr	62.38	189	P	P	15 47 18.1	+0.8
	comp=Z,0.5nm,0.7s,baz=6.4,slow=7.2,SNR=5.7						
WRA	Warramunga Arr	62.38	189	P	P	15 47 17.5	+0.3
OBN	Obninsk	64.67	322	*e*P	P	15 47 30.6	-1.4
OBN				*e*		15 48 04.8	
OBN				*e*		15 49 54.5	
OBN				pmax	pmax		
	comp=Z,50nm,2.8s						
OBN	Obninsk	64.67	322	*e*P	P	15 47 31.1	-0.9
FIA1	FINESS Array S	64.78	332	P	P	15 47 31.5	-1.1
FINES	FINESS Array B	64.78	332	P	P	15 47 31.1	-1.5
	comp=Z,2.1nm,0.5s,baz=49,slow=7.0,SNR=18						
FINES	FINESS Array B	64.78	332	P	P	15 47 31.3	-1.3
FINES	FINESS Array B	64.78	332	P	P	15 47 31.3	-1.3
SUMG	Summit	65.48	0	P	P	15 47 37.2	-0.3
SUMG				pmax	pmax		
	comp=Z,13nm,1.5s						
SUMG	Summit	65.48	0	*i* P	P	15 47 35.8	-1.7
SUMG				IAmb	IAmb	15 47 37.2	
	comp=Z,3.0nm,0.7s						
SUMG	Summit	65.48	0	P	P	15 47 37.2	-0.3
ASAR	Alice Springs	66.11	189	P	P	15 47 42.5	+0.9
	comp=Z,0.3nm,1.0s,baz=0.4,slow=5.9,SNR=2.7						
ASAR	Alice Springs	66.11	189	P	P	15 47 39.9	-1.7
ASAR	Alice Springs	66.11	189	P	P	15 47 39.9	-1.7
YBH	Yreka Blue Hor	66.29	55	LR	LR	16 13 03.3	
	comp=Z,59nm,19.8s,baz=188,slow=33						
KIV	Kislovodsk	68.43	310	*e*P	P	15 47 54.3	-2.0
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KBZ	Khabaz	68.45	310	P	P	15 47 56.6	+0.3
	comp=Z,1.4nm,0.7s,baz=232,slow=1.6,SNR=4.1						
KBZ	Khabaz	68.45	310	‖ *e*P	P	15 47 56.6	+0.3
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NOA	NORSAR Array B	69.85	337	P	P	15 48 03.9	-0.9
	comp=Z,0.9nm,0.8s,baz=33,slow=6.4,SNR=2.3						
AKASG	Malin Array Be	70.92	322	P	P	15 48 10.5	-0.9
	comp=Z,0.6nm,0.4s,baz=42,slow=6.3,SNR=7.3						
NVAR	Mina Array Bea	70.98	55	P	P	15 48 13.2	+1.0
	comp=Z,0.3nm,0.7s,baz=301,slow=7.0,SNR=2.7						
REDW	Red Top Meadow	72.11	47	P	P	15 48 19.2	+0.2
REDW				IAmb	IAmb	15 48 40.8	
	comp=Z,5.5nm,1.4s						
BUR08	Bucovina Ar. S	74.95	322	P	P	15 48 35.4	-0.1
BUR08				IAmb	IAmb	15 48 43.2	
	comp=Z,5.3nm,1.3s						
BURAR	Bucovina Array	74.97	322	P	P	15 48 34.9	-0.6
BURAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BURAR	Bucovina Array	74.97	322	P	P	15 48 34.9	-0.6
RSSD	Black Hills	75.19	43	P	P	15 48 37.5	+0.5
RSSD				pmax	pmax		
	comp=Z,5.0nm,1.5s						
RSSD	Black Hills	75.19	43	P	P	15 48 37.5	+0.5
RSSD				IAmb	IAmb	15 48 57.4	
	comp=Z,5.1nm,1.4s						
BR131	Keskin Array S	76.30	311	‖ *e*P	P	15 48 42.2	-1.1
BRTR	Keskin Array B	76.30	311	P	P	15 48 43.4	0.0
	comp=Z,0.6nm,0.7s,baz=65,slow=2.9,SNR=4.9						
BRTR	Keskin Array B	76.30	311	P	P	15 48 42.6	-0.7
BRTR	Keskin Array B	76.30	311	P	P	15 48 42.6	-0.7
RAYN	Ar Rayn	79.78	292	P	P	15 49 02.1	-0.7
RAYN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RAYN	Ar Rayn	79.78	292	P	P	15 49 02.1	-0.7
TXAR	Lajitas Array	86.03	53	P	P	15 49 35.9	+0.8
	comp=Z,0.4nm,0.6s,baz=294,slow=3.2,SNR=6.9						
MATP	Matopo	121.38	270	PKP	PKiKP	15 55 48.2	+0.5
	comp=Z,5.9nm,0.6s,baz=93,slow=4.2,SNR=4.3						
H03N2	Juan Fernandez	146.06	89	T	T	18 39 50.2	
	baz=301,slow=77,SNR=2.3						
H03N3	Juan Fernandez	146.07	89	T	T	18 39 52.2	
	baz=301,slow=77,SNR=9.4						
H03N1	Juan Fernandez	146.07	89	T	T	18 39 52.6	
	baz=301,slow=77,SNR=7.8						

*JMA **10** 16:03:52.9±0.4, 22°.24N×122°.64E, h44km, M3.1*
*TAP **10** 16:03:54.4, 22°.17N×122°.54E, h56km, ML3.0, D*
ISC 10 16:03:52.7±1.5, 22°.12N±0°.05×122°.69E±0°.04, h50km, n79, σ1.9 36/149, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	Lan-yu	1.04	263	P	Pn	16 04 10.9	0.0
	baz=266						
LYUB				S	Sn	16 04 22.7	-1.6
	baz=266						
LAY	Lan-yu	1.06	266	P	Pn	16 04 10.9	-0.4
	baz=268						
LAY				*i* S	Sn	16 04 22.5	-2.5
	baz=268						
LDUT	Ludao	1.26	296	*e*P	Pn	16 04 12.3	-1.5
	baz=297						
LDUT				S	Sn	16 04 26.3	-3.3
	baz=297						
EDH	Donghe	1.54	304	*e*P	Pn	16 04 16.6	-1.0
	baz=312						
EDH				S	Sn	16 04 34.5	-2.0
	baz=312						
TTN	Taitung	1.56	294	*e*S	Sn	16 04 36.6	-0.5
	baz=300						
CHKT	Chengkung	1.56	309	P	Pn	16 04 17.6	-0.5
	baz=317						
CHKT				S	Sn	16 04 34.7	-2.5
	baz=317						
LONT	Longtian	1.64	299	*e*P	Pn	16 04 19.4	+0.2
	baz=300						
LONT				*e*S	Sn	16 04 38.3	-0.8
	baz=300						
TWGBT	Beinan	1.64	295	P	Pn	16 04 18.8	-0.4
	baz=300						
TWGBT				S	Sn	16 04 38.2	-1.0
	baz=300						
ECBN	Changbin	1.65	316	*e*P	Pn	16 04 19.6	+0.4
	baz=319						
ECBN				*e*S	Sn	16 04 37.8	-1.5
	baz=319						
TWG	Pinlang	1.65	295	*i* P	Pn	16 04 19.1	-0.1
	baz=300						
TWG				S	Sn	16 04 37.7	-1.7
	baz=300						
ECS	Chishang	1.67	306	*e*P	Pn	16 04 19.7	+0.2
	baz=314						
ECS				*e*S	Sn	16 04 39.6	-0.2
	baz=314						
ECL	Taimali	1.68	287	P	Pn	16 04 19.3	-0.3
	baz=286						
ECL				S	Sn	16 04 39.2	-0.7
	baz=286						
FULB	Fuli	1.68	310	*i* P	Pn	16 04 19.0	-0.6
	baz=318						
FULB				S	Sn	16 04 37.5	-2.6
	baz=318						
TSEB	Hengchuen, Pin	1.68	263	P	Pn	16 04 20.4	+0.9
	baz=260						
TSEB				S	Sn	16 04 40.4	+0.5
	baz=260						
TAW	Tawu	1.68	278	P	Pn	16 04 20.3	+0.7
	baz=277						
TAW				*e*S	Sn	16 04 39.2	-0.8
	baz=277						
TWKBT	Hengchun	1.75	264	*e*P	Pn	16 04 21.5	+0.9
	baz=262						
TWKBT				*e*S	Sn	16 04 40.8	-1.0
	baz=262						
EYUL	Yuli	1.76	314	*e*P	Pn	16 04 20.4	-0.3
	baz=320						
EYUL				*e*S	Sn	16 04 40.9	-1.0
	baz=320						
SLIU	Shizi	1.76	273	P	Pn	16 04 21.3	+0.6
	baz=262						
SLIU				*e*S	Sn	16 04 40.8	-1.1
	baz=262						
TWK1	Hengchun	1.76	264	*e*P	Pn	16 04 21.2	+0.4
	baz=262						
TWK1				*e*S	Sn	16 04 41.0	-1.0
	baz=262						
HGSD	Ruisui	1.80	320	P	Pn	16 04 20.2	-1.0
	baz=322						
YULB	Yu-li	1.80	315	*e*P	Pn	16 04 20.4	-0.9
	baz=317						
YULB				S	Sn	16 04 41.3	-1.8
	baz=317						
HEN	Hengchun	1.82	267	*e*S	Sn	16 04 43.1	-0.3
	baz=264						
EHY	Hungye	1.87	318	P	Pn	16 04 22.2	0.0
	baz=320						
EHY				*i* S	Sn	16 04 43.3	-1.4
	baz=320						
ELDTW	Lidau	1.88	305	P	Pn	16 04 21.6	-0.8
	baz=314						
ELDTW				S	Sn	16 04 43.1	-1.9
	baz=314						
EGFH	Guangfu	1.93	323	*e*P	Pn	16 04 24.3	+1.2
	baz=326						
EGFH				*e*S	Sn	16 04 45.1	-1.0
	baz=326						
SCZT	Fangliau	1.94	278	*i* P	Pn	16 04 23.8	+0.7
	baz=277						
SCZT				*e*S	Sn	16 04 44.8	-1.5
	baz=277						
MASBT	Mashibuluo	1.97	285	P	Pn	16 04 24.8	+1.2
	baz=284						
MASBT				*e*S	Sn	16 04 46.4	-0.7
	baz=284						
TSMG	Majia	1.98	287	*e*P	Pn	16 04 25.4	+1.6
	baz=291						
TSMG				*e*S	Sn	16 04 46.1	-1.4
	baz=291						
SSD	Sandimen	2.00	288	*e*P	Pn	16 04 25.1	+1.0
	baz=293						
SSD				*e*S	Sn	16 04 46.2	-1.8
	baz=293						
ESL	Shilin	2.04	326	P	Pn	16 04 23.9	-0.7
	baz=337						
ESL				S	Sn	16 04 46.8	-2.2
	baz=337						
STYH	Taoyuan	2.06	301	*e*P	Pn	16 04 25.4	+0.6
	baz=307						
STYH				*e*S	Sn	16 04 47.3	-1.9
	baz=307						
SLGT	Liugui	2.08	295	*e*P	Pn	16 04 26.9	+1.8
	baz=291						
SLGT				*e*S	Sn	16 04 49.5	-0.3
	baz=291						
HWA	Hwalien	2.10	332	*e*P	Pn	16 04 26.4	+1.1
	baz=344						
HWA				*e*S	Sn	16 04 50.2	0.0
	baz=344						
VWDT	VWDT	2.16	319	P	Pn	16 04 26.4	+0.2
	baz=328						
VWDT				*e*S	Sn	16 04 50.2	-1.6
	baz=328						
SGST	Jiashian	2.17	296	P	Pn	16 04 27.5	+1.1
	baz=297						
SGST				*e*S	Sn	16 04 52.4	+0.3
	baz=297						
HATJ	Hateruma jima	2.18	28	P	Pn	16 04 26.8	+0.3
HATJ				S	Sn	16 04 51.7	-0.5
TWD	Chiawan	2.19	333	*e*P	Pn	16 04 27.3	+0.6
	baz=336						
TWD				*e*S	Sn	16 04 51.0	-1.6
	baz=336						
WTP	Ta-pu	2.22	301	P	Pn	16 04 28.8	+1.7
	baz=301						
WTP				*e*S	Sn	16 04 53.8	+0.5
	baz=301						
ALS	Alishan	2.22	309	P	Pn	16 04 28.8	+1.5
	baz=316						
ALS				*e*S	Sn	16 04 52.2	-1.6
	baz=316						
TPUB	Ta-pu	2.24	302	*e*P	Pn	16 04 28.1	+0.8
	baz=309						
TPUB				*e*S	Sn	16 04 55.3	+1.6
	baz=309						
CHN1	Nanshi	2.26	298	P	Pn	16 04 29.8	+2.2
	baz=287						
CHN1				S	Sn	16 04 56.5	+2.1
	baz=287						
NACB	Ninganchiao	2.28	334	*e*P	Pn	16 04 27.4	-0.4
	baz=344						
NACB				*e*S	Sn	16 04 52.9	-1.8
	baz=344						
CHN4	Tsaushan	2.29	303	P	Pn	16 04 30.1	+2.1
	baz=310						
CHN4				*e*S	Sn	16 04 57.2	+2.1
	baz=310						
OWD	Renai	2.30	323	*e*P	Pn	16 04 28.5	+0.3
	baz=325						
OWD				S	Sn	16 04 53.5	-1.9
	baz=325						
SNST	Tainan City	2.30	299	*e*P	Pn	16 04 31.7	+3.5
	baz=287						
SNST				*e*S	Sn	16 04 58.1	+2.8
	baz=287						
SSLB	Suanglung	2.30	316	*e*P	Pn	16 04 29.3	+1.1
	baz=324						
SSLB				*e*S	Sn	16 04 53.4	-2.0
	baz=324						
JYNG	Yonagunijimaku	2.33	6	P	Pn	16 04 29.4	+0.9
JYNG				*e*S	Sn	16 04 55.5	-0.4
TWK	Hsinying	2.33	300	P	Pn	16 04 31.5	+2.9
	baz=287						
TWK				*e*S	Sn	16 04 58.8	+2.6
	baz=287						
YOJ	Yonaguni jima	2.34	7	P	Pn	16 04 29.4	+0.7
YOJ	Yonaguni jima	2.34	7	P	Pn	16 04 29.9	+1.2
	baz=20						
YOJ				S	Sn	16 04 57.5	+1.2
	baz=20						
ETLH	Xiulin Townshi	2.35	332	P	Pn	16 04 30.1	+1.2
	baz=342						
ETLH				*e*S	Sn	16 04 55.6	-1.1
	baz=342						
CHN5	Tsauling	2.37	309	P	Pn	16 04 32.1	+2.9
	baz=316						
CHGB	Renai	2.38	324	*e*P	Pn	16 04 29.7	+0.2
	baz=326						
CHGB				S	Sn	16 04 55.9	-1.7
	baz=326						
IRIF	Iriomote-Funau	2.40	23	P	Pn	16 04 29.9	+0.4
IRIF				S	Sn	16 04 56.9	-0.7
WHF	Hehuan Shan	2.40	327	*e*P	Pn	16 04 29.3	-0.6
	baz=330						
WHF				S	Sn	16 04 56.8	-1.5
	baz=330						
SMLT	Sun Moon Lake	2.41	317	P	Pn	16 04 31.8	+2.1
	baz=324						
SMLT				*e*S	Sn	16 04 57.2	-0.8
	baz=324						
JKRS	Kuro-shima	2.43	30	P	Pn	16 04 30.4	+0.5
JKRS				S	Sn	16 04 57.9	-0.4
TYC	Yuchr	2.45	317	P	Pn	16 04 31.7	+1.5
	baz=326						
TYC				*e*S	Sn	16 04 59.3	+0.4
	baz=326						
ENA	Nanau	2.46	339	*e*P	Pn	16 04 30.8	+0.5
	baz=342						
ENA				*e*S	Sn	16 04 58.0	-1.0
	baz=342						
EWUT	Wuta	2.46	340	*e*P	Pn	16 04 30.9	+0.6
	baz=343						
EWUT				*e*S	Sn	16 04 58.1	-1.0
	baz=343						
FUSS	Fushou	2.50	328	*e*P	Pn	16 04 31.4	+0.3
	baz=330						
FUSS				*e*S	Sn	16 04 58.1	-2.3
	baz=330						
WCS	Beigang Elemen	2.53	320	*e*P	Pn	16 04 32.4	+1.2
	baz=328						
WNT	Mingjian	2.54	314	*e*P	Pn	16 04 32.8	+1.3
	baz=315						
WNT				*e*S	Sn	16 05 03.5	+2.3
	baz=315						
TDCB	Techi	2.55	327	*e*P	Pn	16 04 32.5	+0.9
	baz=329						
TDCB				*e*S	Sn	16 05 00.4	-1.1
	baz=329						
NNSB	Datong	2.59	333	*e*P	Pn	16 04 32.7	+0.4
	baz=335						
NNSB				*e*S	Sn	16 05 01.0	-1.5
	baz=335						
JIJ	Ishigaki jima	2.60	31	P	Pn	16 04 32.4	+0.2
JIJ				S	Sn	16 05 01.2	-1.3
NNS	Nan Shan	2.60	332	*e*P	Pn	16 04 33.0	+0.6
	baz=335						
NNS				*e*S	Sn	16 05 02.0	-0.9
	baz=335						
NDS	Dongshan	2.65	340	*e*P	Pn	16 04 33.7	+0.8
	baz=343						
NDS				*e*S	Sn	16 05 02.6	-1.4
	baz=343						
ENTT	Nioudou	2.71	338	*e*P	Pn	16 04 35.2	+1.4
	baz=347						
ENTT				*e*S	Sn	16 05 04.8	-0.5
	baz=347						
TWE	Neicheng	2.75	340	*e*P	Pn	16 04 35.3	+1.0
	baz=343						
TWE				*e*S	Sn	16 05 06.2	-0.2
	baz=343						
YHNB	Yeheng	2.81	335	*e*P	Pn	16 04 35.9	+0.7
	baz=337						
YHNB				*e*S	Sn	16 05 05.6	-2.3
	baz=337						
NSK	Sanguang	2.82	334	*e*P	Pn	16 04 36.6	+1.3
	baz=337						
NSK				*e*S	Sn	16 05 07.7	-0.4
	baz=337						
NWLT	Wulai	2.86	338	*e*P	Pn	16 04 37.8	+2.0
	baz=345						
NWLT				*e*S	Sn	16 05 08.4	-0.6
	baz=345						
JISG	Ishigakijimahi	2.87	31	P	Pn	16 04 36.0	+0.1
JISG				S	Sn	16 05 08.1	-1.1
NSTT	Nanjuang	2.94	328	*e*P	Pn	16 04 39.0	+2.1
	baz=339						
TIPB	Shuangxi	2.94	344	*e*P	Pn	16 04 38.2	+1.2
	baz=355						
TIPB				*e*S	Sn	16 05 10.9	-0.2
	baz=355						
LIOB	Emei	2.94	329	*e*P	Pn	16 04 38.9	+1.9
	baz=339						
NWF	Wu-fen Shan	3.05	344	*e*P	Pn	16 04 40.4	+1.9
	baz=346						
NWF				*e*S	Sn	16 05 14.3	+0.5
	baz=346						
JTJ	Tarama	3.11	36	*e*S	Sn	16 05 13.6	-1.6

*SKHL **10** 16:05:36.7±0.4, 46°.20N×149°.90E, h389km±7km, mb4.3/4, msha4.6/3*
*IDC **10** 16:05:36.8±1.6, 47°.85N×148°.19E, h367km±19km, mb2.8/8, mb1 3.0/13, mb1mx2.8/33, mbtmp3.6/13, Error ellipse: s-maj=24.1km s-min=13.3km az=133.0*
ISC 10 16:05:35.0±0.7, 47°.66N±0°.08×148°.4E±0°.1, h350km, n19, σ2.9 09/23, mb3.2/8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.46	188	*e*P	Pn	16 06 32.4	+2.7
KUR				AMB	AMB	16 06 32.8	
	60nm,0.4s						
KUR				*e*S	S	16 07 15.6	+1.9
KUR				A	A	16 07 21.8	
	30nm,0.6s						
KUR				A	A	16 07 21.8	
	50nm,0.6s						
YSS	Yuzh-Sakhalins	3.88	262	*e*P	Pn	16 06 58.9	+16
YSS				AMB	AMB	16 07 00.4	
	10.0nm,0.5s						
SHO	Shikotan	3.94	196	*e*P	Pn	16 06 42.7	-0.7
SHO				AMB	AMB	16 06 43.4	
	50nm,0.3s						
SHO				*e*S	S	16 07 34.5	-4.1
SHO				A	A	16 07 38.5	
	40nm,0.4s						
SHO				A	A	16 07 38.5	
	50nm,0.4s						
YUK	Yuzh-Kuril'sk	4.03	207	*e*P	Pn	16 06 46.3	+2.0
YUK				AMB	AMB	16 06 49.1	
	60nm,0.4s						
YUK				*e*S	S	16 07 40.6	+0.4
YUK				A	A	16 07 48.0	
	80nm,0.7s						
YUK				A	A	16 07 48.0	
	80nm,0.7s						
NMR	Nemuro--Hokkai	4.68	204	*e*P	Pn	16 06 49.8	-1.3
NMR				*e*S	S	16 07 49.2	-3.4
AKK	Akkeshi	5.27	209	*e*P	Pn	16 06 57.4	-0.2
AKK				*e*S	S	16 08 00.9	-3.5
ASAJ	Asahikawa	5.36	231	P	Pn	16 07 01.8	+3.1
	0.4nm,0.3s,baz=169,slow=33,SNR=6.9						
PETK	Petropavlovsk-	8.08	44	P	Pn	16 07 29.6	-0.2
	0.2nm,0.3s,baz=274,slow=11,SNR=9.3						
KLR	Kul'dur	11.15	284	P	P	16 08 07.1	+0.1
	0.2nm,0.3s,baz=83,slow=11,SNR=5.8						
MJAR	Matsushiro Arr	13.41	218	P	P	16 08 34.9	+2.6
	0.1nm,0.3s,baz=16,slow=12,SNR=12						
KSRS	Korea Array	18.14	243	P	P	16 09 24.6	+1.3
	0.2nm,0.3s,baz=47,slow=10,SNR=6.5						
ILAR	Eielson Array	37.87	39	P	P	16 12 19.1	+0.1
	0.7nm,0.6s,baz=270,slow=7.4,SNR=18						
YKA	Yellowknife Ar	52.10	36	P	P	16 14 09.6	-0.2
	0.3nm,0.4s,baz=304,slow=7.3,SNR=8.6						
ARCES	ARCESS Array B	55.88	339	P	P	16 14 35.6	-1.2
	1.0nm,0.7s,baz=32,slow=8.8,SNR=1.2						
FINES	FINESS Array B	61.78	333	P	P	16 15 15.2	-1.9
	2.0nm,1.0s,baz=57,slow=7.0,SNR=4.5						
PDAR	Pinedale Array	66.77	52	P	P	16 15 50.4	+0.7
	0.4nm,0.7s,baz=325,slow=1.4,SNR=3.1						
WRA	Warramunga Arr	68.46	194	P	P	16 15 59.9	-0.1
	0.4nm,0.9s,baz=7.7,slow=6.0,SNR=2.4						
AKASG	Malin Array Be	68.93	323	P	P	16 16 00.8	-1.8
	0.3nm,0.4s,baz=35,slow=6.3,SNR=3.5						
ASAR	Alice Springs	72.18	194	P	P	16 16 24.0	+1.6
	0.2nm,0.8s,baz=9.9,slow=5.1,SNR=1.7						

*JMA **10** 16:18:06.8±0.2, 37°.33N×141°.91E, h36km±3km, M3.7*
*IDC **10** 16:18:08.5±2.3, 37°.32N×142°.15E, h45km±22km, mb3.2/6, mb1 3.5/10, mb1mx3.3/33, mbtmp3.5/10, ML3.4/3, Error ellipse: s-maj=22.5km s-min=14.0km az=116.0*
ISC 10 16:18:05.2±3.4, 37°.31N±0°.04×142°.01E±0°.06, h17km±21km, n28, σ1.9 64/36, mb3.5/6, 6D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.91	274	‖ P	Pb	16 18 22.1	-0.5
JFK				S	Sb	16 18 32.5	-1.9
JMST	Minamisoumatoc	0.99	295	‖ P	Pb	16 18 23.3	-0.5
JMST				S	Sb	16 18 34.7	-1.9
ONAJ	Iwakimizuishiy	0.99	258	P	Pb	16 18 23.3	-0.7
ONAJ				S	Sb	16 18 34.7	-2.1
JIKH	Ishinomakikobu	1.09	337	‖ P	Pn	16 18 25.1	-0.6
JIKH				S	Sb	16 18 38.0	-1.6
JMM	Marumori	1.12	300	‖ P	Pn	16 18 25.4	-0.7
JMM				S	Sb	16 18 37.1	-3.2
JIO	Ouri	1.26	336	‖ P	Pn	16 18 27.8	-0.2
JIO				S	Sb	16 18 42.4	-2.0
JHO	Hitachi	1.35	239	P	Pn	16 18 28.2	-1.1
JFT	Otama	1.35	279	‖ P	Pn	16 18 29.5	+0.2
JFT				S	Sn	16 18 44.9	-2.0
JOU	Okura	1.50	315	P	Pn	16 18 32.0	+0.6
JOU				S	Sn	16 18 50.2	-0.4
JMK	Ichinoseki	1.76	339	P	Pn	16 18 35.5	+0.6
JMK				S	Sn	16 18 56.7	-0.1
JYS	Shirataka	1.79	301	P	Pn	16 18 37.7	+2.3
JYS				S	Sn	16 18 58.2	+0.5
JFY	Yanaizu	1.84	274	P	Pn	16 18 36.9	+0.8
JFY				S	Sn	16 18 58.7	-0.3
MJAR	Matsushiro Arr	3.14	257	P	Pn	16 18 57.0	+3.1
	0.2nm,0.3s,baz=82,slow=18,SNR=15						
MJAR				S	Sn	16 19 34.7	+3.6
	0.6nm,0.3s,baz=23,slow=19,SNR=6.1						
JHJ	Hachijo jima 2	4.56	204	P	Pn	16 19 13.8	+0.4
	6.8nm,0.3s,baz=39,slow=18,SNR=1.2						
JHJ				S	Sn	16 20 04.2	-1.8

14nm,0.3s,baz=65,slow=22,SNR=2.2
ASAJ Asahikawa 6.82 4 P Pn 16 19 45.0 +0.6
1.3nm,0.3s,baz=196,slow=14,SNR=22
ASAJ S Sn 16 21 02.8 +1.3
0.4nm,0.3s,baz=284,slow=30,SNR=1.4
KSRS Korea Array 11.21 275 P Pn 16 20 48.5 +3.9
0.1nm,0.3s,baz=80,slow=14,SNR=1.9
H11N2 WAKE ISLAND Hy 27.88 122 T T 16 53 20.1
baz=314,slow=75,SNR=23
H11N1 WAKE ISLAND Hy 27.89 122 T T 16 53 24.7
baz=314,slow=75,SNR=23
H11N3 WAKE ISLAND Hy 27.90 122 T T 16 53 22.0
baz=314,slow=75,SNR=18
SONM Songino Array 28.03 303 P P 16 23 55.9 +0.4
0.4nm,0.5s,baz=103,slow=9.0,SNR=2.3
H11S1 WAKE ISLAND Hy 28.61 124 T T 16 54 13.7
baz=316,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 28.61 124 T T 16 54 23.6
baz=316,slow=76,SNR=14
H11S2 WAKE ISLAND Hy 28.63 124 T T 16 54 09.7
baz=316,slow=76,SNR=11
ZALV Zalesovo Beam 42.09 312 P P 16 25 55.1 -0.9
0.4nm,0.4s,baz=119,slow=12,SNR=2.0
MKAR Makanchi Array 44.38 302 P P 16 26 14.7 +0.1
0.4nm,0.6s,baz=82,slow=10,SNR=5.0
WRA Warramunga Arr 57.40 189 P P 16 27 52.5 -0.4
0.4nm,0.4s,baz=7.3,slow=7.3,SNR=16
ASAR Alice Springs 61.13 188 P P 16 28 18.6 0.0
0.1nm,0.6s,baz=7.0,slow=4.7,SNR=6.1
TXAR Lajitas Array 89.58 53 P P 16 31 02.1 -0.1
0.2nm,0.7s,baz=353,slow=2.8,SNR=3.6

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*JMA **10** 17:08:26.8, 39°.64N×142°.11E, h48km±1km, M3.2*
JMA Felt I J1.
*IDC **10** 17:08:26.5±3.2, 39°.52N×142°.62E, h82km±20km, mb3.3/8, mb1 3.3/11, mb1mx3.1/68, mbtmp3.6/11, Error ellipse: s-maj=40.1km s-min=17.7km az=121.0*
ISC 10 17:08:25.7±1.2, 39°.65N±0°.04×142°.21E±0°.09, h49km±8km, n30, σ1§88/34, mb3.5/8, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.31**	**258**	⇓P	**Pn**	**17 08 35.1**	**+0.2**
MIYJ				S	**Sn**	**17 08 40.9**	**-0.5**
JTH	**Tanohata**	**0.40**	**318**	⇓P	**Pn**	**17 08 36.2**	**+0.4**
JTH				S	**Sn**	**17 08 42.8**	**-0.2**
JKEN	**Kujiedanarisaw**	**0.68**	**326**	⇓P	**Pn**	**17 08 39.5**	**+0.3**
JKEN				*e*S	**Sn**	**17 08 48.9**	**0.0**
OFUJ	**Ofunato**	**0.70**	**217**	P	**Pn**	**17 08 39.6**	**+0.1**
OFUJ				S	**Sn**	**17 08 48.6**	**-0.9**
JOM	**Ohasama**	**0.73**	**257**	⇓P	**Pn**	**17 08 39.9**	**0.0**
JOM				S	**Sn**	**17 08 49.4**	**-0.7**
JKZ	**Kuzumaki**	**0.76**	**297**	⇓P	**Pn**	**17 08 40.5**	**+0.2**
JKZ				S	**Sn**	**17 08 50.2**	**-0.7**
JANG	**Nango**	**0.90**	**324**	⇓P	**Pn**	**17 08 42.4**	**+0.2**
JANG				*e*S	**Sn**	**17 08 53.2**	**-1.0**
JMK	**Ichinoseki**	**1.04**	**228**	⇓P	**Pn**	**17 08 44.0**	**+0.1**
JMK				*e*S	**Sn**	**17 08 56.8**	**-0.5**
JRG	**Rokugo**	**1.25**	**259**	P	**Pn**	**17 08 46.9**	**+0.2**
JAH	**Hinai**	**1.33**	**295**	⇓P	**Pn**	**17 08 48.3**	**+0.4**
JIO	**Ouri**	**1.37**	**210**	P	**Pn**	**17 08 48.6**	**+0.2**
JTM	**Tenmabayashi**	**1.44**	**323**	P	**Pn**	**17 08 49.9**	**+0.5**
MAT	**Matsushiro**	**4.42**	**227**	P	**Pn**	**17 09 33.4**	**+3.1**
MAT				*e*S	**Sn**	**17 10 25.3**	**+4.7**
MJAR	**Matsushiro Arr**	**4.42**	**227**	P	**Pn**	**17 09 33.2**	**+2.9**
0.3nm,0.3s,baz=34,slow=13,SNR=35							
ASAJ	**Asahikawa**	**4.48**	**4**	P	**Pn**	**17 09 33.4**	**+2.4**
0.7nm,0.3s,baz=218,slow=17,SNR=10.0							
ASAJ				S	**Sn**	**17 10 26.0**	**+4.2**
0.5nm,0.3s,baz=198,slow=20,SNR=1.4							
KSRS	**Korea Array**	**11.40**	**263**	P	**Pn**	**17 11 10.4**	**+4.5**
0.2nm,0.3s,baz=73,slow=14,SNR=1.8							
SONM	**Songino Array**	**26.95**	**300**	P	**P**	**17 14 03.6**	**+1.1**
0.4nm,0.8s,baz=75,slow=9.1,SNR=2.7							
H11N2	**WAKE ISLAND Hy 29.06**	**126**		T	T	17 44 57.7	
baz=318,slow=75,SNR=94							
H11N1	**WAKE ISLAND Hy 29.07**	**126**		T	T	17 44 58.1	
baz=318,slow=75,SNR=118							
H11N3	**WAKE ISLAND Hy 29.07**	**126**		T	T	17 44 57.0	
baz=318,slow=75,SNR=103							
H11S1	**WAKE ISLAND Hy 29.86**	**128**		T	T	17 45 56.6	
baz=320,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy 29.86**	**128**		T	T	17 45 57.1	
baz=320,slow=76,SNR=8.4							
H11S2	**WAKE ISLAND Hy 29.87**	**128**		T	T	17 45 56.6	
baz=320,slow=76,SNR=5.8							
ZALV	**Zalesovo Beam**	**40.67**	**310**	P	**P**	**17 16 01.1**	**+0.2**
0.7nm,0.4s,baz=88,slow=7.7,SNR=4.5							
MKAR	**Makanchi Array**	**43.31**	**300**	P	**P**	**17 16 23.1**	**+0.5**
0.7nm,0.8s,baz=81,slow=9.8,SNR=5.7							
KURBB	**Kurchatov Arra**	**44.93**	**306**	P	**P**	**17 16 35.6**	**+0.2**
0.9nm,0.5s,baz=79,slow=8.5,SNR=9.6							
ILAR	**Eielson Array**	**46.97**	**34**	P	**P**	**17 16 48.6**	**-2.7**
0.1nm,0.5s,baz=280,slow=5.4,SNR=2.0							
BVAR	**Borovoye Array**	**49.31**	**311**	P	**P**	**17 17 09.3**	**-0.2**
0.3nm,0.5s,baz=81,slow=8.9,SNR=2.3							
FINES	**FINESS Array B**	**66.80**	**332**	P	**P**	**17 19 10.4**	**-1.3**
2.4nm,0.9s,baz=64,slow=4.4,SNR=3.5							
AKASG	**Malin Array Be**	**72.62**	**322**	P	**P**	**17 19 45.1**	**-2.5**
0.2nm,0.4s,baz=44,slow=6.4,SNR=2.7							

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*NEIC **10** 17:10:47.4±1.8, 20°.7S±0°.1×178°.4W±0°.1, h575km±6km, mb4.9/100, Error ellipse: s-maj=16.5km s-min=15.1km az=84.0*
*BJI **10** 17:10:48.5±0.0, 20°.43S×178°.33W, h597km, mb4.8/49, mB4.9/23*
*NOU **10** 17:10:50.4, 20°.77S×178°.59W, h603km, mb5.0/76, Fiji Islands Region*
*IDC **10** 17:10:50.2±0.5, 20°.65S×178°.64W, h598km±5km, mb4.2/40, mb1 4.2/44, mb1mx4.0/55, mbtmp5.1/44, Error ellipse: s-maj=9.1km s-min=7.4km az=164.0*
*BGR **10** 17:10:53.7±0.0, 20°.49S×178°.83W, h619km*
ISC 10 17:10:49.4±0.4, 20°.79S±0°.05×178°.60W±0°.05, h598km±4km, h600km; pP-P, n656, σ1§07/718, mb4.9/129, 93C-71D, Fault plane solution: NP1: φ±111.39151°, δ5.25296°, λ159.60896°. NP2: φ±221.70392°, δ88.17199°, λ85.07454°. Principal axes: T Plg46.6099°, Azm126.6337°; N Plg4.9229°, Azm221.8614°; P Plg42.9673°, Azm316.4632°; Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**4.24**	**343**	P	**P**	**17 12 18.4**	**+1.9**
MSVF	**Nonsavu**	**4.38**	**313**	P	**P**	**17 12 19.3**	**+1.7**
52nm,0.3s,baz=150,slow=11,SNR=382							
MSVF	**Nonsavu**	**4.38**	**313**	P	**P**	**17 12 19.6**	**+1.9**
MSVF	**Nonsavu**	**4.38**	**313**	P	**P**	**17 12 19.5**	**+1.9**
DGTI	**Dogotuki**	**4.73**	**340**	P	**P**	**17 12 21.6**	**+1.4**
NIUE	**Niue**	**8.34**	**80**	P	P	17 12 45.6	-6.3
RAO	**Raoul Island**	**8.45**	**176**	S	**S**	**17 14 31.7**	**-2.4**
129nm,0.3s,baz=340,slow=21,SNR=1.7							
GLKZ	**Green Lake**	**8.46**	**176**	P	**P**	**17 12 52.4**	**-0.5**
GLKZ				S	**S**	**17 14 34.1**	**-0.1**
AFI	**Afiamalu**	**9.44**	**45**	P	**P**	**17 13 01.4**	**-1.3**
20nm,0.3s,baz=50,slow=19,SNR=8.1							
AFI				S	**S**	**17 14 45.5**	**-6.7**
5.1nm,0.3s,baz=0.7,slow=22,SNR=4.4							
PINNC	**Pines Island,**	**13.10**	**259**	P	**P**	**17 13 39.2**	**0.0**
DZM	**Mont Dzumac**	**13.99**	**262**	P	**P**	**17 13 48.1**	**-0.2**
2.0nm,0.3s,baz=104,slow=19,SNR=15							
DZM	**Mont Dzumac**	**13.99**	**262**	*e*P	**P**	**17 13 48.4**	**+0.1**
38nm,1.0s							
DZM	**Mont Dzumac**	**13.99**	**262**	P	**P**	**17 13 48.4**	**+0.1**
SANVU	**Saraoutou**	**14.50**	**289**	P	**P**	**17 13 53.4**	**+0.3**
SANVU	**Saraoutou**	**14.50**	**289**	P	**P**	**17 13 53.7**	**+0.6**
OUZ	**Omahuta**	**15.94**	**204**	P	**P**	**17 14 09.1**	**+3.1**
OUZ	**Omahuta**	**15.94**	**204**	P	**P**	**17 14 09.6**	**+3.6**
KOUNC	**Koumac, New Ca**	**16.02**	**268**	P	**P**	**17 14 09.6**	**+2.5**
GRZ	**Great Barrier**	**16.26**	**197**	P	**P**	**17 14 10.8**	**+1.8**
WCZ	**Waipu Caves**	**16.32**	**201**	P	**P**	**17 14 12.5**	**+3.0**
KUZ	**Kuaotunu**	**16.66**	**196**	P	**P**	**17 14 14.6**	**+2.0**
MXZ	**Matakaoa Point**	**16.93**	**188**	P	**P**	**17 14 15.0**	**-0.1**
RAR	**Rarotonga**	**17.59**	**95**	P	**P**	**17 14 21.9**	**+0.5**
2.6nm,0.3s,baz=243,slow=8.7,SNR=5.1							
URZ	**Urewera**	**17.80**	**191**	P	**P**	**17 14 22.1**	**-1.0**
7.9nm,0.3s,baz=290,slow=2.5,SNR=38							
URZ				S	**S**	**17 17 09.9**	**-6.9**
0.5nm,0.3s,baz=172,slow=20,SNR=1.1							
URZ				ScP	**ScP**	**17 21 06.5**	**+0.1**
0.8nm,0.3s,baz=307,slow=5.1,SNR=2.0							
URZ	**Urewera**	**17.80**	**191**	P	**P**	**17 14 21.1**	**-2.0**
URZ	**Urewera**	**17.80**	**191**	P	**P**	**17 14 22.4**	**-0.7**
BKZ	**Black Stump Fm**	**18.80**	**192**	P	**P**	**17 14 30.8**	**-1.5**
BFZ	**Birch Farm**	**20.31**	**191**	P	**P**	**17 14 44.5**	**-1.3**
BFZ				IAmb	IAmb	17 14 46.6	
comp=Z,25nm,0.7s							
QRZ	**Quartz Range**	**21.36**	**199**	P	**P**	**17 14 56.1**	**+0.9**
QRZ	**Quartz Range**	**21.36**	**199**	P	**P**	**17 14 56.4**	**+1.2**
NNZ	**Nelson**	**21.48**	**197**	P	**P**	**17 14 56.1**	**-0.2**
NNZ				S	**S**	**17 18 12.3**	**-2.7**
BSWZ	**Blackbirch Sta**	**21.82**	**195**	P	**P**	**17 15 00.3**	**+1.0**
THZ	**Tophouse**	**22.11**	**197**	P	**P**	**17 15 01.8**	**-0.3**
THZ				S	**S**	**17 18 21.0**	**-4.3**
DSZ	**Denniston Nort**	**22.42**	**199**	P	**P**	**17 15 00.9**	**-3.8**
KHZ	**Kahutara**	**22.56**	**195**	P	**P**	**17 15 05.4**	**-0.4**
KHZ				S	**S**	**17 18 27.6**	**-4.4**
GVZ	**Greta Valley S**	**23.20**	**196**	P	**P**	**17 15 11.0**	**-0.6**
LTZ	**Lake Taylor**	**23.23**	**197**	P	**P**	**17 15 11.0**	**-0.9**
INZ	**Inchbonnie**	**23.42**	**199**	P	**P**	**17 15 13.3**	**-0.2**
TARA	**Tarawa**	**23.52**	**338**	P	**P**	**17 15 15.4**	**+0.6**
comp=Z,418nm,1.1s							
HNR	**Honiara**	**23.55**	**295**	P	**P**	**17 15 14.0**	**-1.0**
comp=Z,47nm,0.5s,baz=37,slow=4.1,SNR=5.8							
HNR	**Honiara**	**23.55**	**295**	P	**P**	**17 15 13.2**	**-1.9**
OXZ	**Oxford**	**23.80**	**197**	P	**P**	**17 15 16.8**	**-0.1**
WVZ	**Waitaha Valley**	**23.95**	**200**	P	**P**	**17 15 18.1**	**-0.1**
MQZ	**McQueen's Vall**	**23.99**	**196**	P	**P**	**17 15 18.8**	**+0.2**
MHCZ	**Mount Hutt**	**24.12**	**198**	P	**P**	**17 15 19.6**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**24.30**	**200**	P	**P**	**17 15 22.1**	**+0.8**
RPZ	**Rata Peaks**	**24.44**	**198**	P	**P**	**17 15 22.8**	**+0.3**
RPZ				S	**PcP**	**17 18 37.8**	**-2.2**
ARCZ	**Arundel**	**24.62**	**198**	P	**P**	**17 15 24.3**	**+0.2**
FOZ	**Fox Glacier**	**24.66**	**200**	P	**P**	**17 15 24.5**	**0.0**
PAE	**Paea**	**27.56**	**89**	*e*P	**P**	**17 15 51.0**	**+0.7**
comp=Z,8.8nm,1.0s							
PPT2	**Papeete2**	**27.58**	**88**	*e*P	**P**	**17 15 51.5**	**+0.9**
comp=Z,52nm,1.0s							
PPT	**Papeete**	**27.58**	**88**	P	**P**	**17 15 52.1**	**+1.6**
comp=Z,39nm,0.5s,baz=284,slow=14,SNR=8.4							
PPTF	**Pamatai, Papee**	**27.59**	**88**	P	**P**	**17 15 52.3**	**+1.7**
TIAR	**Tiarei**	**27.80**	**88**	*e*P	**P**	**17 15 53.3**	**+0.9**
comp=Z,0.6nm,0.7s							
EIDS	**Eidsvold**	**28.23**	**255**	P	**P**	**17 15 56.0**	**-0.1**
baz=28,SNR=6.5							
EIDS	**Eidsvold**	**28.23**	**255**	P	**P**	**17 15 55.3**	**-0.8**
ARMA	**Armidale**	**28.44**	**244**	P	**P**	**17 15 58.2**	**+0.3**
baz=28,SNR=8.4							
ARMA	**Armidale**	**28.44**	**244**	P	**P**	**17 15 58.5**	**+0.6**
PMOR	**Pomariorio Ree**	**29.75**	**84**	*e*P	**P**	**17 16 09.9**	**+0.6**
comp=Z,114nm,1.1s							
VAH	**Vaihoa**	**29.94**	**85**	*e*P	**P**	**17 16 11.4**	**+0.5**
comp=Z,52nm,0.9s							
RMQ	**Roma**	**30.38**	**253**	P	**P**	**17 16 16.0**	**+1.5**
baz=30,SNR=21							
RMQ	**Roma**	**30.38**	**253**	P	**P**	**17 16 16.1**	**+1.5**
CTA	**Charters Tower**	**32.90**	**265**	P	**P**	**17 16 36.8**	**+0.7**
comp=Z,27nm,0.4s,baz=92,slow=11,SNR=28							
CTA	**Charters Tower**	**32.90**	**265**	P	**P**	**17 16 36.8**	**+0.7**
CTAO	**Charters Tower**	**32.90**	**265**	P	**P**	**17 16 36.3**	**+0.2**
CTAO	**Charters Tower**	**32.90**	**265**	P	**P**	**17 16 36.7**	**+0.7**
CMSA	**Cobar Meteorol**	**33.66**	**244**	P	**P**	**17 16 43.1**	**+1.0**
baz=34,SNR=19							
CMSA	**Cobar Meteorol**	**33.66**	**244**	P	**P**	**17 16 43.2**	**+1.0**
QLP	**Quilpie**	**34.44**	**253**	P	**P**	**17 16 49.4**	**+0.6**
baz=34,SNR=22							
QLP	**Quilpie**	**34.44**	**253**	P	**P**	**17 16 49.6**	**+0.8**
PMG	**Port Moresby**	**34.86**	**284**	P	**P**	**17 16 52.8**	**+0.4**
comp=Z,86nm,0.8s,baz=79,slow=5.2,SNR=24							
PMG	**Port Moresby**	**34.86**	**284**	P	**P**	**17 16 52.5**	**+0.1**
PMG	**Port Moresby**	**34.86**	**284**	P	**P**	**17 16 52.9**	**+0.4**
MTSU	**Mount Surprise**	**35.02**	**268**	P	**P**	**17 16 54.4**	**+0.7**
baz=35,SNR=84							
MTSU	**Mount Surprise**	**35.02**	**268**	P	**P**	**17 16 54.4**	**+0.7**
TOO	**Toolangi**	**35.27**	**234**	P	**P**	**17 16 57.0**	**+1.3**
baz=35,SNR=7.0							
TOO	**Toolangi**	**35.27**	**234**	P	**P**	**17 16 56.7**	**+1.1**
PATS	**Pohnpei**	**35.61**	**318**	P	**P**	**17 16 59.1**	**+0.5**
COEN	**Coen**	**37.04**	**274**	P	**P**	**17 17 10.8**	**+0.5**
COEN				IAmb	IAmb	17 17 12.2	
comp=Z,40nm,0.9s							
COEN	**Coen**	**37.04**	**274**	P	**P**	**17 17 11.1**	**+0.7**
STKA	**Stephens Creek**	**37.16**	**244**	P	**P**	**17 17 12.3**	**+1.2**
comp=Z,6.6nm,0.5s,baz=90,slow=9.9,SNR=26							
STKA				PcP	**PcP**	**17 19 15.3**	**+0.5**
comp=Z,2.2nm,0.5s,baz=79,slow=8.6,SNR=2.1							
STKA				ScP	**ScP**	**17 22 07.0**	**+1.1**
comp=Z,2.9nm,0.7s,baz=11,slow=2.2,SNR=4.1							
STKA	**Stephens Creek**	**37.16**	**244**	P	**P**	**17 17 12.3**	**+1.2**
baz=37,SNR=18							
STKA	**Stephens Creek**	**37.16**	**244**	P	**P**	**17 17 12.1**	**+0.9**
STKA	**Stephens Creek**	**37.16**	**244**	P	**P**	**17 17 12.3**	**+1.2**
INKA	**Innaminka**	**37.58**	**251**	P	**P**	**17 17 16.2**	**+1.6**
MANU	**Manus Island**	**38.05**	**295**	P	**P**	**17 17 18.9**	**+0.2**
MANU				IAmb	IAmb	17 17 21.0	
comp=Z,36nm,0.8s							
TAOE	**Nuku Hiva Isla**	**38.91**	**78**	*e*P	**P**	**17 17 25.7**	**0.0**
comp=Z,170nm,1.0s							
QIS	**Mount Isa**	**39.02**	**263**	P	**P**	**17 17 26.3**	**-0.1**
baz=39,SNR=12							
QIS	**Mount Isa**	**39.02**	**263**	P	**P**	**17 17 26.5**	**+0.1**
HTT	**Hallett**	**39.59**	**242**	P	**P**	**17 17 31.5**	**+0.7**
baz=40,SNR=16							
HTT	**Hallett**	**39.59**	**242**	P	**P**	**17 17 31.8**	**+1.0**
LCRK	**Leigh Creek**	**39.91**	**247**	P	**P**	**17 17 34.3**	**+1.0**
NAPP	**Napperby**	**40.21**	**243**	P	**P**	**17 17 37.0**	**+1.4**
WHYH	**Whyalla**	**40.67**	**243**	P	**P**	**17 17 40.2**	**+0.9**
BBOO	**Buckleboo**	**41.92**	**244**	P	**P**	**17 17 49.7**	**+0.5**
baz=42,SNR=99							
BBOO	**Buckleboo**	**41.92**	**244**	P	**P**	**17 17 49.5**	**+0.3**
BBOO				IAmb	IAmb	17 17 50.4	
comp=Z,23nm,0.6s							
BBOO	**Buckleboo**	**41.92**	**244**	P	**P**	**17 17 49.9**	**+0.8**
OOD	**Oodnadatta**	**42.06**	**251**	P	**P**	**17 17 51.8**	**+1.5**
WAKE	**Wake Island**	**42.36**	**339**	P	**P**	**17 17 52.2**	**-0.4**
MULG	**Mulgathing**	**43.49**	**248**	P	**P**	**17 18 02.1**	**+0.7**
WR0	**Warramunga Arr**	**43.81**	**262**	P	**P**	**17 18 03.7**	**-0.4**
WR0				IAmb	IAmb	17 18 05.4	
comp=Z,43nm,1.1s							
AS31	**Alice Springs**	**43.90**	**257**	P	**P**	**17 18 05.2**	**+0.5**
ASAR	**Alice Springs**	**43.91**	**257**	P	**P**	**17 18 05.4**	**+0.6**
comp=Z,54nm,0.5s,baz=92,slow=7.6,SNR=2336							
ASAR				PcP	**PcP**	**17 19 37.8**	**+0.5**
comp=Z,5.5nm,0.5s,baz=108,slow=4.4,SNR=7.3							
ASAR				ScP	**ScP**	**17 22 34.7**	**+1.8**
comp=Z,2.5nm,0.6s,baz=107,slow=4.6,SNR=7.0							
ASAR				S	**S**	**17 23 51.5**	**-2.5**
comp=Z,15nm,0.8s,baz=94,slow=16,SNR=50							
ASAR	**Alice Springs**	**43.91**	**257**	P	**P**	**17 18 03.9**	**-0.9**
WB0	**Warramunga Arr**	**43.98**	**263**	P	**P**	**17 18 05.4**	**0.0**
WB2	**Warramunga Arr**	**43.99**	**262**	P	**P**	**17 18 05.4**	**-0.1**
WRAB	**Tennant Creek**	**43.99**	**262**	P	**P**	**17 18 05.1**	**-0.4**
WRAB				IAmb	IAmb	17 18 06.0	
comp=Z,58nm,1.0s							
WRAB	**Tennant Creek**	**43.99**	**262**	P	**P**	**17 18 05.4**	**-0.1**
WRA	**Warramunga Arr**	**44.00**	**262**	P	**P**	**17 18 05.4**	**-0.2**
comp=Z,29nm,0.5s,baz=98,slow=7.8,SNR=892							
WRA				PcP	**PcP**	**17 19 38.3**	**+0.6**
comp=Z,5.1nm,1.0s,baz=101,slow=3.7,SNR=3.2							
WRA				S	**S**	**17 23 50.6**	**-4.9**
comp=Z,5.4nm,0.9s,baz=98,slow=13,SNR=12							
WRA	**Warramunga Arr**	**44.00**	**262**	P	**P**	**17 18 03.9**	**-1.6**
GENI	**Genyem**	**44.04**	**289**	P	**P**	**17 18 06.3**	**+0.4**
comp=Z,167nm,1.0s							
GENI	**Genyem**	**44.04**	**289**	P	**P**	**17 18 07.1**	**+1.2**
SMPI	**Sarmi**	**45.61**	**289**	P	**P**	**17 18 18.0**	**+0.2**
comp=Z,45nm,1.6s							
KDU	**Kakadu**	**47.39**	**272**	P	**P**	**17 18 31.1**	**-0.1**
baz=47,SNR=26							
KDU	**Kakadu**	**47.39**	**272**	P	**P**	**17 18 31.1**	**-0.1**
SRPI	**Serui, Papua**	**47.86**	**287**	P	**P**	**17 18 35.2**	**+0.4**
comp=Z,46nm,1.1s							
MTN	**Manton Dam**	**48.60**	**271**	P	**P**	**17 18 39.7**	**-0.5**
baz=48,SNR=53							
MTN	**Manton Dam**	**48.60**	**271**	P	**P**	**17 18 39.5**	**-0.8**
MTN	**Manton Dam**	**48.60**	**271**	P	**P**	**17 18 39.9**	**-0.3**
FORT	**Forrest**	**48.66**	**247**	P	**P**	**17 18 40.5**	**+0.1**
baz=49,SNR=45							
FORT	**Forrest**	**48.66**	**247**	P	**P**	**17 18 40.2**	**-0.3**
FORT	**Forrest**	**48.66**	**247**	P	**P**	**17 18 40.6**	**+0.1**
WRKA	**Warakurna**	**48.85**	**254**	P	**P**	**17 18 42.2**	**+0.2**
baz=49,SNR=361							
WRKA	**Warakurna**	**48.85**	**254**	P	**P**	**17 18 42.3**	**+0.3**
DRS	**Darwin Rock St**	**48.94**	**271**	P	**P**	**17 18 42.5**	**-0.2**
GUMO	**Guam**	**49.55**	**310**	P	**P**	**17 18 47.2**	**0.0**
comp=Z,58nm,0.5s,baz=132,slow=23,SNR=5.8							
KNRA	**Kununurra**	**50.08**	**267**	P	**P**	**17 18 51.1**	**+0.1**
baz=50,SNR=66							
KNRA	**Kununurra**	**50.08**	**267**	P	**P**	**17 18 51.0**	**-0.1**
KNRA				IAmb	IAmb	17 18 52.0	
comp=Z,42nm,0.6s							
KNRA	**Kununurra**	**50.08**	**267**	P	**P**	**17 18 51.2**	**+0.1**
FAKI	**Fak Fak**	**51.02**	**284**	P	**P**	**17 18 57.8**	**-0.1**
FAKI				IAmb	IAmb	17 18 58.7	
comp=Z,45nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	**P**	**17 19 08.4**	**+0.5**
comp=Z,13nm,0.5s,baz=98,slow=3.5,SNR=159							
FITZ				S	**S**	**17 25 47.7**	**-3.0**
comp=Z,0.7nm,0.8s,baz=279,slow=21,SNR=1.3							
BNDI	**Bandanaira**	**52.53**	**281**	P	**P**	**17 19 08.9**	**+0.2**
SIJI	**Sorong**	**52.77**	**285**	P	**P**	**17 19 10.8**	**+0.3**
comp=Z,171nm,0.7s,baz=97,slow=5.7,SNR=100							
SWI	**Sorong**	**52.78**	**285**	P	**P**	**17 19 10.6**	**+0.1**
comp=Z,2μmcomp=Z,312nm,0.8s							
MSAI	**Masohi**	**53.88**	**281**	P	P	17 19 23.1	+4.8
AAI	**Ambon**	**54.42**	**281**	P	**P**	**17 19 21.7**	**-0.4**
comp=Z,906nmcomp=Z,78nm,1.1s							
SOEI	**Soe**	**55.95**	**272**	P	**P**	**17 19 32.9**	**+0.1**
comp=Z,2μmcomp=Z,231nm,0.9s							
SOEI	**Soe**	**55.95**	**272**	P	**P**	**17 19 34.2**	**+1.4**
SOEI	**Soe**	**55.95**	**272**	P	**P**	**17 19 34.6**	**+1.8**
LBMI	**Labuha**	**56.27**	**284**	P	**P**	**17 19 35.3**	**+0.4**
comp=Z,63nm,1.0s							
BATI	**Baumata**	**56.37**	**271**	P	**P**	**17 19 37.1**	**+1.5**
comp=Z,68nm,0.7s,baz=194,slow=1.2,SNR=33							
BATI	**Baumata**	**56.37**	**271**	P	**P**	**17 19 35.8**	**+0.2**
comp=Z,53nm,1.2s							
TNTI	**Ternate**	**56.99**	**285**	P	**P**	**17 19 40.1**	**+0.3**
comp=Z,811nmcomp=Z,88nm,1.1s							
TNTI	**Ternate**	**56.99**	**285**	P	**P**	**17 19 40.4**	**+0.6**
PSA00	**Pilbara Seismi**	**57.05**	**257**	P	**P**	**17 19 40.2**	**0.0**
PSA00				IAmb	IAmb	17 19 40.9	
comp=Z,48nm,0.8s							
PSA00	**Pilbara Seismi**	**57.05**	**257**	P	**P**	**17 19 40.2**	**0.0**
SANI	**Sanana**	**57.09**	**281**	P	**P**	**17 19 39.8**	**-0.6**
comp=Z,590nmcomp=Z,72nm,0.9s							
SANI	**Sanana**	**57.09**	**281**	P	**P**	**17 19 40.1**	**-0.3**
MBWA	**Marble Bar**	**57.24**	**258**	P	**P**	**17 19 41.5**	**+0.1**
MEEK	**Meekatharra**	**57.29**	**251**	P	**P**	**17 19 41.4**	**-0.4**
baz=57,SNR=14							
MEEK	**Meekatharra**	**57.29**	**251**	P	**P**	**17 19 41.4**	**-0.4**
KLBR	**Kellerberrin**	**57.42**	**245**	P	**P**	**17 19 42.7**	**+0.2**
baz=57,SNR=14							
KLBR	**Kellerberrin**	**57.42**	**245**	P	**P**	**17 19 42.9**	**+0.4**
VNDA	**Vanda**	**57.58**	**185**	P	**P**	**17 19 45.3**	**+2.6**
comp=Z,3.3nm,0.4s,baz=17,slow=6.7,SNR=16							
VNDA	**Vanda**	**57.58**	**185**	P	**P**	**17 19 44.2**	**+1.4**
MMRI	**Maumere**	**58.20**	**273**	P	**P**	**17 19 47.5**	**-0.5**
comp=Z,1μmcomp=Z,78nm,0.7s							
MMRI	**Maumere**	**58.20**	**273**	P	**P**	**17 19 47.4**	**-0.7**
MMRI				IAmb	IAmb	17 19 48.6	
comp=Z,71nm,1.0s							
MMRI	**Maumere**	**58.20**	**273**	P	**P**	**17 19 47.9**	**-0.1**
BLDU	**Ballidu**	**58.42**	**246**	P	**P**	**17 19 49.3**	**0.0**
baz=58,SNR=30							
BLDU	**Ballidu**	**58.42**	**246**	P	**P**	**17 19 49.5**	**+0.2**
MUN	**Mundaring**	**58.70**	**245**	P	**P**	**17 19 51.8**	**+0.7**
baz=59,SNR=9.0							
MUN	**Mundaring**	**58.70**	**245**	P	**P**	**17 19 52.0**	**+0.9**
MORW	**Morawa**	**59.20**	**248**	P	**P**	**17 19 54.5**

JEW Eniwo 73.22 330 P P 17 21 21.0 +0.3
NACB Ninganchiao 73.37 305 P P 17 21 20.7 -1.2
NACB IAmb IAmb 17 21 21.9
comp=Z,40nm,0.7s
TPUB Ta-pu 73.66 303 P P 17 21 22.7 -0.9
TPUB Ta-pu 73.66 303 P P 17 21 22.9 -0.7
SSLB Suanglung 73.66 304 P P 17 21 22.2 -1.4
SSLB IAmb IAmb 17 21 23.4
comp=Z,38nm,0.6s
SSLB Suanglung 73.66 304 P P 17 21 22.9 -0.7
ASAJ Asahikawa 73.71 332 P P 17 21 24.8 +1.4
comp=Z,31nm,0.8s,baz=219,slow=4.6,SNR=16
UNV Unalaska Valle 75.05 7 P P 17 21 30.1 -0.5
UNV IAmb IAmb 17 21 30.8
comp=Z,34nm,0.6s
UNV Unalaska Valle 75.05 7 P P 17 21 30.3 -0.3
baz=192
AKUT Akutan 75.42 8 P P 17 21 31.9 -0.7
AKUT IAmb IAmb 17 21 37.5
comp=Z,42nm,1.0s
YSS Yuzh-Sakhalins 75.90 334 P P 17 21 36.1 +0.6
PEA0B Petropavlovsk- 76.40 346 P P 17 21 37.8 -0.4
PEA0B IAmb IAmb 17 21 39.0
comp=Z,31nm,0.8s
PETK Petropavlovsk- 76.40 346 P P 17 21 37.6 -0.6
comp=Z,24nm,0.7s,baz=140,slow=6.6,SNR=54
PETK Petropavlovsk- 76.40 346 P P 17 21 37.9 -0.3
KSRS Korea Array 76.73 319 P P 17 21 41.2 +0.9
comp=Z,8.0nm,0.7s,baz=125,slow=5.8,SNR=28
KSAR Wonju Array Be 76.75 319 P P 17 21 40.2 -0.1
SDPT Sand Point 77.39 10 P P 17 21 42.6 -0.8
SDPT Sand Point 77.39 10 P P 17 21 43.1 -0.3
baz=197
CHGN Chignik 78.66 11 P P 17 21 49.6 -0.6
CHGN IAmb IAmb 17 21 53.6
comp=Z,40nm,0.8s
CHGN Chignik 78.66 11 P P 17 21 50.3 +0.2
baz=199
DLV T Lat 78.67 287 P P 17 21 53.5 +2.1
comp=Z,31nm,0.9s
USA0B Ussuriysk Arra 78.88 326 P P 17 21 51.8 +0.1
USRK Ussuriysk Ar. 78.88 326 P P 17 21 53.2 +1.5
comp=Z,21nm,0.7s,baz=114,slow=3.6,SNR=21
USRK Ussuriysk Ar. 78.88 326 P P 17 21 52.3 +0.6
NJ2 Nanjing 79.63 310 eP P 17 21 56.8 +0.9
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
O02D Mt. Diablo Mer 79.86 40 P P 17 21 59.5 +2.4
baz=232
N02D Trinity Center 80.40 39 P P 17 22 02.3 +2.5
baz=232
MDJ Mudanjiang 80.43 325 P P 17 22 01.0 +1.2
MDJ pmax pmax
comp=Z,38nm,1.0s
MDJ pmax pmax
comp=Z,310nm,3.7s
MDJ Mudanjiang 80.43 325 P P 17 22 01.2 +1.4
comp=Z,35nm,1.0s
O03E Paynes Creek 80.52 40 P P 17 22 02.6 +2.1
baz=232
OHAK Old Harbor 80.56 14 P P 17 22 00.6 +0.6
OHAK IAmb IAmb 17 22 10.3
comp=Z,68nm,1.2s
M02C Callahan 80.57 39 P P 17 22 03.3 +2.6
baz=231
CWC Cottonwood Cre 80.64 45 P P 17 22 03.3 +2.0
baz=236
MPMC Manual Prospec 80.82 46 P P 17 22 04.5 +2.3
baz=236
YBH Yreka Blue Hor 80.86 39 P P 17 22 03.7 +1.5
comp=Z,7.0nm,0.8s,baz=252,slow=2.1,SNR=14
MAW Mawson 81.11 200 P P 17 22 04.0 +1.1
comp=Z,6.7nm,0.7s,baz=61,slow=15,SNR=2.4
MAW Mawson 81.11 200 P P 17 22 03.8 +0.9
KDAK Kodiak Island 81.22 14 P P 17 22 04.3 +0.8
comp=Z,16nm,0.7s,baz=168,slow=9.3,SNR=2.4
PMSA Palmer Station 81.25 157 P P 17 22 04.0 +0.3
PMSA IAmb IAmb 17 22 05.9
comp=Z,27nm,0.8s
M04C Macdoel 81.41 39 P P 17 22 06.8 +1.8
baz=232
NVAR Mina Array Bea 81.62 44 P P 17 22 07.7 +1.4
comp=Z,3.6nm,0.8s,baz=225,slow=10,SNR=6.0
NVAR pP pP 17 24 11.1 -0.6
comp=Z,0.2nm,0.6s,baz=232,slow=10,SNR=1.3
J04D Umpqua Nationa 82.14 38 P P 17 22 11.0 +2.2
baz=232
P18K Big Mountain, 82.16 12 P P 17 22 06.4 -1.9
P18K IAmb IAmb 17 22 09.0
comp=Z,24nm,0.8s
P18K Big Mountain, 82.16 12 P P 17 22 08.4 0.0
baz=202
I04A Tendick Farm, 82.31 37 P P 17 22 10.8 +1.3
baz=232
BNX BinXian 82.33 325 ⇓P P 17 22 09.6 +0.1
BNX pmax pmax
comp=Z,25nm,0.7s
BNX pmax pmax
comp=Z,85nm,5.5s
KLR Kul'dur 82.49 330 P P 17 22 11.0 +0.8
comp=Z,8.1nm,0.9s,baz=71,slow=1.9,SNR=23
O18K Koktuh Hills 82.59 12 P P 17 22 10.4 0.0
O18K Koktuh Hills 82.59 12 P P 17 22 10.6 +0.2
baz=202,SNR=6.6
IPM Ipoh 82.61 278 P P 17 22 12.0 +0.3
IPM IAmb IAmb 17 22 13.4
comp=Z,30nm,0.7s
IPM Ipoh 82.61 278 P P 17 22 12.4 +0.8
J05D Fort Rock, OR 82.68 38 P P 17 22 13.5 +2.0
baz=232
TIA Tai'an 83.05 313 ⇓P P 17 22 13.6 +0.3
TIA pmax pmax
comp=Z,12nm,0.8s
O19K Port Alsworth 83.08 12 P P 17 22 13.0 +0.1
baz=203,SNR=7.7
CNPM China Poot 83.11 14 P P 17 22 13.0 0.0
CNPM IAmb IAmb 17 22 13.9
comp=Z,38nm,0.9s
KULM Kulim 83.25 278 P P 17 22 14.2 -0.6
KULM IAmb IAmb 17 22 16.8
comp=Z,22nm,0.8s
I05D Terrebonne, OR 83.26 37 P P 17 22 15.9 +1.7
baz=232
BRSE Bradley Lake S 83.41 14 P P 17 22 15.0 +0.4
baz=206
N19K Bonanza Creek 83.62 12 P P 17 22 15.5 -0.2
baz=202
SVW2 Sparrevohn 83.68 11 P P 17 22 15.8 0.0
MA2 Magadan 83.91 345 P P 17 22 15.8 -1.1
MA2 Magadan 83.91 345 P P 17 22 16.9 -0.1
comp=Z,28nm,1.3s
PSI Prapat 83.96 275 P P 17 22 17.9 -0.5
comp=Z,14nm,0.9s,baz=113,slow=0.9,SNR=17
GSI Gunungsitoli 84.68 273 P P 17 22 19.2 -2.6
GSI Gunungsitoli 84.68 273 P P 17 22 23.4 +1.5
L19K White Mountain 84.82 11 P P 17 22 22.2 +0.7
baz=202
GLI Glacier Island 85.27 15 P P 17 22 24.2 +0.6
baz=209
L20K Farewell, AK 85.27 11 P P 17 22 23.7 +0.1
baz=203
TTA Tatalina 85.32 10 P P 17 22 24.8 +0.9
baz=201
HNS HongShan 85.33 313 ⇓P P 17 22 25.5 +1.1
HNS pmax pmax
comp=Z,22nm,1.0s
KNK Knik Glacier 85.42 14 P P 17 22 23.9 -0.4
KNK IAmb IAmb 17 22 25.4
comp=Z,27nm,0.9s
KNK Knik Glacier 85.42 14 P P 17 22 24.5 +0.2
baz=208
PMR Palmer 85.43 14 P P 17 22 24.1 -0.2
PMR Palmer 85.43 14 P P 17 22 24.5 +0.2
baz=207
BJI Beijing 85.70 316 P P 17 22 26.5 +0.4
BJI pmax pmax
comp=Z,15nm,0.8s
SML Sawmill 85.80 14 P P 17 22 25.2 -0.9
CUT Chulitna 85.91 13 P P 17 22 26.6 0.0
baz=206
BMRM Bremner River 85.96 16 P P 17 22 25.9 -1.1
PPLA Purkeypile 85.97 12 P P 17 22 25.4 -1.6
SCM Sheep Creek Mo 86.05 14 P P 17 22 25.7 -1.6
SCM Sheep Creek Mo 86.05 14 P P 17 22 27.6 +0.2
baz=209
K20K Telida 86.05 11 P P 17 22 27.5 +0.3
baz=203
KLU Klutina 86.08 15 P P 17 22 26.9 -0.6
baz=210
GYA Guiyang 86.30 300 ⇓P P 17 22 30.3 +0.8
GYA pmax pmax
comp=Z,12nm,0.7s
SYO Syowa Base 86.33 193⇓eP P 17 22 28.8 +0.2
SYO Syowa Base 86.33 193⇓epP pP 17 24 31.0 -5.0
CAST Castle Rocks 86.47 12 P P 17 22 28.0 -1.2
CAST IAmb IAmb 17 22 29.1
comp=Z,19nm,0.8s
CAST Castle Rocks 86.47 12 P P 17 22 28.2 -1.0
baz=205,SNR=10
N25K Chitina, Valde 86.51 16 P P 17 22 29.4 -0.2
N25K IAmb IAmb 17 22 30.5
comp=Z,18nm,0.7s
N25K Chitina, Valde 86.51 16 P P 17 22 30.2 +0.6
baz=211
SEY Seymchan 86.53 347 P P 17 22 29.8 +0.4
comp=Z,22nm,0.8s,baz=150,slow=5.7,SNR=123
M24K Tolsona, Glenn 86.55 15 P P 17 22 30.5 +0.8
M24K IAmb IAmb 17 22 45.3
comp=Z,25nm,1.0s
GLB Gilahina Butte 86.57 16 P P 17 22 30.1 +0.3
GLB IAmb IAmb 17 22 30.7
comp=Z,14nm,0.7s
F10A Beach Ranch, E 86.57 38 P P 17 22 29.9 -0.3
F10A IAmb IAmb 17 22 32.2
comp=Z,16nm,0.8s
WAT6 Susitna Watana 86.61 14 P P 17 22 30.3 +0.2
baz=209,SNR=7.6
J20K Nowinta River 86.80 10 P P 17 22 31.0 +0.2
baz=203
KTH Kantishna Hill 86.81 12 P P 17 22 29.9 -1.0
BARN Barnard Glacie 86.82 17 P P 17 22 31.2 0.0
BARN IAmb IAmb 17 22 32.8
comp=Z,22nm,0.8s
CTG Chitna Glacier 86.83 17 P P 17 22 31.9 +0.8
baz=214
TRF Thorofare Moun 86.84 12 P P 17 22 30.8 -0.4
TRF Thorofare Moun 86.84 12 P P 17 22 30.8 -0.4
baz=206,SNR=14
CHUM Lake Minchumin 86.85 11 P P 17 22 30.4 -0.5
baz=204
GCSA Galena City Sc 86.89 9 P P 17 22 31.6 +0.5
baz=200
HLID Hailey 86.91 41 P P 17 22 33.7 +1.7
baz=237
HARP HAARP 87.05 15 P P 17 22 32.6 +0.7
baz=211
RND Reindeer 87.10 13 P P 17 22 31.8 -0.5
DHY Denali Highway 87.12 14 P P 17 22 31.6 -0.9
DHY Denali Highway 87.12 14 P P 17 22 32.5 0.0
baz=209
MCK McKinley 87.37 13 P P 17 22 33.4 -0.1
MCK IAmb IAmb 17 22 35.2
comp=Z,24nm,0.8s
MCK McKinley 87.37 13 P P 17 22 33.4 -0.1
baz=207,SNR=11
MNTX Cornudas Mount 87.38 55 P P 17 22 36.0 +1.8
baz=244
PAX Paxson 87.47 14 P P 17 22 33.8 -0.2
baz=211
M26K Nabesna, AK 87.59 16 P P 17 22 35.3 +0.8
baz=213
TXAR Lajitas Array 87.68 58 P P 17 22 37.9 +2.1
comp=Z,2.8nm,0.8s,baz=222,slow=6.0,SNR=36
TXAR pP pP 17 24 44.5 +0.8
comp=Z,0.3nm,0.9s,baz=239,slow=8.3,SNR=1.1
YUK3 Moose Creek 87.74 17 P P 17 22 36.5 +1.0
baz=215,SNR=14
SNAA Sanae 87.74 179 P P 17 22 35.3 0.0
SNAA Sanae 87.74 179 P P 17 22 34.6 -0.7
XLT XiLinHaoTe 87.78 319 eP P 17 22 35.4 -0.6
XLT pmax pmax
comp=Z,15nm,0.8s
XLT pmax pmax
comp=Z,150nm,5.7s
M27K Edge Creek, AK 87.84 16 P P 17 22 36.4 +0.6
baz=214
XAN Xi'an 87.86 308 P P 17 22 38.3 +1.8
XAN pmax pmax
comp=Z,30nm,1.0s
VNA3 Neumayer Olymp 87.89 176 P P 17 22 36.3 +0.3
NEW Newport 87.93 36 P P 17 22 37.1 +0.6
comp=Z,2.1nm,0.8s,baz=268,slow=5.8,SNR=6.0
NEW Newport 87.93 36 P P 17 22 35.6 -0.9
NEW Newport 87.93 36 P P 17 22 37.3 +0.8
baz=235
L26K Log Cabin Wild 88.02 15 P P 17 22 37.1 +0.6
baz=212
I21K Tanana 88.09 11 P P 17 22 37.1 +0.3
baz=205
NEA2 Nenana 88.11 12 P P 17 22 36.1 -0.8
baz=207
BVCY Beaver Creek 88.15 17 P P 17 22 38.4 +1.2
baz=215
MLY Manley 88.18 11 P P 17 22 36.6 -0.7
baz=206
WRH Wood River Hil 88.20 13 P P 17 22 36.2 -1.1
VNA2 Neumayer--Watz 88.33 177 P P 17 22 38.5 +0.5
baz=181,slow=3.8
H21K Melozitna Rive 88.39 10 P P 17 22 38.4 +0.3
baz=204,SNR=11
HDA Harding Lake 88.39 13 P P 17 22 37.7 -0.4
HDA IAmb IAmb 17 22 38.9
comp=Z,22nm,0.7s
HDA Harding Lake 88.39 13 P P 17 22 38.1 -0.1
baz=209,SNR=16
CCB Clear Creek Bu 88.42 13 P P 17 22 37.8 -0.5
L27K Beaver Creek, 88.44 16 P P 17 22 39.3 +0.8
baz=214
BCAR Beaver Creek A 88.45 16 P P 17 22 38.9 +0.4
WHY Whitehorse 88.51 20 P P 17 22 40.1 +1.2
baz=220
IMAR Indian Mountai 88.53 10 P P 17 22 38.7 -0.1
DLBC Dease Lake 88.53 23 P P 17 22 39.7 +0.6
comp=Z,3.9nm,0.8s,baz=201,slow=8.4,SNR=6.5
I23K Minto, Yukon-K 88.55 12 P P 17 22 37.7 -1.2
I23K Minto, Yukon-K 88.55 12 P P 17 22 38.3 -0.5
baz=207
VNA1 Neumayer--Stat 88.56 177 P P 17 22 39.7 +0.7
MDM Murphy Dome 88.60 12 P P 17 22 38.4 -0.8
MDM IAmb IAmb 17 22 39.6
comp=Z,24nm,0.8s
TCOL CIGO, UAF Yank 88.60 13 P P 17 22 38.9 -0.2
baz=208,SNR=7.5
COLA College 88.61 13 P P 17 22 38.8 -0.3
baz=208
SCRK Sand Creek 88.68 15 P P 17 22 40.2 +0.6
baz=212,SNR=6.6
IL31 88.72 13 P P 17 22 39.1 -0.5
IL31 IAmb IAmb 17 22 40.2
comp=Z,11nm,0.9s
ILAR Eielson Array 88.72 13 P P 17 22 39.2 -0.5
comp=Z,8.6nm,0.8s,baz=223,slow=5.5,SNR=74
ILAR pP pP 17 24 49.2 +1.0
comp=Z,1.2nm,0.9s,baz=224,slow=6.3,SNR=3.8
ILAR PP PP 17 26 16.9 -3.4
comp=Z,0.3nm,0.7s,baz=321,slow=33,SNR=2.7
ILAR Eielson Array 88.72 13 P P 17 22 38.8 -0.9
P33M Teslin, Yukon 88.84 21 P P 17 22 41.9 +1.4
baz=222
N31M Braeburn, Yuko 88.86 19 P P 17 22 41.7 +1.2
baz=219
KMI Kunming 88.98 297 ⇑P P 17 22 44.2 +2.1
KMI sP sP 17 25 49.1 -0.4
KMI pmax pmax
comp=Z,21nm,0.7s
HHC Hu-ho-hao-te 89.15 315 eP P 17 22 42.8 +0.4
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.7s
J26L Joseph Creek 89.22 14 P P 17 22 43.1 +1.0
baz=212,SNR=21
M30M Minto, Yukon 89.41 18 P P 17 22 43.7 +0.7
baz=218
PLCA Paso Flores 89.48 134 P P 17 22 46.0 +1.9
comp=Z,5.9nm,0.7s,baz=213,slow=5.1,SNR=17
PDAR Pinedale Array 89.56 43 P P 17 22 44.7 +0.3
comp=Z,1.4nm,0.7s,baz=209,slow=3.0,SNR=14
PDAR Pinedale Array 89.56 43 P P 17 22 44.5 +0.1
BOZ Bozeman (W) 89.67 40 P P 17 22 45.8 +1.1
baz=239
CMAR Chiang Mai Arr 89.68 290 P P 17 22 47.0 +1.7
comp=Z,15nm,0.9s,baz=123,slow=2.9,SNR=100
CMAR PP PP 17 26 27.9 -0.9
comp=Z,1.4nm,1.0s,baz=127,slow=7.2,SNR=5.7
CMAR PKKPbc PKKPbc 17 40 15.2 +0.5
comp=Z,0.3nm,0.4s,baz=275,slow=4.1,SNR=4.1
CMAR Chiang Mai Arr 89.68 290 P P 17 22 46.3 +1.1
CHTO Chiang Mai 89.81 290 P P 17 22 45.8 0.0
CHTO Chiang Mai 89.81 290 P P 17 22 47.5 +1.7
DAWY Dawson 89.89 16 P P 17 22 45.6 +0.5
DAWY IAmb IAmb 17 22 46.7
comp=Z,14nm,0.9s
DAWY Dawson 89.89 16 P P 17 22 45.9 +0.7
baz=216,SNR=12
EGAK Eagle 90.03 15 P P 17 22 46.3 +0.5
baz=214
COLD Coldfoot 90.26 11 P P 17 22 47.5 +0.7
baz=206
PZH PanZhiHua 90.34 298 P P 17 22 49.2 +0.9
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,70nm,4.7s
CD2 Chengdu 90.47 303 P P 17 22 48.4 -0.3
I29M Ogilvie Camp, 91.21 16 P P 17 22 51.3 +0.1
baz=217
BMAR Burnt Mountain 91.49 12 P P 17 22 53.2 +0.7
YAK Yakutsk 92.17 338 P P 17 22 54.6 -1.0
comp=Z,10nm,0.7s,baz=100,slow=1.8,SNR=10
LZH Lanzhou 92.50 308 eP P 17 22 58.9 +0.9
LZH pP pP 17 25 06.6 +0.1
LZH pmax pmax
comp=Z,20nm,1.1s
A21K Barrow 93.12 7 P P 17 22 59.3 -0.5
A21K IAmb IAmb 17 23 00.9
comp=Z,9.5nm,0.8s
A21K Barrow 93.12 7 P P 17 23 00.2 +0.4
baz=200
INK Inuvik 94.69 15 P P 17 23 06.3 -0.7
comp=Z,3.6nm,0.9s,baz=208,slow=3.7,SNR=11
INK Inuvik 94.69 15 P P 17 23 06.8 -0.2
baz=222
ULN Ulaanbaatar 95.21 319 P P 17 23 09.8 -0.2
SONM Songino Array 95.60 319 P P 17 23 10.8 -1.0
comp=Z,0.6nm,0.7s,baz=101,slow=2.1,SNR=6.5
SONM PP PP 17 27 06.0 -8.0
comp=Z,0.7nm,0.9s,baz=139,slow=3.9,SNR=3.9
SONM Songino Array 95.60 319 P P 17 23 11.2 -0.7
GTA Gaotai 96.72 309 eP P 17 23 17.7 +0.7
GTA pP pwP 17 25 32.2 +2.6
GTA sP sP 17 26 22.1 -3.0
GTA pmax pmax
comp=Z,3.0nm,1.4s
YKA Yellowknife Ar 97.01 25 P Pdif 17 23 17.4 -0.1
comp=Z,0.9nm,0.7s,baz=244,slow=4.5,SNR=20
A36M Sachs Harbour 99.30 15 Pdiff Pdif 17 23 28.3 +0.8
baz=229
RES Resolute Bay 108.23 16 PKiKP PKiKP 17 28 08.5 -1.1
comp=Z,0.8nm,0.7s,baz=282,slow=5.6,SNR=4.4
ZALV Zalesovo Beam 110.36 321 PKiKP PKiKP 17 28 12.9 -1.3
comp=Z,2.3nm,0.6s,baz=119,slow=1.2,SNR=16
MKAR Makanchi Array 110.98 313 Pdiff Pdif 17 24 20.3 +0.1
comp=Z,0.5nm,0.6s,baz=103,slow=3.1,SNR=4.1
MKAR PKiKP PKiKP 17 28 14.7 -0.9
comp=Z,1.3nm,0.4s,baz=142,slow=0.8,SNR=37
MKAR PKKPbc PKKPbc 17 39 15.1 -0.4
comp=Z,1.0nm,0.8s,baz=281,slow=4.2,SNR=7.5
KURBB Kurchatov Arra 113.87 317 PKiKP PKiKP 17 28 19.9 -1.0
comp=Z,2.5nm,0.7s,baz=93,slow=1.8,SNR=28
KURBB PP PP 17 29 17.4 -9.0
comp=Z,1.0nm,0.9s,baz=94,slow=7.0,SNR=5.4
KURBB SKP 17 30 59.3
comp=Z,1.0nm,0.8s,baz=92,slow=2.1,SNR=6.5
KSH Kashi 114.59 305 PKP PKiKP 17 28 23.6 +0.7
KUU Kurty 114.80 310 ePKP PKPdf 17 28 22.4 -0.6
baz=310
AAK Ala-Archa 116.03 308 PKP PKPdf 17 28 24.5 -1.1
comp=Z,1.1nm,0.7s,baz=196,slow=4.6,SNR=6.7
AAK PKKPbc PKKPbc 17 38 57.1 -1.7
comp=Z,0.4nm,0.4s,baz=45,slow=6.6,SNR=2.2
BTLS Baital 116.53 311 ePKP PKPdf 17 28 25.4 -0.9
baz=311
FRB Frobisher Bay 117.30 28 PKP PKPdf 17 28 25.9 -1.3
comp=Z,1.4nm,0.5s,baz=4.0,slow=2.7,SNR=4.5
BRZS Berezniki 117.60 316 ePKP PKPdf 17 28 26.8 -1.4
baz=316
NEEM North Greenlan 117.97 11 iP PKPdf 17 28 28.0 -0.5
DZA Taraz 118.37 308 ePKP PKPdf 17 28 29.4 -0.6
baz=308
BVAR Borovoye Array 118.93 320 PKP PKPdf 17 28 30.1 -0.6
comp=Z,6.6nm,0.4s,baz=101,slow=2.3,SNR=61
BVAR PP PP 17 29 55.7 -5.4
comp=Z,0.9nm,0.7s,baz=86,slow=8.0,SNR=4.1
BVAR SKP 17 31 09.6
comp=Z,1.3nm,0.8s,baz=79,slow=3.8,SNR=5.3
BVAR PKKPbc PKKPab 17 38 49.8 -0.9
comp=Z,0.4nm,0.6s,baz=104,slow=6.3,SNR=4.0
BDFB Brasilia 119.47 123 PKKPbc PKKPbc 17 38 45.9 -0.7
comp=Z,1.4nm,0.4s,baz=193,slow=19,SNR=2.3
BRLS Borolday 119.47 308 ePKP PKPdf 17 28 31.6 -0.5
baz=308
DAG Danmarks Havn 123.07 5 iP PKPdf 17 28 36.0 -2.0
ARU Arti 125.11 325 PKP PKPdf 17 28 42.5 +0.1
comp=Z,4.6nm,0.5s,baz=90,slow=1.4,SNR=34
ARU PKKPbc PKKPbc 17 38 25.7 +0.1
comp=Z,0.2nm,0.4s,baz=188,slow=3.9,SNR=3.1
DY2G Dye2 125.18 21 iP PKPdf 17 28 41.7 -0.8
DBG Daneborg 125.19 7 iP PKPdf 17 28 41.1 -1.0
AKTO Aktyubinsk 126.90 318 PKP PKPdf 17 28 46.1 +0.1
comp=Z,4.9nm,0.7s,baz=104,slow=1.9,SNR=15
KIRV Kirov 128.93 330 PKP PKPdf 17 28 49.8 +0.2
comp=Z,11nm,0.5s,baz=82,slow=2.1,SNR=8.7
KIRV SKPbc SKPbc 17 31 15.8
comp=Z,10nm,0.8s,baz=46,slow=2.7,SNR=5.1
ARCES ARCESS Array B 129.10 349 PKP PKPdf 17 28 49.2 -0.5
comp=Z,4.3nm,0.6s,baz=27,slow=0.8,SNR=30
ARCES SKPbc SKPbc 17 31 16.1 +0.2
comp=Z,1.5nm,0.5s,baz=26,slow=3.1,SNR=4.6
ARCES ARCESS Array B 129.10 349 PKPdf 17 28 49.0 -0.7
KLMR Klimovskoe 131.91 336 ePKPdf PKPdf 17 28 54.1 -1.1
KLMR AMP 17 28 56.1
comp=Z,9.0nm,0.9s
KLMR ePP PP 17 31 24.4 -0.9
FINES FINESS Array B 135.88 343 PKhKP PKPpre 17 28 50.0
comp=Z,1.4nm,0.6s,baz=16,slow=2.3,SNR=6.8
FINES PKP PKPdf 17 29 02.5 -0.1
comp=Z,2.6nm,0.5s,baz=67,slow=2.5,SNR=7.5
FINES SKPbc SKPbc 17 31 39.5 +0.6
comp=Z,14nm,0.8s,baz=58,slow=4.7,SNR=24
OBN Obninsk 136.74 331 SKPbc SKPbc 17 31 42.1 +0.4
comp=Z,2.2nm,0.4s,baz=183,slow=4.2,SNR=5.5
KMBO Kilima Mbogo 138.71 243 SKPbc SKPbc 17 31 49.4 +0.5
comp=Z,3.6nm,1.0s,baz=45,slow=6.8,SNR=5.0
NB2 NORSAR Subarra 139.19 353 PKP PKPdf 17 28 59.8 -9.0
comp=Z,3.2nm,0.8s,baz=16,slow=3.2
NOA NORSAR Array B 139.19 353 PKhKP PKPpre 17 28 60.0
comp=Z,2.0nm,0.6s,baz=8.9,slow=2.3,SNR=6.9
NOA PKP PKPdf 17 29 08.8 +0.1
comp=Z,0.4nm,0.5s,baz=21,slow=3.4,SNR=3.8
NOA pPKP pPKPdf 17 31 27.7 +1.1
comp=Z,0.7nm,0.9s,baz=13,slow=6.9,SNR=1.5
NOA SKPbc SKPbc 17 31 49.0 +0.5
comp=Z,5.0nm,1.0s,baz=14,slow=4.4,SNR=6.2
IDID Didziasalis 140.61 337 eP PKPdf 17 29 06.3 -5.1
IIGN Ignalina 140.77 338 eP PKPdf 17 29 07.2 -4.5
PABE Paberze 141.42 340 eP PKPdf 17 29 08.6 -4.2
LODK Lodwar 142.71 247 PKPdf PKPdf 17 29 15.2 -1.4
SUW Suwalki 142.90 339 eP PKPdf 17 29 12.5 -3.0
AKASG Malin Array Be 142.99 330 PKhKP PKPpre 17 29 12.9
comp=Z,26nm,0.4s,baz=42,slow=4.4,SNR=338
AKASG SKPbc SKPbc 17 31 57.6 -0.7
comp=Z,5.7nm,1.0s,baz=42,slow=3.0,SNR=13
AKASG Malin Array Be 142.99 330 PKPdf PKPdf 17 29 13.1 -2.7
AKBB Malin Array Si 142.99 330 PKPdf PKPdf 17 29 13.1 -2.7
KAC Achnashellach 143.00 6 eP PKPab 17 29 13.6 +0.2
MCD Coleburn Disti 143.09 4 eP PKPab 17 29 13.3 -0.4
KPL Plockton 143.13 6 eP PKPbc 17 29 14.0 -0.2
DEL Delary 143.18 348 iP PKPab 17 29 13.0 -1.0
MUD Monsted U'grnd 143.91 353 iP PKPbc 17 29 15.5 -1.1
INVG Invergeldie, C 144.18 5 eP PKPbc 17 29 16.9 -0.5
BSD Bornholm Skovb 144.24 347 iP PKPbc 17 29 17.2 -0.5
BSD Bornholm Skovb 144.24 347 iP PKPbc 17 29 17.0 -0.7
BSD Bornholm Skovb 144.24 347 eP PKPbc 17 29 17.6 -0.1
SORM Soroca 145.15 328 ⇑P PKPdf 17 29 19.8 +0.2
GKP Gorka Klasztor 145.36 343 ePKP PKPbc 17 29 21.3 +0.1
PURM Purcari 145.40 325 ⇑P PKPbc 17 29 22.0 +0.6
BEL Belsk 145.52 339 ePKP PKPbc 17 29 22.1 +0.5
MILM Milestii Mici 145.71 326 ⇓iPKP PKPdf 17 29 21.0 +0.4

comp=Z,80nm,1.0s
MILM Milestii Mici 145.71 326 ⇑P PKPbc 17 29 21.5 -0.8
BSEG Bad Segeberg 146.21 351 *e*PKPbc **PKiK 17 29 24.6 -1.1**
baz=17,slow=2.4
IOMK Kirk Michael 146.27 6 *e*P **PKPbc 17 29 23.7 +0.1**
WIM Isle of Man 146.37 6 *e*P **PKPbc 17 29 23.8 -0.2**
ASF Jabal al Asfar 146.41 297 PKPbc **PKPbc 17 29 25.5 +0.6**
comp=Z,17nm,0.8s,baz=129,slow=2.2,SNR=26
VASR Vaslui 146.43 326 ⇑P PKPbc 17 29 25.0 +0.7
KWP Kalwaria Pacla 146.60 335 *e*PKP **PKPbc 17 29 25.1 +0.3**
BR131 Keskin Array S 146.61 312 PKPbc **PKPbc 17 29 25.2 -0.1**
BRTR Keskin Array B 146.61 312 PKPbc **PKPbc 17 29 25.1 -0.1**
comp=Z,10nm,0.7s,baz=113,slow=3.3,SNR=13
BRTR pPKPbc **pPKPdf 17 31 41.3 +0.8**
comp=Z,0.7nm,0.9s,baz=85,slow=1.6,SNR=2.3
PRAR RASCA 146.72 329 ⇑P PKPbc 17 29 25.5 +0.4
VLDR Vladesti 146.79 325 ⇑P PKPbc 17 29 26.2 +0.9
HPK Haverah Park 146.80 3 *e*P **PKPbc 17 29 25.5 +0.4**
TLCR 146.81 324 ⇑P PKPbc 17 29 25.5 +0.1
VARL Varlezi 146.88 325 ⇑P PKPbc 17 29 26.5 +0.9
RUE Ruedersdorf 146.94 346 *e*PKPbc **PKiK 17 29 26.5 -0.8**
baz=17,slow=2.4
SCTR Scanteiesti 146.95 325 ⇑P PKiK 17 29 26.8 -0.8
TATR Tatarca 146.97 325 ⇑P PKPbc 17 29 26.2 +0.4
GHRR 147.01 326 ⇑P PKiK 17 29 27.0 -0.7
BUR08 Bucovina Ar. S 147.01 330 PKPbc **PKiK 17 29 26.9 -0.9**
BURAR Bucovina Array 147.03 330 ⇑P PKPbc 17 29 26.9 +0.9
TESR Tescani 147.10 327 ⇑P PKPbc 17 29 25.9 -0.2
ANTO Ankara 147.14 312 PKPbc **PKPbc 17 29 27.2 +0.6**
BR231 Keskin MP Arra 147.16 312 PKPbc **PKPbc 17 29 27.3 +0.6**
CFR Carcaliu 147.19 324 ⇑P PKPdf 17 29 21.5 -1.6
OJC Ojcow 147.22 338 *e*PKP **PKPbc 17 29 26.5 +0.2**
OJC Ojcow 147.22 338 PKPbc **PKPbc 17 29 26.7 +0.4**
TPGR Topolog 147.23 323 ⇑P PKPbc 17 29 27.3 +0.7
WLF1 Llynfaes 147.25 6 *e*P **PKPbc 17 29 25.6 -0.6**
ODBI Odobesti 147.39 326 ⇑P PKiK 17 29 28.2 -0.3
MMAI Mount Meron Ar 147.46 299 PKPbc **PKPbc 17 29 28.3 +0.7**
comp=Z,29nm,0.6s,baz=68,slow=5.5,SNR=69
MMAI pPKPbc **pPKPab 17 31 43.8 +0.6**
comp=Z,0.4nm,0.3s,baz=70,slow=6.3,SNR=1.8
VRI Vrincioaia 147.49 326 ⇑P PKPbc 17 29 27.5 +0.3
RETH Rethem/Aller, 147.51 351 *e*PKPbc **PKiK 17 29 28.2 -0.3**
baz=17,slow=2.4
PLOR Plostina 147.54 326 ⇑P PKPbc 17 29 27.4 +0.1
FLTG Flechtingen 147.60 349 *e*PKPbc **PKiK 17 29 28.0 -0.6**
baz=17,slow=2.4
FLTG *e*PKPab **PKPab 17 29 31.7 +0.1**
baz=17,slow=4.3
HARR Harsova 147.61 324 ⇑P PKPbc 17 29 28.2 +0.7
TLBR Topalu 147.63 323 ⇑P PKPbc 17 29 28.2 +0.6
NRDL Niedersach Rie 147.64 350 *e*PKPbc **PKiK 17 29 28.4 -0.3**
baz=17,slow=2.4
MFTR Murfatlar 147.65 322 ⇑P PKiK 17 29 28.4 -0.7
CRVS Cervenica-Dubn 147.68 335 *e* **PKPab 17 29 32.8 +0.7**
CRVS Cervenica-Dubn 147.68 335 *e*PKP **PKiK 17 29 28.4 -0.6**
NIE Niedzica 147.70 337 *e*PKP **PKiK 17 29 29.2 +0.1**
MANR Mangalia 147.77 322 ⇑P PKiK 17 29 28.9 -0.4
BMR Baia Mare 147.77 332 ⇑P PKPbc 17 29 28.2 +0.4
KSP Ksiaz 147.79 342 *e*PKP **PKPbc 17 29 28.4 +0.6**
OZUR 147.82 327 ⇑P PKPbc 17 29 28.4 +0.3
ASSE Asse, Remlinge 147.89 349 *e*PKPbc **PKiK 17 29 29.0 -0.2**
baz=17,slow=2.4
NEHR Nehoiu 148.01 326 ⇑P PKPbc 17 29 29.0 +0.4
CWF Charnwood Fore 148.04 3 *e*P **PKPbc 17 29 28.1 -0.2**
CHVC Chvalec 148.09 342⇑ *e*PKP **PKiK 17 29 29.4 -0.4**
DOPR Dopca 148.11 328 ⇑P PKiK 17 29 29.9 -0.1
IBBN Ibbenburen 148.15 353 *e*PKPbc **PKiK 17 29 29.7 -0.1**
baz=17,slow=2.4
HLM1 Long Mynd 148.15 5 *e*P **PKPbc 17 29 28.0 -0.6**
MLR Muntele Rosu 148.15 326 ⇑P PKPbc 17 29 29.2 +0.2
MLR Muntele Rosu 148.15 326 PKPbc **PKPbc 17 29 28.8 -0.2**
comp=Z,14nm,0.6s,baz=338,slow=7.3,SNR=34
MLR Muntele Rosu 148.15 326 PKPbc **PKPbc 17 29 29.0 -0.1**
UPC Upice 148.17 342⇑ *e*PKP **PKPbc 17 29 29.1 +0.3**
UPC *e*PKPab **PKPab 17 29 34.6 +0.6**
CLL Collm 148.21 346⇓ *i*PKPbc **PKPbc 17 29 29.0 +0.2**
comp=Z,34nm,0.8s
CLL ⇑ *i*PKPab **PKPab 17 29 34.2 +0.1**
comp=Z,24nm,0.7s
CLL *ex* x 17 31 51.0
CLL *e*SKPbc **SKiK 17 32 13.0 +2.9**
CLL Collm 148.21 346 *e*PKPbc **PKiK 17 29 29.8 -0.1**
baz=17,slow=2.4
CLL *e*PKPab **PKPab 17 29 34.5 +0.4**
baz=17,slow=4.3
CLZ Clausthal 148.22 349 *e*PKPbc **PKiK 17 29 30.2 +0.1**
baz=17,slow=2.4
CLZ *e*PKPab **PKPab 17 29 34.9 +0.7**
baz=17,slow=4.3
DPC Dobruska-Polom 148.22 342⇑ *e*PKPbc **PKPbc 17 29 29.5 +0.6**
DPC *e*PKPAB **PKPab 17 29 34.4 +0.1**
LANS Liptovska Anna 148.23 337 *e* **PKPab 17 29 35.7 +1.3**
LANS Liptovska Anna 148.23 337 *e*PKP **PKiK 17 29 30.5 +0.3**
KRLC Kraliky 148.33 341⇑ *e*PKP **PKPbc 17 29 29.0 -0.2**
KRLC *e*PKPAB **PKPab 17 29 35.1 +0.4**
MORC Moravsky Berou 148.35 340 ⇑P PKiK 17 29 30.1 -0.3
MORC Moravsky Berou 148.35 340 *e*PKP **PKPbc 17 29 29.6 +0.3**
MORC *e* 17 29 35.4
BRG Berggiesshubel 148.39 345 *i*PKP **PKPbc 17 29 29.8 +0.5**
BRG Amp 17 29 30.9
comp=Z,20nm,1.0s
BRG *i* x x 17 29 35.1
BRG Amp 17 29 35.9
comp=Z,15nm,0.8s
BRG Berggiesshubel 148.39 345 *e*PKPbc **PKiK 17 29 30.5 +0.1**
baz=17,slow=2.4
BRG *e*PKPab **PKPab 17 29 35.6 +0.7**
baz=17,slow=4.3
SECR 148.39 326 ⇑P PKiK 17 29 30.2 -0.4
CJR Cluj-Napoca 148.44 330 ⇑P PKPbc 17 29 29.9 +0.3
EIL Elat 148.47 293 PKPbc **PKPbc 17 29 30.6 +0.4**
comp=Z,9.8nm,0.7s,baz=332,slow=0.8,SNR=13
FBE Freiberg 148.49 345 *e*PKPbc **PKiK 17 29 31.0 +0.4**
baz=17,slow=2.4
FBE *e*PKPab **PKPab 17 29 36.2 +1.0**
baz=17,slow=4.3
PVCC Panska Ves 148.55 344⇑ *e*PKP **PKPbc 17 29 29.8 +0.1**
PVCC *e*PKPAB **PKPab 17 29 36.1 +0.5**
NEUB Neuenburg 148.56 347 *e*PKPbc **PKiK 17 29 30.8 +0.1**
baz=17,slow=2.4
NEUB *e*PKPab **PKPab 17 29 36.0 +0.5**
baz=17,slow=4.3
GTTG Gottingen 148.58 350 *e*PKPbc **PKiK 17 29 30.9 +0.1**
baz=17,slow=2.4
GTTG *e*PKPab **PKPab 17 29 36.4 +0.8**
baz=17,slow=4.3
CSS Mathiatis 148.59 304 PKPbc **PKPbc 17 29 30.4 +0.1**
VOIR 148.65 327 ⇓P PKPbc 17 29 29.9 -0.3
MCH1 Michaelchurch 148.66 5 *e*P **PKPbc 17 29 29.8 -0.1**
LTVH Ltavrtes, Hu 148.69 333 PKPDF **PKiK 17 29 32.3 +1.2**
DRGR 148.79 331 ⇑P PKPbc 17 29 30.5 0.0
PRD Provadia 148.83 322 *i*P **PKiK 17 29 31.2 -0.3**
LEF Lefka 148.88 304 ⇑P PKPbc 17 29 29.9 -1.1
ARR Arges 148.91 327 ⇑P PKiK 17 29 32.0 +0.3
VYHS Vyhne 149.01 337 *e* **PKPab 17 29 38.3 +0.7**
VYHS Vyhne 149.01 337 *e*PKP **PKiK 17 29 31.4 -0.4**
PRU Pruhonice 149.05 343⇑ *e*PKP **PKPbc 17 29 31.2 +0.3**
PRU *e*PKPAB **PKPab 17 29 37.8 +0.2**
VRAC Vranov 149.06 341 ⇑P PKPab 17 29 38.8 +1.0
VRAC Vranov 149.06 341 PKPbc **PKPbc 17 29 30.8 -0.2**
comp=Z,7.3nm,1.0s,baz=28,slow=3.4,SNR=6.2
VRAC PKPab **PKPab 17 29 38.1 +0.4**
comp=Z,14nm,1.0s,baz=39,slow=5.2,SNR=8.6
VRAC Vranov 149.06 341 *e*PKP **PKPbc 17 29 31.3 +0.3**
VRAC *e* 17 29 38.6
PSZ Piszkesteto 149.09 335 PKPDF **PKPbc 17 29 30.7 -0.5**
PSZ Piszkesteto 149.09 335 ⇑PKPB 17 29 31.7
KOLL Kolacno 149.09 338 *e* **PKPab 17 29 38.7 +0.8**
KOLL Kolacno 149.09 338 *e*PKP **PKiK 17 29 31.8 -0.1**
JAVC Velka Javorina 149.10 339 *e* **PKPab 17 29 39.7 +1.7**
JAVC Velka Javorina 149.10 339 *e*PKP **PKiK 17 29 32.6 +0.6**
RAZG Razgrad 149.11 323 ⇑P PKiK 17 29 31.7 -0.4
MOX Moxa 149.13 347 *e*PKPbc **PKiK 17 29 32.2 +0.2**
baz=17,slow=2.4
MOX *e*PKPab **PKPab 17 29 38.4 +0.5**
baz=17,slow=4.3
TANN Tannenbergstha 149.16 346 *e*PKPbc **PKiK 17 29 32.3 +0.2**
baz=17,slow=2.4
TANN *e*PKPab **PKPab 17 29 38.8 +0.6**
baz=17,slow=4.3
PLN Plauen 149.17 347 *e*PKPbc **PKiK 17 29 32.2 +0.2**
baz=17,slow=2.4
PLN *e*PKPab **PKPab 17 29 38.7 +0.6**
baz=17,slow=4.3

WERD Werda 149.17 346 *e*PKPbc **PKiK 17 29 32.3 +0.2**
baz=17,slow=2.4
WERD *e*PKPab **PKPab 17 29 38.7 +0.6**
baz=17,slow=4.3
GUNZ Gunzen 149.24 346 *e*PKPbc **PKiK 17 29 32.6 +0.4**
baz=17,slow=2.4
GUNZ *e*PKPab **PKPab 17 29 39.4 +0.9**
baz=17,slow=4.3
LOT Lotru 149.28 328 ⇑P PKPbc 17 29 31.6 -0.2
WERN Wernitzgruen 149.30 346 *e*PKPab **PKPab 17 29 39.7 +1.0**
baz=17,slow=4.3
HUMR Humele 149.31 326 ⇑P PKPbc 17 29 31.5 -0.2
NKC Novy Kostel 149.34 346 *e*PKP **PKPbc 17 29 31.9 +0.3**
NKC *ex* x 17 29 38.8
KRUC Moravsky 149.34 341 *e*PKP **PKPbc 17 29 31.9 +0.3**
KRUC *e* 17 29 39.5
DEV Deva 149.38 330 ⇑P PKPbc 17 29 31.8 -0.1
TREC Trest 149.41 342⇑ *e*PKP **PKPbc 17 29 31.9 +0.1**
TREC *e*PKPAB **PKPab 17 29 39.3 +0.1**
COPA Copaceanca 149.45 325 ⇑P PKPbc 17 29 31.8 -0.2
PBCC Pribram 149.47 344⇑ *e*PKP **PKPbc 17 29 32.0 +0.1**
PBCC *e*PKPAB **PKPab 17 29 39.3 -0.1**
SZH Strazhica 149.62 323 *i*P **PKPbc 17 29 32.5 0.0**
MANZ Manzenberg 149.65 346 *e*PKPbc **PKiK 17 29 33.5 +0.4**
baz=17,slow=2.4
MODS Modra-Piesok 149.66 339 *e* **PKPab 17 29 41.0 +0.7**
MODS Modra-Piesok 149.66 339 *e*PKP **PKiK 17 29 33.0 -0.1**
JMB Yambol 149.75 321 *i*P **PKPbc 17 29 33.0 +0.2**
SRO Srobarova 149.77 337 *e* **PKPab 17 29 41.6 +0.9**
SRO Srobarova 149.77 337 *e*PKP **PKiK 17 29 33.0 -0.3**
ROTZ Rotzenmuhle 149.83 346 *e*PKPbc **PKiK 17 29 33.8 +0.4**
baz=17,slow=2.4
BEBN Eben Emael 149.86 355 PKP **PKPab 17 29 40.9 0.0**
VLAD Vladila 149.97 326 ⇑P PKiK 17 29 34.1 +0.2
MEM Membach 150.02 354 PKiKP **PKPbc 17 29 33.4 +0.3**
MEM PKPab **PKPab 17 29 41.5 -0.2**
BTNL Ternell 150.03 354 PKiKP **PKPbc 17 29 33.4 +0.2**
BSTI Sart Tilman 150.08 355 PKiKP **PKiKP 17 29 34.0 +0.2**
KHC Kasperske Hory 150.09 344⇑ *e*PKP **PKPbc 17 29 33.5 0.0**
KHC *e*PKPAB **PKPab 17 29 42.8 +0.7**
KHC Kasperske Hory 150.09 344 PKPbc **PKiK 17 29 34.1 +0.1**
TNS Taunus Mts 150.10 351 *e*PKPbc **PKiK 17 29 34.5 +0.5**
baz=17,slow=2.4
GRF Grafenberg Arr 150.12 347 *e*PKPab **PKPab 17 29 43.0 +0.9**
baz=17,slow=4.3
SRE Strehaia 150.12 328 ⇑P PKiK 17 29 33.9 -0.2
CKRC Cesky Krumlov 150.18 343⇑ *e*PKP **PKPbc 17 29 33.6 0.0**
CKRC *e*PKPAB **PKPab 17 29 42.4 0.0**
BZS Buzias 150.18 331 ⇑P PKPbc 17 29 33.6 -0.1
BZS Buzias 150.18 331 *e*P **PKPbc 17 29 33.7 0.0**
SNF Seneffe 150.25 356 PKiKP **PKiKP 17 29 34.2 0.0**
SNF PKPab **PKPab 17 29 42.5 -0.1**
WET Wettzell 150.25 345 *e*PKPbc **PKiKP 17 29 35.1 +0.8**
baz=17,slow=2.4
WET *e*PKPab **PKPab 17 29 43.6 +0.9**
baz=17,slow=4.3
BCLA Clavier 150.27 355 PKP **PKiKP 17 29 38.0 +3.7**
BCLA *ex* x 17 29 42.5
BHOU Houvegnez 150.27 354 PKP **PKPab 17 29 42.9 +0.2**
GEC2 GERESS Array S 150.32 343 *e*PKPbc **PKiKP 17 29 34.9 +0.4**
baz=17,slow=2.4
GEC2 *e*pPKPbc **pPKPab 17 31 55.7 +1.2**
GERES GERESS Array B 150.32 343 PKPbc **PKPbc 17 29 34.2 +0.1**
comp=Z,7.7nm,0.8s,baz=41,slow=2.5,SNR=60
GERES PKPab **PKPab 17 29 43.1 0.0**
comp=Z,2.0nm,0.6s,baz=27,slow=4.5,SNR=8.4
GERES GERESS Array B 150.32 343 PKPbc **PKPbc 17 29 34.3 +0.2**
BGES Gesves 150.32 355 PKP **PKPab 17 29 42.2 -0.7**
HERR Herculane 150.35 329 ⇑P PKPbc 17 29 34.1 -0.1
BMRD Maredsous 150.42 356 PKiKP **PKiKP 17 29 34.4 -0.2**
BMRD PKPab **PKPab 17 29 43.0 -0.3**
EGYH Egyhazaskeszo 150.46 338 PKPDF **PKiKP 17 29 35.0 +0.2**
EGYH Egyhazaskeszo 150.46 338 ⇑PKPB 17 29 35.1
SOP Sopron 150.50 339 ⇑PKPB 17 29 34.8
SOP PKPDF **PKiKP 17 29 34.6 -0.2**
CONA Conrad Observa 150.51 340 *i*P **PKiKP 17 29 34.9 -0.1**
comp=Z,8.6nm,0.6s
CONA *e*P **PKPab 17 29 44.9 +1.0**
comp=Z,8.1nm,0.8s
PUNG Punghina 150.53 328 ⇑P PKiKP 17 29 34.8 -0.2
RCHB Rochefort 150.53 355 PKiKP **PKPbc 17 29 34.4 0.0**
DOU Dourbes 150.64 356 PKP **PKiKP 17 29 35.2 +0.1**
MDVR Moldovita 150.76 330 ⇑P PKiKP 17 29 35.4 -0.1
WLF Walferdange 150.94 354 *e*PKPbc **PKiKP 17 29 36.8 +1.2**
baz=17,slow=2.4
WLF Walferdange 150.94 354 PKiKP **PKiKP 17 29 36.3 +0.7**
KDZ Kurdzhali 150.94 321 *i*P **PKPbc 17 29 35.5 -0.1**
MORH Mrgy, Hungar 150.97 335 ⇑P PKiKP 17 29 35.8 -0.1
MORH Mrgy, Hungar 150.97 335 *e*P **PKPbc 17 29 35.3 -0.2**
MORH Mrgy, Hungar 150.97 335 PKPDF **PKPbc 17 29 35.3 -0.2**
MORH PKPDF **PKiKP 17 29 35.3 -0.2**
KUBS Kucevo 151.05 329 *e*P **PKPbc 17 29 35.4 -0.4**
MOA Molln 151.07 342 *e*P **PKPbc 17 29 35.7 0.0**
comp=Z,3.5nm,0.5s
ARSA Arzberg 151.22 340 *e*P **PKPbc 17 29 35.9 -0.2**
comp=Z,1.8nm,0.5s
ARSA *i*P **PKPab 17 29 47.4 +0.6**
comp=Z,2.9nm,0.6s
ZAGS Zajecar 151.22 328 *e*P **PKPbc 17 29 35.1 -1.0**
KOVH Kovagotottos 151.29 335 PKPDF **PKPbc 17 29 36.1 -0.1**
RZN Rozhen 151.32 322 *i*P **PKPbc 17 29 36.4 -0.3**
FRGS Fruska Gora 151.34 332 ⇑P PKPbc 17 29 36.0 -0.5
FRGS Fruska Gora 151.34 332 *e*P **PKPbc 17 29 35.8 -0.6**
STU Stuttgart 151.38 349 *e*PKPbc **PKiKP 17 29 37.2 +0.6**
baz=17,slow=2.4
STU *e*PKPab **PKPab 17 29 48.0 +0.5**
baz=17,slow=4.3
ZAPS Zavoj 151.40 326 *e*P **PKiKP 17 29 37.1 +0.2**
VTS Vitosha 151.54 325 ⇑P PKPbc 17 29 37.1 0.0
VTS Vitosha 151.54 325 PKPbc **PKiKP 17 29 37.6 +0.2**
VTS Vitosha 151.54 325 *e*P **PKPbc 17 29 37.2 +0.1**
VTS Vitosha 151.54 325 *i*P **PKPbc 17 29 37.1 0.0**
FUR Furstenfeldbru 151.55 346 *e*PKPbc **PKiKP 17 29 37.5 +0.5**
baz=17,slow=2.4
FUR *e*PKPab **PKPab 17 29 49.0 +0.8**
baz=17,slow=4.3
RJOB Jochberg 151.57 344 *e*PKPab **PKPab 17 29 49.6 +1.2**
baz=17,slow=4.3
TRUS Trudelj 151.79 330 *e*P **PKiKP 17 29 37.6 0.0**
SOKA Soboth 151.88 340 *e*P **PKPbc 17 29 37.1 -0.6**
comp=Z,2.8nm,0.5s,SNR=6.9
PERS Pernice 151.89 340 *i*PKPbc **PKPbc 17 29 37.1 -0.5**
PERS *i*PKPab **PKPab 17 29 49.9 +0.2**
GRUS Gruza 151.90 329 *e*P **PKiKP 17 29 37.8 -0.1**
MMB Musomiste 151.95 323 *i*P **PKPbc 17 29 37.6 -0.3**
BOSS Bosilegrad 152.03 325 *e*P **PKiKP 17 29 38.0 +0.1**
KBA Koelnbreinsper 152.03 342 *i*P **PKPbc 17 29 37.3 -0.8**
comp=Z,3.0nm,0.4s
DIVS Divibare 152.08 331 PKPbc **PKiKP 17 29 38.3 -0.1**
DIVS Divibare 152.08 331 *e*P **PKiKP 17 29 38.3 -0.1**
KKB Krupnik 152.13 324 *i*P **PKPbc 17 29 38.0 -0.3**
BARS Barje 152.15 327 *e*P **PKPdf 17 29 34.1 +3.1**
BARS Barje 152.15 327 *e*P **PKPbc 17 29 38.1 -0.2**
OBKA Obir 152.18 340 *e*P **PKPbc 17 29 37.7 -0.6**
comp=Z,3.7nm,0.6s,SNR=4.5
WATA Walderalm 152.25 345 *e*P **PKPbc 17 29 38.2 -0.3**
comp=Z,3.7nm,0.5s,SNR=4.8
WATA *e*P **PKPab 17 29 51.7 +0.3**
comp=Z,12nm,0.9s
RETA Reutte 152.30 346 *e*P **PKPbc 17 29 38.6 +0.1**
comp=Z,4.1nm,0.6s
RETA *e*P **PKPab 17 29 51.8 +0.3**
comp=Z,3.9nm,0.6s
WTTA Wattenberg 152.31 345 *e*P **PKPbc 17 29 38.6 -0.1**
comp=Z,8.2nm,0.5s,SNR=12
WTTA *e*P **PKPab 17 29 52.2 +0.5**
comp=Z,14nm,0.5s
MYKA Terra Mystica 152.35 342 *e*P **PKPbc 17 29 37.8 -0.8**
comp=Z,2.8nm,0.4s
MYKA *e*P **PKPab 17 29 51.4 -0.3**
comp=Z,4.6nm,0.5s
MOTA Moosalm 152.36 346 *e*P **PKPbc 17 29 38.4 -0.3**
comp=Z,6.7nm,0.7s,SNR=6.7
MOTA *e*P **PKPab 17 29 52.1 +0.3**
comp=Z,9.7nm,0.6s
IVAS Ivanjica 152.41 330 *e*P **PKPbc 17 29 38.4 -0.5**
SQTA Sankt Quirin 152.45 345 *e*P **PKPbc 17 29 39.0 0.0**
comp=Z,12nm,0.8s,SNR=8.0
SQTA *e*P **PKPab 17 29 52.4 +0.2**
comp=Z,13nm,0.9s
VNDS Vrh nad Dolski 152.50 340 *i*PKPbc **PKPbc 17 29 38.7 -0.2**
VNDS *e*PKPab **PKPab 17 29 51.4 -0.9**
BBLS Lazići 152.53 331 *e*P **PKPbc 17 29 39.2 0.0**
ABTA Abfaltersbach 152.56 343 *e*P **PKPbc 17 29 38.5 -0.6**
comp=Z,10nm,0.6s,SNR=11
ABTA *e*P **PKPab 17 29 52.5 -0.1**
comp=Z,8.8nm,0.6s
LJU Ljubljana 152.60 340 *i*PKPbc **PKPbc 17 29 39.1 -0.1**
CRNS Crni Vrh 152.66 340 *i*PKPbc **PKPbc 17 29 38.9 -0.5**
DAVA Damuels 152.68 347 *e*P **PKPab 17 29 53.4 +0.1**
comp=Z,8.2nm,0.8s
SJES Sjenica 152.73 329 *e*P **PKiKP 17 29 39.9 +0.1**
FETA Feichten 152.75 346 *e*P **PKPbc 17 29 39.5 -0.1**
comp=Z,8.2nm,0.8s,SNR=5.3
FETA *e*P **PKPab 17 29 53.9 +0.3**
comp=Z,13nm,1.3s
BOJS Bojanci 152.84 338 *i*PKPbc **PKiKP 17 29 39.8 +0.1**
FNA Florina 153.81 324 PKPbc **PKPbc 17 29 41.4 -0.6**
IDI Anoyia 154.81 310 PKPbc **PKiKP 17 29 44.0 -0.2**
comp=Z,3.6nm,0.7s,baz=343,slow=9.1,SNR=1.7
IDI PKPab **PKPab 17 30 01.8 -0.9**
comp=Z,3.6nm,0.5s,baz=63,slow=13,SNR=6.3
ESDC Sonseca Array 160.62 13 PKPab **PKPab 17 30 27.5 -0.2**
comp=Z,3.8nm,1.0s,baz=338,slow=3.8,SNR=8.6
KEST Kesra 163.56 337 PKPab **PKPab 17 30 40.4 -0.3**
comp=Z,6.6nm,0.8s,baz=22,slow=2.1,SNR=6.9
LIC Lamto 164.24 156 *e*P **PKPab 17 30 45.1 +1.0**
comp=Z,50nm,1.0s
KIC Kosan Boka 164.47 157 *e*P **PKPab 17 30 46.3 +1.2**
comp=Z,10.0nm,0.7s
TIC Toumodi 164.63 155 *e*P **PKPab 17 30 46.8 +1.0**
DBIC Dimbokro 164.72 156 PKPab **PKPab 17 30 47.4 +1.2**
comp=Z,8.7nm,1.0s,baz=184,slow=3.5,SNR=8.2
TORD Torodi Ar. Bea 172.40 182 PKP **PKPdf 17 29 50.6 -0.8**
comp=Z,0.6nm,0.7s,baz=327,slow=0.9,SNR=3.6
TORD PKPab **PKPab 17 31 20.5 +0.5**
comp=Z,1.2nm,0.6s,baz=173,slow=3.7,SNR=8.2
TORD PP **PP 17 35 11.4 +0.6**
comp=Z,0.9nm,1.0s,baz=216,slow=3.0,SNR=2.9

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*DJA **10** 17:23:34.9±1.0, 11°S±3°×11°7E±°, h17km±8km, M4.2/13, mb4.3/7, mB4.3/1, MLv4.2/13, Mw(mB)3.5/1*
*IDC **10** 17:23:37.4±2.1, 11°48S×117°24E, h0km, mb3.3/1, mb1 3.4/5, mb1mx3.1/55, mbtmp3.3/5, ML3.4/4, Error ellipse: s-maj=53.2km s-min=26.6km az=37.0*
ISC 10 17:23:36.7±1.1, 11°48S±0°1×116°92E±0°06, h26km, n16, σ1§76/19, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**3.00**	**54**	P	**Pn**	**17 24 22.0**	**-0.7**
WBSI				S	**Sn**	**17 24 56.8**	**-1.1**
IGBI	**Denpasar**	**3.11**	**326**	P	**Pn**	**17 24 24.0**	**-0.1**
IGBI				Pg	**Pb**	**17 24 34.5**	**+3.2**
IGBI				S	**Sn**	**17 24 55.6**	**-4.8**
SRBI	**Singaraja**	**3.71**	**333**	P	**Pn**	**17 24 32.1**	**-0.2**
JAGI	**Jajag, Banyuwa**	**3.99**	**317**	P	**Pn**	**17 24 34.9**	**-1.4**
GMJI	**Gumukmas**	**4.63**	**312**	P	**Pn**	**17 24 43.7**	**-1.3**
BLJI	**Banyuglugur**	**4.90**	**318**	P	**Pn**	**17 24 48.0**	**-0.7**
KMMI	**Kalianget**	**5.22**	**326**	P	**Pn**	**17 24 53.1**	**0.0**
	0.2nm27nm,1.3s						
EDFI	**Ende, Flores**	**5.39**	**61**	P	**Pn**	**17 24 56.0**	**+0.4**
	0.0nm297nm2.9nm,1.9s						
MMRI	**Maumere**	**5.92**	**63**	P	**Pn**	**17 25 02.9**	**+0.1**
	0.1nm14nm,0.6s						
PCJI	**Pacitan**	**6.50**	**299**	P	**Pn**	**17 25 11.6**	**+1.0**
	0.2nm23nm,1.9s						
BATI	**Baumata**	**6.74**	**80**	Pn	**Pn**	**17 25 14.0**	**0.0**
	2.1nm,0.3s,baz=177,slow=4.4,SNR=7.6						
BATI				Sn	**Sn**	**17 26 28.4**	**-1.5**
	3.1nm,0.3s,baz=5.5,slow=18,SNR=7.8						
UGM	**Wanagama**	**7.20**	**298**	P	**Pn**	**17 25 21.0**	**+0.7**
	0.5nm86nm,1.4s						
FITZ	**Fitzroy Crossi**	**10.74**	**129**	Pn	**Pn**	**17 26 07.3**	**-1.6**
	0.2nm,0.3s,baz=314,slow=13,SNR=16						
FITZ				Sn	Sn	17 27 55.9	-12
	0.2nm,0.3s,baz=281,slow=13,SNR=1.2						
WRA	**Warramunga Arr**	**18.78**	**119**	P	**P**	**17 27 55.1**	**+0.9**
	0.1nm,0.3s,baz=294,slow=13,SNR=12						
WRA				S	Sn	17 31 07.8	-17
	0.1nm,0.3s,baz=288,slow=25,SNR=1.8						
ASAR	**Alice Springs**	**20.24**	**129**	P	**P**	**17 28 12.0**	**+1.8**
	0.0nm,0.3s,baz=305,slow=10,SNR=4.3						
ASAR				S	S	17 31 43.5	-13
	0.0nm,0.3s,baz=312,slow=24,SNR=1.4						
MKAR	**Makanchi Array**	**65.70**	**335**	P	P	17 34 24.9	+6.0
	0.2nm,0.5s,baz=151,slow=6.9,SNR=1.9						

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*NEIC **10** 17:24:56.6±1.9, 63°1S±0°1×145°8E±0°3, h10km±1km, mb4.2/16, Error ellipse: s-maj=26.7km s-min=18.6km az=87.0*
*IDC **10** 17:24:57.2±1.4, 63°07S×145°60E, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.7/35, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=82.0km s-min=32.1km az=70.0*
ISC 10 17:24:57.0±0.7, 63°13S±0°09×145°7E±0°1, h10km, n30, σ1§32/23, mb4.2/10, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	**Casey**	**15.21**	**243**	Pn	**Pn**	**17 28 29.0**	**-2.5**
CASY				IAmb	IAmb	17 28 45.8	
	comp=Z,7.9nm,0.8s						
VNDA	**Vanda**	**15.33**	**167**	Pn	**Pn**	**17 28 33.4**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=334,slow=14,SNR=13						
VNDA	**Vanda**	**15.33**	**167**	IAmb	IAmb	17 28 50.2	
	comp=Z,9.7nm,1.1s						
SBA	**Scott Base**	**16.17**	**164**	Pn	**Pn**	**17 28 44.5**	**+0.6**
DCZ	**Deep Cove**	**21.49**	**45**	P	**P**	**17 29 44.2**	**-1.3**
QSPA	**South Pole Qui**	**26.95**	**180**	P	**P**	**17 30 37.6**	**-0.7**
FORT	**Forrest**	**34.28**	**332**	P	**P**	**17 31 42.6**	**-0.4**
H01W1	**Cape Leeuwin H**	**34.35**	**310**	T	T	18 08 23.7	
	baz=153,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**34.35**	**310**	T	T	18 08 21.0	
	baz=153,slow=76,SNR=14						
H01W3	**Cape Leeuwin H**	**34.37**	**310**	T	T	18 08 20.6	
	baz=153,slow=76,SNR=12						
MORW	**Morawa**	**39.08**	**317**	P	**P**	**17 32 24.1**	**+0.2**
MORW				IAmb	IAmb	17 32 36.0	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	**40.24**	**343**	P	**P**	**17 32 34.5**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=164,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**40.24**	**343**	P	**P**	**17 32 34.1**	**+0.4**
AS31	**Alice Springs**	**40.24**	**343**	P	**P**	**17 32 32.8**	**-0.8**
ONTNC	**Ouen Toro**	**43.15**	**29**	P	**P**	**17 32 55.6**	**-1.8**
SNAA	**Sanae**	**43.74**	**194**	P	**P**	**17 33 01.5**	**-0.3**
WR0	**Warramunga Arr**	**43.81**	**345**	P	**P**	**17 33 02.1**	**-0.7**
WR0				IAmb	IAmb	17 33 03.6	
	comp=Z,2.4nm,0.8s						
WB2	**Warramunga Arr**	**43.85**	**345**	P	**P**	**17 33 02.0**	**-1.1**
WB2				IAmb	IAmb	17 33 04.3	
	comp=Z,3.6nm,0.7s						
WRA	**Warramunga Arr**	**43.85**	**344**

*DDA **10** 17:26:12.9±0.0, 39°.58N×34°.38E, h14km, MW3.6*
*ISK **10** 17:26:13.0, 39°.57N×34°.35E, h3km, ML3.6/23*
ISC 10 17:26:12.6±0.9, 39°.61N±0°.02×34°.36E±0°.02, h18km±4km, n65, σ0°.72/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.02**	**32**	SPECP		17 26 16.0	
CDAG				P	**Pg**	**17 26 16.0**	**+0.1**
CDAG				*i* AML	AML	17 26 17.0	
	comp=E,4μm,0.4s						
CDAG				*i* AML	AML	17 26 17.0	
	comp=N,2μm,0.2s						
CDAG				S	**Sg**	**17 26 17.7**	**-0.4**
DELI	**KIRIKKALE**	**0.52**	**319**	P	**Pb**	**17 26 24.0**	**+0.8**
DELI				*i* AML	AML	17 26 31.0	
	comp=E,2μm,0.2s						
DELI				*i* AML	AML	17 26 31.0	
	comp=N,2μm,0.1s						
DELI				S	**Sb**	**17 26 31.3**	**+0.9**
KAMT	**Kaman**	**0.55**	**245**	PG	**Pb**	**17 26 24.2**	**+0.4**
KAMT				SG	**Sb**	**17 26 31.9**	**+0.5**
KOZK	**Kozakli-Nevseh**	**0.56**	**135**	PG	**Pb**	**17 26 24.2**	**+0.3**
KOZK				SG	**Sb**	**17 26 32.4**	**+0.9**
BRTR	**Keskin Array B**	**0.57**	**282**	PG	**Pb**	**17 26 24.6**	**+0.6**
KIRS	**Kirsehir-Merke**	**0.58**	**216**	P	**Pb**	**17 26 24.5**	**+0.2**
CORM	**Corum**	**0.61**	**20**	PG	**Pn**	**17 26 26.1**	**-0.4**
YOZ	**Yozgat**	**0.74**	**87**	PG	**Pg**	**17 26 27.6**	**+0.4**
COAL	**Corum-Alaca**	**0.81**	**37**	P	**Pg**	**17 26 28.5**	**+0.1**
COAL				S	**Sg**	**17 26 39.2**	**+0.1**
COAL				*i* AML	AML	17 26 46.0	
	comp=E,516nm,0.5s						
AVNS	**Nevsehir-Avano**	**0.89**	**154**	P	**Pb**	**17 26 29.1**	**-0.4**
AVNS				S	**Sg**	**17 26 41.6**	**+0.1**
AVNS				*i* AML	AML	17 26 45.0	
	comp=E,2μm,0.3s						
AVNS				*i* AML	AML	17 26 45.0	
	comp=N,1μm,0.3s						
SERE	**Sereflikochisa**	**0.90**	**223**	PG	**Pn**	**17 26 30.4**	**-0.1**
BBAL	**Bala**	**0.96**	**267**	P	**Pn**	**17 26 32.0**	**+0.7**
BBAL				S	**Sn**	**17 26 44.2**	**-0.2**
BBAL				*i* AML	AML	17 26 46.0	
	comp=N,950nm,0.2s						
BBAL				*i* AML	AML	17 26 51.0	
	comp=E,801nm,0.3s						
CKRK	**Yozgat, Cekere**	**0.99**	**62**	SPECP		17 26 32.0	
CKRK				P	**Pg**	**17 26 32.1**	**+0.2**
CKRK				S	**Sn**	**17 26 46.1**	**+0.7**
CKRK				*i* AML	AML	17 26 50.0	
	comp=N,1μm,0.3s						
CKRK				*i* AML	AML	17 26 50.0	
	comp=E,790nm,0.7s						
AKSY	**AKSARAY - Alti**	**1.06**	**206**	P	**Pg**	**17 26 33.5**	**+0.3**
AKSY				S	**Sn**	**17 26 47.0**	**0.0**
AKSY				*i* AML	AML	17 26 51.0	
	comp=E,564nm,0.2s						
AKSY				*i* AML	AML	17 26 53.0	
	comp=N,1μm,0.4s						
HACI	**Hacifakili, Ak**	**1.06**	**84**	P	**Pg**	**17 26 33.1**	**-0.1**
HACI				S	**Sg**	**17 26 47.5**	**+0.3**
HACI				*i* AML	AML	17 26 51.0	
	comp=E,847nm,0.3s						
HACI				*i* AML	AML	17 26 52.0	
	comp=N,927nm,0.2s						
ELDT	**Eldivan**	**1.14**	**321**	P	**Pg**	**17 26 35.0**	**+0.4**
CANT	**Cankiri**	**1.15**	**331**	PN	**Pg**	**17 26 35.5**	**+0.7**
KULU	**Kulu**	**1.19**	**242**	PN	**Pg**	**17 26 36.3**	**+0.7**
KKUL	**Konya-Kulu**	**1.20**	**249**	SPECP		17 26 36.0	
KKUL				P	**Pg**	**17 26 36.1**	**+0.4**
KKUL				S	**Sg**	**17 26 53.0**	**+1.5**
KKUL				*i* AML	AML	17 26 57.0	
	comp=E,487nm,0.2s						
GUNE	**Kayseri**	**1.21**	**125**	SPECP		17 26 36.0	
GUNE				P	**Pg**	**17 26 36.8**	**+0.8**
GUNE				S	**Sg**	**17 26 54.3**	**+2.5**
GUNE				*i* AML	AML	17 26 57.0	
	comp=E,3μm,0.2s						
ANTO	**Ankara**	**1.23**	**283**	PN	**Pg**	**17 26 37.5**	**+1.1**
LOD	**Lodumlu**	**1.26**	**283**	PN	**Pg**	**17 26 37.7**	**+0.8**
GULA	**Gulagac**	**1.26**	**184**	PN	**Pg**	**17 26 37.4**	**+0.4**
BNN	**Bunyan**	**1.38**	**123**	PN	**Pg**	**17 26 39.3**	**+0.1**
TOS	**Tosya**	**1.45**	**350**	PN	**Pg**	**17 26 40.4**	**-0.2**
CUSAR	**Sarkisla-SIVAS**	**1.47**	**97**	P	**Pg**	**17 26 41.5**	**+0.5**
CUSAR				S	**Sg**	**17 27 00.9**	**+0.8**
CUSAR				*i* AML	AML	17 27 04.0	
	comp=N,1μm,0.3s						
NIG	**Nigde**	**1.51**	**172**	PN	**Pg**	**17 26 41.2**	**-0.4**
ILGA	**Ilgaz**	**1.52**	**341**	P	**Pg**	**17 26 42.0**	**0.0**
ILGA				S	**Sg**	**17 27 01.4**	**-0.5**
ILGA				*i* AML	AML	17 27 06.0	
	comp=E,213nm,0.8s						
AMSY	**Amasya-Merkez**	**1.53**	**47**	SPECP		17 26 42.0	
AMSY				P	**Pg**	**17 26 42.2**	**+0.1**
CHBY	**Cihanbeyli**	**1.53**	**229**	PN	**Pg**	**17 26 41.5**	**-0.6**
KAGI	**orum-Kargı**	**1.53**	**3**	SPECP		17 26 42.0	
KAGI				P	**Pg**	**17 26 42.5**	**+0.4**
SULT	**Sultanhani-AKS**	**1.55**	**205**	PN	**Pg**	**17 26 42.4**	**-0.1**
NIDE	**Nigde/Merkez-G**	**1.64**	**168**	SPECP		17 26 43.0	
NIDE				P	**Pb**	**17 26 43.1**	**+0.8**
CMDR	**Camlidere-ANKA**	**1.70**	**302**	P	**Pg**	**17 26 44.7**	**-0.5**
CMDR				S	**Sg**	**17 27 07.1**	**-0.2**
CMDR				*i* AML	AML	17 27 10.0	
	comp=N,561nm,0.5s						
CMDR				*i* AML	AML	17 27 16.0	
	comp=E,284nm,0.4s						
YAHY	**KAYSERI_Yahyal**	**1.70**	**152**	P	**Pg**	**17 26 44.5**	**-0.8**
YAHY				S	**Sg**	**17 27 07.5**	**0.0**
YAHY				*i* AML	AML	17 27 08.0	
	comp=E,34nm,0.4s						
YAHY				*i* AML	AML	17 27 10.0	
	comp=N,54nm,0.6s						
YARM	**Yarimca-Ladik(**	**1.73**	**40**	PN	**Pg**	**17 26 45.6**	**-0.3**
ALIN	**Konya, Altinte**	**1.74**	**222**	P	**Pn**	**17 26 40.8**	**-1.2**
ALIN				S	**Sn**	**17 27 02.6**	**-1.2**
KIZO	**Buyukkizoglu-L**	**1.77**	**43**	PN	**Pg**	**17 26 45.9**	**-0.7**
HAVZ	**Havza**	**1.80**	**35**	P	**Pg**	**17 26 46.8**	**-0.4**
HAVZ				S	**Sg**	**17 27 11.3**	**+0.7**
HAVZ				*i* AML	AML	17 27 15.0	
	comp=E,282nm,0.5s						
HAVZ				*i* AML	AML	17 27 16.0	
	comp=N,333nm,0.3s						
KUPE	**Kupecik-Ladik(**	**1.81**	**45**	PN	**Pg**	**17 26 46.7**	**-0.7**
KMON	**Kastamonu**	**1.82**	**346**	PN	**Pg**	**17 26 46.5**	**-1.1**
TOKT	**Tokat**	**1.83**	**66**	PN	**Pg**	**17 26 46.7**	**-1.0**
PELI	**Kastamonı-Ara**	**1.87**	**335**	SPECP		17 26 47.0	
PELI				P	**Pg**	**17 26 47.5**	**-1.1**
PELI				S	**Sb**	**17 27 09.3**	**0.0**
PELI				*i* AML	AML	17 27 17.0	
	comp=N,66nm,0.5s						
CUAYA	**Sivas-Altinyay**	**1.88**	**100**	P	**Pg**	**17 26 47.8**	**-0.9**
BOYA	**Sinop/Boyabat-**	**1.94**	**7**	SPECP		17 26 49.0	
BOYA				P	**Pg**	**17 26 49.3**	**-0.5**
BOYA				S	**Sg**	**17 27 14.7**	**-0.4**
BOYA				*i* AML	AML	17 27 17.0	
	comp=E,84nm,0.5s						
BOYA				*i* AML	AML	17 27 18.0	
	comp=N,58nm,0.5s						
KVT	**Kavak**	**1.96**	**41**	PN	**Pb**	**17 26 48.7**	**+1.0**
CMRD	**Camardi-Nigde**	**2.00**	**165**	PN	**Pb**	**17 26 48.6**	**+0.1**
SARI	**SarD1z-Kayseri**	**2.00**	**126**	PN	**Pb**	**17 26 48.8**	**+0.2**
KIZT	**Kizilcal**	**2.06**	**250**	PN	**Pb**	**17 26 49.3**	**-0.1**
SVSK	**Karacayir**	**2.06**	**80**	PN	**Pb**	**17 26 49.9**	**+0.5**
KIBS	**BOLU**	**2.09**	**294**	SPECP		17 26 50.0	
KIBS				P	**Pb**	**17 26 50.8**	**+0.8**
KBUK	**KARABUK-Merkez**	**2.10**	**322**	SPECP		17 26 51.0	
KBUK				P	**Pb**	**17 26 51.0**	**+0.9**
KBUK				S	**Sg**	**17 27 20.6**	**+0.5**
KBUK				*i* AML	AML	17 27 23.0	
	comp=E,61nm,0.5s						
SAIM	**ADANA**	**2.11**	**140**	SPECP		17 26 50.0	
SAIM				P	**Pb**	**17 26 50.2**	**-0.1**
YUVA	**Yuva-Kibriscik**	**2.20**	**292**	PN	**Pb**	**17 26 51.7**	**-0.1**
SVRH	**Sivrihisar-ESK**	**2.20**	**267**	PN	**Pb**	**17 26 51.5**	**-0.3**
AKO	**Adana**	**2.31**	**158**	SPECP		17 26 54.0	
AKO				P	**Pb**	**17 26 54.7**	**+1.1**
GULE	**Gulek**	**2.34**	**172**	SPECP		17 26 53.0	
GULE				P	**Pb**	**17 26 53.9**	**-0.5**
GULE				S	**Sg**	**17 27 26.9**	**-1.0**
GULE				*i* AML	AML	17 27 33.0	
	comp=E,132nm,0.6s						
BZK	**Bozkurt**	**2.37**	**354**	PN	**Pb**	**17 26 54.8**	**+0.2**
RSDY	**Resadiye-TOKAT**	**2.41**	**70**	PN	**Pb**	**17 26 55.1**	**-0.4**
SNOP	**Sinop**	**2.50**	**15**	PN	**Pb**	**17 26 56.4**	**-0.4**
ELBS	**KAHRAMANMARAS**	**2.51**	**120**	SPECP		17 26 56.0	
ELBS				P	**Pb**	**17 26 56.3**	**-1.0**
KURC	**Kurucasile-Bar**	**2.55**	**332**	PN	**Pb**	**17 26 56.2**	**-1.6**
MDUB	**Mudurnu**	**2.58**	**291**	PN	**Pb**	**17 26 57.7**	**-0.6**
DOGA	**KONYA_Doganhis**	**2.58**	**235**	SPECP		17 26 56.0	
DOGA				P	**Pb**	**17 26 56.8**	**-1.6**
KKBE	**Karaman, Kazim**	**2.63**	**205**	SPECP		17 26 58.0	
KKBE				P	**Pb**	**17 26 58.3**	**-0.9**

*ISK **10** 17:33:09.4, 39°.59N×34°.35E, h5km, ML2.7/15*
DDA 10 17:33:09.0±0.0, 39°.57N×34°.39E, h7km±2km, ML2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZK	**Kozakli-Nevseh**	**0.52**	**134**	PG	Pb	17 33 20.3	-0.2
KOZK				SG	Sb	17 33 28.7	+0.5
KAMT	**Kaman**	**0.56**	**249**	PG	Pg	17 33 20.5	+0.7
KAMT				SG	Sg	17 33 28.1	+1.0
DELI	**KIRIKKALE**	**0.56**	**320**	P	Pg	17 33 20.2	+0.4
DELI				S	Sg	17 33 26.9	-0.3
DELI				*i* AML	AML	17 33 27.0	
	comp=N,191nm,0.3s						
KIRS	**Kirsehir-Merke**	**0.57**	**220**	P	Pg	17 33 20.1	+0.1
BRTR	**Keskin Array B**	**0.60**	**285**	PG	Pg	17 33 20.6	0.0
BRTR				SG	Sg	17 33 28.5	+0.1
CORM	**Corum**	**0.64**	**17**	PG	Pb	17 33 22.2	-0.3
YOZ	**Yozgat**	**0.72**	**84**	PG	Pb	17 33 23.8	-0.2
COAL	**Corum-Alaca**	**0.82**	**34**	P	Pg	17 33 24.8	0.0
COAL				S	Sg	17 33 35.7	0.0
AVNS	**Nevsehir-Avano**	**0.84**	**155**	P	Pg	17 33 23.9	-1.2
AVNS				S	Sb	17 33 37.6	0.0
SERE	**Sereflikochisa**	**0.89**	**226**	PG	Pb	17 33 26.7	-0.2
BBAL	**Bala**	**0.98**	**269**	P	Pg	17 33 27.6	-0.2
BBAL				S	Sg	17 33 40.5	-0.1
BBAL				*i* AML	AML	17 33 42.0	
	comp=N,112nm,0.5s						
BBAL				*i* AML	AML	17 33 42.0	
	comp=E,100nm,0.3s						
AKSY	**AKSARAY - Alti**	**1.04**	**208**	P	Pg	17 33 28.1	-0.9
ELDT	**Eldivan**	**1.18**	**322**	P	Pg	17 33 31.3	-0.4
ELDT				S	Sn	17 33 48.2	-0.3
CANT	**Cankiri**	**1.19**	**331**	PN	Pg	17 33 31.9	0.0
KULU	**Kulu**	**1.20**	**244**	PN	Pn	17 33 32.5	+0.2
GULA	**Gulagac**	**1.23**	**186**	PN	Pn	17 33 33.3	+0.6
ANTO	**Ankara**	**1.27**	**284**	PN	Pg	17 33 33.5	+0.2
LOD	**Lodumlu**	**1.29**	**285**	PN	Pg	17 33 34.1	+0.3
BNN	**Bunyan**	**1.34**	**122**	PN	Pg	17 33 35.9	+1.2
CHBY	**Cihanbeyli**	**1.53**	**230**	PN	Pb	17 33 37.9	+0.2
SULT	**Sultanhani-AKS**	**1.53**	**207**	PN	Pg	17 33 38.1	-0.2
ILGA	**Ilgaz**	**1.57**	**341**	P	Pn	17 33 37.2	-0.3
CMDR	**Camlidere-ANKA**	**1.73**	**303**	P	Pn	17 33 40.2	+0.5
CMDR				S	Sn	17 34 01.4	-0.8
TOKT	**Tokat**	**1.82**	**65**	PN	Pb	17 33 42.5	-0.2
SARI	**SarD1z-Kayseri**	**1.96**	**126**	PN	Pb	17 33 44.8	-0.4
KVT	**Kavak**	**1.97**	**39**	PN	Pb	17 33 44.5	-0.7
SVSK	**Karacayir**	**2.04**	**79**	PN	Pb	17 33 45.6	-0.8
KDHN	**Kadinhani**	**2.06**	**240**	P	Pn	17 33 44.7	+0.7
BCAM	**Yenicaga**	**2.17**	**306**	P	Pb	17 33 48.9	+0.2
BCAM				S	Sb	17 34 15.7	-0.1
RSDY	**Resadiye-TOKAT**	**2.41**	**69**	PN	Pb	17 33 51.5	-1.1

*IDC **10** 17:40:47.9±0.4, 39°.60N×34°.35E, h0km, mb4.4/33, mb1 4.5/45, mb1mx4.4/61, mbtmp4.4/45, ML3.9/9, MS4.0/64, Ms1 4.0/64, ms1mx3.9/89, Error ellipse: s-maj=9.2km s-min=5.7km az=6.0*
*MED_RC **10** 17:40:47.0±0.3, 39°.60N×34°.47E, h23km±1km, MW4.9/33, Moment Tensor Solution. Body waves: s1,c2;Mantle waves: s33,c47; Duration: 1±3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.54±.19; $M_{\theta\theta}$-0.1 1±.15; $M_{\phi\phi}$0.65±.11; $M_{r\theta}$0.28±.16; $M_{\theta\phi}$-3.23±.09; $M_{\phi r}$-0.25±.13; Best double couple: $M_0$3.27000×10^{16} NP1:ϕ_s93.00000°, δ87.00000°, λ176.00000°. NP2:ϕ_s184.00000°, δ86.00000°, λ3.00000°. Principal axes: T 3.5600, Plg5.0000°, Azm48.0000°; N -0.5800, Plg85.0000°, Azm239.0000°; P -2.9800, Plg1.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
*ISK **10** 17:40:48.2, 39°.60N×34°.34E, h9km, ML5.2/10*
*DDA **10** 17:40:48.1±0.0, 39°.56N×34°.36E, h14km, MW5.0*
*IASPEI **10** 17:40:48.7±0.8, 39°.58N±0°.02×34°.36E±0°.02, h11km±5km, mb4.7/102, MS4.1/64, Error ellipse: s-maj=3.4km s-min=2.9km az=174.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*MOS **10** 17:40:49.5±1.2, 39°.66N×34°.37E, h21km, mb4.9/44, Error ellipse: s-maj=3.7km s-min=2.5km az=123.0*
*NEIC **10** 17:40:49.5±1.7, 39°.57N±0°.04×34°.34E±0°.04, h10km±1km, mb4.8/26, Mwr5.0/34, ML5.0(ISK), Error ellipse: s-maj=7.4km s-min=4.7km az=209.0*
*NEIC **10** 17:40:49.7, 39°.56N×34°.31E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.52; $M_{\theta\theta}$-0.91; $M_{\phi\phi}$ 1.43; $M_{r\theta}$0.85; $M_{\theta\phi}$-4.38; $M_{\phi r}$0.21; Fault plane solution: $M_0$4.64000×10^{16} NP1:ϕ_s278.05000°, δ84.54000°, λ-169.09000°. NP2:ϕ_s187.00000°, δ79.14000°, λ-5.56000°. Principal axes: T 4.8173, Plg4.0000°, Azm52.0000°; N -0.3822, Plg78.0000°, Azm304.0000°; P -4.4351, Plg12.0000°, Azm143.0000°;*
*GCMT **10** 17:40:52.5±0.2, 39°.72N±0°.02×34°.33E±0°.02, h21km±1km, MW5.0/103, Moment Tensor Solution. s33,c40; s103,c143; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.20±.16; $M_{\theta\theta}$-1.01±.18; $M_{\phi\phi}$0.81±.11; $M_{r\theta}$-0.80±.24; $M_{\theta\phi}$-3.44±.10; $M_{\phi r}$-0.35±.18; Best double couple: $M_0$3.65600×10^{16} NP1:ϕ_s7.00000°, δ79.00000°, λ-6.00000°. NP2:ϕ_s98.00000°, δ84.00000°, λ-169.00000°. Principal axes: T 3.4750, Plg4.0000°, Azm232.0000°; N 0.3610, Plg77.0000°, Azm125.0000°; P -3.8370, Plg12.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GII **10** 17:40:53.4±0.0, 39°.32N×34°.07E, h10km, mb4.9/3, MD4.9/3*
ISC 10 17:40:49.8±0.5, 39°.58N±0°.02×34°.36E±0°.01, h12km±3km, n894, σ1°.45/936, mb4.7/102, MS4.1/64, 58C-43D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.04**	**14**	P	**Pg**	**17 40 51.2**	**-1.1**
CDAG				S	**Sg**	**17 40 52.8**	**-1.2**
CDAG	**Cicekdag**	**0.04**	**14**	P	**Pg**	**17 40 50.7**	**-1.6**
DELI	**KIRIKKALE**	**0.53**	**321**	P	**Pg**	**17 40 59.2**	**-1.1**
DELI				*i* AML	AML	17 41 06.0	
	comp=N,7μm,0.6s						
DELI				S	**Sg**	**17 41 06.2**	**-1.3**
DELI				*i* AML	AML	17 41 07.0	
	comp=E,5μm,0.3s						
KOZK	**Kozakli-Nevseh**	**0.54**	**133**	PG	**Pg**	**17 40 59.3**	**-1.1**
KOZK				SG	**Sg**	**17 41 08.0**	**+0.3**
KAMT	**Kaman**	**0.55**	**247**	PG	**Pg**	**17 40 59.3**	**-1.2**
KAMT				SG	**Sg**	**17 41 07.3**	**-0.4**
KIRS	**Kirsehir-Merke**	**0.57**	**217**	P	**Pg**	**17 40 59.3**	**-1.6**
KIRS				S	**Sg**	**17 41 07.0**	**-1.4**
KIRS				*i* AML	AML	17 41 17.0	
	comp=N,3μm,1.5s						
BR131	**Keskin Array S**	**0.57**	**284**	*d* iP	**Pg**	**17 40 59.5**	**-1.5**
BR131	**Keskin Array S**	**0.57**	**284**	Pg	**Pg**	**17 40 59.3**	**-1.7**
BRTR	**Keskin Array B**	**0.57**	**284**	Pg	**Pg**	**17 40 59.9**	**-1.2**
	1μm,0.3s,baz=114,slow=18						
BRTR				Lg	Lg	17 41 06.5	
	7μm,0.3s,baz=116,slow=31,SNR=48						
BRTR	**Keskin Array B**	**0.57**	**284**	Pg	**Pg**	**17 40 58.6**	**-2.4**
CORM	**Corum**	**0.63**	**19**	PG	**Pg**	**17 41 01.2**	**-0.9**
YOZ	**Yozgat**	**0.74**	**85**	PG	**Pg**	**17 41 02.6**	**-1.6**
COAL	**Corum-Alaca**	**0.82**	**36**	SPECP		17 41 04.0	
COAL				P	**Pg**	**17 41 04.0**	**-1.7**
COAL				S	**Sb**	**17 41 17.3**	**+0.1**
AVNS	**Nevsehir-Avano**	**0.86**	**154**	P	**Pg**	**17 41 04.1**	**-2.4**
AVNS				S	**Sg**	**17 41 16.9**	**-0.9**
AVNS				*i* AML	AML	17 41 21.0	
	comp=N,5μm,0.3s						
AVNS				*i* AML	AML	17 41 23.0	
	comp=E,9μm,0.4s						
SERE	**Sereflikochisa**	**0.89**	**224**	PG	**Pg**	**17 41 05.2**	**-1.7**
BBAL	**Bala**	**0.96**	**268**	P	**Pg**	**17 41 07.0**	**-1.2**
BBAL				S	**Sg**	**17 41 19.9**	**-0.8**
BBAL				*i* AML	AML	17 41 20.0	
	comp=E,5μm,0.5s						
BBAL				*i* AML	AML	17 41 25.0	
	comp=N,4μm,0.6s						
CKRK	**Yozgat, Cekere**	**1.00**	**61**	SPECP		17 41 07.0	
CKRK				P	**Pb**	**17 41 07.2**	**-1.9**
CKRK				S	**Sg**	**17 41 21.4**	**-0.9**
CKRK				*i* AML	AML	17 41 25.0	
	comp=N,10μm,0.5s						
CKRK	**Yozgat, Cekere**	**1.00**	**61**	P	**Pb**	**17 41 07.2**	**-1.9**
AKSY	**AKSARAY - Alti**	**1.04**	**207**	P	**Pb**	**17 41 07.6**	**-2.2**
AKSY				S	**Sb**	**17 41 22.9**	**-0.5**
AKSY				*i* AML	AML	17 41 27.0	
	comp=E,3μm,0.4s						
AKSY				*i* AML	AML	17 41 29.0	
	comp=N,4μm,0.4s						
HACI	**Hacifakili, Ak**	**1.06**	**83**	P	**Pb**	**17 41 08.4**	**-1.8**
HACI				S	**Sb**	**17 41 22.7**	**-1.4**
HACI				*i* AML	AML	17 41 27.0	
	comp=N,5μm,0.6s						
HACI				*i* AML	AML	17 41 27.0	
	comp=E,4μm,0.3s						
ELDT	**Eldivan**	**1.15**	**322**	P	**Pb**	**17 41 10.2**	**-1.6**
ELDT				S	**Sn**	**17 41 28.4**	**+0.8**
CANT	**Cankiri**	**1.17**	**331**	PN	**Pb**	**17 41 10.5**	**-1.4**
KULU	**Kulu**	**1.18**	**243**	PN	**Pb**	**17 41 10.9**	**-1.3**
KKUL	**Konya-Kulu**	**1.19**	**250**	P	**Pn**	**17 41 11.3**	**-1.1**
KKUL				S	**Sg**	**17 41 28.2**	**0.0**
KKUL				*i* AML	AML	17 41 31.0	
	comp=N,4μm,0.9s						
KKUL				*i* AML	AML	17 41 35.0	
	comp=E,4μm,0.8s						
KKUL	**Konya-Kulu**	**1.19**	**250**	P	**Pn**	**17 41 11.2**	**-1.2**
GUNE	**Kayseri**	**1.20**	**124**	SPECP		17 41 10.0	
GUNE				P	**Pn**	**17 41 11.2**	**-1.2**
GUNE				S	**Sn**	**17 41 29.5**	**+0.9**
GUNE				*i* AML	AML	17 41 38.0	
	comp=N,5μm,0.5s						
GUNE	**Kayseri**	**1.20**	**124**	P	**Pn**	**17 41 07.9**	**-4.5**
ANTO	**Ankara**	**1.24**	**284**	P	**Pn**	**17 41 11.9**	**-1.0**
ANTO	**Ankara**	**1.24**	**284**	PN	**Pn**	**17 41 12.0**	**-1.0**
ANTO	**Ankara**	**1.24**	**284**		**Pn**	**17 41 11.9**	**-1.0**
GULA	**Gulagac**	**1.24**	**184**	PN	**Pn**	**17 41 11.4**	**-1.6**
BR231	**Keskin MP Arra**	**1.25**	**282**		**Pn**	**17 41 12.3**	**-0.8**
LOD	**Lodumlu**	**1.27**	**284**	PN	**Pn**	**17 41 12.5**	**-0.8**
BNN	**Bunyan**	**1.37**	**122**	PN	**Pn**	**17 41 13.8**	**-1.0**
BNN	**Bunyan**	**1.37**	**122**		**Pn**	**17 41 13.6**	**-1.1**
CUSAR	**Sarkisla-SIVAS**	**1.47**	**96**	P	**Pn**	**17 41 15.1**	**-1.1**
CUSAR				S	**Sg**	**17 41 36.6**	**-0.4**
CUSAR				*i* AML	AML	17 41 38.0	
	comp=N,7μm,0.6s						
TOS	**Tosya**	**1.47**	**350**	PN	**Pn**	**17 41 15.3**	**-0.9**
NIG	**Nigde**	**1.48**	**172**	PN	**Pn**	**17 41 16.0**	**-0.5**
CHBY	**Cihanbeyli**	**1.52**	**229**	PN	**Pn**	**17 41 16.4**	**-0.4**
SULT	**Sultanhani-AKS**	**1.53**	**206**	PN	**Pn**	**17 41 17.3**	**+0.3**
AMSY	**Amasya-Merkez**	**1.54**	**47**	SPECP		17 41 16.0	
AMSY				P	**Pn**	**17 41 16.6**	**-0.5**
AMSY				*i* AML	AML	17 41 25.0	
	comp=N,9μm,0.5s						
AMSY				S	**Sg**	**17 41 39.6**	**+0.1**
AMSY				*i* AML	AML	17 41 43.0	
	comp=E,2μm,0.5s						
ILGA	**Ilgaz**	**1.55**	**342**		**Pn**	**17 41 17.0**	**-0.3**
ILGA	**Ilgaz**	**1.55**	**342**	SPECP		17 41 17.0	
ILGA				P	**Pn**	**17 41 17.0**	**-0.3**
ILGA				S	**Sg**	**17 41 39.5**	**-0.1**
ILGA				*i* AML	AML	17 41 40.0	
	comp=E,4μm,0.8s						
KAGI	**orum-Kargı**	**1.56**	**3**	P	**Pn**	**17 41 17.3**	**+0.1**
KAGI				*i* AML	AML	17 41 39.0	
	comp=N,1μm,0.6s						
KAGI				S	**Sg**	**17 41 39.2**	**-0.6**
KAGI	**orum-Kargı**	**1.56**	**3**	P	**Pn**	**17 41 17.4**	**+0.1**
NIDE	**Nigde/Merkez-G**	**1.61**	**168**	P	**Pn**	**17 41 17.6**	**-0.6**
NIDE				S	**Sg**	**17 41 41.5**	**-0.2**
NIDE				*i* AML	AML	17 41 42.0	
	comp=N,1μm,0.3s						
NIDE				*i* AML	AML	17 41 42.0	
	comp=E,3μm,0.4s						
NIDE	**Nigde/Merkez-G**	**1.61**	**168**	P	**Pn**	**17 41 17.9**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**1.68**	**152**	SPECP		17 41 18.0	
YAHY				P	**Pn**	**17 41 18.8**	**-0.3**
YAHY				S	**Sb**	**17 41 41.2**	**-0.6**
YAHY				*i* AML	AML	17 41 43.0	
	comp=E,4μm,0.5s						
YAHY				*i* AML	AML	17 41 51.0	
	comp=N,4μm,0.5s						
CMDR	**Camlidere-ANKA**	**1.71**	**303**	SPECP		17 41 19.0	
CMDR				P	**Pn**	**17 41 19.9**	**+0.5**
CMDR				S	**Sg**	**17 41 44.7**	**0.0**
CMDR				*i* AML	AML	17 41 46.0	
	comp=N,3μm,0.6s						
CMDR				*i* AML	AML	17 41 52.0	
	comp=E,2μm,1.0s						
ALIN	**Konya, Altinte**	**1.73**	**222**	P	**Pn**	**17 41 15.5**	**-4.1**
KIZO	**Buyukkizoglu-L**	**1.78**	**42**	PN	**Pn**	**17 41 20.7**	**+0.3**

KERG	Konya-Eregli	2.17 185	P	Pn	17 41 25.7	-0.1
AUSIV	SIVRIHISAR	2.19 267	P	Pn	17 41 26.1	+0.1
AUSIV			S	Sg	17 41 59.8	-0.3
SVRH	Sivrihisar-ESK	2.20 267	PN	Pn	17 41 26.2	+0.1
YUVA	Yuva-Kibriscik	2.21 292	PN	Pn	17 41 26.7	+0.4
SAMS	Samsun-Alacam	2.26 38	SPECP		17 41 27.0	
SAMS			P	Pn	17 41 27.1	+0.2
SAMS			S	Sg	17 42 01.6	-0.7
SAMS			*i* AML	AML	17 42 08.0	
	comp=N,9μm,0.7s					
SAMS			*i* AML	AML	17 42 08.0	
	comp=E,6μm,1.2s					
KONT	Konya--Tatoy	2.26 224	PN	Pn	17 41 27.1	+0.1
KONT	Konya--Tatoy	2.26 224	SPECP		17 41 27.0	
KONT			P	Pn	17 41 27.2	+0.3
AKO	Adana	2.28 158	P	Pn	17 41 27.6	+0.4
AKO			S	Sb	17 41 59.6	+0.5
AKO			*i* AML	AML	17 42 07.0	
	comp=E,4μm,0.7s					
AKO			*i* AML	AML	17 42 07.0	
	comp=N,3μm,0.6s					
GULE	Gulek	2.32 172	P	Pn	17 41 28.4	+0.5
KARA	Karaisali	2.38 167	PN	Pn	17 41 29.2	+0.6
BZK	Bozkurt	2.39 354	⇓P	Pn	17 41 29.7	+1.0
BZK	Bozkurt	2.39 354	PN	Pn	17 41 30.0	+1.3
BZK	Bozkurt	2.39 354		Pn	17 41 29.7	+1.0
KMER	Konya-Meram	2.39 221	P	Pn	17 41 29.3	+0.5
KOZT	Kozan	2.40 151	PN	Pn	17 41 29.3	+0.5
CUKAN	kangal_SIVAS	2.42 95	P	Pn	17 41 29.9	+0.7
CUKAN			S	Sg	17 42 06.7	-0.9
CUKAN			*i* AML	AML	17 42 08.0	
	comp=N,2μm,1.4s					
CUKAN			*i* AML	AML	17 42 09.0	
	comp=E,1μm,1.3s					
RSDY	Resadiye-TOKAT	2.42 69	PN	Pn	17 41 29.4	+0.3
CUGUR	Gurin_SVAS	2.42 110	P	Pn	17 41 30.4	+1.1
ELBS	KAHRAMANMARAS	2.50 119	P	Pn	17 41 31.0	+0.6
ELBS			S	Sg	17 42 09.1	-1.0
ELBS			*i* AML	AML	17 42 13.0	
	comp=E,7μm,0.5s					
ELBS			*i* AML	AML	17 42 18.0	
	comp=N,8μm,0.6s					
SINO	SINOP_Merkez	2.51 14	SPECP		17 41 30.0	
SINO			P	Pn	17 41 30.4	0.0
SINO	SINOP_Merkez	2.51 14	P	Pn	17 41 32.0	+1.6
SNOP	Sinop	2.52 15	PN	Pn	17 41 30.4	0.0
SNOP	Sinop	2.52 15		Pn	17 41 30.4	0.0
CIDE	Kastamonu/Cide	2.53 335	P	Pn	17 41 31.4	+0.8
CIDE			S	Sg	17 42 09.2	-2.0
ANDN	Andirin	2.54 142	SPECP		17 41 31.0	
ANDN			P	Pn	17 41 31.3	+0.5
DOGA	KONYA_Doganhis	2.57 236	SPECP		17 41 31.0	
DOGA			P	Pn	17 41 31.6	+0.3
KURC	Kurucasile-Bar	2.57 332	PN	Pn	17 41 29.7	-1.5
MDUB	Mudurnu	2.58 291	PN	Pn	17 41 31.9	+0.4
MDUB	Mudurnu	2.58 291	Pn	Pn	17 41 31.9	+0.4
BTIN	Bartın	2.60 323	SPECP		17 41 32.0	
BTIN			P	Pn	17 41 32.2	+0.6
BTIN			S	Sn	17 42 05.1	+2.0
KKBE	Karaman, Kazim	2.61 206	P	Pn	17 41 32.2	+0.4
YIGI	Dzce	2.62 303	P	Pn	17 41 32.5	+0.6
YIGI			S	Sg	17 42 12.1	-1.8
YIGI			*i* AML	AML	17 42 16.0	
	comp=E,4μm,0.8s					
YIGI	Dzce	2.62 303	P	Pn	17 41 32.5	+0.6
DARE	Darende-Malaty	2.63 112	PN	Pn	17 41 32.9	+0.8
CUZAR	Zara_SIVAS	2.65 82	P	Pn	17 41 33.0	+0.7
ESKT	Eskisehir	2.71 270	PN	Pn	17 41 32.9	-0.4
MERS	Mersin	2.71 177	PN	Pn	17 41 33.6	+0.4
SGAZ	Eskisehir, Sey	2.72 270	P	Pn	17 41 33.3	0.0
YVAC	Isparta, Yalva	2.76 243	P	Pn	17 41 34.3	+0.3
CEYT	Ceyhan	2.79 157	PN	Pn	17 41 34.5	+0.3
KDZE	Karadeniz Ereo	2.82 309	⇓P	Pn	17 41 35.1	+0.5
KDZE	Karadeniz Ereo	2.82 309	PN	Pn	17 41 35.1	+0.5
KAHM	Kahramanmaras,	2.92 134	SPECP		17 41 36.0	
KAHM			P	Pn	17 41 36.7	+0.7
YURE	YUREGIR	2.93 160	SPECP		17 41 37.0	
YURE			P	Pn	17 41 37.2	+1.1
YURE			S	Sb	17 42 20.2	+2.5
YURE			*i* AML	AML	17 42 38.0	
	comp=E,3μm,1.5s					
SEYD	Seydisehir-KON	2.94 223	PN	Pn	17 41 37.0	+0.6
SEDI	Konya, Seydise	2.95 225	SPECP		17 41 37.0	
SEDI			P	Pn	17 41 37.2	+0.7
SAHE	Sakarya_HENDEK	2.97 296	P	Pn	17 41 37.3	+0.7
HDMB	Hadim	3.00 210	PN	Pn	17 41 38.4	+1.1
KAMA	Osmaniye	3.00 142	P	Pn	17 41 37.8	+0.6
SUSE	Susehri	3.02 77	SPECP		17 41 39.0	
SUSE			P	Pn	17 41 39.2	+1.7
GULT	Gulveren	3.07 287	PN	Pn	17 41 38.3	+0.2
KIZK	Mersin	3.10 183	PN	Pn	17 41 40.0	+1.5
ARPR	Arapgir-MALATY	3.12 98	PN	Pn	17 41 39.5	+0.6
SHUT	Suhut-Afyon	3.14 252	PN	Pn	17 41 40.1	+1.0
KEBE	Keben-Mersin	3.17 189	PN	Pn	17 41 40.7	+1.2
GPA	Golpazari	3.19 284	PN	Pn	17 41 39.7	-0.1
KEMA	Kemaliye	3.22 94	P	Pn	17 41 40.5	+0.4
TEVE	Tevekalti-Mers	3.23 193	PN	Pn	17 41 40.6	+0.3
SILI	Silifke-Mersin	3.23 186	PN	Pn	17 41 40.8	+0.6
AFYN	Afyon-Dinar-K	3.28 248	SPECP		17 41 33.0	
AFYN			P	Pn	17 41 33.3	-7.8
GAZ	Gaziantep	3.29 136	PN	Pn	17 41 40.6	-0.5
GAZ	Gaziantep	3.29 136	Pn	Pn	17 41 40.5	-0.7
SAUV	Serdivan-Sakar	3.30 292	PN	Pn	17 41 41.4	+0.2
BERE	Bereket-Mersin	3.35 196	PN	Pn	17 41 42.6	+0.5
GZT	Gaziantep	3.36 130	SPECP		17 41 42.0	
GZT			P	Pn	17 41 42.6	+0.4
KAYN	Sakarya, Kayna	3.37 295	SPECP		17 41 42.0	
KAYN			P	Pn	17 41 42.7	+0.5
IKL	Isikli	3.38 189	PN	Pn	17 41 43.6	+1.3
REFA	Refahiye_ERZN	3.41 83	P	Pn	17 41 43.5	+0.6
MALT	Malatya	3.42 111	P	Pn	17 41 43.6	+0.7
MALT	Malatya	3.42 111	PN	Pn	17 41 43.1	+0.2
AKKU	Akkuyu-Mersin	3.48 191	PN	Pn	17 41 44.9	+1.2
ISP	Isparta	3.48 241	P	Pn	17 41 43.9	+0.2
ISP	Isparta	3.48 241	PN	Pn	17 41 44.0	+0.2
ISP	Isparta	3.48 241	Pn	Pn	17 41 43.9	+0.2
ISP	Isparta	3.48 241	Pn	Pn	17 41 43.3	-0.5
TAHT	Tahtakopru-Hat	3.51 155	PN	Pn	17 41 44.9	+0.8
CAVI	Cavuskoy	3.53 282	PN	Pn	17 41 44.5	+0.1
TEKE	Tekeli-Mersin	3.57 196	PN	Pn	17 41 45.6	+0.6
BCK	Bucak	3.64 236	P	Pn	17 41 46.4	+0.5
BCK	Bucak	3.64 236	PN	Pn	17 41 46.4	+0.5
ADVT	Abdulvahap	3.65 285	PN	Pn	17 41 46.2	+0.2
GAZI	Gazipasa	3.71 206	PN	Pn	17 41 47.6	+0.7
BASM	Basmaki-Afyon	3.76 245	PN	Pn	17 41 48.1	+0.5
TVSB	Tavsanli	3.79 270	PN	Pn	17 41 48.4	+0.3
HRT	Hereke	3.80 290	PN	Pn	17 41 48.2	+0.1
GEDZ	Gediz	3.88 264	PN	Pn	17 41 49.8	+0.6
SILT	Sile	3.93 295	PN	Pn	17 41 49.9	+0.1
YLV	Yalova	3.95 286	PN	Pn	17 41 50.3	+0.1
ANTB	Antalya	3.96 229	PN	Pn	17 41 50.9	+0.6
SVRC	Sivrice-ELAZID	4.04 106	PN	Pn	17 41 52.5	+1.0
EREN	Erenkoy	4.05 182	PN	Pn	17 41 52.8	+1.3
GEMT	Gemlik	4.06 284	PN	Pn	17 41 51.9	+0.2
KORT	Korkueli	4.07 232	PN	Pn	17 41 52.4	+0.4
URFA	Urfa	4.10 120	PN	Pn	17 41 52.9	+0.6
TRML	Termal-Yalova	4.11 286	PN	Pn	17 41 51.9	-0.4
ERZN	Erzincan	4.14 88	PN	Pn	17 41 54.0	+1.1
SIMA	Simav-Kutahya	4.20 265	PN	Pn	17 41 54.2	+0.5
MDNY	Mudanya-Bursa	4.28 282	PN	Pn	17 41 55.1	+0.5
ISK	Istanbul-Kandi	4.31 292	P	Pn	17 41 55.5	+0.4
ISK	Istanbul-Kandi	4.31 292	P	Pn	17 41 55.7	+0.6
ISK	Istanbul-Kandi	4.31 292	PN	Pn	17 41 55.5	+0.4
LFK	Lefkose	4.35 189	PN	Pn	17 41 56.8	+1.1
KTUT	Trabzon	4.37 70	⇑P	Pb	17 42 01.8	-4.6
KTUT	Trabzon	4.37 70	PN	Pn	17 41 57.2	+1.4
ELL	Elmali	4.51 232	P	Pn	17 41 59.5	+1.6
ELL	Elmali	4.51 232	PN	Pn	17 41 59.7	+1.8
ELL	Elmali	4.51 232	Pn	Pn	17 41 59.5	+1.6
BAYT	Aydıntepe-Bayb	4.51 78	PN	Pn	17 41 59.2	+1.1
BGKT	Bogazkoy	4.55 292	PN	Pn	17 41 58.9	+0.5
KULA	Kula-Manisa	4.56 258	P	Pn	17 41 59.3	+0.6
KULA	Kula-Manisa	4.56 258	PN	Pn	17 41 59.3	+0.6
LEF	Lefka	4.61 195	PN	Pn	17 41 59.1	-0.1
KCTX	Karacabey (Bur	4.67 280	PN	Pn	17 42 00.2	+0.2
CSS	Mathiatis	4.69 190	Pn	Pn	17 41 59.7	-0.6
CSS	Mathiatis	4.69 190	Pn	Pn	17 41 59.6	-0.7
CTKS	Kestanelik-??a	4.76 292	PN	Pn	17 42 01.6	+0.3
CAME	Cameli-Denizli	4.77 238	PN	Pn	17 42 02.4	+0.8
DYBB	Diyarbakir	4.80 108	PN	Pn	17 42 02.7	+0.8
YAL	Yalta	4.90 358	*e*P	Pn	17 42 03.6	+0.4
YAL			Pm		17 42 15.2	
	comp=Z,196nm,0.5s					
YAL			*e*S	Sn	17 43 00.7	+0.9
YAL			Sm		17 43 02.5	
	comp=N,149nm,0.3s					
YAL			Sm		17 43 02.5	
	comp=E,227nm,0.5s					
YAL	Yalta	4.90 358	*e*P	Pn	17 42 03.6	+0.4
YAL			*e*S	Sn	17 43 00.7	+0.9
BNGB	Bingl	4.94 95	PN	Pn	17 42 05.4	+1.6
SLVT	Silivri	4.97 291	PN	Pn	17 42 04.8	+0.6
CTYL	Yalikoy Yolu	5.00 294	PN	Pn	17 42 04.7	+0.2
BALB	Balikesir	5.00 273	PN	Pn	17 42 05.7	+1.1
BALB	Balikesir	5.00 273	Pn	Pn	17 42 05.3	+0.7
AKAS	Kas	5.03 230	PN	Pn	17 42 07.4	+2.3
EDC	Edincik	5.05 281	PN	Pn	17 42 05.3	+0.1
FETY	Fethiye	5.10 236	P	Pn	17 42 06.8	+0.9
FETY	Fethiye	5.10 236	PN	Pn	17 42 06.1	+0.2
CHOM	Cayeli-Rize	5.12 71	PN	Pn	17 42 07.9	+1.7
GONE	Gonen-Balikesi	5.16 277	PN	Pn	17 42 06.8	+0.1
KARO	Karliova-Bingo	5.19 91	PN	Pn	17 42 08.9	+1.6
MRMT	Marmara Adasi	5.29 283	PN	Pn	17 42 09.5	+0.9
CRLT	Corlu	5.29 289	PN	Pn	17 42 09.3	+0.8
AYDB	Zeytinkoy-Aydi	5.31 254	PN	Pn	17 42 09.5	+0.5
SUDU	Sudak	5.32 5	⇓*e*P	Pn	17 42 08.0	-1.0
SUDU			Pm		17 42 22.4	
	comp=Z,102nm,0.5s					
SUDU			*e*S	Sn	17 43 10.3	+0.1
SUDU			Sm		17 43 19.6	
	comp=N,376nm,0.5s					
SUDU			Sm		17 43 19.6	
	comp=E,93nm,0.3s					
SUDU	Sudak	5.32 5	*e*P	Pn	17 42 08.0	-1.0
SUDU			*e*S	Sn	17 43 10.3	+0.1
SIM	Simferopol'	5.36 358	*e*P	Pn	17 42 10.8	+1.2
SIM			*e*S	Sn	17 43 11.6	+0.4
YER	Yerkesik	5.37 245	P	Pn	17 42 10.7	+1.1
YER	Yerkesik	5.37 245	P	Pn	17 42 11.5	+1.8
YER	Yerkesik	5.37 245	PN	Pn	17 42 10.8	+1.1
HWQ	Hawqa	5.45 166	*e*P	Pn	17 42 11.9	+1.1
KRBG	Karabiga-Canak	5.48 281	PN	Pn	17 42 11.4	+0.2
FEO	Feodosiya	5.49 8	*e*P	Pn	17 42 12.9	+1.7
FEO			*e*S	Sn	17 43 18.5	+4.4
GZKV	Gazikoy-Tekird	5.51 284	PN	Pn	17 42 12.7	+1.1
VRTB	Varto-Mus	5.51 92	PN	Pn	17 42 13.4	+1.6
MARD	Mardin	5.53 112		Pn	17 42 12.4	+0.5
SVAN	Silvan-Diyarba	5.53 103	PN	Pn	17 42 13.7	+1.9
MAR3	Marsite Statio	5.54 284	PN	Pn	17 42 12.5	+0.6
PHSR	Pinarhisar	5.59 294	PN	Pn	17 42 13.1	+0.4
SOC	Sochi	5.67 43	*e*P	Pn	17 42 12.4	-1.3
BHL	Bhannes	5.76 169	*e*P	Pn	17 42 15.3	+0.2
KOPR	Koprukoy-ERZUR	5.79 84	PN	Pn	17 42 17.3	+1.8
DKL	Dikili	5.80 267	PN	Pn	17 42 17.0	+1.4
KALB	Balgarevo	5.87 312	⇑P	Pn	17 42 17.3	+0.8
GCAM	G?zelcaml?	5.89 254	PN	Pn	17 42 17.7	+1.0
LPK	Lapseki	5.89 280	PN	Pn	17 42 17.6	+0.8
DQRL	Deir Qamar	5.95 170	*e*P	Pn	17 42 17.4	-0.3
TSMN	Mangalia Port-	6.03 316	⇓P	Pn	17 42 19.2	+0.6
MANR	Mangalia	6.04 316	⇓P	Pn	17 42 19.0	+0.1
DAT	Datca	6.06 244	P	Pn	17 42 20.2	+1.1
DAT	Datca	6.06 244	PN	Pn	17 42 20.3	+1.1
GURO	Guroymak-BITLI	6.06 97	PN	Pn	17 42 21.3	+2.0
BODT	Bodrum	6.09 248	P	Pn	17 42 20.5	+1.0
BODT	Bodrum	6.09 248	PN	Pn	17 42 20.6	+1.0
UKOP	Uzunkopru-Edir	6.10 287	PN	Pn	17 42 20.1	+0.4
GELI	Tayfur-Gelibol	6.11 280	PN	Pn	17 42 20.5	+0.7
ERIK	Erikli-Kesan	6.11 283	PN	Pn	17 42 20.1	+0.3
URLA	Izmir	6.17 261	PN	Pn	17 42 22.4	+1.7
PSN	Preselentsi	6.18 314	P	Pn	17 42 21.9	+1.2
PSN			S	Sn	17 43 22.3	-8.9
SMG	Samos	6.18 255	P	Pn	17 42 21.7	+0.9
RCY	Rachaya	6.19 168	*e*P	Pn	17 42 22.3	+1.2
EFOR	EFORIE	6.20 316	⇑P	Pn	17 42 20.9	-0.2
EZN	Ezine	6.20 275	P	Pn	17 42 21.7	+0.7
EZN	Ezine	6.20 275	P	Pn	17 42 22.3	+1.2
EZN	Ezine	6.20 275	PN	Pn	17 42 22.2	+1.2
SENK	Senkaya-Erzuru	6.21 78	PN	Pn	17 42 23.9	+2.6
EDRB	Edirne	6.21 294	P	Pn	17 42 21.1	-0.1
EDRB	Edirne	6.21 294	PN	Pn	17 42 20.7	-0.5
TSCT	Constanta Port	6.25 319	⇓P	Pn	17 42 22.0	+0.3
PRK	Paraskevi	6.27 269	P	Pn	17 42 24.1	+2.1
SHBL	Chebaa	6.32 169	*e*P	Pn	17 42 23.4	+0.5
PRD	Provadia	6.36 307	P	Pn	17 42 22.5	-0.7
PRD			S	Sn	17 43 34.7	-1.0
MLAZ	Malazgirt-MUS	6.36 91	PN	Pn	17 42 25.4	+2.0
MFTR	Murfatlar	6.38 318	⇑P	Pn	17 42 23.8	+0.4
ENEZ	Enez	6.39 283	PN	Pn	17 42 25.3	+1.6
NATI	Neve Ativ	6.41 170	Pn	Pn	17 42 24.4	+0.5
NATI			Sn	Sn	17 43 36.5	-0.4
BOZC	Bozcaada	6.41 275	PN	Pn	17 42 25.1	+1.2
ALN	Alexandroupoli	6.50 284	P	Pn	17 42 25.4	+0.3
ALN	Alexandroupoli	6.50 284	P	Pn	17 42 25.6	+0.5
ALN	Alexandroupoli	6.50 284	Pn	Pn	17 42 25.6	+0.5
GADA	Gvkgeada	6.54 278	P	Pn	17 42 26.5	+0.9
GADA	Gvkgeada	6.54 278	PN	Pn	17 42 26.6	+0.9
JMB	Yambol	6.55 299	P	Pn	17 42 27.2	+1.4
CHOS	Chios island	6.58 262	P	Pn	17 42 27.2	+0.9
JURR	Jurilovca	6.59 324	⇓P	Pn	17 42 25.2	-1.1
SIGR	SIGRI	6.60 269	P	Pn	17 42 27.1	+0.6
MMA0B	Mount Meron ar	6.61 172	Pn	Pn	17 42 27.6	+0.8
MMAI	Mount Meron Ar	6.61 172	Pn	Pn	17 42 27.5	+0.7
	comp=E,57nm,0.3s,baz=343,slow=14,SNR=193					
MMAI			Sn	Sn	17 43 40.0	-2.0
	baz=351,slow=25,SNR=1.4					
MMAI			LR	LR	17 45 42.9	
	comp=E,2μm,18.2s,baz=198,slow=44					
SIRT	Sirnak	6.67 106	PN	Pn	17 42 27.9	+0.4
SIRT	Sirnak	6.67 106		Pn	17 42 28.0	+0.4
TLBR	Topalu	6.83 319	⇓P	Pn	17 42 29.5	-0.1
AKDM	Akdamar-Van	6.83 98	PN	Pn	17 42 32.1	+2.2
SMTH	Samothraki Isl	6.83 280	P	Pn	17 42 29.7	-0.1
TPGR	Topolog	6.87 322	⇓P	Pn	17 42 29.3	-0.9
BLGI	Bet Lehem HaGe	6.87 174	Pn	Pn	17 42 31.2	+0.9
RDO	Rodhopi	6.92 286	P	Pn	17 42 31.1	+0.2
TLCR		6.94 326	⇑P	Pn	17 42 29.8	-1.4
TLCR		6.94 326	P	Pn	17 42 29.8	-1.4
OFRI	`Ofer	6.97 176	Pn	Pn	17 42 32.5	+0.9
OFRI			Sn	Sn	17 43 49.0	-1.8
HARR	Harsova	6.99 319	⇓P	Pn	17 42 31.5	-0.4
HARR	Harsova	6.99 319	P	Pn	17 42 31.4	-0.4
LIA	Limnos Island	7.08 275	P	Pn	17 42 33.9	+0.8
RASA	Rasa	7.09 313	⇑P	Pn	17 42 33.4	+0.1
RAZG	Razgrad	7.10 307	⇑P	Pn	17 42 33.4	0.0
DIM	Dimitrovgrad	7.13 293	P	Pn	17 42 34.1	+0.3
MMLI	Mount Malkishu	7.18 173	Pn	Pn	17 42 35.5	+0.9
MMLI			Sn	Sn	17 43 54.6	-1.5
AKH	Akhalkalaki	7.20 72	⇑P	Pn	17 42 40.2	+5.3
AKH	Akhalkalaki	7.20 72	PN	Pn	17 42 36.7	+1.8
CFR	Carcaliu	7.24 323	⇑P	Pn	17 42 34.6	-0.8
CFR	Carcaliu	7.24 323	P	Pn	17 42 34.5	-0.8
CFR			pmax	pmax		
	comp=Z,264nm,0.9s					
AMRR	Amara	7.24 316	⇑P	Pn	17 42 35.4	+0.1
NEY	Neytrino	7.27 57	*d iP*	Pn	17 42 37.4	+1.5
SLTI	Sal'it	7.35 175	Pn	Pn	17 42 37.7	+0.8
HMDT	Nahal Hemdat	7.38 172	Pn	Pn	17 42 37.8	+0.6
CLDR	Caldiran	7.42 90	PN	Pn	17 42 39.6	+1.6
GIUM	Giurgiulesti	7.44 324	⇑P	Pn	17 42 36.5	-1.6
ONI	Oni	7.50 63	P	Pn	17 42 39.8	+0.9
ONI	Oni	7.50 63	Pn	Pn	17 42 39.8	+0.9
TATR	Tatarca	7.60 324	⇑P	Pn	17 42 39.9	-0.3
KIV	Kislovodsk	7.60 52	*e*P	Pn	17 42 41.2	+0.8
KIV			pmax	pmax		
	comp=Z,40nm,1.0s					
KIV			MLR	MLR		
	comp=Z,241nm,10.0s					
KIV	Kislovodsk	7.60 52	Pn	Pn	17 42 41.5	+1.2
KIV	Kislovodsk	7.60 52	Pn	Pn	17 42 41.4	+1.1
KBZ	Khabaz	7.62 54	Pn	Pn	17 42 41.7	+1.2
	comp=Z,1.2nm,0.3s,baz=224,slow=11,SNR=38					
KBZ			LR	LR	17 45 46.7	
	comp=Z,823nm,21.9s,baz=235,slow=39					
KBZ	Khabaz	7.62 54	*d iP*	Pn	17 42 41.5	+1.1
TASB	TASBURUN-IGDIR	7.62 84	PN	Pn	17 42 42.5	+1.9
CUKT	Cukurca	7.63 105	PN	Pn	17 42 41.7	+0.9
SCHL	Schela	7.63 323	⇑P	Pn	17 42 40.3	-0.2
PGOR	Pogoanele	7.63 317	⇑P	Pn	17 42 41.6	+0.9
RZN	Rozhen	7.63 289	P	Pn	17 42 40.9	+0.1
KAVA	Kavala	7.66 284	P	Pn	17 42 41.0	0.0
ASF	Jabal al Asfar	7.68 164	Pn	Pn	17 42 43.1	+1.7
	comp=Z,1.0nm,0.3s,baz=172,slow=24,SNR=16					
PURM	Purcari	7.68 336	⇓P	Pn	17 42 40.7	-0.5
SCTR	Scanteiesti	7.68 324	⇓P	Pn	17 42 41.2	-0.1
IZVR	Izvoarele	7.69 323	⇑P	Pn	17 42 41.6	+0.2
PLD	Plovdiv	7.74 292	P	Pn	17 42 42.4	+0.2
PLD			pmax	pmax		
	comp=Z,131nm,0.9s					
VLDR	Vladesti	7.78 326	⇓P	Pn	17 42 42.0	-0.6
THR6	Thira Island,	7.78 248	P	Pn	17 42 44.0	+1.3
SGRR	Singureni	7.78 309	⇑P	Pn	17 42 43.9	+1.2
ZKR	Zakros	7.87 238	P	Pn	17 42 45.0	+1.0
ZIMR		7.87 304	⇑P	Pn	17 42 45.1	+1.1
VARL	Varlezi	7.92 325	⇑P	Pn	17 42 44.7	+0.1
NCK	Nalchik	7.95 58	⇑*e*P	Pn	17 42 45.1	0.0
GRER		7.96 319	⇓P	Pn	17 42 45.1	0.0
ISR	Istrita	8.00 316	⇑P	Pn	17 42 46.0	+0.1
ISR	Istrita	8.00 316	P	Pn	17 42 47.0	+1.2
ISR			pmax	pmax		
	comp=Z,406nm,1.0s					
GNI	Garni	8.01 83	P	Pn	17 42 51.0	+5.0
GNI	Garni	8.01 83	Pn	Pn	17 42 51.6	+5.6
OUR	Ouranopolis	8.01 279	P	Pn	17 42 45.8	0.0
OUR	Ouranopolis	8.01 279	P	Pn	17 42 45.9	+0.1
KOKK	Kokkinochori,	8.03 282	P	Pn	17 42 45.6	-0.5
DSI	Dead Sea	8.04 174	Pn	Pn	17 42 47.4	+1.1
AMAZ	Amatzia	8.05 177	Pn	Pn	17 42 47.3	+0.9
ODBI	Odobesti	8.19 321	⇓P	Pn	17 42 49.4	+1.1
NVR	Nevrokopi	8.20 286	P	Pn	17 42 48.6	+0.1
COPA	Copaceanca	8.20 307	⇑P	Pn	17 42 48.4	0.0
BISRR	Bisoca	8.21 319	⇑P	Pn	17 42 49.7	+1.1
SECR		8.21 314	⇑P	Pn	17 42 48.7	+0.1
LEOM	Leova	8.21 329	⇑P	Pn	17 42 48.3	-0.3
LEOM	Leova	8.21 329	P	Pn	17 42 48.3	-0.3
YTIR	Yattir	8.23 175	Pn	Pn	17 42 50.3	+1.3
PAIG	Paliouri	8.23 276	P	Pn	17 42 49.3	+0.3
PAIG	Paliouri	8.23 276	P	Pn	17 42 49.8	+0.8
PAIG			pmax	pmax		
	comp=Z,33nm,0.5s					
GHRR		8.24 324	⇑P	Pn	17 42 49.4	+0.4
DION	Dionisos Attik	8.28 263	P	Pn	17 42 51.0	+1.4
BIR	Birlad	8.30 326	⇑P	Pn	17 42 49.5	-0.4
BIR	Birlad	8.30 326	P	Pn	17 42 49.4	-0.4
MMB	Musomiste	8.34 287	P	Pn	17 42 50.5	+0.1
NEHR	Nehoiu	8.34 317	⇓P	Pn	17 42 51.3	+0.9
SRS	Serrai	8.36 284	P	Pn	17 42 50.7	-0.1
SRS	Serrai	8.36 284	P	Pn	17 42 51.0	+0.2
SRS			pmax	pmax		
	comp=Z,44nm,0.7s					
MILM	Milestii Mici	8.37 333	⇓*i P*	Pn	17 42 49.5	-1.3
	comp=Z,180nm,0.5s					
MILM	Milestii Mici	8.37 333	*e*PP	Pn	17 42 55.0	+4.2
MILM			*e*S	Sn	17 44 24.0	-1.2
MILM			*e*L	L	17 46 36.0	
MILM			LRM	MLR	17 47 28.0	
	comp=Z,1μm,13.5s					
MILM	Milestii Mici	8.37 333	⇑P	Pn	17 42 49.6	-1.3
MILM	Milestii Mici	8.37 333	*d iP*	Pn	17 42 49.5	-1.3
MILM			*e*S	Sn	17 44 24.0	-1.2
MILM			pmax	pmax		
	comp=Z,300nm,0.9s					
MILM			MLR	MLR		
	comp=Z,1μm,13.5s					
PLG	Polygyros	8.42 279	P	Pn	17 42 51.9	+0.4
VRI	Vrincioaia	8.42 321	⇑P	Pn	17 42 51.6	+0.1
VRI	Vrincioaia	8.42 321	P	Pn	17 42 51.7	+0.1
VRI			pmax	pmax		
	comp=Z,117nm,0.9s					
KIS	Kishinev	8.44 333	*i* P	Pn	17 42 50.7	-1.0
	comp=Z,140nm,0.5s					
KIS			*e*S	Sn	17 44 25.0	-1.8
KIS	Kishinev	8.44 333	⇑P	Pn	17 42 50.7	-1.0
KIS	Kishinev	8.44 333	*i* P	Pn	17 42 50.7	-1.0
KIS			*e*S	Sn	17 44 25.0	-1.8
KIS			pmax	pmax		
	comp=Z,140nm,0.5s					
GOF	Gof

FNA Florina 10.01 281 P **Pn 17 43 13.8 +0.4**
FNA Florina 10.01 281 Pn **Pn 17 43 13.8 +0.4**
DRO Drossia 10.01 265 P **Pn 17 43 15.2 +1.8**
DJES Djerdap 10.15 304 *e*P **Pn 17 43 16.9 +1.7**
BOVS Bovan 10.30 297 *e*P **Pn 17 43 17.5 +0.2**
HERR Herculane 10.31 305 ⇓P **Pn 17 43 16.9 -0.6**
BURAR Bucovina Array 10.40 323 ⇓P **Pn 17 43 18.8 0.0**
BURAR Bucovina Array 10.40 323 P **Pn 17 43 18.7 0.0**
BURAR Bucovina Array 10.40 323 Pn **Pn 17 43 18.5 -0.3**
BUR08 Bucovina Ar. S 10.43 324 Pn **Pn 17 43 18.7 -0.5**
MAK Makhachkala 10.45 67 *e*P **Pn 17 43 17.0 -2.3**
MAK *e*S **Sn 17 45 14.5 -1.8**
MAK pmax pmax
comp=Z,163nm,1.2s
MAK MLR MLR
comp=Z,518nm,7.0s
DEV Deva 10.51 310 P **Pn 17 43 21.3 +1.1**
DEV pmax pmax
comp=Z,47nm,1.2s
SELS Selova 10.59 294 *e*P **Pn 17 43 21.4 +0.2**
KUBS Kucevo 10.60 301 *e*P **Pn 17 43 19.7 -1.7**
CJR Cluj-Napoca 10.60 316 ⇑P **Pn 17 43 20.7 -0.8**
CJR Cluj-Napoca 10.60 316 P **Pn 17 43 20.6 -0.8**
MDVR Moldovita 10.72 303 ⇑P **Pn 17 43 22.1 -1.0**
SVIS Svilajnac 10.85 300 *e*P **Pn 17 43 27.4 +2.6**
GRUS Gruza 11.06 297 *e*P **Pn 17 43 28.6 +0.9**
DRGR 11.14 314 ⇑P **Pn 17 43 27.5 -1.3**
DRGR 11.14 314 P **Pn 17 43 29.1 +0.3**
DRGR pmax pmax
comp=Z,25nm,1.0s
BZS Buzias 11.15 307 ⇑P **Pn 17 43 28.2 -0.8**
BZS Buzias 11.15 307 P **Pn 17 43 28.8 -0.1**
BZS pmax pmax
comp=Z,13nm,0.9s
BZS Buzias 11.15 307 *e*P **Pn 17 43 28.3 -0.6**
BMR Baia Mare 11.28 319 ⇓P **Pn 17 43 29.9 -0.7**
BMR Baia Mare 11.28 319 P **Pn 17 43 30.2 -0.4**
BMR pmax pmax
comp=Z,59nm,0.8s
IVAS Ivanjica 11.36 295 *e*P **Pn 17 43 32.4 +0.5**
TRUS Trudelj 11.38 299 *e*P **Pn 17 43 32.2 +0.1**
SJES Sjenica 11.41 293 *e*P Pn 17 43 37.4 +4.9
DIVS Divibare 11.62 297 *e*Pn **Pn 17 43 34.1 -1.4**
DIVS Divibare 11.62 297 *e*P **Pn 17 43 36.3 +0.8**
AKASG Malin Array Be 11.69 344 Pn **Pn 17 43 33.3 -3.0**
comp=Z,11nm,0.3s,baz=160,slow=12,SNR=74
AKASG Sn Sn 17 45 35.3 -11
comp=Z,4.8nm,0.3s,baz=153,slow=24,SNR=4.1
AKASG LR LR 17 48 58.2
comp=Z,709nm,18.7s,baz=164,slow=42
AKASG Malin Array Be 11.69 344 *i* P **Pn 17 43 33.2 -3.0**
AKASG pmax pmax
comp=Z,10.0nm,0.4s
AKASG Malin Array Be 11.69 344 Pn **Pn 17 43 33.4 -2.8**
AKBB Malin Array Si 11.69 344*c i*P **Pn 17 43 33.5 -2.7**
AKBB Malin Array Si 11.69 344 Pn **Pn 17 43 33.7 -2.5**
PDG Podgorica 11.76 289 *e*Pn Pn 17 43 43.1 +5.9
PDG Podgorica 11.76 289 *e*P Pn 17 43 43.0 +5.8
DRME Dracevica, Mon 11.78 288 *e*Pn **Pn 17 43 41.5 +4.0**
VORD Divnogorie 11.90 15 *e*P **Pn 17 43 40.7 +1.7**
VORD pmax pmax
comp=Z,60nm,0.9s
RUDO Rudo 11.92 295 *e*Pn **Pn 17 43 42.5 +3.0**
LTVH Ltavrtes, Hu 11.93 315 PN **Pn 17 43 37.7 -1.9**
BBLS Lazići 11.96 296 *e*Pn **Pn 17 43 41.5 +1.4**
BBLS Lazići 11.96 296 *e*P **Pn 17 43 43.3 +3.2**
VSR Storozhevoye 12.11 15 *e*P **Pn 17 43 41.8 -0.2**
VSR *e*S **Sn 17 45 49.4 -7.4**
VSR pmax pmax
comp=Z,30nm,0.5s
VSR smax smax
comp=N,120nm,0.9s
FRGS Fruska Gora 12.11 302 ⇑P **Pn 17 43 42.2 +0.2**
FRGS Fruska Gora 12.11 302 *e*Pn **Pn 17 43 40.4 -1.6**
FRGS Fruska Gora 12.11 302 *e*P **Pn 17 43 44.0 +1.9**
HCY Herceg Novi 12.32 289 *e*Pn **Pn 17 43 45.6 +0.7**
BRY Bratogost 12.36 291 *e*Pn **Pn 17 43 47.8 +2.2**
TREB Trebinje 12.47 290 *e*Pn **Pn 17 43 50.3 +3.4**
UZH Uzhgorod 12.52 320 ⇓*i*P **Pn 17 43 45.8 -1.7**
UZH *e*S **Sn 17 46 04.8 -1.9**
UZH MLR MLR
comp=N,180nm,10.0s
UZH MLR MLR
comp=E,200nm,10.0s
UZH MLR MLR
comp=Z,100nm,10.0s
LVV L'vov 12.58 328 *e*P **Pn 17 43 46.0 -2.5**
LVV *e*S **Sn 17 46 05.4 -3.0**
LVV MLR MLR
comp=Z,700nm,6.6s
VRH Novokhopyorsk 12.71 21 *e*P **Pn 17 43 48.1 -2.0**
VRH *e*S **Sn 17 46 10.5 -0.9**
VRH pmax pmax
comp=Z,280nm,1.6s
VRH smax smax
comp=N,150nm,0.7s
KWP Kalwaria Pacla 13.02 324 *e*P **Pn 17 43 52.7 -1.7**
KWP Kalwaria Pacla 13.02 324 P **Pn 17 43 52.8 -1.6**
KWP pmax pmax
comp=Z,43nm,0.9s
CRVS Cervenica-Dubn 13.11 319 *e*P **Pn 17 43 54.5 -1.1**
CRVS Cervenica-Dubn 13.11 319 *e*PN **Pn 17 43 54.5 -1.1**
MORH Mrgy, Hungar 13.28 305 ⇓P **Pn 17 43 56.9 -1.1**
MORH Mrgy, Hungar 13.28 305 *e*Pn **Pn 17 43 56.2 -1.8**
MORH Mrgy, Hungar 13.28 305 PN **Pn 17 43 56.1 -1.9**
KECS Kecovo 13.35 316 *e*P **Pn 17 43 57.7 -1.3**
KECS Kecovo 13.35 316 *e*PN **Pn 17 43 57.7 -1.3**
PSZ Piszkesteto 13.35 313 ⇑P **Pn 17 43 58.9 -0.1**
PSZ Piszkesteto 13.35 313 P **Pn 17 44 00.9 +1.9**
PSZ pmax pmax
comp=Z,21nm,1.2s
PSZ Piszkesteto 13.35 313 PN **Pn 17 43 58.5 -0.5**
LPSR Galich'ya Gora 13.40 12 *e*P **Pn 17 43 59.6 +0.1**
LPSR *e*S **Sn 17 46 25.4 -2.8**
LPSR pmax pmax
comp=Z,90nm,1.0s
LPSR smax smax
comp=N,50nm,0.8s
KOVH Kovagotottos 13.58 304 PN **Pn 17 44 00.5 -1.5**
BUD Budapest 13.63 310 P **Pn 17 44 06.5 +3.8**
BUD pmax pmax
comp=Z,34nm,1.8s
BUD Budapest 13.63 310 PN **Pn 17 44 02.3 -0.4**
MGRS Mrkonjic Grad 13.72 296 *e*Pn Pn 17 43 57.5 -6.5
MRAK Mrakovica 14.01 298 *e*Pn **Pn 17 44 08.5 +0.5**
NIE Niedzica 14.03 319 *e*P **Pn 17 44 08.4 +0.2**
SRO Srobarova 14.21 311 *e*P **Pn 17 44 12.1 +1.5**
SRO Srobarova 14.21 311 *e*PN **Pn 17 44 12.1 +1.5**
VYHS Vyhne 14.26 314 *e*P **Pn 17 44 11.6 +0.2**
VYHS Vyhne 14.26 314 *e*PN **Pn 17 44 11.6 +0.2**
LANS Liptovska Anna 14.29 317 *e*P **Pn 17 44 11.9 +0.1**
LANS Liptovska Anna 14.29 317 *e*PN **Pn 17 44 11.9 +0.1**
LANS *e* 17 44 25.1
EGYH Egyhazaskeszo 14.61 308 PN **Pn 17 44 17.0 +0.9**
OJC Ojcow 14.79 321 *e*P **Pn 17 44 16.3 -2.2**
OJC Ojcow 14.79 321 P **Pn 17 44 18.1 -0.5**
OJC Ojcow 14.79 321 Pn **Pn 17 44 18.1 -0.5**
PTJ Puntijarka 14.90 301 P **Pn 17 44 22.6 +2.4**
MODS Modra-Piesok 15.09 311 *e*P **Pn 17 44 24.4 +1.8**
MODS Modra-Piesok 15.09 311 *e*PN **Pn 17 44 24.4 +1.8**
MODS Modra-Piesok 15.09 311 *e*P **P 17 44 29.6 +1.7**
ZST Bratislava 15.10 310 *e*P **Pn 17 44 24.1 +1.3**
ZST Bratislava 15.10 310 *e*PN **Pn 17 44 24.1 +1.3**
ZST Bratislava 15.10 310 *e*P **P 17 44 30.7 +2.7**
JAVC Velka Javorina 15.11 313 *e*P **Pn 17 44 23.4 +0.5**
SOP Sopron 15.20 308 P **P 17 44 27.0 -2.0**
SOP pmax pmax
comp=Z,50nm,1.5s
SOP Sopron 15.20 308 PN **Pn 17 44 24.9 +0.8**
SOP Sopron 15.20 308 P **P 17 44 27.0 -2.0**
CRES Cresnjev 15.22 300 *e*Pn **Pn 17 44 26.4 +2.0**
OKC Ostrava-Krasne 15.39 317 P **P 17 44 30.8 -0.4**
OKC pmax pmax
comp=Z,39nm,1.6s
OKC Ostrava-Krasne 15.39 317 *e*P **P 17 44 34.2 +3.0**
OKC *ex* x 17 44 45.1
BEL Belsk 15.46 327 P **Pn 17 44 29.1 +1.7**
MNK Minsk 15.55 346 *i* P **Pn 17 44 24.2 -4.4**
MNK *i* S **Sn 17 47 16.0 -4.7**
MNK pmax pmax
comp=Z,38nm,0.8s
MNK pmax pmax
comp=N,39nm,1.1s
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK MLR MLR
comp=Z,436nm,17.0s
MNK MLR MLR
comp=N,565nm,15.0s
MNK MLR MLR
comp=E,146nm,15.0s
MNK Minsk 15.55 346 *i* P **Pn 17 44 24.2 -4.4**
comp=E,4.0nm,1.1s
MNK *i* P **Pn 17 44 24.2 -4.4**
comp=N,39nm,1.1s,baz=161
MNK *i* P **Pn 17 44 24.2 -4.4**
comp=Z,38nm,0.8s
MNK *i* PP **P 17 44 32.2 -0.7**
MNK *i* PPP PPP 17 44 39.7
MNK *i* S **Sn 17 47 16.1 -4.6**
MNK *i* SS **SnSn 17 47 29.8 -3.7**
MNK *i* SSS SSS 17 47 42.2
MNK *i* LR LR 17 50 06.9
MNK *i* LRM MLR 17 51 39.4
comp=Z,436nm,17.0s
MNK *i* LRM MLR 17 52 01.4
comp=N,565nm,14.8s
MNK *i* LRM MLR 17 52 26.0
comp=E,146nm,14.8s
OBN Obninsk 15.61 5 *e*P **Pn 17 44 27.2 -2.1**
OBN pmax pmax
comp=Z,42nm,1.0s
OBN MLR MLR
comp=Z,260nm,23.0s
OBN Obninsk 15.61 5 Pn **Pn 17 44 29.2 -0.2**
OBN IAmb IAmb 17 45 03.9
comp=Z,60nm,1.2s
ARSA Arzberg 15.66 305 *e*Pn **Pn 17 44 30.1 -0.1**
comp=Z,3.4nm,0.7s
MORC Moravsky Berou 15.68 316 ⇑P **Pn 17 44 29.5 -0.9**
MORC Moravsky Berou 15.68 316 *e*P **Pn 17 44 28.5 -1.9**
CONA Conrad Observa 15.73 308 *e*Pn **Pn 17 44 31.7 +0.6**
comp=Z,2.6nm,0.8s,SNR=17
CONA *e*P **pP 17 44 38.0 -0.8**
comp=Z,21nm,1.0s
RIY Rijeka 15.74 298 *e*Pn Pn 17 44 22.8 -8.3
SOKA Soboth 15.77 303 *e*Pn **Pn 17 44 32.0 +0.4**
comp=Z,2.8nm,0.7s
CEY Cerknica 15.88 299 *e*Pn **Pn 17 44 34.8 +1.8**
LJU Ljubljana 15.90 300 *e*Pn **P 17 44 35.5 -1.4**
KRUC Moravsky 15.94 312 P **P 17 44 38.8 +1.5**
KRUC pmax pmax
comp=Z,83nm,1.3s
KRUC Moravsky 15.94 312 *e*P **Pn 17 44 34.6 +0.9**
VRAC Vranov 15.95 313 Pn **Pn 17 44 34.5 +0.6**
comp=Z,0.1nm,0.3s,baz=121,slow=12,SNR=16
VRAC LR LR 17 51 56.2
comp=Z,428nm,20.0s,baz=130,slow=42
VRAC Vranov 15.95 313 *e*P **Pn 17 44 33.8 0.0**
OBKA Obir 16.03 302 *e*Pn **Pn 17 44 35.5 +0.5**
comp=Z,3.7nm,0.8s
AQU L'Aquila 16.07 287 P **P 17 44 43.2 +4.4**
AQU L'Aquila 16.07 287 *e*Pn **P 17 44 43.1 +4.4**
NACGM Naroch 16.15 344 *i* P **Pn 17 44 32.7 -3.6**
KRLC Kraliky 16.25 316 *e*P **P 17 44 39.5 -1.3**
KRLC Kraliky 16.25 316 *e*P **P 17 44 39.5 -1.3**
KRLC *e*pP **pP 17 44 43.2 -1.5**
SUW Suwalki 16.30 336 *e*P **Pn 17 44 34.7 -3.6**
MOS Moscow 16.31 7 *e*P **Pn 17 44 39.6 +1.2**
MOS pmax pmax
comp=Z,77nm,1.0s
IDID Didziasalis 16.54 345 *e*P **Pn 17 44 38.4 -2.9**
IDID IAmb IAmb 17 44 57.8
comp=Z,12nm,0.7s
TREC Trest 16.57 312 *e*P **P 17 44 46.9 +2.6**
TREC Trest 16.57 312 *e*P **P 17 44 46.9 +2.6**
DPC Dobruska-Polom 16.65 316 *e*P **P 17 44 44.4 -0.8**
DPC Dobruska-Polom 16.65 316 *e*P **P 17 44 44.4 -0.8**
MYKA Terra Mystica 16.66 302 *e*Pn **P 17 44 47.3 +1.9**
comp=Z,16nm,0.7s,SNR=8.8
MOA Molln 16.68 306 *e*Pn **P 17 44 45.9 +0.4**
comp=Z,17nm,0.9s,SNR=17
IIGN Ignalina 16.69 344 *e*P **Pn 17 44 41.4 -1.8**
UPC Upice 16.90 316 *e*P **P 17 44 47.7 -0.3**
UPC Upice 16.90 316 *e*P **P 17 44 47.7 -0.3**
ISAL Salakas 16.91 344 *e*P **Pn 17 44 43.5 -2.5**
ISAL IAmb IAmb 17 44 58.9
comp=Z,36nm,1.2s
CHVC Chvalec 16.93 317 *e*P **P 17 44 49.2 +1.0**
KSP Ksiaz 16.94 318 *e*P **P 17 44 51.1 +2.7**
KSP Ksiaz 16.94 318 P **Pn 17 44 46.6 +0.1**
KSP pmax pmax
comp=Z,70nm,1.6s
KBA Koelnbreinsper 16.99 303 *e*Pn **P 17 44 52.5 +3.3**
comp=Z,6.3nm,0.7s
KBA Koelnbreinsper 16.99 303 P **P 17 44 52.7 +3.5**
KBA pmax pmax
comp=Z,32nm,1.0s
CKRC Cesky Krumlov 17.04 309 *e*P **Pn 17 44 48.6 +0.8**
CKRC *ex* x 17 44 52.2
PABE Paberze 17.37 340 *e*P **Pn 17 44 49.4 -2.3**
PABE Paberze 17.37 340 Pn **Pn 17 44 50.1 -1.6**
PABE IAmb IAmb 17 45 06.6
comp=Z,68nm,0.8s
GEC2 GERESS Array S 17.42 309 *e*P **P 17 44 56.0 +2.3**
comp=Z,79nm,1.2s,baz=113,slow=11
GERES GERESS Array B 17.42 309 P **Pn 17 44 52.8 +0.2**
comp=Z,0.1nm,0.3s,baz=115,slow=12,SNR=19
ABTA Abfaltersbach 17.44 301 *e*Pn **P 17 44 53.5 -0.5**
comp=Z,3.8nm,0.9s
PRU Pruhonice 17.44 313 *e*P **P 17 44 53.8 -0.1**
PRU Pruhonice 17.44 313 *e*P **P 17 44 53.8 -0.1**
KHC Kasperske Hory 17.61 310 *e*P **P 17 44 56.6 +0.7**
KHC Kasperske Hory 17.61 310 *e*P **P 17 44 56.6 +0.7**
KHC *ex* x 17 45 13.8
PBCC Pribram 17.61 312 *e*P **P 17 44 56.2 +0.4**
PVCC Panska Ves 17.70 315 *e*P **P 17 44 57.7 +1.0**
PVCC Panska Ves 17.70 315 *e*P **P 17 44 57.7 +1.0**
PVCC *ex* x 17 45 04.4
KLNR Kaliningrad 17.79 332⇓*e*P **P 17 44 57.5 -0.2**
KLNR pmax pmax
comp=Z,209nm,1.4s
GKP Gorka Klasztor 18.01 325 P **Pn 17 44 57.2 -2.5**
GKP pmax pmax
comp=Z,118nm,1.0s
GKP Gorka Klasztor 18.01 325 *e*P **Pn 17 44 57.5 -2.2**
WET Wettzell 18.04 309 P **P 17 45 02.7 +2.2**
WET pmax pmax
comp=Z,40nm,1.1s
WET Wettzell 18.04 309 *e*P **P 17 45 02.9 +2.4**
comp=Z,57nm,1.2s,baz=113,slow=11
WTTA Wattenberg 18.16 302 *e*Pn **P 17 45 03.1 +1.0**
comp=Z,9.4nm,0.9s,SNR=6.0
WTTA Wattenberg 18.16 302 P **P 17 45 05.5 +3.4**
WTTA pmax pmax
comp=Z,22nm,1.1s
BRG Berggiesshubel 18.21 315 *e*P **P 17 45 03.3 +0.9**
BRG Amp 17 45 05.7
comp=Z,50nm,1.3s
BRG Berggiesshubel 18.21 315 *e*P **P 17 45 03.3 +0.9**
BRG pmax pmax
comp=Z,50nm,1.3s
BRG Berggiesshubel 18.21 315 *e*P **P 17 45 03.4 +1.0**
comp=Z,50nm,1.3s,baz=113,slow=11
WATA Walderalm 18.22 303 *e*Pn **P 17 45 04.3 +1.6**
comp=Z,6.2nm,0.8s
PBUR Paburge 18.40 337 *e*P **P 17 45 02.3 -2.1**
SQTA Sankt Quirin 18.43 302 *e*Pn **Pn 17 45 06.0 +1.0**
comp=Z,7.2nm,0.6s
MOTA Moosalm 18.53 302 *e*Pn **Pn 17 45 07.8 +1.5**
comp=Z,15nm,0.9s
FBE Freiberg 18.56 315 *e*P **Pn 17 45 08.0 +1.5**
comp=Z,108nm,1.4s,baz=113,slow=11
RAYN Ar Rayn 18.59 146 P **P 17 45 06.6 -0.2**
RAYN pmax pmax
comp=Z,16nm,0.9s
RAYN Ar Rayn 18.59 146 P **P 17 45 06.8 0.0**
RAYN S **Sn 17 48 31.6 -3.2**
RAYN Ar Rayn 18.59 146 P **P 17 45 06.6 -0.2**
RAYN Ar Rayn 18.59 146 *i* Pn **Pn 17 45 08.0 +0.9**
SNR=16
GEYT Alibeck 18.59 88 P **Pn 17 45 07.5 +0.4**
comp=Z,0.5nm,0.3s,baz=302,slow=8.4,SNR=12
GEYT LR LR 17 53 09.3
comp=Z,489nm,19.2s,baz=300,slow=40
GEYT Alibeck 18.59 88 P **Pn 17 45 07.3 +0.3**
FETA Feichten 18.69 301 *e*Pn **Pn 17 45 09.6 +1.4**
comp=Z,13nm,1.1s
ROTZ Rotzenmuhle 18.69 310 *e*P **Pn 17 45 10.3 +2.2**
comp=Z,6.2nm,1.2s,baz=113,slow=11
NKC Novy Kostel 18.75 312 *e*P **Pn 17 45 10.9 +2.1**
NKC Novy Kostel 18.75 312 *e*P **Pn 17 45 10.9 +2.1**
NKC *e*pP **sP 17 45 18.4 +4.4**
RETA Reutte 18.79 303 *e*Pn **Pn 17 45 10.1 +0.7**
comp=Z,7.5nm,0.6s
WERN Wernitzgruen 18.82 312 *e*P **Pn 17 45 12.2 +2.6**
comp=Z,24nm,1.0s,baz=113,slow=11
TANN Tannenbergstha 18.82 312 *e*P **Pn 17 45 10.9 +1.2**
comp=Z,45nm,1.1s,baz=113,slow=11
GUNZ Gunzen 18.88 312 *e*P **Pn 17 45 11.4 +1.1**
comp=Z,44nm,1.0s,baz=113,slow=11
WERD Werda 18.93 312 *e*P **Pn 17 45 12.1 +1.1**
comp=Z,90nm,1.7s,baz=113,slow=11
CLL Collm 18.95 315 *i* P **Pn 17 45 11.2 +0.1**
CLL *e*S **Sn 17 48 43.0 0.0**
CLL pmax pmax
comp=Z,118nm,1.6s
CLL Collm 18.95 315 *i* P **Pn 17 45 11.2 +0.1**
comp=Z,118nm,1.6s
CLL *i* sP **sP 17 45 16.4 +0.4**
CLL *e*S **Sn 17 48 43.0 0.0**
CLL Collm 18.95 315 *e*P **Pn 17 45 12.1 +1.0**
comp=Z,118nm,1.6s,baz=113,slow=11
PLN Plauen 19.03 312 *e*P **Pn 17 45 13.5 +1.3**
comp=Z,26nm,1.0s,baz=113,slow=11
MSSA Maissana 19.04 292 P **P 17 45 10.4 -1.3**
MSSA IAmb IAmb 17 46 07.7
comp=Z,122nm,1.2s
RUE Ruedersdorf 19.16 319 *e*P **P 17 45 12.7 -0.1**
RUE Ruedersdorf 19.16 319 *e*P **Pn 17 45 13.3 -0.4**
comp=Z,126nm,1.4s,baz=113,slow=11
DAVOX Davos/Dischmat 19.20 300 P **Pn 17 45 14.8 +0.4**
comp=Z,0.9nm,0.3s,baz=106,slow=8.4,SNR=20
DAVOX LR LR 17 52 52.9
comp=Z,476nm,19.8s,baz=96,slow=38
GRA1 Grafenberg Arr 19.25 309 P **P 17 45 14.1 +0.3**
GRF Grafenberg Arr 19.25 309 P **P 17 45 14.1 +0.3**
GRF pmax pmax
comp=Z,33nm,1.1s
GRF Grafenberg Arr 19.25 309 *e*P **Pn 17 45 16.6 +1.8**
comp=Z,91nm,1.9s,baz=113,slow=11
UBR Ueberruh 19.27 303 *e*P **Pn 17 45 15.6 +0.4**
comp=Z,33nm,1.2s,baz=113,slow=11
DAVA Damuels 19.32 301 *e*Pn **Pn 17 45 16.3 +0.4**
comp=Z,11nm,0.6s,SNR=10
MOX Moxa 19.41 312 P **Pn 17 45 17.7 +1.0**
MOX pmax pmax
comp=Z,31nm,1.2s
MOX Moxa 19.41 312 *e*P **Pn 17 45 18.3 +1.6**
comp=Z,38nm,1.3s,baz=113,slow=11
VSU Vasula 19.52 348*c i*P **P 17 45 16.3 -0.4**
VSU pmax pmax
comp=Z,135nm,0.9s
VSU Vasula 19.52 348 *e*P **P 17 45 16.7 0.0**
NEUB Neuenburg 19.57 314 *e*P **Pn 17 45 20.0 +1.3**
comp=Z,93nm,1.4s,baz=113,slow=11
AKTO Aktyubinsk 19.85 49 P **P 17 45 19.8 -0.6**
comp=Z,1.1nm,0.3s,baz=251,slow=9.7,SNR=60
AKTO LR LR 17 55 09.8
comp=Z,197nm,21.4s,baz=248,slow=43
KEST Kesra 20.15 267 P Pn 17 45 25.2 -0.6
comp=Z,103nm,1.1s,baz=24,slow=3.5,SNR=22
KEST LR LR 17 54 52.7
comp=Z,640nm,18.3s,baz=6.0,slow=42
KEST Kesra 20.15 267 P Pn 17 45 24.8 -0.9
STU Stuttgart 20.17 305 P Pn 17 45 25.5 -0.3
STU pmax pmax
comp=Z,109nm,1.2s
STU Stuttgart 20.17 305 *e*P Pn 17 45 26.5 +0.7
comp=Z,326nm,1.7s,baz=113,slow=11
MTSE Matsula 20.30 344 *e*P **P 17 45 25.5 +0.3**
SLE Schleitheim 20.35 302 P Pn 17 45 27.1 -0.8
SLE pmax pmax
comp=Z,34nm,1.4s
PUL Pulkovo 20.37 354⇑*e*P **P 17 45 26.5 +0.6**
PUL pmax pmax
comp=Z,74nm,0.8s
FLTG Flechtingen 20.41 316 *e*P **P 17 45 26.9 +0.5**
comp=Z,66nm,1.1s,baz=113,slow=11
SBF Sospel 20.51 291 *e*P Pn 17 45 31.1 +1.3
SBF pmax pmax
comp=Z,198nm,1.0s
TRNA Turayna 20.51 131 P **P 17 45 27.8 +0.1**
TRNA S **S 17 49 17.4 +0.5**
AB31 Akbulak array 20.59 54 *i* P **P 17 45 27.5 -0.9**
ABKAR Akbulak array 20.59 54 P **P 17 45 27.5 -0.9**
ABKAR Akbulak array 20.59 54 P **P 17 45 27.4 -0.9**
ABKAR IAmb IAmb 17 46 08.7
comp=Z,18nm,0.9s
BFO Black Forest 20.60 304 P Pn 17 45 30.8 0.0
BFO pmax pmax
comp=Z,105nm,1.3s
CLZ Clausthal 20.64 314 *e*P **P 17 45 30.0 +0.9**
baz=113,slow=11
ISO Isola 20.80 292 P Pn 17 45 34.4 +1.1
ISO pmax pmax
comp=Z,70nm,2.8s
SENIN Lac Senin/Sane 20.86 298 P **P 17 45 32.2 +0.5**
SENIN IAmb IAmb 17 45 43.9
comp=Z,106nm,1.5s
MBDF Montbardon 21.04 293 *e*P **P 17 45 37.4 +3.9**
MBDF pmax pmax
comp=Z,105nm,1.1s
FRF La Foret Royal 21.07 290 *e*P **P 17 45 36.9 +3.2**
FRF pmax pmax
comp=Z,41nm,1.0s
TNS Taunus Mts 21.11 309 P **P 17 45 34.8 +0.7**
TNS pmax pmax
comp=Z,39nm,1.2s
TNS Taunus Mts 21.11 309 *e*P **P 17 45 34.7 +0.6**
baz=113,slow=11
LPG La Plagne 21.12 295 *e*P **P 17 45 39.4 +4.8**
LPG pmax pmax
comp=Z,118nm,1.2s
BNI Bardonecchia 21.13 294 P **P 17 45 38.8 +4.3**
BNI pmax pmax
comp=Z,136nm,1.1s
LMR La Mourre 21.16 289 *e*P **P 17 45 38.0 +3.3**
LMR pmax pmax
comp=Z,116nm,1.5s
KIRV Kirov 21.33 22 P **P 17 45 35.5 -0.7**
comp=Z,44nm,1.0s,baz=222,slow=5.7,SNR=15
KIRV LR LR 17 55 06.1
comp=Z,224nm,19.1s,baz=214,slow=40
KIRV Kirov 21.33 22*c i*P **P 17 45 35.1 -1.1**
CMAH Djebel Manchou 21.38 271 P **P 17 45 39.9 +2.8**
ABSA Djebel Ababsia 21.43 270 P **P 17 45 40.1 +2.4**
HINF Hinteralfeld 21.44 302 *e*P **P 17 45 39.1 +1.5**
HINF pmax pmax
comp=Z,63nm,1.6s
KLMR Klimovskoe 21.54 7 *e*P **P 17 45 35.6 -2.9**
KLMR *e*S **S 17 49 33.7 -3.0**
KLMR pmax pmax
comp=Z,104nm,1.2s
KLMR Klimovskoe 21.54 7 *e*P **P 17 45 35.7 -2.8**
KLMR AMP 17 45 39.4
comp=Z,104nm,1.2s
KLMR *e*S **S 17 49 33.8 -3.0**
KLMR *e*S **S 17 49 33.8 -3.0**
KLMR LQ LQ 17 51 40.7
KLMR LQ LQ 17 51 40.7
KLMR LR LR 17 53 01.3
DEL Delary 21.61 328 *i* P **P 17 45 38.0 -1.3**
ORIF Oris-en-Rattie 21.68 294 *e*P **P 17 45 44.0 +3.6**
ORIF pmax pmax
comp=Z,73nm,1.6s
BSEG Bad Segeberg 21.70 319 P **P 17 45 43.7 +3.4**
BSEG pmax pmax
comp=Z,34nm,1.0s
HAU Haudompre 21.81 302 *e*P **P 17 45 44.4 +2.8**
HAU pmax pmax
comp=Z,25nm,1.0s
CKFL Kef-Lekhel 21.98 270 P **P 17 45 45.3 +1.7**
BUG Bochum--Univer 22.24 311 P **P 17 45 47.3 +1.2**
BUG pmax pmax
comp=Z,24nm,1.1s
WLF Walferdange 22.34 306 P **P 17 45 49.6 +2.4**
WLF *x* x 17 45 58.2
FINES FINESS Array B 22.47 350 P **P 17 45 49.0 +0.5**
comp=Z,7.6nm,0.8s,baz=155,slow=9.9,SNR=23
FINES S **S 17 49 52.4 -2.3**
comp=Z,7.5nm,0.9s,baz=164,slow=21,SNR=4.7

FINES LR LR 17 54 17.3
comp=Z,257nm,19.3s,baz=161,slow=36
FINES FINESS Array B 22.47 350 P **P 17 45 49.0 +0.5**
FINES FINESS Array B 22.47 350 P **P 17 45 48.5 0.0**
FIA1 FINESS Array S 22.48 350 P **P 17 45 48.5 -0.1**
DFRA Djebel Bou Aff 22.59 271 P **P 17 45 52.7 +2.5**
BTNL Ternell 22.63 308 x P 17 45 57.8 +7.4
BHOU Houvegnez 22.63 308 P **P 17 45 49.5 -0.9**
SSB Saint Sauveur 22.66 294 P **P 17 45 51.3 +0.6**
SSB pmax pmax
comp=Z,46nm,2.7s
SHME Shamm 22.67 120 P **P 17 45 49.7 -1.2**
SHME Shamm 22.67 120 P **P 17 45 49.7 -1.2**
MEM Membach 22.71 308 x P 17 45 59.0 +7.8
MZWR Madinat Zayed 22.83 128 P **P 17 45 52.8 +0.1**
MZWR S **S 17 50 02.3 +0.5**
BANOM Banah 22.86 120 *i* P **P 17 45 52.3 -0.7**
SNR=10
AJN Ajban 22.94 125 P **P 17 45 54.6 +0.8**
BEBN Eben Emael 22.97 309 x P 17 46 01.5 +7.7
BSTI Sart Tilman 22.97 308 PP **PnPn 17 46 17.4 -1.1**
RCHB Rochefort 23.05 307 P **P 17 45 56.1 +1.4**
RCHB PP sP 17 46 17.2 +17
NAZ Nazwa, Dubai 23.07 123 P **P 17 45 55.6 +0.4**
SNR=7.2
NAZ Nazwa, Dubai 23.07 123 *i* P **P 17 45 55.0 -0.2**
SNR=7.3
BCLA Clavier 23.08 308 P **P 17 45 56.2 +1.2**
BCLA PP sP 17 46 15.8 +15
ASUD Al Ashush, Dub 23.11 124 P **P 17 45 55.6 0.0**
PRGR Permogore 23.14 14 *eP* **P 17 45 54.1 -1.4**
PRGR *eS* **S 17 49 59.8 -6.7**
PRGR pmax pmax
comp=Z,89nm,1.1s
MSFE Esma-Masafi 23.14 121 *i* P **P 17 45 55.5 -0.5**
SNR=7.9
ARU Arti 23.18 35 P **P 17 45 55.8 -0.1**
comp=Z,8.2nm,0.7s,baz=224,slow=8.3,SNR=41
ARU LR LR 17 57 58.7
comp=Z,220nm,19.1s,baz=219,slow=44
ARU Arti 23.18 35 *d iP* **P 17 45 55.3 -0.7**
ARU S **S 17 50 09.8 +2.6**
ARU SS **SnSn 17 50 41.3 +0.8**
ARU pmax pmax
comp=Z,71nm,1.1s
ARU Arti 23.18 35 P **P 17 45 55.3 -0.7**
BGES Gesves 23.20 307 P **P 17 45 58.1 +1.8**
LOR Lormes 23.34 299 P **P 17 45 58.6 +0.9**
LOR pmax pmax
comp=Z,22nm,0.9s
BMRD Maredsous 23.38 307 P **P 17 45 57.9 -0.2**
DOU Dourbes 23.43 306 P **P 17 45 59.0 +0.5**
DOU PP sP 17 46 21.9 +18
UOSS Minazif 23.46 122 P **P 17 45 58.7 -0.4**
UOSS S **S 17 50 12.5 +0.2**
UOSS Minazif 23.46 122 P **P 17 45 58.0 -1.1**
UOSS IAmb IAmb 17 46 11.7
comp=Z,72nm,1.4s
UOSS Minazif 23.46 122 *i* P **P 17 45 58.0 -1.1**
SNR=7.8
HATD Hatta, Dubai 23.49 122 P **P 17 45 59.1 -0.3**
SNR=8.4
HATD S **S 17 50 10.8 -2.1**
HATD Hatta, Dubai 23.49 122 *i* P **P 17 45 58.7 -0.7**
SNR=18
ASHO Ashiyiah 23.54 123 P **P 17 45 59.5 -0.4**
SNR=12
ASHO Ashiyiah 23.54 123 *i* P **P 17 45 58.6 -1.3**
SNR=8.0
SSF Saint Saulge 23.55 299 *eP* **P 17 46 02.1 +2.3**
SSF pmax pmax
comp=Z,25nm,1.1s
AVF Avril sur Loir 23.62 298 *eP* **P 17 46 02.7 +2.2**
AVF pmax pmax
comp=Z,26nm,0.9s
SNF Seneffe 23.73 307 x P 17 46 10.8 +9.3
ALNE Al Ain 23.79 124 P **P 17 46 02.8 +0.5**
SNR=9.2
ALNE Al Ain 23.79 124 *i* P **P 17 46 02.1 -0.2**
SNR=8.0
SOHO SOHO 24.24 123 *i* P **P 17 46 06.1 -0.4**
SNR=22
HFS Hagfors 24.31 335 P **P 17 46 07.3 +0.5**
comp=Z,6.2nm,0.7s,baz=138,slow=7.2,SNR=8.2
HFS S **S 17 50 28.4 +3.1**
comp=Z,6.0nm,0.8s,baz=131,slow=22,SNR=1.6
SVE Sverdlovsk 24.34 36 *deP* **P 17 46 07.2 0.0**
SVE *eS* **S 17 50 29.8 +3.8**
SVE pmax pmax
comp=Z,47nm,1.1s
TCF Toulx Ste Croi 24.36 297 *eP* **P 17 46 10.8 +3.3**
TCF pmax pmax
comp=Z,26nm,1.2s
ARQ Araqi 24.79 124 P **P 17 46 11.7 +0.1**
SNR=9.9
HOQ Hoqain 25.13 123 P **P 17 46 15.0 +0.4**
SNR=15
HOQ P **P 17 46 15.0 +0.4**
SNR=15
BIDO Bidbid 25.71 121 P **P 17 46 19.6 -0.2**
SNR=9.6
NB2 NORSAR Subarra 25.81 334 P **P 17 46 22.9 +2.4**
comp=Z,26nm,1.2s,baz=136,slow=9.3
NOA NORSAR Array B 25.81 334 P **P 17 46 20.7 +0.3**
comp=Z,1.4nm,0.7s,baz=129,slow=9.7,SNR=5.0
SMDO Samad 25.98 122 P **P 17 46 20.8 -1.6**
SNR=20
SMDO P **P 17 46 20.8 -1.6**
SNR=20
LDF La Druitiere 26.16 302 *eP* **P 17 46 22.9 -0.9**
LDF pmax pmax
comp=Z,10.0nm,0.7s
WSAR Wadi Sarin 26.23 121 P **P 17 46 25.1 +0.5**
comp=Z,10nm,0.6s,baz=318,slow=8.3,SNR=18
WSAR Wadi Sarin 26.23 121 P **P 17 46 26.7 +2.1**
SNR=8.9
FLN La Foliniere 26.42 302 *eP* **P 17 46 27.7 +1.6**
FLN pmax pmax
comp=Z,75nm,1.6s
JMDO Jabal Madar 26.50 123 P **P 17 46 26.6 -0.5**
SNR=11
GRR Gorron 26.63 301 *eP* **P 17 46 27.3 -0.7**
GRR pmax pmax
comp=Z,29nm,0.9s
BRLS Boroldoy 26.75 71 *eP* **P 17 46 28.9 -0.2**
BRLS Boroldoy 26.75 71 *eP* **P 17 46 28.9 -0.2**
baz=72
WBK Wadi Bani Khal 26.89 122 P **P 17 46 30.8 +0.2**
SNR=7.8
WBK P **P 17 46 30.8 +0.2**
SNR=7.8
IUG Iuzhnay 26.98 73 *eP* **P 17 46 32.1 +0.8**
IUG Iuzhnay 26.98 73 *eP* **P 17 46 32.2 +0.9**
baz=73
DOK Doka 26.99 135 P **P 17 46 31.3 -0.2**
DOK S **S 17 51 06.3 -2.4**
KKAR Karatay Array 27.23 71 P **P 17 46 33.6 +0.1**
KKAR Karatay Array 27.23 71 P **P 17 46 33.6 +0.1**
BRVK Borovoye 27.90 49 *c iP* **P 17 46 39.2 -0.2**
BRVK pmax pmax
comp=Z,17nm,1.7s
BRVK Borovoye 27.90 49 P **P 17 46 40.3 +0.9**
BRVK IAmb IAmb 17 47 15.0
comp=Z,13nm,0.9s
BVAR Borovoye Array 27.96 49 P **P 17 46 40.8 +0.9**
comp=Z,5.2nm,0.9s,baz=236,slow=6.9,SNR=22
APA Apatity 28.04 359 ⇓ *iP* P 17 46 49.6 +9.2
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,600nm,11.0s
DMTO DMTO 28.18 135 P **P 17 46 41.5 -0.5**
BRZS Berezniki 28.82 56 *eP* **P 17 46 47.7 +0.1**
BRZS Berezniki 28.82 56 *eP* **P 17 46 47.7 +0.1**
baz=56
ATD Arta Tunnel 28.94 163 LR LR 17 57 43.2
comp=Z,390nm,18.6s,baz=344,slow=35
ESDC Sonseca Array 29.37 283 P **P 17 46 51.2 -1.4**
comp=Z,3.5nm,0.9s,baz=67,slow=8.9,SNR=8.4
ESDC LR LR 17 58 33.0
comp=Z,136nm,20.8s,baz=104,slow=36
EKA Eskdalemuir Ar 29.41 315 P **P 17 46 54.1 +1.4**
comp=Z,1.6nm,0.7s,baz=105,slow=9.6,SNR=4.0
BTLS Baital 29.63 66 *eP* **P 17 46 55.0 +0.2**
BTLS Baital 29.63 66 *eP* **P 17 46 55.0 +0.2**
baz=66
AML Almayashu 29.68 72 P P 17 47 00.9 +5.2
AAK Ala-Archa 30.20 71 LR LR 18 01 00.2
comp=Z,314nm,20.9s,baz=275,slow=40
AAK Ala-Archa 30.20 71 ⇓ *eP* **P 17 47 02.5 +2.4**
AAK pmax pmax
comp=Z,27nm,2.5s
ARCES ARCESS Array B 30.38 354 P **P 17 47 01.3 +0.1**
comp=Z,2.8nm,0.6s,baz=170,slow=9.7,SNR=22
ARCES LR LR 18 00 38.3
comp=Z,278nm,18.0s,baz=134,slow=39
ARCES ARCESS Array B 30.38 354 P **P 17 47 01.4 +0.2**
ARCES pmax pmax
comp=Z,81nm,1.9s
ARCES ARCESS Array B 30.38 354 P **P 17 47 01.4 +0.2**
KST Kastek 31.21 70 *eP* **P 17 47 09.2 +0.2**
baz=70
BOOM Boomskoye usch 31.27 71 IAmb IAmb 17 47 52.4
comp=Z,6.5nm,0.9s
KUU Kurty 31.37 68 *eP* **P 17 47 11.1 +0.9**
KUU Kurty 31.37 68 *eP* **P 17 47 11.1 +0.9**
baz=68
KSH Kashi 31.88 77 P **P 17 47 16.8 +1.9**
KSH sP sP 17 47 25.6 +5.0
KSH S **S 17 52 27.3 +1.8**
KSH pmax pmax
comp=Z,3.0nm,1.0s
KSH pmax pmax
comp=Z,140nm,5.3s
KSH LR LR
comp=Z,160nm,5.3s
KSH LR LR
comp=Z,290nm,7.4s
KSH LR LR
comp=Z,240nm,5.7s
MDT Midelt 31.98 270 LR LR 18 03 15.5
comp=Z,134nm,19.2s,baz=90,slow=42
MDOK Medeo 31.98 70 *eP* **P 17 47 15.9 +0.2**
MDOK Medeo 31.98 70 *eP* **P 17 47 15.9 +0.2**
baz=70
KURBB Kurchatov Arra 32.61 55 P **P 17 47 21.4 +0.4**
comp=Z,12nm,0.8s,baz=275,slow=9.0,SNR=50
KURK Kurchatov 32.67 55 *d iP* **P 17 47 22.1 +0.6**
KURK pmax pmax
comp=Z,16nm,1.0s
KURK Kurchatov 32.67 55 P **P 17 47 21.6 +0.1**
KURK IAmb IAmb 17 47 34.5
comp=Z,13nm,0.9s
TDK Taldyqorghan 32.72 66 *eP* **P 17 47 22.8 +0.8**
TDK Taldyqorghan 32.72 66 *eP* **P 17 47 22.9 +0.8**
baz=66
SATY Saty 32.98 69 *eP* **P 17 47 25.6 +1.1**
SATY Saty 32.98 69 *eP* **P 17 47 25.6 +1.1**
baz=70
ZHN Zhinishke 32.98 69 *eP* **P 17 47 24.9 +0.4**
ZHN Zhinishke 32.98 69 *eP* **P 17 47 25.0 +0.4**
baz=69
SEM Semipalatinsk 33.70 56 *eP* **P 17 47 30.3 -0.5**
SEM Semipalatinsk 33.70 56 *eP* **P 17 47 30.3 -0.5**
baz=56
MK31 Makanchi Array 35.22 62 P **P 17 47 43.8 0.0**
MK31 pmax pmax
comp=Z,6.0nm,1.2s
MK31 Makanchi Array 35.22 62 P **P 17 47 43.8 0.0**
MKAR Makanchi Array 35.22 62 P **P 17 47 43.8 -0.1**
comp=Z,1.6nm,0.6s,baz=270,slow=8.6,SNR=12
MKAR LR LR 18 05 47.5
comp=Z,214nm,18.2s,baz=268,slow=43
ZAA0 Zalesovo Array 36.61 50 P **P 17 47 54.7 -0.8**
ZAA0 IAmb IAmb 17 48 00.0
comp=Z,7.4nm,0.7s
ZALV Zalesovo Beam 36.61 50 P **P 17 47 55.5 0.0**
comp=Z,6.4nm,0.6s,baz=268,slow=9.4,SNR=17
ZALV LR LR 18 05 22.1
comp=Z,287nm,19.1s,baz=292,slow=40
ZALV Zalesovo Beam 36.61 50 P **P 17 47 55.2 -0.3**
ZSN Zaisan 36.90 61 *eP* **P 17 47 57.9 -0.2**
ZSN Zaisan 36.90 61 *eP* **P 17 47 57.1 -1.0**
baz=61
JMIC Jan Mayen 38.26 339 LR LR 18 06 10.8
comp=Z,103nm,18.1s,baz=58,slow=40
DGZ Jazzator, Alta 38.36 57 ⇓ *eP* **P 17 48 11.1 +0.5**
DGZ pmax pmax
comp=Z,12nm,1.6s
TORD Torodi Ar. Bea 39.00 237 P **P 17 48 15.7 -0.4**
comp=Z,12nm,0.8s,baz=32,slow=8.6,SNR=71
TORD PcP **PcP 17 50 26.6 +0.3**
comp=Z,2.1nm,1.0s,baz=40,slow=5.5,SNR=2.0
SPITS Spitsbergen Ar 39.41 354 P **P 17 48 20.2 +1.3**
comp=Z,9.2nm,0.7s,baz=140,slow=12,SNR=8.2
WMQ Urumqi 39.47 66 *eP* **P 17 48 20.2 +0.3**
WMQ pP sP 17 48 25.3 -0.4
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ pmax pmax
comp=Z,120nm,4.9s
WMQ LR LR
comp=Z,550nm,15.3s
WMQ LR LR
comp=Z,530nm,16.3s
WMQ LR LR
comp=Z,380nm,17.7s
MBAR Mbarara 40.13 186 LR LR 18 05 01.3
comp=Z,301nm,19.8s,baz=353,slow=36
BORG Borgarnes 40.52 327 LR LR 18 07 25.5
comp=Z,193nm,18.4s,baz=114,slow=39
KMBO Kilima Mbogo 40.60 176 P **P 17 48 29.3 -0.4**
comp=Z,1.0nm,0.7s,baz=10,slow=9.8,SNR=4.6
NRIK Noril'sk 40.74 26 P **P 17 48 30.0 0.0**
comp=Z,7.0nm,0.7s,baz=253,slow=3.8,SNR=13
NRIK LR LR 18 07 06.1
comp=Z,157nm,21.0s,baz=230,slow=39
NRIK Noril'sk 40.74 26 *c iP* **P 17 48 31.2 +1.2**
NRIK pmax pmax
comp=Z,19nm,1.1s
PYUN Piuthan 41.53 91 *eP* **P 17 48 37.5 +0.2**
comp=Z,20nm,0.8s
DANN Dangsing 42.01 90 *eP* **P 17 48 41.5 +0.2**
comp=Z,34nm,0.7s
KOLN Koldanda 42.16 91 *eP* **P 17 48 42.4 0.0**
comp=Z,40nm,1.0s
GKN Gorkha 42.85 90 *eP* **P 17 48 48.0 0.0**
comp=Z,10nm,0.3s
SRSP Sriramsagar 43.03 106 *eP* **P 17 48 50.0 +0.7**
DMN Daman 43.41 90 *eP* **P 17 48 52.5 -0.1**
comp=Z,22nm,0.8s
KKN Kakani 43.45 90 *eP* **P 17 48 53.5 +0.6**
comp=Z,15nm,0.7s
DAG Danmarks Havn 43.56 345 *i P* **P 17 48 53.8 +0.9**
DAG IAmb IAmb 17 48 57.5
comp=Z,3.6nm,0.7s
PKIN Phulchoki 43.65 90 *eP* **P 17 48 54.7 +0.2**
comp=Z,7.9nm,0.6s
PKI Pulchoki 43.66 90 *eP* **P 17 48 54.9 +0.2**
RPR Rampur 43.78 105 *eP* **P 17 48 56.6 +1.2**
GUN Gumba 43.86 89 *eP* **P 17 48 56.4 +0.1**
comp=Z,5.4nm,0.4s
HYBB Hyderabad (bro 44.12 107 *eP* **P 17 48 59.0 +0.8**
CUPL Choutuppal 44.48 107 *eP* **P 17 49 00.1 -0.9**
SRLM Srisailam 45.21 108 *eP* **P 17 49 08.1 +1.2**
NJS Nagarjunasagar 45.23 107 *eP* **P 17 49 08.0 +1.0**
NOR Nord 45.64 351 *i P* **P 17 49 09.5 +0.1**
NOR IAmb IAmb 17 49 13.4
comp=Z,3.6nm,0.7s
RCLA Racherla 45.67 109 *eP* **P 17 49 11.4 +0.9**
MYLAV Mylavaram 46.09 106 *eP* **P 17 49 14.7 +1.0**
ADKI Addanki 46.17 108 *eP* **P 17 49 14.7 +0.3**
MOY Mondy 46.57 52 *eP* **P 17 49 18.1 +0.8**
MOY pmax pmax
comp=Z,20nm,2.1s
GOMU GeErMu 47.05 74 P **P 17 49 24.8 +3.3**
GOMU pP sP 17 49 27.7 +0.3
GOMU PcP **PcP 17 50 54.6 +1.0**
GOMU pmax pmax
comp=Z,79nm,4.9s
CHLP Challavanipeta 47.58 101 *eP* **P 17 49 26.7 +1.3**
SUMG Summit 47.62 337 *i P* **P 17 49 27.4 +1.8**
SUMG IAmb IAmb 17 49 41.9
comp=Z,1.9nm,0.5s
ROSA Rosais 47.66 290 P **P 17 49 25.3 -0.5**
ICESG Greenland Ices 48.03 332 *eP* P 17 49 20.4 -8.2
ICESG IAmb IAmb 17 49 42.6
comp=Z,5.4nm,0.7s
DBIC Dimbokro 48.09 238 P **P 17 49 28.2 -1.1**
comp=Z,5.1nm,0.8s,baz=44,slow=7.5,SNR=7.0
DBIC Dimbokro 48.09 238 P **P 17 49 27.9 -1.5**
TIC Toumodi 48.22 238 *eP* **P 17 49 29.6 -0.8**
KIC Kosan Boka 48.25 237 *eP* **P 17 49 29.7 -0.9**
comp=Z,10nm,0.7s
ZAK Zakamensk 48.28 53 *eP* **P 17 49 30.8 +0.2**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
LIC Lamto 48.54 237 *eP* **P 17 49 31.9 -0.9**
comp=Z,95nm,1.7s
GTA Gaotai 49.46 68 *eP* **P 17 49 42.1 +2.3**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.1s
GTA LR LR
comp=Z,310nm,19.6s
GTA LR LR
comp=Z,190nm,15.6s
GTA LR LR
comp=Z,300nm,16.7s
SHL Shillong 49.67 88 P **P 17 49 46.0 +4.3**
SNR=5.1
DY2G Dye2 50.81 329 *i* P **P 17 49 49.7 -0.1**
DY2G IAmb IAmb 17 49 53.8
comp=Z,6.7nm,0.8s
SONM Songino Array 50.98 56 P **P 17 49 51.2 -0.1**
comp=Z,2.6nm,1.0s,baz=282,slow=7.7,SNR=11
SONM LR LR 18 14 40.2
comp=Z,198nm,20.1s,baz=302,slow=40
SONM Songino Array 50.98 56 P **P 17 49 52.6 +1.3**
SONM pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 50.98 56 P **P 17 49 52.6 +1.3**
ULN Ulaanbaatar 51.39 55 ⇓ *eP* **P 17 49 55.0 +0.6**
ULN pmax pmax
comp=Z,7.0nm,1.0s
BOD Bodaibo 52.38 42 *eP* **P 17 49 59.2 -2.1**
BOD pmax pmax
comp=Z,15nm,1.4s
SFJD Kangerlussuaq 52.40 330 LR LR 18 13 32.2
comp=Z,185nm,18.6s,baz=78,slow=38
PALK Pallekele 52.48 115 LR LR 18 13 58.8
comp=Z,169nm,19.8s,baz=67,slow=38
LZH Lanzhou 53.73 70 *eP* **P 17 50 14.0 +2.1**
LZH pP sP 17 50 17.2 -0.5
LZH sP pP 17 50 18.9 +2.8
LZH pmax pmax
comp=Z,8.0nm,1.1s
LZH LR LR
comp=Z,390nm,13.8s
LZH LR LR
comp=Z,220nm,14.9s
LZH LR LR
comp=Z,230nm,19.5s
TIXI Tiksi 54.35 23 ⇓ *iP* **P 17 50 16.2 +0.5**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TULEG Thule 54.85 344 *i* P **P 17 50 20.6 +1.4**
TULEG IAmb IAmb 17 50 23.3
comp=Z,3.3nm,0.7s
LSZ Lusaka 54.88 187 LR LR 18 14 30.8
comp=Z,204nm,19.3s,baz=14,slow=37
PZH PanZhiHua 56.77 81 P **P 17 50 34.5 +0.6**
PZH S **S 17 58 23.4 -3.4**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,150nm,5.1s
PZH LR LR
comp=Z,570nm,20.5s
PZH LR LR
comp=Z,380nm,19.1s
PZH LR LR
comp=Z,380nm,22.1s
HHC Hu-ho-hao-te 57.09 62 *eP* **P 17 50 35.9 0.0**
HHC S **S 17 58 29.6 -1.0**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.8s
HHC LR LR
comp=Z,180nm,12.7s
HHC LR LR
comp=Z,140nm,12.1s
HHC LR LR
comp=Z,260nm,14.9s
YAK Yakutsk 58.27 33 LR LR 18 19 31.8
comp=Z,126nm,18.8s,baz=268,slow=40
YAK Yakutsk 58.27 33 ⇓ *eP* **P 17 50 43.4 -0.3**
YAK pmax pmax
comp=Z,11nm,0.7s
YAK Yakutsk 58.27 33 P **P 17 50 43.5 -0.3**
YAK IAmb IAmb 17 50 47.9
comp=Z,11nm,0.7s
XAN Xi'an 58.37 70 P **P 17 50 48.9 +3.9**
XAN pmax pmax
comp=Z,7.0nm,1.0s
XLT XiLinHaoTe 58.74 57 *eP* **P 17 50 44.6 -2.8**
XLT pP pP 17 50 48.6 -3.1
XLT pmax pmax
comp=Z,4.0nm,0.7s
XLT pmax pmax
comp=Z,190nm,4.9s
XLT LR LR
comp=Z,420nm,17.3s
XLT LR LR
comp=Z,280nm,15.3s
XLT LR LR
comp=Z,380nm,13.8s
CHTO Chiang Mai 58.83 91 P **P 17 50 52.2 +3.9**
CMAR Chiang Mai Arr 59.03 91 P **P 17 50 49.0 -0.7**
comp=Z,1.9nm,0.8s,baz=300,slow=8.1,SNR=14
CMAR LR LR 18 20 22.2
comp=Z,114nm,19.3s,baz=295,slow=40
CMAR Chiang Mai Arr 59.03 91 P **P 17 50 48.7 -1.0**
FRB Frobisher Bay 60.55 330 LR LR 18 17 56.4
comp=Z,89nm,18.2s,baz=22,slow=37
HNS HongShan 60.85 64 ⇑ P **P 17 51 05.8 +3.8**
HNS pmax pmax
comp=Z,10.0nm,1.0s
RES Resolute Bay 61.19 346 LR LR 18 18 21.7
comp=Z,150nm,19.0s,baz=94,slow=37
TIA Tai'an 63.13 64 *eP* **P 17 51 20.0 +2.7**
TIA pmax pmax
comp=Z,13nm,1.1s
SCHQ Schefferville 64.48 321 P **P 17 51 26.3 +0.4**
comp=Z,3.8nm,1.0s,baz=71,slow=10.0,SNR=2.9
SCHQ LR LR 18 20 01.6
comp=Z,98nm,19.3s,baz=92,slow=36
CN2 Changchun 64.72 53 *eP* **P 17 51 30.8 +3.2**
CN2 *eS* **S 18 00 10.3 +2.7**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,24.0s
LBTB Lobatse 64.78 189 LR LR 18 19 57.6
comp=Z,209nm,19.8s,baz=10.0,slow=36
KLR Kul'dur 65.54 46 P **P 17 51 33.2 +0.4**
comp=Z,6.0nm,0.9s,baz=295,slow=8.8,SNR=6.2
KLR LR LR 18 23 52.7
comp=Z,175nm,18.2s,baz=295,slow=40
KLR Kul'dur 65.54 46 ⇓ *eP* **P 17 51 33.2 +0.4**
KLR pmax pmax
comp=Z,9.0nm,1.1s
NJ2 Nanjing 66.54 67 *eP* **P 17 51 38.9 -0.6**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
BILL Bilibino 66.80 18 *eP* **P 17 51 41.9 +1.2**
BILL *e* 17 52 07.6
BILL *e* 17 54 06.9
BILL *e*PPP PPP 17 55 42.5
BILL pmax pmax
comp=Z,13nm,1.6s
BILL MLR MLR
comp=Z,79nm,18.0s
A36M Sachs Harbour 67.80 353 P **P 17 51 47.8 +0.9**
A36M IAmb IAmb 17 51 52.7
comp=Z,9.5nm,0.8s
MA2 Magadan 68.20 29 ⇑ *eP* **P 17 51 50.1 +0.5**
MA2 pmax pmax
comp=Z,10.0nm,1.2s
BOSA Boshof 68.38 189 P **P 17 51 50.8 -0.3**
comp=Z,4.3nm,0.7s,baz=2.0,slow=5.6,SNR=8.3

BOSA LR LR 18 22 48.7
comp=Z,151nm,20.2s,baz=12,slow=37
BOSA Boshof 68.38 189 P P 17 51 50.4 -0.7
BOSA IAmb IAmb 17 52 04.5
comp=Z,8.3nm,0.9s
USRK Ussuriysk Ar. 68.46 50 P P 17 51 51.5 0.0
comp=Z,6.7nm,0.8s,baz=333,slow=12,SNR=8.1
USRK LR LR 18 28 16.5
comp=Z,75nm,18.3s,baz=293,slow=42
PSI Prapat 68.76 105 LR LR 18 23 50.5
comp=Z,129nm,20.0s,baz=298,slow=38
VLA Vladivostok 69.01 51 *deP* **P 17 51 54.0 -1.0**
VLA pmax pmax
comp=Z,62nm,1.0s
KSRS Korea Array 69.75 58 P P 17 51 59.0 -0.6
comp=Z,7.6nm,1.0s,baz=309,slow=6.1,SNR=8.1
KSRS LR LR 18 25 41.0
comp=Z,248nm,18.7s,baz=300,slow=39
INK Inuvik 72.05 355 P P 17 52 13.8 +0.8
comp=Z,1.7nm,1.0s,baz=360,slow=3.8,SNR=3.2
INK LR LR 18 27 54.0
comp=Z,59nm,19.2s,baz=354,slow=39
INK Inuvik 72.05 355 IAmb IAmb 17 52 38.0
comp=Z,9.7nm,1.4s
SUR Sutherland 72.70 192 LR LR 18 25 14.9
comp=Z,216nm,20.0s,baz=8.0,slow=37
YSS Yuzh-Sakhalins 72.82 43 *eP* **P 17 52 16.6 -1.4**
YSS pmax pmax
comp=Z,20nm,1.1s
JNU Nakatsue 74.24 60 LR LR 18 29 23.4
comp=Z,202nm,20.1s,baz=290,slow=39
ASAJ Asahikawa 74.57 45 LR LR 18 32 38.6
comp=Z,105nm,19.7s,baz=327,slow=42
YKA Yellowknife Ar 75.25 346 P P 17 52 32.3 +0.4
comp=Z,2.9nm,0.8s,baz=28,slow=5.3,SNR=17
YKA LR LR 18 25 25.2
comp=Z,111nm,20.7s,baz=324,slow=36
PETK Petropavlovsk- 75.50 31 LR LR 18 33 17.1
comp=Z,67nm,18.5s,baz=306,slow=42
ILAR Eielson Array 75.98 1 P P 17 52 37.2 +1.1
comp=Z,0.6nm,1.0s,baz=350,slow=4.6,SNR=3.0
ILAR LR LR 18 28 21.9
comp=Z,47nm,19.6s,baz=64,slow=38
JOW Kunigami 76.24 67 LR LR 18 30 19.5
comp=Z,51nm,18.7s,baz=1.0,slow=39
MAT Matsushiro 76.86 53 P P 17 52 41.1 -0.6
MJAR Matsushiro Arr 76.86 53 P P 17 52 42.2 +0.5
comp=Z,5.2nm,1.0s,baz=331,slow=9.7,SNR=2.3
MJAR LR LR 18 29 21.3
comp=Z,84nm,19.6s,baz=324,slow=38
SADO Sadowa 76.94 318 LR LR 18 27 26.4
comp=Z,119nm,18.8s,baz=32,slow=36
ULM Lac du Bonnet 80.44 330 P P 17 53 00.5 -0.5
comp=Z,4.9nm,0.8s,baz=39,slow=4.6,SNR=5.9
ULM LR LR 18 29 16.1
comp=Z,122nm,18.6s,baz=36,slow=36
LEM Lembang 81.60 106 LR LR 18 32 28.2
comp=Z,156nm,18.6s,baz=315,slow=38
SHEM Shemya Is, Ala 81.65 23 LR LR 18 34 45.5
comp=Z,50nm,18.2s,baz=310,slow=40
KDAK Kodiak Island 82.82 4 LR LR 18 36 16.5
comp=Z,49nm,18.5s,baz=46,slow=40
EDM Edmonton 83.44 341 P P 17 53 16.4 -0.5
EDM pmax pmax
comp=Z,8.0nm,0.9s
EDM Edmonton 83.44 341 P P 17 53 16.4 -0.5
EDM IAmb IAmb 17 53 22.1
comp=Z,7.9nm,0.9s
TKL Tuckaleechee C 85.89 314 LR LR 18 32 12.4
comp=Z,56nm,18.8s,baz=74,slow=36
BBB Bella Bella 87.34 349 LR LR 18 33 47.0
comp=Z,65nm,18.8s,baz=334,slow=36
NEW Newport 88.94 341 LR LR 18 34 17.1
comp=Z,73nm,18.2s,baz=25,slow=36
PDAR Pinedale Array 91.75 334 LR LR 18 36 12.4
comp=Z,78nm,20.6s,baz=26,slow=36
BDFB Brasília 94.08 253 P P 17 54 07.8 -0.6
comp=Z,2.5nm,0.7s,baz=303,slow=3.1,SNR=4.3
ELK Elko 95.38 337 LR LR 18 39 23.3
comp=Z,149nm,18.3s,baz=29,slow=37
SDV Santo Domingo 95.75 286 LR LR 18 34 32.8
comp=Z,65nm,18.9s,baz=52,slow=34
BATI Baumata 95.88 98 LR LR 18 46 08.4
comp=Z,336nm,18.2s,baz=268,slow=41
SIJI Sorong 95.88 86 LR LR 18 42 47.2
comp=Z,38nm,21.3s,baz=120,slow=39
YBH Yreka Blue Hor 96.42 343 LR LR 18 40 30.6
comp=Z,72nm,19.0s,baz=6.0,slow=37
ANMO Albuquerque 97.48 328 LR LR 18 40 27.3
comp=Z,89nm,18.8s,baz=44,slow=37
NVAR Mina Array Bea 98.41 339 P Pdif 17 54 28.4 +0.3
comp=Z,0.3nm,0.7s,baz=10,slow=5.5,SNR=1.9
NVAR LR LR 18 41 13.6
comp=Z,101nm,18.4s,baz=51,slow=37

*ISK **10** 17:45:19.7,39°.59N×34°.37E,h9km,ML2.5/5*
*DDA **10** 17:45:19.0±0.0,39°.60N×34°.35E,h15km,ML2.4*
ISC 10 17:45:19.4±0.9,39°.59N±0°.03×34°.38E±0°.03,h13km±6km, n15,σ0°56/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.03**	**348**	P	**Pg**	**17 45 21.8**	**-0.1**
CDAG				S	**Sg**	**17 45 23.9**	**+0.1**
CDAG				*i* AML	AML	17 45 24.0	
	comp=E,2μm,0.3s						
CDAG				*i* AML	AML	17 45 24.0	
	comp=N,1μm,0.5s						
DELI	**KIRIKKALE**	**0.54**	**319**	P	**Pb**	**17 45 30.5**	**-0.2**
DELI				S	**Sg**	**17 45 36.9**	**-0.2**
KOZK	**Kozakli-Nevseh**	**0.54**	**135**	PG	**Pb**	**17 45 30.8**	**+0.1**
KOZK				SG	**Sb**	**17 45 38.9**	**+0.5**
KAMT	**Kaman**	**0.56**	**247**	PG	**Pb**	**17 45 31.3**	**+0.2**
KAMT				SG	**Sb**	**17 45 38.5**	**-0.6**
KIRS	**Kirsehir-Merke**	**0.58**	**218**	P	**Pg**	**17 45 30.6**	**-0.2**
BRTR	**Keskin Array B**	**0.59**	**283**	PG	**Pb**	**17 45 31.4**	**-0.2**
CORM	**Corum**	**0.61**	**18**	PG	**Pb**	**17 45 32.4**	**+0.3**
CORM				SG	**Sb**	**17 45 41.3**	**+0.6**
YOZ	**Yozgat**	**0.73**	**86**	PG	**Pb**	**17 45 34.4**	**+0.4**
YOZ				SG	**Sb**	**17 45 44.2**	**+0.3**
COAL	**Corum-Alaca**	**0.81**	**35**	P	**Pg**	**17 45 34.8**	**-0.3**
AVNS	**Nevsehir-Avano**	**0.87**	**155**	P	**Pg**	**17 45 35.8**	**-0.4**
AVNS				S	**Sb**	**17 45 48.7**	**+0.9**
AVNS				*i* AML	AML	17 45 52.0	
	comp=E,106nm,0.6s						
SERE	**Sereflikochisa**	**0.91**	**225**	PG	**Pn**	**17 45 37.8**	**-0.1**
SERE				SG	**Sn**	**17 45 50.1**	**-0.7**
HACI	**Hacifakili, Ak**	**1.05**	**84**	P	**Pb**	**17 45 37.9**	**-1.5**
HACI				*i* AML	AML	17 45 48.0	
	comp=N,100nm,2.0s						
HACI				S	**Sg**	**17 45 54.2**	**+0.9**
HACI				*i* AML	AML	17 45 58.0	
	comp=E,62nm,1.4s						
AKSY	**AKSARAY - Alti**	**1.06**	**207**	P	**Pb**	**17 45 39.5**	**-0.1**
AKSY				*i* AML	AML	17 45 52.0	
	comp=N,119nm,1.5s						
AKSY				*i* AML	AML	17 45 52.0	
	comp=E,123nm,2.6s						
AKSY				S	**Sg**	**17 45 53.9**	**+0.3**
KULU	**Kulu**	**1.20**	**243**	PN	**Pg**	**17 45 43.1**	**+0.6**
ANTO	**Ankara**	**1.25**	**283**	PN	**Pg**	**17 45 43.8**	**+0.3**

IDC 10 17:45:51.3±6.5,17°.13S×173°.64W,h394km±27km, mb3.2/3,mb1 3.5/4,mbtmx3.0/37,mbtmp3.9/4,Error ellipse: s-maj=219.2km s-min=30.2km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.67**	**30**	P	Pn	17 47 00.5	+0.5
	5.8nm,0.3s,baz=200,slow=2.8,SNR=5.1						
AFI				S	S	17 47 55.8	+0.1
	1.9nm,0.3s,baz=133,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**49.24**	**258**	P	P	17 54 02.1	0.0
	0.8nm,0.3s,baz=87,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**49.38**	**253**	P	P	17 54 02.8	-0.3
	5.1nm,0.6s,baz=92,slow=7.5,SNR=106						
ILAR	**Eielson Array**	**84.17**	**11**	P	P	17 57 38.9	0.0
	0.2nm,0.5s,baz=201,slow=6.3,SNR=1.3						

IDC 10 17:55:28.8±6.3,23°.85S×178°.80E,h442km±54km,mb3.1/3, mb1 3.3/4,mb1mx3.0/24,mbtmp4.1/4,Error ellipse: s-maj=112.0km s-min=46.8km az=136.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.13**	**353**	P	P	17 57 04.3	0.0
	1.8nm,0.3s,baz=223,slow=18,SNR=6.6						
STKA	**Stephens Creek**	**33.72**	**248**	P	P	18 01 31.5	-0.3
	2.6nm,0.6s,baz=89,slow=9.5,SNR=9.9						
ASAR	**Alice Springs**	**40.96**	**261**	P	P	18 02 31.4	-0.2
	0.7nm,0.6s,baz=94,slow=6.9,SNR=17						
ASAR				PcP	PcP	18 04 21.5	-0.3
	0.6nm,1.0s,baz=93,slow=4.0,SNR=2.7						
WRA	**Warramunga Arr**	**41.31**	**266**	P	P	18 02 34.5	0.0
	1.2nm,0.5s,baz=103,slow=8.0,SNR=29						

*IASPEI **10** 17:57:20.8±0.9,39°.57N±0°.03×34°.37E±0°.02,h13km±6km, Error ellipse: s-maj=3.7km s-min=3.2km az=178.0,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*DDA **10** 17:57:20.8±0.0,39°.56N×34°.37E,h13km,MW3.5*
*ISK **10** 17:57:20.3,39°.56N×34°.35E,h5km,ML3.3/23*
ISC 10 17:57:20.8±0.8,39°.57N±0°.02×34°.36E±0°.02,h13km±6km, n59,σ0°76/76,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.05**	**10**	SPECP		17 57 23.0	
CDAG				P	**Pg**	**17 57 23.8**	**+0.4**
CDAG				*i* AML	AML	17 57 25.0	
	comp=N,2μm,0.1s						
CDAG				*i* AML	AML	17 57 25.0	
	comp=E,2μm,0.4s						
CDAG				S	**Sg**	**17 57 25.3**	**0.0**
KOZK	**Kozakli-Nevseh**	**0.53**	**132**	PG	**Pb**	**17 57 31.9**	**-0.2**
KOZK				SG	**Sb**	**17 57 40.2**	**+0.5**
KAMT	**Kaman**	**0.54**	**248**	PG	**Pb**	**17 57 31.8**	**-0.4**
KAMT				SG	**Sb**	**17 57 39.9**	**0.0**
DELI	**KIRIKKALE**	**0.55**	**322**	SPECP		17 57 31.0	
DELI				P	**Pg**	**17 57 31.8**	**+0.3**
DELI				*i* AML	AML	17 57 32.0	
	comp=N,922nm,0.2s						
DELI				S	**Sg**	**17 57 37.7**	**-1.1**
KIRS	**Kirsehir-Merke**	**0.56**	**218**	SPECP		17 57 31.0	
KIRS				P	**Pg**	**17 57 31.8**	**+0.1**
BRTR	**Keskin Array B**	**0.58**	**286**	PG	**Pg**	**17 57 32.3**	**+0.2**
CORM	**Corum**	**0.64**	**19**	PG	**Pb**	**17 57 33.9**	**-0.1**
CORM				SG	**Sb**	**17 57 44.3**	**+1.4**
YOZ	**Yozgat**	**0.74**	**84**	PG	**Pg**	**17 57 35.3**	**0.0**
COAL	**Corum-Alaca**	**0.83**	**35**	SPECP		17 57 36.0	
COAL				P	**Pg**	**17 57 36.7**	**-0.3**
AVNS	**Nevsehir-Avano**	**0.85**	**153**	SPECP		17 57 37.0	
AVNS				P	**Pg**	**17 57 37.1**	**-0.2**
AVNS				S	**Sb**	**17 57 49.5**	**+0.6**
AVNS				*i* AML	AML	17 57 52.0	
	comp=N,1μm,0.4s						
AVNS				*i* AML	AML	17 57 57.0	
	comp=E,1μm,0.2s						
SERE	**Sereflikochisa**	**0.88**	**225**	PG	**Pb**	**17 57 38.2**	**+0.2**
SERE				SG	**Sn**	**17 57 51.2**	**-0.5**
BBAL	**Bala**	**0.96**	**269**	SPECP		17 57 39.0	
BBAL				P	**Pb**	**17 57 39.6**	**+0.3**
BBAL				S	**Sb**	**17 57 52.0**	**+0.1**
BBAL				*i* AML	AML	17 57 54.0	
	comp=N,593nm,0.3s						
BBAL				*i* AML	AML	17 57 54.0	
	comp=E,476nm,0.1s						
CKRK	**Yozgat, Cekere**	**1.01**	**60**	SPECP		17 57 39.0	
CKRK				P	**Pg**	**17 57 40.0**	**-0.4**
CKRK				S	**Sg**	**17 57 53.2**	**-0.3**
CKRK				*i* AML	AML	17 57 58.0	
	comp=N,528nm,0.6s						
AKSY	**AKSARAY - Alti**	**1.03**	**207**	SPECP		17 57 40.0	
AKSY				P	**Pg**	**17 57 40.2**	**-0.5**
HACI	**Hacifakili, Ak**	**1.07**	**82**	SPECP	**Pg**	**17 57 41.0**	**-0.4**
HACI				P	**Pg**	**17 57 41.0**	**-0.4**
HACI				S	**Sg**	**17 57 53.7**	**-1.6**
HACI				*i* AML	AML	17 57 59.0	
	comp=N,577nm,0.5s						
HACI				*i* AML	AML	17 57 59.0	
	comp=E,629nm,0.3s						
ELDT	**Eldivan**	**1.16**	**322**	SPECP		17 57 43.0	
ELDT				P	**Pg**	**17 57 43.0**	**-0.2**
ELDT				S	**Sn**	**17 57 59.7**	**+0.8**
ELDT				*i* AML	AML	17 58 03.0	
	comp=E,451nm,0.5s						
KULU	**Kulu**	**1.18**	**244**	PN	**Pn**	**17 57 43.8**	**+0.7**
CANT	**Cankiri**	**1.18**	**331**	PN	**Pb**	**17 57 43.2**	**+0.1**
GUNE	**Kayseri**	**1.19**	**124**	SPECP		17 57 43.0	
GUNE				P	**Pn**	**17 57 43.7**	**+0.5**
KKUL	**Konya-Kulu**	**1.19**	**251**	SPECP		17 57 43.0	
KKUL				P	**Pn**	**17 57 43.8**	**+0.5**
KKUL				S	**Sn**	**17 58 00.4**	**+1.1**
KKUL				*i* AML	AML	17 58 04.0	
	comp=N,379nm,0.7s						
GULA	**Gulagac**	**1.23**	**185**	PN	**Pg**	**17 57 44.5**	**+0.1**
ANTO	**Ankara**	**1.24**	**284**	PN	**Pg**	**17 57 45.0**	**+0.3**
LOD	**Lodumlu**	**1.27**	**285**	PN	**Pg**	**17 57 45.6**	**+0.3**
BNN	**Bunyan**	**1.36**	**121**	PN	**Pg**	**17 57 47.4**	**+0.5**
CUSAR	**Sarkisla-SIVAS**	**1.47**	**95**	P	**Pb**	**17 57 47.8**	**-0.2**
CUSAR				S	**Sg**	**17 58 08.1**	**+0.1**
CUSAR				*i* AML	AML	17 58 12.0	
	comp=N,692nm,0.6s						
NIG	**Nigde**	**1.47**	**172**	PN	**Pg**	**17 57 49.2**	**+0.1**
CHBY	**Cihanbeyli**	**1.51**	**230**	PN	**Pg**	**17 57 49.3**	**-0.5**
SULT	**Sultanhani-AKS**	**1.52**	**206**	PN	**Pg**	**17 57 49.8**	**-0.2**
AMSY	**Amasya-Merkez**	**1.55**	**46**	SPECP		17 57 48.0	
AMSY				P	**Pn**	**17 57 48.9**	**+0.7**
ILGA	**Ilgaz**	**1.56**	**342**	P	**Pn**	**17 57 48.2**	**-0.2**
KAGI	**orum-Kargı**	**1.57**	**3**	SPECP		17 57 49.0	
KAGI				P	**Pb**	**17 57 49.9**	**+0.2**
NIDE	**Nigde/Merkez-G**	**1.60**	**168**	S	**Sg**	**17 58 12.3**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**1.67**	**152**	SPECP		17 57 51.0	
YAHY				P	**Pb**	**17 57 51.5**	**+0.1**
CMDR	**Camlidere-ANKA**	**1.72**	**303**	SPECP		17 57 52.0	
CMDR				P	**Pb**	**17 57 52.8**	**+0.5**
CMDR				S	**Sg**	**17 58 15.7**	**-0.4**
CMDR				*i* AML	AML	17 58 18.0	
	comp=N,296nm,0.5s						
YARM	**Yarimca-Ladik(**	**1.76**	**39**	PN	**Pb**	**17 57 53.1**	**+0.2**
KIZO	**Buyukkizoglu-L**	**1.79**	**42**	PN	**Pb**	**17 57 53.9**	**+0.3**
TOKA	**Tokat**	**1.79**	**65**	SPECP		17 57 52.0	
TOKA				P	**Pn**	**17 57 52.6**	**+1.1**
HAVZ	**Havza**	**1.82**	**34**	SPECP		17 57 55.0	
HAVZ				P	**Pg**	**17 57 55.6**	**-0.2**
HAVZ				S	**Sg**	**17 58 19.0**	**-0.5**
HAVZ				*i* AML	AML	17 58 22.0	
	comp=E,185nm,0.5s						
HAVZ				*i* AML	AML	17 58 23.0	
	comp=N,259nm,0.3s						
KUPE	**Kupecik-Ladik(**	**1.84**	**44**	PN	**Pb**	**17 57 54.5**	**+0.2**
TOKT	**Tokat**	**1.84**	**65**	PN	**Pb**	**17 57 54.5**	**+0.2**
KMON	**Kastamonu**	**1.85**	**346**	PN	**Pb**	**17 57 54.5**	**-0.1**
CUAYA	**Sivas-Altinyay**	**1.87**	**99**	P	**Pg**	**17 57 55.9**	**-0.8**
CUAYA				S	**Sg**	**17 58 19.9**	**-1.2**
CUAYA				*i* AML	AML	17 58 24.0	
	comp=N,165nm,0.7s						
PELI	**Kastamonı-Ara**	**1.90**	**335**	P	**Pn**	**17 57 54.3**	**+1.3**
CMRD	**Camardi-Nigde**	**1.97**	**165**	PN	**Pb**	**17 57 56.1**	**-0.5**
BOYA	**Sinop/Boyabat-**	**1.98**	**7**	SPECP		17 57 55.0	
BOYA				P	**Pb**	**17 57 55.8**	**-0.9**
SARI	**SarD1z-Kayseri**	**1.98**	**125**	PN	**Pb**	**17 57 56.5**	**-0.3**
KVT	**Kavak**	**1.98**	**40**	PN	**Pb**	**17 57 56.8**	**0.0**
KIZT	**Kizilcal**	**2.05**	**251**	PN	**Pb**	**17 57 56.9**	**-1.0**
SVSK	**Karacayir**	**2.06**	**80**	PN	**Pb**	**17 57 57.7**	**-0.4**
KIBS	**BOLU**	**2.10**	**295**	SPECP		17 57 57.0	
KIBS				P	**Pb**	**17 57 57.9**	**-1.0**
KBUK	**KARABUK-Merkez**	**2.13**	**322**	SPECP		17 57 59.0	
KBUK				P	**Pb**	**17 57 59.7**	**+0.5**
ERBA	**Erbaa**	**2.15**	**58**	SPECP		17 57 58.0	
ERBA				P	**Pb**	**17 57 58.2**	**-1.3**
SVRH	**Sivrihisar-ESK**	**2.20**	**268**	PN	**Pb**	**17 57 59.3**	**-1.2**
YUVA	**Yuva-Kibriscik**	**2.21**	**293**	PN	**Pb**	**17 57 59.5**	**-1.2**
BZK	**Bozkurt**	**2.40**	**354**	PN	**Pb**	**17 58 02.4**	**-1.5**
RSDY	**Resadiye-TOKAT**	**2.42**	**69**	PN	**Pb**	**17 58 02.9**	**-1.4**
SNOP	**Sinop**	**2.53**	**14**	PN	**Pb**	**17 58 04.4**	**-1.7**
KURC	**Kurucasile-Bar**	**2.58**	**332**	PN	**Pb**	**17 58 04.9**	**-2.1**
MDUB	**Mudurnu**	**2.59**	**291**	PN	**Pb**	**17 58 05.1**	**-2.1**

*IDC **10** 17:58:02.4±5.3,36°.22N×70°.64E,h163km±47km,mb2.9/5, mb1 3.0/9,mb1mx2.8/49,mbtmp3.4/9,Error ellipse: s-maj=38.4km s-min=27.8km az=26.0*
*NNC **10** 17:58:17.3±9.8,37°.30N×70°.85E,h250km±137km,mb2.4, mpv3.3,Error ellipse: s-maj=105.2km s-min=60.5km az=11.0*
ISC 10 17:58:06.2±0.9,36°.47N±0°.08×70°.7E±0°.1,h200km,n21, σ2°04/23,mb2.8/3,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	**Karatay Array**	**6.62**	**359**	⇑P	**Pn**	**17 59 42.6**	**+1.2**
	1.8nm,0.6s,baz=175,slow=12						
KK08				⇓S	**Sn**	**18 00 51.0**	**-6.0**
	3.3nm,0.5s,baz=186,slow=25						
AAK	**Ala-Archa**	**6.82**	**24**	P	**Pn**	**17 59 44.4**	**+0.3**
	0.5nm,0.3s,baz=173,slow=11,SNR=7.8						
AAK				S	**Sn**	**18 01 01.6**	**-0.2**
	1.8nm,0.3s,baz=142,slow=19,SNR=35						
AAK	**Ala-Archa**	**6.82**	**24**	⇑P	**Pn**	**17 59 46.2**	**+2.1**
	2.4nm,0.8s						
AAK				⇓S	**Sn**	**18 01 01.2**	**-0.7**
	11nm,0.6s						
TKM2	**Tokmak 2**	**7.46**	**29**	⇑P	**Pn**	**17 59 53.5**	**+1.0**
	2.3nm,0.8s						
TKM2				⇑S	Sn	18 01 08.8	-8.3
	1.0nm,0.5s						
PYUN	**Piuthan**	**13.33**	**125**	*eP*	**P**	**18 01 08.0**	**-2.8**
	7.7nm,0.4s						
MKAR	**Makanchi Array**	**13.46**	**36**	P	**P**	**18 01 09.6**	**-2.2**
	0.1nm,0.3s,baz=223,slow=14,SNR=2.5						
DANN	**Dangsing**	**13.68**	**123**	*eP*	**P**	**18 01 13.1**	**-1.7**
	3.5nm,0.3s						
KOLN	**Koldanda**	**13.95**	**125**	*eP*	**P**	**18 01 16.6**	**-1.1**
	5.3nm,0.3s						
AB31	**Akbulak array**	**14.99**	**332**	P	**P**	**18 01 29.4**	**+0.6**
	1.1nm,0.6s,baz=143,slow=12,SNR=22						
KKN	**Kakani**	**15.07**	**121**	*eP*	P	18 01 31.2	+1.1
	1.5nm,0.2s						
PKIN	**Phulchoki**	**15.29**	**121**	*eP*	**P**	**18 01 34.1**	**+1.5**
	6.4nm,0.4s						
PKI	**Pulchoki**	**15.30**	**121**	*eP*	**P**	**18 01 34.6**	**+1.8**
	2.1nm,0.3s						
GUN	**Gumba**	**15.42**	**119**	*eP*	**P**	**18 01 35.4**	**+1.3**
	3.5nm,0.3s						
BVAR	**Borovoye Array**	**16.55**	**359**	P	**Pn**	**18 01 49.4**	**+2.5**
	0.2nm,0.3s,baz=159,slow=6.5,SNR=8.4						
AKTO	**Aktyubinsk**	**16.68**	**331**	P	**Pn**	**18 01 49.9**	**+1.5**
	0.2nm,0.3s,baz=120,slow=8.7,SNR=5.2						
AKTO	**Aktyubinsk**	**16.68**	**331**	⇓P	**Pn**	**18 01 49.6**	**+1.2**
	1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**20.04**	**25**	P	**P**	**18 02 24.8**	**+1.1**
	0.5nm,0.3s,baz=211,slow=12,SNR=4.7						
TORD	**Torodi Ar. Bea**	**65.47**	**268**	P	**P**	**18 08 26.9**	**-1.2**
	0.5nm,0.8s,baz=44,slow=6.9,SNR=2.9						
YKA	**Yellowknife Ar**	**81.28**	**2**	P	**P**	**18 10 01.2**	**+1.6**
	0.0nm,0.4s,baz=349,slow=5.5,SNR=4.3						
WRA	**Warramunga Arr**	**82.19**	**122**	P	**P**	**18 10 04.8**	**-0.2**
	0.1nm,0.5s,baz=305,slow=7.0,SNR=4.8						
ASAR	**Alice Springs**	**84.44**	**125**	P	**P**	**18 10 16.6**	**+0.2**
	0.1nm,0.5s,baz=312,slow=4.6,SNR=5.8						

IDC 10 18:27:20.7±11.0,1°.20S×135°.87E,h0km,mb3.4/2, mb1 3.5/3,mb1mx3.2/26,mbtmp3.3/3,ML2.8/1,Error ellipse: s-maj=186.6km s-min=124.6km az=134.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.69**	**185**	P	P	18 31 39.8	-1.0
	0.0nm,0.3s,baz=3.9,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**22.42**	**185**	P	P	18 32 21.6	+0.4
	1.0nm,1.2s,baz=6.0,slow=11,SNR=6.8						
STKA	**Stephens Creek**	**30.99**	**171**	P	P	18 33 40.1	+0.1
	0.7nm,0.7s,baz=350,slow=18,SNR=2.0						

*IDC **10** 18:44:11.6±0.6,22°.23N×143°.61E,h114km±4km,mb3.8/19, mb1 3.9/22,mb1mx3.8/45,mbtmp4.2/22,MS2.7/3, Ms1 2.7/3,ms1mx2.4/84,Error ellipse: s-maj=17.3km s-min=10.8km az=81.0*
*NEIC **10** 18:44:13.0±1.6,22°.27N±0°.09×143°.6E±0°.1,h126km±7km, mb4.3/17,Error ellipse: s-maj=15.9km s-min=12.7km az=118.0*
*JMA **10** 18:44:16.0±0.1,22°.98N×144°.60E,h138km*
ISC 10 18:44:12.1±0.5,22°.33N±0°.06×143°.5E±0°.1,h118km,n66, σ1°89/75,mb4.1/25,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.45**	**345**	P	**Pn**	**18 45 20.0**	**+2.4**
JHH2				S	**Sn**	**18 46 09.5**	**+1.0**
JCJ	**Chichijima**	**4.89**	**346**	Pn	**Pn**	**18 45 25.5**	**+2.0**
CBIJ	**Chichi jima**	**4.89**	**346**	P	**Pn**	**18 45 25.5**	**+2.0**
CBIJ				S	**Sn**	**18 46 19.0**	**-0.1**
GUMO	**Guam**	**8.79**	**171**	LR	LR	18 48 38.4	
	comp=Z,69nm,21.4s,baz=20,slow=31						
BSO3	**Boso 3**	**12.70**	**349**	P	**Pn**	**18 47 08.4**	**+0.3**
JOD2	**Odawara 2**	**13.45**	**344**	P	**Pn**	**18 47 17.7**	**-0.5**
JOD2				*e*S	**Sn**	**18 49 41.2**	**-5.2**
JKN2	**Miekihoku**	**13.46**	**333**	P	**Pn**	**18 47 20.8**	**+2.6**
JNY	**Yasuok**	**13.88**	**340**	P	**Pn**	**18 47 24.0**	**+0.2**
JHU	**Hanno**	**13.96**	**346**	P	**Pn**	**18 47 24.3**	**-0.5**
JHU				*e*S	**Sn**	**18 49 52.8**	**-6.0**
JRY	**Ryogami san**	**14.21**	**345**	P	**Pn**	**18 47 27.9**	**-0.1**
JRY				*e*S	**Sn**	**18 49 58.9**	**-5.9**
JHO	**Hitachi**	**14.46**	**351**	*e*S	Sn	18 50 02.5	-8.1
JAG	**Ashikaga**	**14.48**	**347**	P	**Pn**	**18 47 30.0**	**-1.3**
JAG				S	Sn	18 50 04.0	-7.2
JOW	**Kunigami**	**14.55**	**291**	P	**Pn**	**18 47 35.0**	**+2.6**
	0.2nm,0.3s,baz=228,slow=3.4,SNR=2.0						
JOW	**Kunigami**	**14.55**	**291**		**Pn**	**18 47 30.1**	**-2.3**
MJAR	**Matsushiro Arr**	**14.89**	**343**	P	**Pn**	**18 47 36.3**	**-0.3**
	0.1nm,0.3s,baz=162,slow=9.7,SNR=2.3						
MJAR				S	**Sn**	**18 50 15.4**	**-5.7**
	0.0nm,0.3s,baz=191,slow=24,SNR=1.8						
MJAR				LR	LR	18 52 58.5	
	comp=Z,25nm,19.5s,baz=0.0,slow=35						
MAJO	**Matsushiro**	**14.89**	**343**		**Pn**	**18 47 36.7**	**+0.1**
MAT	**Matsushiro**	**14.89**	**343**	P	**Pn**	**18 47 36.4**	**-0.1**
MAT				*e*S	Sn	18 50 10.1	-11
JNU	**Nakatsue**	**15.49**	**317**	P	**Pn**	**18 47 46.5**	**+2.4**
	0.1nm,0.3s,baz=324,slow=23,SNR=2.0						
JHS	**Saijyo**	**15.55**	**327**	P	**P**	**18 47

WRA	**Warramunga Arr**	**42.96 193**	P	**P**		**18 51 59.4**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=16,slow=8.0,SNR=93						
WRA			PcP	**PcP**		**18 53 47.2**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=11,slow=3.5,SNR=8.0						
WRA			ScP	**ScP**		**18 57 26.4**	**-2.0**
	comp=Z,1.4nm,1.1s,baz=7.6,slow=4.2,SNR=6.1						
WRA	**Warramunga Arr**	**42.96 193**	P	**P**		**18 51 59.2**	**-0.4**
AS31	**Alice Springs**	**46.66 192**	P	**P**		**18 52 26.7**	**-2.2**
ASAR	**Alice Springs**	**46.66 192**	P	**P**		**18 52 28.6**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=15,slow=9.3,SNR=39						
ASAR			PcP	**PcP**		**18 54 00.5**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=16,slow=4.1,SNR=6.8						
ASAR			ScP	**ScP**		**18 57 41.4**	**-2.2**
	comp=Z,0.1nm,0.6s,baz=288,slow=15,SNR=6.7						
ASAR	**Alice Springs**	**46.66 192**	P	**P**		**18 52 28.5**	**-0.5**
ZAA0	**Zalesovo Array**	**53.90 321**	P	**P**		**18 53 23.1**	**+0.1**
ZAA0			IAmb	IAmb		18 53 24.5	
	comp=Z,2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**53.90 321**	P	**P**		**18 53 23.6**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=106,slow=8.6,SNR=16						
ZALV	**Zalesovo Beam**	**53.90 321**	P	**P**		**18 53 22.2**	**-0.9**
STKA	**Stephens Creek**	**53.93 182**	P	**P**		**18 53 21.9**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=2.9,slow=6.0,SNR=5.7						
MK31	**Makanchi Array**	**54.49 312**	P	**P**		**18 53 27.0**	**-0.5**
MK31			IAmb	IAmb		18 53 30.7	
	comp=Z,2.3nm,0.9s						
MKAR	**Makanchi Array**	**54.49 312**	P	**P**		**18 53 29.1**	**+1.6**
	comp=Z,1.5nm,0.5s,baz=85,slow=9.7,SNR=28						
MKAR			pP	**pP**		**18 53 55.3**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=86,slow=9.1,SNR=6.8						
MKAR			ScP	**ScP**		**18 58 14.3**	**-2.7**
	comp=Z,0.3nm,0.7s,baz=72,slow=4.7,SNR=2.2						
MKAR	**Makanchi Array**	**54.49 312**	P	**P**		**18 53 28.1**	**+0.6**
KURK	**Kurchatov**	**57.21 317**	P	**P**		**18 53 46.8**	**-0.1**
KURK			IAmb	IAmb		18 53 48.8	
	comp=Z,5.0nm,1.0s						
BOOM	**Boomskoye usch**	**58.96 307**	P	**P**		**18 54 00.9**	**+1.5**
BOOM			IAmb	IAmb		18 54 02.9	
	comp=Z,2.1nm,0.6s						
ILAR	**Eielson Array**	**61.34 27**	P	**P**		**18 54 14.0**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=269,slow=5.4,SNR=5.9						
ILAR			pP	**pP**		**18 54 42.4**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=241,slow=5.4,SNR=4.1						
BRVK	**Borovoye**	**62.45 319**	P	**P**		**18 54 23.1**	**+0.5**
INK	**Inuvik**	**66.87 24**	P	**P**		**18 54 50.5**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=238,slow=5.5,SNR=5.3						
INK			pP	**pP**		**18 55 19.9**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=259,slow=22,SNR=2.1						
INK	**Inuvik**	**66.87 24**	P	**P**		**18 54 51.0**	**-0.1**
YKA	**Yellowknife Ar**	**75.76 28**	P	**P**		**18 55 45.5**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=293,slow=5.8,SNR=15						
YKA			pP	**pP**		**18 56 13.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=292,slow=5.8,SNR=3.4						
ARCES	**ARCESS Array B**	**78.42 342**	P	**P**		**18 55 59.3**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=67,slow=7.9,SNR=16						
KBZ	**Khabaz**	**82.14 314**	P	**P**		**18 56 20.8**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=68,slow=5.4,SNR=3.4						
KBZ			pP	**pP**		**18 56 50.0**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=116,slow=2.9,SNR=3.6						
NVAR	**Mina Array Bea**	**82.52 52**	P	**P**		**18 56 23.9**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=295,slow=4.8,SNR=4.8						
NVAR			pP	**pP**		**18 56 51.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=259,slow=5.4,SNR=3.8						
FINES	**FINESS Array B**	**82.74 335**	P	**P**		**18 56 22.2**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=61,slow=5.7,SNR=29						
FINES			pP	**pP**		**18 56 52.1**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=79,slow=6.0,SNR=1.8						
AKASG	**Malin Array Be**	**87.16 325**	P	**P**		**18 56 43.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=49,slow=5.5,SNR=7.6						
NOA	**NORSAR Array B**	**88.46 339**	P	**P**		**18 56 49.9**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=30,slow=3.0,SNR=1.6						
H03S2	**Juan Fernandez**	**141.10 117**	T	T		21 39 38.7	
	SNR=6.7						
H03S3	**Juan Fernandez**	**141.12 117**	T	T		21 39 40.8	
	SNR=7.4						
H03S1	**Juan Fernandez**	**141.12 117**	T	T		21 39 39.5	
	SNR=6.4						
PLCA	**Paso Flores**	**145.95 131**	PKPbc	**PKPab**		**19 03 38.3**	**-0.6**
	comp=Z,6.4nm,0.8s,baz=265,slow=2.8,SNR=16						

*IDC **10** 19:08:45.8±22.0, 35°.28N×10°.62E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.3/46, mbtmp3.9/5, Error ellipse: s-maj=428.3km s-min=60.0km az=43.0*
*ROM **10** 19:09:33.0±0.3, 38°.21N±0°.02×14°.91E±0°.02, h132km±2km, ML2.8/24, Error ellipse: s-maj=2.3km s-min=0.8km az=150.0*
ISC 10 19:09:33.6±0.9, 38°.21N±0°.06×14°.87E±0°.05, h126km±6km, n41, σ1°34/54, mb3.8/5, 1C-1D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUCR	**Ucria**	**0.17**	**178**	P	**Pn**	**19 09 50.4**	**-0.6**
MUCR				S	**Sn**	**19 10 03.0**	**-1.2**
MUCR				AML	AML		
	comp=E,210μm,0.7s						
MUCR				AML	AML		
	comp=N,204μm,0.4s						
VPL	**Vulcano Piano**	**0.19**	**29**	P	**Pn**	**19 09 50.8**	**-0.2**
MSFR	**San Fratello**	**0.28**	**230**	P	**Pn**	**19 09 51.3**	**0.0**
MSFR				S	**Sn**	**19 10 04.6**	**0.0**
NOV	**Novara**	**0.28**	**131**	P	**Pn**	**19 09 51.7**	**+0.4**
NOV				S	**Sn**	**19 10 05.1**	**+0.5**
NOV				AML	AML		
	comp=N,688μm,1.0s						
NOV				AML	AML		
	comp=E,521μm,0.4s						
NOV				AML	AML		
	comp=N,688μm,1.0s						
MILZ	**Milazzo**	**0.29**	**78**	P	**Pn**	**19 09 51.2**	**+0.1**
MCSR	**Castroreale**	**0.34**	**116**	P	**Pn**	**19 09 51.7**	**+0.2**
MCSR				S	**Sn**	**19 10 05.7**	**+0.7**
MCSR				AML	AML		
	comp=E,912μm,0.4s						
MCSR				AML	AML		
	comp=N,1085μm,1.2s						
AIO	**Antillo**	**0.38**	**130**	P	**Pn**	**19 09 52.0**	**+0.3**
AIO				S	**Sn**	**19 10 05.6**	**+0.3**
AIO				AML	AML		
	comp=N,288μm,1.6s						
AIO				AML	AML		
	comp=E,341μm,0.5s						
MPNC	**Port Mandanici**	**0.39**	**100**	P	**Pn**	**19 09 51.4**	**-0.2**
MPNC				AML	AML		
	comp=N,406μm,0.6s						
MPNC				AML	AML		
	comp=E,466μm,0.5s						
EPZF	**Pizzo Felice**	**0.39**	**181**	P	**Pn**	**19 09 52.6**	**+0.8**
EPZF				S	**Sn**	**19 10 07.4**	**+1.9**
EPZF				AML	AML		
	comp=E,1312μm,0.6s						
EPZF				AML	AML		
	comp=N,718μm,0.7s						
EMSG	**Monte Spagnolo**	**0.40**	**170**	P	**Pn**	**19 09 52.6**	**+0.7**
EMSG				S	**Sn**	**19 10 07.4**	**+1.7**
EMSG				AML	AML		
	comp=N,447μm,0.6s						
EMSG				AML	AML		
	comp=E,908μm,0.8s						
MSRU	**Castanea**	**0.51**	**84**	P	**Pn**	**19 09 51.8**	**-0.5**
IACL	**Alicudi**	**0.51**	**309**	P	**Pn**	**19 09 52.3**	**0.0**
GALF	**Gagliano Caste**	**0.56**	**205**	P	**Pn**	**19 09 53.3**	**+0.6**
GALF				S	**Sn**	**19 10 08.3**	**+1.3**
GALF				AML	AML		
	comp=E,442μm,0.7s						
GALF				AML	AML		
	comp=N,222μm,0.6s						
ECNV	**Catenanuova**	**0.63**	**191**	P	**Pn**	**19 09 54.0**	**+0.9**
ECNV				AML	AML		
	comp=N,321μm,1.2s						
ECNV				AML	AML		
	comp=E,315μm,1.6s						
ECNV				AML	AML		
	comp=N,322μm,1.2s						
CAGR	**Agira**	**0.66**	**206**	P	**Pn**	**19 09 54.7**	**+1.4**
CAGR				AML	AML		
	comp=E,813μm,0.7s						
CAGR				AML	AML		
	comp=N,918μm,0.4s						
CSLB	**Castelbuono**	**0.69**	**247**	P	**Pn**	**19 09 53.2**	**-0.4**
CSLB				AML	AML		
	comp=E,53μm,0.6s						
CSLB				AML	AML		
	comp=N,86μm,0.5s						
PETRA	**Petralia Sopra**	**0.70**	**238**	P	**Pn**	**19 09 53.9**	**+0.1**
PETRA				S	**Sn**	**19 10 09.5**	**+0.5**
PETRA				AML	AML		
	comp=N,249μm,1.0s						
PETRA				AML	AML		
	comp=N,248μm,1.0s						
PETRA				AML	AML		
	comp=E,268μm,0.6s						
RESU	**Resuttano**	**0.85**	**229**	⇑P	**Pn**	**19 09 56.2**	**+1.3**
RESU				AML	AML		
	comp=E,113μm,0.5s						
RESU				AML	AML		
	comp=N,258μm,0.6s						
HLNI	**Lentini**	**0.86**	**180**	⇓P	**Pn**	**19 09 54.6**	**-0.3**
HLNI				S	**Sn**	**19 10 09.9**	**-1.1**
HLNI				AML	AML		
	comp=N,199μm,0.2s						
HLNI				AML	AML		
	comp=E,176μm,0.5s						
JOPP	**Joppolo**	**0.89**	**64**	P	**Pn**	**19 09 55.2**	**+0.1**
JOPP				AML	AML		
	comp=N,115μm,1.5s						
JOPP				AML	AML		
	comp=E,110μm,1.5s						
JOPP				AML	AML		
	comp=N,115μm,1.5s						
SOI	**Samo**	**0.95**	**98**	P	**Pn**	**19 09 56.0**	**+0.4**
SOI				S	**Sn**	**19 10 12.1**	**-0.2**
SOI				AML	AML		
	comp=E,102μm,0.6s						
SOI				AML	AML		
	comp=N,69μm,0.7s						
HAGA	**Augusta**	**0.95**	**166**	P	**Pn**	**19 09 55.4**	**-0.3**
HAGA				S	**Sn**	**19 10 11.4**	**-1.0**
HAGA				AML	AML		
	comp=N,184μm,0.6s						
HAGA				AML	AML		
	comp=E,234μm,0.8s						
ALJA	**Alia**	**0.99**	**243**	P	**Pn**	**19 09 56.9**	**+0.8**
ALJA				S	**Sn**	**19 10 15.4**	**+2.2**
ALJA				AML	AML		
	comp=E,344μm,0.5s						
ALJA				AML	AML		
	comp=N,328μm,0.5s						
SSY	**Sortino**	**1.07**	**171**	P	**Pn**	**19 09 56.6**	**-0.3**
MPG	**Monte Pellegri**	**1.19**	**268**	P	**Pn**	**19 09 58.1**	**0.0**
HMDC	**Modica**	**1.25**	**183**	P	**Pn**	**19 09 58.8**	**0.0**
HMDC				AML	AML		
	comp=E,180μm,1.2s						
HMDC				AML	AML		
	comp=N,246μm,1.1s						
HAVL	**Avola**	**1.27**	**171**	P	**Pn**	**19 09 58.6**	**-0.3**
HAVL				AML	AML		
	comp=E,224μm,0.9s						
HAVL				AML	AML		
	comp=N,254μm,0.3s						
CORL	**Corleone**	**1.27**	**256**	P	**Pn**	**19 09 59.2**	**+0.2**
CORL				AML	AML		
	comp=N,154μm,0.6s						
CORL				AML	AML		
	comp=E,192μm,1.4s						
CLTA	**Licata**	**1.27**	**215**	P	**Pn**	**19 09 59.8**	**+0.8**
CLTA				AML	AML		
	comp=E,494μm,1.5s						
CLTA				AML	AML		
	comp=N,481μm,0.5s						
CLTA				AML	AML		
	comp=N,482μm,0.5s						
FAVR	**Favara**	**1.34**	**226**	P	**Pn**	**19 10 01.0**	**+1.3**
FAVR				AML	AML		
	comp=E,302μm,1.3s						
FAVR				AML	AML		
	comp=E,302μm,1.3s						
FAVR				AML	AML		
	comp=N,238μm,1.1s						
HPAC	**Pachino**	**1.53**	**173**	P	**Pn**	**19 10 01.6**	**-0.1**
MMGO	**Monte Magaggia**	**1.59**	**250**	P	**Pn**	**19 10 02.6**	**+0.1**
TIP	**Timpagrande**	**1.77**	**56**	P	**Pn**	**19 10 06.0**	**+1.4**
TIP				AML	AML		
	comp=E,53μm,0.8s						
TIP				AML	AML		
	comp=N,50μm,0.6s						
TIP				AML	AML		
	comp=E,53μm,0.8s						
PIPA	**Pietrapaola**	**1.98**	**50**	P	**Pn**	**19 10 08.7**	**+1.6**
PIPA				AML	AML		
	comp=N,71μm,0.4s						
PIPA				AML	AML		
	comp=E,73μm,1.0s						
SALB	**San Lorenzo Be**	**2.02**	**34**	P	**Pn**	**19 10 09.5**	**+1.8**
NOCI	**Noci**	**3.08**	**33**	P	**Pn**	**19 10 21.0**	**-0.1**
HFS	**Hagfors**	**21.95**	**358**	P	**P**	**19 14 09.7**	**-7.1**
	comp=E,7.4nm,1.1s,baz=168,slow=7.4,SNR=1.6						
FINES	**FINESS Array B**	**24.28**	**13**	P	**P**	**19 14 38.8**	**+0.1**
	comp=E,3.8nm,0.9s,baz=214,slow=8.9,SNR=4.8						
BVAR	**Borovoye Array**	**40.51**	**50**	P	**P**	**19 17 01.5**	**+1.6**
	comp=E,0.3nm,0.6s,baz=260,slow=7.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**48.97**	**47**	P	**P**	**19 18 07.2**	**+0.3**
	comp=E,0.7nm,0.4s,baz=279,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**49.05**	**57**	P	**P**	**19 18 08.5**	**+0.9**
	comp=E,0.3nm,0.4s,baz=280,slow=7.3,SNR=9.7						

OTT 10 19:17:40.4±0.7, 77°.02N×117°.68W, h18km, ML3.5/2, 98km northeast from Mould Bay, Nt Sverdrup Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A36M	**Sachs Harbour**	**5.44**	**206**	PN	Pn	19 18 59.9	-0.5
A36M				SN	Sn	19 19 58.5	-3.9
A36M				Trac		19 20 00.6	
	comp=Z,20nm,0.9s						
RES	**Resolute Bay**	**6.03**	**101**	PN	Pn	19 19 07.8	-0.6
RES				SN	Sn	19 20 12.3	-4.5
RES				Trac		19 20 20.4	
	comp=Z,13nm,1.0s						
C36M	**Paulatuk**	**7.92**	**197**	SN	Sn	19 20 58.2	-5.2
KUKN	**Kugluktuk,NWT**	**9.28**	**174**	PN	Pn	19 19 52.6	-0.4
KUKN				SN	Sn	19 21 30.2	-6.5
KUKN				Trac		19 21 48.7	
	comp=Z,294nm,4.7s						
INK	**Inuvik**	**9.89**	**216**	PN	Pn	19 20 01.0	-0.3
INK				SN	Sn	19 21 45.0	-6.7

IDC 10 19:41:04.7±3.8, 7°.54S×156°.80E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/45, mbtmp3.7/4, ML2.1/1, Error ellipse: s-maj=98.7km s-min=41.0km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.72**	**258**	Pn	Pn	19 43 26.0	+0.1
	0.9nm,0.3s,baz=342,slow=6.4,SNR=2.3						
WRA	**Warramunga Arr**	**25.02**	**238**	P	P	19 46 30.8	0.0
	0.3nm,0.4s,baz=65,slow=9.1,SNR=8.5						
ASAR	**Alice Springs**	**27.20**	**231**	P	P	19 46 50.4	0.0
	0.2nm,0.4s,baz=60,slow=9.5,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**27.65**	**21**	T	T	20 15 22.2	
	baz=203,slow=75,SNR=37						
H11S2	**WAKE ISLAND Hy**	**27.65**	**21**	T	T	20 15 22.2	
	baz=203,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**27.66**	**21**	T	T	20 15 23.5	
	baz=203,slow=75,SNR=15						
MKAR	**Makanchi Array**	**85.00**	**318**	P	P	19 53 42.2	0.0
	0.6nm,0.7s,baz=94,slow=6.6,SNR=6.4						

*IDC **10** 20:00:24.0±26.0, 45°.11N×146°.67E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.3/52, mbtmp3.8/5, Error ellipse: s-maj=588.7km s-min=65.3km az=156.0*
*MOS **10** 20:00:32.6±0.9, 43°.91N×146°.84E, h131km, mb4.0/1, Error ellipse: s-maj=35.8km s-min=24.2km az=109.7*
*SKHL **10** 20:00:35.5±0.0, 44°.00N×146°.60E, h134km±6km, mb4.5/3, msha5.5/4*
*JMA **10** 20:00:36.4±0.4, 43°.92N×146°.59E, h127km±3km, M3.5*
ISC 10 20:00:33.9±1.1, 43°.91N±0°.09×146°.78E±0°.07, h138km±6km, n35, σ0°65/43, mb3.5/5, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.05**	**139**	*e*PN	**Pn**	**20 00 53.0**	**+0.6**
SHO				*e*S	**Sn**	**20 01 05.8**	**-0.6**
SHO				pmax	pmax		
	comp=Z,898nm,0.1s						
SHO				smax	smax		
	comp=N,2μm,0.2s						
SHO				smax	smax		
	comp=E,2μm,0.2s						
SHO	**Shikotan**	**0.05**	**139**	*e*P	**Pn**	**20 00 52.8**	**+0.4**
SHO				AMB	AMB	20 00 53.1	
	comp=E,540nm,0.3s						
SHO				*e*S	**Sn**	**20 01 05.8**	**-0.6**
SHO				A	A	20 01 06.1	
	comp=E,2μm,0.4s						
SHO				A	A	20 01 06.1	
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.68**	**281**	*e*P	**Pn**	**20 00 55.2**	**+0.4**
YUK				AMB	AMB	20 00 55.9	
	comp=E,180nm,0.7s						
YUK				*e*S	**Sn**	**20 01 10.0**	**-0.7**
YUK				A	A	20 01 12.7	
	comp=E,930nm,0.4s						
YUK				A	A	20 01 12.7	
	comp=E,2μm,0.4s						
GLVR	**Golovnino**	**0.93**	**260**	*e*PN	**Pn**	**20 00 57.7**	**+0.9**
GLVR				*e*S	**Sn**	**20 01 14.4**	**+0.2**
GLVR				smax	smax		
	comp=E,2μm,0.5s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR	**Golovnino**	**0.93**	**260**	*e*P	**Pn**	**20 00 57.7**	**+0.9**
GLVR				*e*S	**Sn**	**20 01 14.4**	**+0.2**
GLVR				A	A	20 01 15.2	
	comp=N,2μm,0.5s						
GLVR				A	A	20 01 15.2	
	comp=N,2μm,0.5s						
NEM2	**Nemuro 2**	**0.93**	**234**	P	**Pn**	**20 00 57.4**	**+0.6**
NEM2				*e*S	**Sn**	**20 01 13.4**	**-0.8**
NMR	**Nemuro--Hokkai**	**0.94**	**235**	*e*P	**Pn**	**20 00 57.4**	**+0.5**
NMR				*e*S	**Sn**	**20 01 13.7**	**-0.6**
RUSJ	**Misakicho**	**1.12**	**280**	*e*PN	**Pn**	**20 00 59.1**	**+0.5**
RUSJ				*e*S	**Sn**	**20 01 16.8**	**-0.6**
JRA	**Rausu**	**1.20**	**272**	P	**Pn**	**20 00 59.4**	**+0.1**
JNSB	**Nemuroshibetsu**	**1.29**	**265**	P	**Pn**	**20 01 00.9**	**+0.6**
JKHN	**Kushirohamanak**	**1.44**	**235**	P	**Pn**	**20 01 02.6**	**+0.8**
JKHN				*e*S	**Sn**	**20 01 22.8**	**-0.3**
JNK	**Nakash**	**1.53**	**258**	P	**Pn**	**20 01 03.2**	**+0.4**
KUR	**Kuril'sk**	**1.53**	**30**	*d i*PN	**Pn**	**20 01 03.1**	**+0.3**
KUR				*i* S	**Sn**	**20 01 24.6**	**-0.4**
KUR				pmax	pmax		
	comp=N,16nm,0.2s						
KUR				pmax	pmax		
	comp=E,37nm,0.2s						
KUR				pmax	pmax		
	comp=Z,180nm,0.2s						
KUR				smax	smax		
	comp=E,150nm,0.2s						
KUR				smax	smax		
	comp=N,44nm,0.1s						
KUR	**Kuril'sk**	**1.53**	**30**	*i* P	**Pn**	**20 01 03.1**	**+0.3**
KUR				AMB	AMB	20 01 03.5	
	comp=N,140nm,0.6s						
KUR				*i* S	**Sn**	**20 01 25.0**	**0.0**
KUR				A	A	20 01 26.5	
	comp=N,100nm,0.3s						
KUR				A	A	20 01 26.5	
	comp=N,140nm,0.3s						
JAK	**Akkeshi**	**1.77**	**240**	P	**Pn**	**20 01 06.1**	**+0.6**
JAK				*e*S	**Sn**	**20 01 28.8**	**-0.9**
JTKR	**Abashiri--Toko**	**2.08**	**273**	P	**Pn**	**20 01 09.2**	**+0.1**
JAR	**Ashorobuto**	**2.27**	**255**	P	**Pn**	**20 01 12.6**	**+1.1**
JOB	**Onbets**	**2.37**	**246**	P	**Pn**	**20 01 13.8**	**+1.0**
JOB				*e*S	**Sn**	**20 01 41.8**	**-0.8**
JMP	**Maruseppu**	**2.47**	**273**	P	**Pn**	**20 01 14.2**	**+0.2**
JCH	**Churui**	**2.81**	**244**	P	**Pn**	**20 01 19.0**	**+0.7**
JCH				*e*S	**Sn**	**20 01 51.4**	**-1.2**
JKK2	**Kamakawa 2**	**2.92**	**271**	P	**Pn**	**20 01 20.2**	**+0.6**
ASAJ	**Asahikawa**	**3.02**	**275**	P	**Pn**	**20 01 21.8**	**+0.8**
JFR	**Furan**	**3.13**	**258**	P	**Pn**	**20 01 23.4**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.37**	**242**	P	**Pn**	**20 01 25.4**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**29.40**	**139**	T	T	20 37 41.4	
	baz=328,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**29.41**	**139**	T	T	20 37 43.6	
	baz=328,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**29.41**	**139**	T	T	20 37 41.9	
	baz=328,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**30.36**	**140**	T	T	20 38 52.9	
	baz=331,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**30.37**	**140**	T	T	20 38 49.4	
	baz=331,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**30.38**	**140**	T	T	20 38 53.6	
	baz=331,slow=76,SNR=26						
MKAR	**Makanchi Array**	**44.27**	**297**	P	**P**	**20 08 30.0**	**+0.4**
	comp=N,0.6nm,0.5s,baz=76,slow=8.6,SNR=11						
BVAR	**Borovoye Array**	**49.19**	**309**	P	**P**	**20 09 07.8**	**+0.2**
	comp=N,0.2nm,0.4s,baz=54,slow=11,SNR=2.1						
FINES	**FINESS Array B**	**64.61**	**333**	P	**P**	**20 10 55.8**	**-0.3**
	comp=N,1.3nm,0.5s,baz=36,slow=7.1,SNR=11						
NOA	**NORSAR Array B**	**69.36**	**339**	P	**P**	**20 11 25.2**	**-1.0**
	comp=N,0.5nm,0.6s,baz=46,slow=6.8,SNR=4.6						
HFS	**Hagfors**	**69.44**	**337**	P	**P**	**20 11 26.5**	**-0.1**
	comp=N,1.9nm,0.5s,baz=34,slow=5.6,SNR=14						

*TUL **10** 20:13:08.4±1.2, 36°.50N±0°.02×98°.72W±0°.03, h1km±7km, ML2.5, mb_Lg2.5/24(NEIC), Error ellipse: s-maj=3.9km s-min=2.7km az=76.0*
NEIC 10 20:13:08.8±1.4, 36°.47N±0°.02×98°.72W±0°.04, h6km±7km, Error ellipse: s-maj=4.4km s-min=3.1km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.24**	**1**	Pg	Pg	20 13 13.5	0.0
OK035					Sg	20 13 17.1	+0.4
U32A	**Winter Ranch,**	**0.25**	**249**	Pg	Pg	20 13 13.6	0.0
OK032	**Salt Plains WL**	**0.53**	**50**	Pg	Pg	20 13 18.8	-0.1
KAN14	**Manchester OK**	**0.78**	**51**		Pg	20 13 23.2	-0.5
GC02	**Grant County #**	**0.79**	**61**	Pg	Pg	20 13 23.6	-0.4
KAN05	**Bluff City Nor**	**0.93**	**46**		Pg	20 13 26.3	-0.4
KAN17	**Caldwell West**	**0.96**	**53**		Pg	20 13 26.5	-0.7
KAN08	**Anthony NE Sta**	**0.96**	**38**		Pg	20 13 26.8	-0.5
KAN12	**Harper NE Stat**	**1.01**	**35**		Pg	20 13 27.7	-0.5
KAN13	**South Haven SW**	**1.13**	**61**	Pg	Pg	20 13 29.8	-0.8
BCOK	**Bluff Creek, N**	**1.21**	**132**	Pg	Pg	20 13 31.3	-0.7
BLOK	**Blackwell**	**1.24**	**76**	Pg	Pg	20 13 31.8	-0.8
OK025	**Westminster Rd**	**1.43**	**128**		Pn	20 13 35.2	-0.1
OKCFA	**Oklahoma City**	**1.47**	**135**	Pn	Pn	20 13 35.7	-0.1
OK033	**Mehan**	**1.50**	**106**		Pn	20 13 35.9	-0.3
OK031	**S. Brethren Rd**	**1.60**	**108**	Pn	Pn	20 13 38.1	+0.4
FNO	**Franklin**	**1.61**	**138**		Pn	20 13 38.2	+0.4
OK030	**Cody Creek RV**	**1.65**	**108**	Pn	Pn	20 13 38.9	+0.5
WMOK	**Wichita Mounta**	**1.73**	**182**	Pn	Pn	20 13 39.5	0.0
T35A	**Sooner Cattle**	**1.83**	**75**		Pn	20 13 41.6	+0.9
R32A	**Long Quarter,**	**1.95**	**0**	Pn	Pn	20 13 43.5	+1.0
W35A	**Tecumseh**	**1.99**	**131**		Pn	20 13 44.2	+1.1
X34A	**Smith Ranch, M**	**2.00**	**159**		P

s-maj=42.2km s-min=21.2km az=96.0
ISC 10 20:14:33.5±1.1, 21°.6N±0°.2×143°.2E±0°.3, h311km, n7, σ1§07/7, mb3.2/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.52**	**345**	P	**Pn**	**20 17 57.1**	**-0.6**
	0.0nm,0.3s,baz=165,slow=9.8,SNR=2.0						
WRA	**Warramunga Arr**	**42.15**	**192**	P	**P**	**20 21 56.4**	**-0.1**
	0.2nm,0.2s,baz=17,slow=7.4,SNR=6.3						
MKAR	**Makanchi Array**	**54.76**	**313**	P	**P**	**20 23 32.4**	**+0.7**
	0.1nm,0.5s,baz=79,slow=7.8,SNR=2.0						
ILAR	**Eielson Array**	**62.16**	**27**	P	**P**	**20 24 22.1**	**0.0**
	0.4nm,0.9s,baz=263,slow=4.5,SNR=2.3						
YKA	**Yellowknife Ar**	**76.58**	**28**	P	**P**	**20 25 50.0**	**+0.2**
	0.4nm,0.5s,baz=290,slow=5.9,SNR=7.7						
ARCES	**ARCESS Array B**	**79.03**	**341**	P	**P**	**20 26 04.1**	**+1.0**
	1.6nm,1.0s,baz=74,slow=9.6,SNR=1.3						
FINES	**FINESS Array B**	**83.28**	**334**	P	**P**	**20 26 23.8**	**-1.6**
	2.7nm,1.0s,baz=41,slow=6.6,SNR=1.8						

*ISK **10** 20:23:29.7, 35°.71N×31°.48E, h10km, ML2.9/21*
*NIC **10** 20:23:30.3±0.0, 35°.84N×31°.65E, h12km, Ml2.9/5*
*DDA **10** 20:23:30.0±0.0, 35°.75N×31°.51E, h27km, ML2.6*
ISC 10 20:23:29.8±1.2, 35°.72N±0°.03×31°.49E±0°.03, h10km±10km, n56, σ0§99/69, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.84**	**53**	PG	**Pn**	**20 23 46.9**	**-0.9**
GAZI				SG	**Sn**	**20 23 58.8**	**-1.5**
GAZI	**Gazipasa**	**0.84**	**53**	P	**Pg**	**20 23 45.8**	**-0.2**
GAZI				S	**Sb**	**20 23 57.7**	**-0.3**
AKMS	**Akamas**	**0.99**	**135**	P	**Pb**	**20 23 48.7**	**-0.4**
AKMS				S	**Sn**	**20 24 03.8**	**-0.1**
AKMS				AML	AML	20 24 09.6	
	1.2nm,0.4s						
AKMS				AML	AML	20 24 09.6	
	1.2nm,0.4s						
AKMS				AML	AML	20 24 10.3	
	1.7nm,0.5s						
AKMS				AML	AML	20 24 10.3	
	1.7nm,0.5s						
ALFC	**Alefka**	**1.07**	**122**	P	**Pb**	**20 23 49.7**	**-0.7**
ALFC				S	**Sg**	**20 24 05.1**	**+0.8**
ALFC				AML	AML	20 24 14.8	
	1.1nm,0.4s						
ALFC				AML	AML	20 24 14.8	
	1.1nm,0.4s						
ALFC				AML	AML	20 24 18.1	
	1.2nm,0.4s						
ALFC				AML	AML	20 24 18.1	
	1.2nm,0.4s						
AKUM	**Antalya-Kumluc**	**1.10**	**303**	P	**Pb**	**20 23 50.9**	**-0.1**
AKUM				S	**Sn**	**20 24 06.7**	**0.0**
AKUM				*i* AML	AML	20 24 12.0	
	comp=N,160nm,0.7s						
KEMT	**Kemer-ANTALYA**	**1.16**	**320**	PN	**Pg**	**20 23 52.5**	**+0.5**
KEPZ	**Antalya-Kepez**	**1.18**	**5**	P	**Pb**	**20 23 50.7**	**-1.7**
AKDN	**Akdeniz- Kıbrı**	**1.28**	**109**	PN	**Pg**	**20 23 54.7**	**+0.3**
NATA	**Nata**	**1.29**	**136**	P	**Pn**	**20 23 54.1**	**+0.1**
NATA				S	**Sg**	**20 24 12.4**	**+0.9**
NATA				AML	AML	20 24 20.1	
	1.4nm,0.4s						
NATA				AML	AML	20 24 20.1	
	1.4nm,0.4s						
NATA				AML	AML	20 24 23.6	
	2.5nm,0.6s						
NATA				AML	AML	20 24 23.6	
	2.5nm,0.6s						
LEF	**Lefka**	**1.29**	**117**	PN	**Pn**	**20 23 53.8**	**-0.2**
ANTB	**Antalya**	**1.35**	**330**	PN	**Pb**	**20 23 55.3**	**0.0**
TEKE	**Tekeli-Mersin**	**1.38**	**72**	PN	**Pb**	**20 23 55.8**	**0.0**
ERMK	**Ermenek**	**1.47**	**51**	P	**Pg**	**20 23 57.8**	**-0.3**
HDMB	**Hadim**	**1.48**	**33**	PN	**Pb**	**20 23 57.2**	**-0.3**
BERE	**Bereket-Mersin**	**1.54**	**66**	PN	**Pb**	**20 23 58.0**	**-0.5**
KORT	**Korkueli**	**1.57**	**325**	PN	**Pb**	**20 23 58.3**	**-0.8**
KORT	**Korkueli**	**1.57**	**325**	P	**Pg**	**20 24 00.0**	**+0.1**
KORT				S	**Sg**	**20 24 20.2**	**-0.1**
KORT				*i* AML	AML	20 24 29.0	
	comp=N,57nm,0.6s						
KORT				*i* AML	AML	20 24 35.0	
	comp=E,78nm,0.6s						
AKAS	**Kas**	**1.61**	**289**	PN	**Pn**	**20 23 57.3**	**-1.1**
ELL	**Elmali**	**1.64**	**309**	PN	**Pb**	**20 23 59.6**	**-0.6**
ELL	**Elmali**	**1.64**	**309**	P	**Pn**	**20 23 59.2**	**+0.4**
CSS	**Mathiatis**	**1.69**	**116**	PN	**Pn**	**20 23 59.7**	**+0.3**
CSS	**Mathiatis**	**1.69**	**116**	P	**Pn**	**20 23 58.6**	**-0.8**
SEYD	**Seydisehir-KON**	**1.70**	**9**	PN	**Pb**	**20 24 00.3**	**-1.0**
ASGA	**Asgata**	**1.72**	**123**	P	**Pn**	**20 23 59.6**	**-0.2**
ASGA				S	**Sn**	**20 24 21.9**	**0.0**
ASGA				AML	AML	20 24 34.0	
	0.4nm,0.6s						
ASGA				AML	AML	20 24 34.0	
	0.4nm,0.6s						
ASGA				AML	AML	20 24 34.5	
	0.3nm,0.7s						
ASGA				AML	AML	20 24 34.5	
	0.3nm,0.7s						
LFK	**Lefkose**	**1.73**	**104**	PN	**Pb**	**20 24 00.7**	**-1.0**
AKKU	**Akkuyu-Mersin**	**1.73**	**75**	PN	**Pb**	**20 24 00.8**	**-0.9**
GULN	**MERSIN_Gulnar**	**1.73**	**74**	P	**Pb**	**20 24 01.1**	**-0.6**
GULN				S	**Sb**	**20 24 23.5**	**+0.1**
SEDI	**Konya, Seydise**	**1.74**	**7**	P	**Pn**	**20 24 00.2**	**0.0**
SEDI				S	**Sg**	**20 24 25.3**	**-0.4**
SEDI				*i* AML	AML	20 24 27.0	
	comp=N,92nm,0.4s						
SEDI				*i* AML	AML	20 24 32.0	
	comp=E,74nm,0.4s						
BUCA	**Burdur, Bucak-**	**1.77**	**335**	P	**Pb**	**20 24 01.9**	**-0.5**
TISA	**Tisan-Mersin**	**1.83**	**76**	PN	**Pb**	**20 24 02.2**	**-1.2**
IKL	**Isikli**	**1.85**	**73**	PN	**Pb**	**20 24 02.7**	**-1.1**
KARG	**Kargicak-Mersi**	**1.86**	**74**	PN	**Pb**	**20 24 02.6**	**-1.4**
MVOU	**Mavrovouni**	**1.89**	**111**	P	**Pn**	**20 24 01.1**	**-1.1**
MVOU				AML	AML	20 24 27.9	
	0.2nm,0.4s						
MVOU				AML	AML	20 24 44.4	
	0.2nm,0.5s						
KKBE	**Karaman, Kazim**	**1.90**	**38**	P	**Pb**	**20 24 03.4**	**-1.2**
KKBE				S	**Sb**	**20 24 27.9**	**-0.5**
KKBE				*i* AML	AML	20 24 39.0	
	comp=E,52nm,0.7s						
KEBE	**Keben-Mersin**	**1.94**	**68**	PN	**Pb**	**20 24 04.8**	**-0.5**
SILI	**Silifke-Mersin**	**2.08**	**71**	PN	**Pn**	**20 24 05.7**	**+1.0**
FETY	**Fethiye**	**2.15**	**296**	PN	**Pn**	**20 24 05.6**	**-0.1**
KMER	**Konya-Meram**	**2.16**	**19**	P	**Pb**	**20 24 08.8**	**-0.3**
EREN	**Erenkoy**	**2.19**	**94**	PN	**Pb**	**20 24 07.8**	**-1.8**
ISP	**Isparta**	**2.23**	**340**	PN	**Pb**	**20 24 08.4**	**-1.9**
BRDR	**BURDUR-Merkez**	**2.28**	**330**	P	**Pb**	**20 24 11.5**	**+0.4**
KIZK	**Mersin**	**2.28**	**70**	PN	**Pn**	**20 24 08.7**	**+1.2**
KONT	**Konya--Tatoy**	**2.33**	**17**	PN	**Pn**	**20 24 09.5**	**+1.3**
KONT	**Konya--Tatoy**	**2.33**	**17**	P	**Pn**	**20 24 09.5**	**+1.3**
BAGO	**Egridir - ISPA**	**2.33**	**346**	P	**Pn**	**20 24 09.0**	**+0.6**
DOGA	**KONYA_Doganhis**	**2.38**	**3**	P	**Pb**	**20 24 10.6**	**-2.3**
DOGA				S	**Sn**	**20 24 39.5**	**+1.1**
DOGA				*i* AML	AML	20 24 46.0	
	comp=E,41nm,0.6s						
DOGA				*i* AML	AML	20 24 47.0	
	comp=N,30nm,0.5s						
BASM	**Basmaki-Afyon**	**2.48**	**333**	PN	**Pn**	**20 24 11.4**	**+1.1**
YVAC	**Isparta, Yalva**	**2.55**	**356**	P	**Pn**	**20 24 11.5**	**+0.1**
YVAC				S	**Sn**	**20 24 42.8**	**+0.3**
MERS	**Mersin**	**2.70**	**64**	PN	**Pn**	**20 24 14.7**	**+1.3**
OSC2	**CSNet OBS 4**	**2.72**	**166**	S	**Sn**	**20 24 47.2**	**+0.7**
KDHN	**Kadinhani**	**2.84**	**10**	P	**Pn**	**20 24 17.0**	**+1.7**
SULT	**Sultanhani-AKS**	**2.96**	**33**	PN	**Pn**	**20 24 18.4**	**+1.5**
KARA	**Karaisali**	**3.26**	**61**	PN	**Pn**	**20 24 22.5**	**+1.5**
CMRD	**Camardi-Nigde**	**3.42**	**54**	PN	**Pn**	**20 24 24.9**	**+1.6**
TAHT	**Tahtakopru-Hat**	**3.86**	**79**	PN	**Pn**	**20 24 31.1**	**+1.8**
KOZT	**Kozan**	**3.91**	**62**	PN	**Pn**	**20 24 31.8**	**+1.9**

*IDC **10** 20:24:23.5±1.2, 28°.08N×129°.45E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.4/46, mbtmp3.6/7, ML3.5/2, MS3.3/4, Ms1 3.3/4, ms1mx2.7/62, Error ellipse: s-maj=35.4km s-min=16.5km az=98.0*
*NIED **10** 20:24:27.4, 28°.08N×129°.52E, h30km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.96; $M_{\theta\theta}$-1.60; $M_{\phi\phi}$-2.36; $M_{r\theta}$-4.44; $M_{\phi\phi}$1.42; $M_{\phi r}$1.84; Fault plane solution: $M_0$6.02000×10^{14} NP1: ϕ_s300.00000°, δ72.00000°, λ79.00000°. NP2: ϕ_s153.00000°, δ21.00000°, λ121.00000°.*
*JMA **10** 20:24:27.4±0.1, 28°.08N×129°.52E, h30km±2km, M3.5*
JMA Felt I J1.
ISC 10 20:24:26.8±1.0, 28°.02N±0°.03×129°.59E±0°.03, h26km±8km, n34, σ1§03/46, mb3.5/5, MS3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.39**	**2**	P	**Pb**	**20 24 35.0**	**-0.3**
JAM				*e*S	**Sb**	**20 24 40.4**	**-0.7**
JAMN	**Amaminishikomi**	**0.43**	**302**	P	**Pb**	**20 24 35.3**	**-0.6**
JAMN				*e*S	**Sb**	**20 24 41.4**	**-0.7**
JZK	**Kikaishima**	**0.45**	**49**	P	**Pb**	**20 24 37.3**	**+1.0**
JZK				*e*S	**Sb**	**20 24 44.3**	**+1.6**
JTK	**Tokunoshima**	**0.61**	**248**	P	**Pb**	**20 24 38.5**	**-0.4**
JTK				*e*S	**Sb**	**20 24 46.4**	**-0.7**
JOKE	**Okinoerabujima**	**1.11**	**234**	P	**Pn**	**20 24 47.1**	**+0.3**
JOKE				*e*S	**Sb**	**20 25 01.9**	**+0.4**
JTAJ	**Takarajima**	**1.18**	**343**	P	**Pn**	**20 24 46.5**	**-1.2**
JTAJ				*e*S	**Sn**	**20 25 00.4**	**-2.6**
JYRO	**Yoronjima**	**1.41**	**226**	P	**Pn**	**20 24 51.5**	**+0.6**
JYRO				*e*S	**Sn**	**20 25 08.7**	**0.0**
JOW	**Kunigami**	**1.66**	**225**	Pn	**Pn**	**20 24 54.6**	**+0.3**
	57nm,0.3s,baz=35,slow=11,SNR=231						
JOW				LR	LR	20 25 13.5	
	comp=Z,52nm,19.2s,baz=196,slow=31						
JOW				Sn	**Sn**	**20 25 16.2**	**+1.4**
	42nm,0.3s,baz=58,slow=29,SNR=4.1						
JOW	**Kunigami**	**1.66**	**225**	P	**Pn**	**20 24 54.8**	**+0.5**
JOW				*e*S	**Sn**	**20 25 15.4**	**+0.6**
JIH	**Iheya**	**1.74**	**236**	P	**Pn**	**20 24 55.9**	**+0.5**
JIH				*e*S	**Sn**	**20 25 18.0**	**+1.3**
JNN	**Nakanoshima**	**1.83**	**8**	P	**Pn**	**20 24 57.0**	**+0.3**
JNTH	**Nagotoyohara**	**2.04**	**223**	P	**Pn**	**20 25 00.1**	**+0.6**
JNTH				*e*S	**Sn**	**20 25 24.8**	**+0.6**
JYAK	**Yakushimahirau**	**2.35**	**20**	P	**Pn**	**20 25 03.9**	**+0.1**
JYAK				*e*S	**Sn**	**20 25 30.3**	**-1.6**
JKC	**Kuchinoerabu**	**2.49**	**12**	P	**Pn**	**20 25 06.4**	**+0.7**
JKC				*e*S	**Sn**	**20 25 35.1**	**-0.2**
JAGN	**Aguni-jima**	**2.53**	**236**	P	**Pn**	**20 25 06.9**	**+0.7**
JKDJ	**Kitadaitoujima**	**2.56**	**143**	P	**Pn**	**20 25 06.2**	**-0.5**
JKDJ				*e*S	**Sn**	**20 25 35.1**	**-1.9**
JMZ	**Minamidaito 2**	**2.63**	**146**	P	**Pn**	**20 25 06.7**	**-0.9**
JMZ				*e*S	**Sn**	**20 25 36.2**	**-2.5**
JMTN	**Minamitane**	**2.63**	**25**	P	**Pn**	**20 25 08.1**	**+0.4**
JMTN				*e*S	**Sn**	**20 25 39.2**	**+0.4**
JTN	**Tanegashima 3**	**2.90**	**24**	P	**Pn**	**20 25 11.8**	**+0.5**
JTN				*e*S	**Sn**	**20 25 45.5**	**+0.2**
JKE	**Kume jima 2**	**3.01**	**237**	P	**Pn**	**20 25 13.3**	**+0.4**
JKE				*e*S	**Sn**	**20 25 48.0**	**-0.1**
JNU	**Nakatsue**	**5.21**	**12**	Pn	**Pn**	**20 25 44.4**	**+1.3**
	4.6nm,0.3s,baz=199,slow=10,SNR=116						
JNU				Sn	**Sn**	**20 26 44.0**	**+1.6**
	baz=103,slow=14,SNR=1.3						
KSRS	**Korea Array**	**9.51**	**352**	LR	LR	20 30 44.4	
	comp=Z,47nm,18.9s,baz=190,slow=40						
USRK	**Ussuriysk Ar.**	**16.26**	**6**	Pn	**Pn**	**20 28 14.3**	**+0.8**
	baz=190,slow=25,SNR=2.6						
SIJI	**Sorong**	**28.77**	**177**	LR	LR	20 41 07.9	
	comp=Z,48nm,18.7s,baz=40,slow=35						
H11N2	**WAKE ISLAND Hy**	**34.99**	**95**	T	T	21 08 34.7	
	baz=290,slow=75,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**34.99**	**95**	T	T	21 08 33.8	
	baz=290,slow=75,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**35.01**	**95**	T	T	21 08 36.6	
	baz=290,slow=75,SNR=5.1						
MKAR	**Makanchi Array**	**41.28**	**310**	P	**P**	**20 32 09.4**	**-0.6**
	0.2nm,0.5s,baz=90,slow=9.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**41.59**	**321**	P	**P**	**20 32 11.4**	**-1.0**
	0.5nm,0.5s,baz=98,slow=10.0,SNR=2.9						
WRA	**Warramunga Arr**	**47.90**	**174**	P	**P**	**20 33 02.8**	**-0.2**
	0.6nm,1.0s,baz=354,slow=8.4,SNR=2.8						
PALK	**Pallekele**	**50.54**	**255**	LR	LR	20 56 18.2	
	comp=Z,40nm,19.6s,baz=170,slow=38						
ASAR	**Alice Springs**	**51.55**	**175**	P	**P**	**20 33 32.5**	**+1.7**
	0.3nm,0.7s,baz=10,slow=6.9,SNR=7.0						
KIRV	**Kirov**	**61.50**	**324**	LR	LR	21 04 30.3	
	comp=Z,62nm,18.1s,baz=334,slow=39						
FINES	**FINESS Array B**	**71.91**	**331**	P	**P**	**20 35 47.0**	**-0.5**
	0.9nm,0.5s,baz=67,slow=5.0,SNR=8.4						

*NEIC **10** 20:31:21.5±2.0, 19°.61N±0°.05×65°.11W±0°.07, h38km±46km, Error ellipse: s-maj=11.3km s-min=1.1km az=126.0*
*RSPR **10** 20:31:23.1, 19°.48N×65°.00W, h75km±14km, MD2.6/3*
ISC 10 20:31:22.5±2.6, 19°.5N±0°.1×65°.24W±0°.09, h23km, n23, σ0§71/24, 3C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.17**	**167**	Pn	**Pb**	**20 31 44.2**	**+0.1**
CUPR	**Culebra, Puert**	**1.19**	**182**	↑*e*P	**Pn**	**20 31 43.7**	**0.0**
CUPR	**Culebra, Puert**	**1.19**	**182**	*e*S	**Sb**	**20 31 59.6**	**+0.3**
CUPR	**Culebra, Puert**	**1.19**	**182**		**Pn**	**20 31 43.7**	**0.0**
CUPR					**Sb**	**20 31 59.6**	**+0.3**
CUPR	**Culebra, Puert**	**1.19**	**182**	IAML		20 32 06.5	
	comp=E,47nm,0.6s						
CBYP	**Canovanas**	**1.36**	**206**		**Pn**	**20 31 45.3**	**-0.8**
MTP	**Monte Pirata**	**1.43**	**192**		**Pb**	**20 31 48.4**	**-0.1**
MTP				IAML		20 32 09.4	
	comp=E,50nm,0.4s						
MTP				IAML		20 32 33.4	
	comp=N,35nm,2.8s						
GCPR	**Guaynabo City**	**1.43**	**214**	Pn	**Pn**	**20 31 46.9**	**-0.2**
HUMP	**Col San Antoni**	**1.47**	**203**	↑*e*P	**Pb**	**20 31 48.7**	**-0.5**
HUMP	**Col San Antoni**	**1.47**	**203**	*e*S	**Sb**	**20 32 08.0**	**+0.5**
HUMP	**Col San Antoni**	**1.47**	**203**		**Pn**	**20 31 47.2**	**-0.4**
HUMP				IAML		20 32 07.4	
	comp=N,30nm,0.5s						
HUMP	**Col San Antoni**	**1.47**	**203**		**Sb**	**20 32 08.0**	**+0.5**
SJG	**San Juan**	**1.63**	**212**	Pn	**Pn**	**20 31 49.3**	**-0.5**
SJG				IAML		20 32 13.4	
	comp=N,28nm,0.3s						
SJG				IAML		20 32 14.2	
	comp=N,33nm,0.4s						
PDPR	**Patillas Dam,**	**1.65**	**207**	Pn	**Pn**	**20 31 50.4**	**+0.3**
PDPR				IAML		20 32 13.0	
	comp=E,42nm,1.4s						
AOPR	**Arecibo Observ**	**1.84**	**232**		**Pn**	**20 31 52.3**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.87**	**229**	↑*e*P	**Pn**	**20 31 54.4**	**+1.2**
UUPR	**Utuado, UPR, P**	**1.87**	**229**	*e*S	**Sb**	**20 32 19.7**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.87**	**229**		**Pn**	**20 31 54.4**	**+1.2**
UUPR					**Sb**	**20 32 19.7**	**+0.6**
CELP	**Cerrillos**	**1.90**	**222**	Pn	**Pn**	**20 31 53.3**	**-0.3**
CELP				IAML		20 32 27.4	
	comp=N,18nm,0.4s						
CELP				IAML		20 32 49.2	
	comp=E,16nm,2.3s						
OBIP	**Obispado Ponce**	**1.94**	**222**	Pn	**Pn**	**20 31 53.8**	**-0.3**
OBIP				IAML		20 32 51.7	
	comp=N,20nm,4.0s						
MLPR	**Magueyes Islan**	**2.29**	**229**	Pn	**Pn**	**20 31 57.7**	**-1.2**
MLPR				IAML		20 32 30.4	
	comp=N,20nm,3.0s						
CRPR	**Cabo Rojo, PR**	**2.31**	**230**	Pn	**Pn**	**20 31 57.6**	**-1.6**
SDDR	**Presa de Saban**	**5.74**	**266**	Pn	**Pn**	**20 32 46.6**	**+0.2**

*IDC **10** 20:43:24.1±2.3, 15°.73S×71°.60W, h55km±22km, mb3.5/4, mb1 3.7/8, mb1mx3.5/42, mbtmp3.7/8, ML3.4/4, MS2.9/4, Ms1 3.0/4, ms1mx2.7/29, Error ellipse: s-maj=28.3km s-min=18.7km az=63.0*
ISC 10 20:43:23.4±0.8, 15°.79S±0°.10×71°.7W±0°.1, h50km, n12, σ1§21/12, mb3.8/4, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.43**	**99**	P	**Pn**	**20 44 16.9**	**+1.9**
	0.6nm,0.3s,baz=267,slow=9.6,SNR=11						
LPAZ				LR	LR	20 46 06.3	
	comp=Z,93nm,21.7s,baz=288,slow=48						
NNA	**Nana**	**6.29**	**306**	P	**Pn**	**20 44 54.8**	**+1.2**
	1.1nm,0.3s,baz=208,slow=12,SNR=1.9						
NNA				LR	LR	20 47 44.0	
	comp=Z,76nm,18.6s,baz=124,slow=41						
LVC	**Limon Verde**	**7.27**	**159**	P	**Pn**	**20 45 06.9**	**-0.5**
	1.2nm,0.3s,baz=341,slow=9.6,SNR=9.6						
LVC				S	**Sn**	**20 46 30.3**	**+1.6**
	0.4nm,0.3s,baz=32,slow=15,SNR=1.9						
LVC				LR	LR	20 48 15.7	
	comp=Z,170nm,21.1s,baz=340,slow=40						
SIV	**San Ignacio**	**10.19**	**93**	P	**Pn**	**20 45 46.5**	**-0.7**
	0.6nm,0.3s,baz=282,slow=11,SNR=12						
PLCA	**Paso Flores**	**24.87**	**178**	P	**P**	**20 48 42.6**	**+1.2**
	4.7nm,1.0s,baz=351,slow=11,SNR=5.3						
TXAR	**Lajitas Array**	**54.47**	**325**	P	**P**	**20 52 46.4**	**+0.2**
	0.2nm,0.7s,baz=154,slow=8.7,SNR=2.3						
SADO	**Sadowa**	**60.65**	**354**	LR	LR	21 20 13.9	
	comp=Z,24nm,21.7s,baz=155,slow=36						
TORD	**Torodi Ar. Bea**	**78.03**	**73**	P	**P**	**20 55 16.3**	**-0.9**
	0.8nm,0.8s,baz=261,slow=5.5,SNR=4.1						
YKA	**Yellowknife Ar**	**84.97**	**341**	P	**P**	**20 55 51.7**	**-1.1**
	0.7nm,0.8s,baz=137,slow=5.1,SNR=14						
ASAR	**Alice Springs**	**133.50**	**213**	PKP	**PKiKP**	**21 02 36.7**	**+0.4**
	0.2nm,0.6s,baz=132,slow=1.4,SNR=2.1						
ZALV	**Zalesovo Beam**	**137.72**	**21**	PKP	**PKPdf**	**21 02 41.0**	**-0.9**
	0.4nm,0.5s,baz=316,slow=8.1,SNR=2.2						
SONM	**Songino Array**	**148.00**	**2**	PKPbc	**PKPbc**	**21 03 03.7**	**+0.2**
	1.6nm,0.9s,baz=329,slow=1.3,SNR=9.1						

*INMG **10** 21:16:46.7±1.7, 35°.55N×3°.63W, h5km±5km, ML1.9, Error ellipse: s-maj=3.4km s-min=3.3km az=86.0*
*SFS **10** 21:16:46.0, 35°.50N×3°.60W, ML2.1, ALBORAN OESTE*
*CNRM **10** 21:16:47.4, 35°.48N×3°.54W, h0km, ml2.5*
ISC 10 21:16:46.3±1.1, 35°.57N±0°.04×3°.55W±0°.03, h14km±9km, n16, σ2§24/30, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.47**	**222**	P	**Pg**	**21 16 54.4**	**-1.3**
PALE				S	**Sg**	**21 17 01.0**	**-1.0**
GOG	**Mont Gurugu**	**0.57**	**127**	P	**Pg**	**21 16 57.3**	**-0.2**
GOG				S	**Sg**	**21 17 05.0**	**0.0**
CHAS	**Isla Isabel II**	**0.99**	**112**	P	**Pb**	**21 17 04.4**	**-0.8**
CHAS				S	**Sg**	**21 17 16.9**	**-1.4**
EMAL	**Malaga-Limoner**	**1.39**	**329**	P	**Pn**	**21 17 11.7**	**+0.4**
EMAL				S	**Sn**	**21 17 28.5**	**-1.0**
JBK	**JBK**	**1.47**	**146**	P	**Pb**	**21 17 13.8**	**+0.2**
JBK				S	**Sn**	**21 17 32.3**	**+0.5**
SMIR	**Smir Dam**	**1.50**	**275**	P	**Pg**	**21 17 15.8**	**+0.7**
SMIR				S	**Sg**	**21 17 36.3**	**+1.8**
CEU	**Ceuta**	**1.52**	**283**	P	**Pn**	**21 17 11.3**	**-1.8**
CEU				S	**Sn**	**21 17 26.1**	**-6.7**
SICH	**Sidi Chahed**	**2.06**	**225**	P	**Pb**	**21 17 23.9**	**+0.4**
SICH				S	**Sb**	**21 17 50.3**	**+1.2**
LCRM	**LCR**	**2.17**	**210**	P	**Pg**	**21 17 28.2**	**+0.3**
LCRM				S	**Sg**	**21 17 57.3**	**+1.3**
IFR	**Ifrane**	**2.43**	**213**	P	**Pn**	**21 17 23.9**	**-1.9**
IFR				S	**Sn**	**21 17 50.3**	**-5.1**
MD31	**MD31**	**2.88**	**201**	P	**Pn**	**21 17 33.0**	**+1.1**
MD31				S	**Sn**	**21 18 06.9**	**+0.6**
MDT	**Midelt**	**2.88**	**198**	P	**Pn**	**21 17 33.8**	**+1.8**
MDT				S	**Sn**	**21 18 09.1**	**+2.6**
PVAQ	**Vaqueiros**	**3.83**	**300**	*e*Pn	**Pn**	**21 17 47.7**	**+2.9**
PVAQ				*e*Sn	**Sn**	**21 18 27.6**	**-2.0**
PBDV	**Barranco-do-Ve**	**3.91**	**297**	*e*Pn	**Pn**	**21 17 49.0**	**+3.0**
PBDV				*e*Sn	**Sn**	**21 18 31.0**	**-0.8**
PNCL	**Nicolau / Gran**	**4.73**	**304**	*e*Pn	**Pn**	**21 17 57.7**	**+0.4**
PMRV	**Marv??o**	**4.92**	**323**	*e*Pn	**Pn**	**21 18 02.3**	**+2.4**

*IDC **10** 21:29:55.0±4.1, 38°.47N×142°.46E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.3/45, mbtmp3.6/6, ML2.6/3, Error ellipse: s-maj=69.1km s-min=30.9km az=99.0*
*JMA **10** 21:30:04.8, 38°.35N×141°.88E, h64km±1km, M3.5*
JMA Felt I J1.
ISC 10 21:30:02.2±1.6, 38°.28N±0°.05×142°.2E±0°.1, h55km±12km, n26, σ1§83/34, mb3.2/3, 5C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.55**	**274**	↑↑P	**Pn**	**21 30 15.5**	**+1.1**
JIKH				S	**Sn**	**21 30 23.1**	**0.0**
JIO	**Ouri**	**0.67**	**286**	↑↑P	**Pn**	**21 30 16.4**	**+0.7**
JIO				S	**Sn**	**21 30 24.6**	**-1.0**
JKMT	**Kesennumamotoy**	**0.76**	**315**	↓↓P	**Pn**	**21 30 17.8**	**+0.9**
JKMT				S	**Sn**	**21 30 27.1**	**-0.6**
OFUJ	**Ofunato**	**0.89**	**334**	↓↓P	**Pn**	**21 30 19.9**	**+1.2**
OFUJ				*e*S	**Sn**	**21 30 30.9**	**+0.2**
JMK	**Ichinoseki**	**1.00**	**313**	↓↓P	**Pn**	**21 30 20.7**	**+0.6**
JMK				S	**Sn**	**21 30 32.1**	**-1.2**
JMM	**Marumori**	**1.16**	**250**	↑↑P	**Pn**	**21 30 22.4**	**+0.2**
JMM				S	**Sn**	**21 30 35.5**	**-1.5**
JOU	**Okura**	**1.18**

ASAR S Sn 21 47 41.5 -12
0.5nm,0.3s,baz=319,slow=23,SNR=14
JHJ Hachijo jima 2 45.11 20 LR LR 22 12 46.5
comp=Z,22nm,18.2s,baz=100,slow=43
MJAR Matsushiro Arr 47.79 17 P **P 21 49 03.6 -0.1**
2.4nm,1.0s,baz=196,slow=8.3,SNR=1.9
USRK Ussuriysk Ar. 53.87 8 P **P 21 49 50.3 +1.2**
1.5nm,0.7s,baz=151,slow=21,SNR=5.0
SONM Songino Array 58.77 347 P **P 21 50 24.9 +0.8**
0.2nm,0.4s,baz=160,slow=9.3,SNR=4.0
MKAR Makanchi Array 66.60 331 P **P 21 51 17.2 +1.2**
0.5nm,0.5s,baz=136,slow=7.5,SNR=17
ZALV Zalesovo Beam 70.80 337 P **P 21 51 42.3 +0.4**
0.7nm,0.4s,baz=144,slow=6.3,SNR=4.1

MOS ***10*** *22:07:33.4±0.9, 11°.51S×166°.28E, h54km, mb5.3/23, Error ellipse: s-maj=8.1km s-min=7.0km az=16.1*
GCMT ***10*** *22:07:35.8±0.1, 11°.65S±0°.01×166°.07E±0°.01, h50km, MW5.2/103, Moment Tensor Solution. s103,c150; s99,c154; Duration: 1⁹0 Moment tensor: Scale 10¹⁷Nm; Mrr0.70±.01; Mθθ-0.05±.01; Mφφ-0.65±.01; Mrθ-0.05±.01; Mθφ0.17±.01; Mφr0.26±.01; Best double couple: M₀0.74800×10¹⁷ NP1:φs164.00000°, δ35.00000°, λ88.00000°. NP2:φs347.00000°, δ55.00000°, λ92.00000°. Principal axes: T 0.7510, Plg79.0000°, Azm263.0000°; N -0.0060, Plg1.0000°, Azm166.0000°; P -0.7450, Plg10.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***10*** *22:07:36.8±1.2, 11°.60S±0°.07×166°.38E±0°.08, h65km±5km, mb5.0/101 Error ellipse: s-maj=11.9km s-min=8.9km az=55.0*
IDC ***10*** *22:07:37.3±1.3, 11°.58S×166°.31E, h80km±10km, mb4.5/29, mb1 4.6/33, mb1mx4.5/44, mbtmp4.8/33, MS4.2/56, Ms1 4.2/56, ms1mx4.2/57, Error ellipse: s-maj=11.6km s-min=10.7km az=168.0*
BJI ***10*** *22:07:37.3±0.0, 10°.90S×166°.42E, h68km, mb5.1/63, mB5.0/34, Ms4.8/25, Ms7 4.5/27*
NOU ***10*** *22:07:37.4, 11°.59S×166°.46E, h81km, mb5.2/50, Santa Cruz Islands*
ISC 10 22:07:35.9±0.4, 11°.59S±0°.04×166°.37E±0°.05, h68km±3km, h69km:pP-P, n480,σ1$28/497, mb5.0/154, 49C-24D, Fault plane solution: NP1:φs24.96536°, δ61.06038°, λ100.61589°. **NP2:**φs183.79169°, δ30.66639°, λ71.57315°. **Principal axes:** T Plg71.8749°, Azm319.7202°; N Plg9.2777°, Azm199.7830°; P Plg15.4299°, Azm107.1988°; **Fault plane solution: NP1:** φs126.76811°, δ21.16000°, λ72.12479°. **NP2:** φs325.84506°, δ69.90678°, λ96.77553°. **Principal axes:** T Plg64.4695°, Azm247.0059°; N Plg6.3614°, Azm143.5077°; P Plg24.6142°, Azm50.5801°; **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.92**	**168**	Pn	**Pn**	**22 08 33.5**	**-0.2**
SANVU				Sn	**Sn**	**22 09 19.0**	**+0.5**
SANVU	**Saraoutou**	**3.92**	**168**	P	**Pn**	**22 08 34.6**	**+0.9**
DVP	**Devils Point**	**6.35**	**164**	P	**Pn**	**22 09 09.1**	**+2.2**
HNR	**Honiara**	**6.67**	**288**	P	**Pn**	**22 09 11.7**	**+0.3**
HNR	82nm,0.3s,baz=173,slow=3.4,SNR=47			S	**Sn**	**22 10 25.1**	**-0.9**
HNR	**Honiara**	**6.67**	**288**	Pn	**Pn**	**22 09 11.4**	**0.0**
HNR	58nm,0.3s,baz=250,slow=23,SNR=5.9			Sn	**Sn**	**22 10 23.0**	**-3.0**
HNR	**Honiara**	**6.67**	**288**	P	**Pn**	**22 09 13.1**	**+1.7**
KOUNC	**Koumac, New Ca**	**9.13**	**192**	P	**Pn**	**22 09 45.6**	**+0.6**
DZM	**Mont Dzumac**	**10.42**	**180**	P	**Pn**	**22 10 03.3**	**+0.6**
DZM	1.8nm,0.3s,baz=150,slow=24,SNR=2.1			S	**Sn**	**22 11 52.2**	**-5.8**
DZM	**Mont Dzumac**	**10.42**	**180**	*e*Pn	**Pn**	**22 10 02.9**	**+0.2**
DZM	19nm,0.3s 13nm,0.3s			*e*Sn	Sn	22 11 44.6	-13
DZM	comp=Z,4μm,25.6s			*e*LR	LR	22 12 19.4	
DZM	**Mont Dzumac**	**10.42**	**180**	Pn	**Pn**	**22 10 03.6**	**+0.8**
DZM	**Mont Dzumac**	**10.42**	**180**	P	**Pn**	**22 10 03.5**	**+0.8**
NOUC	**Port Laguerre**	**10.45**	**180**	P	**Pn**	**22 10 04.5**	**+1.5**
ONTNC	**Ouen Toro**	**10.66**	**180**	P	**Pn**	**22 10 08.5**	**+2.7**
OUENC	**Ouen Island, N**	**10.78**	**178**	Pn	**Pn**	**22 10 08.8**	**+1.4**
OUENC	**Ouen Island, N**	**10.78**	**178**	P	**Pn**	**22 10 08.7**	**+1.2**
MSVF	**Nonsavu**	**12.84**	**120**	P	**Pn**	**22 10 38.6**	**+2.9**
MSVF	baz=251,slow=4.5,SNR=4.5			LR	LR	22 14 33.0	
MSVF	**Nonsavu**	**12.84**	**120**	P	**Pn**	**22 10 37.8**	**+2.1**
MSVF	**Nonsavu**	**12.84**	**120**	Pn	**Pn**	**22 10 36.0**	**+0.2**
FUNA	**Funafuti**	**12.99**	**78**	Pn	**Pn**	**22 10 37.3**	**-0.4**
TAVE	**Taveuni**	**14.24**	**112**	P	**Pn**	**22 10 55.2**	**+0.8**
TARA	**Tarawa**	**14.41**	**27**	Pn	**Pn**	**22 10 57.0**	**+0.4**
PMG	**Port Moresby**	**19.02**	**275**	P	**P**	**22 11 53.1**	**+0.7**
PMG	1.3nm,0.3s,baz=140,slow=7.0,SNR=4.7			LR	LR	22 18 34.1	
PMG	**Port Moresby**	**19.02**	**275**	P	**P**	**22 11 52.8**	**+0.4**
EIDS	**Eidsvold**	**19.92**	**224**	P	**P**	**22 12 03.2**	**+0.9**
EIDS	**Eidsvold**	**19.92**	**224**		**Pn**	**22 12 03.9**	**-0.6**
EIDS	**Eidsvold**	**19.92**	**224**	P	**Pn**	**22 12 04.6**	**+0.1**
PATS	**Pohnpei**	**19.98**	**336**	P	**P**	**22 12 03.2**	**+0.2**
LHI	**Lord Howe Isla**	**20.95**	**198**	P	**P**	**22 12 14.7**	**+1.4**
LHI	**Lord Howe Isla**	**20.95**	**198**	P	**P**	**22 12 14.1**	**+0.8**
LHI	comp=Z,148nm,1.1s			IAmb	IAmb	22 12 15.5	
CTA	**Charters Tower**	**21.10**	**244**	P	**P**	**22 12 15.7**	**+0.6**
CTAO	comp=Z,21nm,0.7s,baz=73,slow=13,SNR=11 **Charters Tower**	**21.10**	**244**	P	**P**	**22 12 16.0**	**+0.9**
CTAO	comp=Z,32nm,0.8s			pmax	pmax		
CTAO	**Charters Tower**	**21.10**	**244**	P	**P**	**22 12 16.0**	**+0.9**
CTAO	**Charters Tower**	**21.10**	**244**	P	**P**	**22 12 16.5**	**+1.4**
AFI	**Afiamalu**	**21.44**	**99**	P	**P**	**22 12 19.7**	**+1.0**
AFI	comp=Z,17nm,0.3s,baz=64,slow=24,SNR=5.6			LR	LR	22 18 59.9	
RMQ	**Roma**	**22.25**	**226**	P	**P**	**22 12 28.0**	**+0.7**
MTSU	baz=22,SNR=19 **Mount Surprise**	**22.27**	**250**	P	**P**	**22 12 27.8**	**+0.1**
MTSU	baz=22,SNR=14 **Mount Surprise**	**22.27**	**250**	P	**P**	**22 12 29.1**	**+1.4**
COEN	**Coen**	**22.74**	**262**	P	**P**	**22 12 33.2**	**+0.6**
COEN	comp=Z,47nm,1.0s			IAmb	IAmb	22 12 35.1	
COEN	**Coen**	**22.74**	**262**	P	**P**	**22 12 34.1**	**+1.4**
RAO	**Raoul Island**	**22.88**	**143**	LR	LR	22 20 19.0	
ARMA	comp=Z,397nm,21.5s,baz=313,slow=33 **Armidale**	**23.20**	**214**	P	**P**	**22 12 37.8**	**+0.6**
ARMA	baz=23,SNR=44 **Armidale**	**23.20**	**214**	P	**P**	**22 12 37.7**	**+0.5**
ARMA	**Armidale**	**23.20**	**214**	P	**P**	**22 12 37.7**	**+0.5**
OUZ	**Omahuta**	**24.42**	**166**	P	**P**	**22 12 49.0**	**+0.9**
OUZ	**Omahuta**	**24.42**	**166**	P	**P**	**22 12 48.5**	**+0.4**
QLP	**Quilpie**	**25.63**	**231**	P	**P**	**22 13 00.1**	**+0.9**
MGCD	baz=26,SNR=7.5 **Mangrove Creek**	**25.67**	**211**	P	**P**	**22 13 01.0**	**+1.6**
MGCD	baz=26,SNR=4.5 **Mangrove Creek**	**25.67**	**211**	P	**P**	**22 13 01.1**	**+1.6**
QIS	comp=Z,33nm,1.3s **Mount Isa**	**27.19**	**247**	P	**P**	**22 13 13.4**	**0.0**
CMSA	baz=27,SNR=5.1 **Cobar Meteorol**	**27.54**	**221**	P	**P**	**22 13 16.9**	**+0.4**
CMSA	baz=28,SNR=26 **Cobar Meteorol**	**27.54**	**221**	P	**P**	**22 13 17.1**	**+0.7**
CNB	**Canberra Magne**	**28.21**	**210**	P	**P**	**22 13 23.2**	**+0.8**
CNB	baz=28,SNR=10 **Canberra Magne**	**28.21**	**210**	P	**P**	**22 13 23.0**	**+0.5**
URZ	comp=Z,58nm,0.9s **Urewera**	**28.24**	**162**	P	**P**	**22 13 23.0**	**+0.5**
URZ	comp=Z,8.0nm,0.5s,baz=255,slow=3.9,SNR=9.3			LR	LR	22 23 28.5	
URZ	comp=Z,417nm,21.0s,baz=16,slow=34 **Urewera**	**28.24**	**162**	P	**P**	**22 13 23.3**	**+0.7**
URZ	**Urewera**	**28.24**	**162**	P	**P**	**22 13 22.6**	**+0.1**
URZ	**Urewera**	**28.24**	**162**	P	**P**	**22 13 23.2**	**+0.7**
CAN	**Canberra**	**28.40**	**211**	P	**P**	**22 13 24.8**	**+0.7**
CAN	comp=Z,19nm,0.9s			pmax	pmax		
CAN	**Canberra**	**28.40**	**211**	P	**P**	**22 13 24.8**	**+0.7**
RTZ	**Ruatahuna**	**28.53**	**162**	P	**P**	**22 13 25.3**	**+0.1**
MRHZ	**Matea Rd**	**28.57**	**163**	P	**P**	**22 13 22.5**	**-3.1**
WTVZ	**West Tongariro**	**28.61**	**165**	P	**P**	**22 13 27.3**	**+1.3**
SNVZ	**South Ngauruho**	**28.69**	**165**	P	**P**	**22 13 28.6**	**+1.8**
FWVZ	**Far West T-bar**	**28.74**	**165**	P	**P**	**22 13 28.3**	**+1.1**
SNGZ	**Shannon Statio**	**28.79**	**162**	P	**P**	**22 13 27.2**	**-0.3**
BKZ	**Black Stump Fm**	**28.90**	**164**	P	**P**	**22 13 27.9**	**-0.6**
BKZ	comp=Z,50nm,1.5s			IAmb	IAmb	22 13 38.7	
BKZ	**Black Stump Fm**	**28.90**	**164**	P	**P**	**22 13 28.2**	**-0.3**
NMHZ	**Naumai**	**28.93**	**163**	P	**P**	**22 13 29.0**	**+0.3**
MOVZ	**Moawhango**	**28.93**	**165**	P	**P**	**22 13 29.0**	**+0.2**
SMPI	**Sarmi**	**29.04**	**287**	P	**P**	**22 13 31.3**	**+1.3**
BHHZ	comp=Z,27nm,1.1s **Black Hill Sta**	**29.09**	**164**	P	**P**	**22 13 29.9**	**-0.2**
TSZ	**Takapari Road**	**29.60**	**165**	P	**P**	**22 13 33.8**	**-0.8**
QRZ	**Quartz Range**	**29.62**	**171**	P	**P**	**22 13 34.6**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**29.89**	**1**	T	T	22 44 25.2	
H11S3	baz=181,slow=76,SNR=39 **WAKE ISLAND Hy**	**29.90**	**1**	T	T	22 44 26.0	
H11S1	baz=181,slow=76,SNR=27 **WAKE ISLAND Hy**	**29.91**	**1**	T	T	22 44 27.0	
BFZ	baz=181,slow=76,SNR=25 **Birch Farm**	**30.26**	**165**	P	**P**	**22 13 38.9**	**-1.5**
TUWZ	**Tuamarina**	**30.46**	**169**	P	**P**	**22 13 41.5**	**-0.7**
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**22 13 42.5**	**0.0**
STKA	comp=Z,32nm,0.7s,baz=39,slow=9.3,SNR=110			PcP	**PcP**	**22 16 39.9**	**-0.6**
STKA	comp=Z,5.1nm,0.7s,baz=46,slow=2.8,SNR=4.3			LR	LR	22 25 15.3	
STKA	comp=Z,927nm,20.6s,baz=50,slow=35 **Stephens Creek**	**30.48**	**225**	P	**P**	**22 13 43.3**	**+0.8**
STKA	baz=31,SNR=73 **Stephens Creek**	**30.48**	**225**	P	**P**	**22 13 43.6**	**+1.1**
STKA	comp=Z,8.0nm,0.8s			pmax	pmax		
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**22 13 43.6**	**+1.1**
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**22 13 43.5**	**+1.1**
THZ	**Tophouse**	**30.60**	**170**	P	**P**	**22 13 43.2**	**-0.2**
THZ	comp=Z,37nm,0.8s			IAmb	IAmb	22 13 47.9	
KHZ	**Kahutara**	**31.34**	**170**	P	**P**	**22 13 49.2**	**-0.7**
LTZ	**Lake Taylor**	**31.50**	**172**	P	**P**	**22 13 50.8**	**-0.6**
LTZ	comp=Z,35nm,0.8s			IAmb	IAmb	22 13 51.8	
WB0	**Warramunga Arr**	**31.80**	**251**	P	**P**	**22 13 54.3**	**0.0**
WRAB	**Tennant Creek**	**31.87**	**251**	*c iP*	**P**	**22 13 54.3**	**-0.6**
WRAB	comp=Z,47nm,1.3s			pmax	pmax		
WRAB	**Tennant Creek**	**31.87**	**251**	P	**P**	**22 13 54.9**	**+0.1**
WRAB	**Tennant Creek**	**31.87**	**251**	P	**P**	**22 13 55.4**	**+0.5**
WB2	**Warramunga Arr**	**31.87**	**251**	P	**P**	**22 13 54.8**	**-0.1**
WRA	**Warramunga Arr**	**31.88**	**251**	P	**P**	**22 13 54.1**	**-0.9**
WRA	comp=Z,19nm,0.9s,baz=81,slow=9.5,SNR=98			PcP	**PcP**	**22 16 44.1**	**-0.3**
WRA	comp=Z,7.1nm,0.9s,baz=80,slow=3.2,SNR=9.0			ScP	**ScP**	**22 20 21.1**	**-1.0**
WRA	comp=Z,0.8nm,0.9s,baz=83,slow=2.9,SNR=2.6			PKiKP	**PKiKP**	**22 24 13.1**	**0.0**
WRA	comp=Z,0.2nm,0.5s,baz=346,slow=0.4,SNR=6.3			LR	LR	22 25 29.6	
WRA	comp=Z,520nm,21.6s,baz=70,slow=34 **Warramunga Arr**	**31.88**	**251**	*i* P	**P**	**22 13 54.7**	**-0.3**
WRA	comp=Z,20nm,0.9s			pmax	pmax		
WRA	**Warramunga Arr**	**31.88**	**251**	P	**P**	**22 13 53.4**	**-1.6**
WRA					**PcP**	**22 16 45.0**	**+0.6**
TOO	**Toolangi**	**31.93**	**212**	P	**P**	**22 13 56.1**	**+0.8**
TOO	baz=32,SNR=15 **Toolangi**	**31.93**	**212**	P	**P**	**22 13 56.0**	**+0.8**
TOO	comp=Z,35nm,0.8s			pmax	pmax		
TOO	**Toolangi**	**31.93**	**212**	P	**P**	**22 13 56.0**	**+0.7**
TOO	**Toolangi**	**31.93**	**212**	P	**P**	**22 13 56.1**	**+0.8**
OXZ	**Oxford**	**32.00**	**172**	P	**P**	**22 13 54.0**	**-1.7**
OXZ	comp=Z,30nm,0.7s			IAmb	IAmb	22 13 56.3	
LCRK	**Leigh Creek**	**32.14**	**230**	P	**P**	**22 13 57.9**	**+0.7**
RPZ	**Rata Peaks**	**32.26**	**174**	P	**P**	**22 13 57.4**	**-0.7**
RPZ	**Rata Peaks**	**32.26**	**174**	P	**P**	**22 13 58.3**	**+0.3**
GUMO	**Guam**	**32.87**	**319**	LR	LR	22 26 47.7	
OOD	comp=Z,171nm,20.5s,baz=140,slow=35 **Oodnadatta**	**32.95**	**236**	P	**P**	**22 14 06.5**	**+2.3**
AS31	**Alice Springs**	**33.10**	**244**	P	**P**	**22 14 05.0**	**-0.7**
AS31					**PcP**	**22 16 48.0**	**+0.3**
ASAR	**Alice Springs**	**33.10**	**244**	P	**P**	**22 14 04.8**	**-0.8**
ASAR	comp=Z,15nm,0.7s,baz=69,slow=9.6,SNR=209			PcP	**PcP**	**22 16 47.5**	**-0.3**
ASAR	comp=Z,9.2nm,0.9s,baz=82,slow=2.6,SNR=17			ScP	**ScP**	**22 20 27.1**	**+0.9**
ASAR	comp=Z,2.9nm,0.9s,baz=89,slow=2.3,SNR=8.8			PKiKP	**PKiKP**	**22 24 11.6**	**-2.4**
ASAR	comp=Z,0.1nm,0.6s,baz=80,slow=1.0,SNR=1.4			LR	LR	22 26 12.2	
ASAR	comp=Z,711nm,21.5s,baz=74,slow=34 **Alice Springs**	**33.10**	**244**	P	**P**	**22 14 04.9**	**-0.8**
ASAR					**PcP**	**22 16 47.5**	**-0.3**
ASAR					**ScP**	**22 20 29.5**	**+3.2**
HTT	**Hallett**	**33.21**	**225**	P	**P**	**22 14 07.2**	**+0.6**
HTT	baz=33,SNR=51 **Hallett**	**33.21**	**225**	P	**P**	**22 14 07.4**	**+0.8**
ARPS	**Mount Arapiles**	**33.41**	**217**	P	**P**	**22 14 08.8**	**+0.7**
GLAD	baz=34,SNR=12 **Mount Arapiles**	**33.41**	**217**	P	**P**	**22 14 08.7**	**+0.6**
GLAD	comp=Z,54nm,0.8s **Gladstone**	**33.44**	**206**	P	**P**	**22 14 08.5**	**+0.2**
ODZ	comp=Z,23nm,0.8s **Otahua Downs**	**33.54**	**175**	P	**P**	**22 14 08.7**	**-0.4**
RAR	comp=Z,46nm,1.3s **Rarotonga**	**33.79**	**111**	LR	LR	22 25 10.3	
MTN	comp=Z,447nm,21.0s,baz=292,slow=31 **Manton Dam**	**34.45**	**264**	P	**P**	**22 14 17.9**	**+0.4**
MTN	baz=34,SNR=7.3 **Manton Dam**	**34.45**	**264**	P	**P**	**22 14 17.8**	**+0.4**
MTN	comp=Z,23nm,0.9s			IAmb	IAmb	22 14 18.7	
MTN					**PcP**	**22 16 52.4**	**+0.7**
BBOO	**Buckleboo**	**34.91**	**228**	P	**P**	**22 14 21.4**	**+0.2**
BBOO	baz=35,SNR=21 **Buckleboo**	**34.91**	**228**	P	**P**	**22 14 21.6**	**+0.4**
BBOO	comp=Z,24nm,0.8s			IAmb	IAmb	22 14 22.0	
BBOO	**Buckleboo**	**34.91**	**228**	P	**P**	**22 14 21.6**	**+0.4**
MULG	**Mulgathing**	**35.26**	**233**	P	**P**	**22 14 23.9**	**-0.4**
SIJI	**Sorong**	**36.43**	**284**	LR	LR	22 30 45.8	
SWI	comp=Z,473nm,20.8s,baz=118,slow=38 **Sorong**	**36.44**	**284**	P	**P**	**22 14 34.9**	**+0.4**
SWI	comp=Z,37nm,1.3s			pmax	pmax		
SWI	**Sorong**	**36.44**	**284**	P	**P**	**22 14 34.4**	**-0.1**
KNRA	comp=Z,1μmcomp=Z,37nm,1.3s **Kununurra**	**36.74**	**259**	P	**P**	**22 14 37.2**	**+0.1**
KNRA	baz=37,SNR=11 **Kununurra**	**36.74**	**259**	P	**P**	**22 14 37.4**	**+0.4**
KNRA	comp=Z,26nm,0.8s			IAmb	IAmb	22 14 39.5	
WRKA	**Warakurna**	**38.40**	**244**	P	**P**	**22 14 50.5**	**-0.5**
WRKA	baz=38,SNR=20 **Warakurna**	**38.40**	**244**	P	**P**	**22 14 51.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**39.84**	**256**	LR	LR	22 30 41.1	
LBMI	comp=Z,711nm,20.2s,baz=78,slow=35 **Labuha**	**40.09**	**283**	P	**P**	**22 15 07.3**	**+2.1**
FORT	comp=Z,893nmcomp=Z,46nm,1.0s **Forrest**	**40.24**	**236**	P	**P**	**22 15 06.6**	**+0.4**
FORT	baz=40,SNR=12 **Forrest**	**40.24**	**236**	P	**P**	**22 15 06.8**	**+0.6**
FORT	**Forrest**	**40.24**	**236**	P	**P**	**22 15 07.1**	**+0.9**
TNTI	**Ternate**	**40.65**	**285**	P	**P**	**22 15 12.3**	**+2.5**
SANI	comp=Z,27nm,1.4s **Sanana**	**41.15**	**280**	P	**P**	**22 15 14.4**	**+0.5**
SOEI	comp=Z,769nmcomp=Z,44nm,1.1s **Soe**	**41.39**	**268**	P	**P**	**22 15 16.0**	**-0.1**
SOEI	comp=Z,48nm,1.3s **Soe**	**41.39**	**268**	P	**P**	**22 15 16.0**	**-0.1**
SOEI				IAmb	IAmb	22 15 33.2	
BATI	comp=Z,36nm,1.2s **Baumata**	**41.93**	**268**	LR	LR	22 36 13.3	
BATI	comp=Z,510nm,18.1s,baz=158,slow=41 **Baumata**	**41.93**	**268**	P	**P**	**22 15 22.1**	**+1.7**
PPT	comp=Z,39nm,0.7s **Papeete**	**42.97**	**103**	LR	LR	22 30 53.4	
PPT2	comp=Z,360nm,18.3s,baz=256,slow=32 **Papeete2**	**42.97**	**103**	*e*S	S	22 22 08.4	+19
PPT2	comp=Z,201nm,28.2s			*e*LQ	LQ	22 25 55.7	
PPT2	comp=Z,922nm,34.0s			*e*LR	LR	22 27 50.1	
MMRI	comp=Z,2μm,29.5s,baz=271 **Maumere**	**43.52**	**270**	P	**P**	**22 15 33.3**	**+0.1**
MMRI	comp=Z,2μmcomp=Z,77nm,1.2s **Maumere**	**43.52**	**270**	P	**P**	**22 15 32.9**	**-0.3**
TBI	**Tubuai**	**43.56**	**112**	*e*S	S	22 22 14.6	+17
TBI	comp=Z,140nm,31.0s			*e*LQ	LQ	22 26 18.2	
TBI	comp=Z,829nm,30.5s			*e*LR	LR	22 28 07.1	
KMSI	comp=Z,2μm,29.0s,baz=279 **Cibinong**	**43.81**	**283**	P	**P**	**22 15 37.5**	**+2.0**
EDFI	comp=Z,102nm,0.9s **Ende, Flores**	**44.04**	**269**	P	**P**	**22 15 37.8**	**+0.3**
LUWI	comp=Z,280nmcomp=Z,12nm,1.1s **Luwuk**	**44.51**	**280**	P	**P**	**22 15 42.2**	**+1.0**
PSA00	comp=Z,49nm,0.6s **Pilbara Seismi**	**45.53**	**251**	P	**P**	**22 15 49.8**	**+0.6**
PSA00	**Pilbara Seismi**	**45.53**	**251**	P	**P**	**22 15 49.9**	**+0.7**
PSA00	comp=Z,40nm,1.1s			IAmb	IAmb	22 15 51.2	
PSA00	**Pilbara Seismi**	**45.53**	**251**	P	**P**	**22 15 50.9**	**+1.7**
MBWA	**Marble Bar**	**45.61**	**252**	P	**P**	**22 15 50.9**	**+1.1**
APSI	**Ampana**	**45.63**	**280**	P	**P**	**22 15 51.2**	**+1.2**
MRSI	comp=Z,634nmcomp=Z,46nm,1.6s **Marisa**	**45.73**	**282**	P	**P**	**22 15 47.9**	**-2.9**
BNSI	**Bone**	**46.32**	**275**	P	**P**	**22 15 57.0**	**+1.5**
KAPI	comp=Z,80nm,1.0s **Kappang**	**46.54**	**274**	LR	LR	22 34 47.2	
KAPI	comp=Z,91nm,21.5s,baz=126,slow=35 **Kappang**	**46.54**	**274**	P	**P**	**22 15 57.5**	**+0.3**
KAPI	comp=Z,76nm,1.4s			pmax	pmax		
KAPI	**Kappang**	**46.54**	**274**	P	**P**	**22 15 57.5**	**+0.3**
SPSI	**Sidrap Palu**	**46.74**	**275**	P	P	22 16 11.8	+13
TOLI2	**Tolitoli**	**47.02**	**283**	P	**P**	**22 16 01.1**	**+0.1**
TOLI2				IAmb	IAmb	22 16 01.8	
MEEK	comp=Z,16nm,0.9s **Meekatharra**	**47.26**	**244**	P	**P**	**22 16 03.3**	**+0.6**
MEEK	baz=47,SNR=84 **Meekatharra**	**47.26**	**244**	P	**P**	**22 16 03.4**	**+0.6**
MPSI	**Mapaga**	**47.65**	**281**	P	**P**	**22 16 05.9**	**+0.1**
KLBR	comp=Z,530nmcomp=Z,41nm,1.1s **Kellerberrin**	**48.94**	**238**	P	**P**	**22 16 15.4**	**-0.2**
KLBR	baz=49,SNR=49 **Kellerberrin**	**48.94**	**238**	P	**P**	**22 16 16.0**	**+0.4**
BLDU	**Ballidu**	**49.61**	**240**	P	**P**	**22 16 20.7**	**0.0**
BLDU	baz=50,SNR=18 **Ballidu**	**49.61**	**240**	P	**P**	**22 16 20.7**	**0.0**
NWAO	**Narrogin (SRO)**	**49.67**	**237**	P	**P**	**22 16 21.8**	**+0.7**
NWAO	comp=Z,72nm,1.1s			pmax	pmax		
NWAO	**Narrogin (SRO)**	**49.67**	**237**	P	**P**	**22 16 20.3**	**-0.8**
MORW	**Morawa**	**49.90**	**242**	P	**P**	**22 16 23.3**	**+0.3**
MORW	baz=50,SNR=34 **Morawa**	**49.90**	**242**	P	**P**	**22 16 23.2**	**+0.3**
MORW	**Morawa**	**49.90**	**242**	P	**P**	**22 16 23.6**	**+0.6**
MUN	**Mundaring**	**50.31**	**238**	P	**P**	**22 16 26.4**	**+0.5**
MUN	baz=50,SNR=20 **Mundaring**	**50.31**	**238**	P	**P**	**22 16 26.9**	**+0.9**
MYLDM	comp=Z,85nm,1.0s **Lahad Datu**	**50.45**	**287**	P	**P**	**22 16 27.8**	**+0.5**
GIRL	**Giralia**	**50.80**	**250**	P	**P**	**22 16 31.9**	**+2.1**
GIRL	baz=51,SNR=3.7 **Giralia**	**50.80**	**250**	P	**P**	**22 16 31.1**	**+1.3**
JHJ	**Hachijo jima 2**	**51.19**	**331**	LR	LR	22 37 26.7	
JAGI	comp=Z,63nm,19.7s,baz=122,slow=35 **Jajag, Banyuwa**	**51.46**	**268**	P	**P**	**22 16 34.2**	**-0.7**
JAGI	comp=Z,54nm,0.8s **Jajag, Banyuwa**	**51.46**	**268**	P	**P**	**22 16 31.8**	**-3.0**
BBKI	**Banjar Baru**	**51.65**	**275**	P	**P**	**22 16 37.5**	**+1.2**
TAOE	**Nuku Hiva Isla**	**52.64**	**92**	*e*LR	LR	22 32 07.3	
KKM	comp=Z,738nm,26.8s **Kota Kinabalu**	**52.88**	**287**	P	**P**	**22 16 45.8**	**+0.3**
JOW	**Kunigami**	**53.17**	**316**	LR	LR	22 38 59.6	
PCJI	comp=Z,174nm,19.4s,baz=127,slow=35 **Pacitan**	**54.41**	**268**	P	**P**	**22 16 57.8**	**+1.2**
MJAR	**Matsushiro Arr**	**54.73**	**332**	P	**P**	**22 16 57.5**	**-1.1**
MJAR	comp=Z,1.2nm,0.5s,baz=166,slow=8.3,SNR=8.3			LR	LR	22 38 09.9	
MAJO	comp=Z,108nm,22.0s,baz=156,slow=34 **Matsushiro**	**54.74**	**332**	⇓*e*P	**P**	**22 16 57.9**	**-0.6**
MAJO	comp=Z,20nm,1.4s			pmax	pmax		
MAT	**Matsushiro**	**54.74**	**332**	P	**P**	**22 16 57.8**	**-0.7**
SBUM	**Sibu**	**55.61**	**281**	P	**P**	**22 17 05.5**	**+0.3**
STKI	**Sintang**	**55.72**	**278**	P	**P**	**22 17 07.8**	**+1.8**
KSM	comp=Z,1μmcomp=Z,17nm,1.1s **Kuching**	**57.20**	**279**	P	**P**	**22 17 16.4**	**-0.1**
LEM	**Lembang**	**58.11**	**269**	LR	LR	22 44 49.2	
LEM	comp=Z,120nm,18.8s,baz=124,slow=38 **Lembang**	**58.11**	**269**	P	**P**	**22 17 24.0**	**+0.8**
LEM	comp=Z,66nm,0.8s			pmax	pmax		
CNJI	**Cibinong**	**58.51**	**268**	P	P	22 17 39.6	+14
ASAJ	**Asahikawa**	**59.51**	**340**	LR	LR	22 38 47.8	
CGJI	comp=Z,212nm,21.4s,baz=174,slow=31 **Cibinong**	**60.03**	**269**	P	**P**	**22 17 36.0**	**-0.2**
PPBI	comp=Z,1μmcomp=Z,68nm,0.8s **Pangkal Pinang**	**60.42**	**274**	P	**P**	**22 17 40.5**	**+1.5**
KSRS	**Korea Array**	**60.67**	**325**	P	**P**	**22 17 40.0**	**-0.1**
KSRS	comp=Z,2.9nm,0.7s,baz=136,slow=7.0,SNR=11			LR	LR	22 42 17.9	
KASI	comp=Z,77nm,20.0s,baz=135,slow=34 **Kota Agung**	**61.39**	**270**	P	P	22 17 59.2	+14
MDSI	**Maura Dua**	**61.89**	**271**	P	**P**	**22 17 49.0**	**+0.2**
DLV	comp=Z,8.2nm,1.4s **T Lat**	**62.05**	**290**	P	**P**	**22 17 50.2**	**+0.1**
DLV	comp=Z,20nm,0.9s			IAmb	IAmb	22 17 52.4	
NJ2	**Nanjing**	**62.84**	**315**	⇑P	**P**	**22 17 52.0**	**-2.8**
NJ2	comp=Z,37nm,0.9s			pmax	pmax		
QIZ	**Qiongzhong**	**63.48**	**298**	P	**P**	**22 18 01.3**	**+2.0**
QIZ				S	**S**	**22 26 30.3**	**+2.6**
QIZ	comp=Z,290nm,24.5s			LR	LR		
QIZ	comp=Z,400nm,11.4s			LR	LR		
QIZ

CN2 LR LR
comp=Z,200nm,18.0s
IPM Ipoh 66.92 280 P **P 22 18 22.1 +0.3**
BNX BinXian 66.98 331 ⇓P **P 22 18 21.1 -0.3**
BNX pmax pmax
comp=Z,8.0nm,1.3s
BNX pmax pmax
comp=Z,72nm,3.5s
MNSI Mandailing Nat 67.46 276 P **P 22 18 25.3 +0.1**
comp=Z,32nm,0.9s
KLR Kul'dur 67.80 336 LR LR 22 44 07.4
comp=Z,140nm,21.8s,baz=145,slow=32
KLR Kul'dur 67.80 336⇑ *e*P **P 22 18 27.1 +0.6**
KLR pmax pmax
comp=Z,8.0nm,1.5s
PSI Prapat 68.55 278 LR LR 22 51 10.2
comp=Z,98nm,19.3s,baz=105,slow=38
LYN LuoYang 68.67 314⇑ *i*P **P 22 18 32.8 +0.5**
LYN pP pP 22 18 51.9 +1.9
LYN S **S 22 27 35.4 +5.2**
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,80nm,6.3s
LYN LR LR
comp=Z,180nm,23.1s
LYN LR LR
comp=Z,320nm,22.4s
HNS HongShan 68.70 318 ⇑P **P 22 18 33.3 +0.9**
HNS pP **pP 22 18 47.1 -3.0**
HNS S **S 22 27 25.3 -5.1**
HNS sS **sS 22 28 02.9 +2.1**
HNS pmax pmax
comp=Z,20nm,1.2s
HNS LR LR
comp=Z,450nm,20.8s
HNS LR LR
comp=Z,290nm,20.6s
ENH Enshi 68.72 309 P **P 22 18 33.3 +0.6**
GYA Guiyang 69.23 304⇑ *i*P **P 22 18 36.9 +0.8**
GYA pP pP 22 18 51.1 -2.6
GYA S **S 22 27 40.1 +2.6**
GYA pmax pmax
comp=Z,25nm,0.8s
BJT Baijiatuau 69.28 321 P **P 22 18 35.7 -0.3**
BJT pmax pmax
comp=Z,17nm,1.1s
BJT Baijiatuau 69.28 321 P **P 22 18 35.7 -0.3**
BJT IAmb IAmb 22 18 37.6
comp=Z,17nm,1.1s
BJI Beijing 69.29 321 P **P 22 18 36.5 +0.5**
BJI pmax pmax
comp=Z,18nm,1.0s
SRIT Nakonsritamara 69.36 284 P **P 22 18 37.0 +0.1**
SRIT IAmb IAmb 22 18 39.5
comp=Z,29nm,0.8s
SLVN Son La 69.51 298 P **P 22 18 38.9 +1.0**
SLVN IAmb IAmb 22 18 56.7
comp=Z,19nm,1.1s
GSI Gunungsitoli 69.52 276 P **P 22 18 40.2 +2.1**
comp=Z,60nm,0.8s
GSI Gunungsitoli 69.52 276 P **P 22 18 38.3 +0.2**
TIY Taiyuan 70.38 317 P **P 22 18 43.9 +1.0**
TIY pmax pmax
comp=Z,18nm,0.8s
XAN Xi'an 70.94 312 P **P 22 18 47.9 +1.5**
XAN pP pP 22 19 01.6 -2.6
XAN pmax pmax
comp=Z,46nm,0.9s
XLT XiLinHaoTe 71.66 324⇑ *i*P **P 22 18 51.4 +0.8**
XLT pP pP 22 19 05.4 -2.9
XLT sP sP 22 19 16.6 +0.9
XLT pmax pmax
comp=Z,47nm,0.9s
XLT pmax pmax
comp=Z,150nm,6.4s
KMI Kunming 71.93 301 ⇑P **P 22 18 54.5 +1.8**
KMI PcP **pP 22 19 07.1 -3.2**
KMI pP pwP 22 19 14.1 +1.0
KMI PP **PP 22 21 34.4 +1.0**
KMI S **S 22 28 11.4 +2.3**
KMI pmax pmax
comp=Z,35nm,1.2s
KMI LR LR
comp=Z,120nm,13.8s
KMI LR LR
comp=Z,200nm,17.2s
KMI LR LR
comp=Z,290nm,23.8s
HHC Hu-ho-hao-te 72.64 319 *e*P **P 22 18 57.7 +1.2**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.6s
HHC LR LR
comp=Z,220nm,15.9s
HHC LR LR
comp=Z,230nm,16.5s
HHC LR LR
comp=Z,430nm,15.9s
CM31 Chiang Mai Arr 72.89 293 P **P 22 18 59.6 +1.3**
CMAR Chiang Mai Arr 72.89 293 P **P 22 18 59.7 +1.4**
comp=Z,31nm,0.8s,baz=122,slow=4.4,SNR=150
CMAR LR LR 22 49 17.2
comp=Z,68nm,21.2s,baz=65,slow=34
CMAR Chiang Mai Arr 72.89 293 *i* P **P 22 18 59.9 +1.6**
CMAR pmax pmax
comp=Z,33nm,0.8s
CHTO Chiang Mai 73.00 294 P **P 22 19 00.1 +1.1**
CHTO pmax pmax
comp=Z,54nm,1.2s
CHTO Chiang Mai 73.00 294 P **P 22 19 00.1 +1.1**
ZEA Zeya 73.08 337 *e*P **P 22 18 59.5 +0.9**
ZEA *e* 22 19 13.7
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,10.0nm,1.6s
HIA Hailar 73.14 330 P **P 22 18 59.3 +0.1**
HIA pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 73.14 330 P **P 22 18 59.3 +0.1**
HIA IAmb IAmb 22 19 00.8
comp=Z,11nm,0.9s
PZH PanZhiHua 73.28 302 P **P 22 19 01.4 +0.8**
PZH S **SKiKP 22 28 27.8 +1.6**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,140nm,4.9s
PZH LR LR
comp=Z,280nm,19.8s
PZH LR LR
comp=Z,500nm,20.1s
PZH LR LR
comp=Z,230nm,19.6s
CD2 Chengdu 73.42 307 *e*P **P 22 19 03.0 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 75.58 312 ⇑P **P 22 19 15.9 +2.1**
LZH PcP **pP 22 19 29.2 -2.6**
LZH pmax pmax
comp=Z,75nm,1.0s
LZH pmax pmax
comp=Z,180nm,6.5s
LZH LR LR
comp=Z,160nm,17.6s
LZH LR LR
comp=Z,220nm,17.6s
LZH LR LR
comp=Z,270nm,18.2s
KDAK Kodiak Island 76.86 21 LR LR 22 46 45.0
comp=Z,407nm,19.4s,baz=227,slow=30
QSPA South Pole Qui 78.42 180 LR LR 22 51 53.9
comp=Z,158nm,18.7s,baz=24,slow=34
QSPA South Pole Qui 78.42 180 P **P 22 19 28.8 -0.3**
YAK Yakutsk 78.79 343 LR LR 22 50 20.9
comp=Z,117nm,21.7s,baz=89,slow=32
YAK Yakutsk 78.79 343‖ *e*P **P 22 19 32.5 +1.6**
YAK pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 79.10 324 *c i*P **P 22 19 33.8 +0.6**
ULN pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 79.10 324 P **P 22 19 34.2 +1.0**
ULN IAmb IAmb 22 19 35.1
comp=Z,21nm,0.9s
BILL Bilibino 79.42 360 *d i*P **P 22 19 33.8 -0.5**
BILL *e* 22 19 42.1
BILL *e**PP **pP 22 19 53.5 +0.9**
BILL *e*PPP PPP 22 24 24.2
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 79.42 360 P **P 22 19 34.5 +0.2**
SONM Songino Array 79.47 324 P **P 22 19 35.5 +0.4**
comp=Z,6.0nm,0.7s,baz=145,slow=5.2,SNR=38
SONM Songino Array 79.47 324 P **P 22 19 35.7 +0.5**
SONM pmax pmax
comp=Z,21nm,1.3s
SONM Songino Array 79.47 324 P **P 22 19 35.7 +0.5**
SONM IAmb IAmb 22 19 37.0
comp=Z,21nm,1.3s
RPN Rapa Nui 79.78 116 LR LR 22 48 22.1
comp=Z,139nm,18.8s,baz=234,slow=31
GTA Gaotai 79.88 314 ⇑P **P 22 19 38.8 +1.2**
GTA pP pP 22 19 53.1 -2.6
GTA sP sP 22 20 04.8 +1.8
GTA pmax pmax
comp=Z,30nm,1.1s
GTA pmax pmax
comp=Z,110nm,5.6s
GTA LR LR
comp=Z,130nm,18.2s
GTA LR LR
comp=Z,170nm,20.4s
GTA LR LR
comp=Z,240nm,21.1s
J20K Nowinta River 81.27 16 P **P 22 19 44.6 +0.3**
SHL Shillong 81.31 298 P **P 22 19 45.5 -0.1**
SHL pmax pmax
comp=Z,32nm,0.9s
SHL Shillong 81.31 298 P **P 22 19 45.5 -0.1**
GOMU GeErMu 82.34 309 P **P 22 19 52.2 +1.2**
GOMU S **S 22 30 00.3 -1.8**
GOMU pmax pmax
comp=Z,8.0nm,0.8s
GOMU pmax pmax
comp=Z,120nm,5.1s
GOMU LR LR
comp=Z,66nm,11.3s
GOMU LR LR
comp=Z,130nm,12.6s
GOMU LR LR
comp=Z,120nm,13.5s
N25K Chitina, Valde 82.43 21 P **P 22 19 50.5 -0.1**
N25K IAmb IAmb 22 19 53.9
comp=Z,12nm,0.6s
N25K Chitina, Valde 82.43 21 P **P 22 19 51.3 +0.8**
baz=228
ZAK Zakamensk 82.50 325 *e*P **P 22 19 50.7 -0.5**
ZAK *e* 22 20 04.5
ZAK pmax pmax
comp=Z,15nm,1.0s
ZAK pmax pmax
comp=Z,12nm,1.0s
LSA Lhasa 83.16 302 P **P 22 19 55.4 -0.2**
LSA pmax pmax
comp=Z,15nm,1.1s
LSA Lhasa 83.16 302 P **P 22 19 57.2 +1.6**
LSA pmax pmax
comp=Z,35nm,1.0s
LSA Lhasa 83.16 302 P **P 22 19 55.4 -0.2**
LSA IAmb IAmb 22 20 12.1
comp=Z,15nm,1.1s
O02D Mt. Diablo Mer 83.22 47 P **P 22 19 56.5 +1.3**
baz=249
CCB Clear Creek Bu 83.46 18 P **P 22 19 55.5 -0.2**
CCB IAmb IAmb 22 19 58.4
comp=Z,6.9nm,0.6s
M26K Nabesna, AK 83.52 21 P **P 22 19 57.3 +1.1**
WDC Whiskeytown Da 83.54 46 P **P 22 19 57.9 +1.2**
WDC pmax pmax
comp=Z,24nm,1.5s
WDC Whiskeytown Da 83.54 46 P **P 22 19 57.9 +1.2**
WDC IAmb IAmb 22 20 14.8
comp=Z,24nm,1.5s
HDA Harding Lake 83.56 19 P **P 22 19 56.4 +0.2**
HDA IAmb IAmb 22 19 59.1
comp=Z,16nm,0.6s
HDA Harding Lake 83.56 19 P **P 22 19 56.5 +0.2**
baz=226
N02D Trinity Center 83.56 46 P **P 22 19 58.4 +1.5**
baz=249
TCOL CIGO, UAF Yank 83.61 18 P **P 22 19 57.8 +1.4**
TCOL IAmb IAmb 22 20 15.7
comp=Z,27nm,1.4s
COLA College 83.61 18⇑ *e*P **P 22 19 58.1 +1.7**
COLA pmax pmax
comp=Z,19nm,2.2s
M02C Callahan 83.61 46 P **P 22 19 58.5 +1.4**
baz=248
IL31 83.83 18 P **P 22 19 56.7 -0.9**
ILAR Eielson Array 83.83 18 P **P 22 19 56.8 -0.8**
comp=Z,4.6nm,0.5s,baz=246,slow=4.1,SNR=42
ILAR LR LR 22 50 19.2
comp=Z,98nm,20.6s,baz=204,slow=31
YBH Yreka Blue Hor 83.83 45 P **P 22 19 58.4 +0.1**
comp=Z,2.7nm,0.6s,baz=123,slow=1.6,SNR=10
YBH LR LR 22 50 38.3
comp=Z,90nm,18.5s,baz=277,slow=31
YBH Yreka Blue Hor 83.83 45 P **P 22 19 59.3 +1.0**
YBH pmax pmax
comp=Z,12nm,1.4s
YBH Yreka Blue Hor 83.83 45 P **P 22 19 59.3 +1.0**
ORV Oroville 83.92 48 P **P 22 19 59.6 +0.9**
ORV pmax pmax
comp=Z,13nm,1.5s
ORV Oroville 83.92 48 P **P 22 19 59.6 +0.9**
SCRK Sand Creek 84.22 20 P **P 22 20 00.3 +0.5**
SCRK IAmb IAmb 22 20 02.9
comp=Z,10.0nm,0.7s
SCRK Sand Creek 84.22 20 P **P 22 20 00.4 +0.7**
baz=229
CMB Columbia Colle 84.22 49 P **P 22 20 00.5 +0.2**
CMB pmax pmax
comp=Z,6.0nm,1.1s
CMB Columbia Colle 84.22 49 P **P 22 20 00.5 +0.2**
MAW Mawson 84.45 202 P **P 22 19 60.0 -0.8**
comp=Z,13nm,0.9s,baz=115,slow=1.2,SNR=4.9
MAW LR LR 22 52 03.3
comp=Z,165nm,18.6s,baz=62,slow=32
MAW Mawson 84.45 202 P **P 22 20 00.2 -0.6**
MAW pmax pmax
comp=Z,8.0nm,1.2s
MAW Mawson 84.45 202 P **P 22 20 00.2 -0.6**
BBB Bella Bella 84.68 34 LR LR 22 49 59.1
comp=Z,183nm,20.6s,baz=263,slow=30
I04A Tendick Farm, 84.79 44 P **P 22 20 05.0 +2.0**
baz=249
ISA Isabella, Lake 84.92 52 P **P 22 20 06.5 +2.6**
ISA pmax pmax
comp=Z,12nm,1.4s
PNTR Pine Nut 85.16 49 P **P 22 20 06.4 +1.2**
PNTR IAmb IAmb 22 20 22.6
comp=Z,17nm,1.3s
J05D Fort Rock, OR 85.41 44 P **P 22 20 08.6 +2.3**
baz=250
K05A Summer Lake 85.45 45 P **P 22 20 07.1 +0.5**
K05A IAmb IAmb 22 20 24.7
comp=Z,23nm,1.3s
CWC Cottonwood Cre 85.46 52 P **P 22 20 08.8 +2.1**
baz=252
LRMC Laurel Mtn Rad 85.48 53 P **P 22 20 09.1 +2.4**
baz=252
PAHR Pah Rah Range 85.51 48 P **P 22 20 07.5 +0.6**
PAHR IAmb IAmb 22 20 24.8
comp=Z,12nm,1.2s
MOD Modoc Plateau 85.58 46 P **P 22 20 08.1 +0.9**
MOD IAmb IAmb 22 20 24.1
comp=Z,13nm,1.4s
EGAK Eagle 85.68 20 P **P 22 20 08.5 +1.6**
EGAK IAmb IAmb 22 20 10.3
comp=Z,12nm,0.6s
EGAK Eagle 85.68 20 P **P 22 20 08.8 +1.9**
baz=231
LHV Little Huntoon 85.70 50 P **P 22 20 08.6 +1.0**
LHV IAmb IAmb 22 20 25.2
comp=Z,14nm,1.3s
MONP2 Monument Peak 85.72 55 P **P 22 20 10.8 +2.7**
baz=253
PINE Pine Mountain 85.78 44 P **P 22 20 08.9 +0.7**
PINE IAmb IAmb 22 20 11.6
comp=Z,7.2nm,0.8s
RYN Ryan 85.80 49 P **P 22 20 09.0 +0.6**
RYN IAmb IAmb 22 20 25.5
comp=Z,9.7nm,1.3s
PFO Pinyon Flats O 85.89 55 P **P 22 20 09.6 +0.8**
comp=Z,1.6nm,0.5s,baz=266,slow=3.8,SNR=6.1
PFO LR LR 22 50 37.2
comp=Z,247nm,20.5s,baz=262,slow=30
PFO Pinyon Flats O 85.89 55 P **P 22 20 09.1 +0.2**
PFO Pinyon Flats O 85.89 55 P **P 22 20 11.2 +2.3**
baz=253
TPFO Pinon Flats 85.90 55 P **P 22 20 11.1 +2.2**
baz=253
NVAR Mina Array Bea 85.91 50 P **P 22 20 09.0 0.0**
comp=Z,2.5nm,0.7s,baz=234,slow=7.9,SNR=17
NVAR LR LR 22 50 41.3
comp=Z,388nm,21.0s,baz=266,slow=30
NVAR Mina Array Bea 85.91 50 P **P 22 20 09.3 +0.3**
NV11 Mina Array Sit 86.02 50 P **P 22 20 09.1 -0.3**
NV11 IAmb IAmb 22 20 26.4
comp=Z,15nm,1.4s
G05D Wamic, OR 86.04 42 P **P 22 20 12.0 +2.8**
baz=249
GRAC Grapevine Rang 86.18 51 P **P 22 20 13.0 +2.9**
baz=252
KVN Kaiserville 86.25 49 P **P 22 20 09.9 -0.7**
KVN pmax pmax
comp=Z,10.0nm,1.3s
KVN Kaiserville 86.25 49 P **P 22 20 09.9 -0.7**
KVN IAmb IAmb 22 20 27.6
comp=Z,10nm,1.3s
BELC Belle Mtn. Jos 86.37 54 P **P 22 20 13.8 +2.6**
baz=254
CHLP Challavanipeta 86.48 290 *e*P **P 22 20 12.6 +0.7**
DLBC Dease Lake 86.60 28 LR LR 22 54 15.9
comp=Z,89nm,18.6s,baz=270,slow=32
TIXI Tiksi 86.74 349 LR LR 22 54 24.0
comp=Z,118nm,21.7s,baz=202,slow=32
TIXI Tiksi 86.74 349⇑ *e*P **P 22 20 10.9 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 86.74 349 P **P 22 20 10.7 -1.2**
TUQ Turquoise Moun 86.84 53 P **P 22 20 15.9 +2.4**
baz=253
GMRC Granite Mounta 86.86 54 P **P 22 20 16.4 +2.8**
baz=254
WVOR Wild Horse Val 86.92 46 P **P 22 20 16.0 +2.3**
WVOR pmax pmax
comp=Z,7.0nm,1.3s
GUN Gumba 87.12 299 *e*P **P 22 20 15.7 +0.4**
comp=Z,27nm,0.8s
LTY Liberty 87.17 41 P **P 22 20 15.1 +0.4**
PALK Pallekele 87.23 278 P **P 22 20 16.1 +0.3**
comp=Z,11nm,0.7s,baz=179,slow=2.8,SNR=7.9
PALK LR LR 23 02 26.0
comp=Z,89nm,19.3s,baz=216,slow=38
PKI Pulchoki 87.44 299 *e*P **P 22 20 16.9 +0.1**
comp=Z,11nm,0.6s
KKN Kakani 87.60 299 *e*P **P 22 20 17.6 +0.2**
comp=Z,35nm,0.8s
G08A Pilot Rock 87.62 43 P **P 22 20 17.9 +0.9**
G08A IAmb IAmb 22 20 34.2
comp=Z,11nm,1.4s
DMN Daman 87.71 299 *e*P **P 22 20 18.5 +0.5**
comp=Z,44nm,0.9s
EPYK Eagle Plains 88.11 20 P **P 22 20 20.5 +1.7**
baz=235
GKN Gorkha 88.20 299 *e*P **P 22 20 20.1 -0.1**
comp=Z,98nm,1.2s
PVM Polavaram 88.46 288 *e*P **P 22 20 21.8 +0.4**
BMO Blue Mountains 88.60 44 P **P 22 20 22.4 +0.8**
BMO pmax pmax
comp=Z,7.0nm,1.3s
BMO Blue Mountains 88.60 44 P **P 22 20 22.4 +0.8**
LPIG La Paz 88.68 65 P **P 22 20 22.8 +0.5**
comp=Z,26nm,0.3s,baz=198,slow=2.0,SNR=4.5
LPIG LR LR 22 49 21.9
comp=Z,68nm,21.8s,baz=340,slow=28
ELK Elko 88.85 48 P **P 22 20 23.9 +0.8**
comp=Z,2.0nm,0.4s,baz=319,slow=0.3,SNR=12
ELK LR LR 22 52 51.1
comp=Z,163nm,20.5s,baz=283,slow=30
ELK Elko 88.85 48 P **P 22 20 23.8 +0.7**
ELK IAmb IAmb 22 20 41.0
comp=Z,8.2nm,1.4s
F10A Beach Ranch, E 88.99 43 P **P 22 20 24.1 +0.7**
F10A IAmb IAmb 22 20 26.1
comp=Z,5.1nm,0.6s
DANN Dangsing 89.04 299 *e*P **P 22 20 23.8 -0.5**
comp=Z,45nm,0.8s
KOLN Koldanda 89.04 298 *e*P **P 22 20 23.8 -0.4**
comp=Z,33nm,0.8s
SPR3 Spring Creek 3 89.04 50 P **P 22 20 24.8 +0.7**
SPR3 IAmb IAmb 22 20 27.3
comp=Z,4.5nm,0.7s
MYLAV Mylavaram 89.28 287 *e*P **P 22 20 26.0 +0.8**
PLID Pearl Lake 89.55 44 P **P 22 20 26.9 +0.7**
PYUN Piuthan 89.64 299 *e*P **P 22 20 26.4 -0.7**
comp=Z,43nm,1.0s
ADKI Addanki 89.71 286 *e*P **P 22 20 27.7 +0.4**
ADKI *es*P **sP 22 20 52.9 0.0**
NEW Newport 89.76 41 P **P 22 20 28.0 +1.1**
comp=Z,3.5nm,0.6s,baz=261,slow=3.3,SNR=8.9
NEW LR LR 22 53 01.2
comp=Z,122nm,21.6s,baz=292,slow=30
NEW Newport 89.76 41 P **P 22 20 27.9 +1.0**
NEW IAmb IAmb 22 20 29.6
comp=Z,3.6nm,0.7s
NEW Newport 89.76 41 P **P 22 20 28.6 +1.7**
baz=252
WMQ Urumqi 89.91 315 *e*P **P 22 20 28.2 +0.4**
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ pmax pmax
comp=Z,100nm,5.3s
WMQ LR LR
comp=Z,240nm,23.5s
INK Inuvik 90.21 19 P **P 22 20 30.3 +1.9**
comp=Z,0.5nm,0.5s,baz=278,slow=7.2,SNR=6.2
INK LR LR 22 53 46.1
comp=Z,195nm,21.4s,baz=197,slow=31
HLID Hailey 90.22 46 P **P 22 20 29.9 +0.6**
NJS Nagarjunasagar 90.48 287 *e*P **P 22 20 31.3 +0.4**
DUG Dugway, Tooele 90.49 49 P **P 22 20 31.5 +0.9**
DUG pmax pmax
comp=Z,4.0nm,0.7s
DUG Dugway, Tooele 90.49 49 P **P 22 20 31.5 +0.9**
DUG IAmb IAmb 22 20 33.8
comp=Z,3.6nm,0.7s
DUG Dugway, Tooele 90.49 49 P **P 22 20 33.3 +2.7**
baz=255
MSU Marysvale 90.55 51 P **P 22 20 30.4 -0.7**
MSU Marysvale 90.55 51 P **P 22 20 30.4 -0.7**
RCLA Racherla 90.59 286 *e*P **P 22 20 31.8 +0.4**
RCLA *es*P **sP 22 20 57.3 +0.2**
SRLM Srisailam 90.78 286 *e*P **P 22 20 32.7 +0.3**
HVU Hansel Valley 90.92 48 P **P 22 20 33.1 +0.5**
HVU pmax pmax
comp=Z,15nm,1.3s
HVU Hansel Valley 90.92 48 P **P 22 20 33.1 +0.5**
HVU IAmb IAmb 22 20 50.7
comp=Z,15nm,1.3s
RPR Rampur 90.96 289 *e*P **P 22 20 33.4 +0.2**
CUPL Choutuppal 90.99 287 *e*P **P 22 20 33.5 +0.2**
CUPL *ep*P **pP 22 20 51.8 0.0**
HYBB Hyderabad (bro 91.36 287 *e*P **P 22 20 35.1 +0.1**
HYBB *es*P **sP 22 21 00.8 +0.1**
HYBB *e*SKSac **SKSac 22 31 01.4 -0.7**
HYBB *e*SKKSac **SKKSac 22 31 17.9 0.0**
MSO Missoula 91.42 43 P **P 22 20 37.1 +2.3**
baz=255
SYO Syowa Base 91.44 197‖ *e*PP PP 22 24 12.8 +0.5
DGZ Jazzator, Alta 91.70 320 *c i*P **P 22 20 35.7 -0.4**
DGZ pmax pmax
comp=Z,8.0nm,0.8s
SRSP Sriramsagar 91.86 289 *e*P **P 22 20 37.0 -0.3**
URV Uravakonda 92.09 285 *e*P **P 22 20 38.9 +0.5**
ZSN Zaisan 92.77 318 *e*P **P 22 20 40.4 -0.5**
ZSN Zaisan 92.77 318 *e*P **P 22 20 40.4 -0.5**
baz=318
ZSN *i* S **SKSac 22 31 05.3 -3.4**
baz=318
KLRI Killari 93.32 288‖ *e*P **P 22 20 44.0 -0.1**
PDAR Pinedale Array 93.47 47 P **P 22 20 45.3 +0.8**
comp=Z,0.6nm,0.6s,baz=254,slow=2.3,SNR=8.0
PDAR PKKPbc **PKKPdf 22 37 50.0 -1.0**

comp=Z,0.7nm,0.7s,baz=86,slow=3.4,SNR=7.0
PDAR LR LR 22 56 41.2
comp=Z,92nm,18.4s,baz=292,slow=32
PDAR Pinedale Array 93.47 47 P P 22 20 44.7 +0.2
O20A White River Ci 93.89 50 P P 22 20 48.8 +2.3
baz=258
ANMO Albuquerque 94.25 55 LR LR 22 55 08.8
comp=Z,159nm,21.5s,baz=268,slow=30
MK31 Makanchi Array 94.34 317 P P 22 20 48.5 +0.4
MK31 pmax pmax
comp=Z,14nm,0.9s
MK31 Makanchi Array 94.34 317 P P 22 20 48.5 +0.4
MKAR Makanchi Array 94.34 317 P P 22 20 47.9 -0.2
comp=Z,15nm,0.7s,baz=94,slow=6.5,SNR=157
MKAR PKKPbc **PKKPdf 22 37 45.9 -3.3**
comp=Z,0.2nm,0.5s,baz=251,slow=4.4,SNR=6.6
MKAR LR LR 23 03 14.9
comp=Z,42nm,20.6s,baz=100,slow=35
MKAR Makanchi Array 94.34 317 *i* P **P 22 20 48.2 +0.1**
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR Makanchi Array 94.34 317 P P 22 20 48.4 +0.3
ZAA0 Zalesovo Array 94.35 324 P P 22 20 48.2 +0.2
ZAA0 IAmb IAmb 22 21 01.9
comp=Z,8.4nm,1.1s
ZALV Zalesovo Beam 94.35 324 P P 22 20 46.7 -1.2
comp=Z,3.3nm,0.7s,baz=106,slow=4.5,SNR=20
ZALV LR LR 23 00 44.8
comp=Z,52nm,21.9s,baz=80,slow=34
ZALV Zalesovo Beam 94.35 324 P P 22 20 48.1 +0.2
MAKZ Makanchi 94.55 317 P P 22 20 49.4 +0.3
MAKZ pmax pmax
comp=Z,19nm,1.1s
MAKZ Makanchi 94.55 317 P P 22 20 49.4 +0.3
PMSA Palmer Station 95.00 161 LR LR 22 58 06.9
comp=Z,83nm,18.8s,baz=296,slow=32
YKA Yellowknife Ar 95.17 27 P P 22 20 49.6 -1.9
comp=Z,0.7nm,0.5s,baz=258,slow=4.6,SNR=23
YKA PP **PP 22 24 43.7 +1.5**
comp=Z,0.3nm,0.9s,baz=246,slow=4.8,SNR=2.5
YKA PKiKP **PKiKP 22 25 32.4 +0.1**
comp=Z,0.2nm,0.6s,baz=282,slow=1.8,SNR=1.9
YKA LR LR 22 56 35.8
comp=Z,116nm,21.7s,baz=271,slow=31
YKA Yellowknife Ar 95.17 27 P P 22 20 50.2 -1.3
YKA Yellowknife Ar 95.17 27 P P 22 20 50.2 -1.3
SDCO Great Sand Dun 95.53 53 P P 22 20 55.1 +1.0
SDCO IAmb IAmb 22 21 14.2
comp=Z,7.4nm,1.5s
SDCO Great Sand Dun 95.53 53 P P 22 20 55.7 +1.5
baz=260
TXAR Lajitas Array 95.55 61 P P 22 20 53.3 -0.8
comp=Z,0.8nm,0.7s,baz=227,slow=5.0,SNR=7.1
TXAR PP **PP 22 24 46.8 +0.6**
comp=Z,0.3nm,0.8s,baz=255,slow=7.2,SNR=3.5
TXAR PKKPbc **PKKPbc 22 37 45.1 -0.7**
comp=Z,0.1nm,0.4s,baz=59,slow=7.7,SNR=4.3
TXAR LR LR 22 56 07.7
comp=Z,154nm,20.6s,baz=266,slow=30
SATY Saty 96.33 313 *eP* **P 22 20 56.7 -0.7**
SATY Saty 96.33 313 *eP* **P 22 20 56.7 -0.7**
baz=312
SATY *i* S **SKSac 22 31 24.6 -3.8**
baz=312
SEM Semipalatinsk 96.37 320 *eP* **P 22 20 54.7 -2.9**
SEM Semipalatinsk 96.37 320 *eP* **P 22 20 54.7 -2.9**
baz=320
SNAA Sanae 96.61 183‖ *eP* **P 22 20 59.4 +1.3**
SNAA pmax pmax
comp=Z,9.0nm,1.6s
TDK Taldyqorghan 96.66 314 *eP* **P 22 20 57.8 -0.9**
TDK pmax pmax
comp=Z,3.0nm,0.4s
TDK Taldyqorghan 96.66 314 *eP* **P 22 20 57.9 -0.9**
comp=Z,2.6nm,0.4s,baz=314
NRIK Noril'sk 96.84 339 LR LR 23 01 49.1
comp=Z,121nm,21.9s,baz=84,slow=34
NRIK Noril'sk 96.84 339‖ *eP* **P 22 20 58.2 -0.8**
NRIK pmax pmax
comp=Z,7.0nm,1.9s
MDOK Medeo 97.33 312 *eP* **P 22 21 00.7 -1.3**
MDOK Medeo 97.33 312 *eP* **P 22 21 00.7 -1.3**
baz=312
MDOK *i* S **SKSac 22 31 29.8 -3.8**
baz=312
KURK Kurchatov 97.45 320‖ *eP* **P 22 21 01.4 -0.7**
KURK pmax pmax
comp=Z,10.0nm,2.5s
KURK Kurchatov 97.45 320 P P 22 20 59.7 -2.4
KURK IAmb IAmb 22 21 17.3
comp=Z,10nm,1.5s
KURBB Kurchatov Arra 97.49 320 P P 22 21 00.2 -2.1
comp=Z,1.2nm,0.7s,baz=108,slow=3.8,SNR=6.4
KURBB LR LR 23 04 09.6
comp=Z,84nm,21.9s,baz=78,slow=35
KSH Kashi 97.57 309 P Pdif 22 21 05.3 +2.1
KSH pmax pmax
comp=Z,3.0nm,1.1s
KSH LR LR
comp=Z,220nm,5.5s
KSH LR LR
comp=Z,220nm,5.8s
KSH LR LR
comp=Z,170nm,6.5s
KUU Kurty 97.95 313 *eP* **P 22 21 03.4 -1.2**
KUU pmax pmax
comp=Z,5.0nm,0.9s
KUU Kurty 97.95 313 *eP* **P 22 21 03.5 -1.2**
comp=Z,5.0nm,0.9s,baz=313
BOOM Boomskoye usch 98.04 312 P **P 22 21 05.0 -0.2**
BOOM pmax pmax
comp=Z,4.0nm,1.3s
BOOM Boomskoye usch 98.04 312 P **P 22 21 05.0 -0.2**
BOOM IAmb IAmb 22 21 20.4
comp=Z,4.3nm,1.2s
KST Kastek 98.10 312 *eP* **P 22 21 03.6 -1.8**
baz=312
AAK Ala-Archa 99.11 312 P **Pdif 22 21 08.9 -1.1**
comp=Z,0.5nm,0.3s,baz=182,slow=4.9,SNR=9.2
AAK LR LR 23 06 00.6
comp=Z,78nm,21.9s,baz=90,slow=35
AAK Ala-Archa 99.11 312‖ *iP* **Pdif 22 21 09.9 -0.1**
AAK pmax pmax
comp=Z,16nm,2.0s
AAK Ala-Archa 99.11 312 Pdif 22 21 07.8 -2.3
USHA Ushuaia 99.44 151 LR LR 22 58 05.8
comp=Z,123nm,18.3s,baz=248,slow=30
BRVK Borovoye 102.82 322‖ *eP* **Pdif 22 21 24.5 -1.5**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
FRB Frobisher Bay 115.42 24 PKP **PKiKP 22 26 09.4 -0.1**
comp=Z,0.9nm,0.4s,baz=218,slow=3.3,SNR=5.8
ARCES ARCESS Array B 117.01 346 PKP **PKPdf 22 26 11.2 -1.3**
comp=Z,2.1nm,0.5s,baz=73,slow=2.1,SNR=37
ARCES ARCESS Array B 117.01 346 PKIKP **PKPdf 22 26 11.3 -1.2**
ARCES ARCESS Array B 117.01 346 PKPdf 22 26 11.3 -1.2
LPAZ La Paz 119.39 116 PKP **PKPdf 22 26 18.0 -1.4**
comp=Z,1.1nm,0.7s,baz=238,slow=4.1,SNR=5.4
LPAZ La Paz 119.39 116 PKIKP **PKPdf 22 26 18.5 -0.9**
LPAZ La Paz 119.39 116 PKPdf **PKPdf 22 26 18.5 -0.9**
SCHQ Schefferville 120.16 32 PKP **PKPdf 22 26 18.1 -0.9**
comp=Z,1.2nm,0.5s,baz=232,slow=6.5,SNR=5.6
OBN Obninsk 121.58 329 *e*PKIKP **PKPdf 22 26 20.8 -0.8**
OBN *e* 22 27 53.1
OBN *e*PPP PPP 22 30 28.4
OBN pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 122.04 315 *i* PKIKP **PKPdf 22 26 21.2 -1.8**
KIV pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 122.50 339 PKP **PKPdf 22 26 22.1 -1.1**
comp=Z,1.6nm,0.7s,baz=29,slow=4.4,SNR=7.1
FINES FINESS Array B 122.50 339 PKIKP **PKPdf 22 26 22.4 -0.8**
FINES FINESS Array B 122.50 339 PKPdf 22 26 22.4 -0.8
RAYN Ar Rayn 122.73 291 PKIKP **PKPdf 22 26 24.1 -0.8**
RAYN Ar Rayn 122.73 291 PKPdf 22 26 24.1 -0.8
GURO Guroymak-BITLI 123.87 309 PKPdf 22 26 26.7 0.0
SDV Santo Domingo 123.91 87 PKPdf 22 26 26.1 -1.4
BOSA Boshof 125.14 222 PKP **PKPdf 22 26 28.9 -0.6**
comp=Z,6.2nm,0.8s,baz=129,slow=3.8,SNR=12
BOSA Boshof 125.14 222 PKIKP **PKPdf 22 26 29.7 +0.1**
BOSA Boshof 125.14 222 PKPdf **PKPdf 22 26 29.7 +0.1**
MNK Minsk 126.17 331 *i* PKIKP **PKiKP 22 26 31.2 +0.3**
MNK *i* 22 26 48.8
MNK *i* 22 28 25.6
MNK *i* PPP PPP 22 31 07.2
MNK *i* 22 33 39.2
MNK *i* SS SS 22 45 22.6 +0.3
MNK pmax pmax
comp=E,2.0nm,1.4s
MNK pmax pmax
comp=Z,8.0nm,1.2s
MNK pmax pmax
comp=N,17nm,1.2s
MNK MLR MLR
comp=Z,283nm,19.0s
MNK MLR MLR
comp=E,21nm,14.0s
MNK MLR MLR
comp=N,192nm,18.0s
MNK Minsk 126.17 331 *i* PKP **PKiKP 22 26 31.3 +0.4**
comp=E,2.0nm,1.4s
MNK *i* PKP **PKiKP 22 26 31.3 +0.4**
comp=N,17nm,1.2s
MNK *i* PKP **PKiKP 22 26 31.3 +0.4**
comp=Z,8.0nm,1.2s,baz=54
MNK *i* pPKP **pPKPdf 22 26 48.9 -0.9**
MNK *i* PP **PP 22 28 25.6 +0.6**
MNK *i* SKP 22 30 01.2
MNK *i* PKS **PKSdf 22 30 04.9 -1.9**
MNK *i* PPP PPP 22 31 07.2
MNK *i* SKS **SKSdf 22 33 39.2 +3.0**
MNK *i* SKKS **SKKSdf 22 43 54.9 -1.7**
MNK *i* SS **SS 22 45 22.7 +0.4**
MNK *i* SSS SSS 22 50 17.2
MNK *i* LR LR 23 18 31.3
MNK *i* LRM MLR 23 21 39.5
comp=Z,283nm,19.1s
MNK *i* LRM MLR 23 22 08.8
comp=E,21nm,14.0s
MNK *i* LRM MLR 23 22 33.0
comp=N,192nm,18.4s
LBTB Lobatse 127.21 226 PKP **PKPdf 22 26 32.7 -0.8**
comp=N,5.6nm,0.9s,baz=126,slow=7.0,SNR=4.8
PTLB Pontes e Lacer 127.54 120 PKPdf 22 26 32.8 -1.5
AKASG Malin Array Be 127.65 327 PKP **PKPdf 22 26 31.8 -1.6**
comp=N,0.9nm,0.8s,baz=54,slow=2.2,SNR=2.4
MATP Matopo 127.76 233 PKP **PKPdf 22 26 34.2 -0.5**
comp=N,3.8nm,0.5s,baz=136,slow=0.9,SNR=4.3
KMBO Kilima Mbogo 127.89 259 PKP **PKPdf 22 26 34.5 -0.8**
comp=N,1.4nm,0.8s,baz=67,slow=5.7,SNR=5.7
BRTR Keskin Array B 129.78 313 PKP **PKPdf 22 26 37.1 -0.9**
comp=N,0.3nm,0.4s,baz=29,slow=2.8,SNR=3.7
BRTR PP **PP 22 28 47.4 -2.4**
comp=N,0.5nm,0.6s,baz=100,slow=5.1,SNR=4.3
BRTR SKP 22 30 03.5
comp=N,1.4nm,1.0s,baz=64,slow=2.9,SNR=4.0
MMAI Mount Meron Ar 130.39 304 PKP **PKPdf 22 26 39.1 -0.2**
comp=N,1.9nm,0.8s,baz=40,slow=6.6,SNR=4.7
LSZ Lusaka 130.73 238 PKP **PKPdf 22 26 40.5 0.0**
comp=N,4.5nm,0.6s,baz=159,slow=1.8,SNR=17
CRVS Cervenica-Dubn 132.77 329 *e*PKIKP **PKiKP 22 26 44.5 +0.1**
CRVS Cervenica-Dubn 132.77 329 *e*PKP **PKiKP 22 26 44.5 +0.1**
CONA Conrad Observa 136.17 331 *i* P **PKPdf 22 26 49.3 -0.4**
comp=N,0.6nm,0.4s
KHC Kasperske Hory 136.30 334 *e*PKIKP **PKPdf 22 26 49.4 -0.5**
KHC Kasperske Hory 136.30 334 *e*PKPDF **PKPdf 22 26 49.4 -0.5**
GERES GERESS Array B 136.46 334 PKP **PKPdf 22 26 48.7 -1.5**
comp=N,0.9nm,0.8s,baz=90,slow=1.3,SNR=6.4
GERES SKP 22 30 17.5
comp=N,0.1nm,0.3s,baz=20,slow=27,SNR=2.0
BDFB Brasilia 136.52 128 SKP 22 30 19.8
comp=N,2.9nm,0.9s,baz=170,slow=8.7,SNR=3.3
WTTA Wattenberg 138.56 334 *eP* **PKiKP 22 26 56.8 +0.4**
comp=N,0.7nm,0.4s
ABTA Abfaltersbach 138.57 333 *eP* **PKPdf 22 26 54.4 +0.1**
comp=N,0.9nm,0.4s
MOTA Moosalm 138.73 334 *eP* **PKiKP 22 26 56.8 +0.1**
comp=N,0.9nm,0.4s
SQTA Sankt Quirin 138.78 334 *eP* **PKPdf 22 26 55.3 +0.6**
comp=N,3.1nm,1.0s
FETA Feichten 139.14 334 *eP* **PKPdf 22 26 55.3 0.0**
comp=N,1.8nm,0.7s
DAVOX Davos/Dischmat 139.69 335 PKhKP PKPpre 22 26 50.8
comp=N,1.7nm,0.8s,baz=9.8,slow=20,SNR=2.0
KEST Kesra 146.22 323 PKPbc **PKPbc 22 27 14.3 -0.5**
comp=N,9.1nm,0.8s,baz=284,slow=2.3,SNR=11
ESDC Sonseca Array 150.75 345 PKP **PKPdf 22 27 16.1 +0.8**
comp=N,2.0nm,0.9s,baz=24,slow=3.5,SNR=2.1
ESDC PKPbc **PKPbc 22 27 20.5 -0.4**
comp=N,1.7nm,0.8s,baz=4.4,slow=3.4,SNR=4.4
TORD Torodi Ar. Bea 164.95 278 PKP **PKPdf 22 27 31.1 -2.2**
comp=N,1.8nm,0.9s,baz=357,slow=1.6,SNR=9.9
TORD PKPab **PKPab 22 28 29.1 -0.9**
comp=N,5.5nm,0.9s,baz=74,slow=4.1,SNR=14
TORD PP **PP 22 32 21.6 +4.6**
comp=N,1.2nm,0.9s,baz=110,slow=4.2,SNR=4.3
TORD Torodi Ar. Bea 164.95 278 PKPdf 22 27 32.2 -1.1
KIC Kosan Boka 169.80 240 *e*PKP2 **PKPab 22 28 51.1 -0.3**
comp=N,16nm,0.8s
LIC Lamto 169.97 239 *e*PKP2 **PKPab 22 28 51.6 -0.5**
comp=N,53nm,1.0s
DBIC Dimbokro 170.06 241 PKPab **PKPab 22 28 51.2 -1.3**
comp=N,8.0nm,0.8s,baz=118,slow=5.2,SNR=9.9
TIC Toumodi 170.18 241 *e*PKP2 **PKPab 22 28 52.8 -0.3**

IDC 10 22:20:38.3±10.0, 4°.84S×153°.30E, h148km±70km, mb3.1/3, mb1 3.4/4, mb1mx3.1/37, mbtmp3.7/4 Error ellipse: s-maj=118.5km s-min=43.8km az=103.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.60**	**233**	P	Pn	22 22 26.4	-0.1
	3.9nm,0.3s,baz=74,slow=7.4,SNR=2.9						
PMG				S	Sn	22 23 52.2	+0.9
	1.3nm,0.3s,baz=335,slow=17,SNR=1.3						
WRA	**Warramunga Arr**	**23.80**	**229**	P	P	22 25 37.9	+0.2
	1.0nm,0.6s,baz=54,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**26.46**	**223**	P	P	22 26 01.6	-0.2
	0.5nm,0.9s,baz=54,slow=9.4,SNR=4.4						
MKAR	**Makanchi Array**	**80.68**	**319**	P	P	22 32 35.1	+0.1
	0.3nm,0.8s,baz=90,slow=4.5,SNR=1.7						

*IDC **10** 22:24:19.1±1.1, 25°.27N×62°.06E, h0km, mb3.6/12, mb1 3.7/14, mb1mx3.5/55, mbtmp3.6/14, ML3.5/2, MS3.8/3, Ms1 3.8/3, ms1mx2.8/71, Error ellipse: s-maj=26.9km s-min=18.5km az=129.0*
*TEH **10** 22:24:19.6, 25°.24N×62°.32E, h28km, ML3.7*
*OMAN **10** 22:24:26.8±0.6, 24°.91N×61°.90E, h30km, mb5.1/4, ml3.6/10, ms2.6/1, Error ellipse: s-maj=9.9km s-min=5.9km az=278.0*

ISC 10 22:24:22.5±0.7, 25°.08N±0°.06×62°.22E±0°.07, h35km, n52, σ1°89/60, mb3.6/11, MS3.9/3, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**1.02**	**286**	*e*Pg	**Pn**	**22 24 41.2**	**+0.9**
NGCH				*e*		22 24 48.1	
	comp=Z,17μm,0.2s						
SRVN	**Saravan**	**2.32**	**4**	*e*Pn	**Pn**	**22 24 56.7**	**-1.7**
SRVN				*e*		22 25 12.9	
	comp=Z,3μm,0.4s						
WSAR	**Wadi Sarin**	**3.75**	**242**	Pn	**Pn**	**22 25 17.5**	**-0.4**
	comp=Z,4.1nm,0.3s,baz=98,slow=7.3,SNR=124						
WSAR				Sn	**Sn**	**22 25 57.0**	**-3.9**
	comp=Z,6.9nm,0.3s,baz=353,slow=23,SNR=10						
WSAR				LR	LR	22 26 51.1	
	comp=Z,62nm,20.5s,baz=94,slow=41						
WBK	**Wadi Bani Khal**	**3.85**	**231**	P	**Pn**	**22 25 19.6**	**+0.3**
	SNR=433						
WBK				S	**Sn**	**22 26 01.2**	**-2.2**
JLN	**Jalan Bani Buh**	**3.89**	**222**	P	**Pn**	**22 25 19.7**	**-0.1**
	SNR=129						
JLN				S	**Sn**	**22 26 02.7**	**-1.5**
BIDO	**Bidbid**	**4.04**	**248**	*e*Pn	**Pn**	**22 25 23.4**	**+1.5**
BIDO	**Bidbid**	**4.04**	**248**	P	**Pn**	**22 25 23.6**	**+1.7**
	SNR=6.1						
SMDO	**Samad**	**4.30**	**243**	P	**Pn**	**22 25 26.3**	**+0.7**
	SNR=21						
SMDO				S	**Sn**	**22 26 11.7**	**-2.9**
ZHDN	**Zahedan**	**4.48**	**344**	*e*Pn	**Pn**	**22 25 26.6**	**-1.5**
ZHDN				*e*		22 25 27.1	
	comp=Z,1μm,0.3s						
JMDO	**Jabal Madar**	**4.63**	**235**	P	**Pn**	**22 25 31.1**	**+1.1**
	SNR=224						
JMDO				S	**Sn**	**22 26 18.4**	**-4.2**
HOQ	**Hoqain**	**4.71**	**253**	P	**Pn**	**22 25 31.5**	**+0.3**
	SNR=31						
HOQ				S	**Sn**	**22 26 21.8**	**-2.8**
KBAM	**BAM**	**5.25**	**321**	*e*Pn	**Pn**	**22 25 37.8**	**-0.8**
KBAM				*e*		22 25 38.4	
	comp=Z,867nm,0.4s						
BANOM	**Banah**	**5.41**	**280**	*e*Pn	**Pn**	**22 25 41.7**	**+0.9**
BANOM	**Banah**	**5.41**	**280**	P	**Pn**	**22 25 41.4**	**+0.7**
	SNR=8.4						
UOSS	**Minazif**	**5.46**	**270**	*e*Pn	**Pn**	**22 25 42.0**	**+0.7**
ARQ	**Araqi**	**5.48**	**253**	P	**Pn**	**22 25 44.8**	**+3.1**
	SNR=50						
MSFE	**Esma-Masafi**	**5.49**	**274**	*e*Pn	**Pn**	**22 25 42.6**	**+0.7**
HATD	**Hatta, Dubai**	**5.53**	**269**	*e*Pn	**Pn**	**22 25 43.4**	**+1.1**
SHME	**Shamm**	**5.57**	**281**	*e*Pn	**Pn**	**22 25 45.3**	**+2.4**
SHME	**Shamm**	**5.57**	**281**	P	**Pn**	**22 25 44.2**	**+1.3**
	SNR=8.7						
SHME				S	**Sn**	**22 26 45.2**	**-0.5**
ASHO	**Ashiyiah**	**5.61**	**267**	*e*Pn	**Pn**	**22 25 44.7**	**+1.3**
ASHO	**Ashiyiah**	**5.61**	**267**	P	**Pn**	**22 25 44.0**	**+0.6**
	SNR=23						
ALNE	**Al Ain**	**5.97**	**262**	*e*Pn	**Pn**	**22 25 50.8**	**+2.3**
FAQ	**Al Faqa, Dubai**	**6.02**	**268**	*e*Pn	**Pn**	**22 25 51.6**	**+2.5**
FAQ	**Al Faqa, Dubai**	**6.02**	**268**	P	**Pn**	**22 25 52.0**	**+2.9**
	SNR=26						
FAQ				S	**Sn**	**22 26 56.4**	**-0.4**
CHMN	**Cheshme madani**	**6.32**	**320**	*e*Pn	**Pn**	**22 25 52.9**	**-0.6**
CHMN				*e*		22 25 54.1	
	comp=Z,200nm,0.2s						
NHDN	**Nehbandan**	**6.58**	**344**	*e*Pn	**Pn**	**22 25 54.6**	**-2.2**
NGRK	**Negar Kerman**	**6.67**	**314**	*e*Pn	**Pn**	**22 25 58.3**	**0.0**
NGRK				*e*		22 26 02.2	
	comp=Z,277nm,0.2s						
UMZA	**Um Al Zommool**	**6.87**	**251**	*e*Pn	**Pn**	**22 26 02.8**	**+2.0**
UMZA	**Um Al Zommool**	**6.87**	**251**	P	**Pn**	**22 26 02.8**	**+2.0**
UMZA				S	**Sn**	**22 27 16.3**	**-1.5**
KHGB	**Koh Gabri**	**7.33**	**317**	*e*Pn	**Pn**	**22 26 07.1**	**-0.2**
TPRV	**Parvadeh(Tabas**	**9.28**	**330**	*e*Pn	**Pn**	**22 26 33.0**	**-0.9**
SHAO	**Shalim**	**9.32**	**222**	P	**Pn**	**22 26 35.4**	**+1.0**
	SNR=11						
TKDS	**Koohdasht(Taba**	**9.60**	**334**	*e*Pn	**Pn**	**22 26 36.5**	**-1.7**
DOK	**Doka**	**9.88**	**231**	P	**Pn**	**22 26 42.2**	**+0.1**
	SNR=6.6						
DOK				S	**Sn**	**22 28 26.2**	**-5.6**
WHFO	**Wadi Hawf**	**10.60**	**229**	P	**Pn**	**22 26 52.0**	**-0.1**
	SNR=21						
WHFO				P	**Pn**	**22 26 52.0**	**-0.1**
	SNR=21						
GEYT	**Alibeck**	**13.28**	**346**	Pn	**Pn**	**22 27 26.2**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=242,slow=43,SNR=1.7						
AAK	**Ala-Archa**	**20.23**	**27**	P	**P**	**22 28 55.2**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=232,slow=8.6,SNR=5.8						
KBZ	**Khabaz**	**24.39**	**325**	P	**P**	**22 29 37.9**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=128,slow=7.3,SNR=2.4						
AKTO	**Aktyubinsk**	**25.52**	**354**	P	**P**	**22 29 47.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=122,slow=19,SNR=1.4						
MKAR	**Makanchi Array**	**26.94**	**31**	P	**P**	**22 30 00.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=212,slow=10.0,SNR=4.8						
BRTR	**Keskin Array B**	**28.06**	**308**	LR	LR	22 42 13.6	
	comp=Z,46nm,18.8s,baz=119,slow=39						
BVAR	**Borovoye Array**	**28.58**	**10**	P	**P**	**22 30 16.4**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=178,slow=10,SNR=5.5						
ZALV	**Zalesovo Beam**	**33.40**	**24**	P	**P**	**22 30 57.6**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=241,slow=11,SNR=2.7						
AKASG	**Malin Array Be**	**36.00**	**324**	P	**P**	**22 31 20.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=126,slow=8.6,SNR=6.5						
SONM	**Songino Array**	**41.44**	**45**	P	**P**	**22 32 06.3**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=260,slow=8.6,SNR=4.1						
FINES	**FINESS Array B**	**43.82**	**336**	P	**P**	**22 32 22.8**	**-2.0**
	comp=Z,2.9nm,1.0s,baz=133,slow=10,SNR=1.8						
TORD	**Torodi Ar. Bea**	**58.00**	**270**	P	**P**	**22 34 13.1**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=67,slow=6.7,SNR=4.2						
KAPI	**Kappang**	**63.36**	**110**	LR	LR	23 05 35.1	
	comp=Z,77nm,18.1s,baz=208,slow=39						
BOSA	**Boshof**	**64.13**	**216**	P	**P**	**22 34 55.6**	**+2.0**
	comp=Z,1.4nm,0.7s,baz=18,slow=9.6,SNR=1.8						
SFJD	**Kangerlussuaq**	**75.57**	**338**	LR	LR	23 10 20.1	
	comp=Z,159nm,21.2s,baz=301,slow=37						
WRA	**Warramunga Arr**	**83.17**	**116**	P	**P**	**22 36 50.0**	**+4.6**
	comp=Z,0.4nm,0.9s,baz=89,slow=15,SNR=1.8						

*IDC **10** 22:39:35.9±1.6, 59°.90N×152°.68W, h67km±18km, mb3.5/8, mb1 3.9/13, mb1mx3.6/43, mbtmp4.0/13, MS3.4/2, Ms1 3.4/2, ms1mx2.7/70, Error ellipse: s-maj=17.5km s-min=12.4km az=102.0*
*NEIC **10** 22:39:37.1±1.2, 59°.86N±0°.02×152°.47W±0°.05, h83km±4km, Error ellipse: s-maj=4.1km s-min=2.1km az=120.0*
*AEIC **10** 22:39:38±1.2, 59°.85N±0°.03×152°.49W±0°.06, h78km±3km, ML3.8, mb4.2/6(NEIC), ML3.9/114(NEIC), Error ellipse: s-maj=4.2km s-min=3.8km az=53.0*

ISC 10 22:39:37.5±0.7, 59°.85N±0°.03×152°.45W±0°.03, h85km±5km, n247, σ0°93/237, mb4.0/10, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.24**	**339**		**Pn**	**22 39 49.5**	**-0.7**
O20K					**Sn**	**22 39 59.1**	**-0.5**
O20K	**Slope Mountain**	**0.24**	**339**	P	**Pn**	**22 39 49.5**	**-0.7**
	baz=163						
O20K				S	**Sn**	**22 39 59.1**	**-0.5**
	baz=163						
IVE	**Iliamna Volcan**	**0.33**	**300**		**Pn**	**22 39 49.5**	**-1.1**
IVE					**Sn**	**22 39 58.9**	**-1.4**
OPT	**Oil Point**	**0.44**	**243**		**Pn**	**22 39 50.8**	**-0.6**
OPT	**Oil Point**	**0.44**	**243**	P	**Pn**	**22 39 50.7**	**-0.6**
	baz=62						
HOM	**Homer**	**0.45**	**115**		**Pn**	**22 39 51.1**	**-0.2**
HOM					**Sn**	**22 40 01.6**	**0.0**
HOM	**Homer**	**0.45**	**115**	P	**Pn**	**22 39 51.1**	**-0.2**
	baz=295						
HOM				S	**Sn**	**22 40 01.6**	**0.0**
	baz=295						
RED	**Redoubt Volcan**	**0.59**	**344**		**Pn**	**22 39 51.8**	**-0.9**
RED					**Sn**	**22 40 02.7**	**-1.2**
RDWB	**Redoubt West**	**0.67**	**343**		**Pn**	**22 39 52.5**	**-0.9**
AU22	**Augustine Moun**	**0.67**	**224**		**Pn**	**22 39 52.9**	**-0.3**
AU22					**Sn**	**22 40 04.6**	**-0.3**
AUL	**Augustine Lava**	**0.69**	**227**		**Pn**	**22 39 53.1**	**-0.4**
CNPM	**China Poot**	**0.70**	**118**		**Pn**	**22 39 53.2**	**-0.4**
CNPM					**Sn**	**22 40 04.8**	**-0.7**
CNPM	**China Poot**	**0.70**	**118**	IAML		22 40 05.1	
	comp=N,10μm,0.7s						
CNPM				IAML		22 40 05.2	
	comp=E,11μm,0.5s						
AUQ	**Augustine Qik'**	**0.70**	**225**		**Pn**	**22 39 53.3**	**-0.3**
NCT	**North Crescent**	**0.75**	**342**		**Pn**	**22 39 53.4**	**-0.8**
NCT					**Sn**	**22 40 05.7**	**-0.9**
DFR	**Drift River**	**0.75**	**351**		**Pn**	**22 39 53.4**	**-0.8**
BRLK	**Bradley Lake**	**0.80**	**96**		**Pn**	**22 39 54.1**	**-0.5**
BRLK	**Bradley Lake**	**0.80**	**96**	IAML		22 40 08.1	
	comp=N,9μm,0.1s						
BRSE	**Bradley Lake S**	**0.87**	**97**		**Pn**	**22 39 54.9**	**-0.5**
BRSE					**Sn**	**22 40 07.9**	**-0.9**
BRSE	**Bradley Lake S**	**0.87**	**97**	P	**Pn**	**22 39 54.9**	**-0.5**
	baz=278						
BRSE				S	**Sn**	**22 40 07.9**	**-0.9**
	baz=278						
O19K	**Port Alsworth**	**1.00**	**291**		**Pn**	**22 39 56.1**	**-0.7**
O19K					**Sn**	**22 40 10.2**	**-1.0**
O19K	**Port Alsworth**	**1.00**	**291**	P	**Pn**	**22 39 56.1**	**-0.7**
	baz=110						
O19K				S	**Sn**	**22 40 10.2**	**-1.0**
	baz=110						
Q19K	**Cape Douglas,**	**1.11**	**214**		**Pn**	**22 39 57.6**	**-0.6**
Q19K	**Cape Douglas,**	**1.11**	**214**	IAML		22 40 14.1	
	comp=E,2μm,1.1s						
Q19K				IAML		22 40 17.0	
	comp=N,2μm,0.5s						
Q19K	**Cape Douglas,**	**1.11**	**214**	P	**Pn**	**22 39 57.6**	**-0.6**
	baz=32						
CAPN	**Captain Cook N**	**1.12**	**35**		**Pn**	**22 39 59.6**	**+1.4**
CAPN	**Captain Cook N**	**1.12**	**35**	P	**Pn**	**22 39 59.6**	**+1.4**
	baz=216						
SLKM	**Skilak Lake**	**1.29**	**59**		**Pn**	**22 39 59.6**	**-0.8**
SPCN	**Chakachatna No**	**1.38**	**5**		**Pn**	**22 40 01.4**	**-0.1**
O18K	**Koktuh Hills**	**1.39**	**271**		**Pn**	**22 40 01.0**	**-0.7**
O18K	**Koktuh Hills**	**1.39**	**

SPCG	Spurr Capps Gl	1.46	8			Pn	22 40 02.5	-0.1
P18K	Big Mountain,	1.48	253			Pn	22 40 01.8	-1.1
P18K						Sn	22 40 20.3	-1.7
P18K	Big Mountain,	1.48	253	P		Pn	22 40 01.8	-1.1
	baz=71							
P18K				S		Sn	22 40 20.3	-1.7
	baz=71							
SPNN	North Nagishla	1.52	356			Pn	22 40 03.3	-0.1
SEW	Seward	1.53	79			Pn	22 40 02.6	-0.7
SEW	Seward	1.53	79	P		Pn	22 40 02.6	-0.7
	baz=262							
STLK	Strandline Lak	1.68	10			Pn	22 40 05.3	0.0
FIS	Fire Island	1.70	40			Pn	22 40 07.5	+2.0
FIS					IAML		22 40 36.7	
	comp=N,1μm,0.6s							
FIS					IAML		22 40 49.5	
	comp=E,2μm,0.7s							
RC01	Rabbit Creek A	1.83	46			Pn	22 40 06.9	-0.4
RC01	Rabbit Creek A	1.83	46	IAML			22 40 31.9	
	comp=N,657nm,0.7s							
RC01					IAML		22 40 32.3	
	comp=E,1μm,0.4s							
RC01	Rabbit Creek A	1.83	46	P		Pn	22 40 06.9	-0.4
	baz=229							
SVW2	Sparrevohn	1.99	310			Pn	22 40 08.6	-0.8
SVW2						Sn	22 40 32.5	-1.2
SVW2	Sparrevohn	1.99	310	IAML			22 40 33.5	
	comp=E,571nm,0.9s							
KDAK	Kodiak Island	2.08	182	P		Pn	22 40 09.7	-0.8
	comp=E,151nm,0.3s,baz=58,slow=7.7,SNR=412							
KDAK				S		Sn	22 40 34.6	-1.1
	comp=E,40nm,0.3s,baz=291,slow=21,SNR=6.5							
KDAK	Kodiak Island	2.08	182	IAML			22 40 43.0	
	comp=E,500nm,0.8s							
KDAK	Kodiak Island	2.08	182	P		Pn	22 40 09.7	-0.8
	baz=1.4							
KABU	Katmai Buttres	2.16	224			Pn	22 40 11.7	0.0
M22K	Willow	2.22	30			Pn	22 40 12.9	+0.5
M22K	Willow	2.22	30	P		Pn	22 40 12.9	+0.5
	baz=212							
PWL	Port Wells	2.28	62			Pn	22 40 12.3	-0.9
PWL	Port Wells	2.28	62	IAML			22 40 41.4	
	comp=E,1μm,0.4s							
PWL	Port Wells	2.28	62	P		Pn	22 40 12.3	-0.9
	baz=246							
PMR	Palmer	2.39	42			Pn	22 40 14.0	-0.6
PMR						Sn	22 40 41.5	-1.6
PMR	Palmer	2.39	42	IAML			22 40 43.2	
	comp=N,458nm,0.5s							
PMR					IAML		22 40 48.9	
	comp=E,406nm,0.8s							
PMR	Palmer	2.39	42	P		Pn	22 40 14.0	-0.6
	baz=225							
PMR				S		Sn	22 40 41.5	-1.6
	baz=225							
KNK	Knik Glacier	2.51	50			Pn	22 40 15.6	-0.7
KNK	Knik Glacier	2.51	50	IAML			22 40 46.1	
	comp=E,948nm,0.4s							
KNK					IAML		22 40 47.5	
	comp=N,990nm,0.6s							
KNK	Knik Glacier	2.51	50	P		Pn	22 40 15.6	-0.7
	baz=233							
GHO	Glory Hole Cre	2.59	40			Pn	22 40 17.0	-0.4
GHO	Glory Hole Cre	2.59	40	IAML			22 40 48.6	
	comp=E,834nm,0.3s							
GHO					IAML		22 40 54.6	
	comp=N,560nm,1.0s							
OHAK	Old Harbor	2.67	190			Pn	22 40 17.1	-1.3
OHAK	Old Harbor	2.67	190	P		Pn	22 40 17.1	-1.3
	baz=8.7							
L20K	Farewell, AK	2.72	346			Pn	22 40 19.1	0.0
L20K	Farewell, AK	2.72	346	P		Pn	22 40 19.1	0.0
	baz=165							
CUT	Chulitna	2.77	22			Pn	22 40 20.0	+0.3
CUT	Chulitna	2.77	22	IAML			22 40 58.2	
	comp=N,705nm,0.5s							
CUT	Chulitna	2.77	22	P		Pn	22 40 20.0	+0.3
	baz=204							
SML	Sawmill	2.81	44			Pn	22 40 19.8	-0.6
SML	Sawmill	2.81	44	IAML			22 41 01.6	
	comp=E,394nm,0.7s							
SML					IAML		22 41 19.1	
	comp=N,470nm,1.0s							
SML	Sawmill	2.81	44	P		Pn	22 40 19.8	-0.6
	baz=228							
GLI	Glacier Island	2.85	67			Pn	22 40 19.0	-1.9
GLI	Glacier Island	2.85	67	IAML			22 40 52.3	
	comp=N,688nm,0.6s							
GLI	Glacier Island	2.85	67	P		Pn	22 40 19.0	-1.9
	baz=251							
PPLA	Purkeypile	3.06	2			Pn	22 40 24.1	+0.3
PPLA	Purkeypile	3.06	2	P		Pn	22 40 24.1	+0.3
	baz=183							
FID	Port Fidalgo	3.11	71			Pn	22 40 22.1	-2.2
FID	Port Fidalgo	3.11	71	IAML			22 40 58.8	
	comp=E,559nm,0.3s							
JPK	Jack Peak	3.14	65			Pn	22 40 23.4	-1.4
SCM	Sheep Creek Mo	3.20	49			Pn	22 40 24.9	-0.7
SCM	Sheep Creek Mo	3.20	49	IAML			22 41 04.5	
	comp=E,365nm,0.9s							
SCM					IAML		22 41 33.3	
	comp=N,252nm,0.9s							
SCM	Sheep Creek Mo	3.20	49	P		Pn	22 40 24.9	-0.7
	baz=234							
EYAK	Cordova Ski Ar	3.42	75			Pn	22 40 26.8	-1.7
EYAK	Cordova Ski Ar	3.42	75	P		Pn	22 40 26.8	-1.7
	baz=261							
SII	Sitkinak Islan	3.43	196			Pn	22 40 27.4	-1.2
SII	Sitkinak Islan	3.43	196	IAML			22 41 09.5	
	comp=N,347nm,2.2s							
SII					IAML		22 42 20.0	
	comp=E,257nm,3.4s							
SII	Sitkinak Islan	3.43	196	P		Pn	22 40 27.5	-1.2
	baz=14							
WAT7	Susitna Watana	3.46	29			Pn	22 40 28.8	-0.3
TT01	Tatalina	3.51	332			Pn	22 40 29.5	-0.3
TTA	Tatalina	3.53	333			Pn	22 40 29.6	-0.5
TTA	Tatalina	3.53	333	P		Pn	22 40 29.6	-0.5
	baz=150							
DIV	Divide	3.54	66			Pn	22 40 28.8	-1.4
WAT6	Susitna Watana	3.56	38			Pn	22 40 30.1	-0.5
WAT6	Susitna Watana	3.56	38	P		Pn	22 40 30.1	-0.5
	baz=222							
CAST	Castle Rocks	3.58	3			Pn	22 40 30.9	+0.2
CAST	Castle Rocks	3.58	3	P		Pn	22 40 30.9	+0.2
	baz=183							
K20K	Telida	3.60	348			Pn	22 40 31.1	+0.2
K20K	Telida	3.60	348	P		Pn	22 40 31.1	+0.2
	baz=167							
KLU	Klutina	3.61	60			Pn	22 40 30.0	-1.2
KLU	Klutina	3.61	60	P		Pn	22 40 30.0	-1.2
	baz=246							
TRF	Thorofare Moun	3.75	15			Pn	22 40 33.0	-0.2
TRF	Thorofare Moun	3.75	15	IAML			22 41 22.7	
	comp=E,162nm,0.8s							
TRF					IAML		22 41 22.9	
	comp=N,292nm,0.5s							
TRF	Thorofare Moun	3.75	15	P		Pn	22 40 33.0	-0.2
	baz=197							
KTH	Kantishna Hill	3.78	10			Pn	22 40 33.4	-0.1
KTH	Kantishna Hill	3.78	10	IAML			22 41 24.4	
	comp=N,158nm,0.8s							
KTH					IAML		22 41 24.9	
	comp=E,156nm,0.9s							
M24K	Tolsona, Glenn	3.80	51			Pn	22 40 33.4	-0.4
M24K						Sn	22 41 17.9	+0.5
M24K	Tolsona, Glenn	3.80	51	IAML			22 41 38.3	
	comp=E,318nm,1.7s							
M24K					IAML		22 41 50.0	
	comp=N,257nm,1.2s							
M24K	Tolsona, Glenn	3.80	51	P		Pn	22 40 33.4	-0.4
	baz=236							
M24K				S		Sn	22 41 17.9	+0.5
	baz=236							
GOAT	Goat Mountain	3.92	76			Pn	22 40 33.6	-1.8
RAGM	Ragged Mountai	3.93	79			Sn	22 41 18.1	-2.3
RND	Reindeer	3.96	24			Pn	22 40 35.3	-0.6
RND	Reindeer	3.96	24	IAML			22 41 22.2	
	comp=N,97nm,0.7s							
CHUM	Lake Minchumin	4.04	1			Pn	22 40 37.1	+0.1
CHUM	Lake Minchumin	4.04	1	P		Pn	22 40 37.1	+0.1
	baz=181							
DHY	Denali Highway	4.05	35			Pn	22 40 37.1	0.0
DHY	Denali Highway	4.05	35	IAML			22 41 24.4	
	comp=N,150nm,0.3s							
DHY	Denali Highway	4.05	35	P		Pn	22 40 37.1	0.0
	baz=219							
BMRM	Bremner River	4.05	71			Pn	22 40 35.3	-1.8
BMRM	Bremner River	4.05	71	IAML			22 41 25.1	
	comp=N,157nm,0.6s							
BMRM					IAML		22 41 25.2	
	comp=E,157nm,0.5s							
BMRM	Bremner River	4.05	71	P		Pn	22 40 35.3	-1.8
	baz=257							
HMT	Hamilton	4.13	80	Pn		Pn	22 40 38.0	-0.1
MCK	McKinley	4.24	22			Pn	22 40 40.4	+0.8
MCK	McKinley	4.24	22	IAML			22 41 35.5	
	comp=E,83nm,0.6s							
MCK					IAML		22 41 46.5	
	comp=N,84nm,0.9s							
MCK	McKinley	4.24	22	P		Pn	22 40 40.4	+0.8
	baz=205							
N25K	Chitina, Valde	4.24	62			Pn	22 40 38.6	-1.1
N25K	Chitina, Valde	4.24	62	IAML			22 41 27.1	
	comp=N,132nm,0.5s							
N25K					IAML		22 41 28.0	
	comp=E,108nm,0.6s							
N25K	Chitina, Valde	4.24	62	P		Pn	22 40 38.6	-1.1
	baz=249							
BPAW	Bear Paw Mtn.	4.32	9			Pn	22 40 40.2	-0.5
BPAW	Bear Paw Mtn.	4.32	9	P		Pn	22 40 40.2	-0.5
	baz=190							
BERG	Berg Lake	4.41	79	Pn		Pn	22 40 41.8	-0.2
J20K	Nowinta River	4.41	350	Pn		Pn	22 40 41.9	-0.1
GLB	Gilahina Butte	4.54	66			Pn	22 40 42.4	-1.4
GLB	Gilahina Butte	4.54	66	IAML			22 41 34.2	
	comp=E,79nm,0.3s							
GLB					IAML		22 41 34.6	
	comp=N,111nm,0.5s							
PAX	Paxson	4.58	44			Pn	22 40 44.3	-0.1
PAX	Paxson	4.58	44	P		Pn	22 40 44.3	-0.1
	baz=230							
GRIN	Grindle Hills	4.60	81			Pn	22 40 44.5	0.0
KHIT	Khitrov Hills	4.64	79			Pn	22 40 44.5	-0.7
VRDI	Verde Repeater	4.65	69			Pn	22 40 43.9	-1.6
VRDI	Verde Repeater	4.65	69	IAML			22 41 36.3	
	comp=N,74nm,0.3s							
SNH	Sunshine Point	4.83	82			Pn	22 40 47.8	0.0
SNH	Sunshine Point	4.83	82	IAML			22 41 52.9	
	comp=E,152nm,2.9s							
WAX	Waxell Ridge	4.83	79			Pn	22 40 47.3	-0.5
TGL	Tana Glacier	4.87	75			Pn	22 40 48.6	+0.2
TGL					IAML		22 41 44.6	
	comp=E,151nm,0.4s							
TGL					IAML		22 41 47.0	
	comp=N,92nm,0.5s							
MCARA	McCarthy VSAT	4.89	68			Pn	22 40 47.2	-1.3
MCARA	McCarthy VSAT	4.89	68	IAML			22 41 48.2	
	comp=N,139nm,0.5s							
MCARA					IAML		22 41 50.6	
	comp=E,164nm,0.5s							
MCARA	McCarthy VSAT	4.89	68	P		Pn	22 40 47.2	-1.3
	baz=256							
NEA2	Nenana	5.01	17			Pn	22 40 50.2	0.0
NEA2	Nenana	5.01	17	P		Pn	22 40 50.2	0.0
	baz=200							
WRH	Wood River Hil	5.06	22			Pn	22 40 50.5	-0.4
WRH	Wood River Hil	5.06	22	IAML			22 41 48.2	
	comp=E,63nm,0.5s							
ISLE	Juniper Island	5.10	77			Pn	22 40 51.1	-0.3
ISLE	Juniper Island	5.10	77	IAML			22 41 48.0	
	comp=N,105nm,0.5s							
ISLE					IAML		22 41 51.5	
	comp=E,118nm,0.4s							
PTPK	Patty Peak	5.11	71			Pn	22 40 50.5	-1.2
KIAG	Kiagna River	5.12	74			Pn	22 40 50.6	-1.2
BALM	Baldy	5.14	72			Pn	22 40 50.9	-1.2
MENT	Mentasta	5.21	50			Pn	22 40 53.9	+1.0
MENT					IAML		22 42 08.8	
	comp=N,97nm,0.5s							
MENT					IAML		22 42 29.6	
	comp=E,110nm,0.8s							
BAGL	Bagley Icefiel	5.21	79			Pn	22 40 53.1	+0.2
M26K	Nabesna, AK	5.25	57			Pn	22 40 53.6	+0.2
M26K					IAML		22 41 50.9	
	comp=N,57nm,0.9s							
HDA	Harding Lake	5.25	27			Pn	22 40 53.2	-0.1
HDA	Harding Lake	5.25	27	P		Pn	22 40 53.2	-0.1
	baz=212							
CCB	Clear Creek Bu	5.28	22			Pn	22 40 53.2	-0.4
MESA	MESA	5.28	82			Pn	22 40 53.9	-0.1
MESA	MESA	5.28	82	P		Pn	22 40 53.9	-0.1
	baz=271							
RIDG	Independent Ri	5.31	40			Pn	22 40 54.8	+0.6
RIDG	Independent Ri	5.31	40	IAML			22 42 00.6	
	comp=N,98nm,0.8s							
RIDG	Independent Ri	5.31	40	P		Pn	22 40 54.8	+0.6
	baz=226							
GCSA	Galena City Sc	5.33	339			Pn	22 40 53.7	-0.7
GCSA	Galena City Sc	5.33	339	P		Pn	22 40 53.7	-0.7
	baz=155							
I21K	Tanana	5.35	2			Pn	22 40 55.1	+0.4
YAH	Yahtse	5.38	80			Pn	22 40 54.6	-0.8
PS08	TAPS Pump Stn8	5.39	27			Pn	22 40 55.1	-0.2
GRNC	Granite Creek	5.39	76			Pn	22 40 55.4	-0.1
L26K	Log Cabin Wild	5.40	50			Pn	22 40 55.7	+0.2
TCOL	CIGO, UAF Yank	5.47	21			Pn	22 40 56.5	+0.2
TCOL	CIGO, UAF Yank	5.47	21	P		Pn	22 40 56.5	+0.2
	baz=205							
COLA	College	5.47	21			Pn	22 40 55.6	-0.7
BARN	Barnard Glacie	5.48	73			Pn	22 40 55.8	-0.9
MDM	Murphy Dome	5.49	19			Pn	22 40 56.5	-0.1
I23K	Minto, Yukon-K	5.50	14			Pn	22 40 56.9	+0.1
I23K	Minto, Yukon-K	5.50	14	P		Pn	22 40 56.9	+0.1
	baz=197							
DOT	Dot Lake	5.51	43			Pn	22 40 57.0	+0.1
IL31		5.57	25			Pn	22 40 57.2	-0.5
ILAR	Eielson Array	5.57	25	P		Pn	22 40 57.1	-0.6
	comp=N,9.2nm,0.3s,baz=218,slow=14,SNR=165							
ILAR				S		Sn	22 41 55.3	-5.1
	comp=N,8.1nm,0.3s,baz=209,slow=16,SNR=9.1							
ILAR	Eielson Array	5.57	25	Pn		Pn	22 40 57.4	-0.4
CTG	Chitna Glacier	5.62	74	P		Pn	22 40 58.2	-0.4
	baz=263							
CTGM	Chitina Glacie	5.62	74			Pn	22 40 58.8	+0.2
TABL	Table Mountain	5.68	79			Pn	22 40 58.6	-0.8
CHX	Chaix Hills	5.70	83			Pn	22 41 00.2	+0.7
SCRK	Sand Creek	5.75	40			Pn	22 40 59.7	-0.6
SCRK	Sand Creek	5.75	40	P		Pn	22 40 59.7	-0.6
	baz=228							
LOGN	Logan Glacier	5.77	75			Pn	22 41 00.2	-0.4
POKR	Poker Plat Res	5.77	22			Pn	22 41 00.3	-0.2
POKR	Poker Plat Res	5.77	22	P		Pn	22 41 00.3	-0.2
	baz=206							
H21K	Melozitna Rive	5.83	359			Pn	22 41 00.6	-0.6
H21K	Melozitna Rive	5.83	359	P		Pn	22 41 00.6	-0.6
	baz=178							
SAMH	Samovar Hills	5.87	82			Pn	22 41 02.5	+0.6
YUK2	White River	6.00	66			Pn	22 41 03.0	-0.7
L27K	Beaver Creek,	6.02	53			Pn	22 41 05.7	+1.8
BC03		6.04	53			Pn	22 41 03.7	-0.4
PCA	Pinnacle	6.13	82			Pn	22 41 05.0	-0.4
PINM	Pinnacle	6.13	82	P		Pn	22 41 05.0	-0.4
	baz=273							
BVCY	Beaver Creek	6.17	60			Pn	22 41 05.9	-0.1
BVCY	Beaver Creek	6.17	60	P		Pn	22 41 05.9	-0.1
	baz=251							
YUK3	Moose Creek	6.18	67			Pn	22 41 05.7	-0.5
YUK3	Moose Creek	6.18	67	P		Pn	22 41 05.7	-0.5
	baz=257							
IM03		6.18	355			Pn	22 41 05.8	-0.1
IMAR	Indian Mountai	6.18	355	Pn		Pn	22 41 05.9	-0.1
H24K	Noodor Dome	6.36	17			Pn	22 41 08.0	-0.5
BCPM	Bancas Point	6.45	84			Pn	22 41 09.8	+0.1
BCPM						Sn	22 42 21.4	-0.4
PRP	Porcupine Dome	6.51	26	Pn		Pn	22 41 11.1	+0.4
PNL	Peninsula	6.60	86			Pn	22 41 11.0	-0.8
PNL	Peninsula	6.60	86	P		Pn	22 41 11.0	-0.8
	baz=277							
EGAK	Eagle	7.21	42			Pn	22 41 19.9	-0.2
DAWY	Dawson	7.46	50	Pn		Pn	22 41 23.6	+0.1
COLD	Coldfoot	7.47	7	Pn		Pn	22 41 23.9	+0.3
FYU	Fort Yukon	7.48	23	Pn		Pn	22 41 23.2	-0.4
SKAG	Skagway	8.68	85	Pn		Pn	22 41 40.0	-0.1
WHY	Whitehorse	8.77	77	Pn		Pn	22 41 40.7	-0.7
BESE	Bessie Mountai	9.11	90			Pn	22 41 46.8	+0.8
JIS	Juneau Island	9.44	92			Pn	22 41 50.8	+0.4
DLBC	Dease Lake	11.59	87	P		Pn	22 42 20.7	+1.0
	comp=N,4.0nm,0.3s,baz=282,slow=9.3,SNR=54							
DLBC				S		Sn	22 44 25.1	-1.9
	comp=N,0.7nm,0.3s,baz=154,slow=22,SNR=3.1							
A21K	Barrow	11.64	353			Pn	22 42 18.2	-2.0
INK	Inuvik	11.79	36	P		Pn	22 42 21.1	-1.2
	comp=N,0.3nm,0.3s,baz=242,slow=14,SNR=14							
INK				S		Sn	22 44 29.6	-2.1
	comp=N,0.1nm,0.3s,baz=263,slow=20,SNR=2.5							
A36M	Sachs Harbour	16.24	31	Pn		Pn	22 43 20.1	+0.1
A36M				IAmb	IAmb		22 43 24.0	
	comp=Z,12nm,0.8s							
YKA	Yellowknife Ar	18.26	65	P		Pn	22 43 44.7	-0.1
	comp=Z,0.4nm,0.3s,baz=276,slow=10.0,SNR=69							
YKA	Yellowknife Ar	18.26	65	P		P	22 43 44.6	+0.6
YHH	Holmes Hill	28.97	103	P		P	22 45 31.7	+2.7
NVAR	Mina Array Bea	30.41	119	P		P	22 45 43.1	+1.4
	comp=Z,0.3nm,0.4s,baz=305,slow=9.6,SNR=4.1							
PDAR	Pinedale Array	31.09	104	P		P	22 45 49.4	+1.7
	comp=Z,0.3nm,0.6s,baz=340,slow=6.7,SNR=3.5							
TXAR	Lajitas Array	44.67	111	P		P	22 47 43.6	+1.9
	comp=Z,0.1nm,0.6s,baz=350,slow=4.9,SNR=1.8							
ARCES	ARCESS Array B	50.90	1	P		P	22 48 28.4	-0.8
	comp=Z,12nm,1.4s,baz=0.0,slow=4.9,SNR=1.2							
ULN	Ulaanbaatar	54.81	306	P		P	22 48 59.3	+0.8
ULN				IAmb	IAmb		22 48 59.9	
	comp=Z,2.8nm,1.1s							
SONM	Songino Array	55.10	306	P		P	22 49 01.1	+0.6
	comp=Z,1.7nm,0.8s,baz=40,slow=6.6,SNR=12							
SONM	Songino Array	55.10	306	P		P	22 49 01.3	+0.8
SONM				IAmb	IAmb		22 49 01.8	
	comp=Z,1.9nm,0.9s							
ZAA0	Zalesovo Array	57.66	324	P		P	22 49 18.2	-0.2
ZALV	Zalesovo Beam	57.66	324	P		P	22 49 18.4	0.0
	comp=Z,2.3nm,0.4s,baz=37,slow=6.7,SNR=13							
FINES	FINESS Array B	59.03	1	LR	LR		23 17 25.3	
	comp=Z,81nm,22.0s,baz=44,slow=38							
MKAR	Makanchi Array	64.72	322	P		P	22 50 05.3	-0.9
	comp=Z,0.8nm,0.6s,baz=44,slow=7.7,SNR=13							
MKAR	Makanchi Array	64.72	322	P		P	22 50 05.8	-0.4
MAKZ	Makanchi	64.80	322	P		P	22 50 06.0	-0.8
MAKZ				IAmb	IAmb		22 50 06.3	
	comp=Z,6.0nm,1.5s							
OBN	Obninsk	65.15	354	LR	LR		23 21 57.4	
	comp=Z,13nm,20.0s,baz=356,slow=39							
AKASG	Malin Array Be	69.79	359	P		P	22 50 36.7	-1.4
	comp=Z,0.2nm,0.4s,baz=90,slow=7.7,SNR=2.5							
BOSA	Boshof	148.73	4	PKPbc		PKPbc	22 59 13.7	-0.9
	comp=Z,3.7nm,1.1s,baz=33,slow=6.5,SNR=3.9							

INET ***10*** *22:46:51.4±0.9, 12°.58N×88°.28W, h20km±14km, MW3.5*
UCR ***10*** *22:46:52.0±0.8, 12°.63N×88°.31W, h32km±27km, ML3.5*
ISC 10 22:46:51.2±1.7, 12°.54N±0°.08×88°.30W±0°.05, h35km, n43, σ0s42/49, 6C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.82	341	*i* P	Pn	22 47 05.9	-0.4
ALJI				*e*S	Sn	22 47 17.6	+0.3
ALJI				IAML		22 47 19.6	
	comp=Z,2μm,0.1s						
ALJI	Alcalda de J	0.82	341	*i* P	Pn	22 47 05.9	-0.4
ALJI				*e*S	Sn	22 47 17.6	+0.3
ALJI				IAML		22 47 19.6	
	comp=Z,2μm,0.1s						
CNCH	Conchagua	0.86	32	*e*P	Pn	22 47 06.8	-0.1
CNCH	Conchagua	0.86	32	*e*P	Pn	22 47 06.8	-0.1
LCND	La Caada	0.86	27⇑	*i*P	Pn	22 47 06.6	-0.2
LCND				IAML		22 47 21.7	
	comp=Z,4μm,0.3s						
LCND	La Caada	0.86	27⇑	*i*P	Pn	22 47 06.6	-0.2
LCND				IAML		22 47 21.7	
	comp=Z,4μm,0.3s						
LCY	Lacayo	0.88	0	*e*P	Pn	22 47 07.1	0.0
LCY				*e*S	Sn	22 47 18.4	-0.4
LCY	Lacayo	0.88	0	*e*P	Pn	22 47 07.1	0.0
LCY				*e*S	Sn	22 47 18.4	-0.4
PACA	Pacayal	0.92	358	*e*P	Pn	22 47 08.1	+0.3
PACA	Pacayal	0.92	358	*e*P	Pn	22 47 08.1	+0.3
COEB	Comit de Eme	0.98	347	*e*P	Pn	22 47 08.3	-0.3
COEB				*e*S	Sn	22 47 21.0	-0.2
COEB				IAML		22 47 23.7	
	comp=Z,1μm,0.2s						
COEB	Comit de Eme	0.98	347	*e*P	Pn	22 47 08.2	-0.3
COEB	Comit de Eme	0.98	347	*e*P	Pn	22 47 08.3	-0.3
COEB				*e*S	Sn	22 47 21.0	-0.2
COEB				IAML		22 47 23.7	
	comp=Z,1μm,0.2s						
PQSS	Presa 15 de Se	1.11	347⇓	*i*P	Pn	22 47 10.3	+0.1
PQSS	Presa 15 de Se	1.11	347⇓	*i*P	Pn	22 47 10.3	+0.1
COEG	Centro de Oper	1.21	332	*e*P	Pn	22 47 11.5	-0.2
COEG				IAML		22 47 30.1	
	comp=Z,776nm,0.5s						
COEG	Centro de Oper	1.21	332	*e*P	Pn	22 47 11.5	-0.2
COEG				IAML		22 47 30.1	
	comp=Z,776nm,0.5s						
CRIN	San Cristobal	1.23	83	*e*P	Pn	22 47 12.5	+0.6
CRIN				*e*S	Sn	22 47 28.6	+1.2
SCLA	Alcaldia de Sa	1.23	340⇓	*e*P	Pn	22 47 12.2	+0.2
SCLA	Alcaldia de Sa	1.23	340⇓	*e*P	Pn	22 47 12.2	+0.2
SJTE	Alcalda de S	1.27	327	*e*P	Pn	22 47 12.6	0.0
SJTE	Alcalda de S	1.27	327	*e*P	Pn	22 47 12.6	0.0
LFRS	El Faro	1.31	325	*i* P	Pn	22 47 12.9	-0.2
LFRS	El Faro	1.31	325	*i* P	Pn	22 47 12.9	-0.2
PAVA	Las Pavas	1.32	332⇑	*i*P	Pn	22 47 13.5

CO03	**El Pedregal**	**0.84**	**106**	⇓*iP*	**Pn**	**23 02 05.4**	**-0.2**
CO03				*eS*	**Sn**	**23 02 15.9**	**-1.0**
CO03				IAML		23 02 17.4	
	comp=N,13μm,0.3s						
CO03	**El Pedregal**	**0.84**	**106**		**Pn**	**23 02 05.4**	**-0.2**
CO03				Sn	**Sn**	**23 02 16.5**	**-0.4**
GO04	**Tololo Observa**	**0.84**	**59**	⇓*iP*	**Pn**	**23 02 05.6**	**-0.1**
GO04				*eS*	**Sn**	**23 02 16.5**	**-0.5**
GO04				IAML		23 02 23.0	
	comp=N,22μm,0.4s						
GO04	**Tololo Observa**	**0.84**	**59**		**Pn**	**23 02 05.6**	**-0.1**
GO04				Sn	**Sn**	**23 02 15.8**	**-1.2**
GO04	**Tololo Observa**	**0.84**	**59**	*eP*	**Pn**	**23 02 05.7**	**-0.1**
GO04				*eS*	**Sn**	**23 02 17.2**	**+0.2**
LCO	**Las Campanas**	**1.79**	**27**	⇓*eP*	**Pn**	**23 02 19.6**	**+0.8**
LCO				*eS*	**Sn**	**23 02 41.7**	**+1.2**
LCO	**Las Campanas**	**1.79**	**27**	Pn	**Pn**	**23 02 19.6**	**+0.8**
LCO				Sn	**Sn**	**23 02 42.1**	**+1.6**
LCO	**Las Campanas**	**1.79**	**27**	*eP*	**Pn**	**23 02 19.6**	**+0.8**
LCO				*eS*	**Sn**	**23 02 42.3**	**+1.8**
AROD	**Rodeo**	**1.92**	**77**	*eP*	**Pb**	**23 02 23.6**	**-1.1**
AROD				*eS*	**Sn**	**23 02 41.9**	**-1.8**
VA06	**Catapilco**	**1.96**	**172**	*eP*	**Pn**	**23 02 21.9**	**+1.0**
VA06				*eS*	**Sn**	**23 02 45.8**	**+1.4**
VA06				IAML		23 02 55.8	
	comp=E,4μm,0.4s						
ACCO	**Cerro Coronel**	**2.21**	**90**	*eP*	**Pb**	**23 02 28.2**	**-1.4**
ACCO				*eP*		23 02 28.4	
ACCO				*eS*	**Sb**	**23 03 00.9**	**+4.1**
RTLS	**Leoncito**	**2.33**	**121**	*eP*	**Pb**	**23 02 29.9**	**-1.6**
RTLS				*eS*	**Sb**	**23 02 59.6**	**-0.3**
RTLS				IAML		23 03 12.8	
	comp=Z,772nm,0.7s						
VA03	**San Esteban**	**2.33**	**157**	*eP*	**Pn**	**23 02 28.3**	**+2.1**
VA03				*eS*	**Sn**	**23 02 55.4**	**+1.6**
VA03				IAML		23 03 06.8	
	comp=E,2μm,0.3s						
VA03	**San Esteban**	**2.33**	**157**		**Pn**	**23 02 28.3**	**+2.1**
VA03	**San Esteban**	**2.33**	**157**	*eP*	**Pn**	**23 02 28.2**	**+2.1**
VA03				*eS*	**Sb**	**23 02 59.5**	**-0.6**
VA03				IAML		23 03 05.2	
	comp=Z,1μm,0.6s						
VA01	**Torpederas**	**2.40**	**180**	Pn	**Pn**	**23 02 27.2**	**+0.2**
VA01	**Torpederas**	**2.40**	**180**	*eP*	**Pn**	**23 02 27.4**	**+0.5**
VA01				*eP*		23 02 28.0	
VA01				*eS*	**Sb**	**23 03 02.0**	**+0.2**
ROCH	**El Roble**	**2.41**	**167**	⇑*eP*		23 02 28.6	
ROCH				⇑*eP*	**Pn**	**23 02 27.9**	**+0.6**
ROCH				*eS*	**Sn**	**23 02 57.4**	**+1.6**
ROCH				*eS*		23 02 57.5	
ROCH				IAML		23 03 04.1	
	comp=N,2μm,0.8s						
ROCH				IAML		23 03 04.3	
	comp=E,1μm,0.6s						
ROC1	**El Roble**	**2.41**	**168**	*eP*	**Pn**	**23 02 28.0**	**+0.6**
ROC1				*eS*	**Sb**	**23 03 01.6**	**-0.9**
AC04	**Llanos de Chal**	**2.45**	**12**	*eP*	**Pn**	**23 02 28.1**	**+0.5**
AC04				*eS*	**Sn**	**23 02 57.8**	**+1.4**
AC04	**Llanos de Chal**	**2.45**	**12**	Pn	**Pn**	**23 02 28.5**	**+0.8**
AC04	**Llanos de Chal**	**2.45**	**12**	*eP*	**Pn**	**23 02 28.1**	**+0.5**
AC04				*eP*		23 02 28.2	
AC04				*eS*	**Sn**	**23 02 59.4**	**+3.0**
AUSP	**Uspallata**	**2.50**	**130**	*eP*	**Pb**	**23 02 32.2**	**-2.3**
AUSP				*eS*	**Sb**	**23 03 07.3**	**+2.2**
PEL	**Peldehue**	**2.65**	**163**	⇑*eP*	**Pn**	**23 02 32.0**	**+1.6**
PEL				*eS*	**Sn**	**23 03 02.6**	**+1.2**
PEL				IAML		23 03 14.1	
	comp=N,894nm,0.4s						
PEL	**Peldehue**	**2.65**	**163**		**Pn**	**23 02 31.9**	**+1.6**
PEL	**Peldehue**	**2.65**	**163**	*eP*	**Pn**	**23 02 32.2**	**+1.8**
PEL				*eS*	**Sn**	**23 03 04.4**	**+3.0**
PEL				*eS*		23 03 08.6	
MT02	**Curacav**	**2.67**	**171**	*eP*	**Pn**	**23 02 31.5**	**+0.8**
MT02				*eS*	**Sn**	**23 03 03.1**	**+1.2**
MT02	**Curacav**	**2.67**	**171**		**Pn**	**23 02 33.1**	**+2.4**
MT02	**Curacav**	**2.67**	**171**	*eP*	**Pn**	**23 02 32.2**	**+1.5**
MT02				*eS*	**Sn**	**23 03 03.9**	**+2.0**
MT02				IAML		23 03 15.5	
	comp=Z,787nm,0.6s						
ZON	**Zonda**	**2.70**	**111**		**Pn**	**23 02 33.0**	**+1.9**
ZON	**Zonda**	**2.70**	**111**	*eP*	**Pn**	**23 02 34.7**	**+3.6**
ZON				*eS*	**Sb**	**23 03 10.4**	**-0.1**
ZON				IAML		23 03 23.1	
	comp=Z,320nm,0.5s						
MT05	**Renca**	**2.87**	**165**	*eP*	**Pn**	**23 02 34.9**	**+1.4**
MT05				*eS*	**Sn**	**23 03 07.5**	**+0.6**
MT05	**Renca**	**2.87**	**165**	*eP*	**Pn**	**23 02 35.0**	**+1.4**
MT05				*eS*	**Sb**	**23 03 12.4**	**-3.0**
MT05				IAML		23 03 22.1	
	comp=Z,523nm,0.4s						
FCH	**Farellones**	**2.94**	**157**	⇑*eP*	**Pn**	**23 02 37.2**	**+2.6**
FCH				*eS*	**Sn**	**23 03 13.3**	**+4.5**
FCH				IAML		23 03 24.3	
	comp=E,715nm,0.3s						
VA05	**Santo Domingo**	**3.04**	**180**		**Pn**	**23 02 35.3**	**-0.3**
ASAL	**Salagasta**	**3.10**	**130**	*eP*	**Pn**	**23 02 40.7**	**+4.1**
ASAL				*eS*	**Sb**	**23 03 19.4**	**-2.4**
ARCO	**CERRO ARCO**	**3.20**	**135**	*eP*	**Pb**	**23 02 43.0**	**-3.3**
ARCO				*eS*	**Sb**	**23 03 33.8**	**+8.9**
ARCO				IAML		23 03 34.9	
	comp=Z,557nm,0.4s						
MT09	**Talagante**	**3.20**	**170**	*eP*	**Pn**	**23 02 39.7**	**+1.5**
MT09				*eS*	**Sn**	**23 03 16.5**	**+1.4**
MT09				IAML		23 03 35.5	
	comp=N,931nm,0.5s						
MT09	**Talagante**	**3.20**	**170**		**Pn**	**23 02 39.6**	**+1.5**
GO03	**Copiap**	**3.25**	**22**	Pn	**Pn**	**23 02 39.9**	**+1.2**
GO03	**Copiap**	**3.25**	**22**	*eP*	**Pn**	**23 02 39.9**	**+1.2**
GO03				*eS*	**Sn**	**23 03 20.9**	**+4.7**
MT01	**Popeta**	**3.26**	**174**		**Pn**	**23 02 40.0**	**+1.2**
MT01	**Popeta**	**3.26**	**174**	*eP*	**Pn**	**23 02 39.9**	**+1.2**
MT01				*eS*	**Sn**	**23 03 20.4**	**+4.1**
MT01				IAML		23 03 35.2	
	comp=Z,277nm,0.4s						
AAGR	**Agrelo**	**3.43**	**137**	*eP*	**Pn**	**23 02 45.7**	**+4.5**
AAGR				*eS*	**Sb**	**23 03 34.2**	**+2.7**
VCA	**Vinchina**	**3.52**	**59**	*eP*	**Pn**	**23 02 41.9**	**-0.6**
VCA				*eP*		23 02 47.2	
VCA				*eS*	**Sb**	**23 03 42.0**	**+7.9**
VCA				IAML		23 03 43.7	
	comp=Z,652nm,0.7s						
BO01	**Tunca**	**3.80**	**173**		**Pn**	**23 02 47.5**	**+1.3**
BO01	**Tunca**	**3.80**	**173**	*eP*	**Pn**	**23 02 47.2**	**+1.0**
BO01				*eS*	**Sn**	**23 03 34.9**	**+5.3**
BO01				IAML		23 03 48.5	
	comp=Z,211nm,0.5s						
BO02	**Sierra Bellavi**	**4.23**	**170**		**Pn**	**23 02 53.8**	**+1.6**
BO02	**Sierra Bellavi**	**4.23**	**170**	*eP*	**Pn**	**23 02 54.0**	**+1.9**
BO02				*eS*	**Sn**	**23 03 45.4**	**+5.0**
BO02				IAML		23 03 58.1	
	comp=Z,296nm,1.2s						
AC02	**Maricunga**	**4.36**	**31**	Pn	**Pn**	**23 02 55.1**	**+0.7**
AC02	**Maricunga**	**4.36**	**31**	*eP*	**Pn**	**23 02 56.8**	**+2.5**
AC02				*eS*	**Sb**	**23 03 51.9**	**-6.6**
AC02				IAML		23 04 04.1	
	comp=Z,153nm,1.1s						
GO05	**Huala**	**4.39**	**183**		**Pn**	**23 02 54.6**	**+0.3**
GO05	**Huala**	**4.39**	**183**	*eP*	**Pn**	**23 02 54.0**	**-0.3**
GO05				*eS*	**Sb**	**23 03 58.4**	**-0.5**
RFA	**San Rafael**	**4.93**	**148**	*eP*	**Pn**	**23 02 59.4**	**-2.4**
RFA				*eP*		23 03 04.4	
RFA				*eS*	**Sb**	**23 04 20.9**	**+6.4**
RFA				IAML		23 04 33.0	
	comp=Z,72nm,0.5s						
ML02	**Panimavida**	**5.14**	**178**	Pn	**Pn**	**23 03 05.5**	**+1.0**
PB14	**IPOC Station P**	**6.06**	**11**	Pn	**Pn**	**23 03 17.7**	**+0.1**
FSA	**Cafayete**	**6.70**	**49**	*eP*	**Pn**	**23 03 29.7**	**+3.4**
FSA				*eS*	**Sn**	**23 04 41.7**	**+0.2**
LC01	**Cunco**	**8.27**	**181**	Pn	**Pn**	**23 03 47.9**	**+0.4**
LC01	**Cunco**	**8.27**	**181**	*eP*	**Pn**	**23 03 50.0**	**+2.5**
LVC	**Limon Verde**	**8.34**	**18**	P	Pn	23 03 55.9	+7.0
	comp=Z,0.7nm,0.3s,baz=133,slow=12,SNR=4.5						
LVC				S	Sn	23 05 32.5	+11
	comp=Z,1.2nm,0.3s,baz=338,slow=22,SNR=2.5						
PLCA	**Paso Flores**	**10.14**	**175**	P	**Pn**	**23 04 12.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=78,slow=8.7,SNR=1.9						
PLCA				S	**Sn**	**23 06 02.6**	**-3.1**
	baz=164,slow=18,SNR=1.3						
PLCA				LR	LR	23 08 21.7	
	comp=Z,73nm,21.9s,baz=12,slow=40						
PLCA	**Paso Flores**	**10.14**	**175**	Pn	**Pn**	**23 04 13.7**	**+0.5**
ITQB	**Itaqui**	**13.03**	**90**	Pn	**Pn**	**23 04 52.0**	**-0.7**
CPUP	**Villa Florida**	**13.29**	**75**	P	**Pn**	**23 04 53.0**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=230,slow=17,SNR=1.5						
CPUP				S	Sn	23 07 14.0	-8.8
	comp=Z,0.2nm,0.3s,baz=274,slow=12,SNR=1.6						
LPAZ	**La Paz**	**14.62**	**13**	P	**Pn**	**23 05 16.9**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=173,slow=8.9,SNR=4.0						
LPAZ	**La Paz**	**14.62**	**13**	Pn	**Pn**	**23 05 15.6**	**+0.6**
PLTB	**Pedras Altas**	**15.48**	**99**	Pn	**Pn**	**23 05 24.9**	**-0.9**
SIV	**San Ignacio**	**17.47**	**36**	P	**Pn**	**23 05 51.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=222,slow=11,SNR=12						
NNA	**Nana**	**19.15**	**344**	LR	LR	23 11 39.7	
	comp=Z,90nm,19.3s,baz=14,slow=30						
USHA	**Ushuaia**	**24.31**	**176**	LR	LR	23 17 55.8	
	comp=Z,100nm,20.9s,baz=38,slow=40						
BDFB	**Brasilia**	**26.26**	**61**	P	**P**	**23 07 20.9**	**-1.5**
	comp=Z,2.3nm,0.5s,baz=230,slow=9.1,SNR=5.6						
BDFB	**Brasilia**	**26.26**	**61**	P	**P**	**23 07 21.6**	**-0.9**
BDFB				IAmb	IAmb	23 07 22.1	
	comp=Z,3.2nm,0.7s						
ESPZ	**Base Esperanza**	**34.11**	**168**		**P**	**23 08 32.5**	**+1.3**
BOAV	**Boa Vista**	**34.49**	**20**	P	**P**	**23 08 35.0**	**-0.1**
BOAV				IAmb	IAmb	23 08 50.0	
	comp=Z,3.2nm,1.2s						
ROSC	**El Rosal**	**35.35**	**355**	LR	LR	23 25 32.1	
	comp=Z,67nm,18.1s,baz=56,slow=40						
SNAA	**Sanae**	**54.60**	**159**	P	**P**	**23 11 14.7**	**-0.1**
SNAA				IAmb	IAmb	23 11 15.3	
	comp=Z,3.1nm,1.0s						
TXAR	**Lajitas Array**	**66.97**	**330**	P	P	23 12 44.1	+4.6
	comp=Z,0.1nm,0.6s,baz=132,slow=5.2,SNR=1.6						
DBIC	**Dimbokro**	**73.79**	**72**	P	**P**	**23 13 19.2**	**-2.1**
	comp=Z,2.1nm,0.5s,baz=240,slow=5.8,SNR=6.1						
DBIC	**Dimbokro**	**73.79**	**72**	P	**P**	**23 13 20.9**	**-0.5**
DBIC				IAmb	IAmb	23 13 21.1	
	comp=Z,6.3nm,1.1s						
NVAR	**Mina Array Bea**	**81.32**	**325**	P	**P**	**23 14 05.4**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=154,slow=8.6,SNR=1.8						
BOSA	**Boshof**	**81.34**	**118**	P	**P**	**23 14 00.8**	**-2.8**
	comp=Z,2.3nm,0.8s,baz=124,slow=2.9,SNR=3.7						
BOSA	**Boshof**	**81.34**	**118**	P	**P**	**23 14 02.9**	**-0.7**
BOSA				IAmb	IAmb	23 14 17.0	
	comp=Z,3.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**82.74**	**70**	P	**P**	**23 14 09.7**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=278,slow=5.5,SNR=14						
WRA	**Warramunga Arr**	**123.87**	**210**	PKP	**PKPdf**	**23 20 45.0**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=116,slow=1.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**151.15**	**29**	PKPbc	**PKPbc**	**23 21 39.3**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=301,slow=3.0,SNR=15						

*KRNET **10** 23:05:17.8±0.1, 40.°37N×73.°16E, h22km, mb2.7*
*SOME **10** 23:05:18.9, 40.°50N×73.°18E, h0km*
*ISU **10** 23:05:19, 40.°30N×73.°20E, h5km*
*NNC **10** 23:05:20.9±1.5, 40.°56N×73.°13E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=12.7km s-min=4.8km az=169.0
ISC 10 23:05:17.5±1.1, 40.°28N±0.°03×73.°17E±0.°02, h5km±9km, n37, σ1°20/62, 26C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.37**	**136**	*eP*	**Pg**	**23 05 25.0**	**+0.3**
SFK				*eS*	**Sg**	**23 05 29.0**	**-0.6**
SFK	**Sufi-Kurgan**	**0.37**	**136**	⇑*eP*	**Pb**	**23 05 26.4**	**-0.3**
	baz=44						
SFK				⇑*eS*	**Sb**	**23 05 33.1**	**+0.2**
	baz=44						
OHH	**Osh**	**0.38**	**310**	*eP*	**Pg**	**23 05 25.0**	**+0.1**
OHH				*eS*	**Sg**	**23 05 30.0**	**+0.1**
OHH	**Osh**	**0.38**	**310**	⇓*eP*	**Pg**	**23 05 24.9**	**+0.1**
	baz=98						
OHH				⇓*iS*	**Sg**	**23 05 29.7**	**-0.2**
	baz=98						
FRG	**Fergana**	**1.06**	**276**	*eP*	**Pn**	**23 05 41.0**	**+1.9**
FRG				*eS*	**Sb**	**23 05 53.0**	**+0.4**
DRK	**Karamyk**	**1.32**	**233**	⇑*eP*	**Pb**	**23 05 43.0**	**+0.1**
	baz=30						
DRK				⇑*iS*	**Sn**	**23 06 01.0**	**0.0**
	baz=30						
ARK	**Arkit**	**1.77**	**329**	*eP*	**Pn**	**23 05 49.0**	**+0.1**
ARK				*eS*	**Sn**	**23 06 11.0**	**-0.8**
ARK	**Arkit**	**1.77**	**329**	⇑*iP*	**Pn**	**23 05 48.7**	**-0.2**
	baz=28						
ARK				⇑*iS*	**Sn**	**23 06 10.5**	**-1.3**
	baz=28						
ARLS	**Aral**	**1.81**	**29**	⇑*iP*	**Pn**	**23 05 49.3**	**-0.1**
	baz=30						
ARLS				⇑*iS*	**Sn**	**23 06 11.7**	**-1.1**
	baz=30						
BTK	**Batken**	**1.81**	**264**	*eP*	**Pb**	**23 05 51.0**	**-0.2**
BTK				*eS*	**Sg**	**23 06 16.0**	**+0.3**
BTK	**Batken**	**1.81**	**264**	⇑*iP*	**Pb**	**23 05 50.7**	**-0.5**
	baz=61						
BTK				⇑*iS*	**Sb**	**23 06 14.4**	**+0.1**
	baz=61						
TRKS	**Terek-Say**	**1.98**	**310**	⇑*iP*	**Pn**	**23 05 51.3**	**-0.5**
	baz=6.0						
TRKS				⇑*iS*	**Sn**	**23 06 15.6**	**-1.5**
	baz=6.0						
UCH	**Uchtor**	**2.19**	**27**	⇑*iP*	**Pn**	**23 05 54.9**	**-0.1**
	baz=28						
UCH				⇑*iS*	**Sn**	**23 06 21.5**	**-1.3**
	baz=28						
MNAS	**Manas**	**2.26**	**347**	⇑*iP*	**Pn**	**23 05 55.7**	**0.0**
	baz=47						
MNAS				⇑*iS*	**Sn**	**23 06 22.8**	**-1.2**
	baz=47						
AAK	**Ala-Archa**	**2.56**	**23**	⇑Pg	**Pb**	**23 06 03.0**	**-0.9**
	6.4nm,0.5s						
AAK				⇑Lg	Lg	23 06 35.0	
	11nm,0.6s						
AAK	**Ala-Archa**	**2.56**	**23**	⇑*iP*	**Pn**	**23 05 59.7**	**-0.1**
	baz=23						
AAK				⇑*iS*	**Sn**	**23 06 30.0**	**-1.4**
	baz=23						
KBK	**Karagaybulak**	**2.73**	**29**	⇑*eP*	**Pn**	**23 06 02.1**	**0.0**
	baz=30						
KBK				⇑*iS*	**Sn**	**23 06 33.8**	**-1.7**
	baz=30						
IUG	**Iuzhnay**	**3.01**	**309**	*eP*	**Pb**	**23 06 12.7**	**+1.0**
	6.8nm,0.2s						
IUG				*eS*	**Sg**	**23 06 51.8**	**-2.4**
	39nm,0.3s						
IUG	**Iuzhnay**	**3.01**	**309**	Pg	**Pb**	**23 06 12.7**	**+1.0**
	271nm,0.2s						
IUG				Lg	Lg	23 06 50.7	
	39nm,0.3s						
BOOM	**Boomskoye usch**	**3.04**	**42**	⇑*iP*	**Pn**	**23 06 06.6**	**+0.2**
	baz=44						
BOOM				⇑*iS*	**Sn**	**23 06 42.1**	**-1.1**
	baz=44						
TKM2	**Tokmak 2**	**3.21**	**34**	⇓Pg	**Pb**	**23 06 16.2**	**+1.2**
	1.8nm,0.4s						
TKM2				⇑Lg	Lg	23 06 55.7	
	4.3nm,0.5s						
SGDS	**Sogindy**	**3.35**	**19**	*eP*	**Pb**	**23 06 17.6**	**+0.1**
	1.8nm,0.3s						
SGDS				*eS*	**Sb**	**23 07 00.4**	**+1.8**
	3.9nm,0.4s						
SGDS	**Sogindy**	**3.35**	**19**	Pg	**Pb**	**23 06 17.6**	**+0.1**
	1.8nm,0.3s						
SGDS				Lg	Lg	23 07 00.7	
	3.9nm,0.4s						
KK08	**Karatay Array**	**3.46**	**325**	⇑Pg	**Pb**	**23 06 19.5**	**+0.3**
	1.4nm,0.3s,baz=144,slow=14						
KK08				⇓Lg	Lg	23 07 01.7	
	2.2nm,0.3s,baz=144,slow=29						
KST	**Kastek**	**3.46**	**36**	*eP*	**Pb**	**23 06 20.9**	**+1.5**
	2.3nm,0.3s						
KST				*eS*	**Sg**	**23 07 06.0**	**-2.7**
	7.1nm,0.4s						
KST	**Kastek**	**3.46**	**36**	Pg	**Pb**	**23 06 20.9**	**+1.5**
	2.3nm,0.3s						
KST				Lg	Lg	23 07 06.0	
	7.1nm,0.4s						
DGS	**Degeres**	**3.54**	**33**	*eP*	**Pb**	**23 06 20.9**	**+0.2**
	3.4nm,0.4s						
DGS				*eS*	**Sb**	**23 07 05.9**	**+1.8**
	4.7nm,0.5s						
DGS	**Degeres**	**3.54**	**33**	Pg	**Pb**	**23 06 20.9**	**+0.2**
	3.4nm,0.4s						
DGS				Lg	Lg	23 07 05.9	
	4.7nm,0.5s						
BRLS	**Borolday**	**3.71**	**319**	*eP*	**Pb**	**23 06 23.4**	**-0.1**
	4.4nm,0.1s						
BRLS				*eS*	**Sb**	**23 07 10.0**	**+1.2**
	6.7nm,0.1s						
BRLS	**Borolday**	**3.71**	**319**	Pg	**Pb**	**23 06 23.6**	**+0.1**
	4.4nm,0.1s						
BRLS				Lg	Lg	23 07 09.6	
	6.7nm,0.1s						
MTBS	**Maitube**	**3.75**	**40**	*eP*	**Pb**	**23 06 24.7**	**+0.5**
	0.9nm,0.1s						
MTBS				*eS*	**Sb**	**23 07 12.6**	**+2.6**
	4.2nm,0.4s						
MTBS	**Maitube**	**3.75**	**40**	Pg	**Pb**	**23 06 24.7**	**+0.5**
	0.9nm,0.1s						
MTBS				Lg	Lg	23 07 12.6	
	4.2nm,0.4s						
KRBS	**Karabastau**	**3.89**	**28**	*eP*	**Pb**	**23 06 26.8**	**+0.2**
	1.8nm,0.4s						
KRBS				*eS*	**Sb**	**23 07 16.0**	**+1.9**
	5.0nm,0.5s						
KRBS	**Karabastau**	**3.89**	**28**	Pg	**Pb**	**23 06 26.3**	**-0.3**
	1.8nm,0.4s						
KRBS				Lg	Lg	23 07 16.0	
	5.0nm,0.5s						
MDOK	**Medeo**	**4.09**	**44**	Pg	**Pg**	**23 06 35.0**	**-0.8**
	2.2nm,0.8s						
MDOK				Lg	Lg	23 07 24.0	
	4.4nm,0.8s						
KUU	**Kurty**	**4.31**	**32**	*eP*	**Pb**	**23 06 35.1**	**+1.3**
	1.3nm,0.4s						
KUU				*eS*	**Sb**	**23 07 30.4**	**+4.2**
	7.0nm,0.4s						
KUU	**Kurty**	**4.31**	**32**	Pg	**Pb**	**23 06 35.1**	**+1.3**
	1.3nm,0.4s						
KUU				Lg	Lg	23 07 30.4	
	7.0nm,0.4s						

*IDC **10** 23:25:47.3±4.4, 24.°64N×95.°71E, h195km±69km, mb3.1/8,*
mb1 3.2/9, mb1mx2.9/49, mbtmp3.6/9, Error ellipse:
s-maj=57.4km s-min=44.1km az=98.0
ISC 10 23:25:47.6±1.1, 24.°6N±0.°2×95.°7E±0.°3, h200km, n9, σ0°49/9, mb3.5/8, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.82**	**153**	P	**Pn**	**23 27 25.5**	**0.0**
	0.5nm,0.3s,baz=323,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**24.61**	**337**	P	**P**	**23 30 49.2**	**-0.1**
	0.3nm,0.4s,baz=150,slow=9.8,SNR=11						
SONM	**Songino Array**	**24.68**	**17**	P	**P**	**23 30 50.4**	**+0.2**
	0.1nm,0.3s,baz=191,slow=6.6,SNR=2.1						
KURBB	**Kurchatov Arra**	**29.17**	**337**	P	**P**	**23 31 29.2**	**-0.8**
	0.2nm,0.5s,baz=147,slow=8.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**30.42**	**347**	P	**P**	**23 31 40.9**	**0.0**
	0.3nm,0.3s,baz=182,slow=13,SNR=2.3						
AKTO	**Aktyubinsk**	**38.84**	**321**	P	**P**	**23 32 53.6**	**+0.5**
	0.7nm,0.5s,baz=76,slow=13,SNR=2.6						
FINES	**FINESS Array B**	**58.98**	**328**	P	**P**	**23 35 25.9**	**+0.1**
	3.2nm,1.0s,baz=103,slow=4.4,SNR=2.1						
ARCES	**ARCESS Array B**	**60.26**	**338**	P	**P**	**23 35 33.8**	**-0.6**
	1.4nm,0.9s,baz=113,slow=6.9,SNR=0.9						
NOA	**NORSAR Array B**	**66.16**	**328**	P	**P**	**23 36 13.6**	**+0.2**
	0.5nm,0.5s,baz=82,slow=6.3,SNR=1.9						

*KRNET **10** 23:45:32.5±0.1, 41.°12N×71.°49E, h17km, mb2.1*
*SOME **10** 23:45:34.4, 41.°18N×71.°48E, h10km*
*NNC **10** 23:45:36.8±2.7, 41.°30N×71.°48E, h0km, mb3.0, mpv3.0,*
Error ellipse: s-maj=24.1km s-min=7.7km az=2.0
ISC 10 23:45:32.0±1.1, 41.°13N±0.°03×71.°50E±0.°03, h11km±14km, n24, σ1°39/40, 20C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.48**	**326**	⇑*iP*	**Pg**	**23 45 40.6**	**-0.9**
	baz=25						
TRKS				⇑*iS*	**Sg**	**23 45 46.5**	**-1.4**
	baz=25						
ARK	**Arkit**	**0.75**	**27**	⇑*iP*	**Pb**	**23 45 47.1**	**-0.1**
	baz=28						
ARK				⇑*iS*	**Sg**	**23 45 57.8**	**+1.3**
	baz=28						
OHH	**Osh**	**1.15**	**121**	⇑*iP*	**Pb**	**23 45 54.2**	**+0.3**
	baz=21						
OHH				⇑*eS*	**Sg**	**23 46 09.8**	**+0.8**
	baz=21						
BTK	**Batken**	**1.19**	**206**	⇑*eP*	**Pb**	**23 45 54.5**	**-0.1**
	baz=6.0						
BTK				⇑*iS*	**Sg**	**23 46 10.7**	**+0.3**
	baz=6.0						
IUG	**Iuzhnay**	**1.50**	**313**	*eP*	**Pg**	**23 46 01.1**	**+0.4**
	4.3nm,0.1s						
IUG				*eS*	**Sg**	**23 46 21.2**	**+1.0**
	108nm,0.2s						
IUG	**Iuzhnay**	**1.50**	**313**	P	**Pg**	**23 46 01.1**	**+0.4**
	168nm,0.1s						
IUG				S	**Sg**	**23 46 21.2**	**+1.0**
	108nm,0.2s						
MNAS	**Manas**	**1.55**	**29**	⇑*iP*	**Pg**	**23 46 01.8**	**0.0**
	baz=29						
MNAS				⇑*iS*	**Sg**	**23 46 22.1**	**+0.2**
	baz=29						
DRK	**Karamyk**	**1.67**	**172**	⇑*eP*	**Pb**	**23 46 02.9**	**+0.1**
	baz=71						
DRK				⇑*iS*	**Sg**	**23 46 25.2**

s-min=9.3km az=155.0
KRSC **10** 23:48:52.7±1.5, 54°.88N×164°.15E, h49km±25km, ML5.1
GCMT **10** 23:48:55.9±0.2, 54°.95N±0°.02×164°.24E±0°.02, h17km±1km, MW5.0/101, Moment Tensor Solution. s31,c40; s101,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.82±.12; $M_{\theta\theta}$=2.01±.10; $M_{\phi\phi}$=2.83±.09; $M_{r\theta}$=0.84±.27; $M_{r\phi}$=1.57±.07; $M_{\theta\phi}$=1.96±.27; Best double couple: M_0=3.36600×10^{16} NP1:ϕ_s=328.00000°, δ=63.00000°, λ=174.00000°. NP2:ϕ_s=60.00000°, δ=84.00000°, λ=27.00000°. Principal axes: T 4.1920, Plg23.0000°, Azm287.0000°; N -1.6510, Plg62.0000°, Azm71.0000°; P -2.5410, Plg15.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
BJI **10** 23:48:55.2±0.0, 55°.25N×163°.54E, h27km, mb4.5/47, mB4.9/30, Ms4.8/33, Ms7 4.4/34
MOS **10** 23:48:55.5±0.9, 54°.96N×164°.06E, h40km, mb5.0/31, MS4.1/10, Error ellipse: s-maj=5.0km s-min=4.3km az=86.8
NEIC **10** 23:48:57.9±1.4, 54°.97N±0°.08×164°.2E±0°.1, h34km±4km, mb4.9/310, Error ellipse: s-maj=11.5km s-min=8.7km az=174.0
ISC 10 23:48:56.1±0.5, **54°.94N**±0°.03×**164°.14E**±0°.03, **h31**km±3km, **h30**km:**pP-P**, **n699**, σ1**§37**/676, **mb4.9**/241, **MS4.2**/73, **18C-10D**, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BKI	**Bering**	**1.09**	**75**	PN	**Pn**	**23 49 13.7**	**-1.5**
BKI				S	**Sn**	**23 49 27.5**	**-1.6**
BKI	**Bering**	**1.09**	**75**	*e*P	**Pn**	**23 49 13.7**	**-1.5**
BKI				*e*S	**Sn**	**23 49 27.5**	**-1.6**
MKZ	**Mys Kozlova**	**1.45**	**256**	PN	**Pn**	**23 49 18.5**	**-1.7**
MKZ				S	**Sn**	**23 49 35.4**	**-2.7**
MKZ	**Mys Kozlova**	**1.45**	**256**	*e*P	**Pn**	**23 49 18.5**	**-1.7**
MKZ				*e*S	**Sn**	**23 49 35.4**	**-2.7**
KBTR	**Krutoberegovo**	**1.48**	**330**	PN	**Pn**	**23 49 17.8**	**-2.8**
KBTR				S	**Sn**	**23 49 36.1**	**-2.7**
KBTR	**Krutoberegovo**	**1.48**	**330**	*e*P	**Pn**	**23 49 17.8**	**-2.8**
KBTR				*e*S	**Sn**	**23 49 36.1**	**-2.7**
KBG	**Krutoberegovo**	**1.55**	**329**	PN	**Pn**	**23 49 19.4**	**-2.1**
KBG				S	**Sn**	**23 49 38.4**	**-2.2**
KBG	**Krutoberegovo**	**1.55**	**329**	*e*P	**Pn**	**23 49 19.4**	**-2.1**
KBG				*e*S	**Sn**	**23 49 38.4**	**-2.2**
TUMD	**Tumrok D**	**2.17**	**278**	*e*P	**Pn**	**23 49 29.5**	**-0.6**
TUMD				*e*S	**Sb**	**23 49 57.8**	**-3.3**
ZLN	**Zelenaya**	**2.18**	**301**	PN	**Pn**	**23 49 30.1**	**-0.3**
ZLN	**Zelenaya**	**2.18**	**301**	*e*P	**Pn**	**23 49 30.1**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**2.20**	**298**	PN	**Pn**	**23 49 30.5**	**-0.2**
BZGR				S	**Sb**	**23 49 58.9**	**-3.3**
BZGR	**Bezymyannyi-Gr**	**2.20**	**298**	*e*P	**Pn**	**23 49 30.5**	**-0.2**
BZGR				*e*S	**Sb**	**23 49 58.9**	**-3.3**
SMKR	**Semkarok**	**2.23**	**319**	PN	**Pn**	**23 49 30.2**	**-0.8**
SMKR				S	**Sn**	**23 49 57.1**	**-0.5**
SMKR	**Semkarok**	**2.23**	**319**	*e*P	**Pn**	**23 49 30.2**	**-0.8**
SMKR				*e*S	**Sn**	**23 49 57.1**	**-0.5**
CIRR	**Tsirk**	**2.26**	**303**	PN	**Pn**	**23 49 31.2**	**-0.3**
CIRR	**Tsirk**	**2.26**	**303**	*e*P	**Pn**	**23 49 31.2**	**-0.3**
LGNR	**Loginova**	**2.27**	**302**	PN	**Pn**	**23 49 31.8**	**0.0**
LGNR	**Loginova**	**2.27**	**302**	*e*P	**Pn**	**23 49 31.8**	**0.0**
BZWR	**Bezymyannyi-We**	**2.31**	**298**	PN	**Pn**	**23 49 32.4**	**+0.1**
BZWR				S	**Sb**	**23 50 02.0**	**-3.5**
BZWR	**Bezymyannyi-We**	**2.31**	**298**	*e*P	**Pn**	**23 49 32.4**	**+0.1**
BZWR				*e*S	**Sb**	**23 50 02.0**	**-3.5**
TUMR	**Tumrok**	**2.32**	**280**	PN	**Pn**	**23 49 31.9**	**-0.4**
TUMR				S	**Sn**	**23 50 01.0**	**+1.2**
TUMR	**Tumrok**	**2.32**	**280**	*e*P	**Pn**	**23 49 31.9**	**-0.4**
TUMR				*e*S	**Sn**	**23 50 01.0**	**+1.2**
BDR	**Baidarnaya**	**2.33**	**316**	PN	**Pn**	**23 49 31.8**	**-0.5**
BDR				S	**Sn**	**23 50 00.3**	**+0.4**
BDR	**Baidarnaya**	**2.33**	**316**	*e*P	**Pn**	**23 49 31.8**	**-0.5**
BDR				*e*S	**Sn**	**23 50 00.3**	**+0.4**
KMNR	**Kamenistaya**	**2.37**	**292**	PN	**Pn**	**23 49 33.4**	**+0.4**
KMNR	**Kamenistaya**	**2.37**	**292**	*e*P	**Pn**	**23 49 33.4**	**+0.4**
KIRR	**Kirishev**	**2.39**	**297**	PN	**Pn**	**23 49 33.4**	**+0.1**
KIRR				S	**Sn**	**23 50 03.4**	**+1.8**
KIRR	**Kirishev**	**2.39**	**297**	*e*P	**Pn**	**23 49 33.4**	**+0.1**
KIRR				*e*S	**Sn**	**23 50 03.4**	**+1.8**
KRSR	**Krestovskiy**	**2.40**	**304**	PN	**Pn**	**23 49 32.8**	**-0.6**
KRSR				S	**Sn**	**23 50 01.8**	**+0.1**
KRSR	**Krestovskiy**	**2.40**	**304**	*e*P	**Pn**	**23 49 32.8**	**-0.6**
KRSR				*e*S	**Sn**	**23 50 01.8**	**+0.1**
SRKR	**Sorokina**	**2.40**	**317**	PN	**Pn**	**23 49 33.0**	**-0.3**
SRKR	**Sorokina**	**2.40**	**317**	*e*P	**Pn**	**23 49 33.0**	**-0.3**
KLY	**Klyuchi**	**2.41**	**306**	PN	**Pn**	**23 49 31.6**	**-1.8**
KLY				S	**Sn**	**23 49 59.4**	**-2.4**
KLY	**Klyuchi**	**2.41**	**306**	*e*P	**Pn**	**23 49 31.6**	**-1.8**
KLY				*e*S	**Sn**	**23 49 59.4**	**-2.4**
KPT	**Kopyto**	**2.46**	**296**	PN	**Pn**	**23 49 34.2**	**+0.1**
KPT				S	**Sn**	**23 50 03.4**	**+0.3**
KPT	**Kopyto**	**2.46**	**296**	*e*P	**Pn**	**23 49 34.2**	**+0.1**
KPT				*e*S	**Sn**	**23 50 03.4**	**+0.3**
KII	**Karymskiy**	**2.88**	**254**	PN	**Pn**	**23 49 39.4**	**-0.6**
KII				S	**Sn**	**23 50 12.4**	**-1.2**
KII	**Karymskiy**	**2.88**	**254**	*e*P	**Pn**	**23 49 39.4**	**-0.6**
KII				*e*S	**Sn**	**23 50 12.4**	**-1.2**
SPN	**Mys Shipunski**	**3.05**	**234**	PN	**Pn**	**23 49 40.5**	**-1.7**
SPN	**Mys Shipunski**	**3.05**	**234**	*e*P	**Pn**	**23 49 40.5**	**-1.7**
SPN				*e*S	**Sn**	**23 50 13.6**	**-4.0**
ESO	**Esso**	**3.25**	**290**	PN	**Pn**	**23 49 48.4**	**+3.4**
ESO	**Esso**	**3.25**	**290**	*e*P	**Pn**	**23 49 48.4**	**+3.4**
NLC	**Nalytchevo**	**3.34**	**240**	PN	**Pn**	**23 49 45.0**	**-1.1**
NLC				S	**Sn**	**23 50 22.7**	**-1.9**
NLC	**Nalytchevo**	**3.34**	**240**	*e*P	**Pn**	**23 49 45.0**	**-1.1**
NLC				*e*S	**Sn**	**23 50 22.7**	**-1.9**
SDLR	**Sedlovina**	**3.51**	**244**	PN	**Pn**	**23 49 49.0**	**+0.3**
SDLR				S	**Sn**	**23 50 28.2**	**-1.0**
SDLR	**Sedlovina**	**3.51**	**244**	*e*P	**Pn**	**23 49 49.0**	**+0.3**
SDLR				*e*S	**Sn**	**23 50 28.2**	**-1.0**
SMAR	**Somma**	**3.56**	**244**	PN	**Pn**	**23 49 49.7**	**+0.2**
SMAR				S	**Sn**	**23 50 28.6**	**-2.0**
SMAR	**Somma**	**3.56**	**244**	*e*P	**Pn**	**23 49 49.7**	**+0.2**
SMAR				*e*S	**Sn**	**23 50 28.6**	**-2.0**
KRER	**Koryakskii**	**3.57**	**245**	PN	**Pn**	**23 49 50.2**	**+0.7**
KRER	**Koryakskii**	**3.57**	**245**	*e*P	**Pn**	**23 49 50.2**	**+0.7**
UGLR	**Uglovaya**	**3.58**	**243**	PN	**Pn**	**23 49 49.1**	**-0.5**
UGLR	**Uglovaya**	**3.58**	**243**	*e*P	**Pn**	**23 49 49.1**	**-0.5**
AVH	**Avacha**	**3.60**	**244**	PN	**Pn**	**23 49 49.7**	**-0.1**
AVH				S	**Sn**	**23 50 30.3**	**-0.9**
AVH	**Avacha**	**3.60**	**244**	*e*P	**Pn**	**23 49 49.7**	**-0.1**
AVH				*e*S	**Sn**	**23 50 30.3**	**-0.9**
KOK	**Koryaka**	**3.64**	**245**	PN	**Pn**	**23 49 50.7**	**+0.4**
KOK	**Koryaka**	**3.64**	**245**	*e*P	**Pn**	**23 49 50.7**	**+0.4**
DALK	**Dalny**	**3.71**	**241**	PN	**Pn**	**23 49 50.8**	**-0.5**
DALK	**Dalny**	**3.71**	**241**	*e*P	**Pn**	**23 49 50.8**	**-0.5**
DALK				*e*S	**Sn**	**23 50 31.6**	**-2.3**
PET	**Petropavlovsk**	**3.77**	**242**⇑	*e*PN	**Pn**	**23 49 51.7**	**-0.3**
PET	**Petropavlovsk**	**3.77**	**242**	Pn	**Pn**	**23 49 51.0**	**-1.0**
PET	**Petropavlovsk**	**3.77**	**242**	*e*P	**Pn**	**23 49 53.2**	**+1.2**
PET				*e*S	**Sn**	**23 50 33.6**	**-1.6**
GNL	**Ganaly**	**3.84**	**254**	PN	**Pn**	**23 49 53.4**	**+0.3**
GNL	**Ganaly**	**3.84**	**254**	*e*P	**Pn**	**23 49 53.4**	**+0.3**
KRMR	**Karymshinskiy**	**4.14**	**242**	PN	**Pn**	**23 49 57.7**	**+0.6**
KRMR	**Karymshinskiy**	**4.14**	**242**	*e*P	**Pn**	**23 49 57.7**	**+0.6**
KRMR				*e*S	**Sn**	**23 50 43.1**	**-1.3**
RUS	**Russkaya**	**4.18**	**235**	PN	**Pn**	**23 49 56.9**	**-0.8**
RUS	**Russkaya**	**4.18**	**235**	*e*P	**Pn**	**23 49 56.9**	**-0.8**
RUS				*e*S	**Sn**	**23 50 42.2**	**-3.3**
PEA0B	**Petropavlovsk-**	**4.22**	**247**⇑	*i*PN	**Pn**	**23 49 58.5**	**+0.2**
PEA0B	**Petropavlovsk-**	**4.22**	**247**	Pn	**Pn**	**23 49 58.4**	**+0.2**
PETK	**Petropavlovsk-**	**4.22**	**247**	Pn	**Pn**	**23 49 58.2**	**-0.1**
	9.0nm,0.3s,baz=75,slow=17,SNR=44						
PETK				Sn	**Sn**	**23 50 45.7**	**-0.8**
	8.8nm,0.3s,baz=108,slow=14,SNR=3.7						
PETK				LR	LR	23 51 54.3	
	comp=Z,2μm,20.2s,baz=58,slow=44						
GRL	**Gorelyy**	**4.32**	**239**	PN	**Pn**	**23 50 00.0**	**+0.2**
GRL	**Gorelyy**	**4.32**	**239**	*e*P	**Pn**	**23 50 00.0**	**+0.2**
APC	**Apacha**	**4.59**	**247**	PN	**Pn**	**23 50 04.3**	**+0.9**
APC	**Apacha**	**4.59**	**247**	*e*P	**Pn**	**23 50 04.3**	**+0.9**
TILK	**Tilichiki**	**5.62**	**10**	PN	**Pn**	**23 50 18.1**	**+0.6**
TILK	**Tilichiki**	**5.62**	**10**	*e*P	**Pn**	**23 50 18.1**	**+0.6**
SHEM	**Shemya Is, Ala**	**6.30**	**107**	Pn	**Pn**	**23 50 26.7**	**-0.1**
	8.8nm,0.3s,baz=195,slow=3.0,SNR=5.7						
SHEM				Sn	**Sn**	**23 51 30.4**	**-7.2**
	6.5nm,0.3s,baz=284,slow=21,SNR=2.6						
SHEM				LR	LR	23 52 46.0	
	comp=Z,3μm,21.3s,baz=291,slow=36						
SMY	**Shemya**	**6.30**	**107**	PN	**Pn**	**23 50 26.1**	**-0.7**
SMY	**Shemya**	**6.30**	**107**	Pn	**Pn**	**23 50 26.1**	**-0.7**
SKR	**Severo-Kuril's**	**6.47**	**232**	*e*PN	Pn	23 50 22.7	-6.4
SKR				pmax	pmax		
	comp=Z,22nm,0.6s						
SKR				pmax	pmax		
	comp=Z,100nm,4.2s						
SKR				MLR	MLR		
	comp=Z,500nm,16.0s						
SKR	**Severo-Kuril's**	**6.47**	**232**	*e*P	**Pn**	**23 50 31.6**	**+2.5**
MA2	**Magadan**	**8.60**	**308**⇑	*e*PN	**Pn**	**23 51 01.1**	**+2.7**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MA2	**Magadan**	**8.60**	**308**	Pn	**Pn**	**23 50 59.4**	**+1.0**
BILL	**Bilibino**	**13.18**	**4**	*d i*PN	**Pn**	**23 52 03.0**	**+2.1**
BILL				pmax	pmax		
	comp=Z,31nm,1.3s						
BILL				MLR	MLR		
	comp=Z,742nm,13.0s						
BILL	**Bilibino**	**13.18**	**4**	Pn	**Pn**	**23 52 01.4**	**+0.5**
TYV	**Tymovskoe**	**13.58**	**261**	*e*P	**Pn**	**23 52 08.3**	**+1.9**
TYV				pmax	pmax		
	comp=Z,300nm,3.1s						
NKL	**Nikolayevsk**	**13.88**	**272**	*e*P	**Pn**	**23 52 09.5**	**-1.0**
NKL				*e*S	**Sn**	**23 54 46.7**	**+3.3**
NKL				pmax	pmax		
	comp=N,3.0nm,0.8s						
NKL				pmax	pmax		
	comp=E,2.0nm,0.8s						
NKL				pmax	pmax		
	comp=Z,50nm,1.0s						
NKL				smax	smax		
	comp=E,3.0nm,2.5s						
NKL				smax	smax		
	comp=N,3.0nm,1.6s						
NKL				MLR	MLR		
	comp=E,120nm,11.0s						
NKL				MLR	MLR		
	comp=N,136nm,12.0s						
NKL				MLR	MLR		
	comp=Z,687nm,15.0s						
GAMB	**Gambell**	**15.07**	**44**	Pn	**Pn**	**23 52 27.9**	**+1.4**
GAMB				IAmb	IAmb	23 52 42.8	
	comp=Z,98nm,1.2s						
YSS	**Yuzh-Sakhalins**	**15.62**	**248**	*e*P	**Pn**	**23 52 34.4**	**+0.6**
YSS				pmax	pmax		
	comp=Z,60nm,1.1s						
YSS	**Yuzh-Sakhalins**	**15.62**	**248**	Pn	**Pn**	**23 52 34.0**	**+0.2**
YSS				IAmb	IAmb	23 52 39.1	
	comp=Z,99nm,1.3s						
UNV	**Unalaska Valle**	**17.08**	**82**		**P**	**23 52 53.9**	**+0.1**
UNV	**Unalaska Valle**	**17.08**	**82**	P	**P**	**23 52 55.3**	**+1.6**
	baz=286						
GRNR	**Gornyy**	**17.20**	**267**⇑	*i*P	**P**	**23 52 55.7**	**+0.5**
GRNR				pmax	pmax		
	comp=E,30nm,0.6s						
GRNR				pmax	pmax		
	comp=N,10.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,40nm,0.7s						
GRNR				MLR	MLR		
	comp=E,610nm,16.0s						
TNA	**Tin City**	**17.30**	**41**		**P**	**23 52 56.2**	**+0.1**
TNA	**Tin City**	**17.30**	**41**	P	**P**	**23 52 57.7**	**+1.6**
	baz=245,SNR=13						
AKUT	**Akutan**	**17.42**	**80**		**P**	**23 52 57.4**	**-0.1**
AKUT				IAmb	IAmb	23 53 15.1	
	comp=Z,126nm,1.5s						
JKA	**Kamikawa-asahi**	**17.61**	**241**		**Pn**	**23 52 57.6**	**-1.4**
JKA				IAmb	IAmb	23 53 02.2	
	comp=Z,71nm,1.0s						
ASAJ	**Asahikawa**	**17.61**	**241**	P	**Pn**	**23 52 57.9**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=50,slow=8.3,SNR=11						
ASAJ				LR	LR	23 59 21.3	
	comp=Z,817nm,19.8s,baz=50,slow=36						
ASAJ	**Asahikawa**	**17.61**	**241**	P	**Pn**	**23 52 57.6**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,71nm,1.0s						
ANM	**Nome**	**17.94**	**45**	P	**Pn**	**23 53 03.1**	**+0.2**
ANM				pmax	pmax		
	comp=Z,34nm,1.4s						
ANM	**Nome**	**17.94**	**45**		**Pn**	**23 53 03.1**	**+0.2**
ANM	**Nome**	**17.94**	**45**	P	**P**	**23 53 04.7**	**+1.4**
	baz=252						
JEM	**Erimo**	**18.89**	**235**		P	23 53 00.9	-13
JEM				IAmb	IAmb	23 53 22.3	
	comp=Z,114nm,1.3s						
ERM	**Erimo**	**18.90**	**235**⇑	*e*P	**P**	**23 53 12.7**	**-1.2**
YAK	**Yakutsk**	**19.17**	**306**	P	**P**	**23 53 15.1**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=95,slow=4.9,SNR=19						
YAK				LR	LR	00 01 14.6	
	comp=Z,688nm,18.5s,baz=100,slow=39						
YAK	**Yakutsk**	**19.17**	**306**	*c i*P	**P**	**23 53 15.9**	**-0.8**
YAK				*e*S	**Sn**	**23 56 48.8**	**-2.5**
YAK				pmax	pmax		
	comp=Z,89nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,48nm,1.2s						
YAK				smax	smax		
	comp=N,110nm,2.5s						
YAK				smax	smax		
	comp=E,121nm,2.6s						
YAK	**Yakutsk**	**19.17**	**306**	P	**P**	**23 53 16.4**	**-0.3**
YAK				IAmb	IAmb	23 53 17.0	
	comp=Z,103nm,0.9s						
RDOG	**Red Dog Mine**	**20.14**	**36**	P	Pn	23 53 38.1	+8.8
	baz=246						
KLR	**Kul'dur**	**20.58**	**267**	P	**P**	**23 53 30.4**	**-1.8**
	comp=Z,2.7nm,0.6s,baz=61,slow=9.9,SNR=12						
KLR				LR	LR	00 01 36.4	
	comp=Z,575nm,21.6s,baz=66,slow=37						
KLR	**Kul'dur**	**20.58**	**267**⇓	*e*P	**P**	**23 53 32.4**	**+0.2**
KLR				pmax	pmax		
	comp=Z,27nm,1.6s						
KLR				MLR	MLR		
	comp=Z,557nm,15.0s						
ZEA	**Zeya**	**21.39**	**282**	*e*P	**P**	**23 53 39.1**	**-1.7**
ZEA				MLR	MLR		
	comp=N,200nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,15.0s						
GCSA	**Galena City Sc**	**21.54**	**47**	P	**P**	**23 53 42.8**	**+0.5**
	baz=261,SNR=5.8						
TTA	**Tatalina**	**21.73**	**52**	P	**P**	**23 53 45.8**	**+1.2**
TTA				pmax	pmax		
	comp=Z,55nm,1.2s						
TTA	**Tatalina**	**21.73**	**52**	P	**P**	**23 53 45.8**	**+1.2**
TTA				IAmb	IAmb	23 53 48.4	
	comp=Z,55nm,1.2s						
TTA	**Tatalina**	**21.73**	**52**	P	**P**	**23 53 45.7**	**+1.1**
	baz=267,SNR=13						
SVW2	**Sparrevohn**	**21.91**	**57**	P	**P**	**23 53 47.6**	**+1.1**
SVW2				IAmb	IAmb	23 53 50.3	
	comp=Z,55nm,1.4s						
N19K	**Bonanza Creek**	**22.46**	**58**	P	**P**	**23 53 53.4**	**+0.9**
N19K				IAmb	IAmb	23 53 55.6	
	comp=Z,31nm,0.8s						
N19K	**Bonanza Creek**	**22.46**	**58**	P	**P**	**23 53 54.2**	**+1.7**
	baz=274						
TIXI	**Tiksi**	**22.50**	**331**	P	**P**	**23 53 52.3**	**-0.3**
	comp=Z,24nm,0.8s,baz=117,slow=11,SNR=91						
TIXI				LR	LR	00 03 07.6	
	comp=Z,354nm,18.0s,baz=156,slow=38						
TIXI	**Tiksi**	**22.50**	**331**	*ce*P	**P**	**23 53 52.9**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,52nm,1.2s						
TIXI				MLR	MLR		
	comp=Z,543nm,15.0s						
TIXI	**Tiksi**	**22.50**	**331**	P	**P**	**23 53 52.9**	**+0.3**
TIXI				IAmb	IAmb	23 53 55.4	
	comp=Z,32nm,0.8s						
K20K	**Telida**	**22.63**	**51**	P	**P**	**23 53 53.9**	**-0.3**
K20K				IAmb	IAmb	23 53 56.7	
	comp=Z,49nm,1.1s						
K20K	**Telida**	**22.63**	**51**	P	**P**	**23 53 54.6**	**+0.5**
	baz=268						
J20K	**Nowinta River**	**22.65**	**49**	IAmb	IAmb	23 53 57.1	
	comp=Z,54nm,0.8s						
J20K	**Nowinta River**	**22.65**	**49**	P	**P**	**23 53 54.5**	**+0.2**
	baz=266						
USRK	**Ussurysk Ar.**	**23.25**	**256**	LR	LR	00 03 36.2	
	comp=Z,830nm,18.9s,baz=49,slow=38						
JMM	**Marumori**	**23.29**	**232**	P	**P**	**23 54 01.9**	**+0.9**
H21K	**Melozitna Rive**	**23.36**	**46**	P	**P**	**23 54 01.7**	**+0.2**
	baz=264,SNR=26						
CHUM	**Lake Minchumin**	**23.44**	**50**	P	**P**	**23 54 02.8**	**+0.5**
	baz=268,SNR=9.9						
PPLA	**Purkeypile**	**23.48**	**53**	P	**P**	**23 54 03.7**	**+0.8**
PPLA				IAmb	IAmb	23 54 18.0	
	comp=Z,53nm,1.1s						
PPLA	**Purkeypile**	**23.48**	**53**	P	**P**	**23 54 04.1**	**+1.1**
	baz=270,SNR=5.8						
A21K	**Barrow**	**23.48**	**31**	P	**P**	**23 54 01.8**	**-0.9**
A21K	**Barrow**	**23.48**	**31**	P	**P**	**23 54 01.9**	**-0.8**
	baz=246,SNR=22						
CAST	**Castle Rocks**	**23.53**	**51**	IAmb	IAmb	23 54 05.9	
	comp=Z,41nm,0.9s						
CAST	**Castle Rocks**	**23.53**	**51**	P	**P**	**23 54 04.1**	**+0.9**
	baz=269,SNR=16						
I21K	**Tanana**	**23.66**	**47**	IAmb	IAmb	23 54 05.3	
	comp=Z,28nm,0.9s						
I21K	**Tanana**	**23.66**	**47**	P	**P**	**23 54 04.7**	**+0.3**
	baz=265						
KDAK	**Kodiak Island**	**23.84**	**65**	P	**P**	**23 54 05.6**	**-0.5**
	comp=Z,23nm,1.0s,baz=271,slow=5.4,SNR=7.7						
KDAK				LR	LR	00 03 14.0	
	comp=Z,367nm,21.1s,baz=285,slow=36						
BPAW	**Bear Paw Mtn.**	**24.03**	**50**	P	**P**	**23 54 08.4**	**+0.5**
	baz=269,SNR=14						
TRF	**Thorofare Moun**	**24.34**	**51**	P	**P**	**23 54 11.4**	**+0.4**
	baz=271,SNR=40						
MDJ	**Mudanjiang**	**24.34**	**259**	P	**P**	**23 54 13.4**	**+2.4**
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,210nm,3.5s						
CUT	**Chulitna**	**24.38**	**54**	P	**P**	**23 54 11.1**	**-0.1**
	baz=273,SNR=8.6						
M22K	**Willow**	**24.50**	**55**	P	**P**	**23 54 12.2**	**0.0**
	baz=275						
COLD	**Coldfoot**	**24.59**	**42**	P	**P**	**23 54 13.0**	**0.0**
	baz=263,SNR=67						
BWN	**Browne**	**24.70**	**49**	P	**P**	**23 54 16.4**	**+2.4**
I23K	**Minto, Yukon-K**	**24.76**	**47**	P	**P**	**23 54 14.9**	**+0.4**
	baz=268,SNR=32						
NEA2	**Nenana**	**24.87**	**48**	P	**P**	**23 54 15.6**	**0.0**
	baz=270,SNR=11						
BNX	**BinXian**	**24.93**	**264**	⇑P	**P**	**23 54 14.4**	**-1.8**
BNX				pP	**pP**	**23 54 23.7**	**+0.4**
BNX				sP	**sP**	**23 54 27.2**	**+0.9**
BNX				PP	**PnPn**	**23 54 48.7**	**-0.9**
BNX				S	**S**	**23 58 34.9**	**-2.6**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,150nm,5.1s						
BNX				LR	LR		
	comp=Z,890nm,15.1s						
BNX				LR	LR		
	comp=Z,580nm,18.1s						
BNX				LR	LR		
	comp=Z,940nm,13.3s						
MCK	**McKinley**	**24.94**	**50**	P	**P**	**23 54 16.4**	**+0.1**
	baz=271,SNR=17						
PMR	**Palmer**	**24.98**	**56**	P	**P**	**23 54 16.3**	**-0.2**
	baz=276						
SEW	**Seward**	**25.02**	**59**	P	**P**	**23 54 16.9**	**-0.1**
	baz=279						
GHO	**Glory Hole Cre**	**25.06**	**55**	IAmb	IAmb	23 54 25.4	
	comp=Z,29nm,0.8s						
MDM	**Murphy Dome**	**25.23**	**48**	IAmb	IAmb	23 54 20.7	
	comp=Z,36nm,1.1s						
WRH	**Wood River Hil**	**25.29**	**49**	P	**P**	**23 54 19.6**	**+0.2**
KNK	**Knik Glacier**	**25.32**	**56**	P	**P**	**23 54 19.5**	**-0.2**
	baz=277,SNR=8.5						
SML	**Sawmill**	**25.34**	**55**	P	**P**	**23 54 20.2**	**+0.3**
	baz=276,SNR=7.3						
TCOL	**CIGO, UAF Yank**	**25.39**	**48**	IAmb	IAmb	23 54 21.5	
	comp=Z,29nm,0.8s						
TCOL	**CIGO, UAF Yank**	**25.39**	**48**	P	**P**	**23 54 20.7**	**+0.4**
	baz=270,SNR=6.5						
COLA	**College**	**25.39**	**48**	*d i*P	**P**	**23 54 20.3**	**0.0**
COLA				pmax	pmax		
	comp=Z,30nm,0.9s						
COLA	**College**	**25.39**	**48**	P	**P**	**23 54 20.7**	**+0.4**
COLA				IAmb	IAmb	23 54 21.5	
	comp=Z,29nm,0.8s						
H24K	**Noodor Dome**	**25.40**	**45**	IAmb	IAmb	23 54 23.4	
	comp=Z,25nm,1.1s						
H24K	**Noodor Dome**	**25.40**	**45**	P	**P**	**23 54 20.8**	**+0.3**
	baz=268						
PWL	**Port Wells**	**25.45**	**57**	P	**P**	**23 54 20.7**	**-0.2**
	baz=278,SNR=7.7						
WAT6	**Susitna Watana**	**25.54**	**53**	P	**P**	**23 54 21.4**	**-0.4**
	baz=275,SNR=7.6						
MJB9	**Matsu-Tunnel**	**25.57**	**235**	P	**P**	**23 54 22.9**	**+0.7**
MAJO	**Matsushiro**	**25.57**	**235**⇓	*e*P	**P**	**23 54 23.2**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,43nm,0.7s						
MAJO	**Matsushiro**	**25.57**	**235**	P	**P**	**23 54 21.6**	**-0.5**
MAT	**Matsushiro**	**25.57**	**235**	P	**P**	**23 54 23.4**	**+1.3**
MJAR	**Matsushiro Arr**	**25.57**	**235**	P	**P**	**23 54 23.4**	**+1.2**
	comp=Z,32nm,1.0s,baz=22,slow=7.9,SNR=29						
MJAR		

MENT **Mentasta** 27.34 52 P **P** 23 54 39.7 +1.7
BOD **Bodaibo** 27.39 297 *e*P **P** 23 54 36.1 -2.3
BOD pmax pmax
comp=Z,12nm,1.2s
L26K **Log Cabin Wild** 27.50 52 P **P** 23 54 40.7 +1.3
GLB **Gilahina Butte** 27.53 55 P **P** 23 54 40.1 +0.5
GLB IAmb IAmb 23 54 41.1
comp=Z,48nm,1.4s
M26K **Nabesna, AK** 27.75 53 IAmb IAmb 23 54 43.9
comp=Z,40nm,1.2s
M26K **Nabesna, AK** 27.75 53 P **P** 23 54 42.8 +1.2
baz=279
L27K **Beaver Creek,** 28.18 51 IAmb IAmb 23 54 47.4
comp=Z,39nm,0.9s
L27K **Beaver Creek,** 28.18 51 P **P** 23 54 46.1 +0.7
baz=279
EGAK **Eagle** 28.26 48 IAmb IAmb 23 54 46.2
comp=Z,28nm,0.8s
EGAK **Eagle** 28.26 48 P **P** 23 54 45.2 -0.8
baz=276
M27K **Edge Creek, AK** 28.27 53 IAmb IAmb 23 54 52.8
comp=Z,22nm,0.8s
M27K **Edge Creek, AK** 28.27 53 P **P** 23 54 47.3 +0.9
baz=280
BVCY **Beaver Creek** 28.73 53 P **P** 23 54 51.4 +1.1
baz=280,SNR=7.4
CTG **Chitna Glacier** 28.80 56 P **P** 23 54 51.2 +0.1
baz=283
YUK3 **Moose Creek** 29.04 54 P **P** 23 54 54.0 +0.7
baz=282
DAWY **Dawson** 29.11 49 P **P** 23 54 54.1 +0.4
DAWY **Dawson** 29.11 49 P **P** 23 54 54.0 +0.2
baz=279,SNR=8.1
I29M **Ogilvie Camp** 29.39 46 P **P** 23 54 56.3 +0.2
baz=277,SNR=7.6
J29M **Klondike Camp** 29.56 48 P **P** 23 54 54.8 -2.9
baz=279,SNR=6.5
EPYK **Eagle Plains** 29.92 44 P **P** 23 55 01.3 +0.5
EPYK **Eagle Plains** 29.92 44 P **P** 23 55 01.3 +0.5
baz=277,SNR=14
KSRS **Korea Array** 30.11 250 P **P** 23 55 03.1 +0.4
comp=Z,2.5nm,0.8s,baz=34,slow=11,SNR=5.5
KSRS LR LR 00 06 58.4
comp=Z,352nm,20.2s,baz=50,slow=36
INK **Inuvik** 30.93 40 P **P** 23 55 09.9 +0.3
comp=Z,14nm,0.8s,baz=287,slow=7.3,SNR=58
INK **Inuvik** 30.93 40 P **P** 23 55 10.2 +0.5
baz=276,SNR=14
M31M **Drury Creek, Y** 31.72 52 P **P** 23 55 18.3 +1.6
baz=285,SNR=13
JNU **Nakatsue** 31.89 241 P **P** 23 55 19.6 +1.1
comp=Z,11nm,1.0s,baz=38,slow=12,SNR=4.0
JNU **Nakatsue** 31.89 241 IAmb IAmb 23 55 31.4
comp=Z,26nm,1.3s
WHY **Whitehorse** 31.93 55 P **P** 23 55 19.7 +1.0
WHY IAmb IAmb 23 55 21.4
comp=Z,25nm,0.9s
WHY **Whitehorse** 31.93 55 P **P** 23 55 20.6 +1.9
baz=288,SNR=7.6
SKAG **Skagway** 32.09 57 P **P** 23 55 19.2 -0.8
SKAG IAmb IAmb 23 55 22.9
comp=Z,22nm,1.1s
JIS **Juneau Island** 32.97 59 P **P** 23 55 27.6 0.0
P33M **Teslin, Yukon** 33.05 55 P **P** 23 55 29.8 +1.4
baz=290,SNR=5.4
A36M **Sachs Harbour** 33.30 32 P **P** 23 55 30.6 +0.2
A36M IAmb IAmb 23 55 32.0
comp=Z,23nm,0.9s
A36M **Sachs Harbour** 33.30 32 P **P** 23 55 31.0 +0.6
baz=278,SNR=25
C36M **Paulatuk** 34.15 37 P **P** 23 55 38.0 +0.2
C36M **Paulatuk** 34.15 37 P **P** 23 55 38.1 +0.3
baz=282,SNR=43
BJI **Beijing** 34.92 265 P **P** 23 55 43.7 -1.0
BJI pmax pmax
comp=Z,4.0nm,1.7s
BJI LR LR
comp=Z,1μm,15.8s
BJI LR LR
comp=Z,1μm,17.2s
BJI LR LR
comp=Z,1μm,13.5s
DLBC **Dease Lake** 35.03 57 LR LR 00 11 01.0
comp=Z,430nm,19.6s,baz=302,slow=38
H11N2 **WAKE ISLAND Hy** 35.21 175 T T 00 34 31.9
baz=359,slow=76,SNR=140
H11N3 **WAKE ISLAND Hy** 35.23 175 T T 00 34 33.9
baz=359,slow=76,SNR=118
H11N1 **WAKE ISLAND Hy** 35.23 176 T T 00 34 36.0
baz=359,slow=76,SNR=115
ULN **Ulaanbaatar** 35.42 283⇑ *e*P **P** 23 55 51.2 +2.0
ULN pmax pmax
comp=Z,4.0nm,1.7s
NRIK **Noril'sk** 35.80 324 LR LR 00 10 13.6
comp=Z,305nm,20.4s,baz=66,slow=36
NRIK **Noril'sk** 35.80 324⇑ *e*P **P** 23 55 52.4 +0.4
NRIK pmax pmax
comp=Z,4.0nm,1.1s
SONM **Songino Array** 35.80 283 P **P** 23 55 52.0 -0.5
comp=Z,2.4nm,0.6s,baz=55,slow=7.4,SNR=23
SONM PP **PP** 23 57 14.5 +0.6
comp=Z,0.9nm,0.9s,baz=52,slow=7.9,SNR=4.1
SONM LR LR 00 11 44.2
comp=Z,368nm,18.5s,baz=60,slow=38
SONM **Songino Array** 35.80 283 P **P** 23 55 52.0 -0.5
SONM **Songino Array** 35.80 283 P **P** 23 55 52.9 +0.4
H11S1 **WAKE ISLAND Hy** 36.42 176 T T 00 36 09.2
baz=359,slow=76,SNR=4.3
H11S3 **WAKE ISLAND Hy** 36.43 176 T T 00 36 08.8
baz=359,slow=76,SNR=4.9
H11S2 **WAKE ISLAND Hy** 36.44 176 T T 00 36 05.4
baz=359,slow=76,SNR=18
HHC **Hu-ho-hao-te** 37.05 270 *e*P **P** 23 56 01.9 -1.2
HHC sP sP 23 56 13.9 +0.6
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,140nm,4.7s
HHC LR LR
comp=Z,770nm,15.9s
HHC LR LR
comp=Z,660nm,14.6s
HHC LR LR
comp=Z,940nm,14.0s
HNS **HongShan** 37.55 263 ⇑P P 23 56 02.4 -4.9
HNS LR LR
comp=Z,480nm,19.0s
HNS LR LR
comp=Z,1μm,18.0s
HNS LR LR
comp=Z,510nm,15.7s
JOW **Kunigami** 38.32 238 LR LR 00 13 13.0
comp=Z,242nm,20.4s,baz=40,slow=38
JOW **Kunigami** 38.32 238 P **P** 23 56 14.6 +0.7
BBB **Bella Bella** 38.91 65 LR LR 00 12 12.9
comp=Z,155nm,18.8s,baz=339,slow=36
EUNU **Eureka** 39.56 15 P **P** 23 56 24.6 +0.8
EUNU IAmb IAmb 23 56 25.3
comp=Z,24nm,1.0s
YKA **Yellowknife Ar** 40.17 45 P **P** 23 56 29.4 +0.5
comp=Z,12nm,0.8s,baz=298,slow=8.0,SNR=133
YKA PcP **PcP** 23 58 33.5 +1.0
comp=Z,1.0nm,0.8s,baz=304,slow=3.7,SNR=5.4
YKA **Yellowknife Ar** 40.17 45 *i* P **P** 23 56 29.3 +0.4
YKA pmax pmax
comp=Z,12nm,0.8s
YKA **Yellowknife Ar** 40.17 45 P **P** 23 56 29.1 +0.2
RES **Resolute Bay** 40.69 24 LR LR 00 16 43.5
comp=Z,80nm,18.4s,baz=42,slow=41
RES **Resolute Bay** 40.69 24 P **P** 23 56 33.5 +0.4
RES pmax pmax
comp=Z,18nm,0.9s
ZAA0 **Zalesovo Array** 43.78 303 P **P** 23 56 57.1 -1.4
ZALV **Zalesovo Beam** 43.78 303 P **P** 23 56 56.7 -1.8
comp=Z,2.2nm,0.6s,baz=54,slow=6.2,SNR=11
ZALV LR LR 00 16 56.6
comp=Z,250nm,18.2s,baz=48,slow=39
ZALV **Zalesovo Beam** 43.78 303 *i* P **P** 23 56 57.2 -1.3
ZALV pmax pmax
comp=Z,2.0nm,0.6s
B05A **Bryant** 44.32 67 P **P** 23 57 04.8 +1.9
baz=308,SNR=5.3
B06A **Marblemount** 44.49 66 P **P** 23 57 03.9 -0.3
B06A IAmb IAmb 23 57 06.5
comp=Z,20nm,1.0s
TULEG **Thule** 44.55 15 *i* P **P** 23 57 03.7 -0.7
TULEG IAmb IAmb 23 57 04.6
comp=Z,6.2nm,0.7s
TULEG **Thule** 44.55 15 P **P** 23 57 04.1 -0.3
TULEG IAmb IAmb 23 57 05.5
comp=Z,17nm,1.0s
LZH **Lanzhou** 44.72 271 *e*P **P** 23 57 08.4 +2.0
LZH pP sP 23 57 15.3 -1.6
LZH sP pwP 23 57 19.6 -1.9
LZH pmax pmax
comp=Z,12nm,1.2s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,680nm,15.7s
GTA **Gaotai** 44.76 277 *e*P **P** 23 57 05.6 -1.0
GTA pP sP 23 57 16.3 -0.7
GTA sP pwP 23 57 20.6 -1.2
GTA pmax pmax
comp=Z,2.0nm,1.2s
GTA pmax pmax
comp=Z,93nm,6.4s
GTA LR LR
comp=Z,650nm,17.1s
GTA LR LR
comp=Z,620nm,17.8s
GTA LR LR
comp=Z,560nm,13.8s
DGZ **Jazzator, Alta** 44.99 297 *c i* P **P** 23 57 07.9 -0.5
DGZ pmax pmax
comp=Z,21nm,0.8s
D05A **Enumclaw** 45.04 68 P **P** 23 57 09.4 +0.7
E04D **Cinebar** 45.12 69 P **P** 23 57 11.5 +2.3
baz=309
SPITS **Spitsbergen Ar** 45.69 351 P **P** 23 57 12.2 -1.2
comp=Z,14nm,0.6s,baz=64,slow=7.5,SNR=15
SPITS LR LR 00 16 39.3
comp=Z,127nm,19.1s,baz=276,slow=37
SPB2 **Spitsbergen Ar** 45.69 351 P **P** 23 57 13.6 +0.1
LTY **Liberty** 45.70 67 P **P** 23 57 15.2 +1.2
B08A **Colville Reser** 45.72 65 P **P** 23 57 15.2 +1.1
B08A IAmb IAmb 23 57 16.3
comp=Z,21nm,0.8s
EDM **Edmonton** 45.75 56 P **P** 23 57 14.7 +0.5
EDM pmax pmax
comp=Z,43nm,0.9s
EDM **Edmonton** 45.75 56 P **P** 23 57 14.7 +0.5
NEEM **North Greenlan** 46.07 10 *i* P **P** 23 57 15.6 -1.1
NEEM IAmb IAmb 23 57 17.7
comp=Z,19nm,0.9s
HOOD **Mount Hood Mea** 46.40 70 P **P** 23 57 20.6 +1.1
H04A **Detroit Lake** 46.52 71 P **P** 23 57 20.8 +0.4
H04A IAmb IAmb 23 57 23.4
comp=Z,17nm,1.2s
E07A **Sunnyside** 46.57 67 P **P** 23 57 21.3 +0.5
E07A IAmb IAmb 23 57 23.2
comp=Z,13nm,0.9s
C09A **Chrisman Ranch** 46.62 65 P **P** 23 57 21.6 +0.5
C09A IAmb IAmb 23 57 23.1
comp=Z,12nm,0.8s
G05D **Wamic, OR** 46.63 70 P **P** 23 57 22.9 +1.7
baz=310
D08A **Wollman Farm,** 46.75 66 P **P** 23 57 22.5 +0.4
D08A IAmb IAmb 23 57 24.1
comp=Z,15nm,1.3s
HAWA **Hanford** 46.85 67 P **P** 23 57 23.2 +0.3
HAWA IAmb IAmb 23 57 25.2
comp=Z,16nm,1.1s
NEW **Newport** 46.92 64 LR LR 00 17 16.2
comp=Z,174nm,19.7s,baz=302,slow=36
NEW **Newport** 46.92 64 P **P** 23 57 24.3 +0.7
NEW pmax pmax
comp=Z,11nm,1.0s
NEW **Newport** 46.92 64 P **P** 23 57 24.2 +0.7
NEW IAmb IAmb 23 57 25.5
comp=Z,11nm,0.9s
NEW **Newport** 46.92 64 P **P** 23 57 24.6 +1.0
baz=309,SNR=10
I04A **Tendick Farm,** 46.98 72 P **P** 23 57 25.8 +1.8
baz=311
E08A **Dider Farm, El** 47.04 67 P **P** 23 57 25.4 +1.1
E08A IAmb IAmb 23 57 26.4
comp=Z,10nm,1.0s
I05D **Terrebonne, OR** 47.21 70 P **P** 23 57 27.6 +1.8
baz=311
J04D **Umpqua Nationa** 47.51 72 P **P** 23 57 30.9 +2.5
baz=311
ZSN **Zaisan** 47.72 296 *e*P **P** 23 57 28.9 -0.8
ZSN **Zaisan** 47.72 296 *e*P **P** 23 57 29.0 -0.8
baz=296
PINE **Pine Mountain** 47.78 71 IAmb IAmb 23 57 33.3
comp=Z,16nm,1.0s
J05D **Fort Rock, OR** 47.96 71 P **P** 23 57 34.0 +2.3
baz=312,SNR=12
L04D **Klamath Falls** 48.08 73 P **P** 23 57 34.9 +2.2
baz=312,SNR=7.0
SEM **Semipalatinsk** 48.17 301 *e*P **P** 23 57 31.0 -2.3
SEM **Semipalatinsk** 48.17 301 *e*P **P** 23 57 31.1 -2.3
baz=301
YBH **Yreka Blue Hor** 48.18 74 LR LR 00 14 33.9
comp=Z,94nm,21.2s,baz=323,slow=32
YBH **Yreka Blue Hor** 48.18 74 P **P** 23 57 34.2 +0.8
YBH pmax pmax
comp=Z,13nm,1.1s
YBH **Yreka Blue Hor** 48.18 74 P **P** 23 57 34.1 +0.8
YBH IAmb IAmb 23 57 36.6
comp=Z,13nm,1.1s
CD2 **Chengdu** 48.50 266 *e*P **P** 23 57 35.0 -1.0
K05A **Summer Lake** 48.52 72 P **P** 23 57 36.8 +0.6
DAG **Danmarks Havn** 48.54 1 P **P** 23 57 35.9 +0.3
DAG pmax pmax
comp=Z,21nm,1.2s
DAG **Danmarks Havn** 48.54 1 *i* P **P** 23 57 34.5 -1.1
DAG IAmb IAmb 23 57 36.0
comp=Z,5.4nm,0.8s
WMQ **Urumqi** 48.59 290 *e*P **P** 23 57 36.5 0.0
WMQ pP sP 23 57 48.2 +1.3
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,180nm,5.9s
WMQ LR LR
comp=Z,380nm,16.7s
WMQ LR LR
comp=Z,370nm,19.5s
WMQ LR LR
comp=Z,420nm,18.7s
M04C **Macdoel** 48.63 73 P **P** 23 57 38.8 +1.9
baz=312
N02D **Trinity Center** 48.69 75 P **P** 23 57 39.6 +2.3
baz=313
KURK **Kurchatov** 48.77 303 *c i* P **P** 23 57 36.3 -1.4
KURK pmax pmax
comp=Z,35nm,1.0s
KURK **Kurchatov** 48.77 303 P **P** 23 57 36.6 -1.1
KURBB **Kurchatov Arra** 48.87 303 P **P** 23 57 37.5 -0.9
comp=Z,17nm,0.8s,baz=55,slow=7.9,SNR=112
KURBB LR LR 00 20 07.4
comp=Z,268nm,19.6s,baz=34,slow=38
BMO **Blue Mountains** 49.04 67 IAmb IAmb 23 57 42.2
comp=Z,10.0nm,1.0s
WDC **Whiskeytown Da** 49.05 75 P **P** 23 57 41.7 +1.7
WDC pmax pmax
comp=Z,8.0nm,1.1s
WDC **Whiskeytown Da** 49.05 75 P **P** 23 57 41.7 +1.7
MOD **Modoc Plateau** 49.39 72 P **P** 23 57 44.0 +1.2
MOD IAmb IAmb 23 57 45.6
comp=Z,15nm,0.8s
J08A **Circle Bar Ran** 49.41 70 P **P** 23 57 43.9 +1.0
MKAR **Makanchi Array** 49.49 297 P **P** 23 57 41.8 -1.5
comp=Z,4.5nm,0.7s,baz=54,slow=6.6,SNR=27
MKAR LR LR 00 19 53.7
comp=Z,423nm,18.8s,baz=35,slow=38
MKAR **Makanchi Array** 49.49 297 *i* P **P** 23 57 41.7 -1.6
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MSO **Missoula** 49.50 63 IAmb IAmb 23 57 45.4
comp=Z,21nm,1.4s
MSO **Missoula** 49.50 63 P **P** 23 57 44.6 +1.2
baz=311,SNR=8.6
UPNV **Upernavik** 49.56 15 *i* P **P** 23 57 42.3 -1.1
UPNV IAmb IAmb 23 57 44.2
comp=Z,14nm,0.7s
MAKZ **Makanchi** 49.64 297 P **P** 23 57 43.4 -1.0
MAKZ pmax pmax
comp=Z,12nm,1.1s
MAKZ **Makanchi** 49.64 297 P **P** 23 57 43.4 -1.0
MAKZ IAmb IAmb 23 57 46.0
comp=Z,12nm,1.1s
O03E **Paynes Creek** 49.66 75 P **P** 23 57 46.2 +1.5
baz=313,SNR=7.5
GOMU **GeErMu** 49.83 278 P **P** 23 57 44.6 -1.9
GOMU pmax pmax
comp=Z,2.0nm,0.9s
GOMU pmax pmax
comp=Z,83nm,5.6s
GOMU LR LR
comp=Z,410nm,15.4s
GOMU LR LR
comp=Z,460nm,16.0s
GOMU LR LR
comp=Z,200nm,15.7s
WVOR **Wild Horse Val** 49.94 71 P **P** 23 57 48.2 +1.3
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR **Wild Horse Val** 49.94 71 P **P** 23 57 48.2 +1.3
WVOR IAmb IAmb 23 57 49.4
comp=Z,9.7nm,1.1s
GYA **Guiyang** 50.20 260 ⇑P **P** 23 57 49.2 +0.1
GYA pmax pmax
comp=Z,12nm,1.9s
GYA LR LR
comp=Z,340nm,21.5s
MFID **Camas Ranch** 50.79 68 P **P** 23 57 53.9 +0.5
LRM **Limekiln Ridge** 50.94 63 P **P** 23 57 54.6 0.0
DBG **Daneborg** 51.00 2 *i* P **P** 23 57 53.6 -0.7
DBG IAmb IAmb 23 57 54.8
comp=Z,4.9nm,0.8s
BVAR **Borovoye Array** 51.09 309 P **P** 23 57 53.9 -1.4
comp=Z,4.0nm,0.7s,baz=79,slow=7.7,SNR=17
BRVK **Borovoye** 51.12 309 *de*P **P** 23 57 54.8 -0.7
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK **Borovoye** 51.12 309 P **P** 23 57 55.1 -0.4
DLMT **Dillon** 51.17 64 P **P** 23 57 57.0 +0.7
MPK **Martis Peak** 51.33 74 P **P** 23 57 58.4 +0.7
MPK IAmb IAmb 23 58 00.5
comp=Z,19nm,0.9s
PAHR **Pah Rah Range** 51.41 74 P **P** 23 57 59.2 +1.1
PAHR IAmb IAmb 23 58 00.7
comp=Z,10nm,1.0s
HLID **Hailey** 51.45 67 P **P** 23 57 59.1 +0.8
HLID **Hailey** 51.45 67 P **P** 23 57 59.5 +1.1
baz=313,SNR=6.4
BOZ **Bozeman (W)** 51.52 63 IAmb IAmb 23 58 01.1
comp=Z,14nm,1.3s
BOZ **Bozeman (W)** 51.52 63 P **P** 23 58 00.0 +1.2
baz=313,SNR=10
VCNR **Virginia City** 51.55 74 P **P** 23 58 00.3 +1.2
VCNR IAmb IAmb 23 58 02.1
comp=Z,11nm,0.9s
PNTR **Pine Nut** 51.72 74 P **P** 23 58 02.2 +1.7
PNTR IAmb IAmb 23 58 03.5
comp=Z,15nm,0.8s
SUMG **Summit** 51.81 8 P **P** 23 58 01.0 +0.1
SUMG pmax pmax
comp=Z,54nm,1.1s
SUMG **Summit** 51.81 8 *i* P **P** 23 58 00.0 -0.9
SUMG IAmb IAmb 23 58 02.3
comp=Z,15nm,0.9s
SUMG **Summit** 51.81 8 P **P** 23 58 01.0 +0.1
YERR **Yerington** 51.99 74 P **P** 23 58 03.4 +0.9
BMN **Battle Mountai** 52.09 72 P **P** 23 58 04.3 +1.2
BMN pmax pmax
comp=Z,8.0nm,1.0s
BMN **Battle Mountai** 52.09 72 P **P** 23 58 04.3 +1.2
BRZS **Berezniki** 52.10 305 *e*P **P** 23 58 01.2 -1.7
BRZS **Berezniki** 52.10 305 *e*P **P** 23 58 01.3 -1.7
baz=305
QLMT **Earthquake Lak** 52.14 64 P **P** 23 58 04.7 +1.2
ARCES **ARCESS Array B** 52.25 343 P **P** 23 58 03.3 -0.4
comp=Z,4.4nm,0.8s,baz=31,slow=7.4,SNR=8.1
ARCES LR LR 00 24 15.3
comp=Z,209nm,18.9s,baz=44,slow=41
YHL **Hebgen Lake** 52.26 64 P **P** 23 58 05.7 +1.2
YMR **Madison River** 52.49 64 P **P** 23 58 07.4 +1.3
KVN **Kaiserville** 52.58 73 P **P** 23 58 08.0 +1.2
KVN pmax pmax
comp=Z,9.0nm,0.9s
KVN **Kaiserville** 52.58 73 P **P** 23 58 08.0 +1.2
KVN IAmb IAmb 23 58 09.8
comp=Z,9.3nm,0.9s
YNR **Norris Junctio** 52.61 63 P **P** 23 58 08.4 +1.4
YNR IAmb IAmb 23 58 14.0
comp=Z,22nm,1.5s
RYN **Ryan** 52.64 74 P **P** 23 58 08.8 +1.6
TDK **Taldyqorghan** 52.70 297 *e*P **P** 23 58 06.5 -0.9
TDK **Taldyqorghan** 52.70 297 *e*P **P** 23 58 06.5 -0.9
baz=297
YFT **Old Faithful** 52.71 64 P **P** 23 58 09.6 +1.8
YFT IAmb IAmb 23 58 11.4
comp=Z,11nm,1.0s
LKWY **Lake** 52.86 63 P **P** 23 58 09.9 +1.0
LKWY pmax pmax
comp=Z,9.0nm,1.1s
LKWY **Lake** 52.86 63 P **P** 23 58 09.9 +1.0
YMP **Mirror Lake Pl** 52.86 63 P **P** 23 58 10.0 +1.0
YMP IAmb IAmb 23 58 11.8
comp=Z,12nm,1.0s
H17A **Grant Village** 52.88 64 P **P** 23 58 10.7 +1.6
H17A IAmb IAmb 23 58 13.0
comp=Z,12nm,1.1s
H17A **Grant Village** 52.88 64 P **P** 23 58 11.7 +2.6
baz=314,SNR=6.9
NVAR **Mina Array Bea** 52.90 74 P **P** 23 58 10.9 +1.7
comp=Z,6.1nm,0.8s,baz=298,slow=7.4,SNR=48
LHV **Little Huntoon** 52.91 74 P **P** 23 58 11.5 +2.5
LHV IAmb IAmb 23 58 12.8
comp=Z,16nm,1.1s
ELK **Elko** 52.95 70 P **P** 23 58 11.1 +1.5
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK **Elko** 52.95 70 P **P** 23 58 11.1 +1.5
NV11 **Mina Array Sit** 52.98 74 P **P** 23 58 10.9 +1.1
PZH **PanZhiHua** 52.98 264 P **P** 23 58 08.7 -1.1
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.1s
PZH LR LR
comp=Z,780nm,20.1s
PZH LR LR
comp=Z,1μm,19.0s
PZH LR LR
comp=Z,830nm,18.2s
FLWY **Flagg Ranch** 53.04 64 P **P** 23 58 11.2 +1.0
FLWY IAmb IAmb 23 58 14.1
comp=Z,22nm,1.4s
RLMT **Red Lodge** 53.05 62 IAmb IAmb 23 58 13.0
comp=Z,17nm,1.1s
RLMT **Red Lodge** 53.05 62 P **P** 23 58 11.9 +1.6
baz=314,SNR=13
DGMT **Dagmar** 53.24 56 P **P** 23 58 12.1 +0.8
DGMT IAmb IAmb 23 58 25.3
comp=Z,23nm,1.5s
SNOW **Snow King Moun** 53.44 65 P **P** 23 58 13.9 +0.7
HVU **Hansel Valley** 53.55 67 P **P** 23 58 13.9 0.0
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU **Hansel Valley** 53.55 67 P **P** 23 58 13.9 0.0
ARU **Arti** 53.63 318 P **P** 23 58 13.3 -0.7
comp=Z,2.3nm,0.6s,baz=31,slow=4.7,SNR=15
ARU LR LR 00 23 40.8
comp=Z,500nm,19.4s,baz=38,slow=39
ARU **Arti** 53.63 318 *c i* P **P** 23 58 14.1 +0.1
ARU S **S** 00 05 45.2 0.0
ARU SS **SS** 00 09 18.6 -6.5
ARU pmax pmax
comp=Z,11nm,1.0s
ARU MLR MLR
comp=Z,450nm,17.0s
ARU **Arti** 53.63 318 P **P** 23 58 14.3 +0.2
ARU IAmb IAmb 23 58 16.0
comp=Z,10nm,1.0s
AHID **Auburn Hatcher** 53.75 65 P **P** 23 58 15.7 +0.3
SATY **Saty** 54.05 295 *e*P **P** 23 58 16.6 -0.9
SATY **Saty** 54.05 295 *e*P **P** 23 58 16.6 -0.9
baz=295
LCH **Last Change Ra** 54.12 75 P **P** 23 58 19.6 +1.6
PRGR **Permogore** 54.12 329 *e*P **P** 23 58 19.2 +1.7
PRGR pmax pmax

comp=Z,62nm,1.1s
CWC Cottonwood Cre 54.44 76 P **P 23 58 22.4 +1.9**
baz=316
PRZ Przheval'sk 54.46 295 P **P 23 58 21.3 +0.7**
PRZ pmax pmax
comp=Z,7.0nm,1.1s
PRZ Przheval'sk 54.46 295 P **P 23 58 21.3 +0.7**
R11A Troy Canyon, C 54.46 72 P **P 23 58 21.9 +1.3**
R11A Troy Canyon, C 54.46 72 P **P 23 58 22.4 +1.8**
baz=316,SNR=8.0
BW06 Boulder Array 54.55 64 P **P 23 58 22.7 +1.4**
baz=315,SNR=8.1
PDAR Pinedale Array 54.55 64 P **P 23 58 22.8 +1.5**
comp=Z,4.1nm,0.9s,baz=318,slow=3.5,SNR=23
PDAR LR LR 00 22 32.3
comp=Z,84nm,18.0s,baz=1.0,slow=37
DUG Dugway, Tooele 54.65 69 P **P 23 58 21.2 -0.7**
DUG pmax pmax
comp=Z,13nm,1.1s
DUG Dugway, Tooele 54.65 69 IAmb IAmb 23 58 24.9
comp=Z,13nm,1.1s
DUG Dugway, Tooele 54.65 69 P **P 23 58 24.0 +2.0**
baz=316,SNR=9.2
MDOK Medeo 54.68 296 *e*P **P 23 58 20.9 -1.2**
MDOK Medeo 54.68 296 *e*P **P 23 58 21.0 -1.2**
baz=296
SPR3 Spring Creek 3 54.68 71 P **P 23 58 23.9 +1.5**
SPR3 IAmb IAmb 23 58 26.2
comp=Z,16nm,0.9s
MSF Maaselka 54.76 339 P **P 23 58 22.7 +0.5**
MSF pmax pmax
comp=Z,13nm,2.5s
ISA Isabella, Lake 54.78 77 P **P 23 58 23.6 +0.7**
ISA pmax pmax
comp=Z,6.0nm,1.1s
ISA Isabella, Lake 54.78 77 P **P 23 58 23.6 +0.7**
ISA Isabella, Lake 54.78 77 P **P 23 58 24.4 +1.6**
baz=317
FRB Frobisher Bay 54.83 26 LR LR 00 24 43.1
comp=Z,91nm,18.6s,baz=354,slow=39
FRB Frobisher Bay 54.83 26 P **P 23 58 22.8 +0.1**
FRB pmax pmax
comp=Z,32nm,1.5s
CTU Camp Tracy 54.87 68 P **P 23 58 24.7 +1.2**
MPMC Manual Prospec 55.05 76 P **P 23 58 27.0 +2.1**
baz=317,SNR=5.6
ICESG Greenland Ices 55.06 10 *i* P **P 23 58 23.3 -1.4**
ICESG IAmb IAmb 23 58 26.4
comp=Z,12nm,0.8s
TPNV Topopah Spring 55.10 74 P **P 23 58 26.6 +1.4**
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV Topopah Spring 55.10 74 P **P 23 58 26.6 +1.4**
TPNV Topopah Spring 55.10 74 P **P 23 58 27.2 +2.0**
baz=316
FURC Furnace Creek, 55.10 75 P **P 23 58 27.5 +2.5**
baz=316,SNR=11
NLU North Lily Min 55.22 68 P **P 23 58 27.0 +0.8**
PSUT Pine Spring 55.27 71 P **P 23 58 27.1 +0.6**
PSUT IAmb IAmb 23 58 29.6
comp=Z,16nm,1.3s
KIRV Kirov 55.30 325 P **P 23 58 26.9 +0.8**
comp=Z,17nm,0.6s,baz=278,slow=0.5,SNR=11
KIRV Kirov 55.30 325 *de*P **P 23 58 27.2 +1.1**
KST Kastek 55.33 297 *e*P **P 23 58 25.6 -1.1**
baz=297
KDJ Kajisay 55.35 295 P **P 23 58 26.5 -0.5**
KDJ pmax pmax
comp=Z,16nm,1.5s
KDJ Kajisay 55.35 295 P **P 23 58 26.4 -0.5**
KDJ IAmb IAmb 23 58 27.8
comp=Z,16nm,1.5s
LRMC Laurel Mtn Rad 55.36 76 P **P 23 58 28.9 +1.8**
baz=317,SNR=6.3
MPU Maple Canyon 55.41 68 P **P 23 58 28.8 +1.3**
MPU IAmb IAmb 23 58 30.6
comp=Z,11nm,1.0s
GWY Greenwater Val 55.41 75 P **P 23 58 29.2 +1.7**
GWY IAmb IAmb 23 58 30.4
comp=Z,11nm,0.9s
PRN Pahroc Range 55.43 73 P **P 23 58 29.2 +1.6**
PRN IAmb IAmb 23 58 30.8
comp=Z,13nm,0.9s
QSM Queen of Sheba 55.46 75 P **P 23 58 28.6 +0.9**
SFJD Kangerlussuaq 55.62 16 LR LR 00 25 12.1
comp=Z,78nm,18.3s,baz=334,slow=39
SFJD Kangerlussuaq 55.62 16 P **P 23 58 28.7 +0.4**
SFJD pmax pmax
comp=Z,13nm,1.0s
SFJD Kangerlussuaq 55.62 16 P **P 23 58 28.7 +0.4**
SFJD IAmb IAmb 23 58 29.3
comp=Z,13nm,1.0s
EDW2 Edwards Air Fo 55.62 77 P **P 23 58 30.9 +2.0**
baz=317,SNR=5.4
SGDS Sogindy 55.72 298 *e*P **P 23 58 28.6 -0.9**
baz=298
BOOM Boomskoye usch 55.73 297 IAmb IAmb 23 58 30.9
comp=Z,12nm,1.4s
SLVN Son La 55.77 258 P **P 23 58 31.5 +1.4**
ULM Lac du Bonnet 55.81 50 P **P 23 58 30.7 +0.8**
comp=Z,11nm,0.8s,baz=299,slow=7.3,SNR=11
ULM LR LR 00 23 58.4
comp=Z,207nm,18.1s,baz=333,slow=38
ULM Lac du Bonnet 55.81 50 P **P 23 58 30.6 +0.7**
ULM pmax pmax
comp=Z,11nm,0.9s
ULM Lac du Bonnet 55.81 50 P **P 23 58 30.6 +0.7**
ULM IAmb IAmb 23 58 31.8
comp=Z,11nm,0.8s
MDND Maddock 55.85 54 P **P 23 58 31.8 +1.4**
MDND Maddock 55.85 54 P **P 23 58 31.9 +1.6**
baz=316
GSC Goldstone, Bar 55.98 76 P **P 23 58 33.1 +1.6**
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC Goldstone, Bar 55.98 76 P **P 23 58 33.1 +1.6**
GSC IAmb IAmb 23 58 34.4
comp=Z,9.2nm,0.9s
TCRU Three Creeks R 55.98 70 P **P 23 58 33.0 +1.3**
TCRU IAmb IAmb 23 58 38.4
comp=Z,8.9nm,1.0s
SHPR Sheep Range 56.02 74 P **P 23 58 33.1 +1.3**
PASC Pasadena Art C 56.03 78 P **P 23 58 31.2 -0.6**
PASC IAmb IAmb 23 58 34.3
comp=Z,11nm,1.0s
MWC Mount Wilson 56.06 77 P **P 23 58 33.5 +1.2**
MWC pmax pmax
comp=Z,23nm,1.3s
MWC Mount Wilson 56.06 77 P **P 23 58 33.5 +1.2**
MWC IAmb IAmb 23 58 38.9
comp=Z,23nm,1.2s
RDMU Red Mountain 56.11 66 P **P 23 58 34.1 +1.5**
RDMU IAmb IAmb 23 58 35.6
comp=Z,15nm,1.0s
TMUT Trail Mountain 56.16 68 P **P 23 58 34.5 +1.5**
TMUT IAmb IAmb 23 58 36.0
comp=Z,13nm,1.1s
FRU1 Bishkek 56.18 298 P **P 23 58 32.8 0.0**
FRU1 pmax pmax
comp=Z,10.0nm,0.8s
FRU1 Bishkek 56.18 298 P **P 23 58 32.8 0.0**
FRU1 IAmb IAmb 23 58 33.9
comp=Z,9.5nm,0.8s
MVU Marysvale 56.19 70 P **P 23 58 34.6 +1.5**
MSU Marysvale 56.20 70 P **P 23 58 35.0 +1.8**
MSU Marysvale 56.20 70 P **P 23 58 35.0 +1.8**
CCUT Cedar City 56.25 71 P **P 23 58 34.8 +1.2**
P17A Butcher Ranch, 56.28 68 P **P 23 58 34.6 +0.9**
AAK Ala-Archa 56.37 298 P **P 23 58 34.0 -0.2**
comp=Z,4.2nm,0.8s,baz=109,slow=3.0,SNR=20
AAK LR LR 00 23 51.3
comp=Z,286nm,19.4s,baz=45,slow=37
AAK Ala-Archa 56.37 298 P **P 23 58 34.0 -0.2**
SZCU Shurtz Canyon 56.37 71 P **P 23 58 35.9 +1.5**
SZCU IAmb IAmb 23 58 41.2
comp=Z,12nm,1.4s
TUQ Turquoise Moun 56.37 75 P **P 23 58 36.5 +2.1**
baz=317,SNR=5.9
RSSD Black Hills 56.40 60 P **P 23 58 35.9 +1.4**
RSSD pmax pmax
comp=Z,13nm,1.3s
RSSD Black Hills 56.40 60 P **P 23 58 35.9 +1.4**
RSSD IAmb IAmb 23 58 40.0
comp=Z,12nm,1.3s
RSSD Black Hills 56.40 60 P **P 23 58 35.7 +1.2**
baz=316

P18A Preston Nutter 56.43 68 P **P 23 58 35.8 +0.9**
P18A IAmb IAmb 23 58 38.2
comp=Z,15nm,1.3s
Q16A Castle Valley 56.45 69 P **P 23 58 35.7 +0.7**
Q16A IAmb IAmb 23 58 38.1
comp=Z,11nm,1.1s
KLMR Klimovskoe 56.52 331 *e*P **P 23 58 34.1 -0.7**
KLMR pmax pmax
comp=Z,30nm,1.3s
KLMR Klimovskoe 56.52 331 *e*P **P 23 58 34.2 -0.6**
KLMR AMP 23 58 41.9
comp=Z,30nm,1.3s
MTPU Mount Pierson 56.54 70 P **P 23 58 36.6 +0.8**
HEC Hector,Ludlow 56.59 76 P **P 23 58 37.8 +2.0**
baz=317
SRU San Rafael Swe 56.66 68 P **P 23 58 38.0 +1.6**
SRU pmax pmax
comp=Z,13nm,0.9s
SRU San Rafael Swe 56.66 68 P **P 23 58 38.0 +1.6**
SRU IAmb IAmb 23 58 39.4
comp=Z,13nm,0.9s
LSA Lhasa 56.67 275 IAmb IAmb 23 58 39.4
comp=Z,8.3nm,0.9s
DY2G Dye2 56.75 14 *i* P **P 23 58 35.3 -1.4**
DY2G IAmb IAmb 23 58 36.7
comp=Z,9.0nm,0.8s
KNB Kanab 56.94 71 P **P 23 58 39.5 +1.1**
KNB pmax pmax
comp=Z,15nm,1.3s
KNB Kanab 56.94 71 P **P 23 58 39.5 +1.1**
KNB IAmb IAmb 23 59 02.5
comp=Z,15nm,1.3s
GMRC Granite Mounta 57.00 75 P **P 23 58 40.5 +1.7**
baz=318,SNR=6.1
MURC Murrieta 57.01 77 P **P 23 58 41.0 +2.3**
baz=318
O20A White River Ci 57.13 66 P **P 23 58 40.8 +1.0**
O20A IAmb IAmb 23 58 42.4
comp=Z,10nm,0.8s
O20A White River Ci 57.13 66 P **P 23 58 41.2 +1.5**
baz=317,SNR=6.0
AGMN Agassiz Nation 57.24 51 P **P 23 58 40.7 +0.5**
AGMN IAmb IAmb 23 58 42.1
comp=Z,13nm,0.9s
BELC Belle Mtn. Jos 57.38 76 P **P 23 58 43.2 +1.7**
baz=318
PFO Pinyon Flats O 57.41 77 LR LR 00 19 27.7
comp=Z,121nm,20.8s,baz=312,slow=32
U15A North Rim 57.66 72 P **P 23 58 45.0 +1.4**
U15A IAmb IAmb 23 58 46.9
comp=Z,15nm,1.5s
IRM Iron Mountain 57.75 75 P **P 23 58 46.2 +2.2**
baz=318,SNR=5.0
W13A Hualapai Mount 57.75 74 P **P 23 58 45.5 +1.3**
N23A Red Feather La 57.77 64 P **P 23 58 45.6 +1.2**
N23A IAmb IAmb 23 58 47.1
comp=Z,12nm,0.9s
N23A Red Feather La 57.77 64 P **P 23 58 46.3 +1.9**
baz=317
DZA Taraz 57.78 300 *e*P **P 23 58 43.0 -1.1**
DZA Taraz 57.78 300 *e*P **P 23 58 43.0 -1.1**
baz=300
KSH Kashi 57.87 294 P **P 23 58 48.2 +3.3**
KSH pP pwP 23 59 01.9 +1.8
KSH pmax pmax
comp=Z,13nm,1.4s
KSH pmax pmax
comp=Z,220nm,6.7s
KSH LR LR
comp=Z,290nm,7.2s
KSH LR LR
comp=Z,750nm,14.1s
KSH LR LR
comp=Z,190nm,5.8s
PV21 Cone Mtn., Par 57.89 68 P **P 23 58 46.7 +1.5**
BC3 Big Chuckawall 57.95 76 P **P 23 58 47.7 +2.2**
baz=318
PV23 Carpenter Ridg 57.95 68 P **P 23 58 47.1 +1.5**
PV23 IAmb IAmb 23 58 51.7
comp=Z,17nm,1.2s
PV10 Paradox Valley 57.99 68 P **P 23 58 47.1 +1.2**
PV10 IAmb IAmb 23 58 52.9
comp=Z,17nm,1.1s
PV14 Lion Creek, Pa 58.00 68 P **P 23 58 46.9 +0.9**
PV14 IAmb IAmb 23 58 54.1
comp=Z,8.7nm,1.0s
PV04 Paradox Valley 58.05 68 P **P 23 58 47.8 +1.6**
PV04 IAmb IAmb 23 58 49.1
comp=Z,12nm,1.0s
PV20 West Nyswonger 58.05 68 P **P 23 58 47.5 +1.3**
PV20 IAmb IAmb 23 58 49.0
comp=Z,17nm,1.4s
PV19 Morning Glory 58.07 68 P **P 23 58 47.2 +0.8**
PV19 IAmb IAmb 23 58 49.1
comp=Z,23nm,1.4s
PV17 East Wray Mesa 58.10 68 P **P 23 58 47.5 +0.8**
PV17 IAmb IAmb 23 58 49.3
comp=Z,8.6nm,0.9s
PV16 Nyswonger Mesa 58.10 68 P **P 23 58 48.1 +1.5**
PV16 IAmb IAmb 23 58 48.8
comp=Z,10nm,1.1s
PV11 David Mesa, Pa 58.13 68 P **P 23 58 48.1 +1.3**
PV11 IAmb IAmb 23 58 49.6
comp=Z,13nm,1.0s
PV18 Skein Mesa, Pa 58.15 68 P **P 23 58 48.0 +1.0**
PV18 IAmb IAmb 23 58 51.3
comp=Z,6.8nm,0.9s
PV12 Saucer Basin, 58.16 68 IAmb IAmb 23 58 51.6
comp=Z,24nm,1.5s
PV05 Paradox Valley 58.17 68 P **P 23 58 48.8 +1.6**
PV05 IAmb IAmb 23 58 50.0
comp=Z,12nm,0.8s
PV03 Paradox Valley 58.18 68 P **P 23 58 48.7 +1.5**
PV03 IAmb IAmb 23 58 49.9
comp=Z,8.0nm,1.0s
PV13 Radium Mtn., P 58.26 68 IAmb IAmb 23 58 50.5
comp=Z,11nm,0.9s
AKTO Aktyubinsk 58.30 314 LR LR 00 26 42.7
comp=Z,309nm,19.4s,baz=32,slow=39
PV15 Paradox Valley 58.31 67 P **P 23 58 49.9 +1.7**
PV15 IAmb IAmb 23 58 54.0
comp=Z,7.9nm,0.8s
PV01 Paradox Valley 58.41 68 P **P 23 58 49.9 +1.1**
BRLS Borolday 58.43 301 *e*P **P 23 58 49.5 +0.9**
BRLS Borolday 58.43 301 *e*P **P 23 58 49.5 +0.9**
baz=301
ISCO Idaho Springs 58.75 64 P **P 23 58 52.8 +1.6**
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 58.75 64 P **P 23 58 52.8 +1.6**
ISCO IAmb IAmb 23 58 54.1
comp=Z,7.5nm,0.9s
ISCO Idaho Springs 58.75 64 P **P 23 58 53.7 +2.5**
baz=318,SNR=6.9
WUAZ Wupatki 58.83 72 IAmb IAmb 23 58 55.0
comp=Z,15nm,1.4s
WUAZ Wupatki 58.83 72 P **P 23 58 54.1 +2.4**
baz=318
F33A 5 Mile Ranch, 58.87 54 IAmb IAmb 23 58 53.4
comp=Z,11nm,1.0s
IUG Iuzhnay 58.98 300 *e*P **P 23 58 51.9 -0.6**
IUG Iuzhnay 58.98 300 *e*P **P 23 58 52.0 -0.6**
baz=300
Y14A Wickenburg 59.10 74 P **P 23 58 54.7 +1.2**
MVCO Mesa Verde 59.13 68 P **P 23 58 55.5 +1.6**
FINES FINESS Array B 59.33 338 P **P 23 58 54.9 +0.3**
comp=Z,6.8nm,0.9s,baz=28,slow=5.4,SNR=13
FINES LR LR 00 28 34.8
comp=Z,109nm,18.6s,baz=27,slow=40
SHL Shillong 59.38 272 P **P 23 58 55.9 +0.3**
SHL pmax pmax
comp=Z,7.0nm,0.8s
SHL Shillong 59.38 272 P **P 23 58 55.9 +0.3**
SHL IAmb IAmb 23 58 57.2
comp=Z,7.0nm,0.8s
EYMN Ely 59.45 49 IAmb IAmb 23 58 57.6
comp=Z,13nm,0.8s
EYMN Ely 59.45 49 P **P 23 58 56.2 +0.7**
baz=320
X16A Lo Mia Camp, P 59.61 73 P **P 23 58 58.6 +1.5**
S22A 4UR Ranch, Cre 59.63 67 P **P 23 58 58.7 +1.4**
S22A 4UR Ranch, Cre 59.63 67 P **P 23 58 59.5 +2.2**
baz=318,SNR=8.6
UBPT Khong Chiam 59.77 253 P **P 23 59 00.1 +2.0**
PUL Pulkovo 59.84 335 || *i* P **P 23 58 58.8 +0.7**
PUL pmax pmax

comp=Z,29nm,0.7s
W18A Petrified Fore 60.02 71 P **P 23 59 02.0 +2.0**
ECSD EROS Data Cent 60.30 55 P **P 23 59 02.3 +0.8**
ECSD IAmb IAmb 23 59 03.0
comp=Z,8.2nm,0.9s
ECSD EROS Data Cent 60.30 55 P **P 23 59 01.9 +0.3**
baz=319
SDCO Great Sand Dun 60.33 66 P **P 23 59 03.6 +1.4**
SDCO Great Sand Dun 60.33 66 P **P 23 59 03.8 +1.7**
baz=318
X18A Snowflake 60.34 71 P **P 23 59 03.6 +1.5**
X18A IAmb IAmb 23 59 05.5
comp=Z,8.9nm,1.0s
E38A The Farm, Brul 60.44 50 P **P 23 59 02.8 +0.3**
BORG Borgarnes 60.57 3 LR LR 00 23 57.2
comp=Z,51nm,21.0s,baz=345,slow=35
CHTO Chiang Mai 60.59 261 P **P 23 59 05.2 +1.4**
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 60.59 261 P **P 23 59 05.2 +1.4**
214A Organ Pipe Nat 60.69 75 IAmb IAmb 23 59 11.1
comp=Z,13nm,1.3s
214A Organ Pipe Nat 60.69 75 P **P 23 59 06.3 +1.9**
baz=319
CMAR Chiang Mai Arr 60.87 261 P **P 23 59 06.9 +1.2**
comp=Z,10.0nm,0.8s,baz=21,slow=7.3,SNR=49
CMAR LR LR 00 29 14.6
comp=Z,174nm,18.6s,baz=65,slow=40
CMAR Chiang Mai Arr 60.87 261 P **P 23 59 07.3 +1.6**
SPMN Marine on St. 60.94 52 P **P 23 59 06.1 +0.3**
SPMN Marine on St. 60.94 52 P **P 23 59 07.0 +1.1**
baz=320
BGNE Belgrade 61.32 58 P **P 23 59 08.7 +0.2**
MOS Moscow 61.35 329 *e*P **P 23 59 06.6 -1.8**
MOS pmax pmax
comp=Z,29nm,1.1s
T25A Trinidad 61.36 66 P **P 23 59 09.6 +0.6**
T25A IAmb IAmb 23 59 15.0
comp=Z,8.6nm,1.1s
T25A Trinidad 61.36 66 P **P 23 59 10.8 +1.7**
baz=319
TUC Tucson 61.55 74 P **P 23 59 11.2 +1.0**
TUC pmax pmax
comp=Z,7.0nm,1.3s
TUC Tucson 61.55 74 P **P 23 59 11.2 +1.0**
TUC Tucson 61.55 74 P **P 23 59 12.3 +2.0**
baz=319
SIJI Sorong 61.82 218 P **P 23 59 13.4 +1.3**
comp=Z,7.8nm,0.4s,baz=15,slow=8.5,SNR=7.7
ANMO Albuquerque 61.92 69 LR LR 00 25 33.9
comp=Z,46nm,20.4s,baz=328,slow=36
ANMO Albuquerque 61.92 69 P **P 23 59 14.1 +1.2**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO Albuquerque 61.92 69 P **P 23 59 14.1 +1.2**
ANMO Albuquerque 61.92 69 P **P 23 59 14.7 +1.8**
baz=319
OBN Obninsk 62.20 329 *e*P **P 23 59 14.4 +0.3**
OBN *e**PP **pwP 23 59 27.6 -1.1**
OBN *e**SP sP 23 59 33.1 +8.2
OBN *e* 23 59 52.1
OBN *e* 00 01 31.5
OBN pmax pmax
comp=Z,35nm,1.7s
LENM Lemitar 62.23 70 P **P 23 59 17.8 +2.9**
NB2 NORSAR Subarra 62.39 346 P **P 23 59 15.4 0.0**
comp=Z,2.2nm,0.7s,baz=17,slow=6.9
NOA NORSAR Array B 62.39 346 P **P 23 59 15.4 0.0**
comp=Z,4.5nm,0.9s,baz=17,slow=6.7,SNR=11
NOA LR LR 00 28 58.1
comp=Z,103nm,20.1s,baz=20,slow=39
CBKS Cedar Bluff 62.50 61 P **P 23 59 17.1 +0.6**
baz=320
SCHQ Schefferville 62.87 30 P **P 23 59 18.6 -0.1**
comp=Z,7.9nm,0.8s,baz=343,slow=8.3,SNR=8.6
SCHQ LR LR 00 28 26.7
comp=Z,135nm,20.1s,baz=332,slow=38
SCHQ Schefferville 62.87 30 P **P 23 59 19.1 +0.4**
SCHQ IAmb IAmb 23 59 19.4
comp=Z,12nm,0.9s
HFS Hagfors 62.88 344 LR LR 00 29 11.9
comp=Z,191nm,19.2s,baz=26,slow=39
121A Cookes Peak, D 63.03 71 IAmb IAmb 23 59 28.4
comp=Z,8.3nm,1.1s
319A Douglas 63.09 73 P **P 23 59 22.1 +1.5**
319A IAmb IAmb 23 59 27.5
comp=Z,8.7nm,1.0s
SCIA State Center 63.31 55 P **P 23 59 23.0 +1.3**
baz=321
LPSR Galich'ya Gora 63.62 326 *e*P **P 23 59 22.2 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 63.70 292 P **P 23 59 25.1 +0.6**
NIL pmax pmax
comp=Z,18nm,1.1s
NIL Nilore 63.70 292 P **P 23 59 25.1 +0.6**
KSU1 Kansas State U 63.84 59 P **P 23 59 25.4 +0.1**
baz=321
VRH Novokhopyorsk 63.88 324 *e*P **P 23 59 24.2 -1.1**
VRH pmax pmax
comp=Z,10.0nm,0.6s
HNR Honiara 64.23 185 LR LR 00 23 34.5
comp=Z,245nm,19.4s,baz=336,slow=32
ISAL Salakas 64.62 335 *e*P **P 23 59 31.1 +1.0**
MSTX Muleshoe 64.63 67 IAmb IAmb 23 59 32.9
comp=Z,17nm,1.1s
MSTX Muleshoe 64.63 67 P **P 23 59 32.1 +1.4**
baz=320,SNR=5.5
IDID Didziasalis 64.70 335 *e*P **P 23 59 31.6 +1.0**
VSR Storozhevoye 64.72 325 *e*P **P 23 59 29.3 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.3s
IIGN Ignalina 64.80 335 *e*P **P 23 59 32.3 +1.0**
VORD Divnogorie 64.90 325 *e*P **P 23 59 28.3 -3.7**
VORD pmax pmax
comp=Z,3.0nm,0.8s
P38A Dawn 64.93 56 IAmb IAmb 23 59 33.8
comp=Z,13nm,0.8s
MNTX Cornudas Mount 64.98 70 P **P 23 59 34.5 +1.6**
MNTX IAmb IAmb 23 59 35.9
comp=Z,7.9nm,0.9s
MNTX Cornudas Mount 64.98 70 P **P 23 59 35.0 +2.1**
baz=321,SNR=14
MNK Minsk 65.15 334 *i* P **P 23 59 32.4 -1.2**
MNK *i* 00 01 54.5
MNK *i* S **S 00 08 13.3 -0.6**
MNK *i* SS **SS 00 12 23.1 -2.4**
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,18nm,1.1s
MNK pmax pmax
comp=N,16nm,1.1s
MNK MLR MLR
comp=E,22nm,14.0s
MNK MLR MLR
comp=Z,259nm,14.0s
MNK MLR MLR
comp=N,232nm,16.0s
MNK Minsk 65.15 334 *i* P **P 23 59 32.4 -1.1**
comp=E,1.0nm,0.9s
MNK *i* P **P 23 59 32.4 -1.1**
comp=N,16nm,1.1s
MNK *i* P **P 23 59 32.4 -1.1**
comp=Z,18nm,1.1s,baz=26
MNK *i* PcP **PcP 23 59 58.3 -7.7**
MNK *i* PP **PP 00 01 54.5 -1.9**
MNK *i* PPP PPP 00 03 26.8
MNK *i* S **S 00 08 13.4 -0.5**
MNK *i* SS **SS 00 12 23.1 -2.3**
MNK *i* SSS SSS 00 15 29.5
MNK *i* LQ LQ 00 23 23.6
MNK *i* LR LR 00 28 21.1
MNK *i* LRM MLR 00 32 23.0
comp=E,22nm,14.0s
MNK *i* LRM MLR 00 32 46.5
comp=Z,259nm,14.3s
MNK *i* LRM MLR 00 32 55.5
comp=N,232nm,15.9s
PABE Paberze 65.19 336 *e*P **P 23 59 34.6 +0.8**
KBL Kabul 65.25 295 P **P 23 59 33.5 -1.3**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 65.25 295 P **P 23 59 33.5 -1.3**
KBL IAmb IAmb 23 59 46.4
comp=Z,9.0nm,0.8s

WMOK	Wichita Mounta	66.13	63	P	P	23 59 41.6	+1.3
	baz=321,SNR=13						
HDIL	Hopedale	66.19	53	P	P	23 59 41.0	+0.5
	baz=323						
SBUM	Sibu	67.03	239	P	P	23 59 46.8	+0.6
SBUM				IAmb	IAmb	23 59 55.1	
	comp=Z,8.7nm,1.1s						
SADO	Sadowa	67.14	44	LR	LR	00 30 16.3	
	comp=Z,188nm,18.1s,baz=338,slow=37						
CCM	Cathedral Cave	67.27	56	P	P	23 59 47.9	+0.5
CCM				pmax	pmax		
	comp=Z,16nm,1.1s						
CCM	Cathedral Cave	67.27	56	P	P	23 59 47.9	+0.5
CCM				IAmb	IAmb	23 59 48.7	
	comp=Z,16nm,1.1s						
CCM	Cathedral Cave	67.27	56	P	P	23 59 47.7	+0.2
	baz=323						
HHAR	Hobbs	67.36	59	IAmb	IAmb	23 59 49.0	
	comp=Z,11nm,0.9s						
TX32	Lajitas Array	67.74	71	IAmb	IAmb	23 59 53.3	
	comp=Z,9.3nm,0.9s						
TXAR	Lajitas Array	67.74	71	P	P	23 59 52.4	+1.7
	comp=Z,6.1nm,0.8s,baz=298,slow=4.4,SNR=74						
TXAR				LR	LR	00 28 53.3	
	comp=Z,75nm,20.0s,baz=340,slow=35						
GEYT	Alibeck	68.04	305	P	P	23 59 52.6	+0.2
	comp=Z,5.3nm,0.6s,baz=47,slow=9.9,SNR=15						
GEYT				LR	LR	00 31 58.3	
	comp=Z,282nm,18.9s,baz=47,slow=38						
GEYT	Alibeck	68.04	305	IAmb	IAmb	23 59 57.9	
	comp=Z,7.4nm,1.0s						
GYA0B	ALIBECK ARRAY	68.04	305	IAmb	IAmb	23 59 59.2	
	comp=Z,10nm,0.9s						
LPIG	La Paz	68.13	79	LR	LR	00 26 00.8	
	comp=Z,28nm,19.3s,baz=284,slow=33						
AKASG	Malin Array Be	68.21	331	P	P	23 59 53.0	-0.1
	comp=Z,1.4nm,0.5s,baz=28,slow=6.1,SNR=12						
AKBB	Malin Array Si	68.21	331	eP	P	23 59 52.7	-0.4
AKBB				pmax	pmax		
	comp=Z,10.0nm,1.2s						
FCAR	Ozark Folk Cen	68.57	58	IAmb	IAmb	23 59 56.5	
	comp=Z,13nm,0.8s						
GOF	Gofitskoye	68.60	319	eP	P	23 59 56.3	+0.6
MAK	Makhachkala	68.61	315	eP	P	23 59 54.9	-0.9
MAK				e		00 02 24.4	
MAK				eS	S	00 08 55.3	-0.7
MAK				pmax	pmax		
	comp=Z,73nm,1.7s						
MAK				MLR	MLR		
	comp=Z,172nm,15.0s						
GKP	Gorka Klasztor	68.74	339	eP	P	23 59 57.4	+1.0
MIAR	Mount Ida	68.92	60	IAmb	IAmb	23 59 59.2	
	comp=Z,12nm,1.1s						
MIAR	Mount Ida	68.92	60	P	P	23 59 58.3	+0.4
	baz=323						
JCT	Junction City	68.92	67	IAmb	IAmb	23 59 59.9	
	comp=Z,14nm,1.1s						
W41B	Gary Mavity, V	69.08	58	P	P	23 59 59.3	+0.5
	baz=323,SNR=6.9						
NCK	Nalchik	69.71	318	eP	P	00 00 02.8	+0.2
KBZ	Khabaz	69.78	319	P	P	00 00 04.0	+1.0
	comp=Z,3.3nm,0.7s,baz=82,slow=7.7,SNR=7.9						
KBZ				LR	LR	00 35 14.2	
	comp=Z,160nm,18.2s,baz=19,slow=40						
KBZ	Khabaz	69.78	319	eP	P	00 00 04.4	+1.4
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WVT	Waverly	70.44	55	P	P	00 00 08.5	+1.3
WVT	Waverly	70.44	55	P	P	00 00 08.3	+1.1
	baz=324						
KWP	Kalwaria Pacla	70.90	335	P	P	00 00 11.1	+1.3
KWP				pmax	pmax		
	comp=Z,233nm,1.2s						
KWP	Kalwaria Pacla	70.90	335	P	P	00 00 11.1	+1.3
OJC	Ojcow	71.05	337	P	P	00 00 12.0	+1.3
OJC				pmax	pmax		
	comp=Z,12nm,1.1s						
OJC	Ojcow	71.05	337	P	P	00 00 12.0	+1.3
OJC				IAmb	IAmb	00 00 26.8	
	comp=Z,12nm,1.1s						
V48A	Smith Brothers	71.23	54	IAmb	IAmb	00 00 13.7	
	comp=Z,15nm,0.9s						
CLL	Collm	71.42	341	IAmb	IAmb	00 00 14.9	
	comp=Z,14nm,1.2s						
BRG	Berggiesshubel	71.66	341	eP	P	00 00 15.1	+0.7
BRG				Amp		00 00 16.8	
	comp=Z,15nm,1.5s						
DPC	Dobruska-Polom	71.68	339	eP	P	00 00 14.9	+0.3
DPC				ex	x	00 00 25.5	
MORC	Moravsky Berou	71.97	338	P	P	00 00 18.4	+2.1
MORC	Moravsky Berou	71.97	338	eP	P	00 00 17.4	+1.1
MORC	Moravsky Berou	71.97	338	IAmb	IAmb	00 00 19.3	
	comp=Z,23nm,1.5s						
SWET	Sewanee	72.07	54	IAmb	IAmb	00 00 18.4	
	comp=Z,17nm,0.9s						
GNI	Garni	72.09	315	P	P	00 00 18.7	+1.4
GNI				pmax	pmax		
	comp=Z,15nm,1.0s						
GNI	Garni	72.09	315	P	P	00 00 18.7	+1.4
GNI				IAmb	IAmb	00 00 47.7	
	comp=Z,15nm,1.1s						
SRSP	Sriramsagar	72.34	278	eP	P	00 00 19.9	+1.0
SRSP				epP	sP	00 00 30.1	+0.6
PRU	Pruhonice	72.39	340	eP	P	00 00 19.8	+1.1
PRU				ex	x	00 00 32.6	
NKC	Novy Kostel	72.55	341	eP	P	00 00 20.3	+0.6
VRAC	Vranov	72.61	338	LR	LR	00 34 22.4	
	comp=Z,142nm,21.7s,baz=21,slow=38						
VRAC	Vranov	72.61	338	eP	P	00 00 20.6	+0.5
TKL	Tuckaleechee C	72.70	52	LR	LR	00 34 03.9	
	comp=Z,207nm,18.5s,baz=328,slow=37						
MYLAV	Mylavaram	72.76	275	eP	P	00 00 22.7	+1.4
MYLAV				epP	pwP	00 00 34.9	-1.7
FPAL	Fort Paine	72.78	54	IAmb	IAmb	00 00 22.9	
	comp=Z,18nm,0.9s						
JAVC	Velka Javorina	72.81	338	eP	P	00 00 23.5	+2.2
KRUC	Moravsky	72.89	338	eP	P	00 00 22.6	+0.9
MSVF	Nonsavu	73.35	166	LR	LR	00 24 59.7	
	comp=Z,120nm,20.9s,baz=129,slow=30						
KHC	Kasperske Hory	73.39	340	iP	P	00 00 25.3	+0.5
KHC				pmax	pmax		
	comp=Z,81nm,3.5s						
KHC	Kasperske Hory	73.39	340	eP	P	00 00 25.9	+1.1
HYBB	Hyderabad (bro	73.42	277	eP	P	00 00 27.7	+2.4
HYBB				epP	sP	00 00 37.4	+1.4
HYBB				eS	S	00 09 54.2	+1.7
HYBB				eSKKSac	SKKSac	00 10 30.1	+0.4
CKRC	Cesky Krumlov	73.55	340	eP	P	00 00 26.6	+0.9
CKRC				ex	x	00 00 39.9	
GERES	GERESS Array B	73.64	340	P	P	00 00 26.8	+0.5
	comp=Z,1.2nm,0.7s,baz=40,slow=5.2,SNR=8.6						
GERES				LR	LR	00 38 11.2	
	comp=Z,120nm,18.9s,baz=63,slow=40						
PSI	Prapat	73.67	251	LR	LR	00 37 02.8	
	comp=Z,95nm,18.0s,baz=345,slow=39						
NJS	Nagarjunasagar	73.67	276	eP	P	00 00 29.8	+3.0
ADKI	Addanki	73.86	275	eP	P	00 00 28.3	+0.4
ADKI				esP	PcP	00 00 43.8	+0.6
MLR	Muntele Rosu	73.86	331	LR	LR	00 34 54.0	
	comp=Z,152nm,18.9s,baz=344,slow=38						
CONA	Conrad Observa	74.08	338	eP	P	00 00 29.3	+0.4
	comp=Z,6.8nm,1.1s						
SRLM	Srisailam	74.27	276	eP	P	00 00 31.7	+1.4
SRLM				epP	sP	00 00 42.0	+1.1
MOA	Molln	74.48	339	eP	P	00 00 32.0	+0.9
	comp=Z,11nm,1.6s						
GURO	Guroymak-BITLI	74.55	316	P	P	00 00 33.4	+1.5
RCLA	Racherla	74.75	275	eP	P	00 00 33.8	+0.7
RCLA				epP	PcP	00 00 45.9	-1.3
ARSA	Arzberg	74.79	338	eP	P	00 00 33.4	+0.4
	comp=Z,6.5nm,1.6s						
KBA	Koelnbreinsper	75.41	340	eP	P	00 00 37.5	+0.8
	comp=Z,16nm,0.9s						
SOKA	Soboth	75.44	339	eP	P	00 00 36.7	0.0
	comp=Z,4.6nm,1.0s						
WATA	Walderalm	75.50	341	eP	P	00 00 37.7	+0.5
	comp=Z,4.0nm,1.0s						
WTTA	Wattenberg	75.56	341	eP	P	00 00 38.5	+1.0
	comp=Z,15nm,1.6s						
MOTA	Moosalm	75.58	341	eP	P	00 00 37.5	-0.1
	comp=Z,10nm,1.0s						
SQTA	Sankt Quirin	75.68	341	eP	P	00 00 38.2	0.0
	comp=Z,6.6nm,0.8s						
OBKA	Obir	75.70	339	eP	P	00 00 35.0	-3.3
	comp=Z,7.3nm,0.9s						
ABTA	Abfaltersbach	75.89	340	eP	P	00 00 40.4	+1.1
	comp=Z,12nm,1.4s						
FETA	Feichten	75.96	342	eP	P	00 00 40.9	+1.1
	comp=Z,6.3nm,1.1s						
URV	Uravakonda	76.13	276	eP	P	00 00 43.5	+2.5
DAVOX	Davos/Dischmat	76.34	342	LR	LR	00 36 08.4	
	comp=Z,128nm,22.0s,baz=54,slow=37						
BR131	Keskin Array S	76.65	323	eP	P	00 00 44.2	+0.4
BRTR	Keskin Array B	76.65	323	P	P	00 00 43.8	0.0
	comp=Z,1.2nm,0.8s,baz=63,slow=3.3,SNR=6.8						
BRTR				LR	LR	00 40 25.1	
	comp=Z,132nm,18.1s,baz=33,slow=40						
BRTR	Keskin Array B	76.65	323	iP	P	00 00 44.3	+0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DZM	Mont Dzumac	76.72	178	eLR	LR	00 22 43.9	
	comp=Z,335nm,28.4s						
TEOL	Teolo	77.38	340	IAmb	IAmb	00 00 51.2	
	comp=Z,14nm,0.8s						
WB0	Warramunga Arr	78.62	208	P	P	00 00 55.5	+0.7
TAOE	Nuku Hiva Isla	78.68	124	eLR	LR	00 24 53.3	
	comp=Z,252nm,31.3s						
WRAB	Tennant Creek	78.80	208	eP	P	00 00 55.9	+0.3
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WB2	Warramunga Arr	78.80	208	P	P	00 00 57.0	+1.4
WRA	Warramunga Arr	78.81	208	P	P	00 00 56.5	+0.8
	comp=Z,2.5nm,1.0s,baz=21,slow=5.5,SNR=8.9						
WRA	Warramunga Arr	78.81	208	P	P	00 00 56.0	+0.3
WRA	Warramunga Arr	78.81	208	P	P	00 00 57.0	+1.3
NRCA	Norcia	79.52	339	IAmb	IAmb	00 01 03.6	
	comp=Z,14nm,0.9s						
FITZ	Fitzroy Crossi	79.79	217	P	P	00 01 02.4	+1.4
	comp=Z,2.3nm,0.9s,baz=24,slow=4.3,SNR=3.7						
MMAI	Mount Meron Ar	81.98	319	LR	LR	00 39 59.6	
	comp=Z,133nm,20.5s,baz=200,slow=38						
PPT	Papeete	82.22	136	LR	LR	00 33 04.9	
	comp=Z,81nm,19.2s,baz=347,slow=32						
PPT2	Papeete2	82.24	136	eLR	LR	00 26 37.2	
	comp=Z,111nm,24.2s						
CMIG	Matias Romero	82.33	71	LR	LR	00 39 26.5	
	comp=Z,42nm,18.4s,baz=333,slow=37						
ASAR	Alice Springs	82.47	208	P	P	00 01 16.9	+1.7
	comp=Z,6.6nm,1.1s,baz=15,slow=4.8,SNR=14						
EIL	Elat	85.13	317	LR	LR	00 45 45.9	
	comp=Z,100nm,19.1s,baz=14,slow=40						
ESDC	Sonseca Array	85.21	351	P	P	00 01 30.6	+1.2
	comp=Z,4.2nm,1.0s,baz=358,slow=4.7,SNR=10						
RAO	Raoul Island	85.26	164	LR	LR	00 34 00.3	
	comp=Z,75nm,21.6s,baz=24,slow=32						
RAYN	Ar Rayn	85.97	306	P	P	00 01 33.7	+0.3
RAYN				pmax	pmax		
	comp=Z,11nm,1.3s						
RAYN	Ar Rayn	85.97	306	P	P	00 01 33.7	+0.3
RAYN				IAmb	IAmb	00 01 51.4	
	comp=Z,11nm,1.3s						
ATD	Arta Tunnel	97.56	302	LR	LR	00 52 10.9	
	comp=Z,142nm,19.2s,baz=33,slow=39						

DJA ***11*** *00:00:55.1±0.1,3°S±2°×12°8E±°,h10km,M4.6/29, mb4.6/29,mB5.2/11,MLv4.7/13,Mw(mB)4.5/11, MwMwp4.8/3,Mwp5.1/3*

IDC ***11*** *00:00:58.4±1.6,3°52S×128°30E,h46km±17km,mb4.0/11, mb1 4.1/15,mb1mx3.8/39,mbtmp4.2/15,ML3.8/4,MS3.6/9, Ms1 3.6/9,ms1mx3.2/68,Error ellipse: s-maj=14.9km s-min=10.4km az=89.0*

NEIC ***11*** *00:00:59.8±2.4,3°40S±0°07×128°27E±0°07,h56km±9km, mb4.4/21,Error ellipse: s-maj=10.2km s-min=9.3km az=51.0*

ISC 11 00:00:57.3±0.4,**3°53S**±0°05×**128°25E**±0°05,**h35**km,**n103,** σ1§**49**/85,**mb4.3**/22,**MS3.9**/13,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.17	200	P	Pn	00 01 01.0	-2.9
AAI				S	Sn	00 01 06.5	-1.9
MSAI	Masohi	0.70	75	P	Pn	00 01 08.6	-2.1
MSAI				S	Sn	00 01 17.6	-2.7
SANI	Sanana	2.69	303	P	Pn	00 01 35.6	-2.6
LBMI	Labuha	2.97	345	P	Pn	00 01 41.1	-0.9
SIJI	Sorong	4.00	49	P	Pn	00 01 56.7	+0.5
	112nm,0.3s,baz=232,slow=7.3,SNR=346						
SIJI				S	Sn	00 02 42.7	+0.7
	14nm,0.3s,baz=210,slow=20,SNR=10						
SWI	Sorong	4.00	49	P	Pn	00 01 56.6	+0.4
FAKI	Fak Fak	4.04	82	P	Pn	00 01 57.9	+1.2
FAKI	Fak Fak	4.04	82	Pn	Pn	00 01 57.0	+0.3
TNTI	Ternate	4.36	348	P	Pn	00 02 00.1	-1.0
TNTI	Ternate	4.36	348	Pn	Pn	00 01 59.7	-1.4
SAUI	Saumlaki	5.37	146	P	Pn	00 02 23.3	+8.3
SAUI	Saumlaki	5.37	146	Pn	Pn	00 02 17.8	+2.9
KDI	Kendari	5.64	265	P	Pn	00 02 30.5	+12
KMSI	Cibinong	5.90	314	P	Pn	00 02 21.7	-0.6
	2.2nm6μm287nm,1.1s						
BBSI	Bau Bau	5.99	251	P	Pn	00 02 29.8	+6.3
LUWI	Luwuk	6.01	294	P	Pn	00 02 23.3	-0.4
	2.1nm11μm732nm,1.2s						
LUWI	Luwuk	6.01	294	Pn	Pn	00 02 23.4	-0.4
GTOI	Gorontalo	6.67	308	P	Pn	00 02 34.9	+2.0
	0.3nm464nm65nm,0.9s						
APSI	Ampana	7.09	291	P	Pn	00 02 39.3	+0.6
	1.8nm5μm570nm,1.1s						
SOEI	Soe	7.34	212	P	Pn	00 02 43.8	+1.5
	0.2nm60nm,1.2s						
SOEI	Soe	7.34	212	Pn	Pn	00 02 46.5	+4.2
MRSI	Marisa	7.46	302	P	Pn	00 02 43.4	-0.3
	0.5nm1μm124nm,0.9s						
MMRI	Maumere	7.84	229	Pn	Pn	00 02 51.4	+2.4
BATI	Baumata	8.05	214	P	Pn	00 02 53.9	+2.1
	1.0nm,0.3s,baz=322,slow=6.9,SNR=4.3						
BSSI	Bau Bau, Buton	8.16	251	P	Pn	00 02 55.7	+2.3
	62nm,0.8s						
BNSI	Bone	8.17	264	P	Pn	00 03 02.3	+8.8
BAKI	Biak	8.18	74	P	Pn	00 02 53.9	+0.2
	157nm,1.1s						
BKSI	Bulukumba	8.30	257	P	Pn	00 02 56.8	+1.5
	8μm813nm45nm,0.9s						
EDFI	Ende, Flores	8.34	231	P	Pn	00 02 57.3	+1.4
	12nm,0.9s						
TTSI	Tana Toraja	8.43	273	P	Pn	00 03 02.1	+5.0
SPSI	Sidrap Palu	8.48	267	P	Pn	00 02 59.0	+1.3
	103nm,0.8s						
KAPI	Kappang	8.61	260	P	Pn	00 03 01.3	+1.9
	2.3nm,0.3s,baz=118,slow=6.4,SNR=16						
KAPI	Kappang	8.61	260	Pn	Pn	00 03 02.0	+2.6
TOLI2	Tolitoli	8.77	302	Pn	Pn	00 03 01.7	-0.1
MPSI	Mapaga	9.19	295	P	Pn	00 03 07.5	0.0
	95nm63nm,1.1s						
MTN	Manton Dam	9.69	163	Pn	Pn	00 03 18.7	+4.4
BKB	Balikpapan	11.57	281	Pn	Pn	00 03 41.2	+1.2
KBKI	Kotabaru	12.07	271	P	P	00 03 59.9	+0.6
KNRA	Kununurra	12.09	178	Pn	Pn	00 03 48.5	+1.4
MYLDM	Lahad Datu	13.03	312		Pn	00 03 59.9	-0.2
FITZ	Fitzroy Crossi	14.71	190	P	Pn	00 04 24.1	+1.2
	0.1nm,0.3s,baz=15,slow=16,SNR=4.4						
JAGI	Jajag, Banyuwa	14.86	250	P	P	00 04 27.7	-2.7
	28nm,1.2s						
JAGI	Jajag, Banyuwa	14.86	250	Pn	P	00 04 27.6	-2.7
GMJI	Gumukmas	15.46	252	P	P	00 04 35.3	-1.8
	46nm,1.1s						
SBUM	Sibu	17.09	290	P	P	00 04 54.0	-1.1
STKI	Sintang	17.14	282	P	P	00 05 02.5	+6.8
WB0	Warramunga Arr	17.22	160	P	Pn	00 04 53.9	-1.4
WB0				IAmb	IAmb	00 05 03.6	
	comp=Z,43nm,1.4s						
WRA	Warramunga Arr	17.36	160	P	Pn	00 04 55.5	-1.5
	comp=Z,0.5nm,0.3s,baz=338,slow=12,SNR=12						
WRA				LR	LR	00 12 27.6	
	comp=Z,191nm,18.4s,baz=340,slow=40						
WRA	Warramunga Arr	17.36	160	P	P	00 04 57.8	-0.4
WB2	Warramunga Arr	17.37	160	P	Pn	00 04 55.8	-1.3
WB2				IAmb	IAmb	00 05 14.4	
	comp=Z,23nm,0.9s						
WR0	Warramunga Arr	17.45	160	P	P	00 04 57.5	-1.5
COEN	Coen	18.01	126	P	P	00 05 06.4	+1.1
COEN				IAmb	IAmb	00 05 11.3	
	comp=Z,14nm,0.8s						
SMRI	Semarang	18.07	258	P	P	00 05 22.6	+17
SMRI	Semarang	18.07	258	P	P	00 05 05.6	-0.4
KSM	Kuching	18.61	285	P	Pn	00 05 11.8	-0.6
KSM				IAmb	IAmb	00 05 21.6	
	comp=Z,34nm,1.3s						
PSA00	Pilbara Seismi	19.71	204		Pn	00 05 26.3	+0.8
PSA00	Pilbara Seismi	19.71	204	P	Pn	00 05 26.3	+0.8
PSA00				IAmb	IAmb	00 05 36.7	
	comp=Z,18nm,1.2s						
AS31	Alice Springs	20.75	165	P	Pn	00 05 36.4	-1.4
AS31				IAmb	IAmb	00 05 44.5	
	comp=Z,13nm,0.9s						
ASAR	Alice Springs	20.75	165	P	Pn	00 05 35.8	-2.0
	comp=Z,16nm,0.9s,baz=348,slow=12,SNR=42						
ASAR				S	S	00 09 25.9	+0.7
	comp=Z,2.4nm,0.9s,baz=348,slow=23,SNR=5.3						
ASAR				LR	LR	00 12 58.5	
	comp=Z,253nm,22.0s,baz=352,slow=35						
ASAR	Alice Springs	20.75	165	P	Pn	00 05 36.1	-1.7
LEM	Lembang	20.81	260	LR	LR	00 14 30.6	
	comp=Z,253nm,18.9s,baz=160,slow=39						
KLSI		23.49	266	P	P	00 06 04.0	-0.2
	comp=Z,5.9nm,1.2s						
MDSI	Maura Dua	24.03	267	P	P	00 06 10.5	+1.1
	comp=Z,6.4nm,1.4s						
QIZ	Qiongzhong	28.82	322	P	P	00 06 53.5	+1.0
QIZ				S	S	00 11 40.7	+0.4
QIZ				LR	LR		
	comp=E,460nm,14.7s						
QIZ				LR	LR		
	comp=Z,270nm,11.4s						
RPSI	Rantau Prapat	29.96	282	P	P	00 07 02.3	-0.4
PSI	Prapat	29.98	282	P	P	00 07 02.3	-0.7
	comp=Z,4.8nm,0.8s,baz=120,slow=4.4,SNR=6.1						
STKA	Stephens Creek	30.87	157	P	P	00 07 09.7	-0.8
	comp=Z,4.5nm,0.8s,baz=347,slow=8.8,SNR=8.0						
STKA				LR	LR	00 20 04.6	
	comp=Z,118nm,19.3s,baz=320,slow=37						
STKA	Stephens Creek	30.87	157	P	P	00 07 10.5	+0.1
CMAR	Chiang Mai Arr	36.20	308	P	P	00 07 58.0	+0.9
	comp=Z,0.7nm,0.4s,baz=134,slow=7.5,SNR=5.8						
CMAR	Chiang Mai Arr	36.20	308	P	P	00 07 57.0	-0.1
WHN	Wuhan	36.39	340	P	P	00 08 04.7	+6.3
CHTO	Chiang Mai	36.40	309	P	P	00 07 58.3	-0.5
CHTO				IAmb	IAmb	00 08 08.5	
	comp=Z,4.2nm,0.8s						
ENH	Enshi	38.10	333	P	P	00 08 12.8	-0.2
PZH	PanZhiHua	39.35	321	P	P	00 08 27.2	+3.5
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,90nm,4.2s						
KSRS	Korea Array	40.77	360	LR	LR	00 24 05.9	
	comp=Z,57nm,21.8s,baz=70,slow=34						
XAN	Xi'an	41.58	336	P	P	00 08 44.9	+3.0
XAN				pP	sP	00 09 02.8	+6.5
XAN				pmax	pmax		
	comp=Z,11nm,1.5s						
XAN				LR	LR		
	comp=N,820nm,19.2s						
XAN				LR	LR		
	comp=E,850nm,17.9s						
XAN				LR	LR		
	comp=Z,690nm,15.9s						
BJT	Baijiatuau	44.73	347	P	P	00 09 07.6	+0.3
BJT				IAmb	IAmb	00 09 15.4	
	comp=Z,13nm,1.2s						
LZH	Lanzhou	45.54	332	eP	P	00 09 08.5	-5.5
LZH				sP	pP	00 09 16.9	-7.4
LZH				pmax	pmax		
	comp=Z,29nm,1.4s						
LZH				LR	LR		
	comp=N,990nm,10.3s						
LZH				LR	LR		
	comp=E,940nm,12.5s						
LZH				LR	LR		
	comp=Z,670nm,11.6s						
SHL	Shillong	45.60	311	P	P	00 09 14.0	-0.6
SHL				IAmb	IAmb	00 09 18.7	
	comp=Z,9.2nm,1.1s						
HHC	Hu-ho-hao-te	46.73	343	eP	P	00 09 26.0	+2.9
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.6s						
USRK	Ussuriysk Ar.	47.63	4	P	P	00 09 30.5	+0.6
LSA	Lhasa	48.51	316	P	P	00 09 36.9	-0.7
ASAJ	Asahikawa	49.15	14	LR	LR	00 30 51.5	
	comp=Z,47nm,19.9s,baz=139,slow=36						
GTA	Gaotai	50.11	331	eP	P	00 09 49.6	+0.3
GTA				pP	sP	00 09 59.8	-4.0
GTA				sP	pP	00 10 03.6	+3.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,120nm,5.1s						
GTA				LR	LR		
	comp=N,110nm,17.4s						
GTA				LR	LR		
	comp=E,140nm,17.5s						
GTA				LR	LR		
	comp=Z,170nm,16.7s						
KLR	Kul'dur	52.63	3	LR	LR	00 29 11.0	
	comp=Z,32nm,21.4s,baz=154,slow=32						
ULN	Ulaanbaatar	54.45	343	P	P	00 10 21.4	0.0
SONM	Songino Array	54.62	342	P	P	00 10 22.6	0.0
	comp=Z,4.7nm,1.1s,baz=160,slow=4.5,SNR=12						
SONM	Songino Array	54.62	342	P	P	00 10 22.1	-0.5
SONM				IAmb	IAmb	00 10 27.6	
	comp=Z,6.8nm,1.2s						
WMQ	Urumqi	59.55	327	eP	P	00 10 58.8	+1.3
KSH	Kashi	64.30	317	P	P	00 11 31.0	+1.4
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK31	Makanchi Array	64.39	327	P	P	00 11 29.7	-0.1
MK31				IAmb	IAmb	00 11 33.9	
	comp=Z,2.5nm,1.0s						
MKAR	Makanchi Array	64.39	327	P	P	00 11 29.4	-0.5
	comp=Z,1.8nm,0.8s,baz=121,slow=8.0,SNR=14						
MKAR	Makanchi Array	64.39	327	P	P	00 11 29.2	-0.7
MAKZ	Makanchi	64.56	327	P	P	00 11 30.6	-0.4
AAK	Ala-Archa	66.78	320	P	P	00 11 46.6	+1.0
	comp=Z,1.6nm,1.0s,baz=159,slow=7.9,SNR=5.2						
ZALV	Zalesovo Beam	67.72	334	P	P	00 11 50.1	-1.0
	comp=Z,3.2nm,1.0s,baz=107,slow=5.1,SNR=9.2						
ZALV	Zalesovo Beam	67.72	334	P	P	00 11 49.9	-1.2
NRIK	Noril'sk	77.79	346	P	P	00 12 52.0	+1.4
	comp=Z,

JHRM				*e*			00 01 52.1
	comp=Z,9μm,0.4s						
QIR1	**Qir**	**1.10**	**337**	*e*Pg	**Pn**	**00 01 26.5**	**+0.4**
QIR1				*e*		00 01 29.0	
	comp=Z,12μm,0.2s						
QIR1				*e*Sg	**Sb**	**00 01 41.5**	**+1.3**
GENO	**Geno**	**2.35**	**91**	*e*Pn	**Pb**	**00 01 47.1**	**-0.1**
NGRK	**Negar Kerman**	**3.56**	**51**	*e*Pn	**Pn**	**00 02 02.7**	**+2.6**
NGRK				*e*		00 03 04.5	
	comp=Z,215nm,0.3s						
KHGB	**Koh Gabri**	**3.89**	**41**	*e*Pn	**Pn**	**00 02 07.0**	**+2.5**
KHGB				*e*		00 03 10.7	
	comp=Z,98nm,0.8s						
IMEH	**Mehriz**	**4.03**	**13**	*e*Pn	**Pn**	**00 02 08.4**	**+1.9**
IRAM	**Ramesheh**	**4.45**	**347**	*e*Pn	**Pn**	**00 02 12.9**	**+0.6**
IGAR	**Gharneh**	**5.10**	**346**	*e*Pn	**Pn**	**00 02 22.7**	**+1.6**
IZEF	**Zefreh**	**5.52**	**349**	*e*Pn	**Pn**	**00 02 26.8**	**-0.2**
FINES	**FINESS Array B**	**38.64**	**339**	P	**P**	**00 08 26.4**	**-1.1**
	comp=Z,3.3nm,1.0s,baz=149,slow=8.0,SNR=9.2						
TORD	**Torodi Ar. Bea**	**50.32**	**264**	P	**P**	**00 09 59.9**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=58,slow=9.2,SNR=1.5						
YAK	**Yakutsk**	**59.68**	**32**	LR	LR	00 40 31.4	
	comp=Z,69nm,18.3s,baz=268,slow=40						
YKA	**Yellowknife Ar**	**89.86**	**355**	P	**P**	**00 14 01.7**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=9.0,slow=4.4,SNR=4.5						

WEL ***11*** *00:14:00,38.°07S×176.°53E,h150km,ML4.6,Mw4.8, Moment Tensor Solution. s8 Moment tensor: Scale 10^16 Nm; Mrr0.04; Mθθ0.96; Mφφ-0.99; Mrθ1.29; Mθφ-0.26; Mφr0.48; Fault plane solution: M0 1.68000×10^16 NP1: φs149.00000°,δ37.00000°,λ2.00000°. NP2:φs57.00000°, δ89.00000°,λ127.00000°. Principal axes: T 1870.9200, Plg35.0000°, Azm359.0000°; N -383.8500, Plg37.0000°, Azm236.0000°; P -1487.0700, Plg33.0000°, Azm116.0000°;*

IDC ***11*** *00:14:36.3±0.3,38.°01S×176.°65E,h154km±3km,mb4.0/8, mb1 4.2/9,mb1mx4.1/22,mbtmp4.5/9,MS3.5/1,Ms1 3.5/1, ms1mx2.7/47 Error ellipse: s-maj=19.5km s-min=13.4km az=40.0*

NOU ***11*** *00:14:37.8,38.°29S×176.°46E,h158km,MLv5.6/22,North Island, New Zealand*

NEIC ***11*** *00:14:37.3±2.4,38.°18S±0.°07×176.°36E±0.°10,h154km±5km, mb4.5/24,Error ellipse: s-maj=10.9km s-min=10.1km az=79.0*

WEL ***11*** *00:14:39.6±0.9,38.°S±5.°×17.°7E±.°,h138km±6km,M4.3/28, ML4.8/24,MLv4.3/28,Error ellipse: s-maj=0.0km s-min=0.0km az=79.8*

ISC 11 00:14:37.0±0.4,38.°16S±0.°04×176.°48E±0.°04,h164km±3km, n293,σ1§36/308,mb4.3/24,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKRZ	**Makatiti**	**0.02**	**334**	P	**Pn**	**00 14 59.9**	**+1.0**
TARZ	**Mount Tarawera**	**0.08**	**165**	P	**Pn**	**00 14 59.4**	**+0.5**
TARZ				S	**Sn**	**00 15 16.4**	**+0.6**
OMRZ	**Omania**	**0.10**	**302**	P	**Pn**	**00 14 59.1**	**+0.3**
HLRZ	**Highlands Stat**	**0.14**	**227**	P	**Pn**	**00 14 59.6**	**+0.7**
LIRZ	**Lichensteins R**	**0.17**	**334**	P	**Pn**	**00 14 59.3**	**+0.4**
RRRZ	**Republican Roa**	**0.18**	**171**	P	**Pn**	**00 14 59.3**	**+0.3**
EDRZ	**Edgecumbe**	**0.21**	**76**	P	**Pn**	**00 14 59.2**	**+0.2**
UTU	**Utuhina**	**0.23**	**265**	P	**Pn**	**00 14 59.8**	**+0.8**
KARZ	**Kaharoa**	**0.23**	**307**	P	**Pn**	**00 14 59.3**	**+0.2**
MARZ	**Manawahe**	**0.23**	**42**	P	**Pn**	**00 14 59.4**	**+0.4**
NGRZ	**Ngongotaha**	**0.24**	**284**	P	**Pn**	**00 14 59.7**	**+0.7**
HSRZ	**Hossack Road**	**0.24**	**231**	P	**Pn**	**00 14 59.6**	**+0.6**
HRRZ	**Handcock Road**	**0.28**	**214**	P	**Pn**	**00 14 59.7**	**+0.5**
OPRZ	**Ohinepanea**	**0.32**	**11**	P	**Pn**	**00 14 59.1**	**-0.1**
PRRZ	**Plateau Road**	**0.35**	**191**	P	**Pn**	**00 14 59.8**	**+0.5**
GRRZ	**Galatos Road**	**0.35**	**237**	P	**Pn**	**00 15 00.0**	**+0.7**
MUGZ	**Murupara**	**0.39**	**144**	P	**Pn**	**00 14 59.7**	**+0.3**
MUGZ				S	**Sn**	**00 15 15.6**	**-1.1**
ALRZ	**Allen Road**	**0.42**	**195**	P	**Pn**	**00 14 59.9**	**+0.4**
WPRZ	**Whakapapatarin**	**0.44**	**215**	P	**Pn**	**00 15 00.3**	**+0.7**
TGRZ	**Tauranga**	**0.46**	**338**	P	**Pn**	**00 14 59.9**	**+0.1**
TGRZ				S	**Sn**	**00 15 16.8**	**-0.4**
WHRZ	**Whale Island**	**0.49**	**52**	P	**Pn**	**00 15 00.4**	**+0.5**
WHRZ				S	**Sn**	**00 15 14.5**	**-2.8**
URZ	**Urewera**	**0.51**	**102**	P	**Pn**	**00 14 59.8**	**-0.1**
	4μm,0.3s,baz=258,slow=4.5						
URZ				S	**Sn**	**00 15 15.3**	**-2.1**
	9μm,0.3s,baz=13,slow=22,SNR=30						
URZ	**Urewera**	**0.51**	**102**	P	**Pn**	**00 14 60.0**	**+0.1**
URZ				S	**Sn**	**00 15 16.3**	**-1.2**
URZ	**Urewera**	**0.51**	**102**		**Pn**	**00 14 60.0**	**+0.1**
URZ					**Sn**	**00 15 15.9**	**-1.5**
URZ	**Urewera**	**0.51**	**102**	P	**Pn**	**00 15 00.1**	**+0.2**
KMRZ	**Kaimai**	**0.53**	**306**	P	**Pn**	**00 15 00.4**	**+0.3**
KMRZ				S	**Sn**	**00 15 17.7**	**0.0**
RTZ	**Ruatahuna**	**0.60**	**139**	P	**Pn**	**00 15 01.1**	**+0.6**
RTZ				S	**Sn**	**00 15 18.4**	**-0.2**
KUTZ	**Kaahu Road**	**0.61**	**237**	P	**Pn**	**00 15 01.2**	**+0.8**
WHTZ	**Whakaora**	**0.65**	**219**	P	**Pn**	**00 15 01.8**	**+1.1**
MRHZ	**Matea Rd**	**0.68**	**184**	P	**Pn**	**00 15 01.6**	**+0.7**
MRHZ				S	**Sn**	**00 15 19.3**	**0.0**
MTHZ	**Maungataniwha**	**0.75**	**158**	P	**Pn**	**00 15 02.1**	**+0.8**
MTHZ				S	**Sn**	**00 15 20.1**	**0.0**
TLZ	**Tolley Road**	**0.76**	**257**	P	**Pn**	**00 15 02.2**	**+0.8**
HATZ	**Hinemaiaia**	**0.79**	**202**	P	**Pn**	**00 15 02.3**	**+0.7**
HATZ				S	**Sn**	**00 15 19.9**	**-0.7**
WATZ	**Wairara**	**0.80**	**227**	P	**Pn**	**00 15 02.5**	**+0.8**
RAGZ	**Rawiri**	**0.81**	**115**	P	**Pn**	**00 15 02.7**	**+0.9**
RAGZ				S	**Sn**	**00 15 20.4**	**-0.4**
MWZ	**Matawai**	**0.84**	**102**	P	**Pn**	**00 15 02.5**	**+0.5**
MWZ				S	**Sn**	**00 15 20.3**	**-0.8**
WIZ	**White Island**	**0.84**	**42**	P	**Pn**	**00 15 02.0**	**+0.1**
WSRZ	**White Island S**	**0.85**	**41**	P	**Pn**	**00 15 02.1**	**+0.1**
RAHZ	**Arahi**	**0.89**	**148**	P	**Pn**	**00 15 03.6**	**+1.4**
RAHZ				S	**Sn**	**00 15 22.6**	**+0.8**
MYRZ	**Mayor Island**	**0.90**	**348**	P	**Pn**	**00 15 02.7**	**+0.3**
RATZ	**Rangitukua**	**0.90**	**218**	P	**Pn**	**00 15 03.1**	**+0.8**
SNGZ	**Shannon Statio**	**0.92**	**133**	P	**Pn**	**00 15 03.8**	**+1.3**
SNGZ				S	**Sn**	**00 15 22.3**	**+0.2**
RITZ	**Rihia Road**	**0.95**	**211**	P	**Pn**	**00 15 03.9**	**+1.2**
RUGZ	**Raukumara Rang**	**0.96**	**79**	P	**Pn**	**00 15 02.4**	**-0.5**
RUGZ				S	**Sn**	**00 15 20.3**	**-2.5**
NMHZ	**Naumai**	**0.97**	**165**	P	**Pn**	**00 15 04.7**	**+1.8**
BKZ	**Black Stump Fm**	**1.00**	**179**	P	**Pn**	**00 15 04.0**	**+0.8**
BKZ				S	**Sn**	**00 15 22.6**	**-0.8**
BKZ	**Black Stump Fm**	**1.00**	**179**	Pn	**Pn**	**00 15 04.0**	**+0.8**
BKZ	**Black Stump Fm**	**1.00**	**179**	P	**Pn**	**00 15 04.1**	**+0.9**
KATZ	**Kakaramea**	**1.02**	**217**	P	**Pn**	**00 15 04.2**	**+0.8**
HAZ	**Te Kaha**	**1.11**	**69**	P	**Pn**	**00 15 03.7**	**-0.2**
TKGZ	**Te Karaka**	**1.11**	**105**	P	**Pn**	**00 15 05.0**	**+1.1**
NTVZ	**North Tongarir**	**1.13**	**214**	P	**Pn**	**00 15 05.1**	**+0.8**
TMVZ	**Te Maari**	**1.13**	**212**	P	**Pn**	**00 15 05.1**	**+0.9**
KRVZ	**Karewarewa**	**1.14**	**215**	P	**Pn**	**00 15 05.2**	**+0.8**
ETVZ	**East Tongariro**	**1.15**	**211**	P	**Pn**	**00 15 05.3**	**+0.9**
RIGZ	**Rimuhau**	**1.15**	**119**	P	**Pn**	**00 15 05.6**	**+1.3**
ARHZ	**Aropaoanui**	**1.17**	**160**	P	**Pn**	**00 15 06.1**	**+1.6**
WTVZ	**West Tongariro**	**1.18**	**216**	P	**Pn**	**00 15 05.5**	**+0.8**
TWGZ	**Tauwhareparae**	**1.18**	**91**	P	**Pn**	**00 15 05.6**	**+1.0**
NNVZ	**North Ngauruho**	**1.18**	**215**	P	**Pn**	**00 15 05.7**	**+0.9**
OTVZ	**Oturere**	**1.19**	**212**	P	**Pn**	**00 15 05.8**	**+1.0**
OTVZ				S	**Sn**	**00 15 26.9**	**+0.6**
SNVZ	**South Ngauruho**	**1.22**	**212**	P	**Pn**	**00 15 06.0**	**+0.9**
TWVZ	**Taurewa**	**1.22**	**222**	P	**Pn**	**00 15 05.9**	**+0.8**
NGZ	**Ngauruhoe**	**1.23**	**214**	P	**Pn**	**00 15 06.0**	**+0.8**
KWHZ	**Kaweka Forest**	**1.26**	**182**	P	**Pn**	**00 15 06.6**	**+1.2**
KNZ	**Kokohu**	**1.27**	**133**	P	**Pn**	**00 15 06.6**	**+1.2**
TUVZ	**Tukino**	**1.28**	**210**	P	**Pn**	**00 15 06.7**	**+1.1**
PKGZ	**Pakihiroa**	**1.29**	**78**	P	**Pn**	**00 15 06.1**	**+0.5**
MCHZ	**McNeill Hill**	**1.29**	**173**	P	**Pn**	**00 15 07.4**	**+1.8**
FWVZ	**Far West T-bar**	**1.31**	**213**	P	**Pn**	**00 15 06.7**	**+0.7**
WHVZ	**Whangaehu Hut**	**1.32**	**212**	P	**Pn**	**00 15 06.9**	**+0.8**
DRZ	**Dome Shelter**	**1.32**	**212**	P	**Pn**	**00 15 07.0**	**+0.8**
HIZ	**Hauiti**	**1.32**	**254**	P	**Pn**	**00 15 06.9**	**+1.0**
HIZ	**Hauiti**	**1.32**	**254**		**Pn**	**00 15 06.7**	**+0.8**
HIZ	**Hauiti**	**1.32**	**254**	P	**Pn**	**00 15 07.0**	**+1.1**
PRGZ	**Paritu Road**	**1.34**	**125**	P	**Pn**	**00 15 07.2**	**+1.2**
TRVZ	**Turoa**	**1.35**	**212**	P	**Pn**	**00 15 07.2**	**+0.8**
WNVZ	**Wahianoa**	**1.35**	**210**	P	**Pn**	**00 15 07.3**	**+0.9**
BHHZ	**Black Hill Sta**	**1.37**	**194**	P	**Pn**	**00 15 07.2**	**+0.8**
MOVZ	**Moawhango**	**1.37**	**204**	P	**Pn**	**00 15 07.0**	**+0.6**
CNGZ	**Carnagh Statio**	**1.40**	**104**	P	**Pn**	**00 15 08.1**	**+1.6**
PUZ	**Puketiti**	**1.41**	**87**	P	**Pn**	**00 15 07.1**	**+0.4**
PKVZ	**Pokaka**	**1.44**	**218**	P	**Pn**	**00 15 08.0**	**+1.0**
MTVZ	**Mangateitei**	**1.46**	**212**	P	**Pn**	**00 15 08.3**	**+1.1**
KRHZ	**Kereru**	**1.48**	**183**	P	**Pn**	**00 15 08.5**	**+1.0**
MHGZ	**Mahia Peninsul**	**1.49**	**132**	P	**Pn**	**00 15 09.1**	**+1.6**
KUZ	**Kuaotunu**	**1.54**	**337**	P	**Pn**	**00 15 07.9**	**-0.1**
MXZ	**Matakaoa Point**	**1.56**	**68**		**Pn**	**00 15 08.7**	**+0.5**
WMGZ	**Waiomatatini S**	**1.57**	**78**	P	**Pn**	**00 15 08.8**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.57**	**163**	P	**Pn**	**00 15 09.9**	**+1.6**
VRZ	**Vera Road**	**1.66**	**234**	P	**Pn**	**00 15 10.4**	**+1.2**
KAHZ	**Kahuranaki**	**1.66**	**169**	P	**Pn**	**00 15 10.8**	**+1.5**
ETAZ	**East Tamaki Re**	**1.72**	**314**	P	**Pn**	**00 15 10.4**	**+0.5**
WIAZ	**Waiheke Island**	**1.73**	**321**	P	**Pn**	**00 15 10.4**	**+0.4**
PNHZ	**Pukenui**	**1.77**	**187**	P	**Pn**	**00 15 11.0**	**+0.6**
AWAZ	**Awhitu Peninsu**	**1.82**	**306**	P	**Pn**	**00 15 11.3**	**+0.3**
MBAZ	**Motutapu North**	**1.87**	**317**	P	**Pn**	**00 15 12.0**	**+0.5**
EPAZ	**Eden Park BICE**	**1.88**	**312**	P	**Pn**	**00 15 12.0**	**+0.4**
PXZ	**Pawanui**	**1.89**	**171**	P	**Pn**	**00 15 12.8**	**+1.1**
WPHZ	**Waipukurau**	**1.90**	**181**	P	**Pn**	**00 15 12.7**	**+0.8**
HBAZ	**Hene Bay Bore**	**1.91**	**313**	P	**Pn**	**00 15 12.3**	**+0.4**
TSZ	**Takapari Road**	**1.94**	**192**	P	**Pn**	**00 15 12.9**	**+0.6**
WTAZ	**Waiatarua**	**1.95**	**308**	P	**Pn**	**00 15 12.9**	**+0.5**
WAZ	**Wanganui**	**1.97**	**216**	P	**Pn**	**00 15 13.6**	**+1.0**
ABAZ	**Army Bay**	**2.04**	**319**	P	**Pn**	**00 15 14.0**	**+0.6**
RVAZ	**Riverhead Bore**	**2.05**	**312**	P	**Pn**	**00 15 13.8**	**+0.2**
DREZ	**Durham Road**	**2.06**	**239**	P	**Pn**	**00 15 15.4**	**+1.8**
GRZ	**Great Barrier**	**2.07**	**337**	P	**Pn**	**00 15 14.0**	**+0.2**
LREZ	**Lake Rotokare**	**2.08**	**231**	P	**Pn**	**00 15 15.3**	**+1.5**
PRHZ	**Porangahau**	**2.11**	**177**	P	**Pn**	**00 15 15.0**	**+0.9**
DVHZ	**Dannevirke**	**2.15**	**186**	P	**Pn**	**00 15 15.0**	**+0.4**
PREZ	**Palmer Road**	**2.17**	**236**	P	**Pn**	**00 15 16.7**	**+1.9**
NEZ	**North Egmont**	**2.17**	**239**	P	**Pn**	**00 15 16.7**	**+1.8**
PKE	**Pukeiti**	**2.21**	**241**	P	**Pn**	**00 15 17.0**	**+1.7**
OHWZ	**Ohakea**	**2.23**	**204**	P	**Pn**	**00 15 16.6**	**+1.0**
KHEZ	**Kahui Hut**	**2.24**	**239**	P	**Pn**	**00 15 17.3**	**+1.6**
ANWZ	**Angora Road**	**2.30**	**180**	P	**Pn**	**00 15 17.1**	**+0.8**
POWZ	**Post Office Ro**	**2.30**	**194**	P	**Pn**	**00 15 16.7**	**+0.4**
NBEZ	**Newall Road No**	**2.32**	**241**	P	**Pn**	**00 15 18.4**	**+1.7**
NMEZ	**Namu Road**	**2.39**	**238**	P	**Pn**	**00 15 18.8**	**+1.4**
PRWZ	**Pori Road**	**2.42**	**189**	P	**Pn**	**00 15 18.4**	**+0.6**
BFZ	**Birch Farm**	**2.53**	**184**	P	**Pn**	**00 15 19.3**	**+0.2**
BFZ	**Birch Farm**	**2.53**	**184**		**Pn**	**00 15 19.2**	**+0.2**
BFZ	**Birch Farm**	**2.53**	**184**	P	**Pn**	**00 15 19.4**	**+0.3**
MRZ	**Mangatainoka R**	**2.59**	**195**	P	**Pn**	**00 15 19.8**	**0.0**
TIWZ	**Tintock**	**2.65**	**190**	P	**Pn**	**00 15 20.9**	**+0.2**
CPWZ	**Castlepoint**	**2.75**	**184**	P	**Pn**	**00 15 22.5**	**+0.7**
WCZ	**Waipu Caves**	**2.80**	**322**	P	**Pn**	**00 15 22.8**	**+0.4**
HOWZ	**Holdsworth Sta**	**2.83**	**195**	P	**Pn**	**00 15 22.4**	**-0.4**
OGWZ	**Otaki Gorge**	**2.84**	**200**	P	**Pn**	**00 15 22.8**	**-0.1**
KIW	**Kapiti Island**	**2.96**	**204**	P	**Pn**	**00 15 23.8**	**-0.6**
TMWZ	**Te Maipa**	**2.98**	**189**	P	**Pn**	**00 15 24.2**	**-0.4**
MTW	**Mount Morrison**	**3.09**	**194**	P	**Pn**	**00 15 25.2**	**-0.8**
CAW	**Cannon Point**	**3.14**	**200**	P	**Pn**	**00 15 26.0**	**-0.6**
TRWZ	**Traveller**	**3.29**	**190**	P	**Pn**	**00 15 27.8**	**-0.7**
DUWZ	**D'Urville Isla**	**3.30**	**216**	P	**Pn**	**00 15 27.5**	**-1.1**
PAWZ	**Paruwai Farm**	**3.32**	**194**	P	**Pn**	**00 15 27.9**	**-0.9**
MSWZ	**Moikau Station**	**3.39**	**196**	P	**Pn**	**00 15 28.7**	**-1.1**
MSWZ	**Moikau Station**	**3.39**	**196**		**Pn**	**00 15 28.7**	**-1.1**
WEL	**Wellington**	**3.39**	**202**	P	**Pn**	**00 15 28.8**	**-0.9**
SNZO	**South Karori**	**3.43**	**203**		**Pn**	**00 15 29.0**	**-1.2**
SNZO	**South Karori**	**3.43**	**203**	P	**Pn**	**00 15 29.5**	**-0.7**
BHW	**Baring Head**	**3.47**	**200**	P	**Pn**	**00 15 29.7**	**-1.1**
BHW	**Baring Head**	**3.47**	**200**		**Pn**	**00 15 29.6**	**-1.1**
TCW	**Tory Channel**	**3.49**	**208**	P	**Pn**	**00 15 29.9**	**-1.1**
PLWZ	**Palliser**	**3.53**	**195**	P	**Pn**	**00 15 30.4**	**-1.2**
PLWZ	**Palliser**	**3.53**	**195**	Pn	**Pn**	**00 15 30.4**	**-1.2**
OUZ	**Omahuta**	**3.74**	**321**	P	**Pn**	**00 15 35.1**	**+0.8**
OUZ	**Omahuta**	**3.74**	**321**	Pn	**Pn**	**00 15 34.4**	**+0.1**
OUZ	**Omahuta**	**3.74**	**321**	P	**Pn**	**00 15 35.2**	**+1.0**
TUWZ	**Tuamarina**	**3.81**	**210**	P	**Pn**	**00 15 33.7**	**-1.3**
TUWZ	**Tuamarina**	**3.81**	**210**		**Pn**	**00 15 33.4**	**-1.7**
NNZ	**Nelson**	**3.88**	**217**	P	**Pn**	**00 15 34.6**	**-1.3**
NNZ	**Nelson**	**3.88**	**217**		**Pn**	**00 15 34.4**	**-1.5**
CMWZ	**Cape Campbell**	**3.99**	**205**	P	**Pn**	**00 15 36.7**	**-0.7**
CMWZ	**Cape Campbell**	**3.99**	**205**		**Pn**	**00 15 36.5**	**-0.8**
QRZ	**Quartz Range**	**4.05**	**228**	P	**Pn**	**00 15 36.4**	**-1.8**
QRZ	**Quartz Range**	**4.05**	**228**		**Pn**	**00 15 36.4**	**-1.8**
QRZ	**Quartz Range**	**4.05**	**228**	P	**Pn**	**00 15 36.9**	**-1.3**
BSWZ	**Blackbirch Sta**	**4.08**	**209**	P	**Pn**	**00 15 37.0**	**-1.5**
BSWZ	**Blackbirch Sta**	**4.08**	**209**		**Pn**	**00 15 36.8**	**-1.7**
THZ	**Tophouse**	**4.53**	**216**	P	**Pn**	**00 15 42.8**	**-1.6**
THZ	**Tophouse**	**4.53**	**216**		**Pn**	**00 15 43.0**	**-1.5**
KHZ	**Kahutara**	**4.81**	**207**	P	**Pn**	**00 15 46.4**	**-1.7**
KHZ	**Kahutara**	**4.81**	**207**	Pn	**Pn**	**00 15 46.3**	**-1.7**
KHZ	**Kahutara**	**4.81**	**207**	P	**Pn**	**00 15 46.8**	**-1.2**
DSZ	**Denniston Nort**	**5.07**	**224**	P	**Pn**	**00 15 50.2**	**-1.4**
GVZ	**Greta Valley S**	**5.47**	**208**	P	**Pn**	**00 15 54.6**	**-2.2**
LTZ	**Lake Taylor**	**5.62**	**219**	P	**Pn**	**00 15 56.1**	**-2.7**
LTZ	**Lake Taylor**	**5.62**	**213**		**Pn**	**00 15 57.0**	**-1.8**
AMCZ	**Amberley**	**5.79**	**209**	P	**Pn**	**00 15 58.9**	**-2.2**
INZ	**Inchbonnie**	**5.96**	**219**	P	**Pn**	**00 16 00.2**	**-3.0**
OKCZ	**Okains Bay**	**6.13**	**204**	P	**Pn**	**00 16 03.1**	**-2.3**
OXZ	**Oxford**	**6.17**	**212**	P	**Pn**	**00 16 02.5**	**-3.4**
MQZ	**McQueen's Vall**	**6.25**	**206**	P	Pn	00 16 03.5	-3.6
MQZ	**McQueen's Vall**	**6.25**	**206**	Pn	**Pn**	**00 16 04.0**	**-3.1**
AKCZ	**Akaroa Harbour**	**6.31**	**204**	P	**Pn**	**00 16 05.3**	**-2.6**
RACZ	**Rakaia**	**6.46**	**209**	P	Pn	00 16 06.2	-3.5
MHCZ	**Mount Hutt**	**6.53**	**213**	P	**Pn**	**00 16 08.1**	**-2.7**
WVZ	**Waitaha Valley**	**6.57**	**220**	P	**Pn**	**00 16 09.3**	**-1.9**
WACZ	**Wakanui South**	**6.76**	**210**	P	**Pn**	**00 16 10.8**	**-2.9**
RPZ	**Rata Peaks**	**6.90**	**215**	P	**Pn**	**00 16 13.5**	**-2.3**
RPZ	**Rata Peaks**	**6.90**	**215**	Pn	**Pn**	**00 16 14.1**	**-1.6**
RPZ	**Rata Peaks**	**6.90**	**215**	P	**Pn**	**00 16 14.3**	**-1.4**
	1μm,0.5s						
GCSZ	**Gaunt Creek Bo**	**6.95**	**220**	P	Pn	00 16 12.7	-3.6
ARCZ	**Arundel**	**7.03**	**213**	P	**Pn**	**00 16 14.6**	**-2.8**
FOZ	**Fox Glacier**	**7.37**	**221**	P	**Pn**	**00 16 19.9**	**-2.0**
FOZ	**Fox Glacier**	**7.37**	**221**		**Pn**	**00 16 19.4**	**-2.4**
TMZ	**Timaru**	**7.46**	**212**	P	**Pn**	**00 16 19.7**	**-3.4**
CTZ	**Chatham Island**	**7.63**	**139**	P	**Pn**	**00 16 27.5**	**+2.1**
LBZ	**Lake Benmore**	**7.82**	**215**	P	**Pn**	**00 16 25.4**	**-2.5**
LBZ	**Lake Benmore**	**7.82**	**215**	Pn	**Pn**	**00 16 26.2**	**-1.6**
ODZ	**Otahua Downs**	**8.15**	**211**	P	**Pn**	**00 16 29.8**	**-2.4**
ODZ	**Otahua Downs**	**8.15**	**211**		**Pn**	**00 16 29.7**	**-2.5**
ODZ	**Otahua Downs**	**8.15**	**211**	P	**Pn**	**00 16 29.8**	**-2.4**
	290nm,0.7s						
JCZ	**Jackson Bay**	**8.28**	**222**	P	Pn	00 16 30.2	-3.9
WKZ	**Wanaka**	**8.70**	**218**	P	**Pn**	**00 16 36.2**	**-3.3**
WKZ	**Wanaka**	**8.70**	**218**	Pn	**Pn**	**00 16 37.1**	**-2.5**
EAZ	**Earnscleugh**	**8.87**	**215**	P	**Pn**	**00 16 39.1**	**-2.6**
HHSZ	**Highcliff Hill**	**8.87**	**208**	P	**Pn**	**00 16 39.8**	**-1.9**
TUZ	**Tuapeka**	**9.30**	**211**	P	**Pn**	**00 16 45.9**	**-1.5**
MLZ	**Mavora Lakes**	**9.53**	**218**	Pn	**Pn**	**00 16 49.1**	**-1.4**
SYZ	**Scrubby Hill**	**9.97**	**211**	P	**Pn**	**00 16 55.1**	**-1.2**
WHZ	**Wether Hill Ro**	**9.99**	**217**	P	**Pn**	**00 16 55.4**	**-1.2**
WHZ	**Wether Hill Ro**	**9.99**	**217**		**Pn**	**00 16 55.0**	**-1.6**
DCZ	**Deep Cove**	**10.08**	**221**	P	**Pn**	**00 16 55.3**	**-2.4**
DCZ	**Deep Cove**	**10.08**	**221**		**Pn**	**00 16 55.7**	**-2.0**
APZ	**The Paps**	**10.69**	**213**	P	**Pn**	**00 17 04.1**	**-1.6**
PYZ	**Puysegur Point**	**10.80**	**219**	P	**Pn**	**00 17 05.8**	**-1.4**
PYZ	**Puysegur Point**	**10.80**	**219**		**Pn**	**00 17 05.5**	**-1.7**
OUENC	**Ouen Island, N**	**17.74**	**329**	P	**Pn**	**00 18 33.5**	**-0.5**
OUENC				IAmb	IAmb	00 18 37.9	
	comp=Z,39nm,1.0s						
ONTNC	**Ouen Toro**	**18.00**	**329**	P	**Pn**	**00 18 36.8**	**-0.2**
DZM	**Mont Dzumac**	**18.21**	**329**	P	**Pn**	**00 18 38.8**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=204,slow=11,SNR=12						
DZM	**Mont Dzumac**	**18.21**	**329**	P	**Pn**	**00 18 39.6**	**-0.1**
DZM				IAmb	IAmb	00 18 42.8	
	comp=Z,27nm,0.9s						
DZM	**Mont Dzumac**	**18.21**	**329**	P	**Pn**	**00 18 40.3**	**+0.7**
LIFNC	**LIFOU**	**19.08**	**333**	P	**Pn**	**00 18 47.6**	**-2.0**
MSVF	**Nonsavu**	**20.40**	**4**	P	Pn	00 19 01.5	-4.0
	comp=Z,6.0nm,0.5s,baz=92,slow=23,SNR=6.9						
MSVF	**Nonsavu**	**20.40**	**4**		Pn	00 19 02.5	-2.9
MSVF	**Nonsavu**	**20.40**	**4**	P	Pn	00 19 02.8	-2.6
ARMA	**Armidale**	**21.89**	**283**	P	**P**	**00 19 16.6**	**-0.6**
SANVU	**Saraoutou**	**24.06**	**338**	P	**P**	**00 19 38.4**	**+1.2**
EIDS	**Eidsvold**	**24.99**	**293**	P	**P**	**00 19 46.3**	**+0.7**
EIDS				IAmb	IAmb	00 19 48.7	
	comp=Z,8.5nm,1.0s						
CMSA	**Cobar Meteorol**	**26.04**	**275**	P	**P**	**00 19 57.9**	**+2.9**
STKA	**Stephens Creek**	**29.13**	**272**	P	**P**	**00 20 24.4**	**+1.9**
	comp=Z,1.8nm,0.5s,baz=100,slow=11,SNR=7.6						
STKA	**Stephens Creek**	**29.13**	**272**	P	**P**	**00 20 22.9**	**+0.3**
CTAO	**Charters Tower**	**31.76**	**296**	P	**P**	**00 20 46.3**	**+0.5**
CTAO				IAmb	IAmb	00 20 49.2	
	comp=Z,16nm,1.1s						
LCRK	**Leigh Creek**	**32.35**	**272**	P	**P**	**00 20 52.8**	**+1.9**
	comp=Z,14nm,0.8s						
MULG	**Mulgathing**	**35.70**	**270**	P	**P**	**00 21 20.9**	**+1.2**
	comp=Z,6.9nm,1.1s						
COEN	**Coen**	**38.08**	**300**	P	**P**	**00 21 40.8**	**+0.8**
COEN				IAmb	IAmb	00 21 42.6	
	comp=Z,22nm,0.9s						
COEN	**Coen**	**38.08**	**300**	P	**P**	**00 21 41.1**	**+1.1**
	comp=Z,30nm,1.1s						
PMG	**Port Moresby**	**38.91**	**310**	LR	LR	00 36 26.9	
	comp=Z,61nm,18.7s,baz=264,slow=34						
AS31	**Alice Springs**	**38.94**	**279**	P	**P**	**00 21 47.6**	**+0.5**
ASAR	**Alice Springs**	**38.94**	**279**	P	**P**	**00 21 48.3**	**+1.2**
	comp=Z,4.1nm,0.7s,baz=119,slow=7.6,SNR=58						
ASAR				ScP	**ScP**	**00 27 23.9**	**-3.2**
	comp=Z,1.5nm,0.9s,baz=124,slow=4.2,SNR=7.6						
ASAR				S	**S**	**00 27 36.9**	**+3.5**
	comp=Z,0.6nm,0.9s,baz=127,slow=15,SNR=4.1						
ASAR	**Alice Springs**	**38.94**	**279**	P	**P**	**00 21 46.9**	**-0.2**
WR0	**Warramunga Arr**	**40.50**	**285**	P	**P**	**00 21 58.8**	**-1.3**
WR0	

INMG 11 00:55:35.8±1.4, 35°.80N×10°.31W, h31km, ML2.0, Error ellipse: s-maj=17.7km s-min=10.0km az=87.0
CNRM 11 00:55:39.9, 35°.09N×9°.61W, h0km, ml/3.2
ISC 11 00:55:29.1±1.9, 35°.66N±0°.04×10°.1W±0°.1, h10km, n17, σ2°41/23, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**2.04**	**36**	*e*Sn	**Sn**	**00 56 29.3**	**+0.3**
MORF				A	A	00 56 32.8	
	8.9nm,0.6s						
PTEO	**Sao Teotonio**	**2.20**	**31**	*e*Sn	**Sn**	**00 56 31.8**	**-1.2**
PBDV	**Barranco-do-Ve**	**2.38**	**48**	*e*Sn	**Sn**	**00 56 37.3**	**-0.2**
PCVE	**Castro Verde**	**2.59**	**40**	*e*Sn	**Sn**	**00 56 43.0**	**+0.3**
PCVE				A	A	00 56 45.4	
	4.3nm,1.0s						
PVAQ	**Vaqueiros**	**2.62**	**48**	*e*Pn	**Pb**	**00 56 14.3**	**-1.8**
PVAQ				*e*Sn	**Sn**	**00 56 43.4**	**+0.2**
PVAQ				A	A	00 56 51.2	
	6.1nm,0.6s						
PNCL	**Nicolau / Gran**	**2.77**	**27**	*e*Sn	**Sn**	**00 56 44.6**	**-2.4**
PNCL				A	A	00 56 57.1	
	4.9nm,0.8s						
PBEJ	**Beja**	**2.98**	**37**	*e*Sn	**Sn**	**00 56 51.8**	**-0.5**
EVO	**Evora**	**3.33**	**30**	*e*Sn	**Sn**	**00 56 59.0**	**-1.9**
PMTG	**Montargil**	**3.73**	**24**	*e*Sn	**Sn**	**00 57 08.1**	**-2.6**
PMTG				A	A	00 57 10.9	
	4.7nm,0.8s						
PESTR	**Estremoz**	**3.79**	**32**	*e*Sn	**Sn**	**00 57 09.7**	**-2.6**
PSBE	**So Bento**	**3.99**	**15**	*e*Sn	**Sn**	**00 57 15.4**	**-1.8**
PMRV	**Marv??o**	**4.35**	**29**	*e*Sn	**Sn**	**00 57 23.6**	**-2.4**
LCRM	**LCR**	**4.78**	**113**	P	**Pn**	**00 56 44.7**	**+3.3**
LCRM				S	**Sn**	**00 57 34.7**	**-2.2**
OUK	**Oukaimeden**	**4.83**	**156**	P	**Pn**	**00 56 45.3**	**+3.1**
OUK				S	**Sn**	**00 57 34.4**	**-4.0**
MD31	**MD31**	**5.26**	**120**	P	**Pn**	**00 56 50.9**	**+3.1**
MD31				S	**Sn**	**00 57 46.2**	**-2.3**
MDT	**Midelt**	**5.39**	**120**	P	**Pn**	**00 56 51.8**	**+2.1**
MDT				S	**Sn**	**00 57 50.1**	**-1.8**
OUZM	**OUZ**	**5.52**	**148**	P	**Pn**	**00 56 54.5**	**+3.0**
OUZM				S	**Sn**	**00 57 52.8**	**-2.3**

IDC 11 01:01:25.4±1.5, 23°.18N×123°.37E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.1/39, mbtmp3.4/3, Error ellipse: s-maj=73.3km s-min=30.6km az=65.0
JMA 11 01:01:25.3±0.2, 24°.14N×125°.18E, h16km, M3.6
ISC 11 01:01:24.9±2.2, 24°.16N±0°.09×125°.23E±0°.08, h26km±14km, n13, σ0°36/22, mb3.2/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.59**	**9**	P	**Pn**	**01 01 37.3**	**-0.4**
JMJ2				S	**Sn**	**01 01 46.3**	**-0.1**
JOGS	**Gusukube**	**0.62**	**15**	P	**Pn**	**01 01 38.0**	**-0.1**
JOGS				S	**Sn**	**01 01 47.6**	**+0.3**
JIRB	**Irabujima**	**0.67**	**355**	P	**Pb**	**01 01 38.1**	**0.0**
JIRB				S	**Sb**	**01 01 47.2**	**+0.2**
JTJ	**Tarama**	**0.68**	**315**	P	**Pb**	**01 01 38.0**	**-0.2**
JTJ				S	**Sb**	**01 01 47.3**	**0.0**
JIKM	**Ikemajima**	**0.77**	**1**	P	**Pb**	**01 01 39.7**	**+0.1**
JIKM				S	**Sb**	**01 01 50.4**	**+0.7**
JISG	**Ishigakijimahi**	**0.94**	**297**	P	**Pb**	**01 01 42.4**	**-0.2**
JISG				S	**Sb**	**01 01 54.6**	**-0.1**
JIJ	**Ishigaki jima**	**1.01**	**282**	P	**Pb**	**01 01 43.5**	**-0.3**
JIJ				S	**Sb**	**01 01 56.7**	**-0.1**
JKRS	**Kuro-shima**	**1.12**	**274**	P	**Pb**	**01 01 45.5**	**-0.1**
JKRS				*e*S	**Sn**	**01 02 00.5**	**+1.0**
HATJ	**Hateruma jima**	**1.31**	**266**	P	**Pn**	**01 01 47.7**	**+0.2**
HATJ				*e*S	**Sn**	**01 02 04.0**	**-0.1**
IRIF	**Iriomote-Funau**	**1.38**	**278**	P	**Pb**	**01 01 50.4**	**+0.3**
IRIF				*e*S	**Sb**	**01 02 07.2**	**-0.1**
MKAR	**Makanchi Array**	**40.97**	**314**	P	**P**	**01 09 05.3**	**-0.2**
	0.2nm,0.4s,baz=106,slow=8.9,SNR=7.5						
WRA	**Warramunga Arr**	**44.72**	**168**	P	**P**	**01 09 36.1**	**0.0**
	0.4nm,0.4s,baz=348,slow=8.9,SNR=5.6						
YKA	**Yellowknife Ar**	**81.53**	**24**	P	P	01 13 53.2	+13
	0.1nm,0.5s,baz=302,slow=5.4,SNR=1.9						

NOU 11 01:04:07.5, 17°.12S×167°.99E, h13km, MLv4.9/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.63**	**163**	P	Pg	01 04 19.9	+0.1
RTV	**Rentapao**	**0.79**	**148**	P	Pn	01 04 23.9	-0.4
SANVU	**Saraoutou**	**1.83**	**335**	P	Pn	01 04 38.2	-0.4
KOUNC	**Koumac, New Ca**	**4.89**	**225**	P	Pn	01 05 20.8	0.0
DZM	**Mont Dzumac**	**5.14**	**196**	P	Pn	01 05 23.8	-0.5
NOUC	**Port Laguerre**	**5.20**	**198**	P	Pn	01 05 24.0	-1.1
ONTNC	**Ouen Toro**	**5.36**	**195**	P	Pn	01 05 27.6	+0.4
OUENC	**Ouen Island, N**	**5.38**	**191**	P	Pn	01 05 27.9	+0.4
	104nm,2.9s						

IDC 11 01:19:10.5±2.8, 32°.64N×139°.58E, h159km±29km, mb2.9/4, mb1 3.1/5, mb1mx2.9/27, mbtmp3.3/5, Error ellipse: s-maj=48.9km s-min=22.2km az=89.0
JMA 11 01:19:13.4±0.4, 32°.93N×139°.21E, h212km±4km, M3.3
ISC 11 01:19:14.8±1.0, 32°.90N±0°.08×139°.24E±0°.07, h200km, n22, σ1°10/26, mb3.1/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.52**	**66**	P	**Pn**	**01 19 42.4**	**+0.5**
JMKN	**Mikurajimanish**	**1.03**	**16**	P	**Pn**	**01 19 44.9**	**+0.2**
TK02	**Tokai 2**	**1.62**	**310**	P	**Pn**	**01 19 49.1**	**-0.2**
JIM2	**Oshima 3**	**1.82**	**5**	P	**Pn**	**01 19 51.3**	**-0.1**
JIZS	**Izushimoda**	**1.84**	**351**	P	**Pn**	**01 19 51.5**	**-0.1**
TK04	**Tokai 4**	**1.87**	**323**	P	**Pn**	**01 19 51.5**	**-0.3**
TTO2	**TONANKAI O.B.S**	**2.03**	**295**	P	**Pn**	**01 19 53.2**	**-0.1**
TTO2				*e*S	**Sn**	**01 20 24.1**	**+0.8**
BSO3	**Boso 3**	**2.17**	**29**	P	**Pn**	**01 19 54.0**	**-0.7**
BSO1	**Boso 1**	**2.27**	**39**	P	**Pn**	**01 19 54.8**	**-0.6**
BSO1				*e*S	**Sn**	**01 20 27.2**	**-0.2**
HMMJ	**Hamamatsu 2**	**2.32**	**327**	P	**Pn**	**01 19 55.9**	**-0.8**
JOD2	**Odawara 2**	**2.36**	**357**	P	**Pn**	**01 19 56.8**	**-0.3**
JIE	**Ise**	**2.58**	**306**	P	**Pn**	**01 19 58.7**	**-0.9**
JNY	**Yasuok**	**2.70**	**335**	P	**Pn**	**01 20 00.6**	**-0.4**
JAO	**Obara**	**2.88**	**326**	P	**Pn**	**01 20 02.5**	**-0.5**
JRY	**Ryogami san**	**3.12**	**355**	P	**Pn**	**01 20 05.7**	**-0.1**
JTNC	**Tanabenakahech**	**3.17**	**288**	P	**Pn**	**01 20 05.3**	**-1.2**
MJAR	**Matsushiro Arr**	**3.73**	**347**	P	**Pn**	**01 20 12.3**	**-0.8**
	0.4nm,0.3s,baz=166,slow=8.9,SNR=16						
MJAR				S	**Sn**	**01 20 58.6**	**-0.5**
	0.2nm,0.3s,baz=195,slow=19,SNR=1.3						
MAT	**Matsushiro**	**3.73**	**347**	P	**Pn**	**01 20 12.6**	**-0.6**
MAT				*e*S	**Sn**	**01 20 57.2**	**-2.0**
MKAR	**Makanchi Array**	**44.93**	**305**	P	**P**	**01 27 12.7**	**+3.1**
	0.1nm,0.4s,baz=81,slow=8.6,SNR=2.1						
WRA	**Warramunga Arr**	**52.76**	**186**	P	**P**	**01 28 07.0**	**-2.3**
	0.4nm,0.3s,baz=0.8,slow=7.5,SNR=22						
ASAR	**Alice Springs**	**56.48**	**186**	P	**P**	**01 28 34.6**	**-1.4**
	0.4nm,0.5s,baz=20,slow=9.9,SNR=9.0						
YKA	**Yellowknife Ar**	**68.27**	**29**	P	**P**	**01 29 54.3**	**+0.6**
	0.1nm,0.4s,baz=297,slow=6.2,SNR=2.3						

IDC 11 01:34:45.3±7.2, 2°.49S×98°.95E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.0/51, mbtmp3.2/3, Error ellipse: s-maj=347.5km s-min=30.7km az=53.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.83**	**258**	T	T	02 09 13.0	
	baz=80,slow=75,SNR=34						
H08S3	**Diego Garcia H**	**26.84**	**258**	T	T	02 09 15.8	
	baz=80,slow=75,SNR=42						
H08S1	**Diego Carcia H**	**26.85**	**258**	T	T	02 09 20.0	
	baz=80,slow=75,SNR=21						
WRA	**Warramunga Arr**	**38.67**	**119**	P	P	01 42 09.7	-1.4
	0.2nm,0.4s,baz=294,slow=8.2,SNR=2.4						
ASAR	**Alice Springs**	**39.83**	**125**	P	P	01 42 21.1	+0.2
	0.2nm,0.6s,baz=294,slow=9.0,SNR=4.2						
MKAR	**Makanchi Array**	**51.22**	**345**	P	P	01 43 49.5	-1.1
	0.3nm,0.6s,baz=140,slow=7.8,SNR=3.7						
TXAR	**Lajitas Array**	**145.72**	**37**	PKPbc	PKPab	01 54 28.0	+0.5
	0.2nm,0.4s,baz=220,slow=2.4,SNR=5.8						

IDC 11 01:56:02.8±3.8, 48°.59S×122°.19E, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.3/22, mbtmp3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.9/21, Error ellipse: s-maj=144.8km s-min=72.2km az=127.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**22.22**	**48**	P	P	02 01 00.9	+0.1
	0.9nm,0.6s,baz=195,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**26.55**	**25**	P	P	02 01 42.3	0.0
	0.5nm,0.7s,baz=195,slow=8.0,SNR=4.0						
ASAR				LR	LR	02 10 52.8	
	comp=Z,59nm,20.8s,baz=210,slow=34						
WRA	**Warramunga Arr**	**30.21**	**23**	LR	LR	02 13 39.2	
	comp=Z,69nm,18.1s,baz=245,slow=35						
YKA	**Yellowknife Ar**	**146.21**	**44**	PKPbc	PKPdf	02 15 43.0	+0.3
	0.4nm,0.9s,baz=275,slow=3.4,SNR=5.3						

IDC 11 02:01:54.6±0.4, 36°.46N×98°.93W, h0km, mb3.0/1, mb1 3.5/4, mb1mx3.3/36, mbtmp3.1/4, ML3.7/3, MS2.5/1, Ms1 2.5/1, ms1mx2.4/14, Error ellipse: s-maj=4.4km s-min=2.3km az=72.0
TUL 11 02:01:54.1±1.8, 36°.48N±0°.04×98°.76W±0°.05, h8km±6km, ML3.9, mb_Lg3.7/107(NEIC), Mwr3.4/7(SLM), Error ellipse: s-maj=5.9km s-min=4.3km az=129.0
NEIC 11 02:01:54.1, 36°.46N×98°.67W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr=0.21; Mθθ 1.65; Mφφ-1.44; Mrθ 0.09; Mθφ-0.68; Mφr-0.65; Fault plane solution: M0 1.82000×10^14 NP1:φs 59.00000°, δ70.00000°, λ-169.00000°. NP2:φs 325.00000°, δ80.00000°, λ-20.00000°. Principal axes: T 1.8183, Plg7.0000°, Azm13.0000°; N 0.0006, Plg68.0000°, Azm120.0000°; P -1.8189, Plg21.0000°, Azm280.0000°;
NEIC 11 02:01:55.6±1.5, 36°.47N±0°.04×98°.69W±0°.05, h9km±6km Error ellipse: s-maj=6.5km s-min=4.0km az=133.0
ANF 11 02:01:56.1±0.5, 36°.50N×98°.68W, h21km±4km, ML4.6/16, Error ellipse: s-maj=2.1km s-min=1.9km az=48.0
ISC 11 02:01:54.7±1.1, 36°.48N±0°.03×98°.65W±0°.03, h7km±8km, n159, σ1°03/163, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.23**	**348**	Pg	**Pg**	**02 01 59.7**	**+0.3**
OK035				Sg	**Sg**	**02 02 03.5**	**+1.0**
U32A	**Winter Ranch,**	**0.30**	**251**	Pg	**Pg**	**02 01 59.4**	**-1.2**
U32A				Sg	**Sg**	**02 02 02.9**	**-1.7**
OK032	**Salt Plains WL**	**0.48**	**47**	Pg	**Pb**	**02 02 05.0**	**-0.5**
OK032				Sg	**Sb**	**02 02 12.7**	**-0.1**
KAN14	**Manchester OK**	**0.73**	**49**		**Pb**	**02 02 09.6**	**-0.1**
KAN14				Sg	**Sb**	**02 02 20.2**	**+0.2**
GC02	**Grant County #**	**0.74**	**59**	Pg	**Pb**	**02 02 09.8**	**-0.1**
GC02				Sg	**Sb**	**02 02 20.8**	**+0.6**
KAN10	**Anthony SW Sta**	**0.78**	**35**		**Pb**	**02 02 10.3**	**-0.3**
KAN10				Sg	**Sb**	**02 02 21.3**	**-0.2**
KAN16	**Harper SW Stat**	**0.88**	**32**		**Pb**	**02 02 12.2**	**-0.1**
KAN16				Sg	**Sb**	**02 02 24.8**	**+0.5**
KAN05	**Bluff City Nor**	**0.89**	**45**		**Pb**	**02 02 12.4**	**0.0**
KAN05				Sg	**Sb**	**02 02 25.1**	**+0.7**
KAN17	**Caldwell West**	**0.91**	**51**		**Pb**	**02 02 12.9**	**+0.1**
KAN17				Sg	**Sb**	**02 02 25.7**	**+0.7**
KAN08	**Anthony NE Sta**	**0.93**	**36**		**Pb**	**02 02 12.9**	**-0.2**
KAN08				Sg	**Sb**	**02 02 26.2**	**+0.6**
KAN12	**Harper NE Stat**	**0.97**	**32**	Pg	**Pb**	**02 02 13.8**	**0.0**
KAN12				Sg	**Sb**	**02 02 27.4**	**+0.5**
KAN01	**Argonia South**	**0.98**	**46**		**Pb**	**02 02 14.3**	**+0.3**
KAN01				Sg	**Sb**	**02 02 27.8**	**+0.5**
KAN06	**Argonia West S**	**1.00**	**39**		**Pb**	**02 02 14.3**	**+0.1**
KAN13	**South Haven SW**	**1.08**	**60**		**Pb**	**02 02 15.8**	**+0.1**
BCOK	**Bluff Creek, N**	**1.18**	**134**		**Pg**	**02 02 17.0**	**-0.3**
OK029	**Liberty Lake**	**1.18**	**125**		**Pg**	**02 02 17.4**	**0.0**
BLOK	**Blackwell**	**1.19**	**76**	Pn	**Pb**	**02 02 17.9**	**+0.4**
OK025	**Westminster Rd**	**1.39**	**130**	Pn	**Pn**	**02 02 20.9**	**+0.4**
OKCFA	**Oklahoma City**	**1.44**	**137**	Pn	**Pn**	**02 02 21.4**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**1.45**	**137**		**Pb**	**02 02 22.1**	**+0.1**
OK031	**S. Brethren Rd**	**1.56**	**109**	Pn	**Pn**	**02 02 23.6**	**+0.9**
FNO	**Franklin**	**1.59**	**140**	Pn	**Pn**	**02 02 23.9**	**+0.7**
QUOK	**Quay**	**1.60**	**100**		**Pb**	**02 02 24.4**	**-0.1**
OK030	**Cody Creek RV**	**1.61**	**109**		**Pn**	**02 02 24.4**	**+1.0**
OK034	**N. Norfolk Rd.**	**1.63**	**106**		**Pn**	**02 02 24.8**	**+1.0**
WMOK	**Wichita Mounta**	**1.74**	**184**	Pn	**Pn**	**02 02 24.9**	**-0.4**
WMOK	**Wichita Mounta**	**1.74**	**184**	P	**Pn**	**02 02 24.4**	**-0.9**
	baz=0.5,SNR=114						
WMOK				S	**Sn**	**02 02 48.0**	**+0.3**
	baz=0.5						
T35A	**Sooner Cattle**	**1.77**	**75**		**Pn**	**02 02 26.7**	**+0.9**
T35A				IAmb_Lg		02 02 53.0	
	comp=Z,237nm,0.9s						
R32A	**Long Quarter,**	**1.94**	**359**		**Pn**	**02 02 28.9**	**+0.8**
W35A	**Tecumseh**	**1.96**	**132**	Pn	**Pn**	**02 02 29.2**	**+0.9**
X34A	**Smith Ranch, M**	**1.99**	**160**	Pn	**Pn**	**02 02 29.8**	**+1.1**
TUL1	**Leonard**	**2.38**	**103**	Pn	**Pn**	**02 02 35.2**	**+1.1**
TUL1				IAmb_Lg		02 03 13.0	
	comp=Z,258nm,0.8s						
TUL1	**Leonard**	**2.38**	**103**	P	**Pn**	**02 02 34.9**	**+0.8**
	baz=284						
TUL1				Sb	**Sb**	**02 03 09.3**	**+1.9**
	baz=284						
CBKS	**Cedar Bluff**	**2.49**	**340**	Pn	**Pn**	**02 02 37.1**	**+1.5**
CBKS				IAmb_Lg		02 03 13.0	
	comp=Z,222nm,1.0s						
CBKS	**Cedar Bluff**	**2.49**	**340**	P	**Pn**	**02 02 35.1**	**-0.5**
	baz=161,SNR=32						
CBKS				Sb	**Sb**	**02 03 10.5**	**-0.1**
	baz=161						
LOOK	**Love County**	**2.76**	**154**	Pn	**Pn**	**02 02 40.0**	**+0.8**
LOOK				IAmb_Lg		02 03 24.5	
	comp=Z,167nm,0.9s						
AMTX	**Amarillo**	**2.94**	**238**	Pn	**Pn**	**02 02 42.1**	**+0.3**
AMTX	**Amarillo**	**2.94**	**238**	P	**Pn**	**02 02 41.9**	**0.0**
	baz=55						
AMTX				Sb	**Sb**	**02 03 24.2**	**+0.7**
	baz=55						
KSU1	**Kansas State U**	**3.08**	**31**	Pn	**Pn**	**02 02 44.5**	**+0.9**
KSU1				IAmb_Lg		02 03 40.5	
	comp=Z,156nm,1.0s						
KSU1	**Kansas State U**	**3.08**	**31**	P	**Pn**	**02 02 43.8**	**+0.1**
	baz=214,SNR=14						
KSU1				Sb	**Sb**	**02 03 29.5**	**+2.0**
	baz=214						
X37A	**Clayton**	**3.27**	**124**	Pn	**Pn**	**02 02 47.1**	**+0.8**
Z35A	**Perchaven, San**	**3.34**	**160**	Pn	**Pn**	**02 02 48.3**	**+0.9**
Z35A				IAmb_Lg		02 03 46.0	
	comp=Z,131nm,1.1s						
U38A	**Gravette**	**3.44**	**89**	Pn	**Pn**	**02 02 50.4**	**+1.8**
U38A				IAmb_Lg		02 03 45.6	
	comp=Z,160nm,0.7s						
HHAR	**Hobbs**	**3.81**	**92**	Pn	**Pn**	**02 02 55.1**	**+1.4**
HHAR				IAmb_Lg		02 03 59.2	
	comp=Z,138nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.04**	**310**	Pn	**Pn**	**02 02 57.3**	**+0.3**
KSCO				IAmb_Lg		02 04 09.6	
	comp=Z,181nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.04**	**310**	P	**Pn**	**02 02 56.5**	**-0.6**
	baz=128,SNR=22						
KSCO				S	**Sn**	**02 03 43.4**	**-1.3**
	baz=128						
W39A	**Magazine**	**4.16**	**106**	Pn	**Pn**	**02 02 60.0**	**+1.5**
W39A	**Magazine**	**4.16**	**106**	P	**Pn**	**02 02 58.7**	**+0.2**
	baz=289,SNR=13						
MSTX	**Muleshoe**	**4.20**	**235**	Pn	**Pn**	**02 02 59.1**	**-0.2**
MSTX				IAmb_Lg		02 04 14.1	
	comp=Z,188nm,0.8s						
MSTX	**Muleshoe**	**4.20**	**235**	P	**Pn**	**02 02 58.5**	**-0.7**
	baz=51,SNR=26						
MSTX				S	**Sn**	**02 03 48.6**	**0.0**
	baz=51						
N33A	**J Bar K, Exete**	**4.36**	**12**	Pn	**Pn**	**02 03 00.8**	**-0.4**
N33A				IAmb_Lg		02 04 22.2	
	comp=Z,125nm,1.0s						
Z38A	**Mt. Pleasant**	**4.40**	**136**	Pn	**Pn**	**02 03 02.4**	**+0.5**
Z38A				IAmb_Lg		02 04 17.7	
	comp=Z,230nm,0.9s						
S39A	**Bolivar**	**4.43**	**73**	Pn	**Pn**	**02 03 03.6**	**+1.3**
S39A				IAmb_Lg		02 04 15.2	
	comp=Z,166nm,0.9s						
MIAR	**Mount Ida**	**4.57**	**113**	Pn	**Pn**	**02 03 05.7**	**+1.6**
MIAR				IAmb_Lg		02 04 33.3	
	comp=Z,118nm,0.7s						
MIAR	**Mount Ida**	**4.57**	**113**	P	**Pn**	**02 03 05.5**	**+1.3**
	baz=296						
MIAR				S	**Sn**	**02 03 57.4**	**0.0**
	baz=296						
WHTX	**Lake Whitney,**	**4.58**	**167**	Pn	**Pn**	**02 03 04.3**	**-0.1**
WHTX	**Lake Whitney,**	**4.58**	**167**	P	**Pn**	**02 03 04.6**	**+0.2**
	baz=347,SNR=5.2						
WHTX				S	**Sn**	**02 03 57.4**	**-0.5**
	baz=347						
T25A	**Trinidad**	**4.67**	**280**	Pn	**Pn**	**02 03 04.8**	**-0.9**
T25A				IAmb_Lg		02 04 27.7	
	comp=Z,166nm,1.0s						
T25A	**Trinidad**	**4.67**	**280**	P	**Pn**	**02 03 05.0**	**-0.7**
	baz=97,SNR=11						
T25A				Sb	**Sb**	**02 04 17.5**	**+4.0**
	baz=97						
U40A	**Yellville**	**4.68**	**90**	Pn	**Pn**	**02 03 06.9**	**+1.2**
U40A				IAmb_Lg		02 04 32.3	
	comp=Z,126nm,0.9s						
U40A	**Yellville**	**4.68**	**90**	P	**Pn**	**02 03 06.4**	**+0.7**
	baz=273						
BGNE	**Belgrade**	**4.94**	**4**	Pn	**Pn**	**02 03 09.1**	**-0.1**
BGNE				IAmb_Lg		02 04 40.0	
	comp=Z,136nm,0.8s						
BGNE	**Belgrade**	**4.94**	**4**	P	**Pn**	**02 03 09.2**	**-0.1**
	baz=186						
BGNE				S	**Sn**	**02 04 05.4**	**-1.3**
	baz=186						
N35A	**Tabor**	**4.97**	**27**	Pn	**Pn**	**02 03 10.8**	**+1.2**
237A	**Washetta, Mont**	**5.05**	**151**	Pn	**Pn**	**02 03 10.6**	**-0.2**
237A				IAmb_Lg		02 04 49.3	
	comp=Z,188nm,1.0s						
P38A	**Dawn**	**5.12**	**51**	Pn	**Pn**	**02 03 13.1**	**+1.4**
X40A	**Basin Creek Fa**	**5.14**	**111**	Pn	**Pn**	**02 03 14.1**	**+2.0**
X40A				IAmb_Lg		02 04 46.6	
	comp=Z,128nm,0.8s						
X40A	**Basin Creek Fa**	**5.14**	**111**	P	**Pn**	**02 03 11.7**	**-0.4**
	baz=294						
X40A				S	**Sn**	**02 04 11.1**	**-0.6**
	baz=294						
MGMO	**Mountain Grove**	**5.17**	**81**	Pn	**Pn**	**02 03 14.2**	**+1.8**
MGMO				IAmb_Lg		02 04 46.2	
	comp=Z,90nm,0.7s						
OGNE	**Ogallala**	**5.18**	**330**	Pn	**Pn**	**02 03 13.4**	**+0.6**
OGNE	**Ogallala**	**5.18**	**330**	P	**Pn**	**02 03 13.2**	**+0.5**
	baz=149						
OGNE				S	**Sn**	**02 04 11.7**	**-1.2**
	baz=149						
WHAR	**Wooly Hollow**	**5.30**	**101**	Pn	**Pn**	**02 03 15.9**	**+1.6**
WHAR				IAmb_Lg		02 04 48.2	
	comp=Z,162nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.31**	**94**	Pn	**Pn**	**02 03 16.1**	**+1.7**
FCAR				IAmb_Lg		02 04 47.4	
	comp=Z,95nm,0.8s						
WLAR	**White Oak Lake**	**5.33**	**120**	IAmb_Lg		02 04 56.1	
	comp=Z,129nm,0.9s						
W41B	**Gary Mavity, V**	**5.36**	**102**	Pn	**Pn**	**02 03 17.1**	**+2.0**
W41B				IAmb_Lg		02 04 56.6	
	comp=Z,100nm,0.7s						
W41B	**Gary Mavity, V**	**5.36**	**102**	P	**Pn**	**02 03 16.6**	**+1.5**
	baz=286						
W41B				S	**Sn**	**02 04 16.5**	**-0.6**
	baz=286						
R40A	**Maddies Statio**	**5.39**	**68**	Pn	**Pn**	**02 03 16.9**	**+1.4**
SDCO	**Great Sand Dun**	**5.62**	**285**		**Pn**	**02 03 19.3**	**+0.4**
SDCO				IAmb_Lg		02 05 00.4	
	comp=Z,79nm,0.9s						
SDCO	**Great Sand Dun**	**5.62**	**285**	P	**Pn**	**02 03 18.6**	**-0.3**
	baz=101,SNR=18						
Q24A	**Divide**	**5.72**	**298**	Pn	**Pn**	**02 03 19.9**	**-0.4**
Q24A				IAmb_Lg		02 05 00.6	
	comp=Z,108nm,0.8s						
Q24A	**Divide**	**5.72**	**298**	P	**Pn**	**02 03 19.7**	**-0.6**
	baz=114						
Q24A				Sb	**Sb**	**02 04 47.4**	**+3.7**
	baz=114						
435B	**Jarrell**	**5.75**	**171**	IAmb_Lg		02 05 05.9	
	comp=Z,152nm,0.8s						
435B	**Jarrell**	**5.75**	**171**	S	**Sn**	**02 04 25.9**	**-0.8**
	baz=351						
NATX	**Nacogdoches**	**5.75**	**144**	IAmb_Lg		02 05 13.7	
	comp=Z,104nm,0.8s						
Z41A	**Richland Creek**	**5.78**	**122**	IAmb_Lg		02 05 10.8	
	comp=Z,128nm,0.8s						
P40A	**Paris**	**6.04**	**58**	Pn	**Pn**	**02 03 25.7**	**+1.4**
N38A	**Joes South For**	**6.04**	**43**	Pn	**Pn**	**02 03 25.4**	**+0.9**
JCT	**Junction City**	**6.06**	**189**	Pn	**Pn**	**02 03 26.0**	**+1.3**
JCT				IAmb_Lg		02 05 22.9	
	comp=Z,123nm,0.8s						
JCT	**Junction City**	**6.06**	**189**	P	**Pn**	**02 03 24.8**	**+0.1**
	baz=8.0,SNR=5.2						
LCAR	**Lake Charles**	**6.07**	**92**	Pn	**Pn**	**02 03 25.9**	**+1.1**
CCM	**Cathedral Cave**	**6.11**	**73**	IAmb_Lg		02 05 12.9	
	comp=Z,147nm,1.0s						
CCM	**Cathedral Cave**	**6.11**	**73**	P	**Pn**	**02 03 24.6**	**-0.8**
	baz=258						
K31A	**O'Neill**	**6.14**	**359**	Pn	**Pn**	**02 03 26.7**	**+1.0**
K31A				IAmb_Lg		02 05 26.2	
	comp=Z,105nm,0.8s						
CCAR	**Cane Creek**	**6.18**	**112**

TXAR	**Lajitas Array**	**8.28**	**212**	Pn	**Pn**	**02 03 54.3**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=39,slow=11,SNR=31						
TXAR				Pg	Pb	02 04 23.1	+4.7
	comp=Z,1.3nm,0.3s,baz=30,slow=12,SNR=7.3						
TXAR				Lg	Lg	02 06 12.0	
	comp=Z,4.5nm,0.3s,baz=25,slow=26,SNR=12						
TXAR	**Lajitas Array**	**8.28**	**212**	Pn	**Pn**	**02 03 55.2**	**0.0**
PV16	**Nyswonger Mesa**	**8.37**	**286**	Pn	**Pn**	**02 03 57.7**	**+1.1**
HDIL	**Hopedale**	**8.39**	**58**	Pn	**Pn**	**02 03 57.9**	**+1.3**
HDIL	**Hopedale**	**8.39**	**58**	P	**Pn**	**02 03 56.0**	**-0.6**
	baz=244						
PV17	**East Wray Mesa**	**8.40**	**285**	Pn	**Pn**	**02 03 58.0**	**+1.0**
RWWY	**Rawlins**	**8.45**	**311**	IAmb_Lg		02 06 22.3	
	comp=Z,45nm,0.8s						
PV21	**Cone Mtn., Par**	**8.46**	**287**	Pn	**Pn**	**02 03 59.0**	**+1.1**
PV14	**Lion Creek, Pa**	**8.47**	**286**	Pn	**Pn**	**02 03 59.2**	**+1.3**
I37A	**Lemond, Waseca**	**8.53**	**26**	IAmb_Lg		02 06 48.8	
	comp=Z,72nm,0.9s						
K22A	**Casper**	**8.65**	**318**	IAmb_Lg		02 06 41.4	
	comp=Z,78nm,0.9s						
RSSD	**Black Hills**	**8.67**	**333**	Pn	**Pn**	**02 04 01.2**	**+0.5**
RSSD				IAmb_Lg		02 06 35.5	
	comp=Z,51nm,0.9s						
RSSD	**Black Hills**	**8.67**	**333**	P	**Pn**	**02 04 01.9**	**+1.2**
	baz=150						
JFWS	**Jewell Farm**	**9.12**	**43**	Pn	**Pn**	**02 04 07.3**	**+0.7**
JFWS				IAmb_Lg		02 07 05.1	
	comp=Z,55nm,0.9s						
JFWS	**Jewell Farm**	**9.12**	**43**	P	**Pn**	**02 04 06.9**	**+0.2**
	baz=228						
T47A	**Sharon Grove**	**9.28**	**83**	Pn	**Pn**	**02 04 09.8**	**+0.9**
F33A	**5 Mile Ranch,**	**9.52**	**10**	Pn	**Pn**	**02 04 11.4**	**-0.7**
F36A	**Milaca**	**10.14**	**21**	Pn	**Pn**	**02 04 19.9**	**-0.6**
U49A	**Red Boiling Sp**	**10.36**	**86**	Pn	**Pn**	**02 04 25.0**	**+1.3**
PDAR	**Pinedale Array**	**10.49**	**310**	Pn	**Pn**	**02 04 22.6**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=4.7						
PDAR				Lg	Lg	02 07 22.0	
	comp=Z,1.0nm,0.3s,baz=130,slow=28,SNR=10						
PDAR	**Pinedale Array**	**10.49**	**310**	Pn	**Pn**	**02 04 26.0**	**+0.3**
I42A	**Draeger Farm,**	**10.50**	**42**	Pn	**Pn**	**02 04 27.1**	**+1.6**
G40A	**Rib Lake**	**10.86**	**33**	Pn	**Pn**	**02 04 29.6**	**-0.8**
CPCT	**Cooper Cave**	**11.50**	**91**	Pn	**Pn**	**02 04 39.9**	**+0.6**
TKL	**Tuckaleechee C**	**12.07**	**89**	Lg	Lg	02 08 10.7	
	comp=Z,0.9nm,0.3s,baz=181,slow=23,SNR=6.5						
TKL	**Tuckaleechee C**	**12.07**	**89**	Pn	**Pn**	**02 04 49.2**	**+2.1**
S51A	**Beattyville**	**12.09**	**80**	Pn	**Pn**	**02 04 48.3**	**+1.0**
V52A	**Sevierville**	**12.19**	**89**	Pn	**Pn**	**02 04 49.9**	**+1.2**
ULM	**Lac du Bonnet**	**13.91**	**7**	Lg	Lg	02 09 13.3	
	comp=Z,0.2nm,0.3s,baz=275,slow=14,SNR=5.1						
YKA	**Yellowknife Ar**	**27.86**	**344**	P	**P**	**02 07 43.9**	**-0.7**
	comp=Z,0.1nm,0.7s,baz=152,slow=9.0,SNR=3.0						

*ROM **11** 02:02:16.1±0.2, 43°.72N±0°.01×13°.47E±0°.02, h10km±1km, ML2.1/11, Error ellipse: s-maj=1.9km s-min=0.8km az=58.0*
*VIE **11** 02:02:18.0±1.4, 43°.72N×13°.21E, h12km±9km, mb2.8/6, ml2.0/11, Error ellipse: s-maj=7.0km s-min=4.4km az=79.0 64 km ESE of San Marino*
ISC 11 02:02:16.8±0.8, 43°.67N±0°.02×13°.43E±0°.02, h14km±5km, n44, σ0=90/76, 2C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRO	**Pietralacroce**	**0.10**	**130**	P	**Pg**	**02 02 19.7**	**-0.3**
PCRO				S	**Sg**	**02 02 22.1**	**0.0**
PCRO				AML	AML		
	comp=E,16600μm,0.2s						
PCRO				AML	AML		
	comp=N,9740μm,0.2s						
PCRO				AML	AML		
	comp=N,9740μm,0.2s						
SENI	**Senigallia**	**0.14**	**283**	⇓P	**Pg**	**02 02 20.8**	**+0.3**
SENI				AML	AML		
	comp=N,3490μm,0.2s						
SENI				AML	AML		
	comp=E,3215μm,1.2s						
AOI	**Ancona**	**0.18**	**134**	⇑P	**Pg**	**02 02 20.9**	**-0.1**
AOI				S	**Sg**	**02 02 24.3**	**+0.5**
AOI				AML	AML		
	comp=E,1184μm,0.1s						
AOI				AML	AML		
	comp=N,896μm,0.9s						
AOI				AML	AML		
	comp=N,896μm,0.9s						
CING	**Cingoli**	**0.34**	**210**	⇓P	**Pg**	**02 02 23.8**	**0.0**
CING				S	**Sb**	**02 02 30.2**	**+0.2**
CING				AML	AML		
	comp=E,316μm,1.3s						
CING				AML	AML		
	comp=N,364μm,0.5s						
ARVD	**Arcevia**	**0.39**	**244**	⇑P	**Pg**	**02 02 24.7**	**0.0**
ARVD				S	**Sb**	**02 02 31.3**	**-0.1**
ARVD				AML	AML		
	comp=N,156μm,1.3s						
ARVD				AML	AML		
	comp=E,158μm,1.5s						
FSSB	**Fossombrone**	**0.47**	**273**	P	**Pb**	**02 02 26.1**	**-0.8**
FSSB				S	**Sb**	**02 02 33.8**	**+0.1**
FSSB				AML	AML		
	comp=E,598μm,0.2s						
FSSB				AML	AML		
	comp=N,520μm,0.3s						
MPAG	**Monte Paganucc**	**0.49**	**265**	P	**Pb**	**02 02 27.2**	**0.0**
MPAG				S	**Sb**	**02 02 34.6**	**+0.4**
SSFR	**Montelago di S**	**0.53**	**244**	P	**Pg**	**02 02 27.0**	**-0.2**
SSFR				S	**Sb**	**02 02 36.2**	**+1.0**
FRON	**Frontone**	**0.53**	**253**	P	**Pb**	**02 02 27.4**	**-0.6**
FRON				S	**Sb**	**02 02 35.2**	**-0.3**
FRON				AML	AML		
	comp=E,141μm,0.2s						
FRON				AML	AML		
	comp=N,154μm,0.7s						
SNTG	**Esanatoglia**	**0.55**	**221**	P	**Pg**	**02 02 27.7**	**+0.1**
SNTG				S	**Sb**	**02 02 36.2**	**+0.3**
SNTG				AML	AML		
	comp=E,180μm,0.5s						
SNTG				AML	AML		
	comp=N,293μm,0.5s						
SNTG				AML	AML		
	comp=E,180μm,0.5s						
ATSC	**Scheggia e Pas**	**0.59**	**246**	P	**Pb**	**02 02 28.4**	**-0.5**
ATSC				S	**Sb**	**02 02 37.9**	**+0.6**
CSP1	**Cessapalombo**	**0.60**	**196**	P	**Pg**	**02 02 28.9**	**+0.3**
NARO	**Abbazia di Nar**	**0.62**	**265**	P	**Pb**	**02 02 28.5**	**-0.8**
NARO				S	**Sb**	**02 02 38.6**	**+0.7**
NARO				AML	AML		
	comp=E,56μm,1.5s						
NARO				AML	AML		
	comp=N,58μm,1.6s						
NARO				AML	AML		
	comp=N,58μm,1.6s						
PIEI	**Pieia**	**0.66**	**258**	P	**Pb**	**02 02 29.5**	**-0.6**
PIEI				S	**Sb**	**02 02 39.8**	**+0.6**
PIEI				AML	AML		
	comp=E,150μm,0.4s						
PIEI				AML	AML		
	comp=N,92μm,1.5s						
PIEI				AML	AML		
	comp=N,92μm,1.5s						
FDMO	**Fiordimonte**	**0.68**	**201**	P	**Pg**	**02 02 30.3**	**+0.2**
FDMO				S	**Sb**	**02 02 40.8**	**+1.0**
GUMA	**Gualdo di Mace**	**0.71**	**149**	P	**Pg**	**02 02 29.4**	**-1.3**
GUMA				S	**Sg**	**02 02 38.6**	**-1.5**
GUMA				AML	AML		
	comp=E,367μm,0.4s						
GUMA				AML	AML		
	comp=N,334μm,1.3s						
DUGI	**Dugi Otok**	**1.22**	**74**	*e*Pg	**Pn**	**02 02 39.2**	**-0.2**
DUGI				Sg	**Sb**	**02 02 54.9**	**-0.4**
MGAB	**Montegabbione**	**1.22**	**232**	AML	AML		
	comp=E,79μm,1.4s						
MGAB				AML	AML		
	comp=N,97μm,1.3s						
MGAB				AML	AML		
	comp=E,92μm,1.6s						
MGAB				AML	AML		
	comp=N,85μm,0.5s						
BRJN	**Brijuni**	**1.25**	**11**	*e*Pg	**Pb**	**02 02 40.1**	**-0.1**
BRJN				Sg	**Sn**	**02 02 57.2**	**+0.6**
NVLJ	**Novalja**	**1.37**	**49**	*e*Pg	**Pn**	**02 02 41.7**	**+0.2**
NVLJ				Sg	**Sn**	**02 02 59.9**	**+0.5**
RABC	**Rab**	**1.45**	**42**	*e*Pn	**Pn**	**02 02 43.0**	**+0.4**
RABC				Sg	**Sn**	**02 03 01.9**	**+0.4**
SMRN	**Sveta Marina**	**1.46**	**21**	*e*Pn	**Pn**	**02 02 42.5**	**-0.2**
SMRN				Sg	**Sb**	**02 03 02.6**	**+0.5**
ZIRJ	**Zirje**	**1.61**	**90**	*e*Pn	**Pn**	**02 02 45.4**	**+0.7**
ZIRJ				Sg	**Sn**	**02 03 05.9**	**+0.6**
MORI	**Morici**	**1.66**	**83**	*e*Pn	**Pn**	**02 02 45.7**	**+0.2**
MORI				Sn	**Sn**	**02 03 07.3**	**+0.6**
RIY	**Rijeka**	**1.82**	**24**	*i* Pn	**Pn**	**02 02 48.1**	**+0.4**
RIY				Sn	**Sb**	**02 03 12.2**	**-0.2**
RDP	**Rocca di Papa**	**1.98**	**196**	P	**Pn**	**02 02 49.2**	**-0.8**
PLIT	**Plitvice**	**1.99**	**52**	*e*Pn	**Pn**	**02 02 50.6**	**+0.6**
PLIT				Sn	**Sn**	**02 03 14.8**	**+0.1**
KIJV	**Kijevo**	**2.18**	**80**	*e*Pn	**Pn**	**02 02 53.1**	**+0.4**
KIJV				Sn	**Sn**	**02 03 19.9**	**+0.5**
HVAR	**Hvar**	**2.26**	**102**	*e*Pn	**Pn**	**02 02 53.7**	**0.0**
HVAR				Sn	**Sn**	**02 03 21.4**	**+0.2**
PTRJ	**Pietraroja**	**2.45**	**160**	S	**Sn**	**02 03 26.0**	**-0.1**
RICI	**Ricice**	**2.70**	**92**	*e*Pn	**Pn**	**02 03 00.2**	**+0.4**
RICI				Sn	**Sn**	**02 03 32.1**	**-0.1**
OBKA	**Obir**	**2.95**	**15**	*e*Pn	**Pn**	**02 03 04.7**	**+1.4**
OBKA				*e*Sn	**Sb**	**02 03 42.5**	**-2.6**
	comp=N,0.8nm,0.3s						
CAFE	**Carife**	**2.96**	**152**	S	**Sb**	**02 03 47.0**	**+1.5**
ABTA	**Abfaltersbach**	**3.14**	**348**	*e*Pn	**Pn**	**02 03 06.4**	**+0.5**
	comp=N,1.0nm,0.3s						
ABTA				*e*Sn	**Sn**	**02 03 45.2**	**+1.9**
	comp=N,2.1nm,0.6s						
MCRV	**Calabrutti - M**	**3.16**	**155**	S	**Sn**	**02 03 45.0**	**+1.1**
WTTA	**Wattenberg**	**3.81**	**341**	*e*Pn	**Pn**	**02 03 14.7**	**-0.5**
	comp=N,0.3nm,0.1s						
WTTA				*e*Sn	**Sn**	**02 04 00.4**	**+0.6**
	comp=N,1.0nm,0.3s						
FETA	**Feichten**	**3.85**	**331**	*e*Pn	**Pn**	**02 03 17.1**	**+1.3**
	comp=N,0.3nm,0.2s						
FETA				*e*Sn	**Sn**	**02 04 01.0**	**+0.1**
	comp=N,0.5nm,0.5s						
ARSA	**Arzberg**	**3.87**	**22**	*e*Pn	**Pn**	**02 03 17.2**	**+1.4**
	comp=N,0.9nm,0.3s						
ARSA				*e*Sn	**Sn**	**02 04 02.0**	**+0.8**
	comp=N,0.4nm,0.2s						
SQTA	**Sankt Quirin**	**3.88**	**337**	*e*Pn	**Pn**	**02 03 16.1**	**0.0**
	comp=N,1.6nm,0.4s						
SQTA				*e*Sn	**Sn**	**02 04 02.1**	**+0.7**
	comp=N,0.9nm,0.3s						
MOTA	**Moosalm**	**4.02**	**337**	*e*Pn	**Pn**	**02 03 19.6**	**+1.5**
	comp=N,0.4nm,0.2s						
MOTA				*e*Sn	**Sn**	**02 04 02.4**	**-2.6**
	comp=N,0.5nm,0.4s						
MOA	**Molln**	**4.22**	**8**	*e*Pn	**Pn**	**02 03 21.9**	**+1.2**
	comp=N,0.3nm,0.3s						
RETA	**Reutte**	**4.25**	**335**	*e*Pn	**Pn**	**02 03 18.1**	**-3.1**
	comp=N,1.3nm,0.4s						
DAVA	**Damuels**	**4.39**	**327**	*e*Pn	**Pn**	**02 03 22.6**	**-0.5**
	comp=N,0.3nm,0.2s						
CONA	**Conrad Observa**	**4.58**	**21**	*e*Pn	**Pn**	**02 03 27.2**	**+1.5**
	comp=N,0.4nm,0.2s						

*IDC **11** 02:40:07.3±2.7, 38°.81N×20°.34E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/48, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=64.4km s-min=30.0km az=45.0*
*ATH **11** 02:40:07.8, 38°.82N×20°.25E, h28km±10km, ML2.6/2, Error ellipse: s-maj=12.0km s-min=1.8km az=92.0*
*THE **11** 02:40:08.0, 38°.80N×20°.26E, h27km±4km, ML2.9/3, Error ellipse: s-maj=4.9km s-min=0.8km az=91.0*
ISC 11 02:40:08.3±1.5, 38°.77N±0°.04×20°.19E±0°.06, h10km±9km, n28, σ0=77/41, mb3.7/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.31**	**105**	P	**Pg**	**02 40 14.4**	**-0.1**
DRAG				S	**Sb**	**02 40 19.6**	**-1.5**
	9μm,0.3s						
DRAG	**Dragano-Lefkad**	**0.31**	**105**	P	**Pg**	**02 40 14.4**	**-0.1**
DRAG				S	**Sg**	**02 40 19.3**	**+0.7**
LKD2	**Lefkada island**	**0.36**	**86**	P	**Pg**	**02 40 15.4**	**-0.1**
LKD2				S	**Sg**	**02 40 20.9**	**+0.6**
LKD2	**Lefkada island**	**0.36**	**86**	P	**Pg**	**02 40 15.4**	**-0.1**
LKD2				S	**Sg**	**02 40 20.9**	**+0.6**
EVGI	**Lefkada island**	**0.39**	**112**	P	**Pg**	**02 40 15.9**	**0.0**
EVGI				S	**Sb**	**02 40 22.2**	**-1.2**
EVGI	**Lefkada island**	**0.39**	**112**	P	**Pg**	**02 40 15.9**	**0.0**
EVGI				S	**Sb**	**02 40 22.2**	**-1.2**
NYDR	**Nydri-Lefkada**	**0.40**	**98**	P	**Pg**	**02 40 15.7**	**-0.4**
NYDR				S	**Sg**	**02 40 21.5**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.40**	**98**	P	**Pg**	**02 40 15.7**	**-0.4**
NYDR				S	**Sg**	**02 40 21.5**	**+0.1**
FSK	**Fiskardo**	**0.42**	**137**	P	**Pg**	**02 40 16.9**	**+0.3**
FSK				S	**Sb**	**02 40 23.7**	**-0.6**
	952nm,0.4s						
FSK	**Fiskardo**	**0.42**	**137**	P	**Pg**	**02 40 16.9**	**+0.3**
FSK				S	**Sb**	**02 40 23.7**	**-0.6**
FSK				AML	AML	02 40 25.8	
	comp=N,1622μm,0.5s						
FSK				AML	AML	02 40 25.9	
	comp=E,2005μm,0.3s						
KEF3	**Kipouria, Keph**	**0.58**	**168**	P	**Pg**	**02 40 19.6**	**+0.1**
KEF3	**Kipouria, Keph**	**0.58**	**168**	P	**Pg**	**02 40 19.6**	**+0.1**
LXRA	**Lixouri, Kepha**	**0.60**	**161**	P	**Pb**	**02 40 20.3**	**-0.5**
VLS	**Valsamata**	**0.67**	**152**	P	**Pg**	**02 40 20.7**	**-0.5**
VLS				S	**Sb**	**02 40 30.9**	**-0.5**
	comp=E,615nm,0.5s						
VLS	**Valsamata**	**0.67**	**152**	P	**Pg**	**02 40 20.7**	**-0.5**
VLS				S	**Sb**	**02 40 30.4**	**-0.9**
VLS				AML	AML	02 40 39.8	
	comp=N,1367μm,0.6s						
VLS				AML	AML	02 40 42.9	
	comp=E,870μm,0.3s						
PDG	**Podgorica**	**3.73**	**349**	*e*Pn	**Pn**	**02 41 05.9**	**0.0**
TREB	**Trebinje**	**4.19**	**341**	*e*Pn	**Pn**	**02 41 11.6**	**-0.6**
BARS	**Barje**	**4.23**	**16**	*e*Pn	**Pn**	**02 41 13.3**	**+0.5**
VTS	**Vitosha**	**4.49**	**30**	*e*Pn	**Pn**	**02 41 18.2**	**+1.7**
SJES	**Sjenica**	**4.49**	**358**	*e*Pn	**Pn**	**02 41 17.8**	**+1.3**
SELS	**Selova**	**4.50**	**9**	*e*Pn	**Pn**	**02 41 17.6**	**+1.0**
STON	**Ston**	**4.51**	**336**	*e*Pn	**Pn**	**02 41 16.2**	**-0.5**
IVAS	**Ivanjica**	**4.80**	**360**	*e*Pn	**Pn**	**02 41 21.3**	**+0.5**
IDI	**Anoyia**	**5.12**	**131**	Pn	**Pn**	**02 41 24.1**	**-1.0**
	comp=E,0.2nm,0.3s,baz=330,slow=4.9,SNR=0.7						
IDI				Sn	**Sn**	**02 42 26.0**	**+1.8**
	comp=E,0.6nm,0.3s,baz=240,slow=24,SNR=1.0						
DIVS	**Divibare**	**5.33**	**358**	*e*Pn	**Pn**	**02 41 27.4**	**-0.6**
MKAR	**Makanchi Array**	**45.21**	**59**	P	**P**	**02 48 24.6**	**-0.9**
	comp=E,0.6nm,0.4s,baz=280,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**45.49**	**48**	P	**P**	**02 48 27.6**	**0.0**
	comp=E,0.3nm,0.3s,baz=267,slow=9.8,SNR=1.8						
YKA	**Yellowknife Ar**	**72.75**	**340**	P	**P**	**02 51 36.9**	**+0.6**
	comp=E,0.2nm,0.6s,baz=36,slow=5.9,SNR=5.7						

*IDC **11** 02:41:41.0±1.7, 0°.05N×124°.31E, h57km±14km, mb4.3/26, mb1 4.4/30, mb1mx4.3/50, mbtmp4.6/30, MS3.4/19, Ms1 3.4/19, ms1mx3.2/70, Error ellipse: s-maj=13.6km s-min=9.4km az=80.0*
*DJA **11** 02:41:42.7±0.2, 0°.5±2°.×12°.5E±°, h70km±2km, M5.0/58, mB5.5/24, mb5.0/58, MLv5.1/26, Mw(mB)4.9/24*
*NEIC **11** 02:41:42.6±2.6, 0°.07S±0°.07×124°.43E±0°.06, h63km±5km, mb4.9/80, Error ellipse: s-maj=9.6km s-min=8.3km az=173.0*
ISC 11 02:41:42.6±0.6, 0°.04S±0°.04×124°.45E±0°.05, h70km±5km, n272, σ1=31/275, mb4.8/79, 34C-17D, Fault plane solution: NP1:ϕ_s=344.48334°, δ75.00710°, λ46.27522°. **NP2:**ϕ_s=239.34818°, δ45.72787°, λ158.82022°. **Principal axes:** T Plg42.5735°, Azm212.9013°; N Plg41.8871°, Azm358.3810°; P Plg18.1002°, Azm105.4269°; **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.77**	**322**	P	**Pn**	**02 41 57.1**	**-1.2**
LUWI	**Luwuk**	**1.95**	**239**	P	**Pn**	**02 42 14.2**	**+0.6**
LUWI	**Luwuk**	**1.95**	**239**	Pn	**Pn**	**02 42 13.0**	**-0.6**
LUWI	**Luwuk**	**1.95**	**239**	P	**Pn**	**02 42 14.1**	**+0.5**
SANI	**Sanana**	**2.52**	**142**	P	**Pn**	**02 42 17.8**	**-3.6**
MRSI	**Marisa**	**2.56**	**281**	P	**Pn**	**02 42 19.7**	**-2.1**
APSI	**Ampana**	**2.93**	**253**	P	**Pn**	**02 42 28.4**	**+1.5**
TNTI	**Ternate**	**3.03**	**75**	P	**Pn**	**02 42 26.7**	**-1.5**
TNTI	**Ternate**	**3.03**	**75**	Pn	**Pn**	**02 42 28.1**	**-0.1**
TNTI	**Ternate**	**3.03**	**75**	P	**Pn**	**02 42 29.4**	**+1.2**
LBMI	**Labuha**	**3.11**	**101**	P	**Pn**	**02 42 27.7**	**-1.6**
TOLI2	**Tolitoli**	**3.84**	**287**	Pn	**Pn**	**02 42 39.0**	**-0.3**
TOLI2	**Tolitoli**	**3.84**	**287**	P	**Pn**	**02 42 39.6**	**+0.3**
SGSI	**Sangihe**	**3.85**	**16**	P	**Pn**	**02 42 40.2**	**+0.8**
MPSI	**Mapaga**	**4.57**	**275**	P	**Pn**	**02 42 51.2**	**+2.0**
AAI	**Ambon**	**5.21**	**134**	P	**Pn**	**02 42 57.4**	**-0.7**
	2.5nm9μm578nm,0.5s						
TTSI	**Tana Toraja**	**5.51**	**237**	P	**Pn**	**02 43 03.4**	**+1.3**
	2.4nm6μm520nm,0.5s						
MSAI	**Masohi**	**5.55**	**126**	P	**Pn**	**02 43 02.7**	**0.0**
	1.1nm4μm295nm,0.6s						
BBSI	**Bau Bau**	**5.73**	**199**	P	**Pn**	**02 43 04.6**	**-0.6**
	0.1nm1μm14nm,0.5s						
SPSI	**Sidrap Palu**	**6.09**	**230**	P	**Pn**	**02 43 11.1**	**+1.0**
	2.3nm7μm475nm,0.5s						
BNSI	**Bone**	**6.13**	**225**	P	**Pn**	**02 43 11.7**	**+1.0**
	1.0nm3μm341nm,0.7s						
BKSI	**Bulukumba**	**6.80**	**219**	P	**Pn**	**02 43 20.7**	**+0.9**
	0.6nm1μm154nm,0.7s						
KAPI	**Kappang**	**6.82**	**223**	P	**Pn**	**02 43 19.3**	**-0.7**
	22nm,0.3s,baz=83,slow=5.3,SNR=48						
KAPI				S	**Sn**	**02 44 36.9**	**+0.7**
	20nm,0.3s,baz=96,slow=20,SNR=6.6						
KAPI	**Kappang**	**6.82**	**223**	Pn	**Pn**	**02 43 20.2**	**+0.2**
KAPI	**Kappang**	**6.82**	**223**	P	**Pn**	**02 43 20.9**	**+0.9**
SWI	**Sorong**	**6.86**	**97**	P	**Pn**	**02 43 20.2**	**-0.4**
	0.3nm93nm,0.9s						
SIJI	**Sorong**	**6.87**	**97**	P	**Pn**	**02 43 21.0**	**+0.3**
	8.2nm,0.3s,baz=297,slow=9.8,SNR=26						
KCP	**Kidapawan**	**7.03**	**5⇑**	*e*P	**Pn**	**02 43 26.3**	**+3.4**
BNDI	**Bandanaira**	**7.04**	**129**	P	**Pn**	**02 43 22.5**	**-0.6**
BSSI	**Bau Bau, Buton**	**7.24**	**213**	P	**Pn**	**02 43 25.9**	**+0.1**
	0.6nm2μm165nm,0.8s						
SMKI	**Samarinda**	**7.25**	**267**	P	**Pn**	**02 43 28.7**	**+2.7**
	1.4nm391nm,0.9s						
BKB	**Balikpapan**	**7.65**	**261**	P	**Pn**	**02 43 33.8**	**+2.4**
	1.1nm3μm340nm,0.7s						
BKB	**Balikpapan**	**7.65**	**261**	Pn	**Pn**	**02 43 33.4**	**+2.0**
MYLDM	**Lahad Datu**	**7.88**	**311**	Pn	**Pn**	**02 43 36.6**	**+2.0**
FAKI	**Fak Fak**	**8.31**	**110**	P	**Pn**	**02 43 37.7**	**-2.7**
	954nm52nm,0.6s						
FAKI	**Fak Fak**	**8.31**	**110**	Pn	**Pn**	**02 43 37.7**	**-2.7**
KBKI	**Kotabaru**	**8.89**	**249**	P	**Pn**	**02 43 49.4**	**+1.0**
	124nm,0.9s						
EDFI	**Ende, Flores**	**9.08**	**198**	P	**Pn**	**02 43 51.6**	**+0.5**
	14nm,0.9s						
MTKI	**Muara Teweh, K**	**9.60**	**265**	P	**Pn**	**02 44 00.3**	**+2.3**
	46nm,0.7s						
SOEI	**Soe**	**9.66**	**181**	P	**Pn**	**02 44 02.2**	**+3.2**
	37nm,1.0s						
SOEI	**Soe**	**9.66**	**181**	Pn	**Pn**	**02 44 01.4**	**+2.5**
BATI	**Baumata**	**10.13**	**184**	LR	LR	02 47 38.3	
	comp=Z,518nm,21.5s,baz=17,slow=35						
BBKI	**Banjar Baru**	**10.19**	**250**	P	**Pn**	**02 44 08.5**	**+2.4**
	5μm51nm,0.6s						
KKM	**Kota Kinabalu**	**10.20**	**306**	Pn	**Pn**	**02 44 07.7**	**+1.3**
KKM	**Kota Kinabalu**	**10.20**	**306**	P	**Pn**	**02 44 08.2**	**+1.8**
SAUI	**Saumlaki**	**10.44**	**139**	P	**Pn**	**02 44 09.3**	**-0.2**
	312nm,0.8s						
SAUI	**Saumlaki**	**10.44**	**139**		**Pn**	**02 44 08.4**	**-1.1**
SBUM	**Sibu**	**12.47**	**282**	Pn	**Pn**	**02 44 37.7**	**+0.4**
KMMI	**Kalianget**	**12.56**	**236**	P	**Pn**	**02 44 41.5**	**+2.9**
	58nm,0.8s						
STKI	**Sintang**	**12.97**	**270**	P	**Pn**	**02 44 45.6**	**+1.5**
	44nm,0.8s						
PBKI	**Pangkalan Bun**	**13.05**	**258**	P	**Pn**	**02 44 47.3**	**+2.2**
	10μm152nm,0.6s						
JAGI	**Jajag, Banyuwa**	**13.25**	**231**	P	**Pn**	**02 44 49.5**	**+1.7**
	41nm,1.0s						
KSM	**Kuching**	**14.22**	**276**	P	**P**	**02 45 06.7**	**+0.8**
MTN	**Manton Dam**	**14.35**	**153**	Pn	**Pn**	**02 45 00.1**	**-2.2**
PCJI	**Pacitan**	**15.51**	**238**	P	**P**	**02 45 21.3**	**+1.0**
	57nm,0.5s						
KNRA	**Kununurra**	**16.11**	**165**	P	**Pn**	**02 45 25.6**	**+0.8**
KNRA	**Kununurra**	**16.11**	**165**	P	**Pn**	**02 45 24.3**	**-0.6**
JAY	**Jayapura**	**16.44**	**99**	P	**Pn**	**02 45 28.7**	**-0.3**
	0.8nm,0.3s,baz=217,slow=20,SNR=2.0						
FITZ	**Fitzroy Crossi**	**17.99**	**176**	P	**P**	**02 45 46.8**	**-0.9**
	0.7nm,0.3s,baz=10,slow=8.3,SNR=14						
LEM	**Lembang**	**18.10**	**248**	LR	LR	02 53 46.9	
	comp=Z,148nm,21.2s,baz=60,slow=40						
LEM	**Lembang**	**18.10**	**248**	P	**Pn**	**02 45 51.6**	**+2.1**
	1μm26nm,1.1s						
PPBI	**Pangkal Pinang**	**18.43**	**263**	P	**Pn**	**02 45 53.2**	**-0.2**
	15μm29nm,0.5s						
CBJI	**Citeko**	**18.67**	**250**	P	**Pn**	**02 45 56.4**	**+0.1**
	34μm278nm,0.4s						
DLV	**T Lat**	**19.82**	**307**	P	**Pn**	**02 46 10.7**	**+0.6**
DLV				IAmb	IAmb	02 46 14.8	
	comp=Z,45nm,0.7s						
CGJI	**Cibinong**	**19.82**	**250**	P	**Pn**	**02 46 10.6**	**+0.7**
DSRI	**Dabo**	**19.88**	**269**	P	**P**	**02 46 09.0**	**+0.6**
	comp=Z,50nm,0.6s						
KLI	**Kotabumi**	**20.15**	**256**	P	Pn	02 46 14.3	+0.5
KLSI		**20.23**	**257**	P	**P**	**02 46 12.7**	**+0.5**
	comp=Z,264nmcomp=Z,26

OOD	Oodnadatta	29.63	160	P	P	02 47 41.0	-0.5
MORW	Morawa	29.97	195	P	P	02 47 43.0	-1.5
FORT	Forrest	30.77	174	P	P	02 47 50.9	-0.6
FORT				IAmb	IAmb	02 47 51.6	
	comp=Z,27nm,0.8s						
FORT	Forrest	30.77	174	P	P	02 47 51.1	-0.3
CMAR	Chiang Mai Arr	31.07	308	P	P	02 47 53.1	-1.3
	comp=Z,3.9nm,0.6s,baz=135,slow=7.3,SNR=22						
CMAR				PcP	PcP	02 50 49.4	+0.7
	comp=Z,4.4nm,0.6s,baz=168,slow=2.1,SNR=19						
CMAR				LR	LR	03 00 16.5	
	comp=Z,32nm,21.7s,baz=115,slow=36						
CMAR	Chiang Mai Arr	31.07	308	PcP	PcP	02 50 48.7	0.0
CHTO	Chiang Mai	31.27	308	P	P	02 47 55.8	-0.3
CHTO				IAmb	IAmb	02 47 58.2	
	comp=Z,17nm,0.9s						
BLDU	Ballidu	31.29	193	P	P	02 47 54.9	-1.2
MULG	Mulgathing	31.44	164	P	P	02 47 57.2	-0.2
JSU	Suzuyama	31.88	10	P	P	02 48 01.3	0.0
JSU				IAmb	IAmb	02 48 02.5	
	comp=Z,21nm,0.9s						
JCJ	Chichijima	31.91	31	P	P	02 48 00.8	-0.8
JCJ	Chichijima	31.91	31	P	P	02 48 02.2	+0.6
NJ2	Nanjing	32.35	351	eP	P	02 48 08.1	+2.8
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LCRK	Leigh Creek	32.96	158	P	P	02 48 10.8	+0.1
ENH	Enshi	33.34	336	P	P	02 48 15.1	+1.1
ENH				IAmb	IAmb	02 48 18.2	
	comp=Z,15nm,0.7s						
JNU	Nakatsue	33.53	10	P	P	02 48 15.6	-0.1
	comp=Z,26nm,0.9s,baz=183,slow=3.9,SNR=12						
JNU	Nakatsue	33.53	10	P	P	02 48 15.6	-0.1
JNU				IAmb	IAmb	02 48 17.5	
	comp=Z,27nm,0.9s						
JNU	Nakatsue	33.53	10	P	P	02 48 16.6	+0.9
	comp=Z,34nm,0.9s						
PZH	PanZhiHua	34.27	322	P	P	02 48 23.7	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,4.8s						
BBOO	Buckleboo	34.39	163	P	P	02 48 22.3	-0.8
BBOO				IAmb	IAmb	02 48 24.1	
	comp=Z,16nm,1.2s						
BBOO	Buckleboo	34.39	163	P	P	02 48 22.5	-0.6
JMN	Monobe	34.73	14	P	P	02 48 27.0	+0.9
STKA	Stephens Creek	35.58	154	P	P	02 48 33.6	+0.3
	comp=Z,7.3nm,0.4s,baz=337,slow=8.1,SNR=54						
STKA				PcP	PcP	02 51 01.3	+0.3
	comp=Z,2.0nm,0.4s,baz=316,slow=1.3,SNR=2.9						
STKA	Stephens Creek	35.58	154	P	P	02 48 33.7	+0.3
STKA	Stephens Creek	35.58	154	P	P	02 48 33.8	+0.4
JHS	Saijyo	35.78	12	P	P	02 48 35.7	+0.6
HTT	Hallett	35.90	159	P	P	02 48 36.4	+0.2
CD2	Chengdu	36.51	329	eP	P	02 48 43.0	+1.6
JWT	Wachi	36.59	15	P	P	02 48 43.0	+1.0
XAN	Xi'an	36.90	338	P	P	02 48 46.1	+1.5
XAN				pP	sP	02 49 07.0	-2.8
XAN				pmax	pmax		
	comp=Z,19nm,0.8s						
XAN				pmax	pmax		
	comp=Z,95nm,6.0s						
INU	Inuyama	37.10	17	P	P	02 48 47.2	+0.9
CMSA	Cobar Meteorol	37.23	149	P	P	02 48 48.4	+0.9
JGF	Kuroka	37.44	17	P	P	02 48 49.8	+0.6
JGF				IAmb	IAmb	02 48 50.0	
	comp=Z,16nm,1.0s						
KSRS	Korea Array	37.44	5	P	P	02 48 49.0	0.0
	comp=Z,2.9nm,0.7s,baz=183,slow=10,SNR=9.7						
KSRS				PcP	PcP	02 51 07.5	+1.0
	comp=Z,3.3nm,0.7s,baz=203,slow=2.1,SNR=7.2						
KSRS				LR	LR	03 06 57.3	
	comp=Z,31nm,18.0s,baz=165,slow=41						
MJAR	Matsushiro Arr	38.57	18	P	P	02 48 58.2	-0.5
	comp=Z,14nm,0.8s,baz=198,slow=8.5,SNR=24						
MJAR				LR	LR	03 05 09.8	
	comp=Z,26nm,20.4s,baz=208,slow=37						
MAJO	Matsushiro	38.57	18	P	P	02 48 58.5	-0.2
MAJO				IAmb	IAmb	02 48 58.9	
	comp=Z,18nm,0.8s						
MAT	Matsushiro	38.57	18	P	P	02 48 58.0	-0.7
MJB9	Matsu-Tunnel	38.57	18	P	P	02 48 58.7	0.0
MJB9				IAmb	IAmb	02 48 58.9	
	comp=Z,17nm,0.8s						
ARMA	Armidale	39.76	142	P	P	02 49 10.0	+1.2
JSD	Sado	39.97	17	P	P	02 49 11.3	+1.0
SHL	Shillong	40.45	311	P	P	02 49 15.4	+0.7
SHL				IAmb	IAmb	02 49 15.8	
	comp=Z,13nm,1.0s						
JMM	Marumori	40.62	20	P	P	02 49 17.2	+1.6
LZH	Lanzhou	40.73	334	eP	P	02 49 18.5	+1.7
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
CAN	Canberra	41.91	149	P	P	02 49 28.1	+1.7
CAN				IAmb	IAmb	02 49 30.0	
	comp=Z,13nm,0.8s						
TOO	Toolangi	42.10	155	P	P	02 49 29.2	+1.3
HHC	Hu-ho-hao-te	42.34	345	eP	P	02 49 33.4	+3.5
HHC				pmax	pmax		
	comp=Z,19nm,1.2s						
HHC				pmax	pmax		
	comp=Z,150nm,5.3s						
JTM	Tenmabayashi	43.35	18	P	P	02 49 38.5	+0.7
LSA	Lhasa	43.37	316	P	P	02 49 38.2	-0.6
PALK	Pallekele	44.23	280	LR	LR	03 08 01.9	
	comp=Z,40nm,18.7s,baz=198,slow=36						
USA0B	Ussuriysk Arra	44.55	8	P	P	02 49 48.5	+1.0
USA0B				IAmb	IAmb	02 49 50.0	
	comp=Z,19nm,1.1s						
USRK	Ussuriysk Ar.	44.55	8	P	P	02 49 47.3	-0.2
	comp=Z,9.1nm,0.5s,baz=198,slow=7.2,SNR=37						
USRK	Ussuriysk Ar.	44.55	8	P	P	02 49 47.6	+0.1
MDJ	Mudanjiang	44.69	5	P	P	02 49 49.2	+0.6
MDJ				pmax	pmax		
	comp=Z,44nm,0.7s						
MDJ	Mudanjiang	44.69	5	P	P	02 49 48.9	+0.3
SANVU	Saraoutou	44.91	112	P	P	02 49 51.3	+0.6
SANVU				IAmb	IAmb	02 49 53.0	
	comp=Z,24nm,0.9s						
GTA	Gaotai	45.27	333	eP	P	02 49 54.0	+0.6
GTA				pP	pwP	02 50 14.6	+1.5
GTA				PcP	PcP	02 51 33.1	+0.8
GTA				pmax	pmax		
	comp=Z,14nm,1.0s						
GTA				pmax	pmax		
	comp=Z,77nm,6.2s						
GTA				LR	LR		
	comp=Z,66nm,16.0s						
GTA				LR	LR		
	comp=Z,230nm,16.0s						
GUN	Gumba	46.24	310	eP	P	02 50 01.2	-0.3
	comp=Z,24nm,0.4s						
MYLAV	Mylavaram	46.28	293	eP	P	02 50 02.1	+0.6
MYLAV				esP	sP	02 50 25.5	-0.2
PKI	Pulchoki	46.43	309	eP	P	02 50 02.3	-0.7
	comp=Z,4.5nm,0.3s						
PKIN	Phulchoki	46.45	309	eP	P	02 50 02.6	-0.4
	comp=Z,7.7nm,0.4s						
KKN	Kakani	46.64	310	eP	P	02 50 03.6	-0.9
	comp=Z,7.7nm,0.5s						
ADKI	Addanki	46.64	292	eP	P	02 50 04.8	+0.4
DMN	Daman	46.69	309	eP	P	02 50 04.7	-0.2
ASAJ	Asahikawa	46.84	18	LR	LR	03 08 17.4	
	comp=Z,25nm,20.1s,baz=96,slow=34						
JKA	Kamikawa-asahi	46.84	18	P	P	02 50 06.7	+1.1
JKA				IAmb	IAmb	02 50 27.9	
	comp=Z,26nm,1.2s						
GKN	Gorkha	47.24	310	eP	P	02 50 08.6	-0.5
	comp=Z,8.6nm,0.3s						
NJS	Nagarjunasagar	47.45	293	eP	P	02 50 10.6	0.0
RCLA	Racherla	47.48	291	eP	P	02 50 10.7	-0.3
RCLA				esP	sP	02 50 34.2	-1.0
SRLM	Srisailam	47.71	292	eP	P	02 50 12.8	+0.1
KOLN	Koldanda	47.93	309	eP	P	02 50 14.0	-0.5
	comp=Z,33nm,0.6s						
CUPL	Choutuppal	48.00	293	eP	P	02 50 15.1	+0.1
DANN	Dangsing	48.09	309	eP	P	02 50 15.1	-0.7
	comp=Z,28nm,0.5s						
RPR	Rampur	48.12	296	eP	P	02 50 16.0	+0.2
HYBB	Hyderabad (bro	48.38	293	eP	P	02 50 18.1	+0.2
HYBB				esP	sP	02 50 41.8	-0.4
PYUN	Piuthan	48.56	309	eP	P	02 50 19.0	-0.4
	comp=Z,17nm,0.4s						
SRSP	Sriramsagar	49.00	295	eP	P	02 50 22.4	-0.3
KLR	Kul'dur	49.48	6	LR	LR	03 12 51.4	
	comp=Z,20nm,19.7s,baz=269,slow=38						
ULN	Ulaanbaatar	50.05	345	P	P	02 50 32.6	+2.2
SONM	Songino Array	50.20	344	P	P	02 50 30.8	-0.6
	comp=Z,5.4nm,0.7s,baz=160,slow=8.8,SNR=31						
SONM	Songino Array	50.20	344	P	P	02 50 30.7	-0.7
WMQ	Urumqi	54.58	328	eP	P	02 51 05.4	+1.5
WMQ				pmax	pmax		
	comp=Z,14nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.5s						
ZSN	Zaisan	58.49	330	eP	P	02 51 30.6	-0.9
	baz=330						
UZB	Uzynbulak	59.12	323	eP	P	02 51 33.5	-2.6
	baz=323						
MK31	Makanchi Array	59.41	328	P	P	02 51 37.0	-0.9
MK31				IAmb	IAmb	02 51 39.1	
	comp=Z,6.0nm,0.9s						
MKAR	Makanchi Array	59.41	328	P	P	02 51 37.0	-0.9
	comp=Z,8.5nm,0.5s,baz=126,slow=8.2,SNR=115						
MKAR				ScP	ScP	02 56 20.9	+1.0
	comp=Z,0.9nm,0.9s,baz=114,slow=5.6,SNR=3.7						
MKAR				LR	LR	03 17 06.1	
	comp=Z,44nm,21.2s,baz=70,slow=36						
MKAR	Makanchi Array	59.41	328	P	P	02 51 37.2	-0.7
MAKZ	Makanchi	59.59	327	P	P	02 51 37.9	-1.2
MAKZ				IAmb	IAmb	02 51 40.2	
	comp=Z,7.6nm,0.9s						
PEA0B	Petropavlovsk-	59.76	22	P	P	02 51 42.4	+2.3
PETK	Petropavlovsk-	59.76	22	P	P	02 51 41.7	+1.6
	comp=Z,5.4nm,0.6s,baz=198,slow=4.8,SNR=16						
PETK	Petropavlovsk-	59.76	22	P	P	02 51 41.9	+1.8
THZ	Tophouse	60.23	140	P	P	02 51 44.2	+0.6
TNSS	Tian-Shan	60.34	322	eP	P	02 51 44.2	-0.6
	baz=322						
MDOK	Medeo	60.34	322	eP	P	02 51 43.8	-0.7
	baz=322						
TUWZ	Tuamarina	60.74	139	P	P	02 51 47.5	+0.5
KST	Kastek	60.95	321	eP	P	02 51 47.8	-0.9
	baz=321						
KUU	Kurty	61.16	322	eP	P	02 51 48.8	-1.1
	baz=322						
BKZ	Black Stump Fm	61.41	136	P	P	02 51 52.1	+0.4
SGDS	Sogindy	62.00	321	eP	P	02 51 54.2	-1.4
	baz=321						
YAK	Yakutsk	62.03	3	LR	LR	03 21 26.5	
	comp=Z,21nm,18.1s,baz=264,slow=38						
KBL	Kabul	62.07	310	P	P	02 51 55.8	-0.7
SEM	Semipalatinsk	62.73	330	eP	P	02 51 58.0	-2.5
	baz=330						
MA2	Magadan	62.89	15	P	P	02 52 02.4	+1.3
MA2				IAmb	IAmb	02 52 03.0	
	comp=Z,12nm,0.7s						
ZAA0	Zalesovo Array	62.95	335	P	P	02 51 59.7	-1.9
ZALV	Zalesovo Beam	62.95	335	P	P	02 51 59.8	-1.8
	comp=Z,2.6nm,0.3s,baz=130,slow=6.5,SNR=16						
ZALV	Zalesovo Beam	62.95	335	P	P	02 51 59.7	-1.9
KURK	Kurchatov	63.74	329	P	P	02 52 05.6	-1.3
KURK				IAmb	IAmb	02 52 08.2	
	comp=Z,18nm,0.8s						
IUG	Iuzhnay	64.39	318	eP	P	02 52 10.3	-1.2
	baz=318						
KKAR	Karatay Array	64.49	319	P	P	02 52 11.2	-0.8
BRLS	Borolday	64.90	319	eP	P	02 52 13.3	-1.4
	baz=318						
BRZS	Berezniki	66.48	326	eP	P	02 52 23.3	-1.5
	baz=326						
CASY	Casey	66.84	186	P	P	02 52 26.9	+0.3
CASY				IAmb	IAmb	02 52 27.8	
	comp=Z,20nm,1.2s						
WSAR	Wadi Sarin	67.88	295	P	P	02 52 33.3	-0.9
	comp=Z,2.2nm,0.6s,baz=144,slow=8.7,SNR=2.5						
BRVK	Borovoye	69.34	328	P	P	02 52 41.2	-1.3
TIXI	Tiksi	71.63	1	P	P	02 52 55.5	-0.6
TIXI				IAmb	IAmb	02 52 58.3	
	comp=Z,11nm,1.1s						
NRIK	Noril'sk	73.55	347	P	P	02 53 06.5	-1.1
	comp=Z,6.6nm,0.6s,baz=132,slow=5.9,SNR=10						
NRIK	Noril'sk	73.55	347	P	P	02 53 06.9	-0.7
ABKAR	Akbulak array	73.65	322	P	P	02 53 06.7	-1.9
AKTO	Aktyubinsk	75.21	323	P	P	02 53 16.3	-1.4
	comp=Z,6.1nm,0.6s,baz=100,slow=7.1,SNR=33						
AKTO				LR	LR	03 27 43.7	
	comp=Z,47nm,21.7s,baz=121,slow=37						
ARU	Arti	76.91	329	P	P	02 53 25.1	-2.1
	comp=Z,2.2nm,0.5s,baz=34,slow=1.3,SNR=12						
ARU	Arti	76.91	329	P	P	02 53 27.3	+0.1
ARU				IAmb	IAmb	02 53 28.3	
	comp=Z,7.4nm,0.6s						
ABPO	Ambohimpanom	77.91	251	P	P	02 53 33.4	-0.3
ABPO				IAmb	IAmb	02 53 34.5	
	comp=Z,9.1nm,0.8s						
AKUT	Akutan	78.29	34	P	P	02 53 35.4	+0.5
VOI	Vohitsoka	78.54	248	P	P	02 53 36.6	-0.5
VOI	Vohitsoka	78.54	248	P	P	02 53 37.2	+0.1
RAYN	Ar Rayn	79.88	294	P	P	02 53 42.0	-2.3
VNDA	Vanda	80.01	172	P	P	02 53 43.9	0.0
	comp=Z,4.9nm,0.8s,baz=162,slow=3.6,SNR=3.7						
VNDA	Vanda	80.01	172	P	P	02 53 44.5	+0.6
VNDA				IAmb	IAmb	02 53 49.5	
	comp=Z,27nm,1.4s						
ATD	Arta Tunnel	81.78	282	LR	LR	03 29 52.0	
	comp=Z,35nm,18.1s,baz=82,slow=35						
KIRV	Kirov	82.26	329	P	P	02 53 54.9	-1.2
	comp=Z,8.2nm,0.7s,baz=168,slow=2.2,SNR=5.5						
GEVA	Gevas	83.26	308	P	P	02 54 01.5	-0.5
GEVA				IAmb	IAmb	02 54 02.6	
	comp=Z,18nm,1.0s						
KBZ	Khabaz	83.91	314	P	P	02 54 03.5	-1.5
	comp=Z,2.4nm,0.8s,baz=91,slow=4.4,SNR=4.9						
GURO	Guroymak-BITLI	84.08	309	P	P	02 54 06.4	+0.2
GURO				IAmb	IAmb	02 54 06.7	
	comp=Z,7.8nm,0.7s						
KMBO	Kilima Mbogo	87.20	269	P	P	02 54 22.4	+0.1
	comp=Z,1.3nm,0.4s,baz=76,slow=8.1,SNR=8.4						
KMBO	Kilima Mbogo	87.20	269	P	P	02 54 23.0	+0.7
KLMR	Klimovskoe	87.55	331	eP	P	02 54 19.8	-2.8
KLMR				AMP		02 54 21.7	
	comp=Z,17nm,1.1s						
GAZ	Gaziantep	87.81	307	P	P	02 54 23.2	-1.4
SYO	Syowa Base	88.12	201‖	epP	pP	02 54 44.0	+0.6
COLD	Coldfoot	88.22	23	P	P	02 54 26.9	+1.1
COLD				IAmb	IAmb	02 54 27.6	
	comp=Z,6.0nm,0.8s						
I23K	Minto, Yukon-K	88.42	25	P	P	02 54 28.0	+1.3
I23K				IAmb	IAmb	02 54 31.0	
	comp=Z,10nm,1.5s						
ILAR	Eielson Array	89.46	25	P	P	02 54 30.2	-1.4
	comp=Z,0.7nm,0.6s,baz=233,slow=5.0,SNR=9.7						
QSPA	South Pole Qui	89.90	180	P	P	02 54 33.3	-0.5
QSPA				IAmb	IAmb	02 54 35.3	
	comp=Z,19nm,1.4s						
BRTR	Keskin Array B	90.65	310	P	P	02 54 35.5	-2.4
	comp=Z,1.0nm,0.7s,baz=133,slow=5.3,SNR=7.6						
L27K	Beaver Creek,	91.73	27	P	P	02 54 43.1	+0.8
L27K				IAmb	IAmb	02 54 44.2	
	comp=Z,4.3nm,0.8s						
ARCES	ARCESS Array B	93.17	340	P	P	02 54 46.5	-2.3
	comp=Z,2.9nm,0.8s,baz=75,slow=5.1,SNR=10						
ARCES	ARCESS Array B	93.17	340	P	P	02 54 46.8	-2.0
AKASG	Malin Array Be	93.35	321	P	P	02 54 47.8	-2.2
	comp=Z,0.8nm,0.5s,baz=72,slow=4.5,SNR=5.0						
AKASG				LR	LR	03 40 10.2	
	comp=Z,29nm,19.2s,baz=310,slow=38						
FINES	FINESS Array B	94.04	332	P	P	02 54 51.2	-1.6
	comp=Z,1.3nm,0.7s,baz=90,slow=3.8,SNR=6.2						
INK	Inuvik	94.47	21	P	P	02 54 53.0	-1.7
	comp=Z,2.2nm,0.8s,baz=272,slow=8.8,SNR=6.1						
INK	Inuvik	94.47	21	P	P	02 54 54.5	-0.2
MLR	Muntele Rosu	96.00	316	LR	LR	03 44 34.8	
	comp=Z,24nm,18.7s,baz=344,slow=39						
LSZ	Lusaka	96.03	255	LR	LR	03 34 51.6	
	comp=Z,49nm,19.2s,baz=158,slow=33						
A36M	Sachs Harbour	96.23	17	P	P	02 55 03.0	+0.4
A36M				IAmb	IAmb	02 55 10.9	
	comp=Z,2.8nm,0.8s						
BOSA	Boshof	98.06	241	LR	LR	03 36 53.6	
	comp=Z,39nm,18.0s,baz=185,slow=34						
YKA	Yellowknife Ar	103.84	24	Pdiff	Pdif	02 55 37.0	+0.2
	comp=Z,0.2nm,0.5s,baz=296,slow=4.9,SNR=5.7						
YKA				PKiKP	PKiKP	02 59 54.3	0.0
	comp=Z,0.3nm,0.5s,baz=304,slow=1.8,SNR=14						
YKA				PKKPbc	PKKPbc	03 11 25.7	-4.2
	comp=Z,0.6nm,0.8s,baz=115,slow=2.4,SNR=6.7						
NVAR	Mina Array Bea	111.10	48	PKiKP	PKiKP	03 00 10.1	+1.2
	comp=Z,0.3nm,0.8s,baz=343,slow=1.5,SNR=3.6						
PDAR	Pinedale Array	115.67	41	PKKPbc	PKKPbc	03 10 54.1	+2.7
	comp=Z,1.2nm,0.8s,baz=99,slow=5.7,SNR=10						
PDAR	Pinedale Array	115.67	41	PKPdf	PKiKP	03 00 17.4	-0.1
ULM	Lac du Bonnet	119.33	28	PKP	PKPdf	03 00 23.5	-0.5
	comp=Z,2.7nm,0.6s,baz=49,slow=5.0,SNR=3.0						
TORD	Torodi Ar. Bea	121.81	285	PKP	PKPdf	03 00 29.1	-0.6
	comp=Z,1.5nm,0.6s,baz=45,slow=2.3,SNR=12						
SCHQ	Schefferville	124.60	8	PKP	PKPdf	03 00 34.0	0.0
	comp=Z,2.1nm,0.5s,baz=5.9,slow=3.1,SNR=11						
SCHQ	Schefferville	124.60	8		PKiKP	03 00 34.4	0.0
TXAR	Lajitas Array	125.68	53	PKP	PKiKP	03 00 37.9	+0.5
	comp=Z,0.6nm,0.7s,baz=187,slow=5.0,SNR=4.2						
PLCA	Paso Flores	137.19	163	PKP	PKPdf	03 00 59.2	+0.9
	comp=Z,2.4nm,0.7s,baz=231,slow=4.7,SNR=6.5						
CPUP	Villa Florida	153.73	176	PKP	PKPdf	03 01 26.5	0.0
	comp=Z,2.0nm,0.7s,baz=294,slow=4.4,SNR=3.4						
CPUP				PKPbc	PKiKP	03 01 34.9	+0.4
	comp=Z,4.5nm,0.9s,baz=223,slow=1.3,SNR=5.6						
CPUP				PKPab	PKPab	03 01 47.9	+0.7
	comp=Z,3.4nm,0.7s,baz=176,slow=1.7,SNR=4.7						
CPUP	Villa Florida	153.73	176	PKPdf	PKPdf	03 01 24.5	-2.0
LPAZ	La Paz	159.58	143	PKPab	PKPab	03 02 15.3	+1.9
	comp=Z,4.0nm,0.8s,baz=191,slow=3.9,SNR=10						
LPAZ	La Paz	159.58	143		PKPab	03 02 13.7	+0.3
BDFB	Brasilia	162.74	205	PKPab	PKPab	03 02 27.1	+0.6
	comp=Z,1.7nm,0.8s,baz=18,slow=25,SNR=3.6						
SIV	San Ignacio	163.17	161	PKP	PKPdf	03 01 39.3	+1.1
	comp=Z,0.9nm,0.6s,baz=195,slow=1.8,SNR=6.2						
SIV				PKPab	PKPab	03 02 29.0	+0.7
	comp=Z,1.4nm,0.7s,baz=184,slow=4.0,SNR=7.4						

CNRM ***11*** *02:48:26.0, 32°.14N×2°.64W, h8km, ml3.6*
ISC 11 02:48:25.7±1.8, 32°.20N±0°.05×2°.62W±0°.05, h7km±15km, n17, σ1°.18/26, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDRA	Tendrara	0.98	31	P	Pg	02 48 44.2	-0.3
TDRA				S	Sg	02 48 56.8	-0.5
FIGM	Figuig	1.16	93	P	Pb	02 48 48.4	+0.3
FIGM				S	Sn	02 49 04.4	-0.1
MDT	Midelt	1.79	291	P	Pn	02 48 56.6	-0.4
MDT				S	Sn	02 49 20.0	0.0
MD31	MD31	1.93	291	P	Pn	02 48 58.2	-0.8
MD31				S	Sn	02 49 23.8	+0.3
GOLM	Goulmima	2.04	257	P	Pn	02 49 00.7	+0.1
GOLM				S	Sb	02 49 27.9	-0.9
LCRM	LCR	2.40	309	P	Pn	02 49 07.5	+2.0
LCRM				S	Sb	02 49 38.1	-1.0
IFR	Ifrane	2.49	303	P	Pn	02 49 08.2	+1.4
IFR				S	Sn	02 49 37.1	-0.3
TZRR	Tazzarine	2.88	242	P	Pn	02 49 12.3	+0.2
SICH	Sidi Chahed	2.96	311	P	Pn	02 49 12.6	-0.4
CHAS	Isla Isabel II	2.98	3	P	Pb	02 49 20.9	+1.8
CHAS				S	Sb	02 49 54.4	-1.4
PALE	Palemas	3.21	340	P	Pn	02 49 16.6	0.0
ZGR	Zagora	3.30	232	P	Pn	02 49 18.6	+0.8
OUZM	OUZ	3.76	251	P	Pn	02 49 24.6	+0.4
AVE	Averroes	4.18	287	P	Pn	02 49 32.3	+2.4
AVE				S	Sb	02 50 27.7	-2.7
AVE	Averroes	4.18	287	P	Pn	02 49 30.3	+0.3
OUK	Oukaimeden	4.58	259	P	Pn	02 49 36.7	+1.1
TTIG	Tnine Tigouga,	5.24	253	P	Pn	02 49 45.6	+1.0

NEIC ***11*** *02:49:34.6±1.2, 52°.54N±0°.09×163°.97W±0°.09, h35km±9km, mb3.8/5, ML3.5/6, ML3.1/39(AEIC), Error ellipse: s-maj=13.3km s-min=7.6km az=174.0*
IDC ***11*** *02:49:34.7±5.2, 52°.84N×163°.14W, h0km, mb3.2/5, mb1 3.7/7, mb1mx3.4/59, mbtmp3.4/7, ML3.0/2, Error ellipse: s-maj=90.8km s-min=32.4km az=87.0*
AEIC ***11*** *02:49:35.0±1.0, 52°.55N±0°.09×163°.92W±0°.09, h34km±7km, Error ellipse: s-maj=12.9km s-min=7.9km az=170.0*
ISC 11 02:49:34.6±1.0, 52°.58N±0°.09×163°.96W±0°.06, h35km, n69, σ1°.35/77, mb3.3/5, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	1.88	327		Pn	02 50 04.3	+0.2
AKSA					Sn	02 50 27.1	+0.6
AKSA	Akutan Strait	1.88	327		Pn	02 50 04.3	+0.2
AKSA					Sn	02 50 27.0	+0.5
AKUT	Akutan	1.90	326		Pn	02 50 04.8	+0.3
AKUT				IAML		02 50 30.9	
	comp=E,167nm,0.3s						
AKBBA	Akutan Broad B	1.93	323		Pn	02 50 05.3	+0.5
AKBBA					Sn	02 50 28.6	+0.8
AKMO	Akutan Morgan	1.95	322		Pn	02 50 05.6	+0.4
AKMO					Sn	02 50 29.4	+1.0
WESP	Westdahl Peak	1.97	347		Pn	02 50 05.7	+0.2
AKLV	Akutan Long Va	1.99	324		Pn	02 50 06.0	+0.3
AKLV					Sn	02 50 29.9	+0.5
UNV	Unalaska Valle	1.99	311		Pn	02 50 06.0	+0.3
AKRB	Akutan Reef Bi	2.00	322		Pn	02 50 06.5	+0.6
WECS	Westdahl Cape	2.02	346		Pn	02 50 06.5	+0.3
AKGG	Akutan Green G	2.03	324		Pn	02 50 06.7	+0.5
AKGG					Sn	02 50 31.0	+0.6
WE

COLD					IAmb	IAmb	02 53 42.5	
	comp=Z,8.5nm,1.5s							
INK	**Inuvik**	**21.40**	**31**	P		**P**	**02 54 18.9**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=244,slow=9.6,SNR=5.3							
INK	**Inuvik**	**21.40**	**31**	P		**P**	**02 54 20.1**	**+1.3**
C36M	**Paulatuk**	**24.93**	**33**	P		**P**	**02 54 57.9**	**+3.9**
YKA	**Yellowknife Ar**	**27.60**	**50**	P		**P**	**02 55 19.0**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=269,slow=12,SNR=4.0							
YKA	**Yellowknife Ar**	**27.60**	**50**	P		**P**	**02 55 19.3**	**+1.2**
LRM	**Limekiln Ridge**	**33.70**	**81**	P		**P**	**02 56 10.0**	**-2.5**
NVAR	**Mina Array Bea**	**34.37**	**96**	P		**P**	**02 56 18.2**	**0.0**
	comp=Z,0.2nm,0.7s,baz=316,slow=6.3,SNR=2.5							
PDAR	**Pinedale Array**	**37.10**	**83**	P		**P**	**02 56 42.9**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=357,slow=7.2,SNR=2.8							
TXAR	**Lajitas Array**	**49.44**	**93**	P		**P**	**02 58 22.8**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=286,slow=5.1,SNR=3.5							
TXAR	**Lajitas Array**	**49.44**	**93**	P		**P**	**02 58 22.5**	**+1.3**

*KRNET **11** 02:50:17.3±0.1, 39°.38N×75°.43E, mb3.1*
*SOME **11** 02:50:18.2, 39°.83N×74°.97E, h10km*
*NNC **11** 02:50:19.7±2.1, 39°.84N×75°.14E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=14.8km s-min=11.5km az=160.0

ISC 11 02:50:19.9±1.8, 39°.53N±0°.09×75°.30E±0°.04, h10km, n54, σ1§98/83, 21C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.46**	**290**	⇑*eP*	**Pb**	**02 50 47.0**	**-0.4**
	baz=94						
SFK				⇑*eS*	**Sb**	**02 51 08.6**	**+2.5**
	baz=94						
ARLS	**Aral**	**2.44**	**343**	⇑*eP*	**Pn**	**02 51 01.2**	**+1.2**
	baz=42						
ARLS				⇑*iS*	**Sn**	**02 51 33.3**	**+3.2**
	baz=42						
UCH	**Uchtor**	**2.76**	**348**	P	**Pn**	**02 51 05.1**	**+0.5**
	SNR=20						
UCH	**Uchtor**	**2.76**	**348**	⇓*iP*	**Pn**	**02 51 05.8**	**+1.1**
	baz=46						
UCH				⇓*iS*	**Sn**	**02 51 40.8**	**+2.5**
	baz=46						
ULHL	**Ulahol**	**2.81**	**15**	P	**Pn**	**02 51 06.2**	**+1.1**
	SNR=5.4						
ULHL	**Ulahol**	**2.81**	**15**	⇓*iP*	**Pn**	**02 51 05.7**	**+0.6**
	baz=12						
ULHL				⇓*iS*	**Sn**	**02 51 40.6**	**+1.5**
	baz=12						
AML	**Almayashu**	**2.87**	**335**	P	**Pn**	**02 51 07.4**	**+1.3**
	SNR=11						
TARG	**Taragay, Kyrgy**	**2.91**	**40**	⇑*eP*	**Pn**	**02 51 06.4**	**-0.3**
	baz=37						
TARG				⇑*iS*	**Sn**	**02 51 41.7**	**-0.2**
	baz=37						
KDJ	**Kajisay**	**2.97**	**28**	⇑*eP*	**Pn**	**02 51 07.3**	**+0.1**
	baz=25						
KDJ				⇑*iS*	**Sn**	**02 51 43.8**	**+0.8**
	baz=25						
BOOM	**Boomskoye usch**	**3.00**	**9**	⇑*iP*	**Pn**	**02 51 08.3**	**+0.6**
	baz=7.0						
BOOM				⇑*iS*	**Sn**	**02 51 45.1**	**+1.4**
	baz=7.0						
KBK	**Karagaybulak**	**3.13**	**355**	P	**Pn**	**02 51 10.2**	**+0.6**
	SNR=11						
KBK	**Karagaybulak**	**3.13**	**355**	⇑*iP*	**Pn**	**02 51 10.6**	**+1.0**
	baz=54						
KBK				⇑*iS*	**Sn**	**02 51 49.4**	**+2.3**
	baz=54						
AAK	**Ala-Archa**	**3.16**	**349**	P	**Pn**	**02 51 11.0**	**+1.1**
	SNR=15						
AAK	**Ala-Archa**	**3.16**	**349**	Pg	**Pn**	**02 51 10.5**	**+0.6**
	4.5nm,0.4s						
AAK				Lg	Lg	02 51 50.0	
	13nm,0.8s						
AAK	**Ala-Archa**	**3.16**	**349**	⇑*iP*	**Pn**	**02 51 10.9**	**+1.0**
	baz=48						
AAK				⇑*iS*	**Sn**	**02 51 50.3**	**+2.5**
	baz=48						
EKS2	**Erkin-Say**	**3.33**	**340**	⇑*iP*	**Pn**	**02 51 13.4**	**+1.2**
	baz=40						
EKS2				⇑*iS*	**Sn**	**02 51 54.9**	**+3.0**
	baz=40						
TKM2	**Tokmak 2**	**3.40**	**4**	P	**Pn**	**02 51 13.5**	**+0.4**
	SNR=11						
TKM2	**Tokmak 2**	**3.40**	**4**	⇑Pg	**Pn**	**02 51 13.4**	**+0.2**
	2.1nm,0.3s						
TKM2				⇓Lg	Lg	02 51 59.7	
	11nm,0.5s						
TKM2	**Tokmak 2**	**3.40**	**4**	⇑*iP*	**Pn**	**02 51 14.1**	**+0.9**
	baz=2.0						
TKM2				⇑*iS*	**Sn**	**02 51 56.2**	**+2.6**
	baz=2.0						
CHMS	**Chumysh**	**3.49**	**353**	P	**Pn**	**02 51 15.1**	**+0.7**
	SNR=9.6						
KST	**Kastek**	**3.55**	**8**	*eP*	**Pb**	**02 51 20.2**	**-2.6**
	3.6nm,0.4s						
KST				*eS*	**Sb**	**02 52 04.1**	**-1.9**
	16nm,0.2s						
KST	**Kastek**	**3.55**	**8**	Pg	**Pb**	**02 51 20.3**	**-2.6**
	8.8nm,0.4s						
KST				Lg	Lg	02 52 04.1	
	17nm,0.8s						
MRKS	**Merke**	**3.57**	**335**	*eP*	**Pn**	**02 51 17.4**	**+1.9**
	6.1nm,0.5s						
MRKS				*eS*	**Sn**	**02 51 59.5**	**+1.6**
	8.2nm,0.1s						
MRKS	**Merke**	**3.57**	**335**	Pg	**Pn**	**02 51 17.4**	**+1.9**
	6.1nm,0.5s						
MRKS				Lg	Lg	02 51 59.5	
	8.3nm,0.5s						
MTBS	**Maitube**	**3.70**	**13**	*eP*	**Pb**	**02 51 22.0**	**-3.4**
	2.6nm,0.0s						
MTBS				*eS*	**Sb**	**02 52 07.2**	**-3.1**
	9.6nm,0.3s						
MTBS	**Maitube**	**3.70**	**13**	Pg	**Pb**	**02 51 22.0**	**-3.4**
	2.7nm,0.3s						
MTBS				Lg	Lg	02 52 07.2	
	9.6nm,0.6s						
TNSS	**Tian-Shan**	**3.72**	**19**	*eP*	**Pb**	**02 51 23.4**	**-2.5**
	3.0nm,0.3s						
TNSS				*eS*	**Sb**	**02 52 09.6**	**-1.6**
	4.7nm,0.5s						
TNSS	**Tian-Shan**	**3.72**	**19**	Pg	**Pb**	**02 51 23.4**	**-2.5**
	3.0nm,0.3s						
TNSS				Lg	Lg	02 52 09.6	
	4.8nm,1.4s						
DGS	**Degeres**	**3.73**	**5**	*eP*	**Pb**	**02 51 23.9**	**-2.0**
	4.9nm,0.1s						
DGS				*eS*	**Sb**	**02 52 10.7**	**-0.5**
	10nm,0.5s						
DGS	**Degeres**	**3.73**	**5**	Pg	**Pb**	**02 51 23.9**	**-2.0**
	5.0nm,0.7s						
DGS				Lg	Lg	02 52 10.7	
	10nm,0.5s						
TRKS	**Terek-Say**	**3.74**	**304**	⇓*iP*	**Pn**	**02 51 18.4**	**+0.5**
	baz=4.0						
TRKS				⇓*iS*	**Sn**	**02 52 03.2**	**+1.1**
	baz=4.0						
USP	**Ospenovka**	**3.78**	**351**	P	**Pn**	**02 51 18.8**	**+0.5**
	SNR=9.0						
USP	**Ospenovka**	**3.78**	**351**	⇑*iP*	**Pn**	**02 51 19.4**	**+1.1**
	baz=50						
USP				⇑*iS*	**Sn**	**02 52 05.8**	**+2.9**
	baz=50						
MDOK	**Medeo**	**3.86**	**19**	*eP*	**Pb**	**02 51 25.3**	**-2.9**
	2.4nm,0.0s						
MDOK				*eS*	**Sb**	**02 52 12.9**	**-2.2**
	7.9nm,0.4s						
MDOK	**Medeo**	**3.86**	**19**	Pg	**Pb**	**02 51 25.3**	**-2.9**
	2.7nm,0.7s						
MDOK				Lg	Lg	02 52 12.9	
	8.4nm,1.6s						
KOTS	**Kotyrbulak**	**3.95**	**20**	*eP*	**Pb**	**02 51 27.2**	**-2.4**
	3.0nm,0.1s						
KOTS				*eS*	**Sb**	**02 52 16.3**	**-1.2**
	23nm,0.5s						
KOTS	**Kotyrbulak**	**3.95**	**20**	Pg	**Pb**	**02 51 27.2**	**-2.4**
	3.1nm,0.6s						
KOTS				Lg	Lg	02 52 16.3	
	23nm,0.9s						
SGDS	**Sogindy**	**3.95**	**353**	*eP*	**Pb**	**02 51 26.7**	**-3.0**
	1.1nm,0.2s						
SGDS				*eS*	**Sb**	**02 52 15.9**	**-1.7**
	11nm,0.2s						
SGDS	**Sogindy**	**3.95**	**353**	Pg	**Pb**	**02 51 27.9**	**-1.8**
	1.1nm,0.6s						
SGDS				Lg	Lg	02 52 17.4	
	11nm,0.7s						
KRBS	**Karabastau**	**4.17**	**4**	*eP*	**Pb**	**02 51 31.0**	**-2.5**
	3.0nm,0.1s						
KRBS				*eS*	**Sb**	**02 52 23.0**	**-1.0**
	6.2nm,0.2s						
KRBS	**Karabastau**	**4.17**	**4**	Pg	**Pb**	**02 51 31.0**	**-2.5**
	3.0nm,0.4s						
KRBS				Lg	Lg	02 52 23.0	
	6.3nm,0.7s						
SATY	**Saty**	**4.23**	**33**	*eP*	**Pb**	**02 51 34.1**	**-0.4**
	6.8nm,0.0s						
SATY				*eS*	**Sb**	**02 52 28.3**	**+2.6**
	7.0nm,0.1s						
SATY	**Saty**	**4.23**	**33**	Pg	**Pb**	**02 51 34.2**	**-0.4**
	10nm,0.7s						
SATY				Lg	Lg	02 52 28.3	
	7.0nm,2.0s						
KUU	**Kurty**	**4.43**	**10**	*eP*	**Pb**	**02 51 35.6**	**-2.2**
	1.1nm,0.3s						
KUU				*eS*	**Sb**	**02 52 30.8**	**-0.5**
	12nm,0.1s						
KUU	**Kurty**	**4.43**	**10**	Pg	**Pb**	**02 51 35.6**	**-2.2**
	1.1nm,0.8s						
KUU				Lg	Lg	02 52 30.8	
	12nm,0.5s						
CHKK	**Chushkaly**	**4.50**	**16**	*eP*	**Pb**	**02 51 38.4**	**-0.7**
	0.8nm,0.0s						
CHKK				*eS*	**Sb**	**02 52 35.7**	**+2.3**
	6.1nm,0.1s						
UZB	**Uzynbulak**	**4.58**	**37**	*eP*	**Pb**	**02 51 38.9**	**-1.4**
	3.1nm,0.1s						
UZB				*eS*	**Sb**	**02 52 36.6**	**+1.0**
	3.8nm,0.2s						
IUG	**Iuzhnay**	**4.77**	**305**	*eP*	**Pb**	**02 51 40.0**	**-3.8**
	30nm,0.2s						
IUG				*eS*	**Sb**	**02 52 38.3**	**-3.0**
	4.3nm,0.2s						
ARXS	**Arharly**	**5.05**	**21**	*eP*	**Pb**	**02 51 47.0**	**-1.3**
	2.3nm,0.1s						
ARXS				*eS*	**Sb**	**02 52 50.5**	**+1.4**
	5.7nm,0.3s						
ARXS	**Arharly**	**5.05**	**21**	Pg	**Pb**	**02 51 47.0**	**-1.3**
	3.0nm,0.6s						
ARXS				Lg	Lg	02 52 50.5	
	5.9nm,0.8s						
BRLS	**Borolday**	**5.40**	**312**	*eP*	Pb	02 51 49.2	-5.1
	0.8nm,0.0s						
BRLS				*eS*	**Sb**	**02 52 54.3**	**-4.8**
	1.7nm,0.2s						
BRLS	**Borolday**	**5.40**	**312**	Pg	**Pb**	**02 51 52.8**	**-1.5**
	1.2nm,0.1s						
BRLS				Lg	Lg	02 53 00.1	
	1.8nm,0.5s						
BTLS	**Baital**	**5.58**	**351**	*eP*	**Pb**	**02 51 55.3**	**-2.2**
	1.5nm,0.1s						
BTLS				*eS*	**Sb**	**02 53 05.1**	**+0.6**
	2.3nm,0.4s						
BTLS	**Baital**	**5.58**	**351**	Pg	**Pb**	**02 51 59.5**	**+2.0**
	1.4nm,0.4s						
BTLS				Lg	Lg	02 53 11.4	
	3.3nm,0.8s						

*WEL **11** 02:51:07.6±0.9, 33°.S±7°.×17°.8W±1°.8, h33km, M4.9/13, mB5.2/6, ML5.3/13, MLv5.1/13, Mw(mB)4.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=109.7*
*IDC **11** 02:51:13.4±3.7, 33°.02S×178°.46W, h45km±32km, mb4.4/10, mb1 4.5/13, mb1mx4.2/47, mbtmp4.6/13, ML4.6/3, MS4.0/35, Ms1 4.0/35, ms1mx3.9/56, Error ellipse: s-maj=26.2km s-min=22.3km az=27.0*
*NEIC **11** 02:51:13.2±1.8, 33°.16S±0°.06×178°.6W±0°.1, h35km±4km, mb4.8/24, Error ellipse: s-maj=18.8km s-min=5.6km az=114.0*

ISC 11 02:51:11.7±0.5, 32°.98S±0°.06×178°.30W±0°.09, h32km, n151, σ1§74/135, mb4.8/30, MS4.0/37, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.72**	**5**	P	Pn	02 52 01.6	-5.3
GLKZ				S	**Sn**	**02 52 43.0**	**-6.6**
RAO	**Raoul Island**	**3.73**	**5**	Pn	**Pn**	**02 52 11.0**	**+4.0**
RIZ	**Raoul Island**	**3.74**	**5**	P	**Pn**	**02 52 04.0**	**-3.1**
MXZ	**Matakaoa Point**	**5.35**	**210**	P	**Pn**	**02 52 27.9**	**-1.3**
MXZ				S	**Sn**	**02 53 31.4**	**+1.7**
MXZ	**Matakaoa Point**	**5.35**	**210**	Pn	**Pn**	**02 52 26.5**	**-2.8**
WMGZ	**Waiomatatini S**	**5.52**	**208**	P	**Pn**	**02 52 31.1**	**-0.5**
WMGZ				S	**Sn**	**02 53 37.4**	**+3.3**
PKGZ	**Pakihiroa**	**5.72**	**210**	P	**Pn**	**02 52 33.3**	**-1.1**
PKGZ				S	**Sn**	**02 53 39.3**	**+0.3**
HAZ	**Te Kaha**	**5.74**	**213**	P	**Pn**	**02 52 34.2**	**-0.5**
HAZ				S	**Sn**	**02 53 42.2**	**+2.8**
PUZ	**Puketiti**	**5.80**	**208**	P	**Pn**	**02 52 33.3**	**-2.2**
RUGZ	**Raukumara Rang**	**5.96**	**212**	P	**Pn**	**02 52 36.5**	**-1.3**
RUGZ				S	**Sn**	**02 53 48.1**	**+3.1**
TWGZ	**Tauwhareparae**	**6.01**	**209**	P	**Pn**	**02 52 37.2**	**-1.2**
TWGZ				S	**Sn**	**02 53 46.9**	**+0.9**
CNGZ	**Carnagh Statio**	**6.18**	**206**	P	**Pn**	**02 52 39.2**	**-1.6**
MWZ	**Matawai**	**6.33**	**211**	P	**Pn**	**02 52 40.4**	**-2.4**
MWZ				S	**Sn**	**02 53 54.1**	**+0.2**
OPRZ	**Ohinepanea**	**6.42**	**219**	P	**Pn**	**02 52 44.2**	**+0.3**
OPRZ				S	**Sn**	**02 54 00.5**	**+4.5**
URZ	**Urewera**	**6.46**	**214**	P	**Pn**	**02 52 43.0**	**-1.4**
	12nm,0.3s,baz=248,slow=3.7,SNR=37						
URZ				S	**Sn**	**02 53 56.0**	**-1.0**
	7.9nm,0.3s,baz=296,slow=19,SNR=8.3						
URZ	**Urewera**	**6.46**	**214**	P	**Pn**	**02 52 42.5**	**-2.0**
URZ				S	**Sn**	**02 53 56.9**	**-0.2**
URZ	**Urewera**	**6.46**	**214**		**Pn**	**02 52 42.3**	**-2.2**
PRGZ	**Paritu Road**	**6.69**	**206**	P	**Pn**	**02 52 45.0**	**-2.7**
PRGZ				S	**Sn**	**02 54 01.3**	**-1.5**
KARZ	**Kaharoa**	**6.71**	**220**	P	**Pn**	**02 52 48.6**	**+0.6**
RTZ	**Ruatahuna**	**6.80**	**213**	P	**Pn**	**02 52 48.6**	**-0.8**
RAHZ	**Arahi**	**7.00**	**211**	P	**Pn**	**02 52 51.3**	**-0.8**
RAHZ				S	**Sn**	**02 54 09.3**	**-1.3**
BFZ	**Birch Farm**	**8.84**	**208**	Pn	**Pn**	**02 53 13.9**	**-3.3**
RPZ	**Rata Peaks**	**13.57**	**215**	Pn	Pn	02 54 16.1	-5.9
MSVF	**Nonsavu**	**15.53**	**347**	P	**Pn**	**02 54 50.1**	**+1.6**
	0.3nm,0.3s,baz=146,slow=13,SNR=4.7						
MSVF				LR	LR	02 59 51.9	
	comp=Z,636nm,18.6s,baz=166,slow=33						
OUENC	**Ouen Island, N**	**16.83**	**305**	P	**P**	**02 55 10.1**	**+3.3**
OUENC				IAmb	IAmb	02 55 11.6	
	comp=Z,94nm,1.2s						
DZM	**Mont Dzumac**	**17.33**	**305**	P	**Pn**	**02 55 12.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=97,slow=11,SNR=6.7						
DZM				LR	LR	03 00 42.8	
	comp=Z,1μm,19.0s,baz=160,slow=33						
DZM	**Mont Dzumac**	**17.33**	**305**	*e*Pn	**P**	**02 55 13.3**	**+0.8**
	comp=Z,102nm,1.5s						
DZM				*e*LR	LR	02 59 20.8	
	comp=Z,1μm,22.9s						
DZM	**Mont Dzumac**	**17.33**	**305**	P	**P**	**02 55 12.5**	**0.0**
RAR	**Rarotonga**	**20.20**	**59**	LR	LR	03 01 26.6	
	comp=Z,136nm,21.5s,baz=271,slow=30						
SANVU	**Saraoutou**	**21.85**	**320**	P	**P**	**02 56 02.9**	**+1.3**
SANVU				IAmb	IAmb	02 56 16.3	
	comp=Z,28nm,0.8s						
ARMA	**Armidale**	**25.67**	**268**	P	**P**	**02 56 38.6**	**-0.2**
TBI	**Tubuai**	**27.10**	**77**	*e*LR	LR	03 03 35.4	
	comp=Z,333nm,31.2s						
TBI	**Tubuai**	**27.10**	**77**	*e*T	T	03 25 09.6	
	comp=Z,5.1nm,0.3s						
EIDS	**Eidsvold**	**27.72**	**278**	P	**P**	**02 56 57.1**	**-0.1**
PAE	**Paea**	**29.98**	**66**	*e*T	T	03 28 43.2	
	comp=Z,1.0nm,0.3s						
PPT2	**Papeete2**	**30.03**	**66**	*e*LR	LR	03 04 54.7	
	comp=Z,274nm,25.5s,baz=247						
PPT	**Papeete**	**30.04**	**66**	LR	LR	03 06 02.4	
	comp=Z,118nm,20.5s,baz=227,slow=30						
HNR	**Honiara**	**30.85**	**315**	LR	LR	03 08 50.0	
	comp=Z,199nm,18.3s,baz=246,slow=34						
STKA	**Stephens Creek**	**33.73**	**261**	P	**P**	**02 57 50.5**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=108,slow=11,SNR=6.7						
STKA				PcP	**PcP**	**03 00 28.9**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=49,slow=2.1,SNR=4.1						
STKA				LR	LR	03 10 59.6	
	comp=Z,592nm,18.2s,baz=47,slow=35						
STKA	**Stephens Creek**	**33.73**	**261**	P	**P**	**02 57 51.1**	**+0.9**
CTA	**Charters Tower**	**34.05**	**283**	P	**P**	**02 57 53.5**	**+0.4**
	comp=Z,8.9nm,0.7s,baz=111,slow=10,SNR=6.8						
CTAO	**Charters Tower**	**34.05**	**283**	P	**P**	**02 57 53.7**	**+0.6**
BBOO	**Buckleboo**	**38.09**	**257**	P	**P**	**02 58 26.8**	**-0.7**
BBOO				IAmb	IAmb	02 58 27.3	
	comp=Z,10.0nm,1.0s						
PMG	**Port Moresby**	**39.54**	**299**	LR	LR	03 12 53.7	
	comp=Z,220nm,18.6s,baz=111,slow=33						
COEN	**Coen**	**39.80**	**289**	P	**P**	**02 58 42.3**	**+0.3**
TAOE	**Nuku Hiva Isla**	**42.60**	**64**	*e*LR	LR	03 10 48.4	
	comp=Z,122nm,24.3s						
AS31	**Alice Springs**	**42.78**	**270**	P	**P**	**02 59 05.4**	**-1.1**
ASAR	**Alice Springs**	**42.78**	**270**	P	**P**	**02 59 05.7**	**-0.8**
	comp=Z,13nm,0.7s,baz=111,slow=7.5,SNR=154						
ASAR				LR	LR	03 17 30.8	
	comp=Z,190nm,18.2s,baz=109,slow=37						
WR0	**Warramunga Arr**	**43.82**	**275**	P	**P**	**02 59 13.6**	**-1.3**
WR0				IAmb	IAmb	02 59 14.8	
	comp=Z,9.6nm,0.6s						
WB2	**Warramunga Arr**	**43.99**	**275**	P	**P**	**02 59 14.7**	**-1.6**
WB2				IAmb	IAmb	02 59 16.1	
	comp=Z,17nm,0.7s						
WRAB	**Tennant Creek**	**43.99**	**275**	P	**P**	**02 59 14.0**	**-2.3**
WRAB				IAmb	IAmb	02 59 28.1	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**44.00**	**275**	P	**P**	**02 59 14.2**	**-2.1**
	comp=Z,57nm,0.5s,baz=116,slow=7.5,SNR=2.3						
WRA				LR	LR	03 16 25.7	
	comp=Z,212nm,19.1s,baz=116,slow=34						
FORT	**Forrest**	**45.19**	**258**	P	**P**	**02 59 23.5**	**-2.3**
VNDA	**Vanda**	**45.51**	**186**	LR	LR	03 15 03.3	
	comp=Z,165nm,18.4s,baz=7.5,slow=32						
MTN	**Manton Dam**	**50.18**	**281**	P	**P**	**03 00 03.0**	**-1.6**
MTN				IAmb	IAmb	03 00 04.1	
	comp=Z,12nm,1.1s						
KNRA	**Kununurra**	**50.69**	**277**	P	**P**	**03 00 06.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**52.15**	**272**	P	**P**	**03 00 18.1**	**-1.2**
	comp=Z,11nm,0.8s,baz=158,slow=6.8,SNR=32						
FAKI	**Fak Fak**	**55.03**	**292**	P	**P**	**03 00 38.9**	**-1.6**
	comp=Z,23nm,0.8s						
FAKI	**Fak Fak**	**55.03**	**292**	P	**P**	**03 00 39.3**	**-1.2**
MORW	**Morawa**	**55.59**	**255**	P	**P**	**03 00 42.8**	**-1.6**
MORW				IAmb	IAmb	03 00 57.8	
	comp=Z,8.7nm,1.1s						
SIJI	**Sorong**	**57.08**	**293**	P	**P**	**03 00 53.7**	**-1.4**
	comp=Z,7.6nm,0.6s,baz=98,slow=6.6,SNR=6.1						
SIJI				LR	LR	03 26 10.7	
	comp=Z,145nm,18.1s,baz=172,slow=37						
SWI	**Sorong**	**57.09**	**293**	P	**P**	**03 00 55.5**	**+0.3**
	comp=Z,20nm,1.1s						
QSPA	**South Pole Qui**	**57.14**	**180**	LR	LR	03 23 03.6	
	comp=Z,138nm,19.0s,baz=22,slow=34						
MSAI	**Masohi**	**57.38**	**289**	P	**P**	**03 00 59.3**	**+2.0**
	comp=Z,11nm,0.7s						
SOEI	**Soe**	**57.51**	**280**	P	**P**	**03 00 58.8**	**+0.5**
SOEI	**Soe**	**57.51**	**280**	P	**P**	**03 00 58.2**	**-0.1**
AAI	**Ambon**	**57.76**	**288**	P	**P**	**03 01 00.1**	**+0.2**
	comp=Z,52nm,0.6s						
BATI	**Baumata**	**57.76**	**279**	P	**P**	**03 00 59.5**	**-0.5**
	comp=Z,29nm,0.6s,baz=127,slow=2.1,SNR=4.0						
BATI				LR	LR	03 25 13.2	
	comp=Z,351nm,18.1s,baz=216,slow=35						
RPN	**Rapa Nui**	**59.03**	**104**	LR	LR	03 23 01.5	
	comp=Z,71nm,18.1s,baz=240,slow=32						
MMRI	**Maumere**	**59.79**	**280**	P	**P**	**03 01 13.3**	**-0.8**
MMRI	**Maumere**	**59.79**	**280**	P	**P**	**03 01 12.7**	**-1.4**
EDFI	**Ende, Flores**	**60.18**	**279**	P	**P**	**03 01 15.5**	**-1.4**
	comp=Z,4.9nm,1.1s						
TNTI	**Ternate**	**61.13**	**292**	P	**P**	**03 01 22.5**	**-0.7**
	comp=Z,24nm,0.8s						
KAPI	**Kappang**	**63.84**	**282**	LR	LR	03 29 07.2	
	comp=Z,95nm,18.5s,baz=150,slow=36						
GTOI	**Gorontalo**	**64.48**	**289**	P	**P**	**03 01 44.5**	**-1.0**
	comp=Z,4.5nm,0.7s						
TOLI2	**Tolitoli**	**66.54**	**288**	P	**P**	**03 01 56.5**	**-2.3**
TOLI2				IAmb	IAmb	03 01 58.8	
	comp=Z,9.4nm,1.0s						
MPSI	**Mapaga**	**66.80**	**286**	P	**P**	**03 01 58.8**	**-1.7**
LEM	**Lembang**	**72.97**	**273**	LR	LR	03 35 06.7	
	comp=Z,166nm,19.7s,baz=174,slow=36						
SNAA	**Sanae**	**75.59**	**179**	P	**P**	**03 02 53.1**	**+0.2**
SNAA	**Sanae**	**75.59**	**179**	P	**P**	**03 02 52.5**	**-0.4**
SNAA				IAmb	IAmb	03 03 04.4	
	comp=Z,11nm,1.0s						
VNA3	**Neumayer Olymp**	**75.76**	**176**	P	**P**	**03 02 54.6**	**+0.8**
VNA2	**Neumayer--Watz**	**76.19**	**177**	P	**P**	**03 02 56.8**	**+0.6**
	baz=176,slow=4.3						
VNA1	**Neumayer--Stat**	**76.42**	**177**	P	**P**	**03 02 57.8**	**+0.3**
MJAR	**Matsushiro Arr**	**80.22**	**326**	LR	LR	03 32 48.7	
	comp=Z,50nm,21.8s,baz=139,slow=31						
PLCA	**Paso Flores**	**80.94**	**133**	P	**P**	**03 03 24.6**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=151,slow=3.4,SNR=3.1						
PLCA				LR	LR	03 32 13.2	
	comp=Z,44nm,19.0s,baz=136,slow=30						
PLCA	**Paso Flores**	**80.94**	**133**	P	**P**	**03 03 24.9**	**+1.8**
PLCA				IAmb	IAmb	03 03 37.5	
	comp=Z,13nm,1.4s						
LC01	**Cunco**	**81.18**	**131**	P	**P**	**03 03 25.5**	**+1.2**
LC01				IAmb	IAmb	03 03 37.6	
	comp=Z,8.6nm,0.9s						
PSI	**Prapat**	**85.45**	**276**	LR	LR	03 42 21.7	
	comp=Z,127nm,20.0s,baz=114,slow=36						
LPIG	**La Paz**	**86.11**	**58**	LR	LR	03 37 46.4	
	comp=Z,49nm,18.1s,baz=224,slow=32						
KSRS	**Korea Array**	**86.14**	**320**	LR	LR	03 40 08.8	
	comp=Z,29nm,19.0s,baz=225,slow=34						
NJ2	**Nanjing**	**87.73**	**311**	*e*P	**P**	**03 04 01.4**	**+4.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PFO	**Pinyon Flats O**	**88.14**	**47**	LR	LR	03 40 24.1	
	comp=Z,72nm,18.7s,baz=346,slow=33						

comp=Z,5.0nm,0.9s,baz=110,slow=2.1,SNR=10
FINES FINESS Array B 147.46 338 PKPbc **PKPbc 03 10 51.2 -0.3**
comp=Z,15nm,0.6s,baz=42,slow=3.2,SNR=39
VSU Vasula 149.45 334 *e*P **PKPdf 03 10 54.8 +2.5**
NB2 NORSAR Subarra151.25 350 PKP **PKPbc 03 11 01.1 0.0**
comp=Z,3.7nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B151.25 350 PKPbc **PKPbc 03 11 00.8 -0.4**
comp=Z,4.7nm,0.9s,baz=19,slow=4.7,SNR=19
IDID Didziasalis 151.62 329 *e*P **PKPbc 03 11 01.6 -0.5**
MNK Minsk 151.64 327 *i* PKP **PKPbc 03 11 01.4 -0.7**
comp=E,2.0nm,1.1s
MNK *i* PKP **PKPbc 03 11 01.4 -0.7**
comp=N,15nm,1.0s
MNK *i* PKP **PKPbc 03 11 01.4 -0.7**
comp=Z,10.0nm,0.8s,baz=230
MNK *i* SKP 03 14 31.4
MNK *i* PP **PP 03 14 48.7 +6.5**
MNK *i* PPP PPP 03 18 13.3
MNK *i* SKS SKSdf 03 18 16.9 +16
MNK *i* SS SS 03 34 18.7 +13
MNK *i* SSS SSS 03 39 58.0
MNK *i* LR LR 04 16 00.1
MNK *i* LRM MLR 04 18 58.8
comp=N,218nm,15.2s
MNK *i* LRM MLR 04 19 05.3
comp=Z,238nm,19.5s
MNK *i* LRM MLR 04 19 06.0
comp=E,44nm,18.8s
ISAL Salakas 151.71 330 *e*P **PKiKP 03 11 03.3 +0.6**
IIGN Ignalina 151.82 330 *e*P **PKPbc 03 11 02.5 0.0**
NACGM Naroch 151.88 329 *i* PKP **PKPbc 03 11 02.3 -0.4**
PABE Paberze 152.63 332 *e*P **PKPbc 03 11 04.3 0.0**
DBIC Dimbokro 153.12 165 PKPbc **PKPbc 03 11 07.0 +0.2**
comp=E,5.8nm,1.1s,baz=210,slow=3.0,SNR=4.0
DBIC Dimbokro 153.12 165 PKPbc 03 11 05.0 -1.7
AKASG Malin Array Be 153.14 319 PKPbc **PKPbc 03 11 05.0 -0.6**
comp=E,2.7nm,0.7s,baz=59,slow=2.4,SNR=14
BRTR Keskin Array B 153.50 294 PKPbc **PKPbc 03 11 06.6 -0.4**
comp=E,3.7nm,0.8s,baz=131,slow=3.9,SNR=20
SUW Suwalki 154.02 330 *e*P **PKPab 03 11 15.1 -5.9**
MORC Moravsky Berou 159.50 330 *e*PKP **PKPab 03 11 46.4 +1.6**
DPC Dobruska-Polom 159.56 332 *e*PKPAB **PKPab 03 11 43.7 -1.3**
KRLC Kraliky 159.59 331 *e*PKPAB **PKPab 03 11 44.4 -0.7**
VYHS Vyhne 159.85 325 *e*PKP **PKPab 03 11 46.0 -0.3**
CLL Collm 159.90 339 *e*PKPab **PKPab 03 11 46.0 -0.3**
CLL *i* pPKPab **pPKPab 03 11 56.2 +1.4**
BRG Berggiesshubel 159.98 337 *e*PKP **PKPab 03 11 46.4 -0.3**
BRG Amp 03 11 48.2
comp=Z,14nm,1.3s
TORD Torodi Ar. Bea 160.26 180 PKPab **PKPab 03 11 47.6 -1.2**
comp=Z,0.7nm,0.6s,baz=206,slow=3.1,SNR=2.9
TORD Torodi Ar. Bea 160.26 180 PKPab 03 11 48.1 -0.7
VRAC Vranov 160.26 330 *e*PKP **PKPab 03 11 47.4 -0.6**
KRUC Moravsky 160.53 330 *e*PKP **PKPab 03 11 48.6 -0.6**
MODS Modra-Piesok 160.67 327 *e*PKP **PKPab 03 11 50.5 +0.7**
CKRC Cesky Krumlov 161.57 333 *e*PKPAB **PKPab 03 11 52.7 -1.0**
KHC Kasperske Hory 161.58 335 *e*PKPab **PKPab 03 11 53.4 -0.4**
CONA Conrad Observa 161.63 329 *e*P **PKPab 03 11 53.6 -0.6**
comp=Z,12nm,1.9s
GERES GERESS Array B 161.78 334 PKPab **PKPab 03 11 53.7 -1.0**
comp=Z,1.3nm,0.8s,baz=44,slow=4.2,SNR=8.6
GERES GERESS Array B 161.78 334 PKPab 03 11 54.2 -0.6
RETA Reutte 163.96 337 *e*P **PKPab 03 12 04.0 -0.3**
comp=Z,9.0nm,1.5s
FETA Feichten 164.38 336 *e*P **PKPdf 03 11 13.0 +1.1**
comp=Z,12nm,1.9s
FETA *e*P **PKPab 03 12 05.5 -0.8**
comp=Z,13nm,1.9s

IDC 11 02:58:52.9±1.3, 32°.90S×178°.49W, h0km, mb3.4/1, mb1 3.7/2, mb1mx3.5/37, mbtmp3.6/2, ML3.6/1, Error ellipse: s-maj=34.2km s-min=9.9km az=110.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.43**	**213**	Pn	Pn	03 00 29.7	+0.9
	1.3nm,0.3s,baz=284,slow=5.1,SNR=6.3						
URZ				Sn	Sn	03 01 42.7	-0.3
	1.1nm,0.3s,baz=75,slow=1.4,SNR=1.5						
ASAR	**Alice Springs**	**42.62**	**270**	P	P	03 06 51.2	+0.1
	0.4nm,0.6s,baz=107,slow=7.3,SNR=5.9						
WRA	**Warramunga Arr**	**43.83**	**275**	P	P	03 07 00.8	-0.2
	118nm,0.6s,baz=114,slow=8.0,SNR=2.2						
FINES	**FINESS Array B**	**147.33**	**338**	PKPbc	PKPdf	03 18 36.3	+1.1
	3.0nm,0.9s,baz=40,slow=2.4,SNR=6.1						

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*SSNC **11** 03:00:47.6±0.9, 19°.88N×75°.48W, h42km±7km, MD3.3, ML3.0, MW3.1*
*JSN **11** 03:00:50.9±0.8, 19°.45N×75°.71W, h0km±167km, MD3.9*
ISC 11 03:00:45.4±1.3, 19°.89N±0°.05×75°.52W±0°.04, h49km±13km, n13, σ1°.84/21, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.20**	**303**	*e*P	Pn	03 00 54.3	+0.5
GTBY	**Guantanamo Bay**	**0.39**	**84**	*e*P	Pn	03 00 56.0	+0.7
GTBY				*e*S	Sn	03 01 02.4	-0.1
GTMO	**Guantanamo**	**0.41**	**61**	*e*P	Pn	03 00 56.9	+1.4
MOAC	**Moa**	**0.93**	**34**	*e*P	Pn	03 01 02.9	+0.6
MOAC				*e*S	Sn	03 01 13.6	-1.0
MOAC				IAML		03 01 19.6
	comp=N,216nm,0.2s						
MOAC				IAML		03 01 22.3
	comp=E,270nm,0.3s						
HLGC	**Holguin**	**1.12**	**333**	*e*P	Pn	03 01 08.2	+3.3
HLGC				IAML		03 01 27.6
	comp=E,250nm,0.6s						
HLGC				IAML		03 01 27.8
	comp=N,188nm,0.4s						
MASC	**Masc**	**1.25**	**76**	*e*P	Pn	03 01 07.0	+0.5
MASC				*e*S	Sn	03 01 20.8	-1.4
MASC				IAML		03 01 28.9
	comp=E,219nm,0.3s						
MASC				IAML		03 01 30.4
	comp=N,213nm,0.3s						
LMGC	**Las Mercedes**	**1.41**	**278**	*e*P	Pn	03 01 10.3	+1.6
LMGC				*e*S	Sn	03 01 26.5	+0.4
CMJ	**Castle Mountai**	**1.92**	**205**	*i* P	Pn	03 01 17.2	+1.5
GWJ	**Greenwich**	**2.13**	**213**	*i* P	Pn	03 01 20.1	+1.3
STH	**Stony Hill**	**2.17**	**214**	*i* P	Pn	03 01 20.4	+1.1
STH				*i* S	Sn	03 01 42.6	-2.4
CCCC	**Cccc**	**2.48**	**302**	*e*P	Pn	03 01 22.9	-0.5
CCCC				*e*S	Sn	03 01 48.7	-3.7
MTDJ	**Mount Denham**	**2.52**	**229**	*e*P	Pn	03 01 25.3	+1.3
MTDJ				*e*S	Sn	03 01 51.1	-2.5
MCJ	**Malvern**	**2.83**	**227**	*i* P	Pn	03 01 30.4	+2.1
MCJ				*i* S	Sn	03 02 00.6	-0.6

IDC 11 03:01:54.2±2.5, 11°.24S×66°.45E, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.3/43, mbtmp3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/79, Error ellipse: s-maj=97.4km s-min=40.5km az=51.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.94**	**60**	T	T	03 10 46.2	
	baz=238,slow=75,SNR=25						
H08S2	**Diego Garcia H**	**6.95**	**60**	T	T	03 10 47.2	
	baz=238,slow=75,SNR=21						
H08S3	**Diego Garcia H**	**6.95**	**59**	T	T	03 10 48.9	
	baz=238,slow=75,SNR=27						
LBTB	**Lobatse**	**41.00**	**245**	LR	LR	03 24 05.7	
	comp=Z,50nm,18.7s,baz=206,slow=32						
H01W3	**Cape Leeuwin H**	**49.22**	**127**	T	T	04 03 13.3	
	baz=286,slow=75,SNR=63						
H01W2	**Cape Leeuwin H**	**49.22**	**127**	T	T	04 03 13.4	
	baz=286,slow=75,SNR=67						
H01W1	**Cape Leeuwin H**	**49.24**	**127**	T	T	04 03 14.5	
	baz=286,slow=75,SNR=70						
ASAR	**Alice Springs**	**65.03**	**111**	P	P	03 12 37.4	+0.5
	0.4nm,0.9s,baz=277,slow=6.3,SNR=5.6						
WRA	**Warramunga Arr**	**65.61**	**107**	P	P	03 12 39.7	-0.8
	2um,1.0s,baz=279,slow=5.6,SNR=1.6						
SONM	**Songino Array**	**68.68**	**28**	P	P	03 12 59.8	+0.2
	0.7nm,0.7s,baz=214,slow=5.3,SNR=5.6						
PDAR	**Pinedale Array**	**148.40**	**354**	PKPbc	PKPbc	03 21 42.1	-1.1
	0.4nm,0.7s,baz=64,slow=4.1,SNR=4.7						
NVAR	**Mina Array Bea**	**152.59**	**8**	PKPbc	PKiKP	03 21 53.6	0.0
	0.6nm,0.8s,baz=354,slow=1.6,SNR=4.6						

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*NIED **11** 03:09:02.2, 34°.97N×134°.81E, h13km, MW3.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^13^Nm; Mrr=0.80; Mθθ=2.21; Mφφ=-1.41; Mrθ=-1.70; Mθφ=7.25; Mφr=0.79; Fault plane solution: Mo7.67000×10^13^ NP1: φs=277.00000°, δ85.00000°, λ11.00000°. NP2: φs=186.00000°, δ79.00000°, λ175.00000°.*
JMA 11 03:09:02.2, 34°.97N×134°.81E, h13km, M3.7, 2C, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKS	**Kasai**	**0.03**	**66**	⇑P	Pg	03 09 04.5	-0.1
JKS				S	Sg	03 09 06.0	-0.2
JMIK	**Miki**	**0.26**	**129**	⇑P	Pg	03 09 07.6	0.0
JMIK				S	Sg	03 09 11.5	+0.2
MAT	**Matsushiro**	**3.18**	**59**	P	Pn	03 09 53.1	+1.2
MAT				*e*S	Sb	03 10 33.9	-3.3

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*NEIC **11** 03:31:01.7±1.5, 15°.6S±0°.2×177°.0W±0°.2, h390km±8km, mb4.0/30, Error ellipse: s-maj=40.0km s-min=16.7km az=144.0*
*IDC **11** 03:31:02.9±2.4, 15°.16S×177°.38W, h401km±25km, mb3.5/8, mb1 3.8/9, mb1mx3.5/25, mbtmp4.3/9, Error ellipse: s-maj=52.9km s-min=17.0km az=145.0*
ISC 11 03:31:01.7±0.6, 15°.7S±0°.2×177°.1W±0°.2, h400km, n78, σ0°.87/80, mb4.0/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.13**	**246**	P	Pn	03 32 26.6	+1.5
	34nm,0.3s,baz=322,slow=21,SNR=128						
MSVF	**Nonsavu**	**5.13**	**246**		Pn	03 32 26.4	+1.3
OUZ	**Omahuta**	**21.21**	**202**	P	P	03 35 16.6	-0.4
OUZ				IAmb	IAmb	03 35 17.1	
	comp=Z,10nm,1.0s						
MLZ	**Mavora Lakes**	**32.14**	**200**	P	P	03 36 51.1	-2.8
MLZ				IAmb	IAmb	03 36 51.8	
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**40.87**	**239**	P	P	03 38 06.3	-0.5
	comp=Z,0.6nm,0.3s,baz=42,slow=9.1,SNR=4.4						
STKA	**Stephens Creek**	**40.87**	**239**	P	P	03 38 06.5	-0.3
BBOO	**Buckleboo**	**45.65**	**239**	P	P	03 38 43.6	-0.8
BBOO				IAmb	IAmb	03 38 43.9	
	comp=Z,8.1nm,1.1s						
WR0	**Warramunga Arr**	**46.17**	**257**	P	P	03 38 48.9	+0.2
WB2	**Warramunga Arr**	**46.35**	**257**	P	P	03 38 50.0	-0.1
WRA	**Warramunga Arr**	**46.36**	**257**	P	P	03 38 49.0	-1.1
	comp=Z,80nm,0.5s,baz=95,slow=8.1,SNR=2.1						
WRA	**Warramunga Arr**	**46.36**	**257**	P	P	03 38 50.5	+0.3
AS31	**Alice Springs**	**46.68**	**252**	P	P	03 38 53.2	+0.5
AS31				IAmb	IAmb	03 38 53.6	
	comp=Z,4.0nm,0.5s						
ASAR	**Alice Springs**	**46.68**	**252**	P	P	03 38 52.7	+0.1
	comp=Z,9.2nm,0.5s,baz=87,slow=7.7,SNR=292						
ASAR	**Alice Springs**	**46.68**	**252**	P	P	03 38 53.1	+0.5
FORT	**Forrest**	**52.16**	**243**	P	P	03 39 32.5	-0.8
FORT				IAmb	IAmb	03 39 33.1	
	comp=Z,6.0nm,0.6s						
MORW	**Morawa**	**62.59**	**245**	P	P	03 40 45.2	0.0
MORW				IAmb	IAmb	03 40 45.6	
	comp=Z,2.7nm,0.5s						
YBH	**Yreka Blue Hor**	**75.97**	**39**	P	P	03 42 07.0	+0.9
YERR	**Yerington**	**76.59**	**43**	P	P	03 42 09.6	-0.2
NVAR	**Mina Array Bea**	**76.91**	**44**	P	P	03 42 11.8	+0.3
	comp=Z,0.9nm,0.7s,baz=226,slow=8.7,SNR=9.9						
NV11	**Mina Array Sit**	**77.01**	**44**	P	P	03 42 12.0	0.0
KVN	**Kaiserville**	**77.38**	**43**	P	P	03 42 14.2	+0.1
MOD	**Modoc Plateau**	**77.54**	**40**	P	P	03 42 15.2	+0.4
MOD				IAmb	IAmb	03 42 16.4	
	comp=Z,2.3nm,1.1s						
K05A	**Summer Lake**	**77.64**	**39**	P	P	03 42 16.0	+0.5
I07A	**Izee**	**79.25**	**38**	P	P	03 42 24.4	+0.5
WAX	**Waxell Ridge**	**80.68**	**16**	P	P	03 42 31.7	+0.6
K20K	**Telida**	**80.77**	**10**	P	P	03 42 32.2	+0.8
N25K	**Chitina, Valde**	**81.20**	**15**	P	P	03 42 34.2	+0.4
GLB	**Gilahina Butte**	**81.26**	**15**	P	P	03 42 34.4	+0.3
TNA	**Tin City**	**81.27**	**4**	P	P	03 42 35.4	+1.5
TNA				IAmb	IAmb	03 42 36.2	
	comp=Z,5.0nm,0.9s						
CTGM	**Chitina Glacie**	**81.53**	**17**	P	P	03 42 36.0	+0.4
RND	**Reindeer**	**81.80**	**12**	P	P	03 42 37.5	+0.6
RND				IAmb	IAmb	03 42 38.1	
	comp=Z,4.0nm,0.7s						
MCK	**McKinley**	**82.08**	**12**	P	P	03 42 38.3	+0.1
MCK				IAmb	IAmb	03 42 38.7	
	comp=Z,2.3nm,0.6s						
HLID	**Hailey**	**82.09**	**41**	P	P	03 42 39.6	+0.7
HLID				IAmb	IAmb	03 42 41.2	
	comp=Z,1.9nm,0.9s						
BCYI	**Bear Canyon**	**83.09**	**40**	P	P	03 42 44.7	+0.6
H21K	**Melozitna Rive**	**83.11**	**10**	P	P	03 42 44.4	+1.0
CCB	**Clear Creek Bu**	**83.12**	**12**	P	P	03 42 43.6	+0.2
BCAR	**Beaver Creek A**	**83.14**	**15**	P	P	03 42 44.3	+0.6
MNTX	**Cornudas Mount**	**83.22**	**55**	P	P	03 42 45.1	+0.3
MNTX				IAmb	IAmb	03 42 45.9	
	comp=Z,2.8nm,1.1s						
IMAR	**Indian Mountai**	**83.26**	**9**	P	P	03 42 45.4	+1.2
IL31		**83.42**	**13**	P	P	03 42 44.9	-0.1
IL31				IAmb	IAmb	03 42 47.3	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**83.42**	**13**	P	P	03 42 44.5	-0.5
	comp=Z,2.0nm,0.6s,baz=215,slow=5.0,SNR=14						
ILAR	**Eielson Array**	**83.42**	**13**	P	P	03 42 44.8	-0.2
PV01	**Paradox Valley**	**83.47**	**48**	P	P	03 42 46.3	+0.1
PV01				IAmb	IAmb	03 42 46.7	
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**83.70**	**57**	P	P	03 42 48.2	+0.9
	comp=Z,1.2nm,0.8s,baz=201,slow=6.7,SNR=10						
DLMT	**Dillon**	**84.11**	**40**	P	P	03 42 49.6	+0.5
DLMT				IAmb	IAmb	03 43 07.1	
	comp=Z,2.1nm,1.1s						
DAWY	**Dawson**	**84.58**	**16**	P	P	03 42 51.2	+0.3
DAWY				IAmb	IAmb	03 42 52.8	
	comp=Z,3.6nm,0.9s						
PDAR	**Pinedale Array**	**84.83**	**43**	P	P	03 42 52.5	-0.4
	comp=Z,0.3nm,0.6s,baz=163,slow=1.9,SNR=4.2						
PDAR	**Pinedale Array**	**84.83**	**43**	P	P	03 42 52.7	-0.2
MAW	**Mawson**	**86.40**	**199**	P	P	03 43 04.0	+4.2
	comp=Z,5.3nm,0.8s,baz=160,slow=1.0,SNR=3.8						
YKA	**Yellowknife Ar**	**91.76**	**24**	P	P	03 43 23.6	-1.1
	comp=Z,0.3nm,0.6s,baz=238,slow=4.8,SNR=6.1						
A36M	**Sachs Harbour**	**93.99**	**14**	P	P	03 43 34.6	-0.1
ARCES	**ARCESS Array B**	**124.33**	**351**	PKP	PKPdf	03 49 12.3	-0.9
	comp=Z,0.7nm,0.5s,baz=12,slow=1.7,SNR=10.0						
ARCES	**ARCESS Array B**	**124.33**	**351**		PKPdf	03 49 12.9	-0.3
BUR08	**Bucovina Ar. S**	**143.18**	**335**	PKPdf	PKPdf	03 49 48.3	-0.8
BURAR	**Bucovina Array**	**143.20**	**335**	PKPdf	PKPdf	03 49 48.2	-0.9
BR131	**Keskin Array S**	**144.06**	**318**	PKPdf	PKPdf	03 49 50.7	-0.2
BRTR	**Keskin Array B**	**144.06**	**318**	PKP	PKPdf	03 49 51.0	+0.1
	comp=Z,2.6nm,0.8s,baz=104,slow=3.5,SNR=15						
BRTR	**Keskin Array B**	**144.06**	**318**	PKPdf	PKPdf	03 49 50.6	-0.2
KHC	**Kasperske Hory**	**145.51**	**348**	PKPab	PKPab	03 49 55.1	+0.2
GEC2	**GERESS Array S**	**145.75**	**347**	PKPab	PKPab	03 49 56.1	+0.2
GERES	**GERESS Array B**	**145.75**	**347**	PKPbc	PKPbc	03 49 54.9	+0.1
	comp=Z,0.3nm,0.4s,baz=33,slow=3.7,SNR=5.9						
GERES	**GERESS Array B**	**145.75**	**347**		PKPab	03 49 55.4	-0.5
CONA	**Conrad Observa**	**146.10**	**344**	*e*P	PKPab	03 49 56.7	-0.6
	comp=Z,8.6nm,2.0s						
ARSA	**Arzberg**	**146.82**	**344**	*e*P	PKPdf	03 49 56.0	+0.8
	comp=Z,0.7nm,0.4s						
BFO	**Black Forest**	**147.12**	**353**	PKPbc	PKPbc	03 49 59.3	+0.8
SOKA	**Soboth**	**147.47**	**344**	*e*P	PKPbc	03 49 59.7	+0.2
	comp=Z,7.3nm,1.6s						
WATA	**Walderalm**	**147.62**	**349**	*e*P	PKPbc	03 50 00.1	+0.1
	comp=Z,1.3nm,0.5s						
WTTA	**Wattenberg**	**147.67**	**349**	*e*P	PKPbc	03 50 00.5	+0.3
	comp=Z,1.2nm,0.4s						
OBKA	**Obir**	**147.75**	**345**	*e*P	PKPdf	03 49 55.9	-1.0
	comp=Z,15nm,1.6s						
DAVA	**Damuels**	**147.95**	**351**	*e*P	PKPbc	03 50 00.8	0.0
	comp=Z,0.4nm,0.3s						
ABTA	**Abfaltersbach**	**148.00**	**348**	*e*P	PKiKP	03 50 01.6	-0.8
	comp=Z,1.8nm,0.7s						
DIVS	**Divibare**	**148.17**	**336**	PKPbc	PKiKP	03 50 02.1	-0.8
STAL	**STALIGIAL**	**148.42**	**347**	PKPbc	PKPbc	03 50 01.5	-0.4
TUE	**Stuetta**	**148.82**	**351**	PKPbc	PKiKP	03 50 03.6	-0.7
FNA	**Florina**	**150.29**	**331**	PKPbc	PKPbc	03 50 06.7	0.0
KBN	**Korca**	**150.69**	**332**	PKPdf	PKPdf	03 50 02.2	+0.5
KBN				PKPbc	PKiKP	03 50 08.1	0.0
KBN				PKPab	PKPab	03 50 14.6	-1.5
AGG	**Agios Georgios**	**151.18**	**328**		PKPbc	03 50 07.6	-1.2
SGRT	**San Giovanni R**	**151.75**	**340**	PKPab	PKPab	03 50 19.4	-1.2

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*MOS **11** 03:55:57.2±1.1, 46°.97N×152°.95E, h63km, mb4.5/5, Error ellipse: s-maj=14.1km s-min=7.3km az=58.1*
*SKHL **11** 03:55:57.1±0.6, 46°.90N×153°.10E, h61km±7km, mb4.8/8*
*IDC **11** 03:55:58.4±0.8, 46°.99N×152°.85E, h57km±6km, mb3.5/11, mb1 3.8/15, mb1mx3.5/49, mbtmp3.8/15, MS3.2/3, Ms1 3.2/3, ms1mx2.6/88, Error ellipse: s-maj=23.3km s-min=14.3km az=139.0*
*NEIC **11** 03:56:00.0±1.2, 47°.1N±0°.1×152°.7E±0°.2, h62km±8km, mb4.2/21, Error ellipse: s-maj=26.8km s-min=10.4km az=130.0*
ISC 11 03:55:58.1±0.6, 46°.91N±0°.08×153°.01E±0°.08, h56km, n98, σ1°.52/105, mb4.1/23, 4C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.95**	**247**	*e*PN	Pn	03 56 57.2	+1.0
KUR				S	Sn	03 57 46.4	+5.2
KUR				pmax	pmax		
	comp=Z,171nm,0.4s						
KUR				pmax	pmax		
	comp=N,72nm,0.2s						
KUR				smax	smax		
	comp=N,381nm,0.5s						
KUR				smax	smax		
	comp=E,151nm,0.4s						
KUR	**Kuril'sk**	**3.95**	**247**	*e*P	Pn	03 56 57.1	+0.9
KUR				AMB	AMB	03 57 03.8	
	comp=E,170nm,0.4s						
KUR				*e*S	Sn	03 57 40.4	-0.8
KUR				A	A	03 57 57.9	
	comp=E,380nm,0.5s						
KUR				A	A	03 57 57.9	
	comp=E,150nm,0.5s						
SKR	**Severo-Kuril's**	**4.30**	**27**	*e*PN	Pn	03 57 00.1	-0.9
SKR				*e*S	Sn	03 57 46.5	-3.3
SKR				pmax	pmax		
	comp=Z,391nm,0.5s						
SKR				smax	smax		
	comp=N,413nm,0.6s						
SKR				smax	smax		
	comp=E,331nm,0.6s						
SKR	**Severo-Kuril's**	**4.30**	**27**	*e*P	Pn	03 57 00.6	-0.4
SKR				AMB	AMB	03 57 02.1	
	comp=E,200nm,0.5s						
SKR				*e*S	Sn	03 57 47.7	-2.1
SKR				A	A	03 57 52.3	
	comp=E,410nm,0.6s						
SKR				A	A	03 57 52.3	
	comp=E,330nm,0.6s						
PAU	**Pauzhetka**	**5.20**	**27**	*e*P	Pn	03 57 12.7	-0.6
PAU				AMB	AMB	03 57 14.9	
	comp=E,50nm,0.4s						
PAU				*e*S	Sn	03 58 10.5	-1.4
PAU				A	A	03 58 12.6	
	comp=E,90nm,0.4s						
PAU				A	A	03 58 12.6	
	comp=E,130nm,0.4s						
SHO	**Shikotan**	**5.31**	**237**	⇑*i*PN	Pn	03 57 13.4	-1.3
SHO				S	Sn	03 58 15.1	+0.6
SHO				smax	smax		
	comp=N,123nm,0.4s						
SHO				smax	smax		
	comp=E,197nm,0.5s						
SHO	**Shikotan**	**5.31**	**237**	*i* P	Pn	03 57 15.7	+1.0
SHO				AMB	AMB	03 57 18.4	
	comp=E,70nm,0.5s						
SHO				*e*S	Sn	03 58 13.9	-0.6
SHO				A	A	03 58 19.4	
	comp=E,80nm,0.6s						
SHO				A	A	03 58 19.4	
	comp=E,90nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.79**	**243**	⇓*e*PN	Pn	03 57 23.1	+1.8
YUK	**Yuzh-Kuril'sk**	**5.79**	**243**	*e*P	Pn	03 57 23.1	+1.8
YUK				AMB	AMB	03 57 24.7	
	comp=E,250nm,0.4s						
YUK				*e*S	Sn	03 58 26.4	+0.1
NEM2	**Nemuro 2**	**6.24**	**238**	P	Pn	03 57 26.0	-1.5
NEM2				*e*S	Sn	03 58 34.8	-2.6
NMR	**Nemuro--Hokkai**	**6.25**	**238**	*e*P	Pn	03 57 26.1	-1.5
NMR				*e*S	Sn	03 58 36.1	-1.5
JRA	**Rausu**	**6.29**	**245**	P	Pn	03 57 30.4	+2.1
JNK	**Nakash**	**6.73**	**243**	P	Pn	03 57 34.9	+0.7
PEA0B	**Petropavlovsk-**	**6.90**	**24**	⇑*e*PN	Pn	03 57 36.0	-0.6
PEA0B	**Petropavlovsk-**	**6.90**	**24**	Pn	Pn	03 57 36.6	0.0
PETK	**Petropavlovsk-**	**6.90**	**24**	P	Pn	03 57 36.8	+0.2
	comp=E,1.7nm,0.3s,baz=188,slow=13,SNR=28						
PETK				LR	LR	04 00 18.3	
	comp=E,90nm,20.0s,baz=240,slow=38						
PETK	**Petropavlovsk-**	**6.90**	**24**	Pn	Pn	03 57 36.0	-0.7
AKK	**Akkeshi**	**6.98**	**239**	*e*P	Pn	03 57 36.4	-1.2
AKK				*e*S	Sn	03 58 53.7	-1.8
YSS	**Yuzh-Sakhalins**	**7.02**	**274**	⇓*e*PN	Pn	03 57 41.1	+2.9
YSS				pmax	pmax		
	comp=Z,63nm,3.5s						
YSS	**Yuzh-Sakhalins**	**7.02**	**274**	*e*P	Pn	03 57 40.8	+2.6
YSS				AMB	AMB	03 57 42.1	
	comp=Z,10.0nm,0.4s						
JTKR	**Abashiri--Toko**	**7.04**	**249**	P	Pn	03 57 40.2	+1.7
JAK	**Akkeshi**	**7.07**	**239**	P	Pn	03 57 37.3	-1.7
JAK				*e*S	Sn	03 58 54.9	-3.0
PET	**Petropavlovsk**	**7.12**	**29**	*e*P	Pn	03 57 38.6	-1.0
PET				AMB	AMB	03 57 46.4	
	comp=Z,10.0nm,0.4s						
PET				*e*S	Sn	03 58 56.5	-2.5
PET				A	A	03 59 25.4	
	comp=Z,70nm,0.6s						
PET				A	A	03 59 25.4	
	comp=Z,60nm,0.6s						
JAR	**Ashorobuto**	**7.47**	**244**	P	Pn	03 57 45.1	+0.8
JKA	**Kamikawa-asahi**	**7.83**	**253**	Pn	Pn	03 57 50.4	+1.1
JKA	**Kamikawa-asahi**	**7.83**	**253**	*e*P	Pn	03 57 50.4	+1.1
ASAJ	**Asahikawa**	**7.83**	**253**	P	Pn	03 57 50.0	+0.8
	comp=Z,2.1nm,0.3s,baz=15,slow=12,SNR=7.2						
ASAJ				LR	LR

baz=341,slow=76,SNR=766
H11S3 WAKE ISLAND Hy 30.49 154 T T 04 35 08.9
baz=341,slow=76,SNR=1046
H11S2 WAKE ISLAND Hy 30.50 154 T T 04 35 09.7
baz=341,slow=76,SNR=854
A21K Barrow 33.90 26 P **P** **04 02 35.8 +0.7**
H21K Melozitna Rive 34.03 37 P **P** **04 02 37.4 +1.0**
H21K IAmb IAmb 04 02 51.9
comp=Z,3.3nm,0.9s
SML Sawmill 35.91 44 P **P** **04 02 53.6 +1.0**
COLA College 36.06 39⇑ *e*P **P** **04 02 55.3 +1.6**
COLA pmax pmax
comp=Z,14nm,1.7s
POKR Poker Plat Res 36.24 38 P **P** **04 02 56.8 +1.5**
IL31 36.47 39 P **P** **04 02 57.9 +0.6**
IL31 IAmb IAmb 04 03 13.9
comp=Z,4.3nm,1.4s
ILAR Eielson Array 36.47 39 P **P** **04 02 57.0 -0.3**
comp=Z,0.8nm,0.8s,baz=261,slow=6.0,SNR=11
ILAR pP **pP** **04 03 11.2 +0.4**
comp=Z,0.9nm,0.7s,baz=257,slow=7.5,SNR=5.8
ILAR Eielson Array 36.47 39 P **P** **04 02 58.0 +0.7**
L27K Beaver Creek, 38.81 41 P **P** **04 03 18.7 +1.6**
BCAR Beaver Creek A 38.83 41 P **P** **04 03 18.9 +1.6**
INK Inuvik 41.56 32 P **P** **04 03 40.9 +1.2**
comp=Z,1.2nm,0.6s,baz=300,slow=7.3,SNR=9.0
INK pP **pwP** **04 03 54.7 -1.6**
comp=Z,2.8nm,0.9s,baz=275,slow=8.8,SNR=5.9
A36M Sachs Harbour 43.74 26 P **P** **04 03 58.6 +1.3**
C36M Paulatuk 44.72 30 P **P** **04 04 06.1 +0.9**
C36M IAmb IAmb 04 04 20.7
comp=Z,6.2nm,1.4s
MKAR Makanchi Array 46.81 297 P **P** **04 04 22.4 +0.4**
comp=Z,0.2nm,0.6s,baz=84,slow=4.5,SNR=1.9
YKA Yellowknife Ar 50.84 37 P **P** **04 04 53.3 +0.7**
comp=Z,0.8nm,0.8s,baz=296,slow=7.3,SNR=8.0
YKA pP **pP** **04 05 07.5 +0.8**
comp=Z,1.6nm,0.8s,baz=296,slow=7.2,SNR=16
PLID Pearl Lake 59.64 55 P **P** **04 05 57.5 +0.9**
PLID IAmb IAmb 04 05 58.0
comp=Z,2.3nm,0.8s
SUMG Summit 60.55 4 P **P** **04 06 02.5 0.0**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 60.55 4 P **P** **04 06 02.5 0.0**
FCC Fort Churchill 61.17 33 P **P** **04 06 06.4 0.0**
FCC pmax pmax
comp=Z,1.0nm,1.0s
FCC Fort Churchill 61.17 33 P **P** **04 06 06.4 0.0**
BOZ Bozeman (W) 61.75 53 P **P** **04 06 12.1 +1.4**
BOZ pmax pmax
comp=Z,5.0nm,1.5s
BOZ Bozeman (W) 61.75 53 P **P** **04 06 12.1 +1.4**
BOZ IAmb IAmb 04 06 12.7
comp=Z,5.0nm,1.5s
NVAR Mina Array Bea 62.42 62 P **P** **04 06 16.4 +0.9**
comp=Z,0.5nm,0.7s,baz=292,slow=7.6,SNR=5.7
NVAR Mina Array Bea 62.42 62 P **P** **04 06 17.4 +2.0**
MOOW Moose Ponds 63.41 54 P **P** **04 06 23.6 +1.6**
MOOW IAmb IAmb 04 06 46.9
comp=Z,2.5nm,1.4s
FINES FINESS Array B 63.87 335 P **P** **04 06 22.8 -1.5**
comp=Z,2.3nm,1.0s,baz=20,slow=2.2,SNR=4.5
FINES FINESS Array B 63.87 335 *i* P **P** **04 06 23.7 -0.6**
FINES pmax pmax
comp=Z,2.0nm,1.0s
PDAR Pinedale Array 64.71 54 P **P** **04 06 30.1 -0.4**
comp=Z,0.6nm,0.7s,baz=248,slow=1.6,SNR=6.8
PDAR Pinedale Array 64.71 54 P **P** **04 06 31.4 +0.9**
NB201 NORSAR Array S 68.03 341 P **P** **04 06 50.5 -0.6**
NB201 IAmb IAmb 04 07 11.3
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 68.06 341 P **P** **04 06 50.1 -1.2**
comp=Z,0.8nm,0.8s,baz=30,slow=6.6,SNR=4.5
WRA Warramunga Arr 68.64 199 P **P** **04 06 55.4 +0.1**
comp=Z,80nm,0.5s,baz=20,slow=6.9,SNR=2.1
AKASG Malin Array Be 71.38 326 P **P** **04 07 10.2 -1.6**
comp=Z,0.3nm,0.3s,baz=35,slow=6.2,SNR=4.2
ASAR Alice Springs 72.33 198 P **P** **04 07 18.4 +0.6**
comp=Z,0.6nm,0.7s,baz=8.4,slow=5.6,SNR=10
ASAR Alice Springs 72.33 198 P **P** **04 07 18.8 +1.1**
BURAR Bucovina Array 75.42 326 P **P** **04 07 35.4 -0.4**
EKA Eskdalemuir Ar 76.17 346 LR LR 04 45 18.6
comp=Z,52nm,18.1s,baz=268,slow=39
TX31 Lajitas Ar. Si 77.48 61 P **P** **04 07 48.6 +0.8**
TX31 IAmb IAmb 04 08 07.9
comp=Z,3.0nm,0.9s
TX32 Lajitas Array 77.48 61 P **P** **04 07 48.5 +0.8**
TXAR Lajitas Array 77.48 61 P **P** **04 07 48.4 +0.7**
comp=Z,0.6nm,0.5s,baz=302,slow=5.1,SNR=15
TXAR pP **pwP** **04 08 04.1 -1.9**
comp=Z,0.3nm,0.5s,baz=295,slow=5.2,SNR=3.7
H03N2 Juan Fernandez 138.82 90 T T 06 50 42.7
baz=308,slow=77,SNR=24
H03N1 Juan Fernandez 138.84 90 T T 06 50 43.9
baz=308,slow=77,SNR=25
H03N3 Juan Fernandez 138.84 90 T T 06 50 41.4
baz=308,slow=77,SNR=26
NVL N'lazarevskaya 149.75 204 *e*PKHKP PKPpre 04 15 37.5
NVL pmax pmax
comp=Z,16nm,1.0s

*TUL **11** 04:17:32.8±0.5,36°.48N±0°.02×98°.74W±0°.03,h5km±3km, ML3.0,mb_Lg2.7/28(NEIC),Error ellipse: s-maj=3.2km s-min=2.4km az=96.0*

NEIC 11 04:17:33.5±0.6,36°.47N±0°.02×98°.74W±0°.04,h7km±6km, Error ellipse: s-maj=4.5km s-min=2.6km az=88.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.23**	**247**	Pg	Pg	04 17 37.8	-0.3
U32A				Sg	Sg	04 17 41.4	+0.2
OK035	**E0210 Rd and N**	**0.24**	**6**	Pg	Pg	04 17 38.0	-0.3
OK035				Sg	Sg	04 17 41.8	+0.2
OK032	**Salt Plains WL**	**0.54**	**52**	Pg	Pg	04 17 43.3	-0.7
OK032				Sg	Sg	04 17 50.8	-0.3
KAN14	**Manchester OK**	**0.79**	**52**	Pg	Pg	04 17 47.9	-0.8
KAN14				Sg	Sg	04 17 58.4	-0.7
GC02	**Grant County #**	**0.81**	**61**	Pg	Pg	04 17 48.0	-1.0
GC02				Sg	Sg	04 17 59.0	-0.5
KAN10	**Anthony SW Sta**	**0.83**	**38**		Pg	04 17 48.4	-1.2
KAN10				Sg	Sg	04 17 59.8	-0.6
KAN16	**Harper SW Stat**	**0.93**	**36**	Pg	Pg	04 17 50.3	-1.1
KAN05	**Bluff City Nor**	**0.94**	**47**	Pg	Pg	04 17 50.4	-1.3
KAN05				Sg	Sg	04 18 03.4	-0.6
KAN17	**Caldwell West**	**0.97**	**54**	Pg	Pg	04 17 51.0	-1.2
KAN17				Sg	Sg	04 18 03.8	-1.0
KAN08	**Anthony NE Sta**	**0.98**	**39**	Pg	Pg	04 17 51.0	-1.2
KAN12	**Harper NE Stat**	**1.02**	**36**	Pg	Pg	04 17 51.9	-1.2
KAN01	**Argonia South**	**1.04**	**49**	Pg	Pg	04 17 52.2	-1.3
KAN01				Sg	Sg	04 18 06.1	-1.0
KAN06	**Argonia West S**	**1.05**	**42**	Pg	Pg	04 17 52.5	-1.2
KAN06				Sg	Sg	04 18 06.5	-0.9
KAN13	**South Haven SW**	**1.15**	**61**	Pg	Pg	04 17 54.1	-1.5
KAN13				Sg	Sg	04 18 09.5	-1.1
BCOK	**Bluff Creek, N**	**1.22**	**131**	Pg	Pb	04 17 55.6	-1.3
OK029	**Liberty Lake**	**1.24**	**122**	Pg	Pb	04 17 55.6	-1.6
BLOK	**Blackwell**	**1.26**	**76**	Pg	Pn	04 17 56.1	-1.4
X34A	**Smith Ranch, M**	**2.01**	**158**	IAmb_Lg		04 18 37.4	
comp=Z,28nm,1.0s							
TUL1	**Leonard**	**2.45**	**102**	IAmb_Lg		04 18 50.0	
comp=Z,30nm,0.8s							
LOOK	**Love County**	**2.78**	**152**	IAmb_Lg		04 19 06.5	
comp=Z,19nm,0.9s							
AMTX	**Amarillo**	**2.87**	**237**	IAmb_Lg		04 19 09.3	
comp=Z,37nm,0.8s							
X37A	**Clayton**	**3.33**	**123**	Pn	Pn	04 18 24.7	-1.2
Z35A	**Perchaven, San**	**3.36**	**158**	Pn	Pn	04 18 26.1	-0.3
U38A	**Gravette**	**3.51**	**89**	Pn	Pn	04 18 28.3	-0.2
HHAR	**Hobbs**	**3.88**	**91**	Pn	Pn	04 18 32.9	-0.7
MSTX	**Muleshoe**	**4.14**	**234**	IAmb_Lg		04 19 51.2	
comp=Z,16nm,0.7s							
Z38A	**Mt. Pleasant**	**4.45**	**135**	IAmb_Lg		04 19 58.7	
comp=Z,24nm,0.9s							
S39A	**Bolivar**	**4.50**	**73**	Pn	Pn	04 18 41.2	-0.9
T25A	**Trinidad**	**4.60**	**280**	Pn	Pn	04 18 42.5	-1.1
T25A				IAmb_Lg		04 19 57.9	
comp=Z,15nm,1.0s							
MIAR	**Mount Ida**	**4.63**	**113**	Pn	Pn	04 18 43.6	-0.2
BGNE	**Belgrade**	**4.95**	**5**	Pn	Pn	04 18 45.3	-3.0
BGNE				IAmb_Lg		04 20 16.2	
comp=Z,20nm,0.7s							
P38A	**Dawn**	**5.18**	**51**	Pn	Pn	04 18 50.6	-0.8
P38A				IAmb_Lg		04 20 29.8	
comp=Z,15nm,1.0s							
X40A	**Basin Creek Fa**	**5.21**	**111**	Pn	Pn	04 18 52.1	+0.3
MGMO	**Mountain Grove**	**5.24**	**81**	Pn	Pn	04 18 52.2	-0.1
WHAR	**Wooly Hollow**	**5.37**	**101**	Pn	Pn	04 18 53.2	-0.8
WHAR				IAmb_Lg		04 20 21.2	
comp=Z,18nm,1.1s							
FCAR	**Ozark Folk Cen**	**5.38**	**94**	IAmb_Lg		04 20 25.6	
comp=Z,14nm,0.8s							
R40A	**Maddies Statio**	**5.47**	**69**	Pn	Pn	04 18 54.4	-0.9
Q24A	**Divide**	**5.66**	**298**	IAmb_Lg		04 20 40.0	
comp=Z,11nm,0.9s							
435B	**Jarrell**	**5.75**	**170**	IAmb_Lg		04 20 48.0	
comp=Z,12nm,0.9s							
JCT	**Junction City**	**6.04**	**189**	IAmb_Lg		04 20 50.4	
comp=Z,8.0nm,0.7s							
ISCO	**Idaho Springs**	**6.36**	**304**	Pn	Pn	04 19 07.8	0.0

*HEL **11** 04:17:59.3±0.0,67°.82N×20°.20E,h1km,ML2.3, ML2.2(UPP),Confirmed Induced event*
*NAO **11** 04:17:59.4±0.9,67°.83N×20°.52E,ML2.5*
*IDC **11** 04:18:00.1±1.2,67°.81N×20°.52E,h0km,mb1 3.1/4, mb1mx2.9/41,mbtmp3.1/4,ML2.0/4,Error ellipse: s-maj=18.8km s-min=8.6km az=115.0*
*BER **11** 04:18:00.9±3.2,67°.81N×20°.41E,h0km,ML1.9, ML2.5(NAO),Confirmed Induced event*

ISC 11 04:17:58.1±0.7,67°.78N±0°.02×20°.32E±0°.03,h0km,n38, σ1§55/59,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.18**	**2**	*i* P	**Pg**	**04 18 01.8**	**+0.3**
KUA				*i* S	**Sg**	**04 18 03.7**	**0.0**
KOVU	**Salmi**	**0.45**	**352**	*i* P	**Pg**	**04 18 06.5**	**-0.2**
NIKU	**Nikkaluokta**	**0.50**	**281**	*i* P	**Pg**	**04 18 07.3**	**-0.3**
DUNU	**Dundret**	**0.67**	**172**	*i* P	**Pg**	**04 18 12.1**	**+1.2**
LANU	**Lannavaara**	**0.69**	**66**	*e*P	**Pg**	**04 18 12.1**	**+0.9**
LANU				*e*S	**Sb**	**04 18 21.5**	**-1.5**
SALU	**Saltoluokta**	**0.80**	**241**	*i* P	**Pg**	**04 18 13.5**	**+0.1**
KIF	**Kilpisjarvi**	**1.24**	**8**	Pg	**Pg**	**04 18 21.8**	**-0.1**
KIF				Lg	Lg	04 18 38.0	
KIF	**Kilpisjarvi**	**1.24**	**8**	*e*P	**Pg**	**04 18 21.6**	**-0.3**
KIF				*e*S	**Sg**	**04 18 37.8**	**-0.2**
KIF	**Kilpisjarvi**	**1.24**	**8**	*e*P	**Pg**	**04 18 22.1**	**+0.2**
KIF				*e*S	**Sg**	**04 18 37.6**	**-0.4**
PAJU	**Pajala**	**1.32**	**124**	*e*P	**Pg**	**04 18 23.9**	**+0.6**
PAJU				*e*S	**Sb**	**04 18 42.0**	**+0.9**
HEF	**Hetta**	**1.40**	**62**	Pg	**Pg**	**04 18 24.9**	**-0.1**
HEF				Lg	Lg	04 18 43.5	
HEF	**Hetta**	**1.40**	**62**	*e*P	**Pg**	**04 18 24.9**	**-0.1**
HEF				*e*S	**Sb**	**04 18 43.5**	**0.0**
HEF	**Hetta**	**1.40**	**62**	*e*P	**Pg**	**04 18 24.9**	**-0.1**
HEF				*e*S	**Sg**	**04 18 42.7**	**-0.4**
ERTU	**Ertsjaerv**	**1.43**	**149**	*e*P	**Pn**	**04 18 25.9**	**+0.6**
ERTU				*e*S	**Sb**	**04 18 45.4**	**+1.1**
KTK1	**Kautokeino**	**1.64**	**40**	*e*P	**Pn**	**04 18 28.5**	**+0.3**
KTK1				*e*S	**Sn**	**04 18 48.1**	**-1.9**
KTK1				IAML		04 18 53.3	
comp=Z,18nm,0.3s							
JETT	**Jettan, Norway**	**1.79**	**1**	Pn	**Pn**	**04 18 30.5**	**+0.3**
JETT				Sn	**Sn**	**04 18 53.4**	**-0.2**
FAUS	**Fauske**	**1.97**	**261**	*e*P	**Pn**	**04 18 34.0**	**+1.3**
FAUS				*e*S	**Sn**	**04 18 59.6**	**+1.5**
FAUS				IAML		04 19 04.9	
comp=Z,24nm,0.4s							
TOF	**Tornio**	**2.32**	**135**	*e*P	**Pb**	**04 18 40.5**	**-0.3**
TOF				*e*SG	**Sg**	**04 19 12.3**	**-0.3**
RNF	**Rovaniemi**	**2.51**	**115**	MSG		04 19 19.4	
comp=Z,19nm,0.3s							
ARA0	**ARCESS Array S**	**2.59**	**45**	Pn	**Pn**	**04 18 42.1**	**+0.9**
baz=229,slow=14							
ARA0				Sn	**Sn**	**04 19 14.5**	**+1.1**
baz=224,slow=28							
ARA0	**ARCESS Array S**	**2.59**	**45**	Pn	**Pn**	**04 18 42.1**	**+0.9**
baz=229,slow=14							
ARA0				Sn	**Sn**	**04 19 14.5**	**+1.1**
baz=224,slow=28							
ARA0				IAML		04 19 19.1	
comp=Z,8.5nm,0.4s							
ARCES	**ARCESS Array B**	**2.59**	**45**	Pn	**Pn**	**04 18 42.6**	**+1.4**
baz=232,slow=14,SNR=68							
ARCES				Sn	**Sn**	**04 19 14.4**	**+1.1**
baz=224,slow=23,SNR=6.1							
HAMF	**Hammerfest**	**3.12**	**21**	*e*P	**Pn**	**04 18 49.1**	**+0.7**
HAMF				*e*S	**Sn**	**04 19 23.3**	**-3.0**
HAMF				IAML		04 19 44.9	
comp=Z,11nm,0.4s							
OUL	**Oulu**	**3.51**	**138**	MSG		04 19 58.3	
comp=Z,4.8nm,0.3s							
VRF	**Varrio**	**3.53**	**86**	MSG		04 19 54.7	
comp=Z,7.4nm,0.3s							
APA0	**Apatity Array**	**4.83**	**86**	Pn	**Pn**	**04 19 12.0**	**0.0**
baz=281,slow=11							
APA0				Sn	**Sn**	**04 20 07.8**	**-0.7**
baz=281,slow=28							
APA0				Sg	**Sb**	**04 20 24.8**	**+2.7**
APA0				Lg	Lg	04 20 24.8	
APA0	**Apatity Array**	**4.83**	**86**	Pn	**Pn**	**04 19 12.0**	**0.0**
baz=281,slow=11							
APA0				Sn	**Sn**	**04 20 07.8**	**-0.7**
baz=281,slow=28							
APA0				Sg	**Sb**	**04 20 24.8**	**+2.7**
FIA0	**FINESS Array S**	**6.82**	**156**	Pn	**Pn**	**04 19 41.2**	**+2.0**
baz=350,slow=12							
FIA0				Sn	**Sn**	**04 20 59.1**	**+1.6**
baz=346,slow=28							
FIA0				Lg	Lg	04 21 29.9	
baz=346,slow=28							
FIA0	**FINESS Array S**	**6.82**	**156**	Pn	**Pn**	**04 19 41.2**	**+2.0**
baz=350,slow=12							
FIA0				Sn	**Sn**	**04 20 59.1**	**+1.6**
baz=346,slow=28							
FIA0				Sg	**Sg**	**04 21 29.9**	**-7.0**
baz=346,slow=28							
FINES	**FINESS Array B**	**6.82**	**156**	Pn	**Pn**	**04 19 41.2**	**+2.0**
comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=0.9							
FINES				Sn	**Sn**	**04 20 59.4**	**+1.9**
comp=Z,0.2nm,0.3s,baz=349,slow=21,SNR=5.6							
FINES				Lg	Lg	04 21 35.0	
comp=Z,0.4nm,0.3s,baz=344,slow=27,SNR=7.1							
NB2	**NORSAR Subarra**	**7.82**	**214**	Pn	**Pn**	**04 19 53.9**	**+0.9**
NB2	**NORSAR Subarra**	**7.82**	**214**	Pn	**Pn**	**04 19 53.9**	**+0.9**
NOA	**NORSAR Array B**	**7.82**	**214**	Pn	**Pn**	**04 19 55.2**	**+2.1**
comp=Z,0.0nm,0.3s,baz=28,slow=20,SNR=2.2							
NRA0	**NORESS Array S**	**8.03**	**212**	Pn	**Pn**	**04 19 56.9**	**+1.0**
baz=38,slow=11							
NRA0	**NORESS Array S**	**8.03**	**212**	Pn	**Pn**	**04 19 56.9**	**+1.0**
baz=38,slow=11							
HFS	**Hagfors**	**8.21**	**204**	Pn	**Pn**	**04 19 58.9**	**+0.7**
comp=Z,0.1nm,0.3s,baz=19,slow=11,SNR=1.5							
HFS				Sn	**Sn**	**04 21 28.6**	**-2.9**
comp=Z,0.2nm,0.3s,baz=20,slow=26,SNR=4.8							
HFS	**Hagfors**	**8.21**	**204**	Pn	**Pn**	**04 20 00.2**	**+1.9**
baz=7.4,slow=16							
HFS	**Hagfors**	**8.21**	**204**	Pn	**Pn**	**04 20 00.2**	**+1.9**
baz=7.4,slow=16							

IDC 11 04:24:12.2±2.7,6°.43S×153°.90E,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.4/31,mbtmp3.9/3,MS3.1/2,Ms1 3.1/2, ms1mx2.6/58,Error ellipse: s-maj=89.4km s-min=30.8km az=105.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.70**	**117**	LR	LR	04 28 38.3	
comp=Z,127nm,20.9s,baz=254,slow=40							
WRA	**Warramunga Arr**	**23.26**	**233**	P	P	04 29 21.9	+0.3
2μm,1.0s,baz=60,slow=10,SNR=13							
ASAR	**Alice Springs**	**25.75**	**226**	P	P	04 29 44.2	-0.6
0.5nm,0.5s,baz=59,slow=9.2,SNR=8.4							
STKA	**Stephens Creek**	**27.81**	**203**	P	P	04 30 03.8	+0.6
1.7nm,0.5s,baz=28,slow=12,SNR=9.0							
STKA				LR	LR	04 40 39.4	
comp=Z,49nm,19.8s,baz=210,slow=36							
MKAR	**Makanchi Array**	**82.26**	**319**	P	P	04 36 36.2	+0.6
0.6nm,0.6s,baz=100,slow=7.4,SNR=8.7							
TORD	**Torodi Ar. Bea**	**151.82**	**286**	PKPbc	PKPbc	04 44 08.9	-1.2
0.7nm,0.8s,baz=72,slow=3.0,SNR=4.4							

IDC 11 04:35:00.8±42.0,7°.01N×93°.74E,h0km,mb3.6/3, mb1 3.6/3,mb1mx3.3/39,mbtmp3.6/3,MS4.0/2,Ms1 4.0/2, ms1mx2.8/68,Error ellipse: s-maj=765.2km s-min=74.7km az=3.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.84**	**348**	P	P	04 42 44.2	-0.1
0.6nm,0.4s,baz=154,slow=8.1,SNR=12							
SONM	**Songino Array**	**42.09**	**13**	P	P	04 42 54.5	-0.1
0.2nm,0.5s,baz=201,slow=7.7,SNR=1.8							
JNU	**Nakatsue**	**43.11**	**48**	LR	LR	05 03 02.5	
comp=Z,327nm,18.9s,baz=224,slow=39							
ZALV	**Zalesovo Beam**	**47.36**	**353**	P	P	04 43 36.3	-0.2
0.5nm,0.4s,baz=168,slow=8.7,SNR=3.7							
GUMO	**Guam**	**50.65**	**78**	LR	LR	05 05 46.8	
comp=Z,84nm,20.7s,baz=101,slow=36							

*SFS **11** 04:37:11.0,37°.67N×9°.63W,h11km,ML2.6,ATLANTICO PORTUGAL*
*INMG **11** 04:37:11.1±1.8,37°.67N×9°.71W,h5km±3km,MD2.3,ML2.6, Error ellipse: s-maj=6.3km s-min=2.4km az=69.0*
*IGIL **11** 04:37:11.0,37°.70N×9°.71W,h5km,ML2.8*
*CNRM **11** 04:37:12.9,37°.35N×9°.75W,h68km,ml2.4*

ISC 11 04:37:09.3±1.5,37°.63N±0°.03×9°.79W±0°.06,h16km±9km, n42,σ1§63/80,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.85**	**95**	*e*P	**Pg**	**04 37 25.9**	**0.0**
PTEO				*e*S	**Sg**	**04 37 36.5**	**-0.6**
PTEO				A	A	04 37 39.1	
165nm,0.3s							
PFVI	**Vila Bisbo**	**0.91**	**122**	*e*P	**Pg**	**04 37 27.2**	**+0.2**
PFVI				*e*S	**Sg**	**04 37 39.6**	**+0.6**
PFVI				A	A	04 37 41.0	
169nm,0.3s							
PFVI	**Vila Bisbo**	**0.91**	**122**	P	**Pg**	**04 37 27.3**	**+0.3**
PFVI				S	**Sb**	**04 37 40.4**	**+1.8**
MORF	**Marmelete**	**0.96**	**109**	*e*P	**Pg**	**04 37 27.6**	**-0.3**
MORF				*e*S	**Sg**	**04 37 40.1**	**-0.5**
MORF				IAML		04 37 42.5	
comp=N,242nm,0.2s							
MORF	**Marmelete**	**0.96**	**109**	*e*P	**Pg**	**04 37 27.8**	**-0.2**
MORF				*e*S	**Sg**	**04 37 40.7**	**+0.1**
MORF				A	A	04 37 43.6	
comp=N,113nm,0.6s							
PNCL	**Nicolau / Gran**	**1.11**	**64**	*e*P	**Pg**	**04 37 30.1**	**-0.7**
PNCL				*e*S	**Sg**	**04 37 44.8**	**-0.5**
PNCL				A	A	04 37 46.8	
comp=N,115nm,0.2s							
LIS	**Lisbon**	**1.20**	**25**	*e*P	**Pb**	**04 37 33.1**	**+1.5**
LIS				*e*S	**Sb**	**04 37 48.3**	**+1.4**
PMST	**Lisbon--Monsan**	**1.21**	**23**	*e*P	**Pg**	**04 37 32.5**	**-0.1**
PMST				*e*S	**Sg**	**04 37 47.0**	**-1.4**
PMST				A	A	04 37 50.8	
comp=N,72nm,0.2s							
INMG	**Instituto de M**	**1.26**	**24**	*e*S	**Sn**	**04 37 51.6**	**+2.8**
MESJ	**Messejana**	**1.27**	**80**	*e*P	**Pg**	**04 37 31.9**	**-1.8**
MESJ				*e*S	**Sg**	**04 37 47.5**	**-2.7**
MESJ				IAML		04 37 50.5	
comp=N,143nm,0.3s							
MESJ	**Messejana**	**1.27**	**80**	*e*P	**Pg**	**04 37 31.9**	**-1.8**
MESJ				*e*S	**Sg**	**04 37 47.5**	**-2.7**
MESJ				iAML		04 37 50.5	
PMAFR	**Mafra**	**1.39**	**17**	*e*P	**Pn**	**04 37 35.5**	**+1.5**
PMAFR				*e*S	**Sg**	**04 37 53.5**	**-0.6**
PMAFR				A	A	04 37 58.6	
comp=N,71nm,0.9s							
PCVE	**Castro Verde**	**1.39**	**89**	*e*P	**Pn**	**04 37 35.0**	**+1.0**
PCVE				*e*S	**Sb**	**04 37 53.7**	**+1.3**
PCVE				A	A	04 37 55.0	
comp=N,49nm,0.3s							
PBDV	**Barranco-do-Ve**	**1.53**	**104**	*e*Pn	**Pn**	**04 37 36.3**	**+0.4**
PBDV	**Barranco-do-Ve**	**1.53**	**104**	*e*Pg	**Pn**	**04 37 37.6**	**+1.7**
PBDV				*e*Sn	**Sn**	**04 37 55.5**	**0.0**
PBDV				*e*Sg	**Sg**	**04 37 58.6**	**0.0**
PBDV				A	A	04 38 03.6	
comp=N,43nm,0.4s							
PBEJ	**Beja**	**1.58**	**75**	*e*Pn	**Pn**	**04 37 37.2**	**+0.6**
PBEJ	**Beja**	**1.58**	**75**	*e*Pg	**Pn**	**04 37 38.0**	**+1.4**
PBEJ				*e*Sn	**Sn**	**04 37 56.4**	**-0.2**
PBEJ				*e*Sg	**Sb**	**04 37 58.7**	**+1.0**
PBEJ				A	A	04 38 00.9	
comp=N,44nm,0.2s							
PVAQ	**Vaqueiros**	**1.66**	**97**	*e*Pn	**Pn**	**04 37 38.3**	**+0.5**
PVAQ	**Vaqueiros**	**1.66**	**97**	*e*Pg	**Pn**	**04 37 39.6**	**+1.8**
PVAQ				*e*Sn	**Sn**	**04 37 59.0**	**+0.2**
PVAQ				*e*Sg	**Sb**	**04 38 01.9**	**+1.6**
PVAQ				A	A	04 38 05.5	
comp=N,47nm,0.2s							
PVAQ	**Vaqueiros**	**1.66**	**97**	P	**Pn**	**04 37 39.1**	**+1.3**
PVAQ				S	**Sb**	**04 38 01.8**	**+1.6**
EVO	**Evora**	**1.67**	**57**	P	**Pn**	**04 37 39.6**	**+1.8**
EVO				S	**Sn**	**04 37 59.7**	**+0.8**
EVO	**Evora**	**1.67**	**57**	*e*Pn	**Pn**	**04 37 38.2**	**+0.4**
EVO	**Evora**	**1.67**	**57**	*e*Pg	**Pn**	**04 37 39.9**	**+2.1**
EVO				*e*Sn	**Sn**	**04 37 56.8**	**-2.1**
EVO				*e*Sg	**Sb**	**04 38 00.4**	**0.0**
EVO				A	A	04 38 02.1	
comp=N,94nm,0.2s							
PMTG	**Montargil**	**1.90**	**40**	*e*Pn	**Pn**	**04 37 40.6**	**-0.3**
PMTG	**Montargil**	**1.90**	**40**	*e*Pg	**Pb**	**04 37 44.8**	**+1.3**
PMTG				*e*Sn	**Sn**	**04 38 02.4**	**-2.1**
PMTG				*e*Sg	**Sb**	**04 38 07.5**	**+0.6**
PMTG				A	A	04 38 09.0	
comp=N,42nm,0.5s							
PSBE	**So Bento**	**2.04**	**22**	*e*Pn	**Pn**	**04 37 43.0**	**0.0**
PSBE	**So Bento**	**2.04**	**22**	*e*Pg	**Pb**	**04 37 47.2**	**+1.2**
PSBE				*e*Sn	**Sn**	**04 38 07.6**	**-0.5**
PSBE				*e*Sg	**Sg**	**04 38 14.4**	**-0.6**
PSBE				A	A	04 38 18.4	
comp=N,14nm,0.5s							
PESTR	**Estremoz**	**2.13**	**54**	*e*Pn	**Pn**	**04 37 44.5**	**+0.3**
PESTR	**Estremoz**	**2.13**	**54**	*e*Pg	**Pb**	**04 37 49.3**	**+1.8**
PESTR				*e*Sn	**Sn**	**04 38 09.8**	**-0.5**
PESTR				*e*Sg	**Sb**	**04 38 13.9**	**+0.2**
PESTR				A	A	04 38 14.7	
comp=N,39nm,0.4s							
PESTR	**Estremoz**	**2.13**	**54**

BJI ***11*** *04:48:29.8±0.0, 7°.14S×155°.37E, h138km, mb4.8/13, mB4.9/6*
DJA ***11*** *04:48:33.0±0.5, 7°S±4°×15°5E±°, h136km±5km, M4.8/27, mB4.9/6, mb4.8/27, MLv5.3/2, Mw(mB)4.2/6*
ISC 11 04:48:27.2±0.4, 6°90S±0°05×155°49E±0°05, h100km, n128, σ1$26/119, mb4.8/44, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.26**	**309**	Pn	**Pn**	**04 49 31.5**	**+1.6**
RABL	**Rabaul**	**4.26**	**309**	P	**Pn**	**04 49 30.3**	**+0.4**
HNR	**Honiara**	**5.08**	**120**	P	**Pn**	**04 49 39.5**	**-1.5**
	18nm,0.3s,baz=267,slow=6.4,SNR=1.2						
HNR				S	**Sn**	**04 50 42.3**	**+3.7**
	31nm,0.3s,baz=283,slow=23,SNR=4.3						
HNR				LR	LR	04 51 45.3	
	comp=Z,714nm,19.5s,baz=315,slow=39						
HNR	**Honiara**	**5.08**	**120**		**Pn**	**04 49 39.7**	**-1.4**
PMG	**Port Moresby**	**8.61**	**253**	P	**Pn**	**04 50 28.7**	**-0.4**
	12nm,0.3s,baz=47,slow=13,SNR=20						
PMG				S	**Sn**	**04 52 07.7**	**+3.2**
	4.1nm,0.3s,baz=72,slow=18,SNR=11						
PMG				LR	LR	04 53 47.8	
	comp=Z,161nm,20.5s,baz=84,slow=37						
PMG	**Port Moresby**	**8.61**	**253**	Pn	**Pn**	**04 50 29.7**	**+0.7**
PMG	**Port Moresby**	**8.61**	**253**	P	**Pn**	**04 50 30.9**	**+1.9**
PMG	**Port Moresby**	**8.61**	**253**	P	**Pn**	**04 50 31.0**	**+1.9**
PATS	**Pohnpei**	**13.93**	**12**	Pn	**Pn**	**04 51 41.4**	**+1.1**
COEN	**Coen**	**13.99**	**239**	Pn	**Pn**	**04 51 40.1**	**-1.0**
COEN	**Coen**	**13.99**	**239**	P	**Pn**	**04 51 40.7**	**-0.4**
JAY	**Jayapura**	**15.36**	**286**	P	**Pn**	**04 51 58.1**	**-0.4**
	0.9nm,0.3s,baz=88,slow=3.4,SNR=4.1						
JAY				LR	LR	04 58 19.0	
	comp=Z,78nm,18.6s,baz=231,slow=39						
MTSU	**Mount Surprise**	**15.60**	**223**	P	**Pn**	**04 52 01.2**	**-0.4**
CTA	**Charters Tower**	**15.88**	**213**	P	**Pn**	**04 52 06.2**	**+1.1**
	0.6nm,0.3s,baz=36,slow=14,SNR=17						
CTAO	**Charters Tower**	**15.88**	**213**	Pn	**Pn**	**04 52 05.1**	**0.0**
CTAO				IAmb	IAmb	04 52 08.9	
	comp=Z,34nm,0.8s						
CTAO	**Charters Tower**	**15.88**	**213**	P	**Pn**	**04 52 04.0**	**-1.1**
DZM	**Mont Dzumac**	**18.43**	**146**	P	**P**	**04 52 35.2**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=352,slow=16,SNR=6.5						
DZM				LR	LR	04 57 50.8	
	comp=Z,434nm,19.7s,baz=20,slow=31						
DZM	**Mont Dzumac**	**18.43**	**146**	*e*P	**Pn**	**04 52 40.4**	**+4.2**
	comp=Z,99nm,1.4s						
DZM				*e*LR	LR	04 57 13.0	
	comp=Z,575nm,27.9s						
DZM	**Mont Dzumac**	**18.43**	**146**	P	**Pn**	**04 52 35.4**	**-0.7**
DZM				IAmb	IAmb	04 52 37.5	
	comp=Z,56nm,1.4s						
EIDS	**Eidsvold**	**18.85**	**192**	P	**P**	**04 52 39.5**	**+0.1**
EIDS				IAmb	IAmb	04 52 40.8	
	comp=Z,42nm,1.4s						
RMQ	**Roma**	**20.51**	**197**	P	**P**	**04 52 55.5**	**-1.9**
QIS	**Mount Isa**	**20.52**	**227**	P	**P**	**04 52 57.4**	**-0.3**
QLP	**Quilpie**	**22.32**	**207**	P	**P**	**04 53 14.2**	**-2.5**
KDU	**Kakadu**	**23.39**	**254**	P	**P**	**04 53 26.9**	**-0.4**
FAKI	**Fak Fak**	**23.48**	**279**	P	**P**	**04 53 28.0**	**-0.2**
	comp=Z,18nm,1.3s						
FAKI	**Fak Fak**	**23.48**	**279**	P	**P**	**04 53 28.0**	**-0.2**
ARMA	**Armidale**	**23.68**	**188**	P	**P**	**04 53 30.6**	**+0.6**
ARMA				IAmb	IAmb	04 53 31.1	
	comp=Z,64nm,1.5s						
ARMA	**Armidale**	**23.68**	**188**	P	**P**	**04 53 28.7**	**-1.2**
WR0	**Warramunga Arr**	**24.12**	**235**	P	**P**	**04 53 34.2**	**+0.3**
WRAB	**Tennant Creek**	**24.26**	**236**	P	**P**	**04 53 35.3**	**+0.1**
WRAB				IAmb	IAmb	04 53 36.4	
	comp=Z,55nm,1.3s						
WRAB	**Tennant Creek**	**24.26**	**236**	P	**P**	**04 53 35.3**	**+0.1**
WB2	**Warramunga Arr**	**24.26**	**236**	P	**P**	**04 53 35.4**	**+0.2**
WB2				IAmb	IAmb	04 53 36.6	
	comp=Z,51nm,1.2s						
WRA	**Warramunga Arr**	**24.27**	**236**	P	**P**	**04 53 34.3**	**-1.0**
	comp=Z,56nm,0.5s,baz=60,slow=9.7,SNR=2.1						
WRA				LR	LR	05 02 41.0	
	comp=Z,88nm,20.4s,baz=42,slow=35						
WRA	**Warramunga Arr**	**24.27**	**236**	P	**P**	**04 53 35.8**	**+0.5**
WRA				IAmb	IAmb	04 53 37.4	
	comp=Z,45nm,0.8s						
MTN	**Manton Dam**	**24.70**	**254**	P	**P**	**04 53 39.6**	**+0.4**
MTN				IAmb	IAmb	04 53 40.5	
	comp=Z,29nm,1.1s						
MTN	**Manton Dam**	**24.70**	**254**	P	**P**	**04 53 39.5**	**+0.4**
	comp=Z,23nm,0.9s						
SIJI	**Sorong**	**24.88**	**283**	P	**P**	**04 53 39.0**	**-2.0**
	comp=Z,16nm,0.5s,baz=92,slow=7.4,SNR=8.9						
SWI	**Sorong**	**24.89**	**283**	P	**P**	**04 53 40.8**	**-0.1**
	comp=Z,27nm,0.8s						
INKA	**Innaminka**	**25.00**	**212**	P	**P**	**04 53 41.4**	**-0.4**
	comp=Z,96nm,0.8s						
CMSA	**Cobar Meteorol**	**26.17**	**199**	P	**P**	**04 53 51.9**	**-0.4**
MGCD	**Mangrove Creek**	**26.50**	**188**	P	**P**	**04 53 53.6**	**-1.6**
AS31	**Alice Springs**	**26.60**	**229**	P	**P**	**04 53 55.8**	**-0.6**
ASAR	**Alice Springs**	**26.60**	**229**	P	**P**	**04 53 55.8**	**-0.6**
	comp=Z,7.6nm,0.7s,baz=64,slow=8.7,SNR=117						
ASAR				ScP	**ScP**	**05 00 52.0**	**+2.5**
	comp=Z,2.5nm,0.9s,baz=51,slow=3.5,SNR=13						
H11S3	**WAKE ISLAND Hy**	**27.54**	**23**	T	T	05 22 17.0	
	baz=204,slow=76,SNR=210						
H11S2	**WAKE ISLAND Hy**	**27.55**	**24**	T	T	05 22 16.1	
	baz=204,slow=76,SNR=262						
H11S1	**WAKE ISLAND Hy**	**27.56**	**24**	T	T	05 22 23.0	
	baz=204,slow=76,SNR=193						
KNRA	**Kununurra**	**27.59**	**249**	P	**P**	**04 54 05.3**	**+0.1**
KNRA	**Kununurra**	**27.59**	**249**	P	**P**	**04 54 07.0**	**+1.7**
OOD	**Oodnadatta**	**28.00**	**220**	P	**P**	**04 54 07.9**	**-0.9**
STKA	**Stephens Creek**	**28.03**	**206**	P	**P**	**04 54 08.7**	**-0.3**
	comp=Z,12nm,0.8s,baz=14,slow=11,SNR=13						
STKA				LR	LR	05 04 48.1	
	comp=Z,192nm,20.9s,baz=26,slow=35						
STKA	**Stephens Creek**	**28.03**	**206**	P	**P**	**04 54 08.8**	**-0.1**
STKA	**Stephens Creek**	**28.03**	**206**	P	**P**	**04 54 08.9**	**-0.1**
H11N1	**WAKE ISLAND Hy**	**28.73**	**23**	T	T	05 23 41.7	
	baz=205,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy**	**28.74**	**23**	T	T	05 23 42.3	
	baz=205,slow=76,SNR=105						
H11N2	**WAKE ISLAND Hy**	**28.75**	**23**	T	T	05 23 56.8	
	baz=205,slow=76,SNR=30						
HTT	**Hallett**	**30.55**	**208**	P	**P**	**04 54 31.6**	**+0.3**
NAPP	**Napperby**	**30.71**	**209**	P	**P**	**04 54 33.7**	**+1.0**
	comp=Z,15nm,0.8s						
MULG	**Mulgathing**	**30.76**	**218**	P	**P**	**04 54 31.8**	**-1.4**
BBOO	**Buckleboo**	**31.48**	**212**	P	**P**	**04 54 38.5**	**-1.0**
BBOO				IAmb	IAmb	04 54 39.5	
	comp=Z,13nm,0.9s						
BBOO	**Buckleboo**	**31.48**	**212**	P	**P**	**04 54 38.5**	**-1.0**
WRKA	**Warakurna**	**31.64**	**232**	P	**P**	**04 54 40.1**	**-1.0**
TOO	**Toolangi**	**31.86**	**195**	P	**P**	**04 54 43.5**	**+0.7**
ARPS	**Mount Arapiles**	**32.24**	**201**	P	**P**	**04 54 45.9**	**-0.2**
AFI	**Afiamalu**	**32.92**	**105**	LR	LR	05 06 18.6	
	comp=Z,74nm,20.3s,baz=138,slow=33						
EDFI	**Ende, Flores**	**33.52**	**265**	P	**P**	**04 54 56.6**	**-1.1**
	comp=Z,11nm,0.9s						
FORT	**Forrest**	**35.00**	**224**	P	**P**	**04 55 09.6**	**-0.6**
FORT	**Forrest**	**35.00**	**224**	P	**P**	**04 55 09.5**	**-0.6**
TOLI2	**Tolitoli**	**35.53**	**282**	P	**P**	**04 55 13.5**	**-1.4**
MPSI	**Mapaga**	**36.22**	**280**	P	**P**	**04 55 19.5**	**-1.3**
	comp=Z,9.5nm,0.6s						
TAU	**Tasmania Unive**	**36.59**	**190**	P	**P**	**04 55 24.7**	**+1.3**
URZ	**Urewera**	**36.86**	**151**	LR	LR	05 08 20.4	
	comp=Z,103nm,20.7s,baz=28,slow=32						
BKZ	**Black Stump Fm**	**37.29**	**153**	P	**P**	**04 55 29.7**	**+0.1**
BKZ				IAmb	IAmb	04 55 53.7	
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**37.38**	**243**	P	**P**	**04 55 30.4**	**-0.2**
PSA00	**Pilbara Seismi**	**37.38**	**243**	P	**P**	**04 55 30.8**	**+0.3**
	comp=Z,114nm,1.2s						
THZ	**Tophouse**	**38.01**	**159**	P	**P**	**04 55 35.0**	**-0.7**
TUWZ	**Tuamarina**	**38.11**	**157**	P	**P**	**04 55 36.8**	**+0.4**
KKM	**Kota Kinabalu**	**41.24**	**287**	P	**P**	**04 56 02.6**	**-0.2**
MORW	**Morawa**	**43.21**	**234**	P	**P**	**04 56 17.8**	**-0.8**
MORW				IAmb	IAmb	04 56 19.0	
	comp=Z,12nm,0.8s						
JMN	**Monobe**	**45.30**	**334**	P	**P**	**04 56 35.3**	**+0.1**
JWT	**Wachi**	**46.03**	**337**	P	**P**	**04 56 40.4**	**-0.4**
JWT				IAmb	IAmb	04 57 03.9	
	comp=Z,32nm,1.4s						
MJAR	**Matsushiro Arr**	**46.15**	**341**	P	**P**	**04 56 40.0**	**-1.7**
	comp=Z,6.2nm,0.6s,baz=169,slow=7.8,SNR=12						
MJAR	**Matsushiro Arr**	**46.15**	**341**	P	**P**	**04 56 41.7**	**-0.1**
MAJO	**Matsushiro**	**46.15**	**341**	P	**P**	**04 56 41.9**	**+0.1**
MAJO				IAmb	IAmb	04 56 43.1	
	comp=Z,10nm,0.6s						
MAT	**Matsushiro**	**46.15**	**341**	P	**P**	**04 56 40.1**	**-1.7**
MJB9	**Matsu-Tunnel**	**46.15**	**341**	P	**P**	**04 56 41.7**	**-0.1**
MJB9				IAmb	IAmb	04 56 43.1	
	comp=Z,10.0nm,0.6s						
CGJI	**Cibinong**	**49.43**	**267**	P	**P**	**04 57 08.7**	**+1.2**
	comp=Z,46nm,0.4s						
DLV	**T Lat**	**50.35**	**292**	P	**P**	**04 57 15.0**	**+0.4**
JKA	**Kamikawa-asahi**	**52.09**	**348**	P	**P**	**04 57 26.9**	**-0.1**
ASAJ	**Asahikawa**	**52.09**	**348**	P	**P**	**04 57 25.8**	**-1.1**
	comp=Z,11nm,0.7s,baz=52,slow=20,SNR=4.5						
NJ2	**Nanjing**	**52.15**	**320**	*e*P	**P**	**04 57 30.8**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,44nm,1.0s						
KLR	**Kul'dur**	**59.62**	**342**	P	**P**	**04 58 19.9**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=230,slow=1.4,SNR=6.8						
KLR				LR	LR	05 21 43.8	
	comp=Z,36nm,21.6s,baz=194,slow=34						
PEA0B	**Petropavlovsk-**	**59.80**	**2**	P	**P**	**04 58 23.6**	**+1.9**
PETK	**Petropavlovsk-**	**59.80**	**2**	P	**P**	**04 58 21.1**	**-0.6**
	comp=Z,9.7nm,0.9s,baz=166,slow=8.2,SNR=10.0						
PETK				LR	LR	05 19 56.6	
	comp=Z,66nm,21.7s,baz=220,slow=32						
PETK	**Petropavlovsk-**	**59.80**	**2**	P	**P**	**04 58 23.7**	**+2.0**
CMAR	**Chiang Mai Arr**	**61.18**	**295**	P	**P**	**04 58 30.2**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=100,slow=5.4,SNR=5.4						
CMAR	**Chiang Mai Arr**	**61.18**	**295**	P	**P**	**04 58 31.9**	**+0.1**
PZH	**PanZhiHua**	**61.76**	**305**	P	**P**	**04 58 36.5**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,4.9s						
HHC	**Hu-ho-hao-te**	**62.30**	**324**	*e*P	**P**	**04 58 42.6**	**+3.5**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,95nm,4.7s						
LZH	**Lanzhou**	**64.59**	**315**	*e*P	**P**	**04 58 54.0**	**-0.3**
LZH				pP	PcP	04 59 27.6	+0.1
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
SONM	**Songino Array**	**69.52**	**327**	P	**P**	**04 59 24.2**	**-1.0**
	comp=Z,2.9nm,0.6s,baz=142,slow=5.1,SNR=14						
SONM	**Songino Array**	**69.52**	**327**	P	**P**	**04 59 25.4**	**+0.2**
TNA	**Tin City**	**77.10**	**15**	P	**P**	**05 00 11.5**	**+2.3**
WMQ	**Urumqi**	**79.08**	**317**	*e*P	**P**	**05 00 21.9**	**+1.1**
SML	**Sawmill**	**80.94**	**24**		**P**	**05 00 30.0**	**-0.4**
SML				IAmb	IAmb	05 00 34.7	
	comp=Z,13nm,1.1s						
IMAR	**Indian Mountai**	**81.48**	**19**	P	**P**	**05 00 33.1**	**+0.1**
QSPA	**South Pole Qui**	**83.08**	**180**	P	**P**	**05 00 41.1**	**-0.6**
QSPA				IAmb	IAmb	05 00 42.9	
	comp=Z,5.2nm,0.7s						
IL31		**83.10**	**21**	P	**P**	**05 00 40.1**	**-1.4**
ILAR	**Eielson Array**	**83.10**	**21**	P	**P**	**05 00 40.0**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=244,slow=5.6,SNR=20						
ILAR				LR	LR	05 33 37.9	
	comp=Z,58nm,19.5s,baz=234,slow=33						
ILAR	**Eielson Array**	**83.10**	**21**	P	**P**	**05 00 40.8**	**-0.8**
BARN	**Barnard Glacie**	**83.33**	**26**	P	**P**	**05 00 44.1**	**+1.1**
BARN				IAmb	IAmb	05 00 57.6	
	comp=Z,18nm,1.2s						
CTGM	**Chitina Glacie**	**83.43**	**26**	P	**P**	**05 00 43.7**	**+0.2**
CTGM				IAmb	IAmb	05 00 50.3	
	comp=Z,29nm,1.4s						
M27K	**Edge Creek, AK**	**83.84**	**25**	P	**P**	**05 00 48.1**	**+2.6**
M27K				IAmb	IAmb	05 01 08.6	
	comp=Z,24nm,1.4s						
A21K	**Barrow**	**84.17**	**14**	P	**P**	**05 00 46.5**	**-0.3**
A21K				IAmb	IAmb	05 01 14.0	
	comp=Z,15nm,1.2s						
ZALV	**Zalesovo Beam**	**84.37**	**326**	LR	LR	05 40 04.7	
	comp=Z,17nm,19.0s,baz=32,slow=37						
BBB	**Bella Bella**	**87.15**	**37**	LR	LR	05 33 32.3	
	comp=Z,98nm,19.1s,baz=248,slow=31						
EPYK	**Eagle Plains**	**87.59**	**22**	P	**P**	**05 01 04.1**	**+0.3**
EPYK				IAmb	IAmb	05 01 24.6	
	comp=Z,6.0nm,0.9s						
YBH	**Yreka Blue Hor**	**88.46**	**48**	LR	LR	05 35 24.9	
	comp=Z,55nm,18.5s,baz=350,slow=32						
NRIK	**Noril'sk**	**88.80**	**341**	P	**P**	**05 01 08.3**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=15,slow=7.1,SNR=3.8						
BVAR	**Borovoye Array**	**92.51**	**323**	P	**P**	**05 01 26.1**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=100,slow=8.1,SNR=4.8						
SYO	**Syowa Base**	**92.58**	**199**	⇓*e*P	**P**	**05 01 27.0**	**-0.1**
C36M	**Paulatuk**	**93.04**	**21**	P	**P**	**05 01 28.2**	**-0.9**
C36M				IAmb	IAmb	05 01 55.4	
	comp=Z,8.5nm,1.2s						
NEW	**Newport**	**93.36**	**42**	LR	LR	05 39 03.5	
	comp=Z,81nm,19.0s,baz=270,slow=33						
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**05 01 41.5**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=266,slow=4.6,SNR=21						
YKA				LR	LR	05 38 47.7	
	comp=Z,62nm,19.7s,baz=349,slow=32						
GCMT	**Greycliff**	**98.27**	**45**	P	**P**	**05 01 51.9**	**-1.9**
BDFB	**Brasilia**	**147.70**	**134**	PKPbc	**PKPbc**	**05 08 00.5**	**-0.9**
	comp=Z,4.1nm,0.7s,baz=262,slow=2.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**153.47**	**286**	PKPbc	**PKPbc**	**05 08 13.7**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=76,slow=1.8,SNR=15						
TORD	**Torodi Ar. Bea**	**153.47**	**286**		**PKPbc**	**05 08 14.3**	**-0.7**
DBIC	**Dimbokro**	**160.48**	**271**	PKPab	**PKPab**	**05 08 58.2**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=90,slow=3.3,SNR=4.1						

IDC ***11*** *04:52:51.8±0.6, 23°.45N×121°.70E, h0km, mb4.3/22, mb1 4.4/25, mb1mx4.3/48, mbtmp4.3/25, ML4.3/2, MS3.7/22, Ms1 3.7/22, ms1mx3.4/83, Error ellipse: s-maj=17.9km s-min=13.6km az=69.0*
BJI ***11*** *04:52:55.9±0.0, 23°.43N×121°.62E, h29km, mb4.4/58, mB4.5/43, ML4.5/9, Ms4.3/55, Ms7 4.1/50*
NIED ***11*** *04:52:56.3, 23°.39N×121°.58E, h35km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr-0.72; Mθθ1.48; Mφφ-0.77; Mrθ-0.81; Mθφ-0.09; Mφr-0.74; Fault plane solution: M0 1.69000×10^16^ NP1: φs=58.00000°, δ74.00000°, λ-129.00000°. NP2: φs=309.00000°, δ42.00000°, λ-25.00000°.*
JMA ***11*** *04:52:56.2±0.1, 23°.39N×121°.58E, h35km±3km, M4.8*
ASIES ***11*** *04:52:57.6, 23°.39N×121°.61E, h32km, MW4.5*
NEIC ***11*** *04:52:57.9±2.3, 23°.39N±0°.05×121°.51E±0°.05, h34km±4km, mb4.7/60, Mwr4.6/24, ML5.3(TAP), Error ellipse: s-maj=8.4km s-min=5.5km az=137.0*
TAP ***11*** *04:52:57.5, 23°.43N×121°.53E, h33km, ML5.2, B*
NEIC ***11*** *04:52:58, 23°.39N×121°.53E, h39km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr0.15; Mθθ0.77; Mφφ-0.92; Mrθ-0.02; Mθφ-0.69; Mφr-0.26; Fault plane solution: M0 1.13000×10^16^ NP1: φs334.42000°, δ85.74000°, λ-10.76000°. NP2: φs65.23000°, δ79.27000°, λ-175.67000°. Principal axes: T 1.0228, Plg5.0000°, Azm20.00000°; N 0.1907, Plg78.0000°, Azm133.0000°; P -1.2135, Plg11.0000°, Azm289.0000°;*
ISC 11 04:52:57.4±0.5, 23°.44N±0°.02×121°.56E±0°.02, h34km±1km, n330, σ1$35/447, mb4.6/62, MS3.8/28, 37C-50D, Fault plane solution: NP1: φs171.23233°, δ64.36770°, λ11.03372°. **NP2:** φs76.41074°, δ80.06377°, λ153.94832°. **Principal axes:** T Plg25.3345°, Azm31.0678°; N Plg62.2420°, Azm236.9689°; P Plg10.5957°, Azm126.1488°; **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.14**	**291**	⇓*i*P	**Pb**	**04 53 03.6**	**0.0**
	baz=301						
EHY	**Hungye**	**0.23**	**286**	⇓*i*P	**Pn**	**04 53 04.1**	**+0.1**
	baz=291						
EHY				*e*S	**Sb**	**04 53 08.8**	**-0.4**
	baz=291						
EYUL	**Yuli**	**0.24**	**247**	⇓P	**Pb**	**04 53 04.6**	**0.0**
	baz=259						
EYUL				*e*S	**Sb**	**04 53 09.9**	**+0.5**
	baz=259						
YULB	**Yu-li**	**0.25**	**259**	P	**Pn**	**04 53 04.3**	**0.0**
	baz=271						
YULB				*i* S	**Sn**	**04 53 08.9**	**+1.3**
	baz=271						
YULB	**Yu-li**	**0.25**	**259**		**Pn**	**04 53 03.8**	**-0.6**
YULB				Sg	**Sn**	**04 53 09.0**	**+1.3**
EGFH	**Guangfu**	**0.26**	**331**	⇓*i*P	**Pn**	**04 53 04.7**	**+0.2**
	baz=326						
EGFH				S	**Sb**	**04 53 10.7**	**+0.9**
	baz=326						
TEGC	**Jichi Village**	**0.27**	**355**	P	**Pb**	**04 53 05.4**	**+0.5**
	baz=9.0						
TEGC				*e*S	**Sb**	**04 53 11.5**	**+1.7**
	baz=9.0						
FULB	**Fuli**	**0.35**	**226**	⇑*i*P	**Pb**	**04 53 06.0**	**+0.1**
	baz=213						
FULB				*e*S	**Sn**	**04 53 12.6**	**+1.0**
	baz=213						
CHKT	**Chengkung**	**0.39**	**208**	*i* P	**Pb**	**04 53 06.2**	**-0.2**
	baz=196						
CHKT				S	**Sb**	**04 53 12.7**	**+0.1**
	baz=196						
ESL	**Shilin**	**0.39**	**342**	P	**Pb**	**04 53 06.0**	**-0.5**
	baz=338						
ESL				S	**Sb**	**04 53 12.2**	**-0.4**
	baz=338						
VWDT	**VWDT**	**0.50**	**309**	⇓*i*P	**Pb**	**04 53 07.9**	**-0.1**
	baz=312						
VWDT				S	**Sb**	**04 53 14.6**	**-0.7**
	baz=312						
EDH	**Donghe**	**0.53**	**207**	*i* P	**Pb**	**04 53 08.2**	**-0.3**
	baz=196						
EDH				*e*S	**Sb**	**04 53 15.6**	**-0.4**
	baz=196						
HWA	**Hwalien**	**0.53**	**4**	⇑*i*P	**Pn**	**04 53 08.9**	**+0.2**
	baz=18						
HWA				S	**Sn**	**04 53 18.7**	**+2.2**
	baz=18						
ELDTW	**Lidau**	**0.56**	**243**	⇑*i*P	**Pn**	**04 53 08.0**	**-1.1**
	baz=237						
ELDTW				*e*S	**Sb**	**04 53 15.0**	**-2.1**
	baz=237						
OWD	**Renai**	**0.62**	**325**	⇓*i*P	**Pn**	**04 53 09.6**	**-0.4**
	baz=335						
OWD				*e*S	**Sb**	**04 53 17.6**	**-1.2**
	baz=335						
TWD	**Chiawan**	**0.64**	**3**	*i* P	**Pn**	**04 53 09.9**	**-0.2**
	baz=353						
TWD				*e*S	**Sn**	**04 53 19.9**	**+0.9**
	baz=353						
SSLB	**Suanglung**	**0.66**	**302**	⇓*i*P	**Pn**	**04 53 10.0**	**-0.4**
	baz=299						
SSLB				S	**Sn**	**04 53 18.2**	**-1.4**
	baz=299						
SSLB	**Suanglung**	**0.66**	**302**	Pn	**Pn**	**04 53 09.7**	**-0.6**
LONT	**Longtian**	**0.67**	**217**	*e*P	**Pn**	**04 53 09.3**	**-1.2**
	baz=215						
ALS	**Alishan**	**0.70**	**276**	⇓*i*P	**Pn**	**04 53 11.4**	**+0.2**
	baz=276						
ALS				*e*S	**Sn**	**04 53 20.7**	**-0.4**
	baz=276						
CHGB	**Renai**	**0.71**	**330**	⇓*i*P	**Pn**	**04 53 11.2**	**-0.2**
	baz=339						
CHGB				S	**Sn**	**04 53 19.0**	**-2.3**
	baz=339						
ETL	**Fush Village**	**0.72**	**4**	*e*P	**Pn**	**04 53 10.7**	**-0.5**
	baz=354						
ETL				*e*S	**Sn**	**04 53 20.7**	**-0.4**
	baz=354						
NACB	**Ninganchiao**	**0.73**	**2**		**Pn**	**04 53 11.2**	**-0.2**
SMLT	**Sun Moon Lake**	**0.75**	**306**	⇓*i*P	**Pn**	**04 53 11.8**	**0.0**
	baz=313						
SMLT				*e*S	**Sn**	**04 53 21.0**	**-1.1**
	baz=313						
WHF	**Hehuan Shan**	**0.75**	**339**	*i* P	**Pn**	**04 53 11.4**	**-0.7**
	baz=342						
WHF				*e*S	**Sn**	**04 53 20.8**	**-1.8**
	baz=342						
TWGBT	**Beinan**	**0.76**	**216**	⇑*i*P	**Pn**	**04 53 10.4**	**-1.5**
	baz=214						
ETLH	**Xiulin Townshi**	**0.77**	**354**	*i* P	**Pn**	**04 53 11.3**	**-0.7**
	baz=357						
ETLH				*e*S	**Sn**	**04 53 21.7**	**-0.7**
	baz=357						
TWG	**Pinlang**	**0.77**	**216**	⇑*i*P	**Pn**	**04 53 10.4**	**-1.4**
	baz=214						
TWG	**Pinlang**	**0.77**	**216**		**Pn**	**04 53 10.5**	**-1.4**
LDUT	**Ludao**	**0.77**	**186**	*i* P	**Pn**	**04 53 10.7**	**-1.2**
	baz=175						
LDUT				*e*S	**Sn**	**04 53 20.2**	**-2.1**
	baz=175						
STYH	**Taoyuan**	**0.77**	**250**	⇑*i*P	**Pn**	**04 53 11.8**	**-0.1**
	baz=247						
STYH				*e*S	**Sn**	**04 53 21.6**	**-0.8**
	baz=247						
TYC	**Yuchr**	**0.79**	**306**	⇓*i*P	**Pn**	**04 53 12.5**	**+0.2**
	baz=308						
TYC				*e*S	**Sn**	**04 53 22.0**	**-0.9**
	baz=308						
CHN5	**Tsauling**	**0.83**	**281**	⇓*i*P	**Pb**	**04 53 13.6**	**+0.1**
	baz=287						
CHN5				*e*S	**Sn**	**04 53 24.4**	**+0.5**
	baz=287						
FUSS	**Fushou**	**0.85**	**340**	P	**Pn**	**04 53 13.5**	**+0.1**
	baz=343						
FUSS				*e*S	**Sn**	**04 53 24.5**	**-0.3**
	baz=343						
WCS	**Beigang Elemen**	**0.85**	**316**	⇓*i*P	**Pn**	**04 53 13.5**	**+0.4**
	baz=322						
WCS				*e*S	**Sn**	**04 53 24.7**	**+0.2**
	baz=322						

baz=212
EWUT Wuta 1.02 11 ⇑P Pn 04 53 15.5 +0.1
baz=24
EWUT eS Sn 04 53 28.6 +0.1
baz=24
CHY Chiayi 1.05 273 ⇓iP Pb 04 53 17.1 -0.1
baz=274
CHY S Sb 04 53 30.6 +0.1
baz=274
TCU Taichung 1.07 311 ⇓iP Pb 04 53 17.9 +0.3
baz=313
TCU eS Sb 04 53 32.2 +0.9
baz=313
SSD Sandimen 1.10 231 eP Pn 04 53 16.2 -0.3
baz=230
SSD eS Sn 04 53 31.1 +0.5
baz=230
WTK Tuku 1.10 283 eP Pb 04 53 17.7 -0.4
baz=283
WCHH Zhanghua 1.12 305 ⇓iP Pb 04 53 18.2 -0.1
baz=306
WCHH eS Sb 04 53 32.9 +0.4
baz=306
TSMG Majia 1.12 229 eP Pn 04 53 16.5 -0.2
baz=228
TSMG eS Sb 04 53 32.6 0.0
baz=228
NDT Datong Townshi 1.16 358 eP Pn 04 53 17.7 +0.4
baz=11
TWQ1 Liyutan 1.16 321 ⇓iP Pb 04 53 19.1 +0.2
baz=323
TWQ1 i S Sb 04 53 34.7 +1.0
baz=323
CHN3 Shinhua 1.16 252 P Pb 04 53 19.2 +0.2
baz=252
CHN3 eS Sb 04 53 36.6 +2.8
baz=252
WRL Guolierlin Hig 1.18 293 eP Pb 04 53 19.0 -0.4
baz=294
WRL eS Sb 04 53 34.4 +0.1
baz=294
ICHU Yijhu 1.18 266 ⇓iP Pb 04 53 18.8 -0.5
baz=266
ICHU eS Sb 04 53 34.8 +0.4
baz=266
MASBT Mashibuluo 1.19 226 eP Pn 04 53 17.8 +0.1
baz=225
MASBT S Sn 04 53 33.4 +0.6
baz=225
TWC Suao 1.19 13 P Pn 04 53 18.1 +0.4
baz=26
TWC eS Sb 04 53 34.6 -0.1
baz=26
ENTT Nioudou 1.19 0 ⇑iP Pn 04 53 18.0 +0.2
baz=4.0
NDS Dongshan 1.19 7 eP Pn 04 53 18.4 +0.6
baz=360
NDS eS Sb 04 53 34.4 -0.4
baz=360
SSHA Shanhua 1.21 256 eP Pb 04 53 20.0 +0.1
baz=268
SSHA eS Sb 04 53 36.8 +1.5
baz=268
TWM1 Shoushan 1.22 240 P Pb 04 53 20.5 +0.5
baz=239
TWM1 eS Sb 04 53 38.7 +3.3
baz=239
SGLT Jiouru 1.22 234 eP Pb 04 53 20.6 +0.6
baz=223
SGLT eS Sb 04 53 36.7 +1.3
baz=223
YHNB Yeheng 1.23 352 ⇑iP Pn 04 53 19.1 +0.7
baz=5.0
YHNB eS Sn 04 53 33.7 -0.3
baz=5.0
YHNB Yeheng 1.23 352 Pn 04 53 18.9 +0.5
WDJ Dajia District 1.24 317 P Pb 04 53 20.1 -0.2
baz=318
WDJ S Sb 04 53 36.8 +0.9
baz=318
TAW Tawu 1.24 210 eP Pn 04 53 17.0 -1.5
baz=209
TAW eS Sn 04 53 31.8 -2.2
baz=209
EAST Anshuo 1.24 212 eP Pn 04 53 17.2 -1.3
baz=204
NSK Sanguang 1.24 351 ⇑iP Pn 04 53 19.2 +0.7
baz=354
NSK eS Sn 04 53 33.1 -1.1
baz=354
CHN8 Yiju 1.25 266 ⇓iP Pn 04 53 19.6 +1.1
baz=266
CHN8 eS Sb 04 53 36.8 +0.6
baz=266
WSF Szhu 1.25 279 ⇓iP Pn 04 53 19.2 +0.7
baz=280
WSF eS Sn 04 53 34.7 +0.6
baz=280
WTCT Ta-ch'eng 1.25 290 ⇓iP Pn 04 53 19.6 +1.1
baz=290
WTCT eS Sb 04 53 36.2 0.0
baz=290
TWE Neicheng 1.28 4 ⇑iP Pn 04 53 19.2 +0.2
baz=8.0
SCLT Jiali 1.29 258 ⇓iP Pb 04 53 20.3 -0.8
baz=258
SCLT eS Sb 04 53 37.2 -0.1
baz=258
NSTT Nanjuang 1.29 337 P Pb 04 53 20.8 -0.4
baz=338
NSTT S Sb 04 53 37.5 0.0
baz=338
TAI1 Yung-k'ang 1.29 252 eP Pb 04 53 20.6 -0.6
baz=252
LIOB Emei 1.30 337 eP Pb 04 53 21.1 -0.3
baz=339
LIOB eS Sb 04 53 37.5 -0.2
baz=339
NMLH Miaoli 1.30 327 eP Pb 04 53 20.9 -0.5
baz=329
NMLH S Sb 04 53 37.8 +0.1
baz=329
SNJT Kaohsiung City 1.32 239 eP Pb 04 53 21.6 -0.1
baz=239
SSPT Xinbi 1.32 224 eP Pb 04 53 20.8 -0.9
baz=217
SSPT eS Sn 04 53 36.4 +0.4
baz=217
ILA Ilan 1.33 7 eP Pb 04 53 21.6 -0.2
baz=1.0
ILA eS Sn 04 53 37.3 +1.1
baz=1.0
NWLT Wulai 1.33 358 eP Pn 04 53 20.7 +1.0
NWLT eS Sn 04 53 36.4 +0.1
SCZT Fangliau 1.38 219 eP Pn 04 53 20.3 0.0
baz=217
SCZT eS Sb 04 53 39.9 0.0
baz=217
LAY Lan-yu 1.40 180 eP Pn 04 53 19.3 -1.3
baz=172
LAY eS Sn 04 53 36.7 -1.2
baz=172
SLIU Shizi 1.41 210 eP Pn 04 53 19.9 -0.9
baz=203
NTC Toucheng 1.43 10 eP Pb 04 53 22.8 -0.7
baz=23
NTC eS Sb 04 53 41.5 +0.1
baz=23
LYUB Lan-yu 1.43 179 eP Pn 04 53 19.1 -2.0
baz=171
LYUB eS Sn 04 53 37.1 -1.7
baz=171
EGS 1.44 13 eP Pb 04 53 23.6 -0.1
baz=26
EGS eS Sb 04 53 42.5 +0.9
baz=26
SBCB Hsinchu 1.44 339 eP Pb 04 53 22.7 -1.1
baz=340
SBCB eS Sb 04 53 41.9 0.0
baz=340
HSN Hsinchu 1.46 338 eP Pb 04 53 23.8 -0.3
baz=327
HSN eS Sb 04 53 42.8 +0.5
baz=327
NHDH Xindian Distri 1.52 359 eP Pn 04 53 23.5 +1.3
baz=1.0
NHDH eS Sb 04 53 42.4 -1.4
baz=1.0

TATO Taipei 1.53 357 Pn Pn 04 53 23.3 +0.9
TWA Mucha 1.53 1 eP Pn 04 53 23.5 +1.0
baz=3.0
TWA eS Sn 04 53 42.1 +0.9
baz=3.0
WLCH Liuqiu 1.54 225 eP Pb 04 53 25.3 -0.1
baz=227
TIPB Shuangxi 1.54 9 eP Pn 04 53 23.6 +1.0
baz=2.0
TIPB eS Sn 04 53 41.8 +0.3
baz=2.0
NCUH Zhongli 1.56 347 eP Pb 04 53 25.1 -0.6
baz=349
NCUH eS Sb 04 53 44.7 -0.4
baz=349
NCU National Centr 1.56 347 eP Pb 04 53 24.7 -1.1
baz=349
NCU eS Sb 04 53 45.3 +0.2
baz=349
TAP Taipei 1.59 358 eP Pb 04 53 26.1 -0.2
TAP eS Sn 04 53 44.1 +1.5
TWB1 Santiao Chiao 1.61 14 ⇑eP Pb 04 53 25.0 -1.6
baz=31
TWB1 eS Sb 04 53 45.4 -1.1
baz=31
JYNG Yonagunijimaku 1.61 51 P Pn 04 53 24.6 +1.0
JYNG S Sn 04 53 44.2 +1.0
HEN Hengchun 1.62 208 eP Pb 04 53 26.2 -0.6
baz=198
NWF Wu-fen Shan 1.63 7 eP Pn 04 53 25.3 +1.4
baz=10.0
TWKBT Hengchun 1.65 205 eP Pn 04 53 24.3 +0.3
baz=197
TWK1 Hengchun 1.65 205 eP Pn 04 53 24.8 +0.8
baz=197
TSEB Hengchuen, Pin 1.65 202 eP Pn 04 53 24.2 +0.1
baz=203
TSEB eS Sn 04 53 44.7 +0.6
baz=203
TWS1 Kuangyinshan 1.66 355 eP Pn 04 53 25.7 +1.5
baz=11
TWS1 eS Sb 04 53 46.1 -1.8
baz=11
YOJ Yonaguni jima 1.67 52 P Pn 04 53 25.5 +1.2
YOJ S Sn 04 53 45.5 +0.9
YOJ Yonaguni jima 1.67 52 eP Pn 04 53 25.2 +0.9
baz=52
YOJ i S Sn 04 53 45.4 +0.9
baz=52
YOJ Yonaguni jima 1.67 52 Pn Pn 04 53 25.3 +1.0
YM01 YM01 1.70 0 eP Pn 04 53 25.6 +0.8
baz=3.0
NTST Danshui 1.72 357 eP Pb 04 53 27.5 -0.9
baz=13
NTST eS Sb 04 53 48.7 -1.0
baz=13
ANP Anpu 1.74 359 eP Pn 04 53 26.1 +0.8
baz=2.0
WDGT Dungji 1.76 264 P Pn 04 53 25.8 +0.3
baz=264
WDGT eS Sn 04 53 46.3 -0.5
baz=264
TWY Chenhua 1.83 1 eP Pn 04 53 28.1 +1.6
baz=4.0
PHUB P'eng-hu 1.83 273 P Pn 04 53 26.8 +0.3
baz=272
PHUB eS Sn 04 53 48.5 0.0
baz=272
PNG Penghu 1.85 274 i P Pn 04 53 27.2 +0.4
baz=274
PNG eS Sn 04 53 48.8 -0.2
baz=274
VCHM Qimei 1.98 264 eP Pn 04 53 28.6 0.0
baz=263
HATJ Hateruma jima 2.14 73 P Pn 04 53 31.5 +0.7
HATJ S Sn 04 53 56.7 +0.4
IRIF Iriomote-Funau 2.17 65 P Pn 04 53 32.3 +1.1
IRIF S Sn 04 53 58.0 +1.0
PCYT Pengchaiyu 2.23 12 eP Pn 04 53 33.4 +1.4
baz=3.0
JKRS Kuro-shima 2.38 70 P Pn 04 53 35.3 +1.3
JKRS S Sn 04 54 03.1 +1.1
JIJ Ishigaki jima 2.53 68 P Pn 04 53 36.6 +0.4
JIJ S Sn 04 54 05.3 -0.6
PTMZ Houxiangcun 2.74 306 eP Pn 04 53 39.5 +0.5
baz=305
JISG Ishigakijimahi 2.76 65 P Pn 04 53 39.7 +0.4
JISG S Sn 04 54 10.9 -0.6
BBP Basco 3.01 173 ⇑eP Pn 04 53 42.8 0.0
BBP eS Sn 04 54 15.5 -2.2
KNM Kinmen 3.02 289 eP Pn 04 53 44.2 +1.3
baz=287
MATB Ma-tsu 3.07 332 eP Pn 04 53 43.6 0.0
baz=333
KNMB Chin-men Tao 3.08 290 eP Pn 04 53 43.4 -0.3
baz=288
KNMB Chin-men Tao 3.08 290 Pn Pn 04 53 43.2 -0.5
QZH Quanzhou 3.10 299 ⇓iPn Pn 04 53 44.0 0.0
QZH Sn Sn 04 54 17.8 -2.0
QZH smax smax
comp=N,1μm,0.4s
QZH smax smax
comp=E,740nm,0.8s
QZH LR LR
comp=N,3μm,4.9s
QZH LR LR
comp=E,2μm,8.8s
QZH LR LR
comp=Z,3μm,11.3s
JTJ Tarama 3.11 67 P Pn 04 53 44.7 +0.6
JTJ S Sn 04 54 20.5 +0.4
MHZQ Yeshan 3.51 319 eP Pn 04 53 50.1 +0.5
baz=320
ZPLA Ao Xicun 3.53 279 eP Pn 04 53 49.6 -0.3
baz=276
JIRB Irabujima 3.57 67 P Pn 04 53 51.0 +0.5
JIRB S Sn 04 54 31.3 -0.3
AXDP Jialang 3.59 295 eP Pn 04 53 50.7 0.0
baz=293
JIKM Ikemajima 3.67 66 P Pn 04 53 52.4 +0.5
JIKM S Sn 04 54 33.7 -0.4
JMJ2 Miyako jima3 3.67 69 P Pn 04 53 52.9 +1.0
JMJ2 S Sn 04 54 34.4 +0.3
XPSS Dashiqiu 3.69 341 eP Pn 04 53 51.6 -0.5
baz=343
JOGS Gusukube 3.75 69 P Pn 04 53 54.0 +1.1
JOGS S Sn 04 54 36.3 +0.4
SXFK Yanhouchang 4.62 310 eP Pn 04 54 04.6 -0.3
baz=310
HKPS Hong Kong Po S 6.94 262 Pn Pn 04 54 37.4 +0.6
JOW Kunigami 6.96 60 Pn Pn 04 54 34.9 -2.1
15nm,0.3s,baz=157,slow=16,SNR=26
JOW Sn Sn 04 55 51.2 -3.8
7.9nm,0.3s,baz=162,slow=25,SNR=5.6
JOW Kunigami 6.96 60 Pn Pn 04 54 35.5 -1.5
SSE Sheshan 7.63 358 Pn Pn 04 54 44.9 -1.4
SSE Sn Sn 04 56 13.3 +1.7
SSE smax smax
comp=N,69nm,0.7s
SSE smax smax
comp=E,100nm,0.8s
SSE LR LR
comp=N,250nm,17.8s
SSE LR LR
comp=E,200nm,18.0s
NJ2 Nanjing 8.91 345 eP Pn 04 55 00.9 -2.8
NJ2 sP 04 55 12.0
NJ2 S Sn 04 56 36.7 -6.2
NJ2 pmax pmax
comp=Z,77nm,0.7s
NJ2 pmax pmax
comp=Z,230nm,3.5s
NJ2 smax smax
comp=N,210nm,1.1s
NJ2 smax smax
comp=E,160nm,1.0s
NJ2 LR LR
comp=N,970nm,4.2s
NJ2 LR LR
comp=E,2μm,4.0s
NJ2 LR LR
comp=Z,370nm,3.8s
CNSH ChangSha 9.10 303 ⇑P Pn 04 55 04.8 -1.6
CNSH S Sn 04 56 44.4 -3.2
CNSH smax smax
comp=N,410nm,1.0s

CNSH smax smax
comp=E,510nm,1.2s
WHN Wuhan 9.56 319 ⇓P Pn 04 55 12.4 -0.3
WHN pP 04 55 19.7
WHN S Sn 04 56 54.4 -4.5
WHN LR LR
comp=N,4μm,7.7s
WHN LR LR
comp=E,5μm,7.7s
QIZ Qiongzhong 11.78 250 P Pn 04 55 41.8 -1.4
QIZ S Sn 04 57 52.4 -1.1
QIZ LR LR
comp=N,520nm,12.8s
QIZ LR LR
comp=E,420nm,8.3s
QIZ LR LR
comp=Z,510nm,13.3s
ENH Enshi 12.74 305 Pn Pn 04 55 58.0 +1.6
LYN LuoYang 13.62 326 ⇓iP P 04 56 12.9 -3.8
LYN S Sn 04 58 49.7 +11
LYN LR LR
comp=E,940nm,9.3s
LYN LR LR
comp=Z,460nm,11.0s
GYA Guiyang 13.85 286 ⇓P Pn 04 56 13.0 +1.5
GYA PP PnPn 04 56 22.3 +2.8
GYA sP P 04 56 24.0 +4.6
GYA S Sn 04 58 44.9 +0.7
GYA PcP PcP 05 01 36.3 +3.0
GYA ScS ScS 05 08 43.1 +1.4
GYA pmax pmax
comp=Z,28nm,1.0s
GYA pmax pmax
comp=Z,200nm,3.8s
GYA LR LR
comp=N,880nm,6.8s
GYA LR LR
comp=E,1μm,11.0s
GYA LR LR
comp=Z,2μm,13.2s
KSAR Wonju Array Be 14.97 20 P P 04 56 32.2 +0.4
KSRS Korea Array 15.00 20 Pn Pn 04 56 25.9 -1.0
0.7nm,0.3s,baz=199,slow=13,SNR=19
KSRS LR LR 05 02 35.2
comp=Z,86nm,18.7s,baz=200,slow=39
HNS HongShan 15.11 339 ⇑P P 04 56 31.5 -1.7
HNS S S 04 59 24.6 -6.4
HNS pmax pmax
comp=Z,19nm,1.1s
HNS LR LR
comp=N,300nm,8.3s
HNS LR LR
comp=E,660nm,10.8s
HNS LR LR
comp=Z,410nm,13.7s
JHS Saijyo 15.29 39 Pn Pn 04 56 32.3 +1.4
JHS IAmb IAmb 04 56 49.2
comp=Z,49nm,1.3s
XAN Xi'an 15.30 316 P Pn 04 56 31.9 +0.9
XAN pP P 04 56 38.0 +2.6
XAN S Sn 04 59 26.5 +7.2
XAN pmax pmax
comp=Z,19nm,1.4s
XAN pmax pmax
comp=Z,120nm,6.3s
XAN LR LR
comp=Z,570nm,14.2s
XAN LR LR
comp=Z,660nm,16.5s
XAN LR LR
comp=Z,1μm,15.5s
SLVN Son La 16.47 266 P P 04 56 49.3 +0.8
SLVN IAmb IAmb 04 56 51.1
comp=Z,41nm,1.0s
BJT Baijiatuau 17.14 346 P P 04 56 56.6 +0.8
BJI Beijing 17.16 346 P P 04 56 59.2 +3.2
BJI pP sP 04 57 06.8 -1.5
BJI sP pP 04 57 09.9 +5.2
BJI S S 05 00 09.1 -3.9
BJI pmax pmax
comp=Z,14nm,1.0s
BJI LR LR
comp=Z,280nm,12.0s
BJI LR LR
comp=Z,500nm,11.0s
BJI LR LR
comp=Z,320nm,11.4s
KMI Kunming 17.25 279 ⇓P P 04 57 00.4 +3.1
KMI pP sP 04 57 07.7 -0.9
KMI pmax pmax
comp=Z,13nm,1.3s
KMI LR LR
comp=Z,880nm,7.8s
KMI LR LR
comp=Z,160nm,8.3s
KMI LR LR
comp=Z,870nm,15.0s
CD2 Chengdu 17.49 299 P P 04 57 00.2 +0.5
CD2 S Sn 05 00 12.1 -0.5
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 LR LR
comp=Z,70nm,8.8s
CD2 LR LR
comp=Z,680nm,11.7s
CD2 LR LR
comp=Z,920nm,11.2s
PZH PanZhiHua 18.23 284 P Pn 04 57 12.4 +4.4
PZH S S 05 00 37.6 +2.6
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,40nm,3.7s
PZH LR LR
comp=Z,430nm,8.8s
PZH LR LR
comp=Z,720nm,11.2s
PZH LR LR
comp=Z,940nm,13.4s
HHC Hu-ho-hao-te 19.29 336 eP Pn 04 57 22.6 +1.9
HHC PP PnPn 04 57 41.1 +7.0
HHC S Sn 05 00 55.8 -0.2
HHC sS sS 05 01 05.0 -5.9
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,59nm,4.7s
HHC LR LR
comp=Z,310nm,11.3s
HHC LR LR
comp=Z,170nm,8.1s
HHC LR LR
comp=Z,300nm,12.9s
MJAR Matsushiro Arr 19.41 44 P P 04 57 19.8 -1.0
comp=Z,0.0nm,0.3s,baz=234,slow=9.6,SNR=2.7
MJAR Matsushiro Arr 19.41 44 P Pn 04 57 23.4 +1.3
LZH Lanzhou 19.84 313 ⇑P Pn 04 57 28.4 +1.0
LZH pP pP 04 57 35.1 +0.5
LZH sP sP 04 57 40.2 +2.8
LZH PP PnPn 04 57 44.2 +2.4
LZH sS Sn 05 01 12.8 +3.2
LZH pmax pmax
comp=Z,40nm,1.3s
LZH pmax pmax
comp=Z,130nm,5.2s
LZH LR LR
comp=Z,790nm,10.1s
LZH LR LR
comp=Z,700nm,10.9s
LZH LR LR
comp=Z,730nm,14.3s
CN2 Changchun 20.56 8 eP P 04 57 32.6 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
XLT XiLinHaoTe 20.90 349 eP P 04 57 37.5 +0.5
XLT pP pP 04 57 46.1 +0.2
XLT sP sP 04 57 50.4 +1.1
XLT S S 05 01 30.2 +2.0
XLT sS sS 05 01 42.5 -0.5
XLT pmax pmax
comp=Z,14nm,1.0s
XLT pmax pmax
comp=Z,120nm,5.7s
XLT LR LR
comp=Z,280nm,12.0s
XLT LR LR

comp=Z,630nm,13.3s
XLT LR LR
CHTO Chiang Mai 21.59 262 P P 04 57 46.0 +1.4
CMAR Chiang Mai Arr 21.69 261 P P 04 57 46.2 +0.6
comp=Z,5.2nm,0.8s,baz=65,slow=8.8,SNR=39
CMAR LR LR 05 07 24.0
comp=Z,210nm,18.1s,baz=80,slow=40
CMAR Chiang Mai Arr 21.69 261 P P 04 57 46.9 +1.3
MDJ Mudanjiang 22.12 15 P P 04 57 55.5 +5.5
MDJ pmax pmax
comp=Z,9.0nm,1.2s
MDJ pmax pmax
comp=Z,120nm,8.4s
MDJ LR LR
comp=Z,220nm,13.9s
MDJ LR LR
comp=Z,520nm,15.1s
MDJ LR LR
comp=Z,490nm,16.7s
TOLI2 Tolitoli 22.21 182 P P 04 57 51.4 +0.2
USRK Ussuriysk Ar. 22.41 20 P P 04 57 51.0 -2.0
comp=Z,4.7nm,0.7s,baz=182,slow=5.0,SNR=8.0
USRK Ussuriysk Ar. 22.41 20 P P 04 57 51.2 -1.8
GTOI Gorontalo 22.71 176 P P 04 57 57.1 +0.6
comp=Z,11nm,0.7s
SBUM Sibu 22.75 205 P P 04 57 57.4 +0.5
SBUM IAmb IAmb 04 57 59.2
comp=Z,14nm,0.8s
MRSI Marisa 22.83 179 P P 04 57 58.6 +0.8
comp=Z,558nmcomp=Z,20nm,0.6s
MPSI Mapaga 23.02 184 P P 04 58 00.3 +0.6
comp=Z,12nm,0.5s
GTA Gaotai 24.36 316 ⇓P P 04 58 12.9 +0.4
GTA pP pP 04 58 22.0 -0.2
GTA sP sP 04 58 29.5 +4.1
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA pmax pmax
comp=Z,92nm,4.7s
GTA LR LR
comp=Z,370nm,15.6s
GTA LR LR
comp=Z,440nm,16.4s
GTA LR LR
comp=Z,400nm,16.0s
KSM Kuching 24.41 208 P P 04 58 12.6 -0.4
KSM IAmb IAmb 04 58 14.8
comp=Z,38nm,1.2s
GOMU GeErMu 26.36 305 P P 04 58 32.4 +1.4
GOMU pP pP 04 58 36.8 -3.9
GOMU sS sS 05 03 19.6 +1.2
GOMU pmax pmax
comp=Z,3.0nm,0.9s
GOMU pmax pmax
comp=Z,74nm,4.7s
GOMU LR LR
comp=Z,160nm,14.6s
GOMU LR LR
comp=Z,370nm,14.3s
GOMU LR LR
comp=Z,430nm,16.1s
ULN Ulaanbaatar 26.98 338 P P 04 58 36.2 0.0
SHL Shillong 27.07 281 P P 04 58 36.7 -0.6
SHL IAmb IAmb 04 58 41.1
comp=Z,14nm,0.8s
SONM Songino Array 27.18 337 P P 04 58 37.4 -0.6
comp=Z,1.8nm,0.7s,baz=155,slow=8.7,SNR=14
SONM LR LR 05 10 03.4
comp=Z,157nm,19.6s,baz=154,slow=38
SONM Songino Array 27.18 337 P P 04 58 36.4 -1.6
MNSI Mandailing Nat 31.02 227 P P 04 59 12.6 +0.4
JAY Jayapura 31.83 142 LR LR 05 09 38.0
comp=Z,103nm,21.1s,baz=320,slow=32
EDFI Ende, Flores 31.99 180 P P 04 59 19.4 -1.4
comp=Z,16nm,0.6s
KRJI Kerinci 32.05 220 P P 04 59 17.7 -3.7
comp=Z,662nm,0.4s
KLSI 32.43 213 P P 04 59 25.9 +1.3
comp=Z,14nm,1.0s
MDSI Maura Dua 32.53 214 P P 04 59 25.8 +0.3
comp=Z,18nm,0.9s
KASI Kota Agung 33.27 212 P P 04 59 31.4 -0.5
comp=Z,29nm,0.7s
WMQ Urumqi 34.42 314 *e*P **P 04 59 43.2 +1.4**
WMQ pP sP 04 59 53.4 -1.3
WMQ pmax pmax
comp=Z,14nm,1.5s
WMQ pmax pmax
comp=Z,190nm,5.1s
WMQ LR LR
comp=Z,250nm,15.9s
WMQ LR LR
comp=Z,160nm,14.7s
MK31 Makanchi Array 39.11 316 P P 05 00 21.4 -0.2
MK31 IAmb IAmb 05 00 23.2
comp=Z,12nm,0.8s
MKAR Makanchi Array 39.11 316 P P 05 00 22.2 +0.6
comp=Z,13nm,0.8s,baz=113,slow=9.7,SNR=87
MKAR Makanchi Array 39.11 316 P P 05 00 21.6 -0.1
MAKZ Makanchi 39.31 316 P P 05 00 23.4 +0.1
PRZ Przheval'sk 40.38 309 P P 05 00 34.2 +1.8
PRZ IAmb IAmb 05 00 35.6
comp=Z,20nm,1.3s
ZAA0 Zalesovo Array 41.05 327 P P 05 00 36.0 -1.5
ZALV Zalesovo Beam 41.05 327 P P 05 00 37.5 0.0
comp=Z,5.4nm,0.6s,baz=114,slow=8.1,SNR=13
ZALV LR LR 05 17 49.0
comp=Z,84nm,20.4s,baz=113,slow=36
ZALV Zalesovo Beam 41.05 327 P P 05 00 36.6 -1.0
PMG Port Moresby 41.14 140 LR LR 05 14 46.8
comp=Z,75nm,20.1s,baz=294,slow=32
KDJ Kajisay 41.18 308 P P 05 00 40.1 +1.1
FITZ Fitzroy Crossi 41.48 174 P P 05 00 39.4 -2.0
comp=Z,1.7nm,0.5s,baz=6.9,slow=6.0,SNR=8.3
KSH Kashi 41.59 304 P P 05 00 46.6 +4.2
KSH pP sP 05 00 55.7 +0.3
KSH sP pP 05 00 59.9 +7.5
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH LR LR
comp=Z,240nm,8.1s
KSH LR LR
comp=Z,240nm,8.8s
KSH LR LR
comp=Z,220nm,11.7s
ULHL Ulahol 41.89 308 P P 05 00 46.2 +1.3
SNR=8.1
H11N1 WAKE ISLAND Hy 42.19 86 T T 05 46 00.3
baz=283,slow=75,SNR=348
H11N2 WAKE ISLAND Hy 42.19 86 T T 05 46 02.1
baz=283,slow=75,SNR=464
H11N3 WAKE ISLAND Hy 42.20 86 T T 05 46 01.6
baz=283,slow=75,SNR=472
H11S3 WAKE ISLAND Hy 42.29 88 T T 05 46 07.9
baz=285,slow=75,SNR=538
H11S1 WAKE ISLAND Hy 42.30 88 T T 05 46 18.3
baz=285,slow=75,SNR=256
H11S2 WAKE ISLAND Hy 42.31 88 T T 05 46 07.6
baz=285,slow=75,SNR=367
PALK Pallekele 42.37 254 LR LR 05 18 22.2
comp=Z,39nm,21.2s,baz=164,slow=36
TKM2 Tokmak 2 42.49 309 P P 05 00 51.6 +1.8
SNR=12
COEN Coen 42.76 148 P P 05 00 52.9 +1.0
COEN IAmb IAmb 05 01 14.8
comp=Z,22nm,1.2s
KURK Kurchatov 42.88 320 P P 05 00 51.6 -0.9
KURK IAmb IAmb 05 00 53.8
comp=Z,11nm,1.1s
KURBB Kurchatov Arra 42.90 320 P P 05 00 53.2 +0.5
comp=Z,4.1nm,0.8s,baz=115,slow=7.2,SNR=21
KBK Karagaybulak 42.91 308 P P 05 00 54.8 +1.6
SNR=6.3
UCH Uchtor 43.14 307 P P 05 00 57.3 +2.0
SNR=14
AAK Ala-Archa 43.23 308 P P 05 00 56.3 +0.6
comp=Z,3.0nm,0.8s,baz=138,slow=5.5,SNR=12
AAK LR LR 05 19 17.8
comp=Z,107nm,18.5s,baz=94,slow=37
AAK Ala-Archa 43.23 308 P P 05 00 56.8 +1.1
NIL Nilore 43.31 295 P P 05 00 56.3 0.0
NIL IAmb IAmb 05 00 57.3
comp=Z,17nm,1.2s
AML Almayashu 43.72 307 P P 05 01 01.6 +1.6
SNR=11
DRK Karamyk 44.79 303 P P 05 01 09.4 +1.0
DRK IAmb IAmb 05 01 30.1
comp=Z,8.7nm,0.6s
WRAB Tennant Creek 44.88 163 P P 05 01 07.4 -1.5
WRAB IAmb IAmb 05 01 29.2
comp=Z,6.6nm,0.8s
WB2 Warramunga Arr 44.89 163 P P 05 01 07.0 -1.9
WB2 IAmb IAmb 05 01 29.9
comp=Z,11nm,1.1s
WR0 Warramunga Arr 44.96 163 P P 05 01 08.3 -1.2
WR0 IAmb IAmb 05 01 30.4
comp=Z,9.7nm,1.1s
BTK Batken 45.60 304 P P 05 01 14.8 +0.2
BTK IAmb IAmb 05 01 17.8
comp=Z,13nm,1.4s
KKAR Karatay Array 46.20 308 P P 05 01 19.2 0.0
CHGR Chuyangaron 46.78 302 P P 05 01 23.8 -0.1
KBL Kabul 46.80 296 P P 05 01 24.9 +0.6
AS31 Alice Springs 48.34 165 P P 05 01 34.2 -1.8
ASAR Alice Springs 48.34 165 P P 05 01 35.6 -0.3
comp=Z,2.0nm,0.5s,baz=356,slow=14,SNR=34
TIXI Tiksi 48.41 3 P P 05 01 34.1 -1.9
TIXI IAmb IAmb 05 01 36.6
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 48.47 321 P P 05 01 36.9 +0.3
comp=Z,2.0nm,0.7s,baz=115,slow=10,SNR=9.1
BVAR PcP **PcP 05 03 02.0 -0.4**
comp=Z,1.8nm,0.7s,baz=116,slow=6.9,SNR=3.6
BRVK Borovoye 48.54 321 P P 05 01 36.6 -0.6
BRVK IAmb IAmb 05 01 38.6
comp=Z,8.2nm,1.0s
HNR Honiara 49.77 127 LR LR 05 22 31.5
comp=Z,57nm,18.4s,baz=316,slow=36
NRIK Noril'sk 50.21 345 LR LR 05 24 26.5
comp=Z,80nm,19.0s,baz=163,slow=38
BILL Bilibino 52.26 20 P P 05 02 04.9 -0.2
BILL IAmb IAmb 05 02 06.4
comp=Z,9.5nm,1.2s
HRA Herat 52.41 296 P P 05 02 07.4 +0.3
ABKAR Akbulak array 54.21 315 P P 05 02 18.9 -0.8
FORT Forrest 54.27 173 P P 05 02 19.6 -0.6
GEYT Alibeck 55.47 301 P P 05 02 29.7 +0.6
comp=Z,4.2nm,0.6s,baz=62,slow=11,SNR=5.5
GEYT LR LR 05 30 39.8
comp=Z,133nm,18.4s,baz=85,slow=41
GEYT Alibeck 55.47 301 P P 05 02 29.8 +0.6
GEYT IAmb IAmb 05 02 31.6
comp=Z,7.1nm,0.9s
GYA0B ALIBECK ARRAY 55.47 301 P P 05 02 30.3 +1.2
ARU Arti 55.91 323 LR LR 05 27 23.0
comp=Z,96nm,19.8s,baz=84,slow=37
ARU Arti 55.91 323 P P 05 02 31.1 -0.7
ARU IAmb IAmb 05 02 33.1
comp=Z,9.9nm,1.0s
WSAR Wadi Sarin 57.34 283 LR LR 05 32 46.6
comp=Z,39nm,19.0s,baz=105,slow=42
STKA Stephens Creek 58.25 160 P P 05 02 48.2 -0.4
comp=Z,3.6nm,0.6s,baz=344,slow=7.7,SNR=15
STKA Stephens Creek 58.25 160 P P 05 02 47.3 -1.3
KIRV Kirov 61.02 325 LR LR 05 29 46.9
comp=Z,60nm,20.7s,baz=97,slow=36
DZM Mont Dzumac 62.88 133 LR LR 05 28 18.0
comp=Z,57nm,19.3s,baz=226,slow=34
A21K Barrow 65.38 21 P P 05 03 36.1 -0.1
KLMR Klimovskoe 65.97 328 *e*P **P 05 03 37.9 -2.2**
KLMR AMP 05 03 42.3
comp=Z,16nm,1.4s
ONI Oni 66.02 308 P P 05 03 42.4 +1.5
ONI IAmb IAmb 05 04 09.1
comp=Z,9.4nm,1.1s
KBZ Khabaz 66.21 309 P P 05 03 42.6 +0.6
comp=Z,3.1nm,0.8s,baz=53,slow=2.6,SNR=6.5
KBZ LR LR 05 37 40.5
comp=Z,60nm,19.7s,baz=55,slow=40
KIV Kislovodsk 66.32 309 P P 05 03 42.7 -0.1
KIV IAmb IAmb 05 03 58.5
comp=Z,7.3nm,0.8s
H21K Melozitna Rive 67.11 27 P P 05 03 48.3 +1.0
MDM Murphy Dome 69.11 27 P P 05 04 01.0 +1.0
MARD Mardin 69.14 303 P P 05 04 00.9 +0.1
ILAR Eielson Array 69.71 27 P P 05 04 03.0 -0.7
comp=Z,0.5nm,0.5s,baz=274,slow=5.2,SNR=10
ILAR Eielson Array 69.71 27 P P 05 04 04.2 +0.5
BMAR Burnt Mountain 70.06 24 P P 05 04 06.7 +0.9
ARCES ARCESS Array B 70.35 338 P P 05 04 07.4 -0.1
comp=Z,5.6nm,1.1s,baz=50,slow=8.1,SNR=4.8
ARCES ARCESS Array B 70.35 338 P P 05 04 07.9 +0.4
ARCES IAmb IAmb 05 04 37.3
comp=Z,9.7nm,1.4s
FINES FINESS Array B 72.26 330 P P 05 04 18.8 -0.3
comp=Z,1.8nm,0.5s,baz=57,slow=6.0,SNR=32
L27K Beaver Creek, 72.30 28 P P 05 04 19.4 0.0
L27K IAmb IAmb 05 04 39.5
comp=Z,9.4nm,1.2s
BCAR Beaver Creek A 72.32 28 P P 05 04 20.5 +0.9
MNK Minsk 73.33 323 *i* P **P 05 04 24.1 -1.5**
comp=E,3.0nm,1.0s
MNK *i* P **P 05 04 24.1 -1.5**
comp=N,20nm,1.1s
MNK *i* P **P 05 04 24.1 -1.5**
comp=Z,10.0nm,0.8s,baz=254
MNK *i* PcP **sP 05 04 40.0 +0.7**
MNK *i* PP **PP 05 07 07.6 -1.2**
MNK *i* PPP PPP 05 08 52.7
MNK *i* S **S 05 13 50.5 -1.5**
MNK *i* SS **SS 05 18 35.0 +1.4**
MNK *i* SSS SSS 05 21 56.5
MNK *i* LQ LQ 05 31 47.2
MNK *i* LR LR 05 35 52.5
MNK *i* LRM MLR 05 39 08.9
comp=N,444nm,23.5s
MNK *i* LRM MLR 05 39 23.2
comp=E,38nm,19.9s
MNK *i* LRM MLR 05 39 23.2
comp=Z,197nm,19.0s
AKASG Malin Array Be 73.65 319 P P 05 04 26.4 -1.2
comp=Z,1.1nm,0.6s,baz=60,slow=6.0,SNR=7.2
AKASG Malin Array Be 73.65 319 P P 05 04 26.4 -1.2
BR131 Keskin Array S 73.89 307 P P 05 04 29.0 -0.4
BR131 IAmb IAmb 05 04 30.2
comp=Z,7.5nm,0.9s
BRTR Keskin Array B 73.89 307 P P 05 04 29.4 0.0
comp=Z,3.3nm,0.8s,baz=118,slow=5.5,SNR=22
BRTR Keskin Array B 73.89 307 P P 05 04 28.6 -0.8
A36M Sachs Harbour 74.73 17 P P 05 04 34.5 +1.0
CSS Mathiatis 75.59 302 P P 05 04 37.8 -1.3
TLCR 75.61 313 ⇓P P 05 04 39.1 +0.1
TPGR Topolog 75.98 313 ⇑P P 05 04 40.1 -1.1
TESR Tescani 76.60 315 ⇓P P 05 04 43.7 -1.0
VRI Vrincioaia 76.77 314 ⇓P P 05 04 46.7 +1.1
PLOR Plostina 76.83 314 ⇑P P 05 04 42.2 -3.8
BURAR Bucovina Array 77.14 316 ⇓P P 05 04 47.2 -0.6
BURAR Bucovina Array 77.14 316 P P 05 04 46.7 -1.2
OZUR 77.31 315 ⇑P P 05 04 48.8 +0.1
MLR Muntele Rosu 77.41 314 ⇑P P 05 04 50.3 +0.8
MLR Muntele Rosu 77.41 314 P P 05 04 48.9 -0.5
MLR IAmb IAmb 05 04 50.8
comp=Z,6.4nm,0.6s
ARR Arges 78.32 314 ⇓P P 05 04 55.1 +0.7
HFS Hagfors 78.38 331 LR LR 05 42 57.1
comp=Z,73nm,18.6s,baz=62,slow=38
LOT Lotru 78.86 315 ⇑P P 05 04 55.9 -1.5
NB2 NORSAR Subarra 79.04 332 P P 05 04 56.9 -1.1
comp=Z,2.7nm,0.6s,baz=54,slow=5.9
NOA NORSAR Array B 79.04 332 P P 05 04 56.6 -1.4
comp=Z,1.2nm,0.6s,baz=83,slow=5.4,SNR=7.7
NOA LR LR 05 42 28.8
comp=Z,47nm,20.1s,baz=75,slow=38
OJC Ojcow 79.46 320 *e*P **P 05 05 00.3 -0.2**
OJC Ojcow 79.46 320 P P 05 04 59.0 -1.5
OJC IAmb IAmb 05 05 01.2
comp=Z,6.6nm,0.7s
VTS Vitosha 80.29 312 ⇓P P 05 05 06.3 +0.9
VTS Vitosha 80.29 312 P P 05 05 05.0 -0.3
VYHS Vyhne 80.75 319 *e*P **P 05 05 07.6 +0.1**
KOLL Kolacno 80.97 319 *e*P **P 05 05 09.1 +0.4**
JAVC Velka Javorina 81.29 320 *e*P **P 05 05 11.8 +1.4**
FRGS Fruska Gora 81.54 316 ⇑P P 05 05 10.7 -1.1
VRAC Vranov 81.73 320 ⇑P P 05 05 12.5 -0.2
VRAC Vranov 81.73 320 *e*P **P 05 05 12.3 -0.4**
CONA Conrad Observa 82.78 319 *e*P **P 05 05 18.6 +0.3**
comp=Z,3.5nm,1.6s
CLL Collm 82.85 323 *i* P **P 05 05 18.2 -0.3**
YKA Yellowknife Ar 83.52 23 P P 05 05 20.9 -0.8
comp=Z,1.2nm,0.7s,baz=308,slow=4.8,SNR=16
YKA Yellowknife Ar 83.52 23 P P 05 05 19.0 -2.6
GERES GERESS Array B 83.63 321 P P 05 05 21.9 -0.8
comp=Z,2.3nm,0.7s,baz=57,slow=4.9,SNR=24
GERES GERESS Array B 83.63 321 P P 05 05 21.7 -1.0
MOA Molln 83.77 320 *e*P **P 05 05 23.3 0.0**
comp=Z,2.8nm,0.7s
SOKA Soboth 83.86 318 *e*P **P 05 05 22.8 -1.1**
comp=Z,3.1nm,0.7s
ABPO Ambohimpanom 83.89 246 P P 05 05 24.2 -0.3
KBA Koelnbreinsper 84.69 319 *e*P **P 05 05 27.5 -0.7**
comp=Z,8.8nm,1.5s
KMBO Kilima Mbogo 85.22 267 P P 05 05 32.5 +1.0
comp=Z,2.9nm,0.8s,baz=38,slow=8.1,SNR=6.7
KMBO Kilima Mbogo 85.22 267 P P 05 05 32.1 +0.6
KMBO IAmb IAmb 05 05 33.6
comp=Z,6.1nm,1.1s
WTTA Wattenberg 85.62 320 *e*P **P 05 05 32.4 -0.5**
comp=Z,5.0nm,0.6s
BORG Borgarnes 87.53 345 LR LR 05 48 15.7
comp=Z,40nm,19.4s,baz=15,slow=38
EKA Eskdalemuir Ar 88.53 332 LR LR 05 48 01.0
comp=Z,103nm,19.2s,baz=290,slow=37
PPT Papeete 95.81 107 LR LR 05 40 03.2
comp=Z,25nm,20.2s,baz=306,slow=30
LSZ Lusaka 98.96 257 LR LR 05 51 00.9
comp=Z,37nm,18.3s,baz=200,slow=35

JMA ***11*** *04:58:14.7±0.2,23°.44N×121°.52E,h39km±3km*
TAP ***11*** *04:58:15.8,23°.43N×121°.51E,h32km,ML3.2,C*
ISC 11 04:58:15.8±0.9,23°.43N±0°.02×121°.54E±0°.03,h32km±5km,
n79,σ0°68/139,2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.12**	**300**	*i* P		**Pb**	**04 58 21.3**	**-0.2**
HGSD	baz=308			S		**Sb**	**04 58 26.1**	**+0.6**
ECBN	**Changbin**	**0.14**	**215**	*e*P		**Pn**	**04 58 21.9**	**+0.1**
ECBN	baz=203			S		**Sb**	**04 58 26.8**	**+1.2**
EHY	**Hungye**	**0.21**	**291**	*i* P		**Pb**	**04 58 21.8**	**-0.5**
EHY	baz=293			S		**Sb**	**04 58 26.3**	**-0.5**
EYUL	**Yuli**	**0.22**	**248**	P		**Pn**	**04 58 23.0**	**+0.1**
EYUL	baz=257			*e*S		**Sn**	**04 58 29.0**	**+1.7**
YULB	**Yu-li**	**0.23**	**260**	⇓*i*P		**Pb**	**04 58 22.0**	**-0.5**
YULB	baz=271			*i* S		**Sb**	**04 58 26.6**	**-0.4**
TWF1	**Yuli**	**0.23**	**251**	⇓*i*P		**Pb**	**04 58 22.2**	**-0.4**
TWF1	baz=259			S		**Sb**	**04 58 27.3**	**+0.1**
EGFH	**Guangfu**	**0.26**	**337**	*i* P		**Pb**	**04 58 23.0**	**+0.1**
EGFH	baz=331			S		**Sn**	**04 58 29.0**	**+0.6**
TEGC	**Jichi Village**	**0.28**	**0**	P		**Pb**	**04 58 23.2**	**+0.1**
TEGC	baz=9.0			S		**Sn**	**04 58 29.4**	**+0.6**
FULB	**Fuli**	**0.32**	**224**	*i* P		**Pb**	**04 58 23.8**	**0.0**
FULB	baz=232			*i* S		**Sn**	**04 58 30.4**	**+0.4**
CHKT	**Chengkung**	**0.37**	**206**	*i* P		**Pb**	**04 58 24.1**	**-0.2**
CHKT	baz=190			S		**Sb**	**04 58 31.0**	**+0.9**
ESL	**Shilin**	**0.39**	**346**	*e*P		**Pb**	**04 58 24.4**	**-0.3**
ESL	baz=345			S		**Sn**	**04 58 31.6**	**-0.1**
TEYL	**Yanliau Villag**	**0.44**	**7**	P		**Pb**	**04 58 25.7**	**+0.4**
TEYL	baz=24			*e*S		**Sn**	**04 58 34.4**	**+1.6**
ECS	**Chishang**	**0.45**	**221**	*e*P		**Pb**	**04 58 25.6**	**+0.1**
ECS	baz=228			*e*S		**Sb**	**04 58 32.8**	**+0.7**
VWDT	**VWDT**	**0.49**	**311**	*i* P		**Pb**	**04 58 25.7**	**-0.4**
VWDT	baz=313			S		**Sb**	**04 58 32.9**	**-0.3**
EDH	**Donghe**	**0.51**	**205**	*i* P		**Pb**	**04 58 26.1**	**-0.3**
EDH	baz=202			S		**Sn**	**04 58 34.5**	**+0.1**
ELDTW	**Lidau**	**0.54**	**243**	P		**Pb**	**04 58 25.8**	**-1.2**
ELDTW	baz=235			*e*S		**Sb**	**04 58 33.0**	**-1.7**
HWA	**Hwalien**	**0.55**	**6**	*e*P		**Pb**	**04 58 26.9**	**-0.2**
HWA	baz=356			*e*S		**Sb**	**04 58 35.2**	**+0.4**
OWD	**Renai**	**0.62**	**328**	P		**Pb**	**04 58 27.9**	**-0.5**
OWD	baz=337			*e*S		**Sb**	**04 58 35.1**	**-1.8**
LONT	**Longtian**	**0.64**	**216**	*e*P		**Pb**	**04 58 27.8**	**-0.8**
LONT	baz=213			*e*S		**Sb**	**04 58 35.8**	**-1.6**
SSLB	**Suanglung**	**0.64**	**304**	*i* P		**Pb**	**04 58 27.7**	**-1.0**
SSLB	baz=300			S		**Sb**	**04 58 36.3**	**-1.2**
TWD	**Chiawan**	**0.65**	**5**	*e*P		**Pb**	**04 58 28.1**	**-0.6**
TWD	baz=355			*e*S		**Sb**	**04 58 37.0**	**-0.6**
ALS	**Alishan**	**0.68**	**277**	*i* P		**Pb**	**04 58 29.1**	**-0.3**
ALS	baz=276			S		**Sb**	**04 58 38.4**	**-0.3**
CHGB	**Renai**	**0.71**	**332**	*e*P		**Pn**	**04 58 29.1**	**-0.8**
CHGB	baz=340			*e*S		**Sb**	**04 58 38.1**	**-1.4**
ETL	**Fush Village**	**0.73**	**6**	*e*P		**Pn**	**04 58 29.9**	**0.0**
ETL	baz=356			*e*S		**Sn**	**04 58 40.5**	**+0.4**
SMLT	**Sun Moon Lake**	**0.74**	**308**	P		**Pn**	**04 58 29.6**	**-0.5**
SMLT	baz=313			S		**Sb**	**04 58 40.1**	**-0.1**
NACB	**Ninganchiao**	**0.74**	**4**	*e*P		**Pn**	**04 58 29.6**	**-0.5**
NACB	baz=356			*e*S		**Sb**	**04 58 39.9**	**-0.2**
TWGBT	**Beinan**	**0.74**	**215**	*e*P		**Pn**	**04 58 28.9**	**-1.2**
TWGBT	baz=212			*e*S		**Sn**	**04 58 40.7**	**+0.4**
TWG	**Pinlang**	**0.74**	**215**	*e*P		**Pn**	**04 58 29.0**	**-1.1**
STYH	**Taoyuan**	**0.75**	**250**	P		**Pn**	**04 58 29.5**	**-0.6**
STYH	baz=248			*i* S		**Sb**	**04 58 39.4**	**-0.9**
WHF	**Hehuan Shan**	**0.75**	**341**	*e*P		**Pn**	**04 58 30.3**	**-0.4**
WHF	baz=343			*e*S		**Sb**	**04 58 39.5**	**-1.5**
LDUT	**Ludao**	**0.76**	**185**	*e*P		**Pn**	**04 58 29.8**	**-0.5**
LDUT	baz=173			*e*S		**Sn**	**04 58 39.7**	**-0.9**
ETLH	**Xiulin Townshi**	**0.77**	**356**	*e*P		**Pn**	**04 58 30.1**	**-0.5**
TYC	**Yuchr**	**0.78**	**307**	P		**Pn**	**04 58 30.5**	**-0.1**
TYC	baz=316			*e*S		**Sn**	**04 58 40.7**	**-0.6**
CHN5	**Tsauling**	**0.81**	**282**	P		**Pn**	**04 58 31.3**	**+0.3**
CHN5	baz=289			*e*S		**Sb**	**04 58 42.7**	**+0.6**
WJS	**Zhushan**	**0.84**	**298**	*e*P		**Pb**	**04 58 32.0**	**+0.1**
	baz=298							

WJS				*e*S		**Sb**	**04 58 43.6**	**+0.7**
	baz=298							
TPUB	**Ta-pu**	**0.84 261**	*i* P			**Pn**	**04 58 31.7**	**+0.2**
	baz=260							
TPUB				S		**Sb**	**04 58 43.3**	**+0.2**
	baz=260							
WCS	**Beigang Elemen**	**0.85 317**	*e*P			**Pn**	**04 58 31.8**	**+0.2**
	baz=322							
WCS				S		**Sb**	**04 58 42.9**	**-0.2**
	baz=322							
FUSS	**Fushou**	**0.86 342**	*e*P			**Pn**	**04 58 31.4**	**-0.6**
	baz=344							
FUSS				*e*S		**Sn**	**04 58 42.5**	**-1.0**
	baz=344							
WTP	**Ta-pu**	**0.87 258**	P			**Pn**	**04 58 32.1**	**+0.2**
	baz=257							
WTP				*e*S		**Sb**	**04 58 45.1**	**+1.3**
	baz=257							
TWT	**Tachien**	**0.88 338**	*e*P			**Pn**	**04 58 32.3**	**+0.1**
	baz=339							
TWT				*e*S		**Sn**	**04 58 42.9**	**-1.1**
	baz=339							
TDCB	**Techi**	**0.89 337**	*e*S			**Sn**	**04 58 43.3**	**-0.8**
	baz=339							
WNT	**Mingjian**	**0.90 300**	*e*P			**Pb**	**04 58 32.8**	**-0.1**
	baz=300							
WNT				*e*S		**Sb**	**04 58 45.5**	**+0.8**
	baz=300							
SLGT	**Liugui**	**0.93 242**	*e*P			**Pn**	**04 58 32.9**	**+0.3**
	baz=236							
SLGT				*e*S		**Sn**	**04 58 45.0**	**+0.1**
	baz=236							
SGST	**Jiashian**	**0.94 249**	*e*P			**Pn**	**04 58 32.5**	**-0.4**
	baz=239							
SGST				*e*S		**Sb**	**04 58 46.2**	**+0.3**
	baz=239							
WDLH	**Douliu**	**0.95 286**	*e*P			**Pn**	**04 58 33.5**	**+0.5**
	baz=285							
CHN1	**Nanshi**	**0.96 255**	*e*P			**Pb**	**04 58 33.8**	**-0.2**
	baz=254							
CHN1				*e*S		**Sb**	**04 58 47.6**	**+1.2**
	baz=254							
TWK	**Hsinying**	**0.98 261**	P			**Pn**	**04 58 33.6**	**+0.2**
	baz=259							
TWK				*e*S		**Sb**	**04 58 47.8**	**+0.9**
	baz=259							
SNST	**Tainan City**	**0.98 258**	*e*P			**Pb**	**04 58 34.1**	**-0.2**
	baz=257							
SNST				*e*S		**Sb**	**04 58 48.4**	**+1.5**
	baz=257							
ECL	**Taimali**	**0.99 213**	*e*P			**Pn**	**04 58 32.9**	**-0.6**
	baz=211							
NNSB	**Datong**	**1.00 352**	*e*P			**Pn**	**04 58 34.0**	**+0.2**
	baz=6.0							
NNSB				*e*S		**Sn**	**04 58 45.3**	**-1.6**
	baz=6.0							
WHP	**Taichung City**	**1.00 327**	*e*P			**Pb**	**04 58 35.0**	**+0.3**
	baz=333							
WHP				*e*S		**Sb**	**04 58 48.3**	**+0.7**
	baz=333							
ENA	**Nanau**	**1.01 11**	*e*P			**Pn**	**04 58 34.0**	**+0.2**
	baz=1.0							
ENA				S		**Sn**	**04 58 47.0**	**+0.1**
	baz=1.0							
NNS	**Nan Shan**	**1.02 351**	*e*P			**Pn**	**04 58 34.4**	**+0.4**
	baz=6.0							
NNS				*e*S		**Sn**	**04 58 46.3**	**-0.9**
	baz=6.0							
EWUT	**Wuta**	**1.03 12**	*e*P			**Pb**	**04 58 35.2**	**+0.1**
	baz=3.0							
TCU	**Taichung**	**1.06 312**	*e*P			**Pb**	**04 58 35.7**	**0.0**
	baz=313							
TCU				*e*S		**Sb**	**04 58 50.1**	**+0.8**
	baz=313							
SSD	**Sandimen**	**1.08 231**	P			**Pn**	**04 58 35.4**	**+0.7**
	baz=227							
SSD				*e*S		**Sn**	**04 58 48.4**	**-0.2**
	baz=227							
WTK	**Tuku**	**1.09 284**	*e*P			**Pn**	**04 58 35.0**	**+0.2**
	baz=283							
TSMG	**Majia**	**1.09 229**	*e*S			**Sn**	**04 58 49.6**	**+0.6**
	baz=227							
WCHH	**Zhanghua**	**1.11 306**	*e*S			**Sb**	**04 58 51.2**	**+0.7**
	baz=306							
TWQ1	**Liyutan**	**1.15 323**	P			**Pb**	**04 58 37.1**	**0.0**
	baz=324							
TWQ1				*e*S		**Sb**	**04 58 52.8**	**+1.0**
	baz=324							
ICHU	**Yijhu**	**1.16 267**	*e*P			**Pn**	**04 58 36.2**	**+0.4**
	baz=265							
WRL	**Guolierlin Hig**	**1.16 294**	P			**Pn**	**04 58 36.6**	**+0.8**
	baz=294							
WRL				S		**Sb**	**04 58 52.3**	**+0.2**
	baz=294							
MASBT	**Mashibuluo**	**1.17 226**	P			**Pn**	**04 58 36.2**	**+0.3**
	baz=224							
MASBT				*e*S		**Sn**	**04 58 50.6**	**-0.1**
	baz=224							
NDT	**Datong Townshi**	**1.17 359**	*e*P			**Pn**	**04 58 35.8**	**-0.2**
	baz=1.0							
NDT				*e*S		**Sn**	**04 58 50.3**	**-0.5**
	baz=1.0							
ENTT	**Nioudou**	**1.20 1**	*e*P			**Pn**	**04 58 36.8**	**+0.3**
	baz=4.0							
ENTT				*e*S		**Sn**	**04 58 52.0**	**+0.3**
	baz=4.0							
TWC	**Suao**	**1.21 14**	*e*P			**Pb**	**04 58 38.4**	**+0.3**
	baz=6.0							
WSL	**Shuilin Townsh**	**1.21 275**	*e*P			**Pn**	**04 58 36.6**	**+0.1**
	baz=273							
NDS	**Dongshan**	**1.21 8**	P			**Pb**	**04 58 38.7**	**+0.6**
NDS				*e*S		**Sb**	**04 58 53.4**	**0.0**
NSY	**Sanyi**	**1.21 324**	*e*P			**Pb**	**04 58 38.0**	**-0.2**
	baz=325							
NSY				*e*S		**Sb**	**04 58 53.8**	**+0.2**
	baz=325							
WDJ	**Dajia District**	**1.23 318**	*e*P			**Pb**	**04 58 38.0**	**-0.4**
	baz=318							
YHNB	**Yeheng**	**1.24 353**	*e*P			**Pn**	**04 58 37.2**	**+0.1**
	baz=6.0							
YHNB				*e*S		**Sn**	**04 58 52.9**	**+0.1**
	baz=6.0							
NSK	**Sanguang**	**1.25 352**	*e*P			**Pn**	**04 58 37.4**	**+0.3**
	baz=6.0							
NSK				*e*S		**Sn**	**04 58 52.2**	**-0.8**
	baz=6.0							
NFF	**Wufeng Townshi**	**1.26 342**	*e*P			**Pb**	**04 58 38.9**	**0.0**
	baz=350							
NFF				*e*S		**Sn**	**04 58 53.0**	**-0.1**
	baz=350							
NSTT	**Nanjuang**	**1.29 338**	*e*S			**Sn**	**04 58 54.2**	**+0.3**
	baz=339							
LIOB	**Emei**	**1.30 339**	*e*S			**Sb**	**04 58 55.8**	**-0.3**
	baz=340							
SSPT	**Xinbi**	**1.30 224**	*e*P			**Pn**	**04 58 38.7**	**+0.9**
	baz=217							
NWLT	**Wulai**	**1.34 359**	*e*P			**Pn**	**04 58 39.3**	**+0.9**
	baz=13							
WFSB	**Wu-fen Shan**	**1.65 8**	*e*P			**Pn**	**04 58 43.8**	**+1.3**
	baz=11							
YOJ	**Yonaguni jima**	**1.69 52**	*e*S			**Sn**	**04 59 03.6**	**-0.2**

TAP ***11*** *05:06:46.5, 24.°90N×122.°74E, h29km±1km, ML3.2, D*
IDC ***11*** *05:07:11.6±6.1, 25.°16N×122.°57E, h230km±62km, mb2.6/3, mb1 2.9/4, mb1mx2.6/35, mbtmp3.3/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/36, Error ellipse: s-maj=63.9km s-min=20.9km az=80.0*

ISC 11 05:06:47.3±1.2, 24.°87N±0.°03×122.°65E±0.°03, h8km±8km, n57, σ1§16/84, mb3.2/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52 141**	*i* P		**Pg**	**05 06 56.9**	**-0.5**
	baz=151						
YOJ				*e*S	**Sg**	**05 07 04.0**	**-0.2**
	baz=151						
TWB1	**Santiao Chiao**	**0.62 283**	*e*P		**Pg**	**05 06 59.2**	**-0.1**
	baz=279						
TWB1				*e*S	**Sg**	**05 07 08.4**	**+1.0**
	baz=279						
NTC	**Toucheng**	**0.75 269**	*e*P		**Pg**	**05 07 02.5**	**+0.8**
	baz=267						
TIPB	**Shuangxi**	**0.76 278**	P		**Pg**	**05 07 01.4**	**-0.5**
	baz=275						
TIPB				*e*S	**Sg**	**05 07 13.7**	**+1.8**
	baz=275						
TWC	**Suao**	**0.78 251**	P		**Pg**	**05 07 01.6**	**-0.7**
	baz=260						
TWC				*e*S	**Sg**	**05 07 13.1**	**+0.7**
	baz=260						
NDS	**Dongshan**	**0.88 255**	*e*P		**Pg**	**05 07 03.8**	**-0.5**
	baz=264						
NDS				*e*S	**Sg**	**05 07 16.8**	**+1.0**
	baz=264						
EWUT	**Wuta**	**0.90 242**	*e*P		**Pg**	**05 07 04.0**	**-0.6**
	baz=243						
EWUT				*e*S	**Sg**	**05 07 16.8**	**+0.4**
	baz=243						
TWE	**Neicheng**	**0.91 261**	*e*P		**Pg**	**05 07 04.7**	**-0.1**
	baz=260						
TWE				*e*S	**Sg**	**05 07 15.2**	**-1.4**
	baz=260						
PCYT	**Pengchaiyu**	**0.92 325**	P		**Pg**	**05 07 04.2**	**-0.9**
	baz=320						
ENA	**Nanau**	**0.94 242**	P		**Pg**	**05 07 04.8**	**-0.6**
	baz=243						
ENA				*e*S	**Sg**	**05 07 17.2**	**-0.4**
	baz=243						
YM01	**YM01**	**1.02 286**	*e*P		**Pg**	**05 07 06.2**	**-0.8**
	baz=284						
NWLT	**Wulai**	**1.05 265**	P		**Pg**	**05 07 06.6**	**-0.9**
	baz=265						
NWLT				*e*S	**Sg**	**05 07 20.2**	**-0.9**
	baz=265						
NDT	**Datong Townshi**	**1.07 256**	*e*P		**Pg**	**05 07 07.8**	**-0.1**
	baz=256						
NDT				*e*S	**Sg**	**05 07 20.6**	**-1.1**
	baz=256						
YHNB	**Yeheng**	**1.18 261**	P		**Pn**	**05 07 09.1**	**-1.1**
	baz=249						
YHNB				*e*S	**Sg**	**05 07 25.5**	**+0.3**
	baz=249						
NACB	**Ninganchiao**	**1.19 235**	*i* P		**Pn**	**05 07 09.0**	**-1.3**
	baz=237						
NACB				*i* S	**Sb**	**05 07 25.2**	**-0.4**
	baz=237						
NSK	**Sanguang**	**1.19 261**	P		**Pn**	**05 07 09.0**	**-1.4**
	baz=250						
NSK				*e*S	**Sg**	**05 07 25.4**	**-0.3**
	baz=250						
NNSB	**Datong**	**1.24 249**	*i* P		**Pn**	**05 07 10.1**	**-1.0**
	baz=250						
NNSB				S	**Sb**	**05 07 25.6**	**-1.6**
	baz=250						
NNS	**Nan Shan**	**1.24 250**	*e*P		**Pn**	**05 07 10.7**	**-0.4**
	baz=251						
NNS				*e*S	**Sb**	**05 07 27.2**	**0.0**
	baz=251						
TWD	**Chiawan**	**1.24 231**	*e*P		**Pn**	**05 07 10.6**	**-0.4**
	baz=233						
ETLH	**Xiulin Townshi**	**1.25 239**	*e*P		**Pn**	**05 07 10.8**	**-0.4**
	baz=225						
ETLH				*e*S	**Sb**	**05 07 27.0**	**-0.6**
	baz=225						
FUSS	**Fushou**	**1.42 245**	*e*P		**Pn**	**05 07 13.9**	**+0.2**
	baz=246						
FUSS				*e*S	**Sn**	**05 07 31.7**	**-1.1**
	baz=246						
WHF	**Hehuan Shan**	**1.46 241**	P		**Pn**	**05 07 14.0**	**-0.3**
	baz=242						
TWT	**Tachien**	**1.48 246**	P		**Pn**	**05 07 14.8**	**+0.4**
	baz=247						
TWT				*e*S	**Sn**	**05 07 34.9**	**+0.9**
	baz=247						
TDCB	**Techi**	**1.49 246**	*e*P		**Pn**	**05 07 15.7**	**+1.2**
	baz=247						
TDCB				S	**Sn**	**05 07 34.3**	**0.0**
	baz=247						
LIOB	**Emei**	**1.50 262**	*e*P		**Pn**	**05 07 15.6**	**+1.0**
	baz=262						
CHGB	**Renai**	**1.57 239**	P		**Pn**	**05 07 15.6**	**-0.1**
	baz=229						
WHP	**Taichung City**	**1.66 250**	*e*P		**Pn**	**05 07 18.1**	**+1.3**
	baz=240						
WHP				*e*S	**Sn**	**05 07 38.0**	**-0.4**
	baz=240						
VWDT	**VWDT**	**1.77 231**	*e*P		**Pn**	**05 07 17.4**	**-0.8**
	baz=234						
VWDT				*e*S	**Sn**	**05 07 39.8**	**-1.2**
	baz=234						
HGSD	**Ruisui**	**1.77 220**	P		**Pn**	**05 07 17.3**	**-1.0**
	baz=211						
HGSD				*e*S	**Sn**	**05 07 39.0**	**-2.0**
	baz=211						
WCS	**Beigang Elemen**	**1.78 243**	*e*P		**Pn**	**05 07 20.4**	**+2.0**
	baz=231						
WCS				*e*S	**Sn**	**05 07 40.5**	**-0.7**
	baz=231						
EHY	**Hungye**	**1.82 222**	P		**Pn**	**05 07 18.4**	**-0.5**
	baz=224						
EHY				*e*S	**Sn**	**05 07 39.7**	**-2.6**
	baz=224						
SMLT	**Sun Moon Lake**	**1.88 239**	*e*P		**Pn**	**05 07 19.0**	**-0.9**
	baz=227						
SMLT				*e*S	**Sn**	**05 07 43.4**	**-0.3**
	baz=227						
SSLB	**Suanglung**	**1.89 236**	*e*P		**Pn**	**05 07 20.7**	**+0.8**
	baz=224						
TYC	**Yuchr**	**1.90 240**	*e*P		**Pn**	**05 07 21.9**	**+1.9**
	baz=228						
YULB	**Yu-li**	**1.92 220**	*e*P		**Pn**	**05 07 19.7**	**-0.7**
	baz=237						
FULB	**Fuli**	**2.08 217**	*e*P		**Pn**	**05 07 20.9**	**-1.6**
	baz=207						
ALS	**Alishan**	**2.16 232**	*e*P		**Pn**	**05 07 24.6**	**+0.6**
	baz=234						
CHN5	**Tsauling**	**2.20 235**	*e*P		**Pn**	**05 07 25.7**	**+1.4**
	baz=224						
LONT	**Longtian**	**2.40 216**	*e*P		**Pn**	**05 07 26.1**	**-0.9**
	baz=218						
STYH	**Taoyuan**	**2.41 226**	P		**Pn**	**05 07 27.1**	**0.0**
	baz=218						
STYH				*e*S	**Sn**	**05 07 56.2**	**-0.5**
	baz=218						
TPUB	**Ta-pu**	**2.42 230**	*e*P		**Pn**	**05 07 29.2**	**+2.0**
	baz=221						
WTP	**Ta-pu**	**2.47 229**	*e*P		**Pn**	**05 07 28.6**	**+0.7**
	baz=221						
CHN1	**Nanshi**	**2.57 230**	*e*P		**Pn**	**05 07 29.5**	**+0.3**
	baz=232						
CHN1				*e*S	**Sn**	**05 08 00.4**	**-0.3**
	baz=232						
SLGT	**Liugui**	**2.62 225**	*e*P		**Pn**	**05 07 30.5**	**+0.5**
	baz=228						
MASBT	**Mashibuluo**	**2.91 220**	P		**Pn**	**05 07 33.6**	**-0.4**
	baz=213						
MASBT				*e*S	**Sn**	**05 08 08.7**	**-0.5**
	baz=213						
LAY	**Lan-yu**	**2.99 200**	*e*P		**Pn**	**05 07 34.8**	**-0.3**
	baz=201						
LYUB	**Lan-yu**	**3.02 199**	*e*P		**Pn**	**05 07 34.7**	**-0.7**
	baz=211						
XPSS	**Dashiqiu**	**3.02 313**	*e*P		**Pn**	**05 07 35.6**	**+0.1**
	baz=313						
LYJJ	**Jianjiangzhen**	**3.10 303**	*e*P		**Pn**	**05 07 35.0**	**-1.5**
	baz=303						
LYJJ				*e*S	**Sn**	**05 08 11.4**	**-2.4**
	baz=303						
SCZT	**Fangliau**	**3.11 217**	*e*P		**Pn**	**05 07 37.7**	**+1.0**
	baz=209						
KSRS	**Korea Array**	**13.33 18**	P		**P**	**05 10 08.8**	**+2.3**
	0.3nm,0.3s,baz=194,slow=11,SNR=2.8						
KSRS				LR	LR	05 15 59.0	
	comp=Z,88nm,18.1s,baz=165,slow=40						
DAV	**Davao City (W)**	**17.92 171**	LR		LR	05 17 51.3	
	comp=Z,52nm,18.5s,baz=60,slow=35						
CMAR	**Chiang Mai Arr**	**22.92 259**	LR		LR	05 22 01.6	
	comp=Z,28nm,18.4s,baz=85,slow=39						
SONM	**Songino Array**	**26.29 335**	P		**P**	**05 12 23.4**	**0.0**
	0.3nm,0.6s,baz=147,slow=8.6,SNR=4.2						
WRA	**Warramunga Arr**	**45.97 165**	P		**P**	**05 15 14.3**	**+3.2**
	46nm,0.4s,baz=346,slow=8.9,SNR=1.4						
ASAR	**Alice Springs**	**49.47 166**	P		**P**	**05 15 40.9**	**+2.7**
	0.2nm,0.8s,baz=346,slow=7.1,SNR=1.5						
YKA	**Yellowknife Ar**	**81.82 23**	P		**P**	**05 19 03.5**	**-3.2**
	0.1nm,0.6s,baz=310,slow=5.0,SNR=6.0						

IDC ***11*** *05:27:05.0±2.5, 10.°75S×111.°91E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.2/35, mbtmp3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/70, Error ellipse: s-maj=136.7km s-min=22.3km az=49.0*
DJA ***11*** *05:27:06.4±0.5, 11.°S±5.°×11.°1E±.°, h53km±29km, M4.2/12, mb4.0/6, mB4.8/1, MLv4.3/12, Mw(mB)4.0/1*

ISC 11 05:27:08.5±1.2, 11.°1S±0.°1×111.°45E±0.°10, h35km, n17, σ1§03/17, mb3.8/4, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**2.89 355**		P	**Pn**	**05 27 51.2**	**-1.0**
PCJI				S	**Sn**	**05 28 25.9**	**+0.1**
UGM	**Wanagama**	**3.29 344**		P	**Pn**	**05 27 56.8**	**-0.9**
GMJI	**Gumukmas**	**3.42 35**		P	**Pn**	**05 27 59.5**	**+0.1**
YOGI	**Yogyakarta**	**3.45 341**		P	**Pn**	**05 27 59.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**3.73 46**		P	**Pn**	**05 28 02.7**	**-0.9**
BLJI	**Banyuglugur**	**3.94 33**		P	**Pn**	**05 28 07.0**	**+0.4**
ABJI	**Asem Bagus**	**4.28 40**		P	**Pn**	**05 28 11.0**	**-0.2**
CMJI	**Cimerak**	**4.43 318**		P	**Pn**	**05 28 12.2**	**-1.1**
SRBI	**Singaraja**	**4.76 51**		P	**Pn**	**05 28 18.1**	**+0.2**
CNJI	**Cibinong**	**5.69 311**		P	**Pn**	**05 28 29.2**	**-1.4**
	0.3nm24nm,1.3s						
KAPI	**Kappang**	**10.20 54**		LR	LR	05 34 15.7	
	comp=Z,81nm,19.4s,baz=262,slow=45						
EDFI	**Ende, Flores**	**10.35 78**		P	**Pn**	**05 29 33.5**	**-1.2**
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**23.72 115**		P	**P**	**05 32 15.6**	**-1.9**
	46nm,0.5s,baz=287,slow=12,SNR=1.8						
ASAR	**Alice Springs**	**24.76 123**		P	**P**	**05 32 26.5**	**-0.7**
	0.5nm,0.8s,baz=303,slow=10,SNR=10.0						
STKA	**Stephens Creek**	**34.65 131**		P	**P**	**05 33 56.0**	**+1.2**
	0.6nm,0.4s,baz=326,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**63.26 338**		P	**P**	**05 37 34.3**	**+0.8**
	0.5nm,0.7s,baz=146,slow=7.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**68.63 343**		P	**P**	**05 38 08.8**	**+0.8**
	1.0nm,0.6s,baz=151,slow=5.2,SNR=4.9						

IDC ***11*** *05:38:08.9±2.0, 6.°85S×129.°88E, h142km±18km, mb3.6/4, mb1 3.8/10, mb1mx3.4/46, mbtmp4.2/10, Error ellipse: s-maj=30.5km s-min=16.2km az=78.0*
NEIC ***11*** *05:38:09.8±2.3, 6.°69S±0.°07×129.°8E±0.°1, h153km±11km, mb4.1/8, Error ellipse: s-maj=14.8km s-min=10.0km az=93.0.*
DJA ***11*** *05:38:09.7±0.3, 7.°S±3.°×13.°0E±.°, h175km±7km, M4.5/11, mB5.0/4, mb4.2/11, MLv4.7/8, Mw(mB)4.3/4*

ISC 11 05:38:08.9±0.6, 6.74S±0.°05×129.°88E±0.°06, h150km, n46, σ1§82/52, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.88 131**		P	**Pn**	**05 38 44.7**	**+2.1**
SAUI	**Saumlaki**	**1.88 131**		Pn	**Pn**	**05 38 44.4**	**+1.8**
SAUI				Sn	**Sn**	**05 39 10.1**	**+1.6**
MSAI	**Masohi**	**3.50 344**		P	**Pn**	**05 39 07.3**	**+4.6**
FAKI	**Fak Fak**	**4.47 32**		P	**Pn**	**05 39 15.1**	**-0.2**
FAKI	**Fak Fak**	**4.47 32**			**Pn**	**05 39 15.2**	**-0.2**
FAKI				Sn	**Sn**	**05 40 04.7**	**-2.4**
FAKI	**Fak Fak**	**4.47 32**		P	**Pn**	**05 39 15.4**	**0.0**
SIJI	**Sorong**	**5.99 13**		P	**Pn**	**05 39 36.1**	**+0.5**
	1.5nm,0.3s,baz=154,slow=23,SNR=1.6						
SIJI				S	**Sn**	**05 40 39.4**	**-4.1**
	9.7nm,0.3s,baz=315,slow=22,SNR=9.5						
SWI	**Sorong**	**6.00 13**		P	**Pn**	**05 39 37.3**	**+1.7**
	0.4nm16nm,0.6s						
MTN	**Manton Dam**	**6.19 169**		Pn	**Pn**	**05 39 37.9**	**-0.3**
MTN	**Manton Dam**	**6.19 169**		P	**Pn**	**05 39 38.0**	**-0.2**
SOEI	**Soe**	**6.31 241**		P	**Pn**	**05 39 40.8**	**+0.9**
	0.6nm80nm,0.8s						
SOEI	**Soe**	**6.31 241**		Pn	**Pn**	**05 39 40.7**	**+0.9**
SOEI	**Soe**	**6.31 241**		P	**Pn**	**05 39 40.8**	**+0.9**
KDU	**Kakadu**	**6.44 157**		P	**Pn**	**05 39 41.1**	**-0.4**
BATI	**Baumata**	**7.04 240**		P	**Pn**	**05 39 49.3**	**-0.3**
	9.8nm,0.3s,baz=81,slow=3.5,SNR=6.1						
BATI				S	**Sn**	**05 41 07.6**	**-1.0**
	14nm,0.3s,baz=170,slow=9.2,SNR=9.8						
BATI	**Baumata**	**7.04 240**		P	**Pn**	**05 39 50.7**	**+1.1**
	0.3nm44nm,0.6s						
EDFI	**Ende, Flores**	**8.35 256**		P	**Pn**	**05 40 09.5**	**+2.3**
	9.2nm,0.8s						
KNRA	**Kununurra**	**8.95 187**		Pn	**Pn**	**05 40 14.0**	**-1.0**
KNRA	**Kununurra**	**8.95 187**		P	**Pn**	**05 40 14.5**	**-0.5**
KAPI	**Kappang**	**10.22 279**		P	**Pn**	**05 40 32.0**	**+0.1**
	0.5nm,0.3s,baz=190,slow=15,SNR=1.9						
WBSI	**Waikabubak, Su**	**10.77 254**		P	**Pn**	**05 40 39.5**	**+0.3**
	50nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.02 200**		P	**Pn**	**05 40 53.5**	**-2.0**
	0.6nm,0.3s,baz=270,slow=23,SNR=28						
FITZ				S	Sn	05 42 58.3	-10
	2.8nm,0.3s,baz=44,slow=18,SNR=9.5						
WRA	**Warramunga Arr**	**13.82 162**		P	**Pn**	**05 41 15.7**	**-2.9**
	1.8nm,0.3s,baz=336,slow=12,SNR=7.6						
WRA				S	Sn	05 43 40.6	-11
	2.3nm,0.3s,baz=332,slow=23,SNR=7.8						
WR0	**Warramunga Arr**	**13.90 161**			**Pn**	**05 41 17.1**	**-2.5**
COEN	**Coen**	**14.91 120**		Pn	**Pn**	**05 41 33.0**	**+0.7**
COEN	**Coen**	**14.91 120**		P	**Pn**	**05 41 33.5**	**+1.2**
QIS	**Mount Isa**	**16.66 146**		P	**P**	**05 41 54.8**	**+1.2**
AS31	**Alice Springs**	**17.27 167**			**P**	**05 42 00.8**	**+0.5**
AS31				IAmb	IAmb	05 42 02.5	
	comp=Z,4.6nm,0.6s						
ASAR	**Alice Springs**	**17.27 167**		P	**P**	**05 42 00.8**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=350,slow=11,SNR=163						
ASAR				S	**S**	**05 45 05.9**	**-6.8**
	comp=Z,0.6nm,0.3s,baz=348,slow=26,SNR=8.8						
ASAR				ScP	**ScP**	**05 49 55.6**	**-0.8**
	baz=352,slow=3.0,SNR=4.3						
ASAR	**Alice Springs**	**17.27 167**		P	**P**	**05 42 00.9**	**+0.7**
PSA00	**Pilbara Seismi**	**17.65 212**		P	**P**	**05 42 05.4**	**+1.0**
PSA00				IAmb	IAmb	05 42 06.6	
	comp=Z,9.5nm,0.8s						
PSA00	**Pilbara Seismi**	**17.65 212**		P	**P**	**05 42 05.6**	**+1.2**
PSA00				IAmb	IAmb	05 42 06.5	
	comp=Z,3.7nm,0.8s						
MTSU	**Mount Surprise**	**18.07 130**		P	**Pn**	**05 42 11.6**	**+1.0**
PCJI	**Pacitan**	**18.60 264**		P	**P**	**05 42 14.3**	**-0.5**
OOD	**Oodnadatta**	**21.66 166**		P	**P**	**05 42 48.3**	**+0.7**
INKA	**Innaminka**	**23.29 155**		P	**P**	**05 43 04.9**	**+1.5**
MORW	**Morawa**	**25.77 209**		P	**P**	**05 43 25.8**	**0.0**
MORW				IAmb	IAmb	05 43 30.2	
	comp=Z,7.1nm,1.2s						
STKA	**Stephens Creek**	**27.30 158**		P	**P**	**05 43 40.5**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=325,slow=12,SNR=2.1						
STKA	**Stephens Creek**	**27.30 158**		P	**P**	**05 43 40.0**	**+0.5**
SONM	**Songino Array**	**58.16 342**		P	**P**	**05 47 48.8**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=172,slow=5.4,SNR=2.0						
MK31	**Makanchi Array**	**67.94 327**		P	**P**	**05 48 53.3**	**+1.8**
MKAR	**Makanchi Array**	**67.94 327**		P	**P**	**05 48 53.6**	**+2.0**
	comp=Z,4.5nm,0.4s,baz=115,slow=8.2,SNR=118						
MKAR	**Makanchi Array**	**67.94 327**		P	**P**	**05 48 53.3**	**+1.7**

TASE	**Tanaga Southea**	**1.53 268**		**Pn**	**05 52 54.0**	**+0.3**
GAEA	**Gareloi East**	**1.98 267**		**Pn**	**05 52 59.9**	**+0.1**
GASW	**Gareloi Southw**	**2.04 267**		**Pn**	**05 53 01.2**	**+0.6**
CLCO	**Concord Point,**	**3.69 74**		**Pn**	**05 53 24.6**	**+1.3**
MAPS	**Pakushin South**	**5.56 67**		**Pn**	**05 53 50.1**	**+1.1**
UNV	**Unalaska Valle**	**5.82 67**		**Pn**	**05 53 53.5**	**+1.0**
SPIA	**Saint Paul Isl**	**6.11 28**		**Pn**	**05 53 57.5**	**+1.1**
SDPT	**Sand Point**	**9.60 63**	Pn	**Pn**	**05 54 45.5**	**+1.2**
KDAK	**Kodiak Island**	**14.44 57**	Pn	**Pn**	**05 55 49.5**	**-1.0**
	0.2nm,0.3s,baz=151,slow=22,SNR=1.1					
ILAR	**Eielson Array**	**19.57 38**	P	**Pn**	**05 56 56.2**	**+1.4**
	0.1nm,0.3s,baz=225,slow=10,SNR=4.1					
H11N2	**WAKE ISLAND Hy 34.94 210**		T	T	06 36 08.1	
	baz=19,slow=76,SNR=20					
H11N3	**WAKE ISLAND Hy 34.94 210**		T	T	06 36 07.7	
	baz=19,slow=76,SNR=22					
H11N1	**WAKE ISLAND Hy 34.95 210**		T	T	06 36 07.7	
	baz=19,slow=76,SNR=22					
H11S1	**WAKE ISLAND Hy 36.15 209**		T	T	06 37 42.1	
	baz=19,slow=76,SNR=20					
H11S2	**WAKE ISLAND Hy 36.16 209**		T	T	06 37 40.0	
	baz=19,slow=76,SNR=20					
H11S3	**WAKE ISLAND Hy 36.16 209**		T	T	06 37 46.6	
	baz=19,slow=76,SNR=6.4					
JHJ	**Hachijo jima 2**	**37.18 257**	LR	LR	06 14 20.6	
	comp=Z,29nm,21.7s,baz=93,slow=34					
PDAR	**Pinedale Array**	**44.22 75**	P	**P**	**06 00 34.9**	**+0.2**
	0.2nm,0.4s,baz=306,slow=5.2,SNR=2.5					
TXAR	**Lajitas Array**	**56.59 84**	P	**P**	**06 02 07.5**	**-0.6**
	0.1nm,0.6s,baz=304,slow=6.4,SNR=2.0					

SFS ***11*** *05:58:58.0, 35.°30N×3.°60W, h16km, ML2.3, ALBORAN SUR*
CNRM ***11*** *05:58:59.4, 35.°41N×3.°57W, h16km, ml2.8*
INMG ***11*** *05:58:59.0±1.5, 35.°41N×3.°63W, h18km±8km, ML2.3, Error ellipse: s-maj=6.4km s-min=5.3km az=144.0*
IGIL ***11*** *05:59:01.7, 35.°42N×3.°85W, h10km*
ISC 11 05:58:57.9±1.2, 35.°47N±0.°04×3.°54W±0.°04, h20km±6km, n21, σ1§33/36, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.41**	**233**	P	**Pg**	**05 59 06.1**	**-0.4**
PALE				S	**Sg**	**05 59 11.9**	**-0.4**
GOG	**Mont Gurugu**	**0.51**	**119**	P	**Pn**	**05 59 09.6**	**-0.4**
GOG				S	**Sn**	**05 59 17.6**	**-0.7**
CHAS	**Isla Isabel II**	**0.95**	**107**	P	**Pn**	**05 59 17.7**	**+1.6**
CHAS				S	**Sg**	**05 59 28.8**	**-0.1**
JBK	**JBK**	**1.38**	**144**	P	**Pb**	**05 59 23.4**	**+0.2**
JBK				S	**Sn**	**05 59 39.7**	**-0.4**
EMAL	**Malaga-Limoner**	**1.48**	**331**	P	**Pn**	**05 59 23.8**	**+0.3**
EMAL				S	**Sn**	**05 59 40.0**	**-2.2**
LCRM	**LCR**	**2.08**	**212**	P	**Pg**	**05 59 37.5**	**-0.5**
LCRM				S	**Sb**	**06 00 00.7**	**0.0**
IFR	**Ifrane**	**2.35**	**214**	P	**Pn**	**05 59 34.8**	**-0.7**
IFR				S	**Sn**	**06 00 03.3**	**-0.5**
MD31	**MD31**	**2.78**	**202**	P	**Pn**	**05 59 42.6**	**+1.2**
MD31				S	**Sn**	**06 00 15.9**	**+1.3**
MDT	**Midelt**	**2.79**	**199**	P	**Pn**	**05 59 41.7**	**+0.1**
MDT				S	**Sb**	**06 00 19.5**	**-1.4**
PVAQ	**Vaqueiros**	**3.88**	**301**	*e*Pn	**Pn**	**05 59 57.6**	**+1.1**
PVAQ				*e*Sn	**Sn**	**06 00 40.9**	**-0.6**
PVAQ				A	A	06 00 46.2	
	4.2nm,0.9s						
PBDV	**Barranco-do-Ve**	**3.96**	**298**	*e*Pn	**Pn**	**05 59 59.0**	**+1.4**
PCVE	**Castro Verde**	**4.22**	**302**	*e*Pn	**Pn**	**06 00 02.9**	**+1.8**
PCVE				*e*Sn	**Sn**	**06 00 50.1**	**+0.3**
MESJ	**Messejana**	**4.45**	**304**	*e*P	**Pn**	**06 00 04.8**	**+0.6**
MESJ	**Messejana**	**4.45**	**304**	*e*P	**Pn**	**06 00 04.8**	**+0.6**
PESTR	**Estremoz**	**4.69**	**318**	*e*Pn	**Pn**	**06 00 09.1**	**+1.5**
PESTR				*e*Sn	**Sn**	**06 01 00.1**	**-1.3**
EVO	**Evora**	**4.71**	**312**	*e*Pn	**Pn**	**06 00 09.4**	**+1.6**
EVO				*e*Sn	**Sn**	**06 01 01.1**	**-0.8**
PNCL	**Nicolau / Gran**	**4.80**	**305**	*e*Pn	**Pn**	**06 00 09.7**	**+0.7**
PNCL				*e*Sn	**Sn**	**06 01 02.0**	**-2.0**
PMRV	**Marv??o**	**5.00**	**323**	*e*Pn	**Pn**	**06 00 14.0**	**+2.1**
PMRV				*e*Sn	**Sn**	**06 01 08.3**	**-0.9**
PMTG	**Montargil**	**5.19**	**315**	*e*Pn	**Pn**	**06 00 16.4**	**+2.0**
OUZM	**OUZ**	**5.29**	**212**	P	**Pn**	**06 00 18.5**	**+2.6**
PSBE	**So Bento**	**5.81**	**316**	*e*Pn	**Pn**	**06 00 25.4**	**+2.4**

IDC 11 06:16:01.1±1.5, 54.°18N×87.°23E, h0km, mb1 2.8/2, mb1mx2.7/54, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=11.1km s-min=8.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**262**	*i*		06 23 20.0	
	baz=76,slow=332,SNR=5.6						
ZALV	**Zalesovo Beam**	**1.44**	**262**	Pg	Pn	06 16 27.0	-1.4
	0.6nm,0.3s,baz=76,slow=16,SNR=7.6						
ZALV				Lg	Lg	06 16 47.2	
	0.9nm,0.3s,baz=80,slow=30,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.41**	**240**	Pn	Pn	06 17 37.0	+0.4
	0.0nm,0.3s,baz=55,slow=14,SNR=6.1						
MKAR	**Makanchi Array**	**8.04**	**205**	Pn	Pn	06 18 00.4	+1.4
	0.0nm,0.3s,baz=24,slow=15,SNR=1.9						
MKAR				Lg	Lg	06 20 15.6	
	0.1nm,0.3s,baz=27,slow=29,SNR=3.5						

NIED ***11*** *06:26:41.1, 40.°39N×141.°27E, h10km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.64; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-2.37; $M_{r\theta}$0.73; $M_{\theta\phi}$1.19; $M_{\phi r}$0.60; Fault plane solution: $M_0$2.93000×10^{15} NP1: ϕ_s354.00000°, δ50.00000°, λ114.00000°. NP2: ϕ_s138.00000°, δ45.00000°, λ63.00000°.*
JMA ***11*** *06:26:41.1, 40.°39N×141.°26E, h10km±1km, M4.6 Broadband fault plane solution: P waves. NP1: ϕ_s131.00000°, δ32.00000°, λ51.00000°. NP2: ϕ_s355.00000°, δ66.00000°, λ112.00000°. Principal axes: T Plg63.0000°, Azm300.0000°; N Plg20.0000°, Azm166.0000°; P Plg18.0000°, Azm69.0000°;*
MOS ***11*** *06:26:43.4±1.1, 40.°43N×141.°28E, h40km, mb4.9/25 Error ellipse: s-maj=6.6km s-min=4.4km az=88.0*
BJI ***11*** *06:26:43.0±0.0, 40.°28N×141.°33E, h53km, mb4.6/48, mB4.7/24, Ms4.1/25, Ms7 3.9/24*
IDC ***11*** *06:26:45.7±1.7, 40.°44N×141.°16E, h42km±15km, mb4.3/36, mb1 4.4/44, mb1mx4.3/61, mbtmp4.5/44, ML3.6/8, MS3.4/18, Ms1 3.5/18, ms1mx3.2/92, Error ellipse: s-maj=11.4km s-min=8.9km az=101.0*
NEIC ***11*** *06:26:45.8±2.3, 40.°44N±0.°05×141.°31E±0.°08, h41km±5km, mb4.7/118, Error ellipse: s-maj=9.1km s-min=7.3km az=102.0*
BGR ***11*** *06:26:46.1±0.0, 41.°08N×142.°89E, h33km, mb5.0*
ISC 11 06:26:42.1±0.6, 40.°42N±0.°02×141.°29E±0.°03, h19km±2km, n368, σ1§53/368, mb4.8/167, MS3.6/20, 30C-24D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.18**	**103**	⇓P	**Pb**	**06 26 45.1**	**-0.8**
JANG				S	**Sb**	**06 26 47.9**	**-0.4**
JTM	**Tenmabayashi**	**0.41**	**336**	⇑P	**Pg**	**06 26 49.4**	**-1.2**
JTM				S	**Sg**	**06 26 55.2**	**-1.1**
JKZ	**Kuzumaki**	**0.43**	**176**	⇑P	**Pg**	**06 26 48.9**	**-2.1**
JAH	**Hinai**	**0.55**	**246**	⇓P	**Pg**	**06 26 51.1**	**-2.0**
JAH				S	**Sg**	**06 26 58.1**	**-2.4**
JARK	**Aomorirokkasho**	**0.59**	**6**	⇑P	**Pb**	**06 26 53.0**	**-0.8**
JARK				S	**Sb**	**06 27 01.8**	**0.0**
JTH	**Tanohata**	**0.65**	**137**	⇓P	**Pb**	**06 26 53.2**	**-1.6**
JTH				S	**Sb**	**06 27 02.3**	**-1.1**
JOM	**Ohasama**	**0.94**	**180**	S	**Sb**	**06 27 11.7**	**-0.2**
JOT	**Ohata**	**0.98**	**349**	⇑P	**Pb**	**06 26 59.4**	**-1.1**
JOT				S	**Sb**	**06 27 12.7**	**-0.4**
JIW	**Iwasaki**	**0.99**	**281**	⇑P	**Pb**	**06 26 59.4**	**-1.3**
ERM	**Erimo**	**2.13**	**41**	*ce*P	**Pn**	**06 27 17.7**	**+1.0**
ERM	**Erimo**	**2.13**	**41**		**Pn**	**06 27 17.5**	**+0.9**
JEW	**Eniwo**	**2.43**	**3**		**Pn**	**06 27 22.0**	**+1.2**
JMM	**Marumori**	**2.57**	**189**		**Pn**	**06 27 23.3**	**+0.5**
JSD	**Sado**	**3.34**	**226**		**Pn**	**06 27 33.7**	**+0.4**
ASAJ	**Asahikawa**	**3.82**	**14**	P	**Pn**	**06 27 41.8**	**+1.9**
	16nm,0.3s,baz=228,slow=12,SNR=27						
ASAJ				S	**Sn**	**06 28 25.9**	**+1.5**
	20nm,0.3s,baz=340,slow=29,SNR=12						
ASAJ				LR	LR	06 29 15.8	
	comp=Z,347nm,18.6s,baz=266,slow=39						
ASAJ	**Asahikawa**	**3.82**	**14**	P	**Pn**	**06 27 41.1**	**+1.1**
JKA	**Kamikawa-asahi**	**3.82**	**14**		**Pn**	**06 27 41.0**	**+1.1**
JYT	**Yasato**	**4.27**	**192**		**Pn**	**06 27 46.9**	**+0.9**
NMR	**Nemuro--Hokkai**	**4.44**	**47**	*e*P	**Pn**	**06 27 48.1**	**-0.3**
NMR				*e*S	**Sn**	**06 28 37.8**	**-1.7**
MJB9	**Matsu-Tunnel**	**4.56**	**213**		**Pn**	**06 27 51.4**	**+1.3**
MAJO	**Matsushiro**	**4.56**	**213**	*d*P	**Pn**	**06 27 54.2**	**+4.1**
MAJO				pmax	pmax		
	comp=Z,56nm,0.8s						
MAJO	**Matsushiro**	**4.56**	**213**		**Pn**	**06 27 51.5**	**+1.4**
MAT	**Matsushiro**	**4.56**	**213**	P	**Pn**	**06 27 51.2**	**+1.1**
MAT				S	**Sn**	**06 28 45.1**	**+2.5**
MJAR	**Matsushiro Arr**	**4.56**	**213**	P	**Pn**	**06 27 51.9**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=16,slow=14,SNR=36						
MJAR	**Matsushiro Arr**	**4.56**	**213**	P	**Pn**	**06 27 52.2**	**+2.1**
MJAR	**Matsushiro Arr**	**4.56**	**213**	Pn	**Pn**	**06 27 52.1**	**+2.1**
GLVR	**Golovnino**	**4.58**	**42**	*e*P	**Pn**	**06 27 51.8**	**+1.5**
GLVR				*e*S	**Sn**	**06 28 43.8**	**+0.9**
GLVR				smax	smax		
	comp=E,1μm,0.5s						
GLVR				smax	smax		
	comp=N,754nm,0.3s						
RUSJ	**Misakicho**	**4.71**	**37**	*e*P	**Pn**	**06 27 54.7**	**+2.5**
RUSJ				*e*S	**Sn**	**06 28 48.2**	**+1.9**
GRPR	**Tuman**	**4.88**	**41**	*e*P	**Pn**	**06 27 56.1**	**+1.6**
GRPR				*e*S	**Sn**	**06 28 49.7**	**-0.8**
GRPR				pmax	pmax		
	comp=Z,310nm,0.3s						
GRPR				pmax	pmax		
	comp=N,100nm,0.2s						
GRPR				pmax	pmax		
	comp=E,173nm,0.3s						
GRPR				smax	smax		
	comp=N,233nm,0.3s						
GRPR				smax	smax		
	comp=E,899nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.96**	**42**	*e*P	**Pn**	**06 27 56.7**	**+1.2**
YUK				*e*S	**Sn**	**06 28 52.2**	**-0.2**
YUK				pmax	pmax		
	comp=Z,231nm,0.3s						
YUK				pmax	pmax		
	comp=N,46nm,0.2s						
YUK				pmax	pmax		
	comp=E,54nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
YUK				smax	smax		
	comp=E,367nm,0.3s						
YUK				MLR	MLR		
	comp=Z,492nm,13.0s						
SHO	**Shikotan**	**5.37**	**48**	*e*P	**Pn**	**06 28 00.8**	**-0.4**
SHO				*e*S	**Sn**	**06 29 00.3**	**-2.3**
SHO				pmax	pmax		
	comp=Z,58nm,0.4s						
SHO				pmax	pmax		
	comp=N,28nm,0.3s						
SHO				pmax	pmax		
	comp=E,37nm,0.4s						
SHO				smax	smax		
	comp=N,274nm,0.3s						
SHO				smax	smax		
	comp=E,136nm,0.3s						
SHO				MLR	MLR		
	comp=Z,230nm,13.0s						
JGF	**Kuroka**	**5.72**	**214**		**Pn**	**06 28 09.1**	**+3.0**
TEY	**Ternei**	**5.76**	**325**	⇑*e*P	Pn	06 28 11.9	+5.3
TEY				pmax	pmax		
	comp=N,60nm,0.7s						
TEY				pmax	pmax		
	comp=E,60nm,0.7s						
TEY				pmax	pmax		
	comp=Z,70nm,0.7s						
INU	**Inuyama**	**6.08**	**215**		**Pn**	**06 28 14.6**	**+3.7**
YSS	**Yuzh-Sakhalins**	**6.62**	**9**	*e*P	**Pn**	**06 28 20.7**	**+2.3**
YSS				*e*S	**Sn**	**06 29 34.1**	**+0.8**
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS				smax	smax		
	comp=N,30nm,0.5s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.62**	**9**	Pn	**Pn**	**06 28 20.5**	**+2.2**
KUR	**Kuril'sk**	**6.82**	**43**	*e*P	**Pn**	**06 28 22.6**	**+1.5**
KUR				*e*S	**Sn**	**06 29 37.8**	**-0.4**
KUR				pmax	pmax		
	comp=Z,185nm,0.7s						
KUR				pmax	pmax		
	comp=E,79nm,0.6s						
KUR				smax	smax		
	comp=N,193nm,0.9s						
KUR				smax	smax		
	comp=E,108nm,0.9s						
JWT	**Wachi**	**6.92**	**224**	Pn	**Pn**	**06 28 24.5**	**+2.0**
JHJ	**Hachijo jima 2**	**7.38**	**190**	P	**Pn**	**06 28 30.8**	**+2.0**
	comp=E,16nm,0.3s,baz=271,slow=6.3,SNR=5.2						
JHJ2	**Mitsune**	**7.38**	**190**	Pn	**Pn**	**06 28 30.8**	**+1.9**
VLA	**Vladivostok**	**7.53**	**294**	⇓*e*P	**Pn**	**06 28 32.6**	**+1.8**
USRK	**Ussuriysk Ar.**	**7.86**	**302**	P	**Pn**	**06 28 35.8**	**+0.5**
	baz=108,slow=14,SNR=11						
USRK				S	**Sn**	**06 30 05.2**	**+1.4**
	baz=115,slow=25,SNR=5.0						
USRK				LR	LR	06 31 18.5	
	comp=E,167nm,20.9s,baz=66,slow=35						
USRK	**Ussuriysk Ar.**	**7.86**	**302**	P	**Pn**	**06 28 36.9**	**+1.5**
USRK	**Ussuriysk Ar.**	**7.86**	**302**	Pn	**Pn**	**06 28 36.9**	**+1.5**
USA0B	**Ussuriysk Arra**	**7.86**	**302**	P	**Pn**	**06 28 36.7**	**+1.3**
USA0B	**Ussuriysk Arra**	**7.86**	**302**	Pn	**Pn**	**06 28 36.7**	**+1.3**
JHS	**Saijyo**	**8.43**	**233**	Pn	**Pn**	**06 28 46.5**	**+3.2**
MDJ	**Mudanjiang**	**9.60**	**300**	P	**Pn**	**06 29 03.2**	**+4.0**
MDJ				sP		06 29 18.2	
MDJ				S	**Sn**	**06 30 47.4**	**+0.8**
MDJ				pmax	pmax		
	comp=E,11nm,0.9s						
MDJ				pmax	pmax		
	comp=E,220nm,4.3s						
MDJ				LR	LR		
	comp=E,820nm,13.5s						
MDJ				LR	LR		
	comp=E,440nm,14.2s						
MDJ				LR	LR		
	comp=E,480nm,13.1s						
KSRS	**Korea Array**	**10.82**	**258**	P	**Pn**	**06 29 17.9**	**+2.0**
	comp=E,1.0nm,0.3s,baz=65,slow=14,SNR=12						
KSRS				S	**Sn**	**06 31 21.7**	**+5.1**
	comp=E,1.7nm,0.3s,baz=71,slow=24,SNR=15						
KSRS				LR	LR	06 32 56.6	
	comp=E,224nm,19.4s,baz=85,slow=34						
KSRS	**Korea Array**	**10.82**	**258**	P	**Pn**	**06 29 18.0**	**+2.0**
GRNR	**Gornyy**	**10.90**	**343**	⇓*i*P	**Pn**	**06 29 21.0**	**+4.0**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GRNR				MLR	MLR		
	comp=E,110nm,13.0s						
GRNR				MLR	MLR		
	comp=N,170nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,230nm,11.0s						
JNU	**Nakatsue**	**11.07**	**232**	P	**Pn**	**06 29 21.9**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=63,slow=4.5,SNR=2.5						
JNU	**Nakatsue**	**11.07**	**232**	Pn	**Pn**	**06 29 20.4**	**+1.0**
KLR	**Kul'dur**	**11.11**	**326**	P	**Pn**	**06 29 22.3**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=138,slow=12,SNR=14						
KLR				LR	LR	06 33 40.9	
	comp=Z,242nm,18.2s,baz=75,slow=38						
KLR	**Kul'dur**	**11.11**	**326**	⇓*e*P	**Pn**	**06 29 22.4**	**+2.6**
KLR				pmax	pmax		
	comp=Z,11nm,1.0s						
TJN	**Taejon**	**11.64**	**254**	*i* P	**Pn**	**06 29 30.2**	**+3.0**
CN2	**Changchun**	**12.24**	**291**	*e*P	**Pn**	**06 29 38.2**	**+2.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ZEA	**Zeya**	**16.36**	**329**	*e*P	**P**	**06 30 33.7**	**+0.4**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.3s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.6s						
ZEA				MLR	MLR		
	comp=Z,100nm,15.0s						
PEA0B	**Petropavlovsk-**	**16.91**	**36**	P	**Pn**	**06 30 36.9**	**-0.6**
PEA0B				pmax	pmax		
	comp=Z,39nm,1.2s						
PEA0B	**Petropavlovsk-**	**16.91**	**36**	Pn	**Pn**	**06 30 36.9**	**-0.6**
PETK	**Petropavlovsk-**	**16.91**	**36**	P	**Pn**	**06 30 37.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=222,slow=6.0,SNR=4.0						
PETK				LR	LR	06 37 04.8	
	comp=Z,93nm,21.2s,baz=222,slow=36						
PETK	**Petropavlovsk-**	**16.91**	**36**	Pn	**Pn**	**06 30 37.2**	**-0.3**
JOW	**Kunigami**	**17.32**	**223**	LR	LR	06 38 03.3	
	comp=Z,170nm,18.6s,baz=113,slow=39						
XLT	**XiLinHaoTe**	**18.99**	**289**	*e*P	**Pn**	**06 31 05.3**	**+2.0**
XLT				pP	sP	06 31 15.0	+4.6
XLT				sP	pP	06 31 19.0	+11
XLT				S	**S**	**06 34 39.3**	**+1.9**
XLT				sS	sS	06 34 46.4	+0.6
XLT				pmax	pmax		
	comp=Z,11nm,1.2s						
XLT				pmax	pmax		
	comp=Z,200nm,5.5s						
XLT				LR	LR		
	comp=Z,290nm,12.8s						
XLT				LR	LR		
	comp=Z,250nm,10.1s						
XLT				LR	LR		
	comp=Z,250nm,11.1s						
BJI	**Beijing**	**19.17**	**277**	P	**P**	**06 31 04.2**	**-0.2**
BJI				sP	sP	06 31 23.4	+11
BJI				pmax	pmax		
	comp=Z,12nm,0.9s						
NJ2	**Nanjing**	**19.89**	**252**	⇓P	**P**	**06 31 10.7**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,32nm,0.8s						
MA2	**Magadan**	**20.09**	**14**	*ce*P	**P**	**06 31 15.1**	**+0.8**
MA2				pmax	pmax		
	comp=Z,17nm,0.7s						
HNS	**HongShan**	**20.88**	**270**	⇓P	**P**	**06 31 21.4**	**-1.6**
HNS				pmax	pmax		
	comp=Z,25nm,1.2s						
HHC	**Hu-ho-hao-te**	**22.52**	**281**	*e*P	**P**	**06 31 39.8**	**-1.0**
HHC				S	**S**	**06 35 39.1**	**-7.9**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,6.8s						
HHC				LR	LR		
	comp=Z,170nm,8.6s						
HHC				LR	LR		
	comp=Z,250nm,11.6s						
HHC				LR	LR		
	comp=Z,280nm,14.2s						
YAK	**Yakutsk**	**22.76**	**346**	P	**P**	**06 31 40.8**	**-2.2**
	comp=Z,9.5nm,0.6s,baz=4.3,slow=1.8,SNR=1.8						
YAK				LR	LR	06 40 42.3	
	comp=Z,140nm,18.2s,baz=196,slow=37						
YAK	**Yakutsk**	**22.76**	**346**	*e*P	**P**	**06 31 40.0**	**-3.0**
YAK				*e**PP	**sP**	**06 31 51.4**	**+0.5**
YAK				*e*		06 35 29.7	
YAK				*e*S	**S**	**06 35 44.5**	**-6.2**
YAK				*e**SS	Sn	06 36 03.4	-2.2
YAK				*e*SS	**SnSn**	**06 36 25.1**	**+3.7**
YAK				*e*		06 42 51.3	
YAK				pmax	pmax		
	comp=Z,21nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,90nm,3.8s						
YAK				pmax	pmax		
	comp=N,85nm,3.8s						
YAK				pmax	pmax		
	comp=E,142nm,3.5s						
YAK				smax	smax		
	comp=N,109nm,2.9s						
YAK				smax	smax		
	comp=E,32nm,2.5s						
LYN	**LuoYang**	**23.55**	**265**	⇑*i*P	**P**	**06 31 50.9**	**-0.4**
LYN				LR	LR		
	comp=E,1μm,13.3s						
LYN				LR	LR		
	comp=E,350nm,11.8s						
BOD	**Bodaibo**	**24.68**	**324**	*e*P	**P**	**06 32 00.9**	**-0.7**
BOD				pmax	pmax		
	comp=Z,15nm,1.0s						
SHEM	**Shemya Is, Ala**	**25.46**	**50**	LR	LR	06 43 26.2	
	comp=Z,47nm,19.4s,baz=352,slow=39						
ULN	**Ulaanbaatar**	**25.51**	**298**	*ce*P	**P**	**06 32 08.8**	**-0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**25.95**	**298**	P	**P**	**06 32 12.2**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=86,slow=9.8,SNR=8.6						
SONM				LR	LR	06 42 14.4	
	comp=Z,42nm,18.6s,baz=147,slow=36						
ZAK	**Zakamensk**	**28.21**	**303**	*e*P	**P**	**06 32 33.0**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
LZH	**Lanzhou**	**29.57**	**274**	*e*P	**P**	**06 32 44.8**	**-1.1**
LZH				pP	sP	06 32 53.8	-0.3
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				LR	LR		
	comp=Z,200nm,13.6s						
LZH				LR	LR		
	comp=Z,260nm,12.5s						
LZH				LR	LR		
	comp=Z,220nm,15.2s						
H11N2	**WAKE ISLAND Hy 30.08 126**			T	T	07 03 37.1	
	baz=318,slow=75,SNR=238						
H11N1	**WAKE ISLAND Hy 30.09 126**			T	T	07 03 39.2	
	baz=318,slow=75,SNR=253						
H11N3	**WAKE ISLAND Hy 30.10 126**			T	T	07 03 41.1	
	baz=318,slow=75,SNR=190						
BILL	**Bilibino**	**30.83**	**18**	⇑*e*P	**P**	**06 32 57.8**	**+1.3**
BILL				*e*		06 34 04.0	
BILL				*e*S	**S**	**06 37 55.6**	**-3.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
H11S1	**WAKE ISLAND Hy 30.89 128**			T	T	07 04 49.7	
	SNR=69						
H11S3	**WAKE ISLAND Hy 30.89 128**			T	T	07 05 29.2	
	baz=320,slow=74,SNR=71						
H11S2	**WAKE ISLAND Hy 30.90 128**			T	T	07 05 29.8	
	baz=248,slow=74,SNR=63						
GTA	**Gaotai**	**31.62**	**282**	*e*P	**P**	**06 33 02.8**	**-1.2**
GTA				pP	sP	06 33 13.4	+1.3
GTA				PcP	**PcP**	**06 35 57.4**	**+1.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,64nm,4.7s						
GTA				LR	LR		
	comp=Z,150nm,13.5s						
GTA				LR	LR		
	comp=Z,260nm,16.0s						
GTA				LR	LR		
	comp=Z,240nm,16.4s						
CD2	**Chengdu**	**31.73**	**265**	*e*P	**P**	**06 33 05.0**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA	**Guiyang**	**31.85**	**255**	⇓P	**P**	**06 33 08.1**	**+2.0**
GYA				pmax	pmax		
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	**31.93**	**353**	P	**

ZAA0 PcP **PcP** **06 36 19.1 +0.1**
ZALV Zalesovo Beam 39.63 309 P **P** **06 34 12.1 -0.2**
comp=Z,11nm,0.7s,baz=87,slow=8.1,SNR=38
ZALV PcP **PcP** **06 36 19.2 +0.2**
comp=Z,4.3nm,0.6s,baz=105,slow=2.8,SNR=9.4
ZALV LR LR 06 51 13.3
comp=Z,53nm,18.1s,baz=355,slow=37
ZALV Zalesovo Beam 39.63 309 P **P** **06 34 12.4 +0.1**
ZALV 06 36 18.5
ZALV Zalesovo Beam 39.63 309 P **P** **06 34 12.4 +0.1**
ZALV **PcP** **06 36 18.5 -0.5**
NRIK Noril'sk 40.18 334 P **P** **06 34 15.8 -0.8**
comp=Z,2.2nm,0.6s,baz=90,slow=6.5,SNR=3.6
NRIK Noril'sk 40.18 334 P **P** **06 34 15.9 -0.8**
NRIK pmax pmax
comp=Z,4.0nm,0.8s
NRIK Noril'sk 40.18 334 P **P** **06 34 15.9 -0.8**
SWI Sorong 42.09 195 P **P** **06 34 33.8 +0.9**
comp=Z,38nm,0.8s
SIJI Sorong 42.09 195 P **P** **06 34 33.8 +0.8**
comp=Z,23nm,0.7s,baz=50,slow=6.2,SNR=13
MK31 Makanchi Array 42.32 299 P **P** **06 34 34.3 -0.3**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 42.32 299 P **P** **06 34 34.3 -0.3**
MKAR Makanchi Array 42.32 299 P **P** **06 34 34.5 -0.1**
comp=Z,5.2nm,0.7s,baz=84,slow=9.9,SNR=39
MKAR LR LR 06 51 53.8
comp=Z,62nm,19.4s,baz=62,slow=36
CMAR Chiang Mai Arr 42.37 252 P **P** **06 34 35.9 +0.7**
comp=Z,1.1nm,0.4s,baz=38,slow=8.7,SNR=8.3
CMAR LR LR 06 52 55.4
comp=Z,35nm,19.1s,baz=65,slow=37
KMSI Cibinong 42.66 206 P **P** **06 34 38.5 +0.9**
SVW2 Sparrevohn 42.94 40 P **P** **06 34 40.5 +1.1**
SVW2 IAmb IAmb 06 34 56.5
comp=Z,24nm,1.5s
GTOI Gorontalo 42.94 207 P **P** **06 34 39.2 -0.7**
comp=Z,9.4nm,1.1s
A21K Barrow 43.41 24 P **P** **06 34 43.5 +0.5**
A21K IAmb IAmb 06 34 50.9
comp=Z,14nm,1.0s
MRSI Marisa 43.47 209 P **P** **06 34 44.8 +0.6**
comp=Z,54nm,1.1s
J20K Nowinta River 43.60 35 P **P** **06 34 46.5 +1.8**
IMAR Indian Mountai 43.82 32 P **P** **06 34 47.9 +1.4**
KURK Kurchatov 43.83 305*ce*P **P** **06 34 46.2 -0.5**
KURK pmax pmax
comp=Z,71nm,1.0s
KURK Kurchatov 43.83 305 P **P** **06 34 46.5 -0.2**
KURBB Kurchatov Arra 43.91 305 P **P** **06 34 47.0 -0.3**
comp=Z,41nm,0.8s,baz=81,slow=8.5,SNR=186
KURBB PcP **PcP** **06 36 33.4 +0.2**
comp=Z,3.1nm,0.8s,baz=82,slow=3.7,SNR=6.7
FAKI Fak Fak 43.91 193 P **P** **06 34 48.1 +0.4**
comp=Z,34nm,1.1s
H21K Melozitna Rive 44.20 33 IAmb IAmb 06 34 52.0
comp=Z,8.6nm,0.8s
MPSI Mapaga 44.38 211 P **P** **06 34 50.4 -1.1**
comp=Z,9μmcomp=Z,18nm,0.7s
PPLA Purkeypile 44.49 37 P **P** **06 34 53.6 +1.6**
PPLA IAmb IAmb 06 35 19.7
comp=Z,22nm,1.4s
SANI Sanana 44.52 202 P **P** **06 34 52.2 -0.3**
comp=Z,19nm,1.0s
CAST Castle Rocks 44.52 36 P **P** **06 34 53.2 +1.1**
KDAK Kodiak Island 44.70 44 P **P** **06 34 54.2 +0.7**
KDAK pmax pmax
comp=Z,87nm,1.5s
KDAK Kodiak Island 44.70 44 P **P** **06 34 54.2 +0.7**
APSI Ampana 44.86 208 P **P** **06 34 55.1 -0.2**
comp=Z,34nm,0.9s
KTH Kantishna Hill 45.04 36 P **P** **06 34 58.3 +2.0**
KTH IAmb IAmb 06 34 59.4
comp=Z,17nm,1.0s
RND Reindeer 45.97 36 P **P** **06 35 04.5 +0.8**
RND pmax pmax
comp=Z,20nm,1.4s
RND Reindeer 45.97 36 P **P** **06 35 04.5 +0.8**
RND IAmb IAmb 06 35 27.6
comp=Z,20nm,1.4s
MDM Murphy Dome 46.14 34 P **P** **06 35 06.1 +1.2**
H24K Noodor Dome 46.23 33 IAmb IAmb 06 35 08.7
comp=Z,8.3nm,0.9s
SML Sawmill 46.36 38 P **P** **06 35 07.8 +1.0**
POKR Poker Plat Res 46.46 34 IAmb IAmb 06 35 10.2
comp=Z,12nm,0.9s
DHY Denali Highway 46.67 36 P **P** **06 35 10.2 +0.9**
DHY IAmb IAmb 06 35 22.4
comp=Z,7.8nm,1.0s
DHY PcP **PcP** **06 36 44.7 +2.0**
IL31 46.72 34 P **P** **06 35 10.6 +1.2**
IL31 IAmb IAmb 06 35 29.3
comp=Z,6.2nm,0.9s
ILAR Eielson Array 46.72 34 P **P** **06 35 10.3 +0.8**
comp=Z,2.8nm,0.7s,baz=270,slow=6.1,SNR=37
ILAR Eielson Array 46.72 34 P **P** **06 35 10.5 +1.0**
ILAR Eielson Array 46.72 34 P **P** **06 35 10.4 +1.0**
GUN Gumba 46.82 272 *eP* **P** **06 35 11.0 -0.2**
comp=Z,44nm,0.8s
TARG Taragay, Kyrgy 46.89 293 IAmb IAmb 06 35 13.1
comp=Z,11nm,0.8s
KDJ Kajisay 47.19 294 IAmb IAmb 06 35 14.8
comp=Z,9.3nm,1.1s
FYU Fort Yukon 47.26 31 P **P** **06 35 15.8 +2.2**
KKN Kakani 47.34 273 *eP* **P** **06 35 14.9 -0.1**
comp=Z,29nm,0.7s
PKI Pulchoki 47.35 272 *eP* **P** **06 35 14.4 -0.9**
PKIN Phulchoki 47.36 272 *eP* **P** **06 35 15.1 -0.2**
comp=Z,9.8nm,0.7s
BMAR Burnt Mountain 47.44 30 P **P** **06 35 17.0 +1.9**
DMN Daman 47.56 273 *eP* **P** **06 35 16.6 -0.2**
MTKI Muara Teweh, K 47.68 217 P **P** **06 35 18.1 +0.6**
GKN Gorkha 47.72 273 *eP* **P** **06 35 17.3 -0.6**
comp=Z,5.2nm,0.3s
DANN Dangsing 48.21 274 *eP* **P** **06 35 22.0 +0.1**
comp=Z,180nm,0.8s
BVAR Borovoye Array 48.27 310 P **P** **06 35 21.9 +0.2**
comp=Z,4.9nm,0.6s,baz=87,slow=9.5,SNR=25
BVAR PcP **PcP** **06 36 48.6 +0.2**
comp=Z,2.4nm,0.6s,baz=141,slow=7.3,SNR=5.6
BRVK Borovoye 48.33 310*ce*P **P** **06 35 22.4 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 48.33 310 P **P** **06 35 22.5 +0.3**
BRVK IAmb IAmb 06 35 23.1
comp=Z,5.6nm,0.8s
KOLN Koldanda 48.63 274 *eP* **P** **06 35 25.0 0.0**
comp=Z,104nm,1.2s
BNSI Bone 48.65 209 P **P** **06 35 22.6 -2.4**
comp=Z,15nm,1.1s
VRDI Verde Repeater 48.76 38 P **P** **06 35 26.1 +0.5**
AAK Ala-Archa 48.86 296 P **P** **06 35 26.5 -0.1**
comp=Z,4.0nm,0.7s,baz=242,slow=21,SNR=7.5
AAK LR LR 06 56 56.4
comp=Z,60nm,19.8s,baz=80,slow=37
AAK Ala-Archa 48.86 296*ce*P **P** **06 35 27.2 +0.6**
AAK pmax pmax
comp=Z,22nm,1.7s
PYUN Piuthan 48.92 274 *eP* **P** **06 35 27.5 +0.2**
comp=Z,149nm,1.1s
KSH Kashi 49.01 291 P **P** **06 35 31.6 +3.9**
KSH pP sP 06 35 45.5 +9.5
KSH pmax pmax
comp=Z,14nm,0.9s
KSH LR LR
comp=Z,350nm,15.8s
KSH LR LR
comp=Z,270nm,13.9s
BCAR Beaver Creek A 49.19 36 P **P** **06 35 30.8 +2.1**
KAPI Kappang 49.35 209 P **P** **06 35 30.5 +0.2**
comp=Z,6.9nm,0.7s,baz=107,slow=2.9,SNR=6.1
SVE Sverdlovsk 52.58 317 *eP* **P** **06 35 54.5 +0.3**
SVE pmax pmax
comp=Z,18nm,0.8s
A36M Sachs Harbour 53.17 23 IAmb IAmb 06 36 24.6
comp=Z,9.5nm,1.1s
PSI Prapat 53.50 237 P **P** **06 36 01.9 +0.4**
comp=Z,4.5nm,0.7s
PSI LR LR 06 59 41.2
comp=Z,53nm,18.3s,baz=68,slow=37
PSI Prapat 53.50 237 P **P** **06 36 02.0 +0.4**
NIL Nilore 53.53 286 P **P** **06 36 02.1 +0.5**
NIL pmax pmax
comp=Z,22nm,0.8s
NIL Nilore 53.53 286 P **P** **06 36 02.1 +0.5**

ARU Arti 53.80 317 P **P** **06 36 02.1 -1.1**
comp=Z,2.0nm,0.5s,baz=50,slow=7.0,SNR=14
ARU LR LR 07 00 23.0
comp=Z,45nm,18.9s,baz=32,slow=38
ARU Arti 53.80 317*d i P* **P** **06 36 03.5 +0.4**
ARU 06 37 06.9
ARU S **S** **06 43 35.7 -0.9**
ARU SS **SKiKP** **06 47 12.9 -2.9**
ARU pmax pmax
comp=Z,26nm,1.1s
ARU MLR MLR
comp=Z,126nm,16.0s
BKNI Bangkinang 54.10 233 P **P** **06 36 06.1 +0.3**
comp=Z,4μmcomp=Z,94nm,0.5s
COEN Coen 54.12 178 P **P** **06 36 06.7 +0.9**
C36M Paulatuk 54.42 26 IAmb IAmb 06 36 20.0
comp=Z,8.3nm,1.2s
MNSI Mandailing Nat 54.63 235 P **P** **06 36 10.0 +0.3**
comp=Z,30nm,0.4s
GSI Gunungsitoli 55.51 237 P **P** **06 36 17.0 +0.9**
comp=Z,25nm,1.3s
ABKAR Akbulak array 55.73 308 P **P** **06 36 16.8 -0.5**
ABKAR IAmb IAmb 06 36 18.6
comp=Z,6.6nm,0.8s
KLSI 56.03 226 P **P** **06 36 20.0 +0.3**
comp=Z,9.2nm,1.3s
MASI Maura Aman, Be 56.16 229 P **P** **06 36 21.4 +0.7**
comp=Z,57nm,0.6s
MDSI Maura Dua 56.16 226 P **P** **06 36 20.5 -0.2**
comp=Z,7.3nm,1.2s
LEM Lembang 56.31 221 P **P** **06 36 22.9 +1.0**
comp=Z,20nm,0.6s,baz=222,slow=13,SNR=3.6
LEM Lembang 56.31 221 P **P** **06 36 23.0 +1.0**
AKTO Aktyubinsk 56.38 310 P **P** **06 36 21.9 0.0**
comp=Z,2.3nm,0.6s,baz=78,slow=13,SNR=8.4
AKTO PcP **PcP** **06 37 18.6 -0.3**
comp=Z,4.1nm,0.8s,baz=96,slow=2.7,SNR=4.9
KNRA Kunounrra 57.01 194 P **P** **06 36 26.2 -0.4**
KIRV Kirov 57.52 322 P **P** **06 36 29.8 0.0**
comp=Z,16nm,0.6s,baz=121,slow=3.8,SNR=5.4
KIRV Kirov 57.52 322*ce*P **P** **06 36 30.0 +0.2**
NOR Nord 57.68 356 *i* P **P** **06 36 29.0 -1.7**
NOR IAmb IAmb 06 36 30.8
comp=Z,2.7nm,0.7s
PRGR Permogore 57.90 326 *eP* **P** **06 36 32.3 -0.1**
PRGR pmax pmax
comp=Z,11nm,1.1s
FITZ Fitzroy Crossi 60.01 197 P **P** **06 36 47.8 +0.3**
comp=Z,5.6nm,0.9s,baz=354,slow=7.6,SNR=13
WRAB Tennant Creek 60.38 188 P **P** **06 36 49.0 -1.1**
WRAB pmax pmax
comp=Z,14nm,0.9s
WRAB Tennant Creek 60.38 188 P **P** **06 36 49.0 -1.1**
WR0 Warramunga Arr 60.39 187 P **P** **06 36 49.2 -0.9**
WRA Warramunga Arr 60.39 188 P **P** **06 36 49.5 -0.6**
comp=Z,12nm,0.8s,baz=6.4,slow=7.0,SNR=117
SANVU Saraoutou 60.57 151 P **P** **06 36 51.6 +0.2**
ARCES ARCESS Array B 60.81 339 P **P** **06 36 52.1 -0.3**
comp=Z,2.3nm,0.9s,baz=25,slow=6.7,SNR=4.9
ARCES LR LR 07 05 57.4
comp=Z,34nm,18.3s,baz=322,slow=39
ARCES ARCESS Array B 60.81 339 IAmb IAmb 06 37 06.3
comp=Z,6.0nm,1.1s
KLMR Klimovskoe 60.86 327 *eP* **P** **06 36 51.2 -1.7**
KLMR *e* 06 39 04.9
KLMR pmax pmax
comp=Z,15nm,1.0s
KLMR Klimovskoe 60.86 327 *eP* **P** **06 36 51.3 -1.7**
KLMR AMP 06 36 54.2
comp=Z,15nm,1.0s
KLMR *e*PP **PP** **06 39 04.9 -1.7**
YKA Yellowknife Ar 60.95 31 P **P** **06 36 54.2 +0.8**
comp=Z,2.0nm,0.8s,baz=300,slow=6.4,SNR=37
YKA PcP **PcP** **06 37 37.7 +0.9**
comp=Z,1.3nm,0.8s,baz=302,slow=4.0,SNR=5.8
YKA Yellowknife Ar 60.95 31 P **P** **06 36 53.7 +0.2**
HRA Herat 61.12 292 P **P** **06 36 55.5 +0.2**
TULEG Thule 61.77 8 *i* P **P** **06 36 58.1 -0.7**
TULEG IAmb IAmb 06 36 59.0
comp=Z,9.9nm,0.6s
TULEG Thule 61.77 8 P **P** **06 36 58.1 -0.7**
GEYT Alibeck 62.15 297 P **P** **06 37 01.9 -0.2**
comp=Z,2.0nm,0.3s,baz=43,slow=18,SNR=4.3
GEYT Alibeck 62.15 297 IAmb IAmb 06 37 03.0
comp=Z,7.6nm,1.0s
NEEM North Greenlan 62.16 3 *i* P **P** **06 37 00.9 -1.0**
NEEM IAmb IAmb 06 37 03.0
comp=Z,9.2nm,0.8s
DAG Danmarks Havn 62.40 355 *i* P **P** **06 37 02.0 -1.1**
DAG IAmb IAmb 06 37 03.4
comp=Z,10nm,0.6s
ASAR Alice Springs 64.12 188 P **P** **06 37 15.0 -0.1**
comp=Z,11nm,0.8s,baz=11,slow=6.3,SNR=136
PSA00 Pilbara Seismi 64.82 202 P **P** **06 37 19.0 -0.6**
PSA00 IAmb IAmb 06 37 20.3
comp=Z,6.9nm,1.1s
OBN Obninsk 65.35 322⇓ *e*P **P** **06 37 22.9 +0.1**
OBN *e**PP **PcP** **06 37 52.1 -2.7**
OBN *e* 06 39 46.7
OBN pmax pmax
comp=Z,60nm,2.5s
FINES FINESS Array B 65.79 332 P **P** **06 37 25.2 -0.3**
comp=Z,16nm,0.8s,baz=48,slow=8.2,SNR=34
SUMG Summit 67.31 360 P **P** **06 37 35.3 -0.3**
SUMG pmax pmax
comp=Z,17nm,1.1s
SUMG Summit 67.31 360 *i* P **P** **06 37 35.0 -0.6**
SUMG IAmb IAmb 06 37 36.6
comp=Z,6.0nm,0.7s
SUMG Summit 67.31 360 P **P** **06 37 35.3 -0.3**
C09A Chrisman Ranch 67.44 46 IAmb IAmb 06 37 38.5
comp=Z,6.7nm,0.9s
D08A Wollman Farm, 67.51 47 IAmb IAmb 06 37 38.9
comp=Z,5.1nm,0.8s
NEW Newport 67.79 45 P **P** **06 37 39.2 +0.6**
NEW Newport 67.79 45 IAmb IAmb 06 37 40.7
comp=Z,6.7nm,1.1s
E09A Wood Farm, Sta 68.26 47 IAmb IAmb 06 37 43.9
comp=Z,5.8nm,0.8s
YBH Yreka Blue Hor 68.38 53 P **P** **06 37 44.1 +1.7**
KIV Kislovodsk 68.64 310 *eP* **P** **06 37 45.2 +1.1**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,28nm,17.0s
KBZ Khabaz 68.65 310 P **P** **06 37 44.3 +0.3**
comp=Z,2.9nm,1.0s,baz=203,slow=4.7,SNR=3.9
JTMT Jette 69.63 44 P **P** **06 37 50.8 +0.6**
JTMT IAmb IAmb 06 37 53.1
comp=Z,7.6nm,1.1s
MNK Minsk 69.66 325 *i* P **P** **06 37 53.9 +3.9**
MNK *i* *PP **PcP** **06 38 08.1 -4.8**
MNK *i* 06 38 16.3
MNK *i* 06 40 28.1
MNK *i* PPP PPP 06 42 09.7
MNK *i* S **S** **06 46 57.3 0.0**
MNK *i* *SS SKiKP 06 47 23.4 -13
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK MLR MLR
comp=E,126nm,22.0s
MNK MLR MLR
comp=Z,86nm,18.0s
MNK MLR MLR
comp=N,678nm,20.0s
MNK Minsk 69.66 325 *i* P **P** **06 37 53.9 +3.9**
comp=E,1.0nm,0.6s
MNK *i* P **P** **06 37 53.9 +3.9**
comp=N,13nm,0.9s
MNK *i* P **P** **06 37 53.9 +3.9**
comp=Z,10.0nm,0.8s,baz=48
MNK *i* pP **PcP** **06 38 08.1 -4.7**
MNK *i* PP **PP** **06 40 28.1 +4.6**
MNK *i* PPP PPP 06 42 09.7
MNK *i* S **S** **06 46 57.4 +0.1**
MNK *i* sS SKiKP 06 47 23.4 -13
MNK *i* SS SS 06 51 37.4 +13
MNK *i* SSS SSS 06 54 46.6
MNK *i* LQ LQ 07 03 42.1
MNK *i* LR LR 07 09 00.2
MNK *i* LRM MLR 07 10 55.2
comp=E,126nm,22.4s
MNK *i* LRM MLR 07 10 56.7
comp=Z,86nm,18.1s
MNK *i* LRM MLR 07 11 00.3
comp=N,678nm,19.6s
NACGM Naroch 69.86 326 *i* P **P** **06 37 52.2 +0.9**
ORV Oroville 70.40 55 IAmb IAmb 06 38 12.6
comp=Z,7.0nm,1.4s
NB2 NORSAR Subarra 71.04 337 P **P** **06 37 58.2 -0.2**
comp=Z,2.7nm,0.8s,baz=38,slow=6.2
NOA NORSAR Array B 71.04 337 P **P** **06 37 58.3 -0.2**
comp=Z,5.9nm,0.9s,baz=38,slow=6.0,SNR=11
NOA LR LR 07 12 37.1
comp=Z,30nm,18.7s,baz=235,slow=39
AKASG Malin Array Be 71.58 322 P **P** **06 38 01.4 -0.4**
comp=Z,6.9nm,0.7s,baz=45,slow=6.0,SNR=58
AKASG Malin Array Be 71.58 322 P **P** **06 38 00.9 -0.9**
AKBB Malin Array Si 71.58 322 IAmb IAmb 06 38 02.3
comp=Z,11nm,0.8s
EGMT Eagleton 71.81 42 IAmb IAmb 06 38 05.3
comp=Z,10.0nm,0.8s
FORT Forrest 71.89 192 P **P** **06 38 03.3 -0.4**
STKA Stephens Creek 71.93 180 P **P** **06 38 04.3 +0.3**
comp=Z,3.1nm,0.7s,baz=342,slow=7.8,SNR=8.1
STKA Stephens Creek 71.93 180 P **P** **06 38 03.5 -0.4**
DLMT Dillon 72.03 45 IAmb IAmb 06 38 07.6
comp=Z,9.5nm,1.0s
YERR Yerington 72.14 54 IAmb IAmb 06 38 08.3
comp=Z,5.1nm,0.8s
GURO Guroymak-BITLI 72.27 306 IAmb IAmb 06 38 08.2
comp=Z,15nm,1.4s
BOZ Bozeman (W) 72.40 45 IAmb IAmb 06 38 09.2
comp=Z,5.1nm,0.7s
KVN Kaiserville 72.80 53 IAmb IAmb 06 38 12.2
comp=Z,3.9nm,0.7s
LHV Little Huntoon 73.04 54 IAmb IAmb 06 38 14.2
comp=Z,5.0nm,0.9s
NVAR Mina Array Bea 73.06 54 P **P** **06 38 12.1 +0.9**
comp=Z,1.6nm,0.7s,baz=293,slow=5.2,SNR=17
SORM Soroca 73.73 320⇑ **P** **06 38 13.9 -0.7**
H17A Grant Village 73.75 45 IAmb IAmb 06 38 19.2
comp=Z,5.5nm,0.8s
MARD Mardin 73.81 305 IAmb IAmb 06 38 17.0
comp=Z,8.8nm,0.8s
MOOW Moose Ponds 74.08 46 P **P** **06 38 17.6 +0.4**
BW06 Boulder Array 75.38 46 IAmb IAmb 06 38 42.5
comp=Z,8.6nm,1.5s
PDAR Pinedale Array 75.38 46 P **P** **06 38 25.8 +1.1**
comp=Z,1.7nm,0.6s,baz=270,slow=2.2,SNR=22
PDAR Pinedale Array 75.38 46 P **P** **06 38 24.5 -0.1**
QSM Queen of Sheba 75.49 55 IAmb IAmb 06 38 27.8
comp=Z,7.4nm,1.0s
BUR08 Bucovina Ar. S 75.60 321 IAmb IAmb 06 38 27.0
comp=Z,11nm,0.8s
BURAR Bucovina Array 75.61 321⇓ P **P** **06 38 26.5 +0.8**
TESR Tescani 75.69 320⇓ P **P** **06 38 26.6 +0.5**
TPGR Topolog 75.94 318⇑ P **P** **06 38 25.7 -1.9**
VRI Vrincioaia 76.10 319⇑ P **P** **06 38 28.3 -0.1**
PLOR Plostina 76.15 319⇓ P **P** **06 38 25.2 -3.5**
OJC Ojcow 76.19 326 *eP* **P** **06 38 29.8 +0.9**
SHPR Sheep Range 76.21 54 P **P** **06 38 30.5 +1.1**
OZUR 76.41 320⇑ P **P** **06 38 31.5 +1.2**
CRVS Cervenica-Dubn 76.43 324 *eP* **P** **06 38 31.2 +0.9**
CRVS Cervenica-Dubn 76.43 324 *eP* **P** **06 38 31.2 +0.9**
BRTR Keskin Array B 76.55 311 P **P** **06 38 31.6 +0.3**
comp=Z,1.4nm,0.7s,baz=68,slow=3.6,SNR=6.9
NIE Niedzica 76.56 325 *eP* **P** **06 38 33.0 +1.9**
DOPR Dopca 76.69 320⇑ P **P** **06 38 34.3 +2.4**
ISR Istrita 76.72 319⇓ P **P** **06 38 33.6 +1.6**
ULM Lac du Bonnet 76.74 34 P **P** **06 38 32.1 +0.2**
comp=Z,2.9nm,0.7s,baz=311,slow=8.8,SNR=3.8
MLR Muntele Rosu 76.75 319⇑ P **P** **06 38 33.1 +0.8**
MLR Muntele Rosu 76.75 319 P **P** **06 38 32.2 -0.1**
MLR pmax pmax
comp=Z,15nm,1.4s
MLR Muntele Rosu 76.75 319 P **P** **06 38 32.2 -0.1**
MLR IAmb IAmb 06 38 34.6
comp=Z,15nm,1.4s
RDMU Red Mountain 76.84 48 IAmb IAmb 06 38 35.4
comp=Z,6.3nm,0.7s
P17A Butcher Ranch, 76.91 49 IAmb IAmb 06 38 35.8
comp=Z,2.9nm,0.6s
LANS Liptovska Anna 77.13 325 *eP* **P** **06 38 35.9 +1.7**
LANS pmax pmax
comp=Z,5.0nm,0.9s
LANS Liptovska Anna 77.13 325 *eP* **P** **06 38 35.9 +1.7**
KSP Ksiaz 77.19 328 *eP* **P** **06 38 35.5 +1.1**
VOIR 77.24 320⇑ P **P** **06 38 36.1 +1.1**
VOIR 77.24 320⇑ P **P** **06 38 36.1 +1.1**
SRU San Rafael Swe 77.27 49 IAmb IAmb 06 38 37.6
comp=Z,4.4nm,0.9s
CHVC Chvalec 77.48 328 *eP* **P** **06 38 37.0 +0.8**
MORC Moravsky Berou 77.48 326⇓ P **P** **06 38 37.5 +1.3**
MORC Moravsky Berou 77.48 326⇓ P **P** **06 38 37.5 +1.3**
MORC Moravsky Berou 77.48 326 *eP* **P** **06 38 36.7 +0.5**
MORC Moravsky Berou 77.48 326 IAmb IAmb 06 38 37.9
comp=Z,11nm,0.9s
ARR Arges 77.49 320⇑ P **P** **06 38 38.2 +1.8**
DPC Dobruska-Polom 77.55 327 *eP* **P** **06 38 37.7 +1.1**
DPC Dobruska-Polom 77.55 327 *eP* **P** **06 38 37.7 +1.1**
KRLC Kraliky 77.57 327 *eP* **P** **06 38 37.6 +0.9**
KRLC Kraliky 77.57 327 *eP* **P** **06 38 37.6 +0.9**
PSZ Piszkesteto 77.86 324⇑ P **P** **06 38 36.1 -2.3**
PSZ Piszkesteto 77.86 324⇑ P **P** **06 38 36.1 -2.3**
PSZ Piszkesteto 77.86 324 P **P** **06 38 38.0 -0.4**
VYHS Vyhne 77.90 325 *eP* **P** **06 38 39.1 +0.6**
VYHS Vyhne 77.90 325 *eP* **P** **06 38 39.1 +0.6**
BRG Berggiesshubel 78.10 329 *eP* **P** **06 38 39.9 +0.3**
BRG Amp 06 38 43.6
comp=Z,7.0nm,1.6s
BRG Berggiesshubel 78.10 329 *eP* **P** **06 38 39.9 +0.3**
BRG pmax pmax
comp=Z,7.0nm,1.6s
CLL Collm 78.12 330 *i* P **P** **06 38 39.6 -0.1**
CLL *e* 06 38 50.0
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 78.12 330 *i* P **P** **06 38 39.6 -0.1**
comp=Z,13nm,1.0s
CLL *i* x x 06 38 42.3
comp=Z,21nm,1.4s
CLL *e*PcP **PcP** **06 38 50.0 +0.8**
JAVC Velka Javorina 78.13 326 *eP* **P** **06 38 41.4 +1.6**
VRAC Vranov 78.24 327⇓ P **P** **06 38 39.8 -0.6**
VRAC Vranov 78.24 327⇓ P **P** **06 38 39.8 -0.6**
VRAC Vranov 78.24 327 *eP* **P** **06 38 41.4 +1.0**
KRUC Moravsky 78.51 327 *eP* **P** **06 38 42.7 +0.8**
PV21 Cone Mtn., Par 78.53 49 IAmb IAmb 06 38 45.0
comp=Z,6.7nm,0.9s
PRU Pruhonice 78.56 328 *eP* **P** **06 38 43.0 +0.9**
PRU Pruhonice 78.56 328 *eP* **P** **06 38 43.0 +0.9**
PV14 Lion Creek, Pa 78.64 49 P **P** **06 38 43.1 0.0**
PV14 IAmb IAmb 06 38 45.5
comp=Z,13nm,1.4s
MODS Modra-Piesok 78.67 326 *eP* **P** **06 38 44.4 +1.6**
MODS Modra-Piesok 78.67 326 *eP* **P** **06 38 44.4 +1.6**
PV17 East Wray Mesa 78.73 49 IAmb IAmb 06 38 46.0
comp=Z,8.3nm,0.8s
PV16 Nyswonger Mesa 78.74 49 IAmb IAmb 06 38 45.9
comp=Z,4.8nm,0.9s
BZS Buzias 78.77 322⇓ P **P** **06 38 43.3 -0.1**
BZS Buzias 78.77 322⇓ P **P** **06 38 43.3 -0.1**
PV05 Paradox Valley 78.79 49 IAmb IAmb 06 38 46.1
comp=Z,6.5nm,0.9s
PV13 Radium Mtn., P 78.90 49 P **P** **06 38 45.6 +1.1**
PV13 IAmb IAmb 06 38 47.0
comp=Z,7.3nm,1.0s
HERR Herculane 78.93 321⇓ P **P** **06 38 44.5 +0.3**
PUNG Punghina 79.12 320⇓ P **P** **06 38 44.7 -0.6**
WUAZ Wupatki 79.17 52 IAmb IAmb 06 38 48.9
comp=Z,8.4nm,1.0s
NKC Novy Kostel 79.19 329 *eP* **P** **06 38 47.2 +1.6**
NKC Novy Kostel 79.19 329 *eP* **P** **06 38 47.2 +1.6**
RAYN Ar Rayn 79.30 292 P **P** **06 38 45.7 -1.0**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 79.30 292 P **P** **06 38 45.6 -1.0**
RAYN IAmb IAmb 06 38 47.0
comp=Z,4.7nm,0.8s
CONA Conrad Observa 79.61 326 *eP* **P** **06 38 49.0 +0.9**
comp=Z,9.3nm,0.9s
KHC Kasperske Hory 79.62 328 *eP* **P** **06 38 48.9 +0.9**
KHC Kasperske Hory 79.62 328 *eP* **P** **06 38 48.9 +0.9**
KHC Kasperske Hory 79.62 328 IAmb IAmb 06 38 49.6
comp=Z,8.8nm,0.8s

GERES	GERESS Array B	79.80	328	P	P	06 38 48.9	-0.2
	comp=Z,3.0nm,0.8s,baz=45,slow=5.8,SNR=18						
X16A	Lo Mia Camp, P	79.87	53	IAmb	IAmb	06 38 52.8	
	comp=Z,5.5nm,1.0s						
GRF	Grafenberg Arr	80.10	330	*eP*	P	06 38 51.6	+1.0
	comp=Z,19nm,1.0s,baz=35,slow=4.5						
VTS	Vitosha	80.18	319	⇑P	P	06 38 52.4	+1.1
VTS	Vitosha	80.18	319	⇑P	P	06 38 52.4	+1.1
VTS	Vitosha	80.18	319	P	P	06 38 51.8	+0.6
VTS				IAmb	IAmb	06 38 53.1	
	comp=Z,12nm,0.8s						
ARSA	Arzberg	80.28	326	*eP*	P	06 38 52.2	+0.6
	comp=Z,3.5nm,0.7s						
SOKA	Soboth	80.94	326	*eP*	P	06 38 55.5	+0.3
	comp=Z,28nm,1.8s						
BTNL	Ternell	81.23	333	P	P	06 38 56.7	+0.1
MEM	Membach	81.25	333	P	P	06 38 56.4	-0.3
	comp=Z,7.6nm,0.9s						
OBKA	Obir	81.28	326	*eP*	P	06 38 57.1	0.0
	comp=Z,6.9nm,0.7s						
KBA	Koelnbreinsper	81.34	327	*eP*	P	06 38 58.7	+1.2
	comp=Z,12nm,0.9s						
MYKA	Terra Mystica	81.57	327	*eP*	P	06 38 58.1	-0.4
	comp=Z,20nm,1.7s						
BGES	Gesves	81.76	333	P	P	06 38 58.0	-1.4
	comp=Z,8.2nm,0.9s						
BGES				PcP	PcP	06 39 03.3	-1.8
WATA	Walderalm	81.86	328	*eP*	P	06 39 00.8	+0.6
	comp=Z,3.4nm,0.5s						
WTTA	Wattenberg	81.89	328	*eP*	P	06 39 01.2	+0.8
	comp=Z,9.1nm,0.7s						
RCHB	Rochefort	81.90	333	P	P	06 38 59.4	-0.7
	comp=Z,8.1nm,1.1s						
RCHB				PcP	PcP	06 39 05.5	-0.3
BMRD	Maredsous	81.94	334	P	P	06 39 00.5	+0.2
	comp=Z,9.4nm,1.0s						
ABTA	Abfaltersbach	81.95	327	*eP*	P	06 39 00.5	-0.1
	comp=Z,4.1nm,0.7s						
MOTA	Moosalm	82.04	328	*i P*	P	06 39 01.6	+0.4
	comp=Z,22nm,1.0s,SNR=9.9						
RETA	Reutte	82.06	329	*eP*	P	06 39 01.7	+0.5
	comp=Z,19nm,1.0s						
SQTA	Sankt Quirin	82.10	328	*eP*	P	06 38 58.7	-2.7
	comp=Z,9.0nm,1.0s						
SCHQ	Schefferville	82.12	16	P	P	06 39 01.7	+0.5
	comp=Z,3.4nm,0.7s,baz=20,slow=10,SNR=5.6						
PDG	Podgorica	82.28	321	⇑P	P	06 39 02.5	+0.3
FETA	Feichten	82.45	328	*i P*	P	06 39 03.2	-0.1
	comp=Z,8.8nm,0.8s,SNR=6.9						
ANMO	Albuquerque	82.49	50	P	P	06 39 05.0	+1.2
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ANMO	Albuquerque	82.49	50	P	P	06 39 05.0	+1.2
ANMO				IAmb	IAmb	06 39 06.7	
	comp=Z,7.3nm,1.1s						
DAVA	Damuels	82.58	329	*eP*	P	06 39 03.8	-0.1
	comp=Z,21nm,0.9s						
CTI	Castel Tesino	82.87	327	P	P	06 39 04.3	-1.1
CTI				pmax	pmax		
	comp=Z,11nm,0.9s						
CTI	Castel Tesino	82.87	327	P	P	06 39 04.3	-1.1
MNTX	Cornudas Mount	85.41	52	P	P	06 39 19.1	+0.5
MNTX				IAmb	IAmb	06 39 20.8	
	comp=Z,3.6nm,1.1s						
TX31	Lajitas Ar. Si	88.14	52	P	P	06 39 33.0	+1.0
TXAR	Lajitas Array	88.14	52	P	P	06 39 33.1	+1.2
	comp=Z,1.1nm,0.8s,baz=296,slow=3.2,SNR=15						
ESDC	Sonseca Array	94.22	334	P	P	06 39 60.0	0.0
	comp=Z,1.9nm,0.8s,baz=15,slow=4.5,SNR=5.5						
ESDC				LR	LR	07 29 36.2	
	comp=Z,64nm,19.0s,baz=302,slow=40						
TORD	Torodi Ar. Bea	114.86	316	PP	PP	06 46 17.8	-1.9
	comp=Z,1.9nm,1.1s,baz=7.2,slow=7.6,SNR=6.2						
SNAA	Sanae	143.94	198	PKPdf	PKPab	06 46 12.6	+0.2
LPAZ	La Paz	144.96	55	PKPbc	PKPab	06 46 18.3	-0.1
	comp=Z,1.6nm,0.6s,baz=354,slow=2.3,SNR=9.5						
LPAZ	La Paz	144.96	55		PKPab	06 46 18.0	-0.4
VNA2	Neumayer--Watz	145.52	198	PKPdf	PKPdf	06 46 17.1	-0.6
	baz=290,slow=7.8						
VNA3	Neumayer Olymp	145.79	196	PKPdf	PKPdf	06 46 17.6	-0.7
VNA1	Neumayer--Stat	145.92	198	PKPdf	PKPbc	06 46 19.1	0.0

IDC 11 06:29:37.9±2.8, 28°.19N×142°.10E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.4/55, mbtmp4.0/5, Error ellipse: s-maj=115.3km s-min=32.8km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.43	190	P	P	06 38 22.0	-0.1
	0.9nm,0.8s,baz=6.3,slow=8.1,SNR=1.6						
MKAR	Makanchi Array	49.73	309	P	P	06 38 31.6	-0.4
	0.4nm,0.4s,baz=91,slow=10,SNR=6.6						
KURBB	Kurchatov Arra	52.23	314	P	P	06 38 50.7	+0.1
	2.0nm,0.5s,baz=91,slow=7.9,SNR=14						
BVAR	Borovoye Array	57.20	317	P	P	06 39 26.8	+0.1
	2.2nm,0.4s,baz=83,slow=7.2,SNR=9.6						
FINES	FINESS Array B	76.94	334	P	P	06 41 31.9	-0.1
	1.1nm,0.5s,baz=65,slow=5.3,SNR=9.9						

IDC 11 06:30:03.5±2.6, 54°.17N×86°.57E, h0km, mb1 3.2/2, mb1mx2.5/57, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=21.3km s-min=12.7km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.05	259	*i*		06 35 36.1	
	baz=80,slow=333,SNR=19						
ZALV	Zalesovo Beam	1.05	259	Pg	Pg	06 30 22.1	-1.6
	1.7nm,0.3s,baz=78,slow=16,SNR=20						
ZALV				Lg	Lg	06 30 38.5	
	2.8nm,0.3s,baz=77,slow=29,SNR=11						
ZALV				Rg	Rg	06 30 43.1	
	8.1nm,0.7s,baz=68,slow=24,SNR=7.0						
KURBB	Kurchatov Arra	6.07	237	Pn	Pn	06 31 35.1	+0.8
	0.2nm,0.3s,baz=54,slow=13,SNR=13						
KURBB				Lg	Lg	06 33 18.1	
	0.0nm,0.3s,baz=57,slow=34,SNR=3.4						
MKAR	Makanchi Array	7.87	202	Pn	Pn	06 32 00.1	+1.0
	0.5nm,0.3s,baz=25,slow=12,SNR=20						
MKAR				Sn	Sn	06 33 29.4	+0.5
	0.1nm,0.3s,baz=24,slow=25,SNR=3.9						

IDC 11 06:30:48.3±3.0, 32°.82S×178°.32W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.2/39, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=73.1km s-min=45.3km az=125.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.58	213	Pn	Pn	06 32 25.3	-0.9
	2.7nm,0.3s,baz=270,slow=3.4,SNR=7.6						
URZ				Sn	Sn	06 33 37.5	-4.4
	2.5nm,0.3s,baz=213,slow=21,SNR=6.9						
ASAR	Alice Springs	42.76	270	P	P	06 38 47.8	+0.1
	0.8nm,0.8s,baz=106,slow=7.6,SNR=4.2						
WRA	Warramunga Arr	43.97	275	P	P	06 38 57.4	-0.1
	0.9nm,0.3s,baz=114,slow=7.7,SNR=13						
FINES	FINESS Array B	147.31	338	PKPbc	PKPbc	06 50 32.3	-0.7
	2.6nm,0.9s,baz=55,slow=5.3,SNR=7.8						

IDC 11 06:46:29.3±2.5, 52°.84N×175°.68E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.3/62, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=73.2km s-min=36.8km az=173.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	10.85	279	Pn	Pn	06 49 05.6	-0.1
	0.5nm,0.3s,baz=99,slow=7.4,SNR=1.9						
ILAR	Eielson Array	22.38	43	P	P	06 51 29.3	+0.6
	0.4nm,0.8s,baz=246,slow=8.8,SNR=5.1						
YKA	Yellowknife Ar	36.70	47	P	P	06 53 36.5	-1.0
	0.4nm,0.8s,baz=288,slow=7.9,SNR=4.1						
TXAR	Lajitas Array	61.74	78	P	P	06 56 49.7	+0.2
	0.5nm,0.5s,baz=306,slow=5.4,SNR=18						

FUNV 11 06:55:44.4, 8°.54N×71°.43W, h5km, MW3.6
ISC 11 06:55:43.5±1.3, 8°.53N±0°.04×71°.38W±0°.03, h9km±10km, n20, σ1§63/40, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIGV	El Vigia	0.31	2	⇑*iP*	Pg	06 55 50.1	+0.3
VIGV				*eS*	Sg	06 55 54.7	+0.8
EAV	Pico El Aguila	0.64	59	*eP*	Pg	06 55 57.1	+1.1
EAV				*eS*	Sb	06 56 07.1	+0.7
TORV	Torococo	1.53	48	*eP*	Pn	06 56 11.8	+0.6
TORV				*eS*	Sn	06 56 32.0	+0.7
PAMC	Pamplona, Colo	1.76	228	*eP*	Pn	06 56 14.8	+0.1
PAMC				*eS*	Sn	06 56 38.5	+1.0
PAMC				*i*		06 56 41.0	
	comp=Z,213nm,0.2s						
MCQV	Machiques	1.90	323	*eP*	Pn	06 56 16.7	+0.6
MCQV				*eS*	Sn	06 56 40.9	+0.7
OCAC	Ocana	1.94	262	*eP*	Pn	06 56 16.4	-0.5
OCAC				*eS*	Sn	06 56 41.2	-0.3
OCAC				*i*		06 56 44.0	
	comp=Z,947nm,0.4s						
ELOV	Elorza	2.41	129	*eP*	Pn	06 56 25.4	+2.2
ELOV				*eS*	Sn	06 56 55.1	+2.2
DABV	Dabajuro	2.49	17	*eP*	Pn	06 56 25.9	+1.6
DABV				*eS*	Sn	06 56 55.8	+1.0
SIQV	Siquisique	2.62	36	*eP*	Pn	06 56 28.2	+2.2
SIQV				*eS*	Sn	06 56 59.3	+1.3
BARC	Barichara	2.63	223	*eP*	Pn	06 56 27.2	+0.8
BARC				*eS*	Sn	06 57 01.0	+2.5
BARC				*i*		06 57 06.2	
	comp=Z,82nm,0.4s						
BRRC	Barranca, Sant	2.71	239	*eP*	Pn	06 56 27.6	+0.3
BRRC				*eS*	Sn	06 57 04.3	+4.1
BRRC				*i*		06 57 10.3	
	comp=Z,39nm,0.4s						
MAPV	Macapo	3.16	66	*eP*	Pn	06 56 35.0	+1.5
MAPV				*eS*	Sn	06 57 12.4	+1.0
BAUV	El Baul	3.32	83	*eP*	Pn	06 56 38.0	+2.3
BAUV				*eS*	Sn	06 57 16.5	+1.1
JACV	Jacura	3.58	44	*eP*	Pn	06 56 39.8	+0.6
JACV				*eS*	Sn	06 57 21.9	+0.2
MONV	Montecano	3.68	22	*eP*	Pn	06 56 41.6	+1.0
MONV				*eS*	Sn	06 57 23.4	-0.7
BENV	Beln	3.99	69	*eP*	Pn	06 56 46.7	+1.7
BENV				*eS*	Sn	06 57 32.4	+0.3
CHIC	Chingaza	4.52	211	*eP*	Pn	06 56 53.2	+0.6
CHIC				*eS*	Sn	06 57 42.9	-2.7
CHIC				*i*		06 57 51.8	
	comp=Z,8.2nm,0.5s						
CACV	CAICARA DEL OR	4.88	101	*eP*	Pb	06 57 06.0	-3.3
CACV				*eS*	Sb	06 58 05.5	-2.7
MERV	Las Mercedes	5.07	81	*eP*	Pn	06 57 00.7	+0.9
MERV				*eS*	Sn	06 57 56.9	-1.6
BIRV	Birongo	5.40	69	*eP*	Pn	06 57 05.0	+0.7
BIRV				*eS*	Sn	06 58 05.2	-1.5

IDC 11 06:56:31.0±1.1, 13°.47N×92°.66E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.6/59, mbtmp3.8/9, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/84, Error ellipse: s-maj=48.2km s-min=18.2km az=55.0
NEIC 11 06:56:37±1.6, 13°.6N±0°.1×92°.71E±0°.09, h35km±2km, mb4.1/7, Error ellipse: s-maj=22.6km s-min=5.4km az=140.0
ISC 11 06:56:36.6±0.7, 13°.71N±0°.07×92°.8E±0°.1, h29km, n18, σ1§14/18, mb3.8/13, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.56	162	⇑*iP*	Pb	06 56 48.5	+0.6
DGPR				*eS*	Sb	06 56 56.5	+0.9
DGPR				IAML		06 56 59.8	
	comp=N,8μm,0.2s						
DGPR				IAML		06 56 59.9	
	comp=E,6μm,0.3s						
CMAR	Chiang Mai Arr	7.59	51	Pn	Pn	06 58 26.4	+1.0
	comp=E,0.4nm,0.3s,baz=236,slow=13,SNR=1.9						
CMAR				Sn	Sn	06 59 49.8	-0.6
	comp=E,0.9nm,0.3s,baz=238,slow=28,SNR=9.5						
MKAR	Makanchi Array	34.13	347	P	P	07 03 19.8	+0.8
	comp=E,0.9nm,0.8s,baz=171,slow=9.6,SNR=5.2						
MKAR				LR	LR	07 19 28.7	
	comp=E,51nm,18.9s,baz=302,slow=40						
KURBB	Kurchatov Arra	38.59	345	P	P	07 03 57.4	+0.5
	comp=E,0.8nm,0.7s,baz=161,slow=8.1,SNR=10						
KURK	Kurchatov	38.66	346	P	P	07 03 57.4	-0.1
KURK	Kurchatov	38.66	346	IAmb	IAmb	07 04 03.4	
	comp=Z,1.4nm,1.1s						
GEYT	Alibeck	39.06	314	P	P	07 04 00.0	-1.1
GEYT				IAmb	IAmb	07 04 17.7	
	comp=Z,2.5nm,0.6s						
GYA0B	ALIBECK ARRAY	39.06	314	P	P	07 03 59.8	-1.4
ZALV	Zalesovo Beam	40.63	353	P	P	07 04 14.1	+0.2
	comp=Z,1.0nm,0.5s,baz=182,slow=9.3,SNR=5.6						
ABKAR	Abkulak array	44.51	330	P	P	07 04 47.0	+1.6
ABKAR				IAmb	IAmb	07 05 01.4	
	comp=Z,2.3nm,1.4s						
WB0	Warramunga Arr	52.78	128	P	P	07 05 48.2	-1.2
WB0				IAmb	IAmb	07 06 16.7	
	comp=Z,6.0nm,1.4s						
WRA	Warramunga Arr	52.84	128	P	P	07 05 48.0	-1.9
	comp=Z,0.6nm,0.6s,baz=307,slow=7.6,SNR=11						
WB2	Warramunga Arr	52.85	128	P	P	07 05 48.6	-1.3
WB2				IAmb	IAmb	07 05 58.2	
	comp=Z,4.4nm,1.4s						
ASAR	Alice Springs	54.76	132	P	P	07 06 02.1	-1.8
	comp=Z,0.4nm,0.4s,baz=308,slow=6.7,SNR=18						
YAK	Yakutsk	54.97	20	LR	LR	07 32 03.7	
	comp=Z,26nm,18.8s,baz=88,slow=39						
FINES	FINESS Array B	66.96	331	P	P	07 07 25.9	-0.4
	comp=Z,1.1nm,0.8s,baz=116,slow=4.4,SNR=3.5						
ARCES	ARCESS Array B	69.35	340	P	P	07 07 41.4	+0.2
	comp=Z,2.8nm,1.1s,baz=90,slow=3.6,SNR=3.8						
GERES	GERESS Array B	72.62	317	P	P	07 08 01.6	+0.1
	comp=Z,0.6nm,0.5s,baz=86,slow=7.1,SNR=6.3						

NNC 11 07:07:19.4±4.6, 37°.85N×69°.51E, h0km, mb3.9, mpv3.5, 4C-1D, Error ellipse: s-maj=44.8km s-min=41.5km az=109.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	5.30	8	⇑Pn	Pn	07 08 39.2	-0.7
	0.8nm,0.3s						
KK02				⇑Pg	Pg	07 08 57.4	-3.6
	3.7nm,0.5s						
KK02				⇑Lg	Lg	07 10 07.0	
	9.4nm,0.7s						
AAK	Ala-Archa	6.12	37	Pn	Pn	07 08 51.2	+0.1
	2.8nm,0.5s						
AAK				Pg	Pg	07 09 13.5	-3.0
	2.7nm,0.6s						
AAK				Lg	Lg	07 10 31.2	
	8.6nm,0.9s						
TKM2	Tokmak 2	6.87	41	⇑Pn	Pn	07 09 00.8	-0.8
	2.0nm,0.5s						
TKM2				⇓Lg	Lg	07 10 57.0	
	3.1nm,0.8s						

IDC 11 07:24:35.5±1.4, 2°.15S×126°.60E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.6/30, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=34.7km s-min=23.0km az=65.0
DJA 11 07:24:38.9±0.3, 2°.5S±4°.×12°.7E±°, h10km, M4.0/13, mb4.5/3, mB4.9/2, MLv3.7/13, Mw(mB)4.1/2
ISC 11 07:24:40.0±0.9, 2°.05S±0°.07×126°.61E±0°.06, h27km, n15, σ1§32/16, mb3.5/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	0.62	270	P	Pb	07 24 51.3	-0.9
LBMI	Labuha	1.66	33	P	Pn	07 25 08.0	+0.7
AAI	Ambon	2.27	136	P	Pn	07 25 16.9	+1.1
MSAI	Masohi	2.66	119	P	Pn	07 25 22.9	+1.9
TNTI	Ternate	2.90	15	P	Pn	07 25 25.0	+0.6
KMSI	Cibinong	3.70	315	P	Pn	07 25 35.6	+0.2
GTOI	Gorontalo	4.47	306	P	Pn	07 25 49.0	+2.9
SWI	Sorong	4.80	76	P	Pn	07 25 51.1	+0.6
SIJI	Sorong	4.80	76	Pn	Pn	07 25 50.8	+0.2
	3.8nm,0.3s,baz=28,slow=23,SNR=6.8						
SIJI				Sn	Sn	07 26 45.9	+0.5
	2.7nm,0.3s,baz=76,slow=21,SNR=6.7						
APSI	Ampana	5.08	283	P	Pn	07 25 55.5	+1.1
	0.3nm804nm47nm,0.9s						
MRSI	Marisa	5.29	298	P	Pn	07 25 57.7	+0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.33	158	P	P	07 29 02.0	-1.3
	0.3nm,0.3s,baz=338,slow=12,SNR=28						
ASAR	Alice Springs	22.63	162	P	P	07 29 37.3	-1.7
	1.4nm,0.7s,baz=343,slow=9.5,SNR=21						
SONM	Songino Array	52.72	343	P	P	07 33 53.3	+0.8
	0.2nm,0.4s,baz=161,slow=7.9,SNR=2.5						
MKAR	Makanchi Array	62.26	327	P	P	07 34 59.0	-0.6
	0.3nm,0.5s,baz=131,slow=8.0,SNR=3.3						

SJA 11 07:51:01.6±0.6, 31°.44S×69°.49W, h111km±4km, ML4.5, MW4.5
IDC 11 07:51:01.6±0.7, 31°.42S×69°.30W, h103km±5km, mb4.2/16, mb1 4.3/21, mb1mx4.1/46, mbtmp4.5/21, MS3.0/3, Ms1 3.0/3, ms1mx2.7/52, Error ellipse: s-maj=16.0km s-min=11.3km az=80.0
GUC 11 07:51:02.1±0.7, 31°.47S×69°.81W, h143km±6km, ML4.6
NEIC 11 07:51:02.2±1.7, 31°.46S±0°.04×69°.44W±0°.02, h105km±4km, mb4.6/78, Md4.5(SJA), Error ellipse: s-maj=6.5km s-min=2.7km az=184.0
VAO 11 07:51:02.9±0.3, 31°.56S×69°.30W, h118km, mb4.4
ISC 11 07:51:01.9±0.5, 31°.44S±0°.03×69°.48W±0°.03, h109km±4km, n252, σ1§23/291, mb4.5/48, 20C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.39	157	*eP*	Pn	07 51 19.0	+0.6
RTLS				*eS*	Sn	07 51 32.5	+1.8
RTLS				IAML		07 51 33.1	
	comp=Z,12μm,0.7s						
ZON	Zonda	0.69	99		Pn	07 51 20.6	+0.4
ZON				Sn	Sn	07 51 33.7	-0.2
ZON	Zonda	0.69	99	*eP*	Pn	07 51 20.8	+0.6
ZON				*eS*	Sn	07 51 34.8	+0.9
ZON				IAML		07 51 35.7	
	comp=Z,10μm,0.9s						
AUSP	Uspallata	0.78	175	*eP*	Pn	07 51 22.2	+0.9
SJA	San Juan	0.79	97	*eP*	Pn	07 51 21.5	+0.5
SJA				*eS*	Sn	07 51 36.5	+1.1
RTCV	Cerro Valdivia	0.90	118	*eP*	Pn	07 51 22.7	+0.6
RTCV				*eS*	Sn	07 51 39.1	+1.8
ACCO	Cerro Coronel	0.92	23	*eP*	Pn	07 51 23.4	+0.8
CO03	El Pedregal	1.20	300	⇑*iP*	Pn	07 51 26.9	+1.6
CO03				*i S*	Sn	07 51 45.4	+2.4
CO03				IAML		07 51 47.0	
	comp=E,16μm,0.2s						
CO03	El Pedregal	1.20	300	Pn	Pn	07 51 27.0	+1.6
CO03				Sn	Sn	07 51 45.0	+2.0
ASAL	Salagasta	1.27	155	*eP*	Pn	07 51 27.0	+0.9
ASAL				*eS*	Sn	07 51 47.0	+2.6
AROD	Rodeo	1.27	0	*eP*	Pn	07 51 27.9	+1.5
AROD				*eS*	Sn	07 51 46.8	+2.0
ACDV	Cuesta del Vie	1.30	14	*eP*	Pn	07 51 27.6	+1.0
ACDV				*eS*	Sn	07 51 46.7	+1.5
ACDV				IAML		07 51 47.5	
	comp=Z,3μm,0.8s						
ARCO	CERRO ARCO	1.47	162	*eP*	Pn	07 51 29.6	+1.1
ARCO				*eS*	Sn	07 51 49.4	+0.8
ARCO				IAML		07 51 51.6	
	comp=Z,9μm,0.5s						
VA03	San Esteban	1.60	214	⇑*iP*	Pn	07 51 31.2	+1.2
VA03				*i S*	Sn	07 51 53.4	+2.0
VA03				IAML		07 51 55.5	
	comp=N,9μm,0.7s						
VA03	San Esteban	1.60	214		Pn	07 51 31.4	+1.3
VA03				Sn	Sn	07 51 53.1	+1.7
GO04	Tololo Observa	1.70	318	⇑*iP*	Pn	07 51 32.4	+1.0
GO04				*i S*	Sn	07 51 55.5	+1.7
GO04	Tololo Observa	1.70	318		Pn	07 51 32.3	+1.0
GO04				Sn	Sn	07 51 54.9	+1.1
AAGR	Agrelo	1.73	162	*eP*	Pn	07 51 32.5	+0.9
VA06	Catapilco	1.91	234	⇑*iP*	Pn	07 51 33.6	-0.1
VA06				*i S*	Sn	07 51 57.2	-0.7
VA06				IAML		07 52 02.0	
	comp=N,5μm,0.4s						
PEL	Peldehue	1.98	211	⇑*iP*	Pn	07 51 35.4	+0.8
PEL				*i S*	Sn	07 52 00.7	+1.0
PEL				IAML		07 52 03.3	
	comp=E,4μm,0.3s						
PEL	Peldehue	1.98	211		Pn	07 51 35.5	+0.8
PEL				Sn	Sn	07 52 00.5	+0.8
CO06	Fray Jorge	2.00	292	⇑*iP*	Pn	07 51 34.9	0.0
CO06				*i S*	Sn	07 51 59.1	-1.0
CO06				IAML		07 52 06.5	
	comp=E,3μm,0.5s						
CO06	Fray Jorge	2.00	292	Pn	Pn	07 51 34.8	-0.1
ROCH	El Roble	2.01	220	⇑*iP*	Pn	07 51 35.5	
ROCH				⇑*iP*	Pn	07 51 34.8	-0.3
ROCH				*i S*	Sn	07 52 00.7	+0.2
ROCH				*i S*		07 52 01.1	
ROCH				IAML		07 52 02.5	
	comp=N,4μm,0.4s						
ROCH				IAML		07 52 06.7	
	comp=N,5μm,0.3s						
CO05	La Serena	2.15	315	⇑*iP*	Pn	07 51 37.2	+0.4
CO05				*i S*	Sn	07 52 03.1	-0.3
CO05				IAML		07 52 05.2	
	comp=N,9μm,0.4s						
CO05	La Serena	2.15	315	Pn	Pn	07 51 37.0	+0.2
MT05	Renca	2.22	208	⇑*iP*	Pn	07 51 38.6	+0.9
MT05				*i S*	Sn	07 52 06.3	+1.2
MT05				IAML		07 52 08.0	
	comp=N,11μm,0.3s						
MT05	Renca	2.22	208	Pn	Pn	07 51 38.7	+0.9
MT02	Curacav	2.29	217	⇑*iP*	Pn	07 51 38.3	-0.4
MT02				*eS*	Sn	07 52 06.3	-0.4
MT02				IAML		07 52 13.4	
	comp=E,1μm,0.3s						
MT02	Curacav	2.29	217	Pn	Pn	07 51 38.6	0.0
VA01	Torpederas	2.42	229	*eP*	Pn	07 51 39.7	-0.6
VA01				*i S*	Sn	07 52 08.0	-1.7
VA01				IAML		07 52 17.7	
	comp=N,2μm,0.3s						
VA01	Torpederas	2.42	229	Pn	Pn	07 51 39.3	-1.0
LMEL	Las Melosas	2.48	194	⇑*iP*	Pn	07 51 42.3	+1.1
LMEL				*i S*	Sn	07 52 13.7	+2.5
LMEL				IAML		07 52 19.9	
	comp=N,2μm,0.3s						
LCO	Las Campanas	2.64	336	⇑*iP*	Pn	07 51 44.0	+0.5
LCO	Las Campanas	2.64	336	Pn	Pn	07 51 43.8	+0.3
MT09	Talagante	2.66	208	⇑*iP*	Pn	07 51 43.1	-0.3
MT09		

PLCA Paso Flores 9.31 185 P **Pn 07 53 11.7 -1.5**
comp=E,0.7nm,0.3s,baz=355,slow=12,SNR=23
PLCA LR LR 07 57 05.3
comp=E,154nm,21.7s,baz=12,slow=39
PLCA Paso Flores 9.31 185 *eP* **Pn 07 53 11.7 -1.5**
PLCA Paso Flores 9.31 185 Pn 07 53 11.2 -2.0
PB09 IPOC Station P 9.61 1 Pn **Pn 07 53 14.6 -2.8**
PB01 IPOC Station P 10.36 360 Pn 07 53 23.3 -4.2
ITQB Itaqui 11.22 84 *eP* **Pn 07 53 38.8 -0.2**
ITQB Itaqui 11.22 84 Pn **Pn 07 53 39.1 +0.2**
CPUP Villa Florida 11.80 67 P **Pn 07 53 43.5 -3.2**
comp=E,0.3nm,0.3s,baz=240,slow=5.4,SNR=5.0
CPUP LR LR 07 58 33.5
comp=E,56nm,18.6s,baz=12,slow=39
CPUP Villa Florida 11.80 67 *eP* **Pn 07 53 46.6 -0.1**
CPUP Villa Florida 11.80 67 Pn **Pn 07 53 42.2 -4.5**
PLTB Pedras Altas 13.54 96 *eP* **Pn 07 54 06.9 -2.5**
CPSB Cacapava Do Su 13.81 90 *eP* **Pn 07 54 10.5 -2.5**
COYC Coyhaique 14.26 187 Pn **Pn 07 54 18.4 -0.2**
LPAZ La Paz 15.14 5 P **Pn 07 54 29.5 -1.1**
comp=E,3.5nm,0.3s,baz=175,slow=8.5,SNR=149
LPAZ La Paz 15.14 5 *eP* **Pn 07 54 30.9 +0.4**
LPAZ La Paz 15.14 5 Pn **Pn 07 54 28.1 -2.5**
LPAZ IAmb IAmb 07 54 34.2
comp=Z,32nm,0.7s
ITAB Concordia 15.69 79 *eP* **Pn 07 54 35.4 -1.5**
ITAB Concordia 15.69 79 P 07 54 38.5 -0.2
AQDB Aquidauana 16.50 52 *eP* **Pn 07 54 45.4 -1.5**
SIV San Ignacio 17.18 28 P **P 07 54 53.2 -2.0**
comp=Z,0.9nm,0.3s,baz=217,slow=12,SNR=52
TER01 Tubaro-SC 17.86 86 *eP* **P 07 55 01.8 -0.8**
PTLB Pontes e Lacer 18.51 33 *eP* **Pn 07 55 11.0 -0.2**
PTLB Pontes e Lacer 18.51 33 P **P 07 55 10.3 +0.5**
PCMB Pacaembu 18.99 63 *eP* **P 07 55 15.2 +0.1**
TIJ01 Guaruva-PR 19.00 76 *eP* **P 07 55 13.9 -1.4**
PP1B Ponte de Pedra 19.11 47 *eP* **P 07 55 16.1 -0.2**
FRTB Fartura 19.41 70 *eP* **P 07 55 20.0 +0.4**
SALV Santo Antonio 19.93 42 *eP* **P 07 55 26.1 +0.9**
VILB Vilhena 20.29 27 *eP* **P 07 55 29.8 +0.7**
MG05 Puerto Natales 20.34 185 P **P 07 55 30.4 +1.1**
MG05 IAmb IAmb 07 55 37.0
comp=Z,19nm,0.7s
ITRB Iturama 20.80 60 *eP* **P 07 55 34.4 -0.1**
PET01 Itanhaem-SP 20.86 76 *eP* **P 07 55 34.0 -1.1**
SPB Sao Paulo 21.03 74 *eP* **P 07 55 36.1 -0.9**
MG02 Cerro Sombrero 21.33 180 P **P 07 55 40.6 +0.7**
BB19B Bebedouro 21.41 66 *eP* **P 07 55 39.6 -1.5**
RCLB Rio Claro- Sao 21.50 71 *eP* **P 07 55 40.4 -1.7**
VAO Valinhos 21.68 73 *eP* **P 07 55 43.9 -0.1**
ETMB Extrema 21.73 9 *eP* **P 07 55 46.4 +1.9**
EFI East Falkland 21.89 161 P **P 07 55 45.0 -0.9**
EFI IAmb IAmb 07 56 02.2
comp=Z,37nm,1.1s
DSPA Despedida 22.52 178 P **P 07 55 53.3 +1.0**
PARB Paraibuna 22.63 75 *eP* **P 07 55 53.1 -0.8**
PDRB Porto dos Gac 22.98 34 *eP* **P 07 55 58.0 +0.7**
USHA Ushuaia 23.39 178 P **P 07 55 59.9 -0.8**
comp=Z,13nm,0.6s,baz=16,slow=10,SNR=9.3
IPMB Ipameri, GO 23.45 60 *eP* **P 07 56 00.8 -0.9**
CZSB Cruzeiro do Su 23.78 352 *eP* **P 07 56 06.9 +2.3**
CZSB Cruzeiro do Su 23.78 352 P **P 07 56 06.8 +2.3**
CZSB IAmb IAmb 07 56 17.2
comp=Z,15nm,0.7s
CLDB Colider 24.07 35 *eP* **P 07 56 08.2 +0.9**
MAN01 Angra dos Reis 24.21 76 *eP* **P 07 56 08.2 -0.4**
BSCB Bom Sucesso 24.43 71 *eP* **P 07 56 16.1 -0.5**
BDFB Brasilia 25.11 56 P **P 07 56 15.1 -1.8**
comp=Z,5.7nm,0.4s,baz=229,slow=9.2,SNR=13
BDFB Brasilia 25.11 56 P **P 07 56 16.0 -0.9**
BDFB IAmb IAmb 07 56 18.0
comp=Z,14nm,1.0s
SNDB Serra Nova Dou 25.63 45 *eP* **P 07 56 21.1 -0.2**
DIAM Diamantina, MG 26.74 67 *eP* **P 07 56 31.5 0.0**
TBTG Tabatinga, AM 27.11 359 *eP* **P 07 56 35.3 +0.6**
PEXB Peixe 27.42 50 *eP* **P 07 56 37.4 -0.1**
ALF01 Guarapari-ES 27.91 74 *eP* **P 07 56 41.3 -0.5**
JANB Januaria 28.19 60 *eP* **P 07 56 43.8 -0.6**
MACA Manacapuru-AM 29.33 18 *eP* **P 07 56 54.1 -0.2**
SDBA SAO DESIDERIO 29.52 56 *eP* **P 07 56 55.9 -0.3**
ITTB Itaituba 29.87 28 *eP* **P 07 57 00.4 +1.2**
SMTB Santa Maria do 30.32 47 *eP* **P 07 57 02.7 -0.5**
PRPB Parauapebas 31.16 40 *eP* **P 07 57 10.3 -0.3**
GDU01 Guandu, BA 32.60 64 *eP* **P 07 57 22.4 -0.9**
MALB Monte Alegre 32.75 29 *eP* **P 07 57 24.4 -0.1**
NBPN Ponto Novo - B 33.96 59 *eP* **P 07 57 33.9 -1.1**
BOAV Boa Vista 34.71 16 *eP* **P 07 57 41.2 -0.3**
BOAV Boa Vista 34.71 16 P **P 07 57 40.9 -0.6**
MCPB Macapa, AP 35.04 31 *eP* **P 07 57 44.4 +0.1**
TMAB Tom-Au,PA,Br 35.26 39 *eP* **P 07 57 46.1 -0.1**
NBLA Lagarto - SE 35.66 62 *eP* **P 07 57 48.9 -0.7**
NBMA Muriti-CE 37.35 57 *eP* **P 07 58 03.9 -0.2**
NBPS Pedro II - PI 37.65 50 *eP* **P 07 58 05.3 -1.3**
NBAN Anadia - AL 37.65 62 *eP* **P 07 58 05.9 -0.6**
NBPB Pedra_Branca-C 38.06 54 *eP* **P 07 58 09.3 -0.7**
BAUV El Baul 40.18 2 P **P 07 58 26.8 -0.7**
BAUV IAmb IAmb 07 58 27.7
comp=Z,7.7nm,0.7s
NBPV Pedro Velho 40.51 59 *eP* **P 07 58 29.9 -0.4**
BIRV Birongo 41.79 5 P **P 07 58 41.0 +0.2**
BIRV IAmb IAmb 07 58 41.6
comp=Z,10nm,1.1s
SRBA San Rafael, Bu 42.57 340 P **P 07 58 49.5 +2.2**
GRGR Grenville 43.97 11 P **P 07 58 57.8 -0.5**
CELP Cerrillos 49.31 4 P **P 07 59 39.7 -0.2**
VNA3 Neumayer Olymp 50.93 159 P P 07 59 57.7 +6.1
VNA1 Neumayer--Stat 51.20 158 P **P 07 59 56.1 +2.5**
GTBY Guantanamo Bay 51.36 353 P **P 07 59 56.0 +0.6**
VNA2 Neumayer--Watz 51.55 158 P **P 07 59 56.5 +0.3**
baz=290,slow=7.8
SNAA Sanae 53.16 159 P **P 08 00 07.8 -0.4**
SNAA Sanae 53.16 159 P **P 08 00 07.8 -0.4**
comp=Z,4.5nm,0.8s,baz=320,slow=6.0,SNR=6.1
SNAA Sanae 53.16 159 P **P 08 00 07.7 -0.4**
SNAA IAmb IAmb 08 00 15.8
comp=Z,6.6nm,1.0s
QSPA South Pole Qui 58.79 180 P **P 08 00 49.3 +0.9**
comp=Z,3.4nm,0.6s,baz=144,slow=1.1,SNR=21
QSPA South Pole Qui 58.79 180 P **P 08 00 49.2 +0.7**
QSPA IAmb IAmb 08 00 50.2
comp=Z,6.3nm,1.1s
ZAIG Zacatecas 62.53 325 P **P 08 01 15.5 +1.0**
GOGA Godfrey 65.84 347 P **P 08 01 35.5 -0.1**
GOGA IAmb IAmb 08 01 51.6
comp=Z,6.8nm,1.1s
X58A Rowland 66.30 351 P **P 08 01 39.0 +0.6**
Y52A Lilburn 66.40 347 P **P 08 01 38.5 -0.6**
Y52A IAmb IAmb 08 01 40.0
comp=Z,11nm,0.8s
Y49A Blount Mountai 66.89 345 P **P 08 01 42.4 +0.2**
Y49A IAmb IAmb 08 01 43.7
comp=Z,4.5nm,0.8s
X51A Calhoun 67.24 346 P **P 08 01 45.0 +0.6**
V55A Taylorsville 67.84 350 P **P 08 01 48.7 +0.6**
V55A IAmb IAmb 08 02 08.7
comp=Z,9.2nm,1.1s
V53A Saluda 67.92 348 P **P 08 01 49.0 +0.3**
V53A IAmb IAmb 08 01 49.5
comp=Z,8.9nm,0.9s
CPCT Cooper Cave 68.03 347 P **P 08 01 49.5 +0.1**
V52A Sevierville 68.23 348 P **P 08 01 50.7 0.0**
V52A IAmb IAmb 08 02 04.5
comp=Z,7.6nm,1.1s
TXAR Lajitas Array 68.63 328 P **P 08 01 54.6 +1.2**
comp=Z,1.8nm,0.6s,baz=155,slow=8.7,SNR=27
TXAR pP **PcP 08 02 18.6 +1.1**
comp=Z,0.4nm,0.5s,baz=140,slow=6.0,SNR=2.4
TXAR Lajitas Array 68.63 328 P **P 08 01 54.2 +0.8**
TX31 Lajitas Ar. Si 68.63 328 P **P 08 01 54.3 +0.9**
TX31 IAmb IAmb 08 01 55.1
comp=Z,7.5nm,0.8s
TX32 Lajitas Array 68.63 328 P **P 08 01 54.6 +1.2**
V48A Smith Brothers 68.78 345 P **P 08 01 54.5 +0.4**
V48A IAmb IAmb 08 01 55.2
comp=Z,12nm,0.8s
CLTN Cedars of Leba 69.02 345 P **P 08 01 55.8 +0.3**
CLTN IAmb IAmb 08 01 56.6
comp=Z,4.5nm,0.7s
WVT Waverly 69.39 344 P **P 08 01 57.9 +0.2**
PBMO Poplar Bluff 70.64 342 P **P 08 02 05.8 +0.3**
PBMO IAmb IAmb 08 02 06.3
comp=Z,11nm,0.6s
X34A Smith Ranch, M 70.91 336 P **P 08 02 08.0 +0.9**
X34A IAmb IAmb 08 02 08.9
comp=Z,7.0nm,0.7s
TUL1 Leonard 71.41 338 P **P 08 02 10.9 +0.8**
TUL1 IAmb IAmb 08 02 11.5
comp=Z,9.5nm,0.8s
MNTX Cornudas Mount 71.42 328 P **P 08 02 10.4 +0.2**
FVM French Village 71.78 343 P **P 08 02 12.8 +0.5**
CCM Cathedral Cave 72.06 342 P **P 08 02 14.3 +0.4**
CCM IAmb IAmb 08 02 15.3
comp=Z,9.7nm,0.8s
MSTX Muleshoe 72.24 331 P **P 08 02 15.9 +0.6**
S39A Bolivar 72.29 340 P **P 08 02 15.9 +0.6**
S39A IAmb IAmb 08 02 17.3
comp=Z,7.4nm,0.8s
DBIC Dimbokro 72.30 70 P **P 08 02 15.7 -0.3**
comp=Z,5.2nm,0.6s,baz=228,slow=6.9,SNR=9.1
DBIC Dimbokro 72.30 70 P **P 08 02 15.6 -0.3**
DBIC IAmb IAmb 08 02 16.7
comp=Z,13nm,1.1s
R40A Maddies Statio 72.56 341 P **P 08 02 17.4 +0.5**
M55A Ridgway 73.05 353 P **P 08 02 20.1 +0.3**
N49A Columbus Grove 73.28 348 P **P 08 02 20.7 -0.3**
N49A IAmb IAmb 08 02 23.6
comp=Z,17nm,1.1s
N47A Urbana 73.51 347 P **P 08 02 22.0 -0.4**
N47A IAmb IAmb 08 02 49.5
comp=Z,13nm,1.1s
P40A Paris 73.66 342 P **P 08 02 24.1 +0.7**
WVNY West Valley, N 73.96 353 P **P 08 02 26.2 +1.1**
LENM Lemitar 74.21 328 P **P 08 02 29.5 +2.6**
ANMO Albuquerque 74.64 329 P **P 08 02 30.8 +1.4**
comp=Z,2.0nm,0.7s,baz=146,slow=5.8,SNR=12
ANMO Albuquerque 74.64 329 P 08 02 30.3 +0.9
T25A Trinidad 75.65 332 P **P 08 02 37.0 +1.8**
T25A IAmb IAmb 08 02 37.5
comp=Z,8.2nm,0.8s
L40A Anamosa 75.83 343 P **P 08 02 36.1 +0.3**
G65A Princeton 76.30 1 P **P 08 02 39.7 +1.3**
G62A West of Eustis 76.30 359 P **P 08 02 39.1 +0.7**
G62A IAmb IAmb 08 02 40.7
comp=Z,14nm,0.8s
SDCO Great Sand Dun 76.61 331 P **P 08 02 42.0 +1.2**
F64A Sherman 76.95 1 P **P 08 02 43.1 +1.1**
F64A IAmb IAmb 08 02 47.2
comp=Z,12nm,1.0s
MVCO Mesa Verde 77.43 329 P **P 08 02 47.2 +2.0**
E62A Clayton Lake 77.70 360 P **P 08 02 47.3 +1.1**
D62A Allapoint, All 78.16 0 P **P 08 02 49.7 +1.0**
ISCO Idaho Springs 78.41 332 P 08 02 52.2 +1.5
ECSD EROS Data Cent 78.83 340 P 08 02 53.1 +0.5
ECSD IAmb IAmb 08 02 53.4
comp=Z,8.8nm,0.8s
MTPU Mount Pierson 79.78 327 P 08 02 59.3 +1.0
SRU San Rafael Swe 79.90 329 P **P 08 02 59.2 +0.5**
SRU IAmb IAmb 08 03 00.7
comp=Z,6.2nm,0.8s
RDMU Red Mountain 80.69 330 P **P 08 03 03.9 +0.9**
RDMU IAmb IAmb 08 03 04.9
comp=Z,6.1nm,0.8s
TORD Torodi Ar. Bea 81.29 69 P **P 08 03 06.1 -0.3**
comp=Z,9.5nm,0.8s,baz=268,slow=5.0,SNR=44
TORD pP **pP 08 03 33.9 -1.3**
comp=Z,1.3nm,0.7s,baz=265,slow=5.4,SNR=2.5
LBTB Lobatse 81.39 114 P **P 08 03 06.7 -0.4**
comp=Z,2.8nm,0.6s,baz=283,slow=2.4,SNR=5.1
LBTB Lobatse 81.39 114 P **P 08 03 06.0 -1.1**
RSSD Black Hills 81.56 336 P **P 08 03 08.7 +1.3**
RSSD IAmb IAmb 08 03 09.3
comp=Z,9.5nm,1.0s
SPR3 Spring Creek 3 81.56 326 P **P 08 03 08.7 +1.0**
SPR3 IAmb IAmb 08 03 09.8
comp=Z,6.2nm,1.1s
BW06 Boulder Array 82.51 331 P **P 08 03 12.9 +0.5**
PD31 Pinedale Array 82.51 331 P **P 08 03 12.6 +0.1**
PDAR Pinedale Array 82.51 331 P **P 08 03 13.1 +0.6**
comp=Z,2.7nm,0.8s,baz=140,slow=5.1,SNR=17
PDAR Pinedale Array 82.51 331 P **P 08 03 12.7 +0.3**
LHV Little Huntoon 83.04 323 P **P 08 03 16.6 +1.7**
LHV IAmb IAmb 08 03 17.4
comp=Z,3.6nm,0.7s
HVU Hansel Valley 83.07 329 P **P 08 03 15.7 +0.4**
HVU IAmb IAmb 08 03 16.8
comp=Z,6.1nm,0.9s
NVAR Mina Array Bea 83.07 323 P **P 08 03 17.0 +1.6**
comp=Z,2.7nm,0.9s,baz=154,slow=6.0,SNR=19
NVAR Mina Array Bea 83.07 323 P **P 08 03 16.3 +0.8**
ELK Elko 83.36 327 P **P 08 03 17.8 +0.9**
comp=Z,3.1nm,0.9s,baz=159,slow=3.3,SNR=12
MOOW Moose Ponds 83.81 331 P **P 08 03 19.6 +0.4**
RLMT Red Lodge 84.36 333 P **P 08 03 22.8 +0.9**
RLMT IAmb IAmb 08 03 23.2
comp=Z,3.7nm,0.6s
ULM Lac du Bonnet 84.64 343 P **P 08 03 22.6 -0.2**
comp=Z,3.3nm,0.9s,baz=52,slow=3.8,SNR=3.5
SCHQ Schefferville 85.95 2 P **P 08 03 29.2 -0.1**
comp=Z,6.2nm,0.9s,baz=200,slow=6.8,SNR=5.7
SCHQ Schefferville 85.95 2 P **P 08 03 29.3 0.0**
SCHQ IAmb IAmb 08 03 35.6
comp=Z,12nm,1.1s
MOD Modoc Plateau 86.69 325 P **P 08 03 34.6 +1.1**
MOD IAmb IAmb 08 03 35.6
comp=Z,5.9nm,0.7s
J08A Circle Bar Ran 86.91 327 P **P 08 03 36.1 +1.7**
YBH Yreka Blue Hor 87.78 323 P **P 08 03 38.6 0.0**
comp=Z,2.6nm,0.8s,baz=241,slow=10,SNR=4.5
YBH Yreka Blue Hor 87.78 323 P **P 08 03 39.0 +0.4**
PINE Pine Mountain 88.42 325 P **P 08 03 43.3 +1.6**
LSZ Lusaka 88.52 107 P **P 08 03 43.3 +0.5**
comp=Z,2.3nm,0.5s,baz=210,slow=3.9,SNR=4.0
YKA Yellowknife Ar 100.36 340 P **Pdif 08 04 35.6 0.0**
comp=Z,0.3nm,0.6s,baz=140,slow=4.5,SNR=6.7
ASAR Alice Springs 120.81 205 PKP **PKPdf 08 09 40.5 -1.2**
comp=Z,0.8nm,0.7s,baz=134,slow=2.0,SNR=8.4
ASAR PKKPbc **PKKPbc 08 19 45.8 +0.1**
comp=Z,0.3nm,0.5s,baz=342,slow=3.1,SNR=5.3
WRA Warramunga Arr 124.03 207 PKP **PKPdf 08 09 47.1 -0.9**
comp=Z,1.5nm,0.5s,baz=163,slow=1.6,SNR=30
WRA pPKP **pPKPdf 08 10 17.7 -0.7**
comp=Z,0.5nm,0.5s,baz=171,slow=1.6,SNR=3.1
WRA PKKPbc **PKKPbc 08 19 34.1 +0.9**
comp=Z,0.1nm,0.5s,baz=337,slow=4.4,SNR=4.9
WRA Warramunga Arr 124.03 207 PKPdf 08 09 46.7 -1.3
ABKAR Akbulak array 138.40 50 PKPdf **PKPdf 08 10 14.4 +0.4**
BVAR Borovoye Array 143.94 41 PKP PKPbc 08 10 23.0 +0.9
comp=Z,1.0nm,0.6s,baz=270,slow=3.0,SNR=5.7
KBL Kabul 145.24 74 PKPab 08 10 27.3 +0.1
CHGR Chuyangaron 145.60 66 PKPbc 08 10 27.7 -0.1
NIL Nilore 148.61 76 PKPbc **PKPbc 08 10 36.2 -0.2**
EKS2 Erkin-Say 148.83 59 P **PKiKP 08 10 37.6 -0.5**
SNR=8.1
AML Almayashu 148.85 60 P **PKiKP 08 10 38.1 -0.3**
SNR=6.3
USP Ospenovka 149.25 57 P **PKiKP 08 10 38.3 -0.5**
SNR=7.1
AAK Ala-Archa 149.36 58 PKPbc **PKiKP 08 10 39.1 0.0**
comp=Z,9.2nm,0.8s,baz=214,slow=2.9,SNR=26
AAK Ala-Archa 149.36 58 P **PKiKP 08 10 39.2 0.0**
SNR=9.6
AAK Ala-Archa 149.36 58 PKPbc 08 10 38.6 +0.5
UCH Uchtor 149.44 59 P **PKiKP 08 10 39.6 -0.1**
SNR=10
CHMS Chumysh 149.49 58 P **PKiKP 08 10 38.8 -0.4**
SNR=5.2
KURBB Kurchatov Arra 149.53 42 PKPbc **PKPbc 08 10 38.1 +0.1**
comp=Z,5.6nm,0.9s,baz=299,slow=3.2,SNR=26
KURK Kurchatov 149.54 42 PKPbc **PKPbc 08 10 37.0 -1.0**
TKM2 Tokmak 2 150.11 58 P **PKPbc 08 10 40.3 +0.3**
SNR=7.9
KSH Kashi 150.87 64 PKPbc **PKPdf 08 10 37.0 +1.0**
KSH pPKP pPKPbc 08 11 12.9 +0.5
ZAA0 Zalesovo Array 150.92 32 PKPbc **PKiKP 08 10 41.6 -0.2**
ZALV Zalesovo Beam 150.92 32 PKPbc **PKiKP 08 10 41.6 -0.1**
comp=Z,16nm,0.7s,baz=299,slow=3.2,SNR=58
ZALV pPKPbc **pPKPbc 08 11 10.0 -1.4**
comp=Z,3.0nm,0.5s,baz=308,slow=3.1,SNR=4.0
MK31 Makanchi Array 153.45 47 PKPbc **PKPbc 08 10 46.5 -0.7**
MK31 PKPab **PKPab 08 11 00.1 +0.2**
MKAR Makanchi Array 153.45 47 PKPbc **PKPbc 08 10 46.7 -0.5**
comp=Z,2.9nm,0.8s,baz=322,slow=2.3,SNR=18
MKAR PKPab **PKPab 08 10 59.9 0.0**
comp=Z,1.8nm,0.7s,baz=304,slow=4.6,SNR=9.4
MKAR Makanchi Array 153.45 47 PKPdf **PKPdf 08 10 39.4 -0.1**
MKAR **PKPbc 08 10 46.9 -0.3**
MKAR PKPab **PKPab 08 10 59.7 -0.2**
MJAR Matsushiro Arr 156.53 290 PKPab **PKPab 08 11 14.4 +1.0**
comp=Z,2.1nm,1.0s,baz=132,slow=3.0,SNR=4.7
SONM Songino Array 163.33 10 PKPab **PKPab 08 11 43.5 +0.8**
comp=Z,1.4nm,0.6s,baz=327,slow=4.4,SNR=11
PZH PanZhiHua 170.87 120 PKP **PKPdf 08 10 56.0 -1.7**
LZH Lanzhou 172.76 48 *e*PKP **PKPdf 08 10 59.7 +1.4**

IDC ***11*** *07:52:38.5±3.2,30°.43N×114°.37W,h0km,mb3.3/2, mb1 3.4/6,mb1mx3.3/65,mbtmp3.0/6,ML3.1/4,MS3.4/6, Ms1 3.4/6,ms1mx3.1/26,Error ellipse: s-maj=58.6km s-min=13.0km az=32.0*
ECX ***11*** *07:52:39.7±0.3,30°.52N×114°.32W,h20km±15km,MD3.9, ML4.2*
NEIC ***11*** *07:52:41.9±2.7,30°.63N±0°.08×114°.39W±0°.02, h30km±10km,Error ellipse: s-maj=12.0km s-min=1.7km az=190.0*
MEX ***11*** *07:52:42.9±0.6,30°.32N×114°.54W,h35km,MD4.1*
ANF ***11*** *07:52:45.9±1.6,31°.02N×113°.90W,h2km±10km,ML4.0/10, Error ellipse: s-maj=12.6km s-min=3.3km az=19.0*
ISC 11 07:52:42.4±1.3,30°.52N±0°.05×114°.48W±0°.04, h25km±12km,n82,σ2965/83,MS3.5/3,4C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.60**	**328**		**Pb**	**07 52 52.2**	**-2.1**
SFX	**San Felipe**	**0.60**	**328**	⇑*iP*	**Pb**	**07 52 52.2**	**-2.1**
SFX				*e*S	**Sb**	**07 53 01.6**	**-0.9**
SFX				*e*		07 53 10.9	
SFX				IAML		07 53 10.9	
comp=E,27μm,0.5s							
SFX				⇑*e*		07 53 11.0	
SFX				IAML		07 53 11.0	
comp=N,27μm,0.6s							
SPIG	**San Pedro Mart**	**0.99**	**302**		**Pn**	**07 52 59.8**	**-1.3**
SPIG					**Sn**	**07 53 13.7**	**-0.8**
SPIG	**San Pedro Mart**	**0.99**	**302**	*eP*	**Pn**	**07 52 59.8**	**-1.3**
SPIG				*i* S	**Sn**	**07 53 13.7**	**-0.8**
SPIG	**San Pedro Mart**	**0.99**	**302**	⇑*eP*	**Pn**	**07 52 59.0**	**-2.1**
SPIG				*e*S	**Sn**	**07 53 14.1**	**-0.4**
SPIG				⇓*e*		07 53 22.8	
SPIG				IAML		07 53 22.8	
comp=N,3μm,0.6s							
RITX	**Riito Sonora**	**1.69**	**346**	*eP*	**Pn**	**07 53 08.2**	**-2.1**
SVX	**San Vicente**	**1.72**	**298**	*eP*	**Pn**	**07 53 10.0**	**-0.7**
BAHB	**Baha de los**	**1.77**	**153**	*i* P	**Pn**	**07 53 07.8**	**-3.5**
BAHB				*i* S	**Sb**	**07 53 36.0**	**+0.2**
BAHB	**Baha de los**	**1.77**	**153**	*eP*	**Pn**	**07 53 08.2**	**-3.1**
LAPR	**La Primavera**	**1.86**	**90**	*i* P	**Pn**	**07 53 11.9**	**-0.8**
LAPR				*i* S	**Sb**	**07 53 43.2**	**+4.5**
LAPR	**La Primavera**	**1.86**	**90**	⇑*eP*	**Pn**	**07 53 08.1**	**-4.6**
LAPR				IAML		07 53 56.6	
comp=N,2μm,0.9s							
LAPR				IAML		07 53 59.2	
comp=E,2μm,1.0s							
SLRCX	**San Luis Rio C**	**1.94**	**354**	*eP*	Pb	07 53 20.1	+3.0
MBIG	**Mexicali**	**1.98**	**342**	*i* P	**Pb**	**07 53 19.5**	**+1.8**
MBIG				*i* S	Sb	07 53 49.9	+8.1
214A	**Organ Pipe Nat**	**2.02**	**45**	Pn	**Pn**	**07 53 11.2**	**-3.7**
214A	**Organ Pipe Nat**	**2.02**	**45**	P	**Pn**	**07 53 11.3**	**-3.7**
baz=225,SNR=51							
CTLX	**Tlaxcala, TLX**	**2.02**	**344**	*eP*	**Pb**	**07 53 18.6**	**+0.1**
YUCAX	**Ej. Yucatan**	**2.14**	**346**	*eP*	**Pb**	**07 53 22.3**	**+1.8**
UABX	**UABC, Campus M**	**2.26**	**339**	Pn	Pn	07 53 12.6	-5.5
CCX	**Cicese**	**2.30**	**306**	Pn	**Pn**	**07 53 18.5**	**-0.2**
CCX				IAML		07 54 02.7	
comp=N,601nm,0.5s							
CCX				IAML		07 54 05.7	
comp=E,776nm,0.8s							
CCX	**Cicese**	**2.30**	**306**	*eP*	**Pb**	**07 53 21.9**	**-1.3**
CCX				IAML		07 54 05.8	
comp=E,696nm,0.8s							
YUH2	**Yuha Desert**	**2.45**	**330**	*eP*	**Pn**	**07 53 19.4**	**-1.4**
RMX	**La Rumorosa**	**2.48**	**327**		**Pn**	**07 53 19.0**	**-2.4**
RMX				IAML		07 54 07.9	
comp=N,577nm,0.6s							
RMX				IAML		07 54 08.0	
comp=E,616nm,0.7s							
IKP	**In-Ko-Pah, Jac**	**2.54**	**327**	P	**Pb**	**07 53 27.6**	**+0.3**
baz=130							
IKP				S	**Sb**	**07 54 00.2**	**+2.2**
baz=130							
GLA	**Glamis**	**2.54**	**353**		**Pn**	**07 53 21.3**	**-0.8**
GLA				IAML		07 54 40.7	
comp=N,358nm,0.7s							
GLA				IAML		07 54 41.5	
comp=E,428nm,0.8s							
GLA	**Glamis**	**2.54**	**353**	*eP*	**Pn**	**07 53 21.0**	**-1.1**
TJIG	**Tijuana**	**2.67**	**316**		**Pn**	**07 53 23.1**	**-0.8**
TJIG					**Sb**	**07 54 03.0**	**+1.0**
TJIG	**Tijuana**	**2.67**	**316**	*i* P	**Pn**	**07 53 23.1**	**-0.8**
TJIG				*i* S	**Sb**	**07 54 03.0**	**+1.0**
TKX	**Tecate**	**2.73**	**319**	Pn	**Pn**	**07 53 23.1**	**-1.6**
TKX				IAML		07 54 07.7	
comp=E,671nm,0.4s							
TKX				IAML		07 54 09.8	
comp=N,333nm,0.6s							
BAR	**Barrett**	**2.85**	**320**	Pn	**Pn**	**07 53 25.6**	**-0.8**
BAR				IAML		07 54 17.3	
comp=N,298nm,0.5s							
BAR				IAML		07 54 23.2	
comp=E,432nm,1.1s							
MONP2	**Monument Peak**	**2.88**	**325**	P	**Pb**	**07 53 32.4**	**-0.9**
baz=130							
MONP2				S	**Sb**	**07 54 08.5**	**+0.3**
baz=130							
TJX	**Tijuana**	**2.96**	**313**	Pn	**Pn**	**07 53 27.6**	**-0.2**
EML	**El Monte Cty P**	**3.10**	**320**	*eP*	**Pn**	**07 53 29.6**	**-0.2**
109C	**Camp Elliot, M**	**3.25**	**317**	Pn	**Pn**	**07 53 29.9**	**-1.9**
109C				IAML		07 54 32.6	
comp=N,387nm,0.9s							
109C				IAML		07 54 36.4	
comp=E,328nm,0.9s							
109C	**Camp Elliot, M**	**3.25**	**317**	S	**Sb**	**07 54 19.7**	**+1.1**
baz=124							
TPFO	**Pinon Flats**	**3.50**	**332**	Sb	**Sb**	**07 54 30.8**	**+4.9**
baz=139							
PFO	**Pinyon Flats O**	**3.51**	**332**	Pn	**Pn**	**07 53 34.5**	**-0.9**
comp=E,0.6nm,0.3s,baz=146,slow=12,SNR=8.9							
PFO				Lg Lg		07 54 32.5	
comp=E,7.6nm,0.3s,baz=221,slow=17,SNR=5.0							
PFO				LR LR		07 55 15.3	
comp=E,213nm,20.1s,baz=192,slow=43							
PFO	**Pinyon Flats O**	**3.51**	**332**		**Pn**	**07 53 34.5**	**-0.9**
PFO	**Pinyon Flats O**	**3.51**	**332**	Sb	**Sb**	**07 54 31.1**	**+5.0**
baz=139							
TUC	**Tucson**	**3.63**	**60**		**Pn**	**07 53 33.7**	**-3.4**
TUC	**Tucson**	**3.63**	**60**	*i* P	**Pn**	**07 53 33.7**	**-3.4**
TUC				*i* S	**Sb**	**07 54 31.3**	**+1.8**
TUC	**Tucson**	**3.63**	**60**	P	**Pn**	**07 53 33.7**	**-3.4**
baz=245							
TUC				S	**Sn**	**07 54 10.7**	**-8.4**
baz=245							
Y14A	**Wickenburg**	**3.63**	**20**		**Pn**	**07 53 34.8**	**-2.2**
Y14A				IAML		07 55 06.4	
comp=N,140nm,0.8s							
Y14A				IAML		07 55 09.3	
comp=E,104nm,1.2s							
GUYB	**Guaymas**	**4.10**	**129**	*eP*	**Pn**	**07 53 40.5**	**-2.9**
NZIG	**Nacozari, Sono**	**4.26**	**91**	*i* P	**Pb**	**07 53 59.6**	**+2.9**
NZIG				*i* S	Sb	07 54 57.6	+10
319A	**Douglas**	**4.55**	**78**	Pn	**Pn**	**07 53 46.2**	**-3.5**
BFSC	**Mount Baldy Ra**	**4.58**	**325**	Sb	Sb	07 55 05.1	+8.3
baz=134							
W13A	**Hualapai Mount**	**4.59**	**6**		**Pn**	**07 53 48.3**	**-2.1**
W13A				IAML		07 55 38.9	
comp=E,52nm,1.3s							
X16A	**Lo Mia Camp, P**	**4.66**	**33**		**Pn**	**07 53 49.0**	**-2.3**
X16A				IAML		07 55 44.4	
comp=N,49nm,1.0s							
DECC	**Green Verdugo**	**4.94**	**320**	Sb	Sb	07 55 15.9	+8.6
baz=130							
EDW2	**Edwards Air Fo**	**5.26**	**327**	Sb	Sb	07 55 23.9	+7.6
baz=137							
X18A	**Snowflake

KNB	**Kanab**	**6.62**	**12**		**Pn**	**07 54 16.2**	**-2.1**
PRN	**Pahroc Range**	**6.88**	**356**		**Pn**	**07 54 22.8**	**+1.0**
PKCU	**Pink Cliffs**	**7.13**	**14**		**Pn**	**07 54 24.5**	**-1.0**
LENM	**Lemitar**	**7.32**	**58**	Pn	**Pn**	**07 54 23.7**	**-4.1**
LPIG	**La Paz**	**7.39**	**149**	LR	LR	07 57 07.7	
	comp=N,190nm,18.7s,baz=338,slow=37						
BNM	**Barren Site**	**7.56**	**59**	Pn	**Pn**	**07 54 28.3**	**-3.0**
MTPU	**Mount Pierson**	**7.74**	**14**		**Pn**	**07 54 31.6**	**-2.1**
MNTX	**Cornudas Mount**	**7.89**	**79**	Pn	**Pn**	**07 54 32.2**	**-3.3**
MNTX	**Cornudas Mount**	**7.89**	**79**	P	**Pn**	**07 54 33.0**	**-2.6**
	baz=267						
ANMO	**Albuquerque**	**8.07**	**55**	Pn	**Pn**	**07 54 36.5**	**-1.6**
	comp=N,0.1nm,0.3s,baz=221,slow=13,SNR=3.6						
NVAR	**Mina Array Bea**	**8.49**	**339**	Pn	**Pn**	**07 54 46.1**	**+2.1**
	comp=N,0.1nm,0.3s,baz=158,slow=15,SNR=2.8						
PV14	**Lion Creek, Pa**	**9.03**	**28**	Pn	**Pn**	**07 54 47.1**	**-4.3**
PV04	**Paradox Valley**	**9.10**	**29**	Pn	Pn	07 54 47.2	-5.1
PV23	**Carpenter Ridg**	**9.10**	**28**	Pn	**Pn**	**07 54 48.0**	**-4.4**
TX31	**Lajitas Ar. Si**	**9.46**	**94**		**Pn**	**07 54 56.3**	**-0.9**
TX32	**Lajitas Array**	**9.46**	**94**	Pn	**Pn**	**07 54 55.8**	**-1.4**
TXAR	**Lajitas Array**	**9.46**	**94**	Pn	**Pn**	**07 54 54.5**	**-2.6**
	comp=N,0.1nm,0.3s,baz=256,slow=16,SNR=4.2						
TXAR				Lg	Lg	07 57 36.2	
	comp=N,0.1nm,0.3s,baz=264,slow=34,SNR=4.3						
YBH	**Yreka Blue Hor**	**13.00**	**332**	LR	LR	08 00 19.9	
	comp=N,120nm,21.3s,baz=207,slow=35						
CMIG	**Matias Romero**	**22.32**	**122**	LR	LR	08 06 53.3	
	comp=N,95nm,18.8s,baz=268,slow=38						
TKL	**Tuckaleechee C**	**26.17**	**71**	LR	LR	08 08 54.2	
	comp=N,138nm,18.8s,baz=294,slow=37						
DLBC	**Dease Lake**	**29.88**	**344**	LR	LR	08 10 22.0	
	comp=N,212nm,20.8s,baz=204,slow=36						
YKA	**Yellowknife Ar**	**31.98**	**360**	P	**P**	**07 59 08.5**	**+2.4**
	comp=N,0.2nm,0.8s,baz=176,slow=8.7,SNR=2.4						
ILAR	**Eielson Array**	**39.75**	**339**	P	**P**	**08 00 14.9**	**+2.2**
	comp=N,0.8nm,0.8s,baz=148,slow=7.2,SNR=6.1						

*IDC **11** 07:58:25.6±2.5, 7.°01S×146.°54E, h135km±27km, mb3.6/6, mb1 3.6/8, mb1mx3.3/52, mbtmp3.9/8, Error ellipse: s-maj=37.6km s-min=21.7km az=117.0*

ISC 11 07:58:26.8±1.0, **7.°06S**±0.°10×**146.°7E**±0.°2, **h150**km, **n18**, σ0$93/19, **mb3.8/5, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.39**	**168**	P	**Pn**	**07 59 06.7**	**+0.1**
	7.5nm,0.3s,baz=288,slow=15,SNR=13						
PMG				S	**Sn**	**07 59 36.6**	**-0.7**
	24nm,0.3s,baz=256,slow=22,SNR=18						
PMG	**Port Moresby**	**2.39**	**168**	P	**Pn**	**07 59 06.7**	**+0.1**
COEN	**Coen**	**7.66**	**206**	P	**Pn**	**08 00 17.0**	**+1.3**
QIS	**Mount Isa**	**15.05**	**206**	P	**P**	**08 01 54.1**	**+0.4**
WRAB	**Tennant Creek**	**17.50**	**222**	P	**Pn**	**08 02 20.0**	**-1.7**
WRA	**Warramunga Arr**	**17.51**	**222**	P	**P**	**08 02 19.6**	**-1.2**
	0.4nm,0.3s,baz=43,slow=12,SNR=17						
ASAR	**Alice Springs**	**20.55**	**215**	P	**P**	**08 02 53.3**	**-0.5**
	1.3nm,0.4s,baz=51,slow=8.5,SNR=28						
OOD	**Oodnadatta**	**23.09**	**205**	P	**P**	**08 03 19.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**23.22**	**240**	P	**P**	**08 03 20.1**	**-0.7**
	1.5nm,0.5s,baz=12,slow=19,SNR=4.7						
LCRK	**Leigh Creek**	**24.58**	**198**	P	**P**	**08 03 34.1**	**+1.2**
STKA	**Stephens Creek**	**25.14**	**190**	P	**P**	**08 03 38.6**	**+0.5**
	2.3nm,0.5s,baz=354,slow=8.4,SNR=11						
MULG	**Mulgathing**	**25.95**	**206**	P	**P**	**08 03 45.4**	**0.0**
HTT	**Hallett**	**27.20**	**194**	P	**P**	**08 03 58.5**	**+1.9**
MKAR	**Makanchi Array**	**78.08**	**321**	P	**P**	**08 10 09.3**	**+0.2**
	0.5nm,0.4s,baz=97,slow=8.9,SNR=10						
ZALV	**Zalesovo Beam**	**79.72**	**328**	P	**P**	**08 10 17.4**	**-0.3**
	1.1nm,0.6s,baz=116,slow=6.1,SNR=5.6						
ILAR	**Eielson Array**	**86.59**	**23**	P	**P**	**08 10 52.9**	**+0.1**
	1.2nm,0.8s,baz=251,slow=5.1,SNR=14						
TORD	**Torodi Ar. Bea**	**144.99**	**283**	PKP	**PKPdf**	**08 17 46.9**	**-0.4**
	0.5nm,0.7s,baz=80,slow=3.3,SNR=4.7						
DBIC	**Dimbokro**	**151.71**	**271**	PKPbc	**PKiKP**	**08 18 05.8**	**+0.7**
	1.6nm,0.5s,baz=147,slow=4.5,SNR=3.8						

*NEIC **11** 08:03:10.6±0.9, 16.°32S±0.°08×175.°0W±0.°1, h274km±8km, mb4.2/18, Error ellipse: s-maj=17.8km s-min=10.9km az=81.0*

*IDC **11** 08:03:10.3±1.8, 16.°35S×175.°06W, h274km±18km, mb3.6/11, mb1 3.7/12, mb1mx3.4/44, mbtmp4.2/12, Error ellipse: s-maj=20.1km s-min=13.0km az=129.0*

ISC 11 08:03:11.0±0.5, **16.°32S**±0.°08×**174.°92W**±0.°08, **h288**km, **n32**, σ1$13/37, **mb4.1**/18, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.87**	**52**	P	**Pn**	**08 04 14.9**	**-0.4**
	24nm,0.3s,baz=96,slow=0.8,SNR=27						
AFI				S	**S**	**08 05 02.9**	**-3.8**
	34nm,0.3s,baz=18,slow=23,SNR=9.7						
NIUE	**Niue**	**5.50**	**121**	Pn	**Pn**	**08 04 34.7**	**+0.7**
NIUE				Sn	**S**	**08 05 39.1**	**-1.5**
URZ	**Urewera**	**22.96**	**196**	P	**P**	**08 07 49.2**	**-1.4**
	14nm,0.7s,baz=269,slow=3.8,SNR=5.1						
URZ				S	**S**	**08 11 38.5**	**-0.3**
	12nm,0.9s,baz=251,slow=20,SNR=2.4						
URZ	**Urewera**	**22.96**	**196**	P	**P**	**08 07 48.5**	**-2.0**
BKZ	**Black Stump Fm**	**23.97**	**197**	P	**P**	**08 07 58.6**	**-1.2**
ARMA	**Armidale**	**33.62**	**239**	P	**P**	**08 09 24.2**	**-0.9**
ARMA				IAmb	IAmb	08 09 38.6	
	comp=Z,10nm,1.2s						
CAN	**Canberra**	**37.31**	**233**	P	**P**	**08 09 56.3**	**0.0**
CAN				IAmb	IAmb	08 09 56.8	
	comp=Z,7.3nm,1.0s						
TOO	**Toolangi**	**40.75**	**231**	P	**P**	**08 10 23.8**	**-0.8**
TOO				IAmb	IAmb	08 10 29.8	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**42.31**	**240**	P	**P**	**08 10 36.5**	**-0.7**
	comp=Z,7.4nm,0.8s,baz=91,slow=10,SNR=19						
STKA	**Stephens Creek**	**42.31**	**240**	P	**P**	**08 10 36.5**	**-0.7**
BBOO	**Buckleboo**	**47.09**	**240**	P	**P**	**08 11 14.1**	**-0.6**
BBOO				IAmb	IAmb	08 11 15.5	
	comp=Z,5.8nm,0.9s						
WB0	**Warramunga Arr**	**48.17**	**258**	P	**P**	**08 11 22.7**	**-0.5**
WRA	**Warramunga Arr**	**48.21**	**258**	P	**P**	**08 11 23.5**	**0.0**
	comp=Z,0.8nm,0.2s,baz=83,slow=7.7,SNR=17						
WRA				PcP	**PcP**	**08 12 46.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=92,slow=3.6,SNR=2.6						
WRA	**Warramunga Arr**	**48.21**	**258**	P	**P**	**08 11 22.9**	**-0.6**
AS31	**Alice Springs**	**48.44**	**253**	P	**P**	**08 11 24.9**	**-0.3**
ASAR	**Alice Springs**	**48.44**	**253**	P	**P**	**08 11 24.9**	**-0.3**
	comp=Z,6.2nm,0.6s,baz=88,slow=8.2,SNR=124						
ASAR				PcP	**PcP**	**08 12 47.4**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=99,slow=5.7,SNR=2.9						
ASAR	**Alice Springs**	**48.44**	**253**	P	**P**	**08 11 24.6**	**-0.5**
FORT	**Forrest**	**53.70**	**244**	P	**P**	**08 12 03.0**	**-0.9**
FORT				IAmb	IAmb	08 12 04.1	
	comp=Z,7.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.59**	**259**	P	**P**	**08 12 23.8**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=181,slow=5.3,SNR=6.8						
PSA00	**Pilbara Seismi**	**61.54**	**254**	P	**P**	**08 12 58.8**	**+0.3**
PSA00				IAmb	IAmb	08 12 59.5	
	comp=Z,13nm,0.7s						
PSA00	**Pilbara Seismi**	**61.54**	**254**	P	**P**	**08 12 58.8**	**+0.3**
PSA00				IAmb	IAmb	08 12 59.5	
	comp=Z,7.2nm,0.8s						
MORW	**Morawa**	**64.17**	**245**	P	**P**	**08 13 15.4**	**-0.2**
MORW				IAmb	IAmb	08 13 18.2	
	comp=Z,4.0nm,0.9s						
JOW	**Kunigami**	**69.85**	**307**	P	**P**	**08 13 50.6**	**-0.5**
	comp=Z,14nm,0.7s,baz=129,slow=13,SNR=1.6						
JOW	**Kunigami**	**69.85**	**307**	P	**P**	**08 13 51.3**	**+0.1**
QSPA	**South Pole Qui**	**73.73**	**180**	P	**P**	**08 14 15.3**	**+1.7**
	comp=Z,3.2nm,0.7s,baz=22,slow=1.0,SNR=14						
QSPA	**South Pole Qui**	**73.73**	**180**	P	**P**	**08 14 14.8**	**+1.2**
QSPA				IAmb	IAmb	08 14 16.2	
	comp=Z,3.9nm,0.8s						
YBH	**Yreka Blue Hor**	**75.21**	**38**	P	**P**	**08 14 23.8**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=270,slow=10,SNR=5.7						
YBH	**Yreka Blue Hor**	**75.21**	**38**	P	**P**	**08 14 23.8**	**+1.4**
YBH				IAmb	IAmb	08 14 43.3	
	comp=Z,6.3nm,1.4s						
VRDI	**Verde Repeater**	**81.26**	**15**	P	**P**	**08 14 56.0**	**+0.9**
ILAR	**Eielson Array**	**83.63**	**12**	P	**P**	**08 15 07.8**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=227,slow=5.5,SNR=20						
PDAR	**Pinedale Array**	**83.92**	**42**	P	**P**	**08 15 10.2**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=185,slow=4.3,SNR=2.9						
YKA	**Yellowknife Ar**	**91.52**	**24**	P	**P**	**08 15 45.1**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=237,slow=5.0,SNR=1.6						

*BJI **11** 08:21:26.4±0.0, 40.°15N×142.°38E, h59km, mb4.6/43, mB4.7/21, Ms4.0/9, Ms7 3.7/9*

*MOS **11** 08:21:26.5±1.0, 40.°27N×142.°31E, h52km, mb4.8/29, Error ellipse: s-maj=7.6km s-min=5.0km az=89.3*

*JMA **11** 08:21:27.4±0.1, 40.°21N×142.°32E, h38km±1km, M4.4*

JMA Felt II J1.

*NEIC **11** 08:21:27.8±1.5, 40.°18N±0.°06×142.°48E±0.°06, h52km±7km, mb4.6/37, Error ellipse: s-maj=9.2km s-min=5.3km az=151.0*

*NIED **11** 08:21:27.4, 40.°21N×142.°32E, h38km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.26; $M_{\theta\theta}$0.54; $M_{\phi\phi}$-1.79; $M_{r\theta}$0.07; $M_{\theta\phi}$-0.12; $M_{\phi r}$2.69; Fault plane solution: $M_0$3.09000×10^{15} NP1:ϕ_s1.00000°, δ75.00000°, λ89.00000°. NP2:ϕ_s186.00000°, δ15.00000°, λ94.00000°.*

*IDC **11** 08:21:28.4±1.9, 40.°17N×142.°19E, h53km±16km, mb3.8/20, mb1 4.0/26, mb1mx3.9/48, mbtmp4.1/26, ML3.6/6, MS3.5/14, Ms1 3.5/14, ms1mx3.1/85 Error ellipse: s-maj=15.5km s-min=10.7km az=112.0*

ISC 11 08:21:26.8±0.7, **40.°18N**±0.°03×**142.°44E**±0.°04, **h43**km±5km, **n203**, σ1$62/221, **mb4.5**/66, **MS3.7**/17, **16C-16D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.50**	**242**	⇓P	**Pn**	**08 21 37.3**	**-0.4**
JTH				S	**Sn**	**08 21 44.2**	**-1.2**
JKEN	**Kujiedanarisaw**	**0.56**	**273**	⇓P	**Pn**	**08 21 37.4**	**-1.0**
JKEN				*e*S	**Sn**	**08 21 44.5**	**-2.2**
JANG	**Nango**	**0.73**	**286**	⇓P	**Pn**	**08 21 39.8**	**-0.9**
JANG				S	**Sn**	**08 21 48.9**	**-1.9**
MIYJ	**Miyakonagasawa**	**0.77**	**219**	⇓P	**Pn**	**08 21 41.2**	**0.0**
MIYJ				S	**Sn**	**08 21 51.1**	**-0.5**
JKZ	**Kuzumaki**	**0.87**	**258**	⇓P	**Pn**	**08 21 42.4**	**-0.3**
JKZ				S	**Sn**	**08 21 53.0**	**-1.3**
JOM	**Ohasama**	**1.13**	**232**	⇓P	**Pn**	**08 21 46.5**	**+0.4**
JARK	**Aomorirokkasho**	**1.16**	**316**	⇓P	**Pn**	**08 21 46.1**	**-0.5**
JARK				S	**Sn**	**08 21 59.8**	**-1.5**
JTM	**Tenmabayashi**	**1.21**	**301**	⇓P	**Pn**	**08 21 46.8**	**-0.4**
JTM				S	**Sn**	**08 22 01.2**	**-1.2**
JAH	**Hinai**	**1.38**	**271**	⇓P	**Pn**	**08 21 49.5**	**-0.1**
JAH				S	**Sn**	**08 22 04.5**	**-2.1**
JMK	**Ichinoseki**	**1.54**	**218**	⇓P	**Pn**	**08 21 52.6**	**+0.8**
JMK				S	**Sn**	**08 22 12.3**	**+1.7**
JRG	**Rokugo**	**1.59**	**241**	P	**Pn**	**08 21 53.4**	**+0.9**
JOT	**Ohata**	**1.60**	**319**	P	**Pn**	**08 21 52.2**	**-0.4**
JOT				S	**Sn**	**08 22 11.7**	**-0.3**
ERM	**Erimo**	**1.91**	**16**	P	**Pn**	**08 21 58.4**	**+1.5**
ERM	**Erimo**	**1.91**	**16**		**Pn**	**08 21 58.4**	**+1.5**
JMM	**Marumori**	**2.64**	**210**		**Pn**	**08 22 08.3**	**+1.4**
JEW	**Eniwo**	**2.76**	**345**		**Pn**	**08 22 12.1**	**+3.6**
JSD	**Sado**	**3.89**	**238**		**Pn**	**08 22 24.8**	**+0.8**
JKA	**Kamikawa-asahi**	**3.94**	**2**		**Pn**	**08 22 26.1**	**+1.5**
ASAJ	**Asahikawa**	**3.94**	**2**	P	**Pn**	**08 22 27.1**	**+2.5**
	4.0nm,0.3s,baz=230,slow=10,SNR=16						
ASAJ				S	**Sn**	**08 23 11.7**	**+2.1**
	9.8nm,0.3s,baz=180,slow=30,SNR=4.1						
NMR	**Nemuro--Hokkai**	**4.03**	**37**	⇓*i*P	**Pn**	**08 22 25.6**	**-0.3**
NMR				*e*S	**Sn**	**08 23 08.7**	**-3.1**
GLVR	**Golovnino**	**4.24**	**32**	*c i*P	**Pn**	**08 22 29.2**	**+0.5**
GLVR				*e*S	**Sn**	**08 23 14.5**	**-2.4**
GLVR				pmax	pmax		
	comp=Z,221nm,0.3s						
GLVR				pmax	pmax		
	comp=N,152nm,0.4s						
GLVR				smax	smax		
	comp=E,503nm,0.3s						
GLVR				smax	smax		
	comp=N,875nm,0.6s						
JYT	**Yasato**	**4.32**	**205**		**Pn**	**08 22 30.6**	**+0.7**
RUSJ	**Misakicho**	**4.45**	**27**	*e*P	**Pn**	**08 22 33.1**	**+1.5**
RUSJ				*e*S	**Sn**	**08 23 21.8**	**-0.3**
GRPR	**Tuman**	**4.55**	**32**	*e*P	**Pn**	**08 22 33.3**	**+0.2**
GRPR				*e*S	**Sn**	**08 23 21.9**	**-2.7**
GRPR				pmax	pmax		
	comp=Z,193nm,0.2s						
GRPR				pmax	pmax		
	comp=N,85nm,0.1s						
GRPR				pmax	pmax		
	comp=E,66nm,0.1s						
GRPR				smax	smax		
	comp=E,528nm,0.2s						
GRPR				smax	smax		
	comp=N,883nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.62**	**32**	*e*P	**Pn**	**08 22 34.3**	**+0.3**
YUK				*i* S	**Sn**	**08 23 23.0**	**-3.4**
YUK				pmax	pmax		
	comp=Z,351nm,0.3s						
YUK				pmax	pmax		
	comp=E,169nm,0.1s						
YUK				smax	smax		
	comp=E,430nm,0.3s						
YUK				smax	smax		
	comp=N,749nm,0.6s						
YUK				MLR	MLR		
	comp=Z,295nm,18.0s						
YUK				MLR	MLR		
	comp=N,303nm,16.0s						
MJB9	**Matsu-Tunnel**	**4.92**	**224**		**Pn**	**08 22 41.1**	**+2.8**
MAJO	**Matsushiro**	**4.92**	**224**	*i* P	**Pn**	**08 22 41.1**	**+2.9**
MAJO	**Matsushiro**	**4.92**	**224**		**Pn**	**08 22 40.6**	**+2.4**
MAT	**Matsushiro**	**4.92**	**224**	P	**Pn**	**08 22 40.9**	**+2.7**
MAT				*e*S	**Sn**	**08 23 34.9**	**+1.0**
MJAR	**Matsushiro Arr**	**4.92**	**224**	P	**Pn**	**08 22 41.2**	**+3.0**
	comp=N,1.8nm,0.3s,baz=32,slow=13,SNR=139						
MJAR				S	**Sn**	**08 23 33.8**	**-0.1**
	baz=43,slow=12,SNR=1.0						
MJAR	**Matsushiro Arr**	**4.92**	**224**	P	**Pn**	**08 22 41.1**	**+2.9**
MJAR	**Matsushiro Arr**	**4.92**	**224**		**Pn**	**08 22 41.1**	**+2.9**
SHO	**Shikotan**	**4.93**	**40**	*e*P	**Pn**	**08 22 37.7**	**-0.6**
SHO				*e*S	**Sn**	**08 23 29.3**	**-4.7**
SHO				pmax	pmax		
	comp=Z,55nm,0.3s						
SHO				pmax	pmax		
	comp=N,23nm,0.2s						
SHO				pmax	pmax		
	comp=E,26nm,0.2s						
SHO				smax	smax		
	comp=N,375nm,0.3s						
SHO				smax	smax		
	comp=E,208nm,0.3s						
SHO				MLR	MLR		
	comp=Z,224nm,17.0s						
SHO				MLR	MLR		
	comp=E,170nm,16.0s						
JGF	**Kuroka**	**6.08**	**223**		**Pn**	**08 22 56.9**	**+2.7**
KUR	**Kuril'sk**	**6.44**	**37**	*e*P	**Pn**	**08 22 59.9**	**+0.9**
KUR				*e*S	**Sn**	**08 24 07.9**	**-3.3**
KUR				pmax	pmax		
	comp=Z,111nm,0.6s						
KUR				smax	smax		
	comp=N,162nm,0.6s						
KUR				smax	smax		
	comp=E,173nm,0.6s						
INU	**Inuyama**	**6.45**	**223**		**Pn**	**08 22 59.7**	**+0.4**
TEY	**Ternei**	**6.49**	**320**	⇑*e*P	Pn	08 23 04.7	+5.1
TEY				pmax	pmax		
	comp=Z,30nm,1.0s						
TEY				pmax	pmax		
	comp=N,40nm,0.9s						
TEY				pmax	pmax		
	comp=E,50nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.78**	**2**	*e*P	**Pn**	**08 23 05.8**	**+2.2**
YSS				*e*S	**Sn**	**08 24 20.5**	**+1.1**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				smax	smax		
	comp=N,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
JHJ2	**Mitsune**	**7.36**	**197**	Pn	**Pn**	**08 23 12.0**	**+0.3**
JHJ	**Hachijo jima 2**	**7.36**	**198**	P	**Pn**	**08 23 11.9**	**+0.2**
	comp=Z,16nm,0.3s,baz=323,slow=24,SNR=10						
JHJ				S	**Sn**	**08 24 28.6**	**-5.3**
	comp=Z,8.7nm,0.3s,baz=40,slow=11,SNR=1.4						
JWT	**Wachi**	**7.41**	**231**		**Pn**	**08 23 15.2**	**+2.8**
USA0B	**Ussuriysk Arra**	**8.73**	**301**	P	**Pn**	**08 23 31.8**	**+1.4**
USA0B	**Ussuriysk Arra**	**8.73**	**301**	Pn	**Pn**	**08 23 31.8**	**+1.4**
USRK	**Ussuriysk Ar.**	**8.73**	**301**	P	**Pn**	**08 23 33.5**	**+3.0**
	baz=102,slow=18,SNR=31						
USRK	**Ussuriysk Ar.**	**8.73**	**301**	P	**Pn**	**08 23 31.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**8.73**	**301**		**Pn**	**08 23 31.0**	**+0.5**
JHS	**Saijyo**	**9.02**	**238**	Pn	**Pn**	**08 23 37.2**	**+2.7**
JMN	**Monobe**	**9.39**	**229**	Pn	**Pn**	**08 23 40.6**	**+1.0**
MDJ	**Mudanjiang**	**10.48**	**299**	P	**Pn**	**08 23 57.1**	**+2.7**
MDJ				sP		08 24 13.9	
MDJ				S	**Sn**	**08 25 54.1**	**+3.7**
MDJ				pmax	pmax		
	comp=Z,19nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,150nm,3.5s						
MDJ				LR	LR		
	comp=Z,190nm,13.5s						
MDJ				LR	LR		
	comp=Z,280nm,17.8s						
MDJ				LR	LR		
	comp=Z,340nm,19.2s						
MDJ	**Mudanjiang**	**10.48**	**299**		**Pn**	**08 23 55.3**	**+0.9**
TYV	**Tymovskoe**	**10.69**	**1**	*e*P	Pn	08 24 03.2	+6.1
TYV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TYV				pmax	pmax		
	comp=Z,200nm,3.1s						
TYV				MLR	MLR		
	comp=Z,900nm,15.0s						
JNU	**Nakatsue**	**11.64**	**236**	P	**Pn**	**08 24 10.2**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=79,slow=4.1,SNR=4.7						
JNU	**Nakatsue**	**11.64**	**236**	Pn	**Pn**	**08 24 10.9**	**+0.5**
KSRS	**Korea Array**	**11.64**	**261**	P	**Pn**	**08 24 09.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=241,slow=46,SNR=2.3						
KSRS				LR	LR	08 28 15.0	
	comp=Z,227nm,19.6s,baz=75,slow=35						
KLR	**Kul'dur**	**11.81**	**324**	P	**Pn**	**08 24 12.3**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=6.9						
KLR	**Kul'dur**	**11.81**	**324**	*ce*P	**Pn**	**08 24 13.0**	**+0.5**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PETK	**Petropavlovsk-**	**16.60**	**34**	P	**P**	**08 25 18.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=191,slow=6.8,SNR=2.3						
PETK				LR	LR	08 31 54.4	
	comp=Z,46nm,18.5s,baz=235,slow=38						
ZEA	**Zeya**	**17.02**	**328**	*e*P	**Pn**	**08 25 20.9**	**-0.5**
XLT	**XiLinHaoTe**	**19.89**	**289**	*e*P	**P**	**08 25 52.2**	**-2.4**
XLT				pP	pP	08 26 05.8	+0.8
XLT				sP	sP	08 26 11.8	+1.3
XLT				pmax	pmax		
	comp=Z,12nm,1.2s						
XLT				pmax	pmax		
	comp=Z,110nm,5.6s						
BJI	**Beijing**	**20.07**	**278**	P	**P**	**08 25 56.0**	**-0.3**
BJI				pmax	pmax		
	comp=Z,14nm,0.8s						
BJT	**Baijiatuau**	**20.08**	**278**	P	**P**	**08 25 55.5**	**-1.0**
BJT				pmax	pmax		
	comp=Z,11nm,1.0s						
BJT	**Baijiatuau**	**20.08**	**278**	P	**P**	**08 25 55.5**	**-1.0**
NJ2	**Nanjing**	**20.66**	**254**	*e*P	**P**	**08 25 59.8**	**-3.1**
NJ2				pmax	pmax		
	comp=Z,28nm,0.8s						
HNS	**HongShan**	**21.76**	**272**	⇓P	**P**	**08 26 15.0**	**+0.4**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.3s						
YAK	**Yakutsk**	**23.21**	**345**	*e*P	**P**	**08 26 26.0**	**-3.7**
YAK				*e**PP	**pP**	**08 26 38.6**	**-1.7**
YAK				*e*		08 26 52.9	
YAK				*e*		08 30 12.8	
YAK				*e*S	**S**	**08 30 34.6**	**-3.5**
YAK				*e**SS	Sn	08 31 00.6	+2.4
YAK				*e*SS	**SnSn**	**08 31 16.2**	**+1.5**
YAK				*e*		08 37 30.6	
YAK				pmax	pmax		
	comp=Z,19nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,117nm,3.2s						
YAK				pmax	pmax		
	comp=N,37nm,3.0s						
YAK				pmax	pmax		
	comp=E,73nm,3.1s						
YAK				smax	smax		
	comp=N,44nm,2.0s						
YAK				smax	smax		
	comp=E,54nm,2.5s						
YAK	**Yakutsk**	**23.21**	**345**	P	**P**	**08 26 28.6**	**-1.1**
YAK				IAmb	IAmb	08 26 29.2	
	comp=Z,20nm,0.6s						
HHC	**Hu-ho-hao-te**	**23.43**	**282**	*e*P	**P**	**08 26 30.8**	**-1.3**
HHC				sP	sP	08 26 53.0	+4.6
HHC				S	**S**	**08 30 38.7**	**-3.5**
HHC				SS	**SnSn**	**08 31 22.1**	**+1.8**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.2s						
HHC				LR	LR		
	comp=Z,130nm,10.2s						
HHC				LR	LR		
	comp=Z,150nm,10.9s						
HHC				LR	LR		
	comp=Z,220nm,14.3s						
SHEM	**Shemya Is, Ala**	**24.94**	**49**	LR	LR	08 35 45.9	
	comp=Z,40nm,21.8s,baz=297,slow=34						
BOD	**Bodaibo**	**25.39**	**324**	⇓*i*P	**P**	**08 26 48.1**	**-1.6**
BOD				pmax	pmax		
	comp=Z,12nm,1.0s						
ULN	**Ulaanbaatar**	**26.40**	**299**	*ce*P	**P**	**08 26 58.1**	**-1.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s			

GOMU pmax pmax
comp=Z,76nm,5.3s
ANM Nome 38.51 33 P **P 08 28 43.0 -1.5**
ANM pmax pmax
comp=Z,11nm,1.3s
ANM Nome 38.51 33 P **P 08 28 43.0 -1.5**
ANM IAmb IAmb 08 29 07.7
comp=Z,11nm,1.3s
DGZ Jazzator, Alta 39.28 303 *i* P **P 08 28 51.8 +0.5**
DGZ pmax pmax
comp=Z,22nm,0.8s
WMQ Urumqi 40.22 294 *eP* **P 08 29 01.5 +2.4**
ZAA0 Zalesovo Array 40.46 310 P **P 08 28 59.5 -1.4**
ZALV Zalesovo Beam 40.46 310 P **P 08 29 00.5 -0.3**
comp=Z,3.7nm,0.5s,baz=84,slow=7.7,SNR=16
ZALV Zalesovo Beam 40.46 310 P **P 08 29 00.0 -0.8**
NRIK Noril'sk 40.78 334 P **P 08 29 03.0 -0.3**
comp=Z,1.6nm,0.5s,baz=120,slow=8.9,SNR=4.3
NRIK LR LR 08 46 39.5
comp=Z,86nm,19.2s,baz=52,slow=37
NRIK Noril'sk 40.78 334*ce*P **P 08 29 03.2 -0.1**
NRIK pmax pmax
comp=Z,5.0nm,1.5s
NRIK Noril'sk 40.78 334 P **P 08 29 01.9 -1.4**
CMAR Chiang Mai Arr 43.13 253 P **P 08 29 22.6 -0.5**
comp=Z,1.9nm,0.3s,baz=52,slow=5.8,SNR=6.0
CMAR LR LR 08 46 49.6
comp=Z,18nm,19.0s,baz=265,slow=35
CMAR Chiang Mai Arr 43.13 253 *i* P **P 08 29 23.6 +0.5**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 43.13 253 P **P 08 29 24.0 +0.9**
MK31 Makanchi Array 43.20 299 P **P 08 29 23.1 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 43.20 299 P **P 08 29 23.1 -0.3**
MKAR Makanchi Array 43.20 299 P **P 08 29 23.1 -0.3**
comp=Z,2.6nm,0.6s,baz=85,slow=9.5,SNR=29
MKAR Makanchi Array 43.20 299 P **P 08 29 22.8 -0.6**
KURK Kurchatov 44.69 306*ce*P **P 08 29 33.7 -1.5**
KURK pmax pmax
comp=Z,15nm,1.0s
KURK Kurchatov 44.69 306 P **P 08 29 34.5 -0.7**
KURK IAmb IAmb 08 29 38.4
comp=Z,10nm,0.7s
KURBB Kurchatov Arra 44.76 306 P **P 08 29 34.9 -0.9**
comp=Z,7.6nm,0.5s,baz=80,slow=8.7,SNR=3.5
IL31 46.43 34 P **P 08 29 50.4 +1.7**
IL31 IAmb IAmb 08 30 04.6
comp=Z,8.2nm,1.4s
ILAR Eielson Array 46.43 34 P **P 08 29 50.2 +1.4**
comp=Z,1.0nm,0.9s,baz=260,slow=6.1,SNR=13
ILAR Eielson Array 46.43 34 P **P 08 29 49.3 +0.6**
GUN Gumba 47.71 273 *eP* **P 08 29 59.5 -0.2**
comp=Z,51nm,0.8s
KDJ Kajisay 48.08 295 P **P 08 30 02.8 +0.6**
KDJ pmax pmax
comp=Z,5.0nm,1.3s
KDJ Kajisay 48.08 295 P **P 08 30 02.8 +0.6**
KDJ IAmb IAmb 08 30 21.8
comp=Z,5.4nm,1.2s
KKN Kakani 48.23 274 *eP* **P 08 30 04.0 +0.5**
PKI Pulchoki 48.24 273 *eP* **P 08 30 03.5 -0.3**
comp=Z,5.3nm,0.5s
PKIN Phulchoki 48.24 273 *eP* **P 08 30 03.5 -0.2**
comp=Z,2.0nm,0.2s
GKN Gorkha 48.61 274 *eP* **P 08 30 07.0 +0.6**
comp=Z,12nm,0.2s
L27K Beaver Creek, 48.85 36 P **P 08 30 10.0 +2.4**
L27K IAmb IAmb 08 30 22.6
comp=Z,12nm,1.5s
BCAR Beaver Creek A 48.86 36 P **P 08 30 09.7 +2.0**
DANN Dangsing 49.11 275 *eP* **P 08 30 10.4 0.0**
comp=Z,51nm,0.7s
BRVK Borovoye 49.15 311*ce*P **P 08 30 10.0 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 49.15 311 P **P 08 30 10.1 +0.1**
BRVK IAmb IAmb 08 30 10.3
comp=Z,3.7nm,0.7s
KOLN Koldanda 49.52 275 *eP* **P 08 30 13.0 -0.4**
comp=Z,3.1nm,0.3s
AAK Ala-Archa 49.76 296 LR LR 08 52 26.9
comp=Z,74nm,19.1s,baz=90,slow=38
AAK Ala-Archa 49.76 296 *i* P **P 08 30 14.6 -0.4**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 49.76 296 P **P 08 30 14.4 -0.6**
AAK IAmb IAmb 08 30 43.2
comp=Z,6.3nm,1.4s
PYUN Piuthan 49.82 275 *eP* **P 08 30 15.5 -0.2**
KSH Kashi 49.91 292 P **P 08 30 20.5 +4.3**
EPYK Eagle Plains 50.41 31 P **P 08 30 19.8 +0.3**
EPYK IAmb IAmb 08 30 39.5
comp=Z,11nm,1.1s
INK Inuvik 51.23 28 P **P 08 30 27.2 +1.7**
comp=Z,1.1nm,0.5s,baz=320,slow=4.7,SNR=16
KKAR Karatay Array 52.29 298 P **P 08 30 33.3 -0.6**
KKAR Karatay Array 52.29 298 P **P 08 30 33.3 -0.6**
A36M Sachs Harbour 53.05 23 P **P 08 30 39.1 +0.1**
A36M IAmb IAmb 08 31 03.2
comp=Z,4.8nm,1.1s
SVE Sverdlovsk 53.35 317 *eP* **P 08 30 41.9 +0.5**
SVE pmax pmax
comp=Z,13nm,0.9s
NIL Nilore 54.44 287 P **P 08 30 49.7 -0.1**
NIL pmax pmax
comp=Z,13nm,0.8s
NIL Nilore 54.44 287 P **P 08 30 49.7 -0.1**
ARU Arti 54.57 317 LR LR 08 56 07.6
comp=Z,65nm,19.2s,baz=0.0,slow=38
ARU Arti 54.57 317*d i*P **P 08 30 50.5 +0.2**
ARU *PP **pP** 08 31 01.7 -0.7
ARU S **S** 08 38 28.7 +2.4
ARU SS **SS** 08 42 02.9 -5.9
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 54.57 317 P **P 08 30 49.7 -0.6**
CHGR Chuyangaron 55.08 294 P **P 08 30 54.0 -0.4**
ABKAR Akbulak array 56.56 309 P **P 08 31 03.6 -1.1**
KBL Kabul 57.08 290 P **P 08 31 08.6 -0.3**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 57.08 290 P **P 08 31 08.6 -0.3**
KBL IAmb IAmb 08 31 09.3
comp=Z,8.0nm,0.8s
AKTO Aktyubinsk 57.20 311 LR LR 08 55 36.0
comp=Z,41nm,20.8s,baz=351,slow=36
KIRV Kirov 58.25 322*ce*P **P 08 31 17.0 +0.6**
WB0 Warramunga Arr 60.10 189 P **P 08 31 28.9 -0.7**
WB0 IAmb IAmb 08 31 48.6
comp=Z,3.5nm,0.6s
WR0 Warramunga Arr 60.28 189 P **P 08 31 30.7 -0.1**
WR0 IAmb IAmb 08 31 48.3
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 60.28 189 P **P 08 31 30.9 0.0**
comp=Z,0.7nm,0.4s,baz=5.9,slow=6.9,SNR=15
WRA Warramunga Arr 60.28 189 P **P 08 31 30.3 -0.5**
YKA Yellowknife Ar 60.70 31 P **P 08 31 34.7 +1.4**
comp=Z,0.4nm,0.8s,baz=308,slow=7.1,SNR=7.0
YKA Yellowknife Ar 60.70 31 P **P 08 31 33.2 0.0**
KEV Kevo 60.80 339 P **P 08 31 33.2 -0.6**
KEV pmax pmax
comp=Z,48nm,1.5s
KEV Kevo 60.80 339 P **P 08 31 33.2 -0.6**
ARCES ARCESS Array B 61.34 339 P **P 08 31 37.5 0.0**
comp=Z,4.1nm,1.0s,baz=45,slow=7.2,SNR=9.3
ARCES ARCESS Array B 61.34 339 P **P 08 31 37.6 0.0**
ARCES pmax pmax
comp=Z,23nm,1.4s
ARCES ARCESS Array B 61.34 339 P **P 08 31 37.6 0.0**
KLMR Klimovskoe 61.54 327 *eP* **P 08 31 37.5 -1.4**
KLMR *e* 08 33 53.1
KLMR pmax pmax
comp=Z,31nm,1.5s
KLMR Klimovskoe 61.54 327 *eP* **P 08 31 37.6 -1.4**
KLMR AMP 08 31 39.7
comp=Z,31nm,1.5s
KLMR *e*PP **PP** 08 33 53.2 -1.1
AS31 Alice Springs 64.01 189 P **P 08 31 55.5 -0.3**
ASAR Alice Springs 64.01 189 P **P 08 31 56.1 +0.3**
comp=Z,0.7nm,0.5s,baz=1.2,slow=6.4,SNR=15
ASAR Alice Springs 64.01 189 P **P 08 31 55.9 +0.1**
VRH Novokhopyorsk 65.80 317 *eP* **P 08 32 05.3 -1.9**
VRH pmax pmax
comp=Z,9.0nm,0.6s
OBN Obninsk 66.07 323⇑*eP* **P 08 32 08.9 0.0**
OBN *e* 08 34 35.5
OBN *eS* **S 08 40 51.0 -2.6**
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,51nm,17.0s
FIA1 FINESS Array S 66.41 332 P **P 08 32 11.1 +0.2**
FINES FINESS Array B 66.41 332 P **P 08 32 10.4 -0.5**
comp=Z,3.3nm,0.7s,baz=35,slow=7.0,SNR=7.0
FINES LR LR 09 02 57.0
comp=Z,74nm,18.6s,baz=234,slow=38
FINES FINESS Array B 66.41 332*ce*P **P 08 32 10.8 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 66.41 332 P **P 08 32 10.7 -0.3**
LPSR Galich'ya Gora 66.42 320 *eP* **P 08 32 09.8 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
SUMG Summit 67.54 0 P **P 08 32 19.8 +1.3**
SUMG pmax pmax
comp=Z,9.0nm,1.2s
SUMG Summit 67.54 0 *i* P P 08 32 27.0 +8.5
SUMG Summit 67.54 0 P **P 08 32 19.8 +1.3**
SUMG IAmb IAmb 08 32 39.2
comp=Z,8.9nm,1.2s
KIV Kislovodsk 69.47 311 *eP* **P 08 32 30.9 +0.3**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,34nm,17.0s
KBZ Khabaz 69.47 310 P **P 08 32 30.9 +0.3**
comp=Z,4.4nm,0.8s,baz=64,slow=5.2,SNR=8.0
KBZ Khabaz 69.47 310*ce*P **P 08 32 30.6 +0.1**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
SOC Sochi 71.41 312 *eP* **P 08 32 40.8 -1.5**
SOC *eS* **S 08 41 56.2 -1.0**
SOC *e*SS **SS 08 46 36.3 +4.8**
HFS Hagfors 71.56 336 LR LR 09 05 36.6
comp=Z,23nm,21.6s,baz=344,slow=37
NB2 NORSAR Subarra 71.60 337 P **P 08 32 43.1 -0.1**
comp=Z,0.8nm,0.6s,baz=36,slow=6.2
NOA NORSAR Array B 71.60 337 P **P 08 32 43.1 -0.1**
comp=Z,1.3nm,0.8s,baz=37,slow=6.1,SNR=5.4
NOA LR LR 09 07 02.9
comp=Z,22nm,20.9s,baz=345,slow=38
UOSS Minazif 71.62 287 P **P 08 32 43.7 -0.3**
UOSS IAmb IAmb 08 32 44.3
comp=Z,6.9nm,0.7s
AKASG Malin Array Be 72.31 322 P **P 08 32 46.9 -0.7**
comp=Z,2.1nm,0.5s,baz=44,slow=6.0,SNR=18
AKASG Malin Array Be 72.31 322*ce*P **P 08 32 47.2 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 72.31 322 P **P 08 32 47.1 -0.5**
AKBB Malin Array Si 72.31 322*ce*P **P 08 32 47.9 +0.3**
AKBB Malin Array Si 72.31 322 P **P 08 32 46.9 -0.7**
AKBB IAmb IAmb 08 32 48.1
comp=Z,5.5nm,0.8s
NVAR Mina Array Bea 72.48 54 P **P 08 32 50.8 +1.6**
comp=Z,0.5nm,0.8s,baz=290,slow=6.8,SNR=4.6
NVAR Mina Array Bea 72.48 54 P **P 08 32 49.6 +0.4**
GURO Guroymak-BITLI 73.12 306 P **P 08 32 53.7 +0.8**
GURO IAmb IAmb 08 32 54.5
comp=Z,7.3nm,1.1s
MARD Mardin 74.67 306 P **P 08 33 02.1 +0.2**
PDAR Pinedale Array 74.91 46 P **P 08 33 04.8 +1.5**
comp=Z,0.2nm,0.5s,baz=13,slow=1.8,SNR=5.2
BUR08 Bucovina Ar. S 76.33 322 P **P 08 33 10.7 -0.5**
BURAR Bucovina Array 76.34 322 P **P 08 33 12.0 +0.7**
MLR Muntele Rosu 77.50 320 LR LR 09 08 18.1
comp=Z,56nm,19.6s,baz=321,slow=36
CLL Collm 78.77 330 *eP* **P 08 33 25.0 +0.4**
CLL *e* 08 33 28.0
CLL Collm 78.77 330 *eP* **P 08 33 25.0 +0.4**
CLL *ex* x 08 33 28.0
GERES GERESS Array B 80.46 328 P **P 08 33 34.1 +0.1**
comp=Z,0.4nm,0.5s,baz=22,slow=5.4,SNR=3.5
MMAI Mount Meron Ar 80.80 306 LR LR 09 13 29.8
comp=Z,50nm,19.4s,baz=221,slow=39
VTS Vitosha 80.93 319 P **P 08 33 36.1 -0.6**
VTS pmax pmax
comp=Z,6.0nm,1.0s
VTS Vitosha 80.93 319 P **P 08 33 36.1 -0.6**
VTS IAmb IAmb 08 33 38.4
comp=Z,6.0nm,1.0s
ANMO Albuquerque 81.96 51*ce*P **P 08 33 42.5 +0.2**
ANMO pmax pmax
comp=Z,16nm,3.7s
TXAR Lajitas Array 87.58 53 P **P 08 34 12.4 +1.8**
comp=Z,0.2nm,0.5s,baz=292,slow=3.4,SNR=9.5
TXAR Lajitas Array 87.58 53 P **P 08 34 10.9 +0.3**
MGMO Mountain Grove 88.12 41 P **P 08 34 11.0 -2.0**
SNAA Sanae 143.98 198*c i*PKIKP **PKiKP 08 40 58.4 -1.4**
SNAA pmax pmax
comp=Z,8.0nm,1.7s
LPAZ La Paz 144.36 57 PKP PKPbc 08 40 57.5 -0.2
comp=Z,0.3nm,0.4s,baz=108,slow=2.2,SNR=1.9

IDC 11 08:22:37.5±3.0, 32°78S×178°51W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/31, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=69.8km s-min=44.9km az=124.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.53**	**212**	Pn	Pn	08 24 14.6	-0.2
	1.1nm,0.3s,baz=264,slow=4.5,SNR=10						
URZ				Sn	Sn	08 25 23.5	-6.5
	0.5nm,0.3s,baz=173,slow=16,SNR=1.5						
ASAR	**Alice Springs**	**42.61**	**270**	P	P	08 30 35.0	-0.6
	0.4nm,0.5s,baz=110,slow=7.7,SNR=11						
WRA	**Warramunga Arr**	**43.81**	**275**	P	P	08 30 45.7	+0.3
	0.8nm,0.4s,baz=115,slow=7.6,SNR=20						
FINES	**FINESS Array B**	**147.21**	**338**	PKPbc	PKPbc	08 42 21.1	-0.8
	0.8nm,0.5s,baz=64,slow=3.0,SNR=7.7						

IDC 11 08:30:28.4±3.5, 54°57N×86°21E, h0km, mb1 2.8/2, mb1mx2.7/47, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=26.4km s-min=14.6km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**233**	*i*		08 36 32.8	
	baz=51,slow=336,SNR=9.7						
ZALV	**Zalesovo Beam**	**1.03**	**233**	Pg	Pg	08 30 47.2	-0.9
	0.4nm,0.3s,baz=51,slow=17,SNR=6.0						
ZALV				Lg	Lg	08 31 03.0	
	2.0nm,0.3s,baz=55,slow=27,SNR=14						
KURBB	**Kurchatov Arra**	**6.13**	**233**	Pn	Pn	08 32 00.2	+0.1
	0.0nm,0.3s,baz=49,slow=14,SNR=2.2						
MKAR	**Makanchi Array**	**8.18**	**199**	Pn	Pn	08 32 29.7	+1.4
	0.0nm,0.3s,baz=19,slow=14,SNR=1.9						

*NNC **11** 08:30:56.5±3.2, 54°09N×87°01E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=31.7km s-min=21.7km az=92.0, Suspected Mining explosion.*

IDC 11 08:30:52.9±3.4, 54°24N×87°30E, h0km, mb1 3.0/2, mb1mx2.9/47, mbtmp3.0/2, ML2.8/1, 8C-2D, Error ellipse: s-maj=29.2km s-min=17.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**260**	*i*		08 40 57.5	
	baz=78,slow=333,SNR=7.4						
ZALV	**Zalesovo Beam**	**1.49**	**260**	Pg	Pn	08 31 19.8	-1.2
	1.0nm,0.3s,baz=73,slow=20,SNR=12						
ZALV				Lg	Lg	08 31 40.1	
	1.3nm,0.3s,baz=78,slow=28,SNR=7.2						
KURK	**Kurchatov**	**6.37**	**240**	⇑Pn	Pn	08 32 27.4	-0.5
	2.2nm,0.8s						
KURK				⇑Lg	Lg	08 34 16.7	
	7.3nm,1.1s						
KURBB	**Kurchatov Arra**	**6.47**	**240**	Pn	Pn	08 32 30.2	+0.8
	baz=56,slow=14,SNR=5.7						
KURBB				Lg	Lg	08 34 15.2	
	0.0nm,0.3s,baz=144,slow=21,SNR=2.4						
KURBB	**Kurchatov Arra**	**6.47**	**240**	⇑Pn	Pn	08 32 29.5	+0.1
	2.2nm,0.6s						
KURBB				⇓Lg	Lg	08 34 15.0	
	14nm,1.1s						
MK31	**Makanchi Array**	**8.11**	**205**	⇑Pn	Pn	08 32 54.1	+2.2
	0.4nm,0.6s,baz=28,slow=14,SNR=4.7						
MK31				⇑Sn	Sn	08 34 24.0	-0.1
	0.3nm,0.4s,baz=26,slow=26,SNR=3.1						
MK31				⇑Lg	Lg	08 35 07.8	
	4.3nm,1.1s,baz=34,slow=14,SNR=6.0						
MKAR	**Makanchi Array**	**8.11**	**205**	Pn	Pn	08 32 53.0	+1.2
	0.1nm,0.3s,baz=28,slow=12,SNR=3.8						
MKAR				Sn	Sn	08 34 23.4	-0.7
	0.1nm,0.3s,baz=26,slow=27,SNR=5.2						
MKAR				Lg	Lg	08 35 05.6	
	0.0nm,0.3s,baz=27,slow=30,SNR=3.0						
MAKZ	**Makanchi**	**8.17**	**207**	⇑Pn	Pn	08 32 54.3	+1.6
	1.2nm,0.6s						
MAKZ				⇓Sn	Sn	08 34 24.0	-1.8
	1.3nm,0.7s						
MAKZ				⇑Lg	Lg	08 35 10.1	
	3.4nm,0.9s						

*NEIC **11** 08:31:32.1±0.5, 6°37S±0°08×154°68E±0°08, h10km±1km, mb4.2/9, Error ellipse: s-maj=17.5km s-min=7.9km az=41.0*

*IDC **11** 08:31:45.6±4.2, 6°49S×154°46E, h126km±36km, mb3.5/8, mb1 3.7/10, mb1mx3.5/47, mbtmp3.9/10, MS3.0/1, Ms1 3.0/1, ms1mx2.4/33, Error ellipse: s-maj=24.4km s-min=24.1km az=95.0*

ISC 11 08:31:36.0±0.7, 6°28S±0°08×154°67E±0°09, h48km, n25, σ1°36/27, mb3.8/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.25**	**310**	Pn	**Pn**	**08 32 23.8**	**-0.7**
PMG	**Port Moresby**	**8.06**	**247**	P	Pn	08 33 35.5	+4.9
	1.7nm,0.3s,baz=214,slow=13,SNR=1.5						
PMG				S	**Sn**	**08 35 03.6**	**+3.1**
	3.3nm,0.3s,baz=163,slow=23,SNR=6.3						
PMG				LR	LR	08 36 35.8	
	comp=Z,106nm,19.1s,baz=88,slow=37						
PMG	**Port Moresby**	**8.06**	**247**		**Pn**	**08 33 29.1**	**-1.5**
PATS	**Pohnpei**	**13.53**	**16**	Pn	**Pn**	**08 34 44.3**	**-1.1**
COEN	**Coen**	**13.64**	**235**	Pn	**Pn**	**08 34 46.8**	**-0.2**
DZM	**Mont Dzumac**	**19.39**	**145**	P	**Pn**	**08 36 02.5**	**+2.8**
	0.6nm,0.3s,baz=184,slow=21,SNR=5.9						
DZM	**Mont Dzumac**	**19.39**	**145**	P	**P**	**08 35 57.2**	**-0.9**
DZM				IAmb	IAmb	08 36 27.6	
	comp=Z,28nm,1.4s						
FAKI	**Fak Fak**	**22.59**	**277**	P	**P**	**08 36 32.5**	**-0.3**
WR0	**Warramunga Arr**	**23.82**	**233**	P	**P**	**08 36 44.1**	**-0.7**
WR0				IAmb	IAmb	08 36 46.2	
	comp=Z,9.3nm,0.8s						
WB2	**Warramunga Arr**	**23.96**	**234**	P	**P**	**08 36 45.6**	**-0.5**
WB2				IAmb	IAmb	08 36 47.0	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**23.97**	**234**	P	**P**	**08 36 46.4**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=56,slow=9.6,SNR=36						
WRA				PcP	**PcP**	**08 40 26.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=55,slow=2.4,SNR=2.4						
WRA	**Warramunga Arr**	**23.97**	**234**	P	**P**	**08 36 45.4**	**-0.8**
AS31	**Alice Springs**	**26.41**	**227**	P	**P**	**08 37 07.8**	**-0.6**
AS31				IAmb	IAmb	08 37 08.3	
	comp=Z,0.8nm,0.4s						
ASAR	**Alice Springs**	**26.41**	**227**	P	**P**	**08 37 07.8**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=56,slow=9.4,SNR=32						
ASAR				PcP	**PcP**	**08 40 31.8**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=57,slow=2.7,SNR=4.4						
STKA	**Stephens Creek**	**28.25**	**204**	P	**P**	**08 37 23.4**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=30,slow=8.6,SNR=4.2						
STKA	**Stephens Creek**	**28.25**	**204**	P	**P**	**08 37 23.6**	**-1.1**
MK31	**Makanchi Array**	**82.66**	**319**	P	**P**	**08 43 55.8**	**+1.3**
MK31				IAmb	IAmb	08 44 11.0	
	comp=Z,2.6nm,1.3s						
MKAR	**Makanchi Array**	**82.66**	**319**	P	**P**	**08 43 56.6**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=113,slow=5.5,SNR=6.9						
MKAR	**Makanchi Array**	**82.66**	**319**	P	**P**	**08 43 55.9**	**+1.4**
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**08 43 56.6**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=238,slow=4.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**83.41**	**326**	P	**P**	**08 43 58.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=130,slow=4.3,SNR=1.8						
QSPA	**South Pole Qui**	**83.69**	**180**	P	**P**	**08 43 58.9**	**-0.7**
KURBB	**Kurchatov Arra**	**86.11**	**322**	P	**P**	**08 44 12.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=101,slow=4.9,SNR=3.4						
NVAR	**Mina Array Bea**	**91.53**	**52**	P	**P**	**08 44 39.2**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=260,slow=5.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**152.52**	**286**	PKPbc	**PKPbc**	**08 51 27.0**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=67,slow=2.1,SNR=3.8						

IDC 11 08:39:44.1±5.1, 47°68N×108°56E, h0km, mb1 3.4/1, mb1mx2.9/62, mbtmp3.4/1, ML3.2/1, Error ellipse: s-maj=35.9km s-min=22.5km az=96.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**1.46**	**276**	*i*		08 46 50.0	
	baz=94,slow=351,SNR=4.3						
SONM	**Songino Array**	**1.47**	**277**	Pg	Pn	08 40 10.9	-1.0
	32nm,0.3s,baz=96,slow=18,SNR=108						
SONM				Lg	Lg	08 40 31.4	
	18nm,0.3s,baz=95,slow=24,SNR=8.7						
MKAR	**Makanchi Array**	**17.84**	**277**	P	Pn	08 43 53.6	0.0
	0.1nm,0.3s,baz=74,slow=13,SNR=3.3						

IDC 11 08:45:37.4±2.6, 54°32N×86°17E, h0km, mb1 3.0/2, mb1mx2.9/54, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=20.8km s-min=12.5km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.88**	**245**	*i*		08 50 22.8	
	baz=64,slow=334,SNR=8.1						
ZALV	**Zalesovo Beam**	**0.88**	**245**	Pg	Pg	08 45 52.9	-1.4
	0.9nm,0.3s,baz=69,slow=19,SNR=13						
ZALV				Lg	Lg	08 46 07.3	
	3.5nm,0.3s,baz=64,slow=28,SNR=8.9						
KURBB	**Kurchatov Arra**	**5.96**	**235**	Pn	Pn	08 47 07.7	+0.9
	0.1nm,0.3s,baz=50,slow=13,SNR=10						
MKAR	**Makanchi Array**	**7.93**	**200**	Pn	Pn	08 47 34.8	+0.9
	0.2nm,0.3s,baz=22,slow=16,SNR=11						

IDC 11 08:45:58.8±2.9, 54°14N×86°33E, h0km, mb1 2.8/2, mb1mx2.8/53, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=22.0km s-min=13.0km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**258**	*i*		08 51 29.3	
	baz=76,slow=334,SNR=7.5						
ZALV	**Zalesovo Beam**	**0.91**	**258**	Pg	Pg	08 46 15.7	-0.6
	2.2nm,0.3s,baz=77,slow=16,SNR=7.2						
ZALV				Lg	Lg	08 46 29.8	
	2.7nm,0.3s,baz=80,slow=31,SNR=6.7						
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn	Pn	08 47 27.5	-0.4
	0.0nm,0.3s,baz=54,slow=13,SNR=4.6						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	08 47 55.6	+2.2
	0.1nm,0.3s,baz=26,slow=13,SNR=3.0						

*TUL **11** 08:48:08.2±1.6, 35°92N±0°01×97°53W±0°02, h6km±6km, ML2.9, mb_Lg2.7/36(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=97.0*

NEIC 11 08:48:08.1±0.8, 35°93N±0°01×97°54W±0°02, h8km±7km, Error ellipse: s-maj=2.4km s-min=1.7km az=96.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.15**	**152**		Pg	08 48 11.2	-0.1
OK029				Sg	Sg	08 48 13.4	0.0
BCOK	**Bluff Creek, N**	**0.28**	**192**		Pg	08 48 13.6	0.0
BCOK				Sg	Sg	08 48 17.6	+0.3
OK025	**Westminster Rd**	**0.38**	**155**		Pg	08 48 15.7	+0.1
OK025				Sg	Sg	08 48 21.1	+0.5
OKCFA	**Oklahoma City**	**0.52**	**172**		Pg	08 48 17.8	-0.3
OKCFA				Sg	Sg	08 48 25.2	+0.3
OKCSW	**OKLAHOMA CITY**	**0.53**	**171**		Pg	08 48 18.3	-0.1
OKCSW				Sg	Sg	08 48 25.6	+0.4

OK031	**S. Brethren Rd**	**0.57**	**87**	Pg	Pg	08 48 19.1	-0.1
OK030	**Cody Creek RV**	**0.61**	**90**	Pg	Pg	08 48 19.9	0.0
OK030				Sg	Sg	08 48 28.2	+0.2
OK034	**N. Norfolk Rd.**	**0.68**	**83**	Pg	Pg	08 48 21.0	-0.2
FNO	**Franklin**	**0.68**	**170**	Pg	Pg	08 48 20.9	-0.3
FNO				Sg	Sg	08 48 30.3	+0.2
QUOK	**Quay**	**0.72**	**70**	Pg	Pg	08 48 21.8	-0.1
QUOK				Sg	Sg	08 48 31.5	+0.2
BLOK	**Blackwell**	**0.87**	**17**	Pg	Pg	08 48 24.7	-0.2
BLOK				Sg	Sg	08 48 36.4	+0.2
W35A	**Tecumseh**	**0.94**	**145**	Pg	Pg	08 48 25.3	-0.9
W35A				Sg	Sg	08 48 38.1	-0.4
GC02	**Grant County #**	**0.96**	**344**	Pg	Pg	08 48 26.5	0.0
OK032	**Salt Plains WL**	**1.03**	**328**	Pg	Pg	08 48 27.6	-0.3
OK032				Sg	Sg	08 48 41.6	+0.3
KAN14	**Manchester OK**	**1.08**	**342**	Pg	Pg	08 48 28.6	-0.3
KAN14				Sg	Sg	08 48 43.2	+0.2
KAN13	**South Haven SW**	**1.08**	**3**	Pg	Pg	08 48 28.9	0.0
KAN13				Sg	Sb	08 48 43.3	-0.2
KAN17	**Caldwell West**	**1.13**	**351**	Pg	Pg	08 48 29.4	-0.4
KAN05	**Bluff City Nor**	**1.21**	**347**	Pg	Pb	08 48 30.9	-0.4
KAN05				Sg	Sg	08 48 47.0	-0.1
OK035	**E0210 Rd and N**	**1.23**	**310**	Pg	Pb	08 48 31.1	-0.4
KAN01	**Argonia South**	**1.24**	**352**	Pg	Pn	08 48 31.3	-0.4
U32A	**Winter Ranch,**	**1.27**	**291**	Pn	Pn	08 48 31.8	-0.4
KAN10	**Anthony SW Sta**	**1.27**	**340**		Pn	08 48 32.1	-0.2
T35A	**Sooner Cattle**	**1.29**	**40**		Pn	08 48 32.1	-0.4
KAN08	**Anthony NE Sta**	**1.34**	**345**		Pn	08 48 33.1	-0.1
KAN06	**Argonia West S**	**1.34**	**349**	Pn	Pn	08 48 33.0	-0.2
KAN16	**Harper SW Stat**	**1.36**	**342**		Pn	08 48 33.5	0.0
KAN12	**Harper NE Stat**	**1.42**	**345**	Pn	Pn	08 48 34.5	+0.3
TUL1	**Leonard**	**1.42**	**90**		Pn	08 48 33.4	-0.9
WMOK	**Wichita Mounta**	**1.56**	**221**		Pn	08 48 36.4	+0.1
LOOK	**Love County**	**1.95**	**171**	IAmb_Lg		08 49 11.5	
	comp=Z,31nm,0.8s						
Z35A	**Perchaven, San**	**2.60**	**175**	Pn	Pn	08 48 51.5	+1.0
HHAR	**Hobbs**	**2.94**	**82**	IAmb_Lg		08 49 45.7	
	comp=Z,17nm,0.9s						
W39A	**Magazine**	**3.15**	**102**		Pn	08 48 58.7	+0.7
KSU1	**Kansas State U**	**3.25**	**13**	IAmb_Lg		08 49 55.9	
	comp=Z,19nm,0.9s						
CBKS	**Cedar Bluff**	**3.37**	**329**	IAmb_Lg		08 49 56.5	
	comp=Z,19nm,1.0s						
Z38A	**Mt. Pleasant**	**3.39**	**141**		Pn	08 49 01.8	+0.4
MIAR	**Mount Ida**	**3.52**	**112**		Pn	08 49 04.3	+1.1
MIAR				IAmb_Lg		08 50 04.7	
	comp=Z,13nm,0.8s						
AMTX	**Amarillo**	**3.54**	**254**	Pn	Pn	08 49 04.4	+0.9
AMTX				IAmb_Lg		08 49 59.3	
	comp=Z,19nm,0.7s						
S39A	**Bolivar**	**3.81**	**61**	Pn	Pn	08 49 07.6	+0.4
U40A	**Yellville**	**3.82**	**82**	IAmb_Lg		08 50 18.6	
	comp=Z,16nm,0.9s						
X40A	**Basin Creek Fa**	**4.11**	**109**		Pn	08 49 12.1	+0.9
X40A				IAmb_Lg		08 50 18.0	
	comp=Z,19nm,0.7s						
WHAR	**Wooly Hollow**	**4.33**	**97**	Pn	Pn	08 49 12.7	-1.5
W41B	**Gary Mavity, V**	**4.38**	**98**	Pn	Pn	08 49 14.9	-0.1
W41B				IAmb_Lg		08 50 27.5	
	comp=Z,15nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.40**	**89**	IAmb_Lg		08 50 32.3	
	comp=Z,16nm,0.7s						
MGMO	**Mountain Grove**	**4.42**	**72**	IAmb_Lg		08 50 37.0	
	comp=Z,18nm,0.8s						
MSTX	**Muleshoe**	**4.72**	**247**		Pn	08 49 19.8	0.0
MSTX				IAmb_Lg		08 50 47.9	
	comp=Z,13nm,1.1s						
N33A	**J Bar K, Exete**	**4.80**	**1**	IAmb_Lg		08 50 52.8	
	comp=Z,20nm,0.8s						
R40A	**Maddies Statio**	**4.83**	**59**	Pn	Pn	08 49 21.7	+0.6
KSCO	**Kaye Shedlock'**	**5.08**	**309**	IAmb_Lg		08 50 58.4	
	comp=Z,10.0nm,0.8s						
435B	**Jarrell**	**5.13**	**180**	IAmb_Lg		08 50 57.8	
	comp=Z,12nm,0.7s						
T42A	**Van Buren**	**5.31**	**76**	IAmb_Lg		08 51 03.5	
	comp=Z,15nm,0.7s						
BGNE	**Belgrade**	**5.49**	**355**	IAmb_Lg		08 51 05.8	
	comp=Z,17nm,0.7s						
T25A	**Trinidad**	**5.66**	**284**	Pn	Pn	08 49 34.2	+1.4
N38A	**Joes South For**	**5.92**	**34**	IAmb_Lg		08 51 16.4	
	comp=Z,14nm,1.1s						

IDC 11 08:56:23.2±3.1, 54°.16N×87°.18E, h0km, mb1 2.8/2, mb1mx2.7/53, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.2km s-min=16.9km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**262**	*i*		09 03 46.3	
	baz=79,slow=332,SNR=6.6						
ZALV	**Zalesovo Beam**	**1.41**	**262**	Pg	Pn	08 56 48.2	-1.9
	0.4nm,0.3s,baz=80,slow=15,SNR=12						
ZALV				Lg	Lg	08 57 09.6	
	0.8nm,0.3s,baz=78,slow=29,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	08 57 58.9	+0.6
	0.1nm,0.3s,baz=47,slow=14,SNR=2.7						
KURBB				Lg	Lg	08 59 43.0	
	0.0nm,0.3s,baz=61,slow=33,SNR=2.0						
MKAR	**Makanchi Array**	**8.01**	**205**	Pn	Pn	08 58 22.9	+2.1
	0.1nm,0.3s,baz=25,slow=14,SNR=2.3						
MKAR				Sn	Sn	08 59 49.7	-2.3
	0.0nm,0.3s,baz=5.5,slow=25,SNR=2.1						
MKAR				Lg	Lg	09 00 39.8	
	0.0nm,0.3s,baz=33,slow=30,SNR=3.6						

*NEIC **11** 08:58:29.7±1.4, 3°.68N±0°.07×95°.41E±0°.08, h10km±1km, mb4.2/13, Error ellipse: s-maj=14.2km s-min=10.2km az=234.0*
*DJA **11** 08:58:33.8±1.9, 4°.N±4°.×9°.6E±°, h11km±18km, M4.2/10, mb4.3/3, mB4.9/1, MLv4.1/10, Mw(mB)4.2/1*
*IDC **11** 08:58:38.1±6.0, 3°.90N×95°.80E, h76km±48km, mb3.5/8, mb1 3.7/10, mb1mx3.3/48, mbtmp3.8/10, ML4.7/1, MS3.0/5, Ms1 3.0/5, ms1mx2.7/60, Error ellipse: s-maj=68.9km s-min=16.5km az=56.0*
ISC 11 08:58:32.8±0.6, 3°.68N±0°.05×95°.47E±0°.07, h35km, n49, σ1§00/46, mb4.0/15, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.53**	**146**	P	**Pn**	**08 58 58.7**	**+1.1**
SNSI				S	**Sn**	**08 59 17.1**	**+0.8**
TPTI		**1.76**	**104**	P	**Pn**	**08 59 00.2**	**-0.6**
TPTI				S	**Sn**	**08 59 20.8**	**-1.2**
LHMI	**Lhok Sumawe**	**2.13**	**44**	P	**Pn**	**08 59 08.2**	**+2.3**
LHMI	**Lhok Sumawe**	**2.13**	**44**	Pn	**Pn**	**08 59 06.2**	**+0.3**
KCSI	**Kotacane, Aceh**	**2.30**	**94**	P	**Pn**	**08 59 09.6**	**+1.3**
TSI	**Tuntungan**	**3.09**	**93**	P	**Pn**	**08 59 21.0**	**+1.8**
GSI	**Gunungsitoli**	**3.16**	**138**	P	**Pn**	**08 59 20.9**	**+0.7**
GSI	**Gunungsitoli**	**3.16**	**138**	Pn	**Pn**	**08 59 20.6**	**+0.5**
PSI	**Prapat**	**3.56**	**104**	P	**Pn**	**08 59 27.5**	**+1.8**
	1.5nm,0.3s,baz=313,slow=7.5,SNR=6.1						
PSI				S	**Sn**	**09 00 07.6**	**+1.0**
	4.1nm,0.3s,baz=261,slow=15,SNR=3.9						
PSI				LR	LR	09 00 44.6	
	comp=Z,48nm,21.2s,baz=202,slow=38						
RPSI	**Rantau Prapat**	**3.59**	**106**		**Pn**	**08 59 27.5**	**+1.5**
PBSI	**Pulau Batu**	**4.66**	**143**	P	**Pn**	**08 59 41.8**	**+1.1**
MNSI	**Mandailing Nat**	**5.01**	**125**	P	**Pn**	**08 59 44.0**	**-1.5**
KULM	**Kulim**	**5.41**	**73**		**Pn**	**08 59 50.8**	**-0.2**
IPM	**Ipoh**	**5.60**	**82**		**Pn**	**08 59 53.9**	**+0.2**
SISI	**Saibi**	**6.15**	**144**	P	**Pn**	**09 00 01.6**	**+0.3**
SRIT	**Nakonsritamara**	**6.38**	**40**	Pn	**Pn**	**09 00 03.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**15.07**	**13**	P	**Pn**	**09 02 04.0**	**+0.7**
	1.1nm,0.3s,baz=209,slow=9.2,SNR=7.6						
CMAR				LR	LR	09 07 57.4	
	comp=Z,59nm,19.5s,baz=190,slow=38						
PALK	**Pallekele**	**15.12**	**284**	LR	LR	09 07 25.0	
	comp=Z,58nm,22.0s,baz=211,slow=34						
MYLDM	**Lahad Datu**	**23.01**	**85**	P		**09 03 34.5**	**-0.4**
MYLDM				IAmb	IAmb	09 03 43.4	
	comp=Z,10.0nm,1.1s						
H08S2	**Diego Garcia H**	**25.54**	**244**	T	T	09 30 21.7	
	baz=65,slow=76,SNR=9.4						
H08S3	**Diego Garcia H**	**25.54**	**244**	T	T	09 30 22.4	
	baz=65,slow=76,SNR=51						
H08S1	**Diego Garcia H**	**25.55**	**244**	T	T	09 30 28.0	
	baz=65,slow=76,SNR=7.9						
KAPI	**Kappang**	**25.75**	**109**	LR	LR	09 14 28.0	
	comp=Z,84nm,18.9s,baz=250,slow=37						

BTK	**Batken**	**42.52**	**332**	P	**P**	**09 06 26.0**	**+0.9**
BTK				IAmb	IAmb	09 06 42.6	
	comp=Z,4.8nm,0.7s						
MK31	**Makanchi Array**	**44.44**	**347**	P	**P**	**09 06 40.0**	**-0.4**
MK31				IAmb	IAmb	09 06 49.3	
	comp=Z,4.4nm,1.2s						
MK31	**Makanchi Array**	**44.44**	**347**	⇑Sn	**P**	**09 06 39.8**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=161,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**44.44**	**347**	P	**P**	**09 06 39.8**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=164,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**44.44**	**347**	P	**P**	**09 06 39.7**	**-0.7**
WB0	**Warramunga Arr**	**44.78**	**123**	P	**P**	**09 06 43.0**	**-0.5**
WB0				IAmb	IAmb	09 07 06.8	
	comp=Z,4.0nm,1.1s						
WRA	**Warramunga Arr**	**44.82**	**123**	P	**P**	**09 06 43.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=302,slow=9.0,SNR=11						
WRA	**Warramunga Arr**	**44.82**	**123**	P	**P**	**09 06 43.6**	**-0.2**
KSRS	**Korea Array**	**44.86**	**37**	LR	LR	09 27 42.8	
	comp=Z,20nm,18.7s,baz=210,slow=39						
SONM	**Songino Array**	**44.98**	**10**	P	**P**	**09 06 43.6**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=198,slow=8.6,SNR=4.9						
SONM	**Songino Array**	**44.98**	**10**	P	**P**	**09 06 43.5**	**-1.3**
KKAR	**Karatay Array**	**45.08**	**334**	P	**P**	**09 06 44.5**	**-1.1**
ASAR	**Alice Springs**	**46.27**	**128**	P	**P**	**09 06 54.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=299,slow=7.4,SNR=7.9						
ASAR	**Alice Springs**	**46.27**	**128**	P	**P**	**09 06 54.9**	**-0.4**
FORT	**Forrest**	**46.28**	**140**	P	**P**	**09 06 55.6**	**+0.5**
ZAA0	**Zalesovo Array**	**50.86**	**352**	P	**P**	**09 07 29.5**	**-0.5**
ZAA0				IAmb	IAmb	09 07 30.2	
	comp=Z,2.5nm,1.1s						
ZALV	**Zalesovo Beam**	**50.86**	**352**	P	**P**	**09 07 29.6**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=160,slow=7.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**50.86**	**352**	P	**P**	**09 07 29.5**	**-0.6**
BVAR	**Borovoye Array**	**53.36**	**341**	P	**P**	**09 07 48.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=164,slow=5.7,SNR=5.2						
BRVK	**Borovoye**	**53.42**	**341**	P	**P**	**09 07 49.1**	**0.0**
BRVK				IAmb	IAmb	09 07 50.0	
	comp=Z,2.8nm,1.2s						
ABKAR	**Abkulak array**	**54.53**	**332**	P	**P**	**09 07 58.2**	**+1.0**
ABKAR	**Abkulak array**	**54.53**	**332**	P	**P**	**09 07 58.5**	**+1.2**
ABKAR				IAmb	IAmb	09 08 11.9	
	comp=Z,1.4nm,0.8s						
KMBO	**Kilima Mbogo**	**58.38**	**266**	P	**P**	**09 08 24.1**	**-1.6**
KMBO				IAmb	IAmb	09 08 50.9	
	comp=Z,5.3nm,1.4s						
ARCES	**ARCESS Array B**	**79.63**	**340**	P	**P**	**09 10 37.0**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=100,slow=9.2,SNR=1.4						
ARCES	**ARCESS Array B**	**79.63**	**340**	P	**P**	**09 10 36.9**	**+0.7**
GERES	**GERESS Array B**	**81.82**	**319**	P	**P**	**09 10 50.0**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=116,slow=6.7,SNR=4.0						

*NNC **11** 09:03:20.1±2.4, 53°.47N×87°.84E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=20.8km s-min=8.9km az=59.0, Suspected Mining explosion.*
IDC 11 09:03:22.3±2.8, 53°.51N×87°.62E, h0km, mb1 2.9/2, mb1mx2.9/52, mbtmp2.9/2, ML2.7/2, 7C-4D, Error ellipse: s-maj=25.6km s-min=14.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.72**	**286**	⇑Pn	Pn	09 03 53.4	-0.1
	0.3nm,0.3s						
ZAA0				⇓Sn	Sg	09 04 18.3	+0.7
	4.1nm,0.7s						
ZALV	**Zalesovo Beam**	**1.72**	**286**	Pg	Pn	09 03 52.8	-0.6
	1.3nm,0.3s,baz=99,slow=16,SNR=19						
ZALV				Lg	Lg	09 04 17.1	
	3.2nm,0.3s,baz=103,slow=29,SNR=21						
I46RU	**ZALESOVO INFRA**	**1.72**	**286**	*i*		09 16 22.2	
	baz=104,slow=331,SNR=4.4						
KURK	**Kurchatov**	**6.21**	**247**	⇑Pn	Pn	09 04 55.5	+0.4
	1.4nm,0.8s						
KURK				⇑Lg	Lg	09 06 38.7	
	2.6nm,0.6s						
KURBB	**Kurchatov Arra**	**6.31**	**246**	Pn	Pn	09 04 57.3	+0.8
	0.1nm,0.3s,baz=59,slow=13,SNR=3.6						
KURBB				Lg	Lg	09 06 40.4	
	0.1nm,0.3s,baz=63,slow=32,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.31**	**246**	⇓Pn	Pn	09 04 54.4	-2.1
	2.4nm,0.3s						
KURBB				⇓Lg	Lg	09 06 39.7	
	11nm,0.8s						
MK31	**Makanchi Array**	**7.55**	**209**	⇑Pn	Pn	09 05 13.4	-0.1
	0.6nm,0.7s,baz=29,slow=13,SNR=16						
MK31				⇑Lg	Lg	09 07 22.6	
	1.0nm,0.6s,baz=27,slow=31						
MKAR	**Makanchi Array**	**7.55**	**209**	Pn	Pn	09 05 14.8	+1.4
	0.3nm,0.3s,baz=29,slow=13,SNR=17						
MKAR				Lg	Lg	09 07 21.2	
	0.1nm,0.3s,baz=27,slow=33,SNR=6.2						
MAKZ	**Makanchi**	**7.63**	**211**	⇓Pn	Pn	09 05 10.1	-4.5
	1.1nm,0.4s						
MAKZ				⇑Sn	Sn	09 06 42.3	+0.6
	1.1nm,0.7s						
MAKZ				⇑Lg	Lg	09 07 23.2	
	4.2nm,1.2s						

*TUL **11** 09:04:05.9±1.4, 36°.48N±0°.03×98°.73W±0°.03, h5km±7km, ML3.0, mb_Lg2.7/30(NEIC), Error ellipse: s-maj=4.2km s-min=2.7km az=218.0*
NEIC 11 09:04:06.2±1.3, 36°.46N±0°.01×98°.71W±0°.03, h5km±2km, Error ellipse: s-maj=4.2km s-min=3.0km az=247.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.24**	**0**	Pg	Pg	09 04 11.1	+0.1
OK035				Sg	Sg	09 04 14.7	+0.5
U32A	**Winter Ranch,**	**0.25**	**250**	Pg	Pg	09 04 10.9	-0.2
U32A				Sg	Sg	09 04 14.6	+0.2
OK032	**Salt Plains WL**	**0.53**	**50**	Pg	Pg	09 04 16.3	0.0
KAN14	**Manchester OK**	**0.78**	**50**		Pg	09 04 20.9	-0.3
GC02	**Grant County #**	**0.79**	**60**	Pg	Pg	09 04 21.0	-0.3
KAN10	**Anthony SW Sta**	**0.82**	**37**	Pg	Pg	09 04 21.6	-0.4
KAN16	**Harper SW Stat**	**0.92**	**34**	Pg	Pg	09 04 23.1	-0.8
KAN05	**Bluff City Nor**	**0.93**	**46**	Pg	Pg	09 04 23.9	-0.1
KAN17	**Caldwell West**	**0.95**	**52**		Pg	09 04 23.7	-0.8
KAN08	**Anthony NE Sta**	**0.96**	**38**	Pg	Pg	09 04 24.0	-0.8
KAN12	**Harper NE Stat**	**1.01**	**34**	Pg	Pg	09 04 25.1	-0.4
KAN01	**Argonia South**	**1.03**	**48**		Pg	09 04 25.5	-0.4
KAN06	**Argonia West S**	**1.04**	**41**	Pg	Pg	09 04 25.7	-0.5
KAN13	**South Haven SW**	**1.13**	**61**	Pg	Pg	09 04 27.2	-0.7
BCOK	**Bluff Creek, N**	**1.20**	**132**		Pg	09 04 28.8	-0.4
OK029	**Liberty Lake**	**1.22**	**123**		Pg	09 04 29.0	-0.5
BLOK	**Blackwell**	**1.24**	**76**	Pg	Pg	09 04 29.0	-1.0
OK025	**Westminster Rd**	**1.42**	**128**	Pn	Pn	09 04 32.4	-0.3
OKCFA	**Oklahoma City**	**1.46**	**135**	Pn	Pn	09 04 32.9	-0.3
OKCSW	**OKLAHOMA CITY**	**1.48**	**135**	Pn	Pn	09 04 32.2	-1.3
OK031	**S. Brethren Rd**	**1.60**	**108**		Pn	09 04 34.7	-0.5
QUOK	**Quay**	**1.64**	**100**	Pn	Pn	09 04 35.8	0.0
OK030	**Cody Creek RV**	**1.65**	**108**		Pn	09 04 35.8	0.0
OK034	**N. Norfolk Rd.**	**1.68**	**105**		Pn	09 04 36.2	0.0
WMOK	**Wichita Mounta**	**1.72**	**182**		Pn	09 04 36.3	-0.5
T35A	**Sooner Cattle**	**1.82**	**75**	Pn	Pn	09 04 38.9	+0.7
R32A	**Long Quarter,**	**1.96**	**360**	Pn	Pn	09 04 40.6	+0.5
W35A	**Tecumseh**	**1.98**	**131**		Pn	09 04 40.7	+0.3
X34A	**Smith Ranch, M**	**1.99**	**159**	Pn	Pn	09 04 41.6	+1.1
TUL1	**Leonard**	**2.42**	**102**		Pn	09 04 47.6	+1.1
CBKS	**Cedar Bluff**	**2.48**	**341**	Pn	Pn	09 04 48.4	+1.0
LOOK	**Love County**	**2.77**	**153**	Pn	Pn	09 04 51.3	+0.1
LOOK				IAmb_Lg		09 05 36.1	
	comp=Z,26nm,1.0s						
AMTX	**Amarillo**	**2.89**	**238**	Pn	Pn	09 04 54.1	+1.2
AMTX				IAmb_Lg		09 05 38.0	
	comp=Z,40nm,0.9s						
KSU1	**Kansas State U**	**3.11**	**32**	Pn	Pn	09 04 56.2	+0.2
KSU1				IAmb_Lg		09 05 52.1	
	comp=Z,16nm,0.8s						
X37A	**Clayton**	**3.30**	**124**	Pn	Pn	09 05 00.4	+1.8
Z35A	**Perchaven, San**	**3.35**	**159**	Pn	Pn	09 04 59.7	+0.5
U38A	**Gravette**	**3.49**	**89**	Pn	Pn	09 05 01.5	+0.3
MSTX	**Muleshoe**	**4.15**	**234**	IAmb_Lg		09 06 25.3	
	comp=Z,20nm,1.0s						
W39A	**Magazine**	**4.20**	**106**	Pn	Pn	09 05 11.0	+0.1
Z38A	**Mt. Pleasant**	**4.43**	**135**	IAmb_Lg		09 06 28.9	
	comp=Z,18nm,0.8s						
MIAR	**Mount Ida**	**4.60**	**113**	Pn	Pn	09 05 17.0	+0.6
MIAR				IAmb_Lg		09 06 44.4	
	comp=Z,12nm,0.7s						
T25A	**Trinidad**	**4.62**	**280**	Pn	Pn	09 05 16.7	-0.2
T25A				IAmb_Lg		09 06 32.8	
	comp=Z,16nm,0.8s						
W41B	**Gary Mavity, V**	**5.41**	**102**	IAmb_Lg		09 07 04.5	
	comp=Z,19nm,1.2s						
Q24A	**Divide**	**5.68**	**298**	IAmb_Lg		09 07 12.3	
	comp=Z,9.3nm,0.8s						
JCT	**Junction City**	**6.04**	**189**	IAmb_Lg		09 07 26.2	
	comp=Z,9.6nm,0.8s						
CCM	**Cathedral Cave**	**6.16**	**73**	IAmb_Lg		09 07 23.5	
	comp=Z,11nm,0.8s						
ISCO	**Idaho Springs**	**6.38**	**304**	IAmb_Lg		09 07 41.1	
	comp=Z,5.8nm,0.8s						
SCIA	**State Center**	**6.91**	**36**	IAmb_Lg		09 07 50.7	
	comp=Z,13nm,0.7s						
PHWY	**Pilot Hill**	**7.14**	**315**	IAmb_Lg		09 07 54.6	
	comp=Z,11nm,1.2s						
S44A	**Carbondale**	**7.66**	**78**	IAmb_Lg		09 08 09.9	
	comp=Z,11nm,1.0s						
K22A	**Casper**	**8.63**	**318**	IAmb_Lg		09 08 45.2	
	comp=Z,5.5nm,0.7s						

*IDC **11** 09:23:05.4±2.0, 24°.33S×179°.86E, h504km±20km, mb2.8/4, mb1 3.2/7, mb1mx3.1/21, mbtmp4.0/7, Error ellipse: s-maj=32.5km s-min=21.2km az=142.0*
ISC 11 09:23:06.2±1.1, 24°.3S±0°.1×179°.8E±0°.2, h517km, n8, σ1§15/10, mb3.4/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.78**	**346**	P	**P**	**09 24 50.3**	**-0.8**
	4.2nm,0.3s,baz=140,slow=7.9,SNR=21						
DZM	**Mont Dzumac**	**12.50**	**278**	P	**P**	**09 25 49.6**	**-0.6**
	0.2nm,0.3s,baz=112,slow=21,SNR=1.6						
URZ	**Urewera**	**14.06**	**189**	P	**P**	**09 26 06.0**	**-0.2**
	0.7nm,0.3s,baz=63,slow=15,SNR=2.2						
URZ				S	**S**	**09 28 33.8**	**-0.8**
	1.0nm,0.3s,baz=89,slow=22,SNR=9.4						
STKA	**Stephens Creek**	**34.40**	**249**	P	**P**	**09 29 10.6**	**+0.5**
	0.9nm,0.5s,baz=91,slow=7.1,SNR=3.4						
ASAR	**Alice Springs**	**41.80**	**261**	P	**P**	**09 30 10.8**	**+0.3**
	0.2nm,0.3s,baz=96,slow=6.7,SNR=9.6						
WRA	**Warramunga Arr**	**42.21**	**267**	P	**P**	**09 30 13.9**	**+0.1**
	0.3nm,0.4s,baz=97,slow=8.2,SNR=9.2						
WRA				ScP	**ScP**	**09 35 00.1**	**+2.7**
	0.3nm,0.7s,baz=101,slow=3.8,SNR=2.8						
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**09 35 14.6**	**+0.1**
	0.6nm,0.7s,baz=206,slow=6.8,SNR=9.0						
AKASG	**Malin Array Be**	**145.25**	**327**	PKPbc	**PKPdf**	**09 41 44.6**	**+0.1**
	0.2nm,0.3s,baz=51,slow=3.7,SNR=2.0						

NNC 11 09:33:04.5±7.2, 36°.96N×71°.38E, h0km, mb4.1, mpv3.7, 2C-3D, Error ellipse: s-maj=57.5km s-min=52.7km az=145.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.47**	**18**	P	Pn	09 34 28.8	+1.3
	SNR=19						
UCH	**Uchtor**	**5.79**	**24**	P	Pn	09 34 33.3	+1.2
	SNR=5.6						
EKS2	**Erkin-Say**	**5.99**	**17**	P	Pn	09 34 36.0	+1.5
	SNR=7.5						
AAK	**Ala-Archa**	**6.16**	**22**	P	Pn	09 34 38.3	+1.4
	SNR=5.2						
AAK	**Ala-Archa**	**6.16**	**22**	⇑P	Pn	09 34 36.7	-0.2
	3.4nm,0.6s						
AAK				S	Sn	09 35 47.4	-0.7
	3.4nm,0.9s						
KK02	**Karatay Array**	**6.17**	**354**	⇓P	Pn	09 34 37.5	+0.6
	8.7nm,0.4s,baz=179,slow=13						
KK02				⇑S	Sn	09 35 50.0	+1.8
	1.6nm,0.6s						
USP	**Ospenovka**	**6.74**	**20**	P	Pn	09 34 46.1	+1.3
	SNR=9.3						
TKM2	**Tokmak 2**	**6.78**	**27**	⇓P	Pn	09 34 45.1	-0.3
	1.8nm,0.6s						
TKM2				⇓S	Sn	09 36 06.0	+2.6
	1.2nm,0.7s						

*VAO **11** 09:58:28.9±0.6, 11°.53S×73°.55W, h10km, mb4.4*
*IDC **11** 09:58:29.7±0.7, 11°.38S×72°.84W, h0km, mb3.9/9, mb1 4.2/12, mb1mx4.0/36, mbtmp4.0/12, ML3.9/3, MS3.5/8, Ms1 3.5/8, ms1mx3.1/64, Error ellipse: s-maj=29.0km s-

ARAG	**Araguaiana, MT**	**21.10 104**	*eP*	**P**	**10 03 18.2**	**+1.3**
SNDB	**Serra Nova Dou**	**21.36 93**	*eP*	**P**	**10 03 21.7**	**+1.9**
MT02	**Curacav**	**21.67 176**	P	**P**	**10 03 23.3**	**+0.4**
MT02	comp=Z,21nm,1.4s		IAmb	IAmb	10 03 24.7	
PCMB	**Pacaembu**	**23.17 118**	*eP*	**P**	**10 03 38.8**	**-0.1**
PRPB	**Parauapebas**	**23.62 79**	*eP*	**P**	**10 03 44.2**	**+0.8**
ITQB	**Itaqui**	**23.66 142**	*eP*	**P**	**10 03 44.2**	**+0.6**
MCPB	**Macapa, AP**	**23.68 63**	*eP*	**P**	**10 03 43.9**	**0.0**
PTGB	**Pitanga**	**23.85 126**	*eP*	**P**	**10 03 45.5**	**0.0**
PEXB	**Peixe**	**24.28 94**	*eP*	**P**	**10 03 50.9**	**+1.3**
BDFB	**Brasilia**	**24.72 102**	P	**P**	**10 03 49.7**	**-3.9**
	comp=Z,1.9nm,0.5s,baz=77,slow=9.6,SNR=1.8					
IPMB	**Ipameri, GO**	**24.89 108**	*eP*	**P**	**10 03 55.1**	**+0.1**
SMTB	**Santa Maria do**	**25.25 86**	*eP*	**P**	**10 03 59.5**	**+1.1**
FRTB	**Fartura**	**25.29 121**	*eP*	**P**	**10 03 60.0**	**+1.4**
CPSB	**Cacapava Do Su**	**26.16 139**	*eP*	**P**	**10 04 06.8**	**+0.4**
MDP	**Montagnes des**	**26.24 52**	LR	LR	10 15 05.9	
	comp=Z,88nm,21.8s,baz=170,slow=38					
PLTB	**Pedras Altas**	**26.98 141**	*eP*	**P**	**10 04 14.2**	**+0.4**
PLCA	**Paso Flores**	**29.14 176**	P	**P**	**10 04 33.9**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=358,slow=12,SNR=7.1					
PLCA	**Paso Flores**	**29.14 176**	*eP*	**P**	**10 04 30.8**	**-2.3**
PLCA	**Paso Flores**	**29.14 176**	P	**P**	**10 04 32.3**	**-0.8**
PLCA			IAmb	IAmb	10 04 45.2	
	comp=Z,3.3nm,0.9s					
NBAN	**Anadia - AL**	**36.24 91**	*eP*	**P**	**10 05 36.0**	**+0.7**
NBRF	**Rio Formoso -**	**37.48 89**	*eP*	**P**	**10 05 46.1**	**+0.3**
TXAR	**Lajitas Array**	**50.23 325**	P	**P**	**10 07 27.4**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=151,slow=8.9,SNR=24					
TXAR			PcP	**PcP**	**10 08 46.8**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=166,slow=7.7,SNR=3.7					
PDAR	**Pinedale Array**	**63.53 331**	P	**P**	**10 09 01.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=108,slow=8.7,SNR=2.3					
NVAR	**Mina Array Bea**	**65.22 322**	P	**P**	**10 09 13.2**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=124,slow=8.1,SNR=2.8					
YBH	**Yreka Blue Hor**	**69.92 323**	LR	LR	10 41 26.2	
	comp=Z,186nm,18.1s,baz=332,slow=37					
DBIC	**Dimbokro**	**70.26 79**	LR	LR	10 38 27.9	
	comp=Z,69nm,18.1s,baz=310,slow=34					
TORD	**Torodi Ar. Bea**	**78.16 74**	P	**P**	**10 10 30.6**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=273,slow=4.5,SNR=8.8					
YKA	**Yellowknife Ar**	**80.54 342**	P	**P**	**10 10 42.8**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=138,slow=6.1,SNR=27					
INK	**Inuvik**	**90.29 341**	P	**P**	**10 11 31.8**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=85,slow=3.9,SNR=13					
ZALV	**Zalesovo Beam**	**134.22 18**	PKP	**PKPdf**	**10 17 49.0**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=332,slow=2.1,SNR=5.9					
ASAR	**Alice Springs**	**136.14 217**	PKP	**PKPdf**	**10 17 53.1**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=112,slow=2.2,SNR=5.7					
WRA	**Warramunga Arr**	**138.64 221**	PKhKP	PKPpre	10 17 54.0	
	comp=Z,0.3nm,0.8s,baz=141,slow=2.3,SNR=1.9					
KSRS	**Korea Array**	**148.05 327**	PKPbc	**PKiKP**	**10 18 18.4**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=53,slow=3.0,SNR=3.6					
CMAR	**Chiang Mai Arr**	**169.71 47**	PKP	**PKPdf**	**10 18 39.6**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=135,slow=0.1,SNR=1.6					

IDC ***11*** *10:02:35.4±3.2,* **54°.16N×87°.20E, h0^{km}, mb1 2.9**/2, **mb1mx2.3**/61, **mbtmp2.9**/2, **ML2.6**/2, **Error ellipse: s-maj=30.3km s-min=18.3km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**262**	*i*		10 10 14.2	
	baz=80,slow=334,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.42**	**262**	Pg	Pn	10 03 01.1	-1.3
	3.5nm,0.3s,baz=77,slow=16,SNR=29						
ZALV				Lg	Lg	10 03 20.8	
	0.9nm,0.3s,baz=82,slow=28,SNR=4.9						
KURBB	**Kurchatov Arra**	**6.38**	**240**	Pn	Pn	10 04 11.4	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=5.6						
MKAR	**Makanchi Array**	**8.02**	**205**	Pn	Pn	10 04 34.1	+1.0
	0.1nm,0.3s,baz=27,slow=13,SNR=6.9						

IDC ***11*** *11:35:27.5±4.6,* **23°.57N×94°.70E, h120^{km}±36^{km}, mb3.4**/3, **mb1 3.4**/4, **mb1mx2.9**/55, **mbtmp3.6**/4, **Error ellipse: s-maj=188.4km s-min=21.7km az=60.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.95**	**253**	S	Sn	11 36 45.4	-3.0
	0.4nm,0.3s,baz=0.0,slow=20,SNR=7.5						
CMAR	**Chiang Mai Arr**	**6.44**	**141**	P	Pn	11 37 00.1	0.0
	baz=316,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**25.24**	**340**	P	P	11 40 42.2	0.0
	0.5nm,0.5s,baz=140,slow=9.8,SNR=5.6						
WRA	**Warramunga Arr**	**57.99**	**135**	P	P	11 45 07.6	-0.3
	0.7nm,0.6s,baz=321,slow=7.5,SNR=20						
ASAR	**Alice Springs**	**60.44**	**138**	P	P	11 45 24.9	+0.2
	0.7nm,0.5s,baz=319,slow=6.8,SNR=24						

IDC ***11*** *11:45:31.0±7.7,* **4°.46S×152°.04E, h104^{km}±55^{km}, mb3.2**/3, **mb1 3.4**/4, **mb1mx3.2**/29, **mbtmp3.6**/4, **MS4.0**/1, **Ms1 4.0**/1, **ms1mx2.5**/25, **Error ellipse: s-maj=100.1km s-min=50.5km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.90**	**224**	P	Pn	11 47 09.4	-0.1
	1.1nm,0.3s,baz=40,slow=15,SNR=2.2						
PMG				S	Sn	11 48 27.8	+1.3
	1.0nm,0.3s,baz=0.0,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**23.11**	**227**	P	P	11 50 27.5	-0.6
	0.7nm,0.7s,baz=52,slow=9.7,SNR=7.7						
ASAR	**Alice Springs**	**25.89**	**221**	P	P	11 50 53.2	-0.2
	0.2nm,0.4s,baz=49,slow=9.5,SNR=9.2						
FITZ	**Fitzroy Crossi**	**29.16**	**240**	P	P	11 51 23.5	+1.0
	1.2nm,0.5s,baz=56,slow=10,SNR=16						
RAO	**Raoul Island**	**37.65**	**134**	LR	LR	12 03 40.0	
	comp=Z,221nm,20.2s,baz=118,slow=29						
TORD	**Torodi Ar. Bea**	**149.48**	**288**	PKPbc	PKPbc	12 05 08.2	-1.0
	0.6nm,0.7s,baz=78,slow=2.2,SNR=5.5						

KRNET ***11*** *12:04:34.9±0.1, 41°.09N×70°.08E, h13^{km}, mb2.6*
SOME ***11*** *12:04:36.7, 41°.17N×70°.22E, h0^{km}*
NNC ***11*** *12:04:37.8±2.0, 41°.00N×70°.27E, h0^{km}, mb3.1, mpv2.8, Error ellipse: s-maj=15.1km s-min=7.7km az=28.0*
ISC 11 12:04:34.4±1.2, **41°.07N**±0°.04×**70°.18E**±0°.03, **h17**^{km}±11^{km}, **n21**, σ1^{s}**46**/37, **12C-8D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.71**	**291**	⇑*iP*		**Pg**	**12 04 47.1**	**-1.3**
	baz=93						
TAS				⇑*iS*		**Sg**	**12 04 56.3**	**-1.6**
	baz=93						
TRKS	**Terek-Say**	**0.86**	**57**	⇑*iP*		**Pn**	**12 04 52.4**	**+0.5**
	baz=65						
TRKS				⇑*iS*		**Sn**	**12 05 05.2**	**+1.1**
	baz=65						
BTK	**Batken**	**1.12**	**154**	⇑*iP*		**Pn**	**12 04 57.2**	**+1.7**
	baz=51						
BTK				⇑*iS*		**Sg**	**12 05 13.6**	**+2.7**
	baz=51						
ARK	**Arkit**	**1.52**	**61**	⇓*iP*		**Pg**	**12 05 04.7**	**+0.9**
	baz=63						
ARK				⇓*iS*		**Sg**	**12 05 26.5**	**+2.9**
	baz=63						
BRLS	**Borolday**	**1.97**	**353**	*eP*		**Pb**	**12 05 10.2**	**+0.2**
	4.6nm,0.1s						
BRLS				*eS*		**Sb**	**12 05 34.0**	**-0.3**
	14nm,0.1s						
BRLS	**Borolday**	**1.97**	**353**	P		**Pb**	**12 05 10.1**	**+0.2**
	4.6nm,0.2s						
BRLS				S		**Sb**	**12 05 34.0**	**-0.3**
	14nm,0.5s						
KK02	**Karatay Array**	**2.04**	**7**	⇑Pn		**Pg**	**12 05 15.0**	**+1.3**
	4.9nm,0.6s						
KK02				⇑Sn		**Sg**	**12 05 43.2**	**+3.0**
	7.1nm,0.5s						
MNAS	**Manas**	**2.24**	**50**	⇓*iP*		**Pg**	**12 05 16.1**	**-1.3**
	baz=52						
MNAS				⇓*iS*		**Sg**	**12 05 45.7**	**-0.8**
	baz=52						
MRKS	**Merke**	**2.82**	**53**	*eP*		**Pg**	**12 05 29.1**	**+0.6**
	1.4nm,0.1s						
MRKS				*eS*		**Sg**	**12 06 06.9**	**+1.8**
	6.5nm,0.3s						
MRKS	**Merke**	**2.82**	**53**	Pg		**Pg**	**12 05 29.1**	**+0.6**
	3.7nm,1.0s						
MRKS				Lg		Lg	12 06 06.9	
	6.8nm,0.7s						
ARLS	**Aral**	**3.21**	**74**	⇑*iP*		**Pb**	**12 05 29.7**	**-1.4**
	baz=75						
ARLS				⇑*iS*		**Sb**	**12 06 09.7**	**-0.3**
	baz=75						
UCH	**Uchtor**	**3.45**	**69**	⇓*eP*		**Pb**	**12 05 33.2**	**-2.1**
	baz=70						
UCH				⇓*iS*		**Sb**	**12 06 15.7**	**-1.4**
	baz=70						
AAK	**Ala-Archa**	**3.58**	**63**	⇓Pg		**Pg**	**12 05 42.5**	**-0.6**
	0.7nm,0.4s						
AAK				⇑Lg		Lg	12 06 30.4	
	1.9nm,0.8s						
SGDS	**Sogindy**	**4.07**	**53**	*eP*		**Pg**	**12 05 51.6**	**-0.8**
	0.3nm,0.1s						
SGDS				*eS*		**Sg**	**12 06 45.2**	**+0.1**
	2.7nm,0.5s						
SGDS	**Sogindy**	**4.07**	**53**	Pg		**Pg**	**12 05 51.6**	**-0.8**
	0.5nm,0.4s						
SGDS				Lg		Lg	12 06 45.2	
	1.8nm,0.5s						
TKM2	**Tokmak 2**	**4.44**	**64**	⇑Pg		**Pg**	**12 05 58.4**	**-1.1**
	1.3nm,0.7s						
TKM2				⇓Lg		Lg	12 06 57.5	
	2.2nm,0.8s						
DGS	**Degeres**	**4.69**	**61**	*eP*		**Pg**	**12 06 03.1**	**-1.1**
	0.7nm,0.2s						
DGS				*eS*		**Sg**	**12 07 04.5**	**-0.4**
	1.4nm,0.1s						
DGS	**Degeres**	**4.69**	**61**	Pg		**Pg**	**12 06 03.1**	**-1.1**
	0.5nm,0.5s						
DGS				Lg		Lg	12 07 04.5	
	1.5nm,0.6s						
KST	**Kastek**	**4.73**	**64**	*eP*		**Pg**	**12 06 03.8**	**-1.3**
	1.4nm,0.2s						
KST				*eS*		**Sg**	**12 07 06.6**	**+0.2**
	4.0nm,0.1s						
KRBS	**Karabastau**	**4.84**	**55**	*eP*		**Pg**	**12 06 06.4**	**-0.7**
	0.2nm,0.1s						
KRBS				*eS*		**Sg**	**12 07 11.1**	**+1.3**
	1.5nm,0.3s						
KTBS	**Karatobe**	**5.49**	**59**	*eP*		**Pg**	**12 06 17.1**	**-2.4**
	0.6nm,0.3s						
KTBS				*eS*		**Sg**	**12 07 28.6**	**-2.0**
	2.7nm,0.3s						

IDC ***11*** *12:07:08.1±11.0, 31°.78S×179°.38E, h450^{km}±150^{km}, mb2.6/2, mb1 3.0/3, mb1mx2.9/21, mbtmp3.7/3, Error ellipse: s-maj=197.5km s-min=38.6km az=5.0*
WEL ***11*** *12:07:14.0±0.8, 32°.S±6°.×18°.0E±1°.4, h365^{km}±14^{km}, M4.2/12, mB4.4/6, ML4.5/12, MLv4.7/12, Mw(mB)3.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=108.7*
ISC 11 12:07:07.4±1.1, **31°.94S**±0°.09×**179°.6E**±0°.1, **h439**^{km}, **n26**, σ2^{s}**35**/45, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.44**	**40**	P	P	**12 08 17.9**	**+0.7**
GLKZ				S	S	**12 09 12.2**	**-1.5**
MXZ	**Matakaoa Point**	**5.71**	**190**	P	P	**12 08 39.9**	**+1.8**
MXZ				S	S	**12 09 51.6**	**-0.7**
KUZ	**Kuaotunu**	**5.75**	**212**	P	P	12 08 44.0	+5.4
WCZ	**Waipu Caves**	**5.89**	**226**	P	P	**12 08 44.7**	**+4.6**
WMGZ	**Waiomatatini S**	**5.94**	**189**	P	P	**12 08 43.9**	**+3.3**
WMGZ				S	S	**12 09 57.4**	**+0.6**
OUZ	**Omahuta**	**5.96**	**235**	P	P	**12 08 44.5**	**+3.7**
HAZ	**Te Kaha**	**5.99**	**194**	P	P	**12 08 43.2**	**+2.2**
HAZ				S	S	**12 09 56.7**	**-0.9**
PKGZ	**Pakihiroa**	**6.06**	**191**	P	P	**12 08 44.6**	**+2.7**
PKGZ				S	S	**12 09 58.3**	**-0.9**
RUGZ	**Raukumara Rang**	**6.21**	**194**	P	P	**12 08 46.4**	**+3.0**
RUGZ				S	S	**12 09 59.3**	**-2.8**
PUZ	**Puketiti**	**6.21**	**190**	P	P	**12 08 46.2**	**+2.8**
PUZ				S	S	**12 10 00.5**	**-1.5**
TWGZ	**Tauwhareparae**	**6.36**	**191**	P	P	**12 08 48.1**	**+3.2**
TWGZ				S	S	**12 10 04.6**	**-0.3**
MWZ	**Matawai**	**6.59**	**194**	P	P	**12 08 50.0**	**+2.4**
MWZ				S	S	**12 10 07.7**	**-1.7**
URZ	**Urewera**	**6.62**	**197**	P	P	**12 08 48.8**	**+1.0**
	6.6nm,0.3s,baz=315,slow=18,SNR=52						
URZ				S	S	**12 10 06.9**	**-2.9**
	4.3nm,0.3s,baz=5.3,slow=18,SNR=12						
URZ	**Urewera**	**6.62**	**197**	P	P	**12 08 48.7**	**+1.0**
URZ				S	S	**12 10 06.6**	**-3.1**
CNGZ	**Carnagh Statio**	**6.62**	**189**	P	P	**12 08 51.2**	**+3.4**
CNGZ				S	S	**12 10 11.0**	**+1.1**
TKGZ	**Te Karaka**	**6.64**	**192**	P	P	**12 08 50.8**	**+2.9**
TKGZ				S	S	**12 10 09.1**	**-1.0**
RIGZ	**Rimuhau**	**6.91**	**192**	P	P	**12 08 53.0**	**+2.1**
RIGZ				S	S	**12 10 12.8**	**-2.7**
MUGZ	**Murupara**	**6.91**	**199**	P	P	**12 08 52.9**	**+2.0**
MUGZ				S	S	**12 10 14.6**	**-0.9**
SNGZ	**Shannon Statio**	**7.07**	**194**	P	P	**12 08 55.1**	**+2.5**
SNGZ				S	S	**12 10 16.9**	**-1.6**
PRGZ	**Paritu Road**	**7.10**	**191**	P	P	**12 08 56.6**	**+3.6**
PRGZ				S	S	**12 10 20.3**	**+1.0**
RAHZ	**Arahi**	**7.25**	**195**	P	P	**12 08 56.8**	**+2.3**
RAHZ				S	S	**12 10 20.3**	**-1.9**
NMHZ	**Naumai**	**7.49**	**197**	P	P	**12 08 59.5**	**+2.3**
NMHZ				S	S	**12 10 25.3**	**-1.7**
BKZ	**Black Stump Fm**	**7.63**	**198**	P	P	**12 08 59.1**	**+0.4**
BKZ				S	S	**12 10 25.9**	**-3.9**
ASAR	**Alice Springs**	**40.98**	**270**	P	P	**12 14 09.2**	**-1.4**
	0.3nm,0.6s,baz=102,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	**42.11**	**275**	P	P	**12 14 17.9**	**-1.7**
	0.3nm,0.3s,baz=111,slow=8.0,SNR=9.3						
FINES	**FINESS Array B**	**145.82**	**338**	PKPbc	**PKPdf**	**12 25 54.0**	**-0.3**
	1.3nm,0.5s,baz=41,slow=4.4,SNR=10						

DJA ***11*** *12:11:49.0±1.5, 12°.S±15°.×11°.7E±°, h10^{km}, M4.1/8, mb4.1/4, MLv4.0/8*
IDC ***11*** *12:11:51.0±2.8, 11°.09S×116°.70E, h0^{km}, mb3.5/4, mb1 3.5/6, mb1mx3.3/36, mbtmp3.4/6, ML2.8/2, Error ellipse: s-maj=179.2km s-min=21.5km az=47.0*
ISC 11 12:11:54.7±1.1, **11°.45**±0°.1×**116°.58E**±0°.08, **h35**^{km}, **n14**, σ1^{s}**25**/14, **mb3.8**/3, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**2.90**	**331**	P	**Pn**	**12 12 37.8**	**-0.6**
WBSI	**Waikabubak, Su**	**3.25**	**58**	P	**Pn**	**12 12 41.9**	**-1.4**
JAGI	**Jajag, Banyuwa**	**3.74**	**320**	P	**Pn**	**12 12 48.7**	**-1.3**
GMJI	**Gumukmas**	**4.36**	**315**	P	**Pn**	**12 12 57.8**	**-0.7**
EDFI	**Ende, Flores**	**5.66**	**63**	P	**Pn**	**12 13 14.8**	**-1.7**
	0.0nm3.0nm,1.1s						
PCJI	**Pacitan**	**6.19**	**300**	P	**Pn**	**12 13 22.2**	**-1.5**
	0.2nm29nm,1.3s						
BSSI	**Bau Bau, Buton**	**6.47**	**37**	P	**Pn**	**12 13 27.7**	**+0.2**
	0.1nm18nm,0.7s						
BKSI	**Bulukumba**	**6.95**	**31**	P	**Pn**	**12 13 34.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.02**	**128**	Pn	**Pn**	**12 14 29.1**	**-0.9**
	0.1nm,0.3s,baz=317,slow=9.8,SNR=6.6						
WRA	**Warramunga Arr**	**19.09**	**119**	P	**Pn**	**12 16 17.0**	**+1.4**
	0.0nm,0.3s,baz=296,slow=12,SNR=2.3						
WRA				S	Sn	12 19 33.7	-15
	0.0nm,0.3s,baz=293,slow=27,SNR=1.2						
ASAR	**Alice Springs**	**20.53**	**129**	P	**P**	**12 16 32.2**	**+2.0**
	0.3nm,0.5s,baz=307,slow=9.2,SNR=5.5						
MKAR	**Makanchi Array**	**65.52**	**335**	P	**P**	**12 22 35.2**	**+0.6**
	0.6nm,0.4s,baz=148,slow=7.0,SNR=14						
KURBB	**Kurchatov Arra**	**70.06**	**335**	P	**P**	**12 23 03.5**	**+0.4**
	0.4nm,0.6s,baz=148,slow=5.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**70.43**	**341**	P	**P**	**12 23 05.1**	**-0.1**
	0.5nm,0.6s,baz=149,slow=5.9,SNR=1.5						

JMA ***11*** *12:21:56.9, 36°.08N×139°.88E, h45^{km}±1^{km}, M2.9*
JMA Felt I J1.
IDC ***11*** *12:21:58.0±5.2, 36°.13N×139°.70E, h62^{km}±36^{km}, mb2.9/3, mb1 3.1/3, mb1mx2.7/29, mbtmp3.2/3, Error ellipse: s-maj=65.1km s-min=30.9km az=61.0*
ISC 11 12:21:56.3±1.1, **36°.10N**±0°.07×**139°.84E**±0°.06, **h52**^{km}±9^{km}, **n11**, σ1^{s}**05**/16, **mb3.2**/3, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.31**	**66**	P	**Pn**	**12 22 05.6**	**-0.2**
JYT				S	**Sn**	**12 22 11.8**	**-0.7**
JAG	**Ashikaga**	**0.45**	**316**	P	**Pn**	**12 22 07.8**	**+0.6**
JAG				S	**Sn**	**12 22 15.7**	**+0.7**
JRY	**Ryogami san**	**0.77**	**264**	P	**Pn**	**12 22 11.6**	**+0.5**
JRY				S	**Sn**	**12 22 22.3**	**+0.5**
JKT	**Katashina**	**0.82**	**324**	P	**Pn**	**12 22 12.4**	**+0.5**
JOD2	**Odawara 2**	**1.04**	**217**	P	**Pn**	**12 22 15.4**	**+0.8**
JFY	**Yanaizu**	**1.31**	**355**	P	**Pn**	**12 22 19.4**	**+1.1**
MJAR	**Matsushiro Arr**	**1.39**	**289**	P	**Pn**	**12 22 20.0**	**+0.6**
	1.5nm,0.3s,baz=91,slow=9.9,SNR=72						
MJAR				S	**Sn**	**12 22 34.8**	**-1.9**
	0.8nm,0.3s,baz=80,slow=16,SNR=3.6						
MAT	**Matsushiro**	**1.39**	**289**	P	**Pn**	**12 22 19.7**	**+0.2**
MAT				S	**Sn**	**12 22 34.5**	**-2.3**
MKAR	**Makanchi Array**	**43.55**	**303**	P	**P**	**12 29 55.1**	**+0.1**
	0.1nm,0.5s,baz=74,slow=6.7,SNR=1.5						
KURBB	**Kurchatov Arra**	**45.59**	**309**	P	**P**	**12 30 11.2**	**+0.1**
	0.5nm,0.6s,baz=79,slow=7.6,SNR=3.9						
WRA	**Warramunga Arr**	**55.98**	**186**	P	**P**	**12 31 29.3**	**-0.2**
	0.1nm,0.4s,baz=2.7,slow=7.4,SNR=2.2						

IDC ***11*** *12:32:45.1±0.7, 41°.77S×84°.86E, h0^{km}, mb4.3/11, mb1 4.4/11, mb1mx4.0/45, mbtmp4.3/11, MS3.9/31, Ms1 3.9/31, ms1mx3.7/60, Error ellipse: s-maj=24.8km s-min=19.8km az=96.0*
NEIC ***11*** *12:32:46.8±0.7, 41°.85S±0°.1×84°.8E±0°.1, h9^{km}±3^{km}, mb4.6/23, Error ellipse: s-maj=17.3km s-min=11.4km az=177.0*
GCMT ***11*** *12:32:47.8±0.5, 41°.88S±0°.03×85°.18E±0°.03, h23^{km}±2^{km}, MW4.9/71, Moment Tensor Solution. s13,c16; s71,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.32±.15; $M_{\theta\theta}$2.12±.14; $M_{\phi\phi}$-1.81±.12; $M_{r\theta}$-1.04±.21; $M_{\theta\phi}$0.05±.09; $M_{r\phi}$1.07±.20; Best double couple: $M_0$2.48100×10^{16} NP1:φ$_s$226.00000°, δ52.00000°, λ-174.00000°. NP2: φ$_s$132.00000°, δ85.00000°, λ-38.00000°. Principal axes: T 2.5300, Plg22.0000°, Azm185.0000°; N -0.1040, Plg52.0000°, Azm305.0000°; P -2.4320, Plg30.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 12:32:46.6±0.5, **41°.8S**±0°.1×**84°.84E**±0°.09, **h10**^{km}, **n72**, σ0^{s}**64**/46, **mb4.5**/22, **MS4.0**/31, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**6.86**	**303**	Pn	**Pn**	**12 34 26.8**	**-0.5**
H01W2	**Cape Leeuwin H**	**23.90**	**83**	T	T	13 02 42.5	
	baz=244,slow=74,SNR=254						
H01W3	**Cape Leeuwin H**	**23.91**	**83**	T	T	13 02 43.2	
	baz=244,slow=74,SNR=265						
H01W1	**Cape Leeuwin H**	**23.92**	**83**	T	T	13 02 43.8	
	baz=244,slow=74,SNR=239						
MAW	**Mawson**	**28.50**	**197**	LR	LR	12 47 34.8	
	comp=Z,180nm,20.8s,baz=58,slow=31						
PSA00	**Pilbara Seismi**	**35.62**	**66**	P	**P**	**12 39 44.7**	**+0.1**
H08S2	**Diego Garcia H**	**35.70**	**339**	T	T	13 17 14.0	
	baz=164,slow=76,SNR=610						
H08S1	**Diego Garcia H**	**35.71**	**339**	T	T	13 17 14.4	
	baz=164,slow=76,SNR=457						
H08S3	**Diego Garcia H**	**35.73**	**339**	T	T	13 17 15.5	
	baz=164,slow=76,SNR=1176						
FORT	**Forrest**	**36.19**	**87**	P	**P**	**12 39 49.0**	**-0.3**
FORT				IAmb	IAmb	12 39 51.1	
	comp=Z,9.6nm,0.8s						
LEM	**Lembang**	**40.25**	**37**	LR	LR	12 54 26.9	
	comp=Z,86nm,19.0s,baz=206,slow=32						
BBOO	**Buckleboo**	**41.19**	**95**	P	**P**	**12 40 31.8**	**+0.4**
ASAR	**Alice Springs**	**44.41**	**82**	P	**P**	**12 40 57.5**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=228,slow=8.0,SNR=43						
ASAR				PcP	**PP**	**12 42 40.1**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=230,slow=2.7,SNR=15						
ASAR				LR	LR	12 57 28.1	
	comp=Z,463nm,20.1s,baz=252,slow=33						
AS31	**Alice Springs**	**44.41**	**82**	P	**P**	**12 40 57.5**	**-0.1**
STKA	**Stephens Creek**	**45.76**	**97**	P	**P**	**12 41 08.2**	**0.0**
	comp=Z,2.1nm,0.5s,baz=259,slow=4.2,SNR=6.8						
STKA				LR	LR	12 58 28.4	
	comp=Z,185nm,18.0s,baz=214,slow=34						
STKA	**Stephens Creek**	**45.76**	**97**	P	**P**	**12 41 08.6**	**+0.4**
KNRA	**Kununurra**	**45.79**	**69**	P	**P**	**12 41 08.4**	**-0.2**
KNRA				IAmb	IAmb	12 41 15.8	
	comp=Z,5.1nm,0.8s						
PSI	**Prapat**	**46.17**	**20**	LR	LR	12 56 23.5	
	comp=Z,233nm,19.6s,baz=206,slow=31						
BATI	**Baumata**	**46.33**	**59**	LR	LR	12 57 45.7	
	comp=Z,126nm,19.8s,baz=220,slow=32						
VNDA	**Vanda**	**46.82**	**163**	P	**P**	**12 41 16.3**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=271,slow=9.3,SNR=2.5						
VNDA				LR	LR	12 58 11.8	
	comp=Z,218nm,21.4s,baz=276,slow=33						
VNDA	**Vanda**	**46.82**	**163**	P	**P**	**12 41 16.8**	**

MK31	**Makanchi Array**	**88.21**	**358**	P	**P**	**12 45 36.3**	**-1.0**
MK31				IAmb	IAmb	12 45 43.5	
comp=Z,4.4nm,1.2s							
MKAR	**Makanchi Array**	**88.21**	**358**	P	**P**	**12 45 37.0**	**-0.4**
comp=Z,1.5nm,1.0s,baz=174,slow=5.1,SNR=6.9							
MKAR	**Makanchi Array**	**88.21**	**358**	P	**P**	**12 45 36.3**	**-1.0**
GNI	**Garni**	**89.29**	**330**	LR	LR	13 20 14.8	
comp=Z,32nm,19.5s,baz=153,slow=32							
SONM	**Songino Array**	**91.24**	**14**	P	**P**	**12 45 51.1**	**-0.5**
comp=Z,1.7nm,0.9s,baz=200,slow=4.9,SNR=11							
SONM				LR	LR	13 26 00.6	
comp=Z,26nm,18.9s,baz=70,slow=35							
SONM	**Songino Array**	**91.24**	**14**	P	**P**	**12 45 52.1**	**+0.5**
SONM				IAmb	IAmb	12 45 54.2	
comp=Z,2.3nm,1.0s							
KURBB	**Kurchatov Arra**	**92.18**	**356**	P	**P**	**12 45 54.3**	**-1.5**
comp=Z,1.1nm,0.9s,baz=190,slow=4.5,SNR=7.5							
KURBB				LR	LR	13 26 04.8	
comp=Z,41nm,18.1s,baz=30,slow=35							
BRTR	**Keskin Array B**	**93.50**	**323**	LR	LR	13 24 30.8	
comp=Z,35nm,18.6s,baz=135,slow=33							
TORD	**Torodi Ar. Bea**	**93.61**	**284**	P	**P**	**12 46 04.8**	**+1.5**
comp=Z,0.5nm,0.8s,baz=114,slow=4.0,SNR=3.2							
DBIC	**Dimbokro**	**94.17**	**275**	LR	LR	13 22 04.1	
comp=Z,98nm,18.9s,baz=153,slow=31							
AKTO	**Aktyubinsk**	**94.78**	**343**	LR	LR	13 30 02.0	
comp=Z,31nm,18.7s,baz=137,slow=36							
PLCA	**Paso Flores**	**94.90**	**199**	LR	LR	13 29 25.8	
comp=Z,66nm,18.0s,baz=124,slow=36							
KLR	**Kul'dur**	**99.56**	**29**	LR	LR	13 31 40.0	
comp=Z,24nm,19.6s,baz=272,slow=36							
INK	**Inuvik**	**146.53**	**25**	PKPbc	**PKPab**	**12 52 27.6**	**-0.3**
comp=Z,3.0nm,0.8s,baz=344,slow=2.2,SNR=17							
RES	**Resolute Bay**	**146.99**	**360**	PKPbc	**PKPbc**	**12 52 28.4**	**+0.3**
comp=Z,2.6nm,0.7s,baz=325,slow=1.8,SNR=8.4							
YKA	**Yellowknife Ar**	**156.25**	**23**	PKPab	**PKPab**	**12 53 08.3**	**0.0**
comp=Z,0.6nm,0.9s,baz=325,slow=4.4,SNR=6.4							
NVAR	**Mina Array Bea**	**161.99**	**93**	PKPab	**PKPab**	**12 53 34.5**	**+0.1**
comp=Z,0.2nm,0.5s,baz=227,slow=6.0,SNR=3.5							
NVAR	**Mina Array Bea**	**161.99**	**93**	PKPdf	**PKPdf**	**12 52 47.0**	**-1.1**
NVAR					**PKPab**	**12 53 33.0**	**-1.4**
PDAR	**Pinedale Array**	**169.28**	**80**	PKPab	**PKPab**	**12 54 07.4**	**+0.9**
comp=Z,0.5nm,0.7s,baz=237,slow=3.1,SNR=5.4							

*IDC **11** 12:42:58.6±3.7,36°.45N×71°.21E,h64km±31km,mb3.4/10, mb1 3.6/15,mb1mx3.3/61,mbtmp3.8/15,ML3.6/5,Error ellipse: s-maj=30.0km s-min=19.1km az=172.0*

*NEIC **11** 12:43:03.0±2.5,36°.79N±0°.06×71°.04E±0°.10,h89km±6km, mb4.0/4,Error ellipse: s-maj=11.8km s-min=8.8km az=109.0*

*NNC **11** 12:43:04.8±3.1,37°.01N×70°.75E,h91km±67km,mb3.6, mpv3.9,Error ellipse: s-maj=22.9km s-min=21.2km az=7.0*

ISC 11 12:43:01.2±0.5,36°.67N±0°.05×71°.06E±0°.05,h100km,n60, σ2§79/67,mb3.8/11,4C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.50**	**323**	Pn	**Pn**	**12 43 40.3**	**0.0**
KBL	**Kabul**	**2.69**	**218**	Pn	**Pn**	**12 43 46.8**	**+3.7**
DRK	**Karamyk**	**2.87**	**11**		**Pn**	**12 43 47.7**	**+2.2**
BTK	**Batken**	**3.39**	**357**	Pn	**Pn**	**12 43 53.7**	**+1.5**
NIL	**Nilore**	**3.50**	**149**		**Pn**	**12 43 56.9**	**+3.1**
AML	**Almayashu**	**5.82**	**20**	P	**Pn**	**12 44 26.0**	**+0.6**
SNR=40							
UCH	**Uchtor**	**6.16**	**25**	P	**Pn**	**12 44 30.9**	**+0.8**
SNR=9.4							
EKS2	**Erkin-Say**	**6.34**	**18**	P	**Pn**	**12 44 33.2**	**+0.9**
SNR=25							
KK02	**Karatay Array**	**6.44**	**356**	⇑P	**Pn**	**12 44 32.8**	**-0.6**
KK02	12nm,0.5s			⇑S	**Sn**	**12 45 41.0**	**-4.6**
15nm,0.6s							
KKAR	**Karatay Array**	**6.44**	**356**	Pn	**Pn**	**12 44 33.6**	**+0.2**
AAK	**Ala-Archa**	**6.52**	**23**	P	**Pn**	**12 44 35.6**	**+0.9**
3.6nm,0.3s,baz=176,slow=6.4,SNR=49							
AAK				S	**Sn**	**12 45 45.3**	**-2.3**
1.4nm,0.3s,baz=65,slow=19,SNR=1.9							
AAK	**Ala-Archa**	**6.52**	**23**	P	**Pn**	**12 44 35.7**	**+1.0**
SNR=16							
AAK	**Ala-Archa**	**6.52**	**23**	P	**Pn**	**12 44 35.2**	**+0.5**
4.6nm,0.4s							
AAK				⇓S	**Sn**	**12 45 47.9**	**+0.2**
11nm,0.6s							
BOOM	**Boomskoye usch**	**6.93**	**31**	Pn	**Pn**	**12 44 42.9**	**+2.7**
CHMS	**Chumysh**	**6.93**	**23**	P	**Pn**	**12 44 40.9**	**+0.8**
SNR=10							
USP	**Ospenovka**	**7.10**	**21**	P	**Pn**	**12 44 42.7**	**+0.3**
SNR=8.7							
TKM2	**Tokmak 2**	**7.15**	**28**	P	**Pn**	**12 44 44.0**	**+0.7**
SNR=7.6							
TKM2	**Tokmak 2**	**7.15**	**28**	⇓P	**Pn**	**12 44 43.7**	**+0.3**
2.6nm,0.5s							
TKM2				⇓S	**Sn**	**12 46 01.9**	**-1.2**
5.7nm,0.8s							
KDJ	**Kajisay**	**7.22**	**39**	Pn	**Pn**	**12 44 42.6**	**-1.7**
TARG	**Taragay, Kyrgy**	**7.27**	**44**		**Pn**	**12 44 44.3**	**-0.9**
SMLA	**Simla**	**7.50**	**136**	*e*P	**Pn**	**12 44 47.6**	**-0.3**
SMLA				*e*S	**Sn**	**12 46 07.4**	**-4.0**
SMLA				IAML		12 46 15.8	
comp=E,45nm,0.5s							
SMLA				IAML		12 46 17.1	
comp=N,57nm,0.1s							
KUDL	**Kundal**	**9.65**	**150**	*e*P	**Pn**	**12 45 16.6**	**-0.6**
KUDL				*e*S	**Sn**	**12 46 57.7**	**-6.1**
GEYT	**Alibeck**	**10.39**	**281**	P	**Pn**	**12 45 25.5**	**-1.7**
comp=N,0.7nm,0.3s,baz=113,slow=15,SNR=2.5							
GEYT				S	**Sn**	**12 47 14.0**	**-7.7**
comp=N,2.5nm,0.3s,baz=119,slow=24,SNR=3.3							
AJM	**Ajmer**	**10.61**	**162**	*e*P	**Pn**	**12 45 29.3**	**-0.9**
AJM				*e*S	**Sn**	**12 47 22.2**	**-4.8**
MKAR	**Makanchi Array**	**13.12**	**36**	P	**Pn**	**12 46 02.9**	**-0.7**
comp=N,0.1nm,0.3s,baz=226,slow=14,SNR=3.0							
PYUN	**Piuthan**	**13.20**	**127**	*e*P	**Pn**	**12 46 01.9**	**-3.1**
comp=N,27nm,0.3s							
DANN	**Dangsing**	**13.54**	**124**	*e*P	**Pn**	**12 46 06.2**	**-3.2**
comp=N,18nm,0.2s							
KOLN	**Koldanda**	**13.82**	**126**	*e*P	**Pn**	**12 46 10.0**	**-3.0**
comp=N,14nm,0.3s							
GKN	**Gorkha**	**14.35**	**123**	*e*P	**Pn**	**12 46 16.7**	**-3.1**
comp=N,20nm,0.3s							
BHPL	**Bhopal**	**14.47**	**156**	*e*S	Sn	12 48 51.2	-10
DMN	**Daman**	**14.92**	**123**	*e*P	**Pn**	**12 46 24.4**	**-2.8**
comp=N,10nm,0.3s							
KKN	**Kakani**	**14.92**	**122**	*e*P	**Pn**	**12 46 23.7**	**-3.5**
comp=N,11nm,0.4s							
KURBB	**Kurchatov Arra**	**14.95**	**19**	P	**P**	**12 46 30.6**	**+0.4**
comp=N,0.1nm,0.3s,baz=207,slow=11,SNR=5.7							
AB31	**Akbulak array**	**14.96**	**331**	⇑P	**Pn**	**12 46 25.0**	**-2.3**
comp=N,1.3nm,0.5s,baz=140,slow=12,SNR=74							
AB31				⇑S	**Sn**	**12 49 05.5**	**-6.8**
comp=N,1.4nm,0.5s,baz=151,slow=23,SNR=5.5							
ABKAR	**Akbulak array**	**14.96**	**331**		**Pn**	**12 46 25.5**	**-1.8**
ABKAR	**Akbulak array**	**14.96**	**331**	Pn	**Pn**	**12 46 25.7**	**-1.6**
PKIN	**Phulchoki**	**15.14**	**123**	*e*P	**Pn**	**12 46 27.1**	**-2.9**
comp=N,7.4nm,0.3s							
PKI	**Pulchoki**	**15.15**	**123**	*e*P	**Pn**	**12 46 27.1**	**-3.1**
comp=N,7.0nm,0.4s							
GUN	**Gumba**	**15.26**	**121**	*e*P	**Pn**	**12 46 28.4**	**-3.1**
comp=N,6.9nm,0.3s							
BVAR	**Borovoye Array**	**16.36**	**359**	P	**Pn**	**12 46 43.8**	**-1.0**
comp=N,0.2nm,0.3s,baz=165,slow=11,SNR=4.4							
BRVK	**Borovoye**	**16.40**	**358**	P	**Pn**	**12 46 43.8**	**-1.4**
AKTO	**Aktyubinsk**	**16.66**	**330**	P	**P**	**12 46 50.5**	**+1.4**
comp=N,0.6nm,0.3s,baz=127,slow=13,SNR=7.2							
AKTO				S	Sn	12 49 40.7	-13
comp=N,0.1nm,0.3s,baz=180,slow=20,SNR=1.5							
AKTO	**Aktyubinsk**	**16.66**	**330**	⇓P	**P**	**12 46 49.6**	**+0.4**
comp=N,2.2nm,0.5s							
AKTO				⇓S	**Sn**	**12 49 45.8**	**-7.4**
comp=N,3.3nm,0.8s							
ZALV	**Zalesovo Beam**	**19.74**	**25**	P	**P**	**12 47 23.2**	**+0.4**
comp=N,0.4nm,0.3s,baz=216,slow=9.6,SNR=4.1							
SONM	**Songino Array**	**28.20**	**56**	P	**P**	**12 48 46.1**	**+1.6**
comp=N,0.2nm,0.5s,baz=276,slow=8.1,SNR=2.3							
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**12 49 28.3**	**+2.9**
comp=N,0.2nm,0.3s,baz=82,slow=7.0,SNR=4.7							
AKBB	**Malin Array Si**	**32.88**	**309**	P	**P**	**12 49 27.9**	**+2.4**
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**12 50 07.0**	**+3.1**
comp=N,2.9nm,0.9s,baz=116,slow=8.2,SNR=1.4							
ARCES	**ARCESS Array B**	**41.01**	**338**	P	**P**	**12 50 36.7**	**+2.7**
comp=N,1.5nm,0.8s,baz=108,slow=7.7,SNR=6.9							
CLL	**Collm**	**43.13**	**309**	*e*P	**P**	**12 50 53.0**	**+1.5**
NB2	**NORSAR Subarra**	**44.28**	**323**	P	P	12 51 05.2	+4.6
comp=Z,0.3nm,0.4s,baz=99,slow=7.9							
NOA	**NORSAR Array B**	**44.28**	**323**	P	P	12 51 05.1	+4.5
comp=Z,0.4nm,0.5s,baz=101,slow=7.7,SNR=1.6							
ESDC	**Sonseca Array**	**57.42**	**298**	P	**P**	**12 52 42.6**	**+3.1**
comp=Z,0.5nm,0.5s,baz=58,slow=7.5,SNR=1.9							
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**12 53 37.6**	**+1.8**
comp=Z,0.6nm,0.4s,baz=46,slow=5.8,SNR=12							
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**12 53 38.0**	**+2.1**
TORD				IAmb	IAmb	12 53 38.2	
comp=Z,1.7nm,1.2s							
C36M	**Paulatuk**	**73.71**	**6**	P	**P**	**12 54 26.0**	**+2.3**
C36M				IAmb	IAmb	12 54 37.4	
comp=Z,3.5nm,1.3s							
DBIC	**Dimbokro**	**74.76**	**267**	P	**P**	**12 54 32.9**	**+2.2**
comp=Z,2.5nm,0.8s,baz=18,slow=4.5,SNR=2.7							
YKA	**Yellowknife Ar**	**81.08**	**3**	P	**P**	**12 55 06.3**	**+1.4**
comp=Z,0.1nm,0.3s,baz=349,slow=5.6,SNR=6.4							
YKA	**Yellowknife Ar**	**81.08**	**3**	P	**P**	**12 55 08.2**	**+3.3**
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**12 55 11.3**	**+0.8**
comp=Z,0.4nm,0.7s,baz=329,slow=4.7,SNR=4.8							

*IDC **11** 12:48:18.0±4.2,10°.93N×138°.71E,h52km±41km,mb3.6/11, mb1 3.9/12,mb1mx3.5/50,mbtmp3.9/12,ML3.7/1,MS3.1/4, Ms1 3.1/4,ms1mx2.7/72,Error ellipse: s-maj=24.2km s-min=18.4km az=103.0*

*NEIC **11** 12:48:18.4±1.2,11°.1N±0°.1×138°.6E±0°.2,h49km±7km, mb4.4/12,Error ellipse: s-maj=23.9km s-min=17.9km az=96.0*

ISC 11 12:48:16.3±0.7,11°.0N±0°.1×138°.74E±0°.09,h35km,n38, σ1§07/29,mb4.2/17,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.53**	**66**	P	**Pn**	**12 49 51.6**	**+1.7**
1.5nm,0.3s,baz=195,slow=20,SNR=1.7							
GUMO				S	**Sn**	**12 50 59.9**	**-3.3**
2.3nm,0.3s,baz=220,slow=23,SNR=1.8							
GUMO				LR	LR	12 51 57.6	
comp=Z,101nm,18.3s,baz=184,slow=33							
JOW	**Kunigami**	**18.60**	**329**	LR	LR	12 57 49.6	
comp=Z,59nm,20.3s,baz=209,slow=31							
TOLI2	**Tolitoli**	**20.35**	**242**	P	Pn	12 53 05.0	+13
JHJ	**Hachijo jima 2**	**22.06**	**2**	LR	LR	13 01 19.0	
comp=Z,22nm,18.7s,baz=80,slow=35							
H11S3	**WAKE ISLAND Hy**	**28.02**	**71**	T	T	13 22 51.3	
baz=252,slow=74							
H11S1	**WAKE ISLAND Hy**	**28.03**	**71**	T	T	13 24 12.6	
baz=252							
H11S2	**WAKE ISLAND Hy**	**28.03**	**71**	T	T	13 23 31.9	
baz=252,slow=74							
H11N1	**WAKE ISLAND Hy**	**28.47**	**69**	T	T	13 24 40.7	
baz=254,slow=75,SNR=5.0							
H11N2	**WAKE ISLAND Hy**	**28.48**	**69**	T	T	13 24 38.6	
baz=254,slow=75,SNR=2.5							
H11N3	**WAKE ISLAND Hy**	**28.49**	**69**	T	T	13 24 36.3	
baz=254,slow=75,SNR=3.7							
WR0	**Warramunga Arr**	**31.02**	**188**	P	**P**	**12 54 31.4**	**+0.5**
WR0				IAmb	IAmb	12 54 53.2	
comp=Z,6.8nm,1.4s							
WRA	**Warramunga Arr**	**31.03**	**188**	P	**P**	**12 54 30.0**	**-0.9**
comp=Z,0.3nm,0.6s,baz=8.6,slow=9.5,SNR=5.7							
AS31	**Alice Springs**	**34.75**	**188**	P	**P**	**12 55 02.7**	**-0.8**
ASAR	**Alice Springs**	**34.76**	**188**	P	**P**	**12 55 03.1**	**-0.3**
comp=Z,0.5nm,0.5s,baz=17,slow=12,SNR=8.6							
ASAR	**Alice Springs**	**34.76**	**188**	P	**P**	**12 55 03.5**	**0.0**
CMAR	**Chiang Mai Arr**	**39.13**	**286**	P	**P**	**12 55 41.4**	**+0.5**
comp=Z,1.8nm,0.7s,baz=91,slow=7.1,SNR=13							
CMAR	**Chiang Mai Arr**	**39.13**	**286**	P	**P**	**12 55 40.1**	**-0.8**
FORT	**Forrest**	**42.77**	**194**	P	**P**	**12 56 10.9**	**+0.4**
FORT				IAmb	IAmb	12 56 17.0	
comp=Z,10nm,0.9s							
SONM	**Songino Array**	**45.67**	**330**	P	**P**	**12 56 34.1**	**+0.3**
comp=Z,0.3nm,0.5s,baz=119,slow=8.4,SNR=3.1							
SEY	**Seymchan**	**52.79**	**8**	P	**P**	**12 57 29.0**	**+1.3**
comp=Z,1.6nm,0.7s,baz=184,slow=14,SNR=8.1							
MK31	**Makanchi Array**	**59.31**	**318**	P	**P**	**12 58 14.7**	**-0.1**
MKAR	**Makanchi Array**	**59.31**	**318**	P	**P**	**12 58 14.7**	**-0.1**
comp=Z,1.5nm,0.7s,baz=103,slow=8.6,SNR=15							
MKAR	**Makanchi Array**	**59.31**	**318**	P	**P**	**12 58 14.2**	**-0.5**
ZALV	**Zalesovo Beam**	**60.37**	**327**	P	**P**	**12 58 20.9**	**-0.9**
comp=Z,0.9nm,0.6s,baz=98,slow=7.4,SNR=5.8							
ZALV	**Zalesovo Beam**	**60.37**	**327**	P	**P**	**12 58 20.7**	**-1.1**
KURK	**Kurchatov**	**62.80**	**322**	P	**P**	**12 58 37.3**	**-1.0**
BRVK	**Borovoye**	**68.38**	**323**	P	**P**	**12 59 13.9**	**-0.3**
BRVK				IAmb	IAmb	12 59 14.9	
comp=Z,2.2nm,0.8s							
H21K	**Melozitna Rive**	**71.24**	**24**	P	**P**	**12 59 32.6**	**+1.0**
H21K				IAmb	IAmb	12 59 44.9	
comp=Z,7.9nm,1.4s							
ILAR	**Eielson Array**	**73.48**	**26**	P	**P**	**12 59 44.4**	**-0.7**
comp=Z,0.7nm,0.6s,baz=250,slow=5.8,SNR=14							
PAX	**Paxson**	**73.83**	**27**	P	**P**	**12 59 47.2**	**0.0**
ABKAR	**Akbulak array**	**74.46**	**318**	P	**P**	**12 59 50.4**	**-0.7**
BMAR	**Burnt Mountain**	**74.82**	**23**	P	**P**	**12 59 53.6**	**+0.7**
A36M	**Sachs Harbour**	**81.50**	**18**	P	**P**	**13 00 29.7**	**0.0**
A36M				IAmb	IAmb	13 00 40.9	
comp=Z,3.9nm,1.1s							
EUNU	**Eureka**	**86.22**	**7**	P	**P**	**13 00 54.0**	**+0.2**
EUNU				IAmb	IAmb	13 00 54.9	
comp=Z,2.4nm,0.7s							
ARCES	**ARCESS Array B**	**87.66**	**341**	LR	LR	13 45 16.7	
comp=Z,30nm,18.8s,baz=294,slow=39							
YKA	**Yellowknife Ar**	**87.89**	**26**	P	**P**	**13 01 02.5**	**+0.5**
comp=Z,0.9nm,0.7s,baz=291,slow=5.0,SNR=14							
FINES	**FINESS Array B**	**90.91**	**334**	P	**P**	**13 01 14.2**	**-2.1**
comp=Z,2.1nm,0.8s,baz=79,slow=7.4,SNR=3.3							
NVAR	**Mina Array Bea**	**93.20**	**50**	P	**P**	**13 01 28.8**	**+1.2**
comp=Z,0.4nm,0.7s,baz=271,slow=5.3,SNR=4.2							

*IDC **11** 12:51:02.7±0.8,2°.51N×128°.72E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.6/45,mbtmp3.9/9,ML4.0/1,Error ellipse: s-maj=46.5km s-min=15.8km az=68.0*

*DJA **11** 12:51:03.9±0.6,3°N±5°×12°9E±°,h10km,M4.1/12,mb4.3/6, mB5.4/1,MLv4.0/12,Mw(mB)4.9/1,MwMwp4.2/1,Mwp4.6/1*

ISC 11 12:51:07.9±0.7,2°.51N±0°.09×128°.84E±0°.10,h35km,n27, σ1§09/23,mb3.9/9,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.27**	**220**	P	**Pn**	**12 51 44.2**	**+1.3**
TNTI	**Ternate**	**2.27**	**220**	Pn	**Pn**	**12 51 44.3**	**-2.8**
LBMI	**Labuha**	**3.40**	**203**	P	**Pn**	**12 51 59.3**	**+0.8**
SWI	**Sorong**	**4.13**	**144**	P	**Pn**	**12 52 09.3**	**+0.7**
SIJI	**Sorong**	**4.14**	**144**	Pn	**Pn**	**12 52 09.1**	**+0.3**
9.2nm,0.3s,baz=327,slow=18,SNR=27							
SIJI				Sn	**Sn**	**12 52 53.6**	**-2.5**
5.0nm,0.3s,baz=212,slow=22,SNR=15							
KMSI	**Cibinong**	**5.22**	**248**	P	**Pn**	**12 52 23.6**	**0.0**
0.5nm76nm,0.6s							
SANI	**Sanana**	**5.35**	**212**	P	**Pn**	**12 52 25.6**	**+0.2**
0.1nm6.8nm,0.7s							
GTOI	**Gorontalo**	**6.11**	**252**	P	**Pn**	**12 52 38.2**	**+2.3**
0.0nm789nm10nm,0.7s							
AAI	**Ambon**	**6.19**	**186**	P	**Pn**	**12 52 38.8**	**+1.9**
0.1nm3um15nm,0.5s							
FAKI	**Fak Fak**	**6.38**	**148**	P	**Pn**	**12 52 40.2**	**+0.6**
0.0nm8.2nm,1.1s							
MRSI	**Marisa**	**7.18**	**254**	P	**Pn**	**12 52 50.6**	**0.0**
0.1nm31nm,0.5s							
APSI	**Ampana**	**7.95**	**245**	P	**Pn**	**12 53 00.7**	**-0.4**
WRA	**Warramunga Arr**	**22.96**	**167**	P	**P**	**12 56 09.3**	**-0.2**
0.9nm,0.6s,baz=345,slow=10.0,SNR=8.4							
ASAR	**Alice Springs**	**26.48**	**170**	P	**P**	**12 56 42.0**	**-0.2**
0.5nm,0.7s,baz=355,slow=7.9,SNR=7.0							
ASAR				PcP	**PcP**	**13 00 05.7**	**-1.1**
0.1nm,0.4s,baz=347,slow=2.1,SNR=1.8							
STKA	**Stephens Creek**	**36.28**	**161**	P	**P**	**12 58 08.6**	**+0.4**
1.5nm,0.6s,baz=335,slow=12,SNR=4.5							
H11S3	**WAKE ISLAND Hy**	**40.33**	**64**	T	T	13 41 51.3	
baz=251,slow=75,SNR=18							
H11S2	**WAKE ISLAND Hy**	**40.34**	**64**	T	T	13 41 55.3	
baz=251,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hy**	**40.34**	**64**	T	T	13 41 56.4	
baz=251,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy**	**40.91**	**62**	T	T	13 42 40.6	
baz=250,slow=75,SNR=50							
H11N2	**WAKE ISLAND Hy**	**40.92**	**62**	T	T	13 42 43.5	
baz=250,slow=75,SNR=22							
H11N3	**WAKE ISLAND Hy**	**40.93**	**62**	T	T	13 42 39.1	
baz=250,slow=75,SNR=39							
SONM	**Songino Array**	**49.13**	**340**	P	**P**	**12 59 52.2**	**-0.2**
0.5nm,0.6s,baz=156,slow=8.5,SNR=4.7							
MSVF	**Nonsavu**	**52.49**	**115**	P	**P**	**13 00 19.0**	**+1.0**
29nm,0.9s,baz=268,slow=11,SNR=8.2							
MKAR	**Makanchi Array**	**59.75**	**325**	P	**P**	**13 01 09.6**	**+0.2**
1.0nm,0.5s,baz=112,slow=7.9,SNR=21							
TIXI	**Tiksi**	**69.04**	**0**	P	**P**	**13 02 10.2**	**+0.6**
0.4nm,0.3s,baz=144,slow=2.2,SNR=4.4							
ILAR	**Eielson Array**	**85.30**	**25**	P	**P**	**13 03 41.1**	**+0.1**
0.2nm,0.6s,baz=252,slow=5.5,SNR=4.8							
ARCES	**ARCESS Array B**	**92.31**	**340**	P	**P**	**13 04 13.1**	**-1.2**
1.6nm,0.8s,baz=69,slow=6.0,SNR=1.6							

*NOU **11** 12:57:40.8,15°.26S×167°.53E,h115km,mb4.8/35, Vanuatu Islands*

*NEIC **11** 12:57:41.0±1.9,15°.31S±0°.09×167°.7E±0°.1,h117km±4km, mb4.6/31,Error ellipse: s-maj=19.3km s-min=11.8km az=64.0*

*IDC **11** 12:57:41.4±0.7,15°.36S×167°.52E,h121km±5km,mb4.1/20, mb1 4.3/22,mb1mx4.1/42,mbtmp4.5/22,MS3.3/10, Ms1 3.3/10,ms1mx3.0/59,Error ellipse: s-maj=15.1km s-min=10.9km az=103.0*

ISC 11 12:57:41.7±0.4,15°.34S±0°.05×167°.53E±0°.07,h124km, n143,σ1§02/144,mb4.6/48,2C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.33**	**252**	Pn	**Pn**	**12 57 57.9**	**-1.3**
SANVU	**Saraoutou**	**0.33**	**252**	P	**Pn**	**12 57 58.2**	**-1.0**
DVP	**Devils Point**	**2.45**	**165**	P	**Pn**	**12 58 20.9**	**-0.1**
LIFNC	**LIFOU**	**5.41**	**183**	Pn	**Pn**	**12 58 58.4**	**-1.8**
LIFNC	**LIFOU**	**5.41**	**183**	P	**Pn**	**12 58 59.3**	**-0.9**
KOUNC	**Koumac, New Ca**	**6.03**	**210**	P	**Pn**	**12 59 08.6**	**+0.1**
MARNC	**Mare, Loyalty**	**6.12**	**176**	Pn	**Pn**	**12 59 07.5**	**-2.3**
DZM	**Mont Dzumac**	**6.77**	**189**	P	**Pn**	**12 59 18.2**	**-0.4**
24nm,0.3s,baz=34,slow=14,SNR=113							
DZM				S	**Sn**	**13 00 34.9**	**+0.5**
15nm,0.3s,baz=324,slow=21,SNR=11							
DZM				LR	LR	13 01 18.5	
comp=Z,232nm,19.6s,baz=356,slow=32							
DZM	**Mont Dzumac**	**6.77**	**189**	*e*Pn	**Pn**	**12 59 19.6**	**+1.0**
236nm,1.0s							
DZM				*e*Sn	**Sn**	**13 00 33.0**	**-1.4**
473nm,1.2s							
DZM	**Mont Dzumac**	**6.77**	**189**	Pn	**Pn**	**12 59 18.3**	**-0.3**
NOUC	**Port Laguerre**	**6.82**	**190**	P	**Pn**	**12 59 19.7**	**+0.5**
ONTNC	**Ouen Toro**	**7.00**	**188**	Pn	**Pn**	**12 59 21.5**	**-0.1**
ONTNC	**Ouen Toro**	**7.00**	**188**	P	**Pn**	**12 59 21.9**	**+0.3**
OUENC	**Ouen Island, N**	**7.07**	**185**	Pn	**Pn**	**12 59 23.4**	**+0.9**
OUENC	**Ouen Island, N**	**7.07**	**185**	P	**Pn**	**12 59 22.9**	**+0.4**
PINNC	**Pines Island,**	**7.23**	**181**		**Pn**	**12 59 24.7**	**0.0**
PINNC	**Pines Island,**	**7.23**	**181**	P	**Pn**	**12 59 25.2**	**+0.5**
HNR	**Honiara**	**9.45**	**308**	P	**Pn**	**12 59 55.6**	**+0.9**
44nm,0.3s,baz=160,slow=5.9,SNR=30							
HNR				S	**Sn**	**13 01 38.8**	**-0.5**
13nm,0.3s,baz=210,slow=20,SNR=1.5							
HNR				LR	LR	13 03 33.0	
comp=Z,132nm,19.8s,baz=146,slow=37							
HNR	**Honiara**	**9.45**	**308**	Pn	**Pn**	**12 59 55.2**	**+0.5**
RK1H	**Rockhampton Ha**	**17.94**	**241**	P	**P**	**13 01 42.8**	**+0.6**
EIDS	**Eidsvold**	**18.34**	**234**	P	**P**	**13 01 47.6**	**+1.0**
EIDS				IAmb	IAmb	13 01 49.5	
comp=Z,26nm,0.7s							
EIDS	**Eidsvold**	**18.34**	**234**	P	**P**	**13 01 47.7**	**+1.0**
RABL	**Rabaul**	**18.74**	**305**	P	**Pn**	**13 01 53.4**	**+0.4**
RABL			

PSA00 IAmb IAmb 13 05 50.4
comp=Z,9.6nm,1.2s
APSI Ampana 47.49 283 P **P 13 06 04.7 +0.1**
comp=Z,14nm,0.6s
MRSI Marisa 47.70 285 P **P 13 06 05.9 -0.3**
comp=Z,9.0nm,0.6s
BNSI Bone 47.86 278 P **P 13 06 08.0 +0.6**
comp=Z,17nm,1.1s
KAPI Kappang 48.03 277 P **P 13 06 08.2 -0.6**
comp=Z,11nm,0.8s,baz=134,slow=7.3,SNR=4.2
KAPI Kappang 48.03 277 P **P 13 06 09.3 +0.6**
MORW Morawa 49.23 245 P **P 13 06 17.3 -0.5**
MORW IAmb IAmb 13 06 18.2
comp=Z,12nm,0.9s
TAOE Nuku Hiva Isla 51.47 89 *e*LR LR 13 21 32.5
comp=Z,81nm,37.3s
MJAR Matsushiro Arr 58.56 332 P **P 13 07 24.3 -1.0**
comp=Z,2.3nm,0.6s,baz=158,slow=5.9,SNR=4.9
MJAR Matsushiro Arr 58.56 332 P **P 13 07 24.5 -0.8**
MJAR IAmb IAmb 13 07 25.7
comp=Z,4.9nm,1.2s
MAT Matsushiro 58.56 332 P **P 13 07 23.7 -1.7**
JNU Nakatsue 59.56 324 P **P 13 07 32.5 +0.1**
comp=Z,12nm,0.9s,baz=169,slow=5.2,SNR=4.5
JNU Nakatsue 59.56 324 P **P 13 07 32.1 -0.3**
VNDA Vanda 62.26 181 P **P 13 07 50.1 +0.2**
comp=Z,3.3nm,0.7s,baz=7.9,slow=3.8,SNR=2.0
VNDA Vanda 62.26 181 P **P 13 07 51.3 +1.4**
KSRS Korea Array 64.39 326 LR LR 13 36 24.9
comp=Z,8.3nm,18.1s,baz=220,slow=36
NJ2 Nanjing 66.29 316 *e*P **P 13 08 18.2 +1.4**
NJ2 pmax pmax
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 67.54 333 P **P 13 08 25.5 +1.0**
comp=Z,5.1nm,0.7s,baz=163,slow=5.7,SNR=6.3
SHEM Shemya Is, Ala 68.03 4 LR LR 13 34 24.3
comp=Z,18nm,21.1s,baz=123,slow=32
PETK Petropavlovsk- 68.69 354 P **P 13 08 32.2 +0.6**
comp=Z,3.0nm,0.8s,baz=190,slow=16,SNR=4.2
MDJ Mudanjiang 68.94 332 P **P 13 08 33.3 +0.1**
MDJ pmax pmax
comp=Z,18nm,1.1s
MDJ pmax pmax
comp=Z,110nm,5.7s
MNSI Mandailing Nat 68.99 277 P **P 13 08 34.2 0.0**
ENH Enshi 71.95 309 P **P 13 08 51.5 -0.4**
ENH IAmb IAmb 13 08 52.6
comp=Z,16nm,1.1s
GYA Guiyang 72.27 305 ⇑P **P 13 08 55.3 +1.3**
GYA pmax pmax
comp=Z,12nm,0.8s
QSPA South Pole Qui 74.69 180 P **P 13 09 08.0 +0.5**
QSPA IAmb IAmb 13 09 09.1
comp=Z,22nm,0.9s
XLT XiLinHaoTe 75.35 324 *e*P **P 13 09 11.8 +0.2**
XLT pmax pmax
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 75.43 294 P **P 13 09 13.9 +1.5**
comp=Z,1.9nm,0.7s,baz=127,slow=4.1,SNR=17
CMAR pP **pP 13 09 44.2 +0.7**
comp=Z,2.6nm,0.9s,baz=123,slow=3.9,SNR=3.7
CMAR Chiang Mai Arr 75.43 294 P **P 13 09 12.9 +0.4**
CHTO Chiang Mai 75.56 294 P **P 13 09 13.7 +0.5**
CHTO IAmb IAmb 13 09 15.1
comp=Z,6.7nm,1.1s
HHC Hu-ho-hao-te 76.21 320 *e*P **P 13 09 18.3 +1.7**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.3s
PZH PanZhiHua 76.24 303 P **P 13 09 17.5 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.6s
LZH Lanzhou 78.92 312 *e*P **P 13 09 33.6 +1.8**
LZH pP pP 13 10 03.4 +0.5
LZH sP sP 13 10 18.2 +2.1
LZH pmax pmax
comp=Z,18nm,1.3s
SEY Seymchan 78.92 353 P **P 13 09 31.6 +0.6**
comp=Z,2.6nm,0.8s,baz=137,slow=7.6,SNR=11
YAK Yakutsk 82.69 343 P **P 13 09 51.0 0.0**
ULN Ulaanbaatar 82.78 324 P **P 13 09 52.6 +0.6**
ULN IAmb IAmb 13 09 53.7
comp=Z,15nm,1.0s
SONM Songino Array 83.14 324 P **P 13 09 54.1 +0.3**
comp=Z,5.4nm,0.9s,baz=141,slow=5.5,SNR=30
SONM pP **pP 13 10 24.6 -0.3**
comp=Z,0.9nm,0.8s,baz=127,slow=6.4,SNR=2.4
SONM Songino Array 83.14 324 P **P 13 09 54.0 +0.1**
SONM IAmb IAmb 13 09 55.4
comp=Z,8.4nm,1.0s
GTA Gaotai 83.27 314 ⇑P **P 13 09 55.5 +0.8**
GTA pP pP 13 10 26.1 -0.1
GTA sP sP 13 10 40.5 +1.2
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,66nm,5.1s
GTA LR LR
comp=Z,87nm,15.3s
GTA LR LR
comp=Z,73nm,16.4s
GTA LR LR
comp=Z,68nm,16.0s
ILAR Eielson Array 87.03 18 P **P 13 10 11.6 -1.2**
comp=Z,1.4nm,0.7s,baz=235,slow=5.4,SNR=6.1
ILAR pP **pP 13 10 44.6 +1.1**
comp=Z,1.6nm,0.8s,baz=238,slow=4.4,SNR=5.3
ILAR Eielson Array 87.03 18 P **P 13 10 12.0 -0.7**
NVAR Mina Array Bea 87.48 49 P **P 13 10 15.8 +0.1**
comp=Z,0.5nm,0.8s,baz=238,slow=7.5,SNR=4.3
SNAA Sanae 92.95 183 P **P 13 10 39.5 -1.1**
WMQ Urumqi 93.33 314 *e*P **P 13 10 44.6 +1.8**
VNA3 Neumayer Olymp 93.61 181 P **P 13 10 42.2 -1.3**
VNA2 Neumayer--Watz 93.88 182 P **P 13 10 43.6 -1.2**
baz=184,slow=4.5
MK31 Makanchi Array 97.82 316 P Pdif 13 11 03.3 +0.2
MK31 IAmb IAmb 13 11 04.7
comp=Z,2.1nm,1.0s
MKAR Makanchi Array 97.82 316 P **P 13 11 03.1 0.0**
comp=Z,1.5nm,0.8s,baz=98,slow=6.1,SNR=12
MKAR pP **pP 13 11 34.1 -0.7**
comp=Z,1.3nm,1.0s,baz=93,slow=4.5,SNR=3.2
MKAR Makanchi Array 97.82 316 P Pdif 13 11 04.1 +1.0
YKA Yellowknife Ar 97.98 27 P **P 13 11 02.1 -1.2**
comp=Z,0.5nm,0.8s,baz=254,slow=4.7,SNR=7.1
YKA Yellowknife Ar 97.98 27 P **P 13 11 02.2 -1.0**
ZAA0 Zalesovo Array 98.03 324 P **P 13 11 02.8 -0.9**
ZAA0 IAmb IAmb 13 11 03.8
comp=Z,2.8nm,0.8s
ZALV Zalesovo Beam 98.03 324 P **P 13 11 02.6 -1.2**
comp=Z,2.2nm,0.8s,baz=117,slow=5.4,SNR=12
ZALV pP **pP 13 11 34.1 -1.5**
comp=Z,0.8nm,0.7s,baz=129,slow=5.2,SNR=2.7
ZALV Zalesovo Beam 98.03 324 P **P 13 11 03.0 -0.8**
NRIK Noril'sk 100.73 339 P **Pdif 13 11 15.5 0.0**
comp=Z,0.9nm,0.3s,baz=72,slow=6.4,SNR=3.7
ARCES ARCESS Array B 120.91 345 PKP **PKPdf 13 16 18.2 -0.6**
comp=Z,3.0nm,0.7s,baz=83,slow=2.8,SNR=16
ARCES ARCESS Array B 120.91 345 **PKPdf 13 16 18.0 -0.8**
KLMR Klimovskoe 121.34 333 *e*PKPdf **PKPdf 13 16 16.5 -3.3**
KLMR AMP 13 16 18.1
comp=Z,13nm,1.5s
FINES FINESS Array B 126.38 338 PKP **PKPdf 13 16 28.4 -1.1**
comp=Z,4.6nm,1.0s,baz=132,slow=2.1,SNR=3.9
AKASG Malin Array Be 131.38 326 PKP **PKPdf 13 16 38.8 -0.5**
comp=Z,0.3nm,0.5s,baz=77,slow=0.8,SNR=5.5
AKASG Malin Array Be 131.38 326 **PKPdf 13 16 39.2 0.0**
CLL Collm 138.71 336 *e*PKPdf **PKPdf 13 16 53.0 0.0**
KEST Kesra 151.84 320 PKPbc **PKiKP 13 17 23.1 +0.4**
comp=Z,3.0nm,0.8s,baz=90,slow=2.0,SNR=3.6
ESDC Sonseca Array 154.64 345 PKPab **PKPab 13 17 44.2 +0.8**
comp=Z,1.6nm,0.9s,baz=26,slow=3.3,SNR=3.5
TORD Torodi Ar. Bea 166.09 263 PKP **PKPdf 13 17 31.9 -1.0**
comp=Z,0.9nm,0.8s,baz=69,slow=1.7,SNR=6.1
TORD PKPab **PKPab 13 18 33.2 -0.9**
comp=Z,1.4nm,1.0s,baz=121,slow=3.4,SNR=5.0

*TUL **11** 13:12:16.7±0.8, 36°.47N±0°.02×98°.76W±0°.04, h7km±7km, ML3.0, mb_Lg2.9/52(NEIC), Error ellipse: s-maj=4.7km s-min=3.3km az=81.0*
NEIC 11 13:12:17.5±1.2, 36°.48N±0°.02×98°.69W±0°.04, h15km±6km,
Error ellipse: s-maj=4.9km s-min=3.6km az=90.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.23**	**355**	Pg	Pg	13 12 21.9	-0.7
OK035				Sg	Sg	13 12 25.5	-0.7
U32A	**Winter Ranch,**	**0.27**	**249**	Pg	Pg	13 12 21.4	-2.0
OK032	**Salt Plains WL**	**0.50**	**49**	Pg	Pg	13 12 27.3	-0.2
OK032				Sg	Sg	13 12 34.1	-0.1
KAN14	**Manchester OK**	**0.75**	**50**		Pg	13 12 31.9	-0.3
KAN14				Sg	Sg	13 12 42.0	-0.1
GC02	**Grant County #**	**0.76**	**60**		Pg	13 12 32.1	-0.3
GC02				Sg	Sb	13 12 42.6	-0.1
KAN10	**Anthony SW Sta**	**0.80**	**36**	Pg	Pg	13 12 32.4	-0.7
KAN10				Sg	Sg	13 12 42.8	-0.9
KAN16	**Harper SW Stat**	**0.90**	**33**	Pg	Pb	13 12 34.3	-0.5
KAN05	**Bluff City Nor**	**0.91**	**46**		Pb	13 12 34.7	-0.3
KAN17	**Caldwell West**	**0.93**	**52**		Pb	13 12 35.1	-0.3
KAN08	**Anthony NE Sta**	**0.94**	**37**		Pb	13 12 35.1	-0.6
KAN12	**Harper NE Stat**	**0.99**	**34**	Pg	Pb	13 12 35.9	-0.5
KAN01	**Argonia South**	**1.00**	**47**		Pb	13 12 36.4	-0.3
KAN06	**Argonia West S**	**1.01**	**41**		Pb	13 12 36.5	-0.4
KAN13	**South Haven SW**	**1.11**	**61**		Pb	13 12 38.2	-0.2
BCOK	**Bluff Creek, N**	**1.20**	**133**	Pn	Pb	13 12 39.9	0.0
BLOK	**Blackwell**	**1.22**	**76**	Pn	Pn	13 12 40.0	-0.1
OK025	**Westminster Rd**	**1.41**	**129**		Pn	13 12 43.1	+0.4
OKCFA	**Oklahoma City**	**1.46**	**136**	Pn	Pn	13 12 42.9	-0.5
OKCSW	**OKLAHOMA CITY**	**1.47**	**136**	Pn	Pn	13 12 43.8	+0.2
OK031	**S. Brethren Rd**	**1.58**	**109**		Pn	13 12 45.6	+0.5
FNO	**Franklin**	**1.60**	**139**		Pn	13 12 45.8	+0.4
QUOK	**Quay**	**1.62**	**100**		Pn	13 12 46.4	+0.7
OK030	**Cody Creek RV**	**1.63**	**109**		Pn	13 12 46.4	+0.6
OK034	**N. Norfolk Rd.**	**1.66**	**106**		Pn	13 12 46.8	+0.6
WMOK	**Wichita Mounta**	**1.74**	**183**	Pn	Pn	13 12 46.9	-0.4
T35A	**Sooner Cattle**	**1.80**	**75**	Pn	Pb	13 12 49.3	-1.0
R32A	**Long Quarter,**	**1.94**	**359**	Pn	Pn	13 12 50.2	+0.2
X34A	**Smith Ranch, M**	**2.00**	**159**	Pn	Pn	13 12 51.1	+0.3
TUL1	**Leonard**	**2.41**	**103**	Pn	Pn	13 12 56.9	+0.4
TUL1				IAmb_Lg		13 13 34.0	
	comp=Z,38nm,0.9s						
CBKS	**Cedar Bluff**	**2.48**	**341**	Pn	Pn	13 12 57.4	-0.1
CBKS				IAmb_Lg		13 13 37.7	
	comp=Z,41nm,0.7s						
LOOK	**Love County**	**2.77**	**153**	IAmb_Lg		13 13 50.3	
	comp=Z,35nm,0.8s						
AMTX	**Amarillo**	**2.91**	**238**	Pn	Pn	13 13 03.1	-0.3
AMTX				IAmb_Lg		13 13 52.9	
	comp=Z,48nm,0.8s						
KSU1	**Kansas State U**	**3.09**	**31**	Pn	Pn	13 13 05.3	-0.5
U38A	**Gravette**	**3.47**	**89**	Pn	Pn	13 13 12.2	+1.1
HHAR	**Hobbs**	**3.83**	**92**	Pn	Pn	13 13 16.8	+0.7
KSCO	**Kaye Shedlock'**	**4.02**	**310**		Pn	13 13 18.8	0.0
KSCO				IAmb_Lg		13 14 31.7	
	comp=Z,39nm,1.0s						
MSTX	**Muleshoe**	**4.18**	**234**	IAmb_Lg		13 14 33.1	
	comp=Z,23nm,0.8s						
W39A	**Magazine**	**4.18**	**106**	IAmb_Lg		13 14 34.6	
	comp=Z,37nm,0.9s						
N33A	**J Bar K, Exete**	**4.36**	**12**	Pn	Pn	13 13 23.8	+0.5
N33A				IAmb_Lg		13 14 35.5	
	comp=Z,36nm,0.7s						
Z38A	**Mt. Pleasant**	**4.42**	**135**	IAmb_Lg		13 14 39.8	
	comp=Z,28nm,0.9s						
S39A	**Bolivar**	**4.46**	**73**	Pn	Pn	13 13 25.4	+0.8
T25A	**Trinidad**	**4.64**	**280**	Pn	Pn	13 13 27.3	-0.1
T25A				IAmb_Lg		13 14 47.3	
	comp=Z,20nm,0.9s						
U40A	**Yellville**	**4.71**	**90**	Pn	Pn	13 13 28.9	+0.9
U40A				IAmb_Lg		13 14 46.4	
	comp=Z,29nm,0.9s						
BGNE	**Belgrade**	**4.94**	**5**	IAmb_Lg		13 15 02.6	
	comp=Z,25nm,0.8s						
237A	**Washetta, Mont**	**5.06**	**151**	IAmb_Lg		13 15 11.0	
	comp=Z,26nm,0.9s						
P38A	**Dawn**	**5.14**	**51**		Pn	13 13 34.5	+0.6
X40A	**Basin Creek Fa**	**5.17**	**111**	IAmb_Lg		13 15 16.3	
	comp=Z,16nm,0.7s						
MGMO	**Mountain Grove**	**5.19**	**81**	IAmb_Lg		13 15 07.7	
	comp=Z,26nm,1.2s						
FCAR	**Ozark Folk Cen**	**5.34**	**94**	Pn	Pn	13 13 37.2	+0.5
W41B	**Gary Mavity, V**	**5.39**	**102**	Pn	Pn	13 13 38.2	+0.8
W41B				IAmb_Lg		13 15 18.8	
	comp=Z,20nm,0.7s						
SDCO	**Great Sand Dun**	**5.59**	**285**		Pn	13 13 40.3	-0.2
435B	**Jarrell**	**5.75**	**171**	IAmb_Lg		13 15 32.2	
	comp=Z,21nm,0.8s						
JCT	**Junction City**	**6.05**	**189**	IAmb_Lg		13 15 35.6	
	comp=Z,16nm,0.8s						
P40A	**Paris**	**6.06**	**58**	IAmb_Lg		13 15 36.4	
	comp=Z,26nm,0.8s						
K31A	**O'Neill**	**6.14**	**360**	IAmb_Lg		13 15 41.1	
	comp=Z,26nm,0.7s						
CCM	**Cathedral Cave**	**6.14**	**73**	IAmb_Lg		13 15 32.0	
	comp=Z,22nm,0.8s						
PBMO	**Poplar Bluff**	**6.65**	**85**	IAmb_Lg		13 15 49.1	
	comp=Z,16nm,0.7s						
FVM	**French Village**	**6.76**	**75**	IAmb_Lg		13 15 57.2	
	comp=Z,16nm,0.7s						
SCIA	**State Center**	**6.89**	**36**	IAmb_Lg		13 16 15.9	
	comp=Z,21nm,0.7s						
S44A	**Carbondale**	**7.63**	**78**	IAmb_Lg		13 16 34.0	
	comp=Z,14nm,0.8s						
RSSD	**Black Hills**	**8.66**	**334**	IAmb_Lg		13 16 57.2	
	comp=Z,9.2nm,0.9s						

*TUL **11** 13:17:04.5±0.6, 36°.48N±0°.03×98°.76W±0°.02, h7km±7km, ML2.5, mb_Lg2.1/4(NEIC), Error ellipse: s-maj=4.2km s-min=2.2km az=150.0*
NEIC 11 13:17:04.3±0.6, 36°.49N±0°.03×98°.77W±0°.03, h10km±6km,
Error ellipse: s-maj=4.5km s-min=2.5km az=146.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.22**	**239**		Pg	13 17 09.1	+0.2
U32A				Sg	Sg	13 17 11.7	-0.3
OK035	**E0210 Rd and N**	**0.22**	**12**		Pg	13 17 09.7	+0.7
OK032	**Salt Plains WL**	**0.55**	**55**	Pg	Pg	13 17 15.1	+0.1
KAN14	**Manchester OK**	**0.80**	**54**	Pg	Pg	13 17 19.6	-0.1
KAN14				Sg	Sg	13 17 29.6	-0.5
GC02	**Grant County #**	**0.81**	**64**		Pg	13 17 19.9	-0.2
KAN10	**Anthony SW Sta**	**0.83**	**40**	Pg	Pg	13 17 20.4	0.0
KAN16	**Harper SW Stat**	**0.92**	**37**	Pg	Pg	13 17 22.2	0.0
KAN05	**Bluff City Nor**	**0.95**	**49**	Pg	Pg	13 17 22.2	-0.4
KAN05				Sg	Sg	13 17 34.4	-0.5
KAN08	**Anthony NE Sta**	**0.97**	**41**	Pg	Pg	13 17 22.9	-0.2
KAN17	**Caldwell West**	**0.98**	**55**	Pg	Pg	13 17 22.9	-0.2
KAN12	**Harper NE Stat**	**1.01**	**37**	Pg	Pg	13 17 23.9	+0.1
KAN01	**Argonia South**	**1.04**	**50**	Pg	Pg	13 17 24.2	-0.2
KAN06	**Argonia West S**	**1.05**	**44**	Pg	Pg	13 17 24.4	-0.2
KAN13	**South Haven SW**	**1.16**	**63**	Pg	Pb	13 17 26.1	-0.3
BCOK	**Bluff Creek, N**	**1.25**	**131**		Pn	13 17 27.7	-0.3
BLOK	**Blackwell**	**1.28**	**77**	Pn	Pn	13 17 28.1	-0.2
OK025	**Westminster Rd**	**1.47**	**128**	Pn	Pn	13 17 31.1	+0.2
OK031	**S. Brethren Rd**	**1.65**	**108**	Pn	Pn	13 17 33.7	+0.3
FNO	**Franklin**	**1.66**	**138**	Pn	Pn	13 17 33.9	+0.3
QUOK	**Quay**	**1.69**	**100**	Pn	Pn	13 17 34.4	+0.4
OK034	**N. Norfolk Rd.**	**1.73**	**106**	Pn	Pn	13 17 34.9	+0.5
WMOK	**Wichita Mounta**	**1.75**	**180**	Pn	Pn	13 17 34.7	-0.1
W35A	**Tecumseh**	**2.04**	**130**	Pn	Pn	13 17 38.9	+0.2
FVM	**French Village**	**6.82**	**75**	IAmb_Lg		13 20 38.9	
	comp=Z,2.5nm,0.8s						

*DJA **11** 13:22:37.8±0.2, 3°.S±3°.×13°.9E±°, h96km±5km, M4.6/12, mB4.9/6, mb4.6/12, MLv4.9/6, Mw(mB)4.2/6*
*NEIC **11** 13:22:38.0±1.3, 3°.58S±0°.06×138°.5E±0°.1, h69km±12km, mb4.3/14, Error ellipse: s-maj=16.8km s-min=5.9km az=112.0*
*IDC **11** 13:22:39.9±3.0, 3°.45S×138°.42E, h84km±27km, mb3.7/6, mb1 3.9/10, mb1mx3.5/39, mbtmp4.2/10, Error ellipse: s-maj=28.6km s-min=19.3km az=59.0*
ISC 11 13:22:37.6±0.6, 3°.60S±0°.06×138°.46E±0°.05, h71km, n47, σ1 91/50, mb4.3/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.98**	**60**	P	**Pn**	**13 23 07.8**	**-1.3**
GENI				S	**Sn**	**13 23 30.6**	**-2.4**
JAY	**Jayapura**	**2.49**	**64**	P	**Pn**	**13 23 14.0**	**-2.0**
SRPI	**Serui, Papua**	**2.80**	**308**	P	**Pn**	**13 23 19.0**	**-1.2**
SRPI				S	**Sn**	**13 23 50.8**	**-2.1**
BAKI	**Biak**	**3.35**	**315**	P	**Pn**	**13 23 26.0**	**-1.7**
MMPI	**Merauke**	**5.20**	**158**	P	Pn	13 23 58.7	+5.7
	4.1nm307nm,0.8s						
FAKI	**Fak Fak**	**6.23**	**276**	P	**Pn**	**13 24 08.5**	**+1.4**
	0.4nm397nm19nm,0.6s						
FAKI	**Fak Fak**	**6.23**	**276**	Pn	**Pn**	**13 24 06.9**	**-0.2**
SIJI	**Sorong**	**7.68**	**291**	P	**Pn**	**13 24 27.1**	**+0.3**
	2.4nm,0.3s,baz=62,slow=9.6,SNR=13						
SWI	**Sorong**	**7.69**	**291**	P	**Pn**	**13 24 28.1**	**+1.2**
	0.2nm18nm,0.6s						
SAUI	**Saumlaki**	**8.35**	**238**	P	**Pn**	**13 24 38.6**	**+2.6**
	6μm101nm,0.8s						
PMG	**Port Moresby**	**10.39**	**124**	P	**Pn**	**13 25 08.6**	**+4.6**
	1.7nm,0.3s,baz=346,slow=17,SNR=5.5						
PMG				S	**Sn**	**13 26 58.2**	**-0.6**
	0.7nm,0.3s,baz=111,slow=23,SNR=1.4						
PMG	**Port Moresby**	**10.39**	**124**	Pn	**Pn**	**13 25 04.7**	**+0.8**
COEN	**Coen**	**11.30**	**156**	Pn	**Pn**	**13 25 17.6**	**+1.3**
LBMI	**Labuha**	**11.33**	**285**	P	**Pn**	**13 25 16.4**	**-0.4**
	15nm,0.9s						
MTN	**Manton Dam**	**11.70**	**218**	Pn	**Pn**	**13 25 22.7**	**+1.0**
TNTI	**Ternate**	**11.90**	**291**	P	**Pn**	**13 25 23.9**	**-0.7**
	23nm,1.0s						
KNRA	**Kununurra**	**15.33**	**218**	Pn	**Pn**	**13 26 10.2**	**+0.2**
SOEI	**Soe**	**15.36**	**246**	P	**Pn**	**13 26 12.0**	**+1.5**
	50nm,0.9s						
SOEI	**Soe**	**15.36**	**246**	Pn	**Pn**	**13 26 11.7**	**+1.2**
BATI	**Baumata**	**16.08**	**245**	P	**P**	**13 26 22.2**	**+0.6**
	2.8nm,0.3s,baz=33,slow=4.6,SNR=3.2						
WB0	**Warramunga Arr**	**16.55**	**194**	Pn	**Pn**	**13 26 25.5**	**+0.1**
WB0				IAmb	IAmb	13 26 36.4	
	comp=Z,15nm,0.8s						
WR0	**Warramunga Arr**	**16.70**	**193**		**Pn**	**13 26 27.7**	**+0.5**
WR0				IAmb	IAmb	13 26 38.4	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**16.72**	**194**	Pn	**Pn**	**13 26 27.2**	**-0.3**
WRAB				IAmb	IAmb	13 26 33.1	
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**16.73**	**194**	Pn	**Pn**	**13 26 27.6**	**0.0**
WRA	**Warramunga Arr**	**16.73**	**194**	P	**Pn**	**13 26 27.7**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=8.0,slow=13,SNR=59						
WRA				S	**Sn**	**13 29 27.5**	**-5.5**
	comp=Z,1.2nm,0.3s,baz=8.8,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**16.73**	**194**	Pn	**Pn**	**13 26 26.9**	**-0.7**
EDFI	**Ende, Flores**	**17.43**	**252**	P	**P**	**13 26 37.0**	**+0.3**
CTAO	**Charters Tower**	**18.07**	**156**	P	**P**	**13 26 43.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.11**	**220**	P	**Pn**	**13 26 57.5**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=41,slow=9.0,SNR=27						
FITZ				S	**S**	**13 30 21.1**	**-7.1**
	comp=Z,0.8nm,0.3s,baz=208,slow=15,SNR=7.2						
AS31	**Alice Springs**	**20.43**	**192**		**P**	**13 27 11.1**	**+1.8**
AS31				IAmb	IAmb	13 27 17.6	
	comp=Z,13nm,0.5s						
ASAR	**Alice Springs**	**20.43**	**192**	P	Pn	13 27 12.0	0.0
	comp=Z,19nm,0.7s,baz=19,slow=10,SNR=385						
ASAR				S	**S**	**13 30 53.6**	**-0.7**
	comp=Z,4.3nm,0.9s,baz=10,slow=26,SNR=6.3						
ASAR	**Alice Springs**	**20.43**	**192**	P	**P**	**13 27 11.2**	**+1.9**
PSA00	**Pilbara Seismi**	**25.42**	**224**	P	**P**	**13 27 58.6**	**-0.2**
PSA00				IAmb	IAmb	13 28 03.4	
	comp=Z,6.2nm,1.0s						
STKA	**Stephens Creek**	**28.29**	**174**	P	**P**	**13 28 26.3**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=359,slow=8.6,SNR=4.3						
STKA	**Stephens Creek**	**28.29**	**174**	P	**P**	**13 28 23.2**	**-1.3**
FORT	**Forrest**	**28.76**	**199**	P	**P**	**13 28 28.2**	**-0.5**
FORT				IAmb	IAmb	13 28 42.9	
	comp=Z,9.7nm,1.0s						
BBOO	**Buckleboo**	**29.15**	**184**	P	**P**	**13 28 32.1**	**0.0**
BBOO				IAmb	IAmb	13 28 52.8	
	comp=Z,9.6nm,1.3s						
CMAR	**Chiang Mai Arr**	**44.66**	**301**	P	**P**	**13 30 44.7**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=119,slow=7.3,SNR=2.0						
PZH	**PanZhiHua**	**46.43**	**312**	P	**P**	**13 31 00.2**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,4.3s						
HHC	**Hu-ho-hao-te**	**50.61**	**334**	*e*P	P	13 31 33.9	+4.3
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,77nm,6.1s						
WMQ	**Urumqi**	**65.55**	**322**	*e*P	**P**	**13 33 16.7**	**+2.8**
MKAR	**Makanchi Array**	**70.33**	**323**	P	**P**	**13 33 43.7**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=103,slow=7.1,SNR=2.6						
MKAR	**Makanchi Array**	**70.33**	**323**	P	**P**	**13 33 44.1**	**+0.2**
MAKZ	**Makanchi**	**70.53**	**323**	P	**P**	**13 33 44.9**	**-0.1**
MAKZ				IAmb	IAmb	13 34 11.5	
	comp=Z,6.3nm,1.4s						
QSPA	**South Pole Qui**	**86.35**	**180**	P	**P**	**13 35 12.9**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=297,slow=1.2,SNR=17						
ILAR	**Eielson Array**	**86.74**	**24**	P	**P**	**13 35 12.6**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=278,slow=4.5,SNR=2.7						
LPAZ	**La Paz**	**147.12**	**128**	PKPbc	**PKiKP**	**13 42 16.2**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=256,slow=4.2,SNR=4.7						

*NEIC **11** 13:29:26.9±2.1, 25°.0S±0°.1×175°.18W±0°.07, h10km±1km, mb4.3/6, Error ellipse: s-maj=24.0km s-min=10.4km az=178.0*
*IDC **11** 13:29:29.4±1.1, 24°.96S×175°.88W, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.7/36, mbtmp4.0/7, ML5.2/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/63, Error ellipse: s-maj=41.5km s-min=27.2km az=166.0*
ISC 11 13:29:27.1±0.7, 24°.99S±0°.09×175°.2W±0°.1, h10km, n24, σ2 67/19, mb4.2/9, MS3.6/3, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.67**	**41**	Pn	**Pn**	**13 31 17.5**	**-1.5**
MSVF	**Nonsavu**	**9.55**	**318**	Pn	**Pn**	**13 31 44.4**	**-0.4**
	0.8nm,0.3s,baz=152,slow=12,SNR=4.8						
AFI	**Afiamalu**	**11.49**	**17**	Pn	**Pn**	**13 32 07.8**	**-3.7**
	2.5nm,0.3s,baz=228,slow=12,SNR=5.2						
AFI				Sn	Sn	13 34 05.2	-15
	1.8nm,0.3s,baz=105,slow=19,SNR=2.1						
RAR	**Rarotonga**	**14.72**	**78**	LR	LR	13 38 01.9	
	comp=Z,42nm,20.5s,baz=168,slow=34						
RAR	**Rarotonga**	**14.72**	**78**	P	**P**	**13 33 00.2**	**-1.5**
URZ	**Urewera**	**14.74**	**204**	Sn	**Sn**	**13 35 33.8**	**-5.2**

NEIC 11 13:56:04.6±0.7, 17.6°N±0.1°×146.0°E±0.2, h184km±9km, mb4.1/14, ML3.9/6, Error ellipse: s-maj=32.4km s-min=13.3km az=111.0

ISC 11 13:56:02.2±0.7, 17.7°N±0.1°×145.9°E±0.2, h167km, n28, σ0.85/24, mb3.9/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.20**	**194**	P	**Pn**	**13 57 07.9**	**+2.4**
	3.1nm,0.3s,baz=16,slow=20,SNR=2.4						
GUMO				S	**Sn**	**13 57 54.9**	**-0.1**
	16nm,0.3s,baz=144,slow=23,SNR=7.2						
GUMO	**Guam**	**4.20**	**194**	IAML		13 58 01.8	
	128nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**19.77**	**84**	T	T	14 21 28.3	
	baz=273						
H11S1	**WAKE ISLAND Hy**	**19.78**	**84**	T	T	14 21 24.4	
	baz=273						
H11S2	**WAKE ISLAND Hy**	**19.78**	**84**	T	T	14 21 29.5	
	baz=273						
H11N1	**WAKE ISLAND Hy**	**19.98**	**81**	T	T	14 21 37.0	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**19.98**	**81**	T	T	14 21 39.8	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**19.99**	**81**	T	T	14 21 41.6	
	baz=267						
FAKI	**Fak Fak**	**24.51**	**215**	P	**P**	**14 01 06.4**	**0.0**
TOLI2	**Tolitoli**	**29.69**	**239**	P	**P**	**14 01 52.0**	**-0.6**
TOLI2				IAmb	IAmb	14 02 00.6	
	comp=Z,3.9nm,1.0s						
KNRA	**Kununurra**	**37.22**	**208**	P	**P**	**14 02 57.3**	**-0.3**
KNRA				IAmb	IAmb	14 02 57.8	
	comp=Z,4.6nm,0.8s						
WB0	**Warramunga Arr**	**38.90**	**197**	P	**P**	**14 03 11.6**	**-0.2**
WB0				IAmb	IAmb	14 03 14.4	
	comp=Z,4.4nm,1.4s						
WR0	**Warramunga Arr**	**39.05**	**197**	P	**P**	**14 03 12.3**	**-0.6**
WR0				IAmb	IAmb	14 03 28.5	
	comp=Z,2.9nm,1.2s						
WB2	**Warramunga Arr**	**39.08**	**197**	P	**P**	**14 03 13.0**	**-0.2**
WB2				IAmb	IAmb	14 03 14.7	
	comp=Z,2.6nm,0.7s						
WRA	**Warramunga Arr**	**39.09**	**197**	P	**P**	**14 03 12.9**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=20,slow=8.2,SNR=14						
WRA				PcP	**PcP**	**14 05 18.3**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=17,slow=3.6,SNR=2.1						
WRA	**Warramunga Arr**	**39.09**	**197**	IAmb	IAmb	14 03 14.8	
	comp=Z,0.1nm,1.1s						
AS31	**Alice Springs**	**42.74**	**196**	P	**P**	**14 03 42.4**	**-0.7**
ASAR	**Alice Springs**	**42.74**	**196**	P	**P**	**14 03 42.4**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=18,slow=6.8,SNR=21						
ASAR				PcP	**PcP**	**14 05 30.6**	**-1.1**
	comp=Z,0.2nm,0.8s,baz=23,slow=3.1,SNR=2.0						
CMAR	**Chiang Mai Arr**	**44.56**	**279**	P	**P**	**14 03 58.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=78,slow=5.6,SNR=2.5						
PSA00	**Pilbara Seismi**	**46.63**	**214**	P	**P**	**14 04 13.4**	**-0.5**
PSA00				IAmb	IAmb	14 04 25.4	
	comp=Z,6.0nm,1.3s						
STKA	**Stephens Creek**	**49.46**	**185**	P	**P**	**14 04 34.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=353,slow=9.4,SNR=4.2						
GSI	**Gunungsitoli**	**50.18**	**257**	P	**P**	**14 04 41.2**	**0.0**
BBOO	**Buckleboo**	**51.09**	**191**	P	**P**	**14 04 47.2**	**-0.5**
BBOO				IAmb	IAmb	14 04 49.8	
	comp=Z,10nm,1.2s						
FORT	**Forrest**	**51.16**	**200**	P	**P**	**14 04 48.2**	**0.0**
FORT				IAmb	IAmb	14 04 48.5	
	comp=Z,6.8nm,0.9s						
MORW	**Morawa**	**54.71**	**212**	P	**P**	**14 05 13.2**	**-1.1**
ILAR	**Eielson Array**	**64.46**	**26**	P	**P**	**14 06 20.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=260,slow=5.4,SNR=2.4						
YKA	**Yellowknife Ar**	**78.78**	**28**	P	**P**	**14 07 46.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=286,slow=5.6,SNR=4.1						
YKA				pP	**pwP**	**14 08 30.0**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=285,slow=4.9,SNR=1.9						
NVAR	**Mina Array Bea**	**83.60**	**52**	P	**P**	**14 08 13.1**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=291,slow=5.7,SNR=2.3						

TUL 11 14:16:12.2±0.9, 36.47°N±0.03°×98.76°W±0.04, h8km±7km, ML3.2, mb_Lg3.0/59(NEIC), Error ellipse: s-maj=5.3km s-min=2.6km az=57.0

NEIC 11 14:16:12.7±1.2, 36.49°N±0.03°×98.73°W±0.04, h15km±6km, Error ellipse: s-maj=6.7km s-min=2.5km az=132.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.22**	**4**	Pg	Pg	14 16 17.4	-0.3
OK035				Sg	Sg	14 16 21.0	-0.1
U32A	**Winter Ranch,**	**0.25**	**244**	Pg	Pg	14 16 16.9	-1.3
OK032	**Salt Plains WL**	**0.52**	**53**	Pg	Pg	14 16 22.8	-0.2
KAN14	**Manchester OK**	**0.77**	**53**		Pg	14 16 27.3	-0.4
GC02	**Grant County #**	**0.79**	**62**	Pg	Pg	14 16 27.5	-0.5
KAN10	**Anthony SW Sta**	**0.81**	**39**	Pg	Pg	14 16 27.9	-0.6
KAN16	**Harper SW Stat**	**0.91**	**36**	Pg	Pb	14 16 29.6	-0.5
KAN05	**Bluff City Nor**	**0.92**	**48**		Pb	14 16 29.9	-0.5
KAN17	**Caldwell West**	**0.95**	**54**		Pb	14 16 30.4	-0.4
KAN08	**Anthony NE Sta**	**0.95**	**39**		Pb	14 16 30.6	-0.4
KAN12	**Harper NE Stat**	**1.00**	**36**		Pb	14 16 31.3	-0.4
KAN01	**Argonia South**	**1.02**	**49**		Pb	14 16 31.8	-0.2
KAN06	**Argonia West S**	**1.03**	**42**		Pb	14 16 31.9	-0.3
KAN13	**South Haven SW**	**1.13**	**62**	Pg	Pb	14 16 33.6	-0.3
BCOK	**Bluff Creek, N**	**1.23**	**132**		Pn	14 16 35.1	-0.2
BLOK	**Blackwell**	**1.25**	**77**	Pn	Pn	14 16 35.5	-0.1
OK025	**Westminster Rd**	**1.45**	**128**		Pn	14 16 38.6	+0.3
OKCFA	**Oklahoma City**	**1.49**	**136**	Pn	Pn	14 16 39.2	+0.3
OK031	**S. Brethren Rd**	**1.62**	**109**		Pn	14 16 41.4	+0.7
FNO	**Franklin**	**1.64**	**138**		Pn	14 16 41.3	+0.4
QUOK	**Quay**	**1.66**	**100**		Pn	14 16 42.0	+0.8
OK030	**Cody Creek RV**	**1.67**	**109**		Pn	14 16 42.0	+0.6
OK034	**N. Norfolk Rd.**	**1.70**	**106**		Pn	14 16 42.5	+0.7
WMOK	**Wichita Mounta**	**1.75**	**181**	Pn	Pn	14 16 42.3	-0.2
T35A	**Sooner Cattle**	**1.83**	**76**		Pb	14 16 44.8	-1.1
W35A	**Tecumseh**	**2.01**	**131**		Pn	14 16 46.1	+0.1
X34A	**Smith Ranch, M**	**2.02**	**159**		Pn	14 16 46.4	+0.2
TUL1	**Leonard**	**2.44**	**103**		Pn	14 16 52.0	0.0
TUL1				IAmb_Lg		14 17 30.3	
	comp=Z,51nm,0.9s						
CBKS	**Cedar Bluff**	**2.46**	**341**	Pn	Pn	14 16 53.0	+0.8
CBKS				IAmb_Lg		14 17 37.1	
	comp=Z,42nm,0.8s						
LOOK	**Love County**	**2.79**	**153**	Pn	Pn	14 16 56.5	-0.3
LOOK				IAmb_Lg		14 17 45.8	
	comp=Z,39nm,0.8s						
AMTX	**Amarillo**	**2.89**	**237**		Pn	14 16 58.3	0.0
AMTX				IAmb_Lg		14 17 51.3	
	comp=Z,52nm,0.7s						
HHAR	**Hobbs**	**3.87**	**92**	Pn	Pn	14 17 11.4	-0.2
KSCO	**Kaye Shedlock'**	**3.99**	**310**	Pn	Pn	14 17 14.4	+1.1
KSCO				IAmb_Lg		14 18 28.4	
	comp=Z,44nm,0.7s						
MSTX	**Muleshoe**	**4.16**	**234**	IAmb_Lg		14 18 28.1	
	comp=Z,34nm,0.8s						
W39A	**Magazine**	**4.22**	**106**	Pn	Pn	14 17 16.7	+0.3
W39A				IAmb_Lg		14 18 32.5	
	comp=Z,50nm,0.8s						
N33A	**J Bar K, Exete**	**4.36**	**13**	Pn	Pn	14 17 18.7	+0.4
N33A				IAmb_Lg		14 18 39.8	
	comp=Z,37nm,1.2s						
Z38A	**Mt. Pleasant**	**4.45**	**135**	IAmb_Lg		14 18 35.4	
	comp=Z,36nm,0.9s						
S39A	**Bolivar**	**4.48**	**73**	Pn	Pn	14 17 21.7	+1.6
T25A	**Trinidad**	**4.61**	**280**	Pn	Pn	14 17 22.6	+0.7
T25A				IAmb_Lg		14 18 45.1	
	comp=Z,25nm,0.7s						
WHTX	**Lake Whitney,**	**4.61**	**166**	Pn	Pn	14 17 22.6	+0.8
MIAR	**Mount Ida**	**4.63**	**113**	Pn	Pn	14 17 22.9	+0.9
U40A	**Yellville**	**4.74**	**90**	Pn	Pn	14 17 24.0	+0.4
U40A				IAmb_Lg		14 18 52.9	
	comp=Z,24nm,0.7s						
BGNE	**Belgrade**	**4.93**	**5**	IAmb_Lg		14 18 55.7	
	comp=Z,30nm,0.8s						
237A	**Washetta, Mont**	**5.09**	**151**	IAmb_Lg		14 19 07.9	
	comp=Z,31nm,0.8s						
P38A	**Dawn**	**5.16**	**51**	IAmb_Lg		14 19 10.4	
	comp=Z,20nm,0.8s						
X40A	**Basin Creek Fa**	**5.21**	**111**	IAmb_Lg		14 19 03.5	
	comp=Z,21nm,0.7s						
MGMO	**Mountain Grove**	**5.22**	**81**	Pn	Pn	14 17 29.9	-0.4
MGMO				IAmb_Lg		14 18 59.4	
	comp=Z,22nm,0.8s						
WHAR	**Wooly Hollow**	**5.36**	**101**	Pn	Pn	14 17 31.7	-0.4
WHAR				IAmb_Lg		14 19 05.8	
	comp=Z,24nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.37**	**94**	Pn	Pn	14 17 33.0	+0.8
FCAR				IAmb_Lg		14 19 05.1	
	comp=Z,21nm,0.8s						
W41B	**Gary Mavity, V**	**5.42**	**102**	Pn	Pn	14 17 33.3	+0.3
W41B				IAmb_Lg		14 19 14.0	
	comp=Z,22nm,0.8s						
R40A	**Maddies Statio**	**5.45**	**69**	Pn	Pn	14 17 34.2	+0.9
435B	**Jarrell**	**5.77**	**170**	IAmb_Lg		14 19 23.9	
	comp=Z,29nm,0.8s						
Z41A	**Richland Creek**	**5.84**	**122**	IAmb_Lg		14 19 32.4	
	comp=Z,26nm,0.9s						
JCT	**Junction City**	**6.06**	**189**	IAmb_Lg		14 19 31.4	
	comp=Z,25nm,0.9s						
P40A	**Paris**	**6.08**	**58**	IAmb_Lg		14 19 27.6	
	comp=Z,34nm,0.8s						
K31A	**O'Neill**	**6.13**	**360**	IAmb_Lg		14 19 31.5	
	comp=Z,24nm,0.8s						
T42A	**Van Buren**	**6.15**	**83**	IAmb_Lg		14 19 41.9	
	comp=Z,21nm,1.2s						
ISCO	**Idaho Springs**	**6.35**	**303**	Pn	Pn	14 17 45.8	-0.3
ANMO	**Albuquerque**	**6.47**	**259**	Pn	Pn	14 17 47.0	-0.6
PBMO	**Poplar Bluff**	**6.68**	**85**	IAmb_Lg		14 19 46.1	
	comp=Z,18nm,0.7s						
FVM	**French Village**	**6.79**	**75**	IAmb_Lg		14 19 52.7	
	comp=Z,23nm,0.8s						
PHWY	**Pilot Hill**	**7.12**	**315**	IAmb_Lg		14 19 59.2	
	comp=Z,14nm,0.9s						
ECSD	**EROS Data Cent**	**7.42**	**12**	Pn	Pn	14 18 00.5	+0.2
S44A	**Carbondale**	**7.67**	**78**	IAmb_Lg		14 20 32.9	
	comp=Z,18nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.25**	**212**	Pn	Pn	14 18 11.4	-0.6
TX32	**Lajitas Array**	**8.25**	**212**	Pn	Pn	14 18 11.1	-0.8
TXAR	**Lajitas Array**	**8.25**	**212**	Pn	Pn	14 18 11.3	-0.7
K22A	**Casper**	**8.61**	**318**	IAmb_Lg		14 20 54.9	
	comp=Z,13nm,0.9s						
RSSD	**Black Hills**	**8.63**	**334**	IAmb_Lg		14 21 07.5	
	comp=Z,9.7nm,0.7s						

IDC 11 14:30:31.8±1.4, 24.16°N×125.06°E, h0km, mb3.3/3, mb1 3.4/4, mb1mx2.9/50, mbtmp3.3/4, ML2.1/1, Error ellipse: s-maj=45.6km s-min=25.8km az=72.0

JMA 11 14:30:35.9±0.3, 24.17°N×125.17°E, h24km, M3.3

ISC 11 14:30:36.2±1.7, 24.20°N±0.09°×125.16°E±0.06, h31km±13km, n14, σ0.46/21, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.56**	**16**	P	**Pb**	**14 30 47.4**	**-0.2**
JMJ2				S	**Sb**	**14 30 55.9**	**+0.5**
JOGS	**Gusukube**	**0.60**	**22**	P	**Pb**	**14 30 48.1**	**-0.2**
JOGS				S	**Sn**	**14 30 57.8**	**+0.5**
JTJ	**Tarama**	**0.60**	**316**	P	**Pb**	**14 30 48.0**	**-0.4**
JTJ				S	**Sb**	**14 30 57.1**	**+0.4**
JIRB	**Irabujima**	**0.62**	**1**	P	**Pb**	**14 30 48.0**	**-0.7**
JIRB				S	**Sb**	**14 30 57.4**	**+0.2**
JIKM	**Ikemajima**	**0.72**	**6**	P	**Pb**	**14 30 49.8**	**-0.5**
JIKM				S	**Sb**	**14 31 00.5**	**+0.5**
JISG	**Ishigakijimahi**	**0.86**	**296**	P	**Pb**	**14 30 52.0**	**-0.7**
JISG				S	**Sb**	**14 31 04.1**	**+0.1**
JIJ	**Ishigaki jima**	**0.94**	**280**	P	**Pb**	**14 30 53.5**	**-0.5**
JIJ				S	**Sb**	**14 31 06.2**	**0.0**
JKRS	**Kuro-shima**	**1.05**	**272**	P	**Pb**	**14 30 55.5**	**-0.3**
HATJ	**Hateruma jima**	**1.25**	**264**	P	**Pb**	**14 30 59.3**	**+0.2**
IRIF	**Iriomote-Funau**	**1.31**	**276**	P	**Pn**	**14 30 59.0**	**+0.6**
JOW	**Kunigami**	**3.84**	**46**	Pn	**Pn**	**14 31 33.4**	**+0.1**
	0.3nm,0.3s,baz=167,slow=6.4,SNR=1.8						
MKAR	**Makanchi Array**	**40.88**	**314**	P	**P**	**14 38 15.2**	**-0.3**
	0.2nm,0.3s,baz=103,slow=10,SNR=8.1						
WRA	**Warramunga Arr**	**44.78**	**168**	P	**P**	**14 38 46.8**	**-0.4**
	0.2nm,0.5s,baz=348,slow=8.8,SNR=5.7						
ASAR	**Alice Springs**	**48.34**	**169**	P	**P**	**14 39 15.2**	**+0.1**
	0.2nm,0.7s,baz=354,slow=7.4,SNR=11						

IDC 11 14:41:42.1±2.1, 1.03°N×126.47°E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/33, mbtmp3.1/3, Error ellipse: s-maj=185.0km s-min=25.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.23**	**160**	P	P	14 46 40.5	0.0
	0.1nm,0.3s,baz=339,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**25.59**	**164**	P	P	14 47 13.2	0.0
	0.2nm,0.4s,baz=344,slow=11,SNR=12						
MKAR	**Makanchi Array**	**59.63**	**326**	P	P	14 51 48.0	0.0
	0.2nm,0.3s,baz=123,slow=6.7,SNR=6.1						

IDC 11 15:13:03.6±0.9, 3.65°N×82.97°W, h0km, mb4.1/8, mb1 4.4/15, mb1mx4.1/44, mbtmp4.3/15, ML3.6/6, MS3.8/22, Ms1 3.8/22, ms1mx3.5/61, Error ellipse: s-maj=27.9km s-min=15.4km az=48.0

UCR 11 15:13:04.6±1.3, 3.72°N×82.85W, h20km, mb4.8(NEIC)

NEIC 11 15:13:04.6±2.9, 3.72°N±0.06°×82.85W±0.06, h10km±1km, mb4.8/13, Error ellipse: s-maj=12.1km s-min=8.9km az=134.0

UPA 11 15:13:07.5±2.2, 3.82°N×83.17°W, h27km±87km, MW5.0

ISC 11 15:13:06.4±0.5, 3.66°N±0.05°×82.91°W±0.06, h24km, n152, σ1.70/138, mb4.5/11, MS3.8/21, 5C-6D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**4.19**	**29⇓**	*eP*	**Pn**	**15 14 07.6**	**-1.2**
GMAL	**Guarumal, Vera**	**4.40**	**22**	*eP*	**Pn**	**15 14 10.5**	**-1.2**
PIRO	**Carate, Puerto**	**4.73**	**355**	*eP*	**Pn**	**15 14 13.4**	**-2.9**
CHIR3	**Chiriqui UPA,**	**4.74**	**7**	*eP*	**Pn**	**15 14 14.3**	**-2.0**
DVD	**David**	**4.76**	**5**	*eP*	**Pn**	**15 14 14.8**	**-1.9**
AZU	**Azuero**	**4.87**	**32⇓**	*eP*	**Pn**	**15 14 18.0**	**-0.1**
	baz=205,slow=9.3						
CDITO	**Canoas**	**4.88**	**0**	Pn	**Pn**	**15 14 14.5**	**-3.8**
CDITO	**Canoas**	**4.88**	**0**	*eP*	**Pn**	**15 14 16.5**	**-1.8**
CHIT3	**Chitre**	**4.93**	**30**	*i P*	**Pn**	**15 14 19.6**	**+0.6**
RIOS	**Rincon, Osa**	**5.04**	**353**	Pn	**Pn**	**15 14 16.8**	**-3.7**
BRU2	**Volcan**	**5.10**	**2**	Pn	**Pn**	**15 14 18.4**	**-3.2**
BRU2	**Volcan**	**5.10**	**2**	*eP*	**Pn**	**15 14 20.3**	**-1.2**
SRBA	**San Rafael, Bu**	**5.55**	**355**		**Pn**	**15 14 25.3**	**-2.3**
OTAV	**Otavalo**	**5.60**	**127**	*eP*	**Pn**	**15 14 25.3**	**-3.3**
OTAV	**Otavalo**	**5.60**	**127**	Pn	**Pn**	**15 14 25.4**	**-3.3**
VTON	**El Valle, Cocl**	**5.65**	**29⇑**	*eP*	**Pn**	**15 14 30.6**	**+1.7**
VTON			⇑	*i P*	**Pn**	**15 14 30.9**	**+2.0**
VTON				*eS*	**Sn**	**15 15 31.8**	**-1.3**
PEZE	**Perez Zeledon,**	**5.73**	**352**	Pn	**Pn**	**15 14 27.7**	**-2.4**
CDM	**Cerro de Muert**	**5.91**	**352**	*eP*	**Pn**	**15 14 31.2**	**-1.8**
ZANG	**Zanguenga, Cho**	**6.06**	**30**	*eP*	**Pn**	**15 14 35.2**	**+0.6**
CHOR3	**La Chorrera**	**6.07**	**31⇑**	*eP*	**Pn**	**15 14 36.4**	**+1.7**
TABO3	**Taboga, Panama**	**6.09**	**33**	*eP*	**Pn**	**15 14 36.5**	**+1.6**
LCR2	**La Lucha 2**	**6.14**	**350**	*eP*	**Pn**	**15 14 33.9**	**-1.9**
LCR2				*eS*	**Sn**	**15 15 45.4**	**0.0**
RIMA	**Rio Macho**	**6.14**	**351**	*eP*	**Pn**	**15 14 33.3**	**-2.5**
RIMA				*eS*	**Sn**	**15 15 44.0**	**-1.4**
RIMA	**Rio Macho**	**6.14**	**351**		**Pn**	**15 14 33.3**	**-2.5**
MRVA	**Moravia de Chi**	**6.14**	**355**	*eP*	**Pn**	**15 14 34.9**	**-0.9**
ARRA3	**Arraijan, Pana**	**6.18**	**31**	*eP*	**Pn**	**15 14 37.4**	**+1.2**
JACO	**JACO, Garabito**	**6.21**	**344**	*eP*	**Pn**	**15 14 34.0**	**-2.6**
JACO				*eS*	**Sn**	**15 15 46.0**	**-0.9**
JACO	**JACO, Garabito**	**6.21**	**344**	Pn	**Pn**	**15 14 33.6**	**-3.0**
UPA	**Univ. de Panam**	**6.26**	**32⇓**	*eP*	**Pn**	**15 14 38.1**	**+0.8**
UPA				*eP*	**Pn**	**15 14 38.5**	**+1.3**
BCIP	**Isla Barro Col**	**6.26**	**29**	Pn	**Pn**	**15 14 37.5**	**+0.2**
BCIP	**Isla Barro Col**	**6.26**	**29⇓**	*eP*	**Pn**	**15 14 38.5**	**+1.2**
OCM	**Ochomogo**	**6.28**	**350**	*eP*	**Pn**	**15 14 36.2**	**-1.5**
GAMB1	**Gamboa**	**6.28**	**30⇓**	*eP*	**Pn**	**15 14 39.2**	**+1.6**
MLIR	**Monte Lirio**	**6.32**	**29**	*eP*	**Pn**	**15 14 39.2**	**+1.2**
POPC	**Popayan, Colom**	**6.32**	**100**	*eP*	**Pn**	**15 14 36.8**	**-1.5**
VTCV	**VTCV, Calle Va**	**6.33**	**353**	*eP*	**Pn**	**15 14 38.2**	**-0.2**
FRIJ	**El Hiral**	**6.36**	**30⇑**	*i P*	**Pn**	**15 14 39.5**	**+0.9**
CAO2	**Cobano, Puntar**	**6.37**	**340**	*eP*	**Pn**	**15 14 36.8**	**-2.0**
CVTR	**Volcan Turrial**	**6.37**	**352**	Pn	**Pn**	**15 14 37.1**	**-2.1**
HDC	**Heredia**	**6.41**	**349**	Pn	**Pn**	**15 14 37.9**	**-1.6**
HDC	**Heredia**	**6.41**	**349**	*eP*	**Pn**	**15 14 38.0**	**-1.4**
LAFE	**Finca La Fe, P**	**6.42**	**342**	*eP*	**Pn**	**15 14 37.3**	**-2.2**
YOTC	**Yotoco, Valle**	**6.55**	**87**	*eP*	**Pn**	**15 14 41.6**	**+0.1**
CHPO	**Chepo, Panama**	**6.64**	**34**	*eP*	**Pn**	**15 14 42.8**	**+0.3**
INDI	**Punta indio, G**	**6.68**	**337**	*eP*	**Pn**	**15 14 41.9**	**-1.2**
RIFO	**Rio Frio, Sara**	**6.69**	**351**	*eP*	**Pn**	**15 14 42.5**	**-0.7**
PLMC	**San Jos del P**	**6.72**	**79**	*eP*	**Pn**	**15 14 39.7**	**-4.0**
GRZA	**Playa Garza**	**6.78**	**337**	*eP*	**Pn**	**15 14 42.9**	**-1.5**
UPD2	**Meteti**	**6.87**	**45**	*eP*	**Pn**	**15 14 48.2**	**+2.5**
DUNO	**Dulce Nombre,**	**6.87**	**338**	Pn	**Pn**	**15 14 44.5**	**-1.2**
JTS	**Las Juntas de**	**6.89**	**343**	Pn	**Pn**	**15 14 44.4**	**-1.5**
JTS				Sn	**Sn**	**15 16 04.0**	**+0.3**
JTS	**Las Juntas de**	**6.89**	**343**	*eP*	**Pn**	**15 14 44.1**	**-1.9**
JTS	**Las Juntas de**	**6.89**	**343**	Pn	**Pn**	**15 14 44.0**	**-2.0**
JTS	**Las Juntas de**	**6.89**	**343**	*eP*	**Pn**	**15 14 44.5**	**-1.5**
SAJU	**San Juanillo,**	**6.94**	**337**	*eP*	**Pn**	**15 14 44.8**	**-1.9**
ARE1	**Arenal 1**	**6.99**	**345**	*eP*	**Pn**	**15 14 47.6**	**+0.2**
ORTG	**Ortega, Santa**	**7.12**	**339**	*eP*	**Pn**	**15 14 48.1**	**-1.1**
ORTG	**Ortega, Santa**	**7.12**	**339**		**Pn**	**15 14 47.7**	**-1.5**
COVE	**Coope Vega, Sa**	**7.17**	**348**	Pn	**Pn**	**15 14 49.1**	**-0.6**
CBOC	**Ciudad Bolivar**	**7.21**	**72**	*eP*	**Pn**	**15 14 49.1**	**-1.4**
DBBC	**Dabeiba**	**7.45**	**63**	*eP*	**Pn**	**15 14 54.8**	**+1.0**
HZTE	**Horizontes, Gu**	**7.50**	**339**	*eP*	**Pn**	**15 14 54.5**	**+0.2**
HZTE	**Horizontes, Gu**	**7.50**	**339**		**Pn**	**15 14 53.7**	**-0.6**
GARC	**Garzon, Huila**	**7.55**	**101**	*eP*	**Pn**	**15 14 52.9**	**-2.3**
ORTC	**Ortega, Tolima**	**7.65**	**88**	*eP*	**Pn**	**15 14 58.6**	**+2.2**
GUY2C	**Guyana, Caldas**	**7.68**	**78**	*eP*	**Pn**	**15 14 57.6**	**+0.4**
HELC	**Santa Helena**	**7.77**	**71**	*eP*	**Pn**	**15 14 55.7**	**-2.6**
HELC	**Santa Helena**	**7.77**	**71⇓**	*eP*	**Pn**	**15 14 59.2**	**+0.9**
PRAC	**Prado**	**8.00**	**89**	*eP*	**Pn**	**15 15 04.3**	**+2.9**
NORC	**Norcasia**	**8.23**	**76**	*eP*	**Pn**	**15 15 04.3**	**-0.2**
UREC	**San Jos de Ur**	**8.39**	**61**	*eP*	**Pn**	**15 15 04.3**	**-2.3**
PAYG	**Puerto Ayora**	**8.54**	**240**	Pn	**Pn**	**15 15 10.1**	**+1.4**
ACON	**Acoyapa**	**8.55**	**345**	Pn	**Pn**	**15 15 07.7**	**-1.0**
ROSC	**El Rosal**	**8.64**	**82**	Pn	**Pn**	**15 15 13.2**	**+2.8**
	4.5nm,0.3s,baz=139,slow=11,SNR=8.4						
ROSC				Sn	**Sn**	**15 16 51.7**	**+4.3**
	2.0nm,0.3s,baz=133,slow=24,SNR=9.0						
ROSC				LR	LR	15 18 25.3	
	comp=Z,320nm,19.7s,baz=288,slow=37						
ROSC	**El Rosal**	**8.64**	**82**	Pn	**Pn**	**15 15 10.5**	**+0.1**
ZARC	**Zaragoza, Cauc**	**8.87**	**64**	*eP*	**Pn**	**15 15 12.8**	**-0.4**
PTBC	**PUERTO BERRIO,**	**8.89**	**71⇑**	*eP*	**Pn**	**15 15 14.7**	**+1.2**
SPBC	**San Pablo de B**	**9.03**	**77**	*eP*	**Pn**	**15 15 17.5**	**+2.1**
CHIC	**Chingaza**	**9.20**	**84**	*eP*	**Pn**	**15 15 20.3**	**+2.3**
VILC	**Villavicencio,**	**9.20**	**87**	*eP*	**Pn**	**15 15 20.3**	**+2.5**
SJCC	**San Jacinto, C**	**9.86**	**51**	*eP*	**Pn**	**15 15 29.8**	**+3.0**
BARC	**Barichara**	**10.11**	**73**	*eP*	**Pn**	**15 15 29.8**	**-0.6**
SMLC	**San Martn de**	**10.16**	**59**	*eP*	**Pn**	**15 15 31.7**	**+0.9**
PAMC	**Pamplona, Colo**	**10.80**	**70**	*eP*	**Pn**	**15 15 42.1**	**+2.1**
ATAH	**Atahualpa**	**11.63**	**157**	Pn	**Pn**	**15 15 51.8**	**+0.4**
	0.3nm,0.3s,baz=358,slow=11,SNR=3.2						
ATAH				LR	LR	15 20 06.4	
	comp=Z,864nm,18.7s,baz=334,slow=36						
MTO3	**Montecristo**	**12.42**	**330**		**Pn**	**15 16 00.5**	**-1.5**
SDV	**Santo Domingo**	**13.25**	**66**	Pn	**Pn**	**15 16 14.5**	**+1.1**
	1.2nm,0.3s,baz=233,slow=6.6,SNR=4.6						
SDV				LR	LR	15 21 13.2	
	comp=Z,380nm,22.0s,baz=252,slow=37						
SDV	**Santo Domingo**	**13.25**	**66**	*eP*	**Pn**	**15 16 12.2**	**-1.2**
SDV	**Santo Domingo**	**13.25**	**66**	Pn	**Pn**	**15 16 11.5**	**-1.9**
CZSB	**Cruzeiro do Su**

comp=Z,0.5nm,0.9s,baz=106,slow=1.8,SNR=4.0
WRA Warramunga Arr 140.25 243 PKP **PKPdf 15 32 34.1 -0.1**
comp=Z,0.3nm,0.6s,baz=105,slow=2.4,SNR=5.2
CMAR Chiang Mai Arr 157.94 355 PKPab **PKPab 15 33 35.9 +0.9**
comp=Z,0.4nm,0.5s,baz=343,slow=4.9,SNR=1.8

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*NOU **11** 15:15:27.8, 17°.60S×178°.71W, h536km, mb4.7/66, Fiji Islands Region*
*NEIC **11** 15:15:27.7±2.1, 17°.6S±0°.1×178°.8W±0°.1, h514km±6km, mb4.5/137, Error ellipse: s-maj=15.9km s-min=13.5km az=138.0*
*IDC **11** 15:15:29.9±0.8, 17°.79S×178°.88W, h543km±7km, mb3.9/21, mb1 4.1/23, mb1mx4.0/36, mbtmp4.8/23, Error ellipse: s-maj=18.0km s-min=9.4km az=146.0*
ISC 11 15:15:29.1±0.3, 17°.70S±0°.07×178°.83W±0°.06, h539km, n488, σ0.88/492, mb4.5/112, 28C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**1.43**	**314**	P	**P**	**15 16 35.0**	**-0.6**
DGTI	**Dogotuki**	**1.95**	**315**	P	**P**	**15 16 36.5**	**-1.2**
MSVF	**Nonsavu**	**2.97**	**269**	P	**P**	**15 16 43.6**	**+0.5**
	12nm,0.3s,baz=60,slow=4.4,SNR=106						
MSVF				S	**S**	**15 17 45.2**	**+1.8**
	1.2nm,0.3s,baz=286,slow=22,SNR=14						
MSVF	**Nonsavu**	**2.97**	**269**		**P**	**15 16 42.8**	**-0.4**
MSVF	**Nonsavu**	**2.97**	**269**	P	**P**	**15 16 43.8**	**+0.6**
AFI	**Afiamalu**	**7.77**	**62**	P	**P**	**15 17 20.1**	**-4.3**
	39nm,0.3s,baz=204,slow=2.4,SNR=53						
AFI				S	S	15 18 49.5	-9.3
	3.9nm,0.3s,baz=60,slow=20,SNR=1.3						
NIUE	**Niue**	**8.56**	**101**	P	**P**	**15 17 30.7**	**-1.5**
NIUE	**Niue**	**8.56**	**101**	P	**P**	**15 17 31.0**	**-1.2**
FUNA	**Funafuti**	**9.32**	**348**	P	**P**	**15 17 37.0**	**-3.0**
MARNC	**Mare, Loyalty**	**12.94**	**251**	P	**P**	**15 18 15.2**	**-2.2**
MARNC	**Mare, Loyalty**	**12.94**	**251**	P	**P**	**15 18 16.5**	**-0.9**
LIFNC	**LIFOU**	**13.51**	**255**	P	**P**	**15 18 21.0**	**-2.3**
LIFNC	**LIFOU**	**13.51**	**255**	P	**P**	**15 18 21.8**	**-1.5**
SANVU	**Saraoutou**	**13.57**	**277**		**P**	**15 18 22.2**	**-1.8**
PINNC	**Pines Island,**	**13.78**	**247**	P	**P**	**15 18 24.9**	**-1.2**
PINNC	**Pines Island,**	**13.78**	**247**	P	**P**	**15 18 25.6**	**-0.5**
OUENC	**Ouen Island, N**	**14.25**	**248**	P	**P**	**15 18 29.6**	**-1.1**
OUENC	**Ouen Island, N**	**14.25**	**248**	P	**P**	**15 18 30.2**	**-0.8**
DZM	**Mont Dzumac**	**14.51**	**250**	P	**P**	**15 18 32.7**	**-1.1**
	0.9nm,0.3s,baz=77,slow=15,SNR=13						
DZM	**Mont Dzumac**	**14.51**	**250**	*e*P	**P**	**15 18 32.4**	**-1.5**
	92nm,1.3s						
DZM	**Mont Dzumac**	**14.51**	**250**	P	**P**	**15 18 32.6**	**-1.3**
DZM	**Mont Dzumac**	**14.51**	**250**	P	**P**	**15 18 32.8**	**-1.1**
ONTNC	**Ouen Toro**	**14.57**	**249**	P	**P**	**15 18 33.2**	**-1.1**
ONTNC	**Ouen Toro**	**14.57**	**249**	P	**P**	**15 18 33.7**	**-0.6**
KOUNC	**Koumac, New Ca**	**16.20**	**257**	P	**P**	**15 18 50.6**	**-0.4**
OUZ	**Omahuta**	**18.71**	**200**	P	**P**	**15 19 13.8**	**0.0**
KUZ	**Kuaotunu**	**19.57**	**193**	P	**P**	**15 19 22.7**	**+1.0**
WMGZ	**Waiomatatini S**	**20.19**	**186**	P	**P**	**15 19 26.6**	**-0.7**
HAZ	**Te Kaha**	**20.29**	**188**	P	**P**	**15 19 26.8**	**-1.1**
PKGZ	**Pakihiroa**	**20.29**	**187**	P	**P**	**15 19 27.5**	**-0.8**
TGRZ	**Tauranga**	**20.41**	**191**	P	**P**	**15 19 30.7**	**+1.4**
RUGZ	**Raukumara Rang**	**20.42**	**188**	P	**P**	**15 19 29.7**	**+0.1**
PUZ	**Puketiti**	**20.45**	**187**	P	**P**	**15 19 29.2**	**-0.5**
TWGZ	**Tauwhareparae**	**20.59**	**187**	P	**P**	**15 19 30.8**	**-0.1**
TARA	**Tarawa**	**20.60**	**336**	P	**P**	**15 19 30.2**	**-1.2**
URZ	**Urewera**	**20.79**	**189**	P	**P**	**15 19 31.1**	**-1.5**
	22nm,0.7s,baz=335,slow=5.0,SNR=9.0						
URZ	**Urewera**	**20.79**	**189**	P	**P**	**15 19 31.2**	**-1.5**
URZ	**Urewera**	**20.79**	**189**	P	**P**	**15 19 31.2**	**-1.5**
MWZ	**Matawai**	**20.80**	**188**	P	**P**	**15 19 32.7**	**-0.2**
TKGZ	**Te Karaka**	**20.86**	**187**	P	**P**	**15 19 32.2**	**-1.2**
SNGZ	**Shannon Statio**	**21.27**	**188**	P	**P**	**15 19 35.9**	**-1.2**
SNZO	**South Karori**	**24.18**	**192**	P	**P**	**15 20 04.7**	**+1.7**
QRZ	**Quartz Range**	**24.22**	**196**	P	**P**	**15 20 02.6**	**-0.7**
QRZ	**Quartz Range**	**24.22**	**196**	P	**P**	**15 20 03.5**	**+0.1**
BSWZ	**Blackbirch Sta**	**24.74**	**193**	P	**P**	**15 20 08.0**	**0.0**
KHZ	**Kahutara**	**25.48**	**193**	P	**P**	**15 20 12.9**	**-1.6**
LTZ	**Lake Taylor**	**26.12**	**195**	P	**P**	**15 20 18.5**	**-1.8**
LTZ				IAmb	IAmb	15 20 20.4	
	comp=Z,23nm,0.9s						
OXZ	**Oxford**	**26.69**	**195**	P	**P**	**15 20 23.6**	**-1.6**
RPZ	**Rata Peaks**	**27.31**	**196**	P	**P**	**15 20 30.1**	**-0.5**
PPTF	**Pamatai, Papee**	**27.88**	**94**	P	**P**	**15 20 35.6**	**-0.4**
LBZ	**Lake Benmore**	**28.16**	**197**	P	**P**	**15 20 36.4**	**-1.7**
LBZ				IAmb	IAmb	15 20 38.6	
	comp=Z,24nm,1.3s						
ODZ	**Otahua Downs**	**28.65**	**196**	P	**P**	**15 20 41.0**	**-1.3**
EIDS	**Eidsvold**	**28.96**	**249**	P	**P**	**15 20 44.9**	**-0.4**
EIDS				IAmb	IAmb	15 20 46.0	
	comp=Z,22nm,1.1s						
EIDS	**Eidsvold**	**28.96**	**249**	P	**P**	**15 20 45.7**	**+0.4**
RK1H	**Rockhampton Ha**	**29.24**	**254**	P	**P**	**15 20 47.9**	**+0.2**
MLZ	**Mavora Lakes**	**29.66**	**199**	P	**P**	**15 20 51.3**	**+0.2**
ARMA	**Armidale**	**29.70**	**239**	P	**P**	**15 20 52.4**	**+0.6**
ARMA	**Armidale**	**29.70**	**239**	P	**P**	**15 20 52.5**	**+0.8**
MGCD	**Mangrove Creek**	**31.08**	**234**	P	**P**	**15 21 04.9**	**+1.4**
RMQ	**Roma**	**31.21**	**248**	P	**P**	**15 21 05.5**	**+0.8**
CTAO	**Charters Tower**	**33.08**	**260**	P	**P**	**15 21 20.3**	**-0.4**
CTAO				IAmb	IAmb	15 21 21.4	
	comp=Z,13nm,0.8s						
CTAO	**Charters Tower**	**33.08**	**260**	P	**P**	**15 21 20.7**	**0.0**
CNB	**Canberra Magne**	**33.23**	**232**	P	**P**	**15 21 22.8**	**+0.9**
CAN	**Canberra**	**33.51**	**232**	P	**P**	**15 21 24.3**	**+0.1**
CAN				IAmb	IAmb	15 21 25.8	
	comp=Z,17nm,0.8s						
CAN	**Canberra**	**33.51**	**232**	P	**P**	**15 21 24.3**	**+0.1**
CMSA	**Cobar Meteorol**	**34.90**	**240**	P	**P**	**15 21 36.0**	**+0.2**
MTSU	**Mount Surprise**	**35.03**	**264**	P	**P**	**15 21 37.0**	**-0.1**
QLP	**Quilpie**	**35.23**	**249**	P	**P**	**15 21 38.7**	**+0.1**
COEN	**Coen**	**36.70**	**270**	P	**P**	**15 21 51.0**	**+0.1**
COEN				IAmb	IAmb	15 21 52.2	
	comp=Z,9.3nm,0.8s						
COEN	**Coen**	**36.70**	**270**	P	**P**	**15 21 50.6**	**-0.3**
GLAD	**Gladstone**	**36.72**	**224**	P	**P**	**15 21 50.9**	**+0.2**
TOO	**Toolangi**	**36.99**	**230**	P	**P**	**15 21 53.7**	**+0.6**
TOO	**Toolangi**	**36.99**	**230**	P	**P**	**15 21 53.9**	**+0.9**
CORO	**Coronation Par**	**37.52**	**224**	P	**P**	**15 21 57.3**	**+0.1**
TAU	**Tasmania Unive**	**38.12**	**222**	P	**P**	**15 22 02.8**	**+0.7**
TAU				IAmb	IAmb	15 22 03.6	
	comp=Z,24nm,0.9s						
TAU	**Tasmania Unive**	**38.12**	**222**	P	**P**	**15 22 02.8**	**+0.7**
BRAT	**Ballarat**	**38.13**	**231**	P	**P**	**15 22 03.2**	**+0.9**
STKA	**Stephens Creek**	**38.38**	**241**	P	**P**	**15 22 05.2**	**+0.8**
	comp=Z,25nm,0.7s,baz=93,slow=10,SNR=101						
STKA	**Stephens Creek**	**38.38**	**241**	P	**P**	**15 22 05.0**	**+0.6**
STKA	**Stephens Creek**	**38.38**	**241**	P	**P**	**15 22 04.6**	**+0.2**
	comp=Z,10.0nm,0.9s						
INKA	**Innaminka**	**38.45**	**248**	P	**P**	**15 22 05.4**	**+0.4**
	comp=Z,60nm,1.0s						
TAOE	**Nuku Hiva Isla**	**38.59**	**82**	P	**P**	**15 22 03.9**	**-2.6**
ARPS	**Mount Arapiles**	**39.45**	**233**	P	**P**	**15 22 13.0**	**0.0**
	comp=Z,41nm,0.7s						
HTT	**Hallett**	**40.90**	**239**	P	**P**	**15 22 24.9**	**+0.1**
	comp=Z,50nm,1.5s						
LCRK	**Leigh Creek**	**40.98**	**244**	P	**P**	**15 22 25.1**	**-0.3**
	comp=Z,63nm,0.7s						
NAPP	**Napperby**	**41.49**	**240**	P	**P**	**15 22 30.3**	**+1.0**
	comp=Z,42nm,1.0s						
TWOA	**Tennyson Woods**	**41.53**	**237**	P	**P**	**15 22 29.7**	**+0.1**
	comp=Z,30nm,0.7s						
OOD	**Oodnadatta**	**42.92**	**248**	P	**P**	**15 22 40.8**	**+0.2**
	comp=Z,27nm,0.9s						
BBOO	**Buckleboo**	**43.15**	**241**	P	**P**	**15 22 42.3**	**-0.1**
BBOO	**Buckleboo**	**43.15**	**241**	P	**P**	**15 22 42.1**	**-0.3**
	comp=Z,45nm,0.8s						
WMR	**Waimanalo Ridg**	**43.97**	**29**	P	**P**	**15 22 48.6**	**-0.2**
WR0	**Warramunga Arr**	**44.08**	**259**	P	**P**	**15 22 48.8**	**-1.0**
WB0	**Warramunga Arr**	**44.24**	**260**	P	**P**	**15 22 49.6**	**-1.4**
WB2	**Warramunga Arr**	**44.26**	**259**	P	**P**	**15 22 50.2**	**-1.0**
WB2				IAmb	IAmb	15 22 51.3	
	comp=Z,9.3nm,0.7s						
WRAB	**Tennant Creek**	**44.26**	**259**	P	**P**	**15 22 49.9**	**-1.3**
	comp=Z,11nm,1.6s						
WRA	**Warramunga Arr**	**44.27**	**259**	P	**P**	**15 22 50.4**	**-0.9**
	comp=Z,4.9nm,0.6s,baz=96,slow=7.0,SNR=101						
WRA				ScP	**ScP**	**15 27 26.3**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=96,slow=2.6,SNR=3.5						
WRA				S	**S**	**15 28 41.6**	**-4.6**
	comp=Z,0.6nm,0.9s,baz=95,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**44.27**	**259**	P	**P**	**15 22 50.1**	**-1.2**
AS31	**Alice Springs**	**44.46**	**254**	P	**P**	**15 22 52.2**	**-0.5**
ASAR	**Alice Springs**	**44.46**	**254**	P	**P**	**15 22 52.6**	**-0.1**
	comp=Z,53nm,0.5s,baz=89,slow=8.0,SNR=1712						
ASAR				ScP	**ScP**	**15 27 27.2**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=94,slow=4.6,SNR=5.6						
ASAR				S	**S**	**15 28 47.1**	**-1.7**
	comp=Z,5.0nm,0.9s,baz=84,slow=16,SNR=36						
MULG	**Mulgathing**	**44.53**	**245**	P	**P**	**15 22 52.5**	**-0.6**
	comp=Z,79nm,0.7s						
KDU	**Kakadu**	**47.16**	**269**	P	**P**	**15 23 12.6**	**-0.7**
	comp=Z,18nm,0.6s						
MTN	**Manton Dam**	**48.40**	**268**	P	**P**	**15 23 22.0**	**-0.6**
WRKA	**Warakurna**	**49.52**	**252**	P	**P**	**15 23 30.3**	**-0.6**
	comp=Z,60nm,0.8s						
FORT	**Forrest**	**49.73**	**244**	P	**P**	**15 23 31.7**	**-0.5**
FORT	**Forrest**	**49.73**	**244**	P	**P**	**15 23 31.3**	**-0.9**
	comp=Z,65nm,0.7s						
KNRA	**Kununurra**	**50.11**	**264**	P	**P**	**15 23 34.9**	**-0.3**
KNRA				IAmb	IAmb	15 23 35.8	
	comp=Z,14nm,0.8s						
KNRA	**Kununurra**	**50.11**	**264**	P	**P**	**15 23 34.7**	**-0.5**
	comp=Z,22nm,0.8s						
SOEI	**Soe**	**55.67**	**270**	P	**P**	**15 24 14.9**	**-0.1**
	comp=Z,14nm,0.8s						
SOEI	**Soe**	**55.67**	**270**	P	**P**	**15 24 15.2**	**+0.2**
PSA00	**Pilbara Seismi**	**57.57**	**255**	P	**P**	**15 24 27.6**	**-0.2**
MEEK	**Meekatharra**	**58.13**	**249**	P	**P**	**15 24 30.9**	**-0.7**
	comp=Z,12nm,2.1s						
EDFI	**Ende, Flores**	**58.38**	**271**	P	**P**	**15 24 33.0**	**-0.6**
	comp=Z,3.5nm,0.9s						
KLBR	**Kellerberrin**	**58.56**	**243**	P	**P**	**15 24 34.3**	**-0.1**
	comp=Z,51nm,0.8s						
BLDU	**Ballidu**	**59.51**	**245**	P	**P**	**15 24 40.3**	**-0.5**
	comp=Z,20nm,2.8s						
MORW	**Morawa**	**60.20**	**246**	P	**P**	**15 24 45.3**	**-0.1**
MORW	**Morawa**	**60.20**	**246**	P	**P**	**15 24 45.5**	**+0.1**
	comp=Z,10.0nm,1.9s						
JHJ2	**Mitsune**	**64.14**	**322**	P	**P**	**15 25 10.7**	**0.0**
CASY	**Casey**	**66.16**	**205**	P	**P**	**15 25 23.6**	**+0.7**
CASY				IAmb	IAmb	15 25 41.5	
	comp=Z,30nm,1.5s						
JYT	**Yasato**	**66.17**	**325**	P	**P**	**15 25 23.4**	**0.0**
MJAR	**Matsushiro Arr**	**67.50**	**324**	P	**P**	**15 25 31.8**	**+0.1**
	comp=Z,9.7nm,0.7s,baz=161,slow=5.9,SNR=17						
MJAR	**Matsushiro Arr**	**67.50**	**324**	P	**P**	**15 25 31.4**	**-0.3**
MAJO	**Matsushiro**	**67.50**	**324**	P	**P**	**15 25 31.7**	**0.0**
MAJO				IAmb	IAmb	15 25 32.3	
	comp=Z,11nm,0.7s						
MAJO	**Matsushiro**	**67.50**	**324**	P	**P**	**15 25 31.6**	**-0.1**
	comp=Z,22nm,1.5s						
MAT	**Matsushiro**	**67.50**	**324**	P	**P**	**15 25 31.5**	**-0.2**
MJB9	**Matsu-Tunnel**	**67.51**	**324**	P	**P**	**15 25 31.9**	**+0.1**
MJB9				IAmb	IAmb	15 25 32.3	
	comp=Z,11nm,0.6s						
JWT	**Wachi**	**68.27**	**321**	P	**P**	**15 25 36.8**	**+0.4**
JHS	**Saijyo**	**69.48**	**319**	P	**P**	**15 25 44.8**	**+1.1**
ATKA	**Atka Island**	**69.72**	**3**	P	**P**	**15 25 43.6**	**-1.1**
	comp=Z,54nm,1.3s						
NIKH	**Nikolski High**	**70.91**	**6**	P	**P**	**15 25 50.6**	**-1.0**
	baz=190						
SSLB	**Suanglung**	**71.79**	**303**	P	**P**	**15 25 57.1**	**-0.4**
SSLB				IAmb	IAmb	15 26 03.0	
	comp=Z,27nm,1.3s						
SSLB	**Suanglung**	**71.79**	**303**	P	**P**	**15 25 56.9**	**-0.7**
	comp=Z,18nm,2.5s						
TPUB	**Ta-pu**	**71.81**	**303**	P	**P**	**15 25 57.1**	**-0.6**
UNV	**Unalaska Valle**	**72.04**	**8**	P	**P**	**15 25 57.2**	**-1.1**
UNV	**Unalaska Valle**	**72.04**	**8**	P	**P**	**15 25 57.0**	**-1.3**
	baz=192						
QSPA	**South Pole Qui**	**72.35**	**180**	P	**P**	**15 26 01.1**	**+0.9**
PET	**Petropavlovsk**	**73.08**	**346**	P	**P**	**15 26 03.4**	**-0.9**
PET				IAmb	IAmb	15 26 16.7	
	comp=Z,29nm,1.4s						
PEA0B	**Petropavlovsk-**	**73.38**	**345**	P	**P**	**15 26 05.8**	**-0.2**
PEA0B				IAmb	IAmb	15 26 07.3	
	comp=Z,38nm,1.2s						
PETK	**Petropavlovsk-**	**73.38**	**345**	P	**P**	**15 26 06.3**	**+0.3**
	comp=Z,16nm,0.8s,baz=133,slow=7.4,SNR=27						
PETK	**Petropavlovsk-**	**73.38**	**345**	P	**P**	**15 26 05.9**	**-0.1**
CHNA	**Chernabura Isl**	**74.08**	**11**	P	**P**	**15 26 09.7**	**-0.3**
	baz=199						
KSRS	**Korea Array**	**74.28**	**319**	P	**P**	**15 26 12.8**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=131,slow=7.3,SNR=4.1						
SDPT	**Sand Point**	**74.41**	**11**	P	**P**	**15 26 11.7**	**-0.1**
	baz=198						
SPIA	**Saint Paul Isl**	**74.94**	**5**	P	**P**	**15 26 15.5**	**+0.8**
	baz=188						
CHGN	**Chignik**	**75.70**	**12**	P	**P**	**15 26 19.9**	**+1.0**
	baz=200						
SNCC	**San Nicolas Is**	**75.95**	**48**	P	**P**	**15 26 21.4**	**+0.4**
	baz=238						
USA0B	**Ussuriysk Arra**	**76.22**	**326**	P	**P**	**15 26 22.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**76.22**	**326**	P	**P**	**15 26 23.2**	**+1.0**
	comp=Z,2.9nm,0.7s,baz=107,slow=7.7,SNR=4.0						
USRK	**Ussuriysk Ar.**	**76.22**	**326**	P	**P**	**15 26 22.6**	**+0.4**
SAO	**San Andreas Ge**	**76.56**	**44**	P	**P**	**15 26 24.6**	**+0.3**
SAO				IAmb	IAmb	15 26 26.8	
	comp=Z,18nm,1.1s						
PKM	**Mcpherson Peak**	**76.62**	**46**	P	**P**	**15 26 25.7**	**+0.9**
	baz=237						
SMMC	**Simmler**	**76.73**	**46**	P	**P**	**15 26 26.3**	**+1.0**
	baz=237						
CIS	**Catalina Islan**	**76.81**	**48**	P	**P**	**15 26 26.8**	**+1.1**
	baz=238						
SII	**Sitkinak Islan**	**76.82**	**14**	P	**P**	**15 26 25.1**	**-0.1**
NJ2	**Nanjing**	**77.50**	**310**	*e*P	**P**	**15 26 30.9**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
MWC	**Mount Wilson**	**77.50**	**48**	P	**P**	**15 26 30.1**	**+0.4**
OHAK	**Old Harbor**	**77.63**	**14**	P	**P**	**15 26 29.6**	**+0.1**
OHAK	**Old Harbor**	**77.63**	**14**	P	**P**	**15 26 29.9**	**+0.4**
	baz=205						
O02D	**Mt. Diablo Mer**	**77.66**	**41**	P	**P**	**15 26 31.3**	**+1.1**
	baz=234						
MDJ	**Mudanjiang**	**77.79**	**325**	P	**P**	**15 26 31.8**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,17nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,79nm,3.7s						
BFSC	**Mount Baldy Ra**	**77.79**	**48**	P	**P**	**15 26 31.8**	**+0.6**
	baz=239						
MURC	**Murrieta**	**77.79**	**49**	P	**P**	**15 26 31.9**	**+0.9**
	baz=239						
EDW2	**Edwards Air Fo**	**77.89**	**47**	P	**P**	**15 26 32.5**	**+0.9**
	baz=238,SNR=13						
ISA	**Isabella, Lake**	**77.97**	**46**	P	**P**	**15 26 32.5**	**+0.6**
	baz=238,SNR=8.5						
CMB	**Columbia Colle**	**77.97**	**43**	P	**P**	**15 26 31.8**	**-0.1**
MONP2	**Monument Peak**	**77.99**	**50**	P	**P**	**15 26 33.4**	**+1.0**
	baz=240						
IKP	**In-Ko-Pah, Jac**	**78.09**	**50**	P	**P**	**15 26 33.6**	**+0.9**
	baz=240						
N02D	**Trinity Center**	**78.18**	**40**	P	**P**	**15 26 34.2**	**+1.2**
	baz=234						
KDAK	**Kodiak Island**	**78.30**	**14**	P	**P**	**15 26 32.3**	**-0.8**
KDAK	**Kodiak Island**	**78.30**	**14**	P	**P**	**15 26 34.0**	**+0.9**
	baz=206						
PFO	**Pinyon Flats O**	**78.32**	**49**	P	**P**	**15 26 35.1**	**+1.1**
	baz=240						
TPFO	**Pinon Flats**	**78.32**	**49**	P	**P**	**15 26 34.7**	**+0.7**
	baz=240						
M02C	**Callahan**	**78.33**	**40**	P	**P**	**15 26 34.9**	**+1.1**
	baz=234						
LRMC	**Laurel Mtn Rad**	**78.42**	**47**	P	**P**	**15 26 35.3**	**+0.8**
	baz=238,SNR=5.1						
YBH	**Yreka Blue Hor**	**78.62**	**39**	P	**P**	**15 26 36.9**	**+1.5**
	comp=Z,6.7nm,0.8s,baz=158,slow=4.0,SNR=10.0						
YBH	**Yreka Blue Hor**	**78.62**	**39**	P	**P**	**15 26 36.5**	**+1.1**
CWC	**Cottonwood Cre**	**78.65**	**46**	P	**P**	**15 26 36.5**	**+0.8**
	baz=238						
MLAC	**Mammoth, Mammo**	**78.77**	**45**	P	**P**	**15 26 37.5**	**+1.0**
	baz=237						
BELC	**Belle Mtn. Jos**	**78.85**	**49**	P	**P**	**15 26 36.9**	**+0.1**
	baz=240						
MPMC	**Manual Prospec**	**78.85**	**46**	P	**P**	**15 26 37.7**	**+0.9**
	baz=238,SNR=8.3						
TIN	**Tinemaha, Big**	**78.87**	**45**	P	**P**	**15 26 36.8**	**-0.1**
	baz=238						
MPK	**Martis Peak**	**78.90**	**43**	P	**P**	**15 26 36.9**	**-0.3**
MPK				IAmb	IAmb	15 26 39.1	
	comp=Z,15nm,0.7s						
GSC	**Goldstone, Bar**	**78.94**	**47**	P	**P**	**15 26 37.9**	**+0.7**
	baz=239						
HEC	**Hector,Ludlow**	**79.03**	**48**	P	**P**	**15 26 38.3**	**+0.6**
	baz=239						
PNTR	**Pine Nut**	**79.06**	**43**	P	**P**	**15 26 38.8**	**+0.8**
PNTR				IAmb	IAmb	15 26 40.1	
	comp=Z,20nm,0.8s						
BC3	**Big Chuckawall**	**79.07**	**49**	P	**P**	**15 26 38.2**	**+0.2**
	baz=240						
VCNR	**Virginia City**	**79.14**	**43**	P	**P**	**15 26 39.3**	**+0.9**
L04D	**Klamath Falls**	**79.15**	**39**	P	**P**	**15 26 38.2**	**0.0**
	baz=234						
M04C	**Macdoel**	**79.18**	**40**	P	**P**	**15 26 39.2**	**+0.8**
	baz=234						
GLA	**Glamis**	**79.23**	**50**	P	**P**	**15 26 40.1**	**+1.4**
	baz=241						
QSM	**Queen of Sheba**	**79.23**	**47**	P	**P**	**15 26 39.0**	**+0.4**
YERR	**Yerington**	**79.24**	**43**	P	**P**	**15 26 39.1**	**+0.2**
YERR				IAmb	IAmb	15 26 40.7	
	comp=Z,13nm,0.7s						
LHV	**Little Huntoon**	**79.33**	**44**	P	**P**	**15 26 40.2**	**+1.2**
LHV				IAmb	IAmb	15 26 41.5	
	comp=Z,15nm,0.9s						
LCH	**Last Change Ra**	**79.36**	**45**	P	**P**	**15 26 40.3**	**+0.8**
I03D	**Drain, OR**	**79.41**	**37**	P	**P**	**15 26 40.7**	**+1.3**
	baz=233						
GRAC	**Grapevine Rang**	**79.43**	**46**	P	**P**	**15 26 40.4**	**+0.7**
	baz=238						
GMRC	**Granite Mounta**	**79.48**	**48**	P	**P**	**15 26 40.9**	**+0.8**
	baz=240						
GWY	**Greenwater Val**	**79.49**	**47**	P	**P**	**15 26 41.1**	**+0.9**
RYN	**Ryan**	**79.52**	**44**	P	**P**	**15 26 41.1**	**+0.8**
IRM	**Iron Mountain**	**79.54**	**49**	P	**P**	**15 26 41.3**	**+0.9**
	baz=240						
PAHR	**Pah Rah Range**	**79.54**	**42**	P	**P**	**15 26 41.2**	**+0.9**
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**15 26 41.8**	**+1.2**
	comp=Z,6.3nm,0.7s,baz=225,slow=9.1,SNR=56						
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**15 26 41.4**	**+0.8**
SHOC	**Shoshone, Teco**	**79.61**	**47**	P	**P**	**15 26 41.6**	**+0.9**
	baz=239						
TUQ	**Turquoise Moun**	**79.63**	**48**	P	**P**	**15 26 41.8**	**+0.9**
	baz=240						
O18K	**Koktuh Hills**	**79.64**	**12**	P	**P**	**15 26 40.2**	**0.0**
O18K	**Koktuh Hills**	**79.64**	**12**	P	**P**	**15 26 40.2**	**0.0**
	baz=203,SNR=6.8						
NV11	**Mina Array Sit**	**79.66**	**44**	P	**P**	**15 26 41.2**	**+0.2**
J04D	**Umpqua Nationa**	**79.87**	**38**	P	**P**	**15 26 42.2**	**+0.1**
	baz=234						
I04A	**Tendick Farm,**	**80.02**	**38**	P	**P**	**15 26 43.1**	**+0.5**
	baz=234						
KVN	**Kaiserville**	**80.02**	**44**	P	**P**	**15 26 43.7**	**+0.7**
KVN				IAmb	IAmb	15 26 44.7	
	comp=Z,22nm,1.4s						
O19K	**Port Alsworth**	**80.12**	**12**	P	**P**	**15 26 42.5**	**-0.1**
O19K	**Port Alsworth**	**80.12**	**12**	P	**P**	**15 26 42.6**	**-0.1**
	baz=204,SNR=8.0						
TPNV	**Topopah Spring**	**80.17**	**46**	P	**P**	**15 26 44.5**	**+0.8**
TPNV	**Topopah Spring**	**80.17**	**46**	P	**P**	**15 26 44.6**	**+0.8**
	baz=239,SNR=6.0						
214A	**Organ Pipe Nat**	**80.20**	**52**	P	**P**	**15 26 45.2**	**+1.3**
	baz=242						
HOM	**Homer**	**80.20**	**14**	P	**P**	**15 26 43.6**	**+0.4**
	baz=206						
G03D	**McMinnville, O**	**80.37**	**36**	P	**P**	**15 26 45.2**	**+0.8**
	baz=233						
J05D	**Fort Rock, OR**	**80.41**	**39**	P	**P**	**15 26 45.8**	**+1.0**
	baz=235						
BRSE	**Bradley Lake S**	**80.48**	**14**	P	**P**	**15 26 45.0**	**+0.4**
	baz=207						
N19K	**Bonanza Creek**	**80.66**	**12**	P	**P**	**15 26 45.5**	**-0.2**
	baz=204						
SHPR	**Sheep Range**	**80.70**	**47**	P	**P**	**15 26 47.7**	**+1.1**
MA2	**Magadan**	**80.89**	**345**	P	**P**	**15 26 46.5**	**-0.2**
I05D	**Terrebonne, OR**	**80.96**	**38**	P	**P**	**15 26 48.2**	**+0.6**
	baz=234						
PRN	**Pahroc Range**	**81.22**	**46**	P	**P**	**15 26 50.8**	**+1.6**
PRN				IAmb	IAmb	15 26 51.7	
	comp=Z,14nm,0.9s						
BMN	**Battle Mountai**	**81.33**	**43**	P	**P**	**15 26 50.9**	**+1.2**
BMN		

baz=234
TNA Tin City 83.42 5 P P 15 26 59.8 +0.4
TNA IAmb IAmb 15 27 01.0
comp=Z,20nm,0.9s
TNA Tin City 83.42 5 P P 15 26 59.3 -0.1
baz=190
PNL Peninsula 83.50 19 P P 15 26 59.7 -0.3
baz=218
CAST Castle Rocks 83.51 12 P P 15 26 58.4 -1.6
CAST Castle Rocks 83.51 12 P P 15 26 58.5 -1.4
baz=206,SNR=14
N25K Chitina, Valde 83.61 16 P P 15 27 00.3 -0.3
baz=213
BMO Blue Mountains 83.64 39 P P 15 27 01.3 +0.2
M24K Tolsona, Glenn 83.64 15 P P 15 27 00.7 0.0
baz=211
GRNC Granite Creek 83.66 17 P P 15 27 00.9 -0.1
GRNC IAmb IAmb 15 27 02.0
comp=Z,21nm,1.0s
GLB Gilahina Butte 83.68 16 P P 15 27 00.4 -0.5
WAT6 Susitna Watana 83.68 14 P P 15 27 00.1 -1.0
baz=210,SNR=8.2
MVU Marysvale 83.72 46 P P 15 27 02.6 +0.7
MVU IAmb IAmb 15 27 05.1
comp=Z,27nm,1.0s
MSU Marysvale 83.75 46 P P 15 27 02.4 +0.4
MFID Camas Ranch 83.78 41 P P 15 27 02.1 +0.2
J20K Nowinta River 83.82 11 P P 15 27 01.4 0.0
J20K IAmb IAmb 15 27 02.5
comp=Z,12nm,0.8s
J20K Nowinta River 83.82 11 P P 15 27 01.5 0.0
baz=204
KTH Kantishna Hill 83.86 12 P P 15 27 00.7 -1.0
KTH IAmb IAmb 15 27 01.6
comp=Z,16nm,0.9s
CHUM Lake Minchumin 83.88 11 P P 15 27 00.9 -0.8
baz=205,SNR=7.3
TRF Thorofare Moun 83.90 12 P P 15 27 01.0 -1.1
TRF Thorofare Moun 83.90 12 P P 15 27 01.3 -0.7
baz=207,SNR=10
D08A Wollman Farm, 83.90 37 P P 15 27 02.7 +0.5
D08A IAmb IAmb 15 27 04.0
comp=Z,8.3nm,0.8s
BARN Barnard Glacie 83.95 17 P P 15 27 02.3 -0.1
BARN IAmb IAmb 15 27 03.5
comp=Z,15nm,0.8s
CTG Chitna Glacier 83.96 17 P P 15 27 01.6 -0.9
baz=216
DUG Dugway, Tooele 84.12 45 P P 15 27 03.9 +0.2
baz=241
HARP HAARP 84.14 15 P P 15 27 02.9 -0.2
baz=212
RND Reindeer 84.16 13 P P 15 27 02.6 -0.6
DHY Denali Highway 84.20 14 P P 15 27 02.8 -0.8
DHY IAmb IAmb 15 27 03.6
comp=Z,7.5nm,0.5s
DHY Denali Highway 84.20 14 P P 15 27 03.0 -0.5
baz=210
121A Cookes Peak, D 84.27 53 P P 15 27 06.0 +1.4
baz=245
F10A Beach Ranch, E 84.29 38 P P 15 27 04.4 +0.1
F10A IAmb IAmb 15 27 05.6
comp=Z,16nm,1.0s
B08A Colville Reser 84.40 35 P P 15 27 04.3 -0.5
B08A IAmb IAmb 15 27 05.8
comp=Z,7.5nm,0.8s
MCK McKinley 84.43 13 P P 15 27 03.7 -0.8
MCK IAmb IAmb 15 27 05.0
comp=Z,22nm,1.0s
MCK McKinley 84.43 13 P P 15 27 04.0 -0.5
baz=208,SNR=6.3
PAX Paxson 84.55 15 P P 15 27 04.2 -1.1
baz=212
M26K Nabesna, AK 84.69 16 P P 15 27 05.8 -0.1
M26K IAmb IAmb 15 27 07.5
comp=Z,22nm,0.9s
M26K Nabesna, AK 84.69 16 P P 15 27 06.0 +0.1
baz=214
HLID Hailey 84.74 41 P P 15 27 07.2 +0.5
HLID Hailey 84.74 41 P P 15 27 07.3 +0.6
baz=240
YUK3 Moose Creek 84.87 17 P P 15 27 07.2 +0.3
baz=216
MENT Mentasta 84.96 15 P P 15 27 07.3 +0.2
MENT IAmb IAmb 15 27 07.8
comp=Z,8.5nm,0.7s
I21K Tanana 85.12 11 P P 15 27 07.7 -0.1
I21K IAmb IAmb 15 27 08.7
comp=Z,10.0nm,0.9s
I21K Tanana 85.12 11 P P 15 27 07.7 -0.1
baz=206
L26K Log Cabin Wild 85.12 15 P P 15 27 07.1 -0.8
L26K IAmb IAmb 15 27 09.0
comp=Z,11nm,0.9s
L26K Log Cabin Wild 85.12 15 P P 15 27 07.7 -0.2
baz=214
BVCY Beaver Creek 85.28 17 P P 15 27 08.6 -0.1
baz=216
RIDG Independent Ri 85.36 14 P P 15 27 08.7 -0.3
baz=212
H21K Melozitna Rive 85.41 11 P P 15 27 08.8 -0.4
H21K Melozitna Rive 85.41 11 P P 15 27 09.0 -0.2
baz=205
HDA Harding Lake 85.45 13 P P 15 27 08.9 -0.5
HDA IAmb IAmb 15 27 10.2
comp=Z,10nm,0.6s
HDA Harding Lake 85.45 13 P P 15 27 08.7 -0.7
baz=210,SNR=7.5
DOT Dot Lake 85.47 15 P P 15 27 09.2 -0.4
DOT IAmb IAmb 15 27 10.3
comp=Z,18nm,0.8s
CCB Clear Creek Bu 85.47 13 P P 15 27 08.4 -1.1
CCB IAmb IAmb 15 27 09.6
comp=Z,15nm,1.1s
L27K Beaver Creek, 85.55 16 P P 15 27 10.1 +0.1
baz=215
NEW Newport 85.58 36 P P 15 27 10.9 +0.4
comp=Z,4.5nm,0.7s,baz=238,slow=2.8,SNR=5.7
NEW Newport 85.58 36 P P 15 27 10.6 +0.2
baz=237
I23K Minto, Yukon-K 85.59 12 P P 15 27 09.5 -0.6
baz=208
MDM Murphy Dome 85.66 13 P P 15 27 09.4 -1.0
MDM IAmb IAmb 15 27 10.5
comp=Z,11nm,1.0s
TCOL CIGO, UAF Yank 85.66 13 P P 15 27 09.6 -0.7
baz=210
COLA College 85.66 13 P P 15 27 09.5 -0.8
baz=210
WHY Whitehorse 85.70 20 P P 15 27 10.6 -0.2
baz=222
SCRK Sand Creek 85.76 15 P P 15 27 10.6 -0.4
SCRK IAmb IAmb 15 27 12.0
comp=Z,7.0nm,0.8s
SCRK Sand Creek 85.76 15 P P 15 27 10.9 -0.2
baz=213
IL31 85.78 13 P P 15 27 09.8 -1.1
IL31 IAmb IAmb 15 27 11.2
comp=Z,7.4nm,0.7s
ILAR Eielson Array 85.78 13 P P 15 27 10.3 -0.6
comp=Z,4.2nm,0.4s,baz=226,slow=5.1,SNR=72
ILAR Eielson Array 85.78 13 P P 15 27 09.7 -1.3
MNTX Cornudas Mount 85.79 55 P P 15 27 10.5 -1.3
MNTX Cornudas Mount 85.79 55 P P 15 27 12.8 +1.0
baz=246
DLBC Dease Lake 85.80 23 P P 15 27 12.4 +1.1
comp=Z,7.1nm,1.0s,baz=223,slow=8.5,SNR=4.8
POKR Poker Plat Res 85.96 13 P P 15 27 10.8 -1.1
POKR IAmb IAmb 15 27 13.3
comp=Z,7.0nm,0.7s
POKR Poker Plat Res 85.96 13 P P 15 27 11.3 -0.6
baz=210
N31M Braeburn, Yuko 86.04 19 P P 15 27 12.1 -0.3
baz=221
P33M Teslin, Yukon 86.06 21 P P 15 27 12.6 +0.1
baz=223
BILL Bilibino 86.19 354 P P 15 27 12.4 -0.4
BILL IAmb IAmb 15 27 14.0
comp=Z,12nm,0.8s
TX31 Lajitas Ar. Si 86.22 58 P P 15 27 15.9 +1.9
TX32 Lajitas Array 86.22 58 P P 15 27 16.0 +1.9
TX32 IAmb IAmb 15 27 17.1
comp=Z,10.0nm,0.9s
TXAR Lajitas Array 86.23 58 P P 15 27 16.0 +1.9
comp=Z,5.3nm,0.7s,baz=218,slow=6.2,SNR=37
TXAR Lajitas Array 86.23 58 P 15 27 15.7 +1.7

ANMO Albuquerque 86.28 52 P P 15 27 14.3 0.0
ANMO Albuquerque 86.28 52 P P 15 27 15.5 +1.2
baz=246
J26L Joseph Creek 86.30 15 P P 15 27 14.1 +0.5
baz=214,SNR=14
MCMT McKenzie Canyo 86.34 41 P P 15 27 14.8 +0.3
HHC Hu-ho-hao-te 86.84 315 *e*P **P 15 27 19.6 +2.9**
HHC pmax pmax
comp=Z,10.0nm,1.2s
HHC pmax pmax
comp=Z,58nm,5.4s
REDW Red Top Meadow 86.91 43 P P 15 27 17.9 +0.7
REDW IAmb IAmb 15 27 19.7
comp=Z,10nm,1.1s
DAWY Dawson 87.00 16 P P 15 27 17.0 +0.2
baz=217
LRM Limekiln Ridge 87.07 40 P P 15 27 18.1 +0.2
EGAK Eagle 87.12 15 P P 15 27 16.9 -0.4
EGAK IAmb IAmb 15 27 17.9
comp=Z,6.5nm,0.8s
EGAK Eagle 87.12 15 P P 15 27 17.5 +0.2
baz=216
MOOW Moose Ponds 87.16 42 P P 15 27 18.6 +0.3
S22A 4UR Ranch, Cre 87.18 49 P P 15 27 19.6 +1.0
baz=245
LOHW Long Hollow 87.19 42 P P 15 27 19.0 +0.6
LOHW IAmb IAmb 15 27 20.3
comp=Z,4.9nm,0.7s
QLMT Earthquake Lak 87.23 41 P P 15 27 19.4 +0.8
COLD Coldfoot 87.29 11 P P 15 27 18.2 +0.2
COLD IAmb IAmb 15 27 19.3
comp=Z,8.9nm,0.8s
COLD Coldfoot 87.29 11 P P 15 27 18.2 +0.2
baz=207
YMR Madison River 87.45 41 P 15 27 21.1 +1.4
YMR IAmb IAmb 15 27 22.3
comp=Z,6.9nm,0.7s
BOZ Bozeman (W) 87.47 40 P P 15 27 20.3 +0.7
baz=242
BW06 Boulder Array 87.48 44 P P 15 27 19.9 0.0
BW06 IAmb IAmb 15 27 21.3
comp=Z,4.5nm,0.7s
BW06 Boulder Array 87.48 44 P P 15 27 20.3 +0.5
baz=243,SNR=6.7
PD31 Pinedale Array 87.48 44 P P 15 27 19.7 -0.2
PD31 IAmb IAmb 15 27 21.4
comp=Z,18nm,1.4s
PDAR Pinedale Array 87.48 44 P P 15 27 20.5 +0.7
comp=Z,3.0nm,0.6s,baz=217,slow=3.5,SNR=22
PDAR Pinedale Array 87.48 44 P P 15 27 19.9 +0.1
H17A Grant Village 87.57 42 P 15 27 22.4 +2.1
H17A IAmb IAmb 15 27 23.4
comp=Z,7.3nm,0.8s
H17A Grant Village 87.57 42 P P 15 27 21.7 +1.5
baz=242,SNR=7.8
LKWY Lake 87.76 42 P 15 27 23.1 +2.0
LKWY IAmb IAmb 15 27 24.5
comp=Z,8.3nm,0.9s
SDCO Great Sand Dun 88.14 49 P P 15 27 24.1 +1.0
baz=246
I29M Ogilvie Camp, 88.32 16 P P 15 27 22.8 -0.2
baz=218
CMAR Chiang Mai Arr 88.44 290 P P 15 27 26.3 +1.7
comp=Z,1.4nm,0.8s,baz=109,slow=3.2,SNR=12
BMAR Burnt Mountain 88.55 13 P P 15 27 24.4 +0.4
T25A Trinidad 88.69 50 P P 15 27 27.5 +1.9
baz=247
MSTX Muleshoe 88.69 54 P P 15 27 26.2 +0.6
baz=248
PZH PanZhiHua 88.70 298 P P 15 27 26.9 +1.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,70nm,5.0s
RLMT Red Lodge 88.73 42 P P 15 27 26.7 +1.1
baz=243
Q24A Divide 88.88 48 P P 15 27 27.2 +0.6
baz=246
ISCO Idaho Springs 88.89 48 P P 15 27 27.3 +0.7
baz=246
N23A Red Feather La 89.11 46 P P 15 27 28.4 +0.9
baz=246
833A Chaparral WMA, 89.35 60 P P 15 27 29.6 +1.1
baz=250
EGMT Eagleton 89.74 39 P P 15 27 30.8 +0.7
baz=243
AMTX Amarillo 89.87 53 P P 15 27 31.4 +0.4
baz=248
LZH Lanzhou 90.45 308 ⇓P P 15 27 35.8 +2.1
LZH pmax pmax
comp=Z,16nm,1.3s
LAO LASA Array 91.32 41 P P 15 27 38.6 +1.2
baz=246
RSSD Black Hills 91.70 44 P P 15 27 39.7 +0.3
baz=247
INK Inuvik 91.79 15 P P 15 27 38.4 -0.5
comp=Z,7.0nm,0.9s,baz=217,slow=4.3,SNR=16
INK Inuvik 91.79 15 IAmb IAmb 15 27 39.5
comp=Z,7.8nm,0.9s
INK Inuvik 91.79 15 P P 15 27 38.4 -0.5
baz=223
SONM Songino Array 93.13 319 P P 15 27 47.1 +1.3
comp=Z,0.4nm,0.6s,baz=138,slow=3.6,SNR=3.7
DGMT Dagmar 93.30 40 P P 15 27 46.9 +0.6
DGMT Dagmar 93.30 40 P P 15 27 47.1 +0.7
baz=247
YKA Yellowknife Ar 94.31 25 P P 15 27 50.7 +0.1
comp=Z,3.0nm,0.7s,baz=244,slow=4.4,SNR=50
GTA Gaotai 94.59 310 *e*P **P 15 27 53.5 +0.9**
GTA pmax pmax
comp=Z,2.0nm,0.9s
C36M Paulatuk 95.02 17 P P 15 27 53.4 -0.2
baz=231
MIAR Mount Ida 96.06 56 P P 15 28 00.2 +1.1
baz=253
W39A Magazine 96.08 55 P P 15 28 00.8 +1.6
baz=253
A36M Sachs Harbour 96.38 15 P P 15 27 59.3 -0.4
A36M Sachs Harbour 96.38 15 P P 15 27 59.6 -0.1
baz=230
ZALV Zalesovo Beam 107.82 322 PKiKP **PKiKP 15 32 53.8 -1.2**
comp=Z,0.7nm,0.6s,baz=99,slow=1.9,SNR=3.0
MKAR Makanchi Array 108.70 314 PKiKP **PKiKP 15 32 56.2 -0.8**
comp=Z,0.5nm,0.5s,baz=157,slow=0.5,SNR=11
ARCES ARCESS Array B 126.04 350 PKP **PKiKP 15 33 29.7 -0.2**
comp=Z,2.4nm,0.7s,baz=328,slow=1.4,SNR=7.1
FINES FINESS Array B 132.88 344 PKP **PKPdf 15 33 42.9 +0.3**
comp=Z,2.4nm,0.9s,baz=40,slow=2.4,SNR=4.1
AKASG Malin Array Be 140.19 332 PKiKP PKPpre 15 33 48.7
comp=Z,0.6nm,0.5s,baz=42,slow=4.0,SNR=4.6
AKASG PKP **PKPdf 15 33 57.0 +0.5**
comp=Z,0.8nm,0.5s,baz=43,slow=3.1,SNR=3.7
BNN Bunyan 143.22 312 PKPbc 15 34 01.3 +0.6
KWP Kalwaria Pacla 143.72 336 *e*PKPdf **PKPdf 15 34 02.4 -0.4**
KWP Kalwaria Pacla 143.72 336 PKPbc PKPbc 15 34 01.8 +0.1
VLDR Vladesti 144.12 327 ⇓P PKPdf 15 34 04.3 +0.7
BUR08 Bucovina Ar. S 144.23 332 PKPab 15 34 03.8 -0.1
BURAR Bucovina Array 144.24 332 ⇑P PKPab 15 34 05.1 +1.2
BURAR Bucovina Array 144.24 332 PKPab 15 34 04.2 +0.3
OJC Ojcow 144.28 339 *e*PKPdf **PKPab 15 34 04.1 +0.2**
OJC Ojcow 144.28 339 PKPdf 15 34 03.6 -0.1
BRTR Keskin Array B 144.35 315 PKP **PKPdf 15 34 04.4 0.0**
comp=Z,3.9nm,0.8s,baz=106,slow=3.1,SNR=8.7
BRTR Keskin Array B 144.35 315 PKPbc 15 34 03.8 -0.4
TESR Tescani 144.38 329 ⇑P PKPab 15 34 04.6 +0.3
CFR Carcaliu 144.54 326 ⇑P PKPab 15 34 05.1 +0.2
TPGR Topolog 144.60 326 ⇑P PKPab 15 34 05.7 +0.5
NIE Niedzica 144.78 338 *e*PKPdf **PKPab 15 34 07.0 +1.2**
CRVS Cervenica-Dubn 144.79 337 *e*PKP **PKPab 15 34 06.0 +0.2**
VRI Vrincioaia 144.79 328 ⇑P PKPdf 15 34 04.8 0.0
KSP Ksiaz 144.80 343 *e*PKPdf **PKPab 15 34 06.0 +0.3**
PLOR Plostina 144.84 329 ⇑P PKPab 15 34 06.6 +0.4
TIRR Tirgusor 144.87 325 ⇑P PKPbc 15 34 05.4 0.0
HARR Harsova 144.97 326 ⇓P PKPab 15 34 07.0 +0.3
ARCR ARCALIA 145.03 332 ⇑P PKPab 15 34 07.3 +0.5
OZUR 145.09 330 ⇑P PKPab 15 34 07.3 +0.2
CHVC Chvalec 145.09 343⇑ *e*PKP **PKPab 15 34 07.5 +0.5**
CLL Collm 145.17 347⇑ PKPbc **PKPbc 15 34 06.3 +0.1**
comp=Z,26nm,0.7s
CLL *e*SKPbc **SKiKP 15 36 55.0 +0.5**
CLL Collm 145.17 347 PKPdf **PKPbc 15 34 06.0 -0.2**
UPC Upice 145.18 343⇑ *e*PKP **PKPab 15 34 07.4 +0.1**
DPC Dobruska-Polom 145.23 343⇑ *e*PKP **PKPab 15 34 07.5 0.0**
LANS Liptovska Anna 145.30 339 *e*PKP **PKPab 15 34 08.3 +0.5**
KRLC Kraliky 145.35 342⇑ *e*PKP **PKPab 15 34 07.6 -0.4**

BRG Berggiesshubel 145.37 346 *i* PKP **PKPab 15 34 07.7 -0.3**
BRG Amp 15 34 08.4
comp=Z,15nm,0.9s
DOPR Dopca 145.38 330 ⇑P PKPab 15 34 08.0 -0.3
MORC Moravsky Berou 145.39 341 ⇑P PKPbc 15 34 06.9 0.0
MORC Moravsky Berou 145.39 341 *e*PKP **PKPbc 15 34 07.4 +0.5**
MLR Muntele Rosu 145.45 329 ⇑P PKPab 15 34 08.7 0.0
MLR Muntele Rosu 145.45 329 PKPdf **PKPdf 15 34 06.5 +0.4**
PVCC Panska Ves 145.54 345⇑ *e*PKP **PKPab 15 34 08.1 -0.5**
VOIR 145.92 329 ⇑P PKPab 15 34 09.7 -0.7
DRGR 145.97 333 ⇑P PKPab 15 34 09.9 -0.7
PRU Pruhonice 146.04 344⇑ *e*PKP **PKPbc 15 34 09.5 +0.8**
VYHS Vyhne 146.08 339 *e*PKP **PKPbc 15 34 09.8 +0.9**
VRAC Vranov 146.09 342 ⇓P PKPab 15 34 10.3 -0.6
VRAC Vranov 146.09 342 *e*PKP **PKPab 15 34 10.3 -0.6**
JAVC Velka Javorina 146.15 340 *e*PKP **PKPab 15 34 10.6 -0.6**
KOLL Kolacno 146.16 339 *e*PKP **PKPbc 15 34 09.7 +0.6**
ARR Arges 146.18 330 ⇑P PKPab 15 34 11.2 -0.2
PSZ Piszkesteto 146.19 337 ⇑P PKPbc 15 34 09.9 +0.6
PSZ Piszkesteto 146.19 337 PKPbc 15 34 09.7 +0.4
NKC Novy Kostel 146.31 347 *e*PKPAB **PKiKP 15 34 12.8 +1.0**
KRUC Moravsky 146.37 342 *e*PKP **PKPbc 15 34 10.1 +0.5**
MODS Modra-Piesok 146.71 340 *e*PKP **PKiKP 15 34 11.7 -1.0**
LEF Lefka 146.91 308 ⇓P PKPbc 15 34 11.4 -0.1
BTNL Ternell 146.95 354 PKP **PKPbc 15 34 11.8 +0.6**
BSTI Sart Tilman 147.01 355 P PKPbc 15 34 12.2 +0.9
BSTI PKP **PKPab 15 34 15.1 +0.6**
GZR Gura Zlata 147.03 332 ⇓P PKPbc 15 34 12.0 +0.4
KHC Kasperske Hory 147.07 345 *e*PKPDF **PKPdf 15 34 09.8 +1.2**
KHC ⇑*e*PKP **PKiKP 15 34 12.6 -0.8**
KHC *e*PKPAB **PKPab 15 34 16.0 +1.1**
CKRC Cesky Krumlov 147.17 344⇑ *e*PKP **PKPbc 15 34 12.7 +0.9**
GEC2 GERESS Array S 147.31 345 PKPbc 15 34 12.2 -0.1
GERES GERESS Array B 147.31 345 PKPbc **PKPbc 15 34 12.8 +0.5**
comp=Z,7.4nm,0.8s,baz=30,slow=2.9,SNR=29
GERES GERESS Array B 147.31 345 PKPbc 15 34 12.3 -0.1
BZS Buzias 147.37 333 ⇑P PKPbc 15 34 12.9 +0.5
CONA Conrad Observa 147.54 341 *e*P **PKiKP 15 34 13.9 -0.6**
comp=Z,9.2nm,0.7s
HERR Herculane 147.58 331 ⇑P PKPbc 15 34 13.5 +0.5
WLF Walferdange 147.86 354 PKP **PKiKP 15 34 14.8 -0.1**
MORH Mrgy, Hungar 148.08 337 ⇑P PKPbc 15 34 14.3 +0.1
VTS Vitosha 148.87 328 ⇓P PKiKP 15 34 17.4 0.0
SOKA Soboth 148.91 341 *e*P **PKPbc 15 34 15.7 -0.7**
comp=Z,10nm,1.1s
WATA Walderalm 149.23 346 *i* P **PKPbc 15 34 17.3 +0.1**
comp=Z,16nm,1.3s
RETA Reutte 149.26 347 *i* P **PKPbc 15 34 17.6 +0.4**
comp=Z,12nm,1.3s
WTTA Wattenberg 149.28 346 *i* P **PKiKP 15 34 17.9 -0.3**
comp=Z,20nm,0.8s,SNR=7.1
MOTA Moosalm 149.33 347 *i* P **PKiKP 15 34 18.2 -0.1**
comp=Z,22nm,1.3s
MYKA Terra Mystica 149.36 343 *e*P **PKPbc 15 34 17.1 -0.4**
comp=Z,5.6nm,0.5s
SQTA Sankt Quirin 149.42 346 *i* P **PKiKP 15 34 18.2 -0.3**
comp=Z,9.2nm,0.6s,SNR=4.2
ABTA Abfaltersbach 149.55 345 *i* P **PKPbc 15 34 17.7 -0.3**
comp=Z,11nm,0.7s
DAVA Damuels 149.63 348 *i* P **PKPbc 15 34 18.4 +0.2**
comp=Z,14nm,0.9s
FETA Feichten 149.72 347 *i* P **PKiKP 15 34 19.0 -0.1**
comp=Z,10nm,1.0s,SNR=4.9
TUE Stuetta 150.52 348 PKPbc 15 34 20.6 +0.2
ESDC Sonseca Array 157.66 10 PKPab **PKPab 15 34 59.8 0.0**
comp=Z,1.5nm,0.8s,baz=354,slow=3.6,SNR=5.2
TORD Torodi Ar. Bea 175.44 186 PKP **PKPdf 15 34 37.0 -1.2**
comp=Z,0.8nm,0.8s,baz=131,slow=0.4,SNR=3.7

JMA ***11*** *15:15:48.1, 40°.39N×141°.27E, h9km±1km, M3.6*
Broadband fault plane solution: P waves. NP1:
ϕ_s145.00000°, δ23.00000°, λ71.00000°. NP2:
ϕ_s345.00000°, δ68.00000°, λ98.00000°. Principal axes: T
Plg66.0000°, Azm269.0000°; N Plg7.0000°,
Azm162.0000°; P Plg23.0000°, Azm69.0000°;
JMA Felt III J1.
NEIC ***11*** *15:15:48.1±1.4, 40°.53N±0°.05×141°.12E±0°.05, h3km±5km,*
mb4.0/11 Error ellipse: s-maj=7.5km s-min=4.0km
az=211.0
NIED ***11*** *15:15:48.2, 40°.39N×141°.27E, h9km, MW3.6, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm;
M_{rr}1.82; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$-1.73; $M_{r\theta}$0.30; $M_{\theta\phi}$0.98; $M_{\phi r}$1.73;
Fault plane solution: $M_0$2.69000×10^{14} NP1:
ϕ_s357.00000°, δ67.00000°, λ111.00000°. NP2:
ϕ_s133.00000°, δ31.00000°, λ50.00000°.
IDC ***11*** *15:15:53.5±1.5, 40°.44N×141°.39E, h61km±15km, mb3.5/5,*
mb1 3.7/10, mb1mx3.2/50, mbtmp3.8/10, MS2.4/2,
Ms1 2.4/2, ms1mx2.3/67 Error ellipse: s-maj=23.0km
s-min=9.2km az=105.0

ISC 11 15:15:48.2±1.0, 40°.42N±0°.02×141°.30E±0°.03, h8km±7km, n52, σ1Ψ54/60, mb4.0/12, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.17**	**105**	⇓P	**Pg**	**15 15 52.1**	**+0.4**
JANG				S	**Sg**	**15 15 54.8**	**+0.7**
JTM	**Tenmabayashi**	**0.41**	**334**	P	**Pg**	**15 15 56.4**	**+0.3**
JTM				S	**Sg**	**15 16 02.1**	**+0.6**
JTM	**Tenmabayashi**	**0.41**	**334**		**Pg**	**15 15 56.2**	**+0.1**
JTM					**Sg**	**15 16 01.7**	**+0.2**
JKZ	**Kuzumaki**	**0.43**	**177**	⇓P	**Pg**	**15 15 56.1**	**-0.5**
JKZ				S	**Sg**	**15 16 01.9**	**-0.4**
JAH	**Hinai**	**0.56**	**246**	⇓P	**Pg**	**15 15 58.2**	**-0.7**
JAH				S	**Sg**	**15 16 05.4**	**-0.8**
JARK	**Aomorirokkasho**	**0.59**	**5**	⇓P	**Pb**	**15 16 00.0**	**-0.7**
JARK				S	**Sb**	**15 16 08.5**	**-0.7**
JTH	**Tanohata**	**0.65**	**138**	⇓P	**Pg**	**15 16 00.3**	**-0.3**
JTH				S	**Sg**	**15 16 09.0**	**0.0**
JOM	**Ohasama**	**0.94**	**180**	P	**Pg**	**15 16 05.3**	**-1.0**
JOM				S	**Sg**	**15 16 18.3**	**-0.3**
JIW	**Iwasaki**	**1.00**	**280**	⇑P	**Pg**	**15 16 06.4**	**-1.0**
JIW				S	**Sg**	**15 16 19.7**	**-0.7**
ERM	**Erimo**	**2.12**	**41**		**Pn**	**15 16 24.5**	**+0.6**
JEW	**Eniwo**	**2.42**	**3**	Pg	**Pb**	**15 16 31.3**	**-0.7**
JMM	**Marumori**	**2.58**	**189**	Pn	**Pn**	**15 16 30.9**	**+0.7**
JSD	**Sado**	**3.35**	**226**	Pn	**Pn**	**15 16 41.0**	**+0.2**
ASAJ	**Asahikawa**	**3.82**	**14**	P	**Pn**	**15 16 49.0**	**+1.8**
	3.5nm,0.3s,baz=206,slow=6.3,SNR=35						
ASAJ				S	**Sn**	**15 17 33.3**	**+1.0**
	2.4nm,0.3s,baz=339,slow=29,SNR=7.5						
JKA	**Kamikawa-asahi**	**3.82**	**14**		**Pn**	**15 16 44.9**	**-2.3**
JKA	**Kamikawa-asahi**	**3.82**	**14**		**Sn**	**15 17 33.3**	**+1.0**
JYT	**Yasato**	**4.27**	**192**	Pn	**Pn**	**15 16 54.1**	**+0.7**
MJB9	**Matsu-Tunnel**	**4.57**	**213**	Pn	**Pn**	**15 16 58.2**	**+0.7**
MAJO	**Matsushiro**	**4.57**	**213**	Pn	**Pn**	**15 16 58.3**	**+0.7**
MAT	**Matsushiro**	**4.57**	**213**	P	**Pn**	**15 16 59.1**	**+1.5**
MAT				S	**Sn**	**15 17 51.4**	**+0.5**
MJAR	**Matsushiro Arr**	**4.57**	**213**	P	**Pn**	**15 17 01.4**	**+3.9**
	0.3nm,0.3s,baz=332,slow=15,SNR=9.0						
MJAR				S	**Sn**	**15 17 54.6**	**+3.8**
	0.1nm,0.3s,baz=168,slow=35,SNR=2.7						
MJAR				LR	LR	15 18 55.3	
	comp=Z,57nm,20.8s,baz=58,slow=39						
MJAR	**Matsushiro Arr**	**4.57**	**213**	Pn	**Pn**	**15 16 58.3**	**+0.7**
JWT	**Wachi**	**6.93**	**224**	Pn	**Pn**	**15 17 33.2**	**+3.2**
JHJ	**Hachijo jima 2**	**7.39**	**190**	P	**Pn**	**15 17 37.6**	**+1.4**
	3.8nm,0.3s,baz=48,slow=21,SNR=1.8						
JHJ				S	**Sn**	**15 19 02.4**	**+2.1**
	2.4nm,0.3s,baz=87,slow=19,SNR=1.7						
USRK	**Ussuriysk Ar.**	**7.87**	**302**	P	**Pn**	**15 17 45.3**	**+2.5**
	baz=110,slow=42,SNR=2.5						
JHS	**Saijyo**	**8.44**	**233**	Pn	**Pn**	**15 17 53.8**	**+3.0**
KSRS	**Korea Array**	**10.83**	**258**	P	**Pn**	**15 18 27.4**	**+4.0**
	0.2nm,0.3s,baz=60,slow=14,SNR=2.6						
KSRS				S	**Sn**	**15 20 28.1**	**+3.3**
	0.5nm,0.3s,baz=71,slow=24,SNR=7.9						
KSRS				LR	LR	15 21 27.5	
	comp=Z,18nm,21.6s,baz=35,slow=30						
H11N2	**WAKE ISLAND Hy 30.08**	**126**		T	T	15 52 43.7	
	baz=318,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy 30.09**	**126**		T	T	15 52 43.2	
	baz=318,slow=75,SNR=71						
H11N3	**WAKE ISLAND Hy 30.09**	**126**		T	T	15 52 45.8	
	baz=318,slow=75,SNR=78						
H11S1	**WAKE ISLAND Hy 30.88**	**128**		T	T	15 53 46.9	
	baz=319,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy 30.89**	**128**		T	T	15 53 46.7	
	baz=319,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy 30.90**	**128**		T	T	15 53 49.2	

baz=319,slow=76,SNR=9.9
ZAA0 Zalesovo Array 39.63 309 P P 15 23 18.8 -1.3
ZAA0 IAmb IAmb 15 23 22.5
comp=Z,1.3nm,0.8s
ZALV Zalesovo Beam 39.63 309 P P 15 23 19.1 -0.9
comp=Z,1.1nm,0.6s,baz=95,slow=9.5,SNR=4.7
MK31 Makanchi Array 42.32 299 P P 15 23 41.7 -0.7
MKAR Makanchi Array 42.32 299 P P 15 23 41.3 -1.1
comp=Z,0.4nm,0.6s,baz=90,slow=8.9,SNR=4.4
MKAR Makanchi Array 42.32 299 P P 15 23 41.6 -0.8
KURK Kurchatov 43.84 305 P P 15 23 53.1 -1.4
KURK IAmb IAmb 15 23 54.3
comp=Z,3.9nm,0.8s
BOOM Boomskoye usch 47.93 295 P P 15 24 26.8 -0.3
BOOM IAmb IAmb 15 24 27.1
comp=Z,1.2nm,0.8s
BRVK Borovoye 48.33 310 P P 15 24 29.5 -0.4
BRVK IAmb IAmb 15 24 30.2
comp=Z,2.6nm,1.2s
BCAR Beaver Creek A 49.18 36 P P 15 24 36.2 -0.1
ABKAR Akbulak array 55.73 308 P P 15 25 24.1 -1.0
KNRA Kununurra 57.01 194 P P 15 25 33.7 -0.7
WR0 Warramunga Arr 60.40 187 P P 15 25 56.4 -1.6
WRA Warramunga Arr 60.40 188 P P 15 25 56.5 -1.5
comp=Z,1.2nm,0.6s,baz=4.6,slow=7.0,SNR=7.7
WRA Warramunga Arr 60.40 188 P P 15 25 56.1 -1.8
AS31 Alice Springs 64.12 188 P P 15 26 21.4 -1.5
AS31 IAmb IAmb 15 26 37.2
comp=Z,0.8nm,1.1s
ASAR Alice Springs 64.13 188 P P 15 26 21.9 -1.1
comp=Z,1.0nm,0.7s,baz=6.7,slow=5.3,SNR=8.0
AKASG Malin Array Be 71.58 322 P P 15 27 08.5 -1.2
comp=Z,0.2nm,0.4s,baz=41,slow=6.5,SNR=4.9
BUR08 Bucovina Ar. S 75.60 321 P P 15 27 33.5 0.0
BUR08 IAmb IAmb 15 27 46.5
comp=Z,4.1nm,1.4s
BURAR Bucovina Array 75.61 321 P P 15 27 33.5 0.0
BURAR IAmb IAmb 15 27 36.9
comp=Z,1.1nm,0.8s

*TUL **11** 15:18:06.2±1.0, 36°.51N±0°.04×98°.71W±0°.05, h7km±7km, ML3.4, mb_Lg3.2/60(NEIC), Error ellipse: s-maj=6.8km s-min=5.0km az=145.0*
*NEIC **11** 15:18:06.7±1.4, 36°.49N±0°.04×98°.66W±0°.05, h9km±7km, Error ellipse: s-maj=6.5km s-min=5.3km az=134.0*
*ANF **11** 15:18:07.7±1.7, 36°.51N×98°.67W, h13km±12km, ML3.9/9, Error ellipse: s-maj=4.6km s-min=3.5km az=22.0*
ISC 11 15:18:06.1±1.3, 36°.49N±0°.03×98°.66W±0°.02, h1km±12km, n88, σ0°82/78, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.22**	**350**	Pg	**Pg**	**15 18 10.6**	**+0.3**
OK035				Sg	**Sg**	**15 18 13.8**	**+0.6**
U32A	**Winter Ranch,**	**0.29**	**248**	Pg	**Pg**	**15 18 11.9**	**+0.2**
U32A				Sg	**Sg**	**15 18 15.3**	**-0.2**
OK032	**Salt Plains WL**	**0.48**	**49**	Pg	**Pg**	**15 18 15.8**	**+0.5**
OK032				Sg	**Sg**	**15 18 22.4**	**+0.8**
KAN14	**Manchester OK**	**0.73**	**50**		**Pg**	**15 18 20.2**	**0.0**
GC02	**Grant County #**	**0.74**	**61**	Pg	**Pg**	**15 18 20.7**	**+0.4**
GC02				Sg	**Sg**	**15 18 31.0**	**+1.1**
KAN10	**Anthony SW Sta**	**0.78**	**36**	Pg	**Pg**	**15 18 21.1**	**0.0**
KAN16	**Harper SW Stat**	**0.88**	**33**	Pg	**Pg**	**15 18 22.9**	**-0.1**
KAN05	**Bluff City Nor**	**0.89**	**46**		**Pg**	**15 18 23.1**	**0.0**
KAN05				Sg	**Sg**	**15 18 35.1**	**+0.6**
KAN17	**Caldwell West**	**0.91**	**52**		**Pg**	**15 18 23.6**	**+0.1**
KAN08	**Anthony NE Sta**	**0.92**	**37**		**Pg**	**15 18 23.6**	**-0.1**
KAN12	**Harper NE Stat**	**0.97**	**33**	Pg	**Pg**	**15 18 24.4**	**-0.2**
KAN01	**Argonia South**	**0.98**	**47**		**Pg**	**15 18 24.8**	**-0.1**
KAN06	**Argonia West S**	**0.99**	**40**	Pg	**Pg**	**15 18 25.1**	**-0.1**
KAN13	**South Haven SW**	**1.09**	**61**	Pg	**Pg**	**15 18 26.7**	**-0.2**
BCOK	**Bluff Creek, N**	**1.19**	**134**		**Pb**	**15 18 28.6**	**-0.9**
BLOK	**Blackwell**	**1.20**	**77**		**Pb**	**15 18 28.8**	**-0.8**
OK029	**Liberty Lake**	**1.20**	**125**		**Pb**	**15 18 28.8**	**-0.9**
OK025	**Westminster Rd**	**1.41**	**130**		**Pn**	**15 18 32.5**	**-0.4**
OKCFA	**Oklahoma City**	**1.46**	**137**		**Pn**	**15 18 33.3**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**1.47**	**137**		**Pn**	**15 18 33.4**	**-0.4**
OK031	**S. Brethren Rd**	**1.57**	**109**		**Pn**	**15 18 35.0**	**-0.2**
FNO	**Franklin**	**1.60**	**140**		**Pn**	**15 18 35.6**	**0.0**
QUOK	**Quay**	**1.61**	**101**		**Pn**	**15 18 35.6**	**-0.1**
OK030	**Cody Creek RV**	**1.62**	**110**		**Pn**	**15 18 35.6**	**-0.2**
OK034	**N. Norfolk Rd.**	**1.65**	**106**		**Pn**	**15 18 36.0**	**-0.2**
WMOK	**Wichita Mounta**	**1.75**	**183**	Pn	**Pn**	**15 18 37.1**	**-0.6**
WMOK	**Wichita Mounta**	**1.75**	**183**	P	**Pn**	**15 18 37.4**	**-0.3**
WMOK	baz=1.9			S	**Sb**	**15 19 01.4**	**-0.2**
	baz=1.9						
T35A	**Sooner Cattle**	**1.78**	**76**		**Pn**	**15 18 38.2**	**+0.1**
R32A	**Long Quarter,**	**1.93**	**359**		**Pb**	**15 18 40.7**	**-1.5**
R32A				IAmb_Lg		15 19 11.7	
	comp=Z,108nm,0.8s						
W35A	**Tecumseh**	**1.97**	**132**		**Pn**	**15 18 40.7**	**-0.1**
X34A	**Smith Ranch, M**	**2.00**	**160**	IAmb_Lg		15 19 12.5	
	comp=Z,115nm,0.7s						
TUL1	**Leonard**	**2.39**	**103**		**Pn**	**15 18 46.2**	**-0.3**
TUL1				IAmb_Lg		15 19 28.0	
	comp=Z,102nm,0.8s						
TUL1	**Leonard**	**2.39**	**103**	P	**Pn**	**15 18 46.9**	**+0.3**
	baz=285						
TUL1				Sb	**Sb**	**15 19 21.2**	**+1.1**
	baz=285						
CBKS	**Cedar Bluff**	**2.47**	**340**		**Pn**	**15 18 48.5**	**+0.9**
CBKS	**Cedar Bluff**	**2.47**	**340**	Sb	**Sb**	**15 19 21.4**	**-0.9**
	baz=160						
LOOK	**Love County**	**2.77**	**154**		**Pn**	**15 18 50.8**	**-0.9**
AMTX	**Amarillo**	**2.93**	**238**		**Pn**	**15 18 53.4**	**-0.6**
KSU1	**Kansas State U**	**3.07**	**31**		**Pn**	**15 18 55.3**	**-0.5**
KSU1	**Kansas State U**	**3.07**	**31**	P	**Pn**	**15 18 57.1**	**+1.2**
	baz=213						
X37A	**Clayton**	**3.29**	**124**	Pn	**Pn**	**15 18 58.9**	**+0.1**
X37A				IAmb_Lg		15 19 58.4	
	comp=Z,50nm,0.7s						
Z35A	**Perchaven, San**	**3.36**	**159**	Pn	**Pn**	**15 19 00.3**	**+0.5**
HHAR	**Hobbs**	**3.82**	**92**	Pn	**Pn**	**15 19 05.8**	**-0.4**
KSCO	**Kaye Shedlock'**	**4.02**	**310**	Pn	**Pn**	**15 19 08.3**	**-0.8**
KSCO				IAmb_Lg		15 20 17.7	
	comp=Z,53nm,1.0s						
W39A	**Magazine**	**4.17**	**107**		**Pn**	**15 19 10.6**	**-0.3**
W39A	**Magazine**	**4.17**	**107**	S	**Sn**	**15 20 00.5**	**+0.1**
	baz=290						
MSTX	**Muleshoe**	**4.20**	**234**	Pn	**Pn**	**15 19 09.9**	**-1.5**
N33A	**J Bar K, Exete**	**4.35**	**12**	Pn	**Pn**	**15 19 12.2**	**-1.1**
N33A				IAmb_Lg		15 20 30.5	
	comp=Z,42nm,0.8s						
Z38A	**Mt. Pleasant**	**4.42**	**136**	Pn	**Pn**	**15 19 14.2**	**-0.2**
Z38A				IAmb_Lg		15 20 34.5	
	comp=Z,38nm,0.8s						
S39A	**Bolivar**	**4.43**	**73**		**Pn**	**15 19 14.4**	**-0.2**
S39A				IAmb_Lg		15 20 28.3	
	comp=Z,34nm,0.8s						
MIAR	**Mount Ida**	**4.58**	**114**		**Pn**	**15 19 16.4**	**-0.1**
MIAR				IAmb_Lg		15 20 44.7	
	comp=Z,60nm,1.1s						
MIAR	**Mount Ida**	**4.58**	**114**	P	**Pn**	**15 19 17.2**	**+0.6**
	baz=297						
MIAR				S	**Sn**	**15 20 11.2**	**+0.7**
	baz=297						
WHTX	**Lake Whitney,**	**4.60**	**167**	Pn	**Pn**	**15 19 16.4**	**-0.4**
WHTX	**Lake Whitney,**	**4.60**	**167**	P	**Pn**	**15 19 17.0**	**+0.2**
	baz=347						
T25A	**Trinidad**	**4.66**	**280**		**Pn**	**15 19 17.1**	**-0.8**
T25A				IAmb_Lg		15 20 36.8	
	comp=Z,53nm,0.8s						
T25A	**Trinidad**	**4.66**	**280**	P	**Pn**	**15 19 17.7**	**-0.1**
	baz=96						
T25A				Sb	**Sb**	**15 20 29.8**	**+4.4**
	baz=96						
U40A	**Yellville**	**4.69**	**90**	Pn	**Pn**	**15 19 17.9**	**-0.2**
BGNE	**Belgrade**	**4.93**	**5**	Pn	**Pn**	**15 19 20.5**	**-0.8**
BGNE	**Belgrade**	**4.93**	**5**	P	**Pn**	**15 19 21.1**	**-0.2**
	baz=185						
N35A	**Tabor**	**4.96**	**28**	Pn	**Pn**	**15 19 20.6**	**-1.2**
237A	**Washetta, Mont**	**5.06**	**151**	Pn	**Pn**	**15 19 22.5**	**-0.7**
237A				IAmb_Lg		15 20 58.2	
	comp=Z,34nm,0.9s						
P38A	**Dawn**	**5.12**	**51**	Pn	**Pn**	**15 19 23.7**	**-0.2**
X40A	**Basin Creek Fa**	**5.16**	**111**	IAmb_Lg		15 20 57.6	
	comp=Z,50nm,0.8s						
OGNE	**Ogallala**	**5.17**	**330**	Pn	**Pn**	**15 19 24.2**	**-0.5**
OGNE				IAmb_Lg		15 20 56.6	
	comp=Z,50nm,0.7s						
MGMO	**Mountain Grove**	**5.17**	**81**		**Pn**	**15 19 25.1**	**+0.4**
WHAR	**Wooly Hollow**	**5.31**	**101**	IAmb_Lg		15 21 09.3	
	comp=Z,43nm,0.8s						
WLAR	**White Oak Lake**	**5.34**	**120**	IAmb_Lg		15 20 55.1	
	comp=Z,27nm,0.9s						
R40A	**Maddies Statio**	**5.40**	**69**		**Pn**	**15 19 27.8**	**0.0**
SDCO	**Great Sand Dun**	**5.61**	**285**		**Pn**	**15 19 30.8**	**-0.1**
SDCO	**Great Sand Dun**	**5.61**	**285**	P	**Pn**	**15 19 32.0**	**+1.0**
	baz=101						
Q24A	**Divide**	**5.70**	**298**	IAmb_Lg		15 21 05.8	
	comp=Z,33nm,0.9s						
Q24A	**Divide**	**5.70**	**298**	P	**Pn**	**15 19 31.6**	**-0.7**
	baz=114						
435B	**Jarrell**	**5.76**	**171**	IAmb_Lg		15 21 17.4	
	comp=Z,32nm,1.0s						
JCT	**Junction City**	**6.07**	**189**	IAmb_Lg		15 21 28.3	
	comp=Z,28nm,0.8s						
LCAR	**Lake Charles**	**6.08**	**92**	IAmb_Lg		15 21 21.5	
	comp=Z,29nm,1.0s						
CCM	**Cathedral Cave**	**6.12**	**73**	IAmb_Lg		15 21 24.4	
	comp=Z,39nm,0.9s						
K31A	**O'Neill**	**6.12**	**359**	IAmb_Lg		15 21 37.4	
	comp=Z,32nm,0.8s						
ISCO	**Idaho Springs**	**6.39**	**303**		**Pn**	**15 19 40.9**	**-0.9**
ISCO	**Idaho Springs**	**6.39**	**303**	P	**Pn**	**15 19 41.7**	**-0.1**
	baz=119						
PBMO	**Poplar Bluff**	**6.63**	**85**	IAmb_Lg		15 21 41.4	
	comp=Z,22nm,0.7s						
FVM	**French Village**	**6.74**	**75**	IAmb_Lg		15 21 39.8	
	comp=Z,22nm,0.8s						
SCIA	**State Center**	**6.87**	**36**	IAmb_Lg		15 21 50.5	
	comp=Z,26nm,0.7s						
SLM	**Saint Louis**	**7.03**	**70**	IAmb_Lg		15 21 59.8	
	comp=Z,24nm,0.7s						
PHWY	**Pilot Hill**	**7.15**	**314**	IAmb_Lg		15 21 51.9	
	comp=Z,20nm,0.9s						
ECSD	**EROS Data Cent**	**7.40**	**12**	Pn	**Pn**	**15 19 53.6**	**-1.7**
S44A	**Carbondale**	**7.62**	**78**	IAmb_Lg		15 22 16.5	
	comp=Z,27nm,0.7s						
W45A	**Hickory Valley**	**7.81**	**97**	IAmb_Lg		15 22 28.6	
	comp=Z,32nm,0.9s						
K22A	**Casper**	**8.64**	**318**	IAmb_Lg		15 22 39.8	
	comp=Z,27nm,0.8s						
JFWS	**Jewell Farm**	**9.12**	**43**	IAmb_Lg		15 23 13.0	
	comp=Z,19nm,0.8s						

WEL 11 15:19:19.3±0.7, 38°S±4°×17°6E±°, h153km±6km, M3.0/60, ML2.5/31, MLv3.0/60, Error ellipse: s-maj=0.0km s-min=0.0km az=152.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.15**	**196**	P	Pn	15 19 40.8	+0.8
TLZ	**Tolley Road**	**0.27**	**274**	P	Pn	15 19 40.9	+0.6
WPRZ	**Whakapapatarin**	**0.28**	**128**	P	Pn	15 19 41.1	+0.8
HSRZ	**Hossack Road**	**0.29**	**83**	P	Pn	15 19 41.3	+1.0
HRRZ	**Handcock Road**	**0.32**	**98**	P	Pn	15 19 41.5	+1.1
WATZ	**Wairara**	**0.38**	**197**	P	Pn	15 19 41.4	+0.8
ALRZ	**Allen Road**	**0.43**	**121**	P	Pn	15 19 41.4	+0.7
PRRZ	**Plateau Road**	**0.43**	**111**	P	Pn	15 19 41.7	+0.9
KARZ	**Kaharoa**	**0.44**	**42**	P	Pn	15 19 41.6	+0.8
OMRZ	**Omania**	**0.46**	**59**	P	Pn	15 19 41.7	+0.7
RRRZ	**Republican Roa**	**0.50**	**89**	P	Pn	15 19 41.9	+0.8
RATZ	**Rangitukua**	**0.53**	**189**	P	Pn	15 19 41.7	+0.4
RITZ	**Rihia Road**	**0.63**	**181**	P	Pn	15 19 42.6	+0.8
KATZ	**Kakaramea**	**0.64**	**193**	P	Pn	15 19 42.5	+0.5
MRHZ	**Matea Rd**	**0.65**	**139**	P	Pn	15 19 42.2	+0.3
MRHZ				S	Sn	15 19 59.9	+0.7
TGRZ	**Tauranga**	**0.69**	**26**	P	Pn	15 19 42.7	+0.5
MUGZ	**Murupara**	**0.71**	**101**	P	Pn	15 19 42.7	+0.4
MUGZ				S	Sn	15 20 00.8	+1.0
MARZ	**Manawahe**	**0.73**	**60**	P	Pn	15 19 43.1	+0.7
OPRZ	**Ohinepanea**	**0.73**	**47**	P	Pn	15 19 42.9	+0.5
NTVZ	**North Tongarir**	**0.77**	**192**	P	Pn	15 19 43.2	+0.4
KRVZ	**Karewarewa**	**0.77**	**194**	P	Pn	15 19 43.1	+0.3
TMVZ	**Te Maari**	**0.78**	**190**	P	Pn	15 19 43.3	+0.4
ETVZ	**East Tongariro**	**0.80**	**189**	P	Pn	15 19 43.4	+0.4
WTVZ	**West Tongariro**	**0.80**	**196**	P	Pn	15 19 43.4	+0.4
TWVZ	**Taurewa**	**0.80**	**205**	P	Pn	15 19 43.3	+0.3
NNVZ	**North Ngauruho**	**0.81**	**194**	P	Pn	15 19 43.6	+0.5
HIZ	**Hauiti**	**0.82**	**258**	P	Pn	15 19 43.3	+0.3
OTVZ	**Oturere**	**0.83**	**191**	P	Pn	15 19 43.7	+0.4
NGZ	**Ngauruhoe**	**0.85**	**194**	P	Pn	15 19 43.9	+0.5
SNVZ	**South Ngauruho**	**0.86**	**192**	P	Pn	15 19 43.8	+0.3
RTZ	**Ruatahuna**	**0.91**	**108**	P	Pn	15 19 44.2	+0.4
RTZ				S	Sn	15 20 03.4	+1.0
MTHZ	**Maungataniwha**	**0.91**	**124**	P	Pn	15 19 44.3	+0.6
MTHZ				S	Sn	15 20 03.4	+1.0
TUVZ	**Tukino**	**0.94**	**191**	P	Pn	15 19 44.5	+0.4
FWVZ	**Far West T-bar**	**0.94**	**195**	P	Pn	15 19 44.3	+0.1
BKZ	**Black Stump Fm**	**0.95**	**150**	P	Pn	15 19 44.4	+0.3
BKZ	**Black Stump Fm**	**0.95**	**150**	P	Pn	15 19 44.1	0.0
DRZ	**Dome Shelter**	**0.96**	**195**	P	Pn	15 19 45.2	+0.8
WHVZ	**Whangaehu Hut**	**0.96**	**193**	P	Pn	15 19 44.7	+0.4
URZ	**Urewera**	**0.98**	**85**	P	Pn	15 19 44.1	-0.1
TRVZ	**Turoa**	**0.98**	**195**	P	Pn	15 19 44.9	+0.3
WNVZ	**Wahianoa**	**1.00**	**192**	P	Pn	15 19 44.8	+0.2
PKVZ	**Pokaka**	**1.03**	**204**	P	Pn	15 19 44.9	+0.2
NMHZ	**Naumai**	**1.04**	**136**	P	Pn	15 19 46.1	+1.2
MOVZ	**Moawhango**	**1.06**	**185**	P	Pn	15 19 44.9	-0.1
MTVZ	**Mangateitei**	**1.08**	**197**	P	Pn	15 19 45.4	+0.2
RAHZ	**Arahi**	**1.11**	**121**	P	Pn	15 19 46.3	+0.9
BHHZ	**Black Hill Sta**	**1.15**	**173**	P	Pn	15 19 45.7	-0.1
KWHZ	**Kaweka Forest**	**1.16**	**159**	P	Pn	15 19 46.2	+0.4
VRZ	**Vera Road**	**1.17**	**228**	P	Pn	15 19 46.1	+0.2
RAGZ	**Rawiri**	**1.22**	**97**	P	Pn	15 19 47.0	+0.5
SNGZ	**Shannon Statio**	**1.23**	**111**	P	Pn	15 19 47.2	+0.7
ARHZ	**Aropaoanui**	**1.27**	**137**	P	Pn	15 19 47.6	+0.8
MCHZ	**McNeill Hill**	**1.27**	**150**	P	Pn	15 19 47.8	+0.9
MWZ	**Matawai**	**1.30**	**90**	P	Pn	15 19 47.3	+0.1
KRHZ	**Kereru**	**1.35**	**164**	P	Pn	15 19 47.8	+0.1
MHEZ	**Mangahewa**	**1.42**	**239**	P	Pn	15 19 48.9	+0.6
RUGZ	**Raukumara Rang**	**1.47**	**76**	P	Pn	15 19 48.1	-0.9
RIGZ	**Rimuhau**	**1.52**	**104**	P	Pn	15 19 49.9	+0.5
TKGZ	**Te Karaka**	**1.55**	**94**	P	Pn	15 19 50.1	+0.4
DREZ	**Durham Road**	**1.56**	**237**	P	Pn	15 19 50.0	+0.3
KNZ	**Kokohu**	**1.56**	**116**	P	Pn	15 19 49.9	+0.2
WAZ	**Wanganui**	**1.57**	**206**	P	Pn	15 19 49.6	-0.2
PNHZ	**Pukenui**	**1.58**	**171**	P	Pn	15 19 49.6	-0.4
LREZ	**Lake Rotokare**	**1.60**	**225**	P	Pn	15 19 50.4	+0.3
KUZ	**Kuaotunu**	**1.60**	**356**	P	Pn	15 19 50.1	-0.1
CKHZ	**Cape Kidnapper**	**1.61**	**145**	P	Pn	15 19 50.7	+0.4
HAZ	**Te Kaha**	**1.62**	**69**	P	Pn	15 19 49.7	-0.7
KAHZ	**Kahuranaki**	**1.64**	**152**	P	Pn	15 19 50.9	+0.2
WIAZ	**Waiheke Island**	**1.66**	**339**	P	Pn	15 19 50.8	0.0
TWGZ	**Tauwhareparae**	**1.67**	**85**	P	Pn	15 19 51.4	+0.4
NEZ	**North Egmont**	**1.67**	**236**	P	Pn	15 19 51.4	+0.4
PREZ	**Palmer Road**	**1.67**	**233**	P	Pn	15 19 51.2	+0.2
PRGZ	**Paritu Road**	**1.67**	**111**	P	Pn	15 19 51.2	+0.2
PKE	**Pukeiti**	**1.70**	**240**	P	Pn	15 19 51.4	+0.1
TSZ	**Takapari Road**	**1.71**	**178**	P	Pn	15 19 50.8	-0.6
KHEZ	**Kahui Hut**	**1.73**	**236**	P	Pn	15 19 51.8	+0.1
WPHZ	**Waipukurau**	**1.77**	**166**	P	Pn	15 19 51.6	-0.4
MHGZ	**Mahia Peninsul**	**1.78**	**117**	P	Pn	15 19 52.5	+0.3
PKGZ	**Pakihiroa**	**1.80**	**76**	P	Pn	15 19 52.2	-0.2
CNGZ	**Carnagh Statio**	**1.84**	**95**	P	Pn	15 19 53.3	+0.6
PXZ	**Pawanui**	**1.85**	**156**	P	Pn	15 19 52.6	-0.3
PUZ	**Puketiti**	**1.90**	**82**	P	Pn	15 19 53.0	-0.5
OHWZ	**Ohakea**	**1.91**	**193**	P	Pn	15 19 53.1	-0.4
DVHZ	**Dannevirke**	**1.96**	**173**	P	Pn	15 19 53.2	-1.1
PRHZ	**Porangahau**	**2.01**	**163**	P	Pn	15 19 54.0	-0.6
POWZ	**Post Office Ro**	**2.04**	**182**	P	Pn	15 19 53.9	-1.2
WMGZ	**Waiomatatini S**	**2.07**	**76**	P	Pn	15 19 55.1	-0.4
MXZ	**Matakaoa Point**	**2.08**	**69**	P	Pn	15 19 55.4	-0.1
GRZ	**Great Barrier**	**2.12**	**351**	P	Pn	15 19 55.6	-0.5
ANWZ	**Angora Road**	**2.16**	**168**	P	Pn	15 19 55.7	-0.8
PRWZ	**Pori Road**	**2.21**	**178**	P	Pn	15 19 55.8	-1.2
MRZ	**Maungatanoka R**	**2.32**	**186**	P	Pn	15 19 56.6	-1.8
BFZ	**Birch Farm**	**2.35**	**173**	P	Pn	15 19 57.2	-1.6
BFZ	**Birch Farm**	**2.35**	**173**	P	Pn	15 19 56.9	-1.8
BFZ	**Birch Farm**	**2.35**	**173**	P	Pn	15 19 56.9	-1.8
TIWZ	**Tintock**	**2.43**	**180**	P	Pn	15 19 58.1	-1.6
OGWZ	**Otaki Gorge**	**2.53**	**192**	P	Pn	15 19 58.9	-2.0
HOWZ	**Holdsworth Sta**	**2.56**	**186**	P	Pn	15 19 59.1	-2.2
CPWZ	**Castlepoint**	**2.57**	**174**	P	Pn	15 20 00.1	-1.3
KIW	**Kapiti Island**	**2.62**	**196**	P	Pn	15 19 59.6	-2.4
TMWZ	**Te Maipa**	**2.76**	**180**	P	Pn	15 20 01.5	-2.3
MTW	**Mount Morrison**	**2.82**	**186**	P	Pn	15 20 01.8	-2.8
CAW	**Cannon Point**	**2.83**	**192**	P	Pn	15 20 02.0	-2.6
PAWZ	**Paruwai Farm**	**3.05**	**186**	P	Pn	15 20 04.5	-3.0
TRWZ	**Traveller**	**3.05**	**183**	P	Pn	15 20 04.8	-2.6
WEL	**Wellington**	**3.06**	**196**	P	Pn	15 20 04.7	-2.7
MSWZ	**Moikau Station**	**3.10**	**189**	P	Pn	15 20 04.9	-3.2
TCW	**Tory Channel**	**3.11**	**203**	P	Pn	15 20 05.3	-2.9
BHW	**Baring Head**	**3.15**	**194**	P	Pn	15 20 05.5	-3.2
PLWZ	**Palliser**	**3.25**	**188**	P	Pn	15 20 06.7	-3.4
TUWZ	**Tuamarina**	**3.42**	**205**	P	Pn	15 20 07.8	-4.3
BSWZ	**Blackbirch Sta**	**3.70**	**204**	P	Pn	15 20 12.6	-3.0
OKCZ	**Okains Bay**	**5.78**	**201**	P	Pn	15 20 38.1	-5.0
MHCZ	**Mount Hutt**	**6.12**	**211**	P	Pn	15 20 42.3	-5.3
TMZ	**Timaru**	**7.05**	**210**	P	Pn	15 20 54.4	-5.6

*BUL **11** 15:41:26.5±1.7, 26°.26S×29°.33E, h0km±15km, MD5.2*
*EAF **11** 15:41:26.4±1.9, 26°.25S×29°.34E, h0km±17km, MD4.7*
*PRE **11** 15:41:28.4±1.0, 26°.07S×29°.83E, h5km, ML2.3*
ISC 11 15:41:26.2±0.8, 26°.16S±0°.04×29°.46E±0°.04, h10km, n16, σ1°61/28, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWCL	**Newcastle**	**1.61**	**166**	*e*P	**Pg**	**15 41 58.5**	**+1.2**
NWCL				*e*S	**Sg**	**15 42 20.6**	**+2.3**
NWCL				IAML		15 42 21.5	
	comp=Z,42nm,0.5s						
POGA	**Pongola**	**2.33**	**121**	*e*P	**Pn**	**15 42 05.3**	**+0.7**
POGA				*e*S	**Sn**	**15 42 32.3**	**-1.0**
POGA				IAML		15 42 57.8	
	comp=Z,24nm,1.2s						
CNG	**Changalane**	**2.45**	**94**	*i* P	**Pb**	**15 42 09.5**	**-0.9**
CNG				*i* Sg	**Sg**	**15 42 45.0**	**-0.1**
CNG	**Changalane**	**2.45**	**94**	*i* P	**Pb**	**15 42 09.5**	**-0.9**
CNG				*i* Sg	**Sg**	**15 42 45.0**	**-0.1**
MOPA	**Mopani**	**3.16**	**34**	*e*P	**Pn**	**15 42 16.1**	**-0.1**
MOPA				*e*S	**Sn**	**15 42 50.8**	**-3.2**
MOPA				IAML		15 43 06.8	
	comp=Z,9.1nm,1.1s						
MOPA	**Mopani**	**3.16**	**34**	*i* P	**Pn**	**15 42 17.7**	**+1.6**
MOPA	**Mopani**	**3.16**	**34**	*i* P	**Pn**	**15 42 17.7**	**+1.6**
LBTB	**Lobatse**	**3.67**	**287**	*i* P	**Pn**	**15 42 24.1**	**+0.9**
LBTB				*i* Sg	**Sb**	**15 43 16.7**	**+0.7**
LBTB	**Lobatse**	**3.67**	**287**	*i* P	**Pn**	**15 42 24.1**	**+0.9**
LBTB				*i* Sg	**Sb**	**15 43 16.7**	**+0.7**
MSNA	**Messina**	**3.83**	**8**	*i* P	**Pn**	**15 42 27.6**	**+2.2**
MSNA	**Messina**	**3.83**	**8**	*i* P	**Pn**	**15 42 27.6**	**+2.2**
BOSA	**Boshof**	**4.47**	**236**	*e*P	**Pb**	**15 42 43.0**	**-1.8**
BOSA				*e*S	**Sb**	**15 43 36.6**	**-2.3**
BOSA				IAML		15 43 48.4	
	comp=Z,14nm,1.8s						
MATP	**Matopo**	**5.78**	**351**	*i* P	**Pn**	**15 42 53.7**	**+1.5**
MATP				*i* S	**Sn**	**15 43 57.5**	**-1.1**
MATP	**Matopo**	**5.78**	**351**	*i* P	**Pn**	**15 42 53.7**	**+1.5**
MATP				*i* S	**Sn**	**15 43 57.5**	**-1.1**
BLWY	**Bulawayo**	**6.04**	**352**	*i* P	**Pn**	**15 42 57.8**	**+1.9**
BLWY				*i* S	**Sn**	**15 44 03.7**	**-1.5**
BLWY	**Bulawayo**	**6.04**	**352**	*i* P	**Pn**	**15 42 57.8**	**+1.9**
BLWY				*i* S	**Sn**	**15 44 03.7**	**-1.5**

DJA 11 15:44:15.8±0.3, 8°S±4°×11°8E±°, h172km±4km, M3.6/12, mb3.8/6, MLv3.5/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.87**	**133**	P	Pn	15 44 51.5	+0.6
WBSI				S	Sn	15 45 17.9	-0.2
SRBI	**Singaraja**	**2.77**	**276**	P	Pn	15 45 01.8	+

JCJ	Chichijima	10.88	94	Pn	Pn	15 48 30.8 +0.9
JSD	Sado	11.91	33	Pn	Pn	15 48 44.7 +0.7
SONM	Songino Array	26.74	323	P	P	15 51 33.6 +0.9
	0.2nm,0.4s,baz=133,slow=10,SNR=2.9					
CMAR	Chiang Mai Arr	30.06	258	P	P	15 52 02.4 0.0
	0.6nm,0.3s,baz=55,slow=8.0,SNR=4.0					
H11N2	WAKE ISLAND Hy	34.67	96	T	T	16 29 31.2
	baz=290,slow=74,SNR=2.6					
H11N1	WAKE ISLAND Hy	34.67	96	T	T	16 29 43.2
	baz=290					
H11N3	WAKE ISLAND Hy	34.68	96	T	T	16 29 41.9
	baz=290,slow=74					
H11S3	WAKE ISLAND Hy	34.95	98	T	T	16 30 02.2
	baz=282					
H11S1	WAKE ISLAND Hy	34.96	98	T	T	16 30 09.8
	baz=282					
H11S2	WAKE ISLAND Hy	34.97	98	T	T	16 30 01.6
	baz=282					
GUN	Gumba	38.74	280	eP	P	15 53 17.5 -0.3
	12nm,0.4s					
PKI	Pulchoki	39.22	280	eP	P	15 53 19.4 -2.4
	9.1nm,0.5s					
KKN	Kakani	39.29	280	eP	P	15 53 20.7 -1.5
	7.5nm,0.5s					
DMN	Daman	39.48	280	eP	P	15 53 20.9 -2.9
	2.8nm,0.4s					
GKN	Gorkha	39.80	281	eP	P	15 53 24.8 -1.6
	7.5nm,0.5s					
DANN	Dangsing	40.49	281	eP	P	15 53 31.3 -1.0
	8.7nm,0.5s					
MTN	Manton Dam	40.93	178	P	P	15 53 35.5 -0.1
MTN				IAmb	IAmb	15 53 56.6
	comp=Z,6.0nm,1.0s					
PYUN	Piuthan	41.21	281	eP	P	15 53 34.0 -4.1
	comp=Z,8.8nm,0.8s					
MK31	Makanchi Array	41.36	310	P	P	15 53 39.7 +0.8
MKAR	Makanchi Array	41.36	310	P	P	15 53 39.8 +0.9
	comp=Z,0.2nm,0.4s,baz=92,slow=10,SNR=7.5					
MAKZ	Makanchi	41.58	310	P	P	15 53 41.6 +0.9
MAKZ				IAmb	IAmb	15 54 00.4
	comp=Z,2.1nm,0.7s					
ZALV	Zalesovo Beam	41.58	321	P	P	15 53 41.5 +1.0
	comp=Z,0.3nm,0.3s,baz=95,slow=9.5,SNR=2.4					
KNRA	Kununurra	43.75	182	P	P	15 53 58.3 -0.1
KNRA				IAmb	IAmb	15 54 05.8
	comp=Z,12nm,1.1s					
KURK	Kurchatov	44.42	315	P	P	15 54 05.5 +1.9
KURK	Kurchatov	44.42	315	IAmb	IAmb	15 54 17.0
	comp=Z,2.9nm,1.3s					
KURBB	Kurchatov Arra	44.47	315	P	P	15 54 05.5 +1.6
	comp=Z,0.3nm,0.3s,baz=100,slow=9.5,SNR=2.7					
WRA	Warramunga Arr	48.16	175	P	P	15 54 34.3 +1.0
	comp=Z,0.4nm,0.7s,baz=356,slow=8.1,SNR=3.4					
WR0	Warramunga Arr	48.20	174	P	P	15 54 34.6 +1.1
WR0				IAmb	IAmb	15 54 53.2
	comp=Z,5.7nm,1.5s					
BVAR	Borovoye Array	49.79	317	P	P	15 54 45.4 0.0
	comp=Z,0.5nm,0.4s,baz=82,slow=11,SNR=6.0					
BRVK	Borovoye	49.86	317	P	P	15 54 45.4 -0.5
BRVK				IAmb	IAmb	15 55 02.2
	comp=Z,2.4nm,1.0s					
ASAR	Alice Springs	51.82	175	P	P	15 55 02.7 +1.7
	comp=Z,0.3nm,0.8s,baz=9.0,slow=14,SNR=4.5					
ASAR	Alice Springs	51.82	175	P	P	15 55 01.6 +0.6
MCK	McKinley	61.09	30	P	P	15 56 06.8 +0.3
RND	Reindeer	61.16	31	P	P	15 56 07.1 +0.1
FINES	FINESS Array B	71.82	331	P	P	15 57 16.5 +1.5
	comp=Z,0.7nm,0.4s,baz=77,slow=6.1,SNR=9.3					
AKASG	Malin Array Be	74.96	320	P	P	15 57 33.1 -0.7
	comp=Z,1.1nm,0.7s,baz=56,slow=6.4,SNR=6.4					
YKA	Yellowknife Ar	75.97	26	P	P	15 57 39.9 +0.5
	comp=Z,0.1nm,0.6s,baz=298,slow=5.8,SNR=2.7					
BURAR	Bucovina Array	78.73	318	P	P	15 57 54.8 -0.4

IDC 11 15:51:51.3±2.5, 57°.74S×147°.23E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/34, mbtmp3.8/4, Error ellipse: s-maj=213.2km s-min=24.6km az=81.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	26.15	349	P	P	15 57 26.6	-0.4
	2.5nm,1.1s,baz=166,slow=14,SNR=5.2						
H01W1	Cape Leeuwin H	31.78	302	T	T	16 31 31.4	
	baz=144,slow=75,SNR=53						
H01W2	Cape Leeuwin H	31.79	302	T	T	16 31 31.9	
	baz=144,slow=75,SNR=47						
H01W3	Cape Leeuwin H	31.80	302	T	T	16 31 32.9	
	baz=144,slow=75,SNR=46						
QSPA	South Pole Qui	32.36	180	P	P	15 58 22.1	0.0
	0.5nm,0.5s,baz=292,slow=5.4,SNR=5.8						
ASAR	Alice Springs	35.38	339	P	P	15 58 48.5	+0.1
	0.8nm,0.9s,baz=164,slow=9.4,SNR=14						
WRA	Warramunga Arr	38.92	340	P	P	15 59 18.6	0.0
	1.4nm,0.6s,baz=168,slow=7.5,SNR=30						
H08S2	Diego Garcia H	75.43	279	T	T	17 26 33.3	
	baz=147,slow=76,SNR=14						
H08S1	Diego Garcia H	75.44	279	T	T	17 26 30.0	
	baz=147,slow=76,SNR=14						
H08S3	Diego Garcia H	75.45	279	T	T	17 26 26.8	
	baz=147,slow=76,SNR=12						

*DSN **11** 15:53:32.9±1.8, 28°.08N×57°.62E, h10km, ML4.4/11, Error ellipse: s-maj=29.0km s-min=15.9km az=120.0*
*OMAN **11** 15:53:34.0±0.9, 28°.10N×57°.75E, h20km, mb5.6/6, ml4.6/16, Error ellipse: s-maj=10.8km s-min=6.2km az=143.0*
*IDC **11** 15:53:34.8±0.7, 27°.85N×57°.51E, h0km, mb4.0/21, mb1 4.1/27, mb1mx4.0/63, mbtmp4.0/27, ML4.0/5, MS3.2/10, Ms1 3.2/10, ms1mx3.0/83, Error ellipse: s-maj=15.6km s-min=13.9km az=165.0*
*NEIC **11** 15:53:36.1±2.2, 27°.76N±0°.04×57°.4E±0°.1, h10km±1km, mb4.4/31, mb_Lg4.4(TEH), Error ellipse: s-maj=15.9km s-min=7.5km az=86.0*
*TEH **11** 15:53:38.1, 27°.83N×57°.47E, h18km, ML4.5*
ISC 11 15:53:37.4±0.4, 27°.80N±0°.03×57°.48E±0°.03, h21km±2km, n190, σ2°25/197, mb4.2/40, MS3.2/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.25	53	ePg	Pb	15 53 43.7	+0.1
KHNJ				eSg	Sb	15 53 47.8	-0.1
IBND	Bandar-abas	0.91	248	ePg	Pn	15 53 55.7	+0.7
IBND				eSg	Sn	15 54 10.1	+2.7
GENO	Geno	1.23	251	ePg	Pb	15 54 01.4	+1.3
GENO				eSg	Sn	15 54 18.7	+3.0
GENO				e		15 54 21.3	
	comp=Z,49μm,0.3s						
KBAM	BAM	1.58	32	e		15 54 34.5	
	comp=Z,43μm,0.4s						
KBAM				ePg	Pb	15 54 06.4	+0.3
NGRK	Negar Kerman	1.95	340	ePn	Pb	15 54 11.7	-0.9
NGRK				e		15 54 41.3	
	comp=Z,51μm,0.4s						
CHMN	Cheshme madani	2.06	1	ePn	Pb	15 54 13.9	-0.4
CHMN				e		15 54 49.1	
	comp=Z,48μm,0.5s						
SHME	Shamm	2.11	215	ePn	Pn	15 54 13.5	+1.9
SHME	Shamm	2.11	215	P	Pb	15 54 13.7	-1.3
	SNR=155						
SHME				S	Sb	15 54 43.6	+2.7
SHME	Shamm	2.11	215	eP	Pn	15 54 13.6	+1.9
	SNR=20						
SHME				S	Sb	15 54 43.3	+2.5
BANOM	Banah	2.15	210	ePn	Pn	15 54 14.0	+1.9
BANOM	Banah	2.15	210	P	Pb	15 54 14.8	-0.8
	SNR=556						
BANOM				S	Sb	15 54 44.5	+2.7
BANOM	Banah	2.15	210	eP	Pb	15 54 14.4	-1.2
	SNR=18						
BANOM				S	Sb	15 54 43.0	+1.2
JSK1	Jask	2.17	173	ePn	Pb	15 54 15.3	-0.7
TVBK	TV Kerman	2.27	344	ePn	Pb	15 54 17.4	-0.5
TVBK				e		15 54 53.6	
	comp=Z,45μm,0.3s						
MASF	Masafi	2.69	206	P	Pb	15 54 23.0	-1.9
	SNR=55						
MASF				S	Sb	15 54 58.9	+1.4
MSFE	Esma-Masafi	2.70	206	ePn	Pn	15 54 21.6	+1.9
MSFE	Esma-Masafi	2.70	206	i P	Pn	15 54 21.9	+2.1
	SNR=57						
MSFE				eS	Sb	15 55 00.3	+2.5
	SNR=11						
KHGB	Koh Gabri	2.71	341	ePn	Pb	15 54 24.1	-1.4
KHGB				e		15 55 04.2	
	comp=Z,24μm,0.5s						
LAR1	LAR	2.76	268	ePn	Pn	15 54 22.1	+1.6
LAR1				e		15 55 38.4	
	comp=Z,17μm,0.7s						
UMQ	Umm Al-Quwin	2.79	216	ePn	Pb	15 54 24.3	-2.3
UMQ	Umm Al-Quwin	2.79	216	P	Pb	15 54 24.6	-2.0
UMQ				S	Sb	15 55 02.4	+2.1
UMQ	Umm Al-Quwin	2.79	216	P	Pn	15 54 22.1	+1.2
UOSS	Minazif	3.06	202	ePn	Pn	15 54 24.7	0.0
UOSS	Minazif	3.06	202	P	Pn	15 54 25.4	+0.7
UOSS				S	Sb	15 55 05.7	-2.5
UOSS	Minazif	3.06	202		Pn	15 54 23.7	-1.0
UOSS	Minazif	3.06	202	P	Pn	15 54 24.4	-0.3
HATD	Hatta, Dubai	3.20	203	ePn	Pn	15 54 26.9	+0.4
HATD	Hatta, Dubai	3.20	203	P	Pn	15 54 27.1	+0.6
	SNR=16						
HATD				S	Sb	15 55 12.3	+0.1
HATD	Hatta, Dubai	3.20	203	i P	Pn	15 54 27.0	+0.4
	SNR=16						
NAZ	Nazwa, Dubai	3.24	211	ePn	Pn	15 54 31.0	+3.9
NAZ	Nazwa, Dubai	3.24	211	P	Pn	15 54 30.3	+3.2
	SNR=16						
NAZ				S	Sb	15 55 12.8	-0.5
NAZ	Nazwa, Dubai	3.24	211	i P	Pn	15 54 30.1	+3.0
	SNR=16						
ZRDN	Zarand Kerman	3.26	346	ePn	Pb	15 54 31.1	-3.7
ZHDN	Zahedan	3.33	61	ePn	Pb	15 54 32.6	-3.3
FAQ	Al Faqa, Dubai	3.48	210	ePn	Pn	15 54 33.2	+2.7
FAQ	Al Faqa, Dubai	3.48	210	P	Pn	15 54 33.1	+2.7
	SNR=9.4						
FAQ				S	Sb	15 55 18.2	-2.1
FAQ	Al Faqa, Dubai	3.48	210	i P	Pn	15 54 32.9	+2.5
	SNR=8.5						
JHRM	Jahrom	3.52	282	ePn	Pn	15 54 34.2	+3.2
ASUD	Al Ashush, Dub	3.70	212	ePn	Pn	15 54 36.8	+3.3
ASUD	Al Ashush, Dub	3.70	212	P	Pn	15 54 36.8	+3.3
	SNR=35						
ASUD				S	Sb	15 55 22.3	-4.4
ASUD	Al Ashush, Dub	3.70	212	i P	Pn	15 54 36.6	+3.1
	SNR=36						
SOHO	SOHO	3.75	193	ePn	Pn	15 54 33.7	-0.4
SOHO	SOHO	3.75	193	P	Pn	15 54 34.0	-0.1
SOHO	SOHO	3.75	193	i P	Pn	15 54 33.7	-0.4
	SNR=52						
AJN	Ajban	3.93	215	ePn	Pn	15 54 39.2	+2.7
AJN	Ajban	3.93	215	P	Pn	15 54 39.3	+2.7
QIR1	Qir	3.98	281	ePn	Pn	15 54 40.2	+2.9
ALNE	Al Ain	4.04	203	ePn	Pn	15 54 41.0	+2.9
ALNE	Al Ain	4.04	203	P	Pn	15 54 41.3	+3.2
	SNR=12						
ALNE	Al Ain	4.04	203	i P	Pn	15 54 40.4	+2.2
	SNR=12						
NGCH	Negor - Chabah	4.08	126	ePn	Pn	15 54 41.8	+3.2
HOQ	Hoqain	4.20	182	P	Pn	15 54 40.5	+0.1
	SNR=78						
NHDN	Nehbandan	4.22	31	ePn	Pn	15 54 43.4	+2.7
BIDO	Bidbid	4.30	172	ePn	Pn	15 54 41.8	+0.1
BIDO	Bidbid	4.30	172	P	Pn	15 54 41.7	+0.1
	SNR=35						
IMEH	Mehriz	4.37	326	ePn	Pn	15 54 45.4	+2.6
SRVN	Saravan	4.38	94	ePn	Pn	15 54 46.6	+3.7
ARQ	Araqi	4.53	191	P	Pn	15 54 47.4	+2.5
	SNR=97						
WSAR	Wadi Sarin	4.66	167	Pn	Pn	15 54 47.5	+0.9
	comp=Z,29nm,0.3s,baz=354,slow=10.0,SNR=331						
WSAR				Sn	Sn	15 55 38.0	-2.0
	comp=Z,47nm,0.3s,baz=264,slow=13,SNR=13						
WSAR				LR	LR	15 56 49.2	
	comp=Z,129nm,18.4s,baz=354,slow=41						
SMDO	Samad	4.75	174	P	Pn	15 54 48.7	+0.8
	SNR=29						
IKOO	Kooshah	4.79	16	ePn	Pn	15 54 52.4	+3.7
BSY	Bisya	5.04	183	P	Pn	15 54 54.3	+2.4
	SNR=48						
MZWR	Madinat Zayed	5.17	220	P	Pn	15 54 55.3	+1.7
ICHK	Chekchek	5.17	330	ePn	Pn	15 54 56.6	+2.7
ITEG	Tejag	5.20	12	ePn	Pn	15 54 57.7	+3.5
TPRV	Parvadeh(Tabas	5.26	353	ePn	Pn	15 54 59.2	+4.3
IDAH	Dahanechah	5.34	22	ePn	Pn	15 55 01.7	+5.5
WBK	Wadi Bani Khal	5.34	165	P	Pn	15 54 56.7	+0.7
	SNR=45						
JMDO	Jabal Madar	5.43	174	P	Pn	15 54 59.2	+1.9
	SNR=19						
UMZA	Um Al Zommool	5.48	203	P	Pn	15 54 59.1	+1.2
GHWR	Ruwais	5.64	228	P	Pn	15 55 00.5	+0.4
AFRZ	Afriz	5.76	13	ePn	Pn	15 55 06.2	+4.3
KHOR	Al-Khor Airpor	5.76	249	P	Pn	15 55 03.3	+1.6
TKDS	Koohdasht(Taba	5.80	357	ePn	Pn	15 55 07.4	+4.9
JLN	Jalan Bani Buh	5.89	162	P	Pn	15 55 04.1	+0.6
	SNR=28						
IRAM	Ramesheh	5.97	313	ePn	Pn	15 55 07.1	+2.3
KLNJ	Kolanjah	6.05	303	ePn	Pn	15 55 07.8	+1.7
SHMA	Al-Shehemyia	6.14	253	P	Pn	15 55 09.1	+2.2
TNSJ	Nastanj	6.19	353	ePn	Pn	15 55 12.6	+4.8
ANAR	Anarak	6.27	330	ePn	Pn	15 55 11.4	+2.5
TRNA	Turayna	6.40	243	P	Pn	15 55 11.2	+0.6
SAKB	Bahrain	6.46	255	P	Pn	15 55 13.2	+1.8
IGAR	Gharneh	6.58	316	ePn	Pn	15 55 15.7	+2.5
IZEF	Zefreh	6.75	320	ePn	Pn	15 55 17.2	+1.5
IBRJ	Brojen	6.78	309	ePn	Pn	15 55 18.3	+2.3
SHK1	Shahrekord	7.28	310	ePn	Pn	15 55 24.3	+1.4
IKLH	Kolahrood	7.50	319	ePn	Pn	15 55 29.1	+3.3
IPIR	Pirpir	7.50	312	ePn	Pn	15 55 28.1	+2.2
KRSH	Karshahi	7.68	325	ePn	Pn	15 55 32.1	+3.9
HRA	Herat	7.73	31	Pn	Pn	15 55 32.2	+3.2
TBJM	Torbat-e-JAM	7.83	17	ePn	Pn	15 55 34.8	+4.4
QAMS	Qamsar	7.90	320	ePn	Pn	15 55 33.7	+2.3
ISFB	Sefidab	7.93	327	ePn	Pn	15 55 33.8	+2.2
AMIS	Naft Sefid	8.10	300	ePn	Pn	15 55 36.8	+2.9
SBZV	Sabzevar	8.57	1	ePn	Pn	15 55 43.4	+2.9
IVRN	Varamin	8.70	327	ePn	Pn	15 55 46.0	+3.9
IPAY	Payeh	8.72	8	ePn	Pn	15 55 48.3	+5.7
IKRD	Kardeh	9.12	10	ePn	Pn	15 55 50.0	+2.0
ISFR	Sfrayin	9.24	3	ePn	Pn	15 55 53.2	+3.5
SHAO	Shalim	9.88	190	i P	Pn	15 55 57.2	-1.1
	SNR=36						
IDOB	Doab	9.98	309	ePn	Pn	15 55 59.7	-0.1
HAGD	Aghdareh	9.99	317	ePn	Pn	15 56 04.9	+4.9
IKFM	Kafar-mosalman	10.07	307	ePn	Pn	15 56 02.4	+1.6
GEYT	Alibeck	10.12	3	Pn	Pn	15 56 03.7	+2.2
	comp=Z,0.3nm,0.3s,baz=170,slow=17,SNR=1.6						
GEYT				LR	LR	16 00 39.8	
	comp=Z,195nm,18.7s,baz=180,slow=42						
QABG	Abgarm-Qazvin	10.36	322	ePn	Pn	15 56 09.8	+4.7
IGHG	Ghaleghazi	11.39	308	ePn	Pn	15 56 20.2	+1.0
RAYN	Ar Rayn	11.61	251	Pn	Pn	15 56 19.0	-3.1
RAYN	Ar Rayn	11.61	251	i P	Pn	15 56 19.1	-3.0
	SNR=11						
IDHR	Dehrash	11.72	309	ePn	Pn	15 56 22.8	-0.8
SOCY	Socotra	15.87	193	Pn	Pn	15 57 15.2	-4.6
SOCY				IAmb	IAmb	15 57 18.1	
	comp=Z,10nm,0.9s						
SIRT	Sirnak	15.92	311		Pn	15 57 20.2	-0.2
SIRT				IAmb	IAmb	15 57 37.5	
	comp=Z,36nm,0.6s						
GNI	Garni	16.21	323	Pn	Pn	15 57 25.4	+1.3
	comp=Z,0.5nm,0.3s,baz=198,slow=20,SNR=1.7						
GNI				LR	LR	16 04 15.9	
	comp=Z,114nm,18.2s,baz=128,slow=40						
DHRM	DHARAMSHALA	16.89	70	i x	x	15 57 36.9	
MARD	Mardin	16.96	308	Pn	Pn	15 57 31.1	-2.4
MARD				IAmb	IAmb	15 57 46.2	
	comp=Z,35nm,0.8s						
SMLA	Simla	17.46	74	i x	x	15 57 44.6	
ASF	Jabal al Asfar	18.35	289	P	Pn	15 57 51.3	+0.5
	comp=Z,0.7nm,0.3s,baz=86,slow=4.7,SNR=7.9						
ASF				S	Sn	16 01 07.0	-8.3
	comp=Z,0.4nm,0.3s,baz=279,slow=23,SNR=5.2						
KSH	Kashi	19.29	48	P	P	15 57 58.7	-2.3
KSH				pP	Pn	15 58 02.4	+0.3
KSH				sP	pP	15 58 04.8	-2.2
KSH				S	Sn	16 01 27.2	-11
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MMAI	Mount Meron Ar	19.73	291	P	Pn	15 58 07.2	-0.1
	comp=Z,0.9nm,0.3s,baz=109,slow=15,SNR=4.6						
KBZ	Khabaz	19.77	327	P	P	15 58 06.4	+0.3
	comp=Z,0.1nm,0.3s,baz=131,slow=7.5,SNR=1.3						
KBZ				LR	LR	16 07 17.0	
	comp=Z,52nm,19.5s,baz=110,slow=42						
EIL	Elat	19.84	281	P	Pn	15 58 09.1	+0.4
	comp=Z,0.3nm,0.3s,baz=120,slow=8.2,SNR=5.3						
AAK	Ala-Archa	20.25	39	P	Pn	15 58 13.1	-0.5
	comp=Z,0.7nm,0.5s,baz=217,slow=8.9,SNR=8.0						
AAK				LR	LR	16 07 10.3	
	comp=Z,67nm,18.0s,baz=254,slow=40						
AAK	Ala-Archa	20.25	39	P	Pn	15 58 12.9	-0.7
BOOM	Boomskoye usch	20.97	41	P	P	15 58 20.8	+1.3
BNN	Bunyan	21.12	307	P	P	15 58 19.7	-1.3
BNN				IAmb	IAmb	15 58 36.2	
	comp=Z,25nm,0.8s						
KDJ	Kajisay	21.49	43	P	P	15 58 25.6	+0.6
ABKAR	Abkulak array	21.51	4	P	P	15 58 25.2	+0.3
ABKAR	Abkulak array	21.51	4	P	P	15 58 25.1	+0.2
ABKAR				IAmb	IAmb	15 58 39.6	
	comp=Z,12nm,0.8s						
CSS	Mathiatis	21.79	295	P	P	15 58 27.9	-0.2
CSS				IAmb	IAmb	15 58 42.5	
	comp=Z,13nm,0.8s						
PYUN	Piuthan	22.53	83	eP	P	15 58 42.7	+6.4
	comp=Z,1.4nm,0.4s						
AKTO	Aktyubinsk	22.61	1	P	P	15 58 38.0	+1.3
	comp=Z,4.6nm,0.5s,baz=182,slow=11,SNR=18						
AKTO				S	S	16 02 44.7	+1.4
	comp=Z,0.6nm,0.6s,baz=221,slow=20,SNR=1.5						
AKTO				LR	LR	16 09 09.3	
	comp=Z,115nm,18.6s,baz=225,slow=41						
BR131	Keskin Array S	23.04	307	P	P	15 58 41.8	+0.3
BR131				IAmb	IAmb	15 58 43.5	
	comp=Z,14nm,0.9s						
BRTR	Keskin Array B	23.04	307	P	P	15 58 42.6	+1.1
	comp=Z,7.1nm,0.8s,baz=127,slow=9.5,SNR=13						
BRTR				LR	LR	16 09 16.0	
	comp=Z,163nm,21.0s,baz=116,slow=41						
BRTR	Keskin Array B	23.04	307	P	P	15 58 41.5	0.0
KOLN	Koldanda	23.10	84	eP	P	15 58 47.5	+5.3
	comp=Z,2.4nm,0.3s						
DANN	Dangsing	23.18	82	eP	P	15 58 47.2	+4.0
	comp=Z,9.6nm,0.4s						
KKN	Kakani	24.57	83	eP	P	15 58 57.3	+1.0
PKIN	Phulchoki	24.70	84	eP	P	15 58 58.1	+0.5
	comp=Z,6.1nm,0.6s						
PKI	Pulchoki	24.71	84	eP	P	15 58 58.7	+1.0
	comp=Z,4.8nm,0.6s						
GUN	Gumba	25.09	83	eP	P	15 59 01.2	+0.1
	comp=Z,3.0nm,0.4s						
BVAR	Borovoye Array	26.96	17	P	P	15 59 18.0	+0.5
	comp=Z,2.0nm,0.5s,baz=188,slow=9.0,SNR=18						
BVAR				PcP	PcP	16 02 38.9	+0.1
	comp=Z,0.6nm,0.4s,baz=192,slow=2.0,SNR=6.4						
MK31	Makanchi Array	27.18	39	P	P	15 59 19.2	-0.3
MKAR	Makanchi Array	27.18	39	P	P	15 59 19.8	+0.3
	comp=Z,1.3nm,0.6s,baz=217,slow=7.3,SNR=16						
MKAR				PcP	PcP	16 02 39.4	-0.1
	comp=Z,0.3nm,0.6s,baz=228,slow=2.0,SNR=2.7						
MKAR	Makanchi Array	27.18	39	P	P	15 59 19.2	-0.3
KURBB	Kurchatov Arra	27.84	29	P	P	15 59 25.5	+0.2
	comp=Z,0.9nm,0.6s,baz=228,slow=8.4,SNR=10						
KURK	Kurchatov	27.95	29	P	P	15 59 26.3	+0.1
IDI	Anoyia	28.67	293	P	P	15 59 34.1	+1.1
	comp=Z,4.6nm,0.7s,baz=107,slow=11,SNR=2.4						
WMQ	Urumqi	29.05	49	eP	P	15 59 39.0	+2.7
OBN	Obninsk	31.23	337	LR	LR	16 13 42.8	
	comp=Z,12nm,19.4s,baz=9.5,slow=39						
AKASG	Malin Array Be	31.32	325	P	P	15 59 56.1	-0.1
	comp=Z,0.6nm,0.6s,baz=127,slow=8.5,SNR=4.5						
AKBB	Malin Array Si	31.32	325	P	P	15 59 55.4	-0.8
AKBB				IAmb	IAmb	16 00 05.6	
	comp=Z,3.3nm,0.8s						
BURAR	Bucovina Array	31.96	317	P	P	16 00 01.7	-0.2
BUR08	Bucovina Ar. S	31.98	317	P	P	16 00 02.1	-0.1
BUR08				IAmb	IAmb	16 00 12.2	
	comp=Z,10nm,1.5s						
ZAA0	Zalesovo Array	32.93	30	P	P	16 00 09.7	-0.5
ZAA0				IAmb	IAmb	16 00 21.0	
	comp=Z,3.4nm,0.8s						
ZALV	Zalesovo Beam	32.93	30	P	P	16 00 10.0	-0.2
	comp=Z,2.5nm,0.3s,baz=227,slow=9.1,SNR=16						
ZALV				PcP	PcP	16 02 53.6	-0.5
	comp=Z,0.5nm,0.5s,baz=222,slow=3.9,SNR=2.9						
ZALV	Zalesovo Beam	32.93	30	P	P	16 00 09.8	-0.4
CRVS	Cervenica-Dubn	34.78	317	eP	P	16 00 25.9	-0.5
OJC	Ojcow	36.30	318	P	P	16 00 38.7	-0.8
GTA	Gaotai	36.80	61	eP	P	16 00 50.9	+6.8
GTA				pP	sP	16 00 59.4	+6.1
GTA				sP	pP	16 01 03.5	+13
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NRCA	Norcia	38.73	305	P	P	16 01 00.9	+0.6
NRCA				IAmb	IAmb	16 01 12.3	
	comp=Z,20nm,1.2s						
CMAR	Chiang Mai Arr	39.09	95	LR	LR	16 21 11.4	
	comp=Z,24nm,20.2s,baz=300,slow=42						
MURB	Monte Urbino	39.22	305	P	P	16 01 02.6	-1.7
PZH	PanZhiHua	39.25	81	P	P	16 01 05.7	+0.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
GERES	GERESS Array B	39.58	314	P	P	16 01 09.0	+1.7
	comp=Z,0.9nm,0.6s,baz=114,slow=8.8,SNR=3.7						
FIA1	FINESS Array S	39.63	337	P	P	16 01 07.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**19.00**	**12**	T	T	16 22 55.7	
	baz=189						
H08S2	**Diego Garcia H**	**19.00**	**13**	T	T	16 23 02.2	
	baz=189						
H08S3	**Diego Garcia H**	**19.02**	**12**	T	T	16 23 00.1	
	baz=189						
PALK	**Pallekele**	**35.49**	**21**	LR	LR	16 16 46.5	
	comp=Z,78nm,19.8s,baz=357,slow=30						
ATD	**Arta Tunnel**	**45.12**	**323**	LR	LR	16 23 08.9	
	comp=Z,54nm,20.1s,baz=64,slow=32						
CMAR	**Chiang Mai Arr**	**53.51**	**37**	P	P	16 08 35.6	-0.3
	1.2nm,0.9s,baz=223,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**58.84**	**103**	P	P	16 09 14.2	-0.1
	0.3nm,0.7s,baz=249,slow=6.2,SNR=7.0						
WRA	**Warramunga Arr**	**60.40**	**99**	P	P	16 09 25.2	+0.2
	0.3nm,0.8s,baz=260,slow=9.5,SNR=1.8						
MKAR	**Makanchi Array**	**73.88**	**10**	P	P	16 10 49.8	-0.2
	0.4nm,0.6s,baz=183,slow=4.4,SNR=4.5						
KURBB	**Kurchatov Arra**	**77.15**	**7**	P	P	16 11 09.0	+0.4
	0.6nm,0.8s,baz=200,slow=6.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**81.22**	**10**	P	P	16 11 31.1	+0.4
	0.8nm,0.3s,baz=184,slow=5.7,SNR=4.4						
SONM	**Songino Array**	**81.36**	**25**	P	P	16 11 31.9	0.0
	1.3nm,0.9s,baz=213,slow=6.5,SNR=8.7						
YKA	**Yellowknife Ar**	**143.81**	**2**	PKP	PKPbc	16 18 48.2	+0.7
	0.2nm,0.6s,baz=340,slow=3.6,SNR=4.8						

*IDC **11** 16:06:50.7±1.9, 1°.89N×127°.33E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/37, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=106.6km s-min=26.2km az=68.0*
*DJA **11** 16:07:03.9±0.6, 2°N±3°×12°7E± °, h81km±8km, M3.5/9, mb3.8/1, MLv3.3/9*
ISC 11 16:07:02.9±1.2, 1°.87N±0°.09×127°.4E±0°.1, h112km, n11, σ1§20/12, mb3.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**182**	P	**Pn**	**16 07 25.1**	**-0.1**
TNTI				S	**Sn**	**16 07 39.7**	**-2.3**
LBMI	**Labuha**	**2.49**	**178**	P	**Pn**	**16 07 43.5**	**+1.2**
SGSI	**Sangihe**	**2.61**	**314**	P	**Pn**	**16 07 42.7**	**-1.1**
KMSI	**Cibinong**	**3.66**	**250**	P	**Pn**	**16 07 57.8**	**0.0**
SANI	**Sanana**	**4.14**	**200**	P	**Pn**	**16 08 03.1**	**-1.1**
GTOI	**Gorontalo**	**4.57**	**255**	P	**Pn**	**16 08 11.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**19.91**	**185**	P	**P**	**16 11 26.2**	**+0.4**
	0.1nm,0.3s,baz=358,slow=8.7,SNR=1.8						
WRA	**Warramunga Arr**	**22.71**	**163**	P	**P**	**16 11 54.8**	**-0.7**
	1.1nm,0.3s,baz=339,slow=10,SNR=34						
ASAR	**Alice Springs**	**26.15**	**166**	P	**P**	**16 12 26.6**	**-0.3**
	0.5nm,0.5s,baz=344,slow=7.5,SNR=30						
STKA	**Stephens Creek**	**36.16**	**159**	P	**P**	**16 13 54.9**	**+0.3**
	1.4nm,0.7s,baz=335,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**59.47**	**326**	P	**P**	**16 16 55.3**	**+1.2**
	0.2nm,0.6s,baz=121,slow=7.8,SNR=1.6						

*NEIC **11** 16:31:37.6±1.7, 7°.5S±0°.1×123°.5E±0°.1, h474km±10km, mb4.2/20, Error ellipse: s-maj=17.0km s-min=14.6km az=62.0*
*DJA **11** 16:31:37.6±0.2, 8°S±2°×12°4E± °, h476km±3km, M3.9/30, mB4.6/12, mb4.1/30, MLv4.0/22, Mw(mB)3.8/12*
*IDC **11** 16:31:38.2±0.9, 7°.40S×123°.59E, h482km±15km, mb3.1/7, mb1 3.5/15, mb1mx3.1/43, mbtmp4.3/15, Error ellipse: s-maj=22.0km s-min=12.6km az=54.0*
ISC 11 16:31:38.4±0.4, 7°.46S±0°.06×123°.53E±0°.06, h500km, n120, σ1§82/124, mb4.0/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.74**	**227**	P	**P**	**16 32 39.8**	**-2.5**
MMRI				S	**S**	**16 33 28.0**	**-6.2**
MMRI	**Maumere**	**1.74**	**227**	P	**P**	**16 32 38.4**	**-3.9**
BBSI	**Bau Bau**	**2.18**	**334**	P	**P**	**16 32 42.6**	**-1.9**
EDFI	**Ende, Flores**	**2.23**	**235**	P	**P**	**16 32 41.7**	**-3.2**
SOEI	**Soe**	**2.40**	**162**	P	**P**	**16 32 43.6**	**-2.2**
SOEI	**Soe**	**2.40**	**162**		**P**	**16 32 43.4**	**-2.4**
SOEI	**Soe**	**2.40**	**162**	P	**P**	**16 32 43.9**	**-1.9**
BATI	**Baumata**	**2.74**	**177**	P	**P**	**16 32 46.4**	**-1.4**
	16nm,0.3s,baz=71,slow=2.8,SNR=22						
BATI				S	**S**	**16 33 37.8**	**-6.3**
	84nm,0.3s,baz=38,slow=19,SNR=40						
BATI	**Baumata**	**2.74**	**177**	P	**P**	**16 32 46.2**	**-1.6**
BSSI	**Bau Bau, Buton**	**3.29**	**293**	P	**P**	**16 32 50.2**	**-1.3**
KDI	**Kendari**	**3.59**	**345**	P	**P**	**16 32 51.6**	**-2.1**
BKSI	**Bulukumba**	**4.00**	**302**	P	**P**	**16 32 55.5**	**-1.4**
BASI	**Baing, Sumba**	**4.01**	**227**	P	**P**	**16 32 54.5**	**-2.4**
KAPI	**Kappang**	**4.47**	**303**	P	**P**	**16 32 60.0**	**-0.8**
	3.1nm,0.3s,baz=157,slow=15,SNR=6.1						
KAPI				S	**S**	**16 34 00.4**	**-7.6**
	1.4nm,0.3s,baz=153,slow=18,SNR=1.3						
KAPI	**Kappang**	**4.47**	**303**	P	**P**	**16 32 57.7**	**-3.1**
BNSI	**Bone**	**4.56**	**312**	P	**P**	**16 33 01.7**	**+0.1**
WBSI	**Waikabubak, Su**	**4.64**	**242**	P	**P**	**16 32 59.0**	**-3.3**
SPSI	**Sidrap Palu**	**5.10**	**313**	P	**P**	**16 33 05.1**	**-1.3**
	0.1nm15nm,0.9s						
TTSI	**Tana Toraja**	**5.73**	**320**	P	**P**	**16 33 12.0**	**-0.3**
	0.2nm31nm,0.8s						
SANI	**Sanana**	**5.90**	**25**	P	**P**	**16 33 12.5**	**-1.4**
	0.0nm8.2nm,0.7s						
SANI	**Sanana**	**5.90**	**25**	P	**P**	**16 33 12.5**	**-1.4**
AAI	**Ambon**	**5.96**	**51**	P	**P**	**16 33 13.2**	**-1.3**
	0.2nm63nm,0.8s						
LUWI	**Luwuk**	**6.42**	**353**	P	**P**	**16 33 18.0**	**-0.9**
	0.2nm2μm48nm,0.8s						
LUWI	**Luwuk**	**6.42**	**353**		**P**	**16 33 17.7**	**-1.2**
MSAI	**Masohi**	**6.75**	**53**	P	**P**	**16 33 19.6**	**-2.6**
	0.1nm167nm7.0nm,0.5s						
APSI	**Ampana**	**6.77**	**344**	P	**P**	**16 33 20.3**	**-2.1**
	0.1nm19nm,0.8s						
BNDI	**Bandanaira**	**6.97**	**66**	P	**P**	**16 33 23.7**	**-0.7**
SAUI	**Saumlaki**	**7.72**	**94**	P	**P**	**16 33 30.1**	**-1.9**
	0.5nm128nm,0.7s						
SAUI	**Saumlaki**	**7.72**	**94**	P	**P**	**16 33 30.4**	**-1.6**
SAUI	**Saumlaki**	**7.72**	**94**	P	**P**	**16 33 30.5**	**-1.5**
KMSI	**Cibinong**	**7.99**	**3**	P	**P**	**16 33 35.1**	**+0.3**
	2μm64nm,0.5s						
MRSI	**Marisa**	**8.04**	**349**	P	**P**	**16 33 34.9**	**-0.4**
	67nm,0.9s						
GTOI	**Gorontalo**	**8.05**	**356**	P	**P**	**16 33 36.9**	**+1.4**
	256nm25nm,0.8s						
SRBI	**Singaraja**	**8.27**	**265**	P	**P**	**16 33 37.9**	**+0.2**
	28nm,0.8s						
DNP	**Denpasar**	**8.33**	**261**	P	**P**	**16 33 37.2**	**-1.1**
	11μm187nm,0.5s						
IGBI	**Denpasar**	**8.41**	**260**	P	**P**	**16 33 38.4**	**-0.8**
	51nm,0.9s						
KBKI	**Kotabaru**	**8.41**	**299**	P	**P**	**16 33 38.2**	**-1.0**
	11nm,0.6s						
MPSI	**Mapaga**	**8.55**	**335**	P	**P**	**16 33 40.6**	**0.0**
	538nm14nm,0.7s						
DRS	**Darwin Rock St**	**8.78**	**125**	P	**P**	**16 33 42.8**	**-0.2**
TOLI2	**Tolitoli**	**8.94**	**342**		**P**	**16 33 43.9**	**-0.8**
TOLI2	**Tolitoli**	**8.94**	**342**	P	**P**	**16 33 44.9**	**+0.2**
TNTI	**Ternate**	**9.02**	**25**	P	**P**	**16 33 44.1**	**-1.5**
	12nm,1.0s						
MTN	**Manton Dam**	**9.20**	**126**		**P**	**16 33 46.6**	**-0.8**
MTN	**Manton Dam**	**9.20**	**126**	P	**P**	**16 33 47.1**	**-0.3**
ABJI	**Asem Bagus**	**9.22**	**267**	P	**P**	**16 33 47.5**	**-0.2**
	23nm,0.6s						
JAGI	**Jajag, Banyuwa**	**9.35**	**263**	P	**P**	**16 33 47.1**	**-1.9**
	1μm22nm,0.4s						
JAGI	**Jajag, Banyuwa**	**9.35**	**263**	P	**P**	**16 33 46.6**	**-2.4**
JAGI	**Jajag, Banyuwa**	**9.35**	**263**	P	**P**	**16 33 47.7**	**-1.3**
BBKI	**Banjar Baru**	**9.52**	**294**	P	**P**	**16 33 52.2**	**+1.4**
KNRA	**Kununurra**	**9.64**	**148**	P	**P**	**16 33 51.8**	**-0.3**
KNRA	**Kununurra**	**9.64**	**148**	P	**P**	**16 33 52.0**	**-0.1**
FAKI	**Fak Fak**	**9.78**	**63**		**P**	**16 33 50.8**	**-2.8**
FAKI	**Fak Fak**	**9.78**	**63**	P	**P**	**16 33 50.9**	**-2.7**
SIJI	**Sorong**	**10.11**	**50**	P	**P**	**16 33 56.1**	**-1.0**
	8.9nm,0.3s,baz=240,slow=6.9,SNR=46						
SIJI				S	**S**	**16 35 46.2**	**-4.9**
	0.9nm,0.3s,baz=238,slow=22,SNR=6.1						
SWI	**Sorong**	**10.11**	**50**	P	**P**	**16 33 55.4**	**-1.7**
	749nm82nm,0.8s						
KDU	**Kakadu**	**10.22**	**121**	P	**P**	**16 33 57.4**	**-0.8**
MTKI	**Muara Teweh, K**	**10.77**	**307**	P	**P**	**16 34 04.6**	**+0.5**
	2μm27nm,0.8s						
FITZ	**Fitzroy Crossi**	**10.78**	**169**	P	**P**	**16 34 04.1**	**+0.1**
	4.4nm,0.3s,baz=6.9,slow=7.8,SNR=171						
PCJI	**Pacitan**	**12.26**	**266**	P	**P**	**16 34 18.7**	**-1.2**
	36nm,1.5s						
SRPI	**Serui, Papua**	**13.82**	**67**	P	**P**	**16 34 35.7**	**-0.7**
	38nm,0.8s						
MBWA	**Marble Bar**	**14.11**	**195**	P	**P**	**16 34 39.3**	**0.0**
STKI	**Sintang**	**14.15**	**301**	P	**P**	**16 34 40.9**	**+1.0**
SBUM	**Sibu**	**14.97**	**311**	P	**P**	**16 34 47.6**	**-0.8**
KKM	**Kota Kinabalu**	**15.27**	**331**	P	**P**	**16 34 50.5**	**-1.2**
KKM				IAmb	IAmb	16 34 56.8	
	comp=Z,18nm,1.4s						
LEM	**Lembang**	**15.80**	**271**	P	**P**	**16 34 58.4**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=143,slow=20,SNR=2.0						
KSM	**Kuching**	**15.90**	**303**	P	**P**	**16 34 56.5**	**-1.6**
KSM				IAmb	IAmb	16 34 56.6	
	comp=Z,15nm,1.1s						
WB0	**Warramunga Arr**	**16.15**	**140**	P	**P**	**16 34 59.9**	**-0.8**
WB0				IAmb	IAmb	16 35 00.8	
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**16.25**	**141**	P	**P**	**16 35 01.1**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=311,slow=10,SNR=117						
WRA				S	**S**	**16 37 49.2**	**+0.1**
	baz=318,slow=20,SNR=5.3						
WRA	**Warramunga Arr**	**16.25**	**141**	P	**P**	**16 35 00.2**	**-1.5**
WRAB	**Tennant Creek**	**16.25**	**141**	P	**P**	**16 35 00.9**	**-0.8**
WRAB	**Tennant Creek**	**16.25**	**141**	P	**P**	**16 35 01.4**	**-0.3**
WB2	**Warramunga Arr**	**16.25**	**141**	P	**P**	**16 35 01.1**	**-0.7**
WR0	**Warramunga Arr**	**16.38**	**140**	P	**P**	**16 35 02.4**	**-0.8**
GENI	**Genyem**	**17.26**	**75**	P	**P**	**16 35 11.4**	**-0.7**
JAY	**Jayapura**	**17.79**	**75**	P	**P**	**16 35 16.7**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=231,slow=17,SNR=1.9						
WRKA	**Warakurna**	**18.07**	**166**	P	**P**	**16 35 20.5**	**+1.0**
AS31	**Alice Springs**	**18.95**	**149**	P	**P**	**16 35 28.7**	**+1.1**
ASAR	**Alice Springs**	**18.95**	**149**	P	**P**	**16 35 28.9**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=322,slow=8.4,SNR=237						
ASAR				S	**S**	**16 38 37.1**	**+2.9**
	baz=338,slow=20,SNR=7.1						
MEEK	**Meekatharra**	**19.64**	**193**	P	**P**	**16 35 34.7**	**+0.8**
QIS	**Mount Isa**	**20.29**	**132**	P	**P**	**16 35 42.0**	**+2.2**
COEN	**Coen**	**20.34**	**110**	P	**P**	**16 35 40.4**	**0.0**
COEN				IAmb	IAmb	16 35 50.9	
	comp=Z,18nm,1.5s						
COEN	**Coen**	**20.34**	**110**	P	**P**	**16 35 41.1**	**+0.7**
OOD	**Oodnadatta**	**23.28**	**152**	P	**P**	**16 36 08.1**	**+1.5**
BLDU	**Ballidu**	**23.91**	**195**	P	**P**	**16 36 13.5**	**+1.2**
MULG	**Mulgathing**	**24.76**	**158**	P	**P**	**16 36 21.4**	**+1.6**
INKA	**Innaminka**	**25.94**	**143**	P	**P**	**16 36 30.8**	**+0.5**
KULM	**Kulim**	**26.11**	**298**	P	**P**	**16 36 31.8**	**-0.2**
KULM				IAmb	IAmb	16 36 49.1	
	comp=Z,8.0nm,1.1s						
BBOO	**Buckleboo**	**27.78**	**157**	P	**P**	**16 36 47.3**	**+0.9**
BBOO				IAmb	IAmb	16 36 50.9	
	comp=Z,13nm,1.4s						
BBOO	**Buckleboo**	**27.78**	**157**	P	**P**	**16 36 47.5**	**+1.1**
UBPT	**Khong Chiam**	**28.82**	**322**	P	**P**	**16 36 56.1**	**+0.4**
UBPT				IAmb	IAmb	16 36 57.3	
	comp=Z,20nm,1.5s						
HTT	**Hallett**	**29.52**	**153**	P	**P**	**16 37 03.7**	**+2.1**
STKA	**Stephens Creek**	**29.56**	**148**	P	**P**	**16 37 03.1**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=323,slow=8.0,SNR=6.8						
STKA	**Stephens Creek**	**29.56**	**148**	P	**P**	**16 37 03.2**	**+1.2**
STKA	**Stephens Creek**	**29.56**	**148**	P	**P**	**16 37 02.8**	**+0.8**
GUMO	**Guam**	**29.77**	**45**	P	**P**	**16 37 04.6**	**+0.7**
ARPS	**Mount Arapiles**	**33.61**	**153**	P	**P**	**16 37 38.4**	**+1.8**
	comp=Z,7.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**35.38**	**317**	P	**P**	**16 37 52.5**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=145,slow=6.7,SNR=15						
PZH	**PanZhiHua**	**39.83**	**329**	P	**P**	**16 38 31.5**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,140nm,7.6s						
HHC	**Hu-ho-hao-te**	**49.31**	**348**	*eP*	P	16 39 45.6	+4.4
HHC				pmax	pmax		
	comp=Z,19nm,1.2s						
HHC				pmax	pmax		
	comp=Z,100nm,5.2s						
GUN	**Gumba**	**50.59**	**316**	*eP*	**P**	**16 39 51.8**	**+0.6**
	comp=Z,5.0nm,0.4s						
PKI	**Pulchoki**	**50.72**	**315**	*eP*	**P**	**16 39 52.3**	**+0.2**
	comp=Z,3.5nm,0.3s						
PKIN	**Phulchoki**	**50.73**	**315**	*eP*	**P**	**16 39 52.1**	**0.0**
	comp=Z,2.9nm,0.3s						
AIS	**Amsterdam Isla**	**51.34**	**227**	P	**P**	**16 39 56.2**	**+0.1**
GKN	**Gorkha**	**51.52**	**315**	*eP*	**P**	**16 39 57.8**	**+0.1**
	comp=Z,5.7nm,0.4s						
USRK	**Ussuriysk Ar.**	**51.98**	**8**	P	**P**	**16 40 01.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=190,slow=7.0,SNR=6.4						
USRK	**Ussuriysk Ar.**	**51.98**	**8**	P	**P**	**16 40 01.2**	**+0.7**
KOLN	**Koldanda**	**52.12**	**314**	*eP*	**P**	**16 40 02.8**	**+0.7**
	comp=Z,3.4nm,0.3s						
DANN	**Dangsing**	**52.35**	**315**	*eP*	**P**	**16 40 04.4**	**+0.6**
	comp=Z,14nm,0.6s						
PYUN	**Piuthan**	**52.75**	**314**	*eP*	**P**	**16 40 06.9**	**+0.3**
	comp=Z,1.5nm,0.3s						
SONM	**Songino Array**	**57.10**	**346**	P	**P**	**16 40 37.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=166,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**57.10**	**346**	IAmb	IAmb	16 40 44.9	
	comp=Z,2.2nm,1.4s						
WMQ	**Urumqi**	**60.46**	**331**	*eP*	**P**	**16 41 02.1**	**+2.7**
MK31	**Makanchi Array**	**65.25**	**330**	P	**P**	**16 41 31.1**	**+0.9**
MK31				IAmb	IAmb	16 41 48.6	
	comp=Z,4.6nm,1.5s						
MKAR	**Makanchi Array**	**65.25**	**330**	P	**P**	**16 41 31.3**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=135,slow=6.9,SNR=43						
MKAR	**Makanchi Array**	**65.25**	**330**	P	**P**	**16 41 31.0**	**+0.8**
AAK	**Ala-Archa**	**66.88**	**323**	P	**P**	**16 41 42.1**	**+1.5**
AAK				IAmb	IAmb	16 41 42.7	
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**69.30**	**337**	P	**P**	**16 41 55.0**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=128,slow=4.3,SNR=4.3						
KURK	**Kurchatov**	**69.70**	**331**	P	**P**	**16 41 58.3**	**+0.9**
KURK				IAmb	IAmb	16 41 58.6	
	comp=Z,2.1nm,0.5s						
SEY	**Seymchan**	**73.58**	**13**	P	**P**	**16 42 21.2**	**+1.5**
	comp=Z,1.4nm,0.5s,baz=173,slow=8.1						
TIXI	**Tiksi**	**79.02**	**2**	P	**P**	**16 42 49.9**	**+0.3**

*MAN **11** 16:37:56.3, 2°.97N×127°.42E, h42km, mb6.5, ML5.6, MS6.4*
*BJI **11** 16:38:03.2±0.0, 3°.83N×126°.85E, h10km, mb5.9/86, mB6.5/68, Ms6.7/97, Ms7 6.5/91*
*IDC **11** 16:38:04.3±0.2, 3°.83N×126°.75E, h0km, mb5.7/65, mb1 5.6/67, mb1mx5.5/69, mbtmp5.7/67, ML5.5/2, MS6.4/69, Ms1 6.4/69, ms1mx6.3/82, Error ellipse: s-maj=10.0km s-min=7.1km az=61.0*
*NEIC **11** 16:38:05.9, 3°.90N×126°.86E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.08; $M_{\theta\theta}$2.10; $M_{\phi\phi}$-4.18; $M_{r\theta}$1.83; $M_{\theta\phi}$1.30; $M_{\phi r}$4.27; Fault plane solution: $M_0$6.03000×10^{18} NP1:ϕ_s131.06000°, δ32.55000°, λ23.61000°. NP2:ϕ_s20.83000°, δ77.56000°, λ120.32000°. Principal axes: T 5.6394, Plg48.0000°, Azm323.0000°; N 0.7201, Plg30.0000°, Azm194.0000°; P -6.3595, Plg26.0000°, Azm87.0000°;*
*NEIC **11** 16:38:05.9±1.5, 3°.90N±0°.03×126°.86E±0°.06, h13km±1km, mb6.2/287, Ms_20 6.6/406, Mwb6.5/50, Mww6.5 Error ellipse: s-maj=9.6km s-min=4.7km az=275.0*
*MOS **11** 16:38:06.3±0.9, 3°.80N×126°.81E, h29km, mb6.3/44, MS6.4/57, Error ellipse: s-maj=6.6km s-min=3.6km az=113.5*
*NEIC **11** 16:38:10, 3°.95N×127°.18E, h26km, Moment Tensor Solution. Duration: 8s2 Moment tensor: Scale 10^{18}Nm; M_{rr}4.19; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-4.27; $M_{r\theta}$0.83; $M_{\theta\phi}$1.00; $M_{\phi r}$5.48; Fault plane solution: $M_0$7.05000×10^{18} NP1: ϕ_s152.00000°, δ21.00000°, λ60.00000°. NP2:ϕ_s4.00000°, δ71.00000°, λ101.00000°. Principal axes: T 7.0866, Plg62.0000°, Azm291.0000°; N -0.0785, Plg11.0000°, Azm180.0000°; P -7.0082, Plg26.0000°, Azm85.0000°;*
*GCMT **11** 16:38:10.9±0.0, 3°.84N×127°.05E, h12km, MW6.5/170, Moment Tensor Solution. s170,c428; s168,c715; Duration: 4s3 Moment tensor: Scale 10^{18}Nm; M_{rr}5.06±.02; $M_{\theta\theta}$0.90±.02; $M_{\phi\phi}$-5.96±.02; $M_{r\theta}$1.49±.06; $M_{\theta\phi}$-0.51±.02; $M_{\phi r}$3.78±.06; Best double couple: $M_0$6.88100×10^{18} NP1:ϕ_s171.00000°, δ29.00000°, λ68.00000°. NP2:ϕ_s15.00000°, δ64.00000°, λ102.00000°. Principal axes: T 6.5230, Plg69.0000°, Azm309.0000°; N 0.7120, Plg10.0000°, Azm190.0000°; P -7.2380, Plg18.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*DSN **11** 16:38:11.2±1.8, 3°.94N×126°.08E, h22km, mb6.4/20 Error ellipse: s-maj=47.0km s-min=24.5km az=88.0*
*DJA **11** 16:38:11.0±0.2, 4°N±2°×12°7E± °, h61km±2km, M6.3/145, mB6.5/139, mb5.9/145, MLv6.3/17, Mw6.4/90, Mw(mB)6.3/139, MwMwp6.4/129, Mwp6.4/129*
*KLM **11** 16:38:13, 3°.86N×126°.98E, h61km, mb6.0*
ISC 11 16:38:07.2±0.3, 3°.80N±0°.02×126°.84E±0°.03, h22km±2km, h22km:pP-P, n1981, σ1§93/2191, mb6.1/340, MS6.6/367, 375C-67D, Fault plane solution: NP1:ϕ_s7.64009°, δ55.09604°, λ78.26701°. NP2:ϕ_s207.58929°, δ36.58469°, λ106.24896°. Principal axes: T Plg76.5071°, Azm239.5960°; N Plg9.6001°, Azm14.4174°; P Plg9.3916°, Azm106.0205°; Fault plane solution: NP1:ϕ_s131.74265°, δ34.04452°, λ69.84964°. NP2: ϕ_s335.62869°, δ58.29335°, λ103.10220°. Principal axes: T Plg73.2448°, Azm279.4101°; N Plg11.1195°, Azm148.6546°; P Plg12.3731°, Azm56.1835°; Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.31**	**265**	P	**Pb**	**16 38 32.8**	**+1.6**
SGSI				S	**Sb**	**16 38 51.1**	**+3.5**
GSPH	**General Santos**	**2.95**	**320**	∥*eP*	**Pn**	**16 38 55.0**	**+2.1**
TNTI	**Ternate**	**3.06**	**170**	P	**Pn**	**16 38 55.8**	**+1.6**
TNTI				S	**Sn**	**16 39 32.4**	**+2.3**
TNTI	**Ternate**	**3.06**	**170**	Pn	**Pn**	**16 38 55.2**	**+1.0**
TNTI	**Ternate**	**3.06**	**170**	P	**Pn**	**16 38 57.0**	**+2.8**
DAV	**Davao City (W)**	**3.48**	**339**	Pn	**Pn**	**16 39 04.0**	**+3.9**
	118nm,0.3s,baz=152,slow=3.2,SNR=24						
DAV				Sn	**Sb**	**16 39 47.1**	**-2.9**
	430nm,0.3s,baz=44,slow=23,SNR=6.5						
DAV	**Davao City (W)**	**3.48**	**339**		**Pn**	**16 38 57.5**	**-2.6**
KCP	**Kidapawan**	**3.63**	**331**	∥*iP*	**Pn**	**16 39 06.2**	**+4.0**
KCP				*i* S	**Sb**	**16 39 58.6**	**+4.1**
CTBH	**Cotabato--PC H**	**4.27**	**323**	∥*eP*	**Pn**	**16 39 14.4**	**+3.6**
KMSI	**Cibinong**	**4.29**	**222**	P	**Pn**	**16 39 14.8**	**+3.5**
BIPH	**Bislig**	**4.38**	**354**	∥*eP*	**Pn**	**16 39 15.3**	**+2.9**
BIPH				*e*S	**Sb**	**16 40 17.3**	**+1.4**
LBMI	**Labuha**	**4.46**	**171**	P	**Pn**	**16 39 15.7**	**+2.2**
GTOI	**Gorontalo**	**4.95**	**231**	P	**Pn**	**16 39 23.9**	**+3.6**
	6.2nm420μm33μm1μm,1.0s						
PAGZ	**Pagadian**	**5.29**	**320**	∥*eP*	**Pn**	**16 39 29.5**	**+4.5**
ZCP	**Zamboanga City**	**5.67**	**303**	∥*eP*	**Pn**	**16 39 33.4**	**+3.2**
ZCP				*e*S	**Sn**	**16 40 43.2**	**+8.4**
SANI	**Sanana**	**5.88**	**188**	P	**Pn**	**16 39 33.4**	**+0.4**
	10nm200μm39μm2μm,1.0s						
SANI	**Sanana**	**5.88**	**188**	P	**Pn**	**16 39 34.7**	**+1.7**
DCPH	**Dipolog City**	**5.88**	**324**	∥*iP*	Pn	16 39 38.5	+5.4
MRSI	**Marisa**	**5.91**	**236**	P	**Pn**	**16 39 37.2**	**+3.8**
	16nm711μm60μm4μm,1.1s						
LUWI	**Luwuk**	**6.30**	**220**	P	**Pn**	**16 39 43.4**	**+4.6**
	48nm589μm112μm7μm,1.2s						
LUWI	**Luwuk**	**6.30**	**220**	Pn	**Pn**	**16 39 42.3**	**+3.5**
LUWI	**Luwuk**	**6.30**	**220**	P	Pn	16 39 44.4	+5.6
SWI	**Sorong**	**6.40**	**136**	P	**Pn**	**16 39 41.2**	**+1.0**
	12nm76μm2μm,1.0s						
SIJI	**Sorong**	**6.41**	**136**	Pn	**Pn**	**16 39 41.7**	**+1.3**
	223nm,0.3s,baz=334,slow=12,SNR=224						
SIJI				Sn	**Sn**	**16 40 53.8**	**+0.8**
	70nm,0.3s,baz=54,slow=23,SNR=1.5						
SIJI				LR	LR	16 42 33.2	
	comp=Z,638μm,19.6s,baz=350,slow=41						
TBP	**Tagbilaran**	**6.55**	**333**	∥*eP*	**Pn**	**16 39 46.8**	**+4.4**
TBP				*i* S	Sb	16 41 07.4	-11
SNPH	**Sibulan**	**6.57**	**327**	∥*eP*	**Pn**	**16 39 44.4**	**+1.8**
MSLP	**Maasin**	**6.59**	**343**	∥*eP*	Pn	16 39 47.6	+4.8
TOLI2	**Tolitoli**	**6.62**	**246**	Pn	**Pn**	**16 39 44.7**	**+1.5**
TOLI2	**Tolitoli**	**6.62**	**246**	P	**Pn**	**16 39 45.5**	**+2.3**
APSI	**Ampana**	**6.99**	**228**	P	Pn	16 39 53.1	+4.8
	18nm318μm76μm5μm,1.4s						
LLP	**Lapu-Lapu**	**7.07**	**336**	∥*eP*	**Pn**	**16 39 52.3**	**+2.8**
LLP				*e*S	**Sb**	**16 41 29.7**	**-3.7**
CNOP	**Candoni, Negro**	**7.30**	**325**	∥*eP*	**Pn**	**16 39 57.0**	**+4.5**
**M

GENI	**Genyem**	**14.76 115**	P	**Pn**	**16 41 35.4 +0.7**
	395μm96μm4μm,1.0s				
GENI	**Genyem**	**14.76 115**	P	**P**	**16 41 39.5 -1.1**
JAY	**Jayapura**	**15.21 114**	Pn	**P**	**16 41 43.5 -2.2**
	8.5nm,0.3s,baz=262,slow=3.7,SNR=39				
JAY			Sn	**S**	**16 44 45.5 +0.1**
	0.2nm,0.3s,baz=142,slow=22,SNR=2.7				
JAY			LR	LR	16 47 15.9
	comp=Z,203μm,20.9s,baz=307,slow=36				
JAY	**Jayapura**	**15.21 114**	P	**Pn**	**16 41 41.8 +0.9**
	172μm25μm467nm,0.9s				
BASI	**Baing, Sumba**	**15.26 204**	P	**Pn**	**16 41 41.3 -0.2**
	53μm21μm2μm,1.7s				
WBSI	**Waikabubak, Su**	**15.28 209**	P	**Pn**	**16 41 42.7 +1.0**
	100μm26μm2μm,0.8s				
STKI	**Sintang**	**15.79 257**	P	**P**	**16 41 53.5 +1.4**
PBKI	**Pangkalan Bun**	**16.48 247**	P	**P**	**16 41 59.9 +0.1**
	159μm34μm2μm,1.1s				
SRBI	**Singaraja**	**16.55 224**	P	**Pn**	**16 41 59.0 +0.9**
	153μm26μm904nm,1.1s				
DRS	**Darwin Rock St**	**16.62 166**	P	**Pn**	**16 41 58.7 -0.3**
KSM	**Kuching**	**16.68 262**		**P**	**16 42 02.0 +0.1**
KSM	**Kuching**	**16.68 262**	P	**P**	**16 42 05.0 +3.1**
KSM	**Kuching**	**16.68 262**	P	**P**	**16 42 04.4 +2.5**
KMMI	**Kalianget**	**16.77 230**	P	**P**	**16 42 02.3 -0.7**
	169μm37μm880nm,0.7s				
DNP	**Denpasar**	**16.98 223**	P	**P**	**16 42 05.5 +0.3**
	62μm2μm,0.9s				
ABJI	**Asem Bagus**	**17.06 228**	P	**P**	**16 42 05.6 -0.5**
	191μm29μm534nm,0.8s				
MTN	**Manton Dam**	**17.08 166**	P	**Pn**	**16 42 03.2 -1.5**
	baz=17,SNR=18				
MTN	**Manton Dam**	**17.08 166**	Pn	**Pn**	**16 42 02.5 -2.2**
MTN	**Manton Dam**	**17.08 166**	P	**Pn**	**16 42 04.5 -0.2**
BWJI	**Bawean**	**17.10 236**	P	**Pn**	**16 42 05.7 +0.6**
	92μm12μm584nm,1.4s				
IGBI	**Denpasar**	**17.12 223**	P	**P**	**16 42 06.8 0.0**
	93μm30μm601nm,1.1s				
BBP	**Basco**	**17.21 344⇑**	*e*P	**Pn**	**16 42 03.7 -2.6**
KDU	**Kakadu**	**17.31 161**	P	**Pn**	**16 42 07.2 -0.4**
	baz=17,SNR=245				
KDU	**Kakadu**	**17.31 161**	P	**Pn**	**16 42 08.2 +0.6**
BLJI	**Banyuglugur**	**17.50 229**	P	**P**	**16 42 10.8 -0.2**
	113μm15μm503nm,0.7s				
JAGI	**Jajag, Banyuwa**	**17.57 226**	P	**P**	**16 42 11.7 -0.1**
	155μm31μm608nm,0.8s				
JAGI	**Jajag, Banyuwa**	**17.57 226**		**Pn**	**16 42 11.2 +0.3**
JAGI	**Jajag, Banyuwa**	**17.57 226**	P	**P**	**16 42 12.4 +0.6**
GMJI	**Gumukmas**	**17.96 228**	P	**P**	**16 42 16.4 +0.3**
	130μm20μm651nm,0.9s				
MMPI	**Merauke**	**18.19 132**	P	**Pn**	**16 42 17.6 -0.9**
	208μm73μm2μm,2.6s				
UWJI	**Ujung Watu**	**18.84 237**	P	**Pn**	**16 42 26.5 +0.1**
	15μm494nm,0.7s				
KNRA	**Kununurra**	**19.45 174**	P	**P**	**16 42 31.5 -0.9**
	baz=20,SNR=628				
KNRA	**Kununurra**	**19.45 174**	P	**P**	**16 42 31.5 -0.9**
KNRA			IAmb	IAmb	16 42 53.0
	comp=Z,946nm,0.9s				
KNRA	**Kununurra**	**19.45 174**	P	**Pn**	**16 42 33.2 -0.5**
SMRI	**Semarang**	**19.60 237**	P	**P**	**16 42 34.0 -0.2**
	comp=Z,160μmcomp=Z,19μmcomp=Z,707nm,0.9s				
SMRI	**Semarang**	**19.60 237**	P	**P**	**16 42 32.8 -1.4**
SMRI	**Semarang**	**19.60 237**	P	**Pn**	**16 42 35.7 +0.1**
	comp=Z,710nm,0.9s				
PCJI	**Pacitan**	**19.65 233**	P	**P**	**16 42 33.4 -1.3**
	comp=Z,104μmcomp=Z,14μmcomp=Z,580nm,1.0s				
TWG	**Pinlang**	**19.71 344**	P	**P**	**16 42 32.5 -2.8**
DLV	**T Lat**	**19.89 295**	Pn	**Pn**	**16 42 39.0 -0.2**
DLV			IAmb	IAmb	16 42 49.2
	comp=Z,1μm,1.0s				
DLV	**T Lat**	**19.89 295**	P	**Pn**	**16 42 40.3 +1.1**
UGM	**Wanagama**	**20.01 234**	P	**P**	**16 42 37.4 -1.3**
	comp=Z,141μmcomp=Z,15μmcomp=Z,594nm,1.2s				
UGM	**Wanagama**	**20.01 234**	P	**P**	**16 42 37.3 -1.4**
UGM			IAmb	IAmb	16 43 06.6
	comp=Z,1μm,1.4s				
UGM	**Wanagama**	**20.01 234**	P	**P**	**16 42 38.0 -0.7**
YOGI	**Yogyakarta**	**20.14 235**	P	**P**	**16 42 39.2 -0.9**
	comp=Z,71μmcomp=Z,11μmcomp=Z,606nm,0.8s				
YULB	**Yu-li**	**20.20 345**	P	**P**	**16 42 37.8 -2.8**
YULB			IAmb	IAmb	16 42 56.8
	comp=Z,986nm,1.3s				
TPI	**Tanjungpandan**	**20.25 252**	P	Pn	16 42 42.7 -0.6
GUMO	**Guam**	**20.28 60**	P	**P**	**16 42 42.1 +0.6**
	comp=Z,530nm,1.1s,baz=186,slow=6.6,SNR=7.0				
GUMO			S	Sn	16 46 35.3 +3.7
	comp=Z,123nm,0.9s,baz=169,slow=19,SNR=3.3				
GUMO			LR	LR	16 49 03.2
	comp=Z,229μm,21.9s,baz=233,slow=32				
GUMO	**Guam**	**20.28 60**	P	**P**	**16 42 40.2 -1.4**
GUMO	**Guam**	**20.28 60**	P	Pn	16 42 43.8 +0.2
TPUB	**Ta-pu**	**20.29 343**	P	**P**	**16 42 39.9 -1.8**
TPUB			IAmb	IAmb	16 42 46.4
	comp=Z,1μm,0.8s				
TPUB	**Ta-pu**	**20.29 343**	P	**P**	**16 42 40.8 -0.9**
SSLB	**Suanglung**	**20.67 345**	P	**P**	**16 42 43.4 -2.3**
SSLB			IAmb	IAmb	16 42 59.2
	comp=Z,608nm,0.9s				
YOJ	**Yonaguni jima**	**20.87 350**	P	**P**	**16 42 47.3 -0.6**
YOJ			pmax	pmax	
	comp=Z,619nm,0.7s				
YOJ	**Yonaguni jima**	**20.87 350**	P	**P**	**16 42 47.2 -0.6**
YOJ			IAmb	IAmb	16 43 04.0
	comp=Z,619nm,0.7s				
YOJ	**Yonaguni jima**	**20.87 350**	P	Pn	16 42 49.6 -0.8
NACB	**Ninganchiao**	**20.88 346**	P	**P**	**16 42 46.1 -1.8**
JMJ	**Miyako jima 2**	**20.95 356**	P	**P**	**16 42 49.7 +1.0**
MANU	**Manus Island**	**21.32 105**	P	**P**	**16 42 51.1 -1.8**
YHNB	**Yeheng**	**21.41 346**	P	**P**	**16 42 52.5 -1.2**
YHNB	**Yeheng**	**21.41 346**	P	**P**	**16 42 53.2 -0.5**
PPBI	**Pangkal Pinang**	**21.52 254**	P	**P**	**16 42 55.7 +0.7**
	comp=Z,147μmcomp=Z,18μmcomp=Z,377nm,1.0s				
CMJI	**Cimerak**	**21.66 238**	P	**P**	**16 42 55.4 -1.1**
	comp=Z,64μmcomp=Z,7μmcomp=Z,288nm,0.9s				
TATO	**Taipei**	**21.67 347**	P	**P**	**16 42 56.2 -0.3**
TATO			P	**P**	**16 42 56.2 -0.3**
TATO	**Taipei**	**21.67 347**	P	**P**	**16 42 54.7 -1.8**
FITZ	**Fitzroy Crossi**	**21.79 183**	P	**P**	**16 42 56.7 -1.1**
	comp=Z,276nm,1.1s,baz=208,slow=0.1,SNR=332				
FITZ			S	**S**	**16 46 53.8 -4.2**
	comp=Z,171nm,1.1s,baz=166,slow=17,SNR=8.1				
LEM	**Lembang**	**21.90 241**	P	**P**	**16 42 57.0 -2.2**
	comp=Z,408nm,0.9s,baz=64,slow=8.2,SNR=47				
LEM			S	Sn	16 47 11.4 +0.6
	comp=Z,29nm,0.7s,baz=17,slow=19,SNR=1.2				
LEM			LR	LR	16 52 32.4
	comp=Z,121μm,20.0s,baz=58,slow=40				
LEM	**Lembang**	**21.90 241**	P	**P**	**16 43 00.0 +0.8**
	comp=Z,69μmcomp=Z,10μmcomp=Z,409nm,0.8s				
KNMB	**Chin-men Tao**	**22.10 339**	P	**P**	**16 43 00.2 -0.9**
HKPS	**Hong Kong Po S**	**22.11 327**	P	**P**	**16 43 00.3 -1.0**
HKC	**Hong Kong Obse**	**22.11 327**	⇑P	**P**	**16 43 01.0 -0.2**
MCO	**Taipa Grande**	**22.31 326**	P	**P**	**16 43 05.0 +1.6**
CBJI	**Citeko**	**22.39 243**	P	**P**	**16 43 04.2 -0.2**
	comp=Z,116μmcomp=Z,18μmcomp=Z,2μm,0.9s				
TNG	**Tangerang**	**22.47 244**	P	**pP**	**16 43 07.2 -3.6**
	comp=Z,71μmcomp=Z,850nm,0.4s				
TNG			P	**P**	**16 43 06.2 +1.0**
	comp=Z,112μmcomp=Z,1μm,0.7s				
QZH	**Quanzhou**	**22.47 340⇑**	*i*P	**P**	**16 43 03.3 -1.7**
QZH			S	**S**	**16 47 09.4 -1.3**
QZH			pmax	pmax	
	comp=Z,340nm,1.0s				
QZH			pmax	pmax	
	comp=Z,16μm,9.4s				
QZH			LR	LR	
	comp=Z,81μm,16.5s				
QZH			LR	LR	
	comp=Z,86μm,21.0s				
QZH			LR	LR	
	comp=Z,185μm,18.3s				
QIZ	**Qiongzhong**	**22.47 314**	P	**P**	**16 43 04.9 -0.2**
QIZ			S	**S**	**16 47 11.2 +0.4**
QIZ			ScS	**ScS**	**16 54 20.2 -1.0**
QIZ			LR	LR	
	comp=Z,60μm,14.2s				
QIZ			LR	LR	
	comp=Z,85μm,18.1s				
QIZ			LR	LR	
	comp=Z,122μm,23.0s				
QIZ	**Qiongzhong**	**22.47 314**	P	**P**	**16 43 04.4 -0.7**
QIZ	**Qiongzhong**	**22.47 314**	P	**P**	**16 43 06.6 +1.5**
TPRI	**Tanjung Pinang**	**22.48 263**	P	**P**	**16 43 05.6 +0.3**
	comp=Z,12μmcomp=Z,393nm,1.2s				
DBJI	**Dramaga**	**22.54 243**	P	**P**	**16 43 05.1 -0.9**
	comp=Z,11μmcomp=Z,369nm,1.4s				
CNJI	**Cibinong**	**22.56 241**	P	**P**	**16 43 05.8 -0.3**
	comp=Z,88μmcomp=Z,13μmcomp=Z,666nm,0.9s				
DSRI	**Dabo**	**22.65 260**	P	**P**	**16 43 07.5 +0.4**
	comp=Z,73μmcomp=Z,8μmcomp=Z,178nm,1.4s				
SBJI	**Serang**	**22.91 245**	P	**P**	**16 43 09.4 -0.4**
	comp=Z,110μmcomp=Z,20μmcomp=Z,698nm,1.3s				
SKJI	**Sukabumi**	**22.92 242**	P	**P**	**16 43 10.1 +0.2**
	comp=Z,5μmcomp=Z,405nm,0.8s				
JOW	**Kunigami**	**22.94 3**	P	**P**	**16 43 10.1 +0.1**
	comp=Z,153nm,0.6s,baz=189,slow=9.1,SNR=25				
JOW			S	**S**	**16 47 21.1 +2.0**
	comp=Z,23nm,0.9s,baz=308,slow=23,SNR=1.5				
JOW	**Kunigami**	**22.94 3**	P	**P**	**16 43 09.8 -0.2**
JOW	**Kunigami**	**22.94 3**	P	**P**	**16 43 10.6 +0.6**
PMBI	**Palembang**	**23.05 253**	P	**P**	**16 43 12.3 +1.1**
	comp=Z,118μmcomp=Z,21μmcomp=Z,1μm,1.0s				
PMBI	**Palembang**	**23.05 253**	P	**P**	**16 43 11.7 +0.4**
PMBI	**Palembang**	**23.05 253**	P	**P**	**16 43 13.7 +2.5**
	comp=Z,1μm,1.1s				
MYKOM	**Kota Tinggi**	**23.05 266**	P	**P**	**16 43 10.9 -0.4**
MYKOM	**Kota Tinggi**	**23.05 266**	P	**P**	**16 43 13.0 +1.7**
GZH	**Guangzhou**	**23.20 327⇑**	*i*P	**P**	**16 43 14.8 +2.2**
GZH			S	**S**	**16 47 26.6 +3.2**
GZH			pmax	pmax	
	comp=Z,23μm,11.0s				
GZH			LR	LR	
	comp=Z,172μm,20.2s				
GZH			LR	LR	
	comp=Z,150μm,20.2s				
BLSI	**Bandar Lampung**	**23.41 247**	P	**P**	**16 43 14.4 -0.6**
	comp=Z,98μmcomp=Z,12μmcomp=Z,1μm,1.4s				
CGJI	**Cibinong**	**23.51 244**	P	**P**	**16 43 15.1 -0.8**
	comp=Z,86μmcomp=Z,13μmcomp=Z,994nm,1.0s				
KLI	**Kotabumi**	**23.59 249**	P	**P**	**16 43 15.9 -0.8**
	comp=Z,116μmcomp=Z,17μmcomp=Z,1μm,0.8s				
KLSI		**23.65 249**	P	**P**	**16 43 16.4 -0.8**
	comp=Z,51μmcomp=Z,8μmcomp=Z,380nm,0.8s				
JMBI	**JAMBI**	**23.81 257**	P	**P**	**16 43 20.6 +1.8**
	comp=Z,13μmcomp=Z,799nm,1.1s				
UBPT	**Khong Chiam**	**23.93 300**	P	**P**	**16 43 19.4 -0.5**
COEN	**Coen**	**23.96 138**	P	**P**	**16 43 18.9 -1.2**
COEN	**Coen**	**23.96 138**	P	**P**	**16 43 19.5 -0.6**
MDSI	**Maura Dua**	**24.09 250**	P	**P**	**16 43 20.7 -0.7**
	comp=Z,72μmcomp=Z,8μmcomp=Z,294nm,0.8s				
PMG	**Port Moresby**	**24.13 123**	P	**P**	**16 43 21.3 -0.5**
	comp=Z,31nm,0.7s,baz=320,slow=6.7,SNR=12				
PMG			S	**S**	**16 47 46.3 +7.7**
	comp=Z,13nm,0.9s,baz=291,slow=21,SNR=1.3				
PMG			LR	LR	16 53 34.8
	comp=Z,152μm,21.6s,baz=320,slow=38				
PMG	**Port Moresby**	**24.13 123**	P	**P**	**16 43 20.9 -0.9**
PMG			IAmb	IAmb	16 43 47.4
	comp=Z,644nm,1.5s				
PMG	**Port Moresby**	**24.13 123**	P	**P**	**16 43 21.5 -0.2**
PMG	**Port Moresby**	**24.13 123**	P	**P**	**16 43 21.6 -0.2**
KASI	**Kota Agung**	**24.16 248**	P	**P**	**16 43 20.5 -1.6**
	comp=Z,95μmcomp=Z,13μmcomp=Z,670nm,1.1s				
JRMM	**Jerantut**	**24.31 271**	P	**P**	**16 43 26.0 +2.5**
LWLI	**Liwa**	**24.39 249**	P	**P**	**16 43 24.3 0.0**
	comp=Z,830nm,0.9s				
LHSI	**Lahat**	**24.50 252**	P	**P**	**16 43 25.2 0.0**
	comp=Z,112μmcomp=Z,15μmcomp=Z,254nm,0.8s				
WB0	**Warramunga Arr**	**24.57 163**	P	**P**	**16 43 24.4 -1.3**
WRAB	**Tennant Creek**	**24.71 163**	*c i*P	**P**	**16 43 26.3 -0.7**
WRAB			pmax	pmax	
	comp=Z,430nm,1.1s				
WRAB	**Tennant Creek**	**24.71 163**	P	**P**	**16 43 25.8 -1.2**
WRAB	**Tennant Creek**	**24.71 163**	P	**P**	**16 43 26.4 -0.6**
WRA	**Warramunga Arr**	**24.72 163**	P	**P**	**16 43 26.2 -0.9**
	comp=Z,479nm,0.6s,baz=343,slow=10,SNR=427				
WRA			PcP	**PcP**	**16 47 05.1 +1.1**
	comp=Z,12nm,0.6s,baz=320,slow=2.4,SNR=1.9				
WRA			S	**S**	**16 47 52.1 +4.0**
	comp=Z,115nm,1.1s,baz=346,slow=21,SNR=6.8				
WRA			ScP	**ScP**	**16 50 43.1 +1.3**
	comp=Z,12nm,0.7s,baz=329,slow=2.8,SNR=2.7				
WRA			LR	LR	16 54 05.3
	comp=Z,42μm,21.7s,baz=348,slow=39				
WRA	**Warramunga Arr**	**24.72 163**	P	**P**	**16 43 25.8 -1.3**
WB2	**Warramunga Arr**	**24.72 163**	P	**P**	**16 43 26.0 -1.1**
WR0	**Warramunga Arr**	**24.80 163**	P	**P**	**16 43 26.5 -1.3**
RGRI	**Rengat**	**24.84 261**	P	**P**	**16 43 29.1 +0.9**
MNAI	**Manna**	**25.20 251**	P	**P**	**16 43 30.5 -1.1**
	comp=Z,85μmcomp=Z,21μmcomp=Z,793nm,0.8s				
MNAI	**Manna**	**25.20 251**	P	**P**	**16 43 31.1 -0.5**
MNAI			IAmb	IAmb	16 43 58.2
	comp=Z,932nm,1.2s				
MNAI	**Manna**	**25.20 251**	P	**P**	**16 43 32.7 +1.1**
XMI	**Christmas Isla**	**25.38 236**	P	**P**	**16 43 34.0 +0.9**
XMIS	**Christmas Isla**	**25.43 236**	P	**P**	**16 43 31.6 -1.9**
XMIS			IAmb	IAmb	16 43 36.7
	comp=Z,446nm,0.7s				
XMIS	**Christmas Isla**	**25.43 236**	P	**P**	**16 43 34.1 +0.5**
MASI	**Maura Aman, Be**	**25.54 255**	P	**P**	**16 43 34.6 0.0**
	comp=Z,77μmcomp=Z,21μmcomp=Z,1μm,1.2s				
MBWA	**Marble Bar**	**25.77 195**	P	**P**	**16 43 37.1 +0.6**
BKNI	**Bangkinang**	**26.01 263**	P	**P**	**16 43 39.0 +0.1**
	comp=Z,91μmcomp=Z,13μmcomp=Z,833nm,1.1s				
BKNI	**Bangkinang**	**26.01 263**	P	**P**	**16 43 38.1 -0.8**
BKNI			IAmb	IAmb	16 43 58.6
	comp=Z,731nm,1.0s				
BKNI	**Bangkinang**	**26.01 263**	P	**P**	**16 43 39.7 +0.8**
	comp=Z,840nm,1.1s				
KRJI	**Kerinci**	**26.03 257**	P	**P**	**16 43 39.0 -0.2**
	comp=Z,79μmcomp=Z,33μmcomp=Z,673nm,1.6s				
PSA00	**Pilbara Seismi**	**26.13 195**	P	**P**	**16 43 39.8 -0.1**
PSA00			IAmb	IAmb	16 43 46.1
	comp=Z,387nm,0.8s				
PSA00	**Pilbara Seismi**	**26.13 195**	P	**P**	**16 43 39.7 -0.1**
PSA00			IAmb	IAmb	16 43 46.1
	comp=Z,369nm,0.8s				
PSA00	**Pilbara Seismi**	**26.13 195**	P	**P**	**16 43 40.9 +1.0**
KULM	**Kulim**	**26.15 274**	P	**P**	**16 43 38.9 -1.3**
KULM	**Kulim**	**26.15 274**	P	**P**	**16 43 42.0 +1.8**
RABL	**Rabaul**	**26.52 107**	P	**P**	**16 43 41.7 -1.8**
RABL			IAmb	IAmb	16 44 07.8
	comp=Z,448nm,1.2s				
RABL	**Rabaul**	**26.52 107**	P	**P**	**16 43 44.6 +1.1**
GULI	**GuiLin**	**26.60 325**	⇑P	**P**	**16 43 43.9 -0.1**
GULI			S	**S**	**16 48 16.5 -1.3**
GULI			pmax	pmax	
	comp=Z,190nm,0.8s				
GULI			LR	LR	
	comp=Z,101μm,19.0s				
GULI			LR	LR	
	comp=Z,74μm,19.0s				
GULI			LR	LR	
	comp=Z,156μm,17.9s				
QIS	**Mount Isa**	**27.26 153**	P	**P**	**16 43 49.4 -0.7**
	baz=27,SNR=146				
QIS	**Mount Isa**	**27.26 153**	P	**P**	**16 43 50.7 +0.6**
MNSI	**Mandailing Nat**	**27.40 264**	P	**P**	**16 43 50.6 -0.8**
	comp=Z,75μmcomp=Z,7μmcomp=Z,380nm,1.0s				
JCJ	**Chichijima**	**27.42 31**	P	**P**	**16 43 48.8 -2.6**
JCJ	**Chichijima**	**27.42 31**	P	**P**	**16 43 51.8 +0.4**
PPSI	**Pulau Pagai**	**27.60 257**	P	**P**	**16 43 51.2 -2.0**
	comp=Z,61μmcomp=Z,11μmcomp=Z,452nm,0.8s				
CNSH	**ChangSha**	**27.63 333**	⇑P	**P**	**16 43 53.2 -0.1**
CNSH			S	**S**	**16 48 35.3 +1.3**
CNSH			LR	LR	
	comp=Z,91μm,19.2s				
CNSH			LR	LR	
	comp=Z,107μm,22.6s				
CNSH			LR	LR	
	comp=Z,166μm,18.4s				
SSE	**Sheshan**	**27.67 350**	P	**P**	**16 43 54.6 +1.0**
SSE			sP	**sP**	**16 44 02.7 -0.2**
SSE			S	**S**	**16 48 37.6 +3.1**
SSE			pmax	pmax	
	comp=Z,40nm,0.7s				
SSE			pmax	pmax	
	comp=Z,7μm,5.4s				
JSU	**Suzuyama**	**27.77 7**	P	**P**	**16 43 53.1 -1.4**
MTSU	**Mount Surprise**	**27.79 142**	P	**P**	**16 43 54.4 -0.5**
	baz=28,SNR=71				
MTSU	**Mount Surprise**	**27.79 142**	P	**P**	**16 43 55.7 +0.9**
PSI	**Prapat**	**27.89 269**	P	**P**	**16 43 55.8 -0.1**
	comp=Z,88nm,0.8s,baz=94,slow=4.1,SNR=55				
PSI			S	**S**	**16 48 37.6 -1.0**
	comp=Z,6.2nm,0.7s,baz=187,slow=18,SNR=0.9				
PSI			ScP	**ScP**	**16 50 52.8 +1.4**
	comp=Z,17nm,0.9s,baz=104,slow=4.8,SNR=4.8				
PSI			LR	LR	16 57 06.9
	comp=Z,71μm,19.9s,baz=77,slow=41				
RPSI	**Rantau Prapat**	**27.89 269**		**S**	**16 48 37.6 -0.9**
AS31	**Alice Springs**	**28.16 166**	P	**P**	**16 43 56.9 -1.2**
ASAR	**Alice Springs**	**28.16 166**	P	**P**	**16 43 57.0 -1.1**
	comp=Z,31nm,0.6s,baz=345,slow=6.5,SNR=123				
ASAR			PcP	**PcP**	**16 47 12.2 +0.2**
	comp=Z,29nm,0.8s,baz=340,slow=2.3,SNR=5.0				
ASAR			S	**S**	**16 48 45.9 +3.5**
	comp=Z,15nm,0.9s,baz=348,slow=24,SNR=2.0				
ASAR			LR	LR	16 56 43.1
	comp=Z,93μm,22.0s,baz=360,slow=40				
ASAR	**Alice Springs**	**28.16 166**	P	**P**	**16 43 56.9 -1.2**
SISI	**Saibi**	**28.20 260**	P	**P**	**16 43 56.6 -2.0**
	comp=Z,53μmcomp=Z,4μmcomp=Z,208nm,0.9s				
TSI	**Tuntungan**	**28.22 270**	P	**P**	**16 43 59.1 +0.3**
	comp=Z,82μmcomp=Z,12μmcomp=Z,304nm,1.4s				
SLVN	**Son La**	**28.29 310**	P	**P**	**16 43 58.8 -0.6**
WRKA	**Warakurna**	**28.70 177**	P	**P**	**16 44 02.5 -0.5**
	baz=29,SNR=619				
WRKA	**Warakurna**	**28.70 177**	P	**P**	**16 44 03.3 +0.4**
KCSI	**Kotacane, Aceh**	**29.01 270**	P	**P**	**16 44 05.1 -0.7**
	comp=Z,66μmcomp=Z,6μmcomp=Z,248nm,1.0s				
GIRL	**Giralia**	**29.03 205**	P	**P**	**16 44 08.2 +2.4**
	baz=29,SNR=21				
GIRL	**Giralia**	**29.03 205**	P	**P**	**16 44 06.7 +0.9**
GIRL	**Giralia**	**29.03 205**	P	**P**	**16 44 07.8 +2.0**
NJ2	**Nanjing**	**29.09 346**	⇑P	**P**	**16 44 03.9 -2.3**
NJ2			pP	**pP**	**16 44 08.8 -4.1**
NJ2			sP	**sP**	**16 44 12.6 -2.9**
NJ2			S	**S**	**16 48 57.0 +0.2**
NJ2			sS	**sS**	**16 49 06.8 -0.8**
NJ2			pmax	pmax	
	comp=Z,170nm,1.5s				
NJ2			pmax	pmax	
	comp=Z,15μm,11.9s				
NJ2			LR	LR	
	comp=Z,63μm,20.6s				
NJ2			LR	LR	
	comp=Z,62μm,20.1s				
NJ2			LR	LR	
	comp=Z,56μm,17.3s				
WHN	**Wuhan**	**29.10 337**	⇑P	**P**	**16 44 06.9 +0.6**
WHN			pP	**pP**	**16 44 12.9 -0.1**
WHN			S	**S**	**16 48 54.5 -2.5**
WHN			pmax	pmax	
	comp=Z,160nm,0.8s				
WHN			pmax	pmax	
	comp=Z,14μm,11.2s				
WHN			LR	LR	
	comp=Z,189μm,17.5s				
WHN			LR	LR	
	comp=Z,39μm,12.1s				
WHN			LR	LR	
	comp=Z,277μm,19.4s				
GSI	**Gunungsitoli**	**29.34 266**	P	**P**	**16 44 07.7 -1.0**
	comp=Z,84μmcomp=Z,6μmcomp=Z,268nm,0.8s				
GSI	**Gunungsitoli**	**29.34 266**	P	**P**	**16 44 07.9 -0.8**
GSI			IAmb	IAmb	16 44 12.1
	comp=Z,183nm,0.7s				
GSI	**Gunungsitoli**	**29.34 266**	P	**P**	**16 44 08.3 -0.4**
JNU	**Nakatsue**	**29.41 7**	P	**P**	**16 44 07.9 -1.3**
	comp=Z,119nm,0.9s,baz=334,slow=14,SNR=28				
JNU			S	**S**	**16 49 03.8 +1.8**
	comp=Z,8.6nm,0.9s,baz=232,slow=22,SNR=1.4				
JNU			LR	LR	17 00 02.1
	comp=Z,47μm,18.3s,baz=189,slow=45				
JNU	**Nakatsue**	**29.41 7**	P	**P**	**16 44 08.3 -0.9**
JNU			IAmb	IAmb	16 44 22.0
	comp=Z,318nm,1.2s				
JNU	**Nakatsue**	**29.41 7**	P	**P**	**16 44 08.5 -0.7**
TPTI		**29.61 270**	P	**P**	**16 44 09.1 -2.0**
	comp=Z,17μmcomp=Z,1μmcomp=Z,38nm,1.0s				
GYA	**Guiyang**	**29.68 321**	⇓P	**P**	**16 44 13.7 +1.9**
GYA			sP	sP	16 44 25.7 +4.6
GYA			PP	**PnPn**	**16 45 11.5 +4.2**
GYA			PcP	**PcP**	**16 47 17.7 +1.8**
GYA			S	**S**	**16 49 08.2 +1.6**
GYA			pmax	pmax	
	comp=Z,50nm,1.9s				
GYA			pmax	pmax	
	comp=Z,11μm,13.9s				
GYA			LR	LR	
	comp=Z,97μm,19.8s				
GYA			LR	LR	
	comp=Z,84μm,20.8s				
GYA			LR	LR	
	comp=Z,145μm,20.7s				
LHMI	**Lhok Sumawe**	**29.83 274**	P	**P**	**16 44 13.2 +0.1**
LHMI			IAmb	IAmb	16 44 29.8
	comp=Z,210nm,1.0s				
CTA	**Charters Tower**	**30.45 142**	P	**P**	**16 44 19.8 +1.3**
	comp=Z,18nm,0.7s,baz=325,slow=13,SNR=16				
CTA			S	**S**	**16 49 20.6 +2.0**
	comp=Z,7.1nm,0.7s,baz=354,slow=19,SNR=1.2				
CTA			LR	LR	16 57 46.6
	comp=Z,34μm,18.7s,baz=348,slow=39				
CTA	**Charters Tower**	**30.45 142**	P	**P**	**16 44 19.8 +1.3**
CTAO	**Charters Tower**	**30.45 142**	P	**P**	**16 44 17.6 -0.9**
CTAO			pmax	pmax	
	comp=Z,99nm,1.1s				
CTAO			MLR	MLR	
	comp=Z,46μm,19.0s				
CTAO	**Charters Tower**	**30.45 142**	P	**P**	**16 44 17.6 -0.9**
CTAO	**Charters Tower**	**30.45 142**	P	**P**	**16 44 20.0 +1.5**
JMN	**Monobe**	**30.49 12**	P	**P**	**16 44 17.9 -0.9**
CM31	**Chiang Mai Arr**	**30.93 300**	P	**P**	**16 44 22.9 +0.1**
CM31			IAmb	IAmb	16 44 47.0
	comp=Z,177nm,0.9s				
CMAR	**Chiang Mai Arr**	**30.93 300**	P	**P**	**16 44 22.9 +0.1**
	comp=Z,81nm,0.9s,baz=121,slow=7.4,SNR=192				
CMAR			PcP	**PcP**	**16 47 20.6 +1.4**
	comp=Z,10nm,0.9s,baz=114,slow=1.3,SNR=3.1				
CMAR			S	**S**	**16 49 34.6 +8.4**
	comp=Z,1.1nm,0.6s,baz=72,slow=8.6,SNR=1.5				
CMAR			ScP	**ScP**	**16 51 02.6 +1.7**
	comp=Z,7.5nm,0.9s,baz=147,slow

INU				IAMs_20	IAMs_20	16 57 23.5
	comp=Z,112μm,20.0s					
INU	**Inuyama**	**32.77**	**15**	P	**P**	**16 44 38.5 -0.2**
PZH	**PanZhiHua**	**32.97**	**316**	⇑P	**P**	**16 44 39.7 -1.0**
PZH				PcP	**PcP**	**16 47 27.5 +2.8**
PZH				S	**S**	**16 49 57.6 -0.4**
PZH				sS	**sS**	**16 50 13.5 +4.5**
PZH				PcS	**PcS**	**16 51 12.9 +2.6**
PZH				pmax	pmax	
	comp=Z,110nm,1.1s					
PZH				pmax	pmax	
	comp=Z,1μm,5.9s					
PZH				LR	LR	
	comp=Z,40μm,18.6s					
PZH				LR	LR	
	comp=Z,48μm,17.6s					
PZH				LR	LR	
	comp=Z,66μm,17.1s					
JGF	**Kuroka**	**33.10**	**16**	P	**P**	**16 44 39.9 -1.8**
LYN	**LuoYang**	**33.38**	**338**	⇑*i*P	**P**	**16 44 44.0 -0.1**
LYN				pmax	pmax	
	comp=Z,70nm,0.8s					
LYN				pmax	pmax	
	comp=Z,8μm,10.3s					
LYN				LR	LR	
	comp=Z,106μm,21.6s					
LYN				LR	LR	
	comp=Z,84μm,20.1s					
TIA	**Tai'an**	**33.47**	**346**	*e*P	**P**	**16 44 47.1 +2.2**
TIA				S	**S**	**16 50 06.0 +0.6**
TIA				pmax	pmax	
	comp=Z,200nm,1.3s					
TIA				pmax	pmax	
	comp=Z,7μm,8.2s					
TIA				LR	LR	
	comp=Z,39μm,19.4s					
TIA				LR	LR	
	comp=Z,36μm,18.6s					
TIA				LR	LR	
	comp=Z,66μm,15.1s					
KSAR	**Wonju Array Be**	**33.49**	**2**	P	**P**	**16 44 44.2 -0.8**
KSAR	**Wonju Array Be**	**33.49**	**2**	P	**P**	**16 44 44.2 -0.8**
KSRS	**Korea Array**	**33.51**	**2**	P	**P**	**16 44 45.5 +0.4**
	comp=Z,40nm,0.8s,baz=180,slow=10,SNR=27					
KSRS				PcP	**PcP**	**16 47 28.2 +2.5**
	comp=Z,29nm,0.7s,baz=190,slow=2.4,SNR=16					
KSRS				S	**S**	**16 50 06.7 +0.9**
	comp=Z,1.3nm,0.9s,baz=212,slow=25,SNR=1.1					
INCN	**Inchon**	**33.52**	**360**	P	**P**	**16 44 48.0 +2.7**
KS19	**Wonju Array Si**	**33.55**	**1**	P	**P**	**16 44 44.2 -1.3**
KS19				IAmb	IAmb	16 44 59.0
	comp=Z,240nm,1.3s					
HJU	**Haeju**	**34.09**	**358**	P	**P**	**16 44 52.4 +2.2**
INKA	**Innaminka**	**34.11**	**158**	P	**P**	**16 44 50.4 0.0**
MAJO	**Matsushiro**	**34.22**	**16**	*c i*P	**P**	**16 44 49.2 -2.2**
MAJO				pmax	pmax	
	comp=Z,221nm,2.2s					
MAJO	**Matsushiro**	**34.22**	**16**	P	**P**	**16 44 48.9 -2.5**
MAJO	**Matsushiro**	**34.22**	**16**	IAMs_20	IAMs_20	16 58 18.8
	comp=Z,141μm,20.0s					
MAJO	**Matsushiro**	**34.22**	**16**	P	**P**	**16 44 52.0 +0.6**
MAT	**Matsushiro**	**34.22**	**16**	P	**P**	**16 44 48.9 -2.5**
MAT				S	**S**	**16 50 14.6 -2.4**
MJAR	**Matsushiro Arr**	**34.22**	**16**	P	**P**	**16 44 50.4 -1.0**
	comp=Z,18nm,0.8s,baz=179,slow=9.5,SNR=19					
MJAR				PcP	**PcP**	**16 47 29.6 +1.7**
	comp=Z,7.6nm,0.7s,baz=190,slow=2.8,SNR=1.7					
MJAR				LR	LR	16 58 09.4
	comp=Z,125μm,20.8s,baz=213,slow=35					
MJAR	**Matsushiro Arr**	**34.22**	**16**	P	**P**	**16 44 49.0 -2.3**
MJB9	**Matsu-Tunnel**	**34.23**	**16**	P	**P**	**16 44 49.0 -2.4**
MORW	**Morawa**	**34.29**	**197**	P	**P**	**16 44 51.9 -0.1**
	baz=34,SNR=60					
MORW	**Morawa**	**34.29**	**197**	P	**P**	**16 44 50.6 -1.4**
MORW	**Morawa**	**34.29**	**197**	P	**P**	**16 44 52.0 0.0**
FORT	**Forrest**	**34.41**	**178**	P	**P**	**16 44 52.9 -0.1**
	baz=35,SNR=115					
FORT	**Forrest**	**34.41**	**178**	P	**P**	**16 44 52.5 -0.5**
FORT	**Forrest**	**34.41**	**178**	P	**P**	**16 44 52.9 -0.1**
JYT	**Yasato**	**34.54**	**19**	P	**P**	**16 44 51.6 -2.5**
QLP	**Quilpie**	**34.58**	**152**	P	**P**	**16 44 53.8 -0.7**
	baz=35,SNR=21					
QLP	**Quilpie**	**34.58**	**152**	P	**P**	**16 44 53.9 -0.7**
MULG	**Mulgathing**	**34.59**	**169**	P	**P**	**16 44 54.8 +0.2**
PBA	**Port Blair**	**34.65**	**285**	*e*P	**P**	**16 44 54.5 -0.8**
PBA	**Port Blair**	**34.65**	**285**	P	**P**	**16 44 54.1 -1.2**
PBA				IAmb	IAmb	16 45 16.4
	comp=Z,450nm,1.0s					
CD2	**Chengdu**	**34.65**	**324**	P	**P**	**16 44 54.6 -0.6**
CD2				sP	sP	16 45 05.5 +0.9
CD2				PP	**PP**	**16 46 13.2 -0.8**
CD2				pmax	pmax	
	comp=Z,350nm,0.9s					
CD2				pmax	pmax	
	comp=Z,8μm,11.2s					
CD2				LR	LR	
	comp=Z,15μm,21.6s					
CD2				LR	LR	
	comp=Z,104μm,20.6s					
CD2				LR	LR	
	comp=Z,142μm,19.2s					
DGPR	**DIGLIPUR**	**34.76**	**288**	*e*P	**P**	**16 44 54.3 -2.0**
DGPR				*i* x	x	16 46 12.8
PYAG	**Pyongyang**	**35.10**	**359**	P	**P**	**16 45 00.1 +1.3**
PYAG				S	**S**	**16 50 24.4 -6.0**
PYAG				AmB		
	comp=Z,4μm,3.5s					
PYAG				AMS	AMS	
	comp=N,2μm,13.4s					
PYAG				AMS	AMS	
	comp=E,3μm,17.9s					
PYAG				AMS	AMS	
	comp=Z,1μm,6.7s					
HNS	**HongShan**	**35.24**	**343**	⇑P	**P**	**16 45 00.7 +0.6**
HNS				PP	**PnPn**	**16 46 18.6 +0.2**
HNS				S	**S**	**16 50 35.8 +3.2**
HNS				pmax	pmax	
	comp=Z,380nm,1.0s					
HNS				pmax	pmax	
	comp=Z,8μm,9.2s					
HNS				LR	LR	
	comp=Z,95μm,19.2s					
HNS				LR	LR	
	comp=Z,26μm,19.6s					
HNS				LR	LR	
	comp=Z,120μm,18.4s					
DL2	**Dalian**	**35.26**	**353**	P	**P**	**16 45 01.3 +1.0**
DL2				S	**S**	**16 50 35.4 +2.5**
DL2				pmax	pmax	
	comp=Z,370nm,0.9s					
DL2				pmax	pmax	
	comp=Z,8μm,4.7s					
DL2				LR	LR	
	comp=Z,61μm,17.9s					
DL2				LR	LR	
	comp=Z,35μm,20.8s					
DL2				LR	LR	
	comp=Z,92μm,21.4s					
HNR	**Honiara**	**35.52**	**112**	P	**P**	**16 45 03.4 +0.6**
	comp=Z,40nm,0.7s,baz=10,slow=10.0,SNR=3.5					
HNR				S	**S**	**16 50 40.6 +3.2**
	comp=Z,24nm,0.9s,baz=11,slow=12,SNR=1.8					
HNR				LR	LR	16 58 12.4
	comp=Z,99μm,21.7s,baz=280,slow=34					
HNR	**Honiara**	**35.52**	**112**	P	**P**	**16 45 01.7 -1.1**
HNR				IAmb	IAmb	16 45 25.8
	comp=Z,260nm,1.2s					
HNR	**Honiara**	**35.52**	**112**	IAMs_20	IAMs_20	16 57 50.8
	comp=Z,112μm,22.0s					
HNR	**Honiara**	**35.52**	**112**	P	**P**	**16 45 04.6 +1.8**
RK1H	**Rockhampton Ha**	**35.53**	**141**	P	**P**	**16 45 02.3 -0.5**
BLDU	**Ballidu**	**35.57**	**195**	P	**P**	**16 45 02.9 -0.1**
	baz=36,SNR=46					
BLDU	**Ballidu**	**35.57**	**195**	P	**P**	**16 45 03.0 -0.1**
JSD	**Sado**	**35.64**	**16**	P	**P**	**16 45 01.1 -2.5**
LCRK	**Leigh Creek**	**35.75**	**163**	P	**P**	**16 45 05.9 +1.3**
HHU	**Hamhung**	**35.97**	**1**	P	**P**	**16 45 07.5 +1.2**
HHU				pP	**sP**	**16 45 20.4 +5.1**
HHU				S	**S**	**16 50 45.8 +2.1**
HHU				AmB		
	comp=Z,7μm,4.0s					
HHU				AMS	AMS	
	comp=N,123μm,23.0s					
HHU				AMS	AMS	
	comp=E,146μm,27.4s					
HHU				AMS	AMS	
	comp=Z,129μm,24.1s					
SUJ	**Sinuiju**	**36.20**	**357**	P	**P**	**16 45 09.3 +1.0**
SUJ				pP	**sP**	**16 45 22.5 +5.2**
SUJ				S	**S**	**16 50 50.4 +3.2**
SUJ				AmB		
	comp=Z,14μm,6.7s					
SUJ				AMS	AMS	
	comp=N,33μm,21.5s					
SUJ				AMS	AMS	
	comp=E,25μm,16.3s					
SUJ				AMS	AMS	
	comp=Z,25μm,16.5s					
JMM	**Marumori**	**36.23**	**19**	P	**P**	**16 45 07.4 -1.2**
JMM				IAmb	IAmb	16 45 20.1
	comp=Z,218nm,0.8s					
TIY	**Taiyuan**	**36.24**	**341**	*e*P	**P**	**16 45 08.8 0.0**
TIY				PP	**PP**	**16 46 34.8 +3.4**
TIY				S	**S**	**16 50 49.7 +1.6**
TIY				pmax	pmax	
	comp=Z,69nm,0.6s					
TIY				pmax	pmax	
	comp=Z,6μm,5.2s					
TIY				LR	LR	
	comp=Z,51μm,19.4s					
TIY				LR	LR	
	comp=Z,46μm,21.6s					
TIY				LR	LR	
	comp=Z,59μm,21.0s					
KLBR	**Kellerberrin**	**36.24**	**193**	P	**P**	**16 45 08.6 -0.2**
	baz=36,SNR=55					
KLBR	**Kellerberrin**	**36.24**	**193**	P	**P**	**16 45 09.2 +0.4**
RMQ	**Roma**	**36.83**	**146**	P	**P**	**16 45 13.4 -0.5**
	baz=37,SNR=23					
RMQ	**Roma**	**36.83**	**146**	P	**P**	**16 45 14.3 +0.4**
MUN	**Mundaring**	**36.99**	**195**	P	**P**	**16 45 15.3 +0.1**
	baz=37,SNR=22					
MUN	**Mundaring**	**36.99**	**195**	P	**P**	**16 45 15.6 +0.4**
BJT	**Baijiatuau**	**37.32**	**346**	P	**P**	**16 45 18.0 +0.1**
BJT				pmax	pmax	
	comp=Z,674nm,0.9s					
BJT				MLR	MLR	
	comp=Z,36μm,21.0s					
BJT	**Baijiatuau**	**37.32**	**346**	P	**P**	**16 45 18.0 +0.1**
EIDS	**Eidsvold**	**37.34**	**142**	P	**P**	**16 45 18.6 +0.4**
	baz=38,SNR=24					
EIDS	**Eidsvold**	**37.34**	**142**	P	**P**	**16 45 16.5 -1.8**
EIDS	**Eidsvold**	**37.34**	**142**	P	**P**	**16 45 18.8 +0.6**
BJI	**Beijing**	**37.34**	**346**	P	**P**	**16 45 19.2 +1.2**
BJI				pP	**pP**	**16 45 25.1 +0.3**
BJI				PcP	**PcP**	**16 47 39.0 +2.0**
BJI				S	**S**	**16 51 07.2 +2.5**
BJI				sS	**sS**	**16 51 17.2 +1.5**
BJI				ScS	**ScS**	**16 55 33.6 +2.6**
BJI				pmax	pmax	
	comp=Z,440nm,0.9s					
BJI				pmax	pmax	
	comp=Z,11μm,3.0s					
BJI				LR	LR	
	comp=Z,22μm,16.0s					
BJI				LR	LR	
	comp=Z,64μm,20.8s					
BJI				LR	LR	
	comp=Z,39μm,20.2s					
BBOO	**Buckleboo**	**37.45**	**167**	P	**P**	**16 45 18.4 -0.6**
	baz=38,SNR=330					
BBOO	**Buckleboo**	**37.45**	**167**	P	**P**	**16 45 17.9 -1.1**
BBOO				IAmb	IAmb	16 45 29.5
	comp=Z,318nm,1.2s					
BBOO	**Buckleboo**	**37.45**	**167**	P	**P**	**16 45 18.9 -0.1**
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P	**P**	**16 45 20.3 -0.4**
NWAO				pmax	pmax	
	comp=Z,36nm,1.0s					
NWAO				MLR	MLR	
	comp=Z,400nm,20.0s					
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P	**P**	**16 45 20.3 -0.4**
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P	**P**	**16 45 21.2 +0.5**
SNY	**Shenyang**	**37.97**	**356**	⇑P	**P**	**16 45 23.7 +0.4**
SNY				S	**S**	**16 51 15.7 +1.5**
SNY				pmax	pmax	
	comp=Z,28nm,0.9s					
SNY				pmax	pmax	
	comp=Z,11μm,5.6s					
SNY				LR	LR	
	comp=Z,76μm,21.8s					
SNY				LR	LR	
	comp=Z,48μm,19.8s					
SNY				LR	LR	
	comp=Z,117μm,23.0s					
WHYH	**Whyalla**	**38.02**	**165**	P	**P**	**16 45 24.3 +0.5**
STKA	**Stephens Creek**	**38.16**	**159**	P	**P**	**16 45 24.8 -0.3**
	comp=Z,198nm,0.6s,baz=335,slow=8.9,SNR=220					
STKA				PcP	**PcP**	**16 47 40.5 +0.9**
	comp=Z,59nm,0.8s,baz=346,slow=7.1,SNR=1.6					
STKA				S	**S**	**16 51 15.9 -1.3**
	comp=Z,13nm,0.8s,baz=106,slow=20,SNR=2.3					
STKA	**Stephens Creek**	**38.16**	**159**	P	**P**	**16 45 24.8 -0.3**
	baz=38,SNR=610					
STKA	**Stephens Creek**	**38.16**	**159**	P	**P**	**16 45 24.6 -0.5**
STKA	**Stephens Creek**	**38.16**	**159**	P	**P**	**16 45 25.1 0.0**
NAPP	**Napperby**	**38.31**	**165**	P	**P**	**16 45 27.0 +0.7**
LZH	**Lanzhou**	**38.50**	**329**	⇑P	**P**	**16 45 28.6 +0.5**
LZH				pP	pP	16 45 35.3 +0.5
LZH				sP	sP	16 45 37.8 +0.2
LZH				PP	**PnPn**	**16 47 01.9 +3.5**
LZH				S	**S**	**16 51 17.5 -5.2**
LZH				sS	pS	16 51 30.6 +0.1
LZH				SS	**SnSn**	**16 54 05.1 -5.1**
LZH				pmax	pmax	
	comp=Z,460nm,1.1s					
LZH				pmax	pmax	
	comp=Z,8μm,6.1s					
LZH				LR	LR	
	comp=Z,165μm,13.6s					
LZH				LR	LR	
	comp=Z,200μm,14.3s					
LZH				LR	LR	
	comp=Z,190μm,15.7s					
HTT	**Hallett**	**38.76**	**164**	P	**P**	**16 45 30.1 0.0**
	baz=39,SNR=72					
HTT	**Hallett**	**38.76**	**164**	P	**P**	**16 45 31.1 +1.0**
MSHR	**Mys Shultsa**	**38.80**	**5**	*c e*P	**P**	**16 45 30.8 +0.5**
MSHR				pmax	pmax	
	comp=Z,205nm,1.1s					
MSHR				MLR	MLR	
	comp=Z,28μm,19.0s					
BRDH	**Bariadhala**	**38.89**	**302**	P	**P**	**16 45 32.2 +0.9**
	comp=Z,0.9nm,0.3s,baz=0.5,slow=24,SNR=0.9					
JTM	**Tenmabayashi**	**38.99**	**17**	P	**P**	**16 45 29.8 -2.1**
JTM				IAmb	IAmb	16 45 54.9
	comp=Z,329nm,1.1s					
HHC	**Hu-ho-hao-te**	**39.37**	**342**	⇑P	**P**	**16 45 35.7 +0.5**
HHC				sP	sP	16 45 44.4 -0.3
HHC				S	**S**	**16 51 37.6 +2.1**
HHC				sS	pS	16 51 44.1 +0.9
HHC				SS	**SS**	**16 54 23.2 -6.6**
HHC				pmax	pmax	
	comp=Z,230nm,1.6s					
HHC				pmax	pmax	
	comp=Z,9μm,5.8s					
HHC				LR	LR	
	comp=Z,46μm,19.4s					
HHC				LR	LR	
	comp=Z,42μm,21.0s					
HHC				LR	LR	
	comp=Z,67μm,20.4s					
VLA	**Vladivostok**	**39.41**	**6**	*c i*P	**P**	**16 45 36.3 +0.9**
VLA				pmax	pmax	
	comp=Z,399nm,1.2s					
VLA				MLR	MLR	
	comp=Z,49μm,21.0s					
CMSA	**Cobar Meteorol**	**39.46**	**154**	P	**P**	**16 45 35.8 -0.2**
	baz=40,SNR=113					
CMSA	**Cobar Meteorol**	**39.46**	**154**	P	**P**	**16 45 36.2 +0.2**
CN2	**Changchun**	**39.85**	**358**	*e*P	**P**	**16 45 38.6 -0.5**
CN2				*e*PP	**PnPn**	**16 47 14.4 +0.2**
CN2				*e*S	**S**	**16 51 41.5 -1.0**
CN2				*e*SS	**SS**	**16 54 28.5 -11**
CN2				pmax	pmax	
	comp=Z,40nm,0.8s					
CN2				LR	LR	
	comp=Z,41μm,18.0s					
CN2				LR	LR	
	comp=Z,31μm,18.0s					
CN2				LR	LR	
	comp=Z,53μm,19.0s					
SHL	**Shillong**	**39.92**	**306**	P	**P**	**16 45 39.2 -1.0**
SHL	**Shillong**	**39.92**	**306**	⇑*i*P	**P**	**16 45 39.7 -0.5**
SHL				IAmb	IAmb	16 45 47.7
	comp=Z,585nm,0.9s					
SHL				IAMs_20	IAMs_20	17 08 51.7
	comp=Z,34μm,10.7s					
SHL	**Shillong**	**39.92**	**306**	P	**P**	**16 45 39.2 -1.0**
GHSS	**Government Hou**	**40.07**	**165**	P	**P**	**16 45 41.9 +0.9**
TWOA	**Tennyson Woods**	**40.17**	**165**	P	**P**	**16 45 43.0 +1.1**
USA0B	**Ussuriysk Arra**	**40.49**	**6**	P	**P**	**16 45 43.6 -0.7**
USA0B				pmax	pmax	
	comp=Z,160nm,1.1s					
USA0B	**Ussuriysk Arra**	**40.49**	**6**	P	**P**	**16 45 43.6 -0.7**
USRK	**Ussuriysk Ar.**	**40.49**	**6**	P	**P**	**16 45 44.5 +0.2**
	comp=Z,46nm,0.8s,baz=188,slow=7.1,SNR=64					
USRK				PcP	**PcP**	**16 47 48.7 +1.9**
	comp=Z,19nm,0.9s,baz=186,slow=4.2,SNR=1.0					
USRK				LR	LR	17 02 12.6
	comp=Z,45μm,21.8s,baz=176,slow=36					
USRK	**Ussuriysk Ar.**	**40.49**	**6**	P	**P**	**16 45 43.0 -1.3**
MDJ	**Mudanjiang**	**40.72**	**3**	P	**P**	**16 45 46.5 +0.2**
MDJ				pP	pP	16 45 52.8 -0.1
MDJ				sP	sP	16 45 56.0 +0.5
MDJ				S	**S**	**16 51 57.1 +1.7**
MDJ				ScS	**ScS**	**16 55 52.5 +2.0**
MDJ				pmax	pmax	
	comp=Z,29nm,0.9s					
MDJ				pmax	pmax	
	comp=Z,7μm,6.9s					
MDJ				LR	LR	
	comp=Z,48μm,19.5s					
MDJ				LR	LR	
	comp=Z,41μm,19.9s					
MDJ				LR	LR	
	comp=Z,80μm,23.1s					
MDJ	**Mudanjiang**	**40.72**	**3**	P	**P**	**16 45 45.7 -0.5**
MDJ				IAmb	IAmb	16 45 57.2
	comp=Z,290nm,0.9s					
MDJ	**Mudanjiang**	**40.72**	**3**	P	**P**	**16 45 47.3 +1.0**
ERM	**Erimo**	**40.75**	**19**	*c i*P	**P**	**16 45 47.3 +0.8**
ERM				pmax	pmax	
	comp=Z,90nm,1.0s					
XLT	**XiLinHaoTe**	**41.05**	**348**	⇑*i*P	**P**	**16 45 50.0 +0.9**
XLT				pP	pP	16 45 56.1 +0.2
XLT				sP	sP	16 45 59.3 +0.7
XLT				S	**S**	**16 52 02.0 +1.4**
XLT				sS	sS	16 52 14.2 +2.5
XLT				ScS	**ScS**	**16 55 55.0 +2.3**
XLT				pmax	pmax	
	comp=Z,580nm,1.7s					
XLT				pmax	pmax	
	comp=Z,14μm,8.0s					
XLT				LR	LR	
	comp=Z,65μm,18.5s					
XLT				LR	LR	
	comp=Z,75μm,21.3s					
XLT				LR	LR	
	comp=Z,61μm,19.3s					
ARMA	**Armidale**	**41.47**	**147**	P	**P**	**16 45 53.8 +1.1**
	baz=42,SNR=57					
ARMA	**Armidale**	**41.47**	**147**	P	**P**	**16 45 52.4 -0.3**
ARMA	**Armidale**	**41.47**	**147**	P	**P**	**16 45 53.9 +1.1**
BNX	**BinXian**	**41.77**	**1**	⇑P	**P**	**16 45 54.5 -0.4**
BNX				sP	**pP**	**16 46 01.4 -0.1**
BNX				PP	**PnPn**	**16 47 38.3 +1.5**
BNX				S	**S**	**16 52 10.6 -0.4**
BNX				pmax	pmax	
	comp=Z,33nm,1.0s					
BNX				pmax	pmax	
	comp=Z,6μm,7.5s					
BNX				LR	LR	
	comp=Z,38μm,17.6s					
BNX				LR	LR	
	comp=Z,42μm,21.1s					
BNX				LR	LR	
	comp=Z,58μm,18.2s					
TEY	**Ternei**	**41.95**	**10**	⇑*i*P	**P**	**16 45 57.4 +1.0**
TEY				*e*S	**S**	**16 52 10.8 -2.9**
TEY				pmax	pmax	
	comp=Z,60nm,2.1s					
TEY				pmax	pmax	
	comp=N,2μm,5.1s					
TEY				pmax	pmax	
	comp=E,2μm,5.1s					
TEY				pmax	pmax	
	comp=Z,4μm,5.1s					
TEY				smax	smax	
	comp=E,13μm,9.3s					
TEY				MLR	MLR	
	comp=E,10μm,17.0s					
TEY				MLR	MLR	
	comp=N,14μm,18.0s					
TEY				MLR	MLR	
	comp=Z,19μm,19.0s					
LSA	**Lhasa**	**42.47**	**311**	P	**P**	**16 46 00.2 -1.3**
LSA				pmax	pmax	
	comp=Z,228nm,0.7s					
LSA				MLR	MLR	
	comp=Z,36μm,21.0s					
LSA	**Lhasa**	**42.47**	**311**	P	**P**	**16 46 02.2 +0.7**
LSA				S	**S**	**16 52 21.1 -1.7**
LSA				pmax	pmax	
	comp=Z,890nm,0.9s					
LSA				pmax	pmax	
	comp=Z,22μm,14.2s					
LSA				LR	LR	
	comp=Z,98μm,22.1s					
LSA				LR	LR	
	comp=Z,68μm,17.8s					
LSA				LR	LR	
	comp=Z,69μm,17.8s					
LSA	**Lhasa**	**42.47**	**311**	P	**P**	**16 46 00.2 -1.3**
LSA				IAmb	IAmb	16 46 07.8
	comp=Z,228nm,0.7s					
LSA	**Lhasa**	**42.47**	**311**	P	**P**	**16 46 01.3 -0.2**
ASAJ	**Asahikawa**	**42.49**	**17**	P	**P**	**16 46 01.1 +0.3**
	comp=Z,32nm,0.6s,baz=218,slow=6.6,SNR=20					
ASAJ				S	**S**	**16 52 20.4 -1.3**
	comp=Z,18nm,1.2s,baz=180,slow=17,SNR=1.3					
ASAJ				LR	LR	17 03 33.2
	comp=Z,105μm,20.8s,baz=218,slow=36					
JKA	**Kamikawa-asahi**	**42.49**	**17**	P	**P**	**16 45 59.9 -0.9**
ARPS	**Mount Arapiles**	**42.72**	**162**	P	**P**	**16 46 03.6 +0.9**
	baz=43,SNR=53					
ARPS	**Mount Arapiles**	**42.72**	**162**	P	**P**	**16 46 03.6 +0.9**
GTA	**Gaotai**	**43.09**	**329**	⇑P	**P**	**16 46 05.8 -0.1**
GTA				pP	pP	16 46 11.8 -0.9
GTA				sP	sP	16 46 15.5 +0.1
GTA				PP	**PP**	**16 47 49.7 +3.5**
GTA				PcS	**PcS**	**16 51 49.1 +0.9**
GTA				S	**S**	**16 52 27.1 -3.9**
GTA				sS	sS	16 52 46.5 +4.3
GTA				ScS	**ScS**	**16 56 05.9 +0.3**
GTA				pmax	pmax	
	comp=Z,24nm,0.9s					
GTA				pmax	pmax	
	comp=Z,6μm,8.0s					
GTA				LR	LR	
	comp=Z,56μm,19.3s					
GTA				LR	LR	
	comp=Z,85μm,19.3s					
GTA				LR	LR	
	comp=Z,150μm,19.6s					
MGCD	**Mangrove Creek**	**43.39**	**150**	P	**P**	**16 46 08.9 +0.7**
	baz=44,SNR=7.3					
MGCD	**Mangrove Creek**	**43.39**	**150**	P	**P**	**16 46 09.0 +0.8**
YUK	**Yuzh-Kuril'sk**	**43.45**	**20**	*c i*P	**P**	**16 46 07.8 -0.7**
YUK				*e*		16 47 49.2
YUK				*e*		16 47 55.4
YUK				*e*PPP	PPP	16 48 22.0
YUK				*i* S	**S**	**16 52 35.5 -0.2**
YUK				pmax	pmax	
	comp=Z,1μm,1.4s					
YUK				pmax	pmax	
	comp=Z,741nm,1.5s					
YUK				pmax	pmax	
	comp=N,314nm,1.4s					
YUK				pmax	pmax	
	comp=E,364nm,1.0s					
YUK				MLR	MLR	
	comp=Z,39μm,18.0s					
YUK				MLR	MLR	
	comp=E,18μm,19.0s					
YUK				MLR	MLR	
	comp=N,30μm,20.0s					

SYDH	**Sydney Hard Ro**	**43.65 151**	P	**P**	**16 46 12.1**	**+1.8**
GOMU	**GeErMu**	**43.70 322**	P	**P**	**16 46 11.7**	**+0.5**
GOMU			pP	sP	16 46 19.4	-1.2
GOMU			sP	pP	16 46 20.3	+2.4
GOMU			PP	**PP**	**16 47 50.6**	**-2.4**
GOMU			pmax	pmax		
	comp=N,74nm,1.6s					
GOMU			LR	LR		
	comp=N,33μm,18.1s					
GOMU			LR	LR		
	comp=N,64μm,19.6s					
GOMU			LR	LR		
	comp=N,64μm,19.3s					
RIV	**Riverview**	**43.91 150**	P	**P**	**16 46 13.9**	**+1.5**
	baz=44,SNR=3.7					
KOUNC	**Koumac, New Ca**	**43.99 125**	P	**P**	**16 46 15.6**	**+2.3**
BRAT	**Ballarat**	**44.10 160**	P	**P**	**16 46 14.8**	**+0.9**
CAN	**Canberra**	**44.13 154**	P	**P**	**16 46 14.1**	**-0.1**
CAN			pmax	pmax		
	comp=Z,282nm,1.1s					
CAN			MLR	MLR		
	comp=Z,109μm,18.0s					
CAN	**Canberra**	**44.13 154**	P	**P**	**16 46 14.1**	**-0.1**
CAN			IAmb	IAmb	16 46 29.4	
	comp=Z,282nm,1.1s					
CAN	**Canberra**	**44.13 154**	P	**P**	**16 46 15.3**	**+1.1**
BOK	**Bokaro**	**44.22 301** ⇑	*i*P	**P**	**16 46 14.9**	**-0.2**
BOK			IAmb	IAmb	16 46 29.4	
	comp=Z,172nm,1.3s					
BOK			IAMs_20	IAMs_20	17 10 49.9	
	comp=Z,33μm,14.3s					
CNB	**Canberra Magne**	**44.28 153**	P	**P**	**16 46 16.7**	**+1.2**
	baz=44,SNR=13					
CNB	**Canberra Magne**	**44.28 153**	P	**P**	**16 46 17.8**	**+2.3**
SANVU	**Saraoutou**	**44.30 117**	P	**P**	**16 46 13.8**	**-2.0**
SANVU			IAMs_20	IAMs_20	17 03 10.1	
	comp=Z,82μm,22.0s					
SANVU	**Saraoutou**	**44.30 117**	P	**P**	**16 46 17.5**	**+1.7**
CHLP	**Challavanipeta**	**44.30 293**	*e*P	**P**	**16 46 15.5**	**-0.3**
CHLP			*e*PP	**PcP**	**16 48 02.4**	**+2.4**
TOO	**Toolangi**	**44.67 159**	P	**P**	**16 46 19.5**	**+1.1**
	baz=45,SNR=66					
TOO	**Toolangi**	**44.67 159**	P	**P**	**16 46 18.3**	**-0.1**
TOO			pmax	pmax		
	comp=Z,452nm,1.5s					
TOO	**Toolangi**	**44.67 159**	P	**P**	**16 46 18.3**	**-0.1**
TOO			IAmb	IAmb	16 46 41.0	
	comp=Z,452nm,1.5s					
TOO	**Toolangi**	**44.67 159**	P	**P**	**16 46 19.3**	**+0.8**
MLBS	**Spotswood, Mel**	**44.69 160**	P	**P**	**16 46 19.8**	**+1.3**
VIS	**Vishakhapatnam**	**44.79 291** ⇑	*i*P	**P**	**16 46 19.5**	**-0.2**
GEXS	**Deakin Univers**	**44.81 160**	P	**P**	**16 46 20.1**	**+0.6**
YSS	**Yuzh-Sakhalins**	**45.14 15**	*ce*P	**P**	**16 46 22.0**	**-0.1**
YSS			*e*		16 48 08.0	
YSS			*e*S	**S**	**16 52 59.4**	**-0.9**
YSS			*e*SS	**ScS**	**16 56 19.5**	**+1.7**
YSS			pmax	pmax		
	comp=Z,4μm,8.2s					
YSS			pmax	pmax		
	comp=N,1μm,9.1s					
YSS			pmax	pmax		
	comp=Z,140nm,0.7s					
YSS			pmax	pmax		
	comp=N,39μm,20.0s					
YSS			pmax	pmax		
	comp=Z,53μm,20.0s					
YSS	**Yuzh-Sakhalins**	**45.14 15**	P	**P**	**16 46 21.2**	**-0.8**
YSS			IAmb	IAmb	16 46 50.3	
	comp=Z,231nm,1.1s					
YSS			IAMs_20	IAMs_20	17 05 29.9	
	comp=Z,71μm,21.0s					
YSS	**Yuzh-Sakhalins**	**45.14 15**	P	**P**	**16 46 23.4**	**+1.3**
KUR	**Kuril'sk**	**45.19 21**	*c i*P	**P**	**16 46 22.5**	**0.0**
KUR			*e*PPP	PPP	16 48 53.8	
KUR			*i* S	**S**	**16 53 00.5**	**-0.6**
KUR			pmax	pmax		
	comp=Z,7μm,5.0s					
KUR			pmax	pmax		
	comp=Z,577nm,1.6s					
KUR			pmax	pmax		
	comp=E,172nm,1.1s					
KUR			MLR	MLR		
	comp=Z,49μm,21.0s					
KUR			MLR	MLR		
	comp=E,12μm,22.0s					
KUR			MLR	MLR		
	comp=N,64μm,20.0s					
KLR	**Kul'dur**	**45.46 5**	P	**P**	**16 46 24.5**	**0.0**
	comp=N,37nm,0.6s,baz=197,slow=4.9,SNR=76					
KLR			S	**S**	**16 53 03.2**	**-1.6**
	comp=N,6.4nm,1.1s,baz=162,slow=20,SNR=2.1					
KLR			LR	LR	17 04 58.4	
	comp=N,33μm,21.9s,baz=192,slow=36					
MILA	**Mila**	**45.66 155**	P	**P**	**16 46 27.3**	**+1.0**
	baz=46,SNR=5.3					
HIA	**Hailar**	**45.70 354**	P	**P**	**16 46 26.4**	**-0.1**
HIA			pmax	pmax		
	comp=Z,272nm,1.0s					
HIA			MLR	MLR		
	comp=Z,78μm,22.0s					
HIA	**Hailar**	**45.70 354**	P	**P**	**16 46 26.4**	**-0.1**
HIA			IAmb	IAmb	16 46 39.3	
	comp=Z,272nm,1.0s					
HIA	**Hailar**	**45.70 354**	IAMs_20	IAMs_20	17 07 02.0	
	comp=Z,78μm,22.0s					
GUN	**Gumba**	**45.77 306**	*e*P	**P**	**16 46 26.6**	**-1.2**
	comp=Z,1μm,0.9s					
PKI	**Pulchoki**	**46.02 305**	*e*P	**P**	**16 46 28.2**	**-1.5**
PKIN	**Phulchoki**	**46.03 305**	*e*P	**P**	**16 46 28.2**	**-1.6**
PALK	**Pallekele**	**46.04 276**	P	**P**	**16 46 29.7**	**0.0**
	comp=Z,49nm,0.7s,baz=186,slow=5.3,SNR=11					
PALK			S	**S**	**16 53 10.6**	**-3.7**
	comp=Z,7.3nm,0.9s,baz=94,slow=18,SNR=1.4					
PALK			LR	LR	17 07 54.6	
	comp=Z,31μm,20.5s,baz=207,slow=39					
PALK	**Pallekele**	**46.04 276**	P	**P**	**16 46 29.8**	**+0.1**
PALK			P	**P**	**16 46 29.8**	**+0.1**
PALK	**Pallekele**	**46.04 276**	P	**P**	**16 46 29.0**	**-0.7**
KKN	**Kakani**	**46.21 305**	*e*P	**P**	**16 46 29.7**	**-1.4**
	comp=Z,191nm,0.9s					
DMN	**Daman**	**46.28 305**	*e*P	**P**	**16 46 30.3**	**-1.4**
	comp=Z,658nm,1.1s					
PVM	**Polavaram**	**46.28 290**	*e*P	**P**	**16 46 31.1**	**-0.5**
PVM			*e*PP	**PP**	**16 48 19.8**	**-0.7**
NOUC	**Port Laguerre**	**46.39 125**	P	**P**	**16 46 33.6**	**+1.3**
DZM	**Mont Dzumac**	**46.49 125**	P	**P**	**16 46 33.8**	**+0.6**
	comp=Z,76nm,0.6s,baz=234,slow=9.4,SNR=70					
DZM			S	**S**	**16 53 23.8**	**+3.2**
	comp=Z,5.3nm,1.2s,baz=307,slow=20,SNR=0.8					
DZM			LR	LR	17 06 08.1	
	comp=Z,29μm,20.8s,baz=324,slow=36					
DZM	**Mont Dzumac**	**46.49 125**	*e*P	**P**	**16 46 34.0**	**+0.8**
	comp=Z,178nm,0.8s					
DZM			*e*S	**S**	**16 53 20.7**	**+0.1**
	comp=Z,102μm,26.8s					
DZM			*e*LR	LR	16 59 40.0	
	comp=Z,80μm,24.6s					
DZM	**Mont Dzumac**	**46.49 125**	P	**P**	**16 46 33.0**	**-0.2**
DZM			IAmb	IAmb	16 46 36.8	
	comp=Z,92nm,0.7s					
DZM	**Mont Dzumac**	**46.49 125**	P	**P**	**16 46 34.4**	**+1.2**
LIFNC	**LIFOU**	**46.54 123**	P	**P**	**16 46 33.4**	**-0.1**
LIFNC			IAMs_20	IAMs_20	17 04 30.8	
	comp=Z,74μm,22.0s					
LIFNC	**LIFOU**	**46.54 123**	P	**P**	**16 46 35.1**	**+1.6**
ONTNC	**Ouen Toro**	**46.61 126**	P	**P**	**16 46 33.6**	**-0.4**
ONTNC	**Ouen Toro**	**46.61 126**	P	**P**	**16 46 36.6**	**+2.6**
	comp=Z,96nm,2.3s					
LHI	**Lord Howe Isla**	**46.63 141**	P	**P**	**16 46 34.6**	**+0.5**
	baz=47,SNR=3.3					
LHI	**Lord Howe Isla**	**46.63 141**	P	**P**	**16 46 34.3**	**+0.2**
GKN	**Gorkha**	**46.82 305**	*e*P	**P**	**16 46 35.1**	**-0.7**
	comp=Z,156nm,0.8s					
MDRS	**Chennai**	**46.93 284**	*e*P	**P**	**16 46 37.0**	**+0.4**
UGL	**Uglegorsk**	**46.94 14**	*e*P	**P**	**16 46 36.6**	**+0.4**
UGL			*e*S	**S**	**16 53 26.1**	**0.0**
UGL			*e*SS	**ScS**	**16 56 25.8**	**-3.6**
UGL			pmax	pmax		
	comp=Z,220nm,0.9s					
UGL			pmax	pmax		
	comp=Z,7μm,6.8s					
UGL			smax	smax		
	comp=E,20μm,9.3s					
UGL			smax	smax		
	comp=N,14μm,10.0s					
UGL			MLR	MLR		
	comp=E,28μm,20.0s					
OUENC	**Ouen Island, N**	**46.98 126**	P	**P**	**16 46 36.8**	**-0.1**
OUENC	**Ouen Island, N**	**46.98 126**	P	**P**	**16 46 39.1**	**+2.2**
ULN	**Ulaanbaatar**	**47.09 342**	*ce*P	**P**	**16 46 38.0**	**+0.4**
ULN			pmax	pmax		
	comp=Z,440nm,1.7s					
ULN	**Ulaanbaatar**	**47.09 342**	P	**P**	**16 46 38.7**	**+1.2**
ULN			P	**P**	**16 46 38.7**	**+1.2**
ULN			P	**P**	**16 46 38.7**	**+1.2**
ULN	**Ulaanbaatar**	**47.09 342**	P	**P**	**16 46 37.8**	**+0.2**
ULN			IAmb	IAmb	16 46 45.1	
	comp=Z,310nm,1.1s					
MYLAV	**Mylavaram**	**47.12 289**	*e*P	**P**	**16 46 37.9**	**-0.2**
SONM	**Songino Array**	**47.27 341**	P	**P**	**16 46 39.3**	**+0.3**
	comp=Z,63nm,0.7s,baz=154,slow=8.3,SNR=134					
SONM			PcP	**PcP**	**16 48 11.2**	**+1.2**
	comp=Z,75nm,0.7s,baz=158,slow=3.8,SNR=7.5					
SONM			LR	LR	17 09 13.5	
	comp=Z,59μm,21.8s,baz=152,slow=40					
SONM	**Songino Array**	**47.27 341**	P	**P**	**16 46 38.8**	**-0.2**
SONM			IAmb	IAmb	16 46 48.6	
	comp=Z,160nm,1.0s					
GRNR	**Gornyy**	**47.49 8** ⇑	*i*P	**P**	**16 46 41.0**	**+0.5**
GRNR			pmax	pmax		
	comp=N,8.0nm,0.7s					
GRNR			pmax	pmax		
	comp=Z,20nm,0.6s					
GRNR			MLR	MLR		
	comp=E,42μm,19.0s					
GRNR			MLR	MLR		
	comp=N,16μm,17.0s					
GRNR			MLR	MLR		
	comp=Z,50μm,20.0s					
MARNC	**Mare, Loyalty**	**47.52 124**	P	**P**	**16 46 40.5**	**-0.6**
MARNC	**Mare, Loyalty**	**47.52 124**	P	**P**	**16 46 41.9**	**+0.8**
PINNC	**Pines Island,**	**47.56 125**	P	**P**	**16 46 41.2**	**-0.2**
PINNC			IAmb	IAmb	16 46 59.3	
	comp=Z,226nm,1.1s					
PINNC	**Pines Island,**	**47.56 125**	P	**P**	**16 46 43.9**	**+2.5**
KOLN	**Koldanda**	**47.57 305**	*e*P	**P**	**16 46 40.8**	**-1.0**
	comp=Z,940nm,0.9s					
ADKI	**Addanki**	**47.59 288** ⇑	*e*P	**P**	**16 46 37.2**	**-4.5**
ADKI			*e*P	**P**	**16 46 41.1**	**-0.7**
ADKI			*e*PcP	**PcP**	**16 48 13.3**	**+1.8**
ADKI			*e*PP	**PP**	**16 48 34.4**	**+0.9**
DANN	**Dangsing**	**47.66 305**	*e*P	**P**	**16 46 42.1**	**-0.5**
	comp=Z,455nm,0.6s					
PYUN	**Piuthan**	**48.20 305**	*e*P	**P**	**16 46 45.8**	**-0.8**
	comp=Z,594nm,0.9s					
NJS	**Nagarjunasagar**	**48.34 289**	*e*P	**P**	**16 46 47.1**	**-0.5**
NJS			*e*pP	**pP**	**16 46 51.2**	**-3.3**
NJS			*e*PP	**PP**	**16 48 39.4**	**-0.9**
RCLA	**Racherla**	**48.49 287**	*e*P	**P**	**16 46 47.9**	**-0.9**
RCLA			*e*PP	**PP**	**16 48 43.2**	**+1.5**
GLAD	**Gladstone**	**48.59 159**	P	**P**	**16 46 50.1**	**+1.0**
SRLM	**Srisailam**	**48.65 288**	*e*P	**P**	**16 46 49.2**	**-0.9**
SRLM			*e*PP	**PP**	**16 48 47.5**	**+4.3**
CORO	**Coronation Par**	**48.70 160**	P	**P**	**16 46 51.2**	**+1.3**
TYV	**Tymovskoe**	**48.75 13**	*e*P	**P**	**16 46 51.0**	**+0.8**
TYV			*e*S	**S**	**16 53 56.3**	**+4.6**
TYV			pmax	pmax		
	comp=Z,57nm,0.8s					
TYV			pmax	pmax		
	comp=Z,6μm,4.7s					
TYV			smax	smax		
	comp=N,15μm,9.9s					
TYV			smax	smax		
	comp=E,18μm,9.9s					
TYV			smax	smax		
	comp=N,20nm,2.3s					
TYV			smax	smax		
	comp=E,31nm,2.3s					
TYV			MLR	MLR		
	comp=Z,55μm,19.0s					
TYV			MLR	MLR		
	comp=N,37μm,19.0s					
RPR	**Rampur**	**48.78 292**	*e*P	**P**	**16 46 50.1**	**-0.9**
RPR			*e*PP	**PP**	**16 48 46.1**	**+1.8**
CUPL	**Choutuppal**	**48.83 290**	*e*P	**P**	**16 46 50.1**	**-1.3**
CUPL			*e*PP	**PP**	**16 48 43.8**	**-1.0**
JBP	**Jabalpur**	**49.18 297**	*e*P	**P**	**16 46 52.6**	**-1.4**
JBP			*e*S	**S**	**16 53 54.1**	**-4.4**
HYB	**Hyderabad**	**49.20 290** ⇑	*i*P	**P**	**16 46 53.5**	**-0.7**
HYBB	**Hyderabad (bro**	**49.20 290**	*e*P	**P**	**16 46 53.4**	**-0.8**
HYBB			*e*sP	**pP**	**16 46 59.1**	**-2.0**
HYBB			*e*S	**S**	**16 53 56.2**	**-2.9**
HYBB			*e*ScS	**ScS**	**16 56 46.8**	**+1.0**
HYBB			*e*SS	**SS**	**16 57 33.6**	**+2.9**
CIT	**Chita**	**49.32 349**	*e*P	**P**	**16 46 55.7**	**+1.1**
CIT			*e*		16 48 15.4	
CIT			*e*		16 48 51.4	
CIT			*e*S	**S**	**16 54 03.5**	**+3.7**
CIT			*e*		16 56 43.6	
CIT			pmax	pmax		
	comp=Z,2μm,2.9s					
MOO	**Moorlands**	**49.59 160**	P	**P**	**16 46 58.5**	**+1.8**
	baz=50,SNR=3.7					
MOO	**Moorlands**	**49.59 160**	P	**P**	**16 46 57.8**	**+1.0**
SRSP	**Sriramsagar**	**49.67 292**	*e*P	**P**	**16 46 56.8**	**-1.0**
SRSP			*e*PP	**PP**	**16 48 53.0**	**+0.5**
ZEA	**Zeya**	**49.78 0**	*ce*P	**P**	**16 46 57.6**	**-0.4**
ZEA			*e*		16 47 10.3	
ZEA			*e*S	**S**	**16 54 05.5**	**-0.6**
ZEA			pmax	pmax		
	comp=N,20nm,0.9s					
ZEA			pmax	pmax		
	comp=Z,50nm,0.9s					
ZEA			pmax	pmax		
	comp=E,100nm,3.6s					
ZEA			pmax	pmax		
	comp=Z,1μm,5.2s					
ZEA			pmax	pmax		
	comp=N,3μm,13.0s					
ZEA			pmax	pmax		
	comp=Z,3μm,12.8s					
ZEA			smax	smax		
	comp=E,7μm,17.5s					
ZEA			MLR	MLR		
	comp=E,13μm,17.0s					
ZEA			MLR	MLR		
	comp=N,24μm,18.0s					
ZEA			MLR	MLR		
	comp=Z,32μm,18.0s					
TRD	**Trivandrum**	**49.78 278**	*e*P	**P**	**16 46 56.7**	**-2.0**
TRD			IAmb	IAmb	16 47 01.7	
	comp=Z,297nm,1.2s					
TRD			IAMs_20	IAMs_20	17 10 46.4	
	comp=Z,34μm,17.9s					
URV	**Uravakonda**	**50.04 286**	*e*P	**P**	**16 46 59.3**	**-1.4**
URV			*e*PP	**PP**	**16 48 55.5**	**-0.5**
TAU	**Tasmania Unive**	**50.05 160**	P	**P**	**16 46 58.9**	**-1.3**
TAU			pmax	pmax		
	comp=Z,65nm,1.0s					
TAU	**Tasmania Unive**	**50.05 160**	P	**P**	**16 46 58.9**	**-1.3**
TAU	**Tasmania Unive**	**50.05 160**	P	**P**	**16 47 02.0**	**+1.8**
ZAK	**Zakamensk**	**50.49 341**	*e*P	**P**	**16 47 03.0**	**-0.7**
ZAK			pmax	pmax		
	comp=Z,153nm,1.2s					
NKL	**Nikolayevsk**	**50.50 11**	*e*P	**P**	**16 47 02.8**	**-0.6**
NKL			*e*S	**S**	**16 54 15.6**	**-0.4**
NKL			pmax	pmax		
	comp=N,8.0nm,0.9s					
NKL			pmax	pmax		
	comp=E,8.0nm,0.9s					
NKL			pmax	pmax		
	comp=Z,284nm,1.3s					
NKL			smax	smax		
	comp=E,3.0nm,2.6s					
NKL			smax	smax		
	comp=N,6.0nm,7.6s					
KLRI	**Killari**	**51.14 290**	*e*P	**P**	**16 47 07.8**	**-1.2**
BHPL	**Bhopal**	**51.47 297** ⇑	*i*P	**P**	**16 47 10.6**	**-0.8**
BHPL			IAmb	IAmb	16 47 15.8	
	comp=Z,153nm,0.9s					
IRK	**Irkutsk**	**51.79 343** ⇑	*i*P	**P**	**16 47 13.9**	**+0.6**
IRK			*e*S	**S**	**16 54 34.2**	**+0.1**
IRK			pmax	pmax		
	comp=Z,1μm,0.3s					
MOY	**Mondy**	**52.35 340**	*e*P	**P**	**16 47 18.4**	**+0.8**
MOY			pmax	pmax		
	comp=Z,961nm,2.6s					
WMQ	**Urumqi**	**52.73 325**	P	**P**	**16 47 20.6**	**+0.1**
WMQ			pP	pP	16 47 26.9	-0.5
WMQ			PcS	**PcS**	**16 52 24.2**	**-4.3**
WMQ			S	**S**	**16 54 41.4**	**-6.0**
WMQ			ScS	**ScS**	**16 57 09.7**	**+0.5**
WMQ			pmax	pmax		
	comp=Z,300nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,5μm,4.9s					
WMQ			LR	LR		
	comp=Z,84μm,21.5s					
WMQ			LR	LR		
	comp=Z,72μm,21.3s					
WMQ			LR	LR		
	comp=Z,79μm,21.7s					
SKR	**Severo-Kuril's**	**52.81 23**	*e*P	**P**	**16 47 20.8**	**+0.1**
SKR			*e*		16 49 24.1	
SKR			*e*PPP	PPP	16 50 30.1	
SKR			*e*S	**S**	**16 54 49.0**	**+1.1**
SKR			*e*		16 57 11.0	
SKR			pmax	pmax		
	comp=Z,2μm,5.1s					
SKR			pmax	pmax		
	comp=Z,3μm,7.7s					
SKR			pmax	pmax		
	comp=Z,125nm,0.9s					
SKR			MLR	MLR		
	comp=Z,16μm,17.0s					
SKR			MLR	MLR		
	comp=Z,13μm,17.0s					
NDI	**New Delhi**	**53.17 303**	*e*P	**P**	**16 47 22.5**	**-1.4**
NDI			*e*S	**S**	**16 54 50.0**	**-3.8**
KAD	**Karad**	**53.30 289**	*i* P	**P**	**16 47 24.5**	**-0.5**
GOA	**Goa**	**53.40 286** ⇑	*i*P	**P**	**16 47 24.5**	**-1.3**
GOA			IAmb	IAmb	16 47 29.1	
GOA			IAMs_20	IAMs_20	17 12 48.2	
	comp=Z,23μm,17.9s					
FUNA	**Funafuti**	**53.62 103**	IAMs_20	IAMs_20	17 08 00.8	
	comp=Z,54μm,20.0s					
MNCY	**Minicoy**	**53.66 277**	IAMs_20	IAMs_20	17 12 53.5	
	comp=Z,17μm,14.3s					
POO	**Poona**	**53.80 290** ⇑	*i*P	P	16 47 23.0	-5.7
	comp=Z,520nm,0.5s					
POO			*i* S	**S**	**16 54 55.0**	**-7.6**
KAAM	**Kaadhehdhoo**	**53.90 268**	P	**P**	**16 47 27.6**	**-1.8**
KAAM			IAmb	IAmb	16 47 29.6	
	comp=Z,194nm,1.0s					
SMLA	**Simla**	**54.01 306** ⇑	*i*P	**P**	**16 47 29.4**	**-0.6**
SMLA			IAmb	IAmb	16 47 33.9	
	comp=Z,717nm,1.0s					
BOD	**Bodaibo**	**54.81 352** ⇓	*i*P	**P**	**16 47 35.9**	**+0.6**
BOD			pmax	pmax		
	comp=Z,263nm,1.6s					
MSVF	**Nonsavu**	**54.84 115**	P	**P**	**16 47 38.2**	**+1.9**
	comp=Z,62nm,0.7s,baz=279,slow=5.0,SNR=31					
MSVF			S	**S**	**16 55 20.2**	**+3.4**
	comp=Z,5.7nm,0.9s,baz=300,slow=20,SNR=2.5					
MSVF			LR	LR	17 09 12.8	
	comp=Z,40μm,22.0s,baz=285,slow=34					
MSVF	**Nonsavu**	**54.84 115**	*d i*P	**P**	**16 47 36.1**	**-0.2**
MSVF			pmax	pmax		
	comp=Z,146nm,1.0s					
MSVF	**Nonsavu**	**54.84 115**	IAMs_20	IAMs_20	17 11 46.5	
	comp=Z,42μm,19.0s					
MSVF	**Nonsavu**	**54.84 115**	P	**P**	**16 47 38.7**	**+2.4**
DHRM	**DHARAMSHALA**	**55.09 307**	*e*P	**P**	**16 47 37.4**	**-0.8**
DHRM			IAmb	IAmb	16 47 44.5	
	comp=Z,1μm,0.8s					
PEA0B	**Petropavlovsk-**	**55.32 22**	*ce*P	**P**	**16 47 38.9**	**-0.2**
PEA0B	**Petropavlovsk-**	**55.32 22**	P	**P**	**16 47 37.9**	**-1.2**
PEA0B			IAmb	IAmb	16 48 00.4	
	comp=Z,202nm,0.9s					
PETK	**Petropavlovsk-**	**55.32 22**	P	**P**	**16 47 39.4**	**+0.2**
	comp=Z,55nm,0.8s,baz=208,slow=12,SNR=60					
PETK			LR	LR	17 10 23.4	
	comp=Z,20μm,21.2s,baz=217,slow=35					
PETK	**Petropavlovsk-**	**55.32 22**	P	**P**	**16 47 37.5**	**-1.6**
DGAR	**Diego Garcia**	**55.40 258**	*ce*P	**P**	**16 47 40.4**	**0.0**
DGAR			pmax	pmax		
	comp=Z,223nm,1.0s					
DGAR	**Diego Garcia**	**55.40 258**	P	**P**	**16 47 40.2**	**-0.1**
DGAR			P	**P**	**16 47 40.2**	**-0.1**
DGAR	**Diego Garcia**	**55.40 258**	P	**P**	**16 47 38.8**	**-1.6**
DGAR			IAmb	IAmb	16 47 43.2	
	comp=Z,172nm,0.8s					
PET	**Petropavlovsk**	**55.62 23**	*ce*P	**P**	**16 47 40.9**	**-0.3**
PET			pmax	pmax		
	comp=Z,256nm,2.5s					
PET	**Petropavlovsk**	**55.62 23**	P	**P**	**16 47 39.8**	**-1.4**
PET			IAmb	IAmb	16 48 01.8	
	comp=Z,308nm,1.4s					
PET	**Petropavlovsk**	**55.62 23**	P	**P**	**16 47 41.7**	**+0.5**
DGTI	**Dogotuki**	**55.97 112**	P	**P**	**16 47 46.4**	**+2.0**
ZSN	**Zaisan**	**56.51 327**	*c i*P	**P**	**16 47 47.5**	**-0.2**
ZSN			*e*S	**S**	**16 55 39.4**	**+1.4**
ZSN			pmax	pmax		
	comp=Z,231nm,2.8s					
ZSN	**Zaisan**	**56.51 327** ⇑	*i*P	**P**	**16 47 47.5**	**-0.2**
	comp=Z,231nm,2.8s,baz=327					
ZSN			*e*S	**S**	**16 55 39.4**	**+1.4**
	baz=327					
DGZ	**Jazzator, Alta**	**56.59 330**	*c i*P	**P**	**16 47 48.2**	**-0.2**
DGZ			pmax	pmax		
	comp=Z,35nm,0.9s					
MK31	**Makanchi Array**	**57.56 325**	*e*P	**P**	**16 47 55.0**	**-0.2**
MK31	**Makanchi Array**	**57.56 325**	P	**P**	**16 47 54.6**	**-0.6**
MKAR	**Makanchi Array**	**57.56 325**	P	**P**	**16 47 55.1**	**-0.1**
	comp=Z,137nm,0.7s,baz=125,slow=7.5,SNR=362					
MKAR			ScP	**ScP**	**16 52 53.9**	**+6.5**
	comp=Z,11nm,0.7s,baz=117,slow=5.3,SNR=4.1					
MKAR			S	**S**	**16 55 53.4**	**+1.5**
	comp=Z,7.8nm,1.1s,baz=114,slow=15,SNR=3.6					
MKAR			LR	LR	17 13 41.3	
	comp=Z,74μm,20.9s,baz=92,slow=37					
MKAR	**Makanchi Array**	**57.56 325**	P	**P**	**16 47 54.9**	**-0.3**
UZB	**Uzynbulak**	**57.64 320**	*c i*P	**P**	**16 47 55.6**	**-0.4**
UZB			*e*S	**S**	**16 55 54.4**	**+1.1**
UZB			pmax	pmax		
	comp=Z,418nm,2.6s					
UZB	**Uzynbulak**	**57.64 320** ⇑	*i*P	**P**	**16 47 55.7**	**-0.4**
	comp=Z,418nm,2.6s,baz=320					
UZB			*e*S	**S**	**16 55 54.4**	**+1.1**
	baz=320					
PRZ	**Przheval'sk**	**57.73 319**	P	**P**	**16 47 56.4**	**-0.3**
PRZ			pmax	pmax		
	comp=Z,366nm,1.0s					
PRZ	**Przheval'sk**	**57.73 319**	P	**P**	**16 47 56.4**	**-0.3**
PRZ			IAmb	IAmb	16 48 02.0	
	comp=Z,366nm,1.0s					
MAKZ	**Makanchi**	**57.75 325**	P	**P**	**16 47 56.4**	**-0.2**
MAKZ			pmax	pmax		
	comp=Z,157nm,0.9s					
MAKZ			MLR	MLR		
	comp=Z,83μm,21.0s					
MAKZ	**Makanchi**	**57.75 325**	P	**P**	**16 47 56.4**	**-0.2**
MAKZ			IAmb	IAmb	16 48 12.8	
	comp=Z,157nm,0.8s					
NIL	**Nilore**	**57.97 308**	P	**P**	**16 47 57.6**	**-0.8**
NIL			pmax	pmax		
	comp=Z,598nm,1.2s					
NIL			MLR	MLR		
	comp=Z,13μm,21.0s					
NIL	**Nilore**	**57.97 308**	P	**P**	**16 47 58.5**	**+0.1**
NIL	**Nilore**	**57.97 308**	P	**P**	**16 47 57.6**	**-0.8**
SATY	**Saty**	**57.99 320**	*c i*P	**P**	**16 47 58.5**	**0.0**
SATY			*e*S	**S**	**16 55 59.2**	**+1.3**
SATY			pmax	pmax		
	comp=Z,521nm,2.5s					
SATY	**Saty**	**57.99 320** ⇑	*i*P	**P**	**16 47 58.5**	**0.0**
	comp=Z,521nm,2.5s,baz=320					
SATY			*e*S	**S**	**16 55 59.3**	**+1.3**
	baz=320					
ZHN	**Zhinishke**	**58.02 320**	*e*P	**P**	**16 47 58.3**	**-0.4**
ZHN			*e*S	**S**	**16 55 59.6**	**+1.3**
ZHN	**Zhinishke**	**58.02 320**	*e*P	**P**	**16 47 58.4**	**-0.4**
	baz=320					
ZHN			*e*S	**S**	**16 55 59.6**	**+1.3**

comp=Z,8μm,14.6s
KSH LR LR
comp=Z,37μm,20.3s
KSH LR LR
comp=Z,82μm,21.3s
KSH LR LR
comp=Z,75μm,20.1s
YAK Yakutsk 58.13 2 P **P 16 47 59.2 +0.3**
comp=Z,342nm,0.8s,baz=160,slow=0.7,SNR=167
YAK S **S 16 55 58.3 -0.5**
comp=Z,2.5nm,0.3s,baz=222,slow=1.5,SNR=2.0
YAK LR LR 17 15 20.1
comp=Z,29μm,19.4s,baz=177,slow=38
YAK Yakutsk 58.13 2*c i*P **P 16 47 59.2 +0.3**
YAK *e**PP **sP 16 48 09.4 +1.1**
YAK *e* 16 48 45.8
YAK *e* 16 50 08.2
YAK *e*PPP PPP 16 51 26.6
YAK *e*S **S 16 55 57.7 -1.1**
YAK *e* 16 57 43.3
YAK *e*SS **SS 16 59 50.3 -0.2**
YAK pmax pmax
comp=Z,400nm,0.9s
YAK pmax pmax
comp=N,116nm,1.3s
YAK pmax pmax
comp=E,42nm,1.5s
YAK pmax pmax
comp=Z,1μm,4.4s
YAK pmax pmax
comp=N,1μm,4.5s
YAK pmax pmax
comp=E,196nm,3.3s
YAK smax smax
comp=N,5μm,7.7s
YAK smax smax
comp=E,9μm,8.3s
YAK Yakutsk 58.13 2 P **P 16 47 58.5 -0.4**
YAK IAMs_20 IAMs_20 17 15 29.5
comp=Z,37μm,20.0s
KDJ Kajisay 58.37 318 P **P 16 48 00.9 -0.3**
KDJ pmax pmax
comp=Z,219nm,0.9s
KDJ Kajisay 58.37 318 P **P 16 48 00.9 -0.3**
KDJ IAmb IAmb 16 48 05.8
comp=Z,219nm,0.9s
BHUJ Bhuj 58.45 295⇑*i*P **P 16 48 01.8 -0.1**
BHUJ IAmb IAmb 16 48 07.3
comp=Z,551nm,1.3s
BHUJ IAMs_20 IAMs_20 17 08 05.1
comp=Z,25μm,21.5s
OUZ Omahuta 58.54 136 P **P 16 48 02.2 -0.1**
MA2 Magadan 58.61 14*ce*P **P 16 48 02.2 -0.1**
MA2 pmax pmax
comp=Z,238nm,2.5s
MA2 MLR MLR
comp=Z,25μm,14.0s
MA2 Magadan 58.61 14 P **P 16 48 01.9 -0.4**
MA2 IAmb IAmb 16 48 21.9
comp=Z,144nm,1.0s
MA2 IAMs_20 IAMs_20 17 14 41.9
comp=Z,36μm,18.0s
MA2 Magadan 58.61 14 P **P 16 48 03.9 +1.6**
ARXS Arharly 58.91 321 *e*P **P 16 48 04.0 -0.8**
MDOK Medeo 58.92 319 *i* P **P 16 48 04.5 -0.5**
MDOK *e*S **S 16 56 11.0 +0.9**
MDOK MLR MLR
comp=Z,23μm,20.0s
MDOK Medeo 58.92 319 *i* P **P 16 48 04.6 -0.5**
baz=319
MDOK *e*S **S 16 56 11.0 +0.9**
baz=319
MDOK LR LR 17 14 29.1
comp=Z,23μm,20.1s,baz=319
TDK Taldyqorghan 58.93 322 *i* P **P 16 48 04.7 -0.1**
TDK *e*S **S 16 56 11.0 +1.1**
TDK pmax pmax
comp=Z,789nm,1.9s
TDK MLR MLR
comp=Z,50μm,19.0s
TDK Taldyqorghan 58.93 322 *i* P **P 16 48 04.7 -0.1**
comp=Z,789nm,1.9s,baz=322
TDK *e*S **S 16 56 11.0 +1.1**
baz=322
TDK LR LR 17 16 04.3
comp=Z,50μm,18.6s,baz=322
KNDC Almaty 59.00 319 P **P 16 48 06.0 +0.6**
ULHL Ulahol 59.04 318 P **P 16 48 06.1 +0.1**
SNR=32
CHKK Chushkaly 59.28 320 *e*P **P 16 48 06.7 -0.6**
baz=320
BOOM Boomskoye usch 59.35 318 P **P 16 48 08.0 0.0**
BOOM Boomskoye usch 59.35 318 P **P 16 48 08.0 0.0**
BOOM IAmb IAmb 16 48 32.6
comp=Z,172nm,1.2s
KST Kastek 59.58 319⇑*i*P **P 16 48 09.6 0.0**
KST *e*S **S 16 56 20.1 +1.6**
baz=319
KUU Kurty 59.71 320*c i*P **P 16 48 09.9 -0.4**
KUU *e*S **S 16 56 20.7 +0.7**
KUU Kurty 59.71 320⇑*i*P **P 16 48 09.9 -0.4**
baz=320
KUU *e*S **S 16 56 20.8 +0.7**
baz=320
TKM2 Tokmak 2 59.77 318 P **P 16 48 10.7 -0.3**
SNR=160
TKM2 Tokmak 2 59.77 318 P **P 16 48 10.6 -0.3**
KBK Karagaybulak 60.08 318 P **P 16 48 13.2 +0.1**
SNR=118
UCH Uchtor 60.20 317 P **P 16 48 14.6 +0.4**
SNR=255
CHMS Chumysh 60.36 318 P **P 16 48 14.4 -0.3**
SNR=67
FRU1 Bishkek 60.36 318 P **P 16 48 14.7 -0.1**
FRU1 pmax pmax
comp=Z,107nm,1.0s
FRU1 Bishkek 60.36 318 P **P 16 48 14.7 -0.1**
FRU1 IAmb IAmb 16 48 41.8
comp=Z,107nm,1.0s
AAK Ala-Archa 60.38 318 P **P 16 48 15.2 +0.2**
comp=Z,66nm,0.9s,baz=150,slow=7.0,SNR=83
AAK S **S 16 56 27.3 -1.6**
comp=Z,1.7nm,0.8s,baz=194,slow=8.3,SNR=1.3
AAK LR LR 17 16 23.9
comp=Z,58μm,21.5s,baz=98,slow=38
AAK Ala-Archa 60.38 318 P **P 16 48 17.7 +2.6**
SNR=84
AAK Ala-Archa 60.38 318*ce*P **P 16 48 14.1 -1.0**
AAK pmax pmax
comp=Z,868nm,2.5s
AAK Ala-Archa 60.38 318 P **P 16 48 17.6 +2.5**
AAK P **P 16 48 17.6 +2.5**
AAK Ala-Archa 60.38 318 P **P 16 48 14.9 -0.2**
AAK IAmb IAmb 16 48 39.4
comp=Z,242nm,1.4s
AAK Ala-Archa 60.38 318 IAMs_20 IAMs_20 17 16 10.6
comp=Z,51μm,20.0s
AAK Ala-Archa 60.38 318 *i* P **P 16 48 14.5 -0.6**
SNR=38
ZAA0 Zalesovo Array 60.57 333 P **P 16 48 15.1 -0.8**
ZAA0 IAmb IAmb 16 48 35.4
comp=Z,174nm,1.0s
ZALV Zalesovo Beam 60.57 333 P **P 16 48 15.2 -0.7**
comp=Z,101nm,0.8s,baz=122,slow=6.3,SNR=109
ZALV S **S 16 56 34.6 +4.0**
comp=Z,9.3nm,1.0s,baz=117,slow=12,SNR=5.2
ZALV LR LR 17 16 22.6
comp=Z,38μm,19.6s,baz=132,slow=38
ZALV Zalesovo Beam 60.57 333 P **P 16 48 14.9 -1.1**
SGDS Sogindy 60.63 319 *e*P **P 16 48 16.0 -0.7**
SGDS Sogindy 60.63 319⇑*i*P **P 16 48 16.0 -0.7**
comp=Z,263nm,2.9s,baz=319
SGDS *e*S **S 16 56 32.8 +0.8**
baz=319
USP Ospenovka 60.64 318 P **P 16 48 16.4 -0.3**
SNR=316
SEM Semipalatinsk 60.70 328*c i*P **P 16 48 16.2 -1.0**
SEM *e*S **S 16 56 33.1 +0.2**
SEM MLR MLR
comp=Z,7μm,16.0s
SEM Semipalatinsk 60.70 328⇑*i*P **P 16 48 16.2 -1.0**
baz=328
SEM *e*S **S 16 56 33.1 +0.2**
baz=328
SEM LR LR 17 17 36.5
comp=Z,7μm,15.6s,baz=328
AML Almayashu 60.71 317 P **P 16 48 17.9 +0.3**
SNR=305
AML Almayashu 60.71 317 P **P 16 48 19.2 +1.5**
AML Almayashu 60.71 317 *i* P **P 16 48 17.8 +0.2**
SNR=354
DCZ Deep Cove 60.75 149 P **P 16 48 17.1 -0.1**
DCZ IAmb IAmb 16 48 34.7
comp=Z,215nm,1.0s
DCZ IAMs_20 IAMs_20 17 17 19.2
comp=Z,37μm,20.0s
EKS2 Erkin-Say 60.87 318 P **P 16 48 18.4 0.0**
SNR=150
QRZ Quartz Range 60.92 142 P **P 16 48 18.4 -0.1**
QRZ IAmb IAmb 16 48 33.3
comp=Z,312nm,1.3s
FOZ Fox Glacier 60.94 145 P **P 16 48 18.5 0.0**
FOZ IAmb IAmb 16 48 32.0
comp=Z,147nm,1.0s
FOZ IAMs_20 IAMs_20 17 14 58.2
comp=Z,49μm,19.0s
PYZ Puysegur Point 60.98 149 IAMs_20 IAMs_20 17 15 58.4
comp=Z,38μm,20.0s
DSZ Denniston Nort 61.01 143 P **P 16 48 21.3 +2.1**
DRK Karamyk 61.04 314 P **P 16 48 18.4 -1.3**
DRK IAmb IAmb 16 48 24.1
comp=Z,266nm,0.9s
HIZ Hauiti 61.13 138 P **P 16 48 19.4 -0.6**
HIZ IAmb IAmb 16 48 44.6
comp=Z,364nm,1.3s
HIZ IAMs_20 IAMs_20 17 16 14.3
comp=Z,34μm,19.0s
MLZ Mavora Lakes 61.19 148 P **P 16 48 20.2 -0.1**
MLZ IAmb IAmb 16 48 33.6
comp=Z,196nm,1.3s
MLZ IAMs_20 IAMs_20 17 15 16.9
comp=Z,48μm,18.0s
WKZ Wanaka 61.32 147 P **P 16 48 21.5 +0.3**
WKZ IAmb IAmb 16 48 43.0
comp=Z,132nm,0.8s
INZ Inchbonnie 61.38 144 P **P 16 48 25.2 +3.6**
WHZ Wether Hill Ro 61.45 148 P **P 16 48 21.1 -0.9**
WHZ IAmb IAmb 16 48 46.9
comp=Z,119nm,0.9s
WHZ IAMs_20 IAMs_20 17 17 49.7
comp=Z,36μm,20.0s
KBL Kabul 61.57 307 P **P 16 48 22.3 -1.1**
KBL pmax pmax
comp=Z,189nm,0.9s
KBL Kabul 61.57 307 P **P 16 48 22.8 -0.6**
SNR=120
KBL Kabul 61.57 307 P **P 16 48 22.2 -1.1**
KBL IAmb IAmb 16 48 26.1
comp=Z,189nm,0.9s
NNZ Nelson 61.67 142 P **P 16 48 24.4 +0.9**
NNZ Nelson 61.67 142 P **P 16 48 23.1 -0.5**
NNZ IAmb IAmb 16 48 43.8
comp=Z,199nm,1.1s
LBZ Lake Benmore 61.68 146 P **P 16 48 23.3 -0.3**
LBZ IAMs_20 IAMs_20 17 14 21.9
comp=Z,45μm,20.0s
THZ Tophouse 61.69 142 P **P 16 48 24.8 +1.0**
THZ Tophouse 61.69 142 P **P 16 48 23.6 -0.2**
THZ IAmb IAmb 16 48 29.4
comp=Z,138nm,0.7s
BTLS Baital 61.69 320*c i*P **P 16 48 22.9 -0.8**
BTLS pmax pmax
comp=Z,97nm,1.1s
BTLS Baital 61.69 320⇑*i*P **P 16 48 23.0 -0.8**
comp=Z,97nm,1.1s,baz=320
KURBB Kurchatov Arra 61.74 327 P **P 16 48 23.7 -0.2**
comp=Z,182nm,0.9s,baz=127,slow=6.0,SNR=217
KURBB S **S 16 56 48.9 +3.3**
comp=Z,3.5nm,1.1s,baz=104,slow=20,SNR=4.0
KURBB LR LR 17 18 03.8
comp=Z,30μm,21.1s,baz=103,slow=39
KURBB Kurchatov Arra 61.74 327 P **P 16 48 22.9 -1.0**
KURK Kurchatov 61.74 327*ce*P **P 16 48 23.6 -0.3**
KURK pmax pmax
comp=Z,288nm,1.0s
KURK Kurchatov 61.74 327 P **P 16 48 24.4 +0.5**
KURK P **P 16 48 24.4 +0.5**
KURK Kurchatov 61.74 327 P **P 16 48 23.5 -0.3**
RPZ Rata Peaks 61.76 145 P **P 16 48 23.7 -0.5**
RPZ IAmb IAmb 16 48 37.9
comp=Z,206nm,0.9s
LTZ Lake Taylor 61.90 144 P **P 16 48 27.3 +2.1**
LTZ Lake Taylor 61.90 144 P **P 16 48 24.9 -0.3**
LTZ IAmb IAmb 16 48 41.0
comp=Z,181nm,1.0s
SEY Seymchan 61.94 13 P **P 16 48 26.1 +1.1**
comp=Z,40nm,0.8s,baz=232,slow=5.5,SNR=62
SEY S **S 16 56 52.3 +4.6**
comp=Z,1.4nm,0.8s,baz=147,slow=23,SNR=1.3
SEY LR LR 17 16 02.7
comp=Z,26μm,20.0s,baz=206,slow=37
BTK Batken 61.95 314 P **P 16 48 25.2 -0.5**
BTK pmax pmax
comp=Z,331nm,1.1s
BTK Batken 61.95 314 P **P 16 48 25.2 -0.5**
OXZ Oxford 62.09 144 P **P 16 48 28.8 +2.4**
OXZ Oxford 62.09 144 P **P 16 48 26.1 -0.3**
OXZ IAmb IAmb 16 48 37.5
comp=Z,86nm,0.8s
TUWZ Tuamarina 62.14 141 P **P 16 48 26.5 -0.3**
TUWZ Tuamarina 62.14 141 P **P 16 48 26.5 -0.3**
BSWZ Blackbirch Sta 62.26 142 P **P 16 48 29.7 +2.1**
BSWZ Blackbirch Sta 62.26 142 P **P 16 48 26.3 -1.3**
RAO Raoul Island 62.28 126 LR LR 17 12 45.9
comp=Z,36μm,21.8s,baz=305,slow=33
RAO Raoul Island 62.28 126 IAMs_20 IAMs_20 17 12 01.3
comp=Z,42μm,22.0s
SHEM Shemya Is, Ala 62.35 30 P P 16 48 36.4 +8.5
comp=Z,175nm,0.9s,baz=227,slow=3.5,SNR=4.4
SHEM S **S 16 56 54.9 +1.8**
comp=Z,52nm,0.9s,baz=282,slow=20,SNR=1.6
SHEM LR LR 17 09 54.5
comp=Z,27μm,21.9s,baz=232,slow=31
ODZ Otahua Downs 62.35 146 P **P 16 48 28.5 +0.4**
AMCZ Amberley 62.36 144 P **P 16 48 29.9 +1.7**
KHZ Kahutara 62.45 143 P **P 16 48 29.1 +0.3**
KHZ Kahutara 62.45 143 P **P 16 48 28.8 0.0**
KHZ IAmb IAmb 16 48 47.8
comp=Z,246nm,1.1s
GVZ Greta Valley S 62.47 143 P **P 16 48 30.8 +1.9**
URZ Urewera 62.52 137 P **P 16 48 29.8 +0.5**
comp=Z,102nm,0.8s,baz=18,slow=5.3,SNR=25
URZ S **S 16 56 55.2 -0.6**
comp=Z,4.3nm,0.7s,baz=0.0,slow=4.0,SNR=1.2
URZ LR LR 17 16 34.6
comp=Z,88μm,18.8s,baz=310,slow=37
URZ Urewera 62.52 137 P **P 16 48 29.2 -0.2**
URZ IAmb IAmb 16 48 52.8
comp=Z,283nm,1.3s
SNZO South Karori 62.55 141 P **P 16 48 28.8 -0.7**
SNZO South Karori 62.55 141 P **P 16 48 31.1 +1.6**
BKZ Black Stump Fm 62.56 138 P **P 16 48 28.5 -1.2**
BKZ Black Stump Fm 62.56 138 P **P 16 48 29.8 +0.1**
DZA Taraz 62.62 317 *e*P **P 16 48 29.4 -0.6**
DZA *i* S **S 16 56 58.1 +1.1**
DZA pmax pmax
comp=Z,95nm,0.8s
DZA Taraz 62.62 317 *e*P **P 16 48 29.5 -0.6**
comp=Z,95nm,0.8s,baz=317
DZA *i* S **S 16 56 58.2 +1.1**
baz=317
MQZ McQueen's Vall 62.68 144 P **P 16 48 30.1 -0.2**
MQZ IAmb IAmb 16 48 44.5
comp=Z,225nm,1.1s
MQZ IAMs_20 IAMs_20 17 16 20.2
comp=Z,50μm,20.0s
CHGR Chuyangaron 62.70 312 P **P 16 48 30.2 -0.5**
BHW Baring Head 62.71 141 P **P 16 48 30.1 -0.4**
MSWZ Moikau Station 62.95 141 P **P 16 48 31.9 -0.3**
MTW Mount Morrison 62.97 140 P **P 16 48 32.3 0.0**
MXZ Matakaoa Point 63.00 136 P **P 16 48 32.7 +0.1**
MXZ IAmb IAmb 16 48 57.0
comp=Z,314nm,1.4s
PLWZ Palliser 63.04 141 P **P 16 48 32.2 -0.6**
BFZ Birch Farm 63.19 140 P **P 16 48 32.5 -1.3**
BFZ IAmb IAmb 16 48 55.3
comp=Z,206nm,1.1s
BFZ Birch Farm 63.19 140 P **P 16 48 35.7 +1.9**
KKAR Karatay Array 63.25 317 P **P 16 48 33.9 -0.3**
KKAR Karatay Array 63.25 317 P **P 16 48 33.9 -0.3**
AFI Afiamalu 63.36 108 P **P 16 48 36.8 +1.3**
comp=Z,43nm,0.9s,baz=174,slow=19,SNR=2.6
AFI S **S 16 57 10.7 +3.4**
comp=Z,20nm,0.8s,baz=196,slow=24,SNR=1.4
AFI LR LR 17 10 52.3
comp=Z,39μm,21.6s,baz=280,slow=31
TAS Tashkent 63.47 315 P **P 16 48 35.6 -0.1**
TAS pmax pmax
comp=Z,371nm,0.8s
TAS Tashkent 63.47 315 P **P 16 48 35.6 -0.1**
JOHN Johnston Islan 63.67 73 IAMs_20 IAMs_20 17 14 41.2
comp=Z,29μm,19.0s
BRLS Borolday 63.69 317 *e*P **P 16 48 36.7 -0.4**
BRLS pmax pmax
comp=Z,144nm,2.2s
BRLS Borolday 63.69 317 *e*P **P 16 48 36.8 -0.4**
comp=Z,144nm,2.2s,baz=316
MCQ Macquarie Isla 63.93 160 P **P 16 48 39.7 +1.4**
BRZS Berezniki 64.69 325 *e*P **P 16 48 43.2 -0.3**
BRZS pmax pmax
comp=Z,378nm,2.5s
BRZS Berezniki 64.69 325 *e*P **P 16 48 43.2 -0.3**
comp=Z,378nm,2.5s,baz=325
HRA Herat 66.98 306 P **P 16 48 57.9 -1.0**
HRA IAmb IAmb 16 49 02.2
comp=Z,102nm,1.0s
GSTR Great Sitkin T 67.28 34 P **P 16 48 59.3 -0.9**
BVAR Borovoye Array 67.32 327 P **P 16 48 59.9 -0.4**
comp=Z,70nm,0.8s,baz=106,slow=6.4,SNR=109
BRVK Borovoye 67.39 327*ce*P **P 16 49 00.7 -0.1**
BRVK pmax pmax
comp=Z,193nm,1.0s
BRVK Borovoye 67.39 327 P **P 16 49 01.5 +0.7**
BRVK P **P 16 49 01.5 +0.7**
BRVK Borovoye 67.39 327 P **P 16 48 59.8 -1.0**
BRVK Borovoye 67.39 327 IAMs_20 IAMs_20 17 19 23.5
comp=Z,49μm,22.0s
JLN Jalan Bani Buh 67.68 292 P **P 16 49 05.0 +1.7**
SNR=6.5
JLN P **P 16 49 05.0 +1.7**
SNR=6.5
TIXI Tiksi 67.77 1 P **P 16 49 02.2 -0.7**
comp=Z,32nm,0.5s,baz=168,slow=4.8,SNR=111
TIXI LR LR 17 20 04.9
comp=Z,22μm,21.6s,baz=197,slow=37
TIXI Tiksi 67.77 1 P **P 16 49 01.9 -0.9**
TIXI IAmb IAmb 16 49 25.8
comp=Z,266nm,1.2s
TIXI IAMs_20 IAMs_20 17 24 19.8
comp=Z,37μm,20.0s
WBK Wadi Bani Khal 68.13 293 P **P 16 49 05.7 -0.4**
SNR=18
WBK P **P 16 49 05.7 -0.4**
SNR=18
ATKA Atka Island 68.38 35 P **P 16 49 09.0 +2.0**
WSAR Wadi Sarin 68.50 293 P **P 16 49 07.5 -0.9**
comp=Z,61nm,1.0s,baz=106,slow=9.9,SNR=23
WSAR LR LR 17 19 45.0
comp=Z,14μm,21.9s,baz=102,slow=37
JMDO Jabal Madar 68.91 292 P **P 16 49 11.0 0.0**
SNR=29
JMDO P **P 16 49 11.0 0.0**
SNR=29
BIDO Bidbid 68.98 294 P **P 16 49 12.0 +0.6**
SNR=22
SMDO Samad 69.02 293 P **P 16 49 13.0 +1.2**
SNR=12
SMDO P **P 16 49 13.0 +1.2**
SNR=12
BILL Bilibino 69.46 15*d i*P **P 16 49 13.1 -0.3**
BILL *e* 16 51 50.7
BILL *e*PPP PPP 16 53 28.5
BILL *i* S **S 16 58 16.6 -2.8**
BILL pmax pmax
comp=Z,165nm,2.5s
BILL MLR MLR
comp=Z,23μm,21.0s
BILL Bilibino 69.46 15 P **P 16 49 12.6 -0.9**
BILL IAmb IAmb 16 49 32.4
comp=Z,193nm,1.5s
HOQ Hoqain 69.73 294 P **P 16 49 18.2 +2.1**
SNR=11
HOQ P **P 16 49 18.2 +2.1**
SNR=11
BSY Bisya 69.77 293 P **P 16 49 18.1 +1.8**
SNR=13
NRIK Noril'sk 70.39 346 P **P 16 49 19.8 +0.6**
comp=Z,101nm,0.6s,baz=131,slow=5.9,SNR=242
NRIK S **S 16 58 30.9 +0.7**
comp=Z,8.4nm,1.0s,baz=194,slow=17,SNR=7.3
NRIK LR LR 17 23 43.0
comp=Z,44μm,20.0s,baz=148,slow=39
NRIK Noril'sk 70.39 346*ce*P **P 16 49 19.6 +0.5**
NRIK pmax pmax
comp=Z,662nm,2.5s
NRIK MLR MLR
comp=Z,39μm,20.0s
NRIK Noril'sk 70.39 346 P **P 16 49 17.6 -1.6**
ARQ Araqi 70.44 293 P **P 16 49 22.0 +1.6**
SNR=12
SOHO SOHO 70.49 294 P **P 16 49 20.2 -0.5**
SOHO SOHO 70.49 294 *i* P **P 16 49 18.4 -2.2**
SNR=15
BANOM Banah 70.85 296 P **P 16 49 25.0 +2.1**
SNR=7.3
BANOM Banah 70.85 296 *i* P **P 16 49 21.6 -1.3**
SNR=12
UOSS Minazif 70.86 295 P **P 16 49 22.1 -0.8**
UOSS Minazif 70.86 295 P **P 16 49 20.8 -2.1**
UOSS Minazif 70.86 295 *i* P **P 16 49 20.5 -2.4**
SNR=7.9
CASY Casey 70.90 187 P **P 16 49 22.0 -0.2**
CASY IAmb IAmb 16 49 38.1
comp=Z,147nm,1.1s
HATD Hatta, Dubai 70.91 295 P **P 16 49 24.0 +0.8**
SNR=12
HATD Hatta, Dubai 70.91 295 *i* P **P 16 49 21.9 -1.3**
SNR=18
MSFE Esma-Masafi 70.93 295 *i* P **P 16 49 21.9 -1.5**
SNR=13
MASF Masafi 70.93 295 P **P 16 49 25.8 +2.4**
SNR=11
GEYT Alibeck 70.94 309 P **P 16 49 23.6 +0.5**
comp=Z,19nm,0.7s,baz=87,slow=12,SNR=15
GEYT S **S 16 58 39.3 +1.5**
comp=Z,1.9nm,0.5s,baz=45,slow=49,SNR=1.3
GEYT Alibeck 70.94 309 P **P 16 49 20.6 -2.5**
GYA0B ALIBECK ARRAY 70.94 309 P **P 16 49 20.7 -2.5**
SHAO Shalim 70.97 288 *i* P **P 16 49 22.5 -1.2**
SNR=18
SHME Shamm 71.01 296 P **P 16 49 27.3 +3.5**
SNR=7.3
SHME Shamm 71.01 296 *i* P **P 16 49 22.9 -0.9**
SNR=13
CLES Cleveland East 71.05 35 P **P 16 49 21.7 -1.7**
ALNE Al Ain 71.20 294 P **P 16 49 24.8 -0.2**
SNR=25
ALNE Al Ain 71.20 294 *i* P **P 16 49 23.8 -1.2**
SNR=31
NAZ Nazwa, Dubai 71.35 295 P **P 16 49 28.0 +2.1**
SNR=7.7
UMQ Umm Al-Quwin 71.39 296 P **P 16 49 26.8 +0.7**
FAQ Al Faqa, Dubai 71.39 295 P **P 16 49 28.0 +1.9**
SNR=7.6
FAQ Al Faqa, Dubai 71.39 295 *i* P **P 16 49 24.8 -1.3**
SNR=10
DMTO DMTO 71.61 287 P **P 16 49 28.0 +0.4**
SNR=16
ASUD Al Ashush, Dub 71.62 295 P **P 16 49 31.1 +3.5**
SNR=7.6
ASUD Al Ashush, Dub 71.62 295 *i* P **P 16 49 26.8 -0.7**
SNR=15
UMZA Um Al Zommool 71.64 293 P **P 16 49 27.4 -0.3**
NIKH Nikolski High 71.69 35 P **P 16 49 26.3 -1.1**
baz=251
NIKH S **S 16 58 42.3 -3.6**
baz=251
AJN Ajban 71.93 294 P **P 16 49 31.4 +2.0**
SNR=7.7
AJN Ajban 71.93 294 *i* P **P 16 49 28.1 -1.3**
SNR=9.0
AB31 Akbulak array 72.16 321 *i* P **P 16 49 29.9 -0.4**
ABKAR Akbulak array 72.16 321 P **P 16 49 29.4 -0.9**
ABKAR IAmb IAmb 16 49 38.4
comp=Z,176nm,0.9s
RBK Rabkut 72.31 287 P **P 16 49 32.0 +0.1**
SNR=23

SPIA	**Saint Paul Isl**	**72.38**	**31**	P	**P**	**16 49 30.4**	**-0.9**
	baz=249						
SPIA				S	**S**	**16 58 55.8**	**+2.2**
	baz=249						
DOK	**Doka**	**72.42**	**288**	P	**P**	**16 49 32.0**	**-0.4**
	SNR=70						
SOCY	**Socotra**	**72.45**	**282**	P	**P**	**16 49 31.6**	**-1.2**
	SNR=11						
SOCY	**Socotra**	**72.45**	**282**	P	**P**	**16 49 30.7**	**-2.1**
SOCY				IAmb	IAmb	16 49 32.3	
	comp=Z,128nm,0.8s						
WHFO	**Wadi Hawf**	**72.73**	**287**	P	**P**	**16 49 33.0**	**-1.4**
	SNR=50						
MZWR	**Madinat Zayed**	**72.89**	**294**	P	**P**	**16 49 35.2**	**+0.1**
ABTO	**Aybut**	**73.17**	**287**	P	**P**	**16 49 37.0**	**+0.1**
	SNR=35						
UNV	**Unalaska Valle**	**73.30**	**35**	P	**P**	**16 49 36.5**	**-0.3**
UNV				IAmb	IAmb	16 49 52.3	
	comp=Z,301nm,1.1s						
UNV	**Unalaska Valle**	**73.30**	**35**	P	**P**	**16 49 36.6**	**-0.3**
	baz=253						
UNV				S	**S**	**16 59 03.9**	**-0.4**
	baz=253						
AKTO	**Aktyubinsk**	**73.67**	**322**	P	**P**	**16 49 38.9**	**-0.4**
	comp=Z,102nm,0.7s,baz=103,slow=7.0,SNR=122						
AKTO				S	**S**	**16 59 10.4**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=16,slow=22,SNR=1.3						
AKTO				LR	LR	17 25 29.7	
	comp=Z,41μm,19.4s,baz=105,slow=39						
AKUT	**Akutan**	**73.80**	**34**	P	**P**	**16 49 39.5**	**-0.3**
GHWR	**Ruwais**	**73.81**	**294**	P	**P**	**16 49 40.8**	**+0.2**
RER	**Riviere de l'E**	**73.85**	**247**	P	**P**	**16 49 40.9**	**-0.1**
RER				IAmb	IAmb	16 50 05.9	
	comp=Z,149nm,0.9s						
RER				IAMs_20	IAMs_20	17 17 14.5	
	comp=Z,27μm,21.0s						
SVE	**Sverdlovsk**	**73.96**	**328***d*	*i* P	**P**	**16 49 41.0**	**+0.3**
SVE				*e*S	**S**	**16 59 11.4**	**-0.2**
SVE				pmax	pmax		
	comp=Z,4μm,9.8s						
SVE				pmax	pmax		
	comp=Z,423nm,1.3s						
SVE				MLR	MLR		
	comp=Z,26μm,21.0s						
SVE				MLR	MLR		
	comp=E,18μm,21.0s						
GAMB	**Gambell**	**74.29**	**24**	P	**P**	**16 49 42.5**	**0.0**
GAMB				IAmb	IAmb	16 49 57.0	
	comp=Z,326nm,1.2s						
GAMB				IAMs_20	IAMs_20	17 22 10.6	
	comp=Z,23μm,19.0s						
GAMB	**Gambell**	**74.29**	**24**	P	**P**	**16 49 42.9**	**+0.5**
	baz=246						
GAMB				S	**S**	**16 59 16.4**	**+1.4**
	baz=246						
KIP	**Kipapa**	**74.80**	**69**	IAMs_20	IAMs_20	17 16 22.4	
	comp=Z,38μm,20.0s						
SLWR	**Sila**	**74.90**	**294**	P	**P**	**16 49 47.2**	**+0.4**
ARU	**Arti**	**74.94**	**328**	P	**P**	**16 49 46.0**	**-0.5**
	comp=Z,54nm,0.7s,baz=114,slow=2.1,SNR=119						
ARU				S	**S**	**16 59 21.9**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=42,slow=23,SNR=5.8						
ARU				LR	LR	17 25 17.1	
	comp=Z,29μm,21.5s,baz=100,slow=38						
ARU	**Arti**	**74.94**	**328***c*	*i* P	**P**	**16 49 45.9**	**-0.5**
ARU						16 49 59.4	
ARU						16 52 29.2	
ARU				S	**S**	**16 59 23.5**	**+0.9**
ARU						16 59 59.2	
ARU				SSS	SSS	17 07 24.9	
ARU				pmax	pmax		
	comp=Z,263nm,1.0s						
ARU				pmax	pmax		
	comp=Z,4μm,9.7s						
ARU				smax	smax		
	comp=N,9μm,10.6s						
ARU				MLR	MLR		
	comp=Z,31μm,20.0s						
ARU	**Arti**	**74.94**	**328**	P	**P**	**16 49 45.7**	**-0.8**
ARU				IAmb	IAmb	16 49 54.2	
	comp=Z,386nm,1.2s						
ARU	**Arti**	**74.94**	**328**	IAMs_20	IAMs_20	17 26 27.9	
	comp=Z,32μm,20.0s						
KHOR	**Al-Khor Airpor**	**75.14**	**295**	P	**P**	**16 49 48.0**	**-0.2**
FALS	**False Pass**	**75.31**	**34**	P	**P**	**16 49 48.1**	**-0.5**
FALS	**False Pass**	**75.31**	**34**	P	**P**	**16 49 47.8**	**-0.8**
	baz=255						
FALS				S	**S**	**16 59 24.9**	**-1.9**
	baz=255						
FALS	**False Pass**	**75.31**	**34**	P	**P**	**16 49 50.1**	**+1.5**
TRNA	**Turayna**	**75.37**	**294**	P	**P**	**16 49 49.3**	**-0.3**
SHMA	**Al-Shehemyia**	**75.64**	**296**	P	**P**	**16 49 51.3**	**+0.1**
RAR	**Rarotonga**	**75.97**	**113**	LR	LR	17 20 06.2	
	comp=Z,8μm,20.1s,baz=278,slow=33						
RAR	**Rarotonga**	**75.97**	**113**	P	**P**	**16 49 52.0**	**-1.0**
RAR				pmax	pmax		
	comp=Z,232nm,1.4s						
RAR				MLR	MLR		
	comp=Z,11μm,21.0s						
RAR	**Rarotonga**	**75.97**	**113**	P	**P**	**16 49 52.0**	**-1.0**
RAR				IAmb	IAmb	16 50 15.2	
	comp=Z,232nm,1.4s						
SAKB	**Bahrain**	**76.03**	**296**	P	**P**	**16 49 53.7**	**+0.3**
TNA	**Tin City**	**76.48**	**23**	P	**P**	**16 49 54.7**	**-0.3**
TNA	**Tin City**	**76.48**	**23**	P	**P**	**16 49 54.2**	**-0.8**
	baz=249,SNR=11						
TNA				S	**S**	**16 59 41.0**	**+1.7**
	baz=249						
SDPT	**Sand Point**	**77.07**	**34**	P	**P**	**16 49 57.7**	**-0.9**
SDPT	**Sand Point**	**77.07**	**34**	P	**P**	**16 49 58.6**	**0.0**
	baz=258						
SDPT				S	**S**	**16 59 43.0**	**-3.1**
	baz=258						
POHA	**Pohakuloa**	**77.08**	**71**	IAMs_20	IAMs_20	17 18 00.1	
	comp=Z,34μm,22.0s						
AIN	**Ainahou**	**77.15**	**71**	P	**P**	**16 49 59.2**	**-0.8**
AIN				IAmb	IAmb	16 50 26.4	
	comp=Z,220nm,1.2s						
ANM	**Nome**	**77.16**	**24**	P	**P**	**16 49 58.8**	**-0.1**
ANM				pmax	pmax		
	comp=Z,89nm,1.1s						
ANM				MLR	MLR		
	comp=Z,23μm,20.0s						
ANM	**Nome**	**77.16**	**24**	P	**P**	**16 49 58.8**	**-0.1**
ANM				IAMs_20	IAMs_20	17 23 15.4	
	comp=Z,23μm,20.0s						
ANM	**Nome**	**77.16**	**24**	P	**P**	**16 49 58.3**	**-0.7**
	baz=251,SNR=20						
ANM				S	**S**	**16 59 49.6**	**+2.9**
	baz=251						
MLH	**Mauna Loa**	**77.22**	**71**	P	**P**	**16 49 59.5**	**-1.0**
MLH				IAmb	IAmb	16 50 12.3	
	comp=Z,431nm,1.3s						
CNBA	**Chernabura Isl**	**77.47**	**35**	P	**P**	**16 49 59.4**	**-1.4**
CNBA				IAmb	IAmb	16 50 18.9	
	comp=Z,387nm,1.5s						
CHNA	**Chernabura Isl**	**77.47**	**35**	P	**P**	**16 49 59.1**	**-1.7**
	baz=259						
CHNA				S	**S**	**16 59 51.2**	**+0.8**
	baz=259						
SBV	**Sambava**	**78.20**	**255**	P	**P**	**16 50 07.3**	**+1.6**
	SNR=9.3						
CHGN	**Chignik**	**78.40**	**33**	P	**P**	**16 50 04.3**	**-1.7**
	baz=259						
CHGN				S	**S**	**16 59 58.0**	**-2.4**
	baz=259						
RDOG	**Red Dog Mine**	**79.18**	**21**	IAMs_20	IAMs_20	17 25 29.7	
	comp=Z,24μm,22.0s						
RDOG	**Red Dog Mine**	**79.18**	**21**	P	P	16 50 19.5	+9.4
	baz=253						
RDOG				S	S	17 00 20.5	+12
	baz=253						
MAK	**Makhachkala**	**79.61**	**313**	*e*P	P	16 50 07.2	-5.7
MAK				*e*S	**S**	**17 00 07.7**	**-6.2**
MAK				*e*SS	**SS**	**17 05 14.9**	**-7.4**
MAK				*e*SSS	SSS	17 08 35.1	
MAK				pmax	pmax		
	comp=Z,345nm,1.4s						
CHIR	**Chirikof Islan**	**79.87**	**34**	IAMs_20	IAMs_20	17 23 56.7	
	comp=Z,28μm,21.0s						
CHIR	**Chirikof Islan**	**79.87**	**34**	P	**P**	**16 50 13.4**	**-0.6**
	baz=262						
CHIR				S	**S**	**17 00 19.1**	**+3.0**
	baz=262						
KIRV	**Kirov**	**80.22**	**329**	P	**P**	**16 50 16.2**	**+0.3**
	comp=Z,285nm,0.6s,baz=282,slow=0.3,SNR=51						
KIRV				S	**S**	**17 00 14.3**	**-5.3**
	comp=Z,6.5nm,0.4s,baz=100,slow=7.4,SNR=2.5						
KIRV				LR	LR	17 29 18.8	
	comp=Z,23μm,21.8s,baz=98,slow=38						
RAYN	**Ar Rayn**	**80.56**	**293**	P	**P**	**16 50 17.5**	**-1.1**
RAYN				pmax	pmax		
	comp=Z,94nm,0.8s						
RAYN				MLR	MLR		
	comp=Z,13μm,19.0s						
RAYN	**Ar Rayn**	**80.56**	**293**	P	**P**	**16 50 18.4**	**-0.1**
RAYN	**Ar Rayn**	**80.56**	**293**	P	**P**	**16 50 17.4**	**-1.1**
RAYN	**Ar Rayn**	**80.56**	**293**	*i* P	**P**	**16 50 17.8**	**-0.7**
	SNR=24						
P18K	**Big Mountain,**	**80.60**	**30**	P	**P**	**16 50 16.7**	**-1.3**
P18K				IAMs_20	IAMs_20	17 21 56.8	
	comp=Z,27μm,22.0s						
P18K	**Big Mountain,**	**80.60**	**30**	P	**P**	**16 50 18.2**	**+0.2**
	baz=262						
P18K				S	**S**	**17 00 23.1**	**-0.7**
	baz=262						
O18K	**Koktuh Hills**	**80.68**	**30**	IAMs_20	IAMs_20	17 22 23.9	
	comp=Z,31μm,22.0s						
O18K	**Koktuh Hills**	**80.68**	**30**	P	**P**	**16 50 18.1**	**-0.3**
	baz=262,SNR=17						
O18K				S	**S**	**17 00 26.8**	**+2.2**
	baz=262						
SVW2	**Sparrevohn**	**80.69**	**29**	P	**P**	**16 50 17.7**	**-0.7**
SVW2				IAmb	IAmb	16 50 34.3	
	comp=Z,269nm,1.3s						
GCSA	**Galena City Sc**	**80.73**	**25**	P	**P**	**16 50 17.9**	**-0.6**
	baz=259,SNR=11						
GCSA				S	**S**	**17 00 26.6**	**+1.8**
	baz=259						
SII	**Sitkinak Islan**	**80.76**	**33**	P	**P**	**16 50 17.8**	**-1.1**
SII	**Sitkinak Islan**	**80.76**	**33**	P	**P**	**16 50 19.5**	**+0.6**
	baz=263						
SII				S	**S**	**17 00 26.7**	**+1.1**
	baz=263						
SII	**Sitkinak Islan**	**80.76**	**33**	P	**P**	**16 50 21.8**	**+2.9**
TTA	**Tatalina**	**80.79**	**27**	P	**P**	**16 50 18.7**	**-0.3**
TTA				pmax	pmax		
	comp=Z,350nm,1.5s						
TTA	**Tatalina**	**80.79**	**27**	P	**P**	**16 50 18.7**	**-0.3**
TTA				IAmb	IAmb	16 50 34.7	
	comp=Z,350nm,1.5s						
TTA	**Tatalina**	**80.79**	**27**	P	**P**	**16 50 17.6**	**-1.3**
	baz=260,SNR=35						
TTA				S	**S**	**17 00 28.0**	**+2.2**
	baz=260						
GROC	**Groznyy**	**80.88**	**313**	*e*P	**P**	**16 50 19.2**	**-0.6**
GROC				*e*S	**S**	**17 00 28.5**	**+1.2**
GROC				pmax	pmax		
	comp=Z,119nm,0.9s						
O19K	**Port Alsworth**	**81.17**	**30**	P	**P**	**16 50 19.1**	**-1.8**
	baz=262						
O19K				S	**S**	**17 00 29.9**	**+0.4**
	baz=262						
N19K	**Bonanza Creek**	**81.17**	**29**	P	**P**	**16 50 20.7**	**-0.4**
N19K				IAmb	IAmb	16 50 36.3	
	comp=Z,364nm,1.1s						
N19K	**Bonanza Creek**	**81.17**	**29**	P	**P**	**16 50 21.8**	**+0.6**
	baz=262,SNR=34						
N19K				S	**S**	**17 00 30.5**	**+0.7**
	baz=262						
OHAK	**Old Harbor**	**81.33**	**33**	P	**P**	**16 50 21.6**	**-0.3**
OHAK				IAmb	IAmb	16 50 29.1	
	comp=Z,191nm,1.1s						
OHAK	**Old Harbor**	**81.33**	**33**	P	**P**	**16 50 22.5**	**+0.6**
	baz=264						
OHAK				S	**S**	**17 00 31.3**	**0.0**
	baz=264						
Q19K	**Cape Douglas,**	**81.34**	**31**	IAMs_20	IAMs_20	17 23 02.6	
	comp=Z,30μm,22.0s						
Q19K	**Cape Douglas,**	**81.34**	**31**	P	**P**	**16 50 21.7**	**-0.3**
	baz=263						
Q19K				S	**S**	**17 00 27.0**	**-4.6**
	baz=263						
OPO	**Ambohidratompo**	**81.42**	**251**	P	**P**	**16 50 23.4**	**+0.1**
	comp=Z,56nm,0.9s,baz=75,slow=4.5,SNR=58						
ABPO	**Ambohimpanom**	**81.44**	**250**	P	**P**	**16 50 22.3**	**-1.2**
ABPO				pmax	pmax		
	comp=Z,127nm,1.0s						
ABPO	**Ambohimpanom**	**81.44**	**250**	P	**P**	**16 50 22.2**	**-1.2**
ABPO				IAmb	IAmb	16 50 26.5	
	comp=Z,127nm,1.0s						
ABPO	**Ambohimpanom**	**81.44**	**250**	⇑P	**P**	**16 50 24.9**	**+1.4**
GNI	**Garni**	**81.52**	**310**	P	**P**	**16 50 24.0**	**+0.5**
	comp=Z,8.9nm,0.7s,baz=330,slow=4.0,SNR=7.5						
GNI				LR	LR	17 33 24.9	
	comp=Z,13μm,20.0s,baz=85,slow=41						
GNI	**Garni**	**81.52**	**310**	P	**P**	**16 50 22.3**	**-1.2**
GNI	**Garni**	**81.52**	**310**	P	**P**	**16 50 23.9**	**+0.4**
K20K	**Telida**	**81.72**	**27**	P	**P**	**16 50 24.9**	**+1.0**
	baz=262,SNR=31						
KDAK	**Kodiak Island**	**81.77**	**32**	P	**P**	**16 50 25.1**	**+1.0**
	comp=Z,54nm,0.8s,baz=280,slow=3.8,SNR=18						
KDAK				S	**S**	**17 00 36.6**	**+0.7**
	comp=Z,22nm,1.1s,baz=143,slow=15,SNR=2.5						
KDAK				LR	LR	17 25 59.1	
	comp=Z,9μm,19.3s,baz=270,slow=35						
KDAK	**Kodiak Island**	**81.77**	**32**	P	**P**	**16 50 24.3**	**+0.2**
	baz=264						
KDAK				S	**S**	**17 00 36.9**	**+1.0**
	baz=264						
J20K	**Nowinta River**	**81.81**	**26**	P	**P**	**16 50 23.7**	**-0.5**
J20K				IAmb	IAmb	16 50 39.7	
	comp=Z,330nm,1.2s						
O20K	**Slope Mountain**	**82.00**	**30**	S	**S**	**17 00 35.4**	**-3.0**
	baz=264						
A21K	**Barrow**	**82.12**	**18**	P	**P**	**16 50 25.9**	**+0.1**
A21K				IAmb	IAmb	16 50 29.8	
	comp=Z,211nm,0.9s						
A21K				IAMs_20	IAMs_20	17 30 05.3	
	comp=Z,21μm,21.0s						
A21K	**Barrow**	**82.12**	**18**	P	**P**	**16 50 26.7**	**+1.0**
	baz=258						
A21K				S	**S**	**17 00 39.9**	**+1.0**
	baz=258						
VOI	**Vohitsoka**	**82.20**	**247**	P	**P**	**16 50 30.4**	**+3.0**
	SNR=14						
VOI	**Vohitsoka**	**82.20**	**247**	P	**P**	**16 50 26.7**	**-0.7**
VOI				IAmb	IAmb	16 50 31.2	
	comp=Z,148nm,0.7s						
IMAR	**Indian Mountai**	**82.23**	**24**	P	**P**	**16 50 26.4**	**-0.1**
HOM	**Homer**	**82.44**	**30**	IAMs_20	IAMs_20	17 23 39.5	
	comp=Z,29μm,22.0s						
HOM	**Homer**	**82.44**	**30**	P	**P**	**16 50 27.8**	**+0.2**
	baz=265						
HOM				S	**S**	**17 00 40.4**	**-2.4**
	baz=265						
PRGR	**Permogore**	**82.49**	**332**	*e*P	**P**	**16 50 28.7**	**+0.8**
PRGR				*e*S	**S**	**17 00 43.7**	**+0.6**
PRGR				pmax	pmax		
	comp=Z,381nm,0.8s						
NCK	**Nalchik**	**82.50**	**313***c*	*i* P	**P**	**16 50 28.6**	**+0.2**
NCK				pmax	pmax		
	comp=Z,239nm,1.9s						
NCK				MLR	MLR		
	comp=Z,12μm,21.0s						
AKH	**Akhalkalaki**	**82.51**	**311**	P	**P**	**16 50 30.4**	**+1.7**
PPLA	**Purkeypile**	**82.51**	**27**	P	**P**	**16 50 26.7**	**-1.5**
PPLA				IAmb	IAmb	16 50 46.6	
	comp=Z,354nm,1.4s						
PPLA	**Purkeypile**	**82.51**	**27**	P	**P**	**16 50 28.8**	**+0.6**
	baz=264,SNR=24						
PPLA				S	**S**	**17 00 43.0**	**-0.7**
	baz=264						
CHUM	**Lake Minchumin**	**82.57**	**26**	P	**P**	**16 50 29.6**	**+1.3**
	baz=263,SNR=50						
CHUM				S	**S**	**17 00 44.4**	**+0.5**
	baz=263						
ONI	**Oni**	**82.57**	**312**	P	**P**	**16 50 28.1**	**-0.8**
ONI				pmax	pmax		
	comp=Z,62nm,0.8s						
ONI	**Oni**	**82.57**	**312**	P	**P**	**16 50 28.1**	**-0.8**
H21K	**Melozitna Rive**	**82.57**	**24**	P	**P**	**16 50 28.8**	**+0.5**
H21K				IAmb	IAmb	16 50 43.6	
	comp=Z,365nm,1.4s						
H21K				IAMs_20	IAMs_20	17 28 40.7	
	comp=Z,24μm,20.0s						
H21K	**Melozitna Rive**	**82.57**	**24**	P	**P**	**16 50 29.0**	**+0.7**
	baz=263						
H21K				S	**S**	**17 00 44.5**	**+0.5**
	baz=263						
CAST	**Castle Rocks**	**82.62**	**27**	P	**P**	**16 50 28.8**	**+0.2**
CAST				IAmb	IAmb	16 50 43.2	
	comp=Z,344nm,1.4s						
CAST	**Castle Rocks**	**82.62**	**27**	P	**P**	**16 50 29.0**	**+0.5**
	baz=264,SNR=43						
CAST				S	**S**	**17 00 44.1**	**-0.4**
	baz=264						
CNPM	**China Poot**	**82.64**	**31**	P	**P**	**16 50 27.6**	**-1.2**
CNPM				IAmb	IAmb	16 50 42.5	
	comp=Z,216nm,1.1s						
GEVA	**Gevas**	**82.78**	**308**	P	**P**	**16 50 29.3**	**-0.8**
GEVA				IAmb	IAmb	16 50 49.3	
	comp=Z,168nm,0.9s						
CAPN	**Captain Cook N**	**82.79**	**29**	P	**P**	**16 50 28.4**	**-1.0**
	baz=265						
KARS	**Kars**	**82.81**	**310**	P	**P**	**16 50 30.7**	**+0.5**
KARS				pmax	pmax		
	comp=Z,476nm,0.9s						
KARS	**Kars**	**82.81**	**310**	P	**P**	**16 50 30.7**	**+0.5**
BRLK	**Bradley Lake**	**82.84**	**30**	P	**P**	**16 50 28.3**	**-1.5**
BRLK				IAmb	IAmb	16 50 43.2	
	comp=Z,300nm,1.1s						
I21K	**Tanana**	**82.86**	**25**	P	**P**	**16 50 29.9**	**+0.1**
BRSE	**Bradley Lake S**	**82.91**	**30**	P	**P**	**16 50 29.8**	**-0.3**
	baz=265						
BRSE				S	**S**	**17 00 47.7**	**+0.2**
	baz=265						
GOF	**Gofitskoye**	**82.94**	**315**	⇑*i* P	**P**	**16 50 30.3**	**-0.3**
GOF				*e*S	**S**	**17 00 51.0**	**+2.5**
GOF				pmax	pmax		
	comp=Z,7μm,4.3s						
GOF				smax	smax		
	comp=E,112nm,2.0s						
GOF				smax	smax		
	comp=N,53nm,1.5s						
KBZ	**Khabaz**	**83.01**	**313**	P	**P**	**16 50 30.9**	**-0.1**
	comp=N,17nm,0.8s,baz=117,slow=4.3,SNR=29						
KBZ				S	**S**	**17 00 51.9**	**+2.7**
	comp=N,0.9nm,0.7s,baz=315,slow=18,SNR=1.2						
KBZ				LR	LR	17 33 28.2	
	comp=N,22μm,19.0s,baz=74,slow=40						
KBZ	**Khabaz**	**83.01**	**313***c*	*i* P	**P**	**16 50 31.0**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,302nm,4.6s						
KBZ				MLR	MLR		
	comp=Z,15μm,21.0s						
NEY	**Neytrino**	**83.13**	**313**	*i* P	**P**	**16 50 32.0**	**+0.2**
NEY				pmax	pmax		
	comp=Z,11nm,0.7s						
NEY				MLR	MLR		
	comp=Z,9μm,19.0s						
KTH	**Kantishna Hill**	**83.15**	**27**	P	**P**	**16 50 32.0**	**+0.6**
KTH				IAMs_20	IAMs_20	17 23 52.0	
	comp=Z,24μm,22.0s						
KVAR	**Kislovodsk Arr**	**83.16**	**314**	P	**P**	**16 50 33.8**	**+1.9**
	comp=Z,9.5nm,0.8s,baz=130,slow=18,SNR=3.7						
KVAR				S	**S**	**17 00 54.8**	**+3.8**
	comp=Z,2.4nm,0.3s,baz=54,slow=20,SNR=1.7						
KVAR				LR	LR	17 30 49.7	
	comp=Z,36μm,20.6s,baz=125,slow=38						
KIV	**Kislovodsk**	**83.17**	**314**	P	**P**	**16 50 33.6**	**+1.7**
KIV	**Kislovodsk**	**83.17**	**314**	*e*P	**P**	**16 50 31.8**	**-0.1**
KIV				*e*S	**S**	**17 00 52.0**	**+1.0**
KIV				*e*SS	**SS**	**17 06 11.4**	**-4.1**
KIV				pmax	pmax		
	comp=Z,81nm,1.1s						
KIV				pmax	pmax		
	comp=Z,999nm,3.6s						
KIV	**Kislovodsk**	**83.17**	**314**	P	**P**	**16 50 33.3**	**+1.4**
KIV	**Kislovodsk**	**83.17**	**314**	P	**P**	**16 50 30.9**	**-1.0**
KIV	**Kislovodsk**	**83.17**	**314**	*i* P	**P**	**16 50 31.7**	**-0.3**
	SNR=22						
BPAW	**Bear Paw Mtn.**	**83.17**	**26**	P	**P**	**16 50 31.8**	**+0.3**
BPAW	**Bear Paw Mtn.**	**83.17**	**26**	P	**P**	**16 50 32.7**	**+1.2**
	baz=265,SNR=27						
BPAW				S	**S**	**17 00 51.3**	**+1.2**
	baz=265						
SIRT	**Sirnak**	**83.26**	**307**	P	**P**	**16 50 31.4**	**-1.2**
CUT	**Chulitna**	**83.35**	**28**	P	**P**	**16 50 31.2**	**-1.1**
CUT	**Chulitna**	**83.35**	**28**	P	**P**	**16 50 30.9**	**-1.4**
	baz=266,SNR=32						
CUT				S	**S**	**17 00 49.5**	**-2.4**
	baz=266						
ATD	**Arta Tunnel**	**83.37**	**281**	P	**P**	**16 50 34.9**	**+1.4**
	comp=Z,125nm,1.2s,baz=45,slow=2.8,SNR=12						
ATD				S	**S**	**17 00 55.0**	**+1.0**
	comp=Z,2.7nm,0.3s,baz=244,slow=22,SNR=1.3						
ATD				LR	LR	17 28 28.9	
	comp=Z,4μm,18.9s,baz=72,slow=36						
ATD	**Arta Tunnel**	**83.37**	**281**	*e*P	**P**	**16 50 33.6**	**+0.1**
ATD	**Arta Tunnel**	**83.37**	**281**	P	**P**	**16 50 34.2**	**+0.7**
ATD	**Arta Tunnel**	**83.37**	**281**	*e*P	**P**	**16 50 34.4**	**+0.8**
ATD				*e*S	**S**	**17 00 59.2**	**+5.2**
ATD				IAMs_20	IAMs_20	17 02 46.8	
	comp=N,10μm,18.3s						
TRF	**Thorofare Moun**	**83.42**	**27**	P	**P**	**16 50 31.5**	**-1.4**
TRF	**Thorofare Moun**	**83.42**	**27**	P	**P**	**16 50 32.6**	**-0.3**
	baz=265,SNR=49						
TRF				S	**S**	**17 00 52.1**	**-0.9**
	baz=265						
VNDA	**Vanda**	**83.48**	**173**	P	**P**	**16 50 33.9**	**+1.2**
	comp=N,32nm,0.9s,baz=314,slow=5.0,SNR=22						
VNDA				S	**S**	**17 00 48.7**	**-4.0**
	comp=N,5.0nm,1.1s,baz=101,slow=1.6,SNR=1.7						
VNDA				LR	LR	17 29 13.1	
	comp=N,17μm,18.5s,baz=340,slow=37						
VNDA	**Vanda**	**83.48**	**173**	P	**P**	**16 50 33.0**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,95nm,1.0s						
VNDA	**Vanda**	**83.48**	**173**	P	**P**	**16 50 33.0**	**+0.3**
VNDA				IAmb	IAmb	16 50 55.3	
	comp=Z,95nm,0.9s						
RC01	**Rabbit Creek A**	**83.51**	**29**	P	**P**	**16 50 32.6**	**-0.6**
RC01	**Rabbit Creek A**	**83.51**	**29**	P	**P**	**16 50 33.3**	**+0.1**
	baz=266						
RC01				S	**S**	**17 00 51.9**	**-1.6**
	baz=266						
SEW	**Seward**	**83.58**	**30**	P	**P**	**16 50 33.3**	**-0.3**
	baz=266						
SEW				S	**S**	**17 00 52.8**	**-1.4**
	baz=266						
COLD	**Coldfoot**	**83.78**	**23**	P	**P**	**16 50 34.2**	**-0.2**
COLD	**Coldfoot**	**83.78**	**23**	P	**P**	**16 50 35.0**	**+0.5**
	baz=265,SNR=77						
COLD				S	**S**	**17 00 57.8**	**+1.6**
	baz=265						
PMR	**Palmer**	**83.83**	**29**	P	**P**	**16 50 33.7**	**-1.1**
PMR				pmax	pmax		
	comp=Z,228nm,1.1s						
PMR	**Palmer**	**83.83**	**29**	P	**P**	**16 50 33.7**	**-1.1**
PMR				IAmb	IAmb	16 50 46.5	
	comp=Z,228nm,1.1s						
PMR	**Palmer**	**83.83**	**29**	P	**P**	**16 50 34.4**	**-0.4**
	baz=267,SNR=27						
PMR				S	**S**	**17 00 55.2**	**-1.5**
	baz=267						
MAW	**Mawson**	**83.86**	**200**	P	**P**	**16 50 35.8**	**+1.1**
	comp=Z,43nm,1.0s,baz=102,slow=9.7,SNR=9.8						
MAW				S	**S**	**17 00 58.0**	**+1.3**
	comp=Z,7.0nm,1.1s,baz=160,slow=16,SNR=2.1						
MAW	**Mawson**	**83.86**	**200**	P	**P**	**16 50 36.5**	**+1.8**
	baz=84,SNR=10.0						
MAW	**Mawson**	**83.86**	**200**	P	**P**	**16 50 35.2**	**+0.4**
MAW				pmax	pmax		
	comp=Z,42nm,1.5s				

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MCK                                  pmax    pmax
     comp=Z,377nm,1.2s
MCK                                  MLR     MLR
     comp=Z,24μm,22.0s
MCK  McKinley        84.05  26  P          P       16 50 35.5 -0.4
MCK                                  IAMs_20 IAMs_20 17 24 19.7
     comp=Z,24μm,22.0s
MCK  McKinley        84.05  26  P          P       16 50 33.9 -2.0
     baz=266,SNR=79
MCK                                  S       S       17 00 57.4 -1.6
     baz=266
RND  Reindeer        84.07  27  P          P       16 50 35.4 -0.7
RND                                  pmax    pmax
     comp=Z,309nm,1.2s
RND                                  MLR     MLR
     comp=Z,28μm,22.0s
RND  Reindeer        84.07  27  P          P       16 50 35.4 -0.7
RND                                  IAMs_20 IAMs_20 17 24 30.2
     comp=Z,28μm,22.0s
KNK  Knik Glacier    84.14  29  P          P       16 50 36.3 -0.1
KNK  Knik Glacier    84.14  29  P          P       16 50 34.9 -1.5
     baz=267,SNR=50
KNK                                  S       S       17 00 57.9 -2.1
     baz=267
PWL  Port Wells      84.17  29  P          P       16 50 36.6  0.0
PWL  Port Wells      84.17  29  P          P       16 50 35.1 -1.6
     baz=267,SNR=43
PWL                                  S       S       17 00 59.1 -1.2
     baz=267
SKRH Sakahara        84.20 247 ⇑P           P       16 50 38.0 +0.4
SML  Sawmill         84.22  28  P          P       16 50 36.4 -0.5
     baz=267,SNR=41
SML                                  S       S       17 00 59.9 -0.9
     baz=267
SBA  Scott Base      84.39 172   IAMs_20 IAMs_20 17 30 31.8
     comp=Z,25μm,18.0s
MDM  Murphy Dome     84.43  25  P          P       16 50 36.7 -1.1
MDM                                  IAmb    IAmb    16 50 44.9
     comp=Z,139nm,1.2s
WRH  Wood River Hil  84.46  26  P          P       16 50 36.9 -1.1
WRH                                  IAMs_20 IAMs_20 17 26 59.6
     comp=Z,22μm,21.0s
WAT6 Susitna Watana  84.53  28  P          P       16 50 37.2 -1.5
     baz=268,SNR=87
WAT6                                 S       S       17 01 03.7 -0.5
     baz=268
TCOL CIGO, UAF Yank  84.58  25  P          P       16 50 37.9 -0.6
     baz=267
TCOL                                 S       S       17 01 03.4 -0.7
     baz=267
COLA College         84.58  25  P          P       16 50 37.8 -0.8
COLA                                 pmax    pmax
     comp=Z,60nm,0.9s
COLA                                 MLR     MLR
     comp=Z,18μm,20.0s
COLA College         84.58  25  P          P       16 50 37.8 -0.8
COLA College         84.58  25  P          P       16 50 37.5 -1.1
     baz=267
COLA                                 S       S       17 01 02.8 -1.3
     baz=267
MARD Mardin          84.58 307  P          P       16 50 37.1 -2.3
MARD                                 IAmb    IAmb    16 50 42.7
     comp=Z,77nm,0.8s
CCB  Clear Creek Bu  84.59  26  P          P       16 50 36.5 -2.2
CCB                                  IAmb    IAmb    16 50 52.1
     comp=Z,284nm,1.4s
CCB                                  IAMs_20 IAMs_20 17 27 03.1
     comp=Z,21μm,21.0s
H24K Noodor Dome     84.62  24  P          P       16 50 39.6 +0.8
H24K                                 IAmb    IAmb    16 50 54.0
     comp=Z,257nm,1.1s
SCM  Sheep Creek Mo  84.70  28  P          P       16 50 39.6 +0.2
SCM                                  pmax    pmax
     comp=Z,502nm,1.2s
SCM  Sheep Creek Mo  84.70  28  P          P       16 50 39.6 +0.2
SCM  Sheep Creek Mo  84.70  28  P          P       16 50 38.2 -1.1
     baz=268,SNR=28
SCM                                  S       S       17 01 05.6 -0.1
     baz=268
DHY  Denali Highway  84.72  27  P          P       16 50 37.3 -2.2
     baz=268,SNR=20
DHY                                  S       S       17 01 04.6 -1.4
     baz=268
POKR Poker Plat Res  84.77  25  P          P       16 50 38.2 -1.4
POKR                                 IAmb    IAmb    16 50 54.1
     comp=Z,124nm,1.2s
POKR                                 IAMs_20 IAMs_20 17 30 15.8
     comp=Z,19μm,20.0s
POKR Poker Plat Res  84.77  25  P          P       16 50 39.4 -0.1
     baz=268,SNR=18
POKR                                 S       S       17 01 04.3 -1.8
     baz=268
KOPT Kop Dagi        84.78 310  P          P       16 50 39.2 -1.3
GLI  Glacier Island  84.78  29  P          P       16 50 39.0 -0.7
GLI                                  IAmb    IAmb    16 50 45.1
     comp=Z,211nm,0.9s
GLI                                  IAMs_20 IAMs_20 17 23 59.3
     comp=Z,20μm,21.0s
GLI  Glacier Island  84.78  29  P          P       16 50 40.5 +0.8
     baz=268,SNR=5.2
GLI                                  S       S       17 01 06.0 -0.4
     baz=268
HDA  Harding Lake    84.95  26  P          P       16 50 39.8 -0.7
HDA                                  IAmb    IAmb    16 50 52.4
     comp=Z,102nm,1.0s
HDA  Harding Lake    84.95  26  P          P       16 50 36.9 -3.6
     baz=268,SNR=25
HDA                                  S       S       17 01 05.2 -2.7
     baz=268
HDA                                  S       S       17 01 05.2 -2.7
     baz=268
IL31                 84.99  25  P          P       16 50 39.8 -0.8
ILAR Eielson Array   84.99  25  P          P       16 50 40.6  0.0
     comp=Z,14nm,0.9s,baz=236,slow=7.0,SNR=55
ILAR                                 S       S       17 01 04.0 -4.3
     comp=Z,0.4nm,0.9s,baz=321,slow=5.1,SNR=1.3
ILAR                                 PKKP    PKKPdf  17 08 44.0 +1.3
     comp=Z,1.5nm,0.8s,baz=102,slow=1.4,SNR=3.8
ILAR                                 PKKPbc  PKKPbc  17 08 49.0 -1.9
     comp=Z,1.5nm,0.7s,baz=282,slow=1.1,SNR=9.2
ILAR                                 LR      LR      17 27 58.7
     comp=Z,10μm,20.7s,baz=267,slow=35
ILAR Eielson Array   84.99  25  P          P       16 50 39.8 -0.9
PPT  Papeete         85.03 108  P          P       16 50 44.6 +2.8
     comp=Z,41nm,1.0s,baz=236,slow=20,SNR=2.9
PPT                                  LR      LR      17 23 45.4
     comp=Z,12μm,21.7s,baz=272,slow=32
PPT2 Papeete2        85.03 108  eP         P       16 50 41.7 -0.2
     comp=Z,230nm,1.5s
PPT2 Papeete2        85.03 108  ePP        PP      16 53 58.2 -0.9
     comp=Z,3μm,25.0s
PPT2                                 eS      S       17 01 10.0 -0.6
     comp=Z,45μm,27.0s
PPT2                                 eSS     SS      17 06 43.6 -0.6
     comp=Z,19μm,29.5s
PPT2                                 eLQ     LQ      17 13 54.7
     comp=Z,61μm,36.2s
PPT2                                 eLR     LR      17 17 22.0
     comp=Z,77μm,31.5s,baz=279
PAE  Paea            85.04 108  eP         P       16 50 41.5 -0.3
     comp=Z,45nm,1.4s
FID  Port Fidalgo    85.08  29  P          P       16 50 39.9 -1.3
FID                                  IAMs_20 IAMs_20 17 24 02.7
     comp=Z,22μm,22.0s
Q23K Middleton Isla  85.12  31  S          S       17 01 09.9 +0.2
     baz=269
TEND Ethiopian Broa  85.16 281  eP         P       16 50 44.5 +1.9
TIAR Tiarei          85.25 108  eP         P       16 50 42.6 -0.3
     comp=Z,1.5nm,1.2s
M24K Tolsona, Glenn  85.25  28  P          P       16 50 40.7 -1.3
M24K Tolsona, Glenn  85.25  28  P          P       16 50 43.1 +1.0
     baz=269,SNR=24
M24K                                 S       S       17 01 11.6 +0.5
     baz=269
SOC  Sochi           85.32 313c iP          P       16 50 42.4 -0.3
SOC                                  e                16 54 02.0
SOC                                  eS      SKSac   17 01 06.5 -0.2
SOC                                  pmax    pmax
     comp=Z,91nm,0.6s
SOC                                  pmax    pmax
     comp=Z,2μm,3.0s
SOC                                  MLR     MLR
     comp=Z,17μm,17.0s
KTUT Trabzon         85.32 311 ⇑P           P       16 50 44.4 +1.6
KLU  Klutina         85.36  29  P          P       16 50 42.6 -0.1
     baz=269,SNR=17
KLU                                  S       S       17 01 11.6 -0.6
     baz=269
KLMR Klimovskoe      85.40 331  eP         P       16 50 41.2 -1.5
KLMR                                 e               16 53 59.5
KLMR                                 eS      SKSac   17 01 05.3 -1.1
KLMR                                 pmax    pmax
     comp=Z,1μm,1.1s
KLMR                                 MLR     MLR
     comp=Z,31μm,21.0s
KLMR Klimovskoe      85.40 331  eP         P       16 50 41.2 -1.5
KLMR                                 AMP             16 50 47.0
     comp=Z,1μm,1.1s
KLMR                                 ePP     PP      16 53 59.5 -1.3
KLMR                                 eS      SKSac   17 01 05.4 -1.0
KLMR                                 eS      SKSac   17 01 05.4 -1.0
KLMR                                 LQ      LQ      17 21 49.4
KLMR                                 LQ      LQ      17 21 49.4
KLMR                                 LR      LR      17 25 51.1
KLMR                                 AMP             17 30 49.6
     comp=Z,31μm,20.9s
DIV  Divide          85.43  29  P          P       16 50 41.8 -1.2
EYAK Cordova Ski Ar  85.44  30  P          P       16 50 43.8 +0.9
     baz=270
EYAK                                 S       S       17 01 12.5 -0.2
     baz=270
VORD Divnogorie      85.53 321  eP         P       16 50 43.2 -0.4
VORD                                 eS      SKSac   17 01 04.6 -3.0
VORD                                 pmax    pmax
     comp=Z,220nm,0.8s
VORD                                 pmax    pmax
     comp=Z,210nm,0.7s
VORD                                 smax    smax
     comp=E,740nm,8.5s
PRP  Porcupine Dome  85.58  25  P          P       16 50 43.3 -0.5
     baz=269
PRP                                  S       S       17 01 14.4  0.0
     baz=269
PAX  Paxson          85.59  27  P          P       16 50 43.4 -0.4
PAX                                  pmax    pmax
     comp=Z,136nm,1.1s
PAX  Paxson          85.59  27  P          P       16 50 43.4 -0.4
PAX                                  IAmb    IAmb    16 50 58.2
     comp=Z,136nm,1.1s
PAX  Paxson          85.59  27  P          P       16 50 44.2 +0.4
     baz=270,SNR=34
PAX                                  S       S       17 01 13.3 -1.1
     baz=270
VSR  Storozhevoye    85.60 321  eP         P       16 50 43.8 -0.2
VSR                                  eS      SKSac   17 01 06.4 -1.7
VSR                                  pmax    pmax
     comp=Z,340nm,0.9s
VSR                                  pmax    pmax
     comp=Z,1μm,1.5s
VSR                                  smax    smax
     comp=N,6μm,9.7s
GINR Hospital, Gini  85.70 277 ⇑P           P       16 50 46.2 +0.7
TBI  Tubuai          85.72 114  eP         P       16 50 44.8 -0.3
     comp=N,440nm,1.2s
TBI  Tubuai          85.72 114  ePP        PP      16 54 02.2 -2.3
     comp=N,3μm,25.5s
TBI                                  eS      S       17 01 15.3 -1.6
     comp=N,49μm,27.8s
TBI                                  eSS     SS      17 06 56.0 +2.1
     comp=N,24μm,27.2s
TBI                                  eLQ     LQ      17 14 12.0
     comp=N,17μm,37.2s
TBI                                  eLR     LR      17 17 54.7
     comp=N,76μm,29.0s
HARP HAARP           85.73  28  P          P       16 50 44.4  0.0
     baz=270,SNR=12
HARP                                 S       S       17 01 15.6 -0.1
     baz=270
LPSR Galich'ya Gora  85.73 322  eP         P       16 50 44.8 +0.2
LPSR                                 eS      SKSac   17 01 06.3 -2.6
LPSR                                 pmax    pmax
     comp=Z,550nm,1.0s
LPSR                                 pmax    pmax
     comp=Z,1μm,1.2s
LPSR                                 smax    smax
     comp=E,4μm,4.2s
RIDG Independent Ri  85.87  26  P          P       16 50 44.6 -0.6
RIDG                                 IAmb    IAmb    16 50 59.1
     comp=Z,158nm,1.2s
RIDG                                 IAMs_20 IAMs_20 17 26 11.8
     comp=Z,22μm,22.0s
RIDG Independent Ri  85.87  26  P          P       16 50 45.5 +0.4
     baz=270
RIDG                                 S       S       17 01 15.8 -1.3
     baz=270
BMAR Burnt Mountain  85.97  23  P          P       16 50 45.3 -0.3
N25K Chitina, Valde  86.00  29  P          P       16 50 45.6 -0.2
N25K                                 IAmb    IAmb    16 51 00.8
     comp=Z,305nm,1.4s
N25K                                 IAMs_20 IAMs_20 17 24 54.4
     comp=Z,28μm,22.0s
N25K Chitina, Valde  86.00  29  P          P       16 50 46.2 +0.4
     baz=271,SNR=18
N25K                                 S       S       17 01 18.6 +0.1
     baz=271
BMRM Bremner River   86.00  29  P          P       16 50 46.0 +0.2
BMRM                                 IAmb    IAmb    16 50 53.8
     comp=Z,242nm,1.0s
BMRM Bremner River   86.00  29  P          P       16 50 46.2 +0.4
     baz=271,SNR=36
BMRM                                 S       S       17 01 18.6 +0.1
     baz=271
KAIM Kayak Island    86.10  30  P          P       16 50 45.4 -0.9
HMT  Hamilton        86.18  30  IAMs_20 IAMs_20 17 26 33.2
     comp=Z,27μm,22.0s
DOT  Dot Lake        86.22  27  P          P       16 50 46.3 -0.5
SCRK Sand Creek      86.25  26  IAMs_20 IAMs_20 17 28 03.8
     comp=Z,23μm,22.0s
SCRK Sand Creek      86.25  26  P          P       16 50 45.6 -1.5
     baz=271,SNR=24
SCRK                                 S       S       17 01 20.9  0.0
     baz=271
GLB  Gilahina Butte  86.38  29  P          P       16 50 47.1 -0.6
GLB                                  IAmb    IAmb    16 51 00.9
     comp=Z,181nm,1.0s
GLB                                  IAMs_20 IAMs_20 17 25 14.4
     comp=Z,23μm,22.0s
PMOR Pomariorio Ree  86.41 105  eP         P       16 50 48.6  0.0
     comp=Z,230nm,1.1s
MOS  Moscow          86.44 325  eP         P       16 50 46.6 -1.4
MOS                                  e               16 51 01.3
MOS                                  e               16 54 10.3
MOS                                  eS      SKSac   17 01 10.8 -2.4
MOS                                  eS      SKSac   17 01 10.8 -2.4
MOS                                  pmax    pmax
     comp=Z,1μm,1.4s
MOS                                  pmax    pmax
     comp=Z,5μm,2.5s
MOS                                  smax    smax
     comp=E,14μm,7.7s
MOS                                  smax    smax
     comp=N,12μm,7.1s
MOS                                  MLR     MLR
     comp=Z,32μm,20.0s
BERG Berg Lake       86.45  30  P          P       16 50 47.8 -0.2
BERG                                 IAMs_20 IAMs_20 17 26 31.6
     comp=Z,22μm,21.0s
MEH  Mehetia         86.49 108  eP         P       16 50 48.6 -0.5
     comp=Z,55nm,1.2s
ANKE Ethiopia-Afar   86.53 279  eP         P       16 50 50.9 +1.1
ANKE Ethiopia-Afar   86.53 279  eP         P       16 50 51.7 +1.9
ANKE                                 eS      S       17 01 21.8 -4.3
ANKE                                 IAMs_20 IAMs_20 17 01 32.7
     comp=N,2μm,10.8s
L26K Log Cabin Wild  86.55  27  IAMs_20 IAMs_20 17 32 29.0
     comp=Z,24μm,20.0s
L26K Log Cabin Wild  86.55  27  P          P       16 50 47.6 -0.9
     baz=272
L26K                                 S       S       17 01 25.7 +1.9
     baz=272
VRDI Verde Repeater  86.55  29  P          P       16 50 48.6 -0.2
VRDI                                 IAmb    IAmb    16 51 03.2
     comp=Z,152nm,1.2s
BGLC Bering Glacier  86.67  30  P          P       16 50 49.2 +0.2
     baz=272
BGLC                                 S       S       17 01 25.7 +0.9
     baz=272
VAH  Vaihoa          86.69 105  eP         P       16 50 50.0  0.0
     comp=Z,168nm,1.2s
M26K Nabesna, AK     86.73  28  P          P       16 50 49.1 -0.4
M26K                                 IAMs_20 IAMs_20 17 28 12.1
     comp=Z,26μm,21.0s
M26K Nabesna, AK     86.73  28  P          P       16 50 48.3 -1.1
     baz=272
WAX  Waxell Ridge    86.87  30  P          P       16 50 49.6 -0.5
WAX                                  IAmb    IAmb    16 51 06.9
     comp=Z,206nm,1.2s
SNH  Sunshine Point  86.89  30  P          P       16 50 49.3 -0.9
SNH                                  IAmb    IAmb    16 51 07.8
     comp=Z,216nm,1.0s
SNH                                  IAMs_20 IAMs_20 17 28 23.1
     comp=Z,25μm,21.0s
NGLE Hospital, Nege  86.94 275 ⇑P           P       16 50 52.6 +1.0
OBN  Obninsk         87.07 325 ⇑P           P       16 50 51.5 +0.4
OBN  Obninsk         87.07 325  P           P       16 50 51.2 +0.1
     comp=Z,50nm,0.6s,baz=75,slow=2.2,SNR=36
OBN                                  S       S       17 01 25.4 -3.5
     comp=Z,2.4nm,0.4s,baz=8.1,slow=7.1,SNR=6.4
OBN                                  LR      LR      17 33 11.4
     comp=Z,7μm,21.4s,baz=83,slow=38
OBN  Obninsk         87.07 325c iP          P       16 50 51.0  0.0
OBN                                  e               16 54 20.5
OBN                                  ePPP    PPP     16 56 13.1
OBN                                  i S     SKSac   17 01 12.3 -4.7
OBN                                  pmax    pmax
     comp=Z,2μm,1.9s
OBN                                  MLR     MLR
     comp=Z,24μm,21.0s
OBN  Obninsk         87.07 325  P          P       16 50 50.3 -0.7
OBN                                  IAMs_20 IAMs_20 17 34 13.5
     comp=Z,27μm,20.0s
ISLE Juniper Island  87.12  30  P          P       16 50 50.5 -1.0
ISLE                                 IAmb    IAmb    16 51 07.2
     comp=Z,252nm,1.2s
ISLE                                 IAMs_20 IAMs_20 17 28 47.1
     comp=Z,20μm,21.0s
L27K Beaver Creek,   87.24  27  P          P       16 50 51.6 -0.3
M27K Edge Creek, AK  87.26  28  IAMs_20 IAMs_20 17 26 04.6
     comp=Z,25μm,22.0s
BCAR Beaver Creek A  87.26  27  P          P       16 50 51.2 -0.8
LVZ  Lovozero        87.33 338c iP          P       16 50 50.8 -1.4
LVZ                                  pmax    pmax
     comp=Z,128nm,1.0s
LVZ  Lovozero        87.33 338  P          P       16 50 50.8 -1.4
LVZ                                  IAmb    IAmb    16 50 56.8
     comp=Z,134nm,1.0s
MESA MESA            87.33  30  P          P       16 50 52.6  0.0
     baz=273
MESA                                 S       S       17 01 34.9 +3.2
     baz=273
YAH  Yahtse          87.43  30  IAMs_20 IAMs_20 17 28 53.2
     comp=Z,22μm,20.0s
GAZ  Gaziantep       87.43 307  P          P       16 50 52.5 -0.9
GAZ                                  IAmb    IAmb    16 50 55.9
     comp=Z,186nm,0.9s
EGAK Eagle           87.44  25  P          P       16 50 52.6 -0.1
EGAK Eagle           87.44  25  P          P       16 50 53.5 +0.7
     baz=273,SNR=10.0
EGAK                                 S       S       17 01 34.4 +2.2
     baz=273
CTG  Chitna Glacier  87.59  29  P          P       16 50 51.8 -1.9
     baz=273,SNR=16
CTG                                  S       S       17 01 35.6 +1.5
     baz=273
CTGM Chitina Glacie  87.59  29  IAMs_20 IAMs_20 17 30 16.6
     comp=Z,19μm,20.0s
FURI Furi            87.61 279  eP         P       16 50 57.3 +2.3
FURI Furi            87.61 279  IAMs_20 IAMs_20 17 30 18.9
     comp=Z,20μm,20.0s
FURI Furi            87.61 279 ⇑P           P       16 50 57.0 +2.0
FURI Furi            87.61 279  eP         P       16 50 56.7 +1.8
FURI                                 eS      SKSac   17 01 28.4 +5.7
FURI                                 IAMs_20 IAMs_20 17 01 47.3
     comp=Z,6μm,11.0s
TABL Table Mountain  87.72  30  IAMs_20 IAMs_20 17 29 02.0
     comp=Z,22μm,21.0s
BVCY Beaver Creek    87.73  28  P          P       16 50 54.4 +0.2
     baz=274
BVCY                                 S       S       17 01 37.9 +2.8
     baz=274
LOGN Logan Glacier   87.76  29  IAMs_20 IAMs_20 17 29 09.1
     comp=Z,20μm,21.0s
APA  Apatity         87.83 337 ⇓i iP        P       16 50 52.0 -2.5
APA                                  i               16 54 22.0
APA                                  i               17 01 19.0
APA                                  i S     S       17 01 33.0 -2.8
APA                                  i PS    PnS     17 02 37.0 -1.9
APA                                  pmax    pmax
     comp=E,102μm,1.1s
TOKA Tokat           87.84 310  P          P       16 50 55.0 -0.2
TOKA                                 IAmb    IAmb    16 51 04.4
     comp=Z,100nm,0.9s
MERTO Secondary Scho 87.89 281 ⇑P           P       16 50 58.2 +1.8
ASF  Jabal al Asfar  87.95 302  P          P       16 50 57.1 +1.1
     comp=Z,128nm,0.9s,baz=120,slow=2.4,SNR=75
ASF                                  S       SKSac   17 01 27.5 +3.8
     comp=Z,0.9nm,0.4s,baz=31,slow=12,SNR=1.4
YUK3 Moose Creek     87.96  28  P          P       16 50 56.4 +0.8
     baz=274
YUK3                                 S       S       17 01 39.5 +1.8
     baz=274
SILA Clinic, Silare  88.05 283 ⇑P           P       16 50 58.1 +1.2
DILA Dilla           88.15 276  eP         P       16 50 58.1 +0.7
DILA Dilla           88.15 276  eP         P       16 50 58.4 +1.0
DILA                                 eS      SKSac   17 01 31.3 +5.7
PINM Pinnacle        88.19  30  P          P       16 50 56.6 +0.1
     baz=274
PINM                                 S       S       17 01 41.7 +2.0
     baz=274
DAWY Dawson          88.26  26  P          P       16 50 56.8 +0.1
     baz=275,SNR=15
DAWY                                 S       S       17 01 42.1 +1.9
     baz=275
BNN  Bunyan          88.42 309  P          P       16 50 57.3 -0.8
GOND University, Go  88.59 282  P          P       16 50 59.3 -0.3
I29M Ogilvie Camp,   88.60  25  P          P       16 50 58.7 +0.4
     baz=276,SNR=21
I29M                                 S       S       17 01 45.3 +2.0
     baz=276
HWQ  Hawqa           88.62 304  eP         P       16 50 59.4 +0.2
PNL  Peninsula       88.65  30  P          P       16 50 57.1 -1.5
     baz=275
PNL                                  S       S       17 01 44.9 +1.0
     baz=275
SNOP Sinop           88.70 312  P          P       16 50 58.4 -0.8
SNOP                                 IAmb    IAmb    16 51 02.0
     comp=Z,106nm,1.0s
BAHR High School, B  88.72 281 ⇑P           P       16 51 01.5 +1.4
J29M Klondike Camp   88.74  26  P          P       16 50 58.8 -0.2
     baz=276
J29M                                 S       S       17 01 45.9 +1.2
     baz=276
RCY  Rachaya         88.77 303  eP         P       16 51 00.5 +0.6
SHBL Chebaa          88.85 303  eP         P       16 51 00.8 +0.5
BHL  Bhannes         88.89 304  eP         P       16 51 00.3 -0.1
KIBK Kibwezi         88.95 268  P          P       16 51 02.3 +1.2
     SNR=52
KIBK Kibwezi         88.95 268  P          P       16 51 00.1 -0.9
KIBK                                 IAmb    IAmb    16 51 06.0
     comp=Z,168nm,1.2s
DQRL Deir Qamar      88.97 304  eP         P       16 51 01.4 +0.6
HOPEN Hopen          89.08 347  eP         P       16 51 01.3 +1.0
HOPEN                                IVmB_BB         16 51 01.8
     comp=Z,4μm,3.7s
HOPEN                                ePP     PP      16 54 30.5 +0.4
HOPEN                                eSKSac  SKSac   17 01 30.8 +2.3
HOPEN                                IVMs_BB IVMs_BB 17 39 59.2
     comp=Z,19μm,17.4s
MMAI Mount Meron Ar  89.16 303  P          P       16 51 02.5 +0.9
     comp=Z,150nm,1.1s,baz=73,slow=6.5,SNR=40
SHAW Medical Clinic  89.20 282 ⇑P           P       16 51 05.5 +3.1
SIM  Simferopol'     89.27 315c iP          P       16 51 00.6 -1.2
SIM                                  pmax    pmax
     comp=Z,112nm,0.9s
KIRE School, Kiremu  89.32 280 ⇑P           P       16 51 04.1 +1.1
M30M Minto, Yukon    89.59  27  IAMs_20 IAMs_20 17 28 03.3
     comp=Z,24μm,22.0s
BZK  Bozkurt         89.60 312 ⇑P           P       16 51 04.0 +0.6
BZK  Bozkurt         89.60 312  P          P       16 51 02.5 -0.9
CHGE School, Chagni  89.60 281 ⇑P           P       16 51 05.3 +1.0
KMBO Kilima Mbogo    89.66 269  P          P       16 51 05.5 +0.9
     comp=Z,93nm,1.1s,baz=55,slow=6.8,SNR=61
KMBO                                 S       SKSac   17 01 37.2 +2.4
     comp=Z,0.5nm,0.3s,baz=64,slow=16,SNR=1.4
KMBO                                 LR      LR      17 28 30.5
     comp=Z,11μm,21.9s,baz=78,slow=34
KMBO Kilima Mbogo    89.66 269 ⇑i iP        P       16 51 04.9 +0.2
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KMBO IAmb IAmb 16 51 07.6
comp=Z,6μm,3.0s
KMBO Kilima Mbogo 89.66 269 *e*P **P 16 51 05.3 +0.6**
KMBO Kilima Mbogo 89.66 269 P **P 16 51 03.7 -0.9**
KMBO IAmb IAmb 16 51 09.5
comp=Z,178nm,1.3s
KMBO Kilima Mbogo 89.66 269 ⇑P **P 16 51 05.0 +0.3**
KMBO Kilima Mbogo 89.66 269 *e*P **P 16 51 05.1 +0.5**
KMBO *e*S **SKSac 17 01 41.8 +7.0**
KMBO IAMs_20 IAMs_20 17 02 10.7
comp=Z,8μm,18.2s
KMBO Kilima Mbogo 89.66 269 *i*P **P 16 51 05.6 +0.9**
SNR=100
MUKA Police Camp, M 89.67 282 ⇑P **P 16 51 05.4 +1.0**
EIL Elat 89.78 300 P **P 16 51 05.1 +0.6**
comp=Z,97nm,1.0s,baz=92,slow=1.7,SNR=36
EIL S **SKSac 17 01 35.3 +0.9**
comp=Z,1.3nm,0.4s,baz=128,slow=12,SNR=1.5
EIL LR LR 17 36 35.7
comp=Z,6μm,19.8s,baz=59,slow=39
KEV Kevo 89.86 340 P **P 16 51 03.2 -0.8**
KEV pmax pmax
comp=Z,66nm,0.9s
KEV MLR MLR
comp=Z,26μm,20.0s
KEV Kevo 89.86 340 P **P 16 51 03.2 -0.8**
KEV IAMs_20 IAMs_20 17 38 18.6
comp=Z,26μm,20.0s
HARO School, Haroo 89.88 280 ⇑P **P 16 51 06.9 +1.3**
ILGA Ilgaz 89.89 311 P **P 16 51 04.6 -0.5**
MELAE School, Dubaba 90.05 282 ⇑P **P 16 51 06.3 +0.1**
INK Inuvik 90.05 22 P **P 16 51 05.2 +0.3**
comp=Z,9.7nm,0.8s,baz=265,slow=6.7,SNR=11
INK S **SKSac 17 01 36.0 +1.6**
comp=Z,1.1nm,0.8s,baz=129,slow=6.5,SNR=1.6
INK LR LR 17 33 00.0
comp=Z,20μm,20.9s,baz=273,slow=37
INK Inuvik 90.05 22 P **P 16 51 03.3 -1.6**
baz=280,SNR=31
INK S **S 17 01 54.3 -2.4**
baz=280
BR131 Keskin Array S 90.06 310 P **P 16 51 05.1 -0.7**
BR131 pmax pmax
comp=Z,139nm,1.0s
BR131 Keskin Array S 90.06 310 P **P 16 51 05.1 -0.7**
BR131 IAmb IAmb 16 51 09.7
comp=Z,139nm,0.9s
BRTR Keskin Array B 90.06 310 P **P 16 51 05.2 -0.7**
comp=Z,57nm,0.8s,baz=120,slow=4.9,SNR=63
BRTR LR LR 17 39 23.7
comp=Z,16μm,19.4s,baz=70,slow=41
BRTR Keskin Array B 90.06 310 P **P 16 51 05.0 -0.9**
N31M Braeburn, Yuko 90.21 28 P **P 16 51 05.6 -0.3**
baz=278
N31M S **S 17 02 00.4 +1.9**
baz=278
ARA0 ARCESS Array S 90.42 340 ⇑*i*P **P 16 51 06.5 -0.1**
ARCES ARCESS Array B 90.42 340 P **P 16 51 06.5 -0.2**
comp=Z,154nm,0.9s,baz=73,slow=2.8,SNR=119
ARCES S **SKSac 17 01 36.4 -0.2**
comp=Z,1.8nm,0.9s,baz=310,slow=4.6,SNR=1.1
ARCES LR LR 17 36 41.7
comp=Z,23μm,19.9s,baz=84,slow=39
ARCES ARCESS Array B 90.42 340 P **P 16 51 06.1 -0.6**
ARCES IAmb IAmb 16 51 11.6
comp=Z,172nm,0.9s
SPB2 Spitsbergen Ar 90.43 349 P **P 16 51 05.9 -0.6**
SPB2 IAmb IAmb 16 51 28.7
comp=Z,159nm,1.0s
SPA0 Spitsbergen Ar 90.43 349 ⇑*i*P **P 16 51 06.3 -0.3**
SPA0 *e*PP **PP 16 54 40.9 +0.1**
SPA0 *e*SKSac **SKSac 17 01 38.2 +1.8**
SPITS Spitsbergen Ar 90.43 349 P **P 16 51 06.8 +0.2**
comp=Z,61nm,0.9s,baz=102,slow=7.8,SNR=18
SPITS S **SKSac 17 01 37.9 +1.5**
comp=Z,19nm,1.1s,baz=4.1,slow=13,SNR=2.1
SPITS LR LR 17 35 42.1
comp=Z,19μm,20.9s,baz=230,slow=38
ABMD Abulta/Almeha 90.46 282 P **P 16 51 08.4 +0.4**
DEBR School, Debre 90.46 281 ⇑P **P 16 51 09.3 +0.9**
ANTO Ankara 90.70 310 P **P 16 51 07.5 -1.2**
ANTO pmax pmax
comp=Z,67nm,1.0s
ANTO MLR MLR
comp=Z,10μm,21.0s
ANTO Ankara 90.70 310 P **P 16 51 07.5 -1.2**
ANTO IAmb IAmb 16 51 11.4
comp=Z,67nm,0.9s
BR231 Keskin MP Arra 90.71 310 P **P 16 51 07.7 -1.2**
CSS Mathiatis 90.72 305 P **P 16 51 08.1 -0.7**
CSS IAmb IAmb 16 51 13.2
comp=Z,106nm,0.9s
SKAG Skagway 90.73 30 P **P 16 51 08.4 +0.1**
baz=279
SKAG S **S 17 02 05.0 +1.8**
baz=279
M31M Drury Creek, Y 90.75 28 P **P 16 51 06.4 -2.0**
baz=280
M31M S **S 17 02 04.6 +1.2**
baz=280
GOREE District Admin 90.76 278 ⇑P **P 16 51 10.5 +0.8**
WHY Whitehorse 90.77 29 P **P 16 51 07.3 -1.3**
baz=279
WHY S **S 17 02 06.9 +3.0**
baz=279
HAMF Hammerfest 90.78 341 ⇑*i*P **P 16 51 07.8 -0.5**
HAMF *e*PP **PP 16 54 45.8 +2.1**
HAMF *e*SKSac **SKSac 17 01 38.9 +0.4**
HAMF IVMs_BB IVMs_BB 17 38 11.5
comp=Z,9μm,20.5s
GUBA Police Station 90.78 281 ⇑P **P 16 51 10.1 +0.5**
KBS Kingsbay 90.95 350 ⇑*i*P **P 16 51 09.9 +0.9**
KBS IVmBBB 16 51 10.6
comp=Z,1μm,3.0s
KBS *e*PP **PP 16 54 44.6 -0.2**
KBS *e*SKSac **SKSac 17 01 41.8 +2.5**
KBS IVMs_BB IVMs_BB 17 39 40.9
comp=Z,13μm,19.0s
HSPB Hornsund (broa 91.03 348 *e*P **P 16 51 09.3 -0.1**
HSPB *e*PP **PP 16 54 49.4 +3.9**
HSPB *e*S **SKSac 17 01 42.0 +2.2**
HSPB *e*L L 17 37 22.4
comp=Z,42μm,21.8s
HSPB Hornsund (broa 91.03 348 ⇑*i*P **P 16 51 10.3 +0.9**
HSPB IVmB_BB 16 51 10.8
comp=Z,2μm,3.3s
HSPB *e*PP **PP 16 54 46.2 +0.8**
HSPB *e*SKSac **SKSac 17 01 41.7 +1.9**
HSPB IVMs_BB IVMs_BB 17 36 58.4
comp=Z,12μm,19.5s
MEND High School, M 91.06 280 ⇑P **P 16 51 11.8 +0.7**
LEF Lefka 91.07 305 ⇑P **P 16 51 10.8 +0.4**
BJO1 Bjornoya 91.08 345 *e*P **P 16 51 09.4 -0.2**
BJO1 IVmBBB 16 51 10.8
comp=Z,3μm,2.3s
BJO1 *e*PP **PP 16 54 43.0 -2.9**
BJO1 *e*SKSac **SKSac 17 01 41.6 +1.6**
BJO1 IVMs_BB IVMs_BB 17 41 57.8
comp=Z,9μm,16.0s
SIT Sitka 91.10 33 P **P 16 51 10.1 +0.1**
baz=279
SIT S **S 17 02 07.8 +1.2**
baz=279
LODK Lodwar 91.25 273 P **P 16 51 12.3 +0.6**
SNR=32
LODK P **PcP 16 51 13.2 +0.5**
LODK Lodwar 91.25 273 P **P 16 51 10.8 -1.0**
KTK1 Kautokeino 91.32 339 *e*P **P 16 51 10.4 -0.5**
KTK1 IVmB_BB 16 51 12.1
comp=Z,2μm,2.6s
KTK1 *e*PP **PP 16 54 48.1 0.0**
KTK1 *e*SKSac **SKSac 17 01 40.8 -0.9**
KTK1 IVMs_BB IVMs_BB 17 37 40.2
comp=Z,9μm,19.1s
SHERE Police Station 91.33 281 ⇑P **P 16 51 12.5 +0.4**
JIS Juneau Island 91.41 31 IAMs_20 IAMs_20 17 29 32.6
comp=Z,18μm,20.0s
DODT Dodoma, Tanzan 91.49 264 ⇑P **P 16 51 13.0 +0.1**
GIDAE Health Center, 91.61 279 P **P 16 51 14.5 +0.9**
FIA1 FINESS Array S 91.82 332 P **P 16 51 12.6 -0.7**
FIA1 IAmb IAmb 16 51 23.5
comp=Z,122nm,1.1s
FINES FINESS Array B 91.82 332 P **P 16 51 12.9 -0.5**
comp=Z,40nm,0.6s,baz=58,slow=6.3,SNR=38
FINES LR LR 17 37 10.9
comp=Z,35μm,20.8s,baz=77,slow=39
FINES FINESS Array B 91.82 332 *i*P **P 16 51 12.8 -0.5**
FINES pmax pmax
comp=Z,39nm,0.6s
FINES FINESS Array B 91.82 332 P **P 16 51 12.7 -0.6**
MDUB Mudurnu 91.85 311 P **P 16 51 12.6 -1.5**
P33M Teslin, Yukon 91.86 29 P **P 16 51 12.8 -0.9**
baz=281
P33M S **S 17 02 15.1 +1.5**
baz=281
A36M Sachs Harbour 91.88 17 P **P 16 51 12.9 -0.4**
A36M Sachs Harbour 91.88 17 P **P 16 51 13.4 0.0**
baz=288
A36M S **S 17 02 13.1 -0.1**
baz=288
AKASG Malin Array Be 91.91 321 P **P 16 51 13.3 -0.6**
comp=Z,44nm,0.7s,baz=68,slow=4.6,SNR=237
AKASG PKKP **PKKPdf 17 08 30.7 +0.4**
comp=Z,1.0nm,0.7s,baz=275,slow=2.9,SNR=5.8
AKASG LR LR 17 36 57.0
comp=Z,22μm,20.2s,baz=66,slow=38
AKASG Malin Array Be 91.91 321 P **P 16 51 12.8 -1.1**
AKASG IAmb IAmb 16 51 19.5
comp=Z,105nm,0.8s
AKBB Malin Array Si 91.91 321 P **P 16 51 12.9 -1.1**
AKBB pmax pmax
comp=Z,125nm,0.9s
AKBB Malin Array Si 91.91 321 P **P 16 51 12.8 -1.1**
AKBB IAmb IAmb 16 51 19.5
comp=Z,125nm,0.9s
PURM Purcari 92.06 317 ⇓P **P 16 51 15.1 +0.4**
VSU Vasula 92.06 329 *e*P **P 16 51 13.5 -0.9**
MNK Minsk 92.13 325 *i*P **P 16 51 15.4 +0.5**
MNK *i* 16 54 54.8
MNK *i*PPP PPP 16 56 53.8
MNK *i*S **SKSac 17 01 48.1 +1.3**
MNK *i*PS PS 17 03 29.6 +0.7
MNK *i*SS **SS 17 08 28.3 +3.0**
MNK *i*SSS SSS 17 12 06.9
MNK pmax pmax
comp=Z,211nm,0.9s
MNK pmax pmax
comp=N,37nm,0.8s
MNK pmax pmax
comp=E,21nm,1.1s
MNK MLR MLR
comp=E,3μm,19.0s
MNK MLR MLR
comp=Z,38μm,24.0s
MNK MLR MLR
comp=N,32μm,27.0s
MNK Minsk 92.13 325 *i*P **P 16 51 15.4 +0.6**
comp=E,21nm,1.1s
MNK *i*P **P 16 51 15.4 +0.6**
comp=N,37nm,0.8s
MNK *i*P **P 16 51 15.4 +0.6**
comp=Z,211nm,0.9s,baz=261
MNK *i*PP **PP 16 54 54.8 +0.1**
MNK *i*PPP PPP 16 56 53.8
MNK *i*S **SKSac 17 01 48.2 +1.4**
MNK *i*PS PnS 17 03 29.6 -0.2
MNK *i*SS **SS 17 08 28.3 +3.0**
MNK *i*SSS SSS 17 12 06.9
MNK *i*LQ LQ 17 26 51.6
MNK *i*LR LR 17 31 53.3
MNK *i*LRM MLR 17 34 30.5
comp=E,3μm,19.1s
MNK *i*LRM MLR 17 34 40.7
comp=Z,38μm,24.3s
MNK *i*LRM MLR 17 34 54.8
comp=N,32μm,26.9s
JETT Jettan, Norway 92.15 340 ⇑*i*P **P 16 51 15.5 +0.7**
SYO Syowa Base 92.53 201 ⇑*i*P **P 16 51 17.4 +1.0**
SYO Syowa Base 92.53 201 ⇓*i*PcP **PcP 16 51 18.8 +1.7**
SYO Syowa Base 92.53 201 ⇓*e*pP pP 16 51 22.4 -1.3
CRAG Craig 92.57 34 S **S 17 02 20.1 +0.1**
baz=280
TRO Tromso 92.62 341 ⇑*i*P **P 16 51 16.1 -0.7**
TRO IVmB_BB 16 51 17.0
comp=Z,2μm,3.4s
TRO *e*SKSac **SKSac 17 01 47.9 -1.0**
TRO IVMs_BB IVMs_BB 17 41 22.6
comp=Z,10μm,19.0s
IDID Didziasalis 92.64 326 *e*P **P 16 51 17.7 +0.5**
ISP Isparta 92.68 308 IAMs_20 IAMs_20 17 38 59.9
comp=Z,20μm,22.0s
NACGM Naroch 92.69 325 *i*P **P 16 51 17.6 +0.1**
KIS Kishinev 92.71 317 ⇑*e*P **P 16 51 14.0 -3.8**
comp=Z,900nm,4.0s
KIS Kishinev 92.71 317 *e*PP PP 16 54 59.0 -0.6
KIS *i*SKS **SKSac 17 01 49.0 -1.4**
KIS *e*S **S 17 02 20.0 -1.6**
KIS Kishinev 92.71 317 *e*PS PS 17 03 27.0 -8.7
KIS *e*L L 17 29 12.0
KIS LQM 17 31 15.0
comp=Z,11μm,25.0s
KIS *e*LR LR 17 36 26.0
comp=Z,10μm,22.0s
KIS Kishinev 92.71 317 *ce*P **P 16 51 17.0 -0.8**
KIS *e* 16 54 59.0
KIS *i* 17 01 49.0
KIS *e*S **S 17 02 20.0 -1.6**
KIS *e*PS **PS 17 03 27.0 -8.7**
KIS pmax pmax
comp=Z,900nm,4.9s
KIS pmax pmax
comp=N,11μm,25.0s
MILM Milestii Mici 92.73 317 ⇑*i*P **P 16 51 17.0 -0.8**
comp=N,2μm,4.1s
MILM Milestii Mici 92.73 317 *e*PP PP 16 54 56.0 -3.7
MILM *e*SKS **SKSac 17 01 50.0 -0.4**
MILM *e*S **S 17 02 22.0 +0.3**
MILM *e*LQ LQ 17 22 48.0
comp=N,32μm,26.0s
MILM LRM MLR 17 41 23.0
comp=N,25μm,20.5s
MILM Milestii Mici 92.73 317 ⇓P **P 16 51 17.6 -0.2**
MILM Milestii Mici 92.73 317 *c*⇓*i*P **P 16 51 17.0 -0.8**
MILM *e* 16 54 56.0
MILM *e* 17 01 50.0
MILM *e*S **S 17 02 22.0 +0.3**
MILM pmax pmax
comp=Z,2μm,4.1s
MILM pmax pmax
comp=N,32μm,26.0s
WRAK Wrangell Islan 92.82 33 S **S 17 02 24.0 +1.8**
baz=281
SORM Soroca 92.85 318 ⇓P **P 16 51 18.1 -0.3**
IIGN Ignalina 92.92 326 *e*P **P 16 51 18.3 -0.3**
ISAL Salakas 92.93 326 *e*P **P 16 51 18.9 +0.4**
TLCR 92.98 315 ⇑P **P 16 51 19.6 +0.6**
JURR Jurilovca 93.00 315 ⇑P **P 16 51 19.5 +0.4**
NOR Nord 93.03 355 *i*P **P 16 51 18.6 0.0**
NOR IAmb IAmb 16 51 28.4
comp=Z,27nm,0.8s
C36M Paulatuk 93.11 20 P **P 16 51 18.2 -0.8**
C36M IAmb IAmb 16 51 38.9
comp=Z,85nm,1.1s
C36M Paulatuk 93.11 20 P **P 16 51 18.1 -1.0**
baz=289
C36M S **S 17 02 23.1 -1.1**
baz=289
LEOM Leova 93.18 317 ⇑P **P 16 51 20.4 +0.5**
ELL Elmali 93.30 307 P **P 16 51 19.6 -1.3**
ELL pmax pmax
comp=Z,140nm,0.7s
ELL Elmali 93.30 307 P **P 16 51 19.6 -1.3**
TPGR Topolog 93.30 315 ⇑P **P 16 51 20.5 0.0**
MANR Mangalia 93.34 314 ⇑P **P 16 51 21.0 +0.3**
TIRR Tirgusor 93.37 315 ⇑P **P 16 51 20.6 -0.2**
TIRR Tirgusor 93.37 315 P **P 16 51 19.9 -0.9**
TIRR pmax pmax
comp=Z,178nm,1.0s
TIRR MLR MLR
comp=Z,51μm,20.0s
TIRR Tirgusor 93.37 315 P **P 16 51 19.9 -0.9**
VLDR Vladesti 93.39 316 ⇑P **P 16 51 21.5 +0.6**
MFTR Murfatlar 93.40 315 ⇑P **P 16 51 21.5 +0.5**
CFR Carcaliu 93.45 316 ⇑P **P 16 51 21.1 -0.1**
VASR Vaslui 93.46 317 ⇓P **P 16 51 21.8 +0.5**
SCTR Scanteiesti 93.47 316 ⇑P **P 16 51 22.5 +1.1**
MTSE Matsula 93.51 329 *e*P **P 16 51 21.0 -0.1**
IAS Iasi 93.53 318 ⇑P **P 16 51 21.4 -0.1**
VARL Varlezi 93.54 316 ⇑P **P 16 51 22.1 +0.5**
TAOE Nuku Hiva Isla 93.55 99 *e*PP PP 16 54 59.8 -7.5
comp=Z,2μm,26.4s
TAOE *e*SKSac **SKSac 17 01 54.1 -2.3**
comp=Z,24μm,24.4s
TAOE Nuku Hiva Isla 93.55 99 *e*PS PS 17 03 42.2 -4.2
comp=Z,20μm,27.7s
TAOE *e*SS SS 17 08 46.3 -1.9
comp=Z,26μm,26.4s
TAOE Nuku Hiva Isla 93.55 99 *e*LR LR 17 21 14.6
comp=Z,65μm,23.2s,baz=273
TAOE Nuku Hiva Isla 93.55 99 *e*T T 18 35 04.5
comp=Z,86nm,0.2s
TLBR Topalu 93.61 315 ⇓P **P 16 51 22.1 +0.2**
DLBC Dease Lake 93.62 31 LR LR 17 31 48.6
comp=Z,9μm,19.9s,baz=288,slow=34
BIR Birlad 93.64 317 ⇑P **P 16 51 23.3 +1.2**
SLCR Slobozia Conac 93.64 316 ⇓P **P 16 51 22.1 0.0**
PSN Preselentsi 93.65 314 P **P 16 51 21.0 -1.2**
IZVR Izvoarele 93.65 316 ⇓P **P 16 51 22.9 +0.8**
ALE Alert 93.67 1 IAMs_20 IAMs_20 17 37 43.5
comp=Z,23μm,21.0s
HARR Harsova 93.67 315 ⇑P **P 16 51 22.5 +0.3**
QSPA South Pole Qui 93.71 180 PKKP 17 08 28.7
comp=Z,4.8nm,0.8s,baz=192,slow=1.2,SNR=8.0
QSPA LR LR 17 36 25.4
comp=Z,21μm,18.3s,baz=353,slow=37
QSPA South Pole Qui 93.71 180 P **P 16 51 21.9 -0.1**
QSPA IAmb IAmb 16 51 43.3
comp=Z,69nm,1.1s
GHRR 93.82 316 ⇑P **P 16 51 23.8 +0.9**
ICOR Ion Corvin 93.86 315 ⇑P **P 16 51 22.8 -0.3**
FETY Fethiye 93.97 307 P **P 16 51 22.4 -1.4**
KULA Kula-Manisa 94.04 309 P **P 16 51 23.9 -0.3**
ODBI Odobesti 94.11 316 ⇓P **P 16 51 25.9 +1.6**
PABE Paberze 94.15 326 *e*P **P 16 51 25.0 +0.8**
PABE Paberze 94.15 326 P **P 16 51 23.4 -0.7**
TETE Tete 94.17 254 ⇑P **P 16 51 24.5 -0.6**
GRER 94.23 316 ⇑P **P 16 51 26.4 +1.6**
TESR Tescani 94.26 317 ⇑P **P 16 51 25.4 +0.4**
PRD Provadia 94.29 314 P **P 16 51 23.0 -2.1**
PGOR Pogoanele 94.30 315 ⇑P **P 16 51 26.4 +1.2**
VRI Vrincioaia 94.32 316 ⇓P **P 16 51 26.1 +0.9**
PLOR Plostina 94.38 316 ⇓P **P 16 51 26.2 +0.7**
BISRR Bisoca 94.39 316 ⇓P **P 16 51 27.0 +1.4**
STEI Steigen 94.46 339 ⇑*i*P **P 16 51 24.6 -0.7**
STEI IVmB_BB 16 51 26.5
comp=Z,3μm,2.6s
STEI *e*SKSac **SKSac 17 02 00.8 +1.7**
STEI IVMs_BB IVMs_BB 17 40 06.7
comp=Z,12μm,17.9s
BALB Balikesir 94.48 310 P **P 16 51 24.8 -1.3**
BALB IAmb IAmb 16 51 29.1
comp=Z,78nm,1.1s
ISR Istrita 94.58 316 ⇑P **P 16 51 27.4 +0.9**
FAUS Fauske 94.65 339 *e*P **P 16 51 25.6 -0.6**
FAUS IVmB_BB 16 51 31.0
comp=Z,2μm,3.3s
FAUS *e*PP **PP 16 55 11.5 -2.6**
FAUS *e*SKSac **SKSac 17 01 58.8 -1.3**
FAUS IVMs_BB IVMs_BB 17 40 44.6
comp=Z,16μm,16.6s
NEHR Nehoiu 94.69 316 ⇑P **P 16 51 27.6 +0.6**
ARG Arkhangelos 94.79 307 P **P 16 51 26.8 -0.8**
SULR 94.85 315 ⇑P **P 16 51 28.5 +0.8**
RAZG Razgrad 94.87 314 ⇑P **P 16 51 28.4 +0.7**
SECR 94.92 316 ⇑P **P 16 51 29.4 +1.3**
OZUR 94.92 317 ⇑P **P 16 51 29.0 +0.9**
MLR Muntele Rosu 94.92 316 ⇑P **P 16 51 29.1 +0.9**
MLR Muntele Rosu 94.92 316 P **P 16 51 28.1 -0.1**
comp=Z,124nm,1.0s,baz=1.9,slow=2.7,SNR=82
MLR S **SKSac 17 02 00.4 -2.5**
comp=Z,1.6nm,0.6s,baz=344,slow=12,SNR=1.4
MLR LR LR 17 39 53.2
comp=Z,22μm,19.9s,baz=60,slow=39
MLR Muntele Rosu 94.92 316 P **P 16 51 27.4 -0.8**
SUW Suwalki 94.93 325 *e*P **P 16 51 27.4 -0.3**
SUW *e*PP **PP 16 55 20.2 +3.5**
SUW *e*S **SKSac 17 02 02.5 +0.4**
SUW *e*L L 17 38 47.6
comp=Z,46μm,20.9s
SUW Suwalki 94.93 325 P **P 16 51 26.9 -0.9**
SUW pmax pmax
comp=Z,460nm,1.0s
SUW MLR MLR
comp=Z,45μm,21.0s
SUW Suwalki 94.93 325 *e*P **P 16 51 28.1 +0.3**
SUW Suwalki 94.93 325 P **P 16 51 26.9 -0.9**
LOF Lofoten 94.98 340 *e*P **P 16 51 26.3 -1.4**
LOF IVmB_BB 16 51 28.6
comp=Z,1μm,2.0s
LOF *e*PP **PP 16 55 11.8 -4.8**
LOF *e*SKSac **SKSac 17 02 03.6 +1.7**
LOF IVMs_BB IVMs_BB 17 43 23.5
comp=Z,9μm,16.0s
EDRB Edirne 94.99 312 P **P 16 51 27.8 -0.5**
BURAR Bucovina Array 95.02 318 ⇓P **P 16 51 29.6 +1.0**
BURAR Bucovina Array 95.02 318 P **P 16 51 28.1 -0.4**
BURAR IAmb IAmb 16 51 30.4
comp=Z,99nm,0.8s
BUR08 Bucovina Ar. S 95.03 318 P **P 16 51 28.5 -0.1**
BUR08 IAmb IAmb 16 51 40.0
comp=Z,108nm,0.9s
DOPR Dopca 95.22 317 ⇑P **P 16 51 29.8 +0.4**
SZH Strazhica 95.33 314 P **P 16 51 26.0 -3.9**
LVV L'vov 95.34 321 *e*P **P 16 51 29.9 +0.1**
LVV *e* 17 02 00.8
LVV *e*S **S 17 02 44.7 +0.1**
MOR8 Moi Rana 95.41 338 *e*P **P 16 51 28.0 -1.8**
MOR8 *e*PP **PP 16 55 21.8 +1.7**
MOR8 *e*SKSac **SKSac 17 02 03.7 -0.6**
MOR8 IVMs_BB IVMs_BB 17 39 58.0
comp=Z,12μm,18.0s
VOIR 95.55 316 ⇓P **P 16 51 30.5 -0.5**
MTUR Matau 95.58 316 ⇑P **P 16 51 31.2 +0.1**
ALN Alexandroupoli 95.67 312 P **P 16 51 30.2 -1.3**
ZIMR 95.67 314 ⇑P **P 16 51 32.5 +1.1**
COPA Copaceanca 95.68 315 ⇑P **P 16 51 31.2 -0.2**
ARCR ARCALIA 95.70 318 ⇑P **P 16 51 32.4 +0.9**
PRK Paraskevi 95.77 310 P **P 16 51 32.2 +0.2**
KONS Konsvik 95.78 338 *e*P **P 16 51 31.5 +0.1**
ARR Arges 95.86 316 ⇓P **P 16 51 32.5 +0.2**
STOK Stokkvaagen 95.88 338 *e*P **P 16 51 31.4 -0.4**
KDZ Kurdzhali 96.00 312 P **P 16 51 31.0 -2.0**
RDO Rodhopi 96.00 312 P **P 16 51 31.7 -1.3**
CHOS Chios island 96.08 309 P **P 16 51 32.8 -0.7**
MBAR Mbarara 96.13 270 LR LR 17 35 05.8
comp=Z,7μm,19.4s,baz=47,slow=36
MBAR Mbarara 96.13 270 P **P 16 51 32.0 -2.4**
MBAR pmax pmax
comp=Z,18nm,1.2s
MBAR MLR MLR
comp=Z,11μm,21.0s
MBAR Mbarara 96.13 270 P **P 16 51 34.1 -0.3**
MBAR Mbarara 96.13 270 P **P 16 51 32.0 -2.4**
MBAR Mbarara 96.13 270 P **P 16 51 33.7 -0.7**
MBAR Mbarara 96.13 270 *e*P **P 16 51 34.0 -0.3**
MBAR *e*S **SKSac 17 02 15.9 +5.4**
MBAR IAMs_20 IAMs_20 17 10 09.7
comp=Z,12μm,29.7s
BMR Baia Mare 96.15 319 ⇑P **P 16 51 35.0 +1.5**
BBB Bella Bella 96.18 37 S **SKSac 17 02 16.1 +7.3**
comp=Z,20nm,1.0s,baz=258,slow=9.1,SNR=1.3
KWP Kalwaria Pacla 96.22 321 *e*P **P 16 51 34.4 +0.5**
KWP *e*S **SKSac 17 02 10.1 +0.8**
KWP *e*L L 17 37 50.1
comp=Z,25μm,24.4s
KWP Kalwaria Pacla 96.22 321 P **P 16 51 32.6 -1.2**
KWP pmax pmax
comp=Z,2μm,1.1s
KWP MLR MLR
comp=Z,194μm,20.0s
KWP Kalwaria Pacla 96.22 321 P **P 16 51 32.6 -1.2**
UPP Uppsala 96.25 331 *e*P **P 16 51 32.5 -1.2**
CJR Cluj-Napoca 96.29 318 ⇑P **P 16 51 35.9 +1.7**
POGA Pongola 96.29 243 ⇑*i*P **P 16 51 33.9 -0.7**
POGA IAmb IAmb 16 51 40.1
comp=Z,114nm,1.2s
CBBR Cluj-Babes-Bol 96.31 318 ⇑P **P 16 51 35.6 +1.4**
LIA Limnos Island 96.49 311 P **P 16 51 34.9 -0.3**
MESR Meseseni 96.62 318 ⇑P **P 16 51 37.0 +1.3**
THAS Thassos island 96.71 311 P **P 16 51 35.3 -0.9**
UZH Uzhgorod 96.72 320 ⇑*i*P **P 16 51 36.8 +0.7**
UZH *e* 16 51 49.5

UZH			*e*		16 55 31.4	
UZH			*e*		17 02 10.1	
UZH			*e*S	**S**	**17 02 56.3**	**-0.2**
UZH			*e*PS	PS	17 04 20.6	+0.9
PGB	**Panagyurishte**	**96.74 313**	P	**P**	**16 51 35.0**	**-1.4**
KAVA	**Kavala**	**96.79 312**	P	**P**	**16 51 34.4**	**-2.2**
DRGR		**96.86 318**	⇑P	**P**	**16 51 37.9**	**+1.0**
BEL	**Belsk**	**96.87 323**	*e*P	**P**	**16 51 37.2**	**+0.6**
BEL			*e*S	**SKSac**	**17 02 14.1**	**+1.7**
BEL			*e*L	L	17 36 48.6	
	comp=Z,30µm,24.6s					
DEV	**Deva**	**96.94 317**	⇓P	**P**	**16 51 38.2**	**+1.0**
NPS	**Neapolis**	**96.96 306**	P	**P**	**16 51 37.0**	**-0.5**
SRE	**Strehaia**	**96.99 316**	⇑P	**P**	**16 51 38.7**	**+1.3**
NSS	**Namsos**	**97.01 337**	⇑*i*P	**P**	**16 51 36.6**	**-0.4**
NSS			IVmB_BB		16 51 37.5	
	comp=Z,2µm,4.7s					
NSS			*e*PP	**PP**	**16 55 34.9**	**+2.5**
NSS			*e*SKSac	**SKSac**	**17 02 13.5**	**+0.8**
NSS			IVMs_BB	IVMs_BB	17 40 00.0	
	comp=Z,13µm,17.0s					
GZR	**Gura Zlata**	**97.13 316**	⇑P	**P**	**16 51 38.1**	**0.0**
CRVS	**Cervenica-Dubn**	**97.19 320**	*e*P	Pdif	16 51 39.1	+0.8
CRVS			*e*		16 55 33.8	
CRVS			*e*		17 02 14.3	
CRVS			*e*SS	SS	17 09 52.0	+14
CRVS	**Cervenica-Dubn**	**97.19 320**	*e*P	Pdif	16 51 39.0	+0.7
CRVS			*e*PP	**PP**	**16 55 33.8**	**-0.6**
DAG	**Danmarks Havn**	**97.20 352**	*i* P	**P**	**16 51 36.8**	**-0.9**
DAG			IAmb	IAmb	16 51 46.7	
	comp=Z,46nm,0.7s					
NVR	**Nevrokopi**	**97.20 312**	P	**P**	**16 51 37.2**	**-1.3**
KOKK	**Kokkinochori,**	**97.20 312**	P	**P**	**16 51 37.2**	**-1.3**
MMB	**Musomiste**	**97.25 313**	P	**P**	**16 51 36.0**	**-2.7**
LTVH	**Ltavrtes, Hu**	**97.27 319**	P	Pdif	16 51 39.0	+0.3
OUR	**Ouranopolis**	**97.31 311**	P	**P**	**16 51 38.0**	**-0.9**
VTS	**Vitosha**	**97.40 314**	⇓P	Pdif	16 51 39.7	+0.1
VTS	**Vitosha**	**97.40 314**	P	**P**	**16 51 38.3**	**-1.2**
VTS			pmax	pmax		
	comp=Z,36nm,1.0s					
VTS	**Vitosha**	**97.40 314**	P	**P**	**16 51 38.3**	**-1.2**
VTS			IAmb	IAmb	16 51 47.0	
	comp=Z,36nm,1.0s					
VTS	**Vitosha**	**97.40 314**	*e*P	**P**	**16 51 39.4**	**-0.1**
VTS	**Vitosha**	**97.40 314**	P	**P**	**16 51 38.0**	**-1.5**
BORR	**Bors**	**97.41 318**	⇑P	Pdif	16 51 40.4	+1.1
SRS	**Serrai**	**97.45 312**	P	**P**	**16 51 37.8**	**-1.8**
DJES	**Djerdap**	**97.47 316**	⇑P	**P**	**16 51 39.0**	**-0.6**
HERR	**Herculane**	**97.49 316**	⇑P	Pdif	16 51 40.0	+0.3
IDI	**Anoyia**	**97.54 306**	P	**P**	**16 51 38.9**	**-1.3**
	comp=Z,40nm,0.9s,baz=30,slow=9.5,SNR=12					
IDI			S	**SKSac**	**17 02 16.6**	**-0.2**
	comp=Z,6.2nm,0.9s,baz=312,slow=12,SNR=1.3					
IDI			LR	LR	17 41 43.2	
	comp=Z,4µm,20.9s,baz=78,slow=39					
IDI	**Anoyia**	**97.54 306**	P	**P**	**16 51 38.5**	**-1.7**
KYMI	**Kymi, Euboea I**	**97.55 310**	P	**P**	**16 51 38.1**	**-2.0**
PAIG	**Paliouri**	**97.62 311**	P	**P**	**16 51 39.4**	**-0.9**
ZAPS	**Zavoj**	**97.69 314**	*e*P	**P**	**16 51 40.6**	**-0.1**
RES	**Resolute Bay**	**97.72 10**	S	**SKSac**	**17 02 16.4**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=316,slow=2.2,SNR=2.0					
RES			LR	LR	17 38 54.6	
	comp=Z,8µm,20.4s,baz=332,slow=37					
CRLN	**Carolina, Mapu**	**97.78 244**	⇑*i*P	**P**	**16 51 41.3**	**-0.3**
DION	**Dionisos Attik**	**97.78 309**	P	**P**	**16 51 39.0**	**-2.2**
NIE	**Niedzica**	**97.80 321**	*e*P	Pdif	16 51 42.6	+1.6
NIE			*e*PP	**PP**	**16 55 43.2**	**+4.2**
NIE			*e*S	**SKSac**	**17 02 20.6**	**+3.1**
BZS	**Buzias**	**97.87 317**	⇑P	**P**	**16 51 41.2**	**-0.2**
OJC	**Ojcow**	**97.90 322**	*e*P	Pdif	16 51 41.7	+0.2
OJC			*e*PP	**PP**	**16 55 42.4**	**+2.6**
OJC			*e*S	**S**	**17 03 10.8**	**+4.2**
OJC	**Ojcow**	**97.90 322**	P	**P**	**16 51 40.7**	**-0.7**
OJC			pmax	pmax		
	comp=Z,70nm,0.9s					
OJC	**Ojcow**	**97.90 322**	P	**P**	**16 51 40.7**	**-0.7**
OJC			IAmb	IAmb	16 51 50.2	
	comp=Z,70nm,0.9s					
NWCL	**Newcastle**	**97.90 243**	⇑*i*P	**P**	**16 51 41.0**	**-1.1**
NWCL			IAmb	IAmb	16 51 46.5	
	comp=Z,39nm,1.1s					
KECS	**Kecovo**	**97.92 320**	*e*P	Pdif	16 51 41.8	+0.2
KECS	**Kecovo**	**97.92 320**	*e*PDIFF	Pdif	16 51 41.8	+0.2
KNT	**Kendrikon**	**97.95 312**	P	**P**	**16 51 40.5**	**-1.3**
BOSS	**Bosilegrad**	**97.97 314**	*e*P	**P**	**16 51 41.8**	**-0.1**
MDVR	**Moldovita**	**98.00 316**	⇑P	**P**	**16 51 42.0**	**0.0**
HFS	**Hagfors**	**98.01 332**	LR	LR	17 38 57.6	
	comp=Z,25µm,21.1s,baz=71,slow=37					
LESE	**Lesego, Limpop**	**98.02 246**	P	**P**	**16 51 41.5**	**-1.1**
VAM	**Vamos**	**98.07 306**	P	**P**	**16 51 42.3**	**-0.2**
KUBS	**Kucevo**	**98.11 316**	*e*P	**P**	**16 51 40.4**	**-2.1**
VAY	**Valandovo**	**98.16 312**	*i* P	**P**	**16 51 41.6**	**-1.2**
IMMV	**Iera Moni Meta**	**98.24 306**	P	**P**	**16 51 42.5**	**-0.7**
TBLU	**Trondheim**	**98.24 336**	⇑*i*P	**P**	**16 51 41.2**	**-1.3**
BANR	**Banloc**	**98.26 317**	⇑P	Pdif	16 51 44.0	+0.9
GVD	**Gavdhos**	**98.26 306**	P	**P**	**16 51 42.3**	**-1.1**
BOVS	**Bovan**	**98.27 315**	⇑P	Pdif	16 51 43.4	+0.1
AMBH	**Ambrzfalva**	**98.30 318**	P	Pdif	16 51 43.3	0.0
STIP	**Stip**	**98.36 313**	*i* P	**P**	**16 51 41.5**	**-2.2**
GRG	**Griva**	**98.36 312**	P	**P**	**16 51 42.1**	**-1.6**
BSZH	**Besenyszg**	**98.36 319**	⇑P	Pdif	16 51 44.8	+1.3
BSZH	**Besenyszg**	**98.36 319**	P	Pdif	16 51 43.8	+0.3
ATAL	**Atalanti**	**98.37 310**	P	**P**	**16 51 41.4**	**-2.4**
BARS	**Barje**	**98.38 314**	*e*P	**P**	**16 51 40.2**	**-3.5**
BARS	**Barje**	**98.38 314**	*e*P	**P**	**16 51 42.7**	**-1.0**
IZAB	**Izabela**	**98.39 320**	*e*P	Pdif	16 51 45.2	+1.5
LANS	**Liptovska Anna**	**98.39 321**	*e*P	Pdif	16 51 44.7	+1.0
LANS	**Liptovska Anna**	**98.39 321**	*e*PDIFF	Pdif	16 51 44.7	+1.0
LKR	**Lokris**	**98.39 310**	P	**P**	**16 51 42.3**	**-1.6**
PSZ	**Piszkesteto**	**98.45 319**	⇓P	Pdif	16 51 44.0	0.0
PSZ	**Piszkesteto**	**98.45 319**	P	**P**	**16 51 42.2**	**-1.8**
PSZ			pmax	pmax		
	comp=Z,170nm,1.5s					
PSZ			MLR	MLR		
	comp=Z,23µm,20.0s					
PSZ	**Piszkesteto**	**98.45 319**	P	**P**	**16 51 42.1**	**-1.8**
PSZ			IAMs_20	IAMs_20	17 42 11.1	
	comp=Z,23µm,20.0s					
PSZ	**Piszkesteto**	**98.45 319**	P	**P**	**16 51 43.6**	**-0.4**
NC405	**NORSAR Array S**	**98.52 334**	P	**P**	**16 51 41.8**	**-2.1**
GKP	**Gorka Klasztor**	**98.53 325**	*e*P	Pdif	16 51 45.5	+1.3
GKP			*e*PP	**PP**	**16 55 46.7**	**+2.2**
GKP			*e*S	**SKSac**	**17 02 22.4**	**+1.7**
GKP			*e*L	L	17 41 38.0	
	comp=Z,44µm,20.3s					
GKP	**Gorka Klasztor**	**98.53 325**	*e*P	Pdif	16 51 46.4	+2.2
NC303	**NORSAR Array S**	**98.63 334**	P	**P**	**16 51 43.2**	**-1.2**
NC303			IAmb	IAmb	16 51 52.0	
	comp=Z,90nm,1.0s					
NB201	**NORSAR Array S**	**98.73 334**	P	**P**	**16 51 43.6**	**-1.3**
NC602	**NORSAR Array S**	**98.75 333**	*e*Pdif	**P**	**16 51 44.2**	**-0.7**
NC602			IVmB_BB		16 51 52.8	
	comp=Z,2µm,3.2s					
NC602			*e*PP	**PP**	**16 55 48.0**	**+2.1**
NC602			*e*SKSac	**SKSac**	**17 02 22.4**	**+0.7**
NC602			IVMs_BB	IVMs_BB	17 41 48.8	
	comp=Z,14µm,21.8s					
NC602	**NORSAR Array S**	**98.75 333**	P	**P**	**16 51 43.5**	**-1.4**
TYRN	**Tyrnavos**	**98.75 311**	P	**P**	**16 51 43.0**	**-2.4**
NB2	**NORSAR Subarra**	**98.77 334**	P	**P**	**16 51 44.0**	**-1.1**
	comp=Z,58nm,0.9s,baz=66,slow=4.6					
NB2	**NORSAR Subarra**	**98.77 334**	P	**P**	**16 51 44.0**	**-1.1**
	baz=66,slow=4.6					
NOA	**NORSAR Array B**	**98.77 334**	P	**P**	**16 51 43.9**	**-1.2**
	comp=Z,29nm,0.8s,baz=67,slow=4.6,SNR=62					
NOA			PP	**PP**	**16 55 43.5**	**-2.6**
	comp=Z,3.4nm,0.8s,baz=66,slow=7.6,SNR=3.7					
NOA			PKKP	**PKKPbc**	**17 08 13.7**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=68,slow=3.1,SNR=4.7					
NOA			LR	LR	17 41 32.0	
	comp=Z,33µm,21.7s,baz=80,slow=39					
SELS	**Selova**	**98.78 315**	*e*P	Pdif	16 51 45.7	+0.1
AGG	**Agios Georgios**	**98.83 310**	P	**P**	**16 51 43.5**	**-2.3**
AGG			pmax	pmax		
	comp=Z,77nm,1.3s					
AGG	**Agios Georgios**	**98.83 310**	P	**P**	**16 51 43.5**	**-2.3**
AGG			IAmb	IAmb	16 52 03.2	
	comp=Z,77nm,1.3s					
SKO	**Skopje**	**98.84 313**	*i* P	**P**	**16 51 45.1**	**-0.7**
NEEM	**North Greenlan**	**98.85 360**	*i* P	Pdif	16 51 45.7	+0.2
NEEM			IAmb	IAmb	16 51 49.3	
	comp=Z,42nm,0.7s					
NC204	**NORSAR Array S**	**98.87 334**		**P**	**16 51 44.1**	**-1.4**
GRUS	**Gruza**	**98.91 315**	*e*P	Pdif	16 51 46.2	+0.1
RAC	**Raciborz**	**98.92 322**	*e*P	Pdif	16 51 46.7	+0.7
RAC	**Raciborz**	**98.92 322**	*e*S	**S**	**17 03 14.3**	**-0.9**
RAC			LMZ	LR	17 42 00.2	
	comp=Z,17nm,20.4s					
RAC	**Raciborz**	**98.92 322**	*e*P	Pdif	16 51 46.7	+0.7
RAC			*e*S	**S**	**17 03 14.3**	**-0.9**
RAC			MLR	MLR		
	comp=Z,17µm,20.4s					
NBO00	**NORSAR Array S**	**98.97 334**	P	**P**	**16 51 44.0**	**-2.0**
KZN	**Kozani**	**98.97 312**	P	**P**	**16 51 44.9**	**-1.6**
VYHS	**Vyhne**	**98.97 320**	*e*P	Pdif	16 51 46.7	+0.4
VYHS			*e*		16 55 46.8	
VYHS			*e*		17 02 26.0	
VYHS	**Vyhne**	**98.97 320**	*e*PDIFF	Pdif	16 51 46.7	+0.4
VYHS			*e*PP	**PP**	**16 55 46.8**	**-1.2**
NAO01	**NORSAR Array S**	**99.00 334**	P	P	16 51 44.3	-1.8
BLWY	**Bulawayo**	**99.02 250**	IAmb	IAmb	16 51 54.9	
	comp=Z,132nm,0.9s					
BLWY			⇑*i*P	**Pdif**	**16 51 46.2**	**-1.0**
OKC	**Ostrava-Krasne**	**99.03 322**	*e*P	**Pdif**	**16 51 47.3**	**+0.9**
OKC			*e*		16 55 52.1	
OKC			*e*		17 02 26.3	
OKC			*e*		17 03 24.0	
OKC			MLR	MLR		
	comp=Z,14µm,19.0s					
OKC	**Ostrava-Krasne**	**99.03 322**	*e*PDIFF	**Pdif**	**16 51 47.3**	**+0.9**
OKC			*e*PP	**PP**	**16 55 52.1**	**+3.8**
OKC			*e*SKS	**SKSac**	**17 02 26.3**	**+2.7**
OKC			*e*x	x	17 03 24.0	
OKC			*e*x	x	17 04 58.2	
OKC			AMS	AMS	17 40 50.0	
	comp=Z,14µm,19.0s					
MATP	**Matopo**	**99.13 250**	LR	LR	17 31 59.4	
	comp=Z,6µm,21.9s,baz=85,slow=33					
BUD	**Budapest**	**99.13 319**	PDIF	**Pdif**	**16 51 47.2**	**+0.3**
FNA	**Florina**	**99.16 312**	P	**Pdif**	**16 51 45.4**	**-1.9**
FNA	**Florina**	**99.16 312**	P	**Pdif**	**16 51 45.2**	**-2.1**
FNA			pmax	pmax		
	comp=Z,21nm,0.8s					
FNA	**Florina**	**99.16 312**		**Pdif**	**16 51 45.2**	**-2.1**
BSD	**Bornholm Skovb**	**99.22 327**	*i* P	**Pdif**	**16 51 45.9**	**-1.2**
BSD			IAmb	IAmb	16 51 52.7	
	comp=Z,30nm,0.8s					
BSD	**Bornholm Skovb**	**99.22 327**	*e*P	**Pdif**	**16 51 46.7**	**-0.4**
FRGS	**Fruska Gora**	**99.22 317**	⇑P	**Pdif**	**16 51 47.1**	**-0.4**
FRGS	**Fruska Gora**	**99.22 317**	*e*P	**Pdif**	**16 51 47.0**	**-0.4**
KOLL	**Kolacno**	**99.23 320**	*e*PDIFF	**Pdif**	**16 51 48.4**	**+1.0**
LAKA	**Lakka**	**99.26 310**	P	**Pdif**	**16 51 45.7**	**-2.1**
DOMB	**Dombas**	**99.27 335**	*e*Pdif	**Pdif**	**16 51 47.3**	**0.0**
DOMB			IVmB_BB		16 51 54.2	
	comp=Z,2µm,2.6s					
DOMB			*e*PP	**PP**	**16 55 54.4**	**+4.6**
DOMB			*e*SKSac	**SKSac**	**17 02 26.8**	**+2.4**
DOMB			IVMs_BB	IVMs_BB	17 40 56.3	
	comp=Z,15µm,17.8s					
TULEG	**Thule**	**99.27 4**	*i* P	**Pdif**	**16 51 55.8**	**+8.8**
TULEG	**Thule**	**99.27 4**	IAMs_20	IAMs_20	17 38 15.1	
	comp=Z,23µm,22.0s					
DEL	**Delary**	**99.28 329**	*i* P	**Pdif**	**16 51 46.0**	**-1.4**
LSZ	**Lusaka**	**99.33 255**	LR	LR	17 33 09.9	
	comp=Z,15µm,22.0s,baz=110,slow=33					
SLR	**Silverton**	**99.34 245**	⇑*i*P	**Pdif**	**16 51 47.3**	**-1.3**
SLR			IAmb	IAmb	16 51 55.6	
	comp=Z,40nm,1.3s					
DIVS	**Divibare**	**99.36 316**		**Pdif**	**16 51 46.6**	**-1.6**
DIVS			IAmb	IAmb	16 51 54.9	
	comp=Z,61nm,1.0s					
DIVS			IAMs_20	IAMs_20	17 44 09.8	
	comp=Z,16µm,21.0s					
DIVS	**Divibare**	**99.36 316**	*e*P	**Pdif**	**16 51 48.1**	**-0.1**
IVAS	**Ivanjica**	**99.38 315**	*e*P	**Pdif**	**16 51 48.2**	**-0.1**
YKA	**Yellowknife Ar**	**99.39 24**	P	**Pdif**	**16 51 48.2**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=300,slow=4.7,SNR=52					
YKA			PP	**PP**	**16 55 53.7**	**+3.1**
	comp=Z,1.1nm,0.9s,baz=330,slow=8.2,SNR=1.2					
YKA			PKKPbc	**PKKPbc**	**17 08 09.9**	**-3.7**
	comp=Z,2.8nm,0.6s,baz=117,slow=2.6,SNR=29					
MORC	**Moravsky Berou**	**99.42 322**	*e*PDIFF	**Pdif**	**16 51 48.5**	**+0.2**
MORC			*e*PP	**PP**	**16 55 54.2**	**+2.8**
MORC			*e*SKS	**SKSac**	**17 02 31.2**	**+5.6**
OSL	**Oslo**	**99.45 333**	*e*Pdif	**Pdif**	**16 51 47.8**	**-0.2**
OSL			*e*PP	**PP**	**16 55 55.2**	**+4.0**
OSL			*e*SKSac	**SKSac**	**17 02 25.0**	**-0.2**
OSL			IVMs_BB	IVMs_BB	17 41 23.9	
	comp=Z,12µm,16.8s					
DBG	**Daneborg**	**99.47 351**	*i* P	**Pdif**	**16 51 47.6**	**-0.3**
SRO	**Srobarova**	**99.50 320**	*e*P	**Pdif**	**16 51 49.3**	**+0.7**
SRO	**Srobarova**	**99.50 320**	*e*PDIFF	**Pdif**	**16 51 49.3**	**+0.7**
ITM	**Ithomi**	**99.53 309**		**Pdif**	**16 51 47.9**	**-1.1**
ITM			IAmb	IAmb	16 51 56.9	
	comp=Z,48nm,0.9s					
DRO	**Drossia**	**99.53 309**	P	**Pdif**	**16 51 48.3**	**-0.7**
SJES	**Sjenica**	**99.59 315**	*e*P	**Pdif**	**16 51 51.2**	**+2.0**
JAVC	**Velka Javorina**	**99.61 321**	*e*PDIFF	**Pdif**	**16 51 50.2**	**+1.1**
JAVC			*e*PP	**PP**	**16 55 56.6**	**+3.7**
JAVC			*e*SKS	**SKSac**	**17 02 28.4**	**+1.7**
MOL	**Molde**	**99.66 336**	⇑*e*Pdif	**Pdif**	**16 51 48.8**	**-0.1**
MOL			*e*PP	**PP**	**16 55 49.1**	**-3.5**
MOL			*e*SKSac	**SKSac**	**17 02 25.1**	**-1.0**
CSKK	**Cskako**	**99.66 319**	PDIF	**Pdif**	**16 51 52.9**	**+3.6**
MORH	**Mrgy, Hungar**	**99.73 318**	⇑P	**Pdif**	**16 51 50.5**	**+0.9**
MORH	**Mrgy, Hungar**	**99.73 318**	PDIF	**Pdif**	**16 51 48.9**	**-0.7**
SNKL	**Senekal, Frees**	**99.77 242**	⇑*i*P	**Pdif**	**16 51 49.3**	**-1.2**
SNKL			IAmb	IAmb	16 51 59.6	
	comp=Z,25nm,0.9s					
KRLC	**Kraliky**	**99.80 322**	*e*P	**Pdif**	**16 51 50.6**	**+0.7**
KRLC			*e*		16 55 57.9	
KRLC			*e*		17 04 55.8	
KRLC			MLR	MLR		
	comp=Z,16µm,19.1s					
KRLC	**Kraliky**	**99.80 322**	*e*PDIFF	**Pdif**	**16 51 50.6**	**+0.7**
KRLC			*e*PP	**PP**	**16 55 57.9**	**+3.6**
KRLC			*e*SKS	**SKSac**	**17 02 34.4**	**+6.9**
KRLC			*e*x	x	17 03 32.5	
KRLC			*e*PS	PS	17 04 55.8	+2.7
KRLC			AMS	AMS	17 40 00.0	
	comp=Z,16µm,19.1s					
JMIC	**Jan Mayen**	**99.81 346**	LR	LR	17 40 35.5	
	comp=Z,10µm,21.9s,baz=42,slow=38					
JMIC	**Jan Mayen**	**99.81 346**	⇑*i*P	**Pdif**	**16 51 50.9**	**+1.5**
JMIC			*e*SKSac	**SKSac**	**17 02 34.1**	**+7.5**
KSP	**Ksiaz**	**99.85 323**	*e*P	**Pdif**	**16 51 51.0**	**+0.9**
KSP			*e*S	**SKSac**	**17 02 29.1**	**+1.5**
KSP			*e*L	L	17 43 30.9	
	comp=Z,33µm,21.0s					
HRAO	**HartRAO**	**99.88 245**	*e*P	**Pdif**	**16 51 52.0**	**+1.1**
HRAO			IAmb	IAmb	16 52 16.4	
	comp=Z,43nm,1.3s					
DPC	**Dobruska-Polom**	**99.99 322**	*e*P	**Pdif**	**16 51 52.0**	**+1.2**
DPC			*e*		16 55 58.1	
DPC			*e*		17 02 31.6	
DPC			*e*		17 04 54.2	
DPC			MLR	MLR		
	comp=Z,21µm,19.1s					
DPC	**Dobruska-Polom**	**99.99 322**	*e*PDIFF	**Pdif**	**16 51 52.0**	**+1.2**
DPC			*e*PP	**PP**	**16 55 58.1**	**+2.4**
DPC			*e*SKS	**SKSac**	**17 02 31.6**	**+3.1**
DPC			*e*x	x	17 03 33.7	
DPC			*e*SP	SP	17 04 54.2	+2.4
DPC			AMS	AMS	17 39 50.0	
	comp=Z,21µm,19.1s					
MODS	**Modra-Piesok**	**100.00 320**	*e*P	**Pdif**	**16 51 52.0**	**+1.1**
MODS			*e*		16 55 58.0	
MODS			*e*		17 02 25.2	
MODS	**Modra-Piesok**	**100.00 320**	*e*PDIFF	**Pdif**	**16 51 52.0**	**+1.1**
MODS			*e*PP	**PP**	**16 55 58.0**	**+2.1**
AKN	**Aaknes**	**100.07 336**	*e*Pdif	**Pdif**	**16 51 48.9**	**-1.9**
AKN			*e*SKSac	**SKSac**	**17 02 30.4**	**+2.1**
CHVC	**Chvalec**	**100.08 323**	*e*PDIFF	**Pdif**	**16 51 52.2**	**+1.1**
CHVC			*e*PP	**PP**	**16 56 00.8**	**+4.4**
CHVC			*e*SKS		17 02 32.5	
CHVC			*e*x	x	17 03 32.3	
CHVC			*e*x	x	17 04 55.0	
CHVC			AMS	AMS	17 43 30.0	
	comp=Z,21µm,19.6s					
KONO	**Kongsberg**	**100.09 333**	P	**Pdif**	**16 51 50.4**	**-0.5**
KONO			MLR	MLR		
	comp=Z,25µm,20.0s					
KONO	**Kongsberg**	**100.09 333**	*e*Pdif	**Pdif**	**16 51 50.1**	**-0.8**
KONO			IVmB_BB		16 51 51.6	
	comp=Z,3µm,3.4s					
KONO			*e*PP	**PP**	**16 56 01.0**	**+4.9**
KONO			*e*SKSac	**SKSac**	**17 02 29.2**	**+0.8**
KONO			IVMs_BB	IVMs_BB	17 39 36.2	
	comp=Z,9µm,21.6s					
KONO	**Kongsberg**	**100.09 333**	Pdif	**Pdif**	**16 51 50.4**	**-0.5**
NLWA	**Neilton Lookou**	**100.12 41**	IAMs_20	IAMs_20	17 28 59.8	
	comp=Z,21µm,22.0s					
KOVH	**Kovagotottos**	**100.13 318**	PDIF	**Pdif**	**16 51 50.5**	**-0.9**
UPC	**Upice**	**100.13 323**	*e*P	**Pdif**	**16 51 52.4**	**+1.1**
UPC			*e*		16 55 58.3	
UPC			*e*		17 02 32.5	
UPC			*e*		17 04 54.9	
UPC			MLR	MLR		
	comp=Z,22µm,22.2s					
UPC	**Upice**	**100.13 323**	*e*PDIFF	**Pdif**	**16 51 52.4**	**+1.1**
UPC			*e*PP	**PP**	**16 55 58.3**	**+1.6**
UPC			*e*SKS		17 02 32.5	
UPC			*e*x	x	17 03 34.0	
UPC			*e*SP	SP	17 04 54.9	+1.7
UPC			AMS	AMS	17 38 20.0	
	comp=Z,22µm,22.2s					
TIR	**Tirane**	**100.14 313**	IAMs_20	IAMs_20	17 46 07.6	
	comp=Z,20µm,20.0s					
VRAC	**Vranov**	**100.15 321**	⇑P	**Pdif**	**16 51 52.6**	**+1.2**
VRAC	**Vranov**	**100.15 321**	*e*PDIFF	**Pdif**	**16 51 52.2**	**+0.7**
VRAC			*e*PP	**PP**	**16 55 59.2**	**+2.3**
VRAC			*e*SKS		17 02 29.1	
PRYS	**Parys**	**100.16 243**	⇑*i*P	**Pdif**	**16 51 51.4**	**-0.8**
PRYS			IAmb	IAmb	16 51 57.0	
	comp=Z,30nm,1.6s					
ZST	**Bratislava**	**100.17 320**	*e*P	**Pdif**	**16 51 51.7**	**+0.1**
ZST			*e*		17 02 29.0	
ZST	**Bratislava**	**100.17 320**	*e*PDIFF	**Pdif**	**16 51 51.7**	**+0.1**
EVGI	**Lefkada island**	**100.19 310**	P	**Pdif**	**16 51 50.9**	**-1.0**
SKAR	**Skarslia**	**100.21 334**	*e*P	**Pdif**	**16 51 51.4**	**-0.2**
SKAR			IVmBBB		16 51 54.0	
	comp=Z,3µm,2.9s					
SKAR			*e*PP	**PP**	**16 55 58.7**	**+1.7**
SKAR			*e*SKSac	**SKSac**	**17 02 32.0**	**+2.9**
SKAR			IVMs_BB	IVMs_BB	17 41 50.0	
	comp=Z,12µm,25.5s					
IGT	**Igoumenitsa**	**100.22 311**	P	**Pdif**	**16 51 50.6**	**-1.4**
PDG	**Podgorica**	**100.31 314**	⇓P	**Pdif**	**16 51 51.9**	**-0.3**
PDG	**Podgorica**	**100.31 314**	IAMs_20	IAMs_20	17 46 38.8	
	comp=Z,17µm,21.0s					
KRUC	**Moravsky**	**100.35 321**	*e*PDIFF	**Pdif**	**16 51 52.9**	**+0.5**
KRUC			*e*PP	**PP**	**16 56 01.0**	**+2.6**
KRUC			*e*SKS		17 02 33.1	
A04D	**Lummi Island**	**100.46 39**	Pdiff	**Pdif**	**16 51 52.2**	**-0.6**
	baz=288					
D03D	**Eldon**	**100.58 40**	Pdiff	**Pdif**	**16 51 54.0**	**+0.6**
	baz=288					
KSR	**Koster**	**100.59 245**	*e*P	**SKSac**	**17 02 30.1**	**-2.6**
KSR			IAmb	IAmb	17 03 12.5	
	comp=Z,317nm,2.6s					
RUE	**Ruedersdorf**	**100.77 325**	*e*P	**Pdif**	**16 51 55.2**	**+1.1**
RUE	**Ruedersdorf**	**100.77 325**	*e*Pdiff	**Pdif**	**16 51 55.4**	**+1.3**
	baz=68,slow=4.5					
TREC	**Trest**	**100.84 322**	*e*P	**Pdif**	**16 51 55.5**	**+0.9**
TREC			*e*		16 56 01.2	
TREC			*e*		17 02 35.8	
TREC			*e*		17 05 02.1	
TREC			MLR	MLR		
	comp=Z,21µm,18.8s					
TREC	**Trest**	**100.84 322**	*e*PDIFF	**Pdif**	**16 51 55.5**	**+0.9**
TREC			*e*PP	**PP**	**16 56 01.2**	**-1.0**
TREC			*e*SKS		17 02 35.8	
TREC			*e*x	x	17 03 42.4	
TREC			*e*SP	SP	17 05 02.1	+1.2
TREC			AMS	AMS	17 46 20.0	
	comp=Z,21µm,18.8s					
D04E	**Lakebay**	**100.89 41**	Pdiff	**Pdif**	**16 51 54.9**	**+0.2**
	baz=288					
HYA	**Hoyanger**	**100.89 335**	*e*Pdif	**Pdif**	**16 51 53.6**	**-0.8**
PVCC	**Panska Ves**	**100.99 323**	*e*P	**Pdif**	**16 51 56.4**	**+1.2**
PVCC			*e*		17 05 04.8	
PVCC			MLR	MLR		
	comp=Z,20µm,22.1s					
PVCC	**Panska Ves**	**100.99 323**	*e*PDIFF	**Pdif**	**16 51 56.4**	**+1.2**
PVCC			*e*PP	**PP**	**16 55 57.8**	**-5.4**
PVCC			*e*SKS		17 02 39.5	
PVCC			*e*x	x	17 03 41.8	
PVCC			*e*SP	**SP**	**17 05 04.8**	**+2.4**
PVCC			AMS	AMS	17 38 50.0	
	comp=Z,20µm,22.1s					
**CONA

CLL e(SSS) 17 15 12.0
CLL Lm MLR 17 44 00.0
comp=Z,32µm,21.7s
CLL Collm 101.65 324 ePdiff **Pdif 16 51 58.8 +0.7**
baz=68,slow=4.5
NVL N'lazarevskaya 101.65 198⇑ i P **Pdif 16 51 47.0 -11**
NVL i 16 56 07.4
NVL pmax pmax
comp=Z,22nm,1.4s
MUD Monsted U'grnd 101.68 330 i P **Pdif 16 51 56.1 -1.9**
CKRC Cesky Krumlov 101.73 321 ePDIFF **Pdif 16 51 59.7 +1.2**
CKRC ePP **PP 16 56 06.9 -2.0**
CKRC eSKS **SKSac 17 02 39.7 +2.8**
CKRC ex x 17 03 44.3
CKRC ex x 17 05 11.4
CKRC AMS AMS 17 47 00.0
comp=Z,16µm,18.4s
LBTB Lobatse 101.78 245⇑ P **Pdif 16 52 01.6 +2.2**
PERS Pernice 101.93 319 i Pdiff **Pdif 16 52 00.4 +0.9**
PERS ePP **PP 16 56 12.7 +2.2**
PERS eSKSac **SKSac 17 02 38.0 0.0**
PERS e 17 03 46.4
PERS eSP SP 17 05 16.2 +3.5
SWZ Schweizer 101.96 243 eP **Pdif 16 51 59.1 -1.1**
SWZ IAmb IAmb 16 52 18.0
comp=Z,28nm,1.4s
SOKA Soboth 101.97 319 eP **Pdif 16 51 59.4 -0.3**
comp=Z,20nm,1.1s
SOKA P **PP 16 56 13.5 +2.6**
comp=Z,30nm,1.6s
BOSA Boshof 101.98 242⇑ i P **Pdif 16 51 59.1 -1.1**
BOSA IAmb IAmb 16 52 11.5
comp=Z,285nm,3.1s
BOSA Boshof 101.98 242 P **Pdif 16 51 59.8 -0.4**
KHC Kasperske Hory 102.08 322 eP **Pdif 16 52 00.8 +0.7**
KHC e 16 56 09.0
KHC e 17 05 15.1
KHC MLR MLR
comp=Z,24µm,19.3s
KHC Kasperske Hory 102.08 322 ePDIFF **Pdif 16 52 00.8 +0.7**
KHC ePP **PP 16 56 09.0 -2.5**
KHC eSKS **SKSac 17 02 42.6 +4.0**
KHC ex x 17 03 47.6
KHC ex x 17 05 15.1
KHC AMS AMS 17 46 20.0
comp=Z,24µm,19.3s
MOA Molln 102.08 321 eP **Pdif 16 52 00.7 +0.6**
comp=Z,56nm,1.2s,SNR=15
MOA eP **PKiKP 16 56 17.1 -5.5**
comp=Z,19nm,1.3s
GEC2 GERESS Array S 102.10 322 ePdiff **Pdif 16 52 01.1 +0.8**
baz=68,slow=4.5
GERES GERESS Array B 102.10 322 P **Pdif 16 52 00.7 +0.4**
comp=Z,24nm,1.0s,baz=76,slow=5.6,SNR=36
GERES PP **PP 16 56 18.8 +7.0**
comp=Z,9.1nm,1.0s,baz=60,slow=7.9,SNR=5.5
GERES PKKPbc **PKKPbc 17 08 03.6 -1.9**
comp=Z,0.6nm,0.7s,baz=197,slow=4.1,SNR=3.6
HUMO Hull Mountain 102.12 45 IAMs_20 IAMs_20 17 31 04.9
comp=Z,16µm,21.0s
BSEG Bad Segeberg 102.14 327 ePdiff **Pdif 16 52 00.9 +0.8**
baz=68,slow=4.5
KMY Karmoy 102.26 333 ePdif **Pdif 16 51 59.2 -1.4**
FLTG Flechtingen 102.28 326 ePdiff **Pdif 16 52 01.6 +0.8**
baz=68,slow=4.5
TANN Tannenbergstha 102.29 323 ePdiff **Pdif 16 52 01.9 +0.9**
baz=68,slow=4.5
OBKA Obir 102.34 319 eP **Pdif 16 52 02.3 +0.9**
comp=Z,21nm,1.0s
NKC Novy Kostel 102.37 323 eP **Pdif 16 52 02.4 +1.1**
NKC e 16 56 14.4
NKC e 17 05 16.9
NKC MLR MLR
comp=Z,29µm,18.4s
NKC Novy Kostel 102.37 323 ePDIFF **Pdif 16 52 02.4 +1.1**
NKC ePP **PP 16 56 14.4 +0.8**
NKC eSKS **SKSac 17 02 44.3 +4.4**
NKC ex x 17 03 53.6
NKC eSP **SP 17 05 16.9 -0.1**
NKC AMS AMS 17 43 00.0
comp=Z,29µm,18.4s
WERD Werda 102.37 323 ePdiff **Pdif 16 52 02.3 +0.9**
baz=68,slow=4.5
GUNZ Gunzen 102.39 323 ePdiff **Pdif 16 52 02.6 +1.2**
baz=68,slow=4.5
WERN Wernitzgruen 102.39 323 ePdiff **Pdif 16 52 02.7 +1.2**
baz=68,slow=4.5
NEUB Neuenburg 102.40 324 ePdiff **Pdif 16 52 02.4 +1.0**
baz=68,slow=4.5
PLN Plauen 102.45 324 ePdiff **Pdif 16 52 02.7 +1.0**
baz=68,slow=4.5
WET Wettzell 102.50 322 ePdiff **Pdif 16 52 03.0 +1.1**
baz=68,slow=4.5
LJU Ljubljana 102.51 319 i Pdiff **Pdif 16 52 02.2 +0.2**
LJU ePP **PP 16 56 17.4 +2.6**
LJU e 16 58 40.2
LJU eSKSac **SKSac 17 02 41.9 +1.2**
LJU e 17 03 53.1
LJU e 17 11 18.6
YBH Yreka Blue Hor 102.55 46 IAMs_20 IAMs_20 17 30 43.3
comp=Z,21µm,22.0s
MANZ Manzenberg 102.66 323 ePdiff **Pdif 16 52 04.0 +1.3**
baz=68,slow=4.5
ASSE Asse, Remlinge 102.67 325 ePdiff **Pdif 16 52 04.1 +1.6**
baz=68,slow=4.5
ROTZ Rotzenmuhle 102.68 323 ePdiff **Pdif 16 52 04.1 +1.3**
baz=68,slow=4.5
MOX Moxa 102.71 324 ePdiff **Pdif 16 52 03.9 +1.0**
baz=68,slow=4.5
N02D Trinity Center 102.77 47 Pdiff **Pdif 16 52 03.7 +0.2**
baz=287
NRDL Niedersach Rie 102.84 326 ePdiff **Pdif 16 52 04.8 +1.6**
baz=68,slow=4.5
MYKA Terra Mystica 102.89 319 eP **Pdif 16 52 05.6 +1.8**
comp=Z,24nm,1.4s
KBA Koelnbreinsper 102.93 320 i P **Pdif 16 52 04.6 +0.5**
comp=Z,31nm,0.9s
O02D Mt. Diablo Mer 102.93 47 Pdiff **Pdif 16 52 04.0 -0.2**
baz=286
CLZ Clausthal 102.96 325 ePdiff **Pdif 16 52 05.5 +1.6**
baz=68,slow=4.5
TIP Timpagrande 103.00 311 IAMs_20 IAMs_20 17 47 24.4
comp=Z,17µm,22.0s
RJOB Jochberg 103.05 321 ePdiff **Pdif 16 52 05.0 +0.5**
baz=68,slow=4.5
RETH Rethem/Aller, 103.16 326 ePdiff **Pdif 16 52 06.2 +1.5**
baz=68,slow=4.5
SUMG Summit 103.18 355 i P **Pdif 16 52 07.1 +2.2**
GRF Grafenberg Arr 103.30 323 ePdiff **Pdif 16 52 06.8 +1.3**
baz=68,slow=4.5
GTTG Gottingen 103.31 325 ePdiff **Pdif 16 52 06.8 +1.3**
baz=68,slow=4.5
MCCM Marconi Confer 103.42 49 IAMs_20 IAMs_20 17 37 15.9
comp=Z,20µm,20.0s
ABTA Abfaltersbach 103.58 320 eP **Pdif 16 52 07.1 +0.1**
comp=Z,26nm,1.1s
ABTA eP **PKiKP 16 56 29.1 +3.7**
comp=Z,18nm,1.4s
CEL Celeste 103.90 311 IAMs_20 IAMs_20 17 47 27.4
comp=Z,20µm,22.0s
WTTA Wattenberg 103.96 321 eP **Pdif 16 52 08.6 -0.1**
comp=Z,82nm,1.7s
WTTA i P **PKiKP 16 56 28.7 +2.5**
comp=Z,50nm,1.6s
WATA Walderalm 103.97 321 eP **Pdif 16 52 08.4 -0.3**
comp=Z,42nm,1.1s
WATA eP **PKiKP 16 56 28.6 +2.5**
comp=Z,31nm,1.1s
ORV Oroville 104.06 48 IAMs_20 IAMs_20 17 29 51.5
comp=Z,17µm,22.0s
NEW Newport 104.10 38 IAMs_20 IAMs_20 17 32 24.0
comp=Z,17µm,21.0s
SQTA Sankt Quirin 104.24 321 eP **Pdif 16 52 10.4 +0.5**
comp=Z,57nm,1.4s
SQTA eP **PP 16 56 32.0 +4.1**
comp=Z,40nm,1.3s
MOTA Moosalm 104.26 321 eP **Pdif 16 52 10.7 +0.7**
comp=Z,31nm,0.9s
MOTA eP **PP 16 56 32.1 +4.1**
comp=Z,21nm,1.0s
RETA Reutte 104.42 321 eP **Pdif 16 52 12.5 +1.9**
comp=Z,13nm,1.1s
RETA eP **PP 16 56 29.8 +0.7**
comp=Z,17nm,1.2s
LRW Lerwick 104.51 336 IAMs_20 IAMs_20 17 44 41.8
comp=Z,48µm,20.7s

FETA Feichten 104.62 321 eP **Pdif 16 52 11.7 +0.1**
comp=Z,33nm,1.3s
FETA P **PP 16 56 31.8 +1.1**
comp=Z,19nm,1.0s
TNS Taunus Mts 104.73 324 ePdiff **Pdif 16 52 13.3 +1.4**
baz=68,slow=4.5
DAVA Damuels 105.05 321 eP **Pdif 16 52 14.7 +1.2**
comp=Z,21nm,1.1s
DAVA eP **PP 16 56 34.4 +0.5**
comp=Z,32nm,1.2s
WVOR Wild Horse Val 105.21 44 IAMs_20 IAMs_20 17 36 54.5
comp=Z,15µm,20.0s
BMO Blue Mountains 105.26 42 IAMs_20 IAMs_20 17 33 54.0
comp=Z,23µm,22.0s
SNAA Sanae 105.31 195 Pdiff **Pdif 16 52 10.8 -3.2**
SNAA Sanae 105.31 195 PKKPbc PKKPbc 17 07 54.4 -2.1
comp=Z,3.8nm,1.0s,baz=269,slow=9.0,SNR=3.2
SNAA PKKP **PKKPdf 17 08 04.8 -2.0**
comp=Z,3.9nm,0.8s,baz=20,slow=10,SNR=2.9
CMB Columbia Colle 105.34 49 IAMs_20 IAMs_20 17 38 18.6
comp=Z,17µm,20.0s
UPI Upington 105.51 242 eP **SP 17 05 48.8 -2.7**
UPI IAmb IAmb 17 05 53.6
comp=Z,94nm,2.7s
BFO Black Forest 105.59 322 ePdiff **Pdif 16 52 16.4 +0.6**
baz=68,slow=4.5
PLID Pearl Lake 106.03 41 IAMs_20 IAMs_20 17 31 38.4
comp=Z,23µm,22.0s
ECH Echery 106.35 323 IAMs_20 IAMs_20 17 45 57.8
comp=Z,19µm,21.0s
CVNA Calvinia 106.53 238 eP **SP 17 06 01.6 -0.4**
CVNA IAmb IAmb 17 06 30.9
comp=Z,104nm,1.7s
BIGH Upper Bighouse 106.62 335 eP **Pdif 16 52 17.0 -3.0**
BIGH IAMs_20 IAMs_20 17 45 52.8
comp=Z,35µm,19.4s
MSO Missoula 106.65 39 IAMs_20 IAMs_20 17 34 21.5
comp=Z,11µm,21.0s
NVAR Mina Array Bea 106.78 48 Pdiff **Pdif 16 52 22.2 +0.7**
comp=Z,1.7nm,0.8s,baz=261,slow=5.6,SNR=14
NVAR PKiKP **PKiKP 16 56 33.9 +2.2**
comp=Z,1.0nm,0.6s,baz=214,slow=1.7,SNR=4.0
NVAR PKKPbc **PKKPbc 17 07 52.2 +1.0**
comp=Z,2.0nm,0.7s,baz=142,slow=3.7,SNR=9.3
NVAR PKKPab **PKKPab 17 08 05.9 -0.5**
comp=Z,4.3nm,0.7s,baz=126,slow=4.6,SNR=14
MFID Camas Ranch 106.78 43 IAMs_20 IAMs_20 17 46 29.0
comp=Z,16µm,19.0s
VNA2 Neumayer--Watz 106.92 194 Pdiff **Pdif 16 52 21.6 +0.5**
baz=48,slow=9.6
DRUM Mains of Drumt 106.96 334 eP **Pdif 16 52 12.3 -9.3**
DRUM IAMs_20 IAMs_20 17 46 44.2
comp=Z,37µm,21.8s
ILULI Ilulissat 107.12 359 IAMs_20 IAMs_20 17 40 37.0
comp=Z,21µm,22.0s
VNA3 Neumayer Olymp 107.25 193 Pdiff **Pdif 16 52 17.3 -5.2**
ISA Isabella, Lake 107.53 51 PKiKP **PKiKP 16 56 26.0 -7.0**
baz=288
CWC Cottonwood Cre 107.58 50 PKiKP **PKiKP 16 56 27.1 -6.1**
baz=289
GDLE Glaisdale, N Y 107.63 331 eP **Pdif 16 52 20.2 -4.3**
GDLE IAMs_20 IAMs_20 17 46 10.4
comp=Z,28µm,19.3s
OSI Osito Audit: C 107.65 52 PKiKP PKiKP 16 56 23.8 -9.4
baz=288
HLID Hailey 107.67 42 IAMs_20 IAMs_20 17 35 37.5
comp=Z,14µm,21.0s
HLID Hailey 107.67 42 PKiKP **PKiKP 16 56 26.3 -6.9**
baz=293
BORG Borgarnes 107.71 346 IAMs_20 IAMs_20 17 49 01.8
comp=Z,18µm,20.0s
EDI Edinburgh 107.87 333 IAMs_20 IAMs_20 17 46 09.7
comp=Z,32µm,19.8s
EDMD Edmundbyers 107.94 332 eP **Pdif 16 52 19.3 -6.7**
EDMD IAMs_20 IAMs_20 17 45 50.6
comp=Z,22µm,22.4s
INVG Invergeldie, C 107.94 334 IAMs_20 IAMs_20 17 46 00.0
comp=Z,38µm,19.0s
ELMS Elmsett, Ipswi 107.98 328 eP **Pdif 16 52 21.7 -4.5**
ELMS IAMs_20 IAMs_20 17 44 31.0
comp=Z,29µm,22.7s
KPL Plockton 108.07 335 eP **Pdif 16 52 22.8 -3.6**
DLMT Dillon 108.12 40 IAMs_20 IAMs_20 17 34 35.5
comp=Z,22µm,22.0s
EDW2 Edwards Air Fo 108.14 52 PKiKP **PKiKP 16 56 28.4 -5.7**
baz=288
MPMC Manual Prospec 108.16 50 PKiKP **PKiKP 16 56 28.9 -5.5**
baz=289
ELK Elko 108.19 45 PKiKP **PKiKP 16 56 36.4 +2.1**
comp=Z,3.8nm,0.8s,baz=313,slow=4.8,SNR=7.9
ELK PKKPbc **PKKPbc 17 07 47.0 +0.1**
comp=Z,3.7nm,0.7s,baz=40,slow=1.3,SNR=12
ELK Elko 108.19 45 IAMs_20 IAMs_20 17 35 28.5
comp=Z,18µm,21.0s
PASC Pasadena Art C 108.21 52 IAMs_20 IAMs_20 17 33 58.8
comp=Z,20µm,22.0s
ESK Eskdalemuir 108.24 333 eP **Pdif 16 52 24.6 -2.6**
ESK IAMs_20 IAMs_20 17 42 38.9
comp=Z,33µm,25.3s
ELSH Elham, Standar 108.40 327 IAMs_20 IAMs_20 17 47 44.6
comp=Z,37µm,20.3s
BFSC Mount Baldy Ra 108.60 52 PKiKP **PKiKP 16 56 28.5 -6.7**
baz=288
BOZ Bozeman (W) 108.63 39 IAMs_20 IAMs_20 17 35 01.9
comp=Z,15µm,20.0s
NEPA Kaukuwa 108.65 253 P **Pdif 16 52 31.2 +1.2**
EGMT Eagleton 108.66 36 PKiKP **PKiKP 16 56 27.3 -7.4**
baz=299
TPNV Topopah Spring 108.81 49 PKiKP PKiKP 16 56 27.3 -8.2
baz=290
CWF Charnwood Fore 108.81 330 eP **Pdif 16 52 26.4 -3.5**
CWF IAMs_20 IAMs_20 17 46 30.3
comp=Z,35µm,21.9s
BBRC Big Bear Solar 109.17 52 PKiKP **PKiKP 16 56 30.4 -6.0**
baz=289
SSB Saint Sauveur 109.26 321 IAMs_20 IAMs_20 17 50 57.9
comp=Z,17µm,19.0s
SFJD Kangerlussuaq 109.34 359 IAMs_20 IAMs_20 17 46 43.6
comp=Z,18µm,21.0s
CLF Chambon-Foret 109.35 324 IAMs_20 IAMs_20 17 46 52.0
comp=Z,19µm,20.0s
TSUM Tsumeb 109.42 251 eP **Pdif 16 52 31.6 -1.9**
TSUM Tsumeb 109.42 251 IAMs_20 IAMs_20 17 36 48.5
comp=Z,20µm,22.0s
TSUM Tsumeb 109.42 251 P **Pdif 16 52 32.9 -0.6**
109C Camp Elliot, M 109.46 53 IAMs_20 IAMs_20 17 34 38.1
comp=Z,14µm,21.0s
WIN Windhoek 109.67 248 eP **Pdif 16 52 33.6 -1.0**
WIN IAmb IAmb 16 52 45.6
comp=Z,20nm,2.2s
CLGH Cloghs, Cushen 109.70 333 IAMs_20 IAMs_20 17 47 02.9
comp=Z,42µm,19.8s
HLM1 Long Mynd 109.73 330 IAMs_20 IAMs_20 17 46 56.5
comp=Z,26µm,21.2s
PFO Pinyon Flats O 109.75 52 Pdiff **Pdif 16 52 36.4 +1.7**
comp=Z,1.1nm,0.5s,baz=215,slow=10,SNR=1.4
PFO Pinyon Flats O 109.75 52 IAMs_20 IAMs_20 17 34 50.7
comp=Z,17µm,21.0s
TPFO Pinon Flats 109.75 52 PKiKP **PKiKP 16 56 32.7 -4.6**
baz=289
BELC Belle Mtn. Jos 109.98 52 PKiKP **PKiKP 16 56 31.5 -6.3**
baz=289
MOOW Moose Ponds 110.01 41 IAMs_20 IAMs_20 17 33 59.7
comp=Z,18µm,20.0s
MCH1 Michaelchurch 110.09 330 IAMs_20 IAMs_20 17 47 28.9
comp=Z,38µm,20.9s
DUG Dugway, Tooele 110.11 45 IAMs_20 IAMs_20 17 33 10.3
comp=Z,18µm,22.0s
DUG Dugway, Tooele 110.11 45 PKiKP **PKiKP 16 56 31.3 -6.5**
baz=294
REDW Red Top Meadow 110.11 41 IAMs_20 IAMs_20 17 34 23.4
comp=Z,19µm,22.0s
LOHW Long Hollow 110.17 41 IAMs_20 IAMs_20 17 34 03.7
comp=Z,21µm,21.0s
RLMT Red Lodge 110.33 39 IAMs_20 IAMs_20 17 36 08.8
comp=Z,16µm,22.0s
GLA Glamis 111.22 52 PKiKP **PKiKP 16 56 34.6 -5.4**
baz=290
BW06 Boulder Array 111.23 41 IAMs_20 IAMs_20 17 34 48.9
comp=Z,18µm,20.0s
PDAR Pinedale Array 111.23 41 Pdiff **Pdif 16 52 43.2 +2.0**
comp=Z,0.5nm,0.8s,baz=160,slow=17,SNR=2.6
PDAR PKiKP **PKiKP 16 56 42.4 +2.4**
comp=Z,2.0nm,0.6s,baz=135,slow=1.7,SNR=9.1
PDAR PKKPbc **PKKPbc 17 07 34.5 -2.8**
comp=Z,3.4nm,0.7s,baz=131,slow=5.0,SNR=17
PDAR PKKPab **PKKPab 17 07 44.4 -2.2**
comp=Z,8.3nm,0.9s,baz=116,slow=4.1,SNR=12

PDAR PKKP **PKKPdf 17 07 52.8 -2.4**
comp=Z,6.0nm,0.9s,baz=104,slow=6.3,SNR=5.9
LAO LASA Array 111.41 36 IAMs_20 IAMs_20 17 36 42.1
comp=Z,17µm,22.0s
LAO LASA Array 111.41 36 PKiKP **PKiKP 16 56 34.9 -5.0**
baz=301
FRB Frobisher Bay 111.65 7 PKKPbc PKKPbc 17 07 34.0 -2.1
comp=Z,4.3nm,0.6s,baz=138,slow=4.4,SNR=7.6
MAHO Mahon 111.79 316 PS PS 17 06 53.8 -2.3
WUAZ Wupatki 113.00 49 IAMs_20 IAMs_20 17 43 07.2
comp=Z,15µm,20.0s
214A Organ Pipe Nat 113.19 53 PKiKP **PKiKP 16 56 37.6 -6.2**
baz=291
RWWY Rawlins 113.27 41 IAMs_20 IAMs_20 17 40 39.0
comp=Z,15µm,21.0s
RSSD Black Hills 114.06 38 IAMs_20 IAMs_20 17 38 41.5
comp=Z,15µm,22.0s
RSSD Black Hills 114.06 38 PKiKP PKPdf 16 56 40.4 -4.9
baz=302
W18A Petrified Fore 114.38 49 PKiKP PKPdf 16 56 42.0 -4.1
baz=294
MVCO Mesa Verde 114.42 46 IAMs_20 IAMs_20 17 36 19.5
comp=Z,18µm,21.0s
N23A Red Feather La 114.49 42 PKiKP **PKiKP 16 56 39.4 -6.9**
baz=299
PHWY Pilot Hill 114.61 41 IAMs_20 IAMs_20 17 38 40.8
comp=Z,19µm,22.0s
SMCO Snowmass 114.61 44 IAMs_20 IAMs_20 17 38 11.3
comp=Z,19µm,22.0s
TUC Tucson 114.67 52 IAMs_20 IAMs_20 17 37 07.9
comp=Z,17µm,22.0s
TUC Tucson 114.67 52 PKiKP PKiKP 16 56 38.4 -8.2
baz=292
ULM Lac du Bonnet 114.84 29 PKP PKPdf 16 56 46.8 +0.5
comp=Z,6.9nm,0.7s,baz=299,slow=3.6,SNR=9.4
ULM PKKPbc **PKKPbc 17 07 24.1 -0.9**
comp=Z,3.4nm,0.6s,baz=71,slow=3.7,SNR=4.8
ULM Lac du Bonnet 114.84 29 i PKIKP **PKiKP 16 56 45.9 -0.4**
ULM Lac du Bonnet 114.84 29 PKiKP **PKiKP 16 56 45.9 -0.4**
NRS Narsarsuaq 114.95 356 i P **Pdif 16 52 56.6 -0.4**
IVI Ivigtut 115.06 357 IAMs_20 IAMs_20 17 49 42.8
comp=Z,18µm,20.0s
ISCO Idaho Springs 115.24 42 IAMs_20 IAMs_20 17 45 29.9
comp=Z,13µm,22.0s
ISCO Idaho Springs 115.24 42 PKiKP **PKiKP 16 56 43.0 -4.8**
baz=299
S22A 4UR Ranch, Cre 115.37 45 PKiKP **PKiKP 16 56 41.7 -6.4**
baz=297
AGMN Agassiz Nation 116.14 30 IAMs_20 IAMs_20 17 46 23.1
comp=Z,14µm,21.0s
SDCO Great Sand Dun 116.30 44 IAMs_20 IAMs_20 17 52 39.2
comp=Z,15µm,20.0s
CART Cartagena 116.51 315 PS PS 17 07 38.3 -1.2
CART Cartagena 116.51 315 IAMs_20 IAMs_20 17 54 58.5
comp=Z,14µm,21.0s
UCM Universidad Co 116.67 319 PS PS 17 07 34.6 -6.4
ANMO Albuquerque 116.89 48 PKP **PKiKP 16 56 52.4 +1.4**
comp=Z,6.3nm,0.8s,baz=198,slow=2.5,SNR=16
ANMO Albuquerque 116.89 48 IAMs_20 IAMs_20 17 43 39.2
comp=Z,12µm,19.0s
ANMO Albuquerque 116.89 48 PKiKP **PKPdf 16 56 44.6 -6.4**
baz=296
121A Cookes Peak, D 116.92 51 PKiKP **PKPdf 16 56 43.8 -7.2**
baz=294
Y22D IRIS PASSCAL I 116.93 49 IAMs_20 IAMs_20 17 39 45.3
comp=Z,17µm,21.0s
OGNE Ogallala 117.01 40 IAMs_20 IAMs_20 17 38 25.8
comp=Z,15µm,22.0s
T25A Trinidad 117.35 45 PKiKP **PKPdf 16 56 46.7 -5.2**
baz=299
ESDC Sonseca Array 117.47 319 PKP **PKiKP 16 56 52.8 +1.0**
comp=Z,2.4nm,1.1s,baz=277,slow=38,SNR=2.7
ESDC PP **PP 16 58 04.0 +0.8**
comp=Z,5.0nm,1.0s,baz=43,slow=5.6,SNR=4.9
ESDC PKKPbc **PKKPbc 17 07 15.7 +0.2**
comp=Z,1.7nm,1.1s,baz=323,slow=22,SNR=4.3
KSCO Kaye Shedlock' 117.64 42 PKiKP **PKPdf 16 56 47.3 -5.0**
baz=301
EPT El Paso 118.22 51 IAMs_20 IAMs_20 17 39 34.7
comp=Z,19µm,22.0s
EYMN Ely 118.52 28 IAMs_20 IAMs_20 17 54 14.3
comp=Z,15µm,21.0s
MVO Moncorvo 118.61 322 ePKP **PKiKP 16 56 55.9 +1.9**
MVO Moncorvo 118.61 322 ePP PP 16 58 15.1 +4.2
MVO i LQ LQ 17 07 56.0
MVO Moncorvo 118.61 322 eLQ LQ 17 21 56.7
MVO Moncorvo 118.61 322 eLR LR 17 36 17.8
comp=Z,17µm,20.0s
CHAS Isla Isabel II 118.66 314 PKP **PP 16 58 10.6 -0.9**
CHAS Isla Isabel II 118.66 314 PS PS 17 07 58.5 -0.5
ECSD EROS Data Cent 118.67 35 PKPdf **PKPdf 16 56 52.8 -1.1**
ECSD EROS Data Cent 118.67 35 IAMs_20 IAMs_20 17 41 38.9
comp=Z,14µm,22.0s
PGAV Gavieira, Arco 118.90 323 ePP PP 16 58 09.9 -3.0
PGAV i LQ LQ 17 07 56.0
PGAV Gavieira, Arco 118.90 323 eLR LR 17 36 45.0
comp=Z,11µm,22.0s
F36A Milaca 118.96 31 PKPdf **PKPdf 16 56 53.8 -0.6**
POLO Lamas de Olo 118.96 322 ePKP **PKiKP 16 56 56.3 +1.6**
MNTX Cornudas Mount 119.12 50 IAMs_20 IAMs_20 17 40 03.4
comp=Z,18µm,22.0s
BGNE Belgrade 119.17 38 PKiKP **PKPdf 16 56 51.0 -4.0**
baz=306
EMAL Malaga-Limoner 119.29 316 PKP **PP 16 58 16.1 +0.4**
EMAL Malaga-Limoner 119.29 316 PS PS 17 08 00.6 -4.1
MTE Manteigas 119.37 321 ePKP **PKiKP 16 56 56.6 +1.1**
MTE Manteigas 119.37 321 ePP PP 16 58 18.1 +1.9
MTE i LQ LQ 17 08 02.4
MTE Manteigas 119.37 321 eLR LR 17 40 35.4
PVIS Viseu 119.41 322 ePKP **PKiKP 16 56 57.3 +1.8**
PCBR Castelo Branco 119.65 321 ePKP **PKiKP 16 56 57.3 +1.4**
PMRV Marv??o 119.83 320 ePKP **PKiKP 16 56 57.8 +1.5**
PMRV Marv??o 119.83 320 ePP PP 16 58 21.6 +2.3
PMRV i LQ LQ 17 08 02.4
PMRV Marv??o 119.83 320 eLR LR 17 38 26.7
COI Coimbra 120.03 321 IAMs_20 IAMs_20 17 54 55.8
comp=Z,14µm,20.0s
MSTX Muleshoe 120.05 47 PKiKP PKPdf 16 56 49.0 -8.0
baz=299
PCAS Casmilo, Conde 120.17 321 ePKP **PKiKP 16 56 57.6 +0.6**
CEU Ceuta 120.39 316 PS PS 17 08 15.3 +0.8
SCHQ Schefferville 120.48 9 PKP **PKiKP 16 56 58.0 +0.9**
comp=Z,14nm,0.7s,baz=319,slow=1.0,SNR=21
SCHQ PKKPbc **PKKPbc 17 07 02.4 -2.7**
comp=Z,7.2nm,1.1s,baz=300,slow=0.9,SNR=4.4
SFS San Fernando 120.67 317 PKP **PP 16 58 26.3 +1.1**
SFS San Fernando 120.67 317 PS PS 17 08 12.2 -4.7
ARNO Arenosillo 120.69 318 PKP **PP 16 58 27.2 +2.0**
ARNO Arenosillo 120.69 318 PS PS 17 08 12.3 -4.8
EVO Evora 120.74 320 PS PS 17 08 13.6 -3.8
EVO Evora 120.74 320 ePKP **PKiKP 16 56 59.8 +1.7**
PBEJ Beja 120.93 319 ePKP **PKiKP 16 57 00.2 +1.7**
PVAQ Vaqueiros 121.18 318 ePKP **PKiKP 16 57 00.6 +1.6**
PVAQ Vaqueiros 121.18 318 ePP PP 16 58 30.3 +1.7
PVAQ i LQ LQ 17 08 18.2
PVAQ Vaqueiros 121.18 318 eLR LR 17 39 55.9
comp=Z,13µm,18.0s
PCVE Castro Verde 121.26 319 ePKP **PKiKP 16 57 00.6 +1.4**
MESJ Messejana 121.26 319 ePKPdf **PKPdf 16 56 58.3 -0.7**
MESJ ePP **PP 16 58 28.9 -0.3**
MESJ IAMs_20 IAMs_20 17 46 32.6
comp=N,44µm,40.5s
MESJ Messejana 121.26 319 ePKP **PKPdf 16 56 58.3 -0.7**
MESJ Messejana 121.26 319 ePKIKP **PKPdf 16 56 58.3 -0.7**
MESJ e 16 58 28.8
LIS Lisbon 121.36 320 ePP PP 16 58 29.4 -0.3
LIS IAMs_20 IAMs_20 17 45 34.8
comp=N,36µm,31.5s
PBDV Barranco-do-Ve 121.41 318 ePKP **PKiKP 16 57 00.2 +0.7**
IFR Ifrane 121.42 313 PS PS 17 08 25.6 +1.4
TXAR Lajitas Array 121.47 52 PKP **PKiKP 16 57 01.0 +1.0**
comp=N,3.4nm,0.6s,baz=206,slow=0.9,SNR=27
TXAR PKKPab **PKKPab 17 07 01.1 -0.3**
comp=N,1.8nm,0.8s,baz=119,slow=4.2,SNR=8.7
TXAR Lajitas Array 121.47 52 PKPdf **PKPdf 16 56 58.8 -1.0**
KSU1 Kansas State U 121.49 39 IAMs_20 IAMs_20 17 54 58.1
comp=Z,16µm,20.0s
KSU1 Kansas State U 121.49 39 PKiKP **PKPdf 16 56 54.6 -4.9**
baz=307
OK035 E0210 Rd and N 121.49 42 IAMs_20 IAMs_20 17 51 23.6
comp=Z,14µm,21.0s
MORF Marmelete 121.85 319 eP **PKPdf 16 56 59.4 -0.9**
MORF ePP **PP 16 58 32.8 -0.4**
MORF IAMs_20 IAMs_20 17 50 17.4
comp=E,35µm,33.4s

MORF **Marmelete** 121.85 319 *e*PKP **PKiKP** **16 57 02.2 +1.8**
MORF **Marmelete** 121.85 319 *e*PKIKP **PKPdf** **16 56 59.3 -0.9**
MORF *e* 16 58 32.8
PFVI **Vila Bisbo** 122.06 319 *e*PKP **PKiKP** **16 57 02.8 +2.0**
WMOK **Wichita Mounta** 122.50 44 PKiKP **PKPdf** **16 56 56.6 -5.0**
baz=302
JFWS **Jewell Farm** 122.69 32 PKIKP **PKPdf** **16 57 01.0 -0.7**
JFWS MLR MLR
comp=Z,16μm,21.0s
JFWS **Jewell Farm** 122.69 32 PKPdf **PKPdf** **16 57 01.0 -0.7**
JFWS **Jewell Farm** 122.69 32 IAMs_20 IAMs_20 17 54 20.0
comp=Z,16μm,21.0s
JFWS **Jewell Farm** 122.69 32 PKiKP **PKPdf** **16 56 58.2 -3.4**
baz=314
OK029 **Liberty Lake** 122.84 43 IAMs_20 IAMs_20 17 50 07.4
comp=Z,16μm,20.0s
TORD **Torodi Ar. Bea** 123.00 288 PKP **PKiKP** **16 57 03.1 0.0**
comp=Z,26nm,0.7s,baz=44,slow=2.1,SNR=102
TORD PP **PP** **16 58 46.5 +4.4**
comp=Z,16nm,1.0s,baz=59,slow=5.4,SNR=4.4
TORD PKKPab **PKKPab** **17 06 56.4 +1.6**
comp=Z,2.8nm,0.7s,baz=288,slow=4.4,SNR=8.3
OK025 **Westminster Rd** 123.04 43 IAMs_20 IAMs_20 17 50 11.7
comp=Z,16μm,20.0s
AVE **Averroes** 123.17 314 PS PS 17 08 42.3 +2.9
OK034 **N. Norfolk Rd.** 123.21 42 **PKPdf** **16 57 01.2 -1.6**
OK034 IAMs_20 IAMs_20 17 44 35.3
comp=Z,17μm,22.0s
K43A **Burlington** 123.83 31 **PKPdf** **16 57 02.2 -1.6**
TUL1 **Leonard** 123.88 41 IAMs_20 IAMs_20 17 44 55.9
comp=Z,15μm,22.0s
JCT **Junction City** 123.93 49 IAMs_20 IAMs_20 17 44 58.7
comp=Z,15μm,22.0s
JCT **Junction City** 123.93 49 PKiKP **PKPdf** **16 57 01.3 -3.1**
baz=299
GLMI **Grayling** 124.02 27 IAMs_20 IAMs_20 17 54 51.6
comp=Z,12μm,20.0s
S39A **Bolivar** 124.39 38 PKPdf **PKPdf** **16 57 04.1 -1.0**
L44A **Lake County Fo** 124.42 31 IAMs_20 IAMs_20 17 54 27.9
comp=Z,15μm,21.0s
HQIL **Hanson Quary C** 124.73 31 IAMs_20 IAMs_20 17 53 22.0
comp=Z,15μm,21.0s
HDIL **Hopedale** 124.84 33 IAMs_20 IAMs_20 18 00 26.3
comp=Z,12μm,20.0s
WHTX **Lake Whitney,** 124.90 46 PKiKP **PKPdf** **16 57 00.0 -6.2**
baz=302
833A **Chaparral WMA,** 125.27 51 PKiKP **PKPdf** **16 56 59.7 -7.3**
baz=298
CCM **Cathedral Cave** 125.42 37 IAMs_20 IAMs_20 17 46 51.0
comp=Z,13μm,20.0s
CCM **Cathedral Cave** 125.42 37 PKiKP **PKPdf** **16 57 02.1 -4.9**
baz=311
435B **Jarrell** 125.43 48 IAMs_20 IAMs_20 17 44 17.3
comp=Z,15μm,21.0s
435B **Jarrell** 125.43 48 PKiKP PKPdf 16 56 58.2 -9.1
baz=301
U40A **Yellville** 125.52 39 IAMs_20 IAMs_20 17 44 59.8
comp=Z,15μm,21.0s
U40A **Yellville** 125.52 39 PKiKP **PKPdf** **16 57 00.1 -7.1**
baz=309
W39A **Magazine** 125.62 41 IAMs_20 IAMs_20 17 42 40.0
comp=Z,13μm,22.0s
MIAR **Mount Ida** 126.15 42 PKiKP **PKPdf** **16 57 04.5 -4.1**
baz=307
SADO **Sadowa** 126.35 23 PKP **PKiKP** **16 57 10.6 +1.5**
comp=Z,37nm,1.1s,baz=313,slow=2.0,SNR=4.2
AAM **Ann Arbor** 126.42 28 IAMs_20 IAMs_20 17 59 07.3
comp=Z,16μm,21.0s
X40A **Basin Creek Fa** 126.67 41 PKiKP **PKPdf** **16 57 04.1 -5.4**
baz=308
KVTX **Kingsville** 126.81 51 IAMs_20 IAMs_20 17 46 39.2
comp=Z,14μm,20.0s
NATX **Nacogdoches** 127.02 45 PKiKP **PKPdf** **16 57 05.1 -5.1**
baz=304
HKT **Hockley** 127.16 48 IAMs_20 IAMs_20 17 43 49.7
comp=Z,13μm,22.0s
Z41A **Richland Creek** 127.43 42 PKiKP **PKPdf** **16 57 04.3 -6.7**
baz=307
HOPE **Hope Point** 127.87 192 IAMs_20 IAMs_20 18 01 29.2
comp=Z,11μm,18.0s
P49A **Miami Univ. Ec** 128.01 31 IAMs_20 IAMs_20 17 46 52.8
comp=Z,15μm,22.0s
P49A **Miami Univ. Ec** 128.01 31 PKiKP PKPdf 16 57 03.0 -8.9
baz=319
LONY **Lake Ozonia** 128.12 19 IAMs_20 IAMs_20 17 51 31.4
comp=Z,16μm,22.0s
WCI **Wyandotte Cave** 128.13 33 IAMs_20 IAMs_20 17 56 44.3
comp=Z,16μm,21.0s
ERPA **Erie** 128.20 25 IAMs_20 IAMs_20 17 52 12.3
comp=Z,14μm,20.0s
ACSO **Alum Creek Sta** 128.34 29 IAMs_20 IAMs_20 17 54 25.4
comp=Z,13μm,21.0s
ACSO **Alum Creek Sta** 128.34 29 PKiKP **PKPdf** **16 57 05.5 -7.1**
baz=321
M53A **WI Miller and** 128.46 26 IAMs_20 IAMs_20 17 57 17.1
comp=Z,16μm,20.0s
M53A **WI Miller and** 128.46 26 PKiKP **PKPdf** **16 57 06.6 -6.2**
baz=324
WVT **Waverly** 128.73 36 PKiKP **PKPdf** **16 57 08.3 -5.1**
baz=314
M54A **Oil Creek Stat** 128.84 25 IAMs_20 IAMs_20 17 50 50.2
comp=Z,13μm,22.0s
VT1 **Waterbury** 128.96 18 IAMs_20 IAMs_20 17 55 47.9
comp=Z,14μm,20.0s
PKME **Peaks-Kenny Pk** 129.07 15 IAMs_20 IAMs_20 17 58 57.4
comp=Z,14μm,21.0s
N54A **Moraine State** 129.15 26 IAMs_20 IAMs_20 17 57 55.3
comp=Z,12μm,20.0s
O53A **New Philadelph** 129.17 28 IAMs_20 IAMs_20 18 03 43.0
comp=Z,13μm,19.0s
O53A **New Philadelph** 129.17 28 PKiKP **PKPdf** **16 57 07.5 -6.6**
baz=323
P52A **Corning** 129.22 29 IAMs_20 IAMs_20 17 48 21.5
comp=Z,13μm,22.0s
P52A **Corning** 129.22 29 PKiKP **PKPdf** **16 57 09.2 -5.0**
baz=322
UNM **Universidad Na** 129.25 61 IAMs_20 IAMs_20 17 44 06.2
comp=Z,15μm,21.0s
LBNH **Lisbon** 129.29 17 IAMs_20 IAMs_20 17 56 47.4
comp=Z,16μm,22.0s
PLAL **Pickwick Lake** 129.37 37 IAMs_20 IAMs_20 17 51 45.5
comp=Z,14μm,21.0s
WVL **Waterville** 129.63 15 IAMs_20 IAMs_20 17 55 34.2
comp=Z,16μm,21.0s
HNH **Hanover** 129.67 18 IAMs_20 IAMs_20 17 56 06.4
comp=Z,16μm,21.0s
BINY **Binghamton** 129.74 22 IAMs_20 IAMs_20 18 00 50.6
comp=Z,14μm,21.0s
FFD **Franklin Falls** 130.07 18 IAMs_20 IAMs_20 18 03 12.1
comp=Z,13μm,20.0s
PMOZ **Porto Moniz, M** 130.13 320 *e*PP PP 16 59 30.0 +1.7
PMOZ **Porto Moniz, M** 130.13 320 *e*LR LR 17 42 03.4
comp=Z,9μm,20.0s
MCWV **Mont Chateau** 130.27 27 IAMs_20 IAMs_20 17 52 40.1
comp=Z,13μm,21.0s
SSPA **Standing Stone** 130.32 25 IAMs_20 IAMs_20 17 58 14.1
comp=Z,12μm,21.0s
O56A **Blue Knob Stat** 130.34 26 IAMs_20 IAMs_20 17 59 18.7
comp=Z,15μm,22.0s
KIC **Kosan Boka** 130.62 282 *e*PKIKP **PKiKP** **16 57 18.6 +0.2**
comp=Z,31nm,0.6s
DBIC **Dimbokro** 130.67 282 PKP **PKiKP** **16 57 18.5 0.0**
comp=Z,15nm,0.7s,baz=102,slow=1.9,SNR=19
DBIC SKPbc **SKPab** **17 00 41.7 +1.3**
comp=Z,39nm,0.8s,baz=131,slow=4.7,SNR=13
DBIC **Dimbokro** 130.67 282 PKIKP **PKPdf** **16 57 17.2 -0.4**
DBIC **Dimbokro** 130.67 282 PKPdf **PKPdf** **16 57 17.2 -0.4**
TIC **Toumodi** 130.84 282 *e*PKIKP **PKiKP** **16 57 18.9 0.0**
W50A **Signal Mountai** 130.85 35 PKPdf **PKPdf** **16 57 17.0 -0.5**
LIC **Lamto** 130.92 282 *e*PKIKP **PKPdf** **16 57 18.4 +0.3**
comp=Z,232nm,1.8s
N59A **State Game Lan** 130.93 23 IAMs_20 IAMs_20 18 04 31.1
comp=Z,13μm,21.0s
TKL **Tuckaleechee C** 131.38 34 PKP **PKiKP** **16 57 19.9 +0.5**
comp=Z,32nm,0.8s,baz=82,slow=2.0,SNR=19
TKL SKPbc **SKPab** **17 00 44.2 +1.4**
comp=Z,22nm,1.0s,baz=247,slow=22,SNR=2.1
WSPT **Westport, CT** 131.60 20 IAMs_20 IAMs_20 17 59 36.7
comp=Z,13μm,21.0s
SHEL **Horse Pasture** 131.88 252 IAMs_20 IAMs_20 17 48 51.9
comp=Z,16μm,22.0s
BLA **Blacksburg** 131.95 29 PKiKP **PKPdf** **16 57 12.3 -7.2**
baz=322
EFI **East Falkland** 132.11 176 IAMs_20 IAMs_20 17 59 55.3
comp=Z,10μm,20.0s
M65A **Busby, Falmout** 132.12 18 PKiKP PKPdf 16 57 10.8 -8.9
baz=336
Y52A **Lilburn** 132.52 35 PKPdf **PKPdf** **16 57 19.3 -1.3**

CBN **Corbin Frederi** 132.56 26 IAMs_20 IAMs_20 17 51 09.7
comp=Z,13μm,21.0s
CBN **Corbin Frederi** 132.56 26 PKiKP PKPdf 16 57 12.4 -8.2
baz=326
KMSC **Kings Mountain** 133.09 32 PKiKP PKPdf 16 57 13.7 -8.0
baz=320
GOGA **Godfrey** 133.19 35 PKiKP PKPdf 16 57 12.5 -9.4
baz=316
CMIG **Matias Romero** 133.87 62 PKP **PKiKP** **16 57 25.4 +0.5**
comp=Z,12nm,0.8s,baz=317,slow=1.7,SNR=13
CMIG SKPbc **SKPab** **17 00 55.3 +1.3**
comp=Z,9.4nm,1.1s,baz=349,slow=1.1,SNR=6.3
TIGA **Tifton** 134.53 37 PKiKP **PKPdf** **16 57 18.4 -6.1**
baz=315
NHSC **New Hope** 135.26 33 IAMs_20 IAMs_20 18 09 20.9
comp=Z,13μm,20.0s
NHSC **New Hope** 135.26 33 PKiKP **PKPdf** **16 57 18.5 -7.3**
baz=320
GO07 **Milladeo Hill,** 136.82 158 *e*P **PKiKP** **16 57 31.2 +1.0**
DWPF **Disney Wildern** 138.19 39 PKiKP PKPdf 16 57 23.5 -7.9
baz=315
MBO **M'Bour** 139.81 297 IAMs_20 IAMs_20 18 06 14.5
comp=Z,11μm,20.0s
PLCA **Paso Flores** 140.03 159 PKhKP PKPpre 16 57 27.6
comp=Z,10nm,1.0s,baz=208,slow=4.0,SNR=9.8
PLCA PKP **PKiKP** **16 57 36.4 -0.6**
comp=Z,22nm,0.7s,baz=196,slow=4.7,SNR=13
PLCA SKPbc **SKiKP** **17 01 11.4 -0.6**
comp=Z,6.3nm,0.9s,baz=177,slow=2.9,SNR=3.3
PLCA **Paso Flores** 140.03 159 PKiKP **PKPdf** **16 57 33.6 -0.9**
PLCA **Paso Flores** 140.03 159 *e*P **PKPdf** **16 57 28.7 -5.8**
PLCA **Paso Flores** 140.03 159 PKPpre PKPpre 16 57 26.1
PLCA **PKPdf** **16 57 33.6 -0.9**
SNET **Serv Nac Est T** 140.21 63 IAMs_20 IAMs_20 17 47 59.0
comp=Z,11μm,22.0s
LC01 **Cunco** 141.14 156 PKPpre PKPpre 16 57 29.8
TGUH **Tegucigalpa,Un** 141.80 62 IAMs_20 IAMs_20 18 08 31.7
comp=Z,9μm,22.0s
BI05 **Punta Hualpn** 142.39 153 *e*P **PKPdf** **16 57 36.3 -2.4**
BBSR **BB Station** 142.39 16 IAMs_20 IAMs_20 18 01 43.1
comp=Z,14μm,21.0s
MATN **Matagalpa** 143.46 62 PKPbc 16 57 39.2 +0.7
BOAB **BOAČO BROADBAN** 143.89 63 PKPdf PKPbc 16 57 39.8 +0.2
ML02 **Panimavida** 144.00 154 PKPbc 16 57 40.1 +0.7
GO05 **Huala** 144.40 153⇑*e*P **PKPdf** **16 57 42.0 -0.4**
GO05 **Huala** 144.40 153 PKPdf **PKPab** **16 57 40.6 +0.1**
GBS3 **Finca Las Img** 144.74 65 *e*P **PKPdf** **16 57 45.2 +1.7**
LAPC **Finca la Perla** 144.76 65 *e*P **PKPdf** **16 57 43.4 -0.2**
SAJU **San Juanillo,** 144.77 67⇑*e*P **PKPdf** **16 57 43.5 0.0**
GB1A **Borinquen Arri** 144.78 65 *e*P **PKPdf** **16 57 44.5 +0.9**
BUAI **Buenos Aires** 144.81 65 *e*P **PKPdf** **16 57 44.8 +1.2**
GUAI **GUAI** 144.88 66 *e*P **PKPdf** **16 57 44.8 +1.1**
LIM1 **Limonal** 144.96 65 *e*P **PKPdf** **16 57 44.3 +0.4**
GUAB **Guayabo de Bag** 144.97 65 *e*P **PKPdf** **16 57 44.0 +0.1**
COLC **Colonia** 145.01 65 *e*P **PKPdf** **16 57 44.5 +0.5**
HORNC **Hornillas** 145.02 65 *e*P **PKPdf** **16 57 44.4 +0.4**
INDI **Punta indio, G** 145.04 67⇑*e*P **PKPdf** **16 57 44.8 +0.8**
CUI **Cuipilapa** 145.05 65 *e*P **PKPdf** **16 57 44.5 +0.5**
BO02 **Sierra Bellavi** 145.09 154⇑*i*P **PKPdf** **16 57 44.1 +0.5**
ACAL **Aguas Claras** 145.18 65 *e*P **PKPdf** **16 57 45.5 +1.1**
PTEN **Parque Tenorio** 145.19 65 *e*P **PKPdf** **16 57 45.2 +0.8**
BO01 **Tunca** 145.30 153⇑*i*P **PKPdf** **16 57 44.5 +0.5**
JTS **Las Juntas de** 145.38 66 PKPbc **PKPab** **16 57 45.9 +1.3**
JTS **Las Juntas de** 145.38 66 IAMs_20 IAMs_20 17 58 44.6
comp=Z,9μm,19.0s
CAO2 **Cobano, Puntar** 145.46 67⇑*e*P **PKiKP** **16 57 47.2 -1.5**
CEDE **Laguna Cedeo** 145.53 65 *e*P **PKiKP** **16 57 47.4 -1.6**
MT01 **Popeta** 145.67 153⇑*i*P **PKPab** **16 57 45.4 +0.3**
VA05 **Santo Domingo** 145.67 152⇑*i*P **PKPab** **16 57 45.3 +0.2**
COVE **Coope Vega, Sa** 145.72 65⇑*e*P **PKPab** **16 57 45.7 -0.2**
BO04 **La Punta** 145.85 154⇑*i*P **PKPab** **16 57 46.2 +0.3**
MT09 **Talagante** 145.86 153⇑*i*P **PKPbc** **16 57 45.6 0.0**
LMEL **Las Melosas** 146.15 154⇑*i*P **PKPab** **16 57 47.5 +0.4**
VA01 **Torpederas** 146.18 151⇑*i*P **PKPab** **16 57 47.3 +0.3**
MT02 **Curacav** 146.22 152⇑*i*P **PKPab** **16 57 47.2 0.0**
HDC **Heredia** 146.25 66 IAMs_20 IAMs_20 17 51 38.8
comp=Z,11μm,22.0s
MT05 **Renca** 146.29 153⇑*i*P **PKPbc** **16 57 46.5 -0.3**
ROCH **El Roble** 146.52 152⇑*i*P **PKPbc** **16 57 47.1 -0.6**
ROCH ⇑*e*P **PKPbc** **16 57 47.1 -0.6**
PEL **Peldehue** 146.53 153⇑*i*P **PKPdf** **16 57 46.5 +0.4**
VA06 **Catapilco** 146.72 151⇑*i*P **PKPbc** **16 57 47.8 -0.2**
VA03 **San Esteban** 146.91 153⇑*i*P **PKPdf** **16 57 47.8 +1.0**
PRVC **Isla de Provid** 147.21 58 *e*P **PKPbc** **16 57 49.3 -0.5**
MCJ **Malvern** 147.58 47 *i*P **PKiKP** **16 57 53.5 +0.5**
CO06 **Fray Jorge** 148.09 149 *i*P **PKPbc** **16 57 50.9 -0.9**
CO06 **Fray Jorge** 148.09 149 PKPbc **PKPbc** **16 57 51.3 -0.5**
STH **Stony Hill** 148.12 46 *i*P **PKPab** **16 57 55.0 -0.1**
CMJ **Castle Mountai** 148.39 46 *i*P **PKPdf** **16 57 51.0 +1.5**
CO03 **El Pedregal** 148.43 150⇑*i*P **PKPdf** **16 57 50.6 +1.2**
CO03 **El Pedregal** 148.43 150 **PKPbc** **16 57 51.4 -1.5**
LPA **La Plata** 148.73 172 PKP **PKPab** **16 57 57.3 +0.3**
LPA SKIKS 17 01 22.5
LPA pPP 17 01 28.8
LPA PPP PPP 17 04 48.5
LPA SDIFF 17 10 10.9
LPA PSP PSP 17 14 05.4
LPA SS **SS** **17 20 27.2 -2.5**
LPA SSS SSS 17 39 28.5
CO05 **La Serena** 148.89 149⇑*i*P **PKPdf** **16 57 50.9 +0.9**
GO04 **Tololo Observa** 148.91 149 *e*P **PKPdf** **16 57 52.2 +1.8**
GRTK **Grand Turk** 149.29 34 IAMs_20 IAMs_20 18 11 28.8
comp=Z,13μm,21.0s
AC04 **Llanos de Chal** 150.34 147⇑*i*P **PKPdf** **16 57 53.6 +1.2**
GO03 **Copiap** 151.27 147⇑*i*P **PKPdf** **16 57 55.2 +1.3**
VCA **Vinchina** 151.37 152 *e*P **PKPdf** **16 57 54.5 +0.4**
PLTB **Pedras Altas** 152.18 179 *e*P **PKPdf** **16 57 55.1 0.0**
PLTB **Pedras Altas** 152.18 179 PKPdf **PKPdf** **16 57 54.6 -0.5**
AC02 **Maricunga** 152.47 148⇑*i*P **PKPdf** **16 57 58.8 +2.4**
AC02 **Maricunga** 152.47 148 **PKPbc** **16 58 00.2 -3.0**
PTAC **Punta Ardita,** 153.10 66 *e*P **PKPdf** **16 57 57.4 +0.5**
PB14 **IPOC Station P** 153.46 143⇑*e*P **PKPdf** **16 57 59.8 +2.3**
PB14 **IPOC Station P** 153.46 143 IAMs_20 IAMs_20 17 56 43.2
comp=Z,11μm,22.0s
CPSB **Cacapava Do Su** 153.54 179 *e*P **PKPdf** **16 57 57.4 +0.2**
TUMC **Tumaco** 153.84 78 *e*P **PKPdf** **16 58 00.1 +2.1**
ITQB **Itaqui** 154.06 173 *e*P **PKPdf** **16 57 58.4 +0.5**
PB10 **IPOC Station P** 154.18 141⇑*i*P **PKPdf** **16 57 59.6 +1.4**
PB10 **IPOC Station P** 154.18 141 IAMs_20 IAMs_20 18 04 31.7
comp=Z,10μm,20.0s
SJCC **San Jacinto, C** 154.19 58 *e*P **PKPdf** **16 57 57.4 -1.2**
SMRC **Santa Marta, M** 154.30 54 *e*P **PKPdf** **16 58 00.1 +1.5**
CRPR **Cabo Rojo, PR** 154.33 32 PKPdf **PKPdf** **16 57 56.4 -2.1**
OTAV **Otavalo** 154.41 82 *e*P **PKPdf** **16 57 58.9 -0.5**
OTAV **Otavalo** 154.41 82 IAMs_20 IAMs_20 17 58 24.4
comp=Z,13μm,22.0s
DBBC **Dabeiba** 154.61 65 *e*P **PKPdf** **16 58 02.8 +3.6**
ATAH **Atahualpa** 154.67 99 PKP **PKPdf** **16 58 00.9 +1.2**
comp=Z,29nm,1.0s,baz=258,slow=1.2,SNR=16
ATAH PKPbc **sPKPdf** **16 58 09.6 +0.1**
comp=Z,38nm,0.8s,baz=190,slow=2.8,SNR=13
SJG **San Juan** 154.74 30 IAMs_20 IAMs_20 18 06 39.9
comp=Z,8μm,22.0s
PDPR **Patillas Dam,** 154.88 30 PKPdf **PKPdf** **16 57 57.3 -2.0**
PB05 **IPOC Station P** 154.88 140⇑*i*P **PKPdf** **16 58 01.6 +2.3**
UREC **San Jos de Ur** 154.90 63 *e*P **PKPdf** **16 58 00.1 +0.6**
ARGC **Ariguani, Magd** 154.99 57 *e*P **PKPdf** **16 58 01.4 +1.8**
MTP **Monte Pirata** 155.04 29 PKPdf **PKPdf** **16 57 57.5 -2.0**
PB15 **IPOC Station P** 155.08 142⇑*e*P **PKPdf** **16 58 02.1 +2.4**
PB15 **IPOC Station P** 155.08 142 IAMs_20 IAMs_20 18 04 01.3
comp=Z,8μm,20.0s
STVI **Saint Thomas** 155.11 27 PKPdf **PKPdf** **16 57 57.3 -2.3**
TER01 **Tubaro-SC** 155.11 188 *e*P **PKPdf** **16 57 59.7 +0.4**
NNA **Nana** 155.19 110 PKP **PKPdf** **16 58 01.5 +1.6**
comp=Z,18nm,0.9s,baz=269,slow=2.7,SNR=7.1
CBOC **Ciudad Bolivar** 155.24 67 *e*P **PKPdf** **16 58 01.4 +1.2**
PB04 **IPOC Station P** 155.29 140⇑*i*P **PKPdf** **16 58 02.3 +2.3**
PLMC **San Jos del P** 155.33 70 *e*P **PKPdf** **16 57 56.0 -4.1**
PB06 **IPOC Station P** 155.39 141⇑*i*P **PKPdf** **16 58 02.4 +2.3**
PB06 **IPOC Station P** 155.39 141 IAMs_20 IAMs_20 18 02 42.5
comp=Z,11μm,20.0s
HELC **Santa Helena** 155.56 66 *e*P **PKPdf** **16 58 00.1 -0.8**
YOTC **Yotoco, Valle** 155.57 72 *e*P **PKPdf** **16 57 58.7 -1.8**
ZARC **Zaragoza, Cauc** 155.61 63 *e*P **PKPdf** **16 57 54.7 -5.8**
POPC **Popayan, Colom** 155.67 75 *e*P **PKPdf** **16 58 01.4 +0.6**
SMLC **San Martn de** 155.68 59 *e*P **PKPdf** **16 58 00.1 -0.5**
PB03 **IPOC Station P** 155.75 140⇑*i*P **PKPdf** **16 58 03.1 +2.5**
URIC **Uribia, Colomb** 155.75 50 *e*P **PKPdf** **16 57 58.7 -1.8**
LVC **Limon Verde** 155.87 142 PKP **PKPdf** **16 58 02.8 +1.8**
comp=Z,5.6nm,0.8s,baz=167,slow=1.8,SNR=3.7
LVC **Limon Verde** 155.87 142 *e*P **PKPdf** **16 58 00.5 -0.5**
LVC **Limon Verde** 155.87 142 IAMs_20 IAMs_20 18 00 15.1
comp=Z,11μm,20.0s

PB07 **IPOC Station P** 155.89 139⇑*i*P **PKPdf** **16 58 02.4 +1.5**
GUY2C **Guyana, Caldas** 156.07 68 *e*P **PKPdf** **16 58 02.8 +1.1**
PB02 **IPOC Station P** 156.17 138⇑*i*P **PKPdf** **16 58 02.7 +1.6**
SMRT **St. Maarten** 156.19 24 *e*P **PKPdf** **16 57 56.3 -4.8**
PB09 **IPOC Station P** 156.26 140⇑*i*P **PKPdf** **16 58 02.3 +1.0**
PB09 **IPOC Station P** 156.26 140 IAMs_20 IAMs_20 18 00 25.7
comp=Z,10μm,20.0s
PTBC **PUERTO BERRIO** 156.39 64 *e*P **PKPdf** **16 58 00.1 -1.4**
NORC **Norcasia** 156.41 67 *e*P **PKPdf** **16 58 01.4 -0.2**
TA01 **Diego Aracena** 156.50 137⇑*i*P **PKPdf** **16 58 03.4 +2.0**
SABA **Saba** 156.50 25 *e*P **PKPdf** **16 58 02.5 +1.0**
OCAC **Ocana** 156.60 59 *e*P **PKPdf** **16 58 01.4 -0.5**
PB01 **IPOC Station P** 156.64 139⇑*i*P **PKPdf** **16 58 03.0 +1.3**
ORTC **Ortega, Tolima** 156.64 71 *e*P **PKPdf** **16 58 00.1 -1.8**
ITAB **Concordia** 156.68 182 *e*P **PKPdf** **16 58 01.2 -0.3**
SEUS **St. Eustatius** 156.72 24 IAMs_20 IAMs_20 18 02 53.8
comp=Z,11μm,22.0s
TA02 **Huaiquique** 156.73 136⇑*i*P **PKPdf** **16 58 03.2 +1.5**
BRRC **Barranca, Sant** 156.80 62 *e*P **PKPdf** **16 57 58.7 -3.3**
ANWB **Willy Bob** 157.03 21 *e*P **PKPdf** **16 58 01.2 -1.0**
ANWB **Willy Bob** 157.03 21 IAMs_20 IAMs_20 18 03 49.6
comp=Z,11μm,22.0s
PRAC **Prado** 157.04 71 *e*P **PKPdf** **16 58 02.8 +0.4**
SPBC **San Pablo de B** 157.10 66 *e*P **PKPdf** **16 58 00.1 -2.4**
ROSC **El Rosal** 157.18 68 PKP **PKPdf** **16 58 04.8 +1.9**
comp=Z,16nm,0.7s,baz=72,slow=0.2,SNR=9.6
ROSC PKPab **PKPab** **16 58 34.8 +1.0**
comp=Z,29nm,0.8s,baz=180,slow=18,SNR=3.8
CPUP **Villa Florida** 157.25 170 PKP **PKPdf** **16 58 03.5 +1.3**
comp=Z,6.1nm,0.8s,baz=154,slow=1.2,SNR=7.3
CPUP PKPab **PKPab** **16 58 34.1 +1.2**
comp=Z,36nm,0.9s,baz=196,slow=2.6,SNR=11
CPUP **Villa Florida** 157.25 170 *e*P **PKPdf** **16 58 02.6 +0.3**
PB11 **IPOC Station P** 157.40 136⇑*i*P **PKPdf** **16 58 04.4 +1.6**
PB11 **IPOC Station P** 157.40 136 IAMs_20 IAMs_20 18 06 06.5
comp=Z,10μm,20.0s
PB08 **IPOC Station P** 157.49 137⇑*i*P **PKPdf** **16 58 05.3 +2.1**
BARC **Barichara** 157.50 63 *e*P **PKPdf** **16 58 02.8 -0.4**
ANBD **Bethesda, Anti** 157.61 22 *e*P **PKPdf** **16 58 03.5 +0.7**
PB12 **IPOC Station P** 157.67 133⇑*i*P **PKPdf** **16 58 04.3 +1.2**
PB12 **IPOC Station P** 157.67 133 IAMs_20 IAMs_20 18 00 43.9
comp=Z,8μm,21.0s
CHIC **Chingaza** 157.81 68 *e*P **PKPdf** **16 58 04.1 +0.3**
RUSC **La Rusia** 157.90 64 *e*P **PKPdf** **16 58 02.8 -1.3**
PTLC **Puerto Leguiza** 158.02 80 *e*P **PKPdf** **16 58 04.1 +0.5**
TIJ01 **Guaruva-PR** 158.23 190 *e*P **PKPdf** **16 58 04.2 +0.6**
PB16 **IPOC Station P** 158.45 133 IAMs_20 IAMs_20 18 01 30.4
comp=Z,8μm,21.0s
MACC **Macarena, Meta** 158.50 74 *e*P **PKPdf** **16 58 02.8 -1.4**
SDV **Santo Domingo** 158.50 54 PKP **PKPdf** **16 58 05.0 +0.7**
comp=Z,49nm,0.8s,baz=308,slow=1.5,SNR=26
SDV PKPab **PKPab** **16 58 38.5 -0.5**
comp=Z,58nm,0.8s,baz=172,slow=11,SNR=3.0
SDV **Santo Domingo** 158.50 54 *e*P **PKPdf** **16 58 04.3 0.0**
SDV **Santo Domingo** 158.50 54 IAMs_20 IAMs_20 18 17 05.8
comp=Z,12μm,22.0s
CBE **Ff, Capester** 158.56 23 *e*P **PKPdf** **16 58 01.9 -2.2**
TDBA **Terre de Bas,** 158.75 23 *e*P **PKPdf** **16 58 03.2 -1.2**
MAGL **Barre de l'ile** 158.79 22 *e*P **PKPdf** **16 58 03.2 -1.2**
TAMC **Tame, Arauca** 158.80 61 *e*P **PKPdf** **16 58 04.1 -0.4**
PET01 **Itanhaem-SP** 158.85 195 *e*P **PKPdf** **16 58 04.0 -0.2**
CAM01 **Campos-RJ** 158.89 211 *e*P **PKPdf** **16 58 04.8 +0.5**
MAN01 **Angra dos Reis** 159.06 204 *e*P **PKPdf** **16 58 06.6 +2.0**
PTGB **Pitanga** 159.18 183 *e*P **PKPdf** **16 58 05.2 +0.5**
DSLB **Salisbury** 159.21 23 *e*P **PKPdf** **16 58 03.2 -1.7**
MDN **Morne-Daniel** 159.33 23 *e*P **PKPdf** **16 58 05.2 +0.2**
DLPL **La Plaine** 159.37 23 *e*P **PKPdf** **16 58 02.6 -2.5**
PTGC **Puerto Gaitan,** 159.44 67 *e*P **PKPdf** **16 58 02.8 -2.5**
SPB **Sao Paulo** 159.56 195 IAMs_20 IAMs_20 18 14 19.5
comp=Z,10μm,20.0s
SVN **Savane Anatole** 159.85 23 IAMs_20 IAMs_20 18 18 24.4
comp=Z,11μm,20.0s
FDF **Fort de France** 159.95 23 *e*P **PKPdf** **16 58 05.4 -0.4**
VAO **Valinhos** 159.99 197 *e*P **PKPdf** **16 58 06.6 +0.9**
ILAM **Ilet Lapin Mar** 160.02 22 *e*P **PKPdf** **16 58 06.1 +0.3**
CZSB **Cruzeiro do Su** 160.17 102 *e*P **PKPdf** **16 58 07.0 +1.0**
RIB01 **Linhares ES** 160.17 218 *e*P **PKPdf** **16 58 06.4 +0.5**
BIM **Bigot** 160.18 23 *e*P **PKPdf** **16 58 06.7 +0.7**
FRTB **Fartura** 160.26 190 *e*P **PKPdf** **16 58 07.0 +1.1**
MPOM **Morne Pois Mar** 160.33 23 *e*P **PKPdf** **16 58 00.7 -5.5**
BAUV **El Baul** 160.50 49 *e*P **PKPdf** **16 58 05.3 -1.1**
SLBI **Saint Lucia, B** 160.67 23 *e*P **PKPdf** **16 58 05.4 -1.1**
RCLB **Rio Claro- Sao** 160.71 196 *e*P **PKPdf** **16 58 06.6 +0.1**
LPAZ **La Paz** 160.75 131 PKP **PKPdf** **16 58 08.5 +1.1**
comp=Z,33nm,1.1s,baz=22,slow=0.2,SNR=31
LPAZ PP PP 17 02 48.6 +17
comp=Z,15nm,1.2s,baz=205,slow=3.4,SNR=3.8
LPAZ **La Paz** 160.75 131 PKiKP **PKPdf** **16 58 05.5 -1.9**
LPAZ **La Paz** 160.75 131 PKPdf **PKPdf** **16 58 05.5 -1.9**
MCLT **Moule a Chique** 160.97 24 *e*P **PKPdf** **16 58 04.6 -2.3**
BSCB **Bom Sucesso** 161.06 205 *e*P **PKPdf** **16 58 07.8 +0.8**
SJMB **Sao Joao De Ma** 161.12 217 *e*P **PKPdf** **16 58 07.5 +0.5**
SVB **Belmont** 161.23 25 *e*P **PKPdf** **16 58 04.2 -3.0**
NBRF **Rio Formoso -** 161.44 254 *e*P **PKPdf** **16 58 08.1 +0.7**
GCMP **Grenada, Carri** 161.85 27 *e*P **PKPdf** **16 58 04.4 -3.4**
BBGH **Gun Hill** 162.00 21 *e*P **PKPdf** **16 58 08.2 +0.3**
GRGR **Grenville** 162.06 28 *e*P **PKPdf** **16 58 05.2 -2.8**
PCMB **Pacaembu** 162.21 186 *e*P **PKPdf** **16 58 08.7 +0.6**
NBAN **Anadia - AL** 162.25 250 *e*P **PKPdf** **16 58 08.9 +0.7**
BB19B **Bebedouro** 162.26 194 *e*P **PKPdf** **16 58 09.2 +1.1**
CMC01 **Camacan, BA** 162.33 229 *e*P **PKPdf** **16 58 09.1 +0.9**
NBIT **Itapeh - BA** 162.53 230 *e*P **PKPdf** **16 58 09.4 +1.0**
RCBR **Riachuelo** 162.69 263 *e*P **PKPdf** **16 58 09.7 +0.9**
DIAM **Diamantina, MG** 162.86 212 *e*P **PKPdf** **16 58 09.5 +0.6**
NBLA **Lagarto - SE** 163.18 244 *e*P **PKPdf** **16 58 10.0 +0.9**
AQDB **Aquidauana** 163.24 172 *e*P **PKPdf** **16 58 09.5 +0.5**
TBTG **Tabatinga, AM** 163.29 92 *e*P **PKPdf** **16 58 10.1 +0.9**
TOSP **Speyside** 163.30 26 *e*P **PKPdf** **16 58 09.1 -0.1**
BOT **Bacolet** 163.34 27 *e*P **PKPdf** **16 58 13.7 +4.4**
GDU01 **Guandu, BA** 163.36 233 *e*P **PKPdf** **16 58 09.7 +0.4**
TRN **Trinidad (W)** 163.46 30 *e*P **PKPdf** **16 58 09.1 -0.3**
ITRB **Iturama** 163.96 190 *e*P **PKPdf** **16 58 10.7 +1.0**
IPMB **Ipameri, GO** 165.10 199 *e*P **PKPdf** **16 58 11.3 +0.5**
NBCL **Cascavel-CE** 165.16 268 *e*P **PKPdf** **16 58 11.5 +0.5**
NBMA **Muriti-CE** 165.24 255 *e*P **PKPdf** **16 58 11.8 +0.7**
NBPN **Ponto Novo - B** 165.37 241 *e*P **PKPdf** **16 58 11.8 +0.6**
SIV **San Ignacio** 165.60 148 PK

*GII **11** 16:43:23.5±0.4, 29°.64N×34°.97E, h17km, MD1.9/3, Mm1.9/7*

ISC 11 16:43:22.6±1.1, **29°.59N**±0°.03×**35°.03E**±0°.08, **h19**km±2km, **n13**, σ0°**46**/24, **Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**0.10**	**320**	Pg	**Pg**	**16 43 26.5**	**0.0**
EIL				Sg	**Sg**	**16 43 29.6**	**+0.5**
MBRI	**Mt Berech**	**0.23**	**334**	Pg	**Pb**	**16 43 28.2**	**+0.3**
MBRI				Sg	**Sg**	**16 43 32.0**	**+0.1**
HRFI	**Mount Harif**	**0.45**	**1**	Pg	**Pg**	**16 43 31.8**	**0.0**
HRFI				Sg	**Sg**	**16 43 38.3**	**+0.3**
KRMI	**Paran Flat**	**0.59**	**333**	Pg	**Pb**	**16 43 33.8**	**-0.5**
KRMI				Sg	**Sb**	**16 43 41.7**	**-0.6**
NUB	**Nuweibaa**	**0.65**	**211**	P	**Pb**	**16 43 35.8**	**+0.4**
	baz=212						
NUB				S	**Sg**	**16 43 45.0**	**+0.7**
	baz=212						
PRNI	**Paran**	**0.76**	**358**	Pg	**Pb**	**16 43 37.2**	**-0.1**
PRNI				Sg	**Sb**	**16 43 47.8**	**+0.5**
HDHB	**Dhahab**	**0.94**	**203**	P	**Pb**	**16 43 39.9**	**-0.4**
	baz=204						
ZFRI	**Zfri**	**0.97**	**8**	Pg	**Pb**	**16 43 41.0**	**+0.1**
ZFRI				Sg	**Sg**	**16 43 54.5**	**+0.2**
HKAT	**Jabal Katrina**	**1.40**	**221**	P	**Pn**	**16 43 46.3**	**-1.0**
	baz=222						
HKAT				S	**Sn**	**16 44 05.5**	**+0.1**
	baz=222						
KZIT	**Kziot**	**1.42**	**338**	Pn	**Pn**	**16 43 47.7**	**+0.2**
KZIT				Sn	**Sn**	**16 44 05.6**	**-0.2**
TR2	**Tor 2**	**1.66**	**224**	⇑P	**Pn**	**16 43 51.2**	**+0.4**
	baz=225						
MDBI	**Mazsada**	**1.74**	**9**	Pn	**Pn**	**16 43 51.3**	**-0.6**
MDBI				Sn	**Sn**	**16 44 13.2**	**-0.3**
DSI	**Dead Sea**	**2.00**	**9**	Pn	**Pn**	**16 43 56.0**	**+0.6**
DSI				Sn	**Sn**	**16 44 19.9**	**0.0**

*PRE **11** 16:47:13.9±1.0, 24°.45S×31°.72E, h5km, ML2.7*
*EAF **11** 16:47:15.3±1.7, 24°.54S×31°.82E, h10km, MD3.3*
*BUL **11** 16:47:17.4±2.1, 24°.66S×31°.67E, h10km, MD3.2*

ISC 11 16:47:14.2±1.0, **24°.46S**±0°.04×**31°.73E**±0°.06, **h10**km, **n16**, σ1°**45**/26, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**0.99**	**342**	*e*P	**Pg**	**16 47 33.0**	**-0.2**
MOPA				*e*S	**Sg**	**16 47 46.0**	**-0.1**
MOPA				IAML		16 47 50.6	
	comp=Z,189nm,0.1s						
MOPA	**Mopani**	**0.99**	**342**	*i* P	**Pb**	**16 47 33.2**	**-0.2**
MOPA	**Mopani**	**0.99**	**342**	*i* P	**Pb**	**16 47 33.2**	**-0.2**
CNG	**Changalane**	**1.87**	**167**	*i* P	**Pn**	**16 47 45.5**	**-0.8**
CNG				*i* Sg	**Sn**	**16 48 10.7**	**+0.7**
CNG	**Changalane**	**1.87**	**167**	*i* P	**Pn**	**16 47 45.5**	**-0.8**
CNG				*i* Sg	**Sn**	**16 48 10.7**	**+0.7**
MSNA	**Messina**	**2.62**	**323**	*e*P	**Pn**	**16 47 56.9**	**+0.1**
MSNA				*e*S	**Sn**	**16 48 26.9**	**-1.8**
MSNA				IAML		16 48 40.5	
	comp=Z,55nm,0.2s						
MSNA	**Messina**	**2.62**	**323**	*i* P	**Pb**	**16 48 00.5**	**-0.9**
MSNA	**Messina**	**2.62**	**323**	*i* P	**Pb**	**16 48 00.5**	**-0.9**
POGA	**Pongola**	**2.87**	**180**	*e*P	**Pn**	**16 48 00.8**	**+0.6**
POGA				*e*S	**Sn**	**16 48 35.5**	**+0.8**
POGA				IAML		16 48 46.0	
	comp=Z,34nm,0.2s						
SLR	**Silverton**	**3.37**	**247**	*e*P	**Pn**	**16 48 08.2**	**+1.1**
SLR				*e*S	**Sn**	**16 48 48.1**	**+0.8**
SLR				IAML		16 49 03.8	
	comp=Z,45nm,0.5s						
HRAO	**HartRAO**	**3.93**	**248**	*e*P	**Pn**	**16 48 16.7**	**+1.9**
HRAO				*e*S	**Sn**	**16 49 00.5**	**-0.6**
HRAO				IAML		16 49 20.6	
	comp=Z,29nm,0.3s						
PRYS	**Parys**	**4.64**	**237**	*e*P	**Pn**	**16 48 26.2**	**+1.6**
PRYS				*e*S	**Sn**	**16 49 17.6**	**-1.0**
PRYS				IAML		16 49 42.4	
	comp=Z,16nm,1.9s						
MATP	**Matopo**	**5.00**	**323**	*i* P	**Pn**	**16 48 32.3**	**+2.8**
MATP	**Matopo**	**5.00**	**323**	*i* P	**Pn**	**16 48 32.3**	**+2.8**
LBTB	**Lobatse**	**5.60**	**263**	*i* P	**Pn**	**16 48 39.0**	**+1.3**
LBTB				*i* S	**Sn**	**16 49 39.8**	**-2.5**
LBTB	**Lobatse**	**5.60**	**263**	*i* P	**Pn**	**16 48 39.0**	**+1.3**
LBTB				*i* S	**Sn**	**16 49 39.8**	**-2.5**

VAO 11 16:48:20.6±0.3, **19°.56S**×**43°.30W**, **h10**km, **mbR2.8**, **Brazil**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIAM	**Diamantina, MG**	**1.31**	**344**	*e*P	Pn	16 48 44.0	-1.1
BSCB	**Bom Sucesso**	**1.99**	**224**	*e*P	Pn	16 48 52.9	-1.5
SJMB	**Sao Joao De Ma**	**2.18**	**67**	*e*P	Pn	16 48 56.6	-0.3
BSFB	**Barra de Sao F**	**2.43**	**73**	*e*P	Pn	16 49 00.2	-0.2
ALF01	**Guarapari-ES**	**2.64**	**114**	*e*P	Pn	16 49 02.9	-0.4
DUB01	**Friburgo-RJ**	**2.65**	**161**	*e*P	Pn	16 49 03.3	-0.2
VAS01	**Vassouras-RJ**	**2.71**	**183**	*e*P	Pn	16 49 04.5	+0.3
CAM01	**Campos-RJ**	**2.73**	**146**	*e*P	Pn	16 49 04.8	+0.3
RIB01	**Linhares ES**	**2.75**	**85**	*e*P	Pn	16 49 05.3	+0.5
GUA01	**Guaratinga, BA**	**4.45**	**49**	*e*P	Pn	16 49 28.5	+0.3
JANB	**Januaria**	**4.58**	**348**	*e*P	Pn	16 49 29.6	-0.5
NBPN	**Ponto Novo - B**	**9.17**	**19**	*e*P	Pn	16 50 31.3	-1.8
CZSB	**Cruzeiro do Su**	**30.84**	**288**	*e*P	P	16 54 37.8	+0.6

*IDC **11** 16:51:14.4±0.9, 3°.61N×126°.74E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.6/67, mbtmp3.9/9, Error ellipse: s-maj=54.7km s-min=16.2km az=75.0*
*NEIC **11** 16:51:16.4±1.2, 3°.71N±0°.07×126°.8E±0°.2, h10km±1km, mb4.5/12, Error ellipse: s-maj=31.1km s-min=12.5km az=87.0*

ISC 11 16:51:15.9±0.7, **3°.7N**±0°.1×**126°.8E**±0°.3, **h10**km, **n24**, σ0°**75**/23, **mb4.1**/13, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.96**	**168**	Pn	**Pn**	**16 52 04.0**	**+1.1**
MTN	**Manton Dam**	**16.98**	**165**	Pn	**Pn**	**16 55 13.7**	**-0.1**
KNRA	**Kununurra**	**19.34**	**174**		**Pn**	**16 55 43.1**	**+0.4**
KNRA				IAmb	IAmb	16 55 49.2	
	comp=Z,55nm,1.5s						
YULB	**Yu-li**	**20.29**	**345**	P	**P**	**16 55 51.6**	**-0.5**
YULB				IAmb	IAmb	16 55 52.0	
	comp=Z,25nm,1.1s						
TPUB	**Ta-pu**	**20.38**	**344**	P	**P**	**16 55 51.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.67**	**183**	P	**P**	**16 56 07.4**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=17,slow=11						
UBPT	**Khong Chiam**	**23.93**	**300**	P	**P**	**16 56 31.0**	**+0.6**
WB0	**Warramunga Arr**	**24.48**	**162**	P	**P**	**16 56 34.7**	**-0.8**
WRAB	**Tennant Creek**	**24.62**	**163**	P	**P**	**16 56 37.1**	**+0.3**
WRAB				IAmb	IAmb	16 56 37.2	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**24.63**	**163**	P	**P**	**16 56 36.2**	**-0.6**
	comp=Z,5.9nm,0.8s,baz=343,slow=10,SNR=7.6						
WB2	**Warramunga Arr**	**24.63**	**163**	P	**P**	**16 56 36.5**	**-0.3**
WR0	**Warramunga Arr**	**24.71**	**162**	P	**P**	**16 56 37.1**	**-0.4**
WR0				IAmb	IAmb	16 56 54.6	
	comp=Z,19nm,1.2s						
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**16 57 06.3**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=339,slow=11,SNR=1.2						
STKA	**Stephens Creek**	**38.07**	**159**	P	**P**	**16 58 34.2**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=328,slow=9.4,SNR=3.9						
STKA	**Stephens Creek**	**38.07**	**159**	IAmb	IAmb	16 58 42.3	
	comp=Z,4.5nm,1.4s						
SONM	**Songino Array**	**47.35**	**341**	P	**P**	**16 59 51.0**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=145,slow=8.0,SNR=1.9						
PETK	**Petropavlovsk-**	**55.46**	**22**	P	**P**	**17 00 51.7**	**+0.9**
	comp=Z,4.8nm,1.1s,baz=190,slow=5.3,SNR=6.6						
MK31	**Makanchi Array**	**57.61**	**325**	P	**P**	**17 01 06.0**	**-0.2**
MK31				IAmb	IAmb	17 01 09.2	
	comp=Z,6.4nm,1.5s						
MKAR	**Makanchi Array**	**57.61**	**325**	P	**P**	**17 01 06.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=115,slow=7.3,SNR=8.6						
MKAR	**Makanchi Array**	**57.61**	**325**	P	**P**	**17 01 06.1**	**-0.2**
ZALV	**Zalesovo Beam**	**60.65**	**333**	P	**P**	**17 01 26.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=128,slow=9.3,SNR=2.0						
KURBB	**Kurchatov Arra**	**61.80**	**327**	P	**P**	**17 01 35.2**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=127,slow=5.7,SNR=3.7						
KURK	**Kurchatov**	**61.80**	**328**	P	**P**	**17 01 34.1**	**-0.9**
KURK				IAmb	IAmb	17 01 42.0	
	comp=Z,3.7nm,1.1s						
ABKAR	**Akbulak array**	**72.21**	**321**	P	**P**	**17 02 41.0**	**-0.2**

*IDC **11** 16:54:29.6±0.6, 3°.66N×126°.72E, h0km, mb4.0/17, mb1 4.1/19, mb1mx3.9/58, mbtmp4.0/19, ML4.1/2, Error ellipse: s-maj=33.2km s-min=12.9km az=74.0*
*DJA **11** 16:54:30.4±0.8, 4°N±5°×12°7E±°, h10km, M4.5/6, MLv4.5/6*
*NEIC **11** 16:54:31.2±1.9, 3°.73N±0°.09×126°.9E±0°.1, h10km±1km, mb4.4/20, Error ellipse: s-maj=26.4km s-min=12.7km az=246.0*

ISC 11 16:54:31.1±0.5, **3°.82N**±0°.05×**127°.01E**±0°.06, **h10**km, **n48**, σ1°**56**/52, **mb4.2**/25, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.48**	**265**	P	**Pb**	**16 54 59.1**	**+0.3**
SGSI				S	**Sg**	**16 55 19.7**	**+0.8**
TNTI	**Ternate**	**3.05**	**173**	P	**Pn**	**16 55 19.3**	**-0.1**
TNTI				S	**Sn**	**16 55 57.9**	**+2.0**
TNTI	**Ternate**	**3.05**	**173**	Pn	**Pn**	**16 55 18.4**	**-0.9**
KMSI	**Cibinong**	**4.42**	**223**	P	**Pn**	**16 55 40.0**	**+1.7**
LBMI	**Labuha**	**4.45**	**174**	P	**Pn**	**16 55 40.3**	**+1.6**
GTOI	**Gorontalo**	**5.09**	**232**	P	**Pn**	**16 55 49.5**	**+1.9**
SIJI	**Sorong**	**6.30**	**137**	Pn	**Pn**	**16 56 06.5**	**+2.3**
	2.4nm,0.3s,baz=326,slow=13,SNR=7.1						
SIJI				Sn	**Sn**	**16 57 17.0**	**+0.6**
	0.2nm,0.3s,baz=348,slow=24,SNR=1.3						
BATI	**Baumata**	**14.32**	**193**	Pn	**Pn**	**16 57 51.6**	**-2.6**
	1.9nm,0.3s,baz=85,slow=5.4,SNR=4.2						
MTN	**Manton Dam**	**17.05**	**166**	Pn	**Pn**	**16 58 27.8**	**-2.1**
KNRA	**Kununurra**	**19.45**	**175**	P	**P**	**16 58 57.1**	**-0.9**
KNRA				IAmb	IAmb	16 58 57.8	
	comp=Z,17nm,1.2s						
YULB	**Yu-li**	**20.23**	**345**	P	**P**	**16 59 04.9**	**-1.6**
YULB				IAmb	IAmb	16 59 16.1	
	comp=Z,44nm,1.3s						
TPUB	**Ta-pu**	**20.33**	**343**	P	**P**	**16 59 06.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**21.82**	**184**	P	**P**	**16 59 22.7**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=33,slow=19,SNR=0.9						
FITZ				S	**S**	**17 03 29.3**	**+4.3**
	comp=Z,1.4nm,0.8s,baz=306,slow=16,SNR=1.8						
UBPT	**Khong Chiam**	**24.07**	**300**	P	**P**	**16 59 44.5**	**-2.4**
UBPT				IAmb	IAmb	16 59 55.8	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**24.53**	**163**	P	**P**	**16 59 49.3**	**-1.8**
WB0				IAmb	IAmb	16 59 50.9	
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**24.68**	**163**	P	**P**	**16 59 50.7**	**-1.7**
WRAB				IAmb	IAmb	16 59 52.5	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**16 59 51.0**	**-1.5**
	comp=Z,10nm,0.7s,baz=343,slow=11,SNR=26						
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**16 59 50.5**	**-2.0**
WB2	**Warramunga Arr**	**24.69**	**163**	P	**P**	**16 59 50.5**	**-2.0**
WR0	**Warramunga Arr**	**24.76**	**163**	P	**P**	**16 59 50.7**	**-2.5**
WR0				IAmb	IAmb	16 59 52.7	
	comp=Z,11nm,0.9s						
AS31	**Alice Springs**	**28.13**	**166**	P	**P**	**17 00 22.9**	**-0.7**
ASAR	**Alice Springs**	**28.13**	**167**	P	**P**	**17 00 24.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=335,slow=10,SNR=1.3						
ASAR	**Alice Springs**	**28.13**	**167**	P	**P**	**17 00 22.7**	**-0.9**
JNU	**Nakatsue**	**29.38**	**7**	P	**P**	**17 00 37.4**	**+2.8**
	comp=Z,4.0nm,0.9s,baz=204,slow=10.0,SNR=1.4						
JNU	**Nakatsue**	**29.38**	**7**	IAmb	IAmb	17 00 37.5	
	comp=Z,21nm,1.3s						
CMAR	**Chiang Mai Arr**	**31.07**	**300**	P	**P**	**17 00 49.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=111,slow=6.7,SNR=6.2						
CMAR	**Chiang Mai Arr**	**31.07**	**300**	P	**P**	**17 00 48.1**	**-1.6**
KSRS	**Korea Array**	**33.49**	**1**	P	**P**	**17 01 12.8**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=167,slow=6.0,SNR=1.7						
BBOO	**Buckleboo**	**37.42**	**167**	P	**P**	**17 01 43.3**	**-1.3**
BBOO				IAmb	IAmb	17 02 06.3	
	comp=Z,15nm,1.5s						
STKA	**Stephens Creek**	**38.11**	**160**	P	**P**	**17 01 49.3**	**-1.1**
	comp=Z,4.1nm,0.6s,baz=333,slow=8.4,SNR=13						
STKA	**Stephens Creek**	**38.11**	**160**	P	**P**	**17 01 49.4**	**-1.0**
KLR	**Kul'dur**	**45.43**	**4**	P	**P**	**17 02 49.7**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=162,slow=13,SNR=2.2						
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**17 03 05.0**	**0.0**
	comp=Z,0.4nm,0.4s,baz=161,slow=7.3,SNR=4.6						
SONM				PcP	**PcP**	**17 04 36.8**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=178,slow=4.2,SNR=3.7						
PETK	**Petropavlovsk-**	**55.24**	**22**	P	**P**	**17 04 07.2**	**+2.8**
	comp=Z,4.2nm,1.1s,baz=204,slow=5.5,SNR=2.0						
MK31	**Makanchi Array**	**57.64**	**325**	P	**P**	**17 04 21.1**	**-0.5**
MK31				IAmb	IAmb	17 04 41.7	
	comp=Z,2.1nm,1.1s						
MKAR	**Makanchi Array**	**57.64**	**325**	P	**P**	**17 04 21.6**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=116,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**57.64**	**325**	P	**P**	**17 04 21.3**	**-0.4**
KDJ	**Kajisay**	**58.47**	**318**	P	**P**	**17 04 28.0**	**+0.3**
KDJ				IAmb	IAmb	17 04 42.6	
	comp=Z,2.8nm,0.9s						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**17 04 41.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=99,slow=9.3,SNR=2.1						
LTZ	**Lake Taylor**	**61.81**	**144**	P	**P**	**17 04 50.2**	**-0.3**
KURBB	**Kurchatov Arra**	**61.82**	**327**	P	**P**	**17 04 50.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=125,slow=6.5,SNR=2.5						
KURK	**Kurchatov**	**61.82**	**327**	P	**P**	**17 04 50.0**	**-0.2**
KURK				IAmb	IAmb	17 04 50.6	
	comp=Z,2.5nm,0.8s						
NRIK	**Noril'sk**	**70.41**	**346**	P	**P**	**17 05 46.0**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=121,slow=4.3,SNR=3.8						
ABKAR	**Akbulak array**	**72.26**	**321**	P	**P**	**17 05 55.9**	**-0.8**
ARCES	**ARCESS Array B**	**90.46**	**340**	P	**P**	**17 07 32.1**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=81,slow=6.5,SNR=1.7						
FINES	**FINESS Array B**	**91.89**	**332**	P	**P**	**17 07 39.1**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=76,slow=5.9,SNR=1.7						
AKASG	**Malin Array Be**	**92.00**	**321**	P	**P**	**17 07 38.6**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=74,slow=4.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**123.16**	**288**	PKP	**PKPdf**	**17 13 29.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=44,slow=1.6,SNR=1.5						

IDC 11 17:00:17.4±2.1, **3°.71N**×**127°.03E**, **h0**km, **mb3.4**/4, **mb1 3.6**/4, **mb1mx2.9**/49, **mbtmp3.4**/4, **Error ellipse: s-maj=113.6km s-min=28.0km az=69.0**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.72**	**184**	P	P	17 05 09.6	-0.8
	1.1nm,0.9s,baz=346,slow=8.3,SNR=0.8						
WRA	**Warramunga Arr**	**24.58**	**163**	P	P	17 05 39.6	+0.1
	0.7nm,0.6s,baz=344,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**28.03**	**166**	P	P	17 06 11.1	+0.5
	0.2nm,0.4s,baz=340,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**57.74**	**325**	P	P	17 10 10.0	-0.3
	0.3nm,0.6s,baz=118,slow=7.7,SNR=2.1						

*IDC **11** 17:01:21.5±0.5, 3°.76N×126°.79E, h0km, mb4.3/20, mb1 4.3/24, mb1mx4.1/51, mbtmp4.3/24, ML4.1/4, Error ellipse: s-maj=22.0km s-min=9.0km az=73.0*
*BJI **11** 17:01:22.7±0.0, 3°.54N×126°.75E, h24km, mb4.5/26*
*MAN **11** 17:01:23.5, 3°.45N×126°.94E, h33km, mb5.5, ML4.5, MS4.8*
*NEIC **11** 17:01:23.9±1.9, 3°.83N±0°.06×126°.83E±0°.09, h10km±1km, mb4.7/52, Error ellipse: s-maj=15.1km s-min=9.2km az=68.0*
*DJA **11** 17:01:23.9±0.2, 4°N±2°×12°7E±°, h10km, M4.8/25, mb4.6/25, MLv4.8/13*

ISC 11 17:01:23.3±0.4, **3°.89N**±0°.04×**127°.01E**±0°.05, **h10**km, **n129**, σ1°**53**/132, **mb4.6**/48, **8C-1D**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.49**	**262**	P	**Pn**	**17 01 50.3**	**+0.2**
SGSI				S	**Sg**	**17 02 12.8**	**+1.5**
GSPH	**General Santos**	**2.99**	**317**	⇑*e*P	**Pn**	**17 02 13.0**	**+2.0**
GSPH				*i* S	**Sn**	**17 02 44.4**	**-2.6**
TNTI	**Ternate**	**3.12**	**173**	P	**Pn**	**17 02 14.8**	**+2.2**
TNTI	**Ternate**	**3.12**	**173**	Pn	**Pn**	**17 02 13.5**	**+0.9**
DAV	**Davao City (W)**	**3.46**	**336**	Pn	**Pn**	**17 02 18.4**	**+1.1**
	24nm,0.3s,baz=63,slow=6.8,SNR=1.4						
DAV				Sn	**Sn**	**17 03 02.0**	**+3.5**
	22nm,0.3s,baz=98,slow=20,SNR=3.7						
DAV	**Davao City (W)**	**3.46**	**336**	Pn	**Pn**	**17 02 18.5**	**+1.2**
CTBH	**Cotabato--PC H**	**4.30**	**320**	⇓*e*P	**Pn**	**17 02 32.3**	**+3.4**
KMSI	**Cibinong**	**4.47**	**223**	P	**Pn**	**17 02 34.6**	**+3.4**
LBMI	**Labuha**	**4.53**	**174**	P	**Pn**	**17 02 32.5**	**+0.6**
GTOI	**Gorontalo**	**5.14**	**231**	P	**Pn**	**17 02 41.7**	**+1.4**
	0.3nm34nm,0.8s						
SANI	**Sanana**	**5.99**	**190**	P	**Pn**	**17 02 54.2**	**+2.2**
	0.4nm24nm,0.8s						
MRSI	**Marisa**	**6.09**	**236**	P	**Pn**	**17 02 56.9**	**+3.4**
	0.8nm85nm,0.9s						
SWI	**Sorong**	**6.35**	**138**	P	**Pn**	**17 02 59.6**	**+2.5**
	0.8nm36nm,2.7s						
SIJI	**Sorong**	**6.36**	**138**	Pn	**Pn**	**17 02 59.0**	**+1.8**
	2.1nm,0.3s,baz=351,slow=15,SNR=14						
SIJI				Sn	**Sn**	**17 04 11.2**	**+1.3**
	1.8nm,0.3s,baz=49,slow=24,SNR=5.6						
LUWI	**Luwuk**	**6.47**	**221**	P	**Pn**	**17 03 00.0**	**+1.3**
	0.9nm137nm,0.9s						
LUWI	**Luwuk**	**6.47**	**221**	Pn	**Pn**	**17 02 56.9**	**-1.8**
SNPH	**Sibulan**	**6.59**	**326**	*e*P	Pn	17 03 07.2	+6.8
TOLI2	**Tolitoli**	**6.80**	**246**	Pn	**Pn**	**17 03 01.5**	**-1.8**
APSI	**Ampana**	**7.17**	**228**	P	**Pn**	**17 03 10.1**	**+1.8**
	0.4nm93nm,1.0s						
MPSI	**Mapaga**	**7.93**	**244**	P	**Pn**	**17 03 21.8**	**+3.0**
	31nm,0.9s						
FAKI	**Fak Fak**	**8.55**	**142**	P	**Pn**	**17 03 29.9**	**+2.6**
	33nm,0.7s						
FAKI	**Fak Fak**	**8.55**	**142**	Pn	**Pn**	**17 03 28.4**	**+1.1**
MYLDM	**Lahad Datu**	**8.58**	**279**	Pn	**Pn**	**17 03 29.7**	**+2.1**
TTSI	**Tana Toraja**	**9.95**	**226**	P	**Pn**	**17 03 49.6**	**+3.1**
	28nm,1.0s						
BNSI	**Bone**	**10.74**	**220**	P	Pn	17 04 17.3	+20
EDFI	**Ende, Flores**	**13.63**	**203**	P	P	17 04 51.0	+5.1
BBKI	**Banjar Baru**	**14.18**	**239**	P	**P**	**17 04 53.5**	**+1.5**
BATI	**Baumata**	**14.39**	**193**	Pn	**Pn**	**17 04 44.5**	**-2.8**
	1.7nm,0.3s,baz=300,slow=1.2,SNR=2.9						
GENI	**Genyem**	**14.64**	**116**	P	P	17 05 02.8	+5.7
SBUM	**Sibu**	**14.83**	**265**		**Pn**	**17 04 56.5**	**+3.2**
JAY	**Jayapura**	**15.10**	**115**	Pn	**Pn**	**17 04 58.6**	**+1.8**
	0.4nm,0.3s,baz=302,slow=13,SNR=1.9						
STKI	**Sintang**	**15.98**	**257**	P	**P**	**17 05 14.6**	**+2.7**
SRBI	**Singaraja**	**16.73**	**225**	P	**P**	**17 05 21.0**	**+0.7**
	40nm,1.1s						
KMMI	**Kalianget**	**16.96**	**230**	P	**Pn**	**17 05 22.4**	**+1.6**
	33nm,1.1s						
MTN	**Manton Dam**	**17.12**	**166**	Pn	**Pn**	**17 05 21.4**	**-1.5**
JAGI	**Jajag, Banyuwa**	**17.75**	**226**		**Pn**	**17 05 28.6**	**-2.2**
KNRA	**Kununurra**	**19.52**	**175**	P	**P**	**17 05 50.7**	**-0.2**
TWG	**Pinlang**	**19.68**	**344**	P	**P**	**17 05 50.3**	**-2.4**
TWG				IAmb	IAmb	17 06 11.8	
	comp=Z,64nm,1.4s						
PCJI	**Pacitan**	**19.84**	**233**	P	**P**	**17 05 54.9**	**+0.4**
	comp=Z,37nm,0.9s						
DLV	**T Lat**	**20.00**	**295**	P	**P**	**17 05 57.5**	**+1.0**
DLV				IAmb	IAmb	17 06 06.0	
	comp=Z,52nm,1.4s						
YULB	**Yu-li**	**20.16**	**345**	P	**P**	**17 05 57.8**	**-0.1**
YULB				IAmb	IAmb	17 06 12.2	
	comp=Z,52nm,1.3s						
TPUB	**Ta-pu**	**20.26**	**343**	P	**P**	**17 05 58.0**	**-1.1**
TPUB				IAmb	IAmb	17 06 03.2	
	comp=Z,48nm,0.9s						
SSLB	**Suanglung**	**20.63**	**344**	P	**P**	**17 06 03.2**	**+0.1**
SSLB				IAmb	IAmb	17 06 06.7	
	comp=Z,75nm,1.4s						
YHNB	**Yeheng**	**21.36**	**346**	P	**P**	**17 06 10.2**	**-0.8**
YHNB				IAmb	IAmb	17 06 24.9	
	comp=Z,44nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.89**	**183**	P	**P**	**17 06 15.8**	**-0.9**
	comp=Z,4.3nm,1.0s,baz=20,slow=12,SNR=4.3						
LEM	**Lembang**	**22.09**	**241**	P	**P**	**17 06 17.3**	**-1.8**
	comp=Z,9.1nm,0.6s,baz=200,slow=24,SNR=1.3						
KLSI	**Seoul**	**23.83**	**249**	P	**P**	**17 06 38.1**	**+1.2**
	comp=Z,8.3nm,0.9s						
UBPT	**Khong Chiam**	**24.03**	**300**	P	**P**	**17 06 37.9**	**-0.9**
UBPT				IAmb	IAmb	17 06 40.4	
	comp=Z,40nm,1.2s						
MDSI	**Maura Dua**	**24.28**	**250**	P	**P**	**17 06 43.7**	**+2.6**
	comp=Z,9.9nm,0.9s						
WB0	**Warramunga Arr**	**24.61**	**163**	P	**P**	**17 06 42.6**	**-1.3**
WB0				IAmb	IAmb	17 06 53.9

ZAA0 IAmb IAmb 17 11 43.1
comp=Z,4.9nm,1.2s
ZALV Zalesovo Beam 60.57 333 P **P 17 11 32.5 -1.4**
comp=Z,0.7nm,0.3s,baz=131,slow=6.8,SNR=5.9
ZALV Zalesovo Beam 60.57 333 P **P 17 11 32.0 -1.9**
DRK Karamyk 61.10 313 P **P 17 11 38.5 +0.3**
DRK IAmb IAmb 17 11 41.7
comp=Z,6.4nm,0.9s
KBL Kabul 61.65 307 P **P 17 11 40.0 -1.9**
KBL IAmb IAmb 17 11 41.6
comp=Z,5.9nm,1.1s
KURK Kurchatov 61.76 327 P **P 17 11 41.7 -0.3**
SEY Seymchan 61.81 13 P **P 17 11 43.8 +1.6**
comp=Z,0.5nm,0.3s,baz=180,slow=11,SNR=2.9
BTK Batken 62.01 314 P **P 17 11 44.0 -0.1**
CHGR Chuyangaron 62.77 312 P **P 17 11 48.3 -0.8**
KKAR Karatay Array 63.30 317 P **P 17 11 52.0 -0.6**
BRVK Borovoye 67.41 327 P **P 17 12 18.9 -0.1**
BRVK IAmb IAmb 17 12 36.3
comp=Z,6.8nm,0.9s
TIXI Tiksi 67.68 1 P **P 17 12 20.7 +0.4**
comp=Z,1.0nm,0.4s,baz=155,slow=5.5,SNR=11
TIXI Tiksi 67.68 1 P **P 17 12 19.8 -0.5**
TIXI IAmb IAmb 17 12 34.6
comp=Z,7.2nm,1.2s
NRIK Noril'sk 70.34 346 P **P 17 12 37.5 +0.6**
comp=Z,3.9nm,0.6s,baz=126,slow=6.7,SNR=13
NRIK Noril'sk 70.34 346 P **P 17 12 37.5 +0.6**
ABKAR Abkulak array 72.20 321 P **P 17 12 47.9 -0.7**
ABKAR Abkulak array 72.20 321 P **P 17 12 48.3 -0.3**
ABKAR IAmb IAmb 17 12 54.1
comp=Z,2.7nm,0.8s
ARU Arti 74.95 328 P **P 17 13 03.8 -0.8**
ARU IAmb IAmb 17 13 18.4
comp=Z,7.4nm,1.0s
GEVA Gevas 82.86 308 P **P 17 13 48.4 -0.2**
GEVA IAmb IAmb 17 14 02.9
comp=Z,5.7nm,0.8s
COLD Coldfoot 83.64 23 P **P 17 13 53.9 +2.1**
COLD IAmb IAmb 17 14 04.0
comp=Z,7.1nm,1.0s
I23K Minto, Yukon-K 83.81 25 P **P 17 13 53.8 +1.1**
DOT Dot Lake 86.06 27 P **P 17 14 04.4 +0.3**
BRTR Keskin Array B 90.13 310 P **P 17 14 23.0 -1.3**
comp=Z,2.3nm,0.9s,baz=71,slow=5.4,SNR=3.8
ARCES ARCESS Array B 90.39 340 P **P 17 14 24.2 -0.4**
comp=Z,3.0nm,0.7s,baz=83,slow=7.4,SNR=7.8
ANTO Ankara 90.77 310 ⇑P **P 17 14 26.7 -0.4**
FINES FINESS Array B 91.82 332 P **P 17 14 30.0 -1.4**
comp=Z,4.7nm,1.0s,baz=76,slow=5.9,SNR=3.9
AKASG Malin Array Be 91.94 321 P **P 17 14 30.6 -1.6**
comp=Z,1.8nm,0.7s,baz=65,slow=4.8,SNR=12
AKASG Malin Array Be 91.94 321 P **P 17 14 30.9 -1.3**
AKASG IAmb IAmb 17 14 32.5
comp=Z,5.8nm,1.3s
TESR Tescani 94.31 317 ⇑P **P 17 14 42.8 -0.4**
VRI Vrincioaia 94.37 316 ⇑P **P 17 14 44.1 +0.6**
PLOR Plostina 94.43 316 ⇑P **P 17 14 44.2 +0.3**
NEHR Nehoiu 94.75 316 ⇑P **P 17 14 45.5 +0.2**
MLR Muntele Rosu 94.98 316 ⇑P **P 17 14 46.1 -0.4**
MLR Muntele Rosu 94.98 316 P **P 17 14 45.2 -1.2**
BURAR Bucovina Array 95.07 318 ⇑P **P 17 14 46.8 0.0**
BUR08 Bucovina Ar. S 95.07 318 P **P 17 14 45.0 -1.8**
TORD Torodi Ar. Bea 123.13 288 PKP **PKPdf 17 20 19.9 -1.4**
comp=Z,0.9nm,0.8s,baz=34,slow=1.6,SNR=4.7

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*BJI **11** 17:08:00.9±0.0, 44°.46N×141°.24E, h230km, mb5.8/91, mB6.5/28*
*DSN **11** 17:08:00.7±1.7, 43°.99N×141°.72E, h227km, mb6.3/21, Error ellipse: s-maj=39.2km s-min=23.1km az=128.0*
*NIED **11** 17:08:02.0, 44°.43N×141°.21E, h265km, MW6.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^18^Nm; M_{rr}-1.48; $M_{\theta\theta}$0.17; $M_{\phi\phi}$1.31; $M_{r\theta}$1.71; $M_{\theta\phi}$-2.34; $M_{\phi r}$0.30; Fault plane solution: $M_0$3.24000×10^18^ NP1: ϕ_s286.00000°, δ69.00000°, λ-138.00000°. NP2: ϕ_s178.00000°, δ51.00000°, λ-27.00000°.*
*JMA **11** 17:08:01.9±0.2, 44°.43N×141°.21E, h265km±2km, M6.2 Broadband fault plane solution: P waves. NP1: ϕ_s172.00000°, δ49.00000°, λ-42.00000°. NP2: ϕ_s292.00000°, δ60.00000°, λ-131.00000°. Principal axes: T Plg6.0000°, Azm50.0000°; N Plg34.0000°, Azm316.0000°; P Plg55.0000°, Azm149.0000°;*
JMA Felt III J1.
*IDC **11** 17:08:03.7±0.7, 44°.52N×141°.18E, h237km±5km, mb5.5/36, mb1 5.6/44, mb1mx5.6/44, mbtmp6.1/44 Error ellipse: s-maj=7.2km s-min=5.8km az=90.0*
*NEIC **11** 17:08:03.9±1.9, 44°.48N±0°.06×141°.09E±0°.09, h239km±4km, mb5.9/891, Mww6.2, Error ellipse: s-maj=9.5km s-min=8.4km az=85.0*
*MOS **11** 17:08:03.0±0.9, 44°.46N×141°.14E, h245km, mb5.8/48, MS5.4/5, Error ellipse: s-maj=4.7km s-min=3.6km az=109.7*
*SKHL **11** 17:08:03.3±1.0, 44°.40N×141°.20E, h237km±11km, mb6.5/14, mbv6.8/8, ms6.0/6, msh6.9/10, mshа6.9/11*
*GCMT **11** 17:08:05.9±0.1, 44°.46N±0°.01×141°.01E±0°.01, h254km, MW6.3/167, Moment Tensor Solution. s117, c223; s167, c616; Duration: 3s3 Moment tensor: Scale 10^18^Nm; M_{rr}-2.07±.02; $M_{\theta\theta}$0.93±.02; $M_{\phi\phi}$1.14±.02; $M_{r\theta}$1.69±.02; $M_{\theta\phi}$-1.80±.02; $M_{\phi r}$0.24±.02; Best double couple: $M_0$3.06300×10^18^ NP1:ϕ_s164.00000°, δ42.00000°, λ-43.00000°. NP2:ϕ_s289.00000°, δ63.00000°, λ-123.00000°. Principal axes: T 3.0480, Plg12.0000°, Azm42.0000°; N 0.0300, Plg29.0000°, Azm305.0000°; P -3.0780, Plg58.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*KEA **11** 17:08:06.0, 44°.16N×141°.07E, h254km, MS5.8/3*
*BGR **11** 17:08:07.7±0.0, 45°.14N×141°.66E, h244km±2km, mb6.3, mB_BB6.4*
*NEIC **11** 17:08:07, 44°.39N×141°.21E, h260km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^18^Nm; M_{rr}-2.09; $M_{\theta\theta}$0.97; $M_{\phi\phi}$1.12; $M_{r\theta}$1.19; $M_{\theta\phi}$-1.80; $M_{\phi r}$0.15; Fault plane solution: $M_0$2.82000×10^18^ NP1: ϕ_s161.00000°, δ43.00000°, λ-50.00000°. NP2: ϕ_s292.00000°, δ58.00000°, λ-120.00000°. Principal axes: T 2.9560, Plg8.0000°, Azm44.0000°; N -0.2839, Plg26.0000°, Azm310.0000°; P -2.6721, Plg63.0000°, Azm151.0000°;*
ISC 11 17:08:04.2±0.2, 44°.45N±0°.02×141°.11E±0°.02, h244km±1km, h244km:pP-P, n2521, σ1s52/2969, mb5.9/764, 288C-836D, Fault plane solution: NP1:ϕ_s297.41315°, δ56.34767°, λ-95.58709°. **NP2:**ϕ_s127.42433°, δ34.05904°, λ-81.67967°. **Principal axes:** T Plg11.1843°, Azm31.4372°; N Plg4.6485°, Azm300.5161°; P Plg77.8650°, Azm188.2968°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.23**	**97**	⇓P	**Pn**	**17 08 35.6**	**-0.1**
JYG				*e*S	**S**	**17 09 01.7**	**+1.2**
JSS	**Shosan**	**0.54**	**95**	⇓P	**Pn**	**17 08 36.9**	**+0.5**
JSS				*e*S	**S**	**17 09 03.9**	**+2.1**
JRR	**Rishiri**	**0.70**	**12**	⇓P	**Pn**	**17 08 37.5**	**+0.5**
JRR				*e*S	**S**	**17 09 06.1**	**+3.2**
JHR	**Hokuryu**	**0.84**	**148**	⇓P	**Pn**	**17 08 38.0**	**+0.3**
JHR				*e*S	**S**	**17 09 05.6**	**+1.5**
JRBN	**Rebuntou**	**0.97**	**358**	⇓P	**Pn**	**17 08 38.4**	**+0.1**
JRBN				*e*S	**S**	**17 09 05.9**	**+0.7**
JWK2	**Keihoku**	**1.03**	**33**	⇓P	**Pn**	**17 08 38.6**	**0.0**
JWK2				*e*S	**S**	**17 09 06.6**	**+0.8**
ASAJ	**Asahikawa**	**1.12**	**107**	P	**Pn**	**17 08 38.6**	**-0.7**
ASAJ	3μm,0.3s,baz=266,slow=7.4			S	**S**	**17 09 06.6**	**-0.2**
	503nm,0.3s,baz=141,slow=28,SNR=7.4						
ASAJ	**Asahikawa**	**1.12**	**107**	⇓P	**Pn**	**17 08 38.5**	**-0.7**
JKA	**Kamikawa-asahi**	**1.12**	**107**	Pn	**Pn**	**17 08 38.5**	**-0.7**
JKA	**Kamikawa-asahi**	**1.12**	**107**	*e*P	**Pn**	**17 08 38.6**	**-0.7**
JSE	**Soyaes**	**1.17**	**64**	⇓P	**Pn**	**17 08 38.8**	**-0.7**
JSE				*e*S	**S**	**17 09 07.0**	**-0.3**
JSK	**Shakotan**	**1.19**	**203**	⇓P	**Pn**	**17 08 39.8**	**+0.1**
JSK				*e*S	**S**	**17 09 07.9**	**+0.3**
JISS	**Ishikarishitsu**	**1.20**	**169**	⇓P	**Pn**	**17 08 40.3**	**+0.5**
JAB	**Ashibetsu**	**1.25**	**139**	⇓P	**Pn**	**17 08 39.9**	**-0.2**
JKK2	**Kamakawa 2**	**1.32**	**116**	⇓P	**Pn**	**17 08 40.0**	**-0.6**
JKK2				*e*S	**S**	**17 09 09.4**	**+0.3**
JEW	**Eniwo**	**1.63**	**171**	⇑P	**Pn**	**17 08 43.0**	**0.0**
JEW				*e*S	**S**	**17 09 14.1**	**+0.6**
JEW	**Eniwo**	**1.63**	**171**	Pn	**Pn**	**17 08 43.0**	**0.0**
JFR	**Furan**	**1.68**	**140**	⇓P	**Pn**	**17 08 42.4**	**-1.0**
JFR				*e*S	**S**	**17 09 14.0**	**-0.2**
JMP	**Maruseppu**	**1.68**	**105**	⇓P	**Pn**	**17 08 42.8**	**-0.6**
JBT2	**Biratori 2**	**1.91**	**151**	⇓P	**Pn**	**17 08 44.4**	**-0.9**
JNB	**Noboribetsu**	**1.98**	**181**	⇑P	**Pn**	**17 08 45.6**	**-0.4**
JTKR	**Abashiri--Toko**	**2.07**	**102**	⇑P	**Pn**	**17 08 46.4**	**-0.3**
JTKR				*e*S	**S**	**17 09 20.3**	**+0.1**
JHST	**Hiyamasetana**	**2.22**	**204**	⇑P	**Pn**	**17 08 48.4**	**+0.2**
JAR	**Ashorobuto**	**2.25**	**120**	⇑P	**Pn**	**17 08 47.9**	**-0.6**
JYM2	**Yakumo 2**	**2.40**	**193**	⇑P	**Pn**	**17 08 49.5**	**-0.5**
JCH	**Churui**	**2.46**	**137**	⇓P	**Pn**	**17 08 48.2**	**-2.4**
JCH				*e*S	**S**	**17 09 23.1**	**-4.1**
JNBK	**Urakawa-nobuka**	**2.48**	**150**	⇑P	**Pn**	**17 08 49.6**	**-1.2**
JNBK				*e*S	**S**	**17 09 26.4**	**-1.2**
JOB	**Onbets**	**2.51**	**127**	⇓P	**Pn**	**17 08 49.8**	**-1.3**
JKB	**Kayabe**	**2.56**	**181**	⇑P	**Pn**	**17 08 50.5**	**-1.2**
JKB				*e*S	**S**	**17 09 26.7**	**-2.4**
JOSM	**Okushiri--Mats**	**2.65**	**207**	⇑P	**Pn**	**17 08 52.2**	**-0.4**
JNK	**Nakash**	**2.75**	**107**	⇑P	**Pn**	**17 08 52.5**	**-1.0**
YSS	**Yuzh-Sakhalins**	**2.75**	**24**	*e*PN	**Pn**	**17 08 54.0**	**+0.5**
YSS				*i* S	**S**	**17 09 32.0**	**-0.5**
YSS	comp=Z,61μm,1.6s			pmax	pmax		
YSS	comp=N,37μm,1.5s			pmax	pmax		
YSS	comp=Z,34μm,1.1s			pmax	pmax		
YSS	comp=N,31μm,1.3s			smax	smax		
YSS	comp=N,450μm,5.1s			smax	smax		
YSS	comp=E,469μm,4.8s			smax	smax		
YSS	comp=Z,130μm,18.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**2.75**	**24**		**Pn**	**17 08 53.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**2.75**	**24**	P	**Pn**	**17 08 54.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**2.75**	**24**	*e*P	**Pn**	**17 08 53.8**	**+0.3**
YSS				AMB	AMB	17 08 54.5	
YSS	comp=Z,34μm,1.1s			AMB	AMB	17 08 54.6	
YSS				*i* S	**S**	**17 09 32.3**	**-0.2**
YSS	comp=Z,31μm,1.3s			A	A	17 09 32.9	
YSS	comp=Z,450μm,5.1s			A	A	17 09 34.5	
YSS	comp=Z,469μm,5.1s			A	A	17 09 34.5	
YSS	comp=Z,131μm,18.0s			AMS	AMS	17 10 04.0	
YSS	**Yuzh-Sakhalins**	**2.75**	**24**	P	**Pn**	**17 08 53.1**	**-0.4**
ERM	**Erimo**	**2.86**	**148**	*ce*PN	**Pn**	**17 08 54.0**	**-0.7**
ERM	comp=Z,4μm,0.8s			pmax	pmax		
ERM	**Erimo**	**2.86**	**148**	Pn	**Pn**	**17 08 54.0**	**-0.7**
ERM	**Erimo**	**2.86**	**148**	P	**Pn**	**17 08 51.8**	**-3.0**
ERM	**Erimo**	**2.86**	**148**	P	**Pn**	**17 08 54.1**	**-0.7**
JRA	**Rausu**	**2.93**	**99**	*e*S	**S**	**17 09 36.5**	**+0.5**
JSR	**Shiriuchi**	**2.97**	**190**	⇑P	**Pn**	**17 08 55.0**	**-0.9**
JAK	**Akkeshi**	**2.98**	**118**	P	**Pn**	**17 08 53.5**	**-2.5**
RUSJ	**Misakicho**	**3.00**	**95**	*i* PN	**Pn**	**17 08 56.3**	**+0.2**
RUSJ				*e*S	**S**	**17 09 39.0**	**+1.8**
JOMM	**Oshimamatsumae**	**3.04**	**196**	⇑P	**Pn**	**17 08 56.0**	**-0.7**
JOMM				*e*S	**S**	**17 09 36.2**	**-1.9**
AKK	**Akkeshi**	**3.06**	**117**	*e*P	**Pn**	**17 08 54.7**	**-2.3**
AKK				*e*S	**S**	**17 09 33.0**	**-5.6**
JOT	**Ohata**	**3.07**	**181**	⇑P	**Pn**	**17 08 55.5**	**-1.6**
JOT				*e*S	**S**	**17 09 36.0**	**-2.8**
GLVR	**Golovnino**	**3.26**	**101**	*c i* PN	**Pn**	**17 08 58.3**	**-0.8**
GLVR				*e*S	**S**	**17 09 41.5**	**-1.0**
GLVR	comp=E,616nm,0.4s			pmax	pmax		
GLVR	comp=Z,5μm,0.4s			pmax	pmax		
GLVR	comp=Z,11μm,1.1s			pmax	pmax		
GLVR	comp=N,31μm,0.7s			smax	smax		
GLVR	comp=E,24μm,0.7s			smax	smax		
GLVR	comp=E,103nm,1.1s			smax	smax		
GLVR	comp=N,127μm,1.5s			smax	smax		
GLVR	**Golovnino**	**3.26**	**101**	*i* P	**Pn**	**17 08 58.3**	**-0.8**
GLVR				AMB	AMB	17 09 00.1	
GLVR	comp=N,5μm,0.4s			AMB	AMB	17 09 06.2	
GLVR	comp=N,11μm,1.1s			*e*S	**S**	**17 09 41.5**	**-1.0**
GLVR				A	A	17 09 43.4	
GLVR	comp=N,127μm,1.5s			A	A	17 09 43.7	
GLVR	comp=N,31μm,0.7s			A	A	17 09 43.7	
GLVR	comp=N,24μm,0.7s						
TEY	**Ternei**	**3.26**	**282**	⇑*e*PN	**Pn**	**17 08 59.4**	**+0.4**
TEY				*i* S	**S**	**17 09 39.5**	**-3.0**
TEY	comp=N,620nm,0.8s			pmax	pmax		
TEY	comp=E,3μm,0.8s			pmax	pmax		
TEY	comp=Z,4μm,0.8s			pmax	pmax		
TEY	comp=Z,12μm,2.5s			pmax	pmax		
TEY	comp=E,10μm,2.3s			pmax	pmax		
TEY	comp=E,199μm,6.8s			smax	smax		
TEY	comp=N,268μm,6.8s			smax	smax		
TEY	**Ternei**	**3.26**	**282**	*e*P	**Pn**	**17 08 59.5**	**+0.4**
TEY				AMB	AMB	17 09 00.3	
TEY	comp=N,4μm,0.8s			AMB	AMB	17 09 00.6	
TEY	comp=N,13μm,2.5s			*i* S	**S**	**17 09 42.8**	**+0.3**
TEY				A	A	17 09 45.3	
TEY	comp=N,199μm,6.8s			A	A	17 09 45.3	
TEY	comp=N,268μm,6.8s			AMS	AMS	17 10 07.7	
TEY	comp=N,91μm,10.0s						
GRPR	**Tuman**	**3.39**	**96**	*d i* PN	**Pn**	**17 09 00.3**	**-0.2**
GRPR				*i* S	**S**	**17 09 44.4**	**-0.7**
GRPR	comp=Z,3μm,0.4s			pmax	pmax		
GRPR	comp=E,5μm,0.5s			pmax	pmax		
GRPR	comp=N,1μm,0.3s			pmax	pmax		
GRPR	comp=Z,9μm,1.1s			smax	smax		
GRPR	comp=N,6μm,0.4s			smax	smax		
GRPR	comp=E,12μm,0.5s			smax	smax		
GRPR	comp=N,47μm,2.1s						
GRPR	**Tuman**	**3.39**	**96**	*i* P	**Pn**	**17 09 00.3**	**-0.2**
GRPR				AMB	AMB	17 09 09.3	
GRPR	comp=N,4μm,0.4s			AMB	AMB	17 09 16.7	
GRPR	comp=N,9μm,1.1s						
GRPR				*i* S	**S**	**17 09 44.4**	**-0.7**
GRPR				A	A	17 09 51.8	
GRPR	comp=N,6μm,0.5s			A	A	17 09 51.8	
GRPR	comp=N,12μm,0.5s			A	A	17 09 52.4	
GRPR	comp=N,47μm,2.1s						
JSI2	**Shiura 2**	**3.43**	**189**	⇑P	**Pn**	**17 08 59.9**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**3.44**	**95**	*c i* PN	**Pn**	**17 09 00.3**	**-0.8**
YUK				*i* S	**S**	**17 09 45.2**	**-1.0**
YUK	comp=Z,7μm,0.5s			pmax	pmax		
YUK	comp=E,381nm,0.3s			pmax	pmax		
YUK	comp=N,3μm,0.6s			pmax	pmax		
YUK	comp=Z,15μm,1.2s			pmax	pmax		
YUK	comp=N,90μm,1.8s			smax	smax		
YUK	comp=E,24μm,1.5s			smax	smax		
YUK	comp=E,3μm,0.4s			smax	smax		
YUK	comp=N,13μm,0.6s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**3.44**	**95**	*i* P	**Pn**	**17 09 00.3**	**-0.8**
YUK				AMB	AMB	17 09 02.7	
YUK	comp=N,7μm,0.5s			AMB	AMB	17 09 06.5	
YUK	comp=N,15μm,1.2s						
YUK				*i* S	**S**	**17 09 45.2**	**-1.0**
YUK				A	A	17 09 52.4	
YUK	comp=N,90μm,1.8s			A	A	17 09 52.4	
YUK	comp=N,24μm,1.8s			A	A	17 09 52.8	
YUK	comp=N,13μm,0.6s			A	A	17 09 52.8	
YUK	comp=N,3μm,0.6s						
JARK	**Aomorirokkasho**	**3.45**	**177**	⇑P	**Pn**	**17 08 59.6**	**-1.7**
NMR	**Nemuro--Hokkai**	**3.51**	**106**	⇑*i* PN	**Pn**	**17 08 59.0**	**-2.9**
NMR				*e*S	**S**	**17 09 43.0**	**-4.7**
NMR	**Nemuro--Hokkai**	**3.51**	**106**	*i* P	**Pn**	**17 08 59.0**	**-2.9**
NMR				*e*S	**S**	**17 09 43.0**	**-4.7**
JTM	**Tenmabayashi**	**3.67**	**180**	⇑P	**Pn**	**17 09 02.0**	**-1.8**
JTM	**Tenmabayashi**	**3.67**	**180**	Pn	**Pn**	**17 09 01.9**	**-1.8**
JHHS	**Hirosakihykuz**	**3.84**	**189**	⇑P	**Pn**	**17 09 04.7**	**-1.1**
JIW	**Iwasaki**	**3.94**	**192**	⇑P	**Pn**	**17 09 05.8**	**-1.3**
SHO	**Shikotan**	**4.16**	**96**	*c i* PN	**Pn**	**17 09 07.1**	**-2.4**
SHO				*i* S	**S**	**17 09 55.5**	**-5.9**
SHO	comp=Z,2μm,1.1s			pmax	pmax		
SHO	comp=Z,1μm,0.3s			pmax	pmax		
SHO	comp=N,334nm,0.2s			pmax	pmax		
SHO	comp=E,423nm,0.3s			pmax	pmax		
SHO	comp=E,14μm,0.3s			smax	smax		
SHO	comp=N,23μm,0.5s			smax	smax		
SHO	**Shikotan**	**4.16**	**96**	*i* P	**Pn**	**17 09 07.7**	**-1.8**
SHO				AMB	AMB	17 09 10.8	
SHO	comp=N,2μm,1.1s			AMB	AMB	17 09 16.3	
SHO	comp=N,1μm,0.3s						
SHO				*i* S	**S**	**17 09 56.5**	**-4.9**
SHO				A	A	17 10 01.1	
SHO	comp=N,23μm,0.5s			A	A	17 10 01.1	
SHO	comp=N,14μm,0.5s			AMS	AMS	17 10 15.0	
SHO	comp=N,82μm,11.0s			AMS	AMS	17 10 15.0	
SHO	comp=N,94μm,11.0s			AMS	AMS	17 10 15.0	
SHO	comp=N,62μm,11.0s						
JAH	**Hinai**	**4.28**	**185**	⇑P	**Pn**	**17 09 09.5**	**-1.5**
JKZ	**Kuzumaki**	**4.47**	**178**	⇑P	**Pn**	**17 09 11.1**	**-2.3**
UGL	**Uglegorsk**	**4.67**	**8**	*c i* PN	**Pn**	**17 09 17.0**	**+1.4**
UGL				*e*S	**S**	**17 10 13.9**	**+1.4**
UGL	comp=Z,26μm,1.0s			pmax	pmax		
UGL	comp=E,444μm,4.5s			smax	smax		
UGL	comp=E,7μm,1.5s			smax	smax		
UGL	comp=N,5μm,1.1s			smax	smax		
UGL	comp=N,324μm,4.7s			smax	smax		
UGL	**Uglegorsk**	**4.67**	**8**	*i* P	**Pn**	**17 09 17.0**	**+1.4**
UGL				AMB	AMB	17 09 17.7	
UGL	comp=N,26μm,1.0s						
UGL				*e*S	**S**	**17 10 13.9**	**+1.4**
UGL				A	A	17 10 16.0	
UGL	comp=N,440nm,4.5s			A	A	17 10 16.6	
UGL	comp=N,6μm,1.5s			A	A	17 10 16.6	
UGL	comp=N,7μm,1.5s			AMS	AMS	17 10 18.0	
UGL	comp=N,324μm,7.1s			AMS	AMS	17 10 18.0	
UGL	comp=N,259μm,7.1s						
KUR	**Kuril'sk**	**4.87**	**78**	*c i* PN	**Pn**	**17 09 18.4**	**+0.3**
KUR				*i* S	**S**	**17 10 16.2**	**-0.7**
KUR	comp=Z,9μm,0.8s			pmax	pmax		
KUR	comp=E,1μm,0.7s			pmax	pmax		
KUR	comp=N,2μm,0.5s			pmax	pmax		
KUR	comp=N,4μm,0.9s			smax	smax		
KUR	comp=E,3μm,1.0s			smax	smax		
KUR	comp=N,278μm,8.7s			smax	smax		
KUR	comp=E,65μm,7.0s			smax	smax		
KUR	**Kuril'sk**	**4.87**	**78**	*i* P	**Pn**	**17 09 18.0**	**-0.1**
KUR				AMB	AMB	17 09 20.5	
KUR	comp=E,9μm,0.8s						
KUR				*i* S	**S**	**17 10 16.2**	**-0.7**
KUR				A	A	17 10 18.3	
KUR	comp=E,4μm,1.0s			A	A	17 10 18.3	
KUR	comp=E,3μm,1.0s			A	A	17 10 19.8	
KUR	comp=E,278μm,8.7s			A	A	17 10 19.8	
KUR	comp=E,65μm,8.7s						
JYW	**Yuwa**	**4.96**	**188**	⇑P	**Pn**	**17 09 18.0**	**-1.2**
JOM	**Ohasama**	**4.98**	**178**	⇑P	**Pn**	**17 09 17.1**	**-2.4**
JRG	**Rokugo**	**5.07**	**184**	⇑P	**Pn**	**17 09 18.9**	**-1.7**
OFUJ	**Ofunato**	**5.39**	**175**	⇑P	**Pn**	**17 09 21.8**	**-2.7**
JMK	**Ichinoseki**	**5.50**	**179**	⇑P	**Pn**	**17 09 23.1**	**-2.8**
JIKH	**Ishinomakikobu**	**6.14**	**177**	⇑P	**Pn**	**17 09 31.0**	**-3.0**
TYV	**Tymovskoe**	**6.50**	**9**	*e*PN	**Pn**	**17 09 39.8**	**+1.6**
TYV				*e*S	**S**	**17 10 56.1**	**+2.5**
TYV	comp=Z,8μm,1.2s			pmax	pmax		
TYV	comp=Z,71μm,3.7s			pmax	pmax		
TYV	comp=N,2μm,2.4s			smax	smax		
TYV	comp=E,2μm,2.4s			smax	smax		
TYV	comp=N,188μm,5.7s			smax	smax		
TYV	comp=E,219μm,5.7s			smax	smax		
TYV	**Tymovskoe**	**6.50**	**9**	*e*P	**Pn**	**17 09 39.8**	**+1.6**
TYV				AMB	AMB	17 09 40.2	
TYV	comp=E,8μm,1.2s			AMB	AMB	17 09 40.8	
TYV	comp=E,71μm,3.7s						
TYV				*e*S	**S**	**17 10 54.8**	**+1.2**
TYV				A	A	17 10 59.8	
TYV	comp=E,2μm,2.7s			A	A	17 10 59.8	
TYV	comp=E,2μm,2.7s			A	A	17 11 04.3	
TYV	comp=E,189μm,6.4s			A	A	17 11 04.3	
TYV	comp=E,219μm,6.4s						
USA0B	**Ussuriysk Arra**	**6.54**	**271**	PN	**Pn**	**17 09 39.5**	**+0.6**
USA0B	**Ussuriysk Arra**	**6.54**	**271**	Pn	**Pn**	**17 09 39.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**6.54**	**271**	P	**Pn**	**17 09 39.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**6.54**	**271**	Pn	**Pn**	**17 09 39.4**	**+0.4**
I45RU	**USSURIYSK INFR**	**6.55**	**271**	P	**Pn**	**17 09 40.0**	**+1.0**
JMM	**Marumori**	**6.59**	**182**		**Pn**	**17 09 36.1**	**-3.4**
JSD	**Sado**	**6.76**	**199**	⇑P	**Pn**	**17 09 40.5**	**-1.2**
JSD	**Sado**	**6.76**	**199**	Pn	**Pn**	**17 09 40.1**	**-1.6**
JNS	**Sasagawa**	**6.76**	**192**	⇑P	**Pn**	**17 09 39.8**	**-2.0**
VLA	**Vladivostok**	**6.81**	**262**	*c i* PN	**Pn**	**17 09 41.7**	**-0.5**
VLA	**Vladivostok**	**6.81**	**262**	*e*P	**Pn**	**17 09 41.7**	**-0.5**

GRNR	**Gornyy**	**7.07 335**	⇓*i*PN	**Pn**	**17 09 46.6**	**+1.2**
GRNR			*e*S	**S**	**17 11 08.9**	**+2.2**
GRNR			pmax	pmax		
	comp=N,620nm,0.6s					
GRNR			pmax	pmax		
	comp=E,590nm,0.6s					
GRNR			pmax	pmax		
	comp=Z,1μm,0.6s					
GRNR			smax	smax		
	comp=N,180nm,0.7s					
GRNR			MLR	MLR		
	comp=E,27μm,14.0s					
GRNR			MLR	MLR		
	comp=N,36μm,12.0s					
GRNR			MLR	MLR		
	comp=Z,51μm,15.0s					
GRNR	**Gornyy**	**7.07 335**	*e*P	**Pn**	**17 09 46.6**	**+1.2**
GRNR			AMB	AMB	17 09 47.1	
	comp=Z,1μm,0.6s					
GRNR			AMS	AMS	17 12 29.5	
	comp=Z,36μm,14.0s					
GRNR			AMS	AMS	17 12 29.5	
	comp=Z,27μm,14.0s					
GRNR			AMS	AMS	17 12 29.5	
	comp=Z,51μm,14.0s					
JFK	**Kawauchi**	**7.08 181**	⇑P	**Pn**	**17 09 42.4**	**-3.5**
JIZZ	**Izumozaki**	**7.15 195**	⇑P	**Pn**	**17 09 45.8**	**-0.8**
JHG	**Hegura jima**	**7.32 207**	⇑P	**Pn**	**17 09 48.6**	**-0.1**
MSHR	**Mys Shultsa**	**7.47 259**	*ce*PN	**Pn**	**17 09 51.4**	**+0.8**
MSHR			pmax	pmax		
	comp=Z,6.0nm,0.1s					
JJN	**Nakama**	**7.67 198**	⇑P	**Pn**	**17 09 52.1**	**-1.2**
JKT	**Katashina**	**7.81 191**	⇑P	**Pn**	**17 09 52.9**	**-2.2**
KLR	**Kul'dur**	**8.00 310**	P	**Pn**	**17 09 57.8**	**+0.6**
	comp=Z,87nm,0.3s,baz=119,slow=13,SNR=1726					
KLR			S	**S**	**17 11 30.1**	**+1.9**
	baz=68,slow=19,SNR=6.7					
KLR	**Kul'dur**	**8.00 310**	*d i*PN	**Pn**	**17 09 58.3**	**+1.1**
KLR			pmax	pmax		
	comp=Z,3μm,0.8s					
KLR	**Kul'dur**	**8.00 310**	*e*P	**Pn**	**17 09 58.1**	**+0.9**
JAG	**Ashikaga**	**8.12 189**	⇑P	**Pn**	**17 09 55.9**	**-3.1**
MJB9	**Matsu-Tunnel**	**8.20 197**		**Pn**	**17 09 57.9**	**-2.1**
MAJO	**Matsushiro**	**8.20 197**	*c i*PN	**Pn**	**17 09 58.4**	**-1.7**
MAJO	**Matsushiro**	**8.20 197**	Pn	**Pn**	**17 09 58.1**	**-2.0**
MAJO	**Matsushiro**	**8.20 197**	P	**Pn**	**17 09 58.8**	**-1.3**
MAJO	**Matsushiro**	**8.20 197**	P	**Pn**	**17 09 58.3**	**-1.7**
MAT	**Matsushiro**	**8.20 197**	P	**Pn**	**17 09 58.0**	**-2.1**
MAT			*e*S	**S**	**17 11 30.2**	**-3.2**
MAT	**Matsushiro**	**8.20 197**	P	**Pn**	**17 09 57.9**	**-2.1**
MJAR	**Matsushiro Arr**	**8.21 197**	P	**Pn**	**17 09 59.2**	**-0.9**
	comp=Z,23nm,0.3s,baz=10,slow=13,SNR=1079					
MJAR			ScP	**ScP**	**17 19 16.0**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=319,slow=0.7,SNR=4.7					
MJAR	**Matsushiro Arr**	**8.21 197**	Pn	**Pn**	**17 09 58.1**	**-2.0**
MJAR				**ScP**	**17 19 17.8**	**+2.0**
MDJ	**Mudanjiang**	**8.23 275**	P	**Pn**	**17 10 01.1**	**+0.9**
MDJ			S	**S**	**17 11 34.9**	**+1.2**
MDJ			pmax	pmax		
	comp=Z,3μm,0.9s					
MDJ			pmax	pmax		
	comp=Z,28μm,11.5s					
MDJ	**Mudanjiang**	**8.23 275**	Pn	**Pn**	**17 09 59.8**	**-0.5**
MDJ	**Mudanjiang**	**8.23 275**	P	**Pn**	**17 10 01.6**	**+1.4**
MDJ	**Mudanjiang**	**8.23 275**	P	**Pn**	**17 10 01.1**	**+0.9**
JYT	**Yasato**	**8.25 185**	Pn	Pn	17 09 55.7	-4.8
JNG	**Nsakai**	**8.36 197**	⇑P	**Pn**	**17 10 00.1**	**-2.0**
JRY	**Ryogami san**	**8.59 192**	⇑P	**Pn**	**17 10 02.0**	**-3.0**
NKL	**Nikolayevsk**	**8.71 358**	*e*PN	**Pn**	**17 10 06.5**	**+0.3**
NKL			pmax	pmax		
	comp=N,3.0nm,1.5s					
NKL			pmax	pmax		
	comp=E,3.0nm,1.5s					
NKL			pmax	pmax		
	comp=Z,2μm,1.6s					
NKL	**Nikolayevsk**	**8.71 358**	*e*P	**Pn**	**17 10 06.5**	**+0.3**
NKL			AMB	AMB	17 10 08.5	
	comp=Z,2μm,0.7s					
JGN	**Niukaw**	**8.71 201**	⇑P	**Pn**	**17 10 04.7**	**-1.9**
JNT	**Takato**	**8.86 196**	⇑P	**Pn**	**17 10 06.1**	**-2.4**
JSGW	**Sagamiharawaka**	**8.96 190**	P	**Pn**	**17 10 05.6**	**-4.0**
JYN	**Shimob**	**9.16 193**	P	**Pn**	**17 10 08.7**	**-3.5**
OKH	**Okha**	**9.18 7**	*c i*PN	**Pn**	**17 10 13.5**	**+1.3**
OKH			*i* S	**S**	**17 11 58.4**	**+2.7**
OKH			smax	smax		
	comp=E,86μm,8.1s					
OKH			smax	smax		
	comp=N,54μm,22.1s					
OKH			MLR	MLR		
	comp=N,38μm,15.0s					
OKH			MLR	MLR		
	comp=E,70μm,14.0s					
OKH			MLR	MLR		
	comp=Z,24μm,11.0s					
OKH	**Okha**	**9.18 7**	*e*P	**Pn**	**17 10 13.5**	**+1.3**
OKH			*e*S	**S**	**17 11 58.4**	**+2.7**
OKH			A	A	17 12 05.5	
	comp=Z,54μm,8.0s					
OKH			A	A	17 12 05.5	
	comp=Z,86μm,8.0s					
OKH			AMS	AMS	17 15 11.8	
	comp=Z,38μm,14.0s					
OKH			AMS	AMS	17 15 11.8	
	comp=Z,70μm,14.0s					
OKH			AMS	AMS	17 15 11.8	
	comp=Z,24μm,14.0s					
JGF	**Kuroka**	**9.30 199**	⇑P	**Pn**	**17 10 11.8**	**-2.1**
JGF	**Kuroka**	**9.30 199**	Pn	**Pn**	**17 10 11.7**	**-2.3**
JYTA	**Yamagatataniai**	**9.46 202**	⇑P	**Pn**	**17 10 13.9**	**-2.1**
INU	**Inuyama**	**9.62 200**	Pn	**Pn**	**17 10 15.5**	**-2.5**
INU	**Inuyama**	**9.62 200**	P	**Pn**	**17 10 16.6**	**-1.4**
INU	**Inuyama**	**9.62 200**	P	**Pn**	**17 10 16.0**	**-1.9**
JHTM	**Izuhatsuma**	**9.62 190**	P	**Pn**	**17 10 13.6**	**-4.4**
SHZ3	**Shizuoka 3**	**9.64 194**	P	**Pn**	**17 10 14.9**	**-3.4**
JAO	**Obara**	**9.64 199**	⇑P	**Pn**	**17 10 15.7**	**-2.6**
JFM	**Mihama**	**9.74 205**	⇑P	**Pn**	**17 10 18.2**	**-1.3**
BNX	**BinXian**	**9.78 282**	⇑P	**Pn**	**17 10 20.6**	**+0.8**
BNX			S	**S**	**17 12 09.0**	**-0.8**
BNX			pmax	pmax		
	comp=Z,1μm,0.8s					
BNX			LR	LR		
	comp=Z,96μm,6.9s					
BNX			LR	LR		
	comp=Z,40μm,8.3s					
BNX			LR	LR		
	comp=Z,30μm,7.5s					
JYZW	**Yoshizawa**	**9.79 196**	P	**Pn**	**17 10 16.4**	**-3.8**
JSSY	**Shinshiroyabe**	**9.92 197**	⇑P	**Pn**	**17 10 18.3**	**-3.5**
HMMJ	**Hamamatsu 2**	**9.93 196**	P	**Pn**	**17 10 18.2**	**-3.8**
JSG	**Sagara**	**10.02 194**	⇑P	**Pn**	**17 10 20.1**	**-3.0**
JSG	**Sagara**	**10.02 194**		**Pn**	**17 10 19.8**	**-3.3**
JWT	**Wachi**	**10.15 207**		**Pn**	**17 10 23.4**	**-1.3**
TSUJ	**Tsu 2**	**10.38 202**	⇑P	**Pn**	**17 10 24.7**	**-2.9**
JIE	**Ise**	**10.61 200**	P	**Pn**	**17 10 26.8**	**-3.6**
JKN2	**Miekihoku**	**10.86 202**	P	**Pn**	**17 10 30.2**	**-3.4**
HHU	**Hamhung**	**11.04 251**	P	**Pn**	**17 10 33.5**	**-2.3**
HHU			S	**S**	**17 12 36.9**	**-2.0**
HHU			AMS	AMS		
	comp=N,76μm,7.6s					
HHU			AMS	AMS		
	comp=E,39μm,3.9s					
HHU			AMS	AMS		
	comp=Z,39μm,4.0s					
JHS	**Saijyo**	**11.26 216**		**Pn**	**17 10 37.2**	**-1.5**
CN2	**Changchun**	**11.28 272**	*e*P	**Pn**	**17 10 38.2**	**-0.5**
CN2			*e*S	**S**	**17 12 39.9**	**-4.5**
CN2			pmax	pmax		
	comp=Z,730nm,1.8s					
CN2			pmax	pmax		
	comp=Z,5μm,5.0s					
CN2			LR	LR		
	comp=Z,53μm,7.0s					
CN2			LR	LR		
	comp=Z,28μm,7.0s					
CN2			LR	LR		
	comp=Z,22μm,9.0s					
JHJ	**Hachijo jima 2**	**11.37 186**	P	**Pn**	**17 10 36.0**	**-4.0**
	comp=Z,581nm,0.3s,baz=52,slow=5.0,SNR=112					
JHJ2	**Mitsune**	**11.37 185**		Pn	17 10 34.6	-5.4
JHJ2	**Mitsune**	**11.37 185**	P	**Pn**	**17 10 36.0**	**-4.0**
SKR	**Severo-Kuril's**	**11.89 53**	*e*PN	**Pn**	**17 10 46.2**	**-0.1**
SKR			*e*S	**S**	**17 12 52.5**	**-6.0**
SKR			pmax	pmax		
	comp=Z,10μm,1.1s					
SKR			smax	smax		
	comp=E,995nm,0.9s					
SKR			smax	smax		
	comp=N,2μm,0.7s					
SKR	**Severo-Kuril's**	**11.89 53**	*e*P	**Pn**	**17 10 46.5**	**+0.2**
SKR			AMB	AMB	17 10 50.0	
	comp=N,10μm,1.1s					
SKR			*e*S	**S**	**17 12 55.6**	**-2.9**
SKR			A	A	17 13 06.1	
	comp=N,2μm,0.9s					
SKR			A	A	17 13 06.1	
	comp=N,1μm,0.9s					
JMN	**Monobe**	**12.09 210**		**Pn**	**17 10 46.9**	**-2.1**
KSRS	**Korea Array**	**12.17 239**	P	**Pn**	**17 10 50.2**	**+0.3**
	comp=N,11nm,0.3s,baz=52,slow=12,SNR=390					
KSRS			PcP	**PcP**	**17 16 12.4**	**+1.0**
	comp=N,1.3nm,0.3s,baz=78,slow=2.8,SNR=7.5					
KSRS			ScP	**ScP**	**17 19 22.2**	**+1.5**
	comp=N,0.4nm,0.3s,baz=357,slow=0.9,SNR=12					
KS19	**Wonju Array Si**	**12.17 240**		**Pn**	**17 10 49.6**	**-0.4**
KSAR	**Wonju Array Be**	**12.20 240**	PN	**Pn**	**17 10 48.7**	**-1.5**
KSAR	**Wonju Array Be**	**12.20 240**	P	**Pn**	**17 10 48.7**	**-1.5**
PAU	**Pauzhetka**	**12.63 51**	*e*P	**Pn**	**17 10 54.9**	**-0.6**
PAU			*e*S	**S**	**17 13 11.1**	**-4.6**
PYAG	**Pyongyang**	**12.66 250**	P	**Pn**	**17 10 56.4**	**+0.3**
PYAG			S	**S**	**17 13 13.7**	**-2.9**
PYAG			AMS	AMS		
	comp=N,7μm,3.4s					
PYAG			AMS	AMS		
	comp=E,9μm,4.1s					
PYAG			AMS	AMS		
	comp=Z,6μm,3.0s					
INCN	**Inchon**	**12.96 242**	PN	**Pn**	**17 10 59.3**	**-0.4**
INCN	**Inchon**	**12.96 242**	P	**Pn**	**17 10 59.5**	**-0.2**
INCN	**Inchon**	**12.96 242**	P	**Pn**	**17 10 59.3**	**-0.4**
INCN	**Inchon**	**12.96 242**	P	**Pn**	**17 10 58.9**	**-0.7**
ZEA	**Zeya**	**12.97 321**	*e*PN	**Pn**	**17 10 59.7**	**+0.1**
ZEA			pmax	pmax		
	comp=E,350nm,0.8s					
ZEA			pmax	pmax		
	comp=N,570nm,0.7s					
ZEA			pmax	pmax		
	comp=Z,840nm,0.7s					
ZEA			MLR	MLR		
	comp=E,15μm,14.0s					
ZEA			MLR	MLR		
	comp=N,12μm,10.0s					
ZEA			MLR	MLR		
	comp=Z,19μm,18.0s					
ZEA	**Zeya**	**12.97 321**	*e*P	**Pn**	**17 10 59.7**	**+0.1**
ZEA			AMB	AMB	17 11 03.1	
	comp=Z,840nm,0.7s					
ZEA			AMS	AMS	17 17 55.0	
	comp=Z,12μm,15.0s					
ZEA			AMS	AMS	17 17 55.0	
	comp=Z,15μm,15.0s					
ZEA			AMS	AMS	17 17 55.0	
	comp=Z,19μm,15.0s					
SUJ	**Sinuiju**	**13.04 256**	P	**Pn**	**17 11 00.8**	**+0.1**
SUJ			S	**S**	**17 13 26.3**	**+0.9**
SUJ			AMS	AMS		
	comp=N,27μm,6.2s					
SUJ			AMS	AMS		
	comp=E,19μm,4.4s					
SUJ			AMS	AMS		
	comp=Z,17μm,3.8s					
SNY	**Shenyang**	**13.07 265**	⇑P	**P**	**17 11 01.9**	**-0.9**
SNY			S	**S**	**17 13 24.8**	**-1.1**
SNY			pmax	pmax		
	comp=Z,640nm,1.1s					
SNY			pmax	pmax		
	comp=Z,27μm,14.0s					
SNY			LR	LR		
	comp=Z,35μm,6.4s					
SNY			LR	LR		
	comp=Z,16μm,4.6s					
SNY			LR	LR		
	comp=Z,53μm,15.9s					
TJN	**Taejon**	**13.21 237**	*ce*PN	**Pn**	**17 11 02.6**	**-0.1**
TJN	**Taejon**	**13.21 237**	P	**Pn**	**17 11 03.2**	**+0.5**
HJU	**Haeju**	**13.22 246**	P	**Pn**	**17 11 02.9**	**0.0**
JTU	**Tsushima**	**13.40 226**		**Pn**	**17 11 04.9**	**-0.3**
JNU	**Nakatsue**	**13.83 219**	P	**Pn**	**17 11 10.1**	**-0.3**
	comp=Z,30nm,0.3s,baz=33,slow=7.2,SNR=157					
JNU			S	**S**	**17 13 45.6**	**+2.0**
	baz=213,slow=21,SNR=8.8					
JNU	**Nakatsue**	**13.83 219**	P	**Pn**	**17 11 09.3**	**-1.1**
JNU	**Nakatsue**	**13.83 219**	P	**Pn**	**17 11 09.6**	**-0.8**
PEA0B	**Petropavlovsk-**	**13.92 46**	*ce*P	**Pn**	**17 11 10.3**	**-1.1**
PEA0B	**Petropavlovsk-**	**13.92 46**	P	**Pn**	**17 11 10.2**	**-1.1**
PETK	**Petropavlovsk-**	**13.92 46**	P	**Pn**	**17 11 09.8**	**-1.5**
	comp=Z,27nm,0.3s,baz=217,slow=5.7,SNR=182					
PETK	**Petropavlovsk-**	**13.92 46**	P	**Pn**	**17 11 08.8**	**-2.5**
PET	**Petropavlovsk**	**14.38 47**	*ce*P	**Pn**	**17 11 14.4**	**-2.4**
PET			pmax	pmax		
	comp=Z,3μm,1.7s					
PET	**Petropavlovsk**	**14.38 47**	P	**Pn**	**17 11 13.8**	**-3.0**
PET	**Petropavlovsk**	**14.38 47**	P	**Pn**	**17 11 16.6**	**-0.2**
PET	**Petropavlovsk**	**14.38 47**	P	**Pn**	**17 11 14.3**	**-2.4**
HIA	**Hailar**	**15.37 296**	*d i*P	**P**	**17 11 27.9**	**-0.3**
HIA	**Hailar**	**15.37 296**		**P**	**17 11 28.5**	**+0.2**
JSU	**Suzuyama**	**15.39 216**	P	**P**	**17 11 27.9**	**-0.8**
JSU			IAmb	IAmb	17 11 31.7	
	comp=Z,921nm,1.2s					
DL2	**Dalian**	**15.56 256**	P	**P**	**17 11 30.1**	**-0.3**
DL2			S	**S**	**17 14 19.5**	**-2.3**
DL2			ScS	**ScS**	**17 23 03.7**	**-1.3**
DL2			pmax	pmax		
	comp=Z,2μm,1.0s					
MA2	**Magadan**	**16.24 18**	*ce*P	**P**	**17 11 37.1**	**-0.5**
MA2			pmax	pmax		
	comp=Z,10μm,2.5s					
MA2	**Magadan**	**16.24 18**	P	**P**	**17 11 36.5**	**-1.1**
MA2	**Magadan**	**16.24 18**	P	**P**	**17 11 37.5**	**-0.1**
MA2	**Magadan**	**16.24 18**	*e*P	**P**	**17 11 37.1**	**-0.5**
MA2	**Magadan**	**16.24 18**	P	**P**	**17 11 37.2**	**-0.5**
JCJ	**Chichijima**	**17.34 177**	P	**P**	**17 11 48.9**	**-1.1**
JCJ	**Chichijima**	**17.34 177**	P	**P**	**17 11 49.7**	**-0.3**
XLT	**XiLinHaoTe**	**17.95 277**	⇑*i*P	**P**	**17 11 56.5**	**0.0**
XLT			sP	sP	17 13 01.5	-4.4
XLT			S	**S**	**17 15 07.6**	**-1.9**
XLT			pmax	pmax		
	comp=Z,500nm,1.7s					
XLT			LR	LR		
	comp=Z,55μm,7.5s					
XLT			LR	LR		
	comp=Z,26μm,10.4s					
XLT			LR	LR		
	comp=Z,30μm,15.5s					
YAK	**Yakutsk**	**18.84 343**	P	**P**	**17 12 04.2**	**-1.6**
	comp=Z,4.6nm,0.3s,baz=146,slow=2.8,SNR=198					
YAK			S	**S**	**17 15 22.3**	**-4.1**
	comp=Z,1.1nm,0.3s,baz=58,slow=23,SNR=17					
YAK	**Yakutsk**	**18.84 343**	*c i*P	**P**	**17 12 04.4**	**-1.3**
YAK			*e*S	**S**	**17 15 21.7**	**-4.7**
YAK			pmax	pmax		
	comp=Z,1μm,0.6s					
YAK			pmax	pmax		
	comp=N,273nm,0.8s					
YAK			pmax	pmax		
	comp=E,172nm,0.8s					
YAK			smax	smax		
	comp=N,20μm,2.3s					
YAK			smax	smax		
	comp=E,11μm,2.1s					
YAK	**Yakutsk**	**18.84 343**	P	**P**	**17 12 04.1**	**-1.6**
YAK	**Yakutsk**	**18.84 343**	P	**P**	**17 12 04.2**	**-1.6**
BJI	**Beijing**	**18.95 265**	P	**P**	**17 12 07.0**	**-0.2**
BJI			S	**S**	**17 15 26.4**	**-2.7**
BJI			pmax	pmax		
	comp=E,640nm,0.8s					
BJT	**Baijiatuau**	**18.96 265**	P	**P**	**17 12 06.7**	**-0.7**
BJT			pmax	pmax		
	comp=Z,415nm,0.9s					
BJT	**Baijiatuau**	**18.96 265**	P	**P**	**17 12 06.7**	**-0.7**
BJT			IAmb	IAmb	17 12 08.9	
	comp=Z,415nm,0.9s					
BJT	**Baijiatuau**	**18.96 265**	P	**P**	**17 12 07.0**	**-0.4**
SEY	**Seymchan**	**19.62 15**	P	**P**	**17 12 13.1**	**-1.0**
	comp=Z,183nm,0.3s,baz=206,slow=8.5,SNR=1482					
SEY			S	**S**	**17 15 38.5**	**-3.4**
	baz=153,slow=19,SNR=23					
CIT	**Chita**	**19.77 302**	*e*P	**P**	**17 12 13.5**	**-2.4**
CIT			*e*S	**S**	**17 15 36.5**	**-8.5**
CIT			pmax	pmax		
	comp=Z,721nm,2.4s					
TIA	**Tai'an**	**20.00 254**	⇑P	**P**	**17 12 17.9**	**-0.6**
TIA			S	**S**	**17 15 47.7**	**-1.9**
TIA			pmax	pmax		
	comp=Z,1μm,0.8s					
JKDJ	**Kitadaitoujima**	**20.10 207**	P	**P**	**17 12 21.4**	**+1.8**
JIH	**Iheya**	**20.35 216**	P	**P**	**17 12 23.5**	**+1.3**
JIH			S	**S**	**17 15 54.7**	**-1.3**
JOW	**Kunigami**	**20.40 215**	P	**P**	**17 12 24.0**	**+1.2**
	comp=Z,295nm,0.6s,baz=34,slow=7.2,SNR=45					
JOW			S	**S**	**17 15 55.2**	**-1.8**
	comp=Z,222nm,1.2s,baz=292,slow=30,SNR=15					
JOW	**Kunigami**	**20.40 215**	P	**P**	**17 12 24.5**	**+1.7**
JOW	**Kunigami**	**20.40 215**	P	**P**	**17 12 23.3**	**+0.5**
JOW			IAmb	IAmb	17 12 25.9	
	comp=Z,421nm,1.0s					
JOW	**Kunigami**	**20.40 215**	P	**P**	**17 12 22.7**	**-0.1**
SSE	**Sheshan**	**20.56 236**	P	**P**	**17 12 23.3**	**-1.2**
SSE			S	**S**	**17 15 59.7**	**0.0**
SSE			pmax	pmax		
	comp=Z,49nm,0.8s					
SSE			pmax	pmax		
	comp=Z,8μm,8.5s					
SSE			LR	LR		
	comp=Z,4μm,12.2s					
JNTH	**Nagotoyohara**	**20.78 215**	P	**P**	**17 12 28.5**	**+1.7**
HNS	**HongShan**	**21.10 260**	⇑P	**P**	**17 12 29.1**	**-0.9**
HNS			S	**S**	**17 16 06.7**	**-1.9**
HNS			ScP	**ScP**	**17 19 39.9**	**+1.3**
HNS			ScS	**ScS**	**17 23 23.8**	**+1.3**
HNS			pmax	pmax		
	comp=Z,670nm,1.3s					
NJ2	**Nanjing**	**21.34 242**	⇑P	**P**	**17 12 28.2**	**-4.2**
NJ2			PP	**pP**	**17 13 08.1**	**-3.0**
NJ2			sP	**sP**	**17 13 36.2**	**-5.4**
NJ2			S	**S**	**17 16 07.5**	**-5.2**
NJ2			ScS	**ScS**	**17 23 19.9**	**-3.6**
NJ2			pmax	pmax		
	comp=Z,560nm,0.9s					
NJ2			pmax	pmax		
	comp=Z,10μm,5.8s					
BOD	**Bodaibo**	**21.45 318**	*e*P	**P**	**17 12 31.2**	**-1.9**
BOD			pmax	pmax		
	comp=Z,219nm,1.0s					
HHC	**Hu-ho-hao-te**	**21.97 271**	⇑*i*P	**P**	**17 12 38.3**	**0.0**
HHC			S	**S**	**17 16 25.0**	**+2.1**
HHC			pmax	pmax		
	comp=Z,430nm,0.9s					
HHC			pmax	pmax		
	comp=Z,14μm,5.1s					
TIY	**Taiyuan**	**22.56 263**	⇑*i*P	**P**	**17 12 44.6**	**+0.8**
TIY			S	**S**	**17 16 37.3**	**+4.8**
TIY			pmax	pmax		
	comp=Z,200nm,0.8s					
SHEM	**Shemya Is, Ala**	**23.17 57**	P	**P**	**17 12 50.1**	**+1.1**
	comp=Z,2μm,1.0s,baz=339,slow=3.4,SNR=44					
SMY	**Shemya**	**23.17 57**	P	**P**	**17 12 49.6**	**+0.6**
SMY			pmax	pmax		
	comp=Z,2μm,0.9s					
SMY	**Shemya**	**23.17 57**	P	**P**	**17 12 49.6**	**+0.6**
ULN	**Ulaanbaatar**	**23.72 290**	*ce*P	**P**	**17 12 55.1**	**+0.9**
ULN			pmax	pmax		
	comp=Z,374nm,1.7s					
ULN	**Ulaanbaatar**	**23.72 290**	P	**P**	**17 12 55.4**	**+1.2**
ULN	**Ulaanbaatar**	**23.72 290**	P	**P**	**17 12 54.8**	**+0.6**
ULN			IAmb	IAmb	17 13 05.0	
	comp=Z,634nm,1.4s					
ULN	**Ulaanbaatar**	**23.72 290**	*e*P	**P**	**17 12 55.1**	**+0.9**
LYN	**LuoYang**	**24.10 256**	⇑*i*P	**P**	**17 12 58.6**	**+1.0**
LYN			PP	**pwP**	**17 13 46.2**	**+0.3**
LYN			sP	sP	17 14 06.1	-5.2
LYN			S	**S**	**17 16 56.0**	**-1.0**
LYN			pmax	pmax		
	comp=Z,440nm,1.9s					
SONM	**Songino Array**	**24.16 290**	P	**P**	**17 12 59.1**	**+0.9**
	comp=Z,280nm,0.7s,baz=86,slow=8.4,SNR=953					
SONM			S	**S**	**17 16 59.0**	**+1.0**
	comp=Z,37nm,0.9s,baz=64,slow=7.4,SNR=3.1					
SONM			ScP	**ScP**	**17 19 47.0**	**+0.4**
	comp=Z,22nm,0.7s,baz=124,slow=2.4,SNR=5.2					
SONM			P3KPbc		17 46 05.9	
	comp=Z,1.4nm,0.7s,baz=252,slow=4.7,SNR=11					
SONM	**Songino Array**	**24.16 290**	P	**P**	**17 12 57.9**	**-0.3**
YOJ	**Yonaguni jima**	**24.80 222**	P	**P**	**17 13 03.6**	**-0.4**
YOJ			pmax	pmax		
	comp=Z,480nm,1.1s					
YOJ	**Yonaguni jima**	**24.80 222**	P	**P**	**17 13 03.6**	**-0.4**
YOJ			IAmb	IAmb	17 13 12.1	
	comp=Z,480nm,1.1s					
YOJ	**Yonaguni jima**	**24.80 222**	P	**P**	**17 13 04.5**	**+0.4**
TATO	**Taipei**	**25.14 226**	P	**P**	**17 13 10.1**	**+3.0**
TATO	**Taipei**	**25.14 226**	P	**P**	**17 13 11.3**	**+4.2**
WHN	**Wuhan**	**25.23 246**	⇑P	**P**	**17 13 08.6**	**+0.8**
WHN			PcP	**PcP**	**17 16 35.8**	**+1.6**
WHN			S	**S**	**17 17 16.7**	**+1.9**
WHN			ScS	**ScS**	**17 23 38.8**	**0.0**
WHN			pmax	pmax		
	comp=Z,1μm,0.8s					
YHNB	**Yeheng**	**25.45 226**	P	**P**	**17 13 11.1**	**+1.2**
YHNB			IAmb	IAmb	17 13 16.2	
	comp=Z,535nm,1.0s					
YHNB	**Yeheng**	**25.45 226**	P	**P**	**17 13 12.3**	**+2.4**
IRK	**Irkutsk**	**25.46 301**	*e*P	**P**	**17 13 09.8**	**0.0**
IRK			*e*		17 13 59.4	
IRK	**Irkutsk**	**25.46 301**	*e*P	**P**	**17 13 09.8**	**0.0**
NACB	**Ninganchiao**	**25.74 225**	P	**P**	**17 13 13.1**	**+0.6**
ZAK	**Zakamensk**	**26.06 297**	*e*P	**P**	**17 13 15.7**	**+0.4**
ZAK			pmax	pmax		
	comp=Z,499nm,1.3s					
ZAK	**Zakamensk**	**26.06 297**	*e*P	**P**	**17 13 15.7**	**+0.4**
SSLB	**Suanglung**	**26.39 225**	P	**P**	**17 13 18.2**	**-0.1**
SSLB			IAmb	IAmb	17 13 24.1	
	comp=Z,477nm,1.0s					
SSLB	**Suanglung**	**26.39 225**	P	**P**	**17 13 18.5**	**+0.2**
YULB	**Yu-li**	**26.54 224**	P	**P**	**17 13 20.1**	**+0.4**
YULB			IAmb	IAmb	17 13 26.8	
	comp=Z,277nm,1.2s					
QZH	**Quanzhou**	**26.71 231**	P	**P**	**17 13 24.1**	**+3.0**
QZH			S	**S**	**17 17 44.8**	**+6.6**
QZH			pmax	pmax		
	comp=Z,280nm,2.1s					
QZH			LR	LR		
	comp=Z,8μm,9.9s					
QZH			LR	LR		
	comp=Z,5μm,8.8s					
QZH			LR	LR		
	comp=Z,10μm,10.9s					
TPUB	**Ta-pu**	**26.96 225**	P	**P**	**17 13 23.5**	**+0.2**
TPUB	**Ta-pu**	**26.96 225**	P	**P**	**17 13 23.7**	**+0.3**
BILL	**Bilibino**	**27.07 21**	*d i*P	**P**	**17 13 21.4**	**-2.4**
BILL			*e**PP	**pP**	**17 14 13.0**	**+1.3**
BILL			pmax	pmax		
	comp=Z,172nm,1.4s					
BILL	**Bilibino**	**27.07 21**	P	**P**	**17 13 21.1**	**-2.7**
BILL			IAmb	IAmb	17 14 19.2	
	comp=Z,514nm,1.4s					
BILL	**Bilibino**	**27.07 21**	P	**P**	**17 13 21.4**	**-2.4**
BILL			pP	**pP**	**17 14 17.2**	**+5.5**
TWG	**Pinlang**	**27.14 224**	P	**P**	**17 13 24.4**	**-0.5**
TWG			IAmb	IAmb	17 13 33.3	
	comp=Z,167nm,0.7s					
KNMB	**Chin-men Tao**	**27.20

TIXI Tiksi 27.91 352 P **P** **17 13 29.0 -2.3**
ENH Enshi 28.64 251 P **P** **17 13 38.5 +0.3**
GSTR Great Sitkin T 29.16 59 P **P** **17 13 41.8 -0.8**
LZH Lanzhou 29.43 267 ⇓P **P** **17 13 46.8 +1.5**
LZH pP pP 17 14 34.1 +1.0
LZH sP sP 17 15 03.9 +2.7
LZH PcP **PcP** **17 16 45.5 +1.0**
LZH S **S** **17 18 22.2 +1.1**
LZH ScP **ScP** **17 20 04.4 +1.7**
LZH SS **SS** **17 20 15.2 -8.2**
LZH ScS **ScS** **17 23 57.2 -0.7**
LZH pmax pmax
comp=Z,390nm,1.1s
LZH pmax pmax
comp=Z,16μm,6.2s
ATKA Atka Island 30.30 59 P **P** **17 13 51.0 -1.5**
GTA Gaotai 30.89 275 ⇓P **P** **17 13 59.3 +1.2**
GTA pP pwP 17 14 49.8 +1.1
GTA sP PP 17 15 12.7 -0.3
GTA PcP **PcP** **17 16 50.0 +1.7**
GTA S **S** **17 18 47.1 +3.4**
GTA ScP **ScP** **17 20 08.8 +1.4**
GTA PcS **PcS** **17 20 34.2 +1.6**
GTA ScS **ScS** **17 24 05.3 +0.5**
GTA pmax pmax
comp=Z,66nm,0.8s
GUMO Guam 30.93 173 P **P** **17 13 57.0 -1.4**
comp=Z,453nm,0.7s,baz=244,slow=2.1,SNR=16
GUMO Guam 30.93 173 P **P** **17 13 55.8 -2.6**
GUMO pmax pmax
comp=Z,700nm,1.0s
GUMO Guam 30.93 173 P **P** **17 13 55.8 -2.6**
GUMO Guam 30.93 173 P **P** **17 13 57.5 -0.9**
GZH Guangzhou 31.16 236 P **P** **17 13 56.6 -3.8**
HKC Hong Kong Obse 31.28 234 ⇑P **P** **17 14 05.0 +3.5**
HKPS Hong Kong Po S 31.32 234 P **P** **17 14 01.4 -0.4**
HKPS IAmb IAmb 17 14 05.8
comp=Z,343nm,1.1s
GULI GuiLin 31.38 243 ⇓P **P** **17 14 03.0 +0.7**
SIPP Brgy, Tapao 31.62 220 ⇓*i*P **P** **17 14 06.4 +1.9**
CD2 Chengdu 32.21 258 P **P** **17 14 10.0 +0.4**
CD2 S **S** **17 19 02.9 -1.4**
CD2 pmax pmax
comp=Z,130nm,0.7s
CD2 LR LR
comp=Z,14μm,12.7s
CD2 LR LR
comp=Z,11μm,13.7s
SPIA Saint Paul Isl 32.54 49 P **P** **17 14 12.7 +0.7**
SPIA Saint Paul Isl 32.54 49 P **P** **17 14 12.8 +0.7**
baz=268,SNR=13
SPIA S **S** **17 19 10.8 +2.2**
baz=268
GAMB Gambell 32.70 37 P **P** **17 14 11.7 -1.6**
GAMB Gambell 32.70 37 P **P** **17 14 11.6 -1.8**
baz=257,SNR=11
GAMB S **S** **17 19 08.7 -2.2**
baz=257
CLES Cleveland East 32.88 58 P **P** **17 14 15.6 +0.6**
WAKE Wake Island 32.92 131 P **P** **17 14 15.8 +0.1**
WAKE Wake Island 32.92 131 P **P** **17 14 13.8 -1.9**
GYA Guiyang 32.99 249 ⇓P **P** **17 14 16.8 +0.3**
GYA pP pP 17 15 06.1 +1.9
GYA PcP **PcP** **17 16 55.1 +0.9**
GYA S **S** **17 19 14.9 -1.6**
GYA ScP **ScP** **17 20 15.7 +1.0**
GYA ScS **ScS** **17 24 14.0 -1.8**
GYA pmax pmax
comp=Z,58nm,0.7s
GYA LR LR
comp=Z,5μm,13.0s
GYA LR LR
comp=Z,5μm,13.1s
GYA LR LR
comp=Z,7μm,12.8s
PCPH Palayan 33.42 217 ⇑*e*P **P** **17 14 21.2 +1.1**
NIKH Nikolski High 33.49 57 P **P** **17 14 18.0 -2.3**
baz=276,SNR=10
NIKH S **S** **17 19 17.9 -5.4**
baz=276
GQP Guinayangan 34.35 213 ⇓*e*P **P** **17 14 28.9 +0.8**
TNA Tin City 34.69 35 P **P** **17 14 28.6 -1.7**
TNA IAmb IAmb 17 14 31.5
comp=Z,242nm,0.9s
TNA Tin City 34.69 35 P **P** **17 14 28.8 -1.6**
baz=258,SNR=96
TNA S **S** **17 19 37.9 -3.5**
baz=258
TGY Tagaytay City 34.79 216 P **P** **17 14 33.6 +1.7**
comp=Z,609nm,0.6s,baz=270,slow=2.7
TGY Tagaytay City 34.79 216 ⇓*e*P **P** **17 14 34.4 +2.5**
UNV Unalaska Valle 34.80 55 P **P** **17 14 29.5 -1.9**
UNV Unalaska Valle 34.80 55 P **P** **17 14 29.5 -1.9**
baz=276,SNR=12
AKUT Akutan 35.19 55 P **P** **17 14 33.4 -1.5**
AKUT IAmb IAmb 17 14 38.1
comp=Z,463nm,1.4s
AKUT **PcP** **17 16 59.3 -0.6**
ANM Nome 35.57 37 P **P** **17 14 37.0 -1.0**
ANM pmax pmax
comp=Z,200nm,0.8s
ANM Nome 35.57 37 P **P** **17 14 37.0 -1.0**
ANM IAmb IAmb 17 14 39.6
comp=Z,200nm,0.8s
ANM Nome 35.57 37 P **P** **17 14 37.2 -0.8**
baz=262,SNR=102
ANM S **S** **17 19 52.9 -2.1**
baz=262
GOMU GeErMu 35.84 273 P **P** **17 14 41.8 +0.8**
GOMU pmax pmax
comp=Z,200nm,0.9s
GOMU LR LR
comp=Z,6μm,14.9s
GOMU LR LR
comp=Z,7μm,16.3s
GOMU LR LR
comp=Z,6μm,17.0s
DGZ Jazzator, Alta 36.27 298 *i*P **P** **17 14 45.7 +1.4**
DGZ pmax pmax
comp=Z,407nm,1.3s
PZH PanZhiHua 36.30 254 ⇓P **P** **17 14 45.3 +0.6**
PZH PP **PnPn** **17 16 16.7 +0.8**
PZH PcP **PcP** **17 17 04.2 +0.3**
PZH S **S** **17 20 05.5 -1.6**
PZH ScP **ScP** **17 20 26.7 +0.1**
PZH PcS **PcS** **17 20 52.5 +0.3**
PZH ScS **ScS** **17 24 31.0 -2.7**
PZH pmax pmax
comp=Z,140nm,0.6s
QIZ Qiongzhong 36.36 236 P **P** **17 14 45.6 +0.5**
QIZ pP **pP** **17 15 32.5 -1.1**
QIZ PcP **PcP** **17 17 04.4 +0.4**
QIZ S **S** **17 20 09.7 +1.9**
QIZ pmax pmax
comp=Z,160nm,1.2s
QIZ Qiongzhong 36.36 236 P **P** **17 14 47.2 +2.1**
QIZ IAmb IAmb 17 14 53.0
comp=Z,258nm,1.1s
QIZ **PcP** **17 17 05.2 +1.3**
QIZ Qiongzhong 36.36 236 P **P** **17 14 45.2 +0.1**
RCP Roxas 36.38 211 ⇓*e*P **P** **17 14 46.4 +1.1**
FALS False Pass 36.48 53 P **P** **17 14 44.0 -1.7**
FALS IAmb IAmb 17 14 50.2
comp=Z,248nm,0.6s
FALS False Pass 36.48 53 P **P** **17 14 44.6 -1.2**
baz=277
FALS S **S** **17 20 12.9 +4.1**
baz=277
FALS False Pass 36.48 53 P **P** **17 14 44.5 -1.2**
KMI Kunming 36.52 251 ⇓P **P** **17 14 49.0 +2.3**
KMI PP **PP** **17 16 15.4 +0.1**
KMI PcP **PcP** **17 17 06.5 +1.8**
KMI S **S** **17 20 10.8 +0.2**
KMI pmax pmax
comp=Z,350nm,0.9s
KMI LR LR
comp=Z,8μm,11.8s
KMI LR LR
comp=Z,7μm,15.7s
KMI LR LR
comp=Z,10μm,16.4s
KMI Kunming 36.52 251 P **P** **17 14 47.8 +1.1**
NRIK Noril'sk 36.53 331 P **P** **17 14 44.9 -1.1**
comp=Z,35nm,0.4s,baz=105,slow=9.8,SNR=81
NRIK S **S** **17 20 04.2 -5.2**
comp=Z,129nm,0.9s,baz=284,slow=23,SNR=15
NRIK ScP **ScP** **17 20 26.7 +0.1**
comp=Z,147nm,1.0s,baz=164,slow=3.7,SNR=7.4
NRIK P3KPbc 17 45 14.1
comp=Z,1.9nm,0.6s,baz=226,slow=2.9,SNR=5.6
NRIK Noril'sk 36.53 331 P **P** **17 14 44.1 -1.9**
MIDW Midway 36.73 102 P **P** **17 14 48.7 +0.5**
MIDW IAmb IAmb 17 14 51.1
comp=Z,691nm,1.1s
MSLP Maasin 36.97 207 ⇓*e*P **P** **17 14 51.3 +1.0**
MSLP Maasin 36.97 207 ⇓*e*P **S** **17 20 16.4 -0.6**
ZAA0 Zalesovo Array 37.07 305 P **P** **17 14 50.4 -0.4**
ZAA0 IAmb IAmb 17 15 45.1
comp=Z,601nm,1.6s
ZALV Zalesovo Beam 37.07 305 P **P** **17 14 50.8 +0.1**
comp=Z,145nm,0.6s,baz=84,slow=8.3,SNR=175
ZALV PcP **PcP** **17 17 05.9 +0.3**
comp=Z,148nm,0.8s,baz=78,slow=2.3,SNR=12
ZALV S **S** **17 20 18.4 +0.5**
comp=Z,23nm,0.8s,baz=78,slow=8.0,SNR=3.4
ZALV ScP **ScP** **17 20 29.3 +0.4**
comp=Z,69nm,0.8s,baz=80,slow=3.3,SNR=9.1
ZALV P3KPbc 17 45 10.1
comp=Z,2.7nm,0.8s,baz=289,slow=4.4,SNR=9.7
ZALV Zalesovo Beam 37.07 305 P **P** **17 14 50.1 -0.6**
LLP Lapu-Lapu 37.10 209 ⇓*e*P **P** **17 14 51.8 +0.5**
LLP *e*S **S** **17 20 17.9 -1.0**
RDOG Red Dog Mine 37.12 31 P **P** 17 14 60.0 +8.9
baz=260
RDOG S **S** **17 20 23.9 +5.5**
baz=260
JAP San Jose, Anti 37.43 212 ⇑*e*P **P** **17 14 56.4 +2.3**
WMQ Urumqi 37.76 288 ⇑P **P** **17 14 58.4 +1.6**
WMQ pP pP 17 15 46.9 +0.9
WMQ PP **PnPn** **17 16 31.8 -0.9**
WMQ PcP **PcP** **17 17 09.2 +1.2**
WMQ S **S** **17 20 30.6 +1.9**
WMQ ScS **ScS** **17 24 40.6 -0.8**
WMQ pmax pmax
comp=Z,200nm,1.1s
WMQ LR LR
comp=Z,18μm,15.5s
WMQ LR LR
comp=Z,9μm,14.9s
WMQ LR LR
comp=Z,5μm,14.9s
SDPT Sand Point 38.08 52 P **P** **17 14 57.3 -1.9**
SDPT Sand Point 38.08 52 P **P** **17 14 58.4 -0.8**
baz=278,SNR=15
SNPH Sibulan 38.26 209 *e*P **P** **17 15 01.5 +0.4**
SLVN Son La 38.35 245 P **P** **17 15 02.5 +0.6**
SLVN IAmb IAmb 17 15 05.7
comp=Z,645nm,1.5s
ZSN Zaisan 38.49 295 *e*P **P** **17 15 03.3 +0.6**
ZSN *e*S **S** **17 20 40.9 +1.5**
ZSN pmax pmax
comp=Z,300nm,2.1s
ZSN Zaisan 38.49 295 *e*P **P** **17 15 03.4 +0.6**
comp=Z,300nm,2.1s,baz=295
ZSN *e*S **S** **17 20 41.0 +1.5**
baz=295
CHNA Chernabura Isl 38.67 53 P **P** **17 15 02.9 -1.1**
baz=280,SNR=49
CHNA S **S** **17 20 39.7 -2.0**
baz=280
CNBA Chernabura Isl 38.67 53 P **P** **17 15 03.1 -0.9**
CHGN Chignik 39.09 50 P **P** **17 15 06.8 -0.6**
CHGN IAmb IAmb 17 15 09.8
comp=Z,266nm,1.0s
CHGN Chignik 39.09 50 P **P** **17 15 06.4 -1.1**
baz=279,SNR=16
CHGN S **S** **17 20 45.4 -2.7**
baz=279
GCSA Galena City Sc 39.23 37 P **P** **17 15 07.0 -1.5**
baz=270,SNR=45
GCSA S **S** **17 20 47.5 -2.4**
baz=270
DAV Davao City (W) 39.63 205 P **P** **17 15 11.9 -0.5**
comp=Z,211nm,0.5s,baz=53,slow=4.5,SNR=7.0
DAV ScP **ScP** **17 20 40.4 +1.2**
comp=Z,79nm,0.3s,baz=324,slow=6.8,SNR=4.2
TTA Tatalina 39.65 40 P **P** **17 15 11.3 -0.9**
TTA pmax pmax
comp=Z,423nm,1.5s
TTA Tatalina 39.65 40 P **P** **17 15 11.2 -0.9**
TTA IAmb IAmb 17 15 15.1
comp=Z,423nm,1.5s
TTA Tatalina 39.65 40 P **P** **17 15 11.4 -0.7**
baz=273,SNR=88
TTA S **S** **17 20 55.2 -1.2**
baz=273
A21K Barrow 39.82 26 P **P** **17 15 11.3 -1.9**
A21K Barrow 39.82 26 P **P** **17 15 11.9 -1.4**
baz=262,SNR=322
A21K S **S** **17 20 53.5 -5.0**
baz=262
CTBH Cotabato--PC H 39.90 207 ⇓*e*P **P** **17 15 15.8 +1.2**
SVW2 Sparrevohn 39.98 42 P **P** **17 15 14.7 -0.1**
O18K Koktuh Hills 40.29 44 P **P** **17 15 17.8 +0.5**
O18K IAmb IAmb 17 15 22.5
comp=Z,352nm,0.8s
O18K Koktuh Hills 40.29 44 P **P** **17 15 18.0 +0.7**
baz=277,SNR=46
O18K S **S** **17 21 08.6 +2.7**
baz=277
P18K Big Mountain, 40.34 45 P **P** **17 15 18.1 +0.3**
P18K IAmb IAmb 17 15 21.6
comp=Z,595nm,0.8s
P18K Big Mountain, 40.34 45 P **P** **17 15 18.4 +0.6**
baz=278,SNR=70
P18K S **S** **17 21 08.6 +2.0**
baz=278
MK31 Makanchi Array 40.37 295 *i*P **P** **17 15 18.9 +0.7**
MK31 Makanchi Array 40.37 295 P **P** **17 15 18.3 +0.1**
MK31 IAmb IAmb 17 15 23.9
comp=Z,765nm,1.6s
MKAR Makanchi Array 40.37 295 P **P** **17 15 18.8 +0.6**
comp=Z,106nm,0.7s,baz=82,slow=9.1,SNR=603
MKAR PcP **PcP** **17 17 15.3 -0.9**
comp=Z,114nm,1.0s,baz=68,slow=4.3,SNR=3.6
MKAR ScP **ScP** **17 20 42.6 +0.9**
comp=Z,25nm,0.8s,baz=60,slow=7.2,SNR=5.0
MKAR P3KPbc 17 44 57.0
comp=Z,7.1nm,0.6s,baz=251,slow=4.5,SNR=64
MKAR Makanchi Array 40.37 295 P **P** **17 15 18.2 0.0**
PATS Pohnpei 40.37 153 P **P** **17 15 18.8 +0.4**
PATS IAmb IAmb 17 15 23.9
comp=Z,1μm,1.5s
J20K Nowinta River 40.43 38 P **P** **17 15 17.4 -1.0**
J20K IAmb IAmb 17 15 21.5
comp=Z,1μm,1.7s
J20K Nowinta River 40.43 38 P **P** **17 15 18.2 -0.2**
baz=273
J20K S **S** **17 21 04.3 -3.4**
baz=273
K20K Telida 40.51 39 P **P** **17 15 18.2 -0.9**
K20K IAmb IAmb 17 15 22.4
comp=Z,676nm,1.6s
K20K Telida 40.51 39 P **P** **17 15 19.1 0.0**
baz=274
K20K S **S** **17 21 07.0 -2.0**
baz=274
IMAR Indian Mountai 40.54 35 P **P** **17 15 17.2 -2.0**
N19K Bonanza Creek 40.54 43 P **P** **17 15 19.7 +0.2**
MAKZ Makanchi 40.57 295 P **P** **17 15 20.1 +0.3**
MAKZ pmax pmax
comp=Z,273nm,0.9s
MAKZ Makanchi 40.57 295 P **P** **17 15 20.1 +0.3**
MAKZ IAmb IAmb 17 15 26.3
comp=Z,273nm,0.8s
MAKZ Makanchi 40.57 295 P **P** **17 15 20.9 +1.0**
SEM Semipalatinsk 40.58 301 *i*P **P** **17 15 19.5 -0.6**
SEM *e*S **S** **17 21 10.7 0.0**
SEM pmax pmax
comp=Z,244nm,1.1s
SEM Semipalatinsk 40.58 301 *i*P **P** **17 15 19.5 -0.6**
comp=Z,244nm,1.1s,baz=300
SEM *e*S **S** **17 21 10.8 0.0**
baz=300
L20K Farewell, AK 40.66 40 P **P** **17 15 20.4 +0.1**
baz=275
L20K S **S** **17 21 09.3 -2.0**
baz=275
O19K Port Alsworth 40.69 44 P **P** **17 15 20.7 +0.1**
O19K Port Alsworth 40.69 44 P **P** **17 15 21.1 +0.5**
baz=277,SNR=28
O19K S **S** **17 21 13.7 +2.0**
baz=277
CHIR Chirikof Islan 40.72 51 P **P** **17 15 20.7 -0.1**
CHIR Chirikof Islan 40.72 51 P **P** **17 15 21.1 +0.2**
baz=281,SNR=10
CHIR S **S** **17 21 12.8 +0.7**
baz=281
GSPH General Santos 40.75 205 ⇑*e*P **P** **17 15 23.4 +1.6**
H21K Melozitna Rive 40.93 35 P **P** **17 15 21.1 -1.4**
Q19K Cape Douglas, 41.22 46 P **P** **17 15 24.7 -0.3**
Q19K Cape Douglas, 41.22 46 P **P** **17 15 24.9 0.0**
baz=279,SNR=40
Q19K S **S** **17 21 19.3 -0.2**
baz=279
CHUM Lake Minchumin 41.25 38 P **P** **17 15 25.2 +0.2**
baz=275,SNR=85
CHUM S **S** **17 21 19.4 -0.5**
baz=275
I21K Tanana 41.30 36 P **P** **17 15 24.7 -0.8**
I21K Tanana 41.30 36 P **P** **17 15 25.1 -0.3**
baz=274
I21K S **S** **17 21 17.0 -3.5**
baz=274
SII Sitkinak Islan 41.36 49 P **P** **17 15 26.6 +0.6**
SII IAmb IAmb 17 15 28.7
comp=Z,732nm,1.0s
SII Sitkinak Islan 41.36 49 P **P** **17 15 26.3 +0.3**
baz=282,SNR=16
SII S **S** **17 21 21.2 -0.4**
baz=282
SII Sitkinak Islan 41.36 49 P **P** **17 15 26.7 +0.6**
CAST Castle Rocks 41.39 39 P **P** **17 15 25.8 -0.5**
CAST IAmb IAmb 17 15 29.0
comp=Z,242nm,0.7s
CAST Castle Rocks 41.39 39 P **P** **17 15 26.2 -0.1**
baz=275,SNR=178
CAST S **S** **17 21 19.3 -2.7**
baz=275
PPLA Purkeypile 41.40 40 P **P** **17 15 26.8 +0.3**
PPLA IAmb IAmb 17 15 30.4
comp=Z,805nm,1.5s
PPLA Purkeypile 41.40 40 P **P** **17 15 26.8 +0.3**
baz=276,SNR=64
PPLA S **S** **17 21 24.0 +1.6**
baz=276
KURK Kurchatov 41.49 302 *ce*P **P** **17 15 27.4 +0.2**
KURK pmax pmax
comp=Z,1μm,1.7s
KURK Kurchatov 41.49 302 P **P** **17 15 27.8 +0.6**
KURK P **P** **17 15 27.8 +0.6**
KURK Kurchatov 41.49 302 P **P** **17 15 27.3 +0.1**
KURK IAmb IAmb 17 15 29.1
comp=Z,423nm,0.7s
KURK Kurchatov 41.49 302 **ScP** **17 20 46.6 +0.5**
KURK Kurchatov 41.49 302 *e*P **P** **17 15 27.4 +0.2**
KURK Kurchatov 41.49 302 P **P** **17 15 28.0 +0.8**
O20K Slope Mountain 41.55 44 P **P** **17 15 28.0 +0.3**
baz=279,SNR=27
O20K S **S** **17 21 25.6 +1.1**
baz=279
KURBB Kurchatov Arra 41.57 302 P **P** **17 15 28.2 +0.4**
comp=Z,386nm,0.7s,baz=72,slow=8.9,SNR=836
KURBB PcP **PcP** **17 17 19.4 -0.5**
comp=Z,79nm,0.9s,baz=72,slow=4.2,SNR=4.3
KURBB ScP **ScP** **17 20 46.6 +0.2**
comp=Z,28nm,0.9s,baz=79,slow=3.4,SNR=11
KURBB S **S** **17 21 26.6 +1.7**
comp=Z,24nm,0.9s,baz=78,slow=18,SNR=7.3
KURBB PKP2ab 17 48 49.2
comp=Z,0.9nm,0.8s,baz=270,slow=5.2,SNR=4.7
KURBB Kurchatov Arra 41.57 302 P **P** **17 15 28.1 +0.3**
OHAK Old Harbor 41.71 48 P **P** **17 15 28.5 -0.3**
OHAK Old Harbor 41.71 48 P **P** **17 15 29.2 +0.3**
baz=281,SNR=134
OHAK S **S** **17 21 26.9 +0.2**
baz=281
BPAW Bear Paw Mtn. 41.81 38 P **P** **17 15 29.2 -0.4**
BPAW IAmb IAmb 17 15 32.7
comp=Z,458nm,1.5s
BPAW Bear Paw Mtn. 41.81 38 P **P** **17 15 29.3 -0.4**
baz=276,SNR=46
BPAW S **S** **17 21 26.8 -1.4**
baz=276
LSA Lhasa 41.85 267 P **P** **17 15 32.4 +1.5**
LSA pmax pmax
comp=Z,460nm,1.0s
LSA LR LR
comp=Z,34μm,22.8s
LSA LR LR
comp=Z,21μm,21.4s
LSA LR LR
comp=Z,18μm,17.1s
LSA Lhasa 41.85 267 P **P** **17 15 32.6 +1.7**
LSA Lhasa 41.85 267 P **P** **17 15 32.5 +1.6**
UBPT Khong Chiam 41.88 237 P **P** **17 15 31.4 +0.7**
KTH Kantishna Hill 41.90 38 P **P** **17 15 29.9 -0.5**
COLD Coldfoot 41.91 33 P **P** **17 15 28.9 -1.5**
COLD IAmb IAmb 17 15 32.9
comp=Z,207nm,0.5s
COLD Coldfoot 41.91 33 P **P** **17 15 29.4 -1.0**
baz=273,SNR=221
COLD S **S** **17 21 26.0 -3.5**
baz=273
KDAK Kodiak Island 41.97 47 P **P** **17 15 30.6 -0.3**
KDAK pmax pmax
comp=Z,1μm,0.8s
KDAK Kodiak Island 41.97 47 P **P** **17 15 30.6 -0.3**
KDAK Kodiak Island 41.97 47 P **P** **17 15 30.9 -0.1**
baz=281
KDAK S **S** **17 21 28.2 -2.3**
baz=281
KDAK Kodiak Island 41.97 47 P **P** **17 15 30.8 -0.1**
HOM Homer 42.11 44 P **P** **17 15 31.4 -0.6**
HOM Homer 42.11 44 P **P** **17 15 32.2 +0.2**
baz=280,SNR=6.4
HOM S **S** **17 21 31.3 -1.2**
baz=280
CAPN Captain Cook N 42.16 43 P **P** **17 15 30.7 -1.8**
CAPN Captain Cook N 42.16 43 P **P** **17 15 32.4 0.0**
baz=279
TRF Thorofare Moun 42.19 39 P **P** **17 15 32.1 -0.8**
TRF Thorofare Moun 42.19 39 P **P** **17 15 32.5 -0.4**
baz=277,SNR=54
TRF S **S** **17 21 31.4 -2.6**
baz=277
KWAJ Kwajalein Atol 42.31 139 P **P** **17 15 33.4 -0.7**
KWAJ pmax pmax
comp=Z,789nm,1.2s
KWAJ Kwajalein Atol 42.31 139 P **P** **17 15 33.4 -0.7**
KWAJ IAmb IAmb 17 15 36.9
comp=Z,789nm,1.2s
CNPM China Poot 42.33 44 P **P** **17 15 33.1 -0.8**
CNPM IAmb IAmb 17 15 35.9
comp=Z,796nm,1.0s
CUT Chulitna 42.34 40 P **P** **17 15 32.9 -0.9**
CUT IAmb IAmb 17 15 34.8
comp=Z,336nm,0.6s
CUT Chulitna 42.34 40 P **P** **17 15 33.2 -0.6**
baz=278,SNR=47
CUT S **S** **17 21 32.6 -3.1**
baz=278
I23K Minto, Yukon-K 42.41 36 P **P** **17 15 33.6 -0.8**
I23K Minto, Yukon-K 42.41 36 P **P** **17 15 33.9 -0.4**
baz=276,SNR=195
I23K S **S** **17 21 35.2 -1.5**
baz=276
BRLK Bradley Lake 42.47 44 P **P** **17 15 34.4 -0.6**
BRLK IAmb IAmb 17 15 37.2
comp=Z,436nm,0.8s
BWN Browne 42.47 37 P **P** **17 15 35.1 +0.2**
BRSE Bradley Lake S 42.54 44 P **P** **17 15 35.0 -0.5**
baz=281,SNR=51
BRSE S **S** **17 21 37.2 -1.7**
baz=281
FIS Fire Island 42.55 42 P **P** **17 15 36.4 +0.8**
NEA2 Nenana 42.59 37 P **P** **17 15 34.9 -1.0**
NEA2 IAmb IAmb 17 15 38.0
comp=Z,352nm,0.6s
NEA2 Nenana 42.59 37 P **P** **17 15 35.5 -0.4**
baz=277,SNR=128
NEA2 S **S** **17 21 35.6 -3.8**
baz=277
MCK McKinley 42.76 38 P **P** **17 15 36.5 -0.7**
MCK pmax pmax
comp=Z,240nm,0.7s

MCK McKinley 42.76 38 P **P 17 15 36.5 -0.7**
MCK McKinley 42.76 38 P **P 17 15 36.1 -1.2**
baz=278,SNR=122
MCK S **S 17 21 39.5 -2.4**
baz=278
DLV T Lat 42.79 231 P **P 17 15 38.9 +0.7**
DLV T Lat 42.79 231 P **P 17 15 39.6 +1.3**
RC01 Rabbit Creek A 42.79 42 P **P 17 15 37.2 -0.3**
RC01 IAmb IAmb 17 15 39.5
comp=Z,285nm,0.7s
RC01 Rabbit Creek A 42.79 42 P **P 17 15 36.8 -0.8**
baz=280,SNR=48
RC01 S **S 17 21 41.1 -1.4**
baz=280
RND Reindeer 42.84 38 P **P 17 15 36.6 -1.4**
RND pmax pmax
comp=Z,227nm,0.9s
RND Reindeer 42.84 38 P **P 17 15 36.6 -1.4**
MDM Murphy Dome 42.91 36 P **P 17 15 37.3 -1.1**
H24K Noodor Dome 42.95 35 P **P 17 15 38.1 -0.7**
H24K Noodor Dome 42.95 35 P **P 17 15 38.9 +0.1**
baz=276
H24K S **S 17 21 41.6 -3.2**
baz=276
PMR Palmer 42.99 41 P **P 17 15 38.4 -0.7**
PMR pmax pmax
comp=Z,590nm,1.5s
PMR Palmer 42.99 41 P **P 17 15 38.4 -0.7**
PMR IAmb IAmb 17 15 40.8
comp=Z,590nm,1.5s
PMR Palmer 42.99 41 P **P 17 15 38.3 -0.8**
baz=280,SNR=60
PMR S **S 17 21 44.3 -1.0**
baz=280
WRH Wood River Hil 43.03 37 P **P 17 15 38.8 -0.5**
TCOL CIGO, UAF Yank 43.07 36 P **P 17 15 38.8 -0.9**
TCOL IAmb IAmb 17 15 42.0
comp=Z,424nm,0.7s
TCOL CIGO, UAF Yank 43.07 36 P **P 17 15 39.4 -0.3**
baz=277,SNR=115
TCOL S **S 17 21 44.9 -1.5**
baz=277
COLA College 43.08 36 P **P 17 15 38.6 -1.1**
COLA pmax pmax
comp=Z,422nm,0.7s
COLA College 43.08 36 P **P 17 15 38.6 -1.1**
COLA IAmb IAmb 17 15 42.0
comp=Z,422nm,0.7s
COLA College 43.08 36 P **P 17 15 39.6 -0.1**
baz=277
COLA S **S 17 21 44.7 -1.7**
baz=277
COLA College 43.08 36 P **P 17 15 39.4 -0.3**
SEW Seward 43.11 43 P **P 17 15 39.4 -0.7**
SEW IAmb IAmb 17 15 41.7
comp=Z,544nm,0.8s
SEW Seward 43.11 43 P **P 17 15 39.7 -0.3**
baz=281,SNR=39
SEW S **S 17 21 45.5 -1.6**
baz=281
CCB Clear Creek Bu 43.12 37 P **P 17 15 38.9 -1.2**
POKR Poker Plat Res 43.22 36 P **P 17 15 40.4 -0.5**
POKR IAmb IAmb 17 15 43.1
comp=Z,302nm,0.6s
POKR Poker Plat Res 43.22 36 P **P 17 15 40.7 -0.2**
baz=278,SNR=103
POKR S **S 17 21 47.5 -1.1**
baz=278
SML Sawmill 43.33 41 P **P 17 15 41.1 -0.8**
SML IAmb IAmb 17 15 45.0
comp=Z,807nm,1.2s
SML Sawmill 43.33 41 P **P 17 15 41.8 -0.2**
baz=280,SNR=94
SML S **S 17 21 49.2 -1.2**
baz=280
KNK Knik Glacier 43.34 41 P **P 17 15 41.4 -0.6**
KNK IAmb IAmb 17 15 44.2
comp=Z,449nm,0.6s
KNK Knik Glacier 43.34 41 P **P 17 15 41.8 -0.2**
baz=281,SNR=111
KNK S **S 17 21 49.1 -1.4**
baz=281
CHTO Chiang Mai 43.40 248 P **P 17 15 42.7 -0.2**
CHTO pmax pmax
comp=Z,133nm,1.0s
CHTO Chiang Mai 43.40 248 P **P 17 15 43.8 +0.9**
CHTO Chiang Mai 43.40 248 P **P 17 15 42.7 -0.2**
CHTO Chiang Mai 43.40 248 P **P 17 15 43.4 +0.5**
CHTO Chiang Mai 43.40 248 P **P 17 15 43.5 +0.6**
WAT6 Susitna Watana 43.47 40 P **P 17 15 42.3 -0.8**
baz=280,SNR=86
WAT6 S **S 17 21 50.8 -1.8**
baz=280
IL31 43.50 36 P **P 17 15 41.9 -1.2**
IL31 IAmb IAmb 17 15 45.5
comp=Z,244nm,0.7s
ILAR Eielson Array 43.50 36 P **P 17 15 42.2 -0.9**
comp=Z,171nm,0.6s,baz=268,slow=8.1,SNR=477
ILAR Eielson Array 43.50 36 P **P 17 15 41.6 -1.5**
PWL Port Wells 43.51 42 P **P 17 15 42.3 -1.0**
PWL Port Wells 43.51 42 P **P 17 15 42.8 -0.5**
baz=281,SNR=32
PWL S **S 17 21 51.8 -1.1**
baz=281
HDA Harding Lake 43.53 37 P **P 17 15 41.6 -1.8**
HDA Harding Lake 43.53 37 P **P 17 15 42.2 -1.2**
baz=279,SNR=140
HDA S **S 17 21 51.4 -1.6**
baz=279
HDA S **S 17 21 51.4 -1.6**
baz=279
TDK Taldyqorghan 43.54 294 *e*P **P 17 15 44.6 +0.9**
TDK *e*S **S 17 21 55.1 +1.3**
TDK pmax pmax
comp=Z,244nm,0.6s
TDK Taldyqorghan 43.54 294 *e*P **P 17 15 44.6 +0.9**
comp=Z,244nm,0.6s,baz=294
TDK *e*S **S 17 21 55.1 +1.3**
baz=294
DHY Denali Highway 43.55 39 P **P 17 15 42.5 -1.3**
DHY IAmb IAmb 17 15 44.9
comp=Z,408nm,0.7s
DHY Denali Highway 43.55 39 P **P 17 15 42.9 -0.9**
baz=280,SNR=192
DHY S **S 17 21 52.2 -1.6**
baz=280
CM31 Chiang Mai Arr 43.66 247 P **P 17 15 45.6 +0.6**
CMAR Chiang Mai Arr 43.66 247 P **P 17 15 46.0 +1.0**
comp=Z,64nm,1.1s,baz=34,slow=6.6,SNR=183
CMAR PcP **PcP 17 17 27.6 +0.1**
comp=Z,45nm,0.8s,baz=5.3,slow=1.1,SNR=14
CMAR ScP **ScP 17 20 56.2 +0.9**
comp=Z,12nm,0.8s,baz=22,slow=3.4,SNR=9.2
CMAR PKiKP **PKiKP 17 24 27.8 -1.0**
comp=Z,2.4nm,0.7s,baz=279,slow=1.4,SNR=6.0
CMAR Chiang Mai Arr 43.66 247 P **P 17 15 45.5 +0.5**
SHL Shillong 43.78 261 P **P 17 15 45.8 -0.3**
SHL pmax pmax
comp=Z,153nm,0.7s
SHL Shillong 43.78 261 ||*i*P **P 17 15 46.2 +0.1**
SHL IAmb IAmb 17 15 48.7
comp=Z,304nm,1.6s
SHL Shillong 43.78 261 P **P 17 15 46.2 +0.1**
SNR=61
SHL Shillong 43.78 261 P **P 17 15 45.8 -0.3**
SCM Sheep Creek Mo 43.80 41 P **P 17 15 45.4 -0.2**
SCM pmax pmax
comp=Z,296nm,0.7s
SCM Sheep Creek Mo 43.80 41 P **P 17 15 45.4 -0.2**
SCM IAmb IAmb 17 15 47.5
comp=Z,296nm,0.7s
SCM Sheep Creek Mo 43.80 41 P **P 17 15 45.4 -0.2**
baz=281,SNR=56
SCM S **S 17 21 56.8 -0.4**
baz=281
MYLDM Lahad Datu 43.86 214 P **P 17 15 48.0 +1.5**
UZB Uzynbulak 43.86 291 *i*P **P 17 15 46.7 +0.2**
UZB *e*S **S 17 21 59.7 +0.9**
UZB pmax pmax
comp=Z,279nm,2.2s
UZB Uzynbulak 43.86 291 *i*P **P 17 15 46.8 +0.2**
comp=Z,279nm,2.2s,baz=291
UZB *e*S **S 17 21 59.7 +0.9**
baz=291
FYU Fort Yukon 43.92 34 P **P 17 15 46.0 -0.5**
PRP Porcupine Dome 43.96 35 P **P 17 15 46.4 -0.6**
PRP IAmb IAmb 17 15 48.9
comp=Z,452nm,0.5s
PRP Porcupine Dome 43.96 35 P **P 17 15 46.6 -0.3**
baz=279,SNR=47
PRP S **S 17 21 57.5 -2.0**
baz=279
KKM Kota Kinabalu 44.02 217 P **P 17 15 48.1 +0.1**
KKM Kota Kinabalu 44.02 217 P **P 17 15 49.5 +1.5**
BMAR Burnt Mountain 44.06 32 P **P 17 15 46.9 -0.7**
GLI Glacier Island 44.10 42 P **P 17 15 47.3 -0.6**
GLI IAmb IAmb 17 15 49.5
comp=Z,356nm,0.7s
GLI Glacier Island 44.10 42 P **P 17 15 47.7 -0.3**
baz=282,SNR=18
GLI S **S 17 22 01.0 -0.4**
baz=282
ARXS Arharly 44.23 293 *e*P **P 17 15 50.2 +0.9**
ZHN Zhinishke 44.25 291 *c i*P **P 17 15 50.0 +0.5**
ZHN *i*S **S 17 22 05.5 +1.3**
ZHN pmax pmax
comp=Z,245nm,2.6s
ZHN Zhinishke 44.25 291 ||*i*P **P 17 15 50.0 +0.5**
comp=Z,246nm,2.6s,baz=291
ZHN *i*S **S 17 22 05.5 +1.3**
baz=291
M24K Tolsona, Glenn 44.28 40 P **P 17 15 49.6 +0.2**
M24K IAmb IAmb 17 15 52.2
comp=Z,917nm,1.3s
M24K Tolsona, Glenn 44.28 40 P **P 17 15 49.3 -0.1**
baz=282,SNR=54
M24K S **S 17 22 05.3 +1.2**
baz=282
SATY Saty 44.31 291 *i*P **P 17 15 50.6 +0.6**
SATY *i*S **S 17 22 06.3 +1.1**
SATY pmax pmax
comp=Z,391nm,2.3s
SATY Saty 44.31 291 *i*P **P 17 15 50.6 +0.6**
comp=Z,391nm,2.3s,baz=291
SATY *i*S **S 17 22 06.4 +1.1**
baz=291
FID Port Fidalgo 44.42 42 P **P 17 15 50.4 0.0**
FID IAmb IAmb 17 15 51.8
comp=Z,271nm,0.6s
PAX Paxson 44.42 39 P **P 17 15 49.4 -1.2**
PAX pmax pmax
comp=Z,99nm,0.8s
PAX Paxson 44.42 39 P **P 17 15 49.4 -1.2**
PAX Paxson 44.42 39 P **P 17 15 49.8 -0.8**
baz=281,SNR=57
PAX S **S 17 22 01.0 -5.2**
baz=281
KLU Klutina 44.52 41 P **P 17 15 51.0 -0.4**
KLU IAmb IAmb 17 15 53.5
comp=Z,526nm,0.7s
KLU Klutina 44.52 41 P **P 17 15 51.5 +0.1**
baz=282,SNR=140
KLU S **S 17 22 08.3 +0.6**
baz=282
RIDG Independent Ri 44.55 38 P **P 17 15 50.2 -1.3**
RIDG Independent Ri 44.55 38 P **P 17 15 50.4 -1.1**
baz=281,SNR=39
RIDG S **S 17 22 05.8 -2.2**
baz=281
PRZ Przheval'sk 44.55 290 P **P 17 15 53.4 +1.3**
PRZ pmax pmax
comp=Z,191nm,1.0s
PRZ Przheval'sk 44.55 290 P **P 17 15 53.4 +1.3**
DIV Divide 44.67 41 P **P 17 15 52.0 -0.5**
DIV IAmb IAmb 17 15 54.7
comp=Z,417nm,0.6s
HARP HAARP 44.68 39 P **P 17 15 53.1 +0.5**
baz=282,SNR=141
Q23K Middleton Isla 44.79 44 P **P 17 15 53.8 +0.4**
Q23K Middleton Isla 44.79 44 P **P 17 15 52.9 -0.4**
baz=284,SNR=5.5
Q23K S **S 17 22 13.0 +1.7**
baz=284
MID Middleton Isla 44.80 44 P **P 17 15 54.0 +0.6**
MID pmax pmax
comp=Z,1μm,1.0s
MID Middleton Isla 44.80 44 P **P 17 15 54.0 +0.6**
EYAK Cordova Ski Ar 44.82 42 P **P 17 15 53.4 -0.1**
EYAK IAmb IAmb 17 15 56.1
comp=Z,377nm,0.7s
EYAK Cordova Ski Ar 44.82 42 P **P 17 15 54.3 +0.8**
baz=284,SNR=44
SCRK Sand Creek 44.88 37 P **P 17 15 52.7 -1.5**
SCRK IAmb IAmb 17 15 55.0
comp=Z,340nm,0.6s
SCRK Sand Creek 44.88 37 P **P 17 15 52.9 -1.3**
baz=282,SNR=397
SCRK S **S 17 22 09.9 -2.8**
baz=282
DOT Dot Lake 44.91 38 P **P 17 15 52.8 -1.6**
CHKK Chushkaly 44.93 293 *i*P **P 17 15 54.6 -0.1**
baz=293
N25K Chitina, Valde 45.12 41 P **P 17 15 56.3 +0.3**
N25K Chitina, Valde 45.12 41 P **P 17 15 56.6 +0.6**
baz=283,SNR=44
N25K S **S 17 22 16.2 0.0**
baz=283
SPMM Sapulut 45.12 216 P **P 17 15 57.0 +0.5**
MDOK Medeo 45.17 292 *e*P **P 17 15 57.5 +0.7**
MDOK *e*S **S 17 22 19.1 +1.5**
MDOK Medeo 45.17 292 *e*P **P 17 15 57.6 +0.7**
baz=292
MDOK *e*S **S 17 22 19.1 +1.5**
baz=292
TNTI Ternate 45.17 200 P **P 17 15 56.3 -0.6**
TNTI Ternate 45.17 200 P **P 17 15 57.6 +0.7**
KNDC Almaty 45.20 292 P **P 17 15 57.9 +0.9**
MENT Mentasta 45.21 39 P **P 17 15 56.5 -0.2**
BMRM Bremner River 45.26 41 P **P 17 15 57.2 0.0**
BMRM Bremner River 45.26 41 P **P 17 15 57.7 +0.5**
baz=284,SNR=38
BMRM S **S 17 22 19.6 +1.4**
baz=284
TNSS Tian-Shan 45.29 292 *i*P **P 17 15 58.3 +0.2**
baz=292
BRZS Berezniki 45.33 302 *i*P **P 17 15 57.8 0.0**
BRZS *e*S **S 17 22 19.9 +0.5**
BRZS pmax pmax
comp=Z,257nm,1.0s
BRZS Berezniki 45.33 302 *i*P **P 17 15 57.8 0.0**
comp=Z,257nm,1.0s,baz=302
BRZS *e*S **S 17 22 20.0 +0.5**
baz=302
KUU Kurty 45.34 293 *i*P **P 17 15 58.1 +0.2**
KUU *e*S **S 17 22 20.6 +0.9**
KUU pmax pmax
comp=Z,229nm,0.8s
KUU Kurty 45.34 293 *i*P **P 17 15 58.2 +0.2**
comp=Z,229nm,0.8s,baz=293
KUU *e*S **S 17 22 20.6 +0.9**
baz=293
L26K Log Cabin Wild 45.36 38 P **P 17 15 57.4 -0.4**
L26K IAmb IAmb 17 16 01.5
comp=Z,1μm,1.9s
L26K Log Cabin Wild 45.36 38 P **P 17 15 57.9 0.0**
baz=283,SNR=114
L26K S **S 17 22 18.9 -0.5**
baz=283
GLB Gilahina Butte 45.52 41 P **P 17 15 59.2 0.0**
KDJ Kajisay 45.52 291 P **P 17 16 00.3 +0.6**
KDJ pmax pmax
comp=Z,193nm,0.9s
KDJ Kajisay 45.52 291 P **P 17 16 00.3 +0.6**
HMT Hamilton 45.58 42 P **P 17 16 00.5 +0.9**
HMT IAmb IAmb 17 16 02.2
comp=Z,348nm,0.8s
KAIM Kayak Island 45.61 43 P **P 17 16 01.2 +1.3**
KAIM IAmb IAmb 17 16 02.6
comp=Z,591nm,0.8s
KAIM Kayak Island 45.61 43 P **P 17 16 01.0 +1.1**
baz=285,SNR=9.6
KAIM S **S 17 22 26.5 +3.4**
baz=285
BVAR Borovoye Array 45.65 307 P **P 17 16 00.8 +0.6**
comp=Z,171nm,0.4s,baz=73,slow=10,SNR=689
BVAR PcP **PcP 17 17 34.1 +0.2**
comp=Z,79nm,0.9s,baz=90,slow=1.5,SNR=4.4
BVAR ScP **ScP 17 21 03.0 0.0**
comp=Z,24nm,0.7s,baz=66,slow=3.6,SNR=3.6
BVAR S **S 17 22 22.9 -0.9**
comp=Z,75nm,0.6s,baz=80,slow=19,SNR=16
M26K Nabesna, AK 45.66 39 P **P 17 16 00.6 +0.3**
M26K IAmb IAmb 17 16 03.5
comp=Z,445nm,0.9s
M26K Nabesna, AK 45.66 39 P **P 17 16 01.2 +0.9**
baz=284,SNR=245
BAKI Biak 45.66 187 P **P 17 15 59.4 -1.3**
comp=Z,615nm,1.0s
BRVK Borovoye 45.70 307 *ce*P **P 17 16 01.4 +0.8**
BRVK pmax pmax
comp=Z,393nm,1.0s
BRVK Borovoye 45.70 307 P **P 17 16 01.7 +1.1**
BRVK Borovoye 45.70 307 P **P 17 16 01.0 +0.4**
BRVK IAmb IAmb 17 16 02.7
comp=Z,485nm,1.2s
BRVK Borovoye 45.70 307 *e*P **P 17 16 01.4 +0.8**
BRVK Borovoye 45.70 307 P **P 17 16 01.5 +0.8**
VRDI Verde Repeater 45.74 41 P **P 17 16 01.1 0.0**
VRDI IAmb IAmb 17 16 03.5
comp=Z,393nm,0.7s
BRDH Bariadhala 45.78 258 S **S 17 22 26.4 +0.1**
BERG Berg Lake 45.84 42 P **P 17 16 02.1 +0.5**
SUCK Suckling Hills 45.89 42 P **P 17 16 03.2 +1.2**
SUCK IAmb IAmb 17 16 04.9
comp=Z,441nm,0.8s
EGAK Eagle 45.91 36 P **P 17 16 00.6 -1.5**
EGAK IAmb IAmb 17 16 03.7
comp=Z,555nm,1.1s
EGAK Eagle 45.91 36 P **P 17 16 01.4 -0.7**
baz=283,SNR=263
EGAK S **S 17 22 25.2 -2.0**
baz=283
KST Kastek 45.94 292 *e*P **P 17 16 03.5 +0.7**
comp=Z,256nm,0.8s,baz=292
KST *e*S **S 17 22 29.9 +1.3**
baz=292
SWI Sorong 45.97 194 P **P 17 16 03.7 +0.6**
comp=Z,1μm,0.9s
SIJI Sorong 45.97 194 P **P 17 16 03.3 +0.1**
comp=Z,668nm,0.8s,baz=2.5,slow=9.6,SNR=162
SIJI S **S 17 22 28.6 -0.5**
comp=Z,6.3nm,0.7s,baz=207,slow=23,SNR=18
L27K Beaver Creek, 46.02 38 P **P 17 16 02.6 -0.5**
L27K IAmb IAmb 17 16 05.7
comp=Z,460nm,0.9s
L27K Beaver Creek, 46.02 38 P **P 17 16 03.9 +0.9**
baz=284
L27K S **S 17 22 28.5 -0.5**
baz=284
BCAR Beaver Creek A 46.04 38 P **P 17 16 03.6 +0.4**
ULHL Ulahol 46.10 291 P **P 17 16 05.6 +1.4**
SNR=36
BGLC Bering Glacier 46.11 42 P **P 17 16 05.2 +1.5**
baz=286
TGL Tana Glacier 46.16 41 P **P 17 16 04.2 0.0**
TGL IAmb IAmb 17 16 07.3
comp=Z,627nm,0.8s
M27K Edge Creek, AK 46.18 39 P **P 17 16 04.5 +0.1**
M27K IAmb IAmb 17 16 07.1
comp=Z,484nm,0.8s
BOOM Boomskoye usch 46.20 292 P **P 17 16 06.0 +1.1**
BOOM pmax pmax
comp=Z,465nm,0.8s
BOOM Boomskoye usch 46.20 292 P **P 17 16 06.0 +1.1**
BOOM IAmb IAmb 17 16 07.6
comp=Z,465nm,0.8s
WAX Waxell Ridge 46.23 42 P **P 17 16 05.6 +0.8**
WAX IAmb IAmb 17 16 07.3
comp=Z,443nm,0.7s
TKM2 Tokmak 2 46.24 292 P **P 17 16 06.4 +1.2**
SNR=717
TKM2 Tokmak 2 46.24 292 P **P 17 16 06.5 +1.2**
KMSI Cibinong 46.26 204 P **P 17 16 04.5 -0.9**
comp=Z,3μmcomp=Z,516nm,0.8s
SNH Sunshine Point 46.31 42 P **P 17 16 06.2 +0.9**
SRPI Serui, Papua 46.32 187 P **P 17 16 05.9 0.0**
comp=Z,164nm,1.0s
BTLS Baital 46.36 296 *i*P **P 17 16 05.7 -0.2**
BTLS *e*S **S 17 22 34.8 +0.7**
BTLS pmax pmax
comp=Z,220nm,2.6s
BTLS Baital 46.36 296 *i*P **P 17 16 05.8 -0.2**
comp=Z,220nm,2.6s,baz=295
BTLS *e*S **S 17 22 34.9 +0.7**
baz=295
ISLE Juniper Island 46.43 41 P **P 17 16 06.2 -0.2**
ISLE IAmb IAmb 17 16 08.7
comp=Z,624nm,0.6s
GTOI Gorontalo 46.50 205 P **P 17 16 05.9 -1.3**
comp=Z,113nm,0.8s
LBMI Labuha 46.50 199 P **P 17 16 06.8 -0.5**
comp=Z,379nm,0.8s
BVCY Beaver Creek 46.62 39 P **P 17 16 07.8 +0.1**
baz=286,SNR=114
BVCY S **S 17 22 36.6 -0.8**
baz=286
BARN Barnard Glacie 46.62 41 P **P 17 16 08.2 +0.3**
BARN IAmb IAmb 17 16 10.6
comp=Z,586nm,0.6s
MANU Manus Island 46.63 171 P **P 17 16 08.1 -0.2**
SGDS Sogindy 46.65 293 *e*P **P 17 16 09.3 +1.1**
SGDS Sogindy 46.65 293 *e*P **P 17 16 08.6 +0.4**
comp=Z,420nm,2.2s,baz=293
SGDS *e*S **S 17 22 39.6 +1.2**
baz=293
GUN Gumba 46.65 269 *e*P **P 17 16 09.0 +0.2**
comp=Z,194nm,0.3s
GRNC Granite Creek 46.67 41 P **P 17 16 08.3 0.0**
GRNC IAmb IAmb 17 16 10.9
comp=Z,577nm,1.0s
MESA MESA 46.74 42 P **P 17 16 09.3 +0.6**
MESA MESA 46.74 42 P **P 17 16 09.5 +0.7**
baz=287,SNR=69
MESA S **S 17 22 40.6 +1.2**
baz=287
JAY Jayapura 46.76 181 P **P 17 16 09.7 +0.4**
comp=Z,637nm,0.8s,baz=324,slow=3.9,SNR=158
JAY ScP **ScP 17 21 08.2 +0.1**
comp=Z,14nm,1.1s,baz=165,slow=2.4,SNR=3.9
JAY S **S 17 22 38.1 -2.2**
comp=Z,7.1nm,0.9s,baz=312,slow=8.7,SNR=2.0
JAY Jayapura 46.76 181 P **P 17 16 10.1 +0.8**
comp=Z,421nm,0.9s
CHMS Chumysh 46.77 293 P **P 17 16 09.7 +0.6**
SNR=92
TOLI2 Tolitoli 46.77 208 P **P 17 16 08.6 -0.7**
TOLI2 IAmb IAmb 17 16 11.5
comp=Z,784nm,1.9s
YAH Yahtse 46.78 42 P **P 17 16 09.3 +0.1**
YAH IAmb IAmb 17 16 12.4
comp=Z,802nm,0.9s
KBK Karagaybulak 46.78 292 P **P 17 16 10.5 +1.1**
SNR=599
KBK Karagaybulak 46.78 292 *e*P **P 17 16 10.4 +1.0**
CTG Chitna Glacier 46.80 41 P **P 17 16 10.0 +0.8**
baz=286,SNR=231
CTG S **S 17 22 36.0 -4.2**
baz=286
CTGM Chitina Glacie 46.80 41 P **P 17 16 09.4 +0.2**
USP Ospenovka 46.81 293 P **P 17 16 10.3 +0.9**
SNR=163
DAWY Dawson 46.83 36 P **P 17 16 08.1 -1.1**
DAWY Dawson 46.83 36 P **P 17 16 08.9 -0.4**
baz=285,SNR=58
DAWY S **S 17 22 38.3 -2.1**
baz=285
GENI Genyem 46.84 181 P **P 17 16 10.6 +0.7**
comp=Z,19μmcomp=Z,2μm,0.8s
GENI Genyem 46.84 181 P **P 17 16 10.8 +0.9**
FRU1 Bishkek 46.93 293 P **P 17 16 11.2 +0.8**
FRU1 pmax pmax
comp=Z,247nm,0.9s
FRU1 Bishkek 46.93 293 P **P 17 16 11.2 +0.8**
I29M Ogilvie Camp, 46.94 34 P **P 17 16 10.0 -0.1**
baz=285,SNR=70
I29M S **S 17 22 40.5 -1.4**
baz=285
YUK3 Moose Creek 46.98 40 P **P 17 16 10.8 +0.2**
baz=286,SNR=83
YUK3 S **S 17 22 43.2 +0.3**
baz=286
MRSI Marisa 46.98 207 P **P 17 16 09.7 -1.3**
comp=Z,743nm,0.9s
LOGN Logan Glacier 47.00 41 P **P 17 16 10.3 -0.5**
LOGN IAmb IAmb 17 16 13.2
comp=Z,409nm,0.7s
TABL Table Mountain 47.05 41 P **P 17 16 11.3 +0.1**
TABL IAmb IAmb 17 16 13.2

comp=Z,390nm,0.9s
AAK Ala-Archa 47.09 292 P **P 17 16 12.5 +0.8**
comp=Z,86nm,0.6s,baz=112,slow=5.0,SNR=377
AAK PcP **PcP 17 17 40.4 +1.0**
comp=Z,49nm,0.9s,baz=343,slow=18,SNR=4.2
AAK ScP **ScP 17 21 09.9 +0.5**
comp=Z,11nm,0.7s,baz=92,slow=8.0,SNR=4.6
AAK S **S 17 22 45.0 +0.1**
comp=Z,30nm,1.1s,baz=303,slow=17,SNR=12
AAK Ala-Archa 47.09 292 P **P 17 16 13.1 +1.3**
SNR=25
AAK Ala-Archa 47.09 292 *ce*P **P 17 16 12.7 +0.9**
AAK pmax pmax
comp=Z,929nm,1.7s
AAK Ala-Archa 47.09 292 P **P 17 16 12.9 +1.2**
AAK Ala-Archa 47.09 292 P **P 17 16 12.4 +0.6**
AAK IAmb IAmb 17 16 13.5
comp=Z,114nm,0.7s
AAK Ala-Archa 47.09 292 *e*P **P 17 16 12.7 +0.9**
AAK Ala-Archa 47.09 292 P **P 17 16 13.0 +1.2**
AAK Ala-Archa 47.09 292 *i* P **P 17 16 12.7 +0.9**
SNR=196
KKN Kakani 47.15 269 *e*P **P 17 16 12.7 +0.2**
PKI Pulchoki 47.19 268 *e*P **P 17 16 12.9 0.0**
comp=Z,54nm,0.3s
PKIN Phulchoki 47.19 268 *e*P **P 17 16 12.8 0.0**
J29M Klondike Camp 47.22 36 P **P 17 16 12.3 0.0**
baz=286,SNR=46
J29M S **S 17 22 45.3 -0.6**
baz=286
UCH Uchtor 47.26 292 P **P 17 16 14.8 +1.4**
SNR=36
DMN Daman 47.38 269 *e*P **P 17 16 14.7 +0.4**
comp=Z,68nm,0.4s
GKN Gorkha 47.48 270 *e*P **P 17 16 15.1 +0.1**
comp=Z,240nm,0.5s
KSH Kashi 47.52 288 P P 17 16 20.2 +5.1
KSH PcP **PcP 17 17 43.6 +2.6**
KSH S **S 17 22 59.8 +8.8**
KSH pmax pmax
comp=Z,190nm,1.2s
EKS2 Erkin-Say 47.56 293 P **P 17 16 16.0 +0.7**
SNR=270
EKS2 Erkin-Say 47.56 293 *e*P **P 17 16 16.0 +0.7**
PCA Pinnacle 47.57 42 P **P 17 16 15.4 +0.3**
PCA IAmb IAmb 17 16 17.6
comp=Z,436nm,0.7s
PINM Pinnacle 47.57 42 P **P 17 16 15.9 +0.8**
baz=288,SNR=45
PINM S **S 17 22 51.1 +0.2**
baz=288
MPSI Mapaga 47.80 209 P **P 17 16 16.7 -0.5**
comp=Z,6μmcomp=Z,144nm,2.5s
FAKI Fak Fak 47.82 192 P **P 17 16 17.1 -0.3**
comp=Z,29μmcomp=Z,3μm,0.8s
FAKI Fak Fak 47.82 192 P **P 17 16 17.0 -0.4**
FAKI Fak Fak 47.82 192 P **P 17 16 17.7 +0.3**
AML Almayashu 47.85 292 P **P 17 16 18.9 +1.1**
SNR=199
AML Almayashu 47.85 292 P **P 17 16 19.4 +1.5**
AML Almayashu 47.85 292 *i* P **P 17 16 19.1 +1.1**
SNR=202
BCPM Bancas Point 47.91 42 P **P 17 16 18.0 +0.4**
DANN Dangsing 47.91 270 *e*P **P 17 16 19.2 +0.8**
comp=Z,1μm,0.6s
INK Inuvik 47.98 30 ScP **ScP 17 21 12.5 0.0**
comp=Z,46nm,1.2s,baz=293,slow=9.1,SNR=3.8
INK S **S 17 22 53.5 -2.8**
comp=Z,12nm,0.8s,baz=256,slow=32,SNR=9.2
INK Inuvik 47.98 30 P **P 17 16 17.6 -0.3**
baz=286,SNR=574
INK S **S 17 22 52.9 -3.4**
baz=286
PNL Peninsula 48.12 42 P **P 17 16 20.3 +1.1**
baz=289,SNR=13
PNL S **S 17 23 01.8 +3.2**
baz=289
LUWI Luwuk 48.16 205 P **P 17 16 17.4 -2.5**
comp=Z,9μmcomp=Z,385nm,0.8s
LUWI Luwuk 48.16 205 P **P 17 16 17.6 -2.3**
LUWI Luwuk 48.16 205 P **P 17 16 17.5 -2.5**
comp=Z,386nm,0.9s
WAMI Wamena 48.17 183 P **P 17 16 22.0 +2.0**
SANI Sanana 48.23 200 P **P 17 16 19.0 -1.5**
comp=Z,10μmcomp=Z,404nm,0.7s
SANI Sanana 48.23 200 P **P 17 16 19.6 -0.9**
KOLN Koldanda 48.36 270 *e*P **P 17 16 22.4 +0.7**
APSI Ampana 48.38 206 P **P 17 16 20.7 -1.0**
comp=Z,329nm,0.7s
PYUN Piuthan 48.61 271 *e*P **P 17 16 24.2 +0.6**
comp=Z,464nm,0.5s
MSAI Masohi 48.82 196 P **P 17 16 25.9 +0.9**
comp=Z,1μmcomp=Z,99nm,0.6s
SBUM Sibu 48.99 220 P **P 17 16 26.3 0.0**
SBUM Sibu 48.99 220 P **P 17 16 27.0 +0.7**
DZA Taraz 49.06 294 *e*P **P 17 16 26.8 +0.2**
DZA *e*S **S 17 23 13.2 +1.0**
DZA pmax pmax
comp=Z,185nm,0.6s
DZA Taraz 49.06 294 *e*P **P 17 16 26.9 +0.2**
comp=Z,185nm,0.6s,baz=294
DZA *e*S **S 17 23 13.2 +1.0**
baz=294
BOK Bokaro 49.14 264 ǁ *i*P **P 17 16 27.5 +0.1**
BOK IAmb IAmb 17 16 30.7
comp=Z,174nm,1.3s
BOK *i* x x 17 16 38.5
BOK *e*pP **PcP 17 17 47.8 +0.9**
N31M Braeburn, Yuko 49.19 39 P **P 17 16 29.0 +1.7**
baz=290,SNR=282
N31M S **S 17 23 16.7 +3.2**
baz=290
AAI Ambon 49.30 197 P **P 17 16 29.1 +0.5**
comp=Z,572nm,0.9s
RABL Rabaul 49.43 165 P **P 17 16 29.6 0.0**
RABL Rabaul 49.43 165 P **P 17 16 30.0 +0.4**
KKAR Karatay Array 49.50 295 P **P 17 16 30.0 +0.1**
KKAR Karatay Array 49.50 295 P **P 17 16 30.0 +0.1**
SMKI Samarinda 49.51 212 P **P 17 16 31.9 +1.7**
comp=Z,211nm,0.6s
A36M Sachs Harbour 49.52 24 P **P 17 16 29.5 -0.1**
A36M IAmb IAmb 17 16 33.0
comp=Z,467nm,0.7s
A36M Sachs Harbour 49.52 24 P **P 17 16 29.9 +0.3**
baz=290,SNR=524
A36M S **S 17 23 15.7 -2.0**
baz=290
M31M Drury Creek, Y 49.56 38 P **P 17 16 31.3 +1.2**
baz=291,SNR=132
M31M S **S 17 23 18.1 -0.4**
baz=291
SVE Sverdlovsk 49.59 315 *c i*P **P 17 16 31.1 +0.7**
SVE *e*S **S 17 23 17.9 -1.2**
SVE pmax pmax
comp=Z,515nm,1.0s
JOHN Johnston Islan 49.71 108 P **P 17 16 32.8 +1.1**
JOHN Johnston Islan 49.71 108 P **P 17 16 32.5 +0.7**
WHY Whitehorse 49.89 40 P **P 17 16 34.0 +1.2**
WHY IAmb IAmb 17 16 35.7
comp=Z,502nm,1.0s
WHY Whitehorse 49.89 40 P **P 17 16 34.2 +1.5**
baz=291,SNR=140
WHY S **S 17 23 26.3 +2.9**
baz=291
BRLS Borolday 49.97 295 *i* P **P 17 16 35.5 +2.0**
BRLS *e*S **S 17 23 28.9 +4.2**
BRLS Borolday 49.97 295 *i* P **P 17 16 35.5 +2.0**
baz=295
BRLS *e*S **S 17 23 29.0 +4.2**
baz=295
SKAG Skagway 50.13 41 P **P 17 16 35.9 +1.5**
SKAG IAmb IAmb 17 16 37.5
comp=Z,491nm,1.0s
SKAG Skagway 50.13 41 P **P 17 16 36.3 +2.0**
baz=292,SNR=96
SKAG S **S 17 23 26.1 -0.3**
baz=292
DRK Karamyk 50.37 290 P **P 17 16 36.9 +0.1**
BKB Balikpapan 50.37 212 P **P 17 16 37.3 +0.6**
comp=Z,788nm,1.3s
BKB Balikpapan 50.37 212 P **P 17 16 36.8 +0.1**
BKB Balikpapan 50.37 212 P **P 17 16 38.9 +2.2**
comp=Z,790nm,1.3s
SRIT Nakonsritamara 50.65 238 P **P 17 16 40.3 +1.5**
SRIT IAmb IAmb 17 16 42.7
comp=Z,440nm,1.4s

BESE Bessie Mountai 50.70 42 P **P 17 16 39.8 +1.1**
BESE IAmb IAmb 17 16 43.4
comp=Z,596nm,1.1s
BTK Batken 50.74 291 P **P 17 16 39.3 0.0**
BTK pmax pmax
comp=Z,156nm,0.7s
BTK Batken 50.74 291 P **P 17 16 39.3 0.0**
KSM Kuching 50.74 221 P **P 17 16 38.2 -1.3**
KSM Kuching 50.74 221 P **P 17 16 41.0 +1.5**
KSM Kuching 50.74 221 P **P 17 16 40.3 +0.8**
ARU Arti 50.81 315 ScP **ScP 17 21 24.9 +0.1**
comp=Z,11nm,1.0s,baz=94,slow=13,SNR=1.1
ARU S **S 17 23 34.1 -1.6**
comp=Z,24nm,0.9s,baz=321,slow=23,SNR=19
ARU Arti 50.81 315 *d i*P **P 17 16 39.2 -0.3**
ARU *PP **pP 17 17 33.1 +1.3**
ARU 17 17 51.6
ARU 17 18 36.4
ARU PPP PPP 17 19 43.5
ARU S **S 17 23 36.0 +0.2**
ARU 17 25 59.8
ARU SS **SS 17 27 09.2 -3.8**
ARU pmax pmax
comp=Z,402nm,1.0s
ARU Arti 50.81 315 P **P 17 16 39.1 -0.3**
ARU IAmb IAmb 17 16 40.9
comp=Z,360nm,1.0s
ARU Arti 50.81 315 *e*P **P 17 16 39.6 +0.2**
ARU Arti 50.81 315 P **P 17 16 39.7 +0.2**
C36M Paulatuk 50.86 27 P **P 17 16 38.7 -0.9**
C36M Paulatuk 50.86 27 P **P 17 16 39.6 0.0**
baz=293,SNR=604
C36M S **S 17 23 33.6 -2.6**
baz=293
MTKI Muara Teweh, K 50.87 215 P **P 17 16 40.3 -0.1**
comp=Z,6μmcomp=Z,177nm,1.8s
KDI Kendari 50.97 204 P **P 17 16 39.9 -1.2**
TTSI Tana Toraja 50.98 208 P **P 17 16 40.9 -0.3**
comp=Z,68nm,0.7s
P33M Teslin, Yukon 51.01 40 P **P 17 16 42.9 +1.9**
baz=293,SNR=476
P33M S **S 17 23 41.6 +2.9**
baz=293
DHRM DHARAMSHALA 51.03 280 *e*P **P 17 16 42.0 +0.3**
DHRM IAmb IAmb 17 16 46.0
comp=Z,572nm,0.6s
SMLA Simla 51.04 278 *e*P **P 17 16 41.8 +0.3**
SMLA IAmb IAmb 17 16 43.9
comp=Z,963nm,0.8s
SMLA *e*S **S 17 23 38.5 -1.1**
JIS Juneau Island 51.04 43 P **P 17 16 42.0 +0.8**
JIS IAmb IAmb 17 16 45.3
comp=Z,712nm,1.3s
SIT Sitka 51.07 44 P **P 17 16 42.9 +1.5**
SIT pmax pmax
comp=Z,435nm,1.2s
SIT Sitka 51.07 44 P **P 17 16 42.9 +1.5**
SIT IAmb IAmb 17 16 49.4
comp=Z,435nm,1.2s
SIT Sitka 51.07 44 P **P 17 16 43.3 +2.0**
baz=294,SNR=15
SIT S **S 17 23 45.0 +5.7**
baz=294
TAS Tashkent 51.13 293 P **P 17 16 43.0 +0.9**
TAS pmax pmax
comp=Z,174nm,0.8s
TAS Tashkent 51.13 293 P **P 17 16 43.0 +0.9**
TARA Tarawa 51.33 138 P **P 17 16 44.5 +0.6**
STKI Sintang 51.44 219 P **P 17 16 45.6 +1.0**
comp=Z,171nm,1.2s
DGPR DIGLIPUR 51.45 248 *i* P **P 17 16 45.7 +1.0**
DGPR IAmb IAmb 17 16 48.5
comp=Z,211nm,0.8s
SPSI Sidrap Palu 51.86 207 P **P 17 16 46.2 -1.5**
comp=Z,7μmcomp=Z,342nm,0.8s
BNSI Bone 52.16 207 P **P 17 16 48.8 -1.1**
comp=Z,411nm,1.6s
NDI New Delhi 52.40 275 *e*P **P 17 16 52.0 +0.4**
NDI *e*S **S 17 23 57.0 -1.2**
NIL Nilore 52.40 283 P **P 17 16 52.3 +0.7**
NIL pmax pmax
comp=Z,305nm,0.9s
NIL Nilore 52.40 283 P **P 17 16 52.8 +1.2**
NIL Nilore 52.40 283 P **P 17 16 52.3 +0.7**
NIL IAmb IAmb 17 16 53.5
comp=Z,305nm,0.8s
NIL Nilore 52.40 283 P **P 17 16 52.9 +1.3**
NIL pP **pwP 17 17 46.3 0.0**
BBSI Bau Bau 52.44 204 P **P 17 16 52.5 +0.6**
comp=Z,509nmcomp=Z,41nm,0.7s
KBKI Kotabaru 52.52 212 P **P 17 16 51.2 -1.4**
comp=Z,3μmcomp=Z,255nm,0.8s
CHGR Chuyangaron 52.56 290 P **P 17 16 52.7 -0.1**
KULM Kulim 52.66 234 P **P 17 16 54.1 +0.5**
KULM Kulim 52.66 234 P **P 17 16 55.0 +1.4**
PBA Port Blair 52.68 247 P **P 17 16 54.7 +0.9**
PBA Port Blair 52.68 247 P **P 17 16 53.7 0.0**
ALE Alert 52.73 4 P **P 17 16 52.4 -0.8**
ALE pP **pP 17 17 47.7 +1.4**
JRMM Jerantut 52.76 231 P **P 17 16 56.0 +1.7**
HOPEN Hopen 52.81 345 IVmBBB 17 16 54.7
comp=Z,2μm,1.1s
HOPEN *e*P **P 17 16 54.7 +0.8**
WRAK Wrangell Islan 52.83 44 P **P 17 16 55.8 +1.5**
WRAK Wrangell Islan 52.83 44 P **P 17 16 56.2 +1.9**
baz=296,SNR=8.1
WRAK S **S 17 24 07.8 +4.6**
baz=296
KAPI Kappang 52.85 207 S **S 17 24 03.5 -0.9**
comp=Z,2.8nm,0.3s,baz=180,slow=21,SNR=15
KAPI Kappang 52.85 207 P **P 17 16 54.7 -0.3**
KAPI pmax pmax
comp=Z,1μm,1.6s
KAPI Kappang 52.85 207 P **P 17 16 55.1 +0.2**
KAPI P **P 17 16 55.1 +0.2**
KAPI Kappang 52.85 207 P **P 17 16 54.7 -0.3**
KAPI IAmb IAmb 17 16 58.4
comp=Z,1μm,1.6s
KAPI Kappang 52.85 207 P **P 17 16 55.1 +0.2**
CRAG Craig 52.86 45 P **P 17 16 54.5 0.0**
CRAG Craig 52.86 45 P **P 17 16 56.0 +1.4**
baz=296,SNR=8.5
CRAG S **S 17 24 09.4 +5.8**
baz=296
SAUI Saumlaki 52.94 192 P **P 17 16 56.2 +0.7**
comp=Z,1μm,0.9s
SAUI Saumlaki 52.94 192 P **P 17 16 56.0 +0.4**
SAUI Saumlaki 52.94 192 P **P 17 16 56.3 +0.7**
BKSI Bulukumba 53.02 207 P **P 17 16 55.1 -1.1**
comp=Z,189nm,0.8s
KEKH Kekaha 53.11 95 P **P 17 16 57.8 +1.0**
KEKH IAmb IAmb 17 16 59.7
comp=Z,444nm,0.7s
AB31 Akbulak array 53.18 306 *i* P **P 17 16 57.5 +0.5**
ABKAR Akbulak array 53.18 306 P **P 17 16 57.1 +0.1**
ABKAR Akbulak array 53.18 306 P **P 17 16 57.4 +0.4**
ABKAR IAmb IAmb 17 16 59.1
comp=Z,336nm,0.9s
BBKI Banjar Baru 53.19 213 P **P 17 16 56.4 -1.0**
comp=Z,8μmcomp=Z,277nm,1.0s
SPA0 Spitsbergen Ar 53.22 348 IVmB_BB 17 16 57.2
comp=Z,1μm,1.3s
SPA0 *e*P **P 17 16 57.3 +0.4**
SPB2 Spitsbergen Ar 53.22 348 P **P 17 16 56.8 0.0**
SPITS Spitsbergen Ar 53.22 348 P **P 17 16 56.7 -0.2**
SPITS pmax pmax
comp=Z,212nm,1.4s
KBS Kingsbay 53.32 349 P **P 17 16 57.3 -0.3**
KBS pmax pmax
comp=Z,320nm,1.5s
KBS Kingsbay 53.32 349 *i* P **P 17 16 56.0 -1.6**
KBS Kingsbay 53.32 349 *e*P **P 17 16 57.2 -0.4**
KBS Kingsbay 53.32 349 P **P 17 16 57.2 -0.3**
NOR Nord 53.64 356 *i* P **P 17 16 59.0 -0.9**
NOR IAmb IAmb 17 18 02.8
comp=Z,22nm,0.8s
BSSI Bau Bau, Buton 53.68 206 P **P 17 17 00.3 -0.7**
comp=Z,4μmcomp=Z,170nm,1.1s
AKTO Aktyubinsk 53.72 308 ScP **ScP 17 21 37.5 -0.1**
comp=Z,33nm,0.8s,baz=44,slow=5.0,SNR=6.4
AKTO S **S 17 24 16.2 +0.7**
comp=Z,25nm,0.9s,baz=264,slow=23,SNR=9.4
AKTO Aktyubinsk 53.72 308 P **P 17 17 01.2 +0.3**
MYKOM Kota Tinggi 53.74 229 P **P 17 17 01.9 +0.4**

MYKOM IAmb IAmb 17 17 05.9
comp=Z,605nm,1.5s
MYKOM Kota Tinggi 53.74 229 P **P 17 17 03.0 +1.5**
PBKI Pangkalan Bun 53.82 217 P **P 17 17 02.5 +0.5**
comp=Z,270nm,1.1s
CHLP Challavanipeta 53.85 260 *e*P **P 17 17 02.8 +0.5**
CHLP *e*sP **sP 17 18 20.4 -0.8**
CHLP *e*ScP **ScP 17 21 40.3 +1.6**
PMG Port Moresby 53.89 173 P **P 17 17 02.2 -0.2**
PMG pmax pmax
comp=Z,277nm,0.9s
PMG Port Moresby 53.89 173 P **P 17 17 02.2 -0.2**
PMG IAmb IAmb 17 17 04.5
comp=Z,277nm,0.9s
PMG Port Moresby 53.89 173 P **P 17 17 02.6 +0.2**
PMG Port Moresby 53.89 173 P **P 17 17 02.7 +0.3**
TPRI Tanjung Pinang 54.12 227 P **P 17 17 05.1 +0.9**
comp=Z,207nm,1.1s
HSPB Hornsund (broa 54.16 347 *e*P **P 17 17 03.2 -0.4**
HSPB *e*pP **pP 17 17 56.2 -0.7**
HSPB *e*S **S 17 24 16.7 -3.9**
HSPB Hornsund (broa 54.16 347 *e*P **P 17 17 03.4 -0.3**
HSPB IVmBBB 17 17 04.1
comp=Z,3μm,1.9s
HSPB *e*S **S 17 24 19.3 -1.3**
KIRV Kirov 54.30 320 ScP **ScP 17 21 39.6 -0.3**
comp=Z,44nm,0.9s,baz=43,slow=4.5,SNR=5.9
KIRV S **S 17 24 20.4 -2.5**
comp=Z,38nm,0.7s,baz=208,slow=23,SNR=22
KIRV Kirov 54.30 320 *ce*P **P 17 17 05.0 +0.1**
PRGR Permogore 54.51 324 *e*P **P 17 17 06.4 0.0**
PRGR *e**PP **pP 17 17 59.4 -0.2**
PRGR *e*S **S 17 24 23.8 -1.8**
PRGR pmax pmax
comp=Z,612nm,1.1s
OPA Opana 54.51 94 P **P 17 17 08.1 +1.1**
OPA pmax pmax
comp=Z,1μm,0.8s
OPA Opana 54.51 94 P **P 17 17 08.1 +1.1**
KIP Kipapa 54.68 94 P **P 17 17 08.9 +0.7**
KIP pmax pmax
comp=Z,690nm,0.8s
KIP Kipapa 54.68 94 P **P 17 17 08.9 +0.7**
KIP Kipapa 54.68 94 P **P 17 17 09.6 +1.4**
KIP Kipapa 54.68 94 P **P 17 17 09.8 +1.6**
HON Honolulu 54.75 94 P **P 17 17 10.0 +1.3**
HON pmax pmax
comp=Z,583nm,0.8s
HON Honolulu 54.75 94 P **P 17 17 10.0 +1.3**
KBL Kabul 54.83 286 P **P 17 17 08.2 -1.2**
KBL pmax pmax
comp=Z,196nm,1.0s
KBL Kabul 54.83 286 P **P 17 17 09.0 -0.4**
SNR=106
KBL Kabul 54.83 286 P **P 17 17 08.2 -1.2**
KBL Kabul 54.83 286 P **P 17 17 08.9 -0.5**
VIS Vishakhapatnam 54.89 260 ǁ *i* P **P 17 17 09.8 +0.1**
VIS *e*pP **PcP 17 18 06.9 -1.6**
LHMI Lhok Sumawe 54.91 238 P **P 17 17 11.7 +1.8**
comp=Z,269nm,1.2s
LHMI Lhok Sumawe 54.91 238 P **P 17 17 08.6 -1.3**
LHMI IAmb IAmb 17 18 39.4
comp=Z,277nm,1.1s
LHMI Lhok Sumawe 54.91 238 P **P 17 17 13.4 +3.5**
DHH Diamond Head 54.93 94 P **P 17 17 10.3 +0.3**
DHH Diamond Head 54.93 94 P **P 17 17 10.3 +0.3**
WMR Waimanalo Ridg 54.98 94 P **P 17 17 10.6 +0.3**
BJO1 Bjornoya 55.26 344 *e*P **P 17 17 11.4 -0.1**
BJO1 IVmB_BB 17 17 11.9
comp=Z,2μm,1.3s
DSRI Dabo 55.27 226 P **P 17 17 13.8 +1.4**
comp=Z,175nm,1.4s
LVZ Lovozero 55.30 334 *ce*P **P 17 17 12.4 +0.4**
LVZ pmax pmax
comp=Z,88nm,0.8s
LVZ Lovozero 55.30 334 P **P 17 17 11.0 -1.0**
LVZ Lovozero 55.30 334 P **P 17 17 11.8 -0.2**
LVZ pP **pP 17 18 04.5 -1.0**
TSI Tuntungan 55.32 235 P **P 17 17 12.6 -0.2**
comp=Z,130nm,0.7s
MMRI Maumere 55.53 203 P **P 17 17 13.7 -0.5**
comp=Z,16μmcomp=Z,636nm,1.5s
MMRI Maumere 55.53 203 P **P 17 17 13.1 -1.1**
MMRI IAmb IAmb 17 17 15.4
comp=Z,389nm,0.7s
MMRI Maumere 55.53 203 P **P 17 17 13.7 -0.5**
BHPL Bhopal 55.53 270 *e*P **P 17 17 14.2 -0.1**
BHPL IAmb IAmb 17 17 28.1
comp=Z,140nm,0.9s
PSI Prapat 55.67 234 ScP **ScP 17 21 47.2 +0.4**
comp=Z,12nm,0.8s,baz=18,slow=3.9,SNR=3.5
KCSI Kotacane, Aceh 55.77 236 P **P 17 17 14.6 -1.4**
comp=Z,65nm,1.0s
EDFI Ende, Flores 55.79 203 P **P 17 17 13.9 -2.3**
comp=Z,5μmcomp=Z,170nm,1.5s
APA Apatity 55.88 334 ǁ *i* P **P 17 17 14.7 -1.3**
APA MLR MLR
comp=Z,20μm,18.0s
PPBI Pangkal Pinang 55.92 224 P **P 17 17 17.5 +0.5**
comp=Z,13μmcomp=Z,219nm,1.4s
SOEI Soe 56.07 200 P **P 17 17 17.1 -1.1**
comp=Z,13μmcomp=Z,766nm,0.7s
SOEI Soe 56.07 200 P **P 17 17 16.4 -1.8**
SOEI Soe 56.07 200 P **P 17 17 17.1 -1.1**
KHLH Kahului Airpor 56.15 93 P **P 17 17 18.2 -0.4**
HNR Honiara 56.28 157 P **P 17 17 20.4 +0.9**
comp=Z,758nm,0.8s,baz=238,slow=2.1,SNR=53
HNR Honiara 56.28 157 P **P 17 17 19.2 -0.3**
HNR Honiara 56.28 157 P **P 17 17 19.7 +0.2**
HNR Honiara 56.28 157 P **P 17 17 19.1 -0.3**
TPTI 56.33 236 P **P 17 17 18.1 -1.8**
comp=Z,16nm,0.9s
HLK Haleakala 56.37 93 P **P 17 17 20.6 +0.1**
PVM Polavaram 56.41 261 *e*P **P 17 17 20.9 +0.4**
PVM *e*PcP **PcP 17 18 14.6 +0.2**
PVM *e*sP **sP 17 18 40.8 +0.5**
PVM *e*ScP **ScP 17 21 50.9 +0.9**
KEV Kevo 56.46 338 P **P 17 17 19.8 -0.3**
KEV pmax pmax
comp=Z,132nm,0.9s
KEV Kevo 56.46 338 P **P 17 17 19.8 -0.3**
BKNI Bangkinang 56.49 231 P **P 17 17 21.6 +0.5**
comp=Z,525nm,1.1s
BKNI Bangkinang 56.49 231 P **P 17 17 21.6 +0.5**
BATI Baumata 56.65 201 S **S 17 24 52.0 -3.0**
comp=Z,27nm,0.9s,baz=8.7,slow=20,SNR=9.3
BATI PKP2bc 17 47 24.9
comp=Z,9.3nm,0.8s,baz=200,slow=1.3,SNR=3.8
BATI Baumata 56.65 201 P **P 17 17 20.7 -1.5**
comp=Z,381nm,0.7s
SBSI Sibolga 56.70 233 P **P 17 17 19.9 -2.7**
comp=Z,87nm,0.8s
JMBI JAMBI 56.74 227 P **P 17 17 24.0 +1.2**
comp=Z,3μmcomp=Z,277nm,0.9s
HAMF Hammerfest 56.77 339 *e*P **P 17 17 22.1 -0.1**
HAMF IVmB_BB 17 17 25.1
comp=Z,2μm,1.9s
HAMF *e*S **S 17 24 53.1 -2.1**
KMMI Kalianget 56.81 213 P **P 17 17 22.0 -1.2**
comp=Z,239nm,1.4s
MNSI Mandailing Nat 56.92 232 P **P 17 17 22.4 -1.7**
comp=Z,101nm,1.0s
RPR Rampur 57.00 264 *e*P **P 17 17 24.3 -0.3**
RPR *e*ScP **ScP 17 21 52.5 0.0**
ARA0 ARCESS Array S 57.01 338 *e*P **P 17 17 23.5 -0.5**
ARCES ARCESS Array B 57.01 338 P **P 17 17 23.6 -0.4**
comp=Z,24nm,0.6s,baz=49,slow=7.7,SNR=87
ARCES S **S 17 24 56.4 -2.0**
comp=Z,22nm,1.0s,baz=55,slow=16,SNR=6.0
ARCES PKPPKP P'P'df 17 47 03.5 -12
comp=Z,2.9nm,0.6s,baz=207,slow=2.4,SNR=10
ARCES ARCESS Array B 57.01 338 P **P 17 17 23.6 -0.4**
ARCES pmax pmax
comp=Z,381nm,2.0s
ARCES ARCESS Array B 57.01 338 P **P 17 17 23.6 -0.4**
HPAH Hawaii Prepara 57.23 94 P **P 17 17 26.1 -0.2**
PMBI Palembang 57.26 225 P **P 17 17 28.0 +1.6**
comp=Z,10μmcomp=Z,879nm,1.2s
PMBI Palembang 57.26 225 P **P 17 17 26.8 +0.4**
SRBI Singaraja 57.29 211 P **P 17 17 25.8 -0.8**
comp=Z,14μmcomp=Z,634nm,1.5s
WBSI Waikabubak, Su 57.32 206 P **P 17 17 24.6 -2.2**
comp=Z,144nm,1.5s
HUH Hualalai 57.35 94 P **P 17 17 27.5 +0.1**

DRS Darwin Rock St 57.37 192 P **P** **17 17 26.7 -0.4**
KHLU Kahalu`u 57.37 94 P **P** **17 17 27.5 +0.1**
ABJI Asem Bagus 57.39 212 P **P** **17 17 27.2 -0.1**
comp=Z,12µmcomp=Z,273nm,2.5s
KDU Kakadu 57.41 190 P **P** **17 17 26.9 -0.4**
KLMR Klimovskoe 57.44 325 *e*P **P** **17 17 23.8 -3.3**
KLMR *e**PP **pP** **17 18 19.5 -1.4**
KLMR pmax pmax
comp=Z,477nm,1.5s
KLMR Klimovskoe 57.44 325 *e*P **P** **17 17 23.8 -3.3**
KLMR AMP 17 17 34.4
comp=Z,477nm,1.5s
KLMR *e*pP **pP** **17 18 19.6 -1.4**
MYLAV Mylavaram 57.45 262 *e*P **P** **17 17 28.5 +0.8**
MYLAV *e*sP **sP** **17 18 48.4 +0.3**
MYLAV *e*ScP **ScP** **17 21 55.8 +1.3**
UWJI Ujung Watu 57.46 216 P **P** **17 17 27.3 -0.5**
comp=Z,7µmcomp=Z,170nm,0.7s
PPI Padang Panjang 57.50 231 P **P** **17 17 28.2 +0.1**
comp=Z,553nmcomp=Z,57nm,1.0s
BASI Baing, Sumba 57.51 204 P **P** **17 17 27.5 -0.6**
comp=Z,204nm,0.9s
POHA Pohakuloa 57.52 94 P **P** **17 17 28.3 -0.3**
POHA Pohakuloa 57.52 94 P **P** **17 17 29.3 +0.7**
YKA Yellowknife Ar 57.58 32 P **P** **17 17 28.0 -0.1**
comp=Z,157nm,0.6s,baz=304,slow=6.7,SNR=873
YKA S **S** **17 25 06.2 +0.2**
comp=Z,14nm,0.9s,baz=308,slow=12,SNR=8.2
YKA ScS **ScS** **17 26 54.1 +2.1**
comp=Z,3.3nm,0.8s,baz=307,slow=7.0,SNR=3.6
YKA PKP2bc 17 47 23.8
comp=Z,15nm,1.1s,baz=125,slow=2.4,SNR=5.9
YKA Yellowknife Ar 57.58 32 P **P** **17 17 28.0 -0.1**
YKA Yellowknife Ar 57.58 32 P **P** **17 17 27.6 -0.5**
BLJI Banyuglugur 57.59 213 P **P** **17 17 27.5 -1.1**
comp=Z,72nm,0.6s
SRSP Sriramsagar 57.63 265 *e*P **P** **17 17 29.1 0.0**
SRSP *e*PcP **PcP** **17 18 17.4 -1.9**
SRSP *e*sP **sP** **17 18 53.0 +3.9**
SRSP ⇑*e*ScP **ScP** **17 21 55.7 +0.3**
MLOA Mauna Loa Obse 57.64 94 P **P** **17 17 29.7 +0.1**
MWH Moku'aweowe 57.65 94 P **P** **17 17 30.1 +0.3**
GSI Gunungsitoli 57.66 235 P **P** **17 17 28.9 -0.4**
comp=Z,10µmcomp=Z,363nm,1.7s
GSI Gunungsitoli 57.66 235 P **P** **17 17 29.1 -0.2**
GSI Gunungsitoli 57.66 235 P **P** **17 17 29.9 +0.6**
MTN Manton Dam 57.74 192 P **P** **17 17 29.1 -0.6**
MTN Manton Dam 57.74 192 P **P** **17 17 29.7 0.0**
TULEG Thule 57.79 8 *i* P **P** **17 17 27.0 -2.3**
TULEG Thule 57.79 8 P **P** **17 17 27.5 -1.8**
TULEG IAmb IAmb 17 17 29.9
comp=Z,230nm,0.7s
KHU Kahuku 57.80 94 P **P** **17 17 30.7 +0.2**
KHU Kahuku 57.80 94 P **P** **17 17 30.7 +0.2**
MLH Mauna Loa 57.80 94 P **P** **17 17 30.9 +0.4**
AIN Ainahou 57.83 94 P **P** **17 17 31.1 +0.4**
DNP Denpasar 57.83 211 P **P** **17 17 28.4 -2.0**
comp=Z,15µmcomp=Z,523nm,1.0s
HOLB Holberg 57.85 49 P **P** **17 17 29.7 -0.4**
RSD Rainshed 57.90 94 P **P** **17 17 31.7 +0.7**
UWE Uwekahuna 57.91 94 P **P** **17 17 31.2 +0.1**
WRMHI West Rim 57.92 94 P **P** **17 17 31.7 +0.5**
WRMHI IAmb IAmb 17 17 34.0
comp=Z,394nm,0.8s
UWB Uwekahuna B 57.92 94 P **P** **17 17 30.9 -0.3**
UWB IAmb IAmb 17 17 42.4
comp=Z,325nm,0.9s
OBL Observatory Le 57.92 94 P **P** **17 17 31.2 0.0**
OBL IAmb IAmb 17 17 42.5
comp=Z,390nm,0.9s
SBLHI Steaming Bluff 57.93 94 P **P** **17 17 31.3 +0.1**
SBLHI IAmb IAmb 17 17 34.0
comp=Z,312nm,0.9s
NPH North Pit 57.93 94 P **P** **17 17 31.8 +0.5**
NPH IAmb IAmb 17 17 33.6
comp=Z,187nm,0.8s
SDHHI Sand Hill 57.93 94 P **P** **17 17 31.9 +0.6**
SDHHI IAmb IAmb 17 17 42.7
comp=Z,342nm,0.8s
HATHI Halema'uma'u T 57.94 94 P **P** **17 17 30.7 -0.6**
HATHI IAmb IAmb 17 17 42.6
comp=Z,316nm,0.9s
BYL Byron's Ledge 57.94 94 P **P** **17 17 30.6 -0.7**
BYL IAmb IAmb 17 17 34.2
comp=Z,330nm,0.9s
RIM Rim 57.94 94 P **P** **17 17 30.2 -1.1**
RIM IAmb IAmb 17 17 34.8
comp=Z,365nm,0.9s
KKO Keanakako`i 57.95 94 P **P** **17 17 32.3 +0.9**
KKO IAmb IAmb 17 17 43.2
comp=Z,343nm,0.8s
KTK1 Kautokeino 57.96 338 *e*P **P** **17 17 30.7 +0.1**
KTK1 IVmB_BB 17 17 31.1
comp=Z,1µm,0.7s
KTK1 *e*S **S** **17 25 09.5 -1.3**
HLP Hilina Pali 57.98 94 P **P** **17 17 32.5 +1.0**
IGBI Denpasar 57.99 211 P **P** **17 17 28.9 -2.5**
comp=Z,170nm,0.7s
JAGI Jajag, Banyuwa 58.04 212 P **P** **17 17 29.9 -1.9**
comp=Z,87nm,0.6s
JAGI Jajag, Banyuwa 58.04 212 P **P** **17 17 29.5 -2.4**
JAGI Jajag, Banyuwa 58.04 212 P **P** **17 17 29.4 -2.4**
STCH Steam Cracks 58.06 94 P **P** **17 17 32.6 +0.6**
NPOC North of Pu'u 58.06 94 P **P** **17 17 32.7 +0.6**
GMJI Gumukmas 58.13 213 P **P** **17 17 30.4 -2.0**
comp=Z,208nm,2.5s
NEEM North Greenlan 58.14 3 *i* P **P** **17 17 30.8 -1.3**
COEN Coen 58.16 178 P **P** **17 17 32.5 -0.1**
COEN Coen 58.16 178 P **P** **17 17 33.1 +0.5**
SMRI Semarang 58.24 217 P **P** **17 17 33.2 0.0**
comp=Z,11µmcomp=Z,564nm,1.4s
SMRI Semarang 58.24 217 P **P** **17 17 32.9 -0.3**
KRJI Kerinci 58.28 229 P **P** **17 17 33.2 -0.4**
comp=Z,20µmcomp=Z,2µm,1.0s
CUPL Choutuppal 58.30 263 *e*P **P** **17 17 34.0 +0.2**
CUPL *e*PcP **PcP** **17 18 21.6 -0.4**
CUPL *e*ScP **ScP** **17 21 58.5 +0.2**
JETT Jettan, Norway 58.33 339 *e*P **P** **17 17 34.1 +0.9**
JETT IVmB_BB 17 17 35.3
comp=Z,2µm,0.7s
JETT *e*S **S** **17 25 15.4 -0.2**
DAG Danmarks Havn 58.37 355 *i* P **P** **17 17 32.0 -1.3**
HYB Hyderabad 58.48 264⇓*i* P **P** **17 17 34.6 -0.4**
HYB IAmb IAmb 17 17 36.7
comp=Z,222nm,0.8s
HYBB Hyderabad (bro 58.48 264 *e*P **P** **17 17 35.0 0.0**
HYBB *e*PcP **PcP** **17 18 23.0 +0.2**
HYBB *e*sP **sP** **17 18 55.0 -0.4**
HYBB *e*ScP **ScP** **17 21 58.6 -0.5**
HYBB *e*S **S** **17 25 17.7 -1.2**
HYBB *e*sS **sS** **17 26 56.6 +2.3**
HYBB *e*SS **SS** **17 29 19.3 +3.9**
NJS Nagarjunasagar 58.52 262 *e*P **P** **17 17 35.2 +0.1**
NJS *e*PcP **PcP** **17 18 24.1 +1.2**
NJS *e*sP **sP** **17 18 56.8 +1.2**
NJS *e*ScP **ScP** **17 21 59.0 -0.3**
ADKI Addanki 58.53 261 *e*P **P** **17 17 35.8 +0.6**
ADKI *e*PcP **PcP** **17 18 23.4 +0.6**
ADKI *e*sP **sP** **17 18 55.6 0.0**
ADKI *e*ScP **ScP** **17 21 59.3 0.0**
TRO Tromso 58.65 340 *e*P **P** **17 17 35.2 -0.1**
TRO IVmB_BB 17 17 36.0
comp=Z,2µm,0.9s
TRO *e*S **S** **17 25 18.4 -1.2**
LHSI Lahat 58.67 225 P **P** **17 17 36.8 +0.7**
comp=Z,15µmcomp=Z,648nm,1.4s
MASI Maura Aman, Be 58.75 227 P **P** **17 17 36.7 -0.1**
comp=Z,10µmcomp=Z,878nm,1.0s
KLSI 58.80 244 P **P** **17 17 36.1 -1.0**
comp=Z,7µmcomp=Z,263nm,1.5s
KLI Kotabumi 58.89 223 P **P** **17 17 36.6 -1.1**
comp=Z,15µmcomp=Z,1µm,1.1s
MDSI Maura Dua 58.90 224 P **P** **17 17 36.9 -0.8**
comp=Z,4µmcomp=Z,206nm,1.4s
SISI Saibi 58.94 231 P **P** **17 17 37.2 -0.9**
comp=Z,154nm,1.0s
PCJI Pacitan 58.96 215 P **P** **17 17 35.8 -2.4**
comp=Z,182nm,1.8s
UGM Wanagama 58.98 216 P **P** **17 17 36.6 -1.7**
comp=Z,12µmcomp=Z,575nm,1.3s
UGM Wanagama 58.98 216 P **P** **17 17 37.4 -1.0**
UGM Wanagama 58.98 216 P **P** **17 17 37.4 -1.0**
YOGI Yogyakarta 58.99 216 P **P** **17 17 38.7 +0.3**
comp=Z,8µmcomp=Z,572nm,1.4s

SRLM Srisailam 59.12 262 *e*P **P** **17 17 39.0 -0.3**
SRLM *e*PcP **PcP** **17 18 24.7 -0.5**
SRLM *e*sP **sP** **17 18 59.5 -0.4**
BLSI Bandar Lampung 59.13 223 P **P** **17 17 38.7 -0.7**
comp=Z,5µmcomp=Z,428nm,1.3s
CBJI Citeko 59.29 221 P **P** **17 17 39.7 -0.7**
comp=Z,157nm,2.4s
LEM Lembang 59.29 220 P **P** **17 17 40.2 -0.4**
comp=Z,242nm,1.3s
SBJI Serang 59.36 221 P **P** **17 17 41.0 +0.1**
comp=Z,194nm,1.1s
MNAI Manna 59.41 226 P **P** **17 17 40.1 -1.2**
comp=Z,348nm,1.6s
MNAI Manna 59.41 226 P **P** **17 17 39.2 -2.1**
MNAI IAmb IAmb 17 17 43.3
comp=Z,563nm,1.4s
MNAI Manna 59.41 226 P **P** **17 17 42.1 +0.8**
LWLI Liwa 59.42 224 P **P** **17 17 40.0 -1.4**
comp=Z,113µmcomp=Z,470nm,0.9s
KLRI Killari 59.44 266 *e*P **P** **17 17 41.5 -0.1**
KLRI *e*PcP **PcP** **17 18 27.0 +0.4**
KLRI *e*PP **PP** **17 19 57.3 +1.5**
KLRI *e*ScP **ScP** **17 22 02.6 -0.8**
DBJI Dramaga 59.45 221 P **P** **17 17 40.1 -1.4**
comp=Z,175nm,2.4s
RCLA Racherla 59.51 262 *e*P **P** **17 17 42.0 +0.1**
RCLA *e*PcP **PcP** **17 18 27.0 +0.2**
RCLA *e*sP **sP** **17 19 01.5 -1.1**
RCLA *e*PP **PP** **17 19 56.0 -0.3**
RCLA *e*S **S** **17 25 31.7 -0.3**
RCLA *e*ScS **ScS** **17 27 07.6 0.0**
RCLA *e*SS **SS** **17 29 32.6 +1.2**
HRA Herat 59.55 290 P **P** **17 17 42.9 +0.6**
HRA IAmb IAmb 17 18 41.2
comp=Z,450nm,1.5s
PPSI Pulau Pagai 59.62 230 P **P** **17 17 42.3 -0.4**
comp=Z,12µmcomp=Z,682nm,1.1s
KASI Kota Agung 59.63 223 P **P** **17 17 41.3 -1.5**
comp=Z,253nm,1.1s
CMJI Cimerak 59.76 218 P **P** **17 17 42.1 -1.5**
comp=Z,54nm,1.0s
CNJI Cibinong 59.94 220 P **P** **17 17 43.3 -1.5**
comp=Z,163nm,1.0s
CGJI Cibinong 60.00 222 P **P** **17 17 42.4 -2.8**
comp=Z,140nm,1.1s
GEYT Alibeck 60.24 295 P **P** **17 17 47.3 +0.5**
comp=Z,98nm,0.8s,baz=48,slow=2.2,SNR=101
GEYT S **S** **17 25 42.2 +1.3**
comp=Z,3.7nm,0.8s,baz=225,slow=55,SNR=1.8
GEYT Alibeck 60.24 295 P **P** **17 17 46.8 0.0**
GYA0B ALIBECK ARRAY 60.24 295 P **P** **17 17 46.8 0.0**
STEI Steigen 60.82 339 *e*P **P** **17 17 49.8 -0.2**
STEI IVmB_BB 17 17 50.5
comp=Z,2µm,0.9s
STEI *e*S **S** **17 25 45.7 -1.4**
DBG Daneborg 60.86 354 *i* P **P** **17 17 49.1 -1.2**
DBG IAmb IAmb 17 18 31.5
comp=Z,26nm,0.9s
KNRA Kununurra 60.89 194 P **P** **17 17 50.6 -0.6**
KNRA IAmb IAmb 17 17 54.5
comp=Z,296nm,0.7s
KNRA Kununurra 60.89 194 P **P** **17 17 51.3 +0.2**
CLRS Cowichan Lake 61.02 49 P **P** **17 17 51.9 +0.2**
URV Uravakonda 61.05 263 *e*P **P** **17 17 52.1 -0.3**
URV *e*sP **sP** **17 19 13.2 -0.2**
URV *e*sP **sP** **17 19 17.1 +3.7**
URV *e*ScP **ScP** **17 22 10.2 -0.4**
LOF Lofoten 61.08 340 *e*P **P** **17 17 51.3 -0.5**
LOF IVmB_BB 17 17 52.6
comp=Z,2µm,2.0s
LOF *e*S **S** **17 25 52.4 +1.8**
BHUJ Bhuj 61.09 275⇓*i* P **P** **17 17 53.3 +0.8**
BHUJ IAmb IAmb 17 17 56.9
comp=Z,124nm,1.1s
POO Poona 61.11 268⇑*i* P P 17 17 48.0 -4.8
comp=Z,430nm,0.4s
POO *e*S **S** **17 25 48.0 -4.4**
FAUS Fauske 61.22 339 *e*P **P** **17 17 52.6 -0.2**
FAUS IVmB_BB 17 17 53.5
comp=Z,3µm,0.9s
FAUS *e*S **S** **17 25 51.2 -1.0**
MOS Moscow 61.24 321 *e*P **P** **17 17 51.0 -2.1**
MOS *e* 17 18 32.0
MOS *e**PP **pP** **17 18 44.8 -2.8**
MOS *e* 17 20 08.7
MOS *e*S **S** **17 25 50.2 -2.7**
MOS *e**SS **SKKSac** **17 27 18.0 -1.3**
MOS pmax pmax
comp=Z,484nm,1.4s
MOS pmax pmax
comp=N,215nm,1.3s
MOS pmax pmax
comp=E,199nm,1.3s
MOS pmax pmax
comp=Z,600nm,1.5s
MOS smax smax
comp=N,4µm,2.5s
MOS smax smax
comp=E,2µm,2.1s
KAD Karad 61.67 267⇓*i* P **P** **17 17 56.6 0.0**
PUL Pulkovo 61.74 328*de*P **P** **17 17 56.2 -0.1**
PUL pmax pmax
comp=Z,626nm,1.3s
PUL Pulkovo 61.74 328 *e*P **P** **17 17 56.7 +0.3**
PUL Pulkovo 61.74 328 *e*P **P** **17 17 56.2 -0.1**
B04A Port Angeles 61.81 49 P **P** **17 17 57.8 +0.8**
B04A IAmb IAmb 17 17 59.2
comp=Z,197nm,0.9s
A04D Lummi Island 61.85 48 P **P** **17 17 58.1 +0.9**
baz=306,SNR=8.4
A04D S **S** **17 26 01.2 +0.5**
baz=306
NLWA Neilton Lookou 62.00 50 P **P** **17 17 59.7 +1.3**
NLWA IAmb IAmb 17 18 01.0
comp=Z,316nm,0.9s
VRH Novokhopyorsk 62.03 315 *e*P **P** **17 17 58.4 0.0**
VRH *e*S **S** **17 26 02.8 -0.1**
VRH pmax pmax
comp=Z,320nm,0.8s
VRH pmax pmax
comp=Z,560nm,1.0s
VRH smax smax
comp=N,3µm,4.2s
OBN Obninsk 62.10 321 S **S** **17 26 01.9 -1.7**
comp=N,15nm,1.0s,baz=52,slow=20,SNR=26
OBN Obninsk 62.10 321*d i* P **P** **17 17 58.5 -0.3**
OBN *e**PP **pP** **17 18 53.1 -0.4**
OBN *e*PPP PPP 17 21 48.2
OBN *e*S **S** **17 26 02.2 -1.4**
OBN pmax pmax
comp=Z,474nm,1.3s
OBN Obninsk 62.10 321 P **P** **17 17 58.4 -0.4**
OBN IAmb IAmb 17 17 59.8
comp=Z,540nm,1.3s
OBN Obninsk 62.10 321 *e*P **P** **17 17 58.5 -0.3**
OBN Obninsk 62.10 321 P **P** **17 17 58.6 -0.3**
OBN pP **pP** **17 18 52.1 -1.4**
FIA1 FINESS Array S 62.19 331 P **P** **17 17 58.9 -0.4**
FIA1 IAmb IAmb 17 18 00.1
comp=Z,302nm,0.9s
FINES FINESS Array B 62.19 331 P **P** **17 17 59.0 -0.3**
comp=Z,175nm,0.7s,baz=50,slow=8.4,SNR=577
FINES S **S** **17 26 01.4 -3.3**
comp=Z,60nm,1.0s,baz=44,slow=17,SNR=15
FINES PKP2bc 17 47 11.0
comp=Z,4.8nm,0.8s,baz=222,slow=2.6,SNR=4.5
FINES FINESS Array B 62.19 331 P **P** **17 17 58.5 -0.8**
WISH Wishkah 62.22 50 P **P** **17 18 00.9 +1.2**
WISH IAmb IAmb 17 18 10.1
comp=Z,357nm,0.9s
D03D Eldon 62.34 50 P **P** **17 18 01.9 +1.4**
baz=307,SNR=26
D03D S **S** **17 26 09.1 +2.1**
baz=307
MTSU Mount Surprise 62.35 177 P **P** **17 18 02.0 +1.1**
MOR8 Moi Rana 62.35 338 *e*P **P** **17 17 58.8 -1.6**
MOR8 *e*S **S** **17 26 02.8 -3.8**
B05A Bryant 62.44 48 P **P** **17 18 02.3 +1.1**
baz=307,SNR=61
B05A S **S** **17 26 11.3 +3.1**
baz=307
KONS Konsvik 62.45 339 *e*P **P** **17 18 00.6 -0.3**
KONS *e*S **S** **17 26 08.5 +0.9**
UPNV Upernavik 62.45 6 *i* P **P** **17 17 59.4 -1.5**
LPSR Galich'ya Gora 62.55 318 *e*P **P** **17 18 02.1 +0.3**

LPSR *e*S **S** **17 26 08.0 -1.4**
LPSR pmax pmax
comp=Z,150nm,0.5s
LPSR pmax pmax
comp=Z,390nm,0.8s
LPSR smax smax
comp=N,1µm,1.9s
STOK Stokkvaagen 62.60 339 *e*P **P** **17 18 01.8 -0.1**
B06A Marblemount 62.62 48 P **P** **17 18 02.1 -0.2**
B06A IAmb IAmb 17 18 04.0
comp=Z,284nm,0.9s
E03A Lebam 62.67 51 P **P** **17 18 03.8 +1.1**
D04E Lakebay 62.73 50 P **P** **17 18 04.9 +1.8**
baz=307,SNR=14
FUNA Funafuti 62.95 137 P **P** **17 18 05.0 0.0**
GOA Goa 63.13 266⇓*i* P **P** **17 18 05.9 -0.3**
GOA IAmb IAmb 17 18 09.9
comp=Z,134nm,0.3s
GOA *i* pP **pP** **17 19 04.0 +3.0**
D05A Enumclaw 63.15 49 P **P** **17 18 07.0 +1.1**
E04D Cinebar 63.21 50 P **P** **17 18 07.9 +1.6**
baz=307,SNR=52
E04D S **S** **17 26 21.1 +3.3**
baz=307
F04D Rainier, OR 63.26 51 P **P** **17 18 08.0 +1.4**
baz=307,SNR=10
F04D S **S** **17 26 22.4 +4.0**
baz=307
SUMG Summit 63.27 360 P **P** **17 18 06.7 -0.1**
SUMG pmax pmax
comp=Z,224nm,0.7s
SUMG Summit 63.27 360 *i* P **P** **17 18 07.0 +0.2**
SUMG Summit 63.27 360 P **P** **17 18 06.7 -0.1**
SUMG IAmb IAmb 17 18 08.6
comp=Z,224nm,0.7s
C06D Leavenworth 63.29 48 P **P** **17 18 07.6 +0.8**
baz=308,SNR=36
C06D S **S** **17 26 23.1 +4.3**
baz=308
VSR Storozhevoye 63.29 316 *e*P **P** **17 18 06.9 +0.2**
VSR *e*S **S** **17 26 17.4 -1.2**
VSR pmax pmax
comp=Z,150nm,0.5s
VSR pmax pmax
comp=Z,380nm,0.8s
VSR smax smax
comp=N,1µm,1.2s
VORD Divnogorie 63.39 316 *e*P **P** **17 18 07.4 +0.1**
VORD *e*S **S** **17 26 18.1 -1.7**
VORD pmax pmax
comp=Z,220nm,0.8s
VORD pmax pmax
comp=Z,210nm,0.7s
VORD smax smax
comp=N,610nm,5.5s
XMIS Christmas Isla 63.41 220 P **P** **17 18 07.0 -0.9**
XMIS Christmas Isla 63.41 220 P **P** **17 18 08.0 +0.1**
comp=N,377nm,1.5s
G03D McMinnville, O 63.64 52 P **P** **17 18 10.5 +1.4**
baz=307,SNR=9.4
G03D S **S** **17 26 28.0 +4.9**
baz=307
F04A Amboy 63.67 51 P **P** **17 18 10.2 +0.9**
LTY Liberty 63.82 49 P **P** **17 18 10.8 +0.4**
LTY IAmb IAmb 17 18 12.0
comp=Z,316nm,1.4s
FITZ Fitzroy Crossi 63.83 196 S **S** **17 26 25.8 -0.1**
comp=Z,3.3nm,1.0s,baz=144,slow=18,SNR=11
FITZ PKP2bc 17 47 06.1
comp=Z,9.6nm,1.0s,baz=196,slow=2.5,SNR=10
MAK Makhachkala 63.84 305 *e*P **P** **17 18 09.1 -1.3**
MAK *e**PP **pP** **17 19 02.9 -2.5**
MAK *e* 17 20 32.2
MAK *e*PPP PPP 17 22 10.9
MAK *e*S **S** **17 26 25.4 -0.2**
MAK pmax pmax
comp=Z,333nm,1.1s
B08A Colville Reser 63.85 47 P **P** **17 18 10.3 -0.2**
B08A IAmb IAmb 17 18 12.2
comp=Z,187nm,1.2s
NUUG Nuugaatsiaq 63.87 5 *i* P **P** **17 18 09.4 -0.7**
I02E Swisshome, OR 63.98 53 P **P** **17 18 13.1 +1.8**
baz=308,SNR=8.8
I02E S **S** **17 26 32.8 +5.5**
baz=308
PALK Pallekele 63.98 254 P **P** **17 18 11.7 -0.1**
PALK pmax pmax
comp=Z,180nm,1.1s
PALK Pallekele 63.98 254 P **P** **17 18 12.0 +0.2**
PALK Pallekele 63.98 254 P **P** **17 18 11.7 -0.1**
PALK IAmb IAmb 17 18 14.1
comp=Z,180nm,1.1s
VSU Vasula 64.00 328 *i* P **P** **17 18 11.1 0.0**
VSU pmax pmax
comp=Z,910nm,0.9s
VSU Vasula 64.00 328 *e*P **P** **17 18 11.2 0.0**
COR Corvallis 64.00 52 P **P** **17 18 13.2 +1.7**
COR pmax pmax
comp=Z,488nm,0.7s
COR Corvallis 64.00 52 P **P** **17 18 13.2 +1.7**
COR Corvallis 64.00 52 P **P** **17 18 13.5 +2.0**
COR pP **pP** **17 19 11.7 +5.0**
SANVU Saraoutou 64.19 152 P **P** **17 18 12.6 -0.3**
SANVU Saraoutou 64.19 152 P **P** **17 18 13.2 +0.3**
SANVU Saraoutou 64.19 152 P **P** **17 18 12.6 -0.3**
WB0 Warramunga Arr 64.20 187 P **P** **17 18 12.0 -1.0**
WB0 IAmb IAmb 17 18 14.3
comp=Z,248nm,0.8s
F05D White Salmon 64.23 50 P **P** **17 18 14.1 +1.1**
baz=308,SNR=22
F05D S **S** **17 26 34.4 +4.0**
baz=308
NSS Namsos 64.29 338 *e*P **P** **17 18 12.4 -0.5**
NSS IVmB_BB 17 18 13.7
comp=Z,2µm,0.4s
NSS *e*S **S** **17 26 30.0 -0.4**
H04D Lebanon 64.36 52 P **P** **17 18 15.5 +1.7**
baz=308,SNR=34
H04D S **S** **17 26 37.3 +5.4**
baz=308
WRAB Tennant Creek 64.37 187 P **P** **17 18 13.1 -0.9**
WRAB pmax pmax
comp=Z,193nm,0.9s
WRAB Tennant Creek 64.37 187 P **P** **17 18 13.1 -0.9**
WRAB IAmb IAmb 17 18 15.5
comp=Z,193nm,0.8s
WRAB Tennant Creek 64.37 187 P **P** **17 18 13.5 -0.5**
WRAB Tennant Creek 64.37 187 P **P** **17 18 13.6 -0.5**
WB2 Warramunga Arr 64.38 187 P **P** **17 18 13.0 -1.1**
WB2 IAmb IAmb 17 18 15.5
comp=Z,215nm,0.8s
WR0 Warramunga Arr 64.38 187 P **P** **17 18 13.1 -1.0**
WR0 IAmb IAmb 17 18 15.5
comp=Z,212nm,0.9s
WRA Warramunga Arr 64.38 187 P **P** **17 18 13.9 -0.2**
comp=Z,142nm,0.7s,baz=1.5,slow=6.8,SNR=462
WRA S **S** **17 26 33.5 +1.0**
comp=Z,2.7nm,0.9s,baz=2.9,slow=12,SNR=4.9
WRA PKP2bc 17 47 05.3
comp=Z,24nm,1.1s,baz=190,slow=2.9,SNR=20
WRA Warramunga Arr 64.38 187 P **P** **17 18 11.9 -2.2**
CTA Charters Tower 64.40 175 PKP2bc 17 47 05.3
comp=Z,7.5nm,0.6s,baz=251,slow=4.0,SNR=3.7
CTAO Charters Tower 64.40 175 P **P** **17 18 13.4 -0.8**
CTAO pmax pmax
comp=Z,116nm,1.0s
CTAO Charters Tower 64.40 175 P **P** **17 18 13.4 -0.8**
CTAO Charters Tower 64.40 175 P **P** **17 18 14.4 +0.2**
CTAO Charters Tower 64.40 175 P **P** **17 18 14.1 -0.1**
BUCK Buck Mountain 64.42 52 P **P** **17 18 15.6 +1.3**
KEBM Edson Butte 64.45 54 P **P** **17 18 15.8 +1.3**
HOOD Mount Hood Mea 64.47 51 P **P** **17 18 15.2 +0.4**
J01E Myrtle Point 64.51 54 P **P** **17 18 16.4 +1.6**
baz=308,SNR=13
J01E S **S** **17 26 40.9 +7.1**
baz=308
I03D Drain, OR 64.52 53 P **P** **17 18 16.6 +1.7**
baz=308,SNR=47
I03D S **S** **17 26 36.8 +3.0**
baz=308
H04A Detroit Lake 64.57 52 P **P** **17 18 16.1 +0.8**
GROC Groznyy 64.68 306 *e*P **P** **17 18 16.5 +0.6**
GROC *e**PP **pP** **17 19 11.0 0.0**
GROC *e**SP **sP** **17 19 35.3 -2.0**
GROC *e*S **S** **17 26 37.2 +1.3**

GROC *e* 17 27 45.8
GROC pmax pmax
comp=Z,165nm,0.9s
E07A Sunnyside 64.69 49 P **P 17 18 16.3 +0.3**
E07A IAmb IAmb 17 18 18.1
comp=Z,230nm,1.0s
QIS Mount Isa 64.71 182 P **P 17 18 16.1 -0.1**
G05D Wamic, OR 64.71 51 P **P 17 18 17.3 +1.2**
baz=308,SNR=40
G05D S **S 17 26 42.2 +5.9**
baz=308
SCO Scoresbysund 64.72 354 P **P 17 18 15.9 +0.3**
SCO pmax pmax
comp=Z,107nm,0.9s
SCO Scoresbysund 64.72 354 *i* P **P 17 18 15.0 -0.7**
SCO Scoresbysund 64.72 354 P **P 17 18 15.9 +0.3**
C09A Chrisman Ranch 64.76 47 P **P 17 18 16.7 +0.4**
C09A IAmb IAmb 17 18 18.0
comp=Z,480nm,1.4s
D08A Wollman Farm, 64.88 48 P **P 17 18 17.4 +0.2**
MTSE Matsula 64.91 329 *e*P **P 17 18 17.1 0.0**
KBO Bosley Butte 64.92 55 P **P 17 18 18.7 +1.1**
KBO IAmb IAmb 17 18 20.9
comp=Z,282nm,1.0s
DBO Dodson Butte 64.93 54 P **P 17 18 18.5 +0.9**
DBO IAmb IAmb 17 18 20.5
comp=Z,372nm,1.4s
K02D Willamette Mer 64.95 54 P **P 17 18 19.0 +1.2**
baz=308,SNR=26
K02D S **S 17 26 44.3 +4.9**
baz=308
HAWA Hanford 64.97 49 P **P 17 18 18.2 +0.5**
HAWA IAmb IAmb 17 18 19.7
comp=Z,203nm,0.8s
I04A Tendick Farm, 64.99 53 P **P 17 18 19.0 +1.0**
baz=308,SNR=96
I04A S **S 17 26 43.0 +3.2**
baz=308
NEW Newport 65.06 46 P **P 17 18 18.4 +0.1**
NEW pmax pmax
comp=Z,145nm,0.9s
NEW Newport 65.06 46 P **P 17 18 18.4 +0.1**
NEW IAmb IAmb 17 18 20.0
comp=Z,145nm,0.8s
NEW Newport 65.06 46 P **P 17 18 19.0 +0.7**
baz=310,SNR=117
NEW S **S 17 26 42.8 +2.3**
baz=310
GOF Gofitskoye 65.09 309 ||*i* P **P 17 18 19.7 +1.2**
GOF *e*S **S 17 26 41.8 +0.9**
GOF pmax pmax
comp=Z,768nm,0.9s
GOF smax smax
comp=N,1μm,1.5s
GOF smax smax
comp=E,2μm,1.4s
E08A Dider Farm, El 65.16 49 P **P 17 18 18.9 0.0**
E08A IAmb IAmb 17 18 20.9
comp=Z,233nm,0.8s
AAL Aland 65.19 332 *e*P **P 17 18 18.4 -0.5**
I05D Terrebonne, OR 65.26 52 P **P 17 18 20.7 +1.0**
baz=309,SNR=120
I05D S **S 17 26 46.7 +3.7**
baz=309
L02E Cave Junction 65.32 55 P **P 17 18 21.4 +1.4**
baz=308,SNR=19
L02E S **S 17 26 49.8 +6.0**
baz=308
HUMO Hull Mountain 65.41 54 P **P 17 18 21.6 +0.9**
J04D Umpqua Nationa 65.51 53 P **P 17 18 22.6 +1.1**
baz=309,SNR=45
J04D S **S 17 26 50.9 +4.5**
baz=309
E09A Wood Farm, Sta 65.64 48 P **P 17 18 22.6 +0.7**
E09A IAmb IAmb 17 18 24.0
comp=Z,298nm,0.9s
TRD Trivandrum 65.70 258 *e*P **P 17 18 22.9 +0.1**
TRD IAmb IAmb 17 18 25.3
comp=Z,199nm,0.8s
NCK Nalchik 65.76 308 *d i*P **P 17 18 23.7 +0.8**
NCK pmax pmax
comp=Z,294nm,0.9s
TBLU Trondheim 65.77 338 *e*P **P 17 18 21.5 -1.0**
TBLU IVmBBB 17 18 22.2
comp=Z,2μm,0.9s
TBLU *e*S **S 17 26 48.9 +0.4**
PINE Pine Mountain 65.82 52 P **P 17 18 24.4 +0.9**
JCC Jacoby Creek, 65.90 56 P **P 17 18 25.1 +1.4**
JCC IAmb IAmb 17 18 25.9
comp=Z,161nm,0.8s
G08A Pilot Rock 65.97 50 P **P 17 18 24.9 +0.6**
J05D Fort Rock, OR 65.98 52 P **P 17 18 25.8 +1.4**
baz=309,SNR=155
J05D S **S 17 26 57.0 +5.0**
baz=309
KVAR Kislovodsk Arr 65.98 309 S **S 17 26 53.9 +2.0**
comp=Z,107nm,1.1s,baz=358,slow=13,SNR=13
KIV Kislovodsk 65.98 309 *e*P **P 17 18 25.6 +1.3**
KIV *e**PP **pP 17 19 21.0 +1.3**
KIV *e**SP **sP 17 19 46.9 +0.9**
KIV *e*S **S 17 26 53.7 +1.8**
KIV pmax pmax
comp=Z,750nm,1.0s
KIV pmax pmax
comp=Z,584nm,3.7s
KIV Kislovodsk 65.98 309 P **P 17 18 26.1 +1.7**
KIV Kislovodsk 65.98 309 P **P 17 18 25.4 +1.0**
KIV Kislovodsk 65.98 309 *e*P **P 17 18 25.6 +1.3**
KIV Kislovodsk 65.98 309 P **P 17 18 25.7 +1.3**
KIV pP **pP 17 19 19.2 -0.5**
KIV Kislovodsk 65.98 309 *i* P **P 17 18 25.8 +1.4**
SNR=177
KBZ Khabaz 66.01 308 P **P 17 18 25.5 +1.1**
comp=Z,280nm,0.8s,baz=44,slow=4.6,SNR=340
KBZ S **S 17 26 53.9 +2.0**
comp=Z,15nm,0.9s,baz=188,slow=23,SNR=6.8
KBZ PKPPKP **P'P'df 17 46 55.0 -4.5**
comp=Z,4.2nm,1.0s,baz=196,slow=0.6,SNR=3.9
L04D Klamath Falls 66.03 54 P **P 17 18 25.6 +0.8**
baz=309,SNR=86
L04D S **S 17 26 57.9 +5.3**
baz=309
KHMM Horse Mountain 66.04 56 P **P 17 18 25.7 +0.9**
KHMM IAmb IAmb 17 18 27.5
comp=Z,573nm,1.6s
K04D Chiloquin, OR 66.10 53 P **P 17 18 26.3 +1.1**
baz=309,SNR=26
K04D S **S 17 26 58.8 +5.5**
baz=309
YBH Yreka Blue Hor 66.10 54 P **P 17 18 26.2 +1.0**
YBH pmax pmax
comp=Z,118nm,0.8s
YBH Yreka Blue Hor 66.10 54 P **P 17 18 26.1 +1.0**
IDID Didziasalis 66.19 325 *e*P **P 17 18 25.2 0.0**
UPP Uppsala 66.22 333 *e*P **P 17 18 25.1 -0.3**
M02C Callahan 66.23 55 P **P 17 18 27.4 +1.5**
baz=309,SNR=39
M02C S **S 17 26 58.7 +3.7**
baz=309
ISAL Salakas 66.26 326 *e*P **P 17 18 26.0 +0.2**
SLIT Slitere, Latvi 66.26 329 *e*P **P 17 18 25.5 -0.1**
MNK Minsk 66.28 324 *i* P **P 17 18 26.8 +0.9**
MNK *i* 17 18 54.6
MNK *i* *PP **pP 17 19 22.7 +1.3**
MNK *i* *SP **sP 17 19 49.5 +1.8**
MNK *i* 17 20 55.9
MNK *i* PPP PPP 17 22 35.0
MNK *i* S **S 17 26 54.8 -0.1**
MNK *i* 17 27 58.8
MNK *i* SS **SS 17 31 25.3 +10**
MNK pmax pmax
comp=N,325nm,1.2s
MNK pmax pmax
comp=E,51nm,1.2s
MNK pmax pmax
comp=Z,456nm,1.0s
MNK MLR MLR
comp=E,818nm,16.0s
MNK MLR MLR
comp=N,3μm,17.0s
MNK MLR MLR
comp=Z,4μm,22.0s
MNK Minsk 66.28 324 *i* P **P 17 18 26.9 +0.9**
comp=E,51nm,1.2s
MNK *i* P **P 17 18 26.9 +0.9**
comp=N,325nm,1.2s
MNK *i* P **P 17 18 26.9 +0.9**
comp=Z,456nm,1.0s,baz=226
MNK *i* pP **pP 17 19 22.8 +1.4**
MNK *i* sP **sP 17 19 49.5 +1.8**
MNK *i* PP **PP 17 20 56.0 +1.3**
MNK *i* PPP PPP 17 22 35.0
MNK *i* S **S 17 26 54.8 -0.1**
MNK *i* sS **sS 17 28 35.4 +2.7**
MNK *i* SS **SS 17 31 25.3 +10**
MNK *i* SSS SSS 17 34 34.7
MNK *i* LRM MLR 17 50 09.9
comp=E,818nm,16.1s
MNK *i* LRM MLR 17 50 29.4
comp=N,3μm,16.9s
MNK *i* LRM MLR 17 50 40.4
comp=Z,4μm,22.1s
ILULI Ilulissat 66.29 5 P **P 17 18 25.3 -0.4**
ILULI pmax pmax
comp=Z,206nm,0.8s
ILULI Ilulissat 66.29 5 *i* P **P 17 18 24.7 -1.0**
ILULI Ilulissat 66.29 5 P **P 17 18 25.3 -0.4**
ILULI IAmb IAmb 17 18 26.8
comp=Z,206nm,0.8s
IIGN Ignalina 66.37 326 *e*P **P 17 18 26.8 +0.3**
NEY Neytrino 66.41 308 *d i*P **P 17 18 28.3 +1.1**
NEY pmax pmax
comp=Z,38nm,0.8s
ONI Oni 66.41 307 P **P 17 18 28.2 +1.2**
ONI pmax pmax
comp=Z,315nm,0.9s
ONI Oni 66.41 307 P **P 17 18 28.2 +1.2**
ONI IAmb IAmb 17 18 30.1
comp=Z,315nm,0.9s
I07A Izee 66.44 51 P **P 17 18 28.0 +0.7**
NACGM Naroch 66.46 325 *i* P **P 17 18 27.5 +0.4**
KMRM Mail Ridge 66.46 56 P **P 17 18 28.5 +1.1**
KMRM IAmb IAmb 17 18 30.0
comp=Z,158nm,0.7s
F10A Beach Ranch, E 66.47 48 P **P 17 18 27.8 +0.4**
F10A IAmb IAmb 17 18 37.5
comp=Z,233nm,1.1s
K05A Summer Lake 66.52 53 P **P 17 18 28.9 +1.0**
M04C Macdoel 66.58 54 P **P 17 18 29.3 +1.0**
baz=309,SNR=141
M04C S **S 17 27 04.5 +5.3**
baz=309
N02D Trinity Center 66.58 55 P **P 17 18 29.1 +0.9**
baz=309,SNR=66
N02D S **S 17 27 03.0 +3.8**
baz=309
ICESG Greenland Ices 66.78 0 *i* P **P 17 18 28.3 -1.0**
ICESG IAmb IAmb 17 18 29.9
comp=Z,279nm,0.7s
JTMT Jette 66.85 45 P **P 17 18 30.3 +0.5**
JTMT IAmb IAmb 17 18 32.0
comp=Z,362nm,1.2s
KCPM Cahto Peak 66.87 57 P **P 17 18 30.5 +0.4**
KCPM IAmb IAmb 17 18 31.9
comp=Z,130nm,0.8s
WDC Whiskeytown Da 66.93 55 P **P 17 18 30.8 +0.5**
WDC pmax pmax
comp=Z,94nm,0.9s
WDC Whiskeytown Da 66.93 55 P **P 17 18 30.8 +0.5**
O02D Mt. Diablo Mer 67.04 56 P **P 17 18 32.4 +1.4**
baz=310,SNR=45
O02D S **S 17 27 07.4 +2.8**
baz=310
MOL Molde 67.04 339 *e*P **P 17 18 30.8 +0.2**
MOL IVmB_BB 17 18 31.6
comp=Z,1μm,1.7s
MOL *e*S **S 17 27 04.7 +1.0**
DOMB Dombas 67.07 338 *e*P **P 17 18 30.8 -0.1**
DOMB IVmB_BB 17 18 30.8
comp=Z,1μm,0.7s
DOMB *e*S **S 17 27 08.8 +4.5**
NC405 NORSAR Array S 67.08 336 P **P 17 18 29.3 -1.6**
NC303 NORSAR Array S 67.09 336 P **P 17 18 30.5 -0.5**
NC303 IAmb IAmb 17 18 32.0
comp=Z,177nm,0.8s
BMO Blue Mountains 67.16 49 P **P 17 18 32.1 +0.4**
BMO pmax pmax
comp=Z,144nm,0.9s
BMO Blue Mountains 67.16 49 P **P 17 18 32.1 +0.4**
BMO IAmb IAmb 17 18 33.8
comp=Z,144nm,0.9s
PABE Paberze 67.16 327 *e*P **P 17 18 31.3 -0.1**
PABE Paberze 67.16 327 P **P 17 18 31.5 +0.1**
GNI Garni 67.21 304 S **S 17 27 10.9 +4.0**
comp=Z,12nm,1.0s,baz=37,slow=20,SNR=1.7
GNI Garni 67.21 304 *de*P **P 17 18 33.8 +1.6**
GNI pmax pmax
comp=Z,450nm,1.7s
GNI Garni 67.21 304 P **P 17 18 34.3 +2.0**
GNI Garni 67.21 304 P **P 17 18 32.6 +0.3**
GNI IAmb IAmb 17 18 59.0
comp=Z,265nm,0.9s
GNI Garni 67.21 304 P **P 17 18 34.1 +1.8**
GNI pP **pP 17 19 29.5 +1.7**
GNI Garni 67.21 304 P **P 17 18 34.2 +2.0**
NC204 NORSAR Array S 67.22 336 P **P 17 18 31.2 -0.7**
NB201 NORSAR Array S 67.25 336 P **P 17 18 31.4 -0.6**
HFS Hagfors 67.27 334 S **S 17 27 03.6 -2.9**
comp=Z,88nm,1.1s,baz=66,slow=8.4,SNR=13
NB2 NORSAR Subarra 67.28 336 P **P 17 18 31.7 -0.5**
comp=Z,192nm,0.8s,baz=36,slow=6.2
NB2 NORSAR Subarra 67.28 336 P **P 17 18 31.7 -0.5**
baz=36,slow=6.2
NOA NORSAR Array B 67.28 336 P **P 17 18 31.8 -0.5**
comp=Z,112nm,0.8s,baz=37,slow=6.3,SNR=353
NOA S **S 17 27 04.2 -2.6**
comp=Z,9.9nm,1.1s,baz=27,slow=15,SNR=6.7
NOA PKPPKP P'P'df 17 46 50.8 -7.9
comp=Z,1.4nm,0.8s,baz=228,slow=3.6,SNR=4.5
MOD Modoc Plateau 67.39 53 P **P 17 18 33.5 +0.2**
MOD IAmb IAmb 17 18 35.3
comp=Z,161nm,0.7s
NBO00 NORSAR Array S 67.42 336 P **P 17 18 31.3 -1.7**
NC602 NORSAR Array S 67.43 336 *e*P **P 17 18 32.4 -0.7**
NC602 IVmBBB 17 18 33.7
comp=Z,2μm,1.2s
NC602 *e*S **S 17 27 08.7 +0.2**
NC602 NORSAR Array S 67.43 336 P **P 17 18 32.1 -1.0**
NC602 IAmb IAmb 17 18 33.9
comp=Z,322nm,1.2s
J08A Circle Bar Ran 67.48 51 P **P 17 18 34.8 +1.0**
J08A IAmb IAmb 17 18 36.3
comp=Z,320nm,1.1s
FCC Fort Churchill 67.50 28 P **P 17 18 33.3 -0.2**
FCC pmax pmax
comp=Z,557nm,1.3s
FCC Fort Churchill 67.50 28 P **P 17 18 33.3 -0.2**
AKN Aaknes 67.51 339 *e*P **P 17 18 33.9 +0.3**
SOEG Soedalen 67.53 357 *i* P **P 17 18 33.3 -0.2**
NAO01 NORSAR Array S 67.54 336 P **P 17 18 32.9 -0.9**
O03E Paynes Creek 67.54 55 P **P 17 18 34.8 +0.5**
baz=310,SNR=82
O03E S **S 17 27 11.6 +1.0**
baz=310
PBUR Paburge 67.57 328 *e*P **P 17 18 33.8 -0.1**
MSO Missoula 67.63 46 IAmb IAmb 17 18 36.3
comp=Z,240nm,1.1s
MSO Missoula 67.63 46 P **P 17 18 34.9 +0.2**
baz=312,SNR=94
MSO S **S 17 27 13.3 +1.7**
baz=312
PLID Pearl Lake 67.70 48 IAmb IAmb 17 18 36.8
comp=Z,154nm,0.7s
SOC Sochi 67.87 310 *e*P **P 17 18 34.8 -1.3**
SOC *e**PP **pP 17 19 30.3 -1.5**
SOC *e**SP **sP 17 19 55.9 -2.1**
SOC *e* 17 21 06.6
SOC *e*PPP PPP 17 22 47.2
SOC *e*S **S 17 27 14.0 -0.2**
SOC pmax pmax
comp=Z,187nm,0.8s
WVOR Wild Horse Val 67.99 52 IAmb IAmb 17 18 39.2
comp=Z,267nm,1.1s
RK1H Rockhampton Ha 68.05 171 P **P 17 18 37.3 0.0**
KOUNC Koumac, New Ca 68.07 157 P **P 17 18 38.1 +0.6**
ASAR Alice Springs 68.11 187 P **P 17 18 38.2 +0.5**
comp=Z,175nm,0.7s,baz=8.3,slow=5.1,SNR=534
ASAR PKPPKP **P'P'df 17 46 50.5 +0.8**
comp=Z,11nm,1.0s,baz=178,slow=2.7,SNR=12
ASAR P4KPbc 17 55 11.8
comp=Z,0.1nm,0.4s,baz=348,slow=2.1,SNR=6.3
MBWA Marble Bar 68.16 202 P **P 17 18 37.9 -0.1**
MBWA Marble Bar 68.16 202 P **P 17 18 37.9 -0.1**
MBWA Marble Bar 68.16 202 P **P 17 18 37.6 -0.3**
OSL Oslo 68.32 336 *e*P **P 17 18 38.8 +0.2**
OSL IVmB_BB 17 18 39.8
comp=Z,3μm,1.2s
OSL *e*S **S 17 27 19.2 +0.2**
AKASG Malin Array Be 68.35 321 P **P 17 18 38.9 -0.1**
comp=Z,71nm,0.6s,baz=42,slow=6.5,SNR=489
AKASG S **S 17 27 18.0 -1.7**
comp=Z,56nm,0.9s,baz=39,slow=13,SNR=37
AKASG PKPPKP P'P'df 17 46 45.0 -11
comp=Z,1.4nm,0.7s,baz=241,slow=2.9,SNR=6.2
AKASG Malin Array Be 68.35 321 *ce*P **P 17 18 38.4 -0.5**
AKASG pmax pmax
comp=Z,71nm,0.6s
AKASG Malin Array Be 68.35 321 IAmb IAmb 17 18 40.1
comp=Z,174nm,0.9s
AKBB Malin Array Si 68.35 321 *ce*P **P 17 18 38.7 -0.2**
AKBB Malin Array Si 68.35 321 IAmb IAmb 17 18 40.1
comp=Z,242nm,0.9s
SKAR Skarslia 68.41 337 *e*P **P 17 18 39.5 +0.3**
SKAR IVmB_BB 17 18 40.8
comp=Z,1μm,1.6s
SKAR *e*S **S 17 27 22.9 +2.8**
XMAS Kiritimati 68.48 109 P **P 17 18 40.4 +0.2**
XMAS Kiritimati 68.48 109 P **P 17 18 41.0 +0.8**
FOO Floro 68.50 339 *e*P **P 17 18 40.0 +0.3**
FOO *e*SKSac **SKSac 17 28 20.3 +6.1**
SFJD Kangerlussuaq 68.52 5 S **S 17 27 18.5 -2.6**
comp=Z,50nm,1.3s,baz=84,slow=22,SNR=14
SFJD PKPPKP 17 46 44.6
comp=Z,12nm,1.0s,baz=172,slow=7.8,SNR=3.4
SFJD Kangerlussuaq 68.52 5 P **P 17 18 39.3 -0.4**
SFJD pmax pmax
comp=Z,1μm,2.0s
SFJD Kangerlussuaq 68.52 5 *i* P **P 17 18 39.0 -0.7**
SFJD Kangerlussuaq 68.52 5 P **P 17 18 39.3 -0.4**
SFJD Kangerlussuaq 68.52 5 P **P 17 18 39.5 -0.2**
SFJD pP **pP 17 19 35.1 -0.6**
PSA00 Pilbara Seismi 68.52 201 IAmb IAmb 17 18 42.7
comp=Z,319nm,0.8s
PSA00 Pilbara Seismi 68.52 201 IAmb IAmb 17 18 42.6
comp=Z,177nm,0.7s
PSA00 Pilbara Seismi 68.52 201 P **P 17 18 39.9 -0.4**
SUW Suwalki 68.56 326 *e*P **P 17 18 39.8 -0.4**
SUW *e*pP **pP 17 19 34.9 -1.2**
SUW *e*S **S 17 27 21.2 -0.8**
SUW Suwalki 68.56 326 P **P 17 18 39.3 -0.9**
SUW pmax pmax
comp=Z,673nm,1.5s
SUW Suwalki 68.56 326 *e*P **P 17 18 39.5 -0.7**
SUW Suwalki 68.56 326 P **P 17 18 39.3 -0.9**
HYA Hoyanger 68.57 338 *e*P **P 17 18 40.2 +0.1**
HYA *e*S **S 17 27 22.9 +1.1**
BANOM Banah 68.79 286 P **P 17 18 43.0 +0.9**
SNR=18
BANOM P **P 17 18 43.0 +0.9**
SNR=27
BANOM Banah 68.79 286 *i* P **P 17 18 42.6 +0.5**
SNR=18
SHME Shamm 68.81 286 P **P 17 18 43.1 +0.9**
SNR=33
SHME Shamm 68.81 286 *i* P **P 17 18 42.2 0.0**
SNR=113
KONO Kongsberg 68.89 336 *ce*P **P 17 18 42.4 +0.3**
KONO pmax pmax
comp=Z,239nm,1.7s
KONO Kongsberg 68.89 336 *e*P **P 17 18 42.1 0.0**
KONO *e*S **S 17 27 24.2 -1.5**
KONO Kongsberg 68.89 336 P **P 17 18 42.3 +0.3**
KONO IAmb IAmb 17 18 43.2
comp=Z,538nm,1.9s
MFID Camas Ranch 68.90 50 IAmb IAmb 17 18 44.8
comp=Z,385nm,1.2s
EGMT Eagleton 68.92 43 P **P 17 18 43.1 +0.5**
baz=314,SNR=215
EGMT S **S 17 27 28.7 +2.1**
baz=314
SUE Sulen 69.04 339 *e*P **P 17 18 43.3 +0.4**
JLN Jalan Bani Buh 69.05 281 P **P 17 18 44.7 +1.0**
SNR=13
WBK Wadi Bani Khal 69.06 281 P **P 17 18 45.2 +1.4**
SNR=100
WBK P **P 17 18 46.0 +2.1**
SNR=15
BIDO Bidbid 69.06 283 P **P 17 18 45.6 +1.9**
SNR=17
LIFNC LIFOU 69.17 154 P **P 17 18 45.8 +1.6**
MASF Masafi 69.24 285 P **P 17 18 45.8 +0.9**
SNR=17
MSFE Esma-Masafi 69.25 285 *i* P **P 17 18 45.2 +0.3**
SNR=38
DY2G Dye2 69.26 3 *i* P **P 17 18 44.8 +0.2**
RUBR Rubicon Trail 69.32 55 IAmb IAmb 17 18 47.3
comp=Z,148nm,0.7s
PAHR Pah Rah Range 69.34 54 IAmb IAmb 17 18 47.2
comp=Z,234nm,0.7s
EMB Emerald Bay 69.40 55 IAmb IAmb 17 18 48.8
comp=Z,167nm,0.7s
ASK Askoy 69.41 338 *e*P **P 17 18 45.7 +0.5**
SMDO Samad 69.42 282 P **P 17 18 46.9 +0.8**
SNR=11
VCNR Virginia City 69.45 55 IAmb IAmb 17 18 48.2
comp=Z,113nm,0.7s
BER Bergen 69.46 338 *e*P **P 17 18 46.1 +0.5**
BER *e*SKSac **SKSac 17 28 22.2 +0.6**
UMQ Umm Al-Quwin 69.48 286 P **P 17 18 48.1 +1.8**
SNR=5.7
UMQ P **P 17 18 48.1 +1.8**
SNR=5.7
UMQ Umm Al-Quwin 69.48 286 *i* P **P 17 18 47.5 +1.2**
SNR=7.7
UOSS Minazif 69.48 285 P **P 17 18 46.9 +0.6**
UOSS Minazif 69.48 285 P **P 17 18 45.7 -0.6**
UOSS IAmb IAmb 17 18 47.8
comp=Z,332nm,0.9s
UOSS Minazif 69.48 285 P **P 17 18 45.9 -0.4**
UOSS Minazif 69.48 285 *i* P **P 17 18 46.8 +0.4**
SNR=20
ODD1 Odda 69.51 337 *e*P **P 17 18 46.3 +0.3**
HLID Hailey 69.57 49 P **P 17 18 47.8 +1.0**
baz=312,SNR=138
HLID S **S 17 27 38.9 +4.4**
baz=312
HOQ Hoqain 69.59 283 P **P 17 18 47.7 +0.7**
SNR=21
HATD Hatta, Dubai 69.61 285 P **P 17 18 48.0 +0.9**
SNR=38
HATD Hatta, Dubai 69.61 285 *i* P **P 17 18 47.8 +0.6**
SNR=101
PNTR Pine Nut 69.62 55 IAmb IAmb 17 18 50.5
comp=Z,154nm,0.6s
BOZ Bozeman (W) 69.65 46 IAmb IAmb 17 18 49.1
comp=Z,230nm,0.8s
BOZ Bozeman (W) 69.65 46 P **P 17 18 48.1 +0.8**
baz=313,SNR=229
BOZ S **S 17 27 37.2 +1.8**
baz=313
KOPT Kop Dagi 69.77 306 IAmb IAmb 17 18 53.3
comp=Z,200nm,0.8s
SOHO SOHO 69.78 284 P **P 17 18 48.7 +0.6**
SOHO SOHO 69.78 284 *i* P **P 17 18 48.5 +0.4**
SNR=81
JMDO Jabal Madar 69.83 282 P **P 17 18 49.2 +0.7**
SNR=23
NAZ Nazwa, Dubai 69.83 285 P **P 17 18 49.1 +0.6**
SNR=16
NAZ Nazwa, Dubai 69.83 285 *i* P **P 17 18 48.8 +0.4**
SNR=23
YERR Yerington 69.90 55 IAmb IAmb 17 18 50.9
comp=Z,261nm,0.7s
SIM Simferopol' 69.95 314 *d i*P **P 17 18 48.4 -0.5**
SIM *e*S **S 17 27 39.0 +0.4**
SIM pmax pmax
comp=Z,285nm,0.9s
SIM smax smax
comp=E,274nm,1.0s
DGTI Dogotuki 69.97 140 P **P 17 18 53.0 +3.8**
BLS5 Blasjo 69.97 337 *e*P **P 17 18 49.6 +0.8**
BLS5 *e*S **S 17 27 38.9 +0.6**
FAQ Al Faqa, Dubai 70.03 285 P **P 17 18 50.2 +0.6**
SNR=22
FAQ Al Faqa, Dubai 70.03 285 *i* P **P 17 18 50.0 +0.3**
SNR=28

EIDS	Eidsvold	70.08 170	IAmb	IAmb	17 18 52.2	
	comp=Z,151nm,0.8s					
EIDS	Eidsvold	70.08 170	P	P	17 18 50.7	+1.0
MARNC	Mare, Loyalty	70.08 153	P	P	17 18 51.4	+1.6
BMN	Battle Mountai	70.11 53	IAmb	IAmb	17 18 52.3	
	comp=Z,227nm,0.7s					
NOUC	Port Laguerre	70.13 155	P	P	17 18 51.5	+1.5
NOUC	Port Laguerre	70.13 155	P	P	17 18 51.6	+1.5
WRKA	Warakurna	70.14 192	P	P	17 18 50.7	+0.6
DZM	Mont Dzumac	70.14 155	*e*P	P	17 18 51.9	+1.6
	comp=Z,1µm,1.1s					
DZM	Mont Dzumac	70.14 155	P	P	17 18 51.8	+1.6
DZM	Mont Dzumac	70.14 155	P	P	17 18 51.8	+1.6
BSY	Bisya	70.22 283	P	P	17 18 51.9	+1.0
	SNR=21					
ANGG	Ammassalik, Gr	70.26 359	*i* P	P	17 18 49.0	-1.3
ANGG	Ammassalik, Gr	70.26 359	IAmb	IAmb	17 18 52.4	
	comp=Z,145nm,0.9s					
BORG	Borgarnes	70.27 352	PKPPKP		17 46 46.7	
	comp=Z,35nm,1.3s,baz=148,slow=1.8,SNR=3.6					
BORG	Borgarnes	70.27 352	P	P	17 18 52.6	+2.2
BORG			pmax	pmax		
	comp=Z,871nm,1.8s					
BORG	Borgarnes	70.27 352	P	P	17 18 52.5	+2.2
ASUD	Al Ashush, Dub	70.29 285	P	P	17 18 52.0	+0.8
	SNR=19					
ASUD	Al Ashush, Dub	70.29 285	*i* P	P	17 18 51.8	+0.5
	SNR=54					
ARQ	Araqi	70.30 284	P	P	17 18 52.2	+0.9
	SNR=22					
ISOG	Isortoq, Green	70.34 0	*i* P	P	17 18 49.5	-1.3
HOMB	Homborsund	70.35 336	*e*P	P	17 18 51.2	+0.2
ONTNC	Ouen Toro	70.37 155	P	P	17 18 53.4	+1.9
ALNE	Al Ain	70.37 285	P	P	17 18 52.4	+0.7
	SNR=35					
ALNE	Al Ain	70.37 285	*i* P	P	17 18 52.2	+0.5
	SNR=38					
MSVF	Nonsavu	70.47 143	P	P	17 18 54.5	+2.2
MSVF			pmax	pmax		
	comp=Z,493nm,1.0s					
MSVF	Nonsavu	70.47 143	P	P	17 18 54.5	+2.2
MSVF	Nonsavu	70.47 143	P	P	17 18 55.4	+3.1
MSVF	Nonsavu	70.47 143	P	P	17 18 55.0	+2.6
KMY	Karmoy	70.48 338	*e*P	P	17 18 52.3	+0.5
AJN	Ajban	70.57 286	P	P	17 18 53.2	+0.3
	SNR=13					
AJN	Ajban	70.57 286	*i* P	P	17 18 53.1	+0.3
	SNR=10					
SORM	Soroca	70.57 319	⇓P	P	17 18 52.5	0.0
SORM	Soroca	70.57 319	⇓P	S	17 27 39.1	-6.4
OUENC	Ouen Island, N	70.59 155	P	P	17 18 54.8	+2.0
OVD	Ostervraa, Den	70.62 334	*i* P	P	17 18 51.8	-0.8
OVD			IAmb	IAmb	17 18 54.1	
	comp=Z,222nm,0.7s					
YMR	Madison River	70.63 46	IAmb	IAmb	17 18 55.4	
	comp=Z,252nm,1.2s					
SNART	Snartemo	70.67 336	*e*P	P	17 18 53.3	+0.4
QLP	Quilpie	70.75 177	P	P	17 18 54.2	+0.5
NVAR	Mina Array Bea	70.81 55	P	P	17 18 55.2	+0.7
	comp=Z,136nm,0.6s,baz=299,slow=5.9,SNR=934					
NVAR			S	S	17 27 52.7	+3.5
	comp=Z,1.3nm,0.9s,baz=230,slow=14,SNR=1.9					
NVAR			PKPPKP	P'P'df	17 46 40.0	-12
	comp=Z,3.1nm,0.9s,baz=196,slow=2.1,SNR=4.8					
LHV	Little Huntoon	70.81 55	IAmb	IAmb	17 18 57.0	
	comp=Z,263nm,0.9s					
BSD	Bornholm Skovb	70.83 331	*i* P	P	17 18 53.0	-1.0
BSD	Bornholm Skovb	70.83 331	*e*P	P	17 18 53.5	-0.4
RMQ	Roma	70.94 173	P	P	17 18 55.6	+0.7
PINNC	Pines Island,	70.96 154	IAmb	IAmb	17 18 59.0	
	comp=Z,285nm,0.8s					
PINNC	Pines Island,	70.96 154	P	P	17 18 57.2	+2.2
PURM	Purcari	70.98 317	⇓P	P	17 18 55.2	+0.2
PURM	Purcari	70.98 317	⇓P	S	17 27 51.6	+1.2
LKWY	Lake	70.99 46	IAmb	IAmb	17 19 00.3	
	comp=Z,211nm,0.9s					
H17A	Grant Village	71.02 46	IAmb	IAmb	17 18 59.3	
	comp=Z,276nm,0.9s					
H17A	Grant Village	71.02 46	P	P	17 18 58.1	+2.5
	baz=314,SNR=306					
H17A			S	S	17 27 55.9	+4.4
	baz=314					
MLAC	Mammoth, Mammo	71.03 56	P	P	17 18 57.2	+1.4
	baz=312,SNR=20					
MLAC			S	S	17 27 54.7	+2.8
	baz=312					
BEL	Belsk	71.15 326	*e*P	P	17 18 56.9	+0.9
BEL			*ep*P	pP	17 19 52.9	+0.6
BEL			*e*S	S	17 27 52.2	0.0
GIRL	Giralia	71.15 206	IAmb	IAmb	17 19 00.5	
	comp=Z,424nm,1.1s					
GIRL	Giralia	71.15 206	P	P	17 18 57.3	+1.1
GOET	G??ttrup	71.15 335	*i* P	P	17 18 55.4	-0.5
KIS	Kishinev	71.16 318	⇓*i*P	P	17 18 56.0	-0.1
KIS			*ep*P	pP	17 19 50.0	-2.4
KIS			*e*S	S	17 27 50.0	-2.4
KIS			LRM	MLR	17 51 37.0	
	comp=Z,3µm,20.0s					
KIS	Kishinev	71.16 318	⇓P	P	17 18 56.3	+0.2
KIS	Kishinev	71.16 318	*d*⇓P	P	17 18 56.0	-0.1
KIS			*e**PP	pP	17 19 50.0	-2.4
KIS			*e*S	S	17 27 50.0	-2.4
KIS			smax	smax		
	comp=E,2µm,1.9s					
KIS			MLR	MLR		
	comp=E,3µm,20.0s					
RLMT	Red Lodge	71.18 45	IAmb	IAmb	17 18 58.6	
	comp=Z,152nm,0.7s					
RLMT	Red Lodge	71.18 45	P	P	17 18 57.5	+0.9
	baz=315,SNR=111					
RLMT			S	S	17 27 55.1	+1.9
	baz=315					
MILM	Milestii Mici	71.22 318	⇓*i*P	P	17 18 56.0	-0.4
	comp=Z,1µm,1.8s					
MILM			*ep*P	pP	17 19 52.0	-0.7
MILM			*e*S	S	17 27 49.0	-4.1
	comp=Z,3µm,2.1s					
MILM			*e*LR	LR	17 51 16.0	
	comp=Z,5µm,19.0s					
MILM	Milestii Mici	71.22 318	⇓P	P	17 18 56.4	0.0
MILM	Milestii Mici	71.22 318	⇓P	S	17 27 49.8	-3.3
MILM	Milestii Mici	71.22 318	*d*⇓P	P	17 18 56.0	-0.4
MILM			*e**PP	pP	17 19 52.0	-0.7
MILM			*e*S	S	17 27 49.0	-4.1
MILM			pmax	pmax		
	comp=Z,1µm,1.8s					
MILM			pmax	pmax		
	comp=E,400nm,2.2s					
MILM			pmax	pmax		
	comp=E,3µm,2.1s					
MILM			MLR	MLR		
	comp=Z,5µm,19.0s					
DGMT	Dagmar	71.23 40	P	P	17 18 57.0	+0.5
	baz=317,SNR=137					
DGMT			S	S	17 27 55.8	+2.5
	baz=317					
NUUK	Nuuk	71.24 6	*i* P	P	17 18 56.5	+0.4
LVV	L'vov	71.30 322	*e*P	P	17 18 57.3	+0.4
LVV			*e**PP	pP	17 19 54.0	+0.8
LVV			*e*S	S	17 27 54.0	0.0
LVV			pmax	pmax		
	comp=Z,800nm,1.6s					
MOOW	Moose Ponds	71.38 47	IAmb	IAmb	17 19 00.4	
	comp=Z,242nm,1.1s					
SNOP	Sinop	71.38 311	IAmb	IAmb	17 18 58.9	
	comp=Z,215nm,1.0s					
GKP	Gorka Klasztor	71.44 328	*e*P	P	17 18 57.9	+0.3
GKP			*ep*P	pP	17 19 54.2	+0.2
GKP			*e*S	S	17 27 53.5	-1.8
GKP	Gorka Klasztor	71.44 328	*e*P	P	17 18 58.0	+0.4
PAGB	Antelope Grade	71.45 58	IAmb	IAmb	17 19 00.2	
	comp=Z,184nm,0.9s					
LAO	LASA Array	71.57 42	IAmb	IAmb	17 19 00.6	
	comp=Z,313nm,1.1s					
LAO	LASA Array	71.57 42	P	P	17 18 59.4	+0.8
	baz=316,SNR=30					
LAO			S	S	17 28 00.0	+2.8
	baz=316					
SNOW	Snow King Moun	71.58 47	IAmb	IAmb	17 19 02.5	
	comp=Z,171nm,1.1s					
VOG	Valley Oaks Go	71.58 57	P	P	17 18 58.9	+0.2
	baz=312					
VOG			S	S	17 27 58.9	+1.3
	baz=312					
REDW	Red Top Meadow	71.59 47	IAmb	IAmb	17 19 01.5	
	comp=Z,145nm,0.8s					
IAS	Iasi	71.62 319	⇓P	P	17 18 59.2	+0.4
IAS	Iasi	71.62 319	⇓P	S	17 27 59.2	+1.5
MUD	Monsted U'grnd	71.65 334	*i* P	P	17 18 58.0	-0.8
UMZA	Um Al Zommool	71.66 284	P	P	17 18 59.4	0.0
TIN	Tinemaha, Big	71.78 56	P	P	17 19 01.2	+1.1
	baz=312,SNR=8.1					
TIN			S	S	17 28 03.4	+3.4
	baz=312					
LEOM	Leova	71.81 318	⇓P	P	17 19 00.6	+0.6
RGN	Rugen	71.84 331	*e*P	P	17 19 00.7	+0.7
RGN	Rugen	71.84 331	*e*P	P	17 19 01.2	+1.2
	comp=Z,1µm,1.6s,baz=34,slow=5.7					
INKA	Innaminka	71.84 180	P	P	17 19 01.1	+0.9
TOKA	Tokat	71.84 309		pP	17 19 55.2	-1.4
MZWR	Madinat Zayed	71.86 286	P	P	17 19 00.5	-0.1
SMMC	Simmler	71.88 58	P	P	17 19 01.5	+0.9
	baz=312,SNR=22					
SMMC			S	S	17 28 03.0	+1.9
	baz=312					
AHID	Auburn Hatcher	71.88 48	IAmb	IAmb	17 19 04.0	
	comp=Z,144nm,0.8s					
VASR	Vaslui	71.91 318	⇓P	P	17 19 01.4	+0.8
VASR	Vaslui	71.91 318	⇑P	S	17 28 05.0	+4.0
KWP	Kalwaria Pacla	72.02 323	*e*P	P	17 19 02.1	+1.0
KWP			*ep*P	pP	17 19 57.7	+0.1
KWP			*e*S	S	17 28 01.4	-0.7
OOD	Oodnadatta	72.07 185	P	P	17 19 02.5	+1.0
BZK	Bozkurt	72.07 311	⇓P	P	17 19 02.9	+1.3
VES	Vestal, Richgr	72.08 57	P	P	17 19 01.6	-0.1
	baz=312,SNR=12					
VES			S	S	17 28 03.6	+0.4
	baz=312					
KHOR	Al-Khor Airpor	72.26 289	P	P	17 19 03.1	+0.2
BIR	Birlad	72.26 318	⇑P	P	17 19 04.3	+1.6
PKM	Mcpherson Peak	72.27 58	P	P	17 19 04.0	+0.8
	baz=312,SNR=64					
PKM			S	S	17 28 08.2	+2.3
	baz=312					
CWC	Cottonwood Cre	72.28 56	P	P	17 19 03.7	+0.5
	baz=312					
CWC			S	S	17 28 08.0	+2.1
	baz=312					
GRAC	Grapevine Rang	72.33 55	P	P	17 19 04.2	+1.0
	baz=313,SNR=126					
GRAC			S	S	17 28 09.0	+2.8
	baz=313					
VLDR	Vladesti	72.34 318	⇑P	P	17 19 04.0	+0.9
BURAR	Bucovina Array	72.40 320	⇓P	P	17 19 04.4	+0.8
BURAR	Bucovina Array	72.40 320	⇑P	S	17 28 10.1	+3.3
BURAR	Bucovina Array	72.40 320	IAmb	IAmb	17 19 05.4	
	comp=Z,137nm,0.8s					
GHWR	Ruwais	72.42 286	P	P	17 19 03.7	-0.2
VARL	Varlezi	72.42 318	⇓P	P	17 19 04.4	+0.8
R11A	Troy Canyon, C	72.44 53	P	P	17 19 04.3	+0.1
	baz=313,SNR=191					
R11A			S	S	17 28 07.7	-0.1
	baz=313					
TLCR		72.46 317	⇑P	P	17 19 04.3	+0.5
SHMA	Al-Shehemyia	72.47 289	P	P	17 19 04.1	-0.2
SCTR	Scanteiesti	72.51 317	⇓P	P	17 19 05.2	+1.1
GHRR		72.51 318	⇑P	P	17 19 05.5	+1.3
GHRR		72.51 318	⇓P	S	17 28 11.0	+3.1
GIUM	Giurgiulesti	72.54 317	⇓P	P	17 19 05.5	+1.2
TESR	Tescani	72.54 319	⇓P	P	17 19 04.7	+0.4
TESR	Tescani	72.54 319	⇓P	S	17 28 05.5	-2.7
ISA	Isabella, Lake	72.56 57	P	P	17 19 04.4	-0.3
	baz=313,SNR=54					
ISA			S	S	17 28 08.5	-0.5
	baz=313					
SBC	Santa Barbara	72.63 59	P	P	17 19 05.9	+0.9
	baz=312					
SBC			S	SKiKP	17 28 11.8	-1.3
	baz=312					
SLCR	Slobozia Conac	72.68 318	⇓P	P	17 19 06.1	+1.0
SAKB	Bahrain	72.68 289	P	P	17 19 05.2	-0.2
BW06	Boulder Array	72.69 47	P	P	17 19 06.1	+0.5
	baz=315,SNR=570					
BW06			S	SKiKP	17 28 12.2	-1.2
	baz=315					
PDAR	Pinedale Array	72.69 47	P	P	17 19 05.5	-0.1
	comp=Z,308nm,0.6s,baz=290,slow=1.5,SNR=2179					
PDAR			S	S	17 28 10.5	+0.1
	comp=Z,1.1nm,0.8s,baz=50,slow=8.4,SNR=2.3					
PDAR			PKPPKP	P'P'df	17 46 44.5	-4.2
	comp=Z,2.8nm,1.0s,baz=180,slow=6.8,SNR=4.0					
ARVC	Arvin	72.71 58	P	P	17 19 05.5	0.0
	baz=312,SNR=5.2					
ARVC			S	SKiKP	17 28 11.9	-1.4
	baz=312					
IZVR	Izvoarele	72.71 317	⇓P	P	17 19 06.3	+1.0
SCHL	Schela	72.72 317	⇓P	P	17 19 06.2	+0.9
SPR3	Spring Creek 3	72.72 52	IAmb	IAmb	17 19 08.8	
	comp=Z,395nm,1.5s					
JURR	Jurilovca	72.73 316	⇓P	P	17 19 06.1	+0.7
DUG	Dugway, Tooele	72.74 50	IAmb	IAmb	17 19 07.5	
	comp=Z,140nm,0.8s					
DUG	Dugway, Tooele	72.74 50	P	P	17 19 07.0	+1.3
	baz=314,SNR=102					
DUG			S	SKiKP	17 28 14.0	+0.6
	baz=314					
OJC	Ojcow	72.79 325	*e*P	P	17 19 06.5	+0.8
OJC			*ep*P	pP	17 20 02.8	+0.5
OJC			*e*S	S	17 28 08.0	-2.9
OJC	Ojcow	72.79 325	IAmb	IAmb	17 19 07.7	
	comp=Z,341nm,1.0s					
CFR	Carcaliu	72.80 317	⇑P	P	17 19 06.3	+0.5
CFR	Carcaliu	72.80 317	⇑P	S	17 28 05.8	-5.3
STHS	Stebnicka Huta	72.80 324	*e*P	P	17 19 06.5	+0.7
STHS	Stebnicka Huta	72.80 324	*e*P	P	17 19 06.5	+0.7
MPMC	Manual Prospec	72.89 56	P	P	17 19 07.4	+0.6
	baz=313,SNR=139					
MPMC			S	SKiKP	17 28 14.1	+0.4
	baz=313					
TPGR	Topolog	72.89 317	⇓P	P	17 19 07.1	+0.7
TPGR	Topolog	72.89 317	⇑P	S	17 28 14.9	+2.7
ODBI	Odobesti	72.90 318	⇑P	P	17 19 08.0	+1.6
UZH	Uzhgorod	72.95 323	⇑*i*P	P	17 19 06.0	-0.6
UZH			*e*		17 19 17.5	
UZH			*e*S	S	17 28 12.8	+0.2
UZH			pmax	pmax		
	comp=Z,17nm,0.8s					
VRI	Vrincioaia	72.98 318	⇓P	P	17 19 07.9	+1.0
VRI	Vrincioaia	72.98 318	⇑P	S	17 28 20.1	+6.9
FURC	Furnace Creek,	72.98 56	P	P	17 19 08.1	+1.1
	baz=313,SNR=180					
FURC			S	SKiKP	17 28 15.2	+1.6
	baz=313					
TPNV	Topopah Spring	73.01 55	IAmb	IAmb	17 19 09.4	
	comp=Z,128nm,0.7s					
TPNV	Topopah Spring	73.01 55	P	P	17 19 08.4	+0.9
	baz=313,SNR=134					
TPNV			S	S	17 28 16.6	+2.4
	baz=313					
PLOR	Plostina	73.03 318	⇓P	P	17 19 08.0	+0.8
PLOR	Plostina	73.03 318	⇑P	S	17 28 17.3	+3.6
TRNA	Turayna	73.04 288	P	P	17 19 07.4	-0.2
CRVS	Cervenica-Dubn	73.10 323	*e*P	P	17 19 08.2	+0.6
CRVS			pmax	pmax		
	comp=Z,620nm,1.7s					
CRVS	Cervenica-Dubn	73.10 323	*e*P	P	17 19 08.2	+0.6
CRVS			*e*S	SKiKP	17 28 13.4	-0.1
OSI	Osito Audit: C	73.12 58	P	P	17 19 08.7	+0.7
	baz=313,SNR=5.1					
OSI			S	S	17 28 17.2	+2.0
	baz=313					
BMR	Baia Mare	73.14 321	⇑P	P	17 19 08.9	+1.1
SLWR	Sila	73.16 287	P	P	17 19 08.3	+0.1
LRMC	Laurel Mtn Rad	73.16 57	P	P	17 19 08.7	+0.4
	baz=313,SNR=61					
LRMC			S	S	17 28 16.3	+0.5
	baz=313					
TIRR	Tirgusor	73.18 316	⇓P	P	17 19 08.5	+0.5
TIRR	Tirgusor	73.18 316	⇓P	S	17 28 20.2	+4.8
TIRR	Tirgusor	73.18 316	IAmb	IAmb	17 19 09.3	
	comp=Z,249nm,0.9s					
ARCR	ARCALIA	73.19 320	⇑P	P	17 19 09.7	+1.6
ARCR	ARCALIA	73.19 320	⇓P	S	17 28 21.1	+5.7
NIE	Niedzica	73.20 324	*e*P	P	17 19 10.0	+1.8
NIE			*ep*P	pP	17 20 04.3	-0.5
NIE			*e*S	S	17 28 17.3	+1.7
GRER		73.22 318	⇑P	P	17 19 09.8	+1.6
BISRR	Bisoca	73.22 318	⇓P	P	17 19 10.0	+1.6
BISRR	Bisoca	73.22 318	⇑P	S	17 28 23.7	+7.7
HARR	Harsova	73.25 317	⇑P	P	17 19 09.0	+0.5
OZUR		73.26 319	⇓P	P	17 19 10.1	+1.5
TSCT	Constanta Port	73.28 316	⇑P	P	17 19 09.5	+0.9
GWY	Greenwater Val	73.29 56	IAmb	IAmb	17 19 10.8	
	comp=Z,210nm,0.6s					
TLBR	Topalu	73.30 317	⇑P	P	17 19 09.6	+0.8
NLU	North Lily Min	73.31 50	IAmb	IAmb	17 19 12.7	
	comp=Z,156nm,0.9s					
QSM	Queen of Sheba	73.32 56	IAmb	IAmb	17 19 10.6	
	comp=Z,219nm,0.7s					
RUE	Ruedersdorf	73.35 329	*e*P	P	17 19 09.6	+0.8
RUE	Ruedersdorf	73.35 329	*e*P	P	17 19 10.0	+1.1
	comp=Z,1µm,1.7s,baz=34,slow=5.7					
EFOR	EFORIE	73.35 316	⇓P	P	17 19 10.0	+1.0
BSEG	Bad Segeberg	73.37 332	*e*P	P	17 19 10.1	+1.2
	comp=Z,730nm,1.8s,baz=34,slow=5.7					
EDW2	Edwards Air Fo	73.38 57	P	P	17 19 10.2	+0.7
	baz=313,SNR=115					
EDW2			S	S	17 28 19.8	+1.6
	baz=313					
MFTR	Murfatlar	73.38 316	⇓P	P	17 19 09.9	+0.7
BIGH	Upper Bighouse	73.39 342	*e*P	P	17 19 09.1	+0.1
MLA1	Latheron	73.44 341	⇓*e*P	P	17 19 09.2	-0.1
ULM	Lac du Bonnet	73.47 34	P	P	17 19 09.1	-0.5
	comp=Z,410nm,0.6s,baz=321,slow=6.4,SNR=439					
ULM			S	S	17 28 17.2	-1.2
	comp=Z,4.6nm,0.7s,baz=77,slow=21,SNR=11					
NEHR	Nehoiu	73.51 318	⇑P	P	17 19 10.8	+0.8
NEHR	Nehoiu	73.51 318	⇓P	S	17 28 23.7	+4.6
MPU	Maple Canyon	73.51 50	IAmb	IAmb	17 19 12.4	
	comp=Z,150nm,0.7s					
TGMR	Targu Mures	73.52 320	⇑P	P	17 19 11.9	+1.8
DOPR	Dopca	73.54 319	⇑P	P	17 19 11.7	+1.5
DOPR	Dopca	73.54 319	⇓P	S	17 28 23.4	+4.0
RAC	Raciborz	73.55 326	*e*P	P	17 19 11.4	+1.3
RAC			*e*S	S	17 28 19.9	+0.5
RAC	Raciborz	73.55 326	*e*P	P	17 19 11.4	+1.3
RAC			*e*S	S	17 28 19.9	+0.5
SNCC	San Nicolas Is	73.55 60	P	P	17 19 11.0	+0.5
	baz=313,SNR=13					
SNCC			S	S	17 28 21.2	+1.2
	baz=313					
PGOR	Pogoanele	73.56 317	⇑P	P	17 19 11.8	+1.6
MANR	Mangalia	73.56 316	⇑P	P	17 19 10.9	+0.6
GAZ	Gaziantep	73.59 306	IAmb	IAmb	17 19 12.3	
	comp=Z,181nm,0.8s					
DECC	Green Verdugo	73.60 58	P	P	17 19 11.2	+0.5
	baz=313,SNR=12					
DECC			S	S	17 28 22.1	+1.6
	baz=313					
AMRR	Amara	73.60 317	⇓P	P	17 19 11.7	+1.1
ISR	Istrita	73.61 318	⇓P	P	17 19 12.4	+1.7
MLR	Muntele Rosu	73.63 318	⇓P	P	17 19 11.5	+0.7
MLR	Muntele Rosu	73.63 318	⇑P	S	17 28 23.8	+3.1
MLR	Muntele Rosu	73.63 318	S	S	17 28 19.5	-1.2
	comp=Z,16nm,1.1s,baz=219,slow=23,SNR=19					
MLR	Muntele Rosu	73.63 318	IAmb	IAmb	17 19 13.2	
	comp=Z,223nm,1.3s					
MEEK	Meekatharra	73.68 201	P	P	17 19 10.7	-0.4
KSP	Ksiaz	73.71 327	*e*P	P	17 19 11.8	+0.8
KSP			*ep*P	pP	17 20 06.7	-1.1
KSP			*e*S	S	17 28 20.4	-0.7
SHOC	Shoshone, Teco	73.72 56	P	P	17 19 11.8	+0.4
	baz=313,SNR=18					
SHOC			S	S	17 28 22.9	+1.1
	baz=313					
ICOR	Ion Corvin	73.73 316	⇓P	P	17 19 12.5	+1.3
MDND	Maddock	73.75 38	P	P	17 19 11.9	+0.5
	baz=320,SNR=42					
MDND			S	S	17 28 22.7	+1.0
	baz=320					
LANS	Liptovska Anna	73.75 324	*e*P	P	17 19 12.7	+1.3
LANS			pmax	pmax		
	comp=Z,84nm,0.9s					
LANS	Liptovska Anna	73.75 324	*e*P	P	17 19 12.7	+1.3
LANS			*ep*P	pP	17 20 10.1	+2.0
OKC	Ostrava-Krasne	73.76 326	*e*P	P	17 19 12.5	+1.1
OKC	Ostrava-Krasne	73.76 326	*e*P	P	17 19 12.5	+1.1
MESR	Meseseni	73.77 321	⇑P	P	17 19 12.9	+1.4
MWC	Mount Wilson	73.79 58	IAmb	IAmb	17 19 13.7	
	comp=Z,261nm,1.2s					
CBBR	Cluj-Babes-Bol	73.79 321	⇑P	P	17 19 13.0	+1.4
CJR	Cluj-Napoca	73.81 321	⇓P	P	17 19 13.1	+1.3
GSC	Goldstone, Bar	73.81 56	P	P	17 19 12.5	+0.5
	baz=313,SNR=18					
GSC			S	S	17 28 24.2	+1.2
	baz=313					
BRTR	Keskin Array B	73.83 310	P	P	17 19 12.6	+0.5
	comp=Z,50nm,0.8s,baz=65,slow=4.0,SNR=114					
BRTR			S	S	17 28 20.2	-3.0
	comp=Z,2.4nm,0.8s,baz=76,slow=7.6,SNR=2.9					
KECS	Kecovo	73.84 323	*e*P	P	17 19 12.5	+0.7
KECS			pmax	pmax		
	comp=Z,64nm,1.4s					
KECS	Kecovo	73.84 323	*e*P	P	17 19 12.5	+0.7
PSN	Preselentsi	73.86 316	P	P	17 19 13.0	+1.0
MDB	Medias	73.88 320	⇑P	P	17 19 13.8	+1.7
SECR		73.90 318	⇑P	P	17 19 13.5	+1.2
SECR		73.90 318	⇑P	S	17 28 24.4	+0.8
LEHL	Lehliu	73.95 317	⇑P	P	17 19 13.7	+1.2
SHPR	Sheep Range	73.95 55	IAmb	IAmb	17 19 14.8	
	comp=Z,137nm,0.8s					
HLG	Helgoland	73.95 334	*e*P	P	17 19 13.5	+1.1
	comp=Z,535nm,1.1s,baz=34,slow=5.7					
RASA	Rasa	73.98 317	⇓P	P	17 19 13.8	+1.1
RRX	Edison Barstow	73.99 57	P	P	17 19 13.7	+0.7
	baz=313					
RRX			S	S	17 28 26.8	+2.0
	baz=313					
FMP	Fort Macarthur	73.99 58	P	P	17 19 13.3	+0.4
	baz=313					
FMP			S	S	17 28 25.7	+0.9
	baz=313					
CHVC	Chvalec	74.00 327	*e*P	P	17 19 13.7	+0.9
BFSC	Mount Baldy Ra	74.02 58	P	P	17 19 13.4	+0.1
	baz=313,SNR=77					
BFSC			S	S	17 28 25.6	+0.2
	baz=313					
MORC	Moravsky Berou	74.06 326	⇓P	P	17 19 14.1	+1.0
MORC	Moravsky Berou	74.06 326	*e*P	P	17 19 13.8	+0.7
MORC			*ep*P	pP	17 20 08.8	-1.1
MORC			*e*S	S	17 28 24.9	-0.2
MORC	Moravsky Berou	74.06 326	IAmb	IAmb	17 19 14.8	
	comp=Z,178nm,0.9s					
LTVH	Ltavrtes, Hu	74.06 322	⇓P	P	17 19 14.6	+1.5
LTVH	Ltavrtes, Hu	74.06 322	P	P	17 19 13.8	+0.6
MCD	Coleburn Disti	74.07 341	*e*P	P	17 19 13.1	+0.1
SULR		74.08 318	⇓P	P	17 19 14.2	+1.0
UPC	Upice	74.08 327	*e*P	P	17 19 14.4	+1.2
UPC	Upice	74.08 327	*e*P	P	17 19 14.4	+1.2
DPC	Dobruska-Polom	74.09 327	*e*P	P	17 19 14.5	+1.2
DPC			*e*S	S	17 28 27.3	+1.8
DPC	Dobruska-Polom	74.09 327	*e*P	P	17 19 14.5	+1.2
DPC			*e*S	S	17 28 27.3

K22A Casper 74.33 45 IAmb IAmb 17 19 16.5
comp=Z,379nm,1.6s
K22A Casper 74.33 45 P **P 17 19 14.7 -0.3**
baz=317,SNR=36
K22A S **S 17 28 28.8 +0.1**
baz=317
ARR Arges 74.34 319 ⇑P **P 17 19 16.4 +1.6**
BORR Bors 74.34 322 ⇓P **P 17 19 16.3 +1.5**
LEWI Lewis, Hebride 74.35 343 *e*P **P 17 19 14.7 +0.1**
LEWI IAmb IAmb 17 19 16.8
comp=Z,140nm,0.9s
FLTG Flechtingen 74.38 331 *e*P **P 17 19 15.4 +0.6**
comp=Z,841nm,1.8s,baz=34,slow=5.7
FLTG *e*S **S 17 28 29.0 +0.6**
P17A Butcher Ranch, 74.38 50 IAmb IAmb 17 19 17.5
comp=Z,431nm,1.3s
HEC Hector,Ludlow 74.41 56 P **P 17 19 16.0 +0.5**
baz=314,SNR=70
HEC S **S 17 28 31.6 +2.0**
baz=314
IVI Ivigtut 74.43 5 *i* P **P 17 19 14.2 -0.7**
IVI IAmb IAmb 17 19 16.2
comp=Z,233nm,0.7s
IVI Ivigtut 74.43 5 P **P 17 19 14.8 -0.2**
SHAO Shalim 74.44 280 P **P 17 19 16.4 +0.6**
SNR=30
SHAO Shalim 74.44 280 *i* P **P 17 19 16.0 +0.2**
SNR=103
BBRC Big Bear Solar 74.45 57 P **P 17 19 16.2 +0.3**
baz=314,SNR=16
BBRC S **S 17 28 31.0 +0.6**
baz=314
RSSD Black Hills 74.49 43 P **P 17 19 15.3 -0.7**
RSSD pmax pmax
comp=Z,145nm,0.8s
RSSD Black Hills 74.49 43 P **P 17 19 15.3 -0.7**
RSSD IAmb IAmb 17 19 16.8
comp=Z,145nm,0.8s
RSSD Black Hills 74.49 43 P **P 17 19 16.2 +0.2**
baz=318
RSSD S **S 17 28 29.9 -0.6**
baz=318
RSSD Black Hills 74.49 43 P **P 17 19 16.0 +0.1**
RSSD pP **pP 17 20 14.3 +1.3**
PSZ Piszkesteto 74.53 323 ⇓P **P 17 19 17.0 +1.1**
PSZ Piszkesteto 74.53 323 IAmb IAmb 17 19 19.6
comp=Z,165nm,0.9s
PSZ Piszkesteto 74.53 323 P **P 17 19 16.4 +0.5**
VYHS Vyhne 74.53 324 *e*P **P 17 19 16.9 +1.1**
VYHS pmax pmax
comp=Z,188nm,1.0s
VYHS Vyhne 74.53 324 *e*P **P 17 19 16.8 +1.0**
VYHS *e*pP **pP 17 20 11.8 -0.8**
VYHS *e*S **S 17 28 27.5 -2.8**
P18A Preston Nutter 74.54 49 IAmb IAmb 17 19 18.6
comp=Z,224nm,1.0s
SGRR Singureni 74.55 318 ⇑P **P 17 19 16.5 +0.5**
STFAR Stefanesti-Arg 74.56 319 ⇑P **P 17 19 17.4 +1.3**
CLL Collm 74.58 329 ⇓*i* P **P 17 19 16.3 +0.3**
CLL *e**PP **pP 17 20 12.0 -0.9**
CLL *i* S **S 17 28 29.2 -1.5**
CLL *e* 17 29 00.0
CLL pmax pmax
comp=Z,290nm,0.8s
CLL Collm 74.58 329 ⇓*i* P **P 17 19 16.3 +0.3**
comp=Z,290nm,0.8s
CLL *i* x x 17 19 20.6
CLL *e*pP **pP 17 20 12.0 -0.9**
CLL *e*x x 17 20 17.0
CLL *e*(sP) **sP 17 20 35.0 -3.9**
CLL *i* S **S 17 28 29.2 -1.5**
CLL *e*x x 17 28 54.0
CLL *e*SKSac **SKSac 17 29 00.0 -0.4**
CLL Collm 74.58 329 *e*P **P 17 19 16.7 +0.7**
comp=Z,290nm,0.8s,baz=34,slow=5.7
CLL *e*pP **pP 17 20 13.4 +0.5**
baz=33,slow=5.9
CLL *e*S **S 17 28 30.7 0.0**
CLL Collm 74.58 329 IAmb IAmb 17 19 18.6
comp=Z,214nm,0.7s
BRG Berggiesshubel 74.58 328 *i* P **P 17 19 16.5 +0.4**
BRG Amp 17 19 19.0
comp=Z,159nm,1.1s
BRG *e*x x 17 19 28.1
BRG Amp 17 19 30.1
comp=Z,118nm,1.4s
BRG pP **pP 17 20 12.4 -0.5**
BRG Amp 17 20 21.2
comp=Z,184nm,1.7s
BRG SKiKP **SKiKP 17 28 11.0 -4.7**
BRG Amp 17 28 12.7
comp=Z,32nm,1.5s
BRG S **S 17 28 30.8 0.0**
BRG Amp 17 28 38.9
comp=Z,344nm,2.9s
BRG SKS **SKSac 17 28 53.6 -6.8**
BRG Amp 17 28 56.4
comp=Z,115nm,1.8s
BRG ⇑SS **ScS 17 29 02.8 -1.1**
BRG Amp 17 29 04.3
comp=Z,37nm,1.1s
BRG pS pS 17 29 29.5 -9.4
BRG Amp 17 29 31.8
comp=Z,33nm,1.3s
BRG Amp 17 42 40.0
comp=Z,27nm,19.7s
BRG Amp 17 42 46.0
comp=E,19nm,19.2s
BRG Amp 17 42 50.0
comp=N,22nm,19.2s
BRG Berggiesshubel 74.58 328 *i* P **P 17 19 16.4 +0.4**
BRG *e* 17 19 28.0
BRG 17 20 12.4
BRG S **S 17 28 30.8 0.0**
BRG 17 28 53.6
BRG 17 29 02.8
BRG PS pS 17 29 29.5 -9.4
BRG pmax pmax
comp=Z,159nm,1.1s
BRG MLR MLR
comp=E,19μm,19.2s
BRG Berggiesshubel 74.58 328 *e*P **P 17 19 17.0 +0.9**
comp=E,159nm,1.1s,baz=34,slow=5.7
BRG *e*pP **pP 17 20 13.8 +0.9**
baz=33,slow=5.9
LCRK Leigh Creek 74.59 183 P **P 17 19 17.6 +1.4**
PRD Provadia 74.60 316 P **P 17 19 17.0 +0.7**
NRS Narsarsuaq 74.61 3 *i* P **P 17 19 15.0 -1.0**
NRS Narsarsuaq 74.61 3 IAmb IAmb 17 19 17.9
comp=Z,277nm,1.2s
PVCC Panska Ves 74.62 328 *e*P **P 17 19 17.0 +0.7**
PVCC Panska Ves 74.62 328 *e*P **P 17 19 17.0 +0.7**
NRDL Niedersach Rie 74.63 331 *e*P **P 17 19 17.3 +1.1**
comp=Z,700nm,2.0s,baz=34,slow=5.7
NRDL *e*pP **pP 17 20 14.1 +1.0**
baz=33,slow=5.9
KOLL Kolacno 74.64 325 *e*P **P 17 19 17.4 +0.9**
MULG Mulgathing 74.65 186 P **P 17 19 17.2 +0.7**
RETH Rethem/Aller, 74.68 332 *e*P **P 17 19 17.6 +1.1**
comp=Z,372nm,1.2s,baz=34,slow=5.7
RETH *e*pP **pP 17 20 14.5 +1.0**
baz=33,slow=5.9
JAVC Velka Javorina 74.72 325 *e*P **P 17 19 18.8 +1.8**
JAVC *e*pP **pP 17 20 13.1 -0.8**
JAVC *e*S **S 17 28 32.8 +0.2**
ASSE Asse, Remlinge 74.74 331 *e*P **P 17 19 17.8 +1.0**
comp=Z,631nm,2.0s,baz=34,slow=5.7
ASSE *e*pP **pP 17 20 15.1 +1.4**
baz=33,slow=5.9
MURC Murrieta 74.74 58 P **P 17 19 17.4 +0.1**
baz=314,SNR=30
MURC S **S 17 28 34.4 +1.2**
baz=314
DEV Deva 74.75 320 ⇓P **P 17 19 18.4 +1.3**
SRU San Rafael Swe 74.76 50 IAmb IAmb 17 19 19.4
comp=Z,198nm,0.8s
FBE Freiberg 74.76 329 *e*P **P 17 19 18.3 +1.2**
comp=Z,252nm,1.0s,baz=34,slow=5.7
FBE *e*pP **pP 17 20 15.1 +1.1**
baz=33,slow=5.9
FBE *e*S **S 17 28 34.0 +1.3**
RAZG Razgrad 74.77 317 ⇓P **P 17 19 18.0 +0.7**
VRAC Vranov 74.81 326 ⇓P **P 17 19 18.6 +1.2**
VRAC Vranov 74.81 326 S **S 17 28 32.9 -0.4**
comp=Z,3.7nm,0.6s,baz=251,slow=18,SNR=8.6

VRAC Vranov 74.81 326 *e*P **P 17 19 18.5 +1.1**
VRAC *e*pP **pP 17 20 13.2 -1.1**
VRAC *e*S **S 17 28 33.6 +0.2**
KPL Plockton 74.83 342 ⇓*e*P **P 17 19 17.7 +0.4**
KPL IAmb IAmb 17 19 19.8
comp=Z,296nm,1.0s
BSZH Besenyszg 74.84 323 ⇑P **P 17 19 19.0 +1.4**
BSZH Besenyszg 74.84 323 P **P 17 19 18.8 +1.2**
GMRC Granite Mounta 74.85 56 P **P 17 19 18.7 +0.7**
baz=314,SNR=154
GMRC S **S 17 28 36.5 +1.9**
baz=314
PKCU Pink Cliffs 74.94 52 IAmb IAmb 17 19 21.0
comp=Z,154nm,0.8s
EDU Dundee 74.94 340 *e*P **P 17 19 18.1 0.0**
COPA Copaceanca 74.98 318 ⇓P **P 17 19 19.0 +0.5**
PRU Pruhonice 75.07 328 *e*P **P 17 19 19.7 +0.8**
PRU *e*S **S 17 28 38.1 +1.9**
PRU Pruhonice 75.07 328 *e*P **P 17 19 19.7 +0.8**
PRU *e*S **S 17 28 38.1 +1.9**
KRUC Moravsky 75.08 326 *e*P **P 17 19 19.7 +0.7**
KRUC *e*pP **pP 17 20 14.3 -1.6**
KRUC *e*S **S 17 28 37.5 +1.1**
CLZ Clausthal 75.08 331 *e*P **P 17 19 20.2 +1.3**
comp=Z,850nm,1.7s,baz=34,slow=5.7
CLZ *e*pP **pP 17 20 17.1 +1.2**
baz=33,slow=5.9
DOK Doka 75.09 281 P **P 17 19 19.5 0.0**
SNR=63
NEUB Neuenburg 75.11 330 *e*P **P 17 19 19.9 +0.9**
comp=Z,549nm,1.5s,baz=34,slow=5.7
DMTO DMTO 75.12 280 P **P 17 19 19.5 -0.1**
SNR=28
ARMA Armidale 75.13 171 IAmb IAmb 17 19 22.6
comp=Z,314nm,0.8s
ARMA Armidale 75.13 171 P **P 17 19 20.5 +1.1**
PFO Pinyon Flats O 75.18 57 P **P 17 19 19.8 -0.2**
PFO pmax pmax
comp=Z,162nm,1.0s
PFO Pinyon Flats O 75.18 57 P **P 17 19 19.8 -0.2**
PFO IAmb IAmb 17 19 21.6
comp=Z,162nm,0.9s
PFO Pinyon Flats O 75.18 57 P **P 17 19 20.3 +0.3**
baz=314,SNR=52
PFO S **S 17 28 39.1 +0.9**
baz=314
PFO Pinyon Flats O 75.18 57 P **P 17 19 20.2 +0.3**
PFO pP **pP 17 20 19.0 +1.9**
GZR Gura Zlata 75.18 320 ⇓P **P 17 19 20.3 +0.6**
TPFO Pinon Flats 75.18 57 P **P 17 19 20.2 +0.3**
baz=314,SNR=64
TPFO S **S 17 28 39.2 +0.9**
baz=314
BELC Belle Mtn. Jos 75.19 57 P **P 17 19 20.1 +0.1**
baz=314,SNR=34
BELC S **S 17 28 38.8 +0.4**
baz=314
BUD Budapest 75.23 324 P **P 17 19 20.1 +0.3**
TREC Trest 75.25 327 *e*P **P 17 19 20.9 +0.9**
TREC Trest 75.25 327 *e*P **P 17 19 20.9 +0.9**
O20A White River Ci 75.26 48 IAmb IAmb 17 19 22.9
comp=Z,162nm,0.8s
O20A White River Ci 75.26 48 P **P 17 19 20.3 -0.1**
baz=316,SNR=136
O20A S **S 17 28 38.3 -0.8**
baz=316
ZIMR 75.26 317 ⇓P **P 17 19 20.6 +0.5**
MODS Modra-Piesok 75.27 325 *e*P **P 17 19 21.2 +1.1**
MODS pmax pmax
comp=Z,1μm,2.6s
MODS Modra-Piesok 75.27 325 *e*P **P 17 19 21.2 +1.1**
MODS *e*pP **pP 17 20 16.7 -0.3**
MODS *e*S **S 17 28 40.8 +2.3**
SZH Strazhica 75.28 317 P **P 17 19 20.0 -0.2**
SRO Srobarova 75.28 324 *e*P **P 17 19 21.6 +1.5**
SRO pmax pmax
comp=Z,335nm,1.3s
SRO Srobarova 75.28 324 *e*P **P 17 19 21.6 +1.5**
SRO *e*pP **pP 17 20 18.4 +1.4**
109C Camp Elliot, M 75.28 58 IAmb IAmb 17 19 21.4
comp=Z,134nm,0.8s
109C Camp Elliot, M 75.28 58 P **P 17 19 20.4 0.0**
baz=314,SNR=12
109C S **S 17 28 40.8 +1.7**
baz=314
SRO2 Moca 75.28 324 *e*P **P 17 19 20.5 +0.4**
SRO2 pmax pmax
comp=Z,176nm,1.2s
SRO2 Moca 75.28 324 *e*P **P 17 19 20.5 +0.4**
INVG Invergeldie, C 75.30 341 *e*P **P 17 19 19.7 -0.4**
AMBH Ambrzfalva 75.37 322 ⇑P **P 17 19 21.8 +1.1**
AMBH Ambrzfalva 75.37 322 P **P 17 19 21.6 +1.0**
ESY Stoneypath 75.42 340 *e*P **P 17 19 20.8 +0.1**
GTTG Gottingen 75.47 331 *e*P **P 17 19 22.2 +1.1**
comp=Z,416nm,1.6s,baz=34,slow=5.7
VLAD Vladila 75.47 318 ⇓P **P 17 19 21.7 +0.4**
NEE2 Needles Airpor 75.47 56 P **P 17 19 21.8 +0.4**
baz=314
NEE2 S **S 17 28 43.4 +2.2**
baz=314
ZST Bratislava 75.48 325 *e*P **P 17 19 22.7 +1.5**
ZST *e* 17 20 19.1
ZST *e*S **S 17 28 39.7 -1.1**
ZST Bratislava 75.48 325 *e*P **P 17 19 22.7 +1.5**
ZST *e*pP **pP 17 20 19.1 +0.9**
ZST *e*S **S 17 28 39.6 -1.2**
TANN Tannenbergstha 75.50 329 *e*P **P 17 19 22.4 +1.0**
comp=Z,342nm,1.8s,baz=34,slow=5.7
TANN *e*pP **pP 17 20 19.4 +1.0**
baz=33,slow=5.9
PBCC Pribram 75.52 328 *e*P **P 17 19 22.1 +0.6**
SRE Strehaia 75.54 319 ⇓P **P 17 19 22.6 +0.9**
WERD Werda 75.54 329 *e*P **P 17 19 22.6 +1.0**
comp=Z,389nm,1.7s,baz=34,slow=5.7
WERD *e*pP **pP 17 20 19.8 +1.2**
baz=33,slow=5.9
BZS Buzias 75.54 321 ⇓P **P 17 19 22.0 +0.4**
JMB Yambol 75.55 316 P **P 17 19 22.0 +0.3**
PLN Plauen 75.56 329 *e*P **P 17 19 22.7 +1.0**
comp=Z,433nm,1.8s,baz=34,slow=5.7
PLN *e*pP **pP 17 20 20.0 +1.2**
baz=33,slow=5.9
PLN *e*S **S 17 28 43.4 +1.7**
IBBN Ibbenburen 75.58 333 *e*P **P 17 19 22.6 +0.9**
comp=Z,251nm,0.8s,baz=34,slow=5.7
IBBN *e*pP **pP 17 20 19.6 +0.8**
baz=33,slow=5.9
IBBN *e*S **S 17 28 41.8 +0.1**
IRM Iron Mountain 75.59 56 P **P 17 19 23.1 +1.0**
baz=314,SNR=53
IRM S **S 17 28 43.7 +1.2**
baz=314
GUNZ Gunzen 75.60 329 *e*P **P 17 19 23.0 +1.1**
comp=Z,406nm,1.8s,baz=34,slow=5.7
GUNZ *e*pP **pP 17 20 20.5 +1.5**
baz=33,slow=5.9
GUNZ *e*S **S 17 28 44.0 +1.9**
MOX Moxa 75.63 330 *e*P **P 17 19 23.0 +1.0**
comp=Z,251nm,1.4s,baz=34,slow=5.7
MOX *e*pP **pP 17 20 20.2 +1.1**
baz=33,slow=5.9
MOX *e*S **S 17 28 43.5 +1.2**
WERN Wernitzgruen 75.64 329 *e*P **P 17 19 23.3 +1.1**
comp=Z,372nm,1.7s,baz=34,slow=5.7
WERN *e*pP **pP 17 20 20.7 +1.5**
baz=33,slow=5.9
EBL Broad Law 75.65 340 ⇓*e*P **P 17 19 22.1 +0.1**
CSKK Cskako 75.65 324 P **P 17 19 23.1 +0.8**
CSKK Cskako 75.65 324 P S 17 28 52.4 +10
NKC Novy Kostel 75.66 329 *e*P **P 17 19 21.7 -0.6**
NKC Novy Kostel 75.66 329 *e*P **P 17 19 21.7 -0.6**
NKC *e*S **S 17 28 51.5 +8.8**
U15A North Rim 75.67 53 IAmb IAmb 17 19 25.2
comp=Z,267nm,0.7s
BAR Barrett 75.69 58 IAmb IAmb 17 19 23.7
comp=Z,136nm,0.8s
MONP2 Monument Peak 75.69 58 P **P 17 19 23.3 +0.3**
baz=314,SNR=54
MONP2 S **S 17 28 44.9 +0.8**
baz=314
HERR Herculane 75.74 320 ⇑P **P 17 19 23.0 +0.3**
CMSA Cobar Meteorol 75.74 176 P **P 17 19 23.5 +0.8**
BC3 Big Chuckawall 75.75 57 P **P 17 19 23.5 +0.4**
baz=314,SNR=36
BC3 S **S 17 28 45.6 +1.1**

baz=314
RBK Rabkut 75.78 281 P **P 17 19 23.1 -0.4**
SNR=36
WHFO Wadi Hawf 75.81 281 P **P 17 19 22.9 -0.7**
SNR=51
FORT Forrest 75.81 192 P **P 17 19 23.4 +0.3**
DJES Djerdap 75.85 320 ⇓P **P 17 19 23.9 +0.4**
DJES Djerdap 75.85 320 *e*P **P 17 19 23.7 +0.3**
N23A Red Feather La 75.91 46 P **P 17 19 24.9 +0.7**
baz=317,SNR=71
N23A S **S 17 28 47.7 +1.3**
baz=317
EDRB Edirne 75.93 315 P **P 17 19 24.8 +0.9**
BANR Banloc 75.94 321 ⇓P **P 17 19 25.2 +1.4**
PUNG Punghina 75.95 319 ⇓P **P 17 19 24.4 +0.4**
BAIL Bailesti 75.96 319 ⇓P **P 17 19 25.2 +1.2**
PGBU Glenifferbraes 75.96 341 ⇓*e*P **P 17 19 24.4 +0.7**
PGBU IAmb IAmb 17 19 29.5
comp=Z,329nm,1.1s
STKA Stephens Creek 75.97 180 P **P 17 19 24.5 +0.5**
comp=Z,128nm,0.8s,baz=344,slow=7.1,SNR=130
STKA Stephens Creek 75.97 180 P **P 17 19 24.7 +0.7**
MANZ Manzenberg 75.99 329 *e*P **P 17 19 25.2 +1.1**
comp=Z,56nm,1.7s,baz=34,slow=5.7
MANZ *e*pP **pP 17 20 22.4 +1.2**
baz=33,slow=5.9
PV21 Cone Mtn., Par 76.00 49 IAmb IAmb 17 19 26.6
comp=Z,294nm,0.8s
IKP In-Ko-Pah, Jac 76.05 58 P **P 17 19 25.6 +0.7**
baz=314,SNR=88
IKP S **S 17 28 48.0 +0.3**
baz=314
UBBA Unterbreizbach 76.06 330 *e*P **P 17 19 25.2 +0.9**
comp=Z,452nm,1.7s,baz=34,slow=5.7
UBBA *e*pP **pP 17 20 22.5 +1.1**
baz=33,slow=5.9
CKRC Cesky Krumlov 76.10 327 *e*P **P 17 19 25.5 +0.7**
CKRC *e*S **S 17 28 48.3 +0.7**
ESK Eskdalemuir 76.10 340 *e*P **P 17 19 24.7 +0.1**
ESK Eskdalemuir 76.10 340 P **P 17 19 24.2 -0.4**
ESK pmax pmax
comp=Z,51nm,0.7s
ESK Eskdalemuir 76.10 340 P **P 17 19 24.2 -0.4**
RMX La Rumorosa 76.10 58 IAmb IAmb 17 19 27.3
comp=Z,213nm,1.1s
SOP Sopron 76.11 325 P **P 17 19 26.1 +1.4**
KHC Kasperske Hory 76.13 328 *e*P **P 17 19 25.6 +0.6**
KHC *e* 17 20 21.5
KHC *e*S **S 17 28 48.7 +0.7**
KHC Kasperske Hory 76.13 328 *e*P **P 17 19 25.6 +0.6**
KHC pP **pP 17 20 21.5 -0.5**
KHC *e*S **S 17 28 48.7 +0.7**
KHC Kasperske Hory 76.13 328 IAmb IAmb 17 19 28.6
comp=Z,147nm,0.8s
ROTZ Rotzenmuhle 76.13 329 *e*P **P 17 19 26.3 +1.4**
comp=Z,187nm,2.1s,baz=34,slow=5.7
ROTZ *e*pP **pP 17 20 23.3 +1.3**
baz=33,slow=5.9
MDVR Moldovita 76.14 320 ⇓P **P 17 19 25.3 +0.3**
PV04 Paradox Valley 76.16 50 IAmb IAmb 17 19 27.6
comp=Z,239nm,0.9s
PV20 West Nyswonger 76.16 50 IAmb IAmb 17 19 27.4
comp=Z,270nm,1.0s
PV19 Morning Glory 76.17 50 IAmb IAmb 17 19 27.5
comp=Z,297nm,0.8s
CONA Conrad Observa 76.20 326 *i* P **P 17 19 26.8 +1.4**
comp=Z,157nm,1.0s,SNR=66
CONA *i* P **pP 17 20 21.9 -0.6**
comp=Z,75nm,1.3s
CONA *e*S **S 17 28 52.3 +3.5**
comp=Z,26nm,1.5s
PV16 Nyswonger Mesa 76.21 50 IAmb IAmb 17 19 27.8
comp=Z,303nm,1.2s
EDMD Edmundbyers 76.23 339 *e*P **P 17 19 25.2 -0.2**
EDMD IAmb IAmb 17 19 27.4
comp=Z,126nm,1.2s
PV18 Skein Mesa, Pa 76.26 50 IAmb IAmb 17 19 28.0
comp=Z,183nm,0.8s
PV07 Paradox Valley 76.26 49 IAmb IAmb 17 19 29.5
comp=Z,241nm,1.1s
PV03 Paradox Valley 76.29 50 IAmb IAmb 17 19 28.2
comp=Z,144nm,0.7s
GEC2 GERESS Array S 76.31 327 *e*P **P 17 19 27.0 +0.9**
comp=Z,1μm,2.7s,baz=34,slow=5.7
GEC2 *e*pP **pP 17 20 24.4 +1.2**
baz=33,slow=5.9
GEC2 *e*S **S 17 28 52.8 +2.7**
GERES GERESS Array B 76.31 327 P **P 17 19 26.5 +0.4**
comp=Z,50nm,0.8s,baz=40,slow=5.8,SNR=137
GERES S **S 17 28 51.8 +1.7**
comp=Z,14nm,1.3s,baz=34,slow=9.7,SNR=6.3
GERES PKKPbc **PKKPbc 17 38 34.6 -0.8**
comp=Z,1.2nm,0.7s,baz=207,slow=1.1,SNR=6.1
GERES PKPPKP **P'P'df 17 46 38.1 -4.6**
comp=Z,2.1nm,1.0s,baz=177,slow=2.7,SNR=4.7
HWQ Hawqa 76.34 305 *e*P **P 17 19 26.9 +0.4**
WET Wettzell 76.39 328 *e*P **P 17 19 27.8 +1.4**
comp=Z,2μm,2.7s,baz=34,slow=5.7
WET *e*pP **pP 17 20 24.9 +1.4**
baz=33,slow=5.9
WET *e*S **S 17 28 53.3 +2.6**
MORH Mrgy, Hungar 76.39 323 ⇓P **P 17 19 26.5 +0.1**
MORH Mrgy, Hungar 76.39 323 ⇓*i* P **P 17 19 26.4 0.0**
MORH Mrgy, Hungar 76.39 323 P **P 17 19 26.4 0.0**
PV15 Paradox Valley 76.42 49 IAmb IAmb 17 19 30.9
comp=Z,266nm,0.9s
KUBS Kucevo 76.44 320 *e*P **P 17 19 26.2 -0.5**
BUG Bochum--Univer 76.47 332 *e*P **P 17 19 27.5 +0.7**
comp=Z,248nm,1.0s,baz=34,slow=5.7
BUG *e*pP **pP 17 20 24.9 +1.0**
baz=33,slow=5.9
ABTO Aybut 76.52 281 P **P 17 19 27.4 -0.3**
SNR=72
PV01 Paradox Valley 76.52 50 IAmb IAmb 17 19 29.0
comp=Z,118nm,0.7s
NEWG New Galloway 76.53 340 ⇓*e*P **P 17 19 27.0 0.0**
GLA Glamis 76.55 57 IAmb IAmb 17 19 29.6
comp=Z,216nm,0.7s
GLA Glamis 76.55 57 P **P 17 19 28.6 +1.1**
baz=315,SNR=104
GLA S **S 17 28 54.2 +1.2**
baz=315
GRF Grafenberg Arr 76.56 329 *e*P **P 17 19 28.8 +1.5**
comp=Z,356nm,0.9s,baz=34,slow=5.7
GRF *e*pP **pP 17 20 26.2 +1.7**
baz=33,slow=5.9
GRF *e*S **S 17 28 54.6 +2.0**
GRFO Grafenberg 76.56 329 P **P 17 19 28.1 +0.8**
GRFO pmax pmax
comp=Z,910nm,1.6s
GRFO Grafenberg 76.56 329 P **P 17 19 28.1 +0.8**
GRFO Grafenberg 76.56 329 P **P 17 19 28.3 +1.0**
GRFO pP **pP 17 20 24.6 +0.1**
SMCO Snowmass 76.63 48 IAmb IAmb 17 19 30.2
comp=Z,146nm,0.7s
SUSD Miller 76.64 40 P **P 17 19 27.9 0.0**
baz=320,SNR=54
MORW Morawa 76.67 202 P **P 17 19 27.8 -0.2**
MORW IAmb IAmb 17 19 30.7
comp=Z,136nm,0.7s
MORW Morawa 76.67 202 P **P 17 19 28.1 +0.1**
FRGS Fruska Gora 76.70 322 ⇓P **P 17 19 28.2 0.0**
FRGS Fruska Gora 76.70 322 ⇓*i* P **P 17 19 28.1 -0.1**
FRGS Fruska Gora 76.70 322 *e*P **P 17 19 28.1 -0.1**
KOVH Kovagotottos 76.72 323 P **P 17 19 28.3 +0.1**
KDZ Kurdzhali 76.74 316 P **P 17 19 29.0 +0.6**
KESW Keswick, Cumbr 76.74 340 ⇓*e*P **P 17 19 28.6 +0.4**
KESW IAmb IAmb 17 19 29.7
comp=Z,382nm,1.2s
F33A 5 Mile Ranch, 76.74 37 IAmb IAmb 17 19 29.2
comp=Z,456nm,1.3s
PLD Plovdiv 76.75 317 P **P 17 19 29.0 +0.5**
BHL Bhannes 76.77 305 *e*P **P 17 19 29.5 +0.6**
WUAZ Wupatki 76.83 53 P **P 17 19 30.2 +0.9**
baz=316,SNR=67
WUAZ S **S 17 28 59.6 +3.3**
baz=316
ZAPS Zavoj 76.86 319 *e*P **P 17 19 30.5 +1.4**
ARSA Arzberg 76.88 325 *i* P **P 17 19 30.0 +0.8**
comp=Z,71nm,0.9s,SNR=26
ARSA *e*P **pP 17 20 25.7 -0.7**
comp=Z,78nm,1.5s
ARSA S **S 17 28 55.1 -1.0**
comp=Z,31nm,1.6s
GAL1 Galloway 76.88 341 ⇓*e*P **P 17 19 29.2 +0.2**
GAL1 IAmb IAmb 17 19 30.0

comp=Z,484nm,1.7s
ISCO Idaho Springs 76.89 47 P **P 17 19 30.5 +0.8**
baz=318,SNR=93
ISCO S **S 17 28 59.0 +2.0**
baz=318
MOA Molln 76.90 326 *i* P **P 17 19 29.8 +0.6**
comp=Z,71nm,0.8s,SNR=19
MOA *e*P **pP 17 20 25.0 -1.5**
comp=Z,60nm,1.6s
MOA *e*S **S 17 29 00.1 +3.8**
comp=Z,54nm,1.4s
HPK Haverah Park 76.92 338⇓*e*P **P 17 19 29.7 +0.5**
HPK IAmb IAmb 17 19 30.6
comp=Z,930nm,1.8s
RCY Rachaya 76.95 304 *e*P **P 17 19 30.9 +0.9**
DQRL Deir Qamar 76.96 304 *e*P **P 17 19 31.1 +1.2**
ALN Alexandroupoli 76.98 315 P **P 17 19 30.5 +0.7**
ALN Alexandroupoli 76.98 315 IAmb IAmb 17 19 31.3
comp=Z,164nm,1.0s
Y14A Wickenburg 77.01 55 IAmb IAmb 17 19 32.2
comp=Z,162nm,1.0s
CLGH Cloghs, Cushen 77.01 341 *e*P **P 17 19 30.0 +0.4**
BOVS Bovan 77.02 320 ⇓P **P 17 19 29.6 -0.3**
BOVS Bovan 77.02 320 *e*P **P 17 19 29.6 -0.3**
BBOO Buckleboo 77.03 184 IAmb IAmb 17 19 34.1
comp=Z,700nm,1.9s
BBOO Buckleboo 77.03 184 P **P 17 19 30.4 +0.5**
EYMN Ely 77.04 33 IAmb IAmb 17 19 30.8
comp=Z,201nm,0.7s
EYMN Ely 77.04 33 P **P 17 19 29.4 -0.6**
baz=324,SNR=56
EYMN S **S 17 28 56.2 -1.6**
baz=324
RDO Rodhopi 77.05 316 P **P 17 19 31.3 +1.1**
RZN Rozhen 77.06 316 P **P 17 19 31.0 +0.6**
VTS Vitosha 77.07 318 ⇓P **P 17 19 31.7 +1.2**
VTS Vitosha 77.07 318 IAmb IAmb 17 19 32.9
comp=Z,225nm,0.9s
VTS Vitosha 77.07 318 *e*P **P 17 19 31.6 +1.2**
VTS Vitosha 77.07 318 P **P 17 19 32.0 +1.5**
TNS Taunus Mts 77.10 331 *e*P **P 17 19 31.3 +0.9**
comp=Z,995nm,2.6s,baz=34,slow=5.7
TNS *e*pP **pP 17 20 28.8 +1.1**
baz=33,slow=5.9
TNS *e*S **S 17 29 00.4 +1.9**
SHBL Chebaa 77.11 304 *e*P **P 17 19 31.9 +1.0**
TRUS Trudelj 77.16 321 *e*P **P 17 19 31.0 +0.3**
MVCO Mesa Verde 77.23 50 IAmb IAmb 17 19 33.0
comp=Z,153nm,0.8s
MVCO Mesa Verde 77.23 50 P **P 17 19 32.1 +0.5**
baz=317,SNR=117
MVCO S **S 17 29 02.1 +1.4**
baz=317
GRUS Gruza 77.28 320 *e*P **P 17 19 32.2 +0.8**
TEKS Tekeris 77.30 321⇓*i*P **P 17 19 31.1 -0.5**
TEKS Tekeris 77.30 321 *e*P **P 17 19 31.1 -0.5**
AHRW Bad Neuenahr-A 77.30 332 *e*P **P 17 19 32.4 +1.0**
comp=Z,253nm,1.1s,baz=34,slow=5.7
AHRW *e*pP **pP 17 20 29.8 +1.1**
baz=33,slow=5.9
AHRW *e*S **S 17 29 02.4 +2.0**
PTPS Port Pirie 77.31 183 P **P 17 19 33.1 +1.7**
NAPP Napperby 77.31 183 P **P 17 19 32.8 +1.3**
LHI Lord Howe Isla 77.37 164 IAmb IAmb 17 19 37.0
comp=Z,276nm,0.9s
CSS Mathiatis 77.38 307 IAmb IAmb 17 19 33.4
comp=Z,160nm,0.8s
KULA Kula-Manisa 77.39 312 P **P 17 19 32.6 +0.4**
WACR West Acre 77.41 337 *e*P **P 17 19 32.5 +0.6**
WACR IAmb IAmb 17 19 37.4
comp=Z,287nm,0.9s
NIUE Niue 77.41 133 P **P 17 19 32.3 0.0**
NIUE Niue 77.41 133 P **P 17 19 34.3 +2.0**
comp=Z,987nm,1.0s
DIVS Divibare 77.44 321⇓*i*P **P 17 19 32.7 +0.3**
DIVS Divibare 77.44 321 *e*P **P 17 19 32.9 +0.5**
LBWR Ladybower, Pea 77.45 338⇓*e*P **P 17 19 32.6 +0.4**
LBWR IAmb IAmb 17 19 35.3
comp=Z,263nm,0.8s
LEF Lefka 77.52 307 ⇓P **P 17 19 32.9 +0.1**
WIM Isle of Man 77.53 340 *e*P **P 17 19 32.8 +0.2**
BOSS Bosilegrad 77.53 318 *e*P **P 17 19 34.0 +1.2**
PERS Pernice 77.54 325 *i* P **P 17 19 33.6 +0.8**
PERS *e*pP **pP 17 20 29.2 -0.9**
PERS *i* S **S 17 29 03.4 +0.1**
SOKA Soboth 77.54 325 *i* P **P 17 19 33.6 +0.7**
comp=Z,206nm,1.3s,SNR=35
SOKA *e*P **pP 17 20 28.9 -1.3**
comp=Z,91nm,1.3s
SOKA *e*S **S 17 29 05.6 +2.3**
comp=Z,71nm,2.4s,SNR=6.8
HTT Hallett 77.54 182 P **P 17 19 34.0 +1.2**
BEBN Eben Emael 77.55 333 P **P 17 19 32.8 0.0**
comp=Z,285nm,0.9s
BEBN pP **pP 17 20 26.9 -3.2**
RJOB Jochberg 77.57 327 *e*P **P 17 19 34.6 +1.5**
comp=Z,186nm,1.0s,baz=34,slow=5.7
RJOB *e*pP **pP 17 20 32.1 +1.7**
baz=33,slow=5.9
BTNL Ternell 77.58 332 P **P 17 19 33.2 +0.2**
comp=Z,122nm,0.8s
BARS Barje 77.59 319 *e*P P 17 19 25.9 -7.3
BARS Barje 77.59 319 *e*P **P 17 19 33.3 +0.1**
MEM Membach 77.60 333 P **P 17 19 33.2 +0.2**
comp=Z,110nm,0.7s
SELS Selova 77.61 320 *e*P **P 17 19 32.7 -0.6**
MMB Musomiste 77.61 317 P **P 17 19 34.0 +0.6**
EZN Ezine 77.64 314 P **P 17 19 34.1 +0.7**
KAVA Kavala 77.68 316 P **P 17 19 34.5 +0.9**
RAYN Ar Rayn 77.71 291 P **P 17 19 33.7 -0.5**
RAYN pmax pmax
comp=Z,201nm,1.0s
RAYN Ar Rayn 77.71 291 P **P 17 19 34.5 +0.3**
RAYN Ar Rayn 77.71 291 P **P 17 19 33.7 -0.5**
RAYN IAmb IAmb 17 19 35.3
comp=Z,201nm,0.9s
RAYN Ar Rayn 77.71 291 P **P 17 19 33.9 -0.3**
RAYN Ar Rayn 77.71 291 *i* P **P 17 19 34.3 +0.1**
SNR=217
KKB Krupnik 77.72 318 P **P 17 19 34.0 +0.1**
NVR Nevrokopi 77.73 317 P **P 17 19 34.8 +0.8**
Q24A Divide 77.74 47 P **P 17 19 34.8 +0.4**
baz=318,SNR=82
Q24A S **S 17 29 06.7 +0.4**
baz=318
S22A 4UR Ranch, Cre 77.75 49 P **P 17 19 35.7 +1.2**
baz=317,SNR=157
S22A S **S 17 29 07.8 +1.5**
baz=317
BSTI Sart Tilman 77.77 333 P **P 17 19 34.3 +0.3**
comp=Z,35nm,0.7s
BSTI pP **pP 17 20 34.0 +2.7**
IVAS Ivanjica 77.78 320 *e*P **P 17 19 34.0 -0.2**
FUR Furstenfeldbru 77.80 328 *e*P **P 17 19 35.6 +1.4**
comp=Z,321nm,1.0s,baz=34,slow=5.7
BHOU Houvegnez 77.82 332 P **P 17 19 34.6 +0.4**
comp=Z,63nm,0.9s
MGCD Mangrove Creek 77.83 171 P **P 17 19 35.6 +1.3**
OGNE Ogallala 77.85 44 P **P 17 19 34.9 +0.2**
baz=319,SNR=25
OGNE S **S 17 29 06.8 0.0**
baz=319
ELMS Elmsett, Ipswi 77.86 336 *e*P **P 17 19 34.7 +0.3**
THAS Thassos island 77.87 316 P **P 17 19 35.1 +0.4**
OBKA Obir 77.87 325 *i* P **P 17 19 35.3 +0.5**
comp=Z,94nm,0.8s,SNR=18
OBKA *i* P **pP 17 20 30.6 -1.4**
comp=Z,35nm,0.9s
OBKA *e*S **S 17 29 08.4 +1.5**
comp=Z,37nm,1.7s
BBLS Lazići 77.89 321⇓*i*P **P 17 19 35.0 +0.1**
BBLS Lazići 77.89 321 *e*P **P 17 19 35.6 +0.7**
KBA Koelnbreinsper 77.89 326 *i* P **P 17 19 35.8 +0.9**
comp=Z,373nm,1.1s,SNR=89
KBA *e*P **pP 17 20 31.6 -0.7**
comp=Z,184nm,1.2s
KBA *e*S **S 17 29 09.6 +2.3**
comp=Z,80nm,1.5s,SNR=8.4
CWF Charnwood Fore 77.93 338⇓*e*P **P 17 19 34.9 +0.1**
BLDU Ballidu 77.96 201 P **P 17 19 35.1 0.0**
UCC Uccle 77.97 334 ⇓P **P 17 19 35.1 +0.1**
BCLA Clavier 78.00 333 ⇓P **P 17 19 35.3 +0.1**
comp=Z,87nm,0.9s
BCLA pP **pP 17 20 31.9 -0.7**
SRS Serrai 78.04 317 P **P 17 19 36.1 +0.4**

CRES Cresnjev 78.05 324⇓*i*P **P 17 19 35.8 +0.2**
CRES Cresnjev 78.05 324 *i* P **P 17 19 35.9 +0.2**
CRES *e*pP **pP 17 20 31.6 -1.4**
CRES *i* S **S 17 29 07.5 -1.1**
W18A Petrified Fore 78.05 52 P **P 17 19 37.0 +0.9**
baz=316,SNR=74
W18A S **S 17 29 11.1 +1.7**
baz=316
STU Stuttgart 78.06 330 *e*P **P 17 19 36.7 +1.1**
comp=Z,489nm,1.0s,baz=34,slow=5.7
STU *e*pP **pP 17 20 34.1 +1.1**
baz=33,slow=5.9
STU Stuttgart 78.06 330 IAmb IAmb 17 19 39.3
comp=Z,187nm,0.9s
KOKK Kokkinochori, 78.07 316 P **P 17 19 36.2 +0.4**
MRAK Mrakovica 78.09 323⇓*i*P **P 17 19 36.9 +1.0**
BGES Gesves 78.10 333 P **P 17 19 35.8 0.0**
comp=Z,92nm,0.8s
BGES pP **pP 17 20 34.3 +1.1**
RUDO Rudo 78.10 321 *e*P **P 17 19 35.8 -0.2**
SJES Sjenica 78.11 320 *e*P **P 17 19 36.9 +0.8**
E38A The Farm, Brul 78.11 34 IAmb IAmb 17 19 36.6
comp=Z,440nm,1.1s
WME Myndd Eilian 78.12 340⇓*e*P **P 17 19 35.9 +0.1**
MYKA Terra Mystica 78.14 326 *i* P **P 17 19 36.1 0.0**
comp=Z,111nm,0.9s,SNR=19
MYKA *i* P **pP 17 20 32.8 -0.8**
comp=Z,43nm,0.7s
MYKA *e*S **S 17 29 10.4 +0.6**
comp=Z,65nm,1.5s
LIA Limnos Island 78.17 315 P **P 17 19 36.6 +0.3**
BLY Banja Luka 78.18 323⇓*i*P **P 17 19 36.3 0.0**
BLY Banja Luka 78.18 323 *e*P **P 17 19 38.0 +1.7**
WLF1 Llynfaes 78.24 340⇓*e*P **P 17 19 36.5 0.0**
WLF1 IAmb IAmb 17 19 37.9
comp=Z,204nm,1.0s
RCHB Rochefort 78.25 333 P **P 17 19 36.6 0.0**
comp=Z,92nm,1.1s
RCHB pP **pP 17 20 35.0 +1.0**
SNF Seneffe 78.25 333 P **P 17 19 36.6 +0.1**
comp=Z,114nm,0.8s
SNF pP **pP 17 20 35.8 +1.8**
ECSD EROS Data Cent 78.26 39 IAmb IAmb 17 19 37.8
comp=Z,514nm,1.4s
ECSD EROS Data Cent 78.26 39 P **P 17 19 36.6 -0.2**
baz=322,SNR=167
ECSD S **S 17 29 09.5 -1.5**
baz=322
LJU Ljubljana 78.26 325⇓*i*P **P 17 19 36.7 -0.1**
LJU Ljubljana 78.26 325 *i* P **P 17 19 36.9 +0.1**
LJU *e*pP **pP 17 20 31.9 -2.2**
LJU *e*S **S 17 29 11.7 +0.9**
BMRD Maredsous 78.27 333 P **P 17 19 36.6 -0.1**
comp=Z,167nm,0.8s
SCHQ Schefferville 78.28 16 P **P 17 19 36.8 +0.1**
comp=Z,180nm,0.8s,baz=351,slow=5.3,SNR=250
SCHQ S **S 17 29 09.3 -1.5**
comp=Z,18nm,1.0s,baz=203,slow=15,SNR=12
SCHQ Schefferville 78.28 16 IAmb IAmb 17 19 39.1
comp=Z,158nm,0.8s
STIP Stip 78.28 318 *i* P **P 17 19 36.6 -0.3**
YLL Llanberis 78.32 339⇓*e*P **P 17 19 37.3 +0.4**
YRC Rhoscolyn 78.32 340⇓*e*P **P 17 19 36.5 -0.4**
SYDH Sydney Hard Ro 78.34 172 P **P 17 19 38.8 +1.7**
comp=Z,254nm,0.8s
KNT Kendrikon 78.34 317 P **P 17 19 38.0 +0.7**
WLF Walferdange 78.36 332 *e*P **P 17 19 38.2 +0.9**
comp=Z,305nm,1.5s,baz=34,slow=5.7
WLF *e*pP **pP 17 20 35.6 +0.9**
baz=33,slow=5.9
WLF Walferdange 78.36 332 P **P 17 19 37.7 +0.5**
comp=Z,58nm,1.3s
WATA Walderalm 78.37 328 *i* P **P 17 19 38.2 +0.7**
comp=Z,208nm,0.9s,SNR=57
WATA *i* P **pP 17 20 33.8 -1.1**
comp=Z,96nm,1.2s
WATA *e*S **S 17 29 14.1 +1.8**
comp=Z,122nm,1.7s
SOH Sokhos 78.38 317 P **P 17 19 37.7 +0.1**
VAY Valandovo 78.38 318 *i* P **P 17 19 38.4 +0.9**
WTTA Wattenberg 78.41 328 *e*P **P 17 19 38.7 +0.9**
comp=Z,208nm,0.9s,SNR=43
WTTA *i* P **pP 17 20 34.2 -1.0**
comp=Z,95nm,1.1s
WTTA *e*S **S 17 29 14.5 +1.7**
comp=Z,68nm,1.8s
WTTA *i* P **PKKPbc 17 38 32.3 +1.3**
comp=Z,5.9nm,0.7s
SKO Skopje 78.42 319 *i* P **P 17 19 39.1 +1.4**
OUR Ouranopolis 78.44 316 P **P 17 19 38.3 +0.5**
LLW Llanuwychllyn 78.46 339 *e*P **P 17 19 37.9 +0.2**
SDCO Great Sand Dun 78.46 48 P **P 17 19 39.1 +0.7**
baz=318,SNR=128
SDCO S **S 17 29 14.6 +0.7**
baz=318
MGRS Mrkonjic Grad 78.48 323⇓*i*P **P 17 19 39.2 +1.1**
ABTA Abfaltersbach 78.49 327 *i* P **P 17 19 37.9 -0.2**
comp=Z,83nm,1.2s,SNR=18
ABTA *e*P **pP 17 20 34.4 -1.2**
comp=Z,44nm,1.1s
ABTA *e*S **S 17 29 16.8 +3.3**
comp=Z,34nm,1.4s
DOU Dourbes 78.50 333 ⇓P **P 17 19 38.0 0.0**
comp=Z,62nm,1.1s
DOU pP **pP 17 20 36.8 +1.3**
214A Organ Pipe Nat 78.52 56 P **P 17 19 39.3 +0.8**
baz=316,SNR=64
214A S **S 17 29 15.9 +1.7**
baz=316
FETY Fethiye 78.54 310 P **P 17 19 38.3 -0.2**
MOTA Moosalm 78.54 328 *i* P **P 17 19 39.2 +0.7**
comp=Z,320nm,0.9s,SNR=71
MOTA *e*P **pP 17 20 34.1 -1.8**
comp=Z,99nm,1.0s
MOTA *e*S **S 17 29 15.7 +1.6**
comp=Z,152nm,1.6s
MOTA *i* P **PKKPbc 17 38 32.3 +1.6**
comp=Z,2.7nm,0.6s
CEY Cerknica 78.55 325⇓*i*P **P 17 19 38.3 -0.1**
AKAS Kas 78.55 310 IAmb IAmb 17 19 40.1
comp=Z,182nm,0.9s
HLM1 Long Mynd 78.55 338⇓*e*P **P 17 19 38.4 +0.2**
HLM1 IAmb IAmb 17 19 40.8
comp=Z,244nm,1.5s
RETA Reutte 78.55 328 *i* P **P 17 19 39.2 +0.8**
comp=Z,186nm,1.0s,SNR=43
RETA *i* P **pP 17 20 34.5 -1.5**
comp=Z,76nm,1.3s
RETA *e*S **S 17 29 15.9 +1.8**
comp=Z,118nm,1.6s,SNR=9.5
RETA *i* P **PKKPbc 17 38 31.6 +1.0**
comp=Z,3.1nm,0.7s
SQTA Sankt Quirin 78.61 328 *i* P **P 17 19 39.6 +0.9**
comp=Z,204nm,0.9s,SNR=40
SQTA *e*P **pP 17 20 34.3 -1.9**
comp=Z,114nm,1.6s
SQTA *e*S **S 17 29 16.3 +1.5**
comp=Z,48nm,1.4s
SQTA *e*P **PKKPbc 17 38 31.5 +1.0**
comp=Z,7.6nm,0.5s
YER Yerkesik 78.61 311 P **P 17 19 40.0 +1.1**
KLBR Kellerberrin 78.62 200 P **P 17 19 38.6 -0.1**
UPM Unac-Piva 78.64 321 *e*P **P 17 19 39.4 +0.3**
UBR Ueberruh 78.64 329 *e*P **P 17 19 39.8 +0.9**
comp=Z,116nm,1.3s,baz=34,slow=5.7
ELSH Elham, Standar 78.66 336 *e*P **P 17 19 38.7 -0.1**
PLG Polygyros 78.68 316 P **P 17 19 39.6 +0.4**
SPMN Marine on St. 78.72 36 P **P 17 19 38.6 -0.6**
baz=324,SNR=16
SPMN S **S 17 29 12.8 -2.9**
baz=324
BFO Black Forest 78.74 330 P **P 17 19 39.0 -0.4**
BFO pmax pmax
comp=Z,684nm,1.9s
BFO Black Forest 78.74 330 *e*P **P 17 19 40.3 +0.9**
comp=Z,564nm,1.9s,baz=34,slow=5.7
BFO Black Forest 78.74 330 P **P 17 19 39.0 -0.4**
BFO IAmb IAmb 17 19 41.1
comp=Z,684nm,1.9s
BFO Black Forest 78.74 330 P **P 17 19 39.6 +0.2**
BFO pP **pP 17 20 36.7 -0.2**
GRG Griva 78.74 317 P **P 17 19 39.9 +0.4**
PAIG Paliouri 78.90 316 P **P 17 19 40.6 +0.3**
FETA Feichten 78.95 328 *i* P **P 17 19 41.5 +0.8**
comp=Z,141nm,0.9s,SNR=37
FETA *e*P **pP 17 20 37.0 -1.3**

comp=Z,37nm,0.9s
FETA *e*S **S 17 29 19.6 +1.0**
comp=Z,104nm,1.6s,SNR=11
KSCO Kaye Shedlock' 79.01 45 IAmb IAmb 17 19 42.5
comp=Z,183nm,1.0s
KSCO Kaye Shedlock' 79.01 45 P **P 17 19 40.9 -0.2**
baz=319,SNR=10
KSCO S **S 17 29 16.7 -2.7**
baz=319
STRD Stroud 79.03 338⇓*e*P **P 17 19 41.1 +0.3**
STRD IAmb IAmb 17 19 42.1
comp=Z,271nm,0.9s
BRY Bratogost 79.04 321 *e*P **P 17 19 41.2 0.0**
DAVA Damuels 79.05 329 *i* P **P 17 19 41.7 +0.5**
comp=Z,215nm,0.9s,SNR=33
DAVA *e*P **pP 17 20 37.2 -1.6**
comp=Z,141nm,1.6s
DAVA *e*S **S 17 29 20.0 +0.4**
comp=Z,50nm,1.5s
DAVA *e*P **PKKPbc 17 38 31.0 +1.4**
comp=Z,11nm,1.2s
MCH1 Michaelchurch 79.06 338⇓*e*P **P 17 19 41.0 +0.1**
MCH1 IAmb IAmb 17 19 44.0
comp=Z,117nm,0.8s
PDG Podgorica 79.08 320 ⇑P **P 17 19 41.5 +0.2**
PDG Podgorica 79.08 320⇓*i*P **P 17 19 41.5 +0.2**
PDG Podgorica 79.08 320 IAmb IAmb 17 19 42.8
comp=Z,278nm,0.8s
PDG Podgorica 79.08 320 *e*P **P 17 19 41.5 +0.2**
KIJV Kijevo 79.11 323 P **P 17 19 41.1 -0.4**
PHP Peshkopia 79.12 319 P **P 17 19 41.9 +0.3**
PHP Peshkopia 79.12 319 P **S 17 29 20.6 +0.4**
HMNX Herstmonceux 79.14 336⇓*e*P **P 17 19 42.3 +0.9**
HMNX IAmb IAmb 17 19 44.7
comp=Z,544nm,0.9s
TWOA Tennyson Woods 79.15 182 P **P 17 19 42.4 +1.0**
SWN1 Swindon 79.17 337 *e*P **P 17 19 42.1 +0.6**
SWN1 IAmb IAmb 17 19 44.6
comp=Z,389nm,0.8s
BODT Bodrum 79.18 312 P **P 17 19 42.3 +0.3**
WOL Wolverton 79.19 337⇓*e*P **P 17 19 41.9 +0.2**
RICI Ricice 79.20 322 P **P 17 19 40.7 -1.2**
SMRN Sveta Marina 79.23 325 P **P 17 19 40.6 -1.4**
ECH Echery 79.25 331 P **P 17 19 42.1 -0.1**
ECH pP **pP 17 20 37.4 -2.3**
TREB Trebinje 79.27 321 *e*P **P 17 19 41.9 -0.4**
TREB Trebinje 79.27 321 *e*P **P 17 19 41.9 -0.4**
DAT Datca 79.29 311 P **P 17 19 42.3 -0.3**
DRME Dracevica, Mon 79.31 320⇓*i*P **P 17 19 42.7 +0.2**
NVLJ Novalja 79.31 324 P **P 17 19 41.1 -1.3**
BGNE Belgrade 79.37 41 P **P 17 19 42.2 -0.7**
baz=321,SNR=6.1
BGNE S **S 17 29 20.6 -2.2**
baz=321
ARG Arkhangelos 79.37 311 P **P 17 19 43.5 +0.5**
FNA Florina 79.37 318 P **P 17 19 43.0 0.0**
MUN Mundaring 79.38 201 P **P 17 19 43.5 +0.7**
OHR Ohrid 79.39 318 *i* P **P 17 19 43.4 +0.3**
MAKA Makarska 79.41 322 P **P 17 19 41.1 -1.9**
HCY Herceg Novi 79.42 321 *e*P **P 17 19 42.6 -0.5**
I37A Lemond, Waseca 79.44 37 IAmb IAmb 17 19 48.8
comp=Z,228nm,0.8s
STON Ston 79.44 321⇓*i*P **P 17 19 46.2 +3.0**
STON Ston 79.44 321 P **P 17 19 41.1 -2.1**
STON Ston 79.44 321 *e*P **P 17 19 42.4 -0.8**
TUC Tucson 79.47 55 P **P 17 19 44.0 +0.3**
TUC pmax pmax
comp=Z,86nm,0.9s
TUC Tucson 79.47 55 P **P 17 19 44.0 +0.3**
TUC Tucson 79.47 55 P **P 17 19 44.6 +0.9**
baz=316
TUC S **S 17 29 25.7 +1.4**
baz=316
TUC Tucson 79.47 55 P **P 17 19 44.5 +0.8**
TUC pP **pP 17 20 44.3 +2.8**
DAVOX Davos/Dischmat 79.48 328 S **S 17 29 23.8 -0.3**
comp=Z,19nm,1.1s,baz=204,slow=20,SNR=12
DAVOX PKKPbc PKKPbc 17 38 29.1 +0.3
comp=Z,4.4nm,0.6s,baz=207,slow=8.3,SNR=8.7
COWI Conover 79.48 33 IAmb IAmb 17 19 43.6
comp=Z,119nm,0.7s
T25A Trinidad 79.49 48 IAmb IAmb 17 19 44.9
comp=Z,137nm,0.8s
T25A Trinidad 79.49 48 P **P 17 19 44.3 +0.4**
baz=319,SNR=92
T25A S **S 17 29 24.0 -0.6**
baz=319
MORI Morici 79.52 323 P **P 17 19 41.9 -1.7**
SOCY Socotra 79.54 277 P **P 17 19 42.6 -1.7**
SNR=16
SOCY Socotra 79.54 277 IAmb IAmb 17 19 44.0
comp=Z,179nm,0.9s
RSBS Rosebush, Pemb 79.55 339⇓*e*P **P 17 19 43.7 0.0**
RSBS IAmb IAmb 17 19 46.2
comp=Z,165nm,0.9s
KZN Kozani 79.55 317 P **P 17 19 43.7 -0.3**
XOR Xorichti 79.57 316 P **P 17 19 43.7 -0.3**
TIR Tirane 79.65 319 ⇑P **S 17 29 28.5 +2.9**
TIR Tirane 79.65 319 IAmb IAmb 17 19 46.2
comp=Z,344nm,0.9s
KYMI Kymi, Euboea I 79.67 315 P **P 17 19 44.5 -0.1**
DUGI Dugi Otok 79.69 324 P **P 17 19 43.6 -0.9**
CAN Canberra 79.72 173 P **P 17 19 45.5 +0.9**
G40A Rib Lake 79.75 34 IAmb IAmb 17 19 46.3
comp=Z,178nm,0.9s
CNB Canberra Magne 79.75 173 P **P 17 19 45.8 +1.0**
KBN Korca 79.78 318 P **P 17 19 45.2 0.0**
KBN Korca 79.78 318 IAmb IAmb 17 19 46.7
comp=Z,363nm,1.0s
TYRN Tyrnavos 79.78 317 P **P 17 19 44.6 -0.5**
NEST Nestorio 79.81 318 P **P 17 19 45.5 +0.1**
LSTV Lastovo 79.88 322 P **P 17 19 43.3 -2.3**
PENT Pentalofos 79.94 318 P **P 17 19 46.2 +0.1**
KARY Karystos 79.96 314 P **P 17 19 45.9 -0.2**
TEOL Teolo 79.97 326 P **P 17 19 44.7 -1.3**
TEOL IAmb IAmb 17 19 47.2
comp=Z,146nm,0.8s
THL Klokotos Trika 80.00 317 P **P 17 19 45.2 -1.1**
ANMO Albuquerque 80.01 50*c*e*P **P 17 19 47.6 +0.9**
ANMO pmax pmax
comp=Z,180nm,1.3s
ANMO Albuquerque 80.01 50 P **P 17 19 47.0 +0.3**
ANMO IAmb IAmb 17 19 49.2
comp=Z,199nm,1.2s
ANMO Albuquerque 80.01 50 P **P 17 19 47.7 +0.9**
baz=318
ANMO S **S 17 29 33.1 +2.9**
baz=318
ANMO Albuquerque 80.01 50 P **P 17 19 47.1 +0.4**
ANMO pP **pP 17 20 48.0 +3.4**
KPRO Kipourio 80.02 317 P **P 17 19 46.0 -0.5**
NWAO Narrogin (SRO) 80.03 200 P **P 17 19 46.5 +0.3**
NWAO Narrogin (SRO) 80.03 200 P **P 17 19 46.3 +0.1**
NWAO Narrogin (SRO) 80.03 200 P **P 17 19 46.6 +0.3**
E43A Lone Tree Farm 80.07 32 IAmb IAmb 17 19 47.1
comp=Z,283nm,1.1s
ATAL Atalanti 80.17 316 P **P 17 19 46.9 -0.3**
ATAL Atalanti 80.17 316 P **S 17 29 29.0 -2.2**
LKR Lokris 80.22 316 P **P 17 19 47.0 -0.4**
LKR Lokris 80.22 316 P **S 17 29 29.0 -2.7**
N33A J Bar K, Exete 80.22 41 IAmb IAmb 17 19 47.4
comp=Z,144nm,0.8s
LSK Leskovik 80.23 318 P **P 17 19 48.7 +1.1**
LSK Leskovik 80.23 318 P **S 17 29 34.4 +2.4**
AGG Agios Georgios 80.26 316 P **P 17 19 46.8 -0.9**
DGAR Diego Garcia 80.27 250*c*e*P **P 17 19 48.2 +0.2**
DGAR pmax pmax
comp=Z,1μm,1.0s
DGAR Diego Garcia 80.27 250 P **P 17 19 48.2 +0.2**
DGAR Diego Garcia 80.27 250 P **P 17 19 47.3 -0.7**
DGAR Diego Garcia 80.27 250 P **P 17 19 47.9 -0.1**
HTL Hartland 80.36 339 *e*P **P 17 19 48.3 +0.4**
Y22D IRIS PASSCAL I 80.40 51 IAmb IAmb 17 19 50.9
comp=Z,141nm,0.8s
Y22D IRIS PASSCAL I 80.40 51 P **P 17 19 50.1 +1.3**
baz=318
Y22D S **S 17 29 36.2 +2.1**
baz=318
VLY Voula,Athens 80.42 314 P **P 17 19 47.1 -1.5**
VILL Villia 80.43 315 P **P 17 19 47.7 -1.0**
EVR Evrytania 80.60 316 P **P 17 19 49.1 -0.5**
EVR Evrytania 80.60 316 P **S 17 29 34.5 -1.4**
CBKS Cedar Bluff 80.61 44 IAmb IAmb 17 19 50.2
comp=Z,237nm,0.7s

CBKS	Cedar Bluff	80.61	44	P	P	17 19 48.9	-0.7
	baz=321,SNR=49						
CBKS				S	S	17 29 33.1	-2.8
	baz=321						
SANT	Santorini	80.68	312	⇓P	P	17 19 48.4	-1.6
I40A	Norwalk	80.71	35	IAmb	IAmb	17 19 56.5	
	comp=Z,123nm,0.5s						
SRN	Sarande	80.73	318	P	P	17 19 50.4	+0.3
SRN	Sarande	80.73	318	P	S	17 29 36.9	0.0
IGT	Igoumenitsa	80.85	318	P	P	17 19 50.9	+0.1
ARPS	Mount Arapiles	80.85	179	P	P	17 19 51.1	+0.6
SERG	Sergoula	80.87	316	P	P	17 19 50.2	-0.8
SERG	Sergoula	80.87	316	P	S	17 29 35.9	-2.6
TRIZ	Trizonia	80.90	316	P	P	17 19 50.4	-0.6
EFP	Efpalio	80.93	316	P	P	17 19 51.1	-0.1
EFP	Efpalio	80.93	316	P	S	17 29 37.8	-1.3
KEK	Kerkira	80.96	318	P	P	17 19 51.6	+0.2
319A	Douglas	81.03	55	IAmb	IAmb	17 19 54.2	
	comp=Z,499nm,1.4s						
LAKA	Lakka	81.04	316	P	P	17 19 51.7	-0.2
LAKA	Lakka	81.04	316	P	S	17 29 38.0	-2.3
121A	Cookes Peak, D	81.05	53	IAmb	IAmb	17 19 56.1	
	comp=Z,180nm,0.8s						
121A	Cookes Peak, D	81.05	53	P	P	17 19 53.1	+1.0
	baz=318,SNR=161						
121A				S	S	17 29 41.7	+0.9
	baz=318						
E46A	Sault Ste Mari	81.06	30	IAmb	IAmb	17 19 52.2	
	comp=Z,445nm,1.6s						
CLF	Chambon-Foret	81.06	333	IAmb	IAmb	17 19 54.5	
	comp=Z,128nm,0.8s						
ZCCA	Zocca	81.08	326	IAmb	IAmb	17 20 21.5	
	comp=Z,189nm,1.0s						
SGRT	San Giovanni R	81.20	322	IAmb	IAmb	17 19 53.9	
	comp=Z,291nm,0.9s						
SCIA	State Center	81.22	38	IAmb	IAmb	17 19 54.1	
	comp=Z,277nm,0.9s						
SCIA	State Center	81.22	38	P	P	17 19 52.6	-0.1
	baz=324,SNR=30						
SCIA				S	S	17 29 39.9	-2.0
	baz=324						
ZKR	Zakros	81.22	311	P	P	17 19 53.2	+0.3
ZKR	Zakros	81.22	311	P	S	17 29 42.2	0.0
STIA	Sitia Lasithi	81.23	311	P	P	17 19 53.3	+0.5
LKD2	Lefkada island	81.27	317	P	P	17 19 53.0	0.0
LKD2	Lefkada island	81.27	317	P	S	17 29 40.7	-1.9
CCA1	Carnmenellis	81.29	339	eP	P	17 19 52.9	0.0
NYDR	Nydri-Lefkada	81.31	317	P	P	17 19 53.0	-0.2
MURB	Monte Urbino	81.35	325	IAmb	IAmb	17 19 56.1	
	comp=Z,346nm,1.1s						
JSA	Saint Aubin	81.37	337	⇓eP	P	17 19 53.4	+0.1
JSA				IAmb	IAmb	17 19 56.1	
	comp=Z,201nm,0.9s						
H43A	Windswept, Lux	81.37	33	IAmb	IAmb	17 19 54.5	
	comp=Z,334nm,0.9s						
DRAG	Dragano-Lefkad	81.39	317	P	P	17 19 53.4	-0.3
DRO	Drossia	81.40	316	P	P	17 19 54.0	+0.3
EVGI	Lefkada island	81.40	317	P	P	17 19 53.7	0.0
EVGI	Lefkada island	81.40	317	P	S	17 29 42.2	-1.7
RLS	Riolos of Patr	81.44	316	P	P	17 19 54.3	+0.4
FRMA	Ierapetra Chan	81.56	311	P	P	17 19 54.7	+0.1
MATE	Matera	81.66	321	⇑P	P	17 19 55.0	0.0
BRAT	Ballarat	81.67	178	P	P	17 19 56.1	+1.4
JFWS	Jewell Farm	81.67	35	P	P	17 19 54.0	-1.0
	baz=326,SNR=14						
JFWS				S	S	17 29 48.2	+1.7
	baz=326						
VTN	Vitineika	81.69	316	P	P	17 19 56.3	+1.1
AQU	L'Aquila	81.73	324	⇓iP	P	17 19 56.0	+0.6
AQU	L'Aquila	81.73	324	IAmb	IAmb	17 19 57.6	
	comp=Z,292nm,1.0s						
TOO	Toolangi	81.74	176	IAmb	IAmb	17 19 59.8	
	comp=Z,732nm,1.9s						
TOO	Toolangi	81.74	176	P	P	17 19 56.6	+1.4
VLS	Valsamata	81.78	317	P	P	17 19 55.7	0.0
VLS	Valsamata	81.78	317	P	S	17 29 42.4	-5.4
KEF4	Livadi, Kephal	81.80	317	P	P	17 19 56.0	+0.3
IDI	Anoyia	81.80	312	S	S	17 29 43.9	-4.4
	comp=Z,31nm,0.9s,baz=296,slow=12,SNR=8.3						
IDI	Anoyia	81.80	312	P	P	17 19 54.9	-1.1
PSDA	Pessada-Kefalo	81.83	317	P	P	17 19 55.8	-0.1
PSDA	Pessada-Kefalo	81.83	317	P	S	17 29 42.6	-5.7
KEF3	Kipouria, Keph	81.88	317	P	P	17 19 56.2	0.0
ITM	Ithomi	81.89	315	P	P	17 19 55.9	-0.4
ITM	Ithomi	81.89	315	IAmb	IAmb	17 19 57.0	
	comp=Z,256nm,0.8s						
KSU1	Kansas State U	81.91	42	IAmb	IAmb	17 19 57.9	
	comp=Z,204nm,0.8s						
KSU1	Kansas State U	81.91	42	P	P	17 19 55.7	-0.7
	baz=322,SNR=50						
KSU1				S	S	17 29 50.6	+1.5
	baz=322						
LTHK	Lithakia	82.02	316	P	P	17 19 56.5	-0.4
VAM	Vamos	82.08	313	P	P	17 19 57.5	+0.2
VAM	Vamos	82.08	313	P	S	17 29 49.9	-1.0
IMMV	Iera Moni Meta	82.15	313	P	P	17 19 57.8	+0.1
IMMV	Iera Moni Meta	82.15	313	P	S	17 29 48.2	-3.5
PYL	PYLOS	82.20	315	P	P	17 19 57.2	-0.7
GLMI	Grayling	82.27	31	P	P	17 19 57.9	-0.2
	baz=329,SNR=13						
I45A	Fountain	82.33	32	IAmb	IAmb	17 19 59.7	
	comp=Z,280nm,0.7s						
GVDS	Gavdos	82.57	312	P	P	17 19 59.9	+0.1
GVD	Gavdhos	82.57	312	P	P	17 19 59.7	-0.1
K43A	Burlington	82.63	34	IAmb	IAmb	17 20 00.6	
	comp=Z,353nm,1.3s						
AMTX	Amarillo	82.64	47	IAmb	IAmb	17 20 01.9	
	comp=Z,200nm,0.8s						
AMTX	Amarillo	82.64	47	P	P	17 20 00.9	+0.6
	baz=320						
AMTX				S	S	17 29 56.9	+0.1
	baz=320						
KAN12	Harper NE Stat	82.65	44	IAmb	IAmb	17 20 01.4	
	comp=Z,273nm,1.2s						
L42A	Oliver, Polo	82.66	36	IAmb	IAmb	17 20 00.5	
	comp=Z,207nm,1.2s						
KAN16	Harper SW Stat	82.68	44	IAmb	IAmb	17 20 01.6	
	comp=Z,294nm,1.2s						
SSB	Saint Sauveur	82.70	331	P	P	17 20 00.6	+0.2
SSB				pP	pP	17 20 59.1	+0.7
KAN08	Anthony NE Sta	82.72	44	IAmb	IAmb	17 20 01.2	
	comp=Z,144nm,0.8s						
MSTX	Muleshoe	82.75	49	P	P	17 20 00.7	-0.3
	baz=320,SNR=41						
OK035	E0210 Rd and N	82.76	44	IAmb	IAmb	17 20 01.7	
	comp=Z,168nm,0.8s						
KAN06	Argonia West S	82.76	44	IAmb	IAmb	17 20 02.0	
	comp=Z,242nm,1.3s						
TIP	Timpagrande	82.81	320	⇓P	P	17 20 01.6	+0.5
TIP	Timpagrande	82.81	320	IAmb	IAmb	17 20 03.2	
	comp=Z,330nm,1.3s						
KAN05	Bluff City Nor	82.86	44	IAmb	IAmb	17 20 02.8	
	comp=Z,503nm,1.4s						
U32A	Winter Ranch,	82.87	45	IAmb	IAmb	17 20 04.6	
	comp=Z,256nm,1.3s						
KAN01	Argonia South	82.89	44	IAmb	IAmb	17 20 02.2	
	comp=Z,198nm,0.8s						
KAN17	Caldwell West	82.97	44	IAmb	IAmb	17 20 03.4	
	comp=Z,366nm,1.4s						
MNTX	Cornudas Mount	83.03	52	P	P	17 20 03.0	+0.7
	baz=319,SNR=136						
MNTX				S	S	17 30 02.4	+1.8
	baz=319						
KAN13	South Haven SW	83.13	43	IAmb	IAmb	17 20 03.5	
	comp=Z,206nm,0.8s						
N41A	Harden Midland	83.23	37	IAmb	IAmb	17 20 04.1	
	comp=Z,342nm,1.2s						
L44A	Lake County Fo	83.24	34	IAmb	IAmb	17 20 04.0	
	comp=Z,316nm,1.1s						
L44A	Lake County Fo	83.24	34	P	P	17 20 02.5	-0.6
	baz=327,SNR=12						
BLOK	Blackwell	83.46	43	IAmb	IAmb	17 20 05.3	
	comp=Z,211nm,0.8s						
HQIL	Hanson Quary C	83.58	35	IAmb	IAmb	17 20 05.8	
	comp=Z,339nm,1.0s						
HDIL	Hopedale	84.02	36	P	P	17 20 07.0	-0.1
	baz=326						
HDIL				S	S	17 30 08.0	-2.2
	baz=326						
OK029	Liberty Lake	84.10	44		pP	17 21 07.1	+1.0
BCOK	Bluff Creek, N	84.14	44	IAmb	IAmb	17 20 09.4	
	comp=Z,245nm,0.8s						
WMOK	Wichita Mounta	84.26	46	IAmb	IAmb	17 20 09.4	
	comp=Z,116nm,0.8s						
WMOK	Wichita Mounta	84.26	46	P	P	17 20 08.7	+0.2
	baz=322,SNR=106						
WMOK				S	S	17 30 13.2	+0.3
	baz=322						
OK031	S. Brethren Rd	84.29	44	IAmb	IAmb	17 20 10.1	
	comp=Z,323nm,1.1s						
OK030	Cody Creek RV	84.33	44	IAmb	IAmb	17 20 10.4	
	comp=Z,298nm,1.1s						
R40A	Maddies Statio	84.58	39	IAmb	IAmb	17 20 11.0	
	comp=Z,215nm,0.8s						
S39A	Bolivar	84.58	40	IAmb	IAmb	17 20 10.6	
	comp=Z,195nm,0.9s						
OUZ	Omahuta	84.61	154	IAmb	IAmb	17 20 14.8	
	comp=Z,161nm,0.9s						
OUZ	Omahuta	84.61	154	P	P	17 20 12.5	+2.7
P43A	Skaggs, Pawnee	84.68	37	IAmb	IAmb	17 20 11.4	
	comp=Z,385nm,1.2s						
O44A	Mansfield	84.70	36	IAmb	IAmb	17 20 10.9	
	comp=Z,123nm,0.8s						
K50A	Casco	84.77	31	IAmb	IAmb	17 20 12.0	
	comp=Z,307nm,1.1s						
AAM	Ann Arbor	84.79	32	IAmb	IAmb	17 20 12.3	
	comp=Z,199nm,0.9s						
AAM	Ann Arbor	84.79	32	P	P	17 20 11.1	+0.2
	baz=330,SNR=10						
AAM				S	S	17 30 16.1	-1.7
	baz=330						
TUL1	Leonard	84.83	43	P	P	17 20 11.6	+0.4
	baz=323,SNR=65						
TUL1				S	S	17 30 17.8	-0.6
	baz=323						
X34A	Smith Ranch, M	84.85	45	IAmb	IAmb	17 20 13.4	
	comp=Z,278nm,0.9s						
DELO	Deloro Mine	84.95	27	IAmb	IAmb	17 20 12.4	
	comp=Z,184nm,1.1s						
D62A	Allapoint, All	85.05	20	IAmb	IAmb	17 20 12.7	
	comp=Z,118nm,0.8s						
SFIN	Lafayette	85.08	35	IAmb	IAmb	17 20 13.0	
	comp=Z,132nm,0.8s						
SFIN	Lafayette	85.08	35	P	P	17 20 12.1	-0.3
	baz=328,SNR=26						
SFIN				S	S	17 30 19.9	-0.8
	baz=328						
U38A	Gravette	85.09	42	IAmb	IAmb	17 20 13.1	
	comp=Z,132nm,0.8s						
CCM	Cathedral Cave	85.23	39	P	P	17 20 13.0	-0.2
CCM				pmax	pmax		
	comp=Z,214nm,0.8s						
CCM	Cathedral Cave	85.23	39	P	P	17 20 12.9	-0.2
CCM				IAmb	IAmb	17 20 14.3	
	comp=Z,214nm,0.8s						
CCM	Cathedral Cave	85.23	39	P	P	17 20 13.1	0.0
	baz=325						
CCM				S	S	17 30 20.9	-1.3
	baz=325						
CCM	Cathedral Cave	85.23	39	P	P	17 20 13.2	0.0
CCM				pP	pP	17 21 12.9	+1.1
GLAD	Gladstone	85.28	175	P	P	17 20 13.4	+0.4
E62A	Clayton Lake	85.36	21	IAmb	IAmb	17 20 14.5	
	comp=Z,114nm,0.8s						
HHAR	Hobbs	85.43	42	IAmb	IAmb	17 20 14.6	
	comp=Z,113nm,0.8s						
RAFF	Raffo Rosso	85.50	320	IAmb	IAmb	17 21 18.6	
	comp=Z,393nm,1.7s						
MGMO	Mountain Grove	85.50	40	IAmb	IAmb	17 20 15.6	
	comp=Z,138nm,0.9s						
Q44A	Meyer Farm, Va	85.51	37	IAmb	IAmb	17 20 15.7	
	comp=Z,261nm,0.9s						
FVM	French Village	85.66	38	IAmb	IAmb	17 20 16.0	
	comp=Z,117nm,0.8s						
LOOK	Love County	85.66	45	IAmb	IAmb	17 20 16.7	
	comp=Z,185nm,0.7s						
PQI	Presque Isle	85.68	20	IAmb	IAmb	17 20 16.1	
	comp=Z,139nm,1.1s						
J54A	Appleton	85.73	28	IAmb	IAmb	17 20 16.4	
	comp=Z,192nm,1.0s						
TX32	Lajitas Array	85.78	52	IAmb	IAmb	17 20 18.1	
	comp=Z,214nm,1.3s						
TXAR	Lajitas Array	85.78	52	P	P	17 20 16.6	+0.4
	comp=Z,66nm,0.7s,baz=294,slow=3.1,SNR=587						
TXAR				PKiKP	PKiKP	17 25 23.9	+0.1
	comp=Z,1.8nm,0.7s,baz=350,slow=0.7,SNR=3.5						
TXAR				S	SKSac	17 30 15.6	-2.7
	comp=Z,0.5nm,0.8s,baz=343,slow=2.6,SNR=1.2						
TXAR				PKKPbc	PKKPbc	17 38 16.5	+2.5
	comp=Z,4.3nm,0.7s,baz=171,slow=6.3,SNR=21						
N49A	Columbus Grove	85.78	33	IAmb	IAmb	17 20 17.1	
	comp=Z,313nm,1.1s						
M50A	Fremont	85.80	32	IAmb	IAmb	17 20 17.9	
	comp=Z,133nm,0.8s						
LONY	Lake Ozonia	85.80	25	P	P	17 20 15.2	-0.8
	baz=335,SNR=5.9						
LONY				S	S	17 30 25.6	-2.0
	baz=335						
U40A	Yellville	85.88	41	P	P	17 20 16.3	-0.2
	baz=325,SNR=96						
U40A				S	S	17 30 26.7	-2.0
	baz=325						
MEDO	Medina	85.89	28	IAmb	IAmb	17 20 17.2	
	comp=Z,260nm,1.3s						
J55A	Hilton	86.01	27	IAmb	IAmb	17 20 17.6	
	comp=Z,327nm,1.2s						
OLIL	Olney	86.05	36	IAmb	IAmb	17 20 18.6	
	comp=Z,243nm,1.0s						
ERPA	Erie	86.29	29	P	P	17 20 18.4	+0.1
	baz=332,SNR=6.1						
ERPA				S	S	17 30 29.9	-2.5
	baz=332						
M52A	Chesterland	86.30	31	IAmb	IAmb	17 20 19.4	
	comp=Z,177nm,0.8s						
F64A	Sherman	86.36	20	IAmb	IAmb	17 20 19.7	
	comp=Z,166nm,1.1s						
W39A	Magazine	86.38	42	IAmb	IAmb	17 20 20.3	
	comp=Z,289nm,1.5s						
W39A	Magazine	86.38	42	P	P	17 20 18.9	0.0
	baz=324,SNR=47						
W39A				S	S	17 30 33.6	+0.1
	baz=324						
HPIG		86.43	55	IAmb	IAmb	17 20 21.2	
	comp=Z,108nm,0.8s						
HPIG					pP	17 21 19.3	+1.0
MMNY	Mt. Morris Dam	86.45	28	IAmb	IAmb	17 20 19.8	
	comp=Z,284nm,1.3s						
J57A	Williamstown	86.46	26	IAmb	IAmb	17 20 20.1	
	comp=Z,275nm,1.4s						
N51A	Ashland	86.47	31	IAmb	IAmb	17 20 20.4	
	comp=Z,392nm,1.3s						
WVNY	West Valley, N	86.51	28	IAmb	IAmb	17 20 20.4	
	comp=Z,165nm,1.0s						
P48A	Milroy	86.54	34	IAmb	IAmb	17 20 20.7	
	comp=Z,155nm,0.8s						
VT1	Warbury	86.60	24	IAmb	IAmb	17 20 21.1	
	comp=Z,136nm,1.0s						
FCAR	Ozark Folk Cen	86.60	41	IAmb	IAmb	17 20 20.8	
	comp=Z,256nm,0.8s						
M53A	WI Miller and	86.64	30	P	P	17 20 20.1	+0.1
	baz=332,SNR=12						
M53A				S	S	17 30 34.4	-1.4
	baz=332						
ALLY	Alegheny Colle	86.64	30	IAmb	IAmb	17 20 21.4	
	comp=Z,231nm,0.9s						
PKME	Peaks-Kenny Pk	86.68	21	P	P	17 20 19.8	-0.3
	baz=339,SNR=7.2						
PKME				S	S	17 30 35.1	-0.9
	baz=339						
J58A	Remsen	86.73	26	IAmb	IAmb	17 20 21.2	
	comp=Z,102nm,0.8s						
P49A	Miami Univ. Ec	86.76	34	P	P	17 20 20.4	-0.2
	baz=329,SNR=41						
P49A				S	S	17 30 35.3	-1.7
	baz=329						
ACSO	Alum Creek Sta	86.84	32	IAmb	IAmb	17 20 22.3	
	comp=Z,399nm,1.2s						
ACSO	Alum Creek Sta	86.84	32	P	P	17 20 21.1	+0.1
	baz=330,SNR=40						
ACSO				S	S	17 30 36.5	-1.2
	baz=330						
J59A	Piesco	86.88	25	IAmb	IAmb	17 20 22.0	
	comp=Z,106nm,0.8s						
LCAR	Lake Charles	86.91	40	IAmb	IAmb	17 20 22.9	
	comp=Z,358nm,1.4s						
LBNH	Lisbon	86.92	23	IAmb	IAmb	17 21 22.9	
	comp=Z,387nm,1.9s						
LBNH	Lisbon	86.92	23	S	S	17 30 38.4	0.0
	baz=337						
M54A	Oil Creek Stat	86.94	29	IAmb	IAmb	17 20 22.2	
	comp=Z,123nm,0.8s						
M54A	Oil Creek Stat	86.94	29	P	P	17 20 21.3	-0.2
	baz=332,SNR=13						
M54A				S	S	17 30 36.3	-2.4
	baz=332						
MIAR	Mount Ida	87.01	42	IAmb	IAmb	17 20 23.5	
	comp=Z,184nm,0.8s						
MIAR	Mount Ida	87.01	42	P	P	17 20 22.4	+0.5
	baz=324,SNR=131						
MIAR				S	S	17 30 39.9	+0.4
	baz=324						
JCT	Junction City	87.04	49	IAmb	IAmb	17 20 23.7	
	comp=Z,489nm,1.7s						
JCT	Junction City	87.04	49	P	P	17 20 22.0	-0.2
	baz=321,SNR=52						
JCT				S	S	17 30 39.5	-0.5
	baz=321						
L56A	Greenwood	87.10	28	IAmb	IAmb	17 20 22.7	
	comp=Z,103nm,0.8s						
WHTX	Lake Whitney,	87.10	47	P	P	17 20 22.8	+0.4
	baz=322,SNR=21						
WHTX				S	S	17 30 40.7	+0.2
	baz=322						
W41B	Gary Mavity, V	87.13	41	IAmb	IAmb	17 20 23.7	
	comp=Z,312nm,1.2s						
W41B	Gary Mavity, V	87.13	41	P	P	17 20 22.4	-0.1
	baz=325,SNR=61						
W41B				S	S	17 30 40.5	-0.2
	baz=325						
N53A	Lisbon	87.14	31	IAmb	IAmb	17 20 24.0	
	comp=Z,211nm,1.0s						
TAU	Tasmania Unive	87.16	175	P	P	17 20 23.1	+1.0
TAU				pmax	pmax		
	comp=Z,104nm,0.9s						
TAU	Tasmania Unive	87.16	175	P	P	17 20 23.1	+1.0
TAU	Tasmania Unive	87.16	175	P	P	17 20 22.9	+0.8
G65A	Princeton	87.17	20	IAmb	IAmb	17 20 23.9	
	comp=Z,182nm,1.1s						
WCI	Wyandotte Cave	87.23	35	P	P	17 20 22.9	0.0
WCI				pmax	pmax		
	comp=Z,161nm,0.8s						
WCI	Wyandotte Cave	87.23	35	P	P	17 20 22.9	0.0
WCI				IAmb	IAmb	17 20 23.8	
	comp=Z,161nm,0.8s						
WCI	Wyandotte Cave	87.23	35	P	P	17 20 23.2	+0.3
	baz=328						
WCI				S	S	17 30 41.4	-0.1
	baz=328						
WCI	Wyandotte Cave	87.23	35	P	P	17 20 23.0	+0.1
WCI				pP	pP	17 21 22.5	+0.7
M55A	Ridgway	87.29	29	IAmb	IAmb	17 20 23.9	
	comp=Z,126nm,0.9s						
N54A	Moraine State	87.30	30	P	P	17 20 23.5	+0.2
	baz=332,SNR=29						
N54A				S	S	17 30 40.3	-1.9
	baz=332						
HNH	Hanover	87.31	24	IAmb	IAmb	17 21 24.0	
	comp=Z,277nm,1.8s						
O52A	Adamsville	87.37	32	IAmb	IAmb	17 20 24.9	
	comp=Z,245nm,0.8s						
PMOR	Pomariorio Ree	87.38	114	eP	P	17 20 25.0	+1.2
	comp=Z,456nm,1.0s						
PMOR	Pomariorio Ree	87.38	114	eT	T	18 53 29.3	
	comp=Z,31nm,0.2s						
X40A	Basin Creek Fa	87.41	42	IAmb	IAmb	17 20 25.4	
	comp=Z,164nm,0.9s						
X40A	Basin Creek Fa	87.41	42	P	P	17 20 24.1	+0.2
	baz=325,SNR=67						
X40A				S	S	17 30 44.0	+0.7
	baz=325						
P51A	Williamsport	87.45	33	IAmb	IAmb	17 20 25.0	
	comp=Z,220nm,0.9s						
I63A	Otisfield	87.47	22	IAmb	IAmb	17 20 25.9	
	comp=Z,260nm,0.9s						
O53A	New Philadelph	87.48	31	IAmb	IAmb	17 20 25.6	
	comp=Z,287nm,0.9s						
O53A	New Philadelph	87.48	31	P	P	17 20 24.3	+0.2
	baz=331,SNR=43						
O53A				S	S	17 30 42.7	-1.2
	baz=331						
GNAR	Gosnell	87.51	39	IAmb	IAmb	17 20 26.2	
	comp=Z,357nm,1.1s						
BINY	Binghamton	87.56	27	P	P	17 20 24.1	-0.3
	baz=334,SNR=11						
BINY				S	S	17 30 41.5	-3.1
	baz=334						
P52A	Corning	87.68	32	IAmb	IAmb	17 20 26.1	
	comp=Z,307nm,1.1s						
P52A	Corning	87.68	32	P	P	17 20 24.4	-0.6
	baz=331,SNR=31						
P52A				S	S	17 30 44.6	-1.1
	baz=331						
FFD	Franklin Falls	87.71	23	IAmb	IAmb	17 20 26.8	
	comp=Z,109nm,0.6s						
VAH	Vaihoa	87.72	114	eP	P	17 20 26.6	+1.2
	comp=Z,376nm,1.4s						
ATD	Arta Tunnel	87.83	284	IAmb	IAmb	17 20 30.7	
	comp=Z,255nm,1.1s						
ATD	Arta Tunnel	87.83	284	P	P	17 20 27.7	+1.5
ATD				pP	pP	17 21 26.2	+1.2
L59A	Walton	87.87	26	IAmb	IAmb	17 20 27.1	
	comp=Z,209nm,0.8s						
237A	Washetta, Mont	87.94	45	IAmb	IAmb	17 20 27.4	
	comp=Z,123nm,0.8s						
M57A	Sunshine Farm,	87.96	28	IAmb	IAmb	17 20 27.8	
	comp=Z,322nm,1.1s						
435B	Jarrell	87.99	47	P	P	17 20 26.6	-0.1
	baz=322,SNR=5.5						
R50A	Paris	87.99	34	IAmb	IAmb	17 20 28.0	
	comp=Z,334nm,1.2s						
HIZ	Hauiti	88.03	154	P	P	17 20 30.1	+3.7
HIZ	Hauiti	88.03	154	P	P	17 20 29.7	+3.4
TLZ	Tolley Road	88.08	154	P	P	17 20 29.6	+3.0
PPT	Papeete	88.17	117	P	P	17 20 28.2	+0.7
	comp=Z,129nm,0.9s,baz=333,slow=7.0,SNR=8.7						
PPT2	Papeete2	88.19	117	eP	P	17 20 29.0	+1.3
	comp=Z,163nm,1.1s						
PPT2	Papeete2	88.19	117	eT	T	18 55 36.3	
	comp=Z,14nm,0.3s						
PPTF	Pamatai, Papee	88.19	117	IAmb	IAmb	17 20 34.1	
	comp=Z,191nm,1.0s						
TAOE	Nuku Hiva Isla	88.20	104	eP	P	17 20 28.7	+0.8
	comp=Z,930nm,0.8s						
TAOE	Nuku Hiva Isla	88.20	104	P	P	17 20 29.2	+1.3
TAOE	Nuku Hiva Isla	88.20	104	P	P	17 20 28.3	+0.4
Q52A	Bidwell	88.21	32	IAmb	IAmb	17 20 28.8	
	comp=Z,277nm,1.1s						
PAE	Paea	88.24	117	eP	P	17 20 29.2	+1.4
	comp=Z,36nm,1.0s						
TIAR	Tiarei	88.31	117	eP	P	17 20 29.4	+1.2
	comp=Z,2.6nm,0.7s						
SSPA	Standing Stone	88.33	29	P	P	17 20 28.0	-0.1
SSPA				IAmb	IAmb	17 20 29.7	
	comp=Z,222nm,1.1s						
SSPA	Standing Stone	88.33	29	P	P	17 20 28.3	+0.2
	baz=333						
SSPA				S	S	17 30 49.7	-2.1
	baz=333						
SSPA	Standing Stone	88.33	29	P	P	17 20 28.3	+0.2
SSPA				pP	pP	17 21 27.8	+0.7
WVT	Waverly	88.35	38	P	P	17 20 28.0	-0.2
WVT				pmax	pmax		
	comp=Z,156nm,0.8s						
WVT	Waverly	88.35	38	P	P	17 20 28.

VRZ Vera Road 88.56 154 P **P 17 20 31.8 +3.0**
HRV Adam Dziewonsk 88.62 24 P **P 17 20 29.2 -0.2**
HRV pmax pmax
comp=Z,111nm,0.9s
HRV Adam Dziewonsk 88.62 24 P **P 17 20 29.2 -0.2**
HRV IAmb IAmb 17 20 30.6
comp=Z,111nm,0.8s
HRV Adam Dziewonsk 88.62 24 P **P 17 20 29.7 +0.3**
baz=337
HRV S **S 17 30 54.0 -0.5**
baz=337
RATZ Rangitukua 88.64 154 P **P 17 20 32.5 +3.3**
NATX Nacogdoches 88.72 45 P **P 17 20 30.7 +0.6**
baz=324,SNR=19
NATX S **S 17 30 56.9 +1.1**
baz=324
KATZ Kakaramea 88.72 154 P **P 17 20 34.4 +4.6**
TWVZ Taurewa 88.72 154 P **P 17 20 31.8 +2.1**
N59A State Game Lan 88.78 27 IAmb IAmb 17 20 31.9
comp=Z,228nm,1.1s
N59A State Game Lan 88.78 27 P **P 17 20 30.4 +0.1**
baz=335,SNR=32
WES Weston 88.80 23 IAmb IAmb 17 20 31.8
comp=Z,150nm,0.8s
WTVZ West Tongariro 88.81 154 P **P 17 20 32.6 +2.4**
NTVZ North Tongarir 88.83 154 P **P 17 20 33.1 +2.9**
NNVZ North Ngauruho 88.84 154 P **P 17 20 32.7 +2.4**
S51A Beattyville 88.84 34 IAmb IAmb 17 20 31.8
comp=Z,120nm,0.8s
TMVZ Te Maari 88.85 154 P **P 17 20 32.8 +2.5**
ETVZ East Tongariro 88.87 154 P **P 17 20 32.7 +2.3**
OTVZ Oturere 88.88 154 P **P 17 20 32.7 +2.2**
R53A Hurricane 88.88 32 IAmb IAmb 17 20 31.8
comp=Z,118nm,0.8s
SNVZ South Ngauruho 88.89 154 P **P 17 20 33.0 +2.4**
FWVZ Far West T-bar 88.93 154 P **P 17 20 32.1 +1.3**
833A Chaparral WMA, 88.94 50 P **P 17 20 31.7 +0.5**
baz=322,SNR=18
833A S **S 17 30 59.2 +1.2**
baz=322
KEST Kesra 88.98 323 P **P 17 20 31.1 -0.3**
comp=Z,40nm,0.8s,baz=310,slow=2.6,SNR=24
KEST S **SKSac 17 30 36.0 -1.5**
comp=Z,3.6nm,0.9s,baz=71,slow=23,SNR=8.5
WNVZ Wahianoa 89.01 154 P **P 17 20 33.0 +1.8**
CLTN Cedars of Leba 89.03 37 IAmb IAmb 17 20 32.9
comp=Z,149nm,0.7s
CMAH Djebel Manchou 89.05 324 P **P 17 20 30.3 -1.3**
TRNY Table Rock, Ra 89.07 26 IAmb IAmb 17 20 32.8
comp=Z,297nm,1.2s
UCCT U. Connecticut 89.08 24 IAmb IAmb 17 20 33.1
comp=Z,186nm,1.1s
PAGS Pennsylvania G 89.09 28 IAmb IAmb 17 20 32.7
comp=Z,268nm,1.2s
V48A Smith Brothers 89.11 37 IAmb IAmb 17 20 33.2
comp=Z,204nm,1.0s
MOVZ Moawhango 89.13 154 P **P 17 20 33.2 +1.6**
BKZ Black Stump Fm 89.15 153 P **P 17 20 33.3 +1.7**
BKZ Black Stump Fm 89.15 153 IAmb IAmb 17 20 35.4
comp=Z,187nm,0.8s
BKZ Black Stump Fm 89.15 153 P **P 17 20 32.2 +0.6**
LUPA Lehigh Univers 89.20 27 IAmb IAmb 17 20 32.8
comp=Z,98nm,0.8s
PLAL Pickwick Lake 89.20 38 IAmb IAmb 17 20 32.8
comp=Z,93nm,0.8s
WAZ Wanganui 89.21 155 P **P 17 20 34.5 +2.6**
Q56A Snyder Ridge, 89.29 30 IAmb IAmb 17 20 34.2
comp=Z,176nm,1.0s
PAL Palisades 89.30 26 IAmb IAmb 17 20 33.3
comp=Z,101nm,0.8s
PAL Palisades 89.30 26 P **P 17 20 32.5 -0.1**
baz=336,SNR=11
PAL S **S 17 30 59.2 -1.6**
baz=336
BHHZ Black Hill Sta 89.30 154 P **P 17 20 33.1 +0.7**
P57A Homestead Farm 89.31 29 IAmb IAmb 17 20 34.2
comp=Z,145nm,1.1s
ABSA Djebel Ababsia 89.32 324 P **P 17 20 32.1 -0.8**
L64A Middleborough 89.35 23 IAmb IAmb 17 20 34.4
comp=Z,178nm,0.9s
KWHZ Kaweka Forest 89.36 153 P **P 17 20 34.9 +2.3**
MEH Mehetia 89.37 116 *eP* **P 17 20 34.5 +1.4**
comp=Z,131nm,1.2s
MEH Mehetia 89.37 116 *eT* T 18 57 03.6
comp=Z,57nm,0.3s
BRNJ Basking Ridge 89.38 26 IAmb IAmb 17 20 34.5
comp=Z,165nm,0.9s
PBRG Braganca 89.42 337 *eP* **P 17 20 33.3 +0.1**
comp=Z,99nm,1.6s
MVL Millersville 89.42 28 IAmb IAmb 17 20 34.6
comp=Z,236nm,1.3s
QRZ Quartz Range 89.47 157 P **P 17 20 34.7 +1.7**
QRZ Quartz Range 89.47 157 IAmb IAmb 17 20 37.2
comp=Z,189nm,0.9s
QRZ Quartz Range 89.47 157 P **P 17 20 34.5 +1.5**
CPNY Central Park 89.48 26 IAmb IAmb 17 20 34.8
comp=Z,189nm,1.2s
M63A Gales Ferry 89.50 24 IAmb IAmb 17 20 34.6
comp=Z,180nm,1.2s
CKFL Kef-Lekhel 89.53 325 P **P 17 20 32.9 -1.0**
KRHZ Kereru 89.54 154 P **P 17 20 34.5 +1.1**
143A Socs Landing, 89.55 42 IAmb IAmb 17 20 36.1
comp=Z,389nm,1.6s
HKT Hockley 89.56 47 P **P 17 20 32.6 -1.3**
HKT pmax pmax
comp=Z,58nm,1.5s
HKT Hockley 89.56 47 P **P 17 20 32.6 -1.3**
S54A Dingess, Beckl 89.59 32 IAmb IAmb 17 20 35.1
comp=Z,114nm,0.8s
PGAV Gavieira, Arco 89.69 338 *eP* **P 17 20 34.6 +0.1**
PNHZ Pukenui 89.73 154 P **P 17 20 35.6 +1.3**
DFRA Djebel Bou Aff 89.75 325 P **P 17 20 34.4 -0.5**
M65A Busby, Falmout 89.75 23 P **P 17 20 33.3 -1.4**
baz=338
M65A S **S 17 31 04.9 -0.1**
baz=338
TSZ Takapari Road 89.79 154 P **P 17 20 35.6 +1.0**
TZTN Tazewell 89.80 34 IAmb IAmb 17 20 36.7
comp=Z,374nm,1.5s
TZTN Tazewell 89.80 34 P **P 17 20 35.5 +0.4**
baz=330,SNR=26
TZTN S **S 17 31 05.5 -0.2**
baz=330
P60A Greenville 89.83 27 IAmb IAmb 17 20 36.3
comp=Z,241nm,1.0s
P60A Greenville 89.83 27 P **P 17 20 34.9 -0.2**
baz=335,SNR=22
P60A S **S 17 31 04.8 -0.9**
baz=335
DUWZ D'Urville Isla 89.85 156 P **P 17 20 36.3 +1.5**
PCAB Cabril 89.86 337 *eP* **P 17 20 35.6 +0.3**
SWET Sewanee 89.94 37 IAmb IAmb 17 20 36.7
comp=Z,166nm,0.8s
WPHZ Waipukurau 89.95 154 P **P 17 20 37.3 +2.0**
POWZ Post Office Ro 90.03 154 P **P 17 20 37.3 +1.7**
DVHZ Dannevirke 90.07 154 P **P 17 20 37.2 +1.4**
NNZ Nelson 90.08 156 P **P 17 20 37.1 +1.3**
NNZ Nelson 90.08 156 IAmb IAmb 17 20 38.8
comp=Z,180nm,0.7s
MVO Moncorvo 90.09 337 *eP* **P 17 20 36.6 +0.2**
comp=Z,132nm,1.3s
V51A Loudon 90.11 35 IAmb IAmb 17 20 37.8
comp=Z,181nm,1.1s
POLO Lamas de Olo 90.11 337 *eP* **P 17 20 36.1 -0.4**
comp=Z,77nm,1.1s
PVRL Vila Real 90.18 337 *eP* **P 17 20 36.8 0.0**
comp=Z,144nm,1.4s
342A Flagon Creek P 90.19 43 IAmb IAmb 17 20 38.6
comp=Z,224nm,1.4s
KIW Kapiti Island 90.20 155 P **P 17 20 34.7 -1.8**
MRZ Mangatainoka R 90.22 154 P **P 17 20 37.6 +1.1**
OGWZ Otaki Gorge 90.24 155 P **P 17 20 37.6 +1.0**
PRWZ Pori Road 90.25 154 P **P 17 20 39.4 +2.7**
441A DeRidder 90.27 44 IAmb IAmb 17 20 39.7
comp=Z,140nm,1.1s
TCW Tory Channel 90.33 156 P **P 17 20 38.3 +1.3**
CPCT Cooper Cave 90.34 36 IAmb IAmb 17 20 38.9
comp=Z,198nm,1.0s
CKHR Kef el Ahmar 90.36 325 P **P 17 20 37.5 -0.3**
VBMS Vicksburg 90.38 42 IAmb IAmb 17 20 40.0
comp=Z,180nm,0.9s
VBMS Vicksburg 90.38 42 P **P 17 20 38.7 +0.9**
baz=326,SNR=7.1
VBMS S **S 17 31 14.0 +3.1**
baz=326
V52A Sevierville 90.39 35 IAmb IAmb 17 20 39.4
comp=Z,282nm,1.4s
TUWZ Tuamarina 90.44 156 P **P 17 20 38.5 +1.1**
BLA Blacksburg 90.44 32 IAmb IAmb 17 20 40.9
comp=Z,110nm,0.9s
BLA Blacksburg 90.44 32 P **P 17 20 38.3 +0.2**
baz=332,SNR=17
BLA S **S 17 31 11.1 -0.5**
baz=332
BFZ Birch Farm 90.45 154 P **P 17 20 39.0 +1.4**
BFZ Birch Farm 90.45 154 IAmb IAmb 17 20 40.5
comp=Z,200nm,0.8s
BFZ Birch Farm 90.45 154 P **P 17 20 39.0 +1.4**
TKL Tuckaleechee C 90.47 35 IAmb IAmb 17 20 39.5
comp=Z,118nm,0.9s
CAW Cannon Point 90.47 155 P **P 17 20 39.0 +1.3**
U54A Nelsons Funny 90.51 33 IAmb IAmb 17 20 39.8
comp=Z,271nm,1.4s
ESDC Sonseca Array 90.54 334 P **P 17 20 38.6 +0.2**
comp=Z,52nm,0.8s,baz=16,slow=3.6,SNR=140
ESDC ScS **S 17 31 15.2 +2.9**
comp=Z,24nm,1.3s,baz=20,slow=7.7,SNR=11
ESDC PKKPbc **PKKPbc 17 38 03.9 +1.0**
comp=Z,1.7nm,0.8s,baz=215,slow=2.4,SNR=7.6
SNZO South Karori 90.55 155 P **P 17 20 38.1 +0.1**
SNZO IAmb IAmb 17 20 40.3
comp=Z,147nm,0.8s
SNZO South Karori 90.55 155 P **P 17 20 38.9 +0.9**
MTW Mount Morrison 90.65 155 P **P 17 20 39.4 +0.9**
BSWZ Blackbirch Sta 90.68 156 P **P 17 20 39.4 +0.8**
CBN Corbin Frederi 90.68 29 P **P 17 20 39.1 +0.1**
baz=334,SNR=8.3
CBN S **S 17 31 14.6 +1.2**
baz=334
BHW Baring Head 90.69 155 P **P 17 20 40.7 +2.0**
Z47A Carrollton 90.70 39 IAmb IAmb 17 20 40.6
comp=Z,120nm,0.8s
TMWZ Te Maipa 90.72 154 P **P 17 20 40.5 +1.6**
PVIS Viseu 90.75 337 *eP* **P 17 20 38.8 -0.6**
comp=Z,124nm,1.9s
Q61A Milford 90.77 28 P **P 17 20 39.3 -0.1**
baz=335
Q61A S **S 17 31 13.9 -0.4**
baz=335
PAB San Pablo 90.77 334 P **P 17 20 39.0 -0.6**
PAB pmax pmax
comp=Z,63nm,0.9s
PAB San Pablo 90.77 334 P **P 17 20 39.0 -0.6**
PAWZ Paruwai Farm 90.83 155 P **P 17 20 40.9 +1.5**
TRWZ Traveller 90.93 155 P **P 17 20 41.9 +2.1**
MTE Manteigas 90.94 337 *eP* **P 17 20 40.7 +0.4**
comp=Z,144nm,1.3s
PLWZ Palliser 90.95 155 P **P 17 20 41.3 +1.4**
X51A Calhoun 90.95 36 IAmb IAmb 17 20 41.8
comp=Z,182nm,1.4s
LTZ Lake Taylor 91.21 158 IAmb IAmb 17 20 45.7
comp=Z,136nm,0.8s
U56A King 91.22 32 IAmb IAmb 17 20 43.0
comp=Z,86nm,0.8s
KHZ Kahutara 91.23 157 P **P 17 20 42.0 +0.9**
KHZ Kahutara 91.23 157 P **P 17 20 41.8 +0.7**
FOZ Fox Glacier 91.27 160 IAmb IAmb 17 20 44.9
comp=Z,169nm,0.8s
V55A Taylorsville 91.33 33 **pP 17 21 39.7 -1.6**
V55A IAmb IAmb 17 21 43.6
comp=Z,188nm,1.6s
COI Coimbra 91.37 337 *eP* **P 17 20 42.7 +0.5**
comp=Z,170nm,1.6s
COI Coimbra 91.37 337 IAmb IAmb 17 20 42.6
comp=Z,113nm,1.0s
BG3 Lake Jocassee 91.39 35 IAmb IAmb 17 20 43.5
comp=Z,88nm,0.8s
PCBR Castelo Branco 91.44 336 *eP* **P 17 20 42.6 0.0**
comp=Z,81nm,1.7s
PCAS Casmilo, Conde 91.54 337 *eP* **P 17 20 42.1 -0.9**
comp=Z,202nm,1.7s
T59A Double "B" Far 91.72 30 **pP 17 21 41.2 -1.8**
T59A IAmb IAmb 17 21 45.2
comp=Z,187nm,1.6s
RPZ Rata Peaks 91.76 159 P **P 17 20 45.8 +2.2**
PMRV Marv??o 91.80 336 *eP* **P 17 20 44.1 -0.1**
comp=Z,78nm,1.6s
T60A Surry 91.86 29 IAmb IAmb 17 20 46.0
comp=Z,175nm,0.9s
Z51A Franklin 91.89 37 IAmb IAmb 17 20 46.0
comp=Z,208nm,1.4s
KMSC Kings Mountain 91.90 34 IAmb IAmb 17 20 46.1
comp=Z,121nm,1.3s
KMSC Kings Mountain 91.90 34 P **P 17 20 44.7 -0.1**
baz=331,SNR=13
KMSC S **S 17 31 24.5 -0.2**
baz=331
PAULI Pauline 91.99 34 P **P 17 20 44.6 -0.6**
PSBE So Bento 92.12 337 *eP* **P 17 20 45.6 -0.1**
MQZ McQueen's Vall 92.17 158 IAmb IAmb 17 20 49.4
comp=Z,103nm,1.0s
U59A Littleton 92.18 30 pP 17 21 43.5 -1.7
HODGE Hodges 92.33 35 pP 17 21 45.5 -0.5
PMTG Montargil 92.37 337 *eP* **P 17 20 46.4 -0.5**
comp=Z,82nm,1.6s
PESTR Estremoz 92.38 336 *eP* **P 17 20 46.7 -0.2**
PESTR Estremoz 92.38 336 *ePP* PP 17 24 31.4 +1.2
W57A Gilead 92.42 33 IAmb IAmb 17 20 48.5
comp=Z,198nm,1.4s
TBI Tubuai 92.51 121 *eP* **P 17 20 48.9 +1.4**
comp=Z,230nm,0.9s
TBI Tubuai 92.51 121 *eT* T 19 00 57.4
comp=Z,27nm,0.3s
GOGA Godfrey 92.53 36 IAmb IAmb 17 21 50.7
comp=Z,362nm,2.0s
GOGA Godfrey 92.53 36 P **P 17 20 47.8 +0.1**
baz=330,SNR=11
GOGA S **S 17 31 29.5 -0.8**
baz=330
250A Grady 92.54 39 pP 17 21 47.2 +0.2
BIRD Birdtown, Kers 92.68 33 **pP 17 21 46.4 -1.1**
BIRD IAmb IAmb 17 21 49.8
comp=Z,151nm,1.5s
JSC Jenkinsville 92.68 34 IAmb IAmb 17 20 49.8
comp=Z,167nm,1.6s
JSC pP 17 21 48.3 +0.7
EVO Evora 92.81 336 *eP* **P 17 20 48.9 0.0**
comp=Z,112nm,1.7s
EVO Evora 92.81 336 *ePP* PP 17 24 33.2 -0.4
BRAL Brewton 92.87 40 P **P 17 20 50.2 +0.9**
baz=328,SNR=5.2
BRAL S **S 17 31 36.5 +3.2**
baz=328
ODZ Otahua Downs 92.89 160 IAmb IAmb 17 20 53.2
comp=Z,111nm,0.9s
ODZ Otahua Downs 92.89 160 P **P 17 20 51.1 +2.3**
PYZ Puysegur Point 93.03 163 IAmb IAmb 17 20 52.7
comp=Z,113nm,0.9s
V61A Roper 93.12 30 IAmb IAmb 17 20 51.4
comp=Z,172nm,1.0s
CNNC Cliffs of the 93.14 31 P **P 17 20 50.9 +0.4**
baz=333
CNNC S **S 17 31 35.2 -0.3**
baz=333
X58A Rowland 93.20 32 IAmb IAmb 17 20 51.4
comp=Z,61nm,0.8s
PBEJ Beja 93.24 336 *eP* **P 17 20 50.9 0.0**
MESJ Messejana 93.52 336 *eP* **P 17 20 51.9 -0.2**
MESJ *e*SKSac **SKSac 17 31 02.8 0.0**
MESJ Messejana 93.52 336 *eP* **P 17 20 51.9 -0.2**
352A Blakely 93.56 38 IAmb IAmb 17 20 54.9
comp=Z,146nm,0.8s
PCVE Castro Verde 93.66 336 *eP* **P 17 20 53.0 +0.2**
comp=Z,96nm,1.7s
PCVE Castro Verde 93.66 336 *ePP* **PP 17 24 39.8 -0.4**
PVAQ Vaqueiros 93.77 336 *eP* **P 17 20 53.4 +0.1**
comp=Z,84nm,1.3s
Y59A Loris 93.88 32 IAmb IAmb 17 20 54.9
comp=Z,114nm,0.8s
PBDV Barranco-do-Ve 93.98 336 *eP* **P 17 20 55.0 +0.7**
MORF Marmelete 94.14 336 *ePP* **PP 17 24 45.7 +1.7**
NHSC New Hope 94.14 34 S **S 17 31 44.5 +0.2**
baz=332
TIGA Tifton 94.18 37 IAmb IAmb 17 20 56.5
comp=Z,95nm,0.8s
TIGA Tifton 94.18 37 P **P 17 20 55.4 +0.1**
baz=330,SNR=8.1
TIGA S **S 17 31 47.1 +2.4**
baz=330
255A Hazlehurst 94.23 36 IAmb IAmb 17 20 56.7
comp=Z,78nm,0.8s
PFVI Vila Bisbo 94.35 336 *eP* **P 17 20 56.2 +0.2**
LODK Lodwar 98.78 284 P **P 17 21 17.2 +0.8**
SNR=17
CMIG Matias Romero 100.33 54 PKKPbc PKKPbc 17 37 39.0 +2.5
comp=Z,6.4nm,0.7s,baz=146,slow=3.0,SNR=9.6
KMBO Kilima Mbogo 100.67 279 P **Pdif 17 21 25.3 +0.3**
comp=Z,17nm,1.0s,baz=35,slow=5.6,SNR=18
KMBO PP **PP 17 25 35.0 -0.4**
comp=Z,2.3nm,0.8s,baz=50,slow=18,SNR=3.1
KMBO PKKP **PKKPdf 17 37 39.3 -1.5**
comp=Z,2.1nm,0.6s,baz=320,slow=0.3,SNR=4.9
KMBO Kilima Mbogo 100.67 279 P **Pdif 17 21 26.0 +1.0**
KMBO Kilima Mbogo 100.67 279 P **Pdif 17 21 26.2 +1.2**
KMBO Kilima Mbogo 100.67 279 **Pdif 17 21 26.0 +1.0**
KMBO Kilima Mbogo 100.67 279 *i* P **Pdif 17 21 25.9 +0.9**
SNR=22
KIBK Kibwezi 100.95 278 P **Pdif 17 21 27.3 +1.2**
SNR=13
OPO Ambohidratompo105.51 259 Pdiff **Pdif 17 21 45.4 -0.9**
comp=Z,13nm,1.1s,baz=351,slow=5.0,SNR=7.2
TORD Torodi Ar. Bea 111.84 317 PKiKP **PKiKP 17 26 09.1 -1.2**
comp=Z,14nm,0.8s,baz=9.6,slow=2.5,SNR=34
TORD PKKPab **PKKPab 17 37 14.0 -1.4**
comp=Z,5.3nm,0.7s,baz=314,slow=3.1,SNR=6.8
LSZ Lusaka 116.86 275 PKKPab PKKPab 17 36 47.6 -3.1
comp=Z,7.1nm,0.7s,baz=177,slow=1.4,SNR=15
SMLC San Martn de 118.20 40 *eP* **PKPdf 17 26 20.3 -2.2**
DBBC Dabeiba 118.73 43 *eP* **PKiKP 17 26 25.0 +1.3**
ZARC Zaragoza, Cauc 118.97 42 *eP* **PKPdf 17 26 23.1 -0.9**
OCAC Ocana 119.04 40 *eP* **PKPdf 17 26 23.1 -1.2**
SDV Santo Domingo 119.65 37 PKKPbc PKKPbc 17 36 35.7 +0.7
comp=Z,3.2nm,0.2s,baz=259,slow=5.6,SNR=1.6
SDV Santo Domingo 119.65 37 **PKPdf 17 26 24.3 -1.2**
BLWY Bulawayo 119.76 270 *i* P **PKPdf 17 26 25.3 -0.1**
BLWY Bulawayo 119.76 270 *i* P **PKPdf 17 26 25.3 -0.1**
HELC Santa Helena 119.78 43 *eP* **PKPdf 17 26 26.0 0.0**
CBOC Ciudad Bolivar 119.82 44 *eP* **PKPdf 17 26 24.1 -1.8**
BRRC Barranca, Sant 119.85 41 *eP* **PKiKP 17 26 26.0 +0.2**
MOPA Mopani 119.91 265 *i* P **PKiKP 17 26 26.9 +1.3**
MOPA Mopani 119.91 265 *i* P **PKiKP 17 26 26.9 +1.3**
PTBC PUERTO BERRIO119.99 42 *eP* **PKPdf 17 26 25.0 -1.0**
MATP Matopo 120.02 270 PKP **PKPdf 17 26 25.4 -0.5**
comp=Z,13nm,0.5s,baz=66,slow=4.1,SNR=7.5
MATP PKKPbc **PKKPbc 17 36 34.0 +0.5**
comp=Z,5.7nm,0.6s,baz=236,slow=6.4,SNR=10
MATP Matopo 120.02 270 *i* P **PKiKP 17 26 26.1 +0.1**
MATP Matopo 120.02 270 *i* P **PKiKP 17 26 26.1 +0.1**
PAMC Pamplona, Colo 120.11 40 *eP* **PKPdf 17 26 24.1 -2.7**
MSNA Messina 120.15 267 *i* P **PKiKP 17 26 26.1 0.0**
MSNA Messina 120.15 267 *i* P **PKiKP 17 26 26.1 0.0**
PLMC San Jos del P 120.51 45 *eP* **PKPdf 17 26 26.0 -1.1**
BARC Barichara 120.55 41 *eP* **PKPdf 17 26 26.0 -1.4**
DBIC Dimbokro 120.59 320 PKP **PKPdf 17 26 26.4 -0.7**
comp=Z,34nm,0.7s,baz=44,slow=2.1,SNR=40
DBIC PP **PP 17 27 57.5 +0.4**
comp=Z,6.1nm,0.6s,baz=38,slow=8.6,SNR=3.9
DBIC PKKPbc **PKKPbc 17 36 32.6 +1.3**
comp=Z,19nm,0.6s,baz=195,slow=3.8,SNR=28
DBIC Dimbokro 120.59 320 **PKPdf 17 26 26.0 -1.1**
NORC Norcasia 120.64 43 *eP* **PKPdf 17 26 25.0 -2.3**
GUY2C Guyana, Caldas 120.69 44 *eP* **PKPdf 17 26 26.0 -1.9**
TIC Toumodi 120.69 320 *e*PKIKP **PKPdf 17 26 26.1 -1.3**
TIC Toumodi 120.69 320 *e*PKP1 17 27 58.5
TIC Toumodi 120.69 320 *e*PKP1 17 36 33.3
KIC Kosan Boka 120.81 319 *e*PKIKP **PKPdf 17 26 26.4 -1.2**
comp=Z,43nm,0.6s
KIC Kosan Boka 120.81 319 *e*PKP1 17 27 58.7
comp=Z,35nm,0.9s
KIC Kosan Boka 120.81 319 *e*PKP1 17 36 32.9
comp=Z,31nm,0.7s
PCRV Puerto La Cruz 120.83 30 PP PP 17 27 58.9 +0.4
comp=Z,12nm,0.8s,baz=6.3,slow=8.0,SNR=4.2
SPBC San Pablo de B 120.95 42 *eP* **PKPdf 17 26 26.0 -2.0**
CNG Changalane 121.06 262 *i* P **PKPdf 17 26 27.6 0.0**
CNG Changalane 121.06 262 *i* P **PKPdf 17 26 27.6 0.0**
LIC Lamto 121.07 320 *e*PKIKP **PKPdf 17 26 26.5 -1.5**
comp=Z,157nm,1.0s
LIC Lamto 121.07 320 *e*PKP1 17 27 57.8
comp=Z,107nm,1.1s
LIC Lamto 121.07 320 *e*PKP1 17 36 31.9
comp=Z,60nm,0.7s
RUSC La Rusia 121.21 41 *eP* **PKPdf 17 26 28.8 -0.1**
YOTC Yotoco, Valle 121.27 45 *eP* **PKPdf 17 26 27.9 -0.7**
ROSC El Rosal 121.54 43 PKP **PKiKP 17 26 29.7 +0.1**
comp=Z,35nm,0.5s,baz=120,slow=2.0,SNR=14
ROSC PKKPbc **PKKPbc 17 36 28.8 +0.5**
comp=Z,18nm,0.5s,baz=171,slow=11,SNR=5.8
ORTC Ortega, Tolima 121.89 44 *eP* **PKPdf 17 26 27.9 -1.8**
CHIC Chingaza 122.00 42 *eP* **PKPdf 17 26 28.8 -1.5**
PRAC Prado 122.23 44 *eP* **PKPdf 17 26 26.0 -4.4**
POPC Popayan, Colom 122.33 46 *eP* **PKPdf 17 26 29.8 -1.0**
VNDA Vanda 122.38 175 PKP **PKPdf 17 26 28.6 0.0**
comp=Z,56nm,0.7s,baz=323,slow=4.5,SNR=116
VNDA Vanda 122.38 175 **PKPdf 17 26 28.4 -0.2**
VILC Villavicencio, 122.47 42 *eP* **PKPdf 17 26 29.8 -1.1**
BETC Betania 122.84 45 *eP* **PKiKP 17 26 33.6 +1.8**
OTAV Otavalo 123.32 50 PKIKP **PKPdf 17 26 32.3 -0.7**
OTAV Otavalo 123.32 50 *eP* **PKPdf 17 26 31.2 -1.7**
OTAV Otavalo 123.32 50 **PKPdf 17 26 32.3 -0.7**
LBTB Lobatse 124.98 268 PKP **PKiKP 17 26 35.7 +0.1**
comp=Z,170nm,1.1s,baz=68,slow=1.8,SNR=65
LBTB Lobatse 124.98 268 *i* P **PKPdf 17 26 34.4 -0.9**
LBTB Lobatse 124.98 268 *i* P **PKPdf 17 26 34.4 -0.9**
MAW Mawson 126.06 208 PKP **PKPdf 17 26 35.9 0.0**
comp=Z,81nm,0.7s,baz=62,slow=2.0,SNR=56
MAW Mawson 126.06 208 PKIKP **PKiKP 17 26 36.5 +0.2**
MAW Mawson 126.06 208 **PKiKP 17 26 36.5 +0.2**
TSUM Tsumeb 127.01 279 PKP **PKiKP 17 26 39.7 -0.2**
comp=Z,41nm,1.0s,baz=72,slow=4.4
TSUM Tsumeb 127.01 279 **PKPdf 17 26 38.4 -0.9**
BOSA Boshof 127.38 265 PKP **PKPdf 17 26 40.0 +0.2**
comp=Z,50nm,1.0s,baz=73,slow=2.2,SNR=23
BOSA Boshof 127.38 265 *i* P **PKPdf 17 26 37.5 -2.3**
BOSA Boshof 127.38 265 *i* P **PKPdf 17 26 37.5 -2.3**
MDP Montagnes des 129.15 18 PKP **PKPdf 17 26 43.5 0.0**
comp=Z,51nm,1.0s,baz=191,slow=3.7,SNR=11
MDP PP **PP 17 28 52.0 -1.6**
comp=Z,25nm,0.8s,baz=349,slow=6.9,SNR=6.3
ATAH Atahualpa 129.38 55 PP PP 17 28 54.1 -2.3
comp=Z,33nm,1.0s,baz=24,slow=12,SNR=7.1
BOAV Boa Vista 129.51 29 *eP* **PKPdf 17 26 42.4 -1.8**
TBTG Tabatinga, AM 131.51 43 *eP* **PKPdf 17 26 47.6 -0.4**
SUR Sutherland 132.66 263 PKhKP PKPpre 17 26 41.8
comp=Z,10nm,0.7s,baz=128,slow=6.5,SNR=9.0
SUR PKP **PKPdf 17 26 50.3 +0.5**
comp=Z,36nm,1.0s,baz=152,slow=1.7,SNR=7.8
SUR SKPbc **SKPbc 17 29 54.4 +0.7**
comp=Z,120nm,1.3s,baz=40,slow=3.0,SNR=5.3
NNA Nana 134.16 57 PKP **PKPdf 17 26 53.2 +0.2**
baz=295,slow=5.6
NNA SKPbc **SKPbc 17 29 59.0 0.0**
comp=Z,38nm,0.8s,baz=308,slow=6.4,SNR=9.8
NNA Nana 134.16 57 **PKPdf 17 26 51.6 -1.3**
QSPA South Pole Qui 134.19 180 PKhKP PKPpre 17 26 39.6
comp=Z,14nm,0.6s,baz=280,slow=0.8,SNR=21
QSPA PKP **PKPdf 17 26 52.0 +0.6**
comp=Z,119nm,0.6s,baz=286,slow=1.2,SNR=37
QSPA PP **PP 17 29 25.8 -0.7**
comp=Z,36nm,0.9s,baz=345,slow=2.4,SNR=4.5
QSPA SKPbc **SKPbc 17 29 57.3 -0.1**
comp=Z,75nm,1.0s,baz=71,slow=0.4,SNR=10
MCPB Macapa, AP 134.56 19 *eP* **PKPdf 17 26 53.0 -0.7**
MACA Manacapuru-AM 134.61 31 *eP* **PKPdf 17 26 53.7 -0.1**
SYO Syowa Base 134.63 210 ‖ *e*Pdiff **Pdif 17 23 57.6 +3.3**
SYO Syowa Base 134.63 210 ‖ *i*PKPdf **PKiKP 17 26 52.9 -0.6**
SYO Syowa Base 134.63 210 ‖ *i*PKiKP **PKiKP 17 26 54.7 +1.2**
SYO Syowa Base 134.63 210 ‖ *ep*PKiKP pPKiKP 17 27 57.1 +1.6
SYO Syowa Base 134.63 210 ‖ *i*PP PP 17 29 31.0 +1.8
MALB Monte Alegre 135.45 22 *eP* **PKPdf 17 26 55.2 -0.2**
TMAB Tom-Au,PA,Br 137.31 14 *eP* **PKPdf 17 26 58.8 -0.1**
NBMO Morrinhos-CE 139.01 2 *eP* **PKPdf 17 27 01.9 -0.1**
NBCL Cascavel-CE 139.93 359 *eP* **PKPdf 17 27 02.8 -0.8**
NBPS Pedro II - PI 140.04 4 *eP* **PKPdf 17 27 03.0 -0.9**
RCBR Riachuelo 141.44 355 *eP* **PKPdf 17 27 06.4 0.0**
LPAZ La Paz 142.63 51 PKhKP PKPpre 17 27 05.1
comp=Z,29nm,0.6s,baz=308,slow=1.8,SNR=36
LPAZ PKP **PKPdf 17 27 08.6 -0.5**
comp=Z,30nm,0.5s,baz=309,slow=3.3,SNR=32
LPAZ SKPbc **SKPbc 17 30 23.7 +0.2**
comp=Z,14nm,1.0s,baz=352,slow=7.1,SNR=3.8
PB12 IPOC Station P 143.22 56 ‖ *i*P PKPab 17 27 06.0 +0.2
CLDB Colider 143.50 29 *eP* PKPab 17 27 07.3 +0.4
VILB Vilhena 143.70 37 *eP* PKPbc 17 27 08.7 +0.2
SMTB Santa Maria do 143.75 15 *eP* PKPbc 17 27 08.8 +0.2
PDRB Porto dos Gac 143.86 31 *eP* PKPbc 17 27 08.7 -0.3

PB11	IPOC Station P	144.51	56	⇓iP	PKPab	17 27 10.5	-0.3
TA02	Huaiquique	144.61	57	⇓iP	PKPab	17 27 11.0	0.0
TA01	Diego Aracena	144.81	58	⇓iP	PKPdf	17 27 11.9	-0.1
PB08	IPOC Station P	145.10	56	⇓iP	PKPab	17 27 13.3	0.0
NBAN	Anadia - AL	145.27	355	eP	PKPdf	17 27 12.1	-0.9
PB02	IPOC Station P	145.55	58	⇓iP	PKPbc	17 27 14.3	+0.2
PB01	IPOC Station P	145.59	57	⇓iP	PKPbc	17 27 14.1	-0.1
PB07	IPOC Station P	145.86	59	⇓iP	PKPbc	17 27 14.8	-0.3
SNDB	Serra Nova Dou	145.93	22	eP	PKPdf	17 27 14.1	0.0
SIV	San Ignacio	145.99	40	PKPbc	PKPbc	17 27 15.1	-0.3
comp=Z,321nm,0.8s,baz=291,slow=0.6,SNR=399							
PB04	IPOC Station P	146.15	60	⇓iP	PKPbc	17 27 15.3	-0.6
PB03	IPOC Station P	146.19	59	⇓iP	PKPdf	17 27 15.2	+0.7
PB09	IPOC Station P	146.31	58	⇓iP	PKPbc	17 27 16.1	-0.3
PTLB	Pontes e Lacer	146.38	37	eP	PKPdf	17 27 15.3	+0.6
NBPN	Ponto Novo - B	146.50	2	eP	PKPdf	17 27 15.6	+0.5
PB05	IPOC Station P	146.50	60	⇓iP	PKPdf	17 27 15.7	+0.7
NBLA	Lagarto - SE	146.65	358	eP	PKPdf	17 27 15.5	+0.2
PB10	IPOC Station P	146.77	62	⇓iP	PKPdf	17 27 15.9	+0.6
PEXB	Peixe	146.77	17	eP	PKPdf	17 27 15.9	+0.4
PB06	IPOC Station P	146.79	59	⇓iP	PKPdf	17 27 16.2	+0.7
LVC	Limon Verde	147.12	58	PKPbc	PKPdf	17 27 17.6	+1.2
comp=Z,199nm,0.9s,baz=293,slow=1.4,SNR=65							
LVC	Limon Verde	147.12	58	PKP2	PKPdf	17 27 17.3	+0.9
LVC	Limon Verde	147.12	58		PKPdf	17 27 17.2	+0.9
PB15	IPOC Station P	147.22	60	⇓iP	PKPdf	17 27 17.2	+0.9
SDBA	SAO DESIDERIO	147.65	11	eP	PKPdf	17 27 17.1	0.0
SNAA	Sanae	147.70	200	PKPdf	PKPbc	17 27 18.4	-0.2
SNAA	Sanae	147.70	200	PKPbc	PKPbc	17 27 18.3	-0.4
comp=Z,164nm,0.8s,baz=176,slow=4.8,SNR=62							
SNAA	Sanae	147.70	200		PKPdf	17 27 14.7	-0.7
SALV	Santo Antonio	148.18	32	eP	PKPdf	17 27 17.9	+0.1
VNA2	Neumayer--Watz	149.30	200	PKPdf	PKPbc	17 27 22.8	+0.2
baz=85,slow=1.2							
ARAG	Araguaiana, MT	149.32	25	eP	PKPdf	17 27 20.2	+0.5
GDU01	Guandu, BA	149.37	1	eP	PKPdf	17 27 19.1	-0.6
VNA3	Neumayer Olymp	149.61	198	PKPdf	PKPbc	17 27 23.2	-0.1
AC04	Llanos de Chal	149.67	69	eP	PKPdf	17 27 19.7	-0.2
GO03	Copiap	149.82	67	eP	PKPdf	17 27 20.6	+0.4
AC02	Maricunga	150.03	64	eP	PKPdf	17 27 21.7	+0.5
PP1B	Ponte de Pedra	150.04	32	eP	PKPdf	17 27 21.0	+0.3
BDFB	Brasilia	150.26	18	PKP	PKPdf	17 27 21.7	+0.5
comp=Z,53nm,0.9s,baz=4.9,slow=1.9,SNR=47							
BDFB				PKPbc	PKPbc	17 27 26.7	+0.1
comp=Z,144nm,0.8s,baz=22,slow=3.4,SNR=41							
JANB	Januaria	150.34	11	eP	PKPdf	17 27 21.6	+0.3
LCO	Las Campanas	150.44	69	eP	PKPdf	17 27 21.1	-0.3
NBIT	Itapeh - BA	150.57	1	eP	PKPdf	17 27 22.2	+0.6
CO05	La Serena	150.65	71	eP	PKPdf	17 27 19.3	-2.0
CO06	Fray Jorge	150.84	73	eP	PKPdf	17 27 20.9	-0.7
CMC01	Camacan, BA	151.00	1	eP	PKPdf	17 27 22.4	+0.2
GO04	Tololo Observa	151.11	71	eP	PKPdf	17 27 20.6	-1.7
CO03	El Pedregal	151.59	72	eP	PKPdf	17 27 20.9	-2.0
VA06	Catapilco	152.18	76	eP	PKPdf	17 27 22.3	-1.3
VA01	Torpederas	152.20	77	eP	PKPdf	17 27 22.9	-0.7
GUA01	Guaratinga, BA	152.21	2	eP	PKPdf	17 27 24.3	+0.2
AQDB	Aquidauana	152.31	36	eP	PKPdf	17 27 23.4	-0.7
IPMB	Ipameri, GO	152.47	19	eP	PKPdf	17 27 24.6	+0.1
VA05	Santo Domingo	152.57	78	eP	PKPdf	17 27 22.8	-1.3
ROCH	El Roble	152.61	76	⇓iP	PKPdf	17 27 23.6	-0.9
MT02	Curacav	152.68	77	⇓iP	PKPdf	17 27 23.6	-0.7
VA03	San Esteban	152.81	75	eP	PKPdf	17 27 24.1	-0.6
MT01	Popeta	152.94	78	⇓iP	PKPdf	17 27 23.5	-1.2
MT05	Renca	153.04	77	⇓iP	PKPdf	17 27 24.4	-0.4
MT09	Talagante	153.07	78	⇓iP	PKPdf	17 27 23.7	-1.3
BO01	Tunca	153.33	79	eP	PKPdf	17 27 23.8	-1.4
BO04	La Punta	153.45	78	eP	PKPdf	17 27 24.1	-1.4
ITRB	Iturama	153.53	25	eP	PKPdf	17 27 26.4	+0.5
DIAM	Diamantina, MG	153.62	10	eP	PKPdf	17 27 26.7	+0.4
LMEL	Las Melosas	153.66	77	eP	PKPdf	17 27 25.3	-0.6
BO02	Sierra Bellavi	153.75	79	eP	PKPdf	17 27 25.2	-0.7
SJMB	Sao Joao De Ma	154.25	5	eP	PKPdf	17 27 27.0	0.0
BSFB	Barra de Sao F	154.40	4	eP	PKPdf	17 27 27.1	0.0
RIB01	Linhares ES	154.90	3	eP	PKPdf	17 27 27.8	0.0
PCMB	Pacaembu	155.03	28	eP	PKPdf	17 27 28.3	+0.3
PMSA	Palmer Station	155.28	154	PKPab	PKPab	17 27 53.9	+0.5
comp=Z,88nm,0.8s,baz=151,slow=2.4,SNR=13							
PMSA	Palmer Station	155.28	154	eP	PKPdf	17 27 28.5	+1.7
BB19B	Bebedouro	155.35	22	eP	PKPdf	17 27 29.0	+0.5
BSCB	Bom Sucesso	156.10	14	eP	PKPdf	17 27 29.7	+0.2
ALF01	Guarapari-ES	156.18	4	eP	PKPdf	17 27 30.2	+0.8
PLCA	Paso Flores	156.48	92	PKP	PKPdf	17 27 28.3	-1.1
comp=Z,19nm,1.0s,baz=228,slow=2.6,SNR=19							
PLCA				PKPab	PKPab	17 27 59.8	+0.2
comp=Z,58nm,0.7s,baz=270,slow=3.5,SNR=23							
PLCA	Paso Flores	156.48	92	eP	PKPdf	17 27 29.0	-0.4
PLCA	Paso Flores	156.48	92		PKPdf	17 27 28.1	-1.3
CPUP	Villa Florida	156.58	46	PKP	PKPdf	17 27 29.2	-0.7
comp=Z,5.2nm,0.6s,baz=214,slow=1.4,SNR=8.5							
CPUP				PKPab	PKPab	17 27 59.9	-0.2
comp=Z,74nm,0.9s,baz=328,slow=4.0,SNR=24							
CPUP	Villa Florida	156.58	46	eP	PKPdf	17 27 29.6	-0.3
CPUP	Villa Florida	156.58	46	eP	PKPdf	17 27 30.2	+0.4
RCLB	Rio Claro- Sao	156.90	21	eP	PKPdf	17 27 31.2	+0.8
FRTB	Fartura	157.20	26	eP	PKPdf	17 27 30.5	-0.3
CAM01	Campos-RJ	157.32	7	eP	PKPdf	17 27 30.8	-0.1
VAS01	Vassouras-RJ	157.57	11	eP	PKPdf	17 27 31.9	+0.7
PTGB	Pitanga	157.58	33	eP	PKPdf	17 27 31.4	+0.1
VAO	Valinhos	157.60	20	eP	PKPdf	17 27 31.9	+0.6
SPB	Sao Paulo	158.05	21	eP	PKPdf	17 27 32.2	+0.5
MAN01	Angra dos Reis	158.07	13	eP	PKPdf	17 27 30.7	-1.2
PARB	Paraibuna	158.23	17	eP	PKPdf	17 27 32.1	0.0
USHA	Ushuaia	158.40	129	PKPab	PKPab	17 28 07.9	+0.6
comp=Z,67nm,0.8s,baz=248,slow=4.6,SNR=14							
PET01	Itanhaem-SP	158.75	22	eP	PKPdf	17 27 32.2	-0.4
TIJ01	Guaruva-PR	159.22	27	eP	PKPdf	17 27 33.5	+0.2
ITAB	Concordia	159.79	36		PKPab	17 28 13.4	-0.6
TER01	Tubaro-SC	162.13	31	eP	PKPdf	17 27 36.3	+0.1

*IDC **11** 17:22:37.7±1.9, 3°.96N×127°.38E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.5/56, mbtmp3.8/5 Error ellipse: s-maj=175.0km s-min=22.2km az=66.0*
*NEIC **11** 17:22:39.3±1.4, 3°.9N±0°.1×127°.14E±0°.05, h10km±2km, mb4.2/9, Error ellipse: s-maj=21.3km s-min=6.3km az=17.0*

ISC 11 17:22:39.8±1.2, 3°.7N±0°.1×127°.06E±0°.10, h10km, n18, σ0 98/18, mb4.2/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.96	174	Pn	Pn	17 23 27.4	+0.5
TOLI2	Tolitoli	6.79	248	Pn	Pn	17 24 21.7	+2.1
TOLI2				Sn	Sn	17 25 35.1	-1.9
FAKI	Fak Fak	8.40	142	Pn	Pn	17 24 42.3	+0.5
MTN	Manton Dam	16.96	166	Pn	Pn	17 26 37.1	-0.3
MTN				IAmb	IAmb	17 26 45.8	
comp=Z,22nm,1.4s							
KNRA	Kununurra	19.36	175		P	17 27 06.7	+0.9
WB0	Warramunga Arr	24.44	163	P	P	17 27 59.3	+0.2
WB0				IAmb	IAmb	17 28 00.7	
comp=Z,7.2nm,0.7s							
WRAB	Tennant Creek	24.59	163	P	P	17 28 00.5	+0.2
WRAB				IAmb	IAmb	17 28 20.7	
comp=Z,10nm,1.1s							
WRA	Warramunga Arr	24.59	163	P	P	17 28 00.7	+0.3
comp=Z,4.9nm,0.7s,baz=345,slow=10,SNR=7.4							
WRA	Warramunga Arr	24.59	163	P	P	17 28 00.2	-0.2
WB2	Warramunga Arr	24.60	163	P	P	17 28 00.6	+0.1
WB2				IAmb	IAmb	17 28 02.3	
comp=Z,6.7nm,0.8s							
AS31	Alice Springs	28.04	167	P	P	17 28 30.9	-0.6
AS31				IAmb	IAmb	17 28 48.4	
comp=Z,1.7nm,1.1s							
ASAR	Alice Springs	28.04	167	P	P	17 28 32.2	+0.7
comp=Z,0.9nm,0.9s,baz=335,slow=8.2,SNR=1.6							
BBOO	Buckleboo	37.33	167	P	P	17 29 51.0	-1.6
STKA	Stephens Creek	38.02	160	P	P	17 29 58.6	+0.3
comp=Z,3.0nm,0.6s,baz=333,slow=8.6,SNR=7.5							
STKA	Stephens Creek	38.02	160	P	P	17 29 58.0	-0.4
MKAR	Makanchi Array	57.74	325	P	P	17 32 29.9	-1.1
comp=Z,0.4nm,0.7s,baz=112,slow=7.3,SNR=1.6							
KURBB	Kurchatov Arra	61.91	327	P	P	17 32 59.4	-0.2
comp=Z,0.2nm,0.4s,baz=125,slow=6.4,SNR=2.0							
KURK	Kurchatov	61.91	327	P	P	17 32 57.5	-2.1

*SOME **11** 17:25:47.4, 40°.38N×78°.55E, h5km*
*KRNET **11** 17:25:48.0±0.1, 40°.30N×78°.68E, mb3.2*
*NNC **11** 17:25:51.6±2.1, 40°.47N×78°.50E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=14.0km s-min=13.0km az=128.0*

ISC 11 17:25:42.5±3.2, 40°.2N±0°.1×78°.56E±0°.06, h6km±17km, n45, σ1 56/70, 11C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.67	340	⇑iP	Pg	17 26 17.1	+2.5
baz=35							
TARG				⇑iS	Sg	17 26 38.5	+2.3
baz=35							
KDJ	Kajisay	2.23	332	⇑iP	Pg	17 26 26.2	+1.0
baz=29							
KDJ				⇑iS	Sg	17 26 53.8	-0.3
baz=29							
PRZ	Przheval'sk	2.32	357	⇓iP	Pg	17 26 27.1	0.0
baz=55							
PRZ				⇓iS	Sg	17 26 55.4	-1.8
baz=55							
ANVS	Anan'yevo	2.71	346	⇑iP	Pb	17 26 32.6	+1.1
baz=43							
ANVS				⇑iS	Sb	17 27 05.0	0.0
baz=43							
ULHL	Ulahol	2.72	321	⇓iP	Pb	17 26 33.7	+1.9
baz=17							
ULHL				⇓iS	Sb	17 26 06.9	+1.4
baz=17							
SATY	Saty	2.90	358	eP	Pg	17 26 39.1	+1.1
5.9nm,0.2s							
SATY				eS	Sg	17 27 16.3	+0.7
44nm,0.1s							
SATY	Saty	2.90	358	Pg	Pg	17 26 39.1	+1.1
6.3nm,0.3s							
SATY				Lg	Lg	17 27 16.3	
44nm,0.5s							
UZB	Uzynbulak	3.00	6	eP	Pg	17 26 39.4	-0.7
8.1nm,0.3s							
UZB				eS	Sg	17 27 16.9	-2.2
21nm,0.3s							
UZB	Uzynbulak	3.00	6	Pg	Pg	17 26 39.4	-0.7
8.1nm,0.7s							
UZB				Lg	Lg	17 27 16.9	
21nm,0.9s							
ZHN	Zhinishke	3.01	358	eP	Pg	17 26 40.9	+0.7
10.0nm,0.3s							
ZHN				eS	Sg	17 27 19.3	+0.2
31nm,0.5s							
ZHN	Zhinishke	3.01	358	Pg	Pg	17 26 40.9	+0.7
10.0nm,0.3s							
ZHN				Lg	Lg	17 27 19.3	
31nm,0.5s							
BOOM	Boomskoye usch	3.05	321	⇑iP	Pb	17 26 38.3	+0.9
baz=18							
BOOM				⇑iS	Sb	17 27 14.8	-0.2
baz=18							
TNSS	Tian-Shan	3.12	338	eP	Pg	17 26 42.7	+0.4
6.3nm,0.0s							
TNSS				eS	Sg	17 27 22.6	-0.1
18nm,0.1s							
TNSS	Tian-Shan	3.12	338	Pg	Pg	17 26 42.7	+0.4
5.5nm,0.3s							
TNSS				Lg	Lg	17 27 22.6	
19nm,0.7s							
MDOK	Medeo	3.21	340	eP	Pb	17 26 41.8	+1.8
6.0nm,0.3s							
MDOK				eS	Sg	17 27 21.0	-4.5
50nm,0.1s							
MDOK	Medeo	3.21	340	⇓Pg	Pg	17 26 44.2	+0.2
11nm,0.7s							
MDOK				⇑Lg	Lg	17 27 24.8	
47nm,0.6s							
MDOK	Medeo	3.21	340	Pg	Pb	17 26 41.8	+1.8
6.0nm,0.3s							
MDOK				Lg	Lg	17 27 21.0	
27nm,1.1s							
KOTS	Kotyrbulak	3.26	341	eP	Pg	17 26 45.5	+0.6
3.7nm,0.2s							
KOTS				eS	Sg	17 27 27.4	+0.3
61nm,0.2s							
KOTS	Kotyrbulak	3.26	341	Pg	Pg	17 26 45.5	+0.6
3.7nm,0.4s							
KOTS				Lg	Lg	17 27 27.4	
62nm,0.5s							
KURS	Kuram	3.34	355	eP	Pg	17 26 46.8	+0.3
7.0nm,1.1s							
KURS				eS	Sg	17 27 29.3	-0.4
16nm,0.2s							
KURS	Kuram	3.34	355	Pg	Pg	17 26 46.8	+0.3
7.0nm,1.1s							
KURS				Lg	Lg	17 27 29.3	
15nm,0.8s							
MTBS	Maitube	3.37	332	eP	Pg	17 26 47.1	0.0
5.7nm,0.2s							
MTBS				eS	Sg	17 27 29.8	-1.0
20nm,0.4s							
MTBS	Maitube	3.37	332	Pg	Pg	17 26 47.1	0.0
5.7nm,0.6s							
MTBS				Lg	Lg	17 27 29.8	
20nm,0.5s							
KST	Kastek	3.48	327	eP	Pg	17 26 49.5	+0.4
12nm,0.1s							
KST				eS	Sg	17 27 34.5	+0.2
22nm,0.2s							
KST	Kastek	3.48	327	Pg	Pg	17 26 49.5	+0.4
12nm,0.5s							
KST				Lg	Lg	17 27 34.5	
22nm,0.6s							
TKM2	Tokmak 2	3.54	322	⇑Pn	Pb	17 26 49.2	+3.4
19nm,1.1s							
TKM2				⇑Lg	Lg	17 27 35.0	
17nm,0.8s							
TKM2	Tokmak 2	3.54	322	⇓iP	Pb	17 26 45.0	-0.8
baz=20							
TKM2				⇓iS	Sb	17 27 26.4	-2.7
baz=20							
UCH	Uchtor	3.69	305	⇓iP	Pb	17 26 47.7	-0.7
baz=3.0							
UCH				⇓iS	Sb	17 27 31.0	-2.5
baz=3.0							
DGS	Degeres	3.72	327	eP	Pg	17 26 53.7	-0.1
8.5nm,0.2s							
DGS				eS	Sg	17 27 41.5	-0.6
14nm,0.2s							
DGS	Degeres	3.72	327	Pg	Pg	17 26 53.7	-0.1
8.8nm,0.8s							
DGS				Lg	Lg	17 27 41.5	
14nm,0.5s							
KTBS	Karatobe	3.82	339	eP	Pg	17 26 54.9	-0.7
3.6nm,0.0s							
KTBS				eS	Sg	17 27 43.7	-1.4
22nm,0.2s							
KTBS	Karatobe	3.82	339	Pg	Pg	17 26 54.9	-0.7
4.5nm,0.9s							
KTBS				Lg	Lg	17 27 43.7	
21nm,0.4s							
CHKK	Chushkaly	3.87	343	eP	Pg	17 26 56.3	-0.4
3.8nm,0.1s							
CHKK				eS	Sg	17 27 45.8	-1.0
23nm,0.1s							
CHKK	Chushkaly	3.87	343	Pg	Pg	17 26 56.3	-0.4
3.8nm,0.6s							
CHKK				Lg	Lg	17 27 45.8	
23nm,0.5s							
BLB	Baldybastay	3.93	359	eP	Pg	17 26 57.4	-0.5
9.9nm,0.1s							
BLB				eS	Sg	17 27 47.7	-1.2
15nm,0.1s							
BLB	Baldybastay	3.93	359	Pg	Pg	17 26 57.4	-0.5
10nm,0.9s							
BLB				Lg	Lg	17 27 47.7	
16nm,1.2s							
AAK	Ala-Archa	3.94	310	⇓Pg	Pg	17 26 57.4	-0.5
18nm,1.0s							
AAK				⇓Lg	Lg	17 27 46.5	
17nm,1.0s							
KUU	Kurty	4.08	337	eP	Pg	17 26 59.3	-1.4
4.4nm,0.4s							
KUU				eS	Sg	17 27 50.9	-2.7
14nm,0.4s							
KUU	Kurty	4.08	337	Pg	Pg	17 26 59.3	-1.4
4.5nm,0.6s							
KUU				Lg	Lg	17 27 50.9	
14nm,1.0s							
ARXS	Arharly	4.09	353	eP	Pg	17 26 59.8	-1.0
2.3nm,0.2s							
ARXS				eS	Sg	17 27 52.0	-1.7
10nm,0.1s							
ARXS	Arharly	4.09	353	Pg	Pg	17 26 59.8	-1.0
2.4nm,0.5s							
ARXS				Lg	Lg	17 27 52.0	
11nm,0.3s							
KRBS	Karabastau	4.14	330	eP	Pb	17 26 59.9	+4.1
3.4nm,0.1s							
KRBS				eS	Sg	17 27 52.3	-3.1
12nm,0.2s							
KRBS	Karabastau	4.14	330	Pg	Pb	17 26 59.9	+4.1
3.4nm,0.4s							
KRBS				Lg	Lg	17 27 52.3	
12nm,0.5s							
DJR	Jarkent	4.27	12	eP	Pg	17 27 03.2	-1.0
5.2nm,0.6s							
DJR				eS	Sg	17 27 57.7	-1.8
5.7nm,0.2s							
DJR	Jarkent	4.27	12	Pg	Pg	17 27 03.2	-1.0
5.5nm,1.3s							
DJR				Lg	Lg	17 27 57.7	
5.7nm,0.7s							

*JMA **11** 17:26:00.1±0.2, 24°.83N×122°.66E, h3km±3km, M2.2*
*TAP **11** 17:26:02.1, 24°.93N×122°.53E, h15km±1km, ML2.7, D*

ISC 11 17:25:58.8±1.1, 24°.90N±0°.05×122°.63E±0°.03, h9km±10km, n40, σ0 49/51, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.53	147	P	Pg	17 26 09.2	+0.1
JYNG				S	Sg	17 26 15.3	-0.7
YOJ	Yonaguni jima	0.56	142	P	Pg	17 26 09.6	0.0
YOJ				S	Sg	17 26 16.4	-0.5
YOJ	Yonaguni jima	0.56	142	P	Pn	17 26 13.9	+1.1
baz=136							
YOJ				S	Sn	17 26 22.4	+0.2
baz=136							
TWB1	Santiao Chiao	0.59	281	P	Pb	17 26 11.5	+0.2
baz=279							
TWB1				S	Sg	17 26 18.7	+0.6
baz=279							
SXI1	Grass Mountain	0.71	286	P	Pn	17 26 14.6	-0.5
baz=285							
SXI1				S	Sg	17 26 21.3	-0.6
baz=285							
TIPB	Shuangxi	0.74	276	P	Pb	17 26 14.3	+0.5
baz=273							
TIPB				eS	Sg	17 26 22.0	-0.6
baz=273							
TWC	Suao	0.77	248	P	Pn	17 26 15.1	-0.6
baz=242							
TWC				eS	Sb	17 26 24.2	-0.6
baz=242							
NWF	Wu-fen Shan	0.79	283	eP	Pn	17 26 15.6	-0.6
baz=281							
WFSB	Wu-fen Shan	0.79	283	eP	Pn	17 26 15.3	-0.8
baz=281							
NDS	Dongshan	0.87	253	eP	Pb	17 26 15.9	-0.2
baz=248							
PCYT	Pengchaiyu	0.89	325	eS	Sg	17 26 28.0	+0.6
baz=329							
TWE	Neicheng	0.90	259	eP	Pn	17 26 17.0	-0.5
baz=254							
EWUT	Wuta	0.90	240	eP	Pn	17 26 17.4	-0.2
baz=235							
EWUT				eS	Sb	17 26 29.2	+0.6
baz=235							
ENA	Nanau	0.94	240	eP	Pb	17 26 17.1	-0.1
baz=235							
ENA				eS	Sb	17 26 30.0	+0.3
baz=235							
FUSB	Fushanzhiwuyua	0.96	262	eP	Pn	17 26 18.2	-0.2
baz=259							
ENTT	Nioudou	1.00	255	eP	Pn	17 26 19.4	+0.4
baz=251							
NDT	Datong Townshi	1.06	254	eP	Pn	17 26 20.0	+0.2
baz=250							
LATG	Datong	1.07	250	P	Pn	17 26 20.2	+0.1
baz=246							
IRIF	Iriomote-Funau	1.15	119	P	Pg	17 26 21.0	+0.2
YHNB	Yeheng	1.17	259	eP	Pg	17 26 21.7	+0.5
baz=256							
NSK	Sanguang	1.18	259	eP	Pg	17 26 21.8	+0.3
baz=256							
NACB	Ninganchiao	1.19	233	P	Pg	17 26 22.4	+0.7
baz=228							
NACB				eS	Sg	17 26 37.0	-0.1
baz=228							
NNSB	Datong	1.23	248	eP	Pg	17 26 22.9	+0.5
baz=244							
NNS	Nan Shan	1.23	248	eP	Pg	17 26 23.0	+0.5
baz=245							
TWD	Chiawan	1.25	229	eP	Pg	17 26 23.1	+0.4
baz=225							
ETLH	Xiulin Townshi	1.25	237	eP	Pg	17 26 23.4	+0.5
baz=233							
ETLH				eS	Sn	17 26 39.3	-0.3
baz=233							
HATJ	Hateruma jima	1.36	128	P	Pg	17 26 24.8	-0.1
NFF	Wufeng Townshi	1.40	259	eP	Pg	17 26 25.9	+0.2
baz=257							
JKRS	Kuro-shima	1.42	117	P	Pg	17 26 25.6	-0.4
FUSS	Fushou	1.42	243	eP	Pg	17 26 26.2	+0.2
baz=240							
WHF	Hehuan Shan	1.45	239	eP	Pg	17 26 26.6	-0.2
baz=235							
JIJ	Ishigaki jima	1.48	111	P	Pn	17 26 25.4	-0.1
CHGB	Renai	1.57	238	eP	Pg	17 26 29.0	+0.1
baz=235							
WUSB	Renai	1.65	237	eP	Pb	17 26 29.0	-0.5
baz=234							
WHP	Taichung City	1.66	248	eP	Pg	17 26 30.1	-0.4
baz=245							
VWDT	VWDT	1.77	230	eP	Pb	17 26 31.9	+0.4
baz=227							
WCS	Beigang Elemen	1.78	242	eP	Pb	17 26 31.7	+0.2
baz=239							
HGSD	Ruisui	1.78	218	eP	Pb	17 26 32.1	+0.4
baz=215							
SSLB	Suanglung	1.89	234	eP	Pb	17 26 34.0	+0.6
baz=231							
ALS	Alishan	2.17	231	eP	Pb	17 26 37.2	-1.1
baz=228							

IDC 11 17:26:58.6±1.7, 2°.80N×125°.22E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.2/53, mbtmp3.5/4, Error ellipse: s-maj=194.3km s-min=22.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.31	159	P	P	17 32 17.6	-0.5
1.4nm,0.8s,baz=337,slow=11,SNR=8.3

UBPT	Khong Chiam	23.99	300	P	P	17 47 50.4 -0.3
UBPT				IAmb	IAmb	17 48 09.1
	comp=Z,16nm,1.4s					
WB0	Warramunga Arr	24.57	163	P	P	17 47 54.8 -1.2
WB0				IAmb	IAmb	17 47 56.0
	comp=Z,9.0nm,0.8s					
WRAB	Tennant Creek	24.71	163	P	P	17 47 56.2 -1.1
WRAB				IAmb	IAmb	17 47 57.9
	comp=Z,6.7nm,0.7s					
WRA	Warramunga Arr	24.72	163	P	P	17 47 56.9 -0.5
	comp=Z,7.0nm,0.7s,baz=343,slow=11,SNR=16					
WRA	Warramunga Arr	24.72	163	P	P	17 47 56.4 -1.0
WB2	Warramunga Arr	24.72	163	P	P	17 47 56.2 -1.2
WR0	Warramunga Arr	24.80	163	P	P	17 47 56.9 -1.1
WR0				IAmb	IAmb	17 48 09.1
	comp=Z,8.4nm,1.1s					
ASAR	Alice Springs	28.16	166	P	P	17 48 28.4 -0.1
	comp=Z,0.5nm,0.4s,baz=341,slow=9.6,SNR=15					
ASAR				PcP	PcP	17 51 42.7 +0.2
	comp=Z,0.3nm,0.7s,baz=339,slow=2.1,SNR=1.9					
BBOO	Buckleboo	37.45	167	P	P	17 49 49.1 -0.3
STKA	Stephens Creek	38.15	160	P	P	17 49 54.8 -0.5
	comp=Z,4.5nm,0.7s,baz=338,slow=9.6,SNR=14					
STKA	Stephens Creek	38.15	160	P	P	17 49 55.2 -0.1
SONM	Songino Array	47.27	341	P	P	17 51 11.2 +1.9
	comp=Z,0.3nm,0.5s,baz=160,slow=4.6,SNR=1.8					
MK31	Makanchi Array	57.59	325	P	P	17 52 26.2 +0.4
MK31				IAmb	IAmb	17 52 42.4
	comp=Z,2.1nm,1.2s					
MKAR	Makanchi Array	57.59	325	P	P	17 52 25.8 0.0
	comp=Z,0.6nm,0.5s,baz=121,slow=8.1,SNR=12					
MKAR	Makanchi Array	57.59	325	P	P	17 52 26.0 +0.2
KURBB	Kurchatov Arra	61.76	327	P	P	17 52 53.8 -0.6
	comp=Z,0.5nm,0.5s,baz=124,slow=6.4,SNR=5.2					
BVAR	Borovoye Array	67.34	327	P	P	17 53 31.8 +0.9
	comp=Z,0.5nm,0.7s,baz=122,slow=10,SNR=4.1					
TORD	Torodi Ar. Bea	123.07	288	PKP	PKPdf	18 01 32.0 -1.6
	comp=Z,1.1nm,0.9s,baz=88,slow=1.2,SNR=3.7					

IDC 11 17:46:01.6±2.0, 3°.61N×127°.03E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.0/59, mbtmp3.3/4, Error ellipse: s-maj=175.9km s-min=24.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.48	163	P	P	17 51 22.3	-0.4
	0.9nm,0.8s,baz=344,slow=10,SNR=6.3						
ASAR	Alice Springs	27.93	166	P	P	17 51 54.3	+0.5
	0.2nm,0.5s,baz=336,slow=7.7,SNR=4.7						
MKAR	Makanchi Array	57.82	325	P	P	17 55 54.5	-0.6
	0.2nm,0.6s,baz=120,slow=8.5,SNR=2.2						
KURBB	Kurchatov Arra	62.00	327	P	P	17 56 24.0	+0.4
	0.3nm,0.6s,baz=125,slow=6.9,SNR=2.5						

TAP 11 17:46:59.4, 23°.30N×121°.94E, h36km, ML2.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBN	Changbin	0.45	273	eP		Pn	17 47 08.8 -0.3
ECBN	baz=266			eS		Sn	17 47 15.6 -0.4
HGSD	Ruisui	0.51	293	eP		Pn	17 47 09.0 -1.1
HGSD	baz=293			eS		Sn	17 47 16.3 -1.4
TEGC	Jichi Village	0.55	319	eP		Pn	17 47 10.5 -0.3
TEGC	baz=319			eS		Sn	17 47 18.2 -0.4
CHKT	Chengkung	0.56	250	P		Pn	17 47 09.8 -1.1
CHKT	baz=244			eS		Sn	17 47 17.0 -2.0
EYUL	Yuli	0.57	275	P		Pn	17 47 10.4 -0.7
EYUL	baz=270			S		Sn	17 47 18.9 -0.3
TWF1	Yuli	0.59	276	P		Pn	17 47 10.6 -0.7
YULB	baz=270 Yu-li	0.59	279	eP		Pn	17 47 10.7 -0.7
YULB	baz=279			eS		Sn	17 47 20.1 +0.2
YULB	Yu-li	0.59	279	IAmb		IAmb	17 47 23.2
	comp=Z,22nm,0.9s						
YULB	Yu-li	0.59	279	P		Pn	17 47 11.1 -0.3
EGFH	Guangfu	0.60	309	P		Pn	17 47 10.9 -0.6
EGFH	baz=317			S		Sn	17 47 19.3 -0.6
FULB	Fuli	0.60	261	P		Pn	17 47 10.4 -1.1
FULB	baz=252			eS		Sn	17 47 18.7 -1.2
EHY	Hungye	0.60	290	eP		Pn	17 47 10.7 -0.8
EHY	baz=290			eS		Sn	17 47 19.6 -0.5
EDH	Donghe	0.67	241	P		Pn	17 47 11.4 -0.9
EDH	baz=239			S		Sn	17 47 20.2 -1.3
ECS	Chishang	0.69	253	eP		Pn	17 47 12.4 -0.3
ESL	baz=247 Shilin	0.69	318	eP		Pn	17 47 11.7 -1.0
LDUT	baz=325 Ludao	0.75	215	eP		Pn	17 47 12.8 -0.6
LONT	baz=214 Longtian	0.84	243	eP		Pn	17 47 14.4 -0.3
ELDTW	baz=253 Lidau	0.85	263	P		Pn	17 47 14.2 -0.7
ELDTW	baz=263			eS		Sn	17 47 25.1 -1.2
VWDT	VWDT	0.86	302	eP		Pn	17 47 15.0 +0.1
VWDT	baz=294			eS		Sn	17 47 26.6 +0.3
NACB	Ninganchiao	0.93	340	eP		Pn	17 47 14.9 -1.0
OWD	baz=347 Renai	0.96	313	eP		Pn	17 47 16.9 +0.5
ETLH	baz=313 Xiulin Townshi	1.00	335	eP		Pn	17 47 16.2 -0.7
ETLH	baz=344			eS		Sn	17 47 28.6 -1.2
SSLB	baz=344 Suanglung	1.02	299	eP		Pn	17 47 17.7 +0.5
CHGB	baz=308 Renai	1.03	318	eP		Pn	17 47 17.6 +0.1
CHGB	baz=317			S		Sn	17 47 30.5 -0.4
WHF	Hehuan Shan	1.04	324	eP		Pn	17 47 17.4 -0.4
ALS	baz=324 Alishan	1.06	282	P		Pn	17 47 18.7 +0.7
ALS	baz=282			eS		Sn	17 47 32.6 +1.0
STYH	Taoyuan	1.07	264	eP		Pn	17 47 18.2 +0.4
STYT	baz=257 Tauyuan	1.09	263	eP		Pn	17 47 18.6 +0.5
SMLT	baz=256 Sun Moon Lake	1.12	302	eP		Pn	17 47 18.9 +0.3
FUSS	baz=307 Fushou	1.14	326	P		Pn	17 47 19.0 0.0
FUSS	baz=316			eS		Sn	17 47 32.8 -0.7
ENA	Nanau	1.14	351	eP		Pn	17 47 18.4 -0.4
ECL	baz=351 Taimali	1.14	233	P		Pn	17 47 18.1 -0.7
ECL	baz=242			eS		Sn	17 47 31.9 -1.3
TYC	baz=242 Yuchr	1.16	302	eP		Pn	17 47 20.4 +1.3
TWT	baz=309 Tachien	1.18	324	eP		Pn	17 47 20.6 +1.1
DPDB	baz=332 Guoxing	1.18	309	eP		Pn	17 47 20.7 +1.3
TDCB	baz=308 Techi	1.19	323	eP		Pn	17 47 20.2 +0.6
CHN5	baz=331 Tsauling	1.19	285	eP		Pn	17 47 21.1 +1.5
TPUB	baz=284 Ta-pu	1.20	270	eP		Pn	17 47 20.9 +1.2
	baz=270						
WCS	Beigang Elemen	1.21	309	eP		Pn	17 47 21.2 +1.5
WTP	baz=309 Ta-pu	1.22	268	eP		Pn	17 47 21.2 +1.4
CHN4	baz=267 Tsaushan	1.24	273	eP		Pn	17 47 21.7 +1.6
NNSB	baz=272 Datong	1.24	336	eP		Pn	17 47 20.3 +0.1
NNS	baz=336 Nan Shan	1.25	336	eP		Pn	17 47 21.5 +1.1
NNS	baz=336			eS		Sn	17 47 35.8 -0.3
SGST	Jiashian	1.26	261	eP		Pn	17 47 20.9 +0.4
CHN1	baz=254 Nanshi	1.30	265	eP		Pn	17 47 22.6 +1.6
SSD	baz=265 Sandimen	1.32	246	eP		Pn	17 47 21.7 +0.4
TSMG	baz=245 Majia	1.33	244	eP		Pn	17 47 21.9 +0.5
TWK	baz=236 Hsinying	1.33	269	eP		Pn	17 47 23.1 +1.6
WHP	baz=268 Taichung City	1.33	317	eP		Pn	17 47 22.4 +0.9
EAST	baz=317 Anshuo	1.35	228	eP		Pn	17 47 23.4 +1.6
ENTT	baz=235 Nioudou	1.38	346	eP		Pn	17 47 22.4 +0.3
MASBT	baz=346 Mashibuluo	1.38	241	eP		Pn	17 47 22.6 +0.5
TWE	baz=234 Neicheng	1.44	350	eP		Pn	17 47 23.6 +0.7
YHNB	baz=342 Yeheng	1.46	340	eP		Pn	17 47 23.7 +0.5
NSK	baz=349 Sanguang	1.47	339	eP		Pn	17 47 24.1 +0.7
SLIU	baz=339 Shizi	1.50	225	eP		Pn	17 47 25.1 +1.3
	baz=231						

BJI ***11*** *17:50:26.3±0.0, 41°.85N×142°.65E, h69km, mb4.7/51, mB5.6/18, Ms5.0/6, Ms7 4.7/6*
MOS ***11*** *17:50:27.5±0.9, 41°.93N×142°.45E, h60km, mb5.0/22, Error ellipse: s-maj=5.5km s-min=4.4km az=106.3*
JMA ***11*** *17:50:28.7±0.2, 41°.90N×142°.50E, h64km±2km, M4.4 Broadband fault plane solution: P waves. NP1: ϕ±180.00000°, δ16.00000°, λ74.00000°. NP2: ϕ±17.00000°, δ75.00000°, λ94.00000°. Principal axes: T Plg60.0000°, Azm293.0000°; N Plg4.0000°, Azm195.0000°; P Plg30.0000°, Azm103.0000°;*
JMA Felt II J1.
NEIC ***11*** *17:50:28.8±1.9, 41°.90N±0°.05×142°.44E±0°.10, h54km±6km, mb4.8/102 Error ellipse: s-maj=12.4km s-min=2.9km az=124.0*
IDC ***11*** *17:50:30.8±1.3, 41°.94N×142°.45E, h74km±10km, mb4.3/34, mb1 4.4/40, mb1mx4.2/62, mbtmp4.5/40, Error ellipse: s-maj=12.5km s-min=8.4km az=122.0*
ISC 11 17:50:28.5±0.4, 41°.89N±0°.03×142°.51E±0°.03, h56km±3km, h56km: pP-P, n419, σ1$37/452, mb4.8/130, MS4.7/3, 67C-38D, Fault plane solution: NP1: ϕ206.87218°, δ27.39535°, λ110.70037°. **NP2:** ϕ3.81726°, δ64.50562°, λ79.61905°. **Principal axes:** T Plg68.7743°, Azm253.2116°; N Plg9.3605°, Azm8.3257°; P Plg18.8718°, Azm101.5558°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	Urakawa-nobuka	0.43	25	⇑P		Pn	17 50 40.1 +0.7
JNBK				eS		Sn	17 50 48.8 +1.5
ERM	Erimo	0.50	75	ceP		Pn	17 50 41.1 +1.0
ERM				pmax	pmax		
	comp=Z,6μm,0.6s						
ERM	Erimo	0.50	75	Pn		Pn	17 50 41.0 +1.0
JEM	Erimo	0.50	75	⇑P		Pn	17 50 41.1 +1.0
JEM				eS		Sn	17 50 50.7 +2.1
JSHD	Hidakashinhida	0.52	356	⇓P		Pn	17 50 41.4 +1.0
JSHD				eS		Sn	17 50 51.0 +2.0
JTHR	Tokachihiroo	0.71	55	⇑P		Pn	17 50 43.6 +1.0
JTHR				eS		Sn	17 50 54.5 +1.5
JIAM	Iburiatsuma	0.85	329	⇓P		Pn	17 50 45.8 +1.4
JBT2	Biratori 2	0.90	353	⇓P		Pn	17 50 45.3 +0.3
JBT2				eS		Sn	17 50 58.0 +0.8
JCH	Churui	0.96	41	⇑P		Pn	17 50 46.7 +0.8
JKB	Kayabe	1.10	270	⇓P		Pn	17 50 48.0 +0.3
JKB				eS		Sn	17 51 02.0 0.0
JOT	Ohata	1.21	246	⇓P		Pn	17 50 49.7 +0.6
JOT				eS		Sn	17 51 04.8 +0.3
JEW	Eniwo	1.23	321	⇓P		Pn	17 50 50.2 +0.7
JEW	Eniwo	1.23	321	Pn		Pn	17 50 50.1 +0.7
JNB	Noboribetsu	1.24	298	⇓P		Pn	17 50 49.5 0.0
JNB				eS		Sn	17 51 04.8 -0.4
JFR	Furan	1.27	3	⇓P		Pn	17 50 50.6 +0.5
JOB	Onbets	1.41	44	⇓P		Pn	17 50 53.7 +1.9
JTM	Tenmabayashi	1.55	225	⇓P		Pn	17 50 54.9 +1.2
JTM				eS		Sn	17 51 14.8 +2.1
JTM	Tenmabayashi	1.55	225	Pn		Pn	17 50 55.1 +1.4
JISS	Ishikarishitsu	1.60	330	⇓P		Pn	17 50 55.3 +0.9
JISS				eS		Sn	17 51 15.1 +1.1
JSR	Shiriuchi	1.61	258	⇓P		Pn	17 50 55.0 +0.5
JYM2	Yakumo 2	1.61	279	⇓P		Pn	17 50 54.9 +0.3
JAB	Ashibetsu	1.63	353	⇓P		Pn	17 50 55.9 +1.1
JAR	Ashorobuto	1.69	33	P		Pn	17 50 56.7 +1.1
JANG	Nango	1.69	207	⇑P		Pn	17 50 56.7 +1.0
JANG				eS		Sn	17 51 17.3 +1.1
JKA	Kamikawa-asahi	2.23	2	Pn		Pn	17 51 04.2 +1.3
ASAJ	Asahikawa	2.23	2	P		Pn	17 51 04.4 +1.4
	comp=Z,113nm,0.3s,baz=210,slow=9.7,SNR=609						
ASAJ				S		Sn	17 51 32.1 +2.8
	comp=Z,114nm,0.3s,baz=123,slow=31,SNR=18						
NMR	Nemuro--Hokkai	2.80	57	eP		Pn	17 51 10.2 -0.5
NMR				eS		Sn	17 51 41.6 -1.6
GLVR	Golovnino	2.88	49	cP		Pn	17 51 12.9 +1.0
GLVR				eS		Sn	17 51 46.3 +1.0
GLVR				pmax	pmax		
	comp=Z,314nm,0.5s						
GLVR				pmax	pmax		
	comp=N,162nm,0.3s						
GLVR				pmax	pmax		
	comp=E,90nm,0.3s						
GLVR				smax	smax		
	comp=N,2μm,0.4s						
GLVR				smax	smax		
	comp=E,1μm,0.8s						
RUSJ	Misakicho	2.99	41	⇓P		Pn	17 51 15.7 +2.4
RUSJ				eS		Sn	17 51 50.7 +2.8
GRPR	Tuman	3.19	48	eP		Pn	17 51 17.2 +1.1
GRPR				eS		Sn	17 51 53.6 +0.8
GRPR				pmax	pmax		
	comp=Z,335nm,0.4s						
GRPR				pmax	pmax		
	comp=E,80nm,0.1s						
GRPR				pmax	pmax		
	comp=N,89nm,0.4s						
GRPR				smax	smax		
	comp=E,865nm,0.4s						
GRPR				smax	smax		
	comp=N,812nm,0.3s						
YUK	Yuzh-Kuril'sk	3.26	48	cP		Pn	17 51 18.0 +0.9
YUK				eS		Sn	17 51 54.8 +0.2
YUK				pmax	pmax		
	comp=E,370nm,0.4s						
YUK				pmax	pmax		
	comp=Z,693nm,0.4s						
YUK				pmax	pmax		
	comp=N,498nm,0.5s						
YUK				smax	smax		
	comp=E,924nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
SHO	Shikotan	3.74	57	⇑P		Pn	17 51 23.6 0.0
SHO				eS		Sn	17 52 03.6 -2.8
SHO				pmax	pmax		
	comp=Z,168nm,0.4s						
SHO				pmax	pmax		
	comp=N,47nm,0.2s						
SHO				pmax	pmax		
	comp=E,97nm,0.2s						
SHO				smax	smax		
	comp=N,514nm,0.3s						
SHO				smax	smax		
	comp=E,312nm,0.1s						
JMM	Marumori	4.23	199			Pn	17 51 31.1 +0.7
JSD	Sado	5.05	222			Pn	17 51 43.5 +2.0
YSS	Yuzh-Sakhalins	5.07	2	⇓eP		Pn	17 51 44.5 +2.7
YSS				eS		Sn	17 52 40.6 +1.7
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS				smax	smax		
	comp=N,80nm,0.8s						
YSS	Yuzh-Sakhalins	5.07	2	Pn		Pn	17 51 44.1 +2.3
KUR	Kuril'sk	5.13	48	eP		Pn	17 51 43.9 +1.3
KUR				iS		Sn	17 52 43.0 +2.5
KUR				pmax	pmax		
	comp=N,34nm,0.4s						
KUR				pmax	pmax		
	comp=Z,167nm,0.4s						
KUR				pmax	pmax		
	comp=E,106nm,0.5s						
KUR				smax	smax		
	comp=N,188nm,0.6s						
KUR				smax	smax		
	comp=E,124nm,0.6s						
TEY	Ternei	5.33	308	⇑eP		Pn	17 51 46.1 +0.8
TEY				pmax	pmax		
	comp=N,20nm,1.0s						
TEY				pmax	pmax		
	comp=E,40nm,1.0s						
TEY				pmax	pmax		
	comp=Z,50nm,1.0s						
JYT	Yasato	5.93	198	Pn		Pn	17 51 52.9 -0.8
MJB9	Matsu-Tunnel	6.30	213			Pn	17 52 01.4 +2.6
MAJO	Matsushiro	6.30	213	P		Pn	17 52 01.0 +2.3
MAJO	Matsushiro	6.30	213			Pn	17 52 01.0 +2.3
MAT	Matsushiro	6.30	213	P		Pn	17 52 01.6 +2.9
MAT				eS		Sn	17 53 13.3 +4.0
MJAR	Matsushiro Arr	6.30	213	P		Pn	17 52 02.0 +3.2
	comp=Z,0.6nm,0.3s,baz=19,slow=17,SNR=26						
MJAR	Matsushiro Arr	6.30	213	P		Pn	17 52 02.0 +3.2
MJAR	Matsushiro Arr	6.30	213			Pn	17 52 00.5 +1.8
JGF	Kuroka	7.46	214	Pn		Pn	17 52 16.2 +1.5
INU	Inuyama	7.82	215			Pn	17 52 22.4 +2.9
VLA	Vladivostok	7.95	282	iP		Pn	17 52 21.5 +0.3
VLA				pmax	pmax		
	comp=Z,13nm,0.3s						
USA0B	Ussuriysk Arra	8.04	290	P		Pn	17 52 22.7 +0.1
USA0B	Ussuriysk Arra	8.04	290	Pn		Pn	17 52 22.6 +0.1
USRK	Ussuriysk Ar.	8.04	290	P		Pn	17 52 24.0 +1.4
	baz=90,slow=15,SNR=15						
USRK	Ussuriysk Ar.	8.04	290	P		Pn	17 52 24.2 +1.6
USRK	Ussuriysk Ar.	8.04	290	Pn		Pn	17 52 24.2 +1.6
MSHR	Mys Shultsa	8.45	278	iP		Pn	17 52 28.5 +0.3
MSHR				pmax	pmax		
	comp=Z,15nm,0.9s						
JWT	Wachi	8.63	222	Pn		Pn	17 52 34.6 +4.0
TYV	Tymovskoe	8.98	1	eP		Pn	17 52 37.4 +2.1
TYV				pmax	pmax		
	comp=Z,13nm,1.2s						
JHJ	Hachijo jima 2	9.02	195	P		Pn	17 52 33.7 -2.3
	comp=Z,14nm,0.3s,baz=138,slow=22,SNR=17						
JHJ				S		Sn	17 54 09.0 -7.0
	comp=Z,42nm,0.3s,baz=73,slow=23,SNR=6.3						
JHJ2	Mitsune	9.02	195	Pn		Pn	17 52 35.5 -0.5
MDJ	Mudanjiang	9.81	290	P		Pn	17 52 49.0 +2.2
MDJ				sP			17 53 06.9
MDJ				pmax	pmax		
	comp=Z,19nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,1μm,9.4s						
MDJ	Mudanjiang	9.81	290	Pn		Pn	17 52 48.2 +1.4
GRNR	Gornyy	9.82	337	⇑iP		Pn	17 52 51.0 +4.1
GRNR				pmax	pmax		
	comp=N,8.0nm,0.9s						
GRNR				pmax	pmax		
	comp=E,4.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,2μm,14.0s						
GRNR				MLR	MLR		
	comp=N,1μm,15.0s						
GRNR				MLR	MLR		
	comp=Z,2μm,18.0s						
JHS	Saijyo	10.08	230	Pn		Pn	17 52 54.0 +3.5
KLR	Kul'dur	10.52	318	P		Pn	17 52 58.4 +2.0
	comp=Z,0.4nm,0.3s,baz=124,slow=13,SNR=31						
KLR	Kul'dur	10.52	318	iP		Pn	17 52 56.4 0.0
KLR				pmax	pmax		
	comp=Z,13nm,1.0s						
JMN	Monobe	10.62	223	Pn		Pn	17 52 59.4 +1.4
KSRS	Korea Array	12.08	253	P		Pn	17 53 20.0 +2.3
	comp=Z,2.4nm,0.3s,baz=63,slow=14,SNR=26						
KSRS				S		Sn	17 55 36.6 +5.8
	comp=Z,1.1nm,0.3s,baz=65,slow=24,SNR=7.3						
KS19	Wonju Array Si	12.10	254			Pn	17 53 20.7 +2.7
KSAR	Wonju Array Be	12.11	253	P		Pn	17 53 19.5 +1.3
KSAR	Wonju Array Be	12.11	253			Pn	17 53 19.5 +1.3
CN2	Changchun	12.67	284	eP		Pn	17 53 26.9 +1.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JNU	Nakatsue	12.71	230	P		Pn	17 53 27.4 +0.9
	comp=Z,0.4nm,0.3s,baz=141,slow=3.6,SNR=4.7						
JSU	Suzuyama	14.16	227	Pn		Pn	17 53 43.9 -2.1
JCJ	Chichijima	14.76	181	Pn		Pn	17 53 47.6 -6.3
PEA0B	Petropavlovsk-	15.17	37	iP		Pn	17 53 58.3 -0.8
PEA0B	Petropavlovsk-	15.17	37	Pn		Pn	17 53 58.0 -1.0
PEA0B				IAmb	IAmb		17 54 22.3
	comp=Z,58nm,1.5s						
PETK	Petropavlovsk-	15.17	37	P		Pn	17 53 57.0 -2.1
	comp=Z,0.2nm,0.3s,baz=224,slow=7.7,SNR=8.8						
PETK	Petropavlovsk-	15.17	37	Pn		Pn	17 53 57.0 -2.1
PET	Petropavlovsk	15.55	39	iP		Pn	17 54 03.9 -0.1
ZEA	Zeya	15.63	325	eP		Pn	17 54 04.8 -0.1
ZEA				pmax	pmax		
	comp=E,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
DL2	Dalian	16.18	266	P		P	17 54 16.4 +2.1
DL2				pmax	pmax		
	comp=Z,25nm,0.7s						
MA2	Magadan	18.44	13	ceP		Pn	17 54 39.8 +0.1
MA2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MA2	Magadan	18.44	13			P	17 54 37.0 -2.0
XLT	XiLinHaoTe	19.44	285	eP		P	17 54 48.9 -1.4
XLT				pmax	pmax		
	comp=Z,12nm,1.1s						
XLT				pmax	pmax		
	comp=Z,2μm,10.5s						
BJI	Beijing	19.95	273	P		P	17 54 54.4 -1.3
BJI				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	Baijiatuau	19.96	273	P		P	17 54 52.0 -3.9
BJT				pmax	pmax		
	comp=Z,26nm,1.2s						
BJT	Baijiatuau	19.96	273	P		P	17 54 52.0 -3.9
NJ2	Nanjing	21.24	250	eP		P	17 55 09.9 +0.2
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
YAK	Yakutsk	21.59	343	P		P	17 55 09.3 -3.9
	comp=Z,5.3nm,0.3s,baz=123,slow=1.0,SNR=13						
YAK	Yakutsk	21.59	343	eP		P	17 55 08.9 -4.2
YAK				e			17 55 30.8
YAK				eS		S	17 59 05.0 -4.0
YAK				e			17 59 11.9
YAK				e*SS		sS	17 59 26.1 -2.9
YAK				eSS		SnSn	17 59 40.0 +3.8
YAK				e			18 06 25.1
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,270nm,5.6s						
YAK				pmax	pmax		
	comp=N,232nm,5.1s						
YAK				pmax	pmax		
	comp=E,264nm,4.9s						
YAK				smax	smax		
	comp=N,330nm,7.9s						
YAK				smax	smax		
	comp=E,387nm,7.9s						
YAK	Yakutsk	21.59	343	P		P	17 55 09.4 -3.7

YAK IAmb IAmb 17 55 16.9
comp=Z,22nm,0.8s
HNS HongShan 21.83 267 ⇓P **P 17 55 13.4 -2.6**
HNS pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 21.87 12 P **P 17 55 13.2 -2.9**
comp=Z,3.4nm,0.4s,baz=197,slow=10,SNR=30
HHC Hu-ho-hao-te 23.19 278 *e*P **P 17 55 28.4 -2.0**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,2μm,8.0s
BOD Bodaibo 24.07 321 *e*P **P 17 55 35.4 -2.8**
BOD pmax pmax
comp=Z,9.0nm,1.8s
NACB Ninganchiao 24.78 231 P **P 17 55 42.8 -2.2**
NACB IAmb IAmb 17 55 47.4
comp=Z,34nm,1.3s
WHN Wuhan 25.27 252 ⇓P **P 17 55 48.5 -0.9**
SSLB Suanglung 25.45 232 P **P 17 55 48.9 -2.3**
SSLB IAmb IAmb 17 56 10.4
comp=Z,40nm,1.5s
ULN Ulaanbaatar 25.67 296*ce*P **P 17 55 51.6 -1.4**
ULN pmax pmax
comp=Z,37nm,1.7s
ULN Ulaanbaatar 25.67 296 P **P 17 55 51.7 -1.4**
ULN IAmb IAmb 17 55 53.3
comp=Z,39nm,1.4s
SONM Songino Array 26.11 296 P **P 17 55 56.7 -0.3**
comp=Z,4.7nm,0.6s,baz=107,slow=2.9,SNR=26
SONM PcP **PcP 17 59 22.9 -0.3**
comp=Z,0.6nm,0.5s,baz=104,slow=2.8,SNR=3.4
SONM Songino Array 26.11 296 P **P 17 55 52.7 -4.3**
ZAK Zakamensk 28.20 301 *e*P **P 17 56 14.5 -1.2**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
ENH Enshi 28.93 257 P **P 17 56 20.0 -2.3**
BILL Bilibino 29.14 18⇑*e*P **P 17 56 24.0 +0.3**
BILL *e*S S 18 01 02.1 -9.4
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,1μm,16.0s
MOY Mondy 29.70 304 *e*P **P 17 56 30.5 +1.5**
H11N2 WAKE ISLAND Hy 30.25 129 T T 18 29 13.2
baz=321,slow=76,SNR=166
H11N1 WAKE ISLAND Hy 30.26 129 T T 18 29 12.9
baz=321,slow=76,SNR=282
H11N3 WAKE ISLAND Hy 30.27 129 T T 18 29 14.5
baz=321,slow=76,SNR=176
TIXI Tiksi 30.59 352 P **P 17 56 33.1 -3.4**
comp=Z,0.7nm,0.6s,baz=152,slow=6.9,SNR=4.3
TIXI Tiksi 30.59 352 P **P 17 56 36.0 -0.5**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 30.59 352 P **P 17 56 36.0 -0.5**
H11S1 WAKE ISLAND Hy 31.11 131 T T 18 30 17.0
baz=323,slow=76,SNR=298
H11S3 WAKE ISLAND Hy 31.11 131 T T 18 30 20.0
baz=323,slow=76,SNR=204
H11S2 WAKE ISLAND Hy 31.12 131 T T 18 30 20.5
baz=323,slow=76,SNR=182
GTA Gaotai 32.25 280 *e*P **P 17 56 51.7 +0.1**
GTA pP pP 17 57 07.6 +2.1
GTA sP sP 17 57 17.8 +5.8
GTA PcP **PcP 17 59 40.5 +1.7**
GTA pmax pmax
comp=Z,3.0nm,0.7s
CD2 Chengdu 32.81 263 *e*P **P 17 56 55.3 -1.2**
GYA Guiyang 33.14 254 ⇓P **P 17 57 01.1 +1.6**
GYA pmax pmax
comp=Z,10.0nm,0.7s
TNA Tin City 36.26 32 P **P 17 57 26.4 +0.6**
TNA IAmb IAmb 17 57 28.8
comp=Z,9.6nm,1.2s
PZH PanZhiHua 36.68 258 P **P 17 57 29.6 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
KMI Kunming 36.77 256 ⇓P **P 17 57 33.5 +2.6**
KMI pmax pmax
comp=Z,11nm,0.8s
GOMU GeErMu 37.09 277 P **P 17 57 34.1 +0.4**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU LR LR
comp=Z,1μm,20.0s
GOMU LR LR
comp=Z,880nm,19.7s
GOMU LR LR
comp=Z,1μm,19.2s
SLVN Son La 38.32 250 P **P 17 57 44.7 +0.9**
SLVN IAmb IAmb 17 58 07.0
comp=Z,6.9nm,0.9s
DGZ Jazzator, Alta 38.42 301 *i* P **P 17 57 44.2 -0.3**
DGZ pmax pmax
comp=Z,13nm,1.0s
NRIK Noril'sk 39.28 333 P **P 17 57 49.9 -1.3**
comp=Z,2.9nm,0.4s,baz=96,slow=3.8,SNR=6.4
NRIK Noril'sk 39.28 333*ce*P **P 17 57 50.4 -0.8**
NRIK pmax pmax
comp=Z,10.0nm,1.5s
NRIK Noril'sk 39.28 333 P **P 17 57 49.9 -1.3**
ZAA0 Zalesovo Array 39.43 308 P **P 17 57 52.3 -0.4**
ZAA0 IAmb IAmb 17 57 53.5
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 39.43 308 P **P 17 57 52.4 -0.3**
comp=Z,7.8nm,0.5s,baz=87,slow=7.9,SNR=36
ZALV PcP **PcP 18 00 00.1 +0.5**
comp=Z,3.2nm,0.6s,baz=93,slow=2.7,SNR=6.4
ZALV Zalesovo Beam 39.43 308 P **P 17 57 51.6 -1.1**
WMQ Urumqi 39.61 292 *e*P **P 17 57 55.7 +1.3**
WMQ pP sP 17 58 12.1 -3.0
WMQ sP pP 17 58 16.9 +8.3
WMQ pmax pmax
comp=Z,17nm,1.1s
ZSN Zaisan 40.56 298 *e*P **P 17 58 01.6 -0.6**
ZSN Zaisan 40.56 298 *e*P **P 17 58 01.6 -0.6**
baz=298
UBPT Khong Chiam 41.46 241 P **P 17 58 08.0 -1.9**
J20K Nowinta River 41.86 36 P **P 17 58 13.2 +0.6**
DLV T Lat 42.06 235 P **P 17 58 15.9 +1.0**
IMAR Indian Mountai 42.09 33 P **P 17 58 14.4 0.0**
MK31 Makanchi Array 42.43 298 *i* P **P 17 58 16.7 -0.8**
MK31 Makanchi Array 42.43 298 P **P 17 58 17.4 -0.1**
MK31 IAmb IAmb 17 58 18.3
comp=Z,12nm,0.9s
MKAR Makanchi Array 42.43 298 P **P 17 58 17.4 -0.1**
comp=Z,9.4nm,0.8s,baz=82,slow=9.5,SNR=73
MKAR PcP **PcP 18 00 09.5 -0.1**
comp=Z,1.8nm,0.7s,baz=54,slow=2.4,SNR=3.6
MKAR Makanchi Array 42.43 298*ce*P **P 17 58 17.3 -0.2**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 42.43 298 P **P 17 58 17.2 -0.2**
MAKZ Makanchi 42.63 298 P **P 17 58 18.8 -0.3**
MAKZ pmax pmax
comp=Z,15nm,0.9s
MAKZ Makanchi 42.63 298 P **P 17 58 18.8 -0.3**
MAKZ IAmb IAmb 17 58 20.1
comp=Z,15nm,0.9s
CAST Castle Rocks 42.79 37 P **P 17 58 21.0 +0.8**
SEM Semipalatinsk 42.81 304 *e*P **P 17 58 19.0 -1.8**
SEM Semipalatinsk 42.81 304 *e*P **P 17 58 19.0 -1.8**
baz=304
LSA Lhasa 42.81 271 P **P 17 58 21.6 +0.3**
LSA pmax pmax
comp=Z,9.0nm,1.1s
LSA Lhasa 42.81 271 P **P 17 58 21.6 +0.3**
CHTO Chiang Mai 43.47 252 P **P 17 58 26.5 +0.3**
CHTO pmax pmax
comp=Z,11nm,0.7s
CHTO Chiang Mai 43.47 252 P **P 17 58 26.4 +0.3**
CHTO IAmb IAmb 17 58 32.7
comp=Z,11nm,0.7s
CM31 Chiang Mai Arr 43.71 251 P **P 17 58 28.8 +0.7**
CMAR Chiang Mai Arr 43.71 251 P **P 17 58 28.9 +0.9**
comp=Z,3.2nm,0.7s,baz=44,slow=6.8,SNR=26
CMAR PcP **PcP 18 00 15.7 +1.4**
comp=Z,0.7nm,0.6s,baz=86,slow=0.8,SNR=5.1
CMAR Chiang Mai Arr 43.71 251 P **P 17 58 27.9 -0.2**
KURK Kurchatov 43.75 304*ce*P **P 17 58 28.0 0.0**
KURK pmax pmax
comp=Z,23nm,0.7s
KURK Kurchatov 43.75 304 P **P 17 58 27.9 -0.2**
KURBB Kurchatov Arra 43.83 304 P **P 17 58 28.5 -0.1**
comp=Z,16nm,0.5s,baz=77,slow=8.9,SNR=79
KURBB Kurchatov Arra 43.83 304 P **P 17 58 27.4 -1.2**
NEA2 Nenana 44.06 35 P **P 17 58 30.3 0.0**
NEA2 IAmb IAmb 17 58 31.9
comp=Z,8.0nm,0.6s
MDM Murphy Dome 44.40 35 P **P 17 58 34.2 +1.1**
SHL Shillong 44.49 265 P **P 17 58 32.9 -1.6**
SHL pmax pmax
comp=Z,11nm,1.0s
SHL Shillong 44.49 265 P **P 17 58 32.9 -1.6**
SHL IAmb IAmb 17 58 39.1
comp=Z,11nm,1.0s
TCOL CIGO, UAF Yank 44.56 35 P **P 17 58 33.8 -0.6**
COLA College 44.56 35 P **P 17 58 33.2 -1.1**
COLA pmax pmax
comp=Z,45nm,0.3s
COLA College 44.56 35 P **P 17 58 33.2 -1.1**
IL31 44.98 35 P **P 17 58 37.9 +0.3**
ILAR Eielson Array 44.98 35 P **P 17 58 37.9 +0.2**
comp=Z,2.4nm,0.7s,baz=268,slow=6.4,SNR=21
ILAR PcP **PcP 18 00 16.7 -1.2**
comp=Z,0.4nm,0.5s,baz=260,slow=2.9,SNR=1.4
TDK Taldyqorghan 45.56 297 *e*P **P 17 58 42.1 -0.5**
TDK pmax pmax
comp=Z,18nm,0.6s
TDK Taldyqorghan 45.56 297 *e*P **P 17 58 42.1 -0.5**
comp=Z,18nm,0.6s,baz=297
ZHN Zhinishke 46.19 294 *e*P **P 17 58 47.0 -0.7**
ZHN Zhinishke 46.19 294 *e*P **P 17 58 47.1 -0.7**
baz=294
SATY Saty 46.25 294 *e*P **P 17 58 47.6 -0.5**
SATY Saty 46.25 294 *e*P **P 17 58 47.7 -0.5**
baz=294
SCRK Sand Creek 46.33 36 P **P 17 58 48.6 +0.1**
SCRK IAmb IAmb 17 58 49.4
comp=Z,5.1nm,0.7s
DOT Dot Lake 46.34 36 P **P 17 58 48.0 -0.5**
PRZ Przheval'sk 46.47 293 P **P 17 58 50.8 +0.9**
PRZ pmax pmax
comp=Z,10.0nm,0.8s
PRZ Przheval'sk 46.47 293 P **P 17 58 50.8 +0.9**
PRZ IAmb IAmb 17 58 51.8
comp=Z,9.6nm,0.8s
L26K Log Cabin Wild 46.76 37 P **P 17 58 53.5 +1.7**
L26K IAmb IAmb 17 59 06.0
comp=Z,13nm,1.4s
CHKK Chushkaly 46.92 296 *e*P **P 17 58 52.3 -0.9**
baz=296
MDOK Medeo 47.13 295 *e*P **P 17 58 54.3 -0.8**
MDOK Medeo 47.13 295 *e*P **P 17 58 54.4 -0.8**
baz=295
TNSS Tian-Shan 47.25 295 *e*P **P 17 58 55.8 -0.5**
baz=295
KUU Kurty 47.34 296 *e*P **P 17 58 55.4 -1.1**
KUU pmax pmax
comp=Z,12nm,0.6s
KUU Kurty 47.34 296 *e*P **P 17 58 55.5 -1.1**
comp=Z,12nm,0.6s,baz=296
L27K Beaver Creek, 47.44 37 P **P 17 58 58.4 +1.4**
KDJ Kajisay 47.44 293 P **P 17 58 57.5 0.0**
KDJ pmax pmax
comp=Z,9.0nm,0.7s
KDJ Kajisay 47.44 293 P **P 17 58 57.5 0.0**
KDJ IAmb IAmb 17 58 58.7
comp=Z,9.1nm,0.7s
BCAR Beaver Creek A 47.45 37 P **P 17 58 58.2 +1.0**
BRZS Berezniki 47.61 305 *e*P **P 17 58 58.2 -0.3**
BRZS Berezniki 47.61 305 *e*P **P 17 58 58.3 -0.3**
baz=305
GUN Gumba 47.69 272 *e*P **P 17 59 00.3 +0.5**
comp=Z,79nm,0.5s
KST Kastek 47.91 295 *e*P **P 17 59 00.4 -0.8**
comp=Z,9.0nm,0.4s,baz=295
BRVK Borovoye 48.09 309*ce*P **P 17 59 02.6 +0.4**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 48.09 309 P **P 17 59 02.3 +0.1**
BRVK IAmb IAmb 17 59 03.4
comp=Z,7.2nm,0.8s
BOOM Boomskoye usch 48.14 294 P **P 17 59 03.2 +0.2**
BOOM pmax pmax
comp=Z,21nm,0.6s
BOOM Boomskoye usch 48.14 294 P **P 17 59 03.2 +0.2**
KKN Kakani 48.20 272 *e*P **P 17 59 03.9 +0.3**
comp=Z,9.0nm,0.4s
TKM2 Tokmak 2 48.21 295 P **P 17 59 04.2 +0.7**
SNR=5.1
TKM2 Tokmak 2 48.21 295 P **P 17 59 03.1 -0.4**
PKI Pulchoki 48.22 272 *e*P **P 17 59 04.0 +0.1**
comp=Z,19nm,0.5s
PKIN Phulchoki 48.23 272 *e*P **P 17 59 04.0 +0.1**
comp=Z,13nm,0.4s
DMN Daman 48.42 272 *e*P **P 17 59 05.9 +0.5**
comp=Z,30nm,0.6s
BTLS Baital 48.44 298 *e*P **P 17 59 03.9 -1.1**
BTLS Baital 48.44 298 *e*P **P 17 59 04.0 -1.1**
baz=298
GKN Gorkha 48.56 273 *e*P **P 17 59 06.7 +0.3**
comp=Z,22nm,0.4s
SGDS Sogindy 48.65 296 *e*P **P 17 59 06.2 -0.5**
comp=Z,3.0nm,0.8s,baz=296
KBK Karagaybulak 48.75 295 P **P 17 59 08.2 +0.6**
SNR=34
USP Ospenovka 48.81 296 P **P 17 59 08.0 0.0**
SNR=8.4
FRU1 Bishkek 48.91 295 P **P 17 59 08.5 -0.2**
FRU1 pmax pmax
comp=Z,16nm,0.6s
FRU1 Bishkek 48.91 295 P **P 17 59 08.5 -0.2**
DANN Dangsing 49.03 274 *e*P **P 17 59 10.9 +0.8**
comp=Z,98nm,0.5s
AAK Ala-Archa 49.07 295 P **P 17 59 10.2 +0.2**
SNR=12
AAK Ala-Archa 49.07 295*ce*P **P 17 59 10.0 0.0**
AAK pmax pmax
comp=Z,16nm,0.7s
AAK Ala-Archa 49.07 295 P **P 17 59 09.6 -0.4**
KSH Kashi 49.34 291 P **P 17 59 16.0 +3.9**
KSH pP sP 17 59 33.4 +0.3
KSH pmax pmax
comp=Z,9.0nm,0.8s
KOLN Koldanda 49.46 273 *e*P **P 17 59 13.8 +0.5**
comp=Z,19nm,0.4s
EKS2 Erkin-Say 49.54 295 P **P 17 59 13.7 +0.1**
SNR=25
INK Inuvik 49.71 29 P **P 17 59 14.4 +0.1**
comp=Z,4.1nm,0.5s,baz=302,slow=6.1,SNR=29
PYUN Piuthan 49.74 274 *e*P **P 17 59 16.0 +0.6**
comp=Z,6.1nm,0.2s
AML Almayashu 49.81 295 P **P 17 59 16.7 +0.7**
SNR=13
SRIT Nakonsritamara 50.24 241 P **P 17 59 19.4 +0.4**
DZA Taraz 51.09 297 *e*P **P 17 59 24.7 -0.4**
DZA pmax pmax
comp=Z,9.0nm,0.6s
DZA Taraz 51.09 297 *e*P **P 17 59 24.8 -0.4**
comp=Z,9.0nm,0.6s,baz=297
A36M Sachs Harbour 51.46 23 P **P 17 59 27.5 0.0**
A36M IAmb IAmb 17 59 34.4
comp=Z,6.9nm,0.8s
BRLS Borolday 52.02 297 *e*P **P 17 59 32.9 +0.8**
BRLS Borolday 52.02 297 *e*P **P 17 59 32.9 +0.8**
baz=297
KULM Kulim 52.07 237 P **P 17 59 34.1 +1.4**
SVE Sverdlovsk 52.14 316 *e*P **P 17 59 33.3 +0.5**
SVE pmax pmax
comp=Z,27nm,1.1s
DRK Karamyk 52.26 293 P **P 17 59 34.0 -0.3**
DRK IAmb IAmb 17 59 49.9
comp=Z,6.4nm,0.6s
BTK Batken 52.67 294 P **P 17 59 37.1 0.0**
BTK pmax pmax
comp=Z,6.0nm,0.6s
BTK Batken 52.67 294 P **P 17 59 37.1 0.0**
BTK IAmb IAmb 17 59 41.6
comp=Z,5.5nm,0.6s
ARU Arti 53.36 316*c i*P **P 17 59 41.6 -0.1**
ARU *PP **pP 17 59 55.1 -1.3**
ARU 18 01 38.4
ARU S **S 18 07 11.1 +1.9**
ARU *SS **sS 18 07 35.0 +0.5**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 53.36 316 P **P 17 59 41.5 -0.2**
ARU IAmb IAmb 17 59 42.7
comp=Z,9.5nm,0.8s
NIL Nilore 54.02 285 P **P 17 59 47.4 +0.4**
NIL pmax pmax
comp=Z,10.0nm,0.8s
NIL Nilore 54.02 285 P **P 17 59 47.4 +0.4**
NIL IAmb IAmb 17 59 48.7
comp=Z,9.7nm,0.8s
CHGR Chuyangaron 54.46 293 *e*P **P 17 59 49.7 -0.5**
CHGR Chuyangaron 54.46 293 P **P 17 59 49.7 -0.5**
BATI Baumata 54.66 203 P **P 17 59 52.1 +0.5**
comp=Z,3.3nm,0.3s,baz=218,slow=12,SNR=2.3
PSI Prapat 55.08 237 P **P 17 59 55.1 +0.2**
comp=Z,2.1nm,0.4s,baz=355,slow=6.9,SNR=3.6
AB31 Akbulak array 55.54 308 *i* P **P 17 59 57.8 +0.1**
ABKAR Akbulak array 55.54 308 P **P 17 59 57.3 -0.4**
ABKAR Akbulak array 55.54 308 P **P 17 59 57.5 -0.2**
ABKAR IAmb IAmb 17 59 58.9
comp=Z,15nm,1.2s
AKTO Aktyubinsk 56.14 310 P **P 18 00 01.4 -0.5**
baz=77,slow=12
KBL Kabul 56.58 289 P **P 18 00 04.5 -1.1**
KBL pmax pmax
comp=Z,14nm,1.1s
KBL Kabul 56.58 289 P **P 18 00 04.5 -1.1**
KBL IAmb IAmb 18 00 06.0
comp=Z,14nm,1.1s
KIRV Kirov 56.94 321*ce*P **P 18 00 07.6 +0.1**
PVM Polavaram 57.10 264 *e*P **P 18 00 09.9 +0.8**
RES Resolute Bay 57.70 15 P **P 18 00 12.2 -0.4**
comp=Z,9.6nm,0.7s,baz=317,slow=6.2,SNR=28
MYLAV Mylavaram 58.15 264 *e*P **P 18 00 17.6 +1.1**
SRSP Sriramsagar 58.50 268 *e*P **P 18 00 19.4 +0.3**
ADKI Addanki 59.21 264 *e*P **P 18 00 24.6 +0.7**
ADKI *e*PcP **PcP 18 01 12.0 +0.1**
YKA Yellowknife Ar 59.21 32 P **P 18 00 23.4 +0.1**
comp=Z,2.9nm,0.7s,baz=305,slow=6.2,SNR=59
YKA Yellowknife Ar 59.21 32*ce*P **P 18 00 23.7 +0.4**
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 59.21 32 P **P 18 00 22.6 -0.7**
HYBB Hyderabad (bro 59.28 266 *e*P **P 18 00 24.5 0.0**
HYBB *es*P **sP 18 00 45.4 -0.3**
HYBB *e*S **S 18 08 28.5 -0.1**
ARCES ARCESS Array B 59.77 339 P **P 18 00 26.0 -1.1**
comp=Z,2.7nm,0.7s,baz=52,slow=8.3,SNR=8.4
ARCES ARCESS Array B 59.77 339 IAmb IAmb 18 00 47.9
comp=Z,13nm,1.5s
SRLM Srisailam 59.85 265 *e*P **P 18 00 28.5 +0.1**
SRLM *ep*P **pP 18 00 43.0 -0.3**
SRLM *es*P **sP 18 00 49.7 +0.1**
KLMR Klimovskoe 60.14 327 *e*P **P 18 00 28.7 -1.0**
KLMR *e**PP **pP 18 00 45.8 +1.0**
KLMR pmax pmax
comp=Z,15nm,1.1s
KLMR Klimovskoe 60.14 327 *e*P **P 18 00 28.7 -1.0**
KLMR AMP 18 00 33.6
comp=Z,15nm,1.1s
KLMR *ep*P **pP 18 00 45.9 +1.1**
TULEG Thule 60.18 8 *i* P P 18 00 24.7 -5.0
TULEG Thule 60.18 8 P **P 18 00 28.7 -1.1**
TULEG IAmb IAmb 18 00 29.8
comp=Z,8.9nm,0.9s
RCLA Racherla 60.21 264 *e*P **P 18 00 31.0 +0.2**
KLRI Killari 60.33 268 *e*P **P 18 00 31.6 -0.1**
NEEM North Greenlan 60.64 3 *i* P **P 18 00 30.7 -2.6**
HRA Herat 61.42 292 P **P 18 00 38.6 -0.6**
HRA IAmb IAmb 18 00 40.2
comp=Z,8.1nm,0.7s
URV Uravakonda 61.79 265 *e*P **P 18 00 41.9 +0.3**
WB0 Warramunga Arr 61.80 189 P **P 18 00 41.3 -0.1**
WB0 IAmb IAmb 18 00 42.1
comp=Z,6.3nm,0.6s
WRAB Tennant Creek 61.97 189*ce*P **P 18 00 43.2 +0.7**
WRAB pmax pmax
comp=Z,15nm,2.5s
WRAB Tennant Creek 61.97 189 P **P 18 00 42.6 0.0**
WRAB IAmb IAmb 18 01 02.9
comp=Z,14nm,1.4s
WR0 Warramunga Arr 61.98 188 P **P 18 00 42.2 -0.4**
WB2 Warramunga Arr 61.98 189 P **P 18 00 42.8 +0.2**
WB2 IAmb IAmb 18 00 43.4
comp=Z,7.5nm,1.0s
WRA Warramunga Arr 61.98 189 P **P 18 00 42.5 -0.2**
comp=Z,3.5nm,0.4s,baz=6.2,slow=6.9,SNR=111
WRA Warramunga Arr 61.98 189 P **P 18 00 41.3 -1.3**
GEYT Alibeck 62.30 297 P **P 18 00 44.9 +0.1**
comp=Z,4.2nm,0.7s,baz=0.0,slow=0.3,SNR=4.8
GEYT Alibeck 62.30 297 P **P 18 00 42.5 -2.2**
GEYT IAmb IAmb 18 00 45.7
comp=Z,4.8nm,0.7s
OBN Obninsk 64.75 322 P **P 18 01 00.2 -0.3**
comp=Z,1.9nm,0.3s,baz=56,slow=11,SNR=4.0
OBN Obninsk 64.75 322*ce*P **P 18 00 59.6 -0.9**
OBN *e* 18 03 22.7
OBN *es*S **S 18 09 41.3 +4.8**
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 64.75 322 P **P 18 01 00.2 -0.3**
FINES FINESS Array B 64.93 332 P **P 18 01 01.4 -0.3**
comp=Z,11nm,0.5s,baz=53,slow=7.0,SNR=107
FINES FINESS Array B 64.93 332 P **P 18 01 01.2 -0.5**
AS31 Alice Springs 65.71 189 P **P 18 01 07.3 +0.2**
ASAR Alice Springs 65.71 189 P **P 18 01 07.7 +0.6**
comp=Z,1.6nm,0.5s,baz=2,9,slow=7.7,SNR=67
ASAR Alice Springs 65.71 189 P **P 18 01 07.8 +0.7**
ASAR Alice Springs 65.71 189 P **P 18 01 07.8 +0.7**
C09A Chrisman Ranch 65.75 47 P **P 18 01 08.5 +1.2**
SUMG Summit 65.83 0 P **P 18 01 08.0 +0.2**
SUMG pmax pmax
comp=Z,8.0nm,0.7s
SUMG Summit 65.83 0 *i* P **P 18 01 07.0 -0.8**
SUMG Summit 65.83 0 P **P 18 01 08.0 +0.2**
SUMG IAmb IAmb 18 01 09.4
comp=Z,8.4nm,0.7s
GOF Gofitskoye 67.53 311⇑*e*P **P 18 01 19.1 +0.5**
GOF pmax pmax
comp=Z,31nm,0.6s
KVAR Kislovodsk Arr 68.40 310 P **P 18 01 24.8 +0.6**
comp=Z,2.9nm,0.3s,baz=253,slow=19,SNR=1.8
KIV Kislovodsk 68.40 310 ⇓P **P 18 01 25.4 +1.2**
KIV Kislovodsk 68.40 310 *e*P **P 18 01 25.4 +1.2**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV Kislovodsk 68.40 310 P **P 18 01 25.0 +0.8**
KBZ Khabaz 68.42 310 P **P 18 01 25.0 +0.9**
comp=Z,6.7nm,0.7s,baz=75,slow=2.5,SNR=17
KBZ Khabaz 68.42 310*ce*P **P 18 01 25.2 +1.1**
KBZ pmax pmax
comp=Z,11nm,0.9s
SHA1 Shidzhatmaz 68.55 310 *i* P **P 18 01 25.2 -0.1**
ONI Oni 68.79 309 P **P 18 01 27.9 +1.3**
ONI pmax pmax
comp=Z,9.0nm,1.0s
ONI Oni 68.79 309 P **P 18 01 27.9 +1.3**
ONI IAmb IAmb 18 01 28.8
comp=Z,8.9nm,1.0s
NACGM Naroch 69.15 326 *i* P **P 18 01 28.6 +0.1**
AKH Akhalkalaki 69.49 308 ⇑P **P 18 01 32.7 +1.5**
NC405 NORSAR Array S 69.84 337 P **P 18 01 31.5 -1.2**
NC303 NORSAR Array S 69.85 337 P **P 18 01 32.4 -0.3**
NC204 NORSAR Array S 69.98 337 P **P 18 01 33.2 -0.4**
NC204 IAmb IAmb 18 01 57.1
comp=Z,16nm,1.1s
HFS Hagfors 70.02 335 P **P 18 01 33.5 -0.3**
comp=Z,8.9nm,0.3s,baz=38,slow=6.4,SNR=74
NB2 NORSAR Subarra 70.05 337 P **P 18 01 33.7 -0.3**
comp=Z,3.7nm,0.4s,baz=36,slow=6.5
NOA NORSAR Array B 70.05 337 P **P 18 01 33.6 -0.4**
comp=Z,6.2nm,0.7s,baz=36,slow=6.1,SNR=29
EGMT Eagleton 70.10 43 P **P 18 01 34.9 +0.3**
LRM Limekiln Ridge 70.12 46 P **P 18 01 36.0 +1.0**
NBO00 NORSAR Array S 70.18 337 P **P 18 01 33.7 -1.0**
AKASG Malin Array Be 70.99 322 P **P 18 01 39.5 -0.4**
comp=Z,9.1nm,0.5s,baz=44,slow=6.3,SNR=64
AKASG Malin Array Be 70.99 322 P **P 18 01 39.5 -0.4**
AKBB Malin Array Si 70.99 322*ce*P **P 18 01 39.7 -0.2**
AKBB Malin Array Si 70.99 322 P **P 18 01 39.5 -0.4**
NVAR Mina Array Bea 71.45 55 P **P 18 01 44.0 +0.9**
comp=Z,1.5nm,0.8s,baz=290,slow=5.8,SNR=8.6
NVAR Mina Array Bea 71.45 55 P **P 18 01 44.7 +1.5**
H17A Grant Village 72.06 46 P **P 18 01 49.8 +3.0**
GURO Guroymak-BITLI 72.16 306 P **P 18 01 48.8 +1.5**
GURO IAmb IAmb 18 01 49.5

	comp=Z,13nm,0.8s					
SORM	Soroca	73.19 320	⇑P	P	18 01 52.6	-0.4
PD31	Pinedale Array	73.69 47	P	P	18 01 57.3	+0.8
PDAR	Pinedale Array	73.69 47	P	P	18 01 57.1	+0.7
	comp=Z,1.5nm,0.7s,baz=269,slow=2.7,SNR=16					
PDAR	Pinedale Array	73.69 47	P	P	18 01 56.9	+0.4
MARD	Mardin	73.71 306	P	P	18 01 57.5	+1.0
MILM	Milestii Mici	73.82 319	⇑P	P	18 01 56.4	-0.4
ULM	Lac du Bonnet	75.00 34	P	P	18 02 03.8	+0.2
	comp=Z,3.3nm,0.6s,baz=314,slow=6.4,SNR=4.7					
ULM	Lac du Bonnet	75.00 34	IAmb	IAmb	18 02 04.8	
	comp=Z,11nm,1.2s					
BUR08	Bucovina Ar. S	75.02 322	P	P	18 02 04.1	+0.2
BUR08			IAmb	IAmb	18 02 05.2	
	comp=Z,8.5nm,0.7s					
BURAR	Bucovina Array	75.04 322	⇑P	P	18 02 04.3	+0.3
BURAR	Bucovina Array	75.04 322	P	P	18 02 04.2	+0.2
BURAR			IAmb	IAmb	18 02 05.5	
	comp=Z,12nm,0.7s					
TESR	Tescani	75.16 320	⇓P	P	18 02 04.9	+0.4
RDMU	Red Mountain	75.17 49	P	P	18 02 06.3	+1.2
RDMU			IAmb	IAmb	18 02 07.4	
	comp=Z,9.8nm,0.9s					
P17A	Butcher Ranch,	75.25 50	P	P	18 02 06.7	+1.3
ILGA	Ilgaz	75.33 312	P	P	18 02 07.1	+1.2
CFR	Carcaliu	75.39 318	⇑P	P	18 02 05.7	-0.1
TPGR	Topolog	75.47 318	⇓P	P	18 02 06.9	+0.5
OJC	Ojcow	75.49 326	P	P	18 02 06.5	+0.1
OJC			pmax	pmax		
	comp=Z,17nm,0.9s					
OJC	Ojcow	75.49 326	P	P	18 02 06.5	+0.1
OJC			IAmb	IAmb	18 02 07.8	
	comp=Z,17nm,0.9s					
VRI	Vrincioaia	75.58 319	⇓P	P	18 02 07.8	+0.8
SRU	San Rafael Swe	75.62 50	P	P	18 02 08.8	+1.2
SRU			pmax	pmax		
	comp=Z,4.0nm,0.8s					
SRU	San Rafael Swe	75.62 50	P	P	18 02 08.8	+1.2
BNN	Bunyan	75.62 309	P	P	18 02 08.5	+1.0
PLOR	Plostina	75.63 320	⇓P	P	18 02 07.1	-0.2
CRVS	Cervenica-Dubn	75.78 324	*eP*	P	18 02 09.1	+1.0
CRVS	Cervenica-Dubn	75.78 324	*eP*	P	18 02 09.1	+1.0
OZUR		75.87 320	⇑P	P	18 02 09.9	+1.2
DOPR	Dopca	76.16 320	⇑P	P	18 02 11.2	+0.9
MLR	Muntele Rosu	76.24 320	⇑P	P	18 02 11.2	+0.3
MLR	Muntele Rosu	76.24 320	P	P	18 02 11.1	+0.2
	comp=Z,1.4nm,0.4s,baz=332,slow=5.3,SNR=5.8					
MLR	Muntele Rosu	76.24 320	P	P	18 02 09.6	-1.3
BR131	Keskin Array S	76.28 311	P	P	18 02 11.6	+0.3
BR131			pmax	pmax		
	comp=Z,7.0nm,0.8s					
BR131	Keskin Array S	76.28 311	P	P	18 02 11.6	+0.3
BR131			IAmb	IAmb	18 02 12.2	
	comp=Z,6.8nm,0.8s					
BRTR	Keskin Array B	76.28 311	P	P	18 02 11.7	+0.3
	comp=Z,3.4nm,0.7s,baz=68,slow=3.8,SNR=14					
BRTR	Keskin Array B	76.28 311	P	P	18 02 11.4	+0.1
LANS	Liptovska Anna	76.44 326	*eP*	P	18 02 13.2	+1.3
LANS	Liptovska Anna	76.44 326	*eP*	P	18 02 13.2	+1.3
ANTO	Ankara	76.65 312	P	P	18 02 13.7	+0.4
ANTO			pmax	pmax		
	comp=Z,14nm,0.8s					
ANTO	Ankara	76.65 312	P	P	18 02 13.7	+0.4
BR231	Keskin MP Arra	76.68 312	P	P	18 02 13.4	-0.1
VOIR		76.71 320	⇓P	P	18 02 14.7	+1.2
CHVC	Chvalec	76.72 328	*eP*	P	18 02 14.2	+0.8
MORC	Moravsky Berou	76.76 327	⇑P	P	18 02 14.5	+0.8
MORC	Moravsky Berou	76.76 327	P	P	18 02 14.3	+0.6
MORC			pmax	pmax		
	comp=Z,10.0nm,0.9s					
MORC	Moravsky Berou	76.76 327	*eP*	P	18 02 14.3	+0.6
MORC	Moravsky Berou	76.76 327	P	P	18 02 14.3	+0.6
MORC			IAmb	IAmb	18 02 15.3	
	comp=Z,10nm,0.9s					
DPC	Dobruska-Polom	76.80 328	*eP*	P	18 02 14.8	+0.9
DPC	Dobruska-Polom	76.80 328	*eP*	P	18 02 14.8	+0.9
KRLC	Kraliky	76.83 328	*eP*	P	18 02 14.9	+0.8
KRLC	Kraliky	76.83 328	*eP*	P	18 02 14.9	+0.8
PV14	Lion Creek, Pa	76.98 50	P	P	18 02 17.5	+2.1
PV14			IAmb	IAmb	18 02 18.3	
	comp=Z,9.1nm,1.3s					
MDUB	Mudurnu	77.11 313	P	P	18 02 16.3	+0.4
LOT	Lotru	77.31 321	⇓P	P	18 02 17.4	+0.5
CLL	Collm	77.31 330	*i* P	P	18 02 16.0	-0.6
CLL			pmax	pmax		
	comp=Z,7.0nm,0.8s					
CLL	Collm	77.31 330	*i* P	P	18 02 16.0	-0.6
	comp=Z,7.0nm,0.8s					
CLL	Collm	77.31 330	P	P	18 02 16.0	-0.6
CLL			IAmb	IAmb	18 02 17.4	
	comp=Z,7.0nm,0.8s					
B35A	Bob, Littlefor	77.36 35	P	P	18 02 17.2	+0.2
B35A			IAmb	IAmb	18 02 18.4	
	comp=Z,9.2nm,0.8s					
JAVC	Velka Javorina	77.42 326	*eP*	P	18 02 18.8	+1.4
VRAC	Vranov	77.51 327	⇓P	P	18 02 18.8	+0.9
VRAC	Vranov	77.51 327	*eP*	P	18 02 18.6	+0.7
KRUC	Moravsky	77.78 327	*eP*	P	18 02 19.9	+0.5
PRU	Pruhonice	77.79 329	*eP*	P	18 02 19.8	+0.5
PRU	Pruhonice	77.79 329	*eP*	P	18 02 19.8	+0.5
GZR	Gura Zlata	77.81 321	⇓P	P	18 02 19.9	+0.3
MODS	Modra-Piesok	77.96 326	*eP*	P	18 02 22.0	+1.6
MODS	Modra-Piesok	77.96 326	*eP*	P	18 02 22.0	+1.6
SRO	Srobarova	77.96 325	*eP*	P	18 02 21.8	+1.4
SRO	Srobarova	77.96 325	*eP*	P	18 02 21.8	+1.4
F33A	5 Mile Ranch,	78.15 38	P	P	18 02 21.8	+0.3
F33A			IAmb	IAmb	18 02 22.7	
	comp=Z,5.0nm,0.8s					
BZS	Buzias	78.18 322	⇑P	P	18 02 21.7	0.0
HERR	Herculane	78.37 321	⇑P	P	18 02 22.6	-0.1
NKC	Novy Kostel	78.39 330	*eP*	P	18 02 24.0	+1.3
NKC	Novy Kostel	78.39 330	*eP*	P	18 02 24.0	+1.3
CKRC	Cesky Krumlov	78.81 328	*eP*	P	18 02 25.5	+0.4
KHC	Kasperske Hory	78.85 329	*eP*	P	18 02 25.7	+0.4
KHC	Kasperske Hory	78.85 329	*eP*	P	18 02 25.7	+0.4
KHC	Kasperske Hory	78.85 329	P	P	18 02 25.4	+0.1
KHC			IAmb	IAmb	18 02 26.8	
	comp=Z,7.2nm,0.9s					
GERES	GERESS Array B	79.03 328	P	P	18 02 26.4	0.0
	comp=Z,1.2nm,0.4s,baz=27,slow=5.7,SNR=13					
GERES	GERESS Array B	79.03 328	P	P	18 02 27.1	+0.7
GERES	GERESS Array B	79.03 328	P	P	18 02 27.1	+0.7
FRGS	Fruska Gora	79.36 323	⇓P	P	18 02 27.7	-0.4
ASF	Jabal al Asfar	79.51 304	P	P	18 02 30.0	+0.7
	comp=Z,2.7nm,0.7s,baz=50,slow=2.8,SNR=4.8					
ASF	Jabal al Asfar	79.51 304	P	P	18 02 30.0	+0.7
ECSD	EROS Data Cent	79.60 39	P	P	18 02 30.4	+1.0
ECSD			IAmb	IAmb	18 02 30.8	
	comp=Z,13nm,1.1s					
VTS	Vitosha	79.67 319	⇓P	P	18 02 30.9	+0.9
VTS	Vitosha	79.67 319	P	P	18 02 30.5	+0.5
VTS			pmax	pmax		
	comp=Z,11nm,0.8s					
VTS	Vitosha	79.67 319	P	P	18 02 30.5	+0.5
VTS			IAmb	IAmb	18 02 31.8	
	comp=Z,11nm,0.8s					
MMAI	Mount Meron Ar	79.85 305	P	P	18 02 31.8	+0.7
	comp=Z,4.0nm,0.6s,baz=32,slow=6.9,SNR=12					
SOKA	Soboth	80.23 326	*eP*	P	18 02 33.5	+0.5
	comp=Z,9.7nm,0.8s,SNR=5.8					
SCHQ	Schefferville	80.44 17	P	P	18 02 34.3	+0.5
	comp=Z,11nm,0.9s,baz=8.9,slow=4.6,SNR=8.5					
OBKA	Obir	80.57 326	*eP*	P	18 02 35.0	+0.3
	comp=Z,7.9nm,0.8s					
KBA	Koelnbreinsper	80.60 328	*eP*	P	18 02 35.8	+0.8
	comp=Z,6.9nm,0.7s					
WATA	Walderalm	81.09 329	*i* P	P	18 02 38.0	+0.5
	comp=Z,2.6nm,0.5s					
WTTA	Wattenberg	81.12 329	*i* P	P	18 02 38.3	+0.5
	comp=Z,5.5nm,0.7s					
MOTA	Moosalm	81.26 329	*eP*	P	18 02 38.9	+0.4
	comp=Z,12nm,0.9s,SNR=5.3					
RETA	Reutte	81.28 329	*i* P	P	18 02 39.3	+0.8
	comp=Z,14nm,1.1s					
FETA	Feichten	81.68 329	*eP*	P	18 02 41.5	+0.8
	comp=Z,7.9nm,1.0s					
DAVA	Damuels	81.78 330	*i* P	P	18 02 41.5	+0.3
	comp=Z,10nm,1.1s					
ITM	Ithomi	84.44 316	P	P	18 02 54.3	-0.7
TXAR	Lajitas Array	86.51 53	P	P	18 03 06.8	+1.3
	comp=Z,0.9nm,0.7s,baz=292,slow=3.3,SNR=14					
ESDC	Sonseca Array	93.29 335	P	P	18 03 37.0	-0.1
	comp=Z,1.1nm,0.8s,baz=25,slow=3.9,SNR=3.0					

*IDC **11** 17:53:30.7±7.7, 15°.68N×93°.06W, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.7/38, mbtmp3.6/5, ML3.9/2 Error ellipse: s-maj=172.0km s-min=46.1km az=18.0*
*NEIC **11** 17:53:31.9±2.1, 14°.94N±0°.05×93°.74W±0°.04, h18km±8km, mb4.0/11, Md4.1/20(MEX), Error ellipse: s-maj=6.9km s-min=5.9km az=148.0*
*MEX **11** 17:53:33.6±0.9, 14°.86N×93°.71W, h17km±999km, MD4.1*
*GCG **11** 17:53:36.2±0.8, 14°.79N×93°.25W, h0km±17km, MD4.5*

ISC 11 17:53:31.3±2.5, 14°.90N±0°.06×93°.74W±0°.04, h23km±19km, n50, σ1s76/66, mb3.9/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCIG		0.95	32			Pn	17 53 48.7	-0.5
PCIG						Sb	17 53 59.8	-1.4
PCIG		0.95	32	*eP*		Pn	17 53 48.7	-0.5
PCIG				*eS*		Sb	17 53 59.8	-1.4
THIG		1.43	89			Pn	17 53 55.1	-0.7
THIG						Sn	17 54 10.3	-3.6
THIG		1.43	89	*eP*		Pn	17 53 55.1	-0.7
THIG				*eS*		Sn	17 54 10.3	-3.6
PATR	El Naranjo	1.48	81	*eP*		Pn	17 53 55.5	-1.2
PATR				*eS*		Sn	17 54 13.6	-1.8
PAVE	Pavencul	1.54	79	*eP*		Pn	17 53 57.0	-0.6
PAVE				*eS*		Sn	17 54 14.5	-2.5
CHUJ	Union Juarez	1.59	83	*eP*		Pn	17 53 56.6	-1.7
CHUJ				*eS*		Sn	17 54 15.7	-2.6
TGIG		1.96	18			Pn	17 54 04.1	+0.8
TGIG						Sn	17 54 27.0	-0.2
TGIG		1.96	18	*eP*		Pn	17 54 04.1	+0.8
TGIG				*eS*		Sn	17 54 27.0	-0.2
RTAL	Retalhuleu	2.02	100			Pn	17 54 03.5	-0.4
CCIG	Comitan	2.07	48			Pn	17 54 06.5	+1.7
CCIG	Comitan	2.07	48			Sn	17 54 31.4	+1.3
CCIG	Comitan	2.07	48	*eP*		Pn	17 54 06.6	+1.7
CCIG				*eS*		Sn	17 54 31.4	+1.3
STG3	Santiaguito 3,	2.11	95	*eP*		Pn	17 54 05.9	+0.5
HUEH	Huehuetenango	2.21	79			Pn	17 54 08.2	+1.5
UXUV	UXUV	2.44	351	*eP*		Pn	17 54 11.2	+1.5
UXUV				*eS*		Sn	17 54 39.0	+0.2
CMIG	Matias Romero	2.44	333	Pn		Pn	17 54 10.2	+0.5
	30nm,0.3s,baz=176,slow=8.8,SNR=212							
CMIG				Sn		Sn	17 54 37.5	-1.4
	49nm,0.3s,baz=116,slow=9.6,SNR=6.1							
CMIG	Matias Romero	2.44	333			Pn	17 54 10.3	+0.5
CMIG						Sn	17 54 33.3	-5.6
CMIG	Matias Romero	2.44	333	*eP*		Pn	17 54 10.3	+0.5
CMIG				*eS*		Sn	17 54 33.3	-5.6
HUIG	Huatulco	2.44	291			Pn	17 54 09.5	-0.2
HUIG						Sn	17 54 37.4	-1.5
HUIG	Huatulco	2.44	291	*eP*		Pn	17 54 09.5	-0.2
HUIG				*eS*		Sn	17 54 37.4	-1.5
FUG	Fuego 3	2.84	99	*eP*		Pn	17 54 16.8	+1.3
FUG				*eS*		Sn	17 54 48.3	-0.9
NBG	Las Nubes	3.30	95	*eP*		Pn	17 54 24.8	+3.0
MRL	Marmol	3.93	87	*eP*		Pn	17 54 32.4	+2.0
PETF	Flores	4.24	61			Pn	17 54 34.3	-0.1
MTO3	Montecristo	4.27	96			Pn	17 54 35.4	+0.2
ESQI	Esquipulas	4.27	94	Pn		Pn	17 54 34.9	-0.1
TLIG	Tlapa	5.34	300			Pn	17 54 50.8	+1.0
CRIN	San Cristobal	6.86	108	Pn		Pn	17 55 09.0	-1.6
MATN	Matagalpa	7.84	103	Pn		Pn	17 55 24.6	+0.5
BOAB	BOACO BROADBAN	8.22	106	Pn		Pn	17 55 29.3	0.0
ORTG	Ortega, Santa	9.26	118	Pn		Pn	17 55 46.2	+2.6
JTS	Las Juntas de	9.72	117	Pn		Pn	17 55 50.8	+0.9
SRBA	San Rafael, Bu	11.61	118			Pn	17 56 17.8	+2.0
JCT	Junction City	16.48	341	P		Pn	17 57 22.9	+1.8
JCT				IAmb		IAmb	17 57 28.4	
	comp=Z,6.3nm,0.8s							
TXAR	Lajitas Array	17.04	329	Pn		Pn	17 57 27.7	-0.6
	comp=Z,0.1nm,0.3s,baz=141,slow=12,SNR=11							
TXAR	Lajitas Array	17.04	329	P		P	17 57 30.2	+0.2
TX31	Lajitas Ar. Si	17.04	329	P		P	17 57 30.6	+0.6
TX31				IAmb		IAmb	17 57 33.6	
	comp=Z,15nm,1.3s							
TX32	Lajitas Array	17.04	329	P		P	17 57 30.3	+0.3
MIAR	Mount Ida	19.56	0	P		P	17 57 58.3	+0.7
MIAR				IAmb		IAmb	17 58 02.8	
	comp=Z,7.3nm,0.8s							
MNTX	Cornudas Mount	19.82	330	P		P	17 58 01.6	+1.2
W41B	Gary Mavity, V	20.23	4	P		Pn	17 58 10.3	+3.4
W41B				IAmb		IAmb	17 58 11.2	
	comp=Z,8.6nm,1.0s							
WMOK	Wichita Mounta	20.27	348	P		P	17 58 06.5	+1.2
WMOK				IAmb		IAmb	17 58 24.5	
	comp=Z,3.7nm,0.6s							
X48A	Hartselle	20.39	16	P		P	17 58 08.0	+1.5
MSTX	Muleshoe	20.67	338	P		P	17 58 10.9	+1.1
121A	Cookes Peak, D	21.72	326			P	17 58 23.5	+2.4
121A				IAmb		IAmb	17 58 29.9	
	comp=Z,8.3nm,0.8s							
T25A	Trinidad	24.10	339	P		P	17 58 46.2	+0.7
T25A				IAmb		IAmb	17 58 47.3	
	comp=Z,5.0nm,1.1s							
PDAR	Pinedale Array	30.92	337	P		P	17 59 46.3	-0.3
	comp=Z,0.3nm,0.8s,baz=142,slow=7.6,SNR=2.1							
NVAR	Mina Array Bea	31.92	322	P		P	17 59 55.8	+0.3
	comp=Z,0.8nm,0.9s,baz=128,slow=10,SNR=3.9							
YKA	Yellowknife Ar	49.78	347	P		P	18 02 20.0	-1.8
	comp=Z,1.0nm,0.8s,baz=153,slow=7.2,SNR=11							

*JSN **11** 17:54:40.6±1.3, 18°.12N×76°.59W, h0km±8km, MD2.5*
*SSNC **11** 17:54:41.9±1.9, 18°.51N×77°.06W, h23km±30km, MD2.8, ML1.3*

ISC 11 17:54:38.9±1.0, 18°.31N±0°.08×76°.63W±0°.07, h18km, n7, σ1s32/11, 1C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GWJ	Greenwich	0.25	203	⇑*iP*		Pg	17 54 44.0	-0.8
STH	Stony Hill	0.29	217	⇑*iP*		Pg	17 54 44.9	-0.4
CMJ	Castle Mountai	0.30	125	⇓*iP*		Pg	17 54 45.4	-0.1
HOJ	Hope	0.32	201	*i* P		Pg	17 54 44.6	-1.3
MCJ	Malvern	1.08	249	*i* P		Pb	17 54 59.1	0.0
MCJ				*i* S		Sg	17 55 15.3	+1.2
RCC	Rio Carpintero	1.89	28	*eP*		Pn	17 55 11.2	+0.8
RCC				*eS*		Sn	17 55 33.0	-0.8
RCC				*eS*g		Sb	17 55 34.8	-1.5
RCC				IAML			17 55 36.0	
	comp=E,1.3nm,0.3s							
RCC				IAML			17 55 36.8	
	comp=N,1.5nm,0.1s							
GTBY	Guantanamo Bay	2.16	41	*eP*		Pb	17 55 16.9	-0.6
GTBY				*eS*		Sn	17 55 42.7	+2.4

*DJA **11** 17:58:23.6±2.1, 3°.N±16°.×12°.7E±°, h74km±32km, M3.5/5, MLv3.5/5*
*IDC **11** 17:58:28.7±1.1, 3°.78N×127°.19E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.5/34, mbtmp3.5/8, ML3.2/1, Error ellipse: s-maj=61.1km s-min=16.5km az=62.0*

ISC 11 17:58:30.4±0.9, 3°.8N±0°.2×127°.1E±0°.2, h10km, n8, σ1s02/10, mb3.6/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.20	138	Pn		Pn	18 00 01.6	-0.4
	0.5nm,0.3s,baz=324,slow=18,SNR=1.9							
SIJI				Sn		Sn	18 01 14.4	+1.4
	0.5nm,0.3s,baz=158,slow=19,SNR=1.2							
FITZ	Fitzroy Crossi	21.79	184	P		P	18 03 24.0	+1.3
	1.0nm,0.9s,baz=12,slow=12,SNR=1.3							
WRA	Warramunga Arr	24.62	164	P		P	18 03 50.2	-1.0
	2.0nm,0.8s,baz=343,slow=10,SNR=12							
ASAR	Alice Springs	28.07	167	P		P	18 04 21.8	-0.6
	0.1nm,0.4s,baz=344,slow=11,SNR=2.0							
ASAR				PcP		PcP	18 07 37.0	0.0
	0.1nm,0.5s,baz=354,slow=2.3,SNR=1.4							
CMAR	Chiang Mai Arr	31.20	300	P		P	18 04 50.4	+0.2
	0.1nm,0.4s,baz=103,slow=6.8,SNR=2.9							
STKA	Stephens Creek	38.04	160	P		P	18 05 48.1	-1.0
	0.5nm,0.4s,baz=333,slow=18,SNR=2.9							
SONM	Songino Array	47.38	341	P		P	18 07 05.8	+0.9
	0.4nm,0.5s,baz=152,slow=9.5,SNR=2.9							
MKAR	Makanchi Array	57.74	325	P		P	18 08 21.1	-0.5
	0.4nm,0.5s,baz=117,slow=7.7,SNR=11							

*IDC **11** 18:04:30.0±1.0, 3°.65N×126°.88E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/34, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=56.6km s-min=15.3km az=63.0*

ISC 11 18:04:31.7±0.8, 3°.7N±0°.2×126°.8E±0°.2, h10km, n8, σ0s75/11, mb3.6/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.31	135	Pn		Pn	18 06 05.8	+0.9
	1.2nm,0.3s,baz=326,slow=8.1,SNR=5.4							
SIJI				Sn		Sn	18 07 17.1	0.0
	baz=216,slow=23,SNR=0.9							
FITZ	Fitzroy Crossi	21.65	183	P		P	18 09 22.8	+0.3
	0.6nm,0.4s,baz=15,slow=11,SNR=1.6							
WRA	Warramunga Arr	24.58	163	P		P	18 09 51.1	-1.1
	6.4nm,0.7s,baz=343,slow=10,SNR=40							
ASAR	Alice Springs	28.02	166	P		P	18 10 22.4	-0.9
	0.2nm,0.4s,baz=349,slow=7.5,SNR=9.0							
CMAR	Chiang Mai Arr	31.00	300	P		P	18 10 50.7	+0.9
	0.3nm,0.3s,baz=123,slow=6.7,SNR=1.9							
STKA	Stephens Creek	38.02	159	P		P	18 11 50.1	-0.2
	2.6nm,0.7s,baz=336,slow=8.5,SNR=7.9							
SONM	Songino Array	47.40	341	P		P	18 13 06.5	+0.1
	0.2nm,0.6s,baz=142,slow=7.3,SNR=2.2							
SONM				PcP		PcP	18 14 36.8	-0.1
	0.3nm,0.6s,baz=114,slow=3.6,SNR=2.3							
MKAR	Makanchi Array	57.68	325	P		P	18 14 22.2	-0.3
	0.4nm,0.4s,baz=116,slow=7.4,SNR=13							
MKAR				PcP		PcP	18 15 14.7	-0.8
	0.3nm,0.7s,baz=149,slow=4.2,SNR=1.9							

IDC 11 18:07:27.5±1.8, 3°.46N×126°.95E, h0km, mb3.2/4, mb1 3.4/5, mb1mx3.3/34, mbtmp3.2/5, Error ellipse: s-maj=78.1km s-min=26.6km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.09	135	Pn		Pn	18 08 57.8	-1.0
	baz=135,slow=23,SNR=1.9							
FITZ	Fitzroy Crossi	21.45	183	P		P	18 12 16.6	-0.9
	0.4nm,0.7s,baz=8.7,slow=13,SNR=0.9							
WRA	Warramunga Arr	24.36	163	P		P	18 12 47.5	+0.1
	1.2nm,0.8s,baz=343,slow=11,SNR=7.5							
ASAR	Alice Springs	27.80	166	P		P	18 13 19.7	+1.2
	0.3nm,0.9s,baz=344,slow=11,SNR=3.0							
MKAR	Makanchi Array	57.91	325	P		P	18 17 21.1	-0.3
	0.1nm,0.6s,baz=111,slow=7.9,SNR=1.9							

IDC 11 18:28:25.1±1.4, 3°.78N×126°.86E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.2/42, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=76.6km s-min=22.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.39	136	Pn		Pn	18 30 02.5	+2.0
	0.5nm,0.3s,baz=214,slow=23,SNR=1.8							
FITZ	Fitzroy Crossi	21.78	183	P		P	18 33 19.2	+0.6
	0.9nm,0.9s,baz=17,slow=11,SNR=1.9							
WRA	Warramunga Arr	24.70	163	P		P	18 33 46.9	-1.3
	1.6nm,0.8s,baz=344,slow=11,SNR=14							
ASAR	Alice Springs	28.14	166	P		P	18 34 19.7	+0.5
	0.1nm,0.3s,baz=344,slow=12,SNR=2.1							
MKAR	Makanchi Array	57.58	325	P		P	18 38 16.6	-0.3
	0.2nm,0.5s,baz=115,slow=7.5,SNR=5.8							
MKAR				PcP		PcP	18 39 10.5	+0.3
	0.3nm,0.8s,baz=102,slow=3.5,SNR=2.0							

IDC 11 18:32:42.6±1.8, 3°.90N×127°.37E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/42, mbtmp3.4/4, Error ellipse: s-maj=105.9km s-min=25.9km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.92	184	P		P	18 37 38.1	+0.4
	0.8nm,0.7s,baz=33,slow=12,SNR=1.8							
WRA	Warramunga Arr	24.66	164	P		P	18 38 05.0	-0.3
	1.2nm,0.7s,baz=343,slow=11,SNR=13							
ASAR	Alice Springs	28.13	167	P		P	18 38 36.3	-0.3
	0.1nm,0.6s,baz=357,slow=7.3,SNR=1.9							
ASAR				PcP		PcP	18 41 51.4	+0.4
	0.2nm,0.6s,baz=358,slow=3.0,SNR=1.8							
MKAR	Makanchi Array	57.79	325	P		P	18 42 35.4	-0.3
	0.3nm,0.6s,baz=111,slow=7.7,SNR=5.0							

IDC 11 18:35:27.8±2.4, 3°.77N×126°.90E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.0/44, mbtmp3.2/3, Error ellipse: s-maj=184.9km s-min=30.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.67	163	P		P	18 40 50.1	-0.5
	1.0nm,0.7s,baz=343,slow=10,SNR=6.1							
ASAR	Alice Springs	28.11	166	P		P	18 41 22.3	+0.7
	0.1nm,0.4s,baz=341,slow=10,SNR=2.0							
MKAR	Makanchi Array	57.62	325	P		P	18 45 19.7	-0.1
	0.2nm,0.5s,baz=123,slow=5.3,SNR=1.8							

*IDC **11** 18:36:49.5±1.1, 3°.68N×126°.73E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/45, mbtmp3.6/8, ML3.3/1, MS4.0/1, Ms1 4.0/1, ms1mx3.4/71, Error ellipse: s-maj=76.1km s-min=17.4km az=68.0*
*

KURK	Kurchatov	61.88	327	P	P	18 47 10.4 -0.1
ABKAR	Abkulak array	72.31	321	P	P	18 48 15.8 -1.0
AKASG	Malin Array Be	92.05	321	P	P	18 49 59.2 -1.1
	comp=Z,0.1nm,0.4s,baz=69,slow=4.4,SNR=4.1					

IDC 11 18:39:05.1±3.5, 10°.20S×113°.64E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.0/40, mbtmp3.2/3, Error ellipse: s-maj=182.7km s-min=27.0km az=47.0
DJA 11 18:39:09.2±1.9, 10°S±8°×11°4E±°, h34km±42km, M3.8/13, mb4.2/2, MLv3.6/13

ISC 11 18:39:05.3±2.2, 10°.12S±0°.07×113°.65E±0°.04, h2km±15km, n23, σ1°44/30, mb3.2/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.71	17	P	Pb	18 39 37.9	+0.4
JAGI				S	Sb	18 39 59.1	-0.4
JAGI	Jajag, Banyuwa	1.71	17	P	Pb	18 39 37.2	-0.3
GMJI	Gumukmas	1.85	354	P	Pg	18 39 41.1	+0.3
GMJI				S	Sn	18 40 02.1	+0.2
GMJI	Gumukmas	1.85	354	P	Pb	18 39 39.7	-0.1
IGBI	Denpasar	1.96	49	P	Pb	18 39 40.3	-1.5
IGBI				S	Sn	18 40 02.9	-1.8
IGBI	Denpasar	1.96	49	P	Pb	18 39 40.2	-1.5
IGBI				S	Sb	18 40 05.9	-0.7
DNP	Denpasar	2.10	47	P	Pb	18 39 43.6	-0.6
DNP				S	Sn	18 40 07.4	-0.8
BLJI	Banyuglugur	2.36	359	P	Pb	18 39 48.6	0.0
BLJI				S	Sb	18 40 16.3	-1.9
BLJI	Banyuglugur	2.36	359	P	Pb	18 39 48.2	-0.4
ABJI	Asem Bagus	2.38	14	P	Pb	18 39 47.6	-1.3
ABJI				S	Sb	18 40 17.3	-1.4
ABJI	Asem Bagus	2.38	14	P	Pb	18 39 49.1	+0.2
SRBI	Singaraja	2.54	37	P	Pb	18 39 50.5	-1.2
SRBI	Singaraja	2.54	37	P	Pb	18 39 50.0	-1.7
KMMI	Kalianget	3.07	6	P	Pb	18 39 58.7	-1.9
KMMI	Kalianget	3.07	6	P	Pn	18 39 57.2	+2.4
PCJI	Pacitan	3.11	308	P	Pb	18 40 00.9	-0.4
PCJI	Pacitan	3.11	308	P	Pn	18 39 56.9	+1.6
UGM	Wanagama	3.79	305	P	Pb	18 40 09.7	-3.3
UGM	Wanagama	3.79	305	P	Pn	18 40 06.7	+1.9
WBSI	Waikabubak, Su	5.67	86	P	Pn	18 40 32.8	+2.1
	0.1nm21nm,1.0s						
WRA	Warrarmunga Arr	22.21	118	P	P	18 44 03.5	+0.2
	0.2nm,0.5s,baz=293,slow=11,SNR=2.3						
ASAR	Alice Springs	23.55	127	P	P	18 44 16.6	-0.6
	0.5nm,0.7s,baz=297,slow=9.2,SNR=5.2						
CMAR	Chiang Mai Arr	31.89	333	P	P	18 45 33.0	+0.8
	0.3nm,0.4s,baz=160,slow=8.6,SNR=5.0						

IDC 11 18:39:28.9±1.0, 3°.65N×126°.80E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/44, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=62.3km s-min=17.0km az=66.0

ISC 11 18:39:30.5±0.9, 3°.6N±0°.2×126°.8E±0°.2, h10km, n7, σ0°60/10, mb3.6/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.35	135	Pn	Pn	18 41 04.7	+0.5
	1.1nm,0.3s,baz=1.9,slow=20,SNR=4.7						
SIJI				Sn	Sn	18 42 16.1	-0.6
	0.4nm,0.3s,baz=180,slow=20,SNR=1.4						
FITZ	Fitzroy Crossi	21.63	183	P	P	18 44 20.6	-0.5
	1.0nm,0.8s,baz=11,slow=15,SNR=2.0						
WRA	Warrarmunga Arr	24.59	163	P	P	18 44 50.3	-0.7
	3.2nm,0.7s,baz=343,slow=10,SNR=14						
ASAR	Alice Springs	28.02	166	P	P	18 45 22.9	+0.9
	0.2nm,0.6s,baz=345,slow=12,SNR=2.7						
STKA	Stephens Creek	38.03	159	P	P	18 46 49.1	0.0
	1.2nm,0.7s,baz=343,slow=11,SNR=3.1						
SONM	Songino Array	47.39	341	P	P	18 48 05.2	+0.1
	0.2nm,0.6s,baz=154,slow=10.0,SNR=2.2						
SONM				PcP	PcP	18 49 35.1	-0.6
	0.3nm,0.5s,baz=140,slow=3.7,SNR=3.5						
MKAR	Makanchi Array	57.65	325	P	P	18 49 20.9	-0.1
	0.5nm,0.5s,baz=127,slow=8.4,SNR=7.4						
MKAR				PcP	PcP	18 50 14.2	+0.1
	0.2nm,0.5s,baz=128,slow=2.4,SNR=1.6						

IDC 11 18:45:09.1±1.6, 6°.61S×127°.80E, h334km±22km, mb2.8/2, mb1 3.1/6, mb1mx2.7/38, mbtmp3.8/6, Error ellipse: s-maj=30.6km s-min=18.4km az=88.0

ISC 11 18:45:08.6±0.9, 6°.51S±0°.07×127°.8E±0°.1, h353km, n11, σ2°22/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.77	227	P	Pn	18 46 24.9	-1.2
BATI	Baumata	5.51	228	P	Pn	18 46 33.2	-0.9
	30nm,0.3s,baz=82,slow=1.7,SNR=67						
BATI				S	S	18 47 35.1	-8.2
	8.0nm,0.3s,baz=302,slow=15,SNR=22						
SIJI	Sorong	6.57	32	P	Pn	18 46 47.0	+0.8
	0.9nm,0.3s,baz=215,slow=22,SNR=11						
SIJI				S	S	18 48 00.5	-4.9
	0.2nm,0.3s,baz=239,slow=22,SNR=1.5						
DRS	Darwin Rock St	6.63	153	P	Pn	18 46 48.7	+1.9
MTN	Manton Dam	7.10	153	P	Pn	18 46 52.2	0.0
FITZ	Fitzroy Crossi	11.72	190	P	Pn	18 47 45.5	-1.6
	0.2nm,0.3s,baz=18,slow=14,SNR=6.7						
WRAB	Tennant Creek	14.78	155	P	P	18 48 21.3	+0.5
WRA	Warrarmunga Arr	14.79	155	P	P	18 48 21.2	+0.4
	0.8nm,0.3s,baz=332,slow=12,SNR=51						
WRA				S	S	18 50 57.9	-2.4
	0.1nm,0.3s,baz=334,slow=21,SNR=7.1						
ASAR	Alice Springs	18.04	162	P	P	18 48 57.0	+1.0
	0.7nm,0.3s,baz=347,slow=12,SNR=46						
ASAR				S	S	18 52 02.1	-2.3
	0.1nm,0.3s,baz=340,slow=21,SNR=9.9						
STKA	Stephens Creek	28.34	155	P	P	18 50 31.9	+0.6
	0.7nm,0.5s,baz=325,slow=10.0,SNR=3.0						
MKAR	Makanchi Array	66.64	328	P	P	18 55 25.2	+2.9
	0.1nm,0.5s,baz=128,slow=8.3,SNR=1.9						

IDC 11 18:46:01.2±61.0, 18°.87S×179°.01W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/26, mbtmp3.6/3, Error ellipse: s-maj=1114.0km s-min=166.5km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.67	242	P	P	18 53 18.7	+0.4
	0.6nm,0.5s,baz=94,slow=9.5,SNR=3.3						
WRA	Warrarmunga Arr	43.90	261	P	P	18 54 09.9	-0.1
	0.1nm,0.3s,baz=95,slow=7.6,SNR=7.0						
ASAR	Alice Springs	43.99	255	P	P	18 54 10.1	-0.5
	0.4nm,0.4s,baz=97,slow=8.7,SNR=9.5						

KRSC 11 18:48:59.1±1.8, 48°.67N×157°.87E, h7km±50km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.32	331	eP	Pn	18 49 37.8	+0.2
SKR				eS	Sn	18 50 07.0	+0.7
PAU	Pauzhetka	2.89	347	eP	Pn	18 49 47.9	+2.5
PAU				eS	Sb	18 50 24.2	-2.1
MIPR	Malaya Ipel'ka	3.68	349	eP	Pn	18 50 00.1	+3.7
RUS	Russkaya	3.79	6	eP	Pn	18 50 00.5	+2.6
RUS				eS	Sn	18 50 46.6	+3.9
GRL	Gorelyy	3.89	2	eP	Pn	18 50 02.7	+3.3
GRL				eS	Sn	18 50 49.9	+4.5
KRMR	Karymshinskiy	4.17	2	eP	Pn	18 50 06.9	+3.8
KRMR				eS	Sb	18 50 58.0	-5.3
UGLR	Uglovaya	4.59	7	eP	Pn	18 50 13.2	+4.3
AVH	Avacha	4.64	6	eP	Pn	18 50 13.9	+4.3
SMAR	Somma	4.64	7	eP	Pn	18 50 15.1	+5.3
KOK	Koryaka	4.66	6	eP	Pn	18 50 14.4	+4.5
SDLR	Sedlovina	4.66	8	eP	Pn	18 50 12.8	+2.8
TUMR	Tumrok	6.78	11	eP	Pn	18 50 44.7	+5.8

IDC 11 19:04:17.4±1.2, 3°.65N×127°.08E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/36, mbtmp3.5/6, ML3.1/1, Error ellipse: s-maj=64.9km s-min=18.2km az=66.0

ISC 11 19:04:19.0±1.1, 3°.7N±0°.2×127°.0E±0°.2, h10km, n6, σ1°06/7, mb3.7/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.20	136	Pn	Pn	19 05 50.0	-0.7
	0.5nm,0.3s,baz=268,slow=23,SNR=1.9						
SIJI				Sn	Sn	19 07 03.0	+1.2
	0.1nm,0.3s,baz=254,slow=22,SNR=2.2						
FITZ	Fitzroy Crossi	21.66	183	P	P	19 09 10.7	+0.8
	1.0nm,0.9s,baz=16,slow=11,SNR=1.8						
WRA	Warrarmunga Arr	24.54	163	P	P	19 09 38.5	-0.5
	2.3nm,0.7s,baz=343,slow=10,SNR=17						
ASAR	Alice Springs	27.98	166	P	P	19 10 08.9	-1.2
	0.2nm,0.6s,baz=346,slow=6.5,SNR=4.9						
SONM	Songino Array	47.45	341	P	P	19 12 54.0	0.0
	0.4nm,0.5s,baz=161,slow=8.1,SNR=3.5						
MKAR	Makanchi Array	57.76	325	P	P	19 14 10.8	+0.4
	0.7nm,0.5s,baz=123,slow=8.5,SNR=12						

IDC 11 19:09:26.2±2.1, 3°.70N×126°.89E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.1/39, mbtmp3.2/4, Error ellipse: s-maj=115.6km s-min=28.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.70	183	P	P	19 14 17.8	-1.2
	1.3nm,1.0s,baz=14,slow=12,SNR=1.2						
WRA	Warrarmunga Arr	24.61	163	P	P	19 14 48.6	+0.2
	0.5nm,0.7s,baz=344,slow=11,SNR=7.3						
ASAR	Alice Springs	28.05	166	P	P	19 15 20.3	+0.8
	0.1nm,0.5s,baz=340,slow=10,SNR=4.9						
MKAR	Makanchi Array	57.67	325	P	P	19 19 18.3	-0.3
	0.1nm,0.5s,baz=125,slow=6.9,SNR=1.2						

MAN 11 19:14:30.5, 2°.74N×124°.65E, h28km, mb5.5, ML4.5, MS4.7
IDC 11 19:14:41.2±0.6, 3°.60N×126°.64E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/38, mbtmp3.9/12, ML3.7/1, Error ellipse: s-maj=42.4km s-min=13.4km az=70.0
NEIC 11 19:14:43.5±1.9, 3°.7N±0°.1×126°.72E±0°.03, h10km±1km, mb4.3/16, Error ellipse: s-maj=18.8km s-min=3.3km az=12.0
DJA 11 19:14:44.6±0.5, 4°N±4°×12°7E±°, h10km, M4.0/12, mb4.0/8, MLv3.9/12

ISC 11 19:14:43.2±0.5, 3°.80N±0°.06×127°.05E±0°.06, h10km, n47, σ1°89/53, mb4.2/20, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.52	266	P	Pg	19 15 12.7	+0.3
SGSI				S	Sg	19 15 34.0	+1.8
TNTI	Ternate	3.03	174	P	Pn	19 15 32.1	+0.8
TNTI				S	Sn	19 16 09.9	+2.3
TNTI	Ternate	3.03	174	Pn	Pn	19 15 29.9	-1.3
KMSI	Cibinong	4.43	224	P	Pn	19 15 51.1	+0.5
LBMI	Labuha	4.43	174	P	Pn	19 15 52.1	+1.5
GTOI	Gorontalo	5.11	232	P	Pn	19 16 02.6	+2.6
	0.0nm5.2nm,0.7s						
SANI	Sanana	5.91	190	P	Pn	19 16 10.7	-0.2
	0.1nm5.9nm,1.1s						
MRSI	Marisa	6.08	237	P	Pn	19 16 16.1	+2.9
	0.1nm22nm,0.6s						
SWI	Sorong	6.26	138	P	Pn	19 16 16.9	+1.1
	0.1nm12nm,0.5s						
SIJI	Sorong	6.27	138	Pn	Pn	19 16 17.5	+1.6
	1.8nm,0.3s,baz=337,slow=15,SNR=10						
SIJI				Sn	Sn	19 17 30.5	+2.8
	0.3nm,0.3s,baz=336,slow=19,SNR=1.3						
LUWI	Luwuk	6.43	222	P	Pn	19 16 21.6	+3.5
	0.2nm29nm,0.9s						
TOLI2	Tolitoli	6.80	247	Pn	Pn	19 16 19.2	-4.1
APSI	Ampana	7.14	229	P	Pn	19 16 28.0	+0.1
	0.1nm21nm,1.0s						
FAKI	Fak Fak	8.46	142	Pn	Pn	19 16 48.4	+2.4
MTN	Manton Dam	17.03	166	P	Pn	19 18 41.5	-0.2
KNRA	Kununurra	19.43	175	P	P	19 19 08.3	-1.6
KNRA				IAmb	IAmb	19 19 10.2	
	comp=Z,9.0nm,0.7s						
TPUB	Ta-pu	20.35	343	P	P	19 19 17.1	-2.9
FITZ	Fitzroy Crossi	21.80	184	P	P	19 19 31.3	-4.4
	comp=Z,1.1nm,1.0s,baz=312,slow=15,SNR=1.9						
WB0	Warrarmunga Arr	24.51	163	P	P	19 20 00.8	-2.3
WRAB	Tennant Creek	24.65	163	P	P	19 20 02.8	-1.6
WRAB				IAmb	IAmb	19 20 04.1	
	comp=Z,9.1nm,0.8s						
WRA	Warrarmunga Arr	24.66	163	P	P	19 20 03.3	-1.1
	comp=Z,6.4nm,0.6s,baz=344,slow=11,SNR=72						
WRA				PcP	PcP	19 23 41.5	-0.5
	comp=Z,0.3nm,0.6s,baz=331,slow=2.4,SNR=1.8						
WRA	Warrarmunga Arr	24.66	163	P	P	19 20 02.4	-2.0
WB2	Warrarmunga Arr	24.66	163	P	P	19 20 02.9	-1.6
WB2				IAmb	IAmb	19 20 04.6	
	comp=Z,9.8nm,0.7s						
WR0	Warrarmunga Arr	24.73	163	P	P	19 20 03.5	-1.5
WR0				IAmb	IAmb	19 20 04.9	
	comp=Z,7.2nm,0.8s						
AS31	Alice Springs	28.11	167	P	P	19 20 35.0	-0.5
ASAR	Alice Springs	28.11	167	P	P	19 20 34.1	-1.4
	comp=Z,0.5nm,0.4s,baz=340,slow=6.8,SNR=23						
ASAR				PcP	PcP	19 23 49.8	-0.2
	comp=Z,0.3nm,0.5s,baz=354,slow=2.3,SNR=6.4						
KMI	Kunming	31.55	315	∥P	P	19 21 09.2	+2.9
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH	PanZhiHua	33.11	315	P	P	19 21 20.7	+0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,190nm,6.1s						
STKA	Stephens Creek	38.09	160	P	P	19 22 01.2	-1.1
	comp=Z,2.0nm,0.5s,baz=338,slow=10.0,SNR=7.7						
STKA	Stephens Creek	38.09	160	IAmb	IAmb	19 22 03.0	
	comp=Z,0.6nm,0.8s						
HHC	Hu-ho-hao-te	39.43	341	eP	P	19 22 16.8	+3.1
HHC				pP	sP	19 22 31.1	+14
HHC				S	S	19 28 18.6	+3.0
HHC				sS	sS	19 28 41.6	+22
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,230nm,8.8s						
HHC				LR	LR		
	comp=N,670nm,16.2s						
HHC				LR	LR		
	comp=E,1μm,20.6s						
HHC				LR	LR		
	comp=Z,2μm,19.2s						
KLR	Kul'dur	45.44	4	P	P	19 23 01.9	-0.4
	comp=Z,0.7nm,0.6s,baz=226,slow=5.6,SNR=2.3						
ULN	Ulaanbaatar	47.15	342	P	P	19 23 16.5	+0.5
ULN				IAmb	IAmb	19 23 18.7	
	comp=Z,2.4nm,0.6s						
SONM	Songino Array	47.33	341	P	P	19 23 18.1	+0.7
	comp=Z,1.1nm,0.6s,baz=157,slow=7.8,SNR=8.5						
SONM				PcP	PcP	19 24 47.9	-0.3
	comp=Z,0.3nm,0.6s,baz=150,slow=3.6,SNR=2.0						
SONM	Songino Array	47.33	341	P	P	19 23 18.1	+0.7
SONM				IAmb	IAmb	19 23 19.6	
	comp=Z,1.0nm,0.7s						
WMQ	Urumqi	52.85	325	eP	P	19 24 01.0	+1.7
PETK	Petropavlovsk-	55.25	22	P	P	19 24 19.0	+2.4
	comp=Z,0.9nm,0.6s,baz=210,slow=5.0,SNR=4.5						
MK31	Makanchi Array	57.68	325	P	P	19 24 33.5	-0.5
MK31				IAmb	IAmb	19 24 36.2	
	comp=Z,4.0nm,1.4s						
MKAR	Makanchi Array	57.68	325	P	P	19 24 33.8	-0.2
	comp=Z,1.4nm,0.5s,baz=119,slow=8.1,SNR=26						
MKAR				PcP	PcP	19 25 27.2	+0.2
	comp=Z,0.7nm,0.6s,baz=119,slow=4.7,SNR=4.8						
MKAR	Makanchi Array	57.68	325	P	P	19 24 33.5	-0.5
ZALV	Zalesovo Beam	60.67	333	P	P	19 24 53.2	-1.4
	comp=Z,0.3nm,0.3s,baz=122,slow=14,SNR=3.9						
KURK	Kurchatov	61.85	327	P	P	19 25 02.5	-0.1
ABKAR	Abkulak array	72.30	321	P	P	19 26 07.5	-1.5
ABKAR	Abkulak array	72.30	321	P	P	19 26 07.8	-1.3
ABKAR				IAmb	IAmb	19 26 33.1	
	comp=Z,2.8nm,1.3s						
ARCES	ARCESS Array B	90.49	340	P	P	19 27 43.8	-1.3
	comp=Z,1.9nm,0.8s,baz=79,slow=6.5,SNR=7.8						
ARCES	ARCESS Array B	90.49	340	IAmb	IAmb	19 27 52.5	
	comp=Z,15nm,1.4s						
AKASG	Malin Array Be	92.04	321	P	P	19 27 50.5	-2.0
	comp=Z,0.1nm,0.3s,baz=76,slow=3.9,SNR=2.1						

IDC 11 19:31:45.2±1.5, 3°.73N×126°.97E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/34, mbtmp3.4/4, Error ellipse: s-maj=138.1km s-min=23.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warrarmunga Arr	24.61	163	P	P	19 37 07.0	-0.5
	1.2nm,0.7s,baz=344,slow=11,SNR=12						
ASAR	Alice Springs	28.06	166	P	P	19 37 39.4	+0.9
	0.1nm,0.4s,baz=340,slow=11,SNR=1.4						
SONM	Songino Array	47.37	341	P	P	19 40 21.9	+0.7
	0.2nm,0.4s,baz=134,slow=8.3,SNR=2.0						
MKAR	Makanchi Array	57.69	325	P	P	19 41 36.9	-0.7
	0.3nm,0.6s,baz=112,slow=7.7,SNR=5.5						

IDC 11 19:47:01.0±1.3, 3°.47N×126°.45E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.4/45, mbtmp3.4/7, ML3.1/1, Error ellipse: s-maj=75.3km s-min=19.5km az=64.0

ISC 11 19:47:02.1±1.3, 3°.6N±0°.2×126°.8E±0°.2, h10km, n7, σ0°61/8, mb3.6/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.33	135	Pn	Pn	19 48 35.4	-0.2
	0.4nm,0.3s,baz=215,slow=22,SNR=2.1						
SIJI				Sn	Sn	19 49 47.8	-0.2
	0.2nm,0.3s,baz=218,slow=19,SNR=1.7						
FITZ	Fitzroy Crossi	21.59	183	P	P	19 51 51.8	-0.5
	1.2nm,1.0s,baz=5.7,slow=10,SNR=1.8						
WRA	Warrarmunga Arr	24.56	163	P	P	19 52 22.3	-0.1
	1.4nm,0.8s,baz=338,slow=11,SNR=12						
ASAR	Alice Springs	27.99	166	P	P	19 52 53.0	-0.4
	0.1nm,0.3s,baz=341,slow=9.1,SNR=1.4						
STKA	Stephens Creek	38.00	159	P	P	19 54 21.7	+1.1
	0.7nm,0.4s,baz=346,slow=9.4,SNR=3.1						
MKAR	Makanchi Array	57.67	325	P	P	19 56 52.8	-0.1
	0.3nm,0.6s,baz=123,slow=8.8,SNR=4.3						
KURBB	Kurchatov Arra	61.86	327	P	P	19 57 21.4	-0.2
	0.4nm,0.8s,baz=129,slow=6.6,SNR=4.5						

IDC 11 19:49:42.4±2.3, 3°.71N×126°.76E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/45, mbtmp3.1/3, Error ellipse: s-maj=171.9km s-min=30.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warrarmunga Arr	24.66	163	P	P	19 55 03.6	-1.5
	0.3nm,0.6s,baz=342,slow=10,SNR=4.9						
ASAR	Alice Springs	28.09	166	P	P	19 55 37.7	+1.7
	0.1nm,0.4s,baz=339,slow=10,SNR=2.3						
MKAR	Makanchi Array	57.59	325	P	P	19 59 34.0	-0.1
	0.2nm,0.5s,baz=117,slow=8.7,SNR=1.6						

IDC 11 19:49:54.5±0.8, 33°.93N×89°.60E, h0km, mb3.8/11, mb1 3.8/16, mb1mx3.7/50, mbtmp3.7/16, ML2.9/4, Error ellipse: s-maj=28.1km s-min=15.4km az=48.0
BJI 11 19:49:54.4±0.0, 34°.07N×89°.60E, h6km, mb3.8/4

ISC 11 19:49:59.6±0.6, 34°.13N±0°.08×89°.62E±0°.07, h33km, n29, σ1°27/29, mb3.7/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	4.61	163	Pg	Pn	19 51 10.2	+2.8
GOMU	GeErMu	4.73	63	Pg	Pb	19 51 19.2	-2.9
GUN	Gumba	6.98	208	eP	Pn	19 51 40.4	+0.5
	21nm,0.5s						
KKN	Kakani	7.33	212	eP	Pn	19 51 44.7	+0.1
	8.6nm,0.5s						
GKN	Gorkha	7.45	216	eP	Pn	19 51 46.1	-0.1
	11nm,0.4s						
PKI	Pulchoki	7.47	210	eP	Pn	19 51 47.0	+0.4
	14nm,0.7s						
PKIN	Phulchoki	7.47	210	eP	Pn	19 51 46.9	+0.3
	10.0nm,0.5s						
DMN	Daman	7.57	212	eP	Pn	19 51 48.5	+0.6
	20nm,0.6s						
DANN	Dangsing	7.64	223	eP	Pn	19 51 48.2	-0.7
	13nm,0.5s						
KOLN	Koldanda	8.18	221	eP	Pn	19 51 55.7	-0.5
	3.9nm,0.5s						
PYUN	Piuthan	8.27	225	eP	Pn	19 51 56.0	-1.5
	13nm,0.6s						
WMQ	Urumqi	9.79	352	eP	Pn	19 52 18.4	+0.3
MKAR	Makanchi Array	13.81	338	Pn	Pn	19 53 11.5	-1.6
	0.0nm,0.3s,baz=140,slow=11,SNR=2.1						
AAK	Ala-Archa	14.57	310	Pn	Pn	19 53 23.8	+0.2
	0.1nm,0.3s,baz=118,slow=18,SNR=1.7						
CMAR	Chiang Mai Arr	17.69	150	P	Pn	19 54 01.9	-1.7
	baz=331,slow=9.1,SNR=11						
KURBB	Kurchatov Arra	18.37	337	P	P	19 54 12.0	+0.6
	0.0nm,0.3s,baz=146,slow=11,SNR=6.3						
SONM	Songino Array	18.59	38	P	Pn	19 54 16.3	+1.7
	0.1nm,0.3s,baz=225,slow=12,SNR=9.5						
ZALV	Zalesovo Beam	20.10	352	P	P	19 54 30.9	+0.6
	1.7nm,0.8s,baz=168,slow=9.1,SNR=8.1						
BVAR	Borovoye Array	23.34	330	P	P	19 55 06.3	+1.5
	0.7nm,0.6s,baz=143,slow=10,SNR=6.1						
GEYT	Alibeck	25.69	288	P	P	19 55 28.0	+1.3
	2.0nm,0.6s,baz=80,slow=18,SNR=2.4						
KSRS	Korea Array	31.11	73	P	P	19 56 15.4	+0.4
	0.9nm,0.8s,baz=252,slow=13,SNR=1.9						
FINES	FINESS Array B	48.13	325	P	P	19 58 37.5	+1.4
	7.5nm,1.1s,baz=121,slow=22,SNR=1.5						
NB2	NORSAR Subarra	55.32	325	P	P	19 59 30.6	+0.8
	comp=Z,1.0nm,0.6s,baz=81,slow=7.4						
NOA	NORSAR Array B	55.32	325	P	P	19 59 30.8	+1.0
	comp=Z,1.7nm,0.7s,baz=82,slow=7.2,SNR=6.7						
GERES	GERESS Array B	56.45	310	P	P	19 59 39.4	+1.2
	comp=Z,0.5nm,0.5s,baz=79,slow=6.9,SNR=3.7						
WRA	Warrarmunga Arr	68.59	135	P	P	20 00 58.0	-1.4
	comp=Z,0.9nm,0.8s,baz=332,slow=6.0,SNR=6.6						
ASAR	Alice Springs	71.25	137	P	P	20 01 15.3	-0.3
	comp=Z,0.4nm,0.6s,baz=327,slow=6.7,SNR=9.7						
TORD	Torodi Ar. Bea	81.05	280	P	P	20 02 10.5	-1.2
	comp=Z,0.6nm,0.8s,baz=49,slow=4.2,SNR=3.5						
YKA	Yellowknife Ar	81.75	11	P	P	20

HPIG		8.04	23	Pn	Pn	19 53 50.8	-1.8	
TLIG	Tlapa	10.30	99	Pn	Pn	19 54 25.0	+1.4	
TX31	Lajitas Ar. Si	10.97	26		Pn	19 54 33.7	+0.9	
TX32	Lajitas Array	10.97	26	Pn	Pn	19 54 33.5	+0.8	
TXAR	Lajitas Array	10.97	26	Pn	Pn	19 54 33.5	+0.7	
	0.1nm,0.3s,baz=197,slow=14,SNR=34							
319A	Douglas	11.77	360	Pn	Pn	19 54 44.1	+0.3	
833A	Chaparral WMA,	12.52	44	Pn	Pn	19 54 52.5	-1.4	
MNTX	Cornudas Mount	12.58	15		Pn	19 54 56.1	+1.5	
MNTX	Cornudas Mount	12.58	15	P	Pn	19 54 56.7	+2.0	
	baz=197							
214A	Organ Pipe Nat	12.77	346	Pn	Pn	19 54 56.2	-1.0	
214A	Organ Pipe Nat	12.77	346	P	Pn	19 55 00.0	+2.8	
	baz=165							
TUC	Tucson	12.78	354	Pn	Pn	19 54 59.2	+1.8	
TUC	Tucson	12.78	354	P	Pn	19 54 59.1	+1.7	
	baz=174							
121A	Cookes Peak, D	12.99	5	Pn	Pn	19 55 01.4	+1.0	
121A	Cookes Peak, D	12.99	5	P	Pn	19 55 01.8	+1.3	
	baz=186,SNR=8.3							
JCT	Junction City	13.82	36	Pn	Pn	19 55 10.3	-1.3	
CMIG	Matias Romero	13.83	98	Pn	Pn	19 55 11.2	-0.7	
	0.2nm,0.3s,baz=285,slow=11,SNR=5.4							
CMIG				LR	LR	20 00 13.6		
	comp=Z,252nm,20.0s,baz=273,slow=36							
735A	Kenedy	13.93	46	Pn	Pn	19 55 11.9	-1.2	
GLA	Glamis	14.35	341		Pn	19 55 17.9	-0.9	
GLA	Glamis	14.35	341	P	Pn	19 55 20.2	+1.4	
	baz=159							
IKP	In-Ko-Pah, Jac	14.43	336	P	Pn	19 55 21.7	+1.7	
	baz=153							
SWSC	Sam W. Stewart	14.58	337	P	Pn	19 55 22.5	+0.6	
	baz=155							
LENM	Lemitar	14.69	7		Pn	19 55 22.3	-1.3	
Y14A	Wickenburg	14.72	348		Pn	19 55 24.6	+0.8	
BNM	Barren Site	14.72	8	Pn	Pn	19 55 24.3	+0.2	
MONP2	Monument Peak	14.76	336	P	Pn	19 55 25.9	+1.2	
	baz=153							
X18A	Snowflake	14.93	358	Pn	Pn	19 55 27.4	+0.5	
X16A	Lo Mia Camp, P	14.94	353		Pn	19 55 27.7	+0.8	
BC3	Big Chuckawall	15.10	340	P	Pn	19 55 30.7	+1.6	
	baz=157,SNR=5.2							
TPFO	Pinon Flats	15.41	337	P	Pn	19 55 34.6	+1.4	
	baz=154							
PFO	Pinyon Flats O	15.42	337	Pn	Pn	19 55 32.4	-0.9	
	0.1nm,0.3s,baz=134,slow=10,SNR=3.1							
PFO				LR	LR	20 01 08.9		
	comp=Z,520nm,18.9s,baz=171,slow=36							
PFO	Pinyon Flats O	15.42	337	Pn	Pn	19 55 32.2	-1.1	
PFO				IAmb	IAmb	19 55 54.6		
	comp=Z,9.7nm,1.1s							
PFO	Pinyon Flats O	15.42	337	P	Pn	19 55 34.2	+0.9	
	baz=154							
MSTX	Muleshoe	15.46	20	P	Pn	19 55 34.7	+0.9	
	baz=204							
IRM	Iron Mountain	15.47	341	P	Pn	19 55 34.9	+1.0	
	baz=159,SNR=14							
W18A	Petrified Fore	15.51	358		Pn	19 55 35.1	+0.5	
W18A				IAmb	IAmb	19 55 37.1		
	comp=Z,28nm,1.4s							
W18A	Petrified Fore	15.51	358	P	Pn	19 55 34.7	+0.2	
	baz=178							
ANMO	Albuquerque	15.53	9	Pn	Pn	19 55 34.5	-0.2	
	comp=Z,0.0nm,0.3s,baz=188,slow=16,SNR=2.8							
ANMO	Albuquerque	15.53	9	Pn	Pn	19 55 33.1	-1.6	
ANMO	Albuquerque	15.53	9	P	Pn	19 55 35.4	+0.7	
	baz=190							
BELC	Belle Mtn. Jos	15.60	339	P	Pn	19 55 36.4	+0.7	
	baz=156							
HKT	Hockley	15.95	47	Pn	Pn	19 55 38.9	-1.2	
HKT				IAmb	IAmb	19 55 53.0		
	comp=Z,27nm,1.4s							
WUAZ	Wupatki	16.02	354	Pn	Pn	19 55 41.5	+0.4	
WUAZ				IAmb	IAmb	19 55 47.0		
	comp=Z,14nm,0.9s							
WUAZ	Wupatki	16.02	354	P	Pn	19 55 42.2	+1.2	
	baz=173,SNR=9.3							
W13A	Hualapai Mount	16.02	346		Pn	19 55 40.0	-1.2	
CIS	Catalina Islan	16.05	331	P	P	19 55 43.6	-0.9	
	baz=147							
GMRC	Granite Mounta	16.21	341	P	Pn	19 55 44.3	+0.8	
	baz=158,SNR=10							
WHTX	Lake Whitney,	16.28	38	Pn	Pn	19 55 42.5	-1.8	
WHTX				IAmb	IAmb	19 55 56.9		
	comp=Z,31nm,1.2s							
BFSC	Mount Baldy Ra	16.44	335	P	Pn	19 55 47.6	+1.3	
	baz=151							
HEC	Hector,Ludlow	16.47	339	P	Pn	19 55 47.6	+0.8	
	baz=156							
MWC	Mount Wilson	16.59	334	P	P	19 55 51.1	+0.4	
PASC	Pasadena Art C	16.60	333	Pn	Pn	19 55 46.5	-1.8	
AMTX	Amarillo	16.67	22	Pn	Pn	19 55 47.9	-1.3	
AMTX	Amarillo	16.67	22	P	Pn	19 55 49.6	+0.4	
	baz=206							
TUQ	Turquoise Moun	16.89	341	P	P	19 55 53.2	-0.7	
	baz=158,SNR=7.3							
U15A	North Rim	17.03	352	P	P	19 55 55.4	-0.2	
GSC	Goldstone, Bar	17.06	338	P	P	19 55 55.3	-0.5	
GSC	Goldstone, Bar	17.06	338	P	P	19 55 55.3	-0.5	
	baz=155							
EDW2	Edwards Air Fo	17.13	335	P	P	19 55 56.4	-0.2	
	baz=151							
Z35A	Perchaven, San	17.39	36	Pn	Pn	19 55 58.0	-0.2	
LRMC	Laurel Mtn Rad	17.54	337	P	P	19 56 01.0	0.0	
	baz=153							
MVCO	Mesa Verde	17.60	2		Pn	19 56 01.2	+0.1	
MVCO				IAmb	IAmb	19 56 04.8		
	comp=Z,15nm,0.9s							
MVCO	Mesa Verde	17.60	2	P	Pn	19 56 01.4	+0.4	
	baz=182,SNR=7.9							
SHPR	Sheep Range	17.68	344	P	P	19 56 02.7	+0.1	
QSM	Queen of Sheba	17.68	339		P	19 56 03.7	+1.1	
QSM				IAmb	IAmb	19 56 04.9		
	comp=Z,24nm,1.3s							
KNB	Kanab	17.68	350	P	P	19 56 02.8	0.0	
WMOK	Wichita Mounta	17.73	29		Pn	19 56 02.0	-0.4	
WMOK	Wichita Mounta	17.73	29	P	P	19 56 03.3	+0.2	
	baz=214							
LCMT	Little Creek M	17.75	349	P	P	19 56 04.5	+1.0	
LCMT				IAmb	IAmb	19 56 06.1		
	comp=Z,28nm,1.4s							
GWY	Greenwater Val	17.82	340		Pn	19 56 03.5	-0.1	
NATX	Nacogdoches	17.86	44	P	Pn	19 56 02.5	-1.5	
NATX				IAmb	IAmb	19 56 31.3		
	comp=Z,38nm,1.2s							
PKM	Mcpherson Peak	17.93	331	P	P	19 56 06.3	+0.9	
	baz=146							
MPMC	Manual Prospec	17.98	338	P	P	19 56 07.0	+1.0	
	baz=154,SNR=8.0							
ISA	Isabella, Lake	18.00	335	P	P	19 56 07.8	+1.7	
	baz=151							
T25A	Trinidad	18.02	13	P	P	19 56 06.5	-0.1	
T25A	Trinidad	18.02	13	P	P	19 56 06.9	+0.4	
	baz=195,SNR=6.4							
PKCU	Pink Cliffs	18.03	352	Pn	Pn	19 56 03.0	-3.4	
PKCU				IAmb	IAmb	19 56 09.8		
	comp=Z,18nm,1.1s							
FURC	Furnace Creek,	18.14	340	P	P	19 56 08.8	+1.3	
	baz=157							
S22A	4UR Ranch, Cre	18.25	6	P	Pn	19 56 09.0	0.0	
S22A	4UR Ranch, Cre	18.25	6	P	P	19 56 09.7	+0.6	
	baz=188,SNR=6.2							
441A	DeRidder	18.28	49	Pn	Pn	19 56 06.6	-2.5	
SZCU	Shurtz Canyon	18.29	350	P	P	19 56 09.1	-0.4	
CCUT	Cedar City	18.29	349		Pn	19 56 11.0	+1.5	
CCUT				IAmb	IAmb	19 56 13.4		
	comp=Z,31nm,1.3s							
TPNV	Topopah Spring	18.39	342	P	Pn	19 56 11.1	+0.5	
TPNV	Topopah Spring	18.39	342	P	Pn	19 56 11.9	+1.3	
	baz=159,SNR=9.1							
SDCO	Great Sand Dun	18.41	9	P	P	19 56 10.5	-0.4	
SDCO	Great Sand Dun	18.41	9	P	P	19 56 10.9	0.0	
	baz=191,SNR=6.9							
PV05	Paradox Valley	18.46	0	P	Pn	19 56 11.8	+0.3	
PV05				IAmb	IAmb	19 56 15.8		
	comp=Z,18nm,1.2s							
PRN	Pahroc Range	18.50	345	P	P	19 56 06.2	-5.5	
PRN				IAmb	IAmb	19 56 08.4		
	comp=Z,8.3nm,0.6s							
PV01	Paradox Valley	18.52	2		P	19 56 11.6	-0.5	
CWC	Cottonwood Cre	18.54	337	P	Pn	19 56 13.3	+0.9	
	baz=153							
PV13	Radium Mtn., P	18.54	1	P	P	19 56 11.8	-0.4	
PV13				IAmb	IAmb	19 56 15.9		
	comp=Z,13nm,1.0s							
PV02	Paradox Valley	18.59	1	P	P	19 56 12.7	-0.2	
PV02				IAmb	IAmb	19 56 16.5		
	comp=Z,25nm,1.3s							
MTPU	Mount Pierson	18.60	353	P	Pn	19 56 14.6	+1.2	
MTPU				IAmb	IAmb	19 56 16.8		
	comp=Z,14nm,1.0s							
PV18	Skein Mesa, Pa	18.63	1	P	P	19 56 11.9	-1.3	
PV18				IAmb	IAmb	19 56 16.9		
	comp=Z,14nm,1.1s							
PV03	Paradox Valley	18.64	1	P	P	19 56 12.7	-0.6	
PV03				IAmb	IAmb	19 56 17.0		
	comp=Z,22nm,1.3s							
PV17	East Wray Mesa	18.66	1	P	P	19 56 12.2	-1.4	
PV17				IAmb	IAmb	19 56 17.5		
	comp=Z,26nm,1.3s							
PV11	David Mesa, Pa	18.68	1	P	Pn	19 56 14.3	+0.1	
PV19	Morning Glory	18.69	1	P	P	19 56 13.2	-0.7	
PV19				IAmb	IAmb	19 56 17.8		
	comp=Z,20nm,1.3s							
PV16	Nyswonger Mesa	18.69	1	P	P	19 56 13.8	-0.1	
PV16				IAmb	IAmb	19 56 17.8		
	comp=Z,28nm,1.5s							
PV12	Saucer Basin,	18.70	1	P	Pn	19 56 14.8	+0.3	
PV12				IAmb	IAmb	19 56 18.1		
	comp=Z,25nm,1.4s							
PV20	West Nyswonger	18.72	1	P	P	19 56 14.2	0.0	
PV20				IAmb	IAmb	19 56 18.0		
	comp=Z,18nm,1.2s							
PV15	Paradox Valley	18.73	2		P	19 56 14.0	-0.3	
PV14	Lion Creek, Pa	18.75	0	P	P	19 56 14.4	-0.2	
PV10	Paradox Valley	18.76	0	P	P	19 56 12.7	-2.0	
PV10				IAmb	IAmb	19 56 17.6		
	comp=Z,17nm,1.0s							
PV04	Paradox Valley	18.77	1	P	P	19 56 14.4	-0.4	
PAGB	Antelope Grade	18.82	331	P	Pn	19 56 16.7	+0.9	
PV07	Paradox Valley	18.82	1	P	P	19 56 14.8	-0.6	
PV07				IAmb	IAmb	19 56 19.7		
	comp=Z,17nm,1.2s							
PV23	Carpenter Ridg	18.83	1	P	P	19 56 15.7	+0.2	
S11A	Rachel	18.90	344	P	Pn	19 56 16.8	-0.1	
S11A				IAmb	IAmb	19 56 23.3		
	comp=Z,21nm,1.2s							
PV21	Cone Mtn., Par	18.94	1	P	P	19 56 15.6	-1.1	
W35A	Tecumseh	18.99	33	P	Pn	19 56 17.4	-0.3	
W35A				IAmb	IAmb	19 56 26.3		
	comp=Z,14nm,1.3s							
MVU	Marysvale	19.06	353	P	Pn	19 56 18.8	0.0	
MSU	Marysvale	19.07	353	P	Pn	19 56 18.6	-0.3	
LCH	Last Change Ra	19.09	339	P	Pn	19 56 19.9	+0.8	
TCRU	Three Creeks R	19.19	352	P	P	19 56 18.4	-1.1	
TCRU				IAmb	IAmb	19 56 34.0		
	comp=Z,14nm,1.2s							
PSUT	Pine Spring	19.34	349	P	P	19 56 21.0	0.0	
Q16A	Castle Valley	19.37	355		P	19 56 21.9	+0.6	
Q16A				IAmb	IAmb	19 56 25.5		
	comp=Z,15nm,1.4s							
SRU	San Rafael Swe	19.52	357	P	Pn	19 56 23.6	-0.7	
R11A	Troy Canyon, C	19.53	345	P	Pn	19 56 24.3	-0.1	
R11A	Troy Canyon, C	19.53	345	P	Pn	19 56 24.1	-0.3	
	baz=162,SNR=6.4							
SMCO	Snowmass	19.65	5	P	P	19 56 24.9	+0.3	
SMCO				IAmb	IAmb	19 56 29.2		
	comp=Z,27nm,1.4s							
Q24A	Divide	19.66	9	P	P	19 56 24.7	+0.1	
TPH	Tonopah	19.72	341	P	P	19 56 25.5	+0.3	
TMUT	Trail Mountain	19.75	355	P	P	19 56 25.5	-0.1	
SPR3	Spring Creek 3	19.88	348	P	P	19 56 26.8	-0.2	
QUOK	Quay	19.88	31	P	P	19 56 26.8	+0.1	
QUOK				IAmb	IAmb	19 56 38.1		
	comp=Z,22nm,1.1s							
P17A	Butcher Ranch,	19.89	357	P	P	19 56 27.4	+0.4	
P17A				IAmb	IAmb	19 56 31.3		
	comp=Z,17nm,1.0s							
P18A	Preston Nutter	20.02	358	P	P	19 56 29.3	+0.7	
KSCO	Kaye Shedlock'	20.21	15	P	P	19 56 30.3	-0.1	
KSCO				IAmb	IAmb	19 56 37.3		
	comp=Z,14nm,1.1s							
LHV	Little Huntoon	20.30	339		Pn	19 56 33.1	-0.2	
LHV				IAmb	IAmb	19 56 37.3		
	comp=Z,19nm,1.1s							
NV11	Mina Array Sit	20.35	339	P	P	19 56 32.8	+0.9	
NV11				IAmb	IAmb	19 56 34.5		
	comp=Z,16nm,1.2s							
NVAR	Mina Array Bea	20.39	339	P	P	19 56 33.4	+0.9	
	comp=Z,10nm,1.0s,baz=166,slow=13,SNR=17							
NVAR	Mina Array Bea	20.39	339	P	Pn	19 56 33.9	-0.8	
ISCO	Idaho Springs	20.41	8	P	P	19 56 33.3	+0.5	
ISCO	Idaho Springs	20.41	8	P	P	19 56 33.2	+0.3	
	baz=190,SNR=5.3							
NLU	North Lily Min	20.48	354	P	Pn	19 56 34.6	-1.1	
MPU	Maple Canyon	20.50	355	P	P	19 56 33.5	-0.1	
MPU				IAmb	IAmb	19 56 39.1		
	comp=Z,22nm,1.5s							
O20A	White River Ci	20.53	2	P	P	19 56 34.8	+0.9	
O20A				IAmb	IAmb	19 56 35.9		
	comp=Z,16nm,1.0s							
O20A	White River Ci	20.53	2	P	Pn	19 56 35.1	-1.1	
	baz=183,SNR=5.6							
RYN	Ryan	20.65	339	P	Pn	19 56 36.9	-0.7	
RYN				IAmb	IAmb	19 56 41.1		
	comp=Z,14nm,1.1s							
W39A	Magazine	20.71	38		P	19 56 36.4	+0.7	
W39A	Magazine	20.71	38	P	P	19 56 36.3	+0.7	
	baz=225							
X40A	Basin Creek Fa	20.80	41	P	P	19 56 37.8	+1.1	
DUG	Dugway, Tooele	20.80	352	P	P	19 56 38.0	+1.2	
DUG	Dugway, Tooele	20.80	352	P	P	19 56 37.6	+0.8	
	baz=171,SNR=18							
CMB	Columbia Colle	20.82	335	P	P	19 56 37.7	+0.7	
KVN	Kaiserville	20.89	340	P	Pn	19 56 39.5	-1.0	
KVN				IAmb	IAmb	19 56 40.6		
	comp=Z,12nm,1.0s							
RDMU	Red Mountain	20.95	359	P	P	19 56 38.9	+0.4	
RDMU				IAmb	IAmb	19 56 43.2		
	comp=Z,10nm,0.8s							
CTU	Camp Tracy	21.18	355	P	P	19 56 41.5	+0.5	
CTU				IAmb	IAmb	19 56 45.6		
	comp=Z,8.7nm,0.9s							
YERR	Yerington	21.22	338	P	P	19 56 42.8	+1.4	
PNTR	Pine Nut	21.44	337	P	P	19 56 44.9	+1.2	
N23A	Red Feather La	21.45	7	P	P	19 56 44.0	+0.1	
N23A				IAmb	IAmb	19 56 46.1		
	comp=Z,11nm,1.0s							
N23A	Red Feather La	21.45	7	P	P	19 56 44.5	+0.5	
	baz=189,SNR=7.2							
EMB	Emerald Bay	21.52	336	P	P	19 56 46.0	+1.3	
EMB				IAmb	IAmb	19 56 48.2		
	comp=Z,19nm,1.3s							
VCNR	Virginia City	21.64	338	P	P	19 56 46.9	+1.1	
VCNR				IAmb	IAmb	19 56 53.0		
	comp=Z,8.9nm,0.9s							
TGUH	Tegucigalpa,Un	21.70	101	P	P	19 56 48.6	+2.0	
ELK	Elko	21.74	348	P	P	19 56 47.1	+0.1	
	comp=Z,3.7nm,0.9s,baz=175,slow=8.1,SNR=9.5							
ELK	Elko	21.74	348	P	P	19 56 47.9	+0.8	
ELK				IAmb	IAmb	19 56 49.0		
	comp=Z,8.0nm,1.1s							
MPK	Martis Peak	21.78	337	P	P	19 56 49.0	+1.5	
MPK				IAmb	IAmb	19 56 52.1		
	comp=Z,12nm,0.9s							
PAHR	Pah Rah Range	21.91	339	P	P	19 56 50.1	+1.4	
PAHR				IAmb	IAmb	19 56 52.4		
	comp=Z,13nm,1.3s							
BMN	Battle Mountai	21.91	343	P	P	19 56 49.8	+1.0	
BMN				IAmb	IAmb	19 56 51.0		
	comp=Z,11nm,1.2s							
HVU	Hansel Valley	22.36	353	P	P	19 56 54.1	+0.5	
HVU				IAmb	IAmb	19 56 56.6		
	comp=Z,8.9nm,1.0s							
ORV	Oroville	22.57	335	P	P	19 56 56.5	+0.8	
ORV				IAmb	IAmb	19 56 59.2		
	comp=Z,12nm,1.1s							
K22A	Casper	23.14	5	P	P	19 57 02.0	+0.3	
K22A	Casper	23.14	5	P	P	19 57 02.2	+0.5	
	baz=187,SNR=5.4							
BW06	Boulder Array	23.14	359	P	P	19 57 02.2	+0.3	
BW06	Boulder Array	23.14	359	P	P	19 57 02.2	+0.3	
	baz=179							
PD31	Pinedale Array	23.14	359	P	P	19 57 00.2	-1.7	
PDAR	Pinedale Array	23.14	359	P	P	19 57 02.1	+0.2	
	comp=Z,1.3nm,0.7s,baz=156,slow=9.7,SNR=12							
PDAR	Pinedale Array	23.14	359	P	P	19 57 01.0	-0.9	
AHID	Auburn Hatcher	23.20	356	P	P	19 57 00.5	-1.8	
ECR	Eagle Creek	23.50	356	P	P	19 57 05.1	-0.3	
REDW	Red Top Meadow	23.78	357	P	P	19 57 08.4	+0.3	
REDW				IAmb	IAmb	19 57 09.5		
	comp=Z,9.5nm,1.0s							
SNOW	Snow King Moun	23.87	357	P	P	19 57 09.2	+0.2	
SNOW				IAmb	IAmb	19 57 11.1		
	comp=Z,8.8nm,0.8s							
TPAW	Teton Pass	23.91	357	P	P	19 57 09.6	+0.2	
TPAW				IAmb	IAmb	19 57 10.3		
	comp=Z,11nm,1.2s							
LOHW	Long Hollow	24.02	358	P	P	19 57 09.8	-0.4	
LOHW				IAmb	IAmb	19 57 14.8		
	comp=Z,4.8nm,0.9s							
P38A	Dawn	24.14	31	P	P	19 57 09.9	-1.4	
P38A				IAmb	IAmb	19 57 21.3		
	comp=Z,6.8nm,1.1s							
MOOW	Moose Ponds	24.16	357	P	P	19 57 11.8	+0.2	
MOOW				IAmb	IAmb	19 57 13.4		
	comp=Z,5.4nm,1.1s							
WVOR	Wild Horse Val	24.16	343	P	P	19 57 12.1	+0.5	
MOD	Modoc Plateau	24.18	339	P	P	19 57 13.1	+1.3	
HLID	Hailey	24.33	351	P	P	19 57 13.7	+0.5	
HLID				IAmb	IAmb	19 57 14.8		
	comp=Z,6.3nm,0.8s							
HLID	Hailey	24.33	351	P	P	19 57 13.7	+0.5	
	baz=168,SNR=9.5							
MFID	Camas Ranch	24.43	348	P	P	19 57 15.1	+1.1	
MFID				IAmb	IAmb	19 57 16.9		
	comp=Z,4.7nm,0.9s							
FLWY	Flagg Ranch	24.49	357	P	P	19 57 15.1	+0.5	
FLWY				IAmb	IAmb	19 57 16.9		
	comp=Z,8.1nm,1.1s							
M04C	Macdoel	24.62	337	P	P	19 57 16.3	+0.6	
	baz=151							
H17A	Grant Village	24.80	358	P	P	19 57 18.2	+0.7	
H17A				IAmb	IAmb	19 57 21.6		
	comp=Z,14nm,1.5s							
H17A	Grant Village	24.80	358	P	P	19 57 18.1	+0.6	
	baz=177							
RSSD	Black Hills	24.88	9	P	P	19 57 19.0	+0.9	
RSSD				IAmb	IAmb	19 57 31.7		
	comp=Z,4.6nm,0.9s							
RSSD	Black Hills	24.88	9	P	P	19 57 19.2	+1.1	
	baz=192							
LKWY	Lake	24.96	358	P	P	19 57 20.5	+1.6	
J08A	Circle Bar Ran	24.98	344	P	P	19 57 19.8	+0.8	
YMR	Madison River	25.09	357	P	P	19 57 20.9	+0.8	
YMR				IAmb	IAmb	19 57 28.7		
	comp=Z,8.4nm,1.1s							
YNR	Norris Junctio	25.12	358	P	P	19 57 20.2	-0.2	
YNR				IAmb	IAmb	19 57 45.2		
	comp=Z,12nm,1.5s							
MCMT	McKenzie Canyo	25.38	354	P	P	19 57 23.9	+1.2	
L02E	Cave Junction	25.62	335	P	P	19 57 25.8	+1.1	
	baz=148							
J05D	Fort Rock, OR	25.73	340	P	P	19 57 26.8	+1.0	
	baz=153							
PLID	Pearl Lake	26.08	349	P	P	19 57 29.3	+0.2	
PLID				IAmb	IAmb	19 57 30.1		
	comp=Z,8.6nm,0.9s							
PINE	Pine Mountain	26.09	340	P	P	19 57 30.2	+1.1	
BMO	Blue Mountains	26.11	347	P	P	19 57 29.3	+0.1	
BMO				IAmb	IAmb	19 57 54.1		
	comp=Z,4.8nm,1.1s							
HRY	Holter Researc	27.17	356	P	P	19 57 39.2	+0.5	
MSO	Missoula	27.48	353	P	P	19 57 42.4	+0.9	
	baz=170							
NEW	Newport	29.35	349	P	P	19 57 57.8	-0.2	
	comp=Z,3.1nm,0.7s,baz=91,slow=13,SNR=3.2							
NEW	Newport	29.35	349	P	P	19 57 58.5	+0.5	
NEW				IAmb	IAmb	19 58 00.7		
	comp=Z,3.7nm,0.9s							
NEW	Newport	29.35	349	P	P	19 57 59.0	+0.9	
	baz=165							
P53A	Whipple	31.12	44	P	P	19 58 16.7	+2.9	
EYMN	Ely	31.77	23	P	P	19 58 19.7	+0.3	
	baz=213							
MCWV	Mont Chateau	32.23	45	P	P	19 58 22.7	-0.9	
MCWV	Mont Chateau	32.23	45	P	P	19 58 23.7	+0.1	
	baz=240							
ULM	Lac du Bonnet	32.42	16	P	P	19 58 22.9	-2.1	
	comp=Z,2.6nm,0.7s,baz=184,slow=10.0,SNR=3.6							
N59A	State Game Lan	35.58	46	P	P	19 58 52.4	-0.3	
	baz=243							
OTAV	Otavalo	35.74	119	P	P	19 58 56.4	+1.5	
YKA	Yellowknife Ar	43.06	356	P	P	19 59 54.0	-0.7	
	comp=Z,1.7nm,0.8s,baz=172,slow=7.9,SNR=27							
YKA				PcP	PcP	20 01 44.4	-0.1	
	comp=Z,0.3nm,0.8s,baz=153,slow=2.4,SNR=4.0							
SKAG	Skagway	44.07	341	P	P	20 00 03.0	+0.1	
	baz=144							
WHY	Whitehorse	44.91	342	P	P	20 00 10.7	+0.9	
	baz=145							
N31M	Braeburn, Yuko	45.84	343	P	P	20 00 17.7	+0.7	
	baz=144							
M31M	Drury Creek, Y	46.05	344	P	P	20 00 19.2	+0.6	
	baz=146							
YUK3	Moose Creek	47.47	340	P	P	20 00 29.8	-0.2	
	baz=139							
BVCY	Beaver Creek	48.07	341	P	P	20 00 34.9	+0.4	
	baz=138							
BMRM	Bremner River	48.28	338	P	P	20 00 36.1	0.0	
	baz=133							
M27K	Edge Creek, AK	48.35	340	P	P	20 00 36.3	-0.4	
	baz=137							
M26K	Nabesna, AK	48.74	340	P	P	20 00 40.1	+0.5	
	baz=136							
DAWY	Dawson	48.91	343	P	P	20 00 41.1	+0.3	
	baz=141			

A36M	**Sachs Harbour**	53.26 354	P	P	20 01 13.6	+0.3
	baz=161					
I21K	**Tanana**	53.57 339	P	P	20 01 16.5	+0.7
I21K	**Tanana**	53.57 339	P	P	20 01 16.4	+0.6
	baz=127					
J20K	**Nowinta River**	53.73 337	P	P	20 01 17.4	+0.5
J20K	**Nowinta River**	53.73 337	P	P	20 01 17.2	+0.3
	baz=124					
TTA	**Tatalina**	53.76 336	P	P	20 01 17.6	+0.3
	baz=122					
LPAZ	**La Paz**	53.85 129	P	P	20 01 18.8	-0.4
	comp=Z,1.2nm,0.6s,baz=335,slow=3.9,SNR=4.8					
LPAZ	**La Paz**	53.85 129	P	P	20 01 20.3	+1.1
H21K	**Melozitna Rive**	54.13 339	P	P	20 01 20.1	+0.2
H21K	**Melozitna Rive**	54.13 339	P	P	20 01 20.5	+0.6
	baz=127					
IMAR	**Indian Mountai**	54.64 339	P	P	20 01 23.2	-0.3
ANM	**Nome**	58.20 335	P	P	20 01 49.4	+0.5
	baz=113					
H03N2	**Juan Fernandez**	60.11 151	T	T	21 07 23.2	
	baz=329,slow=77,SNR=43					
H03N1	**Juan Fernandez**	60.12 151	T	T	21 07 24.8	
	baz=329,slow=77,SNR=46					
H03N3	**Juan Fernandez**	60.12 151	T	T	21 07 24.1	
	baz=329,slow=77,SNR=44					
PTLB	**Pontes e Lacer**	60.30 122	P	P	20 02 05.0	+0.9
PTLB			IAmb	IAmb	20 02 12.8	
	comp=Z,4.1nm,1.3s					
MSVF	**Nonsavu**	80.44 247	LR	LR	20 34 22.9	
	comp=Z,252nm,18.4s,baz=119,slow=32					

IDC 11 20:03:43.8±1.7, 1°.78N×126°.75E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.1/52, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=73.4km s-min=26.9km az=59.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	5.23 120		Pn	Pn	20 05 02.7	-0.6
	0.5nm,0.3s,baz=173,slow=24,SNR=2.7						
WRA	**Warramunga Arr**	22.84 161		P	P	20 08 48.5	-0.2
	0.7nm,0.5s,baz=339,slow=11,SNR=11						
ASAR	**Alice Springs**	26.23 165		P	P	20 09 20.9	+0.3
	0.2nm,0.7s,baz=353,slow=16,SNR=5.4						
MKAR	**Makanchi Array**	59.16 326		P	P	20 13 46.5	0.0
	0.4nm,0.8s,baz=106,slow=9.5,SNR=2.6						

DJA 11 20:04:32.5±0.8, 4°.N±7°.×12°.7E±°, h10km, M3.9/12, mb3.9/7, MLv3.9/12
IDC 11 20:04:33.5±0.7, 3°.72N×126°.85E, h0km, mb4.0/15, mb1 4.0/16, mb1mx3.8/56, mbtmp4.0/16, ML3.6/1, Error ellipse: s-maj=43.6km s-min=12.7km az=65.0
NEIC 11 20:04:35.4±1.8, 3°.69N±0°.07×126°.82E±0°.09, h10km±1km, mb4.5/31, Error ellipse: s-maj=15.8km s-min=10.1km az=57.0

ISC 11 20:04:34.6±0.5, 3°.77N±0°.06×127°.05E±0°.06, h10km, n63, σ1$24/58, mb4.4/28, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	1.52 267		P	Pb	20 05 03.0	+0.2
SGSI				S	Sg	20 05 24.6	+1.2
TNTI	**Ternate**	3.00 174		P	Pn	20 05 23.6	+1.4
TNTI	**Ternate**	3.00 174			Pn	20 05 22.0	-0.2
LBMI	**Labuha**	4.40 174		P	Pn	20 05 40.7	-0.8
GTOI	**Gorontalo**	5.09 232		P	Pn	20 05 53.2	+2.2
	0.0nm4.2nm,0.6s						
SANI	**Sanana**	5.88 190		P	Pn	20 06 02.1	+0.3
	0.0nm6.4nm,0.7s						
MRSI	**Marisa**	6.06 237		P	Pn	20 06 06.9	+2.6
SWI	**Sorong**	6.24 137		P	Pn	20 06 03.3	-3.5
	0.1nm13nm,1.0s						
SIJI	**Sorong**	6.25 137		Pn	Pn	20 06 10.2	+3.2
	1.4nm,0.3s,baz=334,slow=16,SNR=7.5						
SIJI				Sn	Sn	20 07 21.1	+2.7
	0.4nm,0.3s,baz=125,slow=21,SNR=1.5						
LUWI	**Luwuk**	6.41 222		Pn	Pn	20 06 06.7	-2.4
TOLI2	**Tolitoli**	6.79 247		Pn	Pn	20 06 09.8	-4.6
FAKI	**Fak Fak**	8.44 142		Pn	Pn	20 06 37.0	0.0
MYLDM	**Lahad Datu**	8.63 280		Pn	Pn	20 06 36.8	-2.9
SBUM	**Sibu**	14.86 265		P	P	20 08 10.8	+0.1
KNRA	**Kununurra**	19.40 175		P	Pn	20 09 01.8	-0.2
TPUB	**Ta-pu**	20.38 343		Pn	Pn	20 09 14.0	+0.2
FITZ	**Fitzroy Crossi**	21.77 184		P	P	20 09 27.2	+0.6
	1.5nm,1.0s,baz=352,slow=11,SNR=2.2						
JOW	**Kunigami**	22.96	3	P	P	20 09 39.5	+0.1
UBPT	**Khong Chiam**	24.12 300		P	P	20 09 50.1	-0.8
UBPT				IAmb	IAmb	20 09 52.3	
	comp=Z,12nm,1.2s						
WB0	**Warramunga Arr**	24.48 163		P	P	20 09 52.2	-1.9
WB0				IAmb	IAmb	20 10 00.7	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	24.62 163		P	P	20 09 54.9	-0.5
WRAB				IAmb	IAmb	20 10 02.2	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	24.63 163		P	P	20 09 55.5	0.0
	comp=Z,5.6nm,0.8s,baz=343,slow=10,SNR=34						
WRA	**Warramunga Arr**	24.63 163		P	P	20 09 54.1	-1.4
WB2	**Warramunga Arr**	24.63 163		P	P	20 09 55.2	-0.3
WB2				IAmb	IAmb	20 10 02.3	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	24.70 163		P	P	20 09 55.5	-0.7
WR0				IAmb	IAmb	20 10 02.9	
	comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	28.08 167		P	P	20 10 27.4	+0.8
	comp=Z,0.5nm,0.5s,baz=343,slow=12,SNR=5.8						
CMAR	**Chiang Mai Arr**	31.12 300		P	P	20 10 52.9	-0.8
	comp=Z,1.0nm,0.7s,baz=110,slow=7.3,SNR=13						
CHTO	**Chiang Mai**	31.27 301		P	P	20 10 55.4	+0.4
KSAR	**Wonju Array Be**	33.52	1	P	P	20 11 14.0	-0.4
MORW	**Morawa**	34.32 197		P	P	20 11 20.0	-1.5
FORT	**Forrest**	34.37 178		P	P	20 11 20.9	-0.9
FORT				IAmb	IAmb	20 12 11.8	
	comp=Z,14nm,1.0s						
BJT	**Baijiatuau**	37.40 346		P	P	20 11 48.1	+0.3
BJT				IAmb	IAmb	20 11 50.7	
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	38.06 160		P	P	20 11 53.9	+0.4
	comp=Z,1.5nm,0.6s,baz=338,slow=9.8,SNR=9.2						
STKA	**Stephens Creek**	38.06 160		IAmb	IAmb	20 12 00.3	
	comp=Z,0.7nm,0.8s						
SHL	**Shillong**	40.11 306		P	P	20 12 10.3	-0.7
LSA	**Lhasa**	42.65 311		P	P	20 12 33.0	+0.9
LSA				IAmb	IAmb	20 12 57.6	
	comp=Z,11nm,1.8s						
ULN	**Ulaanbaatar**	47.18 342		P	P	20 13 09.3	+1.7
ULN				IAmb	IAmb	20 13 10.7	
	comp=Z,3.7nm,1.1s						
SONM	**Songino Array**	47.36 341		P	P	20 13 10.6	+1.6
	comp=Z,1.2nm,0.7s,baz=150,slow=10.0,SNR=7.5						
SONM	**Songino Array**	47.36 341		IAmb	IAmb	20 13 11.9	
	comp=Z,2.2nm,1.1s						
MK31	**Makanchi Array**	57.70 325		P	P	20 14 26.0	+0.5
MKAR	**Makanchi Array**	57.70 325		P	P	20 14 26.2	+0.6
	comp=Z,0.9nm,0.5s,baz=118,slow=8.5,SNR=14						
MKAR	**Makanchi Array**	57.70 325		P	P	20 14 26.0	+0.5
YAK	**Yakutsk**	58.16	1	P	P	20 14 28.8	+0.4
ZAA0	**Zalesovo Array**	60.70 333		P	P	20 14 46.1	+0.1
ZAA0				IAmb	IAmb	20 14 46.8	
	comp=Z,2.8nm,1.1s						
ZALV	**Zalesovo Beam**	60.70 333		P	P	20 14 45.6	-0.5
	comp=Z,0.5nm,0.6s,baz=139,slow=7.3,SNR=4.1						
KBL	**Kabul**	61.75 307		P	P	20 14 52.4	-1.5
KURBB	**Kurchatov Arra**	61.88 327		P	P	20 14 54.6	+0.5
	comp=Z,2.0nm,0.8s,baz=126,slow=6.1,SNR=17						
KURK	**Kurchatov**	61.88 327		P	P	20 14 54.6	+0.5
KURK				IAmb	IAmb	20 14 55.3	
	comp=Z,2.7nm,0.8s						
KKAR	**Karatay Array**	63.42 317		P	P	20 15 04.1	-0.6
BVAR	**Borovoye Array**	67.46 327		P	P	20 15 29.9	-0.7
	comp=Z,1.2nm,0.7s,baz=127,slow=9.6,SNR=7.8						
BRVK	**Borovoye**	67.53 327		P	P	20 15 31.4	+0.4
BRVK				IAmb	IAmb	20 15 39.0	
	comp=Z,4.5nm,1.2s						
TIXI	**Tiksi**	67.80	1	P	P	20 15 32.9	+0.6
	comp=Z,0.8nm,0.6s,baz=159,slow=3.4,SNR=6.5						
TIXI	**Tiksi**	67.80	1	IAmb	IAmb	20 17 14.8	
	comp=Z,10nm,1.8s						
MSEY	**Mahe Island**	71.99 264		P	P	20 15 58.6	-0.7
ABKAR	**Akbulak array**	72.32 321		P	P	20 16 00.5	0.0
ABKAR	**Akbulak array**	72.32 321		P	P	20 16 00.8	+0.3
ABKAR				IAmb	IAmb	20 17 20.6	
	comp=Z,9.9nm,1.9s						
AKTO	**Aktyubinsk**	73.82 322		P	P	20 16 09.4	-0.1
	comp=Z,2.1nm,0.7s,baz=95,slow=8.4,SNR=7.8						
ARU	**Arti**	75.07 328		P	P	20 16 16.2	-0.3
	comp=Z,0.5nm,0.5s,baz=101,slow=7.0,SNR=5.5						
ARU	**Arti**	75.07 328		IAmb	IAmb	20 17 53.6	
	comp=Z,22nm,1.9s						
KLMR	**Klimovskoe**	85.52 331		eP	P	20 17 13.1	+0.4
KLMR				AMP		20 17 14.9	
	comp=Z,10.0nm,0.9s						
KLMR				esP	pwP	20 17 48.0	+30
ARCES	**ARCESS Array B**	90.52 340		P	P	20 17 36.7	+0.2
	comp=Z,2.4nm,0.7s,baz=33,slow=2.9,SNR=4.2						
AKASG	**Malin Array Be**	92.06 321		P	P	20 17 43.6	-0.4
	comp=Z,1.5nm,0.7s,baz=68,slow=4.7,SNR=6.7						
AKASG	**Malin Array Be**	92.06 321		IAmb	IAmb	20 17 44.7	
	comp=Z,1.9nm,1.1s						

IDC 11 20:09:57.1±1.2, 3°.75N×126°.98E, h0km, mb3.3/6, mb1 3.5/7, mb1mx3.2/55, mbtmp3.4/7, ML2.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/38, Error ellipse: s-maj=76.6km s-min=18.0km az=68.0

ISC 11 20:09:59.0±1.0, 3°.8N±0°.2×127°.0E±0°.3, h10km, n8, σ1$41/7, mb3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	3.54 337		LR	LR	20 12 27.2	
	comp=Z,658nm,20.2s,baz=104,slow=42						
SIJI	**Sorong**	6.31 137		Pn	Pn	20 11 32.8	+0.7
	0.3nm,0.3s,baz=106,slow=23,SNR=1.7						
FITZ	**Fitzroy Crossi**	21.81 183		P	P	20 14 52.4	+0.9
	0.8nm,0.8s,baz=356,slow=13,SNR=1.4						
WRA	**Warramunga Arr**	24.68 163		P	P	20 15 18.1	-2.2
	1.0nm,0.8s,baz=343,slow=10,SNR=7.6						
ASAR	**Alice Springs**	28.12 166		P	P	20 15 50.2	-1.2
	0.1nm,0.6s,baz=347,slow=13,SNR=4.7						
SONM	**Songino Array**	47.31 341		P	P	20 18 33.2	+0.3
	0.3nm,0.5s,baz=134,slow=4.2,SNR=3.7						
MKAR	**Makanchi Array**	57.64 325		P	P	20 19 49.0	-0.5
	0.3nm,0.4s,baz=120,slow=7.6,SNR=6.9						
KURBB	**Kurchatov Arra**	61.82 327		P	P	20 20 18.6	+0.4
	0.2nm,0.7s,baz=128,slow=6.2,SNR=4.1						

DJA 11 20:23:32.3±0.3, 1°.S±3°.×12°.1E±°, h10km, M2.6/8, MLv2.6/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	0.86	75	P	Pg	20 23 48.3	-0.6
APSI				S	Sb	20 24 00.9	0.0
MPSI	**Mapaga**	1.73 328		P	Pn	20 24 01.9	-0.6
MPSI				S	Sb	20 24 25.8	-0.3
LUWI	**Luwuk**	1.95 87		P	Pn	20 24 06.7	+1.2
LUWI				S	Sb	20 24 31.6	-0.8
MRSI	**Marisa**	1.96 35		P	Pn	20 24 04.4	-1.2
TTSI	**Tana Toraja**	2.14 208		P	Pn	20 24 08.3	+0.2
GTOI	**Gorontalo**	2.81 51		P	Pn	20 24 17.8	+0.4
BNSI	**Bone**	3.32 192		P	Pn	20 24 24.4	+0.1

IDC 11 20:23:54.7±8.1, 3°.44N×127°.28E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/39, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=124.8km s-min=70.8km az=174.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	2.66 178		P	Pn	20 24 37.5	-1.3
LBMI	**Labuha**	4.06 177		P	Pn	20 24 54.6	-3.5
SIJI	**Sorong**	5.85 137		Pn	Pn	20 25 23.7	+1.0
	0.6nm,0.3s,baz=233,slow=22,SNR=2.1						
FITZ	**Fitzroy Crossi**	21.47 184		P	P	20 28 46.6	+1.7
	0.7nm,0.8s,baz=90,slow=24,SNR=13						
WRA	**Warramunga Arr**	24.25 164		P	P	20 29 12.2	-1.4
	0.8nm,0.8s,baz=342,slow=10,SNR=8.2						
ASAR	**Alice Springs**	27.71 167		P	P	20 29 43.7	-1.2
	0.1nm,0.4s,baz=348,slow=13,SNR=1.6						
STKA	**Stephens Creek**	37.67 160		P	P	20 31 12.6	+0.8
	0.9nm,0.7s,baz=355,slow=11,SNR=3.3						

IDC 11 20:28:36.0±1.1, 3°.70N×126°.87E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.4/40, mbtmp3.6/8, ML3.3/1, Error ellipse: s-maj=57.8km s-min=16.1km az=61.0

ISC 11 20:28:37.7±0.9, 3°.7N±0°.2×126°.9E±0°.2, h10km, n8, σ1$19/9, mb3.7/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	6.34 136		Pn	Pn	20 30 12.2	+0.9
	0.7nm,0.3s,baz=350,slow=22,SNR=4.5						
SIJI				Sn	Sn	20 31 23.6	-0.2
	0.2nm,0.3s,baz=285,slow=22,SNR=1.5						
FITZ	**Fitzroy Crossi**	21.72 183		P	P	20 33 29.0	-0.3
	1.0nm,0.8s,baz=24,slow=10.0,SNR=1.7						
WRA	**Warramunga Arr**	24.64 163		P	P	20 33 57.2	-1.5
	2.9nm,0.8s,baz=342,slow=9.8,SNR=25						
ASAR	**Alice Springs**	28.08 166		P	P	20 34 31.1	+1.4
	0.4nm,0.6s,baz=338,slow=11,SNR=3.1						
CMAR	**Chiang Mai Arr**	30.99 300		P	P	20 34 55.8	+0.1
	0.5nm,0.7s,baz=117,slow=8.0,SNR=4.7						
STKA	**Stephens Creek**	38.08 159		P	P	20 35 54.9	-1.8
	0.4nm,0.2s,baz=351,slow=13,SNR=3.2						
SONM	**Songino Array**	47.34 341		P	P	20 37 12.0	+0.1
	0.4nm,0.6s,baz=154,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	57.63 325		P	P	20 38 28.1	0.0
	0.5nm,0.5s,baz=119,slow=7.7,SNR=14						

IDC 11 20:35:47.0±1.2, 3°.80N×126°.82E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.3/42, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=71.2km s-min=18.5km az=67.0

ISC 11 20:35:48.6±1.0, 3°.8N±0°.2×126°.9E±0°.2, h10km, n7, σ1$18/8, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	6.37 137		Pn	Pn	20 37 23.5	+0.9
	1.3nm,0.3s,baz=329,slow=14,SNR=8.4						
SIJI				Sn	Sn	20 38 34.4	-1.1
	0.6nm,0.3s,baz=208,slow=23,SNR=1.6						
FITZ	**Fitzroy Crossi**	21.84 183		P	P	20 40 41.1	-0.3
	1.0nm,0.7s,baz=11,slow=13,SNR=1.5						
WRA	**Warramunga Arr**	24.73 163		P	P	20 41 08.7	-1.6
	2.2nm,0.7s,baz=343,slow=11,SNR=23						
ASAR	**Alice Springs**	28.17 166		P	P	20 41 42.6	+1.3
	0.2nm,0.4s,baz=340,slow=9.8,SNR=6.4						
STKA	**Stephens Creek**	38.16 160		P	P	20 43 08.2	-0.1
	1.9nm,1.0s,baz=326,slow=7.3,SNR=3.4						
SONM	**Songino Array**	47.26 341		P	P	20 44 22.4	+0.3
	0.3nm,0.6s,baz=163,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	57.58 325		P	P	20 45 38.0	-0.7
	0.6nm,0.6s,baz=123,slow=7.5,SNR=9.5						

IDC 11 20:55:33.0±1.6, 4°.17N×126°.96E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.4/64, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=77.8km s-min=25.5km az=72.0
DJA 11 20:55:40.2±0.6, 4°.N±4°.×12°.7E±°, h10km, M3.8/11, mb3.8/6, MLv3.8/11

ISC 11 20:55:35.9±1.2, 4°.10N±0°.09×127°.14E±0°.07, h10km, n15, σ2$13/18, mb3.8/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	1.66 256		P	Pn	20 56 06.3	+1.3
SGSI				S	Sn	20 56 24.9	-1.5
TNTI	**Ternate**	3.31 176		P	Pn	20 56 28.5	+0.7
TNTI				S	Sn	20 57 05.8	-1.5
KMSI	**Cibinong**	4.71 222		P	Pn	20 56 49.9	+2.8
LBMI	**Labuha**	4.72 176		P	Pn	20 56 48.9	+1.7
LBMI				S	Sn	20 57 40.4	-1.6
GTOI	**Gorontalo**	5.37 230		P	Pn	20 56 58.3	+2.2
	0.0nm2.9nm,0.5s						
SANI	**Sanana**	6.22 191		P	Pn	20 57 06.4	-1.3
	0.0nm3.5nm,0.6s						
SWI	**Sorong**	6.42 140		P	Pn	20 57 14.5	+3.9
	0.1nm9.0nm,0.5s						
SIJI	**Sorong**	6.43 140		Pn	Pn	20 57 12.4	+1.7
	1.5nm,0.3s,baz=330,slow=18,SNR=1.8						
LUWI	**Luwuk**	6.72 221		P	Pn	20 57 16.2	+1.6
MTKI	**Muara Teweh, K**	13.22 248		P	Pn	20 58 47.4	+3.6
FITZ	**Fitzroy Crossi**	22.11 184		P	P	21 00 32.5	+0.9
	0.6nm,0.5s,baz=268,slow=13,SNR=1.6						
WRA	**Warramunga Arr**	24.92 164		P	P	21 00 57.9	-1.4
	3.1nm,0.7s,baz=342,slow=11,SNR=32						
ASAR	**Alice Springs**	28.38 167		P	P	21 01 30.1	-0.4
	0.5nm,0.6s,baz=338,slow=10,SNR=8.1						
STKA	**Stephens Creek**	38.33 160		P	P	21 02 56.3	-0.8
	1.3nm,0.5s,baz=338,slow=8.2,SNR=5.6						
SONM	**Songino Array**	47.08 341		P	P	21 04 05.9	-2.1
	0.2nm,0.2s,baz=156,slow=7.7,SNR=2.2						

IDC 11 20:56:52.9±1.2, 1°.06N×92°.60E, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.6/70, mbtmp3.8/14, ML4.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/84, Error ellipse: s-maj=40.7km s-min=20.1km az=48.0
NEIC 11 20:57:02.5±1.3, 2°.08N±0°.10×92°.40E±0°.10, h10km±2km, mb4.2/27, Error ellipse: s-maj=18.3km s-min=14.5km az=223.0
DJA 11 20:57:15.6±0.9, 2°.N±6°.×9°.3E±°, h103km±24km, M4.5/9, mB4.8/6, mb4.6/9, MLv4.7/8, Mw(mB)4.1/6

ISC 11 20:57:02.2±0.8, 2°.2N±0°.1×92°.56E±0°.06, h10km, n70, σ2$18/63, mb4.1/23, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		4.73	77	P	Pn	20 58 15.5	+1.8
TPTI				S	Sn	20 59 04.0	-4.6
GSI	**Gunungsitoli**	5.09 100		P	Pn	20 58 20.8	+2.1
GSI				S	Sn	20 59 12.4	-5.3
GSI	**Gunungsitoli**	5.09 100		Pn	Pn	20 58 20.6	+1.9
GSI				Sn	Sn	20 59 10.7	-7.0
LHMI	**Lhok Sumawe**	5.30	56	P	Pn	20 58 25.0	+3.5
LHMI	**Lhok Sumawe**	5.30	56		Pn	20 58 25.0	+3.5
KCSI	**Kotacane, Aceh**	5.36	76	P	Pn	20 58 25.4	+3.0
KCSI				S	Sn	20 59 19.9	-4.4
TSI	**Tuntungan**	6.13	78	P	Pn	20 58 34.4	+1.4
RPSI	**Rantau Prapat**	6.38	86		Pn	20 58 38.1	+1.8
RPSI					Sn	20 59 44.2	-5.0
PSI	**Prapat**	6.38	85	Pn	Pn	20 58 38.1	+1.5
	1.2nm,0.3s,baz=266,slow=4.2,SNR=7.4						
PSI				Sn	Sn	20 59 44.2	-5.4
	2.1nm,0.3s,baz=64,slow=24,SNR=5.7						
MNSI	**Mandailing Nat**	7.16 101		P	Pn	20 58 51.2	+4.1
MNSI				S	Sn	21 00 02.0	-6.5
SISI	**Saibi**	7.42 118		P	Pn	20 58 53.9	+3.3
PPI	**Padang Panjang**	8.27 109		P	Pn	20 59 05.1	+2.7
	579nm20nm,0.4s						
KULM	**Kulim**	8.63 69			Pn	20 59 09.6	+2.4
BKNI	**Bangkinang**	8.68 102		P	Pn	20 59 10.8	+2.8
	48nm,0.4s						
IPM	**Ipoh**	8.74	75		Pn	20 59 10.1	+1.2
PBA	**Port Blair**	9.38	1	Pn	Pn	20 59 19.2	+1.7
SRIT	**Nakonsritamara**	9.45	48		Pn	20 59 19.8	+1.3
KRJI	**Kerinci**	9.88 116		P	Pn	20 59 27.8	+3.3
	5um418nm,0.7s						
MASI	**Maura Aman, Be**	11.04 119		P	Pn	20 59 42.8	+2.4
	42nm,0.7s						
MNAI	**Manna**	12.27 122		Pn	Pn	20 59 58.6	+1.4
PALK	**Pallekele**	12.84 293		Pn	Pn	21 00 03.7	-1.2
	1.2nm,0.3s,baz=228,slow=12,SNR=16						
PALK				Sn	Sn	21 02 13.8	-14
	2.6nm,0.3s,baz=308,slow=5.9,SNR=8.3						
MDSI	**Maura Dua**	13.38 120		P	Pn	21 00 15.2	+2.8
CM31	**Chiang Mai Arr**	17.31	21		P	21 01 08.3	+2.7
CMAR	**Chiang Mai Arr**	17.31	21	P	P	21 01 09.4	+3.8
	0.1nm,0.3s,baz=76,slow=39,SNR=2.2						
CMAR				S	S	21 04 25.7	-0.2
	0.3nm,0.3s,baz=278,slow=18,SNR=4.3						
CMAR	**Chiang Mai Arr**	17.31	21	P	Pn	21 01 03.9	-0.3
CHTO	**Chiang Mai**	17.64	20	P	P	21 01 12.8	+3.6
SLVN	**Son La**	21.98	29	P	P	21 01 58.4	+1.8
SLVN				IAmb	IAmb	21 02 14.0	
	comp=Z,4.4nm,0.8s						
H08S2	**Diego Garcia H**	22.29 244		T	T	21 24 00.1	
	baz=77						
H08S3	**Diego Garcia H**	22.29 244		T	T	21 24 08.0	
	baz=77						
H08S1	**Diego Carcia H**	22.31 244		T	T	21 23 59.8	
	baz=77						
SHL	**Shillong**	23.22 358		P	P	21 02 10.4	+0.6
LSA	**Lhasa**	27.36 357		P	P	21 02 50.5	+2.2
SMLA	**Simla**	32.23 335		eP	P	21 03 31.7	+0.9
DHRM	**DHARAMSHALA**	33.56 335		eP	P	21 03 43.6	+0.8
NIL	**Nilore**	36.11 332		P	P	21 04 03.6	-1.0
NIL				IAmb	IAmb	21 04 05.9	
	comp=Z,5.0nm,0.9s						
DRK	**Karamyk**	41.62 336		P	P	21 04 51.4	+0.4
CHGR	**Chuyangaron**	42.10 332		P	P	21 04 53.4	-1.3
CHGR				IAmb	IAmb	21 04 55.0	
	comp=Z,4.0nm,0.6s						
BTK	**Batken**	42.52 335		P	P	21 04 59.6	+1.5
BTK				IAmb	IAmb	21 05 00.7	
	comp=Z,8.5nm,1.4s						
HRA	**Herat**	42.69 322		P	P	21 04 58.6	-1.2
BOOM	**Boomskoye usch**	42.77 342		P	P	21 05 00.4	+0.2
BOOM				IAmb	IAmb	21 05 01.5	
	comp=Z,1.8nm,0.6s						
AAK	**Ala-Archa**	43.37 341		P	P	21 05 06.4	+1.4
	comp=Z,0.4nm,0.4s,baz=46,slow=11,SNR=3.9						
AAK	**Ala-Archa**	43.37 341		IAmb	IAmb	21 05 15.5	
	comp=Z,2.7nm,1.5s						
KKAR	**Karatay Array**	45.21 337		P	P	21 05 20.1	+0.5
MK31	**Makanchi Array**	45.29 350		P	P	21 05 21.1	+0.9
MK31				IAmb	IAmb	21 05 21.6	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	45.29 350		P	P	21 05 21.1	+0.9
	comp=Z,1.9nm,0.7s,baz=167,slow=8.9,SNR=22		

*IEPN **11** 21:02:28.0, 76°.88N×18°.68E, h10km*
*MOS **11** 21:02:28.7±1.0, 76°.77N×17°.93E, h19km, mb4.2/10, Error ellipse: s-maj=38.9km s-min=6.3km az=96.0*
*NEIC **11** 21:02:29.1±2.4, 76°.80N±0°.05×17°.7E±0°.4, h10km±1km, mb4.2/25, Error ellipse: s-maj=16.1km s-min=7.9km az=254.0*
*BER **11** 21:02:31.0±2.7, 76°.91N×18°.50E, h15km±10km, ML3.5, MW4.0, ML4.3(NAO), Confirmed Earthquake*
ISC 11 21:02:29.2±1.1, 76°.80N±0°.03×18°.25E±0°.04, h12km±7km, n180, σ1$99/228, mb4.1/43, MS3.4/5, 17C-4D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**0.65**	**290**	Pg	**Pg**	**21 02 42.0**	**+0.1**
HSPB				Lg	Lg	21 02 50.3	
HSPB	**Hornsund (broa**	**0.65**	**290**	⇑*i*P	**Pg**	**21 02 42.0**	**+0.1**
HSPB				*e*S	**Sg**	**21 02 50.5**	**0.0**
HSPB				IAML		21 02 55.6	
	comp=Z,913nm,0.2s						
HSPB	**Hornsund (broa**	**0.65**	**290**	⇑*i*P	**Pg**	**21 02 42.0**	**+0.1**
HSPB				*e*S	**Sg**	**21 02 50.4**	**0.0**
SPB2	**Spitsbergen Ar**	**1.44**	**345**		**Pn**	**21 02 53.3**	**-1.8**
SPB2				Sn	**Sn**	**21 03 12.2**	**-1.8**
SPA0	**Spitsbergen Ar**	**1.45**	**344**	Pn	**Pn**	**21 02 53.1**	**-2.0**
	baz=154,slow=18						
SPA0				Pg	**Pb**	**21 02 54.3**	**-1.8**
	baz=159,slow=16						
SPA0				Lg	Lg	21 03 12.2	
	baz=160,slow=37						
SPA0	**Spitsbergen Ar**	**1.45**	**344**	Pn	**Pn**	**21 02 53.1**	**-2.0**
	baz=154,slow=18						
SPA0				Pg	**Pb**	**21 02 54.3**	**-1.8**
	baz=159,slow=16						
SPA0				Sg	**Sn**	**21 03 12.2**	**-1.8**
	baz=160,slow=37						
SPA0	**Spitsbergen Ar**	**1.45**	**344**	⇑*i*P	**Pn**	**21 02 53.2**	**-2.0**
SPA0				*e*S	**Sn**	**21 03 11.6**	**-2.4**
SPITS	**Spitsbergen Ar**	**1.45**	**344**	Pg	**Pn**	**21 02 53.2**	**-2.0**
	baz=150,slow=19,SNR=2721						
SPITS				Lg	Lg	21 03 11.2	
	baz=156,slow=27,SNR=12						
BRBA	**Barentsburg A**	**1.54**	**327**	Pn	**Pn**	**21 02 55.4**	**-1.2**
BRBA				Pg	**Pb**	**21 02 56.5**	**-1.1**
BRBA				Lg	Lg	21 03 15.2	
BRBA	**Barentsburg A**	**1.54**	**327**	⇑*i*P	**Pn**	**21 02 55.3**	**-1.2**
BRBA				*e*Pg	**Pb**	**21 02 56.6**	**-1.1**
BRBA				*e*Sg	**Sn**	**21 03 15.7**	**-0.7**
BRBA				IAML		21 03 16.5	
	comp=Z,2μm,0.4s						
BRBB	**Barentsburg B**	**1.57**	**328**	Pn	**Pn**	**21 02 55.7**	**-1.2**
BRBB				Pg	**Pb**	**21 02 57.0**	**-1.2**
BRBB				Lg	Lg	21 03 16.1	
BRBB	**Barentsburg B**	**1.57**	**328**	⇑*i*P	**Pn**	**21 02 55.7**	**-1.2**
BRBB				*e*Pg	**Pb**	**21 02 57.0**	**-1.2**
BRBB				*e*Sg	**Sn**	**21 03 16.3**	**-0.8**
HOPEN	**Hopen**	**1.60**	**97**	Pn	**Pn**	**21 02 56.1**	**-1.1**
HOPEN				Sn	**Sn**	**21 03 15.7**	**-2.0**
HOPEN	**Hopen**	**1.60**	**97**	⇓*i*P	**Pn**	**21 02 56.4**	**-0.7**
HOPEN				*e*S	**Sn**	**21 03 15.9**	**-1.8**
HOPEN				IAML		21 03 21.2	
	comp=Z,2μm,0.6s						
HOPEN	**Hopen**	**1.60**	**97**	*e*P	**Pn**	**21 02 56.2**	**-1.0**
HOPEN				*e*S	**Sn**	**21 03 15.9**	**-1.8**
BJO1	**Bjornoya**	**2.32**	**175**	Pn	**Pb**	**21 03 09.3**	**-1.5**
BJO1				Pg	**Pg**	**21 03 13.8**	**+0.3**
BJO1				Lg	Lg	21 03 44.5	
BJO1	**Bjornoya**	**2.32**	**175**	*e*P	**Pb**	**21 03 09.3**	**-1.5**
BJO1				*e*Pg	**Pg**	**21 03 13.9**	**+0.4**
BJO1				*e*Sg	**Sg**	**21 03 44.5**	**+1.0**
BJO1				IAML		21 03 51.3	
	comp=Z,836nm,0.5s						
BJO1	**Bjornoya**	**2.32**	**175**	*e*P	**Pg**	**21 03 13.0**	**-0.5**
BJO1				*e*S	**Sg**	**21 03 44.5**	**+1.0**
KBS	**Kingsbay**	**2.52**	**331**	Pn	**Pn**	**21 03 07.5**	**-2.3**
KBS				Pg	**Pb**	**21 03 13.7**	**-0.6**
KBS				Lg	Lg	21 03 44.4	
KBS	**Kingsbay**	**2.52**	**331**	P	**Pn**	**21 03 07.9**	**-2.0**
KBS	**Kingsbay**	**2.52**	**331**	*i* P	**Pn**	**21 03 07.9**	**-2.0**
KBS				*i* S	**Sg**	**21 03 47.3**	**-2.7**
KBS	**Kingsbay**	**2.52**	**331**	⇑*i*P	**Pn**	**21 03 07.8**	**-2.0**
KBS				*e*Pg	**Pb**	**21 03 13.8**	**-0.5**
KBS				*e*S	**Sn**	**21 03 37.0**	**-3.4**
KBS				*e*Sg	**Sb**	**21 03 44.1**	**-1.1**
KBS				IAML		21 03 52.4	
	comp=Z,2μm,0.5s						
KBS	**Kingsbay**	**2.52**	**331**		**Pn**	**21 03 07.9**	**-2.0**
KBS	**Kingsbay**	**2.52**	**331**	⇑*i*P	**Pn**	**21 03 07.8**	**-2.1**
KBS				*e*S	**Sn**	**21 03 36.8**	**-3.6**
HAMF	**Hammerfest**	**6.37**	**163**	Pn	**Pn**	**21 04 01.6**	**-1.1**
HAMF				Sn	**Sn**	**21 05 08.8**	**-6.4**
HAMF	**Hammerfest**	**6.37**	**163**	*e*P	**Pn**	**21 04 01.9**	**-0.8**
HAMF				*e*S	**Sn**	**21 05 08.8**	**-6.4**
HAMF				IAML		21 05 15.3	
	comp=Z,101nm,0.3s						
ZFI	**Zemlya Franca-**	**6.90**	**41**	*e*P	**Pn**	**21 04 07.5**	**-2.5**
ZFI				*e*S	Sn	21 05 17.9	-10
	comp=Z,116nm,0.8s						
TRO	**Tromso**	**7.21**	**178**	Pn	**Pn**	**21 04 14.8**	**+0.6**
TRO				Sn	**Sn**	**21 05 31.2**	**-4.6**
TRO	**Tromso**	**7.21**	**178**	*e*P	**Pn**	**21 04 14.9**	**+0.7**
TRO				*e*S	**Sn**	**21 05 30.4**	**-5.3**
TRO				IAML		21 05 36.2	
	comp=Z,15nm,0.5s						
JETT	**Jettan, Norway**	**7.31**	**174**	Pn	**Pn**	**21 04 15.7**	**+0.1**
JETT				*e*P	Pb	21 04 16.6	-19
JETT				Sn	**Sn**	**21 05 36.1**	**-2.3**
KEV	**Kevo**	**7.50**	**156**	Pn	**Pn**	**21 04 19.2**	**+1.0**
KEV				Sn	**Sn**	**21 05 37.1**	**-6.0**
KEV	**Kevo**	**7.50**	**156**	P	**Pn**	**21 04 19.3**	**+1.0**
KEV	**Kevo**	**7.50**	**156**	*e*P	**Pn**	**21 04 19.0**	**+0.8**
KEV				*e*S	**Sn**	**21 05 36.6**	**-6.5**
KEV	**Kevo**	**7.50**	**156**	Pn	**Pn**	**21 04 19.3**	**+1.1**
ARA0	**ARCESS Array S**	**7.59**	**160**	Pn	**Pn**	**21 04 19.1**	**-0.3**
	baz=354,slow=12						
ARA0				Sn	**Sn**	**21 05 38.2**	**-7.1**
	slow=22						
ARA0	**ARCESS Array S**	**7.59**	**160**	Pn	**Pn**	**21 04 19.1**	**-0.3**
	baz=354,slow=12						
ARA0				Sn	**Sn**	**21 05 38.2**	**-7.1**
	slow=22						
ARA0				IAML		21 05 43.1	
	comp=Z,55nm,0.4s						
ARCES	**ARCESS Array B**	**7.59**	**160**	Pn	**Pn**	**21 04 18.7**	**-0.8**
	baz=349,slow=11,SNR=19						
ARCES				Sn	**Sn**	**21 05 37.6**	**-7.7**
	baz=358,slow=19,SNR=15						
ARCES	**ARCESS Array B**	**7.59**	**160**	P	**Pn**	**21 04 20.4**	**+1.0**
ARCES	**ARCESS Array B**	**7.59**	**160**	Pn	**Pn**	**21 04 20.4**	**+1.0**
KIF	**Kilpisjarvi**	**7.87**	**173**	Pn	**Pn**	**21 04 23.2**	**0.0**
KIF				Sn	**Sn**	**21 05 48.3**	**-3.8**
KIF	**Kilpisjarvi**	**7.87**	**173**	*e*P	**Pn**	**21 04 21.4**	**-1.8**
KIF				*e*S	**Sn**	**21 05 45.9**	**-6.1**
KTK1	**Kautokeino**	**7.96**	**167**	*e*P	**Pn**	**21 04 25.4**	**+0.9**
KTK1				*e*S	**Sn**	**21 05 49.8**	**-4.5**
KTK1				IAML		21 05 54.3	
	comp=Z,23nm,0.3s						
NOR	**Nord**	**7.96**	**323**	Pn	**Pn**	**21 04 22.8**	**-1.8**
NOR	**Nord**	**7.96**	**323**	*i* P	Pn	21 04 13.3	-11
NOR				IAmb	IAmb	21 05 56.8	
	comp=Z,3.5nm,0.8s						
NOR	**Nord**	**7.96**	**323**	*e*P	**Pn**	**21 04 23.2**	**-1.3**
DAG	**Danmarks Havn**	**8.35**	**288**	*i* P	**Pn**	**21 04 32.4**	**+2.6**
DAG				IAmb	IAmb	21 04 37.6	
	comp=Z,2.7nm,0.8s						
DAG	**Danmarks Havn**	**8.35**	**288**	*e*P	**Pn**	**21 04 30.6**	**+0.8**
HEF	**Hetta**	**8.58**	**166**	*e*P	**Pn**	**21 04 33.0**	**-0.1**
LOF	**Lofoten**	**8.82**	**192**	Pn	**Pn**	**21 04 38.1**	**+1.8**
LOF				Sn	**Sn**	**21 06 13.7**	**-1.7**
LOF	**Lofoten**	**8.82**	**192**	*e*P	**Pn**	**21 04 38.1**	**+1.8**
STEI	**Steigen**	**8.96**	**187**	*e*P	**Pn**	**21 04 40.3**	**+2.1**
FAUS	**Fauske**	**9.51**	**187**	*e*P	**Pn**	**21 04 47.2**	**+1.5**
DBG	**Daneborg**	**9.78**	**275**	Pn	**Pn**	**21 04 50.5**	**+1.1**
DBG	**Daneborg**	**9.78**	**275**	*i* P	**Pn**	**21 04 52.2**	**+2.8**
DBG				IAmb	IAmb	21 05 02.8	
	comp=Z,2.5nm,0.7s						
DBG	**Daneborg**	**9.78**	**275**	*e*P	**Pn**	**21 04 49.9**	**+0.5**
LVZ	**Lovozero**	**10.17**	**143**	*i* P	**Pn**	**21 04 55.0**	**+0.2**
LVZ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
LVZ	**Lovozero**	**10.17**	**143**	Pn	**Pn**	**21 04 53.9**	**-0.9**
APA0	**Apatity Array**	**10.22**	**147**	Pn	**Pn**	**21 04 54.2**	**-1.3**
	baz=338,slow=14						
APA0				Sn	Sn	21 06 39.9	-10
	baz=346,slow=28						
APA0	**Apatity Array**	**10.22**	**147**	Pn	**Pn**	**21 04 54.2**	**-1.3**
	baz=338,slow=14						
APA0				Sn	Sn	21 06 39.9	-10
	baz=346,slow=28						
APA	**Apatity**	**10.31**	**146**	⇓*i*P	**Pn**	**21 04 55.4**	**-1.3**
APA				*i*		21 06 49.5	
APA				pmax	pmax		
	comp=Z,11nm,0.7s						
KONS	**Konsvik**	**10.47**	**191**	*e*P	**Pn**	**21 04 58.0**	**-0.8**
MOR8	**Moi Rana**	**10.75**	**188**	*e*P	**Pn**	**21 05 02.5**	**-0.2**
SLVR	**Solovky**	**13.03**	**146**	*e*P	**Pn**	**21 05 31.1**	**-2.6**
	comp=Z,53nm,2.6s						
SLVR				*e*S	Sn	21 07 46.0	-12
LSH	**Leshukonskoye**	**14.73**	**129**	*e*P	Pn	21 05 51.8	-5.1
	comp=Z,46nm,2.6s						
LSH				*e*S	Sn	21 08 23.1	-17
SUMG	**Summit**	**14.98**	**283**	P	**P**	**21 06 03.4**	**-2.8**
SUMG	**Summit**	**14.98**	**283**	*i* P	**P**	**21 06 03.4**	**-2.8**
SUMG				IAmb	IAmb	21 06 10.0	
	comp=Z,3.4nm,0.7s						
SUMG	**Summit**	**14.98**	**283**	P	**P**	**21 06 03.4**	**-2.8**
FIA1	**FINESS Array S**	**15.65**	**166**	P	**P**	**21 06 13.8**	**+0.5**
FIA1				IAmb	IAmb	21 06 25.9	
	comp=Z,18nm,1.1s						
FIA0	**FINESS Array S**	**15.65**	**166**	P	**Pn**	**21 06 10.0**	**+0.8**
	baz=6.3,slow=14						
FIA0	**FINESS Array S**	**15.65**	**166**	P	**Pn**	**21 06 10.0**	**+0.8**
	baz=6.3,slow=14						
FINES	**FINESS Array B**	**15.65**	**166**	Pn	**Pn**	**21 06 06.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=10,slow=9.6,SNR=5.6						
FINES				Sn	Sn	21 08 49.5	-13
	comp=Z,1.2nm,0.3s,baz=2.7,slow=22,SNR=7.7						
FINES	**FINESS Array B**	**15.65**	**166**	*ce*P	**Pn**	**21 06 10.1**	**+0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**15.65**	**166**	Pn	**Pn**	**21 06 07.5**	**-1.7**
NC303	**NORSAR Array S**	**15.82**	**192**	P	**P**	**21 06 14.3**	**-0.9**
NC303				IAmb	IAmb	21 06 33.5	
	comp=Z,18nm,1.4s						
NC405	**NORSAR Array S**	**15.91**	**192**	P	**Pn**	**21 06 14.2**	**+1.6**
NB201	**NORSAR Array S**	**16.00**	**192**	P	**P**	**21 06 16.2**	**-1.0**
NOA	**NORSAR Array B**	**16.01**	**192**	Pn	**Pn**	**21 06 12.6**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=8.2,slow=12,SNR=1.1						
NOA				LR	LR	21 12 46.2	
	comp=Z,49nm,19.8s,baz=355,slow=38						
HFS	**Hagfors**	**16.82**	**188**	Pn	**P**	**21 06 26.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=19,slow=9.4,SNR=14						
HFS				Sn	**Sn**	**21 09 23.5**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=25,slow=22,SNR=2.0						
HFS	**Hagfors**	**16.82**	**188**	P	**P**	**21 06 26.4**	**+0.1**
	baz=6.1,slow=10						
HFS	**Hagfors**	**16.82**	**188**	P	**P**	**21 06 26.4**	**+0.1**
	baz=6.1,slow=10						
KLMR	**Klimovskoe**	**17.54**	**144**	*e*P	**Pn**	**21 06 31.7**	**-1.5**
KLMR				*e*		21 09 49.6	
KLMR				pmax	pmax		
	comp=Z,22nm,1.4s						
KLMR	**Klimovskoe**	**17.54**	**144**	*e*P	**Pn**	**21 06 30.8**	**-2.4**
	comp=Z,55nm,2.8s						
KLMR				*e*S	Sn	21 09 32.3	-16
KLMR	**Klimovskoe**	**17.54**	**144**	*e*Pn	**Pn**	**21 06 31.7**	**-1.5**
KLMR				AMP		21 06 37.7	
	comp=Z,22nm,1.4s						
KLMR				*e*Sn	**Sn**	**21 09 49.7**	**+1.6**
KLMR				*e*Sn	**Sn**	**21 09 49.7**	**+1.6**
PRGR	**Permogore**	**17.72**	**134**	*e*P	**Pn**	**21 06 35.0**	**-0.3**
PRGR				pmax	pmax		
	comp=Z,55nm,1.5s						
PRGR	**Permogore**	**17.72**	**134**	*e*P	**Pn**	**21 06 32.6**	**-2.8**
PRGR				*e*S	Sn	21 09 36.8	-15
VSU	**Vasula**	**18.66**	**166**	*i* P	**Pn**	**21 06 47.2**	**+0.3**
VSU				pmax	pmax		
	comp=Z,34nm,1.0s						
NRIK	**Noril'sk**	**20.17**	**74**	P	**P**	**21 07 03.1**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=9.9,slow=2.4,SNR=4.8						
NRIK	**Noril'sk**	**20.17**	**74**	*ce*P	Pn	21 07 04.2	-0.6
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NRIK	**Noril'sk**	**20.17**	**74**	P	Pn	21 07 04.3	-0.5
NRIK				IAmb	IAmb	21 07 11.0	
	comp=Z,14nm,1.5s						
KIRV	**Kirov**	**21.24**	**132**	*ce*P	**P**	**21 07 14.8**	**+0.2**
PABE	**Paberze**	**21.49**	**171**	*e*P	**P**	**21 07 18.8**	**+1.5**
PABE	**Paberze**	**21.49**	**171**	P	**P**	**21 07 18.3**	**+1.1**
IIGN	**Ignalina**	**21.74**	**168**	*e*P	**P**	**21 07 21.7**	**+1.7**
IDID	**Didziasalis**	**21.80**	**167**	*e*P	**P**	**21 07 22.3**	**+1.7**
MNK	**Minsk**	**22.68**	**165**	*i* P	**P**	**21 07 29.3**	**-0.7**
MNK				*i* PPP	PPP	21 08 00.7	
MNK				*i* S	**S**	**21 11 37.4**	**-0.2**
MNK				*i* SS	**SnSn**	**21 12 08.8**	**+1.9**
MNK				pmax	pmax		
	comp=N,12nm,0.8s						
MNK				pmax	pmax		
	comp=Z,14nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				MLR	MLR		
	comp=Z,89nm,17.0s						
MNK				MLR	MLR		
	comp=E,25nm,21.0s						
MNK				MLR	MLR		
	comp=N,215nm,19.0s						
MNK	**Minsk**	**22.68**	**165**	*i* P	**P**	**21 07 29.3**	**-0.7**
	comp=E,2.0nm,0.9s						
MNK				*i* P	**P**	**21 07 29.3**	**-0.7**
	comp=N,12nm,0.8s						
MNK				*i* P	**P**	**21 07 29.3**	**-0.7**
	comp=Z,14nm,0.8s,baz=354						
MNK				*i* PP	**PnPn**	**21 07 52.9**	**-0.6**
MNK				*i* PPP	PPP	21 08 00.8	
MNK				*i* S	**S**	**21 11 37.4**	**-0.2**
MNK				*i* SS	**SnSn**	**21 12 08.8**	**+1.9**
MNK				*i* SSS	SSS	21 12 22.2	
MNK				*i* LQ	LQ	21 14 06.6	
MNK				*i* LR	LR	21 15 09.1	
MNK				*i* LRM	MLR	21 17 11.4	
	comp=Z,89nm,17.2s						
MNK				*i* LRM	MLR	21 17 27.7	
	comp=E,25nm,20.8s						
MNK				*i* LRM	MLR	21 17 30.0	
	comp=N,215nm,19.0s						
OBN	**Obninsk**	**22.79**	**152**	⇑*e*P	**P**	**21 07 31.9**	**+0.7**
OBN				*e*		21 07 53.2	
OBN				*e*PPP	PPP	21 08 06.7	
OBN				*e*S	**S**	**21 11 40.0**	**+0.4**
OBN				pmax	pmax		
	comp=Z,43nm,2.5s						
OBN				MLR	MLR		
	comp=Z,60nm,14.0s						
OBN	**Obninsk**	**22.79**	**152**	P	**P**	**21 07 32.8**	**+1.6**
SUW	**Suwalki**	**22.96**	**173**	*e*P	**P**	**21 07 34.0**	**+1.1**
ARU	**Arti**	**24.96**	**122**	P	**P**	**21 07 53.3**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=255,slow=2.8,SNR=3.3						
ARU	**Arti**	**24.96**	**122**	*d* P	**P**	**21 07 53.4**	**+1.3**
ARU				S	**S**	**21 12 13.3**	**-1.7**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.8s						
ARU	**Arti**	**24.96**	**122**	P	**P**	**21 07 53.2**	**+1.3**
LPSR	**Galich'ya Gora**	**25.52**	**150**	*e*P	**P**	**21 07 58.2**	**+1.1**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
TIXI	**Tiksi**	**26.17**	**42**	P	**P**	**21 08 03.6**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=334,slow=8.1,SNR=18						
TIXI				LR	LR	21 18 15.6	
	comp=Z,59nm,19.2s,baz=313,slow=36						
TIXI	**Tiksi**	**26.17**	**42**	*ce*P	**P**	**21 08 04.6**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	**Tiksi**	**26.17**	**42**	P	**P**	**21 08 04.8**	**+2.0**
TIXI				IAmb	IAmb	21 08 05.6	
	comp=Z,3.7nm,0.8s						
AKASG	**Malin Array Be**	**26.54**	**164**	P	**P**	**21 08 06.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=354,slow=9.5,SNR=4.3						
AKASG	**Malin Array Be**	**26.54**	**164**	*ce*P	**P**	**21 08 06.8**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VRH	**Novokhopyorsk**	**27.24**	**147**	*e*P	**P**	**21 08 12.4**	**-0.2**
VRH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GERES	**GERESS Array B**	**28.12**	**186**	P	**P**	**21 08 22.3**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=18,slow=4.3,SNR=2.1						
BUR08	**Bucovina Ar. S**	**29.39**	**170**	IAmb	IAmb	21 09 02.1	
	comp=Z,3.0nm,1.2s						
BUR08	**Bucovina Ar. S**	**29.39**	**170**	P	**P**	**21 08 33.5**	**+1.5**
BUR08	**Bucovina Ar. S**	**29.39**	**170**	P	**P**	**21 08 33.5**	**+1.5**
BURAR	**Bucovina Array**	**29.42**	**170**	IAmb	IAmb	21 08 35.2	
	comp=Z,1.0nm,0.8s						
BURAR	**Bucovina Array**	**29.42**	**170**	P	**P**	**21 08 33.3**	**+1.1**
BURAR	**Bucovina Array**	**29.42**	**170**	P	**P**	**21 08 33.3**	**+1.1**
AKTO	**Aktyubinsk**	**30.55**	**126**	P	**P**	**21 08 44.4**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=209,slow=23,SNR=1.9						
BVAR	**Borovoye Array**	**30.59**	**110**	P	**P**	**21 08 43.7**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=352,slow=9.0,SNR=8.0						
ZALV	**Zalesovo Beam**	**32.96**	**95**	P	**P**	**21 09 03.5**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=317,slow=10,SNR=2.6						
ZALV				PcP	**PcP**	**21 11 46.2**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=309,slow=4.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**32.96**	**95**	P	**P**	**21 09 04.6**	**+1.4**
ZALV	**Zalesovo Beam**	**32.96**	**95**	P	**P**	**21 09 04.6**	**+1.4**
BILL	**Bilibino**	**34.06**	**21**	⇑*i*P	**P**	**21 09 13.6**	**+1.0**
BILL				*e*		21 10 30.3	
BILL				*e*PPP	PPP	21 10 40.3	
BILL				pmax	pmax		
	comp=Z,10.0nm,2.5s						
BILL				MLR	MLR		
	comp=Z,42nm,12.0s						
KURK	**Kurchatov**	**34.56**	**103**	*ce*P	**P**	**21 09 17.8**	**+0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KURK	**Kurchatov**	**34.56**	**103**	P	**P**	**21 09 17.4**	**+0.2**
KURK				IAmb	IAmb	21 09 18.6	
	comp=Z,4.0nm,1.1s						
KURBB	**Kurchatov Arra**	**34.63**	**103**	P	**P**	**21 09 17.6**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=341,slow=7.5,SNR=11						
KURBB				PcP	**PcP**	**21 11 51.6**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=333,slow=3.6,SNR=3.8						
FYU	**Fort Yukon**	**36.50**	**349**	P	**P**	**21 09 34.2**	**+0.6**
YKA	**Yellowknife Ar**	**37.87**	**326**	P	**P**	**21 09 44.6**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=7.9,slow=7.6,SNR=8.6						
YKA	**Yellowknife Ar**	**37.87**	**326**	*ce*P	**P**	**21 09 46.7**	**+1.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**38.36**	**350**	P	**P**	**21 09 49.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=182,slow=26,SNR=5.9						
ILAR	**Eielson Array**	**38.36**	**350**	P	**P**	**21 09 50.5**	**+1.1**
ESDC	**Sonseca Array**	**38.46**	**208**	P	**P**	**21 09 51.8**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=0.7,slow=7.4,SNR=4.9						
SCRK	**Sand Creek**	**39.03**	**348**	P	**P**	**21 09 56.2**	**+1.1**
MK31	**Makanchi Array**	**39.08**	**101**	P	**P**	**21 09 56.2**	**+0.6**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**39.08**	**101**	P	**P**	**21 09 56.2**	**+0.6**
MKAR	**Makanchi Array**	**39.08**	**101**	P	**P**	**21 09 56.2**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=338,slow=7.1,SNR=20						
MKAR	**Makanchi Array**	**39.08**	**101**	P	**P**	**21 09 56.0**	**+0.3**
MKAR	**Makanchi Array**	**39.08**	**101**	P	**P**	**21 09 56.0**	**+0.3**
AAK	**Ala-Archa**	**41.32**	**112**	P	**P**	**21 10 15.0**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=5.5,slow=6.5,SNR=4.0						
AAK	**Ala-Archa**	**41.32**	**112**	P	**P**	**21 10 15.0**	**+0.6**
KEST	**Kesra**	**41.36**	**191**	P	**P**	**21 10 15.9**	**+1.2**
	comp=Z,3.1nm,0.8s,baz=300,slow=2.5,SNR=1.9						
BOOM	**Boomskoye usch**	**41.77**	**110**	P	**P**	**21 10 20.0**	**+1.9**
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOOM	**Boomskoye usch**	**41.77**	**110**	P	**P**	**21 10 20.0**	**+1.9**
BOOM				IAmb	IAmb	21 10 20.9	
	comp=Z,2.3nm,0.7s						
TARG	**Taragay, Kyrgy**	**42.90**	**109**	P	**P**	**21 10 29.3**	**+1.7**
TARG				IAmb	IAmb	21 10 32.1	
	comp=Z,2.9nm,0.8s						
BTK	**Batken**	**43.02**	**117**	P	**P**	**21 10 27.2**	**-1.0**
BTK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BTK	**Batken**	**43.02**	**117**	P	**P**	**21 10 27.2**	**-1.0**
BTK				IAmb	IAmb	21 10 29.9	
	comp=Z,9.3nm,1.5s						
SONM	**Songino Array**	**43.60**	**78**	P	**P**	**21 10 33.2**	**+0.4**
	comp=Z,2.0nm,1.1s,baz=329,slow=9.1,SNR=8.1						
SONM	**Songino Array**	**43.60**	**78**	P	**P**	**21 10 34.0**	**+1.1**
ULN	**Ulaanbaatar**	**43.72**	**77**	*ce*P	**P**	**21 10 36.1**	**+2.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ULN	**Ulaanbaatar**	**43.72**	**77**	P	**P**	**21 10 34.3**	**+0.5**
ULN				IAmb	IAmb	21 10 38.9	
	comp=Z,3.0nm,1.2s						
DRK	**Karamyk**	**43.78**	**116**	P	**P**	**21 10 36.1**	**+1.5**
CHGR	**Chuyangaron**	**44.03**	**119**	P	**P**	**21 10 37.4**	**+1.0**
CHGR				IAmb	IAmb	21 10 41.0	
	comp=Z,4.0nm,0.8s						

0.4nm,0.3s,baz=180,slow=9.9,SNR=2.2
STKA Stephens Creek 38.10 159 P **P 21 13 46.9 +0.1**
0.8nm,0.4s,baz=347,slow=11,SNR=4.9
SONM Songino Array 47.32 341 P **P 21 15 02.1 +0.4**
0.5nm,0.6s,baz=155,slow=9.1,SNR=4.8
MKAR Makanchi Array 57.62 325 P **P 21 16 17.9 0.0**
0.8nm,0.7s,baz=120,slow=8.1,SNR=9.3
KURBB Kurchatov Arra 61.79 327 P **P 21 16 46.9 +0.3**
0.6nm,0.6s,baz=129,slow=6.5,SNR=9.9
TIXI Tiksi 67.82 1 P **P 21 17 25.3 -0.2**
0.4nm,0.4s,baz=49,slow=2.0,SNR=3.3

*IDC **11** 21:12:58.1±1.6, 3°54N×126°76E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.1/39, mbtmp3.4/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/35, Error ellipse: s-maj=116.0km s-min=21.2km az=72.0*

ISC 11 21:12:58.6±1.6, 3°6N±0°2×127°0E±0°7, h10km, n7, σ3§14/7, mb3.4/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.70**	**337**	Pn	**Pn**	**21 13 51.5**	**-4.3**
	74nm,0.3s,baz=224,slow=15,SNR=2.4						
DAV				Sn	**Sn**	**21 14 43.7**	**+4.2**
	41nm,0.3s,baz=116,slow=7.0,SNR=1.4						
FITZ	**Fitzroy Crossi**	**21.64**	**184**	P	**P**	**21 17 48.8**	**-0.5**
	1.8nm,1.0s,baz=18,slow=6.4,SNR=2.5						
WRA	**Warramunga Arr**	**24.51**	**163**	P	**P**	**21 18 19.4**	**+0.9**
	0.6nm,0.7s,baz=341,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**27.96**	**166**	P	**P**	**21 18 50.7**	**+1.2**
	0.2nm,0.5s,baz=344,slow=12,SNR=2.0						
USRK	**Ussuriysk Ar.**	**40.63**	**6**	LR	LR	21 36 23.4	
	comp=Z,29nm,21.8s,baz=172,slow=34						
SONM	**Songino Array**	**47.48**	**341**	P	**P**	**21 21 34.3**	**+0.5**
	0.2nm,0.6s,baz=140,slow=9.4,SNR=2.7						
MKAR	**Makanchi Array**	**57.79**	**325**	P	**P**	**21 22 51.0**	**+0.8**
	0.3nm,0.5s,baz=120,slow=7.8,SNR=8.5						

*SJA **11** 21:16:28.5±0.8, 31°18S×72°00W, h13km±3km, ML4.2, MW4.0*
*IDC **11** 21:16:28.6±1.2, 31°27S×71°62W, h0km, mb4.5/2, mb1 4.1/7, mb1mx3.9/27, mbtmp4.0/7, ML3.7/5, MS3.7/1, Ms1 3.7/1, ms1mx2.9/53, Error ellipse: s-maj=44.8km s-min=26.4km az=115.0*
*GUC **11** 21:16:33.3±0.6, 31°24S×71°75W, h33km±2km, ML4.1*
*NEIC **11** 21:16:34.3±1.1, 31°23S±0°04×71°70W±0°10, h29km±6km, mb4.1/5, ML4.1(GUC), Error ellipse: s-maj=11.9km s-min=5.7km az=94.0*

ISC 11 21:16:31.5±1.2, 31°25S±0°02×71°71W±0°04, h15km±8km, n85, σ1§80/112, mb4.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.58**	**6**	*e*P	**Pb**	**21 16 44.8**	**+1.4**
CO06				*i* S	**Sb**	**21 16 52.8**	**+1.4**
CO06				IAML		21 16 54.6	
	comp=N,23μm,0.3s						
CO06	**Fray Jorge**	**0.58**	**6**		**Pb**	**21 16 44.7**	**+1.4**
CO06				Sg	**Sb**	**21 16 52.7**	**+1.4**
CO03	**El Pedregal**	**0.96**	**65**	*e*P	**Pn**	**21 16 51.3**	**+0.6**
CO03				*i* S	**Sn**	**21 17 04.5**	**+0.4**
CO03				IAML		21 17 07.9	
	comp=E,7μm,0.5s						
CO03	**El Pedregal**	**0.96**	**65**		**Pn**	**21 16 51.6**	**+0.9**
CO03					**Sn**	**21 17 04.4**	**+0.3**
CO03	**El Pedregal**	**0.96**	**65**	*e*P	**Pn**	**21 16 51.0**	**+0.4**
CO03				*e*S	**Sn**	**21 17 07.1**	**+3.0**
CO03				IAML		21 17 07.7	
	comp=Z,2μm,0.3s						
GO04	**Tololo Observa**	**1.33**	**36**	*e*P	**Pg**	**21 16 57.0**	**-0.2**
GO04				*i* S	**Sg**	**21 17 14.7**	**+0.2**
GO04	**Tololo Observa**	**1.33**	**36**	Pn	**Pg**	**21 16 57.1**	**0.0**
GO04	**Tololo Observa**	**1.33**	**36**	*e*P	**Pg**	**21 16 57.0**	**-0.2**
GO04				*e*S	**Sg**	**21 17 16.0**	**+1.5**
VA06	**Catapilco**	**1.35**	**165**	*e*P	**Pn**	**21 16 57.0**	**+1.1**
VA06				*i* S	**Sb**	**21 17 14.7**	**+1.0**
VA06				IAML		21 17 17.5	
	comp=N,9μm,0.4s						
CO05	**La Serena**	**1.39**	**17**	*e*P	**Pb**	**21 16 57.6**	**+0.5**
CO05				*i* S	**Sg**	**21 17 15.6**	**-0.7**
CO05				IAML		21 17 25.5	
	comp=E,2μm,0.4s						
CO05	**La Serena**	**1.39**	**17**	Pn	**Pn**	**21 16 57.2**	**+0.9**
VA01	**Torpederas**	**1.77**	**178**	*e*P	**Pn**	**21 17 03.6**	**+2.0**
VA01				IAML		21 17 30.8	
	comp=N,1μm,0.4s						
VA01	**Torpederas**	**1.77**	**178**	*e*P	**Pn**	**21 17 02.4**	**+0.8**
VA01				*e*S	**Sg**	**21 17 28.6**	**0.0**
VA03	**San Esteban**	**1.80**	**147**	*e*P	**Pb**	**21 17 04.5**	**+0.2**
VA03				*i* S	**Sb**	**21 17 28.1**	**+1.3**
VA03				IAML		21 17 32.1	
	comp=E,6μm,0.2s						
ROCH	**El Roble**	**1.82**	**161**	*e*P	**Pb**	**21 17 04.0**	**-0.7**
ROCH				*e*P	**Pn**	**21 17 03.3**	**+0.8**
ROCH				*i* S	**Sb**	**21 17 27.5**	**+0.2**
ROCH				*i* S	**Sn**	**21 17 28.3**	**+2.9**
ROCH				IAML		21 17 34.2	
	comp=N,3μm,0.4s						
ROCH				IAML		21 17 34.4	
	comp=N,4μm,0.6s						
ROC1	**El Roble**	**1.82**	**161**	*e*P	**Pn**	**21 17 03.5**	**+0.9**
ROC1				*e*S	**Sb**	**21 17 27.5**	**+0.1**
MT02	**Curacav**	**2.06**	**167**	*i* S	**Sb**	**21 17 34.0**	**-0.1**
MT02				IAML		21 17 41.1	
	comp=E,967nm,0.4s						
MT02	**Curacav**	**2.06**	**167**		**Pn**	**21 17 06.5**	**+0.8**
MT02	**Curacav**	**2.06**	**167**	*e*P	**Pn**	**21 17 06.6**	**+1.0**
MT02				*e*S	**Sn**	**21 17 27.5**	**-3.6**
MT02				*e*S	**Sb**	**21 17 34.2**	**+0.1**
MT02				IAML		21 17 39.4	
	comp=Z,554nm,0.3s						
PEL	**Peldehue**	**2.08**	**156**	*e*P	**Pn**	**21 17 08.0**	**+2.0**
PEL				*i* S	**Sb**	**21 17 34.7**	**+0.1**
PEL				IAML		21 17 44.2	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**2.08**	**156**	Pn	**Pn**	**21 17 07.7**	**+1.8**
RTLS	**Leoncito**	**2.13**	**106**	*e*P	**Pg**	**21 17 12.0**	**-0.5**
RTLS				*e*S	**Sg**	**21 17 41.2**	**+1.0**
RTLS				IAML		21 17 42.6	
	comp=Z,2μm,0.9s						
AUSP	**Uspallata**	**2.20**	**117**	*e*P	**Pb**	**21 17 12.0**	**+0.7**
AUSP				*e*S	**Sg**	**21 17 43.2**	**+0.7**
MT05	**Renca**	**2.29**	**159**	*e*P	**Pn**	**21 17 11.1**	**+2.3**
MT05				*i* S	**Sb**	**21 17 40.0**	**-0.7**
MT05	**Renca**	**2.29**	**159**	Pn	**Pn**	**21 17 10.4**	**+1.6**
LCO	**Las Campanas**	**2.40**	**22**	*e*P	**Pn**	**21 17 11.4**	**+0.9**
LCO				*i* S	**Sn**	**21 17 42.2**	**+2.6**
LCO	**Las Campanas**	**2.40**	**22**	Pn	**Pn**	**21 17 11.5**	**+1.1**
LCO	**Las Campanas**	**2.40**	**22**	*e*P	**Pn**	**21 17 11.0**	**+0.6**
VA05	**Santo Domingo**	**2.40**	**178**	*i* S	**Sn**	**21 17 42.2**	**+2.8**
VA05	**Santo Domingo**	**2.40**	**178**	Pn	**Pn**	**21 17 10.8**	**+0.5**
MT09	**Talagante**	**2.59**	**167**	*e*P	**Pn**	**21 17 14.9**	**+1.9**
MT09				*i* S	**Sn**	**21 17 45.8**	**+1.4**
MT09				IAML		21 17 57.4	
	comp=E,1μm,0.2s						
MT09	**Talagante**	**2.59**	**167**	Pn	**Pn**	**21 17 14.8**	**+1.8**
MT01	**Popeta**	**2.64**	**172**	*i* S	**Sn**	**21 17 47.9**	**+2.7**
MT01				IAML		21 17 58.5	
	comp=N,858nm,0.5s						
MT01	**Popeta**	**2.64**	**172**		**Pn**	**21 17 14.4**	**+0.9**
MT01	**Popeta**	**2.64**	**172**	*e*P	**Pn**	**21 17 14.8**	**+1.2**
MT01				*e*S	**Sn**	**21 17 49.0**	**+3.8**
MT01				IAML		21 17 56.8	
	comp=Z,519nm,0.3s						
RTCV	**Cerro Valdivia**	**2.77**	**104**	*e*P	**Pb**	**21 17 21.0**	**+0.2**
RTCV				*e*S	**Sb**	**21 17 57.0**	**+2.4**
ASAL	**Salagasta**	**2.79**	**119**	*e*P	**Pb**	**21 17 22.0**	**+0.9**
ASAL				*e*S	**Sb**	**21 17 57.0**	**+2.0**
ARCO	**CERRO ARCO**	**2.84**	**125**	*e*P	**Pb**	**21 17 22.4**	**+0.4**
ARCO				*e*P	**Pg**	**21 17 23.0**	**-3.1**
ARCO				*e*S	**Sg**	**21 18 08.8**	**+5.9**
ARCO				IAML		21 18 14.4	
	comp=Z,582nm,0.6s						
BO04	**La Punta**	**2.89**	**162**	*e*P	**Pn**	**21 17 19.1**	**+2.1**
BO04				*i* S	**Sn**	**21 17 54.6**	**+3.1**
BO04				IAML		21 18 06.9	
	comp=E,838nm,0.3s						
LMEL	**Las Melosas**	**2.89**	**154**	*e*P	**Pn**	**21 17 19.6**	**+2.4**
LMEL				*i* S	**Sn**	**21 17 54.7**	**+3.0**
LMEL				IAML		21 18 04.8	
	comp=N,846nm,0.2s						
AAGR	**Agrelo**	**3.05**	**128**	*e*P	**Pb**	**21 17 25.0**	**-0.6**
AAGR				*e*S	**Sg**	**21 18 12.5**	**+2.9**
AC04	**Llanos de Chal**	**3.08**	**10**	Pn	**Pn**	**21 17 19.9**	**+0.2**
AC04	**Llanos de Chal**	**3.08**	**10**	*e*P	**Pn**	**21 17 23.0**	**+3.3**
AC04				*e*S	**Sn**	**21 18 00.0**	**+3.7**
AC04				IAML		21 18 14.3	
	comp=Z,433nm,0.6s						
BO01	**Tunca**	**3.18**	**171**		**Pn**	**21 17 22.4**	**+1.5**
BO02	**Sierra Bellavi**	**3.62**	**168**	*e*P	**Pn**	**21 17 29.2**	**+2.1**
BO02				*i* S	**Sn**	**21 18 10.9**	**+1.4**
BO02	**Sierra Bellavi**	**3.62**	**168**	Pn	**Pn**	**21 17 28.9**	**+1.8**
AVFE	**Valle Fertil**	**3.70**	**82**	*e*P	**Pn**	**21 17 32.0**	**+3.8**
AVFE				*e*S	**Sb**	**21 18 20.5**	**-0.8**
AVFE				IAML		21 18 34.0	
	comp=Z,1μm,0.7s						
GO05	**Huala**	**3.76**	**183**		**Pn**	**21 17 28.7**	**-0.2**
GO03	**Copiap**	**3.86**	**20**	Pn	**Pn**	**21 17 31.2**	**+0.7**
GO03	**Copiap**	**3.86**	**20**	*e*P	**Pn**	**21 17 31.5**	**+1.0**
GO03				*e*P	Pb	21 17 32.0	-7.4
GO03				*e*S	**Sn**	**21 18 17.5**	**+1.9**
VCA	**Vinchina**	**3.94**	**51**	*e*P	**Pn**	**21 17 32.0**	**+0.4**
VCA				*e*P	Pb	21 17 35.2	-5.5
VCA				*e*S	**Sg**	**21 18 34.3**	**-3.7**
VCA				IAML		21 18 38.2	
	comp=Z,694nm,0.4s						
ACHE	**Chepes**	**4.32**	**90**	*e*P	**Pb**	**21 17 43.0**	**-4.3**
RFA	**San Rafael**	**4.45**	**143**	*e*P	**Pn**	**21 17 42.0**	**+3.5**
RFA				IAML		21 18 58.0	
	comp=Z,152nm,1.3s						
AC02	**Maricunga**	**4.94**	**28**		**Pn**	**21 17 47.0**	**+1.3**
H03N1	**Juan Fernandez**	**6.48**	**248**	T	T	21 24 53.0	
	baz=76,slow=72,SNR=7222						
H03N3	**Juan Fernandez**	**6.49**	**248**	T	T	21 24 50.3	
	baz=76,slow=72,SNR=4341						
H03N2	**Juan Fernandez**	**6.49**	**248**	T	T	21 24 49.7	
	baz=76,slow=72,SNR=5964						
H03S2	**Juan Fernandez**	**6.62**	**245**	T	T	21 25 19.4	
	SNR=7.2						
LC01	**Cunco**	**7.63**	**181**	Pn	**Pn**	**21 18 22.1**	**0.0**
PB06	**IPOC Station P**	**8.72**	**13**	Pn	**Pn**	**21 18 38.0**	**+0.8**
LVC	**Limon Verde**	**8.96**	**17**	Pn	**Pn**	**21 18 39.0**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=262,slow=12,SNR=1.5						
LVC				Sn	Sn	21 20 08.1	-14
	comp=Z,1.1nm,0.3s,baz=72,slow=3.2,SNR=1.8						
LVC	**Limon Verde**	**8.96**	**17**		**Pn**	**21 18 38.7**	**-2.0**
PLCA	**Paso Flores**	**9.51**	**175**	Pn	**Pn**	**21 18 48.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=343,slow=12,SNR=12						
PLCA	**Paso Flores**	**9.51**	**175**	Pn	**Pn**	**21 18 48.6**	**+0.6**
CPUP	**Villa Florida**	**13.53**	**72**	Pn	**Pn**	**21 19 41.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=232,slow=9.2,SNR=2.0						
CPUP				Sn	**Sn**	**21 22 10.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=216,slow=11,SNR=3.1						
LPAZ	**La Paz**	**15.25**	**13**	Pn	**Pn**	**21 20 07.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=171,slow=6.9,SNR=5.0						
LPAZ	**La Paz**	**15.25**	**13**	Pn	**Pn**	**21 20 07.0**	**+0.1**
PLTB	**Pedras Altas**	**15.46**	**97**	Pn	**Pn**	**21 20 10.7**	**+1.7**
PLTB				IAmb	IAmb	21 20 25.8	
	comp=Z,13nm,1.4s						
SIV	**San Ignacio**	**18.03**	**35**	P	**Pn**	**21 20 41.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=220,slow=13,SNR=5.8						
ETMB	**Extrema**	**21.93**	**15**	P	**P**	**21 21 24.9**	**+0.5**
ETMB				IAmb	IAmb	21 21 28.1	
	comp=Z,5.0nm,0.9s						
BAUV	**El Baul**	**40.12**	**6**	P	**P**	**21 24 06.5**	**-0.2**
SNAA	**Sanae**	**54.03**	**159**	LR	LR	21 47 02.5	
	comp=Z,63nm,18.3s,baz=339,slow=34						
DBIC	**Dimbokro**	**74.05**	**72**	P	**P**	**21 28 05.4**	**-1.7**
	comp=Z,3.5nm,0.6s,baz=230,slow=5.2,SNR=8.0						
DBIC	**Dimbokro**	**74.05**	**72**	P	**P**	**21 28 07.0**	**-0.1**
DBIC				IAmb	IAmb	21 28 07.8	
	comp=Z,4.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.01**	**70**	P	**P**	**21 28 56.5**	**0.0**
	comp=Z,2.8nm,0.7s,baz=289,slow=6.4,SNR=19						
WRA	**Warramunga Arr**	**123.29**	**210**	PKP	**PKPdf**	**21 35 27.3**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=158,slow=1.6,SNR=8.6						
WRA	**Warramunga Arr**	**123.29**	**210**		**PKPdf**	**21 35 26.7**	**-1.7**
H11S2	**WAKE ISLAND Hyt**	**26.05**	**271**	T	T	23 54 22.5	
	baz=76,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hyt**	**26.06**	**271**	T	T	23 54 07.4	
	baz=116,slow=75,SNR=40						
H11S3	**WAKE ISLAND Hyt**	**26.06**	**271**	T	T	23 54 23.8	
	baz=116,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hyt**	**26.39**	**272**	T	T	23 54 52.4	
	baz=121,slow=74,SNR=3.8						
H11N2	**WAKE ISLAND Hyt**	**26.41**	**272**	T	T	23 54 51.7	
	baz=153,slow=74,SNR=11						
ZALV	**Zalesovo Beam**	**151.73**	**30**	PKPbc	**PKPbc**	**21 36 24.7**	**-0.2**
	comp=Z,4.5nm,0.5s,baz=303,slow=3.3,SNR=22						
MKAR	**Makanchi Array**	**154.68**	**45**	PKPbc	**PKPbc**	**21 36 31.0**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=251,slow=2.6,SNR=4.7						
MKAR	**Makanchi Array**	**154.68**	**45**		**PKPbc**	**21 36 30.6**	**-1.1**

*MAN **11** 21:20:31.3, 3°12N×127°01E, h28km, mb5.4, ML4.4, MS4.6*
*IDC **11** 21:20:33.8±0.6, 3°74N×126°93E, h0km, mb4.2/20, mb1 4.2/22, mb1mx4.0/51, mbtmp4.2/22, ML4.0/2, MS3.4/5, Ms1 3.4/5, ms1mx2.9/73, Error ellipse: s-maj=31.9km s-min=11.7km az=71.0*
*DJA **11** 21:20:36.8±0.5, 4°N±4°×12°7E±°, h10km, M4.2/13, mb4.2/9, mB4.8/5, MLv4.2/13, Mw(mB)4.0/5*
*NEIC **11** 21:20:36.0±1.4, 3°78N±0°06×126°98E±0°08, h10km±1km, mb4.5/30, Error ellipse: s-maj=14.7km s-min=9.5km az=72.0*

ISC 11 21:20:35.6±0.4, 3°84N±0°04×127°04E±0°06, h10km, n89, σ1§42/90, mb4.5/37, MS3.4/4, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.52**	**264**	P	**Pn**	**21 21 03.6**	**+0.8**
SGSI				S	**Sn**	**21 21 22.2**	**-0.5**
GSPH	**General Santos**	**3.06**	**317**	‖*e*P	**Pb**	**21 21 28.2**	**-2.0**
TNTI	**Ternate**	**3.06**	**174**	P	**Pn**	**21 21 25.3**	**+1.2**
TNTI				S	**Sn**	**21 22 01.7**	**+0.9**
TNTI	**Ternate**	**3.06**	**174**	Pn	**Pn**	**21 21 24.5**	**+0.4**
DAV	**Davao City (W)**	**3.53**	**336**	Pn	**Pn**	**21 21 30.7**	**+0.2**
	22nm,0.3s,baz=138,slow=13,SNR=1.2						
DAV				Sn	**Sn**	**21 22 11.4**	**-1.0**
	45nm,0.3s,baz=27,slow=19,SNR=3.9						
DAV	**Davao City (W)**	**3.53**	**336**		**Pn**	**21 21 30.2**	**-0.3**
KMSI	**Cibinong**	**4.45**	**223**	P	**Pn**	**21 21 44.7**	**+1.4**
LBMI	**Labuha**	**4.47**	**174**	P	**Pn**	**21 21 46.5**	**+3.1**
GTOI	**Gorontalo**	**5.13**	**232**	P	**Pn**	**21 21 54.9**	**+2.3**
	0.0nm11nm,0.8s						
SANI	**Sanana**	**5.94**	**190**	P	**Pn**	**21 22 04.6**	**+0.9**
	0.1nm836nm11nm,1.9s						
MRSI	**Marisa**	**6.09**	**237**	P	**Pn**	**21 22 09.0**	**+3.2**
	0.2nm556nm56nm,0.6s						
SWI	**Sorong**	**6.29**	**138**	P	**Pn**	**21 22 09.3**	**+0.8**
	0.1nm650nm27nm,0.7s						
SIJI	**Sorong**	**6.30**	**138**	Pn	**Pn**	**21 22 09.4**	**+0.8**
	1.8nm,0.3s,baz=260,slow=23,SNR=4.6						
SIJI				Sn	**Sn**	**21 23 21.4**	**+0.7**
	0.6nm,0.3s,baz=156,slow=23,SNR=1.7						
SIJI				LR	LR	21 23 55.9	
	comp=Z,90nm,21.3s,baz=9.5,slow=32						
LUWI	**Luwuk**	**6.46**	**221**	P	**Pn**	**21 22 11.3**	**+0.5**
	0.4nm2μm59nm,1.0s						
LUWI	**Luwuk**	**6.46**	**221**	Pn	**Pn**	**21 22 09.2**	**-1.5**
TOLI2	**Tolitoli**	**6.81**	**247**	Pn	**Pn**	**21 22 15.4**	**-0.4**
APSI	**Ampana**	**7.16**	**229**	P	**Pn**	**21 22 24.2**	**+3.7**
	0.2nm458nm40nm,1.2s						
MPSI	**Mapaga**	**7.94**	**244**	P	**Pn**	**21 22 33.1**	**+1.9**
	0.0nm7.9nm,1.0s						
MYLDM	**Lahad Datu**	**8.62**	**279**	Pn	**Pn**	**21 22 41.5**	**+1.0**
SBUM	**Sibu**	**14.86**	**265**	P	**P**	**21 24 12.8**	**+0.9**
MTN	**Manton Dam**	**17.06**	**166**	Pn	**Pn**	**21 24 32.8**	**-1.7**
KNRA	**Kununurra**	**19.46**	**175**	P	**P**	**21 25 01.8**	**-0.9**
KNRA				IAmb	IAmb	21 25 27.4	
	comp=Z,16nm,0.9s						
TPUB	**Ta-pu**	**20.32**	**343**	P	**P**	**21 25 12.1**	**0.0**
TPUB				IAmb	IAmb	21 25 20.3	
	comp=Z,26nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.84**	**184**	P	**P**	**21 25 27.7**	**-0.7**
	comp=Z,1.8nm,0.4s,baz=13,slow=8.0,SNR=8.8						
PMG	**Port Moresby**	**23.98**	**123**	LR	LR	21 35 19.9	
	comp=Z,109nm,19.0s,baz=276,slow=37						
UBPT	**Khong Chiam**	**24.09**	**300**	P	**P**	**21 25 49.9**	**-1.7**
UBPT				IAmb	IAmb	21 25 52.4	
	comp=Z,24nm,1.4s						
WB0	**Warramunga Arr**	**24.54**	**163**	P	**P**	**21 25 54.5**	**-1.2**
WRAB	**Tennant Creek**	**24.69**	**163**	P	**P**	**21 25 55.8**	**-1.3**
WRA	**Warramunga Arr**	**24.69**	**163**	P	**P**	**21 25 55.5**	**-1.6**
	comp=Z,15nm,0.7s,baz=343,slow=10,SNR=109						
WRA				S	**S**	**21 30 17.3**	**-1.7**
	comp=Z,0.9nm,1.0s,baz=341,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**24.69**	**163**	P	**P**	**21 25 54.8**	**-2.2**
WB2	**Warramunga Arr**	**24.70**	**163**	P	**P**	**21 25 55.7**	**-1.4**
WR0	**Warramunga Arr**	**24.77**	**163**	P	**P**	**21 25 56.4**	**-1.4**
WR0				IAmb	IAmb	21 25 57.9	
	comp=Z,13nm,0.8s						
AS31	**Alice Springs**	**28.14**	**167**	P	**P**	**21 26 27.7**	**-0.5**
ASAR	**Alice Springs**	**28.14**	**167**	P	**P**	**21 26 27.1**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=346,slow=6.7,SNR=14						
ASAR				LR	LR	21 37 39.7	
	comp=Z,74nm,20.0s,baz=348,slow=36						
GSI	**Gunungsitoli**	**29.54**	**266**	P	**P**	**21 26 39.7**	**-1.1**
GSI				IAmb	IAmb	21 26 57.1	
	comp=Z,7.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.09**	**300**	P	**P**	**21 26 54.1**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=116,slow=7.2,SNR=8.6						
CMAR	**Chiang Mai Arr**	**31.09**	**300**	P	**P**	**21 26 53.3**	**-1.1**
CHTO	**Chiang Mai**	**31.23**	**301**	P	**P**	**21 26 54.9**	**-0.8**
CHTO				IAmb	IAmb	21 26 56.2	
	comp=Z,6.6nm,1.3s						
KMI	**Kunming**	**31.53**	**314**	‖P	**P**	**21 27 00.8**	**+2.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PZH	**PanZhiHua**	**33.09**	**315**	P	**P**	**21 27 16.5**	**+4.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,4.6s						
KSRS	**Korea Array**	**33.47**	**1**	P	**P**	**21 27 15.7**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=180,slow=9.7,SNR=1.9						
FORT	**Forrest**	**34.43**	**178**	P	**P**	**21 27 22.9**	**-0.5**
BJI	**Beijing**	**37.36**	**346**	P	**P**	**21 27 49.8**	**+1.4**
BJI				pmax	pmax		
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**37.43**	**167**	P	**P**	**21 27 48.3**	**-0.8**
BBOO				IAmb	IAmb	21 28 13.8	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**38.12**	**160**	P	**P**	**21 27 54.5**	**-0.5**
	comp=Z,6.2nm,0.6s,baz=334,slow=9.0,SNR=23						
STKA	**Stephens Creek**	**38.12**	**160**	P	**P**	**21 27 54.3**	**-0.6**
HHC	**Hu-ho-hao-te**	**39.40**	**341**	*e*P	**P**	**21 28 08.7**	**+2.9**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,6.0s						
SHL	**Shillong**	**40.06**	**306**	P	**P**	**21 28 10.1**	**-1.6**
SHL				IAmb	IAmb	21 28 11.4	
	comp=Z,12nm,0.7s						
XLT	**XiLinHaoTe**	**41.06**	**348**	*e*P	**P**	**21 28 20.9**	**+1.4**
XLT				pP	pwP	21 28 29.3	+4.9
XLT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,85nm,5.4s						
H11S3	**WAKE ISLAND Hy**	**41.41**	**66**	T	T	22 12 43.9	
	baz=255,slow=74,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**41.42**	**66**	T	T	22 12 42.2	
H11S2	**WAKE ISLAND Hy**	**41.42**	**66**	T	T	22 12 40.3	
	baz=314,slow=74,SNR=4.4						
LSA	**Lhasa**	**42.60**	**311**	P	**P**	**21 28 34.3**	**+1.6**
KLR	**Kul'dur**	**45.41**	**4**	P	**P**	**21 28 54.8**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=171,slow=7.1,SNR=5.0						
PALK	**Pallekele**	**46.23**	**276**	LR	LR	21 50 18.2	
	comp=Z,51nm,18.6s,baz=168,slow=39						
ULN	**Ulaanbaatar**	**47.12**	**342**	P	**P**	**21 29 08.5**	**+0.4**
ULN				IAmb	IAmb	21 29 13.6	
	comp=Z,3.7nm,0.8s						
SONM	**Songino Array**	**47.30**	**341**	P	**P**	**21 29 10.1**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=157,slow=9.2,SNR=9.1						
SONM				PcP	**PcP**	**21 30 41.3**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=160,slow=4.0,SNR=6.3						
SONM	**Songino Array**	**47.30**	**341**	P	**P**	**21 29 09.5**	**0.0**
WMQ	**Urumqi**	**52.82**	**325**	*e*P	**P**	**21 29 54.2**	**+2.8**
PETK	**Petropavlovsk-**	**55.22**	**22**	P	**P**	**21 30 09.9**	**+1.2**
MK31	**Makanchi Array**	**57.65**	**325**	P	**P**	**21 30 26.3**	**+0.1**
MKAR	**Makanchi Array**	**57.65**	**325**	P	**P**	**21 30 26.0**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=124,slow=8.5,SNR=30						
MKAR				PcP	**PcP**	**21 31 19.3**	**0.0**
	comp=Z,1.1nm,0.6s,baz=112,slow=4.7,SNR=5.3						
YAK	**Yakutsk**	**58.10**

DJA 11 21:32:51.5±1.9, 8°S±9°×12°5E±1°5, h14km±4km, M2.9/5, MLv2.9/5
ISC 11 21:32:49.6±1.5, 8°2S±0°2×125°0E±0°2, h10km, n7, σ1§93/6, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.71**	**203**	P	**Pn**	**21 33 20.0**	**+0.4**
MMRI	**Maumere**	**2.73**	**260**	P	**Pn**	**21 33 33.9**	**+0.3**
EDFI	**Ende, Flores**	**3.28**	**260**	P	**Pn**	**21 33 40.2**	**-1.1**
WRA	**Warramunga Arr**	**14.81**	**143**	Pn	**Pn**	**21 36 17.3**	**-2.0**
	0.1nm,0.3s,baz=342,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**17.63**	**152**	P	**P**	**21 36 58.9**	**+2.4**
	0.1nm,0.3s,baz=334,slow=12,SNR=6.2						
CMAR	**Chiang Mai Arr**	**36.87**	**316**	P	P	21 40 08.7	+10
	0.2nm,0.3s,baz=118,slow=7.2,SNR=1.8						
MKAR	**Makanchi Array**	**66.58**	**330**	P	**P**	**21 43 40.6**	**+0.5**
	0.3nm,0.8s,baz=116,slow=5.0,SNR=1.9						

MAN 11 21:40:22.9, 17°03N×121°35E, h32km, mb3.9, ML2.7, MS2.3, Luzon

MAN 11 21:42:17.7, 7°05N×124°02E, h23km, mb3.9, ML2.6, MS2.2, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.28**	**53**	⇓*iP*	Pn	21 42 25.9	-0.5
CTBH				*i*S	Sn	21 42 33.4	+1.5
PAGZ	**Pagadian**	**1.01**	**321**	⇑*eP*	Pn	21 42 35.8	-0.7

WEL 11 21:42:52.5±1.3, 35°S±27°×17°9E±3°0, h205km±35km, M3.5/6, ML3.9/8, MLv3.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=129.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.86**	**192**	P	Pn	21 43 41.3	+0.7
WMGZ				S	S	21 44 19.0	+1.0
HAZ	**Te Kaha**	**2.95**	**201**	P	Pn	21 43 42.0	+0.3
HAZ				S	S	21 44 21.9	+2.1
PKGZ	**Pakihiroa**	**2.99**	**196**	P	Pn	21 43 42.2	-0.1
PKGZ				S	S	21 44 21.9	+1.0
PUZ	**Puketiti**	**3.13**	**193**	P	Pn	21 43 43.6	-0.3
PUZ				S	S	21 44 23.5	-0.3
RUGZ	**Raukumara Rang**	**3.17**	**201**	P	Pn	21 43 44.6	+0.1
RUGZ				S	S	21 44 24.3	-0.5
MWZ	**Matawai**	**3.56**	**201**	P	Pn	21 43 49.0	0.0
MWZ				S	S	21 44 34.4	+1.4
URZ	**Urewera**	**3.63**	**206**	P	Pn	21 43 49.7	-0.1
URZ				S	S	21 44 35.5	+1.1
MUGZ	**Murupara**	**3.95**	**208**	P	Pn	21 43 53.4	-0.3
SNGZ	**Shannon Statio**	**4.03**	**200**	P	Pn	21 43 54.7	0.0
SNGZ				S	S	21 44 44.9	+1.6
BKZ	**Black Stump Fm**	**4.65**	**206**	P	Pn	21 44 01.9	-0.7
KWHZ	**Kaweka Forest**	**4.91**	**205**	P	Pn	21 44 04.7	-1.1
KWHZ				S	S	21 45 03.1	-0.3
KAHZ	**Kahuranaki**	**5.10**	**200**	P	Pn	21 44 06.8	-1.5
KAHZ				S	S	21 45 06.6	-1.2
WNVZ	**Wahianoa**	**5.15**	**212**	P	Pn	21 44 11.1	+2.1
TSZ	**Takapari Road**	**5.63**	**206**	P	Pn	21 44 12.8	-2.2
TSZ				S	S	21 45 18.1	-2.1

IDC 11 21:51:28.4±1.0, 3°55N×126°65E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/47, mbtmp3.9/9, ML4.3/2, MS3.7/5, Ms1 3.7/5, ms1mx2.9/76, Error ellipse: s-maj=72.8km s-min=14.8km az=69.0
NEIC 11 21:51:30.3±1.5, 3°7N±0°1×126°6E±0°2, h15km±6km, mb4.2/11, Error ellipse: s-maj=34.1km s-min=8.5km az=69.0
DJA 11 21:51:30.4±0.5, 4°N±4°×12°7E±°, h10km, M4.0/12, mb4.2/10, mB5.2/3, MLv3.8/12, Mw(mB)4.6/3
ISC 11 21:51:29.9±0.7, 3.70N±0°06×127°02E±0°07, h10km, n39, σ1§47/37, mb4.0/11, MS4.1/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.49**	**269**	P	**Pn**	**21 51 56.3**	**-0.4**
SGSI				S	**Sb**	**21 52 17.4**	**+0.8**
TNTI	**Ternate**	**2.93**	**173**	P	**Pn**	**21 52 18.2**	**+1.6**
TNTI	**Ternate**	**2.93**	**173**	Pn	**Pn**	**21 52 16.8**	**+0.2**
DAV	**Davao City (W)**	**3.64**	**337**	Pn	**Pn**	**21 52 25.8**	**-0.5**
	66nm,0.3s,baz=211,slow=22,SNR=1.9						
DAV				Sn	**Sn**	**21 53 12.8**	**+3.4**
	57nm,0.3s,baz=314,slow=5.1,SNR=1.7						
DAV	**Davao City (W)**	**3.64**	**337**	Pn	**Pn**	**21 52 24.5**	**-1.8**
LBMI	**Labuha**	**4.34**	**174**	P	**Pn**	**21 52 37.6**	**+1.6**
GTOI	**Gorontalo**	**5.03**	**233**	P	**Pn**	**21 52 48.5**	**+3.0**
	0.0nm5.8nm,1.0s						
SANI	**Sanana**	**5.81**	**190**	P	**Pn**	**21 52 55.2**	**-1.0**
	0.0nm2.8nm,1.0s						
MRSI	**Marisa**	**6.00**	**238**	P	**Pn**	**21 53 00.7**	**+1.9**
	0.1nm606nm19nm,0.6s						
SWI	**Sorong**	**6.21**	**137**	P	**Pn**	**21 53 03.6**	**+1.9**
	0.1nm12nm,0.5s						
SIJI	**Sorong**	**6.22**	**137**	Pn	**Pn**	**21 53 04.0**	**+2.1**
	2.3nm,0.3s,baz=358,slow=14,SNR=9.7						
SIJI				LR	LR	21 55 24.4	
	comp=Z,81nm,22.0s,baz=99,slow=37						
LUWI	**Luwuk**	**6.34**	**222**	P	**Pn**	**21 53 03.6**	**+0.1**
	0.4nm2μm24nm,0.5s						
FAKI	**Fak Fak**	**8.40**	**141**	Pn	**Pn**	**21 53 34.3**	**+2.5**
STKI	**Sintang**	**15.95**	**257**	P	**Pn**	**21 55 14.7**	**+0.2**
	3μm19nm,0.4s						
MTN	**Manton Dam**	**16.94**	**166**	Pn	**Pn**	**21 55 25.6**	**-1.6**
MTN				IAmb	IAmb	21 55 30.4	
	comp=Z,8.3nm,0.9s						
KNRA	**Kununurra**	**19.33**	**175**	P	**P**	**21 55 56.0**	**+0.5**
KNRA				IAmb	IAmb	21 56 23.0	
	comp=Z,18nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.71**	**184**	P	**P**	**21 56 21.0**	**-0.3**
	comp=Z,2.0nm,1.1s,baz=9.5,slow=12,SNR=1.4						
JOW	**Kunigami**	**23.03**	**3**	LR	LR	22 03 51.2	
	comp=Z,130nm,21.5s,baz=320,slow=32						
WB0	**Warramunga Arr**	**24.43**	**163**	P	**P**	**21 56 47.9**	**-1.1**
WRAB	**Tennant Creek**	**24.57**	**163**	P	**P**	**21 56 49.1**	**-1.1**
WRA	**Warramunga Arr**	**24.58**	**163**	P	**P**	**21 56 49.1**	**-1.1**
	comp=Z,5.9nm,0.7s,baz=342,slow=11,SNR=61						
WRA	**Warramunga Arr**	**24.58**	**163**	P	**P**	**21 56 49.0**	**-1.3**
WB2	**Warramunga Arr**	**24.58**	**163**	P	**P**	**21 56 49.5**	**-0.9**
WB2				IAmb	IAmb	21 56 51.1	
	comp=Z,9.0nm,0.8s						
WR0	**Warramunga Arr**	**24.65**	**163**	P	**P**	**21 56 50.0**	**-1.0**
WR0				IAmb	IAmb	21 56 51.8	
	comp=Z,7.0nm,0.8s						
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**21 57 20.5**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=344,slow=9.4,SNR=2.5						
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**21 57 20.1**	**-1.3**
BBOO	**Buckleboo**	**37.31**	**167**	P	**P**	**21 58 42.1**	**-0.3**
BBOO				IAmb	IAmb	21 58 45.8	
	comp=Z,9.3nm,1.4s						
STKA	**Stephens Creek**	**38.01**	**160**	P	**P**	**21 58 48.2**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=332,slow=7.4,SNR=14						
STKA	**Stephens Creek**	**38.01**	**160**	P	**P**	**21 58 48.1**	**-0.1**
STKA				IAmb	IAmb	21 58 49.0	
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**47.41**	**341**	P	**P**	**22 00 05.3**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=145,slow=7.8,SNR=2.8						
SONM	**Songino Array**	**47.41**	**341**	P	**P**	**22 00 04.4**	**-0.3**
MK31	**Makanchi Array**	**57.74**	**325**	P	**P**	**22 01 20.1**	**-1.0**
MK31				IAmb	IAmb	22 01 30.4	
	comp=Z,2.4nm,1.4s						
MKAR	**Makanchi Array**	**57.74**	**325**	P	**P**	**22 01 19.1**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=115,slow=8.0,SNR=8.2						
MKAR	**Makanchi Array**	**57.74**	**325**	P	**P**	**22 01 19.3**	**-1.8**
ZALV	**Zalesovo Beam**	**60.74**	**333**	P	**P**	**22 01 43.1**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=129,slow=11,SNR=2.0						
RAO	**Raoul Island**	**62.08**	**126**	LR	LR	22 27 19.1	
	comp=Z,146nm,19.7s,baz=110,slow=34						
ABKAR	**Akbulak array**	**72.35**	**321**	P	**P**	**22 02 54.8**	**-1.3**
PPT	**Papeete**	**84.83**	**108**	LR	LR	22 34 45.7	
	comp=Z,77nm,19.9s,baz=192,slow=30						
QSPA	**South Pole Qui**	**93.61**	**180**	LR	LR	22 46 05.2	
	comp=Z,58nm,19.9s,baz=58,slow=35						

IDC 11 21:54:56.4±1.4, 3°65N×126°79E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/44, mbtmp3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.5/55, Error ellipse: s-maj=152.5km s-min=20.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.59**	**163**	P	P	22 00 18.0	-0.4
	1.7nm,0.8s,baz=340,slow=11,SNR=9.7						
PSI	**Prapat**	**27.84**	**269**	LR	LR	22 13 16.9	
	comp=Z,74nm,18.1s,baz=220,slow=40						
ASAR	**Alice Springs**	**28.02**	**166**	P	P	22 00 50.5	+1.1
	0.2nm,0.5s,baz=348,slow=8.5,SNR=2.5						
STKA	**Stephens Creek**	**38.03**	**159**	P	P	22 02 16.1	-0.4
	0.5nm,0.3s,baz=336,slow=13,SNR=1.9						
SONM	**Songino Array**	**47.40**	**341**	P	P	22 03 31.5	-1.1
	0.2nm,0.3s,baz=151,slow=6.6,SNR=2.3						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	22 04 49.0	+0.4
	0.5nm,0.6s,baz=120,slow=7.7,SNR=9.2						

INET 11 22:00:46.3±0.2, 12°92N×88°89W, h15km±17km, MW3.5
UCR 11 22:00:47.2±1.0, 12°99N×88°96W, h38km±23km, ML3.8
SNET 11 22:00:47.2±1.0, 12°99N×88°96W, h40km±18km, ML3.8
ISC 11 22:00:46.0±2.1, 12°90N±0°10×88°98W±0°04, h34km±3km, n61, σ0§42/74, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.58**	**43**	*e*P	**Pb**	**22 00 58.2**	**+0.2**
ALJI				*e*S	**Sb**	**22 01 06.2**	**+0.1**
ALJI				IAML		22 01 06.5	
	comp=Z,4μm,0.2s						
ALJI	**Alcalda de J**	**0.58**	**43**	*e*P	**Pb**	**22 00 58.2**	**+0.2**
ALJI				*e*S	**Sb**	**22 01 06.2**	**+0.1**
ALJI				IAML		22 01 06.5	
	comp=Z,4μm,0.2s						
TECO	**Alcaldia de Te**	**0.66**	**17**	*e*P	**Pb**	**22 00 59.1**	**-0.2**
TECO				IAML		22 01 09.9	
	comp=Z,2μm,0.1s						
TECO	**Alcaldia de Te**	**0.66**	**17**	*e*P	**Pb**	**22 00 59.1**	**-0.2**
TECO				IAML		22 01 09.9	
	comp=Z,2μm,0.1s						
LALI	**Alcalda de L**	**0.67**	**330**	*e*P	**Pb**	**22 00 59.5**	**0.0**
LALI				*e*S	**Sb**	**22 01 08.2**	**-0.5**
LALI	**Alcalda de L**	**0.67**	**330**	*e*P	**Pb**	**22 00 59.7**	**+0.2**
LALI	**Alcalda de L**	**0.67**	**330**	*e*P	**Pb**	**22 00 59.5**	**0.0**
LALI				*e*S	**Sb**	**22 01 08.2**	**-0.5**
SJTE	**Alcalda de S**	**0.71**	**358**	*e*P	**Pn**	**22 00 59.7**	**0.0**
SJTE	**Alcalda de S**	**0.71**	**358**	*e*P	**Pn**	**22 00 59.7**	**0.0**
COEG	**Centro de Oper**	**0.72**	**7**	*e*P	**Pn**	**22 00 59.9**	**0.0**
COEG				IAML		22 01 14.3	
	comp=Z,5μm,0.3s						
COEG	**Centro de Oper**	**0.72**	**7**	*e*P	**Pn**	**22 00 59.9**	**0.0**
COEG				IAML		22 01 14.3	
	comp=Z,5μm,0.3s						
LFRS	**El Faro**	**0.72**	**353**	*e*P	**Pn**	**22 00 59.9**	**0.0**
LFRS	**El Faro**	**0.72**	**353**	*e*P	**Pn**	**22 00 59.9**	**0.0**
COEB	**Comit de Eme**	**0.74**	**36**	*e*P	**Pn**	**22 01 00.3**	**+0.3**
COEB				*e*S	**Sb**	**22 01 10.5**	**0.0**
COEB				IAML		22 01 12.8	
	comp=Z,4μm,0.1s						
COEB	**Comit de Eme**	**0.74**	**36**	*e*P	**Pn**	**22 01 00.3**	**+0.3**
COEB				*e*S	**Sb**	**22 01 10.5**	**0.0**
COEB				IAML		22 01 12.8	
	comp=Z,4μm,0.1s						
JUCU	**Jucuarın**	**0.79**	**64**	*e*P	**Pn**	**22 01 00.5**	**-0.3**
JUCU				IAML		22 01 12.8	
	comp=Z,3μm,0.3s						
JUCU	**Jucuarın**	**0.79**	**64**	*e*P	**Pn**	**22 01 00.5**	**-0.3**
JUCU				IAML		22 01 12.8	
	comp=Z,3μm,0.3s						
PAVA	**Las Pavas**	**0.81**	**3**	*e*P	**Pn**	**22 01 01.4**	**+0.3**
PAVA				*e*S	**Sn**	**22 01 11.6**	**-0.3**
PAVA				IAML		22 01 13.8	
	comp=Z,5μm,0.2s						
PAVA	**Las Pavas**	**0.81**	**3**	*e*P	**Pn**	**22 01 01.4**	**+0.3**
PAVA	**Las Pavas**	**0.81**	**3**	*e*P	**Pn**	**22 01 01.4**	**+0.3**
PAVA				*e*S	**Sn**	**22 01 11.6**	**-0.3**
PAVA				IAML		22 01 13.8	
	comp=Z,5μm,0.2s						
SNET	**Serv Nac Est T**	**0.82**	**342**	*e*P	**Pn**	**22 01 00.1**	**-1.1**
PQSS	**Presa 15 de Se**	**0.83**	**29**	*e*P	**Pn**	**22 01 01.7**	**+0.5**
PQSS				*e*S	**Sn**	**22 01 12.4**	**+0.2**
PQSS				IAML		22 01 14.2	
	comp=Z,9μm,0.1s						
PQSS	**Presa 15 de Se**	**0.83**	**29**	*e*P	**Pn**	**22 01 01.7**	**+0.5**
PQSS				*e*S	**Sn**	**22 01 12.4**	**+0.2**
PQSS				IAML		22 01 14.2	
	comp=Z,9μm,0.1s						
SCLA	**Alcaldia de Sa**	**0.83**	**17**	*e*P	**Pn**	**22 01 01.6**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.83**	**17**	*e*P	**Pn**	**22 01 01.6**	**+0.2**
LBRS	**Las Brisas**	**0.84**	**356**	*e*P	**Pn**	**22 01 01.9**	**+0.5**
LBRS	**Las Brisas**	**0.84**	**356**	*e*P	**Pn**	**22 01 01.9**	**+0.5**
LCY	**Lacayo**	**0.84**	**52**	*e*P	**Pn**	**22 01 01.8**	**+0.2**
LCY	**Lacayo**	**0.84**	**52**	*e*P	**Pn**	**22 01 01.8**	**+0.2**
PACA	**Pacayal**	**0.85**	**48**	*e*P	**Pn**	**22 01 02.3**	**+0.7**
PACA	**Pacayal**	**0.85**	**48**	*e*P	**Pn**	**22 01 02.3**	**+0.7**
LFU	**La Fuente**	**0.85**	**351**	*e*P	**Pn**	**22 01 01.8**	**+0.2**
LFU	**La Fuente**	**0.85**	**351**	*e*P	**Pn**	**22 01 01.8**	**+0.2**
PMON	**Piamonte**	**0.87**	**338**	*e*P	Pb	22 01 13.7	+11
JAYA	**Jayaque - finc**	**0.88**	**329**	*e*P	**Pn**	**22 01 02.3**	**+0.2**
JAYA				*e*S	**Sn**	**22 01 12.8**	**-1.0**
JAYA				IAML		22 01 20.7	
	comp=Z,3μm,0.2s						
JAYA	**Jayaque - finc**	**0.88**	**329**	*e*P	**Pn**	**22 01 02.3**	**+0.2**
JAYA				*e*S	**Sn**	**22 01 12.8**	**-1.0**
JAYA				IAML		22 01 20.7	
	comp=Z,3μm,0.2s						
BOQS	**Boqueron**	**0.88**	**340**	*e*P	**Pn**	**22 01 02.3**	**+0.2**
BOQS				*e*S	**Sn**	**22 01 14.4**	**+0.5**
BOQS	**Boqueron**	**0.88**	**340**	*e*P	**Pn**	**22 01 02.3**	**+0.2**
BOQS				*e*S	**Sn**	**22 01 14.4**	**+0.5**
CEDA	**San Andres**	**0.98**	**336**	*e*P	**Pn**	**22 01 03.6**	**+0.2**
CEDA				IAML		22 01 22.7	
	comp=Z,1μm,0.2s						
CEDA	**San Andres**	**0.98**	**336**	*e*P	**Pn**	**22 01 03.6**	**+0.2**
CEDA				IAML		22 01 22.7	
	comp=Z,1μm,0.2s						
CEVE	**Cerro Verde**	**1.12**	**326**	*e*P	**Pn**	**22 01 05.8**	**+0.4**
CEVE				IAML		22 01 24.0	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**1.12**	**326**	*e*P	**Pn**	**22 01 05.8**	**+0.4**
CEVE				IAML		22 01 24.0	
	comp=Z,2μm,0.3s						
TACO	**Tacachico**	**1.12**	**341**	*e*P	**Pn**	**22 01 05.6**	**+0.2**
TACO	**Tacachico**	**1.12**	**341**	*e*P	**Pn**	**22 01 05.6**	**+0.2**
SBLS	**San Blas**	**1.13**	**326**	*e*P	**Pn**	**22 01 06.4**	**+0.9**
SBLS	**San Blas**	**1.13**	**326**	*e*P	**Pn**	**22 01 06.4**	**+0.9**
LCND	**La Caada**	**1.13**	**69**	*e*P	**Pn**	**22 01 05.5**	**+0.1**
LCND				IAML		22 01 24.5	
	comp=Z,2μm,0.3s						
LCND	**La Caada**	**1.13**	**69**	*e*P	**Pn**	**22 01 05.5**	**+0.1**
LCND				IAML		22 01 24.5	
	comp=Z,2μm,0.3s						
SNJE	**San Jose**	**1.14**	**328**	*e*P	**Pn**	**22 01 06.3**	**+0.6**
SNJE	**San Jose**	**1.14**	**328**	*e*P	**Pn**	**22 01 06.3**	**+0.6**
CNCH	**Conchagua**	**1.18**	**71**	*e*P	**Pn**	**22 01 06.1**	**0.0**
CNCH	**Conchagua**	**1.18**	**71**	*e*P	**Pn**	**22 01 06.1**	**0.0**
RTR	**El Retiro**	**1.19**	**327**	*e*P	**Pn**	**22 01 07.1**	**+0.7**
RTR	**El Retiro**	**1.19**	**327**	*e*P	**Pn**	**22 01 07.1**	**+0.7**
NUBE	**Las Nubes**	**1.27**	**322**	*e*P	**Pn**	**22 01 08.0**	**+0.6**
NUBE	**Las Nubes**	**1.27**	**322**	*e*P	**Pn**	**22 01 08.0**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.37**	**325**	*e*P	**Pn**	**22 01 09.3**	**+0.6**
MTO3	**Montecristo**	**1.54**	**346**	*e*P	**Pn**	**22 01 11.4**	**+0.2**
MTO3	**Montecristo**	**1.54**	**346**	*e*P	**Pn**	**22 01 11.4**	**+0.2**
ESQI	**Esquipulas**	**1.69**	**348**	*e*P	**Pn**	**22 01 13.6**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.02**	**55**	*e*P	**Pn**	**22 01 17.7**	**0.0**

TAP 11 22:08:10.1, 21°79N×121°06E, h20km, ML3.7, C
JMA 11 22:08:11.9±0.1, 22°02N×121°24E, h7km±2km, M3.9
ISC 11 22:08:11.3±1.1, 21°85N±0°04×121°13E±0°02, h16km±7km, n99, σ1§04/191, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.22**	**282**	*i*P	**Pb**	**22 08 16.2**	**-0.7**
	baz=296						
TSEB				*i*S	**Sb**	**22 08 21.1**	**+0.4**
	baz=296						
TWKBT	**Hengchun**	**0.31**	**286**	*i*P	**Pg**	**22 08 17.1**	**-0.7**
TWKBT				S	**Sg**	**22 08 21.9**	**-0.4**
	baz=295						
TWK1	**Hengchun**	**0.32**	**286**	*i*P	**Pg**	**22 08 17.1**	**-0.8**
	baz=295						
TWK1				S	**Sg**	**22 08 22.2**	**-0.2**
	baz=295						
HEN	**Hengchun**	**0.40**	**292**	P	**Pg**	**22 08 18.5**	**-0.8**
	baz=303						
HEN				S	**Sg**	**22 08 25.2**	**+0.4**
	baz=303						
LAY	**Lan-yu**	**0.43**	**65**	P	**Pb**	**22 08 21.5**	**+0.9**
	baz=61						
LAY				S	**Sn**	**22 08 29.3**	**-1.2**
	baz=61						
LYUB	**Lan-yu**	**0.45**	**71**	P	**Pg**	**22 08 20.9**	**+0.6**
	baz=65						
LYUB				S	**Sb**	**22 08 28.6**	**+1.4**
	baz=65						
SLIU	**Shizi**	**0.47**	**319**	*i*P	**Pg**	**22 08 21.1**	**+0.3**
	baz=339						
SLIU				*i*S	**Sb**	**22 08 28.7**	**+0.5**
	baz=339						
TAW	**Tawu**	**0.55**	**336**	P	**Pb**	**22 08 22.3**	**-0.2**
	baz=2.0						
TAW				S	**Sg**	**22 08 31.4**	**+1.9**
	baz=2.0						
EAST	**Anshuo**	**0.59**	**333**	*i*P	**Pb**	**22 08 23.0**	**-0.3**
	baz=356						
EAST				S	**Sn**	**22 08 33.2**	**-1.2**
	baz=356						
SCZT	**Fangliau**	**0.70**	**317**	*i*P	**Pb**	**22 08 25.1**	**0.0**
	baz=336						
SCZT				S	**Sg**	**22 08 35.5**	**+1.2**
	baz=336						
ECL	**Taimali**	**0.76**	**347**	P	**Pb**	**22 08 24.8**	**-1.3**
	baz=13						
ECL				*e*S	**Sb**	**22 08 35.9**	**-0.4**
	baz=13						
SSPT	**Xinbi**	**0.82**	**320**	P	**Pb**	**22 08 27.6**	**+0.5**
	baz=334						
SSPT				S	**Sg**	**22 08 39.2**	**+1.2**
	baz=334						
WLCH	**Liuqiu**	**0.86**	**305**	*e*P	**Pb**	**22 08 28.3**	**+0.5**
	baz=313						
WLCH				*e*S	**Sn**	**22 08 42.0**	**+1.0**
	baz=313						
LDUT	**Ludao**	**0.87**	**21**	*e*P	**Pb**	**22 08 27.5**	**-0.6**
	baz=36						
LDUT				*e*S	**Sg**	**22 08 40.5**	**+0.7**
	baz=36						
MASBT	**Mashibuluo**	**0.89**	**329**	P	**Pb**	**22 08 27.9**	**-0.5**
	baz=347						
MASBT				S	**Sn**	**22 08 41.6**	**-0.1**
	baz=347						
TTN	**Taitung**	**0.90**	**1**	*e*P	**Pb**	**22 08 28.9**	**+0.4**
	baz=10.0						
TTN				*e*S	**Sn**	**22 08 42.6**	**+0.6**
	baz=10.0						
TSMG	**Majia**	**0.96**	**332**	P	**Pb**	**22 08 28.9**	**-0.7**
	baz=351						
TSMG				*e*S	**Sn**	**22 08 43.9**	**+0.3**
	baz=351						
TWGBT	**Beinan**	**0.96**	**357**	P	**Pb**	**22 08 27.6**	**-2.0**
	baz=6.0						
TWGBT				*e*S	**Sn**	**22 08 43.3**	**-0.3**
	baz=6.0						
TWG	**Pinlang**	**0.96**	**357**	*e*P	**Pb**	**22 08 27.7**	**-2.0**
	baz=6.0						
TWG				*e*S	**Sb**	**22 08 41.6**	**-0.6**
	baz=6.0						
SSD	**Sandimen**	**1.00**	**333**	P	**Pb**	**22 08 29.6**	**-0.7**
	baz=352						
SSD				*e*S	**Sb**	**22 08 43.5**	**+0.2**
	baz=352						
KAU	**Kaohsiung**	**1.04**	**313**	*e*S	**Sn**	**22 08 45.6**	**0.0**
	baz=300						
LONT	**Longtian**	**1.05**	**360**	*e*P	**Pb**	**22 08 28.9**	**-2.2**
	baz=8.0						
LONT				*e*S	**Sb**	**22 08 44.4**	**-0.3**
	baz=8.0						
SGLT	**Jiouru**	**1.05**	**326**	*e*P	**Pb**	**22 08 31.0**	**-0.1**
	baz=353						
SGLT				*e*S	**Sn**	**22 08 46.0**	**+0.2**
	baz=353						
EDH	**Donghe**	**1.12**	**8**	*e*P	**Pn**	**22 08 30.9**	**-1.5**
	baz=16						
EDH				*e*S	**Sb**	**22 08 46.2**	**-0.6**
	baz=16						
TWM1	**Shoushan**	**1.17**	**326**	*e*P	**Pb**	**22 08 34.0**	**+0.8**
	baz=354						
TWM1				*e*S	**Sg**	**22 08 51.6**	**+2.5**
	baz=354						
SLGT	**Liugui**	**1.22**	**338**	*e*P	**Pn**	**22 08 33.6**	**-0.1**
	baz=5.0						
SLGT				*e*S	**Sg**	**22 08 51.1**	**+0.3**
	baz=5.0						
CHKT	**Chengkung**	**1.26**	**10**	*e*P	**Pn**	**22 08 32.8**	**-1.4**
	baz=19						
CHKT				*e*S	**Sb**	**22 08 50.2**	**-0.5**
	baz=19						
SGST	**Jiashian**	**1.32**	**338**	*e*P	**Pn**	**22 08 34.6**	**-0.6**
	baz=3.0						
SGST				*e*S	**Sb**	**22 08 53.5**	**+1.0**
	baz=3.0						
ELDTW	**Lidau**	**1.33**	**355**	*e*P	**Pn**	**22 08 33.7**	**-1.7**
	baz=13						
ELDTW				*e*S	**Sn**	**22 08 50.8**	**-2.1**
	baz=13						
FULB	**Fuli**	**1.35**	**6**	*e*P	**Pn**	**22 08 34.1**	**-1.4**
	baz=16						
FULB				*e*S	**Sn**	**22 08 52.5**	**-0.7**
	baz=16						
STYH	**Taoyuan**	**1.35**	**346**	*e*P	**Pn**	**22 08 35.5**	**-0.1**
	baz=356						
STYH				*e*S	**Sg**	**22 08 55.0**	**0.0**
	baz=356						
CHN1	**Nanshi**	**1.44**	**337**	*e*P	**Pn**	**22 08 37.0**	**+0.2**
	baz=4.0						
CHN1				*e*S	**Sb**	**22 08

WDLH Douliu 1.91 343 *eP* Pn 22 08 43.8 +0.6
baz=356
WDLH *eS* Sb 22 09 08.6 -0.8
baz=356
SSLB Suanglung 1.93 355 *eP* Pn 22 08 44.1 +0.5
baz=21
SSLB *eS* Sb 22 09 09.3 -0.8
baz=21
WTK Tuku 1.95 340 *eP* Pn 22 08 44.5 +0.8
baz=351
WTK *eS* Sb 22 09 09.8 -0.8
baz=351
WDGT Dungji 1.95 316 *eP* Pn 22 08 44.0 +0.2
baz=322
WDGT *eS* Sn 22 09 07.3 -0.7
baz=322
WSF Szhu 1.96 335 *eP* Pn 22 08 44.5 +0.6
baz=4.0
WSF *eS* Sn 22 09 09.4 +1.1
baz=4.0
ESL Shilin 1.97 8 *eP* Pn 22 08 42.5 -1.6
baz=20
ESL *eS* Sn 22 09 06.4 -2.1
baz=20
WJS Zhushan 1.99 349 *eP* Pn 22 08 45.0 +0.6
baz=2.0
WJS *eS* Sb 22 09 10.6 -1.3
baz=2.0
SMLT Sun Moon Lake 2.03 354 *eP* Pn 22 08 45.8 +0.7
baz=20
SMLT *eS* Sb 22 09 11.6 -1.5
baz=20
VCHM Qimei 2.07 311 *eP* Pn 22 08 43.0 -2.5
baz=315
VCHM *eS* Sn 22 09 08.7 -2.3
baz=315
OWD Renai 2.09 1 *eP* Pn 22 08 46.1 +0.2
baz=26
OWD *eS* Sb 22 09 13.4 -1.4
baz=26
WRL Guolierlin Hig 2.15 341 *eP* Pn 22 08 47.0 +0.4
baz=353
WRL *eS* Sn 22 09 14.4 +1.4
baz=353
PHUB P'eng-hu 2.19 319 *eP* Pn 22 08 45.2 -1.9
baz=326
PHUB *eS* Sn 22 09 12.5 -1.4
baz=326
CHGB Renai 2.20 1 *eP* Pn 22 08 47.2 -0.2
baz=26
CHGB *eS* Sn 22 09 15.2 +0.8
baz=26
WCS Beigang Elemen 2.20 355 *eP* Pn 22 08 48.1 +0.8
baz=22
WCS *eS* Sn 22 09 15.7 +1.4
baz=22
PNG Penghu 2.24 320 *eP* Pn 22 08 46.7 -1.1
baz=326
PNG *eS* Sn 22 09 13.4 -1.8
baz=326
TWD Chiawan 2.26 11 *eP* Pn 22 08 47.0 -1.0
baz=23
TWD *eS* Sn 22 09 14.9 -0.6
baz=23
WHF Hehuan Shan 2.28 3 *eP* Pn 22 08 48.5 -0.3
baz=26
WHF *eS* Sn 22 09 17.1 +0.3
baz=26
NACB Ninganchiao 2.35 10 *eP* Pn 22 08 47.4 -1.9
baz=23
NACB *eS* Sn 22 09 16.2 -1.6
baz=23
ETLH Xiulin Townshi 2.36 8 *eP* Pn 22 08 50.6 +1.1
baz=26
ETLH *eS* Sn 22 09 20.1 +1.7
baz=26
FUSS Fushou 2.38 2 *eP* Pn 22 08 49.9 -0.1
baz=26
FUSS *eS* Sn 22 09 18.8 -0.2
baz=26
TDCB Techi 2.39 1 *eP* Pn 22 08 50.4 +0.4
baz=14
TDCB *eS* Sn 22 09 20.2 +1.2
baz=14
WHP Taichung City 2.42 356 *eP* Pn 22 08 51.3 +1.0
baz=23
WHP *eS* Sn 22 09 21.3 +1.6
baz=23
TWQ1 Liyutan 2.50 352 *eP* Pn 22 08 52.3 +0.9
baz=21
TWQ1 *eS* Sn 22 09 23.4 +1.6
baz=21
NNSB Datong 2.57 5 *eP* Pn 22 08 52.7 +0.2
baz=25
NNSB *eS* Sn 22 09 23.6 +0.1
baz=25
NNS Nan Shan 2.58 5 *eP* Pn 22 08 53.7 +1.1
baz=27
NNS *eS* Sn 22 09 25.4 +1.6
baz=27
ENA Nanau 2.62 12 *eP* Pn 22 08 52.9 -0.2
baz=14
ENA *eS* Sn 22 09 24.2 -0.4
baz=14
NDT Datong Townshi 2.76 7 *eP* Pn 22 08 54.8 -0.2
baz=26
NDT *eS* Sn 22 09 27.7 -0.3
baz=26
NSTT Nanjuang 2.77 358 *eP* Pn 22 08 56.1 +1.1
baz=14
NSTT *eS* Sn 22 09 29.7 +1.5
baz=14
LIOB Emei 2.78 358 *eP* Pn 22 08 56.1 +0.9
baz=12
ENTT Nioudou 2.80 8 *eP* Pn 22 08 56.6 +1.1
baz=26
ENTT *eS* Sn 22 09 30.6 +1.5
baz=26
YHNB Yeheng 2.81 5 *eP* Pn 22 08 56.1 +0.4
baz=5.0
YHNB *eS* Sn 22 09 29.7 +0.3
baz=5.0
NSK Sanguang 2.82 4 *eP* Pn 22 08 56.6 +0.8
baz=5.0
NSK *eS* Sn 22 09 30.1 +0.6
baz=5.0
NDS Dongshan 2.82 11 *eP* Pn 22 08 55.5 -0.2
baz=24
NDS *eS* Sn 22 09 28.5 -1.0
baz=24
TWC Suao 2.82 13 *eP* Pn 22 08 56.2 +0.4
baz=16
TWC *eS* Sn 22 09 29.6 +0.1
baz=16
TWE Neicheng 2.90 10 *eP* Pn 22 08 56.7 -0.1
baz=24
TWE *eS* Sn 22 09 31.1 -0.2
baz=24
NWLT Wulai 2.93 7 *eP* Pn 22 08 58.6 +1.3
baz=25
NWLT *eS* Sn 22 09 33.5 +1.2
baz=25
TIPB Shuangxi 3.17 11 *eP* Pn 22 09 00.6 0.0
baz=26
TIPB *eS* Sn 22 09 37.5 -0.6
baz=26
HATJ Hateruma jima 3.30 48 S Sn 22 09 40.4 -0.8
IRIF Iriomote-Funau 3.44 44 P Pn 22 09 04.7 +0.4
IRIF S Sn 22 09 44.3 -0.4
JKRS Kuro-shima 3.56 48 P Pn 22 09 06.9 +1.0
JKRS *eS* Sn 22 09 46.8 -0.8
KNM Kinmen 3.56 316 *eS* Sn 22 09 49.9 +2.2
baz=317
KNMB Chin-men Tao 3.62 316 *eP* Pn 22 09 06.9 +0.1
baz=320
KNMB *eS* Sn 22 09 48.8 -0.5
baz=320
PTMZ Houxiangcun 3.67 330 *eP* Pn 22 09 08.4 +1.0
baz=322
PTMZ *eS* Sn 22 09 50.9 +0.5
baz=322
JIJ Ishigaki jima 3.73 47 P Pn 22 09 08.6 +0.3
JIJ *eS* Sn 22 09 50.2 -1.8
JISG Ishigakijimahi 3.99 46 P Pn 22 09 12.0 +0.1
JISG S Sn 22 09 57.7 -0.7
AXDP Jialang 4.20 317 *eP* Pn 22 09 15.6 +0.8
baz=320
AXDP *eS* Sn 22 10 03.2 -0.3
baz=320
JTJ Tarama 4.30 49 P Pn 22 09 18.9 +2.8
JTJ *eS* Sn 22 10 05.7 -0.2
MATB Ma-tsu 4.41 346 *eP* Pn 22 09 18.8 +1.1
baz=6.0
MATB *eS* Sn 22 10 09.3 +0.5
baz=6.0
MHZQ Yeshan 4.64 336 *eP* Pn 22 09 21.4 +0.6
baz=9.0
MHZQ *eS* Sn 22 10 14.6 +0.1
baz=9.0
JIRB Irabujima 4.75 51 *eS* Sn 22 10 15.7 -1.4
JMJ2 Miyako jima3 4.81 53 *eS* Sn 22 10 17.5 -1.1
LYJJ Jianjiangzhen 4.84 345 *eP* Pn 22 09 24.8 +1.2
baz=6.0
LYJJ *eS* Sn 22 10 19.4 +0.1
baz=6.0
XPSS Dashiqiu 5.13 351 *eS* Sn 22 10 26.4 +0.1
baz=22
SXFK Yanhouchang 5.53 326 *eP* Pn 22 09 34.2 +1.1
baz=331
SXFK *eS* Sn 22 10 35.7 -0.7
baz=331

IDC ***11*** *22:09:42.8±1.1,3˚.74N×127˚.18E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.7/43,mbtmp3.8/7,ML3.0/1,Error ellipse: s-maj=82.3km s-min=17.9km az=67.0*
DJA ***11*** *22:09:44.3±1.1,4˚.N±.8˚×12˚.7E±˚,h10km,M3.8/7,mb3.8/4, mB4.7/1,MLv3.8/7,Mw(mB)4.0/1*
NEIC ***11*** *22:09:45.1±1.0,3˚.8N±0˚.1×127˚.16E±0˚.06,h10km±1km, mb4.3/12,Error ellipse: s-maj=18.6km s-min=8.1km az=23.0*
ISC 11 22:09:44.4±0.8,3˚.83N±0˚.09×127˚.16E±0˚.08,h10km,n30, σ0s76/29,mb4.2/11,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.63**	**265**	P	**Pn**	**22 10 12.3**	**-0.9**
SGSI				S	**Sn**	**22 10 35.4**	**+1.1**
TNTI	**Ternate**	**3.04**	**176**	P	**Pn**	**22 10 32.1**	**-0.6**
TNTI	**Ternate**	**3.04**	**176**	Pn	**Pn**	**22 10 34.1**	**+1.4**
GTOI	**Gorontalo**	**5.22**	**233**	P	**Pn**	**22 11 01.7**	**-0.9**
	0.0nm5.8nm,0.8s						
SANI	**Sanana**	**5.96**	**191**	P	Pn	22 11 10.5	-2.2
	0.1nm3.6nm,0.7s						
MRSI	**Marisa**	**6.19**	**238**	P	**Pn**	**22 11 16.5**	**+0.6**
SIJI	**Sorong**	**6.22**	**139**	Pn	**Pn**	**22 11 15.8**	**-0.5**
	0.4nm,0.3s,baz=310,slow=17,SNR=1.5						
TOLI2	**Tolitoli**	**6.92**	**247**	Pn	**Pn**	**22 11 25.9**	**-0.1**
KNRA	**Kununurra**	**19.45**	**175**	P	**P**	**22 14 11.7**	**+0.4**
KNRA				IAmb	IAmb	22 14 13.2	
	comp=Z,36nm,1.4s						
TPUB	**Ta-pu**	**20.36**	**343**	P	**P**	**22 14 21.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**21.84**	**184**	P	**P**	**22 14 36.7**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=0.0,slow=8.1,SNR=1.6						
WB0	**Warramunga Arr**	**24.50**	**163**	P	**P**	**22 15 03.6**	**-0.6**
WB0				IAmb	IAmb	22 15 05.1	
	comp=Z,7.6nm,0.8s						
WRAB	**Tennant Creek**	**24.65**	**164**	P	**P**	**22 15 03.5**	**-2.0**
WRAB				IAmb	IAmb	22 15 06.6	
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**24.66**	**164**	P	**P**	**22 15 04.8**	**-0.7**
	comp=Z,6.5nm,0.8s,baz=343,slow=11,SNR=46						
WRA	**Warramunga Arr**	**24.66**	**164**	P	**P**	**22 15 04.9**	**-0.6**
WB2	**Warramunga Arr**	**24.66**	**164**	P	**P**	**22 15 05.4**	**-0.1**
WR0	**Warramunga Arr**	**24.73**	**163**	P	**P**	**22 15 05.9**	**-0.3**
WR0				IAmb	IAmb	22 15 07.0	
	comp=Z,5.6nm,0.8s						
ASAR	**Alice Springs**	**28.11**	**167**	P	**P**	**22 15 35.8**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=349,slow=7.7,SNR=2.8						
ASAR	**Alice Springs**	**28.11**	**167**	P	**P**	**22 15 35.7**	**-1.0**
BBOO	**Buckleboo**	**37.41**	**168**	P	**P**	**22 16 57.7**	**0.0**
STKA	**Stephens Creek**	**38.07**	**160**	P	P	22 17 01.4	-2.0
	comp=Z,3.2nm,0.7s,baz=332,slow=8.4,SNR=9.0						
STKA	**Stephens Creek**	**38.07**	**160**	P	**P**	**22 17 03.3**	**-0.1**
SONM	**Songino Array**	**47.34**	**341**	P	**P**	**22 18 19.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=163,slow=6.9,SNR=2.2						
SONM	**Songino Array**	**47.34**	**341**	P	**P**	**22 18 19.1**	**+0.4**
MK31	**Makanchi Array**	**57.72**	**325**	P	**P**	**22 19 35.7**	**+0.3**
MK31				IAmb	IAmb	22 19 41.5	
	comp=Z,2.2nm,1.4s						
MKAR	**Makanchi Array**	**57.72**	**325**	P	**P**	**22 19 35.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=116,slow=7.2,SNR=13						
MKAR	**Makanchi Array**	**57.72**	**325**	P	**P**	**22 19 35.6**	**+0.2**
KURK	**Kurchatov**	**61.89**	**327**	P	**P**	**22 20 04.3**	**+0.3**
KURK				IAmb	IAmb	22 20 04.8	
	comp=Z,1.7nm,0.8s						
ABKAR	**Akbulak array**	**72.34**	**321**	P	**P**	**22 21 10.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**123.29**	**288**	PKP	**PKPdf**	**22 28 43.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=80,slow=0.9,SNR=1.6						

MOS ***11*** *22:19:55.3±0.9,23˚.00S×179˚.11E,h550km,mb5.2/8,Error ellipse: s-maj=8.7km s-min=8.4km az=130.1*
BJI ***11*** *22:19:55.1±0.0,22˚.77S×179˚.69E,h561km,mb4.7/53, mB5.0/37*
NEIC ***11*** *22:19:56.3±2.0,23˚.08S±0˚.09×179˚.12E±0˚.10,h553km±5km, mb5.3/331,Error ellipse: s-maj=13.4km s-min=12.5km az=130.0*
IDC ***11*** *22:19:56.0±0.5,23˚.06S×179˚.16E,h551km±4km,mb4.5/29, mb1 4.6/32,mb1mx4.5/37,mbtmp5.4/32,Error ellipse: s-maj=8.8km s-min=8.1km az=22.0*
NOU ***11*** *22:19:56.0,23˚.05S×179˚.31E,h567km,ML5.2/113,South of Fiji Islands*
BGR ***11*** *22:19:56.7±0.0,22˚.50S×178˚.25W,h557km±2km*
GCMT ***11*** *22:19:59.3±0.2,23˚.18S±0˚.02×179˚.11E±0˚.03,h576km±2km, MW5.6/101,Moment Tensor Solution. s101,c151; Duration: 1s6 Moment tensor: Scale 10^17^Nm; M_{rr}-2.01±.06; $M_{\theta\theta}$1.09±.10; $M_{\phi\phi}$0.91±.11; $M_{r\theta}$0.29±.11; $M_{\theta\phi}$-1.74±.09; $M_{\phi r}$2.15±.11; Best double couple: M_o3.27100×10^17^ NP1:ϕ_s286.00000°,δ39.00000°, λ-142.00000°. NP2:ϕ_s164.00000°,δ67.00000°, λ-58.00000°. Principal axes: T 3.1220, Plg16.0000°, Azm231.0000°; N 0.2990, Plg29.0000°, Azm331.0000°; P -3.4210, Plg56.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 11 22:19:56.0±0.3,23˚.12S±0˚.04×179˚.23E±0˚.04,h560km±3km, h561km:pP-P,n1307,σ1s62/1329,mb5.3/274,94C-38D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.47**	**348**	P	**P**	**22 21 30.3**	**-0.4**
	48nm,0.3s,baz=212,slow=6.6,SNR=95						
MSVF				S	**S**	**22 22 46.5**	**-1.4**
	baz=198,slow=17,SNR=8.8						
MSVF	**Nonsavu**	**5.47**	**348**	P	**P**	**22 21 30.1**	**-0.6**
MSVF	**Nonsavu**	**5.47**	**348**	P	**P**	**22 21 30.6**	**-0.1**
TAVE	**Taveuni**	**6.43**	**7**	P	**P**	**22 21 40.9**	**+1.7**
RAO	**Raoul Island**	**6.62**	**158**	P	**P**	**22 21 42.3**	**+1.5**
	178nm,0.3s,baz=355,slow=6.6,SNR=7.2						
RAO				S	**S**	**22 23 07.5**	**+1.0**
	159nm,0.3s,baz=110,slow=24,SNR=7.9						
RAO	**Raoul Island**	**6.62**	**158**	P	**P**	**22 21 42.6**	**+1.9**
RAO	**Raoul Island**	**6.62**	**158**	P	**P**	**22 21 42.3**	**+1.5**
GLKZ	**Green Lake**	**6.63**	**158**	P	**P**	**22 21 42.3**	**+1.5**
GLKZ				S	**S**	**22 23 05.6**	**-1.1**
DGTI	**Dogotuki**	**6.80**	**4**	P	**P**	**22 21 43.8**	**+1.1**
MARNC	**Mare, Loyalty**	**10.49**	**277**	P	**P**	**22 22 18.8**	**-0.3**
MARNC	**Mare, Loyalty**	**10.49**	**277**	P	**P**	**22 22 19.1**	**-0.1**
PINNC	**Pines Island,**	**10.87**	**270**	P	**P**	**22 22 23.1**	**+0.1**
PINNC	**Pines Island,**	**10.87**	**270**	P	**P**	**22 22 23.6**	**+0.6**
NIUE	**Niue**	**10.89**	**70**	P	**P**	**22 22 23.4**	**0.0**
	baz=11						
NIUE	**Niue**	**10.89**	**70**	P	**P**	**22 22 23.4**	**0.0**
NIUE	**Niue**	**10.89**	**70**	P	**P**	**22 22 23.6**	**+0.3**
LIFNC	**LIFOU**	**11.36**	**280**	P	**P**	**22 22 26.4**	**-1.7**
LIFNC	**LIFOU**	**11.36**	**280**	P	**P**	**22 22 27.3**	**-0.8**
RTV	**Rentapao**	**11.42**	**296**	P	**P**	**22 22 30.0**	**+1.2**
OUENC	**Ouen Island, N**	**11.45**	**271**	P	**P**	**22 22 28.3**	**-0.6**
OUENC	**Ouen Island, N**	**11.45**	**271**	P	**P**	**22 22 28.8**	**-0.2**
DVP	**Devils Point**	**11.65**	**295**	P	**P**	**22 22 31.3**	**+0.2**
NFK	**Norfolk Island**	**11.73**	**237**	P	**P**	**22 22 34.0**	**+2.2**
	baz=12,SNR=16						
NFK	**Norfolk Island**	**11.73**	**237**	P	**P**	**22 22 32.7**	**+0.9**
ONTNC	**Ouen Toro**	**11.82**	**271**	P	**P**	**22 22 32.1**	**-0.6**
ONTNC	**Ouen Toro**	**11.82**	**271**	P	**P**	**22 22 33.4**	**+0.7**
DZM	**Mont Dzumac**	**11.85**	**273**	P	**P**	**22 22 32.7**	**-0.5**
	1.8nm,0.3s,baz=65,slow=22,SNR=23						
DZM				S	**S**	**22 24 47.1**	**+4.6**
	baz=107,slow=22,SNR=2.7						
DZM	**Mont Dzumac**	**11.85**	**273**	*eP*	**P**	**22 22 32.9**	**-0.4**
	309nm,1.1s						
DZM	**Mont Dzumac**	**11.85**	**273**	P	**P**	**22 22 32.2**	**-1.0**
DZM	**Mont Dzumac**	**11.85**	**273**	P	**P**	**22 22 33.1**	**-0.2**
NOUC	**Port Laguerre**	**11.98**	**272**	P	**P**	**22 22 34.2**	**-0.2**
AFI	**Afiamalu**	**12.51**	**45**	P	**P**	**22 22 37.2**	**-2.9**
	57nm,0.3s,baz=28,slow=5.5,SNR=43						
AFI				S	**S**	**22 24 46.9**	**-8.2**
	1.7nm,0.3s,baz=189,slow=22,SNR=3.8						
OUZ	**Omahuta**	**13.02**	**201**	P	**P**	**22 22 47.1**	**+2.2**
OUZ	**Omahuta**	**13.02**	**201**	P	**P**	**22 22 46.9**	**+2.0**
OUZ	**Omahuta**	**13.02**	**201**	P	**P**	**22 22 47.4**	**+2.5**
WCZ	**Waipu Caves**	**13.46**	**197**	P	**P**	**22 22 51.7**	**+2.3**
GRZ	**Great Barrier**	**13.49**	**193**	P	**P**	**22 22 50.7**	**+1.0**
SANVU	**Saraoutou**	**13.67**	**302**	P	**P**	**22 22 52.2**	**+0.3**
SANVU	**Saraoutou**	**13.67**	**302**	P	**P**	**22 22 52.6**	**+0.7**
	51nm,0.9s						
KUZ	**Kuaotunu**	**13.91**	**192**	P	**P**	**22 22 55.1**	**+0.9**
WIAZ	**Waiheke Island**	**14.08**	**194**	P	**P**	**22 22 57.3**	**+1.5**
KOUNC	**Koumac, New Ca**	**14.11**	**278**	P	**P**	**22 22 55.8**	**-0.5**
MYRZ	**Mayor Island**	**14.35**	**190**	P	**P**	**22 23 00.9**	**+2.4**
MXZ	**Matakaoa Point**	**14.42**	**183**	P	**P**	**22 22 57.9**	**-1.4**
MXZ				S	**S**	**22 25 23.0**	**-6.9**
MXZ	**Matakaoa Point**	**14.42**	**183**	P	**P**	**22 22 57.8**	**-1.4**
FUNA	**Funafuti**	**14.51**	**360**	P	**P**	**22 22 59.0**	**-1.5**
HAZ	**Te Kaha**	**14.64**	**185**	P	**P**	**22 23 00.1**	**-1.4**
HAZ				S	**S**	**22 25 28.0**	**-6.0**
HAZ	**Te Kaha**	**14.64**	**185**	P	**P**	**22 22 58.9**	**-2.6**
HAZ				P	**S**	**22 25 31.4**	**-2.7**
WMGZ	**Waiomatatini S**	**14.67**	**183**	P	**P**	**22 23 00.6**	**-1.1**
WMGZ				S	**S**	**22 25 28.0**	**-6.5**
PKGZ	**Pakihiroa**	**14.75**	**184**	P	**P**	**22 23 01.0**	**-1.7**
PKGZ				S	**S**	**22 25 28.6**	**-7.6**
OPRZ	**Ohinepanea**	**14.86**	**188**	P	**P**	**22 23 04.4**	**+0.7**
RUGZ	**Raukumara Rang**	**14.86**	**185**	P	**P**	**22 23 02.2**	**-1.6**
RUGZ				S	**S**	**22 25 32.4**	**-5.8**
RUGZ	**Raukumara Rang**	**14.86**	**185**	P	**P**	**22 23 01.6**	**-2.2**
RUGZ				P	**S**	**22 25 33.5**	**-4.7**
PUZ	**Puketiti**	**14.93**	**183**	P	**P**	**22 23 02.6**	**-1.8**
PUZ				S	**S**	**22 25 34.3**	**-5.0**
KMRZ	**Kaimai**	**14.95**	**190**	P	**P**	**22 23 06.8**	**+2.2**
TWGZ	**Tauwhareparae**	**15.05**	**184**	P	**P**	**22 23 04.4**	**-1.2**
TWGZ	**Tauwhareparae**	**15.05**	**184**	P	**P**	**22 23 03.7**	**-1.9**
TWGZ				P	**S**	**22 25 37.9**	**-3.5**
EDRZ	**Edgecumbe**	**15.09**	**188**	P	**S**	**22 25 43.4**	**+1.1**
OMRZ	**Omania**	**15.14**	**189**	P	**P**	**22 23 08.2**	**+1.7**
URZ	**Urewera**	**15.20**	**186**	P	**P**	**22 23 04.1**	**-3.0**
	25nm,0.3s,baz=266,slow=3.5,SNR=72						
URZ				S	**S**	**22 25 37.6**	**-6.3**
	33nm,0.3s,baz=214,slow=23,SNR=22						
URZ	**Urewera**	**15.20**	**186**	P	**P**	**22 23 03.7**	**-3.4**
URZ				P	**S**	**22 25 38.8**	**-5.1**
URZ	**Urewera**	**15.20**	**186**	P	**P**	**22 23 04.2**	**-2.9**
MWZ	**Matawai**	**15.24**	**185**	P	**P**	**22 23 03.7**	**-3.8**
MWZ				P	**S**	**22 25 39.2**	**-5.5**
TKGZ	**Te Karaka**	**15.32**	**184**	P	**P**	**22 23 03.7**	**-4.6**
TKGZ				P	**S**	**22 25 41.6**	**-4.4**
CNGZ	**Carnagh Statio**	**15.34**	**183**	P	**P**	**22 23 05.8**	**-2.7**
CNGZ				P	**S**	**22 25 45.2**	**-1.2**
MUGZ	**Murupara**	**15.45**	**187**	P	**S**	**22 25 44.3**	**-4.0**
RTZ	**Ruatahuna**	**15.57**	**187**	P	**S**	**22 25 49.0**	**-1.3**
RIGZ	**Rimuhau**	**15.59**	**184**	P	**S**	**22 25 48.0**	**-2.6**
ALRZ	**Allen Road**	**15.59**	**188**	P	**S**	**22 25 49.5**	**-1.1**
SNGZ	**Shannon Statio**	**15.70**	**185**	P	**P**	**22 23 09.2**	**-2.8**
SNGZ				P	**S**	**22 25 48.6**	**-3.8**
HIZ	**Hauiti**	**15.79**	**193**	P	**P**	**22 23 13.9**	**+0.9**
PRGZ	**Paritu Road**	**15.80**	**184**	P	**S**	**22 25 48.8**	**-5.2**
RAHZ	**Arahi**	**15.85**	**186**	P	**S**	**22 25 51.9**	**-3.1**
KNZ	**Kokohu**	**15.91**	**184**	P	**P**	**22 23 10.6**	**-3.5**
KNZ				P	**S**	**22 25 52.5**	**-3.3**
MHGZ	**Mahia Peninsul**	**16.02**	**184**	P	**P**	**22 23 12.7**	**-2.5**
MHGZ				P	**S**	**22 25 54.6**	**-3.2**
NMHZ	**Naumai**	**16.06**	**187**	P	**P**	**22 23 12.7**	**-3.0**
NMHZ				P	**S**	**22 25 58.4**	**-0.1**
KATZ	**Kakaramea**	**16.09**	**190**	P	**P**	**22 23 15.7**	**-0.3**
BKZ	**Black Stump Fm**	**16.16**	**188**	P	**P**	**22 23 12.7**	**-3.9**
BKZ				P	**S**	**22 25 54.4**	**-5.7**
BKZ	**Black Stump Fm**	**16.16**	**188**	P	**P**	**22 23 13.3**	**-3.3**
ARHZ	**Aropaoanui**	**16.21**	**186**	P	**P**	**22 23 12.7**	**-4.2**
ARHZ				P	**S**	**22 25 57.7**	**-3.0**
KRVZ	**Karewarewa**	**16.22**	**190**	P	**S**	**22 25 59.8**	**-1.3**
ETVZ	**East Tongariro**	**16.25**	**190**	P	**P**	**22 23 13.4**	**-4.0**
ETVZ				P	**S**	**22 26 02.7**	**+1.1**
OTVZ	**Oturere**	**16.28**	**190**	P	**S**	**22 26 04.9**	**+2.6**
SNVZ	**South Ngauruho**	**16.30**	**190**	P	**S**	**22 26 01.9**	**-0.7**
FWVZ	**Far West T-bar**	**16.39**	**190**	P	**S**	**22 26 03.7**	**-0.4**
DRZ	**Dome Shelter**	**16.41**	**190**	P	**S**	**22 26 06.5**	**+1.9**
MCHZ	**McNeill Hill**	**16.42**	**187**	P	**P**	**22 23 15.5**	**-3.4**
MCHZ				P	**S**	**22 25 60.0**	**-4.1**
KWHZ	**Kaweka Forest**	**16.43**	**188**	P	**P**	**22 23 16.2**	**-2.9**
KWHZ				P	**S**	**22 26 00.9**	**-3.6**
WNVZ	**Wahianoa**	**16.45**	**190**	P	**S**	**22 26 04.1**	**-0.9**
MOVZ	**Moawhango**	**16.50**	**190**	P	**S**	**22 26 03.4**	**-2.3**
BHHZ	**Black Hill Sta**	**16.54**	**189**	P	**S**	**22 26 03.0**	**-3.3**
CKHZ	**Cape Kidnapper**	**16.59**	**186**	P	**S**	**22 26 05.4**	**-1.6**
KRHZ	**Kereru**	**16.65**	**188**	P	**S**	**22 26 03.3**	**-4.7**
KAHZ	**Kahuranaki**	**16.74**	**186**	P	**S**	**22 26 03.3**	**-6.3**
PNHZ	**Pukenui**	**16.94**	**188**	P	**S**	**22 26 11.1**	**-1.6**
WAZ	**Wanganui**	**16.97**	**191**	P	**S**	**22 26 13.8**	**+0.6**
PXZ	**Pawanui**	**16.98**	**186**	P	**S**	**22 26 07.3**	**-5.9**
WPHZ	**Waipukurau**	**17.06**	**187**	P	**S**	**22 26 13.6**	**-1.1**
TSZ	**Takapari Road**	**17.11**	**189**	P	**S**	**22 26 13.5**	**-2.0**
PRHZ	**Porangahau**	**17.24**	**187**	P	**S**	**22 26 12.7**	**-4.8**
DVHZ	**Dannevirke**	**17.32**	**188**	P	**S**	**22 26 14.8**	**-4.1**
POWZ	**Post Office Ro**	**17.47**	**189**	P	**S**	**22 26 17.1**	**-4.2**
BFZ	**Birch Farm**	**17.69**	**187**	P	**S**	**22 26 19.4**	**-5.5**
BFZ	**Birch Farm**	**17.69**	**187**	P	**P**	**22 23 28.2**	**-2.2**
BFZ	**Birch Farm**	**17.69**	**187**	P	**P**	**22 23 29.1**	**-1.3**
MRZ	**Mangatainoka R**	**17.76**	**189**	P	**S**	**22 26 21.8**	**-4.2**
OGWZ	**Otaki Gorge**	**17.97**	**190**	P	**S**	**22 26 27.0**	**-2.5**
HOWZ	**Holdsworth Sta**	**18.00**	**189**	P	**S**	**22 26 28.0**	**-2.0**
KIW	**Kapiti Island**	**18.06**	**191**	P	**S**	**22 26 28.0**	**-2.9**
TMWZ	**Te Maipa**	**18.15**	**188**	P	**S**	**22 26 28.4**	**-4.1**
DUWZ	**D'Urville Isla**	**18.19**	**193**	P	**S**	**22 26 31.5**	**-1.5**
MTW	**Mount Morrison**	**18.26**	**189**	P	**S**	**22 26 30.8**	**-3.3**
PAWZ	**Paruwai Farm**	**18.49**	**189**	P	**S**	**22 26 36.3**	**-1.6**
WEL	**Wellington**	**18.50**	**191**	P	**S**	**22 26 35.9**	**-2.1**
TCW	**Tory Channel**	**18.51**	**192**	P	**S**	**22 26 34.9**	**-3.3**
SNZO	**South Karori**	**18.53**	**191**	P	**P**	**22 23 36.7**	**-1.3**
SNZO	**South Karori**	**18.53**	**191**	P	**P**	**22 23 37.3**	**-0.7**
QRZ	**Quartz Range**	**18.53**	**196**	P	**P**	**22 23 39.2**	**+1.1**
MSWZ	**Moikau Station**	**18.55**	**189**	P	**S**	**22 26 35.2**	**-3.6**
BHW	**Baring Head**	**18.60**	**190**	P	**S**	**22 26 36.9**	**-2.7**
PLWZ	**Palliser**	**18.70**	**189**	P	**S**	**22 26 37.2**	**-4.0**
TUWZ	**Tuamarina**	**18.79**	**192**	P	**S**	**22 26 39.4**	**-3.3**
TUWZ	**Tuamarina**	**18.79**	**192**	P	**P**	**22 23 39.2**	**-1.2**
CMWZ	**Cape Campbell**	**19.05**	**192**	P	**S**	**22 26 45.6**	**-1.2**
BSWZ	**Blackbirch Sta**	**19.08**	**192**	P	**S**	**22 26 46.4**	**-0.9**
RAR	**Rarotonga**	**19.54**	**88**	P	**P**	**22 23 47.5**	**-0.1**
	2.6nm,0.3s,baz=304,slow=5.5,SNR=3.9						
RAR	**Rarotonga**	**19.54**	**88**	P	**P**	**22 23 48.0**	**+0.4**
RAR				pmax	pmax		
	comp=Z,251nm,1.7s						
RAR	**Rarotonga**	**19.54**	**88**	P	**P**	**22 23 48.0**	**+0.4**
RAR				IAmb	IAmb	22 24 44.8	
	comp=Z,251nm,1.7s						
DSZ	**Denniston Nort**	**19.59**	**197**	P	**S**	**22 26 54.7**	**-0.8**
LHI	**Lord Howe Isla**	**19.75**	**241**	P	**P**	**22 23 51.0**	**+1.7**
	baz=20,SNR=44						
LHI	**Lord Howe Isla**	**19.75**	**241**	P	**P**	**22 23 51.0**	**+1.7**
KHZ	**Kahutara**	**19.82**	**192**	P	**S**	**22 26 53.3**	**-5.9**
KHZ	**Kahutara**	**19.82**	**192**	P

ODZ Otahua Downs 22.97 196 IAmb IAmb 22 24 18.7
comp=Z,56nm,0.6s
ODZ Otahua Downs 22.97 196 P **P** **22 24 17.6 -0.4**
WKZ Wanaka 23.21 199 P **S** **22 27 50.3 -2.4**
EAZ Earnscleugh 23.50 198 P **S** **22 27 54.3 -2.9**
MLZ Mavora Lakes 23.97 200 P **P** **22 24 27.7 +0.8**
ARMA Armidale 25.64 248 P **P** **22 24 43.4 +1.3**
baz=26,SNR=134
ARMA Armidale 25.64 248 P **P** **22 24 43.5 +1.4**
EIDS Eidsvold 25.74 259 P **P** **22 24 43.1 +0.3**
baz=26,SNR=86
EIDS Eidsvold 25.74 259 P **P** **22 24 43.2 +0.3**
NTLS Newcastle Soft 26.07 242 P **P** **22 24 47.5 +1.9**
comp=Z,1μm,0.8s
NTLH Newcastle Hard 26.11 242 P **P** **22 24 47.8 +1.8**
RK1H Rockhampton Ha 26.38 264 P **P** **22 24 48.9 +0.4**
MGCD Mangrove Creek 26.67 242 P **P** **22 24 52.4 +1.5**
baz=27,SNR=173
MGCD Mangrove Creek 26.67 242 P **P** **22 24 52.7 +1.7**
RIV Riverview 26.80 240 P **P** **22 24 53.3 +1.3**
baz=27,SNR=9.6
SYDH Sydney Hard Ro 27.11 241 P **P** **22 24 56.2 +1.4**
RMQ Roma 27.83 257 P **P** **22 25 02.4 +1.2**
baz=28,SNR=57
RMQ Roma 27.83 257 P **P** **22 25 02.6 +1.4**
CNB Canberra Magne 28.64 238 P **P** **22 25 09.4 +1.3**
baz=29,SNR=209
CNB Canberra Magne 28.64 238 P **P** **22 25 09.5 +1.3**
CAN Canberra 28.93 238 P **P** **22 25 11.8 +1.1**
CAN pmax pmax
comp=Z,584nm,0.9s
CAN Canberra 28.93 238 P **P** **22 25 11.8 +1.1**
CAN Canberra 28.93 238 P **P** **22 25 11.7 +1.1**
MILA Mila 29.35 235 P **P** **22 25 15.1 +0.8**
baz=29,SNR=19
PAE Paea 29.70 85 *eP* **P** **22 25 18.0 +0.5**
comp=Z,30nm,1.3s
PPT2 Papeete2 29.73 85 *eP* **P** **22 25 18.7 +0.9**
comp=Z,115nm,1.1s
PPT Papeete 29.73 85 P **P** **22 25 19.0 +1.2**
comp=Z,80nm,0.9s,baz=314,slow=5.6,SNR=7.3
PPT Papeete 29.73 85 P **P** **22 25 19.0 +1.2**
PPTF Pamatai, Papee 29.74 85 P **P** **22 25 16.7 -1.2**
TIAR Tiarei 29.95 85 *eP* **P** **22 25 20.2 +0.5**
comp=Z,1.3nm,1.1s
CTA Charters Tower 30.77 269 P **P** **22 25 27.0 +0.3**
comp=Z,331nm,0.6s,baz=94,slow=12,SNR=273
CTA ScP **ScP** **22 30 60.0 +3.4**
comp=Z,63nm,1.0s,baz=100,slow=2.9,SNR=13
CTA Charters Tower 30.77 269 P **P** **22 25 27.0 +0.3**
CTAO Charters Tower 30.77 269 P **P** **22 25 27.3 +0.6**
CTAO pmax pmax
comp=Z,431nm,0.8s
CTAO Charters Tower 30.77 269 P **P** **22 25 27.3 +0.6**
CTAO Charters Tower 30.77 269 P **P** **22 25 26.9 +0.3**
CMSA Cobar Meteorol 30.85 247 P **P** **22 25 27.5 +0.2**
baz=31,SNR=115
CMSA Cobar Meteorol 30.85 247 P **P** **22 25 27.6 +0.3**
MEH Mehetia 31.04 86 *eP* **P** **22 25 29.3 +0.3**
comp=Z,67nm,1.3s
GLAD Gladstone 31.66 228 P **P** **22 25 34.7 +0.7**
QLP Quilpie 31.88 256 P **P** **22 25 36.3 +0.2**
baz=32,SNR=109
QLP Quilpie 31.88 256 P **P** **22 25 36.2 +0.2**
PMOR Pomariorio Ree 32.05 81 *eP* **P** **22 25 38.0 +0.4**
comp=Z,281nm,1.2s
VAH Vaihoa 32.22 82 *eP* **P** **22 25 39.4 +0.4**
comp=Z,144nm,0.9s
TOO Toolangi 32.29 236 P **P** **22 25 40.1 +0.7**
baz=32,SNR=80
TOO Toolangi 32.29 236 P **P** **22 25 40.3 +0.9**
TOO pmax pmax
comp=Z,642nm,1.3s
TOO Toolangi 32.29 236 P **P** **22 25 40.3 +0.9**
TOO Toolangi 32.29 236 P **P** **22 25 39.9 +0.5**
CORO Coronation Par 32.45 228 P **P** **22 25 40.9 +0.2**
MLBS Spotswood, Mel 32.81 235 P **P** **22 25 43.9 +0.1**
MOO Moorlands 32.84 226 P **P** **22 25 44.8 +0.9**
baz=33,SNR=8.2
MOO Moorlands 32.84 226 P **P** **22 25 45.0 +1.0**
TAU Tasmania Unive 32.96 226 P **P** **22 25 45.9 +1.0**
TAU pmax pmax
comp=Z,133nm,0.6s
TAU Tasmania Unive 32.96 226 P **P** **22 25 45.9 +1.0**
TAU Tasmania Unive 32.96 226 P **P** **22 25 45.6 +0.7**
MTSU Mount Surprise 32.99 272 P **P** **22 25 45.9 +0.3**
baz=33,SNR=243
MTSU Mount Surprise 32.99 272 P **P** **22 25 45.9 +0.3**
GEXS Deakin Univers 33.38 235 P **P** **22 25 49.5 +1.0**
comp=Z,506nm,1.0s
BRAT Ballarat 33.47 236 P **P** **22 25 50.6 +1.3**
PMG Port Moresby 33.57 289 P **P** **22 25 50.4 -0.2**
comp=Z,314nm,0.8s,baz=94,slow=5.1,SNR=85
PMG ScP **ScP** **22 31 09.3 +3.0**
comp=Z,82nm,1.0s,baz=20,slow=1.7,SNR=12
PMG Port Moresby 33.57 289 P **P** **22 25 50.3 -0.2**
PMG Port Moresby 33.57 289 P **P** **22 25 50.6 +0.1**
PMG Port Moresby 33.57 289 P **P** **22 25 50.5 +0.1**
STKA Stephens Creek 34.36 247 P **P** **22 25 57.4 +0.5**
comp=Z,257nm,1.0s,baz=88,slow=9.7,SNR=398
STKA ScP **ScP** **22 31 11.7 +2.8**
comp=Z,40nm,1.0s,baz=74,slow=3.7,SNR=11
STKA Stephens Creek 34.36 247 P **P** **22 25 57.5 +0.5**
baz=34,SNR=231
STKA Stephens Creek 34.36 247 P **P** **22 25 57.6 +0.7**
STKA IAmb IAmb 22 25 58.6
comp=Z,93nm,1.2s
STKA Stephens Creek 34.36 247 P **P** **22 25 57.2 +0.3**
ARPS Mount Arapiles 34.91 238 P **P** **22 26 01.5 +0.2**
baz=35,SNR=45
ARPS Mount Arapiles 34.91 238 P **P** **22 26 01.6 +0.2**
INKA Innaminka 34.96 254 P **P** **22 26 02.5 +0.6**
COEN Coen 35.29 279 P **P** **22 26 04.9 0.0**
COEN IAmb IAmb 22 26 06.3
comp=Z,154nm,1.1s
COEN Coen 35.29 279 P **P** **22 26 05.1 +0.2**
HTT Hallett 36.75 245 P **P** **22 26 16.8 0.0**
baz=37,SNR=137
HTT Hallett 36.75 245 P **P** **22 26 16.9 +0.1**
QIS Mount Isa 36.79 266 P **P** **22 26 16.6 -0.6**
baz=37,SNR=30
QIS Mount Isa 36.79 266 P **P** **22 26 16.6 -0.6**
LCRK Leigh Creek 37.17 250 P **P** **22 26 20.4 +0.2**
TWOA Tennyson Woods 37.22 242 P **P** **22 26 20.5 0.0**
NAPP Napperby 37.38 245 P **P** **22 26 22.3 +0.5**
PTPS Port Pirie 37.50 245 P **P** **22 26 23.3 +0.5**
WHYH Whyalla 37.84 245 P **P** **22 26 25.6 0.0**
BBOO Buckleboo 39.10 246 P **P** **22 26 35.3 -0.5**
baz=39,SNR=250
BBOO Buckleboo 39.10 246 P **P** **22 26 35.5 -0.3**
BBOO Buckleboo 39.10 246 P **P** **22 26 35.4 -0.5**
OOD Oodnadatta 39.43 254 P **P** **22 26 39.2 +0.7**
MULG Mulgathing 40.77 250 P **P** **22 26 48.7 -0.5**
TAOE Nuku Hiva Isla 41.39 77 P **P** **22 26 56.1 +1.7**
TAOE IAmb IAmb 22 26 57.0
comp=Z,187nm,1.0s
TAOE Nuku Hiva Isla 41.39 77 P **P** **22 26 53.3 -1.1**
AS31 Alice Springs 41.46 260 IAmb IAmb 22 26 55.9
comp=Z,118nm,1.1s
ASAR Alice Springs 41.46 260 P **P** **22 26 54.5 -0.4**
comp=Z,262nm,0.8s,baz=91,slow=8.2,SNR=1440
ASAR ScP **ScP** **22 31 39.0 +2.8**
comp=Z,58nm,0.9s,baz=108,slow=4.0,SNR=32
ASAR S **S** **22 32 27.9 -2.5**
comp=Z,12nm,1.0s,baz=93,slow=15,SNR=8.2
ASAR PKiKP **PKiKP** **22 35 43.2 -1.3**
comp=Z,1.7nm,1.0s,baz=104,slow=3.3,SNR=2.6
ASAR Alice Springs 41.46 260 P **P** **22 26 54.7 -0.1**
WR0 Warramunga Arr 41.56 266 IAmb IAmb 22 26 55.7
comp=Z,95nm,0.8s
WRAB Tennant Creek 41.74 266 *ceP* **P** **22 26 55.9 -1.1**
WRAB pmax pmax
comp=Z,310nm,1.3s
WRAB Tennant Creek 41.74 266 P **P** **22 26 56.2 -0.8**
WRAB Tennant Creek 41.74 266 P **P** **22 26 56.0 -1.1**
WRA Warramunga Arr 41.75 266 P **P** **22 26 56.2 -0.9**
comp=Z,137nm,0.9s,baz=102,slow=8.3,SNR=493
WRA ScP **ScP** **22 31 40.4 +2.9**
comp=Z,55nm,1.0s,baz=101,slow=4.1,SNR=34
WRA S **S** **22 32 30.7 -3.9**
comp=Z,21nm,1.1s,baz=100,slow=9.8,SNR=9.7
WRA PKiKP **PKiKP** **22 35 43.6 -1.2**
comp=Z,1.1nm,1.0s,baz=63,slow=0.6,SNR=5.0
JAY Jayapura 42.55 293 P **P** **22 27 02.8 -0.7**
comp=Z,44nm,0.8s,baz=117,slow=1.7,SNR=9.5

GENI Genyem 42.97 293 P **P** **22 27 06.4 -0.3**
comp=Z,134nm,1.0s
GENI Genyem 42.97 293 P **P** **22 27 07.0 +0.3**
KDU Kakadu 45.51 275 P **P** **22 27 25.2 -1.1**
baz=46,SNR=40
KDU Kakadu 45.51 275 P **P** **22 27 25.3 -0.9**
FORT Forrest 45.92 249 P **P** **22 27 28.4 -0.8**
baz=46,SNR=396
FORT Forrest 45.92 249 P **P** **22 27 28.1 -1.1**
FORT Forrest 45.92 249 P **P** **22 27 28.4 -0.8**
WRKA Warakurna 46.31 257 P **P** **22 27 31.7 -0.6**
baz=46,SNR=305
WRKA Warakurna 46.31 257 P **P** **22 27 32.0 -0.3**
MTN Manton Dam 46.69 274 P **P** **22 27 34.1 -1.1**
baz=47,SNR=4.3
MTN Manton Dam 46.69 274 P **P** **22 27 34.1 -1.1**
DRS Darwin Rock St 47.04 274 P **P** **22 27 36.6 -1.2**
BAKI Biak 47.16 291 P **P** **22 27 36.1 -2.6**
comp=Z,132nm,1.1s
KNRA Kununurra 47.98 269 P **P** **22 27 44.3 -0.5**
baz=48,SNR=50
KNRA Kununurra 47.98 269 P **P** **22 27 44.5 -0.3**
KNRA Kununurra 47.98 269 P **P** **22 27 44.5 -0.3**
SAUI Saumlaki 48.33 280 P **P** **22 27 47.9 +0.4**
comp=Z,273nm,1.1s
SAUI Saumlaki 48.33 280 P **P** **22 27 47.0 -0.4**
SAUI Saumlaki 48.33 280 P **P** **22 27 47.9 +0.4**
comp=Z,267nm,1.1s
MLH Mauna Loa 49.07 32 P **P** **22 27 55.0 +1.9**
HMH Humu'ula Sheep 49.12 32 P **P** **22 27 53.7 +0.3**
HPAH Hawaii Prepara 49.38 32 P **P** **22 27 55.8 +0.7**
HPAH IAmb IAmb 22 27 56.6
comp=Z,96nm,0.7s
DHH Diamond Head 49.47 29 P **P** **22 27 56.9 +1.2**
DHH Diamond Head 49.47 29 P **P** **22 27 56.9 +1.2**
WMR Waimanalo Ridg 49.57 29 P **P** **22 27 57.1 +0.6**
FAKI Fak Fak 49.68 287 P **P** **22 27 54.1 -3.3**
comp=Z,64nm,1.1s
FAKI Fak Fak 49.68 287 P **P** **22 27 56.3 -1.1**
FAKI IAmb IAmb 22 27 57.4
comp=Z,69nm,1.1s
FAKI Fak Fak 49.68 287 P **P** **22 27 57.0 -0.4**
comp=Z,65nm,1.1s
BNDI Bandanaira 51.04 284 P **P** **22 28 08.1 +0.8**
SWI Sorong 51.52 288 P **P** **22 28 10.0 -0.8**
comp=Z,2μmcomp=Z,206nm,0.9s
MSAI Masohi 52.43 284 P P 22 28 24.8 +7.5
AAI Ambon 52.93 283 P **P** **22 28 21.6 +0.6**
comp=Z,2μmcomp=Z,121nm,1.1s
SOEI Soe 54.07 275 P **P** **22 28 30.0 +0.9**
comp=Z,3μmcomp=Z,341nm,1.1s
SOEI Soe 54.07 275 P **P** **22 28 30.4 +1.3**
BATI Baumata 54.46 274 P **P** **22 28 32.8 +1.0**
comp=Z,1μmcomp=Z,77nm,1.2s
PSA00 Pilbara Seismi 54.61 259 P **P** **22 28 30.8 -1.9**
PSA00 Pilbara Seismi 54.61 259 P **P** **22 28 31.9 -0.8**
KLBR Kellerberrin 54.64 247 P **P** **22 28 32.1 -0.6**
baz=55,SNR=67
KLBR Kellerberrin 54.64 247 P **P** **22 28 32.2 -0.6**
MEEK Meekatharra 54.66 253 P **P** **22 28 31.7 -1.3**
baz=55,SNR=53
MEEK Meekatharra 54.66 253 P **P** **22 28 31.9 -1.1**
MBWA Marble Bar 54.81 260 P **P** **22 28 32.7 -1.3**
MBWA Marble Bar 54.81 260 P **P** **22 28 33.4 -0.7**
NWAO Narrogin (SRO) 54.91 245 P **P** **22 28 33.9 -0.8**
NWAO Narrogin (SRO) 54.91 245 P **P** **22 28 34.2 -0.4**
LBMI Labuha 54.93 286 P **P** **22 28 34.9 -0.1**
comp=Z,689nmcomp=Z,80nm,0.9s
VNDA Vanda 55.10 185 P **P** **22 28 36.8 +1.7**
comp=Z,12nm,0.8s,baz=6.4,slow=8.5,SNR=16
VNDA Vanda 55.10 185 P **P** **22 28 36.7 +1.6**
SANI Sanana 55.63 284 P **P** **22 28 38.5 -1.4**
comp=Z,807nmcomp=Z,72nm,1.0s
SANI Sanana 55.63 284 P **P** **22 28 39.2 -0.7**
BLDU Ballidu 55.66 248 P **P** **22 28 39.1 -0.8**
baz=56,SNR=24
BLDU Ballidu 55.66 248 P **P** **22 28 39.1 -0.8**
TNTI Ternate 55.71 288 P **P** **22 28 39.9 -0.6**
comp=Z,1μmcomp=Z,89nm,1.0s
TNTI Ternate 55.71 288 P **P** **22 28 39.4 -1.1**
TNTI Ternate 55.71 288 P **P** **22 28 39.9 -0.6**
comp=Z,89nm,1.0s
MUN Mundaring 55.89 246 P **P** **22 28 41.1 -0.4**
baz=56,SNR=31
MUN Mundaring 55.89 246 P **P** **22 28 41.4 -0.1**
MTKN Mount Kenneth 56.26 246 P **P** **22 28 45.1 +1.1**
MMRI Maumere 56.34 275 P **P** **22 28 43.9 -0.9**
comp=Z,146nm,1.0s
MMRI Maumere 56.34 275 IAmb IAmb 22 28 45.0
comp=Z,96nm,0.8s
MMRI Maumere 56.34 275 P **P** **22 28 43.9 -0.9**
comp=Z,145nm,1.0s
MORW Morawa 56.48 250 P **P** **22 28 44.9 -0.7**
baz=56,SNR=40
MORW Morawa 56.48 250 IAmb IAmb 22 28 45.9
comp=Z,146nm,1.1s
MORW Morawa 56.48 250 P **P** **22 28 44.9 -0.7**
EDFI Ende, Flores 56.80 275 P **P** **22 28 47.0 -1.1**
comp=Z,694nmcomp=Z,92nm,0.9s
BBSI Bau Bau 57.26 279 P **P** **22 28 51.7 +0.6**
comp=Z,300nmcomp=Z,9.6nm,1.0s
BASI Baing, Sumba 57.29 273 P **P** **22 28 52.3 +1.0**
comp=Z,2μmcomp=Z,158nm,1.1s
WBSI Waikabubak, Su 58.59 273 P **P** **22 28 59.7 -0.5**
comp=Z,1μmcomp=Z,141nm,1.2s
BSSI Bau Bau, Buton 58.90 277 P **P** **22 29 01.6 -0.5**
comp=Z,38nm,1.5s
LUWI Luwuk 58.95 283 P **P** **22 29 01.8 -0.8**
LUWI IAmb IAmb 22 29 03.2
comp=Z,140nm,1.1s
LUWI Luwuk 58.95 283 P **P** **22 29 03.6 +1.1**
comp=Z,120nm,1.1s
GIRL Giralia 59.40 257 P **P** **22 29 05.9 +0.5**
baz=59,SNR=12
GIRL Giralia 59.40 257 P **P** **22 29 05.9 +0.5**
BKSI Bulukumba 59.55 278 P **P** **22 29 05.3 -1.2**
comp=Z,801nmcomp=Z,103nm,0.9s
BNSI Bone 59.94 279 P **P** **22 29 08.8 -0.3**
comp=Z,834nmcomp=Z,74nm,1.3s
KAPI Kappang 60.02 278 P **P** **22 29 08.0 -1.6**
KAPI pmax pmax
comp=Z,27nm,1.0s
KAPI Kappang 60.02 278 P **P** **22 29 08.0 -1.6**
KAPI Kappang 60.02 278 P **P** **22 29 09.7 +0.1**
APSI Ampana 60.02 283 P **P** **22 29 10.2 +0.6**
comp=Z,500nmcomp=Z,42nm,0.9s
MRSI Marisa 60.37 285 P **P** **22 29 10.6 -1.4**
comp=Z,29nm,1.0s
SPSI Sidrap Palu 60.42 279 P **P** **22 29 10.7 -1.6**
comp=Z,50nm,1.1s
TTSI Tana Toraja 60.76 280 P **P** **22 29 14.3 -0.2**
comp=Z,1μmcomp=Z,39nm,0.8s
TOLI2 Tolitoli 61.69 285 P P **22 29 18.2 -2.4**
TOLI2 IAmb IAmb 22 31 12.3
comp=Z,97nm,0.4s
TOLI2 Tolitoli 61.69 285 P **P** **22 29 19.5 -1.1**
MPSI Mapaga 62.14 283 P **P** **22 29 22.2 -1.3**
comp=Z,656nmcomp=Z,87nm,0.9s
IGBI Denpasar 62.79 272 P **P** **22 29 27.8 +0.1**
comp=Z,3μmcomp=Z,227nm,1.1s
SRBI Singaraja 63.00 273 P **P** **22 29 28.2 -0.9**
comp=Z,126nm,0.9s
JAGI Jajag, Banyuwa 63.83 272 P **P** **22 29 32.6 -1.8**
comp=Z,3μmcomp=Z,1μmcomp=Z,96nm,1.0s
JAGI Jajag, Banyuwa 63.83 272 P **P** **22 29 31.9 -2.6**
JAGI IAmb IAmb 22 29 33.8
comp=Z,105nm,1.1s
JAGI Jajag, Banyuwa 63.83 272 P **P** **22 29 33.1 -1.3**
KBKI Kotararu 63.97 278 P **P** **22 29 35.8 +0.5**
comp=Z,1μmcomp=Z,44nm,0.9s
ABJI Asem Bagus 64.01 273 P **P** **22 29 35.7 +0.2**
comp=Z,103nm,1.1s
RPN Rapa Nui 64.01 110 P **P** **22 29 38.1 +2.8**
comp=Z,139nm,0.8s,baz=286,slow=2.8,SNR=4.9
SMKI Samarinda 64.22 281 P **P** **22 29 38.7 +1.9**
comp=Z,3μmcomp=Z,113nm,1.4s
KMMI Kalianget 64.53 273 P **P** **22 29 38.1 -0.7**
comp=Z,163nm,1.0s
GMJI Gumukmas 64.56 272 P **P** **22 29 39.0 0.0**
comp=Z,65nm,0.9s
BLJI Banyuglugur 64.61 272 P **P** **22 29 39.2 -0.1**
comp=Z,69nm,0.8s
BBKI Banjar Baru 65.12 277 P **P** **22 29 42.7 +0.2**
comp=Z,948nmcomp=Z,57nm,1.1s
MYLDM Lahad Datu 65.58 287 P **P** **22 29 45.8 +0.4**
MTKI Muara Teweh, K 66.10 280 P **P** **22 29 48.3 -0.4**

comp=Z,3μmcomp=Z,53nm,0.9s
PCJI Pacitan 66.67 271 P **P** **22 29 51.8 -0.4**
comp=Z,3μmcomp=Z,326nm,1.0s
QSPA South Pole Qui 66.96 180 P **P** **22 29 53.9 +0.7**
SPMM Sapulut 67.16 286 P **P** **22 29 56.0 +0.8**
UGM Wanagama 67.38 271 P **P** **22 29 56.1 -0.5**
comp=Z,113nm,1.0s
UGM Wanagama 67.38 271 P **P** **22 29 55.0 -1.6**
UGM IAmb IAmb 22 29 56.8
comp=Z,75nm,0.7s
UGM Wanagama 67.38 271 P **P** **22 29 56.4 -0.2**
SMRI Semarang 67.77 272 P **P** **22 30 00.8 +1.8**
comp=Z,96nm,0.9s
SMRI Semarang 67.77 272 P **P** **22 29 58.1 -0.9**
SMRI IAmb IAmb 22 29 59.4
comp=Z,56nm,0.7s
SMRI Semarang 67.77 272 P **P** **22 29 59.2 +0.2**
CMJI Cimerak 69.33 270 P **P** **22 30 07.4 -1.0**
comp=Z,665nmcomp=Z,57nm,1.0s
STKI Sintang 69.62 279 P **P** **22 30 10.3 +0.2**
comp=Z,7μmcomp=Z,45nm,0.9s
SBUM Sibu 69.95 282 P **P** **22 30 13.0 +0.9**
CNJI Cibinong 70.72 270 P **P** **22 30 15.4 -1.2**
comp=Z,1μmcomp=Z,151nm,0.9s
MJAR Matsushiro Arr 70.85 326 P **P** **22 30 16.5 -0.3**
comp=Z,18nm,0.9s,baz=162,slow=5.8,SNR=18
MJAR pP **pP** **22 32 11.1 -0.1**
comp=Z,1.3nm,0.5s,baz=153,slow=8.2,SNR=2.0
MJAR PKPPKP **P'P'df** **22 58 06.2 +0.2**
comp=Z,1.1nm,0.5s,baz=340,slow=1.4,SNR=4.4
MAJO Matsushiro 70.86 326 *i P* **P** **22 30 17.1 +0.2**
MAJO pmax pmax
comp=Z,23nm,1.0s
MAJO Matsushiro 70.86 326 P **P** **22 30 16.3 -0.6**
MAT Matsushiro 70.86 326 P **P** **22 30 16.4 -0.5**
MJB9 Matsu-Tunnel 70.86 326 P **P** **22 30 16.5 -0.4**
KSM Kuching 71.27 280 P **P** **22 30 19.4 -0.4**
KSM IAmb IAmb 22 30 20.5
comp=Z,52nm,0.8s
KSM Kuching 71.27 280 P **P** **22 30 20.0 +0.1**
KSM Kuching 71.27 280 P **P** **22 30 19.9 +0.1**
CBJI Citeko 71.31 271 P **P** **22 30 18.6 -1.5**
comp=Z,7μmcomp=Z,125nm,0.9s
DBJI Dramaga 71.36 271 P **P** **22 30 19.8 -0.5**
comp=Z,11μmcomp=Z,32nm,0.7s
CGJI Cibinong 72.31 270 P **P** **22 30 24.3 -1.5**
comp=Z,2μmcomp=Z,116nm,0.8s
JNU Nakatsue 72.47 319 P **P** **22 30 26.8 +0.4**
comp=Z,15nm,0.9s,baz=168,slow=3.9,SNR=5.1
JHS Saijyo 72.48 322 IAmb IAmb 22 30 28.2
comp=Z,93nm,1.2s
SSLB Suanglung 73.33 306 P **P** **22 30 30.7 -0.8**
PPBI Pangkal Pinang 73.61 275 P **P** **22 30 33.2 -0.1**
KASI Kota Agung 73.82 271 P **P** **22 30 33.0 -1.5**
comp=Z,647nmcomp=Z,90nm,0.9s
KLSI 73.92 272 P **P** **22 30 33.8 -1.3**
comp=Z,9.2nm,1.0s
LWLI Liwa 74.41 271 P **P** **22 30 36.8 -1.2**
comp=Z,90μmcomp=Z,91nm,0.7s
MDSI Maura Dua 74.50 272 P **P** **22 30 36.5 -1.8**
comp=Z,25nm,0.8s
JKA Kamikawa-asahi 74.85 334 IAmb IAmb 22 30 43.0
comp=Z,88nm,1.2s
ASAJ Asahikawa 74.85 334 P **P** **22 30 41.4 +1.8**
comp=Z,46nm,1.1s,baz=240,slow=15,SNR=7.7
ATKA Atka Island 75.22 4 P **P** **22 30 41.4 0.0**
DSRI Dabo 75.70 276 P **P** **22 30 46.2 +1.2**
comp=Z,24nm,1.0s
NIKH Nikolski High 76.48 7 P **P** **22 30 47.6 -0.7**
baz=191
MASI Maura Aman, Be 76.80 272 P **P** **22 30 50.4 -0.8**
comp=Z,116nm,1.0s
YSS Yuzh-Sakhalins 77.13 335 *eP* **P** **22 30 53.3 +1.3**
YSS *eS* **S** **22 39 59.8 +4.1**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,400nm,6.4s
YSS smax smax
comp=N,400nm,6.1s
YSS Yuzh-Sakhalins 77.13 335 P **P** **22 30 51.7 -0.3**
KSRS Korea Array 77.19 320 P **P** **22 30 53.9 +1.3**
comp=N,8.8nm,0.9s,baz=140,slow=6.3,SNR=18
UNV Unalaska Valle 77.63 9 P **P** **22 30 54.3 -0.3**
baz=194
PEA0B Petropavlovsk- 78.18 347 *ceP* **P** **22 30 58.5 +0.9**
PEA0B Petropavlovsk- 78.18 347 P **P** **22 30 57.4 -0.2**
PETK Petropavlovsk- 78.18 347 P **P** **22 30 57.9 +0.3**
comp=N,26nm,0.9s,baz=157,slow=8.0,SNR=20
MAW Mawson 78.23 201 P **P** **22 30 58.8 +1.0**
comp=N,27nm,0.7s,baz=136,slow=7.5,SNR=16
MAW Mawson 78.23 201 P **P** **22 30 59.0 +1.3**
baz=78,SNR=8.4
MAW Mawson 78.23 201 P **P** **22 30 58.6 +0.8**
JRMM Jerantut 79.38 279 P **P** **22 31 05.0 +0.1**
PPI Padang Panjang 79.55 274 P **P** **22 31 06.1 +0.3**
NJ2 Nanjing 79.61 311 *eP* **P** **22 31 08.4 +2.7**
NJ2 pmax pmax
comp=N,9.0nm,0.5s
USRK Ussuriysk Ar. 79.73 328 P **P** **22 31 07.3 +1.3**
comp=N,22nm,1.0s,baz=144,slow=4.2,SNR=24
CHNA Chernabura Isl 79.73 12 P **P** **22 31 05.8 0.0**
baz=200
PMSA Palmer Station 79.90 157 P **P** **22 31 07.6 +0.9**
PMSA IAmb IAmb 22 31 09.2
comp=Z,140nm,0.8s
SDPT Sand Point 80.06 12 P **P** **22 31 07.6 +0.2**
baz=199
TYV Tymovskoe 80.41 337 *eP* **P** **22 31 10.8 +1.4**
TYV *eS* **S** **22 40 24.3 -5.3**
TYV pmax pmax
comp=Z,38nm,0.9s
TYV pmax pmax
comp=Z,200nm,5.8s
TYV smax smax
comp=N,300nm,4.7s
TYV smax smax
comp=E,200nm,4.7s
SPIA Saint Paul Isl 80.47 6 P **P** **22 31 10.2 +0.7**
baz=190
MNSI Mandailing Nat 80.79 275 P **P** **22 31 10.6 -1.7**
comp=E,41nm,0.8s
MDJ Mudanjiang 81.22 327 P **P** **22 31 14.2 +0.4**
MDJ pmax pmax
comp=E,30nm,1.1s
MDJ pmax pmax
comp=E,140nm,5.4s
CHGN Chignik 81.35 12 IAmb IAmb 22 31 15.5
comp=Z,109nm,1.2s
CHGN Chignik 81.35 12 P **P** **22 31 14.2 +0.1**
baz=201
SBC Santa Barbara 81.47 47 P **P** **22 31 17.0 +1.7**
baz=234
KULM Kulim 81.61 279 P **P** **22 31 17.0 +0.5**
PKM Mcpherson Peak 81.66 47 P **P** **22 31 18.3 +1.8**
baz=234
CIS Catalina Islan 81.76 48 P **P** **22 31 17.8 +0.9**
baz=236
PAGB Antelope Grade 81.86 46 P **P** **22 31 18.3 +1.1**
WHN Wuhan 81.96 308 ⇑P **P** **22 31 19.0 +1.2**
FMP Fort Macarthur 82.02 48 P **P** **22 31 19.4 +1.4**
baz=236
HOPS Hopland Field 82.03 42 IAmb IAmb 22 31 21.2
comp=Z,104nm,1.1s
KCPM Cahto Peak 82.15 41 IAmb IAmb 22 31 22.2
comp=Z,123nm,1.1s
OSI Osito Audit: C 82.24 47 P **P** **22 31 21.0 +1.7**
baz=235
DECC Green Verdugo 82.30 48 P **P** **22 31 20.5 +0.9**
baz=235
109C Camp Elliot, M 82.38 50 IAmb IAmb 22 31 22.7
comp=Z,81nm,1.3s
109C Camp Elliot, M 82.38 50 P **P** **22 31 21.3 +1.4**
baz=236
KMRM Mail Ridge 82.41 40 IAmb IAmb 22 31 24.3
comp=Z,188nm,1.2s
ARVC Arvin 82.46 47 P **P** **22 31 22.0 +1.7**
baz=235
SII Sitkinak Islan 82.49 14 P **P** **22 31 20.6 +0.7**
baz=205
TKX Tecate 82.56 50 P **P** **22 31 22.3 +1.4**
BAR Barrett 82.57 50 IAmb IAmb 22 31 23.9
comp=Z,122nm,1.9s
GRNR Gornyy 82.69 334 ⇓*iP* **P** **22 31 22.6 +1.6**
GRNR pmax pmax
comp=Z,20nm,1.0s

GRNR MLR MLR
comp=E,140nm,15.0s
VES Vestal, Richgr 82.69 46 P **P 22 31 22.6 +1.2**
baz=235
MURC Murrieta 82.71 49 P **P 22 31 23.1 +1.4**
baz=236,SNR=8.4
BFSC Mount Baldy Ra 82.75 48 P **P 22 31 23.1 +1.2**
baz=236,SNR=12
MG05 Puerto Natales 82.77 143 IAmb IAmb 22 31 24.4
comp=Z,145nm,0.8s
VOG Valley Oaks Go 82.78 46 P **P 22 31 23.0 +1.2**
baz=234
KHMM Horse Mountain 82.80 40 IAmb IAmb 22 31 25.1
comp=Z,59nm,1.0s
GSI Gunungsitoli 82.83 274 P **P 22 31 23.0 +0.3**
comp=Z,1µmcomp=Z,68nm,0.7s
GSI Gunungsitoli 82.83 274 IAmb IAmb 22 31 23.8
comp=Z,45nm,0.7s
CN2 Changchun 82.84 324 *e*P **P 22 31 21.5 -0.5**
CN2 *e*pP pP 22 33 19.0 -2.0
CN2 *e*PP **PP 22 34 43.7 +0.6**
CN2 SKS **S 22 40 49.3 -5.0**
CN2 pmax pmax
comp=Z,60nm,1.3s
CN2 pmax pmax
comp=Z,260nm,3.0s
MONP2 Monument Peak 82.86 50 P **P 22 31 24.2 +1.6**
baz=237,SNR=25
EDW2 Edwards Air Fo 82.88 47 P **P 22 31 23.9 +1.4**
baz=236,SNR=39
O02D Mt. Diablo Mer 82.93 41 P **P 22 31 24.4 +1.7**
O02D IAmb IAmb 22 31 26.4
comp=Z,123nm,1.1s
O02D Mt. Diablo Mer 82.93 41 P **P 22 31 25.1 +2.5**
baz=232,SNR=28
IKP In-Ko-Pah, Jac 82.95 50 P **P 22 31 24.9 +1.9**
baz=237,SNR=22
ISA Isabella, Lake 83.00 47 IAmb IAmb 22 31 26.0
comp=Z,97nm,1.1s
ISA Isabella, Lake 83.00 47 P **P 22 31 24.6 +1.5**
baz=235,SNR=61
BNX BinXian 83.12 326 ⇑P **P 22 31 23.7 +0.4**
BNX pmax pmax
comp=Z,18nm,1.2s
BNX pmax pmax
comp=Z,200nm,4.9s
CMB Columbia Colle 83.13 44 IAmb IAmb 22 31 26.2
comp=Z,64nm,1.0s
PFO Pinyon Flats O 83.23 49 P **P 22 31 25.0 +0.6**
PFO pmax pmax
comp=Z,54nm,1.4s
PFO Pinyon Flats O 83.23 49 P **P 22 31 25.0 +0.6**
PFO Pinyon Flats O 83.23 49 P **P 22 31 25.9 +1.5**
baz=237,SNR=10
TPFO Pinon Flats 83.23 49 P **P 22 31 25.9 +1.5**
baz=237,SNR=12
BBRC Big Bear Solar 83.27 48 P **P 22 31 26.2 +1.6**
baz=236
OHAK Old Harbor 83.30 15 P **P 22 31 25.2 +1.3**
baz=205
WDC Whiskeytown Da 83.33 41 IAmb IAmb 22 31 27.7
comp=Z,68nm,1.1s
SWSC Sam W. Stewart 83.33 50 P **P 22 31 26.5 +1.8**
baz=237
LRMC Laurel Mtn Rad 83.43 47 P **P 22 31 26.6 +1.3**
baz=236,SNR=36
N02D Trinity Center 83.47 40 P **P 22 31 27.4 +2.1**
baz=232,SNR=19
KLR Kul'dur 83.51 331 P **P 22 31 26.2 +1.1**
comp=Z,6.3nm,1.0s,baz=103,slow=4.7,SNR=10
KLR Kul'dur 83.51 331 *ce*P **P 22 31 26.0 +0.8**
KLR pmax pmax
comp=Z,31nm,1.8s
RRX Edison Barstow 83.56 48 P **P 22 31 27.2 +1.4**
baz=236
O03E Paynes Creek 83.60 41 P **P 22 31 26.7 +0.8**
O03E IAmb IAmb 22 31 28.7
comp=Z,120nm,1.2s
O03E Paynes Creek 83.60 41 P **P 22 31 27.4 +1.4**
baz=232,SNR=22
SYO Syowa Base 83.60 194 ⇓*i*P **P 22 31 25.2 -0.2**
SYO Syowa Base 83.60 194 ⇑*e*PcP **PcP 22 31 29.2 +1.0**
M02C Callahan 83.64 40 P **P 22 31 28.5 +2.4**
baz=232,SNR=22
L02E Cave Junction 83.68 39 P **P 22 31 28.5 +2.2**
baz=231
CWC Cottonwood Cre 83.70 46 P **P 22 31 28.2 +1.5**
baz=235
BELC Belle Mtn. Jos 83.77 49 P **P 22 31 28.7 +1.7**
baz=237,SNR=13
EMB Emerald Bay 83.86 43 P **P 22 31 28.2 +0.7**
EMB IAmb IAmb 22 31 30.2
comp=Z,87nm,1.4s
RUBR Rubicon Trail 83.88 43 IAmb IAmb 22 31 30.3
comp=Z,63nm,1.1s
MPMC Manual Prospec 83.88 47 P **P 22 31 29.0 +1.4**
baz=236,SNR=39
MLAC Mammoth, Mammo 83.89 45 P **P 22 31 29.2 +1.5**
baz=235
GSC Goldstone, Bar 83.92 48 IAmb IAmb 22 31 30.4
comp=Z,69nm,1.1s
GSC Goldstone, Bar 83.92 48 P **P 22 31 29.1 +1.4**
baz=236,SNR=35
YBH Yreka Blue Hor 83.94 40 P **P 22 31 29.2 +1.6**
comp=Z,31nm,0.9s,baz=200,slow=2.1,SNR=33
YBH Yreka Blue Hor 83.94 40 IAmb IAmb 22 31 31.0
comp=Z,58nm,1.1s
TIN Tinemaha, Big 83.95 46 P **P 22 31 29.4 +1.6**
baz=235
BC3 Big Chuckawall 83.96 50 P **P 22 31 29.8 +1.9**
baz=237,SNR=12
HEC Hector,Ludlow 83.98 48 P **P 22 31 29.5 +1.5**
baz=237,SNR=38
K02D Willamette Mer 83.98 38 P **P 22 31 29.8 +2.0**
baz=231,SNR=6.4
GLA Glamis 84.08 50 IAmb IAmb 22 31 31.9
comp=Z,112nm,1.1s
MPK Martis Peak 84.10 43 P **P 22 31 29.7 +1.0**
MPK IAmb IAmb 22 31 31.6
comp=Z,97nm,1.1s
J01E Myrtle Point 84.13 38 P **P 22 31 30.2 +1.8**
baz=231
PNTR Pine Nut 84.25 43 IAmb IAmb 22 31 32.2
comp=Z,78nm,1.0s
HUMO Hull Mountain 84.34 39 P **P 22 31 30.8 +1.3**
HUMO IAmb IAmb 22 31 33.0
comp=Z,91nm,1.1s
YERR Yerington 84.41 44 IAmb IAmb 22 31 32.8
comp=Z,60nm,1.2s
GMRC Granite Mounta 84.42 49 P **P 22 31 32.0 +1.7**
baz=237,SNR=14
IRM Iron Mountain 84.44 49 P **P 22 31 31.9 +1.7**
baz=237,SNR=14
LHV Little Huntoon 84.46 44 IAmb IAmb 22 31 33.2
comp=Z,80nm,1.3s
L04D Klamath Falls 84.48 40 P **P 22 31 31.8 +1.4**
baz=232,SNR=17
M04C Macdoel 84.48 40 P **P 22 31 31.8 +1.4**
baz=232,SNR=13
GRAC Grapevine Rang 84.49 46 P **P 22 31 32.0 +1.6**
baz=236,SNR=21
GWY Greenwater Val 84.50 47 P **P 22 31 30.8 +0.2**
FURC Furnace Creek, 84.53 47 P **P 22 31 31.9 +1.4**
baz=236,SNR=7.1
TUQ Turquoise Moun 84.60 48 P **P 22 31 32.5 +1.4**
baz=237,SNR=24
SHOC Shoshone, Teco 84.61 47 P **P 22 31 32.3 +1.3**
baz=237,SNR=6.6
NVAR Mina Array Bea 84.69 44 P **P 22 31 32.8 +1.3**
comp=Z,22nm,0.9s,baz=222,slow=7.0,SNR=90
NVAR pP **pP 22 33 32.4 +0.4**
comp=Z,0.8nm,0.8s,baz=130,slow=4.4,SNR=1.9
NVAR PKKPbc **PKKPbc 22 49 40.8 +2.7**
comp=Z,0.4nm,0.6s,baz=90,slow=4.6,SNR=4.1
PAHR Pah Rah Range 84.74 43 P **P 22 31 32.2 +0.5**
Q19K Cape Douglas, 84.77 14 P **P 22 31 32.8 +1.6**
baz=205
NV11 Mina Array Sit 84.79 44 P **P 22 31 32.3 +0.4**
I03D Drain, OR 84.79 38 P **P 22 31 33.6 +2.0**
baz=231
P18K Big Mountain, 84.86 13 P **P 22 31 32.8 +1.2**
baz=204
214A Organ Pipe Nat 84.95 52 IAmb IAmb 22 31 36.1
comp=Z,55nm,1.1s
214A Organ Pipe Nat 84.95 52 P **P 22 31 34.8 +2.0**
baz=239
K04D Chiloquin, OR 85.05 39 P **P 22 31 34.9 +1.8**
baz=232
NEE2 Needles Airpor 85.14 49 P **P 22 31 35.2 +1.7**
baz=238,SNR=6.8
KVN Kaiserville 85.18 44 P **P 22 31 34.2 +0.3**
KVN pmax pmax
comp=Z,25nm,0.8s
KVN Kaiserville 85.18 44 P **P 22 31 34.2 +0.3**
TPNV Topopah Spring 85.21 47 P **P 22 31 35.4 +1.4**
baz=236,SNR=19
J04D Umpqua Nationa 85.22 39 P **P 22 31 35.7 +1.7**
baz=232,SNR=5.5
O18K Koktuh Hills 85.29 13 P **P 22 31 33.9 +0.2**
O18K IAmb IAmb 22 31 35.0
comp=Z,71nm,0.9s
O18K Koktuh Hills 85.29 13 P **P 22 31 33.8 +0.1**
baz=204,SNR=6.6
I04A Tendick Farm, 85.39 38 P **P 22 31 35.9 +1.4**
baz=232,SNR=5.9
LYN LuoYang 85.44 310 ⇑*i*P **P 22 31 36.7 +1.7**
LYN pP pP 22 33 35.2 +0.3
LYN S **S 22 41 22.7 +2.8**
LYN pmax pmax
comp=Z,10.0nm,0.8s
MOD Modoc Plateau 85.47 41 IAmb IAmb 22 31 37.9
comp=Z,52nm,1.1s
K05A Summer Lake 85.61 40 IAmb IAmb 22 31 39.1
comp=Z,152nm,1.4s
MA2 Magadan 85.65 346 *de*P **P 22 31 35.2 -0.2**
MA2 pmax pmax
comp=Z,40nm,1.1s
MA2 Magadan 85.65 346 P **P 22 31 34.4 -1.0**
MA2 IAmb IAmb 22 31 36.7
comp=Z,59nm,1.1s
H04D Lebanon 85.65 37 P **P 22 31 37.4 +1.6**
baz=232
VNA3 Neumayer Olymp 85.69 177 P **P 22 31 35.6 0.0**
GYA Guiyang 85.74 301 ⇓P **P 22 31 37.9 +1.1**
GYA pmax pmax
comp=Z,5.0nm,1.3s
J05D Fort Rock, OR 85.75 39 P **P 22 31 38.3 +1.8**
baz=233,SNR=31
O19K Port Alsworth 85.78 13 IAmb IAmb 22 31 37.0
comp=Z,118nm,1.0s
O19K Port Alsworth 85.78 13 P **P 22 31 35.7 -0.2**
baz=204,SNR=13
G03D McMinnville, O 85.79 37 P **P 22 31 36.5 +0.1**
baz=231
Y14A Wickenburg 85.84 50 P **P 22 31 38.0 +1.0**
Y14A IAmb IAmb 22 31 39.8
comp=Z,115nm,2.0s
HOM Homer 85.88 14 P **P 22 31 37.0 +0.6**
baz=207
BJI Beijing 85.98 317 P **P 22 31 38.2 +0.8**
BJI SKS **SKSac 22 41 08.3 -1.6**
BJI S **S 22 41 27.2 +2.5**
BJI pmax pmax
comp=Z,18nm,1.0s
BJI pmax pmax
comp=Z,250nm,4.3s
O20K Slope Mountain 86.04 14 P **P 22 31 37.8 +0.5**
baz=206
H04A Detroit Lake 86.06 38 IAmb IAmb 22 31 40.3
comp=Z,98nm,1.3s
VNA2 Neumayer--Watz 86.10 178 P **P 22 31 37.9 +0.4**
BRLK Bradley Lake 86.15 15 IAmb IAmb 22 31 38.7
comp=Z,61nm,1.1s
BRSE Bradley Lake S 86.16 15 P **P 22 31 37.2 -0.6**
baz=208,SNR=6.5
PRN Pahroc Range 86.26 47 IAmb IAmb 22 31 42.1
comp=Z,56nm,1.1s
N19K Bonanza Creek 86.31 13 P **P 22 31 38.2 -0.4**
baz=204
I05D Terrebonne, OR 86.33 38 P **P 22 31 40.6 +1.5**
baz=233,SNR=11
VNA1 Neumayer--Stat 86.34 178 P **P 22 31 39.0 +0.4**
LL07 Hotel Espejo d 86.38 135 P **P 22 31 40.8 +1.4**
R11A Troy Canyon, C 86.42 46 P **P 22 31 40.6 +0.8**
baz=237,SNR=11
E03A Lebam 86.47 36 IAmb IAmb 22 31 42.6
comp=Z,101nm,1.2s
F04D Rainier, OR 86.48 36 P **P 22 31 41.6 +2.0**
baz=231
BMN Battle Mountai 86.52 43 IAmb IAmb 22 31 42.9
comp=Z,70nm,1.2s
TUC Tucson 86.61 53 P **P 22 31 42.3 +1.6**
TUC pmax pmax
comp=Z,91nm,1.4s
TUC Tucson 86.61 53 P **P 22 31 42.3 +1.6**
TUC IAmb IAmb 22 31 44.4
comp=Z,91nm,1.4s
TUC Tucson 86.61 53 P **P 22 31 43.0 +2.2**
baz=240
F04A Amboy 86.70 37 IAmb IAmb 22 31 43.4
comp=Z,140nm,1.2s
HOOD Mount Hood Mea 86.75 37 IAmb IAmb 22 31 43.8
comp=Z,64nm,1.2s
WVOR Wild Horse Val 86.79 41 P **P 22 31 42.0 +0.6**
WVOR pmax pmax
comp=Z,54nm,0.6s
WVOR Wild Horse Val 86.79 41 P **P 22 31 42.0 +0.6**
WVOR IAmb IAmb 22 31 56.7
comp=Z,54nm,0.6s
NLWA Neilton Lookou 86.84 35 IAmb IAmb 22 31 44.5
comp=Z,127nm,1.3s
G05D Wamic, OR 86.89 38 P **P 22 31 43.0 +1.4**
baz=233,SNR=6.1
GAMB Gambell 86.90 4 P **P 22 31 42.2 +1.1**
baz=188
Q23K Middleton Isla 86.99 17 P **P 22 31 42.5 +0.9**
baz=212
E04D Cinebar 87.01 36 P **P 22 31 44.1 +2.0**
baz=232,SNR=7.4
TIY Taiyuan 87.14 313 ⇑P **P 22 31 44.9 +1.9**
TIY S **S 22 41 39.3 +3.3**
X16A Lo Mia Camp, P 87.19 51 IAmb IAmb 22 31 46.8
comp=Z,49nm,1.2s
F05D White Salmon 87.20 37 P **P 22 31 44.3 +1.2**
baz=232
I07A Izee 87.23 39 IAmb IAmb 22 31 46.4
comp=Z,89nm,1.0s
LL02 Futaleuf 87.26 136 IAmb IAmb 22 31 46.8
comp=Z,69nm,0.9s
D04E Lakebay 87.29 35 P **P 22 31 45.6 +2.3**
baz=231,SNR=5.0
D03D Eldon 87.34 35 P **P 22 31 45.5 +1.8**
baz=231,SNR=6.0
J08A Circle Bar Ran 87.42 40 P **P 22 31 44.9 +0.6**
CCUT Cedar City 87.47 47 IAmb IAmb 22 31 48.0
comp=Z,72nm,1.5s
L19K White Mountain 87.50 12 IAmb IAmb 22 31 45.9
comp=Z,98nm,1.1s
L19K White Mountain 87.50 12 P **P 22 31 44.7 +0.6**
baz=204,SNR=26
KNB Kanab 87.56 48 IAmb IAmb 22 31 48.4
comp=Z,151nm,1.6s
RC01 Rabbit Creek A 87.59 15 IAmb IAmb 22 31 45.9
comp=Z,104nm,1.1s
RC01 Rabbit Creek A 87.59 15 P **P 22 31 44.8 +0.3**
baz=208,SNR=12
U15A North Rim 87.62 49 IAmb IAmb 22 31 48.7
comp=Z,64nm,0.9s
PSUT Pine Spring 87.66 46 IAmb IAmb 22 31 48.4
comp=Z,53nm,1.6s
SZCU Shurtz Canyon 87.68 47 IAmb IAmb 22 31 48.9
comp=Z,99nm,1.6s
D05A Enumclaw 87.71 36 P **P 22 31 46.8 +1.4**
PWL Port Wells 87.72 15 IAmb IAmb 22 31 46.4
comp=Z,91nm,1.0s
PWL Port Wells 87.72 15 P **P 22 31 45.2 +0.1**
baz=210,SNR=9.8
WUAZ Wupatki 87.80 50 P **P 22 31 47.7 +1.4**
baz=240
KAIM Kayak Island 87.93 17 P **P 22 31 47.0 +0.9**
baz=213
ELK Elko 87.95 44 IAmb IAmb 22 31 49.5
comp=Z,51nm,1.1s
TTA Tatalina 87.98 11 IAmb IAmb 22 31 48.0
comp=Z,46nm,1.2s
TTA Tatalina 87.98 11 P **P 22 31 46.7 +0.3**
baz=203,SNR=13
HPIG 87.98 60 IAmb IAmb 22 31 50.2
comp=Z,54nm,1.0s
LL04 Puerto Octay 88.00 134 IAmb IAmb 22 31 50.0
comp=Z,101nm,1.1s
GLI Glacier Island 88.04 16 P **P 22 31 46.6 0.0**
GLI Glacier Island 88.04 16 P **P 22 31 46.8 +0.2**
baz=211,SNR=7.2
F07A Phinny Hill Vi 88.06 38 IAmb IAmb 22 31 49.8
comp=Z,72nm,1.2s
EYAK Cordova Ski Ar 88.10 16 P **P 22 31 46.9 0.0**
baz=212
PMR Palmer 88.17 15 IAmb IAmb 22 31 48.5
comp=Z,81nm,1.1s
PMR Palmer 88.17 15 P **P 22 31 47.2 +0.1**
baz=209,SNR=11
KNK Knik Glacier 88.17 15 IAmb IAmb 22 31 48.7
comp=Z,54nm,0.9s
KNK Knik Glacier 88.17 15 P **P 22 31 47.6 +0.3**
baz=210,SNR=8.7
XLT XiLinHaoTe 88.23 320 *e*P **P 22 31 48.3 +0.3**
XLT pP pP 22 33 48.6 -0.3
XLT SKS **SKSac 22 41 20.2 -3.3**
XLT S **S 22 41 42.4 -3.5**
XLT pmax pmax
comp=Z,24nm,1.3s
XLT pmax pmax
comp=Z,140nm,4.8s
G08A Pilot Rock 88.26 38 IAmb IAmb 22 31 50.9
comp=Z,94nm,1.2s
KMI Kunming 88.27 298 ⇑P **P 22 31 50.5 +1.7**
KMI pP pP 22 33 49.7 +0.1
KMI SKS **SKSac 22 41 23.4 -1.4**
KMI S **S 22 41 48.8 +1.5**
KMI pmax pmax
comp=Z,10.0nm,1.3s
KMI pmax pmax
comp=Z,99nm,7.1s
A04D Lummi Island 88.28 34 P **P 22 31 49.8 +1.8**
baz=231,SNR=6.7
B05A Bryant 88.32 35 P **P 22 31 49.9 +1.7**
baz=232,SNR=12
SEY Seymchan 88.36 348 P **P 22 31 48.6 +0.6**
comp=Z,33nm,1.1s,baz=160,slow=4.7,SNR=73
LTY Liberty 88.47 36 P **P 22 31 49.9 +0.9**
LTY IAmb IAmb 22 31 51.3
comp=Z,61nm,1.1s
BERG Berg Lake 88.52 17 IAmb IAmb 22 31 50.9
comp=Z,82nm,1.0s
MTPU Mount Pierson 88.52 47 P **P 22 31 51.5 +1.6**
SML Sawmill 88.55 15 P **P 22 31 49.0 0.0**
baz=210
CMAR Chiang Mai Arr 88.59 291 P **P 22 31 51.5 +1.4**
comp=Z,10nm,1.1s,baz=124,slow=3.0,SNR=38
CMAR pP **pP 22 33 51.6 +0.7**
comp=Z,4.5nm,1.0s,baz=120,slow=3.6,SNR=2.2
CMAR PKKPbc **PKKPbc 22 49 28.9 +1.2**
comp=Z,4.5nm,0.8s,baz=287,slow=4.6,SNR=24
CMAR PKPPKP **P'P'df 22 57 34.2 -2.2**
comp=Z,0.3nm,0.3s,baz=272,slow=3.2,SNR=6.0
CMAR Chiang Mai Arr 88.59 291 *i* P **P 22 31 52.2 +2.0**
CMAR pmax pmax
comp=Z,11nm,1.1s
DIV Divide 88.59 16 IAmb IAmb 22 31 50.7
comp=Z,70nm,1.0s
CUT Chulitna 88.63 14 P **P 22 31 48.9 -0.3**
baz=208,SNR=13
TCRU Three Creeks R 88.64 47 IAmb IAmb 22 31 53.6
comp=Z,54nm,1.2s
ZAIG Zacatecas 88.66 65 IAmb IAmb 22 31 54.3
comp=Z,60nm,1.1s
ZEA Zeya 88.69 332 *e*P **P 22 31 50.8 +1.0**
K20K Telida 88.72 12 IAmb IAmb 22 31 51.2
comp=Z,48nm,1.1s
CHTO Chiang Mai 88.73 291 P **P 22 31 50.8 0.0**
CHTO pmax pmax
comp=Z,30nm,1.3s
CHTO Chiang Mai 88.73 291 P **P 22 31 50.8 0.0**
CHTO P **PcP 22 31 51.2 -0.7**
CHTO Chiang Mai 88.73 291 P **P 22 31 50.8 0.0**
C06D Leavenworth 88.75 36 P **P 22 31 51.2 +0.9**
baz=233
BMRM Bremner River 88.76 17 IAmb IAmb 22 31 51.6
comp=Z,67nm,1.0s
BMRM Bremner River 88.76 17 P **P 22 31 50.4 +0.4**
baz=213,SNR=7.1
W18A Petrified Fore 88.76 51 IAmb IAmb 22 31 53.7
comp=Z,52nm,1.1s
W18A Petrified Fore 88.76 51 P **P 22 31 52.5 +1.7**
baz=241
MSU Marysvale 88.77 47 P **P 22 31 52.5 +1.6**
MSU Marysvale 88.77 47 P **P 22 31 52.5 +1.6**
B06A Marblemount 88.80 35 IAmb IAmb 22 31 52.5
comp=Z,36nm,1.0s
WAX Waxell Ridge 88.80 18 IAmb IAmb 22 31 52.5
comp=Z,82nm,1.0s
SCM Sheep Creek Mo 88.81 15 P **P 22 31 50.7 +0.5**
baz=211,SNR=13
MESA MESA 88.83 18 P **P 22 31 51.8 +1.2**
baz=215,SNR=5.1
KLU Klutina 88.86 16 IAmb IAmb 22 31 52.1
comp=Z,34nm,1.0s
KLU Klutina 88.86 16 P **P 22 31 51.1 +0.6**
baz=212,SNR=6.2
E08A Dider Farm, El 88.90 37 IAmb IAmb 22 31 53.7
comp=Z,62nm,1.1s
121A Cookes Peak, D 88.94 54 P **P 22 31 53.5 +1.8**
121A IAmb IAmb 22 31 55.1
comp=Z,50nm,1.1s
121A Cookes Peak, D 88.94 54 P **P 22 31 53.7 +1.9**
baz=242
TNA Tin City 88.95 5 IAmb IAmb 22 31 53.2
comp=Z,43nm,1.1s
TNA Tin City 88.95 5 P **P 22 31 51.4 +0.7**
baz=192
BMO Blue Mountains 88.96 40 IAmb IAmb 22 31 53.8
comp=Z,57nm,1.6s
MFID Camas Ranch 89.04 41 IAmb IAmb 22 31 54.5
comp=Z,62nm,1.1s
TGL Tana Glacier 89.06 18 IAmb IAmb 22 31 53.4
comp=Z,61nm,1.0s
CAST Castle Rocks 89.16 12 IAmb IAmb 22 31 51.9
comp=Z,51nm,1.0s
CAST Castle Rocks 89.16 12 P **P 22 31 50.8 -1.0**
baz=206,SNR=25
PNL Peninsula 89.19 20 P **P 22 31 52.1 +0.1**
baz=218
DUG Dugway, Tooele 89.22 45 IAmb IAmb 22 31 55.3
comp=Z,41nm,1.2s
DUG Dugway, Tooele 89.22 45 P **P 22 31 54.0 +1.2**
baz=239,SNR=19
PINM Pinnacle 89.27 19 P **P 22 31 53.1 +0.6**
baz=217
VRDI Verde Repeater 89.28 17 IAmb IAmb 22 31 54.4
comp=Z,47nm,1.1s
TABL Table Mountain 89.28 18 P **P 22 31 53.4 +0.7**
N25K Chitina, Valde 89.30 16 IAmb IAmb 22 31 54.3
comp=Z,59nm,1.1s
N25K Chitina, Valde 89.30 16 P **P 22 31 53.2 +0.6**
baz=213,SNR=7.7
D08A Wollman Farm, 89.31 37 IAmb IAmb 22 31 55.5
comp=Z,70nm,1.1s
PLCA Paso Flores 89.32 135 P **P 22 31 55.3 +2.0**
comp=Z,41nm,1.1s,baz=233,slow=4.8,SNR=32
PLCA Paso Flores 89.32 135 IAmb IAmb 22 31 56.5
comp=Z,60nm,1.1s
M24K Tolsona, Glenn 89.32 15 IAmb IAmb 22 31 55.9
comp=Z,86nm,1.3s
M24K Tolsona, Glenn 89.32 15 P **P 22 31 53.3 +0.7**
baz=212,SNR=5.4
LC01 Cunco 89.34 132 P **P 22 31 53.6 +0.2**
GRNC Granite Creek 89.34 18 IAmb IAmb 22 31 54.9
comp=Z,56nm,1.0s
WAT6 Susitna Watana 89.36 15 P **P 22 31 52.9 0.0**
baz=210,SNR=11
GLB Gilahina Butte 89.36 17 IAmb IAmb 22 31 54.5
comp=Z,44nm,1.1s
HHC Hu-ho-hao-te 89.36 315 *e*P **P 22 31 55.1 +1.7**
HHC SKS **SKSac 22 41 30.2 -0.1**
HHC S **S 22 42 00.9 +4.5**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,69nm,5.5s
E09A Wood Farm, Sta 89.43 38 IAmb IAmb 22 31 55.7
comp=Z,49nm,1.1s
J20K Nowinta River 89.46 11 IAmb IAmb 22 31 54.6
comp=Z,41nm,1.1s
J20K Nowinta River 89.46 11 P **P 22 31 53.4 +0.3**
baz=204
KTH Kantishna Hill 89.52 13 IAmb IAmb 22 31 53.8
comp=Z,36nm,1.0s
GCSA Galena City Sc 89.52 10 P **P 22 31 54.0 +0.6**
baz=202,SNR=5.5
MCARA McCarthy VSAT 89.53 17 IAmb IAmb 22 31 56.1

comp=Z,63nm,1.0s
MCARA **McCarthy VSAT** 89.53 17 P P 22 31 54.0 +0.5
baz=214,SNR=9.4
CHUM **Lake Minchumin** 89.53 12 P P 22 31 52.8 -0.7
baz=206,SNR=10
TRF **Thorofare Moun** 89.56 13 IAmb IAmb 22 31 54.4
comp=Z,49nm,1.0s
TRF **Thorofare Moun** 89.56 13 P P 22 31 53.3 -0.5
baz=208,SNR=12
NLU **North Lily Min** 89.58 46 IAmb IAmb 22 31 57.3
comp=Z,31nm,1.0s
LOGN **Logan Glacier** 89.64 18 IAmb IAmb 22 31 56.1
comp=Z,58nm,1.2s
BARN **Barnard Glacie** 89.64 18 IAmb IAmb 22 31 57.0
comp=Z,95nm,1.2s
F10A **Beach Ranch, E** 89.64 39 IAmb IAmb 22 31 56.5
comp=Z,34nm,0.9s
CTG **Chitna Glacier** 89.65 18 P P 22 31 54.9 +0.6
baz=216,SNR=7.6
CTGM **Chitina Glacie** 89.65 18 IAmb IAmb 22 31 56.2
comp=Z,53nm,1.1s
Q16A **Castle Valley** 89.65 47 P P 22 31 56.0 +1.1
Q16A IAmb IAmb 22 31 58.9
comp=Z,60nm,1.0s
PZH **PanZhiHua** 89.68 299 P P 22 31 55.8 +0.6
PZH pP pP 22 33 56.5 +0.1
PZH S S 22 41 58.6 -1.3
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,70nm,4.7s
HARP **HAARP** 89.82 16 P P 22 31 55.0 +0.2
baz=212
B08A **Colville Reser** 89.85 36 IAmb IAmb 22 31 57.2
comp=Z,38nm,1.1s
PLID **Pearl Lake** 89.86 40 IAmb IAmb 22 31 58.0
comp=Z,72nm,1.6s
DHY **Denali Highway** 89.87 15 IAmb IAmb 22 31 56.5
comp=Z,42nm,1.4s
DHY **Denali Highway** 89.87 15 P P 22 31 55.1 -0.2
baz=210,SNR=7.4
TLIG **Tlapa** 89.89 71 P P 22 31 57.8 +1.4
TLIG IAmb IAmb 22 31 59.7
comp=Z,66nm,1.0s
MPU **Maple Canyon** 89.90 46 IAmb IAmb 22 31 58.8
comp=Z,53nm,1.0s
HLID **Hailey** 89.99 42 IAmb IAmb 22 31 59.1
comp=Z,29nm,1.2s
HLID **Hailey** 89.99 42 P P 22 31 57.4 +1.1
baz=238,SNR=18
BPAW **Bear Paw Mtn.** 89.99 13 P P 22 31 54.4 -1.2
baz=207
CD2 **Chengdu** 90.06 304 P P 22 31 57.0 +0.2
HVU **Hansel Valley** 90.07 44 IAmb IAmb 22 31 59.3
comp=Z,70nm,1.0s
MCK **McKinley** 90.09 14 IAmb IAmb 22 31 59.2
comp=Z,50nm,1.3s
MCK **McKinley** 90.09 14 P P 22 31 55.8 -0.3
baz=209,SNR=12
C09A **Chrisman Ranch** 90.10 37 IAmb IAmb 22 31 58.7
comp=Z,27nm,0.9s
CTU **Camp Tracy** 90.17 45 IAmb IAmb 22 31 59.7
comp=Z,62nm,1.0s
P17A **Butcher Ranch,** 90.22 47 P P 22 31 58.5 +1.0
P17A IAmb IAmb 22 32 00.4
comp=Z,73nm,1.2s
PAX **Paxson** 90.23 15 P P 22 31 56.6 -0.3
baz=212
EFI **East Falkland** 90.25 148 *i* P P 22 31 58.8 +1.6
EFI pmax pmax
comp=Z,111nm,1.0s
EFI **East Falkland** 90.25 148 P P 22 31 57.6 +0.4
SKAG **Skagway** 90.33 21 IAmb IAmb 22 32 00.2
comp=Z,33nm,1.3s
SKAG **Skagway** 90.33 21 P P 22 31 58.3 +1.1
baz=221
MNTX **Cornudas Mount** 90.36 56 IAmb IAmb 22 32 01.0
comp=Z,44nm,1.0s
MNTX **Cornudas Mount** 90.36 56 P P 22 31 59.6 +1.5
baz=243,SNR=37
M26K **Nabesna, AK** 90.38 17 IAmb IAmb 22 31 59.3
comp=Z,33nm,1.2s
M26K **Nabesna, AK** 90.38 17 P P 22 31 57.9 +0.4
baz=214,SNR=7.2
YUK3 **Moose Creek** 90.56 18 P P 22 31 59.2 +0.7
baz=217,SNR=17
TX32 **Lajitas Array** 90.63 58 IAmb IAmb 22 32 02.7
comp=Z,43nm,1.1s
TXAR **Lajitas Array** 90.63 58 P P 22 32 01.3 +1.8
comp=Z,23nm,0.9s,baz=217,slow=5.8,SNR=124
TXAR PKKPbc PKKPbc 22 49 24.2 +1.1
comp=Z,0.8nm,0.8s,baz=94,slow=5.3,SNR=5.8
TXAR PKPPKP P'P'df 22 57 32.1 +0.1
comp=Z,0.4nm,0.8s,baz=90,slow=10.0,SNR=3.7
TXAR **Lajitas Array** 90.63 58 P P 22 32 00.6 +1.0
P18A **Preston Nutter** 90.63 47 IAmb IAmb 22 32 02.1
comp=Z,31nm,1.0s
M27K **Edge Creek, AK** 90.64 17 IAmb IAmb 22 32 00.9
comp=Z,41nm,1.1s
I21K **Tanana** 90.77 12 P P 22 31 58.7 -0.4
I21K IAmb IAmb 22 32 00.4
comp=Z,42nm,1.1s
L26K **Log Cabin Wild** 90.81 16 P P 22 31 59.9 +0.4
baz=214,SNR=7.3
NEA2 **Nenana** 90.82 13 IAmb IAmb 22 31 59.2
comp=Z,46nm,1.8s
NEA2 **Nenana** 90.82 13 P P 22 31 58.5 -1.0
baz=209
PV19 **Morning Glory** 90.84 48 IAmb IAmb 22 32 02.7
comp=Z,41nm,1.4s
PV23 **Carpenter Ridg** 90.89 48 IAmb IAmb 22 32 05.6
comp=Z,23nm,1.0s
WRH **Wood River Hil** 90.92 14 P P 22 31 58.8 -1.0
WRH IAmb IAmb 22 32 00.7
comp=Z,42nm,1.2s
PV04 **Paradox Valley** 90.94 48 IAmb IAmb 22 32 04.7
comp=Z,17nm,0.9s
BVCY **Beaver Creek** 90.96 17 P P 22 32 00.9 +0.8
baz=216,SNR=10.0
PV21 **Cone Mtn., Par** 90.97 48 P P 22 32 00.7 -0.4
PV21 IAmb IAmb 22 32 03.5
comp=Z,77nm,1.6s
NEW **Newport** 91.00 37 P P 22 32 01.2 +0.5
comp=Z,3.7nm,0.7s,baz=262,slow=1.2,SNR=6.7
NEW **Newport** 91.00 37 P P 22 32 01.1 +0.4
baz=236
ANMO **Albuquerque** 91.04 52 *i* P P 22 32 02.2 +0.8
ANMO pmax pmax
comp=Z,35nm,1.1s
ANMO **Albuquerque** 91.04 52 P P 22 32 01.6 +0.2
ANMO IAmb IAmb 22 32 03.9
comp=Z,29nm,1.1s
ANMO **Albuquerque** 91.04 52 P P 22 32 02.7 +1.2
baz=242
HDA **Harding Lake** 91.12 14 IAmb IAmb 22 32 02.8
comp=Z,58nm,1.6s
HDA **Harding Lake** 91.12 14 P P 22 32 00.5 -0.3
baz=211,SNR=6.8
CCB **Clear Creek Bu** 91.14 14 IAmb IAmb 22 32 01.5
comp=Z,45nm,1.4s
ML02 **Panimavida** 91.20 130 P P 22 32 03.1 +1.0
GO05 **Huala** 91.21 129 IAmb IAmb 22 32 04.3
comp=Z,68nm,1.2s
L27K **Beaver Creek,** 91.23 17 P P 22 32 01.0 -0.4
baz=215,SNR=8.1
I23K **Minto, Yukon-K** 91.25 13 IAmb IAmb 22 32 02.9
comp=Z,43nm,1.6s
I23K **Minto, Yukon-K** 91.25 13 P P 22 32 00.7 -0.7
baz=209,SNR=6.0
MDM **Murphy Dome** 91.32 13 IAmb IAmb 22 32 02.3
comp=Z,41nm,1.2s
TCOL **CIGO, UAF Yank** 91.32 13 IAmb IAmb 22 32 02.4
comp=Z,44nm,1.2s
TCOL **CIGO, UAF Yank** 91.32 13 P P 22 32 00.9 -0.8
baz=210
COLA **College** 91.32 13 *i* P P 22 32 03.0 +1.3
COLA pmax pmax
comp=Z,41nm,1.3s
COLA **College** 91.32 13 P P 22 32 01.1 -0.6
COLA IAmb IAmb 22 32 02.4
comp=Z,42nm,1.2s
COLA **College** 91.32 13 P P 22 32 01.1 -0.6
baz=210
WHY **Whitehorse** 91.39 21 P P 22 32 02.4 +0.2
baz=222
BILL **Bilibino** 91.39 355*c* *i* P P 22 32 02.4 +0.4
BILL *e**PP pwP 22 34 06.7 -1.2
BILL *e* 22 35 54.7
BILL *i* S S 22 42 15.5 +2.5
BILL *e*SS SS 22 48 37.6 +0.8
BILL pmax pmax
comp=Z,33nm,1.1s
BILL **Bilibino** 91.39 355 P P 22 32 02.0 0.0
BILL IAmb IAmb 22 32 03.7
comp=Z,33nm,1.1s
SCRK **Sand Creek** 91.44 15 P P 22 32 02.9 +0.4
baz=214,SNR=7.6
IL31 91.44 14 IAmb IAmb 22 32 03.1
comp=Z,40nm,1.5s
ILAR **Eielson Array** 91.44 14 P P 22 32 01.6 -0.7
comp=Z,6.2nm,1.0s,baz=233,slow=5.2,SNR=28
ILAR PKPPKP P'P'df 22 57 27.5 -0.1
comp=Z,0.7nm,0.9s,baz=18,slow=3.9,SNR=4.3
RDMU **Red Mountain** 91.55 46 IAmb IAmb 22 32 05.8
comp=Z,28nm,1.0s
MCMT **McKenzie Canyo** 91.61 41 P P 22 32 04.3 +0.4
POKR **Poker Plat Res** 91.62 13 P P 22 32 02.7 -0.4
baz=210
J25K **Salcha River,** 91.65 14 P P 22 32 03.4 0.0
baz=212,SNR=6.4
N31M **Braeburn, Yuko** 91.73 20 P P 22 32 04.4 +0.7
baz=221
MSO **Missoula** 92.02 39 P P 22 32 05.7 +0.2
baz=238
S22A **4UR Ranch, Cre** 92.07 50 IAmb IAmb 22 32 08.8
comp=Z,38nm,1.1s
S22A **4UR Ranch, Cre** 92.07 50 P P 22 32 07.6 +1.3
baz=242,SNR=23
REDW **Red Top Meadow** 92.10 43 IAmb IAmb 22 32 08.6
comp=Z,33nm,1.4s
BO02 **Sierra Bellavi** 92.14 129 IAmb IAmb 22 32 08.8
comp=Z,41nm,1.2s
O20A **White River Ci** 92.22 47 IAmb IAmb 22 32 08.9
comp=Z,26nm,1.0s
O20A **White River Ci** 92.22 47 P P 22 32 07.8 +1.1
baz=242,SNR=7.6
LZH **Lanzhou** 92.33 308 ⇑P P 22 32 09.1 +1.8
LZH pP pP 22 34 08.8 +0.1
LZH sP sP 22 35 08.7 +4.4
LZH SKS SKSac 22 41 45.9 -1.4
LZH S S 22 42 27.8 +4.8
LZH pmax pmax
comp=Z,26nm,1.4s
LZH pmax pmax
comp=Z,130nm,6.0s
PRP **Porcupine Dome** 92.38 14 P P 22 32 06.3 -0.5
baz=212,SNR=5.4
QLMT **Earthquake Lak** 92.48 42 P P 22 32 08.6 +0.7
BW06 **Boulder Array** 92.63 44 P P 22 32 08.9 +0.3
baz=241,SNR=11
PDAR **Pinedale Array** 92.63 44 P P 22 32 09.3 +0.7
comp=Z,6.4nm,0.8s,baz=206,slow=2.7,SNR=37
PDAR PKKPbc PKKPdf 22 49 17.0 +0.3
comp=Z,0.2nm,0.5s,baz=64,slow=6.8,SNR=5.3
YMR **Madison River** 92.68 42 P P 22 32 09.9 +1.1
DAWY **Dawson** 92.69 17 P P 22 32 08.6 +0.5
baz=218,SNR=12
M31M **Drury Creek, Y** 92.70 20 P P 22 32 08.3 +0.1
baz=222
BOZ **Bozeman (W)** 92.75 41 P P 22 32 10.1 +1.2
baz=240,SNR=6.7
H17A **Grant Village** 92.79 42 P P 22 32 11.4 +2.1
baz=240,SNR=5.4
EGAK **Eagle** 92.80 16 P P 22 32 08.8 +0.3
baz=216,SNR=8.2
COLD **Coldfoot** 92.93 11 P P 22 32 09.7 +0.7
baz=208
SDCO **Great Sand Dun** 93.01 50 P P 22 32 10.8 +0.2
SDCO IAmb IAmb 22 32 12.6
comp=Z,17nm,0.9s
SDCO **Great Sand Dun** 93.01 50 P P 22 32 11.2 +0.7
baz=243,SNR=20
PEL **Peldehue** 93.03 128 IAmb IAmb 22 32 12.2
comp=Z,33nm,0.9s
MSTX **Muleshoe** 93.33 55 IAmb IAmb 22 32 13.8
comp=Z,24nm,1.1s
MSTX **Muleshoe** 93.33 55 P P 22 32 12.4 +0.5
baz=244,SNR=6.1
T25A **Trinidad** 93.51 51 IAmb IAmb 22 32 14.6
comp=Z,18nm,1.0s
T25A **Trinidad** 93.51 51 P P 22 32 13.5 +0.7
baz=244,SNR=10
833A **Chaparral WMA,** 93.59 61 IAmb IAmb 22 32 15.3
comp=Z,48nm,1.2s
833A **Chaparral WMA,** 93.59 61 P P 22 32 14.0 +1.0
baz=246
YAK **Yakutsk** 93.59 339 *e*P P 22 32 10.4 -1.7
YAK *e**PP pP 22 34 15.4 +1.6
YAK *e* 22 36 06.0
YAK *e*PPP PPP 22 38 09.3
YAK *e*S SKSac 22 41 47.3 -5.1
YAK *e* 22 42 33.3
YAK *e*SS SS 22 49 11.4 +3.4
YAK *e*SSS SSS 22 52 56.9
YAK pmax pmax
comp=Z,20nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,143nm,3.8s
YAK pmax pmax
comp=N,41nm,3.4s
YAK pmax pmax
comp=E,55nm,3.7s
YAK smax smax
comp=N,162nm,2.4s
YAK smax smax
comp=E,51nm,2.0s
Q24A **Divide** 93.80 49 IAmb IAmb 22 32 16.3
comp=Z,15nm,1.0s
ISCO **Idaho Springs** 93.86 48 P P 22 32 14.7 +0.3
baz=243
RLMT **Red Lodge** 93.96 42 P P 22 32 15.4 +0.9
baz=241,SNR=5.3
I29M **Ogilvie Camp,** 94.00 16 P P 22 32 13.9 -0.1
baz=219,SNR=8.0
N23A **Red Feather La** 94.13 47 P P 22 32 16.4 +0.9
N23A **Red Feather La** 94.13 47 P P 22 32 16.4 +0.9
baz=243,SNR=6.3
JCT **Junction City** 94.15 59 P P 22 32 15.8 +0.3
baz=246
CO03 **El Pedregal** 94.17 126 P P 22 32 16.5 +0.6
EGMT **Eagleton** 95.07 40 P P 22 32 20.5 +1.1
baz=241
LCO **Las Campanas** 95.07 124 P P 22 32 21.4 +1.2
LCO pmax pmax
comp=Z,56nm,0.9s
LCO **Las Campanas** 95.07 124 P P 22 32 21.4 +1.2
ZON **Zonda** 95.30 127 IAmb IAmb 22 32 23.2
comp=Z,29nm,1.4s
KSCO **Kaye Shedlock'** 95.59 50 P P 22 32 23.1 +1.1
baz=245
ULN **Ulaanbaatar** 95.67 320*ce*P P 22 32 22.5 +0.3
ULN pmax pmax
comp=Z,12nm,1.3s
ULN **Ulaanbaatar** 95.67 320 P P 22 32 22.0 -0.2
A21K **Barrow** 95.68 8 P P 22 32 21.9 +0.5
baz=202
SONM **Songino Array** 96.05 320 P P 22 32 23.3 -0.5
comp=Z,4.9nm,1.1s,baz=138,slow=4.6,SNR=22
SONM pP pP 22 34 24.2 -1.5
comp=Z,1.5nm,1.1s,baz=141,slow=5.6,SNR=4.9
SONM PP PP 22 36 23.7 -2.8
comp=Z,1.7nm,1.2s,baz=130,slow=4.5,SNR=4.2
SONM PKKPbc PKKPbc 22 49 09.6 -0.3
comp=Z,2.9nm,0.7s,baz=265,slow=3.1,SNR=19
LAO **LASA Array** 96.57 42 P P 22 32 27.5 +1.4
baz=243
GTA **Gaotai** 96.65 310 *e*P P 22 32 27.2 +0.4
GTA pP pP 22 34 28.9 +0.3
GTA SKS SKSac 22 42 06.1 -3.7
GTA S S 22 43 03.5 +3.6
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,44nm,8.0s
RSSD **Black Hills** 96.82 45 P P 22 32 27.5 0.0
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD **Black Hills** 96.82 45 P P 22 32 27.5 0.0
RSSD **Black Hills** 96.82 45 P P 22 32 27.7 +0.2
baz=244
AC02 **Maricunga** 97.36 123 IAmb IAmb 22 32 34.6
comp=Z,34nm,1.7s
INK **Inuvik** 97.47 16 P Pdif 22 32 29.1 -0.5
comp=Z,4.6nm,0.9s,baz=217,slow=5.2,SNR=14
INK PKKPbc PKKPbc 22 49 04.0 -2.4
comp=Z,0.7nm,0.6s,baz=352,slow=7.5,SNR=3.7
INK **Inuvik** 97.47 16 P Pdif 22 32 29.4 -0.1
baz=223
GOMU **GeErMu** 99.03 305 P Pdif 22 32 42.8 +5.0
GOMU pmax pmax
comp=Z,2.0nm,1.0s
GOMU pmax pmax
comp=Z,94nm,4.7s
YKA **Yellowknife Ar** 99.97 26 P Pdif 22 32 40.8 +0.1
comp=Z,1.2nm,0.8s,baz=246,slow=4.4,SNR=18
YKA pP pP 22 34 44.5 +1.0
comp=Z,0.2nm,0.8s,baz=246,slow=4.6,SNR=2.1
YKA PKiKP PKiKP 22 37 04.5 -0.5
comp=Z,1.2nm,0.8s,baz=241,slow=1.8,SNR=14
YKA PKKPbc PKKPbc 22 48 57.2 -2.2
comp=Z,1.1nm,0.6s,baz=44,slow=2.5,SNR=21
YKA **Yellowknife Ar** 99.97 26 PKiKP 22 37 03.3 -1.7
TIXI **Tiksi** 100.62 346 *i* P Pdif 22 32 43.6 +0.2
TIXI pmax pmax
comp=Z,3.0nm,1.1s
ECSD **EROS Data Cent** 101.60 47 P Pdif 22 32 48.8 +0.3
baz=249
A36M **Sachs Harbour** 102.06 15 P Pdif 22 32 50.4 +0.5
baz=231
LPAZ **La Paz** 103.39 114 Pdiff Pdif 22 33 00.6 +2.7
comp=Z,1.8nm,0.8s,baz=231,slow=4.3,SNR=6.2
LPAZ PKiKP PKiKP 22 37 12.8 -0.7
comp=Z,0.8nm,0.6s,baz=27,slow=4.5,SNR=3.6
LPAZ PP PP 22 37 22.2 +0.3
comp=Z,2.5nm,0.9s,baz=256,slow=5.0,SNR=6.5
LPAZ **La Paz** 103.39 114 P Pdif 22 33 01.4 +3.5
LPAZ **La Paz** 103.39 114 Pdif 22 33 01.4 +3.5
EYMN **Ely** 106.33 44 P PKiKP 22 37 18.7 +1.6
baz=254
SIV **San Ignacio** 109.38 118 PKiKP PKiKP 22 37 23.7 -0.2
comp=Z,0.6nm,0.3s,baz=221,slow=1.7,SNR=6.4
SIV PP PP 22 38 06.2 +1.7
comp=Z,3.8nm,0.8s,baz=229,slow=9.2,SNR=9.0
ZALV **Zalesovo Beam** 110.90 321 PKiKP PKiKP 22 37 24.6 -0.9
comp=Z,2.8nm,0.8s,baz=141,slow=0.9,SNR=15
ZALV PP PP 22 38 14.7 -0.2
comp=Z,2.0nm,0.8s,baz=90,slow=3.0,SNR=4.6
ZALV SKP 22 40 08.1
comp=Z,1.9nm,0.9s,baz=119,slow=1.9,SNR=4.1
ZALV PKKPbc PKKPbc 22 48 24.8 -1.2
comp=Z,1.3nm,0.7s,baz=265,slow=3.8,SNR=6.7
ZALV PKKPab PKKPab 22 48 37.4 +1.5
comp=Z,1.4nm,0.7s,baz=285,slow=5.8,SNR=4.7
MKAR **Makanchi Array** 111.10 313 Pdiff Pdif 22 33 31.7 +1.0
comp=Z,0.3nm,0.7s,baz=100,slow=6.6,SNR=4.4
MKAR PKiKP PKiKP 22 37 25.5 -0.7
comp=Z,1.8nm,0.6s,baz=69,slow=1.8,SNR=21
MKAR SKP 22 40 09.4
comp=Z,2.8nm,0.8s,baz=72,slow=4.0,SNR=8.6
MKAR PKKPbc PKKPbc 22 48 24.9 -0.3
comp=Z,4.1nm,0.8s,baz=284,slow=3.8,SNR=18
MKAR PKKPab PKKPab 22 48 36.9 +1.6
comp=Z,7.4nm,0.7s,baz=280,slow=4.0,SNR=22
MKAR PKPPKP P'P'df 22 56 51.1 -1.1
comp=Z,0.8nm,1.0s,baz=255,slow=4.8,SNR=4.0
NRIK **Noril'sk** 112.00 338 PKiKP PKiKP 22 37 26.4 -0.8
comp=Z,2.0nm,0.7s,baz=180,slow=20,SNR=4.4
NRIK **Noril'sk** 112.00 338*c* *i* PKiKP PKiKP 22 37 27.4 +0.2
M53A **WI Miller and** 112.26 53 P PKiKP 22 37 29.2 +0.7
baz=258
UZB **Uzynbulak** 112.67 309 *i* PKiKP PKiKP 22 37 28.3 -1.1
UZB **Uzynbulak** 112.67 309 *e*PKiKP PKiKP 22 37 28.4 -1.1
baz=309
SATY **Saty** 113.09 308 *i* PKiKP PKiKP 22 37 29.4 -0.8
SATY **Saty** 113.09 308 *e*PKiKP PKiKP 22 37 29.5 -0.8
baz=309
TDK **Taldyqorghan** 113.44 311 *i* PKiKP PKiKP 22 37 29.4 -1.2
TDK **Taldyqorghan** 113.44 311 *e*PKiKP PKiKP 22 37 29.5 -1.2
baz=311
MDOK **Medeo** 114.09 308 *i* PKiKP PKPdf 22 37 31.1 -1.1
MDOK **Medeo** 114.09 308 *e*PKiKP PKPdf 22 37 31.2 -1.0
baz=308
TNSS **Tian-Shan** 114.14 308 *e*PKiKP PKPdf 22 37 31.9 -0.8
baz=308
KURK **Kurchatov** 114.15 317*c* *i* PKiKP PKPdf 22 37 31.2 -0.6
KURK pmax pmax
comp=Z,19nm,1.3s
KURK **Kurchatov** 114.15 317 P PKPdf 22 37 31.3 -0.5
SSPA **Standing Stone** 114.18 54 P PKPdf 22 37 32.0 -0.2
baz=260
KURBB **Kurchatov Arra** 114.19 317 PKKPbc PKKPbc 22 48 15.0 -0.1
comp=Z,5.0nm,0.9s,baz=276,slow=3.9,SNR=24
KSH **Kashi** 114.25 304 PKP PKiKP 22 37 33.0 +0.4
KSH SKKS 22 44 43.5
KUU **Kurty** 114.72 309 *e*PKiKP PKPdf 22 37 31.8 -1.4
KUU **Kurty** 114.72 309 *e*PKP PKPdf 22 37 31.8 -1.4
baz=309
KST **Kastek** 114.86 308 *e*PKP PKPdf 22 37 32.2 -1.5
baz=308
TKM2 **Tokmak 2** 115.10 308 P PKPdf 22 37 33.5 -0.7
SNR=7.4
NIL **Nilore** 115.26 298 PKiKP PKPdf 22 37 33.2 -1.4
NIL **Nilore** 115.26 298 PKPdf PKPdf 22 37 33.1 -1.4
VOI **Vohitsoka** 115.60 229 P PKPdf 22 37 35.4 -0.4
CHMS **Chumysh** 115.73 308 P PKPdf 22 37 34.6 -0.6
SNR=8.2
UCH **Uchtor** 115.79 307 P PKiKP 22 37 36.0 +0.1
SNR=10
AAK **Ala-Archa** 115.86 308 PKKPbc PKKPbc 22 48 09.3 -0.1
comp=Z,15nm,0.9s,baz=208,slow=2.0,SNR=55
AAK **Ala-Archa** 115.86 308*c* *i* PKiKP PKPdf 22 37 35.4 -0.2
AAK pmax pmax
comp=Z,28nm,1.7s
AAK **Ala-Archa** 115.86 308 PKPdf 22 37 34.7 -0.9
SGDS **Sogindy** 115.88 308 *e*PKP PKPdf 22 37 34.4 -1.1
baz=308
USP **Ospenovka** 115.95 308 P PKPdf 22 37 35.5 -0.1
SNR=7.7
AML **Almayashu** 116.38 307 P PKPdf 22 37 36.9 0.0
SNR=13
AML **Almayashu** 116.38 307 P PKiKP 22 37 37.0 +0.1
EKS2 **Erkin-Say** 116.39 307 P PKPdf 22 37 36.3 -0.3
SNR=11
BTLS **Baital** 116.50 310 *e*PKiKP PKPdf 22 37 35.7 -0.8
BTLS **Baital** 116.50 310 *e*PKP PKPdf 22 37 35.7 -0.8
baz=310
PAL **Palisades** 117.22 55 P PKiKP 22 37 38.7 +0.7
baz=262
TULEG **Thule** 117.40 14 *i* P PKPdf 22 37 34.9 -2.5
TULEG **Thule** 117.40 14 PKPdf PKPdf 22 37 36.6 -0.8
BRZS **Berezniki** 117.87 316 *e*PKiKP PKPdf 22 37 37.6 -1.4
BRZS **Berezniki** 117.87 316 *e*PKP PKPdf 22 37 37.7 -1.4
baz=316
DZA **Taraz** 118.21 307 *e*PKiKP PKPdf 22 37 39.2 -0.8
DZA **Taraz** 118.21 307 *e*PKP PKPdf 22 37 39.2 -0.8
baz=308
L61B **Northampton** 118.31 53 P PKiKP 22 37 40.3 +0.2
baz=264
BOAV **Boa Vista** 118.66 100 PKPdf 22 37 41.1 -0.6
KBL **Kabul** 118.85 298 P PKiKP 22 37 41.9 +0.1
BRLS **Borolday** 119.31 308 *e*PKiKP PKPdf 22 37 40.8 -1.2
BRLS **Borolday** 119.31 308 *e*PKP PKPdf 22 37 40.9 -1.2
baz=307
BVAR **Borovoye Array** 119.39 319 PKKPbc PKKPbc 22 47 56.6 -0.5
comp=Z,1.9nm,0.7s,baz=318,slow=2.0,SNR=9.0
BRVK **Borovoye** 119.45 319*c* *i* PKiKP PKPdf 22 37 41.5 -0.5
BRVK pmax pmax
comp=Z,22nm,1.3s
BRVK **Borovoye** 119.45 319 P PKPdf 22 37 41.9 -0.1
BDFB **Brasilia** 119.84 125 PKP PKPdf 22 37 43.2 -0.8
comp=Z,11nm,0.7s,baz=184,slow=0.7,SNR=18
BDFB **Brasilia** 119.84 125 PKPdf 22 37 43.0 -1.0
NEEM **North Greenlan** 120.64 11 *i* P PKPdf 22 37 42.5 -1.5
PKME **Peaks-Kenny Pk** 120.97 50 P PKPdf 22 37 44.9 -0.2
baz=268
SUR **Sutherland** 121.08 201 P PKiKP 22 37 46.3 0.0
UPNV **Upernavik** 121.91 17 *i* P PKPdf 22 37 44.0 -2.1
SCHQ **Schefferville** 122.32 39 PKP PKPdf 22 37 46.9 -0.6
comp=Z,16nm,0.9s,baz=84,slow=0.8,SNR=7.7
BOSA **Boshof** 122.77 207 PKP PKPdf 22 37 49.4 0.0
comp=Z,16nm,0.9s,baz=150,slow=1.6,SNR=17
BOSA SKP 22 40 33.4
comp=Z,3.8nm,0.7s,baz=79,slow=1.9,SNR=4.4
SPA0 **Spitsbergen Ar** 124.29 356 *e*PKPdf PKPdf 22 37 50.6 0.0
SPITS **Spitsbergen Ar** 124.29 356 PKiKP PKPdf 22 37 50.0 -0.6
SVE **Sverdlovsk** 124.63 324 *e*PKiKP PKPdf 22 37 51.4 -0.4

SVE pmax pmax
comp=Z,37nm,1.1s
JLN Jalan Bani Buh 124.80 282 P **PKPdf 22 37 53.0 -0.1**
ILULI Ilulissat 125.06 20 *i* P **PKPdf 22 37 50.7 -1.6**
WBK Wadi Bani Khal 125.30 282 P **PKPdf 22 37 53.8 -0.3**
DAG Danmarks Havn 125.57 5 *i* P **PKPdf 22 37 50.7 -2.4**
ARU Arti 125.84 324 PKKPbc PKKPbc 22 47 33.0 +0.2
comp=Z,3.9nm,0.7s,baz=246,slow=2.4,SNR=22
ARU Arti 125.84 324 *i* PKIKP **PKPdf 22 37 54.0 -0.1**
ARU 22 39 55.3
ARU 22 44 12.0
ARU Arti 125.84 324 PKPdf **PKPdf 22 37 53.4 -0.7**
JMDO Jabal Madar 126.03 282 P **PKPdf 22 37 55.4 -0.2**
SNR=6.0
SMDO Samad 126.23 282 P **PKPdf 22 37 55.6 -0.4**
SUMG Summit 126.28 13 *i* P **PKPdf 22 37 54.0 -1.1**
MDP Montagnes des 126.92 101 PKP **PKPdf 22 37 57.7 +0.2**
comp=Z,13nm,0.7s,baz=261,slow=3.2,SNR=8.1
BSY Bisya 126.92 282 P **PKPdf 22 37 56.9 -0.4**
SOCY Socotra 126.96 268 P **PKPdf 22 37 57.5 -0.1**
AKTO Aktyubinsk 127.24 317 PKKPbc 22 47 27.3
comp=Z,3.0nm,0.9s,baz=258,slow=2.3,SNR=8.7
DBG Daneborg 127.73 7 *i* P **PKPdf 22 37 55.5 -1.8**
DMTO DMTO 127.76 275 P **PKPdf 22 37 58.8 -0.1**
GEYT Alibeck 127.96 301 PKP **PKiKP 22 37 59.4 -0.1**
comp=Z,9.7nm,0.8s,baz=222,slow=2.0,SNR=12
GEYT SKPbc SKPbc 22 40 27.6
comp=Z,14nm,1.1s,baz=251,slow=19,SNR=9.5
DY2G Dye2 128.07 21 *i* P **PKPdf 22 37 57.3 -1.1**
UOSS Minazif 128.26 284 P **PKPdf 22 37 59.5 -0.2**
HATD Hatta, Dubai 128.30 284 P **PKPdf 22 37 59.6 -0.2**
MASF Masafi 128.37 285 P **PKPdf 22 37 59.9 0.0**
RBK Rabkut 128.38 274 P **PKPdf 22 38 00.2 +0.1**
ICESG Greenland Ices 128.44 17 *i* P **PKPdf 22 37 57.5 -1.7**
DOK Doka 128.75 276 P **PKPdf 22 38 00.6 -0.2**
SNR=7.3
WHFO Wadi Hawf 128.89 275 P **PKPdf 22 38 01.0 -0.2**
SNR=8.9
ASUD Al Ashush, Dub 128.98 284 P **PKPdf 22 38 01.4 +0.3**
ABTO Aybut 129.17 274 P **PKPdf 22 38 01.6 -0.1**
SNR=5.0
KIRV Kirov 129.89 328*c* *i*PKIKP **PKPdf 22 38 02.1 +0.4**
IVI Ivigtut 130.04 28 *i* P **PKPdf 22 38 00.3 -1.6**
HAMF Hammerfest 130.35 350 *e*PKPdf **PKPdf 22 38 02.2 -0.1**
ARA0 ARCESS Array S 130.98 348 *e*PKPdf **PKPdf 22 38 03.5 -0.1**
ARCES ARCESS Array B 130.98 348 PKP **PKPdf 22 38 03.4 -0.2**
comp=Z,13nm,0.7s,baz=68,slow=2.5,SNR=37
ARCES SKPbc **SKPab 22 40 37.1 +0.3**
comp=Z,13nm,0.9s,baz=46,slow=5.2,SNR=10
ISOG Isortoq, Green 131.01 20 *i* P **PKPdf 22 38 03.1 -0.6**
KTK1 Kautokeino 131.85 349 *e*PKPdf **PKPdf 22 38 05.6 +0.4**
TRO Tromso 132.00 351 *e*PKPdf **PKPdf 22 38 06.0 +0.5**
KLMR Klimovskoe 133.17 334 *e*PKIKP **PKPdf 22 38 05.3 -2.6**
KLMR *e* 22 40 40.9
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR Klimovskoe 133.17 334 *e*PKPdf **PKPdf 22 38 05.3 -2.6**
KLMR AMP 22 38 09.8
comp=Z,27nm,1.4s
KLMR *e*PP **PP 22 40 40.9 -2.0**
STEI Steigen 134.10 352 *e*PKPdf **PKiKP 22 38 10.2 -0.7**
LOF Lofoten 134.12 353 *e*PKPdf **PKiKP 22 38 10.6 -0.3**
TSUM Tsumeb 134.28 205 PKPdf **PKiKP 22 38 13.1 +0.1**
KIBK Kibwezi 134.50 241 P **PKPdf 22 38 12.5 +0.6**
SNR=11
MAK Makhachkala 135.63 308 *i* P **Pdif 22 35 14.2 -5.6**
MAK *i* 22 38 13.7
MAK *e* 22 40 55.5
MAK pmax pmax
comp=Z,218nm,1.2s
KMBO Kilima Mbogo 135.84 242 PKhKP PKPpre 22 38 07.1
comp=Z,0.7nm,0.5s,baz=279,slow=6.0,SNR=3.6
KMBO PKP **PKPdf 22 38 15.4 +0.7**
comp=Z,14nm,1.1s,baz=53,slow=3.6,SNR=16
KMBO SKPbc **SKPbc 22 40 56.2 +2.1**
comp=Z,14nm,1.0s,baz=74,slow=2.9,SNR=21
KMBO Kilima Mbogo 135.84 242 P **PKiKP 22 38 16.0 -0.4**
MOR8 Moi Rana 135.86 351 *e*PKPdf **PKPdf 22 38 13.2 +0.4**
GROC Groznyy 136.81 309 *e*P **Pdif 22 35 28.7 +3.6**
GROC *e* 22 38 14.8
GROC *e* 22 41 06.1
GROC *e* 22 41 19.5
GROC pmax pmax
comp=Z,28nm,1.4s
MOS Moscow 136.89 329 *i* PKIKP **PKPdf 22 38 14.5 -0.4**
MOS pmax pmax
comp=Z,41nm,1.2s
VRH Novokhopyorsk 136.93 322 *e*PKIKP **PKPdf 22 38 13.8 -1.4**
VRH pmax pmax
comp=Z,20nm,0.8s
FINES FINESS Array B 137.48 341 PKhKP PKPpre 22 38 05.2
comp=Z,5.5nm,0.9s,baz=80,slow=2.7,SNR=11
FINES PKP **PKPdf 22 38 16.0 +0.2**
comp=Z,4.1nm,0.3s,baz=34,slow=2.1,SNR=19
FINES SKPbc **SKPbc 22 40 57.9 +0.8**
comp=Z,19nm,0.9s,baz=64,slow=4.4,SNR=11
RAYN Ar Rayn 137.65 280 PKIKP **PKPdf 22 38 17.7 +0.2**
RAYN Ar Rayn 137.65 280 P **PKPdf 22 38 17.3 -0.1**
RAYN Ar Rayn 137.65 280 PKPdf **PKPdf 22 38 17.7 +0.2**
OBN Obninsk 137.74 329 ⇓*i*PKIKP **PKPdf 22 38 17.1 +0.6**
OBN *e* 22 44 38.4
OBN pmax pmax
comp=Z,52nm,1.7s
OBN Obninsk 137.74 329 PKPdf **PKPdf 22 38 16.2 -0.3**
NSS Namsos 137.76 352 *e*PKPdf **PKPdf 22 38 08.7 -7.6**
LPSR Galich'ya Gora 137.85 325 *e*PKIKP **PKPdf 22 38 16.7 -0.1**
LPSR pmax pmax
comp=Z,30nm,1.2s
GNI Garni 138.18 305 SKPbc **SKPbc 22 41 01.3 +1.3**
comp=Z,21nm,1.1s,baz=90,slow=0.9,SNR=7.1
GNI Garni 138.18 305 PKIKP **PKPdf 22 38 17.5 -0.6**
GNI Garni 138.18 305 P **PKPdf 22 38 19.0 +1.0**
GNI Garni 138.18 305 **PKPdf 22 38 17.5 -0.6**
VSR Storozhevoye 138.37 323 *e*PKIKP **PKPdf 22 38 16.9 -0.9**
VSR pmax pmax
comp=Z,40nm,1.2s
KBZ Khabaz 138.73 311 PKP **PKPdf 22 38 18.9 +0.2**
comp=Z,5.0nm,1.0s,baz=143,slow=2.3,SNR=7.2
KBZ SKPbc **SKPbc 22 41 02.6 +1.5**
comp=Z,5.2nm,0.8s,baz=145,slow=2.6,SNR=6.6
KIV Kislovodsk 138.82 311 *e*PKIKP **PKiKP 22 38 20.4 -1.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
AKH Akhalkalaki 138.86 307 ⇑P **PKPdf 22 38 12.3 -7.0**
DOMB Dombas 140.52 353 *e*PKPdf **PKPdf 22 38 15.2 -6.3**
AKN Aaknes 140.60 354 *e*PKPdf **PKPdf 22 38 16.2 -5.4**
NB2 NORSAR Subarra141.20 351 PKP **PKPdf 22 38 17.1 -5.6**
comp=Z,19nm,1.2s,baz=16,slow=3.2
NOA NORSAR Array B141.20 351 PKhKP PKPpre 22 38 17.6
comp=Z,8.1nm,0.8s,baz=16,slow=4.7,SNR=28
NOA SKPbc **SKPbc 22 41 07.5 +0.4**
comp=Z,8.4nm,1.1s,baz=15,slow=4.2,SNR=5.8
MBAR Mbarara 141.33 237 PKHKP **PKPdf 22 38 20.3 -4.3**
MBAR Mbarara 141.33 237 P **PKPdf 22 38 21.0 -3.6**
MBAR Mbarara 141.33 237 **PKPdf 22 38 20.3 -4.3**
FOO Floro 141.34 356 *e*PKPdf **PKPdf 22 38 18.8 -4.1**
NC602 NORSAR Array S 141.44 350 *e*PKPdf **PKPdf 22 38 18.4 -4.7**
SUE Sulen 141.89 356 *e*PKPdf **PKPdf 22 38 20.2 -3.6**
IDID Didziasalis 141.91 335 *e*P **PKPdf 22 38 21.9 -2.1**
SKAR Skarslia 141.93 353 *e*PKPdf **PKPdf 22 38 20.8 -3.3**
MNK Minsk 142.03 333 *i* PKHKP **PKPdf 22 38 20.3 -4.0**
MNK *i* 22 41 33.5
MNK *i* 22 44 37.1
MNK *i* 22 54 15.3
MNK *i* SS SS 22 59 22.7 -3.1
MNK *i* SSS SSS 23 04 52.0
MNK pmax pmax
comp=E,3.0nm,1.2s
MNK pmax pmax
comp=Z,36nm,1.0s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=Z,228nm,21.0s
MNK MLR MLR
comp=N,330nm,23.0s
MNK MLR MLR
comp=E,86nm,21.0s
MNK Minsk 142.03 333 *i* PKP **PKPdf 22 38 20.4 -4.0**
comp=E,3.0nm,1.2s
MNK *i* PKP **PKPdf 22 38 20.4 -4.0**
comp=N,13nm,0.9s
MNK *i* PKP **PKPdf 22 38 20.4 -4.0**
comp=Z,36nm,1.0s,baz=226

MNK *i* pPKP **pPKPdf 22 40 31.0 -2.9**
MNK *i* PP **PP 22 41 33.5 -3.6**
MNK *i* SKS **SKSdf 22 44 37.1 -4.0**
MNK *i* PPP PPP 22 44 47.0
MNK *i* SKKS SKKSdf 22 54 15.3 +12
MNK *i* SS **SS 22 59 22.7 -3.1**
MNK *i* SSS SSS 23 04 52.0
MNK *i* LRM MLR 23 42 00.0
comp=Z,228nm,20.6s
MNK *i* LRM MLR 23 42 18.1
comp=N,330nm,23.2s
MNK *i* LRM MLR 23 42 18.9
comp=E,86nm,21.5s
IIGN Ignalina 142.09 335 *e*P **PKPdf 22 38 24.1 -0.3**
NACGM Naroch 142.19 334 *i* PKP **PKPdf 22 38 22.1 -2.4**
OSL Oslo 142.33 351 *e*PKPdf **PKPdf 22 38 21.5 -3.2**
ASK Askoy 142.43 355 *e*PKPdf **PKPdf 22 38 22.1 -2.7**
BER Bergen 142.52 355 *e*PKPdf **PKPdf 22 38 22.4 -2.5**
KONO Kongsberg 142.77 351 PKHKP **PKPdf 22 38 22.7 -2.8**
KONO Kongsberg 142.77 351 *e*PKPdf **PKPdf 22 38 22.5 -2.9**
KONO Kongsberg 142.77 351 **PKPdf 22 38 22.7 -2.8**
PABE Paberze 142.82 337 *e*P **PKPdf 22 38 23.9 -1.8**
ODD1 Odda 142.87 354 *e*PKPdf **PKPdf 22 38 23.5 -2.2**
PBUR Paburge 143.12 339 *e*P PKPbc 22 38 24.2 -0.2
BLS5 Blasjo 143.37 354 *e*PKPab PKPbc 22 38 25.3 +0.1
KMY Karmoy 143.68 355 *e*PKPab PKPbc 22 38 26.3 +0.3
AKASG Malin Array Be 143.93 327 PKP PKPbc 22 38 26.4 -0.7
comp=E,11nm,0.4s,baz=42,slow=4.0,SNR=171
AKASG SKPbc **SKiKP 22 41 14.7 -0.1**
comp=E,18nm,0.9s,baz=46,slow=2.8,SNR=15
AKASG SKKPbc **SKKPab 22 49 21.4 -1.1**
comp=E,2.3nm,0.9s,baz=238,slow=4.6,SNR=7.0
SIM Simferopol' 144.21 316*c* *i*PKIKP PKPbc 22 38 28.0 -0.2
SIM pmax pmax
comp=Z,212nm,1.2s
HOMB Homborsund 144.25 352 *e*PKPbc PKPbc 22 38 27.9 +0.1
SUW Suwalki 144.26 336 *e*PKPbc PKPbc 22 38 27.7 -0.3
SUW Suwalki 144.26 336 *e*P **PKPab 22 38 28.5 0.0**
SNART Snartemo 144.35 353 *e*PKPdf **PKPab 22 38 28.5 -0.1**
MQOL MQOL 144.88 273 *i* P **PKPab 22 38 31.4 -0.4**
MQOL ⇓*i* 22 38 34.3
baz=261,slow=4.0
MCD Coleburn Disti 145.53 2 *e*P **PKPbc 22 38 31.4 -0.3**
ASF Jabal al Asfar 145.57 294 SKPbc **SKiKP 22 41 21.1 +2.2**
comp=Z,6.8nm,0.7s,baz=153,slow=2.3,SNR=7.9
MDO Dochfour 145.62 3 *e*P **PKPbc 22 38 32.1 +0.1**
KPL Plockton 145.63 5 *e*P **PKPbc 22 38 31.9 -0.1**
MUD Monsted U'grnd 145.91 350 *i* P **PKPdf 22 38 29.9 -1.0**
SORM Soroca 145.96 324 ⇑P **PKPdf 22 38 31.0 -0.3**
SORM Soroca 145.96 324 ⇑PKIKP **PKPdf 22 38 31.0 -0.3**
BSD Bornholm Skovb 145.97 344 *i* P **PKPdf 22 38 31.2 +0.1**
BSD Bornholm Skovb 145.97 344 *e*P **PKPdf 22 38 31.6 +0.5**
PURM Purcari 146.02 321 ⇓P **PKPdf 22 38 31.9 +0.4**
PURM Purcari 146.02 321 P pPKiKP 22 40 47.1 +2.0
DRUM Mains of Drumt 146.22 2 *e*P **PKPbc 22 38 33.1 -0.6**
KIS Kishinev 146.36 322 *e*PKP **PKPbc 22 38 34.0 -0.4**
comp=Z,70nm,1.4s
KIS Kishinev 146.36 322*d* *i*PKIKP **PKPbc 22 38 34.0 -0.4**
KIS pmax pmax
comp=Z,70nm,1.4s
ASCN Ascension 146.40 155 **PKPbc 22 38 35.9 +0.4**
MILM Milestii Mici 146.41 322 *e*PKP **PKPdf 22 38 30.0 -2.1**
comp=Z,270nm,1.6s
MILM Milestii Mici 146.41 322 ⇓P **PKPdf 22 38 30.7 -1.4**
MILM Milestii Mici 146.41 322 ⇓PKHKP **PKPdf 22 38 30.7 -1.4**
BRTR Keskin Array B 146.54 308 PKPbc **PKPbc 22 38 35.5 +0.1**
comp=Z,15nm,0.9s,baz=127,slow=3.3,SNR=29
BRTR pPKPbc pPKPab 22 40 41.1 -1.3
comp=Z,3.6nm,1.1s,baz=108,slow=4.7,SNR=2.5
BRTR SKPbc **SKiKP 22 41 21.2 +0.5**
comp=Z,4.7nm,1.0s,baz=158,slow=1.6,SNR=4.3
INVG Invergeldie, C 146.64 3 *e*P **PKPbc 22 38 34.6 -0.3**
MMAI Mount Meron Ar 146.73 295 pPKPbc pPKPbc 22 40 42.0 -1.2
comp=Z,3.5nm,0.8s,baz=57,slow=5.3,SNR=1.7
BEL Belsk 146.87 335 *e*PKPbc **PKPbc 22 38 36.2 +0.6**
RGN Rugen 146.88 345 *e*P **PKPbc 22 38 35.8 +0.3**
GKP Gorka Klasztor 146.93 340 *e*PKPbc **PKPbc 22 38 36.1 +0.4**
GKP Gorka Klasztor 146.93 340 *e*P **PKPdf 22 38 33.7 +0.9**
LEOM Leova 146.99 322 ⇑P **PKPbc 22 38 34.8 -1.3**
LEOM Leova 146.99 322 ⇑PKIKP **PKPbc 22 38 34.8 -1.3**
LVV L'vov 147.01 330 *e*PKIKP **PKPbc 22 38 35.8 -0.3**
ANTO Ankara 147.10 308 PKP2 **PKPbc 22 38 37.2 +0.4**
ANTO Ankara 147.10 308 PKPdf **PKPdf 22 38 33.3 -0.3**
ANTO PKPbc **PKPbc 22 38 37.2 +0.4**
ESY Stoneypath 147.21 2 *e*P **PKPbc 22 38 36.0 -0.4**
PGBU Glenifferbraes 147.23 4 *e*P **PKPbc 22 38 36.0 -0.4**
EBL Broad Law 147.34 2 *e*P **PKPbc 22 38 36.7 -0.1**
TLCR 147.37 320 ⇓P **PKPdf 22 38 34.2 +0.5**
TLCR 147.37 320 ⇓PKIKP **PKPdf 22 38 34.2 +0.5**
VLDR Vladesti 147.44 321 ⇓P **PKPdf 22 38 33.2 -0.7**
JURR Jurilovca 147.56 319 ⇑P **PKPbc 22 38 37.1 -0.5**
SCTE Scanteiesti 147.59 324 ⇑P **PKPbc 22 38 36.8 -0.9**
TATR Tatarca 147.60 321 ⇑P **PKPbc 22 38 36.4 -1.3**
GIRR Girov 147.67 324 P pPKiKP 22 40 52.0 +3.5
JAWL J.Aulia 147.67 262 *i* P **PKiKP 22 38 40.1 -0.2**
JAWL *i* 22 38 44.8
baz=350,slow=22
GHRR 147.70 322 ⇑P **PKPdf 22 38 34.9 +0.7**
GHRR 147.70 322 P pPKiKP 22 40 47.6 -1.0
KWP Kalwaria Pacla 147.74 331 *e*PKPbc **PKPbc 22 38 38.2 +0.2**
CFR Carcaliu 147.78 320 ⇑P **PKPdf 22 38 34.4 0.0**
CFR Carcaliu 147.78 320 P pPKiKP 22 40 48.3 -0.5
CFR Carcaliu 147.78 320 ⇑PKIKP **PKPdf 22 38 34.4 0.0**
TPGR Topolog 147.78 319 ⇑P **PKPdf 22 38 35.6 +1.1**
TPGR Topolog 147.78 319 P pPKiKP 22 40 45.2 -3.7
ESK Eskdalemuir 147.79 3 *e*P **PKPbc 22 38 37.3 -0.6**
ESK Eskdalemuir 147.79 3 PKHKP **PKPbc 22 38 37.7 -0.2**
ESK Eskdalemuir 147.79 3 **PKPbc 22 38 37.7 -0.2**
TESR Tescani 147.86 323 ⇑P **PKPdf 22 38 34.5 0.0**
TESR Tescani 147.86 323 P pPKiKP 22 40 47.9 -1.0
BURAR Bucovina Array 147.93 326 ⇑P **PKPdf 22 38 36.5 +1.7**
BURAR Bucovina Array 147.93 326 P pPKiKP 22 40 47.6 -1.6
BURAR Bucovina Array 147.93 326 ⇑PKHKP **PKPdf 22 38 36.5 +1.7**
NEWG New Galloway 147.94 4 *e*P **PKPbc 22 38 38.0 -0.3**
TIRR Tirgusor 148.00 319 ⇑P **PKPdf 22 38 35.2 +0.4**
TIRR Tirgusor 148.00 319 ⇑PKHKP **PKPdf 22 38 35.2 +0.4**
TIRR Tirgusor 148.00 319 **PKPbc 22 38 38.1 -0.6**
ODBI Odobesti 148.07 322 ⇑P **PKPdf 22 38 35.4 +0.5**
ODBI Odobesti 148.07 322 P pPKiKP 22 40 53.5 +4.2
BSEG Bad Segeberg 148.11 348 *e*PKPbc **PKiKP 22 38 39.7 -0.3**
baz=21,slow=2.2
MFTR Murfatlar 148.15 318 ⇑P **PKPdf 22 38 35.2 +0.1**
GAL1 Galloway 148.16 4 *e*P **PKPbc 22 38 38.7 -0.1**
HARR Harsova 148.17 319 ⇓P **PKPdf 22 38 35.3 +0.2**
HARR Harsova 148.17 319 ⇓PKHKP **PKPdf 22 38 35.3 +0.2**
TLBR Topalu 148.18 319 ⇓P **PKPdf 22 38 36.3 +1.2**
VRI Vrincioaia 148.20 322 ⇓P **PKPdf 22 38 35.1 0.0**
VRI Vrincioaia 148.20 322 P pPKiKP 22 40 52.2 +2.5
VRI Vrincioaia 148.20 322 ⇓PKHKP **PKPdf 22 38 35.1 0.0**
MANR Mangalia 148.23 318 ⇑P **PKPdf 22 38 36.7 +1.5**
PLOR Plostina 148.25 322 ⇑P **PKPbc 22 38 39.1 -0.3**
PLOR Plostina 148.25 322 P pPKiKP 22 40 52.5 +2.7
PLOR Plostina 148.25 322 ⇑PKHKP **PKPbc 22 38 39.1 -0.3**
HLG Helgoland 148.30 350 *e*PKPbc **PKiKP 22 38 40.3 0.0**
baz=21,slow=2.2
EDMD Edmundbyers 148.32 1 *e*P **PKPbc 22 38 39.0 -0.2**
BISRR Bisoca 148.40 322 ⇓P **PKPdf 22 38 30.6 -4.9**
KESW Keswick, Cumbr 148.53 3 *e*P **PKPbc 22 38 39.8 +0.1**
OJC Ojcow 148.53 334 *e*PKPbc **PKPbc 22 38 40.1 +0.1**
OJC Ojcow 148.53 334 PKIKP **PKPdf 22 38 34.7 -0.8**
OJC Ojcow 148.53 334 **PKPdf 22 38 34.7 -0.8**
OJC PKPbc **PKPbc 22 38 39.7 -0.2**
PSN Preselentsi 148.55 318 P **PKPbc 22 38 40.0 -0.2**
ICOR Ion Corvin 148.56 319 ⇓P **PKPdf 22 38 36.4 +0.7**
OZUR 148.59 323 ⇓P **PKPdf 22 38 36.4 +0.6**
OZUR 148.59 323 P pPKiKP 22 40 53.8 +3.3
PGOR Pogoanele 148.61 321 ⇓P **PKPbc 22 38 39.0 -1.2**
RUE Ruedersdorf 148.64 343 *e*P **PKiKP 22 38 40.8 -0.3**
RUE Ruedersdorf 148.64 343 *e*PKPbc **PKiKP 22 38 41.0 -0.1**
baz=21,slow=2.2
UZH Uzhgorod 148.66 330 ⇑*i*PKHKP **PKPbc 22 38 40.0 -0.3**
NEHR Nehoiu 148.70 322 ⇑P **PKiKP 22 38 41.2 -0.4**
ARCR ARCALIA 148.72 326 ⇑P **PKPdf 22 38 37.1 +1.2**
GDLE Glaisdale, N Y 148.74 0 *e*P **PKPbc 22 38 40.4 +0.1**
ISR Istrita 148.74 321 ⇑P **PKiKP 22 38 41.5 -0.2**
ISR Istrita 148.74 321 P pPKiKP 22 40 55.7 +4.9
ISR Istrita 148.74 321 ⇑PKP2 **PKiKP 22 38 41.5 -0.2**
BMR Baia Mare 148.75 328 ⇑P **PKPdf 22 38 36.9 +0.9**
BMR Baia Mare 148.75 328 ⇑PKHKP **PKPdf 22 38 36.9 +0.9**
IOMK Kirk Michael 148.77 4 *e*P **PKPbc 22 38 40.1 -0.3**
CRVS Cervenica-Dubn 148.83 331 *e*PKHKP **PKPdf 22 38 36.5 +0.4**

CRVS Cervenica-Dubn 148.83 331 *e*PKP **PKPdf 22 38 36.5 +0.4**
CRVS *e* 22 38 41.7
CRVS *e* 22 40 55.7
MLR Muntele Rosu 148.86 322 ⇓P **PKPdf 22 38 35.9 -0.5**
MLR Muntele Rosu 148.86 322 P pPKiKP 22 40 53.4 +2.2
MLR Muntele Rosu 148.86 322 ⇓PKIKP **PKPdf 22 38 35.9 -0.5**
WIM Isle of Man 148.88 4 *e*P **PKPbc 22 38 40.5 -0.2**
DOPR Dopca 148.88 323 ⇑P **PKPdf 22 38 36.5 +0.3**
DOPR Dopca 148.88 323 P pPKiKP 22 40 53.3 +2.2
RASA Rasa 148.90 319 ⇓P **PKPdf 22 38 37.4 +1.1**
NIE Niedzica 148.94 333 *e*PKPbc **PKiKP 22 38 42.5 +0.5**
LEHL Lehliu 148.95 320 ⇑P **PKPbc 22 38 39.6 -1.5**
SECR 149.06 321 ⇑P **PKPdf 22 38 36.4 -0.1**
SECR 149.06 321 P pPKiKP 22 40 55.8 +4.3
SULR 149.16 321 ⇓P **PKPbc 22 38 39.6 -2.0**
HPK Haverah Park 149.20 1 *e*P **PKPbc 22 38 41.4 0.0**
PRD Provadia 149.29 317 P **PKPbc 22 38 42.0 0.0**
KSP Ksiaz 149.31 339 *e*PKPbc **PKiKP 22 38 42.6 0.0**
MESR Meseseni 149.38 327 ⇑P **PKPdf 22 38 39.5 +2.5**
VOIR 149.40 323 ⇑P **PKPdf 22 38 37.8 +0.7**
VOIR 149.40 323 ⇑PKHKP **PKPdf 22 38 37.8 +0.7**
FLTG Flechtingen 149.41 345 *e*PKPbc **PKiKP 22 38 42.7 0.0**
baz=21,slow=2.2
FLTG *e*PKPab **PKPab 22 38 49.7 +0.6**
RETH Rethem/Aller, 149.43 348 *e*PKPbc **PKiKP 22 38 42.9 +0.2**
baz=21,slow=2.2
OKC Ostrava-Krasne 149.48 336 *e*PKHKP **PKPbc 22 38 42.6 +0.4**
OKC *e* 22 38 50.6
OKC Ostrava-Krasne 149.48 336⇑ *e*PKP **PKPbc 22 38 42.6 +0.4**
OKC *e*PKPAB **PKPab 22 38 50.6 +1.1**
LANS Liptovska Anna 149.50 333 *e*PKHKP **PKPdf 22 38 38.2 +1.1**
LANS Liptovska Anna 149.50 333 *e*PKP **PKPdf 22 38 38.2 +1.1**
LANS *e* 22 38 43.9
LANS *e* 22 40 59.2
NRDL Niedersach Rie 149.51 347 *e*PKPbc **PKiKP 22 38 43.1 +0.3**
baz=21,slow=2.2
NRDL *e*pPKPbc **pPKPab 22 40 52.0 -1.2**
baz=21,slow=2.5
CHVC Chvalec 149.60 339⇑ *e*PKP **PKiKP 22 38 43.3 0.0**
RAZG Razgrad 149.64 319 ⇑P **PKPdf 22 38 37.2 -0.3**
RAZG Razgrad 149.64 319 P pPKiKP 22 40 56.4 +3.6
WME Myndd Eilian 149.65 4 *e*P **PKPbc 22 38 42.3 -0.2**
ARR Arges 149.67 323 ⇑P **PKPdf 22 38 38.3 +0.8**
ARR Arges 149.67 323 P pPKiKP 22 40 58.3 +5.5
UPC Upice 149.69 339 *e*PKHKP **PKPbc 22 38 43.3 +0.6**
UPC Upice 149.69 339⇑ *e*PKP **PKPbc 22 38 43.3 +0.6**
DPC Dobruska-Polom 149.71 338 *e*PKIKP **PKPdf 22 38 37.8 +0.4**
DPC *e* 22 38 51.9
DPC Dobruska-Polom 149.71 338 *e*PKPDF **PKPdf 22 38 37.8 +0.4**
DPC ⇑*e*PKP **PKiKP 22 38 43.6 +0.1**
DPC *e*PKPAB **PKPab 22 38 51.9 +1.3**
ASSE Asse, Remlinge 149.73 346 *e*PKPbc **PKiKP 22 38 43.7 +0.4**
baz=21,slow=2.2
ASSE *e*pPKPbc **pPKPbc 22 40 52.4 +1.4**
baz=21,slow=2.5
LTVH Ltavrtes, Hu 149.73 329 ⇑PKPB 22 38 43.3
DRGR 149.75 327 ⇑P **PKPdf 22 38 38.7 +1.1**
DRGR 149.75 327 P pPKiKP 22 40 53.3 +0.3
DRGR 149.75 327 ⇑PKHKP **PKPdf 22 38 38.7 +1.1**
WLF1 Llynfaes 149.75 4 *e*P **PKPbc 22 38 41.7 -1.0**
MORC Moravsky Berou 149.75 336 ⇓P **PKPdf 22 38 36.6 -0.9**
MORC Moravsky Berou 149.75 336 ⇓PKIKP **PKPdf 22 38 36.6 -0.9**
MORC Moravsky Berou 149.75 336 *e*PKP **PKPdf 22 38 37.9 +0.4**
MORC *e* 22 38 43.4
MORC *e* 22 40 52.3
LBWR Ladybower, Pea 149.75 1 *e*P **PKPbc 22 38 42.5 -0.2**
YRC Rhoscolyn 149.78 5 *e*P **PKPbc 22 38 42.2 -0.6**
KRLC Kraliky 149.78 337 *e*PKHKP **PKPbc 22 38 43.5 +0.5**
KRLC Kraliky 149.78 337⇑ *e*PKP **PKPbc 22 38 43.5 +0.5**
CLL Collm 149.90 343 ⇓*i*PKHKP **PKPbc 22 38 43.5 +0.3**
CLL pmax pmax
comp=Z,201nm,1.0s
CLL Collm 149.90 343 ⇓*i*PKPbc **PKPbc 22 38 43.5 +0.3**
comp=Z,201nm,1.0s
CLL *e*PKPab **PKPab 22 38 51.0 -0.2**
CLL *e*pPKPbc **pPKPbc 22 40 52.0 +0.5**
CLL Collm 149.90 343 *e*PKPbc **PKiKP 22 38 43.9 +0.1**
baz=21,slow=2.2
CLL *e*PKPab **PKPab 22 38 52.1 +0.9**
CLL *e*pPKPbc **pPKPab 22 40 53.4 -1.5**
baz=21,slow=2.5
HUMR Humele 149.99 322 ⇑P **PKPdf 22 38 37.7 -0.3**
HUMR Humele 149.99 322 P pPKiKP 22 40 56.8 +3.5
BRG Berggiesshubel 150.02 341 ⇓*e*PKPf **PKPdf 22 38 38.3 +0.5**
BRG Amp 22 38 39.4
BRG ⇑*i*PKP **PKPbc 22 38 44.0 +0.6**
BRG Amp 22 38 45.3
comp=Z,142nm,1.0s
BRG pPKP **pPKPbc 22 40 53.3 +1.5**
BRG Amp 22 40 59.2
comp=Z,184nm,2.4s
BRG Berggiesshubel 150.02 341 *i* PKHKP **PKPbc 22 38 44.0 +0.6**
BRG pmax pmax
comp=Z,142nm,1.0s
BRG pmax pmax
comp=Z,184nm,2.4s
BRG Berggiesshubel 150.02 341 *e*PKPbc **PKPbc 22 38 44.4 +1.0**
baz=21,slow=2.2
BRG *e*pPKPbc **pPKPbc 22 40 53.3 +1.5**
baz=21,slow=2.5
CLZ Clausthal 150.06 346 *e*PKPbc **PKiKP 22 38 44.7 +0.5**
baz=21,slow=2.2
CLZ *e*PKPab **PKPab 22 38 53.0 +1.0**
CLZ *e*pPKPbc **pPKPbc 22 40 53.6 +1.6**
baz=21,slow=2.5
COPA Copaceanca 150.09 321 ⇓P **PKPbc 22 38 43.0 -0.8**
COPA Copaceanca 150.09 321 P pPKiKP 22 40 57.0 +3.5
LOT Lotru 150.09 324 ⇓P **PKPbc 22 38 42.6 -1.4**
IBBN Ibbenburen 150.13 349 *e*PKPbc **PKiKP 22 38 44.5 +0.3**
baz=21,slow=2.2
IBBN *e*PKPab **PKPab 22 38 53.1 +1.0**
IBBN *e*pPKPbc **pPKPbc 22 40 53.5 +1.5**
baz=21,slow=2.5
PVCC Panska Ves 150.13 340 *e*PKHKP **PKPbc 22 38 44.5 +0.8**
PVCC Panska Ves 150.13 340⇑ *e*PKP **PKPbc 22 38 44.5 +0.8**
FBE Freiberg 150.15 342 *e*PKPbc **PKiKP 22 38 45.0 +0.7**
baz=21,slow=2.2
FBE *e*PKPab **PKPab 22 38 53.8 +1.5**
FBE *e*pPKPbc **pPKPab 22 40 54.0 -1.8**
baz=21,slow=2.5
SZH Strazhica 150.16 319 P **PKPbc 22 38 44.0 0.0**
JMB Yambol 150.19 317 P **PKPbc 22 38 44.0 -0.1**
PSZ Piszkesteto 150.26 331 ⇑P **PKPdf 22 38 39.8 +1.4**
PSZ Piszkesteto 150.26 331 P pPKiKP 22 40 52.9 -1.0
PSZ Piszkesteto 150.26 331 ⇑PKIKP **PKPdf 22 38 39.8 +1.4**
PSZ Piszkesteto 150.26 331 PKPDF **PKPdf 22 38 36.5 -2.0**
PSZ Piszkesteto 150.26 331 ⇑PKPB **PKPbc 22 38 44.2 0.0**
VYHS Vyhne 150.27 333 *e*PKIKP **PKiKP 22 38 44.8 +0.1**
VYHS Vyhne 150.27 333 *e*PKP **PKiKP 22 38 44.8 +0.1**
VYHS *e* 22 40 58.3
ZIMR 150.28 320 ⇑P **PKPbc 22 38 43.6 -0.7**
ZIMR 150.28 320 ⇑PKIKP **PKPbc 22 38 43.6 -0.7**
NEUB Neuenburg 150.32 344 *e*PKPbc **PKiKP 22 38 45.1 +0.4**
baz=21,slow=2.2
NEUB *e*PKPab **PKPab 22 38 54.1 +1.1**
NEUB *e*pPKPbc **pPKPbc 22 40 54.3 +1.7**
baz=21,slow=2.5
KOLL Kolacno 150.38 334 *e*PKP **PKPdf 22 38 39.4 +0.9**
KOLL *e* 22 38 45.3
KOLL *e* 22 40 59.7
WACR West Acre 150.42 358 *e*P **PKiKP 22 38 44.6 -0.2**
CWF Charnwood Fore 150.43 1 *e*P **PKPbc 22 38 44.1 -0.3**
GTTG Gottingen 150.43 346 *e*PKPbc **PKiKP 22 38 45.3 +0.5**
baz=21,slow=2.2
GTTG *e*PKPab **PKPab 22 38 54.6 +1.1**
GTTG *e*pPKPbc **pPK

GZR	Gura Zlata	150.66	325	⇑P	PKPdf	22 38 39.9	+0.8
GZR	Gura Zlata	150.66	325	⇑PKIKP	PKPdf	22 38 39.9	+0.8
AKAS	Kas	150.68	303	PKPbc	PKPbc	22 38 44.7	-1.0
KRUC	Moravsky	150.77	337	*e*PKP	PKPdf	22 38 39.0	0.0
KRUC				*e*		22 38 45.4	
KRUC				*e*		22 38 54.3	
KRUC				*e*		22 40 54.9	
TANN	Tannenbergstha	150.86	342	*e*PKPbc	PKiKP	22 38 46.4	+0.5
	baz=21,slow=2.2						
TANN				*e*PKPab	PKPab	22 38 56.5	+1.2
WERD	Werda	150.87	343	*e*PKPbc	PKiKP	22 38 46.3	+0.5
	baz=21,slow=2.2						
WERD				*e*PKPab	PKPab	22 38 56.4	+1.1
MOX	Moxa	150.87	344	*e*PKPbc	PKiKP	22 38 46.3	+0.4
	baz=21,slow=2.2						
MOX				*e*PKPab	PKPab	22 38 56.3	+1.0
PLN	Plauen	150.88	343	*e*PKPbc	PKiKP	22 38 46.3	+0.4
	baz=21,slow=2.2						
PLN				*e*PKPab	PKPab	22 38 56.5	+1.2
TREC	Trest	150.90	338	*e*PKIKP	PKPdf	22 38 39.3	0.0
TREC				*e*		22 38 56.1	
TREC	Trest	150.90	338	*e*PKPDF	PKPdf	22 38 39.3	0.0
TREC				⇑*e*PKP	PKiKP	22 38 45.9	-0.1
TREC				*e*PKPAB	PKPab	22 38 56.1	+0.6
SRE	Strehaia	150.90	323	⇑P	PKPbc	22 38 42.9	-2.8
SRE	Strehaia	150.90	323	⇑PKIKP	PKPbc	22 38 42.9	-2.8
GUNZ	Gunzen	150.94	343	*e*PKPbc	PKiKP	22 38 46.7	+0.7
	baz=21,slow=2.2						
GUNZ				*e*PKPab	PKPab	22 38 57.2	+1.5
GUNZ				*ep*PKPbc	pPKPbc	22 40 55.9	+1.7
	baz=21,slow=2.5						
BUD	Budapest	150.97	332	⇑PKPB	PKPbc	22 38 45.9	+0.1
WERN	Wernitzgruen	151.00	342	*e*PKPbc	PKiKP	22 38 46.9	+0.8
	baz=21,slow=2.2						
WERN				*e*PKPab	PKPab	22 38 57.4	+1.5
MODS	Modra-Piesok	151.00	335	*e*PKIKP	PKPdf	22 38 39.7	+0.2
MODS	Modra-Piesok	151.00	335	*e*PKP	PKPdf	22 38 39.7	+0.2
MODS				*e*		22 38 46.4	
MODS				*e*		22 41 00.9	
SRO	Srobarova	151.02	333	*e*PKIKP	PKiKP	22 38 46.1	-0.1
SRO	Srobarova	151.02	333	*e*PKP	PKiKP	22 38 46.1	-0.1
NKC	Novy Kostel	151.03	342	*e*PKIKP	PKPdf	22 38 40.2	+0.8
NKC				*e*		22 38 56.9	
NKC	Novy Kostel	151.03	342	*e*PKPDF	PKPdf	22 38 40.2	+0.8
NKC				⇑*e*PKP	PKiKP	22 38 46.3	+0.1
NKC				*e*PKPAB	PKPab	22 38 56.9	+0.9
AMBH	Ambrzfalva	151.03	328	⇑PKPB		22 38 45.6	
ELMS	Elmsett, Ipswi	151.04	358	*e*P	PKPbc	22 38 45.6	-0.1
BUG	Bochum--Univer	151.05	350	*e*PKPbc	PKiKP	22 38 46.4	+0.3
	baz=21,slow=2.2						
PBCC	Pribram	151.05	340	⇑*e*PKP	PKiKP	22 38 46.3	0.0
PBCC				*e*PKPAB	PKPab	22 38 56.8	+0.7
RSBS	Rosebush, Pemb	151.05	5	*e*P	PKPbc	22 38 45.4	-0.4
UBBA	Unterbreizbach	151.10	346	*e*PKPbc	PKiKP	22 38 46.5	+0.3
	baz=21,slow=2.2						
UBBA				*e*PKPab	PKPab	22 38 57.1	+0.9
BZS	Buzias	151.11	326	⇑P	PKPdf	22 38 39.5	-0.2
BZS	Buzias	151.11	326	P	pPKiKP	22 41 00.5	+4.8
BZS	Buzias	151.11	326	⇑PKIKP	PKPdf	22 38 39.5	-0.2
MCH1	Michaelchurch	151.12	3	*e*P	PKPbc	22 38 45.4	-0.5
HERR	Herculane	151.19	324	⇑P	PKPdf	22 38 39.7	-0.1
HERR	Herculane	151.19	324	P	pPKiKP	22 41 00.3	+4.5
ZST	Bratislava	151.21	335	*e*PKIKP	PKPdf	22 38 40.6	+0.9
ZST	Bratislava	151.21	335	*e*PKP	PKPdf	22 38 40.6	+0.9
ZST				*e*		22 38 46.6	
ZST				*e*		22 41 01.3	
BAIL	Bailesti	151.23	322	⇓P	PKPbc	22 38 45.4	-1.0
MANZ	Manzenberg	151.34	343	*e*PKPbc	PKiKP	22 38 47.4	+0.5
	baz=21,slow=2.2						
MANZ				*ep*PKPbc	pPKPbc	22 40 57.1	+1.8
	baz=21,slow=2.5						
KDZ	Kurdzhali	151.35	316	P	PKPbc	22 38 46.0	-0.9
CSKK	Cskako	151.40	332	⇑PKPB		22 38 46.1	
ROTZ	Rotzenmuhle	151.51	342	*e*PKPbc	PKiKP	22 38 47.6	+0.4
	baz=21,slow=2.2						
ROTZ				*e*PKPab	PKPab	22 38 59.4	+1.4
BANR	Banloc	151.51	327	⇓P	PKPbc	22 38 46.2	-0.9
MDVR	Moldovita	151.63	325	⇑P	PKPbc	22 38 46.6	-0.8
SWN1	Swindon	151.64	1	*e*P	PKPbc	22 38 47.1	-0.1
KHC	Kasperske Hory	151.67	340	*e*PKIKP	PKPdf	22 38 40.1	-0.4
KHC				*e*		22 38 59.6	
KHC	Kasperske Hory	151.67	340	*e*PKPDF	PKPdf	22 38 40.1	-0.4
KHC				⇑*e*PKP	PKiKP	22 38 47.7	+0.1
KHC				*e*PKPAB	PKPab	22 38 59.6	+0.8
KHC				x	x	22 40 53.5	
CKRC	Cesky Krumlov	151.70	339	*e*PKPDF	PKPdf	22 38 40.7	+0.2
CKRC				⇑*e*PKP	PKiKP	22 38 47.8	+0.2
CKRC				*e*PKPAB	PKPab	22 38 59.8	+0.9
EGYH	Egyhazaskeszo	151.74	334	PKPDF	PKPdf	22 38 40.8	+0.3
EGYH	Egyhazaskeszo	151.74	334	⇑PKPB	PKPbc	22 38 47.3	-0.2
SOP	Sopron	151.84	335	PKPDF	PKPdf	22 38 41.4	+0.7
SOP	Sopron	151.84	335	⇑PKPB	PKPbc	22 38 47.7	0.0
GRF	Grafenberg Arr	151.85	343	*e*PKPbc	PKiKP	22 38 48.6	+0.6
	baz=21,slow=2.2						
GRF				*e*PKPab	PKPab	22 39 01.0	+1.5
WET	Wettzell	151.87	341	*e*PKPbc	PKiKP	22 38 48.6	+0.6
	baz=21,slow=2.2						
WET				*e*PKPab	PKPab	22 39 01.1	+1.4
GEC2	GERESS Array S	151.88	339	*e*PKPbc	PKiKP	22 38 48.5	+0.4
	baz=21,slow=2.2						
GEC2				*ep*PKPbc	pPKPbc	22 40 58.0	+1.4
	baz=21,slow=2.5						
GERES	GERESS Array B	151.88	339	PKP	PKPdf	22 38 40.7	-0.1
	comp=Z,1.7nm,0.8s,baz=90,slow=1.3,SNR=14						
GERES				PKPbc	PKiKP	22 38 48.2	+0.1
	comp=Z,20nm,0.9s,baz=52,slow=2.2,SNR=58						
GERES				pPKPbc	pPKPbc	22 40 56.5	-0.1
	comp=Z,4.7nm,1.0s,baz=27,slow=2.4,SNR=3.5						
GERES	GERESS Array B	151.88	339	PKPdf	PKPdf	22 38 39.7	-1.1
GERES				PKPbc	PKPbc	22 38 47.4	-0.5
CONA	Conrad Observa	151.91	336	*i* P	PKPdf	22 38 40.8	-0.1
	comp=Z,15nm,1.4s						
CONA				*e*P	PKiKP	22 38 48.7	+0.5
	comp=Z,70nm,1.3s,SNR=10.0						
CONA				*e*P	PKPab	22 39 01.2	+1.3
	comp=Z,27nm,1.0s						
BEBN	Eben Emael	151.92	351	PKiKP	PKiKP	22 38 48.0	0.0
BEBN				PKPab	PKPab	22 38 59.1	-0.5
AHRW	Bad Neuenahr-A	151.95	349	*e*PKPbc	PKiKP	22 38 48.6	+0.6
	baz=21,slow=2.2						
AHRW				*e*PKPab	PKPab	22 39 00.6	+0.8
TNS	Taunus Mts	152.00	347	*e*PKPbc	PKiKP	22 38 48.7	+0.5
	baz=21,slow=2.2						
TNS				*e*PKPab	PKPab	22 39 01.0	+0.8
TNS				*ep*PKPbc	pPKPbc	22 40 58.3	+1.5
	baz=21,slow=2.5						
MEM	Membach	152.05	351	PKiKP	PKPbc	22 38 48.0	-0.1
MEM				PKP	PKPab	22 39 00.5	+0.2
BTNL	Ternell	152.06	351	PKiKP	PKPbc	22 38 48.2	0.0
UCC	Uccle	152.08	353	PKiKP	PKiKP	22 38 48.4	+0.1
BSTI	Sart Tilman	152.14	351	PKiKP	PKiKP	22 38 48.4	0.0
BSTI				PKPab	PKPab	22 39 01.4	+0.7
VTS	Vitosha	152.15	320	⇓P	PKiKP	22 38 49.6	+0.7
VTS	Vitosha	152.15	320	⇓P	pPKiKP	22 40 58.4	+0.3
VTS	Vitosha	152.15	320	⇓PKIKP	PKiKP	22 38 49.6	+0.7
BHOU	Houvegnez	152.30	351	PKiKP	PKiKP	22 38 49.0	+0.2
BHOU				PKPab	PKPab	22 39 01.4	0.0
BCLA	Clavier	152.34	352	PKiKP	PKPbc	22 38 48.4	-0.3
BCLA				PKPab	PKPab	22 39 01.3	-0.2
SNF	Seneffe	152.38	353	PKPab	PKiKP	22 38 49.4	+0.5
BGES	Gesves	152.40	352	PKiKP	PKPbc	22 38 48.8	0.0
BGES				PKPab	PKPab	22 39 01.5	-0.3
MMB	Musomiste	152.45	318	P	PKPbc	22 38 48.0	-1.3
KOVH	Kovagotottos	152.45	331	PKPDF	PKPdf	22 38 41.2	-0.4
KOVH	Kovagotottos	152.45	331	PKPpB		22 39 02.2	
KOVH				⇑PKPB	PKPbc	22 38 49.1	0.0
BMRD	Maredsous	152.52	352	PKiKP	PKiKP	22 38 49.4	+0.1
	comp=Z,28nm,0.0s						
BMRD				PKPab	PKPab	22 39 02.5	+0.2
MOA	Molln	152.55	338	*e*P	PKPdf	22 38 41.5	-0.3
	comp=Z,5.8nm,1.1s						
MOA				*e*P	PKiKP	22 38 49.6	+0.1
	comp=Z,27nm,1.4s						
ARSA	Arzberg	152.60	335	*e*P	PKPdf	22 38 41.5	-0.4
	comp=Z,7.8nm,1.1s						
ARSA				*e*P	PKPbc	22 38 49.4	-0.1
	comp=Z,13nm,1.3s						
ARSA				*i* P	PKPab	22 39 02.0	-0.8
	comp=Z,21nm,1.5s						
RCHB	Rochefort	152.61	352	PKiKP	PKPbc	22 38 49.1	-0.2
	comp=Z,16nm,0.0s						
DOU	Dourbes	152.75	352	PKiKP	PKiKP	22 38 49.9	+0.2
DOU				PKPab	PKPab	22 39 03.0	-0.2
WLF	Walferdange	152.95	350	PKIKP	PKPbc	22 38 49.3	-0.7
WLF						22 39 04.7	
WLF	Walferdange	152.95	350	*e*PKPbc	PKiKP	22 38 51.2	+1.0
	baz=21,slow=2.2						
WLF				*e*PKPab	PKPab	22 39 05.3	+1.1
WLF	Walferdange	152.95	350	PKPbc	PKPbc	22 38 49.3	-0.7
WLF				PKPab	PKPab	22 39 04.7	+0.6
WLF	Walferdange	152.95	350	PKiKP	PKiKP	22 38 51.1	+1.0
WLF				PKPab	PKPab	22 39 04.8	+0.7
RJOB	Jochberg	153.14	339	*e*PKPab	PKPab	22 39 06.7	+1.6
STU	Stuttgart	153.21	345	*e*PKPbc	PKiKP	22 38 51.3	+0.6
	baz=21,slow=2.2						
STU				*e*PKPab	PKPab	22 39 06.2	+0.9
FUR	Furstenfeldbru	153.22	342	*e*PKPbc	PKiKP	22 38 51.3	+0.4
	baz=21,slow=2.2						
FUR				*e*PKPab	PKPab	22 39 06.8	+1.4
SOKA	Soboth	153.26	335	*e*P	PKPdf	22 38 41.8	-1.1
	comp=Z,19nm,1.3s						
SOKA				*e*P	PKPbc	22 38 50.9	-0.1
	comp=Z,20nm,1.0s						
SOKA				*e*P	PKPab	22 39 05.9	+0.2
	comp=Z,35nm,1.3s						
OBKA	Obir	153.58	336	*e*P	PKPab	22 39 06.5	-0.6
	comp=Z,22nm,1.1s						
MYKA	Terra Mystica	153.82	337	*e*P	PKPdf	22 38 43.6	0.0
	comp=Z,19nm,1.6s						
MYKA				*e*P	PKPab	22 39 07.9	-0.2
	comp=Z,23nm,1.1s						
BFO	Black Forest	153.82	346	PKIKP	PKPdf	22 38 43.2	-0.4
BFO						22 39 07.7	
BFO	Black Forest	153.82	346	*e*PKPbc	PKiKP	22 38 52.5	+0.5
	baz=21,slow=2.2						
BFO				*e*PKPab	PKPab	22 39 08.6	+0.7
BFO	Black Forest	153.82	346	PKPdf	PKPdf	22 38 43.2	-0.4
BFO				PKPbc	PKPbc	22 38 51.5	-0.5
BFO				PKPab	PKPab	22 39 07.7	-0.2
WATA	Walderalm	153.88	341	*i* P	PKPdf	22 38 43.5	-0.3
	comp=Z,24nm,1.5s						
WATA				*e*P	PKiKP	22 38 52.4	0.0
	comp=Z,22nm,1.2s						
WATA				*e*P	PKPab	22 39 07.9	-0.5
	comp=Z,20nm,1.1s						
WTTA	Wattenberg	153.93	341	*e*P	PKPdf	22 38 43.9	-0.1
	comp=Z,29nm,1.3s						
WTTA				*e*P	PKiKP	22 38 52.8	+0.3
	comp=Z,22nm,0.9s						
WTTA				*i* P	PKPab	22 39 09.3	+0.7
	comp=Z,23nm,1.1s						
RETA	Reutte	153.99	342	*i* P	PKPdf	22 38 43.3	-0.6
	comp=Z,17nm,1.6s						
RETA				*e*P	PKiKP	22 38 52.6	+0.2
	comp=Z,16nm,1.6s						
RETA				*e*P	PKPab	22 39 09.6	+0.8
	comp=Z,35nm,1.2s						
UBR	Ueberruh	153.99	343	*e*PKPbc	PKiKP	22 38 52.8	+0.3
	baz=21,slow=2.2						
MOTA	Moosalm	154.01	341	*e*P	PKPdf	22 38 43.7	-0.4
	comp=Z,18nm,1.1s						
MOTA				*i* P	PKiKP	22 38 52.8	+0.2
	comp=Z,32nm,1.1s						
MOTA				*e*P	PKPab	22 39 09.5	+0.5
	comp=Z,38nm,1.1s						
SQTA	Sankt Quirin	154.10	341	*e*P	PKPdf	22 38 44.0	-0.1
	comp=Z,23nm,1.3s						
SQTA				*e*P	PKiKP	22 38 53.0	+0.2
	comp=Z,24nm,1.0s						
SQTA				*e*P	PKPab	22 39 09.9	+0.6
	comp=Z,28nm,1.2s						
ABTA	Abfaltersbach	154.10	339	*e*P	PKPdf	22 38 43.1	-1.0
	comp=Z,37nm,1.3s,SNR=7.5						
ABTA				*i* P	PKPbc	22 38 52.3	-0.5
	comp=Z,26nm,1.1s						
ABTA				*i* P	PKPab	22 39 09.7	+0.4
	comp=Z,15nm,1.0s						
DAVA	Damuels	154.41	343	*e*P	PKPdf	22 38 44.6	0.0
	comp=Z,14nm,1.0s						
DAVA				*e*P	PKPab	22 39 11.0	+0.3
	comp=Z,27nm,1.0s,SNR=5.6						
FETA	Feichten	154.42	342	*e*P	PKPdf	22 38 44.8	+0.2
	comp=Z,24nm,1.1s						
FETA				*e*P	PKPbc	22 38 54.0	+0.4
	comp=Z,24nm,1.0s						
PGAV	Gavieira, Arco	160.19	17	*e*PKPdf	PKPdf	22 38 53.0	+1.2
PBRG	Braganca	160.71	14	*e*PKPdf	PKPdf	22 38 53.8	+1.5
PBRG	Braganca	160.71	14	*e*PKPab	PKPab	22 39 38.6	+0.6
POLO	Lamas de Olo	160.87	16	*e*PKPab	PKPab	22 39 39.8	+1.0
PVRL	Vila Real	160.98	16	*e*PKPab	PKPab	22 39 40.7	+1.5
PVIS	Viseu	161.46	17	*e*PKPdf	PKPdf	22 38 56.1	+3.0
PVIS	Viseu	161.46	17	*e*PKPab	PKPab	22 39 42.1	+0.8
MTE	Manteigas	161.85	17	*e*PKPdf	PKPdf	22 38 54.4	+0.8
MTE	Manteigas	161.85	17	*e*PKPab	PKPab	22 39 44.0	+0.9
PSBE	So Bento	162.29	21	*e*PKPab	PKPab	22 39 46.3	+1.3
PCBR	Castelo Branco	162.39	17	*e*PKPdf	PKPdf	22 38 55.1	+1.1
PCBR	Castelo Branco	162.39	17	*e*PKPab	PKPab	22 39 45.9	+0.5
LIC	Lamto	162.71	166	*e*PKIKP	PKPdf	22 38 54.6	-0.5
	comp=Z,153nm,1.1s						
LIC	Lamto	162.71	166	*e*PKP2	PKPab	22 39 47.8	+0.5
	comp=Z,162nm,0.9s						
PMRV	Marv??o	162.80	18	*e*PKPdf	PKPdf	22 38 55.4	+0.9
PMRV	Marv??o	162.80	18	*e*PKPab	PKPab	22 39 48.1	+0.9
KIC	Kosan Boka	162.91	166	*e*PKIKP	PKPdf	22 38 54.8	-0.5
	comp=Z,51nm,0.9s						
KIC	Kosan Boka	162.91	166	*e*PKP2	PKPab	22 39 48.5	+0.3
	comp=Z,66nm,0.9s						
TIC	Toumodi	163.12	165	*e*PKIKP	PKPdf	22 38 55.1	-0.4
TIC	Toumodi	163.12	165	*e*PKP2	PKPab	22 39 49.4	+0.2
DBIC	Dimbokro	163.18	166	PKP	PKPdf	22 38 55.1	-0.4
	comp=Z,25nm,0.9s,baz=167,slow=1.0,SNR=30						
DBIC				PKPab	PKPab	22 39 50.3	+0.9
	comp=Z,30nm,0.9s,baz=192,slow=4.8,SNR=18						
PESTR	Estremoz	163.26	19	*e*PKPdf	PKPdf	22 38 55.9	+1.0
PESTR	Estremoz	163.26	19	*e*PKPab	PKPab	22 39 49.6	+0.3
ESDC	Sonseca Array	163.28	9	PKP	PKPdf	22 38 56.4	+1.4
	comp=Z,2.5nm,0.9s,baz=350,slow=3.4,SNR=6.0						
ESDC				PKPab	PKPab	22 39 49.0	-0.3
	comp=Z,12nm,1.1s,baz=342,slow=4.7,SNR=17						
EVO	Evora	163.44	20	*e*PKPdf	PKPdf	22 38 55.6	+0.5
EVO	Evora	163.44	20	*e*PKPab	PKPab	22 39 50.5	+0.5
PNCL	Nicolau / Gran	163.65	22	*e*PKPdf	PKPdf	22 38 56.3	+1.1
PNCL	Nicolau / Gran	163.65	22	*e*PKPab	PKPab	22 39 51.4	+0.4
PBEJ	Beja	163.94	21	*e*PKPdf	PKPdf	22 38 57.1	+1.6
MESJ	Messejana	164.00	22	*e*PKPdf	PKPdf	22 38 55.8	+0.2
MESJ	Messejana	164.00	22	*e*PKPdf	PKPdf	22 38 55.8	+0.2
PTEO	Sao Teotonio	164.08	24	*e*PKPdf	PKPdf	22 38 57.1	+1.5
PCVE	Castro Verde	164.25	22	*e*PKPdf	PKPdf	22 38 57.1	+1.3
PCVE	Castro Verde	164.25	22	*e*PKPab	PKPab	22 39 54.8	+1.2
MORF	Marmelete	164.32	24	*e*PKPdf	PKPdf	22 38 56.1	+0.1
MORF	Marmelete	164.32	24	*e*PKPdf	PKPdf	22 38 57.7	+1.7
MORF	Marmelete	164.32	24	*e*PKPab	PKPab	22 39 54.5	+0.5
PFVI	Vila Bisbo	164.40	25	*e*PKPdf	PKPdf	22 38 57.0	+1.0
PVAQ	Vaqueiros	164.56	21	*e*PKPdf	PKPdf	22 38 57.0	+0.9
PVAQ	Vaqueiros	164.56	21	*e*PKPab	PKPab	22 39 55.9	+0.9
PBDV	Barranco-do-Ve	164.63	22	*e*PKPdf	PKPdf	22 38 58.1	+1.9
KEST	Kesra	164.66	327	PKP	PKPdf	22 38 55.9	-0.4
	comp=Z,5.0nm,0.8s,baz=281,slow=4.4,SNR=4.9						
JBK	JBK	168.72	8	P	PKPdf	22 39 02.0	+2.4
SRHM	Skhour des Reh	168.75	33	P	PKPdf	22 39 01.0	+1.5
LCRM	LCR	168.88	18	P	PKPdf	22 39 02.0	+2.3
MDT	Midelt	169.77	18	PKPab	PKPab	22 40 19.1	+0.8
	baz=348,slow=4.9						
OUK	Oukaimeden	169.77	37	P	PKPdf	22 39 02.1	+1.6
TORD	Torodi Ar. Bea	169.81	194	PKP	PKPdf	22 38 59.8	-0.7
	comp=Z,24nm,1.1s,baz=116,slow=1.8,SNR=68						
TORD				PKPab	PKPab	22 40 19.0	+0.4
	comp=Z,24nm,0.9s,baz=167,slow=4.2,SNR=38						
TORD				pPKPab	pPKPab	22 42 21.2	+0.4
	comp=Z,2.7nm,0.9s,baz=167,slow=4.1,SNR=4.6						
TORD				PP	PP	22 44 08.7	+0.4
	comp=Z,9.3nm,1.1s,baz=190,slow=4.5,SNR=8.8						
TORD	Torodi Ar. Bea	169.81	194		PKPdf	22 38 59.0	-1.5
TORD					PKPab	22 40 18.2	-0.4
OUZM	OUZ	170.59	33	P	PKPdf	22 39 02.1	+1.4
GOLM	Goulmima	170.68	23	P	PKPdf	22 39 03.0	+2.4
FIGM	Figuig	171.01	3	P	PKPdf	22 39 03.0	+2.1
TZRR	Tazzarine	171.25	28	P	PKPdf	22 39 03.0	+2.0
ZGR	Zagora	171.79	31	P	PKPdf	22 39 03.1	+1.8

*IDC **11** 22:41:39.9±1.8, 2°.93N×125°.38E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/52, mbtmp3.4/4, MS3.1/1, Ms1 3.3/1, ms1mx2.5/40, Error ellipse: s-maj=190.9km s-min=22.8km az=65.0, Talaud Islands*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.37	159	P	P	22 46 59.4	-0.6
	1.1nm,0.7s,baz=338,slow=11,SNR=8.9						
ASAR	Alice Springs	27.70	163	P	P	22 47 31.4	+1.3
	0.2nm,0.6s,baz=339,slow=9.9,SNR=1.9						
CMAR	Chiang Mai Arr	30.14	303	LR	LR	22 58 29.5	
	comp=Z,37nm,21.8s,baz=175,slow=34						
MKAR	Makanchi Array	57.45	326	P	P	22 51 30.2	-0.5
	0.4nm,0.5s,baz=116,slow=8.8,SNR=6.1						
KURBB	Kurchatov Arra	61.70	328	P	P	22 51 59.9	+0.1
	0.3nm,0.5s,baz=134,slow=6.5,SNR=4.8						

*IDC **11** 22:44:21.2±27.0, 20°.91S×174°.15W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/29, mbtmp4.3/4, Error ellipse: s-maj=495.9km s-min=152.5km az=75.0*
*NEIC **11** 22:44:43.2±1.4, 21°.35S±0°.2×175°.7W±0°.2, h78km±12km, mb4.5/17, Error ellipse: s-maj=36.5km s-min=23.9km az=192.0*

ISC 11 22:44:40.4±4.8, 21°.5S±0°.3×175°.7W±0°.5, h50km, n23, σ0.78/23, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.96	301	Pn	Pn	22 46 20.0	+0.1
LIFNC	LIFOU	15.92	269	Pn	Pn	22 48 21.2	+0.1
LIFNC				IAmb	IAmb	22 48 33.4	
	comp=Z,89nm,1.3s						
OXZ	Oxford	24.06	202	P	P	22 49 51.5	+0.5
OXZ				IAmb	IAmb	22 50 02.2	
	comp=Z,15nm,1.2s						
ARMA	Armidale	30.59	246	P	P	22 50 50.3	+0.5
ARMA				IAmb	IAmb	22 50 55.0	
	comp=Z,6.5nm,1.1s						
EIDS	Eidsvold	30.66	256	P	P	22 50 50.6	+0.2
EIDS				IAmb	IAmb	22 51 17.8	
	comp=Z,10nm,1.5s						
CTA	Charters Tower	35.52	265	P	P	22 51 34.0	+1.1
	comp=Z,6.9nm,0.3s,baz=91,slow=11,SNR=10						
CTAO	Charters Tower	35.52	265	P	P	22 51 33.6	+0.8
TOO	Toolangi	37.08	236	P	P	22 51 46.5	+0.6
TOO				IAmb	IAmb	22 52 12.1	
	comp=Z,16nm,1.4s						
STKA	Stephens Creek	39.31	246	P	P	22 52 04.2	-0.5
	comp=Z,1.6nm,0.6s,baz=101,slow=10,SNR=4.7						
STKA	Stephens Creek	39.31	246	P	P	22 52 04.2	-0.5
BBOO	Buckleboo	44.04	245	P	P	22 52 42.4	-1.0
BBOO				IAmb	IAmb	22 52 51.0	
	comp=Z,14nm,1.4s						
AS31	Alice Springs	46.38	257	P	P	22 53 01.4	-0.7
ASAR	Alice Springs	46.38	257	P	P	22 53 01.4	-0.8
	comp=Z,2.9nm,0.8s,baz=90,slow=8.0,SNR=30						
ASAR	Alice Springs	46.38	257	P	P	22 53 00.9	-1.2
WR0	Warramunga Arr	46.39	262	P	P	22 53 01.5	-0.8
WR0				IAmb	IAmb	22 53 21.4	
	comp=Z,4.9nm,1.4s						
WB0	Warramunga Arr	46.57	263	P	P	22 53 02.9	-0.7
WB0				IAmb	IAmb	22 53 03.6	
	comp=Z,2.5nm,0.6s						
WB2	Warramunga Arr	46.57	262	P	P	22 53 03.0	-0.6
WRA	Warramunga Arr	46.58	262	P	P	22 53 03.1	-0.7
	comp=Z,1.0nm,0.3s,baz=96,slow=8.5,SNR=44						
WRA	Warramunga Arr	46.58	262	P	P	22 53 02.9	-0.9
FORT	Forrest	50.88	247	P	P	22 53 35.2	-1.3
MTN	Manton Dam	51.30	271	P	P	22 53 40.1	+0.1
MTN				IAmb	IAmb	22 53 56.3	
	comp=Z,12nm,1.5s						
KNRA	Kununurra	52.72	266	P	P	22 53 51.2	+0.8
MORW	Morawa	61.43	248	P	P	22 54 51.8	-0.1

*IDC **11** 22:55:35.4±3.8, 11°.69S×166°.26E, h62km±31km, mb3.9/9, mb1 4.0/11, mb1mx3.8/43, mbtmp4.2/11, ML4.5/2,

KOLN	**Koldanda**	**88.94 298**	*e*P	**P**	**23 08 23.3**	**-0.5**
	comp=Z,10.0nm,0.9s					
PYUN	**Piuthan**	**89.54 299**	*e*P	**P**	**23 08 26.3**	**-0.3**
	comp=Z,15nm,1.0s					
MKAR	**Makanchi Array**	**94.27 317**	P	**P**	**23 08 47.9**	**0.0**
	comp=Z,3.0nm,0.7s,baz=98,slow=6.1,SNR=34					
MKAR	**Makanchi Array**	**94.27 317**	P	**P**	**23 08 47.7**	**-0.1**
ZALV	**Zalesovo Beam**	**94.31 324**	P	**P**	**23 08 46.6**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=100,slow=5.0,SNR=3.9					
ZALV	**Zalesovo Beam**	**94.31 324**	P	**P**	**23 08 47.9**	**+0.1**
YKA	**Yellowknife Ar**	**95.27 27**	P	**P**	**23 08 52.1**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=262,slow=5.3,SNR=2.2					

*JMA **11** 23:01:47.0±0.2,24°.97N×124°.01E,h0km,M4.4*
*NIED **11** 23:01:47.1,24°.97N×124°.01E,h0km,MW4.2,Moment Tensor Solution. s1 Moment tensor: Scale 10^15^Nm; M_{rr}-0.03; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$0.44; $M_{r\theta}$1.95; $M_{\phi\theta}$1.51; $M_{\phi r}$0.70; Fault plane solution: $M_0$2.57000×1015 NP1: ϕ_s258.00000°,δ90.00000°,λ-53.00000°. NP2: ϕ_s349.00000°,δ37.00000°,λ-180.00000°.*
*IDC **11** 23:02:00.5±6.1,25°.17N×124°.60E,h123km±58km, mb3.1/10,mb1 3.3/11,mb1mx3.1/49,mbtmp3.5/11,MS3.4/6, Ms1 3.4/6,ms1mx3.0/27 Error ellipse: s-maj=35.4km s-min=17.7km az=71.0*
ISC 11 23:01:48.1±1.6,24°.88N±0°.04×124°.01E±0°.03,h14km±11km, n26,σ1°.60/35,mb3.6/10,MS3.5/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.40**	**136**	P	**Pb**	**23 01 56.7**	**-0.3**
JISG				S	**Sb**	**23 02 03.8**	**+0.8**
JIJ	**Ishigaki jima**	**0.53**	**166**	P	**Pb**	**23 01 59.2**	**0.0**
JIJ				S	**Sb**	**23 02 07.6**	**+0.9**
IRIF	**Iriomote-Funau**	**0.60**	**205**	P	**Pb**	**23 02 00.7**	**+0.4**
IRIF				S	**Sn**	**23 02 10.6**	**-1.1**
JKRS	**Kuro-shima**	**0.64**	**180**	P	**Pn**	**23 02 02.3**	**-0.5**
JKRS				S	**Sn**	**23 02 12.1**	**-0.6**
JTJ	**Tarama**	**0.68**	**110**	P	**Pb**	**23 02 01.6**	**-0.1**
JTJ				*e*S	**Sb**	**23 02 11.5**	**+0.6**
HATJ	**Hateruma jima**	**0.84**	**193**	P	**Pn**	**23 02 05.8**	**+0.3**
HATJ				S	**Sn**	**23 02 18.2**	**+0.5**
YOJ	**Yonaguni jima**	**1.00**	**246**	P	**Pb**	**23 02 07.1**	**0.0**
YOJ				S	**Sb**	**23 02 20.1**	**0.0**
JYNG	**Yonagunijimaku**	**1.05**	**246**	P	**Pn**	**23 02 08.2**	**-0.3**
JYNG				*e*S	**Sb**	**23 02 22.0**	**+0.2**
JIRB	**Irabujima**	**1.06**	**92**	P	**Pg**	**23 02 07.7**	**-0.9**
JIRB				S	**Sb**	**23 02 22.1**	**+0.1**
JIKM	**Ikemajima**	**1.13**	**87**	P	**Pb**	**23 02 09.1**	**-0.3**
JIKM				*e*S	**Sb**	**23 02 24.6**	**+0.6**
JMJ2	**Miyako jima3**	**1.21**	**96**	P	**Pg**	**23 02 10.5**	**-0.9**
JMJ2				S	**Sn**	**23 02 27.3**	**+0.5**
JOGS	**Gusukube**	**1.28**	**95**	P	**Pn**	**23 02 11.8**	**+0.2**
JOGS				S	**Sn**	**23 02 29.4**	**+0.9**
KSRS	**Korea Array**	**12.97**	**14**	P	**Pn**	**23 04 56.5**	**+4.4**
	0.3nm,0.3s,baz=197,slow=12,SNR=1.7						
MJAR	**Matsushiro Arr**	**16.84**	**43**	LR	LR	23 11 20.7	
	comp=Z,43nm,21.7s,baz=98,slow=34						
SONM	**Songino Array**	**26.82**	**333**	P	**P**	**23 07 28.4**	**+0.3**
	1.3nm,0.9s,baz=146,slow=10,SNR=6.8						
SONM				LR	LR	23 19 20.3	
	comp=Z,119nm,18.2s,baz=100,slow=39						
PMG	**Port Moresby**	**40.88**	**144**	LR	LR	23 25 09.5	
	comp=Z,46nm,19.3s,baz=308,slow=34						
ZALV	**Zalesovo Beam**	**41.10**	**325**	P	**P**	**23 09 32.0**	**+0.7**
	0.8nm,0.5s,baz=124,slow=7.8,SNR=3.9						
ZALV				LR	LR	23 28 38.1	
	comp=Z,65nm,18.6s,baz=102,slow=39						
KURBB	**Kurchatov Arra**	**43.26**	**319**	P	**P**	**23 09 51.5**	**+2.4**
	0.4nm,0.6s,baz=110,slow=9.0,SNR=1.4						
PALK	**Pallekele**	**44.90**	**255**	LR	LR	23 30 38.4	
	comp=Z,33nm,19.1s,baz=189,slow=38						
WRA	**Warramunga Arr**	**45.67**	**166**	P	**P**	**23 10 09.5**	**+0.9**
	0.6nm,0.7s,baz=349,slow=8.5,SNR=5.3						
TIXI	**Tiksi**	**46.88**	**2**	P	**P**	**23 10 13.6**	**-4.0**
	0.5nm,0.3s,baz=214,slow=7.3,SNR=1.3						
TIXI				LR	LR	23 31 33.6	
	comp=Z,52nm,18.2s,baz=232,slow=38						
BVAR	**Borovoye Array**	**48.79**	**320**	P	**P**	**23 10 33.3**	**+0.7**
	0.3nm,0.6s,baz=112,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**49.20**	**168**	P	**P**	**23 10 37.9**	**+1.9**
	0.3nm,0.8s,baz=348,slow=6.2,SNR=2.7						
KBZ	**Khabaz**	**67.05**	**309**	P	**P**	**23 12 43.2**	**+2.3**
	1.4nm,1.0s,baz=79,slow=5.2,SNR=1.9						
ILAR	**Eielson Array**	**67.41**	**28**	P	**P**	**23 12 38.8**	**-4.1**
	0.4nm,0.8s,baz=280,slow=6.0,SNR=2.5						
YKA	**Yellowknife Ar**	**81.32**	**24**	P	**P**	**23 14 01.9**	**-2.0**
	0.1nm,0.4s,baz=297,slow=4.8,SNR=2.9						

IDC 11 23:03:36.8±1.4,21°.70N×143°.01E,h0km,mb3.5/8, mb1 3.6/8,mb1mx3.2/52,mbtmp3.5/8,Error ellipse: s-maj=54.2km s-min=23.6km az=79.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**22.42**	**91**	T	T	23 32 00.9	
	baz=280,slow=75						
H11N2	**WAKE ISLAND Hy**	**22.42**	**91**	T	T	23 32 03.8	
	baz=280,slow=75						
H11N3	**WAKE ISLAND Hy**	**22.44**	**91**	T	T	23 32 06.2	
	baz=280,slow=75						
H11S3	**WAKE ISLAND Hy**	**22.45**	**94**	T	T	23 32 08.6	
	baz=283,slow=74						
H11S1	**WAKE ISLAND Hy**	**22.46**	**94**	T	T	23 32 11.5	
	baz=283,slow=74						
H11S2	**WAKE ISLAND Hy**	**22.47**	**94**	T	T	23 32 09.4	
	baz=283,slow=74						
SONM	**Songino Array**	**39.24**	**321**	P	P	23 11 07.6	+0.5
	0.2nm,0.5s,baz=109,slow=7.8,SNR=2.2						
WRA	**Warramunga Arr**	**42.25**	**192**	P	P	23 11 32.6	+0.6
	0.4nm,0.9s,baz=10,slow=8.3,SNR=1.0						
ASAR	**Alice Springs**	**45.96**	**192**	P	P	23 12 01.0	-0.8
	0.2nm,0.5s,baz=17,slow=10.0,SNR=1.0						
ZALV	**Zalesovo Beam**	**54.11**	**322**	P	P	23 13 02.5	-0.9
	0.3nm,0.4s,baz=115,slow=6.8,SNR=1.9						
MKAR	**Makanchi Array**	**54.58**	**313**	P	P	23 13 07.1	+0.1
	0.3nm,0.8s,baz=111,slow=7.9,SNR=1.8						
KURBB	**Kurchatov Arra**	**57.41**	**317**	P	P	23 13 26.8	-0.4
	1.1nm,0.9s,baz=96,slow=7.4,SNR=9.3						
BVAR	**Borovoye Array**	**62.57**	**319**	P	P	23 14 02.8	+0.2
	1.4nm,0.6s,baz=76,slow=7.6,SNR=9.2						
YKA	**Yellowknife Ar**	**76.53**	**28**	P	P	23 15 28.7	+0.1
	0.2nm,0.6s,baz=293,slow=6.0,SNR=2.2						

*BJI **11** 23:39:23.6±0.0,7°.49S×128°.51E,h228km,mb4.8/66, mB4.6/34*
*KLM **11** 23:39:26,7°.38S×128°.20E,h157km,mb5.3*
*DJA **11** 23:39:33.0±0.1,7°S±2°×12°8E±°,h249km±2km,M4.9/84, mB5.4/57,mb5.1/84,MLv5.8/19,Mw(mB)4.8/57, MwMwp4.7/7,Mwp5.0/7*
*IDC **11** 23:39:33.8±0.5,6°.92S×127°.95E,h260km±4km,mb4.6/31, mb1 4.6/36,mb1mx4.4/44,mbtmp5.2/36,Error ellipse: s-maj=8.3km s-min=6.2km az=50.0*
*NEIC **11** 23:39:33.5±2.0,7°.00S±0°.06×127°.99E±0°.06,h252km±5km, mb4.9/124,Error ellipse: s-maj=9.3km s-min=8.2km az=183.0*
*GCMT **11** 23:39:34.5±0.4,7°.03S±0°.02×128°.07E±0°.03,h256km±3km, MW5.1/71,Moment Tensor Solution. s25,c25; s71,c94; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.02±.22; $M_{\theta\theta}$3.85±.20; $M_{\phi\phi}$-1.83±.20; $M_{r\theta}$-3.10±.20; $M_{\phi\theta}$0.29±.18; $M_{\phi r}$2.70±.21; Best double couple: $M_0$5.30200×10^16^ NP1:ϕ_s233.00000°,δ34.00000°,λ-156.00000°. NP2: ϕ_s122.00000°,δ77.00000°,λ-59.00000°. Principal axes: T 5.2850, Plg25.0000°, Azm188.0000°; N 0.0350, Plg30.0000°, Azm294.0000°; P -5.3190, Plg49.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 23:39:32.6±0.4,7°.00S±0°.03×127°.98E±0°.03,h255km±3km, h255km:pP-P,n452,σ1°50/478,mb4.9/154,57C-22D,Fault plane solution: NP1:ϕ_s115.48487°,δ83.18704°, λ-50.97659°. **NP2:**ϕ_s213.81223°,δ39.51996°, λ-169.25600°. **Principal axes:** T Plg27.4892°, Azm175.3601°; N Plg38.6963°, Azm289.9931°; P Plg39.0020°, Azm60.4382°; **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.12**	**38**	P	**Pn**	**23 40 28.2**	**+1.4**
AAI	**Ambon**	**3.30**	**4**	P	**Pn**	**23 40 30.3**	**+1.5**
SAUI	**Saumlaki**	**3.44**	**107**	P	**Pn**	**23 40 30.4**	**+0.2**
SAUI				S	**S**	**23 41 13.8**	**-2.1**
SAUI	**Saumlaki**	**3.44**	**107**		**Pn**	**23 40 30.3**	**+0.1**
SAUI				Sn	**S**	**23 41 10.1**	**-5.9**
SAUI	**Saumlaki**	**3.44**	**107**	P	**Pn**	**23 40 31.5**	**+1.3**
MSAI	**Masohi**	**3.75**	**15**	P	**Pn**	**23 40 35.4**	**+1.5**
SOEI	**Soe**	**4.58**	**233**	P	**Pn**	**23 40 43.8**	**+0.2**
SOEI	**Soe**	**4.58**	**233**	Pn	**Pn**	**23 40 44.0**	**+0.4**
SOEI				Sn	**S**	**23 41 39.7**	**-0.5**
SOEI	**Soe**	**4.58**	**233**	P	**Pn**	**23 40 44.2**	**+0.6**
SANI	**Sanana**	**5.30**	**338**	P	**Pn**	**23 40 53.8**	**+1.4**
	6.5nm4μm15μm2μm,1.0s						
SANI	**Sanana**	**5.30**	**338**	P	**Pn**	**23 40 54.1**	**+1.7**
	2μm,1.1s						
BATI	**Baumata**	**5.32**	**233**	P	**Pn**	**23 40 53.5**	**+1.0**
	3μm,0.3s,baz=99,slow=1.5,SNR=2133						
BATI				S	**S**	**23 41 52.4**	**-4.0**
	1μm,0.3s,baz=75,slow=20,SNR=16						
BATI	**Baumata**	**5.32**	**233**	P	**Pn**	**23 40 53.1**	**+0.5**
	47nm3μm112μm14μm,0.7s						
BBSI	**Bau Bau**	**5.58**	**285**	P	**Pn**	**23 40 58.2**	**+2.5**
	0.6nm2μm175nm,1.1s						
FAKI	**Fak Fak**	**5.88**	**47**	P	**Pn**	**23 40 57.9**	**-1.6**
	6.9nm9μm566nm,0.5s						
FAKI	**Fak Fak**	**5.88**	**47**	Pn	**Pn**	**23 40 58.2**	**-1.2**
MMRI	**Maumere**	**5.91**	**254**	P	**Pn**	**23 41 00.1**	**+0.2**
	4.8nm14μm1μm,0.7s						
MMRI	**Maumere**	**5.91**	**254**	Pn	**Pn**	**23 41 00.1**	**+0.2**
MMRI	**Maumere**	**5.91**	**254**	P	**Pn**	**23 41 00.4**	**+0.6**
	1μm,0.7s						
DRS	**Darwin Rock St**	**6.12**	**152**	P	**Pn**	**23 41 02.4**	**+0.1**
	3μm,0.7s						
LBMI	**Labuha**	**6.34**	**356**	P	**Pn**	**23 41 07.0**	**+1.8**
	5.6nm15μm2μm,1.0s						
EDFI	**Ende, Flores**	**6.46**	**254**	P	**Pn**	**23 41 06.9**	**+0.1**
	2.1nm2μm4μm534nm,0.7s						
MTN	**Manton Dam**	**6.58**	**152**	P	**Pn**	**23 41 07.5**	**-0.7**
	baz=6.6,SNR=1000						
MTN				S	S	23 42 13.8	-11
	baz=6.6						
MTN	**Manton Dam**	**6.58**	**152**	Pn	**Pn**	**23 41 07.5**	**-0.7**
MTN	**Manton Dam**	**6.58**	**152**	P	**Pn**	**23 41 07.6**	**-0.7**
	2μm,0.6s						
SIJI	**Sorong**	**6.92**	**28**	P	**Pn**	**23 41 11.6**	**-0.9**
	99nm,0.3s,baz=207,slow=12,SNR=137						
SIJI				S	**S**	**23 42 26.1**	**-6.5**
	65nm,0.3s,baz=273,slow=3.2,SNR=12						
SWI	**Sorong**	**6.92**	**28**	P	**Pn**	**23 41 11.5**	**-1.0**
	3.9nm10μm463nm,0.4s						
KDU	**Kakadu**	**7.18**	**142**	P	**Pn**	**23 41 14.8**	**-0.9**
	baz=7.2,SNR=926						
KDU				S	**S**	**23 42 31.3**	**-7.2**
	baz=7.2						
KDU	**Kakadu**	**7.18**	**142**	P	**Pn**	**23 41 14.9**	**-0.7**
	618nm,0.8s						
BSSI	**Bau Bau, Buton**	**7.49**	**276**	P	**Pn**	**23 41 20.8**	**+1.2**
	1.3nm5μm484nm,1.3s						
TNTI	**Ternate**	**7.75**	**355**	P	**Pn**	**23 41 24.4**	**+1.6**
	1.0nm2μm5μm364nm,1.4s						
TNTI	**Ternate**	**7.75**	**355**	Pn	**Pn**	**23 41 24.1**	**+1.2**
TNTI	**Ternate**	**7.75**	**355**	P	**Pn**	**23 41 25.4**	**+2.6**
	368nm,1.4s						
LUWI	**Luwuk**	**7.87**	**319**	P	**Pn**	**23 41 27.0**	**+2.6**
	1.5nm6μm341nm,1.2s						
LUWI	**Luwuk**	**7.87**	**319**	Pn	**Pn**	**23 41 26.2**	**+1.8**
LUWI	**Luwuk**	**7.87**	**319**	P	**Pn**	**23 41 27.2**	**+2.8**
	344nm,1.2s						
BASI	**Baing, Sumba**	**7.98**	**246**	P	**Pn**	**23 41 25.1**	**-0.7**
	11nm2μm12μm1μm,0.8s						
BKSI	**Bulukumba**	**7.99**	**282**	P	**Pn**	**23 41 26.7**	**+0.9**
	1.0nm2μm283nm,0.7s						
BNSI	**Bone**	**8.25**	**288**	P	**Pn**	**23 41 30.6**	**+1.5**
	2μm224nm,0.8s						
KAPI	**Kappang**	**8.41**	**283**	P	**Pn**	**23 41 32.7**	**+1.5**
	5.9nm,0.3s,baz=171,slow=4.6,SNR=29						
KAPI	**Kappang**	**8.41**	**283**	Pn	**Pn**	**23 41 32.4**	**+1.1**
KAPI	**Kappang**	**8.41**	**283**	P	**Pn**	**23 41 32.9**	**+1.6**
	74nm,0.8s						
KMSI	**Cibinong**	**8.52**	**332**	P	**Pn**	**23 41 34.9**	**+2.3**
	3μm304nm,0.8s						
KNRA	**Kununurra**	**8.65**	**175**	P	**Pn**	**23 41 33.6**	**-0.6**
	baz=8.7,SNR=1000						
KNRA				S	**S**	**23 43 05.4**	**-7.1**
	baz=8.7						
KNRA	**Kununurra**	**8.65**	**175**	Pn	**Pn**	**23 41 33.7**	**-0.6**
KNRA	**Kununurra**	**8.65**	**175**	P	**Pn**	**23 41 34.0**	**-0.3**
	4μm,0.8s						
SPSI	**Sidrap Palu**	**8.71**	**290**	P	**Pn**	**23 41 36.2**	**+1.2**
	1μm82nm,1.0s						
APSI	**Ampana**	**8.74**	**314**	P	**Pn**	**23 41 38.2**	**+2.8**
	2μm177nm,1.1s						
WBSI	**Waikabubak, Su**	**8.89**	**252**	P	**Pn**	**23 41 34.7**	**-2.6**
	6μm570nm,0.7s						
TTSI	**Tana Toraja**	**9.03**	**295**	P	**Pn**	**23 41 41.0**	**+2.0**
	931nm73nm,1.0s						
GTOI	**Gorontalo**	**9.06**	**327**	P	**P**	**23 41 44.1**	**-2.3**
	1μm130nm,0.7s						
MRSI	**Marisa**	**9.56**	**321**	P	**Pn**	**23 41 48.3**	**+2.5**
	4μm411nm,0.9s						
SRPI	**Serui, Papua**	**9.69**	**59**	P	**Pn**	**23 41 47.6**	**+0.3**
	437nm,0.6s						
BAKI	**Biak**	**9.95**	**55**	P	**Pn**	**23 41 51.6**	**+0.9**
	4μm462nm,1.3s						
TOLI2	**Tolitoli**	**10.79**	**318**	Pn	**Pn**	**23 42 02.8**	**+1.6**
TOLI2	**Tolitoli**	**10.79**	**318**	P	**P**	**23 42 04.0**	**-1.6**
	58nm,0.8s						
MPSI	**Mapaga**	**10.87**	**312**	P	**P**	**23 42 04.8**	**-1.7**
	727nm50nm,1.2s						
SGSI	**Sangihe**	**10.89**	**347**	P	**Pn**	**23 42 03.5**	**+1.0**
	23μm348nm,0.5s						
WAMI	**Wamena**	**11.13**	**74**	P	**P**	**23 42 09.9**	**+0.6**
	23μm1μm,0.9s						
FITZ	**Fitzroy Crossi**	**11.26**	**191**	P	**Pn**	**23 42 05.5**	**-1.5**
	9.7nm,0.3s,baz=24,slow=10,SNR=454						
FITZ				S	**S**	**23 44 07.5**	**-5.4**
	49nm,0.3s,baz=82,slow=19,SNR=8.5						
KBKI	**Kotabaru**	**12.32**	**287**	P	**P**	**23 42 23.1**	**+0.5**
	48nm,1.0s						
MMPI	**Merauke**	**12.38**	**98**	P	**Pn**	**23 42 22.1**	**+1.2**
	54μm4μm,0.5s						
BKB	**Balikpapan**	**12.43**	**297**	Pn	**Pn**	**23 42 22.4**	**+0.9**
SRBI	**Singaraja**	**12.70**	**264**	P	**Pn**	**23 42 24.1**	**-0.8**
	59nm,0.7s						
IGBI	**Denpasar**	**12.84**	**261**	P	**Pn**	**23 42 26.5**	**0.0**
GENI	**Genyem**	**12.91**	**71**	P	**Pn**	**23 42 27.9**	**+0.4**
	15μm2μm,0.8s						
GENI	**Genyem**	**12.91**	**71**	P	**P**	**23 42 28.9**	**-0.3**
	2μm,0.8s						
JAY	**Jayapura**	**13.44**	**71**	P	**Pn**	**23 42 34.5**	**+0.5**
	baz=180,slow=6.2						
JAY	**Jayapura**	**13.44**	**71**	P	**Pn**	**23 42 34.2**	**+0.2**
BBKI	**Banjar Baru**	**13.54**	**284**	P	**P**	**23 42 37.7**	**+1.5**
	159nm,1.3s						
ABJI	**Asem Bagus**	**13.65**	**266**	P	**P**	**23 42 37.4**	**0.0**
	163nm,0.8s						
JAGI	**Jajag, Banyuwa**	**13.78**	**263**	P	**Pn**	**23 42 36.3**	**-1.7**
	111nm,0.8s						
JAGI	**Jajag, Banyuwa**	**13.78**	**263**	Pn	**Pn**	**23 42 36.3**	**-1.7**
JAGI	**Jajag, Banyuwa**	**13.78**	**263**	P	**P**	**23 42 38.7**	**-0.1**
	112nm,0.8s						
KMMI	**Kalianget**	**13.90**	**269**	P	**P**	**23 42 41.3**	**+1.1**
	2μm139nm,1.2s						
WB0	**Warramunga Arr**	**14.14**	**154**		**Pn**	**23 42 40.6**	**-1.7**
DAV	**Davao City (W)**	**14.18**	**350**	P	**P**	**23 42 43.6**	**+0.4**
	52nm,0.3s,baz=84,slow=22,SNR=3.7						
WRAB	**Tennant Creek**	**14.27**	**155**	P	**Pn**	**23 42 42.6**	**-1.4**
WRAB	**Tennant Creek**	**14.27**	**155**	P	**Pn**	**23 42 43.3**	**-0.6**
	608nm,0.6s						
WRA	**Warramunga Arr**	**14.27**	**155**	P	**Pn**	**23 42 43.5**	**-0.5**
	32nm,0.3s,baz=332,slow=12,SNR=592						
WRA				S	**S**	**23 45 19.1**	**-2.7**
	34nm,0.3s,baz=333,slow=19,SNR=18						
WRA	**Warramunga Arr**	**14.27**	**155**	Pn	**Pn**	**23 42 42.7**	**-1.3**
WB2	**Warramunga Arr**	**14.27**	**155**		**Pn**	**23 42 42.2**	**-1.8**
BLJI	**Banyuglugur**	**14.28**	**266**	P	**P**	**23 42 44.5**	**+0.1**
	179nm,0.7s						
MTKI	**Muara Teweh, K**	**14.37**	**294**	P	**P**	**23 42 48.2**	**+2.9**
	39nm,0.6s						
WR0	**Warramunga Arr**	**14.37**	**154**	P	**Pn**	**23 42 43.7**	**-1.5**
GMJI	**Gumukmas**	**14.46**	**264**	P	**Pn**	**23 42 46.3**	**0.0**
	23nm,0.4s						
MYLDM	**Lahad Datu**	**15.36**	**322**		**Pn**	**23 42 57.9**	**+0.8**
MYLDM				IAmb	IAmb	23 43 13.3	
	comp=Z,102nm,1.1s						
MBWA	**Marble Bar**	**16.18**	**209**	P	**Pn**	**23 43 06.0**	**-0.7**
	comp=Z,488nm,0.8s						
SPMM	**Sapulut**	**16.35**	**315**	P	**Pn**	**23 43 12.0**	**+3.1**
COEN	**Coen**	**16.46**	**116**	P	**P**	**23 43 08.6**	**+0.2**
COEN	**Coen**	**16.46**	**116**	P	**Pn**	**23 43 09.7**	**-0.4**
	comp=Z,508nm,1.0s						
PSA00	**Pilbara Seismi**	**16.48**	**208**		**Pn**	**23 43 09.5**	**-0.8**
PSA00	**Pilbara Seismi**	**16.48**	**208**	P	**Pn**	**23 43 09.4**	**-0.8**
PSA00				IAmb	IAmb	23 43 10.2	
	comp=Z,392nm,0.8s						
PSA00	**Pilbara Seismi**	**16.48**	**208**	P	**P**	**23 43 09.4**	**+0.9**
	comp=Z,654nm,0.8s						
PCJI	**Pacitan**	**16.69**	**265**	P	**P**	**23 43 09.5**	**-1.4**
	comp=Z,1μmcomp=Z,106nm,0.5s						
PBKI	**Pangkalan Bun**	**16.80**	**284**	P	**Pn**	**23 43 13.4**	**-0.7**
	comp=Z,8μmcomp=Z,238nm,1.0s						
UWJI	**Ujung Watu**	**16.92**	**271**	P	**Pn**	**23 43 15.9**	**+0.4**
	comp=Z,177μmcomp=Z,3μmcomp=Z,91nm,0.9s						
UGM	**Wanagama**	**17.33**	**266**	P	**P**	**23 43 17.1**	**-0.8**
	comp=Z,58nm,0.7s						
UGM	**Wanagama**	**17.33**	**266**	P	**P**	**23 43 18.1**	**+0.2**
UGM				IAmb	IAmb	23 43 37.3	
	comp=Z,39nm,0.6s						
UGM	**Wanagama**	**17.33**	**266**	P	**Pn**	**23 43 19.7**	**-0.6**
	comp=Z,59nm,0.8s						
SMRI	**Semarang**	**17.40**	**269**	P	**P**	**23 43 18.2**	**-0.5**
SMRI				IAmb	IAmb	23 43 35.0	
	comp=Z,45nm,0.7s						
KKM	**Kota Kinabalu**	**17.48**	**318**	P	**P**	**23 43 21.0**	**+1.4**
KKM				IAmb	IAmb	23 43 40.3	
	comp=Z,21nm,0.8s						
KKM	**Kota Kinabalu**	**17.48**	**318**	P	**Pn**	**23 43 22.8**	**+0.6**
	comp=Z,39nm,1.2s						
AS31	**Alice Springs**	**17.52**	**162**	P	**P**	**23 43 20.6**	**+0.7**
ASAR	**Alice Springs**	**17.52**	**162**	P	**Pn**	**23 43 21.2**	**-1.2**
	comp=Z,109nm,0.3s,baz=342,slow=11,SNR=7179						
ASAR				S	**S**	**23 46 27.8**	**-0.9**
	comp=Z,5.2nm,0.3s,baz=348,slow=24,SNR=5.5						
ASAR	**Alice Springs**	**17.52**	**162**	P	**P**	**23 43 20.8**	**+1.0**
QIS	**Mount Isa**	**17.57**	**141**	P	**P**	**23 43 21.7**	**+1.3**
	baz=18,SNR=248						
QIS	**Mount Isa**	**17.57**	**141**	P	**Pn**	**23 43 21.8**	**-1.2**
	comp=Z,210nm,0.8s						
STKI	**Sintang**	**17.89**	**292**	P	**Pn**	**23 43 27.0**	**+0.1**
	comp=Z,8μmcomp=Z,62nm,0.7s						
WRKA	**Warakurna**	**17.94**	**179**	P	**P**	**23 43 25.6**	**+1.3**
	baz=18,SNR=1000						
WRKA	**Warakurna**	**17.94**	**179**	P	**Pn**	**23 43 26.0**	**-1.4**
	comp=Z,1μm,0.8s						
SBUM	**Sibu**	**18.32**	**300**	P	**Pn**	**23 43 30.4**	**-1.5**
SBUM	**Sibu**	**18.32**	**300**	P	**Pn**	**23 43 34.0**	**+2.1**
PMG	**Port Moresby**	**19.14**	**98**	P	**P**	**23 43 39.3**	**+1.9**
	comp=Z,7.4nm,0.3s,baz=287,slow=6.4,SNR=33						
PMG	**Port Moresby**	**19.14**	**98**	P	**P**	**23 43 39.2**	**+1.9**
PMG	**Port Moresby**	**19.14**	**98**	P	**P**	**23 43 38.9**	**+1.6**
	comp=Z,225nm,1.0s						
PMG	**Port Moresby**	**19.14**	**98**	P	**P**	**23 43 38.8**	**+1.5**
	comp=Z,225nm,1.0s						
CMJI	**Cimerak**	**19.38**	**266**	P	**P**	**23 43 37.4**	**-2.5**
	comp=Z,696nmcomp=Z,73nm,0.8s						
MTSU	**Mount Surprise**	**19.39**	**126**	P	**P**	**23 43 40.9**	**+0.9**
	baz=19,SNR=143						
MTSU	**Mount Surprise**	**19.39**	**126**	P	**P**	**23 43 41.1**	**+1.1**
	comp=Z,82nm,0.7s						
KSM	**Kuching**	**19.54**	**295**	P	**P**	**23 43 42.9**	**+1.2**
KSM	**Kuching**	**19.54**	**295**	P	**Pn**	**23 43 44.3**	**-1.9**
	comp=Z,73nm,0.7s						
MANU	**Manus Island**	**19.94**	**77**	P	**P**	**23 43 45.8**	**-0.2**
MANU					**PcP**	**23 47 47.8**	**-3.5**
LEM	**Lembang**	**20.21**	**269**	P	**P**	**23 43 48.5**	**-0.5**
	comp=Z,156nm,0.7s,baz=64,slow=8.4,SNR=25						
LEM				S	**S**	**23 47 22.4**	**+1.0**
	comp=Z,13nm,0.4s,baz=292,slow=12,SNR=3.7						
LEM	**Lembang**	**20.21**	**269**	P	**P**	**23 43 48.9**	**-0.1**
	comp=Z,1μmcomp=Z,115nm,0.8s						
GIRL	**Giralia**	**20.42**	**219**	P	**P**	**23 43 51.8**	**+0.8**
	baz=20,SNR=27						
GIRL	**Giralia**	**20.42**	**219**	P	**P**	**23 43 51.3**	**+0.3**
GIRL	**Giralia**	**20.42**	**219**	P	**P**	**23 43 52.4**	**+1.4**
	comp=Z,681nm,1.0s						
CNJI	**Cibinong**	**20.69**

comp=Z,27nm,0.4s,baz=332,slow=8.9,SNR=126
STKA Stephens Creek 27.82 155 P P 23 44 59.5 +0.8
baz=28,SNR=74
STKA Stephens Creek 27.82 155 P P 23 44 59.4 +0.8
comp=Z,11nm,1.1s
HTT Hallett 28.19 160 P P 23 45 02.9 +0.9
baz=28,SNR=28
HTT Hallett 28.19 160 P P 23 45 03.1 +1.1
comp=Z,46nm,1.1s
MNSI Mandailing Nat 29.37 284 P P 23 45 12.6 0.0
comp=Z,31nm,0.7s
CMSA Cobar Meteorol 29.49 148 P P 23 45 14.8 +1.4
baz=30,SNR=29
CMSA Cobar Meteorol 29.49 148 P P 23 45 15.1 +1.7
comp=Z,45nm,1.0s
TWOA Tennyson Woods 29.55 162 P P 23 45 15.5 +1.6
comp=Z,43nm,0.7s
KULM Kulim 29.88 293 P P 23 45 17.9 +0.9
KULM IAmb IAmb 23 45 20.6
comp=Z,16nm,0.8s
PSI Prapat 30.59 288 P P 23 45 23.7 +0.2
comp=Z,41nm,0.7s,baz=83,slow=7.1,SNR=64
UBPT Khong Chiam 31.43 315 P P 23 45 31.3 +0.7
UBPT IAmb IAmb 23 45 31.7
comp=Z,12nm,0.6s
GSI Gunungsitoli 31.44 284 P P 23 45 30.8 0.0
comp=Z,37nm,0.6s
GSI Gunungsitoli 31.44 284 P P 23 45 30.8 0.0
GSI IAmb IAmb 23 45 33.8
comp=Z,23nm,0.6s
GSI Gunungsitoli 31.44 284 P P 23 45 32.4 +1.6
comp=Z,37nm,0.7s
HNR Honiara 31.73 97 P P 23 45 33.2 -0.1
YHNB Yeheng 32.13 349 P P 23 45 36.4 -0.3
YHNB IAmb IAmb 23 45 39.7
comp=Z,14nm,0.7s
ARPS Mount Arapiles 32.22 159 P P 23 45 38.9 +1.7
baz=32,SNR=85
ARPS Mount Arapiles 32.22 159 P P 23 45 38.9 +1.7
comp=Z,230nm,0.8s
TPTI 32.38 287 P P 23 45 39.3 +0.3
comp=Z,11nm,0.8s
PATS Pohnpei 33.24 66 P P 23 45 46.3 -0.1
LHMI Lhok Sumawe 33.27 291 P P 23 45 47.3 +0.7
JOW Kunigami 33.63 0 P P 23 45 50.1 +0.5
JOW Kunigami 33.63 0 P P 23 45 50.5 +0.9
comp=Z,241nm,0.9s
BRAT Ballarat 33.69 157 P P 23 45 51.1 +1.2
comp=Z,40nm,0.8s
CAN Canberra 34.17 149 P P 23 45 56.0 +1.9
CAN IAmb IAmb 23 45 57.2
comp=Z,41nm,0.7s
CAN Canberra 34.17 149 P P 23 45 56.7 +2.6
comp=Z,96nm,0.7s
TOO Toolangi 34.34 155 P P 23 45 56.1 +0.5
baz=34,SNR=18
TOO Toolangi 34.34 155 P P 23 45 57.5 +1.9
TOO IAmb IAmb 23 45 58.6
comp=Z,21nm,0.7s
TOO Toolangi 34.34 155 P P 23 45 58.3 +2.7
comp=Z,37nm,2.1s
CNB Canberra Magne 34.35 148 P P 23 45 56.4 +0.6
baz=34,SNR=11
JCJ Chichijima 36.58 22 P P 23 46 13.7 -1.0
SLVN Son La 36.76 321 P P 23 46 16.9 +0.6
KOUNC Koumac, New Ca 37.64 115 P P 23 46 25.2 +1.5
comp=Z,65nm,0.9s
CMAR Chiang Mai Arr 38.22 312 P P 23 46 29.5 +1.0
comp=Z,4.4nm,0.5s,baz=145,slow=7.4,SNR=24
CMAR pP **pP 23 47 21.3 +2.2**
comp=Z,2.2nm,0.7s,baz=142,slow=7.6,SNR=1.7
CMAR PcP **PcP 23 48 38.5 +1.1**
comp=Z,2.3nm,0.3s,baz=152,slow=4.1,SNR=5.0
CMAR ScP **ScP 23 52 01.2 +0.5**
comp=Z,3.8nm,0.7s,baz=161,slow=3.4,SNR=13
CMAR Chiang Mai Arr 38.22 312 ScP 23 52 01.1 +0.3
JSU Suzuyama 38.36 3 P P 23 46 29.4 -0.1
CHTO Chiang Mai 38.44 312 P P 23 46 31.2 +0.9
CHTO **ScP 23 52 02.4 +0.8**
CHTO Chiang Mai 38.44 312 P P 23 46 31.2 +0.9
comp=Z,7.7nm,1.1s
GYA Guiyang 39.16 329 ⇑P P 23 46 40.9 +4.5
GYA pmax pmax
comp=Z,14nm,1.2s
SANVU Saraoutou 39.32 106 P P 23 46 39.1 +1.4
SANVU Saraoutou 39.32 106 P P 23 46 38.8 +1.1
comp=Z,374nm,0.8s
WHN Wuhan 39.55 341 ⇓iP P 23 46 40.2 +0.9
WHN pmax pmax
comp=Z,98nm,0.9s
TAU Tasmania Unive 39.62 158 P P 23 46 41.0 +1.3
NJ2 Nanjing 39.80 348 eP P 23 46 38.8 -2.5
NJ2 pmax pmax
comp=Z,74nm,0.9s
NOUC Port Laguerre 39.87 116 P P 23 46 43.3 +1.2
comp=Z,58nm,1.4s
DZM Mont Dzumac 39.99 116 P P 23 46 44.5 +1.2
comp=Z,39nm,0.7s,baz=266,slow=9.6,SNR=35
DZM Mont Dzumac 39.99 116 eP P 23 46 44.4 +1.2
comp=Z,118nm,1.3s
DZM Mont Dzumac 39.99 116 P P 23 46 44.3 +1.0
DZM IAmb IAmb 23 46 44.9
comp=Z,37nm,0.8s
DZM Mont Dzumac 39.99 116 P P 23 46 44.6 +1.4
comp=Z,87nm,2.1s
JNU Nakatsue 40.00 4 P P 23 46 42.4 -0.6
JNU IAmb IAmb 23 46 43.5
comp=Z,67nm,1.0s
ONTNC Ouen Toro 40.06 116 P P 23 46 43.8 +0.1
ONTNC IAmb IAmb 23 46 55.7
comp=Z,63nm,1.1s
ONTNC Ouen Toro 40.06 116 P P 23 46 46.3 +2.6
comp=Z,86nm,1.2s
KMI Kunming 40.29 323 ⇓P P 23 46 47.0 +1.3
KMI pmax pmax
comp=Z,19nm,0.9s
LIFNC LIFOU 40.37 114 P P 23 46 47.1 +0.9
LIFNC LIFOU 40.37 114 P P 23 46 47.7 +1.5
comp=Z,193nm,1.1s
OUENC Ouen Island, N 40.44 116 P P 23 46 47.7 +0.9
OUENC IAmb IAmb 23 46 48.8
comp=Z,49nm,0.9s
OUENC Ouen Island, N 40.44 116 P P 23 46 48.7 +1.9
comp=Z,70nm,1.8s
JMN Monobe 40.89 8 P P 23 46 50.4 +0.1
JMN IAmb IAmb 23 46 51.1
comp=Z,52nm,0.8s
PINNC Pines Island, 41.03 117 P P 23 46 52.9 +1.3
PINNC Pines Island, 41.03 117 P P 23 46 54.0 +2.4
comp=Z,112nm,0.9s
ENH Enshi 41.09 335 IAmb IAmb 23 46 52.3
comp=Z,19nm,0.6s
MARNC Mare, Loyalty 41.26 115 P P 23 46 54.8 +1.3
comp=Z,4.2nm,0.6s
PZH PanZhiHua 41.91 324 P P 23 46 59.1 +0.3
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,100nm,6.4s
JHS Saijyo 42.05 6 P P 23 46 59.8 +0.2
JWT Wachi 42.64 9 IAmb IAmb 23 47 04.8
comp=Z,69nm,0.8s
INU Inuyama 42.98 11 P P 23 47 07.3 +0.3
TJN Taejon 43.15 359 P P 23 47 09.1 +0.7
TJN Taejon 43.15 359 P P 23 47 09.1 +0.7
comp=Z,598nm,1.1s
LYN LuoYang 43.85 341 ⇓iP P 23 47 14.0 0.0
LYN pmax pmax
comp=Z,20nm,1.5s
KSAR Wonju Array Be 44.21 360 P P 23 47 17.6 +0.8
KSRS Korea Array 44.22 360 P P 23 47 17.6 +0.7
comp=Z,43nm,0.6s,baz=177,slow=9.7,SNR=152
KSRS PcP **PcP 23 48 57.1 +0.4**
comp=Z,3.1nm,0.7s,baz=188,slow=3.5,SNR=5.2
CD2 Chengdu 44.26 330 eP P 23 47 20.0 +2.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
INCN Inchon 44.27 358 P P 23 47 19.4 +2.1
comp=Z,55nm,0.9s
KS19 Wonju Array Si 44.27 360 P P 23 47 17.7 +0.4
KS19 IAmb IAmb 23 47 18.6
comp=Z,63nm,0.7s
MAJO Matsushiro 44.37 12 P P 23 47 16.7 -1.4
MAJO IAmb IAmb 23 47 17.6
comp=Z,33nm,0.6s
MAT Matsushiro 44.37 12 P P 23 47 16.4 -1.7
MJAR Matsushiro Arr 44.37 12 P P 23 47 16.6 -1.5
comp=Z,18nm,0.5s,baz=190,slow=9.0,SNR=34
MJB9 Matsu-Tunnel 44.37 12 IAmb IAmb 23 47 17.5
comp=Z,33nm,0.6s
JYT Yasato 44.51 14 P P 23 47 18.1 -1.1
JSD Sado 45.82 11 P P 23 47 29.1 -0.3
JSD IAmb IAmb 23 47 34.1
comp=Z,42nm,1.1s
HNS HongShan 45.88 345 ⇓P P 23 47 29.8 -0.1
HNS pmax pmax
comp=Z,100nm,1.0s
DL2 Dalian 46.05 353 P P 23 47 31.4 +0.2
DL2 pmax pmax
comp=Z,66nm,0.7s
JMM Marumori 46.21 14 P P 23 47 32.3 -0.1
JMM IAmb IAmb 23 47 35.3
comp=Z,48nm,1.0s
TIY Taiyuan 46.79 343 P P 23 47 37.0 0.0
TIY pmax pmax
comp=Z,38nm,0.6s
BJT Baijiatuau 48.04 348 IAmb IAmb 23 47 47.5
comp=Z,59nm,0.8s
BJI Beijing 48.06 348 P P 23 47 46.5 -0.1
BJI PcP **PcP 23 49 11.2 +1.0**
BJI pmax pmax
comp=Z,93nm,0.8s
LZH Lanzhou 48.49 334 ⇓P P 23 47 51.0 +0.8
LZH sS sS 23 56 04.1 -1.5
LZH pmax pmax
comp=Z,63nm,1.3s
LZH pmax pmax
comp=Z,140nm,6.1s
LZH LR LR
comp=Z,180nm,13.5s
LZH LR LR
comp=Z,190nm,12.3s
JTM Tenmabayashi 49.06 13 P P 23 47 54.2 0.0
JTM IAmb IAmb 23 47 57.0
comp=Z,63nm,1.1s
PALK Pallekele 49.24 286 P P 23 47 55.8 -0.3
comp=Z,8.5nm,0.9s,baz=188,slow=11,SNR=4.5
PALK Pallekele 49.24 286 P P 23 47 56.0 -0.1
MSVF Nonsavu 49.92 107 P P 23 48 03.0 +1.8
MSVF IAmb IAmb 23 48 04.3
comp=Z,48nm,0.8s
MSVF Nonsavu 49.92 107 P P 23 48 03.6 +2.3
comp=Z,82nm,1.9s
HHC Hu-ho-hao-te 49.95 344 eP P 23 48 01.8 +0.7
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,140nm,4.9s
CHLP Challavanipeta 50.19 301 eP P 23 48 03.5 +0.5
OUZ Omahuta 50.36 131 P P 23 48 06.1 +1.9
CN2 Changchun 50.62 358 eP P 23 48 04.8 -1.0
CN2 eP**P PP 23 50 05.7 +1.0**
CN2 eS **S 23 54 57.3 -3.2**
CN2 pmax pmax
comp=Z,40nm,0.6s
ERM Erimo 50.72 15 P P 23 48 07.3 +0.7
ERM IAmb IAmb 23 48 17.0
comp=Z,75nm,1.1s
FUNA Funafuti 50.74 95 P P 23 48 08.0 +0.6
LSA Lhasa 50.83 318 P P 23 48 09.0 +0.7
USRK Ussuriysk Ar. 51.09 4 P P 23 48 09.5 +0.2
comp=Z,23nm,0.6s,baz=194,slow=7.5,SNR=39
USA0B Ussuriysk Arra 51.09 4 IAmb IAmb 23 48 10.6
comp=Z,32nm,0.8s
DCZ Deep Cove 51.13 145 P P 23 48 09.9 +0.2
MDJ Mudanjiang 51.40 1 P P 23 48 12.5 +0.9
MDJ pmax pmax
comp=Z,59nm,1.5s
MDJ pmax pmax
comp=Z,150nm,5.1s
MDJ Mudanjiang 51.40 1 IAmb IAmb 23 48 12.7
comp=Z,42nm,1.0s
MDJ Mudanjiang 51.40 1 P P 23 48 12.3 +0.7
comp=Z,58nm,1.4s
DGTI Dogotuki 51.41 105 P P 23 48 13.9 +1.6
comp=Z,201nm,1.0s
FOZ Fox Glacier 51.61 142 P P 23 48 14.1 +0.8
MLZ Mavora Lakes 51.62 145 P P 23 48 14.3 +0.9
MLZ IAmb IAmb 23 48 15.7
comp=Z,36nm,1.2s
XLT XiLinHaoTe 51.80 349 ⇓iP P 23 48 15.0 +0.3
XLT pP pP 23 49 07.6 -2.0
XLT PcP **PcP 23 49 24.2 +0.2**
XLT S **S 23 55 13.9 -2.9**
XLT sS sS 23 56 52.0 +0.1
XLT pmax pmax
comp=Z,97nm,1.0s
XLT pmax pmax
comp=Z,170nm,4.5s
XLT LR LR
comp=Z,240nm,5.4s
XLT LR LR
comp=Z,260nm,6.7s
XLT LR LR
comp=Z,180nm,8.7s
QRZ Quartz Range 52.00 137 P P 23 48 17.3 +1.0
QRZ IAmb IAmb 23 48 19.4
comp=Z,29nm,0.8s
LBZ Lake Benmore 52.30 142 P P 23 48 18.8 +0.4
MYLAV Mylavaram 52.43 297 eP P 23 48 20.4 +0.7
RPZ Rata Peaks 52.47 141 P P 23 48 21.0 +1.3
RPZ IAmb IAmb 23 48 31.4
comp=Z,39nm,0.9s
BNX BinXian 52.51 359 ⇓P P 23 48 19.3 -0.4
BNX pmax pmax
comp=Z,18nm,0.7s
BNX pmax pmax
comp=Z,270nm,3.9s
JKA Kamikawa-asahi 52.57 13 IAmb IAmb 23 48 20.6
comp=Z,17nm,0.5s
ADKI Addanki 52.67 296 eP P 23 48 21.7 +0.2
THZ Tophouse 52.69 138 P P 23 48 22.7 +1.4
GTA Gaotai 53.03 333 ⇓P P 23 48 24.5 +0.6
GTA PcP **PcP 23 49 26.6 -2.3**
GTA ScP **ScP 23 53 02.0 +0.2**
GTA pmax pmax
comp=Z,34nm,0.9s
GTA pmax pmax
comp=Z,99nm,5.5s
GTA LR LR
comp=Z,100nm,15.3s
GTA LR LR
comp=Z,100nm,16.0s
GTA LR LR
comp=Z,120nm,15.6s
GOMU GeErMu 53.06 326 P P 23 48 24.3 -0.2
GOMU pmax pmax
comp=Z,86nm,4.7s
TUWZ Tuamarina 53.23 138 P P 23 48 25.8 +0.7
BSWZ Blackbirch Sta 53.31 138 P P 23 48 27.0 +1.2
WTVZ West Tongariro 53.37 134 P P 23 48 29.0 +2.6
KHZ Kahutara 53.41 139 P P 23 48 27.7 +1.3
KHZ IAmb IAmb 23 48 28.5
comp=Z,30nm,0.7s
RCLA Racherla 53.44 295 eP P 23 48 27.0 -0.1
GUN Gumba 53.46 312 eP P 23 48 27.5 0.0
comp=Z,21nm,0.5s
WNVZ Wahianoa 53.46 135 P P 23 48 29.1 +2.0
MQZ McQueen's Vall 53.47 141 P P 23 48 27.3 +0.4
MOVZ Moawhango 53.60 135 P P 23 48 29.3 +1.2
PKI Pulchoki 53.61 312 eP P 23 48 28.1 -0.5
comp=Z,6.5nm,0.4s
PKIN Phulchoki 53.63 312 eP P 23 48 28.1 -0.5
comp=Z,7.3nm,0.4s
SRLM Srisailam 53.73 296 eP P 23 48 29.4 +0.1
KKN Kakani 53.83 312 eP P 23 48 29.9 -0.1
comp=Z,13nm,0.6s
BHHZ Black Hill Sta 53.85 135 P P 23 48 30.8 +0.9
DMN Daman 53.86 312 eP P 23 48 30.4 +0.1
WHRZ Whale Island 53.88 132 P P 23 48 29.8 -0.2
BKZ Black Stump Fm 54.03 134 P P 23 48 32.1 +1.0
BKZ Black Stump Fm 54.03 134 P P 23 48 32.2 +1.1
BKZ Black Stump Fm 54.03 134 P P 23 48 32.2 +1.1
comp=Z,86nm,1.2s
URZ Urewera 54.13 133 P P 23 48 32.6 +0.9
URZ IAmb IAmb 23 48 38.0
comp=Z,22nm,0.8s
CUPL Choutuppal 54.15 297 eP P 23 48 32.4 +0.1
MTHZ Maungataniwha 54.16 133 P P 23 48 33.2 +1.2
NMHZ Naumai 54.23 134 P P 23 48 34.5 +1.9
RAHZ Arahi 54.36 133 P P 23 48 35.0 +1.6
GKN Gorkha 54.42 312 eP P 23 48 34.1 -0.1
comp=Z,17nm,0.4s
RUGZ Raukumara Rang 54.44 132 P P 23 48 34.4 +0.2
HAZ Te Kaha 54.44 132 P P 23 48 34.8 +0.8
MWZ Matawai 54.46 133 P P 23 48 35.1 +0.9
HYBB Hyderabad (bro 54.52 297 eP P 23 48 35.3 +0.4
HYBB eS **S 23 55 54.0 -0.2**
MXZ Matakaoa Point 54.76 131 P P 23 48 36.7 +0.4
URV Uravakonda 54.80 294 eP P 23 48 37.3 +0.4
PUZ Puketiti 54.90 132 P P 23 48 38.8 +1.5
CNGZ Carnagh Statio 55.01 133 P P 23 48 39.8 +1.7
KOLN Koldanda 55.07 311 eP P 23 48 39.0 +0.1
comp=Z,6.1nm,0.3s
DANN Dangsing 55.26 312 eP P 23 48 39.9 -0.5
comp=Z,50nm,0.8s
SRSP Sriramsagar 55.28 299 eP P 23 48 41.1 +0.7
YSS Yuzh-Sakhalins 55.30 12 P P 23 48 39.8 -0.1
YSS Yuzh-Sakhalins 55.30 12 P P 23 48 40.9 +1.0
comp=Z,42nm,0.5s
PYUN Piuthan 55.70 311 eP P 23 48 43.3 -0.1
comp=Z,75nm,0.8s
KLR Kul'dur 56.09 3 P P 23 48 45.5 0.0
comp=Z,4.1nm,0.3s,baz=197,slow=9.0,SNR=26
KLR pP **pP 23 49 40.8 +0.4**
comp=Z,7.1nm,0.8s,baz=294,slow=3.6,SNR=3.6
KLRI Killari 56.49 297 eP P 23 48 49.9 +0.9
ULN Ulaanbaatar 57.67 343 P P 23 48 57.8 +1.1
ULN IAmb IAmb 23 48 58.9
comp=Z,47nm,0.9s
SONM Songino Array 57.83 343 P P 23 48 58.6 +0.8
comp=Z,27nm,0.8s,baz=166,slow=7.1,SNR=194
SONM ScP **ScP 23 53 22.6 -0.1**
comp=Z,2.3nm,0.9s,baz=159,slow=6.6,SNR=5.0
SONM Songino Array 57.83 343 IAmb IAmb 23 48 59.9
comp=Z,41nm,1.0s
AFI Afiamalu 59.52 102 P P 23 49 10.6 +0.7
comp=Z,38nm,0.7s,baz=292,slow=5.4
CASY Casey 60.41 188 P P 23 49 15.2 +0.2
CASY IAmb IAmb 23 49 17.2
comp=Z,25nm,0.9s
WMQ Urumqi 62.32 328 eP P 23 49 29.2 +1.0
WMQ PcP **PcP 23 50 06.4 +1.0**
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax
comp=Z,130nm,4.1s
PETK Petropavlovsk- 64.97 19 P P 23 49 44.9 -0.3
comp=Z,23nm,0.5s,baz=187,slow=4.8,SNR=90
NIL Nilore 65.71 312 P P 23 49 50.4 0.0
ZSN Zaisan 66.24 330 eP P 23 49 53.6 +0.1
baz=330
KSH Kashi 66.67 318 P P 23 49 57.5 +1.0
KSH PcP **PcP 23 50 23.8 +0.2**
KSH pP pP 23 50 53.7 +0.4
KSH pmax pmax
comp=Z,9.0nm,0.7s
UZB Uzynbulak 66.76 323 eP P 23 49 57.0 -0.1
baz=323
SATY Saty 67.08 323 eP P 23 49 59.4 +0.3
baz=323
ZHN Zhinishke 67.13 323 eP P 23 49 59.8 +0.5
baz=323
MKAR Makanchi Array 67.14 328 P P 23 49 59.6 +0.4
comp=Z,8.3nm,0.5s,baz=121,slow=7.8,SNR=223
MKAR PKPPKP **P'P'df 00 18 22.0 -3.3**
comp=Z,0.5nm,1.0s,baz=124,slow=2.2,SNR=3.9
TNSS Tian-Shan 67.95 322 eP P 23 50 05.3 +0.5
baz=322
MDOK Medeo 67.96 322 eP P 23 50 04.3 -0.3
baz=322
TDK Taldyqorghan 68.20 324 eP P 23 50 05.9 +0.1
baz=324
CHKK Chushkaly 68.38 323 eP P 23 50 06.8 -0.2
baz=323
KST Kastek 68.56 322 eP P 23 50 08.4 +0.2
comp=Z,5.3nm,0.6s,baz=322
TKM2 Tokmak 2 68.72 321 P P 23 50 09.6 +0.2
SNR=5.9
KUU Kurty 68.79 323 eP P 23 50 09.7 +0.2
comp=Z,17nm,0.9s,baz=322
MA2 Magadan 68.81 12 P P 23 50 09.8 +0.6
MA2 IAmb IAmb 23 50 10.3
comp=Z,27nm,0.8s
YAK Yakutsk 68.84 1 P P 23 50 08.9 -0.4
comp=Z,57nm,0.3s,baz=323,slow=0.3,SNR=28
YAK Yakutsk 68.84 1 P P 23 50 09.7 +0.4
UCH Uchtor 69.03 320 P P 23 50 12.9 +1.4
SNR=6.6
AAK Ala-Archa 69.26 321 P P 23 50 13.7 +1.1
SNR=7.0
AAK Ala-Archa 69.26 321 P P 23 50 13.5 +1.0
AML Almayashu 69.50 320 P P 23 50 15.4 +1.0
SNR=7.7
USP Ospenovka 69.58 321 P P 23 50 14.9 +0.6
SNR=12
SGDS Sogindy 69.60 321 eP P 23 50 14.3 -0.2
baz=321
EKS2 Erkin-Say 69.72 320 P P 23 50 16.4 +1.0
SNR=6.5
SEM Semipalatinsk 70.48 330 eP P 23 50 19.0 -0.9
baz=330
ZAA0 Zalesovo Array 70.71 335 P P 23 50 21.0 +0.1
ZAA0 IAmb IAmb 23 50 21.6
comp=Z,36nm,1.1s
ZALV Zalesovo Beam 70.71 335 P P 23 50 20.6 -0.3
comp=Z,15nm,0.5s,baz=125,slow=4.9,SNR=97
ZALV pP **pP 23 51 20.0 +1.7**
comp=Z,7.0nm,1.0s,baz=129,slow=3.9,SNR=1.7
ZALV Zalesovo Beam 70.71 335 P P 23 50 21.0 +0.1
BTLS Baital 70.80 323 eP P 23 50 21.6 0.0
baz=323
CHGR Chuyangaron 70.91 315 IAmb IAmb 23 50 40.5
comp=Z,11nm,0.9s
DZA Taraz 71.40 320 eP P 23 50 25.0 -0.3
baz=320
KURBB Kurchatov Arra 71.47 329 P P 23 50 26.0 +0.5
comp=Z,11nm,0.5s,baz=133,slow=5.3,SNR=8.8
KURBB pP **pwP 23 51 27.4 -1.4**
comp=Z,4.1nm,0.9s,baz=127,slow=5.4,SNR=1.3
KURK Kurchatov 71.48 329 P P 23 50 26.1 +0.5
KURK IAmb IAmb 23 50 27.1
comp=Z,28nm,0.9s
KKAR Karatay Array 72.03 320 P P 23 50 30.4 +1.3
SEY Seymchan 72.19 11 P P 23 50 29.8 +0.3
comp=Z,38nm,0.6s,baz=206,slow=4.6,SNR=129
SEY pP **pwP 23 51 31.2 -2.5**
comp=Z,10nm,0.8s,baz=188,slow=6.4,SNR=3.8
BRLS Borolday 72.43 319 eP P 23 50 31.6 +0.2
baz=319
VNDA Vanda 72.69 173 P P 23 50 32.8 +0.4
comp=Z,4.2nm,0.7s,baz=308,slow=10.0,SNR=8.4
BRZS Berezniki 74.20 327 eP P 23 50 41.6 +0.1
baz=326
MAW Mawson 74.22 201 P P 23 50 42.7 +1.4
comp=Z,15nm,0.6s,baz=61,slow=5.2,SNR=12
MAW Mawson 74.22 201 P P 23 50 42.7 +1.4
baz=74,SNR=9.4
MAW Mawson 74.22 201 P P 23 50 42.7 +1.4
BRVK Borovoye 77.08 328 P P 23 50 58.0 +0.3
BRVK IAmb IAmb 23 50 60.0
comp=Z,16nm,1.1s
TIXI Tiksi 78.49 0 P P 23 51 04.5 -0.6
comp=Z,23nm,0.4s,baz=155,slow=6.3,SNR=69
TIXI pP **pP 23 52 06.6 +3.0**
comp=Z,4.6nm,0.7s,baz=162,slow=2.5,SNR=1.3
TIXI Tiksi 78.49 0 P P 23 51 05.1 0.0
TIXI IAmb IAmb 23 51 06.4
comp=Z,33nm,0.9s
GEYT Alibeck 78.69 311 P P 23 51 07.5 +0.5
comp=Z,2.8nm,0.7s,baz=158,slow=4.2,SNR=2.9
BILL Bilibino 79.58 14 P P 23 51 10.5 -0.6
NRIK Noril'sk 81.08 347 P P 23 51 19.6 +0.6
comp=Z,12nm,0.5s,baz=139,slow=5.6,SNR=35
NRIK Noril'sk 81.08 347 IAmb IAmb 23 51 20.8
comp=Z,28nm,1.1s
ABKAR Akbulak array 81.27 322 IAmb IAmb 23 51 23.4
comp=Z,14nm,0.8s
PMOR Pomariorio Ree 82.57 104 eP P 23 51 29.0 +1.1
comp=Z,113nm,1.0s
SYO Syowa Base 82.93 201 ⇓eP P 23 51 29.8 +1.1
SYO Syowa Base 82.93 201 ⇑ePcP PcP 23 51 32.7 -0.1
QSPA South Pole Qui 82.97 180 P P 23 51 29.5 +0.3
comp=Z,9.5nm,0.5s,baz=264,slow=0.6,SNR=21
QSPA South Pole Qui 82.97 180 P P 23 51 29.7 +0.5
QSPA IAmb IAmb 23 51 30.2
comp=Z,11nm,0.8s

ARU	**Arti**	**84.65**	**329**	P		**P**	**23 51 37.1**	**-0.5**
	baz=114,slow=4.5							
ARU	**Arti**	**84.65**	**329**	P		**P**	**23 51 37.0**	**-0.6**
ARU				IAmb		IAmb	23 51 39.2	
	comp=Z,25nm,1.1s							
RAYN	**Ar Rayn**	**85.91**	**294**	P		**P**	**23 51 45.3**	**+0.6**
TTA	**Tatalina**	**89.88**	**26**	IAmb		IAmb	23 52 04.7	
	comp=Z,7.5nm,0.7s							
N19K	**Bonanza Creek**	**90.03**	**29**	IAmb		IAmb	23 52 04.2	
	comp=Z,21nm,1.1s							
L19K	**White Mountain**	**90.20**	**27**	IAmb		IAmb	23 52 05.0	
	comp=Z,13nm,0.8s							
KDAK	**Kodiak Island**	**90.28**	**32**	P		**P**	**23 52 04.1**	**-0.2**
	comp=Z,4.8nm,0.5s,baz=254,slow=3.0,SNR=7.0							
KDAK	**Kodiak Island**	**90.28**	**32**	IAmb		IAmb	23 52 12.7	
	comp=Z,18nm,1.1s							
GEVA	**Gevas**	**90.32**	**308**	IAmb		IAmb	23 52 07.2	
	comp=Z,9.8nm,1.2s							
KMBO	**Kilima Mbogo**	**90.58**	**269**	P		**P**	**23 52 07.9**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=28,slow=18,SNR=4.1							
K20K	**Telida**	**90.84**	**26**	IAmb		IAmb	23 52 07.9	
	comp=Z,6.7nm,0.8s							
GURO	**Guroymak-BITLI**	**91.15**	**309**			pP	23 53 10.0	+0.7
KBZ	**Khabaz**	**91.24**	**314**	P		**P**	**23 52 09.6**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=151,slow=7.1,SNR=4.0							
KTH	**Kantishna Hill**	**92.27**	**26**	IAmb		IAmb	23 52 13.8	
	comp=Z,15nm,1.1s							
MCK	**McKinley**	**93.17**	**26**	IAmb		IAmb	23 52 17.2	
	comp=Z,15nm,1.0s							
I23K	**Minto, Yukon-K**	**93.22**	**25**	IAmb		IAmb	23 52 18.1	
	comp=Z,17nm,1.1s							
COLD	**Coldfoot**	**93.24**	**23**	IAmb		IAmb	23 52 18.1	
	comp=Z,9.7nm,0.5s							
DHY	**Denali Highway**	**93.77**	**27**	IAmb		IAmb	23 52 20.8	
	comp=Z,17nm,0.9s							
IL31		**94.21**	**25**	P		**P**	**23 52 22.1**	**-0.2**
ILAR	**Eielson Array**	**94.21**	**25**	P		**P**	**23 52 20.7**	**-1.8**
	comp=Z,3.8nm,1.0s,baz=277,slow=4.6,SNR=17							
ILAR				PKPPKP		**P'P'df**	**00 17 34.5**	**-1.4**
	comp=Z,0.4nm,1.0s,baz=232,slow=9.1,SNR=4.1							
PAX	**Paxson**	**94.62**	**27**	IAmb		IAmb	23 52 24.8	
	comp=Z,8.3nm,0.8s							
DOT	**Dot Lake**	**95.31**	**27**	IAmb		IAmb	23 52 27.6	
	comp=Z,7.9nm,0.9s							
L27K	**Beaver Creek,**	**96.28**	**27**	IAmb		IAmb	23 52 32.7	
	comp=Z,7.9nm,0.8s							
INK	**Inuvik**	**99.61**	**22**	P		**Pdif**	**23 52 45.7**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=264,slow=6.6,SNR=8.5							
INK				PKiKP		**PKiKP**	**23 57 13.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=100,slow=4.2,SNR=2.6							
ARCES	**ARCESS Array B**	**100.88**	**340**	P		**Pdif**	**23 52 51.4**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=75,slow=5.5,SNR=15							
ARCES				PKiKP		**PKiKP**	**23 57 16.6**	**+0.2**
	comp=Z,4.5nm,1.1s,baz=102,slow=2.1,SNR=8.0							
AKASG	**Malin Array Be**	**100.92**	**320**	P		**Pdif**	**23 52 51.6**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=68,slow=4.9,SNR=6.3							
SPITS	**Spitsbergen Ar**	**101.18**	**349**	P		**Pdif**	**23 52 53.0**	**-0.5**
	comp=Z,18nm,1.0s,baz=83,slow=6.9,SNR=14							
MNK	**Minsk**	**101.53**	**324**	*i* P		**Pdif**	**23 52 51.9**	**-3.6**
	comp=E,3.0nm,1.1s							
MNK				*i* P		**Pdif**	**23 52 51.9**	**-3.6**
	comp=N,8.0nm,0.9s							
MNK				*i* P		**Pdif**	**23 52 51.9**	**-3.6**
	comp=Z,13nm,1.2s,baz=266							
MNK				*i* pP		**pPdif**	**23 53 50.1**	**-5.7**
MNK				*i* PP		**PP**	**23 57 02.8**	**-6.0**
MNK				*i* PPP		PPP	23 59 13.7	
MNK				*i* S		**SKSac**	**00 03 03.8**	**-6.0**
MNK				*i* sS		pS	00 04 57.0	-36
MNK				*i* SS		**SS**	**00 11 16.7**	**-4.2**
MNK				*i* SSS		SSS	00 15 12.7	
MNK				*i* LRM		MLR	00 39 44.9	
	comp=Z,91nm,23.0s							
MNK				*i* LRM		MLR	00 39 48.8	
	comp=E,126nm,25.6s							
MNK				*i* LRM		MLR	00 39 48.8	
	comp=N,448nm,24.3s							
FINES	**FINESS Array B**	**101.80**	**331**	P		**Pdif**	**23 52 56.3**	**-0.3**
	comp=N,4.6nm,1.1s,baz=129,slow=5.2,SNR=4.9							
FINES				PKiKP		**PKiKP**	**23 57 18.4**	**+0.1**
	comp=N,2.5nm,0.8s,baz=145,slow=2.8,SNR=9.8							
NACGM	**Naroch**	**102.13**	**325**	*i* P		**Pdif**	**23 52 56.7**	**-1.4**
HFS	**Hagfors**	**108.01**	**331**	Pdiff		**Pdif**	**23 53 23.1**	**-1.1**
	comp=N,2.0nm,0.9s,baz=90,slow=12,SNR=4.6							
RES	**Resolute Bay**	**108.06**	**11**	Pdiff		**Pdif**	**23 53 24.2**	**+0.1**
	comp=N,0.7nm,0.5s,baz=337,slow=3.6,SNR=4.3							
YKA	**Yellowknife Ar**	**108.63**	**26**	Pdiff		**Pdif**	**23 53 26.2**	**-0.7**
	comp=N,0.2nm,0.7s,baz=288,slow=4.6,SNR=3.8							
YKA				PKiKP		**PKiKP**	**23 57 30.3**	**-0.5**
	comp=N,1.2nm,0.5s,baz=298,slow=1.9,SNR=22							
YKA				PKKPbc		**PKKPbc**	**00 08 40.7**	**-2.8**
	comp=N,0.4nm,0.6s,baz=116,slow=3.3,SNR=7.7							
YKA				PKKPab		**PKKPab**	**00 08 53.6**	**-1.0**
	comp=N,0.3nm,0.5s,baz=114,slow=3.7,SNR=5.4							
NOA	**NORSAR Array B**	**108.86**	**333**	PKiKP		**PKiKP**	**23 57 30.8**	**-0.6**
	comp=N,0.9nm,0.8s,baz=234,slow=2.3,SNR=2.5							
NOA				SKP			00 00 40.0	
	comp=N,0.8nm,0.8s,baz=195,slow=1.9,SNR=3.9							
GERES	**GERESS Array B**	**111.13**	**320**	PKiKP		**PKiKP**	**23 57 36.0**	**-0.1**
	comp=N,0.8nm,0.5s,baz=82,slow=2.6,SNR=6.9							
GERES				SKP			00 00 45.9	
	comp=N,1.5nm,0.6s,baz=29,slow=3.0,SNR=6.7							
NVAR	**Mina Array Bea**	**112.87**	**51**	PKiKP		**PKiKP**	**23 57 40.8**	**+0.9**
	comp=N,1.1nm,0.9s,baz=281,slow=3.3,SNR=5.4							
NVAR				PP		**PP**	**23 58 34.0**	**+1.8**
	comp=N,1.0nm,0.9s,baz=279,slow=7.2,SNR=4.3							
WTTA	**Wattenberg**	**112.87**	**319**	*i* P		**PKiKP**	**23 57 39.5**	**-0.1**
	comp=N,5.6nm,0.6s							
SQTA	**Sankt Quirin**	**113.16**	**319**	*i* P		**PKiKP**	**23 57 40.8**	**+0.7**
	comp=N,9.0nm,1.4s							
MOTA	**Moosalm**	**113.20**	**319**	*e*P		**PKiKP**	**23 57 39.9**	**-0.3**
	comp=N,4.1nm,0.6s							
DAVA	**Damuels**	**114.01**	**319**	*i* P		PKPdf	23 57 41.7	-0.1
	comp=N,1.3nm,0.3s							
ELK	**Elko**	**114.75**	**48**	PKiKP		**PKiKP**	**23 57 44.1**	**+0.6**
	comp=N,0.8nm,0.4s,baz=232,slow=5.3,SNR=6.4							
LOHW	**Long Hollow**	**117.33**	**44**			**PKiKP**	**23 57 48.4**	**+0.1**
EKA	**Eskdalemuir Ar**	**118.20**	**331**	PKP		**PKPdf**	**23 57 49.3**	**0.0**
	comp=N,1.5nm,0.5s,baz=40,slow=2.7,SNR=16							
PDAR	**Pinedale Array**	**118.31**	**45**	PKP		**PKiKP**	**23 57 50.4**	**0.0**
	comp=N,1.0nm,0.5s,baz=38,slow=1.9,SNR=12							
PDAR				SKP			00 00 59.9	
	comp=N,0.7nm,0.9s,baz=198,slow=0.5,SNR=3.9							
PDAR	**Pinedale Array**	**118.31**	**45**	PKPdf		**PKiKP**	**23 57 50.6**	**+0.3**
FRB	**Frobisher Bay**	**122.12**	**9**	PKP		**PKPdf**	**23 57 56.4**	**-0.2**
	comp=N,2.9nm,0.3s,baz=263,slow=0.2,SNR=17							
ULM	**Lac du Bonnet**	**123.53**	**32**	PKP		**PKPdf**	**23 57 57.8**	**-2.0**
	comp=N,3.2nm,0.7s,baz=200,slow=3.4,SNR=5.4							
TXAR	**Lajitas Array**	**126.65**	**59**	PKP		**PKiKP**	**23 58 07.2**	**+0.2**
	comp=N,0.7nm,0.5s,baz=181,slow=1.9,SNR=11							
TORD	**Torodi Ar. Bea**	**126.84**	**281**	PKP		**PKPdf**	**23 58 06.8**	**-0.3**
	comp=N,1.1nm,0.5s,baz=42,slow=2.2,SNR=20							
PLCA	**Paso Flores**	**129.53**	**162**	PKP		**PKPdf**	**23 58 11.9**	**+0.3**
	comp=N,1.8nm,0.8s,baz=218,slow=6.4,SNR=2.5							
PLCA				SKPbc		SKPab	00 01 07.7	-1.4
	comp=N,3.2nm,0.9s,baz=188,slow=4.7,SNR=6.2							
SCHQ	**Schefferville**	**130.84**	**11**	PKP		**PKiKP**	**23 58 14.3**	**-0.2**
	comp=N,2.3nm,0.4s,baz=346,slow=1.3,SNR=10							
SCHQ				SKPbc		**SKPbc**	**00 01 12.9**	**-0.7**
	comp=N,12nm,0.9s,baz=1.6,slow=4.5,SNR=12							
DBIC	**Dimbokro**	**133.18**	**273**	PKP		**PKiKP**	**23 58 20.6**	**+0.3**
	comp=N,1.9nm,0.6s,baz=133,slow=2.0,SNR=4.7							
DBIC				SKPbc		**SKPbc**	**00 01 21.4**	**-1.6**
	comp=N,5.5nm,0.7s,baz=102,slow=2.1,SNR=8.5							
DBIC	**Dimbokro**	**133.18**	**273**			**PKiKP**	**23 58 20.1**	**-0.3**
SADO	**Sadowa**	**135.59**	**28**	SKPbc		**SKPbc**	**00 01 28.8**	**-1.1**
	comp=N,4.6nm,0.5s,baz=290,slow=4.0,SNR=5.0							
CPUP	**Villa Florida**	**146.47**	**171**	PKPbc		**PKPbc**	**23 58 45.0**	**+0.5**
	comp=N,7.1nm,0.6s,baz=218,slow=1.2,SNR=11							
PB08	**IPOC Station P**	**148.19**	**148**	PKPab		**PKiKP**	**23 58 51.5**	**+0.1**
RIMA	**Rio Macho**	**148.39**	**83**			**PKiKP**	**23 58 51.6**	**-0.2**
LPAZ	**La Paz**	**151.90**	**146**	PKP		**PKPdf**	**23 58 52.9**	**+0.4**
	comp=N,1.5nm,0.8s,baz=300,slow=6.1,SNR=4.8							
LPAZ				PKPbc		**PKiKP**	**23 58 60.0**	**+0.5**
	comp=N,9.9nm,0.4s,baz=35,slow=3.3,SNR=74							
LPAZ				PKPab		**PKPab**	**23 59 09.7**	**+0.5**
	comp=N,5.7nm,0.6s,baz=165,slow=1.7,SNR=8.5							
ROSC	**El Rosal**	**157.72**	**94**	PKPab		**PKPab**	**23 59 35.6**	**+1.5**
	comp=N,9.1nm,0.6s,baz=210,slow=13,SNR=5.0							

NEIC ***11*** *23:40:24.9±1.7,20.2°S±0.2°×178.0W±0.1,h560km±13km, mb4.6/20 Error ellipse: s-maj=29.1km s-min=8.1km az=141.0*
IDC ***11*** *23:40:35.5±7.7,20.05S×178.58W,h691km±99km,mb3.1/5, mb1 3.4/6,mb1mx2.9/48,mbtmp4.1/6,Error ellipse: s-maj=55.8km s-min=26.2km az=102.0*

ISC 11 23:40:27.7±0.7,20.1°S±0.1°×178.6W±0.2,h602km,n32, σ1°19/29,mb4.4/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.90**	**306**	P	**P**	**23 41 51.5**	**-1.3**
DZM	**Mont Dzumac**	**14.06**	**259**	P	P	23 43 33.3	+6.1
	0.4nm,0.3s,baz=128,slow=18,SNR=1.4						
DZM	**Mont Dzumac**	**14.06**	**259**	P	P	23 43 32.2	+5.0
OUZ	**Omahuta**	**16.57**	**203**	P	**P**	**23 43 50.2**	**+0.2**
MXZ	**Matakaoa Point**	**17.63**	**188**	P	**P**	**23 43 56.8**	**-2.9**
URZ	**Urewera**	**18.49**	**191**	P	**P**	**23 44 05.5**	**-2.0**
URZ				IAmb	IAmb	23 44 23.5	
	comp=Z,28nm,1.1s						
HIZ	**Hauiti**	**19.22**	**196**	P	**P**	**23 44 13.6**	**-0.5**
BKZ	**Black Stump Fm**	**19.49**	**191**	P	**P**	**23 44 13.8**	**-2.8**
QRZ	**Quartz Range**	**22.02**	**198**	P	**P**	**23 44 38.9**	**-0.3**
QRZ				IAmb	IAmb	23 44 55.7	
	comp=Z,13nm,1.1s						
NNZ	**Nelson**	**22.14**	**196**	P	**P**	**23 44 39.6**	**-0.7**
NNZ				IAmb	IAmb	23 44 54.9	
	comp=Z,26nm,1.1s						
THZ	**Tophouse**	**22.78**	**196**	P	**P**	**23 44 45.0**	**-1.0**
THZ				IAmb	IAmb	23 44 52.3	
	comp=Z,20nm,1.2s						
KHZ	**Kahutara**	**23.23**	**195**	P	**P**	**23 44 48.6**	**-1.3**
KHZ				IAmb	IAmb	23 44 55.9	
	comp=Z,17nm,1.0s						
OXZ	**Oxford**	**24.47**	**197**	P	**P**	**23 45 00.2**	**-0.7**
FOZ	**Fox Glacier**	**25.31**	**200**	P	**P**	**23 45 08.3**	**0.0**
DCZ	**Deep Cove**	**27.91**	**202**	P	**P**	**23 45 31.7**	**+0.7**
DCZ				IAmb	IAmb	23 45 35.9	
	comp=Z,17nm,0.9s						
WHZ	**Wether Hill Ro**	**28.02**	**200**	P	**P**	**23 45 32.8**	**+0.8**
WHZ				IAmb	IAmb	23 45 34.0	
	comp=Z,6.7nm,0.7s						
ARMA	**Armidale**	**28.71**	**243**	P	**P**	**23 45 39.2**	**+0.8**
XMAS	**Kiritimati**	**30.26**	**46**	P	P	23 45 47.2	-4.6
QSPA	**South Pole Qui**	**69.99**	**180**	P	**P**	**23 50 41.0**	**+1.3**
	comp=Z,3.3nm,0.6s,baz=2.1,slow=3.3,SNR=10						
QSPA	**South Pole Qui**	**69.99**	**180**	P	**P**	**23 50 40.4**	**+0.6**
NVAR	**Mina Array Bea**	**81.13**	**44**	P	**P**	**23 51 41.5**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=220,slow=8.0,SNR=6.0						
TXAR	**Lajitas Array**	**87.34**	**58**	P	**P**	**23 52 12.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=223,slow=5.1,SNR=6.0						
WRH	**Wood River Hil**	**87.52**	**13**	P	**P**	**23 52 12.5**	**+0.5**
WRH				IAmb	IAmb	23 52 19.2	
	comp=Z,14nm,1.0s						
CCB	**Clear Creek Bu**	**87.73**	**13**	P	**P**	**23 52 13.7**	**+0.7**
CCB				IAmb	IAmb	23 52 19.6	
	comp=Z,13nm,1.0s						
MDM	**Murphy Dome**	**87.92**	**12**	P	**P**	**23 52 14.3**	**+0.3**
MDM				IAmb	IAmb	23 52 20.9	
	comp=Z,6.9nm,1.0s						
ILAR	**Eielson Array**	**88.03**	**13**	P	**P**	**23 52 14.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=214,slow=5.2,SNR=12						
VNA3	**Neumayer Olymp**	**88.61**	**176**	P	**P**	**23 52 17.3**	**0.0**
H24K	**Noodor Dome**	**88.77**	**12**	P	**P**	**23 52 19.8**	**+1.8**
VNA2	**Neumayer--Watz**	**89.04**	**177**	P	**P**	**23 52 19.9**	**+0.6**
PDAR	**Pinedale Array**	**89.07**	**43**	P	**P**	**23 52 20.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=195,slow=3.0,SNR=5.9						
BMAR	**Burnt Mountain**	**90.81**	**12**	P	**P**	**23 52 28.0**	**+0.6**
AKASG	**Malin Array Be**	**142.35**	**331**	PKP	**PKPdf**	**23 58 51.0**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=42,slow=3.9,SNR=13						

IDC ***11*** *23:45:49.8±1.5,3.87N×127.04E,h0km,mb4.3/11, mb1 4.3/12,mb1mx3.9/54,mbtmp4.3/12,ML3.9/1,MS3.6/6, Ms1 3.6/6,ms1mx2.9/77,Error ellipse: s-maj=59.6km s-min=32.5km az=47.0*
NEIC ***11*** *23:45:52.0±1.8,3.84N±0.09×127.1E±0.1,h10km±1km, mb4.4/9,Error ellipse: s-maj=23.5km s-min=7.1km az=230.0*

ISC 11 23:45:51.4±0.7,3.84N±0.10×127.1E±0.1,h10km,n31, σ0°96/28,mb4.4/16,MS3.6/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.06**	**175**	Pn	**Pn**	**23 46 40.3**	**+0.5**
SIJI	**Sorong**	**6.27**	**138**	Pn	**Pn**	**23 47 25.4**	**+1.4**
	2.5nm,0.3s,baz=171,slow=23,SNR=2.8						
SIJI				Sn	**Sn**	**23 48 35.1**	**-0.6**
	0.5nm,0.3s,baz=90,slow=20,SNR=1.5						
SIJI				LR	LR	23 49 54.5	
	comp=Z,213nm,19.7s,baz=0.5,slow=39						
TOLI2	**Tolitoli**	**6.86**	**247**		**Pn**	**23 47 32.0**	**-0.2**
MYLDM	**Lahad Datu**	**8.67**	**279**	Pn	**Pn**	**23 47 59.7**	**+2.7**
KKM	**Kota Kinabalu**	**11.06**	**282**		**Pn**	**23 48 31.1**	**+1.2**
SBUM	**Sibu**	**14.92**	**265**	Pn	**Pn**	**23 49 24.3**	**+1.8**
KSM	**Kuching**	**16.93**	**262**	Pn	**Pn**	**23 49 47.0**	**-1.6**
UBPT	**Khong Chiam**	**24.13**	**300**	P	**P**	**23 51 07.1**	**-0.7**
UBPT				IAmb	IAmb	23 51 07.3	
	comp=Z,8.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.13**	**300**	P	**P**	**23 52 10.5**	**0.0**
	comp=Z,0.9nm,0.3s,baz=108,slow=8.6,SNR=4.8						
LSA	**Lhasa**	**42.64**	**311**	P	**P**	**23 53 49.0**	**+0.2**
LSA				IAmb	IAmb	23 53 50.3	
	comp=Z,7.7nm,0.6s						
KLR	**Kul'dur**	**45.40**	**4**	P	**P**	**23 54 10.0**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=191,slow=10,SNR=2.3						
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**23 54 26.3**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=156,slow=9.5,SNR=5.0						
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**23 54 26.1**	**+0.8**
MK31	**Makanchi Array**	**57.67**	**325**	P	**P**	**23 55 41.8**	**-0.4**
MK31				IAmb	IAmb	23 55 44.4	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**57.67**	**325**	P	**P**	**23 55 42.1**	**-0.1**
	comp=Z,3.6nm,0.5s,baz=118,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**57.67**	**325**	P	**P**	**23 55 42.2**	**0.0**
PRZ	**Przheval'sk**	**57.86**	**319**	P	**P**	**23 55 43.5**	**-0.2**
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**23 56 01.6**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=117,slow=5.6,SNR=3.8						
KBL	**Kabul**	**61.74**	**307**	P	P	23 56 08.8	-1.9
KBL				IAmb	IAmb	23 56 10.6	
	comp=Z,2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**61.84**	**327**	P	**P**	**23 56 10.5**	**-0.2**
	comp=Z,3.9nm,0.5s,baz=130,slow=6.4,SNR=33						
KURK	**Kurchatov**	**61.84**	**327**	P	**P**	**23 56 10.3**	**-0.4**
BTK	**Batken**	**62.11**	**314**	P	**P**	**23 56 12.6**	**-0.2**
BTK				IAmb	IAmb	23 56 16.6	
	comp=Z,3.9nm,1.1s						
AKTO	**Aktyubinsk**	**73.80**	**322**	P	**P**	**23 57 26.1**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=97,slow=8.3,SNR=9.2						
AKTO				LR	LR	00 32 16.7	
	comp=Z,31nm,18.5s,baz=103,slow=38						
ARU	**Arti**	**75.04**	**328**	P	**P**	**23 57 32.7**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=97,slow=4.0,SNR=7.2						
GNI	**Garni**	**81.69**	**310**	LR	LR	00 39 14.5	
	comp=Z,25nm,20.1s,baz=104,slow=39						
KBZ	**Khabaz**	**83.17**	**313**	LR	LR	00 40 37.5	
	comp=Z,34nm,18.2s,baz=132,slow=40						
MAW	**Mawson**	**83.98**	**200**	LR	LR	00 30 26.6	
	comp=Z,92nm,20.8s,baz=59,slow=32						
KLMR	**Klimovskoe**	**85.49**	**331**	*e*	**P**	**23 58 29.3**	**-0.1**
KLMR				AMP		23 58 35.3	
	comp=Z,11nm,1.3s						
ARCES	**ARCESS Array B**	**90.47**	**340**	P	**P**	**23 58 52.1**	**-1.0**
	comp=Z,3.7nm,0.9s,baz=64,slow=8.2,SNR=6.3						
ARCES				LR	LR	00 46 11.4	
	comp=Z,24nm,20.1s,baz=178,slow=40						
FINES	**FINESS Array B**	**91.91**	**332**	P	**P**	**23 58 59.2**	**-0.7**
	comp=Z,3.2nm,0.9s,baz=35,slow=5.1,SNR=1.6						
AKASG	**Malin Array Be**	**92.04**	**321**	P	**P**	**23 59 00.1**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=68,slow=3.7,SNR=4.3						

IDC 11 23:54:53.9±2.0,3.27S×128.04E,h0km,mb3.6/2, mb1 4.0/3,mb1mx3.0/45,mbtmp3.7/3,ML3.8/1,Error ellipse: s-maj=137.9km s-min=27.0km az=67.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.68**	**160**	P	P	23 59 03.2	+0.4
	0.4nm,0.3s,baz=339,slow=12,SNR=21						
ASAR	**Alice Springs**	**21.06**	**165**	P	P	23 59 38.3	-1.4
	1.5nm,0.3s,baz=346,slow=12,SNR=23						
MKAR	**Makanchi Array**	**64.05**	**327**	P	P	00 05 30.1	+0.4
	0.2nm,0.5s,baz=132,slow=7.6,SNR=5.6						

IDC ***12*** *00:03:45.1±0.7,13.08S×66.76E,h0km,mb4.1/14, mb1 4.3/15,mb1mx3.9/50,mbtmp4.1/15,ML3.9/1,MS3.9/32, Ms1 3.9/32,ms1mx3.6/76,Error ellipse: s-maj=24.1km s-min=17.0km az=24.0*
NEIC ***12*** *00:03:47.9±1.9,13.1S±0.1×66.56E±0.10,h10km±1km, mb4.6/42,Error ellipse: s-maj=20.8km s-min=15.7km az=165.0*

ISC 12 00:03:47.0±0.5,13.13S±0.10×66.65E±0.07,h10km,n110, σ1°00/80,mb4.5/36,MS3.9/32,3C-5D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.91**	**47**	T	T	00 13 50.3	
	baz=227,slow=76,SNR=550						
H08S2	**Diego Garcia H**	**7.92**	**47**	T	T	00 13 57.0	
	baz=227,slow=76,SNR=979						
H08S3	**Diego Garcia H**	**7.93**	**47**	T	T	00 13 52.3	
	baz=227,slow=76,SNR=1723						
RER	**Riviere de l'E**	**13.12**	**231**	Pn	**Pn**	**00 06 53.7**	**+0.1**
OPO	**Ambohidratompo**	**19.48**	**251**	P	**Pn**	**00 08 17.1**	**+1.5**
	0.3nm,0.3s,baz=74,slow=15,SNR=2.9						
ABPO	**Ambohimpanom**	**19.55**	**250**	P	**P**	**00 08 15.4**	**+0.3**
VOI	**Vohitsoka**	**20.83**	**243**	P	Pn	00 08 31.5	0.0
PALK	**Pallekele**	**24.61**	**35**	LR	LR	00 16 36.2	
	comp=Z,517nm,21.1s,baz=316,slow=32						
KIBK	**Kibwezi**	**30.26**	**288**		**P**	**00 09 58.5**	**-0.1**
GSI	**Gunungsitoli**	**33.86**	**67**	P	**P**	**00 10 31.6**	**+1.5**
LODK	**Lodwar**	**35.15**	**296**	P	**P**	**00 10 42.1**	**+0.8**
PSI	**Prapat**	**35.73**	**66**	LR	LR	00 23 24.2	
	comp=Z,275nm,18.3s,baz=240,slow=33						
LSZ	**Lusaka**	**37.31**	**262**	P	**P**	**00 11 01.3**	**+1.4**
	0.7nm,0.2s,baz=100,slow=9.2,SNR=2.0						
LSZ				LR	LR	00 24 20.5	
	comp=Z,313nm,21.7s,baz=106,slow=33						
MBAR	**Mbarara**	**37.69**	**286**	LR	LR	00 24 25.7	
	comp=Z,140nm,18.1s,baz=100,slow=33						
MBAR	**Mbarara**	**37.69**	**286**	P	**P**	**00 11 02.7**	**-0.5**
KULM	**Kulim**	**38.41**	**64**	P	**P**	**00 11 09.5**	**+0.5**
KULM				IAmb	IAmb	00 11 18.6	
	comp=Z,15nm,1.2s						
LBTB	**Lobatse**	**40.41**	**247**	LR	LR	00 26 31.0	
	comp=Z,282nm,18.1s,baz=79,slow=34						
LEM	**Lembang**	**40.79**	**85**	LR	LR	00 25 26.7	
	comp=Z,114nm,19.4s,baz=220,slow=32						
BOSA	**Boshof**	**41.40**	**242**	LR	LR	00 26 24.9	
	comp=Z,186nm,18.5s,baz=67,slow=33						
RAYN	**Ar Rayn**	**41.90**	**330**	P	**P**	**00 11 38.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**44.72**	**46**	P	**P**	**00 12 01.3**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=243,slow=9.8,SNR=1.0						
CMAR				LR	LR	00 28 22.9	
	comp=Z,103nm,21.7s,baz=225,slow=33						
CMAR	**Chiang Mai Arr**	**44.72**	**46**	P	**P**	**00 12 00.9**	**+0.3**
CHTO	**Chiang Mai**	**44.96**	**46**	P	**P**	**00 12 01.8**	**-0.8**
CHTO				IAmb	IAmb	00 12 08.1	
	comp=Z,7.7nm,1.4s						
SHL	**Shillong**	**45.65**	**33**	P	**P**	**00 12 08.8**	**+0.6**
SUR	**Sutherland**	**46.00**	**238**	LR	LR	00 29 33.7	
	comp=Z,159nm,18.9s,baz=86,slow=34						
JAGI	**Jajag, Banyuwa**	**46.84**	**89**	P	**P**	**00 12 18.0**	**+0.5**
NIL	**Nilore**	**46.95**	**8**	P	**P**	**00 12 18.4**	**

CFR	**Carcaliu**	**67.70**	**332**	⇓P		**P**	**00 14 44.2**	**-0.2**
ZAA0	**Zalesovo Array**	**68.59**	**11**	P		**P**	**00 14 49.4**	**-0.4**
ZAA0				IAmb		IAmb	00 14 50.1	
	comp=Z,9.1nm,1.4s							
ZALV	**Zalesovo Beam**	**68.59**	**11**	P		**P**	**00 14 48.8**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=201,slow=6.4,SNR=16							
ZALV				LR		LR	00 42 02.6	
	comp=Z,52nm,21.5s,baz=244,slow=34							
VRI	**Vrincioaia**	**68.87**	**331**	⇓P		**P**	**00 14 52.1**	**+0.3**
PLOR	**Plostina**	**68.89**	**331**	⇓P		**P**	**00 14 52.5**	**+0.5**
VOIR		**69.36**	**330**	⇓P		**P**	**00 14 54.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**69.47**	**290**	P		**P**	**00 14 56.1**	**0.0**
	comp=Z,0.6nm,0.8s,baz=98,slow=3.4,SNR=4.0							
DOPR	**Dopca**	**69.58**	**331**	⇑P		**P**	**00 14 54.2**	**-2.0**
SONM	**Songino Array**	**70.26**	**27**	P		**P**	**00 15 00.7**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=214,slow=6.6,SNR=9.4							
SONM				LR		LR	00 44 35.5	
	comp=Z,86nm,18.5s,baz=198,slow=35							
SONM	**Songino Array**	**70.26**	**27**	IAmb		IAmb	00 15 02.1	
	comp=Z,2.1nm,1.0s							
HERR	**Herculane**	**70.28**	**328**	⇑P		**P**	**00 15 00.0**	**-0.5**
GZR	**Gura Zlata**	**70.45**	**329**	⇑P		**P**	**00 15 04.2**	**+2.6**
STKA	**Stephens Creek**	**70.49**	**119**	P		**P**	**00 15 01.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=270,slow=6.1,SNR=3.5							
STKA				LR		LR	00 40 34.4	
	comp=Z,77nm,21.9s,baz=210,slow=31							
DRGR		**71.46**	**330**	⇓P		**P**	**00 15 07.9**	**+0.1**
AKASG	**Malin Array Be**	**71.47**	**336**	P		**P**	**00 15 06.2**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=137,slow=5.2,SNR=14							
AKBB	**Malin Array Si**	**71.47**	**336**	P		**P**	**00 15 07.0**	**-0.6**
AKBB				IAmb		IAmb	00 15 14.8	
	comp=Z,5.4nm,0.8s							
CRVS	**Cervenica-Dubn**	**73.54**	**331**	*e*P		**P**	**00 15 21.4**	**+1.4**
DBIC	**Dimbokro**	**73.69**	**281**	LR		LR	00 47 50.7	
	comp=Z,45nm,18.3s,baz=166,slow=36							
MODS	**Modra-Piesok**	**75.25**	**328**	*e*P		**P**	**00 15 31.5**	**+1.5**
KSRS	**Korea Array**	**76.36**	**46**	LR		LR	00 51 04.6	
	comp=Z,50nm,18.1s,baz=250,slow=37							
KLMR	**Klimovskoe**	**76.85**	**347**	*e*P		**P**	**00 15 35.1**	**-3.7**
KLMR				AMP			00 15 46.5	
	comp=Z,16nm,1.2s							
QSPA	**South Pole Qui**	**76.94**	**180**	LR		LR	00 44 15.1	
	comp=Z,76nm,20.9s,baz=256,slow=32							
GERES	**GERESS Array B**	**77.39**	**327**	P		**P**	**00 15 42.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=2.5							
PMG	**Port Moresby**	**78.75**	**97**	LR		LR	00 51 15.6	
	comp=Z,42nm,18.1s,baz=236,slow=36							
MDT	**Midelt**	**81.85**	**306**	LR		LR	00 51 28.7	
	comp=Z,77nm,20.7s,baz=140,slow=35							
GUMO	**Guam**	**81.91**	**74**	LR		LR	00 49 11.2	
	comp=Z,24nm,21.5s,baz=114,slow=33							
JHJ	**Hachijo jima 2**	**83.43**	**54**	LR		LR	00 56 33.7	
	comp=Z,23nm,18.1s,baz=128,slow=38							
NRIK	**Noril'sk**	**83.58**	**7**	LR		LR	00 53 01.9	
	comp=Z,56nm,20.6s,baz=200,slow=35							
ESDC	**Sonseca Array**	**83.92**	**313**	P		**P**	**00 16 17.5**	**+0.1**
	comp=Z,2.2nm,1.2s,baz=90,slow=6.4,SNR=2.4							
KLR	**Kul'dur**	**84.36**	**37**	LR		LR	00 56 38.5	
	comp=Z,38nm,19.0s,baz=316,slow=38							
YAK	**Yakutsk**	**89.47**	**25**	LR		LR	00 57 07.0	
	comp=Z,88nm,19.0s,baz=265,slow=36							
TIXI	**Tiksi**	**94.03**	**16**	LR		LR	00 59 41.6	
	comp=Z,84nm,19.9s,baz=254,slow=36							
ILAR	**Eielson Array**	**123.50**	**16**	PKP		**PKPdf**	**00 22 42.6**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=277,slow=2.8,SNR=5.3							
YKA	**Yellowknife Ar**	**130.71**	**1**	PKP		**PKPdf**	**00 22 56.6**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=349,slow=2.1,SNR=11							
PDAR	**Pinedale Array**	**150.29**	**354**	PKP		**PKPdf**	**00 23 32.6**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=33,slow=2.2,SNR=4.4							
PDAR				PKPbc		**PKPbc**	**00 23 38.2**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=64,slow=2.1,SNR=18							
PDAR	**Pinedale Array**	**150.29**	**354**			**PKPbc**	**00 23 38.7**	**-0.3**
NVAR	**Mina Array Bea**	**154.43**	**9**	PKPbc		**PKPbc**	**00 23 47.8**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=340,slow=1.2,SNR=5.7							
TXAR	**Lajitas Array**	**161.54**	**332**	PKP		**PKPdf**	**00 23 48.5**	**-0.5**
	comp=Z,0.7nm,1.1s,baz=116,slow=2.1,SNR=3.6							
TXAR				PKPab		**PKPab**	**00 24 33.1**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=67,slow=7.2,SNR=4.5							

*RSPR **12** 00:14:07.7, 19°.04N×67°.65W, h19km±22km, MD2.8/3*
*NEIC **12** 00:14:07.4±1.6, 18°.9N±0°.2×67°.67W±0°.06, h18km±13km,*
Error ellipse: s-maj=25.6km s-min=3.7km az=195.0
ISC 12 00:14:07.1±1.8,**19°.0N**±0°.1×**67°.62W**±0°.05,**h27km**,**n20**,
σ0§72/22,**4C-1D**,**Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.68**	**134⇑**	*e*P	**Pb**	**00 14 19.1**	**-1.4**
AGPR	**Aguadilla, PR**	**0.68**	**134**	*e*S	**Sb**	**00 14 29.1**	**-0.4**
AGPR	**Aguadilla, PR**	**0.68**	**134**		**Pn**	**00 14 22.3**	**+1.4**
AGPR	**Aguadilla, PR**	**0.68**	**134**		**Sb**	**00 14 29.1**	**-0.4**
PCDR	**Punta Cana, DR**	**0.84**	**239**	*e*S	**Sb**	**00 14 33.2**	**-0.7**
PCDR	**Punta Cana, DR**	**0.84**	**239**		**Sb**	**00 14 33.2**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.06**	**152⇑**	*e*P	**Pb**	**00 14 26.6**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.06**	**152**	*e*S	**Sn**	**00 14 40.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.06**	**152**		**Pb**	**00 14 27.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.06**	**152**		**Sn**	**00 14 40.6**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.10**	**129⇑**	*e*P	**Pb**	**00 14 27.3**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.10**	**129**	*e*S	**Sn**	**00 14 40.9**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.10**	**129**		**Pb**	**00 14 27.3**	**-0.2**
UUPR					**Sn**	**00 14 40.9**	**-0.2**
MLPR	**Magueyes Islan**	**1.12**	**150⇑**	*e*P	**Pn**	**00 14 26.5**	**-0.5**
MLPR	**Magueyes Islan**	**1.12**	**150**	*e*S	**Sb**	**00 14 42.5**	**+0.5**
MLPR	**Magueyes Islan**	**1.12**	**150**		**Pn**	**00 14 26.5**	**-0.5**
MLPR					**Sb**	**00 14 42.5**	**+0.5**
CELP	**Cerrillos**	**1.32**	**131⇑**	*e*P	**Pb**	**00 14 30.4**	**-0.8**
CELP	**Cerrillos**	**1.32**	**131**	*e*S	**Sb**	**00 14 48.0**	**+0.4**
CELP	**Cerrillos**	**1.32**	**131**		**Pb**	**00 14 30.4**	**-0.8**
SDDR	**Presa de Saban**	**3.47**	**271**		**Pn**	**00 15 00.3**	**+0.9**

*NEIC **12** 00:27:15.8±1.4, 39°.78S±0°.05×174°.72E±0°.09, h156km±5km,*
mb4.1/5, Error ellipse: s-maj=9.7km s-min=7.5km az=97.0
*WEL **12** 00:27:19.3±0.7, 40°.S±4'×17°.5E±°, h114km±6km, M4.0/43,*
ML4.2/30, MLv4.0/43, Error ellipse: s-maj=0.0km
s-min=0.0km az=89.7
ISC 12 00:27:15.1±0.8,**39°.79S**±0°.04×**174°.67E**±0°.04,**h152**km±6km,
n184,σ1§14/191,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.24**	**81**	P	**Pn**	**00 27 37.0**	**+1.2**
WAZ				S	**Sn**	**00 27 48.8**	**-2.7**
LREZ	**Lake Rotokare**	**0.39**	**328**	P	**Pn**	**00 27 37.4**	**+1.2**
LREZ				S	**Sn**	**00 27 52.1**	**-0.2**
PREZ	**Palmer Road**	**0.60**	**318**	P	**Pn**	**00 27 38.2**	**+0.8**
PREZ				S	**Sn**	**00 27 53.7**	**-0.5**
OHWZ	**Ohakea**	**0.64**	**130**	P	**Pn**	**00 27 39.1**	**+1.6**
OHWZ				S	**Sn**	**00 27 53.7**	**-0.9**
NEZ	**North Egmont**	**0.69**	**319**	P	**Pn**	**00 27 38.8**	**+0.9**
DREZ	**Durham Road**	**0.71**	**329**	P	**Pn**	**00 27 38.9**	**+1.0**
KHEZ	**Kahui Hut**	**0.71**	**314**	P	**Pn**	**00 27 39.0**	**+0.9**
NMEZ	**Namu Road**	**0.72**	**301**	P	**Pn**	**00 27 38.9**	**+0.9**
PKVZ	**Pokaka**	**0.72**	**46**	P	**Pn**	**00 27 38.8**	**+0.6**
PKVZ				S	**Sn**	**00 27 53.7**	**-1.9**
MTVZ	**Mangateitei**	**0.74**	**57**	P	**Pn**	**00 27 39.0**	**+0.8**
MTVZ				S	**Sn**	**00 27 53.7**	**-2.1**
PKE	**Pukeiti**	**0.80**	**318**	P	**Pn**	**00 27 39.4**	**+0.8**
NBEZ	**Newall Road No**	**0.81**	**310**	P	**Pn**	**00 27 39.8**	**+1.1**
TRVZ	**Turoa**	**0.84**	**54**	P	**Pn**	**00 27 39.8**	**+0.7**
WNVZ	**Wahianoa**	**0.85**	**57**	P	**Pn**	**00 27 39.8**	**+0.7**
DRZ	**Dome Shelter**	**0.86**	**53**	P	**Pn**	**00 27 40.1**	**+0.7**
FWVZ	**Far West T-bar**	**0.87**	**52**	P	**Pn**	**00 27 39.9**	**+0.6**
WHVZ	**Whangaehu Hut**	**0.87**	**55**	P	**Pn**	**00 27 40.0**	**+0.7**
MOVZ	**Moawhango**	**0.92**	**65**	P	**Pn**	**00 27 39.9**	**+0.4**
TUVZ	**Tukino**	**0.92**	**56**	P	**Pn**	**00 27 40.6**	**+0.9**
TWVZ	**Taurewa**	**0.93**	**40**	P	**Pn**	**00 27 40.1**	**+0.4**
NGZ	**Ngauruhoe**	**0.95**	**50**	P	**Pn**	**00 27 40.5**	**+0.7**
SNVZ	**South Ngauruho**	**0.96**	**51**	P	**Pn**	**00 27 40.9**	**+0.8**
WTVZ	**West Tongariro**	**0.98**	**47**	P	**Pn**	**00 27 40.8**	**+0.7**
NNVZ	**North Ngauruho**	**0.98**	**48**	P	**Pn**	**00 27 40.8**	**+0.7**
OTVZ	**Oturere**	**0.99**	**51**	P	**Pn**	**00 27 41.1**	**+0.9**
KRVZ	**Karewarewa**	**1.02**	**47**	P	**Pn**	**00 27 41.2**	**+0.7**
TSZ	**Takapari Road**	**1.03**	**105**	P	**Pn**	**00 27 41.4**	**+1.1**
POWZ	**Post Office Ro**	**1.03**	**126**	P	**Pn**	**00 27 41.6**	**+1.2**
ETVZ	**East Tongariro**	**1.04**	**51**	P	**Pn**	**00 27 41.5**	**+1.0**
NTVZ	**North Tongarir**	**1.04**	**49**	P	**Pn**	**00 27 41.4**	**+0.8**
TMVZ	**Te Maari**	**1.05**	**50**	P	**Pn**	**00 27 41.5**	**+0.9**
KIW	**Kapiti Island**	**1.08**	**170**	P	**Pn**	**00 27 42.1**	**+1.4**
OGWZ	**Otaki Gorge**	**1.09**	**160**	P	**Pn**	**00 27 42.4**	**+1.6**
MRZ	**Mangatainoka R**	**1.11**	**142**	P	**Pn**	**00 27 42.3**	**+1.3**
BHHZ	**Black Hill Sta**	**1.12**	**75**	P	**Pn**	**00 27 41.5**	**+0.4**
KATZ	**Kakaramea**	**1.14**	**44**	P	**Pn**	**00 27 42.4**	**+0.9**
DUWZ	**D'Urville Isla**	**1.16**	**209**	P	**Pn**	**00 27 42.8**	**+1.3**
PNHZ	**Pukenui**	**1.18**	**96**	P	**Pn**	**00 27 42.8**	**+1.0**
RITZ	**Rihia Road**	**1.23**	**49**	P	**Pn**	**00 27 43.1**	**+0.9**
PRWZ	**Pori Road**	**1.25**	**128**	P	**Pn**	**00 27 43.9**	**+1.6**
DVHZ	**Dannevirke**	**1.25**	**114**	P	**Pn**	**00 27 43.5**	**+1.2**
RATZ	**Rangitukua**	**1.26**	**43**	P	**Pn**	**00 27 43.4**	**+0.9**
HOWZ	**Holdsworth Sta**	**1.28**	**150**	P	**Pn**	**00 27 43.9**	**+1.3**
HIZ	**Hauiti**	**1.29**	**6**	P	**Pn**	**00 27 43.2**	**+0.5**
HIZ	**Hauiti**	**1.29**	**6**		**Pn**	**00 27 43.2**	**+0.5**
HIZ					**Sn**	**00 28 03.5**	**-0.4**
KRHZ	**Kereru**	**1.32**	**84**	P	**Pn**	**00 27 44.0**	**+0.9**
CAW	**Cannon Point**	**1.35**	**167**	P	**Pn**	**00 27 44.8**	**+1.6**
TIWZ	**Tintock**	**1.35**	**137**	P	**Pn**	**00 27 44.8**	**+1.5**
WATZ	**Wairara**	**1.36**	**38**	P	**Pn**	**00 27 44.5**	**+1.0**
WPHZ	**Waipukurau**	**1.39**	**102**	P	**Pn**	**00 27 44.9**	**+1.3**
KWHZ	**Kaweka Forest**	**1.40**	**75**	P	**Pn**	**00 27 45.0**	**+1.2**
HATZ	**Hinemaiaia**	**1.42**	**51**	P	**Pn**	**00 27 44.5**	**+0.4**
TCW	**Tory Channel**	**1.45**	**192**	P	**Pn**	**00 27 45.9**	**+1.7**
WEL	**Wellington**	**1.49**	**177**	P	**Pn**	**00 27 46.2**	**+1.5**
BFZ	**Birch Farm**	**1.50**	**127**	P	**Pn**	**00 27 46.0**	**+1.3**
BFZ	**Birch Farm**	**1.50**	**127**		**Pn**	**00 27 45.9**	**+1.1**
MTW	**Mount Morrison**	**1.50**	**155**	P	**Pn**	**00 27 46.2**	**+1.4**
WHTZ	**Whakaora**	**1.50**	**42**	P	**Pn**	**00 27 46.3**	**+1.3**
SNZO	**South Karori**	**1.52**	**179**		**Pn**	**00 27 46.3**	**+1.4**
ANWZ	**Angora Road**	**1.53**	**116**	P	**Pn**	**00 27 46.8**	**+1.7**
BKZ	**Black Stump Fm**	**1.54**	**67**		**Pn**	**00 27 45.8**	**+0.5**
PRHZ	**Porangahau**	**1.58**	**108**	P	**Pn**	**00 27 47.2**	**+1.5**
KUTZ	**Kaahu Road**	**1.58**	**35**	P	**Pn**	**00 27 46.9**	**+1.2**
MCHZ	**McNeill Hill**	**1.60**	**78**	P	**Pn**	**00 27 47.6**	**+1.7**
TMWZ	**Te Maipa**	**1.61**	**145**	P	**Pn**	**00 27 47.5**	**+1.5**
TLZ	**Tolley Road**	**1.61**	**25**	P	**Pn**	**00 27 46.7**	**+0.6**
CPWZ	**Castlepoint**	**1.61**	**134**	P	**Pn**	**00 27 48.7**	**+2.0**
BHW	**Baring Head**	**1.62**	**175**	P	**Pn**	**00 27 47.5**	**+1.4**
BHW	**Baring Head**	**1.62**	**175**		**Pn**	**00 27 47.3**	**+1.3**
MRHZ	**Matea Rd**	**1.66**	**55**	P	**Pn**	**00 27 46.9**	**+0.3**
MSWZ	**Moikau Station**	**1.68**	**165**	P	**Pn**	**00 27 48.2**	**+1.5**
MSWZ	**Moikau Station**	**1.68**	**165**		**Pn**	**00 27 48.0**	**+1.3**
PAWZ	**Paruwai Farm**	**1.69**	**160**	P	**Pn**	**00 27 48.3**	**+1.4**
KAHZ	**Kahuranaki**	**1.70**	**91**	P	**Pn**	**00 27 48.4**	**+1.4**
PXZ	**Pawanui**	**1.70**	**99**	P	**Pn**	**00 27 48.4**	**+1.4**
WPRZ	**Whakapapatarin**	**1.72**	**43**	P	**Pn**	**00 27 48.1**	**+0.8**
TUWZ	**Tuamarina**	**1.73**	**199**	P	**Pn**	**00 27 48.7**	**+1.5**
TUWZ	**Tuamarina**	**1.73**	**199**		**Pn**	**00 27 48.4**	**+1.2**
NNZ	**Nelson**	**1.73**	**214**	P	**Pn**	**00 27 48.7**	**+1.5**
NNZ	**Nelson**	**1.73**	**214**		**Pn**	**00 27 48.6**	**+1.3**
TRWZ	**Traveller**	**1.78**	**155**	P	**Pn**	**00 27 49.3**	**+1.5**
ALRZ	**Allen Road**	**1.79**	**47**	P	**Pn**	**00 27 48.6**	**+0.6**
NMHZ	**Naumai**	**1.79**	**68**	P	**Pn**	**00 27 49.8**	**+1.7**
GRRZ	**Galatos Road**	**1.80**	**38**	P	**Pn**	**00 27 49.5**	**+1.1**
PLWZ	**Palliser**	**1.83**	**166**	P	**Pn**	**00 27 49.7**	**+1.3**
PLWZ	**Palliser**	**1.83**	**166**		**Pn**	**00 27 49.5**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.86**	**87**	P	**Pn**	**00 27 50.2**	**+1.5**
PRRZ	**Plateau Road**	**1.86**	**47**	P	**Pn**	**00 27 49.4**	**+0.6**
ARHZ	**Aropaoanui**	**1.87**	**74**	P	**Pn**	**00 27 50.3**	**+1.4**
HRRZ	**Handcock Road**	**1.88**	**42**	P	**Pn**	**00 27 50.0**	**+1.0**
HSRZ	**Hossack Road**	**1.92**	**40**	P	**Pn**	**00 27 50.6**	**+1.1**
MTHZ	**Maungataniwha**	**1.93**	**61**	P	**Pn**	**00 27 50.3**	**+0.7**
QRZ	**Quartz Range**	**1.94**	**237**	P	**Pn**	**00 27 50.3**	**+0.7**
QRZ	**Quartz Range**	**1.94**	**237**		**Pn**	**00 27 50.3**	**+0.7**
CMWZ	**Cape Campbell**	**1.98**	**190**	P	**Pn**	**00 27 52.5**	**+2.3**
CMWZ	**Cape Campbell**	**1.98**	**190**		**Pn**	**00 27 52.2**	**+2.1**
BSWZ	**Blackbirch Sta**	**2.01**	**197**	P	**Pn**	**00 27 52.1**	**+1.7**
BSWZ	**Blackbirch Sta**	**2.01**	**197**		**Pn**	**00 27 52.2**	**+1.7**
HLRZ	**Highlands Stat**	**2.02**	**41**	P	**Pn**	**00 27 52.2**	**+1.5**
RRRZ	**Republican Roa**	**2.04**	**45**	P	**Pn**	**00 27 51.6**	**+0.7**
RAHZ	**Arahi**	**2.07**	**66**	P	**Pn**	**00 27 52.2**	**+1.1**
MUGZ	**Murupara**	**2.10**	**52**	P	**Pn**	**00 27 51.8**	**+0.3**
TARZ	**Mount Tarawera**	**2.11**	**43**	P	**Pn**	**00 27 52.9**	**+1.1**
OMRZ	**Omania**	**2.14**	**39**	P	**Pn**	**00 27 53.2**	**+1.1**
RTZ	**Ruatahuna**	**2.15**	**57**	P	**Pn**	**00 27 51.7**	**-0.4**
KARZ	**Kaharoa**	**2.15**	**35**	P	**Pn**	**00 27 53.3**	**+1.1**
KMRZ	**Kaimai**	**2.18**	**27**	P	**Pn**	**00 27 53.8**	**+1.2**
SNGZ	**Shannon Statio**	**2.30**	**65**	P	**Pn**	**00 27 55.0**	**+1.0**
THZ	**Tophouse**	**2.38**	**214**	P	**Pn**	**00 27 56.3**	**+1.3**
THZ	**Tophouse**	**2.38**	**214**		**Pn**	**00 27 56.2**	**+1.3**
MARZ	**Manawahe**	**2.39**	**41**	P	**Pn**	**00 27 56.2**	**+1.2**
TGRZ	**Tauranga**	**2.41**	**32**	P	**Pn**	**00 27 56.6**	**+1.4**
OPRZ	**Ohinepanea**	**2.44**	**38**	P	**Pn**	**00 27 56.4**	**+0.8**
URZ	**Urewera**	**2.44**	**52**	P	**Pn**	**00 27 55.7**	**+0.1**
URZ	**Urewera**	**2.44**	**52**	Pn	**Pn**	**00 27 55.6**	**+0.1**
KNZ	**Kokohu**	**2.45**	**73**	P	**Pn**	**00 27 56.4**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.58**	**77**	P	**Pn**	**00 27 58.4**	**+1.1**
RIGZ	**Rimuhau**	**2.63**	**67**	P	**Pn**	**00 27 58.9**	**+0.9**
PRGZ	**Paritu Road**	**2.64**	**72**	P	**Pn**	**00 27 58.8**	**+0.8**
MWZ	**Matawai**	**2.66**	**58**	P	**Pn**	**00 27 58.6**	**+0.3**
AWAZ	**Awhitu Peninsu**	**2.73**	**360**	P	**Pn**	**00 28 00.3**	**+1.2**
KHZ	**Kahutara**	**2.76**	**198**	P	**Pn**	**00 28 01.2**	**+1.8**
KHZ	**Kahutara**	**2.76**	**198**		**Pn**	**00 28 01.1**	**+1.8**
MYRZ	**Mayor Island**	**2.79**	**27**	P	**Pn**	**00 28 01.8**	**+1.8**
TKGZ	**Te Karaka**	**2.82**	**62**	P	**Pn**	**00 28 00.8**	**+0.6**
WTAZ	**Waiatarua**	**2.86**	**358**	P	**Pn**	**00 28 03.2**	**+2.4**
DSZ	**Denniston Nort**	**2.92**	**227**	P	**Pn**	**00 28 02.5**	**+0.9**
RUGZ	**Raukumara Rang**	**2.97**	**53**	P	**Pn**	**00 28 02.0**	**-0.3**
WIAZ	**Waiheke Island**	**3.02**	**7**	P	**Pn**	**00 28 04.2**	**+1.4**
MBAZ	**Motutapu North**	**3.02**	**3**	P	**Pn**	**00 28 04.5**	**+1.6**
TWGZ	**Tauwhareparae**	**3.04**	**59**	P	**Pn**	**00 28 03.8**	**+0.7**
CNGZ	**Carnagh Statio**	**3.04**	**66**	P	**Pn**	**00 28 03.8**	**+0.7**
KUZ	**Kuaotunu**	**3.15**	**15**	P	**Pn**	**00 28 05.2**	**+0.7**
HAZ	**Te Kaha**	**3.17**	**51**	P	**Pn**	**00 28 04.1**	**-0.6**
ABAZ	**Army Bay**	**3.19**	**2**	P	**Pn**	**00 28 06.7**	**+1.8**
PKGZ	**Pakihiroa**	**3.27**	**55**	P	**Pn**	**00 28 06.3**	**+0.3**
PUZ	**Puketiti**	**3.28**	**60**	P	**Pn**	**00 28 06.1**	**-0.1**
GVZ	**Greta Valley S**	**3.40**	**201**	P	**Pn**	**00 28 08.8**	**+1.3**
LTZ	**Lake Taylor**	**3.49**	**210**	P	**Pn**	**00 28 09.5**	**+0.7**
LTZ	**Lake Taylor**	**3.49**	**210**		**Pn**	**00 28 09.6**	**+0.8**
WMGZ	**Waiomatatini S**	**3.53**	**57**	P	**Pn**	**00 28 09.3**	**0.0**
MXZ	**Matakaoa Point**	**3.61**	**53**	P	**Pn**	**00 28 10.8**	**+0.5**
MXZ	**Matakaoa Point**	**3.61**	**53**	Pn	**Pn**	**00 28 10.3**	**-0.1**
AMCZ	**Amberley**	**3.71**	**204**	P	**Pn**	**00 28 12.5**	**+1.0**
INZ	**Inchbonnie**	**3.81**	**219**	P	**Pn**	**00 28 13.7**	**+0.9**
WCZ	**Waipu Caves**	**3.86**	**356**	P	**Pn**	**00 28 15.1**	**+1.5**
OXZ	**Oxford**	**4.04**	**208**	P	**Pn**	**00 28 15.7**	**-0.3**
OXZ	**Oxford**	**4.04**	**208**		**Pn**	**00 28 16.0**	**0.0**
OKCZ	**Okains Bay**	**4.11**	**197**	P	**Pn**	**00 28 17.2**	**+0.4**
MQZ	**McQueen's Vall**	**4.19**	**200**	P	**Pn**	**00 28 17.5**	**-0.3**
AKCZ	**Akaroa Harbour**	**4.28**	**197**	P	**Pn**	**00 28 19.2**	**+0.2**
RACZ	**Rakaia**	**4.36**	**205**	P	**Pn**	**00 28 19.8**	**-0.3**
MHCZ	**Mount Hutt**	**4.40**	**211**	P	**Pn**	**00 28 20.5**	**-0.1**
WVZ	**Waitaha Valley**	**4.42**	**221**	P	**Pn**	**00 28 21.1**	**+0.4**
OUZ	**Omahuta**	**4.64**	**349**	P	**Pn**	**00 28 26.1**	**+2.2**
OUZ	**Omahuta**	**4.64**	**349**		**Pn**	**00 28 25.7**	**+1.8**
WACZ	**Wakanui South**	**4.65**	**206**	P	**Pn**	**00 28 24.0**	**+0.1**
RPZ	**Rata Peaks**	**4.76**	**213**	P	**Pn**	**00 28 26.2**	**+0.8**
RPZ	**Rata Peaks**	**4.76**	**213**	Pn	**Pn**	**00 28 26.0**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**4.80**	**221**	P	**Pn**	**00 28 26.0**	**+0.2**
ARCZ	**Arundel**	**4.90**	**211**	P	**Pn**	**00 28 26.8**	**-0.4**
FOZ	**Fox Glacier**	**5.21**	**223**	P	**Pn**	**00 28 31.2**	**-0.1**
FOZ	**Fox Glacier**	**5.21**	**223**	Pn	**Pn**	**00 28 31.1**	**-0.1**
TMZ	**Timaru**	**5.33**	**210**	P	**Pn**	**00 28 32.7**	**-0.3**
LBZ	**Lake Benmore**	**5.67**	**215**	P	**Pn**	**00 28 37.7**	**+0.3**
LBZ	**Lake Benmore**	**5.67**	**215**	Pn	**Pn**	**00 28 38.1**	**+0.6**
ODZ	**Otahua Downs**	**6.03**	**208**	P	**Pn**	**00 28 42.2**	**0.0**
ODZ	**Otahua Downs**	**6.03**	**208**		**Pn**	**00 28 42.9**	**+0.7**
JCZ	**Jackson Bay**	**6.13**	**224**	P	**Pn**	**00 28 42.9**	**-0.6**
WKZ	**Wanaka**	**6.55**	**218**	P	**Pn**	**00 28 48.5**	**-0.6**
EAZ	**Earnscleugh**	**6.72**	**214**	P	**Pn**	**00 28 51.4**	**0.0**
HHSZ	**Highcliff Hill**	**6.78**	**205**	P	**Pn**	**00 28 53.1**	**+1.9**
TUZ	**Tuapeka**	**7.18**	**209**	P	**Pn**	**00 28 58.7**	**+1.3**
MLZ	**Mavora Lakes**	**7.37**	**219**	P	**Pn**	**00 29 00.1**	**+0.1**
MLZ	**Mavora Lakes**	**7.37**	**219**	Pn	**Pn**	**00 28 59.9**	**-0.1**
CTZ	**Chatham Island**	**7.61**	**124**	P	**Pn**	**00 29 05.2**	**+2.1**
SYZ	**Scrubby Hill**	**7.86**	**209**	P	**Pn**	**00 29 07.0**	**+0.6**
DCZ	**Deep Cove**	**7.92**	**222**	Pn	**Pn**	**00 29 08.9**	**+1.5**
PYZ	**Puysegur Point**	**8.65**	**220**	Pn	**Pn**	**00 29 17.5**	**+0.5**
DZM	**Mont Dzumac**	**19.01**	**336**	P	**P**	**00 31 25.7**	**+0.4**
ARMA	**Armidale**	**21.00**	**289**	P	**P**	**00 31 45.2**	**-1.4**
ARMA				IAmb	IAmb	00 31 54.5	
	comp=Z,4.7nm,1.1s						
PPTF	**Pamatai, Papee**	**38.02**	**65**	P	**P**	**00 34 19.8**	**+1.1**
SBA	**Scott Base**	**38.31**	**183**	P	**P**	**00 34 17.9**	**-2.4**
SBA				IAmb	IAmb	00 34 19.4	
	comp=Z,22nm,1.1s						
WB2	**Warramunga Arr**	**39.76**	**288**	P	**P**	**00 34 35.2**	**+2.1**
WB2				IAmb	IAmb	00 34 40.4	
	comp=Z,2.6nm,1.1s						

*NEIC **12** 00:38:01.1±1.9, 43°.67N±0°.08×84°.31E±0°.08, h10km±2km,*
mb4.0/6, ML4.0(BJI), Error ellipse: s-maj=15.4km
s-min=4.6km az=145.0
*IDC **12** 00:38:01.9±0.8, 43°.78N×84°.04E, h0km, mb3.7/12,*
mb1 3.8/19, mb1mx3.6/68, mbtmp3.7/19, ML3.3/7, MS2.8/1,
Ms1 2.8/1, ms1mx2.3/93, Error ellipse: s-maj=15.2km
s-min=10.0km az=58.0
*SOME **12** 00:38:03.0, 43°.83N×83°.88E, h0km, MS3.4*
*NNC **12** 00:38:05.4±1

MDOK	**Medeo**	**5.27 266**	*e*P		**Pn**	**00 39 21.9**	**+0.8**
	baz=263						
MDOK	**Medeo**	**5.27 266**	⇓Pn		**Pn**	**00 39 22.1**	**+1.0**
	comp=E,16nm,0.8s						
MDOK			⇑Pg		**Pb**	**00 39 38.3**	**+3.9**
	comp=E,25nm,0.4s						
MDOK			⇑Lg		Lg	00 40 47.0	
	comp=E,102nm,0.6s						
MDOK	**Medeo**	**5.27 266**	Pg		**Pb**	**00 39 37.9**	**+3.4**
	comp=E,37nm,0.4s						
MDOK			Lg		Lg	00 40 44.7	
	comp=E,118nm,0.6s						
KNDC	**Almaty**	**5.32 267**	⇑Pn		**Pn**	**00 39 23.5**	**+1.7**
	comp=E,20nm,0.5s						
KNDC			⇑Pg		**Pg**	**00 39 42.0**	**-2.1**
	comp=E,68nm,0.6s						
KNDC			⇑Lg		Lg	00 40 48.1	
	comp=E,294nm,0.8s						
AAA	**Alma-Ata**	**5.36 267**	*e*P		**Pb**	**00 39 34.5**	**-1.5**
	comp=E,37nm,0.4s						
AAA			*e*S		**Sb**	**00 40 39.0**	**-1.4**
	comp=E,203nm,0.6s						
TNSS	**Tian-Shan**	**5.37 265**	*e*P		**Pb**	**00 39 37.9**	**+1.7**
	comp=E,22nm,0.3s						
TNSS			*e*S		**Sb**	**00 40 46.0**	**+5.2**
	comp=E,52nm,0.5s						
TNSS	**Tian-Shan**	**5.37 265**	*e*P		**Pn**	**00 39 23.5**	**+0.9**
	baz=262						
TNSS	**Tian-Shan**	**5.37 265**	Pg		**Pb**	**00 39 37.9**	**+1.7**
	comp=E,22nm,0.3s						
TNSS			Lg		Lg	00 40 46.0	
	comp=E,52nm,0.5s						
KDJ	**Kajisay**	**5.43 255**			**Pn**	**00 39 22.4**	**-0.9**
KTBS	**Karatobe**	**5.48 272**	*e*P		**Pb**	**00 39 41.3**	**+3.3**
	comp=E,32nm,0.3s						
KTBS			*e*S		**Sb**	**00 40 51.3**	**+7.5**
	comp=E,244nm,0.6s						
KTBS	**Karatobe**	**5.48 272**	Pg		**Pb**	**00 39 41.3**	**+3.3**
	comp=E,32nm,0.3s						
KTBS			Lg		Lg	00 40 51.3	
	comp=E,244nm,0.6s						
KUU	**Kurty**	**5.72 274**	*e*P		**Pb**	**00 39 46.5**	**+4.4**
	comp=E,21nm,0.9s						
KUU			*e*S		**Sg**	**00 40 59.2**	**-6.6**
	comp=E,150nm,0.5s						
KUU	**Kurty**	**5.72 274**	*e*P		**Pn**	**00 39 27.3**	**+0.1**
	comp=E,6.6nm,0.5s,baz=272						
KUU			*e*S		**Sn**	**00 40 31.9**	**-1.1**
	baz=272						
KUU	**Kurty**	**5.72 274**	Pg		**Pb**	**00 39 46.5**	**+4.4**
	comp=E,21nm,0.9s						
KUU			Lg		Lg	00 40 59.2	
	comp=E,150nm,0.5s						
MTBS	**Maitube**	**5.72 267**	*e*P		**Pb**	**00 39 43.9**	**+1.8**
	comp=E,14nm,0.3s						
MTBS			*e*S		**Sb**	**00 40 55.0**	**+4.2**
	comp=E,62nm,0.3s						
MTBS	**Maitube**	**5.72 267**	*e*P		**Pn**	**00 39 27.8**	**+0.6**
	baz=264						
MTBS	**Maitube**	**5.72 267**	Pg		**Pb**	**00 39 43.9**	**+1.8**
	comp=E,14nm,0.3s						
MTBS			Lg		Lg	00 40 55.0	
	comp=E,62nm,0.3s						
ULHL	**Ulahol**	**6.06 258**	P		**Pn**	**00 39 33.6**	**+1.6**
	SNR=10						
KST	**Kastek**	**6.08 266**	*e*P		**Pb**	**00 39 51.0**	**+2.8**
	comp=E,38nm,0.4s						
KST			*e*S		**Sb**	**00 41 07.9**	**+6.9**
	comp=E,89nm,0.6s						
KST	**Kastek**	**6.08 266**	*i* P		**Pn**	**00 39 32.5**	**+0.4**
	comp=E,2.1nm,0.5s,baz=264						
KST			*e*S		**Sn**	**00 40 42.3**	**+0.5**
	baz=264						
KST	**Kastek**	**6.08 266**	Pg		**Pb**	**00 39 51.0**	**+2.8**
	comp=E,38nm,0.4s						
KST			Lg		Lg	00 41 07.9	
	comp=E,89nm,0.6s						
DGS	**Degeres**	**6.18 268**	*e*P		**Pb**	**00 39 52.2**	**+2.2**
	comp=E,34nm,0.4s						
DGS			*e*S		**Sb**	**00 41 10.1**	**+6.0**
	comp=E,84nm,0.5s						
DGS	**Degeres**	**6.18 268**	*i* P		**Pn**	**00 39 34.1**	**+0.5**
	baz=266						
DGS	**Degeres**	**6.18 268**	Pg		**Pb**	**00 39 52.2**	**+2.2**
	comp=E,34nm,0.4s						
DGS			Lg		Lg	00 41 10.0	
	comp=E,84nm,0.5s						
BOOM	**Boomskoye usch**	**6.21 261**	Pn		**Pn**	**00 39 32.8**	**-1.2**
KRBS	**Karabastau**	**6.21 273**	*e*P		**Pb**	**00 39 53.8**	**+3.4**
	comp=E,13nm,0.5s						
KRBS			*e*S		**Sb**	**00 41 12.8**	**+7.9**
	comp=E,77nm,0.5s						
KRBS	**Karabastau**	**6.21 273**	Pg		**Pb**	**00 39 53.8**	**+3.4**
	comp=E,13nm,0.5s						
KRBS			Lg		Lg	00 41 12.8	
	comp=E,77nm,0.5s						
TKM2	**Tokmak 2**	**6.36 266**	P		**Pn**	**00 39 39.6**	**+3.5**
	SNR=14						
TKM2	**Tokmak 2**	**6.36 266**	⇑Pn		**Pn**	**00 39 38.8**	**+2.7**
	comp=E,6.7nm,0.6s						
TKM2			⇑Pg		Pb	00 39 57.8	+4.7
	comp=E,12nm,0.5s						
TKM2			⇓Lg		Lg	00 41 19.5	
	comp=E,42nm,0.6s						
KBK	**Karagaybulak**	**6.88 264**	P		**Pn**	**00 39 45.5**	**+2.3**
	SNR=12						
FRU1	**Bishkek**	**7.08 266**	Pn		**Pn**	**00 39 44.4**	**-1.5**
USP	**Ospenovka**	**7.10 270**	P		Pn	00 39 50.9	+4.7
	SNR=7.3						
SEM	**Semipalatinsk**	**7.20 339**	*e*P		Pb	00 40 13.7	+6.4
	comp=E,5.1nm,0.3s						
SEM			*e*S		**Sg**	**00 41 46.3**	**-6.9**
	comp=E,58nm,0.9s						
SEM	**Semipalatinsk**	**7.20 339**	*e*S		**Sn**	**00 41 07.7**	**-1.9**
	baz=340						
SEM	**Semipalatinsk**	**7.20 339**	Pg		Pb	00 40 13.7	+6.3
	comp=E,5.1nm,0.3s						
SEM			Lg		Lg	00 41 46.3	
	comp=E,58nm,0.9s						
AAK	**Ala-Archa**	**7.21 265**	Pn		**Pn**	**00 39 49.1**	**+1.3**
	comp=E,1.2nm,0.3s,baz=90,slow=5.7,SNR=14						
AAK			Pg		Pb	00 40 13.4	+5.9
	comp=E,3.0nm,0.3s,baz=127,slow=10,SNR=13						
AAK			Lg		Lg	00 41 47.6	
	comp=E,0.9nm,0.3s,baz=264,slow=17,SNR=3.7						
AAK	**Ala-Archa**	**7.21 265**	⇑Pn		**Pn**	**00 39 49.4**	**+1.6**
	comp=E,2.7nm,0.6s						
AAK			⇑Pg		Pg	00 40 14.2	-6.0
	comp=E,12nm,0.7s						
AAK			⇑Lg		Lg	00 41 50.9	
	comp=E,75nm,1.1s						
AAK	**Ala-Archa**	**7.21 265**	Pn		**Pn**	**00 39 46.8**	**-1.0**
UCH	**Uchtor**	**7.30 261**	P		**Pn**	**00 39 51.4**	**+2.2**
	SNR=11						
BTLS	**Baital**	**7.42 284**	*e*P		**Pn**	**00 39 50.1**	**-0.3**
	comp=E,1.8nm,0.4s,baz=282						
BTLS	**Baital**	**7.42 284**	Pg		Pb	00 40 17.4	+6.4
BTLS			Lg		Lg	00 41 54.6	
KSH	**Kashi**	**7.50 239**	P		Pb	00 40 01.7	-11
KSH			sP		Pg	00 40 07.7	-18
KSH			S		Sb	00 41 30.0	-12
KSH			pmax		pmax		
	comp=Z,5.0nm,0.6s						
KSH			smax		smax		
	comp=N,38nm,1.0s						
KSH			smax		smax		
	comp=E,39nm,0.7s						
KSH			LR		LR		
	comp=Z,220nm,6.4s						
KURBB	**Kurchatov Arra**	**7.91 333**	Pn		**Pn**	**00 39 56.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=225,slow=10,SNR=27						
KURBB			Pg		Pb	00 40 25.7	+6.6
	comp=Z,0.4nm,0.3s,baz=156,slow=17,SNR=8.5						
KURBB			Lg		Lg	00 42 06.5	
	comp=Z,0.6nm,0.3s,baz=146,slow=26,SNR=3.5						
KURBB	**Kurchatov Arra**	**7.91 333**	⇑Pn		**Pn**	**00 39 56.3**	**-0.8**
	comp=Z,2.4nm,0.3s						
KURBB			⇓Lg		Lg	00 42 12.1	
	comp=Z,170nm,0.8s						
KURK	**Kurchatov**	**7.96 333**	⇓Lg		Lg	00 42 13.0	
	comp=Z,62nm,0.7s						
KURK	**Kurchatov**	**7.96 333**	Pn		**Pn**	**00 39 57.5**	**-0.3**
MRKS	**Merke**	**8.11 267**	Pg		Pb	00 40 29.0	+6.3
MRKS			Lg		Lg	00 42 12.7	
KKAR	**Karatay Array**	**10.02 271**	Pn		**Pn**	**00 40 24.8**	**-1.3**
KK09	**Karatay Array**	**10.02 271**	⇑Pg		Pg	00 41 03.7	
	comp=Z,2.6nm,0.6s						
KK09			⇑Lg		Lg	00 43 12.2	
	comp=Z,20nm,0.9s						
ZAA0	**Zalesovo Array**	**10.22 2**	Pn		**Pn**	**00 40 27.7**	**-1.1**
ZALV	**Zalesovo Beam**	**10.22 2**	Pn		**Pn**	**00 40 27.9**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=180,slow=14,SNR=14						
ZALV			Sn		**Sn**	**00 42 18.9**	**-4.4**
	comp=Z,1.4nm,0.3s,baz=173,slow=24,SNR=6.4						
ZALV			Lg		Lg	00 43 24.5	
	baz=180,slow=24,SNR=2.1						
ZALV	**Zalesovo Beam**	**10.22 2**	Pn		**Pn**	**00 40 27.5**	**-1.2**
BRLS	**Borolday**	**10.52 271**	*e*P		**Pn**	**00 40 35.9**	**+3.0**
	baz=268						
BTK	**Batken**	**10.66 254**	Pn		**Pn**	**00 40 35.8**	**+0.8**
GOMU	**GeErMu**	**11.06 129**	P		**Pn**	**00 40 41.0**	**+0.3**
GOMU			S		**Sn**	**00 42 37.9**	**-6.8**
GOMU			pmax		pmax		
	comp=Z,8.0nm,0.6s						
GOMU			pmax		pmax		
	comp=Z,68nm,5.4s						
GOMU			LR		LR		
	comp=N,110nm,10.9s						
GOMU			LR		LR		
	comp=E,170nm,13.7s						
GOMU			LR		LR		
	comp=Z,49nm,9.8s						
GTA	**Gaotai**	**12.43 105**	*e*P		Pn	00 41 15.5	+16
GTA			pP			00 41 21.4	
GTA			sP			00 41 25.6	
GTA			pmax		pmax		
	comp=Z,3.0nm,1.0s						
GTA			pmax		pmax		
	comp=Z,64nm,5.1s						
GTA			LR		LR		
	comp=N,92nm,12.0s						
GTA			LR		LR		
	comp=E,100nm,12.7s						
GTA			LR		LR		
	comp=Z,100nm,14.5s						
CHGR	**Chuyangaron**	**12.44 251**	Pn		**Pn**	**00 40 57.9**	**-1.5**
BVAR	**Borovoye Array**	**13.06 320**	Pn		**Pn**	**00 41 05.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=127,slow=15,SNR=4.5						
BVAR			Sn		**Sn**	**00 43 28.1**	**-4.7**
	comp=Z,0.3nm,0.3s,baz=129,slow=21,SNR=2.6						
BVAR			Lg		Lg	00 44 52.2	
	comp=Z,0.4nm,0.3s,baz=108,slow=28,SNR=4.0						
BRVK	**Borovoye**	**13.13 320**	⇑Pn		**Pn**	**00 41 07.5**	**-1.1**
	comp=Z,2.6nm,0.8s						
BRVK			⇑Lg		Lg	00 44 57.7	
	comp=Z,32nm,1.0s						
BRVK	**Borovoye**	**13.13 320**	Pn		**Pn**	**00 41 07.9**	**-0.6**
NIL	**Nilore**	**13.23 224**			**Pn**	**00 41 08.2**	**-1.8**
KBL	**Kabul**	**14.93 237**	Pn		**Pn**	**00 41 32.5**	**-1.0**
SONM	**Songino Array**	**15.97 67**	Pn		**P**	**00 41 48.3**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=264,slow=13,SNR=6.7						
SONM			Lg		Lg	00 46 35.8	
	comp=Z,0.0nm,0.3s,baz=265,slow=33,SNR=4.3						
SONM	**Songino Array**	**15.97 67**	Pn		**Pn**	**00 41 46.0**	**-0.9**
SONM			IAmb		IAmb	00 41 54.1	
	comp=Z,4.1nm,1.0s						
ABKAR	**Akbulak array**	**17.58 297**			**Pn**	**00 42 05.8**	**-1.4**
ABKAR	**Akbulak array**	**17.58 297**	P		**Pn**	**00 42 04.8**	**-2.3**
AKTO	**Aktyubinsk**	**19.01 300**	P		**Pn**	**00 42 24.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=104,slow=13,SNR=5.2						
AKTO			Sn		Sn	00 45 44.4	-13
	comp=Z,0.1nm,0.3s,baz=267,slow=19,SNR=1.6						
AKTO			Lg		Lg	00 47 56.2	
	comp=Z,0.1nm,0.3s,baz=81,slow=19,SNR=2.1						
ARU	**Arti**	**20.65 317**	P		**P**	**00 42 42.4**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=143,slow=5.4,SNR=9.0						
ARU			Lg		Lg	00 48 47.1	
	comp=Z,0.5nm,0.5s,baz=120,slow=20,SNR=2.2						
ARU	**Arti**	**20.65 317**	P		**P**	**00 42 41.7**	**0.0**
ARU			IAmb		IAmb	00 42 49.1	
	comp=Z,5.6nm,1.1s						
NRIK	**Noril'sk**	**25.72 3**	P		**P**	**00 43 32.5**	**+0.3**
	comp=Z,2.9nm,0.4s,baz=174,slow=6.2,SNR=7.2						
NRIK	**Noril'sk**	**25.72 3**	P		**P**	**00 43 31.6**	**-0.6**
NRIK			IAmb		IAmb	00 43 39.1	
	comp=Z,4.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**28.08 149**	P		**P**	**00 43 55.8**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=329,slow=8.6,SNR=4.1						
AKASG	**Malin Array Be**	**37.26 301**	P		**P**	**00 45 13.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=64,slow=8.5,SNR=2.5						
BRTR	**Keskin Array B**	**37.50 282**	P		**P**	**00 45 17.0**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=61,slow=6.8,SNR=3.2						
FINES	**FINESS Array B**	**38.01 318**	P		**P**	**00 45 20.6**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=81,slow=8.6,SNR=1.1						
ARCES	**ARCESS Array B**	**38.99 331**	P		**P**	**00 45 29.1**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=84,slow=9.2,SNR=6.5						
ARCES	**ARCESS Array B**	**38.99 331**	P		**P**	**00 45 29.0**	**+0.9**
ARCES			IAmb		IAmb	00 45 32.5	
	comp=Z,18nm,1.4s						
NB2	**NORSAR Subarra**	**45.18 319**	P		**P**	**00 46 19.0**	**+0.1**
	comp=Z,9.0nm,1.4s,baz=78,slow=8.6						
NOA	**NORSAR Array B**	**45.18 319**	P		**P**	**00 46 18.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=77,slow=8.0,SNR=2.3						
ILAR	**Eielson Array**	**64.69 22**	P		**P**	**00 48 43.0**	**+3.2**
	comp=Z,0.3nm,0.6s,baz=325,slow=4.5,SNR=2.5						
YKA	**Yellowknife Ar**	**73.04 9**	P		**P**	**00 49 34.5**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=340,slow=5.9,SNR=4.8						
TORD	**Toro di Ar. Bea**	**75.69 275**	P		**P**	**00 49 48.9**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=39,slow=5.1,SNR=3.2						
WRA	**Warramunga Arr**	**78.24 133**	P		**P**	**00 50 03.7**	**+1.6**
	comp=Z,79nm,0.5s,baz=332,slow=5.0,SNR=1.7						
ASAR	**Alice Springs**	**81.07 135**	P		**P**	**00 50 18.6**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=326,slow=5.8,SNR=2.0						

DDA ***12*** *00:42:44.4±0.0, 35°.45N×31°.47E, h12km±1km, ML2.2*
ISK ***12*** *00:42:46.2, 35°.55N×31°.61E, h2km, ML2.5/12*
NIC ***12*** *00:42:48.0±0.0, 35°.40N×31°.52E, h16km±1km, Ml2.4/3*
ISC 12 00:42:46.7±1.5**, 35°.49N**±0°.04×**31°.53E**±0°.04**, h13**km±11km,
n34,σ1s08/49, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.81**	**125**	P	**Pb**	**00 43 02.5**	**-0.1**
AKMS				S	**Sn**	**00 43 14.6**	**-1.1**
AKMS				AML	AML	00 43 22.7	
	0.6nm,0.4s						
AKMS				AML	AML	00 43 22.7	
	0.6nm,0.4s						
AKMS				AML	AML	00 43 25.2	
	0.4nm,0.7s						
AKMS				AML	AML	00 43 25.2	
	0.4nm,0.7s						
ALFC	**Alefka**	**0.93**	**111**	P	**Pb**	**00 43 04.2**	**-0.6**
ALFC				S	**Sn**	**00 43 19.0**	**+0.2**
ALFC				AML	AML	00 43 24.1	
	0.4nm,0.4s						
ALFC				AML	AML	00 43 24.1	
	0.4nm,0.4s						
ALFC				AML	AML	00 43 25.7	
	0.6nm,0.7s						
ALFC				AML	AML	00 43 25.7	
	0.6nm,0.7s						
GAZI	**Gazipasa**	**0.98**	**40**	PG	**Pb**	**00 43 04.4**	**-1.1**
GAZI				SG	**Sb**	**00 43 17.4**	**-0.9**
GAZI	**Gazipasa**	**0.98**	**40**	P	**Pb**	**00 43 04.1**	**-1.4**
NATA	**Nata**	**1.11**	**130**	P	**Pg**	**00 43 08.3**	**+0.3**
NATA				S	**Sn**	**00 43 23.4**	**+0.4**
NATA				AML	AML	00 43 27.3	
	0.4nm,1.4s						
NATA				AML	AML	00 43 27.3	
	0.4nm,1.4s						
NATA				AML	AML	00 43 35.6	
	0.8nm,1.1s						
NATA				AML	AML	00 43 35.6	
	0.8nm,1.1s						
LEF	**Lefka**	**1.17**	**108**	PN	**Pn**	**00 43 08.2**	**-0.5**
LEF				SN	**Sg**	**00 43 24.3**	**-0.1**
AKUM	**Antalya-Kumluc**	**1.27**	**311**	P	**Pn**	**00 43 09.2**	**-1.0**
AKUM				S	**Sn**	**00 43 26.3**	**-0.8**
TEKE	**Tekeli-Mersin**	**1.44**	**63**	PN	**Pn**	**00 43 13.1**	**+0.6**
CSS	**Mathiatis**	**1.56**	**109**	PN	**Pb**	**00 43 15.3**	**-0.2**
CSS				SN	**Sg**	**00 43 36.6**	**-0.4**
CSS	**Mathiatis**	**1.56**	**109**	P	**Pn**	**00 43 14.2**	**0.0**
ASGA	**Asgata**	**1.57**	**116**	P	**Pn**	**00 43 14.7**	**+0.4**
BERE	**Bereket-Mersin**	**1.62**	**58**	PN	**Pn**	**00 43 15.5**	**+0.5**
BERE				SN	**Sn**	**00 43 35.8**	**0.0**
HDMB	**Hadim**	**1.66**	**27**	PN	**Pn**	**00 43 16.6**	**+0.9**
AKAS	**Kas**	**1.73**	**296**	P	Pg	00 43 28.0	+8.0
AKKU	**Akkuyu-Mersin**	**1.77**	**67**	PN	**Pn**	**00 43 18.2**	**+1.2**
AKKU				SN	**Sb**	**00 43 41.3**	**+0.2**
GULN	**MERSIN_Gulnar**	**1.77**	**66**	P	**Pb**	**00 43 18.8**	**-0.2**
GULN				S	**Sb**	**00 43 40.5**	**-0.7**
KORT	**Korkueli**	**1.79**	**328**	P	**Pn**	**00 43 16.8**	**-0.5**
KORT				S	**Sb**	**00 43 43.4**	**+1.7**
KORT				*i* AML	AML	00 43 51.0	
	comp=E,23nm,1.2s						
TEVE	**Tevekalti-Mers**	**1.81**	**58**	PN	**Pn**	**00 43 17.9**	**+0.2**
TEVE				SN	**Sb**	**00 43 42.1**	**-0.3**
ELL	**Elmali**	**1.82**	**314**	PN	**Pn**	**00 43 19.7**	**+1.9**
ELL	**Elmali**	**1.82**	**314**	P	**Pn**	**00 43 19.4**	**+1.6**
IKL	**Isikli**	**1.90**	**66**	PN	**Pn**	**00 43 19.9**	**+1.1**
IKL				SN	**Sb**	**00 43 44.6**	**-0.2**
SEYD	**Seydisehir-KON**	**1.93**	**7**	PN	**Pn**	**00 43 20.2**	**+0.9**
SEDI	**Konya, Seydise**	**1.96**	**5**	P	**Pn**	**00 43 18.7**	**-1.1**
SEDI				*i* AML	AML	00 43 54.0	
	comp=E,16nm,0.5s						
SEDI				*i* AML	AML	00 43 57.0	
	comp=N,19nm,0.7s						
OSC1	**CSNet OBS 1**	**2.00**	**186**	S	**Sn**	**00 43 44.5**	**-0.4**
KEBE	**Keben-Mersin**	**2.01**	**61**	PN	**Pn**	**00 43 21.4**	**+1.0**
KKBE	**Karaman, Kazim**	**2.07**	**33**	P	**Pn**	**00 43 21.8**	**+0.6**
KKBE				S	**Sb**	**00 43 51.7**	**+2.0**
KKBE				*i* AML	AML	00 43 59.0	
	comp=E,13nm,0.8s						
KIZK	**Mersin**	**2.34**	**64**	PN	**Pn**	**00 43 25.9**	**+1.1**
KIZK	**Mersin**	**2.34**	**64**	P	**Pn**	**00 43 27.0**	**+2.3**
KIZK				*i* AML	AML	00 44 00.0	
	comp=E,13nm,1.0s						
KMER	**Konya-Meram**	**2.37**	**16**	P	**Pn**	**00 43 26.7**	**+1.3**
KMER				*i* AML	AML	00 44 01.0	
	comp=E,13nm,1.0s						
KMER				*i* AML	AML	00 44 01.0	
	comp=N,9.7nm,0.7s						
DOGA	**KONYA_Doganhis**	**2.61**	**2**	P	**Pn**	**00 43 30.3**	**+1.6**
DOGA				S	**Sb**	**00 44 04.3**	**-1.2**
DOGA				*i* AML	AML	00 44 12.0	
	comp=E,8.2nm,0.7s						
MERS	**Mersin**	**2.78**	**60**	PN	**Pn**	**00 43 32.4**	**+1.4**
YVAC	**Isparta, Yalva**	**2.79**	**355**	P	**Pn**	**00 43 31.7**	**+0.6**
KERG	**Konya-Eregli**	**2.84**	**47**	P	**Pn**	**00 43 33.7**	**+1.9**
KERG				S	**Sb**	**00 44 10.2**	**-1.7**
KERG				*i* AML	AML	00 44 17.0	
	comp=E,7.9nm,0.6s						
KERG				*i* AML	AML	00 44 20.0	
	comp=N,8.2nm,0.5s						
YESY	**Yesilyurt**	**2.90**	**37**	PN	**Pn**	**00 43 33.8**	**+1.2**

IDC ***12*** *00:48:28.2±0.7, 76°.86N×18°.24E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.3/52, mbtmp3.5/8, ML2.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/66, Error ellipse: s-maj=26.9km s-min=6.5km az=73.0*
NAO ***12*** *00:48:28.7±0.9, 76°.87N×18°.55E, h9km±9km, ML3.7*
IEPN ***12*** *00:48:29.0, 76°.87N×18°.56E, h10km*
BER ***12*** *00:48:32.0±1.9, 76°.92N×18°.33E, h21km±7km, ML3.3, MW3.7, ML3.7(NAO), Confirmed Earthquake*
ISC 12 00:48:29.8±1.1**, 76°.88N**±0°.03×**18°.46E**±0°.04**, h26**km±10km,
n56,σ2s84/90, mb3.3/4, 5C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.68**	**282**	Pg	**Pb**	**00 48 42.6**	**-0.4**
HSPB				Lg	Lg	00 48 51.0	
HSPB	**Hornsund (broa**	**0.68**	**282**	⇑*i*P	**Pb**	**00 48 42.6**	**-0.4**
HSPB				*e*S	**Sb**	**00 48 50.9**	**-1.1**
HSPB				IAML		00 48 56.0	
	comp=Z,638nm,0.3s						
HSPB	**Hornsund (broa**	**0.68**	**282**	⇓*i*P	**Pb**	**00 48 42.4**	**-0.5**
HSPB				*e*S	**Sb**	**00 48 50.9**	**-1.1**
SPA0	**Spitsbergen Ar**	**1.39**	**342**	Pn	**Pn**	**00 48 53.8**	**+0.3**
	baz=152,slow=22						
SPA0				Lg	Lg	00 49 13.3	
	baz=155,slow=37						
SPA0	**Spitsbergen Ar**	**1.39**	**342**	Pn	**Pn**	**00 48 53.8**	**+0.3**
	baz=152,slow=22						
SPA0				Sg	**Sb**	**00 49 13.3**	**+1.0**
	baz=155,slow=37						
SPA0	**Spitsbergen Ar**	**1.39**	**342**	⇑*i*P	**Pn**	**00 48 53.7**	**+0.2**
SPA0				*e*S	**Sn**	**00 49 12.4**	**+1.4**
SPITS	**Spitsbergen Ar**	**1.39**	**342**	Pg	**Pn**	**00 48 53.7**	**+0.2**
	baz=141,slow=18,SNR=2409						
SPITS				Lg	Lg	00 49 11.7	
	baz=148,slow=19,SNR=8.7						
BRBA	**Barentsburg A**	**1.51**	**324**	Pn	**Pn**	**00 48 55.8**	**+0.6**
BRBA				Pg	**Pb**	**00 48 57.0**	**0.0**
BRBA				Lg	Lg	00 49 16.2	
BRBA	**Barentsburg A**	**1.51**	**324**	*e*P	**Pn**	**00 48 55.8**	**+0.6**
BRBA				*e*Pg	**Pb**	**00 48 57.0**	**0.0**
BRBA				*e*Sg	**Sb**	**00 49 16.1**	**+0.4**
BRBA				IAML		00 49 17.0	
	comp=Z,1μm,0.4s						
BRBB	**Barentsburg B**	**1.54**	**325**	Pn	**Pn**	**00 48 56.2**	**+0.7**
BRBB				Pg	**Pb**	**00 48 57.5**	**0.0**
BRBB				Lg	Lg	00 49 16.6	
BRBB	**Barentsburg B**	**1.54**	**325**	*e*P	**Pn**	**00 48 56.2**	**+0.7**
BRBB				*e*Pg	**Pb**	**00 48 57.5**	**0.0**
BRBB				*e*Sg	**Sb**	**00 49 16.7**	**+0.1**
HOPEN	**Hopen**	**1.56**	**100**	Pg	**Pn**	**00 48 56.9**	**+1.1**
HOPEN				Lg	Lg	00 49 16.2	
HOPEN	**Hopen**	**1.56**	**100**	*e*P	**Pn**	**00 48 56.9**	**+1.1**
HOPEN				*e*Pg	**Pb**	**00 48 59.8**	**+1.8**
HOPEN				*e*S	**Sb**	**00 49 16.3**	**-0.9**
HOPEN				*e*Sg	**Sn**	**00 49 19.9**	**+4.7**
HOPEN				IAML		00 49 23.8	
	comp=Z,473nm,0.6s						
HOPEN	**Hopen**	**1.56**	**100**	⇑*i*P	**Pn**	**00 48 56.9**	**+1.1**
HOPEN				*e*S	**Sn**	**00 49 16.2**	**+1.0**
BJO1	**B

APA0	**Apatity Array**	**10.26 147**	Pn	**Pn**	**00 50 53.6**	**-1.5**
	baz=356,slow=14					
APA0			Sn	**Sn**	**00 52 43.5**	**-5.7**
	baz=342,slow=22					
APA0	**Apatity Array**	**10.26 147**	Pn	**Pn**	**00 50 53.6**	**-1.5**
	baz=356,slow=14					
APA0			Sn	**Sn**	**00 52 43.5**	**-5.7**
	baz=342,slow=22					
SLVR	**Solovky**	**13.06 146**	P	**Pn**	**00 51 34.1**	**+0.7**
	comp=Z,25nm,2.7s					
SLVR			*e*S	**Sn**	**00 53 50.7**	**-6.9**
LSH	**Leshukonskoye**	**14.74 130**	*e*P	**Pn**	**00 51 51.6**	**-4.7**
	comp=Z,39nm,2.1s					
LSH			*e*S	Sn	00 54 26.1	-12
FIA0	**FINESS Array S**	**15.71 166**	P	**Pn**	**00 52 09.7**	**+0.6**
	baz=5.7,slow=14					
FIA0	**FINESS Array S**	**15.71 166**	P	**Pn**	**00 52 09.7**	**+0.6**
	baz=5.7,slow=14					
FINES	**FINESS Array B**	**15.71 166**	Pn	**Pn**	**00 52 06.4**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=6.3,slow=14,SNR=4.7					
FINES			Sn	Sn	00 54 50.4	-12
	comp=Z,0.5nm,0.3s,baz=0.0,slow=22,SNR=7.0					
HFS	**Hagfors**	**16.90 188**	Pn	**Pn**	**00 52 23.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=10,slow=8.8,SNR=1.8					
HFS			LR	LR	00 59 13.1	
	comp=Z,50nm,19.0s,baz=322,slow=38					
KLMR	**Klimovskoe**	**17.58 144**	*e*P	**Pn**	**00 52 30.8**	**-1.8**
	comp=Z,40nm,2.4s					
KLMR			*e*S	Sn	00 55 33.5	-14
PRGR	**Permogore**	**17.74 134**	P	**Pn**	**00 52 34.1**	**-0.5**
NRIK	**Noril'sk**	**20.10 75**	P	Pn	00 53 04.4	+1.4
	comp=Z,0.6nm,0.5s,baz=326,slow=3.6,SNR=1.5					
ILAR	**Eielson Array**	**38.29 350**	P	**P**	**00 55 50.1**	**+2.6**
	comp=Z,0.2nm,0.6s,baz=0.5,slow=7.0,SNR=4.4					
MKAR	**Makanchi Array**	**39.05 102**	P	**P**	**00 55 55.7**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=324,slow=7.1,SNR=4.3					
SONM	**Songino Array**	**43.53 78**	P	**P**	**00 56 34.3**	**+3.4**
	comp=Z,0.3nm,0.6s,baz=338,slow=6.2,SNR=2.6					
TORD	**Torodi Ar. Bea**	**64.33 198**	P	**P**	**00 59 05.2**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=357,slow=6.0,SNR=5.6					

IDC 12 01:06:08.4±3.7, 11°.34S×66°.49E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.4/34, mbtmp3.5/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/53, Error ellipse: s-maj=128.9km s-min=41.7km az=64.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.95**	**59**	T	T	01 14 59.6	
	baz=238,slow=76,SNR=20						
H08S2	**Diego Garcia H**	**6.97**	**59**	T	T	01 15 01.3	
	baz=238,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**6.97**	**59**	T	T	01 15 02.4	
	baz=238,slow=76,SNR=30						
PALK	**Pallekele**	**23.28**	**38**	LR	LR	01 17 46.5	
	comp=Z,36nm,20.1s,baz=268,slow=30						
H01W3	**Cape Leeuwin H**	**49.13 127**		T	T	02 07 30.8	
	baz=286,slow=75,SNR=18						
H01W2	**Cape Leeuwin H**	**49.13 127**		T	T	02 07 31.0	
	baz=286,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**49.15 127**		T	T	02 07 31.8	
	baz=286,slow=75,SNR=23						
MKAR	**Makanchi Array**	**59.57**	**13**	P	P	01 16 12.8	-1.0
	0.1nm,0.5s,baz=205,slow=8.5,SNR=2.1						
ASAR	**Alice Springs**	**64.96 111**		P	P	01 16 50.3	-0.3
	0.2nm,0.6s,baz=275,slow=4.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**66.87**	**12**	P	P	01 17 01.6	-0.5
	0.5nm,0.6s,baz=216,slow=7.1,SNR=2.1						
SONM	**Songino Array**	**68.75**	**28**	P	P	01 17 15.4	+1.1
	0.2nm,0.6s,baz=215,slow=8.0,SNR=5.1						
NVAR	**Mina Array Bea**	**152.68**	**8**	PKPbc	PKiKP	01 26 08.2	+0.1
	0.2nm,0.5s,baz=267,slow=1.8,SNR=2.7						

*NAO **12** 01:06:57.1±1.4, 76°.91N×18°.40E, h11km±10km, ML2.8*
*IEPN **12** 01:06:58.0, 76°.91N×18°.48E, h10km*
*BER **12** 01:06:58.8±2.7, 76°.85N×18°.27E, h19km±10km, ML2.3, ML2.8(NAO), Confirmed Earthquake*

ISC 12 01:06:56.9±1.4, 76°.91N±0°.04×18°.54E±0°.04, h11km±12km, n21, σ1s30/42, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.69 279**		Pg	**Pg**	**01 07 10.0**	**-0.1**
HSPB				Lg	Lg	01 07 18.5	
HSPB	**Hornsund (broa**	**0.69 279**		*e*P	**Pg**	**01 07 10.2**	**0.0**
HSPB				*e*S	**Sg**	**01 07 18.3**	**-0.8**
HSPB				IAML		01 07 23.8	
	comp=Z,52nm,0.4s						
HSPB	**Hornsund (broa**	**0.69 279**		*e*P	**Pg**	**01 07 10.0**	**-0.1**
HSPB				*i* S	**Sg**	**01 07 18.3**	**-0.8**
SPA0	**Spitsbergen Ar**	**1.36 341**		Pn	**Pn**	**01 07 21.8**	**+0.1**
	baz=157,slow=18						
SPA0				Pg	**Pb**	**01 07 22.4**	**+0.2**
	baz=156,slow=18						
SPA0				Lg	Lg	01 07 40.6	
	baz=150,slow=56						
SPA0	**Spitsbergen Ar**	**1.36 341**		Pn	**Pn**	**01 07 21.8**	**+0.1**
	baz=157,slow=18						
SPA0				Pg	**Pb**	**01 07 22.4**	**+0.2**
	baz=156,slow=18						
SPA0				Sg	**Sn**	**01 07 40.6**	**+1.0**
	baz=150,slow=56						
SPA0	**Spitsbergen Ar**	**1.36 341**		⇑*i*P	**Pn**	**01 07 21.1**	**-0.6**
SPA0				*e*S	**Sn**	**01 07 39.3**	**-0.4**
BRBA	**Barentsburg A**	**1.49 323**		Pn	**Pn**	**01 07 23.5**	**+0.1**
BRBA				Pg	**Pb**	**01 07 24.8**	**+0.3**
BRBA				Lg	Lg	01 07 43.3	
BRBA	**Barentsburg A**	**1.49 323**		*e*Pg	**Pn**	**01 07 24.6**	**+1.2**
BRBA				*e*Sg	**Sn**	**01 07 43.9**	**+1.0**
BRBA				IAML		01 07 46.6	
	comp=Z,107nm,0.3s						
BRBB	**Barentsburg B**	**1.52 324**		Pn	**Pn**	**01 07 23.9**	**0.0**
BRBB				Pg	**Pb**	**01 07 25.3**	**+0.4**
BRBB				Lg	Lg	01 07 43.7	
BRBB	**Barentsburg B**	**1.52 324**		*e*P	**Pn**	**01 07 23.8**	**0.0**
BRBB				*e*Pg	**Pb**	**01 07 25.1**	**+0.2**
BRBB				*e*Sg	**Sn**	**01 07 44.3**	**+0.8**
HOPEN	**Hopen**	**1.55 102**		Pn	**Pn**	**01 07 24.6**	**+0.3**
HOPEN				Sn	**Sn**	**01 07 44.5**	**+0.1**
HOPEN				Lg	Lg	01 07 47.9	
HOPEN	**Hopen**	**1.55 102**		*e*P	**Pn**	**01 07 24.7**	**+0.4**
HOPEN				*e*S	**Sn**	**01 07 44.2**	**-0.2**
HOPEN				*e*Sg	**Sb**	**01 07 47.2**	**+2.1**
HOPEN				IAML		01 07 49.3	
	comp=Z,85nm,0.3s						
HOPEN	**Hopen**	**1.55 102**		*e*P	**Pn**	**01 07 24.4**	**+0.1**
HOPEN				*e*S	**Sn**	**01 07 43.9**	**-0.4**
BJO1	**Bjornoya**	**2.43 177**		*e*Pg	**Pb**	**01 07 40.0**	**-0.4**
BJO1				*e*Sg	**Sb**	**01 08 09.3**	**-0.9**
BJO1				IAML		01 08 19.4	
	comp=Z,23nm,0.4s						
BJO1	**Bjornoya**	**2.43 177**		*e*P	**Pg**	**01 07 43.3**	**0.0**
BJO1				*e*S	**Sb**	**01 08 12.4**	**+2.1**
KBS	**Kingsbay**	**2.45 329**		Pn	**Pn**	**01 07 36.0**	**-0.7**
KBS				Pg	**Pb**	**01 07 42.2**	**+1.3**
KBS				Lg	Lg	01 08 12.7	
KBS	**Kingsbay**	**2.45 329**		*e*P	**Pn**	**01 07 36.0**	**-0.7**
KBS				*e*Pg	**Pb**	**01 07 41.9**	**+1.1**
KBS				*e*S	**Sn**	**01 08 04.8**	**-1.9**
KBS				*e*Sg	**Sb**	**01 08 12.7**	**+1.7**
KBS				IAML		01 08 20.5	
	comp=Z,63nm,0.5s						
KBS	**Kingsbay**	**2.45 329**		*e*P	**Pn**	**01 07 35.6**	**-1.1**
KBS				*e*S	**Sn**	**01 08 04.7**	**-1.9**
ZFI	**Zemlya Franca-**	**6.77**	**42**	*e*P	**Pn**	**01 08 36.5**	**+0.6**
ZFI				*e*S	**Sn**	**01 09 47.2**	**-5.6**
	comp=Z,15nm,2.0s						
ARA0	**ARCESS Array S**	**7.68 161**		Sn	Sn	01 10 06.5	-8.7
	baz=1.5,slow=22						
ARA0	**ARCESS Array S**	**7.68 161**		Sn	Sn	01 10 06.5	-8.7
	baz=1.5,slow=22						

IDC 12 01:14:33.4±1.9, 3°.79N×126°.93E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.1/40, mbtmp3.5/3, Error ellipse: s-maj=155.8km s-min=26.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.68 163**		P	P	01 19 55.4	-0.9
	136nm,0.7s,baz=343,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**28.12 166**		P	P	01 20 28.5	+1.2
	0.1nm,0.3s,baz=345,slow=10,SNR=2.7						
STKA	**Stephens Creek**	**38.11 160**		P	P	01 21 53.9	-0.4
	1.1nm,0.7s,baz=320,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**57.62 325**		P	P	01 24 25.2	-0.1
	0.2nm,0.4s,baz=115,slow=7.8,SNR=5.9						

*IDC **12** 01:15:37.0±2.7, 4°.00S×85°.60W, h0km, mb3.5/7, mb1 3.9/8, mb1mx3.7/41, mbtmp3.6/8, ML3.8/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/35, Error ellipse: s-maj=127.0km s-min=19.9km az=41.0*

ISC 12 01:15:41.8±2.0, 4°.1S±0°.5×85°.7W±0°.3, h35km, n12, σ0s55/10, mb3.4/7, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**7.84 113**		Pn	**Pn**	**01 17 34.1**	**+0.2**
	1.4nm,0.3s,baz=286,slow=16,SNR=17						
ATAH				Sn	**Sn**	**01 19 01.7**	**0.0**
	baz=95,slow=12,SNR=1.1						
LPAZ	**La Paz**	**21.05 126**		P	**P**	**01 20 23.9**	**+0.2**
	3.1nm,1.0s,baz=295,slow=11,SNR=6.1						
SIV	**San Ignacio**	**26.90 118**		LR	LR	01 31 02.3	
	comp=Z,133nm,18.1s,baz=66,slow=34						
H03N2	**Juan Fernandez**	**29.84 169**		T	T	01 52 38.4	
	baz=347,slow=76,SNR=13						
H03N1	**Juan Fernandez**	**29.84 169**		T	T	01 52 40.3	
	baz=347,slow=76,SNR=15						
H03N3	**Juan Fernandez**	**29.85 169**		T	T	01 52 43.3	
	baz=347,slow=76,SNR=14						
TXAR	**Lajitas Array**	**37.48 334**		P	**P**	**01 22 53.5**	**+1.1**
	0.1nm,0.4s,baz=149,slow=7.4,SNR=1.7						
PDAR	**Pinedale Array**	**51.44 338**		P	**P**	**01 24 43.8**	**-0.1**
	0.7nm,0.7s,baz=134,slow=7.6,SNR=8.1						
PDAR				PcP	**PcP**	**01 25 58.0**	**0.0**
	0.4nm,0.6s,baz=128,slow=3.8,SNR=4.1						
NVAR	**Mina Array Bea**	**52.01 328**		P	**P**	**01 24 48.2**	**0.0**
	0.1nm,0.3s,baz=133,slow=6.3,SNR=2.0						
YKA	**Yellowknife Ar**	**70.00 346**		P	**P**	**01 26 49.2**	**-0.4**
	0.3nm,0.8s,baz=151,slow=5.7,SNR=6.0						
ILAR	**Eielson Array**	**81.88 338**		P	**P**	**01 27 56.7**	**-0.6**
	0.2nm,0.7s,baz=122,slow=4.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**88.38 77**		P	**P**	**01 28 30.5**	**-0.5**
	0.3nm,0.7s,baz=287,slow=5.9,SNR=2.0						

IDC 12 01:22:34.7±3.1, 49°.94S×122°.69E, h0km, mb4.1/4, mb1 4.4/4, mb1mx4.0/37, mbtmp4.2/4, MS3.8/8, Ms1 3.7/8, ms1mx3.2/48, Error ellipse: s-maj=78.8km s-min=51.8km az=150.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.29 334**		T	T	01 42 57.1	
	baz=158,slow=74,SNR=10.0						
H01W2	**Cape Leeuwin H**	**16.29 334**		T	T	01 42 56.3	
	baz=158,slow=74,SNR=7.8						
H01W3	**Cape Leeuwin H**	**16.30 334**		T	T	01 43 02.3	
	baz=158,slow=74,SNR=9.1						
STKA	**Stephens Creek**	**22.90**	**45**	P	P	01 27 39.1	-0.9
	1.7nm,0.8s,baz=173,slow=11,SNR=4.8						
STKA				LR	LR	01 34 46.0	
	comp=Z,87nm,22.0s,baz=206,slow=32						
ASAR	**Alice Springs**	**27.65**	**23**	P	P	01 28 24.2	+0.1
	0.9nm,1.0s,baz=201,slow=9.4,SNR=7.1						
ASAR				LR	LR	01 38 12.9	
	comp=Z,238nm,20.7s,baz=205,slow=34						
WRA	**Warramunga Arr**	**31.34**	**21**	P	P	01 28 57.9	+1.0
	17nm,1.0s,baz=197,slow=10,SNR=1.4						
VNDA	**Vanda**	**31.36 165**		LR	LR	01 40 07.2	
	comp=Z,167nm,21.1s,baz=305,slow=34						
QSPA	**South Pole Qui**	**40.18 180**		LR	LR	01 45 59.8	
	comp=Z,139nm,19.3s,baz=357,slow=35						
LEM	**Lembang**	**44.79 338**		LR	LR	01 47 35.3	
	comp=Z,138nm,21.9s,baz=38,slow=34						
JAY	**Jayapura**	**49.67**	**24**	LR	LR	01 53 03.3	
	comp=Z,62nm,19.4s,baz=292,slow=37						
SNAA	**Sanae**	**52.76 199**		LR	LR	01 53 11.0	
	comp=Z,150nm,18.1s,baz=162,slow=35						
CMAR	**Chiang Mai Arr**	**71.27 336**		P	P	01 33 55.3	-0.4
	1.7nm,0.4s,baz=185,slow=5.1,SNR=2.4						
MATP	**Matopo**	**77.26 254**		LR	LR	02 03 51.1	
	comp=Z,51nm,19.8s,baz=312,slow=32						
YKA	**Yellowknife Ar**	**146.94**	**46**	PKPbc	PKPbc	01 42 17.2	-0.6
	0.5nm,0.7s,baz=264,slow=3.0,SNR=8.9						

*IDC **12** 01:23:17.6±0.9, 58°.73N×31°.30W, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/49, mbtmp3.7/10, ML3.9/2, MS3.5/5, Ms1 3.5/5, ms1mx2.9/86, Error ellipse: s-maj=25.7km s-min=18.4km az=44.0*
*NEIC **12** 01:23:20.4±0.6, 58°.9N±0°.1×31°.6W±0°.1, h10km±2km, mb4.7/8, Error ellipse: s-maj=19.5km s-min=6.7km az=209.0*

ISC 12 01:23:19.3±0.6, 58°.77N±0°.09×31°.50W±0°.07, h10km, n27, σ1s29/25, mb3.8/12, MS3.3/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.69**	**35**	Pn	**Pn**	**01 25 11.0**	**0.0**
	2.4nm,0.3s,baz=185,slow=5.9,SNR=13						
BORG				Sn	**Sn**	**01 26 38.4**	**+0.3**
	baz=311,slow=3.2,SNR=1.6						
BORG	**Borgarnes**	**7.69**	**35**		**Pn**	**01 25 11.3**	**+0.3**
BORG					**Sn**	**01 26 36.5**	**-1.6**
SFJD	**Kangerlussuaq**	**11.95 322**		Pn	**Pn**	**01 26 08.9**	**-0.4**
	0.6nm,0.3s,baz=2.0,slow=16,SNR=2.1						
SFJD	**Kangerlussuaq**	**11.95 322**		Pn	**Pn**	**01 26 08.7**	**-0.6**
EKA	**Eskdalemuir Ar**	**15.74**	**90**	Pn	**Pn**	**01 27 02.4**	**+1.6**
	baz=308,slow=8.9,SNR=5.0						
FRB	**Frobisher Bay**	**18.30 301**		LR	LR	01 33 16.2	
	comp=Z,124nm,18.7s,baz=46,slow=32						
SCHQ	**Schefferville**	**19.59 274**		P	**P**	**01 27 44.2**	**-3.1**
	0.1nm,0.3s,baz=271,slow=8.7,SNR=1.2						
SCHQ	**Schefferville**	**19.59 274**		P	**P**	**01 27 46.7**	**-0.5**
NBO00	**NORSAR Array S**	**21.05**	**66**	P	**P**	**01 28 03.6**	**+0.5**
NBO00				IAmb	IAmb	01 28 11.7	
	comp=Z,41nm,1.5s						
ESBB	**Sonseca Array**	**25.93 125**		P	**P**	**01 28 53.1**	**+1.6**
ESBB				IAmb	IAmb	01 29 07.6	
	comp=Z,31nm,1.8s						
ESDC	**Sonseca Array**	**25.93 125**		P	**P**	**01 28 51.8**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=327,slow=9.0,SNR=6.1						
GRA1	**Grafenberg Arr**	**26.15**	**91**	P	**P**	**01 28 54.6**	**+1.2**
GRA1				IAmb	IAmb	01 29 11.1	
	comp=Z,48nm,1.8s						
GRFO	**Grafenberg**	**26.15**	**91**	P	**P**	**01 28 54.5**	**+1.1**
DAVOX	**Davos/Dischmat**	**27.29**	**98**	LR	LR	01 39 01.8	
	comp=Z,69nm,18.9s,baz=262,slow=35						
GERES	**GERESS Array B**	**27.96**	**91**	LR	LR	01 39 52.8	
	comp=Z,78nm,19.8s,baz=282,slow=36						
OJC	**Ojcow**	**30.30**	**84**	P	**P**	**01 29 31.1**	**+0.8**
OJC				IAmb	IAmb	01 29 48.0	
	comp=Z,22nm,2.0s						
SADO	**Sadowa**	**31.88 265**		LR	LR	01 42 35.6	
	comp=Z,154nm,18.1s,baz=5.5,slow=36						
AKASG	**Malin Array Be**	**34.84**	**76**	P	**P**	**01 30 08.5**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=306,slow=8.1,SNR=2.2						
L46A	**Eue Claire**	**37.53 268**		P	**P**	**01 30 34.0**	**+0.9**
YKA	**Yellowknife Ar**	**38.27 312**		P	**P**	**01 30 40.5**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=58,slow=9.1,SNR=7.1						
YKA				PcP	**PcP**	**01 32 52.9**	**0.0**
	comp=Z,0.2nm,0.7s,baz=48,slow=2.8,SNR=5.0						
JFWS	**Jewell Farm**	**38.95 273**		P	**P**	**01 30 47.2**	**+2.1**
KIRV	**Kirov**	**39.63**	**54**	LR	LR	01 46 51.8	
	comp=Z,42nm,19.2s,baz=312,slow=36						
PDAR	**Pinedale Array**	**48.94 287**		P	**P**	**01 32 06.2**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=54,slow=6.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**51.86 137**		P	**P**	**01 32 26.0**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=330,slow=8.3,SNR=13						
DBIC	**Dimbokro**	**55.87 147**		P	**P**	**01 32 55.5**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=2.3,slow=18,SNR=1.6						
MKAR	**Makanchi Array**	**61.59**	**46**	P	**P**	**01 33 36.0**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=323,slow=5.1,SNR=3.2						
SONM	**Songino Array**	**68.26**	**29**	P	**P**	**01 34 19.4**	**-0.5**
	comp=Z,1.0nm,1.1s,baz=289,slow=4.4,SNR=5.5						

*IDC **12** 01:27:14.4±1.2, 3°.38N×125°.96E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/37, mbtmp3.5/4, MS3.2/2, Ms1 3.2/2, ms1mx2.5/45, Error ellipse: s-maj=139.6km s-min=21.7km az=68.0*

ISC 12 01:27:15.5±1.5, 3°.7N±0°.5×12°.7E±°, h10km, n7, σ0s77/6, mb3.7/4, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.62 336**		⇑*e*P	**Pb**	**01 28 19.1**	**-0.5**
GUMO	**Guam**	**20.54**	**60**	LR	LR	01 38 10.4	
	comp=Z,44nm,20.9s,baz=136,slow=31						
WRA	**Warramunga Arr**	**24.69 162**		P	**P**	**01 32 36.0**	**-1.0**
	1.2nm,0.7s,baz=338,slow=11,SNR=13						
ASAR	**Alice Springs**	**28.12 166**		P	**P**	**01 33 08.3**	**+0.4**
	0.1nm,0.5s,baz=349,slow=7.2,SNR=2.2						
SONM	**Songino Array**	**47.29 342**		P	**P**	**01 35 49.8**	**+0.5**
	0.4nm,0.6s,baz=156,slow=9.4,SNR=4.3						
SONM				PcP	**PcP**	**01 37 20.4**	**0.0**
	0.5nm,0.8s,baz=161,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**57.51 325**		P	**P**	**01 37 05.4**	**+0.3**
	0.5nm,0.6s,baz=114,slow=7.7,SNR=11						
OPO	**Ambohidratompo**	**81.16 251**		LR	LR	02 12 20.3	
	comp=Z,20nm,18.4s,baz=248,slow=34						

*IDC **12** 01:30:52.7±1.4, 3°.54N×126°.65E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/38, mbtmp3.5/6, MS3.4/1, Ms1 3.3/1, ms1mx2.4/44, Error ellipse: s-maj=106.9km s-min=20.3km az=71.0*

ISC 12 01:30:54.2±1.3, 3°.6N±0°.2×126°.7E±0°.7, h10km, n6, σ0s61/6, mb3.6/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.55 183**		P	**P**	**01 35 44.3**	**+0.4**
	1.0nm,1.0s,baz=0.0,slow=13,SNR=1.6						
WRA	**Warramunga Arr**	**24.54 162**		P	**P**	**01 36 13.7**	**-0.6**
	1.5nm,0.9s,baz=341,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**27.96 166**		P	**P**	**01 36 45.4**	**+0.2**
	0.1nm,0.4s,baz=346,slow=11,SNR=1.8						
STKA	**Stephens Creek**	**37.99 159**		P	**P**	**01 38 12.4**	**0.0**
	1.0nm,0.4s,baz=315,slow=14,SNR=3.6						
STKA				LR	LR	01 54 10.1	
	comp=Z,58nm,20.6s,baz=26,slow=37						
SONM	**Songino Array**	**47.44 341**		P	**P**	**01 39 29.8**	**+0.6**
	0.3nm,0.5s,baz=155,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**57.67 325**		P	**P**	**01 40 44.4**	**-0.6**
	0.3nm,0.5s,baz=120,slow=7.1,SNR=5.4						

*IDC **12** 01:34:33.0±1.4, 34°.71N×24°.12E, h0km, mb3.7/5, mb1 3.6/7, mb1mx3.4/44, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=36.1km s-min=24.5km az=126.0*
*THE **12** 01:34:38.7, 34°.75N×23°.95E, h18km±1km, ML3.3/6, Error ellipse: s-maj=3.3km s-min=1.5km az=205.0*
*ATH **12** 01:34:38.3, 34°.75N×24°.00E, h22km±2km, ML3.4/6, Error ellipse: s-maj=3.2km s-min=1.9km az=199.0*
*DDA **12** 01:34:44.0±0.0, 34°.73N×24°.51E, h37km, ML3.3*

ISC 12 01:34:37.5±1.0, 34°.71N±0°.06×24°.06E±0°.04, h28km±5km, n42, σ1s49/60, mb3.7/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.13**	**10**	P	**Pb**	**01 34 42.4**	**-0.4**
GVD				S	**Sb**	**01 34 46.7**	**+0.4**
	25μm,0.2s						
GVD	**Gavdhos**	**0.13**	**10**	P	**Pb**	**01 34 42.3**	**-0.4**
GVD				S	**Sb**	**01 34 46.0**	**-0.3**
GVD				AML	AML	01 34 49.3	
	comp=E,41273μm,0.3s						
GVD				AML	AML	01 34 49.5	
	comp=N,60928μm,0.3s						
GVDS	**Gavdos**	**0.13**	**10**	P	**Pb**	**01 34 42.3**	**-0.5**
GVDS				S	**Sb**	**01 34 46.2**	**-0.2**
	comp=N,27μm,0.2s						
KNDR	**Palaiochora Ch**	**0.60 329**		P	**Pb**	**01 34 49.1**	**-0.5**
KNDR				S	**Sb**	**01 34 58.7**	**+0.9**
	comp=N,1μm,0.4s						
TMBK	**Timbaki Herakl**	**0.68**	**58**	P	**Pn**	**01 34 52.0**	**+0.7**
SIVA	**Sivas**	**0.69**	**64**	P	**Pn**	**01 34 52.3**	**+0.9**
SIVA	**Sivas**	**0.69**	**64**	P	**Pn**	**01 34 52.1**	**+0.7**
SIVA				S	**Sn**	**01 35 01.3**	**+0.1**
SIVA				AML	AML	01 35 08.1	
	comp=N,9093μm,0.5s						
SIVA				AML	AML	01 35 08.4	
	comp=E,12130μm,0.7s						
VAM	**Vamos**	**0.70**	**9**	P	**Pb**	**01 34 50.5**	**-0.7**
VAM	**Vamos**	**0.70**	**9**	P	**Pb**	**01 34 50.5**	**-0.7**
VAM				S	**Sb**	**01 35 00.7**	**+0.1**
VAM				AML	AML	01 35 05.8	
	comp=E,9869μm,0.7s						
VAM				AML	AML	01 35 06.0	
	comp=N,5288μm,0.6s						
PRNS	**Prines Rethymn**	**0.74**	**29**	P	**Pb**	**01 34 51.0**	**-0.9**
PRNS				S	**Sb**	**01 35 02.0**	**+0.3**
	comp=N,970nm,0.4s						
IMMV	**Iera Moni Meta**	**0.75 355**		P	**Pb**	**01 34 51.1**	**-0.9**
IMMV				S	**Sn**	**01 35 03.1**	**+0.3**
	comp=N,5μm,0.3s						
IMMV	**Iera Moni Meta**	**0.75 355**		P	**Pb**	**01 34 51.1**	**-0.9**
IMMV				S	**Sb**	**01 35 01.6**	**-0.3**
IMMV				AML	AML	01 35 05.3	
	comp=E,8987μm,0.3s						
IMMV				AML	AML	01 35 07.2	
	comp=N,8970μm,0.4s						
IDI	**Anoyia**	**0.89**	**50**	LR	LR	01 35 15.5	
	comp=N,26nm,19.5s,baz=270,slow=50						
IDI	**Anoyia**	**0.89**	**50**	P	**Pn**	**01 34 56.0**	**+1.7**
IDI				S	**Sn**	**01 35 09.6**	**+3.3**

comp=N,0.7nm,0.6s,baz=35,slow=8.6,SNR=8.5
MKAR Makanchi Array 44.77 56 P **P 01 42 47.7 -0.9**
comp=N,0.3nm,0.3s,baz=269,slow=8.3,SNR=8.6
ZALV Zalesovo Beam 45.96 46 P **P 01 42 57.2 -0.7**
comp=N,0.4nm,0.4s,baz=269,slow=8.7,SNR=3.0

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*IDC **12** 01:36:43.2±2.0, 9°.91S×121°.13E, h0km, mb3.4/2, mb1 3.5/6, mb1mx3.3/43, mbtmp3.5/6, ML3.6/3, MS3.2/7, Ms1 3.2/7, ms1mx2.9/36, Error ellipse: s-maj=57.2km s-min=20.9km az=40.0*
*DJA **12** 01:36:45.1±0.3, 9°S±3°×12°2E±°, h10km, M3.6/10, MLv3.6/10*
ISC 12 01:36:44.5±0.8, 8°.75S±0°.06×122°.33E±0°.05, h10km, n19, σ2°.75/16, MS3.2/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.14**	**321**	P	**Pg**	**01 36 47.6**	**-0.2**
MMRI				S	**Sg**	**01 36 51.4**	**+1.3**
EDFI	**Ende, Flores**	**0.63**	**270**	P	**Pg**	**01 36 56.7**	**-0.1**
EDFI				S	**Sg**	**01 37 06.0**	**+0.9**
BATI	**Baumata**	**1.96**	**138**	Pn	**Pg**	**01 37 25.8**	**+3.6**
	18nm,0.3s,baz=201,slow=1.9,SNR=13						
BATI				Sn	Sg	01 37 58.9	+11
	15nm,0.3s,baz=73,slow=23,SNR=1.8						
BATI				LR	LR	01 38 29.3	
	comp=Z,491nm,19.7s,baz=112,slow=42						
BATI	**Baumata**	**1.96**	**138**	P	**Pn**	**01 37 17.4**	**-0.5**
SOEI	**Soe**	**2.16**	**118**	P	**Pn**	**01 37 20.5**	**-0.2**
BASI	**Baing, Sumba**	**2.26**	**230**	P	**Pn**	**01 37 24.2**	**+2.2**
WBSI	**Waikabubak, Su**	**3.03**	**253**	P	**Pn**	**01 37 32.9**	**+0.2**
BSSI	**Bau Bau, Buton**	**3.17**	**325**	P	**Pn**	**01 37 35.0**	**+0.5**
BKSI	**Bulukumba**	**4.05**	**327**	P	**Pn**	**01 37 49.4**	**+2.8**
KAPI	**Kappang**	**4.51**	**325**	Pn	**Pb**	**01 38 01.0**	**-2.7**
	2.0nm,0.3s,baz=172,slow=15,SNR=6.6						
KAPI				LR	LR	01 40 35.3	
	comp=Z,307nm,18.3s,baz=158,slow=46						
DAV	**Davao City (W)**	**16.04**	**12**	LR	LR	01 48 50.9	
	comp=Z,38nm,21.2s,baz=171,slow=42						
WRA	**Warramunga Arr**	**16.09**	**135**	Pn	**Pn**	**01 40 30.2**	**-0.8**
	0.2nm,0.3s,baz=311,slow=14,SNR=11						
ASAR	**Alice Springs**	**18.52**	**145**	P	**P**	**01 41 00.2**	**-1.0**
	baz=320,slow=12,SNR=2.7						
ASAR				S	**Sn**	**01 44 21.3**	**-7.2**
	0.1nm,0.3s,baz=36,slow=42,SNR=2.3						
PMG	**Port Moresby**	**24.53**	**93**	LR	LR	01 53 50.2	
	comp=Z,107nm,18.3s,baz=232,slow=40						
CMAR	**Chiang Mai Arr**	**35.54**	**320**	LR	LR	01 58 58.9	
	comp=Z,24nm,18.5s,baz=215,slow=37						
KSRS	**Korea Array**	**46.26**	**6**	LR	LR	02 06 07.2	
	comp=Z,9.1nm,20.0s,baz=190,slow=37						
SONM	**Songino Array**	**58.08**	**347**	P	P	01 46 44.5	+6.4
	0.2nm,0.5s,baz=176,slow=6.7,SNR=2.1						
MKAR	**Makanchi Array**	**65.78**	**331**	P	**P**	**01 47 32.7**	**+2.9**
	0.3nm,0.6s,baz=142,slow=6.7,SNR=5.2						
MAW	**Mawson**	**70.61**	**200**	LR	LR	02 16 54.4	
	comp=Z,39nm,18.1s,baz=65,slow=35						

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*IDC **12** 01:47:40.6±1.2, 39°.11S×174°.30E, h0km, mb3.8/1, mb1 4.0/2, mb1mx3.4/22, mbtmp3.9/2, ML3.9/1, MS2.5/1, Ms1 2.5/1, ms1mx2.4/46, Error ellipse: s-maj=60.6km s-min=22.3km az=173.0*
*NOU **12** 01:47:41.0, 40°.25S×174°.91E, h122km, MLv4.5/9, Cook Strait, New Zealand*
*NEIC **12** 01:47:43.5±1.9, 40°.23S±0°.03×174°.89E±0°.06, h56km±4km, mb4.4/9, Error ellipse: s-maj=6.2km s-min=4.7km az=94.0*
*WEL **12** 01:47:43.8±0.2, 40°S±2°×17°5E±°, h39km±6km, M4.1/81, ML4.4/83, MLv4.1/81, Error ellipse: s-maj=0.0km s-min=0.0km az=102.6*
ISC 12 01:47:43.3±0.7, 40°.23S±0°.03×174°.92E±0°.03, h61km±6km, n183, σ1°19/192, mb4.3/7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.31**	**86**	P	**Pn**	**01 47 53.2**	**-0.3**
OHWZ				S	**Sn**	**01 48 01.3**	**+0.3**
WAZ	**Wanganui**	**0.48**	**7**	P	**Pn**	**01 47 54.6**	**-0.5**
OGWZ	**Otaki Gorge**	**0.62**	**162**	P	**Pn**	**01 47 57.0**	**+0.4**
OGWZ				S	**Sn**	**01 48 07.3**	**+0.9**
KIW	**Kapiti Island**	**0.63**	**180**	P	**Pn**	**01 47 57.1**	**+0.3**
KIW				S	**Sn**	**01 48 06.6**	**-0.1**
MRZ	**Mangatainoka R**	**0.67**	**131**	P	**Pn**	**01 47 57.2**	**0.0**
POWZ	**Post Office Ro**	**0.67**	**104**	P	**Pn**	**01 47 57.1**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.81**	**146**	P	**Pn**	**01 47 59.2**	**+0.2**
TSZ	**Takapari Road**	**0.82**	**78**	P	**Pn**	**01 47 59.0**	**-0.1**
LREZ	**Lake Rotokare**	**0.86**	**333**	P	**Pn**	**01 47 59.8**	**+0.2**
PRWZ	**Pori Road**	**0.87**	**112**	P	**Pn**	**01 47 59.7**	**0.0**
CAW	**Cannon Point**	**0.89**	**173**	P	**Pn**	**01 48 00.8**	**+0.9**
TIWZ	**Tintock**	**0.92**	**127**	P	**Pn**	**01 48 01.0**	**+0.6**
MTVZ	**Mangateitei**	**0.94**	**27**	P	**Pn**	**01 48 00.1**	**-0.6**
DUWZ	**D'Urville Isla**	**0.95**	**233**	P	**Pn**	**01 48 01.1**	**+0.4**
DVHZ	**Dannevirke**	**0.96**	**95**	P	**Pn**	**01 48 00.2**	**-0.7**
PKVZ	**Pokaka**	**0.99**	**20**	P	**Pn**	**01 48 00.3**	**-1.1**
MTW	**Mount Morrison**	**1.03**	**155**	P	**Pn**	**01 48 02.3**	**+0.5**
PNHZ	**Pukenui**	**1.03**	**73**	P	**Pn**	**01 48 01.5**	**-0.3**
WNVZ	**Wahianoa**	**1.04**	**31**	P	**Pn**	**01 48 01.3**	**-0.8**
MOVZ	**Moawhango**	**1.04**	**38**	P	**Pn**	**01 48 01.1**	**-0.9**
TRVZ	**Turoa**	**1.05**	**28**	P	**Pn**	**01 48 01.3**	**-0.9**
PRZ	**Palmer Road**	**1.06**	**326**	P	**Pn**	**01 48 02.7**	**+0.6**
WEL	**Wellington**	**1.06**	**186**	P	**Pn**	**01 48 02.9**	**+0.8**
DRZ	**Dome Shelter**	**1.07**	**28**	P	**Pn**	**01 48 02.1**	**-0.5**
WHVZ	**Whangaehu Hut**	**1.08**	**29**	P	**Pn**	**01 48 02.0**	**-0.6**
FWVZ	**Far West T-bar**	**1.09**	**27**	P	**Pn**	**01 48 02.0**	**-0.8**
SNZO	**South Karori**	**1.09**	**188**		**Pn**	**01 48 03.0**	**+0.5**
SNZO				Sn	**Sn**	**01 48 17.1**	**+0.3**
SNZO	**South Karori**	**1.09**	**188**	P	**Pn**	**01 48 03.7**	**+1.2**
TCW	**Tory Channel**	**1.09**	**206**	P	**Pn**	**01 48 03.5**	**+0.9**
VRZ	**Vera Road**	**1.11**	**354**	P	**Pn**	**01 48 02.4**	**-0.4**
BFZ	**Birch Farm**	**1.11**	**114**	P	**Pn**	**01 48 02.0**	**-0.7**
BFZ	**Birch Farm**	**1.11**	**114**	Pn	**Pn**	**01 48 02.1**	**-0.7**
BFZ				Sn	**Sn**	**01 48 18.5**	**+1.2**
BFZ	**Birch Farm**	**1.11**	**114**	P	**Pn**	**01 48 04.2**	**+1.4**
TUVZ	**Tukino**	**1.11**	**31**	P	**Pn**	**01 48 02.7**	**-0.3**
NMEZ	**Namu Road**	**1.14**	**315**	P	**Pn**	**01 48 03.9**	**+0.7**
NEZ	**North Egmont**	**1.15**	**326**	P	**Pn**	**01 48 03.8**	**+0.5**
TMWZ	**Te Maipa**	**1.15**	**140**	P	**Pn**	**01 48 03.7**	**+0.3**
BHHZ	**Black Hill Sta**	**1.15**	**51**	P	**Pn**	**01 48 02.6**	**-0.8**
KHEZ	**Kahui Hut**	**1.16**	**323**	P	**Pn**	**01 48 04.1**	**+0.5**
DREZ	**Durham Road**	**1.18**	**332**	P	**Pn**	**01 48 04.2**	**+0.6**
NGZ	**Ngauruhoe**	**1.18**	**27**	P	**Pn**	**01 48 03.2**	**-0.6**
BHW	**Baring Head**	**1.18**	**182**	P	**Pn**	**01 48 04.3**	**+0.5**
BHW	**Baring Head**	**1.18**	**182**	Pn	**Pn**	**01 48 04.2**	**+0.5**
SNVZ	**South Ngauruho**	**1.18**	**28**	P	**Pn**	**01 48 03.6**	**-0.3**
WPHZ	**Waipukurau**	**1.18**	**83**	P	**Pn**	**01 48 03.4**	**-0.3**
CPWZ	**Castlepoint**	**1.19**	**125**	P	**Pn**	**01 48 05.1**	**+1.3**
OTVZ	**Oturere**	**1.21**	**29**	P	**Pn**	**01 48 03.8**	**-0.4**
ANWZ	**Angora Road**	**1.21**	**101**	P	**Pn**	**01 48 04.5**	**+0.3**
MSWZ	**Moikau Station**	**1.21**	**168**	P	**Pn**	**01 48 05.3**	**+1.1**
MSWZ	**Moikau Station**	**1.21**	**168**		**Pn**	**01 48 04.4**	**+0.2**
PAWZ	**Paruwai Farm**	**1.22**	**162**	P	**Pn**	**01 48 05.1**	**+0.8**
NNVZ	**North Ngauruho**	**1.22**	**26**	P	**Pn**	**01 48 03.4**	**-1.0**
TWVZ	**Taurewa**	**1.22**	**19**	P	**Pn**	**01 48 03.0**	**-1.4**
WTVZ	**West Tongariro**	**1.23**	**25**	P	**Pn**	**01 48 03.3**	**-1.1**
ETVZ	**East Tongariro**	**1.25**	**30**	P	**Pn**	**01 48 04.5**	**-0.3**
NBEZ	**Newall Road No**	**1.25**	**320**	P	**Pn**	**01 48 05.2**	**+0.5**
PKE	**Pukeiti**	**1.26**	**325**	P	**Pn**	**01 48 05.2**	**+0.4**
KRHZ	**Kereru**	**1.26**	**63**	P	**Pn**	**01 48 04.9**	**+0.1**
KRVZ	**Karewarewa**	**1.26**	**27**	P	**Pn**	**01 48 04.1**	**-0.8**
TMVZ	**Te Maari**	**1.27**	**29**	P	**Pn**	**01 48 04.3**	**-0.6**
NTVZ	**North Tongarir**	**1.27**	**28**	P	**Pn**	**01 48 04.5**	**-0.5**
TRWZ	**Traveller**	**1.31**	**154**	P	**Pn**	**01 48 06.0**	**+0.6**
PRHZ	**Porangahau**	**1.32**	**92**	P	**Pn**	**01 48 05.1**	**-0.4**
PLWZ	**Palliser**	**1.36**	**169**	P	**Pn**	**01 48 06.2**	**0.0**
PLWZ	**Palliser**	**1.36**	**169**	Pn	**Pn**	**01 48 06.3**	**0.0**
KATZ	**Kakaramea**	**1.39**	**26**	P	**Pn**	**01 48 06.7**	**+0.1**
TUWZ	**Tuamarina**	**1.41**	**211**	P	**Pn**	**01 48 07.6**	**+0.8**
TUWZ	**Tuamarina**	**1.41**	**211**		**Pn**	**01 48 06.9**	**+0.2**
KWHZ	**Kaweka Forest**	**1.41**	**56**	P	**Pn**	**01 48 07.2**	**+0.3**
RITZ	**Rihia Road**	**1.45**	**31**	P	**Pn**	**01 48 07.9**	**+0.6**
PXZ	**Pawanui**	**1.51**	**83**	P	**Pn**	**01 48 11.1**	**+3.1**
RATZ	**Rangitukua**	**1.51**	**26**	P	**Pn**	**01 48 08.4**	**+0.2**
NNZ	**Nelson**	**1.53**	**229**	P	**Pn**	**01 48 08.9**	**+0.6**
NNZ	**Nelson**	**1.53**	**229**		**Pn**	**01 48 08.5**	**+0.1**
KAHZ	**Kahuranaki**	**1.57**	**75**	P	**Pn**	**01 48 08.2**	**-0.7**
MCHZ	**McNeill Hill**	**1.58**	**61**	P	**Pn**	**01 48 09.0**	**0.0**
CMWZ	**Cape Campbell**	**1.61**	**199**	P	**Pn**	**01 48 10.6**	**+1.2**
CMWZ	**Cape Campbell**	**1.61**	**199**		**Pn**	**01 48 10.3**	**+0.9**
BKZ	**Black Stump Fm**	**1.61**	**49**	Pn	**Pn**	**01 48 09.1**	**-0.5**
BKZ				Sn	**Sn**	**01 48 32.5**	**+3.1**
BKZ	**Black Stump Fm**	**1.61**	**49**	P	**Pn**	**01 48 10.4**	**+0.8**
HATZ	**Hinemaiaia**	**1.62**	**35**	P	**Pn**	**01 48 09.4**	**-0.2**
WATZ	**Wairara**	**1.65**	**23**	P	**Pn**	**01 48 10.4**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.68**	**208**	P	**Pn**	**01 48 10.9**	**+0.5**
BSWZ	**Blackbirch Sta**	**1.68**	**208**		**Pn**	**01 48 10.8**	**+0.3**
HIZ	**Hauiti**	**1.71**	**358**	P	**Pn**	**01 48 10.8**	**-0.1**
HIZ	**Hauiti**	**1.71**	**358**		**Pn**	**01 48 10.6**	**-0.2**
HIZ					**Sn**	**01 48 31.2**	**-0.5**
HIZ	**Hauiti**	**1.71**	**358**	P	**Pn**	**01 48 10.9**	**0.0**
WHTZ	**Whakaora**	**1.76**	**28**	P	**Pn**	**01 48 12.5**	**+1.0**
CKHZ	**Cape Kidnapper**	**1.76**	**72**	P	**Pn**	**01 48 10.9**	**-0.5**
MRHZ	**Matea Rd**	**1.81**	**40**	P	**Pn**	**01 48 10.6**	**-1.7**
NMHZ	**Naumai**	**1.85**	**53**	P	**Pn**	**01 48 12.3**	**-0.5**
ARHZ	**Aropaoanui**	**1.87**	**60**	P	**Pn**	**01 48 12.7**	**-0.2**
KUTZ	**Kaahu Road**	**1.87**	**22**	P	**Pn**	**01 48 13.9**	**+0.8**
QRZ	**Quartz Range**	**1.91**	**251**	P	**Pn**	**01 48 13.8**	**+0.2**
QRZ	**Quartz Range**	**1.91**	**251**		**Pn**	**01 48 13.3**	**-0.3**
QRZ	**Quartz Range**	**1.91**	**251**	P	**Pn**	**01 48 14.0**	**+0.4**
TLZ	**Tolley Road**	**1.96**	**14**	P	**Pn**	**01 48 13.6**	**-0.6**
WPRZ	**Whakapapatarin**	**1.96**	**30**	P	**Pn**	**01 48 14.4**	**+0.2**
ALRZ	**Allen Road**	**2.00**	**34**	P	**Pn**	**01 48 14.6**	**-0.1**
MTHZ	**Maungataniwha**	**2.03**	**48**	P	**Pn**	**01 48 14.2**	**-1.0**
PRRZ	**Plateau Road**	**2.07**	**34**	P	**Pn**	**01 48 15.8**	**+0.1**
GRRZ	**Galatos Road**	**2.09**	**27**	P	**Pn**	**01 48 19.5**	**+3.4**
HRRZ	**Handcock Road**	**2.12**	**30**	P	**Pn**	**01 48 17.5**	**+1.1**
RAHZ	**Arahi**	**2.13**	**53**	P	**Pn**	**01 48 16.0**	**-0.5**
THZ	**Tophouse**	**2.16**	**224**	P	**Pn**	**01 48 17.4**	**+0.5**
THZ	**Tophouse**	**2.16**	**224**	Pn	**Pn**	**01 48 17.2**	**+0.2**
HSRZ	**Hossack Road**	**2.17**	**29**	P	**Pn**	**01 48 17.5**	**+0.4**
RRRZ	**Republican Roa**	**2.26**	**34**	P	**Pn**	**01 48 19.7**	**+1.5**
MUGZ	**Murupara**	**2.26**	**40**	P	**Pn**	**01 48 17.1**	**-1.2**
HLRZ	**Highlands Stat**	**2.27**	**30**	P	**Pn**	**01 48 22.3**	**+3.9**
RTZ	**Ruatahuna**	**2.27**	**45**	P	**Pn**	**01 48 18.5**	**0.0**
NGRZ	**Ngongotaha**	**2.34**	**25**	P	**Pn**	**01 48 22.9**	**+3.5**
TARZ	**Mount Tarawera**	**2.34**	**32**	P	**Pn**	**01 48 20.6**	**+1.2**
SNGZ	**Shannon Statio**	**2.37**	**53**	P	**Pn**	**01 48 22.3**	**+2.5**
KHZ	**Kahutara**	**2.42**	**205**	P	**Pn**	**01 48 20.2**	**-0.2**
KHZ	**Kahutara**	**2.42**	**205**	Pn	**Pn**	**01 48 20.2**	**-0.2**
KHZ	**Kahutara**	**2.42**	**205**	P	**Pn**	**01 48 20.4**	**0.0**
KARZ	**Kaharoa**	**2.44**	**26**	P	**Pn**	**01 48 25.0**	**+4.3**
KNZ	**Kokohu**	**2.45**	**61**	P	**Pn**	**01 48 19.1**	**-1.7**
MHGZ	**Mahia Peninsul**	**2.55**	**66**	P	**Pn**	**01 48 20.6**	**-1.5**
EDRZ	**Edgecumbe**	**2.55**	**34**	P	**Pn**	**01 48 24.0**	**+1.8**
URZ	**Urewera**	**2.60**	**42**	Pn	**Pn**	**01 48 21.0**	**-1.9**
	28nm,0.3s,baz=241,slow=10,SNR=69						
URZ				Sn	**Sn**	**01 48 53.2**	**-0.1**
	75nm,0.3s,baz=256,slow=23,SNR=6.8						
URZ				LR	LR	01 49 35.8	
	comp=Z,112nm,20.1s,baz=214,slow=49						
URZ	**Urewera**	**2.60**	**42**	P	**Pn**	**01 48 21.0**	**-1.9**
URZ	**Urewera**	**2.60**	**42**	Pn	**Pn**	**01 48 23.2**	**+0.3**
URZ	**Urewera**	**2.60**	**42**	P	**Pn**	**01 48 23.0**	**+0.1**
PRGZ	**Paritu Road**	**2.64**	**61**	P	**Pn**	**01 48 21.5**	**-1.9**
OPRZ	**Ohinepanea**	**2.70**	**29**	P	**Pn**	**01 48 25.8**	**+1.5**
MWZ	**Matawai**	**2.77**	**48**	P	**Pn**	**01 48 23.4**	**-1.9**
TKGZ	**Te Karaka**	**2.89**	**53**	P	**Pn**	**01 48 27.1**	**+0.2**
GVZ	**Greta Valley S**	**3.08**	**207**	P	**Pn**	**01 48 28.5**	**-0.9**
CNGZ	**Carnagh Statio**	**3.09**	**57**	P	**Pn**	**01 48 29.1**	**-0.5**
RUGZ	**Raukumara Rang**	**3.12**	**44**	P	**Pn**	**01 48 27.8**	**-2.3**
TWGZ	**Tauwhareparae**	**3.14**	**50**	P	**Pn**	**01 48 28.7**	**-1.6**
AWAZ	**Awhitu Peninsu**	**3.17**	**356**	P	**Pn**	**01 48 30.8**	**+0.2**
LTZ	**Lake Taylor**	**3.23**	**217**	P	**Pn**	**01 48 30.7**	**-0.9**
LTZ	**Lake Taylor**	**3.23**	**217**	Pn	**Pn**	**01 48 30.7**	**-0.9**
ETAZ	**East Tamaki Re**	**3.27**	**0**	P	**Pn**	**01 48 32.3**	**+0.2**
WTAZ	**Waiatarua**	**3.30**	**355**	P	**Pn**	**01 48 33.3**	**+0.8**
EPAZ	**Eden Park BICE**	**3.35**	**358**	P	**Pn**	**01 48 34.2**	**+1.1**
PUZ	**Puketiti**	**3.37**	**51**	P	**Pn**	**01 48 31.6**	**-1.9**
HBAZ	**Herne Bay Bore**	**3.38**	**357**	P	**Pn**	**01 48 34.1**	**+0.6**
AMCZ	**Amberley**	**3.40**	**209**	P	**Pn**	**01 48 32.4**	**-1.4**
WIAZ	**Waiheke Island**	**3.43**	**3**	P	**Pn**	**01 48 34.3**	**0.0**
MBAZ	**Motutapu North**	**3.45**	**360**	P	**Pn**	**01 48 34.7**	**+0.1**
RVAZ	**Riverhead Bore**	**3.46**	**356**	P	**Pn**	**01 48 34.9**	**+0.2**
KUZ	**Kuaotunu**	**3.53**	**11**	P	**Pn**	**01 48 35.7**	**+0.1**
INZ	**Inchbonnie**	**3.61**	**225**	P	**Pn**	**01 48 35.9**	**-0.8**
ABAZ	**Army Bay**	**3.62**	**359**	P	**Pn**	**01 48 37.1**	**+0.3**
WMGZ	**Waiomatatini S**	**3.63**	**50**	P	**Pn**	**01 48 34.3**	**-2.7**
MXZ	**Matakaoa Point**	**3.75**	**46**	P	**Pn**	**01 48 41.0**	**+2.4**
OKCZ	**Okains Bay**	**3.76**	**201**	P	**Pn**	**01 48 37.3**	**-1.4**
OXZ	**Oxford**	**3.77**	**214**	P	**Pn**	**01 48 36.5**	**-2.4**
MQZ	**McQueen's Vall**	**3.86**	**205**	Pn	**Pn**	**01 48 37.5**	**-2.6**
GRZ	**Great Barrier**	**3.99**	**6**	P	**Pn**	**01 48 41.5**	**-0.4**
MHCZ	**Mount Hutt**	**4.14**	**216**	P	**Pn**	**01 48 42.2**	**-1.8**
WVZ	**Waitaha Valley**	**4.23**	**226**	P	**Pn**	**01 48 44.2**	**-1.0**
WCZ	**Waipu Caves**	**4.31**	**354**	P	**Pn**	**01 48 46.1**	**-0.1**
WACZ	**Wakanui South**	**4.36**	**211**	P	**Pn**	**01 48 45.0**	**-1.9**
RPZ	**Rata Peaks**	**4.52**	**218**	P	**Pn**	**01 48 47.4**	**-1.7**
RPZ	**Rata Peaks**	**4.52**	**218**	Pn	**Pn**	**01 48 47.1**	**-2.0**
RPZ	**Rata Peaks**	**4.52**	**218**	P	**Pn**	**01 48 46.8**	**-2.3**
GCSZ	**Gaunt Creek Bo**	**4.61**	**227**	P	**Pn**	**01 48 49.2**	**-1.3**
FOZ	**Fox Glacier**	**5.04**	**227**	Pn	**Pn**	**01 48 54.2**	**-2.0**
OUZ	**Omahuta**	**5.11**	**348**	P	**Pn**	**01 48 57.2**	**0.0**
OUZ	**Omahuta**	**5.11**	**348**		**Pn**	**01 48 57.0**	**-0.2**
LBZ	**Lake Benmore**	**5.44**	**219**	P	**Pn**	**01 49 00.1**	**-1.6**
ODZ	**Otahua Downs**	**5.75**	**212**	P	**Pn**	**01 49 03.3**	**-2.7**
MLZ	**Mavora Lakes**	**7.17**	**222**	P	**Pn**	**01 49 24.6**	**-0.8**
CTZ	**Chatham Island**	**7.22**	**122**	P	**Pn**	**01 49 24.6**	**-1.4**
OUIENC	**Ouen Island, N**	**19.03**	**337**	P	**Pn**	**01 52 02.2**	**+0.7**
BBOO	**Buckleboo**	**31.90**	**271**	P	**P**	**01 54 03.3**	**+0.5**
BBOO				IAmb	IAmb	01 54 14.8	
	comp=Z,6.3nm,1.2s						
VNDA	**Vanda**	**37.80**	**185**	P	**P**	**01 54 53.7**	**+0.6**
AS31	**Alice Springs**	**38.14**	**283**	P	**P**	**01 54 57.1**	**+0.5**
ASAR	**Alice Springs**	**38.14**	**283**	P	**P**	**01 54 55.7**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=132,slow=9.5,SNR=9.1						
ASAR	**Alice Springs**	**38.14**	**283**	P	**P**	**01 54 54.7**	**-1.9**
WR0	**Warramunga Arr**	**39.92**	**288**	P	**P**	**01 55 09.8**	**-1.7**
WR0				IAmb	IAmb	01 55 20.4	
	comp=Z,4.2nm,1.3s						
WRA	**Warramunga Arr**	**40.08**	**288**	P	**P**	**01 55 12.4**	**-0.3**
	comp=Z,58nm,0.7s,baz=127,slow=8.3,SNR=1.1						
WRA	**Warramunga Arr**	**40.08**	**288**	P	**P**	**01 55 11.0**	**-1.8**
WB0	**Warramunga Arr**	**40.15**	**288**	P	**P**	**01 55 12.6**	**-0.8**
WB0				IAmb	IAmb	01 55 17.3	
	comp=Z,6.4nm,1.5s						
CASY	**Casey**	**43.76**	**212**	P	**P**	**01 55 41.4**	**-0.9**
CASY				IAmb	IAmb	01 55 41.9	
	comp=Z,20nm,1.1s						
QSPA	**South Pole Qui**	**49.90**	**180**	P	**P**	**01 56 32.2**	**+1.9**
QSPA				IAmb	IAmb	01 56 32.9	
	comp=Z,4.4nm,0.6s						
ARCES	**ARCESS Array B**	**146.51**	**341**	PKPbc	**PKPdf**	**02 07 16.2**	**+1.4**
	comp=Z,4.0nm,0.9s,baz=54,slow=1.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**152.37**	**194**	PKP	**PKPbc**	**02 07 31.5**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=152,slow=3.4,SNR=9.6						
TORD				PKPbc	**pPKPdf**	**02 07 42.0**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=158,slow=3.8,SNR=10						

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*IDC **12** 02:15:54.8±2.4, 5°.29S×152°.96E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/26, mbtmp3.6/5, MS2.8/2, Ms1 2.8/2, ms1mx2.5/58, Error ellipse: s-maj=86.8km s-min=28.0km az=116.0*
ISC 12 02:16:00.4±2.1, 5°.3S±0°.3×152°.9E±0°.5, h37km, n9, σ0°36/7, mb3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.01**	**235**	LR	LR	02 20 55.4	
	comp=Z,83nm,18.3s,baz=150,slow=43						
HNR	**Honiara**	**8.05**	**121**	LR	LR	02 20 58.4	
	comp=Z,58nm,18.7s,baz=310,slow=38						
WRA	**Warramunga Arr**	**23.19**	**230**	P	**P**	**02 21 04.0**	**-0.1**
	139nm,0.7s,baz=54,slow=9.8,SNR=1.4						
ASAR	**Alice Springs**	**25.84**	**223**	P	**P**	**02 21 28.8**	**+0.2**
	0.9nm,0.9s,baz=57,slow=9.3,SNR=4.7						
SONM	**Songino Array**	**66.86**	**328**	P	**P**	**02 26 48.9**	**+0.2**
	0.2nm,0.5s,baz=142,slow=5.9,SNR=2.8						
MKAR	**Makanchi Array**	**80.82**	**319**	P	**P**	**02 28 10.7**	**+0.3**
	0.3nm,0.6s,baz=90,slow=7.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**81.68**	**326**	P	**P**	**02 28 14.2**	**-0.5**
	0.4nm,0.5s,baz=101,slow=7.8,SNR=2.2						
ILAR	**Eielson Array**	**82.61**	**22**	P	**P**	**02 28 19.5**	**+0.1**
	0.3nm,0.7s,baz=234,slow=5.5,SNR=2.4						
TORD	**Torodi Ar. Bea**	**150.60**	**287**	PKPbc	**PKPbc**	**02 35 49.2**	**-0.3**
	0.5nm,0.8s,baz=92,slow=2.3,SNR=2.8						

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*IDC **12** 02:19:48.5±1.3, 3°.90N×127°.26E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/29, mbtmp3.9/5, MS3.3/3, Ms1 3.3/3, ms1mx2.7/75, Error ellipse: s-maj=91.3km s-min=18.4km az=71.0*
*NEIC **12** 02:19:51.2±1.7, 3°.88N±0°.09×127°.0E±0°.2, h10km±1km, mb4.4/13, Error ellipse: s-maj=37.7km s-min=13.4km az=79.0*
*DJA **12** 02:19:52.3±0.5, 4°N±5°×12°7E±°, h10km, M3.8/7, mb3.8/3, MLv3.8/7*
ISC 12 02:19:50.6±0.8, 3°.89N±0°.09×127°.02E±0°.09, h10km, n27, σ0°91/24, mb4.2/9, MS3.5/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.50**	**262**	P	**Pg**	**02 20 19.1**	**-0.4**
TNTI	**Ternate**	**3.12**	**174**	P	**Pn**	**02 20 40.2**	**+0.3**
TNTI	**Ternate**	**3.12**	**174**	Pn	**Pn**	**02 20 41.8**	**+1.9**
GTOI	**Gorontalo**	**5.15**	**231**	P	**Pn**	**02 21 09.0**	**+1.2**
	0.0nm3.4nm,0.6s						
MTN	**Manton Dam**	**17.12**	**166**		**Pn**	**02 23 51.0**	**+0.8**
MTN				IAmb	IAmb	02 23 54.1	
	comp=Z,8.5nm,0.5s						
KNRA	**Kununurra**	**19.52**	**175**	P	**P**	**02 24 18.4**	**+0.1**
KNRA				IAmb	IAmb	02 24 18.5	
	comp=Z,10nm,0.6s						
GUMO	**Guam**	**20.08**	**60**	LR	LR	02 30 18.9	
	comp=Z,25nm,20.6s,baz=98,slow=32						
GUMO	**Guam**	**20.08**	**60**	P	**P**	**02 24 25.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.89**	**184**	P	**P**	**02 24 44.0**	**0.0**
	comp=Z,1.0nm,0.4s,baz=9.1,slow=6.8,SNR=8.2						
WB0	**Warramunga Arr**	**24.60**	**163**	P	**P**	**02 25 09.7**	**-1.6**
WB0				IAmb	IAmb	02 25 10.8	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**24.75**	**163**	P	**P**	**02 25 11.3**	**-1.3**
	comp=Z,166nm,0.8s,baz=344,slow=11,SNR=1.5						
**WR0

AZER **12** *02:38:39.9±0.0, 39°.09N×48°.21E, h27km, Error ellipse: s-maj=0.6km s-min=0.5km az=258.0, Hypocentre not reviewed by the ISC*
NEIC **12** *02:38:39.7±1.8, 39°.17N±0°.06×48°.34E±0°.05, h10km±1km, mb4.5/46, mb_Lg4.9(TEH), Error ellipse: s-maj=10.3km s-min=6.8km az=199.0*
MCSM **12** *02:38:40.8±1.1, 39°.N±6°×4°.8E±1°.2, h18km±4km, mb4.5/9*
TEH **12** *02:38:41.2, 39°.11N×48°.16E, h20km, ML4.6*
GII **12** *02:38:45.1±0.4, 39°.05N×48°.38E, h64km*
NNC **12** *02:38:47.7±3.9, 39°.67N×49°.22E, h0km, mb4.7, Error ellipse: s-maj=51.1km s-min=27.9km az=54.0*
ISC 12 02:38:40.5±0.3, 39°.13N±0°.02×48°.23E±0°.02, h21km±1km, n546, σ2§00/579, mb4.6/88, MS3.4/10, 37C-20D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLBA	**Clilabad**	**0.16**	**43**	*e*Pg		**Pg**		**02 38 46.9**	**+2.4**
YRD	**Yardimli**	**0.21**	**182**	*e*Pg		**Pg**		**02 38 46.9**	**+1.6**
GRMI	**Germi**	**0.42**	**221**	*e*Pg		**Pb**		**02 38 49.6**	**+0.5**
GRMI	**Germi**	**0.42**	**221**	*e*Pg		**Pb**		**02 38 49.6**	**+0.5**
GRMI						IAML		02 38 56.5	
	comp=E,63μm,0.3s								
GRMI						IAML		02 38 57.1	
	comp=N,49μm,0.3s								
LRK	**Lerik**	**0.48**	**171**	*e*Pg		**Pb**		**02 38 51.1**	**+0.8**
LKRN	**Lenkeran, Azer**	**0.58**	**135**	PG		**Pn**		**02 38 53.0**	**-0.6**
LKRN	**Lenkeran, Azer**	**0.58**	**135**	*e*Pg		**Pn**		**02 38 53.0**	**-0.6**
ASTR	**Astara**	**0.70**	**143**	*e*Pg		**Pn**		**02 38 54.9**	**-0.4**
SAAT	**Saatly**	**0.75**	**10**	*e*Pn		**Pn**		**02 38 55.7**	**-0.2**
QRD	**Qoradiz**	**0.80**	**295**	*e*Pg		**Pb**		**02 38 55.5**	**0.0**
BLQ	**Beylaqan**	**0.80**	**318**	*e*Pg		**Pb**		**02 38 55.8**	**+0.2**
ALIB	**Äli-Bayra**	**1.02**	**35**	*e*Pg		**Pn**		**02 39 02.1**	**+2.5**
ZRD	**Zardab**	**1.23**	**340**	*e*Pg		**Pg**		**02 39 04.1**	**+0.1**
KDMR	**Kurdemir**	**1.25**	**358**	*e*Pg		**Pg**		**02 39 04.2**	**-0.1**
ISRB	**Sarab**	**1.37**	**200**	*e*Pg		**Pg**		**02 39 06.8**	**+0.1**
ISRB	**Sarab**	**1.37**	**200**			**Pg**		**02 39 06.6**	**-0.1**
BRDA	**Brd**	**1.41**	**324**	*e*Pn		**Pg**		**02 39 06.9**	**-0.3**
GBS	**Qobustan**	**1.51**	**21**	*e*Pg		**Pg**		**02 39 09.9**	**+0.7**
IML	**Ismayilli**	**1.67**	**358**	*e*Pn		**Pb**		**02 39 09.8**	**-0.6**
PQL	**Pirkuli**	**1.69**	**9**	*e*Pn		**Pb**		**02 39 10.9**	**+0.1**
CSN1	**Caspian**	**1.69**	**157**	*e*Pn		**Pb**		**02 39 10.2**	**-0.6**
CSN1	**Caspian**	**1.69**	**157**	Pn		**Pb**		**02 39 10.1**	**-0.7**
GOBA	**Gobu**	**1.71**	**41**	*e*Pn		**Pg**		**02 39 13.0**	**-0.1**
ORD	**Ordubad**	**1.77**	**264**	*e*Pn		**Pb**		**02 39 11.2**	**-0.9**
IBST	**Bostanabad**	**1.77**	**217**	*e*Pn		**Pb**		**02 39 12.3**	**0.0**
IBST	**Bostanabad**	**1.77**	**217**	Pn		**Pb**		**02 39 11.9**	**-0.4**
TAB1	**Tabriz**	**1.84**	**235**	*e*Pg		**Pg**		**02 39 14.4**	**-1.2**
TAB1				*e*				02 39 15.8	
	comp=Z,31μm,0.3s								
TAB1	**Tabriz**	**1.84**	**235**	Pn		**Pg**		**02 39 14.3**	**-1.3**
QBL	**Gabala**	**1.85**	**350**	*e*Pn		**Pn**		**02 39 12.3**	**+1.2**
ITBZ	**Tabriz**	**1.87**	**242**	*e*Pn		**Pb**		**02 39 13.1**	**-0.9**
ITBZ				*e*				02 39 39.1	
	comp=Z,57μm,0.4s								
ITBZ	**Tabriz**	**1.87**	**242**	Pn		**Pb**		**02 39 13.0**	**-0.9**
MNGR	**Mingechevir, A**	**1.88**	**332**	PN		**Pb**		**02 39 13.4**	**-0.5**
MNGR	**Mingechevir, A**	**1.88**	**332**	*e*Pn		**Pb**		**02 39 13.4**	**-0.5**
IMRD	**Marand**	**2.03**	**259**	*e*Pn		**Pb**		**02 39 15.7**	**-0.9**
IMRD	**Marand**	**2.03**	**259**	Pn		**Pb**		**02 39 15.3**	**-1.3**
SBZ	**Shahbuz**	**2.11**	**278**	*e*Pn		**Pb**		**02 39 16.8**	**-1.2**
GANJ	**Ganja**	**2.12**	**316**	PN		**Pn**		**02 39 15.7**	**+0.8**
GANJ	**Ganja**	**2.12**	**316**	*e*Pn		**Pn**		**02 39 15.7**	**+0.8**
NAX	**Nakhchivan**	**2.14**	**272**	PN		**Pb**		**02 39 17.4**	**-1.1**
NAX	**Nakhchivan**	**2.14**	**272**	*e*Pn		**Pb**		**02 39 17.4**	**-1.1**
RST1	**Rasht - Gilan**	**2.18**	**150**	*e*Pn		**Pn**		**02 39 17.0**	**+1.5**
ISHB	**Shabestar**	**2.22**	**249**	*e*Pn		**Pn**		**02 39 17.8**	**+1.4**
ISHB				*e*				02 39 53.0	
	comp=Z,52μm,0.4s								
ISHB	**Shabestar**	**2.22**	**249**	Pn		**Pn**		**02 39 17.4**	**+1.0**
SEKA	**Sheki**	**2.23**	**339**	PN		**Pn**		**02 39 17.5**	**+1.1**
IAZR	**Azarshahr**	**2.29**	**232**	*e*Pn		**Pb**		**02 39 20.4**	**-0.8**
IAZR	**Azarshahr**	**2.29**	**232**	Pn		**Pb**		**02 39 20.3**	**-0.9**
AKT	**Akhty**	**2.39**	**351**	*i* PN		**Pn**		**02 39 19.2**	**+0.6**
AKT				pmax		pmax			
	comp=Z,276nm,0.7s								
LHJ2	**Lahijan - Gila**	**2.42**	**143**	*e*Pn		**Pn**		**02 39 19.0**	**+0.1**
LHJ2				*e*				02 39 53.5	
	comp=Z,40μm,0.3s								
LHJ2	**Lahijan - Gila**	**2.42**	**143**	Pn		**Pn**		**02 39 19.0**	**+0.1**
ZNJK	**Zanjan**	**2.47**	**172**	*e*Pn		**Pb**		**02 39 22.7**	**-1.6**
ZNJK	**Zanjan**	**2.47**	**172**	*e*Pn		**Pb**		**02 39 22.7**	**-1.6**
ZNJK						IAML		02 40 00.5	
	comp=E,1μm,0.6s								
HYR	**Heyderabad**	**2.70**	**284**	*e*Pn		**Pn**		**02 39 25.1**	**+2.3**
JIR1	**Jirandeh**	**2.71**	**153**	*e*Pn		**Pn**		**02 39 23.8**	**+0.8**
JIR1				*e*				02 40 08.6	
	comp=Z,34μm,0.2s								
JIR1	**Jirandeh**	**2.71**	**153**	Pn		**Pn**		**02 39 23.7**	**+0.8**
MAKU	**Maku**	**2.78**	**276**	*e*Pn		**Pn**		**02 39 25.7**	**+1.7**
MAKU	**Maku**	**2.78**	**276**	*e*Pn		**Pn**		**02 39 25.7**	**+1.7**
MAKU						IAML		02 40 11.1	
	comp=N,1μm,0.3s								
GNI	**Garni**	**2.90**	**292**	Pn		**Pn**		**02 39 28.1**	**+2.5**
	comp=N,10.0nm,0.3s,baz=70,slow=2.2,SNR=46								
GNI					Pg		**Pb**	**02 39 32.3**	**+0.9**
	comp=N,188nm,0.3s,baz=107,slow=0.7,SNR=184								
GNI					Lg		Lg	02 40 12.4	
	comp=N,163nm,0.3s,baz=339,slow=23,SNR=10.0								
GNI	**Garni**	**2.90**	**292**	P		**Pb**		**02 39 31.9**	**+0.5**
GNI	**Garni**	**2.90**	**292**	*ce*PN		**Pn**		**02 39 28.4**	**+2.8**
GNI				pmax		pmax			
	comp=Z,828nm,1.0s								
GNI	**Garni**	**2.90**	**292**			**Pn**		**02 39 27.7**	**+2.1**
GNI				Sn		**Sn**		**02 40 02.4**	**+2.3**
MAHB	**Mahabad**	**3.09**	**221**	*e*Pn		**Pn**		**02 39 30.6**	**+2.3**
MAHB	**Mahabad**	**3.09**	**221**	Pn		**Pn**		**02 39 30.5**	**+2.3**
IGZV	**Ghazvin**	**3.15**	**150**	*e*Pn		**Pn**		**02 39 30.3**	**+1.2**
IGZV				*e*				02 40 25.8	
	comp=Z,11μm,0.7s								
IGZV	**Ghazvin**	**3.15**	**150**	Pn		**Pn**		**02 39 30.3**	**+1.2**
QCNT	**Qazvin**	**3.15**	**153**	*e*Pn		**Pn**		**02 39 29.8**	**+0.7**
TASB	**TASBURUN-IGDIR**	**3.22**	**287**	*e*P		**Pb**		**02 39 36.4**	**-0.4**
QALM	**Alamut, Qazvin**	**3.29**	**144**	*e*Pn		**Pn**		**02 39 31.4**	**+0.3**
QALM	**Alamut, Qazvin**	**3.29**	**144**	Pn		**Pn**		**02 39 31.2**	**+0.1**
GNBR	**Gunib**	**3.41**	**344**	*e*PN		**Pn**		**02 39 35.7**	**+3.2**
GNBR				pmax		pmax			
	comp=Z,136nm,1.0s								
QABG	**Abgarm-Qazvin**	**3.57**	**162**	*e*Pn		**Pn**		**02 39 35.3**	**+0.4**
QABG	**Abgarm-Qazvin**	**3.57**	**162**	Pn		**Pn**		**02 39 35.0**	**+0.1**
ERCV	**ERCIS-VAN**	**3.82**	**270**	*e*P		**Pb**		**02 39 44.4**	**-2.8**
THKV	**Tehran--Karaj**	**3.82**	**146**	*e*Pn		**Pn**		**02 39 39.3**	**+0.9**
THKV	**Tehran--Karaj**	**3.82**	**146**	*e*Pn		**Pn**		**02 39 39.3**	**+0.9**
THKV						IAML		02 40 26.8	
	comp=E,430nm,0.3s								
VANB	**Van**	**3.83**	**264**	*e*P		**Pb**		**02 39 43.4**	**-3.9**
BTLR	**Botlikh**	**3.86**	**337**	*i* PN		**Pn**		**02 39 41.3**	**+2.6**
MAK	**Makhachkala**	**3.88**	**352**	*e*PN		**Pn**		**02 39 43.1**	**+4.2**
MAK				*e*S		**Sn**		**02 40 28.6**	**+4.6**
MAK				pmax		pmax			
	comp=Z,184nm,0.7s								
MAK				MLR		MLR			
	comp=Z,323nm,8.0s								
IMHD	**Mahdasht**	**3.94**	**150**	*e*Pn		**Pn**		**02 39 42.0**	**+2.2**
CHTH	**Charan**	**3.94**	**144**	*e*Pn		**Pn**		**02 39 42.5**	**+2.4**
CHTH	**Charan**	**3.94**	**144**	*e*Pn		**Pn**		**02 39 42.5**	**+2.4**
IRAZ	**Razeghan**	**3.95**	**160**	*e*Pn		**Pn**		**02 39 41.5**	**+1.4**
SNGE	**Sanandaj**	**4.09**	**190**	*e*Pn		**Pg**		**02 39 57.8**	**-0.6**
AGRB	**Hanur-Agry**	**4.10**	**278**	*e*P		**Pb**		**02 39 51.9**	**0.0**
CUKT	**Cukurca**	**4.11**	**244**	*e*P		**Pn**		**02 39 45.5**	**+3.3**
DVE	**Vedeno**	**4.15**	**338**	*i* PN		**Pn**		**02 39 45.4**	**+2.6**
AKDM	**Akdamar-Van**	**4.20**	**261**	*e*P		Pb		02 39 48.6	-5.0
TEHA	**Amirabad Tehra**	**4.20**	**142**	*e*		**Pn**		**02 39 47.4**	**+4.0**
	comp=Z,6μm,0.4s								
TEH	**Tehran**	**4.20**	**143**	*e*Pn		**Pn**		**02 39 46.7**	**+3.2**
TEH				*e*				02 39 47.4	
	comp=Z,6μm,0.4s								
KARS	**Kars**	**4.25**	**292**	*e*P		**Pb**		**02 39 53.3**	**-1.2**
KARS	**Kars**	**4.25**	**292**	PN		**Pn**		**02 39 44.1**	**-0.1**
KARS	**Kars**	**4.25**	**292**			**Pn**		**02 39 44.1**	**-0.1**
IALM	**Almabolaq**	**4.25**	**181**	*e*Pn		**Pn**		**02 39 48.8**	**+4.4**
AKH	**Akhalkalaki**	**4.30**	**304**	*e*P		**Pb**		**02 39 51.3**	**-4.0**
IPRN	**Peran**	**4.33**	**130**	*e*Pn		**Pn**		**02 39 46.2**	**+0.8**
IPRN				*e*				02 40 40.4	
	comp=Z,17μm,0.4s								
IPRN	**Peran**	**4.33**	**130**	Pn		**Pn**		**02 39 46.1**	**+0.7**
HAGD	**Aghdareh**	**4.35**	**170**	*e*Pn		**Pn**		**02 39 48.1**	**+2.4**
IHSB	**Hasanabad**	**4.40**	**146**	*e*Pn		**Pn**		**02 39 48.6**	**+2.4**
MLAZ	**Malazgirt-MUS**	**4.43**	**272**	*e*P		**Pb**		**02 39 55.6**	**-2.0**
GROC	**Groznyy**	**4.48**	**336**	*e*PN		**Pn**		**02 39 49.1**	**+2.0**
GROC				*e*				02 40 00.2	
GROC				*e*				02 40 41.6	
GROC				*e*S		**Sb**		**02 40 57.3**	**+5.4**
GROC				*e*				02 41 09.5	
GROC				pmax		pmax			
	comp=Z,68nm,0.4s								
GROC				pmax		pmax			
	comp=Z,76nm,0.6s								
GROC				smax		smax			
	comp=N,274nm,0.8s								
GROC				smax		smax			
	comp=N,265nm,0.6s								
GROC				smax		smax			
	comp=E,237nm,0.8s								
GROC				smax		smax			
	comp=E,144nm,0.4s								
GROC				MLR		MLR			
	comp=Z,153nm,2.0s								
DAMV	**Damavand**	**4.58**	**138**	*e*Pn		**Pn**		**02 39 51.5**	**+2.7**
DAMV	**Damavand**	**4.58**	**138**	*e*Pn		**Pn**		**02 39 51.5**	**+2.7**
IBZA	**Bozab**	**4.65**	**184**	*e*Pn		**Pn**		**02 39 54.3**	**+4.4**
IDHR	**Dehrash**	**4.66**	**199**	*e*Pn		**Pn**		**02 39 54.1**	**+4.2**
QJF1	**Jafarie**	**4.70**	**157**	*e*Pn		**Pn**		**02 39 54.0**	**+3.6**
SENK	**Senkaya-Erzuru**	**4.76**	**289**	*e*P		Pb		02 39 58.0	-5.2
ASAO	**Ashtian**	**4.78**	**162**	*e*Pn		**Pn**		**02 39 54.4**	**+2.8**
ASAO	**Ashtian**	**4.78**	**162**	*e*Pn		**Pn**		**02 39 54.4**	**+2.8**
KER	**Kermanshah**	**4.81**	**191**	*e*Pn		**Pn**		**02 39 55.9**	**+4.0**
IQOM	**Qom**	**4.83**	**151**	*e*Pn		**Pn**		**02 39 54.6**	**+2.3**
SIRT	**Sirnak**	**4.85**	**252**	*e*P		**Pn**		**02 39 56.5**	**+4.2**
SIRT	**Sirnak**	**4.85**	**252**			**Pn**		**02 39 54.9**	**+2.5**
GURO	**Guroymak-BITLI**	**4.89**	**265**	*e*P		**Pn**		**02 39 56.4**	**+3.5**
GURO	**Guroymak-BITLI**	**4.89**	**265**			**Pn**		**02 39 55.0**	**+2.0**
KCHF	**Cheshme Sefid,**	**4.93**	**192**	*e*Pn		**Pn**		**02 39 58.0**	**+4.4**
IGHG	**Ghaleghazi**	**4.97**	**196**	*e*Pn		**Pn**		**02 39 58.5**	**+4.3**
IVRN	**Varamin**	**4.97**	**145**	*e*Pn		**Pn**		**02 39 57.0**	**+3.0**
KOPR	**Koprukoy-ERZUR**	**5.02**	**282**	*e*P		Pb		02 40 02.6	-5.0
ONI	**Oni**	**5.02**	**315**	PN		**Pn**		**02 39 57.6**	**+2.9**
ONI	**Oni**	**5.02**	**315**			**Pn**		**02 39 57.6**	**+2.9**
IGLO	**Ghaloghah**	**5.14**	**119**	*e*Pn		**Pn**		**02 39 57.1**	**+0.7**
IGLO	**Ghaloghah**	**5.14**	**119**	Pn		**Pn**		**02 39 56.9**	**+0.5**
ISHM	**Shahmirzad**	**5.20**	**128**	*e*Pn		**Pn**		**02 39 59.8**	**+2.4**
GHVR	**GHOM**	**5.24**	**151**	*e*Pn		**Pn**		**02 40 00.0**	**+2.3**
GHVR	**GHOM**	**5.24**	**151**	*e*Pn		**Pn**		**02 40 00.0**	**+2.3**
VRTB	**Varto-Mus**	**5.28**	**273**	*e*P		Pn		02 40 04.5	+6.1
ILAS	**Lasjerd**	**5.30**	**133**	*e*Pn		**Pn**		**02 40 02.0**	**+3.3**
IDOB	**Doab**	**5.33**	**181**	*e*Pn		Pn		02 40 03.9	+4.9
KHMZ	**Khomeyn**	**5.55**	**165**	*e*Pn		**Pn**		**02 40 05.3**	**+3.2**
KHMZ	**Khomeyn**	**5.55**	**165**	*e*Pn		**Pn**		**02 40 05.3**	**+3.2**
KARO	**Karliova-Bingo**	**5.59**	**274**	*e*P		**Pn**		**02 40 07.1**	**+4.4**
IKFM	**Kafar-mosalman**	**5.60**	**183**	*e*Pn		**Pn**		**02 40 07.2**	**+4.7**
SVAN	**Silvan-Diyarba**	**5.60**	**262**	*e*P		**Pn**		**02 40 05.7**	**+3.0**
ISFB	**Sefidab**	**5.74**	**145**	*e*Pn		**Pn**		**02 40 06.9**	**+2.3**
IANJ	**Anjilo**	**5.81**	**127**	*e*Pn		**Pn**		**02 40 08.4**	**+2.7**
NEY	**Neytrino**	**5.86**	**316**	*i* P		**Pn**		**02 40 10.6**	**+4.2**
BNGB	**Bingl**	**5.89**	**271**	*e*P		**Pn**		**02 40 10.7**	**+4.0**
IMND	**Minoodasht**	**5.94**	**106**	*e*Pn		**Pn**		**02 40 06.9**	**-0.3**
IMND	**Minoodasht**	**5.94**	**106**	Pn		**Pn**		**02 40 06.7**	**-0.5**
QAMS	**Qamsar**	**5.94**	**154**	*e*Pn		**Pn**		**02 40 09.8**	**+2.2**
YEDI	**Yedisu-Bingol**	**5.99**	**275**	*e*P		Pn		02 40 14.3	+6.3
KRSH	**Karshahi**	**6.02**	**147**	*e*Pn		**Pn**		**02 40 10.9**	**+2.4**
KBZ	**Khabaz**	**6.11**	**321**	Pn		**Pn**		**02 40 12.0**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=178,slow=6.1,SNR=11								
KBZ						LR	LR	02 42 49.4	
	comp=Z,233nm,18.7s,baz=138,slow=41								
SHA1	**Shidzhatmaz**	**6.24**	**319**	*i* P		**Pn**		**02 40 14.3**	**+2.7**
PYA1	**Pyatigorsk**	**6.27**	**324**	*i* P		**Pn**		**02 40 13.6**	**+1.8**
MRVT	**Maraveh tapeh**	**6.33**	**101**	*e*Pn		**Pn**		**02 40 13.0**	**+0.3**
MRVT	**Maraveh tapeh**	**6.33**	**101**	*e*Pn		**Pn**		**02 40 13.0**	**+0.3**
BAYT	**Aydintepe-Bayb**	**6.37**	**284**	*e*P		Pn		02 40 19.5	+6.1
KVAR	**Kislovodsk Arr**	**6.38**	**321**	Pn		**Pn**		**02 40 17.0**	**+3.6**
	baz=265,slow=21,SNR=2.0								
KIV	**Kislovodsk**	**6.38**	**321**	*e*P		**Pn**		**02 40 17.1**	**+3.7**
KIV	**Kislovodsk**	**6.38**	**321**	*e*P		**Pn**		**02 40 17.5**	**+4.1**
KIV				pmax		pmax			
	comp=Z,10.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,44nm,9.0s								
KIV	**Kislovodsk**	**6.38**	**321**			**Pn**		**02 40 15.5**	**+2.1**
IKLH	**Kolahrood**	**6.39**	**154**	*e*Pn		**Pn**		**02 40 16.5**	**+2.8**
IPIR	**Pirpir**	**6.77**	**161**	*e*Pn		**Pn**		**02 40 22.8**	**+3.8**
SHRO	**Shahrood**	**6.91**	**114**	*e*Pn		**Pn**		**02 40 22.1**	**+1.4**
SHRO	**Shahrood**	**6.91**	**114**	*e*P		**Pn**		**02 40 22.1**	**+1.4**
SVRC	**Sivrice-ELAZID**	**7.03**	**267**	*e*P		**Pn**		**02 40 25.0**	**+2.6**
IZEF	**Zefreh**	**7.04**	**151**	*e*Pn		**Pn**		**02 40 25.3**	**+2.7**
GOF	**Gofitskoye**	**7.08**	**329**⇑	*e*P		Pn		02 40 30.1	+7.2
GOF				*e*S		**Sn**		**02 41 43.9**	**+1.0**
GOF				pmax		pmax			
	comp=Z,14nm,0.5s								
GOF				smax		smax			
	comp=N,33nm,0.6s								
GOF				smax		smax			
	comp=E,133nm,1.7s								
BJRD	**Bojnurd**	**7.33**	**98**	*e*Pn		**Pn**		**02 40 26.6**	**+0.1**
IGAR	**Gharneh**	**7.38**	**154**	*e*Pn		**Pn**		**02 40 31.4**	**+4.1**
ANAR	**Anarak**	**7.39**	**142**	*e*Pn		**Pn**		**02 40 30.2**	**+2.8**
MALT	**Malatya**	**7.72**	**267**	*e*P		**Pn**		**02 40 35.1**	**+3.3**
SOC	**Sochi**	**7.81**	**308**	*e*P		**Pn**		**02 40 33.7**	**+0.8**
SOC				*e*				02 42 05.1	
SOC				MLR		MLR			
	comp=Z,123nm,10.0s								
GEYT	**Alibeck**	**7.83**	**96**	Pn		**Pn**		**02 40 32.8**	**-0.5**
	comp=Z,28nm,0.3s,baz=279,slow=10,SNR=288								
GEYT						LR	LR	02 45 08.2	
	comp=Z,349nm,19.1s,baz=302,slow=50								
GEYT	**Alibeck**	**7.83**	**96**	Pn		**Pn**		**02 40 32.5**	**-0.7**
GYA0	**ALIBECK ARRAY**	**7.83**	**96**	P		**Pn**		**02 40 32.6**	**-0.6**
GYA0				S		**Sn**		**02 41 58.2**	**-3.2**
GYA0B	**ALIBECK ARRAY**	**7.83**	**96**	⇑P		**Pn**		**02 40 32.6**	**-0.6**
GYA0B				⇑S		**Sn**		**02 41 58.3**	**-3.2**
GYA0B	**ALIBECK ARRAY**	**7.83**	**96**	Pn		**Pn**		**02 40 32.6**	**-0.6**
SBZV	**Sabzevar**	**7.90**	**107**	*e*Pn		**Pn**		**02 40 35.0**	**+0.6**
ISFR	**Sfrayin**	**7.96**	**102**	*e*Pn		**Pn**		**02 40 36.2**	**+0.9**
IRAM	**Ramesheh**	**8.04**	**154**	*e*Pn		Pn		02 40 41.1	+4.8
IEMG	**Emamgholi**	**8.36**	**99**	*e*Pn		**Pn**		**02 40 40.8**	**0.0**
YZKH	**Yazd**	**8.47**	**141**	*e*Pn		**Pn**		**02 40 44.7**	**+2.7**
YZKH	**Yazd**	**8.47**	**141**	*e*Pn		**Pn**		**02 40 44.7**	**+2.7**
TNSJ	**Nastanj**	**8.47**	**125**	*e*Pn		**Pn**		**02 40 43.6**	**+1.5**
ICHK	**Chekchek**	**8.49**	**142**	*e*Pn		**Pn**		**02 40 44.3**	**+1.7**
GAZ	**Gaziantep**	**8.91**	**261**	Pn		**Pn**		**02 40 48.1**	**0.0**
IPAY	**Payeh**	**8.92**	**104**	*e*Pn		**Pn**		**02 40 49.6**	**+1.2**
TABS	**Tabas**	**9.00**	**125**	*e*Pn		**Pn**		**02 40 51.1**	**+1.8**
TABS	**Tabas**	**9.00**	**125**	*e*Pn		**Pn**		**02 40 51.1**	**+1.8**
TKDS	**Koohdasht(Taba**	**9.02**	**125**	*e*Pn		**Pn**		**02 40 51.3**	**+1.6**
TPRV	**Parvadeh(Tabas**	**9.14**	**129**	*e*Pn		**Pn**		**02 40 53.2**	**+1.9**
IKRD	**Kateh**	**9.20**	**101**	*e*Pn		**Pn**		**02 40 52.5**	**+0.2**
IMOG	**Moghan**	**9.30**	**105**	*e*Pn		**Pn**		**02 40 54.5**	**+0.8**
IMEH	**Mehriz**	**9.30**	**144**	*e*Pn		**Pn**		**02 40 56.3**	**+2.6**
IMYA	**Miami**	**9.79**	**103**	*e*Pn		**Pn**		**02 41 00.3**	**0.0**
TBJM	**Torbat-e-JAM**	**10.38**	**108**	*e*Pn		**Pn**		**02 41 09.1**	**+0.8**
AFRZ	**Afriz**	**10.38**	**120**	*e*Pn		**Pn**		**02 41 10.1**	**+1.7**
ITEG	**Tejag**	**10.53**	**123**	*e*Pn		**Pn**		**02 41 12.4**	**+2.0**
IKOO	**Kooshah**	**10.99**	**124**	*e*Pn		**Pn**		**02 41 19.1**	**+2.2**
KHGB	**Koh Gabri**	**11.04**	**140**	*e*Pn		**Pn**		**02 41 20.7**	**+3.3**
SHRT	**Shahrakht**	**11.14**	**116**	*e*Pn		**Pn**		**02 41 19.8**	**+1.2**
SHRT	**Shahrakht**	**11.14**	**116**	*e*Pn		**Pn**		**02 41 19.8**	**+1.2**
BRTR	**Keskin Array B**	**11.32**	**278**	Pn		Pn		02 41 26.1	+4.9
	comp=Z,0.1nm,0.3s,baz=112,slow=9.8,SNR=4.8								
BRTR						LR	LR	02 46 29.7	
	comp=Z,484nm,19.9s,baz=85,slow=42								
BRTR	**Keskin Array B**	**11.32**	**278**	*ce*P		Pn		02 41 27.0	+5.8
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
BSRN	**Basiran**	**11.37**	**126**	*e*Pn		**Pn**		**02 41 24.0**	**+2.1**
BSRN	**Basiran**	**11.37**	**126**	*e*Pn		**Pn**		**02 41 24.0**	**+2.1**
ASF	**Jabal al Asfar**	**11.54**	**237**	Pn		**Pn**		**02 41 24.9**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=36,slow=15,SNR=6.8								
NATI	**Neve Ativ**	**11.67**	**244**	Pn		Pn		02 41 30.8	+4.9
CHMN	**Cheshme madani**	**12.00**	**138**	*e*Pn		**Pn**		**02 41 34.1**	**+3.5**
MMA0B	**Mount Meron ar**	**12.04**	**244**	Pn		**Pn**		**02 41 34.7**	**+3.7**
MMAI	**Mount Meron Ar**	**12.04**	**244**	Pn		**Pn**		**02 41 33.2**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=46,slow=12,SNR=25								
MMAI						LR	LR	02 46 46.3	
	comp=Z,257nm,21.7s,baz=226,slow=41								
HNTI	**Hanita**	**12.16**	**244**	Pn		**Pn**		**02 41 36.7**	**+4.1**
HRA	**Herat**	**12.18**	**109**			**Pn**		**02 41 30.1**	**-2.8**
NHDN	**Nehbandan**	**12.34**	**125**	*e*Pn		**Pn**		**02 41 37.5**	**+2.3**
BLGI	**Bet Lehem HaGe**	**12.35**	**243**	Pn		**Pn**		**02 41 38.8**	**+3.7**
MMLI	**Mount Malkishu**	**12.36**	**241**	Pn		**Pn**		**02 41 39.2**	**+3.9**
HMDT	**Nahal Hemdat**	**12.40**	**240**	Pn		**Pn**		**02 41 39.8**	**+4.0**
SLTI	**Sal'it**	**12.74**	**241**	Pn		**Pn**		**02 41 44.4**	**+4.0**
VRH	**Novokhopyorsk**	**12.92**	**341**	*e*P		**Pn**		**02 41 45.5**	**+2.7**
GHAJ	**Ghor Haditha**	**12.97**	**237**	Pn		**Pn**		**02 41 46.1**	**+2.6**
AB31	**Akbulak array**	**13.14**	**36**	P		**Pn**		**02 41 43.3**	**-2.5**
AB31	**Akbulak array**	**13.14**	**36**	⇓P		**Pn**		**02 41 43.3**	**-2.5**
	comp=Z,4.8nm,0.5s,baz=215,slow=13,SNR=93								
AB31				⇑S		Sn		02 44 03.1	-8.3
	comp=Z,6.5nm,0.6s,baz=214,slow=25,SNR=4.3								
ABKAR	**Akbulak array**	**13.14**	**36**	Pn		**Pn**		**02 41 42.9**	**-2.9**
ABKAR	**Akbulak array**	**13.14**	**36**	Pn		**Pn**		**02 41 42.9**	**-2.9**
AKTO	**Aktyubins

comp=Z,31nm,0.8s
AGG Agios Georgios 20.11 278 P **P 02 43 14.1 +1.1**
AGG IAmb IAmb 02 43 14.7
comp=Z,31nm,0.8s
AGG Agios Georgios 20.11 278 P **P 02 43 13.6 +0.6**
comp=Z,46nm,0.9s
AAK Ala-Archa 20.12 72 P Pn 02 43 14.9 -0.3
comp=Z,26nm,0.8s,baz=249,slow=5.5,SNR=76
AAK LR LR 02 52 42.0
comp=Z,163nm,18.9s,baz=268,slow=42
AAK Ala-Archa 20.12 72 P Pn 02 43 16.4 +1.2
SNR=28
AAK Ala-Archa 20.12 72 ⇓P Pn 02 43 15.4 +0.3
comp=Z,31nm,0.9s
AAK Ala-Archa 20.12 72 **P 02 43 13.9 +0.6**
AAK IAmb IAmb 02 43 17.0
comp=Z,28nm,0.8s
UCH Uchtor 20.14 73 P **P 02 43 14.4 +0.7**
SNR=17
DRGR 20.14 301 ⇑P Pn 02 43 14.8 -0.4
USP Ospenovka 20.15 70 P **P 02 43 13.7 +0.2**
SNR=12
FRU1 Bishkek 20.23 71 P **P 02 43 13.0 -1.4**
FRU1 pmax pmax
comp=Z,31nm,0.6s
FRU1 Bishkek 20.23 71 P **P 02 43 13.0 -1.4**
LVV L'vov 20.23 310 *e*P **P 02 43 15.3 +1.1**
THL Klokotos Trika 20.27 280 P **P 02 43 15.2 +0.4**
comp=Z,61nm,0.9s
CHMS Chumysh 20.32 70 P **P 02 43 16.6 +1.2**
SNR=19
KBK Karagaybulak 20.46 71 P Pn 02 43 20.9 +1.8
SNR=16
BRVK Borovoye 20.57 40 *ce*P **P 02 43 18.2 +0.4**
BRVK pmax pmax
comp=Z,29nm,1.0s
BRVK Borovoye 20.57 40 ⇑P **P 02 43 17.9 +0.1**
comp=Z,21nm,0.8s
BRVK Borovoye 20.57 40 P **P 02 43 18.0 +0.1**
BRVK IAmb IAmb 02 43 23.3
comp=Z,22nm,0.8s
BVAR Borovoye Array 20.60 40 P **P 02 43 18.7 +0.4**
comp=Z,30nm,0.7s,baz=247,slow=7.7,SNR=75
MNK Minsk 20.64 325 *i* P **P 02 43 17.7 -0.9**
comp=E,1.0nm,0.9s
MNK *i* P **P 02 43 17.7 -0.9**
comp=N,7.0nm,0.9s
MNK *i* P **P 02 43 17.7 -0.9**
comp=Z,11nm,0.9s,baz=129
MNK *i* S **S 02 47 09.6 +1.2**
MNK Minsk 20.64 325 *i* P **P 02 43 17.7 -0.9**
MNK *i* S **S 02 47 09.6 +1.1**
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.9s
BZS Buzias 20.66 297 ⇑P **P 02 43 19.3 +0.3**
SIRR Siria 20.74 299 ⇑P Pn 02 43 21.8 -0.5
NIL Nilore 20.83 97 P **P 02 43 20.4 -0.5**
NIL pmax pmax
comp=Z,45nm,0.9s
NIL Nilore 20.83 97 P **P 02 43 20.4 -0.5**
UZH Uzhgorod 20.90 306 *e*P Pn 02 43 25.3 +1.3
UZH *e* 02 43 30.9
UZH *e*S **S 02 47 12.3 -1.3**
UZHM Uzhgorod 20.90 306 P **P 02 43 22.3 +0.9**
TKM2 Tokmak 2 20.94 71 P Pn 02 43 25.7 +0.9
SNR=32
TKM2 Tokmak 2 20.94 71 P **P 02 43 22.5 +0.3**
TKM2 Tokmak 2 20.94 71 ⇑P **P 02 43 22.7 +0.4**
comp=Z,20nm,0.6s
KWP Kalwaria Pacla 20.96 308 *e*P **P 02 43 23.1 +0.9**
KWP Kalwaria Pacla 20.96 308 P **P 02 43 23.3 +1.1**
KWP pmax pmax
comp=Z,327nm,1.1s
KWP Kalwaria Pacla 20.96 308 P **P 02 43 23.3 +1.1**
BOOM Boomskoye usch 21.19 72 P **P 02 43 25.3 +0.4**
BOOM pmax pmax
comp=Z,20nm,0.7s
BOOM Boomskoye usch 21.19 72 P **P 02 43 25.3 +0.4**
BOOM IAmb IAmb 02 43 38.7
comp=Z,20nm,0.7s
NACGM Naroch 21.39 325 *i* P **P 02 43 25.7 -1.0**
ULHL Ulahol 21.42 73 P **P 02 43 29.6 +2.2**
SNR=7.8
KSH Kashi 21.43 80 P **P 02 43 26.6 -0.8**
KSH sP sP 02 43 44.8 +10
KSH pmax pmax
comp=Z,23nm,0.7s
CRVS Cervenica-Dubn 21.50 306 *e*P **P 02 43 28.9 +0.9**
CRVS pmax pmax
comp=Z,67nm,1.1s
CRVS Cervenica-Dubn 21.50 306 *e*P **P 02 43 28.9 +0.9**
IDID Didzisaslis 21.67 325 *e*P **P 02 43 29.8 +0.1**
IIGN Ignalina 21.92 325 *e*P **P 02 43 32.5 +0.1**
KECS Kecovo 22.01 304 *e*P **P 02 43 36.6 +3.2**
KECS pmax pmax
comp=Z,10.0nm,0.9s
KECS Kecovo 22.01 304 *e*P **P 02 43 36.6 +3.2**
KDJ Kajisay 22.12 73 P **P 02 43 33.5 -1.4**
KDJ pmax pmax
comp=Z,37nm,0.9s
KDJ Kajisay 22.12 73 P **P 02 43 33.5 -1.4**
PSZ Piszkesteto 22.26 303 ⇓P **P 02 43 37.2 +1.0**
PSZ Piszkesteto 22.26 303 P **P 02 43 36.3 +0.1**
PSZ pmax pmax
comp=Z,18nm,0.9s
PSZ Piszkesteto 22.26 303 P **P 02 43 36.3 +0.1**
PSZ IAmb IAmb 02 43 40.0
comp=Z,18nm,0.9s
PSZ Piszkesteto 22.26 303 P **P 02 43 38.3 +2.1**
NIE Niedzica 22.38 307 *e*P **P 02 43 41.3 +3.9**
KLMR Klimovskoe 22.43 349 *e*P **P 02 43 37.4 -0.3**
KLMR *e* 02 47 31.8
KLMR pmax pmax
comp=Z,30nm,1.0s
KLMR Klimovskoe 22.43 349 *e*P **P 02 43 37.5 -0.3**
KLMR AMP 02 43 42.2
comp=Z,30nm,1.0s
KLMR *e*PcP **PcP 02 47 31.9 +0.2**
IZAB Izabela 22.53 304 *e*P **P 02 43 41.4 +2.4**
PRGR Permogore 22.60 357 *e*P **P 02 43 38.7 -0.8**
PRGR *e*S S 02 47 35.5 -11
PRGR pmax pmax
comp=Z,12nm,0.6s
TARG Taragay, Kyrgy 22.60 74 P **P 02 43 39.0 -1.3**
TARG IAmb IAmb 02 43 45.7
comp=Z,14nm,0.9s
SUW Suwalki 22.61 319 *e*P **P 02 43 38.8 -0.9**
SUW Suwalki 22.61 319 P **P 02 43 39.3 -0.4**
SUW pmax pmax
comp=Z,44nm,1.0s
SUW Suwalki 22.61 319 *e*P **P 02 43 39.0 -0.7**
SUW Suwalki 22.61 319 P **P 02 43 39.3 -0.4**
LANS Liptovska Anna 22.83 305 *e*P **P 02 43 43.8 +1.6**
LANS Liptovska Anna 22.83 305 *e*P **P 02 43 43.8 +1.6**
OJC Ojcow 22.93 308 *e*P **P 02 43 44.8 +1.6**
OJC Ojcow 22.93 308 P **P 02 43 41.9 -1.3**
OJC pmax pmax
comp=Z,35nm,1.1s
OJC Ojcow 22.93 308 P **P 02 43 41.9 -1.3**
OJC IAmb IAmb 02 43 46.1
comp=Z,35nm,1.1s
PRZ Przheval'sk 23.01 72 P **P 02 43 42.7 -1.6**
PRZ pmax pmax
comp=Z,27nm,1.0s
PRZ Przheval'sk 23.01 72 P **P 02 43 42.6 -1.6**
PRZ IAmb IAmb 02 43 48.9
comp=Z,27nm,0.9s
PABE Paberze 23.04 323 *e*P **P 02 43 45.0 +0.8**
PABE Paberze 23.04 323 P **P 02 43 43.9 -0.3**
PABE IAmb IAmb 02 43 53.5
comp=Z,24nm,1.0s
VYHS Vyhne 23.08 304 *e*P **P 02 43 46.0 +1.3**
VYHS pmax pmax
comp=Z,20nm,1.0s
VYHS Vyhne 23.08 304 *e*P **P 02 43 46.0 +1.3**
KOVH Kovagotottos 23.16 297 P **P 02 43 47.0 +1.5**
KOLL Kolacno 23.38 304 *e*P **P 02 43 49.0 +1.3**
VSU Vasula 23.80 331 *e*P **P 02 43 51.8 +0.1**
OKC Ostrava-Krasne 23.84 307 *e*P **P 02 43 53.4 +1.2**
OKC Ostrava-Krasne 23.84 307 *e*P **P 02 43 53.4 +1.2**

JAVC Velka Javorina 23.91 304 *e*P **P 02 43 55.0 +2.0**
MODS Modra-Piesok 24.07 303 *e*P **P 02 43 55.4 +1.0**
MODS pmax pmax
comp=Z,25nm,1.2s
MODS Modra-Piesok 24.07 303 *e*P **P 02 43 55.4 +1.0**
KURBB Kurchatov Arra 24.17 52 P **P 02 43 57.0 +1.7**
comp=Z,18nm,0.6s,baz=260,slow=9.2,SNR=85
KURBB LR LR 02 55 26.3
comp=Z,86nm,19.6s,baz=276,slow=42
KURBB Kurchatov Arra 24.17 52 P **P 02 43 56.0 +0.7**
KURBB Kurchatov Arra 24.17 52 ⇓P **P 02 43 56.7 +1.4**
comp=Z,13nm,0.6s
MORC Moravsky Berou 24.21 306 ⇑P **P 02 43 55.5 -0.2**
MORC Moravsky Berou 24.21 306 P **P 02 43 53.4 -2.3**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 24.21 306 *e*P **P 02 43 56.6 +0.9**
MORC Moravsky Berou 24.21 306 P **P 02 43 53.4 -2.3**
MORC IAmb IAmb 02 43 58.6
comp=Z,9.1nm,0.9s
KURK Kurchatov 24.25 51 *de*P **P 02 43 57.1 +1.0**
KURK pmax pmax
comp=Z,41nm,1.3s
KURK Kurchatov 24.25 51 ⇓P **P 02 43 57.4 +1.4**
comp=Z,17nm,0.6s
KURK Kurchatov 24.25 51 P **P 02 43 55.9 -0.1**
PBUR Paburge 24.29 323 *e*P **P 02 43 56.8 +0.5**
TIP Timpagrande 24.36 280 ⇓P **P 02 43 57.1 -0.1**
TIP Timpagrande 24.36 280 P **P 02 43 57.3 +0.1**
VRAC Vranov 24.70 305 ⇑P **P 02 44 00.1 0.0**
VRAC Vranov 24.70 305 P **P 02 44 00.9 +0.8**
comp=Z,7.0nm,0.7s,baz=100,slow=10,SNR=11
VRAC LR LR 02 57 52.9
comp=Z,47nm,18.6s,baz=148,slow=47
VRAC Vranov 24.70 305 *e*P **P 02 44 01.0 +0.8**
KRUC Moravsky 24.78 304 *e*P **P 02 44 01.6 +0.8**
CONA Conrad Observa 24.93 301 *e*P **P 02 44 03.6 +1.3**
comp=Z,10.0nm,1.4s
ARSA Arzberg 25.06 300 *e*P **P 02 44 04.8 +1.3**
comp=Z,12nm,1.0s
DPC Dobruska-Polom 25.11 307 *e*P **P 02 44 04.7 +0.8**
DPC Dobruska-Polom 25.11 307 *e*P **P 02 44 04.7 +0.8**
KSP Ksiaz 25.25 308 *e*P **P 02 44 07.6 +2.4**
SOKA Soboth 25.34 298 *e*P **P 02 44 06.8 +0.8**
comp=Z,20nm,1.1s
CHVC Chvalec 25.34 307 *e*P **P 02 44 06.8 +0.9**
CHVC *ex* x 02 44 13.0
UPC Upice 25.34 307 *e*P **P 02 44 06.9 +1.0**
UPC Upice 25.34 307 *e*P **P 02 44 06.9 +1.0**
MAKZ Makanchi 25.70 62 P **P 02 44 08.9 -0.4**
MAKZ pmax pmax
comp=Z,21nm,1.0s
MAKZ Makanchi 25.70 62 ⇑P **P 02 44 10.6 +1.4**
comp=Z,23nm,0.9s
MAKZ Makanchi 25.70 62 P **P 02 44 08.8 -0.4**
MK31 Makanchi Array 25.91 62 *i* P **P 02 44 12.5 +1.3**
MK31 Makanchi Array 25.91 62 ⇑P **P 02 44 12.6 +1.3**
comp=Z,19nm,0.7s,baz=262,slow=7.1,SNR=188
MK31 Makanchi Array 25.91 62 P **P 02 44 11.3 +0.1**
MKAR Makanchi Array 25.91 62 P **P 02 44 12.7 +1.5**
comp=Z,20nm,0.7s,baz=262,slow=7.3,SNR=75
MKAR Makanchi Array 25.91 62 P **P 02 44 12.2 +1.0**
MKAR Makanchi Array 25.91 62 P **P 02 44 12.2 +1.0**
MOA Molln 25.98 301 *e*P **P 02 44 12.2 +0.4**
comp=Z,9.4nm,1.1s,SNR=4.7
CKRC Cesky Krumlov 26.09 303 *e*P **P 02 44 13.2 +0.5**
CKRC *ex* x 02 44 19.8
PRU Pruhonice 26.15 306 *e*P **P 02 44 16.5 +3.3**
PRU Pruhonice 26.15 306 *e*P **P 02 44 16.5 +3.3**
FINES FINESS Array B 26.20 336 P **P 02 44 13.9 +0.4**
comp=Z,1.3nm,0.3s,baz=143,slow=11,SNR=15
FINES LR LR 02 55 45.1
comp=Z,78nm,18.8s,baz=190,slow=39
FINES FINESS Array B 26.20 336 P **P 02 44 14.0 +0.4**
FINES FINESS Array B 26.20 336 P **P 02 44 14.2 +0.6**
PVCC Panska Ves 26.24 307 *e*P **P 02 44 17.6 +3.5**
PVCC *e* 02 44 24.9
PVCC Panska Ves 26.24 307 *e*P **P 02 44 17.6 +3.5**
PVCC *ex* x 02 44 24.9
GEC2 GERESS Array S 26.49 303 P **P 02 44 16.4 0.0**
GEC2 IAmb IAmb 02 44 18.6
comp=Z,19nm,1.1s
GERES GERESS Array B 26.49 303 P **P 02 44 17.4 +0.9**
comp=Z,11nm,0.9s,baz=103,slow=9.7,SNR=31
GERES GERESS Array B 26.49 303 P **P 02 44 17.1 +0.6**
GERES GERESS Array B 26.49 303 P **P 02 44 17.1 +0.6**
KHC Kasperske Hory 26.61 303 *e*P **P 02 44 16.8 -0.7**
KHC *e* 02 44 22.3
KHC Kasperske Hory 26.61 303 *e*P **P 02 44 16.8 -0.7**
KHC *ex* x 02 44 22.3
BRG Berggiesshubel 26.71 307 *e*P **P 02 44 19.6 +1.2**
BRG Amp 02 44 27.4
comp=Z,2.3nm,0.6s
BRG Berggiesshubel 26.71 307 *e*P **P 02 44 19.5 +1.2**
BRG pmax pmax
comp=Z,2.0nm,0.6s
CLL Collm 27.38 308 ⇓*i*P **P 02 44 25.3 +1.0**
CLL *i* *PP **sP 02 44 32.2 +0.2**
CLL pmax pmax
comp=Z,22nm,1.2s
CLL Collm 27.38 308 ⇓*i*P **P 02 44 25.3 +1.0**
comp=Z,22nm,1.2s
CLL *i* x x 02 44 32.2
comp=Z,14nm,0.8s
CLL *ex* x 02 44 36.0
CLL Collm 27.38 308 P **P 02 44 25.1 +0.8**
CLL IAmb IAmb 02 44 26.8
comp=Z,14nm,0.7s
WTTA Wattenberg 27.70 299 *e*P **P 02 44 27.7 +0.3**
comp=Z,7.0nm,0.6s,SNR=5.8
WATA Walderalm 27.74 299 *e*P **P 02 44 27.8 0.0**
comp=Z,15nm,1.1s
SQTA Sankt Quirin 27.99 299 *e*P **P 02 44 29.6 -0.4**
comp=Z,3.8nm,0.5s,SNR=5.6
MOTA Moosalm 28.07 299 *e*P **P 02 44 30.3 -0.4**
comp=Z,12nm,1.4s
FETA Feichten 28.30 299 *e*P **P 02 44 32.9 0.0**
comp=Z,8.9nm,1.1s,SNR=4.7
RETA Reutte 28.30 299 *e*P **P 02 44 32.3 -0.4**
comp=Z,8.4nm,1.1s
ZAA0 Zalesovo Array 28.82 47 P **P 02 44 37.1 0.0**
ZAA0 IAmb IAmb 02 44 38.6
comp=Z,7.7nm,1.0s
ZALV Zalesovo Beam 28.82 47 P **P 02 44 37.6 +0.5**
comp=Z,4.0nm,0.4s,baz=254,slow=9.9,SNR=19
DAVOX Davos/Dischmat 28.88 298 P **P 02 44 38.0 0.0**
comp=Z,7.1nm,0.5s,baz=113,slow=5.2,SNR=30
DAVA Damuels 28.89 299 *i* P **P 02 44 37.9 -0.2**
comp=Z,7.4nm,0.7s
DGZ Jazzator, Alta 29.61 56 *i* P **P 02 44 44.4 0.0**
DGZ pmax pmax
comp=Z,5.0nm,0.5s
WMQ Urumqi 29.73 68 *e*P **P 02 44 47.7 +2.3**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,64nm,3.9s
LVZ Lovozero 29.80 350 *i* P **P 02 44 45.4 -0.3**
LVZ pmax pmax
comp=Z,10.0nm,1.0s
HFS Hagfors 30.15 326 P **P 02 44 49.2 +0.3**
comp=Z,4.1nm,0.7s,baz=115,slow=10.0,SNR=9.4
PYUN Piuthan 30.78 100 *e*P **P 02 44 56.6 +1.6**
comp=Z,11nm,0.5s
KEST Kesra 30.92 276 P **P 02 44 57.1 +1.1**
comp=Z,3.0nm,0.8s,baz=293,slow=2.8,SNR=6.1
KEST LR LR 02 59 30.7
comp=Z,90nm,19.2s,baz=203,slow=41
DANN Dangsing 31.25 99 *e*P **P 02 45 01.0 +1.8**
comp=Z,34nm,0.5s
KOLN Koldanda 31.41 100 *e*P **P 02 45 01.4 +0.8**
comp=Z,7.2nm,0.6s
NC405 NORSAR Array S 31.48 326 P **P 02 44 59.3 -1.3**
NB2 NORSAR Subarra 31.66 326 P **P 02 45 01.5 -0.7**
comp=Z,1.6nm,0.6s,baz=118,slow=8.6
NOA NORSAR Array B 31.66 326 P **P 02 45 01.1 -1.2**
comp=Z,1.1nm,0.7s,baz=125,slow=9.1,SNR=8.8
GKN Gorkha 32.09 99 *e*P **P 02 45 07.8 +1.3**
comp=Z,20nm,0.5s
DMN Daman 32.65 99 *e*P **P 02 45 12.9 +1.4**
comp=Z,11nm,0.5s
KKN Kakani 32.69 99 *e*P **P 02 45 13.1 +1.3**
comp=Z,4.2nm,0.3s
ARCES ARCESS Array B 32.80 345 P **P 02 45 12.2 +0.1**
comp=Z,4.7nm,1.1s,baz=150,slow=8.1,SNR=5.9

ARCES ARCESS Array B 32.80 345 P **P 02 45 12.8 +0.8**
ARCES pmax pmax
comp=Z,3.0nm,1.1s
ARCES ARCESS Array B 32.80 345 P **P 02 45 12.8 +0.8**
PKIN Phulchoki 32.89 99 *e*P **P 02 45 14.5 +0.9**
comp=Z,10.0nm,0.6s
PKI Pulchoki 32.90 99 *e*P **P 02 45 14.8 +1.0**
comp=Z,10.0nm,0.6s
GUN Gumba 33.09 98 *e*P **P 02 45 16.7 +1.2**
CWF Charnwood Fore 36.32 309 *e*P **P 02 45 43.1 +0.4**
CWF IAmb IAmb 02 45 44.7
comp=Z,22nm,1.2s
GOMU GeErMu 36.67 80 P **P 02 45 47.5 +1.2**
GOMU pP sP 02 45 52.5 -1.5
GOMU sP pP 02 45 55.0 +3.2
GOMU S **S 02 51 36.1 +7.0**
GOMU sS ScP 02 51 46.4 -8.4
GOMU pmax pmax
comp=Z,3.0nm,1.0s
GOMU pmax pmax
comp=Z,64nm,5.0s
NRIK Noril'sk 36.76 22 P **P 02 45 47.3 +1.1**
comp=Z,3.1nm,0.7s,baz=234,slow=5.1,SNR=5.0
NRIK Noril'sk 36.76 22 *ce*P **P 02 45 47.4 +1.1**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
NRIK MLR MLR
comp=Z,43nm,18.0s
NRIK Noril'sk 36.76 22 P **P 02 45 45.5 -0.7**
EDMD Edmundbyers 36.81 312 *e*P **P 02 45 47.7 +0.8**
EDMD IAmb IAmb 02 45 48.0
comp=Z,18nm,0.7s
ESY Stoneypath 37.27 314 *e*P **P 02 45 51.4 +0.7**
EBL Broad Law 37.50 314 *e*P **P 02 45 53.4 +0.7**
ESK Eskdalemuir 37.56 313 *e*P **P 02 45 52.8 -0.4**
ESK IAmb IAmb 02 45 58.8
comp=Z,154nm,2.0s
INVG Invergeldie, C 38.11 315 *e*P **P 02 45 57.7 -0.2**
GTA Gaotai 39.47 73 *e*P **P 02 46 11.7 +2.1**
GTA pP sP 02 46 22.4 +5.1
GTA sP pP 02 46 26.3 +11
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,4.7s
GTA LR LR
comp=N,95nm,15.6s
GTA LR LR
comp=E,74nm,15.3s
GTA LR LR
comp=Z,120nm,17.4s
ZAK Zakamensk 39.81 55 *e*P **P 02 46 13.2 +0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
ESDC Sonseca Array 39.87 288 P **P 02 46 12.1 -0.8**
comp=Z,5.7nm,0.6s,baz=65,slow=8.6,SNR=52
ESDC Sonseca Array 39.87 288 P **P 02 46 12.2 -0.8**
SPITS Spitsbergen Ar 41.31 351 P **P 02 46 25.9 +1.7**
comp=Z,9.0nm,0.9s,baz=132,slow=11,SNR=6.7
SONM Songino Array 42.19 58 P **P 02 46 32.7 +0.8**
comp=Z,0.8nm,0.7s,baz=276,slow=9.3,SNR=9.4
SONM LR LR 03 07 36.8
comp=Z,67nm,18.1s,baz=294,slow=41
ULN Ulaanbaatar 42.62 58 *ce*P **P 02 46 36.9 +1.4**
ULN pmax pmax
comp=Z,11nm,1.7s
ULN Ulaanbaatar 42.62 58 P **P 02 46 33.3 -2.2**
ULN IAmb IAmb 02 46 38.0
comp=Z,8.7nm,1.1s
LZH Lanzhou 43.57 76 *e*P **P 02 46 45.4 +2.1**
LZH pP sP 02 46 54.5 +3.4
LZH sP pP 02 47 02.9 +14
LZH pmax pmax
comp=Z,16nm,1.3s
BOD Bodaibo 45.43 43 *e*P **P 02 46 58.3 +0.6**
BOD pmax pmax
comp=Z,11nm,0.9s
KMI Kunming 47.55 90 ⇓P **P 02 47 16.3 +1.2**
KMI pP sP 02 47 34.7 +12
KMI pmax pmax
comp=Z,18nm,0.8s
HHC Hu-ho-hao-te 47.59 67 *e*P **P 02 47 12.9 -2.1**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.2s
CMAR Chiang Mai Arr 48.28 100 P **P 02 47 21.1 +0.6**
comp=Z,1.0nm,0.4s,baz=305,slow=9.9,SNR=5.9
TORD Torodi Ar. Bea 48.46 251 P **P 02 47 20.4 -1.5**
comp=Z,2.0nm,0.5s,baz=56,slow=6.8,SNR=44
TORD Torodi Ar. Bea 48.46 251 P **P 02 47 20.6 -1.3**
TORD IAmb IAmb 02 47 21.4
comp=Z,5.2nm,1.2s
HIA Hailar 50.46 54 *i* P **P 02 47 37.2 +0.4**
HIA pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 50.49 24 P **P 02 47 36.7 +0.1**
comp=Z,0.8nm,0.2s,baz=324,slow=5.5,SNR=5.4
TIXI Tiksi 50.49 24 *i* P **P 02 47 36.4 -0.2**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
TIXI Tiksi 50.49 24 P **P 02 47 35.9 -0.7**
TIXI IAmb IAmb 02 47 47.5
comp=Z,7.9nm,1.5s
YAK Yakutsk 52.49 36 *i* P **P 02 47 51.6 -0.1**
YAK pmax pmax
comp=Z,4.0nm,0.9s
NJ2 Nanjing 56.55 74 *e*P **P 02 48 18.8 -2.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
DBIC Dimbokro 57.56 250 P **P 02 48 27.6 -1.4**
comp=Z,2.7nm,0.7s,baz=50,slow=9.2,SNR=4.3
KIC Kosan Boka 57.69 250 *e*P **P 02 48 28.2 -1.7**
comp=Z,11nm,0.8s
TIC Toumodi 57.70 250 *e*P **P 02 48 28.4 -1.6**
KLR Kul'dur 57.84 50 P **P 02 48 31.1 +0.6**
comp=Z,1.5nm,0.7s,baz=297,slow=6.1,SNR=5.8
KLR LR LR 03 15 50.9
comp=Z,48nm,19.8s,baz=272,slow=39
KLR Kul'dur 57.84 50 *i* P **P 02 48 30.6 0.0**
KLR pmax pmax
comp=Z,13nm,3.8s
LIC Lamto 57.99 250 *e*P **P 02 48 30.6 -1.4**
comp=Z,26nm,0.8s
KSRS Korea Array 60.56 64 P **P 02 48 50.0 +0.5**
comp=Z,2.9nm,0.7s,baz=295,slow=6.8,SNR=6.9
KSRS Korea Array 60.56 64 P **P 02 48 50.0 +0.5**
BILL Bilibino 63.59 22 *e*P **P 02 49 09.6 +0.2**
BILL *e* 02 51 31.0
BILL pmax pmax
comp=Z,2.0nm,0.9s
LBTB Lobatse 67.23 202 P **P 02 49 33.5 0.0**
comp=Z,2.8nm,0.7s,baz=12,slow=7.3,SNR=5.6
KSM Kuching 67.64 107 P **P 02 49 35.0 -1.4**
BOSA Boshof 70.72 201 P **P 02 49 54.7 -0.5**
comp=Z,1.5nm,0.7s,baz=47,slow=3.8,SNR=7.5
SCHQ Schefferville 71.23 326 P **P 02 49 57.8 -0.2**
comp=Z,2.3nm,0.9s,baz=61,slow=17,SNR=1.2
INK Inuvik 72.88 1 P **P 02 50 07.6 0.0**
comp=Z,0.5nm,0.8s,baz=87,slow=19,SNR=2.0
SUR Sutherland 75.57 204 P **P 02 50 23.3 -0.6**
comp=Z,8.8nm,1.0s,baz=18,slow=20,SNR=1.9
SUR LR LR 03 24 25.6
comp=Z,65nm,21.5s,baz=334,slow=36
ILAR Eielson Array 75.76 7 P **P 02 50 24.9 +0.5**
comp=Z,0.3nm,0.7s,baz=332,slow=5.1,SNR=2.9
YKA Yellowknife Ar 77.79 352 P **P 02 50 35.9 0.0**
comp=Z,0.3nm,0.5s,baz=15,slow=5.8,SNR=8.2
YKA Yellowknife Ar 77.79 352 P **P 02 50 36.4 +0.5**
YKA Yellowknife Ar 77.79 352 P **P 02 50 36.4 +0.5**

IDC ***12*** *02:40:09.6±0.7, 3°.74N×127°.02E, h0km, mb4.0/9, mb1 4.0/10, mb1mx3.6/58, mbtmp4.0/10, ML3.8/1, MS3.4/7, Ms1 3.4/7, ms1mx2.9/74, Error ellipse: s-maj=63.1km s-min=14.2km az=69.0*
NEIC ***12*** *02:40:10.2±1.9, 3°.87N±0°.05×127°.5E±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=24.1km s-min=6.6km az=74.0*
ISC 12 02:40:10.4±0.6, **3°.88N**±0°.06×**127°.4E**±0°.1, **h10**km, **n34,**
σ0**94**/32, **mb4.2**/14, **MS3.5**/5, **2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**		**2.81**	**322** ⇓*e*P		**Pn**	**02 40 54.9**	**-0.5**

TNTI	Ternate	3.09	181	Pn	Pn	02 40 58.0	-1.2
TNTI				Sn	Sn	02 41 37.4	+1.2
KCP	Kidapawan	3.90	323	⇓P	Pb	02 41 17.6	-1.6
KCP				*i* S	Sg	02 42 15.5	0.0
SIJI	Sorong	6.07	141	Pn	Pn	02 41 45.0	+4.8
	2.2nm,0.3s,baz=322,slow=11,SNR=4.5						
LUWI	Luwuk	6.76	224	Pn	Pn	02 41 49.2	-0.5
TOLI2	Tolitoli	7.20	248		Pn	02 41 56.4	+0.6
KAPI	Kappang	11.71	221	LR	LR	02 47 23.5	
	comp=Z,61nm,19.5s,baz=98,slow=38						
MTN	Manton Dam	17.01	168		Pn	02 44 08.9	+0.3
MTN				IAmb	IAmb	02 44 14.3	
	comp=Z,8.1nm,0.5s						
KNRA	Kununurra	19.47	176	P	P	02 44 37.7	+0.2
KNRA				IAmb	IAmb	02 44 38.3	
	comp=Z,13nm,0.9s						
GUMO	Guam	19.72	60	LR	LR	02 51 02.2	
	comp=Z,52nm,20.4s,baz=88,slow=32						
TPUB	Ta-pu	20.40	342	P	P	02 44 47.0	-0.6
FITZ	Fitzroy Crossi	21.91	185	P	P	02 45 02.8	-1.1
	comp=Z,1.3nm,0.5s,baz=328,slow=5.2,SNR=3.0						
WB0	Warramunga Arr	24.47	164	P	P	02 45 28.3	-1.5
WB0				IAmb	IAmb	02 45 37.5	
	comp=Z,13nm,0.9s						
WRAB	Tennant Creek	24.62	164	P	P	02 45 31.0	-0.1
WRAB				IAmb	IAmb	02 45 32.9	
	comp=Z,17nm,1.1s						
WRA	Warramunga Arr	24.62	164	P	P	02 45 31.6	+0.4
	comp=Z,79nm,0.4s,baz=343,slow=11,SNR=1.1						
WRA				PcP	PcP	02 49 09.5	+0.5
	comp=Z,176nm,0.8s,baz=330,slow=2.3,SNR=1.8						
WR0	Warramunga Arr	24.69	164	P	P	02 45 30.7	-1.1
WR0				IAmb	IAmb	02 45 33.7	
	comp=Z,8.9nm,0.9s						
ASAR	Alice Springs	28.09	167	P	P	02 46 02.4	-0.1
	comp=Z,0.5nm,0.4s,baz=344,slow=6.8,SNR=6.7						
ASAR				PcP	PcP	02 49 17.6	+0.5
	comp=Z,0.4nm,0.6s,baz=349,slow=2.9,SNR=2.7						
JHJ	Hachijo jima 2	31.29	20	LR	LR	02 59 30.1	
	comp=Z,48nm,18.5s,baz=224,slow=37						
MJAR	Matsushiro Arr	33.98	16	LR	LR	03 01 39.1	
	comp=Z,54nm,19.0s,baz=200,slow=38						
STKA	Stephens Creek	38.02	160	P	P	02 47 29.7	+0.8
	comp=Z,2.9nm,0.5s,baz=335,slow=8.1,SNR=15						
STKA	Stephens Creek	38.02	160	P	P	02 47 28.4	-0.5
SONM	Songino Array	47.39	341	P	P	02 48 45.7	+0.8
	comp=Z,0.7nm,0.8s,baz=159,slow=6.6,SNR=4.5						
SONM				PcP	PcP	02 50 17.2	+1.6
	comp=Z,0.4nm,0.8s,baz=145,slow=5.3,SNR=2.5						
SONM	Songino Array	47.39	341	P	P	02 48 46.1	+1.2
MKAR	Makanchi Array	57.84	325	P	P	02 50 01.5	-0.8
	comp=Z,0.6nm,0.4s,baz=119,slow=8.1,SNR=6.4						
MKAR				PcP	PcP	02 50 55.2	+0.4
	comp=Z,1.1nm,0.8s,baz=90,slow=3.6,SNR=3.6						
AAK	Ala-Archa	60.73	318	LR	LR	03 18 36.9	
	comp=Z,52nm,19.4s,baz=122,slow=38						
ZALV	Zalesovo Beam	60.78	333	P	P	02 50 23.3	+0.8
	comp=Z,0.5nm,0.4s,baz=123,slow=10,SNR=2.1						
KURBB	Kurchatov Arra	62.00	327	P	P	02 50 30.4	-0.3
	comp=Z,1.3nm,0.8s,baz=127,slow=7.2,SNR=8.6						
KURK	Kurchatov	62.00	327	P	P	02 50 30.5	-0.3
KURK				IAmb	IAmb	02 50 36.4	
	comp=Z,4.0nm,0.6s						
BVAR	Borovoye Array	67.59	327	P	P	02 51 08.9	+1.8
	comp=Z,1.1nm,0.7s,baz=125,slow=7.6,SNR=4.8						
TIXI	Tiksi	67.69	0	P	P	02 51 07.9	+0.5
	comp=Z,1.4nm,0.2s,baz=150,slow=3.9,SNR=4.5						
TIXI	Tiksi	67.69	0	P	P	02 51 07.5	+0.1
TIXI				IAmb	IAmb	02 51 10.9	
	comp=Z,5.6nm,1.4s						
CASY	Casey	71.05	187	P	P	02 51 26.6	-1.6
AKASG	Malin Array Be	92.23	321	LR	LR	03 38 04.5	
	comp=Z,52nm,18.2s,baz=252,slow=38						
NOA	NORSAR Array B	98.97	334	LR	LR	03 41 31.7	
	comp=Z,14nm,18.1s,baz=290,slow=37						

*IDC **12** 02:46:47.0±1.1,30°.23N×102°.90E,h0km,mb3.5/7, mb1 3.6/8,mb1mx3.3/48,mbtmp3.5/8,ML3.2/1,Error ellipse: s-maj=41.6km s-min=18.9km az=61.0*

ISC 12 02:46:48.7±0.8,30°.26N±0°.07×103°.0E±0°.1,h10km,n12, σ1§77/15,mb3.6/8,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.91	45	Sg	Sg	02 47 19.2	+1.1
CD2	Chengdu	0.91	45	Pg	Pg	02 47 06.8	+0.6
PZH	PanZhiHua	3.91	197	Pn	Pb	02 47 54.9	-2.9
PZH				Pg	Pg	02 48 06.8	+3.2
PZH				Sn	Sb	02 48 42.1	-3.1
PZH				Sg	Sg	02 48 55.8	+1.5
PZH				smax	smax		
	comp=N,40nm,0.9s						
PZH				smax	smax		
	comp=E,40nm,0.9s						
SONM	Songino Array	17.74	7	P	P	02 50 58.0	+1.3
	comp=E,0.1nm,0.3s,baz=194,slow=10,SNR=2.4						
KSRS	Korea Array	21.86	64	P	P	02 51 42.4	+1.0
	comp=E,1.5nm,0.8s,baz=248,slow=10,SNR=2.6						
MKAR	Makanchi Array	23.03	322	P	P	02 51 54.3	+0.5
	comp=E,0.6nm,0.7s,baz=123,slow=10,SNR=2.9						
ZALV	Zalesovo Beam	27.09	336	P	P	02 52 31.1	-0.3
	comp=E,0.4nm,0.5s,baz=124,slow=7.2,SNR=2.5						
KURBB	Kurchatov Arra	27.36	325	P	P	02 52 33.2	-0.7
	comp=E,0.2nm,0.4s,baz=125,slow=9.7,SNR=1.4						
WRA	Warramunga Arr	58.31	145	P	P	02 56 44.7	+0.7
	comp=E,53nm,0.4s,baz=337,slow=7.3,SNR=1.0						
ASAR	Alice Springs	61.27	148	P	P	02 57 05.2	+0.8
	comp=E,0.3nm,0.6s,baz=329,slow=7.1,SNR=6.0						
STKA	Stephens Creek	71.83	146	P	P	02 58 10.8	-0.8
	comp=E,0.5nm,0.5s,baz=320,slow=7.8,SNR=3.8						
YKA	Yellowknife Ar	82.77	17	P	P	02 59 12.0	-0.6
	comp=E,0.5nm,0.7s,baz=330,slow=4.6,SNR=8.0						

*ISU **12** 02:49:15,39°.10N×68°.70E,h5km*
*NNC **12** 02:49:17.1±5.1,38°.92N×68°.69E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=47.4km s-min=28.9km az=173.0*

ISC 12 02:49:19.0±2.0,39°.0N±0°.1×68°.65E±0°.05,h10km,n8, σ2§73/13,2C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTAB	Kitab	1.38	275	*i* P	Pn	02 49 44.0	-0.4
AGL	Agalyk	1.46	290	*i* P	Pn	02 49 45.0	-0.5
AGL				*i* S	Sg	02 50 07.0	+1.1
BTK	Batken	1.96	58	*e*P	Pn	02 49 51.0	-1.4
BTK				*e*S	Sn	02 50 11.0	-6.1
FRG	Fergana	2.76	60	*e*S	Sn	02 50 39.0	+2.2
CHRV	Charvak	2.78	20	*e*P	Pn	02 50 04.0	+0.3
CHRV				*e*S	Sn	02 50 35.0	-2.4
KK09	Karatay Array	4.31	18	⇓Pn	Pn	02 50 24.1	-0.6
	0.7nm,0.3s,baz=195,slow=13						
KK09				⇓Lg	Lg	02 51 37.8	
	6.9nm,0.6s,baz=198,slow=27						
AAK	Ala-Archa	5.71	49	⇓Pn	Pn	02 50 44.1	+0.1
	4.8nm,0.9s						
AAK				⇓Sn	Sn	02 51 54.0	+4.4
	3.8nm,0.6s						
AAK				⇑Lg	Lg	02 52 19.7	
	4.8nm,0.8s						
TKM2	Tokmak 2	6.53	51	⇓Pn	Pn	02 50 57.0	+1.7
	3.5nm,1.0s						
TKM2				⇑Sn	Sn	02 52 09.9	-0.1
	1.9nm,0.6s						
TKM2				⇓Lg	Lg	02 52 47.2	
	5.6nm,1.0s						

IDC 12 03:00:05.0±2.4,4°.08N×127°.52E,h0km,mb3.3/2, mb1 3.3/2,mb1mx3.2/27,mbtmp3.3/2,MS3.3/2,Ms1 3.3/2, ms1mx2.5/74,Error ellipse: s-maj=178.6km s-min=29.1km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.80	165	P	P	03 05 27.4	-1.5
	103nm,0.4s,baz=344,slow=11,SNR=1.8						
ASAR	Alice Springs	28.27	168	P	P	03 06 01.7	+1.5
	0.2nm,0.6s,baz=342,slow=12,SNR=2.0						
MKAR	Makanchi Array	57.72	325	P	P	03 09 57.6	-0.1
	0.3nm,0.6s,baz=116,slow=7.7,SNR=4.6						
YAK	Yakutsk	57.84	1	LR	LR	03 40 05.1	
	comp=Z,12nm,18.2s,baz=68,slow=42						
AFI	Afiamalu	62.80	108	LR	LR	03 35 49.4	
	comp=Z,37nm,18.3s,baz=104,slow=34						

JMA 12 03:02:27.6±0.1,36°.60N×137°.86E,h14km±1km,M0.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.27	135	P	Pg	03 02 33.1	-0.3
JNG				S	Sg	03 02 36.9	-0.5
MAT	Matsushiro	0.28	101	P	Pg	03 02 33.1	-0.5
MAT				S	Sg	03 02 37.0	-0.7
MAT	Matsushiro	0.28	101	P	Pn	03 02 37.4	0.0
MAT	Matsushiro	0.28	101	P	Pg	03 02 33.1	-0.5
MAT				S	Sg	03 02 37.1	-0.6

JMA 12 03:02:32.0±0.2,36°.61N×137°.84E,h13km±2km,M0.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.29	134	S	Sg	03 02 41.3	-0.9
MAT	Matsushiro	0.30	103	S	Sg	03 02 41.4	-1.1
MAT	Matsushiro	0.30	103	S	Sg	03 02 41.4	-1.1

*IDC **12** 03:05:28.6±2.4,2°.29S×125°.55E,h0km,mb3.6/2, mb1 3.8/2,mb1mx2.9/44,mbtmp3.7/2,ML5.8/1,Error ellipse: s-maj=371.2km s-min=25.3km az=64.0*
*DJA **12** 03:05:32.5±0.6,2°.5S±5°×12°.6E±°,h17km±5km,M3.9/8, mb4.6/1,MLv3.6/8*

ISC 12 03:05:31.1±1.0,1°.95S±0°.09×125°.80E±0°.06,h10km,n9, σ2§19/10,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	0.21	117	P	Pg	03 05 37.9	+2.4
LBMI	Labuha	2.14	52	P	Pn	03 06 07.4	+0.5
LBMI				S	Sn	03 06 32.3	-1.3
AAI	Ambon	2.95	126	P	Pn	03 06 18.6	+0.6
MSAI	Masohi	3.42	114	P	Pn	03 06 25.7	+1.2
APSI	Ampana	4.28	284	P	Pn	03 06 37.4	+1.1
BKSI	Bulukumba	6.58	239	P	Pn	03 07 09.0	+1.0
WRA	Warramunga Arr	19.73	156	P	P	03 09 58.3	-2.8
	31nm,0.3s,baz=331,slow=12,SNR=1.2						
ASAR	Alice Springs	22.97	161	P	P	03 10 32.2	-3.7
	1.8nm,0.7s,baz=344,slow=12,SNR=28						
MKAR	Makanchi Array	61.74	328	P	P	03 15 49.9	+0.1
	0.4nm,0.5s,baz=128,slow=8.0,SNR=8.5						

*IDC **12** 03:08:13.0±1.0,3°.57N×126°.64E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.4/51,mbtmp3.8/5,MS2.9/2,Ms1 3.0/2, ms1mx2.4/77,Error ellipse: s-maj=85.2km s-min=17.6km az=71.0*
*NEIC **12** 03:08:35.0±0.3,2°.30N±0°.07×127°.0E±0°.1,h81km±16km, mb4.5/10,Error ellipse: s-maj=20.2km s-min=7.9km az=112.0*

ISC 12 03:08:19.3±0.8,3°.7N±0°.1×127°.1E±0°.2,h48km,n20, σ1§22/20,mb4.4/10,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	6.39	223	Pn	Pn	03 09 52.9	+1.8
FAKI	Fak Fak	8.36	142	Pn	Pn	03 10 19.4	+1.5
MTN	Manton Dam	16.92	166		Pn	03 12 11.3	-1.6
KNRA	Kununurra	19.33	175	P	P	03 12 38.2	-2.6
KNRA				IAmb	IAmb	03 12 43.4	
	comp=Z,24nm,1.3s						
FITZ	Fitzroy Crossi	21.71	184	P	P	03 13 04.0	-2.6
	comp=Z,1.3nm,0.4s,baz=13,slow=12,SNR=16						
LEM	Lembang	22.08	242	LR	LR	03 22 26.1	
	comp=Z,55nm,18.0s,baz=32,slow=40						
WB0	Warramunga Arr	24.40	163	P	P	03 13 33.1	-0.3
WB0				IAmb	IAmb	03 13 34.5	
	comp=Z,14nm,0.8s						
WRAB	Tennant Creek	24.55	163	P	P	03 13 34.4	-0.4
WRAB				IAmb	IAmb	03 13 36.1	
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	24.55	163	P	P	03 13 34.7	-0.1
	comp=Z,91nm,0.4s,baz=343,slow=10,SNR=1.6						
WRA	Warramunga Arr	24.55	163	P	P	03 13 33.9	-1.0
WR0	Warramunga Arr	24.63	163	P	P	03 13 35.3	-0.2
WR0				IAmb	IAmb	03 13 36.8	
	comp=Z,10nm,0.8s						
ASAR	Alice Springs	28.00	167	P	P	03 14 05.6	-0.3
	comp=Z,0.6nm,0.7s,baz=347,slow=7.9,SNR=8.6						
ASAR				PcP	PcP	03 17 21.0	+0.8
	comp=Z,0.4nm,0.7s,baz=352,slow=1.3,SNR=3.1						
CMAR	Chiang Mai Arr	31.20	300	LR	LR	03 28 48.0	
	comp=Z,12nm,18.2s,baz=165,slow=40						
ENH	Enshi	31.23	330	P	P	03 14 56.6	+22
FORT	Forrest	34.30	179	P	P	03 15 00.9	-0.4
FORT				IAmb	IAmb	03 15 03.3	
	comp=Z,9.3nm,0.8s						
BBOO	Buckleboo	37.30	167	P	P	03 15 26.8	-0.1
BBOO				IAmb	IAmb	03 15 27.8	
	comp=Z,12nm,1.2s						
STKA	Stephens Creek	37.98	160	P	P	03 15 33.2	+0.6
	comp=Z,3.9nm,0.8s,baz=343,slow=8.1,SNR=14						
STKA	Stephens Creek	37.98	160	P	P	03 15 33.3	+0.6
SONM	Songino Array	47.44	341	P	P	03 16 49.3	-0.1
	comp=Z,0.3nm,0.5s,baz=153,slow=7.6,SNR=2.8						
SONM				PcP	PcP	03 18 20.1	+1.0
	comp=Z,0.5nm,0.8s,baz=134,slow=4.3,SNR=4.1						
MKAR	Makanchi Array	57.78	325	P	P	03 18 05.0	-0.7
	comp=Z,0.7nm,0.7s,baz=116,slow=9.0,SNR=9.5						
MKAR				PcP	PcP	03 18 57.4	-0.6
	comp=Z,0.6nm,0.7s,baz=111,slow=3.6,SNR=2.3						

*IDC **12** 03:13:28.8±1.0,51°.86N×175°.17W,h0km,mb3.8/7, mb1 4.0/9,mb1mx3.5/51,mbtmp3.7/9,ML3.6/2,MS3.5/2, Ms1 3.4/2,ms1mx2.5/98,Error ellipse: s-maj=34.9km s-min=19.7km az=155.0*
*AEIC **12** 03:13:36±1.2,51°.8N±0°.2×175°.05W±0°.08,h64km±7km, ML3.5,mb3.9/2(NEIC),Error ellipse: s-maj=24.3km s-min=4.2km az=164.0*
*NEIC **12** 03:13:37.2±1.1,51°.8N±0°.2×175°.05W±0°.10,h66km±9km, Error ellipse: s-maj=27.3km s-min=4.4km az=164.0*

ISC 12 03:13:36.5±0.8,51°.8N±0°.1×175°.02W±0°.04,h59km,n57, σ1§03/53,mb3.9/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.60	291		Pn	03 13 49.9	+0.4
ATKA	Atka Island	0.67	49		Pn	03 13 50.4	+0.1
ATKA					Sn	03 14 01.2	+0.8
GSMY	Great Sitkin M	0.70	294		Pn	03 13 51.4	+0.7
GSCK	Great Sitkin C	0.75	289		Pn	03 13 51.8	+0.5
KOKL	Mount Kliuchef	0.75	42		Pn	03 13 52.3	+0.9
KOKL					Sn	03 14 03.5	+1.3
GSTD	Great Sitkin T	0.75	293		Pn	03 13 52.1	+0.7
KOFP	Korovin Flat P	0.76	48		Pn	03 13 52.3	+0.8
KOWE	Korovin West	0.76	38		Pn	03 13 52.7	+1.3
KOSE	Korovin Southe	0.83	46		Pn	03 13 53.6	+1.2
ETKA	Kagalaska Isla	0.86	277		Pn	03 13 52.8	+0.1
ADAG	Mount Adagdak	1.00	283		Pn	03 13 55.8	+1.3
KIRH	Kanaga Island	1.29	277		Pn	03 13 59.2	+0.9
KINC	Kanaga Island	1.32	278		Pn	03 13 59.6	+1.0
KIWB	Kanaga Island	1.32	274		Pn	03 13 59.4	+0.6
KIWB					Sn	03 14 16.6	+1.1
KIKV	Kanaga Island	1.34	276		Pn	03 13 59.5	+0.5
KICM	Kanaga Island	1.36	277		Pn	03 14 00.1	+0.9
KIMD	Kanaga Island	1.38	271		Pn	03 13 59.6	+0.2
TAPA	Tanaga Point A	1.73	273		Pn	03 14 05.0	+0.7
TAFL	Tanaga Flats	1.79	271		Pn	03 14 05.6	+0.6
TAFP	Tanaga Falls P	1.84	275		Pn	03 14 06.7	+0.9
TAFP					Sn	03 14 29.0	+1.0
TASE	Tanaga Southea	1.87	273		Pn	03 14 07.2	+1.0
GAEA	Gareloi East	2.31	272		Pn	03 14 13.3	+1.1
GALAA	Gareloi Lava P	2.33	271		Pn	03 14 13.3	+0.9
GASW	Gareloi Southw	2.38	272		Pn	03 14 13.4	+0.3
CLES	Cleveland East	3.32	69		Pn	03 14 25.9	0.0
CLES				Sn	Sn	03 15 04.0	0.0
CLCO	Concord Point,	3.41	71		Pn	03 14 27.8	+0.7
NIKH	Nikolski High	3.97	70		Pn	03 14 35.5	+0.8
OKSP	Okmok Steeple	4.37	68		Pn	03 14 41.5	+1.1
OKSO	Okmok South	4.48	67		Pn	03 14 42.9	+1.2
OKTU	Okmok Mt. Tuli	4.55	66		Pn	03 14 44.1	+1.3
MAPS	Pakushin South	5.31	64		Pn	03 14 54.3	+1.1
UNV	Unalaska Valle	5.57	65		Pn	03 14 57.7	+1.1
ZRO	Akutan Zero	5.94	63		Pn	03 15 03.6	+1.8

KDAK	Kodiak Island	14.24	56	Pn	Pn	03 16 51.3	-3.5
	0.2nm,0.3s,baz=187,slow=14,SNR=1.3						
L19K	White Mountain	15.08	38	Pn	Pn	03 17 04.8	-0.9
L19K				IAmb	IAmb	03 17 15.5	
	comp=Z,9.0nm,1.4s						
PPLA	Purkeypile	16.50	39		P	03 17 24.8	-0.9
PPLA				IAmb	IAmb	03 17 27.1	
	comp=Z,16nm,1.4s						
ILAR	Eielson Array	19.48	37	P	P	03 17 57.5	-0.7
	comp=Z,0.3nm,0.3s,baz=220,slow=9.5,SNR=6.0						
INK	Inuvik	25.79	34	P	P	03 19 01.1	-0.4
	comp=Z,0.2nm,0.4s,baz=111,slow=12,SNR=1.4						
BBB	Bella Bella	28.51	70	LR	LR	03 28 32.1	
	comp=Z,142nm,18.6s,baz=178,slow=32						
YKA	Yellowknife Ar	33.24	47	P	P	03 20 07.6	+0.1
	comp=Z,0.1nm,0.4s,baz=284,slow=7.7,SNR=2.3						
YKA				PcP	PcP	03 22 48.6	+0.2
	comp=Z,0.2nm,0.5s,baz=287,slow=3.0,SNR=7.3						
YKA				LR	LR	03 34 34.2	
	comp=Z,40nm,20.3s,baz=326,slow=38						
H11N2	WAKE ISLAND Hy	34.98	211	T	T	03 57 08.2	
	baz=18,slow=76,SNR=33						
H11N3	WAKE ISLAND Hy	34.98	211	T	T	03 57 11.6	
	baz=18,slow=76,SNR=33						
H11N1	WAKE ISLAND Hy	34.99	211	T	T	03 57 13.4	
	baz=18,slow=76,SNR=33						
H11S1	WAKE ISLAND Hy	36.19	210	T	T	03 59 03.2	
	baz=19,slow=76,SNR=51						
H11S2	WAKE ISLAND Hy	36.20	210	T	T	03 59 25.0	
	baz=19,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	36.20	210	T	T	03 59 15.1	
	baz=19,slow=76,SNR=16						
NEW	Newport	36.53	72	P	P	03 20 36.5	+0.4
	comp=Z,2.3nm,0.9s,baz=249,slow=6.4,SNR=4.5						
PDAR	Pinedale Array	43.94	75	P	P	03 21 37.9	+0.3
	comp=Z,1.3nm,0.6s,baz=308,slow=4.4,SNR=16						
PDAR	Pinedale Array	43.94	75	P	P	03 21 37.6	+0.1
ARCES	ARCESS Array B	58.08	352	P	P	03 23 22.7	-0.3
	comp=Z,6.9nm,1.1s,baz=24,slow=6.9,SNR=2.2						
MKAR	Makanchi Array	61.61	310	P	P	03 23 46.6	-0.9
	comp=Z,0.2nm,0.3s,baz=52,slow=7.6,SNR=8.9						
WRA	Warramunga Arr	83.97	227	P	P	03 26 02.4	+2.3
	comp=Z,82nm,0.5s,baz=16,slow=8.5,SNR=1.1						
ASAR	Alice Springs	87.41	226	P	P	03 26 16.6	-0.6
	comp=Z,0.7nm,0.7s,baz=29,slow=4.5,SNR=7.3						
ASAR	Alice Springs	87.41	226	P	P	03 26 16.4	-0.7
H03N2	Juan Fernandez	119.00	108	T	T	05 43 40.1	
	baz=317,slow=78,SNR=2.2						
H03N1	Juan Fernandez	119.02	108	T	T	05 43 55.8	
	baz=317,slow=78,SNR=9.1						
H03N3	Juan Fernandez	119.02	108	T	T	05 43 55.2	
	baz=317,slow=78,SNR=3.2						

*IGIL **12** 03:22:43.3,36°.51N×9°.70W,h30km,ML2.0*
*INMG **12** 03:22:43.7±1.1,36°.52N×9°.69W,h31km,ML2.0,Error ellipse: s-maj=4.8km s-min=3.2km az=76.0*
*CNRM **12** 03:22:52.9,35°.18N×9°.22W,h254km,ml3.1*

ISC 12 03:22:39.4±1.6,36°.42N±0°.04×9°.80W±0°.09,h35km,n25, σ1§67/44,5C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.05	47⇑	*e*P	Pn	03 22 59.1	+1.4
PFVI				*e*S	Sn	03 23 10.9	-0.2
PFVI				A	A	03 23 12.9	
	17nm,0.2s						
MORF	Marmelete	1.27	46	*e*P	Pn	03 23 02.2	+1.4
MORF				*e*S	Sn	03 23 15.6	-1.0
MORF				IAML		03 23 17.2	
	comp=N,30nm,0.2s						
MORF	Marmelete	1.27	46⇑	*e*P	Pn	03 23 02.2	+1.4
MORF				*e*S	Sn	03 23 15.3	-1.4
MORF				A	A	03 23 17.9	
	comp=N,23nm,0.2s						
PTEO	Sao Teotonio	1.41	37	*e*P	Pn	03 23 04.3	+1.7
PTEO				*e*S	Sn	03 23 19.4	-0.6
PTEO				A	A	03 23 20.5	
	comp=N,11nm,0.2s						
PBDV	Barranco-do-Ve	1.71	61⇑	*e*P	Pn	03 23 08.4	+1.7
PBDV				*e*S	Sn	03 23 26.5	-0.8
PBDV				A	A	03 23 34.0	
	comp=N,3.9nm,0.3s						
PCVE	Castro Verde	1.85	49⇑	*e*Pn	Pn	03 23 10.4	+1.7
PCVE				*e*Sn	Sn	03 23 30.8	-0.1
PCVE				A	A	03 23 31.8	
	comp=N,4.7nm,0.3s						
MESJ	Messejana	1.90	41	*e*P	Pn	03 23 10.7	+1.5
MESJ				*e*S	Sn	03 23 30.9	-1.0
MESJ				IAML		03 23 33.2	
	comp=N,11nm,0.1s						
MESJ	Messejana	1.90	41	*e*P	Pn	03 23 10.7	+1.5
MESJ				*e*S	Sn	03 23 30.9	-1.0
MESJ				iAML		03 23 33.2	
PVAQ	Vaqueiros	1.94	59⇑	*e*Pn	Pn	03 23 11.4	+1.6
PVAQ				*e*Sn	Sn	03 23 31.8	-1.1
PVAQ				A	A	03 23 33.6	
	comp=N,7.4nm,0.1s						
PNCL	Nicolau / Gran	1.97	31	*e*Pn	Pn	03 23 11.7	+1.5
PNCL				*e*Sn	Sn	03 23 32.5	-1.2
PNCL				A	A	03 23 36.6	
	comp=N,6.3nm,0.2s						
PBEJ	Beja	2.22	43	*e*Pn	Pn	03 23 14.9	+1.2
PBEJ				*e*Sn	Sn	03 23 38.9	-1.1
PBEJ				A	A	03 23 40.3	
	comp=N,3.6nm,0.1s						
PMST	Lisbon--Monsan	2.36	12	*e*Sn	Sn	03 23 42.8	-0.6
EVO	Evora	2.54	33	*e*Pn	Pn	03 23 19.6	+1.5
EVO				*e*Sn	Sn	03 23 46.2	-1.6
EVO				A	A	03 23 48.4	
	comp=N,13nm,0.1s						
PMAFR	Mafra	2.56	9	*e*Pn	Pn	03

IDC 12 03:53:12.7±9.0, 4°.61S×153°.41E, h132km±61km, mb3.4/2, mb1 3.7/3, mb1mx3.2/25, mbtmp4.1/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/60, Error ellipse: s-maj=110.0km s-min=59.4km az=124.0

ISC 12 03:53:14.9±2.5, 4°.7S±0°.8×153°.4E±0°.7, h150km, n6, σ0°72/6, mb3.9/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.72**	**233**	P	**Pn**	**03 55 04.2**	**-0.5**
	4.8nm,0.3s,baz=42,slow=6.4,SNR=7.3						
PMG				S	**Sn**	**03 56 30.8**	**-0.1**
	3.0nm,0.3s,baz=298,slow=21,SNR=1.8						
PMG				LR	LR	03 57 41.2	
	comp=Z,60nm,21.3s,baz=157,slow=34						
HNR	**Honiara**	**8.01**	**126**	LR	LR	03 58 19.2	
	comp=Z,73nm,20.2s,baz=4.0,slow=38						
WRA	**Warramunga Arr**	**23.92**	**229**	P	**P**	**03 58 15.5**	**+0.2**
	101nm,0.7s,baz=54,slow=9.8,SNR=1.5						
ASAR	**Alice Springs**	**26.59**	**223**	P	**P**	**03 58 39.8**	**+0.4**
	0.6nm,0.8s,baz=56,slow=8.9,SNR=6.2						
FITZ	**Fitzroy Crossi**	**30.20**	**242**	P	**P**	**03 59 12.2**	**+0.8**
	1.9nm,0.7s,baz=52,slow=7.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**150.84**	**289**	PKPbc	**PKPbc**	**04 12 50.1**	**-0.7**
	0.4nm,0.7s,baz=102,slow=2.0,SNR=4.5						

IDC 12 04:26:33.6±14.0, 6°.94S×154°.79E, h201km±136km, mb3.4/5, mb1 3.6/6, mb1mx3.3/37, mbtmp3.9/6, MS3.2/3, Ms1 3.2/3, ms1mx2.6/61, Error ellipse: s-maj=64.6km s-min=25.8km az=167.0

ISC 12 04:26:17.8±0.9, 6°.6S±0°.2×154°.8E±0°.2, h56km, n11, σ1°13/8, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.07**	**249**	LR	LR	04 31 27.6	
	comp=Z,96nm,18.5s,baz=47,slow=37						
JAY	**Jayapura**	**14.60**	**285**	LR	LR	04 36 16.8	
	comp=Z,53nm,19.3s,baz=353,slow=40						
DZM	**Mont Dzumac**	**19.10**	**145**	P	**Pn**	**04 30 38.2**	**+0.7**
	0.2nm,0.3s,baz=320,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**23.91**	**234**	P	**P**	**04 31 27.1**	**+0.4**
	102nm,0.6s,baz=57,slow=9.6,SNR=2.3						
ASAR	**Alice Springs**	**26.32**	**227**	P	**P**	**04 31 48.5**	**-0.1**
	1.0nm,0.4s,baz=57,slow=9.1,SNR=20						
STKA	**Stephens Creek**	**28.05**	**204**	P	**P**	**04 32 03.6**	**-0.4**
	1.0nm,0.7s,baz=6.9,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**82.94**	**319**	P	**P**	**04 38 38.2**	**+1.4**
	0.4nm,0.6s,baz=95,slow=6.4,SNR=6.2						
AAK	**Ala-Archa**	**87.30**	**313**	LR	LR	05 20 55.6	
	comp=Z,29nm,18.6s,baz=26,slow=37						
NVAR	**Mina Array Bea**	**91.61**	**52**	P	**P**	**04 39 19.8**	**+0.4**
	0.4nm,0.6s,baz=242,slow=3.2,SNR=3.9						
YKA	**Yellowknife Ar**	**96.04**	**28**	P	**P**	**04 39 37.7**	**-1.1**
	0.3nm,1.0s,baz=267,slow=5.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**152.71**	**286**	PKPbc	**PKPbc**	**04 46 08.0**	**-1.4**
	0.1nm,0.3s,baz=28,slow=1.5,SNR=3.6						

IDC 12 04:29:41.1±9.5, 4°.83S×153°.61E, h132km±69km, mb3.1/3, mb1 3.4/4, mb1mx3.1/38, mbtmp3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/60, Error ellipse: s-maj=82.3km s-min=37.1km az=91.0

ISC 12 04:29:43.4±1.6, 4°.9S±0°.2×153°.5E±0°.3, h150km, n7, σ1°02/7, mb3.5/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.73**	**234**	P	**Pn**	**04 31 32.4**	**-0.8**
	2.6nm,0.3s,baz=296,slow=16,SNR=1.7						
PMG				S	**Sn**	**04 32 60.0**	**+0.4**
	5.2nm,0.3s,baz=286,slow=22,SNR=2.5						
WRA	**Warramunga Arr**	**23.92**	**230**	P	**P**	**04 34 43.9**	**+0.2**
	94nm,0.7s,baz=54,slow=9.8,SNR=1.6						
ASAR	**Alice Springs**	**26.56**	**223**	P	**P**	**04 35 08.8**	**+1.2**
	0.4nm,0.4s,baz=56,slow=8.8,SNR=6.7						
STKA	**Stephens Creek**	**29.07**	**201**	P	**P**	**04 35 29.9**	**+0.1**
	0.4nm,0.4s,baz=27,slow=13,SNR=2.9						
AFI	**Afiamalu**	**35.35**	**107**	LR	LR	04 48 58.6	
	comp=Z,64nm,20.4s,baz=288,slow=33						
MKAR	**Makanchi Array**	**80.86**	**319**	P	**P**	**04 41 41.4**	**+0.6**
	0.1nm,0.5s,baz=99,slow=7.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**151.01**	**288**	PKPbc	**PKPbc**	**04 49 18.4**	**-1.3**
	0.2nm,0.3s,baz=90,slow=1.8,SNR=4.5						

IDC 12 05:03:23.3±2.1, 23°.78S×66°.81W, h199km±19km, mb3.2/2, mb1 3.3/5, mb1mx3.2/21, mbtmp3.7/5, Error ellipse: s-maj=34.2km s-min=27.4km az=174.0
GUC 12 05:03:24.1±0.5, 23°.86S×67°.17W, h227km±8km, ML3.7

ISC 12 05:03:22.5±0.9, 23°.93S±0°.06×66°.94W±0°.06, h204km±8km, n20, σ1°19/34, 10C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.53**	**121**	*i* P	**Pn**	**05 03 57.1**	**+0.1**
SLA				*i* S	**S**	**05 04 23.2**	**-0.2**
LVC	**Limon Verde**	**2.24**	**306**	P	**Pn**	**05 04 05.2**	**+1.0**
	24nm,0.3s,baz=118,slow=6.1,SNR=195						
LVC				S	**S**	**05 04 37.1**	**+1.1**
	12nm,0.3s,baz=78,slow=19,SNR=13						
LVC	**Limon Verde**	**2.24**	**306**	⇑*i*P	**Pn**	**05 04 05.1**	**+1.0**
LVC				*i* S	**S**	**05 04 36.1**	**+0.1**
PB15	**IPOC Station P**	**2.43**	**287**	⇑*i*P	**Pn**	**05 04 07.1**	**+1.0**
PB15				*i* S	**S**	**05 04 39.9**	**+0.5**
PB06	**IPOC Station P**	**2.71**	**296**	⇑*i*P	**Pn**	**05 04 10.1**	**+0.9**
PB06				*i* S	**S**	**05 04 44.5**	**-0.4**
PB06				IAML		05 04 46.2	
	comp=E,166nm,0.3s						
PB09	**IPOC Station P**	**3.00**	**315**	⇑*i*P	**Pn**	**05 04 13.8**	**+1.2**
PB09				*i* S	**S**	**05 04 51.7**	**+0.6**
PB09				IAML		05 04 55.4	
	comp=E,69nm,0.4s						
PB05	**IPOC Station P**	**3.18**	**289**	⇑*i*P	**Pn**	**05 04 14.9**	**+0.3**
PB05				*i* S	**S**	**05 04 53.6**	**-1.2**
PB05				IAML		05 04 58.9	
	comp=E,70nm,0.4s						
PB03	**IPOC Station P**	**3.20**	**305**	⇑*i*P	**Pn**	**05 04 15.4**	**+0.5**
PB03				*i* S	**S**	**05 04 54.3**	**-0.9**
PB03				IAML		05 04 58.3	
	comp=N,127nm,0.4s						
PB10	**IPOC Station P**	**3.34**	**276**	⇑*i*P	**Pn**	**05 04 16.9**	**+0.6**
PB10				*i* S	**S**	**05 04 55.7**	**-2.1**
PB04	**IPOC Station P**	**3.35**	**298**	⇑*i*P	**Pn**	**05 04 17.1**	**+0.4**
PB04				*i* S	**S**	**05 04 57.8**	**-0.8**
PB07	**IPOC Station P**	**3.49**	**308**	*i* P	**Pn**	**05 04 18.7**	**+0.3**
PB07				*i* S	**S**	**05 04 59.7**	**-1.9**
PB01	**IPOC Station P**	**3.72**	**320**	⇑*i*P	**Pn**	**05 04 21.1**	**+0.1**
PB01				*i* S	**S**	**05 05 05.0**	**-1.4**
PB08	**IPOC Station P**	**4.29**	**331**	*e*P	**Pn**	**05 04 29.3**	**+0.8**
PB08				*i* S	**S**	**05 05 19.7**	**-0.1**
GO03	**Copiap**	**4.70**	**218**	*i* S	**S**	**05 05 25.9**	**-2.6**
PB11	**IPOC Station P**	**4.86**	**328**	⇑*i*P	**Pn**	**05 04 34.5**	**-0.9**
LPAZ	**La Paz**	**7.69**	**351**	P	**Pn**	**05 05 13.2**	**+0.8**
	comp=N,0.2nm,0.3s,baz=178,slow=11,SNR=2.4						
LPAZ				S	**S**	**05 06 36.5**	**-3.2**
	comp=N,0.1nm,0.3s,baz=190,slow=18,SNR=1.6						
BDFB	**Brasilia**	**19.61**	**69**	P	**P**	**05 07 35.2**	**-0.5**
	comp=N,0.5nm,0.3s,baz=243,slow=10,SNR=7.1						
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P	**P**	**05 14 50.3**	**-0.1**
	comp=N,0.3nm,0.5s,baz=252,slow=5.0,SNR=1.7						
YKA	**Yellowknife Ar**	**94.08**	**340**	P	**P**	**05 16 18.4**	**+1.3**
	comp=N,0.2nm,0.5s,baz=135,slow=4.6,SNR=10						
MKAR	**Makanchi Array**	**146.44**	**39**	PKPbc	**PKPbc**	**05 22 39.0**	**-0.5**
	comp=N,0.5nm,0.5s,baz=311,slow=3.2,SNR=4.1						

TUL 12 05:10:20.1±0.4, 35°.662N±0°.009×97°.40W±0°.01, h7km±2km, ML2.5, mb_Lg2.1/3(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=56.0

NEIC 12 05:10:20.6±0.5, 35°.674N±0°.010×97°.40W±0°.01, h7km±1km, Error ellipse: s-maj=1.8km s-min=1.1km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.09**	**190**	Pg	Pg	05 10 22.4	-0.5
OK009				Sg	Sg	05 10 24.1	-0.2
OK025	**Westminster Rd**	**0.11**	**150**	Pg	Pg	05 10 22.7	-0.3
OK025				Sg	Sg	05 10 24.7	0.0
OK029	**Liberty Lake**	**0.13**	**341**	Pg	Pg	05 10 23.4	-0.1
OK029				Sg	Sg	05 10 25.7	+0.4
BCOK	**Bluff Creek, N**	**0.17**	**264**	Pg	Pg	05 10 23.8	-0.3
BCOK				Sg	Sg	05 10 26.6	+0.2
OK005	**Luther M Schoo**	**0.17**	**96**	Pg	Pg	05 10 24.0	-0.2
OK005				Sg	Sg	05 10 26.9	+0.4
OKCFA	**Oklahoma City**	**0.26**	**189**	Pg	Pg	05 10 25.4	-0.4
OKCFA				Sg	Sg	05 10 29.3	+0.1
OKCSW	**OKLAHOMA CITY**	**0.27**	**186**	Pg	Pg	05 10 25.4	-0.5
OKCSW				Sg	Sg	05 10 29.6	+0.1
FNO	**Franklin**	**0.42**	**180**	Pg	Pg	05 10 28.3	-0.5
FNO				Sg	Sg	05 10 34.3	+0.1
OK031	**S. Brethren Rd**	**0.54**	**59**	Pg	Pg	05 10 30.6	-0.4
OK031				Sg	Sg	05 10 38.0	0.0
OK030	**Cody Creek RV**	**0.56**	**63**	Pg	Pg	05 10 31.0	-0.5
OK030				Sg	Sg	05 10 38.9	0.0
OK034	**N. Norfolk Rd.**	**0.65**	**59**	Pg	Pg	05 10 32.6	-0.6
OK034				Sg	Sg	05 10 41.6	-0.2
QUOK	**Quay**	**0.75**	**48**	Pg	Pg	05 10 34.4	-0.7
QUOK				Sg	Sg	05 10 44.7	-0.2
CROK	**Carrier**	**0.95**	**331**	Pg	Pg	05 10 38.3	-0.7
BLOK	**Blackwell**	**1.09**	**8**	Pg	Pg	05 10 40.2	-1.4
X34A	**Smith Ranch, M**	**1.13**	**198**	Pg	Pg	05 10 41.5	-0.8
GC02	**Grant County #**	**1.23**	**343**		Pb	05 10 42.8	-1.4
OK032	**Salt Plains WL**	**1.30**	**330**		Pn	05 10 44.1	-1.2
TUL1	**Leonard**	**1.33**	**79**		Pn	05 10 43.8	-1.9
KAN13	**South Haven SW**	**1.34**	**357**		Pn	05 10 44.1	-1.6
KAN14	**Manchester OK**	**1.36**	**341**		Pn	05 10 44.9	-1.2
KAN17	**Caldwell West**	**1.40**	**348**		Pn	05 10 45.4	-1.2
WMOK	**Wichita Mounta**	**1.47**	**231**		Pn	05 10 46.3	-1.2
X37A	**Clayton**	**1.99**	**122**	IAmb_Lg		05 11 24.8	
	comp=Z,10.0nm,0.9s						
W39A	**Magazine**	**2.99**	**98**	Pn	Pn	05 11 08.0	-0.6
237A	**Washetta, Mont**	**3.90**	**160**	IAmb_Lg		05 12 33.1	
	comp=Z,4.8nm,0.8s						
W41B	**Gary Mavity, V**	**4.24**	**95**	Pn	Pn	05 11 26.6	+0.9
JCT	**Junction City**	**5.56**	**202**	IAmb_Lg		05 13 30.9	
	comp=Z,3.9nm,0.8s						

NNC 12 05:16:38.4±3.2, 53°.37N×87°.39E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=26.1km s-min=12.0km az=59.0, Suspected Mining explosion.

IDC 12 05:16:28.9±3.2, 55°.35N×86°.00E, h0km, mb1 3.1/3, mb1mx3.0/38, mbtmp3.1/3, ML3.1/3, 8C-4D, Error ellipse: s-maj=31.6km s-min=20.2km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**206**	*i*		05 26 50.0	
	baz=29,slow=337,SNR=2.5						
ZAA0	**Zalesovo Array**	**1.56**	**206**	⇓P	Pg	05 17 07.3	+8.4
	0.7nm,0.3s						
ZAA0				⇑S	Sg	05 17 30.4	+11
	2.0nm,0.3s						
ZALV	**Zalesovo Beam**	**1.56**	**206**	Pg	Pn	05 16 55.5	-2.4
	3.6nm,0.3s,baz=23,slow=16,SNR=34						
ZALV				Lg	Lg	05 17 19.3	
	2.6nm,0.3s,baz=22,slow=24,SNR=3.9						
KURK	**Kurchatov**	**6.43**	**227**	⇑Pn	Pn	05 18 10.1	+5.4
	2.9nm,0.8s						
KURK				⇑Sn	Sn	05 19 18.6	-0.2
	1.0nm,0.5s						
KURK				⇑Lg	Lg	05 19 49.8	
	7.5nm,0.7s						
KURBB	**Kurchatov Arra**	**6.54**	**227**	Pn	Pn	05 18 05.4	-0.8
	0.3nm,0.3s,baz=43,slow=14,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.54**	**227**	⇑Pn	Pn	05 18 11.5	+5.2
	6.5nm,0.8s						
KURBB				⇓Sn	Sn	05 19 20.1	-1.3
	5.2nm,0.6s						
KURBB				⇓Lg	Lg	05 19 52.2	
	8.3nm,0.7s						
MK31	**Makanchi Array**	**8.88**	**197**	⇑Pn	Pn	05 18 29.4	-9.0
	0.6nm,0.4s,baz=30,slow=13,SNR=64						
MK31				Sn	Sn	05 19 52.1	-27
	0.5nm,0.4s,baz=34,slow=28,SNR=6.3						
MK31				⇓Lg	Lg	05 20 29.5	
	3.4nm,0.7s,baz=31,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**8.88**	**197**	Pn	Pn	05 18 39.7	+1.3
	0.3nm,0.3s,baz=25,slow=12,SNR=5.0						
MAKZ	**Makanchi**	**8.92**	**198**	⇑Pn	Pn	05 18 29.6	-9.4
	1.4nm,0.6s						
MAKZ				⇑Lg	Lg	05 20 34.0	
	5.5nm,0.8s						
BVAR	**Borovoye Array**	**9.44**	**262**	Pn	Pn	05 18 45.6	-0.6
	0.2nm,0.3s,baz=76,slow=14,SNR=2.6						

IDC 12 05:26:40.4±1.2, 3°.55N×126°.64E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/33, mbtmp3.6/5, Error ellipse: s-maj=132.2km s-min=18.9km az=67.0
DJA 12 05:26:43.1±0.5, 4°.N±20°.×12°.7E±°, h27km±25km, M3.6/7, MLv3.6/7

ISC 12 05:26:42.1±1.0, 3°.6N±0°.1×126°.7E±0°.1, h10km, n10, σ0°73/10, mb3.6/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.14**	**273**	P	**Pb**	**05 27 03.9**	**0.0**
TNTI	**Ternate**	**2.91**	**166**	P	**Pn**	**05 27 29.5**	**+0.9**
LBMI	**Labuha**	**4.31**	**169**	P	**Pn**	**05 27 48.6**	**+0.8**
GTOI	**Gorontalo**	**4.70**	**231**	P	**Pn**	**05 27 53.7**	**+0.5**
WRA	**Warramunga Arr**	**24.60**	**162**	P	**P**	**05 32 01.8**	**-1.0**
	2μm,1.0s,baz=343,slow=11,SNR=39						
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**05 32 33.1**	**-0.5**
	0.2nm,0.3s,baz=340,slow=11,SNR=2.7						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**05 34 00.3**	**-0.6**
	1.7nm,0.6s,baz=336,slow=11,SNR=6.0						
SONM	**Songino Array**	**47.38**	**342**	P	**P**	**05 35 17.2**	**+0.6**
	0.1nm,0.4s,baz=147,slow=8.6,SNR=1.8						
MKAR	**Makanchi Array**	**57.61**	**325**	P	**P**	**05 36 32.5**	**+0.1**
	0.3nm,0.6s,baz=117,slow=6.9,SNR=6.2						
KURBB	**Kurchatov Arra**	**61.80**	**327**	P	**P**	**05 37 00.8**	**-0.4**
	0.2nm,0.4s,baz=125,slow=6.4,SNR=2.6						

KRSC 12 05:30:50.6±1.3, 49°.64N×155°.12E, h310km±10km, ML3.9
IDC 12 05:30:50.5±12.0, 50°.21N×153°.49E, h280km±56km, mb3.3/4, mb1 3.2/6, mb1mx2.7/58, mbtmp3.8/6, Error ellipse: s-maj=348.8km s-min=34.7km az=151.0

ISC 12 05:30:49.4±1.7, 50°.0N±0°.2×154°.0E±0°.1, h300km, n19, σ2°04/26, mb3.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.49**	**63**	*e*P	**Pn**	**05 31 33.9**	**+1.5**
PAU	**Pauzhetka**	**2.28**	**50**	*e*P	**Pn**	**05 31 39.6**	**+1.2**
KDTR	**Khodutka, Kamc**	**3.12**	**54**	*e*P	**Pn**	**05 31 47.7**	**+1.4**
KDTR				*e*S	**S**	**05 32 29.7**	**-2.0**
GRL	**Gorelyy**	**3.58**	**44**	P	**Pn**	**05 31 53.8**	**+2.6**
RUS	**Russkaya**	**3.71**	**48**	*e*P	**Pn**	**05 31 54.3**	**+2.0**
RUS				*e*S	**S**	**05 32 40.4**	**-2.3**
PETK	**Petropavlovsk-**	**3.84**	**35**	P	**Pn**	**05 31 54.4**	**+0.6**
	0.3nm,0.3s,baz=231,slow=11,SNR=3.1						
DALK	**Dalny**	**4.21**	**43**	*e*S	**S**	**05 32 51.8**	**-0.9**
KOK	**Koryaka**	**4.35**	**40**	*e*P	**Pn**	**05 32 01.2**	**+1.7**
UGLR	**Uglovaya**	**4.37**	**41**	*e*P	**Pn**	**05 32 01.3**	**+1.6**
UGLR				*e*S	**S**	**05 32 56.1**	**0.0**
AVH	**Avacha**	**4.37**	**40**	*e*P	**Pn**	**05 32 02.9**	**+3.2**
SDLR	**Sedlovina**	**4.44**	**41**	*e*P	**Pn**	**05 32 03.0**	**+2.4**
SDLR				*e*S	**S**	**05 32 57.5**	**-0.1**
SPN	**Mys Shipunski**	**4.84**	**48**	*e*P	**Pn**	**05 32 07.1**	**+2.1**
SPN				*e*S	**S**	**05 33 01.7**	**-4.0**
MKZ	**Mys Kozlova**	**6.55**	**43**	*e*P	**Pn**	**05 32 26.5**	**+1.4**
MKZ				*e*S	**S**	**05 33 38.6**	**-3.8**
KBTR	**Krutoberegovo**	**8.14**	**37**	*e*P	**Pn**	**05 32 46.7**	**+2.2**
KBTR				*e*S	**S**	**05 34 16.8**	**-1.0**
KLR	**Kul'dur**	**14.45**	**275**	P	**Pn**	**05 34 00.0**	**-1.1**
	0.1nm,0.3s,baz=59,slow=6.5,SNR=4.4						
MKAR	**Makanchi Array**	**46.03**	**295**	P	**P**	**05 38 42.5**	**-0.9**
	0.4nm,0.6s,baz=60,slow=9.0,SNR=5.1						
KURBB	**Kurchatov Arra**	**46.20**	**301**	P	**P**	**05 38 44.1**	**-0.5**
	0.8nm,0.5s,baz=67,slow=8.6,SNR=9.6						
ARCES	**ARCESS Array B**	**54.95**	**340**	P	**P**	**05 39 49.9**	**+0.6**
	2.8nm,0.8s,baz=27,slow=8.3,SNR=5.0						
FINES	**FINESS Array B**	**61.33**	**334**	P	**P**	**05 40 34.8**	**+1.6**
	2.9nm,0.9s,baz=31,slow=6.7,SNR=6.1						

IDC 12 05:39:26.8±2.8, 54°.38N×87°.00E, h0km, mb1 3.0/2, mb1mx2.7/50, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=22.8km s-min=16.9km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**252**	*i*		05 46 34.7	
	baz=68,slow=342,SNR=7.4						
ZALV	**Zalesovo Beam**	**1.35**	**252**	Pg	Pg	05 39 50.5	-2.1
	2.1nm,0.3s,baz=71,slow=16,SNR=20						
ZALV				Lg	Lg	05 40 11.3	
	2.1nm,0.3s,baz=74,slow=19,SNR=12						
KURBB	**Kurchatov Arra**	**6.39**	**237**	Pn	Pn	05 41 03.1	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=6.2						
KURBB				Sn	Sn	05 42 14.6	-1.1
	0.0nm,0.3s,baz=54,slow=15,SNR=0.9						
KURBB				Lg	Lg	05 42 47.8	
	0.0nm,0.3s,baz=57,slow=31,SNR=1.2						
MKAR	**Makanchi Array**	**8.16**	**203**	Pn	Pn	05 41 27.9	+1.6
	0.1nm,0.3s,baz=26,slow=14,SNR=8.2						
MKAR				Sn	Sn	05 42 57.5	-1.8
	0.1nm,0.3s,baz=20,slow=22,SNR=2.4						
MKAR				Lg	Lg	05 43 45.6	
	0.1nm,0.3s,baz=21,slow=29,SNR=2.6						

IDC 12 05:40:11.1±1.2, 3°.74N×126°.57E, h0km, mb3.7/7, mb1 3.7/7, mb1mx3.3/47, mbtmp3.7/7, Error ellipse: s-maj=118.3km s-min=16.7km az=70.0
DJA 12 05:40:12.7±0.9, 4°.N±5°.×12°.7E±°, h13km±5km, M4.3/5, mb4.9/2, MLv4.0/5

ISC 12 05:40:12.9±0.9, 3°.94N±0°.10×127°.0E±0°.1, h10km, n12, σ1°78/12, mb3.8/7, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.46**	**260**	P	**Pn**	**05 40 39.7**	**+0.4**
KCP	**Kidapawan**	**3.57**	**329**	⇓*e*P	**Pb**	**05 41 17.5**	**+1.1**
LBMI	**Labuha**	**4.58**	**173**	P	**Pn**	**05 41 25.1**	**+2.8**
GTOI	**Gorontalo**	**5.14**	**230**	P	**Pn**	**05 41 32.0**	**+2.0**
	0.0nm4.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.94**	**183**	P	**P**	**05 45 04.2**	**-2.6**
	0.5nm,0.3s,baz=0.0,slow=9.1,SNR=1.5						
WRA	**Warramunga Arr**	**24.82**	**163**	P	**P**	**05 45 33.9**	**-1.6**
	69nm,0.5s,baz=341,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**28.26**	**166**	P	**P**	**05 46 06.3**	**-0.2**
	0.2nm,0.4s,baz=341,slow=11,SNR=2.0						
STKA	**Stephens Creek**	**38.24**	**160**	P	**P**	**05 47 32.1**	**-1.2**
	1.2nm,0.6s,baz=346,slow=9.4,SNR=4.6						
SONM	**Songino Array**	**47.17**	**341**	P	**P**	**05 48 46.9**	**+1.1**
	0.5nm,0.5s,baz=154,slow=8.0,SNR=5.0						
MKAR	**Makanchi Array**	**57.52**	**325**	P	**P**	**05 50 02.2**	**-0.4**
	0.5nm,0.3s,baz=120,slow=7.6,SNR=18						
ZALV	**Zalesovo Beam**	**60.51**	**333**	P	**P**	**05 50 21.7**	**-1.4**
	0.3nm,0.4s,baz=129,slow=5.7,SNR=2.0						
KURBB	**Kurchatov Arra**	**61.69**	**327**	P	**P**	**05 50 30.2**	**-1.0**
	0.7nm,0.7s,baz=128,slow=6.5,SNR=8.0						

SCB 12 05:45:39.2±1.6, 20°.57S×63°.58W, h605km±23km, ML4.4/2, Error ellipse: s-maj=15.4km s-min=7.9km az=2.0
IDC 12 05:45:46.9±0.8, 20°.69S×63°.11W, h560km±10km, mb3.3/11, mb1 3.5/17, mb1mx3.4/37, mbtmp4.3/17, Error ellipse: s-maj=14.6km s-min=12.3km az=31.0
VAO 12 05:45:46.8±0.2, 20°.66S×63°.20W, h562km, mb4.1
NEIC 12 05:45:47.5±1.0, 20°.7S±0°.1×63°.2W±0°.1, h566km±7km, mb4.5/13, Error ellipse: s-maj=17.6km s-min=15.5km az=61.0

ISC 12 05:45:46.8±0.4, 20°.64S±0°.06×63°.24W±0°.05, h564km, n159, σ0°80/174, mb4.1/14, 3D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**2.33**	**254**	P	**P**	**05 47 00.0**	**+0.2**
YJA	**Yavi**	**2.62**	**234**	P	**P**	**05 47 01.7**	**+0.4**
SLA	**San Lorenzo**	**4.57**	**207**	*e*P	**P**	**05 47 15.6**	**+1.5**
SIV	**San Ignacio**	**5.06**	**24**	P	**P**	**05 47 18.8**	**+0.6**
	23nm,0.3s,baz=196,slow=7.7,SNR=273						
SIV	**San Ignacio**	**5.06**	**24**	P	**P**	**05 47 19.3**	**+1.2**
PB08	**IPOC Station P**	**5.57**	**274**	⇓*i*P	**P**	**05 47 23.4**	**+0.6**
PB08				*i* S	**S**	**05 48 39.6**	**-1.5**
PB08				IAML		05 48 44.1	
	comp=N,172nm,0.8s						
PB08	**IPOC Station P**	**5.57**	**274**	P	**P**	**05 47 23.4**	**+0.6**
PB08	**IPOC Station P**	**5.57**	**274**	P	**P**	**05 47 22.2**	**-0.6**
LVC	**Limon Verde**	**5.63**	**249**	P	**P**	**05 47 23.4**	**+0.2**
	comp=N,10.0nm,0.3s,baz=72,slow=7.5,SNR=153						
LVC				S	**S**	**05 48 40.1**	**-1.8**
	comp=N,4.6nm,0.3s,baz=49,slow=20,SNR=37						
LVC	**Limon Verde**	**5.63**	**249**	*e*P	**P**	**05 47 22.7**	**-0.5**
LVC				*e*S	**S**	**05 48 41.5**	**-0.5**
LVC	**Limon Verde**	**5.63**	**249**	P	**P**	**05 47 23.3**	**+0.1**
LVC	**Limon Verde**	**5.63**	**249**	P	**P**	**05 47 23.1**	**-0.1**

AC02	Maricunga	8.19	220	P		P	05 47 47.8 +0.5
PP1B	Ponte de Pedra	8.46	70	eP		P	05 47 49.4 -0.2
SALV	Santo Antonio	8.58	58	eP		P	05 47 50.4 -0.3
GO03	Copiap	9.42	221	P		P	05 47 59.4 +0.4
AC04	Llanos de Chal	10.37	222	P		P	05 48 09.5 +0.9
LCO	Las Campanas	10.74	218	P		P	05 48 14.3 +1.7
ITQB	Itaqui	10.80	148	eP		P	05 48 12.3 -0.6
ITQB	Itaqui	10.80	148	P		P	05 48 12.7 -0.3
PDRB	Porto dos Gac	10.94	36	eP		P	05 48 14.3 -0.4
PTGB	Pitanga	11.08	114	eP		P	05 48 15.3 -0.7
ETMB	Extrema	11.14	345	eP		P	05 48 17.7 +1.0
ETMB	Extrema	11.14	345	P		P	05 48 17.6 +1.0
PCMB	Pacaembu	11.22	97	eP		P	05 48 16.8 -0.6
ARAG	Araguaiana, MT	11.91	68	eP		P	05 48 24.4 -0.1
CLDB	Colider	12.06	37	eP		P	05 48 25.6 -0.6
ITAB	Concordia	12.09	125	eP		P	05 48 24.9 -1.3
ITAB	Concordia	12.09	125	P		P	05 48 24.9 -1.3
ITRB	Iturama	12.13	88	eP		P	05 48 26.1 -0.7
FRTB	Fartura	12.96	104	eP		P	05 48 34.7 -0.6
CPSB	Cacapava Do Su	13.13	140	eP		P	05 48 35.5 -1.4
BB19B	Bebedouro	13.76	94	eP		P	05 48 42.0 -1.5
TIJ01	Guaruva-PR	13.91	112	eP		P	05 48 46.2 +1.1
PLTB	Pedras Altas	14.04	144	eP		P	05 48 47.2 +1.0
SNDB	Serra Nova Dou	14.33	55	eP		P	05 48 49.1 -0.4
IPMB	Ipameri, GO	14.43	82	eP		P	05 48 48.7 -1.7
RCLB	Rio Claro- Sao	14.72	100	eP		P	05 48 53.7 +0.4
TER01	Tubaro-SC	15.04	124	eP		P	05 48 56.5 +0.2
PET01	Itanhaem-SP	15.19	107	eP		P	05 48 58.3 +0.4
BDFB	Brasilia	15.30	74	P		P	05 48 57.8 -1.4
	comp=N,2.7nm,0.3s,baz=249,slow=9.3,SNR=34						
NPGB	Novo Progresso	15.52	31	eP		P	05 49 00.0 -1.3
NNA	Nana	15.63	301	P		P	05 49 03.4 +0.9
	comp=N,1.4nm,0.3s,baz=159,slow=8.0,SNR=4.2						
CZSB	Cruzeiro do Su	15.77	323	eP		P	05 49 03.2 -0.5
CZSB	Cruzeiro do Su	15.77	323	P		P	05 49 03.5 -0.3
CZSB				IAmb		IAmb	05 49 04.8
	comp=Z,12nm,0.5s						
GO05	Huala	16.23	206	P		P	05 49 07.7 -0.2
GO05				IAmb		IAmb	05 49 08.8
	comp=Z,17nm,0.9s						
PARB	Paraibuna	16.56	103	eP		P	05 49 10.5 -0.5
PEXB	Peixe	16.64	62	eP		P	05 49 11.4 -0.4
ML02	Panimavida	16.69	204	P		P	05 49 12.5 +0.6
BSCB	Bom Sucesso	17.27	94	eP		P	05 49 17.5 0.0
MACA	Manacapuru-AM	17.55	8	eP		P	05 49 20.5 +0.4
MACA	Manacapuru-AM	17.55	8	P		P	05 49 20.7 +0.6
MACA				IAmb		IAmb	05 49 21.1
	comp=Z,10nm,0.6s						
ITTB	Itaituba	17.75	25	eP		P	05 49 21.9 +0.1
VAS01	Vassouras-RJ	18.50	99	eP		P	05 49 28.9 +0.3
DIAM	Diamantina, MG	18.59	86	eP		P	05 49 30.0 +0.3
JANB	Januaria	18.84	76	eP		P	05 49 31.9 -0.1
SMTB	Santa Maria do	19.11	54	eP		P	05 49 34.7 +0.3
SDBA	SAO DESIDERIO	19.38	68	eP		P	05 49 36.5 -0.3
PRPB	Parauapebas	19.40	44	eP		P	05 49 36.5 -0.4
MALB	Monte Alegre	20.63	26	eP		P	05 49 48.0 0.0
SJMB	Sao Joao De Ma	20.85	88	eP		P	05 49 49.4 -0.6
PLCA	Paso Flores	20.98	196	P		P	05 49 51.2 +0.3
	comp=Z,2.4nm,0.6s,baz=8,7,slow=9.7,SNR=16						
PLCA	Paso Flores	20.98	196	eP		P	05 49 51.2 +0.3
PLCA	Paso Flores	20.98	196	IAmb		IAmb	05 49 52.0
	comp=Z,7.1nm,1.4s						
RIB01	Linhares ES	21.51	90	eP		P	05 49 55.9 0.0
NAN01	Guarapari, ES	21.99	87	eP		P	05 49 59.9 -0.3
GUA01	Guaratinga, BA	22.56	84	eP		P	05 50 05.5 +0.2
MCPB	Macapa, AP	22.93	30	eP		P	05 50 08.8 +0.2
BOAV	Boa Vista	23.05	7	eP		P	05 50 10.4 +0.7
BOAV	Boa Vista	23.05	7	P		P	05 50 10.2 +0.5
CMC01	Camacan, BA	23.15	81	eP		P	05 50 10.2 -0.4
NBIT	Itapeh - BA	23.35	80	eP		P	05 50 12.6 +0.2
GDU01	Guandu, BA	23.61	77	eP		P	05 50 14.2 -0.5
GO07	Milladeo Hill,	24.05	199	P		P	05 50 18.2 +0.1
NBPN	Ponto Novo - B	24.19	70	eP		P	05 50 19.3 -0.5
ROSB	Rosrio	25.65	49	eP		P	05 50 33.4 +0.6
NBLA	Lagarto - SE	26.26	72	eP		P	05 50 37.2 -0.9
NBPS	Pedro II - PI	26.64	56	eP		P	05 50 41.6 0.0
NBMA	Muriti-CE	27.11	64	eP		P	05 50 45.6 0.0
NBPB	Pedra_Branca-C	27.43	60	eP		P	05 50 48.7 +0.3
MDP	Montagnes des	27.62	23	P		P	05 50 50.2 +0.2
	comp=Z,32nm,1.0s,baz=195,slow=10,SNR=17						
NBAN	Anadia - AL	28.17	71	eP		P	05 50 54.2 -0.6
NBMO	Morrinhos-CE	28.41	56	eP		P	05 50 56.7 -0.2
NBCL	Cascavel-CE	29.24	59	eP		P	05 51 04.8 +0.7
NBRF	Rio Formoso -	29.62	70	eP		P	05 51 07.9 +0.5
ZARC	Zaragoza, Cauc	30.20	337	P		P	05 51 11.2 -1.2
RCBR	Riachuelo	30.33	65	eP		P	05 51 14.6 +1.0
NBPV	Pedro Velho	30.55	66	eP		P	05 51 16.1 +0.7
JTS	Las Juntas de	37.43	323	P		P	05 52 14.8 +1.8
	comp=Z,4.4nm,0.4s						
JTS	Las Juntas de	37.43	323	IAmb		IAmb	05 52 16.1
	comp=Z,12nm,1.1s						
CMIG	Matias Romero	48.69	318	P		P	05 53 41.0 +0.5
	comp=Z,2.9nm,0.5s,baz=123,slow=6.3,SNR=12						
VNA2	Neumayer--Watz	59.74	162	P		P	05 54 58.3 +0.9
	baz=302,slow=8.4						
SNAA	Sanae	61.39	162	P		P	05 55 08.7 +0.5
LIC	Lamto	63.08	71	eP		P	05 55 19.6 -0.4
	comp=Z,12nm,0.5s						
TXAR	Lajitas Array	63.15	321	P		P	05 55 20.7 +0.4
	comp=Z,0.3nm,0.5s,baz=145,slow=8.9,SNR=4.7						
TIC	Toumodi	63.27	71	eP		P	05 55 20.6 -0.7
KIC	Kosan Boka	63.39	71	eP		P	05 55 21.5 -0.5
	comp=Z,24nm,0.6s						
DBIC	Dimbokro	63.43	71	P		P	05 55 21.9 -0.3
	comp=Z,6.5nm,0.5s,baz=251,slow=6.8,SNR=21						
DBIC	Dimbokro	63.43	71	P		P	05 55 21.6 -0.7
DBIC				IAmb		IAmb	05 55 23.2
	comp=Z,12nm,1.1s						
TORD	Torodi Ar. Bea	72.10	68	P		P	05 56 14.7 -0.3
	comp=Z,18nm,0.5s,baz=255,slow=5.7,SNR=244						
TORD				pP		pP	05 58 09.4 -2.1
	comp=Z,0.8nm,0.7s,baz=245,slow=6.1,SNR=3.2						
TORD	Torodi Ar. Bea	72.10	68	P		P	05 56 14.7 -0.3
TORD				IAmb		IAmb	05 56 15.4
	comp=Z,13nm,0.6s						
TSUM	Tsumeb	75.18	105	P		P	05 56 32.8 +0.1
TSUM				IAmb		IAmb	05 56 33.8
	comp=Z,6.5nm,0.7s						
PDAR	Pinedale Array	76.16	327	P		P	05 56 38.8 +1.1
	comp=Z,0.3nm,0.3s,baz=123,slow=9.4,SNR=9.0						
NVAR	Mina Array Bea	78.21	319	P		P	05 56 50.0 +1.1
	comp=Z,0.3nm,0.6s,baz=125,slow=6.0,SNR=2.8						
BOSA	Boshof	79.13	116	P		P	05 56 52.5 -1.4
	comp=Z,1.9nm,0.8s,baz=239,slow=5.9,SNR=1.9						
ESDC	Sonseca Array	81.58	42	P		P	05 57 06.5 +0.3
	comp=Z,1.6nm,0.8s,baz=255,slow=5.5,SNR=5.3						
YKA	Yellowknife Ar	92.23	339	P		P	05 57 56.5 +0.1
	comp=Z,0.3nm,0.5s,baz=127,slow=4.5,SNR=6.0						
BVAR	Borovoye Array	132.04	36	SKPbc		SKPbc	06 06 31.0 +0.5
	comp=Z,0.8nm,0.5s,baz=263,slow=1.2,SNR=5.4						
ASAR	Alice Springs	132.90	202	SKPbc		SKPbc	06 06 34.3 -0.1
	comp=Z,0.9nm,0.8s,baz=143,slow=4.4,SNR=6.5						
WRA	Warramunga Arr	136.15	204	SKPbc		SKPbc	06 06 44.5 -0.3
	comp=Z,2μm,1.0s,baz=151,slow=2.6,SNR=1.1						
KURBB	Kurchatov Arra	137.63	36	PKP		PKPdf	06 04 07.8 +0.9
	comp=Z,0.1nm,0.2s,baz=314,slow=2.7,SNR=4.7						
KURBB				SKPbc		SKPbc	06 06 47.8 -0.2
	comp=Z,0.3nm,0.4s,baz=311,slow=3.3,SNR=5.4						
ZALV	Zalesovo Beam	138.80	28	PKP		PKPdf	06 04 08.7 -0.3
	comp=Z,0.9nm,0.4s,baz=304,slow=2.7,SNR=3.9						
ZALV				SKPbc		SKPbc	06 06 51.9 +0.8
	comp=Z,0.6nm,0.3s,baz=318,slow=4.2,SNR=4.2						
MKAR	Makanchi Array	141.73	39	PKhKP		PKPpre	06 04 11.0
	comp=Z,0.3nm,0.4s,baz=321,slow=2.4,SNR=10						
MKAR				SKPbc		SKiKP	06 07 00.0 -0.6
	comp=Z,1.3nm,0.7s,baz=314,slow=2.6,SNR=13						
SONM	Songino Array	151.60	15	PKPbc		PKiKP	06 04 38.7 +0.6
	comp=Z,2.2nm,0.5s,baz=326,slow=0.6,SNR=19						

PRE **12** *05:58:11.8±1.9, 17°.31S×27°.12E, h10km, ML3.9*
BUL **12** *05:58:17.0±1.6, 17°.45S×27°.51E, h10km, MD4.7*
EAF **12** *05:58:18.2±2.0, 17°.52S×27°.44E, h10km, MD4.2*

ISC 12 05:58:16.3±2.1, 17°.6S±0°.1×27°.18E±0°.09, h10km, n30, σ2s08/41, 2D, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	Bulawayo	2.90	152	eP		Pn	05 59 03.6 +0.9
BLWY				eS		Sn	05 59 38.3 +0.5
BLWY				IAML			05 59 51.0
	comp=Z,2μm,0.4s						
BLWY	Bulawayo	2.90	152	i P		Pn	05 59 03.4 +0.7
BLWY				i Pg		Pb	05 59 08.6 +0.4
BLWY	Bulawayo	2.90	152	i P		Pn	05 59 03.4 +0.7
BLWY				i Pg		Pb	05 59 08.6 +0.4
MATP	Matopo	3.11	156	i P		Pn	05 59 06.0 +0.4
MATP				i Pg		Pb	05 59 12.7 +0.8
MATP				i Sg		Sb	05 59 53.5 +3.5
MATP	Matopo	3.11	156	i P		Pn	05 59 06.0 +0.4
MATP				i Pg		Pb	05 59 12.7 +0.8
MATP				i Sg		Sb	05 59 53.5 +3.5
MSNA	Messina	5.46	151	eP		Pn	05 59 38.3 +0.5
MSNA				eS		Sn	06 00 41.6 +0.9
MSNA				IAML			06 01 05.0
	comp=Z,141nm,0.6s						
MSNA	Messina	5.46	151	i P		Pn	05 59 37.2 -0.6
MSNA	Messina	5.46	151	i P		Pn	05 59 37.2 -0.6
TETE	Tete	6.29	78	i P		Pn	05 59 49.4 +0.2
TETE	Tete	6.29	78	i P		Pn	05 59 49.4 +0.2
MOPA	Mopani	7.12	147	eP		Pn	06 00 00.0 -0.6
MOPA				eS		Sn	06 01 18.5 -3.2
MOPA				IAML			06 01 54.6
	comp=Z,102nm,0.8s						
MOPA	Mopani	7.12	147	i P		Pn	06 00 02.8 +2.2
MOPA	Mopani	7.12	147	i P		Pn	06 00 02.8 +2.2
LBTB	Lobatse	7.56	191	eS		Sn	06 01 32.3 -0.3
LBTB				IAML			06 02 14.5
	comp=Z,95nm,0.7s						
LBTB	Lobatse	7.56	191	i P		Pn	06 00 07.0 +0.3
LBTB				i S		Sn	06 01 29.6 -3.0
LBTB	Lobatse	7.56	191	i P		Pn	06 00 07.0 +0.3
LBTB				i S		Sn	06 01 29.6 -3.0
SLR	Silverton	8.20	173	eS		Sn	06 01 47.3 -1.1
SLR				IAML			06 02 41.9
	comp=Z,73nm,0.4s						
HRAO	HartRAO	8.30	177	eP		Pn	06 00 18.4 +1.5
PRYS	Parys	9.32	179	eP		Pn	06 00 30.7 -0.3
PRYS				eS		Sn	06 02 12.6 -3.4
PRYS				IAML			06 03 16.9
	comp=Z,68nm,0.6s						
SWZ	Schweizer	9.73	190	eP		Pn	06 00 37.5 +1.1
SWZ				eS		Sn	06 02 21.3 -4.6
SWZ				IAML			06 03 21.6
	comp=Z,71nm,0.7s						
CNG	Changalane	9.85	153	i P		Pn	06 00 35.9 -2.1
CNG	Changalane	9.85	153	i P		Pn	06 00 35.9 -2.1
POGA	Pongola	10.60	158	eP		Pn	06 00 48.2 -0.1
POGA				eS		Sn	06 02 43.2 -3.9
POGA				IAML			06 03 51.4
	comp=Z,68nm,0.7s						
WIN	Windhoek	10.70	241	eP		Pn	06 00 48.1 -1.8
WIN				eS		Sn	06 02 42.9 -6.9
WIN				IAML			06 04 10.8
	comp=Z,15nm,0.9s						
BOSA	Boshof	11.14	189	eP		Pn	06 00 54.9 -0.9
BOSA	Boshof	11.14	189	‖ i P		Pn	06 00 58.0 +2.1
BOSA	Boshof	11.14	189	‖ i P		Pn	06 00 58.0 +2.1
UPI	Upington	12.05	206	eP		Pn	06 01 06.2 -2.0
UPI				eS		Sn	06 03 18.5 -4.3
UPI				IAML			06 04 41.1
	comp=Z,19nm,2.0s						
ARMS	Ukamas	12.48	212	eP		Pn	06 01 11.6 -2.4
ARMS				eS		Sn	06 03 23.8 -9.4
ARMS				IAML			06 04 56.8
	comp=Z,26nm,1.6s						
SOE	Somerset East	15.16	185	eP		Pn	06 01 50.1 -0.5
SOE				eS		Sn	06 04 32.0 -6.6
SOE				IAML			06 07 09.7
	comp=Z,26nm,1.1s						

IDC 12 06:02:59.9±2.0, 3°.61N×126°.68E, h0km, mb3.5/3, mb1 3.6/3, mb1mx2.9/51, mbtmp3.5/3, Error ellipse: s-maj=168.0km s-min=27.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.59	162	P		06 08 21.6	-0.4
	2μm,1.0s,baz=342,slow=11,SNR=1.7						
ASAR	Alice Springs	28.01	166	P		06 08 53.9	+1.0
	0.1nm,0.5s,baz=341,slow=11,SNR=1.5						
STKA	Stephens Creek	38.04	159	P		06 10 19.7	-0.4
	1.3nm,0.7s,baz=337,slow=15,SNR=3.7						
MKAR	Makanchi Array	57.62	325	P		06 12 51.7	-0.2
	0.2nm,0.6s,baz=124,slow=7.9,SNR=4.1						

IDC **12** *06:09:32.7±4.1, 24°.48N×124°.89E, h0km, mb3.7/7, mb1 3.7/8, mb1mx3.3/60, mbtmp3.7/8, ML3.6/1, MS2.7/1, Ms1 2.9/1, ms1mx2.2/88, Error ellipse: s-maj=90.5km s-min=26.7km az=171.0*
NIED **12** *06:09:38.3, 24°.69N×125°.12E, h29km, MW3.8, Moment Tensor Solution. s1 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.79; $M_{\theta\theta}$=4.65; $M_{\phi\phi}$=1.14; $M_{r\theta}$=1.38; $M_{\theta\phi}$=-1.79; $M_{\phi r}$=0.45; Fault plane solution: M_0=5.77000×10^{14} NP1: ϕ_s=284.00000°, δ51.00000°, λ-101.00000°. NP2: ϕ_s=121.00000°, δ40.00000°, λ-77.00000°.*
JMA **12** *06:09:38.2±0.1, 24°.69N×125°.12E, h29km±1km, M4.1*
JMA Felt II J1.

ISC 12 06:09:38.0±0.9, 24°.70N±0°.09×125°.08E±0°.05, h28km±6km, n24, σ0s73/27, mb3.7/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRB	Irabujima	0.15	33	P		Pb	06 09 43.6 +0.1
JIRB				S		Sb	06 09 47.4 +0.1
JMJ2	Miyako jima3	0.23	80	P		Pb	06 09 44.1 -0.3
JMJ2				S		Sb	06 09 48.4 -0.3
JIKM	Ikemajima	0.27	34	P		Pb	06 09 45.1 +0.2
JIKM				S		Sb	06 09 49.8 +0.2
JOGS	Gusukube	0.30	78	P		Pb	06 09 45.1 -0.2
JOGS				S		Sb	06 09 50.1 -0.2
JTJ	Tarama	0.35	260	P		Pn	06 09 46.6 -0.6
JTJ				S		Sn	06 09 52.9 -0.4
JISG	Ishigakijimahi	0.71	261	P		Pb	06 09 51.8 0.0
JISG				S		Sn	06 10 01.8 -0.4
JIJ	Ishigaki jima	0.92	249	P		Pn	06 09 54.7 -0.3
JIJ				S		Sn	06 10 07.6 +0.3
JKRS	Kuro-shima	1.08	245	P		Pb	06 09 58.3 +0.2
JKRS				S		Sb	06 10 12.8 +1.0
IRIF	Iriomote-Funau	1.28	254	P		Pb	06 10 00.8 -0.7
IRIF				S		Sb	06 10 18.6 +1.0
JOW	Kunigami	3.58	53	Pn		Pn	06 10 32.7 +1.0
	7.8nm,0.3s,baz=323,slow=20,SNR=6.3						
JOW				Sn		Sb	06 11 22.3 -1.3
	5.7nm,0.3s,baz=315,slow=28,SNR=1.2						
CMAR	Chiang Mai Arr	25.06	261	LR		LR	06 25 39.8
	comp=Z,18nm,20.5s,baz=270,slow=39						
SONM	Songino Array	27.43	332	P		P	06 15 20.6 -0.9
	0.3nm,0.4s,baz=160,slow=8.7,SNR=3.5						
H11N1	WAKE ISLAND Hy	38.92	89	T		T	06 58 42.1
	baz=283						
H11N2	WAKE ISLAND Hy	38.92	89	T		T	06 58 45.0
	baz=283						
H11N3	WAKE ISLAND Hy	38.93	89	T		T	06 58 44.8
	baz=283						
H11S3	WAKE ISLAND Hy	39.06	91	T		T	06 58 54.0
	baz=275						
H11S1	WAKE ISLAND Hy	39.07	91	T		T	06 58 53.4
	baz=275						
H11S2	WAKE ISLAND Hy	39.08	91	T		T	06 58 54.0
	baz=275						
MKAR	Makanchi Array	40.49	314	P		P	06 17 13.3 -1.1
	0.3nm,0.4s,baz=100,slow=9.3,SNR=10.0						
ZALV	Zalesovo Beam	41.80	325	P		P	06 17 23.9 -1.1
	1.0nm,0.5s,baz=122,slow=8.1,SNR=7.1						
SEY	Seymchan	42.33	18	P		P	06 17 30.2 +1.0
	0.7nm,0.4s,baz=179,slow=23,SNR=7.8						
BVAR	Borovoye Array	49.55	320	P		P	06 18 26.9 +0.5
	0.3nm,0.3s,baz=112,slow=6.9,SNR=2.4						
AKASG	Malin Array Be	74.83	319	P		P	06 21 15.3 -0.5
	0.2nm,0.3s,baz=64,slow=6.4,SNR=2.6						
YKA	Yellowknife Ar	81.09	24	P		P	06 21 51.3 +0.9
	0.4nm,0.6s,baz=298,slow=5.4,SNR=9.1						

WEL 12 06:12:18.8, 40°S±3°×17°5E±°, h51km±7km, M2.9/49, ML3.2/52, MLv2.9/49, Error ellipse: s-maj=0.0km s-min=0.0km az=51.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	Ohakea	0.28	92	P		Pn	06 12 28.5 +0.7
OHWZ				S		Sn	06 12 36.4 +2.3
WAZ	Wanganui	0.44	3	P		Pn	06 12 29.8 +0.3
WAZ				S		Sn	06 12 39.2 +2.1
OGWZ	Otaki Gorge	0.64	165	P		Pn	06 12 32.3 +0.4
OGWZ				S		Sn	06 12 42.6 +1.2
POWZ	Post Office Ro	0.65	108	P		Pn	06 12 32.5 +0.5
MRZ	Mangatainoka R	0.67	135	P		Pn	06 12 32.4 +0.2
MRZ				S		Sn	06 12 43.1 +1.3
KIW	Kapiti Island	0.67	183	P		Pn	06 12 32.3 +0.1
KIW				S		Sn	06 12 41.9 0.0
TSZ	Takapari Road	0.78	80	P		Pn	06 12 34.1 +0.4
TSZ				S		Sn	06 12 45.9 +1.4
HOWZ	Holdsworth Sta	0.82	149	P		Pn	06 12 34.6 +0.4
HOWZ				S		Sn	06 12 46.4 +1.0
LREZ	Lake Rotokare	0.85	330	P		Pn	06 12 35.1 +0.5
PRWZ	Pori Road	0.85	115	P		Pn	06 12 35.9 +1.2
MTVZ	Mangateitei	0.90	26	P		Pn	06 12 35.5 +0.1
CAW	Cannon Point	0.92	175	P		Pn	06 12 36.2 +0.7
CAW				S		Sn	06 12 48.3 +0.6
TIWZ	Tintock	0.92	130	P		Pn	06 12 36.1 +0.6
DVHZ	Dannevirke	0.93	97	P		Pn	06 12 35.6 -0.1
PKVZ	Pokaka	0.95	19	P		Pn	06 12 35.5 -0.5
DUWZ	D'Urville Isla	0.99	232	P		Pn	06 12 36.4 -0.2
DUWZ				S		Sn	06 12 50.9 +1.3
PNHZ	Pukenui	0.99	74	P		Pn	06 12 36.6 +0.1
PNHZ				S		Sn	06 12 51.4 +1.8
MOVZ	Moawhango	1.00	38	P		Pn	06 12 36.3 -0.3
MOVZ				S		Sn	06 12 50.4 +0.7
WNVZ	Wahianoa	1.00	30	P		Pn	06 12 36.8 +0.1
WNVZ				S		Sn	06 12 51.2 +1.4
TRVZ	Turoa	1.00	27	P		Pn	06 12 36.8 -0.1
TRVZ				S		Sn	06 12 51.3 +1.2
DRZ	Dome Shelter	1.03	27	P		Pn	06 12 37.7 +0.5
WHVZ	Whangaehu Hut	1.03	28	P		Pn	06 12 37.4 +0.2
WHVZ				S		Sn	06 12 51.9 +1.1
FWVZ	Far West T-bar	1.04	26	P		Pn	06 12 37.3 -0.1
FWVZ				S		Sn	06 12 52.1 +1.1
MTW	Mount Morrison	1.05	157	P		Pn	06 12 37.9 +0.6
MTW				P		Pn	06 12 37.9 +0.7
PREZ	Palmer Road	1.05	324	P		Pn	06 12 37.9 +0.7
TUVZ	Tukino	1.07	30	P		Pn	06 12 38.0 +0.3
TUVZ				S		Sn	06 12 53.3 +1.7
VRZ	Vera Road	1.08	352	P		Pn	06 12 37.8 +0.1
VRZ				S		Sn	06 12 52.9 +1.3
BFZ	Birch Farm	1.10	117	P		Pn	06 12 38.5 +0.6
WEL	Wellington	1.10	187	P		Pn	06 12 38.7 +0.8
BHHZ	Black Hill Sta	1.10	51	P		Pn	06 12 38.0 -0.1
NGZ	Ngauruhoe	1.13	26	P		Pn	06 12 38.5 0.0
NEZ	North Egmont	1.14	324	P		Pn	06 12 39.2 +0.7
SNVZ	South Ngauruho	1.14	28	P		Pn	06 12 39.2 +0.6
TCW	Tory Channel	1.14	207	P		Pn	06 12 38.8 +0.3
NMEZ	Namu Road	1.14	313	P		Pn	06 12 39.2 +0.8
WPHZ	Waipukurau	1.15	84	P		Pn	06 12 39.2 +0.7
TMWZ	Te Maipa	1.16	142	P		Pn	06 12 39.1 +0.3
KHEZ	Kahui Hut	1.16	321	P		Pn	06 12 39.4 +0.7
OTVZ	Oturere	1.17	28	P		Pn	06 12 39.3 +0.3
NNVZ	North Ngauruho	1.18	26	P		Pn	06 12 39.2 0.0
TWVZ	Taurewa	1.18	18	P		Pn	06 12 38.7 -0.4
WTVZ	West Tongariro	1.18	25	P		Pn	06 12 39.0 -0.2
CPWZ	Castlepoint	1.19	127	P		Pn	06 12 41.1 +2.0
ANWZ	Angora Road	1.19	103	P		Pn	06 12 39.1 0.0
ETVZ	East Tongariro	1.21	29	P		Pn	06 12 39.7 +0.2
BHW	Baring Head	1.21	183	P		Pn	06 12 39.9 +0.4
KRHZ	Kereru	1.22	64	P		Pn	06 12 39.7 +0.2
KRVZ	Karewarewa	1.22	26	P		Pn	06 12 39.7 0.0
MHEZ	Mangahewa	1.22	336	P		Pn	06 12 40.4 +0.9
TMVZ	Te Maari	1.22	28	P		Pn	06 12 39.9 +0.2
NTVZ	North Tongarir	1.23	27	P		Pn	06 12 40.0 +0.2
PAWZ	Paruwai Farm	1.24	163	P		Pn	06 12 41.2 +1.3
MSWZ	Moikau Station	1.24	170	P		Pn	06 12 41.5 +1.7
PKE	Pukeiti	1.25	323	P		Pn	06 12 40.9 +0.9
NBEZ	Newall Road No	1.25	317	P		Pn	06 12 40.5 +0.5
PRHZ	Porangahau	1.29	94	P		Pn	06 12 42.5 +2.0
TRWZ	Traveller	1.32	155	P		Pn	06 12 42.9 +1.9
KATZ	Kakaramea	1.34	25	P		Pn	06 12 41.9 +0.6
KWHZ	Kaweka Forest	1.37	56	P		Pn	06 12 42.5 +0.9
PLWZ	Palliser	1.39	171	P		Pn	06 12 41.6 -0.3
RITZ	Rihia Road	1.40	30	P		Pn	06 12 43.4 +1.3
TUWZ	Tuamarina	1.45	212	P		Pn	06 12 42.8 +0.1
KAHZ	Kahuranaki	1.53	75	P		P

	baz=92							
TRKS	Terek-Say	1.46	346	⇑	iP	Pn	06 54 23.6	-0.3
	baz=49							
TRKS				⇑	iS	Sn	06 54 42.5	-0.7
	baz=49							
ARK	Arkit	1.70	9		eP	Pg	06 54 30.0	+0.1
ARK					eS	Sb	06 54 50.0	-0.3
ARK	Arkit	1.70	9	⇓	eP	Pg	06 54 29.4	-0.5
	baz=10.0							
ARK				⇓	iS	Sg	06 54 52.8	+0.8
	baz=10.0							
SALK	Salom-Alik	1.84	65	⇓	eP	Pg	06 54 32.5	-0.2
	baz=64							
SALK				⇓	eS	Sg	06 54 57.8	+1.2
	baz=64							
CHMG	Chimgan	1.88	320		eP	Pb	06 54 32.0	+0.1
CHMG					eS	Sg	06 54 58.0	+0.2
YBZ	Yangibazar	1.95	308		eP	Pg	06 54 34.0	-0.7
YBZ					eS	Sg	06 55 00.0	+0.1
TAS	Tashkent	2.14	305		eP	Pb	06 54 36.0	-0.2
TAS					eS	Sg	06 55 05.0	-1.1
TAS	Tashkent	2.14	305	⇓	eP	Pb	06 54 34.7	-1.5
	baz=7.0							
TAS				⇓	iS	Sb	06 55 02.3	-0.5
	baz=7.0							
MNAS	Manas	2.46	15	⇑	iP	Pb	06 54 40.9	-0.8
	baz=16							
MNAS				⇑	iS	Sb	06 55 12.1	-0.1
	baz=16							
AML	Almayashu	2.55	37	P		Pb	06 54 42.1	-1.3
	SNR=9.9							
CHM	Chimkent	2.68	326		eP	Pg	06 54 48.4	-0.2
	155nm,0.2s							
CHM					eS	Sg	06 55 23.3	0.0
	354nm,0.2s							
ARLS	Aral	2.69	49	⇓	iP	Pb	06 54 44.0	-1.6
	baz=49							
ARLS				⇓	iS	Sb	06 55 17.6	-1.1
	baz=49							
DZA	Taraz	2.78	356		eP	Pg	06 54 49.2	-1.4
	78nm,0.1s							
DZA					eS	Sg	06 55 25.2	-1.5
	251nm,0.2s							
MRKS	Merke	2.89	24		eP	Pg	06 54 52.2	-0.5
	3.5nm,0.2s							
MRKS					eS	Sg	06 55 29.8	-0.4
	45nm,0.3s							
MRKS	Merke	2.89	24		Pg	Pg	06 54 54.4	+1.7
MRKS					Lg	Lg	06 55 29.8	
EKS2	Erkin-Say	3.02	32		P	Pb	06 54 51.4	+0.2
	SNR=7.8							
EKS2	Erkin-Say	3.02	32	⇓	iP	Pb	06 54 48.2	-3.0
	baz=32							
EKS2				⇓	iS	Sb	06 55 25.6	-2.6
	baz=32							
UCH	Uchtor	3.04	45		P	Pb	06 54 49.4	-2.3
	SNR=9.0							
UCH	Uchtor	3.04	45	⇑	iP	Pb	06 54 48.9	-2.8
	baz=45							
UCH				⇑	iS	Sb	06 55 26.6	-2.4
	baz=45							
KK09	Karatay Array	3.12	345	⇑	Pg	Pb	06 54 54.4	+1.5
	16nm,0.7s,baz=171,slow=17							
KK09				⇑	Lg	Lg	06 55 34.7	
	8.2nm,0.3s,baz=171,slow=28							
BRLS	Borolday	3.21	336		eP	Pb	06 54 54.3	0.0
	14nm,0.4s							
BRLS					eS	Sb	06 55 33.6	+0.1
	48nm,0.3s							
BRLS	Borolday	3.21	336		Pg	Pg	06 54 56.1	-2.6
	18nm,0.5s							
BRLS					Lg	Lg	06 55 32.2	
	48nm,0.3s							
AAK	Ala-Archa	3.32	40	⇑	Pg	Pg	06 54 59.4	-1.5
	6.1nm,0.6s							
AAK				⇑	Lg	Lg	06 55 44.2	
	20nm,0.5s							
AAK	Ala-Archa	3.32	40	⇓	iP	Pb	06 54 52.8	-3.6
	baz=40							
AAK				⇓	iS	Sb	06 55 33.0	-3.9
	baz=40							
FRU1	Bishkek	3.52	39	⇑	iP	Pn	06 54 55.2	+3.1
	baz=39							
FRU1				⇑	iS	Sb	06 55 37.8	-4.6
	baz=39							
KBK	Karagaybulak	3.57	44	⇑	iP	Pb	06 54 56.3	-4.3
	baz=44							
KBK				⇑	iS	Sb	06 55 39.2	-4.8
	baz=44							
CHMS	Chumysh	3.72	38	⇑	iP	Pn	06 54 58.0	+3.2
	baz=38							
CHMS				⇑	iS	Sn	06 55 42.5	+3.8
	baz=38							
USP	Ospenovka	3.82	33		P	Pn	06 54 59.7	+3.5
	SNR=11							
USP	Ospenovka	3.82	33	⇑	iP	Pn	06 54 59.6	+3.5
	baz=34							
USP				⇑	iS	Sn	06 55 44.7	+3.6
	baz=34							
SGDS	Sogindy	4.02	33		eP	Pg	06 55 12.6	-1.8
	3.7nm,0.4s							
SGDS					eS	Sg	06 56 04.9	-1.6
	12nm,0.8s							
BOOM	Boomskoye usch	4.03	53	⇑	iP	Pn	06 55 02.7	+3.5
	baz=52							
BOOM				⇑	iS	Sn	06 55 50.0	+3.5
	baz=52							
TKM2	Tokmak 2	4.09	46		P	Pn	06 55 04.1	+3.9
	SNR=7.8							
TKM2	Tokmak 2	4.09	46	⇑	Pn	Pn	06 55 03.9	+3.7
	3.2nm,0.3s							
TKM2				⇑	Sn	Sn	06 55 52.9	+4.7
	4.7nm,0.3s							
TKM2				⇓	Lg	Lg	06 56 09.7	
	10nm,0.6s							
TKM2	Tokmak 2	4.09	46	⇑	iP	Pn	06 55 03.6	+3.4
	baz=46							
TKM2				⇑	iS	Sn	06 55 52.0	+3.8
	baz=46							
KST	Kastek	4.38	47		eP	Pg	06 55 19.8	-1.4
	3.6nm,0.4s							
KST					eS	Sg	06 56 17.4	-0.5
	16nm,0.9s							
KST	Kastek	4.38	47		Pg	Pg	06 55 22.1	+0.9
	6.8nm,0.5s							
KST					Lg	Lg	06 56 16.9	
	25nm,0.8s							
DGS	Degeres	4.41	44		eP	Pg	06 55 20.0	-1.7
	4.0nm,0.9s							
DGS					eS	Sg	06 56 17.4	-1.4
	15nm,0.3s							
DGS	Degeres	4.41	44		Pg	Pg	06 55 22.5	+0.8
	5.4nm,0.5s							
DGS					Lg	Lg	06 56 17.4	
	15nm,0.7s							
KRBS	Karabastau	4.69	39		eP	Pg	06 55 24.5	-2.5
	1.8nm,1.5s							
KRBS					eS	Sg	06 56 25.7	-2.0
	8.1nm,0.5s							
KRBS	Karabastau	4.69	39		Pg	Pg	06 55 27.2	+0.2
	4.2nm,0.4s							
KRBS					Lg	Lg	06 56 25.7	
	8.1nm,0.5s							
TNSS	Tian-Shan	4.95	52		eP	Pg	06 55 30.3	-1.8
	2.9nm,1.0s							
TNSS					eS	Sg	06 56 35.7	-0.5
	5.9nm,1.4s							
TNSS	Tian-Shan	4.95	52		Pg	Pg	06 55 32.8	+0.7
	2.7nm,0.5s							
TNSS					Lg	Lg	06 56 35.7	
	4.3nm,0.6s							
KOTS	Kotyrbulak	5.16	51		eP	Pg	06 55 33.4	-2.7
	4.2nm,0.3s							
KOTS					eS	Sg	06 56 41.4	-1.6
	22nm,0.4s							
KOTS	Kotyrbulak	5.16	51		Pg	Pg	06 55 36.1	0.0
	4.2nm,0.3s							
KOTS					Lg	Lg	06 56 41.4	
	22nm,0.4s							
KTBS	Karatobe	5.21	45		eP	Pg	06 55 33.4	-3.7
	1.9nm,0.7s							
KTBS					eS	Sg	06 56 41.0	-3.6
	14nm,0.5s							
KTBS	Karatobe	5.21	45		Pg	Pg	06 55 36.1	-1.0
	3.2nm,0.6s							
KTBS					Lg	Lg	06 56 41.4	
	14nm,0.5s							
BTLS	Baital	5.24	19		eP	Pb	06 55 32.2	+3.3
	1.5nm,0.8s							
BTLS					eS	Sg	06 56 39.0	-6.4
	5.9nm,0.5s							

*IDC **12** 07:10:23.7±7.0, 41°.18N×138°.65E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.3/38, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=140.8km s-min=38.0km az=12.0*
*JMA **12** 07:10:25.4±0.2, 41°.13N×138°.55E, h29km, M3.4*
ISC 12 07:10:27.4±1.0, 41°.14N±0°.05×138°.57E±0°.05, h35km, n20, σ0s84/25, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOMM	Oshimamatsumae	1.15	70	eS	Sn	07 11 00.1	-1.4
JOSM	Okushiri--Mats	1.16	36	P	Pn	07 10 46.1	-1.1
JOSM				eS	Sn	07 11 00.7	-1.2
JIW	Iwasaki	1.22	116	P	Pn	07 10 46.8	-1.2
JSI2	Shiura 2	1.40	93	P	Pn	07 10 49.8	-0.6
JHHS	Hirosakihykuz	1.44	109	P	Pn	07 10 50.9	-0.1
JSR	Shiriuchi	1.45	74	eS	Sn	07 11 08.6	-0.2
JHST	Hiyamasetana	1.61	37	eS	Sn	07 11 12.5	-0.5
JYM2	Yakumo 2	1.67	54	P	Pn	07 10 54.0	-0.1
JAH	Hinai	1.84	120	P	Pn	07 10 56.3	-0.2
JAH				S	Sn	07 11 18.8	+0.3
JSH	Shimam	1.86	36	P	Pn	07 10 56.5	-0.3
JSH				eS	Sn	07 11 17.9	-1.2
JOT	Ohata	1.89	82	P	Pn	07 10 57.2	+0.1
JTM	Tenmabayashi	1.93	100	P	Pn	07 10 57.4	-0.3
JKB	Kayabe	2.00	67	eS	Sn	07 11 22.2	-0.2
JANG	Nango	2.37	108	P	Pn	07 11 03.6	-0.1
JYK	Kaneyama	2.61	148	P	Pn	07 11 06.3	-0.8
JYK				eS	Sn	07 11 36.4	-1.2
JOM	Ohasama	2.67	128	P	Pn	07 11 07.8	-0.1
USRK	Ussuriysk Ar.	5.73	304	Pn	Pn	07 11 50.1	+0.1
	baz=113,slow=13,SNR=37						
USRK				Sn	Sn	07 12 52.9	-1.7
	baz=116,slow=23,SNR=1.6						
KLR	Kul'dur	9.41	332	Pn	Pn	07 12 40.8	+0.4
	0.5nm,0.3s,baz=144,slow=15,SNR=6.9						
ILAR	Eielson Array	47.28	34	P	P	07 18 58.3	+1.4
	0.8nm,0.9s,baz=280,slow=6.4,SNR=7.3						
YKA	Yellowknife Ar	61.38	30	P	P	07 20 39.9	+0.4
	0.1nm,0.6s,baz=305,slow=6.7,SNR=2.9						

IDC 12 07:14:16.1±2.8, 53°.99N×86°.31E, h0km, mb1 2.5/2, mb1mx2.1/42, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=21.4km s-min=13.7km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.88	268	i		07 20 11.8	
	baz=86,slow=342,SNR=8.4						
ZALV	Zalesovo Beam	0.88	268	Pg	Pg	07 14 33.0	+0.1
	0.3nm,0.3s,baz=90,slow=17,SNR=3.1						
ZALV				Lg	Lg	07 14 45.2	
	0.3nm,0.3s,baz=89,slow=32,SNR=2.4						
KURBB	Kurchatov Arra	5.84	238	Pn	Pn	07 15 43.8	0.0
	0.0nm,0.3s,baz=56,slow=14,SNR=4.8						
KURBB				Lg	Lg	07 17 21.6	
	0.0nm,0.3s,baz=50,slow=35,SNR=1.5						
MKAR	Makanchi Array	7.65	201	Pn	Pn	07 16 10.2	+1.5
	0.1nm,0.3s,baz=24,slow=14,SNR=1.8						
MKAR				Lg	Lg	07 18 20.3	
	0.1nm,0.3s,baz=19,slow=29,SNR=3.4						

*ISK **12** 07:41:34.1, 39°.59N×34°.35E, h4km, ML3.8/46*
*DDA **12** 07:41:35.0±0.0, 39°.58N×34°.41E, h11km, MW3.8*
ISC 12 07:41:35.2±0.8, 39°.59N±0°.02×34°.37E±0°.02, h10km±6km, n67, σ0s96/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	Cicekdag	0.04	8	P	Pg	07 41 37.4	+0.1
CDAG				S	Sg	07 41 39.1	+0.3
KOZK	Kozakli-Nevseh	0.54	134	PG	Pg	07 41 45.5	-0.2
KOZK				SG	Sb	07 41 53.6	-1.1
KAMT	Kaman	0.55	247	PG	Pg	07 41 45.4	-0.5
KAMT				SG	Sg	07 41 53.5	+0.3
BRTR	Keskin Array B	0.58	284	PG	Pg	07 41 45.8	-0.7
CORM	Corum	0.63	19	PG	Pg	07 41 47.6	+0.2
SIRC	Yozgat	0.66	112	SPECP		07 41 47.0	
SIRC				P	Pg	07 41 47.1	-0.9
SIRC				S	Sg	07 41 56.0	-0.5
YOZ	Yozgat	0.74	85	PG	Pg	07 41 48.9	-0.6
SERE	Sereflikochisa	0.89	225	PG	Pg	07 41 51.6	-0.8
CKRK	Yozgat, Cekere	1.00	60	SPECP		07 41 53.0	
CKRK				P	Pg	07 41 53.1	-1.4
CKRK				S	Sg	07 42 07.3	-0.2
CANT	Cankiri	1.17	331	PN	Pb	07 41 56.9	-0.7
GUNE	Kayseri	1.19	124	SPECP		07 41 57.0	
GUNE				P	Pb	07 41 57.3	-0.7
GUNE				S	Sn	07 42 15.2	+0.8
KKUL	Konya-Kulu	1.20	250	SPECP		07 41 56.0	
KKUL				P	Pb	07 41 56.9	-1.2
KKUL				S	Sn	07 42 15.7	+1.2
ANTO	Ankara	1.25	284	PN	Pn	07 41 58.3	-0.5
LOD	Lodumlu	1.27	284	PN	Pn	07 41 58.8	-0.3
BNN	Bunyan	1.36	122	PN	Pn	07 42 00.4	0.0
CUSAR	Sarkisla-SIVAS	1.46	96	P	Pn	07 42 01.4	-0.4
CUSAR				S	Sg	07 42 23.5	+1.2
TOS	Tosya	1.47	350	PN	Pn	07 42 01.9	0.0
SULT	Sultanhani-AKS	1.53	206	PN	Pb	07 42 03.5	-0.3
KAGI	orum-Kargı	1.55	3	SPECP		07 42 03.0	
KAGI				P	Pn	07 42 03.2	+0.2
KAGI				S	Sg	07 42 25.1	-0.1
NIDE	Nigde/Merkez-G	1.61	168	SPECP		07 42 03.0	
NIDE				P	Pn	07 42 03.7	-0.2
NIDE				S	Sb	07 42 25.9	+0.2
ALIN	Konya, Altinte	1.73	223	SPECP		07 42 03.0	
ALIN				P	Pn	07 42 03.1	-2.3
ALIN				S	Sn	07 42 26.3	-1.3
TOKT	Tokat	1.83	66	PN	Pn	07 42 07.3	+0.5
YESY	Yesilyurt	1.86	195	PN	Pn	07 42 07.9	+0.6
CUAYA	Sivas-Altinyay	1.87	99	P	Pn	07 42 07.7	+0.2
CUAYA				S	Sg	07 42 34.8	-0.6
PELI	Kastamonı-Ara	1.89	335	SPECP		07 42 07.0	
PELI				P	Pn	07 42 07.9	+0.2
PELI				S	Sg	07 42 34.9	-1.2
BOYA	Sinop/Boyabat-	1.96	7	SPECP		07 42 09.0	
BOYA				P	Pb	07 42 09.8	-1.2
BOYA				S	Sg	07 42 36.9	-1.3
KVT	Kavak	1.97	40	PN	Pn	07 42 09.6	+0.9
CMRD	Camardi-Nigde	1.98	165	PN	Pn	07 42 09.4	+0.5
SARI	SarD1z-Kayseri	1.99	126	PN	Pb	07 42 10.9	-0.6
KIZT	Kizilcal	2.05	251	PN	Pn	07 42 10.4	+0.5
SVSK	Karacayir	2.06	80	PN	Pn	07 42 10.3	+0.5
SAIM	ADANA	2.09	140	SPECP		07 42 10.0	
SAIM				P	Pn	07 42 10.9	+0.5
SAIM				S	Sb	07 42 40.3	+0.9
KIBS	BOLU	2.10	294	SPECP		07 42 10.0	
KIBS				P	Pn	07 42 10.7	+0.2
KIBS				S	Sb	07 42 39.9	+0.2
KBUK	KARABUK-Merkez	2.12	322	SPECP		07 42 13.0	
KBUK				P	Pb	07 42 13.3	-0.4
KBUK				S	Sg	07 42 43.3	0.0
SVRH	Sivrihisar-ESK	2.20	267	PN	Pn	07 42 12.6	+0.7
YUVA	Yuva-Kibriscik	2.21	292	PN	Pn	07 42 12.6	+0.6
KONT	Konya--Tatoy	2.27	224	PN	Pn	07 42 13.2	+0.4
AKO	Adana	2.28	158	SPECP		07 42 15.0	
AKO				P	Pb	07 42 15.2	-1.3
KARA	Karaisali	2.38	167	PN	Pn	07 42 15.5	+1.2
BZK	Bozkurt	2.39	354	PN	Pn	07 42 15.2	+0.8
KOZT	Kozan	2.39	151	PN	Pn	07 42 15.6	+1.1
RSDY	Resadiye-TOKAT	2.42	69	PN	Pn	07 42 15.7	+0.9
SNOP	Sinop	2.52	14	PN	Pn	07 42 16.9	+0.8
CIFT	Cifteler, Eski	2.57	266	PN	Pn	07 42 17.5	+0.6
MDUB	Mudurnu	2.59	291	PN	Pn	07 42 17.8	+0.5
DARE	Darende-Malaty	2.63	112	PN	Pn	07 42 18.9	+1.1
MERS	Mersin	2.72	177	PN	Pn	07 42 20.1	+1.1
CEYT	Ceyhan	2.79	157	PN	Pn	07 42 21.1	+1.2
SEYD	Seydisehir-KON	2.94	223	PN	Pn	07 42 23.4	+1.3
GULT	Gulveren	3.08	287	PN	Pn	07 42 24.9	+1.0
KIZK	Mersin	3.10	183	PN	Pn	07 42 25.5	+1.3
ARPR	Arapgir-MALATY	3.12	98	PN	Pn	07 42 26.2	+1.6
SHUT	Suhut-Afyon	3.14	252	PN	Pn	07 42 26.2	+1.3
KEBE	Keben-Mersin	3.17	190	PN	Pn	07 42 26.2	+0.9
GAZ	Gaziantep	3.29	136	PN	Pn	07 42 27.9	+1.1
BERE	Bereket-Mersin	3.36	196	PN	Pn	07 42 29.3	+1.5
IKL	Isikli	3.38	189	PN	Pn	07 42 29.5	+1.4
AKKU	Akkuyu-Mersin	3.48	191	PN	Pn	07 42 31.0	+1.6
CAVI	Cavuskoy	3.53	281	PN	Pn	07 42 31.4	+1.2
TEKE	Tekeli-Mersin	3.58	196	PN	Pn	07 42 31.6	+0.9
ADVT	Abdulvahap	3.65	285	PN	Pn	07 42 33.1	+1.3
GAZI	Gazipasa	3.72	206	PN	Pn	07 42 33.9	+1.2
TVSB	Tavsanli	3.79	270	PN	Pn	07 42 35.5	+1.7
YLV	Yalova	3.95	286	PN	Pn	07 42 37.1	+1.1
KORT	Korkueli	4.08	232	PN	Pn	07 42 39.6	+1.8
SEV	Sevastopol'	4.98	354	eP	Pn	07 42 51.0	+1.0
SEV				Pm		07 42 59.1	
	comp=Z,69nm,0.3s						
SEV				eS	Sn	07 43 48.8	+1.1
SEV				Sm		07 43 52.0	
	comp=N,4.0nm,0.3s						
SEV				Sm		07 43 52.0	
	comp=E,3.0nm,0.3s						
SUDU	Sudak	5.32	5	eP	Pn	07 42 55.5	+0.8
SUDU				Pm		07 43 03.0	
	comp=Z,7.0nm,0.4s						
SUDU				eS	Sn	07 43 57.2	+1.2
SUDU				Sm		07 44 26.0	
	comp=N,15nm,0.5s						
SUDU				Sm		07 44 26.0	
	comp=E,11nm,0.6s						

IDC 12 07:43:27.1±2.1, 3°.69N×126°.96E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/29, mbtmp3.6/3, MS3.1/4, Ms1 3.1/4, ms1mx2.6/56, Error ellipse: s-maj=169.2km s-min=25.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.25	136	LR	LR	07 47 42.4	
	comp=Z,88nm,18.1s,baz=132,slow=41						
LEM	Lembang	21.96	242	LR	LR	07 57 09.9	
	comp=Z,51nm,19.8s,baz=168,slow=38						
WRA	Warramunga Arr	24.58	163	P	P	07 48 48.3	-0.8
	1.2nm,0.6s,baz=343,slow=11,SNR=8.7						
ASAR	Alice Springs	28.02	166	P	P	07 49 21.4	+1.2
	0.2nm,0.7s,baz=338,slow=7.1,SNR=3.5						
MJAR	Matsushiro Arr	34.29	16	LR	LR	08 04 37.9	
	comp=Z,29nm,18.8s,baz=172,slow=37						
PALK	Pallekele	46.17	276	LR	LR	08 11 44.5	
	comp=Z,33nm,19.1s,baz=316,slow=37						
MKAR	Makanchi Array	57.72	325	P	P	07 53 19.6	-0.2
	0.7nm,0.5s,baz=119,slow=7.3,SNR=10						

*UCR **12** 08:15:18.9±1.7, 9°.58N×84°.09W, h15km±5km, MW3.8*
*UPA **12** 08:15:18.4±1.1, 9°.60N×84°.12W, h14km±10km, MW3.6*
ISC 12 08:15:18.5±1.0, 9°.58N±0°.03×84°.11W±0°.02, h17km±8km, n28, σ0s62/45, 7C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	La Lucha 2	0.19	32	⇓ eP	Pb	08 15 23.9	+0.2
LCR2				eS	Sb	08 15 27.6	+0.4
RIMA	Rio Macho	0.31	52	eP	Pg	08 15 25.4	+0.1
RIMA				eS	Sb	08 15 29.9	-0.6
EDDO	Dominical	0.40	143	⇓ eP	Pg	08 15 27.0	+0.1
EDDO				eS	Sg	08 15 33.0	+0.5
HDC	Heredia	0.42	359	eP	Pg	08 15 27.2	-0.1
HDC				eS	Sb	08 15 34.2	+0.4
HDC	Heredia	0.42	359	eP	Pb	08 15 27.5	-0.1
HDC				eS	Sb	08 15 33.8	0.0
PEZE	Perez Zeledon,	0.47	114	⇑ eP	Pg	08 15 28.2	+0.1
PEZE				eS	Sb	08 15 35.1	+0.1
JACO	JACO, Garabito	0.55	279	⇑ eP	Pg	08 15 29.5	0.0
JACO				eS	Sb	08 15 37.6	+0.3
SRA1	San Ramn	0.62	324	⇓ eP	Pg	08 15 30.6	-0.3
SRBA	San Rafael, Bu	0.81	115	⇑ eP	Pg	08 15 33.6	-0.9
SRBA				eS	Sg	08 15 44.4	-0.9
LAFE	Finca La Fe, P	0.82	286	⇑ eP	Pg	08 15 34.6	0.0
LAFE				eS	Sn	08 15 46.9	-0.1
CAO2	Cobano, Puntar	0.99	277	⇑ eP	Pb	08 15 36.7	-0.5
ARE1	Arenal 1	1.06	326	⇓ eP	Pb	08 15 38.3	-0.2
ARE1				eS	Sb	08 15 52.8	+0.6
CEDE	Laguna Cedeo	1.08	327	i P	Pb	08 15 38.8	0.0
CEDE				i S	Sg	08 15 53.7	+0.1
JTS	Las Juntas de	1.09	311	⇑ eP	Pb	08 15 38.0	-1.0
JTS				eS	Sb	08 15 52.6	-0.4
JTS	Las Juntas de	1.09	311	⇑ eP	Pb	08 15 38.0	-1.0
JTS				eS	Sb	08 15 52.6	-0.4
COVE	Coope Vega, Sa	1.17	346	⇓ eP	Pn	08 15 39.7	-0.5
COVE				eS	Sn	08 15 55.8	+0.1
ACAL	Aguas Claras	1.39	319	i P	Pn	08 15 43.7	+0.4
CUI	Cuipilapa	1.50	316	i P	Pn	08 15 45.1	+0.5
GUAI	GUAI	1.54	297	i P	Pn	08 15 45.5	+0.3
CDITO	Canoas	1.58	129	eP	Pn	08 15 44.6	-1.1
BRU2	Volcan	1.60	119	eP	Pn	08 15 46.4	+0.2
BRU2				eS	Sb	08 16 08.8	+1.1
SAJU	San Juanillo,	1.65	287	eP	Pn	08 15 46.7	0.0
SAJU				eS	Sn	08 16 07.9	+0.4
BUEV	Buena Vista	1.76	314	i P	Pn	08 15 49.4	+1.1
BUAI	Buenos Aires	1.77	317	i P	Pg	08 15 52.3	-0.2
BCO2	Palmira	1.78	119	eP	Pn	08 15 48.9	+0.2
BCO2				eS	Sn	08 16 10.8	-0.1
GBS3	Finca Las Img	1.79	312	i P	Pn	08 15 49.6	+1.0
HZTE	Horizontes, Gu	1.85	308	eP	Pn	08 15 50.6	+1.1
DVD	David	1.99	125	eS	Sb	08 16 20.6	+1.7

*IDC **12** 08:31:51.6±0.9, 3°.75N×127°.07E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/43, mbtmp3.9/10, ML5.1/1, Error ellipse: s-maj=77.8km s-min=14.8km az=72.0*
*NEIC **12** 08:31:54.5±0.7, 3°.5N±0°.2×126°.5E±0°.6, h10km±2km, mb4.2/10, Error ellipse: s-maj=103.3km s-min=17.7km az=72.0*
ISC 12 08:31:53.5±0.7, 3°.5N±0°.1×126°.6E±0°.4, h10km, n25, σ1s09/26, mb4.1/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	13.91	192	Pn	P	08 35 16.6	-2.6
	9.0nm,0.3s,baz=76,slow=9.5,SNR=2.4						
MTN	Manton Dam	16.85	164		Pn	08 35 50.6	+0.9
KNRA	Kununurra	19.17	174	P	P	08 36 17.7	+0.3
KNRA				IAmb	IAmb	08 36 21.7	
	comp=Z,11nm,1.2s						
TPUB	Ta-pu	20.52	344	P	P	08 36 32.3	+0.3
FITZ	Fitzroy Crossi	21.47	182	P	P	08 36 45.7	+3.3
	comp=

AKTO	Aktyubinsk	73.75	322	P	P	08 43 28.7 +0.8
	comp=Z,0.7nm,0.6s,baz=98,slow=7.2,SNR=3.7					
ARCES	ARCESS Array B	90.62	340	P	P	08 44 54.5 -1.4
	comp=Z,2.9nm,0.9s,baz=64,slow=5.5,SNR=3.6					

IDC 12 08:35:06.0±3.0, 53°.53N×87°.57E, h0km, mb1 2.9/2, mb1mx2.8/49, mbtmp2.9/2, ML2.1/2, Error ellipse: s-maj=26.2km s-min=14.4km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.69	286	*i*		08 44 50.0	
	baz=101,slow=342,SNR=13						
ZALV	Zalesovo Beam	1.69	286	Pg	Pn	08 35 36.4	-0.3
	1.0nm,0.3s,baz=104,slow=17,SNR=23						
ZALV				Lg	Lg	08 35 59.5	
	0.4nm,0.3s,baz=101,slow=21,SNR=3.8						
KURBB	Kurchatov Arra	6.29	246	Pn	Pn	08 36 40.9	+1.0
	0.0nm,0.3s,baz=61,slow=14,SNR=5.8						
KURBB				Lg	Lg	08 38 24.0	
	0.1nm,0.3s,baz=61,slow=32,SNR=7.2						
MKAR	Makanchi Array	7.54	209	Pn	Pn	08 36 58.3	+1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=6.9						
MKAR				Sn	Sn	08 38 23.2	-0.2
	0.1nm,0.3s,baz=29,slow=26,SNR=4.0						
MKAR				Lg	Lg	08 39 04.1	
	0.1nm,0.3s,baz=22,slow=31,SNR=7.1						

IDC 12 09:00:47.1±2.3, 54°.13N×85°.99E, h0km, mb1 2.9/2, mb1mx2.8/37, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=17.1km s-min=10.6km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.71	256	*i*		09 05 10.0	
	baz=77,slow=344,SNR=3.3						
ZALV	Zalesovo Beam	0.71	255	Pg	Pg	09 00 59.1	-1.5
	1.0nm,0.3s,baz=70,slow=17,SNR=11						
ZALV				Lg	Lg	09 01 11.2	
	2.2nm,0.3s,baz=74,slow=27,SNR=16						
KURBB	Kurchatov Arra	5.76	235	Pn	Pn	09 02 15.0	+1.3
	0.1nm,0.3s,baz=51,slow=13,SNR=7.9						
KURBB				Lg	Lg	09 03 52.0	
	0.0nm,0.3s,baz=55,slow=36,SNR=1.2						
MKAR	Makanchi Array	7.71	199	Pn	Pn	09 02 41.6	+1.0
	0.1nm,0.3s,baz=23,slow=13,SNR=6.2						

IDC 12 09:03:52.6±2.5, 53°.44N×87°.14E, h0km, mb1 2.9/2, mb1mx2.8/36, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=21.8km s-min=13.6km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.47	291	*i*		09 12 27.8	
	baz=107,slow=340,SNR=11						
ZALV	Zalesovo Beam	1.47	291	Pg	Pn	09 04 19.2	-1.1
	1.0nm,0.3s,baz=110,slow=16,SNR=12						
ZALV				Lg	Lg	09 04 39.2	
	1.1nm,0.3s,baz=113,slow=30,SNR=8.2						
KURBB	Kurchatov Arra	6.02	246	Pn	Pn	09 05 23.7	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=11						
KURBB				Sn	Sn	09 06 32.0	-0.3
	0.0nm,0.3s,baz=56,slow=17,SNR=1.2						
KURBB				Lg	Lg	09 07 02.4	
	0.0nm,0.3s,baz=57,slow=31,SNR=4.0						
MKAR	Makanchi Array	7.35	207	Pn	Pn	09 05 41.9	+0.9
	0.1nm,0.3s,baz=28,slow=15,SNR=5.2						
MKAR				Sn	Sn	09 07 04.8	-0.3
	0.1nm,0.3s,baz=25,slow=21,SNR=1.8						
MKAR				Lg	Lg	09 07 46.1	
	0.1nm,0.3s,baz=18,slow=32,SNR=1.7						

*IDC **12** 09:34:50.0±1.2, 23°.07S×179°.18E, h548km±12km, mb3.7/10, mb1 4.0/14, mb1mx3.7/25, mbtmp4.6/14, Error ellipse: s-maj=18.7km s-min=12.5km az=158.0*
*NOU **12** 09:34:50.3, 22°.94S×179°.38E, h572km, mb4.6/62, South of Fiji Islands*
*NEIC **12** 09:34:52.3±2.6, 22°.8S±0°.1×179°.1E±0°.1, h564km±6km, mb4.5/45, Error ellipse: s-maj=17.6km s-min=15.1km az=150.0*

ISC 12 09:34:52.2±0.4, 23°.05S±0°.05×179°.15E±0°.06, h579km, n183, σ1°.73/196, mb4.5/36, 7C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.39	349	P	P	09 36 24.9	-2.2
	14nm,0.3s,baz=94,slow=22,SNR=57						
MSVF				S	S	09 37 42.0	-2.6
	baz=143,slow=20,SNR=1.1						
MSVF	Nonsavu	5.39	349	P	P	09 36 25.2	-2.0
MSVF	Nonsavu	5.39	349	P	P	09 36 25.4	-1.8
GLKZ	Green Lake	6.72	158	P	P	09 36 38.7	+0.2
GLKZ				S	S	09 38 03.5	-2.3
MARNC	Mare, Loyalty	10.41	277	P	P	09 37 14.3	-0.4
MARNC	Mare, Loyalty	10.41	277	P	P	09 37 14.3	-0.4
PINNC	Pines Island,	10.80	270	P	P	09 37 16.4	-2.2
PINNC	Pines Island,	10.80	270	P	P	09 37 18.6	0.0
NIUE	Niue	10.94	71	P	P	09 37 17.9	-2.1
LIFNC	LIFOU	11.28	279	P	P	09 37 21.3	-2.2
LIFNC	LIFOU	11.28	279	P	P	09 37 22.1	-1.4
OUENC	Ouen Island, N	11.38	271	P	P	09 37 23.6	-0.9
OUENC	Ouen Island, N	11.38	271	P	P	09 37 24.3	-0.2
DZM	Mont Dzumac	11.78	272	P	P	09 37 27.2	-1.5
	0.8nm,0.3s,baz=116,slow=19,SNR=3.0						
DZM	Mont Dzumac	11.78	272	P	P	09 37 28.0	-0.7
NOUC	Port Laguerre	11.91	272	P	P	09 37 29.2	-0.7
AFI	Afiamalu	12.52	45	P	P	09 37 32.1	-4.2
	13nm,0.3s,baz=196,slow=2.7,SNR=20						
AFI				S	S	09 39 41.6	-10
	2.0nm,0.3s,baz=245,slow=21,SNR=1.8						
OUZ	Omahuta	13.06	201	P	P	09 37 42.4	+0.9
OUZ	Omahuta	13.06	201	P	P	09 37 43.0	+1.6
OUZ	Omahuta	13.06	201	P	P	09 37 42.8	+1.4
WCZ	Waipu Caves	13.50	197	P	P	09 37 47.7	+1.6
GRZ	Great Barrier	13.54	193	P	P	09 37 46.4	0.0
SANVU	Saraoutou	13.57	302	P	P	09 37 43.8	-3.3
SANVU	Saraoutou	13.57	302	P	P	09 37 45.7	-1.4
KUZ	Kuaotunu	13.97	191	P	P	09 37 50.5	-0.2
WIAZ	Waiheke Island	14.13	193	P	P	09 37 52.7	+0.3
ETAZ	East Tamaki Re	14.33	194	P	P	09 37 55.2	+0.9
WTAZ	Waiatarua	14.39	195	P	P	09 37 55.8	+0.9
RUGZ	Raukumara Rang	14.92	185	P	P	09 38 00.6	+0.5
RUGZ				S	S	09 40 31.8	-2.3
PUZ	Puketiti	14.99	183	P	P	09 37 58.3	-2.5
PUZ				S	S	09 40 29.4	-5.7
TWGZ	Tauwhareparae	15.11	184	P	P	09 37 59.9	-1.9
TWGZ				S	S	09 40 34.4	-2.8
URZ	Urewera	15.26	186	P	P	09 37 59.7	-3.5
	1.5nm,0.3s,baz=3.4,slow=6.0,SNR=18						
URZ				S	S	09 40 32.0	-7.6
	5.3nm,0.3s,baz=213,slow=23,SNR=19						
TKGZ	Te Karaka	15.38	184	P	P	09 38 02.1	-2.2
TKGZ				S	S	09 40 35.0	-6.6
CNGZ	Carnagh Statio	15.40	183	P	P	09 38 03.9	-0.7
SNGZ	Shannon Statio	15.76	185	P	P	09 38 04.9	-3.1
SNGZ				S	S	09 40 44.2	-3.7
HIZ	Hauiti	15.84	192	P	P	09 38 08.9	+0.1
BFZ	Birch Farm	17.75	187	P	P	09 38 24.3	-1.9
QRZ	Quartz Range	18.58	196	P	P	09 38 34.2	+0.4
SNZO	South Karori	18.59	191	P	P	09 38 32.5	-1.3
LHI	Lord Howe Isla	19.72	240	P	P	09 38 46.1	+1.8
KHZ	Kahutara	19.87	192	P	P	09 38 44.0	-1.4
RPZ	Rata Peaks	21.67	196	P	P	09 39 01.6	0.0
ODZ	Otahua Downs	23.02	196	P	P	09 39 13.5	-0.1
ARMA	Armidale	25.61	247	P	P	09 39 38.5	+1.6
ARMA	Armidale	25.61	247	P	P	09 39 38.6	+1.7
EIDS	Eidsvold	25.68	259	P	P	09 39 38.1	+0.5
EIDS				IAmb	IAmb	09 39 39.1	
	comp=Z,20nm,1.1s						
EIDS	Eidsvold	25.68	259	P	P	09 39 38.3	+0.8
MGCD	Mangrove Creek	26.64	241	P	P	09 39 47.6	+1.8
RMQ	Roma	27.77	257	P	P	09 39 57.5	+1.7
CNB	Canberra Magne	28.62	238	P	P	09 40 03.3	+0.2
CAN	Canberra	28.91	238	P	P	09 40 06.9	+1.3
CAN	Canberra	28.91	238	P	P	09 40 06.6	+1.0
CTA	Charters Tower	30.70	269	P	P	09 40 22.0	+0.9
CTAO	Charters Tower	30.70	269	P	P	09 40 21.9	+0.7
CTAO	Charters Tower	30.70	269	P	P	09 40 22.1	+0.9
CMSA	Cobar Meteorol	30.82	247	P	P	09 40 22.8	+0.8
QLP	Quilpie	31.82	256	P	P	09 40 31.4	+0.7
RABL	Rabaul	32.12	302	P	P	09 40 31.9	-1.5
RABL	Rabaul	32.12	302	P	P	09 40 32.0	-1.4
TOO	Toolangi	32.27	236	P	P	09 40 35.3	+1.0
TOO	Toolangi	32.27	236	P	P	09 40 35.3	+1.0
MTSU	Mount Surprise	32.92	272	P	P	09 40 40.8	+0.7
TAU	Tasmania Unive	32.95	225	P	P	09 40 40.8	+0.8
PMG	Port Moresby	33.48	289	P	P	09 40 45.1	+0.3
	comp=Z,33nm,0.5s,baz=84,slow=4.8,SNR=13						
PMG	Port Moresby	33.48	289	P	P	09 40 45.1	+0.3
PMG	Port Moresby	33.48	289	P	P	09 40 45.1	+0.3
PMG	Port Moresby	33.48	289	P	P	09 40 45.3	+0.5
STKA	Stephens Creek	34.32	247	P	P	09 40 52.1	+0.5
	comp=Z,5.9nm,0.3s,baz=102,slow=7.7,SNR=39						
STKA	Stephens Creek	34.32	247	P	P	09 40 52.5	+0.9
STKA	Stephens Creek	34.32	247	P	P	09 40 52.4	+0.8
INKA	Innaminka	34.91	254	P	P	09 40 58.2	+1.7
COEN	Coen	35.21	278	P	P	09 41 00.2	+0.9
COEN				IAmb	IAmb	09 41 01.1	
	comp=Z,15nm,0.9s						
COEN	Coen	35.21	278	P	P	09 40 59.9	+0.7
HTT	Hallett	36.72	245	P	P	09 41 12.0	+0.5
QIS	Mount Isa	36.72	266	P	P	09 41 11.6	-0.1
LCRK	Leigh Creek	37.13	250	P	P	09 41 15.4	+0.6
TWOA	Tennyson Woods	37.19	242	P	P	09 41 15.6	+0.4
NAPP	Napperby	37.34	245	P	P	09 41 17.1	+0.6
BBOO	Buckleboo	39.06	246	P	P	09 41 30.3	-0.1
BBOO	Buckleboo	39.06	246	P	P	09 41 30.4	-0.1
OOD	Oodnadatta	39.38	254	P	P	09 41 34.3	+1.2
MULG	Mulgathing	40.72	250	P	P	09 41 43.8	+0.1
AS31	Alice Springs	41.41	260	P	P	09 41 49.5	+0.3
AS31				IAmb	IAmb	09 41 50.2	
	comp=Z,13nm,1.2s						
ASAR	Alice Springs	41.41	260	P	P	09 41 49.4	+0.1
	comp=Z,6.6nm,0.3s,baz=90,slow=6.6,SNR=321						
ASAR				ScP	ScP	09 46 33.5	+4.8
	comp=Z,4.3nm,0.9s,baz=103,slow=4.2,SNR=16						
ASAR				S	S	09 47 21.2	-2.2
	comp=Z,0.8nm,0.8s,baz=101,slow=15,SNR=5.5						
WR0	Warramunga Arr	41.50	266	P	P	09 41 49.5	-0.5
WR0				IAmb	IAmb	09 41 49.9	
	comp=Z,11nm,1.1s						
WB0	Warramunga Arr	41.68	266	P	P	09 41 51.0	-0.5
WB0				IAmb	IAmb	09 41 51.4	
	comp=Z,17nm,0.8s						
WB2	Warramunga Arr	41.68	265	P	P	09 41 51.1	-0.4
WB2				IAmb	IAmb	09 41 52.0	
	comp=Z,48nm,1.4s						
WRAB	Tennant Creek	41.68	265	P	P	09 41 50.9	-0.6
WRAB				IAmb	IAmb	09 41 52.0	
	comp=Z,32nm,1.3s						
WRAB	Tennant Creek	41.68	265	P	P	09 41 50.9	-0.6
WRA	Warramunga Arr	41.69	265	P	P	09 41 50.8	-0.7
	comp=Z,6.2nm,0.4s,baz=101,slow=8.2,SNR=72						
WRA				ScP	ScP	09 46 34.5	+4.6
	comp=Z,3.5nm,1.0s,baz=33,slow=8.0,SNR=9.5						
WRA				S	S	09 47 21.3	-6.2
	comp=Z,0.6nm,0.9s,baz=100,slow=13,SNR=2.2						
JAY	Jayapura	42.46	293	P	P	09 41 57.2	-0.4
	comp=Z,4.9nm,0.3s,baz=183,slow=4.7,SNR=11						
FORT	Forrest	45.88	249	P	P	09 42 23.3	-0.3
FORT	Forrest	45.88	249	P	P	09 42 23.4	-0.3
WRKA	Warakurna	46.26	257	P	P	09 42 26.8	0.0
MTN	Manton Dam	46.61	274	P	P	09 42 28.7	-0.7
MTN	Manton Dam	46.61	274	P	P	09 42 28.8	-0.7
DRS	Darwin Rock St	46.97	274	P	P	09 42 31.5	-0.6
KNRA	Kununurra	47.91	269	P	P	09 42 39.2	+0.1
KNRA	Kununurra	47.91	269	P	P	09 42 39.1	0.0
PSA00	Pilbara Seismi	54.55	259	P	P	09 43 26.9	-0.1
PSA00				IAmb	IAmb	09 43 30.7	
	comp=Z,31nm,1.4s						
PSA00	Pilbara Seismi	54.55	259	P	P	09 43 26.7	-0.3
KLBR	Kellerberrin	54.60	247	P	P	09 43 27.2	0.0
MEEK	Meekatharra	54.61	253	P	P	09 43 26.8	-0.6
MBWA	Marble Bar	54.75	260	P	P	09 43 28.1	-0.3
NWAO	Narrogin (SRO)	54.88	245	P	P	09 43 29.2	+0.1
BLDU	Ballidu	55.62	248	P	P	09 43 34.2	-0.1
MUN	Mundaring	55.85	246	P	P	09 43 36.2	+0.3
MORW	Morawa	56.43	250	P	P	09 43 40.2	+0.2
GIRL	Giralia	59.35	257	P	P	09 43 59.6	-0.1
QSPA	South Pole Qui	67.03	180	P	P	09 44 50.0	+1.8
QSPA				IAmb	IAmb	09 44 50.9	
	comp=Z,30nm,0.9s						
SMAI	San Martin Ant	77.17	159	P	P	09 45 48.7	+2.1
SMAI				IAmb	IAmb	09 45 49.6	
	comp=Z,29nm,0.9s						
NJ2	Nanjing	79.51	311	*e*P	P	09 46 02.8	+3.1
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ISA	Isabella, Lake	83.00	47	P	P	09 46 19.5	+1.9
CMB	Columbia Colle	83.13	44	P	P	09 46 19.9	+1.8
NVAR	Mina Array Bea	84.69	44	P	P	09 46 27.3	+1.3
	comp=Z,2.5nm,1.0s,baz=225,slow=8.1,SNR=11						
KVN	Kaiserville	85.18	44	P	P	09 46 29.7	+1.4
SNAA	Sanae	85.52	179	P	P	09 46 29.2	-0.1
VNA3	Neumayer Olymp	85.76	177	P	P	09 46 30.6	+0.2
COYC	Coyhaique	86.05	138	P	P	09 46 34.9	+2.7
VNA2	Neumayer--Watz	86.17	178	P	P	09 46 32.7	+0.3
	baz=187,slow=5.0						
WVOR	Wild Horse Val	86.78	41	P	P	09 46 37.2	+1.5
WVOR				IAmb	IAmb	09 46 39.2	
	comp=Z,13nm,1.4s						
U15A	North Rim	87.63	49	P	P	09 46 42.2	+2.1
U15A				IAmb	IAmb	09 46 42.6	
	comp=Z,4.9nm,0.8s						
WUAZ	Wupatki	87.81	50	P	P	09 46 42.9	+2.1
ELK	Elko	87.95	44	P	P	09 46 43.1	+1.7
ELK				IAmb	IAmb	09 46 44.0	
	comp=Z,7.7nm,1.2s						
MTPU	Mount Pierson	88.53	47	P	P	09 46 46.8	+2.4
MFID	Camas Ranch	89.04	41	P	P	09 46 48.0	+1.8
MFID				IAmb	IAmb	09 46 48.9	
	comp=Z,6.7nm,1.1s						
HHC	Hu-ho-hao-te	89.27	315	*e*P	P	09 46 49.8	+2.4
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
PLCA	Paso Flores	89.42	135	P	P	09 46 50.0	+1.8
	comp=Z,4.3nm,1.0s,baz=200,slow=6.3,SNR=5.3						
PLCA	Paso Flores	89.42	135	IAmb	IAmb	09 46 51.3	
	comp=Z,5.3nm,1.0s						
LC01	Cunco	89.44	132	P	P	09 46 49.3	+1.0
LC01				IAmb	IAmb	09 46 50.8	
	comp=Z,9.8nm,0.9s						
PZH	PanZhiHua	89.59	299	P	P	09 46 51.4	+2.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.2s						
Q16A	Castle Valley	89.66	47	P	P	09 46 49.9	+0.5
Q16A				IAmb	IAmb	09 46 52.8	
	comp=Z,5.0nm,0.9s						
TMUT	Trail Mountain	89.83	47	P	P	09 46 52.8	+2.5
TMUT				IAmb	IAmb	09 46 52.9	
	comp=Z,6.5nm,0.8s						
HVU	Hansel Valley	90.07	44	P	P	09 46 53.1	+1.9
HVU				IAmb	IAmb	09 46 53.2	
	comp=Z,4.0nm,0.7s						
SRU	San Rafael Swe	90.19	47	P	P	09 46 53.7	+1.9
SRU				IAmb	IAmb	09 46 54.3	
	comp=Z,7.2nm,0.8s						
P17A	Butcher Ranch,	90.23	47	P	P	09 46 54.3	+2.3
P17A				IAmb	IAmb	09 46 55.5	
	comp=Z,5.8nm,1.1s						
MNTX	Cornudas Mount	90.38	56	P	P	09 46 54.7	+2.0
TX31	Lajitas Ar. Si	90.65	58	P	P	09 46 56.1	+2.1
TX31				IAmb	IAmb	09 47 14.9	
	comp=Z,5.7nm,1.4s						
TX32	Lajitas Array	90.65	58	P	P	09 46 55.7	+1.7
TXAR	Lajitas Array	90.65	58	P	P	09 46 55.5	+1.5
	comp=Z,1.8nm,0.9s,baz=213,slow=6.5,SNR=16						
TXAR	Lajitas Array	90.65	58	P	P	09 46 56.3	+2.2
ANMO	Albuquerque	91.06	52	P	P	09 46 56.2	+0.3
ILAR	Eielson Array	91.39	14	P	P	09 46 56.0	-0.5
	comp=Z,0.4nm,0.5s,baz=224,slow=5.5,SNR=8.7						
LZH	Lanzhou	92.24	308	⇓P	P	09 47 01.2	-0.1
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
MT01	Popeta	92.36	128	P	P	09 47 03.2	+1.4
MT01				IAmb	IAmb	09 47 03.7	
	comp=Z,6.2nm,0.8s						
PDAR	Pinedale Array	92.63	44	P	P	09 47 03.9	+0.8
	comp=Z,0.6nm,0.6s,baz=199,slow=2.0,SNR=6.4						
YKA	Yellowknife Ar	99.94	26	P	Pdif	09 47 35.9	+0.9
	comp=Z,0.1nm,0.5s,baz=231,slow=3.9,SNR=2.7						
YKA	Yellowknife Ar	99.94	26		Pdif	09 47 35.1	+0.1
MKAR	Makanchi Array	111.00	313	PKiKP	PKiKP	09 52 19.9	-0.4
	comp=Z,0.2nm,0.3s,baz=103,slow=0.5,SNR=5.7						
KSH	Kashi	114.15	304	PKP	PKPdf	09 52 26.4	-0.2
BTK	Batken	118.16	304		PKPdf	09 52 32.4	-1.9
ARCES	ARCESS Array B	130.90	348	PKP	PKPdf	09 52 58.0	+0.3
	comp=Z,1.0nm,0.4s,baz=88,slow=3.8,SNR=19						
ARCES	ARCESS Array B	130.90	348		PKiKP	09 52 58.4	-0.3
FINES	FINESS Array B	137.40	341	PKhKP	PKPpre	09 53 00.9	
	comp=Z,4.3nm,0.9s,baz=0.0,slow=1.9,SNR=5.7						
FINES				PKP	PKPdf	09 53 10.6	+0.6
	comp=Z,0.8nm,0.3s,baz=45,slow=2.3,SNR=11						
FINES				SKPbc	SKiKP	09 55 52.2	-1.5
	comp=Z,3.4nm,0.9s,baz=48,slow=2.8,SNR=4.4						
NB2	NORSAR Subarra	141.12	351	PKP	PKPdf	09 53 11.4	-5.4
	comp=Z,0.6nm,0.6s,baz=14,slow=3.0						
NOA	NORSAR Array B	141.12	351	PKhKP	PKPpre	09 53 12.1	
	comp=Z,0.2nm,0.4s,baz=27,slow=3.0,SNR=4.4						
AKASG	Malin Array Be	143.84	327	PKP	PKPbc	09 53 21.2	0.0
	comp=Z,1.1nm,0.3s,baz=44,slow=3.9,SNR=21						
AKASG				SKPbc	SKPbc	09 56 06.6	+0.1
	comp=Z,0.2nm,0.3s,baz=46,slow=3.0,SNR=6.7						
AKASG	Malin Array Be	143.84	327		PKPdf	09 53 21.7	-0.2
AKBB	Malin Array Si	143.84	327		PKPab	09 53 21.5	+0.3
BRTR	Keskin Array B	146.44	308	PKPbc	PKPdf	09 53 28.0	+1.1
	comp=Z,1.8nm,0.8s,baz=333,slow=1.4,SNR=3.9						
OJC	Ojcow	148.44	334	*e*PKPbc	PKiKP	09 53 34.9	-0.2
CRVS	Cervenica-Dubn	148.74	331	*e*PKP	PKPbc	09 53 34.4	-0.4
KSP	Ksiaz	149.22	339	*e*PKPbc	PKiKP	09 53 37.1	+0.4
LANS	Liptovska Anna	149.41	333	*e*PKP	PKiKP	09 53 37.5	+0.3
CHVC	Chvalec	149.51	339⇑	*e*PKP	PKiKP	09 53 37.7	+0.4
UPC	Upice	149.60	339⇑	*e*PKP	PKiKP	09 53 38.0	+0.5
DPC	Dobruska-Polom	149.62	338⇑	*e*PKP	PKiKP	09 53 38.1	+0.5
MORC	Moravsky Berou	149.66	336	*e*PKP	PKiKP	09 53 38.3	+0.6
MORC	Moravsky Berou	149.66	336		PKiKP	09 53 38.1	+0.4
CLL	Collm	149.82	343	⇓*i*PKPbc	PKiKP	09 53 38.2	+0.3
	comp=Z,17nm,1.0s						
CLL				*e*PKPab	PKPab	09 53 46.0	+0.7
CLL	Collm	149.82	343		PKiKP	09 53 38.1	+0.2
BRG	Berggiesshubel	149.94	341	*e*PKP	PKiKP	09 53 38.2	+0.1
BRG				Amp		09 53 39.6	
	comp=Z,11nm,0.8s						
PVCC	Panska Ves	150.05	340⇑	*e*PKP	PKiKP	09 53 39.3	+0.9
PRU	Pruhonice	150.53	340⇑	*e*PKP	PKiKP	09 53 39.8	+0.4
KRUC	Moravsky	150.68	337	*e*PKP	PKiKP	09 53 40.4	+0.6
MODS	Modra-Piesok	150.91	335	*e*PKP	PKiKP	09 53 41.4	+1.1
KHC	Kasperske Hory	151.58	340⇑	*e*PKP	PKiKP	09 53 42.3	+0.6
CKRC	Cesky Krumlov	151.61	339⇑	*e*PKP	PKiKP	09 53 42.2	+0.5
GERES	GERESS Array B	151.79	339	PKPbc	PKiKP	09 53 42.6	+0.4
	comp=Z,7.0nm,0.4s,baz=16,slow=2.4,SNR=6.1						
ESDC	Sonseca Array	163.22	8	PKPab	PKPab	09 54 43.6	+0.1
	comp=Z,0.8nm,0.7s,baz=299,slow=5.7,SNR=2.4						
DBIC	Dimbokro	163.26	166	PKP	PKPdf	09 53 49.4	-0.5
	comp=Z,4.5nm,1.0s,baz=116,slow=6.8,SNR=3.1						
DBIC				PKPab	PKPab	09 54 44.2	0.0
	comp=Z,4.0nm,0.9s,baz=185,slow=5.2,SNR=3.6						
TORD	Torodi Ar. Bea	169.86	194	PKP	PKPdf	09 53 54.3	-0.5
	comp=Z,3.6nm,1.2s,baz=190,slow=0.8,SNR=7.8						
TORD				PKPab	PKPab	09 55 13.3	0.0
	comp=Z,2.6nm,0.9s,baz=173,slow=4.0,SNR=14						
TORD	Torodi Ar. Bea	169.86	194		PKPdf	09 53 54.8	+0.1
TORD				PKPab	PKPab	09 55 14.0	+0.7

*NEIC **12** 09:39:53.4±0.4, 51°.9N±0°.2×166°.2W±0°.1, h32km±27km, Error ellipse: s-maj=28.9km s-min=5.4km az=162.0*

AEIC 12 09:39:53±0.3, 51°.9N±0°.1×166°.3W±0°.1, h24km±9km, ML2.6, ML3.5/6(NEIC), Error ellipse: s-maj=18.9km s-min=10.2km az=162.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKTU	Okmok Mt. Tuli	1.88	325		Pn	09 40 23.2	-0.4
OKER	Okmok East Rim	1.94	326		Pn	09 40 24.1	-0.3
NIKH	Nikolski High	1.94	306		Pn	09 40 23.8	-0.7
MREP	Makushin Rep't	1.98	352		Pn	09 40 24.4	-0.7
UNV	Unalaska Valle	2.00	356		Pn	09 40 24.2	-1.0
MSW	Makushin Switc	2.08	352		Pn	09 40 25.9	-0.5
ZRO	Akutan Zero	2.25	4		Pn	09 40 28.0	-0.7
AHB	Akutan Harbor	2.28	7		Pn	09 40 28.5	-0.7
AKUT	Akutan	2.30	7	Pn	Pn	09 40 24.6

RER	Riviere de l'E	10.41 347	P	Pn	09 47 38.0	-2.7
SNR=21						
RER	Riviere de l'E	10.41 347	Pn	Pn	09 47 36.9	-3.7
RER	Riviere de l'E	10.41 347	P	Pn	09 47 37.4	-3.2
VOI	Vohitsoka	13.89 310	P	Pn	09 48 28.0	-0.3
SNR=73						
VOI	Vohitsoka	13.89 310	Pn	Pn	09 48 26.2	-2.1
ABPO	Ambohimpanom	15.80 319	P	Pn	09 48 53.2	-0.8
ABPO			pmax	pmax		
comp=Z,245nm,0.7s						
ABPO	Ambohimpanom	15.80 319	Pn	Pn	09 48 53.2	-0.8
ABPO	Ambohimpanom	15.80 319	P	Pn	09 48 51.7	-2.3
CRZF	Crozet Islands	15.81 196		Pn	09 48 53.3	-0.5
CRZF	Crozet Islands	15.81 196	P	Pn	09 48 52.4	-1.4
OPO	Ambohidratompo	16.18 319	Pn	Pn	09 48 59.0	+0.1
comp=Z,25nm,0.3s,baz=146,slow=13,SNR=61						
OPO			Sn	Sn	09 51 51.3	-6.8
comp=Z,9.2nm,0.3s,baz=190,slow=18,SNR=5.2						
AIS	Amsterdam Isla	17.17 117	P	P	09 49 12.4	-0.2
AIS			IAmb	IAmb	09 49 15.5	
comp=Z,798nm,1.3s						
AIS	Amsterdam Isla	17.17 117	P	Pn	09 49 07.8	-3.2
PAF	Port-aux-Franc	20.11 157	P	Pn	09 49 47.6	+1.0
PAF			pmax	pmax		
comp=Z,1μm,1.2s						
PAF	Port-aux-Franc	20.11 157		Pn	09 49 47.6	+1.0
CNG	Changalane	23.33 276	||i P	P	09 50 19.0	-0.4
CNG			IAmb	IAmb	09 50 23.7	
comp=Z,224nm,2.0s						
CNG	Changalane	23.33 276	i P	P	09 50 21.7	+2.3
CNG	Changalane	23.33 276	i P	P	09 50 21.7	+2.3
POGA	Pongola	23.42 273	eP	P	09 50 19.8	-0.6
POGA			IAmb	IAmb	09 50 25.0	
comp=Z,540nm,1.8s						
NWCL	Newcastle	24.87 271	eP	P	09 50 33.6	-0.4
NWCL			IAmb	IAmb	09 50 39.8	
comp=Z,688nm,2.8s						
MOPA	Mopani	25.00 282	eP	P	09 50 35.0	-0.1
MOPA			IAmb	IAmb	09 50 42.0	
comp=Z,9.7nm,1.0s						
MOPA	Mopani	25.00 282	eP	P	09 50 34.1	-1.0
MOPA	Mopani	25.00 282	eP	P	09 50 34.1	-1.0
CRLN	Carolina, Mapu	25.27 275	eP	P	09 50 37.4	-0.3
SNKL	Senekal, Frees	26.55 269	eP	P	09 50 48.0	-1.2
SNKL			IAmb	IAmb	09 50 57.3	
comp=Z,67nm,1.2s						
MSNA	Messina	26.64 283	eP	P	09 50 49.4	-0.6
MSNA			IAmb	IAmb	09 50 54.8	
comp=Z,101nm,1.3s						
MSNA	Messina	26.64 283	i P	P	09 50 50.5	+0.5
MSNA	Messina	26.64 283	i P	P	09 50 50.5	+0.5
MSEY	Mahe Island	26.68 354	P	P	09 50 55.2	+4.8
SLR	Silverton	26.83 275	eP	P	09 50 51.9	0.0
SLR			IAmb	IAmb	09 50 55.6	
comp=Z,68nm,1.3s						
TETE	Tete	27.08 298	eP	P	09 50 55.5	+1.6
TETE			IAmb	IAmb	09 51 01.9	
comp=Z,114nm,1.2s						
H08S1	Diego Carcia H	27.11 32	T	T	10 19 20.5	
baz=204,slow=75						
H08S2	Diego Garcia H	27.12 32	T	T	10 19 21.2	
baz=204,slow=75						
H08S3	Diego Garcia H	27.13 32	T	T	10 19 20.7	
baz=204,slow=75						
PRYS	Parys	27.26 271	eP	P	09 50 53.8	-1.8
PRYS			IAmb	IAmb	09 50 59.2	
comp=Z,62nm,1.4s						
HRAO	HartRAO	27.29 274	eP	P	09 50 54.8	-1.1
HRAO			IAmb	IAmb	09 50 59.6	
comp=Z,331nm,1.7s						
DGAR	Diego Garcia	27.30 32	ceP	P	09 50 56.1	+0.2
DGAR			pmax	pmax		
comp=Z,163nm,1.2s						
DGAR	Diego Garcia	27.30 32	P	P	09 50 56.4	+0.6
DGAR			P	P	09 50 56.4	+0.6
DGAR	Diego Garcia	27.30 32	P	P	09 50 56.1	+0.2
DGAR			IAmb	IAmb	09 50 59.8	
comp=Z,471nm,1.5s						
DGAR	Diego Garcia	27.30 32	P	P	09 50 56.8	+0.9
WDLM	Western Deep L	27.35 273	eP	P	09 50 55.5	-1.0
WDLM			IAmb	IAmb	09 51 01.2	
comp=Z,43nm,0.9s						
BOSA	Boshof	28.61 267	P	P	09 51 06.3	-1.5
comp=Z,6.8nm,0.8s,baz=112,slow=8.6,SNR=9.8						
BOSA			S	S	09 55 54.8	-0.9
comp=Z,2.7nm,0.9s,baz=354,slow=15,SNR=1.6						
BOSA	Boshof	28.61 267	eP	P	09 51 06.3	-1.5
comp=Z,316nm,2.4s						
BOSA			IAmb	IAmb	09 51 12.6	
comp=Z,316nm,2.4s						
BOSA	Boshof	28.61 267	P	P	09 51 06.6	-1.1
BOSA			pmax	pmax		
comp=Z,88nm,1.6s						
BOSA	Boshof	28.61 267	i P	P	09 51 08.1	+0.3
BOSA	Boshof	28.61 267	i P	P	09 51 08.1	+0.3
BOSA	Boshof	28.61 267	P	P	09 51 06.6	-1.1
MATP	Matopo	28.78 285	P	P	09 51 08.3	-0.9
comp=Z,4.8nm,0.7s,baz=120,slow=15,SNR=15						
MATP			S	S	09 55 52.1	-6.2
comp=Z,1.8nm,0.6s,baz=133,slow=13,SNR=0.9						
MATP			LR	LR	10 00 53.2	
comp=Z,3μm,20.4s,baz=124,slow=33						
BLWY	Bulawayo	28.82 286	||i P	P	09 51 08.7	-1.0
BLWY			IAmb	IAmb	09 51 09.9	
comp=Z,178nm,0.8s						
BLWY	Bulawayo	28.82 286	i P	P	09 51 09.4	-0.2
BLWY	Bulawayo	28.82 286	i P	P	09 51 09.4	-0.2
SWZ	Schweizer	28.92 270	eP	P	09 51 08.3	-2.2
SWZ			IAmb	IAmb	09 51 14.0	
comp=Z,119nm,1.7s						
LBTB	Lobatse	29.36 274	P	P	09 51 13.2	-1.2
comp=Z,16nm,1.0s,baz=108,slow=5.1,SNR=9.8						
LBTB			S	S	09 56 04.8	-2.6
comp=Z,9.6nm,1.2s,baz=200,slow=16,SNR=2.5						
LBTB			LR	LR	10 01 30.4	
comp=Z,4μm,18.0s,baz=115,slow=33						
LBTB	Lobatse	29.36 274	eP	P	09 51 12.6	-1.8
LBTB			IAmb	IAmb	09 51 18.1	
comp=Z,235nm,2.0s						
LBTB	Lobatse	29.36 274	i P	P	09 51 14.5	+0.1
LBTB	Lobatse	29.36 274	i P	P	09 51 14.5	+0.1
LBTB	Lobatse	29.36 274	P	P	09 51 12.7	-1.8
SUR	Sutherland	31.67 258	P	P	09 51 33.9	-1.0
comp=Z,33nm,1.1s,baz=104,slow=7.8,SNR=7.1						
SUR			S	S	09 56 41.1	-2.6
comp=Z,14nm,1.2s,baz=337,slow=22,SNR=2.2						
SUR			LR	LR	10 02 09.9	
comp=Z,13μm,20.4s,baz=104,slow=32						
SUR	Sutherland	31.67 258	P	P	09 51 35.3	+0.5
SUR	Sutherland	31.67 258	P	P	09 51 34.3	-0.6
SUR			IAmb	IAmb	09 51 40.1	
comp=Z,217nm,1.6s						
LSZ	Lusaka	31.75 293	P	P	09 51 33.2	-2.3
comp=Z,24nm,0.8s,baz=127,slow=8.3,SNR=34						
LSZ			S	S	09 56 44.6	-0.3
comp=Z,1.0nm,0.4s,baz=61,slow=22,SNR=1.0						
LSZ			LR	LR	10 03 01.2	
comp=Z,5μm,19.5s,baz=129,slow=34						
MATJ	Matjiesfontein	31.75 256	eP	P	09 51 34.4	-1.0
MATJ			IAmb	IAmb	09 51 39.8	
comp=Z,205nm,1.3s						
UPI	Upington	32.09 266	eP	P	09 51 37.2	-1.2
UPI			IAmb	IAmb	09 51 42.6	
comp=Z,63nm,1.5s						
KIBK	Kibwezi	34.59 323	P	P	09 52 01.9	+1.7
SNR=38						
KIBK	Kibwezi	34.59 323	P	P	09 51 59.2	-1.1
KAAM	Kaadhehdhoo	34.66 27	P	P	09 52 01.9	+1.1
KAAM	Kaadhehdhoo	34.66 27	P	P	09 52 01.8	+1.1
KAAM			IAMs_20	IAMs_20	10 02 11.4	
comp=Z,9μm,22.0s						
KMBO	Kilima Mbogo	36.03 323	P	P	09 52 14.3	+1.4
comp=Z,11nm,0.9s,baz=140,slow=8.9,SNR=18						
KMBO			PcP	PcP	09 54 39.8	+0.6
comp=Z,5.9nm,0.8s,baz=73,slow=4.8,SNR=4.6						
KMBO			S	S	09 57 54.9	+3.5
comp=Z,0.8nm,0.3s,baz=277,slow=23,SNR=1.2						
KMBO			LR	LR	10 06 15.2	
comp=Z,2μm,18.1s,baz=92,slow=35						
KMBO	Kilima Mbogo	36.03 323	eP	P	09 52 15.1	+2.2
KMBO			IAmb	IAmb	09 52 18.7	
comp=Z,684nm,2.1s						
KMBO	Kilima Mbogo	36.03 323	i P	P	09 52 13.9	+1.1
KMBO	Kilima Mbogo	36.03 323	P	P	09 52 15.3	+2.4
KMBO			P	P	09 52 15.3	+2.4
KMBO	Kilima Mbogo	36.03 323	eP	P	09 52 14.7	+1.8
KMBO	Kilima Mbogo	36.03 323	P	P	09 52 15.3	+2.4
KMBO	Kilima Mbogo	36.03 323	eP	P	09 52 18.2	+5.3
KMBO			eS	S	09 58 02.2	+11
KMBO	Kilima Mbogo	36.03 323	i P	P	09 52 15.4	+2.6
SNR=17						
MAW	Mawson	36.37 177	P	P	09 52 15.5	+0.6
comp=Z,38nm,0.9s,baz=340,slow=10,SNR=15						
MAW			S	S	09 57 57.1	+2.0
comp=Z,1.7nm,0.6s,baz=295,slow=0.4,SNR=0.9						
MAW			LR	LR	10 03 41.7	
comp=Z,3μm,19.6s,baz=359,slow=31						
MAW	Mawson	36.37 177	P	P	09 52 14.8	-0.1
baz=36,SNR=8.6						
MAW	Mawson	36.37 177	P	P	09 52 15.8	+1.0
WIN	Windhoek	37.50 273	eP	P	09 52 24.5	-0.8
WIN			IAmb	IAmb	09 52 31.3	
comp=Z,74nm,2.0s						
WIN	Windhoek	37.50 273	P	P	09 52 24.8	-0.5
WIN			pmax	pmax		
comp=Z,21nm,0.9s						
WIN	Windhoek	37.50 273	P	P	09 52 24.8	-0.5
TSUM	Tsumeb	38.48 279	P	P	09 52 33.5	0.0
comp=Z,59nm,0.8s,baz=109,slow=8.0,SNR=97						
TSUM			S	S	09 58 24.6	-3.9
comp=Z,1.0nm,0.6s,baz=340,slow=22,SNR=1.0						
TSUM			LR	LR	10 07 03.1	
comp=Z,6μm,18.4s,baz=116,slow=34						
TSUM	Tsumeb	38.48 279	eP	P	09 52 33.1	-0.4
TSUM	Tsumeb	38.48 279	P	P	09 52 32.9	-0.6
TSUM	Tsumeb	38.48 279	P	P	09 52 33.3	-0.2
SYO	Syowa Base	39.16 190	||eP	P	09 52 38.4	-0.1
MBAR	Mbarara	40.16 314	P	P	09 52 48.5	+0.9
comp=Z,2.1nm,0.2s,baz=102,slow=8.6,SNR=1.6						
MBAR	Mbarara	40.16 314	||i P	P	09 52 44.4	-3.2
MBAR	Mbarara	40.16 314	P	P	09 52 49.9	+2.2
MBAR			P	P	09 52 49.9	+2.2
MBAR	Mbarara	40.16 314	eP	P	09 52 43.3	-4.3
MBAR	Mbarara	40.16 314	P	P	09 52 47.7	+0.1
MBAR	Mbarara	40.16 314	IAMs_20	IAMs_20	10 07 21.8	
comp=Z,5μm,21.0s						
MBAR	Mbarara	40.16 314	P	P	09 52 52.2	+4.6
MBAR	Mbarara	40.16 314	eP	P	09 52 52.0	+4.4
MBAR			eS	S	09 58 55.3	+1.5
LODK	Lodwar	40.88 324	P	P	09 52 55.2	+1.8
SNR=32						
LODK	Lodwar	40.88 324	P	P	09 52 53.7	+0.3
DILA	Dilla	42.14 330	eP	P	09 53 04.6	+0.7
DILA	Dilla	42.14 330	eP	P	09 53 08.0	+4.1
DILA			eS	S	09 59 23.9	+0.7
SOCY	Socotra	43.50 354	P	P	09 53 17.6	+2.8
TRD	Trivandrum	43.53 27	||i P	P	09 53 13.9	-1.0
PALK	Pallekele	44.04 33	P	P	09 53 18.9	-0.2
comp=Z,26nm,0.8s,baz=300,slow=14,SNR=8.2						
PALK			S	S	09 59 48.5	-2.3
comp=Z,3.6nm,0.7s,baz=332,slow=8.6,SNR=1.4						
PALK			LR	LR	10 08 07.2	
comp=Z,4μm,18.0s,baz=317,slow=31						
PALK	Pallekele	44.04 33	P	P	09 53 19.2	+0.1
PALK			P	P	09 53 19.2	+0.1
PALK	Pallekele	44.04 33	P	P	09 53 17.6	-1.5
PALK	Pallekele	44.04 33	IAMs_20	IAMs_20	10 08 05.5	
comp=Z,4μm,18.0s						
PALK	Pallekele	44.04 33	P	P	09 53 20.3	+1.2
FURI	Furi	44.20 332	eP	P	09 53 22.8	+2.2
FURI	Furi	44.20 332	P	P	09 53 25.5	+4.9
FURI	Furi	44.20 332	eP	P	09 53 25.1	+4.4
FURI			eS	S	09 59 54.9	+1.2
ANKE	Ethiopia-Afar	44.42 333	eP	P	09 53 24.0	+1.5
ANKE	Ethiopia-Afar	44.42 333	eP	P	09 53 26.2	+3.8
ANKE			eS	S	09 59 56.5	-0.4
ATD	Arta Tunnel	45.13 339	P	P	09 53 28.3	+0.5
comp=Z,35nm,0.9s,baz=145,slow=5.4,SNR=5.1						
ATD			S	S	10 00 07.2	+0.5
comp=Z,3.5nm,0.4s,baz=261,slow=22,SNR=1.4						
ATD			LR	LR	10 08 58.6	
comp=Z,4μm,21.3s,baz=159,slow=32						
ATD	Arta Tunnel	45.13 339	IAmb	IAmb	09 53 34.8	
comp=Z,146nm,1.2s						
ATD			IAMs_20	IAMs_20	10 08 36.6	
comp=Z,5μm,21.0s						
ATD	Arta Tunnel	45.13 339	P	P	09 53 29.2	+1.3
TEND	Ethiopian Broa	45.99 336	eP	P	09 53 35.6	+1.1
H01W2	Cape Leeuwin H	46.45 110	T	T	10 43 21.6	
baz=257,slow=75						
H01W3	Cape Leeuwin H	46.45 110	T	T	10 43 28.1	
baz=257,slow=75						
H01W1	Cape Leeuwin H	46.47 110	T	T	10 43 26.5	
baz=257,slow=75						
CASY	Casey	46.74 154	P	P	09 53 41.1	+1.2
CASY			IAmb	IAmb	09 53 47.9	
comp=Z,182nm,1.9s						
CASY	Casey	46.74 154	P	P	09 53 41.6	+1.7
NVL	N'lazarevskaya	46.81 199	||i P	P	09 53 46.1	+5.7
NVL			i PPP	PPP	09 55 18.6	
NVL			i		09 56 19.7	
NVL			eSS	S	10 00 35.4	+5.8
NVL			pmax	pmax		
comp=Z,76nm,1.3s						
PPSI	Pulau Pagai	48.57 63	P	P	09 53 56.8	+2.1
comp=Z,4μmcomp=Z,202nm,1.9s						
ABTO	Aybut	48.68 354	P	P	09 53 55.8	+0.3
SNR=19						
ABTO			P	P	09 53 55.8	+0.3
SNR=19						
RBK	Rabkut	48.75 355	P	P	09 53 58.6	+2.6
SNR=7.8						
SISI	Saibi	48.82 60	P	P	09 53 58.7	+2.1
comp=Z,3μmcomp=Z,162nm,1.6s						
MUN	Mundaring	48.83 107	P	P	09 53 56.0	-0.6
baz=49,SNR=5.8						
MUN	Mundaring	48.83 107	P	P	09 53 58.0	+1.4
DMTO	DMTO	48.91 356	P	P	09 53 57.4	+0.2
SNR=16						
DMTO			P	P	09 53 57.4	+0.2
SNR=16						
GOA	Goa	48.95 20	||i P	P	09 53 56.5	-1.0
PBSI	Pulau Batu	49.08 58	P	P	09 54 00.7	+2.1
comp=Z,7μmcomp=Z,6μmcomp=Z,191nm,2.0s						
SHAO	Shalim	49.18 357	P	P	09 53 59.6	+0.4
SNR=42						
SHAO	Shalim	49.18 357	i P	P	09 53 58.8	-0.4
SNR=91						
WHFO	Wadi Hawf	49.20 354	P	P	09 53 59.9	+0.5
SNR=17						
WHFO			P	P	09 53 59.9	+0.5
SNR=17						
SKHT	Srikalahasti	49.38 28	eP	P	09 54 00.9	+0.1
SKHT			eS	S	10 01 08.4	+1.4
NWAO	Narrogin (SRO)	49.42 108	P	P	09 54 02.9	+1.8
NWAO			P	P	09 54 02.9	+1.8
NWAO	Narrogin (SRO)	49.42 108	P	P	09 54 02.3	+1.2
GSI	Gunungsitoli	49.51 56	P	P	09 54 03.9	+2.0
comp=Z,5μmcomp=Z,5μmcomp=Z,169nm,2.0s						
GSI	Gunungsitoli	49.51 56	IAMs_20	IAMs_20	10 10 56.0	
comp=Z,4μm,18.0s						
GSI	Gunungsitoli	49.51 56	P	P	09 54 04.3	+2.4
MORW	Morawa	49.53 103	P	P	09 54 02.3	+0.3
baz=50,SNR=5.5						
MORW	Morawa	49.53 103	P	P	09 54 01.5	-0.5
MORW			IAmb	IAmb	09 54 04.7	
comp=Z,114nm,1.3s						
MORW	Morawa	49.53 103	P	P	09 54 02.5	+0.5
URV	Uravakonda	49.56 24	eP	P	09 54 01.5	-0.7
URV			eS	S	10 01 10.5	+0.9
BLDU	Ballidu	49.62 105	P	P	09 54 02.4	-0.3
baz=50,SNR=5.8						
BLDU	Ballidu	49.62 105	P	P	09 54 03.8	+1.1
DOK	Doka	49.86 355	P	P	09 54 04.6	+0.2
SNR=44						
MASI	Maura Aman, Be	50.04 65	P	P	09 54 08.0	+2.0
comp=Z,5μmcomp=Z,281nm,1.1s						
KRJI	Kerinci	50.11 63	P	P	09 54 08.5	+1.9
comp=Z,6μmcomp=Z,78μmcomp=Z,355nm,0.4s						
KLBR	Kellerberrin	50.20 107	P	P	09 54 06.1	-1.0
baz=50,SNR=9.5						
KLBR	Kellerberrin	50.20 107	P	P	09 54 07.3	+0.2
GIRL	Giralia	50.22 94	P	P	09 54 09.6	+2.3
baz=50,SNR=13						
GIRL	Giralia	50.22 94	P	P	09 54 08.4	+1.1
LWLI	Liwa	50.32 68	P	P	09 54 09.4	+1.2
comp=Z,66μmcomp=Z,134nm,0.6s						
KASI	Kota Agung	50.37 69	P	P	09 54 09.8	+1.4
comp=Z,4μmcomp=Z,334nm,1.3s						
MNSI	Mandailing Nat	50.60 59	P	P	09 54 12.1	+1.9
comp=Z,4μmcomp=Z,173nm,1.9s						
TPTI		50.60 54	P	P	09 54 11.2	+1.0
comp=Z,671nmcomp=Z,16nm,2.7s						
LHSI	Lahat	50.62 67	P	P	09 54 12.4	+2.1
comp=Z,5μmcomp=Z,204nm,1.2s						
RCLA	Racherla	50.65 26	eP	P	09 54 10.2	-0.2
RCLA			eS	S	10 01 26.2	+1.5
MDSI	Maura Dua	50.73 68	P	P	09 54 11.9	+0.7
comp=Z,2μmcomp=Z,1μmcomp=Z,60nm,1.2s						
KSLA	Kassala	50.99 333	i P	P	09 54 12.9	-0.2
KSLA			i		09 54 21.8	
baz=154,slow=8.6						
DQM	DQM	51.01 359	P	P	09 54 13.5	+0.4
SNR=34						
KLSI		51.05 68	P	P	09 54 15.6	+2.0
comp=Z,2μmcomp=Z,1μmcomp=Z,37nm,1.9s						
BLSI	Bandar Lampung	51.06 70	P	P	09 54 15.7	+2.0
comp=Z,5μmcomp=Z,137nm,0.4s						
SKJI	Sukabumi	51.17 72	P	P	09 54 16.5	+2.0
comp=Z,3μmcomp=Z,124nm,1.0s						
KCSI	Kotacane, Aceh	51.20 55	P	P	09 54 16.7	+1.9
comp=Z,3μmcomp=Z,151nm,1.6s						
SRLM	Srisailam	51.21 26	eP	P	09 54 14.6	-0.1
SRLM			eS	S	10 01 34.4	+1.8
SBJI	Serang	51.33 71	P	P	09 54 17.8	+2.1
comp=Z,7μmcomp=Z,319nm,1.0s						
BKNI	Bangkinang	51.37 60	P	P	09 54 18.0	+2.0
comp=Z,5μmcomp=Z,6μmcomp=Z,528nm,1.3s						
BKNI	Bangkinang	51.37 60	IAMs_20	IAMs_20	10 11 21.4	
comp=Z,4μm,19.0s						
BKNI	Bangkinang	51.37 60	P	P	09 54 17.8	+1.8
ADKI	Addanki	51.39 27	eP	P	09 54 16.4	+0.4
ADKI			ePcP	PcP	09 55 31.9	+1.4
ADKI			ePP	PP	09 56 13.2	-0.2
ADKI			eS	S	10 01 35.2	+0.3
ADKI			eScS	ScS	10 04 08.2	+2.2
CNJI	Cibinong	51.46 73	P	P	09 54 18.7	+2.0
comp=Z,4μmcomp=Z,5μmcomp=Z,312nm,1.9s						
SNAA	Sanae	51.50 201	P	P	09 54 15.7	-0.7
SNAA	Sanae	51.50 201	P	P	09 54 15.3	-1.1
SNAA			pmax	pmax		
comp=Z,47nm,1.0s						
SNAA	Sanae	51.50 201	P	P	09 54 15.3	-1.1
PSI	Prapat	51.51 56	P	P	09 54 17.4	+0.2
comp=Z,44nm,1.0s,baz=208,slow=8.3,SNR=45						
PSI			PcP	PcP	09 55 31.2	-0.1
comp=Z,2.9nm,0.3s,baz=234,slow=4.5,SNR=4.9						
PSI			S	S	10 01 35.9	-1.2
baz=319,slow=19						
PSI			LR	LR	10 11 19.2	
comp=Z,3μm,19.9s,baz=226,slow=30						
DBJI	Dramaga	51.58 72	P	P	09 54 19.6	+2.0
comp=Z,12μmcomp=Z,200nm,1.9s						
CBJI	Citeko	51.74 72	P	P	09 54 20.1	+1.3
comp=Z,7μmcomp=Z,468nm,1.4s						
NJS	Nagarjunasagar	51.78 26	eP	P	09 54 19.3	+0.4
NJS			ePcP	PcP	09 55 32.0	0.0
NJS			ePP	PP	09 56 16.3	-0.6
NJS			eS	S	10 01 42.1	+1.7
NJS			eScS	ScS	10 04 10.3	+1.7
LHMI	Lhok Sumawe	51.86 52	IAMs_20	IAMs_20	10 11 43.3	
comp=Z,4μm,20.0s						
JMBI	JAMBI	52.07 65	P	P	09 54 23.3	+2.0
comp=Z,163nm,0.9s						
LEM	Lembang	52.13 73	P	P	09 54 23.1	+1.2
comp=Z,138nm,0.9s,baz=188,slow=5.6,SNR=52						
LEM			PcP	PcP	09 55 34.2	+0.5
comp=Z,61nm,0.8s,baz=321,slow=13,SNR=4.7						
KLRI	Killari	52.24 22	eP	P	09 54 22.5	+0.1
KLRI			ePcP	PcP	09 55 34.7	+1.0
KLRI			eS	S	10 01 48.1	+1.5
KLRI			eScS	ScS	10 04 13.6	+1.7
HYB	Hyderabad	52.30 25	eP	P	09 54 22.4	-0.4
HYB			IAMs_20	IAMs_20	10 12 26.2	
comp=Z,5μm,16.8s						
HYBB	Hyderabad (bro	52.30 25	eP	P	09 54 22.8	0.0
HYBB			ePcP	PcP	09 55 34.4	+0.4
HYBB			ePP	PP	09 56 22.8	+1.1
HYBB			eS	S	10 01 49.4	+1.9
HYBB			eScS	ScS	10 04 12.7	+0.3
CUPL	Choutuppal	52.32 25	eP	P	09 54 23.0	+0.1
CUPL			ePcP	PcP	09 55 33.8	-0.2
CUPL			ePP	PP	09 56 21.9	0.0
CUPL			eS	S	10 01 49.2	+1.5
MYLAV	Mylavaram	52.47 27	eP	P	09 54 25.0	+1.0
MYLAV			ePcP	PcP	09 55 34.2	-0.4
MYLAV			ePP	PP	09 56 23.0	-0.2
MYLAV			eS	S	10 01 52.9	+3.1
MYLAV			eScS	ScS	10 04 15.6	+2.2
MEEK	Meekatharra	52.47 101	P	P	09 54 23.6	-0.6
baz=53,SNR=29						
MEEK	Meekatharra	52.47 101	P	P	09 54 23.7	-0.6
JAWL	J.Aulia	52.52 328	IAML		09 54 18.3	
comp=N,2μm,0.1s						
JAWL			i P	P	09 54 24.7	+0.2
VNA2	Neumayer--Watz	52.74 202	P	P	09 54 24.9	-0.6
baz=67,slow=14						
VNA1	Neumayer--Stat	52.97 203	P	P	09 54 27.3	+0.2
JLN	Jalan Bani Buh	53.23 1	P	P	09 54 30.8	+1.2
SNR=11						
JLN			P	P	09 54 30.8	+1.2
SNR=11						
PVM	Polavaram	53.32 28	eP	P	09 54 31.0	+0.6
PVM			eS	S	10 02 04.5	+3.1
JMDO	Jabal Madar	53.44 360	P	P	09 54 33.0	+1.8
JMDO			P	P	09 54 33.0	+1.8
DSRI	Dabo	53.52 64	P	P	09 54 33.1	+1.1
comp=N,3μmcomp=N,2μmcomp=N,134nm,1.3s						
VNA3	Neumayer Olymp	53.53 202	P	P	09 54 30.5	-0.8
CCD	Concordia, Ant	53.59 163	P	P	09 54 33.0	+0.9
SRSP	Sriramsagar	53.62 24	eP	P	09 54 32.4	-0.2
SRSP			eS	S	10 02 06.1	+0.6
WBK	Wadi Bani Khal	53.68 1	P	P	09 54 32.7	-0.2
SNR=9.6						
PPBI	Pangkal Pinang	53.69 67	P	P	09 54 35.2	+2.0
BSY	Bisya	53.82 359	P	P	09 54 34.6	+0.6
SNR=22						
BSY			P	P	09 54 34.6	+0.6
SNR=22						
UMZA	Um Al Zommool	53.86 357	P	P	09 54 34.1	-0.1
RPR	Rampur	53.89 25	eP	P	09 54 34.1	-0.4
RPR			eS	S	10 02 10.5	+1.4
UGM	Wanagama	53.93 76	P	P	09 54 36.9	+1.9
comp=N,4μmcomp=N,4μmcomp=N,124nm,1.4s						
UGM	Wanagama	53.93 76	IAmb	IAmb	09 54 46.0	
comp=Z,168nm,1.2s						
UGM	Wanagama	53.93 76	P	P	09 54 36.4	+1.4
PBA	Port Blair	54.11 43	eP	P	09 54 38.

SNR=16
ALNE Al Ain 55.17 357 *i* P **P 09 54 44.0 +0.3**
SNR=7.2
SOHO SOHO 55.22 358 P **P 09 54 44.0 -0.1**
SOHO SOHO 55.22 358 *i* P **P 09 54 43.2 -0.8**
SNR=32
GHWR Ruwais 55.26 354 P **P 09 54 45.1 +0.8**
GHWR P **P 09 54 45.1 +0.8**
BHUJ Bhuj 55.41 13⇓*i*P **P 09 54 44.1 -1.3**
BHUJ IAmb IAmb 09 54 50.2
comp=Z,59nm,0.9s
BHUJ IAMs_20 IAMs_20 10 14 10.4
comp=Z,6μm,20.2s
PSA00 Pilbara Seismi 55.42 96 P **P 09 54 44.3 -1.4**
PSA00 IAmb IAmb 09 54 47.4
comp=Z,74nm,1.1s
PSA00 Pilbara Seismi 55.42 96 IAmb IAmb 09 54 47.4
comp=Z,129nm,0.9s
PSA00 Pilbara Seismi 55.42 96 P **P 09 54 44.9 -0.8**
DGPR DIGLIPUR 55.43 42⇓*i*P **P 09 54 46.2 +0.5**
DGPR IAMs_20 IAMs_20 10 13 30.9
comp=Z,6μm,23.5s
DGPR IAMs_20 IAMs_20 10 19 07.1
comp=Z,7μm,15.9s
CHLP Challavanipeta 55.46 30 *e*P **P 09 54 46.4 +0.5**
CHLP *e*PcP **PcP 09 55 45.9 -0.1**
CHLP *e*PP **PP 09 56 50.3 +0.2**
CHLP *e*S **S 10 02 33.1 +2.9**
CHLP *e*ScS **ScS 10 04 35.6 +1.1**
SLWR Sila 55.48 353 P **P 09 54 47.1 +1.2**
SLWR P **P 09 54 47.1 +1.2**
MBWA Marble Bar 55.49 95 P **P 09 54 46.0 -0.3**
MBWA Marble Bar 55.49 95 P **P 09 54 45.7 -0.6**
MBWA Marble Bar 55.49 95 P **P 09 54 45.6 -0.6**
MQOL MQOL 55.58 336 *i* P **P 09 54 50.3 +3.6**
AJN Ajban 55.71 356 P **P 09 54 49.6 +2.0**
SNR=6.7
AJN Ajban 55.71 356 P **P 09 54 47.6 +0.1**
ASUD Al Ashush, Dub 55.75 357 P **P 09 54 50.1 +2.2**
SNR=10
ASUD P **P 09 54 50.1 +2.2**
SNR=10
ASUD Al Ashush, Dub 55.75 357 *i* P **P 09 54 48.3 +0.4**
SNR=16
FAQ Al Faqa, Dubai 55.86 357 P **P 09 54 48.9 +0.3**
SNR=7.9
FAQ P **P 09 54 48.9 +0.3**
SNR=7.9
FAQ Al Faqa, Dubai 55.86 357 *i* P **P 09 54 47.9 -0.7**
SNR=13
HATD Hatta, Dubai 55.92 358 P **P 09 54 50.0 +0.9**
SNR=18
HATD Hatta, Dubai 55.92 358 *i* P **P 09 54 48.1 -1.0**
SNR=27
RAYN Ar Rayn 55.93 346 P **P 09 54 49.4 +0.2**
RAYN pmax pmax
comp=Z,150nm,1.4s
RAYN Ar Rayn 55.93 346 P **P 09 54 50.8 +1.5**
RAYN Ar Rayn 55.93 346 P **P 09 54 49.4 +0.2**
RAYN IAmb IAmb 09 54 55.8
comp=Z,150nm,1.4s
RAYN Ar Rayn 55.93 346 IAMs_20 IAMs_20 10 14 39.3
comp=Z,3μm,21.0s
RAYN Ar Rayn 55.93 346 P **P 09 54 49.5 +0.2**
RAYN Ar Rayn 55.93 346 *i* P **P 09 54 49.5 +0.3**
SNR=13
UOSS Minazif 56.04 358 P **P 09 54 49.9 0.0**
UOSS Minazif 56.04 358 P **P 09 54 48.6 -1.3**
UOSS Minazif 56.04 358 IAMs_20 IAMs_20 10 13 38.2
comp=Z,4μm,20.0s
UOSS Minazif 56.04 358 P **P 09 54 49.5 -0.5**
UOSS Minazif 56.04 358 *i* P **P 09 54 48.4 -1.5**
SNR=8.8
NAZ Nazwa, Dubai 56.10 357 P **P 09 54 51.0 +0.6**
SNR=17
NAZ P **P 09 54 51.0 +0.6**
SNR=17
NAZ Nazwa, Dubai 56.10 357 *i* P **P 09 54 49.6 -0.7**
SNR=13
SRIT Nakonsritamara 56.11 52 P **P 09 54 50.5 -0.2**
SRIT IAmb IAmb 09 54 52.9
comp=Z,95nm,1.1s
GMJI Gumukmas 56.17 78 P **P 09 54 53.1 +1.9**
comp=Z,4μmcomp=Z,4μmcomp=Z,155nm,1.9s
TRNA Turayna 56.19 352 P **P 09 54 53.1 +2.0**
MSFE Esma-Masafi 56.45 358 *i* P **P 09 54 51.7 -1.2**
SNR=19
MASF Masafi 56.46 358 P **P 09 54 52.9 -0.1**
SNR=29
BLJI Banyuglugur 56.57 78 P **P 09 54 56.0 +1.9**
comp=Z,2μmcomp=Z,110nm,1.6s
UMQ Umm Al-Quwin 56.63 357 P **P 09 54 55.6 +1.4**
JAGI Jajag, Banyuwa 56.66 79 P **P 09 54 56.4 +1.7**
comp=Z,4μmcomp=Z,5μmcomp=Z,282nm,1.9s
JAGI Jajag, Banyuwa 56.66 79 P **P 09 54 54.3 -0.4**
JAGI Jajag, Banyuwa 56.66 79 P **P 09 54 55.8 +1.1**
BANOM Banah 57.01 358 P **P 09 54 56.9 0.0**
BANOM Banah 57.01 358 *i* P **P 09 54 55.7 -1.2**
SNR=9.4
KHOR Al-Khor Airpor 57.04 353 P **P 09 54 58.1 +1.1**
ABJI Asem Bagus 57.08 78 P **P 09 54 59.6 +1.9**
comp=Z,7μmcomp=Z,6μmcomp=Z,205nm,2.3s
SHME Shamm 57.14 358 P **P 09 54 58.1 +0.4**
SHME P **P 09 54 58.1 +0.4**
KMMI Kalianget 57.26 77 P **P 09 55 00.6 +1.7**
comp=Z,6μmcomp=Z,5μmcomp=Z,215nm,1.9s
IGBI Denpasar 57.31 80 P **P 09 55 01.2 +1.9**
comp=Z,3μmcomp=Z,188nm,1.9s
SHMA Al-Shehemyia 57.33 352 P **P 09 55 00.7 +1.6**
BHPL Bhopal 57.34 21⇓*i*P **P 09 54 58.6 -0.7**
BHPL IAmb IAmb 09 55 05.3
comp=Z,135nm,1.2s
SAKB Bahrain 57.50 352 P **P 09 55 01.6 +1.3**
SRBI Singaraja 57.75 79 P **P 09 55 04.3 +1.9**
comp=Z,5μmcomp=Z,4μmcomp=Z,216nm,2.1s
PBKI Pangkalan Bun 57.79 72 P **P 09 55 04.7 +2.0**
comp=Z,3μmcomp=Z,179nm,1.3s
JBP Jabalpur 58.11 24 *e*P **P 09 55 04.7 +0.1**
JBP IAmb IAmb 09 55 06.3
comp=Z,189nm,1.1s
JBP *e*S **S 10 03 04.6 -0.4**
DRV Dumont d'Urvil 58.41 152 P **P 09 55 05.9 -0.4**
QSPA South Pole Qui 58.79 180 P **P 09 55 08.1 -1.1**
QSPA South Pole Qui 58.79 180 IAMs_20 IAMs_20 10 17 05.2
comp=Z,2μm,18.0s
QSPA South Pole Qui 58.79 180 P **P 09 55 08.5 -0.6**
FORT Forrest 58.84 109 P **P 09 55 10.2 +0.3**
baz=59,SNR=20
FORT Forrest 58.84 109 P **P 09 55 10.1 +0.2**
FORT Forrest 58.84 109 P **P 09 55 11.0 +1.1**
KSM Kuching 59.20 67 P **P 09 55 13.2 +0.7**
STKI Sintang 59.27 69 P **P 09 55 14.9 +1.9**
comp=Z,2μmcomp=Z,107nm,1.4s
SHEL Horse Pasture 59.81 269 IAMs_20 IAMs_20 10 17 22.3
comp=Z,3μm,19.0s
BBKI Banjar Baru 59.95 74 P **P 09 55 19.5 +1.8**
comp=Z,4μmcomp=Z,114nm,2.2s
WBSI Waikabubak, Su 60.48 83 P **P 09 55 23.2 +1.8**
comp=Z,3μmcomp=Z,129nm,1.2s
BOK Bokaro 60.92 29⇓*i*P **P 09 55 23.5 -0.6**
BOK IAMs_20 IAMs_20 10 17 06.9
comp=Z,8μm,18.5s
KBKI Kotabaru 61.14 75 P **P 09 55 27.7 +1.9**
comp=Z,2μmcomp=Z,119nm,1.6s
WRKA Warakurna 61.16 103 P **P 09 55 25.5 -0.4**
baz=61,SNR=240
WRKA Warakurna 61.16 103 P **P 09 55 25.7 -0.3**
BASI Baing, Sumba 61.20 84 P **P 09 55 28.1 +1.9**
comp=Z,2μmcomp=Z,3μmcomp=Z,134nm,1.6s
SBUM Sibu 61.30 67 P **P 09 55 26.9 0.0**
SBUM IAmb IAmb 09 55 29.8
comp=Z,65nm,1.1s
VNDA Vanda 62.50 166 P **P 09 55 34.1 0.0**
comp=Z,32nm,1.0s,baz=258,slow=9.8,SNR=15
VNDA S **S 10 03 54.2 -6.0**
comp=Z,2.8nm,0.9s,baz=62,slow=9.8,SNR=1.6
VNDA Vanda 62.50 166 P **P 09 55 33.9 -0.2**
VNDA IAmb IAmb 09 55 36.2
comp=Z,61nm,1.1s
EDFI Ende, Flores 62.88 84 P **P 09 55 38.2 +0.5**
comp=Z,2μmcomp=Z,2μmcomp=Z,88nm,1.6s
BELO BELONIA 62.96 34⇓*i*x x 09 55 39.5
CMAR Chiang Mai Arr 63.12 44 P **P 09 55 38.5 -0.4**
comp=Z,92nm,0.8s,baz=230,slow=7.1,SNR=160
CMAR S **S 10 04 11.4 +2.0**
comp=Z,0.9nm,0.3s,baz=111,slow=23,SNR=2.0

CMAR Chiang Mai Arr 63.12 44 *ce*P **P 09 55 38.5 -0.4**
CMAR pmax pmax
comp=Z,95nm,0.9s
KAPI Kappang 63.19 79 P **P 09 55 37.8 -1.8**
comp=Z,35nm,0.9s,baz=255,slow=9.8
KAPI S **S 10 04 07.7 -2.9**
comp=Z,2.9nm,0.3s,baz=172,slow=17,SNR=1.5
KAPI Kappang 63.19 79 P **P 09 55 38.0 -1.6**
KAPI pmax pmax
comp=Z,101nm,1.2s
KAPI Kappang 63.19 79 P **P 09 55 39.3 -0.3**
KAPI P **P 09 55 39.3 -0.3**
KAPI Kappang 63.19 79 P **P 09 55 38.0 -1.6**
KAPI IAmb IAmb 09 55 41.1
comp=Z,101nm,1.1s
KAPI Kappang 63.19 79 P **P 09 55 40.8 +1.2**
KAPI Kappang 63.19 79 P **P 09 55 39.1 -0.5**
BKSI Bulukumba 63.34 79 P **P 09 55 41.4 +0.8**
comp=Z,3μmcomp=Z,3μmcomp=Z,115nm,2.1s
SBA Scott Base 63.34 167 IAMs_20 IAMs_20 10 21 54.2
comp=Z,3μm,18.0s
CHTO Chiang Mai 63.40 44 P **P 09 55 40.4 -0.4**
CHTO pmax pmax
comp=Z,119nm,1.2s
CHTO Chiang Mai 63.40 44 P **P 09 55 41.3 +0.6**
CHTO P **P 09 55 41.3 +0.6**
CHTO Chiang Mai 63.40 44 P **P 09 55 40.4 -0.4**
CHTO IAmb IAmb 09 55 43.2
comp=Z,119nm,1.2s
CHTO Chiang Mai 63.40 44 IAMs_20 IAMs_20 10 18 33.7
comp=Z,4μm,20.0s
CHTO Chiang Mai 63.40 44 P **P 09 55 43.0 +2.2**
CHTO Chiang Mai 63.40 44 P **P 09 55 40.0 -0.8**
MMRI Maumere 63.41 84 P **P 09 55 42.9 +1.9**
comp=Z,5μmcomp=Z,8μmcomp=Z,292nm,1.4s
MMRI Maumere 63.41 84 P **P 09 55 41.2 +0.2**
MMRI Maumere 63.41 84 P **P 09 55 42.1 +1.1**
KOLN Koldanda 63.60 25 *e*P **P 09 55 41.5 -0.7**
comp=Z,491nm,1.0s
SMKI Samarinda 63.61 73 P **P 09 55 44.3 +2.0**
comp=Z,5μmcomp=Z,5μmcomp=Z,161nm,1.2s
PYUN Piuthan 63.69 24 *e*P **P 09 55 42.0 -0.8**
comp=Z,755nm,1.1s
SPSI Sidrap Palu 63.77 78 P **P 09 55 44.5 +1.1**
comp=Z,3μmcomp=Z,80nm,2.6s
BNSI Bone 63.82 79 P **P 09 55 45.2 +1.5**
comp=Z,3μmcomp=Z,151nm,1.5s
BATI Baumata 63.83 86 LR LR 10 20 46.6
comp=Z,956nm,18.8s,baz=265,slow=34
BATI Baumata 63.83 86 P **P 09 55 45.7 +1.8**
comp=Z,2μmcomp=Z,2μmcomp=Z,77nm,0.9s
MULG Mulgathing 63.84 111 P **P 09 55 43.1 -0.6**
DMN Daman 64.02 27 *e*P **P 09 55 44.2 -0.8**
comp=Z,513nm,1.1s
PKI Pulchoki 64.10 27 *e*P **P 09 55 44.6 -1.0**
comp=Z,417nm,1.4s
PKIN Phulchoki 64.10 27 *e*P **P 09 55 44.6 -1.0**
comp=Z,352nm,1.4s
DANN Dangsing 64.19 25 *e*P **P 09 55 45.2 -1.0**
comp=Z,391nm,1.0s
GKN Gorkha 64.20 26 *e*P **P 09 55 44.8 -1.3**
comp=Z,640nm,1.0s
KKN Kakani 64.25 27 *e*P **P 09 55 46.0 -0.5**
comp=Z,365nm,1.1s
TTSI Tana Toraja 64.31 77 P **P 09 55 47.5 +0.5**
comp=Z,4μmcomp=Z,4μmcomp=Z,161nm,1.6s
BBOO Buckleboo 64.47 114 P **P 09 55 46.9 -0.9**
baz=64,SNR=35
BBOO Buckleboo 64.47 114 IAmb IAmb 09 55 49.9
comp=Z,108nm,1.1s
BBOO Buckleboo 64.47 114 P **P 09 55 47.4 -0.4**
SOEI Soe 64.57 86 P **P 09 55 50.5 +1.6**
comp=Z,3μmcomp=Z,3μmcomp=Z,141nm,1.9s
SOEI Soe 64.57 86 P **P 09 55 49.7 +0.8**
GUN Gumba 64.59 27 *e*P **P 09 55 48.1 -0.7**
comp=Z,755nm,1.1s
DLV T Lat 64.63 56 IAmb IAmb 09 55 51.7
comp=Z,72nm,1.1s
DLV T Lat 64.63 56 P **P 09 55 51.0 +1.8**
comp=Z,79nm,1.8s
DHUB DHUBRI 64.65 32⇓*i*P **P 09 55 48.1 -0.8**
SMLA Simla 64.71 18⇓*i*P **P 09 55 47.8 -1.3**
SHL Shillong 65.13 34⇓*i*P **P 09 55 52.1 -0.1**
SHL IAMs_20 IAMs_20 10 18 12.5
comp=Z,2μm,23.5s
SHL Shillong 65.13 34 P **P 09 55 52.2 -0.1**
SNR=107
GTK Tadong 65.17 30⇓*i*P **P 09 55 50.5 -1.9**
GTK IAmb IAmb 09 55 59.6
comp=Z,471nm,2.2s
GTK IAMs_20 IAMs_20 10 19 54.4
comp=Z,6μm,17.8s
IMP Imphal 65.51 36⇓*i*P **P 09 55 54.5 -0.1**
HRA Herat 65.52 4 IAmb IAmb 09 56 00.3
comp=Z,53nm,1.1s
DHRM DHARAMSHALA 65.56 17⇓*i*P **P 09 55 53.6 -1.3**
WHYH Whyalla 65.56 115 P **P 09 55 56.4 +1.5**
comp=Z,47nm,1.0s
TWOA Tennyson Woods 65.58 117 P **P 09 55 56.0 +1.0**
KNRA Kununurra 65.58 94 P **P 09 55 54.1 -1.1**
baz=66,SNR=36
KNRA Kununurra 65.58 94 P **P 09 55 54.3 -0.9**
GHAJ Ghor Haditha 65.93 339 IAMs_20 IAMs_20 10 23 45.6
comp=Z,2μm,19.0s
NAPP Napperby 65.95 115 P **P 09 55 56.4 -1.0**
OOD Oodnadatta 66.13 109 P **P 09 55 58.4 -0.3**
NIL Nilore 66.22 14 P **P 09 55 57.6 -1.3**
NIL pmax pmax
comp=Z,120nm,1.0s
NIL Nilore 66.22 14 P **P 09 55 57.6 -1.3**
NIL IAmb IAmb 09 56 01.0
comp=Z,120nm,1.0s
NIL Nilore 66.22 14 IAMs_20 IAMs_20 10 21 58.7
comp=Z,2μm,19.0s
NIL Nilore 66.22 14 P **P 09 55 58.5 -0.4**
MPSI Mapaga 66.26 74 P **P 09 56 00.0 +0.4**
comp=Z,3μmcomp=Z,2μmcomp=Z,84nm,1.9s
KOHI KOHIMA 66.33 35⇓*i*P **P 09 55 59.0 -1.0**
KBL Kabul 66.36 10 P **P 09 55 59.9 -0.1**
KBL pmax pmax
comp=Z,105nm,0.9s
KBL Kabul 66.36 10 P **P 09 56 01.2 +1.2**
SNR=67
KBL Kabul 66.36 10 P **P 09 55 59.9 -0.1**
KBL IAmb IAmb 09 56 03.2
comp=Z,105nm,0.8s
KBL Kabul 66.36 10 P **P 09 56 00.3 +0.3**
ASAR Alice Springs 66.39 104 P **P 09 55 59.2 -1.2**
comp=Z,116nm,0.8s,baz=241,slow=5.8,SNR=208
ASAR S **S 10 04 48.7 -1.2**
comp=Z,0.3nm,0.8s,baz=314,slow=24,SNR=1.6
ASAR PKPPKP **P'P'df 10 24 30.0 -6.6**
comp=Z,6.2nm,1.0s,baz=63,slow=3.2,SNR=18
AS31 Alice Springs 66.39 104 P **P 09 55 59.0 -1.5**
HTT Hallett 66.45 116 P **P 09 56 00.1 -0.6**
baz=66,SNR=19
HTT Hallett 66.45 116 P **P 09 56 00.4 -0.3**
KKM Kota Kinabalu 66.64 67 P **P 09 56 03.7 +1.6**
APSI Ampana 67.01 76 P **P 09 56 07.2 +2.8**
comp=Z,3μmcomp=Z,4μmcomp=Z,161nm,1.6s
MOKO MOKOCHONG 67.04 35⇓*i*P **P 09 56 03.7 -0.7**
LCRK Leigh Creek 67.08 113 P **P 09 56 04.6 -0.1**
JORH JORHAT 67.26 35⇓*i*P **P 09 56 03.9 -1.7**
ITAN ITANAGAR 67.34 34⇓*i*P **P 09 56 05.6 -0.5**
ARPS Mount Arapiles 67.36 120 P **P 09 56 06.4 +0.1**
baz=67,SNR=38
ARPS Mount Arapiles 67.36 120 P **P 09 56 06.4 +0.1**
comp=Z,127nm,0.9s
TOLI2 Tolitoli 67.42 74 P **P 09 56 07.7 +0.7**
LUWI Luwuk 67.87 77 P **P 09 56 10.3 +0.4**
comp=Z,6μmcomp=Z,5μmcomp=Z,208nm,1.0s
LUWI Luwuk 67.87 77 P **P 09 56 11.0 +1.1**
MYLDM Lahad Datu 67.93 69 IAmb IAmb 09 56 13.2
comp=Z,82nm,0.9s
MRSI Marisa 68.02 75 P **P 09 56 08.2 -2.6**
comp=Z,1μmcomp=Z,94nm,0.8s
DIBR DIBRUGARH 68.18 35⇓*i*P **P 09 56 12.1 +0.6**
SLVN Son La 68.31 46 IAmb IAmb 09 56 15.5
comp=Z,102nm,1.0s
SLVN IAMs_20 IAMs_20 10 22 04.8
comp=Z,3μm,20.0s
LSA Lhasa 68.34 31 P **P 09 56 13.0 0.0**
LSA pmax pmax
comp=Z,127nm,1.0s
LSA Lhasa 68.34 31 P **P 09 56 13.2 +0.2**
LSA pmax pmax

comp=Z,510nm,1.6s
LSA Lhasa 68.34 31 P **P 09 56 13.0 0.0**
LSA Lhasa 68.34 31 P **P 09 56 13.6 +0.6**
LSA Lhasa 68.34 31 P **P 09 56 13.2 +0.2**
WRA Warramunga Arr 68.37 101 P **P 09 56 12.1 -0.9**
comp=Z,210nm,0.9s,baz=242,slow=5.3,SNR=160
WRA S **S 10 05 13.4 -0.5**
comp=Z,0.1nm,0.4s,baz=194,slow=12,SNR=2.0
WRA PKPPKP 10 24 26.5
comp=Z,7.7nm,1.1s,baz=70,slow=2.4,SNR=12
WRAB Tennant Creek 68.39 101 *d*P **P 09 56 12.2 -0.9**
WRAB pmax pmax
comp=Z,578nm,1.7s
WRAB Tennant Creek 68.39 101 P **P 09 56 12.6 -0.5**
WRAB Tennant Creek 68.39 101 P **P 09 56 12.4 -0.7**
WRAB Tennant Creek 68.39 101 P **P 09 56 12.2 -0.9**
LKP Lekhapani 68.53 36⇓*i*P **P 09 56 11.3 -2.4**
BRAT Ballarat 68.58 122 P **P 09 56 15.3 +1.3**
MOO Moorlands 68.92 128 P **P 09 56 17.8 +1.7**
DRS Darwin Rock St 68.94 92 P **P 09 56 17.4 +0.9**
MTN Manton Dam 68.94 92 P **P 09 56 17.3 +0.8**
baz=69,SNR=3.9
MTN Manton Dam 68.94 92 IAmb IAmb 09 56 18.3
comp=Z,106nm,1.1s
MTN Manton Dam 68.94 92 P **P 09 56 17.3 +0.8**
GEYT Alibeck 68.95 360 P **P 09 56 15.7 -0.4**
comp=Z,22nm,0.8s,baz=226,slow=10,SNR=15
GEYT S **S 10 05 17.4 -2.3**
comp=Z,2.5nm,0.5s,baz=82,slow=40,SNR=1.9
GYA0B ALIBECK ARRAY 68.95 360 IAmb IAmb 09 56 19.5
comp=Z,50nm,1.1s
GTOI Gorontalo 69.00 76 P **P 09 56 15.0 -1.9**
comp=Z,486nmcomp=Z,11nm,0.8s
STKA Stephens Creek 69.14 115 P **P 09 56 17.2 -0.4**
comp=Z,73nm,1.0s,baz=263,slow=4.9,SNR=77
STKA S **S 10 05 19.9 -2.8**
comp=Z,0.7nm,0.7s,baz=75,slow=22,SNR=1.9
STKA PKP2bc 10 24 21.9
comp=Z,1.6nm,0.6s,baz=96,slow=18,SNR=4.0
STKA Stephens Creek 69.14 115 P **P 09 56 16.8 -0.8**
baz=69,SNR=39
STKA Stephens Creek 69.14 115 P **P 09 56 17.5 -0.1**
CORO Coronation Par 69.29 127 P **P 09 56 19.8 +1.5**
TOO Toolangi 69.71 122 P **P 09 56 22.8 +1.7**
baz=70,SNR=6.7
TOO Toolangi 69.71 122 P **P 09 56 22.5 +1.4**
KMSI Cibinong 69.77 76 P **P 09 56 22.4 +0.7**
comp=Z,339nm,1.4s
TORD Torodi Ar. Bea 69.97 300 P **P 09 56 22.3 -0.5**
comp=Z,27nm,1.0s,baz=120,slow=4.3,SNR=77
TORD PP PP 09 58 48.0 -10
comp=Z,6.4nm,0.8s,baz=139,slow=9.1,SNR=4.5
CSS Mathiatis 70.02 338 P **P 09 56 22.4 -0.3**
CSS IAmb IAmb 09 56 29.0
comp=Z,157nm,1.3s
CSS IAMs_20 IAMs_20 10 23 08.7
comp=Z,2μm,20.0s
SANI Sanana 70.02 80 P **P 09 56 24.0 +0.8**
comp=Z,4μmcomp=Z,2μmcomp=Z,74nm,1.9s
SANI Sanana 70.02 80 P **P 09 56 24.1 +0.8**
comp=Z,74nm,1.9s
KDU Kakadu 70.16 93 P **P 09 56 23.1 -1.0**
baz=70,SNR=15
KDU Kakadu 70.16 93 P **P 09 56 24.9 +0.8**
INKA Innaminka 70.22 111 P **P 09 56 24.9 +0.6**
QIZ Qiongzhong 70.47 52 P **P 09 56 26.3 +0.5**
QIZ S **S 10 05 41.1 +2.8**
QIZ SS **SS 10 10 15.8 +5.8**
QIZ pmax pmax
comp=Z,1μm,4.3s
QIZ LR LR
comp=Z,2μm,20.0s
QIZ LR LR
comp=Z,2μm,16.3s
QIZ LR LR
comp=Z,3μm,18.0s
KMI Kunming 70.49 42⇓P **P 09 56 26.3 +0.2**
KMI pP sP 09 56 32.8 +0.3
KMI sP pwP 09 56 35.4 +1.0
KMI PP **PP 09 59 02.0 -0.6**
KMI S **S 10 05 39.0 +0.2**
KMI SKS **SKSac 10 06 24.1 -3.4**
KMI SS **SS 10 10 10.4 -0.2**
KMI pmax pmax
comp=Z,66nm,2.1s
KMI pmax pmax
comp=Z,1μm,5.8s
KMI LR LR
comp=Z,2μm,18.5s
KMI LR LR
comp=Z,3μm,18.5s
KMI LR LR
comp=Z,2μm,18.5s
KMI Kunming 70.49 42 P **P 09 56 26.6 +0.5**
GEVA Gevas 70.75 347 P **P 09 56 28.2 +0.8**
GEVA IAmb IAmb 09 56 31.1
comp=Z,84nm,1.0s
KIC Kosan Boka 70.76 290 *e*P **P 09 56 28.3 +0.6**
comp=Z,184nm,1.6s
LIC Lamto 70.91 290 *e*P **P 09 56 29.1 +0.5**
comp=Z,187nm,1.4s
GAZ Gaziantep 70.97 342 IAmb IAmb 09 56 30.6
comp=Z,87nm,1.0s
PZH PanZhiHua 70.99 41 P **P 09 56 28.2 -0.8**
PZH PcP **PcP 09 56 46.9 -2.4**
PZH PP **PP 09 59 05.7 -1.1**
PZH S **S 10 05 42.8 -1.6**
PZH SKS **SKSac 10 06 28.7 -2.3**
PZH pmax pmax
comp=Z,90nm,1.1s
PZH pmax pmax
comp=Z,2μm,4.1s
PZH LR LR
comp=Z,3μm,20.0s
PZH LR LR
comp=Z,3μm,22.4s
PZH LR LR
comp=Z,3μm,17.8s
DBIC Dimbokro 71.03 291 P **P 09 56 29.7 +0.4**
comp=Z,47nm,1.1s,baz=141,slow=6.6,SNR=23
DBIC S **S 10 05 49.5 +4.4**
comp=Z,0.7nm,0.4s,baz=5.3,slow=23,SNR=1.3
DBIC Dimbokro 71.03 291 P **P 09 56 28.0 -1.4**
DBIC IAmb IAmb 09 56 35.9
comp=Z,221nm,1.8s
TIC Toumodi 71.15 290 *e*P **P 09 56 30.7 +0.6**
SAUI Saumlaki 71.47 88 P **P 09 56 33.6 +1.5**
comp=Z,8μmcomp=Z,479nm,1.4s
SAUI Saumlaki 71.47 88 P **P 09 56 32.1 0.0**
SAUI Saumlaki 71.47 88 P **P 09 56 33.4 +1.3**
DRK Karamyk 71.62 11 IAmb IAmb 09 56 35.9
comp=Z,147nm,1.0s
BTK Batken 72.03 10 IAmb IAmb 09 56 38.4
comp=Z,138nm,1.1s
BNDI Bandanaira 72.04 84 P **P 09 56 35.7 +0.2**
comp=Z,128nm,1.8s
LBMI Labuha 72.05 79 P **P 09 56 35.8 +0.2**
comp=Z,2μmcomp=Z,5μmcomp=Z,255nm,1.6s
GNI Garni 72.25 349 *d*P **P 09 56 37.2 +0.9**
GNI pmax pmax
comp=Z,195nm,1.3s
GNI MLR MLR
comp=Z,2μm,17.0s
GNI Garni 72.25 349 P **P 09 56 38.0 +1.7**
GNI Garni 72.25 349 P **P 09 56 36.4 +0.1**
GNI Garni 72.25 349 IAMs_20 IAMs_20 10 28 42.9
comp=Z,2μm,19.0s
GNI Garni 72.25 349 P **P 09 56 37.6 +1.3**
GNI Garni 72.25 349 P **P 09 56 36.9 +0.6**
AKAS Kas 72.41 336 IAmb IAmb 09 56 40.0
comp=Z,134nm,1.0s
CMSA Cobar Meteorol 72.44 117 P **P 09 56 37.8 +0.1**
baz=72,SNR=54
CMSA Cobar Meteorol 72.44 117 P **P 09 56 38.2 +0.5**
KSH Kashi 72.44 14 P **P 09 56 34.6 -2.8**
KSH pP pP 09 56 40.9 -1.3
KSH PP **PP 09 59 18.4 -0.6**
KSH S **S 10 05 54.2 -6.3**
KSH ScS **SKSac 10 06 36.3 -5.0**
KSH SS **SS 10 10 33.3 -6.6**
KSH pmax pmax
comp=Z,220nm,1.3s
KSH LR LR
comp=Z,3μm,19.8s
KSH LR LR
comp=Z,2μm,18.9s

KSH				LR	LR		
	comp=Z,4μm,23.5s						
QIS	**Mount Isa**	**72.50**	**104**	P	**P**	**09 56 37.6**	**-0.6**
	baz=73,SNR=90						
QIS	**Mount Isa**	**72.50**	**104**	P	**P**	**09 56 38.5**	**+0.3**
TNTI	**Ternate**	**72.70**	**78**	P	**P**	**09 56 40.9**	**+1.5**
	comp=Z,2μmcomp=Z,2μmcomp=Z,109nm,1.6s						
TNTI	**Ternate**	**72.70**	**78**	IAmb	IAmb	09 56 42.0	
	comp=Z,222nm,1.5s						
TNTI	**Ternate**	**72.70**	**78**	P	**P**	**09 56 40.9**	**+1.5**
	comp=Z,108nm,1.6s						
SMAI	**San Martin Ant**	**72.84**	**199**	P	**P**	**09 56 38.5**	**-0.8**
KOPT	**Kop Dagi**	**72.91**	**346**	IAmb	IAmb	09 56 44.3	
	comp=Z,95nm,1.1s						
CAN	**Canberra**	**73.23**	**121**	IAmb	IAmb	09 56 45.3	
	comp=Z,116nm,1.3s						
CAN	**Canberra**	**73.23**	**121**	P	**P**	**09 56 43.6**	**+1.2**
CNB	**Canberra Magne**	**73.50**	**121**	P	**P**	**09 56 45.1**	**+1.1**
QLP	**Quilpie**	**73.52**	**111**	P	**P**	**09 56 44.0**	**-0.2**
	baz=74,SNR=28						
QLP	**Quilpie**	**73.52**	**111**	P	**P**	**09 56 44.5**	**+0.3**
AKH	**Akhalkalaki**	**73.69**	**349**	⇑P	**P**	**09 56 45.9**	**+1.1**
GYA	**Guiyang**	**73.80**	**44**	⇑P	**P**	**09 56 46.8**	**+1.0**
GYA				pP	pP	09 56 51.3	+0.8
GYA				PcP	**PcP**	**09 57 02.9**	**+1.6**
GYA				PP	**PP**	**09 59 31.8**	**+1.0**
GYA				S	**S**	**10 06 17.0**	**+0.4**
GYA				SS	**SS**	**10 11 05.4**	**+4.2**
GYA				pmax	pmax		
	comp=Z,75nm,1.3s						
GYA				pmax	pmax		
	comp=Z,2μm,7.5s						
GYA				LR	LR		
	comp=Z,900nm,19.0s						
GYA				LR	LR		
	comp=Z,2μm,17.1s						
GYA				LR	LR		
	comp=Z,2μm,20.4s						
KTUT	**Trabzon**	**73.99**	**346**	⇑P	**P**	**09 56 47.4**	**+1.1**
SANT	**Santorini**	**74.06**	**333**	IAmb	IAmb	09 56 49.8	
	comp=Z,155nm,1.0s						
TOKA	**Tokat**	**74.13**	**343**	IAmb	IAmb	09 56 50.5	
	comp=Z,142nm,1.5s						
PMSA	**Palmer Station**	**74.19**	**202**	*e*P	**P**	**09 56 52.0**	**+4.6**
BR131	**Keskin Array S**	**74.33**	**341**	IAmb	IAmb	09 56 50.8	
	comp=Z,72nm,1.0s						
BRTR	**Keskin Array B**	**74.33**	**341**	P	**P**	**09 56 48.3**	**-0.3**
	comp=Z,42nm,1.1s,baz=161,slow=7.9,SNR=38						
BRTR				S	**S**	**10 06 22.7**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=312,slow=38,SNR=1.3						
BRTR	**Keskin Array B**	**74.33**	**341**	*ce*P	**P**	**09 56 48.2**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,41nm,1.0s						
AML	**Almayashu**	**74.52**	**12**	P	**P**	**09 56 50.8**	**+0.9**
	SNR=16						
AML	**Almayashu**	**74.52**	**12**	P	**P**	**09 56 51.4**	**+1.4**
AML	**Almayashu**	**74.52**	**12**	*i* P	**P**	**09 56 50.5**	**+0.5**
	SNR=16						
MAK	**Makhachkala**	**74.62**	**352**	*e*P	**P**	**09 56 45.2**	**-4.8**
MAK				*e*		09 59 40.5	
MAK				*e*PPP	PPP	10 01 19.8	
MAK				*e*S	**SKiKP**	**10 06 17.7**	**+2.7**
MAK				*e*SSS	SSS	10 14 27.8	
MAK				pmax	pmax		
	comp=Z,315nm,1.6s						
MAK				MLR	MLR		
	comp=Z,923nm,17.0s						
ANTO	**Ankara**	**74.71**	**340**	P	**P**	**09 56 50.6**	**-0.1**
ANTO				pmax	pmax		
	comp=Z,55nm,1.0s						
ANTO				MLR	MLR		
	comp=Z,1μm,20.0s						
ANTO	**Ankara**	**74.71**	**340**	P	**P**	**09 56 50.6**	**-0.1**
DAV	**Davao City (W)**	**74.73**	**72**	P	**P**	**09 56 51.3**	**-0.1**
	comp=Z,270nm,0.4s,baz=12,slow=3.3,SNR=2.7						
UCH	**Uchtor**	**74.76**	**12**	P	**P**	**09 56 54.6**	**+3.1**
	SNR=36						
BRLS	**Borolday**	**74.81**	**9**	*e*P	**P**	**09 56 49.1**	**-2.0**
BRLS				*e*S	**S**	**10 06 24.9**	**-2.0**
BRLS	**Borolday**	**74.81**	**9**	*e*P	**P**	**09 56 49.1**	**-2.0**
	baz=8.8						
BRLS				*e*S	**S**	**10 06 25.0**	**-2.0**
	baz=8.8						
FAKI	**Fak Fak**	**74.86**	**84**	P	**P**	**09 56 53.8**	**+1.6**
	comp=Z,4μmcomp=Z,3μmcomp=Z,140nm,2.1s						
FAKI	**Fak Fak**	**74.86**	**84**	IAmb	IAmb	09 56 54.9	
	comp=Z,141nm,1.1s						
FAKI	**Fak Fak**	**74.86**	**84**	P	**P**	**09 56 53.5**	**+1.3**
DZA	**Taraz**	**74.88**	**10**	*e*P	**P**	**09 56 51.4**	**-0.1**
DZA				*e*S	**S**	**10 06 29.0**	**+1.2**
DZA				pmax	pmax		
	comp=Z,89nm,1.1s						
DZA	**Taraz**	**74.88**	**10**	*e*P	**P**	**09 56 51.5**	**-0.1**
	comp=Z,89nm,1.1s,baz=10.0						
DZA				*e*S	**S**	**10 06 29.0**	**+1.2**
	baz=10.0						
EKS2	**Erkin-Say**	**75.05**	**12**	P	**P**	**09 56 53.9**	**+1.2**
	SNR=28						
GROC	**Groznyy**	**75.08**	**351**	*e*P	**P**	**09 56 52.5**	**-0.2**
GROC				*e*		09 57 06.9	
GROC				*e*		09 59 42.9	
GROC				*e*S	**S**	**10 06 32.8**	**+2.9**
GROC				pmax	pmax		
	comp=Z,134nm,0.9s						
GROC				MLR	MLR		
	comp=Z,289nm,11.0s						
SWI	**Sorong**	**75.10**	**82**	P	**P**	**09 56 54.2**	**+0.7**
	comp=Z,4μmcomp=Z,4μmcomp=Z,265nm,1.3s						
SIJI	**Sorong**	**75.11**	**82**	P	**P**	**09 56 53.1**	**-0.5**
	comp=Z,143nm,0.9s,baz=272,slow=3.2,SNR=37						
SIJI				S	**S**	**10 06 33.5**	**+1.9**
	comp=Z,3.6nm,0.7s,baz=358,slow=22,SNR=1.5						
ULHL	**Ulahol**	**75.12**	**14**	P	**P**	**09 56 54.0**	**+0.8**
	SNR=17						
AAK	**Ala-Archa**	**75.16**	**12**	P	**P**	**09 56 53.6**	**+0.2**
	comp=Z,72nm,1.0s,baz=190,slow=5.4,SNR=53						
AAK				S	**S**	**10 06 32.5**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=62,slow=20,SNR=7.1						
AAK	**Ala-Archa**	**75.16**	**12**	P	**P**	**09 56 54.1**	**+0.8**
	SNR=62						
AAK	**Ala-Archa**	**75.16**	**12**	P	**P**	**09 56 55.4**	**+2.1**
AAK	**Ala-Archa**	**75.16**	**12**	P	**P**	**09 56 53.5**	**+0.2**
AAK				IAmb	IAmb	09 56 57.0	
	comp=Z,218nm,1.3s						
AAK	**Ala-Archa**	**75.16**	**12**	IAMs_20	IAMs_20	10 26 19.2	
	comp=Z,3μm,20.0s						
AAK	**Ala-Archa**	**75.16**	**12**	P	**P**	**09 56 54.8**	**+1.5**
AAK	**Ala-Archa**	**75.16**	**12**	*i* P	**P**	**09 56 53.6**	**+0.3**
	SNR=68						
CHVG	**Ch'k'valeri**	**75.21**	**348**	⇑P	**P**	**09 56 54.6**	**+1.2**
KBK	**Karagaybulak**	**75.26**	**13**	P	**P**	**09 56 54.6**	**+0.7**
	SNR=42						
BOOM	**Boomskoye usch**	**75.29**	**13**	IAmb	IAmb	09 56 57.3	
	comp=Z,124nm,1.1s						
GOMU	**GeErMu**	**75.48**	**30**	P	**P**	**09 56 55.9**	**+0.3**
GOMU				pP	pwP	09 57 04.9	+1.0
GOMU				sP	PcP	09 57 09.4	+0.8
GOMU				pmax	pmax		
	comp=Z,44nm,1.4s						
GOMU				LR	LR		
	comp=Z,1μm,19.7s						
GOMU				LR	LR		
	comp=Z,1μm,19.9s						
GOMU				LR	LR		
	comp=Z,2μm,19.4s						
ILGA	**Ilgaz**	**75.54**	**341**	IAmb	IAmb	09 57 02.4	
	comp=Z,160nm,1.3s						
CHMS	**Chumysh**	**75.55**	**12**	P	**P**	**09 56 56.1**	**+0.7**
	SNR=26						
NEY	**Neytrino**	**75.61**	**348**	*de*P	**P**	**09 56 55.9**	**0.0**
NEY				pmax	pmax		
	comp=Z,14nm,0.8s						
NEY				MLR	MLR		
	comp=Z,583nm,17.0s						
HKPS	**Hong Kong Po S**	**75.61**	**52**	IAMs_20	IAMs_20	10 25 33.5	
	comp=Z,2μm,21.0s						
TKM2	**Tokmak 2**	**75.64**	**13**	P	**P**	**09 56 56.2**	**+0.1**
	SNR=62						
TKM2	**Tokmak 2**	**75.64**	**13**	P	**P**	**09 56 55.1**	**-1.0**
NCK	**Nalchik**	**75.70**	**349**	⇑*e*P	**P**	**09 56 55.0**	**-1.2**
NCK				pmax	pmax		
	comp=Z,55nm,0.8s						
USP	**Ospenovka**	**75.77**	**12**	P	**P**	**09 56 53.6**	**-3.0**
	SNR=11						
KST	**Kastek**	**75.83**	**13**	*e*P	**P**	**09 56 57.1**	**0.0**
	comp=Z,46nm,1.2s,baz=13						
KST				*e*S	**S**	**10 06 39.8**	**+1.3**
	baz=13						
SGDS	**Sogindy**	**75.97**	**12**	*e*P	**P**	**09 56 58.0**	**+0.1**
	baz=12						
SGDS				*e*S	**S**	**10 06 41.6**	**+1.6**
	baz=12						
TNSS	**Tian-Shan**	**76.02**	**14**	*e*P	**P**	**09 56 58.3**	**-0.3**
	baz=14						
KBZ	**Khabaz**	**76.04**	**349**	P	**P**	**09 56 57.7**	**-0.4**
	comp=Z,49nm,1.0s,baz=200,slow=2.4,SNR=40						
KBZ				S	**S**	**10 06 39.3**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=295,slow=20,SNR=2.0						
KBZ	**Khabaz**	**76.04**	**349**	*de*P	**P**	**09 56 58.1**	**0.0**
KBZ				pmax	pmax		
	comp=Z,62nm,1.1s						
BALB	**Balikesir**	**76.06**	**336**	IAmb	IAmb	09 57 01.4	
	comp=Z,111nm,1.1s						
MDOK	**Medeo**	**76.16**	**14**	*e*P	**P**	**09 56 59.2**	**+0.2**
MDOK				*e*S	**S**	**10 06 43.6**	**+1.3**
MDOK	**Medeo**	**76.16**	**14**	*e*P	**P**	**09 56 59.3**	**+0.2**
	baz=14						
MDOK				*e*S	**S**	**10 06 43.6**	**+1.3**
	baz=14						
ITM	**Ithomi**	**76.18**	**331**	IAmb	IAmb	09 57 08.3	
	comp=Z,72nm,1.2s						
KIV	**Kislovodsk**	**76.30**	**349**	⇑P	**P**	**09 57 00.1**	**+0.4**
KIV	**Kislovodsk**	**76.30**	**349**	*e*P	**P**	**09 56 59.7**	**0.0**
KIV				*e*S	**S**	**10 06 44.7**	**+1.1**
KIV				*e*SS	**SS**	**10 11 39.3**	**+0.8**
KIV				pmax	pmax		
	comp=Z,96nm,1.0s						
KIV				pmax	pmax		
	comp=Z,588nm,4.6s						
KIV	**Kislovodsk**	**76.30**	**349**	P	**P**	**09 56 59.5**	**-0.3**
KIV				IAmb	IAmb	09 57 02.6	
	comp=Z,86nm,0.9s						
KIV	**Kislovodsk**	**76.30**	**349**	P	**P**	**09 57 00.5**	**+0.7**
KIV	**Kislovodsk**	**76.30**	**349**	*i* P	**P**	**09 56 59.9**	**+0.1**
	SNR=14						
BZK	**Bozkurt**	**76.31**	**342**	⇑P	**P**	**09 57 00.6**	**+1.0**
SATY	**Saty**	**76.36**	**15**	*e*P	**P**	**09 57 00.3**	**+0.2**
SATY				*e*S	**S**	**10 06 45.3**	**+1.0**
SATY				pmax	pmax		
	comp=Z,64nm,1.3s						
SATY	**Saty**	**76.36**	**15**	*e*P	**P**	**09 57 00.4**	**+0.2**
	comp=Z,64nm,1.3s,baz=15						
SATY				*e*S	**S**	**10 06 45.4**	**+1.0**
	baz=15						
ZHN	**Zhinishke**	**76.47**	**15**	*e*P	**P**	**09 57 01.1**	**+0.4**
ZHN				*e*S	**S**	**10 06 47.3**	**+1.8**
ZHN	**Zhinishke**	**76.47**	**15**	*e*P	**P**	**09 57 01.1**	**+0.4**
	baz=15						
ZHN				*e*S	**S**	**10 06 47.4**	**+1.8**
	baz=15						
SOC	**Sochi**	**76.49**	**346**	*d i* P	**P**	**09 57 00.5**	**-0.2**
SOC				*e*		09 59 50.1	
SOC				*e*PPP	PPP	10 01 36.1	
SOC				*e*S	**S**	**10 06 47.7**	**+2.2**
SOC				pmax	pmax		
	comp=Z,53nm,0.9s						
SOC				MLR	MLR		
	comp=Z,480nm,14.0s						
UZB	**Uzynbulak**	**76.58**	**16**	*e*P	**P**	**09 57 01.5**	**+0.1**
UZB				*e*S	**S**	**10 06 47.8**	**+1.0**
UZB				pmax	pmax		
	comp=Z,96nm,1.2s						
UZB	**Uzynbulak**	**76.58**	**16**	*e*P	**P**	**09 57 01.6**	**+0.1**
	comp=Z,96nm,1.2s,baz=16						
UZB				*e*S	**S**	**10 06 47.9**	**+1.0**
	baz=16						
SHLS	**Shalkode**	**76.69**	**16**	*e*P	**P**	**09 57 02.9**	**+0.9**
SHLS				*e*S	**S**	**10 06 50.6**	**+2.6**
SHLS				pmax	pmax		
	comp=Z,56nm,1.0s						
SHLS	**Shalkode**	**76.69**	**16**	*e*P	**P**	**09 57 02.9**	**+0.9**
	comp=Z,56nm,1.0s,baz=16						
SHLS				*e*S	**S**	**10 06 50.6**	**+2.6**
	baz=16						
KUU	**Kurty**	**76.72**	**13**	*e*P	**P**	**09 57 01.6**	**-0.4**
KUU				*e*S	**S**	**10 06 49.1**	**+1.1**
KUU				pmax	pmax		
	comp=Z,120nm,1.1s						
KUU	**Kurty**	**76.72**	**13**	*e*P	**P**	**09 57 01.7**	**-0.3**
	comp=Z,120nm,1.1s,baz=13						
KUU				*e*S	**S**	**10 06 49.1**	**+1.1**
	baz=13						
CHKK	**Chushkaly**	**76.81**	**14**	*e*P	**P**	**09 57 02.1**	**-0.4**
	baz=14						
PDGK	**Podgornoye**	**76.86**	**16**	P	**P**	**09 57 02.6**	**-0.4**
RMQ	**Roma**	**77.15**	**113**	P	**P**	**09 57 07.3**	**+2.2**
	baz=77,SNR=12						
RMQ	**Roma**	**77.15**	**113**	P	**P**	**09 57 06.0**	**+0.9**
GOF	**Gofitskoye**	**77.31**	**349**	⇑*e*P	**P**	**09 57 05.2**	**-0.1**
GOF				pmax	pmax		
	comp=Z,131nm,1.1s						
ARXS	**Arharly**	**77.33**	**14**	*e*P	**P**	**09 57 04.8**	**-0.7**
BTLS	**Baital**	**77.41**	**11**	*e*P	**P**	**09 57 05.8**	**0.0**
BTLS				*e*S	**S**	**10 06 56.6**	**+1.2**
BTLS				pmax	pmax		
	comp=Z,91nm,1.7s						
BTLS	**Baital**	**77.41**	**11**	*e*P	**P**	**09 57 05.8**	**0.0**
	comp=Z,92nm,1.7s,baz=12						
BTLS				*e*S	**S**	**10 06 56.7**	**+1.2**
	baz=12						
ARMA	**Armidale**	**77.47**	**118**	P	**P**	**09 57 07.6**	**+0.7**
	baz=78,SNR=27						
ARMA	**Armidale**	**77.47**	**118**	IAmb	IAmb	09 57 10.1	
	comp=Z,148nm,1.1s						
ARMA	**Armidale**	**77.47**	**118**	P	**P**	**09 57 07.9**	**+1.0**
MTSU	**Mount Surprise**	**77.56**	**104**	P	**P**	**09 57 07.5**	**0.0**
	baz=78,SNR=38						
MTSU	**Mount Surprise**	**77.56**	**104**	P	**P**	**09 57 08.0**	**+0.5**
AGG	**Agios Georgios**	**77.59**	**332**	IAmb	IAmb	09 57 09.3	
	comp=Z,84nm,1.0s						
TDK	**Taldyqorghan**	**78.21**	**14**	*e*P	**P**	**09 57 09.8**	**-0.5**
TDK				*e*S	**S**	**10 07 04.7**	**+0.6**
TDK				pmax	pmax		
	comp=Z,48nm,0.7s						
TDK	**Taldyqorghan**	**78.21**	**14**	*e*P	**P**	**09 57 09.8**	**-0.5**
	comp=Z,48nm,0.7s,baz=14						
TDK				*e*S	**S**	**10 07 04.7**	**+0.6**
	baz=14						
TDK				LR	LR	10 27 47.1	
	comp=Z,2μm,18.4s,baz=14						
CTA	**Charters Tower**	**78.21**	**106**	P	**P**	**09 57 12.5**	**+1.4**
	comp=Z,96nm,1.9s						
CTAO	**Charters Tower**	**78.21**	**106**	P	**P**	**09 57 10.0**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,114nm,1.1s						
CTAO	**Charters Tower**	**78.21**	**106**	P	**P**	**09 57 10.0**	**-1.1**
CTAO				IAmb	IAmb	09 57 13.4	
	comp=Z,114nm,1.1s						
CTAO	**Charters Tower**	**78.21**	**106**	IAMs_20	IAMs_20	10 28 35.3	
	comp=Z,2μm,19.0s						
CTAO	**Charters Tower**	**78.21**	**106**	P	**P**	**09 57 11.9**	**+0.8**
CTAO	**Charters Tower**	**78.21**	**106**	P	**P**	**09 57 10.7**	**-0.3**
ENH	**Enshi**	**78.29**	**44**	IAmb	IAmb	09 57 13.5	
	comp=Z,194nm,1.2s						
ENH				IAMs_20	IAMs_20	10 28 39.5	
	comp=Z,2μm,20.0s						
ENH	**Enshi**	**78.29**	**44**	P	**P**	**09 57 10.9**	**-0.3**
COEN	**Coen**	**78.64**	**99**	P	**P**	**09 57 13.0**	**-0.5**
COEN	**Coen**	**78.64**	**99**	P	**P**	**09 57 14.2**	**+0.7**
KDZ	**Kurdzhali**	**78.71**	**336**	*e*P	**P**	**09 57 13.0**	**-0.2**
RZN	**Rozhen**	**78.99**	**335**	*e*P	**P**	**09 57 14.0**	**-0.9**
PRD	**Provadia**	**79.41**	**338**	*e*P	**P**	**09 57 16.0**	**-0.9**
VAY	**Valandovo**	**79.47**	**333**	*i* P	**P**	**09 57 17.3**	**0.0**
EIDS	**Eidsvold**	**79.51**	**113**	P	**P**	**09 57 17.8**	**-0.3**
	baz=80,SNR=31						
EIDS	**Eidsvold**	**79.51**	**113**	IAmb	IAmb	09 57 20.5	
	comp=Z,118nm,1.1s						
EIDS	**Eidsvold**	**79.51**	**113**	P	**P**	**09 57 18.5**	**+0.3**
WMQ	**Urumqi**	**79.55**	**21**	*e*P	**P**	**09 57 18.2**	**+0.4**
WMQ				sP	pwP	09 57 27.6	+1.4
WMQ				S	**S**	**10 07 19.6**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,98nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,3μm,5.1s						
WMQ				LR	LR		
	comp=Z,3μm,18.1s						
WMQ				LR	LR		
	comp=Z,1μm,18.1s						
WMQ				LR	LR		
	comp=Z,1μm,20.3s						
WMQ	**Urumqi**	**79.55**	**21**	P	**P**	**09 57 18.0**	**+0.2**
KBN	**Korca**	**79.57**	**332**	IAmb	IAmb	09 57 25.4	
	comp=Z,112nm,1.3s						
LZH	**Lanzhou**	**79.59**	**36**	⇓P	**P**	**09 57 18.9**	**+0.5**
LZH				S	**S**	**10 07 18.1**	**-1.5**
LZH				SS	**SS**	**10 12 32.7**	**+4.1**
LZH				pmax	pmax		
	comp=Z,77nm,1.3s						
LZH				pmax	pmax		
	comp=Z,2μm,8.1s						
LZH				LR	LR		
	comp=Z,2μm,16.5s						
LZH				LR	LR		
	comp=Z,1μm,16.7s						
LZH				LR	LR		
	comp=Z,2μm,19.0s						
RAFF	**Raffo Rosso**	**79.61**	**326**	IAmb	IAmb	09 57 21.9	
	comp=Z,103nm,1.0s						
STIP	**Stip**	**79.94**	**333**	*i* P	**P**	**09 57 19.0**	**-0.9**
SZH	**Strazhica**	**79.95**	**337**	*e*P	**P**	**09 57 19.0**	**-0.9**
KNMB	**Chin-men Tao**	**79.97**	**53**	IAMs_20	IAMs_20	10 32 26.9	
	comp=Z,2μm,18.0s						
OHR	**Ohrid**	**79.98**	**332**	*i* P	**P**	**09 57 22.3**	**+2.1**
RK1H	**Rockhampton Ha**	**80.03**	**111**	P	**P**	**09 57 21.8**	**+0.8**
TIP	**Timpagrande**	**80.08**	**329**	⇑P	**P**	**09 57 21.9**	**+1.2**
TIRR	**Tirgusor**	**80.22**	**339**	⇑P	**P**	**09 57 21.2**	**-0.1**
TIRR	**Tirgusor**	**80.22**	**339**	IAmb	IAmb	09 57 23.6	
	comp=Z,238nm,1.2s						
TIRR				IAMs_20	IAMs_20	10 30 00.7	
	comp=Z,2μm,21.0s						
WHZ	**Wether Hill Ro**	**80.27**	**138**	IAmb	IAmb	09 57 24.0	
	comp=Z,90nm,1.1s						
AB31	**Akbulak array**	**80.28**	**1**	P	**P**	**09 57 21.3**	**-0.2**
ABKAR	**Akbulak array**	**80.28**	**1**	IAmb	IAmb	09 57 24.3	
	comp=Z,179nm,1.1s						
GTA	**Gaotai**	**80.34**	**31**	⇓P	**P**	**09 57 22.0**	**-0.2**
GTA				pP	pP	09 57 27.3	+0.3
GTA				sP	pwP	09 57 32.5	+1.9
GTA				S	**S**	**10 07 26.0**	**-1.2**
GTA				sS	SKKSac	10 07 41.2	-0.1
GTA				SS	**SS**	**10 12 45.3**	**+5.7**
GTA				pmax	pmax		
	comp=Z,39nm,1.0s						
GTA				pmax	pmax		
	comp=Z,2μm,5.1s						
GTA				LR	LR		
	comp=Z,2μm,20.0s						
GTA				LR	LR		
	comp=Z,2μm,19.6s						
GTA				LR	LR		
	comp=Z,2μm,20.0s						
VTS	**Vitosha**	**80.34**	**335**	⇑P	**P**	**09 57 21.8**	**-0.4**
VTS	**Vitosha**	**80.34**	**335**	*e*P	**P**	**09 57 21.0**	**-1.2**
QZH	**Quanzhou**	**80.42**	**53**	⇓*i* P	**P**	**09 57 23.6**	**+0.8**
QZH				S	**S**	**10 07 34.9**	**+6.5**
QZH				pmax	pmax		
	comp=Z,45nm,1.4s						
QZH				pmax	pmax		
	comp=Z,1μm,5.6s						
QZH				LR	LR		
	comp=Z,1μm,15.9s						
QZH				LR	LR		
	comp=Z,1μm,16.1s						
QZH				LR	LR		
	comp=Z,2μm,14.2s						
SKO	**Skopje**	**80.46**	**333**	*i* P	**P**	**09 57 23.1**	**+0.4**
BOSS	**Bosilegrad**	**80.51**	**334**	*e*P	**P**	**09 57 22.4**	**-0.6**
TIR	**Tirane**	**80.56**	**332**	IAMs_20	IAMs_20	10 31 23.4	
	comp=Z,2μm,22.0s						
MAKZ	**Makanchi**	**80.73**	**16**	P	**P**	**09 57 22.5**	**-1.5**
MAKZ				pmax	pmax		
	comp=Z,189nm,1.5s						
MAKZ				MLR	MLR		
	comp=Z,2μm,19.0s						
MAKZ	**Makanchi**	**80.73**	**16**	P	**P**	**09 57 22.5**	**-1.5**
MAKZ				IAmb	IAmb	09 57 26.7	
	comp=Z,189nm,1.4s						
MAKZ				IAMs_20	IAMs_20	10 32 02.7	
	comp=Z,2μm,19.0s						
MAKZ	**Makanchi**	**80.73**	**16**	P	**P**	**09 57 23.7**	**-0.3**
XAN	**Xi'an**	**80.73**	**41**	P	**P**	**09 57 23.4**	**-1.0**
XAN				pP	PcP	09 57 31.2	+0.1
XAN				S	**S**	**10 07 28.8**	**-2.6**
XAN				pmax	pmax		
	comp=Z,110nm,2.2s						
XAN				pmax	pmax		
	comp=Z,2μm,6.6s						
XAN				LR	LR		
	comp=Z,2μm,18.6s						
XAN				LR	LR		
	comp=Z,1μm,16.7s						
XAN				LR	LR		
	comp=Z,2μm,18.1s						
XAN	**Xi'an**	**80.73**	**41**	P	**P**	**09 57 23.6**	**-0.7**
TPUB	**Ta-pu**	**80.78**	**56**	IAMs_20	IAMs_20	10 30 21.8	
	comp=Z,2μm,19.0s						
MK31	**Makanchi Array**	**80.79**	**16**	P	**P**	**09 57 23.6**	**-0.8**
MK31	**Makanchi Array**	**80.79**	**16**	IAmb	IAmb	09 57 26.9	
	comp=Z,104nm,1.4s						
MKAR	**Makanchi Array**	**80.79**	**16**	P	**P**	**09 57 23.8**	**-0.6**
	comp=Z,35nm,0.9s,baz=219,slow=5.5,SNR=106						
MKAR				S	**S**	**10 07 29.1**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=189,slow=15,SNR=1.4						
MKAR				PKKPbc	**PKKPbc**	**10 16 03.4**	**-2.0**
	comp=Z,1.0nm,0.9s,baz=26,slow=3.4,SNR=5.8						
MKAR				PKPPKP		10 24 09.3	
	comp=Z,0.6nm,0.9s,baz=336,slow=2.7,SNR=5.7						
CFR	**Carcaliu**	**80.95**	**339**	⇑P	**P**	**09 57 25.2**	**0.0**
COPA	**Copaceanca**	**80.97**	**337**	⇑P	**P**	**09 57 24.9**	**-0.4**
KEST	**Kesra**	**80.99**	**322**	P	**P**	**09 57 27.3**	**+1.5**
	comp=Z,12nm,0.8s,baz=98,slow=3.6,SNR=7.4						
KEST				S	**S**	**10 07 39.5**	**+5.3**
	comp=Z,1.4nm,0.5s,baz=37,slow=16,SNR=1.2						
KEST	**Kesra**	**80.99**	**322**	P	**P**	**09 57 27.4**	**+1.6**
KEST				IAmb	IAmb	09 57 33.8	
	comp=Z,141nm,1.6s						
BARS	**Barje**	**81.04**	**334**	*e*P	**P**	**09 57 24.7**	**-1.1**
BARS	**Barje**	**81.04**	**334**	*e*P	**P**	**09 57 29.6**	**+3.8**
VLAD	**Vladila**	**81.12**	**336**	⇑P	**P**	**09 57 27.2**	**+1.1**
ZAPS	**Zavoj**	**81.13**	**335**	*e*P	**P**	**09 57 26.0**	**-0.3**
YULB	**Yu-li**	**81.31**	**56**	IAmb	IAmb	09 57 34.3	
	comp=Z,74nm,1.0s						
YULB				IAMs_20	IAMs_20	10 36 00.9	
	comp=Z,2μm,18.0s						
SSLB	**Suanglung**	**81.31**	**55**	IAmb	IAmb	09 57 31.0	
	comp=Z,162nm,1.1s						
SSLB				IAMs_20	IAMs_20	10 33 18.0	
	comp=Z,2μm,19.0s						
SSLB	**Suanglung**	**81.

BRZS *e*S **S** **10 07 45.5 +1.5**
baz=9.4
PLOR Plostina 82.02 338 ⇑P **P** **09 57 30.9 -0.1**
ZSN Zaisan 82.05 18 *e*P **P** **09 57 31.3 +0.3**
ZSN *e*S **S** **10 07 46.2 +1.7**
ZSN pmax pmax
comp=Z,36nm,0.9s
ZSN Zaisan 82.05 18 *e*P **P** **09 57 31.4 +0.3**
comp=Z,36nm,0.9s,baz=18
ZSN *e*S **S** **10 07 46.2 +1.7**
baz=18
SJES Sjenica 82.13 333 *e*P **P** **09 57 31.5 -0.1**
VOIR 82.17 337 ⇑P **P** **09 57 31.1 -0.7**
ARR Arges 82.25 337 ⇑P **P** **09 57 31.5 -0.7**
JAY Jayapura 82.29 88 P **P** **09 57 33.4 +0.3**
comp=Z,17nm,0.9s,baz=246,slow=11,SNR=3.9
MILM Milestii Mici 82.32 340 *e*P **P** **09 57 31.0 -1.4**
comp=Z,270nm,1.1s
MILM Milestii Mici 82.32 340 *e*PP PP 10 00 43.0 +1.3
MILM ⇑*i*S **S** **10 07 44.0 -3.2**
comp=Z,540nm,6.1s
MILM Milestii Mici 82.32 340 ⇑P **P** **09 57 31.8 -0.6**
MILM Milestii Mici 82.32 340 *de*P **P** **09 57 31.0 -1.4**
MILM *i* 09 57 32.0
MILM *e* 10 00 43.0
MILM *i*S **S** **10 07 44.0 -3.2**
MILM *e*PS **PnS** **10 08 38.0 +0.1**
MILM pmax pmax
comp=Z,2μm,6.4s
MILM smax smax
comp=N,2μm,7.3s
IVAS Ivanjica 82.32 333 *e*P **P** **09 57 32.2 -0.4**
GRUS Gruza 82.37 334 *e*P **P** **09 57 33.4 +0.6**
KIS Kishinev 82.39 340 ⇓*i*P **P** **09 57 32.5 -0.3**
comp=N,700nm,6.3s
KIS Kishinev 82.39 340 *e*PP PP 10 00 44.0 +1.7
KIS *e*S **S** **10 07 45.0 -2.9**
comp=N,600nm,6.1s
KIS Kishinev 82.39 340 *d i*P **P** **09 57 32.5 -0.3**
KIS *e* 10 00 44.0
KIS *e*S **S** **10 07 45.0 -2.9**
KIS *e*PS 10 08 40.0
KIS pmax pmax
comp=Z,700nm,6.3s
KIS smax smax
comp=N,600nm,6.1s
LHI Lord Howe Isla 82.42 122 P **P** **09 57 33.7 +0.1**
LHI IAmb IAmb 09 57 36.6
comp=Z,101nm,1.4s
LHI Lord Howe Isla 82.42 122 P **P** **09 57 35.7 +2.2**
LBZ Lake Benmore 82.43 138 IAmb IAmb 09 57 38.8
comp=Z,141nm,1.5s
KUBS Kucevo 82.46 335 *e*P **P** **09 57 29.5 -3.7**
SVIS Svilajnac 82.50 334 *e*P **P** **09 57 37.5 +4.1**
DOPR Dopca 82.53 338 ⇑P **P** **09 57 32.6 -1.0**
HERR Herculane 82.59 335 ⇑P **P** **09 57 33.6 -0.3**
TESR Tescani 82.61 339 ⇑P **P** **09 57 33.1 -0.9**
FOZ Fox Glacier 82.73 137 IAmb IAmb 09 57 37.0
comp=Z,124nm,1.3s
MDVR Moldovita 82.76 335 ⇑P **P** **09 57 34.9 +0.1**
TRUS Trudelj 82.77 334 *e*P **P** **09 57 35.1 +0.2**
DIVS Divibare 82.83 333 IAmb IAmb 09 57 40.7
comp=Z,78nm,1.4s
DIVS Divibare 82.83 333 *e*P **P** **09 57 35.4 +0.2**
BBLS Lazići 82.86 333 *e*P **P** **09 57 35.6 +0.2**
GZR Gura Zlata 82.91 336 ⇑P **P** **09 57 35.4 -0.3**
LYN LuoYang 83.11 42 ⇓P **P** **09 57 37.7 +0.9**
LYN PP **PP** **10 00 49.4 +1.0**
LYN S **S** **10 07 58.5 +2.6**
LYN SS **SS** **10 13 24.1 +3.3**
LYN pmax pmax
comp=Z,70nm,2.6s
LYN pmax pmax
comp=Z,2μm,8.9s
LYN LR LR
comp=Z,3μm,19.9s
LYN LR LR
comp=Z,2μm,20.1s
RPZ Rata Peaks 83.34 138 P **P** **09 57 38.1 0.0**
TEKS Tekeris 83.39 333 *e*P **P** **09 57 35.7 -2.3**
VRH Novokhopyorsk 83.50 350 *e*P **P** **09 57 38.7 +0.3**
VRH pmax pmax
comp=Z,170nm,1.0s
PRAR RASCA 83.50 339 ⇑P **P** **09 57 38.5 0.0**
BZS Buzias 83.52 335 ⇑P **P** **09 57 38.4 -0.2**
SORM Soroca 83.56 340 ⇑P **P** **09 57 37.7 -1.0**
KURBB Kurchatov Arra 83.60 13 P **P** **09 57 38.9 0.0**
comp=Z,100nm,1.1s,baz=206,slow=5.9,SNR=172
KURBB S **S** **10 07 57.9 -2.1**
comp=Z,0.2nm,0.5s,baz=153,slow=32,SNR=1.3
KURBB Kurchatov Arra 83.60 13 P **P** **09 57 37.5 -1.4**
VORD Divnogorie 83.67 348 *e*P **P** **09 57 39.3 0.0**
VORD pmax pmax
comp=Z,50nm,0.7s
KURK Kurchatov 83.70 13 *d i*P **P** **09 57 39.3 -0.2**
KURK pmax pmax
comp=Z,383nm,1.7s
KURK Kurchatov 83.70 13 P **P** **09 57 40.6 +1.1**
KURK Kurchatov 83.70 13 P **P** **09 57 39.2 -0.2**
KURK Kurchatov 83.70 13 P **P** **09 57 39.5 +0.1**
SEM Semipalatinsk 83.73 14 *e*P **P** **09 57 39.8 -0.1**
SEM *e*S **S** **10 08 01.5 -0.4**
SEM pmax pmax
comp=Z,149nm,1.2s
SEM Semipalatinsk 83.73 14 *e*P **P** **09 57 39.8 -0.1**
comp=Z,149nm,1.2s,baz=14
SEM *e*S **S** **10 08 01.6 -0.4**
baz=14
CJR Cluj-Napoca 83.78 337 ⇑P **P** **09 57 40.4 +0.4**
FRGS Fruska Gora 83.79 334 ⇑P **P** **09 57 39.5 -0.6**
FRGS Fruska Gora 83.79 334 *e*P **P** **09 57 37.4 -2.7**
ARCR ARCALIA 83.85 337 ⇑P **P** **09 57 40.7 +0.4**
VSR Storozhevoye 83.93 348 *e*P **P** **09 57 40.5 -0.1**
VSR pmax pmax
comp=Z,140nm,1.1s
BURAR Bucovina Array 84.04 338 ⇑P **P** **09 57 42.1 +0.7**
SIRR Siria 84.06 335 ⇑P **P** **09 57 41.7 +0.3**
BUR08 Bucovina Ar. S 84.07 338 IAmb IAmb 09 57 47.9
comp=Z,97nm,1.8s
OXZ Oxford 84.14 138 IAmb IAmb 09 57 51.6
comp=Z,124nm,1.6s
DRGR 84.14 336 ⇑P **P** **09 57 41.8 -0.1**
PMG Port Moresby 84.28 97 P **P** **09 57 43.1 -0.3**
comp=Z,74nm,1.0s,baz=290,slow=3.0,SNR=26
PMG Port Moresby 84.28 97 P **P** **09 57 43.5 +0.1**
PMG Port Moresby 84.28 97 IAMs_20 IAMs_20 10 33 00.4
comp=Z,2μm,19.0s
PMG Port Moresby 84.28 97 P **P** **09 57 44.5 +1.1**
PMG Port Moresby 84.28 97 P **P** **09 57 43.7 +0.3**
VORR Voronezh 84.36 348 *e*P **P** **09 57 43.0 +0.2**
VORR pmax pmax
comp=Z,128nm,1.6s
FIGM Figuig 84.58 313 P **P** **09 57 47.0 +2.4**
LTZ Lake Taylor 84.61 138 IAmb IAmb 09 57 47.2
comp=Z,117nm,1.1s
BMR Baia Mare 84.65 337 ⇑P **P** **09 57 44.4 0.0**
BVAR Borovoye Array 84.71 7 P **P** **09 57 44.5 -0.1**
comp=Z,150nm,0.9s,baz=165,slow=6.2,SNR=226
BRVK Borovoye 84.73 7 *de*P **P** **09 57 44.4 -0.2**
BRVK pmax pmax
comp=Z,143nm,1.0s
BRVK Borovoye 84.73 7 P **P** **09 57 45.9 +1.2**
BRVK Borovoye 84.73 7 P **P** **09 57 44.5 -0.2**
BRVK Borovoye 84.73 7 IAMs_20 IAMs_20 10 35 18.5
comp=Z,2μm,18.0s
BRVK Borovoye 84.73 7 P **P** **09 57 44.8 +0.1**
MBO M'Bour 85.17 290 IAMs_20 IAMs_20 10 39 45.9
comp=Z,2μm,18.0s
KOVH Kovagotottos 85.22 333 P **P** **09 57 47.4 +0.1**
NJ2 Nanjing 85.27 48 ⇑P **P** **09 57 44.2 -3.7**
NJ2 S **S** **10 08 16.7 -0.9**
NJ2 pmax pmax
comp=Z,78nm,1.2s
NJ2 pmax pmax
comp=Z,2μm,5.6s
NJ2 LR LR
comp=Z,1μm,18.1s
NJ2 LR LR
comp=Z,2μm,18.8s
NJ2 LR LR
comp=Z,2μm,20.2s
LPSR Galich'ya Gora 85.30 348 *e*P **P** **09 57 47.1 -0.4**
LPSR pmax pmax
comp=Z,100nm,1.1s

TIY Taiyuan 85.36 40 *e*P **P** **09 57 48.6 +0.3**
TIY PP **PP** **10 01 06.1 -0.7**
TIY S **S** **10 08 18.7 +0.4**
TIY pmax pmax
comp=Z,54nm,1.3s
TIY pmax pmax
comp=Z,2μm,5.9s
TIY LR LR
comp=Z,2μm,17.3s
TIY LR LR
comp=Z,780nm,16.3s
TIY LR LR
comp=Z,2μm,17.4s
KHZ Kahutara 85.57 138 P **P** **09 57 50.0 +0.6**
KHZ IAmb IAmb 09 57 51.4
comp=Z,139nm,1.5s
AKASG Malin Array Be 85.64 342 P **P** **09 57 48.4 -0.9**
comp=Z,13nm,0.6s,baz=171,slow=4.6,SNR=55
AKASG S S 10 08 09.8 -11
comp=Z,0.1nm,0.3s,baz=132,slow=16,SNR=1.5
AKASG Malin Array Be 85.64 342 IAmb IAmb 09 57 51.4
comp=Z,56nm,1.1s
AKBB Malin Array Si 85.64 342 *d i*P **P** **09 57 48.3 -0.9**
AKBB Malin Array Si 85.64 342 IAmb IAmb 09 57 51.2
comp=Z,93nm,1.2s
TDRA Tendrara 85.67 313 P **P** **09 57 53.0 +2.9**
UZH Uzhgorod 85.88 337 *i*P **P** **09 57 51.0 +0.5**
UZH *e* 09 57 54.5
ZGR Zagora 86.09 309 P **P** **09 57 54.0 +1.8**
PSZ Piszkesteto 86.10 335 ⇑P **P** **09 57 50.4 -1.3**
SSE Sheshan 86.15 50 P **P** **09 57 52.4 +0.1**
SSE PP **PP** **10 01 13.2 -0.1**
SSE S **S** **10 08 26.4 +0.2**
SSE pmax pmax
comp=Z,55nm,1.3s
SSE pmax pmax
comp=Z,680nm,5.1s
SSE LR LR
comp=Z,470nm,15.8s
CRVS Cervenica-Dubn 86.39 337 *e*P **P** **09 57 52.8 -0.2**
CRVS pmax pmax
comp=Z,121nm,1.7s
CRVS Cervenica-Dubn 86.39 337 *e*P **P** **09 57 52.8 -0.2**
HNS HongShan 86.41 42 ⇓P **P** **09 57 53.0 -0.4**
HNS PP **PP** **10 01 14.3 -0.9**
HNS S **S** **10 08 29.7 +1.2**
HNS SS **SS** **10 14 15.0 +5.7**
HNS pmax pmax
comp=Z,160nm,1.5s
HNS pmax pmax
comp=Z,2μm,5.5s
HNS LR LR
comp=Z,1μm,19.5s
HNS LR LR
comp=Z,1μm,19.5s
HNS LR LR
comp=Z,2μm,19.5s
TZRR Tazzarine 86.48 309 P **P** **09 57 56.0 +1.9**
SRO Srobarova 86.58 334 *e*P **P** **09 57 55.6 +1.6**
SRO Srobarova 86.58 334 *e*P **P** **09 57 55.6 +1.6**
KWP Kalwaria Pacla 86.61 338 *e*P **P** **09 57 53.7 -0.4**
ALF01 Guarapari-ES 86.74 248 *e*P **P** **09 57 58.4 +2.8**
MAHO Mahon 86.77 321 P **P** **09 57 56.2 +1.1**
MAHO S **S** **10 08 38.5 +6.6**
CAM01 Campos-RJ 86.83 246 *e*P **P** **09 57 58.5 +2.5**
JBK JBK 86.87 314 P **P** **09 57 59.0 +3.0**
SOKA Soboth 86.92 332 *e*P **P** **09 57 56.6 +0.8**
comp=Z,22nm,1.2s
VYHS Vyhne 86.96 335 *e*P **P** **09 57 56.0 +0.1**
VYHS pmax pmax
comp=Z,55nm,1.4s
VYHS Vyhne 86.96 335 *e*P **P** **09 57 56.0 +0.1**
OBKA Obir 86.98 331 *e*P **P** **09 57 57.1 +1.0**
comp=Z,38nm,1.1s
TIA Tai'an 87.00 44 *e*P **P** **09 57 55.4 -0.9**
TIA S S 10 08 25.2 -9.1
TIA SS **SS** **10 14 16.5 -1.5**
TIA pmax pmax
comp=Z,86nm,1.4s
TIA pmax pmax
comp=Z,2μm,6.9s
TIA LR LR
comp=Z,1μm,16.1s
TIA LR LR
comp=Z,570nm,16.9s
TIA LR LR
comp=Z,1μm,18.6s
TAF Taforalt 87.09 314 P **P** **09 58 01.1 +4.2**
SOP Sopron 87.14 333 P **P** **09 57 56.0 -0.7**
SOP Sopron 87.14 333 P **P** **09 57 56.1 -0.6**
HHC Hu-ho-hao-te 87.15 38 *e*P **P** **09 57 57.5 +0.4**
HHC PP **PP** **10 01 23.3 +2.0**
HHC S **S** **10 08 38.0 +2.2**
HHC sS sS 10 08 48.3 +4.2
HHC SS **SS** **10 14 22.5 +2.1**
HHC pmax pmax
comp=Z,100nm,1.1s
HHC pmax pmax
comp=Z,2μm,6.0s
HHC LR LR
comp=Z,880nm,17.8s
HHC LR LR
comp=Z,1μm,17.1s
HHC LR LR
comp=Z,1μm,18.6s
RIB01 Linhares ES 87.16 249 *e*P **P** **09 58 00.2 +2.5**
ARSA Arzberg 87.19 332 *e*P **P** **09 57 57.9 +0.9**
comp=Z,30nm,1.1s,SNR=5.1
KOLL Kolacno 87.19 335 *e*P **P** **09 57 57.5 +0.6**
NIE Niedzica 87.23 336 *e*P **P** **09 57 56.3 -0.9**
DUB01 Friburgo-RJ 87.25 246 *e*P **P** **09 58 01.2 +3.0**
LANS Liptovska Anna 87.29 336 *e*P **P** **09 57 58.5 +1.0**
LANS pmax pmax
comp=Z,20nm,1.1s
LANS Liptovska Anna 87.29 336 *e*P **P** **09 57 58.5 +1.0**
CHAS Isla Isabel II 87.34 314 P **P** **09 57 56.3 -1.7**
CHAS S **S** **10 08 37.4 -0.3**
OUZM OUZ 87.35 309 P **P** **09 58 01.0 +2.6**
ZST Bratislava 87.36 334 *e*P **P** **09 57 57.8 +0.1**
ZST pmax pmax
comp=Z,190nm,1.0s
ZST Bratislava 87.36 334 *e*P **P** **09 57 57.8 +0.1**
MODS Modra-Piesok 87.44 334 *e*P **P** **09 57 57.7 -0.5**
MODS pmax pmax
comp=Z,83nm,1.2s
MODS Modra-Piesok 87.44 334 *e*P **P** **09 57 57.7 -0.5**
MYKA Terra Mystica 87.45 331 *e*P **P** **09 57 59.0 +0.6**
comp=Z,32nm,1.6s
ARU Arti 87.46 0 P **P** **09 57 57.8 -0.2**
comp=Z,17nm,0.6s,baz=182,slow=3.0,SNR=6.8
ARU S **SKSac** **10 08 18.8 -5.7**
comp=Z,1.9nm,0.2s,baz=232,slow=5.7,SNR=1.2
ARU Arti 87.46 0 *c i*P **P** **09 57 57.9 -0.1**
ARU 10 01 21.5
ARU S **SKSac** **10 08 24.7 +0.3**
ARU SS **SS** **10 14 21.4 -2.6**
ARU SSS SSS 10 17 59.0
ARU pmax pmax
comp=Z,191nm,1.3s
ARU MLR MLR
comp=Z,967nm,21.0s
ARU Arti 87.46 0 P **P** **09 57 57.2 -0.8**
ARU Arti 87.46 0 P **P** **09 57 58.3 +0.3**
CONA Conrad Observa 87.61 333 *e*P **P** **09 57 58.9 -0.2**
comp=Z,78nm,1.1s,SNR=21
JAVC Velka Javorina 87.69 335 *e*P **P** **09 57 59.9 +0.5**
CTI Castel Tesino 87.83 330 IAmb IAmb 09 58 03.4
comp=Z,86nm,1.3s
LCRM LCR 87.88 312 P **P** **09 58 05.0 +4.1**
SVE Sverdlovsk 87.88 1 *ce*P **P** **09 58 00.9 +0.9**
SVE *e*S **SKSac** **10 08 30.3 +3.3**
SVE pmax pmax
comp=Z,136nm,1.5s
SVE MLR MLR
comp=Z,1μm,19.0s
KBA Koelnbreinsper 87.93 331 *e*P **P** **09 58 02.8 +2.0**
comp=Z,57nm,1.3s,SNR=9.5
IFR Ifrane 87.94 312 P **P** **09 58 02.7 +1.6**
IFR S **S** **10 08 51.1 +7.2**
VAS01 Vassouras-RJ 87.98 245 *e*P **P** **09 58 03.4 +1.9**
SALO Salr 87.99 329 IAmb IAmb 09 58 04.1
comp=Z,75nm,0.9s
ABTA Abfaltersbach 88.01 330 *e*P **P** **09 58 01.6 +0.5**
comp=Z,75nm,1.1s,SNR=13

ZAA0 Zalesovo Array 88.04 15 IAmb IAmb 09 58 02.6
comp=Z,62nm,1.1s
ZALV Zalesovo Beam 88.04 15 P **P** **09 57 59.5 -1.4**
comp=Z,51nm,1.0s,baz=215,slow=4.4,SNR=66
ZALV S **S** **10 08 35.1 -8.4**
comp=Z,0.4nm,0.3s,baz=206,slow=44,SNR=1.6
OJC Ojcow 88.08 336 *e*P **P** **09 58 00.3 -0.9**
OJC Ojcow 88.08 336 IAmb IAmb 09 58 03.3
comp=Z,79nm,1.2s
CART Cartagena 88.10 317 P **P** **09 57 59.5 -2.1**
CART S **S** **10 08 53.4 +8.7**
CART Cartagena 88.10 317 IAMs_20 IAMs_20 10 36 07.9
comp=Z,2μm,20.0s
SJMB Sao Joao De Ma 88.12 249 *e*P **P** **09 58 05.2 +3.0**
OBN Obninsk 88.12 348 S SKSac 10 08 17.0 -11
comp=Z,4.2nm,0.3s,baz=94,slow=15,SNR=1.1
OBN Obninsk 88.12 348 *d i*P **P** **09 58 01.8 +0.6**
OBN *e* 10 01 31.3
OBN *e*S **SKSac** **10 08 32.1 +3.6**
OBN pmax pmax
comp=Z,194nm,1.3s
OBN Obninsk 88.12 348 P **P** **09 58 01.1 -0.1**
OBN Obninsk 88.12 348 P **P** **09 58 01.2 +0.1**
GUA01 Guaratinga, BA 88.13 252 *e*P **P** **09 58 04.9 +2.6**
MOA Molln 88.17 332 *e*P **P** **09 58 01.7 0.0**
comp=Z,43nm,1.0s,SNR=12
TTIG Tnine Tigouga, 88.25 308 P **P** **09 58 07.0 +4.3**
KRUC Moravsky 88.33 334 *e*P **P** **09 58 01.8 -0.6**
OKC Ostrava-Krasne 88.34 335 *e*P **P** **09 58 01.8 -0.6**
OKC *e* 10 08 36.8
OKC MLR MLR
comp=Z,1μm,34.8s
OKC Ostrava-Krasne 88.34 335 *e*P **P** **09 58 01.8 -0.6**
OKC *e*SKS **SKSac** **10 08 36.8 +6.7**
OKC AMS AMS 10 30 50.0
comp=Z,1μm,34.8s
NBRF Rio Formoso - 88.37 261 *e*P **P** **09 58 05.8 +2.3**
VRAC Vranov 88.46 334 ⇑P **P** **09 58 03.5 +0.4**
VRAC Vranov 88.46 334 *e*P **P** **09 58 03.4 +0.4**
MORC Moravsky Berou 88.50 335 ⇑P **P** **09 58 02.9 -0.3**
MORC Moravsky Berou 88.50 335 *e*P **P** **09 58 02.8 -0.4**
MORC Moravsky Berou 88.50 335 IAmb IAmb 09 58 05.5
comp=Z,66nm,1.3s
MOS Moscow 88.53 349 *e*P **P** **09 58 03.1 0.0**
MOS *e* 10 01 31.6
MOS *e*PPP PPP 10 03 25.5
MOS *e*S **SKSac** **10 08 28.8 -2.1**
MOS pmax pmax
comp=Z,171nm,1.5s
CMC01 Camacan, BA 88.54 253 *e*P **P** **09 58 07.1 +2.8**
NBIT Itapeh - BA 88.70 253 *e*P **P** **09 58 09.4 +4.4**
TER01 Tubaro-SC 88.75 237 *e*P **P** **09 58 07.8 +2.7**
WTTA Wattenberg 88.79 330 *e*P **P** **09 58 05.0 +0.1**
comp=Z,84nm,0.9s,SNR=18
NBAN Anadia - AL 88.83 259 *e*P **P** **09 58 08.4 +2.7**
TREC Trest 88.87 334 AMS AMS 10 33 40.0
comp=Z,1μm,21.4s
WATA Walderalm 88.87 330 *e*P **P** **09 58 04.4 -0.8**
comp=Z,67nm,1.0s,SNR=16
CKRC Cesky Krumlov 88.94 333 *e*P **P** **09 58 04.9 -0.4**
CKRC *e*SKS **SKSac** **10 08 27.8 -6.0**
SQTA Sankt Quirin 88.94 330 *e*P **P** **09 58 05.6 +0.2**
comp=Z,72nm,0.9s,SNR=20
FETA Feichten 88.99 330 *e*P **P** **09 58 06.1 +0.4**
comp=Z,95nm,1.0s,SNR=20
KRLC Kraliky 89.03 335 AMS AMS 10 32 10.0
comp=Z,900nm,24.9s
BJT Baijiatuau 89.05 41 IAMs_20 IAMs_20 10 35 32.0
comp=Z,2μm,20.0s
BJT Baijiatuau 89.05 41 P **P** **09 58 05.6 -0.4**
BJI Beijing 89.06 41 P **P** **09 58 05.8 -0.2**
BJI pP **pP** **09 58 09.8 -1.0**
BJI PP **PP** **10 01 35.5 -1.0**
BJI SKS **SKSac** **10 08 35.6 +0.7**
BJI S **S** **10 08 54.1 +0.3**
BJI sS **sS** **10 09 04.2 +2.4**
BJI SS **SS** **10 14 49.6 +1.6**
BJI pmax pmax
comp=Z,26nm,1.9s
BJI pmax pmax
comp=Z,1μm,5.5s
BJI LR LR
comp=Z,2μm,18.6s
BJI LR LR
comp=Z,1μm,17.6s
BJI LR LR
comp=Z,2μm,20.8s
PARB Paraibuna 89.08 243 *e*P **P** **09 58 08.8 +2.0**
MOTA Moosalm 89.08 330 *e*P **P** **09 58 06.1 0.0**
comp=Z,79nm,0.9s,SNR=19
BEL Belsk 89.13 338 *e*P P 09 58 11.3 +5.2
TUE Stuetta 89.17 329 IAmb IAmb 09 58 11.5
comp=Z,106nm,1.3s
GERES GERESS Array B 89.20 332 P **P** **09 58 05.6 -1.0**
comp=Z,7.9nm,0.8s,baz=143,slow=4.7,SNR=21
AVE Averroes 89.28 310 P **P** **09 58 05.5 -1.7**
AVE S **S** **10 09 01.0 +4.9**
RETA Reutte 89.34 330 *e*P **P** **09 58 07.4 +0.2**
comp=Z,54nm,0.9s,SNR=8.5
BKZ Black Stump Fm 89.38 137 IAMs_20 IAMs_20 10 29 55.4
comp=Z,2μm,20.0s
NBLA Lagarto - SE 89.41 258 *e*P **P** **09 58 10.5 +2.1**
DPC Dobruska-Polom 89.42 335 *e*P **P** **09 58 07.3 -0.2**
DPC *e* 10 08 39.0
DPC MLR MLR
comp=Z,1μm,25.7s
DPC Dobruska-Polom 89.42 335 *e*P **P** **09 58 07.3 -0.2**
DPC *e*SKS **SKSac** **10 08 39.0 +2.4**
DPC AMS AMS 10 32 40.0
comp=Z,1μm,25.7s
MNK Minsk 89.44 343 *i*P **P** **09 58 05.7 -1.7**
MNK *i*PPP PPP 10 03 40.0
MNK *i*S **SKSac** **10 08 35.3 -1.1**
MNK *i*SSS SSS 10 18 24.2
MNK pmax pmax
comp=N,28nm,1.0s
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK pmax pmax
comp=Z,95nm,1.0s
MNK MLR MLR
comp=E,76nm,20.0s
MNK MLR MLR
comp=Z,619nm,20.0s
MNK MLR MLR
comp=N,587nm,20.0s
MNK Minsk 89.44 343 *i*P **P** **09 58 05.8 -1.7**
comp=E,4.0nm,1.0s,baz=154
MNK *i*P **P** **09 58 05.8 -1.7**
comp=N,28nm,1.0s
MNK *i*P **P** **09 58 05.8 -1.7**
comp=Z,95nm,1.0s
MNK *i*PP **PP** **10 01 31.7 -7.6**
MNK *i*PPP PPP 10 03 40.0
MNK *i*SKS SKiKP 10 07 21.7 +43
MNK *i*S **SKSac** **10 08 35.4 -1.0**
MNK *i*SS SS 10 14 33.6 -19
MNK *i*SSS SSS 10 18 24.2
MNK *i*LQ LQ 10 31 18.0
MNK *i*LR LR 10 35 29.7
MNK *i*LRM MLR 10 41 15.3
comp=E,76nm,20.0s
MNK *i*LRM MLR 10 41 27.6
comp=Z,619nm,19.6s
MNK *i*LRM MLR 10 41 32.7
comp=N,587nm,19.6s
GDU01 Guandu, BA 89.45 254 *e*P **P** **09 58 12.0 +3.4**
KHC Kasperske Hory 89.47 333 ⇑*i*P **P** **09 58 07.0 -0.8**
KHC pmax pmax
comp=Z,51nm,1.1s
KHC Kasperske Hory 89.47 333 *e*P **P** **09 58 06.8 -1.0**
KHC *e*x x 09 58 37.5
KHC *e*SKS **SKSac** **10 08 29.2 -7.8**
KHC AMS AMS 10 34 50.0
comp=Z,1μm,20.5s
DAVA Damuels 89.56 329 *e*P **P** **09 58 08.6 +0.2**
comp=Z,68nm,1.1s,SNR=11
EMAL Malaga-Limoner 89.60 315 P **P** **09 58 08.7 +0.1**
EMAL S S 10 09 10.5 +12
CEU Ceuta 89.63 313 P **P** **09 58 09.2 +0.4**
CEU S **S** **10 09 03.1 +3.9**
UPC Upice 89.66 335 *e*P **P** **09 58 09.0 +0.4**
UPC *e* 10 08 34.5
UPC MLR MLR

comp=Z,2μm,33.6s
UPC Upice 89.66 335 *e*P **P 09 58 09.0 +0.4**
UPC *e*SKS **SKSac 10 08 34.5 -3.5**
UPC AMS AMS 10 32 10.0
comp=Z,2μm,33.6s
NBPV Pedro Velho 89.68 263 *e*P **P 09 58 11.8 +2.2**
BSCB Bom Sucesso 89.71 246 *e*P **P 09 58 11.2 +1.3**
CHVC Chvalec 89.71 335 *e*P **P 09 58 08.5 -0.4**
CHVC AMS AMS 10 32 50.0
comp=Z,2μm,30.0s
PBCC Pribram 89.76 333 *e*P **P 09 58 08.8 -0.3**
PRU Pruhonice 89.79 334 *e*P **P 09 58 09.4 +0.2**
PRU *e* 10 08 36.8
PRU MLR MLR
comp=Z,1μm,30.2s
PRU Pruhonice 89.79 334 *e*P **P 09 58 09.4 +0.2**
PRU *e*SKS **SKSac 10 08 36.8 -1.9**
PRU AMS AMS 10 34 00.0
comp=Z,1μm,30.2s
PET01 Itanhaem-SP 89.80 242 *e*P **P 09 58 12.7 +2.6**
KSP Ksiaz 89.84 335 *e*P **P 09 58 09.9 +0.5**
KIRV Kirov 89.92 355 P **P 09 58 09.1 -0.5**
comp=Z,19nm,0.6s,baz=195,slow=1.8
KIRV S **SKSac 10 08 35.8 -3.1**
comp=Z,4.7nm,0.5s,baz=94,slow=3.6,SNR=2.0
KIRV Kirov 89.92 355 *de*P **P 09 58 09.2 -0.3**
SONM Songino Array 89.92 30 P **P 09 58 09.5 -0.5**
comp=Z,27nm,0.9s,baz=214,slow=4.5,SNR=57
SONM S **S 10 08 54.5 -7.2**
comp=Z,0.3nm,0.3s,baz=336,slow=44,SNR=1.5
SONM Songino Array 89.92 30 P **P 09 58 08.9 -1.1**
SONM IAmb IAmb 09 58 12.1
comp=Z,48nm,1.1s
PLTB Pedras Altas 89.96 232 *e*P **P 09 58 12.0 +1.3**
PLTB Pedras Altas 89.96 232 IAmb IAmb 09 58 16.2
comp=Z,74nm,1.2s
NACGM Naroch 90.08 342 *i* P **P 09 58 11.2 +0.8**
PVCC Panska Ves 90.22 334 *e*P **P 09 58 12.1 +0.9**
PVCC Panska Ves 90.22 334 *e*P **P 09 58 12.1 +0.9**
ULN Ulaanbaatar 90.23 30 *de*P **P 09 58 10.3 -1.2**
ULN pmax pmax
comp=Z,63nm,1.0s
ULN Ulaanbaatar 90.23 30 P **P 09 58 11.7 +0.2**
ULN Ulaanbaatar 90.23 30 P **P 09 58 10.1 -1.5**
ULN IAmb IAmb 09 58 13.4
comp=Z,56nm,1.0s
ULN Ulaanbaatar 90.23 30 IAMs_20 IAMs_20 10 35 47.8
comp=Z,2μm,19.0s
ULN Ulaanbaatar 90.23 30 P **P 09 58 10.4 -1.2**
SUW Suwalki 90.28 340 *e*P **P 09 58 11.6 +0.2**
SUW Suwalki 90.28 340 *e*P **P 09 58 11.4 0.0**
VAO Valinhos 90.29 243 *e*P **P 09 58 14.2 +1.7**
DIAM Diamantina, MG 90.32 248 *e*P **P 09 58 14.0 +1.2**
IDID Didziasalis 90.46 343 *e*P **P 09 58 13.2 +1.1**
TIJ01 Guaruva-PR 90.50 240 *e*P **P 09 58 16.3 +2.8**
RCBR Riachuelo 90.50 263 P **P 09 58 15.2 +1.6**
RCBR pmax pmax
comp=Z,36nm,1.1s
RCBR Riachuelo 90.50 263 *e*P **P 09 58 15.9 +2.3**
RCBR Riachuelo 90.50 263 P **P 09 58 15.2 +1.6**
RCBR Riachuelo 90.50 263 IAMs_20 IAMs_20 10 30 33.3
comp=Z,2μm,20.0s
SFS San Fernando 90.51 313 P **P 09 58 10.6 -2.2**
SFS S S 10 09 17.0 +10
IIGN Ignalina 90.63 342 *e*P **P 09 58 14.0 +1.1**
ZAK Zakamensk 90.65 27 *e*P **P 09 58 12.4 -0.9**
ZAK pmax pmax
comp=Z,21nm,1.5s
CPSB Cacapava Do Su 90.67 233 *e*P **P 09 58 17.0 +2.9**
BRG Berggiesshubel 90.73 334 *i* P **P 09 58 14.4 +0.8**
BRG Amp 09 58 16.7
comp=Z,46nm,1.2s
BRG *ex* x 09 58 19.8
BRG Amp 09 58 20.7
comp=Z,54nm,1.6s
BRG *ex* x 09 58 24.7
BRG Amp 09 58 27.4
comp=Z,26nm,1.3s
BRG *ex* x 09 58 33.2
BRG Amp 09 58 35.2
comp=Z,112nm,1.6s
BRG Berggiesshubel 90.73 334 PS PS 10 10 23.0 +4.4
BRG Berggiesshubel 90.73 334 SS SS 10 15 20.0 +8.2
BRG Amp 10 31 01.0
comp=E,0.6nm,24.5s
BRG Amp 10 31 11.0
comp=Z,1.2nm,24.5s
BRG Amp 10 31 17.0
comp=N,0.9nm,27.4s
BRG Berggiesshubel 90.73 334 *i* P **P 09 58 14.3 +0.8**
BRG *e* 09 58 19.7
BRG pmax pmax
comp=Z,46nm,1.2s
BRG pmax pmax
comp=Z,54nm,1.6s
BRG pmax pmax
comp=Z,26nm,1.3s
BRG pmax pmax
comp=Z,112nm,1.6s
NKC Novy Kostel 90.80 333 *e*P **P 09 58 14.7 +0.8**
NKC MLR MLR
comp=Z,1μm,24.3s
NKC Novy Kostel 90.80 333 *e*P **P 09 58 14.7 +0.8**
NKC AMS AMS 10 36 10.0
comp=Z,1μm,24.3s
MOY Mondy 90.82 25 *e*P **P 09 58 11.6 -2.6**
MOY pmax pmax
comp=Z,68nm,2.1s
GRFO Grafenberg 90.86 332 P **P 09 58 14.7 +0.5**
GRFO pmax pmax
comp=Z,76nm,1.3s
GRFO Grafenberg 90.86 332 P **P 09 58 14.7 +0.5**
GRFO IAmb IAmb 09 58 21.3
comp=Z,76nm,1.3s
GRA1 Grafenberg Arr 90.86 332 IAmb IAmb 09 58 21.3
comp=Z,81nm,1.3s
GRF Grafenberg Arr 90.86 332 *e*P **P 09 58 14.7 +0.5**
comp=Z,73nm,1.4s,baz=134,slow=5.7
GRF *e*L L 10 45 23.2
comp=Z,610nm,18.8s
BFO Black Forest 91.03 329 P **P 09 58 15.1 0.0**
BFO pmax pmax
comp=Z,47nm,1.3s
BFO Black Forest 91.03 329 P **P 09 58 15.1 0.0**
BFO IAmb IAmb 09 58 17.9
comp=Z,47nm,1.3s
RCLB Rio Claro- Sao 91.05 243 *e*P **P 09 58 18.5 +2.5**
COYC Coyhaique 91.13 212 P **P 09 58 14.2 -1.6**
UCM Universidad Co 91.22 318 P **P 09 58 19.0 +2.8**
UCM S **S 10 09 22.6 +8.7**
ESBB Sonseca Array 91.22 317 P **P 09 58 16.6 +0.4**
ESDC Sonseca Array 91.22 317 P **P 09 58 17.2 +1.0**
comp=Z,26nm,1.0s,baz=127,slow=3.7,SNR=44
ESDC Sonseca Array 91.22 317 IAmb IAmb 09 58 20.0
comp=Z,41nm,1.1s
ARNO Arenosillo 91.23 314 P **P 09 58 20.1 +3.9**
ARNO S S 10 09 23.7 +10
PAB San Pablo 91.36 317 P **P 09 58 16.6 -0.3**
PAB pmax pmax
comp=Z,35nm,1.1s
PAB MLR MLR
comp=Z,1μm,19.0s
PAB San Pablo 91.36 317 P **P 09 58 16.6 -0.3**
PAB IAmb IAmb 09 58 20.6
comp=Z,35nm,1.1s
PAB San Pablo 91.36 317 IAMs_20 IAMs_20 10 40 00.2
comp=Z,1μm,19.0s
PABE Paberze 91.36 341 *e*P **P 09 58 16.2 -0.1**
CLL Collm 91.44 334 *i* P **P 09 58 17.2 +0.4**
CLL *e* 10 08 49.0
CLL *e*S **ScS 10 09 17.0 -1.0**
CLL pmax pmax
comp=Z,224nm,2.6s
CLL Collm 91.44 334 *i* P **P 09 58 17.2 +0.4**
comp=Z,224nm,2.6s
CLL *e*Plp 09 58 21.0
comp=Z,500nm,16.3s
CLL *e*PP **PP 10 02 00.0 +4.8**
CLL *e*PPP PPP 10 03 53.0
CLL *e*SKSac **SKSac 10 08 49.0 +0.9**
CLL *e*S **ScS 10 09 17.0 -1.0**
CLL *e*PS PS 10 10 22.0 -4.4
CLL *e*PPS PPS 10 11 02.0
CLL *ex* x 10 12 04.0

CLL *e*SS **SS 10 15 24.0 +2.0**
CLL *e*SSS SSS 10 19 04.0
CLL Collm 91.44 334 IAmb IAmb 09 58 24.2
comp=Z,79nm,2.0s
DL2 Dalian 91.46 44 P **P 09 58 15.4 -1.8**
DL2 PP **PP 10 01 54.8 -0.8**
DL2 SKS **SKSac 10 08 50.4 +1.6**
DL2 S **S 10 09 12.6 -3.3**
DL2 pmax pmax
comp=Z,51nm,1.3s
DL2 pmax pmax
comp=Z,690nm,6.2s
DL2 LR LR
comp=Z,650nm,16.9s
DL2 LR LR
comp=Z,1μm,15.2s
DL2 LR LR
comp=Z,890nm,18.2s
NBPN Ponto Novo - B 91.49 256 *e*P **P 09 58 19.3 +1.2**
GKP Gorka Klasztor 91.51 337 *e*P **P 09 58 17.6 +0.5**
XLT XiLinHaoTe 91.67 38 *e*P **P 09 58 16.0 -0.2**
XLT pP pP 09 58 23.1 0.0
XLT PP **PP 10 01 58.8 +1.5**
XLT SKS **SKSac 10 08 41.8 -8.2**
XLT S **S 10 09 14.5 -3.4**
XLT pmax pmax
comp=Z,67nm,2.1s
XLT pmax pmax
comp=Z,1μm,5.8s
XLT LR LR
comp=Z,1μm,17.7s
XLT LR LR
comp=Z,2μm,19.5s
XLT LR LR
comp=Z,2μm,17.1s
PVAQ Vaqueiros 92.04 313 *e*P P 09 58 25.6 +5.6
PVAQ Vaqueiros 92.04 313 *e*PP PP 10 02 01.3 +1.1
PVAQ *e*SKS **S 10 09 23.8 +2.6**
PVAQ Vaqueiros 92.04 313 *e*LR LR 10 29 44.4
comp=Z,1μm,20.0s
NBMA Muriti-CE 92.12 260 *e*P **P 09 58 23.4 +2.3**
KOUNC Koumac, New Ca 92.36 116 P **P 09 58 21.9 -0.1**
PCVE Castro Verde 92.38 313 *e*P **P 09 58 24.3 +2.7**
comp=Z,94nm,1.5s
IRK Irkutsk 92.50 26 *e*P **P 09 58 21.9 +0.1**
IRK pmax pmax
comp=Z,964nm,0.2s
PBEJ Beja 92.52 314 *e*P **P 09 58 25.9 +3.7**
comp=Z,64nm,1.6s
MORF Marmelete 92.56 313 *e*P **P 09 58 22.4 -0.1**
MORF IAMs_20 IAMs_20 10 30 35.5
comp=Z,3μm,46.7s
MORF Marmelete 92.56 313 *e*P **P 09 58 25.3 +2.8**
comp=Z,96nm,1.6s
MORF Marmelete 92.56 313 *e*P **P 09 58 22.4 -0.1**
BB19B Bebedouro 92.58 244 *e*P **P 09 58 24.5 +1.4**
JANB Januaria 92.60 251 *e*P **P 09 58 23.9 +0.6**
MESJ Messejana 92.62 313 *e*P **P 09 58 22.7 0.0**
MESJ Messejana 92.62 313 *e*P **P 09 58 22.7 0.0**
MESJ Messejana 92.62 313 *e*P **P 09 58 22.6 0.0**
EVO Evora 92.92 314 P **P 09 58 27.7 +3.7**
EVO S S 10 09 38.3 +9.2
EVO Evora 92.92 314 *e*P **P 09 58 26.7 +2.7**
comp=Z,55nm,1.6s
PNCL Nicolau / Gran 92.98 313 *e*P **P 09 58 28.0 +3.7**
comp=Z,66nm,1.9s
WLF Walferdange 92.98 329 IAmb IAmb 09 58 26.8
comp=Z,33nm,1.0s
WLF Walferdange 92.98 329 P **P 09 58 24.9 +0.9**
ONTNC Ouen Toro 93.01 118 P **P 09 58 25.3 +0.3**
PMRV Marv??o 93.10 315 *e*P **P 09 58 26.0 +1.1**
PMRV Marv??o 93.10 315 *e*PP PP 10 02 10.7 +2.1
PMRV *e*SKS **S 10 09 32.2 +1.5**
PMRV *e*SS **SS 10 15 56.9 +10**
PMRV Marv??o 93.10 315 *e*LR LR 10 29 52.8
comp=Z,1μm,20.0s
PTGB Pitanga 93.10 239 *e*P **P 09 58 28.2 +2.6**
DZM Mont Dzumac 93.14 118 P **P 09 58 24.8 -0.9**
comp=Z,15nm,1.0s,baz=173,slow=19,SNR=5.0
DZM Mont Dzumac 93.14 118 *e*P **P 09 58 25.1 -0.6**
comp=Z,77nm,1.4s
DZM Mont Dzumac 93.14 118 *e*PP PP 10 02 06.5 -2.1
comp=Z,267nm,24.6s
DZM Mont Dzumac 93.14 118 *e*PS PS 10 10 45.2 -0.9
comp=Z,1μm,28.9s
DZM *e*SS SS 10 15 48.7 +2.2
comp=Z,4μm,26.2s
DZM Mont Dzumac 93.14 118 *e*LR LR 10 28 22.9
comp=Z,3μm,25.4s,baz=243
KLMR Klimovskoe 93.16 351 *e*P **P 09 58 23.9 -0.6**
KLMR *e* 10 02 05.3
KLMR *e*S **SKSac 10 08 57.6 +0.3**
KLMR *e*SS **SS 10 15 44.8 -1.5**
KLMR pmax pmax
comp=Z,57nm,1.3s
KLMR Klimovskoe 93.16 351 *e*P **P 09 58 24.0 -0.6**
KLMR AMP 09 58 30.4
comp=Z,57nm,1.3s
KLMR *e*PP **PP 10 02 05.4 -3.1**
KLMR *e*S **SKSac 10 08 57.6 +0.3**
KLMR *e*S **SKSac 10 08 57.6 +0.3**
KLMR *e*SS **SS 10 15 44.8 -1.5**
KLMR *e*SS **SS 10 15 44.8 -1.5**
KLMR LQ LQ 10 32 22.4
KLMR LQ LQ 10 32 22.4
KLMR LR LR 10 37 39.0
PRGR Permogore 93.24 354 *e*P **P 09 58 23.2 -1.7**
PRGR *e* 10 02 06.4
PRGR pmax pmax
comp=Z,19nm,0.9s
VSU Vasula 93.29 344 ⇑ *i*P **P 09 58 25.3 +0.1**
VSU pmax pmax
comp=Z,97nm,1.0s
VSU MLR MLR
comp=Z,1μm,18.0s
VSU Vasula 93.29 344 *e*P **P 09 58 25.9 +0.7**
ITQB Itaqui 93.29 232 *e*P **P 09 58 28.8 +2.6**
ITQB Itaqui 93.29 232 P **P 09 58 25.1 -1.1**
ITQB IAmb IAmb 09 58 28.8
comp=Z,38nm,1.2s
NBCL Cascavel-CE 93.36 263 *e*P **P 09 58 29.0 +2.3**
PMTG Montargil 93.38 314 *e*P **P 09 58 28.8 +2.6**
comp=Z,71nm,1.8s
INCN Inchon 93.65 48 P **P 09 58 30.3 +2.8**
comp=Z,49nm,1.6s
LIS Lisbon 93.73 314 *e*P **P 09 58 27.6 -0.1**
LIS Lisbon 93.73 314 *e*P **P 09 58 27.6 -0.1**
GO07 Milladeo Hill, 93.74 213 IAmb IAmb 09 58 28.5
comp=Z,40nm,1.0s
MTE Manteigas 93.80 316 *e*P P 09 58 33.9 +5.8
MTE Manteigas 93.80 316 *e*PP **PP 10 02 21.0 +6.9**
MTE *e*SKS **S 10 09 45.5 +8.6**
MTE *e*SS **SS 10 15 58.6 +2.1**
MTE Manteigas 93.80 316 *e*LR LR 10 32 05.6
comp=Z,1μm,18.0s
MTE Manteigas 93.80 316 IAMs_20 IAMs_20 10 40 44.7
comp=Z,2μm,21.0s
MVO Moncorvo 93.97 317 *e*P P 09 58 33.9 +5.0
MVO Moncorvo 93.97 317 *e*PP **PP 10 02 16.2 +0.8**
MVO *e*SKS S 10 09 47.5 +9.1
MVO *e*SS SS 10 16 09.8 +11
MVO Moncorvo 93.97 317 *e*LR LR 10 31 24.0
comp=Z,2μm,20.0s
PLCA Paso Flores 94.02 216 P **P 09 58 27.8 -1.6**
comp=Z,7.1nm,1.0s,baz=124,slow=3.6,SNR=8.0
PLCA Paso Flores 94.02 216 P **P 09 58 27.9 -1.6**
PLCA pmax pmax
comp=Z,40nm,1.7s
PLCA Paso Flores 94.02 216 *e*P **P 09 58 30.5 +1.1**
PLCA Paso Flores 94.02 216 P **P 09 58 27.9 -1.6**
BMRD Maredsous 94.06 329 P **P 09 58 29.9 +0.9**
IPMB Ipameri, GO 94.08 246 *e*P **P 09 58 32.0 +2.0**
PVIS Viseu 94.20 316 *e*P **P 09 58 33.7 +3.7**
PBRG Braganca 94.20 317 *e*P **P 09 58 33.0 +3.1**
PCMB Pacaembu 94.34 242 *e*P **P 09 58 34.4 +3.2**
KSRS Korea Array 94.46 48 P **P 09 58 30.0 -1.1**
comp=Z,13nm,1.1s,baz=238,slow=4.8,SNR=21
KSRS Korea Array 94.46 48 P **P 09 58 30.0 -1.1**
SNY Shenyang 94.46 43 ⇑P **P 09 58 31.0 0.0**
SNY S **S 10 09 36.8 -5.6**
SNY pmax pmax
comp=Z,22nm,2.3s
SNY pmax pmax
comp=Z,740nm,6.6s

SNY LR LR
comp=Z,1μm,18.9s
SNY LR LR
comp=Z,570nm,18.3s
SNY LR LR
comp=Z,1μm,22.9s
SDBA SAO DESIDERIO 94.53 253 *e*P **P 09 58 34.6 +2.4**
POLO Lamas de Olo 94.55 316 *e*P **P 09 58 34.3 +2.7**
LL03 Petrohue 94.65 215 IAmb IAmb 09 58 33.5
comp=Z,74nm,1.1s
HNR Honiara 95.01 104 IAMs_20 IAMs_20 10 38 31.4
comp=Z,1μm,19.0s
PGAV Gavieira, Arco 95.20 317 *e*P P 09 58 41.0 +6.4
PGAV Gavieira, Arco 95.20 317 *e*PP PP 10 02 34.6 +10
PGAV *e*SKS S 10 09 59.9 +11
PGAV *e*SS SS 10 16 28.4 +12
PGAV Gavieira, Arco 95.20 317 *e*LR LR 10 32 12.9
comp=Z,850nm,22.0s
BDFB Brasilia 95.25 248 P **P 09 58 35.5 0.0**
comp=Z,11nm,1.1s,baz=93,slow=4.0,SNR=7.1
BDFB Brasilia 95.25 248 P **P 09 58 36.4 +0.9**
PMOZ Porto Moniz, M 95.63 305 *e*LR LR 10 31 32.6
comp=Z,2μm,20.0s
CPUP Villa Florida 95.88 234 P **P 09 58 37.8 -0.3**
comp=Z,1.9nm,0.6s,baz=127,slow=5.8,SNR=3.2
CPUP Villa Florida 95.88 234 *e*P **P 09 58 40.9 +2.8**
NBPS Pedro II - PI 95.95 261 *e*P **P 09 58 41.1 +2.4**
FINES FINESS Array B 96.10 345 P **P 09 58 36.9 -1.1**
comp=Z,6.2nm,1.0s,baz=140,slow=7.3,SNR=5.1
CN2 Changchun 96.76 42 *e*P **P 09 58 38.2 -3.3**
CN2 *e*PP **PP 10 02 38.2 +1.2**
CN2 SKS **SKSac 10 09 15.2 -2.2**
CN2 *e*SS **SS 10 16 38.7 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,350nm,8.0s
CN2 LR LR
comp=Z,890nm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,760nm,19.0s
HIA Hailar 97.15 35 IAmb IAmb 09 58 44.8
comp=Z,27nm,1.4s
HIA Hailar 97.15 35 IAMs_20 IAMs_20 10 42 18.1
comp=Z,1μm,20.0s
HIA Hailar 97.15 35 P **P 09 58 42.7 -0.5**
SANVU Saraoutou 97.55 113 IAMs_20 IAMs_20 10 41 58.2
comp=Z,1μm,19.0s
AQDB Aquidauana 98.33 240 P **P 09 58 49.1 -0.1**
SMTB Santa Maria do 98.67 254 *e*P Pdif 09 58 54.4 +3.4
INU Inuyama 99.36 54 IAMs_20 IAMs_20 10 41 50.2
comp=Z,1μm,20.0s
MDJ Mudanjiang 99.65 43 IAMs_20 IAMs_20 10 43 32.9
comp=Z,1μm,20.0s
PEL Peldehue 99.71 221 IAMs_20 IAMs_20 10 37 20.4
comp=Z,1μm,20.0s
NOA NORSAR Array B 99.71 339 P **Pdif 09 58 53.1 -1.2**
comp=Z,0.7nm,0.7s,baz=115,slow=4.6,SNR=2.7
BOD Bodaibo 100.39 27 *e*P **Pdif 09 58 57.0 -0.4**
BOD pmax pmax
comp=Z,10.0nm,1.6s
APA Apatity 100.40 351 ⇓ *i*P Pdif 09 58 39.8 -17
APA *i* 10 03 04.6
APA pmax pmax
comp=Z,9.0nm,1.3s
MAJO Matsushiro 100.81 54 ⇓ *e*P **Pdif 09 58 58.7 -1.1**
MAJO pmax pmax
comp=Z,36nm,1.7s
MAJO MLR MLR
comp=Z,1μm,19.0s
MAJO Matsushiro 100.81 54 IAMs_20 IAMs_20 10 42 34.2
comp=Z,1μm,20.0s
MJAR Matsushiro Arr 100.81 54 P **Pdif 09 58 58.5 -1.3**
comp=Z,8.8nm,1.0s,baz=228,slow=5.6,SNR=12
NRIK Noril'sk 102.69 10 P **Pdif 09 59 06.8 -0.6**
comp=Z,2.8nm,0.9s,baz=163,slow=4.0,SNR=4.5
KEV Kevo 103.36 349 IAMs_20 IAMs_20 10 45 56.6
comp=Z,1μm,21.0s
ARCES ARCESS Array B 103.41 349 Pdiff **Pdif 09 59 10.5 -0.1**
comp=Z,3.2nm,1.0s,baz=207,slow=0.3,SNR=5.5
KLR Kul'dur 103.44 40 Pdiff **Pdif 09 59 09.9 -1.2**
comp=Z,0.4nm,0.3s,baz=247,slow=8.8,SNR=3.6
ZEA Zeya 103.59 35 *e*P **Pdif 09 59 07.2 -4.5**
ZEA *e* 10 03 28.4
ZEA *e*S Sdif 10 10 41.7 -18
ZEA *e*PS PS 10 13 34.7 +56
ZEA *e*SS **SS 10 18 16.8 +3.6**
ZEA pmax pmax
comp=Z,200nm,5.8s
ZEA pmax pmax
comp=E,200nm,8.9s
ZEA pmax pmax
comp=N,100nm,5.3s
ZEA pmax pmax
comp=Z,400nm,8.9s
ZEA smax smax
comp=E,400nm,17.3s
ZEA MLR MLR
comp=E,500nm,13.0s
ZEA MLR MLR
comp=N,700nm,18.0s
ZEA MLR MLR
comp=Z,700nm,16.0s
SIV San Ignacio 105.10 240 PKKPbc PKKPbc 10 14 59.9 +0.2
comp=Z,2.2nm,0.7s,baz=251,slow=2.7,SNR=6.2
LVC Limon Verde 106.20 230 IAMs_20 IAMs_20 10 41 02.8
comp=Z,1μm,20.0s
ERM Erimo 106.82 51 IAMs_20 IAMs_20 10 45 45.1
comp=Z,1μm,20.0s
PB01 IPOC Station P 107.67 231 IAMs_20 IAMs_20 10 43 29.0
comp=Z,1μm,19.0s
PB08 IPOC Station P 108.08 232 IAMs_20 IAMs_20 10 45 05.9
comp=Z,968nm,20.0s
YAK Yakutsk 109.19 28 IAMs_20 IAMs_20 10 48 41.1
comp=Z,1μm,19.0s
LPAZ La Paz 110.02 235 PKiKP **PKiKP 10 03 42.8 -1.2**
comp=Z,1.9nm,1.2s,baz=82,slow=4.9,SNR=5.0
LPAZ PKKPbc **PKKPbc 10 14 45.8 +0.7**
comp=Z,0.6nm,0.6s,baz=310,slow=7.9,SNR=4.4
NKL Nikolayevsk 110.25 40 *i* PKIKP PKiKP 10 03 54.4 +12
NKL *e*PS PKKPbc 10 13 48.8 -56
NKL MLR MLR
comp=N,70nm,16.0s
NKL MLR MLR
comp=E,54nm,16.0s
NKL MLR MLR
comp=Z,1μm,17.0s
KBS Kingsbay 113.20 351 IAMs_20 IAMs_20 10 55 48.5
comp=Z,723nm,18.0s
TIXI Tiksi 113.68 19 Pdiff **Pdif 09 59 55.8 -0.4**
comp=Z,0.6nm,0.3s,baz=264,slow=2.0,SNR=5.7
TIXI PKiKP **PKiKP 10 03 47.4 -1.1**
comp=Z,0.8nm,0.3s,baz=198,slow=3.3,SNR=3.9
TIXI PKKPbc **PKKPbc 10 14 32.6 -1.0**
comp=Z,0.8nm,0.4s,baz=15,slow=2.5,SNR=4.3
TIXI Tiksi 113.68 19 *c* *i*PKIKP **PKiKP 10 03 48.6 +0.1**
TIXI MLR MLR
comp=Z,2μm,21.0s
TIXI Tiksi 113.68 19 **Pdif 09 59 55.9 -0.4**
DAG Danmarks Havn 117.35 345 *i* P **PKPdf 10 03 54.0 -1.4**
DAG IAMs_20 IAMs_20 10 49 15.0
comp=Z,1μm,32.8s
MA2 Magadan 117.74 35 ⇑ *i*PKIKP **PKPdf 10 03 55.5 -1.1**
MA2 pmax pmax
comp=Z,19nm,1.7s
MA2 Magadan 117.74 35 PKPdf **PKPdf 10 03 55.5 -1.1**
MA2 IAMs_20 IAMs_20 10 55 00.6
comp=Z,818nm,19.0s
NOR Nord 118.66 351 *i* P **PKPdf 10 03 56.8 -1.1**
SEY Seymchan 119.29 32 PKP **PKPdf 10 03 58.2 -1.3**
comp=Z,17nm,1.0s,baz=284,slow=1.1,SNR=27
SEY PKKPbc **PKKPbc 10 14 13.1 -0.5**
comp=Z,2.9nm,1.0s,baz=59,slow=4.9,SNR=7.4
TBI Tubuai 119.47 151 *e*PP PP 10 05 23.9 +2.2
comp=Z,188nm,28.2s
TBI *e*SP SP 10 15 08.5 -0.2
comp=Z,2μm,28.2s
TBI *e*SS **SKKSdf 10 21 50.9 -1.8**
comp=Z,1μm,29.2s
TBI Tubuai 119.47 151 *e*LR LR 10 40 38.5
comp=Z,2μm,38.0s,baz=200
PETK Petropavlovsk- 119.89 43 PKP **PKPdf 10 03 59.9 -1.1**
comp=Z,3.1nm,0.6s,baz=222,slow=2.0,SNR=18
PET Petropavlovsk 120.43 44 *i* PKIKP **PKPdf 10 04 01.3 -0.7**

PET				*e*			10 05 29.4	
PET				*e*PS	PKKPdf		10 15 15.0	+32
PET				*e*SS	SS		10 21 51.8	-5.4
PET	**Petropavlovsk**	**120.43**	**44**		**PKPdf**		**10 04 01.6**	**-0.3**
SUMG	**Summit**	**121.60**	**339**	PKIKP	**PKPdf**		**10 04 03.1**	**-1.1**
SUMG	**Summit**	**121.60**	**339**	*i* P	**PKPdf**		**10 04 02.0**	**-2.2**
SUMG	**Summit**	**121.60**	**339**	PKPdf	**PKPdf**		**10 04 03.1**	**-1.1**
ICESG	**Greenland Ices**	**121.70**	**335**	*i* P	**PKPdf**		**10 04 03.3**	**-1.1**
PAE	**Paea**	**124.42**	**147**	*e*T	T		12 20 57.3	
	comp=Z,4.5nm,0.2s							
PPT2	**Papeete2**	**124.48**	**147**	*e*PP	PP		10 05 54.2	-1.8
	comp=Z,237nm,25.8s							
PPT2				*e*SP	SP		10 15 47.0	-6.5
	comp=Z,782nm,26.8s							
PPT2				*e*SS	**SS**		**10 22 55.3**	**+7.7**
	comp=Z,3μm,30.0s							
PPT2	**Papeete2**	**124.48**	**147**	*e*LR	LR		10 43 02.4	
	comp=Z,4μm,37.5s,baz=208							
PPT2	**Papeete2**	**124.48**	**147**	*e*T	T		12 21 02.7	
	comp=Z,6.1nm,0.2s							
NEEM	**North Greenlan**	**124.56**	**345**	*i* P	**PKPdf**		**10 04 09.3**	**-0.4**
ALE	**Alert**	**124.80**	**352**	IAMs_20	IAMs_20		11 04 39.0	
	comp=Z,785nm,19.0s							
MEH	**Mehetia**	**124.91**	**149**	*e*T	T		12 21 34.7	
	comp=Z,17nm,0.2s							
BAUV	**El Baul**	**125.43**	**258**	PKPdf	**PKPdf**		**10 04 11.2**	**-1.6**
BILL	**Bilibino**	**125.44**	**26⇑**	*i*PKIKP	**PKiKP**		**10 04 11.6**	**+0.1**
BILL				*i*			10 06 01.8	
BILL				*e*PS	PS		10 16 05.4	+1.8
BILL				*i* SS	SS		10 23 04.3	+4.4
BILL				pmax	pmax			
	comp=Z,37nm,1.7s							
BILL				MLR	MLR			
	comp=Z,763nm,17.0s							
BILL	**Bilibino**	**125.44**	**26**	PKPdf	**PKPdf**		**10 04 10.4**	**-0.8**
BILL				IAMs_20	IAMs_20		10 59 15.0	
	comp=Z,922nm,18.0s							
SMRT	**St. Maarten**	**125.60**	**271**	IAMs_20	IAMs_20		10 52 40.6	
	comp=Z,1μm,19.0s							
NUUG	**Nuugaatsiaq**	**126.20**	**338**	*i* P	**PKPdf**		**10 04 10.5**	**-2.0**
VAH	**Vaihoa**	**127.43**	**148**	*e*T	T		12 24 43.1	
	comp=Z,28nm,0.2s							
ROSC	**El Rosal**	**128.28**	**249**	PKP	**PKPdf**		**10 04 17.9**	**-0.9**
	comp=Z,20nm,1.0s,baz=153,slow=11,SNR=6.5							
OTAV	**Otavalo**	**128.62**	**241**	PKIKP	**PKPdf**		**10 04 18.7**	**-0.9**
OTAV	**Otavalo**	**128.62**	**241**	*e*P	**PKiKP**		**10 04 21.4**	**+1.2**
OTAV	**Otavalo**	**128.62**	**241**	PKPdf	**PKPdf**		**10 04 18.6**	**-0.9**
TULEG	**Thule**	**128.64**	**346**	*i* P	**PKPdf**		**10 04 15.6**	**-1.5**
TULEG	**Thule**	**128.64**	**346**	PKPdf	**PKPdf**		**10 04 16.3**	**-0.7**
SDDR	**Presa de Saban**	**133.03**	**267**	IAMs_20	IAMs_20		11 09 28.3	
	comp=Z,1μm,20.0s							
SCHQ	**Schefferville**	**134.97**	**318**	PKP	**PKPdf**		**10 04 28.4**	**-1.2**
	comp=Z,12nm,1.0s,baz=113,slow=1.3,SNR=5.4							
A21K	**Barrow**	**135.78**	**15**	IAMs_20	IAMs_20		11 04 11.8	
	comp=Z,988nm,21.0s							
TNA	**Tin City**	**135.87**	**26**	PKPdf	**PKPdf**		**10 04 31.6**	**+0.7**
RDOG	**Red Dog Mine**	**136.25**	**21**	IAMs_20	IAMs_20		11 09 41.5	
	comp=Z,977nm,20.0s							
TAOE	**Nuku Hiva Isla**	**136.30**	**153**	*e*PP	PP		10 07 11.3	-1.4
	comp=Z,355nm,26.9s							
TAOE	**Nuku Hiva Isla**	**136.30**	**153**	*e*SS	SS		10 25 20.7	+8.1
	comp=Z,874nm,27.0s							
TAOE	**Nuku Hiva Isla**	**136.30**	**153**	*e*LR	LR		10 48 24.5	
	comp=Z,1μm,35.6s							
ANM	**Nome**	**137.29**	**26**	P	**PKPdf**		**10 04 29.8**	**-3.8**
	baz=300							
MTDJ	**Mount Denham**	**138.01**	**263**	IAMs_20	IAMs_20		11 01 00.5	
	comp=Z,1μm,19.0s							
A36M	**Sachs Harbour**	**139.29**	**2**	IAMs_20	IAMs_20		11 10 07.9	
	comp=Z,877nm,20.0s							
A36M	**Sachs Harbour**	**139.29**	**2**	P	PKPdf		10 04 29.1	-8.0
	baz=356							
JTS	**Las Juntas de**	**139.96**	**247⇑**	*e*PKIKP	**PKPdf**		**10 04 38.5**	**-1.6**
JTS				MLR	MLR			
	comp=Z,595nm,18.0s							
COLD	**Coldfoot**	**140.36**	**17**	P	**PKPdf**		**10 04 32.8**	**-6.4**
	baz=320							
H21K	**Melozitna Rive**	**140.84**	**20**	IAMs_20	IAMs_20		11 07 04.7	
	comp=Z,1μm,21.0s							
H21K	**Melozitna Rive**	**140.84**	**20**	P	**PKPdf**		**10 04 35.6**	**-4.6**
	baz=316							
I21K	**Tanana**	**141.42**	**20**	P	**PKPdf**		**10 04 37.8**	**-3.4**
	baz=317							
J20K	**Nowinta River**	**141.46**	**22**	P	**PKPdf**		**10 04 37.3**	**-4.0**
	baz=313							
C36M	**Paulatuk**	**141.96**	**1**	P	**PKPdf**		**10 04 36.5**	**-5.5**
	baz=357							
H24K	**Noodor Dome**	**142.03**	**17**	P	**PKPdf**		**10 04 38.3**	**-4.1**
	baz=322							
K20K	**Telida**	**142.04**	**23**	P	**PKPdf**		**10 04 39.5**	**-2.9**
	baz=312							
BINY	**Binghamton**	**142.16**	**300**	P	**PKPdf**		**10 04 39.3**	**-4.0**
	baz=89							
CHUM	**Lake Minchumin**	**142.25**	**22**	P	**PKPdf**		**10 04 39.7**	**-3.0**
	baz=315							
INK	**Inuvik**	**142.40**	**7**	PKhKP	PKPpre		10 04 38.1	
	comp=Z,16nm,0.9s,baz=2.6,slow=2.8,SNR=31							
INK	**Inuvik**	**142.40**	**7**	P	**PKPdf**		**10 04 38.6**	**-4.2**
	baz=344							
BPAW	**Bear Paw Mtn.**	**142.50**	**21**	P	**PKPdf**		**10 04 39.8**	**-3.4**
	baz=317							
L19K	**White Mountain**	**142.54**	**25**	P	**PKPdf**		**10 04 39.9**	**-3.4**
	baz=310							
MDM	**Murphy Dome**	**142.63**	**18**	IAMs_20	IAMs_20		11 10 46.1	
	comp=Z,798nm,20.0s							
CAST	**Castle Rocks**	**142.65**	**22**	IAMs_20	IAMs_20		10 58 19.9	
	comp=Z,944nm,21.0s							
CAST	**Castle Rocks**	**142.65**	**22**	P	**PKPdf**		**10 04 40.8**	**-2.7**
	baz=315							
L20K	**Farewell, AK**	**142.69**	**24**	P	**PKPdf**		**10 04 40.1**	**-3.5**
	baz=312							
TCOL	**CIGO, UAF Yank**	**142.80**	**18**	IAMs_20	IAMs_20		11 11 02.5	
	comp=Z,849nm,21.0s							
COLA	**College**	**142.80**	**18⇑**	*e*PKIKP	**PKPdf**		**10 04 41.5**	**-2.1**
COLA	**College**	**142.80**	**18**	IAMs_20	IAMs_20		11 11 02.5	
	comp=Z,831nm,21.0s							
PRP	**Porcupine Dome**	**142.87**	**16**	P	**PKPdf**		**10 04 40.5**	**-3.4**
	baz=325							
KTH	**Kantishna Hill**	**142.92**	**21**	IAMs_20	IAMs_20		11 09 07.9	
	comp=Z,1μm,20.0s							
PPLA	**Purkeypile**	**142.98**	**23**	P	**PKPdf**		**10 04 40.9**	**-3.3**
	baz=314							
CCB	**Clear Creek Bu**	**142.99**	**18**	IAMs_20	IAMs_20		11 14 58.6	
	comp=Z,832nm,18.0s							
ILAR	**Eielson Array**	**143.14**	**18**	PKhKP	PKPpre		10 04 39.4	
	comp=Z,7.5nm,1.0s,baz=323,slow=4.2,SNR=35							
ILAR				PP	**PP**		**10 07 50.0**	**-4.6**
	comp=Z,2.7nm,1.0s,baz=326,slow=3.9,SNR=4.7							
TRF	**Thorofare Moun**	**143.19**	**21**	P	PKPab		10 04 40.7	+0.5
	baz=317							
MCK	**McKinley**	**143.38**	**20**	P	PKPab		10 04 41.1	+0.3
	baz=319							
HDA	**Harding Lake**	**143.41**	**18**	P	PKPab		10 04 41.3	+0.4
	baz=323							
N19K	**Bonanza Creek**	**143.55**	**26**	P	PKPbc		10 04 43.5	+0.9
	baz=309							
R58B	**Mineral**	**143.55**	**293**		PKPpre		10 04 41.6	
SSPA	**Standing Stone**	**143.62**	**297**		PKPpre		10 04 42.3	
SSPA	**Standing Stone**	**143.62**	**297**	P	PKPab		10 04 42.6	+0.1
	baz=89							
EPYK	**Eagle Plains**	**143.83**	**10**	P	PKPab		10 04 42.6	+0.1
	baz=338							
CUT	**Chulitna**	**143.96**	**22**	P	PKPab		10 04 42.7	-0.3
	baz=316							
TGUH	**Tegucigalpa,Un**	**143.99**	**249**	IAMs_20	IAMs_20		11 04 08.6	
	comp=Z,737nm,20.0s							
P18K	**Big Mountain,**	**144.13**	**29**	PKPdf	**PKPab**		**10 04 43.6**	**-0.3**
P18K	**Big Mountain,**	**144.13**	**29**	P	**PKPab**		**10 04 43.9**	**+0.1**
	baz=307							
O56A	**Blue Knob Stat**	**144.14**	**297**	P	**PKPab**		**10 04 44.3**	**-0.2**
	baz=89							
J26L	**Joseph Creek**	**144.18**	**16**	P	PKPbc		10 04 44.4	0.0
	baz=327							
DHY	**Denali Highway**	**144.34**	**20**	P	PKPbc		10 04 45.0	0.0
	baz=321							
CHGN	**Chignik**	**144.37**	**35**	P	**PKPdf**		**10 04 46.1**	**-0.5**
	baz=299							
CHNA	**Chernabura Isl**	**144.45**	**38**	P	**PKPdf**		**10 04 46.6**	**-0.2**
	baz=296							
EGAK	**Eagle**	**144.48**	**14**	P	**PKPab**		**10 04 44.9**	**0.0**
	baz=331							
M22K	**Willow**	**144.48**	**23**	P	**PKPab**		**10 04 44.4**	**-0.6**
	baz=316							
RIDG	**Independent Ri**	**144.50**	**17**	P	**PKPab**		**10 04 45.1**	**-0.1**
	baz=325							
I29M	**Ogilvie Camp,**	**144.50**	**12**	P	**PKPab**		**10 04 45.0**	**-0.1**
	baz=335							
SCRK	**Sand Creek**	**144.52**	**17**	P	PKPbc		10 04 45.6	+0.1
	baz=326,SNR=95							
SOR	**Soroa**	**144.57**	**266**	PKIKP	**PKPab**		**10 04 45.8**	**-0.8**
SOR	**Soroa**	**144.57**	**266**	PKPdf	**PKPab**		**10 04 45.8**	**-0.8**
WAT6	**Susitna Watana**	**144.61**	**20**	P	**PKPab**		**10 04 44.9**	**-0.8**
	baz=320,SNR=54							
O20K	**Slope Mountain**	**144.73**	**26**	P	**PKPab**		**10 04 45.3**	**-0.8**
	baz=311							
CAPN	**Captain Cook N**	**144.81**	**25**	P	**PKPab**		**10 04 45.9**	**-0.3**
	baz=314,SNR=12							
PMR	**Palmer**	**144.92**	**22**	P	**PKPab**		**10 04 45.7**	**-0.9**
	baz=317,SNR=47							
NHSC	**New Hope**	**144.92**	**284**	P	**PKPab**		**10 04 46.7**	**-0.8**
	baz=99,SNR=35							
M54A	**Oil Creek Stat**	**144.94**	**299**	PKPdf	**PKPab**		**10 04 46.7**	**-0.8**
M54A	**Oil Creek Stat**	**144.94**	**299**	P	**PKPab**		**10 04 46.6**	**-0.8**
	baz=87,SNR=40							
DWPF	**Disney Wildern**	**144.94**	**275**	PKPdf	**PKPab**		**10 04 47.1**	**-0.7**
DWPF	**Disney Wildern**	**144.94**	**275**	IAMs_20	IAMs_20		11 07 13.9	
	comp=Z,883nm,19.0s							
DWPF	**Disney Wildern**	**144.94**	**275**	P	**PKPab**		**10 04 46.6**	**-1.2**
	baz=105							
PAX	**Paxson**	**144.96**	**19**	P	**PKPab**		**10 04 46.7**	**-0.1**
	baz=323,SNR=224							
SML	**Sawmill**	**145.02**	**22**	P	**PKPbc**		**10 04 46.7**	**-0.4**
	baz=318,SNR=37							
Q19K	**Cape Douglas,**	**145.06**	**29**	P	**PKPbc**		**10 04 46.0**	**-1.3**
	baz=308							
RC01	**Rabbit Creek A**	**145.08**	**23**	P	**PKPbc**		**10 04 46.6**	**-0.6**
	baz=316,SNR=76							
MCWV	**Mont Chateau**	**145.13**	**296**	P	**PKPbc**		**10 04 46.7**	**-1.3**
	baz=89,SNR=20							
ERPA	**Erie**	**145.14**	**300**	P	**PKPbc**		**10 04 46.7**	**-1.3**
	baz=86							
N54A	**Moraine State**	**145.21**	**298**	P	**PKPbc**		**10 04 47.3**	**-1.0**
	baz=88,SNR=13							
KNK	**Knik Glacier**	**145.27**	**22**	P	**PKPbc**		**10 04 47.2**	**-0.6**
	baz=318,SNR=7.8							
ALLY	**Alegheny Colle**	**145.29**	**299**		**PKPbc**		**10 04 47.7**	**-0.9**
SCM	**Sheep Creek Mo**	**145.31**	**21**	P	**PKPbc**		**10 04 47.8**	**-0.3**
	baz=320,SNR=16							
J29M	**Klondike Camp**	**145.34**	**12**	P	**PKPbc**		**10 04 48.1**	**+0.1**
	baz=335,SNR=90							
HOM	**Homer**	**145.38**	**26**	P	**PKPbc**		**10 04 47.6**	**-0.6**
	baz=312,SNR=9.6							
M24K	**Tolsona, Glenn**	**145.44**	**20**	P	**PKPdf**		**10 04 48.3**	**-0.2**
	baz=322,SNR=14							
DAWY	**Dawson**	**145.47**	**14**	P	**PKPdf**		**10 04 48.0**	**-0.4**
	baz=333,SNR=182							
L26K	**Log Cabin Wild**	**145.47**	**17**	P	**PKPdf**		**10 04 48.5**	**0.0**
	baz=326,SNR=43							
HARP	**HAARP**	**145.50**	**19**	P	**PKPab**		**10 04 48.9**	**+0.1**
	baz=323,SNR=30							
BLA	**Blacksburg**	**145.53**	**291**	IAMs_20	IAMs_20		11 06 11.5	
	comp=Z,858nm,20.0s							
BLA	**Blacksburg**	**145.53**	**291**	P	**PKPdf**		**10 04 48.8**	**-0.6**
	baz=93,SNR=43							
CNPM	**China Poot**	**145.63**	**26**		**PKPbc**		**10 04 49.1**	**0.0**
BRSE	**Bradley Lake S**	**145.67**	**26**	P	**PKPdf**		**10 04 48.5**	**-0.3**
	baz=313,SNR=6.5							
M53A	**WI Miller and**	**145.70**	**299**	P	**PKPdf**		**10 04 48.6**	**-0.8**
	baz=86,SNR=7.9							
PWL	**Port Wells**	**145.72**	**23**	P	**PKPdf**		**10 04 48.9**	**0.0**
	baz=318,SNR=21							
BCAR	**Beaver Creek A**	**145.82**	**16**	PKPdf	**PKPdf**		**10 04 49.2**	**+0.2**
SEW	**Seward**	**145.88**	**24**	P	**PKPdf**		**10 04 49.0**	**-0.1**
	baz=315,SNR=12							
CHIR	**Chirikof Islan**	**145.96**	**34**	P	**PKPbc**		**10 04 50.1**	**-0.1**
	baz=302							
KLU	**Klutina**	**146.00**	**21**	P	**PKPbc**		**10 04 50.1**	**-0.2**
	baz=322,SNR=17							
M26K	**Nabesna, AK**	**146.08**	**18**	P	**PKPbc**		**10 04 50.3**	**-0.1**
	baz=326							
GLI	**Glacier Island**	**146.11**	**22**	P	**PKPdf**		**10 04 49.8**	**+0.2**
	baz=319,SNR=7.2							
KMSC	**Kings Mountain**	**146.12**	**287**	P	**PKPdf**		**10 04 50.1**	**-0.3**
	baz=95,SNR=34							
O53A	**New Philadelph**	**146.17**	**297**	P	**PKPbc**		**10 04 50.9**	**-0.4**
	baz=88,SNR=51							
KDAK	**Kodiak Island**	**146.21**	**30**	PKPbc	**PKPdf**		**10 04 50.1**	**+0.4**
	comp=Z,42nm,0.8s,baz=332,slow=3.0,SNR=12							
KDAK	**Kodiak Island**	**146.21**	**30**	P	**PKPbc**		**10 04 50.8**	**0.0**
	baz=308							
SII	**Sitkinak Islan**	**146.23**	**32**	P	**PKPdf**		**10 04 50.2**	**+0.3**
	baz=305							
OHAK	**Old Harbor**	**146.25**	**31**	P	**PKPab**		**10 04 51.3**	**-0.3**
	baz=307							
N25K	**Chitina, Valde**	**146.30**	**20**	P	**PKPbc**		**10 04 51.0**	**-0.1**
	baz=324,SNR=67							
M27K	**Edge Creek, AK**	**146.40**	**17**	P	**PKPbc**		**10 04 51.1**	**-0.4**
	baz=328							
BVCY	**Beaver Creek**	**146.60**	**16**	P	**PKPbc**		**10 04 51.2**	**-0.7**
	baz=330,SNR=33							
EYAK	**Cordova Ski Ar**	**146.79**	**21**	P	**PKPdf**		**10 04 51.5**	**+0.9**
	baz=321,SNR=24							
BMRM	**Bremner River**	**146.81**	**20**	P	**PKPbc**		**10 04 52.9**	**+0.3**
	baz=323,SNR=33							
P52A	**Corning**	**146.90**	**296**	P	**PKPdf**		**10 04 51.7**	**+0.2**
	baz=88,SNR=47							
KHLU	**Kahalu`u**	**147.19**	**103**		**PKPbc**		**10 04 54.0**	**-0.9**
YUK3	**Moose Creek**	**147.25**	**16**	P	**PKPbc**		**10 04 53.4**	**-0.6**
	baz=330							
M30M	**Minto, Yukon**	**147.32**	**13**	P	**PKPbc**		**10 04 53.4**	**-0.6**
	baz=336							
TIGA	**Tifton**	**147.50**	**280**	P	**PKPdf**		**10 04 52.8**	**+0.1**
	baz=100,SNR=26							
ACSO	**Alum Creek Sta**	**147.52**	**297**	P	**PKPdf**		**10 04 52.0**	**-0.5**
	baz=86,SNR=22							
KAIM	**Kayak Island**	**147.69**	**21**	P	**PKPbc**		**10 04 55.8**	**+0.8**
	baz=322							
GOGA	**Godfrey**	**147.69**	**284**	P	**PKPdf**		**10 04 52.9**	**-0.1**
	baz=97,SNR=35							
CTG	**Chitna Glacier**	**147.72**	**18**	P	**PKPbc**		**10 04 56.2**	**+0.9**
	baz=328							
AAM	**Ann Arbor**	**147.83**	**301**	P	**PKPdf**		**10 04 53.2**	**+0.2**
	baz=83							
TZTN	**Tazewell**	**148.01**	**290**	P	**PKPdf**		**10 04 53.1**	**-0.4**
	baz=92							
YUK4	**Talbot Arm**	**148.05**	**15**	P	**PKPbc**		**10 04 56.0**	**-0.2**
	baz=332							
M31M	**Drury Creek, Y**	**148.10**	**11**	P	**PKPbc**		**10 04 55.2**	**-0.9**
	baz=340,SNR=40							
GLMI	**Grayling**	**148.10**	**306**	P	**PKPdf**		**10 04 55.0**	**+1.6**
	baz=78							
MESA	**MESA**	**148.22**	**19**	P	**PKPbc**		**10 04 57.0**	**+0.3**
	baz=326							
YUK6	**Outpost Mounta**	**148.47**	**15**	P	**PKPbc**		**10 04 57.4**	**+0.1**
	baz=332							
N31M	**Braeburn, Yuko**	**148.52**	**13**	P	**PKPbc**		**10 04 56.7**	**-0.5**
	baz=337,SNR=29							
YKA	**Yellowknife Ar**	**148.53**	**354**	PKPbc	**PKPbc**		**10 04 55.5**	**-1.6**
	comp=Z,56nm,0.6s,baz=359,slow=2.1,SNR=172							
PINM	**Pinnacle**	**148.75**	**18**	P	**PKPbc**		**10 04 56.7**	**-1.2**
	baz=329							
HYT	**Haines Junctio**	**148.77**	**15**	P	**PKPbc**		**10 04 58.4**	**+0.4**
	baz=334							
P49A	**Miami Univ. Ec**	**148.89**	**296**	P	**PKPdf**		**10 04 53.9**	**-0.9**
	baz=86,SNR=22							
O48B	**Farmland**	**149.18**	**297**	P	**PKPbc**		**10 04 58.3**	**-1.2**
	baz=85							
PNL	**Peninsula**	**149.34**	**18**	P	**PKiKP**		**10 05 00.1**	**-0.4**
	baz=330							
WHY	**Whitehorse**	**149.45**	**13**	P	**PKPbc**		**10 04 59.1**	**-0.5**
	baz=338							
WCI	**Wyandotte Cave**	**150.19**	**293**	PKIKP	**PKPdf**		**10 04 54.9**	**-2.0**
WCI							10 05 01.0	
WCI	**Wyandotte Cave**	**150.19**	**293**	PKPdf	**PKPdf**		**10 04 54.9**	**-2.0**
WCI				PKPbc	**pPKPdf**		**10 05 01.0**	**-0.8**
WCI	**Wyandotte Cave**	**150.19**	**293**	P	**PKPbc**		**10 05 01.2**	**-0.8**
	baz=87							
P33M	**Teslin, Yukon**	**150.24**	**11**	P	**PKiKP**		**10 05 02.2**	**-0.1**
	baz=341							
SKAG	**Skagway**	**150.47**	**14**	P	**PKPbc**		**10 05 02.1**	**+0.1**
	baz=336							
SFIN	**Lafayette**	**150.64**	**298**	P	**PKPbc**		**10 05 02.4**	**-0.6**
	baz=83							
L44A	**Lake County Fo**	**150.97**	**301**	P	**PKPbc**		**10 05 03.6**	**-0.1**
	baz=79							
WVT	**Waverly**	**151.46**	**289**	PKIKP	**PKPdf**		**10 04 57.0**	**-1.9**
WVT							10 05 03.5	
WVT	**Waverly**	**151.46**	**289**	PKPdf	**PKPdf**		**10 04 57.0**	**-1.9**
WVT					**pPKPdf**		**10 05 03.5**	**-0.3**
WVT	**Waverly**	**151.46**	**289**	P	**PKPbc**		**10 05 04.3**	**-0.8**
	baz=90							
EYMN	**Ely**	**151.65**	**314**	P	**PKPbc**		**10 05 05.2**	**+0.1**
	baz=65							
HDIL	**Hopedale**	**152.28**	**298**	P	**PKiKP**		**10 05 07.0**	**-0.1**
	baz=81							
UTMT	**University of**	**152.29**	**289**	PKPdf	**PKPdf**		**10 04 59.5**	**-0.7**
UTMT					**pPKPdf**		**10 05 05.7**	**+0.7**
UTMT					**PKPab**		**10 05 16.9**	**0.0**
JFWS	**Jewell Farm**	**152.50**	**304**	P	**PKPbc**		**10 05 06.9**	**-0.4**
	baz=76							
ULM	**Lac du Bonnet**	**153.01**	**322**	PKP	**PKPdf**		**10 05 00.1**	**-0.7**
	comp=Z,19nm,1.0s,baz=50,slow=1.4,SNR=12							
ULM				PKPbc	**sPKPdf**		**10 05 07.2**	**-0.1**
	comp=Z,110nm,1.0s,baz=39,slow=3.0,SNR=31							
ULM	**Lac du Bonnet**	**153.01**	**322**	PKPdf	**PKPdf**		**10 04 59.4**	**-1.4**
ULM					**sPKPdf**		**10 05 07.3**	**-0.1**
ULM				PKPab	**pPKPab**		**10 05 23.0**	**-1.3**
VBMS	**Vicksburg**	**153.45**	**280**	P	**PKPbc**		**10 05 09.6**	**0.0**
	baz=96							
SPMN	**Marine on St.**	**153.55**	**310**	P	**PKPbc**		**10 05 09.0**	**-0.4**
	baz=68							
CCM	**Cathedral Cave**	**154.10**	**293**	PKIKP	**PKPbc**		**10 05 09.7**	**-1.2**
CCM	**Cathedral Cave**	**154.10**	**293**	PKPdf	**PKPdf**		**10 05 02.3**	**-0.5**
CCM				PKPbc	**PKPbc**		**10 05 09.7**	**-1.2**
CCM	**Cathedral Cave**	**154.10**	**293**	P	**PKPbc**		**10 05 10.7**	**-0.1**
	baz=84							
W41B	**Gary Mavity, V**	**155.06**	**287**	P	PKPdf		10 05 13.3	+9.1
	baz=90							
MIAR	**Mount Ida**	**156.15**	**285**	PKIKP	**PKPdf**		**10 05 08.0**	**+2.3**
MIAR	**Mount Ida**	**156.15**	**285**	PKPdf	**PKPdf**		**10 05 08.0**	**+2.3**
UNM	**Universidad Na**	**156.36**	**245**	IAMs_20	IAMs_20		11 09 31.1	
	comp=Z,844nm,20.0s							
ECSD	**EROS Data Cent**	**156.64**	**309**	P	**PKPdf**		**10 05 06.2**	**+0.2**
	baz=66							
NATX	**Nacogdoches**	**156.90**	**278**	P	**PKPdf**		**10 05 07.0**	**+0.3**
	baz=96							
SUSD	**Miller**	**157.85**	**313**	P	**PKPdf**		**10 05 08.9**	**+1.3**
	baz=62							
TUL1	**Leonard**	**157.91**	**289**	P	**PKPdf**		**10 05 09.7**	**+1.8**
	baz=86							
KSU1	**Kansas State U**	**158.08**	**298**	P	**PKPdf**		**10 05 07.7**	**-0.3**
	baz=77							
DGMT	**Dagmar**	**158.32**	**327**	PKPdf	**PKPdf**		**10 05 07.1**	**-1.0**
DGMT				PKPab	**PKPab**		**10 05 42.7**	**+0.4**
DGMT	**Dagmar**	**158.32**	**327**	P	**PKPdf**		**10 05 08.1**	**+0.1**
	baz=44,SNR=6.7							
T35A	**Sooner Cattle**	**158.39**	**292**	PKPdf	**PKPdf**		**10 05 07.7**	**-0.8**
T35A					**PKPab**		**10 05 43.7**	**+0.6**
W35A	**Tecumseh**	**158.84**	**287**	PKPdf	**PKPdf**		**10 05 06.2**	**-2.9**
W35A				PKPab	**PKPab**		**10 05 44.4**	**-0.7**
WHTX	**Lake Whitney,**	**159.29**	**278**	P	**PKPdf**		**10 05 10.2**	**+0.6**
	baz=94							
R32A	**Long Quarter,**	**159.84**	**297**	PKPdf	**PKPdf**		**10 05 08.7**	**-1.4**
R32A				PKPab	**PKPab**		**10 05 49.1**	**-0.3**
833A	**Chaparral WMA,**	**160.34**	**267**	PKPdf	**PKPdf**		**10 05 10.3**	**-0.6**
833A				PKPab	**PKPab**		**10 05 50.4**	**-1.4**
833A	**Chaparral WMA,**	**160.34**	**267**	P	**PKPdf**		**10 05 11.8**	**+0.8**
	baz=104,SNR=10							
WMOK	**Wichita Mounta**	**160.43**	**286**	P	**PKPdf**		**10 05 10.5**	**-0.4**
	baz=86,SNR=9.5							
CBKS	**Cedar Bluff**	**160.52**	**298**	PKIKP	**PKPdf**		**10 05 10.1**	**-0.8**
CBKS							10 05 51.8	
CBKS	**Cedar Bluff**	**160.52**	**298**	PKPdf	**PKPdf**		**10 05 10.1**	**-0.8**
CBKS				PKPab	**PKPab**		**10 05 51.8**	**-0.5**
CBKS	**Cedar Bluff**	**160.52**	**298**	P	**PKPdf**		**10 05 10.5**	**-0.4**
	baz=74							
LAO	**LASA Array**	**160.56**	**326**	P	**PKPdf**		**10 05 10.4**	**-0.3**
	baz=44,SNR=29							
EGMT	**Eagleton**	**161.01**	**335**	P	**PKPdf**		**10 05 11.4**	**+0.2**
	baz=33						

comp=Z,1.0nm,0.8s,baz=58,slow=5.6,SNR=3.8
TPNV Topopah Spring 172.79 322 P **PKPdf 10 05 22.7 +2.2**
baz=41,SNR=9.5
NEE2 Needles Airpor 173.10 301 P **PKPdf 10 05 22.1 +1.7**
baz=62
MLAC Mammoth, Mammt 173.30 339 P **PKPdf 10 05 22.9 +2.1**
baz=22
FURC Furnace Creek, 173.48 322 P **PKPdf 10 05 22.6 +2.2**
baz=40,SNR=12
SHOC Shoshone, Teco 173.56 316 P **PKPdf 10 05 22.7 +2.1**
baz=47,SNR=13
TIN Tinemaha, Big 173.61 333 P **PKPdf 10 05 22.6 +1.9**
baz=28
TUQ Turquoise Moun 173.64 311 P **PKPdf 10 05 22.9 +2.1**
baz=52,SNR=5.5
IRM Iron Mountain 173.75 298 P **PKPdf 10 05 22.6 +1.8**
baz=65,SNR=16
GMRC Granite Mounta 173.83 305 P **PKPdf 10 05 23.0 +2.1**
baz=58,SNR=39
CWC Cottonwood Cre 174.08 330 P **PKPdf 10 05 23.1 +2.1**
baz=32
MPMC Manual Prospec 174.11 324 P **PKPdf 10 05 22.7 +1.7**
baz=38,SNR=28
BC3 Big Chuckawall 174.19 295 P **PKPdf 10 05 23.1 +2.1**
baz=68,SNR=12
HEC Hector,Ludlow 174.27 308 P **PKPdf 10 05 23.3 +2.3**
baz=54,SNR=26
GSC Goldstone, Bar 174.28 315 P **PKPdf 10 05 22.9 +2.0**
baz=48,SNR=21
BELC Belle Mtn. Jos 174.46 300 P **PKPdf 10 05 23.6 +2.5**
baz=63,SNR=18
LRMC Laurel Mtn Rad 174.66 321 P **PKPdf 10 05 23.1 +2.0**
baz=41,SNR=20
RRX Edison Barstow 174.68 312 P **PKPdf 10 05 23.3 +2.2**
baz=50
SWSC Sam W. Stewart 174.68 289 P **PKPdf 10 05 22.4 +1.4**
baz=74
ISA Isabella, Lake 174.91 328 PKIKP **PKPdf 10 05 21.7 +0.6**
ISA 10 06 55.5
ISA Isabella, Lake 174.91 328 PKPdf **PKPdf 10 05 21.7 +0.6**
ISA PKPab **PKPab 10 06 55.5 -0.2**
ISA Isabella, Lake 174.91 328 P **PKPdf 10 05 22.4 +1.3**
baz=34,SNR=16
TPFO Pinon Flats 174.97 298 P **PKPdf 10 05 23.7 +2.4**
baz=64,SNR=7.3
PFO Pinyon Flats O 174.97 298 P **PKPdf 10 05 23.4 +2.1**
baz=64,SNR=8.8
IKP In-Ko-Pah, Jac 175.01 286 P **PKPdf 10 05 23.3 +2.0**
baz=76,SNR=6.0
EDW2 Edwards Air Fo 175.27 319 P **PKPdf 10 05 23.3 +2.1**
baz=43,SNR=18
BFSC Mount Baldy Ra 175.50 310 P **PKPdf 10 05 22.7 +1.3**
baz=51,SNR=5.3
MURC Murrieta 175.53 301 P **PKPdf 10 05 23.0 +1.7**
baz=61,SNR=6.8
109C Camp Elliot, M 175.75 292 P **PKPdf 10 05 22.8 +1.5**
baz=69

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*IDC **12** 09:46:41.2±0.7,31°.45S×58°.21E, h0km, mb4.8/14, mb1 4.9/15, mb1mx4.5/57, mbtmp4.8/15, ML5.1/1 Error ellipse: s-maj=30.2km s-min=19.1km az=34.0*
*NEIC **12** 09:46:43.2±0.8,31°.40S±0°.10×58°.1E±0°.1, h10km±1km, mb5.2/31, Error ellipse: s-maj=20.8km s-min=15.3km az=248.0*
ISC 12 09:46:43.9±0.4,31°.29S±0°.08×58°.14E±0°.09, h17km, n64, σ1§15/59, mb5.1/26, 1C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.32**	**347**	Pn	**Pn**	**09 49 09.9**	**-1.4**
VOI	**Vohitsoka**	**13.79**	**310**	Pn	**Pn**	**09 49 60.0**	**+1.2**
ABPO	**Ambohimpanom**	**15.70**	**319**	Pn	**Pn**	**09 50 25.7**	**+1.1**
ABPO				IAmb	IAmb	09 50 27.6	
	comp=Z,116nm,1.1s						
OPO	**Ambohidratompo**	**16.08**	**319**	Pn	**P**	**09 50 32.5**	**-0.2**
	comp=Z,7.5nm,0.3s,baz=137,slow=18,SNR=0.8						
OPO				Sn	**Sn**	**09 53 21.6**	**-5.9**
	comp=Z,2.7nm,0.3s,baz=100,slow=15,SNR=1.5						
H08S1	**Diego Garcia H**	**27.07**	**33**	T	T	10 20 46.6	
	baz=205						
H08S2	**Diego Garcia H**	**27.08**	**33**	T	T	10 20 51.3	
	baz=205,slow=74						
H08S3	**Diego Garcia H**	**27.09**	**33**	T	T	10 20 44.4	
	baz=205,slow=74						
KIBK	**Kibwezi**	**34.48**	**323**	P	**P**	**09 53 32.1**	**+0.8**
KIBK				IAmb	IAmb	09 53 32.6	
	comp=Z,25nm,1.3s						
TSUM	**Tsumeb**	**38.40**	**278**	P	**P**	**09 54 05.8**	**+1.0**
	comp=Z,16nm,1.1s,baz=134,slow=11,SNR=1.8						
TSUM	**Tsumeb**	**38.40**	**278**	P	**P**	**09 54 03.9**	**-0.9**
TSUM				IAmb	IAmb	09 54 10.6	
	comp=Z,32nm,1.2s						
SYO	**Syowa Base**	**39.23**	**190**	↑*e*P	**P**	**09 54 10.8**	**-0.2**
H01W2	**Cape Leeuwin H**	**46.54**	**110**	T	T	10 44 59.6	
	baz=257						
H01W3	**Cape Leeuwin H**	**46.54**	**110**	T	T	10 44 59.1	
	baz=257						
H01W1	**Cape Leeuwin H**	**46.55**	**110**	T	T	10 45 00.1	
	baz=257						
GIRL	**Giralia**	**50.28**	**95**	P	**P**	**09 55 40.2**	**+0.6**
SNAA	**Sanae**	**51.56**	**201**	P	**P**	**09 55 48.1**	**-0.6**
SNAA				IAmb	IAmb	09 56 20.5	
	comp=Z,42nm,1.5s						
PSA00	**Pilbara Seismi**	**55.48**	**96**	P	**P**	**09 56 17.6**	**-0.5**
PSA00				IAmb	IAmb	09 56 41.7	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**55.48**	**96**	P	**P**	**09 56 16.9**	**-1.2**
PSA00				IAmb	IAmb	09 56 17.9	
	comp=Z,3.6nm,0.7s						
RAYN	**Ar Rayn**	**55.83**	**346**	P	**P**	**09 56 21.2**	**+0.7**
RAYN				IAmb	IAmb	09 56 25.0	
	comp=Z,24nm,1.2s						
QSPA	**South Pole Qui**	**58.88**	**180**	P	**P**	**09 56 41.5**	**-0.1**
FORT	**Forrest**	**58.93**	**109**	P	**P**	**09 56 42.4**	**0.0**
VNDA	**Vanda**	**62.59**	**166**	P	**P**	**09 57 05.8**	**-0.8**
	comp=Z,9.5nm,0.9s,baz=333,slow=6.8,SNR=2.0						
VNDA	**Vanda**	**62.59**	**166**	P	**P**	**09 57 05.3**	**-1.3**
VNDA				IAmb	IAmb	09 57 07.1	
	comp=Z,38nm,1.3s						
CMAR	**Chiang Mai Arr**	**63.10**	**44**	P	**P**	**09 57 11.8**	**+1.1**
	comp=Z,11nm,0.8s,baz=226,slow=6.8,SNR=2.3						
CMAR	**Chiang Mai Arr**	**63.10**	**44**	P	**P**	**09 57 11.2**	**+0.5**
BBOO	**Buckleboo**	**64.56**	**114**	P	**P**	**09 57 19.7**	**-0.7**
BBOO				IAmb	IAmb	09 57 25.8	
	comp=Z,25nm,1.2s						
KNRA	**Kununurra**	**65.65**	**94**	P	**P**	**09 57 27.1**	**-0.5**
KNRA				IAmb	IAmb	09 57 27.5	
	comp=Z,17nm,0.7s						
ASAR	**Alice Springs**	**66.47**	**104**	P	**P**	**09 57 32.0**	**-0.8**
	comp=Z,13nm,0.7s,baz=242,slow=6.1,SNR=7.6						
ASAR	**Alice Springs**	**66.47**	**104**	P	**P**	**09 57 32.4**	**-0.5**
AS31	**Alice Springs**	**66.47**	**104**	P	**P**	**09 57 32.2**	**-0.7**
WRA	**Warramunga Arr**	**68.45**	**101**	P	**P**	**09 57 44.9**	**-0.5**
	comp=Z,16nm,0.6s,baz=240,slow=5.6,SNR=13						
WRA	**Warramunga Arr**	**68.45**	**101**	P	**P**	**09 57 45.0**	**-0.4**
WB2	**Warramunga Arr**	**68.46**	**101**	P	**P**	**09 57 45.0**	**-0.5**
WB0	**Warramunga Arr**	**68.57**	**101**	P	**P**	**09 57 45.7**	**-0.5**
MTN	**Manton Dam**	**69.00**	**93**	P	**P**	**09 57 48.7**	**-0.1**
MTN				IAmb	IAmb	09 57 58.6	
	comp=Z,30nm,1.4s						
STKA	**Stephens Creek**	**69.23**	**115**	P	**P**	**09 57 49.8**	**-0.2**
	comp=Z,5.6nm,0.6s,baz=283,slow=3.9,SNR=1.7						
STKA	**Stephens Creek**	**69.23**	**115**	P	**P**	**09 57 49.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**69.87**	**300**	P	**P**	**09 57 54.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=155,slow=4.9,SNR=1.6						
SMAI	**San Martin Ant**	**72.89**	**199**	P	**P**	**09 58 11.6**	**0.0**
SMAI				IAmb	IAmb	09 58 13.4	
	comp=Z,67nm,1.7s						
BR131	**Keskin Array S**	**74.23**	**341**	P	**P**	**09 58 20.6**	**+0.7**
BR131				IAmb	IAmb	09 58 24.1	
	comp=Z,18nm,0.9s						
BRTR	**Keskin Array B**	**74.23**	**341**	P	**P**	**09 58 22.6**	**+2.7**
	comp=Z,8.2nm,1.0s,baz=168,slow=8.4,SNR=2.4						
BRTR	**Keskin Array B**	**74.23**	**341**	P	**P**	**09 58 21.1**	**+1.2**
EIDS	**Eidsvold**	**79.60**	**113**	P	**P**	**09 58 50.0**	**-0.5**
EIDS				IAmb	IAmb	09 58 51.5	
	comp=Z,22nm,1.4s						
ABKAR	**Akbulak array**	**80.20**	**1**	P	**P**	**09 58 53.8**	**+0.8**
ABKAR	**Akbulak array**	**80.20**	**1**	P	**P**	**09 58 54.1**	**+1.1**
ABKAR				IAmb	IAmb	09 58 57.6	
	comp=Z,37nm,1.2s						
MAKZ	**Makanchi**	**80.66**	**16**	P	**P**	**09 58 55.1**	**-0.5**
MK31	**Makanchi Array**	**80.73**	**17**	P	**P**	**09 58 56.3**	**+0.3**
MKAR	**Makanchi Array**	**80.73**	**17**	P	**P**	**09 58 56.3**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=193,slow=9.0,SNR=2.1						
MKAR	**Makanchi Array**	**80.73**	**17**	P	**P**	**09 58 56.5**	**+0.6**
AKTO	**Aktyubinsk**	**81.37**	**360**	P	**P**	**09 58 59.7**	**+0.5**
	comp=Z,12nm,1.1s,baz=187,slow=10,SNR=1.3						
FOZ	**Fox Glacier**	**82.83**	**137**	P	**P**	**09 59 07.1**	**-0.3**
KURBB	**Kurchatov Arra**	**83.53**	**13**	P	**P**	**09 59 11.7**	**+1.2**
	comp=Z,12nm,1.1s,baz=216,slow=6.2,SNR=1.5						
KURK	**Kurchatov**	**83.64**	**13**	P	**P**	**09 59 11.5**	**+0.4**
BVAR	**Borovoye Array**	**84.64**	**7**	P	**P**	**09 59 17.8**	**+1.6**
	comp=Z,16nm,0.9s,baz=172,slow=4.5,SNR=3.0						
BRVK	**Borovoye**	**84.66**	**7**	P	**P**	**09 59 17.3**	**+1.1**
BRVK				IAmb	IAmb	09 59 21.1	
	comp=Z,19nm,1.0s						
AKASG	**Malin Array Be**	**85.55**	**342**	P	**P**	**09 59 20.3**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=161,slow=4.8,SNR=2.6						
AKASG	**Malin Array Be**	**85.55**	**342**	P	**P**	**09 59 21.8**	**+1.1**
AKBB	**Malin Array Si**	**85.55**	**342**	P	**P**	**09 59 20.8**	**+0.1**
AKBB				IAmb	IAmb	09 59 24.4	
	comp=Z,20nm,1.4s						
ARU	**Arti**	**87.37**	**0**	P	**P**	**09 59 30.0**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=235,slow=6.7,SNR=1.6						
ARU	**Arti**	**87.37**	**0**	P	**P**	**09 59 30.9**	**+1.4**
ARU				IAmb	IAmb	09 59 31.2	
	comp=Z,24nm,1.0s						
YKA	**Yellowknife Ar**	**148.44**	**354**	PKPbc	**PKPbc**	**10 06 28.5**	**-0.3**
	comp=Z,15nm,0.7s,baz=358,slow=2.6,SNR=6.5						
YKA	**Yellowknife Ar**	**148.44**	**354**		**PKPbc**	**10 06 28.9**	**+0.2**
ULM	**Lac du Bonnet**	**152.91**	**322**	PKPbc	**PKPbc**	**10 06 39.3**	**-0.5**
	comp=Z,10nm,0.7s,baz=135,slow=5.7,SNR=2.0						
TXAR	**Lajitas Array**	**164.16**	**268**	PKPab	**PKPab**	**10 07 41.3**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=110,slow=5.8,SNR=1.7						

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*NEIC **12** 09:54:36.9±1.2, 18°.68N±0°.06×145°.9E±0°.3, h191km±12km, mb4.3/11, Error ellipse: s-maj=37.7km s-min=7.8km az=96.0*
*IDC **12** 09:54:37.2±3.1, 18°.84N×145°.34E, h209km±27km, mb3.3/6, mb1 3.5/7, mb1mx3.0/59, mbtmp3.8/7, Error ellipse: s-maj=46.8km s-min=20.3km az=83.0*
ISC 12 09:54:36.8±0.8, 18°.81N±0°.08×145°.5E±0°.2, h200km, n20, σ1§18/22, mb4.0/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.22**	**187**	P	**Pn**	**09 55 56.4**	**+2.3**
	3.4nm,0.3s,baz=345,slow=18,SNR=1.1						
GUMO				S	**Sn**	**09 56 55.7**	**+0.6**
	5.5nm,0.3s,baz=345,slow=14,SNR=1.9						
GUMO	**Guam**	**5.22**	**187**		**Pn**	**09 55 52.9**	**-1.3**
GUMO				Sn	**Sn**	**09 56 53.7**	**-1.5**
JGF	**Kuroka**	**18.21**	**338**	P	**P**	**09 58 37.5**	**+2.6**
JGF				IAmb	IAmb	09 58 45.2	
	comp=Z,17nm,1.3s						
FAKI	**Fak Fak**	**25.22**	**212**	P	**P**	**09 59 45.3**	**+0.9**
FAKI				IAmb	IAmb	09 59 54.4	
	comp=Z,18nm,1.2s						
MTN	**Manton Dam**	**34.49**	**205**	P	**P**	**10 01 07.0**	**+1.0**
MTN				IAmb	IAmb	10 01 09.9	
	comp=Z,6.2nm,0.9s						
KNRA	**Kununurra**	**38.02**	**207**	P	**P**	**10 01 36.5**	**+0.6**
KNRA				IAmb	IAmb	10 01 38.1	
	comp=Z,25nm,1.5s						
WB0	**Warramunga Arr**	**39.85**	**196**	P	**P**	**10 01 51.0**	**0.0**
WB0				IAmb	IAmb	10 01 55.4	
	comp=Z,6.0nm,1.2s						
WR0	**Warramunga Arr**	**39.99**	**196**	P	**P**	**10 01 51.7**	**-0.5**
WR0				IAmb	IAmb	10 02 03.0	
	comp=Z,9.9nm,1.4s						
WB2	**Warramunga Arr**	**40.03**	**196**	P	**P**	**10 01 52.9**	**+0.4**
WB2				IAmb	IAmb	10 02 06.6	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**40.03**	**196**	P	**P**	**10 01 52.1**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=21,slow=9.3,SNR=10						
WRA	**Warramunga Arr**	**40.03**	**196**	P	**P**	**10 01 52.8**	**+0.3**
AS31	**Alice Springs**	**43.70**	**195**	P	**P**	**10 02 21.8**	**-0.4**
ASAR	**Alice Springs**	**43.70**	**195**	P	**P**	**10 02 21.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=14,slow=7.4,SNR=7.7						
ASAR	**Alice Springs**	**43.70**	**195**	P	**P**	**10 02 21.9**	**-0.4**
UNV	**Unalaska Valle**	**50.68**	**35**	P	**P**	**10 03 15.6**	**-0.1**
SDPT	**Sand Point**	**54.49**	**35**	P	**P**	**10 03 43.7**	**+0.1**
MKAR	**Makanchi Array**	**58.25**	**314**	P	**P**	**10 04 09.2**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=90,slow=8.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**61.11**	**318**	P	**P**	**10 04 28.1**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=95,slow=7.5,SNR=2.6						
BVAR	**Borovoye Array**	**66.27**	**320**	P	**P**	**10 05 01.8**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=91,slow=8.6,SNR=2.3						
NVAR	**Mina Array Bea**	**83.23**	**52**	P	**P**	**10 06 41.2**	**-0.1**
	comp=Z,3.3nm,1.0s,baz=270,slow=4.5,SNR=2.2						

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*IDC **12** 09:54:43.5±6.6, 25°.69N×124°.92E, h106km±72km, mb3.5/5, mb1 3.6/6, mb1mx3.2/56, mbtmp3.8/6, ML2.9/1, Error ellipse: s-maj=61.7km s-min=19.3km az=63.0*
*NEIC **12** 09:54:43.4±1.7, 25°.6N±0°.1×124°.91E±0°.09, h99km±8km, mb4.4/9, Error ellipse: s-maj=17.0km s-min=10.1km az=152.0*
*JMA **12** 09:54:44.7±0.2, 25°.63N×124°.78E, h104km, M3.4*
ISC 12 09:54:44.0±0.8, 25°.65N±0°.08×124°.83E±0°.06, h111km±9km, n34, σ1§22/48, mb4.0/8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.82**	**153**	P	**Pn**	**09 55 03.9**	**+0.5**
JIKM				*e*S	**Sn**	**09 55 18.3**	**+0.3**
JIRB	**Irabujima**	**0.88**	**159**	P	**Pn**	**09 55 04.0**	**0.0**
JIRB				S	**Sn**	**09 55 18.3**	**-0.7**
JMJ2	**Miyako jima3**	**1.01**	**154**	P	**Pn**	**09 55 05.8**	**+0.5**
JMJ2				*e*S	**Sn**	**09 55 21.3**	**-0.1**
JTJ	**Tarama**	**1.01**	**187**	P	**Pn**	**09 55 05.5**	**+0.1**
JTJ				S	**Sn**	**09 55 20.6**	**-0.9**
JOGS	**Gusukube**	**1.03**	**150**	P	**Pn**	**09 55 06.1**	**+0.6**
JOGS				*e*S	**Sn**	**09 55 21.8**	**0.0**
JISG	**Ishigakijimahi**	**1.16**	**204**	P	**Pn**	**09 55 07.0**	**+0.1**
JISG				S	**Sn**	**09 55 23.4**	**-0.9**
JIJ	**Ishigaki jima**	**1.43**	**206**	P	**Pn**	**09 55 09.7**	**-0.3**
JIJ				S	**Sn**	**09 55 27.4**	**-2.3**
JKRS	**Kuro-shima**	**1.59**	**208**	P	**Pn**	**09 55 11.8**	**-0.2**
JKRS				S	**Sn**	**09 55 31.8**	**-1.4**
IRIF	**Iriomote-Funau**	**1.65**	**218**	P	**Pn**	**09 55 12.5**	**-0.1**
IRIF				S	**Sn**	**09 55 33.8**	**-0.6**
HATJ	**Hateruma jima**	**1.84**	**211**	P	**Pn**	**09 55 15.0**	**0.0**
HATJ				S	**Sn**	**09 55 37.7**	**-1.0**
JKE	**Kume jima 2**	**1.88**	**69**	P	**Pn**	**09 55 16.5**	**+1.0**
JKE				*e*S	**Sn**	**09 55 41.0**	**+1.5**
JAGN	**Aguni-jima**	**2.36**	**66**	*e*S	**Sn**	**09 55 50.9**	**+0.5**
JJT3	**Tamagusuku3**	**2.70**	**79**	P	**Pn**	**09 55 26.8**	**+0.7**
JJT3				*e*S	**Sn**	**09 55 58.6**	**+0.2**
NACB	**Ninganchiao**	**3.29**	**244**	Pn	**Pn**	**09 55 33.8**	**0.0**
JOW	**Kunigami**	**3.31**	**68**	P	**Pn**	**09 55 33.4**	**-0.7**
	2.4nm,0.3s,baz=139,slow=4.7,SNR=2.0						
JOW				S	**Sn**	**09 56 10.2**	**-2.6**
	5.8nm,0.3s,baz=110,slow=25,SNR=1.9						
JOW	**Kunigami**	**3.31**	**68**	Pn	**Pn**	**09 55 33.6**	**-0.5**
JOW				Sn	**Sn**	**09 56 08.0**	**-4.7**
SSLB	**Suanglung**	**3.99**	**243**	Pn	**Pn**	**09 55 43.6**	**+0.4**
TPUB	**Ta-pu**	**4.49**	**239**	Pn	**Pn**	**09 55 50.3**	**+0.4**
JMZ	**Minamidaito 2**	**5.76**	**87**	Pn	**Pn**	**09 56 05.0**	**-2.1**
JYT	**Yasato**	**16.85**	**48**	P	**Pn**	**09 58 32.7**	**-0.4**
JYT				IAmb	IAmb	09 58 37.7	
	comp=Z,38nm,1.3s						
JMM	**Marumori**	**18.20**	**44**	P	**P**	**09 58 48.6**	**+0.4**
JMM				IAmb	IAmb	09 59 17.4	
	comp=Z,22nm,1.1s						
TOLI2	**Tolitoli**	**24.71**	**190**	P	**P**	**09 59 57.6**	**+2.6**
TOLI2				IAmb	IAmb	10 00 06.3	
	comp=Z,22nm,1.1s						
LUWI	**Luwuk**	**26.61**	**185**	P	**P**	**10 00 13.3**	**+1.1**
MTN	**Manton Dam**	**38.75**	**170**	P	**P**	**10 01 56.2**	**-1.4**
MK31	**Makanchi Array**	**39.67**	**313**	P	**P**	**10 02 05.0**	**-0.1**
MKAR	**Makanchi Array**	**39.67**	**313**	P	**P**	**10 02 05.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=100,slow=9.9,SNR=12						
ZALV	**Zalesovo Beam**	**40.90**	**325**	P	**P**	**10 02 14.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=117,slow=8.9,SNR=1.8						
WB0	**Warramunga Arr**	**46.09**	**167**	P	**P**	**10 02 56.0**	**-1.1**
WB0				IAmb	IAmb	10 03 09.5	
	comp=Z,8.6nm,1.5s						
WRA	**Warramunga Arr**	**46.25**	**168**	P	**P**	**10 02 57.3**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=347,slow=8.4,SNR=3.4						
WRA	**Warramunga Arr**	**46.25**	**168**	P	**P**	**10 02 57.6**	**-0.8**
ASAR	**Alice Springs**	**49.81**	**169**	P	**P**	**10 03 26.4**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=355,slow=14,SNR=7.2						
ABKAR	**Akbulak array**	**54.82**	**313**	P	**P**	**10 04 03.1**	**+0.6**
ABKAR	**Akbulak array**	**54.82**	**313**	P	**P**	**10 04 02.9**	**+0.4**
ABKAR				IAmb	IAmb	10 04 10.0	
	comp=Z,7.4nm,1.4s						
FINES	**FINESS Array B**	**71.85**	**330**	P	**P**	**10 05 55.0**	**+0.5**
	comp=Z,4.1nm,1.1s,baz=60,slow=3.4,SNR=1.7						

IDC 12 09:59:06.0±2.7, 53°.74N×86°.74E, h0km, mb1 3.0/2, mb1mx2.4/58, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=24.0km s-min=14.8km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.16**	**281**	*i*		10 06 00.0	
	baz=99,slow=340,SNR=14						
ZALV	**Zalesovo Beam**	**1.16**	**281**	Pg	Pg	09 59 27.8	-0.4
	1.7nm,0.3s,baz=102,slow=11,SNR=20						
ZALV				Lg	Lg	09 59 44.3	
	1.1nm,0.3s,baz=99,slow=28,SNR=5.5						
KURBB	**Kurchatov Arra**	**5.94**	**242**	Pn	Pn	10 00 36.1	+1.0
	0.1nm,0.3s,baz=58,slow=13,SNR=6.9						
KURBB				Lg	Lg	10 02 11.8	
	0.1nm,0.3s,baz=47,slow=49,SNR=1.3						
MKAR	**Makanchi Array**	**7.51**	**204**	Pn	Pn	10 00 57.7	+0.9
	0.2nm,0.3s,baz=25,slow=12,SNR=4.3						

IDC 12 10:02:45.3±1.6, 3°.58N×126°.86E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.1/48, mbtmp3.4/5, Error ellipse: s-maj=157.3km s-min=21.9km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.50**	**163**	P	P	10 08 05.3	-1.3
	1.9nm,0.8s,baz=344,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**27.94**	**166**	P	P	10 08 39.6	+2.0
	0.2nm,0.7s,baz=334,slow=10,SNR=2.4						
SONM	**Songino Array**	**47.48**	**341**	P	P	10 11 23.1	+0.9
	0.1nm,0.3s,baz=169,slow=8.5,SNR=1.6						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	10 12 38.6	+0.3
	0.2nm,0.5s,baz=116,slow=8.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**61.94**	**327**	P	P	10 13 05.4	-1.5
	0.3nm,0.5s,baz=123,slow=6.8,SNR=2.1						

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*IDC **12** 10:25:38.6±6.5, 22°.19N×143°.46E, h267km±64km, mb3.0/11, mb1 3.2/11, mb1mx3.0/54, mbtmp3.6/11, Error ellipse: s-maj=29.1km s-min=16.8km az=81.0*
ISC 12 10:25:36.8±0.9, 22°.2N±0°.2×143°.5E±0°.2, h250km, n11, σ0§78/11, mb3.3/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.31**	**322**	P	**P**	**10 29 54.8**	**+0.7**
	1.2nm,0.7s,baz=143,slow=8.4,SNR=6.6						
WRA	**Warramunga Arr**	**42.83**	**193**	P	**P**	**10 33 10.2**	**-0.5**
	0.3nm,0.2s,baz=20,slow=7.9,SNR=5.1						
ASAR	**Alice Springs**	**46.54**	**192**	P	**P**	**10 33 40.0**	**+0.2**
	0.1nm,0.3s,baz=18,slow=12,SNR=1.8						
ZALV	**Zalesovo Beam**	**54.02**	**321**	P	**P**	**10 34 34.5**	**-0.8**
	0.6nm,0.3s,baz=111,slow=7.9,SNR=2.8						
MKAR	**Makanchi Array**	**54.59**	**312**	P	**P**	**10 34 39.8**	**+0.2**
	0.2nm,0.4s,baz=90,slow=8.8,SNR=6.6						
KURBB	**Kurchatov Arra**	**57.38**	**317**	P	**P**	**10 34 58.5**	**-0.7**
	0.4nm,0.5s,baz=93,slow=7.6,SNR=6.8						
ILAR	**Eielson Array**	**61.45**	**27**	P	**P**	**10 35 25.5**	**-1.2**
	0.2nm,0.6s,baz=278,slow=5.1,SNR=2.0						
BVAR	**Borovoye Array**	**62.50**	**319**	P	**P**	**10 35 33.7**	**-0.2**
	0.5nm,0.4s,baz=85,slow=8.9,SNR=3.4						
YKA	**Yellowknife Ar**	**75.87**	**28**	P	**P**	**10 36 55.9**	**+0.4**
	0.2nm,0.4s,baz=293,slow=6.0,SNR=6.7						
NVAR	**Mina Array Bea**	**82.59**	**52**	P	**P**	**10 37 33.7**	**+1.1**
	0.5nm,0.8s,baz=281,slow=5.4,SNR=4.1						
FINES	**FINESS Array B**	**82.87**	**335**	P	**P**	**10 37 32.9**	**-0.3**
	4.4nm,1.1s,baz=64,slow=4.8,SNR=6.2						

IDC 12 10:40:17.7±2.4, 0°.77N×127°.74E, h0km, mb3.2/3, mb1 3.5/3, mb1mx2.7/50, mbtmp3.3/3, Error ellipse: s-maj=177.0km s-min=29.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**163**	P	P	10 45 08.8	-0.3
	1.3nm,0.6s,baz=342,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**25.02**	**167**	P	P	10 45 43.9	+0.3
	0.1nm,0.4s,baz=338,slow=9.2,SNR=1.6						
MKAR	**Makanchi Array**	**60.55**	**326**	P	P	10 50 29.9	-0.1
	0.1nm,0.3s,baz=145,slow=5.3,SNR=2.0						

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*MOS **12** 10:40:28.5±1.6, 45°.22N×150°.93E, h53km, mb4.2/1, Error ellipse: s-maj=19.8km s-min=9.6km az=155.1*
*SKHL **12** 10:40:28.8±0.2, 45°.20N×151°.00E, h65km±2km, mb4.7/4*
*JMA **12** 10:40:28.6±0.7, 45°.60N×150°.77E, h30km, M4.3*
*IDC **12** 10:40:33.2±3.6, 45°.40N×150°.81E, h76km±33km, mb3.1/4, mb1 3.4/7, mb1mx3.1/61, mbtmp3.5/7, Error ellipse: s-maj=42.3km s-min=22.5km az=145.0*
**

GRPR Tuman 3.92 256 *e*P **Pn 10 41 27.0 +1.3**
GRPR AMB AMB 10 41 30.3
comp=E,80nm,0.3s
GRPR *e*S **Sn 10 42 10.4 0.0**
GRPR A A 10 42 16.6
comp=E,180nm,0.3s
GRPR A A 10 42 16.6
comp=E,80nm,0.3s
NEM2 Nemuro 2 4.17 248 P **Pn 10 41 30.2 +1.1**
NEM2 *e*S **Sn 10 42 16.1 -0.4**
GLVR Golovnino 4.17 254 *e*PN **Pn 10 41 31.1 +1.9**
GLVR *e*S **Sn 10 42 17.9 +1.2**
GLVR smax smax
comp=N,165nm,0.4s
GLVR smax smax
comp=E,126nm,0.4s
GLVR Golovnino 4.17 254 *e*P **Pn 10 41 30.5 +1.4**
GLVR *e*S **Sn 10 42 17.0 +0.3**
GLVR A A 10 42 24.3
comp=E,170nm,0.4s
GLVR A A 10 42 24.3
comp=E,130nm,0.4s
NMR Nemuro--Hokkai 4.17 248 *e*PN **Pn 10 41 29.1 -0.1**
NMR *e*S **Sn 10 42 16.2 -0.5**
NMR Nemuro--Hokkai 4.17 248 *e*P **Pn 10 41 30.1 +0.9**
NMR *e*S **Sn 10 42 16.2 -0.5**
RUSJ Misakicho 4.25 259 *e*PN **Pn 10 41 33.8 +3.6**
RUSJ S **Sn 10 42 22.9 +4.3**
JRA Rausu 4.38 258 P **Pn 10 41 34.0 +2.0**
JNK Nakash 4.77 255 P **Pn 10 41 39.1 +1.7**
AKK Akkeshi 4.91 248 *e*P **Pn 10 41 40.3 +1.0**
AKK *e*S **Sn 10 42 33.9 -1.0**
JAK Akkeshi 5.02 248 P **Pn 10 41 41.8 +1.1**
JAK *e*S **Sn 10 42 36.2 -1.3**
JTKR Abashiri--Toko 5.22 261 P **Pn 10 41 46.1 +2.6**
JAR Ashorobuto 5.52 254 P **Pn 10 41 50.0 +2.3**
JAR *e*S **Sn 10 42 50.6 +0.7**
JMP Maruseppu 5.60 262 P **Pn 10 41 51.6 +2.8**
JOB Onbets 5.63 250 P **Pn 10 41 51.1 +2.0**
JOB *e*S **Sn 10 42 51.9 -0.6**
JKK2 Kamakawa 2 6.06 262 P **Pn 10 41 57.6 +2.5**
JCH Churui 6.07 249 P **Pn 10 41 56.3 +1.1**
JCH *e*S **Sn 10 43 01.8 -1.5**
JKA Kamikawa-asahi 6.11 264 *e*P **Pn 10 41 58.5 +2.7**
ASAJ Asahikawa 6.11 264 P **Pn 10 41 58.5 +2.7**
comp=E,1.2nm,0.3s,baz=73,slow=14,SNR=7.1
ASAJ S Sn 10 43 17.7 +13
baz=344,slow=17,SNR=1.3
ERM Erimo 6.48 245 *de*PN **Pn 10 42 04.5 +3.6**
JNBK Urakawa-nobuka 6.62 248 P **Pn 10 42 03.8 +1.0**
JBT2 Biratori 2 6.67 253 P **Pn 10 42 05.4 +1.9**
JYM2 Yakumo 2 8.29 253 P **Pn 10 42 26.7 +1.1**
JANG Nango 8.43 240 P **Pn 10 42 28.0 +0.4**
JANG *e*S **Sn 10 43 55.9 -5.5**
JTH Tanohata 8.48 236 *e*S **Sn 10 43 55.9 -6.9**
PETK Petropavlovsk- 9.18 26 P **Pn 10 42 39.8 +2.0**
comp=E,0.3nm,0.3s,baz=206,slow=12,SNR=8.9
PET Petropavlovsk 9.42 29 *e*P **Pn 10 42 39.8 -1.3**
KLR Kul'dur 13.79 295 P **Pn 10 43 43.0 +2.1**
comp=E,0.0nm,0.3s,baz=106,slow=15,SNR=4.0
KLR Kul'dur 13.79 295 *e*P **Pn 10 43 38.0 -2.9**
H11N2 WAKE ISLAND Hy 28.45 147 T T 11 17 09.1
baz=336,slow=75,SNR=91
H11N1 WAKE ISLAND Hy 28.46 147 T T 11 17 10.9
baz=336,slow=75,SNR=86
H11N3 WAKE ISLAND Hy 28.47 147 T T 11 17 10.8
baz=336,slow=75,SNR=76
H11S1 WAKE ISLAND Hy 29.49 149 T T 11 18 19.3
baz=337,slow=76,SNR=87
H11S3 WAKE ISLAND Hy 29.50 149 T T 11 18 22.6
baz=337,slow=76,SNR=78
H11S2 WAKE ISLAND Hy 29.51 149 T T 11 18 20.3
baz=337,slow=76,SNR=84
MKAR Makanchi Array 46.47 298 P **P 10 48 49.6 -1.8**
comp=E,0.3nm,0.6s,baz=72,slow=6.8,SNR=3.9
YKA Yellowknife Ar 53.16 35 P **P 10 49 39.8 -2.1**
comp=E,0.3nm,0.8s,baz=298,slow=6.8,SNR=2.7
WRA Warramunga Arr 66.43 197 P **P 10 51 16.3 +2.7**
comp=E,0.6nm,0.9s,baz=17,slow=6.9,SNR=3.1
TXAR Lajitas Array 79.60 59 P **P 10 52 32.7 +0.9**
comp=E,0.4nm,0.5s,baz=299,slow=4.2,SNR=9.5

*IDC **12** 10:55:30.6±1.3, 9°.99N×126°.27E, h0km, mb3.5/4,*
mb1 3.7/4, mb1mx3.4/37, mbtmp3.5/4, Error ellipse:
s-maj=87.6km s-min=25.9km az=72.0
*MAN **12** 10:55:37.2, 9°.95N×126°.13E, h11km, mb4.1, ML2.9, MS2.6*
ISC 12 10:55:37.9±1.2, 9°.8N±0°.1×126°.23E±0°.10, h54km, n12,
σ1§42/13, mb3.5/4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.73**	**265⇑**	*e*P	**Pn**	**10 55 50.0**	**-2.2**
SCPH				*i* S	**Sn**	**10 56 00.9**	**-1.8**
MSLP	**Maasin**	**1.38**	**282⇑**	*e*P	**Pn**	**10 55 59.6**	**-1.2**
MSLP				*i* S	**Sn**	**10 56 17.2**	**-0.8**
LLP	**Lapu-Lapu**	**2.28**	**282⇓**	*e*P	**Pn**	**10 56 13.8**	**+0.7**
LLP				*i* S	**Sn**	**10 56 41.9**	**+1.8**
TBP	**Tagbilaran**	**2.34**	**266**	*e*P	**Pn**	**10 56 14.8**	**+0.9**
TBP				*i* S	**Sn**	**10 56 43.2**	**+1.7**
RCP	**Roxas**	**3.83**	**297⇑**	*e*P	**Pn**	**10 56 35.0**	**+0.6**
WRA	**Warramunga Arr**	**30.66**	**165**	P	**P**	**11 01 48.5**	**+1.1**
	0.1nm,0.3s,baz=351,slow=9.7,SNR=1.7						
ASAR	**Alice Springs**	**34.14**	**167**	P	**P**	**11 02 18.4**	**+0.5**
	0.2nm,0.5s,baz=349,slow=6.9,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**40.43**	**71**	T	T	11 46 33.0	
	baz=264,slow=75,SNR=10.0						
H11N2	**WAKE ISLAND Hy**	**40.44**	**71**	T	T	11 46 31.3	
	baz=264,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**40.45**	**71**	T	T	11 46 28.9	
	baz=264,slow=75,SNR=9.7						
MKAR	**Makanchi Array**	**52.34**	**323**	P	**P**	**11 04 43.4**	**-1.0**
	0.5nm,0.7s,baz=108,slow=7.1,SNR=5.9						
YKA	**Yellowknife Ar**	**94.16**	**24**	P	**P**	**11 08 50.6**	**0.0**
	0.2nm,0.7s,baz=303,slow=4.6,SNR=6.9						

*SOME **12** 11:18:44.9, 44°.32N×82°.78E, h0km*
*NNC **12** 11:18:47.8±1.8, 44°.30N×82°.76E, h0km, mb2.8, mpv2.8,*
Error ellipse: s-maj=17.4km s-min=7.1km az=127.0
ISC 12 11:18:46.7±1.5, 44°.26N±0°.06×82°.80E±0°.07, h10km, n20,
σ1§50/31, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.95**	**246**	*e*P	**Pb**	**11 19 22.9**	**+0.4**
	3.2nm,0.2s						
KTMS				*e*S	**Sg**	**11 19 50.4**	**+1.0**
	12nm,0.1s						
KTMS	**Ketmen**	**1.95**	**246**	Pg	**Pb**	**11 19 22.9**	**+0.4**
	3.2nm,0.2s						
KTMS				Lg	Lg	11 19 50.4	
	12nm,0.1s						
DJR	**Jarkent**	**2.17**	**273**	*e*P	**Pg**	**11 19 27.1**	**-1.2**
	3.1nm,0.2s						
DJR				*e*S	**Sg**	**11 19 58.0**	**+1.7**
	4.7nm,0.3s						
DJR	**Jarkent**	**2.17**	**273**	Pg	**Pg**	**11 19 27.1**	**-1.2**
	3.0nm,0.2s						
DJR				Lg	Lg	11 19 58.0	
	4.7nm,0.3s						
MK31	**Makanchi Array**	**2.56**	**352**	⇑Pn	**Pb**	**11 19 30.3**	**-2.4**
	0.1nm,0.2s,baz=171,slow=15,SNR=18						
MK31				⇑Lg	Lg	11 20 04.9	
	0.5nm,0.2s,baz=167,slow=27,SNR=14						
PDGK	**Podgornoye**	**2.57**	**250**	⇓Pg	**Pb**	**11 19 32.8**	**-0.2**
	3.1nm,1.1s						
PDGK				⇓Lg	Lg	11 20 08.7	
	3.6nm,0.5s						
KNOS	**Konyrlen**	**2.60**	**273**	*e*P	**Pb**	**11 19 34.8**	**+1.2**
	3.3nm,1.0s						
KNOS				*e*S	**Sg**	**11 20 10.6**	**+0.2**
	5.4nm,0.0s						
MAKZ	**Makanchi**	**2.61**	**347**	⇑Pn	**Pb**	**11 19 32.6**	**-1.0**
	0.6nm,0.3s						
MAKZ				⇓Lg	Lg	11 20 05.7	
	0.8nm,0.3s						
KAPS	**Kapalarasan**	**2.66**	**294**	*e*P	**Pb**	**11 19 35.4**	**+0.9**
	1.0nm,0.2s						
KAPS				*e*S	**Sg**	**11 20 12.0**	**-0.2**
	3.1nm,0.3s						
KAPS	**Kapalarasan**	**2.66**	**294**	Pg	**Pb**	**11 19 35.4**	**+0.9**
	1.0nm,0.2s						
KAPS				Lg	Lg	11 20 12.0	
	3.1nm,0.3s						
SHLS	**Shalkode**	**2.66**	**247**	*e*P	**Pn**	**11 19 31.1**	**+1.4**
	2.7nm,0.2s						
SHLS				*e*S	**Sb**	**11 20 04.6**	**-2.7**
	10nm,0.4s						
SHLS	**Shalkode**	**2.66**	**247**	Pg	**Pn**	**11 19 31.2**	**+1.4**
	2.7nm,0.2s						
SHLS				Lg	Lg	11 20 04.6	
	8.5nm,0.4s						
UZB	**Uzynbulak**	**2.96**	**249**	*e*P	**Pb**	**11 19 40.1**	**+0.4**
	3.1nm,0.2s						
UZB				*e*S	**Sg**	**11 20 19.9**	**-1.8**
	3.0nm,0.3s						
UZB	**Uzynbulak**	**2.96**	**249**	Pg	**Pb**	**11 19 40.1**	**+0.4**
	3.1nm,0.2s						
UZB				Lg	Lg	11 20 19.9	
	3.0nm,0.3s						
BLB	**Baldybastay**	**3.12**	**269**	*e*P	**Pb**	**11 19 43.6**	**+1.3**
	1.8nm,0.2s						
BLB				*e*S	**Sg**	**11 20 26.3**	**-0.5**
	4.0nm,0.2s						
BLB	**Baldybastay**	**3.12**	**269**	Pg	**Pb**	**11 19 43.6**	**+1.3**
	1.8nm,0.2s						
BLB				Lg	Lg	11 20 26.3	
	4.0nm,0.2s						
ZHN	**Zhinishke**	**3.35**	**252**	*e*P	**Pb**	**11 19 47.8**	**+1.5**
	9.4nm,0.1s						
ZHN				*e*S	**Sg**	**11 20 32.8**	**-1.5**
	5.5nm,0.3s						
SATY	**Saty**	**3.41**	**251**	*e*P	**Pb**	**11 19 47.9**	**+0.6**
	3.0nm,0.5s						
SATY				*e*S	**Sg**	**11 20 33.1**	**-3.1**
	3.4nm,0.3s						
ZSN	**Zaisan**	**3.50**	**24**	*e*P	**Pb**	**11 19 48.6**	**-0.2**
	1.9nm,0.3s						
ZSN				*e*S	**Sb**	**11 20 34.2**	**+2.9**
	2.4nm,0.2s						
ARXS	**Arharly**	**3.58**	**271**	*e*P	**Pb**	**11 19 52.1**	**+2.0**
	1.1nm,0.3s						
ARXS				*e*S	**Sg**	**11 20 40.5**	**-1.0**
	3.3nm,0.4s						

RSPR 12 11:18:58.5, 19°.56N×66°.25W, h19km±8km, MD3.2/11, 11C,
Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.26**	**173⇑**	*e*P	Pn	11 19 18.1	-3.0
GCPR	**Guaynabo City**	**1.26**	**173**	*e*S	Sb	11 19 34.0	-3.5
GCPR	**Guaynabo City**	**1.26**	**173**		Pn	11 19 18.1	-3.0
GCPR	**Guaynabo City**	**1.26**	**173**		Sb	11 19 34.0	-3.5
GCPR	**Guaynabo City**	**1.26**	**173**	IAML		11 19 33.9	
	comp=E,130nm,0.7s						
GCPR	**Guaynabo City**	**1.26**	**173**	IAML		11 19 36.9	
	comp=N,122nm,0.6s						
AOPR	**Arecibo Observ**	**1.30**	**202⇑**	*e*P	Pn	11 19 18.7	-3.0
AOPR	**Arecibo Observ**	**1.30**	**202**	*e*S	Sn	11 19 34.9	-3.6
AOPR	**Arecibo Observ**	**1.30**	**202**		Pn	11 19 18.7	-3.0
AOPR					Sn	11 19 34.9	-3.6
CBYP	**Canovanas**	**1.34**	**164⇑**	*e*P	Pn	11 19 19.8	-2.5
CBYP	**Canovanas**	**1.34**	**164**	*e*S	Sn	11 19 35.5	-4.0
CBYP	**Canovanas**	**1.34**	**164**		Pn	11 19 19.8	-2.5
CBYP					Sn	11 19 35.5	-4.0
SJG	**San Juan**	**1.45**	**176**	Pn	Pn	11 19 21.0	-2.7
SJG				IAML		11 19 39.3	
	comp=N,82nm,0.6s						
SJG				IAML		11 19 40.9	
	comp=N,83nm,0.4s						
HUMP	**Col San Antoni**	**1.46**	**165⇑**	*e*P	Pn	11 19 21.0	-2.9
HUMP	**Col San Antoni**	**1.46**	**165**	*e*S	Sn	11 19 39.5	-3.0
HUMP	**Col San Antoni**	**1.46**	**165**		Pn	11 19 21.0	-2.9
HUMP					Sn	11 19 39.5	-3.0
HUMP	**Col San Antoni**	**1.46**	**165**	IAML		11 19 39.9	
	comp=N,63nm,0.5s						
CELP	**Cerrillos**	**1.51**	**192⇑**	*e*P	Pn	11 19 22.1	-2.5
CELP	**Cerrillos**	**1.51**	**192**	*e*S	Sn	11 19 40.5	-3.3
CELP	**Cerrillos**	**1.51**	**192**		Pn	11 19 22.1	-2.5
CELP	**Cerrillos**	**1.51**	**192**		Sn	11 19 40.9	-2.8
CUPR	**Culebra, Puert**	**1.55**	**144⇑**	*e*P	Pn	11 19 22.6	-2.5
CUPR	**Culebra, Puert**	**1.55**	**144**	*e*S	Sn	11 19 41.2	-3.5
CUPR	**Culebra, Puert**	**1.55**	**144**		Pn	11 19 22.6	-2.5
CUPR					Sn	11 19 41.2	-3.5
OBIP	**Obispado Ponce**	**1.55**	**193⇑**	*e*P	Pn	11 19 22.6	-2.4
OBIP	**Obispado Ponce**	**1.55**	**193**	*e*S	Sn	11 19 41.1	-3.6
OBIP	**Obispado Ponce**	**1.55**	**193**		Pn	11 19 22.9	-2.2
OBIP				IAML		11 19 43.3	
	comp=N,48nm,0.2s						
OBIP	**Obispado Ponce**	**1.55**	**193**		Sn	11 19 41.1	-3.6
PDPR	**Patillas Dam,**	**1.55**	**172**	Pn	Pn	11 19 23.4	-1.8
PDPR				IAML		11 19 44.4	
	comp=E,69nm,0.2s						
LSP	**Las Mesas**	**1.59**	**210⇑**	*e*P	Pn	11 19 22.9	-2.8
LSP	**Las Mesas**	**1.59**	**210**	*e*S	Sn	11 19 42.5	-3.3
MTP	**Monte Pirata**	**1.60**	**155⇑**	*e*P	Pn	11 19 23.3	-2.5
MTP	**Monte Pirata**	**1.60**	**155**	*e*S	Sn	11 19 42.4	-3.6
MTP	**Monte Pirata**	**1.60**	**155**		Pn	11 19 23.9	-1.9
MTP	**Monte Pirata**	**1.60**	**155**		Sn	11 19 42.4	-3.6
MTP	**Monte Pirata**	**1.60**	**155**	IAML		11 19 44.0	
	comp=E,56nm,0.5s						
STVI	**Saint Thomas**	**1.72**	**134**	Pn	Pn	11 19 25.9	-1.6
STVI				IAML		11 20 00.1	
	comp=N,59nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.75**	**208⇑**	*e*P	Pn	11 19 25.6	-2.2
CRPR	**Cabo Rojo, PR**	**1.75**	**208**	*e*S	Sn	11 19 45.9	-3.7
CRPR	**Cabo Rojo, PR**	**1.75**	**208**		Pn	11 19 25.6	-2.2
CRPR					Sn	11 19 45.9	-3.7
CRPR	**Cabo Rojo, PR**	**1.75**	**208**	IAML		11 19 57.2	
	comp=N,45nm,1.4s						
CRPR				IAML		11 20 04.3	
	comp=E,41nm,1.8s						
MLPR	**Magueyes Islan**	**1.75**	**205⇑**	*e*P	Pn	11 19 24.6	-3.3
MLPR	**Magueyes Islan**	**1.75**	**205**	*e*S	Sn	11 19 46.1	-3.6
MLPR	**Magueyes Islan**	**1.75**	**205**		Pn	11 19 24.6	-3.3
MLPR					Sn	11 19 46.1	-3.6
MLPR	**Magueyes Islan**	**1.75**	**205**	IAML		11 19 51.7	
	comp=E,41nm,0.8s						

IDC 12 11:37:56.7±1.1, 3°.96N×127°.84E, h0km, mb3.8/8,
mb1 4.0/8, mb1mx3.8/31, mbtmp3.8/8, Error ellipse:
s-maj=59.9km s-min=17.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.03**	**186**	P	P	11 42 53.3	+0.4
	1.0nm,0.8s,baz=32,slow=9.5,SNR=1.4						
WRA	**Warramunga Arr**	**24.60**	**165**	P	P	11 43 17.5	-1.3
	2.1nm,0.9s,baz=343,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**28.09**	**168**	P	P	11 43 49.6	-0.7
	0.2nm,0.6s,baz=338,slow=7.0,SNR=5.3						
CMAR	**Chiang Mai Arr**	**31.71**	**299**	P	P	11 44 23.3	+0.8
	1.8nm,0.3s,baz=110,slow=7.9,SNR=1.9						
STKA	**Stephens Creek**	**37.97**	**161**	P	P	11 45 18.1	+1.8
	1.5nm,0.7s,baz=344,slow=13,SNR=5.3						
SONM	**Songino Array**	**47.44**	**340**	P	P	11 46 34.6	+1.4
	0.4nm,0.5s,baz=155,slow=8.0,SNR=5.0						
MKAR	**Makanchi Array**	**58.00**	**325**	P	P	11 47 49.9	-1.4
	0.9nm,0.6s,baz=122,slow=8.5,SNR=12						
YKA	**Yellowknife Ar**	**98.83**	**25**	P	P	11 51 37.6	-0.8
	0.2nm,0.9s,baz=297,slow=5.5,SNR=3.5						

*NEIC **12** 11:41:21.5±0.7, 52°.2N±0°.3×174°.6W±0°.2, h196km±9km,*
Error ellipse: s-maj=52.4km s-min=10.6km az=163.0
AEIC 12 11:41:21±0.4, 52°.2N±0°.3×174°.5W±0°.2, h200km±3km,
ML2.8, mb4.0/3(NEIC), Error ellipse: s-maj=42.9km
s-min=10.0km az=166.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.21**	**95**		Pn	11 41 47.1	-0.2
KOKL	**Mount Kliuchef**	**0.23**	**64**		Pn	11 41 47.5	+0.1
KOFP	**Korovin Flat P**	**0.28**	**79**		Pn	11 41 47.9	+0.3
GSTR	**Great Sitkin T**	**0.94**	**263**	Pn	Pn	11 41 50.3	-0.1
GSMY	**Great Sitkin M**	**0.95**	**260**		Pn	11 41 50.1	-0.4
GSTD	**Great Sitkin T**	**1.00**	**261**		Pn	11 41 50.5	-0.4
ETKA	**Kagalaska Isla**	**1.21**	**253**		Pn	11 41 52.2	0.0
ADAG	**Mount Adagdak**	**1.29**	**260**		Pn	11 41 53.1	+0.2
KINC	**Kanaga Island**	**1.62**	**261**		Pn	11 41 55.8	0.0
KIMD	**Kanaga Island**	**1.73**	**256**		Pn	11 41 56.9	+0.1
TAFP	**Tanaga Falls P**	**2.15**	**263**		Pn	11 42 01.0	-0.1
MAPS	**Pakushin South**	**4.86**	**68**		Pn	11 42 33.5	0.0
UNV	**Unalaska Valle**	**5.12**	**68**	Pn	Pn	11 42 37.5	+0.7
KTH	**Kantishna Hill**	**16.80**	**38**	P	Pn	11 45 04.3	-0.3
KTH				IAmb	IAmb	11 45 07.0	
	comp=Z,16nm,1.4s						
TRF	**Thorofare Moun**	**16.99**	**39**	P	P	11 45 05.5	-0.2
TRF				IAmb	IAmb	11 45 12.4	
	comp=Z,9.3nm,1.4s						
RND	**Reindeer**	**17.54**	**40**	P	P	11 45 11.3	-0.1
RND				IAmb	IAmb	11 45 14.2	
	comp=Z,4.4nm,1.2s						

*IDC **12** 11:50:56.3±0.8, 9°.19S×75°.03W, h129km±6km, mb3.4/6,*
mb1 3.7/11, mb1mx3.6/33, mbtmp3.9/11, Error ellipse:
s-maj=18.9km s-min=11.1km az=104.0
*NEIC **12** 11:50:56.3±1.6, 9°.11S±0°.08×74°.97W±0°.02, h114km±8km,*
mb4.2/11, Error ellipse: s-maj=11.1km s-min=2.3km
az=174.0
*VAO **12** 11:51:10.6±1.7, 8°.80S×73°.71W, h133km, mb4.5*
ISC 12 11:50:55.9±0.6, 9°.06S±0°.06×75°.04W±0°.06, h123km±5km,
h124km: pP-P, n55, σ1§44/65, mb3.8/10, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.66**	**60**	*e*P	**Pn**	**11 51 39.1**	**+1.1**
CZSB	**Cruzeiro do Su**	**2.66**	**60**	Pn	**Pn**	**11 51 39.0**	**+1.1**
NNA	**Nana**	**3.40**	**211**	P	**Pn**	**11 51 48.5**	**+0.8**
	3.8nm,0.3s,baz=45,slow=8.6,SNR=13						
NNA				S	**Sn**	**11 52 25.9**	**-1.8**
	35nm,0.3s,baz=142,slow=20,SNR=10						
NNA	**Nana**	**3.40**	**211**	Pn	**Pn**	**11 51 48.1**	**+0.4**
ATAH	**Atahualpa**	**3.83**	**300**	P	**Pn**	**11 51 55.1**	**+1.4**
	17nm,0.3s,baz=135,slow=17,SNR=141						
ATAH				S	**Sn**	**11 52 32.8**	**-5.7**
	12nm,0.3s,baz=102,slow=21,SNR=4.3						
TBTG	**Tabatinga, AM**	**7.03**	**47**	*e*P	**Pn**	**11 52 36.5**	**+0.1**
TBTG	**Tabatinga, AM**	**7.03**	**47**	Pn	**Pn**	**11 52 36.5**	**+0.1**
ETMB	**Extrema**	**8.74**	**96**	*e*P	**Pn**	**11 52 56.8**	**-2.6**
ETMB	**Extrema**	**8.74**	**96**	Pn	**Pn**	**11 52 57.0**	**-2.5**
OTAV	**Otavalo**	**9.85**	**340**	Pn	**Pn**	**11 53 15.3**	**+0.6**
LPAZ	**La Paz**	**9.85**	**138**	P	**Pn**	**11 53 15.5**	**+0.6**
	0.2nm,0.3s,baz=320,slow=5.9,SNR=6.5						
VILB	**Vilhena**	**15.07**	**106**	*e*P	**Pn**	**11 54 22.6**	**-0.1**
VILB	**Vilhena**	**15.07**	**106**	Pn	**Pn**	**11 54 21.2**	**-1.5**
SIV	**San Ignacio**	**15.27**	**118**	P	**Pn**	**11 54 23.7**	**-1.4**
	0.4nm,0.3s,baz=295,slow=12,SNR=22						
MACA	**Manacapuru-AM**	**15.43**	**69**	*e*P	**Pn**	**11 54 24.4**	**-2.7**
MACA	**Manacapuru-AM**	**15.43**	**69**	Pn	**Pn**	**11 54 25.0**	**-2.1**
ZARC	**Zaragoza, Cauc**	**16.45**	**1**	P	**P**	**11 54 41.3**	**+1.1**
PTLB	**Pontes e Lacer**	**16.78**	**114**	*e*P	**P**	**11 54 43.5**	**-0.3**
PTLB	**Pontes e Lacer**	**16.78**	**114**		**P**	**11 54 43.3**	**-0.5**
PTLB				IAmb	IAmb	11 54 57.4	
	comp=Z,13nm,0.8s						
PDRB	**Porto dos Gac**	**18.19**	**100**	*e*P	**P**	**11 54 59.1**	**-0.3**
SDV	**Santo Domingo**	**18.36**	**14**	P	**Pn**	**11 55 03.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=249,slow=17,SNR=1.4						
BOAV	**Boa Vista**	**18.41**	**52**	*e*P	**P**	**11 55 01.7**	**-0.1**
BOAV	**Boa Vista**	**18.41**	**52**	P	**P**	**11 55 02.0**	**+0.2**
BOAV				IAmb	IAmb	11 55 06.9	
	comp=Z,14nm,1.4s						
CLDB	**Colider**	**19.04**	**97**	*e*P	**P**	**11 55 08.4**	**-0.2**
BAUV	**El Baul**	**19.20**	**21**	P	**P**	**11 55 11.2**	**+0.8**
BAUV				IAmb	IAmb	11 55 23.7	
	comp=Z,16nm,1.1s						
NPGB	**Novo Progresso**	**19.59**	**86**	*e*P	**P**	**11 55 14.4**	**-0.2**
ITTB	**Itaituba**	**19.73**	**78**	*e*P	**P**	**11 55 16.1**	**0.0**
SALV	**Santo Antonio**	**20.06**	**112**	*e*P	**Pn**	**11 55 22.6**	**-0.1**
MCPB	**Macapa, AP**	**24.46**	**71**	*e*P	**P**	**11 56 05.9**	**+2.2**
PRPB	**Parauapebas**	**25.16**	**85**	*e*P	**P**	**11 56 10.9**	**+0.9**
T57A	**Hurt**	**45.99**	**355**	P	**P**	**11 59 07.1**	**+0.2**
T57A				IAmb	IAmb	11 59 08.3	
	comp=Z,4.7nm,0.7s						
TZTN	**Tazewell**	**46.06**	**350**	P	**P**	**11 59 06.7**	**-0.8**
TX32	**Lajitas Array**	**47.10**	**325**	P	**P**	**11 59 17.7**	**+1.9**
TX32				pP	**pP**	**11 59 42.7**	**-1.6**
TX32				IAmb	IAmb	11 59 43.0	
	comp=Z,4.7nm,1.5s						
TXAR	**Lajitas Array**	**47.10**	**325**	P	**P**	**11 59 16.8**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=150,slow=9.5,SNR=5.3						
TXAR				pP	**pP**	**11 59 46.7**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=148,slow=8.6,SNR=4.7						
TXAR				PcP	**PcP**	**12 00 46.6**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=131,slow=4.2,SNR=3.4						
TXAR	**Lajitas Array**	**47.10**	**325**	P	**P**	**11 59 16.9**	**+1.1**
TXAR					**pP**	**11 59 41.8**	**-2.5**
PV13	**Radium Mtn., P**	**56.57**	**328**	P	**P**	**12 00 27.6**	**+1.4**
PV13				IAmb	IAmb	12 00 28.2	
	comp=Z,2.8nm,0.8s						
R11A	**Troy Canyon, C**	**60.44**	**324**	P	**P**	**12 00 54.9**	**+2.0**
R11A				IAmb	IAmb	12 00 58.6	
	comp=Z,1.1nm,1.1s						
PDAR	**Pinedale Array**	**60.44**	**331**	P	**P**	**12 00 53.4**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=134,slow=6.4,SNR=4.2						
PDAR	**Pinedale Array**	**60.44**	**331**	P	**P**	**12 00 54.4**	**+1.5**
ULM	**Lac du Bonnet**	**61.80**	**345**	P	**P**	**12 01 01.6**	**0.0**
	comp=Z,3.7nm,0.6s,baz=184,slow=5.4,SNR=5.4						
NVAR	**Mina Array Bea**	**62.09**	**322**	P	**P**	**12 01 05.2**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=138,slow=7.2,SNR=2.9						
NVAR				pP	**pP**	**12 01 36.2**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=132,slow=5.4,SNR=2.5						
YKA	**Yellowknife Ar**	**77.59**	**342**	P	**P**	**12 02 37.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=138,slow=6.3,SNR=18						
YKA				pP	**pP**	**12 03 10.0**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=136,slow=6.1,SNR=11						
YKA

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.11**	**78**	P	**Pg**	**12 22 35.1**	**+1.4**
TWVZ				S	**Sg**	**12 22 37.8**	**+2.1**
PKVZ	**Pokaka**	**0.20**	**169**	P	**Pg**	**12 22 36.0**	**+0.9**
PKVZ				S	**Sg**	**12 22 39.5**	**+1.5**
WTVZ	**West Tongariro**	**0.23**	**95**	P	**Pg**	**12 22 36.8**	**+1.1**
NGZ	**Ngauruhoe**	**0.25**	**109**	P	**Pg**	**12 22 37.1**	**+1.0**
NNVZ	**North Ngauruho**	**0.25**	**99**	P	**Pg**	**12 22 37.2**	**+1.1**
NNVZ				S	**Sg**	**12 22 41.7**	**+2.2**
FWVZ	**Far West T-bar**	**0.25**	**129**	P	**Pg**	**12 22 37.1**	**+0.9**
FWVZ				S	**Sg**	**12 22 41.1**	**+1.3**
KRVZ	**Karewarewa**	**0.27**	**90**	P	**Pg**	**12 22 37.4**	**+1.0**
KRVZ				S	**Sg**	**12 22 42.1**	**+2.1**
DRZ	**Dome Shelter**	**0.27**	**131**	P	**Pg**	**12 22 37.8**	**+0.9**
SNVZ	**South Ngauruho**	**0.28**	**109**	P	**Pg**	**12 22 37.7**	**+1.0**
TRVZ	**Turoa**	**0.28**	**137**	P	**Pg**	**12 22 37.5**	**+0.8**
TRVZ				S	**Sg**	**12 22 41.6**	**+1.1**
NTVZ	**North Tongarir**	**0.29**	**91**	P	**Pb**	**12 22 37.9**	**-0.5**
NTVZ				S	**Sb**	**12 22 42.3**	**-1.0**
OTVZ	**Oturere**	**0.29**	**104**	P	**Pg**	**12 22 37.9**	**+1.1**
OTVZ				S	**Sg**	**12 22 43.1**	**+2.3**
WHVZ	**Whangaehu Hut**	**0.29**	**130**	P	**Pg**	**12 22 37.6**	**+0.7**
WHVZ				S	**Sg**	**12 22 41.7**	**+0.8**
TMVZ	**Te Maari**	**0.32**	**94**	P	**Pb**	**12 22 38.3**	**-0.4**
TMVZ				S	**Sb**	**12 22 43.4**	**-0.5**
MTVZ	**Mangateitei**	**0.32**	**155**	P	**Pg**	**12 22 37.8**	**+0.5**
MTVZ				S	**Sb**	**12 22 42.5**	**-1.5**
ETVZ	**East Tongariro**	**0.32**	**97**	P	**Pb**	**12 22 38.4**	**-0.4**
TUVZ	**Tukino**	**0.33**	**122**	P	**Pb**	**12 22 38.5**	**-0.4**
TUVZ				S	**Sb**	**12 22 43.5**	**-0.8**
WNVZ	**Wahianoa**	**0.33**	**135**	P	**Pb**	**12 22 38.3**	**-0.7**
WNVZ				S	**Sb**	**12 22 42.5**	**-1.4**
KATZ	**Kakaramea**	**0.33**	**69**	P	**Pb**	**12 22 38.6**	**-0.3**
KATZ				S	**Sb**	**12 22 43.7**	**-0.6**
VRZ	**Vera Road**	**0.42**	**266**	P	**Pg**	**12 22 40.2**	**+1.0**
RATZ	**Rangitukua**	**0.43**	**58**	P	**Pg**	**12 22 40.4**	**+1.0**
RATZ				S	**Sb**	**12 22 47.0**	**-0.2**
RITZ	**Rihia Road**	**0.45**	**75**	P	**Pb**	**12 22 40.8**	**-0.1**
MOVZ	**Moawhango**	**0.47**	**132**	P	**Pg**	**12 22 40.6**	**+0.5**
WATZ	**Wairara**	**0.51**	**41**	P	**Pg**	**12 22 41.7**	**+0.8**
WATZ				S	**Sg**	**12 22 49.0**	**+1.3**
HATZ	**Hinemaiaia**	**0.65**	**72**	P	**Pb**	**12 22 44.3**	**-0.1**
WHTZ	**Whakaora**	**0.67**	**50**	P	**Pb**	**12 22 44.9**	**+0.3**
HIZ	**Hauiti**	**0.68**	**329**	P	**Pg**	**12 22 44.6**	**+0.7**
HIZ				S	**Sg**	**12 22 55.6**	**+2.8**
WAZ	**Wanganui**	**0.70**	**200**	P	**Pg**	**12 22 44.6**	**+0.1**
BHHZ	**Black Hill Sta**	**0.71**	**124**	P	**Pb**	**12 22 44.9**	**-0.5**
KUTZ	**Kaahu Road**	**0.73**	**34**	P	**Pg**	**12 22 45.3**	**+0.3**
MHEZ	**Mangahewa**	**0.76**	**271**	P	**Pg**	**12 22 46.7**	**+1.1**
LREZ	**Lake Rotokare**	**0.79**	**242**	P	**Pg**	**12 22 46.8**	**+0.6**
TLZ	**Tolley Road**	**0.79**	**14**	P	**Pg**	**12 22 45.6**	**-0.5**
DREZ	**Durham Road**	**0.86**	**263**	P	**Pg**	**12 22 48.1**	**+0.7**
WPRZ	**Whakapapatarin**	**0.89**	**50**	P	**Pg**	**12 22 48.2**	**+0.3**
MRHZ	**Matea Rd**	**0.91**	**74**	P	**Pg**	**12 22 48.6**	**+0.2**
PREZ	**Palmer Road**	**0.92**	**254**	P	**Pg**	**12 22 49.4**	**+0.8**
BKZ	**Black Stump Fm**	**0.93**	**95**	P	**Pg**	**12 22 48.8**	**0.0**
KWHZ	**Kaweka Forest**	**0.93**	**111**	P	**Pb**	**12 22 49.6**	**+0.4**
NEZ	**North Egmont**	**0.95**	**259**	P	**Pg**	**12 22 49.8**	**+0.6**
ALRZ	**Allen Road**	**0.97**	**57**	P	**Pg**	**12 22 49.4**	**-0.2**
GRRZ	**Galatos Road**	**0.98**	**41**	P	**Pg**	**12 22 49.7**	**0.0**
KRHZ	**Kereru**	**0.99**	**124**	P	**Pb**	**12 22 50.2**	**0.0**
KHEZ	**Kahui Hut**	**1.02**	**258**	P	**Pg**	**12 22 51.1**	**+0.6**
PKE	**Pukeiti**	**1.02**	**264**	P	**Pg**	**12 22 51.1**	**+0.5**
PRRZ	**Plateau Road**	**1.04**	**56**	P	**Pg**	**12 22 50.5**	**-0.4**
HRRZ	**Handcock Road**	**1.04**	**48**	P	**Pg**	**12 22 51.0**	**0.0**
PNHZ	**Pukenui**	**1.07**	**140**	P	**Pg**	**12 22 51.3**	**-0.2**
HSRZ	**Hossack Road**	**1.08**	**44**	P	**Pg**	**12 22 51.3**	**-0.2**
TSZ	**Takapari Road**	**1.09**	**152**	P	**Pg**	**12 22 51.4**	**-0.4**
OHWZ	**Ohakea**	**1.11**	**179**	P	**Pg**	**12 22 51.9**	**-0.3**
NBEZ	**Newall Road No**	**1.13**	**261**	P	**Pb**	**12 22 52.5**	**+0.1**
NBEZ				P	**Pn**	**12 22 52.8**	**+0.1**
MCHZ	**McNeill Hill**	**1.14**	**108**	P	**Pn**	**12 22 53.8**	**+0.9**
NMEZ	**Namu Road**	**1.15**	**253**	P	**Pb**	**12 22 53.1**	**+0.3**
UTU	**Utuhina**	**1.15**	**38**	P	**Pb**	**12 22 52.3**	**-0.6**
NMHZ	**Naumai**	**1.17**	**91**	P	**Pn**	**12 22 54.0**	**+0.6**
HLRZ	**Highlands Stat**	**1.18**	**45**	P	**Pb**	**12 22 53.7**	**+0.4**
NGRZ	**Ngongotaha**	**1.21**	**35**	P	**Pn**	**12 22 53.8**	**-0.1**
RRRZ	**Republican Roa**	**1.21**	**52**	P	**Pb**	**12 22 53.1**	**-0.9**
MTHZ	**Maungataniwha**	**1.23**	**79**	P	**Pb**	**12 22 53.8**	**-0.3**
TARZ	**Mount Tarawera**	**1.28**	**48**	P	**Pn**	**12 22 55.6**	**+0.7**
OMRZ	**Omania**	**1.30**	**41**	P	**Pn**	**12 22 55.2**	**+0.1**
KARZ	**Kaharoa**	**1.30**	**35**	P	**Pn**	**12 22 55.2**	**0.0**
MUGZ	**Murupara**	**1.30**	**62**	P	**Pn**	**12 22 54.6**	**-0.6**
WPHZ	**Waipukurau**	**1.31**	**138**	P	**Pg**	**12 22 56.3**	**+0.2**
MKRZ	**Makatiti**	**1.32**	**44**	P	**Pb**	**12 22 56.5**	**+0.6**
ARHZ	**Aropaoanui**	**1.33**	**98**	P	**Pg**	**12 22 56.9**	**+0.5**
KMRZ	**Kaimai**	**1.34**	**22**	P	**Pn**	**12 22 54.6**	**-1.1**
POWZ	**Post Office Ro**	**1.34**	**165**	P	**Pn**	**12 22 55.9**	**+0.1**
DVHZ	**Dannevirke**	**1.38**	**151**	P	**Pg**	**12 22 57.0**	**-0.3**
RTZ	**Ruatahuna**	**1.40**	**71**	P	**Pn**	**12 22 56.6**	**+0.1**
RAHZ	**Arahi**	**1.40**	**83**	P	**Pb**	**12 22 57.5**	**+0.3**
KAHZ	**Kahuranaki**	**1.41**	**120**	P	**Pg**	**12 22 58.0**	**+0.1**
CKHZ	**Cape Kidnapper**	**1.49**	**113**	P	**Pg**	**12 22 59.7**	**+0.2**
EDRZ	**Edgecumbe**	**1.50**	**49**	P	**Pb**	**12 22 59.4**	**+0.5**
PXZ	**Pawanui**	**1.53**	**128**	P	**Pg**	**12 22 59.8**	**-0.4**
MARZ	**Manawahe**	**1.55**	**45**	P	**Pb**	**12 22 59.9**	**+0.3**
PRWZ	**Pori Road**	**1.55**	**161**	P	**Pb**	**12 22 59.9**	**+0.3**
TGRZ	**Tauranga**	**1.56**	**29**	P	**Pn**	**12 22 57.5**	**-1.2**
PRHZ	**Porangahau**	**1.56**	**139**	P	**Pb**	**12 22 59.9**	**0.0**
MRZ	**Mangatainoka R**	**1.58**	**172**	P	**Pn**	**12 22 59.4**	**+0.4**
OPRZ	**Ohinepanea**	**1.59**	**39**	P	**Pn**	**12 22 58.3**	**-0.8**
SNGZ	**Shannon Statio**	**1.62**	**80**	P	**Pb**	**12 22 01.5**	**+0.6**
ANWZ	**Angora Road**	**1.64**	**147**	P	**Pb**	**12 22 00.5**	**+0.4**
URZ	**Urewera**	**1.65**	**60**	Pn	**Pn**	**12 22 59.1**	**-0.7**
	6.9nm,0.3s,baz=303,slow=15,SNR=23						
URZ				Sn	**Sg**	**12 23 26.9**	**+3.2**
	5.7nm,0.3s,baz=68,slow=19,SNR=7.7						
URZ	**Urewera**	**1.65**	**60**	P	**Pn**	**12 22 59.4**	**-0.4**
OGWZ	**Otaki Gorge**	**1.72**	**183**	P	**Pn**	**12 23 00.9**	**0.0**
TIWZ	**Tintock**	**1.74**	**165**	P	**Pb**	**12 23 02.9**	**0.0**
BFZ	**Birch Farm**	**1.75**	**156**	P	**Pb**	**12 23 02.8**	**-0.2**
KIW	**Kapiti Island**	**1.79**	**189**	P	**Pn**	**12 23 02.0**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.81**	**175**	P	**Pn**	**12 23 03.0**	**+0.9**
KNZ	**Kokohu**	**1.85**	**89**	P	**Pg**	**12 23 06.6**	**+0.3**
MWZ	**Matawai**	**1.90**	**67**	P	**Pn**	**12 23 03.0**	**-0.4**
CPWZ	**Castlepoint**	**1.94**	**159**	P	**Pg**	**12 23 07.8**	**+1.0**
MYRZ	**Mayor Island**	**1.96**	**23**	P	**Pb**	**12 23 07.4**	**+0.8**
RIGZ	**Rimuhau**	**1.96**	**79**	P	**Pb**	**12 23 07.2**	**+0.6**
DUWZ	**D'Urville Isla**	**2.01**	**211**	P	**Pn**	**12 23 04.8**	**-0.1**
CAW	**Cannon Point**	**2.02**	**185**	P	**Pn**	**12 23 05.8**	**+0.8**
PRGZ	**Paritu Road**	**2.02**	**86**	P	**Pn**	**12 23 06.5**	**+1.5**
MHGZ	**Mahia Peninsul**	**2.03**	**92**	P	**Pb**	**12 23 07.2**	**-0.6**
TMWZ	**Te Maipa**	**2.06**	**167**	P	**Pn**	**12 23 06.1**	**+0.5**
MTW	**Mount Morrison**	**2.07**	**176**	P	**Pn**	**12 23 05.9**	**+0.3**
AWAZ	**Awhitu Peninsu**	**2.09**	**345**	P	**Pn**	**12 23 05.9**	**-0.1**
TKGZ	**Te Karaka**	**2.10**	**73**	P	**Pb**	**12 23 09.2**	**+0.3**
ETAZ	**East Tamaki Re**	**2.16**	**352**	P	**Pn**	**12 23 06.2**	**-0.7**
RUGZ	**Raukumara Rang**	**2.18**	**60**	P	**Pn**	**12 23 09.2**	**+1.9**
WEL	**Wellington**	**2.23**	**190**	P	**Pn**	**12 23 09.0**	**+1.2**
WTAZ	**Waiatarua**	**2.23**	**345**	P	**Pn**	**12 23 08.0**	**+0.1**
TCW	**Tory Channel**	**2.25**	**200**	P	**Pn**	**12 23 08.5**	**+0.3**
EPAZ	**Eden Park BICE**	**2.26**	**349**	P	**Pn**	**12 23 08.0**	**-0.3**
HBAZ	**Herne Bay Bore**	**2.29**	**348**	P	**Pn**	**12 23 08.2**	**-0.5**
PAWZ	**Paruwai Farm**	**2.29**	**178**	P	**Pn**	**12 23 08.9**	**+0.2**
TWGZ	**Tauwhareparae**	**2.29**	**67**	P	**Pb**	**12 23 11.5**	**-0.9**
WIAZ	**Waiheke Island**	**2.30**	**357**	P	**Pn**	**12 23 08.0**	**-0.9**
MSWZ	**Moikau Station**	**2.32**	**181**	P	**Pn**	**12 23 09.4**	**+0.2**
TRWZ	**Traveller**	**2.32**	**173**	P	**Pn**	**12 23 09.7**	**+0.5**
BHW	**Baring Head**	**2.33**	**188**	P	**Pn**	**12 23 09.8**	**+0.5**
MBAZ	**Motutapu North**	**2.34**	**352**	P	**Pn**	**12 23 08.7**	**-0.7**
HAZ	**Te Kaha**	**2.36**	**56**	P	**Pn**	**12 23 11.4**	**+1.7**
KUZ	**Kuaotunu**	**2.37**	**8**	P	**Pn**	**12 23 08.2**	**-1.6**
RVAZ	**Riverhead Bore**	**2.39**	**346**	P	**Pn**	**12 23 10.0**	**-0.1**
PLWZ	**Palliser**	**2.47**	**181**	P	**Pn**	**12 23 11.4**	**+0.1**
ABAZ	**Army Bay**	**2.52**	**351**	P	**Pn**	**12 23 11.5**	**-0.4**
PUZ	**Puketiti**	**2.53**	**67**	P	**Pb**	**12 23 14.8**	**-1.6**
TUWZ	**Tuamarina**	**2.55**	**204**	P	**Pn**	**12 23 13.0**	**+0.7**
NNZ	**Nelson**	**2.58**	**214**	P	**Pn**	**12 23 13.7**	**+1.0**
QRZ	**Quartz Range**	**2.74**	**230**	P	**Pn**	**12 23 14.3**	**-0.6**
WMGZ	**Waiomatatini S**	**2.76**	**63**	P	**Pn**	**12 23 16.8**	**+1.7**
CMWZ	**Cape Campbell**	**2.78**	**197**	P	**Pb**	**12 23 21.6**	**+1.0**
MXZ	**Matakaoa Point**	**2.82**	**58**	P	**Pn**	**12 23 18.7**	**+2.7**
BSWZ	**Blackbirch Sta**	**2.83**	**202**	P	**Pn**	**12 23 17.4**	**+1.2**
GRZ	**Great Barrier**	**2.84**	**3**	P	**Pn**	**12 23 14.8**	**-1.4**
THZ	**Tophouse**	**3.23**	**214**	P	**Pn**	**12 23 23.2**	**+1.5**
WCZ	**Waipu Caves**	**3.24**	**346**	P	**Pn**	**12 23 21.5**	**-0.2**
KHZ	**Kahutara**	**3.58**	**201**	P	**Pn**	**12 23 26.2**	**-0.1**
DSZ	**Denniston Nort**	**3.76**	**224**	P	**Pn**	**12 23 28.8**	**-0.1**
OUZ	**Omahuta**	**4.10**	**340**	P	**Pn**	**12 23 33.3**	**-0.2**
GVZ	**Greta Valley S**	**4.23**	**203**	P	**Pn**	**12 23 34.6**	**-0.8**
LTZ	**Lake Taylor**	**4.34**	**211**	P	**Pn**	**12 23 36.8**	**-0.1**
INZ	**Inchbonnie**	**4.66**	**218**	P	**Pn**	**12 23 41.4**	**+0.2**
OXZ	**Oxford**	**4.89**	**209**	P	**Pn**	**12 23 42.7**	**-1.7**
OKCZ	**Okains Bay**	**4.92**	**199**	P	**Pn**	**12 23 43.7**	**-1.2**
MQZ	**McQueen's Vall**	**5.02**	**202**	P	**Pn**	**12 23 44.4**	**-1.8**
MHCZ	**Mount Hutt**	**5.25**	**211**	P	**Pn**	**12 23 50.4**	**+1.0**
WVZ	**Waitaha Valley**	**5.26**	**219**	P	**Pn**	**12 23 51.0**	**+1.5**
RPZ	**Rata Peaks**	**5.61**	**213**	P	**Pn**	**12 23 56.6**	**+2.2**
GCSZ	**Gaunt Creek Bo**	**5.64**	**220**	P	**Pn**	**12 23 55.3**	**+0.6**
ARCZ	**Arundel**	**5.75**	**211**	P	**Pn**	**12 23 56.6**	**+0.3**
FOZ	**Fox Glacier**	**6.06**	**221**	P	**Pn**	**12 24 00.4**	**0.0**
TMZ	**Timaru**	**6.18**	**210**	P	**Pn**	**12 24 00.9**	**-1.3**
ODZ	**Otahua Downs**	**6.88**	**209**	P	**Pn**	**12 24 09.9**	**-1.9**
WKZ	**Wanaka**	**7.39**	**217**	P	**Pn**	**12 24 21.7**	**+2.9**
ASAR	**Alice Springs**	**38.19**	**281**	P	**P**	**12 29 50.4**	**-0.5**
	0.7nm,0.9s,baz=119,slow=8.6,SNR=6.6						
ASAR				LR	LR	12 46 19.5	
	comp=Z,132nm,21.6s,baz=354,slow=36						
WRA	**Warramunga Arr**	**40.02**	**286**	P	**P**	**12 30 05.2**	**-1.0**
	0.1nm,0.3s,baz=126,slow=8.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**153.54**	**194**	PKPab	**PKPab**	**12 42 39.7**	**-2.7**
	0.7nm,0.8s,baz=192,slow=3.9,SNR=2.9						

MAN ***12*** *12:27:17.6,3.˙30N×126.˚97E,h1km,mb5.5,ML4.5,MS4.8*
IDC ***12*** *12:27:20.1±0.5,3.˙65N×126.˚83E,h0km,mb4.8/27,*
mb1 4.9/28,mb1mx4.8/33,mbtmp4.8/28,ML5.0/1,MS3.8/32,
Ms1 3.8/32,ms1mx3.6/79,Error ellipse: s-maj=20.6km
s-min=9.9km az=76.0
NEIC ***12*** *12:27:22.5±1.7,3.˙72N±0.˙07×126.˚99E±0.˙07,h10km±1km,*
mb5.2/104,Error ellipse: s-maj=13.1km s-min=10.4km
az=48.0
MOS ***12*** *12:27:23.5±1.0,3.˙71N×126.˚88E,h33km,mb5.3/41,Error*
ellipse: s-maj=11.0km s-min=4.6km az=118.8
DJA ***12*** *12:27:23.3±0.7,4.˚N±2.˚×12.˚7E±.˚,h23km±5km,M4.7/53,*
mB5.2/25,mb5.0/53,MLv5.0/15,Mw(mB)4.6/25
KLM ***12*** *12:27:26,3.˚79N×127.˚25E,h45km,mb5.0*
ISC 12:27:26.3±0.4,**3.71**N±0.˙03×**127.˙01**E±0.˙04,**h42**km±3km,
h42km:**pP-P,n523,**σ1**37**/530,**mb5.0**/134,**MS4.0**/45,
36C-21D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.47**	**269**	P	**Pn**	**12 27 49.9**	**-0.5**
SGSI				S	**Sn**	**12 28 10.5**	**+2.0**
TNTI	**Ternate**	**2.94**	**173**	P	**Pn**	**12 28 11.5**	**+0.9**
TNTI				S	**Sn**	**12 28 47.2**	**+2.6**
TNTI	**Ternate**	**2.94**	**173**	Pn	**Pn**	**12 28 11.3**	**+0.7**
TNTI	**Ternate**	**2.94**	**173**	P	**Pn**	**12 28 11.4**	**+0.9**
GSPH	**General Santos**	**3.13**	**319**	‖*e*P	**Pn**	**12 28 13.0**	**-0.3**
DAV	**Davao City (W)**	**3.63**	**337**	Pg	Pn	12 28 26.6	+6.5
	31nm,0.3s,baz=241,slow=7.4,SNR=5.3						
DAV				Lg	Lg	12 29 15.6	
	60nm,0.3s,baz=359,slow=22,SNR=3.9						
KCP	**Kidapawan**	**3.80**	**330**	‖*e*P	**Pn**	**12 28 23.1**	**+0.7**
KCP				*i* S	**Sn**	**12 29 12.8**	**+6.9**
KMSI	**Cibinong**	**4.34**	**224**	P	**Pn**	**12 28 32.2**	**+2.4**
LBMI	**Labuha**	**4.34**	**173**	P	**Pn**	**12 28 30.9**	**+1.0**
CTBH	**Cotabato--PC H**	**4.44**	**322**	‖*e*P	**Pn**	**12 28 32.0**	**+0.7**
BIPH	**Bislig**	**4.50**	**352**	‖*e*P	Pn	12 28 45.1	+13
BIPH				*e*S	**Sn**	**12 29 30.0**	**+6.9**
GTOI	**Gorontalo**	**5.02**	**233**	P	**Pn**	**12 28 40.0**	**+0.8**
	0.3nm998nm62nm,0.5s						
SANI	**Sanana**	**5.81**	**190**	P	**Pn**	**12 28 50.4**	**+0.4**
	0.4nm1μm73nm,0.7s						
SANI	**Sanana**	**5.81**	**190**	P	**Pn**	**12 28 49.8**	**-0.2**
MRSI	**Marisa**	**5.99**	**238**	P	**Pn**	**12 28 54.5**	**+2.0**
	1.2nm3μm245nm,0.6s						
SWI	**Sorong**	**6.22**	**137**	P	**Pn**	**12 28 55.9**	**+0.3**
	0.7nm2μm173nm,0.5s						
SIJI	**Sorong**	**6.23**	**137**	Pn	**Pn**	**12 28 56.6**	**+0.8**
	36nm,0.3s,baz=333,slow=12,SNR=162						
SIJI				Sn	**Sn**	**12 30 03.5**	**-2.3**
	baz=69,slow=20,SNR=0.8						
SIJI				LR	LR	12 31 35.7	
	comp=Z,1μm,20.8s,baz=347,slow=40						
LUWI	**Luwuk**	**6.34**	**222**	P	**Pn**	**12 29 00.7**	**+3.5**
	1.7nm5μm315nm,0.7s						
LUWI	**Luwuk**	**6.34**	**222**		**Pn**	**12 28 57.4**	**+0.1**
LUWI	**Luwuk**	**6.34**	**222**	P	**Pn**	**12 28 56.6**	**-0.6**
TBP	**Tagbilaran**	**6.72**	**332**	*e*P	**Pn**	**12 29 04.1**	**+1.6**
TBP				*i* S	Sn	12 30 31.3	+14
TOLI2	**Tolitoli**	**6.73**	**248**	Pn	**Pn**	**12 29 02.2**	**-0.5**
TOLI2	**Tolitoli**	**6.73**	**248**	P	**Pn**	**12 29 02.9**	**+0.2**
MSLP	**Maasin**	**6.73**	**342**	‖*e*P	Pn	12 29 08.0	+5.3
MSLP				*i* S	**Sn**	**12 30 18.6**	**+0.4**
SNPH	**Sibulan**	**6.74**	**326**	*e*P	Pn	12 29 08.2	+5.4
APSI	**Ampana**	**7.05**	**230**	P	**Pn**	**12 29 09.0**	**+2.0**
	0.7nm2μm218nm,0.7s						
MSAI	**Masohi**	**7.26**	**165**	P	**Pn**	**12 29 11.2**	**+1.2**
	0.2nm13nm,0.7s						
AAI	**Ambon**	**7.44**	**171**	P	**Pn**	**12 29 15.6**	**+3.2**
MPSI	**Mapaga**	**7.85**	**245**	P	**Pn**	**12 29 19.9**	**+1.9**
	44nm,0.7s						
FAKI	**Fak Fak**	**8.41**	**141**	P	**Pn**	**12 29 26.8**	**+1.0**
	1μm115nm,0.8s						
FAKI	**Fak Fak**	**8.41**	**141**	Pn	**Pn**	**12 29 26.8**	**+1.0**
FAKI	**Fak Fak**	**8.41**	**141**	P	**Pn**	**12 29 27.0**	**+1.2**
MYLDM	**Lahad Datu**	**8.61**	**280**	Pn	**Pn**	**12 29 30.1**	**+1.7**
RCP	**Roxas**	**8.87**	**332**	‖*e*P	Pn	12 29 35.3	+3.2
TTSI	**Tana Toraja**	**9.83**	**227**	P	**Pn**	**12 29 47.1**	**+2.0**
	851nm78nm,1.1s						
BAKI	**Biak**	**10.31**	**118**	P	**Pn**	**12 29 51.0**	**-0.8**
	1μm81nm,1.0s						
SPSI	**Sidrap Palu**	**10.50**	**224**	P	**Pn**	**12 29 56.6**	**+2.2**
	27nm,0.6s						
SPMM	**Sapulut**	**10.56**	**276**	P	**Pn**	**12 29 58.0**	**+2.8**
BNSI	**Bone**	**10.60**	**221**	P	**Pn**	**12 29 58.7**	**+3.0**
	825nm41nm,0.9s						
KKM	**Kota Kinabalu**	**11.00**	**283**	Pn	**Pn**	**12 30 03.0**	**+1.7**
KAPI	**Kappang**	**11.29**	**220**	LR	LR	12 34 32.9	
	comp=Z,227nm,21.6s,baz=84,slow=39						
BKSI	**Bukumba**	**11.30**	**218**	P	**Pn**	**12 30 08.4**	**+3.1**
	17nm,0.6s						
BSSI	**Bau Bau, Buton**	**11.75**	**214**	P	Pn	12 30 15.5	+4.0
SAUI	**Saumlaki**	**12.38**	**160**	P	**Pn**	**12 30 21.4**	**+1.4**
	101nm,0.7s						
KBKI	**Kotabaru**	**12.87**	**237**	P	**Pn**	**12 30 29.9**	**+3.1**
	26nm,0.8s						
MTKI	**Muara Teweh, K**	**12.95**	**249**	P	**Pn**	**12 30 30.4**	**+2.5**
	35nm,0.6s						
EDFI	**Ende, Flores**	**13.46**	**203**	P	**Pn**	**12 30 36.0**	**+1.0**
	25nm,1.2s						
SOEI	**Soe**	**13.65**	**192**	P	Pn	12 30 41.3	+3.8
BBKI	**Banjar Baru**	**14.09**	**240**	P	**Pn**	**12 30 45.9**	**+2.5**
	26nm,0.8s						
BATI	**Baumata**	**14.21**	**194**	P	**Pn**	**12 30 47.1**	**+1.9**
	52nm,0.6s						
GENI	**Genyem**	**14.57**	**115**	P	**Pn**	**12 30 50.4**	**+0.5**
SBUM	**Sibu**	**14.82**	**266**	Pn	**Pn**	**12 30 54.5**	**+1.3**
SBUM	**Sibu**	**14.82**	**266**	P	**Pn**	**12 30 55.0**	**+1.8**
JAY	**Jayapura**	**15.02**	**114**	Pn	**P**	**12 31 01.2**	**+0.5**
	4.0nm,0.3s,baz=271,slow=6.2,SNR=19						
JAY				LR	LR	12 35 42.8	
	comp=Z,466nm,20.7s,baz=314,slow=33						
JAY	**Jayapura**	**15.02**	**114**	P	**Pn**	**12 30 54.6**	**-1.3**
	383nm46nm,1.0s						
APYP	**Conner**	**15.16**	**339**	‖*e*P	**P**	**12 30 59.4**	**-2.8**
WBSI	**Waikabubak, Su**	**15.28**	**210**	P	**Pn**	**12 31 00.7**	**+1.4**
	1μm87nm,0.7s						
STKI	**Sintang**	**15.93**	**257**	P	**P**	**12 31 10.3**	**-0.5**
	61nm,0.8s						
DRS	**Darwin Rock St**	**16.49**	**166**	P	**Pn**	**12 31 13.6**	**-1.2**
	98nm,0.8s						
SRBI	**Singaraja**	**16.60**	**225**	P	**Pn**	**12 31 17.6**	**+1.5**
	978nm56nm,0.7s						
KSM	**Kuching**	**16.83**	**263**	P	**P**	**12 31 20.8**	**+0.1**
KSM	**Kuching**	**16.83**	**263**	P	**P**	**12 31 22.0**	**+1.3**
KSM	**Kuching**	**16.83**	**263**	P	**P**	**12 31 21.8**	**+1.1**
MTN	**Manton Dam**	**16.94**	**166**	P	**Pn**	**12 31 18.6**	**-1.9**
	baz=17,SNR=37						
MTN	**Manton Dam**	**16.94**	**166**		**Pn**	**12 31 18.1**	**-2.3**
MTN	**Manton Dam**	**16.94**	**166**	P	**Pn**	**12 31 19.5**	**-1.0**
KDU	**Kakadu**	**17.17**	**162**	P	**Pn**	**12 31 20.4**	**-2.8**
	baz=17,SNR=26						
KDU	**Kakadu**	**17.17**	**162**	P	**Pn**	**12 31 23.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**17.62**	**227**	P	**P**	**12 31 30.0**	**+0.5**
KNRA	**Kununurra**	**19.34**	**175**	P	**P**	**12 31 47.8**	**-0.5**
	baz=19,SNR=64						
KNRA	**Kununurra**	**19.34**	**175**	P	**P**	**12 31 48.1**	**-0.2**
KNRA				IAmb	IAmb	12 31 56.1	
	comp=Z,76nm,0.8s						
KNRA	**Kununurra**	**19.34**	**175**	P	**P**	**12 31 48.7**	**+0.4**
DLV	**T Lat**	**20.07**	**295**	P	**P**	**12 31 56.3**	**-0.3**
DLV				IAmb	IAmb	12 31 58.8	
	comp=Z,61nm,0.7s						
UGM	**Wanagama**	**20.09**	**235**	P	**P**	**12 31 57.3**	**+0.7**
UGM				IAmb	IAmb	12 32 17.6	
	comp=Z,98nm,1.3s						
GUMO	**Guam**	**20.19**	**60**	LR	LR	12 38 17.4	
	comp=Z,240nm,21.7s,baz=238,slow=32						
YULB	**Yu-li**	**20.34**	**345**	P	**P**	**12 31 56.3**	**-2.9**
TPUB	**Ta-pu**	**20.43**	**343**	P	**P**	**12 31 57.4**	**-2.8**
TPUB				IAmb	IAmb	12 32 00.1	
	comp=Z,80nm,0.7s						
TPUB	**Ta-pu**	**20.43**	**343**	P	**P**	**12 31 58.8**	**-1.4**
SSLB	**Suanglung**	**20.80**	**344**	P	**P**	**12 32 02.8**	**-1.4**
SSLB	**Suanglung**	**20.80**	**344**	P	**P**	**12 32 03.8**	**-0.4**
YHNB	**Yeheng**	**21.54**	**346**	P	**P**	**12 32 11.7**	**-0.5**
YHNB				IAmb	IAmb	12 32 27.9	
	comp=Z,80nm,1.2s						
YHNB	**Yeheng**	**21.54**	**346**	P	**P**	**12 32 12.1**	**-0.1**
PPBI	**Pangkal Pinang**	**21.66**	**255**	P	**P**	**12 32 15.5**	**+2.0**
FITZ	**Fitzroy Crossi**	**21.71**	**184**	P	**P**	**12 32 12.6**	**-1.3**

JHJ	Hachijo jima 2	31.61	21	LR	LR	12 46 04.6	
	comp=Z,156nm,20.9s,baz=208,slow=35						
JWT	Wachi	32.37	13	P	P	12 33 51.1	-0.9
JWT				IAmb	IAmb	12 34 06.0	
	comp=Z,63nm,1.5s						
OOD	Oodnadatta	32.42	166	P	P	12 33 52.6	+0.2
PZH	PanZhiHua	33.15	316	P	P	12 33 58.6	-0.5
PZH				S	S	12 39 11.5	-4.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,80nm,4.6s						
PZH				LR	LR		
	comp=Z,270nm,18.4s						
PZH				LR	LR		
	comp=Z,270nm,17.8s						
PZH				LR	LR		
	comp=Z,410nm,17.7s						
KSRS	Korea Array	33.60	1	P	P	12 34 02.6	0.0
	comp=Z,3.7nm,0.9s,baz=177,slow=9.5,SNR=11						
TIA	Tai'an	33.61	345	eP	P	12 34 02.1	-0.7
TIA				pmax	pmax		
	comp=Z,14nm,1.0s						
INKA	Innaminka	33.95	158	P	P	12 34 07.0	+1.2
MORW	Morawa	34.24	197	P	P	12 34 09.8	+1.5
	baz=34,SNR=5.3						
MORW	Morawa	34.24	197	P	P	12 34 08.6	+0.2
MORW				IAmb	IAmb	12 34 32.6	
	comp=Z,29nm,1.4s						
MJAR	Matsushiro Arr	34.27	16	P	P	12 34 08.9	+0.4
	comp=Z,2.6nm,0.7s,baz=193,slow=9.3,SNR=4.5						
MJAR				LR	LR	12 47 34.9	
	comp=Z,155nm,21.0s,baz=216,slow=35						
MJAR	Matsushiro Arr	34.27	16	P	P	12 34 07.6	-0.9
MAJO	Matsushiro	34.27	16⇑	eP	P	12 34 08.8	+0.3
MAJO				pmax	pmax		
	comp=Z,21nm,2.4s						
MAT	Matsushiro	34.27	16	P	P	12 34 07.8	-0.7
FORT	Forrest	34.30	178	P	P	12 34 09.0	+0.2
	baz=34,SNR=14						
FORT	Forrest	34.30	178	P	P	12 34 07.5	-1.3
FORT				IAmb	IAmb	12 34 24.6	
	comp=Z,32nm,0.8s						
FORT	Forrest	34.30	178	P	P	12 34 09.8	+1.0
QLP	Quilpie	34.41	152	P	P	12 34 08.9	-0.9
	baz=34,SNR=3.8						
MULG	Mulgathing	34.46	169	P	P	12 34 08.8	-1.4
XAN	Xi'an	34.56	333	P	P	12 34 09.8	-1.3
XAN				S	S	12 39 33.8	-3.6
XAN				pmax	pmax		
	comp=Z,31nm,0.7s						
XAN				pmax	pmax		
	comp=Z,110nm,3.5s						
XAN				LR	LR		
	comp=Z,310nm,16.5s						
XAN				LR	LR		
	comp=Z,220nm,21.2s						
XAN				LR	LR		
	comp=Z,280nm,22.1s						
HNR	Honiara	35.33	112	LR	LR	12 48 03.9	
	comp=Z,219nm,22.0s,baz=294,slow=35						
DL2	Dalian	35.38	353	P	P	12 34 20.6	+2.6
DL2				pmax	pmax		
	comp=Z,42nm,0.7s						
HNS	HongShan	35.38	343	⇑P	P	12 34 18.6	+0.6
HNS				pmax	pmax		
	comp=Z,24nm,0.9s						
BLDU	Ballidu	35.52	195	P	P	12 34 20.2	+0.9
	baz=36,SNR=5.9						
BLDU	Ballidu	35.52	195	P	P	12 34 20.5	+1.2
LCRK	Leigh Creek	35.61	163	P	P	12 34 20.7	+0.6
KLBR	Kellerberrin	36.19	193	P	P	12 34 25.6	+0.6
	baz=36,SNR=10						
KLBR	Kellerberrin	36.19	193	P	P	12 34 25.7	+0.6
JMM	Marumori	36.27	19	P	P	12 34 25.4	-0.2
JMM				IAmb	IAmb	12 34 52.8	
	comp=Z,61nm,1.4s						
MUN	Mundaring	36.94	195	P	P	12 34 31.8	+0.3
	baz=37,SNR=5.1						
MUN	Mundaring	36.94	195	P	P	12 34 31.7	+0.3
EIDS	Eidsvold	37.16	142	P	P	12 34 32.8	-0.7
	baz=37,SNR=4.0						
EIDS	Eidsvold	37.16	142	P	P	12 34 32.6	-0.8
BBOO	Buckleboo	37.32	167	P	P	12 34 34.2	-0.5
	baz=38,SNR=16						
BBOO	Buckleboo	37.32	167	P	P	12 34 34.4	-0.3
BBOO				IAmb	IAmb	12 34 34.8	
	comp=Z,13nm,0.5s						
BBOO	Buckleboo	37.32	167	P	P	12 34 34.6	0.0
BJT	Baijiatuau	37.46	346	P	P	12 34 36.6	+0.9
BJT				pmax	pmax		
	comp=Z,67nm,0.7s						
BJT	Baijiatuau	37.46	346	P	P	12 34 36.6	+0.9
BJI	Beijing	37.48	346	P	P	12 34 36.5	+0.6
BJI				pP	sP	12 34 50.2	-1.8
BJI				sP	pP	12 34 56.8	+10
BJI				pmax	pmax		
	comp=Z,110nm,0.8s						
NWAO	Narrogin (SRO)	37.59	194	P	P	12 34 38.8	+1.8
STKA	Stephens Creek	38.01	160	P	P	12 34 40.0	-0.5
	comp=Z,21nm,0.6s,baz=336,slow=10,SNR=61						
STKA				LR	LR	12 53 16.9	
	comp=Z,144nm,19.2s,baz=351,slow=41						
STKA	Stephens Creek	38.01	160	P	P	12 34 40.2	-0.4
	baz=38,SNR=42						
STKA	Stephens Creek	38.01	160	P	P	12 34 40.1	-0.4
STKA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
STKA	Stephens Creek	38.01	160	P	P	12 34 40.1	-0.4
STKA	Stephens Creek	38.01	160	P	P	12 34 40.2	-0.4
SNY	Shenyang	38.08	356	⇓P	P	12 34 44.0	+3.0
SNY				pmax	pmax		
	comp=Z,44nm,0.6s						
SNY				LR	LR		
	comp=Z,230nm,12.6s						
SNY				LR	LR		
	comp=Z,290nm,11.0s						
SNY				LR	LR		
	comp=Z,230nm,14.6s						
HTT	Hallett	38.62	164	P	P	12 34 45.7	0.0
	baz=39,SNR=8.9						
HTT	Hallett	38.62	164	P	P	12 34 46.0	+0.3
LZH	Lanzhou	38.66	329	eP	P	12 34 46.0	-0.2
LZH				pP	sP	12 35 02.8	+0.1
LZH				sP	pP	12 35 09.1	+11
LZH				pmax	pmax		
	comp=Z,32nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,5.4s						
LZH				LR	LR		
	comp=Z,320nm,14.5s						
LZH				LR	LR		
	comp=Z,340nm,15.0s						
LZH				LR	LR		
	comp=Z,340nm,16.7s						
CMSA	Cobar Meteorol	39.31	154	P	P	12 34 51.4	0.0
	baz=39,SNR=15						
CMSA	Cobar Meteorol	39.31	154	P	P	12 34 51.8	+0.4
HHC	Hu-ho-hao-te	39.51	341	eP	P	12 34 54.0	+0.9
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,4.9s						
CN2	Changchun	39.95	358	eP	P	12 34 56.3	-0.3
CN2				epP	pwP	12 35 08.5	+0.6
CN2				ePP	PnPn	12 36 33.5	+0.8
CN2				eS	S	12 40 59.9	+0.9
CN2				esS	sS	12 41 20.3	+3.0
TWOA	Tennyson Woods	40.04	165	P	P	12 34 57.6	+0.2
	comp=Z,22nm,0.9s						
USRK	Ussuriysk Ar.	40.57	6	P	P	12 35 02.0	+0.3
	comp=Z,5.1nm,0.7s,baz=159,slow=4.6,SNR=7.1						
USRK	Ussuriysk Ar.	40.57	6	P	P	12 35 02.3	+0.7
MDJ	Mudanjiang	40.81	3	P	P	12 35 04.3	+0.6
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,200nm,6.7s						
MDJ	Mudanjiang	40.81	3	P	P	12 35 03.7	0.0
XLT	XiLinHaoTe	41.18	348	eP	P	12 35 07.2	+0.3
XLT				pP	sP	12 35 22.1	-0.9
XLT				sP	pP	12 35 29.9	+12
XLT				S	S	12 41 18.4	+0.9
XLT				pmax	pmax		
	comp=Z,40nm,0.6s						
XLT				pmax	pmax		
	comp=Z,130nm,3.6s						
XLT				LR	LR		
	comp=Z,190nm,11.0s						
XLT				LR	LR		
	comp=Z,260nm,16.0s						
XLT				LR	LR		
	comp=Z,200nm,12.2s						
ARMA	Armidale	41.30	147	P	P	12 35 08.6	+0.6
	baz=41,SNR=8.5						
ARMA	Armidale	41.30	147	P	P	12 35 08.4	+0.4
H11S3	WAKE ISLAND Hy	41.49	66	T	T	13 19 41.1	
	baz=253,slow=74,SNR=8.9						
H11S1	WAKE ISLAND Hy	41.51	66	T	T	13 19 43.6	
	baz=253,slow=74,SNR=5.0						
H11S2	WAKE ISLAND Hy	41.51	66	T	T	13 19 48.1	
	baz=253,slow=74,SNR=6.1						
ASAJ	Asahikawa	42.54	17	LR	LR	12 52 37.8	
	comp=Z,140nm,21.1s,baz=179,slow=36						
ARPS	Mount Arapiles	42.58	162	P	P	12 35 18.8	+0.6
	baz=43,SNR=7.7						
ARPS	Mount Arapiles	42.58	162	P	P	12 35 18.7	+0.4
LSA	Lhasa	42.66	311	P	P	12 35 20.3	+0.7
LSA				pmax	pmax		
	comp=Z,69nm,0.6s						
LSA	Lhasa	42.66	311	P	P	12 35 20.3	+0.7
GTA	Gaotai	43.26	329	eP	P	12 35 23.4	-0.6
GTA				pP	sP	12 35 39.0	-1.6
GTA				sP	pP	12 35 46.8	+11
GTA				PcP	PcP	12 37 16.5	+3.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,96nm,5.8s						
GTA				LR	LR		
	comp=Z,150nm,17.1s						
GTA				LR	LR		
	comp=Z,170nm,16.0s						
GTA				LR	LR		
	comp=Z,250nm,20.7s						
GOMU	GeErMu	43.88	322	P	P	12 35 29.0	-0.2
GOMU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,55nm,5.3s						
TOO	Toolangi	44.52	159	P	P	12 35 34.8	+0.9
TOO				pmax	pmax		
	comp=Z,17nm,1.4s						
TOO	Toolangi	44.52	159	P	P	12 35 34.8	+0.9
TOO	Toolangi	44.52	159	P	P	12 35 35.3	+1.4
YSS	Yuzh-Sakhalins	45.19	15	eP	P	12 35 38.9	-0.2
KLR	Kul'dur	45.54	4	deP	P	12 35 41.5	-0.3
KLR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
PALK	Pallekele	46.21	276	LR	LR	12 57 07.6	
	comp=Z,65nm,20.0s,baz=175,slow=39						
DZM	Mont Dzumac	46.30	125	eP	P	12 35 49.0	+0.7
	comp=Z,22nm,0.9s						
DZM	Mont Dzumac	46.30	125	eLR	LR	12 48 52.6	
	comp=Z,132nm,24.4s						
DZM	Mont Dzumac	46.30	125	P	P	12 35 48.2	-0.1
DZM				IAmb	IAmb	12 35 54.4	
	comp=Z,13nm,0.9s						
DZM	Mont Dzumac	46.30	125	P	P	12 35 49.3	+1.0
OUENC	Ouen Island, N	46.78	126	P	P	12 35 50.7	-1.3
OUENC				IAmb	IAmb	12 36 18.5	
	comp=Z,18nm,1.2s						
OUENC	Ouen Island, N	46.78	126	P	P	12 35 52.2	+0.2
ULN	Ulaanbaatar	47.23	342	c iP	P	12 35 55.5	+0.2
ULN				pmax	pmax		
	comp=Z,35nm,1.0s						
ULN	Ulaanbaatar	47.23	342	P	P	12 35 55.5	+0.2
ULN				IAmb	IAmb	12 35 57.5	
	comp=Z,34nm,1.1s						
MYLAV	Mylavaram	47.30	289	eP	P	12 35 57.1	+0.9
PINNC	Pines Island,	47.37	125	P	P	12 35 57.6	+1.0
SONM	Songino Array	47.41	341	P	P	12 35 57.1	+0.4
	comp=Z,13nm,0.9s,baz=157,slow=8.1,SNR=69						
SONM				PcP	PcP	12 37 27.7	+0.9
	comp=Z,2.7nm,0.6s,baz=178,slow=2.7,SNR=5.6						
SONM	Songino Array	47.41	341	P	P	12 35 57.1	+0.4
SONM				IAmb	IAmb	12 35 58.7	
	comp=Z,12nm,0.9s						
GRNR	Gornyy	47.57	8	eP	P	12 35 58.0	+0.3
GRNR				MLR	MLR		
	comp=E,80nm,14.0s						
GRNR				MLR	MLR		
	comp=N,50nm,17.0s						
GRNR				MLR	MLR		
	comp=Z,120nm,16.0s						
ADKI	Addanki	47.78	288	eP	P	12 35 59.9	0.0
NJS	Nagarjunasagar	48.52	289	eP	P	12 36 04.8	-0.9
RCLA	Racherla	48.68	287	eP	P	12 36 06.8	-0.1
SRLM	Srisailam	48.84	288	eP	P	12 36 07.2	-0.9
RPR	Rampur	48.97	292	eP	P	12 36 08.8	-0.2
CUPL	Choutuppal	49.02	290	eP	P	12 36 08.9	-0.6
HYBB	Hyderabad (bro	49.38	290	eP	P	12 36 11.8	-0.5
HYBB				eS	S	12 43 19.6	+3.0
HYBB				eScS	ScS	12 46 04.6	+3.2
SRSP	Sriramsagar	49.86	292	eP	P	12 36 15.6	-0.3
URV	Uravakonda	50.23	286	eP	P	12 36 18.7	0.0
ZAK	Zakamensk	50.64	341	eP	P	12 36 20.3	-1.1
ZAK				e		12 37 36.4	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MOY	Mondy	52.50	340	eP	P	12 36 36.5	+1.2
MOY				pmax	pmax		
	comp=Z,34nm,2.0s						
WMQ	Urumqi	52.90	325	eP	P	12 36 38.7	+0.4
WMQ				sP	sP	12 37 02.8	+7.7
WMQ				pmax	pmax		
	comp=Z,24nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,170nm,3.9s						
WMQ				LR	LR		
	comp=Z,350nm,18.7s						
WMQ				LR	LR		
	comp=Z,170nm,19.9s						
MSVF	Nonsavu	54.65	115	LR	LR	12 58 36.0	
	comp=Z,72nm,20.3s,baz=201,slow=34						
BOD	Bodaibo	54.93	352	eP	P	12 36 53.2	+0.5
BOD				pmax	pmax		
	comp=Z,20nm,1.2s						
PEA0B	Petropavlovsk-	55.35	22	P	P	12 36 57.5	+1.6
PEA0B				pmax	pmax		
	comp=Z,33nm,1.1s						
PEA0B	Petropavlovsk-	55.35	22	P	P	12 36 57.5	+1.6
PEA0B				IAmb	IAmb	12 37 15.1	
	comp=Z,33nm,1.1s						
PETK	Petropavlovsk-	55.35	22	P	P	12 36 56.8	+0.9
	comp=Z,7.4nm,0.7s,baz=189,slow=5.1,SNR=28						
PETK	Petropavlovsk-	55.35	22	P	P	12 36 56.9	+1.0
PETK	Petropavlovsk-	55.35	22	P	P	12 36 56.9	+1.0
ZSN	Zaisan	56.68	327	eP	P	12 37 04.8	-0.7
ZSN	Zaisan	56.68	327	eP	P	12 37 04.8	-0.7
	baz=327						
ZSN				i S	S	12 44 51.5	-3.6
	baz=327						
DGZ	Jazzator, Alta	56.75	330	d iP	P	12 37 06.5	+0.3
DGZ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SHLS	Shalkode	57.54	320	eP	P	12 37 08.9	-2.9
SHLS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SHLS	Shalkode	57.54	320	eP	P	12 37 08.9	-2.9
	comp=Z,6.2nm,0.7s,baz=320						
PDGK	Podgornoye	57.61	320	P	P	12 37 11.3	-1.0
MK31	Makanchi Array	57.73	325	eP	P	12 37 12.4	-0.6
MK31	Makanchi Array	57.73	325	P	P	12 37 12.9	-0.1
MK31				IAmb	IAmb	12 37 15.4	
	comp=Z,15nm,0.6s						
MKAR	Makanchi Array	57.73	325	P	P	12 37 12.6	-0.4
	comp=Z,25nm,0.5s,baz=120,slow=7.4,SNR=344						
MKAR				PcP	PcP	12 38 07.4	+1.9
	comp=Z,7.0nm,0.6s,baz=111,slow=4.2,SNR=5.7						
MKAR				S	S	12 45 08.6	-0.4
	comp=Z,0.5nm,0.8s,baz=116,slow=13,SNR=3.6						
MKAR				LR	LR	13 04 01.6	
	comp=Z,134nm,18.7s,baz=79,slow=38						
MKAR				P4KPbc		13 14 24.1	
	comp=Z,0.3nm,0.8s,baz=108,slow=4.7,SNR=4.7						
UZB	Uzynbulak	57.82	320	eP	P	12 37 12.5	-1.3
UZB				pmax	pmax		
	comp=Z,5.0nm,0.4s						
UZB	Uzynbulak	57.82	320	eP	P	12 37 12.6	-1.3
	comp=Z,5.4nm,0.4s,baz=320						
PRZ	Przheval'sk	57.91	319	P	P	12 37 15.5	+1.0
PRZ				pmax	pmax		
	comp=Z,37nm,0.7s						
PRZ	Przheval'sk	57.91	319	P	P	12 37 15.5	+1.0
MAKZ	Makanchi	57.92	325	P	P	12 37 14.1	-0.2
MAKZ	Makanchi	57.92	325	P	P	12 37 13.8	-0.5
MAKZ				IAmb	IAmb	12 37 16.6	
	comp=Z,21nm,0.6s						
TARG	Taragay, Kyrgy	57.95	318	P	P	12 37 14.8	-0.3
TARG				IAmb	IAmb	12 37 34.3	
	comp=Z,12nm,0.9s						
NIL	Nilore	58.16	308	P	P	12 37 15.9	-0.3
NIL				pmax	pmax		
	comp=Z,32nm,1.0s						
NIL	Nilore	58.16	308	P	P	12 37 15.9	-0.3
NIL				IAmb	IAmb	12 37 23.4	
	comp=Z,32nm,1.0s						
SATY	Saty	58.17	320	eP	P	12 37 15.0	-1.3
SATY				pmax	pmax		
	comp=Z,13nm,0.6s						
SATY	Saty	58.17	320	eP	P	12 37 15.1	-1.3
	comp=Z,13nm,0.6s,baz=320						
ZHN	Zhinishke	58.20	320	eP	P	12 37 14.8	-1.7
ZHN	Zhinishke	58.20	320	eP	P	12 37 14.9	-1.7
	baz=320						
YAK	Yakutsk	58.23	1	eP	P	12 37 16.0	-0.1
YAK				e		12 38 10.2	
YAK				eS	S	12 45 14.8	0.0
YAK				e*SS	sS	12 45 40.1	+6.0
YAK				pmax	pmax		
	comp=Z,43nm,0.7s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,77nm,2.8s						
YAK				pmax	pmax		
	comp=N,26nm,2.5s						
YAK				pmax	pmax		
	comp=E,57nm,2.8s						
YAK				smax	smax		
	comp=N,37nm,2.5s						
YAK				smax	smax		
	comp=E,39nm,2.8s						
YAK	Yakutsk	58.23	1	P	P	12 37 16.2	+0.2
KDJ	Kajisay	58.55	318	P	P	12 37 19.3	+0.3
KDJ				pmax	pmax		
	comp=Z,28nm,0.6s						
KDJ	Kajisay	58.55	318	P	P	12 37 19.3	+0.3
MDOK	Medeo	59.10	319	P	P	12 37 21.7	-1.1
MDOK	Medeo	59.10	319	eP	P	12 37 20.1	-2.7
	baz=319						
TDK	Taldyqorghan	59.11	322	eP	P	12 37 21.9	-0.7
TDK				i S	S	12 45 25.1	-1.8
TDK				pmax	pmax		
	comp=Z,31nm,0.7s						
TDK	Taldyqorghan	59.11	322	eP	P	12 37 22.0	-0.7
	comp=Z,31nm,0.7s,baz=322						
TDK				i S	S	12 45 25.1	-1.8
	baz=322						
TNSS	Tian-Shan	59.11	319	eP	P	12 37 22.2	-0.9
	baz=319						
ULHL	Ulahol	59.22	318	P	P	12 37 23.4	-0.4
	SNR=7.6						
CHKK	Chushkaly	59.46	320	eP	P	12 37 23.6	-1.4
	baz=320						
BOOM	Boomskoye usch	59.53	318	P	P	12 37 25.8	0.0
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOOM	Boomskoye usch	59.53	318	P	P	12 37 25.8	0.0
KST	Kastek	59.76	319	eP	P	12 37 26.3	-1.0
	comp=Z,27nm,0.6s,baz=319						
KUU	Kurty	59.89	320	eP	P	12 37 26.8	-1.2
KUU				pmax	pmax		
	comp=Z,36nm,0.7s						
KUU	Kurty	59.89	320	eP	P	12 37 26.9	-1.2
	comp=Z,36nm,0.7s,baz=320						
TKM2	Tokmak 2	59.95	318	P	P	12 37 28.0	-0.7
	SNR=22						
TKM2	Tokmak 2	59.95	318	P	P	12 37 27.5	-1.2
KBK	Karagaybulak	60.27	318	P	P	12 37 31.4	+0.5
	SNR=11						
UCH	Uchtor	60.38	317	P	P	12 37 32.3	+0.3
	SNR=42						
CHMS	Chumysh	60.54	318	P	P	12 37 32.0	-0.5
	SNR=7.6						
AAK	Ala-Archa	60.56	318	LR	LR	13 07 39.8	
	comp=Z,95nm,18.1s,baz=98,slow=40						
AAK	Ala-Archa	60.56	318	P	P	12 37 33.5	+0.7
	SNR=8.7						
AAK	Ala-Archa	60.56	318	ceP	P	12 37 32.6	-0.3
AAK				pmax	pmax		
	comp=Z,24nm,1.0s						
AAK	Ala-Archa	60.56	318	P	P	12 37 32.7	-0.1
ZAA0	Zalesovo Array	60.73	333	P	P	12 37 32.1	-1.4
ZAA0				IAmb	IAmb	12 37 33.6	
	comp=Z,9.9nm,0.7s						
ZALV	Zalesovo Beam	60.73	333	P	P	12 37 32.9	-0.6
	comp=Z,8.3nm,0.6s,baz=126,slow=6.5,SNR=44						
ZALV				S	S	12 45 44.5	-2.9
	comp=Z,0.3nm,0.3s,baz=154,slow=11,SNR=4.4						
ZALV				LR	LR	13 05 46.4	
	comp=Z,74nm,18.1s,baz=142,slow=38						
ZALV	Zalesovo Beam	60.73	333	i P	P	12 37 33.0	-0.6
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.6s						
QRZ	Quartz Range	60.74	142	P	P	12 37 34.9	+1.1
SGDS	Sogindy	60.81	319	eP	P	12 37 32.8	-1.7
	baz=319						
USP	Ospenovka	60.82	318	P	P	12 37 33.7	-0.7
	SNR=47						
SEM	Semipalatinsk	60.87	328	eP	P	12 37 33.3	-1.5
SEM	Semipalatinsk	60.87	328	eP	P	12 37 33.3	-1.5
	baz=328						
AML	Almayashu	60.90	317	P	P	12 37 35.0	-0.5
	SNR=51						
EKS2	Erkin-Say	61.05	318	P	P	12 37 36.0	-0.1
	SNR=25						
DRK	Karamyk	61.23	314	P	P	12 37 38.0	+0.4
KBL	Kabul	61.76	307	P	P	12 37 40.2	-0.9
KBL				pmax	pmax		
	comp=Z,17nm,0.7s						
KBL	Kabul	61.76	307	P	P	12 37 40.2	-0.9
KBL				IAmb	IAmb	12 37 41.4	
	comp=Z,16nm,0.7s						
BTLS	Baital	61.87	320	eP	P	12 37 40.0	-1.4
BTLS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BTLS	Baital	61.87	320	eP	P	12 37 40.0	-1.4
	comp=Z,5.0nm,0.6s,baz=320						
KURBB	Kurchatov Arra	61.91	327	P	P	12 37 40.9	-0.7
KURK	Kurchatov	61.91	327	c iP	P	12 37 41.0	-0.6
KURK				pmax	pmax		
	comp=Z,79nm,0.7s						
KURK	Kurchatov	61.91	327	P	P	12 37 41.5	-0.1
BTK	Batken	62.14	314	P	P	12 37 43.0	-0.5
BTK				pmax	pmax		
	comp=Z,17nm,0.7s						
BTK	Batken	62.14	314	P	P	12 37 43.0	-0.5
BTK				IAmb	IAmb	12 37 44.6	
	comp=Z,17nm,0.7s						
URZ	Urewera	62.34	137	LR	LR	13 06 53.4	
	comp=Z,183nm,18.1s,baz=1.5,slow=38						
BKZ	Black Stump Fm	62.38	138	P	P	12 37 44.8	-0.2
DZA	Taraz	62.80	317	eP	P	12 37 46.5	-1.2
DZA	Taraz	62.80	317	eP	P	12 37 46.6	-1.2
	baz=317						
CHGR	Chuyangaron	62.89	312	P	P	12 37 47.8	-0.7
CHGR				IAmb	IAmb	12 38 12.7	
	comp=Z,15nm,0.8s						
KKAR	Karatay Array	63.44	317	P	P	12 37 51.0	-1.0
KKAR	Karatay Array	63.44	317	P	P	12 37 51.0	-1.0
BRLS	Borolday	63.87	317	eP	P	12 37 53.8	-1.0
BRLS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRLS	Borolday	63.87	317	eP	P	12 37 53.8	-1.0
	comp=Z,5.3nm,0.7s,baz=316						
OTUK	Ortayu	64.31	323	P	P	12 37 56.3	-1.3
BRZS	Berezniki	64.87	325	eP	P	12 38 00.0	-1.2
BRZS				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BRZS	Berezniki	64.87	325	eP	P	12 38 00.0	-1.2

comp=Z,7.5nm,0.6s,baz=325
HRA Herat 67.17 306 P P 12 38 15.9 -0.7
BRVK Borovoye 67.56 327 P P 12 38 18.4 0.0
BRVK pmax pmax
comp=Z,22nm,0.8s
BRVK Borovoye 67.56 327 P P 12 38 18.4 0.0
TIXI Tiksi 67.86 1 *deP* **P 12 38 20.5 +0.6**
TIXI *i* *PP **sP 12 38 35.5 -0.8**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 67.86 1 P P 12 38 19.2 -0.7
TIXI IAmb IAmb 12 38 41.1
comp=Z,13nm,0.8s
BILL Bilibino 69.51 15⇓ *eP* **P 12 38 30.8 +0.6**
BILL *i* 12 38 46.5
BILL *e* 12 41 05.8
BILL pmax pmax
comp=Z,10.0nm,3.3s
BILL MLR MLR
comp=Z,513nm,18.0s
NRIK Noril'sk 70.52 346 P P 12 38 36.9 +0.4
comp=Z,15nm,0.7s,baz=122,slow=6.1,SNR=26
NRIK LR LR 13 13 28.2
comp=Z,91nm,19.8s,baz=163,slow=39
NRIK Noril'sk 70.52 346 *c iP* **P 12 38 36.4 0.0**
NRIK pmax pmax
comp=Z,14nm,0.8s
NRIK Noril'sk 70.52 346 P P 12 38 36.6 +0.1
NRIK IAmb IAmb 12 38 39.4
comp=Z,16nm,0.7s
GEYT Alibeck 71.12 309 P P 12 38 39.1 -1.7
comp=Z,3.7nm,0.6s,baz=120,slow=8.0,SNR=4.4
AB31 Akbulak array 72.34 321 *i P* **P 12 38 47.0 -0.8**
ABKAR Akbulak array 72.34 321 P P 12 38 47.1 -0.8
SOCY Socotra 72.64 282 P P 12 38 47.7 -2.7
SOCY IAmb IAmb 12 39 09.5
comp=Z,18nm,1.0s
AKTO Aktyubinsk 73.85 322 LR LR 13 14 43.7
comp=Z,83nm,19.6s,baz=105,slow=38
SVE Sverdlovsk 74.13 328 *ceP* **P 12 38 58.5 +0.3**
SVE pmax pmax
comp=Z,27nm,0.6s
ARU Arti 75.10 328 LR LR 13 14 30.0
comp=Z,62nm,18.0s,baz=196,slow=38
ARU Arti 75.10 328 *d iP* **P 12 39 03.1 -0.8**
ARU *PP **sP 12 39 18.7 -1.7**
ARU S **S 12 48 37.6 -1.5**
ARU SS **SS 12 53 26.0 -2.7**
ARU pmax pmax
comp=Z,17nm,0.5s
ARU Arti 75.10 328 P P 12 39 03.4 -0.5
SDPT Sand Point 77.06 34 P P 12 39 15.3 +0.3
ANM Nome 77.17 24 P P 12 39 16.5 +1.0
ANM pmax pmax
comp=Z,17nm,1.5s
ANM Nome 77.17 24 P P 12 39 16.5 +1.0
ANM IAmb IAmb 12 39 27.4
comp=Z,17nm,1.5s
MAK Makhachkala 79.80 313 *eP* **P 12 39 31.4 +1.0**
MAK *e* 12 42 31.3
MAK *e*PPP PPP 12 44 20.2
MAK *e*S **S 12 49 31.0 +0.5**
MAK *e*SS **SS 12 54 43.2 +3.1**
MAK *e*SSS SSS 12 58 07.5
MAK pmax pmax
comp=Z,172nm,1.0s
KIRV Kirov 80.39 329 LR LR 13 17 36.3
comp=Z,77nm,20.2s,baz=89,slow=38
KIRV Kirov 80.39 329 *c iP* **P 12 39 32.9 -0.3**
BELG Belogornoye 80.59 322 LR LR 13 17 14.4
comp=Z,58nm,19.8s,baz=211,slow=37
RAYN Ar Rayn 80.75 293 P P 12 39 35.3 -0.7
RAYN pmax pmax
comp=Z,9.0nm,0.8s
RAYN Ar Rayn 80.75 293 P P 12 39 35.3 -0.7
GCSA Galena City Sc 80.75 25 P P 12 39 36.9 +1.9
baz=259
N19K Bonanza Creek 81.18 29 P P 12 39 39.9 +2.4
baz=262
L19K White Mountain 81.20 28 P P 12 39 38.9 +1.3
ABPO Ambohimpanom 81.56 250 P P 12 39 40.0 -0.5
ABPO pmax pmax
comp=Z,8.0nm,0.8s
ABPO Ambohimpanom 81.56 250 P P 12 39 40.0 -0.5
GNI Garni 81.71 310 LR LR 13 22 40.2
comp=Z,22nm,19.3s,baz=102,slow=41
GNI Garni 81.71 310⇑ *eP* **P 12 39 39.8 -1.1**
GNI pmax pmax
comp=Z,6.0nm,0.8s
K20K Telida 81.74 27 P P 12 39 41.3 +1.0
K20K IAmb IAmb 12 39 50.7
comp=Z,14nm,1.1s
K20K Telida 81.74 27 P P 12 39 42.8 +2.4
baz=262
KDAK Kodiak Island 81.76 32 P P 12 39 38.8 -1.7
KDAK pmax pmax
comp=Z,183nm,1.8s
KDAK Kodiak Island 81.76 32 P P 12 39 38.8 -1.7
J20K Nowinta River 81.82 26 P P 12 39 41.1 +0.3
J20K IAmb IAmb 12 39 51.8
comp=Z,22nm,1.4s
J20K Nowinta River 81.82 26 P P 12 39 43.1 +2.4
baz=262
RSO Redoubt South 81.98 30 P P 12 39 42.7 +0.8
A21K Barrow 82.16 18 P P 12 39 42.3 0.0
A21K IAmb IAmb 12 39 53.5
comp=Z,26nm,1.2s
A21K Barrow 82.16 18 P P 12 39 44.5 +2.1
baz=258
IMAR Indian Mountai 82.25 24 P P 12 39 44.1 +1.1
PPLA Purkeypile 82.53 27 P P 12 39 44.9 +0.2
PPLA IAmb IAmb 12 39 59.7
comp=Z,52nm,1.8s
H21K Melozitna Rive 82.59 24 P P 12 39 46.1 +1.3
H21K IAmb IAmb 12 39 55.7
comp=Z,16nm,1.2s
H21K Melozitna Rive 82.59 24 P P 12 39 47.0 +2.2
baz=262
CAST Castle Rocks 82.63 27 P P 12 39 46.0 +1.0
CAST Castle Rocks 82.63 27 P P 12 39 46.7 +1.6
baz=263
PRGR Permogore 82.66 332 *eP* **P 12 39 45.8 +0.7**
PRGR pmax pmax
comp=Z,127nm,0.6s
AKH Akhalkalaki 82.70 311 ⇑P **P 12 39 47.4 +1.4**
ONI Oni 82.76 312 P P 12 39 45.7 -0.5
ONI pmax pmax
comp=Z,6.0nm,0.7s
ONI Oni 82.76 312 P P 12 39 45.7 -0.5
BRLK Bradley Lake 82.84 30 P P 12 39 46.6 +0.4
I21K Tanana 82.88 25 P P 12 39 47.4 +1.2
I21K IAmb IAmb 12 39 56.6
comp=Z,22nm,1.1s
I21K Tanana 82.88 25 P P 12 39 48.5 +2.3
baz=263
GEVA Gevas 82.97 308 P P 12 39 47.6 +0.1
BPAW Bear Paw Mtn. 83.19 26 P P 12 39 49.8 +1.9
baz=264
KBZ Khabaz 83.20 313 P P 12 39 47.8 -0.5
comp=Z,2.5nm,0.8s,baz=114,slow=9.0,SNR=5.0
KBZ Khabaz 83.20 313⇓ *iP* **P 12 39 48.0 -0.3**
KBZ pmax pmax
comp=Z,9.0nm,1.5s
KIV Kislovodsk 83.35 314 *eP* **P 12 39 46.5 -2.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
VNDA Vanda 83.37 173 P P 12 39 49.9 +1.3
comp=Z,3.3nm,0.8s,baz=320,slow=7.9,SNR=7.3
M22K Willow 83.38 28 P P 12 39 49.3 +0.5
M22K Willow 83.38 28 P P 12 39 50.2 +1.4
baz=265
TRF Thorofare Moun 83.44 27 P P 12 39 50.6 +1.2
baz=265
RC01 Rabbit Creek A 83.51 29 P P 12 39 50.6 +1.0
baz=266
ATD Arta Tunnel 83.55 281 LR LR 13 13 28.2
comp=Z,35nm,20.3s,baz=43,slow=33
COLD Coldfoot 83.81 23 P P 12 39 53.0 +2.0
baz=265
PMR Palmer 83.83 29 P P 12 39 52.2 +1.0
baz=266
I23K Minto, Yukon-K 83.98 25 P P 12 39 53.6 +1.7
baz=266
NEA2 Nenana 84.06 26 P P 12 39 54.0 +1.6
baz=266

MCK McKinley 84.06 26 P P 12 39 53.4 +1.0
baz=266
RND Reindeer 84.08 27 P P 12 39 52.8 +0.2
RND pmax pmax
comp=Z,9.0nm,0.9s
RND Reindeer 84.08 27 P P 12 39 52.8 +0.2
RND IAmb IAmb 12 39 53.8
comp=Z,9.3nm,0.9s
KNK Knik Glacier 84.15 29 P P 12 39 54.3 +1.4
baz=267
VRH Novokhopyorsk 84.17 321 *eP* **P 12 39 52.6 -0.6**
VRH pmax pmax
comp=Z,70nm,0.7s
PWL Port Wells 84.18 29 P P 12 39 53.3 +0.2
PWL Port Wells 84.18 29 P P 12 39 54.2 +1.1
baz=267
SML Sawmill 84.23 28 P P 12 39 54.7 +1.3
baz=267
WAT6 Susitna Watana 84.54 28 P P 12 39 56.7 +1.7
baz=267
CCB Clear Creek Bu 84.61 26 P P 12 39 55.9 +0.8
CCB IAmb IAmb 12 40 04.2
comp=Z,16nm,1.3s
H24K Noodor Dome 84.64 24 P P 12 39 56.5 +1.1
H24K IAmb IAmb 12 40 06.3
comp=Z,15nm,1.4s
H24K Noodor Dome 84.64 24 P P 12 39 57.4 +2.1
baz=267
GLI Glacier Island 84.78 29 P P 12 39 57.2 +1.1
GLI Glacier Island 84.78 29 P P 12 39 57.7 +1.6
baz=268
PPT2 Papeete2 84.85 108 *e*LR LR 13 06 48.6
comp=Z,156nm,29.2s
HDA Harding Lake 84.97 26 P P 12 39 57.8 +0.9
baz=268
IL31 85.01 25 P P 12 39 58.0 +1.0
IL31 IAmb IAmb 12 40 26.9
comp=Z,24nm,1.9s
ILAR Eielson Array 85.01 25 P P 12 39 57.0 -0.1
comp=Z,1.1nm,0.7s,baz=236,slow=5.5,SNR=9.2
ILAR Eielson Array 85.01 25 P P 12 39 57.8 +0.6
ILAR Eielson Array 85.01 25 P P 12 39 57.8 +0.6
M24K Tolsona, Glenn 85.26 28 P P 12 40 00.7 +2.2
baz=269
KLU Klutina 85.37 29 P P 12 40 00.9 +1.8
baz=269
TBI Tubuai 85.53 114 *e*LR LR 13 07 05.9
comp=Z,110nm,29.2s
KLMR Klimovskoe 85.56 331 *eP* **P 12 39 58.8 -1.1**
KLMR pmax pmax
comp=Z,75nm,0.8s
KLMR Klimovskoe 85.56 331 *eP* **P 12 39 58.9 -1.0**
KLMR AMP 12 40 01.7
comp=Z,75nm,0.8s
VORD Divnogorie 85.70 321 *eP* **P 12 40 00.1 -0.8**
VORD pmax pmax
comp=Z,30nm,0.6s
VORR Voronezh 85.75 321 *eP* **P 12 40 00.9 -0.2**
VORR pmax pmax
comp=Z,55nm,1.9s
VSR Storozhevoye 85.78 321 *eP* **P 12 40 00.8 -0.5**
VSR pmax pmax
comp=Z,40nm,0.9s
LPSR Galich'ya Gora 85.91 322 *eP* **P 12 40 02.1 +0.2**
LPSR pmax pmax
comp=Z,70nm,0.8s
BMAR Burnt Mountain 85.99 23 P P 12 40 04.1 +2.1
N25K Chitina, Valde 86.00 29 P P 12 40 04.7 +2.4
baz=270
J26L Joseph Creek 86.44 26 P P 12 40 06.0 +1.6
baz=271
MOS Moscow 86.61 325 *eP* **P 12 40 04.6 -0.7**
MOS pmax pmax
comp=Z,76nm,0.7s
OBN Obninsk 87.24 325 ⇑P **P 12 40 08.9 +0.6**
OBN Obninsk 87.24 325 *deP* **P 12 40 08.4 +0.1**
OBN *e* 12 43 33.0
OBN *e*S **SKSac 12 50 33.4 +1.0**
OBN pmax pmax
comp=Z,38nm,0.6s
OBN MLR MLR
comp=Z,53nm,15.0s
L27K Beaver Creek, 87.25 27 P P 12 40 10.5 +2.2
baz=273
BCAR Beaver Creek A 87.27 27 P P 12 40 09.7 +1.3
BVCY Beaver Creek 87.73 28 P P 12 40 13.1 +2.5
baz=274
MMAI Mount Meron Ar 89.35 303 LR LR 13 25 59.1
comp=Z,28nm,19.7s,baz=248,slow=39
KMBO Kilima Mbogo 89.83 269 P P 12 40 19.6 -2.2
comp=Z,1.1nm,0.6s,baz=50,slow=6.8,SNR=3.7
KMBO Kilima Mbogo 89.83 269⇓ *eP* **P 12 40 22.5 +0.7**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
BR131 Keskin Array S 90.25 310 *d iP* **P 12 40 22.3 -0.8**
BR131 Keskin Array S 90.25 310 P P 12 40 22.3 -0.8
BR131 IAmb IAmb 12 40 25.7
comp=Z,16nm,0.8s
BRTR Keskin Array B 90.25 310 P P 12 40 22.1 -0.9
comp=Z,6.0nm,0.8s,baz=116,slow=5.6,SNR=11
BRTR LR LR 13 27 46.7
comp=Z,30nm,19.2s,baz=93,slow=40
BRTR Keskin Array B 90.25 310 *ceP* **P 12 40 22.5 -0.6**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
SPA0 Spitsbergen Ar 90.56 349 *eP* **P 12 40 24.8 +1.2**
ARA0 ARCESS Array S 90.57 340 *eP* **P 12 40 23.6 -0.1**
ARCES ARCESS Array B 90.57 340 P P 12 40 23.2 -0.5
comp=Z,15nm,0.7s,baz=80,slow=6.8,SNR=36
ARCES ARCESS Array B 90.57 340 P P 12 40 23.2 -0.5
ARCES IAmb IAmb 12 40 24.7
comp=Z,18nm,0.8s
HAMF Hammerfest 90.93 341 *eP* **P 12 40 25.1 -0.3**
KTK1 Kautokeino 91.47 340 *eP* **P 12 40 27.3 -0.7**
FINES FINESS Array B 91.98 332 P P 12 40 29.8 -0.7
comp=Z,8.1nm,0.7s,baz=56,slow=5.8,SNR=19
FINES FINESS Array B 91.98 332 *i P* **P 12 40 30.1 -0.3**
FINES pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 92.08 321 P P 12 40 30.1 -1.0
comp=Z,8.4nm,0.6s,baz=71,slow=4.5,SNR=61
AKASG LR LR 13 25 00.2
comp=Z,52nm,19.4s,baz=71,slow=38
AKASG Malin Array Be 92.08 321 P P 12 40 31.3 +0.1
AKBB Malin Array Si 92.08 321⇓ *eP* **P 12 40 30.6 -0.5**
AKBB Malin Array Si 92.08 321 P P 12 40 30.2 -1.0
AKBB IAmb IAmb 12 40 31.3
comp=Z,10nm,0.8s
VSU Vasula 92.23 329⇑ *eP* **P 12 40 31.3 -0.3**
VSU pmax pmax
comp=Z,35nm,0.8s
JETT Jettan, Norway 92.30 340 *eP* **P 12 40 32.5 +0.7**
MNK Minsk 92.30 325 *i P* **P 12 40 30.6 -1.5**
MNK *i* *PP **sP 12 40 47.6 -1.3**
MNK *i* 12 44 11.6
MNK *i* PPP PPP 12 46 11.0
MNK *i* S **SKSac 12 50 58.1 -3.9**
MNK *i* *SS **S 12 51 28.6 -3.5**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
MNK Minsk 92.30 325 *i P* **P 12 40 30.6 -1.4**
comp=E,2.0nm,0.8s
MNK *i P* **P 12 40 30.6 -1.4**
comp=N,13nm,0.8s
MNK *i P* **P 12 40 30.6 -1.4**
comp=Z,23nm,0.8s,baz=80
MNK *i* pP **sP 12 40 47.7 -1.2**
MNK *i* sP pP 12 40 54.5 +10
MNK *i* PP **PP 12 44 11.7 -1.1**
MNK *i* PPP PPP 12 46 11.0
MNK *i* S **SKSac 12 50 58.1 -3.9**
MNK *i* sS **S 12 51 28.6 -3.5**
MNK *i* SS SS 12 56 41.2 -62
MNK *i* SSS SSS 13 00 46.5
SYO Syowa Base 92.50 201⇑ *eP* **P 12 40 34.2 +1.6**
SYO Syowa Base 92.50 201⇓ *ep*P pP 12 40 39.8 -5.2
NACGM Naroch 92.86 325 *i* P **P 12 40 34.8 +0.2**
SORM Soroca 93.03 318 ⇑P **P 12 40 35.5 -0.1**
SORM Soroca 93.03 318 ⇑P **P 12 40 35.5 -0.1**
TAOE Nuku Hiva Isla 93.37 99 *e*LR LR 13 10 49.8
comp=Z,365nm,30.4s

TESR Tescani 94.44 317 ⇑P **P 12 40 41.7 -0.5**
VRI Vrincioaia 94.50 316 ⇑P **P 12 40 42.4 0.0**
VRI Vrincioaia 94.50 316 ⇑P **P 12 40 42.4 0.0**
STEI Steigen 94.61 339 *eP* **P 12 40 41.5 -0.9**
FAUS Fauske 94.80 339 *eP* **P 12 40 42.8 -0.4**
MLR Muntele Rosu 95.11 316 ⇑P **P 12 40 45.8 +0.4**
MLR Muntele Rosu 95.11 316 ⇑P **P 12 40 45.8 +0.4**
MLR Muntele Rosu 95.11 316 P P 12 40 45.5 +0.1
BURAR Bucovina Array 95.20 318 ⇑P **P 12 40 46.5 +0.8**
BURAR Bucovina Array 95.20 318 ⇑P **P 12 40 46.5 +0.8**
BURAR Bucovina Array 95.20 318 P P 12 40 46.0 +0.2
BUR08 Bucovina Ar. S 95.21 318 P P 12 40 45.8 0.0
BUR08 IAmb IAmb 12 40 47.3
comp=Z,10nm,0.8s
DOPR Dopca 95.40 317 ⇑P **P 12 40 46.4 -0.2**
VOIR 95.74 316 ⇑P **P 12 40 48.3 +0.1**
VOIR 95.74 316 ⇑P **P 12 40 48.3 +0.1**
ARR Arges 96.04 316 ⇑P **P 12 40 48.3 -1.2**
UZH Uzhgorod 96.90 320 ⇑*iP* **P 12 40 53.8 +0.6**
DRGR 97.05 318 ⇓P **P 12 40 54.1 0.0**
DRGR 97.05 318 ⇓P **P 12 40 54.1 0.0**
NSS Namsos 97.17 337 *eP* **P 12 40 52.5 -1.6**
DAG Danmarks Havn 97.31 352 *i P* **P 12 40 54.0 -0.6**
CRVS Cervenica-Dubn 97.37 320 *eP* Pdif 12 40 56.6 +1.1
CRVS Cervenica-Dubn 97.37 320 *eP*DIFF Pdif 12 40 56.6 +1.1
IDI Anoyia 97.73 306 LR LR 13 31 59.9
comp=Z,16nm,18.7s,baz=110,slow=40
SIRR Siria 97.87 318 ⇑P **P 12 40 57.6 -0.1**
BZS Buzias 98.06 317 ⇑P **P 12 40 58.4 -0.1**
BZS Buzias 98.06 317 ⇑P **P 12 40 58.4 -0.1**
HFS Hagfors 98.17 332 LR LR 13 28 12.5
comp=Z,68nm,19.5s,baz=53,slow=37
NC405 NORSAR Array S 98.68 334 P P 12 40 59.4 -1.7
NB2 NORSAR Subarra 98.93 334 P P 12 41 01.0 -1.2
comp=Z,4.2nm,0.7s,baz=66,slow=4.6
NB2 NORSAR Subarra 98.93 334 P P 12 41 01.0 -1.2
baz=66,slow=4.6
NOA NORSAR Array B 98.93 334 P P 12 41 01.4 -0.8
comp=Z,4.3nm,0.8s,baz=66,slow=4.6,SNR=17
NOA LR LR 13 31 18.9
comp=Z,56nm,19.6s,baz=285,slow=39
YKA Yellowknife Ar 99.41 24 P Pdif 12 41 05.1 +0.9
comp=Z,0.4nm,0.7s,baz=301,slow=4.4,SNR=9.3
YKA Yellowknife Ar 99.41 24 P Pdif 12 41 04.8 +0.6
YKA Yellowknife Ar 99.41 24 P Pdif 12 41 04.8 +0.6
BLS5 Blasjo 101.78 333 *e*Pdif **Pdif 12 41 14.3 -0.5**
BER Bergen 101.80 334 *e*Pdif **Pdif 12 41 14.6 -0.3**
GERES GERESS Array B 102.28 322 P Pdif 12 41 18.2 +0.8
comp=Z,1.7nm,0.9s,baz=47,slow=7.1,SNR=5.0
GERES GERESS Array B 102.28 322 P Pdif 12 41 17.2 -0.2
GERES GERESS Array B 102.28 322 Pdif 12 41 17.2 -0.2
NVAR Mina Array Bea 106.72 48 Pdiff **Pdif 12 41 39.2 +1.6**
comp=Z,0.1nm,0.3s,baz=270,slow=5.4,SNR=2.2
PDAR Pinedale Array 111.19 41 PKKPab PKKPab 12 57 05.3 +2.2
comp=Z,0.2nm,0.4s,baz=111,slow=4.9,SNR=3.5
TXAR Lajitas Array 121.40 52 PKP **PKiKP 12 46 17.0 +0.9**
comp=Z,0.5nm,0.8s,baz=2.9,slow=2.5,SNR=4.9
TXAR Lajitas Array 121.40 52 PKIKP **PKiKP 12 46 17.0 +0.9**
TORD Torodi Ar. Bea 123.19 288 PKP **PKPdf 12 46 19.7 +0.1**
comp=Z,1.8nm,0.7s,baz=102,slow=2.3,SNR=6.4
KIC Kosan Boka 130.80 282 *e*PKP2 **PKiKP 12 46 35.5 +0.4**
comp=Z,2.3nm,0.5s
DBIC Dimbokro 130.85 282 PKP **PKiKP 12 46 35.5 +0.3**
comp=Z,1.5nm,0.5s,baz=26,slow=3.2,SNR=2.3
TIC Toumodi 131.02 282 *e*PKP2 **PKPdf 12 46 34.0 -0.6**
LIC Lamto 131.10 281 *e*PKP2 **PKPdf 12 46 35.1 +0.3**
comp=Z,11nm,0.9s
PLCA Paso Flores 139.88 159 PKP **PKPdf 12 46 52.0 +1.6**
comp=Z,1.5nm,0.8s,baz=274,slow=3.8,SNR=3.8
LCO Las Campanas 149.73 148 PKP2 **PKiKP 12 47 15.5 +1.8**
LCO Las Campanas 149.73 148 PKiKP 12 47 15.5 +1.8

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*IDC **12** 13:05:25.4±0.7, 27°.51N×53°.86E, h0km, mb3.9/23, mb1 4.0/25, mb1mx3.8/53, mbtmp3.9/25, ML3.7/2, Error ellipse: s-maj=16.7km s-min=14.2km az=180.0*
*NEIC **12** 13:05:27.6±1.7, 27°.5N±0°.1×53°.86E±0°.07, h10km±1km, mb4.2/20, Error ellipse: s-maj=18.7km s-min=6.7km az=26.0*
*TEH **12** 13:05:27.2, 27°.52N×53°.90E, h12km, ML3.8*
*OMAN **12** 13:05:29.8±0.2, 27°.55N×53°.95E, h16km±3km, mb5.3/5, ml3.8/14, Error ellipse: s-maj=7.7km s-min=1.4km az=5.0*
ISC 12 13:05:26.9±0.4, **27°.49N**±0°.03×**53°.89E**±0°.03, **h10**km, **n153,**
σ1§**87**/165, **mb4.1**/34, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.47**	**67**	*e*Pg	**Pb**	**13 05 36.7**	**-0.6**
LAR1				*e*		13 05 48.0	
comp=Z,25μm,0.6s							
LMD1	**Lamerd**	**0.66**	**257**	*e*Pg	**Pg**	**13 05 40.3**	**+0.5**
LMD1				*e*		13 05 59.8	
comp=Z,67μm,0.3s							
JHRM	**Jahrom**	**1.05**	**345**	*e*Pg	**Pg**	**13 05 46.9**	**-0.3**
JHRM				*e*		13 06 08.9	
comp=Z,78μm,0.4s							
GHIR	**Ghir-Karzin**	**1.13**	**315**	*e*Pg	**Pn**	**13 05 49.1**	**+0.2**
QIR1	**Qir**	**1.24**	**323**	*e*Pg	**Pb**	**13 05 50.5**	**+0.1**
QIR1				*e*		13 06 17.2	
comp=Z,49μm,0.4s							
GENO	**Geno**	**2.03**	**92**	*e*Pn	**Pn**	**13 06 02.6**	**+1.2**
GENO				*e*		13 07 01.1	
comp=Z,3μm,0.5s							
SHI	**Shiraz**	**2.46**	**331**	*e*Pn	**Pn**	**13 06 08.6**	**+1.3**
SHI				*e*		13 07 06.3	
comp=Z,4μm,0.7s							
SHME	**Shamm**	**2.47**	**125**	*e*Pn	**Pb**	**13 06 09.9**	**-1.5**
SHME	**Shamm**	**2.47**	**125**	P	**Pn**	**13 06 08.8**	**+1.6**
BANOM	**Banah**	**2.66**	**125**	*e*Pn	**Pn**	**13 06 11.5**	**+1.6**
BANOM	**Banah**	**2.66**	**125**	P	**Pn**	**13 06 11.8**	**+1.9**
AHBU	**AHRAM**	**2.67**	**301**	*e*Pn	**Pb**	**13 06 13.4**	**-1.4**
KHOR	**Al-Khor Airpor**	**2.83**	**229**	P	**Pn**	**13 06 15.5**	**+3.3**
KAZ1	**Kazerun**	**2.91**	**318**	*e*Pn	**Pn**	**13 06 15.1**	**+1.7**
MASF	**Masafi**	**2.93**	**136**	P	**Pn**	**13 06 16.9**	**+3.2**
MASF				S	**Sn**	**13 06 51.9**	**+3.0**
MSFE	**Esma-Masafi**	**2.94**	**136**	*e*Pn	**Pn**	**13 06 16.5**	**+2.8**
NAZ	**Nazwa, Dubai**	**2.96**	**147**	*e*Pn	**Pb**	**13 06 17.8**	**-1.9**
NAZ	**Nazwa, Dubai** SNR=17	**2.96**	**147**	P	**Pb**	**13 06 17.9**	**-1.9**
AJN	**Ajban**	**3.08**	**161**	*e*Pn	**Pb**	**13 06 20.1**	**-1.7**
SHMA	**Al-Shehemyia**	**3.08**	**239**	P	**Pn**	**13 06 18.6**	**+2.9**
SHMA				S	**Sb**	**13 06 58.6**	**-1.0**
ASUD	**Al Ashush, Dub**	**3.13**	**155**	*e*Pn	**Pb**	**13 06 20.2**	**-2.5**
ASUD	**Al Ashush, Dub** SNR=9.3	**3.13**	**155**	P	**Pb**	**13 06 20.3**	**-2.4**
FAQ	**Al Faqa, Dubai**	**3.13**	**150**	*e*Pn	**Pn**	**13 06 19.5**	**+3.1**
FAQ	**Al Faqa, Dubai** SNR=13	**3.13**	**150**	P	**Pn**	**13 06 19.8**	**+3.4**
FAQ				S	**Sb**	**13 06 58.8**	**-2.2**
UOSS	**Minazif**	**3.28**	**140**	*e*Pn	**Pn**	**13 06 19.6**	**+1.2**
UOSS	**Minazif**	**3.28**	**140**	P	**Pn**	**13 06 21.2**	**+2.8**
UOSS				S	**Sn**	**13 07 00.3**	**+2.9**
UOSS	**Minazif**	**3.28**	**140**		**Pn**	**13 06 19.1**	**+0.8**
NGRK	**Negar Kerman**	**3.29**	**49**	*e*Pn	**Pn**	**13 06 20.4**	**+1.5**
NGRK				*e*		13 07 21.6	
comp=Z,1μm,0.6s							
HATD	**Hatta, Dubai**	**3.33**	**142**	*e*Pn	**Pn**	**13 06 21.8**	**+2.7**
HATD	**Hatta, Dubai**	**3.33**	**142**	P	**Pn**	**13 06 22.7**	**+3.6**
HATD				S	**Sn**	**13 07 03.5**	**+4.7**
SAKB	**Bahrain**	**3.36**	**244**	S	**Sn**	**13 07 03.1**	**+3.8**
KHNJ	**Kahnooj**	**3.41**	**81**	*e*Pn	**Pn**	**13 06 21.6**	**+1.3**
KRBR	**Kerman**	**3.54**	**45**	*e*Pn	**Pn**	**13 06 24.6**	**+2.4**
TVBK	**TV Kerman**	**3.54**	**45**	*e*Pn	**Pn**	**13 06 24.2**	**+1.9**
TVBK				*e*		13 06 45.0	
comp=Z,3μm,0.5s							
GHWR	**Ruwais**	**3.63**	**195**	*e*Pn	**Pn**	**13 06 24.1**	**+0.9**
GHWR	**Ruwais**	**3.63**	**195**	P	**Pn**	**13 06 25.8**	**+2.6**
GHWR				S	**Sn**	**13 07 09.0**	**+3.0**
TRNA	**Turayna**	**3.65**	**222**	P	**Pn**	**13 06 26.5**	**+3.0**
TRNA				S	**Sn**	**13 07 09.3**	**+2.7**
KHGB	**Koh Gabri**	**3.66**	**38**	*e*Pn	**Pn**	**13 06 25.5**	**+1.6**
KHGB				*e*		13 06 44.4	
comp=Z,937nm,1.0s							
MZWR	**Madinat Zayed**	**3.71**	**180**	*e*Pn	**Pn**	**13 06 27.5**	**+3.2**
MZWR	**Madinat Zayed**	**3.71**	**180**	P	**Pn**	**13 06 27.6**	**+3.2**
ALNE	**Al Ain**	**3.81**	**153**	*e*Pn	**Pn**	**13 06 28.4**	**+2.7**
ALNE	**Al Ain** SNR=11	**3.81**	**153**	P	**Pn**	**13 06 28.7**	**+3.0**
ALNE				S	**Sn**	**13 07 14.8**	**+4.3**
IMEH	**Mehriz**	**3.94**	**9**	*e*Pn	**Pn**	**13 06 29.4**	**+1.7**
CHMN	**Cheshme madani**	**3.98**	**53**	*e*Pn	**Pn**	**13 06 30.5**	**+2.1**
CHMN				*e*		13 06 48.5	

comp=Z,857nm,0.4s
KLNJ Kolanjah 4.04 331 *e*Pn **Pn 13 06 29.3 +0.1**
SOHO SOHO 4.10 144 *e*Pn **Pn 13 06 31.8 +2.1**
SOHO SOHO 4.10 144 P **Pn 13 06 31.8 +2.1**
SOHO S **Sn 13 07 19.5 +1.7**
KBAM BAM 4.34 67 *e*Pn **Pn 13 06 35.3 +2.2**
KBAM *e* 13 06 53.5
comp=Z,726nm,0.4s
ISAD Sadrabad 4.41 358 *e*Pn **Pn 13 06 36.3 +2.1**
IRAM Ramesheh 4.50 343 *e*Pn **Pn 13 06 37.0 +1.6**
IRAM *e* 13 06 45.0
comp=Z,580nm,0.2s
ICHK Chekchek 4.76 5 *e*Pn **Pn 13 06 40.7 +1.7**
ARQ Araqi 4.77 150 P **Pn 13 06 42.6 +3.6**
SNR=6.4
ARQ S **Sn 13 07 36.5 +2.2**
UMZA Um Al Zommool 4.89 166 *e*Pn **Pn 13 06 43.0 +2.4**
UMZA Um Al Zommool 4.89 166 P **Pn 13 06 43.9 +3.4**
UMZA S **Sn 13 07 40.1 +2.9**
YZKH Yazd 4.92 7 *e*Pn **Pn 13 06 43.2 +2.1**
IBRJ Brojen 4.96 333 *e*Pn **Pn 13 06 42.8 +1.0**
HOQ Hoqain 4.97 141 P **Pn 13 06 45.1 +3.5**
IGAR Gharneh 5.15 342 *e*Pn **Pn 13 06 45.8 +1.4**
NASN Na'in 5.37 350 *e*Pn **Pn 13 06 48.3 +0.8**
IZEF Zefreh 5.55 346 *e*Pn **Pn 13 06 51.2 +1.3**
BSY Bisya 5.59 147 P **Pn 13 06 53.1 +2.8**
SNR=6.7
BSY S **Sn 13 07 57.2 +2.5**
ANAR Anarak 5.68 359 *e*Pn **Pn 13 06 52.5 +0.9**
AMIS Naft Sefid 5.78 317 *e*Pn **Pn 13 06 53.4 +0.6**
IPIR Pirpir 5.79 334 *e*Pn **Pn 13 06 55.7 +2.5**
SMDO Samad 5.80 139 P **Pn 13 06 56.0 +2.8**
SNR=20
SMDO S **Sn 13 08 02.6 +2.8**
WSAR Wadi Sarin 6.02 134 Pn **Pn 13 06 57.8 +1.7**
comp=Z,1.8nm,0.3s,baz=344,slow=6.3,SNR=13
WSAR Sn **Sn 13 08 04.2 -1.0**
comp=Z,2.3nm,0.3s,baz=149,slow=20,SNR=8.6
TPRV Parvadeh(Tabas 6.03 23 *e*Pn **Pn 13 06 57.8 +1.6**
IKLH Kolahrood 6.14 342 *e*Pn **Pn 13 06 59.4 +1.4**
BSRN Basiran 6.37 44 *e*Pn **Pn 13 07 03.2 +2.2**
QAMS Qamsar 6.59 342 *e*Pn **Pn 13 07 05.7 +1.6**
KRSH Karshahi 6.63 347 *e*Pn **Pn 13 07 05.3 +0.6**
WBK Wadi Bani Khal 6.69 135 P **Pn 13 07 07.0 +1.6**
SNR=22
TKDS Koohdasht(Taba 6.71 24 *e*Pn **Pn 13 07 06.8 +1.1**
TABS Tabas 6.74 24 *e*Pn **Pn 13 07 07.4 +1.3**
TNSJ Nastanj 6.86 19 *e*Pn **Pn 13 07 08.2 +0.4**
ISFB Sefidab 6.99 349 *e*Pn **Pn 13 07 10.3 +0.9**
KHMZ Khomeyn 7.09 332 *e*Pn **Pn 13 07 11.6 +0.6**
JLN Jalan Bani Buh 7.31 135 P **Pn 13 07 14.7 +0.9**
SNR=6.4
GHVR GHOM 7.32 343 *e*Pn **Pn 13 07 16.8 +2.9**
SRVN Saravan 7.56 89 *e*Pn **Pn 13 07 19.2 +1.8**
IVRN Varamin 7.71 347 *e*Pn **Pn 13 07 20.1 +0.8**
ASAO Ashtian 7.78 336 *e*Pn **Pn 13 07 20.7 +0.3**
IANJ Anjilo 7.95 0 *e*Pn **Pn 13 07 23.5 +0.7**
IDOB Doab 7.98 323 *e*Pn **Pn 13 07 23.8 +0.7**
DQM DQM 8.23 155 P **Pn 13 07 29.5 +3.0**
SHRT Shahrakht 8.25 40 *e*Pn **Pn 13 07 28.8 +2.0**
DAMV Damavand 8.28 349 *e*Pn **Pn 13 07 29.1 +1.8**
ISHM Shahmirzad 8.31 357 *e*Pn **Pn 13 07 28.9 +1.2**
HAGD Aghdareh 8.37 332 *e*Pn **Pn 13 07 29.6 +1.1**
RAYN Ar Rayn 8.54 244 **Pn 13 07 31.2 +0.4**
SHRO Shahrood 8.66 11 *e*Pn **Pn 13 07 34.3 +1.8**
CHTH Charan 8.72 345 *e*Pn **Pn 13 07 35.6 +2.3**
IGLO Ghaloghah 8.99 360 *e*Pn **Pn 13 07 39.3 +2.3**
IGHG Ghaleghazi 9.27 319 *e*Pn **Pn 13 07 42.2 +1.3**
QALM Alamut, Qazvin 9.33 344 *e*Pn **Pn 13 07 43.0 +1.3**
IDHR Dehrash 9.64 320 *e*Pn **Pn 13 07 46.8 +0.8**
GRMI Germi 12.35 338 *e*Pn **Pn 13 08 26.3 +3.3**
GNI Garni 14.73 331 P **P 13 09 02.9 +1.3**
SOCY Socotra 15.22 180 Pn **Pn 13 08 58.7 -3.5**
ONI Oni 17.30 333 P **P 13 09 29.8 -0.2**
KBZ Khabaz 18.48 334 P **Pn 13 09 44.3 +1.3**
comp=Z,0.2nm,0.3s,baz=171,slow=14,SNR=4.7
KIV Kislovodsk 18.75 334 P **Pn 13 09 47.2 +0.7**
KIV IAmb IAmb 13 09 52.0
comp=Z,10nm,0.8s
BTK Batken 18.80 44 P **Pn 13 09 47.7 +0.6**
BRTR Keskin Array B 20.77 311 P **P 13 10 09.4 +1.3**
comp=Z,4.4nm,0.6s,baz=127,slow=12,SNR=11
BRTR Keskin Array B 20.77 311 P **P 13 10 07.3 -0.8**
ABKAR Abkulak array 22.23 11 P **P 13 10 23.4 -0.2**
AKTO Aktyubinsk 23.13 7 P **P 13 10 34.0 +0.9**
comp=Z,1.2nm,0.6s,baz=185,slow=14,SNR=5.0
BOOM Boomskoye usch 23.36 44 P **P 13 10 37.0 +1.2**
BOOM IAmb IAmb 13 10 41.7
comp=Z,3.9nm,0.9s
BELG Belogornoye 25.32 351 P **P 13 10 53.5 0.0**
comp=Z,4.0nm,0.6s,baz=175,slow=14,SNR=2.8
IDI Anoyia 25.88 295 P **P 13 11 00.0 +1.0**
comp=Z,12nm,0.6s,baz=92,slow=11,SNR=11
BVAR Borovoye Array 28.30 21 P **P 13 11 20.8 +0.3**
comp=Z,1.3nm,0.7s,baz=214,slow=7.2,SNR=7.4
BVAR PcP **PcP 13 14 33.5 +0.1**
comp=Z,0.4nm,0.3s,baz=197,slow=4.0,SNR=4.5
MK31 Makanchi Array 29.48 42 P **P 13 11 30.0 -1.1**
MKAR Makanchi Array 29.48 42 P **P 13 11 31.1 0.0**
comp=Z,0.4nm,0.6s,baz=226,slow=9.4,SNR=6.4
MKAR PcP **PcP 13 14 36.1 -0.4**
comp=Z,0.2nm,0.5s,baz=252,slow=2.7,SNR=2.0
MKAR Makanchi Array 29.48 42 P **P 13 11 29.7 -1.4**
KURBB Kurchatov Arra 29.74 32 P **P 13 11 33.5 +0.1**
comp=Z,0.8nm,0.7s,baz=233,slow=8.8,SNR=8.6
AKASG Malin Array Be 29.80 328 P **P 13 11 33.0 -0.9**
comp=Z,0.9nm,0.4s,baz=129,slow=7.3,SNR=2.0
AKBB Malin Array Si 29.80 328 P **P 13 11 33.1 -0.8**
AKBB IAmb IAmb 13 11 37.7
comp=Z,3.5nm,0.5s
FNA Florina 29.82 305 P **P 13 11 32.4 -1.8**
BURAR Bucovina Array 30.07 320 P **P 13 11 36.6 +0.2**
ZAA0 Zalesovo Array 34.84 32 P **P 13 12 16.9 -1.1**
ZAA0 IAmb IAmb 13 12 22.5
comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam 34.84 32 P **P 13 12 17.4 -0.6**
comp=Z,3.0nm,0.5s,baz=242,slow=9.2,SNR=12
ZALV Zalesovo Beam 34.84 32 P **P 13 12 16.8 -1.2**
GERES GERESS Array B 37.53 316 P **P 13 12 40.5 -0.7**
comp=Z,0.3nm,0.3s,baz=112,slow=7.7,SNR=2.4
CTI Castel Tesino 38.05 311 P **P 13 12 45.1 -0.5**
CTI IAmb IAmb 13 12 45.9
comp=Z,5.9nm,0.6s
WTTA Wattenberg 38.37 312 *e*P **P 13 12 47.8 -0.7**
comp=Z,4.1nm,0.6s
WATA Walderalm 38.43 313 *e*P **P 13 12 47.9 -0.9**
comp=Z,4.8nm,0.6s
SQTA Sankt Quirin 38.64 312 *e*P **P 13 12 49.8 -0.8**
comp=Z,4.4nm,0.7s
FINES FINESS Array B 38.72 339 P **P 13 12 49.1 -1.8**
comp=Z,4.4nm,0.8s,baz=142,slow=9.6,SNR=7.7
FETA Feichten 38.90 312 *e*P **P 13 12 52.3 -0.6**
comp=Z,4.8nm,0.5s
RETA Reutte 39.00 313 *i*P **P 13 12 52.3 -1.2**
comp=Z,3.7nm,0.7s
DAVA Damuels 39.53 312 *i*P **P 13 12 57.5 -0.6**
comp=Z,24nm,0.4s,SNR=17
TUE Stuetta 39.70 311 P **P 13 12 59.1 -0.4**
TUE IAmb IAmb 13 13 03.7
comp=Z,7.6nm,1.1s
SENIN Lac Senin/Sane 41.06 310 P **P 13 13 09.7 -1.2**
CM31 Chiang Mai Arr 42.25 92 P **P 13 13 21.1 +0.4**
CM31 IAmb IAmb 13 13 27.7
comp=Z,6.0nm,1.2s
CMAR Chiang Mai Arr 42.25 92 P **P 13 13 21.7 +1.0**
comp=Z,0.3nm,0.3s,baz=284,slow=9.2,SNR=4.2
NOA NORSAR Array B 44.03 332 P **P 13 13 32.6 -2.0**
comp=Z,0.2nm,0.4s,baz=129,slow=7.9,SNR=1.3
SONM Songino Array 45.28 49 P **P 13 13 45.5 +0.6**
comp=Z,0.5nm,0.8s,baz=270,slow=9.5,SNR=3.6
SONM Songino Array 45.28 49 IAmb IAmb 13 14 02.3
comp=Z,2.0nm,1.4s
ESDC Sonseca Array 48.95 300 P **P 13 14 13.1 -0.5**
comp=Z,0.8nm,0.5s,baz=68,slow=7.4,SNR=9.3
PAB San Pablo 49.25 300 P **P 13 14 15.1 -0.8**
ESK Eskdalemuir 49.26 321 P **P 13 14 14.5 -1.1**
TORD Torodi Ar. Bea 50.64 265 P **P 13 14 25.9 -0.7**
comp=Z,1.1nm,0.6s,baz=59,slow=7.2,SNR=10
TORD Torodi Ar. Bea 50.64 265 P **P 13 14 25.7 -0.9**
DBIC Dimbokro 59.28 261 P **P 13 15 28.9 -0.3**
comp=Z,3.9nm,0.6s,baz=51,slow=6.7,SNR=8.8
DBIC Dimbokro 59.28 261 IAmb IAmb 13 15 29.7
comp=Z,4.2nm,0.7s
TIXI Tiksi 59.44 21 P **P 13 15 29.1 -0.3**
comp=Z,0.6nm,0.4s,baz=287,slow=14,SNR=1.7
TIXI Tiksi 59.44 21 IAmb IAmb 13 15 30.8
comp=Z,1.4nm,0.9s
BOSA Boshof 62.17 208 P **P 13 15 49.0 +0.2**
comp=Z,1.9nm,0.9s,baz=20,slow=10,SNR=1.7
ILAR Eielson Array 86.62 9 P **P 13 18 09.6 -0.8**
comp=Z,0.2nm,0.7s,baz=324,slow=4.5,SNR=2.2
YKA Yellowknife Ar 89.86 355 P **P 13 18 25.8 0.0**
comp=Z,0.3nm,0.6s,baz=3.5,slow=5.1,SNR=6.7
WRA Warramunga Arr 90.97 112 P **P 13 18 31.1 -0.6**
comp=Z,0.3nm,0.6s,baz=318,slow=4.1,SNR=5.7
WRA Warramunga Arr 90.97 112 IAmb IAmb 13 18 31.9
comp=Z,0.2nm,1.3s
ASAR Alice Springs 92.41 115 P **P 13 18 37.7 -0.5**
comp=Z,0.2nm,0.9s,baz=312,slow=4.6,SNR=5.2

*KRSC **12** 13:05:48.6±1.3, 56°.75N×164°.42E, h56km±19km, ML4.2*
*IDC **12** 13:05:49.2±1.0, 56°.74N×164°.18E, h0km, mb3.5/9,*
mb1 3.8/10, mb1mx3.5/46, mbtmp3.5/10, ML2.3/1, MS3.3/10,
Ms1 3.3/10, ms1mx2.9/86, Error ellipse: s-maj=33.1km
s-min=18.0km az=152.0
ISC 12 13:05:53.4±0.7, 56°.76N±0°.04×164°.30E±0°.05, h35km, n61,
σ1§65/59, mb3.4/8, MS3.1/7, Komandorsky Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.99**	**237**	*i* P	**Pn**	**13 06 07.3**	**-3.4**
KBTR				*e*S	**Sn**	**13 06 20.7**	**-2.8**
KBG	**Krutoberegovo**	**1.02**	**241**	*i* P	**Pn**	**13 06 07.8**	**-3.3**
KBG				*e*S	**Sn**	**13 06 21.5**	**-2.6**
SMKR	**Semkarok**	**1.57**	**265**	*e*P	**Pn**	**13 06 16.8**	**-2.1**
BDR	**Baidarnaya**	**1.72**	**265**	*i* P	**Pn**	**13 06 19.2**	**-1.7**
SRKR	**Sorokina**	**1.73**	**268**	*e*P	**Pn**	**13 06 19.4**	**-1.6**
BKI	**Bering**	**1.82**	**148**	*e*P	**Pn**	**13 06 19.3**	**-2.8**
BKI				*e*S	**Sn**	**13 06 41.6**	**-2.2**
KLY	**Klyuchi**	**2.07**	**259**	*e*P	**Pn**	**13 06 22.7**	**-2.9**
CIRR	**Tsirk**	**2.08**	**253**	*e*P	**Pn**	**13 06 25.1**	**-0.7**
ZLN	**Zelenaya**	**2.08**	**251**	*i* P	**Pn**	**13 06 25.6**	**-0.3**
KRSR	**Krestovskiy**	**2.14**	**257**	*e*P	**Pn**	**13 06 25.0**	**-1.7**
BZGR	**Bezymyannyi-Gr**	**2.17**	**249**	*e*P	**Pn**	**13 06 26.8**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.26**	**251**	*e*P	**Pn**	**13 06 28.2**	**-0.2**
KIRR	**Kirishev**	**2.34**	**252**	*e*P	**Pn**	**13 06 29.3**	**-0.2**
KPT	**Kopyto**	**2.40**	**253**	*e*P	**Pn**	**13 06 30.1**	**-0.2**
KMNR	**Kamenistaya**	**2.48**	**248**	*e*P	**Pn**	**13 06 31.3**	**0.0**
KOZ	**Kozyrevsk**	**2.56**	**256**	*e*P	**Pn**	**13 06 32.3**	**0.0**
OSSR	**Ossora**	**2.59**	**346**	*e*P	**Pn**	**13 06 29.8**	**-2.9**
MKZ	**Mys Kozlova**	**2.64**	**215**	*e*P	**Pn**	**13 06 31.6**	**-1.8**
MKZ				*e*S	**Sn**	**13 07 02.5**	**-1.7**
TUMD	**Tumrok D**	**2.69**	**236**	*e*P	**Pn**	**13 06 33.1**	**-1.0**
TUMR	**Tumrok**	**2.76**	**239**	*e*P	**Pn**	**13 06 35.4**	**+0.2**
ESO	**Esso**	**3.23**	**257**	*e*P	Pn	13 06 45.7	+4.2
PALN	**Palana**	**3.29**	**317**	*e*P	**Pn**	**13 06 40.9**	**-1.4**
TILK	**Tilichiki**	**3.83**	**14**	*e*P	**Pn**	**13 06 47.8**	**-1.9**
TILK				*e*S	**Sn**	**13 07 31.5**	**-1.9**
KII	**Karymskiy**	**3.88**	**227**	*e*P	**Pn**	**13 06 50.9**	**+0.3**
SPN	**Mys Shipunski**	**4.42**	**216**	*e*P	**Pn**	**13 06 55.9**	**-2.0**
SPN				*e*S	**Sn**	**13 07 44.9**	**-3.1**
NLC	**Nalytchevo**	**4.59**	**221**	P	**Pn**	**13 07 00.3**	**+0.1**
NLC				*e*S	**Sn**	**13 07 51.4**	**-0.8**
SDLR	**Sedlovina**	**4.67**	**224**	*e*P	**Pn**	**13 07 01.4**	**-0.1**
KRER	**Koryakskii**	**4.71**	**225**	*e*P	**Pn**	**13 07 02.7**	**+0.7**
SMAR	**Somma**	**4.72**	**224**	*e*P	**Pn**	**13 07 01.4**	**-0.8**
AVH	**Avacha**	**4.74**	**225**	*e*P	**Pn**	**13 07 03.3**	**+0.9**
UGLR	**Uglovaya**	**4.75**	**224**	*e*P	**Pn**	**13 07 02.3**	**-0.3**
GNL	**Ganaly**	**4.76**	**233**	*e*P	**Pn**	**13 07 02.2**	**-0.5**
KOK	**Koryaka**	**4.76**	**226**	*e*P	**Pn**	**13 07 02.7**	**0.0**
DALK	**Dalny**	**4.92**	**223**	*e*P	**Pn**	**13 07 04.2**	**-0.5**
DALK				*e*S	**Sn**	**13 07 59.5**	**-0.8**
PET	**Petropavlovsk**	**4.96**	**223**	*e*P	**Pn**	**13 07 05.9**	**+0.6**
PET				*e*S	**Sn**	**13 08 01.0**	**-0.3**
PETK	**Petropavlovsk-**	**5.28**	**229**	Pn	**Pn**	**13 07 10.3**	**+0.6**
	0.5nm,0.3s,baz=57,slow=16,SNR=3.1						
PETK				LR	LR	13 09 33.5	
	comp=Z,251nm,19.1s,baz=15,slow=43						
KRMR	**Karymshinskiy**	**5.31**	**225**	*e*P	**Pn**	**13 07 10.3**	**+0.2**
RUS	**Russkaya**	**5.48**	**220**	*e*P	**Pn**	**13 07 12.0**	**-0.5**
GRL	**Gorelyy**	**5.55**	**223**	*e*P	**Pn**	**13 07 13.5**	**0.0**
KMSK	**Kamenskaya**	**5.81**	**9**	*e*P	**Pn**	**13 07 15.2**	**-1.7**
KMSK				*e*S	**Sn**	**13 08 19.5**	**-2.7**
KDTR	**Khodutka, Kamc**	**6.15**	**219**	*e*P	**Pn**	**13 07 20.6**	**-1.0**
KDTR				*e*S	**Sn**	**13 08 26.9**	**-3.7**
SEY	**Seymchan**	**8.61**	**321**	LR	LR	13 11 26.3	
	comp=Z,93nm,20.1s,baz=97,slow=39						
ASAJ	**Asahikawa**	**18.63**	**236**	LR	LR	13 17 46.1	
	comp=Z,108nm,18.1s,baz=45,slow=39						
KLR	**Kul'dur**	**20.83**	**263**	LR	LR	13 19 20.5	
	comp=Z,75nm,20.6s,baz=56,slow=39						
TIXI	**Tiksi**	**20.96**	**329**	P	Pn	13 10 33.4	-2.2
	2.9nm,0.7s,baz=119,slow=13,SNR=13						
KDAK	**Kodiak Island**	**23.05**	**69**	LR	LR	13 19 15.0	
	comp=Z,72nm,18.9s,baz=274,slow=35						
ILAR	**Eielson Array**	**24.56**	**51**	P	**P**	**13 11 10.8**	**+1.4**
	0.7nm,0.6s,baz=265,slow=9.4,SNR=11						
MJAR	**Matsushiro Arr**	**26.73**	**232**	P	**P**	**13 11 28.9**	**-0.5**
	2.3nm,0.8s,baz=18,slow=9.1,SNR=5.3						
MJAR				LR	LR	13 21 58.8	
	comp=Z,67nm,21.5s,baz=30,slow=36						
KSRS	**Korea Array**	**30.87**	**247**	LR	LR	13 25 04.5	
	comp=Z,29nm,19.6s,baz=45,slow=38						
SONM	**Songino Array**	**35.52**	**281**	LR	LR	13 28 58.7	
	comp=Z,29nm,20.0s,baz=355,slow=39						
H11N2	**WAKE ISLAND Hy**	**37.02**	**176**	T	T	13 51 58.9	
	baz=357,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**37.03**	**176**	T	T	13 52 02.0	
	baz=357,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**37.04**	**176**	T	T	13 51 59.4	
	baz=357,slow=76,SNR=13						
YKA	**Yellowknife Ar**	**38.85**	**47**	P	**P**	**13 13 16.3**	**+1.7**
	0.5nm,0.8s,baz=300,slow=8.3,SNR=7.2						
NEW	**Newport**	**46.06**	**65**	LR	LR	13 32 31.2	
	comp=Z,77nm,18.9s,baz=273,slow=35						
KURBB	**Kurchatov Arra**	**47.99**	**301**	P	**P**	**13 14 29.4**	**+1.1**
	0.1nm,0.3s,baz=55,slow=8.0,SNR=1.6						
PDAR	**Pinedale Array**	**53.70**	**66**	P	**P**	**13 15 13.1**	**+1.3**
	0.3nm,0.7s,baz=333,slow=3.0,SNR=3.0						
NOA	**NORSAR Array B**	**60.65**	**345**	P	**P**	**13 16 00.4**	**+0.1**
	0.7nm,0.7s,baz=15,slow=6.8,SNR=2.0						
CMAR	**Chiang Mai Arr**	**61.27**	**260**	P	**P**	**13 16 05.4**	**+0.3**
	0.3nm,0.4s,baz=23,slow=7.8,SNR=1.3						
TXAR	**Lajitas Array**	**67.06**	**71**	P	**P**	**13 16 44.6**	**+1.6**
	0.2nm,0.9s,baz=281,slow=6.3,SNR=1.9						
GNI	**Garni**	**70.87**	**315**	LR	LR	13 52 34.8	
	comp=Z,50nm,18.3s,baz=18,slow=40						

*TUL **12** 13:09:30.4±0.9, 35°.95N±0°.01×97°.392W±0°.009, h7km±6km,*
ML2.6, mb_Lg2.3/11(NEIC), Error ellipse: s-maj=1.5km
s-min=1.0km az=168.0
NEIC 12 13:09:30.2±0.7, 35°.949N±0°.008×97°.40W±0°.02,
h16km±2km, Error ellipse: s-maj=2.1km s-min=1.2km
az=79.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.34**	**211**	Pg	Pg	13 09 37.2	-0.1
BCOK				Sg	Sg	13 09 42.2	+0.1
OK025	**Westminster Rd**	**0.37**	**173**	Pg	Pg	13 09 38.0	+0.1
OK031	**S. Brethren Rd**	**0.45**	**89**	Pg	Pg	13 09 39.3	0.0
OK031				Sg	Sg	13 09 44.9	-0.6
OK030	**Cody Creek RV**	**0.50**	**92**	Pg	Pg	13 09 40.2	0.0
OK030				Sg	Sg	13 09 46.4	-0.5
OKCFA	**Oklahoma City**	**0.53**	**185**	Pg	Pg	13 09 40.9	0.0
OK034	**N. Norfolk Rd.**	**0.56**	**84**	Pg	Pg	13 09 41.2	-0.1
OK034				Sg	Sg	13 09 48.5	-0.3
QUOK	**Quay**	**0.60**	**68**	Pg	Pg	13 09 42.0	-0.1
QUOK				Sg	Sg	13 09 49.6	-0.5
FNO	**Franklin**	**0.69**	**180**	Pg	Pg	13 09 43.6	-0.1
CROK	**Carrier**	**0.73**	**320**	Pg	Pg	13 09 44.3	-0.3
BLOK	**Blackwell**	**0.82**	**10**	Pg	Pb	13 09 45.8	-0.4
BLOK				Sg	Sb	13 09 56.6	-0.5
W35A	**Tecumseh**	**0.90**	**152**	Pg	Pb	13 09 46.9	-0.6
W35A				Sg	Sb	13 09 59.0	-0.3
GC02	**Grant County #**	**0.97**	**338**	Pg	Pb	13 09 48.7	-0.1
GC02				Sg	Sb	13 10 01.2	-0.2
KAN13	**South Haven SW**	**1.06**	**356**	Pg	Pb	13 09 50.3	0.0
OK032	**Salt Plains WL**	**1.08**	**323**	Pg	Pb	13 09 50.4	-0.1
KAN14	**Manchester OK**	**1.10**	**336**	Pg	Pb	13 09 50.9	-0.1
KAN17	**Caldwell West**	**1.13**	**345**	Pg	Pb	13 09 51.5	0.0
T35A	**Sooner Cattle**	**1.20**	**36**	Pg	Pb	13 09 52.5	-0.1
KAN01	**Argonia South**	**1.24**	**346**		Pb	13 09 53.3	0.0
KAN10	**Anthony SW Sta**	**1.30**	**335**	Pn	Pb	13 09 54.5	+0.1
TUL1	**Leonard**	**1.30**	**91**	Pn	Pn	13 09 53.8	0.0
OK035	**E0210 Rd and N**	**1.30**	**306**	Pn	Pn	13 09 53.9	+0.1
KAN06	**Argonia West S**	**1.35**	**344**	Pn	Pb	13 09 55.1	-0.1
KAN08	**Anthony NE Sta**	**1.36**	**340**	Pn	Pb	13 09 55.2	-0.1
U32A	**Winter Ranch,**	**1.37**	**289**	Pn	Pb	13 09 55.4	-0.1
KAN16	**Harper SW Stat**	**1.38**	**337**	Pn	Pb	13 09 55.6	-0.1
X34A	**Smith Ranch, M**	**1.39**	**195**	Pn	Pb	13 09 56.0	+0.1
KAN12	**Harper NE Stat**	**1.43**	**340**	Pn	Pb	13 09 56.5	-0.1
WMOK	**Wichita Mounta**	**1.66**	**224**	Pn	Pb	13 09 59.9	-0.5
LOOK	**Love County**	**1.96**	**175**	IAmb_Lg		13 10 38.1	
	comp=Z,12nm,0.8s						
W39A	**Magazine**	**3.04**	**103**	IAmb_Lg		13 11 14.1	
	comp=Z,14nm,1.0s						
S39A	**Bolivar**	**3.70**	**61**	IAmb_Lg		13 11 35.8	
	comp=Z,8.3nm,1.3s						
X40A	**Basin Creek Fa**	**4.01**	**110**	IAmb_Lg		13 11 42.4	
	comp=Z,8.8nm,0.8s						
WHAR	**Wooly Hollow**	**4.21**	**97**	IAmb_Lg		13 11 47.3	
	comp=Z,7.0nm,1.1s						
W41B	**Gary Mavity, V**	**4.27**	**99**	IAmb_Lg		13 11 51.5	
	comp=Z,9.0nm,1.2s						
FCAR	**Ozark Folk Cen**	**4.28**	**89**	IAmb_Lg		13 11 50.4	
	comp=Z,4.6nm,0.8s						

*KOLA **12** 13:19:26.0, 67°.14N×20°.63E, h0km, ML2.6*
*HEL **12** 13:19:26.5±0.1, 67°.18N×20°.67E, h1km, ML2.6,*
ML2.9(UPP), Confirmed Induced event
*IDC **12** 13:19:26.4±0.8, 67°.14N×20°.92E, h0km, mb1 3.4/6,*
mb1mx3.2/40, mbtmp3.5/6, ML2.9/5, Error ellipse:
s-maj=13.4km s-min=7.0km az=107.0
*NAO **12** 13:19:26.2±0.7, 67°.17N×21°.04E, ML3.0*
*DNK **12** 13:19:26.0±0.5, 67°.18N×20°.66E, h0km, ML2.9(UPP),*
Suspected explosion
*BER **12** 13:19:28.3±2.7, 67°.13N×20°.87E, h1km, ML2.7,*
ML2.6(HEL), Confirmed Induced event
ISC 12 13:19:24.9±0.6, 67°.18N±0°.02×20°.63E±0°.02, h0km, n72,
σ1§54/121, 2D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.60**	**61**	P	**Pg**	**13 19 37.1**	**+0.7**
MASU				S	**Sg**	**13 19 44.9**	**+0.7**
MASU	**Masugnsbyn**	**0.60**	**61**	*i* P	**Pg**	**13 19 37.1**	**+0.7**
MASU				*i* S	**Sg**	**13 19 44.9**	**+0.7**
KUA	**Kurravaara**	**0.79**	**352**	*i* P	**Pg**	**13 19 40.1**	**0.0**
KUA				*i* S	**Sg**	**13 19 51.0**	**+0.8**
SALU	**Saltoluokta**	**0.85**	**285**	P	**Pg**	**13 19 41.9**	**+0.6**
SALU				S	**Sg**	**13 19 53.4**	**+1.1**
SALU	**Saltoluokta**	**0.85**	**285**	*i* P	**Pg**	**13 19 41.9**	**+0.6**
SALU				*i* S	**Sg**	**13 19 53.4**	**+1.1**
ERTU	**Ertsjaerv**	**0.88**	**135**	P	**Pg**	**13 19 41.9**	**+0.2**
ERTU				S	**Sg**	**13 19 53.7**	**+0.7**
ERTU	**Ertsjaerv**	**0.88**	**135**	*e*P	**Pg**	**13 19 41.9**	**+0.2**
ERTU				*e*S	**Sg**	**13 19 53.4**	**+0.3**
ERTU	**Ertsjaerv**	**0.88**	**135**	*e*P	**Pg**	**13 19 41.9**	**+0.2**
ERTU				*e*S	**Sg**	**13 19 53.4**	**+0.3**
NIKU	**Nikkaluokta**	**0.93**	**319**	P	**Pg**	**13 19 42.9**	**+0.3**
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	**Pg**	**13 19 42.9**	**+0.3**
PAJU	**Pajala**	**0.98**	**98**	P	**Pg**	**13 19 43.8**	**+0.1**
PAJU	**Pajala**	**0.98**	**98**	*e*P	**Pg**	**13 19 43.8**	**+0.1**
PAJU				*e*S	**Sg**	**13 19 56.7**	**+0.2**
PAJU	**Pajala**	**0.98**	**98**	*e*P	**Pg**	**13 19 43.8**	**+0.1**
PAJU				*e*S	**Sg**	**13 19 56.7**	**+0.2**
LANU	**Lannavaara**	**1.02**	**30**	P	**Pg**	**13 19 44.3**	**-0.2**
LANU	**Lannavaara**	**1.02**	**30**	*e*P	**Pg**	**13 19 44.3**	**-0.2**
LANU				*e*S	**Sg**	**13 19 57.6**	**0.0**
LANU	**Lannavaara**	**1.02**	**30**	*e*P	**Pg**	**13 19 44.3**	**-0.2**
LANU				*e*S	**Sg**	**13 19 57.6**	**0.0**
KOVU	**Salmi**	**1.07**	**350**	P	**Pg**	**13 19 45.1**	**-0.3**
KOVU	**Salmi**	**1.07**	**350**	*e*P	**Pg**	**13 19 45.1**	**-0.3**
HEF	**Hetta**	**1.69**	**42**	Pn	**Pn**	**13 19 55.9**	**+0.2**
HEF				Sn	**Sn**	**13 20 17.5**	**-0.5**
HEF	**Hetta**	**1.69**	**42**	Pn	**Pn**	**13 19 55.9**	**+0.2**
HEF				Sn	**Sn**	**13 20 17.5**	**-0.5**
HEF	**Hetta**	**1.69**	**42**	*e*P	**Pn**	**13 19 55.9**	**+0.2**
HEF				*e*S	**Sn**	**13 20 18.0**	**0.0**
HEF				MSG		13 20 21.4	
	comp=Z,39nm,0.2s						
SJUU	**Sjulsmark**	**1.72**	**166**	P	**Pn**	**13 19 57.0**	**+0.9**
SJUU	**Sjulsmark**	**1.72**	**166**	*e*P	**Pn**	**13 19 57.0**	**+0.9**
KIF	**Kilpisjarvi**	**1.84**	**2**	Pn	**Pb**	**13 19 59.9**	**+0.5**
KIF				Sn	**Sg**	**13 20 24.9**	**+1.0**
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	**Pb**	**13 19 59.9**	**+0.5**
KIF

baz=280,slow=28
APA0 Apatity Array 4.79 79 Pn **Pn 13 20 38.0 -0.2**
baz=261,slow=12
APA0 Sn **Sn 13 21 33.9 -0.5**
baz=266,slow=22
APA0 Sg **Sb 13 21 53.0 +5.2**
baz=280,slow=28
APA0 Apatity Array 4.79 79 P **Pn 13 20 38.6 +0.4**
APA0 Apatity Array 4.79 79 S **Sn 13 21 33.4 -0.9**
TERR Teriberka 5.76 63 P **Pn 13 20 50.7 -0.8**
TERR Teriberka 5.76 63 S **Sn 13 21 54.2 -4.0**
FIA0 FINESS Array S 6.22 155 Pn **Pn 13 20 59.4 +1.5**
baz=347,slow=16
FIA0 Sn **Sn 13 22 09.3 -0.3**
baz=348,slow=28
FIA0 Lg Lg 13 22 37.0
baz=347,slow=28
FIA0 FINESS Array S 6.22 155 Pn **Pn 13 20 59.4 +1.5**
baz=347,slow=16
FIA0 Sn **Sn 13 22 09.3 -0.3**
baz=348,slow=28
FIA0 Sg **Sb 13 22 37.0 +8.2**
baz=347,slow=28
FINES FINESS Array B 6.22 155 Pn **Pn 13 20 59.5 +1.5**
comp=Z,1.2nm,0.3s,baz=348,slow=12,SNR=44
FINES Sn **Sn 13 22 08.8 -0.8**
comp=Z,1.5nm,0.3s,baz=346,slow=22,SNR=7.9
FINES Lg Lg 13 22 37.0
comp=Z,2.2nm,0.3s,baz=343,slow=28,SNR=8.8
NB2 NORSAR Subarra 7.40 218 Pn **Pn 13 21 15.1 +0.9**
baz=29,slow=14
NB2 Sn **Sn 13 22 35.4 -3.4**
baz=33,slow=22
NB2 NORSAR Subarra 7.40 218 Pn **Pn 13 21 15.1 +0.9**
baz=29,slow=14
NB2 Sn **Sn 13 22 35.4 -3.4**
baz=33,slow=22
NOA NORSAR Array B 7.40 218 Pn **Pn 13 21 14.8 +0.7**
comp=Z,0.0nm,0.3s,baz=27,slow=10,SNR=6.2
NOA Sn **Sn 13 22 36.3 -2.5**
comp=Z,0.1nm,0.3s,baz=37,slow=21,SNR=4.4
NOA Lg Lg 13 23 12.9
comp=Z,0.1nm,0.3s,baz=43,slow=25,SNR=5.7
NRA0 NORESS Array S 7.59 216 Pn **Pn 13 21 18.0 +1.2**
baz=30,slow=14
NRA0 Sn **Sn 13 22 40.6 -2.8**
baz=20,slow=37
NRA0 NORESS Array S 7.59 216 Pn **Pn 13 21 18.0 +1.2**
baz=30,slow=14
NRA0 Sn **Sn 13 22 40.6 -2.8**
baz=20,slow=37
HFS Hagfors 7.71 207 Pn **Pn 13 21 18.2 -0.1**
comp=Z,0.6nm,0.3s,baz=22,slow=13,SNR=14
HFS Sn **Sn 13 22 42.3 -3.8**
comp=Z,0.8nm,0.3s,baz=20,slow=22,SNR=3.4
HFS Lg Lg 13 23 22.9
comp=Z,0.6nm,0.3s,baz=35,slow=30,SNR=2.6
HFS Hagfors 7.71 207 Pn **Pn 13 21 18.1 -0.1**
baz=22,slow=14
HFS Sn **Sn 13 22 44.1 -2.1**
baz=31,slow=28
HFS Hagfors 7.71 207 Pn **Pn 13 21 18.1 -0.1**
baz=22,slow=14
HFS Sn **Sn 13 22 44.1 -2.1**
baz=31,slow=28
SPITS Spitsbergen Ar 11.13 355 Pn **Pn 13 22 05.0 0.0**
baz=150,slow=15,SNR=5.6
AKASG Malin Array Be 17.08 161 Pn **Pn 13 23 19.7 -5.0**
comp=Z,0.6nm,0.3s,baz=344,slow=13,SNR=4.4

TEH 12 13:20:17.8, 27°.93N×52°.79E, h19km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.58**	**22**	*e*Pg	Pb	13 20 28.5	-0.9
QIR1				*e*		13 20 48.9	
comp=Z,39μm,0.7s							
LMD1	**Lamerd**	**0.68**	**151**	*e*Pg	Pb	13 20 30.9	-0.1
LMD1				*e*		13 20 54.5	
comp=Z,44μm,0.5s							
JHRM	**Jahrom**	**0.90**	**50**	*e*Pg	Pg	13 20 35.2	-0.2
JHRM				*e*Sg	Sn	13 20 48.5	+0.5
JHRM				*e*		13 20 50.9	
comp=Z,30μm,0.3s							
LAR1	**LAR**	**1.43**	**100**	*e*Pg	Pg	13 20 44.8	-0.6
SHI	**Shiraz**	**1.72**	**352**	*e*Pg	Pb	13 20 49.6	+0.7
SHI				*e*		13 21 18.1	
comp=Z,5μm,0.5s							
KAZ1	**Kazerun**	**1.96**	**329**	*e*Pg	Pg	13 20 55.1	-0.5
KLNJ	**Kolanjah**	**3.24**	**341**	*e*Pn	Pn	13 21 08.5	+0.6
IMEH	**Mehriz**	**3.79**	**24**	*e*Pn	Pn	13 21 18.7	+3.3
IMEH				*e*		13 21 20.2	
comp=Z,515nm,0.2s							
NGRK	**Negar Kerman**	**3.85**	**63**	*e*Pn	Pn	13 21 18.3	+1.9
NGRK				*e*		13 22 32.4	
comp=Z,556nm,0.3s							
IRAM	**Ramesheh**	**3.88**	**355**	*e*Pn	Pn	13 21 18.5	+1.9
TVBK	**TV Kerman**	**4.04**	**59**	*e*Pn	Pn	13 21 21.1	+2.2
TVBK				*e*		13 22 36.0	
comp=Z,644nm,0.6s							
KHGB	**Koh Gabri**	**4.04**	**52**	*e*Pn	Pn	13 21 19.9	+1.1
ICHK	**Chekchek**	**4.52**	**18**	*e*Pn	Pn	13 21 28.0	+2.6
ICHK				*e*		13 21 32.5	
comp=N,506nm,0.2s							
KBAM	**BAM**	**5.12**	**75**	*e*Pn	Pn	13 21 35.9	+2.3
KBAM				*e*		13 22 41.0	
comp=Z,448nm,0.4s							

IDC 12 13:26:11.9±22.0, 15°.82N×44°.81W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/30, mbtmp3.6/3, MS3.5/5, Ms1 3.6/5, ms1mx2.9/77, Error ellipse: s-maj=886.9km s-min=34.9km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.14**	**217**	LR	LR	13 34 33.6	
comp=Z,70nm,18.2s,baz=108,slow=38							
H10N3	**ASCENSION HYDR**	**38.13**	**126**	T	T	14 13 43.9	
baz=306							
H10N2	**ASCENSION HYDR**	**38.13**	**126**	T	T	14 13 43.6	
baz=306							
H10N1	**ASCENSION HYDR**	**38.15**	**126**	T	T	14 13 43.5	
baz=306							
LPAZ	**La Paz**	**39.34**	**217**	LR	LR	13 49 28.1	
comp=Z,81nm,18.1s,baz=66,slow=36							
NNA	**Nana**	**42.05**	**231**	LR	LR	13 50 26.7	
comp=Z,81nm,19.5s,baz=210,slow=35							
TORD	**Torodi Ar. Bea**	**45.04**	**87**	P	P	13 34 29.7	-0.2
1.1nm,0.6s,baz=283,slow=8.1,SNR=8.9							
YKA	**Yellowknife Ar**	**66.78**	**332**	P	P	13 37 04.7	-0.2
0.4nm,0.8s,baz=104,slow=7.7,SNR=4.7							
RPN	**Rapa Nui**	**75.75**	**236**	LR	LR	14 09 17.9	
comp=Z,36nm,20.4s,baz=196,slow=34							
ILAR	**Eielson Array**	**80.88**	**335**	P	P	13 38 28.1	+0.4
0.2nm,0.6s,baz=69,slow=4.4,SNR=4.3							
ARU	**Arti**	**84.17**	**33**	LR	LR	14 13 23.6	
comp=Z,40nm,18.4s,baz=252,slow=34							

IDC 12 13:42:01.8±2.1, 0°.88N×127°.05E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.0/35, mbtmp3.4/3, Error ellipse: s-maj=171.3km s-min=24.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.89**	**161**	P	P	13 46 56.1	-0.5
0.4nm,0.4s,baz=340,slow=11,SNR=6.5							
ASAR	**Alice Springs**	**25.29**	**165**	P	P	13 47 30.6	+0.3
0.3nm,0.4s,baz=345,slow=11,SNR=14							
MKAR	**Makanchi Array**	**60.08**	**326**	P	P	13 52 10.8	-0.1
0.3nm,0.6s,baz=124,slow=6.9,SNR=8.3							

*NEIC **12** 14:09:52.7±1.0, 15°.44S±0°.10×70°.6W±0°.1, h197km±8km, mb4.5/8, Error ellipse: s-maj=14.4km s-min=13.7km az=49.0*
*IDC **12** 14:09:54.3±1.5, 15°.41S×70°.35W, h208km±15km, mb3.6/7, mb1 3.8/10, mb1mx3.5/46, mbtmp4.2/10, Error ellipse: s-maj=33.2km s-min=20.3km az=20.0*
*VAO **12** 14:09:56.8±0.5, 15°.42S×69°.92W, h177km, mb4.0*
ISC 12 14:09:52.2±0.5, 15°.48S±0°.06×70°.55W±0°.06, h193km, n64, σ1°62/66, mb4.2/11, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.46**	**109**	P	**Pn**	**14 10 38.7**	**+2.8**
baz=302,slow=9.6							
LPAZ				S	**Sn**	**14 11 11.1**	**+1.3**
3.3nm,0.3s,baz=116,slow=17,SNR=1.6							
PB11	**IPOC Station P**	**4.34**	**169**	Pn	**Pn**	**14 10 59.1**	**+0.8**
TA02	**Huaiquique**	**4.78**	**175**	Pn	**Pn**	**14 11 04.2**	**+0.5**
PB08	**IPOC Station P**	**4.83**	**164**	Pn	**Pn**	**14 11 06.4**	**+1.8**
PB01	**IPOC Station P**	**5.63**	**170**	Pn	**Pn**	**14 11 15.7**	**+1.1**
PB07	**IPOC Station P**	**6.25**	**174**	Pn	**Pn**	**14 11 23.4**	**+0.6**
PB09	**IPOC Station P**	**6.41**	**169**	Pn	**Pn**	**14 11 25.9**	**+1.0**
PB04	**IPOC Station P**	**6.83**	**177**	Pn	**Pn**	**14 11 31.1**	**+0.8**
NNA	**Nana**	**7.03**	**299**	P	**Pn**	**14 11 32.6**	**-0.3**
4.9nm,0.3s,baz=180,slow=7.1,SNR=7.9							
NNA				S	**Sn**	**14 12 49.3**	**-3.4**
8.6nm,0.3s,baz=198,slow=17,SNR=5.3							
NNA	**Nana**	**7.03**	**299**		**Pn**	**14 11 32.1**	**-0.8**
ETMB	**Extrema**	**7.04**	**37**	*e*P	**Pn**	**14 11 32.9**	**-0.1**
ETMB	**Extrema**	**7.04**	**37**		**Pn**	**14 11 32.7**	**-0.3**
PB06	**IPOC Station P**	**7.25**	**173**	Pn	**Pn**	**14 11 36.3**	**+0.4**
LVC	**Limon Verde**	**7.26**	**168**	P	**Pn**	**14 11 37.7**	**+1.5**
7.8nm,0.3s,baz=0.6,slow=7.8,SNR=95							
LVC				S	**Sn**	**14 12 55.6**	**-3.0**
24nm,0.3s,baz=178,slow=19,SNR=22							
LVC	**Limon Verde**	**7.26**	**168**	*e*P	**Pn**	**14 11 38.8**	**+2.6**
LVC	**Limon Verde**	**7.26**	**168**		**Pn**	**14 11 37.0**	**+0.8**
PB15	**IPOC Station P**	**7.76**	**173**	Pn	**Pn**	**14 11 43.4**	**+0.8**
SIV	**San Ignacio**	**9.14**	**94**	P	**Pn**	**14 12 00.0**	**-0.4**
1.4nm,0.3s,baz=279,slow=11,SNR=15							
AC02	**Maricunga**	**11.38**	**174**		**Pn**	**14 12 31.8**	**+1.9**
MACA	**Manacapuru-AM**	**15.62**	**39**	*e*P	**P**	**14 13 22.2**	**-0.4**
MACA	**Manacapuru-AM**	**15.62**	**39**	P	**P**	**14 13 21.2**	**-1.4**
CPUP	**Villa Florida**	**16.39**	**133**	*e*P	**Pn**	**14 13 32.4**	**+0.8**
NPGB	**Novo Progresso**	**17.08**	**62**	*e*P	**Pn**	**14 13 38.8**	**-1.2**
OTAV	**Otavalo**	**17.46**	**333**	*e*P	**Pn**	**14 13 51.7**	**+6.9**
ARAG	**Araguaiana, MT**	**18.05**	**93**	*e*P	**Pn**	**14 13 48.6**	**-2.7**
ITTB	**Itaituba**	**18.28**	**54**	*e*P	**Pn**	**14 13 52.2**	**-1.8**
SNDB	**Serra Nova Dou**	**19.02**	**82**	*e*P	**Pn**	**14 13 59.7**	**-3.1**
ITQB	**Itaqui**	**19.07**	**140**	*e*P	**Pn**	**14 14 02.5**	**-0.7**
PCMB	**Pacaembu**	**19.27**	**111**	*e*P	**P**	**14 14 02.0**	**-0.4**
BOAV	**Boa Vista**	**20.34**	**30**	*e*P	**P**	**14 14 14.3**	**+0.4**
BOAV	**Boa Vista**	**20.34**	**30**	P	**P**	**14 14 14.3**	**+0.4**
BOAV				IAmb	IAmb	14 14 15.2	
comp=Z,6.1nm,0.7s							
MALB	**Monte Alegre**	**21.00**	**51**	*e*P	**P**	**14 14 20.7**	**-0.3**
IPMB	**Ipameri, GO**	**21.53**	**100**	*e*P	**P**	**14 14 25.4**	**-1.1**
CPSB	**Cacapava Do Su**	**21.61**	**136**	*e*P	**P**	**14 14 29.9**	**+2.8**
BB19B	**Bebedouro**	**21.63**	**108**	*e*P	**P**	**14 14 28.0**	**+0.5**
PEXB	**Peixe**	**21.86**	**84**	*e*P	**P**	**14 14 29.5**	**-0.4**
PRPB	**Parauapebas**	**22.34**	**68**	*e*P	**P**	**14 14 34.7**	**+0.2**
PLTB	**Pedras Altas**	**22.40**	**139**	*e*P	**P**	**14 14 37.7**	**+3.0**
TIJ01	**Guaruva-PR**	**22.41**	**119**	*e*P	**P**	**14 14 35.8**	**+0.7**
MCPB	**Macapa, AP**	**23.64**	**52**	*e*P	**P**	**14 14 47.2**	**+1.0**
BAUV	**El Baul**	**24.39**	**6**	P	**P**	**14 14 52.1**	**-0.9**
JANB	**Januaria**	**25.31**	**93**	*e*P	**P**	**14 15 00.8**	**-0.6**
BIRV	**Birongo**	**26.13**	**10**	P	**P**	**14 15 09.1**	**+0.4**
BIRV				IAmb	IAmb	14 15 21.1	
comp=Z,21nm,1.2s							
NBPN	**Ponto Novo - B**	**29.89**	**85**	*e*P	**P**	**14 15 41.8**	**-0.4**
NBIT	**Itapeh - BA**	**30.02**	**93**	*e*P	**P**	**14 15 43.3**	**+0.1**
NBPB	**Pedra_Branca-C**	**31.96**	**75**	*e*P	**P**	**14 16 01.3**	**+1.0**
TXAR	**Lajitas Array**	**54.84**	**324**	P	**P**	**14 19 03.1**	**+0.3**
comp=Z,0.3nm,0.6s,baz=143,slow=7.7,SNR=2.4							
D62A	**Allapoint, All**	**62.28**	**1**	P	**P**	**14 19 52.9**	**-0.7**
D62A				IAmb	IAmb	14 19 57.6	
comp=Z,29nm,1.4s							
ECSD	**EROS Data Cent**	**63.57**	**339**	P	**P**	**14 20 01.6**	**-0.6**
PDAR	**Pinedale Array**	**68.14**	**330**	P	**P**	**14 20 32.7**	**+1.0**
comp=Z,0.3nm,0.4s,baz=122,slow=8.9,SNR=9.1							
LIC	**Lamto**	**68.37**	**77**	*e*P	**P**	**14 20 32.3**	**-1.1**
comp=Z,17nm,1.2s							
TIC	**Toumodi**	**68.51**	**76**	*e*P	**P**	**14 20 33.0**	**-1.4**
DBIC	**Dimbokro**	**68.67**	**76**	P	**P**	**14 20 34.4**	**-0.9**
comp=Z,1.7nm,0.4s,baz=237,slow=5.6,SNR=4.9							
DBIC	**Dimbokro**	**68.67**	**76**	P	**P**	**14 20 33.2**	**-2.1**
DBIC				IAmb	IAmb	14 20 35.0	
comp=Z,2.6nm,0.8s							
KIC	**Kosan Boka**	**68.68**	**77**	*e*P	**P**	**14 20 34.2**	**-1.2**
comp=Z,4.9nm,0.4s							
ULM	**Lac du Bonnet**	**69.14**	**343**	P	**P**	**14 20 36.2**	**-1.2**
comp=Z,1.4nm,0.3s,baz=153,slow=7.9,SNR=2.7							
TORD	**Torodi Ar. Bea**	**76.91**	**72**	P	**P**	**14 21 22.4**	**-1.4**
comp=Z,3.0nm,0.6s,baz=261,slow=5.7,SNR=17							
ESDC	**Sonseca Array**	**82.70**	**46**	P	**P**	**14 21 54.8**	**+0.3**
comp=Z,0.3nm,0.3s,baz=243,slow=5.6,SNR=2.3							
YKA	**Yellowknife Ar**	**85.02**	**341**	P	**P**	**14 22 05.6**	**0.0**
comp=Z,1.4nm,0.5s,baz=131,slow=5.0,SNR=29							
ZALV	**Zalesovo Beam**	**137.05**	**21**	PKP	**PKiKP**	**14 28 53.0**	**-0.9**
comp=Z,2.6nm,0.6s,baz=306,slow=3.6,SNR=12							
ZALV	**Zalesovo Beam**	**137.05**	**21**		**PKPdf**	**14 28 52.6**	**+0.6**
WRA	**Warramunga Arr**	**137.13**	**216**	PKP	**PKPdf**	**14 28 54.1**	**+0.9**
comp=Z,0.2nm,0.7s,baz=141,slow=2.2,SNR=1.7							
MKAR	**Makanchi Array**	**141.45**	**30**	PKhKP	PKPpre	14 28 54.3	
comp=Z,0.2nm,0.4s,baz=332,slow=2.4,SNR=4.1							
SONM	**Songino Array**	**147.64**	**4**	PKPbc	**PKPbc**	**14 29 14.7**	**+0.7**
comp=Z,2.3nm,0.7s,baz=325,slow=2.3,SNR=15							

*IDC **12** 14:22:40.6±2.9, 27°.57S×179°.68W, h418km±31km, mb3.1/5, mb1 3.2/7, mb1mx3.1/38, mbtmp4.0/7, Error ellipse: s-maj=33.3km s-min=24.4km az=71.0*
ISC 12 14:22:40.4±1.5, 27°.70S±0°.10×179°.8W±0°.2, h400km, n9, σ1°28/9, mb3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**10.11**	**348**	P	**Pn**	**14 24 58.8**	**-1.1**
1.4nm,0.3s,baz=160,slow=19,SNR=6.2							
URZ	**Urewera**	**10.84**	**193**	P	**P**	**14 25 08.1**	**+1.1**
2.0nm,0.3s,baz=273,slow=5.0,SNR=28							
URZ				S	**S**	**14 27 05.9**	**-2.2**
2.8nm,0.3s,baz=108,slow=19,SNR=13							
STKA	**Stephens Creek**	**33.61**	**253**	P	**P**	**14 28 46.0**	**+0.6**
0.7nm,0.6s,baz=112,slow=11,SNR=3.9							
ASAR	**Alice Springs**	**41.69**	**265**	P	**P**	**14 29 52.5**	**+0.2**
1.2nm,0.5s,baz=95,slow=7.9,SNR=64							
WRA	**Warramunga Arr**	**42.43**	**270**	P	**P**	**14 29 57.3**	**-0.8**
1.4nm,0.5s,baz=108,slow=7.2,SNR=33							
FITZ	**Fitzroy Crossi**	**50.78**	**269**	P	**P**	**14 31 02.4**	**+0.4**
0.6nm,0.6s,baz=113,slow=7.7,SNR=1.6							
QSPA	**South Pole Qui**	**62.40**	**180**	P	**P**	**14 32 22.1**	**-0.1**
1.6nm,1.1s,baz=18,slow=1.9,SNR=1.8							
FINES	**FINESS Array B**	**142.06**	**340**	PKhKP	PKPpre	14 41 17.8	
2.2nm,0.9s,baz=63,slow=3.7,SNR=1.2							
AKASG	**Malin Array Be**	**148.18**	**324**	PKPbc	**PKPdf**	**14 41 36.9**	**+1.2**
0.3nm,0.4s,baz=40,slow=3.3,SNR=2.7							

*IDC **12** 14:28:03.1±1.1, 3°.63N×126°.60E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/34, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=86.1km s-min=18.8km az=64.0*
ISC 12 14:28:04.6±1.0, 3.7N±0°.2×126°.8E±0°.3, h10km, n7, σ0°75/9, mb3.6/6, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.40**	**135**	Pn	**Pn**	**14 29 40.0**	**+1.0**
0.7nm,0.3s,baz=346,slow=12,SNR=5.1							
SIJI				Sn	**Sn**	**14 30 51.2**	**-1.0**
0.4nm,0.3s,baz=256,slow=23,SNR=1.6							
WRA	**Warramunga Arr**	**24.65**	**163**	P	**P**	**14 33 24.8**	**-0.9**
0.8nm,0.4s,baz=343,slow=11,SNR=14							
ASAR	**Alice Springs**	**28.08**	**166**	P	**P**	**14 33 56.7**	**0.0**
0.2nm,0.4s,baz=338,slow=9.9,SNR=7.3							
ASAR				PcP	**PcP**	**14 37 11.8**	**+0.5**
0.2nm,0.6s,baz=344,slow=2.1,SNR=4.3							
STKA	**Stephens Creek**	**38.10**	**159**	P	**P**	**14 35 23.9**	**0.0**
0.8nm,0.6s,baz=346,slow=8.3,SNR=5.7							
SONM	**Songino Array**	**47.33**	**341**	P	**P**	**14 36 38.5**	**-0.2**
0.3nm,0.6s,baz=162,slow=7.0,SNR=2.6							
MK31	**Makanchi Array**	**57.59**	**325**	⇑Pg	**P**	**14 37 54.8**	**0.0**
0.2nm,0.4s,baz=116,slow=8.7,SNR=10							
MK31				⇓Lg	Lg	14 38 27.3	
0.1nm,0.2s,baz=208,slow=30,SNR=5.3							
MKAR	**Makanchi Array**	**57.59**	**325**	P	**P**	**14 37 54.5**	**-0.3**
0.4nm,0.5s,baz=116,slow=8.4,SNR=12							

IDC 12 14:59:10.2±2.1, 3°.63N×126°.94E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/34, mbtmp3.5/4, Error ellipse: s-maj=168.9km s-min=28.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.52**	**163**	P	P	15 04 30.8	-0.9
0.9nm,0.7s,baz=343,slow=10,SNR=8.9							
ASAR	**Alice Springs**	**27.96**	**166**	P	P	15 05 03.7	+1.0
0.1nm,0.3s,baz=341,slow=10.0,SNR=2.0							
STKA	**Stephens Creek**	**37.96**	**160**	P	P	15 06 29.9	+0.1
0.9nm,0.6s,baz=328,slow=13,SNR=3.3							
MKAR	**Makanchi Array**	**57.76**	**325**	P	P	15 09 03.0	-0.1
0.3nm,0.5s,baz=114,slow=8.5,SNR=2.8							

*IDC **12** 14:59:27.5±0.8, 16°.34N×96°.34E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/36, mbtmp3.9/13, ML4.3/1, MS3.7/34, Ms1 3.7/34, ms1mx3.5/90, Error ellipse: s-maj=20.5km s-min=16.5km az=53.0*
*NEIC **12** 14:59:35.1±1.5, 16°.6N±0°.1×96°.5E±0°.1, h51km±8km, mb4.4/19, Error ellipse: s-maj=20.6km s-min=16.5km az=58.0*
ISC 12 14:59:32.9±0.7, 16°.46N±0°.08×96°.41E±0°.08, h35km, n84, σ1°65/56, mb4.3/22, MS3.7/32, 1C, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**3.12**	**50**		**Pn**	**15 00 20.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**3.12**	**50**	Pn	**Pn**	**15 00 20.0**	**+0.3**
8.0nm,0.3s,baz=238,slow=15,SNR=100							
CMAR				Lg	Lg	15 01 11.7	
62nm,0.3s,baz=232,slow=33,SNR=9.8							
CHTO	**Chiang Mai**	**3.36**	**46**	Pn	**Pn**	**15 00 23.4**	**+0.4**
IMP	**Imphal**	**8.64**	**345**	*e*P	**Pn**	**15 01 35.9**	**+0.3**
KOHI	**KOHIMA**	**9.46**	**347**	*e*P	**Pn**	**15 01 48.9**	**+2.0**
KOHI				*e*S	**Sn**	**15 03 34.1**	**+2.1**
MOKO	**MOKOCHONG**	**9.97**	**350**	*e*S	**Sn**	**15 03 45.5**	**+1.0**
PSI	**Prapat**	**13.80**	**169**	LR	LR	15 08 12.0	
comp=Z,259nm,18.8s,baz=321,slow=38							
GUN	**Gumba**	**14.99**	**321**	*e*P	**Pn**	**15 02 59.2**	**-3.3**
7.1nm,0.5s							
PKI	**Pulchoki**	**15.03**	**319**	*e*P	**Pn**	**15 02 59.5**	**-3.6**
20nm,0.5s							
PKIN	**Phulchoki**	**15.04**	**319**	*e*P	**Pn**	**15 02 59.4**	**-3.8**
24nm,0.7s							
DMN	**Daman**	**15.25**	**319**	*e*P	**Pn**	**15 03 02.1**	**-3.8**
22nm,0.7s							
KKN	**Kakani**	**15.27**	**319**	*e*P	**Pn**	**15 03 02.5**	**-3.6**
12nm,0.7s							
ADKI	**Addanki**	**15.81**	**270**	*e*Pn	**P**	**15 03 15.1**	**-1.4**
GKN	**Gorkha**	**15.82**	**319**	*e*P	**Pn**	**15 03 10.1**	**-3.1**
20nm,0.5s							
KOLN	**Koldanda**	**16.34**	**316**	*e*P	**Pn**	**15 03 17.4**	**-2.5**
33nm,0.8s							
DANN	**Dangsing**	**16.62**	**318**	*e*P	**Pn**	**15 03 21.6**	**-2.0**
83nm,0.9s							
RCLA	**Racherla**	**16.82**	**269**	*e*Pn	**P**	**15 03 28.1**	**+0.4**
RCLA				⇑*e*P	**Pn**	**15 03 29.2**	**+3.4**
SRLM	**Srisailam**	**16.83**	**271**	*e*P	**P**	**15 03 30.4**	**+2.6**
PYUN	**Piuthan**	**16.96**	**315**	*e*P	**Pn**	**15 03 26.4**	**-1.4**
40nm,0.9s							
HYBB	**Hyderabad (bro**	**17.12**	**276**	*e*P	**P**	**15 03 32.3**	**+1.3**
SRSP	**Sriramsagar**	**17.39**	**281**	*e*P	**P**	**15 03 35.2**	**+1.2**
PALK	**Pallekele**	**17.87**	**241**	LR	LR	15 10 26.6	
comp=Z,173nm,18.2s,baz=160,slow=37							
URV	**Uravakonda**	**18.50**	**268**	*e*P	**Pn**	**15 03 48.4**	**+1.8**
LEM	**Lembang**	**25.66**	**154**	LR	LR	15 15 58.5	
comp=Z,212nm,19.6s,baz=344,slow=39							
NIL	**Nilore**	**26.97**	**314**	P	**P**	**15 05 11.1**	**-0.4**
NIL				IAmb	IAmb	15 05 15.3	
comp=Z,11nm,0.8s							
JOW	**Kunigami**	**31.28**	**65**	LR	LR	15 19 15.5	
comp=Z,109nm,19.9s,baz=24,slow=38							
KAPI	**Kappang**	**31.43**	**131**	LR	LR	15 20 37.0	
comp=Z,62nm,18.9s,baz=346,slow=40							
AAK	**Ala-Archa**	**32.12**	**329**	LR	LR	15 23 16.7	
comp=Z,144nm,18.6s,baz=145,slow=44							
AAK	**Ala-Archa**	**32.12**	**329**	P	**P**	**15 05 58.2**	**+1.1**
AAK				IAmb	IAmb	15 06 03.1	
comp=Z,10nm,1.2s							
SONM	**Songino Array**	**32.35**	**13**	P	**P**	**15 05 58.9**	**-0.1**
comp=Z,0.4nm,0.5s,baz=186,slow=7.2,SNR=3.1							
BTK	**Batken**	**32.36**	**322**	P	**P**	**15 06 00.2**	**+1.0**
BTK				IAmb	IAmb	15 06 03.6	
comp=Z,3.0nm,0.6s							
MK31	**Makanchi Array**	**32.44**	**342**	P	**P**	**15 06 00.3**	**+0.6**
MK31				IAmb	IAmb	15 06 04.2	
comp=Z,3.9nm,0.8s							
MKAR	**Makanchi Array**	**32.44**	**342**	P	**P**	**15 06 00.6**	**+0.9**
comp=Z,3.8nm,0.6s,baz=156,slow=9.6,SNR=45							
MKAR				LR	LR	15 22 49.2	
comp=Z,118nm,19.6s,baz=160,slow=43							
MKAR	**Makanchi Array**	**32.44**	**342**	P	**P**	**15 06 00.3**	**+0.6**
CHGR	**Chuyangaron**	**32.54**	**318**	P	**P**	**15 06 00.3**	**-0.5**
CHGR				IAmb	IAmb	15 06 01.2	
comp=Z,7.6nm,1.0s							
MAKZ	**Makanchi**	**32.55**	**341**	P	**P**	**15 06 00.8**	**+0.1**
KKAR	**Karatay Array**	**34.52**	**326**	P	**P**	**15 06 17.6**	**-0.2**
KSRS	**Korea Array**	**34.76**	**47**	LR	LR	15 22 17.1	
comp=Z,187nm,18.1s,baz=235,slow=39							
KURK	**Kurchatov**	**37.04**	**341**	P	**P**	**15 06 38.8**	**-0.5**
KURK				IAmb	IAmb	15 06 43.7	
comp=Z,5.8nm,0.8s							
ZAA0	**Zalesovo Array**	**38.48**	**349**	P	**P**	**15 06 50.1**	**-1.4**

FINES LR LR 15 41 46.1
comp=Z,80nm,20.9s,baz=26,slow=38
FINES FINESS Array B 66.29 330 P **P 15 10 16.5 -0.9**
MBAR Mbarara 66.90 262 LR LR 15 37 39.7
comp=Z,36nm,21.0s,baz=137,slow=34
ARCES ARCESS Array B 68.03 339 LR LR 15 43 50.0
comp=Z,53nm,19.4s,baz=84,slow=39
VRAC Vranov 71.10 317 LR LR 15 47 28.8
comp=Z,57nm,18.9s,baz=324,slow=40
HFS Hagfors 72.26 329 LR LR 15 47 37.6
comp=Z,92nm,18.2s,baz=92,slow=40
GERES GERESS Array B 73.03 317 P **P 15 10 59.9 +0.4**
comp=Z,0.8nm,0.6s,baz=87,slow=5.6,SNR=4.2
GERES GERESS Array B 73.03 317 P **P 15 10 59.5 0.0**
NOA NORSAR Array B 73.43 330 P **P 15 11 01.6 +0.1**
comp=Z,0.6nm,0.6s,baz=90,slow=5.8,SNR=3.8
NOA LR LR 15 48 14.2
comp=Z,89nm,19.5s,baz=250,slow=40
NC204 NORSAR Array S 73.64 330 P **P 15 11 02.8 +0.1**
LSZ Lusaka 74.35 249 LR LR 15 41 01.7
comp=Z,96nm,19.4s,baz=152,slow=34
LBTB Lobatse 80.35 240 LR LR 15 44 02.6
comp=Z,64nm,18.4s,baz=164,slow=33
TSUM Tsumeb 85.20 248 LR LR 15 46 18.4
comp=Z,45nm,21.5s,baz=152,slow=33
ILAR Eielson Array 86.00 23 P **P 15 12 09.3 -0.2**
comp=Z,0.4nm,0.7s,baz=313,slow=5.2,SNR=4.7
SUR Sutherland 87.03 235 LR LR 15 49 19.8
comp=Z,61nm,20.6s,baz=171,slow=34

IDC 12 15:05:45.7±7.5, 32°.06S×57°.85E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/40, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=444.2km s-min=38.2km az=36.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.52**	**322**	Pn	Pn	15 09 38.7	-0.4
	0.4nm,0.3s,baz=147,slow=17,SNR=1.2						
H08S1	**Diego Carcia H**	**27.85**	**32**	T	T	15 39 43.6	
	baz=207						
H08S2	**Diego Garcia H**	**27.86**	**32**	T	T	15 39 45.7	
	baz=207						
H08S3	**Diego Garcia H**	**27.87**	**32**	T	T	15 39 46.1	
	baz=207						
ASAR	**Alice Springs**	**66.51**	**104**	P	P	15 16 37.5	-0.2
	0.3nm,1.0s,baz=243,slow=6.1,SNR=4.5						
WRA	**Warramunga Arr**	**68.54**	**101**	P	P	15 16 50.7	+0.2
	0.4nm,0.7s,baz=226,slow=7.0,SNR=2.3						
YKA	**Yellowknife Ar**	**149.17**	**353**	PKPbc	PKPbc	15 25 34.9	-0.4
	0.3nm,0.7s,baz=5.2,slow=2.7,SNR=6.4						

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*IDC **12** 15:40:06.5±1.2, 3°.62N×126°.76E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.4/32, mbtmp3.4/7, ML3.0/1, Error ellipse: s-maj=70.9km s-min=18.5km az=67.0*

ISC 12 15:40:08.1±1.0, 3°.6N±0°.2×126°.7E±0°.3, h10km, n7, σ0s54/7, mb3.6/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.37**	**134**	**Pn**	**Pn**	**15 41 42.3**	**+0.1**
	0.3nm,0.3s,baz=343,slow=20,SNR=2.4						
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P	**P**	**15 44 58.4**	**+0.2**
	0.7nm,0.7s,baz=14,slow=17,SNR=1.0						
WRA	**Warramunga Arr**	**24.57**	**162**	P	**P**	**15 45 27.7**	**-0.8**
	0.8nm,0.6s,baz=344,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**28.00**	**166**	P	**P**	**15 45 59.9**	**+0.6**
	0.1nm,0.4s,baz=338,slow=10,SNR=7.6						
STKA	**Stephens Creek**	**38.02**	**159**	P	**P**	**15 47 26.2**	**-0.4**
	1.0nm,0.7s,baz=333,slow=11,SNR=3.2						
SONM	**Songino Array**	**47.41**	**341**	P	**P**	**15 48 43.0**	**+0.2**
	0.3nm,0.6s,baz=157,slow=7.8,SNR=2.3						
MKAR	**Makanchi Array**	**57.64**	**325**	P	**P**	**15 49 58.4**	**-0.2**
	0.5nm,0.5s,baz=121,slow=7.5,SNR=10						

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*IDC **12** 15:53:50.6±1.2, 3°.29N×126°.22E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/36, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=85.5km s-min=20.0km az=64.0*

ISC 12 15:53:51.9±1.1, 3°.5N±0°.2×126°.6E±0°.3, h10km, n6, σ1s20/7, mb3.7/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.38**	**132**	Pn	**Pn**	**15 55 26.4**	**+0.4**
	0.5nm,0.3s,baz=346,slow=17,SNR=2.8						
SIJI				Sn	**Sn**	**15 56 38.6**	**-0.3**
	baz=308,slow=19,SNR=1.4						
WRA	**Warramunga Arr**	**24.48**	**162**	P	**P**	**15 59 09.6**	**-1.9**
	0.7nm,0.7s,baz=337,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**27.89**	**165**	P	**P**	**15 59 43.7**	**+1.4**
	0.1nm,0.3s,baz=343,slow=8.4,SNR=5.4						
STKA	**Stephens Creek**	**37.94**	**159**	P	**P**	**16 01 09.8**	**+0.1**
	0.9nm,0.6s,baz=322,slow=9.4,SNR=2.9						
SONM	**Songino Array**	**47.50**	**342**	P	**P**	**16 02 27.3**	**0.0**
	0.3nm,0.5s,baz=152,slow=8.8,SNR=2.6						
MKAR	**Makanchi Array**	**57.68**	**325**	P	**P**	**16 03 42.7**	**0.0**
	0.4nm,0.5s,baz=120,slow=7.5,SNR=7.2						

IDC 12 16:14:42.4±1.4, 30°.32N×140°.50E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.1/33, mbtmp3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/76, Error ellipse: s-maj=47.4km s-min=29.6km az=113.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**12.63**	**308**	LR	LR	16 22 23.6	
	comp=Z,29nm,18.0s,baz=115,slow=36						
H11N2	**WAKE ISLAND Hy**	**26.08**	**108**	T	T	16 47 39.6	
	baz=300,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**26.08**	**108**	T	T	16 47 39.9	
	baz=300,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**26.10**	**108**	T	T	16 47 42.3	
	baz=300,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hy**	**26.53**	**110**	T	T	16 48 13.6	
	baz=302,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**26.53**	**110**	T	T	16 48 13.8	
	baz=302,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**26.54**	**110**	T	T	16 48 15.0	
	baz=302,slow=75,SNR=14						
CMAR	**Chiang Mai Arr**	**39.44**	**262**	P	P	16 22 14.5	-0.1
	0.8nm,0.3s,baz=71,slow=5.6,SNR=4.5						
WRA	**Warramunga Arr**	**50.32**	**188**	P	P	16 23 40.8	-0.2
	0.5nm,0.9s,baz=4.5,slow=7.4,SNR=5.2						
ASAR	**Alice Springs**	**54.05**	**187**	P	P	16 24 08.7	-0.1
	0.2nm,0.8s,baz=360,slow=5.0,SNR=6.5						
ILAR	**Eielson Array**	**55.63**	**30**	P	P	16 24 19.7	-0.1
	1.0nm,1.1s,baz=260,slow=5.4,SNR=4.7						

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*IDC **12** 16:34:55.6±2.1, 4°.63S×144°.93E, h97km±19km, mb3.4/7, mb1 3.5/10, mb1mx3.3/36, mbtmp3.7/10, Error ellipse: s-maj=24.3km s-min=12.2km az=51.0*

ISC 12 16:34:55.9±1.0, 4°.6S±0°.1×144°.9E±0°.1, h100km, n10, σ0s53/12, mb3.6/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.69**	**296**	P	**Pn**	**16 36 03.5**	**-0.9**
	1.1nm,0.3s,baz=144,slow=8.7,SNR=7.2						
JAY				S	**Sn**	**16 36 58.5**	**+0.8**
	0.4nm,0.3s,baz=248,slow=11,SNR=1.9						
PMG	**Port Moresby**	**5.25**	**155**	P	**Pn**	**16 36 12.1**	**+0.1**
	4.7nm,0.3s,baz=326,slow=11,SNR=18						
PMG				S	**Sn**	**16 37 11.6**	**+0.2**
	4.5nm,0.3s,baz=315,slow=22,SNR=7.4						
WRA	**Warramunga Arr**	**18.38**	**213**	P	**P**	**16 39 02.4**	**-0.6**
	0.3nm,0.3s,baz=44,slow=10,SNR=21						
ASAR	**Alice Springs**	**21.70**	**208**	P	**P**	**16 39 39.1**	**+0.1**
	0.3nm,0.5s,baz=40,slow=8.7,SNR=13						
BATI	**Baumata**	**21.77**	**254**	P	**P**	**16 39 40.5**	**+0.7**
	13nm,0.8s,baz=97,slow=8.1,SNR=2.8						
FITZ	**Fitzroy Crossi**	**23.11**	**233**	P	**P**	**16 39 53.3**	**-0.2**
	4.1nm,0.6s,baz=44,slow=15,SNR=27						
CMAR	**Chiang Mai Arr**	**50.76**	**298**	P	**P**	**16 43 46.3**	**+0.1**
	0.3nm,0.8s,baz=127,slow=5.8,SNR=1.8						
MKAR	**Makanchi Array**	**75.12**	**321**	P	**P**	**16 46 27.3**	**+0.1**
	0.2nm,0.5s,baz=103,slow=6.2,SNR=4.9						
BVAR	**Borovoye Array**	**84.44**	**324**	P	**P**	**16 47 17.7**	**+0.4**
	0.6nm,0.7s,baz=87,slow=7.8,SNR=5.6						
ILAR	**Eielson Array**	**85.06**	**24**	P	**P**	**16 47 20.1**	**-0.2**
	0.5nm,0.7s,baz=262,slow=4.7,SNR=5.7						

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*BJI **12** 17:11:25.6±0.0, 36°.37N×106°.28E, h6km, mb4.1/24, mB4.5/10, ML4.2/26, Ms3.8/21, Ms7 3.5/21*
*IDC **12** 17:11:25.6±0.7, 36°.31N×106°.33E, h0km, mb3.7/12, mb1 3.9/15, mb1mx3.6/59, mbtmp3.7/15, ML3.6/3, MS3.4/9, Ms1 3.4/9, ms1mx2.9/94, Error ellipse: s-maj=22.3km s-min=14.4km az=66.0*
*NEIC **12** 17:11:31.2±1.9, 36°.38N±0°.09×106°.4E±0°.1, h46km±7km, mb4.3/23, Error ellipse: s-maj=26.0km s-min=12.1km az=74.0*

ISC 12 17:11:30.1±0.4, 36°.38N±0°.04×106°.34E±0°.03, h34km, n78, σ1s67/88, mb4.0/23, MS3.5/8, 2D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.04**	**262**	Pg	**Pn**	**17 12 02.4**	**+0.2**
LZH				Sg	**Sb**	**17 12 29.0**	**-2.8**
LZH				smax	smax		
	comp=N,4μm,0.9s						
LZH				smax	smax		
	comp=E,7μm,1.0s						
XAN	**Xi'an**	**3.15**	**137**	Pn	**Pn**	**17 12 16.3**	**-1.0**
XAN				Pg	**Pb**	**17 12 23.4**	**-2.0**
XAN				Sg	**Sb**	**17 13 02.5**	**-0.9**
XAN				smax	smax		
	comp=N,2μm,0.7s						
XAN				smax	smax		
	comp=E,1μm,0.9s						
XAN				LR	LR		
	comp=E,2μm,7.7s						
XAN				LR	LR		
	comp=Z,1μm,7.5s						
TIY	**Taiyuan**	**5.05**	**73**	Pg	**Pb**	**17 12 55.6**	**-2.2**
TIY				Sg	**Sb**	**17 13 59.4**	**+1.4**
TIY				smax	smax		
	comp=N,330nm,0.5s						
TIY				smax	smax		
	comp=E,280nm,0.6s						
LYN	**LuoYang**	**5.32**	**108**	Pg	**Pb**	**17 13 00.6**	**-1.7**
LYN				Sg	**Sb**	**17 14 08.5**	**+2.8**
LYN				smax	smax		
	comp=N,210nm,0.6s						
LYN				smax	smax		
	comp=E,90nm,0.4s						
CD2	**Chengdu**	**5.87**	**202**	Pg	**Pb**	**17 13 13.5**	**+1.8**
CD2				Sg	**Sb**	**17 14 26.6**	**+5.1**
CD2				smax	smax		
	comp=N,20nm,1.4s						
CD2				smax	smax		
	comp=E,170nm,1.4s						
GTA	**Gaotai**	**5.98**	**302**	Pn	**Pn**	**17 12 55.9**	**-0.5**
GTA				Pg	**Pb**	**17 13 15.5**	**+1.8**
GTA				Sn	**Sn**	**17 14 04.4**	**+0.6**
GTA				Sg	Sb	17 14 35.1	+10
GTA				smax	smax		
	comp=N,140nm,1.5s						
GTA				smax	smax		
	comp=E,120nm,1.5s						
GTA				LR	LR		
	comp=E,780nm,10.2s						
HHC	**Hu-ho-hao-te**	**6.05**	**41**	*e*Pn	**Pn**	**17 12 58.0**	**+0.7**
HHC				Pg	**Pb**	**17 13 15.5**	**+0.7**
HHC				Sn	**Sn**	**17 14 04.3**	**-1.0**
HHC				Sg	**Sb**	**17 14 28.5**	**+1.8**
HHC				smax	smax		
	comp=N,400nm,0.9s						
HHC				smax	smax		
	comp=E,450nm,0.8s						
ENH	**Enshi**	**6.64**	**156**	Pn	**Pn**	**17 13 04.8**	**-0.5**
HNS	**HongShan**	**6.78**	**79**	⇓Pn	**Pn**	**17 13 08.1**	**+0.9**
HNS				Pg	**Pb**	**17 13 30.1**	**+3.0**
HNS				Sg	Sb	17 14 57.3	+10
HNS				smax	smax		
	comp=N,280nm,1.1s						
HNS				smax	smax		
	comp=E,160nm,1.0s						
BJT	**Baijiatuau**	**8.54**	**62**	Pn	**Pn**	**17 13 30.6**	**-0.7**
WHN	**Wuhan**	**8.86**	**129**	⇓P	**Pn**	**17 13 34.2**	**-1.6**
WHN				S	**Sn**	**17 15 14.4**	**-0.1**
WHN				LR	LR		
	comp=E,1μm,5.7s						
WHN				LR	LR		
	comp=Z,1μm,5.0s						
GOMU	**GeErMu**	**9.31**	**272**	P	**Pn**	**17 13 41.1**	**-1.2**
GOMU				smax	smax		
	comp=N,21nm,1.0s						
GOMU				smax	smax		
	comp=E,22nm,0.8s						
GYA	**Guiyang**	**9.90**	**178**	P	**Pn**	**17 13 49.2**	**-0.9**
GYA				S	**Sn**	**17 15 33.9**	**-6.1**
GYA				LR	LR		
	comp=Z,140nm,4.4s						
XLT	**XiLinHaoTe**	**10.57**	**42**	*e*P	**Pn**	**17 14 00.0**	**+0.7**
XLT				pP		17 14 03.4	
XLT				sP		17 14 06.0	
XLT				S	**Sn**	**17 15 53.3**	**-3.2**
XLT				pmax	pmax		
	comp=Z,7.0nm,1.4s						
XLT				pmax	pmax		
	comp=Z,98nm,4.5s						
XLT				LR	LR		
	comp=N,460nm,7.4s						
XLT				LR	LR		
	comp=E,460nm,10.4s						
XLT				LR	LR		
	comp=Z,340nm,7.5s						
PZH	**PanZhiHua**	**10.60**	**203**	P	**Pn**	**17 14 02.9**	**+3.2**
PZH				S	**Sn**	**17 16 01.3**	**+4.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
PZH				LR	LR		
	comp=N,250nm,8.6s						
PZH				LR	LR		
	comp=Z,200nm,11.4s						
SONM	**Songino Array**	**11.45**	**0**	Pn	**Pn**	**17 14 11.0**	**-0.2**
	0.3nm,0.3s,baz=175,slow=13,SNR=11						
SONM				Sn	**Sn**	**17 16 16.8**	**-1.0**
	0.3nm,0.3s,baz=180,slow=31,SNR=3.6						
SONM				Lg	Lg	17 17 28.4	
	0.2nm,0.3s,baz=170,slow=29,SNR=3.2						
SONM	**Songino Array**	**11.45**	**0**		**Pn**	**17 14 09.1**	**-2.1**
ULN	**Ulaanbaatar**	**11.49**	**2**	Pn	**Pn**	**17 14 11.2**	**-0.6**
KNMB	**Chin-men Tao**	**15.76**	**136**	Pn	**Pn**	**17 15 09.0**	**-0.6**
KNMB				IAmb	IAmb	17 15 31.6	
	comp=Z,34nm,0.8s						
WMQ	**Urumqi**	**16.07**	**303**	*e*P	**P**	**17 15 15.3**	**-1.2**
WMQ				pP	Pn	17 15 18.7	+5.2
WMQ				sP	pP	17 15 23.2	-2.7
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,60nm,4.5s						
WMQ				LR	LR		
	comp=Z,400nm,10.5s						
WMQ				LR	LR		
	comp=Z,110nm,13.5s						
HIA	**Hailar**	**16.17**	**33**		**Pn**	**17 15 14.4**	**-0.2**
HIA				IAmb	IAmb	17 15 20.8	
	comp=Z,25nm,1.4s						
KSAR	**Wonju Array Be**	**17.26**	**80**	Pn	**Pn**	**17 15 27.8**	**-0.6**
KSRS	**Korea Array**	**17.29**	**80**	P	**P**	**17 15 29.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=270,slow=10.0,SNR=7.7						
KSRS				LR	LR	17 21 48.6	
	comp=Z,34nm,19.4s,baz=265,slow=36						
CMAR	**Chiang Mai Arr**	**19.01**	**202**	P	**Pn**	**17 15 49.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=11,slow=10,SNR=8.7						
GUN	**Gumba**	**19.25**	**250**	*e*P	**P**	**17 15 51.5**	**-0.5**
	comp=Z,5.2nm,0.5s						
KKN	**Kakani**	**19.77**	**250**	*e*P	**P**	**17 15 57.1**	**-0.4**
	comp=Z,0.9nm,0.3s						
PKI	**Pulchoki**	**19.78**	**250**	*e*P	**P**	**17 15 56.8**	**-1.0**
	comp=Z,6.3nm,0.6s						
PKIN	**Phulchoki**	**19.79**	**250**	*e*P	**P**	**17 15 57.0**	**-0.8**
	comp=Z,7.0nm,0.5s						
DMN	**Daman**	**19.99**	**250**	*e*P	**P**	**17 15 58.5**	**-1.5**
GKN	**Gorkha**	**20.15**	**252**	*e*P	**P**	**17 16 01.4**	**-0.2**
	comp=Z,4.7nm,0.4s						
DANN	**Dangsing**	**20.66**	**254**	*e*P	Pn	17 16 09.0	-0.7
	comp=Z,5.5nm,0.5s						
MK31	**Makanchi Array**	**20.70**	**308**	P	**P**	**17 16 06.9**	**-0.5**
MKAR	**Makanchi Array**	**20.70**	**308**	P	**P**	**17 16 07.7**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=107,slow=14,SNR=20						
MKAR	**Makanchi Array**	**20.70**	**308**	P	**P**	**17 16 07.5**	**+0.1**
MAKZ	**Makanchi**	**20.91**	**307**	P	**P**	**17 16 09.6**	**0.0**
MAKZ				IAmb	IAmb	17 16 15.5	
	comp=Z,6.7nm,1.1s						
KOLN	**Koldanda**	**21.06**	**252**	*e*P	**P**	**17 16 10.8**	**-0.8**
	comp=Z,4.1nm,0.5s						
PYUN	**Piuthan**	**21.37**	**254**	*e*P	**P**	**17 16 15.6**	**+0.7**
	comp=Z,10nm,0.6s						
KLR	**Kul'dur**	**22.51**	**47**	LR	LR	17 25 47.9	
	comp=Z,45nm,21.0s,baz=241,slow=38						
ZAA0	**Zalesovo Array**	**23.06**	**326**	P	**P**	**17 16 31.3**	**-1.0**
ZALV	**Zalesovo Beam**	**23.06**	**326**	P	**P**	**17 16 33.1**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=122,slow=12,SNR=8.8						
ZALV				LR	LR	17 25 49.4	
	comp=Z,65nm,19.5s,baz=126,slow=37						
ZALV	**Zalesovo Beam**	**23.06**	**326**	P	**P**	**17 16 32.7**	**+0.4**
JWT	**Wachi**	**23.55**	**84**	P	**P**	**17 16 35.1**	**-2.2**
JWT				IAmb	IAmb	17 16 39.8	
	comp=Z,32nm,1.3s						
KSH	**Kashi**	**24.10**	**287**	P	**P**	**17 16 46.9**	**+4.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BOOM	**Boomskoye usch**	**24.18**	**294**	P	**P**	**17 16 40.8**	**-2.7**
BOOM				IAmb	IAmb	17 16 51.1	
	comp=Z,3.3nm,0.9s						
KURK	**Kurchatov**	**24.50**	**314**	P	**P**	**17 16 45.0**	**-1.0**
KURK				IAmb	IAmb	17 16 49.4	
	comp=Z,3.7nm,0.7s						
KURBB	**Kurchatov Arra**	**24.51**	**314**	P	**P**	**17 16 46.8**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=114,slow=11,SNR=16						
INU	**Inuyama**	**24.83**	**83**	P	**P**	**17 16 47.0**	**-2.3**
INU				IAmb	IAmb	17 16 50.7	
	comp=Z,9.9nm,0.9s						
AAK	**Ala-Archa**	**25.26**	**294**	P	**P**	**17 16 53.9**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=173,slow=8.5,SNR=4.1						
AAK	**Ala-Archa**	**25.26**	**294**	P	**P**	**17 16 52.6**	**-0.6**
ASAJ	**Asahikawa**	**28.55**	**63**	LR	LR	17 29 23.3	
	comp=Z,74nm,18.2s,baz=148,slow=38						
TIXI	**Tiksi**	**37.22**	**12**	P	**P**	**17 18 38.6**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=202,slow=4.1,SNR=11						
TIXI	**Tiksi**	**37.22**	**12**	P	**P**	**17 18 38.6**	**+0.8**
TIXI				IAmb	IAmb	17 18 39.9	
	comp=Z,4.4nm,1.5s						
ARU	**Arti**	**37.60**	**318**	P	**P**	**17 18 40.8**	**-0.4**
ARU				IAmb	IAmb	17 19 03.7	
	comp=Z,7.0nm,1.2s						
PETK	**Petropavlovsk-**	**39.19**	**48**	LR	LR	17 36 59.3	
	comp=Z,50nm,18.8s,baz=234,slow=39						
BATI	**Baumata**	**49.13**	**157**	LR	LR	17 43 03.3	
	comp=Z,71nm,18.4s,baz=80,slow=39						
FINES	**FINESS Array B**	**54.30**	**324**	LR	LR	17 45 56.5	
	comp=Z,53nm,18.2s,baz=141,slow=38						
AKASG	**Malin Array Be**	**55.24**	**311**	P	**P**	**17 21 00.4**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=62,slow=7.3,SNR=4.6						
NOA	**NORSAR Array B**	**61.26**	**326**	P	**P**	**17 21 42.7**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=64,slow=6.7,SNR=2.9						
NOA				LR	LR	17 49 53.9	
	comp=Z,37nm,18.2s,baz=60,slow=38						
H21K	**Melozitna Rive**	**61.67**	**28**	P	**P**	**17 21 44.9**	**+0.6**
J20K	**Nowinta River**	**61.80**	**29**	P	**P**	**17 21 45.0**	**-0.1**
WB0	**Warramunga Arr**	**61.82**	**150**	P	**P**	**17 21 45.3**	**-0.4**
WB0				IAmb	IAmb	17 22 14.6	
	comp=Z,6.4nm,1.2s						
COLD	**Coldfoot**	**61.91**	**25**	P	**P**	**17 21 44.2**	**-1.7**
COLD				IAmb	IAmb	17 22 16.1	
	comp=Z,6.0nm,1.4s						
WRAB	**Tennant Creek**	**61.95**	**150**	P	**P**	**17 21 46.2**	**-0.5**
WRAB				IAmb	IAmb	17 21 49.8	
	comp=Z,3.9nm,1.1s						
WRA	**Warramunga Arr**	**61.96**	**150**	P	**P**	**17 21 46.6**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=345,slow=7.0,SNR=15						
WRA	**Warramunga Arr**	**61.96**	**150**	P	**P**	**17 21 47.1**	**+0.4**
WB2	**Warramunga Arr**	**61.96**	**150**	P	**P**	**17 21 46.3**	**-0.4**
WB2				IAmb	IAmb	17 21 49.8	
	comp=Z,4.9nm,1.1s						
WR0	**Warramunga Arr**	**62.05**	**150**	P	**P**	**17 21 45.8**	**-1.6**
PPLA	**Purkeypile**	**63.16**	**30**	P	**P**	**17 21 54.5**	**+0.1**
VRAC	**Vranov**	**63.33**	**313**	LR	LR	17 49 28.5	
	comp=Z,49nm,20.0s,baz=280,slow=36						
BMAR	**Burnt Mountain**	**63.70**	**24**	P	**P**	**17 21 58.3**	**+0.5**
ILAR	**Eielson Array**	**64.29**	**27**	P	**P**	**17 22 03.1**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=290,slow=7.3,SNR=4.4						
AS31	**Alice Springs**	**65.15**	**152**	P	**P**	**17 22 05.5**	**-2.2**
ASAR	**Alice Springs**	**65.15**	**152**	P	**P**	**17 22 07.5**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=332,slow=6.4,SNR=24						
ASAR	**Alice Springs**	**65.15**	**152**	P	**P**	**17 22 07.1**	**-0.7**
SCM	**Sheep Creek Mo**	**65.66**	**30**	P	**P**	**17 22 10.3**	**-0.4**
INK	**Inuvik**	**66.57**	**21**	P	**P**	**17 22 17.8**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=352,slow=4.1,SNR=4.8						
BCAR	**Beaver Creek A**	**67.11**	**27**	P	**P**	**17 22 20.4**	**+0.5**
YKA	**Yellowknife Ar**	**76.11**	**18**	P	**P**	**17 23 15.9**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=329,slow=5.2,SNR=5.1						

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*IDC **12** 17:23:35.0±0.8, 5°.96S×151°.00E, h0km, mb4.1/12, mb1 4.3/13, mb1mx3.9/42, mbtmp4.1/13, ML1.5/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/53, Error ellipse: s-maj=27.0km s-min=16.6km az=122.0*

ISC 12 17:23:41.4±0.8, 6°.0S±0°.1×151°.0E±0°.1, h43km, n17, σ1s64/16, mb4.0/12, MS3.3/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.08**	**228**	Pn	**Pn**	**17 24 54.3**	**-0.7**
	1.1nm,0.3s,baz=33,slow=12,SNR=4.4						
PMG				Sn	**Sn**	**17 25 53.3**	**+0.9**
	3.4nm,0.3s,baz=323,slow=2.7,SNR=3.2						
HNR	**Honiara**	**9.48**	**111**	LR	LR	17 29 05.5	
	comp=Z,97nm,21.4s,baz=41,slow=35						
WRA	**Warramunga Arr**	**21.30**	**228**	P	**P**	**17 28 23.8**	**-0.8**
	8.6nm,0.7s,baz=53,slow=11,SNR=72						
DZM	**Mont Dzumac**	**21.84**	**138**	P	**P**	**17 28 29.2**	**-1.2**
	3.8nm,0.8s,baz=324,slow=19,SNR=2.5						
DZM				LR	LR	17 35 13.6	
	comp=Z,126nm,19.0s,baz=359,slow=32						
ASAR	**Alice Springs**	**24.05**	**221**	P	**P**	**17 28 52.3**	**-0.4**
	6.1nm,0.6s,baz=58,slow=8.9,SNR=188						
ASAR				ScP	**ScP**	**17 36 14.2**	**+5.2**
	0.5nm,0.9s,baz=39,slow=2.4,SNR=4.7						
ASAR				LR	LR	17 37 40.7	
	comp=Z,52nm,18.2s,baz=98,slow=35						
STKA	**Stephens Creek**	**27.18**	**198**	P	**P**	**17 29 21.5**	**+0.5**
	5.4nm,0.8s,baz=356,slow=13,SNR=6.7						
STKA				LR	LR	17 39 22.5	
	comp=Z,76nm,20.1s,baz=24,slow=35						
BATI	**Baumata**	**27.38**

PSI	Prapat	5.82	107	Pn	Pn	17 38 12.4	+3.0
	3.1nm,0.3s,baz=295,slow=14,SNR=14						
PSI				Sn	Sn	17 39 18.9	+3.6
	3.6nm,0.3s,baz=229,slow=20,SNR=8.1						
MNSI	Mandailing Nat	7.25	121	P	Pn	17 38 29.8	+0.8
	0.4nm3μm52nm,0.5s						
SISI	Saibi	8.19	136	P	Pn	17 38 41.4	-0.5
PALK	Pallekele	12.88	283	Pn	Pn	17 39 43.9	-2.2
	0.3nm,0.3s,baz=204,slow=16,SNR=0.9						
PALK				Sn	Sn	17 41 50.8	-18
	2.2nm,0.3s,baz=280,slow=13,SNR=8.3						
CMAR	Chiang Mai Arr	14.83	21	Pn	Pn	17 40 12.8	0.0
	0.0nm,0.3s,baz=220,slow=13,SNR=13						
LEM	Lembang	18.19	128	LR	LR	17 48 13.9	
	comp=Z,28nm,21.3s,baz=50,slow=38						
H08S3	Diego Garcia H	24.11	240	T	T	18 06 48.0	
	baz=60,slow=75,SNR=403						
H08S2	Diego Garcia H	24.11	240	T	T	18 06 48.9	
	baz=60,slow=75,SNR=292						
H08S1	Diego Carcia H	24.12	240	T	T	18 06 51.8	
	baz=60,slow=75,SNR=164						
KAPI	Kappang	28.02	110	LR	LR	17 55 31.7	
	comp=Z,44nm,18.2s,baz=89,slow=40						
MKAR	Makanchi Array	43.13	349	P	P	17 44 42.6	-0.2
	0.2nm,0.6s,baz=170,slow=7.4,SNR=6.2						
H01W3	Cape Leeuwin H	43.85	155	T	T	18 31 46.7	
	baz=330,slow=76,SNR=16						
H01W2	Cape Leeuwin H	43.87	155	T	T	18 31 45.4	
	baz=330,slow=76,SNR=18						
H01W1	Cape Leeuwin H	43.87	155	T	T	18 31 48.0	
	baz=330,slow=76,SNR=20						
SONM	Songino Array	44.52	13	P	P	17 44 54.4	+0.3
	0.6nm,0.7s,baz=197,slow=6.9,SNR=6.2						
WRA	Warramunga Arr	47.06	123	P	P	17 45 15.7	+1.3
	1.4nm,0.7s,baz=300,slow=8.9,SNR=12						
ASAR	Alice Springs	48.47	127	P	P	17 45 26.6	+1.3
	0.5nm,0.9s,baz=296,slow=7.1,SNR=4.7						
ZALV	Zalesovo Beam	49.71	353	P	P	17 45 36.8	+2.6
	0.2nm,0.4s,baz=170,slow=8.7,SNR=1.5						
ZALV				LR	LR	18 11 31.0	
	comp=Z,29nm,18.9s,baz=24,slow=42						

*IDC **12** 17:37:28.4±7.3,21°.85S×178°.50W,h615km±41km,mb3.1/3, mb1 3.4/4,mb1mx2.9/33,mbtmp4.1/4, Error ellipse: s-maj=161.7km s-min=40.1km az=141.0*

*NEIC **12** 17:37:32.2±0.6,21°.0S±0°.2×178°.9W±0°.2,h637km±4km, mb4.0/13, Error ellipse: s-maj=29.8km s-min=24.9km az=175.0*

ISC 12 17:37:32.9±1.1,21°.0S±0°.2×178°.9W±0°.2,h650km,n23, σ1°39/24,mb3.9/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.32	318	P	P	17 39 04.7	+0.4
	19nm,0.3s,baz=165,slow=4.5,SNR=58						
MARNC	Mare, Loyalty	12.21	265	P	P	17 40 12.1	-1.4
PINNC	Pines Island,	12.80	260	P	P	17 40 17.6	-1.3
DZM	Mont Dzumac	13.69	263	P	P	17 40 25.8	-1.5
CTAO	Charters Tower	32.62	265	P	P	17 43 14.1	-0.3
CTAO				IAmb	IAmb	17 43 32.3	
	comp=Z,9.2nm,1.4s						
WR0	Warramunga Arr	43.52	263	P	P	17 44 41.1	-0.9
AS31	Alice Springs	43.60	257	P	P	17 44 41.6	-1.1
ASAR	Alice Springs	43.60	257	P	P	17 44 41.9	-0.7
	comp=Z,1.8nm,0.6s,baz=96,slow=7.3,SNR=60						
ASAR				ScP	ScP	17 49 09.2	+3.3
	comp=Z,0.2nm,0.7s,baz=114,slow=4.1,SNR=2.1						
ASAR	Alice Springs	43.60	257	P	P	17 44 41.6	-1.0
WB0	Warramunga Arr	43.69	263	P	P	17 44 42.4	-0.9
WB0				IAmb	IAmb	17 45 16.0	
	comp=Z,3.2nm,0.7s						
WB2	Warramunga Arr	43.70	263	P	P	17 44 42.5	-1.0
WB2				IAmb	IAmb	17 45 16.5	
	comp=Z,3.2nm,0.9s						
WRAB	Tennant Creek	43.70	263	P	P	17 44 42.4	-1.1
WRAB				IAmb	IAmb	17 45 16.5	
	comp=Z,4.8nm,1.1s						
WRA	Warramunga Arr	43.71	263	P	P	17 44 42.6	-0.9
	comp=Z,1.7nm,0.7s,baz=97,slow=7.6,SNR=66						
WRA	Warramunga Arr	43.71	263	P	P	17 44 41.6	-1.9
SOEI	Soe	55.68	272	P	P	17 46 12.2	+1.4
SOEI				IAmb	IAmb	17 46 12.8	
	comp=Z,7.9nm,0.8s						
TOLI2	Tolitoli	62.88	283	P	P	17 47 00.0	+1.7
TOLI2				IAmb	IAmb	17 47 32.9	
	comp=Z,6.0nm,1.0s						
QSPA	South Pole Qui	69.11	180	P	P	17 47 36.4	+0.5
QSPA				IAmb	IAmb	17 47 55.7	
	comp=Z,9.7nm,1.5s						
TPUB	Ta-pu	73.53	303	P	P	17 48 01.5	-0.6
SSLB	Suanglung	73.53	304	P	P	17 48 01.7	-0.4
CMAR	Chiang Mai Arr	89.48	290	P	P	17 49 25.4	+2.1
	comp=Z,0.6nm,0.8s,baz=126,slow=2.4,SNR=4.7						
CMAR	Chiang Mai Arr	89.48	290	P	P	17 49 22.9	-0.4
T35A	Sooner Cattle	96.51	53	P	P	17 49 53.6	-1.3
AKASG	Malin Array Be	143.00	330	PKP	PKPdf	17 55 53.3	-0.9
	comp=Z,1.0nm,0.4s,baz=44,slow=4.1,SNR=12						

*IDC **12** 18:02:05.7±0.4,59°.16S×25°.58W,h0km,mb4.5/15, mb1 4.6/15,mb1mx4.5/22,mbtmp4.5/15,MS3.8/18, Ms1 3.7/18,ms1mx3.6/42, Error ellipse: s-maj=16.9km s-min=16.6km az=170.0*

*NEIC **12** 18:02:13.9±2.2,59°.2S±0°.1×25°.8W±0°.2,h63km±4km, mb5.0/46, Error ellipse: s-maj=16.4km s-min=12.6km az=201.0*

ISC 12 18:02:10.7±0.3,59°.22S±0°.08×25°.61W±0°.08,h35km,n105, σ1°15/93,mb4.9/33,MS3.7/16,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.75	305	Pn	Pn	18 04 03.2	+2.3
VNA1	Neumayer--Stat	13.54	155	P	Pn	18 05 19.0	-0.9
VNA3	Neumayer Olymp	13.72	158	P	Pn	18 05 21.1	-1.3
VNA3				S	Sn	18 07 40.8	-12
VNA2	Neumayer--Watz	13.94	155	P	Pn	18 05 24.3	-1.1
	baz=307,slow=15						
VNA2				S	Sn	18 07 46.9	-12
	baz=309,slow=20						
SNAA	Sanae	15.51	153	LR	LR	18 10 55.7	
	comp=Z,320nm,18.3s,baz=330,slow=34						
PMSA	Palmer Station	18.65	236	LR	LR	18 12 51.7	
	comp=Z,170nm,18.3s,baz=103,slow=35						
PMSA	Palmer Station	18.65	236	P	Pn	18 06 27.2	+1.6
PMSA				IAmb	IAmb	18 07 16.4	
	comp=Z,95nm,1.6s						
EFI	East Falkland	19.73	278	Pn	Pn	18 06 38.5	-0.2
USHA	Ushuaia	23.40	262	P	P	18 07 17.7	+1.7
	comp=Z,32nm,0.9s,baz=141,slow=10,SNR=5.2						
QSPA	South Pole Qui	31.02	180	P	P	18 08 26.0	+1.2
	comp=Z,6.0nm,0.8s,baz=212,slow=6.0,SNR=40						
QSPA				PcP	PcP	18 11 19.9	+0.3
	comp=Z,2.2nm,0.8s,baz=170,slow=4.7,SNR=2.5						
QSPA				LR	LR	18 20 03.3	
	comp=Z,114nm,21.1s,baz=228,slow=35						
QSPA	South Pole Qui	31.02	180	P	P	18 08 26.0	+1.2
QSPA				IAmb	IAmb	18 09 30.0	
	comp=Z,23nm,1.4s						
LL02	Futaleuf	32.32	279	P	P	18 08 35.9	-0.3
PLTB	Pedras Altas	33.27	313	P	P	18 08 44.0	-0.5
PLTB				IAmb	IAmb	18 08 50.8	
	comp=Z,22nm,1.4s						
PLCA	Paso Flores	33.48	283	P	P	18 08 46.5	+0.2
	comp=Z,7.6nm,0.9s,baz=106,slow=8.1,SNR=10						
PLCA				LR	LR	18 23 00.6	
	comp=Z,108nm,18.0s,baz=198,slow=38						
PLCA	Paso Flores	33.48	283	P	P	18 08 44.7	-1.6
LC01	Cunco	35.53	284	P	P	18 09 02.5	-1.6
LC01				IAmb	IAmb	18 09 06.5	
	comp=Z,14nm,0.8s						
MAW	Mawson	37.12	141	LR	LR	18 22 37.7	
	comp=Z,190nm,20.6s,baz=239,slow=33						
BO02	Sierra Bellavi	38.23	289	P	P	18 09 28.7	+1.6
BO02				IAmb	IAmb	18 09 48.9	
	comp=Z,24nm,1.6s						
GO05	Huala	38.61	288	P	P	18 09 30.2	0.0
GO05				IAmb	IAmb	18 09 33.9	
	comp=Z,23nm,1.1s						
BO01	Tunca	38.70	289	P	P	18 09 28.8	-2.1
BO01				IAmb	IAmb	18 09 34.1	
	comp=Z,33nm,1.4s						
MT09	Talagante	39.15	290	P	P	18 09 33.7	-1.2
MT01	Popeta	39.21	290	P	P	18 09 32.8	-2.4
MT01				IAmb	IAmb	18 09 37.6	
	comp=Z,20nm,0.8s						
MT05	Renca	39.34	291	P	P	18 09 34.8	-1.6
PEL	Peldehue	39.52	291	P	P	18 09 35.7	-2.1
VA05	Santo Domingo	39.55	290	P	P	18 09 37.0	-1.0
CPUP	Villa Florida	39.56	312	LR	LR	18 27 33.5	
	comp=Z,59nm,18.0s,baz=174,slow=39						
MT02	Curacav	39.64	290	P	P	18 09 37.3	-1.6
MT02				IAmb	IAmb	18 09 41.7	
	comp=Z,26nm,0.8s						
VA03	San Esteban	39.77	292	P	P	18 09 38.1	-1.9
ZON	Zonda	39.89	295	P	P	18 09 38.9	-2.1
ZON				IAmb	IAmb	18 09 43.8	
	comp=Z,47nm,1.5s						
SUR	Sutherland	40.80	70	P	P	18 09 49.6	+1.0
	comp=Z,3.3nm,0.7s,baz=158,slow=16,SNR=1.3						
SUR				LR	LR	18 22 10.0	
	comp=Z,102nm,21.9s,baz=178,slow=30						
CO03	El Pedregal	41.42	293	P	P	18 09 53.3	-0.4
CO03				IAmb	IAmb	18 10 57.6	
	comp=Z,27nm,0.8s						
CO06	Fray Jorge	42.01	292	P	P	18 09 57.1	-1.3
GO04	Tololo Observa	42.03	293	P	P	18 09 59.6	+0.8
LCO	Las Campanas	42.96	294	P	P	18 10 08.4	+2.0
SBA	Scott Base	42.97	184	P	P	18 10 04.6	-1.0
VNDA	Vanda	43.44	182	P	P	18 10 11.4	+2.0
	comp=Z,4.8nm,0.8s,baz=193,slow=7.0,SNR=8.4						
VNDA	Vanda	43.44	182	P	P	18 10 09.7	+0.3
VNDA				IAmb	IAmb	18 10 24.4	
	comp=Z,49nm,1.6s						
AC04	Llanos de Chal	43.81	295	P	P	18 10 13.3	+0.3
AC04				IAmb	IAmb	18 10 16.2	
	comp=Z,47nm,1.1s						
GO03	Copiap	43.94	296	P	P	18 10 14.3	+0.2
AC02	Maricunga	44.08	298	P	P	18 10 15.0	-0.7
AC02				IAmb	IAmb	18 10 20.0	
	comp=Z,14nm,0.8s						
BOSA	Boshof	46.06	71	P	P	18 10 31.1	+0.1
	comp=Z,5.3nm,0.9s,baz=203,slow=8.4,SNR=7.9						
BOSA				LR	LR	18 26 13.1	
	comp=Z,89nm,18.4s,baz=194,slow=32						
BOSA	Boshof	46.06	71	P	P	18 10 30.8	-0.1
BOSA				IAmb	IAmb	18 11 27.7	
	comp=Z,32nm,1.8s						
BDFB	Brasilia	46.54	330	P	P	18 10 35.6	+0.8
	comp=Z,2.1nm,0.5s,baz=58,slow=8.1,SNR=3.6						
PB10	IPOC Station P	47.59	299	P	P	18 10 42.6	-0.3
PB10				IAmb	IAmb	18 11 14.5	
	comp=Z,28nm,1.2s						
LVC	Limon Verde	47.65	301	P	P	18 10 44.0	+0.3
	comp=Z,1.9nm,0.4s,baz=131,slow=11,SNR=2.0						
LVC				LR	LR	18 31 15.1	
	comp=Z,52nm,19.9s,baz=198,slow=37						
LVC	Limon Verde	47.65	301	P	P	18 10 41.4	-2.4
PB09	IPOC Station P	48.50	301	P	P	18 10 49.4	-0.7
PB09				IAmb	IAmb	18 10 57.3	
	comp=Z,52nm,2.0s						
PB07	IPOC Station P	48.85	300	P	P	18 10 49.9	-2.8
PB07				IAmb	IAmb	18 10 56.0	
	comp=Z,14nm,1.0s						
LBTB	Lobatse	49.23	69	P	P	18 10 55.6	0.0
	comp=Z,4.1nm,0.8s,baz=200,slow=9.1,SNR=4.2						
LBTB				LR	LR	18 27 52.5	
	comp=Z,94nm,20.1s,baz=200,slow=31						
LBTB	Lobatse	49.23	69	IAmb	IAmb	18 12 00.3	
	comp=Z,24nm,1.8s						
PB01	IPOC Station P	49.27	301	P	P	18 10 55.6	-0.3
TSUM	Tsumeb	50.60	57	LR	LR	18 27 38.2	
	comp=Z,47nm,21.5s,baz=177,slow=30						
TSUM	Tsumeb	50.60	57	P	P	18 11 06.4	+0.3
TSUM				IAmb	IAmb	18 11 07.8	
	comp=Z,14nm,1.4s						
CASY	Casey	50.64	159	P	P	18 11 05.5	-0.1
CASY				IAmb	IAmb	18 11 47.1	
	comp=Z,30nm,1.4s						
CASY				PcP	PcP	18 12 24.1	+1.5
H10S2	ASCENSION HYDR	50.84	14	T	T	19 06 16.7	
	baz=187,slow=74,SNR=11						
H10S3	ASCENSION HYDR	50.84	14	T	T	19 06 17.1	
	baz=33,slow=74,SNR=24						
H10N1	ASCENSION HYDR	51.96	14	T	T	19 07 38.5	
	baz=187,slow=75,SNR=7.3						
H10N3	ASCENSION HYDR	51.96	14	T	T	19 07 40.9	
	baz=187,slow=75,SNR=29						
H10N2	ASCENSION HYDR	51.97	14	T	T	19 07 42.0	
	baz=187,slow=75,SNR=20						
LPAZ	La Paz	52.91	306	P	P	18 11 23.3	-0.5
	comp=Z,1.6nm,0.6s,baz=89,slow=7.1,SNR=4.0						
LPAZ	La Paz	52.91	306	P	P	18 11 22.4	-1.5
ETMB	Extrema	57.99	311	P	P	18 11 59.1	-0.5
LSZ	Lusaka	58.82	66	LR	LR	18 34 02.1	
	comp=Z,57nm,19.4s,baz=195,slow=33						
NNA	Nana	60.52	299	LR	LR	18 35 59.0	
	comp=Z,58nm,22.0s,baz=184,slow=34						
CZSB	Cruzeiro do Su	62.51	305	P	P	18 12 28.6	-2.0
LIC	Lamto	67.28	22	*eP*	P	18 13 02.1	+0.6
	comp=Z,14nm,0.4s						
BOAV	Boa Vista	67.31	322	P	P	18 12 60.0	-1.8
BOAV				IAmb	IAmb	18 13 01.3	
	comp=Z,30nm,1.9s						
KIC	Kosan Boka	67.46	23	*eP*	P	18 13 02.9	+0.2
	comp=Z,7.4nm,0.7s						
MDP	Montagnes des	67.63	331	LR	LR	18 41 23.9	
	comp=Z,104nm,18.8s,baz=138,slow=35						
TIC	Tomodi	67.69	22	*eP*	P	18 13 04.6	+0.5
DBIC	Dimbokro	67.74	22	P	P	18 13 04.8	+0.3
	comp=Z,3.8nm,0.5s,baz=193,slow=6.3,SNR=10						
DBIC	Dimbokro	67.74	22	IAmb	IAmb	18 13 59.8	
	comp=Z,30nm,1.6s						
OTAV	Otavalo	72.11	303	P	P	18 13 32.2	+0.2
MBAR	Mbarara	72.91	61	LR	LR	18 44 02.1	
	comp=Z,62nm,18.7s,baz=184,slow=34						
MBAR	Mbarara	72.91	61	P	P	18 13 38.2	+1.9
TORD	Torodi Ar. Bea	75.44	27	P	P	18 13 51.7	+1.0
	comp=Z,9.9nm,0.5s,baz=197,slow=6.3,SNR=70						
TORD	Torodi Ar. Bea	75.44	27	P	P	18 13 51.7	+1.0
TORD				IAmb	IAmb	18 13 52.5	
	comp=Z,9.6nm,0.7s						
ZARC	Zaragoza, Cauc	77.18	310	P	P	18 14 00.6	-0.2
STKA	Stephens Creek	88.62	169	P	P	18 15 00.2	+0.4
	comp=Z,1.4nm,0.7s,baz=183,slow=5.9,SNR=4.6						
STKA				LR	LR	18 53 39.5	
	comp=Z,81nm,18.6s,baz=205,slow=35						
ASAR	Alice Springs	95.71	161	P	P	18 15 32.3	-0.5
	comp=Z,1.6nm,0.8s,baz=183,slow=4.2,SNR=24						
ASAR				PKKPbc	PKKPbc	18 32 20.8	+1.1
	comp=Z,0.4nm,0.8s,baz=0.4,slow=1.8,SNR=7.7						
ASAR				LR	LR	18 55 13.5	
	comp=Z,100nm,21.5s,baz=188,slow=33						
WRA	Warramunga Arr	99.42	161	P	Pdif	18 15 48.8	-0.8
	comp=Z,0.5nm,0.9s,baz=190,slow=3.9,SNR=2.7						
WRA				PKKPbc	PKKPbc	18 32 10.6	+1.1
	comp=Z,0.2nm,0.6s,baz=354,slow=3.0,SNR=2.1						
WRA				LR	LR	18 58 59.7	
	comp=Z,87nm,19.6s,baz=170,slow=34						
AKASG	Malin Array Be	118.26	36	PKP	PKPdf	18 20 52.2	-0.7
	comp=Z,0.5nm,0.6s,baz=244,slow=1.6,SNR=4.7						
AKASG	Malin Array Be	118.26	36		PKPdf	18 20 51.5	-1.4
PDAR	Pinedale Array	122.70	300	PKP	PKPdf	18 21 00.8	-1.2
	comp=Z,0.3nm,0.7s,baz=228,slow=1.1,SNR=2.4						
ULM	Lac du Bonnet	123.10	314	PKP	PKPdf	18 21 01.3	-0.9
	comp=Z,1.9nm,0.5s,baz=65,slow=2.9,SNR=3.0						
CMAR	Chiang Mai Arr	123.15	111	PKP	PKiKP	18 21 03.4	-0.1
	comp=Z,1.4nm,0.8s,baz=230,slow=3.7,SNR=14						
CMAR	Chiang Mai Arr	123.15	111		PKPdf	18 21 02.2	-1.1
NOA	NORSAR Array B	123.29	20	PKP	PKiKP	18 21 02.5	0.0
	comp=Z,1.6nm,0.9s,baz=188,slow=1.6,SNR=3.9						
NVAR	Mina Array Bea	123.35	290	PKP	PKiKP	18 21 04.4	+0.8
	comp=Z,0.3nm,0.6s,baz=146,slow=2.1,SNR=3.1						
FINES	FINESS Array B	126.79	28	PKP	PKPdf	18 21 08.6	-0.3
	comp=Z,2.4nm,0.8s,baz=154,slow=3.3,SNR=8.5						
ABKAR	Akbulak array	128.45	57		PKPdf	18 21 12.0	-0.4
ABKAR	Akbulak array	128.45	57		PKPdf	18 21 11.7	-0.7
AAK	Ala-Archa	130.19	72		PKPdf	18 21 15.2	-1.0
ARCES	ARCESS Array B	133.57	22	PKP	PKPdf	18 21 21.4	-0.2
	comp=Z,1.2nm,0.5s,baz=184,slow=1.0,SNR=7.2						
MKAR	Makanchi Array	137.03	74	PKhKP	PKPpre	18 21 18.1	
	comp=Z,0.3nm,0.6s,baz=226,slow=4.8,SNR=2.8						
MKAR				PKP	PKPdf	18 21 27.4	-1.4
	comp=Z,0.9nm,0.8s,baz=250,slow=3.5,SNR=6.6						
MKAR	Makanchi Array	137.03	74		PKPpre	18 21 15.0	
YKA	Yellowknife Ar	139.06	315	PKP	PKPdf	18 21 31.8	-0.1
	comp=Z,4.4nm,0.6s,baz=127,slow=2.4,SNR=66						
YKA	Yellowknife Ar	139.06	315		PKPdf	18 21 31.5	-0.4
ZALV	Zalesovo Beam	142.93	67	PKhKP	PKPpre	18 21 34.9	
	comp=Z,1.4nm,0.5s,baz=262,slow=5.2,SNR=7.6						
INK	Inuvik	148.75	317	PKPbc	PKPbc	18 21 51.8	-0.7
	comp=Z,2.9nm,0.7s,baz=64,slow=1.8,SNR=12						
SONM	Songino Array	149.96	91	PKP	PKPdf	18 21 51.9	+0.5
	comp=Z,5.2nm,0.7s,baz=216,slow=2.3,SNR=3.6						
SONM				PKPbc	PKPbc	18 21 56.3	0.0
	comp=Z,6.0nm,0.8s,baz=219,slow=3.6,SNR=34						
NRIK	Noril'sk	150.88	42	PKPbc	PKPbc	18 21 57.6	0.0
	comp=Z,2.6nm,0.8s,baz=175,slow=1.2,SNR=4.3						
KSRS	Korea Array	152.34	130	PKPbc	PKPbc	18 22 02.0	+0.1
	comp=Z,1.0nm,0.6s,baz=196,slow=3.2,SNR=2.6						
KSRS				PKPab	pPKPbc	18 22 12.5	0.0
	comp=Z,2.0nm,0.9s,baz=215,slow=4.2,SNR=4.4						
ILAR	Eielson Array	152.78	307	PKPbc	PKPbc	18 22 01.9	-0.3
	comp=Z,3.1nm,0.9s,baz=160,slow=2.0,SNR=22						
TIXI	Tiksi	163.83	29	PKPab	PKPab	18 23 01.2	+0.2
	comp=Z,1.5nm,0.8s,baz=322,slow=3.2,SNR=9.2						

IDC 12 18:11:35.5±9.7,54°.10N×159°.51E,h0km,Error ellipse: s-maj=94.8km s-min=31.9km az=48.0,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	PETROPAVLOVSK-1.46	228	*i*			18 20 30.0	
	baz=46,slow=331,SNR=0.5						
PETK	Petropavlovsk-	1.47	228	Pg	Pn	18 12 02.4	-0.8
	0.3nm,0.3s,baz=58,slow=18,SNR=7.7						
I53US	FAIRBANKS INFR	27.94	46	*i*		21 02 50.0	
	baz=275,slow=327,SNR=0.5						

IDC 12 18:13:00.9±3.1,27°.85N×65°.27E,h0km,mb3.4/5, mb1 3.4/5,mb1mx3.3/42,mbtmp3.4/5,MS3.1/6,Ms1 3.1/6, ms1mx2.7/61,Error ellipse: s-maj=83.0km s-min=27.8km az=153.0,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	11.70	331	LR	LR	18 21 13.2	
	comp=Z,44nm,19.5s,baz=169,slow=42						
AAK	Ala-Archa	16.54	25	LR	LR	18 23 49.3	
	comp=Z,25nm,21.1s,baz=229,slow=39						
MKAR	Makanchi Array	23.16	31	P	P	18 18 08.4	-0.5
	0.6nm,0.7s,baz=212,slow=11,SNR=10						
ZALV	Zalesovo Beam	29.76	23	P	P	18 19 09.2	+0.3
	0.3nm,0.5s,baz=236,slow=10,SNR=2.0						
CMAR	Chiang Mai Arr	32.25	100	LR	LR	18 33 24.4	
	comp=Z,18nm,19.2s,baz=115,slow=38						
AKASG	Malin Array Be	35.52	320	P	P	18 19 59.3	0.0
	0.2nm,0.4s,baz=122,slow=7.8,SNR=1.8						
SONM	Songino Array	37.55	47	P	P	18 20 17.0	+0.1
	0.2nm,0.5s,baz=248,slow=7.6,SNR=2.4						
SONM				LR	LR	18 38 24.4	
	comp=Z,46nm,20.2s,baz=96,slow=41						
KSRS	Korea Array	52.76	63	LR	LR	18 47 14.1	
	comp=Z,14nm,18.1s,baz=310,slow=39						
TORD	Torodi Ar. Bea	60.73	270	P	P	18 23 14.6	-0.1
	0.6nm,0.8s,baz=58,slow=7.1,SNR=4.5						
SEY	Seymchan	64.30	30	LR	LR	18 55 38.0	
	comp=Z,70nm,18.4s,baz=320,slow=40						

*NEIC **12** 18:27:22.0±2.6,54°.45N±0°.02×117°.03W±0°.07,h5km±1km, mb4.2/146,Mwr4.4(OTT),Error ellipse: s-maj=7.8km s-min=2.9km az=247.0*

*ANF **12** 18:27:22.0±0.3,54°.56N×116°.88W,h0km,Error ellipse: s-maj=7.2km s-min=3.0km az=55.0*

*NEIC **12** 18:27:21.8,54°.43N×117°.31W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.26; $M_{\theta\theta}$0.13; $M_{\phi\phi}$1.21; $M_{r\theta}$3.31; $M_{\theta\phi}$0.76; $M_{\phi r}$-3.05; Fault plane solution: $M_0$4.70000×10^{15} NP1:ϕ_s317.00000°, δ86.00000°,λ-98.00000°. NP2:ϕ_s199.00000°,δ9.00000°, λ-28.00000°. Principal axes: T 3.8661, Plg41.0000°, Azm54.0000°; N 1.4046, Plg8.0000°, Azm317.0000°; P -5.2707, Plg48.0000°, Azm219.0000°;*

*IDC **12** 18:27:23.3±0.5,54°.47N×117°.30W,h0km,mb3.9/10, mb1 4.2/20,mb1mx3.9/73,mbtmp4.0/20,ML4.3/6,MS3.5/25, Ms1 3.5/25,ms1mx3.2/92 Error ellipse: s-maj=9.6km s-min=6.5km az=80.0*

*PGC **12** 18:27:24.5,54°.43N×117°.31W,h4km,ML4.5/14,Mw4.4, 179km Nne of Jasper, Alberta Alberta, Canada*

ISC 12 18:27:21.9±0.7,54°.50N±0°.02×116°.92W±0°.02,h6km±5km, n375,σ1°94/383,mb4.3/21,MS3.5/18,Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWHSA	Sweathouse Loo	0.41	14		Pn	18 27 34.7	+0.2
SWHSA	Sweathouse Loo	0.41	14	P	Pn	18 27 34.8	+0.2
SWHSA				S	Sb	18 27 42.8	+4.5
BRLDA	Berland Lookou	0.50	215		Pg	18 27 30.0	-1.5
BRLDA					Sg	18 27 35.3	-2.7
BRLDA	Berland Lookou	0.50	215	P	Pg	18 27 30.1	-1.4
BRLDA				S	Sg	18 27 35.3	-2.7
STPRA	Salt Prairie L	1.32	28		Pg	18 27 51.1	+3.8
STPRA	Salt Prairie L	1.32	28	Pn	Pg	18 27 51.1	+3.8
STPRA				Sg

8.4nm,0.3s,baz=351,slow=16,SNR=13
NEW Lg Lg 18 30 34.8
47nm,0.3s,baz=57,slow=22,SNR=10.0
NEW LR LR 18 31 26.6
comp=Z,164nm,18.5s,baz=357,slow=39
NEW Newport 6.25 181 Pn Pn 18 28 54.4 -0.2
NEW Newport 6.25 181 P Pn 18 28 54.9 +0.2
baz=359,SNR=12
NEW Sb **Sb 18 30 32.1 +6.1**
baz=359
HNBB Haney 6.28 216 Pn **Pn 18 28 55.6 +0.4**
HNBB Pg **Pb 18 29 13.2 +1.5**
HNBB Sg **Sb 18 30 31.4 +4.4**
B08A Colville Reser 6.33 195 Pn **Pn 18 28 55.4 -0.5**
B08A Colville Reser 6.33 195 Pn **Pn 18 28 55.6 -0.3**
VDB Vedder Mountai 6.36 212 Pn **Pn 18 28 55.7 -0.4**
VDB Pg **Pb 18 29 14.8 +1.9**
A05A Maple Falls 6.37 212 Pg **Pb 18 29 15.5 +2.3**
A05A Sg Sg 18 30 35.7 -11
NBC1 NorthernBC 1 6.39 327 Pn **Pn 18 28 56.8 +0.2**
BIB Bowen Island 6.45 220 Pg **Pb 18 29 16.8 +2.3**
SHB Sechelt 6.52 224 Pn **Pn 18 28 59.9 +1.5**
B06A Marblemount 6.63 207 Pn 18 28 60.0 +0.1
B06A Marblemount 6.63 207 Sg **Sb 18 30 42.6 +5.6**
TXB Texada 6.67 227 Pn **Pn 18 29 01.5 +1.0**
C09A Chrisman Ranch 6.76 188 Pn **Pn 18 29 02.5 +0.8**
C09A Chrisman Ranch 6.76 188 Pg Pg 18 29 25.6 -5.8
BSMT Bassoo Peak 6.79 168 Pn **Pn 18 29 03.2 +0.9**
A04D Lummi Island 6.82 214 Sb Sg 18 30 49.3 -11
baz=28
CBB Campbell River 6.84 233 Sg **Sb 18 30 47.2 +4.1**
KITB Kitimat 6.88 271 Pn **Pn 18 29 02.3 -0.9**
YBMT Yellow Bay 6.89 163 Pn **Pn 18 29 04.9 +1.3**
GOBB Galiano Island 6.90 219 Pn **Pn 18 29 03.1 -0.5**
SNB Saturna Island 6.93 217 Pg **Pb 18 29 25.2 +2.6**
SNB Sg Sb 18 30 51.9 +6.3
JTMT Jette 6.96 165 Pn **Pn 18 29 05.4 +0.8**
JTMT Jette 6.96 165 Pn **Pn 18 29 05.5 +1.0**
BUTB Butedale 6.99 263 Sg **Sb 18 30 51.5 +4.0**
B05A Bryant 7.03 210 Sb Sg 18 30 56.2 -11
baz=24
C06D Leavenworth 7.04 202 Sb Sg 18 30 57.8 -10
baz=18
BBB Bella Bella 7.09 255 Pn **Pn 18 29 03.8 -2.4**
0.2nm,0.3s,baz=24,slow=20,SNR=1.3
BBB Pg Pb 18 29 17.8 -7.6
0.8nm,0.3s,baz=263,slow=3.1,SNR=5.2
BBB Lg Lg 18 30 55.8
19nm,0.3s,baz=353,slow=21,SNR=8.2
BBB LR LR 18 32 10.5
comp=Z,129nm,20.6s,baz=240,slow=42
BBB Bella Bella 7.09 255 Sg Sb 18 30 57.0 +6.8
B011 North Saanich 7.13 217 Sg **Sb 18 30 57.4 +6.0**
PGC Sidney 7.13 217 Sg **Sb 18 30 57.0 +5.7**
B009 North Saanich 7.13 217 Sg **Sb 18 30 57.4 +6.0**
VGZ Gonzales 7.29 216 Sg **Sb 18 31 01.2 +5.4**
MGB Mount Grey 7.32 224 Pn **Pn 18 29 09.5 0.0**
WOSB Woss 7.34 238 Pn **Pn 18 29 09.4 -0.3**
WOSB Sg **Sb 18 31 03.3 +5.9**
MAYB Maynard 7.49 241 Pn **Pn 18 29 11.6 -0.2**
D08A Wollman Farm, 7.56 190 Pn **Pn 18 29 13.5 +0.8**
PFB Port Renfrew 7.56 221 Pn **Pn 18 29 13.9 +1.3**
PFB Sg Sb 18 31 10.3 +6.5
LTY Liberty 7.63 200 Pn **Pn 18 29 13.2 -0.5**
GRNB Grenville Isla 7.68 270 Sg **Sb 18 31 13.7 +6.4**
OVMT Ovando 7.85 160 Pn **Pn 18 29 18.0 +1.3**
EGMT Eagleton 7.89 142 Pn 18 29 15.8 -1.4
EGMT Eagleton 7.89 142 P **Pn 18 29 18.5 +1.4**
baz=327
MSO Missoula 7.91 165 Pn **Pn 18 29 18.2 +0.6**
MSO Missoula 7.91 165 P **Pn 18 29 18.5 +0.9**
baz=346,SNR=23
D05A Enumclaw 7.99 206 Pn **Pn 18 29 18.0 -0.5**
D05A LR 18 31 29.2
E09A Wood Farm, Sta 8.04 186 Pn 18 29 20.7 +1.6
YKA Yellowknife Ar 8.11 8 Pn **Pn 18 29 20.6 +0.5**
2.1nm,0.3s,baz=190,slow=13,SNR=63
YKA Sn **Sn 18 30 47.0 -4.9**
9.0nm,0.3s,baz=190,slow=22,SNR=6.1
YKA Lg Lg 18 31 34.1
15nm,0.3s,baz=187,slow=27,SNR=14
YKA Yellowknife Ar 8.11 8 Pn **Pn 18 29 20.1 0.0**
E08A Dider Farm, El 8.13 191 Pn **Pn 18 29 19.7 -0.8**
E07A Sunnyside 8.17 194 Pn 18 29 18.7 -2.3
DLBC Dease Lake 8.26 304 Pn **Pn 18 29 20.9 -1.4**
2.0nm,0.3s,baz=94,slow=10,SNR=27
DLBC Lg Lg 18 31 34.9
3.9nm,0.3s,baz=240,slow=20,SNR=2.0
DLBC LR LR 18 32 51.9
comp=Z,354nm,19.8s,baz=106,slow=41
DLBC Dease Lake 8.26 304 Pn **Pn 18 29 21.0 -1.2**
HAWA Hanford 8.29 193 Pn **Pn 18 29 22.6 0.0**
HRY Holter Researc 8.44 155 Pn 18 29 25.9 +1.1
F10A Beach Ranch, E 8.54 181 Pn 18 29 27.2 +1.0
WRAK Wrangell Islan 8.97 289 Pn **Pn 18 29 30.9 -1.1**
LRM Limekiln Ridge 9.15 160 Pn 18 29 34.1 -0.5
G08A Pilot Rock 9.31 189 Pn **Pn 18 29 38.1 +1.3**
CRAG Craig 9.37 283 Pn **Pn 18 29 35.0 -2.3**
PLID Pearl Lake 9.44 176 Pn **Pn 18 29 39.2 +0.5**
BOZ Bozeman (W) 9.54 157 Pn 18 29 40.1 +0.3
BOZ Bozeman (W) 9.54 157 P **Pn 18 29 40.3 +0.4**
baz=340
DLMT Dillon 9.56 161 Pn 18 29 39.4 -0.8
BMO Blue Mountains 9.66 182 Pn **Pn 18 29 41.1 -0.5**
GCMT Greycliff 9.88 149 Pn 18 29 46.0 +1.5
DGMT Dagmar 9.96 122 Pn **Pn 18 29 45.8 +0.2**
DGMT Dagmar 9.96 122 P **Pn 18 29 46.2 +0.6**
baz=311
MCMT McKenzie Canyo 10.03 163 Pn 18 29 47.5 +0.7
QLMT Earthquake Lak 10.31 158 Pn 18 29 50.5 0.0
LAO LASA Array 10.35 135 Pn **Pn 18 29 51.1 +0.2**
BCYI Bear Canyon 10.45 166 Pn 18 29 51.7 -0.7
YMR Madison River 10.57 156 Pn 18 29 54.6 +0.5
YNR Norris Junctio 10.59 155 Pn **Pn 18 29 55.8 +1.3**
RLMT Red Lodge 10.60 149 Pn **Pn 18 29 55.4 +0.9**
RLMT Red Lodge 10.60 149 P **Pn 18 29 55.7 +1.1**
baz=334
YUF Upper Falls 10.64 154 Pn **Pn 18 29 55.2 +0.2**
SIT Sitka 10.67 291 Pn **Pn 18 29 55.6 +0.4**
BESE Bessie Mountai 10.70 300 Pn **Pn 18 29 56.2 +0.5**
YMP Mirror Lake Pl 10.70 153 Pn **Pn 18 29 57.1 +1.1**
LKWY Lake 10.80 154 Pn **Pn 18 29 57.5 +0.2**
H17A Grant Village 10.92 155 Pn **Pn 18 29 58.2 -0.7**
HLID Hailey 11.07 170 Pn **Pn 18 30 01.7 +0.8**
HLID Hailey 11.07 170 P **Pn 18 30 02.7 +1.8**
baz=351,SNR=6.6
MFID Camas Ranch 11.12 176 Pn **Pn 18 30 01.4 -0.1**
FLWY Flagg Ranch 11.18 156 Pn 18 30 02.9 +0.4
SKAG Skagway 11.19 304 Pn **Pn 18 30 02.4 +0.2**
J08A Circle Bar Ran 11.20 186 Pn **Pn 18 30 03.4 +0.8**
WHY Whitehorse 11.42 310 P Pn 18 30 00.7 -4.9
MOOW Moose Ponds 11.49 157 Pn **Pn 18 30 07.4 +0.7**
FARO Faro, Yukon 11.56 319 P **Pn 18 30 04.8 -2.6**
LOHW Long Hollow 11.65 157 Pn 18 30 10.6 +1.7
SNOW Snow King Moun 11.76 157 Pn **Pn 18 30 09.0 -1.4**
REDW Red Top Meadow 11.83 158 Pn **Pn 18 30 12.2 +0.9**
ECR Eagle Creek 12.02 160 Pn **Pn 18 30 14.7 +0.8**
WVOR Wild Horse Val 12.13 186 Pn **Pn 18 30 16.2 +0.9**
BW06 Boulder Array 12.70 155 Pn **Pn 18 30 23.8 +0.5**
PD31 Pinedale Array 12.70 155 Pn 18 30 23.7 +0.4
PDAR Pinedale Array 12.70 155 Pn 18 30 26.3 +3.0
0.2nm,0.3s,baz=1.3,slow=13,SNR=14
PDAR Lg Lg 18 33 58.7
0.3nm,0.3s,baz=6.2,slow=34,SNR=2.3
PDAR LR LR 18 35 44.7
comp=Z,248nm,19.2s,baz=348,slow=39
PDAR Pinedale Array 12.70 155 Pn **Pn 18 30 24.9 +1.6**
MDND Maddock 12.72 114 Pn **Pn 18 30 24.2 +0.9**
E28A Huff 12.99 121 Pn **Pn 18 30 25.1 -1.9**
HVU Hansel Valley 13.02 166 Pn 18 30 29.1 +1.5
M30M Minto, Yukon 13.11 316 P **Pn 18 30 27.6 -0.9**
baz=120
FCC Fort Churchill 13.24 62 P **Pn 18 30 28.4 -1.9**
RSSD Black Hills 13.34 136 Pn 18 30 32.8 +0.9
YKU2 Yakutat 13.34 301 Pn **Pn 18 30 34.2 +2.6**
YBH Yreka Blue Hor 13.34 199 LR LR 18 36 21.2
comp=Z,175nm,21.5s,baz=16,slow=41
KUKN Kugluktuk,NWT 13.40 3 P **Pn 18 30 30.5 -1.9**
ULM Lac du Bonnet 13.53 100 Pn **Pn 18 30 33.9 -0.3**
0.7nm,0.3s,baz=275,slow=6.1,SNR=3.0
ULM Sn **Sn 18 32 57.9 -6.9**
4.2nm,0.3s,baz=202,slow=16,SNR=5.0
ULM Lg Lg 18 34 28.2
5.1nm,0.3s,baz=202,slow=23,SNR=3.5
ULM Lac du Bonnet 13.53 100 Pn **Pn 18 30 32.6 -1.6**
ULM Lac du Bonnet 13.53 100 P **Pn 18 30 34.5 +0.3**
K22A Casper 13.69 146 Pn 18 30 36.8 +0.1
ELK Elko 13.81 175 Pn **Pn 18 30 40.4 +2.0**
0.1nm,0.3s,baz=357,slow=14,SNR=7.9
ELK Lg Lg 18 34 34.3
0.1nm,0.3s,baz=273,slow=21,SNR=8.6
ELK Elko 13.81 175 Pn **Pn 18 30 39.4 +1.1**
BMN Battle Mountai 14.08 181 Pn 18 30 43.9 +1.9
LOGN Logan Glacier 14.30 306 Pn **Pn 18 30 45.6 +0.7**
AGMN Agassiz Nation 14.51 107 P 18 30 51.1 -3.4
DUG Dugway, Tooele 14.58 167 Pn **Pn 18 30 48.4 -0.4**
BVCY Beaver Creek 14.75 312 P **Pn 18 30 51.5 +0.6**
baz=112
RDMU Red Mountain 14.78 158 Pn 18 30 50.8 -0.9
DAWY Dawson 14.87 319 P **Pn 18 30 50.8 -1.7**
PAHR Pah Rah Range 14.89 187 Pn 18 30 51.3 -1.8
C36M Paulatuk 15.26 350 Pn 18 30 54.0 -3.5
C36M IAmb IAmb 18 30 56.5
comp=Z,8.6nm,0.9s
C36M Paulatuk 15.26 350 P **Pn 18 30 54.1 -3.5**
C36M Paulatuk 15.26 350 P **Pn 18 30 54.5 -3.0**
baz=165
MPK Martis Peak 15.36 189 Pn **Pn 18 30 58.3 -1.1**
MPK IAmb IAmb 18 31 42.0
comp=Z,34nm,1.9s
SUSD Miller 15.37 124 Pn **Pn 18 30 55.8 -3.5**
BCAR Beaver Creek A 15.39 314 Pn 18 30 58.6 -0.8
L27K Beaver Creek, 15.40 314 Pn 18 30 59.6 0.0
L27K IAmb IAmb 18 31 08.7
comp=Z,6.9nm,0.8s
N23A Red Feather La 15.46 147 Pn 18 30 59.3 -1.4
N23A Red Feather La 15.46 147 P **Pn 18 31 02.0 +1.3**
baz=335,SNR=11
KVN Kaiserville 15.48 183 Pn **Pn 18 31 01.1 +0.3**
KCPM Cahto Peak 15.49 200 Pn 18 31 01.7 +0.8
O20A White River Ci 15.51 154 Pn 18 31 00.8 -0.5
O20A IAmb IAmb 18 31 11.2
comp=Z,10nm,0.8s
P18A Preston Nutter 15.55 160 P 18 31 03.6 -2.8
P17A Butcher Ranch, 15.60 162 Pn 18 31 03.4 +0.9
SPR3 Spring Creek 3 15.61 172 P 18 31 07.0 -0.1
SPR3 IAmb IAmb 18 31 12.9
comp=Z,7.4nm,0.9s
B35A Bob, Littlefor 15.68 104 Pn 18 31 03.7 +0.5
M26K Nabesna, AK 15.68 311 P **P 18 31 05.0 -2.4**
TMUT Trail Mountain 15.69 163 P **P 18 31 06.4 -1.6**
TMUT IAmb IAmb 18 31 10.8
comp=Z,8.2nm,0.7s
F33A 5 Mile Ranch, 15.75 115 Pn 18 31 04.8 +0.5
F33A IAmb IAmb 18 31 44.2
comp=Z,12nm,0.6s
GLB Gilahina Butte 15.78 307 Pn 18 31 03.5 -1.1
GLB IAmb IAmb 18 31 39.2
comp=Z,46nm,1.8s
SOLO Sioux Lookout 15.82 96 P **Pn 18 31 04.5 -0.6**
INK Inuvik 15.88 337 Pn **Pn 18 31 03.1 -2.6**
comp=Z,2.4nm,0.3s,baz=141,slow=5.6,SNR=26
INK Sn Sn 18 33 50.0 -12
comp=Z,0.8nm,0.3s,baz=182,slow=7.0,SNR=3.0
INK LR LR 18 37 46.0
comp=Z,223nm,19.5s,baz=133,slow=39
INK Inuvik 15.88 337 P **Pn 18 31 03.2 -2.5**
INK Inuvik 15.88 337 P **Pn 18 31 03.1 -2.5**
baz=143
EGAK Eagle 15.88 320 Pn 18 31 05.8 0.0
RYN Ryan 15.91 185 Pn 18 31 05.7 -0.8
SRU San Rafael Swe 15.99 162 Pn 18 31 08.1 +0.5
L26K Log Cabin Wild 16.04 313 Pn 18 31 07.2 -0.7
BMRM Bremner River 16.05 305 Pn 18 31 06.7 -1.4
BMRM IAmb IAmb 18 31 57.2
comp=Z,53nm,1.8s
Q16A Castle Valley 16.07 164 Pn **P 18 31 09.6 -2.5**
Q16A IAmb IAmb 18 31 15.1
comp=Z,14nm,0.6s
NV11 Mina Array Sit 16.10 184 Pn 18 31 08.1 -0.7
NVAR Mina Array Bea 16.10 184 Pn **P 18 31 10.5 -1.9**
baz=357,slow=10,SNR=8.6
NVAR Mina Array Bea 16.10 184 Pn 18 31 08.5 -0.5
PSUT Pine Spring 16.11 171 Pn 18 31 08.0 -1.1
R11A Troy Canyon, C 16.18 176 Pn 18 31 09.1 -0.9
TCRU Three Creeks R 16.18 167 Pn 18 31 10.3 +0.2
TCRU IAmb IAmb 18 31 16.8
comp=Z,14nm,0.8s
LHV Little Huntoon 16.29 184 Pn 18 31 09.9 -1.3
MSU Marysvale 16.32 167 P 18 31 12.5 -2.3
MVU Marysvale 16.32 167 Pn 18 31 11.7 -0.2
TPH Tonopah 16.43 181 P 18 31 13.5 -2.5
TPH IAmb IAmb 18 31 19.0
comp=Z,35nm,1.4s
DOT Dot Lake 16.56 314 Pn 18 31 14.1 -0.4
DOT IAmb IAmb 18 31 21.7
comp=Z,12nm,1.1s
DOT Dot Lake 16.56 314 P **Pn 18 31 14.5 0.0**
ISCO Idaho Springs 16.56 148 Pn 18 31 14.8 -0.2
ISCO IAmb IAmb 18 31 23.6
comp=Z,7.7nm,0.7s
ISCO Idaho Springs 16.56 148 P **P 18 31 15.7 -1.9**
baz=336,SNR=9.7
SCRK Sand Creek 16.65 316 Pn **Pn 18 31 15.3 -0.4**
SCRK Sand Creek 16.65 316 P **P 18 31 16.4 -1.8**
baz=113
Q23K Middleton Isla 16.70 299 Pn 18 31 15.4 -0.8
SMCO Snowmass 16.74 152 Pn 18 31 15.9 -1.5
MTPU Mount Pierson 16.78 167 Pn 18 31 16.6 -1.2
MTPU IAmb IAmb 18 31 24.4
comp=Z,12nm,0.8s
KLU Klutina 16.78 306 P 18 31 17.9 -1.8
KLU IAmb IAmb 18 31 24.6
comp=Z,30nm,1.4s
OGNE Ogallala 16.81 138 Pn 18 31 16.4 -1.4
PV21 Cone Mtn., Par 16.84 158 Pn 18 31 17.4 -1.0
PV21 IAmb IAmb 18 31 23.7
comp=Z,22nm,0.8s
K31A O'Neill 16.84 127 Pn 18 31 18.1 -0.1
K31A IAmb IAmb 18 31 47.6
comp=Z,25nm,0.9s
MCCM Marconi Confer 16.86 196 P **P 18 31 18.5 -2.1**
RIDG Independent Ri 16.92 314 Pn 18 31 18.7 -0.4
RIDG IAmb IAmb 18 31 25.3
comp=Z,12nm,0.7s
RIDG Independent Ri 16.92 314 P **Pn 18 31 19.2 +0.1**
baz=111
PV23 Carpenter Ridg 16.93 158 Pn 18 31 19.5 -0.2
PV23 IAmb IAmb 18 31 40.5
comp=Z,14nm,0.7s
PAX Paxson 16.94 311 P **P 18 31 20.6 -0.9**
PV10 Paradox Valley 17.00 158 P **P 18 31 21.5 -0.9**
PV10 IAmb IAmb 18 31 27.6
comp=Z,17nm,0.8s
PV14 Lion Creek, Pa 17.01 158 P **P 18 31 20.9 -1.6**
PV04 Paradox Valley 17.01 158 P **Pn 18 31 20.5 0.0**
PV04 IAmb IAmb 18 31 27.0
comp=Z,12nm,0.9s
PV07 Paradox Valley 17.03 157 P **Pn 18 31 19.3 -1.4**
PV07 IAmb IAmb 18 31 44.7
comp=Z,7.2nm,0.7s
M24K Tolsona, Glenn 17.03 308 P **Pn 18 31 20.4 -0.1**
M24K IAmb IAmb 18 31 41.1
comp=Z,21nm,1.1s
ECSD EROS Data Cent 17.04 121 Pn 18 31 20.4 -0.3
ECSD IAmb IAmb 18 31 27.7
comp=Z,59nm,1.9s
ECSD EROS Data Cent 17.04 121 P **Pn 18 31 19.9 -0.8**
baz=316
PV19 Morning Glory 17.07 158 P **P 18 31 21.4 -1.8**
PV19 IAmb IAmb 18 31 27.4
comp=Z,14nm,0.8s
PV16 Nyswonger Mesa 17.09 158 P **Pn 18 31 20.7 -0.8**
PV16 IAmb IAmb 18 31 29.6
comp=Z,14nm,0.7s
PV12 Saucer Basin, 17.11 158 P **Pn 18 31 19.8 -2.0**
PV12 IAmb IAmb 18 31 42.6
comp=Z,15nm,0.9s
PV11 David Mesa, Pa 17.11 158 P **Pn 18 31 21.5 -0.3**
PV11 IAmb IAmb 18 31 51.7
comp=Z,26nm,0.8s
PV17 East Wray Mesa 17.11 158 P **Pn 18 31 21.0 -0.8**
PV17 IAmb IAmb 18 31 27.9
comp=Z,19nm,0.9s
CCUT Cedar City 17.13 170 Pn 18 31 20.2 -1.9
PRN Pahroc Range 17.14 175 P **P 18 31 23.9 0.0**
PRN IAmb IAmb 18 32 16.8
comp=Z,21nm,1.7s
PV18 Skein Mesa, Pa 17.15 158 P **Pn 18 31 21.2 -1.2**
PV18 IAmb IAmb 18 31 28.3
comp=Z,9.9nm,0.7s
PV15 Paradox Valley 17.16 157 Pn 18 31 21.8 -0.6
PV15 IAmb IAmb 18 31 29.9
comp=Z,17nm,0.9s
PV03 Paradox Valley 17.16 158 P **P 18 31 23.3 -0.8**
PV03 IAmb IAmb 18 31 43.1
comp=Z,12nm,0.9s
EYMN Ely 17.16 102 P **Pn 18 31 22.1 -0.1**
EYMN IAmb IAmb 18 32 07.3
comp=Z,42nm,1.5s
PV02 Paradox Valley 17.23 158 P **P 18 31 24.1 -0.8**
PV02 IAmb IAmb 18 31 29.6
comp=Z,9.9nm,0.6s
F36A Milaca 17.23 110 Pn 18 31 22.0 -1.1
PV13 Radium Mtn., P 17.25 158 P **P 18 31 23.9 -1.4**
PV13 IAmb IAmb 18 31 44.4
comp=Z,9.9nm,0.8s
PV05 Paradox Valley 17.27 159 P **Pn 18 31 23.1 -0.8**
PV05 IAmb IAmb 18 31 29.9
comp=Z,16nm,1.1s
LCH Last Change Ra 17.28 182 P **P 18 31 24.0 -1.4**
PV01 Paradox Valley 17.33 157 P **Pn 18 31 23.3 -1.3**
PV01 IAmb IAmb 18 31 31.0
comp=Z,9.4nm,0.7s
Q24A Divide 17.47 148 P **Pn 18 31 25.7 -0.7**
TPNV Topopah Spring 17.56 178 P **P 18 31 27.8 -0.7**
TPNV Topopah Spring 17.56 178 P **P 18 31 27.9 -0.6**
baz=358,SNR=5.6
LCMT Little Creek M 17.67 170 P **P 18 31 28.9 -0.8**
KNB Kanab 17.71 169 P **P 18 31 29.1 -1.1**
KNB IAmb IAmb 18 31 54.8
comp=Z,20nm,1.8s
DHY Denali Highway 17.80 311 P **Pn 18 31 29.3 -0.9**
DHY IAmb IAmb 18 32 02.8
comp=Z,29nm,1.8s
PWL Port Wells 17.83 304 P **Pn 18 31 29.7 -0.7**
PWL IAmb IAmb 18 32 27.0
comp=Z,66nm,1.8s
PRP Porcupine Dome 17.87 319 P **Pn 18 31 30.5 -0.5**
PRP IAmb IAmb 18 31 41.6
comp=Z,32nm,2.0s
A36M Sachs Harbour 17.91 352 Pn **Pn 18 31 28.7 -2.7**
A36M IAmb IAmb 18 31 58.4
comp=Z,17nm,0.7s
A36M Sachs Harbour 17.91 352 P **Pn 18 31 28.9 -2.5**
A36M Sachs Harbour 17.91 352 P **Pn 18 31 29.4 -2.0**
baz=165
KNK Knik Glacier 17.96 305 P **P 18 31 31.7 -0.9**
KNK IAmb IAmb 18 32 28.6
comp=Z,27nm,1.4s
SML Sawmill 17.97 307 P **P 18 31 33.5 +0.7**
SML IAmb IAmb 18 31 59.2
comp=Z,31nm,1.6s
HDA Harding Lake 18.01 315 P **P 18 31 33.2 0.0**
SHPR Sheep Range 18.04 175 P 18 31 33.0 -0.8
BGNE Belgrade 18.08 129 P **Pn 18 31 32.3 -1.3**
IL31 18.11 316 P **Pn 18 31 33.1 -0.7**
ILAR Eielson Array 18.11 316 P **P 18 31 34.2 0.0**
comp=Z,0.2nm,0.3s,baz=116,slow=12,SNR=22
ILAR Lg Lg 18 36 48.4
comp=Z,0.1nm,0.3s,baz=100,slow=30,SNR=1.3
ILAR LR LR 18 37 50.6
comp=Z,88nm,19.8s,baz=116,slow=35
ILAR Eielson Array 18.11 316 Pn 18 31 32.7 -1.2
S22A 4UR Ranch, Cre 18.12 153 P **Pn 18 31 33.8 -0.7**
FYU Fort Yukon 18.22 323 P **P 18 31 35.0 -0.4**
FYU IAmb IAmb 18 31 41.0
comp=Z,46nm,1.6s
MVCO Mesa Verde 18.24 158 Pn 18 31 33.8 -2.0
MVCO Mesa Verde 18.24 158 P **P 18 31 37.1 +1.1**
baz=344
KSCO Kaye Shedlock' 18.27 142 P **Pn 18 31 34.4 -1.7**
KSCO Kaye Shedlock' 18.27 142 P **P 18 31 37.3 +1.0**
baz=332
PMR Palmer 18.31 306 P 18 31 36.7 +0.3
PMR IAmb IAmb 18 31 41.8
comp=Z,9.7nm,0.6s
GWY Greenwater Val 18.32 179 P **P 18 31 35.7 -1.1**
U15A North Rim 18.36 168 P **P 18 31 36.7 -0.7**
CCB Clear Creek Bu 18.44 316 P **Pn 18 31 38.3 +0.4**
CCB IAmb IAmb 18 31 44.0
comp=Z,20nm,1.9s
MPMC Manual Prospec 18.45 181 P **P 18 31 39.9 +1.5**
baz=0.4
L34A Svendsen Farm, 18.47 124 P **P 18 31 37.5 -0.9**
SDCO Great Sand Dun 18.49 150 P **P 18 31 37.4 -1.5**
SDCO Great Sand Dun 18.49 150 P **Pn 18 31 40.3 +1.3**
baz=338,SNR=9.1
WRH Wood River Hil 18.50 315 P **Pn 18 31 39.4 +0.8**
RND Reindeer 18.53 311 P **Pn 18 31 39.2 +0.1**
RND IAmb IAmb 18 31 42.6
comp=Z,25nm,1.8s
QSM Queen of Sheba 18.54 180 P **Pn 18 31 39.3 0.0**
QSM IAmb IAmb 18 32 11.8
comp=Z,18nm,1.6s
MDM Murphy Dome 18.72 316 P **Pn 18 31 40.9 -0.4**
ISA Isabella, Lake 18.87 184 P 18 31 41.1 -1.7
ISA IAmb IAmb 18 31 46.2
comp=Z,7.9nm,0.7s
H24K Noodor Dome 18.89 319 P **Pn 18 31 42.7 -0.6**
N33A J Bar K, Exete 18.93 129 P **P 18 31 41.8 -1.6**
NEA2 Nenana 18.94 315 P **Pn 18 31 43.1 -0.9**
NEA2 Nenana 18.94 315 P **Pn 18 31 45.0 +1.1**
baz=108,SNR=7.6
CUT Chulitna 18.97 308 P **P 18 31 42.7 -0.9**
TRF Thorofare Moun 19.17 311 P **Pn 18 31 46.6 -0.3**
TRF Thorofare Moun 19.17 311 P **Pn 18 31 46.8 -0.1**
baz=103
GSC Goldstone, Bar 19.20 180 P **P 18 31 44.7 -1.8**
I23K Minto, Yukon-K 19.23 317 P **Pn 18 31 46.8 -0.6**
I23K Minto, Yukon-K 19.23 317 P **Pn 18 31 47.5 +0.1**
baz=109,SNR=5.7
WUAZ Wupatki 19.37 166 P **Pn 18 31 48.4 -1.1**
T25A Trinidad 19.38 149 P **P 18 31 47.8 -0.7**
T25A IAmb IAmb 18 31 55.2
comp=Z,9.5nm,0.8s
T25A Trinidad 19.38 149 P **Pn 18 31 51.1 +1.5**
baz=337
KTH Kantishna Hill 19.47 311 P **Pn 18 31 49.8 -0.6**
W13A Hualapai Mount 19.52 173 Pn 18 31 49.9 -1.4
CBKS Cedar Bluff 19.54 136 P 18 31 49.0 -1.1
CBKS IAmb IAmb 18 31 54.8
comp=Z,13nm,0.8s
CBKS Cedar Bluff 19.54 136 P **Pn 18 31 51.9 +0.5**
baz=329
BPAW Bear Paw Mtn. 19.62 313 Pn 18 31 51.2 -0.9
BPAW IAmb IAmb 18 31 55.4
comp=Z,31nm,1.6s
BPAW Bear Paw Mtn. 19.62 313 P **Pn 18 31 52.1 0.0**
baz=104,SNR=6.0
N35A Tabor 19.68 125 P **P 18 31 51.2 -0.3**
PPLA Purkeypile 19.92 309 Pn 18 31 54.7 -1.1
PPLA IAmb IAmb 18 31 59.4
comp=Z,35nm,1.6s
CAST Castle Rocks 19.96 311 P **Pn 18 31 55.2 -0.9**
CAST IAmb IAmb 18 31 58.0
comp=Z,7.0nm,0.9s
COLD Coldfoot 20.28 322 P **P 18 31 56.9 -1.0**
COLD IAmb IAmb 18 32 05.4
comp=Z,26nm,1.6s
COLD Coldfoot 20.28 322 P Pn 18 31 59.4 -0.5
baz=113,SNR=6.2
R32A Long Quarter, 20.30 135 P **P 18 31 56.8 -1.5**
R32A IAmb IAmb 18 32 01.6
comp=Z,18nm,0.9s
I21K Tanana 20.30 316 P Pn 18 31 59.1 -1.0
I21K IAmb IAmb 18 32 04.6
comp=Z,11nm,1.1s
X18A Snowflake 20.56 163 P **P 18 31 59.4 -1.9**
X18A IAmb IAmb 18 32 07.6
comp=Z,5.2nm,0.5s
KSU1 Kansas State U 20.63 130 P **P 18 32 01.3 -0.7**
KSU1 Kansas State U 20.63 130 P Pn 18 32 03.4 -0.8
baz=325
H21K Melozitna Rive 20.76 317 P **P 18 32 03.7 +0.5**
H21K IAmb IAmb 18 32 07.6
comp=Z,14nm,1.4s
K20K Telida 20.83 310 P **P 18 32 03.3 -0.7**
K20K IAmb IAmb 18 32 09.7
comp=Z,7.3nm,0.7s
K20K Telida 20.83 310 P Pn 18 32 04.8 -1.6
baz=98

M19K	**Big River Lodg**	**20.83 306**	P	**P**	**18 32 04.2**	**+0.2**
ANMO	**Albuquerque**	**20.87 155**	P	Pn	18 32 07.8	+0.5
	comp=Z,1.7nm,0.6s,baz=331,slow=13,SNR=6.0					
ANMO			LR	LR	18 40 57.5	
	comp=Z,178nm,19.4s,baz=330,slow=39					
ANMO	**Albuquerque**	**20.87 155**		**P**	**18 32 02.9**	**-1.9**
ANMO			IAmb	IAmb	18 32 31.4	
	comp=Z,13nm,1.6s					
N38A	**Joes South For**	**20.90 121**	P	**P**	**18 32 04.0**	**-0.9**
J20K	**Nowinta River**	**20.99 312**	P	Pn	18 32 06.3	-1.9
L19K	**White Mountain**	**21.07 307**	P	**P**	**18 32 07.1**	**+0.5**
L19K			IAmb	IAmb	18 32 13.3	
	comp=Z,9.5nm,0.7s					
IMAR	**Indian Mountai**	**21.22 317**	P	**P**	**18 32 07.8**	**-0.3**
P38A	**Dawn**	**21.65 124**	P	**P**	**18 32 12.6**	**-0.3**
L42A	**Oliver, Polo**	**21.87 114**	P	**P**	**18 32 15.2**	**-0.1**
RES	**Resolute Bay**	**22.06 15**	P	**P**	**18 32 20.1**	**+3.1**
	comp=Z,2.4nm,0.6s,baz=238,slow=4.5,SNR=4.4					
RES			S	**S**	**18 36 16.2**	**-4.1**
	comp=Z,2.9nm,0.5s,baz=316,slow=8.7,SNR=2.6					
RES			Lg	Lg	18 38 50.6	
	comp=Z,44nm,1.0s,baz=114,slow=24,SNR=6.5					
AMTX	**Amarillo**	**22.32 145**	P	**P**	**18 32 19.1**	**-1.1**
AMTX			IAmb	IAmb	18 32 25.6	
	comp=Z,18nm,1.4s					
BLOK	**Blackwell**	**22.33 135**	P	**P**	**18 32 18.1**	**-2.1**
P40A	**Paris**	**22.45 122**	P	**P**	**18 32 19.6**	**-1.9**
T35A	**Sooner Cattle**	**22.49 133**	P	**P**	**18 32 20.4**	**-1.6**
MSTX	**Muleshoe**	**22.81 148**	P	**P**	**18 32 23.2**	**-2.2**
MSTX			IAmb	IAmb	18 32 29.3	
	comp=Z,5.7nm,0.6s					
121A	**Cookes Peak, D**	**22.90 160**	P	**P**	**18 32 25.2**	**-1.3**
121A			IAmb	IAmb	18 32 31.6	
	comp=Z,5.1nm,0.7s					
121A	**Cookes Peak, D**	**22.90 160**	P	**P**	**18 32 28.2**	**+1.7**
	baz=346					
S39A	**Bolivar**	**23.28 127**	P	**P**	**18 32 28.6**	**-1.6**
R40A	**Maddies Statio**	**23.31 124**	P	**P**	**18 32 27.5**	**-2.9**
WMOK	**Wichita Mounta**	**23.47 140**	P	**P**	**18 32 31.3**	**-0.9**
WMOK			IAmb	IAmb	18 33 17.5	
	comp=Z,15nm,1.6s					
U38A	**Gravette**	**23.82 130**	P	**P**	**18 32 35.6**	**0.0**
U38A			IAmb	IAmb	18 32 47.1	
	comp=Z,12nm,1.2s					
MGMO	**Mountain Grove**	**24.21 126**	P	**P**	**18 32 39.3**	**0.0**
MGMO			IAmb	IAmb	18 32 42.9	
	comp=Z,8.9nm,0.8s					
MNTX	**Cornudas Mount**	**24.23 155**	P	**P**	**18 32 38.5**	**-1.0**
MNTX			IAmb	IAmb	18 32 43.1	
	comp=Z,3.2nm,0.9s					
MNTX	**Cornudas Mount**	**24.23 155**	P	**P**	**18 32 41.3**	**+1.8**
	baz=343					
FVM	**French Village**	**24.45 122**	P	**P**	**18 32 40.1**	**-1.3**
LCAR	**Lake Charles**	**25.61 125**	P	**P**	**18 32 51.5**	**-0.4**
LCAR			IAmb	IAmb	18 33 08.2	
	comp=Z,6.3nm,0.8s					
FRB	**Frobisher Bay**	**25.86 50**	P	**P**	**18 32 57.7**	**+3.8**
	comp=Z,4.4nm,0.9s,baz=279,slow=8.4,SNR=2.7					
FRB			S	**S**	**18 37 30.5**	**+6.8**
	comp=Z,2.0nm,0.7s,baz=46,slow=20,SNR=1.5					
FRB			Lg	Lg	18 40 54.9	
	comp=Z,21nm,1.0s,baz=184,slow=21,SNR=5.1					
FRB			LR	LR	18 43 19.8	
	comp=Z,168nm,18.2s,baz=303,slow=37					
SADO	**Sadowa**	**26.04 96**	P	**P**	**18 33 00.5**	**+4.8**
	comp=Z,6.3nm,0.8s,baz=270,slow=10.0,SNR=1.6					
SADO			Lg	Lg	18 41 03.6	
	comp=Z,16nm,0.9s,baz=264,slow=19,SNR=3.1					
TX31	**Lajitas Ar. Si**	**26.92 154**	P	**P**	**18 33 03.8**	**0.0**
TX32	**Lajitas Array**	**26.92 154**	P	**P**	**18 33 03.8**	**0.0**
TX32			IAmb	IAmb	18 33 57.1	
	comp=Z,8.5nm,1.6s					
TXAR	**Lajitas Array**	**26.92 154**	P	**P**	**18 33 06.1**	**+2.2**
	comp=Z,1.5nm,0.7s,baz=352,slow=6.3,SNR=12					
TXAR			LR	LR	18 44 31.4	
	comp=Z,149nm,21.1s,baz=319,slow=38					
TXAR	**Lajitas Array**	**26.92 154**	P	**P**	**18 33 04.2**	**+0.3**
SCHQ	**Schefferville**	**28.47 69**	LR	LR	18 44 54.8	
	comp=Z,145nm,19.5s,baz=290,slow=37					
VBMS	**Vicksburg**	**29.09 129**	P	**P**	**18 33 19.1**	**-4.0**
TKL	**Tuckaleechee C**	**29.64 116**	LR	LR	18 46 06.9	
	comp=Z,139nm,20.3s,baz=320,slow=38					
MVL	**Millersville**	**30.64 101**	P	**P**	**18 33 35.1**	**-1.7**
WUPA	**West Chester U**	**31.11 101**	P	**P**	**18 33 38.5**	**-2.4**
P60A	**Greenville**	**31.17 101**	P	P	18 33 36.4	-5.1
SFJD	**Kangerlussuaq**	**32.96 41**	LR	LR	18 47 02.7	
	comp=Z,167nm,19.9s,baz=270,slow=36					
BORG	**Borgarnes**	**44.82 37**	LR	LR	18 52 38.5	
	comp=Z,43nm,19.6s,baz=300,slow=34					
TIXI	**Tiksi**	**46.00 336**	LR	LR	18 58 22.5	
	comp=Z,30nm,18.6s,baz=293,slow=40					
PETK	**Petropavlovsk-**	**47.44 305**	LR	LR	18 56 30.1	
	comp=Z,27nm,21.1s,baz=73,slow=37					
JTS	**Las Juntas de**	**50.87 138**	LR	LR	18 59 50.2	
	comp=Z,46nm,19.1s,slow=38					
YAK	**Yakutsk**	**52.62 327**	LR	LR	19 02 06.0	
	comp=Z,60nm,19.6s,baz=82,slow=40					
NOA	**NORSAR Array B**	**57.70 27**	LR	LR	19 00 01.7	
	comp=Z,29nm,21.1s,baz=235,slow=34					
HFS	**Hagfors**	**59.12 26**	LR	LR	19 02 16.3	
	comp=Z,51nm,18.3s,baz=286,slow=35					
FINES	**FINESS Array B**	**60.76 19**	P	**P**	**18 37 36.6**	**+2.7**
	comp=Z,3.8nm,1.0s,baz=338,slow=3.0,SNR=3.7					
ASAJ	**Asahikawa**	**60.85 306**	LR	LR	19 07 31.8	
	comp=Z,24nm,18.3s,baz=220,slow=40					
KLR	**Kul'dur**	**61.69 316**	LR	LR	19 04 20.3	
	comp=Z,48nm,19.5s,baz=47,slow=36					
VRAC	**Vranov**	**69.43 30**	LR	LR	19 10 58.9	
	comp=Z,42nm,18.4s,baz=290,slow=38					
ZALV	**Zalesovo Beam**	**70.43 347**	P	**P**	**18 38 38.6**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=38,slow=7.5,SNR=3.9					
SONM	**Songino Array**	**71.68 331**	P	**P**	**18 38 46.6**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=4.3,slow=5.2,SNR=4.5					
BVAR	**Borovoye Array**	**72.67 355**	P	**P**	**18 38 53.4**	**+3.4**
	comp=Z,0.6nm,0.8s,baz=244,slow=5.9,SNR=2.6					
KSRS	**Korea Array**	**72.87 311**	LR	LR	19 13 30.7	
	comp=Z,19nm,20.1s,baz=35,slow=38					
HHC	**Hu-ho-hao-te**	**76.35 324**	*eP*	**P**	**18 39 08.5**	**-3.3**
HHC			pmax	pmax		
	comp=Z,8.0nm,0.9s					
HHC			pmax	pmax		
	comp=Z,88nm,5.3s					
MKAR	**Makanchi Array**	**77.78 347**	P	**P**	**18 39 22.6**	**+3.0**
	comp=Z,0.4nm,0.9s,baz=8.8,slow=5.0,SNR=4.1					
WMQ	**Urumqi**	**79.83 342**	*eP*	**P**	**18 39 32.8**	**+1.8**
AAK	**Ala-Archa**	**82.75 352**	LR	LR	19 19 28.2	
	comp=Z,37nm,19.6s,baz=253,slow=38					
PZH	**PanZhiHua**	**92.73 326**	P	**P**	**18 40 33.6**	**-1.5**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,60nm,6.7s					

IDC 12 18:37:40.4±2.1, 3°.89N×127°.30E, h0km, mb3.1/4, mb1 3.4/4, mb1mx2.9/44, mbtmp3.2/4, Error ellipse: s-maj=114.6km s-min=27.9km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.91**	**184**	P	P	18 42 35.4	0.0
	0.9nm,0.8s,baz=12,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**24.68**	**164**	P	P	18 43 02.9	-0.3
	0.3nm,0.6s,baz=344,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**28.14**	**167**	P	P	18 43 34.8	+0.3
	0.1nm,0.3s,baz=341,slow=11,SNR=6.9						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	18 47 33.1	-0.2
	0.1nm,0.5s,baz=120,slow=8.6,SNR=2.2						

ANF 12 18:39:53.1±0.1, 34°.69N×116°.24W, h12km±1km, ML2.6/19, ML2.7/19, Error ellipse: s-maj=0.9km s-min=0.7km az=36.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.16**	**330**	P	Pg	18 39 57.2	+0.2
	baz=150,SNR=675						
HEC				S	Sg	18 39 59.6	-0.1
	baz=150						
GMRC	**Granite Mounta**	**0.48**	**78**	P	Pg	18 40 03.1	+0.4
	baz=259,SNR=34						
GMRC				S	Sg	18 40 09.7	+0.5
	baz=259						
RRX	**Edison Barstow**	**0.65**	**287**	P	Pb	18 40 06.2	-0.3
	baz=106						
RRX				S	Sb	18 40 15.4	-0.2
	baz=106						
BBRC	**Big Bear Solar**	**0.71**	**233**	P	Pg	18 40 07.1	+0.2
	baz=52						
BBRC				S	Sb	18 40 17.1	-0.2
	baz=52						
BELC	**Belle Mtn. Jos**	**0.71**	**164**	P	Pg	18 40 07.0	0.0
	baz=344						
BELC				S	Sb	18 40 17.3	-0.1
	baz=344						
GSC	**Goldstone, Bar**	**0.77**	**323**	P	Pb	18 40 08.4	-0.1
	baz=143,SNR=27						
GSC				S	Sb	18 40 18.9	-0.1
	baz=143						
TUQ	**Turquoise Moun**	**0.79**	**19**	P	Pb	18 40 08.8	-0.1
	baz=199						
TUQ				S	Sb	18 40 19.6	0.0
	baz=199						
IRM	**Iron Mountain**	**1.04**	**120**	P	Pb	18 40 13.1	-0.1
	baz=301,SNR=36						
IRM				S	Sg	18 40 27.5	+0.6
	baz=301						
PFO	**Pinyon Flats O**	**1.09**	**190**	P	Pg	18 40 14.1	0.0
	baz=9.4,SNR=17						
PFO				S	Sg	18 40 28.4	+0.1
	baz=9.4						
SHOC	**Shoshone, Teco**	**1.21**	**358**	S	Sn	18 40 32.4	+0.1
	baz=179						
BC3	**Big Chuckawall**	**1.22**	**148**	Pg	Pg	18 40 16.8	+0.2
	baz=328						
BC3				Sb	Sn	18 40 33.5	+1.0
	baz=328						
BFSC	**Mount Baldy Ra**	**1.26**	**250**	P	Pb	18 40 17.0	+0.1
	baz=68,SNR=11						
BFSC				S	Sg	18 40 33.8	+0.1
	baz=68						
NEE2	**Needles Airpor**	**1.33**	**86**	Pg	Pg	18 40 18.6	-0.1
	baz=267						
NEE2				S	Sg	18 40 36.4	+0.2
	baz=267						
MURC	**Murrieta**	**1.34**	**217**	Pg	Pg	18 40 19.1	+0.1
	baz=36						
MURC				S	Sg	18 40 36.7	+0.3
	baz=36						
LRMC	**Laurel Mtn Rad**	**1.43**	**304**	Pg	Pg	18 40 20.5	0.0
	baz=123,SNR=31						
LRMC				S	Sg	18 40 38.5	-0.6
	baz=123						
EDW2	**Edwards Air Fo**	**1.46**	**278**	P	Pn	18 40 19.5	+0.2
	baz=97,SNR=6.4						
EDW2				S	Sb	18 40 39.2	+0.4
	baz=97						
MPMC	**Manual Prospec**	**1.71**	**324**	P	Pn	18 40 23.1	+0.2
	baz=143						
MPMC				Sb	Sg	18 40 48.1	-0.1
	baz=143						
DECC	**Green Verdugo**	**1.79**	**257**	Sg	Sg	18 40 52.4	+1.8
	baz=75						
OSI	**Osito Audit: C**	**2.05**	**269**	Pg	Pg	18 40 32.0	-0.5
	baz=87						
ISA	**Isabella, Lake**	**2.08**	**299**	Pg	Pg	18 40 32.6	-0.4
	baz=117						

ANF 12 18:40:34.7±0.1, 34°.69N×116°.23W, h12km±1km, Error ellipse: s-maj=1.0km s-min=0.8km az=24.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.16**	**329**	P	Pg	18 40 38.7	+0.2
	baz=149						
HEC				S	Sg	18 40 41.1	-0.1
	baz=149						
GMRC	**Granite Mounta**	**0.48**	**78**	P	Pg	18 40 44.6	+0.4
	baz=260						
GMRC				S	Sg	18 40 51.1	+0.6
	baz=260						
RRX	**Edison Barstow**	**0.66**	**287**	P	Pg	18 40 47.7	+0.3
	baz=106						
RRX				S	Sb	18 40 56.8	-0.4
	baz=106						
BBRC	**Big Bear Solar**	**0.71**	**233**	P	Pg	18 40 48.6	+0.1
	baz=52						
BBRC				S	Sb	18 40 58.7	-0.3
	baz=52						
BELC	**Belle Mtn. Jos**	**0.71**	**164**	P	Pg	18 40 48.8	+0.2
	baz=344						
BELC				S	Sb	18 40 58.6	-0.3
	baz=344						
GSC	**Goldstone, Bar**	**0.77**	**323**	P	Pb	18 40 50.0	-0.2
	baz=142						
GSC				S	Sb	18 41 00.6	0.0
	baz=142						
TUQ	**Turquoise Moun**	**0.79**	**19**	P	Pg	18 40 49.8	-0.1
	baz=199						
TUQ				S	Sb	18 41 00.8	-0.2
	baz=199						
IRM	**Iron Mountain**	**1.04**	**120**	P	Pb	18 40 54.7	0.0
	baz=301						
IRM				S	Sg	18 41 08.9	+0.6
	baz=301						
PFO	**Pinyon Flats O**	**1.09**	**190**	P	Pb	18 40 55.6	+0.1
	baz=9.5						
PFO				S	Sn	18 41 10.5	-0.5
	baz=9.5						
TPFO	**Pinon Flats**	**1.10**	**190**	P	Pb	18 40 55.7	0.0
	baz=9.3						
SHOC	**Shoshone, Teco**	**1.21**	**358**	S	Sn	18 41 14.0	+0.2
	baz=178						
BC3	**Big Chuckawall**	**1.22**	**148**	Pb	Pg	18 40 58.0	-0.1
	baz=328						
BC3				S	Sn	18 41 14.7	+0.7
	baz=328						
BFSC	**Mount Baldy Ra**	**1.26**	**250**	Pb	Pb	18 40 58.7	+0.2
	baz=68						
BFSC				S	Sg	18 41 15.7	+0.3
	baz=68						
NEE2	**Needles Airpor**	**1.33**	**86**	Pg	Pg	18 41 00.1	-0.1
	baz=267						
NEE2				Sg	Sg	18 41 18.8	+1.3
	baz=267						
MURC	**Murrieta**	**1.35**	**217**	S	Sg	18 41 18.2	+0.1
	baz=36						
LRMC	**Laurel Mtn Rad**	**1.43**	**304**	Pg	Pg	18 41 02.1	0.0
	baz=123						
LRMC				Sg	Sg	18 41 21.9	+1.2
	baz=123						
EDW2	**Edwards Air Fo**	**1.46**	**278**	Pb	Pb	18 41 02.1	+0.2
	baz=97						
MPMC	**Manual Prospec**	**1.71**	**323**	Pb	Pb	18 41 06.2	+0.1
	baz=143						
MPMC				Sb	Sg	18 41 29.4	-0.3
	baz=143						
DECC	**Green Verdugo**	**1.79**	**257**	Sg	Sg	18 41 34.3	+2.0
	baz=75						

SJA ***12*** *19:01:47.5±0.7, 30°.58S×72°.07W, h13km±3km, ML4.6, MW4.2*

NEIC ***12*** *19:01:53.6±2.6, 30°.65S±0°.03×71°.61W±0°.04, h32km±4km, mb4.5/15, Mwr4.1/21, Error ellipse: s-maj=5.4km s-min=4.4km az=121.0*

GUC ***12*** *19:01:53.6±0.7, 30°.70S×71°.61W, h43km±2km, ML4.9, MW4.8*

NEIC ***12*** *19:01:53.7, 30°.67S×71°.58W, h34km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.28; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$ 1.05; $M_{r\theta}$0.80; $M_{\theta\phi}$0.01; $M_{\phi r}$-1.50; Fault plane solution: $M_0$1.95000×10^{15} NP1:ϕ_s328.16000°, δ83.97000°, λ-114.75000°. NP2:ϕ_s225.33000°, δ25.43000°, λ-14.15000°. Principal axes: T 2.0994, Plg34.0000°, Azm79.0000°; N -0.3507, Plg25.0000°, Azm331.0000°; P -1.7487, Plg45.0000°, Azm213.0000°;*

VAO ***12*** *19:01:54.2±0.5, 30°.69S×71°.52W, h36km, mb4.4*

IDC ***12*** *19:01:54.4±3.5, 30°.71S×71°.45W, h37km±28km, mb4.1/7, mb1 4.2/12, mb1mx3.9/33, mbtmp4.2/12, ML4.0/5, MS3.5/6, Ms1 3.5/6, ms1mx3.2/49, Error ellipse: s-maj=31.2km s-min=19.9km az=98.0*

ISC 12 19:01:52.1±0.9, 30.60S±0°.03×71.88W±0°.05, h29km±6km, n165, σ2§11/189, mb4.5/10, MS3.7/3, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.22**	**108**	⇑*iP*	**Pn**	**19 02 00.1**	**+0.6**
CO06				*i* S	**Sn**	**19 02 04.2**	**+1.4**
CO06				IAML		19 02 05.8	
	comp=E,113μm,0.2s						
CO06	**Fray Jorge**	**0.22**	**108**		**Pn**	**19 01 59.8**	**+0.3**
CO06					**Sn**	**19 02 04.1**	**+1.4**
CO05	**La Serena**	**0.88**	**39**	*eP*	**Pn**	**19 02 09.1**	**+0.7**
CO05	**La Serena**	**0.88**	**39**		**Pn**	**19 02 09.0**	**+0.5**
CO05				Sn	**Sn**	**19 02 19.4**	**-0.9**
GO04	**Tololo Observa**	**1.03**	**66**	*eP*	**Pn**	**19 02 10.1**	**-0.7**
GO04				*i* S	**Sn**	**19 02 22.2**	**-2.2**
GO04				IAML		19 02 28.8	
	comp=E,87μm,0.6s						
GO04	**Tololo Observa**	**1.03**	**66**		**Pn**	**19 02 09.8**	**-0.9**
GO04				Sn	**Sn**	**19 02 21.8**	**-2.5**
GO04	**Tololo Observa**	**1.03**	**66**	*eP*	**Pn**	**19 02 10.2**	**-0.7**
GO04				*eP*	**Pn**	**19 02 11.3**	**+0.5**
GO04				*eS*	**Sn**	**19 02 26.3**	**+2.0**
CO03	**El Pedregal**	**1.05**	**103**	⇓*iP*	**Pn**	**19 02 09.0**	**-2.0**
CO03				*i* S	**Sn**	**19 02 20.1**	**-4.6**
CO03				IAML		19 02 20.6	
	comp=E,112μm,0.2s						
CO03	**El Pedregal**	**1.05**	**103**		**Pn**	**19 02 08.9**	**-2.0**
CO03				Sn	**Sn**	**19 02 19.4**	**-5.4**
LCO	**Las Campanas**	**1.89**	**33**	⇑*iP*	**Pn**	**19 02 24.2**	**+1.6**
LCO				*i* S	**Sn**	**19 02 48.4**	**+2.8**
LCO	**Las Campanas**	**1.89**	**33**		**Pn**	**19 02 23.9**	**+1.3**
LCO	**Las Campanas**	**1.89**	**33**	*eP*	**Pn**	**19 02 24.2**	**+1.6**
LCO				*eS*	**Sn**	**19 02 49.1**	**+3.5**
VA06	**Catapilco**	**2.02**	**166**	⇓*iP*	**Pn**	**19 02 24.8**	**+0.7**
VA06				*i* S	**Sn**	**19 02 48.3**	**0.0**
VA06				IAML		19 02 58.6	
	comp=N,10μm,0.6s						
AROD	**Rodeo**	**2.12**	**79**	*eP*	**Pn**	**19 02 27.7**	**+1.8**
AROD				*eS*	**Sn**	**19 02 46.8**	**-4.7**
VA01	**Torpederas**	**2.42**	**175**	*eP*	**Pn**	**19 02 30.1**	**+0.4**
VA01	**Torpederas**	**2.42**	**175**		**Pn**	**19 02 29.9**	**+0.2**
VA01	**Torpederas**	**2.42**	**175**	*eP*	**Pn**	**19 02 29.8**	**+0.2**
VA01				*eS*	**Sn**	**19 03 01.0**	**+2.6**
ACDV	**Cuesta del Vie**	**2.42**	**80**	*eP*	**Pn**	**19 02 32.4**	**+2.5**
ACDV				*eS*	**Sn**	**19 03 01.9**	**+3.2**
ACDV				IAML		19 03 03.1	
	comp=Z,2μm,0.4s						
ACCO	**Cerro Coronel**	**2.43**	**90**	*eP*	**Pn**	**19 02 32.2**	**+2.1**
ACCO				*eS*	**Sn**	**19 03 03.3**	**+4.3**
VA03	**San Esteban**	**2.43**	**153**	*eP*	**Pn**	**19 02 30.8**	**+0.8**
VA03				*i* S	**Sn**	**19 02 59.0**	**+0.1**
VA03	**San Esteban**	**2.43**	**153**		**Pn**	**19 02 30.6**	**+0.6**
VA03	**San Esteban**	**2.43**	**153**	*eP*	**Pn**	**19 02 31.0**	**+1.0**
VA03				*eS*	**Sn**	**19 03 02.4**	**+3.6**
VA03				IAML		19 03 10.8	
	comp=Z,3μm,0.3s						
ROCH	**El Roble**	**2.48**	**163**	⇓*iP*	**Pn**	**19 02 31.5**	**+0.8**
ROCH				*eP*	**Pn**	**19 02 30.8**	**+0.2**
ROCH				*i* S	**Sn**	**19 03 01.2**	**+1.2**
ROCH				IAML		19 03 08.3	
	comp=N,7μm,0.7s						
ROC1	**El Roble**	**2.48**	**163**	*eP*	Pn	19 02 25.3	-5.4
ROC1				*eP*	**Pn**	**19 02 31.1**	**+0.3**
ROC1				*eS*	**Sn**	**19 03 00.6**	**+0.4**
AC04	**Llanos de Chal**	**2.49**	**17**	*eP*	**Pn**	**19 02 32.3**	**+1.6**
AC04	**Llanos de Chal**	**2.49**	**17**		**Pn**	**19 02 32.4**	**+1.7**
RTLS	**Leoncito**	**2.52**	**119**	*eP*	**Pn**	**19 02 33.3**	**+2.0**
RTLS				*eS*	**Sn**	**19 03 03.6**	**+2.5**
RTLS				IAML		19 03 06.9	
	comp=Z,2μm,0.6s						
AUSP	**Uspallata**	**2.67**	**128**	*eP*	**Pn**	**19 02 29.8**	**-3.7**
AUSP				*eP*	**Pn**	**19 02 35.3**	**+1.9**
AUSP				*eS*	**Sn**	**19 03 03.3**	**-1.8**
AUSP				*eS*	**Sn**	**19 03 11.7**	**+6.7**
MT02	**Curacav**	**2.72**	**167**	*eP*	**Pn**	**19 02 34.1**	**+0.2**
MT02	**Curacav**	**2.72**	**167**		**Pn**	**19 02 34.0**	**+0.2**
MT02	**Curacav**	**2.72**	**167**	*eP*	**Pn**	**19 02 34.5**	**+0.6**
MT02				*eS*	**Sn**	**19 03 11.3**	**+5.5**
MT02				IAML		19 03 13.8	
	comp=Z,2μm,0.2s						
PEL	**Peldehue**	**2.73**	**158**		**Pn**	**19 02 34.8**	**+0.9**
PEL	**Peldehue**	**2.73**	**158**	*eP*	**Pn**	**19 02 34.9**	**+0.9**
PEL				*eS*	**Sn**	**19 03 07.3**	**+1.2**
ZON	**Zonda**	**2.90**	**110**		**Pn**	**19 02 35.5**	**-0.8**
ZON	**Zonda**	**2.90**	**110**	*eP*	**Pn**	**19 02 38.0**	**+1.7**
ZON				*eS*	**Sn**	**19 03 17.8**	**+7.4**
ZON				IAML		19 03 25.4	
	comp=Z,1μm,0.5s						
MT05	**Renca**	**2.94**	**161**	⇓*iP*	**Pn**	**19 02 38.0**	**+1.0**
MT05	**Renca**	**2.94**	**161**		**Pn**	**19 02 36.8**	**-0.2**
MT05	**Renca**	**2.94**	**161**	*eP*	**Pn**	**19 02 37.7**	**+0.7**
MT05				*eS*	**Sn**	**19 03 13.8**	**+2.4**
MT05				IAML		19 03 24.9	
	comp=Z,3μm,0.5s						
RTLL	**Cerro Villicun**	**3.01**	**105**	*eP*	**Pn**	**19 02 39.0**	**+1.1**
RTLL				*eS*	**Sn**	**19 03 11.8**	**-1.3**
VA05	**Santo Domingo**	**3.05**	**176**		**Pn**	**19 02 38.6**	**+0.3**
RTCV	**Cerro Valdivia**	**3.12**	**115**	*eP*	**Pn**	**19 02 41.3**	**+1.9**
RTCV				*eS*	**Sn**	**19 03 21.7**	**+5.8**
MT09	**Talagante**	**3.25**	**167**	*eP*	**Pn**	**19 02 42.3**	**+1.0**
MT09				IAML		19 03 36.4	
	comp=N,4μm,0.1s						
MT09	**Talagante**	**3.25**	**167**		**Pn**	**19 02 41.9**	**+0.6**
ASAL	**Salagasta**	**3.27**	**128**	*eP*	**Pn**	**19 02 43.8**	**+2.4**
ASAL				*eS*	**Sn**	**19 03 26.1**	**+6.7**
MT01	**Popeta**	**3.29**	**171**	⇓*iP*	**Pn**	**19 02 42.4**	**+0.6**
MT01				IAML		19 03 34.8	
	comp=N,2μm,0.3s						
MT01	**Popeta**	**3.29**	**171**		**Pn**	**19 02 42.0**	**+0.3**
MT01	**Popeta**	**3.29**	**171**	*eP*	**Pn**	**19 02 42.3**	**+0.6**
MT01				*eS*	**Sn**	**19 03 23.3**	**+3.4**
MT01				IAML		19 03 35.4	
	comp=Z,1μm,0.4s						
GO03	**Copiap**	**3.33**	**26**		**Pn**	**19 02 43.7**	**+1.5**
ARCO	**CERRO ARCO**	**3.36**	**132**	*eP*	**Pn**	**19 02 46.2**	**+3.4**
ARCO				*eS*	**Sn**	**19 03 25.3**	**+3.5**
ARCO				IAML		19 03 36.4	
	comp=Z,3μm,0.3s						
AAGR	**Agrelo**	**3.59**	**134**	*eP*	**Pn**	**19 02 48.7**	**+2.8**
AAGR				*eS*	**Sn**	**19 03 30.8**	**+3.5**
VCA	**Vinchina**	**3.70**	**61**	*eP*	**Pn**	**19 02 51.0**	**+3.6**
VCA				*eS*	Sn	19 03 46.5	+16
VCA				IAML		19 03 53.0	
	comp=Z,3μm,1.4s						
BO01	**Tunca**	**3.84**	**170**		**Pn**	**19 02 49.4**	**+0.2**
BO01	**Tunca**	**3.84**	**170**	*eP*	**Pn**	**19 02

LVC	Limon Verde	8.39	19	Pn	Pn	19 03 51.6	-0.5
PB07	IPOC Station P	9.02	12	Pn	Pn	19 04 00.1	-0.4
PB09	IPOC Station P	9.08	16	Pn	Pn	19 04 03.0	+1.6
PB01	IPOC Station P	9.76	13	Pn	Pn	19 04 09.5	-1.1
TA01	Diego Aracena	10.11	9	Pn	Pn	19 04 19.4	+4.0
PLCA	Paso Flores	10.16	174	Pn	Pn	19 04 15.5	-0.6
	comp=Z,0.8nm,0.3s,baz=340,slow=13,SNR=27						
PLCA	Paso Flores	10.16	174	eP	Pn	19 04 16.8	+0.7
PLCA	Paso Flores	10.16	174	Pn	Pn	19 04 16.3	+0.2
LL04	Puerto Octay	10.29	182		Pn	19 04 16.6	-1.1
TA02	Huaiquique	10.41	9	Pn	Pn	19 04 17.1	-2.3
LL03	Petrohue	10.52	182	Pn	Pn	19 04 20.2	-0.6
PB08	IPOC Station P	10.71	14	Pn	Pn	19 04 24.0	+0.2
ITQB	Itaqui	13.24	90	eP	Pn	19 04 55.7	-2.4
ITQB	Itaqui	13.24	90		Pn	19 04 54.8	-3.3
CPUP	Villa Florida	13.49	75	Pn	Pn	19 04 58.0	-3.5
	comp=Z,0.2nm,0.3s,baz=59,slow=4.9,SNR=2.0						
CPUP				LR	LR	19 09 48.5	
	comp=Z,128nm,21.1s,baz=238,slow=36						
CPUP	Villa Florida	13.49	75	eP	Pn	19 04 59.1	-2.4
CPUP	Villa Florida	13.49	75		Pn	19 04 57.3	-4.2
LPAZ	La Paz	14.66	14	Pn	Pn	19 05 20.4	+2.3
	comp=Z,0.2nm,0.3s,baz=182,slow=7.6,SNR=13						
LPAZ	La Paz	14.66	14	Pn	Pn	19 05 18.6	+0.5
COYC	Coyhaique	14.95	181		Pn	19 05 21.2	0.0
PLTB	Pedras Altas	15.69	99	eP	Pn	19 05 27.8	-3.3
PLTB	Pedras Altas	15.69	99	P	Pn	19 05 27.1	-4.0
CPSB	Cacapava Do Su	15.90	94	eP	Pn	19 05 30.7	-3.1
SIV	San Ignacio	17.59	37	P	Pn	19 05 56.0	+0.8
	comp=Z,0.4nm,0.3s,baz=225,slow=11,SNR=16						
SIV				LR	LR	19 13 38.3	
	comp=Z,166nm,18.9s,baz=273,slow=40						
ITAB	Concordia	17.61	84	eP	Pn	19 05 54.3	-1.1
ITAB	Concordia	17.61	84	P	Pn	19 05 51.5	-3.9
ITAB				IAmb	IAmb	19 06 09.5	
	comp=Z,34nm,1.0s						
PTLB	Pontes e Lacer	19.08	41	eP	P	19 06 12.2	-0.2
PTLB	Pontes e Lacer	19.08	41	P	P	19 06 09.9	-2.5
TER01	Tubaro-SC	19.89	90	eP	P	19 06 19.5	-1.7
PP1B	Ponte de Pedra	20.17	54	eP	P	19 06 24.1	-0.3
PCMB	Pacaembu	20.54	69	eP	P	19 06 27.1	-1.2
VILB	Vilhena	20.61	34	eP	P	19 06 29.8	+0.7
VILB	Vilhena	20.61	34	P	P	19 06 26.4	-2.8
VILB				IAmb	IAmb	19 06 44.9	
	comp=Z,14nm,0.9s						
SALV	Santo Antonio	20.83	49	eP	P	19 06 31.4	0.0
ETMB	Extrema	21.35	16	eP	P	19 06 38.8	+1.8
ETMB	Extrema	21.35	16	P	P	19 06 37.6	+0.7
ITRB	Iturama	22.26	66	eP	P	19 06 45.6	-1.3
PET01	Itanhaem-SP	22.70	80	eP	P	19 06 51.1	-0.4
CZSB	Cruzeiro do Su	22.77	358	eP	P	19 06 54.7	+2.5
BB19B	Bebedouro	23.03	71	eP	P	19 06 53.3	-1.7
RCLB	Rio Claro- Sao	23.23	75	eP	P	19 06 55.3	-1.7
VAO	Valinhos	23.46	77	eP	P	19 06 56.8	-2.5
PDRB	Porto dos Gac	23.55	40	eP	P	19 07 00.3	+0.2
ARAG	Araguaiana, MT	23.61	56	eP	P	19 07 00.2	-0.5
USHA	Ushuaia	24.34	175	P	P	19 07 07.7	+0.6
	comp=Z,11nm,0.6s,baz=0.0,slow=5.1,SNR=3.0						
IPMB	Ipameri, GO	24.90	65	eP	P	19 07 10.9	-1.8
BSCB	Bom Sucesso	26.16	75	eP	P	19 07 21.4	-2.7
TBTG	Tabatinga, AM	26.34	4	eP	P	19 07 26.3	+0.7
BDFB	Brasilia	26.44	61	P	P	19 07 25.2	-1.6
	comp=Z,5.1nm,0.6s,baz=231,slow=11,SNR=8.1						
BDFB	Brasilia	26.44	61	P	P	19 07 24.2	-2.5
BDFB				IAmb	IAmb	19 07 28.1	
	comp=Z,13nm,1.3s						
SNDB	Serra Nova Dou	26.59	50	eP	P	19 07 26.9	-1.1
DUB01	Friburgo-RJ	27.71	79	eP	P	19 07 36.5	-1.5
PEXB	Peixe	28.55	55	eP	P	19 07 44.6	-0.8
SDBA	SAO DESIDERIO	30.82	60	eP	P	19 08 04.7	-0.9
SMTB	Santa Maria do	31.34	51	eP	P	19 08 10.9	+0.7
GUA01	Guaratinga, BA	32.41	72	eP	P	19 08 18.0	-1.6
CMC01	Camacan, BA	33.28	70	eP	P	19 08 26.2	-1.0
GDU01	Guandu, BA	34.15	68	eP	P	19 08 34.5	-0.2
PMSA	Palmer Station	34.54	174	LR	LR	19 22 33.1	
	comp=Z,138nm,18.1s,baz=284,slow=36						
BOAV	Boa Vista	34.56	20	eP	P	19 08 38.4	+0.2
NBPN	Ponto Novo - B	35.36	63	eP	P	19 08 43.9	-1.4
NBMA	Muriti-CE	38.67	60	eP	P	19 09 12.7	-0.7
TOSP	Speyside	43.06	16	P	P	19 09 51.0	+1.5
CRPR	Cabo Rojo, PR	48.55	6	P	P	19 10 33.2	+0.5
QSPA	South Pole Qui	59.62	180	P	P	19 11 54.0	+0.8
QSPA				IAmb	IAmb	19 12 19.5	
	comp=Z,6.4nm,1.2s						
TXAR	Lajitas Array	66.86	330	P	P	19 12 44.6	+3.2
	comp=Z,0.5nm,0.6s,baz=141,slow=10,SNR=2.7						
CBN	Corbin Frederi	68.64	355	P	P	19 12 53.8	+1.4
LIC	Lamto	73.60	72	eP	P	19 13 22.8	-0.2
	comp=Z,33nm,1.2s						
TIC	Toumodi	73.84	72	eP	P	19 13 24.4	0.0
KIC	Kosan Boka	73.91	72	eP	P	19 13 24.3	-0.5
	comp=Z,5.1nm,0.7s						
DBIC	Dimbokro	73.99	72	P	P	19 13 24.6	-0.7
	comp=Z,4.0nm,0.6s,baz=239,slow=5.9,SNR=10						
DBIC				LR	LR	19 43 00.1	
	comp=Z,42nm,21.2s,baz=176,slow=34						
DBIC	Dimbokro	73.99	72	P	P	19 13 24.5	-0.7
SUR	Sutherland	76.37	120	P	P	19 13 39.3	+0.3
TSUM	Tsumeb	80.03	106	P	P	19 13 56.8	-2.7
TSUM				IAmb	IAmb	19 14 19.0	
	comp=Z,6.7nm,1.4s						
BOSA	Boshof	81.54	118	P	P	19 14 06.7	-0.7
	comp=Z,1.9nm,0.6s,baz=255,slow=3.3,SNR=4.7						
BOSA	Boshof	81.54	118	IAmb	IAmb	19 14 07.6	
	comp=Z,18nm,1.5s						
TORD	Torodi Ar. Bea	82.94	70	P	P	19 14 14.3	-0.3
	comp=Z,2.3nm,1.0s,baz=269,slow=5.2,SNR=8.0						
TORD	Torodi Ar. Bea	82.94	70	P	P	19 14 13.2	-1.4
TORD				IAmb	IAmb	19 14 30.2	
	comp=Z,4.4nm,0.9s						
AFI	Afiamalu	91.31	253	LR	LR	19 47 29.1	
	comp=Z,46nm,21.3s,baz=102,slow=30						
YKA	Yellowknife Ar	98.89	341	P	Pdif	19 15 30.0	+1.1
	comp=Z,0.1nm,0.5s,baz=145,slow=4.3,SNR=1.8						
WRA	Warramunga Arr	123.77	210	PKP	PKiKP	19 20 48.0	0.0
	comp=Z,0.4nm,1.0s,baz=155,slow=1.6,SNR=1.9						
H11S2	WAKE ISLAND Hyl	25.89	272	T	T	21 39 45.6	
	baz=115,slow=74						
H11S1	WAKE ISLAND Hyl	25.90	272	T	T	21 39 41.7	
	baz=115,slow=74						
H11S3	WAKE ISLAND Hyl	25.90	271	T	T	21 39 46.0	
	baz=115,slow=74						
ZALV	Zalesovo Beam	151.24	29	PKPbc	PKiKP	19 21 43.0	+0.4
	comp=Z,4.5nm,0.8s,baz=300,slow=3.6,SNR=20						
ZALV	Zalesovo Beam	151.24	29		PKPbc	19 21 42.0	-0.2
KSH	Kashi	152.34	62	PKPbc	PKPab	19 21 54.4	-1.1
MKAR	Makanchi Array	154.33	44	PKPbc	PKiKP	19 21 49.8	+0.4
	comp=Z,0.5nm,0.8s,baz=336,slow=1.5,SNR=5.0						
PZH	PanZhiHua	173.06	125	PKP	PKPdf	19 21 57.5	-1.5

*IDC **12** 19:03:48.1±1.9, 43°.54N×105°.32W, h0km, mb1 3.5/5, mb1mx3.4/46, mbtmp3.3/5, ML3.0/4, Error ellipse: s-maj=47.7km s-min=7.9km az=149.0*
*NEIC **12** 19:03:49.1±2.2, 43°.65N±0°.05×105°.24W±0°.05, h0km±1km, ML3.4/64, Error ellipse: s-maj=9.8km s-min=4.4km az=146.0*
ISC 12 19:03:48.5±1.0,**43°.69N**±0°.04×**105°.29W**±0°.05,**h0**km,**n77,**
σ1§**00**/78,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.00	64		Pg	19 04 08.2	+0.5
K22A	Casper	1.38	222		Pg	19 04 13.9	-1.0
K22A				IAML		19 04 36.7	
	comp=E,752nm,0.3s						
K22A				IAML		19 04 36.8	
	comp=N,774nm,0.3s						
PHWY	Pilot Hill	2.39	183	Pn	Pn	19 04 30.5	+1.4
RWWY	Rawlins	2.45	216		Pn	19 04 30.7	+0.8
RWWY				IAML		19 05 05.9	
	comp=N,213nm,0.7s						
N23A	Red Feather La	2.83	190	Pn	Pn	19 04 36.7	+1.4
N23A				IAML		19 05 18.1	
	comp=N,136nm,0.4s						
N23A				IAML		19 05 18.2	
	comp=E,117nm,0.4s						
LAO	LASA Array	3.08	348		Pn	19 04 40.8	+2.4
LAO				IAML		19 05 38.9	
	comp=E,127nm,0.8s						
RLMT	Red Lodge	3.19	298		Pn	19 04 41.0	+0.9
RLMT				IAML		19 05 37.1	
	comp=E,54nm,0.4s						
RLMT				IAML		19 05 41.0	
	comp=E,67nm,0.4s						
BW06	Boulder Array	3.25	255		Pn	19 04 41.6	+0.6
BW06				IAML		19 05 30.4	
	comp=E,68nm,0.4s						
BW06				IAML		19 05 30.4	
	comp=E,98nm,0.7s						
PD31	Pinedale Array	3.25	255		Pn	19 04 41.6	+0.6
PDAR	Pinedale Array	3.25	255	Pn	Pn	19 04 41.5	+0.6
	comp=E,6.0nm,0.3s,baz=76,slow=16,SNR=82						
PDAR				Lg	Lg	19 05 27.9	
	comp=E,29nm,0.3s,baz=96,slow=18,SNR=6.4						
PDAR	Pinedale Array	3.25	255	Pn	Pn	19 04 41.3	+0.3
YMP	Mirror Lake PI	3.66	288		Pn	19 04 47.0	+0.4
YMP				IAML		19 05 50.8	
	comp=N,92nm,0.7s						
GCMT	Greycliff	3.77	306		Pn	19 04 48.3	+0.4
LKWY	Lake	3.79	285		Pn	19 04 49.2	+0.9
LKWY				IAML		19 05 59.8	
	comp=N,40nm,0.8s						
LOHW	Long Hollow	3.86	271		Pn	19 04 49.4	+0.1
H17A	Grant Village	3.88	282		Pn	19 04 50.1	+0.5
H17A				IAML		19 05 54.8	
	comp=N,31nm,0.9s						
H17A				IAML		19 05 55.4	
	comp=E,34nm,1.1s						
ISCO	Idaho Springs	3.89	184		Pn	19 04 50.1	+0.3
FLWY	Flagg Ranch	3.93	278		Pn	19 04 51.7	+1.3
FLWY				IAML		19 06 02.3	
	comp=E,54nm,1.1s						
MOOW	Moose Ponds	3.96	273		Pn	19 04 51.4	+0.7
SNOW	Snow King Moun	3.98	269		Pn	19 04 51.8	+0.8
SNOW				IAML		19 06 06.1	
	comp=E,69nm,1.0s						
SNOW				IAML		19 06 07.4	
	comp=E,61nm,1.1s						
YNR	Norris Junctio	4.01	287		Pn	19 04 52.5	+1.1
YPP	Pitchstone Pla	4.03	280		Pn	19 04 51.1	-0.5
REDW	Red Top Meadow	4.06	267		Pn	19 04 53.6	+1.5
REDW				IAML		19 06 06.6	
	comp=E,67nm,0.8s						
YFT	Old Faithful	4.07	283		Pn	19 04 51.6	-0.6
O20A	White River Ci	4.18	213		Pn	19 04 53.5	-0.2
O20A				IAML		19 06 12.6	
	comp=N,48nm,1.3s						
O20A				IAML		19 06 23.9	
	comp=E,54nm,1.1s						
YMR	Madison River	4.20	285		Pn	19 04 53.6	-0.4
YMR				IAML		19 06 23.3	
	comp=E,44nm,1.2s						
E28A	Huff	4.35	47	Pn	Pn	19 04 57.2	+1.4
AHID	Auburn Hatcher	4.35	260		Pn	19 04 56.4	+0.4
AHID				IAML		19 06 12.8	
	comp=E,54nm,0.7s						
AHID				IAML		19 06 13.0	
	comp=E,42nm,0.8s						
YHL	Hebgen Lake	4.39	287		Pn	19 04 55.7	-1.0
YHL				IAML		19 06 15.8	
	comp=N,28nm,0.9s						
YHL				IAML		19 06 19.2	
	comp=E,36nm,0.9s						
RDMU	Red Mountain	4.45	227	Pn	Pn	19 04 57.1	-0.4
RDMU				IAML		19 06 13.9	
	comp=E,40nm,0.9s						
RDMU				IAML		19 06 19.4	
	comp=N,32nm,0.9s						
ECR	Eagle Creek	4.48	264		Pn	19 04 58.4	+0.5
QLMT	Earthquake Lak	4.56	287		Pn	19 04 57.2	-1.7
SUSD	Miller	4.62	78	Pn	Pn	19 05 00.1	+0.5
SMCO	Snowmass	4.68	196		Pn	19 04 59.9	-0.8
SMCO				IAML		19 06 22.4	
	comp=N,23nm,1.0s						
SMCO				IAML		19 06 30.9	
	comp=N,27nm,1.1s						
Q24A	Divide	4.72	179		Pn	19 05 01.1	-0.1
Q24A				IAML		19 06 23.8	
	comp=N,17nm,1.5s						
Q24A				IAML		19 06 26.1	
	comp=E,39nm,1.0s						
DGMT	Dagmar	4.84	9		Pn	19 05 02.6	0.0
K31A	O'Neill	4.89	100		Pn	19 05 03.0	-0.3
BOZ	Bozeman (W)	4.91	295		Pn	19 05 02.9	-0.8
BOZ				IAML		19 06 26.3	
	comp=E,14nm,2.6s						
KSCO	Kaye Shedlock'	5.08	156		Pn	19 05 04.6	-1.4
EGMT	Eagleton	5.34	326		Pn	19 05 10.2	+0.6
DLMT	Dillon	5.49	290	Pn	Pn	19 05 11.5	-0.1
P18A	Preston Nutter	5.50	224		Pn	19 05 12.5	+0.6
HRY	Holter Researc	5.53	305		Pn	19 05 12.4	+0.3
LRM	Limekiln Ridge	5.53	295		Pn	19 05 13.5	+1.2
MCMT	McKenzie Canyo	5.55	284		Pn	19 05 12.7	+0.1
PV07	Paradox Valley	5.83	207	Pn	Pn	19 05 16.9	+0.6
PV21	Cone Mtn., Par	5.83	210		Pn	19 05 17.0	+0.6
HVU	Hansel Valley	5.84	254		Pn	19 05 16.1	-0.2
PV15	Paradox Valley	5.86	205		Pn	19 05 17.0	+0.1
P17A	Butcher Ranch,	5.87	226		Pn	19 05 16.1	-0.7
SDCO	Great Sand Dun	5.94	182		Pn	19 05 18.5	+0.6
PV23	Carpenter Ridg	5.94	210		Pn	19 05 17.8	-0.1
PV04	Paradox Valley	5.95	209		Pn	19 05 17.4	-0.6
PV12	Saucer Basin,	5.99	208		Pn	19 05 19.2	+0.6
MPU	Maple Canyon	5.99	234		Pn	19 05 18.2	-0.4
PV14	Lion Creek, Pa	6.01	209		Pn	19 05 20.5	+1.6
PV20	West Nyswonger	6.02	209		Pn	19 05 19.6	+0.6
PV11	David Mesa, Pa	6.03	208		Pn	19 05 20.1	+1.0
PV16	Nyswonger Mesa	6.03	208		Pn	19 05 20.1	+0.9
SRU	San Rafael Swe	6.03	223		Pn	19 05 19.3	+0.2
S22A	4UR Ranch, Cre	6.05	192		Pn	19 05 21.1	+1.7
PV19	Morning Glory	6.05	209		Pn	19 05 20.1	+0.6
PV03	Paradox Valley	6.06	208		Pn	19 05 20.5	+1.0
PV02	Paradox Valley	6.06	207		Pn	19 05 20.6	+1.0
PV17	East Wray Mesa	6.07	208		Pn	19 05 21.1	+1.3
PV01	Paradox Valley	6.08	205		Pn	19 05 21.3	+1.5
PV18	Skein Mesa, Pa	6.09	208		Pn	19 05 21.1	+1.2
PV13	Radium Mtn., P	6.14	207		Pn	19 05 21.6	+1.0
TMUT	Trail Mountain	6.25	227		Pn	19 05 23.2	+1.0
NLU	North Lily Min	6.29	236		Pn	19 05 22.6	-0.1
PV05	Paradox Valley	6.30	209		Pn	19 05 22.8	-0.1
Q16A	Castle Valley	6.51	225	Pn	Pn	19 05 26.3	+0.6
DUG	Dugway, Tooele	6.61	241	Pn	Pn	19 05 27.9	+0.9
ELK	Elko	7.95	252	Pn	Pn	19 05 48.0	+2.5
	comp=E,0.1nm,0.3s,baz=58,slow=15,SNR=2.9						
ELK				Lg	Lg	19 07 48.5	
	comp=E,0.1nm,0.3s,baz=170,slow=17,SNR=1.5						
ULM	Lac du Bonnet	9.19	41	Pn	Pn	19 06 00.6	-1.6
	comp=E,1.8nm,0.3s,baz=234,slow=11,SNR=9.4						
ULM				Sn	Sn	19 07 44.4	-1.8
	comp=E,0.4nm,0.3s,baz=209,slow=9.6,SNR=3.1						
ULM				Lg	Lg	19 08 33.6	
	comp=E,0.3nm,0.3s,baz=308,slow=18,SNR=1.8						
NVAR	Mina Array Bea	11.14	246	Pn	Pn	19 06 31.8	+2.6
	comp=E,0.1nm,0.3s,baz=62,slow=12,SNR=2.3						
YKA	Yellowknife Ar	19.61	347	P	Pn	19 08 20.1	+0.7
	comp=E,0.1nm,0.3s,baz=154,slow=11,SNR=4.8						

*ARE **12** 19:12:14±3.0, 16°.47S±0°.06×72°.72W±0°.1, h58km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=167.0*
*NEIC **12** 19:12:20.8±2.7, 16°.57S±0°.07×72°.65W±0°.06, h72km±8km, mb4.1/5, ML4.3(ARE), Error ellipse: s-maj=12.8km s-min=2.3km az=216.0*
*IDC **12** 19:12:22.5±1.6, 16°.69S×72°.72W, h108km±15km, mb3.7/2, mb1 3.8/5, mb1mx3.5/28, mbtmp4.1/5, Error ellipse: s-maj=24.9km s-min=12.4km az=38.0*
ISC 12 19:12:20.8±0.7,**16°.67S**±0°.05×**72°.71W**±0°.07,**h76**km,**n34,**
σ1§**93**/43,**mb3.9**/4,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	2.82	127	Pn	Pn	19 13 00.9	-2.7
AP01				Sn	Sn	19 13 38.6	+2.1
PB12	IPOC Station P	2.98	131		Pn	19 13 06.3	+0.4
PB16	IPOC Station P	3.47	119		Pn	19 13 14.0	+1.0
PB16				Sn	Sn	19 13 53.4	+0.2
PB11	IPOC Station P	4.22	137		Pn	19 13 23.2	+0.3
PB11				Sn	Sn	19 14 11.6	+0.5
TA02	Huaiquique	4.33	146	Pn	Pn	19 13 24.6	+0.4
TA02				Sn	Sn	19 14 14.5	+1.0
LPAZ	La Paz	4.41	86	P	Pn	19 13 27.7	+1.9
	11nm,0.3s,baz=270,slow=9.2,SNR=148						
LPAZ				S	Sn	19 14 20.1	+3.9
	baz=37,slow=20,SNR=1.0						
LPAZ	La Paz	4.41	86		Pn	19 13 26.8	+1.0
TA01	Diego Aracena	4.55	149	Pn	Pn	19 13 27.2	0.0
TA01				Sn	Sn	19 14 16.8	-2.1
PB08	IPOC Station P	4.83	136		Pn	19 13 31.8	+0.5
PB08				Sn	Sn	19 14 24.0	-2.1
PB01	IPOC Station P	5.31	145		Pn	19 13 38.4	+0.7
PB01				Sn	Sn	19 14 36.0	-1.6
PB07	IPOC Station P	5.69	153		Pn	19 13 43.7	+0.8
PB07				Sn	Sn	19 14 47.6	+0.6
PB09	IPOC Station P	6.06	148		Pn	19 13 49.7	+1.7
PB09				Sn	Sn	19 14 56.4	+0.5
PB04	IPOC Station P	6.13	157	Pn	Pn	19 13 47.9	-0.9
PB04				Sn	Sn	19 14 56.1	-1.6
NNA	Nana	6.14	319	P	Pn	19 13 50.4	+1.3
	4.0nm,0.3s,baz=126,slow=5.9,SNR=7.0						
NNA				S	Sn	19 15 00.9	+2.9
	7.8nm,0.3s,baz=225,slow=19,SNR=10.0						
NNA	Nana	6.14	319		Pn	19 13 48.6	-0.4
NNA				Sn	Sn	19 14 59.7	+1.8
PB06	IPOC Station P	6.69	154	Pn	Pn	19 13 57.2	+0.6
LVC	Limon Verde	6.91	149	P	Pn	19 14 01.3	+1.6
	1.6nm,0.3s,baz=350,slow=8.1,SNR=12						
LVC				S	Sn	19 15 19.0	+2.0
	3.4nm,0.3s,baz=93,slow=20,SNR=7.0						
PB10	IPOC Station P	7.10	164	Pn	Pn	19 14 01.2	-0.9
PB15	IPOC Station P	7.18	155	Pn	Pn	19 14 04.2	+0.9
ETMB	Extrema	9.29	44		Pn	19 14 27.4	-4.5
AC02	Maricunga	10.65	162	Pn	Pn	19 14 48.0	-2.9
SIV	San Ignacio	11.19	88	P	Pn	19 14 55.2	-2.7
	1.5nm,0.3s,baz=270,slow=10,SNR=13						
H03N1	Juan Fernandez	17.61	197	T	T	19 35 07.9	
	baz=25						
H03N2	Juan Fernandez	17.62	197	T	T	19 34 59.0	
	baz=25,slow=74						
H03N3	Juan Fernandez	17.63	197	T	T	19 35 04.8	
	baz=25,slow=74						
GO05	Hualа	18.28	178		Sn	19 19 56.5	+3.6
BOAV	Boa Vista	22.44	34	P	P	19 17 09.8	-3.9
BOAV				IAmb	IAmb	19 17 15.5	
	comp=Z,4.2nm,1.0s						
DSPA	Despedida	37.37	176	P	P	19 19 28.1	+2.2
DBIC	Dimbokro	70.97	77	P	P	19 23 30.5	-0.2
QSPA	South Pole Qui	73.49	180	P	P	19 23 46.5	+1.4
QSPA				IAmb	IAmb	19 24 14.3	
	comp=Z,8.6nm,1.5s						
TORD	Torodi Ar. Bea	79.24	73	P	P	19 24 15.8	-2.6
	comp=Z,0.4nm,0.6s,baz=252,slow=4.7,SNR=5.0						
TORD	Torodi Ar. Bea	79.24	73	IAmb	IAmb	19 24 22.4	
	comp=Z,0.8nm,0.9s						
YKA	Yellowknife Ar	85.48	342	P	P	19 24 47.1	-2.7
	comp=Z,0.9nm,0.6s,baz=135,slow=5.1,SNR=22						
SONM	Songino Array	148.91	1	PKPbc	PKPdf	19 31 58.9	+2.9
	comp=Z,0.9nm,0.6s,baz=343,slow=1.5,SNR=8.2						

*IDC **12** 19:35:45.8±0.9, 3°.61N×126°.77E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.4/66, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=65.3km s-min=15.2km az=65.0*
*NEIC **12** 19:35:47.2±2.1, 3°.60N±0°.08×126°.8E±0°.1, h10km±1km, mb4.1/14, Error ellipse: s-maj=19.8km s-min=10.2km az=57.0*
*DJA **12** 19:35:48.7±0.5, 4°N±7°×12°7E±°, h29km±6km, M3.7/10, mb3.6/5, MLv3.7/10*
ISC 12 19:35:46.9±0.7,**3°.66N**±0°.06×**126°.94E**±0°.06,**h10**km,**n36,**
σ1§**68**/38,**mb4.0**/14,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.41	271	P	Pg	19 36 13.9	0.0
SGSI				S	Sg	19 36 32.3	+0.1
TNTI	Ternate	2.90	171	P	Pb	19 36 36.6	-2.2
TNTI				S	Sb	19 37 12.2	-2.2
TNTI	Ternate	2.90	171	Pn	Pn	19 36 33.0	-0.2
KMSI	Cibinong	4.26	224	P	Pn	19 36 54.7	+2.9
LBMI	Labuha	4.31	172	P	Pn	19 36 55.2	+2.7
GTOI	Gorontalo	4.94	233	P	Pn	19 37 04.0	+2.7
	0.0nm3.7nm,0.9s						
SANI	Sanana	5.75	190	P	Pn	19 37 15.8	+3.4
	0.0nm7.0nm,0.8s						
SWI	Sorong	6.23	136	P	Pn	19 37 19.5	+0.5
	0.0nm10nm,0.7s						
SIJI	Sorong	6.24	136	Pn	Pn	19 37 21.8	+2.7
	1.7nm,0.3s,baz=336,slow=22,SNR=11						
SIJI				Sn	Sn	19 38 33.7	+3.1
	0.5nm,0.3s,baz=211,slow=19,SNR=1.3						
LUWI	Luwuk	6.26	222	Pn	Pn	19 37 18.6	-0.8
TOLI2	Tolitoli	6.65	248	Pn	Pn	19 37 24.9	+0.2
FAKI	Fak Fak	8.42	141	Pn	Pn	19 37 52.0	+2.9
SBUM	Sibu	14.75	266	Pn	Pn	19 39 17.3	+1.6
YULB	Yu-li	20.36	345	P	P	19 40 23.9	+0.1
TPUB	Ta-pu	20.46	343	P	P	19 40 24.7	-0.1
FITZ	Fitzroy Crossi	21.66	183	P	P	19 40 37.9	+0.2
	0.7nm,0.6s,baz=7.1,slow

KOKL	Mount Kliuchef	2.40	266			Pn	19 40 38.1 +0.1
ATKA	Atka Island	2.41	263			Pn	19 40 37.6 -0.5
MSW	Makushin Switc	2.52	56			Pn	19 40 40.8 +1.3
MSW						Sn	19 41 11.6 +2.6
MTBL	Makushin Table	2.60	55			Pn	19 40 42.2 +1.5
UNV	Unalaska Valle	2.62	59			Pn	19 40 41.7 +0.7
AKRB	Akutan Reef Bi	2.99	56			Pn	19 40 47.4 +1.4
AKMO	Akutan Morgan	3.00	57			Sn	19 41 22.5 +1.7
AKBBA	Akutan Broad B	3.04	58			Pn	19 40 48.3 +1.6
AKGG	Akutan Green G	3.06	56			Pn	19 40 48.4 +1.4
AKLV	Akutan Long Va	3.06	56			Pn	19 40 48.7 +1.6
AKUT	Akutan	3.14	58			Pn	19 40 49.7 +1.6
GSTR	Great Sitkin T	3.56	265			Pn	19 40 53.5 -0.4
GSTD	Great Sitkin T	3.62	264			Pn	19 40 54.7 -0.1
GSCK	Great Sitkin C	3.64	264			Pn	19 40 55.2 +0.2
WESP	Westdahl Peak	3.86	57			Pn	19 40 59.3 +1.3
ADAG	Mount Adagdak	3.91	264			Pn	19 40 59.3 +0.6
WESE	West Dahl East	3.92	58			Pn	19 41 00.5 +1.7
KIWB	Kanaga Island	4.27	263			Pn	19 41 03.8 +0.1
KIMD	Kanaga Island	4.34	262			Pn	19 41 04.8 +0.2
ISLZ	Isanotski Laza	4.49	58			Pn	19 41 08.2 +1.6
SPIA	Saint Paul Isl	4.64	0	Pn		Pn	19 41 08.0 -0.6
FALS	False Pass	4.70	58			Pn	19 41 11.1 +1.7
TASE	Tanaga Southea	4.81	265			Pn	19 41 11.1 -0.1
SDPT	Sand Point	6.44	60			Pn	19 41 34.2 +0.9
CNBA	Chernabura Isl	6.76	66			Pn	19 41 38.5 +0.8
CHGN	Chignik	7.88	57	Pn		Pn	19 41 53.8 +0.8
SII	Sitkinak Islan	10.18	60	Pn		Pn	19 42 24.4 -0.1
OHAK	Old Harbor	10.85	58	Pn		Pn	19 42 32.9 -0.7
P18K	Big Mountain,	10.86	45	Pn		Pn	19 42 37.2 +3.4
Q19K	Cape Douglas,	11.34	49	Pn		Pn	19 42 41.4 +1.1
KDAK	Kodiak Island	11.39	56	Pn		Pn	19 42 41.8 +0.8
	0.4nm,0.3s,baz=225,slow=4.5,SNR=9.7						
KDAK				Sn		Sn	19 44 42.2 -4.5
	0.2nm,0.3s,baz=329,slow=18,SNR=1.1						
KDAK	Kodiak Island	11.39	56			Pn	19 42 41.3 +0.3
SVW2	Sparrevohn	11.73	37	Pn		Pn	19 42 48.8 +3.0
N19K	Bonanza Creek	11.98	40	Pn		Pn	19 42 53.3 +4.2
M19K	Big River Lodg	12.69	36	Pn		Pn	19 43 01.8 +3.0
CNPM	China Poot	12.71	49	Pn		Pn	19 43 00.1 +1.1
L19K	White Mountain	12.71	35	Pn		Pn	19 43 00.7 +1.6
TTA	Tatalina	12.86	30	Pn		Pn	19 43 04.2 +3.0
BRLK	Bradley Lake	12.97	49	Pn		Pn	19 43 03.4 +0.8
SEW	Seward	13.77	48	Pn		Pn	19 43 06.6 -6.9
K20K	Telida	13.79	32	Pn		Pn	19 43 15.2 +1.5
J20K	Nowinta River	14.35	29	Pn		P	19 43 24.3 -2.9
CAST	Castle Rocks	14.49	34	Pn		P	19 43 26.2 -2.6
PWL	Port Wells	14.59	47	Pn		Pn	19 43 22.8 -1.6
GHO	Glory Hole Cre	14.75	43	Pn		Pn	19 43 25.4 -1.2
KNK	Knik Glacier	14.78	45	Pn		Pn	19 43 27.7 +0.8
KTH	Kantishna Hill	14.98	35	Pn		Pn	19 43 27.5 -2.1
SML	Sawmill	15.02	43	Pn		Pn	19 43 29.7 -0.4
GLI	Glacier Island	15.15	48	Pn		Pn	19 43 31.2 -0.6
BPAW	Bear Paw Mtn.	15.30	33	Pn		Pn	19 43 31.3 -2.5
BPAW				IAmb		IAmb	19 43 51.4
	comp=Z,7.3nm,1.4s						
FID	Port Fidalgo	15.38	48	Pn		Pn	19 43 33.5 -1.4
SCM	Sheep Creek Mo	15.45	44	Pn		Pn	19 43 35.8 0.0
RND	Reindeer	15.64	38	Pn		Pn	19 43 37.7 -0.5
I21K	Tanana	15.72	29			P	19 43 41.4 -1.1
I21K				IAmb		IAmb	19 43 58.3
	comp=Z,6.1nm,1.1s						
KLU	Klutina	15.92	46	Pn		Pn	19 43 40.2 -1.5
KLU				IAmb		IAmb	19 44 06.4
	comp=Z,15nm,1.4s						
N25K	Chitina, Valde	16.55	47	Pn		P	19 43 50.1 -1.6
N25K				IAmb		IAmb	19 44 21.4
	comp=Z,14nm,1.4s						
GLB	Gilahina Butte	16.84	48	Pn		Pn	19 43 53.1 -0.3
GLB				IAmb		IAmb	19 44 30.4
	comp=Z,7.2nm,1.2s						
VRDI	Verde Repeater	16.93	49	Pn		Pn	19 43 54.2 -0.4
VRDI				IAmb		IAmb	19 44 06.8
	comp=Z,33nm,1.6s						
ILAR	Eielson Array	17.13	35	P		Pn	19 43 56.4 -0.5
	comp=Z,0.0nm,0.3s,baz=319,slow=33,SNR=1.5						
J26L	Joseph Creek	18.21	39	P		Pn	19 44 09.7 -0.5
BCAR	Beaver Creek A	18.31	44	P		P	19 44 10.2 -0.9
EGAK	Eagle	19.25	39	P		Pn	19 44 21.2 -1.5
PETK	Petropavlovsk-	19.26	284	P		Pn	19 44 21.8 -1.1
	comp=Z,0.1nm,0.3s,baz=92,slow=15,SNR=5.6						
YKA	Yellowknife Ar	30.55	49	P		P	19 46 11.2 +1.4
	comp=Z,0.2nm,0.4s,baz=274,slow=8.4,SNR=2.8						
ASAJ	Asahikawa	31.93	274	LR		LR	20 01 39.4
	comp=Z,17nm,18.6s,baz=54,slow=41						
H11N2	WAKE ISLAND Hy	37.25	217	T		T	20 26 36.8
	baz=24,slow=76						
H11N3	WAKE ISLAND Hy	37.26	217	T		T	20 26 31.5
	baz=24,slow=76						
H11N1	WAKE ISLAND Hy	37.27	217	T		T	20 26 41.8
	baz=24,slow=76						
H11S1	WAKE ISLAND Hy	38.44	217	T		T	20 28 05.1
	baz=22,slow=76						
H11S2	WAKE ISLAND Hy	38.46	217	T		T	20 28 12.9
	baz=22,slow=76						
H11S3	WAKE ISLAND Hy	38.46	217	T		T	20 28 22.6
	baz=22,slow=76						
PDAR	Pinedale Array	40.93	79	P		P	19 47 40.8 +1.7
	comp=Z,0.4nm,0.5s,baz=310,slow=2.7,SNR=5.4						
TXAR	Lajitas Array	53.31	88	P		P	19 49 16.5 +1.0
	comp=Z,0.5nm,0.6s,baz=307,slow=6.2,SNR=6.9						
OBN	Obninsk	70.42	344	LR		LR	20 23 33.3
	comp=Z,179nm,21.5s,baz=60,slow=37						
H03N2	Juan Fernandez	116.52	111	T		T	22 05 49.6
	baz=317,slow=77						
H03N1	Juan Fernandez	116.53	111	T		T	22 05 51.3
	baz=317,slow=77						
H03N3	Juan Fernandez	116.54	111	T		T	22 05 50.3
	baz=317,slow=77						

BGR **12** *20:04:53.7±0.0,36.°10N×71.°92E,h240km±3km,mb6.1, mB_BB6.3*

NNC **12** *20:04:53.2±2.1,36.°83N×70.°81E,h0km,mb6.5,mpv6.3, Error ellipse: s-maj=20.6km s-min=11.1km az=158.0*

MOS **12** *20:04:58.7±0.9,36.°61N×71.°04E,h244km,mb5.7/44,Error ellipse: s-maj=4.1km s-min=3.1km az=96.0*

BJI **12** *20:04:58.9±0.0,36.°70N×71.°02E,h242km,mb5.5/86, mB5.7/64*

DSN **12** *20:04:60.0±0.5,36.°53N×70.°93E,h237km,mb6.3/21, Error ellipse: s-maj=9.0km s-min=6.9km az=153.0*

NEIC **12** *20:04:59.7±2.2,36.°60N±0.°05×70.°95E±0.°07,h239km±1km, mb5.6/327,Mwb5.7/49,Mww5.7, Error ellipse: s-maj=10.1km s-min=8.3km az=129.0*

IDC **12** *20:05:00.3±0.2,36.°55N×71.°04E,h246km±1km,mb5.0/55, mb1 5.1/62,mb1mx4.9/71,mbtmp5.7/62,Error ellipse: s-maj=5.1km s-min=4.3km az=2.0*

NEIC **12** *20:05:00.3,36.°59N×70.°93E,h237km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.86; Mθθ-0.30; Mφφ-0.56; Mrθ-0.59; Mθφ0.61; Mφr3.62; Fault plane solution: M0 3.80000×10^17 NP1:φs117.21000°, δ10.19000°,λ38.13000°. NP2:φs349.52000°,δ83.73000°, λ98.05000°. Principal axes: T 3.8422, Plg51.0000°, Azm269.0000°; N -0.0928, Plg8.0000°, Azm169.0000°; P -3.7494, Plg38.0000°, Azm72.0000°;*

GCMT **12** *20:05:00.7±0.1,36.°59N±0.°01×70.°87E±0.°01,h238km, MW5.7/152,Moment Tensor Solution. s132,c226; s152,c301; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr0.74±.04; Mθθ-0.03±.05; Mφφ-0.71±.05; Mrθ-0.37±.04; Mθφ0.36±.04; Mφr4.15±.04; Best double couple: M0 4.24500×10^17 NP1:φs137.00000°,δ7.00000°, λ52.00000°. NP2:φs355.00000°,δ85.00000°,λ94.00000°. Principal axes: T 4.2280, Plg50.0000°, Azm269.0000°; N 0.0340, Plg4.0000°, Azm174.0000°; P -4.2620, Plg40.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC **12** *20:05:02,36.°61N×70.°89E,h240km,Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17Nm; Mrr0.66; Mθθ-0.12; Mφφ-0.55; Mrθ-0.88; Mθφ0.47; Mφr3.66; Fault plane solution: M0 3.85000×10^17 NP1: φs124.00000°,δ7.00000°,λ48.00000°. NP2:φs346.00000°, δ85.00000°,λ95.00000°. Principal axes: T 3.8071, Plg50.0000°, Azm261.0000°; N 0.0762, Plg5.0000°, Azm166.0000°; P -3.8833, Plg40.0000°, Azm72.0000°;*

SOME **12** *20:05:06.6,36.°80N×71.°27E,h10km,MS4.7*

ISC 12 20:04:59.1±0.1,36.°56N±0.°02×70.°99E±0.°02,h240km±1km, h239km;pP-P,n1560,σ1°70/2194,mb5.5/495,393C-217D, Fault plane solution: NP1:φs357.45654°,δ85.49348°, λ118.17329°. NP2:φs95.80239°,δ28.50225°,λ9.47723°. Principal axes: T Plg42.6068°, Azm294.4311°; N Plg28.0785°, Azm175.0468°; P Plg34.4610°, Azm63.5710°; **Fault plane solution: NP1:φs349.48151°,** δ81.69409°,λ68.80031°. **NP2:φs239.05409°,δ22.69875°,** λ158.01556°. **Principal axes:** T Plg48.9805°, Azm236.5516°; N Plg20.9668°, Azm352.6885°; P Plg33.3802°, Azm97.3130°; **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CHGR	Chuyangaron	2.55	326		PN	Pn	20 05 45.0	-1.1
CHGR	Chuyangaron	2.55	326			Pn	20 05 46.0	-0.2
CHGR					Sn	S	20 06 18.6	-4.6
KBL	Kabul	2.56	219		P	Pn	20 05 46.5	0.0
KBL	SNR=8495							
KBL					S	S	20 06 22.2	-1.6
KBL	Kabul	2.56	219			Pn	20 05 46.3	-0.2
KBL					Sn	S	20 06 21.1	-2.7
KBL	Kabul	2.56	219		P	Pn	20 05 46.6	0.0
DRK	Karamyk	2.98	12			Pn	20 05 51.5	+0.6
DRK					Sn	S	20 06 29.8	-2.2
NIL	Nilore	3.44	147		PN	Pn	20 05 56.9	+0.9
NIL	Nilore	3.44	147		Pn	Pn	20 05 56.9	+0.9
NIL	Nilore	3.44	147		P	Pn	20 05 56.9	+0.9
BTK	Batken	3.50	358		PN	Pn	20 05 57.6	+1.1
BTK							20 06 40.1	
BTK	Batken	3.50	358			Pn	20 05 57.6	+1.1
BTK					Sn	S	20 06 40.1	-1.8
KSH	Kashi	4.92	52		P	Pn	20 06 09.1	-4.5
KSH					sP		20 06 50.5	
KSH					S	S	20 07 01.4	-11
KSH					smax	smax		
	comp=N,62μm,0.9s							
KSH					smax	smax		
	comp=E,31μm,1.1s							
TAS	Tashkent	4.94	345		Pn	Pn	20 06 14.2	+0.5
TAS						S	20 07 08.8	-4.3
JMU	Jammu	5.01	139	*e*	P	Pn	20 06 07.5	-7.2
JMU				*e*	S	S	20 07 04.5	-10
CHM	Chimkent	5.85	350	*e*	PN	Pn	20 06 24.7	-0.3
CHM	Chimkent	5.85	350	*e*	P	Pn	20 06 30.9	+5.8
	922nm,0.5s							
CHM				*e*	S	S	20 07 28.8	-4.8
	26μm,0.4s							
CHM	Chimkent	5.85	350	*e*	P	Pn	20 06 24.7	-0.3
	baz=350							
AML	Almayashu	5.95	20		P	Pn	20 06 26.4	-0.2
	SNR=3616							
AML	Almayashu	5.95	20	*i*	P	Pn	20 06 26.5	-0.1
	SNR=6354							
DHRM	DHARAMSHALA	6.14	133	⇑*i*	P	Pn	20 06 29.1	0.0
DHRM				*e*	S	S	20 07 33.2	-7.6
DHRM					IAML		20 07 39.6	
	comp=E,36μm,0.1s							
DHRM					IAML		20 07 41.4	
	comp=N,26μm,0.5s							
UCH	Uchtor	6.28	25		P	Pn	20 06 30.9	0.0
	SNR=3375							
DZA	Taraz	6.33	2	*i*	PN	Pn	20 06 30.3	-0.8
DZA					pmax	pmax		
	comp=Z,1μm,0.7s							
DZA	Taraz	6.33	2	*e*	P	Pn	20 06 37.6	+6.5
	comp=Z,2μm,0.5s							
DZA				*e*	S	S	20 07 40.5	-4.1
	comp=Z,31μm,0.5s							
DZA	Taraz	6.33	2	*i*	P	Pn	20 06 30.3	-0.8
	comp=Z,1μm,0.7s,baz=2.2							
MRKS	Merke	6.41	15	*e*	P	Pn	20 06 39.4	+7.2
	comp=Z,935nm,0.6s							
MRKS				*e*	S	S	20 07 43.6	-3.0
	comp=Z,13μm,0.6s							
EKS2	Erkin-Say	6.46	19		P	Pn	20 06 32.7	-0.1
	SNR=865							
BRLS	Borolday	6.52	353	*i*	PN	Pn	20 06 30.0	-3.5
BRLS					pmax	pmax		
	comp=Z,27nm,0.1s							
BRLS	Borolday	6.52	353	*e*	P	Pn	20 06 34.3	+0.8
	comp=Z,178nm,0.9s							
BRLS				*e*	S	S	20 07 34.9	-14
	comp=Z,2μm,0.6s							
BRLS	Borolday	6.52	353	*i*	P	Pn	20 06 30.1	-3.5
	comp=Z,27nm,0.1s,baz=351							
KK02	Karatay Array	6.55	357	⇑	P	Pn	20 06 28.6	-5.1
	comp=Z,887nm,0.5s,baz=172,slow=12							
KK02				⇓	S	S	20 07 41.2	-8.3
	comp=Z,2μm,0.6s,baz=174,slow=22							
KKAR	Karatay Array	6.55	357		PN	Pn	20 06 33.6	-0.2
KKAR	Karatay Array	6.55	357		Pn	Pn	20 06 33.6	-0.2
AAK	Ala-Archa	6.64	23		P	Pn	20 06 35.4	+0.2
	comp=Z,420nm,0.3s,baz=189,slow=5.8,SNR=5046							
AAK					S	S	20 07 48.6	-3.4
	comp=Z,529nm,0.3s,baz=310,slow=23,SNR=9.7							
AAK	Ala-Archa	6.64	23		P	Pn	20 06 35.3	+0.2
	SNR=3438							
AAK	Ala-Archa	6.64	23	*d*	PN	Pn	20 06 35.3	+0.2
AAK					pmax	pmax		
	comp=Z,1μm,0.5s							
AAK	Ala-Archa	6.64	23		P	Pn	20 06 35.3	+0.2
AAK					S	S	20 07 50.0	-2.0
AAK	Ala-Archa	6.64	23	⇓	P	Pn	20 06 30.3	-4.9
	comp=Z,1μm,0.5s							
AAK				⇑	S	S	20 07 45.7	-6.3
	comp=Z,7μm,0.6s							
AAK	Ala-Archa	6.64	23		P	Pn	20 06 35.3	+0.2
AAK	Ala-Archa	6.64	23	*i*	P	Pn	20 06 35.4	+0.2
	SNR=4844							
KBK	Karagaybulak	6.81	25		P	Pn	20 06 37.8	+0.5
	SNR=1314							
FRU1	Bishkek	6.84	23		PN	Pn	20 06 38.0	+0.4
FRU1	Bishkek	6.84	23			Pn	20 06 38.0	+0.4
ULHL	Ulahol	6.98	34		P	Pn	20 06 39.5	0.0
	SNR=412							
BOOM	Boomskoye usch	7.05	31		PN	Pn	20 06 40.4	+0.1
BOOM	Boomskoye usch	7.05	31		Pn	Pn	20 06 40.4	+0.1
CHMS	Chumysh	7.05	23		P	Pn	20 06 39.8	-0.4
	SNR=1026							
USP	Ospenovka	7.22	21		P	Pn	20 06 41.5	-0.9
	SNR=395							
TKM2	Tokmak 2	7.28	28		P	Pn	20 06 43.2	0.0
	SNR=182							
TKM2	Tokmak 2	7.28	28	*i*	PN	Pn	20 06 43.1	-0.1
TKM2					pmax	pmax		
	comp=Z,2μm,0.7s							
TKM2	Tokmak 2	7.28	28	⇓	P	Pn	20 06 40.7	-2.6
	comp=Z,2μm,0.8s							
TKM2				⇑	S	S	20 08 02.7	-4.0
	comp=Z,7μm,0.8s							
KDJ	Kajisay	7.34	39		PN	Pn	20 06 43.7	-0.4
KDJ	Kajisay	7.34	39			Pn	20 06 43.7	-0.4
TARG	Taragay, Kyrgy	7.39	44			Pn	20 06 44.0	-0.9
SGDS	Sogindy	7.43	21	⇓	*i*	Pn	20 06 44.2	-0.8
	comp=Z,125nm,0.5s,baz=21							
HRA	Herat	7.46	256		Pn	Pn	20 06 45.3	-0.3
SMLA	Simla	7.46	135	⇑	*i*	Pn	20 06 45.6	0.0
SMLA					*ex*	S	20 08 06.2	-4.8
SMLA					IAML		20 08 08.2	
	comp=N,12μm,0.5s							
SMLA					IAML		20 08 11.3	
	comp=E,12μm,0.9s							
KST	Kastek	7.52	29	*i*	P	Pn	20 06 45.6	-0.6
	comp=E,467nm,0.7s,baz=29							
KST				*e*	S	S	20 08 10.6	-1.6
	baz=29							
DGS	Degeres	7.62	27	*e*	P	Pn	20 06 51.1	+3.6
	comp=E,421nm,0.7s							
DGS				*e*	S	S	20 08 03.2	-11
	comp=E,2μm,0.7s							
MDOK	Medeo	8.07	33	*i*	PN	Pn	20 06 53.3	0.0
MDOK	Medeo	8.07	33	*i*	P	Pn	20 06 53.4	+0.1
	baz=34							
MDOK	Medeo	8.07	33	⇑	P	Pn	20 06 51.5	-1.8
	comp=E,828nm,0.7s							
MDOK				⇑	S	S	20 08 19.5	-5.6
	comp=E,2μm,1.0s							
KNDC	Almaty	8.08	33		PN	Pn	20 06 53.0	-0.3
KNDC	Almaty	8.08	33	⇑	P	Pn	20 06 51.8	-1.5
	comp=E,2μm,0.7s							
KNDC				⇑	S	S	20 08 19.5	-5.6
	comp=E,6μm,1.1s							
PRZ	Przheval'sk	8.23	42		PN	Pn	20 06 55.5	+0.2
PRZ	Przheval'sk	8.23	42			Pn	20 06 55.5	+0.2
KUU	Kurty	8.39	28	*d*	PN	Pn	20 06 55.9	-1.2
KUU					pmax	pmax		
	comp=Z,382nm,1.4s							
KUU	Kurty	8.39	28	⇓	*i* P	Pn	20 06 56.0	-1.2
	comp=Z,382nm,1.4s,baz=28							
CHKK	Chushkaly	8.61	30	*e*	P	Pn	20 06 59.0	-1.0
	baz=31							
SATY	Saty	8.64	39	*d*	PN	Pn	20 06 59.7	-0.8
SATY					pmax	pmax		
	comp=Z,331nm,1.5s							
SATY	Saty	8.64	39	⇓	*i* P	Pn	20 06 59.8	-0.8
	comp=Z,331nm,1.5s,baz=39							
ZHN	Zhinishke	8.73	39	*e*	PN	Pn	20 07 01.2	-0.5
ZHN	Zhinishke	8.73	39	*e*	P	Pn	20 07 01.2	-0.5
	baz=39							
BTLS	Baital	8.78	14	*d*	PN	Pn	20 07 01.8	-0.3
BTLS					pmax	pmax		
	comp=Z,137nm,1.6s							
BTLS	Baital	8.78	14	⇓	*i* P	Pn	20 07 01.9	-0.3
	comp=Z,137nm,1.6s,baz=14							
UZB	Uzynbulak	9.02	41	*d*	PN	Pn	20 07 04.7	-0.6
UZB					pmax	pmax		
	comp=Z,209nm,1.2s							
UZB	Uzynbulak	9.02	41	⇓	*i* P	Pn	20 07 04.8	-0.6
	comp=Z,209nm,1.2s,baz=41							
ARXS	Arharly	9.25	32	*e*	P	Pn	20 07 06.9	-1.3
SHLS	Shalkode	9.26	42	*d*	*i* P	Pn	20 07 10.8	+2.4
SHLS					pmax	pmax		
	comp=Z,477nm,1.9s							
SHLS	Shalkode	9.26	42	⇓	*i* P	Pn	20 07 10.8	+2.4
	comp=Z,477nm,1.9s,baz=44							
PDGK	Podgornoye	9.39	41		P	Pn	20 07 09.3	-0.8
PDGK					S	S	20 08 49.0	-6.9
PDGK	Podgornoye	9.39	41	⇓	P	Pn	20 07 09.3	-0.8
	comp=Z,598nm,1.1s							
PDGK				⇑	S	S	20 08 55.3	-0.6
	comp=Z,2μm,1.2s							
NDI	New Delhi	9.45	144	*e*	P	P	20 07 19.0	+1.1
NDI				*e*	S	S	20 08 54.0	-3.2
TDK	Taldyqorghan	10.13	31	*i*	P	Pn	20 07 18.4	-0.9
TDK					pmax	pmax		
	comp=Z,863nm,1.2s							
TDK	Taldyqorghan	10.13	31	*i*	P	Pn	20 07 18.5	-0.9
	comp=Z,863nm,1.2s,baz=32							
GEYT	Alibeck	10.35	281		P	Pn	20 07 20.9	-1.4
	comp=Z,23nm,0.3s,baz=122,slow=11,SNR=288							
GEYT	Alibeck	10.35	281		Pn	Pn	20 07 20.7	-1.6
GYA0	ALIBECK ARRAY	10.35	281		P	Pn	20 07 20.8	-1.4
GYA0B	ALIBECK ARRAY	10.35	281	⇓	P	Pn	20 07 20.6	-1.6
GYA0B				⇓	S	S	20 09 14.1	-4.3
GYA0B	ALIBECK ARRAY	10.35	281		Pn	Pn	20 07 20.6	-1.6
PTH	Pithoragarh	10.43	129	*e*	P	Pn	20 07 16.9	-6.5
PTH				*e*	S	S	20 09 04.5	-16
AJM	Ajmer	10.52	162	⇑	*i* P	Pn	20 07 23.0	-1.5
AJM				*i*	S	S	20 08 54.0	-29
OTUK	Ortayu	11.72	4	↑	P	Pn	20 07 38.3	-0.9
OTUK	Ortayu	11.72	4	⇑	P	Pn	20 07 38.3	-0.9
	comp=Z,484nm,1.1s							
OTUK				⇓	S	S	20 09 49.9	+0.5
	comp=Z,1μm,0.9s							
MAKZ	Makanchi	13.11	35		P	Pn	20 07 56.1	-0.4
MAKZ	Makanchi	13.11	35	⇓	P	Pn	20 07 56.0	-0.4
	comp=Z,2μm,0.9s							
MAKZ	Makanchi	13.11	35		Pn	Pn	20 07 56.0	-0.4
MAKZ	Makanchi	13.11	35		P	Pn	20 07 56.2	-0.4
PYUN	Piuthan	13.19	126	*e*	P	Pn	20 07 57.0	-0.8
	comp=Z,911nm,0.5s							
MK31	Makanchi Array	13.25	36	*i*	P	Pn	20 07 57.4	-0.8
MK31					pmax	pmax		
	comp=Z,470nm,0.8s							
MK31	Makanchi Array	13.25	36	⇓	P	Pn	20 07 59.0	+0.8
	comp=Z,2μm,1.4s,baz=203,slow=7.8,SNR=4345							
MK31	Makanchi Array	13.25	36		Pn	Pn	20 07 57.3	-0.9
MKAR	Makanchi Array	13.25	36		P	Pn	20 07 57.3	-0.9
	comp=Z,35nm,0.3s,baz=227,slow=12,SNR=1231							
MKAR					sP	sPn	20 08 59.9	+4.2
	baz=220,slow=12,SNR=4.1							
MKAR					P3KP		20 44 01.3	
	comp=Z,0.0nm,0.3s,baz=354,slow=2.4,SNR=6.0							
BHUJ	Bhuj	13.31	185	*e*	P	Pn	20 07 58.8	-0.4
BRZS	Berezniki	13.47	5	*i*	P	Pn	20 08 00.2	-0.7
BRZS				*e*	S	S	20 10 28.9	-1.1
BRZS					pmax	pmax		
	comp=Z,252nm,1.3s							
BRZS	Berezniki	13.47	5	*i*	P	Pn	20 08 00.2	-0.7
	comp=Z,252nm,1.3s,baz=4.7							
BRZS				*e*	S	S	20 10 29.0	-1.1
	baz=4.7							
DANN	Dangsing	13.53	124	*e*	P	Pn	20 08 01.5	-0.6
	comp=Z,2μm,0.6s							
KOLN	Koldanda	13.80	126	*e*	P	Pn	20 08 05.1	-0.3
	comp=Z,722nm,0.4s							
GKN	Gorkha	14.34	123	*e*	P	Pn	20 08 11.4	-0.5
	comp=Z,900nm,0.4s							
BHPL	Bhopal	14.39	155	*e*	P	Pn	20 08 12.0	-0.4
BHPL				*i*	*x*	x	20 08 15.4	
BHPL				*e*	S	S	20 10 44.5	-7.3
WMQ	Urumqi	14.67	55	⇓	P	P	20 08 16.3	+0.5
WMQ					S	S	20 10 56.3	-1.6
WMQ					ScS	ScS	20 19 58.1	-0.7
WMQ					pmax	pmax		
	comp=Z,2μm,1.1s							
WMQ					pmax	pmax		
	comp=Z,13μm,5.3s							
WMQ	Urumqi	14.67	55		P	P	20 08 16.1	+0.3
DMN	Daman	14.91	123	*e*	P	P	20 08 18.6	-0.3
	comp=Z,1μm,0.5s							
KKN	Kakani	14.92	122	*e*	P	P	20 08 18.3	-0.6
	comp=

SHME			S	S	20 11 30.4	-4.6
SHME	Shamm	16.43 235	*i* P	P	20 08 35.4	0.0
	SNR=76					
BVAR	Borovoye Array	16.47 359	P	Pn	20 08 36.2	-0.8
	comp=Z,75nm,0.3s,baz=155,slow=11,SNR=422					
BVAR			pP	pP	20 09 18.4	+5.0
	baz=160,slow=14,SNR=1.1					
BVAR			sP	sP	20 09 38.9	-6.1
	comp=Z,12nm,0.3s,baz=153,slow=10.0,SNR=3.5					
BRVK	Borovoye	16.50 358	*d i* P	Pn	20 08 36.8	-0.5
BRVK			pmax	pmax		
	comp=Z,318nm,0.5s					
BRVK	Borovoye	16.50 358	P	Pn	20 08 36.7	-0.5
BRVK			S	S	20 11 35.2	-0.7
BRVK	Borovoye	16.50 358	⇑P	Pn	20 08 42.9	+5.6
	comp=Z,318nm,0.5s					
BRVK	Borovoye	16.50 358	P	Pn	20 08 36.6	-0.7
BRVK	Borovoye	16.50 358	P	Pn	20 08 37.1	-0.2
AKTO	Aktyubinsk	16.72 330	P	Pn	20 08 39.6	-0.3
	comp=Z,70nm,0.3s,baz=140,slow=10,SNR=2382					
AKTO			S	S	20 11 42.9	+2.5
	comp=Z,6.4nm,0.3s,baz=292,slow=24,SNR=4.0					
AKTO	Aktyubinsk	16.72 330	⇓P	Pn	20 08 43.9	+3.9
	comp=Z,1μm,0.8s					
AKTO			⇑S	S	20 11 47.5	+7.2
	comp=Z,292nm,0.9s					
MASF	Masafi	16.89 233	P	P	20 08 40.8	+0.5
	SNR=202					
MASF			S	S	20 11 40.8	-3.5
MSFE	Esma-Masafi	16.90 233	*i* P	P	20 08 40.7	+0.2
	SNR=201					
WSAR	Wadi Sarin	17.04 222	P	Pn	20 08 43.5	-0.4
	comp=Z,17nm,0.3s,baz=58,slow=6.9,SNR=212					
WSAR			ScP	ScP	20 16 24.6	-1.2
	comp=Z,0.3nm,0.3s,baz=54,slow=4.1,SNR=7.9					
BIDO	Bidbid	17.09 224	P	Pn	20 08 45.0	+0.5
	SNR=34					
BIDO			S	S	20 11 48.3	+0.1
UMQ	Umm Al-Quwin	17.11 234	P	Pn	20 08 44.1	-0.6
	SNR=20					
UMQ			P	Pn	20 08 44.1	-0.6
	SNR=20					
UMQ			S	S	20 11 47.8	-0.7
UMQ			S	S	20 11 47.8	-0.7
UMQ	Umm Al-Quwin	17.11 234	*i* P	P	20 08 43.5	+0.8
	SNR=28					
UOSS	Minazif	17.17 232	P	P	20 08 42.0	-1.3
UOSS			P	P	20 08 42.0	-1.3
UOSS			S	S	20 11 44.5	-5.2
UOSS			S	S	20 11 44.5	-5.2
UOSS	Minazif	17.17 232	P	P	20 08 42.0	-1.3
UOSS	Minazif	17.17 232	P	P	20 08 42.0	-1.3
UOSS	Minazif	17.17 232	*i* P	P	20 08 42.0	-1.3
	SNR=13					
HATD	Hatta, Dubai	17.30 232	P	P	20 08 44.1	-0.6
	SNR=108					
HATD			P	P	20 08 44.1	-0.6
	SNR=108					
HATD			S	S	20 11 47.2	-5.2
HATD			S	S	20 11 47.2	-5.2
HATD	Hatta, Dubai	17.30 232	*i* P	P	20 08 43.6	-1.2
	SNR=128					
WBK	Wadi Bani Khal	17.37 220	P	Pn	20 08 47.6	-0.2
	SNR=30					
WBK			S	S	20 11 56.2	+2.4
NAZ	Nazwa, Dubai	17.48 233	P	P	20 08 47.4	+0.6
	SNR=121					
NAZ			P	P	20 08 47.4	+0.6
	SNR=121					
NAZ			S	S	20 11 52.6	-3.3
NAZ			S	S	20 11 52.6	-3.3
NAZ	Nazwa, Dubai	17.48 233	*i* P	P	20 08 46.9	+0.2
	SNR=122					
SMDO	Samad	17.50 223	P	Pn	20 08 49.0	-0.4
	SNR=34					
SMDO			P	Pn	20 08 49.0	-0.4
	SNR=34					
SMDO			S	S	20 11 57.8	+1.3
SMDO			S	S	20 11 57.8	+1.3
HOQ	Hoqain	17.51 226	P	P	20 08 48.1	+1.0
	SNR=33					
HOQ			S	S	20 11 50.2	-6.4
JLN	Jalan Bani Buh	17.53 218	P	Pn	20 08 50.0	+0.3
	SNR=117					
JLN			S	S	20 11 59.5	+2.6
GTK	Tadong	17.54 117	⇓*i* P	Pn	20 08 49.6	-0.2
SOHO	SOHO	17.55 229	*i* P	P	20 08 46.8	-0.7
	SNR=27					
FAQ	Al Faqa, Dubai	17.70 233	P	P	20 08 49.4	+0.4
	SNR=52					
FAQ			P	P	20 08 49.4	+0.4
	SNR=52					
FAQ			S	S	20 11 58.4	-1.9
FAQ			S	S	20 11 58.4	-1.9
FAQ	Al Faqa, Dubai	17.70 233	*i* P	P	20 08 49.5	+0.4
	SNR=52					
LKRN	Lenkeran, Azer	17.72 284	P	P	20 08 50.1	+0.9
DGZ	Jazzator, Alta	17.74 37	*d i* P	P	20 08 50.6	+1.1
DGZ			pmax	pmax		
	comp=Z,2μm,0.9s					
ASUD	Al Ashush, Dub	17.95 233	P	P	20 08 53.0	+1.1
	SNR=67					
ASUD			P	P	20 08 53.0	+1.1
	SNR=67					
ASUD			S	S	20 12 03.7	-1.6
ASUD			S	S	20 12 03.7	-1.6
ASUD	Al Ashush, Dub	17.95 233	*i* P	P	20 08 52.9	+1.1
	SNR=86					
JMDO	Jabal Madar	18.02 222	P	Pn	20 08 54.7	-0.8
	SNR=121					
JMDO			P	Pn	20 08 54.7	-0.8
	SNR=121					
JMDO			S	S	20 12 12.2	+5.4
JMDO			S	S	20 12 12.2	+5.4
BOK	Bokaro	18.07 131	*eP*	P	20 08 53.0	-0.2
BOK			⇓*i P*	Pn	20 08 54.6	-1.4
BOK			IAmb	IAmb	20 09 00.8	
	comp=Z,712nm,0.9s					
BOK			*ex*	x	20 09 27.0	
ALNE	Al Ain	18.09 231	P	P	20 08 54.3	+0.8
	SNR=208					
ALNE			S	S	20 12 05.6	-2.5
ALNE	Al Ain	18.09 231	*i* P	P	20 08 54.2	+0.8
	SNR=150					
LSA	Lhasa	18.20 106	P	Pn	20 08 57.2	-0.8
LSA			pmax	pmax		
	comp=Z,1μm,1.1s					
LSA	Lhasa	18.20 106	P	Pn	20 08 58.0	-0.1
LSA			S	S	20 12 08.6	-2.4
LSA			LR	LR		
	comp=Z,8μm,11.4s					
LSA			LR	LR		
	comp=Z,4μm,7.8s					
LSA			LR	LR		
	comp=Z,7μm,13.5s					
LSA	Lhasa	18.20 106	P	Pn	20 08 57.1	-0.8
LSA	Lhasa	18.20 106	P	Pn	20 08 57.9	-0.1
LSA	Lhasa	18.20 106	P	Pn	20 08 57.7	-0.3
AJN	Ajban	18.22 233	P	P	20 08 55.5	+0.8
	SNR=87					
AJN			P	P	20 08 55.5	+0.8
	SNR=87					
AJN	Ajban	18.22 233	*i* P	P	20 08 55.3	+0.6
	SNR=66					
BSY	Bisya	18.22 225	P	Pn	20 08 56.7	-1.1
	SNR=83					
BSY			P	Pn	20 08 56.7	-1.1
	SNR=83					
AKT	Akhty	18.71 292	*c i* P	P	20 09 00.7	+0.7
AKT			pmax	pmax		
	comp=Z,279nm,1.0s					
SRSP	Sriramsagar	18.72 158	*eP*	P	20 09 01.0	+0.8
SRSP			*eS*	S	20 12 19.2	-1.3
KLRI	Killari	19.07 163	*eP*	P	20 09 05.1	+1.1
KLRI			*es*P	sP	20 10 13.3	+0.6
KLRI			*eS*	S	20 12 28.2	+0.7
SEKA	Sheki	19.07 291	P	P	20 09 05.2	+1.3
RPR	Rampur	19.09 155	*eP*	P	20 09 05.7	+1.6
RPR			*es*P	sP	20 10 14.0	+1.2
RPR			*eS*	S	20 12 29.6	+1.9
MNGR	Mingechevir, A	19.12 290	P	P	20 09 05.2	+1.0
MAK	Makhachkala	19.12 297	*eP*	P	20 09 04.9	+0.7
MAK			*eS*	S	20 12 29.7	+1.8
MAK			pmax	pmax		
	comp=Z,279nm,0.7s					
GOMU	GeErMu	19.18 84	P	P	20 09 07.0	+1.6
GOMU			S	S	20 12 32.4	+2.4
GOMU			pmax	pmax		
	comp=Z,570nm,1.3s					
GOMU			pmax	pmax		
	comp=Z,3μm,5.4s					
GOMU			LR	LR		
	comp=Z,2μm,5.4s					
GOMU			LR	LR		
	comp=Z,1μm,6.6s					
GOMU			LR	LR		
	comp=Z,1μm,7.6s					
KAD	Karad	19.39 171	⇑*i* P	P	20 09 09.0	+1.7
KAD			*i* S	S	20 12 35.3	+1.6
GNBR	Gunib	19.41 295	*c i* P	P	20 09 08.8	+1.4
GNBR			pmax	pmax		
	comp=Z,584nm,1.0s					
UMZA	Um Al Zommool	19.45 229	P	P	20 09 08.2	+0.3
UMZA			S	S	20 12 32.2	-2.5
MZWR	Madinat Zayed	19.50 234	P	P	20 09 07.2	-1.2
MZWR			P	P	20 09 07.2	-1.2
MZWR			S	S	20 12 28.0	-7.7
MZWR			S	S	20 12 28.0	-7.7
GANJ	Ganja	19.68 289	P	P	20 09 10.9	+0.6
ZAA0	Zalesovo Array	19.86 25	P	P	20 09 12.2	+0.2
ZALV	Zalesovo Beam	19.86 25	P	P	20 09 12.2	+0.2
	comp=Z,100nm,0.3s,baz=218,slow=11,SNR=1259					
ZALV			sP	sP	20 10 22.1	-0.9
	baz=220,slow=11,SNR=6.1					
ZALV			P3KP		20 44 08.7	
	comp=Z,0.1nm,0.3s,baz=333,slow=5.0,SNR=3.8					
KHOR	Al-Khor Airpor	19.89 242	P	P	20 09 12.1	-0.5
KHOR			S	S	20 12 38.4	-4.8
BTLR	Botlikh	20.00 295	*c i* P	P	20 09 14.4	+0.7
BTLR			pmax	pmax		
	comp=Z,493nm,1.0s					
GHWR	Ruwais	20.02 236	P	P	20 09 12.5	-1.5
GHWR			P	P	20 09 12.5	-1.5
GHWR			S	S	20 12 40.2	-5.5
GHWR			S	S	20 12 40.2	-5.5
DVE	Vedeno	20.11 296	*c i* P	P	20 09 15.8	+0.8
DVE			pmax	pmax		
	comp=Z,603nm,1.0s					
SHMA	Al-Shehemyia	20.14 244	P	P	20 09 15.0	-0.3
SHMA			S	S	20 12 44.3	-3.6
HYBB	Hyderabad (bro	20.21 159	*eP*	P	20 09 17.0	+0.9
HYBB			*eS*	S	20 12 48.9	-0.4
HYB	Hyderabad	20.21 159	*eP*	P	20 09 16.5	+0.4
HYB			*eP*	Pn	20 09 17.1	-4.2
HYB			*i* x	x	20 10 22.1	
HYB			*eS*	S	20 12 50.0	+0.6
NAX	Nakhchivan	20.28 285	P	P	20 09 18.5	+1.7
SAKB	Bahrain	20.38 245	P	P	20 09 17.7	-0.1
SAKB			S	S	20 12 46.6	-5.6
GROC	Groznyy	20.40 297	*eP*	P	20 09 17.8	-0.1
GROC			*e**SP	sP	20 10 27.8	+0.6
GROC			*eS*	S	20 12 52.4	+0.1
GROC			*e*		20 13 20.6	
GROC			pmax	pmax		
	comp=Z,794nm,0.9s					
CUPL	Choutuppal	20.43 158	*eP*	P	20 09 19.3	+0.8
CUPL			*eS*	S	20 12 53.2	-0.1
TRNA	Turayna	20.65 241	P	P	20 09 19.0	-1.8
TRNA			S	S	20 12 51.1	-6.0
SLWR	Sila	20.75 238	P	P	20 09 20.1	-1.7
SLWR			S	S	20 12 53.9	-4.8
GNI	Garni	20.87 288	P	P	20 09 24.7	+1.6
	comp=Z,500nm,1.0s,baz=86,slow=1.1,SNR=103					
GNI	Garni	20.87 288	*ceP*	P	20 09 25.4	+2.3
GNI			pmax	pmax		
	comp=Z,1μm,1.7s					
GNI	Garni	20.87 288	P	P	20 09 25.2	+2.0
GNI	Garni	20.87 288	P	P	20 09 25.3	+2.2
GNI	Garni	20.87 288	P	P	20 09 25.1	+2.0
SHL	Shillong	20.94 116	⇓*i* P	P	20 09 24.4	+0.4
GOA	Goa	21.14 172	*eP*	P	20 09 27.4	+1.6
NJS	Nagarjunasagar	21.25 157	*eP*	P	20 09 27.3	+0.4
NJS			*ep*P	pP	20 10 06.8	+0.7
NJS			*eS*	S	20 13 06.8	-0.3
CHLP	Challavanipeta	21.35 144	*eP*	P	20 09 28.6	+0.7
CHLP			*eS*	S	20 13 08.0	-0.9
PVM	Polavaram	21.41 151	*eP*	P	20 09 29.9	+1.4
PVM			*ep*P	pP	20 10 09.4	+1.5
PVM			*es*P	sP	20 10 44.1	+5.7
PVM			*eS*	S	20 13 10.1	+0.2
ITAN	ITANAGAR	21.43 110	⇓*i* P	P	20 09 30.1	+1.5
SVE	Sverdlovsk	21.43 344	*de*P	P	20 09 29.3	+1.0
SVE			*eS*	S	20 13 11.8	+2.4
SVE			pmax	pmax		
	comp=Z,385nm,1.8s					
MYLAV	Mylavaram	21.51 154	*eP*	P	20 09 30.8	+1.4
MYLAV			*es*P	sP	20 10 41.5	+2.2
MYLAV			*eS*	S	20 13 11.4	+0.1
SRLM	Srisailam	21.55 159	*eP*	P	20 09 30.5	+0.6
SRLM			*eS*	S	20 13 11.3	-0.9
ARU	Arti	21.57 341	P	P	20 09 30.6	+1.0
	comp=Z,55nm,0.6s,baz=154,slow=6.5,SNR=193					
ARU	Arti	21.57 341	*c i* P	P	20 09 30.5	+0.8
ARU			S	S	20 13 14.2	+2.5
ARU			pmax	pmax		
	comp=Z,807nm,1.7s					
ARU	Arti	21.57 341	P	P	20 09 30.4	+0.8
ARU	Arti	21.57 341	P	P	20 09 30.5	+0.8
VIS	Vishakhapatnam	21.70 147	⇓*i* P	P	20 09 32.5	+1.3
VIS			*i* x	x	20 10 34.2	
ONI	Oni	22.01 294	P	P	20 09 36.5	+2.5
ONI			pmax	pmax		
	comp=Z,3μm,2.0s					
ONI	Oni	22.01 294	P	P	20 09 36.5	+2.5
NCK	Nalchik	22.03 297	*c i* P	P	20 09 34.9	+0.8
NCK			pmax	pmax		
	comp=Z,454nm,1.4s					
JORH	JORHAT	22.04 110	⇓*i* P	P	20 09 35.9	+1.6
BELO	BELONIA	22.09 121	⇓*i* P	P	20 09 37.1	+2.3
ADKI	Addanki	22.12 156	*eP*	P	20 09 36.2	+1.0
ADKI			*es*P	sP	20 10 47.1	+1.1
ADKI			*eS*	S	20 13 27.9	+6.7
KARS	Kars	22.15 289	P	P	20 09 37.7	+2.3
KARS			pmax	pmax		
	comp=Z,1μm,1.0s					
KARS	Kars	22.15 289	P	P	20 09 37.7	+2.3
DIBR	DIBRUGARH	22.17 107	⇓*i* P	P	20 09 37.3	+1.8
RCLA	Racherla	22.18 159	*eP*	P	20 09 36.8	+1.0
RCLA			*es*P	sP	20 10 47.7	+1.0
RCLA			*eS*	S	20 13 24.1	+1.8
GEVA	Gevas	22.22 283	P	P	20 09 37.9	+1.8
URV	Uravakonda	22.24 164	*eP*	P	20 09 37.5	+1.2
URV			*ep*P	pP	20 10 18.5	+1.4
URV			*es*P	sP	20 10 48.7	+1.3
MOKO	MOKOCHONG	22.47 110	⇓*i* P	P	20 09 40.3	+1.9
PYA1	Pyatigorsk	22.48 298	*c i* P	P	20 09 38.7	+0.5
KOHI	KOHIMA	22.49 112	⇓*i* P	P	20 09 40.2	+1.5
KBZ	Khabaz	22.57 297	P	P	20 09 39.7	+0.7
	comp=Z,77nm,0.8s,baz=116,slow=8.5,SNR=150					
KBZ	Khabaz	22.57 297	*c i* P	P	20 09 39.6	+0.7
KBZ			pmax	pmax		
	comp=Z,450nm,2.2s					
BRDH	Bariadhala	22.60 122	P	P	20 09 37.9	-1.6
	comp=Z,0.8nm,0.4s,baz=0.0,slow=20,SNR=1.0					
NEY	Neytrino	22.62 296	*c i* P	P	20 09 41.4	+1.7
NEY			pmax	pmax		
	comp=Z,37nm,0.9s					
GOF	Gofitskoye	22.71 301	⇑*eP*	P	20 09 41.5	+1.3
GOF			pmax	pmax		
	comp=Z,2μm,1.1s					
SHA1	Shidzhatmaz	22.74 297	*c i* P	P	20 09 41.7	+0.9
KIV	Kislovodsk	22.75 298	*eP*	P	20 09 41.7	+0.9
KIV			*e**PP	pP	20 10 23.0	+0.6
KIV			*e**SP	sP	20 10 54.7	+1.8
KIV			*eS*	S	20 13 32.5	+1.3
KIV			pmax	pmax		
	comp=Z,246nm,1.1s					
KIV			pmax	pmax		
	comp=Z,606nm,4.4s					
KIV			MLR	MLR		
	comp=Z,552nm,14.0s					
KIV	Kislovodsk	22.75 298	P	P	20 09 41.4	+0.7
KIV			P	P	20 09 41.4	+0.7
KIV	Kislovodsk	22.75 298	P	P	20 09 41.0	+0.3
KIV	Kislovodsk	22.75 298	P	P	20 09 41.9	+1.2
KIV	Kislovodsk	22.75 298	*i* P	P	20 09 41.8	+1.1
	SNR=88					
SIRT	Sirnak	22.78 281	P	P	20 09 40.3	-0.8
BELG	Belogornoye	22.84 321	P	P	20 09 42.2	+0.9
	comp=Z,1μm,0.8s,baz=55,slow=0.4,SNR=514					
BELG			pP	pP	20 10 25.5	+2.0
	comp=Z,1μm,1.0s,baz=121,slow=1.3,SNR=7.9					
GTA	Gaotai	22.86 74	⇓P	P	20 09 43.7	+1.9
GTA			S	S	20 13 36.6	+3.5
GTA			pmax	pmax		
	comp=Z,310nm,1.3s					
GTA			pmax	pmax		
	comp=Z,5μm,6.2s					
GTA			LR	LR		
	comp=Z,3μm,12.7s					
GTA			LR	LR		
	comp=Z,4μm,10.2s					
GTA			LR	LR		
	comp=Z,4μm,12.7s					
IMP	Imphal	22.88 114	*eP*	P	20 09 44.5	+2.4
IMP			IAmb	IAmb	20 09 48.7	
	comp=Z,243nm,0.8s					
SHAO	Shalim	22.91 220	P	P	20 09 43.7	+1.4
LKP	Lekhapani	22.96 107	*eP*	P	20 09 44.5	+1.8
DOK	Doka	23.23 224	P	P	20 09 46.2	+1.0
	SNR=110					
DOK			P	P	20 09 46.2	+1.0
	SNR=110					
DMTO	DMTO	23.52 221	P	P	20 09 48.6	+0.8
	SNR=33					
WHFO	Wadi Hawf	24.00 224	P	P	20 09 52.8	+0.6
	SNR=72					
WHFO			P	P	20 09 52.8	+0.6
	SNR=72					
RBK	Rabkut	24.09 222	P	P	20 09 53.7	+0.6
	SNR=55					
RBK			P	P	20 09 53.7	+0.6
	SNR=55					
MARD	Mardin	24.11 281	P	P	20 09 54.2	+0.9
ABTO	Aybut	24.71 224	P	P	20 09 59.4	+0.6
	SNR=146					
ABTO			P	P	20 09 59.4	+0.6
	SNR=146					
SOC	Sochi	24.84 296	*i* P	P	20 09 57.1	-2.4
SOC			*e**PP	pP	20 10 44.5	-0.4
SOC			*e**SP	sP	20 11 14.2	-0.2
SOC			*eS*	S	20 14 00.8	-3.3
SOC			*e**SS	sS	20 15 26.7	-2.5
SOC			pmax	pmax		
	comp=Z,92nm,1.3s					
VRH	Novokhopyorsk	25.46 314	*eP*	P	20 10 05.4	+0.4
VRH			*e**PP	pP	20 10 52.8	+1.3
VRH			pmax	pmax		
	comp=Z,280nm,1.2s					
RAYN	Ar Rayn	25.51 246	P	P	20 10 06.8	+0.9
RAYN			pmax	pmax		
	comp=Z,823nm,1.2s					
RAYN	Ar Rayn	25.51 246	P	P	20 10 06.4	+0.6
RAYN			S	S	20 14 19.8	+4.4
RAYN	Ar Rayn	25.51 246	P	P	20 10 06.8	+0.9
RAYN	Ar Rayn	25.51 246	P	P	20 10 06.2	+0.3
RAYN			pP	pP	20 10 53.2	+0.2
RAYN	Ar Rayn	25.51 246	*i* P	P	20 10 06.5	+0.6
	SNR=61					
MOY	Mondy	26.07 45	*eP*	P	20 10 12.4	+1.7
MOY			*e*		20 11 02.2	
MOY			pmax	pmax		
	comp=Z,453nm,1.9s					
KIRV	Kirov	26.18 334	P	P	20 10 12.8	+1.5
	comp=Z,178nm,0.6s,baz=138,slow=3.5,SNR=90					
KIRV			pP	pP	20 11 01.1	+2.2
	comp=Z,114nm,0.6s,baz=139,slow=10,SNR=7.3					
KIRV	Kirov	26.18 334	*c i* P	P	20 10 12.6	+1.2
LZH	Lanzhou	26.41 81	⇓P	P	20 10 16.0	+2.1
LZH			pP	pP	20 11 03.6	+1.1
LZH			sP	sP	20 11 30.7	+0.1
LZH			S	S	20 14 32.5	+3.1
LZH			SS	SS	20 16 03.0	-28
LZH			ScP	ScP	20 16 48.6	-0.9
LZH			ScS	ScS	20 20 38.4	-1.9
LZH			pmax	pmax		
	comp=Z,140nm,1.1s					
LZH			pmax	pmax		
	comp=Z,2μm,4.5s					
VORD	Divnogorie	26.79 313	*eP*	P	20 10 17.2	+0.3
VORD			*e**PP	pP	20 11 00.8	-3.5
VORD			pmax	pmax		
	comp=Z,100nm,1.0s					
GAZ	Gaziantep	26.95 282	P	P	20 10 18.5	-0.2
VSR	Storozhevoye	26.95 313	*eP*	P	20 10 18.4	0.0
VSR			*e**PP	pP	20 11 03.5	-2.2
VSR			pmax	pmax		
	comp=Z,340nm,1.3s					
ZAK	Zakamensk	26.96 49	*eP*	P	20 10 19.5	+0.9
ZAK			pmax	pmax		
	comp=Z,210nm,1.2s					
VORR	Voronezh	27.09 314	*eP*	P	20 10 20.2	+0.6
VORR			pmax	pmax		
	comp=Z,774nm,2.0s					
TOKA	Tokat	27.19 289	P	P	20 10 21.9	+1.3
TOKA				pP	20 11 06.6	-1.3
TOKA			IAmb	IAmb	20 11 14.5	
	comp=Z,200nm,1.0s					
LPSR	Galich'ya Gora	27.60 316	*eP*	P	20 10 24.9	+0.8
LPSR			*e**PP	pP	20 11 11.6	+0.1
LPSR			pmax	pmax		
	comp=Z,240nm,0.8s					
CD2	Chengdu	27.74 92	P	P	20 10 27.5	+1.8
CD2			pP	pP	20 11 15.4	+1.4
CD2			sP	sP	20 11 42.3	+0.1
CD2			S	S	20 14 53.7	+3.4
CD2			sS	sS	20 16 19.8	+2.7
CD2			pmax	pmax		
	comp=Z,440nm,1.1s					
CD2			pmax	pmax		
	comp=Z,940nm,4.7s					
CD2			LR	LR		
	comp=Z,950nm,9.0s					
CD2			LR	LR		
	comp=Z,1μm,9.6s					
BNN	Bunyan	27.80 285	P	P	20 10 27.0	+0.8
BNN			pP	pP	20 11 12.8	-0.7
PZH	PanZhiHua	27.96 102	⇓P	P	20 10 29.4	+1.6
PZH			pP	pP	20 11 16.0	-0.2
PZH			sP	sP	20 11 45.8	+1.3
PZH			S	S	20 14 54.8	+0.9
PZH			SS	ScP	20 16 45.2	-9.1
PZH			ScP	SS	20 16 52.5	-11
PZH			PcS	PcS	20 17 18.3	-0.8
PZH			ScS	ScS	20 20 42.9	-4.5
PZH			pmax	pmax		
	comp=Z,120nm,1.4s					
PZH			pmax	pmax		
	comp=Z,1μm,4.1s					
SNOP	Sinop	28.09 292	P	P	20 10 28.8	+0.2
SNOP				pP	20 11 14.5	-1.5
IRK	Irkutsk	28.17 46	*eP*	P	20 10 30.2	+1.0
IRK			*e*		20 11 21.1	
IRK			pmax	pmax		
	comp=Z,475nm,1.4s					
SONM	Songino Array	28.31 55	P	P	20 10 32.3	+1.7
	comp=Z,100nm,1.0s,baz=256,slow=9.4,SNR=463					
SONM			pP	pP	20 11 21.2	+2.0
	comp=Z,77nm,1.1s,baz=255,slow=7.6,SNR=11					
SONM			sP	PP	20 11 43.5	+3.9
	comp=Z,130nm,1.1s,baz=265,slow=9.0,SNR=10					
SONM			P3KPbc		20 42 45.4	
	comp=Z,3.4nm,1.0s,baz=87,slow=4.2,SNR=16					
SONM	Songino Array	28.31 55	P	P	20 10 31.6	+1.0
SONM			IAmb	IAmb	20 10 33.8	
	comp=Z,216nm,1.2s					
SONM			pP	pP	20 11 19.6	+0.4
SONM				PP	20 11 40.3	+0.7
ASF	Jabal al Asfar	28.39 271	P	P	20 10 33.6	+2.1
	comp=Z,76nm,1.1s,baz=82,slow=2.4,SNR=85					
ASF			pP	pP	20 11 21.3	+2.2
	comp=Z,98nm,1.0s,baz=76,slow=5.0,SNR=13					
HWQ	Hawqa	28.56 276	*eP*	P	20 10 35.1	+2.1
SOCY	Socotra	28.69 217	P	P	20 10 32.9	-1.4
SOCY			IAmb	IAmb	20 10 34.8	
	comp=Z,168nm,0.9s					
ULN	Ulaanbaatar	28.75 56	*d i* P	P	20 10 35.9	+1.4
ULN			pmax	pmax		
	comp=Z,297nm,1.7s					
ULN	Ulaanbaatar	28.75 56	P	P	20 10 35.7	+1.1
ULN	Ulaanbaatar	28.75 56	P	P	20 10 35.5	+1.0

ULN			PP	**PP**	**20 11 44.4 -0.1**
ULN	**Ulaanbaatar**	**28.75 56**	P	**P**	**20 10 36.1 +1.6**
ULN			pP	**pP**	**20 11 24.0 +0.7**
RCY	**Rachaya**	**28.85 274**	*e*P	**P**	**20 10 37.8 +2.1**
BHL	**Bhannes**	**28.89 275**	*e*P	**P**	**20 10 38.0 +2.2**
SHBL	**Chebaa**	**28.97 274**	*e*P	**P**	**20 10 38.8 +2.1**
BZK	**Bozkurt**	**28.98 292**	⇑P	**P**	**20 10 38.2 +1.7**
BZK	**Bozkurt**	**28.98 292**	P	**P**	**20 10 37.5 +1.1**
DQRL	**Deir Qamar**	**29.01 275**	*e*P	**P**	**20 10 39.2 +2.3**
ILGA	**Ilgaz**	**29.24 290**	P	**P**	**20 10 40.2 +1.2**
ILGA				**pP**	**20 11 23.5 -3.2**
MMAI	**Mount Meron Ar**	**29.34 274**	P	**P**	**20 10 42.0 +2.2**
	comp=Z,66nm,0.9s,baz=79,slow=10,SNR=114				
MMAI			pP	**pP**	**20 11 29.8 +2.2**
	comp=Z,19nm,1.1s,baz=100,slow=7.8,SNR=3.6				
MMAI			PcP	**PcP**	**20 13 40.2 +0.4**
	comp=Z,4.7nm,0.4s,baz=71,slow=8.9,SNR=5.1				
MMAI			ScP	**ScP**	**20 16 58.0 -0.4**
	comp=Z,16nm,0.9s,baz=48,slow=5.0,SNR=9.1				
BR131	**Keskin Array S**	**29.41 288***c*	*i*P	**P**	**20 10 41.2 +0.8**
BR131	**Keskin Array S**	**29.41 288**	P	**P**	**20 10 41.0 +0.6**
BR131				**pP**	**20 11 24.8 -3.3**
BRTR	**Keskin Array B**	**29.41 288**	P	**P**	**20 10 41.8 +1.3**
	comp=Z,72nm,0.8s,baz=106,slow=7.1,SNR=104				
BRTR			pP	**pP**	**20 11 28.9 +0.8**
	comp=Z,44nm,0.8s,baz=106,slow=8.8,SNR=11				
BRTR	**Keskin Array B**	**29.41 288**	P	**P**	**20 10 41.0 +0.6**
BRTR			pP	**pP**	**20 11 24.8 -3.3**
KMI	**Kunming**	**29.42 104**	⇓P	**P**	**20 10 41.8 +1.0**
KMI			pP	pP	20 11 26.9 -2.5
KMI			PP	**PP**	**20 11 50.3 -2.0**
KMI			sP	sP	20 11 53.4 -4.1
KMI			PcP	**PcP**	**20 13 42.1 +1.8**
KMI			S	**S**	**20 15 17.8 +0.8**
KMI			sS	sS	20 16 46.5 +2.5
KMI			ScP	**ScP**	**20 16 57.7 -1.3**
KMI			pmax	pmax	
	comp=Z,97nm,1.6s				
KMI			pmax	pmax	
	comp=Z,1μm,3.5s				
KMI			LR	LR	
	comp=Z,760nm,13.7s				
KMI			LR	LR	
	comp=Z,550nm,10.5s				
KMI			LR	LR	
	comp=Z,660nm,11.1s				
KMI	**Kunming**	**29.42 104**	P	**P**	**20 10 41.6 +0.9**
MOS	**Moscow**	**29.61 321**	*e*P	**P**	**20 10 40.9 -0.9**
MOS			*e**PP	**pP**	**20 11 28.8 -0.8**
MOS			*e*		20 13 39.2
MOS			*e*S	**S**	**20 15 18.3 -0.5**
MOS			pmax	pmax	
	comp=Z,2μm,2.4s				
MOS			pmax	pmax	
	comp=Z,532nm,1.2s				
MOS			pmax	pmax	
	comp=N,200nm,1.1s				
MOS			pmax	pmax	
	comp=E,274nm,1.1s				
MOS			pmax	pmax	
	comp=E,300nm,1.1s				
MOS			pmax	pmax	
	comp=N,126nm,0.9s				
MOS			smax	smax	
	comp=N,900nm,2.3s				
PRGR	**Permogore**	**29.71 336**	*e*P	**P**	**20 10 43.8 +1.2**
PRGR			pmax	pmax	
	comp=Z,932nm,1.4s				
GHAJ	**Ghor Haditha**	**29.74 270**	P	**P**	**20 10 44.5 +1.2**
GHAJ			pP	**pP**	**20 11 30.9 -0.2**
OBN	**Obninsk**	**29.89 319**	P	**P**	**20 10 45.3 +1.0**
	comp=Z,25nm,0.4s,baz=60,slow=2.5,SNR=82				
OBN			pP	**pP**	**20 11 32.3 +0.1**
	comp=Z,8.0nm,0.4s,baz=57,slow=6.0,SNR=6.7				
OBN	**Obninsk**	**29.89 319***c*	*i*P	**P**	**20 10 45.1 +0.9**
OBN			*e**PP	**pP**	**20 11 32.2 +0.1**
OBN			*i* S	**S**	**20 15 22.4 -0.7**
OBN			pmax	pmax	
	comp=Z,790nm,1.7s				
OBN	**Obninsk**	**29.89 319**	PP	PP	20 11 55.4 -1.4
OBN	**Obninsk**	**29.89 319**	P	**P**	**20 10 45.2 +1.0**
OBN	**Obninsk**	**29.89 319**	P	**P**	**20 10 44.9 +0.7**
OBN			pP	**pP**	**20 11 31.5 -0.7**
ANTO	**Ankara**	**30.04 288**	P	**P**	**20 10 46.9 +1.0**
ANTO			*PP	**pP**	**20 11 30.9 -2.8**
ANTO			pmax	pmax	
	comp=Z,334nm,1.4s				
ANTO	**Ankara**	**30.04 288**	P	**P**	**20 10 46.9 +1.0**
ANTO				**pP**	**20 11 30.9 -2.8**
BR231	**Keskin MP Arra**	**30.06 288**	P	**P**	**20 10 47.3 +1.2**
BR231			IAmb	IAmb	20 10 49.4
	comp=Z,268nm,1.4s				
CHTO	**Chiang Mai**	**30.26 118**	P	**P**	**20 10 47.8 -0.1**
CHTO			*PP	**pP**	**20 11 35.4 -1.5**
CHTO			pmax	pmax	
	comp=Z,120nm,1.0s				
CHTO	**Chiang Mai**	**30.26 118**	P	**P**	**20 10 48.0 +0.1**
CHTO			P	**P**	**20 10 48.0 +0.1**
CHTO	**Chiang Mai**	**30.26 118**	P	**P**	**20 10 47.8 -0.1**
CHTO			IAmb	IAmb	20 10 52.3
	comp=Z,120nm,1.0s				
CHTO			pP	**pP**	**20 11 35.4 -1.5**
CHTO	**Chiang Mai**	**30.26 118**	P	**P**	**20 10 50.3 +2.4**
CHTO	**Chiang Mai**	**30.26 118**	P	**P**	**20 10 48.2 +0.3**
CHTO			pP	**pP**	**20 11 40.1 +3.2**
PALK	**Pallekele**	**30.47 161**	P	**P**	**20 10 51.9 +2.0**
	comp=Z,82nm,0.7s,baz=90,slow=10,SNR=45				
PALK	**Pallekele**	**30.47 161**	P	**P**	**20 10 51.2 +1.4**
PALK			IAmb	IAmb	20 10 52.9
	comp=Z,87nm,0.7s				
CSS	**Mathiatis**	**30.48 278**	P	**P**	**20 10 49.3 -0.4**
CSS			PP	**PnPn**	**20 12 01.1 +0.8**
DGPR	**DIGLIPUR**	**30.49 134**	⇓*i*P	**P**	**20 10 52.2 +2.3**
DGPR			IAmb	IAmb	20 10 56.1
	comp=Z,233nm,0.4s				
CM31	**Chiang Mai Arr**	**30.49 119**	P	**P**	**20 10 50.7 +0.7**
CM31			pP	**pP**	**20 11 36.5 -2.3**
CMAR	**Chiang Mai Arr**	**30.49 119**	P	**P**	**20 10 51.0 +1.0**
	comp=Z,131nm,0.9s,baz=296,slow=7.3,SNR=424				
CMAR			pP	**pP**	**20 11 38.4 -0.4**
	comp=Z,24nm,0.8s,baz=312,slow=9.3,SNR=4.2				
CMAR			ScP	**ScP**	**20 17 00.9 -1.4**
	comp=Z,14nm,0.9s,baz=296,slow=4.4,SNR=10				
CMAR			P3KPbc		20 42 38.5
	comp=Z,1.2nm,0.8s,baz=155,slow=3.3,SNR=13				
CMAR	**Chiang Mai Arr**	**30.49 119**	P	**P**	**20 10 50.7 +0.7**
LEF	**Lefka**	**30.79 279**	⇑P	**P**	**20 10 53.5 +1.1**
EIL	**Elat**	**30.83 268**	P	**P**	**20 10 54.1 +1.3**
	comp=Z,177nm,1.0s,baz=101,slow=4.1,SNR=88				
XAN	**Xi'an**	**30.93 83**	P	**P**	**20 10 54.6 +0.8**
XAN			pP	pP	20 11 45.6 +2.8
XAN			PP	**sP**	**20 12 12.6 +1.6**
XAN			S	**S**	**20 15 40.1 0.0**
XAN			ScS	**ScS**	**20 20 56.1 -5.0**
XAN			pmax	pmax	
	comp=Z,250nm,1.2s				
XAN			pmax	pmax	
	comp=Z,1μm,6.1s				
XAN			LR	LR	
	comp=Z,2μm,11.2s				
XAN			LR	LR	
	comp=Z,910nm,9.0s				
XAN			LR	LR	
	comp=Z,1μm,9.4s				
XAN	**Xi'an**	**30.93 83**	P	**P**	**20 10 54.0 +0.2**
MDUB	**Mudurnu**	**31.20 290**	P	**P**	**20 10 57.1 +1.0**
KLMR	**Klimovskoe**	**31.42 331**	*e*P	**P**	**20 10 54.4 -3.2**
KLMR			pmax	pmax	
	comp=Z,547nm,1.4s				
KLMR	**Klimovskoe**	**31.42 331**	*e*P	**P**	**20 10 54.5 -3.2**
KLMR			AMP		20 11 00.3
	comp=Z,547nm,1.4s				
KLMR			*es*S	sS	20 17 03.1 -11
KLMR			*es*S	sS	20 17 03.1 -11
PBA	**Port Blair**	**31.61 136**	⇓*i*P	**P**	**20 11 01.7 +2.0**
HHC	**Hu-ho-hao-te**	**31.75 70**	*e*P	**P**	**20 11 02.6 +1.7**
HHC			pP	pP	20 11 51.6 +1.4
HHC			sP	sP	20 12 18.2 -0.2
HHC			S	**S**	**20 15 53.8 +1.0**
HHC			SS	**SS**	**20 18 07.4 -7.1**
HHC			pmax	pmax	
	comp=Z,140nm,1.1s				
HHC			pmax	pmax	
	comp=Z,1μm,5.3s				
GYA	**Guiyang**	**31.88 98**	⇓*i*P	**P**	**20 11 03.4 +1.2**
GYA			sP	sP	20 12 22.4 +2.8
GYA			PcP	**PcP**	**20 13 51.4 +4.7**
GYA			S	**S**	**20 15 55.1 0.0**
GYA			ScP	**ScP**	**20 17 05.6 -1.4**
GYA			ScS	**ScS**	**20 21 02.4 -3.9**
GYA			pmax	pmax	
	comp=Z,350nm,1.2s				
GYA			pmax	pmax	
	comp=Z,2μm,3.5s				
GYA			LR	LR	
	comp=Z,460nm,10.3s				
GYA			LR	LR	
	comp=Z,650nm,11.3s				
GYA			LR	LR	
	comp=Z,570nm,9.5s				
PURM	**Purcari**	**32.02 301**	⇓P	**P**	**20 11 04.5 +1.4**
ISP	**Isparta**	**32.09 285**	P	**P**	**20 11 04.6 +0.7**
ISP			pmax	pmax	
	comp=Z,172nm,1.3s				
ISP	**Isparta**	**32.09 285**	P	**P**	**20 11 04.6 +0.7**
ISP			IAmb	IAmb	20 11 06.3
	comp=Z,172nm,1.3s				
SLVN	**Son La**	**32.37 109**	P	**P**	**20 11 07.4 +1.0**
ENH	**Enshi**	**32.58 90**	P	**P**	**20 11 09.3 +1.1**
ENH	**Enshi**	**32.58 90**	P	**P**	**20 11 09.6 +1.4**
KIS	**Kishinev**	**32.77 302**	⇑*i*P	**P**	**20 11 10.0 +0.4**
	comp=Z,100nm,0.4s				
KIS			*i* pP	**pP**	**20 11 58.0 +0.2**
KIS	**Kishinev**	**32.77 302**	*i* PP	PP	20 12 25.0 -3.9
KIS	**Kishinev**	**32.77 302**	*e*PcP	**PcP**	**20 13 55.0 +6.3**
KIS			*e*S	**S**	**20 16 10.0 +1.8**
	comp=Z,270nm,1.6s				
KIS			*es*SS	**SS**	**20 18 34.0 -1.8**
KIS	**Kishinev**	**32.77 302***c*	*i*P	**P**	**20 11 10.0 +0.4**
KIS			*i* *PP	**pP**	**20 11 58.0 +0.2**
KIS			*i*		20 12 25.0
KIS			*e*		20 13 55.0
KIS			*e*S	**S**	**20 16 10.0 +1.8**
KIS			*es*SS	**SS**	**20 18 34.0 -1.8**
KIS			pmax	pmax	
	comp=Z,100nm,0.4s				
KIS			pmax	pmax	
	comp=E,500nm,2.5s				
KIS			smax	smax	
	comp=E,270nm,1.6s				
MILM	**Milestii Mici**	**32.77 302**	⇑*i*P	**P**	**20 11 10.0 +0.4**
	comp=E,960nm,1.8s				
MILM			*i* pP	**pP**	**20 11 58.0 +0.2**
MILM	**Milestii Mici**	**32.77 302**	*e*PcP	PcP	20 14 00.0 +11
MILM			*e*S	**S**	**20 16 10.0 +1.8**
MILM			*es*S	sS	20 17 32.0 -3.8
MILM	**Milestii Mici**	**32.77 302**	⇓P	**P**	**20 11 10.6 +1.0**
MILM	**Milestii Mici**	**32.77 302***c*	*i*P	**P**	**20 11 10.0 +0.4**
MILM			*i* *PP	**pP**	**20 11 58.0 +0.2**
MILM			*i*		20 12 25.0
MILM			*e*S	**S**	**20 16 10.0 +1.8**
MILM			pmax	pmax	
	comp=Z,1μm,1.8s				
MILM			pmax	pmax	
	comp=E,700nm,2.0s				
ELL	**Elmali**	**32.78 283**	P	**P**	**20 11 10.8 +0.9**
ELL			*PP	**pP**	**20 11 57.9 -0.2**
ELL	**Elmali**	**32.78 283**	P	**P**	**20 11 10.8 +0.9**
ELL			pP	**pP**	**20 11 57.9 -0.2**
TIY	**Taiyuan**	**32.87 75**	⇓P	**P**	**20 11 12.3 +1.7**
TIY			pP	**pP**	**20 12 02.8 +2.6**
TIY			sP	**PP**	**20 12 29.7 -0.5**
TIY			S	**S**	**20 16 13.5 +3.4**
TIY			sS	**sS**	**20 17 32.5 -5.2**
TIY			pmax	pmax	
	comp=E,100nm,1.6s				
AKASG	**Malin Array Be**	**32.90 309**	P	**P**	**20 11 11.0 +0.4**
	comp=E,35nm,0.6s,baz=89,slow=7.3,SNR=361				
AKASG			pP	**pP**	**20 11 59.1 +0.3**
	comp=E,81nm,0.9s,baz=88,slow=7.3,SNR=15				
AKASG			ScP	**ScP**	**20 17 08.2 -1.7**
	comp=E,4.4nm,0.8s,baz=81,slow=3.0,SNR=4.4				
AKASG	**Malin Array Be**	**32.90 309**	P	**P**	**20 11 10.7 0.0**
AKASG				**pP**	**20 11 58.9 0.0**
AKASG			PP	**PnPn**	**20 12 29.6 -0.2**
AKBB	**Malin Array Si**	**32.90 309***c*	*i*P	**P**	**20 11 10.9 +0.2**
AKBB	**Malin Array Si**	**32.90 309**	P	**P**	**20 11 10.8 +0.2**
AKBB			IAmb	IAmb	20 11 13.4
	comp=Z,181nm,1.0s				
AKBB			PP	**PnPn**	**20 12 29.3 -0.5**
TPGR	**Topolog**	**33.00 298**	⇓P	**P**	**20 11 12.7 +1.0**
TIRR	**Tirgusor**	**33.01 297**	P	**P**	**20 11 12.1 +0.4**
TIRR			pP	**pP**	**20 11 59.9 0.0**
TIRR			IAmb	IAmb	20 12 30.6
	comp=Z,232nm,1.1s				
AKAS	**Kas**	**33.13 282**	P	**P**	**20 11 12.7 -0.2**
SORM	**Soroca**	**33.16 304**	⇓P	**P**	**20 11 13.7 +0.7**
CFR	**Carcaliu**	**33.20 299**	⇑P	**P**	**20 11 14.4 +1.1**
PSN	**Preselentsi**	**33.20 296**	*i* P	**P**	**20 11 14.6 +1.3**
VLDR	**Vladesti**	**33.24 300**	⇑P	**P**	**20 11 15.3 +1.6**
TATR	**Tatarca**	**33.26 299**	⇑P	**P**	**20 11 15.3 +1.4**
SCTR	**Scanteiesti**	**33.30 299**	⇑P	**P**	**20 11 15.7 +1.6**
HARR	**Harsova**	**33.35 298**	⇑P	**P**	**20 11 16.2 +1.6**
VARL	**Varlezi**	**33.41 300**	⇑P	**P**	**20 11 16.8 +1.8**
KULA	**Kula-Manisa**	**33.41 286**	P	**P**	**20 11 15.9 +0.6**
ICOR	**Ion Corvin**	**33.46 297**	⇓P	**P**	**20 11 17.5 +1.9**
VASR	**Vaslui**	**33.46 301**	⇓P	**P**	**20 11 16.7 +1.1**
MQOL	**MQOL**	**33.53 251**	*i* P	**P**	**20 11 17.4 +1.0**
CIT	**Chita**	**33.62 49**	*e*P	**P**	**20 11 18.3 +1.4**
CIT			*e*		20 12 09.2
CIT			*e*		20 12 35.5
CIT			*e*		20 13 50.9
CIT			*e*		20 16 23.4
CIT			pmax	pmax	
	comp=Z,1μm,1.6s				
LYN	**LuoYang**	**33.62 81**	⇓*i*P	**P**	**20 11 19.1 +2.0**
LYN			pP	pP	20 12 05.1 -1.6
LYN			PP	**PP**	**20 12 37.9 -0.5**
LYN			S	**S**	**20 16 21.0 -0.6**
LYN			SS	**SS**	**20 18 47.9 -7.5**
LYN			pmax	pmax	
	comp=Z,2μm,1.4s				
LYN			pmax	pmax	
	comp=Z,790nm,4.9s				
GHRR		**33.72 300**	⇑P	**P**	**20 11 19.7 +2.0**
AMRR	**Amara**	**33.78 298**	⇑P	**P**	**20 11 20.2 +2.0**
NRIK	**Noril'sk**	**34.07 10**	P	**P**	**20 11 22.3 +1.9**
	comp=Z,220nm,0.8s,baz=198,slow=5.9,SNR=245				
NRIK	**Noril'sk**	**34.07 10***d*	*i*P	**P**	**20 11 22.0 +1.6**
NRIK			pmax	pmax	
	comp=Z,398nm,1.0s				
NRIK	**Noril'sk**	**34.07 10**	P	**P**	**20 11 21.8 +1.4**
VRI	**Vrincioaia**	**34.19 300**	⇓P	**P**	**20 11 23.7 +1.9**
PLOR	**Plostina**	**34.24 300**	⇓P	**P**	**20 11 24.2 +1.9**
PLOR			⇓P	**P**	**20 11 24.4 +2.1**
TESR	**Tescani**	**34.25 301**	⇑P	**P**	**20 11 23.6 +1.2**
ARG	**Arkhangelos**	**34.30 283**	P	**P**	**20 11 23.3 +0.5**
RAZG	**Razgrad**	**34.42 296**	⇓P	**P**	**20 11 25.3 +1.5**
MNK	**Minsk**	**34.45 315**	*i* P	**P**	**20 11 24.5 +0.6**
MNK			*i* *PP	**pP**	**20 12 11.2 -1.3**
MNK			*i* *SP	**sP**	**20 12 37.9 -2.2**
MNK			*i*		20 12 47.4
MNK			*i*		20 13 53.5
MNK			*i* S	**S**	**20 16 36.6 +2.8**
MNK			*i* *SS	**sS**	**20 18 00.7 -1.1**
MNK			*i* SS	**SS**	**20 19 10.7 -2.8**
MNK			pmax	pmax	
	comp=N,28nm,1.0s				
MNK			pmax	pmax	
	comp=E,21nm,1.0s				
MNK			pmax	pmax	
	comp=Z,179nm,1.0s				
MNK			MLR	MLR	
	comp=N,712nm,18.0s				
MNK			MLR	MLR	
	comp=Z,1μm,18.0s				
MNK			MLR	MLR	
	comp=E,127nm,18.0s				
MNK	**Minsk**	**34.45 315**	*i* P	**P**	**20 11 24.5 +0.6**
	comp=E,21nm,1.0s				
MNK			*i* P	**P**	**20 11 24.5 +0.6**
	comp=N,28nm,1.0s				
MNK			*i* P	**P**	**20 11 24.5 +0.6**
	comp=Z,179nm,1.0s,baz=103				
MNK			*i* pP	**pP**	**20 12 11.3 -1.2**
MNK			*i* sP	**sP**	**20 12 38.0 -2.2**
MNK			*i* PP	**PP**	**20 12 47.5 +0.3**
MNK			*i* S	**S**	**20 16 36.6 +2.8**
MNK			*i* sS	**sS**	**20 18 00.7 -1.1**
MNK			*i* SS	**SS**	**20 19 10.8 -2.7**
MNK			*i* LRM	MLR	20 28 09.5
	comp=N,712nm,18.4s				
MNK			*i* LRM	MLR	20 28 29.5
	comp=Z,1μm,18.4s				
MNK			*i* LRM	MLR	20 28 32.2
	comp=E,127nm,18.4s				
JMB	**Yambol**	**34.46 294**	*i* P	**P**	**20 11 25.1 +1.0**
SULR		**34.55 298**	⇑P	**P**	**20 11 27.1 +2.2**
PRAR	**RASCA**	**34.55 302**	⇑P	**P**	**20 11 26.3 +1.4**
HNS	**HongShan**	**34.70 75**	⇓P	**P**	**20 11 28.0 +1.7**
HNS			pP	**pP**	**20 12 18.3 +2.1**
HNS			sP	**sP**	**20 12 44.6 +0.5**
HNS			PP	**PP**	**20 12 56.9 +6.6**
HNS			S	**S**	**20 16 42.2 +4.1**
HNS			ScP	**ScP**	**20 17 11.6 -5.0**
HNS			SS	**SS**	**20 19 10.4 -8.9**
HNS			ScS	**ScS**	**20 21 18.0 -2.4**
HNS			pmax	pmax	
	comp=E,91nm,1.3s				
HNS			pmax	pmax	
	comp=E,960nm,6.4s				
MLR	**Muntele Rosu**	**34.74 299**	⇑P	**P**	**20 11 29.2 +2.5**
MLR	**Muntele Rosu**	**34.74 299**	P	**P**	**20 11 29.2 +2.5**
	comp=E,227nm,1.1s,baz=79,slow=2.8,SNR=126				
MLR			pP	**pP**	**20 12 17.6 +2.2**
	comp=E,150nm,0.9s,baz=47,slow=3.3,SNR=12				
MLR			sP	**sP**	**20 12 44.9 +2.0**
	comp=E,77nm,0.9s,baz=99,slow=7.5,SNR=4.5				
MLR	**Muntele Rosu**	**34.74 299**	P	**P**	**20 11 28.2 +1.5**
MLR			pP	**pP**	**20 12 14.0 -1.5**
OZUR		**34.84 300**	⇑P	**P**	**20 11 29.0 +1.5**
XLT	**XiLinHaoTe**	**34.84 64**	⇓*i*P	**P**	**20 11 29.4 +1.8**
XLT			pP	pP	20 12 19.4 +2.1
XLT			sP	sP	20 12 48.1 +2.5
XLT			PP	**PnPn**	**20 12 56.4 +2.9**
XLT			S	**S**	**20 16 43.8 +3.5**
XLT			ScP	**ScP**	**20 17 16.0 -1.1**
XLT			sS	sS	20 18 04.4 -4.0
XLT			pmax	pmax	
	comp=E,110nm,1.5s				
XLT			pmax	pmax	
	comp=E,2μm,3.9s				
XLT			LR	LR	
	comp=E,2μm,7.3s				
XLT			LR	LR	
	comp=E,1μm,6.2s				
XLT			LR	LR	
	comp=E,1μm,8.0s				
PUL	**Pulkovo**	**34.86 325***c*	*i*P	**P**	**20 11 28.4 +1.1**
PUL			pmax	pmax	
	comp=Z,655nm,1.7s				
SZH	**Strazhica**	**34.86 295**	*i* P	**P**	**20 11 28.7 +1.1**
EZN	**Ezine**	**34.98 289**	P	**P**	**20 11 28.6 0.0**
ALN	**Alexandroupoli**	**35.03 291**	P	**P**	**20 11 30.3 +1.2**
ALN			pP	**pP**	**20 12 20.5 +2.9**
ALN			IAmb	IAmb	20 12 23.3
	comp=Z,184nm,1.2s				
PRK	**Paraskevi**	**35.12 288**	P	**P**	**20 11 31.0 +1.2**
DOPR	**Dopca**	**35.12 300**	⇓P	**P**	**20 11 31.5 +1.7**
NACGM	**Naroch**	**35.16 316**	*i* P	**P**	**20 11 30.7 +0.8**
PVL	**Pavlikeni**	**35.30 295**	*i* P	**P**	**20 11 33.8 +2.5**
BOD	**Bodaibo**	**35.31 39**	*e*P	**P**	**20 11 31.8 +0.6**
BOD			pmax	pmax	
	comp=Z,351nm,1.6s				
COPA	**Copaceanca**	**35.32 297**	⇓P	**P**	**20 11 33.2 +1.7**
BJT	**Baijiatuau**	**35.34 70**	P	**P**	**20 11 32.5 +0.8**
BJT				**pP**	**20 12 24.0 +2.2**
BJT	**Baijiatuau**	**35.34 70**	P	**P**	**20 11 33.4 +1.7**
BJT			pP	**pP**	**20 12 23.0 +1.2**
BJI	**Beijing**	**35.34 70**	P	**P**	**20 11 33.4 +1.7**
BJI			pP	**pP**	**20 12 24.1 +2.3**
BJI			sP	**sP**	**20 12 51.8 +2.0**
BJI			S	**S**	**20 16 49.8 +2.0**
BJI			ScP	**ScP**	**20 17 17.9 -1.0**
BJI			PcS	**PcS**	**20 17 40.6 -2.9**
BJI			sS	**sS**	**20 18 14.4 -1.6**
BJI			ScS	**ScS**	**20 21 23.0 -0.8**
BJI			pmax	pmax	
	comp=Z,69nm,1.1s				
BJI			pmax	pmax	
	comp=Z,940nm,3.4s				
BJI			LR	LR	
	comp=Z,1μm,7.6s				
BJI			LR	LR	
	comp=Z,810nm,12.2s				
BJI			LR	LR	
	comp=Z,2μm,8.5s				
MTUR	**Matau**	**35.37 299**	⇓P	**P**	**20 11 33.9 +1.8**
GULI	**GuiLin**	**35.38 97**	⇓P	**P**	**20 11 33.5 +1.3**
GULI			S	**S**	**20 16 50.3 +1.7**
GULI			pmax	pmax	
	comp=Z,320nm,1.3s				
GULI			LR	LR	
	comp=Z,540nm,9.8s				
GULI			LR	LR	
	comp=Z,410nm,9.8s				
GULI			LR	LR	
	comp=Z,670nm,13.6s				
VOIR		**35.38 299**	⇑P	**P**	**20 11 33.4 +1.4**
RDO	**Rodhopi**	**35.38 292**	P	**P**	**20 11 32.7 +0.7**
HUMR	**Humele**	**35.47 298**	⇑P	**P**	**20 11 34.2 +1.5**
SMTH	**Samothraki Isl**	**35.48 290**	P	**P**	**20 11 32.6 -0.3**
ATD	**Arta Tunnel**	**35.55 233**	P	**P**	**20 11 36.2 +2.4**
	comp=Z,334nm,1.0s,baz=11,slow=5.9,SNR=53				
ATD			ScP	**ScP**	**20 17 20.0 -0.1**
	comp=Z,30nm,1.0s,baz=91,slow=5.8,SNR=5.4				
ATD	**Arta Tunnel**	**35.55 233**	*i* P	**P**	**20 11 36.5 +2.7**
ATD	**Arta Tunnel**	**35.55 233**	*e*P	**P**	**20 11 34.4 +0.6**
ATD			*i* P	**P**	**20 11 35.0 +1.2**
ATD	**Arta Tunnel**	**35.55 233**	P	**P**	**20 11 35.9 +2.1**
ATD	**Arta Tunnel**	**35.55 233**	P	**P**	**20 11 36.2 +2.4**
ATD	**Arta Tunnel**	**35.55 233**	*i* P	**P**	**20 11 35.0 +1.2**
ARR	**Arges**	**35.67 299**	⇓P	**P**	**20 11 36.0 +1.5**
ARCR	**ARCALIA**	**35.83 302**	⇑P	**P**	**20 11 38.0 +2.3**
VLAD	**Vladila**	**35.91 297**	⇑P	**P**	**20 11 37.7 +1.2**
KAAM	**Kaadhehdhoo**	**35.94 177**	P	**P**	**20 11 38.1 +1.2**
KAAM			IAmb	IAmb	20 11 40.0
	comp=Z,106nm,0.8s				
ZKR	**Zakros**	**36.08 281**	P	**P**	**20 11 38.9 +0.9**
LVV	**L'vov**	**36.12 307**	*e*P	**P**	**20 11 39.1 +0.9**
LVV			*e*S	**S**	**20 17 00.1 +0.7**
VSU	**Vasula**	**36.13 322***c*	*i*P	**P**	**20 11 38.8 +0.6**
VSU			pmax	pmax	
	comp=Z,445nm,1.0s				
VSU	**Vasula**	**36.13 322**	*e*P	**P**	**20 11 38.7 +0.6**
STIA	**Sitia Lasithi**	**36.16 282**	P	**P**	**20 11 39.7 +1.0**
CNSH	**ChangSha**	**36.17 91**	⇓P	**P**	**20 11 39.7 +0.9**
CNSH			pP	**pP**	**20 12 24.8 -4.0**
CNSH			PP	**PnPn**	**20 13 09.5 +0.1**
CNSH			S	**S**	**20 17 01.2 +0.6**
CNSH			pmax	pmax	
	comp=Z,130nm,1.5s				
CNSH			LR	LR	
	comp=Z,730nm,19.0s				
CNSH			LR	LR	
	comp=Z,1μm,18.0s				
LOT	**Lotru**	**36.27 299**	⇓P	**P**	**20 11 41.0 +1.3**
THR8	**Santorini-Mono**	**36.33 284**	P	**P**	**20 11 41.2 +1.1**
CJR	**Cluj-Napoca**	**36.35 301**	⇓P	**P**	**20 11 42.3 +2.1**
WHN	**Wuhan**	**36.40 87**	⇓P	**P**	**20 11 41.5 +0.7**
WHN			pP	**pP**	**20 12 30.4 -0.4**
WHN			sP	**sP**	**20 12 57.5 -1.5**
WHN			S	**S**	**20 17 07.1 +3.1**
WHN			pmax	pmax	
	comp=Z,1μm,1.7s				
WHN			pmax	pmax	
	comp=Z,2μm,5.4s				
WHN			LR	LR	
	comp=Z,2μm,10.4s				
WHN			LR	LR	
	comp=Z,2μm,16.1s				
WHN			LR	LR	
	comp=Z,5μm,19.8s				
BMR	**Baia Mare**	**36.41 303**	⇑P	**P**	**20 11 42.6 +2.0**
NPS	**Neapolis**	**36.52 282**	P	**P**	**20 11 42.2 +0.5**
TEND	**Ethiopian Broa**	**36.56 235**	*i* P	**P**	**20 11 44.9 +

KARY	**Karystos**	**36.76 287**	P	**P**	**20 11 44.1 +0.3**
SRS	**Serrai**	**36.84 292**	P	**P**	**20 11 44.6 +0.2**
TIA	**Tai'an**	**36.86 76**	⇓P	**P**	**20 11 46.2 +1.5**
TIA			pP	**pP**	**20 12 37.5 +2.6**
TIA			S	**S**	**20 17 05.8 -5.2**
TIA			pmax	pmax	
	comp=Z,140nm,1.3s				
TIA			pmax	pmax	
	comp=Z,1μm,3.9s				
TIA			LR	LR	
	comp=Z,590nm,12.4s				
TIA			LR	LR	
	comp=Z,730nm,11.8s				
TIA			LR	LR	
	comp=Z,1μm,12.0s				
PABE	**Paberze**	**36.87 316**	*e*P	**P**	**20 11 45.3 +1.0**
VTS	**Vitosha**	**36.90 294**	⇑P	**P**	**20 11 46.6 +1.6**
VTS	**Vitosha**	**36.90 294**	*e*P	**P**	**20 11 46.4 +1.3**
KSTL	**Kastelli Herak**	**36.93 282**	P	**P**	**20 11 44.9 -0.3**
PUNG	**Punghina**	**36.95 297**	⇑P	**P**	**20 11 46.3 +1.1**
DRGR		**36.96 301**	⇑P	**P**	**20 11 47.0 +1.6**
KWP	**Kalwaria Pacla**	**36.97 306**	*e*P	**P**	**20 11 46.7 +1.3**
KWP			*e*pP	**pP**	**20 12 35.9 +1.4**
KWP	**Kalwaria Pacla**	**36.97 306**	P	**P**	**20 11 46.4 +1.0**
KWP			*PP	**pP**	**20 12 35.9 +1.4**
KWP	**Kalwaria Pacla**	**36.97 306**	P	**P**	**20 11 46.4 +1.0**
KWP				**pP**	**20 12 35.9 +1.4**
GZR	**Gura Zlata**	**36.98 299**	⇑P	**P**	**20 11 46.5 +0.9**
SUW	**Suwalki**	**37.07 313**	*e*P	**P**	**20 11 46.3 +0.2**
SUW			*e*pP	**pP**	**20 12 35.2 0.0**
SUW			*e*PP	**PP**	**20 13 16.2 +0.3**
SUW	**Suwalki**	**37.07 313**	*e*P	**P**	**20 11 44.7 -1.4**
PLG	**Polygyros**	**37.07 291**	P	**P**	**20 11 47.7 +1.3**
IDI	**Anoyia**	**37.08 282**	P	**P**	**20 11 46.0 -0.5**
DION	**Dionisos Attik**	**37.14 287**	P	**P**	**20 11 48.2 +1.2**
PTL	**Penteli**	**37.20 287**	P	**P**	**20 11 48.4 +0.9**
UZH	**Uzhgorod**	**37.22 305**	⇑*i*P	**P**	**20 11 46.6 -0.8**
UZH			*e**PP	**pP**	**20 12 35.3 -1.3**
UZH			*e**SP	**sP**	**20 13 02.1 -2.1**
UZH			*i* S	**S**	**20 17 14.3 -1.7**
ZAPS	**Zavoj**	**37.26 296**	*e*P	**P**	**20 11 49.4 +1.4**
HIA	**Hailar**	**37.26 54**	P	**P**	**20 11 49.0 +1.1**
HIA			IAmb	IAmb	20 11 51.0
	comp=Z,233nm,1.5s				
HIA				**pP**	**20 12 39.7 +1.5**
HIA	**Hailar**	**37.26 54**	P	**P**	**20 11 49.5 +1.6**
UBPT	**Khong Chiam**	**37.26 116**	IAmb	IAmb	20 11 49.7
	comp=Z,141nm,1.0s				
ATHU	**Athens Univers**	**37.28 287**	P	**P**	**20 11 49.1 +1.0**
VLY	**Voula,Athens**	**37.30 287**	P	**P**	**20 11 49.0 +0.7**
KNT	**Kendrikon**	**37.35 292**	P	**P**	**20 11 49.2 +0.5**
LVZ	**Lovozero**	**37.40 338**	*ce*P	**P**	**20 11 49.5 +0.7**
LVZ			pmax	pmax	
	comp=Z,176nm,1.3s				
LVZ	**Lovozero**	**37.40 338**	P	**P**	**20 11 49.5 +0.7**
LVZ			IAmb	IAmb	20 11 51.0
	comp=Z,288nm,1.5s				
FIA1	**FINESS Array S**	**37.43 326**	IAmb	IAmb	20 11 50.6
	comp=Z,142nm,0.9s				
FINES	**FINESS Array B**	**37.43 326**	P	**P**	**20 11 49.9 +0.9**
	comp=Z,74nm,0.7s,baz=121,slow=8.6,SNR=299				
FINES			pP	**pP**	**20 12 39.0 +0.8**
	comp=Z,29nm,0.9s,baz=97,slow=11,SNR=2.4				
FINES			sP	**sP**	**20 13 09.3 +3.5**
	comp=Z,28nm,0.7s,baz=101,slow=10,SNR=6.1				
FINES	**FINESS Array B**	**37.43 326**	P	**P**	**20 11 49.6 +0.6**
BOSS	**Bosilegrad**	**37.47 294**	*e*P	**P**	**20 11 51.4 +1.7**
ZAGS	**Zajecar**	**37.49 297**	*e*P	**P**	**20 11 50.6 +0.8**
VAY	**Valandovo**	**37.57 292**	*i* P	**P**	**20 11 51.4 +0.9**
APA	**Apatity**	**37.58 337**	⇓*i*P	**P**	**20 11 49.8 -0.4**
APA			*i*		20 13 06.9
APA			pmax	pmax	
	comp=Z,44nm,1.1s				
APA			MLR	MLR	
	comp=Z,1μm,15.0s				
VAM	**Vamos**	**37.59 283**	P	**P**	**20 11 51.0 +0.3**
VILL	**Villa**	**37.60 287**	P	**P**	**20 11 51.1 +0.2**
MTSE	**Matsula**	**37.67 321**	*e*P	**P**	**20 11 51.5 +0.4**
IMMV	**Iera Moni Meta**	**37.75 283**	P	**P**	**20 11 53.0 +1.0**
CRVS	**Cervenica-Dubn**	**37.77 305**	*e*P	**P**	**20 11 53.1 +1.0**
CRVS			pmax	pmax	
	comp=Z,441nm,2.2s				
CRVS	**Cervenica-Dubn**	**37.77 305**	*e*P	**P**	**20 11 53.1 +1.0**
CRVS			*es*P	**sP**	**20 13 10.8 +1.8**
CRVS			*e*PP	**PnPn**	**20 13 28.0 +0.1**
CRVS			*e*SS	SS	20 20 21.7 +0.8
CRVS			*e*PDIFF		20 33 38.8
MDVR	**Moldovita**	**37.77 298**	⇑P	**P**	**20 11 53.6 +1.4**
BZS	**Buzias**	**37.77 300**	⇑P	**P**	**20 11 53.7 +1.6**
STIP	**Stip**	**37.80 293**	*i* P	**P**	**20 11 51.7 -0.7**
KUBS	**Kucevo**	**37.83 298**	*e*P	**P**	**20 11 52.8 +0.1**
GVD	**Gavdhos**	**37.84 282**	P	**P**	**20 11 52.9 +0.1**
BOVS	**Bovan**	**37.89 296**	*e*P	**P**	**20 11 53.9 +0.7**
BARS	**Barje**	**37.91 295**	*e*P	**P**	**20 11 50.6 -2.8**
BARS	**Barje**	**37.91 295**	*e*P	**P**	**20 11 54.6 +1.2**
KNDR	**Palaiochora Ch**	**38.04 282**	P	**P**	**20 11 55.3 +0.8**
SRIT	**Nakonsritamara**	**38.09 130**	P	**P**	**20 11 56.2 +1.1**
PBUR	**Paburge**	**38.09 317**	*e*P	**P**	**20 11 56.3 +1.7**
TYRN	**Tyrnavos**	**38.11 290**	P	**P**	**20 11 55.6 +0.6**
AGG	**Agios Georgios**	**38.17 289**	P	**P**	**20 11 56.1 +0.5**
SVIS	**Svilajnac**	**38.18 297**	*e*P	**P**	**20 11 57.9 +2.4**
SLIT	**Slitere, Latvi**	**38.20 319**	*e*P	**P**	**20 11 55.5 0.0**
VLI	**Veliai**	**38.23 285**	P	**P**	**20 11 54.9 -1.2**
QIZ	**Qiongzhong**	**38.24 107**	P	**P**	**20 11 57.3 +0.9**
QIZ			PP	**PP**	**20 13 30.0 +0.7**
QIZ			S	**S**	**20 17 31.4 -0.7**
QIZ			pmax	pmax	
	comp=Z,110nm,1.7s				
QIZ			pmax	pmax	
	comp=Z,460nm,5.2s				
QIZ	**Qiongzhong**	**38.24 107**	IAmb	IAmb	20 11 58.8
	comp=Z,362nm,1.6s				
QIZ	**Qiongzhong**	**38.24 107**	P	**P**	**20 11 58.4 +2.0**
KTHA	**Kythira Island**	**38.25 284**	P	**P**	**20 11 56.0 -0.3**
BEL	**Belsk**	**38.29 310**	*e*P	**P**	**20 11 57.4 +1.0**
BEL			*e*pP	**pP**	**20 12 46.6 +0.9**
BEL			*e*PP	**PP**	**20 13 29.5 +0.3**
THL	**Klokotos Trika**	**38.30 290**	P	**P**	**20 11 56.8 +0.2**
SKO	**Skopje**	**38.31 294**	*i* P	**P**	**20 11 57.5 +0.8**
MAKR	**Makrakomi, Fth**	**38.32 289**	P	**P**	**20 11 58.0 +1.1**
SELS	**Selova**	**38.37 296**	*e*P	**P**	**20 11 57.3 +0.1**
KECS	**Kecovo**	**38.42 304**	*e*P	**P**	**20 11 59.1 +1.6**
KECS			pmax	pmax	
	comp=Z,30nm,1.3s				
KECS	**Kecovo**	**38.42 304**	*e*P	**P**	**20 11 59.1 +1.6**
KECS			*e*pP	**pP**	**20 12 48.3 +1.3**
KECS			*es*P	**sP**	**20 13 17.3 +2.8**
KECS			*e*PP	**PnPn**	**20 13 34.2 -1.3**
SERG	**Sergoula**	**38.51 288**	P	**P**	**20 11 58.5 +0.1**
NIE	**Niedzica**	**38.53 306**	*e*P	**P**	**20 12 00.9 +2.4**
NIE			*e*pP	**pP**	**20 12 50.2 +2.3**
FNA	**Florina**	**38.55 292**	IAmb	IAmb	20 12 00.8
	comp=Z,143nm,1.2s				
GRUS	**Gruza**	**38.58 297**	*e*P	**P**	**20 12 00.0 +1.2**
EVR	**Evrytania**	**38.59 289**	P	**P**	**20 11 59.9 +0.8**
BSZH	**Besenyszg**	**38.61 302**	P	**P**	**20 12 01.2 +2.1**
LAKA	**Lakka**	**38.61 288**	P	**P**	**20 11 59.5 +0.3**
EFP	**Efpalio**	**38.62 288**	P	**P**	**20 11 59.3 0.0**
KPRO	**Kipourio**	**38.72 291**	P	**P**	**20 12 00.9 +0.8**
TRUS	**Trudelj**	**38.76 297**	*e*P	**P**	**20 12 02.4 +2.0**
GZH	**Guangzhou**	**38.82 98**	P	**P**	**20 12 02.0 +0.9**
GZH			sP	**sP**	**20 13 15.5 -4.1**
GZH			S	**S**	**20 17 42.6 +2.0**
GZH			pmax	pmax	
	comp=Z,2μm,2.5s				
PSZ	**Piszkesteto**	**38.83 303**	⇓P	**P**	**20 12 02.6 +1.6**
PSZ	**Piszkesteto**	**38.83 303**	IAmb	IAmb	20 12 04.2
	comp=Z,240nm,1.4s				
PSZ	**Piszkesteto**	**38.83 303**	P	**P**	**20 12 02.4 +1.4**
PENT	**Pentalofos**	**38.84 291**	P	**P**	**20 12 02.0 +0.8**
OJC	**Ojcow**	**38.86 307**	*e*P	**P**	**20 12 01.8 +0.7**
OJC			*e*pP	**pP**	**20 12 51.1 +0.5**
OJC	**Ojcow**	**38.86 307**	P	**P**	**20 12 01.7 +0.7**
OJC			pP	**pP**	**20 12 50.8 +0.2**
KLNR	**Kaliningrad**	**38.87 314**	*c i*P	**P**	**20 12 01.7 +0.6**
KLNR			pmax	pmax	
	comp=Z,280nm,1.2s				
DRO	**Drossia**	**38.88 287**	P	**P**	**20 12 01.9 +0.4**
ITM	**Ithomi**	**38.90 286**	IAmb	IAmb	20 12 03.0
	comp=Z,419nm,1.6s				
OHR	**Ohrid**	**38.92 293**	*i* P	**P**	**20 12 01.8 -0.1**
IZAB	**Izabela**	**38.93 304**	*e*P	**P**	**20 12 03.5 +1.8**
IZAB			pmax	pmax	
	comp=Z,71nm,1.4s				
ANKE	**Ethiopia-Afar**	**39.02 234**	*i* P	**P**	**20 12 06.7 +3.5**
ANKE	**Ethiopia-Afar**	**39.02 234**	*e*P	**P**	**20 12 02.9 -0.3**
ANKE			*i* P	**P**	**20 12 04.9 +1.7**
ANKE	**Ethiopia-Afar**	**39.02 234**	*i* P	**P**	**20 12 04.9 +1.7**
KBN	**Korca**	**39.02 292**	IAmb	IAmb	20 12 39.5
	comp=Z,202nm,1.5s				
IVAS	**Ivanjica**	**39.02 296**	*e*P	**P**	**20 12 03.2 +0.6**
DIVS	**Divibare**	**39.07 297**	⇑*i*P	**P**	**20 12 03.9 +0.9**
DIVS	**Divibare**	**39.07 297**	IAmb	IAmb	20 12 56.1
	comp=Z,184nm,1.1s				
DIVS	**Divibare**	**39.07 297**	*e*P	**P**	**20 12 04.1 +1.1**
LANS	**Liptovska Anna**	**39.08 305**	*e*P	**P**	**20 12 05.0 +2.0**
LANS			pmax	pmax	
	comp=Z,49nm,1.3s				
LANS	**Liptovska Anna**	**39.08 305**	*e*P	**P**	**20 12 05.0 +2.0**
LANS			*ep*P	**pP**	**20 12 54.2 +1.6**
FRGS	**Fruska Gora**	**39.08 299**	⇓P	**P**	**20 12 03.8 +0.7**
FRGS	**Fruska Gora**	**39.08 299**	⇑*i*P	**P**	**20 12 03.6 +0.6**
FRGS	**Fruska Gora**	**39.08 299**	*e*P	**P**	**20 12 03.9 +0.9**
PYL	**PYLOS**	**39.12 286**	P	**P**	**20 12 02.5 -0.9**
SJES	**Sjenica**	**39.19 296**	*e*P	**P**	**20 12 04.9 +0.8**
LHMI	**Lhok Sumawe**	**39.23 136**	P	**P**	**20 12 06.3 +1.8**
	comp=Z,5μmcomp=Z,488nm,0.7s				
LHMI	**Lhok Sumawe**	**39.23 136**	P	**P**	**20 12 05.5 +1.0**
LHMI	**Lhok Sumawe**	**39.23 136**	P	**P**	**20 12 06.5 +2.0**
LSK	**Leskovik**	**39.25 291**	P	**P**	**20 12 05.5 +0.9**
TEKS	**Tekeris**	**39.35 298**	⇑*i*P	**P**	**20 12 05.6 +0.4**
TEKS	**Tekeris**	**39.35 298**	*e*P	**P**	**20 12 05.7 +0.5**
BUD	**Budapest**	**39.44 303**	P	**P**	**20 12 07.2 +1.3**
NJ2	**Nanjing**	**39.48 82**	⇓*i*P	**P**	**20 12 04.4 -2.0**
NJ2			pP	**pP**	**20 12 54.8 -2.4**
NJ2			sP	**sP**	**20 13 22.0 -3.0**
NJ2			PP	**PP**	**20 13 44.3 +1.9**
NJ2			ScP	**ScP**	**20 17 29.2 -5.4**
NJ2			S	**S**	**20 17 50.3 +0.1**
NJ2			ScS	**ScS**	**20 21 41.8 -5.8**
NJ2			pmax	pmax	
	comp=Z,93nm,1.3s				
NJ2			pmax	pmax	
	comp=Z,1μm,6.4s				
NYDR	**Nydri-Lefkada**	**39.48 289**	P	**P**	**20 12 06.4 +0.1**
LKD2	**Lefkada island**	**39.49 289**	P	**P**	**20 12 06.9 +0.4**
VYHS	**Vyhne**	**39.52 304**	*e*P	**P**	**20 12 07.6 +1.0**
VYHS			pmax	pmax	
	comp=Z,243nm,1.4s				
VYHS	**Vyhne**	**39.52 304**	*e*P	**P**	**20 12 07.6 +1.0**
VYHS			*ep*P	**pP**	**20 12 57.5 +1.2**
VYHS			*es*P	**sP**	**20 13 24.9 +1.1**
VYHS			*e*SS	SS	20 21 02.9 +7.4
BBLS	**Lazići**	**39.52 297**	⇑*i*P	**P**	**20 12 07.7 +1.0**
BBLS	**Lazići**	**39.52 297**	*e*P	**P**	**20 12 07.4 +0.7**
EVGI	**Lefkada island**	**39.53 289**	P	**P**	**20 12 06.5 -0.3**
RUDO	**Rudo**	**39.58 297**	⇑*i*P	**P**	**20 12 07.6 +0.5**
LTHK	**Lithakia**	**39.61 287**	P	**P**	**20 12 06.5 -0.9**
VLS	**Valsamata**	**39.69 288**	P	**P**	**20 12 07.0 -1.1**
DL2	**Dalian**	**39.70 71**	⇓*i*P	**P**	**20 12 09.6 +1.4**
DL2			pP	**pP**	**20 12 54.2 -4.8**
DL2			sP	**sP**	**20 13 27.0 +0.1**
DL2			S	**S**	**20 17 56.2 +2.8**
DL2			pmax	pmax	
	comp=Z,130nm,1.5s				
DL2			pmax	pmax	
	comp=Z,680nm,4.6s				
MORH	**Mrgy, Hungar**	**39.80 301**	⇓P	**P**	**20 12 09.8 +1.0**
MORH	**Mrgy, Hungar**	**39.80 301**	⇑*i*P	**P**	**20 12 10.0 +1.2**
MORH	**Mrgy, Hungar**	**39.80 301**	P	**P**	**20 12 09.3 +0.5**
KOLL	**Kolacno**	**39.80 305**	*ep*P	pP	20 13 00.3 +1.6
PDG	**Podgorica**	**39.84 295**	⇑P	**P**	**20 12 10.0 +0.7**
PDG	**Podgorica**	**39.84 295**	*e*P	**P**	**20 12 07.5 -1.8**
HKPS	**Hong Kong Po S**	**39.86 99**	P	**P**	**20 12 11.0 +1.3**
RAC	**Raciborz**	**39.89 307**	*e*P	**P**	**20 12 09.9 +0.3**
RAC			*e*PP	**pP**	**20 12 59.7 +0.4**
RAC			*e*S	**S**	**20 17 56.8 +0.8**
RAC			*e*SS	**sS**	**20 19 25.9 +0.4**
RAC	**Raciborz**	**39.89 307**	*e*P	**P**	**20 12 09.9 +0.3**
RAC			*e**PP	**pP**	**20 12 59.7 +0.4**
RAC			*e*S	**S**	**20 17 56.8 +0.8**
RAC			*e**SS	**sS**	**20 19 25.9 +0.4**
SRO	**Srobarova**	**39.90 303**	*e*P	**P**	**20 12 12.0 +2.3**
SRO			pmax	pmax	
	comp=Z,468nm,1.3s				
SRO	**Srobarova**	**39.90 303**	*e*P	**P**	**20 12 12.0 +2.3**
SRO			*ep*P	**pP**	**20 13 02.0 +2.5**
SRO			*es*P	**sP**	**20 13 27.6 +0.7**
AAL	**Aland**	**39.92 323**	*e*P	**P**	**20 12 07.3 -2.3**
OKC	**Ostrava-Krasne**	**39.93 306**	*e*P	**P**	**20 12 10.8 +0.9**
OKC	**Ostrava-Krasne**	**39.93 306**	*e*P	**P**	**20 12 10.8 +0.9**
OKC			*e*SS	SS	20 21 05.5 +2.0
DRME	**Dracevica, Mon**	**39.93 294**	*e*P	**P**	**20 12 09.5 -0.5**
CSKK	**Cskako**	**39.97 303**	P	**P**	**20 12 12.5 +2.2**
UPM	**Unac-Piva**	**39.97 296**	⇑*i*P	**P**	**20 12 11.5 +0.9**
KOVH	**Kovagotottos**	**40.19 301**	P	**P**	**20 12 12.8 +0.8**
FURI	**Furi**	**40.23 235**	*i* P	**P**	**20 12 16.3 +3.2**
FURI	**Furi**	**40.23 235**	*i* P	**P**	**20 12 14.6 +1.5**
FURI	**Furi**	**40.23 235**	P	**P**	**20 12 15.8 +2.7**
FURI			IAmb	IAmb	20 12 18.3
	comp=Z,299nm,1.3s				
FURI	**Furi**	**40.23 235**	P	**P**	**20 12 16.8 +3.6**
FURI	**Furi**	**40.23 235**	*i* P	**P**	**20 12 14.6 +1.5**
JAWL	**J.Aulia**	**40.26 248**	*i* P	**P**	**20 12 14.5 +1.5**
JAWL			AMP		20 12 15.5
	comp=N,3μm,1.1s				
JAWL			*i*		20 12 19.7
	baz=320,slow=8.6				
JAVC	**Velka Javorina**	**40.27 305**	⇑*i*P	**P**	**20 12 14.9 +2.1**
JAVC			*ep*P	**pP**	**20 13 05.5 +2.8**
JAVC			*es*P	**sP**	**20 13 32.2 +2.3**
BRY	**Bratogost**	**40.28 296**	⇑*i*P	**P**	**20 12 14.5 +1.4**
MORC	**Moravsky Berou**	**40.32 306**	⇑P	**P**	**20 12 14.6 +1.4**
MORC	**Moravsky Berou**	**40.32 306**	⇑*i*P	**P**	**20 12 14.5 +1.4**
MORC			*ep*P	**pP**	**20 13 04.7 +1.7**
MORC			*es*P	**sP**	**20 13 31.2 +0.8**
MORC	**Moravsky Berou**	**40.32 306**	IAmb	IAmb	20 12 16.1
	comp=Z,349nm,1.4s				
HCY	**Herceg Novi**	**40.39 295**	⇑*i*P	**P**	**20 12 14.8 +1.0**
TREB	**Trebinje**	**40.45 295**	⇑*i*P	**P**	**20 12 14.3 0.0**
MPLH	**Magyarpolny**	**40.47 302**	P	**P**	**20 12 15.2 +0.9**
GKP	**Gorka Klasztor**	**40.52 312**	*e*P	**P**	**20 12 15.6 +0.9**
GKP			*ep*P	**pP**	**20 13 06.1 +1.5**
GKP			*e*PP	**PP**	**20 13 53.7 +0.4**
GKP	**Gorka Klasztor**	**40.52 312**	*e*P	**P**	**20 12 15.4 +0.7**
MODS	**Modra-Piesok**	**40.56 304**	*e*P	**P**	**20 12 16.5 +1.4**
MODS			pmax	pmax	
	comp=Z,187nm,1.3s				
MODS	**Modra-Piesok**	**40.56 304**	*e*P	**P**	**20 12 16.5 +1.4**
MODS			*es*P	**sP**	**20 13 32.8 +0.5**
MODS			*e*PP	**PP**	**20 13 55.4 +1.6**
MODS			*e*SS	SS	20 21 25.5 +10
SNY	**Shenyang**	**40.57 66**	⇓P	**P**	**20 12 15.8 +0.6**
SNY			pP	**pP**	**20 13 08.0 +1.8**
SNY			sP	**sP**	**20 13 31.4 -2.6**
SNY			S	**S**	**20 18 06.5 +0.3**
SNY			pmax	pmax	
	comp=Z,62nm,2.0s				
SNY			pmax	pmax	
	comp=Z,970nm,6.8s				
SNY			LR	LR	
	comp=Z,620nm,8.4s				
SNY			LR	LR	
	comp=Z,1μm,7.2s				
SNY			LR	LR	
	comp=Z,2μm,6.9s				
EGYH	**Egyhazaskeszo**	**40.59 303**	P	**P**	**20 12 16.7 +1.3**
ZST	**Bratislava**	**40.69 304**	*e*P	**P**	**20 12 17.8 +1.7**
ZST			*e*		20 13 08.1
ZST			*e*SP		20 13 33.5
ZST			*e*		20 13 57.3
ZST	**Bratislava**	**40.69 304**	*e*P	**P**	**20 12 17.8 +1.7**
ZST			*ep*P	**pP**	**20 13 08.1 +2.0**
ZST			*es*P	**sP**	**20 13 33.5 +0.2**
ZST			*e*PP	**PP**	**20 13 57.3 +2.2**
KEV	**Kevo**	**40.74 338**	P	**P**	**20 12 16.7 +0.5**
KEV			pmax	pmax	
	comp=Z,98nm,1.1s				
KEV	**Kevo**	**40.74 338**	P	**P**	**20 12 16.7 +0.5**
KRLC	**Kraliky**	**40.80 307**	*e*P	**P**	**20 12 18.5 +1.4**
KRLC			*e*		20 13 08.3
KRLC	**Kraliky**	**40.80 307**	*e*P	**P**	**20 12 18.5 +1.4**
KRLC			*ep*P	**pP**	**20 13 08.3 +1.2**
KRLC			*e*SS	SS	20 21 24.4 +3.7
STON	**Ston**	**40.90 296**	⇑*i*P	**P**	**20 12 17.8 -0.1**
VRAC	**Vranov**	**40.96 306**	⇑P	**P**	**20 12 20.1 +1.7**
VRAC	**Vranov**	**40.96 306**	P	**P**	**20 12 20.0 +1.7**
	comp=Z,161nm,1.1s,baz=89,slow=8.5,SNR=112				
VRAC			pP	**pP**	**20 13 09.4 +1.1**
	comp=Z,114nm,1.0s,baz=90,slow=9.1,SNR=10				
VRAC	**Vranov**	**40.96 306**	⇑*i*P	**P**	**20 12 19.7 +1.4**
VRAC			*ep*P	**pP**	**20 13 10.0 +1.7**
VRAC			*es*P	**sP**	**20 13 36.0 +0.3**
BLY	**Banja Luka**	**40.98 299**	⇑*i*P	**P**	**20 12 19.4 +0.8**
TPTI		**40.99 138**	P	**P**	**20 12 18.4 -0.5**
	comp=Z,1μmcomp=Z,112nm,1.2s				
UPP	**Uppsala**	**41.02 322**	*e*P	**P**	**20 12 19.4 +0.8**
ARA0	**ARCESS Array S**	**41.09 338**	⇑*i*P	**P**	**20 12 20.3 +1.3**
ARCES	**ARCESS Array B**	**41.09 338**	P	**P**	**20 12 20.4 +1.3**
	comp=Z,57nm,0.7s,baz=117,slow=8.2,SNR=155				
ARCES			pP	**pP**	**20 13 09.2 -0.3**
	comp=Z,33nm,0.8s,baz=120,slow=7.2,SNR=5.4				
ARCES			sP	**sP**	**20 13 39.1 +2.0**
	comp=Z,38nm,0.8s,baz=108,slow=7.8,SNR=4.0				
ARCES			PP	**PP**	**20 13 57.8 -1.2**
	comp=Z,29nm,0.7s,baz=117,slow=7.1,SNR=4.0				
ARCES	**ARCESS Array B**	**41.09 338**	IAmb	IAmb	20 12 21.8
	comp=Z,270nm,1.2s				
DPC	**Dobruska-Polom**	**41.09 307**	*e*P	**P**	**20 12 20.4 +1.0**
DPC			*e*		20 13 10.5
DPC			*e*SS	SS	20 21 22.9 -3.4
DPC	**Dobruska-Polom**	**41.09 307**	*e*P	**P**	**20 12 20.4 +1.0**
DPC			*ep*P	**pP**	**20 13 10.5 +1.0**
DPC			*e*SS	SS	20 21 22.9 -3.4
SOP	**Sopron**	**41.09 303**	P	**P**	**20 12 20.3 +0.9**
KSP	**Ksiaz**	**41.09 308**	*e*P	**P**	**20 12 20.4 +1.0**
KSP			*ep*P	**pP**	**20 13 10.5 +1.2**
KSP			*e*PP	**PP**	**20 14 00.8 +1.4**
KCSI	**Kotacane, Aceh**	**41.09 137**	P	**P**	**20 12 18.8 -1.0**
	comp=Z,2μmcomp=Z,170nm,0.5s				
MGRS	**Mrkonjic Grad**	**41.10 298**	*e*P	**P**	**20 12 21.0 +1.4**
KRUC	**Moravsky**	**41.10 305**	⇑*i*P	**P**	**20 12 20.9 +1.4**
KRUC			*ep*P	**pP**	**20 13 10.9 +1.4**
KRUC			*es*P	**sP**	**20 13 38.3 +1.5**
CHVC	**Chvalec**	**41.25 308**	*e*P	**P**	**20 12 21.4 +0.7**
CHVC			*ex*	x	20 13 10.4
SNSI	**Sinabang, Aceh**	**41.25 140**	P	**P**	**20 12 23.1 +2.0**
	comp=Z,32μmcomp=Z,1μm,0.8s				
UPC	**Upice**	**41.28 308**	*e*P	**P**	**20 12 22.1 +1.2**
UPC			*e*		20 13 09.5
UPC			*e*SS	SS	20 21 27.6 -2.3
UPC	**Upice**	**41.28 308**	*e*P	**P**	**20 12 22.1 +1.2**
UPC			*ep*P	**pP**	**20 13 09.5 -1.6**
UPC			*e*SS	SS	20 21 27.6 -2.3
KULM	**Kulim**	**41.32 132**	P	**P**	**20 12 22.4 +0.7**
KULM			IAmb	IAmb	20 12 24.2
	comp=Z,182nm,1.1s				
KULM	**Kulim**	**41.32 132**	P	**P**	**20 12 23.0 +1.4**
KOGS	**Kog**	**41.42 301**	*e*P	**P**	**20 12 23.2 +1.1**
KOGS			*ep*P	**pP**	**20 13 13.3 +1.1**
KOGS			*es*P	**sP**	**20 13 40.4 +0.9**
CONA	**Conrad Observa**	**41.54 304**	*i* P	**P**	**20 12 24.5 +1.3**
	comp=Z,352nm,1.2s,SNR=86				
CONA			*i* P	**pP**	**20 13 13.7 +0.5**
	comp=Z,220nm,1.3s,SNR=10.0				
CONA			*e*S	**ScP**	**20 17 42.9 +0.3**
	comp=Z,31nm,2.0s				
TSI	**Tuntungan**	**41.55 136**	P	**P**	**20 12 23.0 -0.5**
	comp=Z,3μmcomp=Z,313nm,0.8s				
KTK1	**Kautokeino**	**41.56 336**	⇑*i*P	**P**	**20 12 23.9 +1.0**
CN2	**Changchun**	**41.59 63**	*e*P	**P**	**20 12 23.4 -0.1**
CN2			*e*PP	**PP**	**20 14 05.6 +0.8**
CN2			*e*S	**S**	**20 18 21.0 -0.1**
CN2			*e*SS	**SS**	**20 21 28.4 -7.6**
CN2			pmax	pmax	
	comp=Z,40nm,1.3s				
CN2			pmax	pmax	
	comp=Z,680nm,3.5s				
CN2			LR	LR	
	comp=Z,1μm,8.0s				
CN2			LR	LR	
	comp=Z,840nm,8.0s				
CN2			LR	LR	
	comp=Z,800nm,9.0s				
DLV	**T Lat**	**41.66 116**	P	**P**	**20 12 25.1 +0.5**
DLV			IAmb	IAmb	20 12 27.5
	comp=Z,183nm,1.0s				
DLV	**T Lat**	**41.66 116**	P	**P**	**20 12 26.6 +2.0**
SSE	**Sheshan**	**41.67 82**	P	**P**	**20 12 25.6 +1.2**
SSE			pP	**pP**	**20 13 16.7 +1.1**
SSE			sP	**sP**	**20 13 43.7 +0.5**
SSE			S	**S**	**20 18 23.7 +1.0**
SSE			pmax	pmax	
	comp=Z,61nm,0.9s				
SSE			pmax	pmax	
	comp=Z,600nm,4.0s				
SSE			LR	LR	
	comp=Z,290nm,12.1s				
ZAG	**Zagreb**	**41.68 301**	⇑*i*P	**P**	**20 12 25.2 +1.0**
ARSA	**Arzberg**	**41.83 303**	*i* P	**P**	**20 12 26.4 +0.9**
	comp=Z,111nm,1.2s,SNR=28				
ARSA			*e*P	**pP**	**20 13 16.0 +0.3**
	comp=Z,75nm,1.6s				
ARSA			*e*S	**ScP**	**20 17 43.2 -0.5**
	comp=Z,29nm,1.4s				
BSD	**Bornholm Skovb**	**41.96 315**	*i* P	**P**	**20 12 26.0 -0.3**

TIP	**Timpagrande**	**42.36 291**	P	**P**	**20 12 29.9 0.0**
TIP			IAmb	IAmb	20 12 32.4
	comp=Z,399nm,1.3s				
TIP				**pP**	**20 13 20.2 +0.1**
CKRC	**Cesky Krumlov**	**42.49 305**	*e*P	**P**	**20 12 31.0 +0.3**
CKRC			*e*x	x	20 13 23.2
CKRC			*e*SS	SS	20 21 46.9 -6.8
SGRT	**San Giovanni R**	**42.53 295**	P	**P**	**20 12 30.9 -0.4**
SGRT			IAmb	IAmb	20 12 33.1
	comp=Z,349nm,1.3s				
SGRT				**pP**	**20 13 20.7 -0.7**
SGRT			sP	**sP**	**20 13 49.4 +0.7**
BRG	**Berggiesshubel**	**42.58 308**	⇑*i*P	**P**	**20 12 32.7 +1.3**
BRG			Amp		20 12 35.0
	comp=Z,379nm,1.3s				
BRG			pP	**pP**	**20 13 21.7 0.0**
BRG			Amp		20 13 26.8
	comp=Z,100nm,0.9s				
BRG			sP	**sP**	**20 13 51.2 +2.3**
BRG			Amp		20 13 52.8
	comp=Z,130nm,1.3s				
BRG			⇑PP	**PcP**	**20 14 20.1 +1.1**
BRG			Amp		20 14 23.3
	comp=Z,96nm,1.5s				
BRG			⇑SP	**ScP**	**20 17 46.1 -0.5**
BRG			Amp		20 17 48.6
	comp=Z,36nm,1.4s				
BRG	**Berggiesshubel**	**42.58 308**	sS	sS	20 20 05.0 -0.8
BRG	**Berggiesshubel**	**42.58 308**	SS	SS	20 21 50.0 -5.3
BRG			⇑SS	**ScS**	**20 22 05.3 -0.6**
BRG			Amp		20 22 06.8
	comp=Z,9.7nm,1.2s				
BRG			*e*x	x	20 22 48.5
BRG			Amp		20 22 51.8
	comp=Z,11nm,1.4s				
BRG	**Berggiesshubel**	**42.58 308**	⇑*i*P	**P**	**20 12 32.7 +1.3**
BRG					20 13 21.6
BRG			SP		20 13 51.1
BRG					20 14 20.0
BRG			S	**S**	**20 18 40.0 +4.5**
BRG			S	**SS**	**20 21 50.0 -5.3**
BRG					20 22 05.3
BRG			pmax	pmax	
	comp=Z,379nm,1.3s				
BRG	**Berggiesshubel**	**42.58 308**	*e*P	**P**	**20 12 33.3 +1.9**
	comp=Z,379nm,1.3s,baz=85,slow=7.8				
BRG			*e*pP	**pP**	**20 13 23.5 +1.8**
	baz=85,slow=8.1				
BRG			*e*sP	**sP**	**20 13 51.1 +2.3**
	baz=85,slow=8.0				
OBKA	**Obir**	**42.58 302**	*i* P	**P**	**20 12 33.1 +1.5**
	comp=Z,193nm,1.3s,SNR=26				
OBKA			*e*P	**pP**	**20 13 23.5 +1.6**
	comp=Z,121nm,1.6s				
OBKA			*e*S	**ScP**	**20 17 46.1 -0.7**
	comp=Z,22nm,1.6s				
DEL	**Delary**	**42.61 316**	*i* P	**P**	**20 12 32.0 +0.5**
MOA	**Molln**	**42.62 304**	*i* P	**P**	**20 12 32.8 +1.0**
	comp=Z,240nm,1.2s,SNR=69				
MOA			*e*P	**pP**	**20 13 23.9 +1.8**
	comp=Z,115nm,1.3s				
RUE	**Ruedersdorf**	**42.62 311**	*e*P	**P**	**20 12 32.5 +0.9**
RUE	**Ruedersdorf**	**42.62 311**	*e*P	**P**	**20 12 33.0 +1.4**
	comp=Z,472nm,1.3s,baz=85,slow=7.8				
RUE			*e*pP	**pP**	**20 13 23.0 +1.1**
	baz=85,slow=8.1				
RUE			*e*sP	**sP**	**20 13 50.8 +1.7**
	baz=85,slow=8.0				
PBCC	**Pribram**	**42.62 306**	*e*P	**P**	**20 12 33.1 +1.3**
PBCC			*e*x	x	20 13 23.3
LJU	**Ljubljana**	**42.66 301**	⇑*i*P	**P**	**20 12 33.6 +1.5**
LJU	**Ljubljana**	**42.66 301**	*e*P	**P**	**20 12 33.6 +1.5**
LJU			*e*pP	**pP**	**20 13 23.9 +1.5**
LJU			*e*sP	**sP**	**20 13 50.8 +1.1**
LJU			*e*ScP	**ScP**	**20 17 45.7 -1.3**
BNX	**BinXian**	**42.67 59**	⇓P	**P**	**20 12 33.0 +0.8**
BNX			pP	**pP**	**20 13 25.1 +1.3**
BNX			sP	**sP**	**20 13 52.9 +1.5**
BNX			S	**S**	**20 18 37.4 +0.5**
BNX			pmax	pmax	
	comp=Z,76nm,1.7s				
BNX			pmax	pmax	
	comp=Z,940nm,3.5s				
JETT	**Jettan, Norway**	**42.70 336**	⇑*i*P	**P**	**20 12 34.4 +2.2**
CEY	**Cerknica**	**42.77 301**	⇑*i*P	**P**	**20 12 34.2 +1.1**
RIY	**Rijeka**	**42.80 300**	⇑*i*P	**P**	**20 12 33.5 +0.3**
GSI	**Gunungsitoli**	**42.84 139**	P	**P**	**20 12 35.6 +1.7**
	comp=Z,12μmcomp=Z,1μm,0.7s				
GSI	**Gunungsitoli**	**42.84 139**	P	**P**	**20 12 36.3 +2.4**
RGN	**Rugen**	**42.87 314**	*e*P	**P**	**20 12 35.7 +2.1**
RGN	**Rugen**	**42.87 314**	*e*P	**P**	**20 12 35.7 +2.1**
	comp=Z,2μm,1.4s,baz=85,slow=7.8				
RGN			*e*pP	**pP**	**20 13 25.9 +2.0**
	baz=85,slow=8.1				
RGN			*e*sP	**sP**	**20 13 53.4 +2.3**
	baz=85,slow=8.0				
RGN	**Rugen**	**42.87 314**	P	**P**	**20 12 35.1 +1.5**
RGN			pP	**pP**	**20 13 24.4 +0.5**
RGN			sP	**sP**	**20 13 50.7 -0.4**
GEC2	**GERESS Array S**	**42.89 305**	*e*P	**P**	**20 12 35.6 +1.6**
	comp=Z,156nm,1.4s,baz=85,slow=7.8				
GEC2			*e*pP	**pP**	**20 13 26.1 +1.5**
	baz=85,slow=8.1				
GEC2			*e*sP	**sP**	**20 13 53.2 +1.7**
	baz=85,slow=8.0				
GEC2			*e*PP	**PcP**	**20 14 20.2 0.0**
GEC2	**GERESS Array S**	**42.89 305**	P	**P**	**20 12 33.5 -0.5**
GEC2			pP	**pP**	**20 13 22.7 -1.8**
GEC2			sP	**sP**	**20 13 52.2 +0.7**
GEC2			PP	**PP**	**20 14 14.8 -3.9**
GERES	**GERESS Array B**	**42.89 305**	P	**P**	**20 12 34.9 +0.9**
	comp=Z,35nm,1.0s,baz=92,slow=7.1,SNR=67				
GERES			pP	**pP**	**20 13 25.3 +0.8**
	comp=Z,16nm,0.8s,baz=100,slow=6.9,SNR=10				
GERES			sP	**sP**	**20 13 54.6 +3.1**
	comp=Z,21nm,1.1s,baz=60,slow=8.1,SNR=3.5				
GERES			PP	**PcP**	**20 14 19.5 -0.6**
	comp=Z,57nm,1.1s,baz=79,slow=8.3,SNR=8.9				
KHC	**Kasperske Hory**	**42.94 306**	*e*P	**P**	**20 12 35.3 +0.9**
KHC			*e*		20 13 22.7
KHC			*e*		20 13 51.5
KHC			*e*		20 14 19.5
KHC			*e*SS	SS	20 21 54.4 -8.0
KHC	**Kasperske Hory**	**42.94 306**	*e*P	**P**	**20 12 35.3 +0.9**
KHC			*e*x	x	20 12 57.5
KHC			*e*pP	**pP**	**20 13 22.7 -2.2**
KHC			*e*sP	**sP**	**20 13 51.5 -0.4**
KHC			*e*PP	**PP**	**20 14 19.5 +0.3**
KHC			*e*x	x	20 21 54.4
FBE	**Freiberg**	**42.95 308**	*e*P	**P**	**20 12 36.5 +2.1**
	comp=Z,444nm,1.3s,baz=85,slow=7.8				
FBE			*e*pP	**pP**	**20 13 26.8 +2.2**
	baz=85,slow=8.1				
FBE			*e*sP	**sP**	**20 13 54.3 +2.5**
	baz=85,slow=8.0				
FBE			*e*PP	**PcP**	**20 14 20.5 +0.4**
HFS	**Hagfors**	**43.01 322**	P	**P**	**20 12 35.3 +0.6**
	comp=Z,76nm,0.5s,baz=94,slow=12,SNR=190				
HFS			pP	**pP**	**20 13 26.5 +1.3**
	comp=Z,46nm,0.6s,baz=98,slow=9.7,SNR=5.5				
SKDS	**Skadanscina**	**43.09 300**	⇑*i*P	**P**	**20 12 36.1 +0.5**
CLL	**Collm**	**43.15 309**	⇑*i*P	**P**	**20 12 36.5 +0.6**
CLL			*i* *PP	**pP**	**20 13 25.4 -0.9**
CLL			*e**SP	**sP**	**20 13 54.0 +0.5**
CLL			*e*S	**S**	**20 18 42.0 -1.7**
CLL			*e**SS	**sS**	**20 20 12.0 -2.2**
CLL			pmax	pmax	
	comp=Z,267nm,1.4s				
CLL	**Collm**	**43.15 309**	⇑*i*P	**P**	**20 12 36.5 +0.6**
	comp=Z,267nm,1.4s				
CLL			*e*Plp		20 12 41.0
	comp=Z,300nm,16.4s				
CLL			*i* x	x	20 12 52.4
CLL			*i* pP	**pP**	**20 13 25.4 -0.9**
CLL			*e*sP	**sP**	**20 13 54.0 +0.5**
CLL			*i* PP	**PP**	**20 14 21.1 -0.1**
CLL			*e*sPP		20 15 37.0
CLL			*e*S	**S**	**20 18 42.0 -1.7**
CLL			*e*sS	**sS**	**20 20 12.0 -2.2**
CLL			*e*SS	**SS**	**20 22 07.0 +1.1**
CLL			*i* ScS	**ScS**	**20 22 08.1 -1.3**
CLL			*e*SS	SS	20 22 11.0 +5.2
CLL			*e*sSS		20 23 26.0
CLL			*e*x	x	20 25 30.0
CLL	**Collm**	**43.15 309**	*e*P	**P**	**20 12 37.3 +1.4**
	comp=Z,267nm,1.4s,baz=85,slow=7.8				
CLL			*e*pP	**pP**	**20 13 27.6 +1.3**
	baz=85,slow=8.1				
CLL			*e*sP	**sP**	**20 13 54.9 +1.4**
	baz=85,slow=8.0				
CLL			*e*PP	**PP**	**20 14 21.7 +0.5**
CLL	**Collm**	**43.15 309**	IAmb	IAmb	20 12 38.3
	comp=Z,269nm,1.4s				
CADS	**Cadrg**	**43.18 301**	*e*P	**P**	**20 12 37.1 +0.8**
CADS			*e*pP	**pP**	**20 13 27.4 +0.7**
MYKA	**Terra Mystica**	**43.19 302**	*i* P	**P**	**20 12 37.4 +1.0**
	comp=Z,70nm,1.2s,SNR=16				
MYKA			*e*P	**pP**	**20 13 27.7 +0.9**
	comp=Z,89nm,1.3s				
MYKA			*e*S	**ScP**	**20 17 48.0 -1.2**
	comp=Z,11nm,1.1s				
TRO	**Tromso**	**43.21 336**	⇑*i*P	**P**	**20 12 37.2 +1.1**
CEL	**Celeste**	**43.25 290**	P	**P**	**20 12 37.0 0.0**
CEL			IAmb	IAmb	20 12 39.2
	comp=Z,408nm,1.3s				
CEL				**pP**	**20 13 28.3 +0.9**
KBA	**Koelnbreinsper**	**43.33 303**	*i* P	**P**	**20 12 38.5 +0.9**
	comp=Z,79nm,1.0s,SNR=31				
KBA			*e*P	**pP**	**20 13 28.9 +0.8**
	comp=Z,161nm,1.1s				
KBA			*e*S	**ScP**	**20 17 47.9 -2.0**
	comp=Z,12nm,1.1s				
WET	**Wettzell**	**43.40 306**	*e*P	**P**	**20 12 39.6 +1.6**
	comp=Z,144nm,1.6s,baz=85,slow=7.8				
WET			*e*pP	**pP**	**20 13 30.1 +1.7**
	baz=85,slow=8.1				
WET			*e*sP	**sP**	**20 13 57.0 +1.5**
	baz=85,slow=8.0				
WET			*e*PP	**PcP**	**20 14 22.1 +0.3**
MSEY	**Mahe Island**	**43.51 203**	P	**P**	**20 12 39.3 +0.1**
MSEY			pmax	pmax	
	comp=Z,162nm,1.3s				
MSEY	**Mahe Island**	**43.51 203**	P	**P**	**20 12 39.3 +0.1**
MSEY	**Mahe Island**	**43.51 203**	P	**P**	**20 12 40.4 +1.1**
MSEY	**Mahe Island**	**43.51 203**	P	**P**	**20 12 40.3 +1.1**
JRMM	**Jerantut**	**43.53 131**	P	**P**	**20 12 40.0 +0.6**
TANN	**Tannenbergstha**	**43.55 308**	*e*P	**P**	**20 12 41.1 +1.8**
	comp=Z,248nm,1.4s,baz=85,slow=7.8				
TANN			*e*pP	**pP**	**20 13 31.7 +2.0**
	baz=85,slow=8.1				
TANN			*e*sP	**sP**	**20 13 58.9 +2.1**
	baz=85,slow=8.0				
TANN			*e*PP	**PP**	**20 14 26.6 +1.0**
PAOL	**Paolisi**	**43.55 294**	P	**P**	**20 12 39.9 +0.5**
PAOL			IAmb	IAmb	20 12 41.6
	comp=Z,264nm,1.2s				
PAOL				**pP**	**20 13 30.5 +0.6**
NKC	**Novy Kostel**	**43.58 307**	*e*P	**P**	**20 12 40.2 +0.8**
NKC	**Novy Kostel**	**43.58 307**	*e*P	**P**	**20 12 40.2 +0.8**
WERN	**Wernitzgruen**	**43.62 307**	*e*P	**P**	**20 12 41.7 +2.0**
	comp=Z,223nm,1.5s,baz=85,slow=7.8				
WERN			*e*pP	**pP**	**20 13 32.3 +2.1**
	baz=85,slow=8.1				
WERN			*e*PP	**PP**	**20 14 27.3 +1.0**
GUNZ	**Gunzen**	**43.64 308**	*e*P	**P**	**20 12 41.9 +2.0**
	comp=Z,270nm,1.4s,baz=85,slow=7.8				
GUNZ			*e*pP	**pP**	**20 13 32.4 +2.0**
	baz=85,slow=8.1				
GUNZ			*e*sP	**sP**	**20 13 59.9 +2.4**
	baz=85,slow=8.0				
GUNZ			*e*PP	**PP**	**20 14 27.4 +0.9**
WERD	**Werda**	**43.65 308**	*e*P	**P**	**20 12 41.8 +1.8**
	comp=Z,227nm,1.3s,baz=85,slow=7.8				
WERD			*e*pP	**pP**	**20 13 32.4 +2.0**
	baz=85,slow=8.1				
WERD			*e*sP	**sP**	**20 13 59.8 +2.2**
	baz=85,slow=8.0				
WERD			*e*PP	**PP**	**20 14 27.2 +0.6**
PLN	**Plauen**	**43.74 308**	*e*P	**P**	**20 12 42.5 +1.8**
	comp=Z,213nm,1.4s,baz=85,slow=7.8				
PLN			*e*pP	**pP**	**20 13 33.1 +1.9**
	baz=85,slow=8.1				
PLN			*e*sP	**sP**	**20 14 00.3 +2.0**
	baz=85,slow=8.0				
PLN			*e*PP	**PP**	**20 14 28.4 +0.9**
FAUS	**Fauske**	**43.75 332**	⇑*i*P	**P**	**20 12 41.4 +1.0**
MOR8	**Moi Rana**	**43.76 331**	⇑*i*P	**P**	**20 12 40.9 +0.3**
ROTZ	**Rotzenmuhle**	**43.77 307**	*e*P	**P**	**20 12 43.3 +2.3**
	comp=Z,107nm,1.4s,baz=85,slow=7.8				
ROTZ			*e*pP	**pP**	**20 13 33.6 +2.1**
	baz=85,slow=8.1				
ROTZ			*e*sP	**sP**	**20 14 01.0 +2.4**
	baz=85,slow=8.0				
MANZ	**Manzenberg**	**43.82 307**	*e*P	**P**	**20 12 43.6 +2.3**
	comp=Z,69nm,1.3s,baz=85,slow=7.8				
MANZ			*e*pP	**pP**	**20 13 34.1 +2.2**
	baz=85,slow=8.1				
MANZ			*e*sP	**sP**	**20 14 01.6 +2.6**
	baz=85,slow=8.0				
INCN	**Inchon**	**43.88 71**	P	**P**	**20 12 42.7 +0.7**
INCN			pP	**pP**	**20 13 34.6 +0.9**
INCN			IAmb	IAmb	20 13 37.8
	comp=Z,605nm,1.9s				
INCN	**Inchon**	**43.88 71**	P	**P**	**20 12 45.0 +3.0**
	comp=Z,82nm,2.1s				
STAL	**STALIGIAL**	**43.88 302**	IAmb	IAmb	20 12 43.6
	comp=Z,340nm,1.2s				
STEI	**Steigen**	**43.92 333**	⇑*i*P	**P**	**20 12 42.7 +1.0**
YAK	**Yakutsk**	**43.92 35**	P	**P**	**20 12 42.3 +0.4**
	comp=Z,64nm,0.4s,baz=247,slow=3.3,SNR=142				
YAK			pP	**pP**	**20 13 33.7 -0.1**
	comp=Z,53nm,0.7s,baz=257,slow=3.2,SNR=5.9				
YAK	**Yakutsk**	**43.92 35**	*d*i P	**P**	**20 12 42.3 +0.4**
YAK			*e**PP	**pP**	**20 13 33.9 +0.1**
YAK			*e*		20 13 58.4
YAK			*e*		20 14 19.3
YAK			*e*PPP	PPP	20 15 18.1
YAK			*e*S	**S**	**20 18 52.8 -1.8**
YAK			*e**SS	**sS**	**20 20 18.4 -7.0**
YAK			*e*SS	**ScS**	**20 22 05.7 -8.2**
YAK			pmax	pmax	
	comp=Z,269nm,0.9s				
YAK			pmax	pmax	
	comp=N,37nm,1.0s				
YAK			pmax	pmax	
	comp=E,74nm,1.0s				
YAK			smax	smax	
	comp=N,514nm,2.2s				
YAK			smax	smax	
	comp=E,187nm,1.8s				
YAK	**Yakutsk**	**43.92 35**	P	**P**	**20 12 41.9 0.0**
YAK			IAmb	IAmb	20 12 43.5
	comp=Z,262nm,0.8s				
YAK			pP	**pP**	**20 13 34.3 +0.5**
YAK	**Yakutsk**	**43.92 35**	P	**P**	**20 12 42.3 +0.4**
YAK			pP	**pP**	**20 13 33.6 -0.2**
NEUB	**Neuenburg**	**43.92 309**	*e*P	**P**	**20 12 43.8 +1.7**
	comp=Z,473nm,1.3s,baz=85,slow=7.8				
NEUB			*e*pP	**pP**	**20 13 34.5 +1.9**
	baz=85,slow=8.1				
NEUB			*e*sP	**sP**	**20 14 01.9 +2.1**
	baz=85,slow=8.0				
ABTA	**Abfaltersbach**	**43.94 302**	*i* P	**P**	**20 12 41.9 -0.5**
	comp=Z,93nm,1.2s,SNR=24				
ABTA			*e*P	**pP**	**20 13 34.2 +1.2**
	comp=Z,41nm,1.3s				
ABTA			*e*S	**ScP**	**20 17 50.3 -2.0**
	comp=Z,21nm,1.4s				
ABTA			*e*P	**ScS**	**20 22 24.5 +10**
	comp=Z,36nm,1.7s				
MOX	**Moxa**	**44.07 308**	*e*P	**P**	**20 12 45.2 +1.9**
	comp=Z,290nm,1.4s,baz=85,slow=7.8				
MOX			*e*pP	**pP**	**20 13 35.6 +1.7**
	baz=85,slow=8.1				
MOX			*e*sP	**sP**	**20 14 03.2 +2.2**
	baz=85,slow=8.0				
AQU	**L'Aquila**	**44.11 296**	⇑*i*P	**P**	**20 12 44.8 +1.0**
NC602	**NORSAR Array S**	**44.14 323**	⇑*i*P	**P**	**20 12 43.8 +0.1**
NC602	**NORSAR Array S**	**44.14 323**	P	**P**	**20 12 43.2 -0.4**
NC602			pP	**pP**	**20 13 34.5 +0.1**
FLTG	**Flechtingen**	**44.18 310**	*e*P	**P**	**20 12 45.3 +1.2**
	comp=Z,592nm,1.3s,baz=85,slow=7.8				
FLTG			*e*pP	**pP**	**20 13 36.1 +1.4**
	baz=85,slow=8.1				
FLTG			*e*sP	**sP**	**20 14 03.4 +1.6**
	baz=85,slow=8.0				
NC303	**NORSAR Array S**	**44.27 323**	IAmb	IAmb	20 12 47.7
	comp=Z,505nm,1.4s				
NB201	**NORSAR Array S**	**44.29 323**	P	**P**	**20 12 44.7 -0.2**
NB2	**NORSAR Subarra**	**44.33 323**	P	**P**	**20 12 44.8 -0.4**
	comp=Z,388nm,1.4s,baz=95,slow=7.9				
NB2	**NORSAR Subarra**	**44.33 323**	P	**P**	**20 12 44.8 -0.4**
	baz=95,slow=7.9				
NOA	**NORSAR Array B**	**44.33 323**	P	**P**	**20 12 45.0 -0.2**
	comp=Z,81nm,0.9s,baz=96,slow=7.8,SNR=153				
NOA			pP	**pP**	**20 13 36.2 +0.3**
	comp=Z,32nm,0.8s,baz=97,slow=8.1,SNR=5.9				
NOA			sP	**sP**	**20 14 03.4 +0.2**
	comp=Z,59nm,0.8s,baz=96,slow=8.1,SNR=7.3				
NOA			PP	**PP**	**20 14 32.4 -1.2**
	comp=Z,28nm,0.8s,baz=94,slow=9.5,SNR=3.6				
MNSI	**Mandailing Nat**	**44.35 137**	P	**P**	**20 12 46.5 +0.6**
	comp=Z,8μmcomp=Z,869nm,0.7s				
KONS	**Konsvik**	**44.35 331**	*e*P	**P**	**20 12 46.3 +1.1**
MDJ	**Mudanjiang**	**44.38 61**	P	**P**	**20 12 46.5 +0.7**
MDJ			pP	pP	20 13 39.3 +1.5
MDJ			S	**S**	**20 19 00.2 -1.5**
MDJ			ScS	**ScS**	**20 22 17.2 -0.3**
MDJ			pmax	pmax	
	comp=Z,68nm,2.0s				
MDJ			pmax	pmax	
	comp=Z,920nm,7.7s				
MDJ	**Mudanjiang**	**44.38 61**	P	**P**	**20 12 48.2 +2.4**
MDJ	**Mudanjiang**	**44.38 61**	P	**P**	**20 12 46.5 +0.7**
MDJ			pP	**pP**	**20 13 38.6 +0.7**
GRA1	**Grafenberg Arr**	**44.42 307**	IAmb	IAmb	20 12 49.6
	comp=Z,552nm,1.4s				
GRF	**Grafenberg Arr**	**44.42 307**	*e*P	**P**	**20 12 48.7 +2.6**
	comp=Z,571nm,1.4s,baz=85,slow=7.8				
GRF			*e*pP	**pP**	**20 13 39.2 +2.4**
	baz=85,slow=8.1				
GRF			*e*sP	**sP**	**20 14 06.4 +2.6**
	baz=85,slow=8.0				
GRFO	**Grafenberg**	**44.42 307**	P	**P**	**20 12 47.3 +1.2**
GRFO			*PP	**pP**	**20 13 38.0 +1.3**
GRFO			pmax	pmax	
	comp=Z,556nm,1.4s				
GRFO	**Grafenberg**	**44.42 307**	P	**P**	**20 12 47.3 +1.2**
GRFO			IAmb	IAmb	20 12 49.6
	comp=Z,556nm,1.4s				
GRFO				**pP**	**20 13 38.0 +1.3**
GRFO	**Grafenberg**	**44.42 307**	P	**P**	**20 12 48.1 +2.0**
GRFO			pP	**pP**	**20 13 39.1 +2.4**
NSS	**Namsos**	**44.44 328**	⇑*i*P	**P**	**20 12 46.2 +0.3**
WTTA	**Wattenberg**	**44.46 303**	*i* P	**P**	**20 12 46.9 +0.3**
	comp=Z,217nm,1.1s,SNR=46				
WTTA			*e*P	**pP**	**20 13 37.9 +0.5**
	comp=Z,98nm,1.2s				
WTTA			*e*S	**ScP**	**20 17 52.6 -1.9**
NAO01	**NORSAR Array S**	**44.47 323**	IAmb	IAmb	20 12 48.9
	comp=Z,417nm,1.2s				
OSL	**Oslo**	**44.48 321**	⇑*i*P	**P**	**20 12 46.8 +0.5**
WATA	**Walderalm**	**44.49 303**	*i* P	**P**	**20 12 46.9 +0.1**
	comp=Z,177nm,1.2s,SNR=42				
WATA			*e*P	**pP**	**20 13 37.9 +0.3**
	comp=Z,80nm,1.2s				
WATA			*e*S	**ScP**	**20 17 53.1 -1.5**
	comp=Z,61nm,1.8s				
WATA			*e*P	**ScS**	**20 22 18.7 +0.2**
	comp=Z,15nm,1.3s				
YHNB	**Yeheng**	**44.50 91**	P	**P**	**20 12 49.1 +2.0**
NBO00	**NORSAR Array S**	**44.54 323**	P	**P**	**20 12 45.4 -1.5**
NBO00			IAmb	IAmb	20 12 48.5
	comp=Z,396nm,1.1s				
NBO00			pP	**pP**	**20 13 36.6 -1.2**
ASSE	**Asse, Remlinge**	**44.54 310**	*e*P	**P**	**20 12 48.2 +1.4**
	comp=Z,314nm,2.0s,baz=85,slow=7.8				
ASSE			*e*pP	**pP**	**20 13 39.1 +1.6**
	baz=85,slow=8.1				
ASSE			*e*sP	**sP**	**20 14 06.2 +1.6**
	baz=85,slow=8.0				
TPUB	**Ta-pu**	**44.55 93**	P	**P**	**20 12 47.9 +0.4**
TPUB	**Ta-pu**	**44.55 93**	P	**P**	**20 12 49.6 +2.1**
FUR	**Furstenfeldbru**	**44.57 305**	*e*P	**P**	**20 12 49.2 +1.9**
	comp=Z,628nm,1.3s,baz=85,slow=7.8				
FUR			*e*pP	**pP**	**20 13 39.8 +1.9**
	baz=85,slow=8.1				
FUR			*e*sP	**sP**	**20 14 07.1 +2.0**
	baz=85,slow=8.0				
SSLB	**Suanglung**	**44.58 92**	P	**P**	**20 12 48.5 +0.8**
SSLB			IAmb	IAmb	20 12 51.1
	comp=Z,244nm,1.1s				
SSLB			pP	**pP**	**20 13 40.1 +0.4**
SSLB	**Suanglung**	**44.58 92**	P	**P**	**20 12 50.1 +2.4**
LOF	**Lofoten**	**44.59 333**	⇑*i*P	**P**	**20 12 47.3 +0.2**
CTI	**Castel Tesino**	**44.64 301**	IAmb	IAmb	20 12 49.9
	comp=Z,261nm,1.4s				
BSEG	**Bad Segeberg**	**44.65 313**	*e*P	**P**	**20 12 49.8 +2.1**
	comp=Z,474nm,1.4s,baz=85,slow=7.8				
BSEG			*e*pP	**pP**	**20 13 40.4 +2.0**
	baz=85,slow=8.1				
BSEG			*e*sP	**sP**	**20 14 07.8 +2.3**
	baz=85,slow=8.0				
OVD	**Ostervraa, Den**	**44.65 318**	*i* P	**P**	**20 12 47.6 -0.1**
TEOL	**Teolo**	**44.74 301**	IAmb	IAmb	20 12 50.8
	comp=Z,272nm,1.1s				
CLZ	**Clausthal**	**44.75 310**	*e*P	**P**	**20 12 50.4 +1.8**
	comp=Z,429nm,1.3s,baz=85,slow=7.8				
CLZ			*e*pP	**pP**	**20 13 41.0 +1.6**
	baz=85,slow=8.1				
CLZ			*e*sP	**sP**	**20 14 08.2 +1.8**
	baz=85,slow=8.0				
SQTA	**Sankt Quirin**	**44.75 303**	*i* P	**P**	**20 12 48.9 +0.1**
	comp=Z,149nm,1.1s,SNR=38				
SQTA			*e*P	**pP**	**20 13 40.4 +0.7**
	comp=Z,67nm,1.1s				
SQTA			*e*S	**ScP**	**20 17 54.4 -1.3**
	comp=Z,22nm,0.9s				
SQTA			*e*P	**ScS**	**20 22 18.5 -1.5**
	comp=Z,16nm,1.3s				
TJN	**Taejon**	**44.76 73**	P	**P**	**20 12 48.6 -0.3**
TJN			*PP	**pP**	**20 13 39.9 -1.0**
TJN	**Taejon**	**44.76 73**	P	**P**	**20 12 48.6 -0.3**
TJN			pP	**pP**	**20 13 39.9 -1.0**
MOTA	**Moosalm**	**44.80 303**	*i* P	**P**	**20 12 48.9 -0.4**
	comp=Z,179nm,1.2s,SNR=50				
MOTA			*e*P	**pP**	**20 13 40.9 +0.7**
	comp=Z,45nm,0.8s				
MOTA			*e*S	**ScP**	**20 17 54.3 -1.7**
	comp=Z,37nm,1.1s				
MOTA			*e*P	**ScS**	**20 22 19.6 -0.9**
	comp=Z,8.9nm,1.2s				
NRDL	**Niedersach Rie**	**44.86 311**	*e*P	**P**	**20 12 51.5 +2.2**
	comp=Z,484nm,1.4s,baz=85,slow=7.8				
NRDL			*e*pP	**pP**	**20 13 42.1 +2.0**
	baz=85,slow=8.1				
NRDL			*e*sP	**sP**	**20 14 09.4 +2.2**
	baz=85,slow=8.0				
KSRS	**Korea Array**	**44.87 71**	P	**P**	**20 12 50.5 +0.8**
	comp=Z,60nm,1.1s,baz=280,slow=6.7,SNR=49				
KSRS			pP	**pP**	**20 13 42.9 +1.1**
	comp=Z,36nm,1.1s,baz=280,slow=7.4,SNR=9.0				
KSRS			ScP	**ScP**	**20 17 53.3 -2.9**
	comp=Z,11nm,1.1s,baz=292,slow=4.5,SNR=5.2				
HOPEN	**Hopen**	**44.94 346**	⇑*i*P	**P**	**20 12 52.1 +2.3**
RETA	**Reutte**	**45.01 304**	*i* P	**P**	**20 12 51.0 +0.1**
	comp=Z,88nm,1.3s,SNR=19				
RETA			*e*P	**pP**	**20 13 42.0 +0.2**
	comp=Z,52nm,1.1s				
RETA			*e*S	**ScP**	**20 17 56.6 -0.1**
	comp=Z,23nm,1.5s				
RETA			*e*P	**ScS**	**20 22 18.4 -3.2**
	comp=Z,24nm,1.5s				
GTTG	**Gottingen**	**45.02 309**	*e*P	**P**	**20 12

comp=Z,68nm,1.9s
FETA *e*P **ScS** **20 22 18.8 -3.7**
comp=Z,60nm,1.9s
KLR Kul'dur 45.12 54 P **P** **20 12 52.5 +0.9**
comp=Z,100nm,1.1s,baz=278,slow=8.4,SNR=101
KLR pP **pP** **20 13 44.8 +1.2**
comp=Z,90nm,1.2s,baz=282,slow=8.0,SNR=9.1
KLR Kul'dur 45.12 54*d iP* **P** **20 12 52.4 +0.9**
KLR *i* *PP **pP** **20 13 45.2 +1.6**
KLR pmax pmax
comp=Z,129nm,1.3s
TWG Pinlang 45.14 93 P **P** **20 12 53.6 +1.5**
TWG lAmb lAmb 20 12 56.2
comp=Z,446nm,1.1s
TWG **pP** **20 13 42.6 -1.6**
GOET G??ttrup 45.18 317 *i* P **P** **20 12 52.2 +0.4**
GOET *i* P **P** **20 12 52.3 +0.4**
GOET lAmb lAmb 20 12 55.2
comp=Z,96nm,1.0s
BJO1 Bjornoya 45.21 343⇑*iP* **P** **20 12 53.2 +1.4**
MUD Monsted U'grnd 45.22 316 *i* P **P** **20 12 52.3 +0.1**
RETH Rethem/Aller, 45.29 311 *e*P **P** **20 12 54.7 +1.9**
comp=Z,265nm,1.4s,baz=85,slow=7.8
RETH *e*pP **pP** **20 13 45.3 +1.6**
baz=85,slow=8.1
RETH *e*sP **sP** **20 14 12.8 +2.1**
baz=85,slow=8.0
CORL Corleone 45.31 290 lAmb lAmb 20 12 54.6
comp=Z,356nm,1.5s
OSSC Osservatorio P 45.41 298 lAmb lAmb 20 12 55.9
comp=Z,353nm,1.3s
UBR Ueberruh 45.42 304 *e*P **P** **20 12 55.2 +1.2**
comp=Z,409nm,1.3s,baz=85,slow=7.8
UBR *e*pP **pP** **20 13 46.2 +1.3**
baz=85,slow=8.1
UBR *e*sP **sP** **20 14 13.2 +1.3**
baz=85,slow=8.0
ZCCA Zocca 45.42 299 lAmb lAmb 20 13 19.1
comp=Z,514nm,1.7s
DOMB Dombas 45.44 324⇑*iP* **P** **20 12 54.8 +0.8**
CLTB Caltabellotta 45.47 289 lAmb lAmb 20 12 56.6
comp=Z,344nm,1.2s
SALO Salr 45.49 301 P **P** **20 12 55.0 +0.4**
SALO **pP** **20 13 41.6 -4.0**
BKNI Bangkinang 45.55 135 P **P** **20 12 55.5 +0.2**
comp=Z,10μmcomp=Z,1μm,0.8s
BKNI Bangkinang 45.55 135 P **P** **20 12 56.3 +1.0**
HOMB Homborsund 45.57 319 *i* P **P** **20 12 55.0 +0.1**
HOMB Homborsund 45.57 319⇑*iP* **P** **20 12 55.5 +0.7**
DAVA Damuels 45.63 304 *i* P **P** **20 12 56.1 +0.3**
comp=Z,486nm,1.1s,SNR=71
DAVA *e*P **pP** **20 13 47.7 +1.0**
comp=Z,113nm,1.1s
DAVA *e*S **ScP** **20 17 57.7 -1.7**
comp=Z,56nm,1.9s
DAVOX Davos/Dischmat 45.72 303 P **P** **20 12 56.6 +0.1**
comp=Z,82nm,0.9s,baz=96,slow=5.4,SNR=68
DAVOX pP **pP** **20 13 48.5 +0.8**
comp=Z,48nm,1.1s,baz=83,slow=9.3,SNR=7.0
DAVOX ScP **ScP** **20 17 57.3 -2.5**
comp=Z,17nm,0.9s,baz=38,slow=6.6,SNR=5.1
TIXI Tiksi 45.72 22 P **P** **20 12 56.7 +0.8**
comp=Z,109nm,0.3s,baz=266,slow=4.4,SNR=974
TIXI pP **pP** **20 13 49.4 +1.4**
comp=Z,34nm,0.6s,baz=268,slow=5.0,SNR=11
TIXI Tiksi 45.72 22*d iP* **P** **20 12 56.5 +0.6**
TIXI pmax pmax
comp=Z,221nm,0.9s
TIXI Tiksi 45.72 22 P **P** **20 12 56.0 +0.1**
TIXI lAmb lAmb 20 12 57.9
comp=Z,220nm,0.8s
TIXI pP **pP** **20 13 48.8 +0.8**
TIXI Tiksi 45.72 22 P **P** **20 12 56.5 +0.6**
SKAR Skarslia 45.72 322⇑*iP* **P** **20 12 57.6 +1.4**
PRMA PARMA 45.80 300 lAmb lAmb 20 13 00.1
comp=Z,288nm,1.2s
PPI Padang Panjang 45.84 137 P **P** **20 12 57.8 +0.2**
comp=Z,408nm,0.7s
STU Stuttgart 45.85 306 *e*P **P** **20 12 59.1 +1.7**
comp=Z,577nm,1.2s,baz=85,slow=7.8
STU *e*pP **pP** **20 13 50.2 +1.9**
baz=85,slow=8.1
STU *e*sP **sP** **20 14 17.3 +2.0**
baz=85,slow=8.0
SISI Saibi 45.86 139 P **P** **20 12 59.4 +1.7**
comp=Z,3μmcomp=Z,319nm,1.2s
VLC Villacollemand 45.88 299 P **P** **20 12 57.3 -0.3**
VLC lAmb lAmb 20 13 00.7
comp=Z,292nm,1.2s
MSHR Mys Shultsa 45.92 63*d iP* **P** **20 12 59.5 +1.6**
MSHR pmax pmax
comp=Z,138nm,1.7s
MYKOM Kota Tinggi 46.02 131 lAmb lAmb 20 13 01.6
comp=Z,294nm,0.8s
MYKOM Kota Tinggi 46.02 131 P **P** **20 13 01.0 +2.0**
HLG Helgoland 46.06 313 *e*P **P** **20 13 00.6 +1.8**
comp=Z,1μm,1.4s,baz=85,slow=7.8
TNS Taunus Mts 46.13 308 *e*P **P** **20 13 01.2 +1.7**
comp=Z,177nm,1.2s,baz=85,slow=7.8
TNS *e*pP **pP** **20 13 52.4 +1.9**
baz=85,slow=8.1
TNS *e*sP **sP** **20 14 19.4 +1.9**
baz=85,slow=8.0
USA0B Ussuriysk Arra 46.15 61 P **P** **20 12 59.9 +0.3**
USA0B *PP **pP** **20 13 49.7 -2.3**
USA0B 20 14 52.0
USA0B Ussuriysk Arra 46.15 61 P **P** **20 12 59.9 +0.3**
USA0B pP **pP** **20 13 49.7 -2.3**
USA0B **PP** **20 14 52.0 +0.8**
USRK Ussuriysk Ar. 46.15 61 P **P** **20 13 00.3 +0.7**
comp=Z,21nm,1.0s,baz=277,slow=5.7,SNR=26
USRK pP **pP** **20 13 53.4 +1.4**
comp=Z,14nm,0.9s,baz=247,slow=12,SNR=4.1
USRK PP **PP** **20 14 55.1 +3.9**
comp=Z,8.7nm,0.7s,baz=288,slow=7.8,SNR=7.5
USRK Ussuriysk Ar. 46.15 61 P **P** **20 12 59.1 -0.6**
USRK pP **pP** **20 13 49.8 -2.2**
USRK PP **PP** **20 14 51.3 +0.1**
MOL Molde 46.18 325 *e*P **P** **20 13 00.8 +1.1**
SNART Snartemo 46.25 319 *i* P **P** **20 13 01.0 +0.8**
SNART Snartemo 46.25 319⇑*iP* **P** **20 13 01.3 +1.1**
IBBN Ibbenburen 46.31 311 *e*P **P** **20 13 02.5 +1.8**
comp=Z,738nm,1.4s,baz=85,slow=7.8
IBBN *e*pP **pP** **20 13 53.6 +1.8**
baz=85,slow=8.1
IBBN *e*sP **sP** **20 14 20.5 +1.7**
baz=85,slow=8.0
VLA Vladivostok 46.32 62*d iP* **P** **20 13 01.5 +0.5**
VLA pmax pmax
comp=Z,161nm,1.2s
AKN Aaknes 46.42 324 *e*P **P** **20 13 03.5 +1.9**
BFO Black Forest 46.49 305 P **P** **20 13 02.4 +0.1**
BFO pmax pmax
comp=Z,120nm,1.2s
BFO Black Forest 46.49 305 *e*P **P** **20 13 03.4 +1.1**
comp=Z,135nm,1.2s,baz=85,slow=7.8
BFO *e*sP **sP** **20 14 21.8 +1.4**
baz=85,slow=8.0
BFO Black Forest 46.49 305 P **P** **20 13 02.4 +0.1**
BFO Black Forest 46.49 305 P **P** **20 13 02.6 +0.2**
LODK Lodwar 46.49 233 P **P** **20 13 04.7 +1.9**
SNR=127
LODK Lodwar 46.49 233 lAmb lAmb 20 13 06.4
comp=Z,634nm,1.9s
ODD1 Odda 46.54 321⇑*iP* **P** **20 13 03.8 +1.3**
BLS5 Blasjo 46.63 321⇑*iP* **P** **20 13 04.7 +1.5**
BUG Bochum--Univer 46.71 310 *e*P **P** **20 13 05.6 +1.7**
comp=Z,393nm,1.3s,baz=85,slow=7.8
BUG *e*pP **pP** **20 13 56.6 +1.6**
baz=85,slow=8.1
BUG *e*sP **sP** **20 14 24.0 +1.9**
baz=85,slow=8.0
HYA Hoyanger 46.77 323⇑*iP* **P** **20 13 04.9 +0.7**
AHRW Bad Neuenahr-A 46.95 308 *e*P **P** **20 13 07.7 +1.9**
comp=Z,196nm,1.2s,baz=85,slow=7.8
AHRW *e*pP **pP** **20 13 59.1 +2.0**
baz=85,slow=8.1
AHRW *e*sP **sP** **20 14 26.3 +2.4**
baz=85,slow=8.0
HSPB Hornsund (broa 47.08 345 *e*P **P** **20 13 08.1 +1.7**
HSPB *e*pP **pP** **20 13 60.0 +1.8**
HSPB *e*S **S** **20 19 41.8 +2.5**
HSPB Hornsund (broa 47.08 345⇑*iP* **P** **20 13 08.4 +2.0**
TPRI Tanjung Pinang 47.12 131 P **P** **20 13 09.3 +1.8**
comp=Z,4μmcomp=Z,485nm,1.3s
BER Bergen 47.19 322⇑*iP* **P** **20 13 08.3 +0.9**

KMY Karmoy 47.25 320⇑*iP* **P** **20 13 08.6 +0.7**
ASK Askoy 47.26 322⇑*iP* **P** **20 13 08.8 +0.8**
ECH Echery 47.28 305 P **P** **20 13 08.8 +0.4**
FOO Floro 47.33 324⇑*iP* **P** **20 13 09.2 +0.8**
SPA0 Spitsbergen Ar 47.43 347⇑*iP* **P** **20 13 11.1 +1.9**
SPITS Spitsbergen Ar 47.43 347 P **P** **20 13 11.1 +1.9**
comp=Z,11nm,0.4s,baz=128,slow=11,SNR=83
SPITS pP **pP** **20 14 03.8 +2.6**
comp=Z,29nm,0.8s,baz=122,slow=32,SNR=3.7
SPITS sP **sP** **20 14 29.0 +0.7**
comp=Z,162nm,1.1s,baz=116,slow=5.7,SNR=7.7
SUE Sulen 47.46 323⇑*iP* **P** **20 13 09.8 +0.3**
BTNL Ternell 47.55 309⇑P **P** **20 13 11.4 +1.0**
comp=Z,86nm,1.2s
BTNL pP **pP** **20 14 03.1 +1.3**
SENIN Lac Senin/Sane 47.55 303 lAmb lAmb 20 13 12.4
comp=Z,245nm,1.2s
PPSI Pulau Pagai 47.56 139 P **P** **20 13 12.9 +2.1**
comp=Z,5μmcomp=Z,661nm,1.0s
MEM Membach 47.62 309 P **P** **20 13 12.0 +1.1**
comp=Z,78nm,1.1s
MEM pP **pP** **20 14 03.6 +1.3**
BHOU Houvegnez 47.66 308⇑P **P** **20 13 12.6 +1.3**
comp=Z,44nm,1.3s
BHOU pP **pP** **20 14 04.5 +1.8**
WLF Walferdange 47.68 307 *e*P **P** **20 13 13.5 +2.1**
comp=Z,470nm,1.2s,baz=85,slow=7.8
WLF *e*pP **pP** **20 14 05.0 +2.2**
baz=85,slow=8.1
WLF Walferdange 47.68 307 P **P** **20 13 12.8 +1.4**
WLF lAmb lAmb 20 13 14.4
comp=Z,410nm,1.2s
WLF **pP** **20 14 04.1 +1.3**
WLF **sP** **20 14 31.6 +1.9**
WLF **PP** **20 15 05.5 +0.3**
WLF Walferdange 47.68 307⇑P **P** **20 13 12.8 +1.4**
comp=Z,158nm,1.2s
WLF pP **pP** **20 14 04.5 +1.8**
KRJI Kerinci 47.78 137 P **P** **20 13 13.5 +0.8**
comp=Z,11μmcomp=Z,1μm,0.8s
BEBN Eben Emael 47.80 309 P **P** **20 13 13.6 +1.4**
GRNR Gornyy 47.88 51⇓*iP* **P** **20 13 14.3 +1.4**
GRNR *e* 20 14 07.7
GRNR *e*S **S** **20 19 54.0 +2.7**
GRNR pmax pmax
comp=E,40nm,1.0s
GRNR pmax pmax
comp=Z,100nm,1.0s
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR smax smax
comp=N,7.0nm,0.9s
GRNR MLR MLR
comp=E,540nm,19.0s
GRNR MLR MLR
comp=N,260nm,11.0s
GRNR MLR MLR
comp=Z,600nm,18.0s
BSTI Sart Tilman 47.90 309 P **P** **20 13 14.6 +1.5**
comp=Z,9.7nm,1.2s
BSTI pP **pP** **20 14 06.2 +1.7**
BCLA Clavier 48.09 308⇓P **P** **20 13 15.9 +1.4**
comp=Z,33nm,1.1s
BCLA pP **pP** **20 14 07.3 +1.3**
RCHB Rochefort 48.19 308⇑P **P** **20 13 16.4 +1.2**
comp=Z,39nm,1.1s
BGES Gesves 48.23 308 P **P** **20 13 16.9 +1.3**
comp=Z,34nm,1.2s
DSRI Dabo 48.26 132 P **P** **20 13 17.7 +1.5**
comp=Z,4μmcomp=Z,385nm,1.2s
BNI Bardonecchia 48.26 301 lAmb lAmb 20 13 18.0
comp=Z,217nm,1.2s
BMRD Maredsous 48.45 308 P **P** **20 13 18.7 +1.5**
comp=Z,114nm,1.2s
BMRD pP **pP** **20 14 10.9 +2.1**
KBS Kingsbay 48.55 347 P **P** **20 13 19.1 +1.5**
KBS pmax pmax
comp=Z,145nm,1.0s
KBS Kingsbay 48.55 347 *i* P **P** **20 13 18.1 +0.4**
KBS Kingsbay 48.55 347⇑*iP* **P** **20 13 19.4 +1.7**
KBS Kingsbay 48.55 347 P **P** **20 13 19.1 +1.5**
KBS pP **pP** **20 14 10.8 +1.0**
KBS PcP **sP** **20 14 37.3 +0.4**
KBS Kingsbay 48.55 347 P **P** **20 13 19.1 +1.5**
KBS pP **pP** **20 14 11.4 +1.6**
JNU Nakatsue 48.59 75 P **P** **20 13 19.5 +0.9**
comp=Z,96nm,1.0s,baz=316,slow=3.7,SNR=20
JNU pP **pP** **20 14 12.7 +1.4**
comp=Z,158nm,1.1s,baz=308,slow=8.1,SNR=9.7
JNU Nakatsue 48.59 75 P **P** **20 13 20.5 +1.9**
DOU Dourbes 48.60 308⇑P **P** **20 13 19.6 +1.2**
comp=Z,102nm,1.2s
DOU pP **pP** **20 14 12.4 +2.5**
UCC Uccle 48.62 309 P **P** **20 13 19.8 +1.2**
JMBI JAMBI 48.64 134 P **P** **20 13 20.5 +1.4**
comp=Z,2μmcomp=Z,257nm,0.8s
SNF Seneffe 48.72 309⇑P **P** **20 13 20.3 +1.0**
comp=Z,139nm,1.2s
SNF pP **pP** **20 14 12.7 +1.8**
KMBO Kilima Mbogo 48.87 227 P **P** **20 13 23.0 +1.8**
comp=Z,41nm,0.9s,baz=29,slow=9.6,SNR=110
KMBO sP **sP** **20 14 40.3 -0.7**
comp=Z,11nm,0.9s,baz=32,slow=9.1,SNR=4.9
KMBO Kilima Mbogo 48.87 227⇑*iP* **P** **20 13 22.6 +1.4**
KMBO lAmb lAmb 20 13 24.1
comp=Z,4μm,2.4s
KMBO Kilima Mbogo 48.87 227*c iP* **P** **20 13 22.9 +1.8**
KMBO Kilima Mbogo 48.87 227 *i* P **P** **20 13 22.1 +1.0**
KMBO Kilima Mbogo 48.87 227 P **P** **20 13 22.4 +1.4**
KMBO lAmb lAmb 20 13 24.8
comp=Z,683nm,1.9s
KMBO **sP** **20 14 40.0 -1.0**
KMBO Kilima Mbogo 48.87 227 P **P** **20 13 23.0 +1.8**
KMBO Kilima Mbogo 48.87 227 *i* P **P** **20 13 22.1 +1.0**
KMBO Kilima Mbogo 48.87 227 *i* P **P** **20 13 23.0 +1.8**
SNR=84
KEST Kesra 49.01 288 P **P** **20 13 23.1 +1.2**
comp=Z,73nm,0.5s,baz=47,slow=1.9,SNR=212
KEST sP **PcP** **20 14 42.2 +0.3**
comp=Z,97nm,1.2s,baz=96,slow=1.1,SNR=3.5
KEST Kesra 49.01 288 P **P** **20 13 22.5 +0.7**
KEST lAmb lAmb 20 13 24.6
comp=Z,336nm,1.1s
KEST **pP** **20 14 10.4 -3.1**
KEST PcP **PcP** **20 14 41.9 0.0**
PCPH Palayan 49.02 102⇓*eP* **P** **20 13 22.1 +0.1**
JOW Kunigami 49.07 84 P **P** **20 13 23.0 +0.7**
comp=Z,46nm,0.4s,baz=289,slow=3.6,SNR=31
JOW Kunigami 49.07 84 P **P** **20 13 21.9 -0.5**
MASI Maura Aman, Be 49.08 137 P **P** **20 13 22.3 -0.2**
comp=Z,16μmcomp=Z,2μm,0.9s
TEY Ternei 49.16 59⇓*eP* **P** **20 13 22.2 -0.5**
TEY *e* 20 14 15.9
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=E,20nm,1.2s
TEY pmax pmax
comp=Z,30nm,1.2s
KIBK Kibwezi 49.38 226 P **P** **20 13 26.7 +1.9**
SNR=78
KIBK Kibwezi 49.38 226 P **P** **20 13 25.8 +0.9**
KIBK lAmb lAmb 20 13 28.1
comp=Z,171nm,0.9s
JHS Saijyo 49.63 72 P **P** **20 13 25.9 -0.6**
JHS **pP** **20 14 17.9 -1.7**
JHS PcP **PcP** **20 14 39.8 -4.4**
SSB Saint Sauveur 49.67 302 lAmb lAmb 20 13 28.8
comp=Z,263nm,1.4s
SSB Saint Sauveur 49.67 302 P **P** **20 13 27.4 +0.7**
TGY Tagaytay City 49.74 103 P **P** **20 13 29.2 +1.7**
comp=Z,112nm,0.4s,baz=246,slow=3.4,SNR=11
NKL Nikolayevsk 50.08 47 *eP* **P** **20 13 29.4 -0.1**
NKL *e* 20 14 45.5
NKL pmax pmax
comp=N,3.0nm,0.5s
NKL pmax pmax
comp=Z,320nm,1.2s
NKL pmax pmax
comp=Z,360nm,1.8s
NKL MLR MLR
comp=Z,391nm,9.0s
PMBI Palembang 50.34 134 P **P** **20 13 32.7 +0.8**
comp=Z,1μmcomp=Z,7μmcomp=Z,589nm,0.9s
PMBI Palembang 50.34 134 P **P** **20 13 32.8 +0.8**

LHSI Lahat 50.36 136 P **P** **20 13 30.6 -1.4**
comp=Z,2μmcomp=Z,218nm,0.9s
KSM Kuching 50.37 125 lAmb lAmb 20 13 34.9
comp=Z,214nm,1.0s
KSM Kuching 50.37 125 P **P** **20 13 34.0 +1.8**
KSM Kuching 50.37 125 P **P** **20 13 33.5 +1.3**
LRW Lerwick 50.44 322 *e*P **P** **20 13 32.6 +0.5**
LRW lAmb lAmb 20 13 34.4
comp=Z,309nm,1.3s
ELMS Elmsett, Ipswi 50.46 311 *e*P **P** **20 13 32.7 +0.4**
ELMS lAmb lAmb 20 13 34.0
comp=Z,949nm,1.4s
CLF Chambon-Foret 50.53 306 lAmb lAmb 20 13 34.9
comp=Z,438nm,1.3s
PPBI Pangkal Pinang 50.53 132 P **P** **20 13 33.9 +0.5**
comp=Z,4μmcomp=Z,391nm,1.3s
WACR West Acre 50.55 312 *e*P **P** **20 13 33.1 +0.1**
WACR lAmb lAmb 20 13 34.6
comp=Z,679nm,1.0s
ELSH Elham, Standar 50.56 310 *e*P **P** **20 13 33.7 +0.6**
ELSH lAmb lAmb 20 13 34.9
comp=Z,891nm,1.3s
PPR Puerto Princes 50.67 109⇓*eP* **P** **20 13 36.0 +1.6**
JMN Monobe 50.69 74 P **P** **20 13 33.2 -1.2**
JMN pP **pP** **20 14 27.9 +0.4**
SBUM Sibu 50.94 122 P **P** **20 13 38.0 +1.6**
KKM Kota Kinabalu 51.24 115 P **P** **20 13 40.6 +1.8**
MDSI Maura Dua 51.27 136 P **P** **20 13 36.4 -2.4**
comp=Z,459nmcomp=Z,54nm,1.0s
JWT Wachi 51.28 71 lAmb lAmb 20 14 36.6
comp=Z,354nm,1.3s
LWLI Liwa 51.64 136 P **P** **20 13 39.7 -2.0**
comp=Z,67μmcomp=Z,365nm,0.8s
HPK Haverah Park 51.64 314 *e*P **P** **20 13 41.7 +0.6**
HPK lAmb lAmb 20 13 42.6
comp=Z,828nm,1.5s
EDMD Edmundbyers 51.66 315 *e*P **P** **20 13 41.5 +0.2**
EDMD lAmb lAmb 20 13 42.8
comp=Z,847nm,1.5s
CWF Charnwood Fore 51.70 312 *e*P **P** **20 13 41.6 +0.1**
CWF lAmb lAmb 20 13 42.7
comp=Z,188nm,1.4s
TYV Tymovskoe 51.74 50 *e*P **P** **20 13 43.5 +1.7**
TYV *e*S **S** **20 20 47.3 +2.8**
TYV pmax pmax
comp=Z,74nm,1.9s
TYV pmax pmax
comp=Z,900nm,4.4s
TYV smax smax
comp=N,800nm,7.8s
TYV smax smax
comp=E,800nm,7.8s
KLSI 51.75 135 P **P** **20 13 40.0 -2.4**
comp=E,1μmcomp=E,127nm,0.7s
UGL Uglegorsk 51.79 52 *e*P **P** **20 13 43.2 +0.9**
UGL *e* 20 14 38.0
UGL *e* 20 15 03.3
UGL *e*S **S** **20 20 49.4 +4.1**
UGL pmax pmax
comp=Z,190nm,1.0s
MLA1 Latheron 51.80 320 *e*P **P** **20 13 42.3 +0.1**
LBWR Ladybower, Pea 51.81 313 *e*P **P** **20 13 42.7 +0.3**
LBWR lAmb lAmb 20 13 43.7
comp=Z,159nm,1.1s
ESY Stoneypath 51.82 317 *e*P **P** **20 13 43.1 +0.7**
MCD Coleburn Disti 51.87 319 *e*P **P** **20 13 43.3 +0.6**
TPI Tanjungpandan 51.92 131 P **P** **20 13 44.8 +1.2**
comp=Z,2μmcomp=Z,189nm,1.2s
EDU Dundee 51.92 317 *e*P **P** **20 13 43.7 +0.6**
WOL Wolverton 51.97 311 *e*P **P** **20 13 44.3 +0.7**
BIGH Upper Bighouse 52.06 320 *e*P **P** **20 13 44.0 -0.1**
EBL Broad Law 52.09 316 *e*P **P** **20 13 44.4 0.0**
EDI Edinburgh 52.14 317 *e*P **P** **20 13 45.0 +0.3**
EDI lAmb lAmb 20 13 46.2
comp=Z,340nm,1.2s
STKI Sintang 52.19 125 P **P** **20 13 47.2 +1.5**
comp=Z,2μmcomp=Z,203nm,1.3s
EKA Eskdalemuir Ar 52.24 316 P **P** **20 13 46.0 +0.6**
comp=Z,174nm,1.0s,baz=65,slow=7.6,SNR=105
EKA pP **pP** **20 14 35.1 -2.8**
comp=Z,25nm,0.8s,baz=88,slow=8.0,SNR=7.3
EKA sP **sP** **20 15 04.2 -0.5**
comp=Z,38nm,0.8s,baz=84,slow=9.3,SNR=5.8
ESK Eskdalemuir 52.27 316 *e*P **P** **20 13 45.8 +0.1**
ESK lAmb lAmb 20 13 47.1
comp=Z,308nm,1.2s
ESK Eskdalemuir 52.27 316 P **P** **20 13 45.8 +0.1**
ESK Eskdalemuir 52.27 316 P **P** **20 13 45.8 +0.1**
ESK lAmb lAmb 20 13 47.5
comp=Z,336nm,1.3s
SWN1 Swindon 52.27 311 *e*P **P** **20 13 46.4 +0.6**
SWN1 lAmb lAmb 20 13 47.5
comp=Z,768nm,1.2s
KASI Kota Agung 52.30 136 P **P** **20 13 44.3 -2.1**
comp=Z,2μmcomp=Z,278nm,0.9s
SPMM Sapulut 52.33 116 P **P** **20 13 48.0 +1.2**
KESW Keswick, Cumbr 52.36 315 *e*P **P** **20 13 46.7 +0.3**
KESW lAmb lAmb 20 13 48.1
comp=Z,510nm,1.4s
STRD Stroud 52.43 311 *e*P **P** **20 13 46.8 -0.1**
STRD lAmb lAmb 20 13 48.0
comp=Z,237nm,1.2s
INU Inuyama 52.48 70 P **P** **20 13 49.2 +1.6**
MDO Dochfour 52.48 319 *e*P **P** **20 13 47.4 +0.1**
INVG Invergeldie, C 52.51 317 *e*P **P** **20 13 47.6 +0.1**
INVG lAmb lAmb 20 13 48.8
comp=Z,208nm,1.2s
MBAR Mbarara 52.53 234 P **P** **20 13 49.4 +1.0**
comp=Z,121nm,0.8s,baz=30,slow=8.7,SNR=203
MBAR sP **sP** **20 15 08.3 -0.3**
comp=Z,32nm,0.9s,baz=42,slow=6.6,SNR=4.7
MBAR Mbarara 52.53 234*c iP* **P** **20 13 49.2 +0.8**
MBAR Mbarara 52.53 234 P **P** **20 13 49.0 +0.6**
MBAR P **P** **20 13 49.0 +0.6**
MBAR Mbarara 52.53 234 *i* P **P** **20 13 48.7 +0.3**
MBAR Mbarara 52.53 234 P **P** **20 13 49.0 +0.6**
MBAR lAmb lAmb 20 13 50.8
comp=Z,184nm,0.9s
MBAR Mbarara 52.53 234 P **P** **20 13 49.3 +1.0**
MBAR Mbarara 52.53 234 *i* P **P** **20 13 48.7 +0.3**
BLSI Bandar Lampung 52.59 135 P **P** **20 13 46.6 -2.0**
KOND Kondoa 52.76 226 *i* P **P** **20 13 51.7 +1.7**
YSS Yuzh-Sakhalins 52.80 55*deP* **P** **20 13 50.1 +0.4**
YSS *e**PP **pP** **20 14 41.7 -1.6**
YSS *e**SP **sP** **20 15 09.2 -1.1**
YSS *e* 20 15 52.3
YSS *e*S **S** **20 20 58.3 -0.7**
YSS *e* 20 23 08.4
YSS *e*SS **SKiKP** **20 24 44.6 +2.2**
YSS pmax pmax
comp=Z,1μm,4.6s
YSS pmax pmax
comp=Z,190nm,1.1s
YSS smax smax
comp=E,400nm,7.7s
YSS MLR MLR
comp=Z,800nm,17.0s
YSS MLR MLR
comp=E,400nm,16.0s
YSS Yuzh-Sakhalins 52.80 55 P **P** **20 13 50.0 +0.3**
YSS lAmb lAmb 20 13 51.7
comp=Z,301nm,1.2s
YSS pP **pP** **20 14 43.0 -0.3**
YSS Yuzh-Sakhalins 52.80 55 P **P** **20 13 51.3 +1.6**
PGBU Glenifferbraes 52.88 317 *e*P **P** **20 13 50.4 +0.3**
PGBU lAmb lAmb 20 13 51.8
comp=Z,554nm,1.5s
MCH1 Michaelchurch 52.88 312 *e*P **P** **20 13 50.5 +0.2**
MCH1 lAmb lAmb 20 13 51.5
comp=Z,573nm,1.2s
NEWG New Galloway 52.88 316 *e*P **P** **20 13 50.7 +0.5**
NEWG lAmb lAmb 20 13 51.9
comp=Z,445nm,1.3s
MAJO Matsushiro 52.94 69*d iP* **P** **20 13 50.6 -0.3**
MAJO pmax pmax
comp=Z,74nm,1.1s
MAJO Matsushiro 52.94 69 P **P** **20 13 50.6 -0.3**
MAJO pP **pP** **20 14 43.6 -0.7**
MAJO Matsushiro 52.94 69 P **P** **20 13 52.5 +1.6**
MAT Matsushiro 52.94 69 P **P** **20 13 50.7 -0.2**
MAT S **S** **20 21 01.6 +0.3**
MJAR Matsushiro Arr 52.94 69 P **P** **20 13 51.2 +0.2**
comp=Z,68nm,1.1s,baz=291,slow=9.6,SNR=65
MJAR pP **pP** **20 14 45.2 +0.9**
comp=Z,37nm,0.8s,baz=292,slow=9.9,SNR=14

MJAR ScP **ScP** **20 18 27.3 -3.4**
comp=Z,14nm,1.2s,baz=298,slow=5.0,SNR=5.6
MJAR PKP2ab 20 44 49.4
comp=Z,2.0nm,0.9s,baz=156,slow=6.4,SNR=4.6
LLW Llanuwychllyn 53.07 313 *eP* **P** **20 13 51.5 -0.2**
JEW Eniwo 53.14 60 IAmb IAmb 20 13 54.0
comp=Z,305nm,1.2s
GAL1 Galloway 53.21 316 *eP* **P** **20 13 53.0 +0.4**
GAL1 IAmb IAmb 20 13 54.1
comp=Z,234nm,1.3s
IOMK Kirk Michael 53.27 315 *eP* **P** **20 13 53.1 +0.2**
IOMK IAmb IAmb 20 13 54.7
comp=Z,1μm,1.5s
WIM Isle of Man 53.35 315 *eP* **P** **20 13 54.3 +0.7**
WLF1 Llynfaes 53.40 314 *eP* **P** **20 13 54.1 +0.1**
WLF1 IAmb IAmb 20 13 55.6
comp=Z,474nm,1.2s
MYLDM Lahad Datu 53.50 114 IAmb IAmb 20 13 59.2
comp=Z,330nm,1.2s
YRC Rhoscolyn 53.51 314 *eP* **P** **20 13 55.7 +1.0**
ASAJ Asahikawa 53.53 58 P **P** **20 13 55.6 +0.5**
comp=Z,14nm,0.7s,baz=284,slow=21,SNR=5.5
JTM Tenmabayashi 53.54 63 P **P** **20 13 54.5 -0.7**
JTM IAmb IAmb 20 13 56.7
comp=Z,360nm,1.5s
JTM pP **pP** **20 14 45.7 -3.5**
SBV Sambava 53.57 206 P **P** **20 13 56.8 +1.2**
CNOP Candoni, Negro 53.64 106 ‖ *i* P **P** **20 13 57.2 +1.0**
NOR Nord 53.74 350 *i* P **P** **20 13 56.4 +0.4**
CGJI Cibinong 53.86 136 P P 20 13 52.4 -5.4
RSBS Rosebush, Pemb 53.94 312 *eP* **P** **20 13 58.0 +0.1**
RSBS IAmb IAmb 20 13 59.2
comp=Z,285nm,1.3s
HTL Hartland 54.04 311 *eP* **P** **20 13 59.2 +0.6**
COCO West Island 54.26 148 P **P** **20 14 02.0 +1.4**
COCO pmax pmax
comp=Z,193nm,0.9s
COCO West Island 54.26 148 P **P** **20 14 02.0 +1.4**
COCO IAmb IAmb 20 14 04.3
comp=Z,193nm,0.9s
MA2 Magadan 54.32 38 *d* *iP* **P** **20 14 01.3 +0.8**
MA2 pmax pmax
comp=Z,193nm,1.7s
MA2 Magadan 54.32 38 P **P** **20 14 01.1 +0.5**
MA2 IAmb IAmb 20 14 02.8
comp=Z,188nm,1.3s
MA2 pP **pP** **20 14 54.3 -0.2**
MA2 Magadan 54.32 38 P **P** **20 14 01.6 +1.1**
MA2 Magadan 54.32 38 P **P** **20 14 01.3 +0.8**
MA2 pP **pP** **20 14 55.0 +0.5**
JMM Marumori 54.37 66 IAmb IAmb 20 14 02.8
comp=Z,157nm,1.1s
SEY Seymchan 54.37 34 P **P** **20 14 02.1 +1.3**
comp=Z,82nm,1.0s,baz=279,slow=8.9,SNR=169
SEY pP **pP** **20 14 54.8 +0.1**
comp=Z,14nm,0.8s,baz=189,slow=23,SNR=5.1
SEY sP **sP** **20 15 21.6 0.0**
comp=Z,40nm,1.0s,baz=284,slow=9.6,SNR=4.9
SNPH Sibulan 54.40 106 ‖ *eP* **P** **20 14 02.8 +1.0**
PBKI Pangkalan Bun 54.40 127 P **P** **20 14 03.3 +1.6**
comp=Z,5μmcomp=Z,578nm,1.1s
DBJI Dramaga 54.42 134 P **P** **20 14 00.4 -1.4**
comp=Z,131nm,1.1s
JYT Yasato 54.54 68 IAmb IAmb 20 14 03.2
comp=Z,202nm,1.1s
ERM Erimo 54.60 60 *de*P **P** **20 14 02.1 -0.7**
ERM pmax pmax
comp=Z,220nm,1.7s
ERM Erimo 54.60 60 P **P** **20 14 02.8 0.0**
ERM IAmb IAmb 20 14 04.6
comp=Z,213nm,1.5s
TBP Tagbilaran 54.67 106 *i* S **S** **20 21 28.5 +3.6**
TBP Tagbilaran 54.67 106 ‖ *i* P **P** **20 14 04.5 +0.9**
DAG Danmarks Havn 54.67 344 *i* P **P** **20 14 03.0 +0.2**
DAG IAmb IAmb 20 15 00.5
comp=Z,41nm,0.7s
SKJI Sukabumi 54.67 135 P **P** **20 14 02.4 -1.2**
comp=Z,1μmcomp=Z,99nm,0.5s
MSLP Maasin 55.17 104 ‖ *eP* **P** **20 14 08.4 +1.2**
MTKI Muara Teweh, K 55.23 122 P **P** **20 14 08.5 +0.9**
comp=Z,797nmcomp=Z,1μmcomp=Z,124nm,0.9s
CNJI Cibinong 55.25 135 P **P** **20 14 05.9 -1.8**
comp=Z,1μmcomp=Z,134nm,1.1s
DBG Daneborg 55.52 341 *i* P **P** **20 14 09.3 +0.4**
CART Cartagena 56.08 294 P **P** **20 14 13.7 +0.2**
CMJI Cimerak 56.39 134 P **P** **20 14 15.8 0.0**
comp=Z,39nm,0.8s
SMKI Samarinda 56.46 120 P **P** **20 14 16.4 0.0**
comp=Z,2μmcomp=Z,9μmcomp=Z,407nm,1.3s
UWJI Ujung Watu 56.81 130 P **P** **20 14 19.5 +0.8**
comp=Z,8μmcomp=Z,760nm,1.1s
BKB Balikpapan 56.83 121 P **P** **20 14 18.8 -0.1**
comp=Z,5μmcomp=Z,336nm,1.5s
BKB Balikpapan 56.83 121 P **P** **20 14 19.8 +0.9**
SMRI Semarang 56.99 131 P **P** **20 14 21.1 +1.0**
comp=Z,4μmcomp=Z,163nm,0.8s
SMRI Semarang 56.99 131 IAmb IAmb 20 14 21.9
comp=Z,120nm,0.6s
SMRI Semarang 56.99 131 P **P** **20 14 21.1 +1.0**
comp=Z,162nm,0.8s
BBKI Banjar Baru 57.04 124 P **P** **20 14 21.3 +0.9**
comp=Z,5μmcomp=Z,448nm,1.1s
KCP Kidapawan 57.28 107 ‖ *iP* **P** **20 14 23.0 +0.8**
ESBB Sonseca Array 57.42 298 P **P** **20 14 22.8 -0.1**
ESBB IAmb IAmb 20 14 24.6
comp=Z,163nm,1.1s
ESDC Sonseca Array 57.42 298 P **P** **20 14 23.1 +0.2**
comp=Z,78nm,0.9s,baz=59,slow=7.2,SNR=219
ESDC Sonseca Array 57.42 298 IAmb IAmb 20 14 24.5
comp=Z,148nm,1.2s
PAB San Pablo 57.74 298 P **P** **20 14 25.1 0.0**
PAB pmax pmax
comp=Z,237nm,1.3s
PAB San Pablo 57.74 298 P **P** **20 14 25.1 0.0**
PAB IAmb IAmb 20 14 27.0
comp=Z,237nm,1.2s
PAB San Pablo 57.74 298 P **P** **20 14 25.2 0.0**
PAB San Pablo 57.74 298 P **P** **20 14 25.2 0.0**
PAB pP **pP** **20 15 20.0 +1.4**
KBKI Kotabaru 57.81 123 P **P** **20 14 27.2 +1.4**
comp=Z,3μmcomp=Z,419nm,1.1s
MPSI Mapaga 57.81 117 P **P** **20 14 27.2 +1.4**
comp=Z,4μmcomp=Z,379nm,1.2s
TOLI2 Tolitoli 57.92 116 IAmb IAmb 20 14 28.8
comp=Z,156nm,1.3s
TOLI2 Tolitoli 57.92 116 P **P** **20 14 27.5 +0.9**
PCJI Pacitan 58.34 131 P **P** **20 14 27.7 -1.7**
comp=Z,1μmcomp=Z,57nm,0.9s
FIGM Figuig 58.52 289 P **P** **20 14 30.5 -0.2**
PBRG Braganca 58.55 301 *eP* **P** **20 14 31.1 +0.5**
comp=Z,160nm,1.6s
BILL Bilibino 58.56 26 *c* *iP* **P** **20 14 31.6 +1.5**
BILL *i* *PP **pP** **20 15 26.6 +1.7**
BILL *i* 20 16 43.4
BILL *i* S **S** **20 22 16.4 +2.0**
BILL *e*SS **sS** **20 23 52.3 +2.2**
BILL pmax pmax
comp=Z,225nm,1.3s
BILL Bilibino 58.56 26 P **P** **20 14 31.4 +1.2**
BILL IAmb IAmb 20 14 33.0
comp=Z,185nm,1.1s
BILL pP **pP** **20 15 25.4 +0.5**
BILL PP **PP** **20 16 40.8 -1.4**
BILL Bilibino 58.56 26 P **P** **20 14 31.7 +1.5**
BILL pP **pP** **20 15 27.4 +2.5**
JBK JBK 58.56 292 P **P** **20 14 32.0 +0.9**
PCI Palu 58.64 118 P **P** **20 14 28.2 -3.3**
TDRA Tendrara 58.71 290 P **P** **20 14 33.0 +0.9**
MVO Moncorvo 59.00 300 *eP* **P** **20 14 34.8 +1.0**
comp=Z,220nm,1.3s
KMMI Kalianget 59.18 128 P **P** **20 14 34.5 -0.7**
comp=Z,1μmcomp=Z,93nm,1.1s
RER Riviere de l'E 59.19 197 P **P** **20 14 36.1 +1.0**
MRSI Marisa 59.20 115 P **P** **20 14 36.0 +0.7**
comp=Z,6μmcomp=Z,651nm,1.2s
PALE Palemas 59.21 293 P **P** **20 14 35.3 0.0**
OPO Ambohidratompo 59.27 206 P **P** **20 14 37.0 +1.2**
comp=Z,68nm,1.0s,baz=21,slow=6.3,SNR=37
OPO pP **pP** **20 15 31.4 +0.8**
comp=Z,37nm,1.1s,baz=13,slow=3.8,SNR=5.3
OPO sP **sP** **20 15 58.0 +1.0**
comp=Z,22nm,1.1s,baz=72,slow=14,SNR=1.6
PVRL Vila Real 59.43 301 *eP* **P** **20 14 37.3 +0.6**
comp=Z,168nm,1.6s
POLO Lamas de Olo 59.44 301 *eP* **P** **20 14 37.2 +0.4**
comp=Z,67nm,1.4s
POLO Lamas de Olo 59.44 301 *e*PcP **PcP** **20 15 23.2 +1.3**
BLJI Banyuglugur 59.48 129 P **P** **20 14 36.9 -0.3**
comp=Z,1μmcomp=Z,126nm,1.1s
PGAV Gavieira, Arco 59.53 302 *eP* **P** **20 14 38.0 +0.5**
comp=Z,262nm,1.6s
MTE Manteigas 59.66 300 *eP* **P** **20 14 39.2 +0.9**
comp=Z,425nm,1.5s
MTE *e*pP **pP** **20 15 33.6 +1.3**
ABPO Ambohimpanom 59.66 206 P **P** **20 14 39.2 +0.7**
ABPO pmax pmax
comp=Z,120nm,1.0s
ABPO Ambohimpanom 59.66 206 P **P** **20 14 39.2 +0.7**
ABPO IAmb IAmb 20 14 41.2
comp=Z,120nm,0.9s
ABPO Ambohimpanom 59.66 206 P **P** **20 14 40.0 +1.5**
PVIS Viseu 59.78 300 *eP* **P** **20 14 40.1 +1.0**
comp=Z,312nm,1.3s
PVIS *i* LQ LQ 20 15 57.2
GMJI Gumukmas 59.79 129 P **P** **20 14 38.7 -0.6**
comp=Z,70nm,1.3s
PCBR Castelo Branco 59.84 299 *eP* **P** **20 14 39.7 +0.3**
comp=Z,151nm,1.3s
PCBR *e*pP **pP** **20 15 34.3 +0.9**
GTOI Gorontalo 59.87 114 P **P** **20 14 39.0 -0.9**
comp=Z,1μmcomp=Z,97nm,1.5s
ABJI Asem Bagus 59.92 128 P **P** **20 14 40.3 +0.1**
comp=Z,241nm,1.3s
PEA0B Petropavlovsk- 59.93 44 *ce*P **P** **20 14 40.0 +0.2**
PEA0B Petropavlovsk- 59.93 44 IAmb IAmb 20 15 47.8
comp=Z,209nm,1.4s
PETK Petropavlovsk- 59.93 44 P **P** **20 14 38.9 -1.0**
comp=Z,7.8nm,0.6s,baz=305,slow=5.2,SNR=19
PETK pP **pP** **20 15 35.3 +0.3**
comp=Z,40nm,1.1s,baz=20,slow=4.7,SNR=10
APSI Ampana 59.94 117 P **P** **20 14 41.0 +0.6**
comp=Z,4μmcomp=Z,393nm,1.4s
PMRV Marv??o 59.95 299 *eP* **P** **20 14 40.9 +0.7**
comp=Z,249nm,1.6s
PMRV *e*pP **pP** **20 15 33.0 -1.1**
TTSI Tana Toraja 60.13 120 P **P** **20 14 41.7 0.0**
comp=Z,2μmcomp=Z,214nm,1.2s
CHEFC Chefchaouen 60.29 293 P **P** **20 14 42.0 -0.7**
PESTR Estremoz 60.32 298 *eP* **P** **20 14 42.5 -0.2**
comp=Z,220nm,1.3s
PESTR *e*pP **pP** **20 15 37.9 +1.1**
PESTR Estremoz 60.32 298 P **P** **20 14 42.7 0.0**
PESTR pP **pP** **20 15 38.4 +1.6**
PESTR Estremoz 60.32 298 P **P** **20 14 43.3 +0.6**
COI Coimbra 60.34 300 *eP* **P** **20 14 44.0 +1.2**
comp=Z,370nm,1.2s
COI *e*pP **pP** **20 15 35.3 -1.6**
JAGI Jajag, Banyuwa 60.38 129 P **P** **20 14 41.2 -2.2**
comp=Z,113nm,0.8s
JAGI Jajag, Banyuwa 60.38 129 P **P** **20 14 40.4 -3.0**
JAGI IAmb IAmb 20 14 43.0
comp=Z,79nm,0.8s
PCAS Casmilo, Conde 60.47 300 *eP* **P** **20 14 43.6 -0.1**
comp=Z,181nm,1.4s
PET Petropavlovsk 60.50 44 *eP* **P** **20 14 42.4 -1.2**
PET *e**PP **pP** **20 15 39.1 +0.3**
PET *e*S **S** **20 22 34.7 -4.8**
PET pmax pmax
comp=Z,91nm,1.3s
PET Petropavlovsk 60.50 44 P **P** **20 14 41.8 -1.8**
PET **pP** **20 15 37.8 -1.0**
PET IAmb IAmb 20 15 40.8
comp=Z,109nm,1.2s
PET Petropavlovsk 60.50 44 P **P** **20 14 44.0 +0.4**
LCRM LCR 60.56 292 P **P** **20 14 45.1 +0.5**
KMSI Cibinong 60.62 114 P **P** **20 14 46.2 +1.2**
comp=Z,2μmcomp=Z,226nm,1.0s
PMTG Montargil 60.69 299 *eP* **P** **20 14 45.6 +0.4**
comp=Z,186nm,1.5s
PMTG *i* LQ LQ 20 16 06.4
SPSI Sidrap Palu 60.75 121 P **P** **20 14 45.7 -0.2**
comp=Z,1μmcomp=Z,90nm,2.0s
MDT Midelt 60.76 291 P **P** **20 14 46.5 +0.6**
SRBI Singaraja 60.76 128 P **P** **20 14 45.3 -0.6**
comp=Z,2μmcomp=Z,166nm,0.9s
EVO Evora 60.76 298 *eP* **P** **20 14 46.0 +0.3**
comp=Z,280nm,1.6s
EVO *e*pP **pP** **20 15 39.6 -0.3**
LUWI Luwuk 60.84 116 P **P** **20 14 45.9 -0.6**
comp=Z,1μmcomp=Z,112nm,1.0s
LUWI Luwuk 60.84 116 IAmb IAmb 20 15 05.2
comp=Z,113nm,1.0s
LUWI Luwuk 60.84 116 P **P** **20 14 47.1 +0.6**
PBEJ Beja 60.87 298 *eP* **P** **20 14 47.0 +0.5**
comp=Z,219nm,1.3s
PBEJ *e*pP **pP** **20 15 41.6 +0.9**
PBEJ *i* LQ LQ 20 16 06.2
PSBE So Bento 60.90 299 *eP* **P** **20 14 47.7 +1.0**
comp=Z,471nm,1.7s
SOEG Soedalen 60.94 335 *i* P **P** **20 14 47.9 +1.6**
NEEM North Greenlan 60.97 348 *i* P **P** **20 14 47.0 +0.1**
SUMG Summit 61.00 341 *i* P **P** **20 14 48.1 +0.9**
SUMG Summit 61.00 341 IAmb IAmb 20 15 48.5
comp=Z,88nm,0.9s
PVAQ Vaqueiros 61.03 297 *eP* **P** **20 14 47.9 +0.4**
comp=Z,349nm,1.5s
PVAQ *e*pP **pP** **20 15 43.2 +1.6**
PVAQ *i* LQ LQ 20 16 08.1
PVAQ Vaqueiros 61.03 297 IAmb IAmb 20 14 49.4
comp=Z,186nm,1.1s
PVAQ Vaqueiros 61.03 297 P **P** **20 14 48.1 +0.6**
PCVE Castro Verde 61.17 297 *eP* **P** **20 14 48.8 +0.4**
comp=Z,228nm,1.6s
PCVE *e*pP **pP** **20 15 43.9 +1.2**
MESJ Messejana 61.21 297 *eP* **P** **20 14 49.1 +0.4**
MESJ IAmb IAmb 20 14 51.1
comp=Z,310nm,1.3s
MESJ Messejana 61.21 297 *eP* **P** **20 14 49.1 +0.4**
MESJ iAmb 20 14 51.1
MESJ Messejana 61.21 297 *eP* **P** **20 14 49.1 +0.4**
DNP Denpasar 61.21 128 P **P** **20 14 48.0 -0.9**
comp=Z,178nm,1.1s
PBDV Barranco-do-Ve 61.26 297 *eP* **P** **20 14 49.5 +0.4**
comp=Z,382nm,1.2s
PBDV *e*pP **pP** **20 15 45.0 +1.6**
PBDV *i* LQ LQ 20 16 09.0
IGBI Denpasar 61.28 128 P **P** **20 14 48.0 -1.3**
comp=Z,81nm,1.2s
BNSI Bone 61.30 121 P **P** **20 14 49.3 -0.2**
comp=Z,1μmcomp=Z,108nm,1.5s
PNCL Nicolau / Gran 61.31 298 *eP* **P** **20 14 49.9 +0.6**
comp=Z,228nm,1.6s
PNCL *e*pP **pP** **20 15 45.9 +2.3**
PMAFR Mafra 61.48 299 *eP* **P** **20 14 51.2 +0.7**
comp=Z,443nm,1.5s
LIS Lisbon 61.49 299 *eP* **P** **20 14 51.1 +0.5**
LIS IAmb IAmb 20 14 53.2
comp=Z,369nm,1.2s
LIS Lisbon 61.49 299 *eP* **P** **20 14 52.3 +1.8**
comp=Z,354nm,1.2s
LIS Lisbon 61.49 299 *eP* **P** **20 14 51.0 +0.5**
KAPI Kappang 61.49 122 P **P** **20 14 50.3 -0.6**
KAPI *PP **pP** **20 15 44.7 -1.6**
KAPI pmax pmax
comp=Z,182nm,1.2s
KAPI Kappang 61.49 122 P **P** **20 14 50.2 -0.6**
KAPI IAmb IAmb 20 14 52.4
comp=Z,182nm,1.2s
KAPI pP **pP** **20 15 44.7 -1.6**
KAPI Kappang 61.49 122 P **P** **20 14 51.1 +0.3**
KAPI Kappang 61.49 122 P **P** **20 14 49.9 -0.9**
PMST Lisbon--Monsan 61.51 299 *eP* **P** **20 14 51.8 +1.1**
comp=Z,424nm,1.3s
PMST *e*pP **pP** **20 15 46.1 +1.2**
PMST *i* LQ LQ 20 16 12.3
GOLM Goulmima 61.52 290 P **P** **20 14 52.1 +1.0**
PTEO Sao Teotonio 61.70 297 *eP* **P** **20 14 52.5 +0.6**
comp=Z,332nm,1.3s
PTEO *e*pP **pP** **20 15 48.0 +1.7**
PTEO *i* LQ LQ 20 16 13.5
MORF Marmelete 61.75 297 *eP* **P** **20 14 52.8 +0.4**
MORF IAmb IAmb 20 14 54.1
comp=Z,248nm,1.6s
MORF Marmelete 61.75 297 *eP* **P** **20 14 52.0 -0.4**
comp=Z,167nm,1.5s
MORF *e*pP **pP** **20 15 48.8 +2.1**
MORF Marmelete 61.75 297 *eP* **P** **20 14 52.7 +0.4**
PFVI Vila Bisbo 61.95 297 *eP* **P** **20 14 53.7 +0.1**
comp=Z,392nm,1.6s
PFVI *e*pP **pP** **20 15 49.6 +1.6**
PFVI *i* LQ LQ 20 16 13.4
PFVI Vila Bisbo 61.95 297 P **P** **20 14 54.6 +1.0**
BKSI Bulukumba 61.97 121 P **P** **20 14 54.0 0.0**
comp=Z,1μmcomp=Z,2μmcomp=Z,136nm,1.6s
ZHG ZHG 61.99 292 P **P** **20 14 55.0 +0.9**
TZRR Tazzarine 62.41 289 P **P** **20 14 57.0 +0.1**
VOI Vohitsoka 62.48 205 P **P** **20 14 58.6 +1.2**
SNR=24
VOI Vohitsoka 62.48 205 P **P** **20 14 58.6 +1.2**
AVE Averroes 62.64 293 P **P** **20 14 58.5 +0.2**
ZGR Zagora 62.76 289 P **P** **20 14 59.5 +0.3**
BSSI Bau Bau, Buton 62.81 122 P **P** **20 14 59.5 -0.1**
comp=Z,4μmcomp=Z,229nm,1.6s
TNTI Ternate 63.02 111 P **P** **20 15 01.7 +0.7**
comp=Z,1μmcomp=Z,5μmcomp=Z,401nm,1.6s
TNTI Ternate 63.02 111 P **P** **20 15 02.7 +1.7**
ICESG Greenland Ices 63.15 338 *i* P **P** **20 15 02.4 +1.0**
TETE Tete 63.21 221 ⇑ *i* P **P** **20 15 02.2 +0.1**
TETE IAmb IAmb 20 15 04.1
comp=Z,189nm,0.9s
TETE Tete 63.21 221 *i* P **P** **20 15 03.6 +1.5**
TETE Tete 63.21 221 *i* P **P** **20 15 03.6 +1.5**
OUZM OUZ 63.26 290 P **P** **20 15 03.0 +0.4**
BBSI Bau Bau 63.79 120 P **P** **20 15 08.0 +2.0**
comp=Z,359nmcomp=Z,35nm,1.0s
SANI Sanana 63.87 114 P **P** **20 15 06.0 -0.5**
comp=Z,2μmcomp=Z,4μmcomp=Z,213nm,1.3s
SANI Sanana 63.87 114 P **P** **20 15 06.5 0.0**
OUK Oukaimeden 63.95 291 P **P** **20 15 08.0 +0.6**
LBMI Labuha 64.05 112 P **P** **20 15 07.4 -0.3**
comp=Z,1μmcomp=Z,2μmcomp=Z,137nm,2.4s
ANGG Ammassalik, Gr 64.36 334 IAmb IAmb 20 15 11.5
comp=Z,133nm,1.2s
TULEG Thule 64.38 350 *i* P **P** **20 15 09.0 +0.1**
TULEG IAmb IAmb 20 16 44.8
comp=Z,19nm,0.7s
TULEG Thule 64.38 350 P **P** **20 15 09.2 +0.3**
TULEG **pP** **20 16 06.0 +1.7**
TULEG IAmb IAmb 20 16 36.6
comp=Z,136nm,1.3s
WBSI Waikabubak, Su 64.63 125 P **P** **20 15 09.2 -2.3**
comp=Z,6μmcomp=Z,587nm,1.1s
TTIG Tnine Tigouga, 64.70 290 P **P** **20 15 12.4 +0.5**
UPNV Upernavik 65.07 345 *i* P **P** **20 15 13.1 -0.3**
EDFI Ende, Flores 65.51 123 P **P** **20 15 15.0 -2.2**
comp=Z,742nmcomp=Z,46nm,0.5s
TORD Torodi Ar. Bea 65.71 269 P **P** **20 15 17.6 -0.8**
comp=Z,173nm,0.8s,baz=50,slow=6.1,SNR=759
TORD pP **pP** **20 16 13.4 -0.2**
comp=Z,46nm,0.8s,baz=44,slow=5.4,SNR=11
TORD sP **sP** **20 16 39.9 +0.2**
comp=Z,86nm,1.0s,baz=47,slow=5.7,SNR=8.1
TORD PKP2bc 20 43 56.2
comp=Z,1.2nm,1.1s,baz=264,slow=3.2,SNR=5.1
TORD Torodi Ar. Bea 65.71 269 P **P** **20 15 17.1 -1.4**
TORD PcP **PcP** **20 15 45.2 -2.5**
TORD pP **pP** **20 16 12.2 -1.4**
CGR Cap Guir 65.75 291 P **P** **20 15 20.0 +1.5**
MMRI Maumere 65.80 122 P **P** **20 15 17.4 -1.5**
comp=Z,3μmcomp=Z,264nm,1.3s
BASI Baing, Sumba 65.84 125 P **P** **20 15 18.6 -0.6**
comp=Z,12μmcomp=Z,1μm,0.9s
AAI Ambon 66.59 114 P **P** **20 15 23.7 -0.3**
comp=Z,2μmcomp=Z,103nm,1.6s
DY2G Dye2 66.72 337 *i* P **P** **20 15 24.3 0.0**
DY2G IAmb IAmb 20 16 46.3
comp=Z,40nm,0.8s
MSAI Masohi 66.90 113 P **P** **20 15 27.1 +1.2**
comp=Z,542nmcomp=Z,27nm,1.1s
SWI Sorong 67.02 109 P **P** **20 15 26.5 -0.2**
comp=Z,3μmcomp=Z,282nm,1.2s
A21K Barrow 67.26 15 P **P** **20 15 28.3 +1.1**
baz=320
SFJD Kangerlussuaq 67.70 339 P **P** **20 15 30.5 +0.4**
SFJD *PP **pP** **20 16 25.2 -0.6**
SFJD pmax pmax
comp=Z,146nm,1.5s
SFJD Kangerlussuaq 67.70 339 P **P** **20 15 30.5 +0.4**
SFJD IAmb IAmb 20 15 32.2
comp=Z,146nm,1.4s
SFJD pP **pP** **20 16 25.2 -0.6**
BATI Baumata 67.90 122 P **P** **20 15 31.3 -0.9**
comp=Z,2μmcomp=Z,244nm,0.8s
SOEI Soe 67.99 122 P **P** **20 15 31.8 -1.1**
comp=Z,4μmcomp=Z,322nm,1.1s
SOEI Soe 67.99 122 P **P** **20 15 32.2 -0.7**
RDOG Red Dog Mine 68.21 19 P P 20 15 44.3 +11
baz=316
BNDI Bandanaira 68.41 113 P **P** **20 15 34.6 -0.7**
GAMB Gambell 68.45 25 P **P** **20 15 35.4 +0.6**
baz=310
TNA Tin City 68.51 23 P **P** **20 15 35.7 +0.6**
TNA pP **pP** **20 16 30.6 -0.8**
TNA Tin City 68.51 23 P **P** **20 15 35.9 +0.7**
baz=312,SNR=24
FAKI Fak Fak 69.11 110 P **P** **20 15 40.0 +0.4**
comp=Z,2μmcomp=Z,190nm,1.2s
FAKI Fak Fak 69.11 110 P **P** **20 15 38.9 -0.7**
FAKI pP **pP** **20 16 35.2 -1.2**
FAKI Fak Fak 69.11 110 P **P** **20 15 40.4 +0.8**
BLWY Bulawayo 69.16 223 ⇑ *iP* **P** **20 15 39.7 -0.2**
BLWY IAmb IAmb 20 15 41.2
comp=Z,716nm,0.9s
PMPST Porto Santo, M 69.28 296 *eP* **P** **20 15 40.8 +0.3**
comp=Z,249nm,1.1s
PMPST *i* LQ LQ 20 17 00.2
PMPS Porto Santo 69.29 296 *eP* **P** **20 15 40.8 +0.2**
comp=Z,195nm,1.3s
PMPS *i* LQ LQ 20 16 59.3
MATP Matopo 69.45 223 *i* P **P** **20 15 42.5 +0.9**
MATP Matopo 69.45 223 *i* P **P** **20 15 42.5 +0.9**
NRS Narsarsuaq 69.81 332 IAmb IAmb 20 15 46.1
comp=Z,86nm,1.0s
PMAR Madeira 69.88 296 *eP* **P** **20 15 45.1 +0.7**
comp=Z,743nm,1.3s
PMAR *e*pP **pP** **20 16 41.0 +0.9**
PMOZ Porto Moniz, M 70.04 296 *eP* **P** **20 15 45.5 +0.3**
comp=Z,238nm,1.2s
PMOZ *e*pP **pP** **20 16 41.8 +0.6**
MSNA Messina 70.20 220 ⇑ *iP* **P** **20 15 46.3 +0.1**
MSNA IAmb IAmb 20 15 48.2
comp=Z,417nm,1.6s
MSNA Messina 70.20 220 *i* P **P** **20 15 47.5 +1.4**
MSNA Messina 70.20 220 *i* P **P** **20 15 47.5 +1.4**
MOPA Mopani 70.48 218 ⇑ *iP* **P** **20 15 47.5 -0.3**
MOPA IAmb IAmb 20 15 49.6
comp=Z,27nm,1.0s
MOPA Mopani 70.48 218 *i* P **P** **20 15 48.8 +1.1**
MOPA Mopani 70.48 218 *i* P **P** **20 15 48.8 +1.1**
BAKI Biak 70.95 106 P **P** **20 15 51.5 +0.7**
comp=Z,2μmcomp=Z,144nm,1.4s
A36M Sachs Harbour 71.15 5 P **P** **20 15 51.8 +0.8**
A36M pP **pP** **20 16 47.2 -0.5**
A36M sP **sP** **20 17 12.3 -1.6**
A36M Sachs Harbour 71.15 5 P **P** **20 15 52.2 +1.1**
baz=346,SNR=28
SRPI Serui, Papua 71.48 107 P **P** **20 15 54.6 +0.6**
comp=Z,1μmcomp=Z,1μmcomp=Z,76nm,1.4s
SAUI Saumlaki 71.75 115 P **P** **20 15 57.2 +1.6**
comp=Z,14μmcomp=Z,1μm,1.2s
SAUI Saumlaki 71.75 115 P **P** **20 15 56.5 +0.9**
COLD Coldfoot 71.92 16 IAmb IAmb 20 15 58.2
comp=Z,71nm,0.8s
COLD Coldfoot 71.92 16 P **P** **20 15 57.0 +1.2**
baz=326
GCSA Galena City Sc 72.30 20 P **P** **20 15 59.2 +1.1**
baz=321
CNG Changalane 72.42 216 ⇑ *iP* **P** **20 15 59.6 +0.4**
CNG IAmb IAmb 20 16 00.9
comp=Z,41nm,1.1s
CNG Changalane 72.42 216 *i* P **P** **20 16 00.5 +1.3**
CNG Changalane 72.42 216 *i* P **P** **20 16 00.5 +1.3**
H21K Melozitna Rive 72.61 17 P **P** **20 16 00.5 +0.5**
H21K IAmb IAmb 20 16 02.1
comp=Z,106nm,1.1s
H21K pP **pP** **20 16 57.4 +0.4**
H21K sP **sP** **20 17 22.5 -0.7**
H21K Melozitna Rive 72.61 17 P **P** **20 16 00.9 +1.0**
baz=324
MAGG Maguga Dam 72.68 217 *eP* **P** **20 16 00.8 -0.1**
MAGG IAmb IAmb 20 16 02.3
comp=Z,111nm,1.0s
I21K Tanana 73.20 17 P **P** **20 16 04.5 +1.2**
baz=325
CRLN Carolina, Mapu 73.22 218 ⇑ *iP* **P** **20 16 04.4 +0.2**

J20K	**Nowinta River**	**73.48**	**19**	IAmb	IAmb	20 16 07.5
	comp=Z,83nm,0.8s					
J20K	**Nowinta River**	**73.48**	**19**	P	**P**	**20 16 05.8 +0.8**
	baz=324,SNR=57					
FYU	**Fort Yukon**	**73.51**	**14**	P	**P**	**20 16 06.3 +1.2**
FYU				IAmb	IAmb	20 16 08.3
	comp=Z,241nm,1.4s					
FYU				pP	**pP**	**20 17 03.4 +1.0**
FYU				sP	**sP**	**20 17 28.9 +0.4**
POGA	**Pongola**	**73.54**	**216⇑**	*iP*	**P**	**20 16 06.4 +0.7**
POGA				IAmb	IAmb	20 16 07.5
	comp=Z,161nm,0.9s					
MBWA	**Marble Bar**	**73.58**	**133**	P	**P**	**20 16 06.4 +0.3**
MBWA	**Marble Bar**	**73.58**	**133**	P	**P**	**20 16 06.3 +0.2**
MBWA				pP	**pP**	**20 17 01.3 -1.8**
H24K	**Noodor Dome**	**73.59**	**16**	P	**P**	**20 16 07.2 +1.5**
	baz=328					
C36M	**Paulatuk**	**73.82**	**6**	P	**P**	**20 16 07.2 +0.3**
C36M				IAmb	IAmb	20 16 09.4
	comp=Z,70nm,0.6s					
C36M				pP	**pP**	**20 17 03.6 -0.4**
C36M	**Paulatuk**	**73.82**	**6**	P	**P**	**20 16 07.3 +0.5**
	baz=348					
I23K	**Minto, Yukon-K**	**73.85**	**17**	IAmb	IAmb	20 16 09.7
	comp=Z,90nm,1.1s					
I23K	**Minto, Yukon-K**	**73.85**	**17**	P	**P**	**20 16 08.2 +1.2**
	baz=327					
INK	**Inuvik**	**73.85**	**9**	P	**P**	**20 16 08.3 +1.3**
	comp=Z,30nm,0.4s,baz=333,slow=5.2,SNR=168					
INK				pP	**pP**	**20 17 05.1 +0.8**
	comp=Z,35nm,0.9s,baz=348,slow=8.9,SNR=6.7					
INK	**Inuvik**	**73.85**	**9**	P	**P**	**20 16 08.1 +1.1**
	baz=340,SNR=100					
SLR	**Silverton**	**73.89**	**220⇑**	*iP*	**P**	**20 16 07.9 -0.1**
SLR				IAmb	IAmb	20 16 09.8
	comp=Z,145nm,1.3s					
TTA	**Tatalina**	**73.97**	**20**	IAmb	IAmb	20 17 08.9
	comp=Z,157nm,1.5s					
TTA	**Tatalina**	**73.97**	**20**	P	**P**	**20 16 09.1 +1.2**
	baz=322,SNR=24					
K20K	**Telida**	**74.16**	**19**	P	**P**	**20 16 10.3 +1.4**
	baz=324					
CHUM	**Lake Minchumin**	**74.19**	**18**	P	**P**	**20 16 10.0 +0.9**
	baz=325,SNR=44					
MDM	**Murphy Dome**	**74.26**	**16**	IAmb	IAmb	20 16 11.8
	comp=Z,107nm,1.0s					
POKR	**Poker Plat Res**	**74.31**	**16**	P	**P**	**20 16 10.6 +0.8**
POKR				IAmb	IAmb	20 16 12.4
	comp=Z,88nm,0.8s					
POKR				pP	**pP**	**20 17 07.5 +0.5**
POKR				sP	**sP**	**20 17 32.1 -1.0**
POKR	**Poker Plat Res**	**74.31**	**16**	P	**P**	**20 16 10.4 +0.7**
	baz=329					
HRAO	**HartRAO**	**74.32**	**220⇑**	*iP*	**P**	**20 16 11.0 +0.5**
HRAO				IAmb	IAmb	20 16 12.1
	comp=Z,354nm,1.0s					
BPAW	**Bear Paw Mtn.**	**74.34**	**18**	P	**P**	**20 16 10.5 +0.5**
	baz=326,SNR=37					
PRP	**Porcupine Dome**	**74.37**	**15**	P	**P**	**20 16 11.7 +1.4**
	baz=330					
NEA2	**Nenana**	**74.38**	**17**	IAmb	IAmb	20 16 12.2
	comp=Z,109nm,0.9s					
NEA2	**Nenana**	**74.38**	**17**	P	**P**	**20 16 10.8 +0.6**
	baz=328,SNR=37					
TCOL	**CIGO, UAF Yank**	**74.42**	**16**	IAmb	IAmb	20 16 12.6
	comp=Z,126nm,0.9s					
TCOL	**CIGO, UAF Yank**	**74.42**	**16**	P	**P**	**20 16 11.2 +0.8**
	baz=328,SNR=25					
COLA	**College**	**74.42**	**16**	*d iP*	**P**	**20 16 10.8 +0.4**
COLA				pmax	pmax	
	comp=Z,101nm,0.9s					
COLA	**College**	**74.42**	**16**	P	**P**	**20 16 10.9 +0.6**
COLA				IAmb	IAmb	20 16 12.6
	comp=Z,135nm,0.9s					
COLA					**pP**	**20 17 08.3 +0.7**
COLA				sP	**sP**	**20 17 32.9 -0.9**
COLA	**College**	**74.42**	**16**	P	**P**	**20 16 11.1 +0.8**
	baz=328					
COLA	**College**	**74.42**	**16**	P	**P**	**20 16 11.3 +1.0**
COLA				pP	**pP**	**20 17 07.9 +0.3**
CCB	**Clear Creek Bu**	**74.63**	**16**	IAmb	IAmb	20 17 11.9
	comp=Z,168nm,1.8s					
CAST	**Castle Rocks**	**74.63**	**19**	IAmb	IAmb	20 16 13.9
	comp=Z,164nm,0.9s					
CAST	**Castle Rocks**	**74.63**	**19**	P	**P**	**20 16 12.3 +0.7**
	baz=325,SNR=107					
BWN	**Browne**	**74.65**	**17**	IAmb	IAmb	20 16 13.8
	comp=Z,184nm,1.1s					
DBIC	**Dimbokro**	**74.69**	**267**	P	**P**	**20 16 12.0 -0.8**
	comp=Z,66nm,0.9s,baz=52,slow=6.5,SNR=70					
DBIC				pP	**pP**	**20 17 09.7 -0.2**
	comp=Z,33nm,0.9s,baz=87,slow=5.4,SNR=7.6					
DBIC	**Dimbokro**	**74.69**	**267**	P	**P**	**20 16 11.6 -1.2**
DBIC				*PP	**pP**	**20 17 06.7 -3.2**
DBIC				*SP	**sP**	**20 17 31.8 -3.9**
DBIC				pmax	pmax	
	comp=Z,220nm,1.3s					
DBIC	**Dimbokro**	**74.69**	**267**	P	**P**	**20 16 11.6 -1.2**
DBIC				IAmb	IAmb	20 16 13.4
	comp=Z,220nm,1.2s					
DBIC				pP	**pP**	**20 17 06.7 -3.2**
DBIC				sP	**sP**	**20 17 31.8 -3.9**
KSR	**Koster**	**74.70**	**221**	*eP*	**P**	**20 16 13.0 +0.2**
KSR				IAmb	IAmb	20 16 14.4
	comp=Z,203nm,1.1s					
LBTB	**Lobatse**	**74.72**	**222⇑**	*iP*	**P**	**20 16 12.8 +0.1**
LBTB				IAmb	IAmb	20 16 14.8
	comp=Z,304nm,1.1s					
LBTB	**Lobatse**	**74.72**	**222**	P	**P**	**20 16 13.3 +0.6**
LBTB				pmax	pmax	
	comp=Z,271nm,1.1s					
LBTB	**Lobatse**	**74.72**	**222**	*i P*	**P**	**20 16 14.3 +1.6**
LBTB	**Lobatse**	**74.72**	**222**	*i P*	**P**	**20 16 14.3 +1.6**
LBTB	**Lobatse**	**74.72**	**222**	P	**P**	**20 16 13.3 +0.6**
ILAR	**Eielson Array**	**74.72**	**16**	P	**P**	**20 16 12.3 +0.1**
	comp=Z,27nm,0.9s,baz=317,slow=4.5,SNR=202					
ILAR				pP	**pP**	**20 17 10.1 +0.6**
	comp=Z,18nm,1.0s,baz=313,slow=4.1,SNR=7.1					
ILAR				sP	**sP**	**20 17 35.9 +0.4**
	comp=Z,8.4nm,0.8s,baz=336,slow=3.7,SNR=4.5					
NWCL	**Newcastle**	**74.74**	**217⇑**	*iP*	**P**	**20 16 12.8 0.0**
NWCL				IAmb	IAmb	20 16 14.2
	comp=Z,199nm,1.1s					
KIC	**Kosan Boka**	**74.78**	**267**	*e*PKP2	**P**	**20 16 12.4 -0.9**
	comp=Z,71nm,0.4s					
KTH	**Kantishna Hill**	**74.81**	**18**	IAmb	IAmb	20 16 14.7
	comp=Z,136nm,1.0s					
TIC	**Toumodi**	**74.84**	**267**	*e*PKP2	**P**	**20 16 11.5 -2.2**
L19K	**White Mountain**	**74.89**	**20**	IAmb	IAmb	20 17 14.3
	comp=Z,135nm,1.3s					
WDLM	**Western Deep L**	**74.89**	**220**	*eP*	**P**	**20 16 14.4 +0.6**
WDLM				IAmb	IAmb	20 16 15.3
	comp=Z,100nm,1.1s					
L20K	**Farewell, AK**	**74.92**	**20**	P	**P**	**20 16 14.4 +1.0**
	baz=324					
TSUM	**Tsumeb**	**74.95**	**232⇑**	*iP*	**P**	**20 16 13.6 -0.6**
TSUM	**Tsumeb**	**74.95**	**232**	P	**P**	**20 16 14.0 -0.2**
TSUM				IAmb	IAmb	20 16 16.1
	comp=Z,139nm,1.1s					
TSUM	**Tsumeb**	**74.95**	**232**	P	**P**	**20 16 14.6 +0.4**
GENI	**Genyem**	**74.97**	**105**	P	**P**	**20 16 15.2 +0.8**
	comp=Z,3μmcomp=Z,273nm,1.2s					
GENI	**Genyem**	**74.97**	**105**	P	**P**	**20 16 15.2 +0.8**
	comp=Z,276nm,1.2s					
HDA	**Harding Lake**	**75.02**	**16**	P	**P**	**20 16 13.2 -0.7**
	baz=329,SNR=21					
PPLA	**Purkeypile**	**75.03**	**19**	P	**P**	**20 16 14.5 +0.3**
PPLA				pP	**pP**	**20 17 11.9 +0.3**
PPLA	**Purkeypile**	**75.03**	**19**	P	**P**	**20 16 14.9 +0.7**
	baz=325,SNR=12					
TRF	**Thorofare Moun**	**75.05**	**18**	P	**P**	**20 16 14.3 0.0**
	baz=327,SNR=10					
LIC	**Lamto**	**75.09**	**267**	*e*PKP2	**P**	**20 16 13.0 -2.1**
	comp=Z,635nm,1.4s					
MCK	**McKinley**	**75.14**	**17**	P	**P**	**20 16 15.4 +0.7**
	baz=328,SNR=21					
EPYK	**Eagle Plains**	**75.20**	**11**	P	**P**	**20 16 15.6 +0.7**
	baz=337,SNR=18					
M19K	**Big River Lodg**	**75.25**	**20**	P	**P**	**20 16 16.1 +0.9**
	baz=324					
PRYS	**Parys**	**75.33**	**220⇑**	*iP*	**P**	**20 16 15.7 -0.5**
PRYS				IAmb	IAmb	20 16 17.4
	comp=Z,82nm,1.1s					
JAY	**Jayapura**	**75.34**	**104**	P	**P**	**20 16 17.8 +1.2**
	comp=Z,500nmcomp=Z,26nm,2.0s					
RND	**Reindeer**	**75.44**	**17**	P	**P**	**20 16 16.2 -0.2**
RND				*PP	**pP**	**20 17 14.2 +0.4**
RND	**Reindeer**	**75.44**	**17**	P	**P**	**20 16 16.2 -0.2**
RND				pP	**pP**	**20 17 14.2 +0.4**
RND				IAmb	IAmb	20 17 16.2
	comp=Z,170nm,1.5s					
I29M	**Ogilvie Camp,**	**75.87**	**12**	P	**P**	**20 16 18.4 -0.3**
	baz=336,SNR=15					
EGAK	**Eagle**	**75.89**	**14**	IAmb	IAmb	20 17 18.9
	comp=Z,201nm,1.9s					
EGAK	**Eagle**	**75.89**	**14**	P	**P**	**20 16 19.6 +0.8**
	baz=334					
CUT	**Chulitna**	**75.94**	**18**	P	**P**	**20 16 18.8 -0.3**
CUT					**pP**	**20 17 16.6 0.0**
CUT				sP	**sP**	**20 17 41.7 -0.9**
CUT	**Chulitna**	**75.94**	**18**	P	**P**	**20 16 18.7 -0.3**
	baz=327,SNR=5.8					
SCRK	**Sand Creek**	**76.04**	**15**	P	**P**	**20 16 20.1 +0.2**
	baz=332,SNR=55					
RIDG	**Independent Ri**	**76.07**	**16**	IAmb	IAmb	20 16 21.3
	comp=Z,103nm,1.3s					
RIDG	**Independent Ri**	**76.07**	**16**	P	**P**	**20 16 20.3 +0.5**
	baz=331,SNR=25					
DHY	**Denali Highway**	**76.07**	**17**	P	**P**	**20 16 19.6 -0.5**
	baz=329,SNR=30					
N19K	**Bonanza Creek**	**76.10**	**21**	P	**P**	**20 16 21.4 +1.2**
	baz=324					
SNKL	**Senekal, Frees**	**76.23**	**218⇑**	*iP*	**P**	**20 16 20.6 -0.7**
SNKL				IAmb	IAmb	20 16 22.8
	comp=Z,328nm,1.2s					
DOT	**Dot Lake**	**76.31**	**15**	P	**P**	**20 16 21.7 +0.5**
DOT				pP	**pP**	**20 17 19.7 +0.8**
DOT				sP	**sP**	**20 17 43.2 -1.7**
WAT6	**Susitna Watana**	**76.41**	**17**	P	**P**	**20 16 22.1 +0.1**
	baz=329,SNR=23					
SWZ	**Schweizer**	**76.60**	**221**	*e*P	**P**	**20 16 23.5 +0.1**
SWZ				IAmb	IAmb	20 16 24.8
	comp=Z,250nm,1.1s					
PAX	**Paxson**	**76.60**	**16**	P	**P**	**20 16 23.6 +0.6**
	baz=331,SNR=46					
J29M	**Klondike Camp**	**76.72**	**13**	P	**P**	**20 16 23.8 +0.3**
J29M				pP	**pP**	**20 17 22.6 +1.4**
J29M				IAmb	IAmb	20 17 29.2
	comp=Z,118nm,1.2s					
J29M	**Klondike Camp**	**76.72**	**13**	P	**P**	**20 16 24.7 +1.2**
	baz=336,SNR=13					
DAWY	**Dawson**	**76.86**	**13**	P	**P**	**20 16 25.0 +0.7**
	baz=335,SNR=49					
PMR	**Palmer**	**76.91**	**18**	IAmb	IAmb	20 17 24.1
	comp=Z,112nm,1.3s					
PMR	**Palmer**	**76.91**	**18**	P	**P**	**20 16 24.8 +0.2**
	baz=328,SNR=11					
SML	**Sawmill**	**76.93**	**18**	P	**P**	**20 16 24.9 +0.1**
SML				IAmb	IAmb	20 16 26.5
	comp=Z,136nm,1.0s					
SML				pP	**pP**	**20 17 22.7 +0.3**
SML				sP	**sP**	**20 17 49.6 +1.3**
SML	**Sawmill**	**76.93**	**18**	P	**P**	**20 16 24.7 0.0**
	baz=328,SNR=27					
MENT	**Mentasta**	**77.02**	**16**	IAmb	IAmb	20 19 12.1
	comp=Z,53nm,0.6s					
L26K	**Log Cabin Wild**	**77.02**	**15**	IAmb	IAmb	20 17 25.6
	comp=Z,125nm,1.6s					
L26K	**Log Cabin Wild**	**77.02**	**15**	P	**P**	**20 16 25.8 +0.6**
	baz=332,SNR=25					
P18K	**Big Mountain,**	**77.03**	**22**	IAmb	IAmb	20 17 25.8
	comp=Z,206nm,1.3s					
CAPN	**Captain Cook N**	**77.07**	**20**	P	**P**	**20 16 27.8 +2.4**
	baz=326					
SCM	**Sheep Creek Mo**	**77.16**	**18**	P	**P**	**20 16 26.4 +0.4**
SCM				pP	**pP**	**20 17 23.9 +0.2**
SCM				IAmb	IAmb	20 18 13.9
	comp=Z,117nm,1.2s					
SCM	**Sheep Creek Mo**	**77.16**	**18**	P	**P**	**20 16 26.8 +0.8**
	baz=329,SNR=15					
HARP	**HAARP**	**77.17**	**16**	P	**P**	**20 16 27.8 +1.7**
	baz=331,SNR=55					
RC01	**Rabbit Creek A**	**77.18**	**19**	IAmb	IAmb	20 17 26.4
	comp=Z,195nm,1.4s					
RC01	**Rabbit Creek A**	**77.18**	**19**	P	**P**	**20 16 26.3 +0.2**
	baz=328,SNR=13					
M24K	**Tolsona, Glenn**	**77.19**	**17**	P	**P**	**20 16 27.3 +1.1**
	baz=330,SNR=27					
UNV	**Unalaska Valle**	**77.21**	**31**	IAmb	IAmb	20 19 23.7
	comp=Z,98nm,1.1s					
UNV	**Unalaska Valle**	**77.21**	**31**	P	**P**	**20 16 26.0 -0.3**
	baz=316					
UNV	**Unalaska Valle**	**77.21**	**31**	P	**P**	**20 16 26.5 +0.2**
KNK	**Knik Glacier**	**77.24**	**18**	IAmb	IAmb	20 17 26.6
	comp=Z,175nm,1.3s					
KNK	**Knik Glacier**	**77.24**	**18**	P	**P**	**20 16 27.1 +0.7**
	baz=328,SNR=22					
L27K	**Beaver Creek,**	**77.30**	**15**	P	**P**	**20 16 27.4 +0.6**
L27K				pP	**pP**	**20 17 25.6 +1.1**
L27K				sP	**sP**	**20 17 51.8 +1.4**
L27K	**Beaver Creek,**	**77.30**	**15**	P	**P**	**20 16 28.2 +1.5**
	baz=334					
M26K	**Nabesna, AK**	**77.65**	**15**	P	**P**	**20 16 29.8 +1.1**
	baz=333					
FALS	**False Pass**	**77.71**	**29**	P	**P**	**20 16 28.9 -0.1**
	baz=318					
PWL	**Port Wells**	**77.74**	**19**	P	**P**	**20 16 29.7 +0.5**
PWL				pP	**pP**	**20 17 27.1 +0.1**
PWL	**Port Wells**	**77.74**	**19**	P	**P**	**20 16 29.3 +0.1**
	baz=329,SNR=11					
WIN	**Windhoek**	**77.74**	**230⇑**	*iP*	**P**	**20 16 30.8 +0.9**
WIN				IAmb	IAmb	20 16 31.4
	comp=Z,38nm,1.3s					
WIN	**Windhoek**	**77.74**	**230**	IAmb	IAmb	20 16 32.4
	comp=Z,104nm,1.3s					
BOSA	**Boshof**	**77.79**	**220**	P	**P**	**20 16 30.1 +0.2**
	comp=Z,90nm,0.9s,baz=20,slow=3.8,SNR=100					
BOSA				pP	**pP**	**20 17 29.9 +2.0**
	comp=Z,36nm,0.9s,baz=43,slow=8.3,SNR=6.1					
BOSA	**Boshof**	**77.79**	**220⇑**	*iP*	**P**	**20 16 29.6 -0.3**
BOSA				IAmb	IAmb	20 16 31.2
	comp=Z,188nm,1.1s					
BOSA	**Boshof**	**77.79**	**220**	P	**P**	**20 16 29.5 -0.5**
BOSA				IAmb	IAmb	20 16 31.5
	comp=Z,171nm,1.1s					
BOSA				pP	**pP**	**20 17 26.4 -1.5**
KLU	**Klutina**	**77.79**	**17**	P	**P**	**20 16 30.7 +1.2**
	baz=330,SNR=18					
Q19K	**Cape Douglas,**	**77.88**	**22**	P	**P**	**20 16 30.8 +0.7**
	baz=325					
M27K	**Edge Creek, AK**	**77.92**	**15**	P	**P**	**20 16 31.4 +1.0**
M27K				IAmb	IAmb	20 16 33.1
	comp=Z,89nm,0.9s					
M27K				pP	**pP**	**20 17 29.2 +1.0**
M27K	**Edge Creek, AK**	**77.92**	**15**	P	**P**	**20 16 31.8 +1.4**
	baz=334					
BRLK	**Bradley Lake**	**77.99**	**20**	IAmb	IAmb	20 17 29.7
	comp=Z,97nm,1.2s					
N25K	**Chitina, Valde**	**78.00**	**17**	IAmb	IAmb	20 17 32.4
	comp=Z,269nm,1.9s					
N25K	**Chitina, Valde**	**78.00**	**17**	P	**P**	**20 16 31.1 +0.4**
	baz=331,SNR=9.0					
GLI	**Glacier Island**	**78.04**	**18**	IAmb	IAmb	20 17 30.7
	comp=Z,129nm,1.3s					
GLI	**Glacier Island**	**78.04**	**18**	P	**P**	**20 16 31.2 +0.4**
	baz=330,SNR=8.9					
BRSE	**Bradley Lake S**	**78.05**	**20**	P	**P**	**20 16 31.1 +0.2**
	baz=327					
BVCY	**Beaver Creek**	**78.08**	**15**	P	**P**	**20 16 32.4 +1.3**
	baz=334,SNR=24					
SEW	**Seward**	**78.09**	**19**	P	**P**	**20 16 30.2 -0.9**
SEW	**Seward**	**78.09**	**19**	P	**P**	**20 16 30.9 -0.1**
	baz=328					
FID	**Port Fidalgo**	**78.30**	**18**	IAmb	IAmb	20 17 33.5
	comp=Z,155nm,1.3s					
GLB	**Gilahina Butte**	**78.32**	**16**	P	**P**	**20 16 33.7 +1.3**
GLB					**pP**	**20 17 29.8 -0.5**
CHGN	**Chignik**	**78.44**	**26**	P	**P**	**20 16 32.9 -0.1**
	baz=322					
SDPT	**Sand Point**	**78.44**	**27**	P	**P**	**20 16 33.6 +0.5**
	baz=320					
BMRM	**Bremner River**	**78.56**	**17**	IAmb	IAmb	20 17 35.0
	comp=Z,140nm,1.3s					
BMRM	**Bremner River**	**78.56**	**17**	P	**P**	**20 16 34.9 +1.2**
	baz=332,SNR=15					
EYAK	**Cordova Ski Ar**	**78.65**	**18**	IAmb	IAmb	20 16 36.6
	comp=Z,66nm,0.9s					
EYAK	**Cordova Ski Ar**	**78.65**	**18**	P	**P**	**20 16 35.3 +1.2**
	baz=331,SNR=7.6					
M30M	**Minto, Yukon**	**78.70**	**13**	P	**P**	**20 16 35.4 +1.0**
	baz=338					
YUK3	**Moose Creek**	**78.74**	**15**	P	**P**	**20 16 36.2 +1.3**
	baz=335,SNR=22					
BARN	**Barnard Glacie**	**79.14**	**15**	IAmb	IAmb	20 17 38.6
	comp=Z,153nm,1.4s					
KDAK	**Kodiak Island**	**79.14**	**22**	P	**P**	**20 16 37.5 +0.6**
KDAK				*PP	**pP**	**20 17 35.2 +0.6**
KDAK	**Kodiak Island**	**79.14**	**22**	P	**P**	**20 16 37.5 +0.6**
KDAK				pP	**pP**	**20 17 35.2 +0.6**
KDAK	**Kodiak Island**	**79.14**	**22**	P	**P**	**20 16 37.3 +0.5**
	baz=326					
TGL	**Tana Glacier**	**79.15**	**16**	IAmb	IAmb	20 17 37.5
	comp=Z,131nm,1.4s					
CHNA	**Chernabura Isl**	**79.17**	**27**	P	**P**	**20 16 36.9 -0.1**
	baz=321					
CNBA	**Chernabura Isl**	**79.18**	**27**	IAmb	IAmb	20 16 38.3
	comp=Z,88nm,0.9s					
HVD	**Gariep Dam**	**79.27**	**219⇑**	*iP*	**P**	**20 16 37.8 -0.3**
HVD				IAmb	IAmb	20 16 39.4
	comp=Z,125nm,1.2s					
BERG	**Berg Lake**	**79.28**	**17**	P	**P**	**20 16 38.6 +1.0**
BERG				IAmb	IAmb	20 16 40.3
	comp=Z,132nm,0.9s					
BERG					**pP**	**20 17 36.6 +1.0**
CTG	**Chitna Glacier**	**79.29**	**15**	P	**P**	**20 16 39.1 +1.3**
	baz=334,SNR=11					
CTGM	**Chitina Glacie**	**79.29**	**15**	IAmb	IAmb	20 17 38.7
	comp=Z,159nm,1.4s					
OHAK	**Old Harbor**	**79.39**	**23**	IAmb	IAmb	20 17 39.3
	comp=Z,174nm,1.2s					
OHAK	**Old Harbor**	**79.39**	**23**	P	**P**	**20 16 38.5 +0.4**
	baz=325					
GRNC	**Granite Creek**	**79.41**	**16**	P	**P**	**20 16 39.5 +0.9**
GRNC					**pP**	**20 17 37.6 +0.9**
WAX	**Waxell Ridge**	**79.42**	**16**	IAmb	IAmb	20 17 40.4
	comp=Z,271nm,1.7s					
M31M	**Drury Creek, Y**	**79.46**	**12**	P	**P**	**20 16 39.2 +0.6**
	baz=340,SNR=31					
Q23K	**Middleton Isla**	**79.48**	**18**	P	**P**	**20 16 39.3 +0.7**
	baz=330					
LOGN	**Logan Glacier**	**79.49**	**15**	P	**P**	**20 16 39.5 +0.6**
LOGN				pP	**pP**	**20 17 37.4 +0.4**
LOGN				IAmb	IAmb	20 17 39.7
	comp=Z,126nm,1.4s					
KAIM	**Kayak Island**	**79.52**	**17**	P	**P**	**20 16 39.7 +0.8**
	baz=332					
SII	**Sitkinak Islan**	**79.65**	**24**	P	**P**	**20 16 40.5 +0.9**
	baz=325					
UPI	**Upington**	**79.73**	**223⇑**	*iP*	**P**	**20 16 40.9 +0.4**
UPI				IAmb	IAmb	20 16 42.3
	comp=Z,110nm,1.2s					
YAH	**Yahtse**	**79.75**	**16**	P	**P**	**20 16 41.5 +1.2**
YAH				IAmb	IAmb	20 17 44.1
	comp=Z,221nm,1.7s					
MESA	**MESA**	**79.87**	**16**	P	**P**	**20 16 41.2 +0.2**
	baz=334					
N31M	**Braeburn, Yuko**	**79.90**	**13**	P	**P**	**20 16 41.8 +0.8**
	baz=338,SNR=14					
MBO	**M'Bour**	**79.95**	**280**	P	**P**	**20 16 41.5 -0.4**
MBO				pP	**pP**	**20 17 39.4 +0.1**
PCA	**Pinnacle**	**80.31**	**15**	IAmb	IAmb	20 17 44.9
	comp=Z,94nm,1.0s					
PINM	**Pinnacle**	**80.31**	**15**	P	**P**	**20 16 44.6 +1.4**
	baz=335,SNR=5.0					
ARMS	**Ukamas**	**80.32**	**224**	*e*P	**P**	**20 16 44.4 +0.8**
ARMS				IAmb	IAmb	20 16 45.6
	comp=Z,260nm,1.2s					
WHY	**Whitehorse**	**80.83**	**13**	P	**P**	**20 16 46.0 +0.1**
	baz=339,SNR=12					
PNL	**Peninsula**	**80.88**	**15**	P	**P**	**20 16 47.4 +1.2**
	baz=336					
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**20 16 48.7 +1.1**
	comp=Z,20nm,0.5s,baz=352,slow=5.4,SNR=357					
YKA				pP	**pP**	**20 17 46.9 +1.1**
	comp=Z,54nm,0.9s,baz=348,slow=5.3,SNR=12					
YKA				sP	**sP**	**20 18 10.7 -0.9**
	comp=Z,17nm,0.6s,baz=349,slow=5.5,SNR=9.4					
YKA				S	**S**	**20 26 34.1 -2.8**
	comp=Z,2.9nm,1.2s,baz=0.2,slow=12,SNR=4.2					
YKA				PKKPbc	**PKKPbc**	**20 35 20.4 -1.3**
	comp=Z,0.2nm,0.4s,baz=164,slow=2.8,SNR=6.8					
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**20 16 48.1 +0.5**
YKA				pP	**pP**	**20 17 46.5 +0.7**
AUSN	**Aus**	**81.30**	**228**	*eP*	**P**	**20 16 49.3 +0.4**
AUSN				IAmb	IAmb	20 16 51.2
	comp=Z,120nm,1.2s					
P33M	**Teslin, Yukon**	**81.60**	**12**	P	**P**	**20 16 50.4 +0.4**
	baz=341,SNR=44					
SKAG	**Skagway**	**81.87**	**13**	IAmb	IAmb	20 17 52.8
	comp=Z,112nm,1.3s					
SKAG	**Skagway**	**81.87**	**13**	P	**P**	**20 16 52.8 +1.5**
	baz=339,SNR=11					
WB0	**Warramunga Arr**	**81.95**	**122**	P	**P**	**20 16 51.1 -1.2**
WB0				IAmb	IAmb	20 16 52.9
	comp=Z,134nm,1.1s					
WB0				pP	**pP**	**20 17 49.2 -1.2**
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**20 16 51.9 -0.8**
	comp=Z,111nm,1.0s,baz=323,slow=5.2,SNR=291					
WRA				pP	**pP**	**20 17 51.4 +0.6**
	comp=Z,27nm,1.0s,baz=318,slow=5.0,SNR=11					
WRA				PP	**PP**	**20 20 05.2 +0.8**
	comp=Z,14nm,1.1s,baz=313,slow=9.2,SNR=4.7					
WRA				PKKPbc	**PKKPbc**	**20 35 21.2 +1.2**
	comp=Z,1.2nm,0.5s,baz=127,slow=2.4,SNR=22					
WRA				PKPPKP		20 43 24.4
	comp=Z,1.5nm,1.0s,baz=132,slow=1.5,SNR=6.4					
WRAB	**Tennant Creek**	**82.03**	**122**	*d iP*	**P**	**20 16 52.0 -0.7**
WRAB				pmax	pmax	
	comp=Z,152nm,1.0s					
WRAB	**Tennant Creek**	**82.03**	**122**	P	**P**	**20 16 51.9 -0.8**
WRAB				IAmb	IAmb	20 16 54.0
	comp=Z,114nm,0.8s					
WRAB				pP	**pP**	**20 17 50.7 -0.1**
WRAB	**Tennant Creek**	**82.03**	**122**	P	**P**	**20 16 52.0 -0.7**
SCHQ	**Schefferville**	**82.04**	**337**	P	**P**	**20 16 52.7 +0.4**
	comp=Z,22nm,1.0s,baz=28,slow=5.9,SNR=11					
WB2	**Warramunga Arr**	**82.04**	**122**	IAmb	IAmb	20 16 54.0
	comp=Z,110nm,0.8s					
WR0	**Warramunga Arr**	**82.18**	**122**	IAmb	IAmb	20 16 54.0
	comp=Z,109nm,1.1s					
GRAN	**Grantham**	**82.33**	**220⇑

CTAO	**Charters Tower**	**90.57 115**	P	**P**	**20 17 34.0**	**-0.3**
CTAO	**Charters Tower**	**90.57 115**	P	**P**	**20 17 33.8**	**-0.5**
PKME	**Peaks-Kenny Pk**	**91.00 333**	P	**P**	**20 17 36.3**	**+0.4**
	baz=31					
ULM	**Lac du Bonnet**	**92.79 352**	P	**P**	**20 17 44.4**	**+0.2**
	comp=Z,35nm,1.1s,baz=2.1,slow=5.6,SNR=17					
ULM			pP	**pP**	**20 18 45.0**	**+1.6**
	comp=Z,18nm,1.1s,baz=10,slow=3.7,SNR=5.6					
LBNH	**Lisbon**	**92.83 334**	P	**P**	**20 17 44.8**	**+0.4**
	baz=29					
LONY	**Lake Ozonia**	**93.39 336**	P	**P**	**20 17 47.1**	**+0.1**
LONY	**Lake Ozonia**	**93.39 336**	P	**P**	**20 17 48.1**	**+1.1**
	baz=27					
EYMN	**Ely**	**94.42 348**	IAmb	IAmb	20 17 53.5	
	comp=Z,61nm,1.2s					
EYMN	**Ely**	**94.42 348**	P	**P**	**20 17 52.5**	**+0.8**
	baz=14					
SADO	**Sadowa**	**94.65 339**	P	**P**	**20 17 53.2**	**+0.4**
	comp=Z,17nm,1.0s,baz=265,slow=0.7,SNR=3.4					
L61B	**Northampton**	**94.66 334**	P	**P**	**20 17 53.6**	**+0.8**
	baz=28					
AGMN	**Agassiz Nation**	**94.71 351**	IAmb	IAmb	20 19 00.7	
	comp=Z,40nm,1.2s					
AGMN	**Agassiz Nation**	**94.71 351**	P	**P**	**20 17 53.8**	**+0.8**
	baz=11					
B05A	**Bryant**	**94.75 9**	P	**P**	**20 17 54.8**	**+1.7**
	baz=350					
STKA	**Stephens Creek**	**94.83 126**	P	**P**	**20 17 52.9**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=304,slow=4.7,SNR=9.4					
STKA			PP	**PP**	**20 21 47.0**	**+0.8**
	comp=Z,8.4nm,0.9s,baz=301,slow=14,SNR=4.4					
STKA	**Stephens Creek**	**94.83 126**	P	**P**	**20 17 53.8**	**+0.2**
STKA	**Stephens Creek**	**94.83 126**	P	**P**	**20 17 53.8**	**+0.2**
B08A	**Colville Reser**	**94.96 7**	P	**P**	**20 17 54.8**	**+0.6**
B08A				**pP**	**20 18 54.1**	**+0.5**
B08A			IAmb	IAmb	20 18 56.1	
	comp=Z,74nm,1.9s					
C06D	**Leavenworth**	**95.22 8**	P	**P**	**20 17 56.2**	**+0.9**
	baz=350					
DGMT	**Dagmar**	**95.24 357**	IAmb	IAmb	20 18 59.0	
	comp=Z,57nm,1.2s					
NEW	**Newport**	**95.24 5**	P	**P**	**20 17 56.6**	**+1.1**
	baz=354					
D03D	**Eldon**	**95.34 10**	P	**P**	**20 17 56.1**	**+0.3**
	baz=349					
MDND	**Maddock**	**95.55 354**	IAmb	IAmb	20 17 59.4	
	comp=Z,46nm,1.1s					
MDND	**Maddock**	**95.55 354**	P	**P**	**20 17 56.7**	**-0.1**
	baz=7.6					
C09A	**Chrisman Ranch**	**95.61 6**	P	**P**	**20 17 57.6**	**+0.5**
C09A			pP	**pP**	**20 18 57.0**	**+0.3**
EGMT	**Eagleton**	**95.79 1**	P	**P**	**20 17 59.4**	**+1.4**
	baz=359					
BINY	**Binghamton**	**96.01 336**	P	**P**	**20 17 58.4**	**-0.6**
	baz=26					
E04D	**Cinebar**	**96.37 9**	P	**P**	**20 18 00.7**	**+0.2**
	baz=349					
F36A	**Milaca**	**96.77 349**	IAmb	IAmb	20 19 09.2	
	comp=Z,25nm,1.1s					
E08A	**Dider Farm, El**	**96.83 7**	P	**P**	**20 18 02.4**	**-0.2**
E08A				**pP**	**20 19 02.9**	**+0.8**
E08A			IAmb	IAmb	20 19 05.9	
	comp=Z,37nm,1.7s					
LAO	**LASA Array**	**97.09 358**	IAmb	IAmb	20 18 07.0	
	comp=Z,30nm,1.1s					
LAO	**LASA Array**	**97.09 358**	P	Pdif	20 18 04.8	+0.9
	baz=2.3					
F33A	**5 Mile Ranch,**	**97.18 351**	P	**P**	**20 18 04.1**	**-0.1**
F33A			pP	**pP**	**20 19 05.6**	**+2.0**
ERPA	**Erie**	**97.33 339**	P	**P**	**20 18 04.5**	**-0.4**
	baz=23					
F10A	**Beach Ranch, E**	**97.51 6**	IAmb	IAmb	20 20 11.2	
	comp=Z,33nm,1.8s					
M54A	**Oil Creek Stat**	**97.79 338**	P	Pdif	20 18 07.4	+0.3
	baz=23					
SSPA	**Standing Stone**	**98.03 337**	P	Pdif	20 18 08.2	0.0
SSPA			IAmb	IAmb	20 18 09.6	
	comp=Z,22nm,1.2s					
SSPA	**Standing Stone**	**98.03 337**	P	**P**	**20 18 07.9**	**-0.3**
	baz=25					
BOZ	**Bozeman (W)**	**98.19 2**	P	Pdif	20 18 09.5	+0.6
	baz=358					
I40A	**Norwalk**	**98.20 347**	IAmb	IAmb	20 18 12.0	
	comp=Z,28nm,1.1s					
O56A	**Blue Knob Stat**	**98.58 337**	P	Pdif	20 18 10.0	-0.6
	baz=24					
RLMT	**Red Lodge**	**98.69 0**	P	**P**	**20 18 11.6**	**+0.3**
	baz=360					
JFWS	**Jewell Farm**	**99.07 346**	P	**Pdif**	**20 18 12.5**	**-0.2**
	baz=15					
ECSD	**EROS Data Cent**	**99.29 351**	Pdif	**Pdif**	**20 18 12.7**	**-1.1**
ECSD			pP	**pP**	**20 19 13.9**	**+0.7**
ECSD			IAmb	IAmb	20 19 19.4	
	comp=Z,29nm,1.4s					
ECSD	**EROS Data Cent**	**99.29 351**	P	**Pdif**	**20 18 13.0**	**-0.7**
	baz=10					
MCWV	**Mont Chateau**	**99.54 338**	P	**Pdif**	**20 18 14.2**	**-0.7**
	baz=23					
RSSD	**Black Hills**	**99.57 356**	P	**Pdif**	**20 18 15.1**	**-0.1**
	baz=4.1					
HLID	**Hailey**	**100.10 4**	P	**Pdif**	**20 18 16.6**	**-1.0**
	baz=356					
PDAR	**Pinedale Array**	**101.05 0**	P	**Pdif**	**20 18 22.8**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=50,slow=4.0,SNR=7.2					
PDAR			pP	**pPdif**	**20 19 23.8**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=30,slow=2.7,SNR=5.4					
PDAR			PP	**PP**	**20 22 29.8**	**-2.4**
	comp=Z,1.3nm,0.9s,baz=330,slow=5.1,SNR=4.3					
N02D	**Trinity Center**	**101.82 11**	P	**Pdif**	**20 18 22.8**	**-2.3**
	baz=349					
NVAR	**Mina Array Bea**	**104.89 8**	PP	PKiKP	20 23 02.0	+9.2
	comp=Z,0.9nm,0.4s,baz=239,slow=7.0,SNR=2.4					
TXAR	**Lajitas Array**	**114.26 355**	PKP	PKPdf	20 23 11.7	+1.2
	comp=Z,0.2nm,0.5s,baz=347,slow=5.1,SNR=2.7					
TXAR			PKKPbc	**PKKPbc**	**20 33 50.3**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=186,slow=6.2,SNR=6.0					
DIAM	**Diamantina, MG**	**120.28 269**	*eP*	**PKPdf**	**20 23 19.7**	**-2.5**
VNA2	**Neumayer–Watz**	**120.45 202**	PKiKP	**PKiKP**	**20 23 20.9**	**0.0**
	baz=34,slow=2.4					
CAM01	**Campos-RJ**	**120.48 264**	*eP*	**PKiKP**	**20 23 23.3**	**+0.9**
BOAV	**Boa Vista**	**120.57 300**	*eP*	**PKiKP**	**20 23 23.6**	**+0.7**
BOAV	**Boa Vista**	**120.57 300**	PKPdf	**PKPdf**	**20 23 21.7**	**-1.1**
BOAV			PP	**sPKPdf**	**20 24 48.9**	**-1.0**
PEXB	**Peixe**	**120.59 278**	*eP*	**PKiKP**	**20 23 23.6**	**+0.7**
VNA3	**Neumayer Olymp**	**121.26 202**	PKiKP	**PKPdf**	**20 23 22.1**	**-0.3**
ITTB	**Itaituba**	**121.66 290**	*eP*	**PKiKP**	**20 23 25.1**	**0.0**
VAS01	**Vassouras-RJ**	**122.14 265**	*eP*	**PKPdf**	**20 23 24.2**	**-1.3**
SDV	**Santo Domingo**	**122.19 314**	*eP*	**PKiKP**	**20 23 26.2**	**-0.1**
SDV	**Santo Domingo**	**122.19 314**	PKPdf	**PKPdf**	**20 23 24.0**	**-2.1**
SDV			pPKPdf	**pPKPdf**	**20 24 23.5**	**-4.8**
SDV			PP	**sPKPdf**	**20 24 55.7**	**+2.6**
BDFB	**Brasilia**	**122.34 274**	PKP	**PKiKP**	**20 23 26.8**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=275,slow=2.2,SNR=4.2					
BDFB			PP	**PP**	**20 25 02.4**	**-3.3**
	comp=Z,13nm,0.9s,baz=25,slow=9.4,SNR=4.4					
BDFB			PKKPbc	**PKKPab**	**20 33 23.4**	**+0.7**
	comp=Z,9.7nm,1.1s,baz=224,slow=2.6,SNR=6.6					
NPGB	**Novo Progresso**	**123.09 287**	*eP*	**PKiKP**	**20 23 28.3**	**+0.5**
IPMB	**Ipameri, GO**	**123.77 272**	*eP*	**PKiKP**	**20 23 29.0**	**-0.1**
SMLC	**San Martn de**	**124.21 317**	*eP*	**PKPdf**	**20 23 29.3**	**-0.5**
PARB	**Paraibuna**	**124.41 265**	*eP*	**PKiKP**	**20 23 30.9**	**+0.7**
MACA	**Manacapuru-AM**	**124.54 295**	*eP*	**PKiKP**	**20 23 31.1**	**+0.4**
VAO	**Valinhos**	**125.33 266**	*eP*	**PKiKP**	**20 23 32.9**	**+0.8**
ARAG	**Araguaiana, MT**	**125.42 277**	*eP*	**PKiKP**	**20 23 32.9**	**+0.5**
RCLB	**Rio Claro- Sao**	**125.49 267**	*eP*	**PKiKP**	**20 23 33.3**	**+0.9**
ZARC	**Zaragoza, Cauc**	**125.72 317**	*eP*	**PKPdf**	**20 23 32.1**	**-0.6**
CLDB	**Colider**	**125.78 284**	*eP*	**PKiKP**	**20 23 33.3**	**+0.1**
UREC	**San Jos de Ur**	**125.88 318**	*eP*	**PKPdf**	**20 23 33.0**	**0.0**
PET01	**Itanhaem-SP**	**126.19 265**	*eP*	**PKiKP**	**20 23 34.5**	**+0.8**
PTBC	**PUERTO BERRIO**	**126.28 316**	*eP*	**PKPdf**	**20 23 33.6**	**-0.1**
ITRB	**Iturama**	**126.40 271**	*eP*	**PKiKP**	**20 23 34.8**	**+0.6**
DBBC	**Dabeiba**	**126.85 318**	*eP*	**PKiKP**	**20 23 36.2**	**+0.7**
PDRB	**Porto dos Gac**	**126.96 284**	*eP*	**PKiKP**	**20 23 35.5**	**0.0**
NORC	**Norcasia**	**127.31 315**	*eP*	**PKPdf**	**20 23 35.2**	**-0.6**
CHIC	**Chingaza**	**127.42 314**	*eP*	**PKPdf**	**20 23 35.8**	**-0.6**
FRTB	**Fartura**	**127.58 267**	*eP*	**PKiKP**	**20 23 36.9**	**+0.3**
ROSC	**El Rosal**	**127.59 314**	PKP	**PKiKP**	**20 23 37.5**	**+0.2**
	comp=Z,52nm,0.9s,baz=169,slow=3.2,SNR=15					
ROSC			pPKP	**pPKPdf**	**20 24 40.5**	**+1.5**
	comp=Z,11nm,0.5s,baz=132,slow=21,SNR=5.4					
GUY2C	**Guyana, Caldas**	**127.87 316**	*eP*	**PKiKP**	**20 23 38.0**	**0.0**
TIJ01	**Guaruva-PR**	**128.06 265**	*eP*	**PKiKP**	**20 23 38.9**	**+1.4**
PCMB	**Pacaembu**	**128.09 270**	*eP*	**PKiKP**	**20 23 37.7**	**+0.2**
RIMA	**Rio Macho**	**128.20 328**		**PKPdf**	**20 23 36.3**	**-1.3**
RIMA				**pPKPdf**	**20 24 35.5**	**-4.2**
SALV	**Santo Antonio**	**128.63 279**	*eP*	**PKiKP**	**20 23 38.9**	**+0.2**
PLMC	**San Jos del P**	**128.65 316**	*eP*	**PKPdf**	**20 23 37.7**	**-0.7**
PRAC	**Prado**	**128.83 314**	*eP*	**PKPdf**	**20 23 38.3**	**-0.4**
ORTC	**Ortega, Tolima**	**128.88 315**	*eP*	**PKPdf**	**20 23 37.7**	**-1.1**
PP1B	**Ponte de Pedra**	**128.92 277**	*eP*	**PKiKP**	**20 23 39.5**	**+0.2**
YOTC	**Yotoco, Valle**	**129.44 316**	*eP*	**PKPdf**	**20 23 39.2**	**-0.7**
TER01	**Tubaro-SC**	**129.59 261**	*eP*	**PKiKP**	**20 23 40.4**	**+0.1**
PTGB	**Pitanga**	**130.24 267**	*eP*	**PKiKP**	**20 23 42.0**	**+0.2**
VILB	**Vilhena**	**130.47 285**	*eP*	**PKiKP**	**20 23 42.8**	**+0.3**
POPC	**Popayan, Colom**	**130.81 315**	*eP*	**PKPdf**	**20 23 42.6**	**0.0**
AQDB	**Aquidauana**	**131.09 274**	*eP*	**PKPdf**	**20 23 42.5**	**-0.1**
AQDB	**Aquidauana**	**131.09 274**	PKPdf	**PKPdf**	**20 23 41.8**	**-0.8**
AQDB				**pPKPdf**	**20 24 39.5**	**-5.5**
PTLB	**Pontes e Lacer**	**131.10 282**	*eP*	**PKPdf**	**20 23 43.1**	**+0.4**
PTLB	**Pontes e Lacer**	**131.10 282**	PKPdf	**PKPdf**	**20 23 41.6**	**-1.2**
PTLB			PP	PP	20 25 53.7	-9.4
ITAB	**Concordia**	**131.43 264**	*eP*	**PKiKP**	**20 23 44.3**	**+0.2**
PTLC	**Puerto Leguiza**	**131.61 311**	*eP*	**PKiKP**	**20 23 44.8**	**-0.1**
TBTG	**Tabatinga, AM**	**131.77 302**	*eP*	**PKPdf**	**20 23 44.6**	**+0.4**
ETMB	**Extrema**	**133.06 294**	*eP*	**PKPdf**	**20 23 46.6**	**+0.1**
ETMB	**Extrema**	**133.06 294**	PKPdf	**PKPdf**	**20 23 45.8**	**-0.7**
ETMB				**pPKPdf**	**20 24 43.6**	**-5.2**
OTAV	**Otavalo**	**133.70 315**	*eP*	**PKiKP**	**20 23 49.6**	**-0.1**
CPSB	**Cacapava Do Su**	**133.78 261**	*eP*	**PKPdf**	**20 23 47.7**	**+0.2**
PLTB	**Pedras Altas**	**134.43 259**	*eP*	**PKPdf**	**20 23 49.3**	**+0.7**
CPUP	**Villa Florida**	**135.21 268**	PKP	**PKPdf**	**20 23 50.0**	**-0.2**
	comp=Z,9.0nm,0.9s,baz=97,slow=1.6,SNR=8.4					
CPUP			PP	**PP**	**20 26 26.6**	**-2.7**
	comp=Z,12nm,1.0s,baz=58,slow=5.3,SNR=5.1					
CPUP	**Villa Florida**	**135.21 268**	*eP*	**PKPdf**	**20 23 49.9**	**-0.2**
ITQB	**Itaqui**	**136.04 263**	*eP*	**PKPdf**	**20 23 52.4**	**+0.8**
ITQB	**Itaqui**	**136.04 263**	PKPpre	PKPpre	20 23 37.8	
ITQB			PKPdf	**PKPdf**	**20 23 50.7**	**-0.9**
LPAZ	**La Paz**	**138.59 288**	PKP	**PKPdf**	**20 23 57.4**	**-0.1**
	comp=Z,14nm,1.2s,baz=30,slow=5.4,SNR=20					
LPAZ			pPKP	**pPKPdf**	**20 24 59.4**	**-0.6**
	comp=Z,4.3nm,0.9s,baz=9.2,slow=5.7,SNR=4.1					
LPAZ			PP	**PP**	**20 26 48.5**	**-2.4**
	comp=Z,10nm,1.1s,baz=45,slow=9.0,SNR=8.0					
LPAZ	**La Paz**	**138.59 288**	*eP*	**PKPdf**	**20 23 58.0**	**+0.6**
LPAZ	**La Paz**	**138.59 288**		PKPpre	20 23 43.6	
LPAZ			PKPdf	**PKPdf**	**20 23 56.8**	**-0.7**
LPAZ				pPKPdf	20 24 55.6	-4.4
PPT	**Papeete**	**139.59 73**	PP	PP	20 27 10.6	+14
	comp=Z,48nm,1.0s,baz=333,slow=5.4,SNR=4.2					
PMSA	**Palmer Station**	**141.26 209**	*eP*	**PKPdf**	**20 24 00.7**	**+0.7**
PB08	**IPOC Station P**	**141.60 284**		PKPpre	20 23 56.2	
PB08			PKPdf	**PKPdf**	**20 24 01.9**	**-0.7**
PB08				pPKPdf	20 25 01.7	-3.5
PB09	**IPOC Station P**	**142.57 282**		PKPpre	20 23 57.6	
LVC	**Limon Verde**	**142.73 281**	*eP*	**PKPdf**	**20 24 01.2**	**-3.3**
PB06	**IPOC Station P**	**143.30 281**		PKPab	20 24 02.0	+0.2
PB04	**IPOC Station P**	**143.57 282**		PKPab	20 24 02.9	+0.1
PB14	**IPOC Station P**	**144.92 279**		PKPbc	20 24 07.4	-0.6
GO03	**Copiap**	**146.13 274**	PKPdf	**PKPdf**	**20 24 10.3**	**+0.4**
GO03			pPKPdf	pPKPab	20 25 09.8	-2.7
USHA	**Ushuaia**	**146.88 224**	PP	PP	20 27 35.2	-4.1
	comp=Z,16nm,0.9s,baz=5.6,slow=11,SNR=3.3					
AC04	**Llanos de Chal**	**147.06 274**		**PKPdf**	**20 24 12.3**	**+1.0**
LCO	**Las Campanas**	**147.09 272**	PKIKP	**PKPbc**	**20 24 13.0**	**-1.2**
LCO	**Las Campanas**	**147.09 272**		**PKPbc**	**20 24 13.0**	**-1.2**
GO04	**Tololo Observa**	**147.61 270**		**PKPdf**	**20 24 11.9**	**-0.6**
GO04			PKPbc	**PKPbc**	**20 24 14.8**	**-0.8**
CO03	**El Pedregal**	**147.76 269**		**PKPdf**	**20 24 12.5**	**-0.1**
CO03			PKPbc	**PKPbc**	**20 24 15.5**	**-0.3**
CO06	**Fray Jorge**	**148.47 270**		**PKPdf**	**20 24 12.2**	**-1.4**
MT05	**Renca**	**148.62 264**	PKPdf	**PKPdf**	**20 24 14.2**	**+0.3**
BO01	**Tunca**	**149.17 263**		**PKPdf**	**20 24 13.5**	**-1.1**
BO01			PKPbc	**PKPbc**	**20 24 18.6**	**-0.5**
PLCA	**Paso Flores**	**149.84 250**	PKP	**PKPdf**	**20 24 16.1**	**+0.6**
	comp=Z,47nm,1.0s,baz=114,slow=3.0,SNR=21					
PLCA			PKPbc	**PKPbc**	**20 24 20.9**	**+0.3**
	comp=Z,47nm,1.0s,baz=113,slow=2.2,SNR=38					
PLCA			pPKPbc	**pPKPbc**	**20 25 22.6**	**-0.2**
	comp=Z,26nm,1.0s,baz=100,slow=4.4,SNR=4.5					
PLCA	**Paso Flores**	**149.84 250**	*eP*	**PKPdf**	**20 24 17.0**	**+1.5**
PLCA	**Paso Flores**	**149.84 250**	PKPdf	**PKPdf**	**20 24 14.4**	**-1.1**
PLCA			PKPbc	**PKiKP**	**20 24 21.2**	**-0.2**
PLCA			PKPab	**PKPab**	**20 24 26.3**	**-0.7**
MG05	**Puerto Natales**	**150.12 228**	PKPdf	**PKPdf**	**20 24 14.6**	**-0.9**
MG05				**PKPbc**	**20 24 20.3**	**-0.5**
MG05			PKPab	**PKPab**	**20 24 26.5**	**-1.2**
LC01	**Cunco**	**150.66 254**	PKPdf	**PKPdf**	**20 24 15.7**	**-1.1**
LC01			PKPbc	**PKPbc**	**20 24 21.8**	**-0.7**
LC01				**pPKPbc**	**20 25 22.6**	**-2.2**
LL02	**Futaleuf**	**150.90 245**		**PKPbc**	**20 24 21.7**	**-1.2**
COYC	**Coyhaique**	**150.95 240**		**PKPbc**	**20 24 21.8**	**-1.1**
LL04	**Puerto Octay**	**151.26 250**	PKPdf	**PKPdf**	**20 24 16.2**	**-1.4**
LL04				**PKPbc**	**20 24 23.1**	**-0.7**
GO07	**Milladeo Hill,**	**152.23 245**	PKPdf	**PKPdf**	**20 24 17.4**	**-1.6**
GO07				**PKPbc**	**20 24 25.0**	**-0.9**
GO07			PKPab	**PKPab**	**20 24 35.7**	**-1.2**
GO07				**pPKPbc**	**20 25 26.5**	**-1.9**

IDC ***12*** *20:20:02.9±0.6,3.63N×126.72E,h0km,mb4.4/23, mb1 4.4/24,mb1mx4.0/57,mbtmp4.3/24,ML3.7/1,MS3.7/3, Ms1 3.7/3,ms1mx3.0/82 Error ellipse: s-maj=31.0km s-min=12.1km az=70.0*

NEIC ***12*** *20:20:03.4±2.1,3.75N±0.06×127.02E±0.08,h10km±1km, mb4.8/41,Error ellipse: s-maj=14.9km s-min=9.8km az=68.0*

MAN ***12*** *20:20:04.1,3.59N×126.90E,h3km,mb5.4,ML4.4,MS4.7*

DJA ***12*** *20:20:05.0±0.6,4.7N±4.4×12.7E±.,h11km±5km,M4.4/13, mb4.4/9,mB4.8/2,MLv4.4/13,Mw(mB)4.1/2,MwMwp4.5/1, Mwp4.9/1*

ISC 12 20:20:03.6±0.4,3.76N±0.04×127.04E±0.06,h10km,n106, σ1.9 70/104,mb4.6/42,MS4.0/4,1C-3D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.51**	**267**	P		**Pg**	**20 20 31.7**	**-1.0**
SGSI				S		**Sg**	**20 20 52.5**	**+0.1**
TNTI	**Ternate**	**2.99**	**174**	P		**Pb**	**20 20 54.6**	**-2.4**
TNTI	**Ternate**	**2.99**	**174**			**Pn**	**20 20 52.9**	**+1.8**
GSPH	**General Santos**	**3.11**	**318**	*eP*		**Pn**	**20 20 54.8**	**+1.9**
DAV	**Davao City (W)**	**3.59**	**336**	Pn		**Pn**	**20 20 59.9**	**+0.4**
KCP	**Kidapawan**	**3.77**	**329**	*eP*		**Pn**	**20 21 05.4**	**+3.5**
KCP				*i*	S	**Sg**	**20 22 04.6**	**-0.1**
LBMI	**Labuha**	**4.39**	**174**	P		**Pn**	**20 21 13.1**	**+2.6**
KMSI	**Cibinong**	**4.40**	**224**	P		**Pn**	**20 21 13.5**	**+2.9**
CTBH	**Cotabato--PC H**	**4.42**	**321**	*eP*		**Pn**	**20 21 14.8**	**+3.9**
GTOI	**Gorontalo**	**5.09**	**232**	P		**Pn**	**20 21 21.6**	**+1.6**
	0.1nm15nm,0.9s							
SANI	**Sanana**	**5.87**	**190**	P		**Pn**	**20 21 32.8**	**+2.1**
	0.2nm16nm,0.7s							
MRSI	**Marisa**	**6.05**	**237**	P		**Pn**	**20 21 36.7**	**+3.4**
	0.2nm2um737nm77nm,0.9s							
SWI	**Sorong**	**6.24**	**137**	P		**Pn**	**20 21 37.7**	**+1.9**
	0.1nm38nm,1.2s							
SIJI	**Sorong**	**6.24**	**137**	Pn		**Pn**	**20 21 37.2**	**+1.3**
	1.5nm,0.3s,baz=345,slow=12,SNR=10							
SIJI				LR		LR	20 24 18.8	
	comp=Z,401nm,20.5s,baz=2.0,slow=40							
LUWI	**Luwuk**	**6.40**	**222**	P		**Pn**	**20 21 40.4**	**+2.3**
	0.6nm105nm,0.8s							
LUWI	**Luwuk**	**6.40**	**222**			**Pn**	**20 21 37.2**	**-0.9**
TOLI2	**Tolitoli**	**6.79**	**247**			**Pn**	**20 21 43.9**	**+0.5**
APSI	**Ampana**	**7.11**	**229**	P		**Pn**	**20 21 51.2**	**+3.3**
	0.2nm680nm63nm,1.2s							
FAKI	**Fak Fak**	**8.43**	**142**	P		**Pn**	**20 22 08.4**	**+2.4**
	30nm,1.1s							
FAKI	**Fak Fak**	**8.43**	**142**	Pn		**Pn**	**20 22 07.9**	**+1.9**
MYLDM	**Lahad Datu**	**8.63**	**280**	Pn		**Pn**	**20 22 11.2**	**+2.4**
KKM	**Kota Kinabalu**	**11.02**	**282**	Pn		Pn	20 22 46.2	+4.6
MMRI	**Maumere**	**13.21**	**201**	Pn		**Pn**	**20 23 11.2**	**-0.3**
SBUM	**Sibu**	**14.86**	**265**			**Pn**	**20 23 34.5**	**+0.5**
KSM	**Kuching**	**16.87**	**263**	Pn		**Pn**	**20 23 59.2**	**-0.9**
JAGI	**Jajag, Banyuwa**	**17.69**	**227**	Pn		**Pn**	**20 24 08.4**	**-1.9**
DLV	**T Lat**	**20.09**	**295**	P		**P**	**20 24 37.8**	**0.0**
DLV				IAmb		IAmb	20 24 44.9	
	comp=Z,140nm,2.0s							
GUMO	**Guam**	**20.13**	**60**			**P**	**20 24 37.0**	**-1.0**
YULB	**Yu-li**	**20.29**	**345**	P		**P**	**20 24 37.7**	**-2.0**
YULB				IAmb		IAmb	20 25 16.1	
	comp=Z,86nm,1.5s							
TPUB	**Ta-pu**	**20.39**	**343**	P		**P**	**20 24 39.8**	**-1.0**
SSLB	**Suanglung**	**20.76**	**344**	P		**P**	**20 24 43.0**	**-1.9**
SSLB				IAmb		IAmb	20 25 07.0	
	comp=Z,132nm,1.9s							
YHNB	**Yeheng**	**21.49**	**346**	P		**P**	**20 24 51.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**21.77**	**184**	P		**P**	**20 24 55.5**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=15,slow=5.0,SNR=11							
UBPT	**Khong Chiam**	**24.12**	**300**	P		**P**	**20 25 19.0**	**-0.9**
UBPT				IAmb		IAmb	20 25 20.2	
	comp=Z,46nm,1.2s							
WB0	**Warramunga Arr**	**24.47**	**163**	P		**P**	**20 25 20.7**	**-2.4**
WB0				IAmb		IAmb	20 25 32.7	
	comp=Z,18nm,0.9s							
WRAB	**Tennant Creek**	**24.62**	**163**	P		**P**	**20 25 22.9**	**-1.6**
WRAB				IAmb		IAmb	20 25 34.8	
	comp=Z,22nm,1.0s							
WRA	**Warramunga Arr**	**24.62**	**163**	P		**P**	**20 25 24.1**	**-0.4**
	comp=Z,8.0nm,0.8s,baz=343,slow=10,SNR=27							
WRA	**Warramunga Arr**	**24.62**	**163**	P		**P**	**20 25 22.6**	**-1.9**
WB2	**Warramunga Arr**	**24.63**	**163**	P		**P**	**20 25 21.6**	**-2.9**
WB2				IAmb		IAmb	20 25 34.3	
	comp=Z,18nm,0.8s							
WR0	**Warramunga Arr**	**24.70**	**163**	P		**P**	**20 25 22.4**	**-2.7**
WR0				IAmb		IAmb	20 25 35.0	
	comp=Z,17nm,1.1s							
AS31	**Alice Springs**	**28.07**	**167**	P		**P**	**20 25 56.5**	**+0.9**
ASAR	**Alice Springs**	**28.07**	**167**	P		**P**	**20 25 56.1**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=351,slow=16,SNR=9.1							
ASAR	**Alice Springs**	**28.07**	**167**	P		**P**	**20 25 56.2**	**+0.7**
NJ2	**Nanjing**	**29.17**	**346**	*eP*		**P**	**20 26 05.8**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**31.12**	**300**	P		**P**	**20 26 22.1**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=116,slow=7.2,SNR=14							
CHTO	**Chiang Mai**	**31.27**	**301**	P		**P**	**20 26 22.6**	**-1.4**
JHJ	**Hachijo jima 2**	**31.54**	**21**	LR		LR	20 38 36.7	
	comp=Z,229nm,20.4s,baz=307,slow=35							
PZH	**PanZhiHua**	**33.14**	**316**	P		**P**	**20 26 41.6**	**+1.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.2s							
MAT	**Matsushiro**	**34.20**	**16**	P		**P**	**20 26 45.4**	**-4.1**
XAN	**Xi'an**	**34.53**	**333**	P		**P**	**20 26 51.7**	**-0.7**
XAN				pP		sP	20 26 58.0	+2.2
XAN				pmax		pmax		
	comp=Z,280nm,7.0s							
HNS	**HongShan**	**35.34**	**343**	P		**P**	**20 27 03.0**	**+3.8**
HNS				pmax		pmax		
	comp=Z,9.0nm,1.5s							
BJT	**Baijiatuau**	**37.41**	**346**	P		**P**	**20 27 15.5**	**-1.4**
BJT				IAmb		IAmb	20 27 19.8	
	comp=Z,26nm,1.1s							
BJI	**Beijing**	**37.43**	**346**	P		**P**	**20 27 18.5**	**+1.5**
BJI				pmax		pmax		
	comp=Z,24nm,1.1s							
STKA	**Stephens Creek**	**38.05**	**160**	P		**P**	**20 27 23.2**	**+0.8

ARCES	ARCESS Array B	90.53 340	P	P	20 33 05.1	-0.5
	comp=Z,3.9nm,0.9s,baz=79,slow=6.3,SNR=5.0					
FINES	FINESS Array B	91.95 332	P	P	20 33 13.3	+1.0
	comp=Z,2.0nm,0.9s,baz=134,slow=8.2,SNR=4.9					
AKASG	Malin Array Be	92.06 321	P	P	20 33 11.8	-1.3
	comp=Z,1.3nm,0.7s,baz=69,slow=4.1,SNR=7.2					
AKASG	Malin Array Be	92.06 321	IAmb	IAmb	20 33 13.8	
	comp=Z,4.7nm,1.4s					
PSZ	Piszkesteto	98.61 319		P	20 33 40.4	-2.7

*IDC **12** 21:07:53.9±5.4, 43.°00N×86.°09E, h0km, mb1 3.3/3, mb1mx3.1/52, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=65.5km s-min=34.0km az=30.0*
*NNC **12** 21:07:53.9±3.3, 42.°91N×86.°19E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=26.8km s-min=19.0km az=145.0*
*SOME **12** 21:07:59.7, 43.°07N×85.°85E, h10km*
ISC 12 21:07:54.6±1.6, 42.°89N±0.°08×86.°05E±0.°06, h10km, n29, σ2§20/42, 9C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	4.20 279		eP	Pg	21 09 13.4	-1.7
	3.4nm,0.4s						
KTMS				eS	Sb	21 10 06.5	+6.9
	41nm,0.1s						
ZSN	Zaisan	4.63 350		eP	Pg	21 09 22.3	-1.0
	4.1nm,0.1s						
ZSN				eS	Sg	21 10 21.4	-1.9
	15nm,0.8s						
MK31	Makanchi Array	4.73 327		⇑Pn	Pn	21 09 06.0	+0.1
	0.9nm,0.3s,baz=154,slow=14,SNR=44						
MK31				⇑Pg	Pb	21 09 20.7	+3.1
	4.8nm,0.7s,baz=142,slow=17,SNR=12						
MK31				⇑Lg	Lg	21 10 22.8	
	14nm,0.7s,baz=138,slow=29,SNR=9.4						
MKAR	Makanchi Array	4.73 327		Pn	Pn	21 09 05.7	-0.2
	0.7nm,0.3s,baz=149,slow=15,SNR=47						
MKAR				Lg	Lg	21 10 23.2	
	3.9nm,0.3s,baz=140,slow=29,SNR=16						
DJR	Jarkent	4.77 290		eP	Pg	21 09 25.8	-0.1
	5.7nm,0.3s						
DJR				eS	Sg	21 10 27.9	+0.3
	10nm,1.7s						
DJR	Jarkent	4.77 290		Pg	Pg	21 09 25.8	-0.1
	5.7nm,0.3s						
DJR				Lg	Lg	21 10 27.9	
	10nm,1.7s						
PDGK	Podgornoye	4.82 277		⇑Pn	Pn	21 09 05.2	-2.1
	2.9nm,0.9s						
PDGK				⇑Pg	Pb	21 09 21.4	+2.2
	5.1nm,0.7s						
PDGK				⇓Lg	Lg	21 10 28.6	
	39nm,0.9s						
SHLS	Shalkode	4.84 275		eP	Pb	21 09 20.6	+1.1
	6.2nm,0.1s						
SHLS				eS	Sb	21 10 18.6	+0.9
	44nm,0.2s						
MAKZ	Makanchi	4.87 325		⇓Pn	Pn	21 09 08.4	+0.6
	1.4nm,0.6s						
MAKZ				⇑Pg	Pg	21 09 25.8	-2.0
	2.6nm,0.6s						
MAKZ				⇑Lg	Lg	21 10 28.5	
	7.4nm,0.6s						
UZB	Uzynbulak	5.16 275		eP	Pg	21 09 31.6	-1.7
	2.2nm,0.1s						
UZB				eS	Sg	21 10 37.8	-2.4
	18nm,0.7s						
UZB	Uzynbulak	5.16 275		Pg	Pg	21 09 31.6	-1.7
	2.2nm,0.1s						
UZB				Lg	Lg	21 10 37.8	
	18nm,0.7s						
KNOS	Konyrlen	5.20 289		eP	Pg	21 09 34.1	0.0
	3.1nm,0.4s						
KNOS				eS	Sg	21 10 41.9	+0.5
	14nm,0.0s						
KNOS	Konyrlen	5.20 289		Pg	Pg	21 09 34.1	0.0
	3.1nm,0.4s						
KNOS				Lg	Lg	21 10 41.9	
	14nm,0.0s						
KAPS	Kapalarasan	5.38 299		eP	Pg	21 09 36.1	-1.5
	2.2nm,0.4s						
KAPS				eS	Sg	21 10 45.8	-1.4
	10nm,0.2s						
KAPS	Kapalarasan	5.38 299		Pg	Pg	21 09 36.1	-1.5
	2.2nm,0.4s						
KAPS				Lg	Lg	21 10 45.8	
	10nm,0.2s						
SATY	Saty	5.61 274		eP	Pg	21 09 41.6	-0.4
	1.5nm,0.1s						
SATY				eS	Sg	21 10 55.3	+0.6
	20nm,0.1s						
SATY	Saty	5.61 274		Pg	Pg	21 09 41.7	-0.4
	1.5nm,0.1s						
SATY				Lg	Lg	21 10 55.3	
	20nm,0.1s						
BLB	Baldybastay	5.64 285		eP	Pg	21 09 39.8	-2.8
	4.9nm,0.2s						
BLB				eS	Sg	21 10 51.7	-3.8
	13nm,0.3s						
BLB	Baldybastay	5.64 285		Pg	Pg	21 09 39.8	-2.8
	4.9nm,0.2s						
BLB				Lg	Lg	21 10 51.7	
	13nm,0.3s						
TDK	Taldyqorghan	5.91 294		eP	Pg	21 09 47.0	-0.6
	13nm,0.4s						
TDK				eS	Sg	21 11 04.6	+0.5
	21nm,0.1s						
TDK	Taldyqorghan	5.91 294		Pg	Pg	21 09 47.0	-0.6
	13nm,0.4s						
TDK				Lg	Lg	21 11 04.6	
	21nm,0.1s						
ARXS	Arharly	6.12 285		eP	Pg	21 09 48.4	-3.4
	1.3nm,0.0s						
ARXS				eS	Sg	21 11 06.2	-4.8
	6.2nm,0.3s						
MDOK	Medeo	6.60 275		eP	Pg	21 09 58.8	-2.2
	2.6nm,1.6s						
MDOK				eS	Sg	21 11 24.2	-2.3
	8.4nm,0.6s						
MDOK	Medeo	6.60 275		Lg	Lg	21 11 23.0	
	15nm,0.9s						
MDOK	Medeo	6.60 275		Pg	Pg	21 09 58.8	-2.2
	2.6nm,1.6s						
MDOK				Lg	Lg	21 11 24.2	
	8.4nm,0.6s						
KURBB	Kurchatov Arra	9.29 329		⇑Lg	Lg	21 12 48.6	
	12nm,0.8s						
KURK	Kurchatov	9.33 330		⇑Lg	Lg	21 12 50.3	
	9.2nm,0.9s						
ZALV	Zalesovo Beam	11.09 356		Pn	Pn	21 10 33.1	0.0
	0.2nm,0.3s,baz=174,slow=12,SNR=8.0						
ZALV				Sn	Sn	21 12 34.2	-2.9
	0.2nm,0.3s,baz=156,slow=33,SNR=2.3						
SONM	Songino Array	15.12 64		Pn	Pn	21 11 28.6	+0.3
	0.1nm,0.3s,baz=243,slow=13,SNR=2.4						

*MAN **12** 21:08:17.9, 2.°82N×125.°63E, h1km, mb5.2, ML4.1, MS4.2*
*IDC **12** 21:08:20.6±0.8, 3.°61N×126.°69E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.9/41, mbtmp3.9/11, ML3.6/1, MS3.5/17, Ms1 3.5/17, ms1mx3.2/80, Error ellipse: s-maj=46.0km s-min=14.4km az=68.0*
*NEIC **12** 21:08:22.4±2.0, 3.°79N±0.°06×127.°00E±0.°09, h10km±1km, mb4.5/26, Error ellipse: s-maj=15.2km s-min=9.0km az=70.0*
*DJA **12** 21:08:23.9±0.5, 4.°N±4.°×12.°7E±.°, h10km, M4.4/13, mb4.4/7, mB5.2/7, MLv4.3/13, Mw(mB)4.5/7*
ISC 12 21:08:21.8±0.5, 3.°79N±0.°04×127.°07E±0.°06, h10km, n82, σ1§75/69, mb4.4/20, MS3.5/17, 3C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.55 266		P	Pg	21 08 50.6	-0.9
SGSI				S	Sg	21 09 10.8	-0.8
TNTI	Ternate	3.01 174		P	Pb	21 09 14.1	-1.5
TNTI				S	Sb	21 09 51.5	-1.0
TNTI	Ternate	3.01 174			Pn	21 09 11.1	+1.4
TNTI				Sn	Sn	21 09 49.2	+3.4
GSPH	General Santos	3.11 317		⇑ i P	Pn	21 09 12.7	+1.6
DAV	Davao City (W)	3.58 336		Pn	Pn	21 09 17.5	0.0
KCP	Kidapawan	3.76 328		⇑ eP	Pn	21 09 23.9	+3.9
KCP				i S	Sb	21 10 14.3	+0.3
LBMI	Labuha	4.42 174		P	Pn	21 09 32.2	+3.2
CTBH	Cotabato--PC H	4.42 321		⇑ eP	Pn	21 09 33.8	+4.8
KMSI	Cibinong	4.45 224		P	Pn	21 09 32.1	+2.8
GTOI	Gorontalo	5.13 232		P	Pn	21 09 41.4	+2.7
	0.1nm200nm9.7nm,0.7s						
SANI	Sanana	5.90 191		P	Pn	21 09 53.5	+4.1
	0.1nm440nm15nm,0.8s						
MRSI	Marisa	6.09 237		P	Pn	21 09 54.3	+2.3
	0.2nm682nm49nm,0.6s						
SWI	Sorong	6.23 138		P	Pn	21 09 57.6	+3.7
	1.8nm8µm37nm,0.6s						
SIJI	Sorong	6.24 138		Pn	Pn	21 09 57.1	+3.0
	1.4nm,0.3s,baz=351,slow=13,SNR=7.1						
LUWI	Luwuk	6.44 222		Pn	Pn	21 09 56.7	-0.1
TOLI2	Tolitoli	6.83 247			Pn	21 10 02.0	-0.1
APSI	Ampana	7.16 229		P	Pn	21 10 10.3	+3.7
	0.2nm548nm65nm,1.2s						
AAI	Ambon	7.51 171		P	Pn	21 10 08.9	-2.6
MPSI	Mapaga	7.95 245		P	Pb	21 10 34.0	-5.8
FAKI	Fak Fak	8.44 142		P	Pn	21 10 28.2	+4.0
	31nm,1.3s						
FAKI	Fak Fak	8.44 142		Pn	Pn	21 10 25.2	+1.0
MYLDM	Lahad Datu	8.66 279			Pn	21 10 28.7	+1.4
KDI	Kendari	8.89 210		P	Pn	21 10 34.1	+3.7
EDFI	Ende, Flores	13.56 203		P	P	21 11 55.7	+12
SBUM	Sibu	14.89 265			Pn	21 11 53.9	+1.2
KSM	Kuching	16.90 263			Pn	21 12 19.0	+0.2
JAGI	Jajag, Banyuwa	17.73 227		P	P	21 12 29.9	0.0
JAGI				IAmb	IAmb	21 12 38.9	
	comp=Z,26nm,1.3s						
GUMO	Guam	20.09 60		LR	LR	21 19 15.4	
	comp=Z,212nm,21.7s,baz=246,slow=32						
TPUB	Ta-pu	20.37 343		P	P	21 12 57.7	-1.1
TPI	Tanjungpandan	20.47 252		P	Pn	21 13 19.0	+17
FITZ	Fitzroy Crossi	21.80 184		P	P	21 13 13.0	-1.1
	comp=Z,1.0nm,0.5s,baz=49,slow=17,SNR=2.9						
LEM	Lembang	22.10 242		LR	LR	21 23 05.9	
	comp=Z,175nm,18.3s,baz=6.0,slow=41						
PMG	Port Moresby	23.93 123		LR	LR	21 23 45.5	
	comp=Z,88nm,19.0s,baz=260,slow=38						
WB0	Warramunga Arr	24.49 163		P	P	21 13 40.8	-0.7
WB0				IAmb	IAmb	21 13 43.2	
	comp=Z,9.0nm,0.7s						
WRA	Warramunga Arr	24.64 163		P	P	21 13 43.2	+0.4
	comp=Z,6.9nm,0.8s,baz=344,slow=11,SNR=68						
WRA	Warramunga Arr	24.64 163		P	P	21 13 41.8	-1.1
AS31	Alice Springs	28.09 167		P	P	21 14 14.5	+0.5
ASAR	Alice Springs	28.09 167		P	P	21 14 12.4	-1.5
	comp=Z,0.5nm,0.8s,baz=352,slow=9.3,SNR=2.5						
ASAR				LR	LR	21 26 01.3	
	comp=Z,77nm,18.6s,baz=203,slow=38						
ASAR	Alice Springs	28.09 167		P	P	21 14 14.3	+0.3
PSI	Prapat	28.12 269		LR	LR	21 25 48.7	
	comp=Z,84nm,20.6s,baz=46,slow=38						
CMAR	Chiang Mai Arr	31.14 300		P	P	21 14 39.9	-1.1
	comp=Z,0.7nm,0.4s,baz=113,slow=6.3,SNR=6.5						
CMAR				LR	LR	21 26 45.0	
	comp=Z,57nm,21.3s,baz=30,slow=36						
CMAR	Chiang Mai Arr	31.14 300		P	P	21 14 40.0	-1.0
MJAR	Matsushiro Arr	34.17 16		LR	LR	21 29 41.5	
	comp=Z,76nm,19.0s,baz=204,slow=37						
BJT	Baijiatuau	37.39 346		P	P	21 15 35.4	+0.5
BJT				IAmb	IAmb	21 15 37.9	
	comp=Z,13nm,1.1s						
STKA	Stephens Creek	38.07 160		P	P	21 15 39.9	-0.8
	comp=Z,3.7nm,0.8s,baz=322,slow=8.1,SNR=6.7						
STKA	Stephens Creek	38.07 160		P	P	21 15 40.0	-0.7
USRK	Ussuriysk Ar.	40.48 5		LR	LR	21 32 38.0	
	comp=Z,38nm,21.4s,baz=184,slow=36						
ASAJ	Asahikawa	42.44 17		LR	LR	21 35 06.0	
	comp=Z,85nm,18.9s,baz=189,slow=38						
LSA	Lhasa	42.66 311		P	P	21 16 20.0	+0.6
CAN	Canberra	44.01 154		P	P	21 16 27.3	-2.4
CAN				IAmb	IAmb	21 16 50.7	
	comp=Z,17nm,1.5s						
KLR	Kul'dur	45.45 4		P	P	21 16 43.2	+2.2
	comp=Z,0.6nm,0.5s,baz=235,slow=7.5,SNR=3.7						
KLR				LR	LR	21 34 30.2	
	comp=Z,30nm,20.9s,baz=174,slow=34						
PALK	Pallekele	46.27 276		LR	LR	21 36 35.5	
	comp=Z,48nm,21.4s,baz=217,slow=37						
ULN	Ulaanbaatar	47.17 342			P	21 16 55.1	+0.4
SONM	Songino Array	47.35 341		P	P	21 16 56.9	+0.8
	comp=Z,1.1nm,0.6s,baz=155,slow=8.6,SNR=8.2						
SONM				LR	LR	21 39 38.5	
	comp=Z,70nm,20.0s,baz=290,slow=40						
SONM	Songino Array	47.35 341		P	P	21 16 56.1	0.0
SONM				IAmb	IAmb	21 17 07.1	
	comp=Z,3.3nm,1.2s						
MK31	Makanchi Array	57.70 325		P	P	21 18 12.2	-0.6
MKAR	Makanchi Array	57.70 325		P	P	21 18 12.2	-0.5
	comp=Z,1.7nm,0.6s,baz=118,slow=7.7,SNR=16						
MAKZ	Makanchi	57.89 325		P	P	21 18 13.4	-0.7
MAKZ				IAmb	IAmb	21 18 18.1	
	comp=Z,2.6nm,0.9s						
YAK	Yakutsk	58.14 1		P	P	21 18 15.2	-0.3
AAK	Ala-Archa	60.55 318		LR	LR	21 48 22.0	
	comp=Z,50nm,18.8s,baz=87,slow=40						
ZALV	Zalesovo Beam	60.69 333		P	P	21 18 31.8	-1.5
	comp=Z,0.4nm,0.4s,baz=18,slow=20,SNR=2.6						
ZALV	Zalesovo Beam	60.69 333		P	P	21 18 32.9	-0.4
DRK	Karamyk	61.22 313		P	P	21 18 37.0	-0.5
DRK				IAmb	IAmb	21 18 42.9	
	comp=Z,6.2nm,1.4s						
KBL	Kabul	61.76 307		P	P	21 18 39.3	-1.9
KBL				IAmb	IAmb	21 18 40.4	
	comp=Z,3.5nm,1.2s						
KURK	Kurchatov	61.88 327		P	P	21 18 40.1	-1.2
BTK	Batken	62.13 314		P	P	21 18 43.0	-0.4
BTK				IAmb	IAmb	21 18 47.4	
	comp=Z,4.4nm,1.1s						
KKAR	Karatay Array	63.42 317		P	P	21 18 50.5	-1.4
BRVK	Borovoye	67.53 327		P	P	21 19 18.1	-0.1
TIXI	Tiksi	67.78 1		P	P	21 19 19.3	-0.1
TIXI				IAmb	IAmb	21 19 48.5	
	comp=Z,4.0nm,1.2s						
NRIK	Noril'sk	70.45 346		P	P	21 19 37.8	+1.7
	comp=Z,2.7nm,0.6s,baz=134,slow=5.5,SNR=2.6						
NRIK	Noril'sk	70.45 346		P	P	21 19 36.2	+0.1
NRIK				IAmb	IAmb	21 19 43.1	
	comp=Z,3.2nm,0.7s						
ABKAR	Akbulak array	72.32 321		P	P	21 19 46.5	-1.3
ABKAR	Akbulak array	72.32 321		P	P	21 19 46.4	-1.4
ABKAR				IAmb	IAmb	21 19 55.6	
	comp=Z,3.7nm,1.1s						
AKTO	Aktyubinsk	73.83 322		LR	LR	21 54 16.4	
	comp=Z,57nm,20.1s,baz=118,slow=37						
ARU	Arti	75.07 328		P	P	21 20 03.5	-0.2
KDAK	Kodiak Island	81.66 32		LR	LR	21 51 11.5	
	comp=Z,54nm,21.7s,baz=223,slow=31						
IMAR	Indian Mountai	82.15 24		P	P	21 20 43.3	+0.6
H21K	Melozitna Rive	82.49 24		P	P	21 20 44.3	-0.1
H21K				IAmb	IAmb	21 20 46.9	
	comp=Z,7.6nm,1.5s						
KLMR	Klimovskoe	85.52 331		eP	P	21 20 59.0	-0.9
KLMR				AMP		21 21 05.5	
	comp=Z,17nm,1.2s						
BMAR	Burnt Mountain	85.89 23		P	P	21 21 03.3	+1.6
NOA	NORSAR Array B	98.89 334		LR	LR	22 11 34.7	
	comp=Z,27nm,18.6s,baz=250,slow=38						
JMIC	Jan Mayen	99.88 347		LR	LR	22 12 13.5	
	comp=Z,20nm,20.6s,baz=270,slow=38						

CNRM 12 21:37:20.3, 35.°27N×3.°93W, h45km, ml1.2, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.05 187		P	Pn	21 37 27.4	0.0
PALE				S	Sn	21 37 32.8	+0.4
SMIR	Smir Dam	1.25 290		P	Pn	21 37 41.4	+0.1
SMIR				S	Sn	21 37 58.4	+1.4
JBK	JBK	1.46 129		P	Pn	21 37 44.1	-0.2
JBK				S	Sn	21 38 01.6	-0.7

*SFS **12** 21:37:53.0, 35.°40N×3.°71W, ML2.0, ALBORAN SUR*
*CNRM **12** 21:37:53.4, 35.°52N×3.°65W, h28km, ml2.7*
*INMG **12** 21:37:54.0±1.6, 35.°39N×3.°66W, h16km±11km, ML2.2, Error ellipse: s-maj=8.1km s-min=4.7km az=136.0*
*IGIL **12** 21:37:55.9, 35.°63N×3.°69W, h2km*
ISC 12 21:37:52.3±0.8, 35.°51N±0.°03×3.°63W±0.°03, h14km, n25, σ1§96/46, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.39 221		P	Pb	21 38 01.3	+0.4
PALE				S	Sb	21 38 07.2	+0.5
CHAS	Isla Isabel II	1.03 108		P	Pb	21 38 11.7	-0.2
CHAS				S	Sb	21 38 24.2	-1.1
CHAS	Isla Isabel II	1.03 108		P	Pn	21 38 13.1	+0.7
CHAS				S	Sg	21 38 26.3	+0.6
EMAL	Malaga-Limoner	1.41 333		P	Pg	21 38 18.7	-0.6
EMAL				S	Sb	21 38 35.6	-0.4
SMIR	Smir Dam	1.44 277		P	Pn	21 38 17.4	-0.5
SMIR				S	Sn	21 38 34.8	-1.7
CHEFC	Chefchaouen	1.46 254		P	Pg	21 38 19.7	-0.5
CHEFC				S	Sn	21 38 35.0	-2.1
JBK	JBK	1.46 143		P	Pn	21 38 18.6	+0.2
JBK				S	Sn	21 38 33.4	-4.1
CEU	Ceuta	1.47 286		P	Pn	21 38 17.7	-0.6
CEU				S	Sn	21 38 33.9	-3.4
SICH	Sidi Chahed	1.97 225		P	Pn	21 38 25.5	+0.2
SICH				S	Sn	21 38 49.5	-0.3
IFR	Ifrane	2.34 212		P	Pb	21 38 32.8	-1.6
IFR				S	Sn	21 38 57.7	-1.4
MD31	MD31	2.80 200		P	Pn	21 38 37.5	+0.8
MD31				S	Sn	21 39 12.9	+2.6
TDRA	Tendrara	2.80 151		P	Pn	21 38 38.0	+1.2
TDRA				S	Sn	21 39 10.9	+0.4
MDT	Midelt	2.81 197		P	Pn	21 38 37.4	+0.6
MDT				S	Sn	21 39 09.6	-0.9
PVAQ	Vaqueiros	3.80 301		ePn	Pn	21 38 52.5	+2.2
PVAQ				eSn	Sn	21 39 34.4	-0.4
PVAQ				A	A	21 39 42.0	
	2.4nm,0.6s						
PVAQ	Vaqueiros	3.80 301		P	Pn	21 38 50.2	-0.1
PVAQ				S	Sn	21 39 34.0	-0.8
PBDV	Barranco-do-Ve	3.88 298		ePn	Pn	21 38 53.5	+2.0
PBDV				eSn	Sn	21 39 37.0	+0.2
PBDV				A	A	21 39 43.2	
	2.1nm,0.4s						
PCVE	Castro Verde	4.13 302		ePn	Pn	21 38 57.7	+2.8
MESJ	Messejana	4.36 304		eP	Pn	21 38 59.9	+1.8
MESJ	Messejana	4.36 304		eP	Pn	21 38 59.9	+1.8
EVO	Evora	4.62 312		P	Pn	21 39 04.0	+2.3
EVO				S	Sn	21 39 54.1	-1.1
EVO	Evora	4.62 312		ePn	Pn	21 39 04.7	+3.0
EVO				eSn	Sn	21 39 54.8	-0.4
EVO				A	A	21 39 58.3	
	2.1nm,0.4s						
PNCL	Nicolau / Gran	4.71 305		ePn	Pn	21 39 04.8	+1.9
PNCL				eSn	Sn	21 39 52.4	-4.9
PNCL				A	A	21 39 56.1	
	4.5nm,0.7s						
PMRV	Marv??o	4.92 324		ePn	Pn	21 39 09.1	+3.3
PMRV				eSn	Sn	21 40 03.2	+0.6
PMTG	Montargil	5.10 315		ePn	Pn	21 39 11.7	+3.4
OUZM	OUZ	5.29 211		P	Pn	21 39 12.7	+1.8
OUZM				S	Sn	21 40 15.7	+4.0

*IDC **12** 21:47:19.6±3.3, 12.°69S×122.°38E, h0km, mb3.1/1, mb1 3.9/3, mb1mx3.2/21, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=230.9km s-min=35.1km az=47.0*
ISC 12 21:47:22.6±1.1, 12.°52S±0.°08×122.°40E±0.°08, h35km, n17, σ1§52/21, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	2.61 29		P	Pn	21 48 03.2	+0.9
BATI				S	Sn	21 48 33.5	+0.7
BASI	Baing, Sumba	2.90 322		P	Pn	21 48 06.4	+0.2
SOEI	Soe	3.30 34		P	Pn	21 48 13.1	+1.2
SOEI				S	Sn	21 48 49.4	-0.6
EDFI	Ende, Flores	3.81 349		P	Pn	21 48 17.0	-1.9
MMRI	Maumere	3.86 358		P	Pn	21 48 18.9	-0.6
MMRI				S	Sn	21 49 02.0	-1.6
WBSI	Waikabubak, Su	4.11 314		P	Pn	21 48 22.6	-0.3
BSSI	Bau Bau, Buton	6.61 343		P	Pn	21 48 55.8	-1.5
	0.1nm13nm,0.7s						
BKSI	Bulukumba	7.49 342		P	Pn	21 49 09.0	-0.4
	0.0nm12nm,0.6s						
IGBI	Denpasar	8.02 297		P	Pn	21 49 15.6	-1.0
	0.2nm22nm,0.5s						
DNP	Denpasar	8.03 298		P	Pn	21 49 16.1	-0.7
SRBI	Singaraja	8.33 301		P	Pn	21 49 20.1	-0.8
	10nm,0.4s						
BNSI	Bone	8.38 344		P	Pn	21 49 19.9	-1.7
	11nm,1.2s						
KDI	Kendari	8.51 1		P	Pn	21 49 21.2	-2.2
	12µm92nm,1.2s						
JAGI	Jajag, Banyuwa	9.05 296		P	Pn	21 49 29.4	-1.4
WRA	Warramunga Arr	13.63 124		Pn	Pn	21 50 32.9	-0.7
	0.5nm,0.3s,baz=298,slow=13,SNR=12						
WRA				Sn	Sn	21 52 54.0	-10
	0.9nm,0.3s,baz=310,slow=22,SNR=11						
ASAR	Alice Springs	15.56 137		Pn	Pn	21 50 59.8	+0.3
	0.4nm,0.3s,baz=315,slow=12,SNR=34						
ASAR				Sn	Sn	21 53 48.5	-2.4
	0.4nm,0.3s,baz=314,slow=22,SNR=8.3						
MKAR	Makanchi Array	69.10 332		P	P	21 58 28.5	+3.4
	0.1nm,0.4s,baz=148,slow=6.9,SNR=1.7						

WEL 12 22:11:21.5±0.6, 34.°S±7.°×18.°0E±1.°6, h33km, M4.1/5, ML4.3/8, MLv4.1/5, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	3.82 196		P	Pn	22 12 20.7	+2.7
WMGZ				S	Sn	22 13 04.3	+2.6
HAZ	Te Kaha	3.93 203		P	Pn	22 12 21.5	+2.0
HAZ				S	Sn	22 13 05.1	+0.6
PKGZ	Pakihiroa	3.97 199		P	Pn	22 12 22.2	+2.1
PKGZ				S	Sn	22 13 06.0	+0.5
PUZ	Puketiti	4.09 196		P	Pn	22 12 23.9	+2.1
PUZ				S	Sn	22 13 08.5	-0.1
RUGZ	Raukumara Rang	4.16 203		P	Pn	22 12 23.9	+1.1
RUGZ				S	Sn	22 13 08.5	-1.8
MWZ	Matawai	4.54 202		P	Pn	22 12 27.9	-0.1
MWZ				S	Sn	22 13 18.6	-1.0
URZ	Urewera	4.62 206		P	Pn	22 12 28.8	-0.1
URZ				S	Sn	22 13 19.3	-2.0
WCZ	Waipu Caves	4.75 246		P	Pn	22 12 32.7	+1.9
RTZ	Ruatahuna	4.98 205		P	Pn	22 12 32.1	-1.9
SNGZ	Shannon Statio	5.01 202		P	Pn	22 12 33.4	-1.0
SNGZ				S	Sn	22 13 30.0	-1.2
GLKZ	Green Lake	5.27 23		P	Pn	22 12 38.3	+0.4
GLKZ				S	Sn	22 13 35.7	-1.7
KAHZ	Kahuranaki	6.08 201		P	Pn	22 12 47.2	-2.0
KRHZ	Kereru	6.11 205		P	Pn	22 12 46.2	-3.3
KRHZ				S	Sn	22 13 52.1	-6.2
TSZ	Takapari Road	6.62 206		P	Pn	22 12 52.9	-3.6
TSZ				S	Sn	22 14 03.8	-7.1

*LDG **12**

BARS	**Barje**	**0.90**	**126**	*e*Pg	**Pn**	**22 12 13.6**	**+1.2**
BARS				*e*Sg	**Sg**	**22 12 22.0**	**0.0**
BARS				*e*Sg	**Sn**	**22 12 29.3**	**+3.4**
TRUS	**Trudelj**	**0.92**	**341**	*e*Pg	**Pb**	**22 12 11.3**	**-0.2**
TRUS				*e*Sg	**Sb**	**22 12 24.3**	**+0.2**
SVIS	**Svilajnac**	**0.95**	**17**	*e*Pg	**Pn**	**22 12 12.9**	**-0.2**
SVIS				*e*Sg	**Sb**	**22 12 25.2**	**+0.2**
DIVS	**Divibare**	**0.96**	**321**	⇑*i*Pg	**Pg**	**22 12 11.4**	**+0.1**
DIVS				*e*Sg	**Sb**	**22 12 25.8**	**+0.5**
DIVS	**Divibare**	**0.96**	**321**	*e*Pg	**Pg**	**22 12 11.5**	**+0.1**
DIVS				*e*Sg	**Sb**	**22 12 26.2**	**+0.9**
PVY	**Plav**	**0.99**	**220**	*e*Pg	**Pg**	**22 12 11.4**	**-0.5**
PVY				*i* Sg	**Sg**	**22 12 24.9**	**+0.2**
PLE	**Pljevlja**	**1.05**	**269**	⇑*i*Pg	**Pg**	**22 12 12.1**	**-0.9**
PLE				*i* Sg	**Sg**	**22 12 25.8**	**-0.8**
KOME	**Kolasin**	**1.08**	**243**	⇑*i*Pg	**Pg**	**22 12 13.2**	**-0.5**
KOME				*i* Sg	**Sg**	**22 12 27.5**	**-0.2**
RUDO	**Rudo**	**1.09**	**285**	⇓*i*Pg	**Pg**	**22 12 12.5**	**-1.4**
RUDO				*e*Sg	**Sb**	**22 12 28.8**	**-0.2**
ZAGS	**Zajecar**	**1.12**	**65**	*e*Pg	**Pg**	**22 12 14.4**	**0.0**
ZAGS				*e*Sg	**Sb**	**22 12 29.9**	**+0.1**
BBLS	**Lazići**	**1.15**	**297**	⇑*i*Pg	**Pg**	**22 12 14.8**	**-0.2**
BBLS				*e*Sg	**Sb**	**22 12 30.6**	**-0.2**
BBLS	**Lazići**	**1.15**	**297**	*e*Pg	**Pg**	**22 12 15.0**	**0.0**
BBLS				*e*Sg	**Sb**	**22 12 31.2**	**+0.4**
KUBS	**Kucevo**	**1.22**	**30**	*e*Pg	**Pg**	**22 12 15.6**	**-0.8**
KUBS				*e*Sg	**Sg**	**22 12 32.2**	**-0.1**
ZAPS	**Zavoj**	**1.32**	**93**	*e*Pg	**Pn**	**22 12 17.9**	**-0.3**
ZAPS				*e*Sg	**Sg**	**22 12 35.3**	**-0.2**
UPM	**Unac-Piva**	**1.41**	**265**	*e*Pg	**Pn**	**22 12 19.2**	**-0.4**
UPM				*e*Sg	**Sg**	**22 12 37.7**	**-0.5**
UPM	**Unac-Piva**	**1.41**	**265**	⇑*i*Pg	**Pn**	**22 12 19.4**	**-0.2**
UPM				*i* Sg	**Sg**	**22 12 37.9**	**-0.3**
NKY	**Niksic**	**1.45**	**249**	⇓*i*Pg	**Pb**	**22 12 20.3**	**-0.2**
NKY				*i* Sg	**Sn**	**22 12 39.5**	**0.0**
SKO	**Skopje**	**1.45**	**162**	*i* Pn	**Pn**	**22 12 19.5**	**-0.5**
SKO				*e*Sg	**Sb**	**22 12 38.6**	**-0.7**
PDG	**Podgorica**	**1.48**	**232**	⇑P	**Pn**	**22 12 20.0**	**-0.3**
PDG				⇑S	**Sn**	**22 12 39.5**	**-0.6**
PDG	**Podgorica**	**1.48**	**232**	*e*Pg	**Pn**	**22 12 19.8**	**-0.5**
PDG				*e*Sg	**Sn**	**22 12 39.6**	**-0.4**
PDG	**Podgorica**	**1.48**	**232**	*e*Pg	**Pn**	**22 12 19.8**	**-0.5**
PDG				*e*Sg	**Sn**	**22 12 39.6**	**-0.4**
TTG	**Podgorica**	**1.48**	**232**	*e*Pg	**Pb**	**22 12 20.9**	**0.0**
TTG				*i* Sg	**Sg**	**22 12 40.8**	**+0.4**
BOSS	**Bosilegrad**	**1.49**	**125**	*e*Pg	**Pn**	**22 12 19.9**	**-0.6**
BOSS				*e*Sg	**Sn**	**22 12 38.7**	**-1.7**
NKME	**Niksic**	**1.49**	**247**	*e*Pg	**Pb**	**22 12 21.1**	**-0.1**
NKME				*i* Sg	**Sg**	**22 12 41.0**	**+0.1**
TEKS	**Tekeris**	**1.52**	**322**	*e*Pn	**Pg**	**22 12 22.0**	**0.0**
TEKS				*e*Sn	**Sg**	**22 12 42.9**	**+1.2**
TEKS	**Tekeris**	**1.52**	**322**	*e*Pg	**Pn**	**22 12 19.8**	**-1.1**
TEKS				*e*Sg	**Sb**	**22 12 41.4**	**+0.1**
MDVR	**Moldovita**	**1.56**	**24**	⇑P	**Pn**	**22 12 21.1**	**-0.5**
CEME	**Cevo**	**1.61**	**241**	*e*Pn	**Pb**	**22 12 23.0**	**-0.4**
CEME				*i* Sn	**Sg**	**22 12 45.2**	**+0.4**
DRME	**Dracevica, Mon**	**1.68**	**227**	*e*Pn	**Pn**	**22 12 23.4**	**+0.3**
DRME				*e*Sn	**Sn**	**22 12 44.9**	**-0.1**
DRME	**Dracevica, Mon**	**1.68**	**227**	⇑*i*Pn	**Pb**	**22 12 23.9**	**-0.5**
DRME				*i* Sn	**Sg**	**22 12 47.0**	**+0.1**
PHP	**Peshkopia**	**1.69**	**190**	P	**Pb**	**22 12 24.5**	**-0.2**
PHP				S	**Sb**	**22 12 46.2**	**-0.1**
BRY	**Bratogost**	**1.73**	**256**	*e*Pn	**Pn**	**22 12 24.5**	**+0.5**
BRY				*e*Sn	**Sb**	**22 12 47.3**	**-0.3**
BRY	**Bratogost**	**1.73**	**256**	*e*Pn	**Pn**	**22 12 24.4**	**+0.5**
BRY				*i* Sn	**Sb**	**22 12 48.0**	**+0.4**
BUM	**Brajici-Budva**	**1.77**	**234**	⇓*i*Pn	**Pn**	**22 12 25.1**	**+0.7**
BUM				*i* Sn	**Sb**	**22 12 49.1**	**+0.6**
PUNG	**Punghina**	**1.78**	**58**	⇓P	**Pn**	**22 12 24.7**	**+0.1**
PUNG				⇓S	**Sg**	**22 12 51.2**	**+1.0**
DJES	**Djerdap**	**1.79**	**42**	⇓P	**Pn**	**22 12 24.8**	**+0.1**
DJES				⇑S	**Sb**	**22 12 49.4**	**+0.2**
DJES	**Djerdap**	**1.79**	**42**	*e*Pn	**Pn**	**22 12 25.3**	**+0.6**
DJES				*e*Sn	**Sn**	**22 12 47.0**	**-0.9**
ULC	**Ulcinj**	**1.81**	**221**	⇓*i*Pn	**Pn**	**22 12 25.7**	**+0.7**
ULC				*i* Sn	**Sb**	**22 12 50.3**	**+0.5**
BLJ	**Bijeljina**	**1.82**	**322**	*e*Pn	**Pb**	**22 12 26.5**	**-0.2**
BLJ				*e*Sn	**Sb**	**22 12 50.2**	**+0.4**
RMGR	**Halanga-Turnu**	**1.88**	**45**	⇑P	**Pn**	**22 12 26.6**	**+0.8**
HERR	**Herculane**	**1.91**	**36**	⇓P	**Pn**	**22 12 26.1**	**-0.1**
VTS	**Vitosha**	**1.92**	**112**	⇓P	**Pb**	**22 12 27.6**	**-0.9**
VTS	**Vitosha**	**1.92**	**112**	*e*Pn	**Pn**	**22 12 26.0**	**-0.5**
VTS	**Vitosha**	**1.92**	**112**	*i* P	**Pn**	**22 12 26.5**	**0.0**
TREB	**Trebinje**	**1.92**	**252**	*e*Pn	**Pn**	**22 12 27.3**	**+0.9**
TREB				*e*Sn	**Sn**	**22 12 51.7**	**+0.6**
TREB	**Trebinje**	**1.92**	**252**	*e*Pn	**Pn**	**22 12 27.6**	**-0.9**
HCY	**Herceg Novi**	**1.94**	**243**	*e*Pn	**Pn**	**22 12 27.3**	**+0.7**
HCY				*e*Sn	**Sn**	**22 12 51.7**	**+0.3**
HCY	**Herceg Novi**	**1.94**	**243**	⇓*i*Pn	**Pn**	**22 12 27.3**	**+0.7**
HCY				*i* Sn	**Sb**	**22 12 53.1**	**-0.2**
STIP	**Stip**	**1.94**	**148**	*i* Pn	**Pn**	**22 12 26.5**	**-0.2**
STIP				*e*Sg	**Sg**	**22 12 55.9**	**+0.7**
FRGS	**Fruska Gora**	**1.94**	**338**	⇑P	**Pn**	**22 12 25.7**	**-1.1**
FRGS	**Fruska Gora**	**1.94**	**338**	*e*Pn	**Pn**	**22 12 27.4**	**+0.6**
FRGS				*e*Sn	**Sb**	**22 12 52.9**	**-0.7**
FRGS	**Fruska Gora**	**1.94**	**338**	*e*Pn	**Pn**	**22 12 25.6**	**-1.2**
FRGS				*e*Sn	**Sn**	**22 12 51.1**	**-0.6**
BAIL	**Bailesti**	**1.95**	**69**	⇑P	**Pn**	**22 12 27.7**	**+1.0**
BAIL				⇓S	**Sg**	**22 12 56.2**	**+0.7**
BANR	**Banloc**	**2.04**	**6**	⇓P	**Pn**	**22 12 27.5**	**-0.6**
SRE	**Strehaia**	**2.16**	**52**	⇑P	**Pn**	**22 12 30.4**	**+0.7**
KKB	**Krupnik**	**2.23**	**131**	*i* P	**Pg**	**22 12 35.2**	**-0.5**
OHR	**Ohrid**	**2.24**	**180**	*e*Pn	**Pn**	**22 12 32.3**	**+1.4**
BZS	**Buzias**	**2.33**	**14**	⇓P	**Pn**	**22 12 31.1**	**-1.0**
STON	**Ston**	**2.34**	**259**	*e*Pn	**Pn**	**22 12 33.4**	**+1.3**
STON				*e*Sn	**Sn**	**22 13 02.4**	**+1.1**
STON	**Ston**	**2.34**	**259**	*e*Pn	**Pn**	**22 12 32.9**	**+0.8**
STON				Sn	**Sn**	**22 13 02.2**	**+0.9**
STON	**Ston**	**2.34**	**259**	*e*Pn	**Pn**	**22 12 33.1**	**+1.0**
VAY	**Valandovo**	**2.41**	**147**	*e*Pn	**Pn**	**22 12 33.2**	**+0.2**
VAY	**Valandovo**	**2.41**	**147**	*e*Pn	**Pn**	**22 12 33.3**	**+0.2**
GZR	**Gura Zlata**	**2.47**	**34**	⇑P	**Pn**	**22 12 33.9**	**-0.1**
PGB	**Panagyurishte**	**2.58**	**107**	*i* P	**Pn**	**22 12 36.6**	**+1.0**
FNA	**Florina**	**2.60**	**171**	P	**Pn**	**22 12 36.4**	**+0.6**
GRG	**Griva**	**2.67**	**153**	P	**Pn**	**22 12 36.4**	**-0.3**
VLAD	**Vladila**	**2.68**	**75**	⇑P	**Pn**	**22 12 37.3**	**+0.6**
VLAD				⇑S	**Sn**	**22 13 11.9**	**+2.3**
KNT	**Kendrikon**	**2.68**	**144**	P	**Pn**	**22 12 36.3**	**-0.5**
RICI	**Ricice**	**2.69**	**274**	*e*Pn	**Pn**	**22 12 37.3**	**+0.2**
MAKA	**Makarska**	**2.78**	**270**	*e*Pn	**Pn**	**22 12 38.5**	**+0.3**
MAKA				Sn	**Sn**	**22 13 1 0.0**	**0.0**
MMB	**Musomiste**	**2.78**	**128**	*i* P	**Pb**	**22 12 41.3**	**-1.9**
MGRS	**Mrkonjic Grad**	**2.91**	**293**	*e*Pn	**Pn**	**22 12 40.6**	**+0.6**
MGRS				*e*Sn	**Sn**	**22 13 15.9**	**+0.5**
LSTV	**Lastovo**	**2.94**	**260**	*e*Pn	**Pn**	**22 12 40.7**	**+0.3**
BLY	**Banja Luka**	**2.97**	**299**	⇑*i*Pn	**Pn**	**22 12 42.1**	**+1.2**
BLY				*e*Sn	**Sn**	**22 13 18.2**	**+1.2**
LOT	**Lotru**	**2.97**	**44**	⇓P	**Pn**	**22 12 41.2**	**+0.2**
SIRR	**Siria**	**2.97**	**11**	⇑P	**Pn**	**22 12 40.7**	**-0.2**
NVR	**Nevrokopi**	**3.01**	**131**	P	**Pn**	**22 12 41.3**	**-0.2**
SRS	**Serrai**	**3.04**	**136**	P	**Pn**	**22 12 41.3**	**-0.5**
KIJV	**Kijevo**	**3.27**	**283**	*e*Pn	**Pn**	**22 12 45.5**	**+0.5**
MRAK	**Mrakovica**	**3.27**	**302**	⇑*i*Pn	**Pn**	**22 12 45.3**	**+0.2**
MRAK				*e*Sn	**Sn**	**22 13 25.3**	**+0.8**
COPA	**Copaceanca**	**3.28**	**75**	⇑P	**Pn**	**22 12 45.3**	**+0.3**
KOVH	**Kovagotottos**	**3.35**	**326**	PG	**Pn**	**22 12 45.7**	**-0.4**
ARR	**Arges**	**3.39**	**52**	⇑P	**Pn**	**22 12 47.7**	**+0.9**
VOIR		**3.67**	**54**	⇓P	**Pn**	**22 12 51.6**	**+1.0**
MOSL	**Moslavina**	**3.69**	**309**	*e*Pn	**Pn**	**22 12 50.5**	**-0.2**
DRGR		**3.69**	**21**	⇑P	**Pn**	**22 12 50.1**	**-0.7**
SZH	**Strazhica**	**3.73**	**90**	*i* P	**Pn**	**22 12 51.8**	**+0.5**
MORI	**Morici**	**3.75**	**280**	*e*Pn	**Pn**	**22 12 52.2**	**+0.7**
MORI				Sn	**Sn**	**22 13 34.5**	**-1.6**
SGRR	**Singureni**	**3.83**	**75**	⇓P	**Pn**	**22 12 53.1**	**+0.5**
UDBI	**Udbina**	**3.84**	**290**	*e*Pn	**Pn**	**22 12 52.9**	**+0.1**
PLIT	**Plitvice**	**4.04**	**294**	*e*Pn	**Pn**	**22 12 56.0**	**+0.4**
SECR		**4.13**	**64**	⇓P	**Pn**	**22 12 58.1**	**+1.3**
SULR		**4.13**	**69**	⇓P	**Pn**	**22 12 57.9**	**+1.0**
RAZG	**Razgrad**	**4.14**	**85**	⇓P	**Pn**	**22 12 57.0**	**+0.1**
KALN	**Kalnik**	**4.17**	**313**	*e*Pn	**Pn**	**22 12 57.0**	**-0.4**
DOPR	**Dopca**	**4.17**	**50**	⇑P	**Pn**	**22 12 58.5**	**+1.0**
MLR	**Muntele Rosu**	**4.25**	**58**	⇓P	**Pn**	**22 12 59.8**	**+1.3**
PTJ	**Puntijarka**	**4.30**	**308**	*e*Pn	**Pn**	**22 12 58.5**	**-0.8**
LOBO	**Lobor**	**4.39**	**311**	*e*Pn	**Pn**	**22 13 00.2**	**-0.2**
NEHR	**Nehoiu**	**4.43**	**60**	⇑P	**Pn**	**22 13 01.8**	**+0.8**
MPLH	**Magyarpolny**	**4.46**	**330**	PG	**Pn**	**22 13 01.3**	**-0.1**
BOJS	**Bojanci**	**4.53**	**300**	*e*Pn	**Pn**	**22 13 02.3**	**0.0**
CRES	**Cresnjev**	**4.56**	**305**	⇑*i*Pn	**Pn**	**22 13 02.8**	**+0.1**
CRES				*e*Sn	**Sn**	**22 13 56.1**	**-0.1**

PSZ	**Piszkesteto**	**4.61**	**352**	⇑P	**Pn**	**22 13 02.6**	**-0.9**
SRO	**Srobarova**	**4.79**	**339**	*e*SN	**Sn**	**22 14 01.8**	**-0.1**
VRI	**Vrincioaia**	**4.91**	**57**	⇓P	**Pn**	**22 13 08.1**	**+0.6**
RIY	**Rijeka**	**4.96**	**296**	*e*Pn	**Pn**	**22 13 09.3**	**+1.2**
SMRN	**Sveta Marina**	**5.08**	**292**	*e*Pn	**Pn**	**22 13 09.9**	**+0.1**
ICOR	**Ion Corvin**	**5.11**	**79**	⇑P	**Pn**	**22 13 10.9**	**+0.7**
CEY	**Cerknica**	**5.16**	**300**	*e*Pn	**Pn**	**22 13 10.8**	**-0.1**
CEY				*e*Sn	**Sn**	**22 14 09.6**	**-1.3**
TESR	**Tescani**	**5.20**	**51**	⇓P	**Pn**	**22 13 12.3**	**+0.7**
LJU	**Ljubljana**	**5.23**	**303**	*e*Pn	**Pn**	**22 13 12.5**	**+0.6**
SOKA	**Soboth**	**5.28**	**311**	Pn	**Pn**	**22 13 12.7**	**0.0**
	0.5nm,0.2s,SNR=5.5						
SOKA				*e*Sn	**Sn**	**22 14 10.1**	**-3.9**
	1.2nm,0.3s						
HARR	**Harsova**	**5.30**	**73**	⇓P	**Pn**	**22 13 13.1**	**+0.3**
VYHS	**Vyhne**	**5.33**	**346**	*e*PN	**Pn**	**22 13 14.2**	**+1.0**
VYHS				*e*SN	**Sn**	**22 14 11.0**	**-4.0**
SKDS	**Skadanscina**	**5.34**	**297**	*e*Pn	**Pn**	**22 13 14.2**	**+0.7**
ARSA	**Arzberg**	**5.40**	**318**	Pn	**Pn**	**22 13 14.3**	**+0.1**
	2.9nm,0.2s,SNR=9.0						
ARSA				*e*Sn	**Sn**	**22 14 14.7**	**-2.2**
	2.0nm,0.3s						
OBKA	**Obir**	**5.46**	**307**	Pn	**Pn**	**22 13 15.5**	**+0.4**
	2.3nm,0.3s,SNR=7.0						
OBKA				*e*Sn	**Sn**	**22 14 17.9**	**-0.5**
	2.5nm,0.3s						
CRVS	**Cervenica-Dubn**	**5.57**	**4**	*e*PN	**Pn**	**22 13 19.0**	**+2.5**
MODS	**Modra-Piesok**	**5.60**	**335**	*e*PN	**Pn**	**22 13 17.7**	**+0.7**
MODS				*e*SN	**Sn**	**22 14 17.8**	**-3.9**
CONA	**Conrad Observa**	**5.75**	**324**	*e*Pn	**Pn**	**22 13 18.5**	**-0.5**
	1.2nm,0.3s						
CONA				*e*Sn	**Sn**	**22 14 24.4**	**-1.1**
	2.9nm,0.4s						
LANS	**Liptovska Anna**	**5.87**	**351**	*e*PN	**Pn**	**22 13 24.0**	**+3.2**
LANS				*e*SN	**Sn**	**22 14 31.1**	**+2.6**
TLCR		**6.02**	**70**	⇓P	**Pn**	**22 13 23.6**	**+0.8**
MYKA	**Terra Mystica**	**6.05**	**305**	Pn	**Pn**	**22 13 24.3**	**+1.0**
	5.6nm,0.5s,SNR=8.2						
MYKA				*e*Sn	**Sn**	**22 14 32.1**	**-0.9**
	1.6nm,0.4s						
MOA	**Molln**	**6.43**	**317**	*e*Pn	**Pn**	**22 13 29.8**	**+1.4**
	0.5nm,0.2s						
MOA				*e*Sn	**Sn**	**22 14 41.1**	**-1.1**
	2.4nm,0.4s						
KBA	**Koelnbreinsper**	**6.46**	**308**	*e*Pn	**Pn**	**22 13 29.7**	**+0.7**
	0.2nm,0.2s						
KBA				*e*Sn	**Sn**	**22 14 40.4**	**-2.8**
	2.2nm,0.5s						
ABTA	**Abfaltersbach**	**6.79**	**303**	Pn	**Pn**	**22 13 34.9**	**+1.5**
	5.7nm,0.5s,SNR=11						
ABTA				*e*Sn	**Sn**	**22 14 53.4**	**+2.1**
	2.0nm,0.5s						
WTTA	**Wattenberg**	**7.56**	**304**	*i* Pn	**Pn**	**22 13 46.2**	**+2.1**
	5.5nm,0.2s,SNR=12						
WATA	**Walderalm**	**7.63**	**305**	*i* Pn	**Pn**	**22 13 46.7**	**+1.6**
	2.8nm,0.4s,SNR=9.9						
KHC	**Kasperske Hory**	**7.65**	**322**	*e*PN	**Pn**	**22 13 44.4**	**-0.8**
KHC				*e*SN	**Sn**	**22 15 11.3**	**-1.0**
SQTA	**Sankt Quirin**	**7.80**	**303**	*i* Pn	**Pn**	**22 13 49.7**	**+2.4**
	11nm,0.3s,SNR=15						
MOTA	**Moosalm**	**7.92**	**304**	*i* Pn	**Pn**	**22 13 51.1**	**+2.1**
	5.1nm,0.3s,SNR=9.6						
FETA	**Feichten**	**8.02**	**301**	*i* Pn	**Pn**	**22 13 53.0**	**+2.7**
	2.5nm,0.4s,SNR=5.5						
RETA	**Reutte**	**8.20**	**304**	*i* Pn	**Pn**	**22 13 54.2**	**+1.5**
	2.6nm,0.3s,SNR=5.5						
DAVA	**Damuels**	**8.65**	**301**	*e*Pn	**Pn**	**22 14 01.1**	**+2.0**
	0.7nm,0.2s						
MBDF	**Montbardon**	**10.21**	**283**	*e*P	**Pn**	**22 14 22.0**	**+1.6**
CDF	**Champ du Feu**	**10.71**	**303**	*e*P	**Pn**	**22 14 27.7**	**+0.6**
CDF				*e*Sn	Sn	22 16 14.8	-13
	0.8nm,0.2s						
HINF	**Hinteralfeld**	**10.76**	**299**	*e*P	**Pn**	**22 14 28.6**	**+0.9**
HINF				*e*Sn	Sn	22 16 15.8	-13
	0.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**10.86**	**283**	*e*P	**Pn**	**22 14 29.9**	**+0.7**
CABF	**La Chapelle**	**10.94**	**292**	*e*P	**Pn**	**22 14 31.2**	**+1.0**
CABF				*e*Sn	Sn	22 16 20.2	-13
	1.0nm,0.3s						
HAU	**Haudompre**	**11.14**	**300**	*e*P	**Pn**	**22 14 34.0**	**+1.0**
HAU				*e*Sn	Sn	22 16 25.0	-13
	1.2nm,0.2s						

*IDC **12** 22:21:50.9±2.6, 37°.74N×72°.65E, h186km±28km, mb3.5/4, mb1 3.5/10, mb1mx2.9/60, mbtmp4.0/10, Error ellipse: s-maj=46.0km s-min=20.4km az=112.0*
*SOME **12** 22:21:50.0, 38°.93N×72°.75E, h0km*
*NNC **12** 22:21:52.1±5.5, 38°.14N×72°.49E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=42.9km s-min=31.1km az=168.0*

ISC 12 22:21:48.3±0.8,**37°.67N**±0°.06×**72°.48E**±0°.07,**h150**km,**n43,** σ2°.**38**/54,**mb3.9**/4,**7C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.55**	**11**	P	**Pn**	**22 22 58.2**	**+2.1**
	SNR=55						
UCH	**Uchtor**	**4.81**	**18**	P	**Pn**	**22 23 01.1**	**+1.6**
	SNR=19						
EKS2	**Erkin-Say**	**5.08**	**11**	P	**Pn**	**22 23 04.8**	**+2.0**
	SNR=18						
MRKS	**Merke**	**5.10**	**6**	*e*P	**Pn**	**22 23 06.4**	**+3.4**
	12nm,0.1s						
MRKS				*e*S	**Sn**	**22 24 00.9**	**-0.5**
	65nm,0.8s						
CHM	**Chimkent**	**5.14**	**335**	*e*P	**Pn**	**22 23 07.7**	**+4.1**
	23nm,0.1s						
CHM				*e*S	**Sn**	**22 24 03.1**	**+0.8**
	309nm,0.3s						
AAK	**Ala-Archa**	**5.19**	**17**	P	**Pn**	**22 23 06.7**	**+2.3**
	3.4nm,0.3s,baz=175,slow=4.9,SNR=78						
AAK				S	**Sn**	**22 24 04.4**	**+0.6**
	3.5nm,0.3s,baz=354,slow=20,SNR=12						
AAK	**Ala-Archa**	**5.19**	**17**	P	**Pn**	**22 23 06.8**	**+2.3**
	SNR=19						
AAK	**Ala-Archa**	**5.19**	**17**	⇑P	**Pn**	**22 23 06.4**	**+2.0**
	6.2nm,0.4s						
AAK				⇑S	**Sn**	**22 24 03.9**	**+0.1**
	20nm,0.7s						
DZA	**Taraz**	**5.29**	**351**	*e*P	**Pn**	**22 23 08.9**	**+3.4**
	52nm,0.1s						
DZA				*e*S	**Sn**	**22 24 05.5**	**-0.3**
	161nm,0.3s						
KBK	**Karagaybulak**	**5.32**	**20**	P	**Pn**	**22 23 09.0**	**+2.8**
	SNR=10						
ULHL	**Ulahol**	**5.40**	**31**	P	**Pn**	**22 23 08.2**	**+0.9**
	SNR=11						
CHMS	**Chumysh**	**5.59**	**17**	P	**Pn**	**22 23 11.3**	**+1.7**
	SNR=9.3						
KK09	**Karatay Array**	**5.65**	**345**	⇑P	**Pn**	**22 23 12.1**	**+1.8**
	0.8nm,0.2s						
KK09				⇑S	**Sn**	**22 24 12.7**	**-1.7**
	16nm,0.4s						
BRLS	**Borolday**	**5.72**	**340**	*e*P	**Pn**	**22 23 11.6**	**+0.4**
	2.7nm,0.0s						
BRLS				*e*S	**Sn**	**22 24 09.9**	**-6.2**
	31nm,0.2s						
TKM2	**Tokmak 2**	**5.76**	**23**	⇑P	**Pn**	**22 23 11.7**	**-0.2**
	4.9nm,0.7s						
TKM2				⇑S	**Sn**	**22 24 13.9**	**-3.3**
	4.5nm,0.6s						
USP	**Ospenovka**	**5.80**	**15**	P	**Pn**	**22 23 13.3**	**+1.1**
	SNR=9.6						
KST	**Kastek**	**5.99**	**25**	*e*P	**Pn**	**22 23 18.8**	**+3.9**
	6.1nm,1.1s						
KST				*e*S	**Sn**	**22 24 22.2**	**-0.4**
	18nm,0.7s						
DGS	**Degeres**	**6.10**	**23**	*e*P	**Pn**	**22 23 18.9**	**+2.5**
	2.0nm,0.2s						
DGS				*e*S	**Sn**	**22 24 22.4**	**-3.0**
	3.7nm,1.0s						
KRBS	**Karabastau**	**6.49**	**21**	*e*P	**Pn**	**22 23 24.7**	**+3.2**
	0.8nm,0.1s						
KRBS				*e*S	**Sn**	**22 24 32.2**	**-2.3**
	2.4nm,1.3s						
MDOK	**Medeo**	**6.50**	**31**	*e*P	**Pn**	**22 23 25.8**	**+4.1**
	1.9nm,1.0s						
MDOK				*e*S	**Sn**	**22 24 34.1**	**-0.8**
	3.0nm,0.7s						
KTBS	**Karatobe**	**6.82**	**27**	*e*P	Pn	22 23 33.1	+7.1
	1.6nm,0.4s						
KTBS				*e*S	**Sn**	**22 24 46.1**	**+3.6**
	17nm,0.1s						
KUU	**Kurty**	**6.87**	**24**	*e*P	Pn	22 23 38.1	+12
	1.0nm,1.1s						
KUU				*e*S	Sn	22 24 55.2	+12
	3.2nm,0.7s						
BTLS	**Baital**	**7.46**	**9**	*e*P	Pn	22 23 49.2	+15
	0.5nm,0.0s						
BTLS				*e*S	Sn	22 25 14.1	+17
	4.9nm,0.1s						
MKAR	**Makanchi Array**	**11.65**	**35**	P	**Pn**	**22 24 30.5**	**+0.6**
	baz=219,slow=17,SNR=0.9						
PYUN	**Piuthan**	**12.99**	**134**	*e*P	**Pn**	**22 24 44.9**	**-2.7**
	14nm,0.4s						
DANN	**Dangsing**	**13.25**	**131**	*e*P	**Pn**	**22 24 48.5**	**-2.5**
	7.4nm,0.2s						
KOLN	**Koldanda**	**13.59**	**133**	*e*P	**Pn**	**22 24 53.6**	**-1.7**
	4.1nm,0.3s						
KURBB	**Kurchatov Arra**	**13.65**	**17**	P	**Pn**	**22 24 57.2**	**+1.7**
	0.1nm,0.3s,baz=205,slow=11,SNR=14						
GKN	**Gorkha**	**14.04**	**130**	*e*P	**Pn**	**22 24 59.3**	**-1.5**
	7.7nm,0.3s						
KKN	**Kakani**	**14.58**	**129**	*e*P	**Pn**	**22 25 06.6**	**-1.1**
	3.1nm,0.2s						
DMN	**Daman**	**14.61**	**130**	*e*P	**Pn**	**22 25 06.9**	**-1.2**
	3.2nm,0.2s						
AB31	**Akbulak array**	**14.71**	**326**	⇓P	**P**	**22 25 13.6**	**+2.6**
	1.9nm,0.7s,baz=135,slow=11,SNR=17						
AB31				⇑S	**Sn**	**22 27 47.1**	**-4.8**
	1.0nm,0.6s,baz=142,slow=24,SNR=4.2						
PKIN	**Phulchoki**	**14.81**	**129**	*e*P	**Pn**	**22 25 09.3**	**-1.3**
	2.7nm,0.2s						
PKI	**Pulchoki**	**14.82**	**129**	*e*P	**Pn**	**22 25 09.2**	**-1.6**
	3.6nm,0.3s						
GUN	**Gumba**	**14.87**	**127**	*e*P	**Pn**	**22 25 10.1**	**-1.4**
	8.4nm,0.4s						
BVAR	**Borovoye Array**	**15.42**	**355**	P	**Pn**	**22 25 19.2**	**+1.4**
	0.6nm,0.3s,baz=149,slow=9.3,SNR=16						
AKTO	**Aktyubinsk**	**16.42**	**326**	P	**Pn**	**22 25 31.0**	**+1.0**
	0.6nm,0.3s,baz=111,slow=10,SNR=8.3						
ZALV	**Zalesovo Beam**	**18.36**	**24**	P	**P**	**22 25 49.9**	**-1.4**
	0.3nm,0.3s,baz=220,slow=11,SNR=7.4						
WSAR	**Wadi Sarin**	**18.66**	**223**	P	**P**	**22 25 57.1**	**+2.3**
	0.3nm,0.3s,baz=77,slow=9.5,SNR=6.6						
FINES	**FINESS Array B**	**37.19**	**325**	P	**P**	**22 28 44.0**	**-0.5**
	4.4nm,1.0s,baz=225,slow=5.1,SNR=4.3						
ARCES	**ARCESS Array B**	**40.53**	**337**	P	**P**	**22 29 11.2**

DDFL Dedoflistskaro 1.30 135 P **Pg** **22 46 46.8 +2.5**
DDFL S **Sg** **22 47 08.6 +7.5**
DDFL Dedoflistskaro 1.30 135 PG **Pg** **22 46 46.7 +2.5**
DDFL S **Sg** **22 47 08.6 +7.5**
DDFL Dedoflistskaro 1.30 135 P **Pg** **22 46 46.8 +2.5**
DDFL S **Sg** **22 47 09.5 +8.4**
XNZR Khunzakh 1.35 82 *e*PG **Pn** **22 46 43.5 -1.0**
XNZR *i* S **Sg** **22 47 02.8 +0.3**
XNZR pmax pmax
comp=Z,35nm,0.4s
XNZR smax smax
comp=E,81nm,0.2s
XNZR Khunzakh 1.35 82 *e*Pg **Pn** **22 46 43.6 -1.0**
XNZR *e*Sg **Sg** **22 47 03.3 +0.7**
TRKR Terskaya 1.35 355 *e*PG **Pg** **22 46 45.0 -0.1**
TRKR *e*S **Sg** **22 47 05.6 +3.0**
TRKR Terskaya 1.35 355 *e*Pg **Pb** **22 46 44.6 -0.2**
TRKR *e*Sg **Sg** **22 47 05.3 +2.7**
TKB Tkibuli 1.41 270 P **Pb** **22 46 45.8 -0.1**
TKB S **Sg** **22 47 05.6 +1.0**
TKB Tkibuli 1.41 270 PG **Pb** **22 46 45.8 -0.1**
TKB S **Sg** **22 47 05.6 +1.0**
AKH Akhalkalaki 1.43 228 P **Pb** **22 46 45.8 -0.4**
AKH S **Sg** **22 47 05.3 +0.2**
AKH Akhalkalaki 1.43 228 PG **Pb** **22 46 45.8 -0.4**
AKH S **Sg** **22 47 05.3 +0.2**
AKH Akhalkalaki 1.43 228 PN **Pn** **22 46 45.4 -0.3**
AKH SN **Sn** **22 47 04.3 -0.5**
UNCR Uncukul 1.44 76 *e*PG **Pb** **22 46 45.4 -1.0**
UNCR *i* S **Sg** **22 47 06.7 +1.2**
UNCR pmax pmax
comp=Z,58nm,0.2s
UNCR smax smax
comp=E,164nm,0.5s
PRTR Priterechnaya 1.45 342 *e*PG **Pg** **22 46 46.7 -0.2**
PRTR *e*S **Sg** **22 47 08.7 +3.0**
PRTR pmax pmax
comp=Z,107nm,0.1s
PRTR smax smax
comp=N,200nm,0.2s
PRTR Priterechnaya 1.45 342 *e*Pg **Pg** **22 46 46.5 -0.4**
PRTR *e*Sg **Sg** **22 47 08.2 +2.5**
DLMR Dylym 1.45 61 *e*PG **Pb** **22 46 46.2 -0.4**
DLMR *i* S **Sg** **22 47 07.1 +1.2**
DLMR pmax pmax
comp=Z,112nm,0.2s
DLMR smax smax
comp=E,636nm,0.4s
NCK Nalchik 1.47 320 *e*PG **Pg** **22 46 47.2 -0.2**
NCK *e*S **Sg** **22 47 10.4 +3.9**
NCK Nalchik 1.47 320 *e*Pg **Pg** **22 46 47.4 0.0**
NCK *e*Sg **Sg** **22 47 09.4 +2.9**
BGD Bogdanovka 1.48 222 P **Pb** **22 46 46.7 -0.4**
BGD S **Sg** **22 47 07.0 +0.3**
BGD Bogdanovka 1.48 222 PG **Pb** **22 46 46.7 -0.4**
BGD S **Sg** **22 47 07.0 +0.3**
GNBR Gunib 1.53 89 *e*PG **Pb** **22 46 46.8 -1.1**
GNBR *i* S **Sg** **22 47 08.3 -0.1**
GNBR pmax pmax
comp=Z,54nm,0.5s
GNBR smax smax
comp=N,184nm,0.6s
GNBR Gunib 1.53 89 *e*Pg **Pb** **22 46 47.0 -0.9**
GNBR *e*Sg **Sg** **22 47 09.2 +0.8**
KRNR Karanay 1.55 73 *e*PG **Pn** **22 46 46.7 -0.6**
KRNR *i* S **Sg** **22 47 08.0 -1.0**
KRNR pmax pmax
comp=Z,24nm,0.4s
KRNR smax smax
comp=E,61nm,0.4s
DBC Dubki 1.56 65⇑ *i*PG **Pb** **22 46 48.0 -0.5**
DBC *i* 22 47 09.4
DBC pmax pmax
comp=Z,40nm,0.3s
DBC smax smax
comp=N,72nm,0.5s
DBC Dubki 1.56 65 *e*Pg **Pb** **22 46 48.0 -0.5**
DBC *e*Sg **Sg** **22 47 10.4 +1.0**
ARKR Arakani 1.57 81 *e*PG **Pb** **22 46 47.9 -0.6**
ARKR *i* S **Sg** **22 47 10.5 +0.9**
ARKR pmax pmax
comp=Z,60nm,0.4s
ARKR smax smax
comp=N,77nm,0.4s
KMKR Kumukh 1.65 98 *e*PN **Pb** **22 46 49.0 -1.1**
KMKR *i* S **Sg** **22 47 12.8 +0.5**
KMKR pmax pmax
comp=Z,69nm,0.4s
KMKR smax smax
comp=N,168nm,0.5s
ABS Abastumani 1.67 249 P **Pb** **22 46 50.1 -0.4**
ABS S **Sg** **22 47 13.2 +0.1**
ABS Abastumani 1.67 249 PN **Pb** **22 46 50.0 -0.4**
ABS S **Sg** **22 47 13.1 +0.1**
BUJR Buynaksk 1.69 74 *e*PN **Pb** **22 46 50.4 -0.3**
BUJR *i* S **Sg** **22 47 14.3 +0.7**
BUJR pmax pmax
comp=Z,48nm,0.5s
BUJR smax smax
comp=E,244nm,0.5s
NEY Neytrino 1.82 299 *e*PN **Pb** **22 46 52.8 -0.2**
NEY *e*S **Sg** **22 47 18.2 +0.4**
NEY Neytrino 1.82 299 *e*Pg **Pb** **22 46 52.7 -0.3**
NEY *e*Sg **Sg** **22 47 18.7 +0.9**
EPOS Posof 1.84 242 P **Pb** **22 46 52.7 -0.6**
EPOS S **Sg** **22 47 19.1 +0.7**
EPOS *i* AML AML 22 47 21.0
EPOS *i* AML AML 22 47 22.0
comp=E,56nm,0.6s
comp=E,118nm,0.9s
EAK Akyaka 1.95 210 P **Pb** **22 46 54.3 -0.8**
EAK S **Sg** **22 47 21.4 -0.4**
EAK *i* AML AML 22 47 22.0
comp=E,62nm,0.6s
EAK *i* AML AML 22 47 22.0
comp=E,41nm,0.3s
KBZ Khabaz 1.99 313⇑ *e*PN **Pn** **22 46 54.0 +0.7**
KBZ Khabaz 1.99 313 *e*Pg **Pb** **22 46 55.0 -0.8**
KBZ *e*Sg **Sg** **22 47 23.1 -0.1**
GANJ Ganja 2.03 148 PN **Pn** **22 46 54.5 +0.6**
URKR Urkarakh 2.04 95 *e*PN **Pb** **22 46 55.1 -1.6**
URKR *i* S **Sg** **22 47 24.3 -0.5**
URKR pmax pmax
comp=Z,28nm,0.5s
URKR smax smax
comp=N,38nm,0.6s
SGKR Sergokala 2.04 87 *e*PN **Pb** **22 46 55.4 -1.3**
SGKR *i* S **Sg** **22 47 24.4 -0.5**
SGKR pmax pmax
comp=Z,34nm,0.5s
SGKR smax smax
comp=E,103nm,2.0s
SEKA Sheki 2.08 123 PN **Pb** **22 46 56.2 -1.1**
SHA1 Shidzhatmaz 2.13 310 *e*PN **Pb** **22 46 57.5 -0.8**
SHA1 *e*S **Sb** **22 47 25.9 +0.9**
SHA1 Shidzhatmaz 2.13 310 *e*Pg **Pb** **22 46 57.3 -1.0**
SHA1 *e*Sg **Sb** **22 47 25.7 +0.7**
PYA1 Pyatigorsk 2.14 323 *ce*PN **Pn** **22 46 54.8 -0.5**
KARS Kars 2.22 219 PN **Pn** **22 46 57.1 +0.5**
KARS Kars 2.22 219 PN **Pn** **22 46 57.2 +0.6**
GNI Garni 2.23 183 *d i*PN **Pb** **22 46 59.2 -0.7**
GNI Garni 2.23 183 PN **Pb** **22 46 59.1 -0.8**
GNI SN **Sb** **22 47 27.9 +0.1**
KIV Kislovodsk 2.26 315 PN **Pn** **22 46 56.9 -0.2**
KIV Kislovodsk 2.26 315 *e*Pn **Pb** **22 46 58.5 -1.9**
KIV *i* Sn **Sb** **22 47 29.4 +0.9**
DIGO Kars 2.27 211 P **Pb** **22 46 59.2 -1.5**
DIGO S **Sb** **22 47 30.7 +1.6**
DIGO *i* AML AML 22 47 32.0
comp=E,66nm,0.4s
DIGO *i* AML AML 22 47 36.0
comp=E,68nm,0.3s
MNGR Mingechevir, A 2.29 134 PN **Pn** **22 46 57.5 +0.1**
AKT Akhty 2.29 112 *e*PN **Pb** **22 46 59.0 -2.0**
AKT *e*S **Sb** **22 47 30.2 +0.6**
AKT *i* S **Sg** **22 47 30.9 -2.0**
AKT pmax pmax
comp=Z,22nm,0.3s
AKT smax smax
comp=E,78nm,0.4s
AKT smax smax
comp=N,65nm,0.6s
AKT smax smax
comp=N,56nm,0.7s
AKT Akhty 2.29 112 *e*Pn **Pb** **22 47 00.4 -0.6**
AKT *e*Sn **Sg** **22 47 30.9 -2.0**
TASB TASBURUN-IGDIR 2.44 192 PN **Pb** **22 47 01.8 -1.7**
DAGI Agillar 2.58 241 P **Pb** **22 47 03.8 -2.2**
DAGI *i* AML AML 22 47 48.0
comp=N,12nm,0.4s
DAGI *i* AML AML 22 47 48.0
comp=N,18nm,0.5s
IGDI IGDIR 2.58 194 P **Pn** **22 47 03.4 +1.9**
IGDI S **Sg** **22 47 40.0 -2.3**
IGDI *i* AML AML 22 47 41.0
comp=N,26nm,0.4s
IGDI *i* AML AML 22 47 42.0
comp=N,29nm,0.6s
SENK Senkaya-Erzuru 2.64 227 PN **Pn** **22 47 02.7 +0.3**
ALER Alexandrovskoy 2.79 329 *e*Pn **Pn** **22 47 05.2 +0.9**
ALER *e*Sn **Sb** **22 47 41.0 -2.7**
GOF Gofitskoye 3.00 334⇑ *e*PN **Pg** **22 47 15.1 -1.6**
GOF *e*S **Sg** **22 47 57.1 +1.6**
GOF smax smax
comp=N,45nm,0.6s
GOF smax smax
comp=E,191nm,1.5s
GOF Gofitskoye 3.00 334 *e*Pn **Pg** **22 47 17.6 +1.0**
GOF *e*Sn **Sg** **22 47 55.5 0.0**
AGRB Hanur-Agry 3.15 208 PN **Pn** **22 47 10.9 +1.5**
NAX Nakhchivan 3.23 172 PN **Pb** **22 47 14.1 -2.9**
AHMR Akhmetovskaya 3.33 304 *i* Pn **Pb** **22 47 17.8 -0.8**
AHMR *e*Sn **Sb** **22 47 59.5 +0.2**
LKRN Lenkeran, Azer 4.71 140 PN **Pn** **22 47 31.9 +1.3**
BRVK Borovoye 20.04 49⇑ *e*P Pn 22 50 53.2 -1.1
BRVK pmax pmax
comp=Z,9.0nm,2.7s
AAK Ala-Archa 21.77 79⇑ *e*P **P** **22 51 11.4 -0.2**
AAK pmax pmax
comp=Z,5.0nm,1.1s
KURK Kurchatov 24.47 58⇑ *e*P **P** **22 51 38.6 0.0**

IDC ***12*** *23:01:31.9±0.7, 35°.91N×137°.48E, h240km±8km, mb3.1/5, mb1 3.4/7, mb1mx2.9/51, mbtmp3.8/7, Error ellipse: s-maj=30.6km s-min=11.5km az=71.0*
JMA ***12*** *23:01:32.0±0.2, 35°.92N×137°.61E, h238km±2km, M3.2*
ISC 12 23:01:31.9±0.8, 35°.98N±0°.07×137°.54E±0°.07, h240km±6km, n24, σ0s75/33, mb3.3/5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**0.40**	**202**	P	**Pn**	**23 02 03.0**	**-0.5**
JGF				S	**S**	**23 02 27.4**	**-0.9**
JYTA	**Yamagatataniai**	**0.76**	**240**	P	**Pn**	**23 02 04.6**	**-0.1**
JYTA				S	**S**	**23 02 29.8**	**-0.5**
MAT	**Matsushiro**	**0.78**	**43**	P	**Pn**	**23 02 05.1**	**+0.3**
MAT				S	**S**	**23 02 30.8**	**+0.2**
MAT	**Matsushiro**	**0.78**	**43**	P	**Pn**	**23 02 05.0**	**+0.3**
MAT				*e*S	**S**	**23 02 30.8**	**+0.2**
MJAR	**Matsushiro Arr**	**0.78**	**44**	P	**Pn**	**23 02 04.9**	**+0.2**
	7.8nm,0.3s,baz=260,slow=1.7,SNR=199						
MJAR				S	**S**	**23 02 31.9**	**+1.3**
	0.6nm,0.3s,baz=220,slow=26,SNR=1.8						
JYN	**Shimob**	**0.95**	**120**	P	**Pn**	**23 02 05.6**	**-0.1**
JKG	**Kaga**	**1.02**	**287**	P	**Pn**	**23 02 06.7**	**+0.7**
JRY	**Ryogami san**	**1.10**	**87**	P	**Pn**	**23 02 06.6**	**+0.1**
JRY				*e*S	**S**	**23 02 33.6**	**-0.1**
JOD2	**Odawara 2**	**1.45**	**119**	P	**Pn**	**23 02 09.2**	**+0.3**
JSZ	**Suzu**	**1.48**	**355**	P	**Pn**	**23 02 09.5**	**+0.5**
JIE	**Ise**	**1.72**	**204**	P	**Pn**	**23 02 11.5**	**+0.4**
JIE				*e*S	**S**	**23 02 41.9**	**0.0**
JWT	**Wachi**	**1.87**	**249**	P	**Pn**	**23 02 12.8**	**+0.4**
JWT				*e*S	**S**	**23 02 44.3**	**+0.1**
JHG	**Hegura jima**	**1.93**	**345**	P	**Pn**	**23 02 13.7**	**+0.8**
JSD	**Sado**	**2.14**	**15**	P	**Pn**	**23 02 15.2**	**+0.4**
JTNC	**Tanabenakahech**	**2.67**	**217**	P	**Pn**	**23 02 20.4**	**+0.1**
JTNC				S	**S**	**23 02 58.0**	**-0.4**
JHJ	**Hachijo jima 2**	**3.40**	**146**	S	**S**	**23 03 14.0**	**+1.2**
	24nm,0.3s,baz=93,slow=20,SNR=1.9						
ASAJ	**Asahikawa**	**9.01**	**24**	P	**Pn**	**23 03 35.4**	**-2.4**
	3.0nm,0.3s,baz=218,slow=14,SNR=11						
USRK	**Ussurlysk Ar.**	**9.25**	**334**	P	**Pn**	**23 03 41.5**	**+0.6**
	baz=152,slow=12,SNR=9.2						
KLR	**Kul'dur**	**13.91**	**344**	P	**Pn**	**23 04 38.2**	**-0.9**
	0.4nm,0.3s,baz=145,slow=10,SNR=23						
ZALV	**Zalesovo Beam**	**40.35**	**313**	P	**P**	**23 08 46.8**	**+0.8**
	0.4nm,0.6s,baz=101,slow=8.5,SNR=2.6						
MKAR	**Makanchi Array**	**42.05**	**303**	P	**P**	**23 09 00.3**	**+0.4**
	0.4nm,0.6s,baz=88,slow=11,SNR=5.1						
ILAR	**Eielson Array**	**52.05**	**32**	P	**P**	**23 10 17.4**	**+0.7**
	0.3nm,0.7s,baz=277,slow=9.0,SNR=4.6						
WRA	**Warramunga Arr**	**55.70**	**184**	P	**P**	**23 10 42.6**	**-0.9**
	1.7nm,0.5s,baz=359,slow=7.7,SNR=36						
ASAR	**Alice Springs**	**59.42**	**184**	P	**P**	**23 11 08.9**	**-0.5**
	0.6nm,0.4s,baz=358,slow=6.0,SNR=11						

IDC ***12*** *23:07:36.9±1.0, 16°.61N×98°.79W, h0km, mb4.2/7, mb1 4.4/10, mb1mx4.1/35, mbtmp4.1/10, ML3.4/3, MS3.6/18, Ms1 3.6/18, ms1mx3.4/62, Error ellipse: s-maj=31.6km s-min=16.1km az=51.0*
MEX ***12*** *23:07:39.5±1.6, 16°.50N×99°.03W, h5km±6km, MD4.6*
NEIC ***12*** *23:07:39.3±2.1, 16°.69N±0°.08×98°.91W±0°.09, h9km±6km, mb4.3/79, Md4.6/50(MEX), Error ellipse: s-maj=16.4km s-min=5.9km az=49.0*
ISC 12 23:07:38.9±0.8, 16°.59N±0°.03×98°.98W±0°.02, h19km±3km, n170, σ1s24/182, mb4.3/33, MS3.5/16, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.20**	**315**		**Pg**	**23 07 44.1**	**+0.1**
CRIG					**Sg**	**23 07 47.8**	**+0.3**
CRIG	**Cruz Grande**	**0.20**	**315**	*e*P	**Pg**	**23 07 44.1**	**+0.1**
CRIG				*e*S	**Sg**	**23 07 47.8**	**+0.3**
DAIG	**Los Arroyos**	**0.77**	**304**		**Pg**	**23 07 52.9**	**-1.2**
DAIG					**Sg**	**23 08 03.0**	**-1.3**
DAIG	**Los Arroyos**	**0.77**	**304**	*e*P	**Pg**	**23 07 52.9**	**-1.2**
DAIG				*e*S	**Sg**	**23 08 03.0**	**-1.3**
PNIG	**Pinotepa**	**0.84**	**103**		**Pb**	**23 07 54.2**	**-0.9**
PNIG					**Sb**	**23 08 05.8**	**-0.2**
PNIG	**Pinotepa**	**0.84**	**103**	*e*P	**Pb**	**23 07 54.2**	**-0.9**
PNIG				*i* S	**Sb**	**23 08 05.8**	**-0.2**
ACP2	**Acapulco**	**0.91**	**288**		**Pg**	**23 07 54.6**	**-2.1**
ACP2					**Sg**	**23 08 07.3**	**-1.5**
ACP2	**Acapulco**	**0.91**	**288**	*e*P	**Pg**	**23 07 54.6**	**-2.1**
ACP2				*i* S	**Sg**	**23 08 07.3**	**-1.5**
TLIG	**Tlapa**	**1.04**	**22**	Pn	**Pb**	**23 07 58.2**	**-0.3**
TLIG				Sn	**Sb**	**23 08 12.3**	**+0.4**
TLIG	**Tlapa**	**1.04**	**22**	*e*P	**Pn**	**23 07 58.5**	**-0.2**
TLIG				*i* S	**Sn**	**23 08 12.4**	**-0.4**
HMTT	**Tlapaneco**	**1.27**	**19**		**Pb**	**23 08 01.8**	**-0.5**
HMTT					**Sg**	**23 08 18.1**	**-2.0**
HMTT	**Tlapaneco**	**1.27**	**19**	*e*P	**Pb**	**23 08 01.8**	**-0.5**
HMTT				*i* S	**Sg**	**23 08 18.1**	**-2.0**
CAIG	**El Cayaco**	**1.31**	**290**		**Pn**	**23 08 00.6**	**-1.6**
CAIG					**Sb**	**23 08 17.9**	**-1.6**
CAIG	**El Cayaco**	**1.31**	**290**	*e*P	**Pn**	**23 08 00.6**	**-1.6**
CAIG				*i* S	**Sb**	**23 08 17.9**	**-1.6**
TXIG	**Tlaxiaco**	**1.34**	**60**	*e*P	**Pn**	**23 08 02.5**	**-0.3**
TXIG				*i* S	**Sn**	**23 08 20.7**	**+0.4**
YOIG	**Yosondua**	**1.40**	**79**	*e*P	**Pn**	**23 08 03.3**	**-0.4**
YOIG				*e*S	**Sn**	**23 08 22.3**	**+0.4**
MEIG	**Mezcala**	**1.46**	**335**		**Pn**	**23 08 04.4**	**0.0**
MEIG					**Sn**	**23 08 23.2**	**+0.2**
MEIG	**Mezcala**	**1.46**	**335**	*e*P	**Pn**	**23 08 04.4**	**0.0**
MEIG				*e*S	**Sn**	**23 08 23.2**	**+0.2**
FTIG	**Fresnillo de T**	**1.54**	**32**	*e*P	**Pn**	**23 08 05.7**	**+0.2**
FTIG				*e*S	**Sg**	**23 08 26.4**	**-2.4**
HLIG	**Huajuapan de L**	**1.67**	**42**	*e*P	**Pn**	**23 08 07.3**	**-0.1**
HLIG				*i* S	**Sb**	**23 08 29.6**	**-0.4**
PEIG	**Puerto Escondi**	**1.86**	**108**	*e*P	**Pn**	**23 08 08.9**	**-0.9**
PEIG				*e*S	**Sg**	**23 08 38.3**	**-0.6**
PLIG	**Platanillo**	**1.86**	**345**		**Pb**	**23 08 11.2**	**-1.1**
PLIG					**Sb**	**23 08 35.8**	**+0.5**
PLIG	**Platanillo**	**1.86**	**345**	*e*P	**Pb**	**23 08 11.2**	**-1.1**
PLIG				*e*S	**Sb**	**23 08 35.8**	**+0.5**
VHO	**Vista Hermosa**	**2.21**	**77**	*e*P	**Pn**	**23 08 14.8**	**+0.1**
VHO				*e*S	**Sb**	**23 08 43.1**	**-2.3**
OXLC	**Oaxaca**	**2.23**	**78**	*i* P	**Pn**	**23 08 16.3**	**+1.1**
OXLC				*i* S	**Sg**	**23 08 49.7**	**-1.2**
YAIG	**Yautepec**	**2.26**	**358**		**Pb**	**23 08 18.5**	**-0.8**
YAIG					**Sb**	**23 08 47.5**	**+0.6**
YAIG	**Yautepec**	**2.26**	**358**	*e*P	**Pb**	**23 08 18.5**	**-0.8**
YAIG				*i* S	**Sb**	**23 08 47.5**	**+0.6**
TOIG	**Toxpalan**	**2.36**	**50**	*e*P	**Pn**	**23 08 17.1**	**+0.2**
TOIG				*i* S	**Sg**	**23 08 52.6**	**-2.5**
MAVM	**Malinalco, Edo**	**2.40**	**348**		**Pb**	**23 08 21.2**	**-0.5**
MAVM	**Malinalco, Edo**	**2.40**	**348**	*e*	**Pb**	**23 08 21.2**	**-0.5**
TLVM	**San Miguel Top**	**2.61**	**356**	*e*	**Pb**	**23 08 25.8**	**+0.4**
XCVM	**Xochimilco**	**2.65**	**357**	*e*	**Pb**	**23 08 24.5**	**-1.5**
AOVM	**Tlapan**	**2.68**	**353**	*e*	**Pn**	**23 08 22.2**	**+0.7**
THVM	**De Xico**	**2.70**	**0**	*e*	**Pb**	**23 08 24.9**	**-2.0**
UNM	**Universidad Na**	**2.73**	**356**		**Pn**	**23 08 22.8**	**+0.8**
BJVM	**Benito Juarez**	**2.77**	**356**	*e*	**Pg**	**23 08 29.4**	**-2.8**
MHVM	**Bosque de Chap**	**2.81**	**356**	*e*	**Pb**	**23 08 26.9**	**-1.8**
PBVM	**Pinon**	**2.83**	**358**	*e*	**Pb**	**23 08 28.1**	**-0.9**
HUIG	**Huatulco**	**2.88**	**106**		**Pb**	**23 08 23.3**	**-0.6**
HUIG	**Huatulco**	**2.88**	**106**	*e*	**Pn**	**23 08 23.3**	**-0.6**
HUIG				*e*		23 09 07.3	
GMVM	**Gustavo A Made**	**2.89**	**358**	*e*	**Pn**	**23 08 26.4**	**+2.1**
PTVM	**Pico Tres Padr**	**2.99**	**358**	*e*	**Pg**	**23 08 34.1**	**-2.1**
ACIG	**Acambay**	**3.48**	**346**	*e*	**Pb**	**23 08 39.9**	**-0.2**
CMIG	**Matias Romero**	**3.96**	**82**	Pn	**Pn**	**23 08 38.2**	**-0.5**
	4.8nm,0.3s,baz=268,slow=11,SNR=43						
CMIG				Sn	**Sn**	**23 09 21.9**	**-2.7**
	18nm,0.3s,baz=304,slow=12,SNR=4.8						
CCIG	**Comitan**	**6.58**	**92**	Pn	**Pn**	**23 09 15.3**	**+0.5**
ZAIG	**Zacatecas**	**7.01**	**332**	Pn	**Pn**	**23 09 21.4**	**+0.4**
LPIG	**La Paz**	**12.98**	**307**	LR	LR	23 15 50.3	
	comp=Z,269nm,19.0s,baz=60,slow=38						
TXAR	**Lajitas Array**	**13.39**	**342**	Pn	**Pn**	**23 10 50.6**	**+2.5**
	0.0nm,0.3s,baz=157,slow=16,SNR=7.8						
TXAR				Lg	Lg	23 14 45.0	
	0.0nm,0.3s,baz=281,slow=25,SNR=1.4						
TXAR	**Lajitas Array**	**13.39**	**342**	Pn	**Pn**	**23 10 50.0**	**+1.8**
TX31	**Lajitas Ar. Si**	**13.39**	**342**	Pn	**Pn**	**23 10 49.0**	**+0.8**
TX32	**Lajitas Array**	**13.39**	**342**	Pn	**Pn**	**23 10 50.1**	**+1.9**
JCT	**Junction City**	**13.85**	**357**	Pn	**Pn**	**23 10 52.2**	**-2.1**
ORTG	**Ortega, Santa**	**14.53**	**114**	Pn	**Pn**	**23 11 05.1**	**+1.3**
JTS	**Las Juntas de**	**15.01**	**113**	Pn	**Pn**	**23 11 12.3**	**+2.1**
JTS	**Las Juntas de**	**15.01**	**113**		**Pn**	**23 11 11.5**	**+1.2**
COVE	**Coope Vega, Sa**	**15.32**	**111**	Pn	**Pn**	**23 11 15.3**	**+1.0**
WHTX	**Lake Whitney,**	**15.39**	**5**	Pn	**Pn**	**23 11 16.1**	**+0.9**
NATX	**Nacogdoches**	**15.60**	**14**	P	**P**	**23 11 21.6**	**-0.4**
NATX				IAmb	IAmb	23 11 23.5	
	comp=Z,30nm,1.1s						
237A	**Washetta, Mont**	**15.61**	**10**	P	**P**	**23 11 22.1**	**0.0**
342A	**Flagon Creek P**	**15.92**	**21**	P	**P**	**23 11 24.7**	**-0.8**
342A				IAmb	IAmb	23 11 26.7	
	comp=Z,44nm,1.2s						
MNTX	**Cornudas Mount**	**16.13**	**340**		**Pn**	**23 11 25.6**	**+1.0**
RIMA	**Rio Macho**	**16.20**	**113**	P	**P**	**23 11 28.2**	**-0.7**
Z35A	**Perchaven, San**	**16.74**	**5**		**Pn**	**23 11 30.8**	**-1.7**
Z35A				IAmb	IAmb	23 11 44.9	
	comp=Z,25nm,1.1s						
Z38A	**Mt. Pleasant**	**16.98**	**12**	P	**P**	**23 11 37.0**	**-0.4**
Z38A				IAmb	IAmb	23 11 47.0	
	comp=Z,33nm,1.1s						
143A	**Socs Landing,**	**17.45**	**22**	P	**Pn**	**23 11 41.8**	**+0.5**
143A				IAmb	IAmb	23 11 52.7	
	comp=Z,26nm,0.9s						
319A	**Douglas**	**17.45**	**329**	P	**P**	**23 11 43.6**	**+1.0**
Z41A	**Richland Creek**	**17.51**	**17**	P	**Pn**	**23 11 42.4**	**+0.4**
MSTX	**Muleshoe**	**17.64**	**350**	P	**Pn**	**23 11 44.5**	**+0.7**
MSTX				IAmb	IAmb	23 11 46.8	
	comp=Z,27nm,1.2s						
AMTX	**Amarillo**	**18.38**	**353**	P	**Pn**	**23 11 51.6**	**-1.2**
MIAR	**Mount Ida**	**18.52**	**14**	P	**P**	**23 11 52.8**	**-1.6**
BNM	**Barren Site**	**18.79**	**340**	P	**P**	**23 11 57.8**	**+0.3**
LENM	**Lemitar**	**18.92**	**339**	P	**P**	**23 11 56.5**	**-2.3**
W39A	**Magazine**	**19.10**	**13**	P	**Pn**	**23 12 01.8**	**+0.2**
OK030	**Cody Creek RV**	**19.36**	**5**	P	**P**	**23 12 02.2**	**-1.3**
OK030				IAmb	IAmb	23 12 04.8	
	comp=Z,20nm,1.0s						
OK031	**S. Brethren Rd**	**19.38**	**5**	P	**P**	**23 12 03.1**	**-0.6**
OK031				IAmb	IAmb	23 12 05.1	
	comp=Z,22nm,1.1s						
OK034	**N. Norfolk Rd.**	**19.45**	**6**	P	**P**	**23 12 03.4**	**-1.0**
OK034				IAmb	IAmb	23 12 14.3	
	comp=Z,30nm,1.2s						
TUL1	**Leonard**	**19.45**	**8**	P	**P**	**23 12 03.8**	**-0.7**
TUL1				IAmb	IAmb	23 12 13.8	
	comp=Z,16nm,1.0s						
ANMO	**Albuquerque**	**19.46**	**341**	P	**P**	**23 12 05.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=11						
ANMO				LR	LR	23 20 08.5	
	comp=Z,292nm,18.0s,baz=154,slow=38						
ANMO	**Albuquerque**	**19.46**	**341**	P	**Pn**	**23 12 06.4**	**+0.2**
FCAR	**Ozark Folk Cen**	**20.17**	**16**	P	**P**	**23 12 11.5**	**-0.8**
FCAR				IAmb	IAmb	23 12 21.3	
	comp=Z,18nm,1.2s						
T35A	**Sooner Cattle**	**20.36**	**6**	P	**P**	**23 12 13.1**	**-1.3**
T35A				IAmb	IAmb	23 12 24.6	
	comp=Z,24nm,0.9s						
X18A	**Snowflake**	**20.39**	**333**	P	**P**	**23 12 15.7**	**+0.7**
LCAR	**Lake Charles**	**20.61**	**18**	P	**P**	**23 12 15.3**	**-1.8**
LCAR				IAmb	IAmb	23 12 30.5	
	comp=Z,9.8nm,1.0s						
X16A	**Lo Mia Camp, P**	**20.98**	**330**	P	**P**	**23 12 23.1**	**+1.8**
X16A				IAmb	IAmb	23 12 28.4	
	comp=Z,12nm,0.9s						
T25A	**Trinidad**	**21.02**	**348**	P	**P**	**23 12 23.4**	**+1.6**
T25A				IAmb	IAmb	23 12 28.3	
	comp=Z,17nm,0.9s						
MGMO	**Mountain Grove**	**21.33**	**15**	P	**P**	**23 12 27.4**	**+2.5**
MGMO				IAmb	IAmb	23 12 36.9	
	comp=Z,16nm,1.1s						
Y14A	**Wickenburg**	**21.39**	**326**	P	**P**	**23 12 27.3**	**+1.7**
PBMO	**Poplar Bluff**	**21.49**	**19**	P	**P**	**23 12 27.5**	**+0.9**
PBMO				IAmb	IAmb	23 12 36.4	
	comp=Z,11nm,1.0s						
GLA	**Glamis**	**21.76**	**322**	P	**P**	**23 12 30.2**	**+0.7**
GLA				IAmb	IAmb	23 12 40.1	
	comp=Z,8.7nm,0.8s						
GOGA	**Godfrey**	**21.82**	**37**	P	**P**	**23 12 28.9**	**-1.2**
GOGA				IAmb	IAmb	23 12 39.5	
	comp=Z,13nm,0.8s						
SDCO	**Great Sand Dun**	**21.84**	**346**	P	**P**	**23 12 32.0**	**+1.4**
WUAZ	**Wupatki**	**21.85**	**332**	P	**P**	**23 12 32.2**	**+1.5**
WUAZ				IAmb	IAmb	23 12 36.6	
	comp=Z,14nm,1.0s						
S22A	**4UR Ranch, Cre**	**22.18**	**343**	P	**P**	**23 12 34.6**	**+0.2**
MVCO	**Mesa Verde**	**22.20**	**340**	P	**P**	**23 12 36.0**	**+1.6**
MVCO				IAmb	IAmb	23 12 38.6	
	comp=Z,7.9nm,0.8s						
R40A	**Maddies Statio**	**22.41**	**14**	P	**P**	**23 12 36.4**	**-0.1**
R40A				IAmb	IAmb	23 12 39.3	
	comp=Z,16nm,0.9s						
CPCT	**Cooper Cave**	**22.79**	**32**	P	**P**	**23 12 40.5**	**0.0**
CPCT				IAmb	IAmb	23 12 42.5	
	comp=Z,28nm,1.4s						
T47A	**Sharon Grove**	**22.88**	**25**	P	**P**	**23 12 39.2**	**-2.2**
T47A				IAmb	IAmb	23 12 54.3	
	comp=Z,9.7nm,0.8s						
U15A	**North Rim**	**23.02**	**332**	P	**P**	**23 12 43.7**	**+0.5**
PFO

P18A	**Preston Nutter**	**24.96 339**	P		**P**		**23 13 02.9 +1.2**
S51A	**Beattyville**	**24.97 30**	P		**P**		**23 13 00.1 -1.3**
QSM	**Queen of Sheba**	**25.01 324**	P		**P**		**23 13 04.7 +2.9**
QSM			IAmb	IAmb			23 13 06.8
	comp=Z,9.1nm,1.1s						
TMUT	**Trail Mountain**	**25.02 337**	P		**P**		**23 13 03.5 +1.3**
TMUT			IAmb	IAmb			23 13 09.4
	comp=Z,10nm,1.1s						
W57A	**Gilead**	**25.09 39**	P		**P**		**23 13 02.6 +0.1**
ZARC	**Zaragoza, Cauc**	**25.24 108**	P		**P**		**23 13 05.1 +1.0**
TPNV	**Topopah Spring**	**25.39 326**	P		**P**		**23 13 06.2 +0.8**
TPNV			IAmb	IAmb			23 13 10.7
	comp=Z,5.0nm,1.1s						
ISA	**Isabella, Lake**	**25.74 321**	P		**P**		**23 13 09.6 +1.1**
NLU	**North Lily Min**	**25.92 337**	P		**P**		**23 13 11.6 +1.4**
NLU			IAmb	IAmb			23 13 25.1
	comp=Z,5.5nm,0.9s						
P49A	**Miami Univ. Ec**	**26.02 26**	P		**P**		**23 13 09.7 -1.2**
R53A	**Hurricane**	**26.32 31**	P		**P**		**23 13 13.1 -0.5**
Q52A	**Bidwell**	**26.66 30**	P		**P**		**23 13 14.7 -2.0**
ECSD	**EROS Data Cent**	**27.13 4**	P		**P**		**23 13 21.1 +0.3**
NVAR	**Mina Array Bea**	**27.58 326**	P		**P**		**23 13 28.6 +3.3**
	comp=Z,1.7nm,0.8s,baz=156,slow=10,SNR=9.4						
NVAR			LR	LR			23 25 37.3
	comp=Z,104nm,20.3s,baz=94,slow=39						
NVAR	**Mina Array Bea**	**27.58 326**	P		**P**		**23 13 27.5 +2.3**
BW06	**Boulder Array**	**27.61 343**	P		**P**		**23 13 24.6 -0.8**
BW06			IAmb	IAmb			23 13 28.3
	comp=Z,9.7nm,1.2s						
PD31	**Pinedale Array**	**27.61 343**	P		**P**		**23 13 25.6 +0.2**
PD31			IAmb	IAmb			23 13 28.3
	comp=Z,8.9nm,1.2s						
PDAR	**Pinedale Array**	**27.61 343**	P		**P**		**23 13 26.8 +1.4**
	comp=Z,3.2nm,1.0s,baz=140,slow=9.5,SNR=17						
PDAR			LR	LR			23 25 27.2
	comp=Z,268nm,18.4s,baz=164,slow=39						
PDAR	**Pinedale Array**	**27.61 343**	P		**P**		**23 13 25.5 0.0**
ELK	**Elko**	**27.88 333**	LR	LR			23 25 04.9
	comp=Z,211nm,21.2s,baz=144,slow=38						
SDV	**Santo Domingo**	**28.66 102**	P		**P**		**23 13 39.0 +3.9**
	comp=Z,1.9nm,0.4s,baz=328,slow=5.0,SNR=3.7						
SDV			LR	LR			23 25 34.0
	comp=Z,90nm,18.6s,baz=62,slow=38						
RLMT	**Red Lodge**	**29.73 345**	P		**P**		**23 13 44.4 +0.2**
RLMT			IAmb	IAmb			23 13 47.3
	comp=Z,6.9nm,0.9s						
HLID	**Hailey**	**29.91 337**	P		**P**		**23 13 46.2 +0.4**
BCYI	**Bear Canyon**	**30.20 339**	P		**P**		**23 13 50.2 +1.7**
MCMT	**McKenzie Canyo**	**30.48 340**	P		**P**		**23 13 51.5 +0.6**
BOZ	**Bozeman (W)**	**30.80 343**	P		**P**		**23 13 54.3 +0.7**
BOZ			IAmb	IAmb			23 13 56.1
	comp=Z,5.5nm,0.8s						
LRM	**Limekiln Ridge**	**31.24 342**	P		**P**		**23 13 58.9 +1.2**
SADO	**Sadowa**	**32.68 27**	LR	LR			23 30 54.7
	comp=Z,67nm,18.5s,baz=179,slow=43						
F10A	**Beach Ranch, E**	**33.02 336**	P		**P**		**23 14 12.8 -0.2**
NEW	**Newport**	**34.91 339**	LR	LR			23 30 29.7
	comp=Z,121nm,18.3s,baz=162,slow=39						
NNA	**Nana**	**35.85 141**	LR	LR			23 26 15.7
	comp=Z,47nm,18.8s,baz=130,slow=31						
LPAZ	**La Paz**	**44.65 136**	P		**P**		**23 15 51.5 +0.1**
	comp=Z,0.9nm,0.7s,baz=20,slow=4.0,SNR=3.2						
SCHQ	**Schefferville**	**45.48 26**	P		**P**		**23 15 55.4 -1.4**
	comp=Z,6.4nm,0.7s,baz=230,slow=9.1,SNR=8.6						
SCHQ	**Schefferville**	**45.48 26**	P		**P**		**23 15 56.3 -0.6**
MDP	**Montagnes des**	**46.81 99**	LR	LR			23 36 17.9
	comp=Z,32nm,19.3s,baz=118,slow=37						
YKA	**Yellowknife Ar**	**47.15 350**	P		**P**		**23 16 10.1 +0.3**
	comp=Z,3.2nm,0.9s,baz=159,slow=7.5,SNR=28						
YKA	**Yellowknife Ar**	**47.15 350**	P		**P**		**23 16 09.5 -0.3**
PTLB	**Pontes e Lacer**	**50.59 127**	P		**P**		**23 16 36.3 -0.6**
PTLB			IAmb	IAmb			23 16 37.4
	comp=Z,7.2nm,1.4s						
FRB	**Frobisher Bay**	**51.55 17**	LR	LR			23 40 21.4
	comp=Z,76nm,18.9s,baz=244,slow=38						
H03N2	**Juan Fernandez**	**53.31 159**	T	T			00 13 57.8
	baz=337,slow=77,SNR=64						
H03N1	**Juan Fernandez**	**53.31 159**	T	T			00 14 02.6
	baz=337,slow=77,SNR=61						
H03N3	**Juan Fernandez**	**53.32 159**	T	T			00 14 01.6
	baz=337,slow=77,SNR=83						
INK	**Inuvik**	**56.14 345**	LR	LR			23 45 09.1
	comp=Z,86nm,18.2s,baz=114,slow=40						
ILAR	**Eielson Array**	**57.87 338**	P		**P**		**23 17 30.9 +1.6**
	comp=Z,2.2nm,1.0s,baz=138,slow=4.7,SNR=11						
ILAR	**Eielson Array**	**57.87 338**	P		**P**		**23 17 30.0 +0.7**
SFJD	**Kangerlussuaq**	**59.24 20**	LR	LR			23 44 13.7
	comp=Z,48nm,21.0s,baz=209,slow=37						
BDFB	**Brasilia**	**59.62 120**	P		**P**		**23 17 42.8 +0.5**
	comp=Z,6.6nm,0.7s,baz=287,slow=8.7,SNR=12						
BDFB	**Brasilia**	**59.62 120**	P		**P**		**23 17 41.6 -0.7**
NOA	**NORSAR Array B**	**85.02 27**	LR	LR			23 59 14.4
	comp=Z,13nm,19.8s,baz=245,slow=36						
HFS	**Hagfors**	**86.52 28**	LR	LR			00 00 00.5
	comp=Z,26nm,20.1s,baz=274,slow=36						
MSVF	**Nonsavu**	**88.51 251**	LR	LR			23 53 40.8
	comp=Z,78nm,19.2s,baz=136,slow=31						
OBN	**Obninsk**	**99.27 24**	LR	LR			00 08 56.3
	comp=Z,8.6nm,18.3s,baz=195,slow=37						
WB2	**Warramunga Arr**	**129.41 258**	PKPdf		**PKPdf**		**23 26 48.0 +0.8**
WRA	**Warramunga Arr**	**129.43 258**	PKP		**PKPdf**		**23 26 46.7 -0.5**
	comp=Z,0.9nm,0.8s,baz=96,slow=1.7,SNR=7.0						
ASAR	**Alice Springs**	**130.07 253**	PKP		**PKiKP**		**23 26 49.8 +0.6**
	comp=Z,0.3nm,0.7s,baz=73,slow=38,SNR=1.9						
PZH	**PanZhiHua**	**132.66 334**	PKP		**PKPdf**		**23 26 53.8 +0.4**
CMAR	**Chiang Mai Arr**	**140.96 332**	PKP		**PKiKP**		**23 27 11.3 -0.1**
	comp=Z,1.3nm,0.3s,baz=28,slow=3.1,SNR=4.1						

*IDC **12** 23:20:06.7±2.9,21°.50S×66°.46W,h210km±45km,mb3.4/1, mb1 3.4/3,mb1mx3.1/19,mbtmp3.9/3,Error ellipse: s-maj=80.3km s-min=21.6km az=96.0*
*SCB **12** 23:20:09.2±1.9,21°.58S×66°.82W,h199km±16km,ML3.9/4, Error ellipse: s-maj=7.4km s-min=6.8km az=0.0*

ISC 12 23:20:07.1±1.1,21°.57S±0°.06×66.75W±0°.06,h207km,n22, σ2°02/27,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.09**	**73**	P	**Pn**	**23 20 40.7**	**+2.0**
MOCB				S	**S**	**23 21 04.3**	**+1.3**
MOCB				IAML		23 21 05.9	
	622nm,0.5s						
YJA	**Yavi**	**1.30**	**118**	P	**Pn**	**23 20 42.5**	**+2.3**
LVC	**Limon Verde**	**2.25**	**242**	P	**Pn**	**23 20 51.6**	**+2.5**
	11nm,0.3s,baz=61,slow=6.5,SNR=80						
LVC	**Limon Verde**	**2.25**	**242**	P	**Pn**	**23 20 51.8**	**+2.7**
PB09	**IPOC Station P**	**2.33**	**264**	P	**Pn**	**23 20 52.4**	**+2.7**
PB01	**IPOC Station P**	**2.60**	**281**	P	**Pn**	**23 20 54.9**	**+2.3**
PB08	**IPOC Station P**	**2.66**	**302**	P	**Pn**	**23 20 56.0**	**+2.4**
PB03	**IPOC Station P**	**2.83**	**260**	P	**Pn**	**23 20 57.4**	**+2.2**
PB06	**IPOC Station P**	**2.85**	**246**	P	**Pn**	**23 20 57.6**	**+2.1**
PB07	**IPOC Station P**	**2.92**	**266**	P	**Pn**	**23 20 58.2**	**+1.9**
PB02	**IPOC Station P**	**2.94**	**274**	P	**Pn**	**23 20 58.2**	**+1.7**
PB02				S	**S**	**23 21 34.9**	**+0.4**
PB02				IAML		23 21 36.2	
	250nm,0.3s						
PB15	**IPOC Station P**	**3.00**	**237**	P	**Pn**	**23 20 59.5**	**+2.3**
PB15				S	**S**	**23 21 35.7**	**-0.3**
PB15				IAML		23 21 42.8	
	902nm,0.3s						
PB04	**IPOC Station P**	**3.24**	**256**	P	**Pn**	**23 21 02.0**	**+1.9**
PB11	**IPOC Station P**	**3.26**	**303**	P	**Pn**	**23 21 01.6**	**+1.3**
PB05	**IPOC Station P**	**3.44**	**248**	P	**Pn**	**23 21 04.3**	**+1.9**
PB10	**IPOC Station P**	**4.01**	**240**	P	**Pn**	**23 21 10.3**	**+1.1**
PB10				S	**S**	**23 21 55.6**	**-2.1**
PB10				IAML		23 22 03.5	
	41nm,0.2s						
BBOE	**La Paz, Chanca**	**4.87**	**346**	P	**Pn**	**23 21 22.8**	**+2.2**
BBOD	**La Paz, Gloria**	**5.21**	**340**	P	**Pn**	**23 21 26.7**	**+1.9**
LPAZ	**La Paz**	**5.41**	**346**	P	**Pn**	**23 21 28.5**	**+0.9**
	2.8nm,0.3s,baz=150,slow=7.9,SNR=52						
LPAZ				S	**S**	**23 22 30.8**	**0.0**
	baz=351,slow=15,SNR=4.5						
LPAZ	**La Paz**	**5.41**	**346**	P	**Pn**	**23 21 28.8**	**+1.2**
TORD	**Torodi Ar. Bea**	**75.50**	**69**	P	**P**	**23 31 26.7**	**-2.4**
	0.5nm,0.4s,baz=251,slow=4.6,SNR=11						
MKAR	**Makanchi Array**	**144.49**	**37**	PKP	**PKPdf**	**23 39 17.0**	**-1.7**
	0.5nm,0.7s,baz=323,slow=3.4,SNR=6.7						

*UCR **12** 23:53:42.9±0.8, 11°.23N×87°.23W,h35km±345km,MW3.9*
*INET **12** 23:53:47.4±1.2, 11°.26N×86°.83W,h18km±12km,ML3.2*

ISC 12 23:53:45.3±2.1,11°.23N±0°.07×87°.0W±0°.1,h30km,n12, σ0°42/17,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.02**	**23**	*e*P	**Pb**	**23 54 04.3**	**-0.2**
TISN	**Laguna Tiscapa**	**1.15**	**38**	*e*P	**Pn**	**23 54 05.6**	**+0.2**
MGAN	**Managua**	**1.17**	**39**	*e*P	**Pn**	**23 54 05.7**	**+0.1**
MGAN				*e*P	**Pn**	**23 54 05.7**	**+0.1**
MGAN				*e*S	**Sn**	**23 54 20.4**	**-0.1**
MGAN				IAML		23 54 22.0	
	comp=N,181nm,0.2s						
MOMN	**Momotombo**	**1.25**	**21**	*e*P	**Pn**	**23 54 07.3**	**+0.5**
MOMN				*e*S	**Sn**	**23 54 22.7**	**0.0**
MOMN				IAML		23 54 26.9	
	comp=E,237nm,0.5s						
HUEN		**1.36**	**36**	*e*P	**Pn**	**23 54 08.2**	**-0.1**
CONN	**Concepcion**	**1.38**	**76**	*e*P	**Pn**	**23 54 07.9**	**-0.7**
CRIN	**San Cristobal**	**1.46**	**358**	*e*P	**Pb**	**23 54 11.6**	**-0.3**
CRIN				*e*S	**Sb**	**23 54 30.5**	**+0.3**
CRIN				IAML		23 54 39.1	
	comp=E,2μm,0.5s						
HZTE	**Horizontes, Gu**	**1.47**	**110**	*e*P	**Pn**	**23 54 10.2**	**+0.4**
BUEV	**Buena Vista**	**1.61**	**105**	*i*P	**Pn**	**23 54 11.7**	**-0.1**
BUEV				*i*S	**Sb**	**23 54 34.8**	**+0.2**
SAJU	**San Juanillo,**	**1.71**	**132**	*e*P	**Pn**	**23 54 12.5**	**-0.6**
CUI	**Cuipilapa**	**1.88**	**107**	*i*P	**Pn**	**23 54 16.1**	**+0.6**
JTS	**Las Juntas de**	**2.21**	**115**	*e*P	**Pn**	**23 54 20.8**	**+0.8**

*IDC **13** 00:08:54.5±3.3, 16°.71S×173°.86W,h82km±28km,mb3.6/7, mb1 3.9/8,mb1mx3.7/26,mbtmp3.9/8,Error ellipse: s-maj=47.0km s-min=17.2km az=140.0*

ISC 13 00:08:55.9±0.9,16°.5S±0°.2×173°.9W±0°.3,h100km,n11, σ1°93/13,mb3.7/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.29**	**38**	P	**Pn**	**00 09 46.4**	**+0.7**
	15nm,0.3s,baz=29,slow=2.7,SNR=7.3						
AFI				S	**Sn**	**00 10 20.6**	**-3.5**
	29nm,0.3s,baz=342,slow=13,SNR=3.9						
MSVF	**Nonsavu**	**7.83**	**260**	P	Pn	00 10 52.3	+5.2
	0.3nm,0.3s,baz=109,slow=13,SNR=6.7						
URZ	**Urewera**	**23.05**	**198**	P	**P**	**00 13 51.0**	**-1.6**
	5.2nm,0.7s,baz=255,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**49.17**	**258**	P	**P**	**00 17 34.2**	**+0.1**
	0.1nm,0.4s,baz=96,slow=6.8,SNR=6.0						
WRA				PcP	**PcP**	**00 18 56.9**	**+0.8**
	0.4nm,0.7s,baz=93,slow=3.2,SNR=4.9						
ASAR	**Alice Springs**	**49.35**	**253**	P	**P**	**00 17 35.2**	**-0.3**
	4.6nm,0.7s,baz=86,slow=8.5,SNR=49						
ASAR				PcP	**PcP**	**00 18 57.6**	**+0.9**
	0.3nm,0.5s,baz=103,slow=4.2,SNR=1.6						
NVAR	**Mina Array Bea**	**75.46**	**42**	P	**P**	**00 20 30.2**	**+0.8**
	1.0nm,0.8s,baz=225,slow=8.7,SNR=5.2						
TXAR	**Lajitas Array**	**81.61**	**56**	P	**P**	**00 21 05.1**	**+1.8**
	0.2nm,0.7s,baz=228,slow=4.9,SNR=4.3						
PDAR	**Pinedale Array**	**83.40**	**42**	P	**P**	**00 21 13.9**	**+1.5**
	1.1nm,0.6s,baz=214,slow=3.8,SNR=14						
ILAR	**Eielson Array**	**83.64**	**11**	P	**P**	**00 21 13.9**	**+1.1**
	0.3nm,0.5s,baz=229,slow=5.9,SNR=9.1						
KMBO	**Kilima Mbogo**	**144.64**	**243**	PKP	**PKiKP**	**00 28 22.6**	**-3.3**
	2.4nm,0.7s,baz=76,slow=5.1,SNR=8.2						
BRTR	**Keskin Array B**	**146.74**	**320**	PKPbc	**PKiKP**	**00 28 27.9**	**-1.4**
	3.1nm,0.9s,baz=194,slow=2.5,SNR=5.3						

KRSC 13 00:10:55.2±1.0,56°.63N×164°.31E,h45km±14km,ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.93**	**244**	*e*P	Pn	00 11 12.1	+0.3
KBTR				*e*S	Sn	00 11 25.1	+1.1
KBG	**Krutoberegovo**	**0.97**	**248**	*e*P	Pn	00 11 12.5	+0.2
KBG				*e*S	Sn	00 11 26.2	+1.3
SMKR	**Semkarok**	**1.57**	**269**	*e*P	Pn	00 11 21.3	+0.6
BKI	**Bering**	**1.71**	**146**	*e*P	Pn	00 11 24.0	+1.6
BKI				*e*S	Sn	00 11 45.8	+2.8
BDR	**Baidarnaya**	**1.72**	**269**	*e*P	Pn	00 11 24.0	+1.3
SRKR	**Sorokina**	**1.74**	**272**	*e*P	Pn	00 11 23.9	+1.0
CIRR	**Tsirk**	**2.05**	**257**	*e*P	Pn	00 11 30.2	+2.9
ZLN	**Zelenaya**	**2.05**	**254**	*e*P	Pn	00 11 30.2	+3.0
KLY	**Klyuchi**	**2.06**	**263**	*e*P	Pn	00 11 27.2	0.0
BZGR	**Bezymyannyi-Gr**	**2.13**	**253**	*e*P	Pn	00 11 31.5	+3.1
BZWR	**Bezymyannyi-We**	**2.23**	**254**	*e*P	Pn	00 11 32.9	+3.1
KIRR	**Kirishev**	**2.31**	**255**	*e*P	Pn	00 11 33.6	+2.7
KPT	**Kopyto**	**2.37**	**255**	*e*P	Pn	00 11 35.0	+3.3
KMNR	**Kamenistaya**	**2.44**	**251**	*e*P	Pn	00 11 36.1	+3.5
KOZ	**Kozyrevsk**	**2.54**	**259**	*e*P	Pn	00 11 36.7	+2.9
MKZ	**Mys Kozlova**	**2.54**	**216**	*e*S	Sn	00 12 06.8	+3.2
TUMD	**Tumrok D**	**2.63**	**239**	*e*P	Pn	00 11 38.4	+3.3
TUMR	**Tumrok**	**2.70**	**242**	*e*P	Pn	00 11 40.2	+4.0
PALN	**Palana**	**3.39**	**319**	P	Pn	00 11 49.0	+3.6
TILK	**Tilichiki**	**3.95**	**13**	*e*P	Pn	00 11 57.0	+3.9
SPN	**Mys Shipunski**	**4.32**	**217**	*e*S	Sn	00 12 49.4	+2.1
NLC	**Nalytchevo**	**4.50**	**222**	*e*S	Sn	00 12 57.0	+5.3
SDLR	**Sedlovina**	**4.59**	**225**	*e*P	Pn	00 12 06.7	+4.6
SMAR	**Somma**	**4.63**	**226**	*e*P	Pn	00 12 06.8	+4.0
AVH	**Avacha**	**4.66**	**226**	*e*P	Pn	00 12 08.8	+5.8
UGLR	**Uglovaya**	**4.67**	**225**	*e*P	Pn	00 12 07.7	+4.6
KRMR	**Karymshinskiy**	**5.23**	**226**	*e*S	Sn	00 13 15.2	+5.6
GRL	**Gorelyy**	**5.46**	**224**	*e*P	Pn	00 12 18.8	+4.7
KDTR	**Khodutka, Kamc**	**6.06**	**220**	*e*S	Sn	00 13 32.1	+2.1

*JMA **13** 00:11:01.8±0.3,45°.69N×143°.31E,h33km,M3.1*
*IDC **13** 00:11:04.1±15.0,45°.77N×143°.28E,h355km±235km, mb2.7/5,mb1 2.9/5,mb1mx2.7/29,mbtmp3.4/5,Error ellipse: s-maj=274.5km s-min=26.7km az=170.0*

ISC 13 00:11:01.2±0.8,45°.61N±0°.08×143°.32E±0°.10,h332km,n16, σ1°48/21,mb2.8/5,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.83**	**219**	P	**Pn**	**00 11 45.3**	**+0.9**
JWK2	**Keihoku**	**1.04**	**254**	P	**Pn**	**00 11 46.2**	**+1.0**
JWK2				*e*S	**S**	**00 12 20.5**	**+0.1**
JRBN	**Rebuntou**	**1.60**	**264**	P	**Pn**	**00 11 48.1**	**0.0**
JMP	**Maruseppu**	**1.60**	**179**	P	**Pn**	**00 11 49.7**	**+1.4**
JAR	**Ashorobuto**	**2.34**	**172**	P	**Pn**	**00 11 55.5**	**+1.9**
JAR				*e*S	**S**	**00 12 37.8**	**+2.3**
JAK	**Akkeshi**	**2.80**	**159**	P	**Pn**	**00 11 58.3**	**+0.9**
JAK				*e*S	**S**	**00 12 41.5**	**-1.0**
NEM2	**Nemuro 2**	**2.84**	**141**	*e*S	**S**	**00 12 40.5**	**-2.6**
JCH	**Churui**	**3.00**	**179**	P	**Pn**	**00 11 59.9**	**+0.6**
JCH				*e*S	**S**	**00 12 43.8**	**-2.1**
JNBK	**Urakawa-nobuka**	**3.36**	**187**	P	**Pn**	**00 12 04.8**	**+2.1**
JKB	**Kayabe**	**4.08**	**205**	P	**Pn**	**00 12 11.0**	**+1.0**
JKB				*e*S	**S**	**00 13 04.1**	**-1.2**
JOT	**Ohata**	**4.54**	**202**	*e*S	**S**	**00 13 12.2**	**-2.2**
SONM	**Songino Array**	**25.26**	**288**	P	**P**	**00 15 58.4**	**+0.3**
	0.3nm,0.7s,baz=85,slow=8.5,SNR=2.3						
MKAR	**Makanchi Array**	**41.31**	**294**	P	**P**	**00 18 15.6**	**+0.4**
	0.1nm,0.5s,baz=79,slow=7.1,SNR=1.7						
ILAR	**Eielson Array**	**41.63**	**37**	P	**P**	**00 18 17.0**	**-0.5**
	0.1nm,0.4s,baz=258,slow=6.7,SNR=1.7						
YKA	**Yellowknife Ar**	**55.76**	**33**	P	**P**	**00 20 04.1**	**+0.2**
	0.4nm,0.5s,baz=304,slow=6.8,SNR=7.8						
FINES	**FINESS Array B**	**61.95**	**331**	P	**P**	**00 20 45.4**	**-0.8**
	4.3nm,1.0s,baz=51,slow=9.1,SNR=3.5						

*PRE **13** 00:12:42.2±1.1,26°.94S×26°.70E,h2km,ML2.2*
*BUL **13** 00:12:46.8±0.7,26°.73S×26°.35E,h10km,MD5.2*
*EAF **13** 00:12:46.9±0.7,26°.72S×26°.34E,h10km,MD4.6*

ISC 13 00:12:44.6±1.1,26°.68S±0°.06×26°.46E±0°.07,h8km,n15, σ2°05/24,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.84**	**107**	*e*P	Pg	00 12 54.2	-6.7
PRYS				*e*S	Sg	00 13 01.5	-10
PRYS				IAML		00 13 09.0	
	comp=Z,47nm,0.2s						
KSR	**Koster**	**0.91**	**26**	*e*P	**Pn**	**00 13 03.9**	**0.0**
KSR				*e*S	**Sn**	**00 13 18.4**	**+1.2**
KSR				IAML		00 13 26.5	
	comp=Z,114nm,0.1s						
SWZ	**Schweizer**	**1.12**	**243**	*e*P	**Pb**	**00 13 05.8**	**-0.5**
SWZ				*e*S	**Sn**	**00 13 22.9**	**+0.4**
SWZ				IAML		00 13 29.4	
	comp=Z,70nm,0.2s						
HRAO	**HartRAO**	**1.35**	**55**	*e*P	**Pn**	**00 13 09.3**	**-0.6**
HRAO				*e*S	**Sb**	**00 13 27.1**	**-0.7**
HRAO				IAML		00 13 33.0	
	comp=Z,31nm,0.1s						
SLR	**Silverton**	**1.89**	**61**	*e*P	**Pn**	**00 13 16.5**	**-0.8**
SLR				*e*S	**Sn**	**00 13 40.2**	**-1.1**
SLR				IAML		00 13 42.4	
	comp=Z,53nm,0.4s						
BOSA	**Boshof**	**2.21**	**209**	*i*P	**Pn**	**00 13 22.0**	**+0.4**
BOSA	**Boshof**	**2.21**	**209**	*i*P	**Pn**	**00 13 22.0**	**+0.4**
MSNA	**Messina**	**5.40**	**38**	*i*P	**Pn**	**00 14 08.1**	**+2.6**
MSNA	**Messina**	**5.40**	**38**	*i*P	**Pn**	**00 14 08.1**	**+2.6**
MOPA	**Mopani**	**5.47**	**56**	*i*P	**Pn**	**00 14 09.6**	**+3.1**
MOPA				*i*S	**Sn**	**00 15 09.4**	**-0.2**
MOPA	**Mopani**	**5.47**	**56**	*i*P	**Pn**	**00 14 09.6**	**+3.1**
MOPA				*i*S	**Sn**	**00 15 09.4**	**-0.2**
MATP	**Matopo**	**6.50**	**17**	*i*P	**Pn**	**00 14 22.5**	**+1.8**
MATP				*i*S	**Sn**	**00 15 33.1**	**-1.9**
MATP	**Matopo**	**6.50**	**17**	*i*P	**Pn**	**00 14 22.5**	**+1.8**
MATP				*i*S	**Sn**	**00 15 33.1**	**-1.9**
BLWY	**Bulawayo**	**6.80**	**17**	*i*P	**Pn**	**00 14 27.5**	**+2.6**
BLWY				*i*S	**Sn**	**00 15 39.2**	**-3.4**
BLWY	**Bulawayo**	**6.80**	**17**	*i*P	**Pn**	**00 14 27.5**	**+2.6**
BLWY				*i*S	**Sn**	**00 15 39.2**	**-3.4**

IDC 13 00:15:01.4±4.3,23°.49S×67°.51W,h142km±36km,mb3.3/1, mb1 3.1/3,mb1mx3.0/23,mbtmp3.7/3,Error ellipse: s-maj=88.4km s-min=32.2km az=171.0,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.56**	**304**	P	Pn	00 15 31.9	+0.5
	9.3nm,0.3s,baz=131,slow=8.3,SNR=123						
LVC				S	Sn	00 15 54.0	-0.2
	16nm,0.3s,baz=130,slow=6.1,SNR=35						
SIV	**San Ignacio**	**9.61**	**40**	P	Pn	00 17 17.0	+0.6
	0.3nm,0.3s,baz=123,slow=12,SNR=1.8						
BDFB	**Brasilia**	**19.94**	**70**	P	P	00 19 22.4	-0.3
	0.2nm,0.3s,baz=231,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P	P	00 26 37.5	-0.6
	0.5nm,0.6s,baz=250,slow=5.3,SNR=5.5						
MKAR	**Makanchi Array**	**146.42**	**39**	PKPbc	PKPbc	00 34 25.8	+0.1
	0.3nm,0.7s,baz=317,slow=2.8,SNR=2.3						

*NAO **13** 00:22:30.3±1.0,76°.87N×18°.28E,h19km±9km,ML2.8*
*IEPN **13** 00:22:30.0,76°.88N×18°.43E,h10km*
*BER **13** 00:22:32.1±2.9,76°.88N×18°.32E,h15km±14km,ML2.3, ML2.8(NAO),Confirmed Earthquake*

ISC 13 00:22:30.2±1.0,76°.99N±0°.03×18°.63E±0°.03,h15km±10km, n22,σ1°12/44,1C,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.70**	**273**	Pg	**Pg**	**00 22 43.2**	**-0.7**
HSPB				Lg	Lg	00 22 51.9	
HSPB	**Hornsund (broa**	**0.70**	**273**	Pg	**Pg**	**00 22 43.2**	**-0.7**
HSPB				Sg	**Sg**	**00 22 51.9**	**-1.3**
HSPB	**Hornsund (broa**	**0.70**	**273**	*e*P	**Pg**	**00 22 43.1**	**-0.8**
HSPB				*i*S	**Sg**	**00 22 51.5**	**-1.7**
SPA0	**Spitsbergen Ar**	**1.29**	**339**	Pn	**Pb**	**00 22 54.5**	**+0.3**
	baz=154,slow=18						
SPA0				Lg	Lg	00 23 13.5	
	baz=153,slow=37						
SPA0	**Spitsbergen Ar**	**1.29**	**339**	Pn	**Pb**	**00 22 54.5**	**+0.3**
	baz=154,slow=18						
SPA0				Sg	**Sg**	**00 23 13.5**	**+1.5**
	baz=153,slow=37						
SPA0				IAML		00 23 16.2	
	comp=Z,53nm,0.7s						
SPA0	**Spitsbergen Ar**	**1.29**	**339**	↑*i*P	**Pn**	**00 22 54.3**	**+0.6**
SPA0				*e*S	**Sg**	**00 23 13.0**	**+1.0**
BRBA	**Barentsburg A**	**1.44**	**320**	Pn	**Pn**	**00 22 56.4**	**+0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.89**	**246**	*eP*	Pn	00 33 10.6	+0.4
KBTR				*eS*	Sn	00 33 23.6	+1.6
KBG	**Krutoberegovo**	**0.93**	**250**	*eP*	Pn	00 33 11.0	+0.3
KBG				*eS*	Sn	00 33 24.1	+1.2
SMKR	**Semkarok**	**1.55**	**271**	*eP*	Pn	00 33 20.2	+0.9
BKI	**Bering**	**1.68**	**144**	*eP*	Pn	00 33 23.0	+2.0
BKI				*eS*	Sn	00 33 44.2	+2.9
BDR	**Baidarnaya**	**1.69**	**271**	*eP*	Pn	00 33 22.4	+1.2
SRKR	**Sorokina**	**1.71**	**274**	*eP*	Pn	00 33 22.5	+1.0
KLY	**Klyuchi**	**2.02**	**264**	*eP*	Pn	00 33 25.9	+0.2
KRSR	**Krestovskiy**	**2.09**	**262**	*eP*	Pn	00 33 28.7	+2.0
BZGR	**Bezymyannyi-Gr**	**2.09**	**254**	*eP*	Pn	00 33 29.6	+2.9
BZWR	**Bezymyannyi-We**	**2.19**	**255**	*eP*	Pn	00 33 31.2	+3.1
KIRR	**Kirishev**	**2.27**	**256**	*eP*	Pn	00 33 32.1	+2.8
KPT	**Kopyto**	**2.34**	**256**	*eP*	Pn	00 33 33.2	+3.1
KMNR	**Kamenistaya**	**2.40**	**252**	*eP*	Pn	00 33 34.4	+3.5
MKZ	**Mys Kozlova**	**2.49**	**216**	*eS*	Sn	00 34 05.2	+4.1
KOZ	**Kozyrevsk**	**2.50**	**260**	*eP*	Pn	00 33 35.7	+3.4
TUMD	**Tumrok D**	**2.58**	**239**	*eP*	Pn	00 33 37.8	+4.5
TUMR	**Tumrok**	**2.66**	**242**	*eP*	Pn	00 33 38.8	+4.3
SPN	**Mys Shipunski**	**4.26**	**217**	*eP*	Pn	00 33 59.1	+2.7
SPN				*eS*	Sn	00 34 47.9	+3.1
NLC	**Nalytchevo**	**4.44**	**222**	*eS*	Sn	00 34 54.4	+5.2
SDLR	**Sedlovina**	**4.54**	**225**	*eP*	Pn	00 34 04.4	+4.1
SMAR	**Somma**	**4.58**	**226**	*eP*	Pn	00 34 04.9	+4.0
AVH	**Avacha**	**4.60**	**226**	P	Pn	00 34 05.4	+4.3
UGLR	**Uglovaya**	**4.61**	**225**	*eP*	Pn	00 34 05.6	+4.3
GNL	**Ganaly**	**4.64**	**234**	*eP*	Pn	00 34 05.4	+3.7
PET	**Petropavlovsk**	**4.82**	**225**	*eS*	Sn	00 35 04.1	+5.6
GRL	**Gorelyy**	**5.41**	**224**	*eP*	Pn	00 34 16.7	+4.5
KDTR	**Khodutka, Kamc**	**6.00**	**220**	*eS*	Sn	00 35 29.6	+2.1

IDC 13 00:51:37.6±2.4, 1°.58S×128°.44E, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.3/31, mbtmp3.4/2, ML5.2/1, Error ellipse: s-maj=164.7km s-min=28.5km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.14**	**163**	P	P	00 56 01.6	-0.9
	8.4nm,0.3s,baz=342,slow=11,SNR=1.7						
ASAR	**Alice Springs**	**22.59**	**167**	P	P	00 56 40.3	+0.4
	1.4nm,0.6s,baz=346,slow=11,SNR=13						
MKAR	**Makanchi Array**	**62.88**	**326**	P	P	01 02 05.6	0.0
	0.1nm,0.4s,baz=134,slow=6.2,SNR=1.6						

*IDC **13** 01:06:17.7±0.8, 13°.70N×121°.03E, h183km±8km, mb3.5/5, mb1 3.6/5, mb1mx3.2/54, mbtmp4.0/5, MS3.6/1, Ms1 3.6/1, ms1mx2.4/59, Error ellipse: s-maj=127.3km s-min=17.4km az=68.0*

*MAN **13** 01:06:18.6, 13°.70N×120°.69E, h157km, mb4.7, ML3.6, MS3.5*

*NEIC **13** 01:06:18.1±2.2, 13°.81N±0°.08×121°.1E±0°.2, h188km±5km, mb4.1/13, Error ellipse: s-maj=28.7km s-min=10.8km az=85.0*

ISC 13 01:06:17.6±0.6, 13°.75N±0°.06×120°.91E±0°.10, h188km, n40, σ1§63/41, mb4.0/11, 4C-11D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.25**	**171⇑**	*eP*	**Pn**	**01 06 41.0**	**-1.7**
PGP				*i* S	**Sn**	**01 06 58.4**	**-3.6**
TGY	**Tagaytay City**	**0.35**	**4**	P	**Pn**	**01 06 43.0**	**+0.1**
	497nm,0.3s,baz=220,slow=2.9,SNR=53						
TGY	**Tagaytay City**	**0.35**	**4⇓**	*eP*	**Pn**	**01 06 42.2**	**-0.7**
MACP	**Maragondon, Ca**	**0.54**	**340⇓**	*eP*	**Pn**	**01 06 42.2**	**-1.3**
LUBP	**Lubang**	**0.65**	**268⇓**	*eP*	**Pn**	**01 06 42.1**	**-1.9**
LUBP	**Lubang**	**0.65**	**268⇓**	*eP*	**Pn**	**01 06 42.2**	**-1.8**
LUBP				*i* S	**Sn**	**01 06 59.6**	**-4.7**
QVP	**Quezon City--P**	**0.87**	**6⇓**	*eP*	**Pn**	**01 06 45.9**	**+0.6**
BOAC	**Boac**	**0.95**	**108⇓**	*eP*	**Pn**	**01 06 42.3**	**-3.5**
SJMP	**San Jose**	**1.30**	**171⇓**	*eP*	**Pn**	**01 06 47.3**	**-1.3**
GQP	**Guinayangan**	**1.50**	**84⇓**	*eP*	Pn	01 06 35.2	-15
PCPH	**Palayan**	**1.81**	**6⇓**	*eP*	**Pn**	**01 06 53.9**	**+0.6**
PCPH				*eS*	**Sn**	**01 07 20.1**	**-1.0**
SCZP	**Santa Cruz**	**2.23**	**334⇓**	*eP*	**Pn**	**01 06 57.0**	**-0.8**
SMPP	**San Manuel, Pa**	**2.40**	**355⇓**	*eP*	**Pn**	**01 07 00.1**	**+0.5**
BOLP	**Bolinao**	**2.79**	**340⇓**	*eP*	**Pn**	**01 07 04.1**	**-0.1**
RCP	**Roxas**	**2.82**	**140⇓**	*eP*	**Pn**	**01 07 06.2**	**+1.6**
CUYO	**Cuyo Island**	**2.89**	**178⇓**	*eP*	**Pn**	**01 07 04.8**	**-0.6**
MYLDM	**Lahad Datu**	**8.84**	**196**		**Pn**	**01 08 23.9**	**+1.9**
TOLI2	**Tolitoli**	**12.56**	**181**	P	**P**	**01 09 15.4**	**+1.0**
SBUM	**Sibu**	**14.14**	**218**	P	**Pn**	**01 09 31.6**	**+1.7**
KAPI	**Kappang**	**18.68**	**184**	P	**P**	**01 10 23.8**	**+2.1**
KAPI				IAmb	IAmb	01 10 24.9	
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**35.12**	**182**	P	**P**	**01 12 52.3**	**-1.0**
COEN	**Coen**	**35.27**	**140**	P	**P**	**01 12 53.2**	**-1.5**
COEN				IAmb	IAmb	01 13 11.9	
	comp=Z,8.4nm,1.1s						
WB0	**Warramunga Arr**	**35.85**	**158**	P	**P**	**01 12 58.5**	**-1.1**
WB0				IAmb	IAmb	01 13 01.1	
	comp=Z,2.3nm,1.0s						
WRA	**Warramunga Arr**	**36.00**	**158**	LR	LR	01 29 30.9	
	comp=Z,82nm,19.4s,baz=212,slow=39						
WRA	**Warramunga Arr**	**36.00**	**158**	P	**P**	**01 13 01.5**	**+0.7**
WB2	**Warramunga Arr**	**36.00**	**158**	P	**P**	**01 12 59.9**	**-0.9**
WB2				IAmb	IAmb	01 13 00.3	
	comp=Z,5.5nm,1.1s						
SONM	**Songino Array**	**36.07**	**343**	P	**P**	**01 13 02.7**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=162,slow=8.7,SNR=5.9						
SONM	**Songino Array**	**36.07**	**343**	P	**P**	**01 13 02.6**	**+1.3**
WR0	**Warramunga Arr**	**36.09**	**158**	P	**P**	**01 13 02.5**	**+1.0**
WR0				IAmb	IAmb	01 13 03.1	
	comp=Z,3.7nm,1.1s						
ASAR	**Alice Springs**	**39.30**	**161**	P	**P**	**01 13 28.1**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=340,slow=8.4,SNR=10						
MK31	**Makanchi Array**	**46.11**	**323**	P	**P**	**01 14 22.9**	**-0.1**
MKAR	**Makanchi Array**	**46.11**	**323**	P	**P**	**01 14 24.5**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=104,slow=9.0,SNR=8.5						
MKAR	**Makanchi Array**	**46.11**	**323**	P	**P**	**01 14 22.9**	**-0.2**
MAKZ	**Makanchi**	**46.30**	**323**	P	**P**	**01 14 25.9**	**+1.4**
BBOO	**Buckleboo**	**48.51**	**163**	P	**P**	**01 14 41.1**	**-0.5**
BBOO				IAmb	IAmb	01 14 46.8	
	comp=Z,8.0nm,1.1s						
ZALV	**Zalesovo Beam**	**49.11**	**333**	P	**P**	**01 14 46.7**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=121,slow=5.9,SNR=5.1						
KURK	**Kurchatov**	**50.26**	**326**	P	**P**	**01 14 55.9**	**+1.3**
KURK				IAmb	IAmb	01 14 57.7	
	comp=Z,5.8nm,1.1s						
ABKAR	**Akbulak array**	**60.83**	**319**	P	**P**	**01 16 10.8**	**+0.8**
ARCES	**ARCESS Array B**	**79.11**	**339**	P	**P**	**01 18 02.0**	**+1.1**
	comp=Z,4.3nm,1.1s,baz=83,slow=7.4,SNR=3.9						
BMAR	**Burnt Mountain**	**79.14**	**23**	P	**P**	**01 17 59.3**	**-1.9**

IDC 13 01:12:19.7±2.8, 22°.84S×176°.60W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/36, mbtmp3.8/2, Error ellipse: s-maj=194.0km s-min=34.6km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.30**	**259**	P	P	01 20 40.1	+0.5
	0.3nm,0.3s,baz=90,slow=8.5,SNR=5.7						
WRA	**Warramunga Arr**	**45.61**	**264**	P	P	01 20 41.2	-0.9
	2μm,1.0s,baz=104,slow=8.4,SNR=1.3						
TXAR	**Lajitas Array**	**87.23**	**57**	P	P	01 25 08.3	-0.1
	0.6nm,0.8s,baz=206,slow=6.0,SNR=5.0						
AKASG	**Malin Array Be**	**145.68**	**331**	PKPbc	PKPdf	01 31 59.5	-0.4
	0.8nm,0.4s,baz=45,slow=3.7,SNR=6.2						

*ISK **13** 01:17:37.8, 38°.72N×26°.44E, h9km, ML2.5/15*

*DDA **13** 01:17:38.4±0.0, 38°.70N×26°.43E, h7km±2km, ML2.1*

*THE **13** 01:17:39.4, 38°.69N×26°.36E, h19km±1km, ML2.2/4, Error ellipse: s-maj=1.8km s-min=0.5km az=269.0*

*ATH **13** 01:17:39.3, 38°.70N×26°.41E, h17km±1km, ML2.2/4, Error ellipse: s-maj=2.6km s-min=1.1km az=101.0*

ISC 13 01:17:37.1±1.2, 38°.66N±0°.02×26°.36E±0°.03, h7km±11km, n34, σ0§76/52, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.30**	**80**	PG	**Pg**	**01 17 42.9**	**0.0**
FOCM				SG	**Sg**	**01 17 46.3**	**-0.5**
URLA	**Izmir**	**0.35**	**148**	PG	**Pb**	**01 17 45.5**	**-0.2**
URLA				SG	**Sb**	**01 17 51.9**	**+0.3**
URLA	**Izmir**	**0.35**	**148**	P	**Pb**	**01 17 45.5**	**-0.2**
URLA				S	**Sb**	**01 17 51.8**	**+0.3**
URLA				*i* AML	AML	01 17 52.0	
	comp=E,176nm,0.3s						
URLA				*i* AML	AML	01 17 56.0	
	comp=N,152nm,0.4s						
CHOS	**Chios island**	**0.36**	**221**	P	**Pn**	**01 17 47.5**	**-1.4**
CHOS				S	**Sb**	**01 17 53.4**	**+1.5**
	470nm,0.2s						
CHOS	**Chios island**	**0.36**	**221**	P	**Pn**	**01 17 47.5**	**-1.4**
CHOS				AML	AML	01 17 53.6	
	comp=N,803μm,0.3s						
CHOS				S	**Sb**	**01 17 53.8**	**+1.9**
CHOS				AML	AML	01 17 56.4	
	comp=E,1089μm,0.2s						
CHOS	**Chios island**	**0.36**	**221**	PG	**Pn**	**01 17 47.2**	**-1.7**
CHOS				SG	**Sb**	**01 17 53.7**	**+1.9**
ZEYE	**Izmir, Urla-Ze**	**0.43**	**165**	P	**Pb**	**01 17 47.8**	**+0.6**
ZEYE				S	**Sb**	**01 17 55.0**	**+1.1**
ZEYE				*i* AML	AML	01 17 58.0	
	comp=E,187nm,0.2s						
ZEYE				*i* AML	AML	01 17 59.0	
	comp=E,252nm,0.2s						
PRK	**Paraskevi**	**0.59**	**353**	P	**Pb**	**01 17 50.2**	**+0.4**
PRK				S	**Sb**	**01 17 58.4**	**0.0**
	comp=E,305nm,0.3s						
PRK	**Paraskevi**	**0.59**	**353**	P	**Pb**	**01 17 50.2**	**+0.4**
PRK				S	**Sb**	**01 17 58.3**	**0.0**
PRK				AML	AML	01 18 01.3	
	comp=N,754μm,0.3s						
PRK				AML	AML	01 18 02.1	
	comp=E,455μm,0.2s						
DKL	**Dikili**	**0.59**	**46**	PG	**Pg**	**01 17 48.3**	**-0.2**
PSRA	**Psara**	**0.63**	**260**	P	**Pn**	**01 17 52.5**	**0.0**
PSRA				S	**Sn**	**01 18 01.6**	**-1.3**
PSRA				AML	AML	01 18 06.2	
	comp=E,819μm,0.1s						
PSRA				AML	AML	01 18 06.7	
	comp=N,516μm,0.1s						
ZEDA	**zmir-Bergama**	**0.64**	**61**	P	**Pg**	**01 17 49.4**	**0.0**
SIGR	**SIGRI**	**0.68**	**325**	P	**Pb**	**01 17 51.9**	**+0.7**
SIGR				S	**Sb**	**01 18 01.3**	**+0.4**
	comp=N,222nm,0.2s						
SIGR	**SIGRI**	**0.68**	**325**	P	**Pb**	**01 17 51.9**	**+0.7**
SIGR				S	**Sb**	**01 18 01.2**	**+0.3**
SIGR				AML	AML	01 18 04.1	
	comp=N,355μm,0.3s						
SIGR				AML	AML	01 18 04.1	
	comp=E,523μm,0.3s						
SIGR	**SIGRI**	**0.68**	**325**	PG	**Pb**	**01 17 51.7**	**+0.4**
AYVA	**Ayvalik**	**0.70**	**22**	P	**Pg**	**01 17 50.4**	**-0.1**
AYVA				S	**Sg**	**01 17 59.2**	**-0.4**
AYVA				*i* AML	AML	01 18 01.0	
	comp=E,84nm,0.7s						
AYVA				*i* AML	AML	01 18 02.0	
	comp=E,134nm,0.4s						
DGB	**zmir**	**0.73**	**146**	P	**Pb**	**01 17 52.2**	**0.0**
DGB				S	**Sb**	**01 18 03.0**	**+0.6**
DGB				*i* AML	AML	01 18 06.0	
	comp=E,72nm,0.1s						
DGB				*i* AML	AML	01 18 06.0	
	comp=E,69nm,0.3s						
KOCA	**Canakkale, Ayv**	**0.86**	**349**	P	**Pb**	**01 17 54.7**	**+0.3**
KOCA				S	**Sb**	**01 18 06.9**	**+0.8**
KOCA				*i* AML	AML	01 18 08.0	
	comp=E,113nm,0.7s						
KOCA				*i* AML	AML	01 18 09.0	
	comp=E,86nm,0.2s						
SMG	**Samos**	**1.02**	**158**	P	**Pn**	**01 17 57.9**	**0.0**
SMG				S	**Sn**	**01 18 12.5**	**0.0**
	comp=E,140nm,0.2s						
SMG	**Samos**	**1.02**	**158**	P	**Pn**	**01 17 58.3**	**+0.4**
AKHS	**Akhisar**	**1.16**	**79**	P	**Pg**	**01 17 59.3**	**0.0**
AKHS				S	**Sb**	**01 18 15.1**	**+0.4**
AKHS				*i* AML	AML	01 18 17.0	
	comp=E,36nm,0.5s						
EZN	**Ezine**	**1.17**	**359**	PN	**Pb**	**01 17 59.5**	**-0.1**
GCAM	**G?zelcaml?**	**1.18**	**144**	PN	**Pn**	**01 18 00.9**	**+0.9**
BOZC	**Bozcaada**	**1.20**	**349**	PN	**Pg**	**01 18 00.6**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.40**	**120**	PN	**Pb**	**01 18 03.4**	**-0.3**
BALB	**Balikesir**	**1.54**	**50**	PN	**Pn**	**01 18 04.9**	**0.0**
LIA	**Limnos Island**	**1.54**	**324**	P	**Pn**	**01 18 05.0**	**0.0**
LIA				S	**Sn**	**01 18 23.6**	**-1.6**
LIA	**Limnos Island**	**1.54**	**324**	P	**Pb**	**01 18 06.3**	**+0.4**
GADA	**Gvkgeada**	**1.57**	**347**	PN	**Pb**	**01 18 06.2**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.74**	**3**	PN	**Pn**	**01 18 07.9**	**+0.2**
LPK	**Lapseki**	**1.74**	**10**	PN	**Pn**	**01 18 08.2**	**+0.4**
KRBG	**Karabiga-Canak**	**1.88**	**22**	PN	**Pn**	**01 18 10.1**	**+0.5**
SMTH	**Samothraki Isl**	**1.92**	**341**	P	**Pn**	**01 18 10.5**	**+0.2**
SIMA	**Simav-Kutahya**	**2.09**	**78**	PN	**Pn**	**01 18 13.1**	**+0.4**

*TIF **13** 01:39:08.0, 41°.41N×41°.64E, h9km±1km*

*ISK **13** 01:39:08.3, 41°.39N×41°.62E, h11km, ML3.1/8*

*DDA **13** 01:39:09.1±0.0, 41°.36N×41°.66E, h11km, MW3.3*

ISC 13 01:39:08.5±0.8, 41°.41N±0°.02×41°.63E±0°.02, h12km±6km, n38, σ0§86/62, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBOC	**Borcka**	**0.07**	**159**	SPECP		01 39 11.0	
DBOC				P	**Pg**	**01 39 11.3**	**+0.2**
DBOC				S	**Sg**	**01 39 12.9**	**-0.1**
HOPA	**Hopa-Artvin**	**0.14**	**260**	PG	**Pg**	**01 39 12.0**	**0.0**
HOPA				SG	**Sg**	**01 39 14.3**	**-0.2**
DAGI	**Agillar**	**0.40**	**147**	SPECP		01 39 16.0	
DAGI				P	**Pb**	**01 39 16.6**	**-0.9**
DAGI				S	**Sg**	**01 39 21.8**	**0.0**
DAGI				*i* AML	AML	01 39 22.0	
	comp=N,1μm,0.4s						
DBAD	**Bademkaya**	**0.40**	**173**	SPECP		01 39 16.0	
DBAD				P	**Pb**	**01 39 16.4**	**-1.1**
DBAD				*i* AML	AML	01 39 21.0	
	comp=N,2μm,0.3s						
DBAD				S	**Sg**	**01 39 21.3**	**-0.5**
DDEM	**Demirkent**	**0.53**	**170**	P	**Pb**	**01 39 18.7**	**-1.0**
DDEM				S	**Sg**	**01 39 25.7**	**-0.2**
DDEM				*i* AML	AML	01 39 26.0	
	comp=N,4μm,0.3s						
CHOM	**Cayeli-Rize**	**0.73**	**245**	PG	**Pb**	**01 39 22.8**	**-0.3**
CHOM				SG	**Sb**	**01 39 33.2**	**+0.1**
EPOS	**Posof**	**0.83**	**83**	SPECP		01 39 24.0	
EPOS				P	**Pb**	**01 39 24.6**	**-0.3**
EPOS				*i* AML	AML	01 39 36.0	
	comp=N,500nm,0.3s						
EPOS				S	**Sb**	**01 39 36.2**	**+0.1**
ABS	**Abastumani**	**0.95**	**68**	P	**Pg**	**01 39 26.4**	**-0.5**
ABS				S	**Sb**	**01 39 39.7**	**0.0**
SENK	**Senkaya-Erzuru**	**1.01**	**147**	PG	**Pb**	**01 39 27.7**	**-0.3**
KRIK	**Erzurum-spir**	**1.20**	**207**	P	**Pb**	**01 39 30.9**	**-0.4**
KRIK				*i* AML	AML	01 39 47.0	
	comp=E,250nm,0.3s						
KRIK				S	**Sn**	**01 39 47.3**	**-0.2**
KARS	**Kars**	**1.35**	**125**	PN	**Pg**	**01 39 34.0**	**-0.4**
CHVG	**Ch'k'valeri**	**1.35**	**14**	P	**Pb**	**01 39 34.1**	**+0.4**
CHVG				S	**Sg**	**01 39 53.6**	**+1.6**
HOMI	**Horasan**	**1.38**	**171**	SPECP		01 39 34.0	
HOMI				P	**Pg**	**01 39 34.4**	**-0.7**
HOMI				S	**Sg**	**01 39 54.1**	**+1.1**
HOMI				*i* AML	AML	01 40 02.0	
	comp=N,242nm,0.5s						
TKB	**Tkibuli**	**1.38**	**47**	P	**Pn**	**01 39 34.0**	**+0.3**
TKB				S	**Sg**	**01 39 53.1**	**0.0**
AKH	**Akhalkalaki**	**1.40**	**89**	P	**Pb**	**01 39 34.6**	**-0.1**
AKH				S	**Sg**	**01 39 53.5**	**-0.1**
AKH	**Akhalkalaki**	**1.40**	**89**	PN	**Pb**	**01 39 34.6**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.43**	**173**	PN	**Pb**	**01 39 34.7**	**-0.5**
EMRE	**Erzurum,Aziziy**	**1.47**	**200**	P	**Pg**	**01 39 36.4**	**-0.4**
EMRE				S	**Sg**	**01 39 56.7**	**+0.9**
EMRE				*i* AML	AML	01 40 01.0	
	comp=N,254nm,0.5s						
KTUT	**Trabzon**	**1.47**	**254**	PN	**Pn**	**01 39 33.9**	**-0.9**
BGD	**Bogdanovka**	**1.49**	**95**	P	**Pb**	**01 39 36.4**	**+0.1**
ERZM	**Erzurum**	**1.52**	**188**	P	**Pg**	**01 39 37.3**	**-0.4**
ERZM				S	**Sg**	**01 39 58.9**	**+1.4**
BAYT	**Aydıntepe-Bayb**	**1.52**	**229**	PN	**Pn**	**01 39 35.9**	**+0.2**
KOPT	**Kop Dagi**	**1.64**	**212**	SPECP		01 39 39.0	
KOPT				P	**Pg**	**01 39 39.9**	**-0.1**
KOPT				S	**Sg**	**01 40 02.5**	**+1.2**
KOPT				*i* AML	AML	01 40 04.0	
	comp=E,379nm,0.6s						
KOPT				*i* AML	AML	01 40 04.0	
	comp=N,221nm,0.3s						
DIGO	**Kars**	**1.65**	**126**	SPECP		01 39 38.0	
DIGO				P	**Pb**	**01 39 38.8**	**-0.3**
DIGO				S	**Sg**	**01 40 02.0**	**+0.3**
DIGO				*i* AML	AML	01 40 08.0	
	comp=E,184nm,0.4s						
EAK	**Akyaka**	**1.66**	**115**	P	**Pb**	**01 39 38.8**	**-0.3**
EAK				S	**Sg**	**01 40 05.8**	**+3.8**
BRNG	**Burnasheti**	**1.66**	**82**	P	**Pb**	**01 39 39.2**	**+0.1**
BRNG				S	**Sg**	**01 40 01.9**	**-0.2**
EATA	**Eleskirt**	**1.68**	**157**	P	**Pg**	**01 39 40.2**	**-0.7**
EATA				S	**Sg**	**01 40 04.3**	**+1.7**
ONI	**Oni**	**1.80**	**48**	P	**Pb**	**01 39 40.6**	**-0.8**
ONI				S	**Sg**	**01 40 05.3**	**-1.0**
TRLG	**Trialeti**	**1.86**	**85**	P	**Pb**	**01 39 42.0**	**0.0**
TRLG				S	**Sg**	**01 40 07.0**	**-1.4**
DMNI	**Dmanisi**	**1.93**	**92**	P	**Pb**	**01 39 44.0**	**+0.3**
DMNI				S	**Sg**	**01 40 08.8**	**-1.7**
KOTA	**Agri, Merkez-K**	**2.00**	**143**	P	**Pb**	**01 39 44.8**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.14**	**203**	PN	**Pn**	**01 39 44.7**	**+0.5**
KARO	**Karliova-Bingo**	**2.15**	**192**	PN	**Pn**	**01 39 44.6**	**+0.3**
GUDG	**Gudauri**	**2.37**	**63**	P	**Pb**	**01 39 50.9**	**-0.3**
BTNK	**Botanikuri**	**2.39**	**82**	P	**Pn**	**01 39 48.9**	**+1.4**
BTNK				S	**Sb**	**01 40 20.9**	**-0.1**
PNSH	**Pansheti**	**2.54**	**60**	P	**Pb**	**01 39 53.1**	**-1.0**
DGRG	**David-gareji**	**2.81**	**88**	P	**Pb**	**01 39 59.1**	**+0.4**
LGD	**Lagodekhi**	**3.48**	**82**	P	**Pb**	**01 40 10.0**	**-0.1**

*NEIC **13** 02:12:10.2±2.5, 10°.86N±0°.06×62°.25W±0°.06, h89km±8km, mb4.4/25, Md4.1(TRN), Mwr3.9(CAR), Error ellipse: s-maj=10.2km s-min=7.2km az=135.0*

*IDC **13** 02:12:11.4±1.2, 11°.04N×62°.47W, h94km±10km, mb3.7/10, mb1 3.8/12, mb1mx3.5/48, mbtmp4.0/12, MS3.4/3, Ms1 3.4/3, ms1mx2.8/78, Error ellipse: s-maj=19.1km s-min=7.8km az=133.0*

*FUNV **13** 02:12:11.1, 10°.87N×62°.27W, h30km, MW4.3*

*CAR **13** 02:12:11.6±8.1, 10°.88N±0°.06×62°.26W±0°.06, h33km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=50.0*

*TRN **13** 02:12:11.3, 10°.86N×62°.30W, h57km, MD4.3*

ISC 13 02:12:09.8±0.7, 10°.83N±0°.04×62°.36W±0°.04, h87km±7km, n127, σ1§76/163, mb4.3/22, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.88**	**260**	*eP*	**Pn**	**02 12 28.5**	**+0.7**
CRUV				*eS*	**Sn**	**02 12 40.6**	**-0.7**
TRN	**Trinidad (W)**	**0.96**	**101⇑**	*iP*	**Pn**	**02 12 28.2**	**-0.5**
TRN				*eS*	**Sn**	**02 12 40.0**	**-3.0**
TPP	**Pointe-a-Pierr**	**1.03**	**120**	*eP*	**Pn**	**02 12 30.3**	**+0.7**
TBH	**Brigand Hill**	**1.32**	**105**	*eP*	**Pn**	**02 12 33.6**	**+0.5**
TBH				*eS*	**Sn**	**02 12 49.2**	**-1.4**
GRFF	**Grenada Fort F**	**1.35**	**27**	*eP*	**Pn**	**02 12 33.1**	**-0.4**
GRFF				*eS*	**Sn**	**02 12 50.0**	**-1.4**
GRGR	**Grenville**	**1.47**	**28**	*eP*	**Pn**	**02 12 34.8**	**-0.1**
GRGR				*eS*	**Sn**	**02 12 52.9**	**-1.1**
GRGR	**Grenville**	**1.47**	**28**	Pn	**Pn**	**02 12 34.6**	**-0.3**
GRGR				Sn	**Sn**	**02 12 52.9**	**-1.1**
BOT	**Bacolet**	**1.65**	**78**	*eP*	**Pn**	**02 12 37.7**	**+0.5**
BOT				*eS*	**Sn**	**02 12 56.5**	**-1.6**
TOSP	**Speyside**	**1.85**	**75**	*eP*	**Pn**	**02 12 39.0**	**-0.9**
TOSP				*eS*	**Sn**	**02 13 00.9**	**-1.9**
TOSP	**Speyside**	**1.85**	**75**	Pn	**Pn**	**02 12 38.8**	**-1.1**
GCMP	**Grenada, Carri**	**1.88**	**29**	*eP*	**Pn**	**02 12 40.4**	**+0.1**
GCMP				*eS*	**Sn**	**02 13 02.3**	**-1.2**
PLCV	**Puerto La Cruz**	**2.29**	**253**		**Pn**	**02 12 48.1**	**+2.3**
PCRV	**Puerto La Cruz**	**2.33**	**254**	P	**Pn**	**02 12 48.1**	**+1.8**
	16nm,0.3s,baz=61,slow=2.9,SNR=210						
PCRV				S	**Sn**	**02 13 15.2**	**+0.9**
	33nm,0.3s,baz=18,slow=17,SNR=21						
PCRV	**Puerto La Cruz**	**2.33**	**254**	*eP*	**Pn**	**02 12 47.7**	**+1.4**
PCRV				*eS*	**Sn**	**02 13 14.5**	**+0.2**
SVOC	**Richmond Hill,**	**2.56**	**26**	*e*	**Pn**	**02 12 52.2**	**+2.8**
SVB	**Belmont**	**2.66**	**24**	*eP*	**Pn**	**02 12 51.5**	**+0.8**
SVB				*eS*	**Sn**	**02 13 20.7**	**-1.3**
SVB	**Belmont**	**2.66**	**24**	Pn	**Pn**	**02 12 50.9**	**+0.2**
SVV	**Soufriere Volc**	**2.71**	**24**	*eP*	**Pn**	**02 12 52.7**	**+1.3**
PRGV	**PARIAGUAN**	**3.05**	**228**	*eP*	**Pn**	**02 12 57.1**	**+1.2**
PRGV				*eS*	**Sn**	**02 13 32.1**	**+0.6**
MCLT	**Moule a Chique**	**3.18**	**26**	*eP*	**Pn**	**02 12

7.4nm,0.3s,baz=50,slow=21,SNR=11
SDV Santo Domingo 8.38 257 Pn **Pn 02 14 08.4 -0.2**
CRPR Cabo Rojo, PR 8.49 328 Pn **Pn 02 14 12.5 +2.6**
BOAV Boa Vista 8.58 168 Pn **Pn 02 14 09.0 -2.3**
VIGV El Vigia 9.09 258 *eP* **Pn 02 14 18.7 +0.4**
VIGV *eS* **Sn 02 15 53.0 -6.0**
URIC Uribia, Colomb 9.49 276 Pn **Pn 02 14 24.1 +0.5**
CAPV Capacho 10.26 254 *eP* **Pn 02 14 34.6 +0.3**
CAPV *eS* Sn 02 16 20.6 -7.0
MDP Montagnes des 11.18 120 P Pn 02 14 41.2 -5.5
3.2nm,0.3s,baz=313,slow=16,SNR=29
MDP S Sn 02 16 37.1 -13
14nm,0.3s,baz=49,slow=20,SNR=23
MDP LR LR 02 19 02.1
comp=Z,64nm,20.1s,baz=304,slow=36
SDDR Presa de Saban 11.83 314 Pn **Pn 02 14 58.8 +3.3**
SJCC San Jacinto, C 12.65 267 Pn **Pn 02 15 07.7 +1.1**
ZARC Zaragoza, Cauc 12.78 256 Pn **Pn 02 15 07.5 -0.7**
MACA Manacapuru-AM 14.00 173 Pn **Pn 02 15 23.7 -0.7**
OTAV Otavalo 19.15 238 P **Pn 02 16 30.6 +2.1**
RIMA Rio Macho 21.18 269 P **P 02 16 52.1 +3.5**
JTS Las Juntas de 22.22 271 LR LR 02 27 32.2
comp=Z,70nm,18.0s,slow=42
VILB Vilhena 23.73 175 P **P 02 17 15.3 +1.1**
ATAH Atahualpa 23.95 222 P **P 02 17 19.7 +3.1**
3.2nm,0.4s,baz=34,slow=6.9,SNR=7.8
SIV San Ignacio 26.68 177 P **P 02 17 42.7 +1.8**
1.9nm,0.7s,baz=358,slow=8.8,SNR=11
GOGA Godfrey 29.66 323 P **P 02 18 06.2 -1.1**
GOGA IAmb IAmb 02 18 18.5
comp=Z,9.7nm,1.4s
P49A Miami Univ. Ec 34.81 329 P **P 02 18 52.8 +0.5**
W39A Magazine 37.46 315 P **P 02 19 15.2 +0.2**
W39A IAmb IAmb 02 19 42.9
comp=Z,9.9nm,1.3s
S39A Bolivar 38.56 319 P **P 02 19 23.5 -0.6**
S39A IAmb IAmb 02 19 24.1
comp=Z,4.1nm,0.8s
X34A Smith Ranch, M 40.05 312 P **P 02 19 36.1 -0.5**
L40A Anamosa 40.06 326 P **P 02 19 36.1 -0.5**
TXAR Lajitas Array 42.66 302 P **P 02 19 58.2 0.0**
comp=Z,1.0nm,0.8s,baz=121,slow=9.7,SNR=6.4
TXAR PcP **PcP 02 21 48.4 -0.4**
comp=Z,0.6nm,0.5s,baz=136,slow=6.1,SNR=6.0
MSTX Muleshoe 43.49 308 P **P 02 20 04.6 -0.2**
MSTX IAmb IAmb 02 20 04.9
comp=Z,5.1nm,0.8s
SCHQ Schefferville 44.03 356 P **P 02 20 08.7 0.0**
comp=Z,1.7nm,0.5s,baz=170,slow=7.6,SNR=7.9
SCHQ Schefferville 44.03 356 P **P 02 20 08.6 -0.1**
BNM Barren Site 46.55 307 P **P 02 20 31.1 +1.8**
SDCO Great Sand Dun 46.99 312 P **P 02 20 32.1 -0.6**
PV11 David Mesa, Pa 49.67 312 P **P 02 20 52.9 -0.3**
PV11 IAmb IAmb 02 21 01.4
comp=Z,3.3nm,1.0s
P18A Preston Nutter 51.14 313 P **P 02 21 04.2 -0.2**
P18A IAmb IAmb 02 21 04.6
comp=Z,2.5nm,0.7s
DGMT Dagmar 51.21 325 P **P 02 21 04.9 +0.5**
BW06 Boulder Array 51.84 317 P **P 02 21 07.8 -1.7**
BW06 IAmb IAmb 02 21 08.8
comp=Z,2.3nm,0.6s
PD31 Pinedale Array 51.84 317 P **P 02 21 07.8 -1.6**
PD31 IAmb IAmb 02 21 08.3
comp=Z,1.9nm,0.6s
PDAR Pinedale Array 51.84 317 P **P 02 21 07.8 -1.6**
comp=Z,2.0nm,0.6s,baz=116,slow=9.5,SNR=23
MTPU Mount Pierson 52.05 310 P **P 02 21 11.9 +0.6**
REDW Red Top Meadow 52.94 317 P **P 02 21 17.0 -0.6**
REDW IAmb IAmb 02 21 36.3
comp=Z,6.9nm,1.5s
TORD Torodi Ar. Bea 62.55 81 P **P 02 22 25.7 +0.6**
comp=Z,0.3nm,0.4s,baz=288,slow=6.2,SNR=5.8
SUMG Summit 63.34 8 P **P 02 22 29.7 -0.2**
SUMG IAmb IAmb 02 22 37.3
comp=Z,7.2nm,1.1s
YKA Yellowknife Ar 63.60 336 P **P 02 22 28.6 -2.5**
comp=Z,0.3nm,0.3s,baz=105,slow=7.3,SNR=9.1
NB2 NORSAR Subarra 72.64 29 P **P 02 23 28.8 +0.9**
comp=Z,0.6nm,0.6s,baz=263,slow=6.2
NOA NORSAR Array B 72.64 29 P **P 02 23 29.1 +1.3**
comp=Z,1.0nm,0.7s,baz=262,slow=5.9,SNR=5.5
NC602 NORSAR Array S 72.75 30 P **P 02 23 30.3 +1.8**
NC602 IAmb IAmb 02 23 45.6
comp=Z,16nm,1.3s
BCAR Beaver Creek A 75.62 332 P **P 02 23 46.4 +1.2**
ARCES ARCESS Array B 79.18 21 P **P 02 24 04.5 -0.4**
comp=Z,0.8nm,0.6s,baz=269,slow=5.5,SNR=3.7
ARCES ARCESS Array B 79.18 21 P **P 02 24 03.7 -1.2**
TRF Thorofare Moun 79.47 333 P **P 02 24 05.7 -1.1**
TRF IAmb IAmb 02 24 10.8
comp=Z,7.3nm,1.4s
FINES FINESS Array B 79.83 29 P **P 02 24 08.8 +0.4**
comp=Z,2.2nm,0.4s,baz=270,slow=3.9,SNR=39
FIA1 FINESS Array S 79.83 29 P **P 02 24 08.6 +0.2**
SVW2 Sparrevohn 82.16 331 P **P 02 24 19.8 -1.2**
SVW2 IAmb IAmb 02 24 20.2
comp=Z,10nm,1.4s
PPT Papeete 90.60 252 LR LR 03 02 05.0
comp=Z,77nm,18.5s,baz=202,slow=33
PZH PanZhiHua 139.80 22 PKP **PKPdf 02 31 26.4 -2.3**
CMAR Chiang Mai Arr 145.54 33 PKPbc **PKiKP 02 31 39.8 -3.1**
comp=Z,2.2nm,0.3s,baz=330,slow=5.2,SNR=4.1

ZUR ***13*** *02:13:36.1,47°.41N×6°.17E,h20km±1km,MLh3.2/58,Error ellipse: s-maj=3.7km s-min=0.9km az=150.0*
PRU ***13*** *02:13:37.4±0.0,47°.47N×6°.33E,h10km*
STR ***13*** *02:13:37.8±0.2,47°.3N±0°.9×°.±°,h22km±1km,MLv3.1/11, preliminary*
LDG ***13*** *02:13:37.4±0.0,47°.31N×6°.36E,h25km,Md3.5/5,Ml3.3/49, Error ellipse: s-maj=0.8km s-min=0.6km az=156.0*
BGR ***13*** *02:13:38.0±0.5,47°.31N×6°.39E,h11km±2km,ML3.2/20, Error ellipse: s-maj=4.4km s-min=2.2km az=45.0*
GEN ***13*** *02:13:43.1,46°.95N×6°.66E,h26km±10km,Ml0.0*
ISC 13 02:13:36.5±0.9,47°.32N±0°.01×6°.31E±0°.01,h18km±2km, n297,σ1°.64/525,62C-25D,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMF	**Charmoille**	**0.24**	**106**	⇑Pg	**Pg**	**02 13 43.5**	**+1.3**
CHMF				⇑Pg	**Pg**	**02 13 43.5**	**+1.3**
64nm,SNR=141							
CHMF				Sg	**Sb**	**02 13 46.9**	**+0.9**
CHMF	**Charmoille**	**0.24**	**106**	Pg	**Pg**	**02 13 43.5**	**+1.3**
CHMF				Sg	**Sb**	**02 13 46.7**	**+0.7**
BRANT	**Les Verrieres**	**0.40**	**163**	⇓Pg	**Pb**	**02 13 46.3**	**+1.2**
2.4nm,SNR=14							
BRANT				⇓Pg	**Pb**	**02 13 46.3**	**+1.2**
BRANT	**Les Verrieres**	**0.40**	**163**	Pg	**Pb**	**02 13 46.3**	**+1.2**
BRANT	**Les Verrieres**	**0.40**	**163**	Sg	**Sb**	**02 13 51.9**	**+1.0**
RONF	**Ronchamp**	**0.46**	**30**	Pg	**Pb**	**02 13 47.6**	**+1.5**
RONF				Sg	**Sb**	**02 13 54.0**	**+1.5**
SNES2	**Neuenburg, Obs**	**0.54**	**125**	⇑Pg	**Pg**	**02 13 48.3**	**+0.9**
SNES2				⇑Pg	**Pg**	**02 13 48.3**	**+0.9**
6.2nm,SNR=42							
MTI01	**Mont Terri (ME**	**0.59**	**84**	⇑Pg	**Pg**	**02 13 49.1**	**+0.8**
2.7nm,SNR=15							
MTI01				⇑Pg	**Pg**	**02 13 49.1**	**+0.8**
MTI02	**Mont Terri, (H**	**0.59**	**84**	⇑Pg	**Pg**	**02 13 49.1**	**+0.8**
MTI02				⇑Pg	**Pg**	**02 13 49.1**	**+0.8**
2.5nm,SNR=23							
MTI03	**Mont Terri (fr**	**0.59**	**84**	⇑Pg	**Pg**	**02 13 49.2**	**+0.9**
11nm,SNR=8.3							
MTI03				⇑Pg	**Pg**	**02 13 49.2**	**+0.9**
SYVP	**Yverdon-les-Ba**	**0.59**	**157**	⇓Pg	**Pb**	**02 13 49.6**	**+1.4**
SYVP				⇓Pg	**Pb**	**02 13 49.6**	**+1.4**
9.5nm,SNR=19							
SYVP				Sg	**Sb**	**02 13 57.3**	**+1.2**
HINF	**Hinteralfeld**	**0.62**	**36**	*e*P	**Pb**	**02 13 50.2**	**+1.4**
HINF				*e*Sg	**Sg**	**02 13 57.6**	**+0.3**
826nm,0.2s							
BOURR	**Bourrignon**	**0.63**	**83**	⇑Pg	**Pb**	**02 13 50.0**	**+1.0**
2.8nm,SNR=27							
BOURR				⇑Pg	**Pb**	**02 13 50.0**	**+1.0**
BOURR	**Bourrignon**	**0.63**	**83**	Pg	**Pb**	**02 13 50.0**	**+1.0**
BOURR	**Bourrignon**	**0.63**	**83**	Sg	**Sg**	**02 13 58.0**	**+0.4**
SBIK	**Biel, Kongress**	**0.67**	**106**	⇑Pg	**Pb**	**02 13 50.4**	**+0.9**
SBIK				⇑Pg	**Pb**	**02 13 50.4**	**+0.9**
11nm,SNR=20							
SBIK				Sg	**Sb**	**02 13 59.0**	**+0.6**
HAU	**Haudompre**	**0.69**	**2**	*e*P	**Pg**	**02 13 52.1**	**+1.9**
HAU				*e*Sg	**Sb**	**02 14 00.2**	**+1.0**
323nm,0.2s							
TORNY	**Torny/Romont**	**0.70**	**140**	⇓Pg	**Pb**	**02 13 51.3**	**+1.1**
2.8nm,SNR=25							
TORNY				⇓Pg	**Pb**	**02 13 51.3**	**+1.1**
TORNY				Sg	**Sb**	**02 14 00.1**	**+0.6**
TORNY	**Torny/Romont**	**0.70**	**140**	Pg	**Pb**	**02 13 51.3**	**+1.1**
SCOU	**Cournillens**	**0.71**	**130**	⇓Pg	**Pb**	**02 13 51.4**	**+1.0**
2.9nm,SNR=12							
SCOU				⇓Pg	**Pb**	**02 13 51.4**	**+1.0**
SCOU				Sg	**Sb**	**02 14 00.3**	**+0.5**
CABF	**La Chapelle**	**0.72**	**192**	*e*P	**Pg**	**02 13 52.3**	**+1.6**
CABF				*e*Sg	**Sb**	**02 14 01.3**	**+1.2**
466nm,0.2s							
SMOE	**Moudon cole,**	**0.73**	**152**	⇓Pg	**Pb**	**02 13 51.9**	**+1.3**
SMOE				⇓Pg	**Pb**	**02 13 51.9**	**+1.3**
2.0nm,SNR=10							
GIMEL	**St. Georges /**	**0.78**	**182**	⇓Pg	**Pg**	**02 13 53.3**	**+1.4**
3.5nm,SNR=20							
GIMEL				⇓Pg	**Pg**	**02 13 53.3**	**+1.4**
GIMEL				Sg	**Sg**	**02 14 03.7**	**+1.4**
GIMEL	**St. Georges /**	**0.78**	**182**	Pg	**Pg**	**02 13 53.3**	**+1.4**
WOLEN	**Wohlen bei Ber**	**0.79**	**113**	⇑Pg	**Pb**	**02 13 52.6**	**+0.9**
1.6nm,SNR=14							
WOLEN				⇑Pg	**Pb**	**02 13 52.6**	**+0.9**
WOLEN				Sg	**Sb**	**02 14 02.4**	**+0.3**
STAF	**Tafers**	**0.80**	**129**	⇓Pg	**Pb**	**02 13 53.0**	**+1.0**
STAF				⇓Pg	**Pb**	**02 13 53.0**	**+1.0**
3.5nm,SNR=27							
STAF				Sg	**Sb**	**02 14 03.0**	**+0.5**
SEPFL	**Lausanne EPFL**	**0.81**	**167**	⇑Pg	**Pg**	**02 13 53.7**	**+1.2**
SEPFL				⇑Pg	**Pg**	**02 13 53.7**	**+1.2**
3.7nm,SNR=12							
SOLB	**Solothurn Schu**	**0.83**	**97**	Pg	**Pb**	**02 13 53.3**	**+0.9**
SOLB				Pg	**Pb**	**02 13 53.3**	**+0.9**
4.3nm,SNR=7.8							
SOLZ	**Solothurn, Zeu**	**0.84**	**97**	Pg	**Pb**	**02 13 53.5**	**+0.9**
5.2nm,SNR=20							
SOLZ				Pg	**Pb**	**02 13 53.5**	**+0.9**
SOLZ				Sg	**Sb**	**02 14 04.5**	**+0.8**
SBERN	**Bern, Kleine S**	**0.86**	**115**	Pg	**Pb**	**02 13 53.8**	**+1.0**
SBERN	**Bern, Kleine S**	**0.86**	**115**	Pg	**Pb**	**02 13 53.8**	**+1.0**
SBERN				Sg	**Sb**	**02 14 04.5**	**+0.5**
MATTE	**Schuetzenmatte**	**0.89**	**74**	Pg	**Pb**	**02 13 53.8**	**+0.4**
MATTE				Pg	**Pb**	**02 13 53.8**	**+0.4**
1.7nm,SNR=8.3							
MATTE				Sg	**Sb**	**02 14 05.7**	**+0.8**
SBAP	**Basel-PUK**	**0.89**	**73**	Pn	**Pb**	**02 13 54.7**	**+1.2**
1.8nm,SNR=6.7							
SBAP				Pn	**Pb**	**02 13 54.7**	**+1.2**
SBIS2	**Binningen**	**0.90**	**75**	Pg	**Pb**	**02 13 54.8**	**+1.3**
4.0nm,SNR=10							
SBIS2				Pg	**Pb**	**02 13 54.8**	**+1.3**
SRER	**Reinach, Raine**	**0.90**	**77**	Pn	**Pb**	**02 13 54.2**	**+0.7**
3.9nm,SNR=18							
SRER				Pn	**Pb**	**02 13 54.2**	**+0.7**
SBAJ2	**Basel, St Joha**	**0.90**	**73**	Pn	**Pb**	**02 13 54.4**	**+0.8**
SBAJ2				Pn	**Pb**	**02 13 54.4**	**+0.8**
2.4nm,SNR=9.6							
SBAM2	**Basel, Mnster**	**0.90**	**74**	Pn	**Pb**	**02 13 54.3**	**+0.7**
SBAM2				Pn	**Pb**	**02 13 54.3**	**+0.7**
3.7nm,SNR=14							
SBAK	**Basel, Klybeck**	**0.91**	**73**	Pn	**Pb**	**02 13 54.6**	**+0.8**
SBAK				Pn	**Pb**	**02 13 54.6**	**+0.8**
3.5nm,SNR=9.6							
OTER1	**Otterbach 1 (B**	**0.92**	**73**	Pn	**Pb**	**02 13 54.3**	**+0.4**
OTER1				Pn	**Pb**	**02 13 54.3**	**+0.4**
1.5nm,SNR=5.2							
OTER2	**Otterbach 2 (B**	**0.92**	**73**	Pg	**Pb**	**02 13 53.7**	**-0.2**
193nm,SNR=3.4							
OTER2				Pg	**Pb**	**02 13 53.7**	**-0.2**
OTER2				Sg	**Sb**	**02 14 05.9**	**+0.2**
SBIF2	**Birsfelden, Fr**	**0.93**	**75**	Sg	**Sg**	**02 14 07.7**	**+0.8**
BALST	**Balsthal**	**0.94**	**88**	⇑Pn	**Pb**	**02 13 54.8**	**+0.4**
BALST				⇑Pn	**Pb**	**02 13 54.8**	**+0.4**
3.9nm,SNR=38							
BALST				Sg	**Sb**	**02 14 07.1**	**+0.6**
BALST	**Balsthal**	**0.94**	**88**	Pg	**Pb**	**02 13 54.8**	**+0.4**
BALST	**Balsthal**	**0.94**	**88**	*e*Pg	**Pb**	**02 13 54.8**	**+0.4**
BALST				*e*Sg	**Sb**	**02 14 07.2**	**+0.6**
SRHE	**Riehen, Erlens**	**0.95**	**73**	Sg	**Sg**	**02 14 08.1**	**+0.6**
SSCN	**Schweizerhalle**	**0.95**	**76**	Pn	**Pb**	**02 13 54.7**	**+0.3**
SSCN				Pn	**Pb**	**02 13 54.7**	**+0.3**
3.9nm,SNR=18							
SBEG	**Bettingen Gewe**	**0.96**	**74**	Pn	**Pb**	**02 13 54.8**	**+0.2**
SBEG				Pn	**Pb**	**02 13 54.8**	**+0.2**
2.6nm,SNR=21							
SFRA	**Frenkendorf**	**0.97**	**78**	⇑Pn	**Pb**	**02 13 55.0**	**+0.2**
3.3nm,SNR=19							
SFRA				⇑Pn	**Pb**	**02 13 55.0**	**+0.2**
SKAF	**Kaiseraugst-Fr**	**0.98**	**76**	Pn	**Pb**	**02 13 55.1**	**+0.1**
SKAF				Pn	**Pb**	**02 13 55.1**	**+0.1**
3.3nm,SNR=19							
SAUR	**Augst-Roemermu**	**0.98**	**77**	Pn	**Pb**	**02 13 55.1**	**+0.1**
SAUR				Pn	**Pb**	**02 13 55.1**	**+0.1**
5.8nm,SNR=38							
ECH	**Echery**	**1.07**	**32**	⇓Pg	**Pb**	**02 13 56.4**	**0.0**
2.1nm,SNR=35							
ECH	**Echery**	**1.07**	**32**	P	**Pb**	**02 13 56.4**	**0.0**
ECH				Pg	**Pn**	**02 13 57.3**	**+0.7**
ECH				Sg	**Sb**	**02 14 11.6**	**+1.5**
ECH	**Echery**	**1.07**	**32**	*e*Pg	**Pb**	**02 13 56.4**	**0.0**
AIGLE	**Aigle**	**1.07**	**155**	⇓Pg	**Pb**	**02 13 57.2**	**+0.7**
AIGLE				⇓Pg	**Pb**	**02 13 57.2**	**+0.7**
1.4nm,SNR=11							
AIGLE	**Aigle**	**1.07**	**155**	Pn	**Pb**	**02 13 57.2**	**+0.7**
AIGLE	**Aigle**	**1.07**	**155**	Pg	**Pn**	**02 13 58.1**	**+1.4**
AIGLE	**Aigle**	**1.07**	**155**	Sn	**Sb**	**02 14 11.5**	**+1.3**
AIGLE				Sg	**Sg**	**02 14 12.3**	**+0.9**
SAIG	**Aigle Rue de l**	**1.10**	**155**	Pg	**Pb**	**02 13 57.6**	**+0.7**
2.4nm,SNR=15							
SAIG				Pg	**Pb**	**02 13 57.6**	**+0.7**
ROTHE	**Rothenfluh**	**1.11**	**81**	⇑Pg	**Pb**	**02 13 57.0**	**-0.1**
ROTHE				⇑Pg	**Pb**	**02 13 57.0**	**-0.1**
1.1nm,SNR=7.9							
WIMIS	**Wimmis**	**1.11**	**125**	⇑Pg	**Pb**	**02 13 57.7**	**+0.4**
0.8nm,SNR=8.0							
WIMIS				⇑Pg	**Pb**	**02 13 57.7**	**+0.4**
DAGMA	**Lutertal, Dagm**	**1.16**	**94**	⇑Pn	**Pn**	**02 13 57.9**	**0.0**
1.5nm,SNR=14							
DAGMA				⇑Pn	**Pn**	**02 13 57.9**	**0.0**
DAGMA				Sg	**Sb**	**02 14 13.7**	**+0.8**
OG02	**Monnetier-Morn**	**1.16**	**183**	Pn	**Pn**	**02 13 58.6**	**+0.7**
OG02				Pn	**Pn**	**02 13 58.6**	**+0.7**
0.5nm,SNR=3.1							
EMMET	**Emmethof**	**1.17**	**83**	⇑Pn	**Pn**	**02 13 57.7**	**-0.3**
EMMET				⇑Pn	**Pn**	**02 13 57.7**	**-0.3**
1.2nm,SNR=11							
EMMET				Sg	**Sb**	**02 14 13.8**	**+0.9**
SENIN	**Lac Senin/Sane**	**1.17**	**144**	⇓Pn	**Pn**	**02 13 58.9**	**+0.7**
1.7nm,SNR=21							
SENIN				⇓Pn	**Pn**	**02 13 58.9**	**+0.7**
VOGT	**Vogtsburg - To**	**1.20**	**50**	Pn	**Pn**	**02 13 58.8**	**+0.5**
VOGT	**Vogtsburg - To**	**1.20**	**50**	Pg	**Pb**	**02 14 00.3**	**+1.6**
VOGT	**Vogtsburg - To**	**1.20**	**50**	Sn	**Sb**	**02 14 14.5**	**+0.7**
VOGT				Sg	**Sn**	**02 14 15.4**	**+1.3**
GRYON	**Gryon**	**1.20**	**152**	Pn	**Pn**	**02 13 59.0**	**+0.6**
0.9nm,SNR=12							
GRYON				Pn	**Pn**	**02 13 59.0**	**+0.6**
SFTF	**Sexfontaines**	**1.23**	**317**	*e*Pn	**Pn**	**02 13 57.7**	**-1.2**
SFTF	**Sexfontaines**	**1.23**	**317**	*e*P	**Pn**	**02 14 00.3**	**+1.4**
SFTF	**Sexfontaines**	**1.23**	**317**	*e*Pg	**Pb**	**02 14 01.5**	**+2.2**
SFTF				*e*Sn	**Sb**	**02 14 13.1**	**-1.8**
47nm,0.2s							
SFTF				*e*Sg	**Sn**	**02 14 17.7**	**+2.7**
290nm,0.2s							
SULZ	**Cheisacher**	**1.24**	**80**	⇑Pn	**Pn**	**02 13 58.6**	**-0.4**
0.7nm,SNR=9.6							
SULZ				⇑Pn	**Pn**	**02 13 58.6**	**-0.4**
SULZ	**Cheisacher**	**1.24**	**80**	*e*Pn	**Pn**	**02 13 58.6**	**-0.4**
SULZ				*e*Sg	**Sn**	**02 14 16.3**	**+1.0**
SALAN	**Lac Salanfe**	**1.26**	**158**	Pn	**Pn**	**02 13 60.0**	**+0.6**
0.5nm,SNR=7.6							
SALAN				Pn	**Pn**	**02 13 60.0**	**+0.6**
SALAN	**Lac Salanfe**	**1.26**	**158**	P	**Pn**	**02 13 60.0**	**+0.6**
SALAN				S	**Sn**	**02 14 17.1**	**+1.2**
KIZ	**Kirchzarten**	**1.26**	**59**	Pn	**Pn**	**02 13 58.4**	**-0.9**
KIZ				Pn	**Pn**	**02 13 58.4**	**-0.9**
2.1nm,SNR=27							
KIZ				Sg	**Sb**	**02 14 16.6**	**+0.9**
KIZ	**Kirchzarten**	**1.26**	**59**	Pg	**Pn**	**02 14 00.9**	**+1.6**
KIZ	**Kirchzarten**	**1.26**	**59**	P	**Pn**	**02 13 58.5**	**-0.7**
KIZ	**Kirchzarten**	**1.26**	**59**	Pn	**Pn**	**02 13 59.5**	**+0.3**
CDF	**Champ du Feu**	**1.28**	**30**	*e*P	**Pn**	**02 13 59.3**	**-0.2**
CDF	**Champ du Feu**	**1.28**	**30**	*e*Pg	**Pn**	**02 14 01.2**	**+1.7**
CDF				*e*Sn	**Sb**	**02 14 12.9**	**-3.2**
CDF				*e*Sg	**Sn**	**02 14 17.5**	**+1.3**
276nm,0.2s							
FELD	**Feldberg im Sc**	**1.28**	**63**	Pn	**Pn**	**02 13 58.8**	**-0.8**
FELD				Pn	**Pn**	**02 13 58.8**	**-0.8**
1.1nm,SNR=15							
FELD	**Feldberg im Sc**	**1.28**	**63**	Pn	**Pn**	**02 13 59.7**	**+0.1**
FELD	**Feldberg im Sc**	**1.28**	**63**	P	**Pn**	**02 13 58.8**	**-0.8**
FELD	**Feldberg im Sc**	**1.28**	**63**	Sn	**Sb**	**02 14 15.9**	**-0.3**
OGSI	**Sixt**	**1.29**	**166**	Pn	**Pn**	**02 14 00.5**	**+0.9**
0.3nm,SNR=2.3							
OGSI				Pn	**Pn**	**02 14 00.5**	**+0.9**
OGSI	**Sixt**	**1.29**	**166**	P	**Pn**	**02 14 00.5**	**+0.9**
OGSI				S	**Sg**	**02 14 18.5**	**+0.3**
LKBD	**Leukerbad**	**1.30**	**135**	Sg	**Sb**	**02 14 17.7**	**+0.9**
PAGF	**Fort de Pagny**	**1.30**	**343**	*e*Pn	**Pn**	**02 13 58.6**	**-1.2**
PAGF	**Fort de Pagny**	**1.30**	**343**	*e*P	**Pn**	**02 14 00.5**	**+0.7**
baz=165							
PAGF	**Fort de Pagny**	**1.30**	**343**	*e*Pg	**Pn**	**02 14 02.0**	**+2.2**
baz=165							
PAGF				*e*Sn	**Sn**	**02 14 14.2**	**-2.5**
PAGF				*e*Sg	**Sb**	**02 14 19.2**	**+2.5**
61nm,0.2s,baz=163							
SIOV	**Sion-Valere**	**1.30**	**146**	Pn	**Pn**	**02 14 00.8**	**+1.0**
0.6nm,SNR=3.7							
SIOV				Pn	**Pn**	**02 14 00.8**	**+1.0**
WLS	**Welschbruch**	**1.30**	**32**	P	**Pn**	**02 13 59.6**	**-0.3**
WLS				Pn	**Pb**	**02 14 00.5**	**0.0**
WLS				Sn	**Sn**	**02 14 16.1**	**-0.7**
LKBD2	**Leukerbad 2**	**1.31**	**135**	Pn	**Pn**	**02 14 01.0**	**+0.9**
0.8nm,SNR=14							
LKBD2				Pn	**Pn**	**02 14 01.0**	**+0.9**
SMAO	**Martigny, Rue**	**1.33**	**156**	Pn	**Pn**	**02 14 01.1**	**+0.9**
SMAO				Pn	**Pn**	**02 14 01.1**	**+0.9**
1.5nm,SNR=11							
HAMIK	**Hmikon, Dlik**	**1.34**	**92**	⇑Pn	**Pn**	**02 14 00.3**	**0.0**
HAMIK				⇑Pn	**Pn**	**02 14 00.3**	**0.0**
1.1nm,SNR=2.3							
HAMIK				Sg	**Sb**	**02 14 18.8**	**+0.9**
ACHB	**Acheberg**	**1.35**	**78**	⇑Pn	**Pn**	**02 14 00.0**	**-0.4**
ACHB				⇑Pn	**Pn**	**02 14 00.0**	**-0.4**
1.0nm,SNR=14							
LAUCH	**Lauchernalp**	**1.35**	**131**	P	**Pb**	**02 14 03.0**	**+1.6**
LAUCH				S	**Sb**	**02 14 19.4**	**+1.0**
OG35	**Corcelles**	**1.37**	**202**	Pn	**Pn**	**02 14 01.2**	**+0.4**
0.9nm,SNR=6.5							
OG35				Pn	**Pn**	**02 14 01.2**	**+0.4**
OG35				Sg	**Sg**	**02 14 21.5**	**+0.6**
OG35	**Corcelles**	**1.37**	**202**	P	**Pn**	**02 14 01.1**	**+0.4**
OG35				Pn	**Pb**	**02 14 02.0**	**+0.3**
OG35				Sn	**Sn**	**02 14 19.7**	**+1.2**
METMA	**Mettma DE**	**1.38**	**73**	⇑Pn	**Pn**	**02 14 00.2**	**-0.7**
METMA				⇑Pn	**Pn**	**02 14 00.2**	**-0.7**
0.9nm,SNR=11							
METMA	**Mettma DE**	**1.38**	**73**	*e*Pn	**Pn**	**02 14 00.2**	**-0.7**
METMA				*e*Sg	**Sb**	**02 14 20.0**	**+1.0**
HASLI	**Hasliberg/Brie**	**1.38**	**113**	⇑Pn	**Pn**	**02 14 01.4**	**+0.5**
0.8nm,SNR=9.2							
HASLI				⇑Pn	**Pn**	**02 14 01.4**	**+0.5**
BERGE	**Lenzkirch (DE)**	**1.38**	**66**	⇑Pn	**Pn**	**02 14 00.1**	**-0.8**
BERGE				⇑Pn	**Pn**	**02 14 00.1**	**-0.8**
1.6nm,SNR=23							
BERGE	**Lenzkirch (DE)**	**1.38**	**66**	*e*Sg	**Sb**	**02 14 20.6**	**+1.4**
SLUB	**Luzern Bramber**	**1.39**	**100**	⇓Pn	**Pn**	**02 14 01.2**	**+0.3**
0.6nm,SNR=4.8							
SLUB				⇓Pn	**Pn**	**02 14 01.2**	**+0.3**
BOBI	**Bbikon, Wasse**	**1.40**	**80**	⇑Pn	**Pn**	**02 14 00.9**	**-0.3**
3.6nm,SNR=6.7							
BOBI				⇑Pn	**Pn**	**02 14 00.9**	**-0.3**
VANNI	**Vissoie, Val d**	**1.42**	**141**	P	**Pn**	**02 14 02.6**	**+1.1**
VANNI				S	**Sb**	**02 14 21.4**	**+1.2**
DIX	**Grande Dixence**	**1.45**	**148**	⇓Pn	**Pn**	**02 14 03.1**	**+1.1**
DIX				⇓Pn	**Pn**	**02 14 03.1**	**+1.1**
0.7nm,SNR=9.4							
DIX	**Grande Dixence**	**1.45**	**148**	Pn	**Pn**	**02 14 03.2**	**+1.1**
DIX	**Grande Dixence**	**1.45**	**148**	Sn	**Sn**	**02 14 20.4**	**-0.3**
DIX	**Grande Dixence**	**1.45**	**148**	P	**Pn**	**02 14 03.2**	**+1.1**
DIX				S	**Sb**	**02 14 22.6**	**+1.3**
MEZF	**Maizieres J'vi**	**1.46**	**325**	*e*Pn	**Pn**	**02 14 00.8**	**-1.1**
baz=144							
MEZF	**Maizieres J'vi**	**1.46**	**325**	*e*P	**Pn**	**02 14 02.9**	**+1.0**
baz=137							
MEZF	**Maizieres J'vi**	**1.46**	**325**	*e*Pg	**Pb**	**

0.4nm,SNR=6.0
MMK Pn **Pn** 02 14 06.8 +1.3
MMK Mattmark 1.70 137 P **Pn** 02 14 07.0 +1.4
MMK S **Sb** 02 14 29.5 +0.9
OPP Oppenau 1.73 46 P **Pn** 02 14 05.0 -0.7
OPP Pn **Pb** 02 14 06.2 -1.6
OPP Sn **Sn** 02 14 27.0 -0.3
OGSM Saint Maurice 1.76 194 Pn **Pn** 02 14 06.6 +0.5
SATI Passo dei Sala 1.80 143 P **Pn** 02 14 08.5 +1.6
SATI S **Sb** 02 14 32.5 +1.0
EMING Emmingen-Lipti 1.81 70 ⇑Pn **Pn** 02 14 06.1 -0.6
0.6nm,SNR=6.8
EMING ⇑Pn **Pn** 02 14 06.1 -0.6
EMING Emmingen-Lipti 1.81 70 *e*Pn **Pn** 02 14 06.2 -0.6
EMING *e*Sg **Sb** 02 14 33.4 +1.9
SMF Signal de Mont 1.82 249 *e*Pn **Pn** 02 14 05.9 -1.0
SMF Signal de Mont 1.82 249 *e*P **Pn** 02 14 07.9 +1.0
SMF Signal de Mont 1.82 249 *e*Pg **Pb** 02 14 12.2 +3.0
SMF *e*Sn **Sn** 02 14 27.2 -2.2
36nm,0.2s
SMF *e*Sg **Sg** 02 14 35.8 +0.7
120nm,0.2s
LPL La Plagne 1.82 171 *e*P **Pn** 02 14 08.3 +1.1
LPL La Plagne 1.82 171 *e*Pg **Pb** 02 14 11.5 +2.0
LPL *e*Sn **Sn** 02 14 27.1 -2.8
16nm,0.3s
LPL *e*Sg **Sg** 02 14 35.1 -0.3
23nm,0.2s
FUSIO Fusio 1.83 117 P **Pn** 02 14 08.5 +1.3
FUSIO S **Sb** 02 14 33.7 +1.6
LPG La Plagne 1.84 170 *e*P **Pn** 02 14 08.6 +1.1
LPG La Plagne 1.84 170 *e*Pg **Pb** 02 14 11.9 +2.0
LPG *e*Sn **Sn** 02 14 26.7 -3.8
14nm,0.2s
LPG *e*Sg **Sg** 02 14 35.8 -0.2
26nm,0.2s
SSF Saint Saulge 1.93 263 *e*Pn **Pn** 02 14 07.3 -1.1
SSF Saint Saulge 1.93 263 *e*P **Pn** 02 14 09.5 +1.1
SSF Saint Saulge 1.93 263 *e*Pg **Pb** 02 14 14.0 +2.9
SSF *e*Sg **Sg** 02 14 39.4 +0.8
59nm,0.2s
WALHA Wallhausen, DE 1.96 76 *e*Pn **Pn** 02 14 08.4 -0.4
WALHA *e*Pg **Pb** 02 14 13.8 +2.2
WALHA *e*Sg **Sb** 02 14 37.6 +2.0
GUT Gutenstein 2.04 67 P **Pn** 02 14 09.1 -0.9
GUT Pn **Pb** 02 14 10.0 -3.0
TRAV Traversella 2.06 151 P **Pn** 02 14 12.3 +2.0
AVF Avril sur Loir 2.09 256 *e*Pn **Pn** 02 14 09.5 -1.1
AVF Avril sur Loir 2.09 256 *e*P **Pn** 02 14 12.0 +1.4
AVF Avril sur Loir 2.09 256 *e*Pg **Pb** 02 14 16.6 +2.8
AVF *e*Sn **Sn** 02 14 33.5 -2.5
AVF *e*Sg **Sg** 02 14 44.4 +0.7
14nm,0.2s
GRN Grenoble 2.11 191 Pn **Pn** 02 14 11.6 +0.7
PLONS Plons/SG 2.11 96 *e*Pn **Pn** 02 14 11.7 +0.7
PLONS *e*Pg **Pg** 02 14 17.2 0.0
PLONS *e*Sg **Sg** 02 14 43.7 -0.8
OGMO Fort Saint-Gob 2.12 173 Pn **Pn** 02 14 12.5 +1.3
OGMO Fort Saint-Gob 2.12 173 P **Pn** 02 14 13.1 +1.9
TUE Stuetta 2.25 111 P **Pn** 02 14 14.7 +1.8
TUE S **Sn** 02 14 41.1 +0.8
RSP Reno Superiore 2.27 163 P **Pn** 02 14 15.0 +1.8
VDL Val di Lei 2.31 110 P **Pn** 02 14 15.7 +1.8
VDL S **Sg** 02 14 50.0 -0.9
MUGIO Muggio 2.34 126 P **Pn** 02 14 15.7 +1.5
MUGIO S **Sn** 02 14 41.3 -1.1
WLF Walferdange 2.35 358 Pn **Pn** 02 14 16.0 +1.8
WLF Walferdange 2.35 358 *e*Pn **Pn** 02 14 17.1 +2.9
WLF *e*Pg **Pg** 02 14 23.4 +1.8
WLF *e*Sg **Sg** 02 14 53.9 +1.7
RIVT Riveris 2.41 7 *e*Pn **Pn** 02 14 16.2 +1.2
RIVT *e*Pg **Pg** 02 14 23.9 +1.1
RIVT *e*Sg **Sg** 02 14 54.0 -0.1
ORIF Oris-en-Rattie 2.42 187 *e*P **Pn** 02 14 15.7 +0.5
ORIF Oris-en-Rattie 2.42 187 *e*Pg **Pb** 02 14 22.2 +2.7
ORIF *e*Sg **Sg** 02 14 53.2 -1.1
51nm,0.2s
ORIF Oris-en-Rattie 2.42 187 Pn **Pn** 02 14 15.8 +0.5
RRL Rocca Remolon 2.42 172 P **Pn** 02 14 16.8 +1.5
DAVA Damuels 2.43 89 *e*Pn **Pn** 02 14 16.0 +0.5
0.4nm,0.1s
DAVA *e*Sn **Sn** 02 14 44.1 -0.7
6.2nm,0.2s
BGF Bois d'Agland 2.49 254 *e*Pn **Pn** 02 14 15.0 -1.1
BGF Bois d'Agland 2.49 254 *e*P **Pn** 02 14 17.3 +1.2
BGF Bois d'Agland 2.49 254 *e*Pg **Pb** 02 14 24.4 +3.7
BGF *e*Sn **Sn** 02 14 43.0 -3.0
BGF *e*Sg **Sg** 02 14 56.7 +0.1
89nm,0.3s
HYF Humbligny 2.50 270 *e*Pn **Pn** 02 14 15.1 -1.1
HYF Humbligny 2.50 270 *e*P **Pn** 02 14 17.7 +1.5
HYF Humbligny 2.50 270 *e*Pg **Pb** 02 14 24.1 +3.3
HYF *e*Sg **Sg** 02 14 57.0 +0.2
AGO Saint Agoulin 2.53 241 P **Pn** 02 14 16.8 +0.1
AGO Saint Agoulin 2.53 241 Pn **Pn** 02 14 18.2 +1.6
UBR Ueberruh 2.60 81 *e*Pn **Pn** 02 14 18.1 +0.4
UBR *e*Pg **Pg** 02 14 27.0 +0.6
UBR *e*Sg **Sg** 02 14 59.2 -1.0
MBDF Montbardon 2.61 173 *e*P **Pn** 02 14 19.6 +1.7
MBDF Montbardon 2.61 173 *e*Pg **Pb** 02 14 25.9 +3.1
MBDF *e*Sn **Sn** 02 14 45.1 -4.1
MBDF *e*Sg **Sg** 02 14 59.3 -1.2
21nm,0.5s
ABH Alteburg 2.70 17 Pn **Pn** 02 14 19.6 +0.6
ABH Alteburg 2.70 17 *e*Pn **Pn** 02 14 19.2 +0.2
ABH *e*Sg **Sg** 02 15 02.9 -0.3
CFF Clermont-Ferra 2.70 236 Pn **Pn** 02 14 20.3 +1.4
OBER Oberstdorf 2.71 87 *e*Pg **Pg** 02 14 27.7 -0.8
OBER *e*Sg **Sg** 02 15 03.3 -0.4
VIVF Saint-Julien-l 2.71 205 *e*Pn **Pn** 02 14 18.8 -0.4
VIVF Saint-Julien-l 2.71 205 *e*Pg **Pg** 02 14 28.4 -0.1
VIVF *e*Sg **Sb** 02 15 02.0 +4.6
90nm,0.2s
PYM Petit Puy Mans 2.76 237 P **Pn** 02 14 19.9 0.0
PYM Petit Puy Mans 2.76 237 Pn **Pn** 02 14 21.0 +1.1
SURF Saint Ours 2.86 173 Pn **Pn** 02 14 22.7 +1.4
OGAG Argentiere 2.87 177 Pn **Pn** 02 14 18.2 -3.2
BODE Bodenheim 2.91 26 *e*Sg **Sg** 02 15 09.6 -0.5
GIVF Givet 2.96 341 *e*P **Pn** 02 14 24.2 +1.7
GIVF *e*Sg **Sg** 02 15 10.4 -1.1
31nm,0.4s
LBL Lubilhac 2.98 227 P **Pn** 02 14 22.7 -0.2
LBL Pn Pb 02 14 23.8 -5.2
TCF Toulx Ste Croi 3.00 251 *e*Pn **Pn** 02 14 21.9 -1.2
TCF Toulx Ste Croi 3.00 251 *e*P **Pn** 02 14 24.1 +1.0
TCF Toulx Ste Croi 3.00 251 *e*Pg **Pb** 02 14 33.4 +4.1
TCF *e*Sn **Sn** 02 14 55.6 -2.9
TCF *e*Sg **Sg** 02 15 12.5 -0.3
19nm,0.2s
DOU Dourbes 3.00 338 Pn **Pn** 02 14 24.8 +1.7
FETA Feichten 3.03 94 *i* Pn **Pn** 02 14 25.6 +1.9
0.2nm,0.1s,SNR=4.3
FETA *e*Sn **Sn** 02 14 60.0 +0.4
1.4nm,0.3s
RETA Reutte 3.03 85 *e*Pn **Pn** 02 14 24.2 +0.6
0.3nm,0.1s
RETA *e*Sn **Sn** 02 15 00.1 +0.6
2.4nm,0.3s
BAIF Baives 3.08 334 *e*P **Pn** 02 14 26.2 +2.0
BAIF Baives 3.08 334 *e*Pg **Pb** 02 14 34.9 +4.2
BAIF *e*Sn **Sn** 02 14 56.9 -3.5
4.9nm,0.2s
BAIF *e*Sg **Sg** 02 15 14.3 -1.1
20nm,0.3s
ISO Isola 3.18 170 Pn **Pn** 02 14 26.9 +1.3
MILB Miltenberg 3.20 37 *e*Pn **Pn** 02 14 25.9 0.0
MILB *e*Pg **Pg** 02 14 38.6 +0.7
MILB *e*Sg **Sg** 02 15 19.5 +0.2
NORI Noerdlinger Ri 3.22 63 *e*Pg **Pg** 02 14 38.4 +0.1
NORI *e*Sg **Sg** 02 15 17.8 -2.2
TNS Taunus Mts 3.23 25 *e*Pn **Pn** 02 14 25.9 -0.5
TNS *e*Sn **Sn** 02 15 03.7 -0.7
TNS *e*Sg **Sg** 02 15 19.6 -0.8
MOTA Moosalm 3.26 88 *i* Pn **Pn** 02 14 27.8 +1.0
3.5nm,0.1s,SNR=18
MOTA *e*Sn **Sn** 02 15 04.4 -0.8
1.2nm,0.1s
AHRW Bad Neuenahr-A 3.27 9 *e*Pn **Pn** 02 14 28.5 +1.7
SQTA Sankt Quirin 3.34 90 *i* Pn **Pn** 02 14 29.9 +2.0
2.4nm,0.1s,SNR=15
SQTA *e*Sn **Sn** 02 15 07.6 +0.6
6.5nm,0.4s
SMRF Simiane la Rot 3.38 189 *e*Pn **Pn** 02 14 28.6 +0.2
SMRF Simiane la Rot 3.38 189 *e*P **Pn** 02 14 30.2 +1.8
SMRF Simiane la Rot 3.38 189 *e*Pg **Pg** 02 14 40.3 -1.0
SMRF *e*Sn **Sn** 02 15 03.7 -4.3
SMRF *e*Sg **Sg** 02 15 24.5 -0.6
6.4nm,0.3s
TURF col de Turini 3.43 167 Pn **Pn** 02 14 30.1 +1.0
SAOF Saorge 3.44 165 Pn **Pn** 02 14 30.0 +0.7
FUR Furstenfeldbru 3.46 74 *e*Pg **Pg** 02 14 43.0 +0.2
FUR *e*Sg **Sg** 02 15 26.9 -0.7
SBF Sospel 3.54 167 *e*P **Pn** 02 14 32.4 +1.8
SBF Sospel 3.54 167 *e*Pg **Pg** 02 14 43.6 -0.8
SBF *e*Sn **Sn** 02 15 07.3 -4.8
8.0nm,0.3s
WATA Walderalm 3.58 88 *i* Pn **Pn** 02 14 32.9 +1.7
1.8nm,0.1s,SNR=14
WATA *e*Sn **Sn** 02 15 12.4 -0.8
1.2nm,0.1s
WTTA Wattenberg 3.63 89 *i* Pn **Pn** 02 14 34.0 +2.1
4.3nm,0.1s,SNR=18
WTTA *e*Sn **Sn** 02 15 14.6 +0.3
2.0nm,0.2s
LASF Ste Croix 3.67 209 *e*Pn **Pn** 02 14 32.1 -0.2
LASF Ste Croix 3.67 209 *e*P **Pn** 02 14 34.3 +2.0
LASF Ste Croix 3.67 209 *e*Pg **Pg** 02 14 45.8 -1.0
LASF *e*Sg **Sg** 02 15 32.7 -1.6
32nm,0.3s
CAF Calviac 3.80 233 *e*Pn **Pn** 02 14 33.2 -0.9
CAF Calviac 3.80 233 *e*P **Pn** 02 14 36.2 +2.1
CAF Calviac 3.80 233 *e*Pg **Pg** 02 14 48.2 -1.1
CAF *e*Sn **Sn** 02 15 14.4 -3.9
CAF *e*Sg **Sg** 02 15 37.3 -1.1
14nm,0.2s
RJF Les Rejaudoux 3.88 241 *e*Pn **Pn** 02 14 35.4 +0.1
RJF Les Rejaudoux 3.88 241 *e*Pg **Pg** 02 14 50.1 -0.8
RJF *e*Sn **Sn** 02 15 16.4 -3.9
RJF *e*Sg **Sg** 02 15 40.1 -1.1
10nm,0.2s
LMR La Mourre 3.98 178 *e*Pn **Pn** 02 14 35.9 -0.7
LMR La Mourre 3.98 178 *e*P **Pn** 02 14 38.5 +1.9
LMR La Mourre 3.98 178 *e*Pg **Pb** 02 14 50.8 +4.6
LMR *e*Sn **Sn** 02 15 17.9 -4.9
2.2nm,0.2s
LMR *e*Sg **Sg** 02 15 42.0 -2.5
4.1nm,0.3s
GRF Grafenberg Arr 4.04 52 *e*Pg **Pg** 02 14 53.7 -0.2
GRF *e*Sg **Sg** 02 15 43.0 -3.2
HROE Hohe Rhon--Fla 4.10 37 *e*Pg **Pg** 02 14 55.4 +0.3
HROE *e*Sg **Sg** 02 15 47.5 -0.7
KASTN Kahler Asten 4.13 19 *e*Pn **Pn** 02 14 38.7 +0.1
KASTN *e*Sg **Sg** 02 15 48.2 -0.8
MENF Mencas 4.24 321 Pn **Pn** 02 14 42.1 +2.0
UBBA Unterbreizbach 4.26 33 *e*Sg **Sg** 02 15 52.5 -0.9
ABTA Abfaltersbach 4.28 95 *e*Pn **Pn** 02 14 43.1 +2.3
0.5nm,0.3s
ABTA *e*Sn **Sn** 02 15 32.0 +1.7
1.8nm,0.3s
MFF Saint Martin d 4.48 263 *e*Pn **Pn** 02 14 44.1 +0.7
MFF Saint Martin d 4.48 263 *e*P **Pn** 02 14 45.5 +2.1
MFF Saint Martin d 4.48 263 *e*Pg **Pg** 02 15 00.9 -1.3
MFF *e*Sn **Sn** 02 15 30.9 -4.1
MFF *e*Sg **Sg** 02 15 58.7 -1.5
7.8nm,0.3s
LDF La Druitiere 4.51 289 *e*Pn **Pn** 02 14 43.3 -0.5
LDF La Druitiere 4.51 289 *e*P **Pn** 02 14 46.7 +2.9
LDF La Druitiere 4.51 289 *e*Pg **Pg** 02 15 01.1 -1.7
LDF *e*Sn **Sn** 02 15 31.4 -4.3
LDF *e*Sg **Sg** 02 15 59.5 -1.6
23nm,0.3s
LFF La Frestale 4.54 240 *e*Pn **Pn** 02 14 44.2 -0.1
LFF La Frestale 4.54 240 *e*Pg **Pg** 02 15 01.9 -1.6
LFF *e*Sn **Sn** 02 15 32.1 -4.5
LFF *e*Sg **Sg** 02 16 00.6 -1.7
20nm,0.4s
WET Wettzell 4.76 65 *e*Pn **Pn** 02 14 47.2 -0.1
WET *e*Sn **Sn** 02 15 38.9 -3.0
WET *e*Sg **Sg** 02 16 06.5 -2.6
FLN La Foliniere baz=110 **4.78 290** *e*Pn **Pn** 02 14 45.4 -2.1
FLN La Foliniere baz=119 **4.78 290** *e*P **Pn** 02 14 49.2 +1.7
FLN La Foliniere baz=111 **4.78 290** *e*Pg **Pg** 02 15 06.4 -1.6
FLN *e*Sn **Sn** 02 15 37.8 -4.6
FLN *e*Sg **Sg** 02 16 08.0 -1.9
19nm,0.3s,baz=112
KBA Koelnbreinsper 4.80 90 *e*Pn **Pn** 02 14 49.3 +1.2
2.9nm,0.2s
KBA *e*Sn **Sn** 02 15 42.5 -0.8
2.1nm,0.3s
MOX Moxa 4.83 44 *e*Sn **Sn** 02 15 41.1 -2.5
MOX *e*Sg **Sg** 02 16 09.8 -1.6
MTLF Montolieu 4.91 217 *e*Pn **Pn** 02 14 49.1 -0.3
MTLF Montolieu 4.91 217 *e*P **Pn** 02 14 52.2 +2.8
MTLF Montolieu 4.91 217 *e*Pg **Pg** 02 15 08.2 -2.3
MTLF *e*Sg **Sg** 02 16 11.7 -2.4
8.0nm,0.2s
GRR Gorron 4.94 285 *e*Pn **Pn** 02 14 49.7 -0.1
GRR Gorron 4.94 285 *e*P **Pn** 02 14 52.5 +2.7
GRR Gorron 4.94 285 *e*Pg **Pg** 02 15 09.6 -1.5
GRR *e*Sn **Sn** 02 15 42.0 -4.4
GRR *e*Sg **Sg** 02 16 13.5 -1.6
12nm,0.2s
NKC Novy Kostel 5.00 52 *e*SG **Sg** 02 16 13.0 -3.9
comp=Z,9.6nm,0.3s
GEC2 GERESS Array S 5.19 70 *e*Pn **Pn** 02 14 53.5 +0.3
GEC2 *e*Sn **Sn** 02 15 50.1 -2.5
GEC2 *e*Sg **Sg** 02 16 20.8 -2.1
KHC Kasperske Hory 5.19 67 *e*PN **Pn** 02 14 53.5 +0.3
KHC *e*SN **Sn** 02 15 49.1 -3.4
KHC *e*SG **Sg** 02 16 19.7 -3.2
comp=Z,6.7nm,0.5s
CKRC Cesky Krumlov 5.57 71 *e*PN **Pn** 02 14 58.8 +0.3
OBKA Obir 5.70 95 *e*Pn **Pn** 02 15 01.1 +0.8
0.5nm,0.3s
CLL Collm 5.92 45 *e*Pn **Pn** 02 14 52.0 -11
CLL *e*Sg **Sg** 02 16 45.0 -1.6
SOKA Soboth 6.00 93 *e*Pn **Pn** 02 15 05.1 +0.7
0.3nm,0.3s
SOKA *e*Sn **Sn** 02 16 13.7 +1.0
0.3nm,0.2s
EPF Esparros 6.01 227 *e*Pn **Pn** 02 15 02.4 -2.1
EPF Esparros 6.01 227 *e*P **Pn** 02 15 07.4 +2.9
EPF Esparros 6.01 227 *e*Pg **Pg** 02 15 29.5 -2.1
EPF *e*Sg **Sg** 02 16 46.0 -3.4
7.1nm,0.4s
SGMF Saint Gilles 6.05 282 *e*Pn **Pn** 02 15 05.4 +0.4
SGMF Saint Gilles 6.05 282 *e*P **Pn** 02 15 08.2 +3.2
SGMF Saint Gilles 6.05 282 *e*Pg **Pg** 02 15 30.1 -2.1
SGMF *e*Sn **Sn** 02 16 08.5 -5.1
1.3nm,0.2s
SGMF *e*Sg **Sg** 02 16 48.3 -2.2
5.5nm,0.3s
PRU Pruhonice 6.08 61 *e*SG **Sg** 02 16 47.2 -4.2
BRG Berggiesshubel 6.15 52 *ex* x 02 15 48.3
BRG Amp 02 15 50.0
comp=Z,1.7nm,0.6s
BRG Berggiesshubel 6.15 52 Sg **Sg** 02 16 53.6 -0.1
BRG Amp 02 17 01.0
comp=Z,2.3nm,0.4s
QUIF Quistinic 6.43 279 *e*Pn **Pn** 02 15 11.0 +0.8
QUIF Quistinic 6.43 279 *e*P **Pn** 02 15 13.7 +3.5
QUIF *e*Sn **Sn** 02 16 17.5 -5.6
comp=Z,2.6nm,0.2s
QUIF *e*Sg **Sg** 02 16 59.5 -3.3
comp=Z,2.3nm,0.3s
CONA Conrad Observa 6.49 81 *e*Pn **Pn** 02 15 11.2 +0.1
comp=Z,0.6nm,0.3s
CONA *e*Sn **Sn** 02 16 20.8 -3.9
comp=Z,2.2nm,0.4s
ROSF Rostrenen 6.53 283 *e*Pn **Pn** 02 15 11.8 +0.2
ROSF Rostrenen 6.53 283 *e*P **Pn** 02 15 15.2 +3.6
ROSF Rostrenen 6.53 283 *e*Pg Pg 02 15 38.4 -3.1
ROSF *e*Sn **Sn** 02 16 19.3 -6.3
ROSF *e*Sg **Sg** 02 17 03.2 -2.8
comp=Z,3.2nm,0.3s
ETSF Etsaut 6.56 230 *e*Pn **Pn** 02 15 10.4 -1.8
ETSF Etsaut 6.56 230 *e*Pg Pg 02 15 38.9 -3.3
ETSF *e*Sg **Sg** 02 17 03.6 -3.5
comp=Z,3.0nm,0.4s
SJPF Ste Jean 6.78 234 *e*Pn **Pn** 02 15 13.8 -1.2
SJPF Ste Jean 6.78 234 *e*Pg Pg 02 15 43.2 -3.0
SJPF *e*Sn **Sn** 02 16 25.7 -6.0
SJPF *e*Sg **Sg** 02 17 10.3 -3.6
comp=Z,0.8nm,0.3s

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*IDC **13** 02:26:30.3±2.3,3.94N×127.64E,0km,mb3.5/2, mb1 3.6/2,mb1mx3.3/38,mbtmp3.5/2,MS3.8/4,Ms1 3.8/4, ms1mx2.8/76,Error ellipse: s-maj=177.0km s-min=27.3km az=67.0*

*NEIC **13** 02:26:33.8±1.8,3.75N±0.09×127.0E±0.1,h10km±1km, mb4.1/8,Error ellipse: s-maj=29.1km s-min=6.7km az=59.0*

*DJA **13** 02:26:34.2±0.9,4.N±22.×12.7E±1.2,h22km±18km,M3.8/5, MLv3.8/5*

ISC 13 02:26:33.1±1.0,3.7N±0.1×126.9E±0.1,h10km,n21, σ1§17/17,mb4.1/5,MS3.9/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.38**	**270**	P	**Pn**	**02 26 57.9**	**-0.5**
TNTI	**Ternate**	**2.93**	**171**	P	**Pn**	**02 27 19.5**	**-0.4**
TNTI	**Ternate**	**2.93**	**171**	Pn	**Pn**	**02 27 22.1**	**+2.3**
TOLI2	**Tolitoli**	**6.63**	**247**	Pn	**Pn**	**02 28 12.1**	**+1.3**
MTN	**Manton Dam**	**16.95**	**166**	Pn	**Pn**	**02 30 28.5**	**-2.1**
MTN				IAmb	IAmb	02 30 32.0	
	comp=Z,16nm,1.4s						
LEM	**Lembang**	**21.91**	**242**	LR	LR	02 41 28.2	
	comp=Z,82nm,18.7s,baz=216,slow=40						
WB0	**Warramunga Arr**	**24.44**	**163**	P	**P**	**02 31 50.9**	**-1.4**
WB0				IAmb	IAmb	02 32 11.3	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**24.59**	**163**	P	**P**	**02 31 53.1**	**-0.6**
	comp=Z,2um,1.0s,baz=345,slow=10,SNR=1.1						
WB2	**Warramunga Arr**	**24.60**	**163**	P	**P**	**02 31 53.3**	**-0.5**
WB2				IAmb	IAmb	02 32 02.7	
	comp=Z,5.4nm,1.1s						
WR0	**Warramunga Arr**	**24.67**	**163**	P	**P**	**02 31 55.5**	**+1.1**
ASAR	**Alice Springs**	**28.03**	**166**	P	**P**	**02 32 23.6**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=347,slow=7.1,SNR=2.4						
EIDS	**Eidsvold**	**37.21**	**142**	P	**P**	**02 33 44.7**	**-0.2**
STKA	**Stephens Creek**	**38.03**	**160**	P	**P**	**02 33 52.3**	**+0.6**
MSVF	**Nonsavu**	**54.73**	**115**	LR	LR	02 59 02.9	
	comp=Z,144nm,18.6s,baz=137,slow=36						
MK31	**Makanchi Array**	**57.69**	**325**	P	**P**	**02 36 24.4**	**+0.4**
MKAR	**Makanchi Array**	**57.69**	**325**	P	**P**	**02 36 24.2**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=118,slow=7.7,SNR=8.6						
MKAR	**Makanchi Array**	**57.69**	**325**	P	**P**	**02 36 23.8**	**-0.2**
KURK	**Kurchatov**	**61.87**	**327**	P	**P**	**02 36 52.3**	**-0.4**
KURK				IAmb	IAmb	02 36 54.0	
	comp=Z,1.5nm,0.7s						
AFI	**Afiamalu**	**63.27**	**107**	LR	LR	03 00 04.7	
	comp=Z,48nm,21.0s,baz=148,slow=32						
ABKAR	**Akbulak array**	**72.29**	**321**	P	**P**	**02 38 00.0**	**+1.1**
VNDA	**Vanda**	**83.36**	**173**	LR	LR	03 14 30.8	
	comp=Z,142nm,20.7s,baz=199,slow=34						

IDC 13 02:58:43.0±1.4,23.20N×141.78E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.3/37,mbtmp3.6/4,Error ellipse: s-maj=43.1km s-min=32.6km az=94.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.49**	**190**	P	P	03 06 48.2	-0.1
	136nm,0.5s,baz=10,slow=8.4,SNR=2.1						
ZALV	**Zalesovo Beam**	**52.23**	**321**	P	P	03 07 55.6	-0.1
	0.7nm,0.4s,baz=110,slow=8.7,SNR=4.1						
MKAR	**Makanchi Array**	**52.73**	**312**	P	P	03 07 59.7	0.0
	0.3nm,0.5s,baz=89,slow=8.7,SNR=7.7						
ILAR	**Eielson Array**	**61.30**	**28**	P	P	03 09 00.8	+0.8
	0.4nm,0.8s,baz=224,slow=5.0,SNR=2.7						
YKA	**Yellowknife Ar**	**75.73**	**28**	P	P	03 10 29.6	-0.7
	0.2nm,0.4s,baz=294,slow=5.8,SNR=4.5						

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*NEIC **13** 03:05:32.4±1.5,3.66N±0.06×127.1E±0.1,h10km±1km, mb4.6/20,Error ellipse: s-maj=20.9km s-min=8.6km az=69.0*

*MAN **13** 03:05:33.7,3.22N×126.91E,h18km,mb5.5,ML4.5,MS4.8*

*DJA **13** 03:05:34.1±1.0,4.N±14.×12.7E±.,h12km±9km,M4.2/13, mb4.2/6,mB4.8/2,MLv4.2/13,Mw(mB)4.1/2*

*IDC **13** 03:05:39.9±4.3,3.61N×127.05E,h68km±43km,mb3.9/11, mb1 4.0/12,mb1mx3.7/37,mbtmp4.2/12,ML3.9/1,MS3.4/9, Ms1 3.4/9,ms1mx3.0/78,Error ellipse: s-maj=42.3km s-min=15.6km az=73.0*

ISC 13 03:05:32.3±0.6,3.66N±0.05×127.19E±0.08,h10km,n63, σ1§64/55,mb4.6/20,MS3.3/7,2C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.65**	**271**	P	**Pb**	**03 06 01.8**	**-1.1**
DDMP	**Don Marcelino,**	**2.84**	**329**	‖*e*P	**Pn**	**03 06 18.2**	**+0.5**
TNTI	**Ternate**	**2.88**	**176**	P	**Pb**	**03 06 22.0**	**-1.8**
TNTI	**Ternate**	**2.88**	**176**		**Pn**	**03 06 16.3**	**-2.0**
TNTI				Sn	**Sn**	**03 06 53.4**	**+0.4**
MATI	**Mati**	**3.39**	**344**	‖*e*P	**Pb**	**03 06 32.3**	**-0.3**
LBMI	**Labuha**	**4.28**	**176**	P	Pb	03 06 42.9	-4.9
CTBH	**Cotabato--PC H**	**4.59**	**321**	⇑/P	Pn	03 06 47.0	+5.1
BUKP	**Musuan**	**4.69**	**333**	⇑/P	**Pn**	**03 06 47.1**	**+3.8**
GTOI	**Gorontalo**	**5.14**	**234**	P	**Pn**	**03 06 52.1**	**+2.6**
	0.0nm7.9nm,0.5s						
SANI	**Sanana**	**5.80**	**192**	P	**Pn**	**03 07 02.8**	**+4.3**
	0.1nm16nm,0.5s						
SIJI	**Sorong**	**6.07**	**138**	P	Pn	03 07 08.1	+5.8
	3.2nm,0.3s,baz=301,slow=14,SNR=5.4						
SIJI				LR	LR	03 09 46.8	
	comp=Z,431nm,21.1s,baz=316,slow=40						
MRSI	**Marisa**	**6.12**	**239**	P	**Pn**	**03 07 06.4**	**+3.5**
	0.3nm42nm,0.6s						
LUWI	**Luwuk**	**6.43**	**223**	Pn	**Pn**	**03 07 05.0**	**-2.1**
TOLI2	**Tolitoli**	**6.88**	**249**	Pn	**Pn**	**03 07 12.4**	**-1.0**
APSI	**Ampana**	**7.16**	**231**	P	**Pn**	**03 07 20.8**	**+3.6**
	0.2nm461nm46nm,0.6s						
MSAI	**Masohi**	**7.18**	**166**	P	**Pn**	**03 07 22.0**	**+4.6**
MPSI	**Mapaga**	**8.00**	**246**	P	**Pn**	**03 07 30.5**	**+1.8**
MYLDM	**Lahad Datu**	**8.79**	**280**	Pn	**Pn**	**03 07 38.6**	**-1.0**
BKB	**Balikpapan**	**11.39**	**245**	Pn	**Pn**	**03 08 13.8**	**-1.4**
JAY	**Jayapura**	**14.84**	**114**	LR	LR	03 14 39.9	
	comp=Z,143nm,19.8s,baz=358,slow=36						
SBUM	**Sibu**	**14.99**	**266**	Pn	**Pn**	**03 09 05.0**	**+0.5**
MTN	**Manton Dam**	**16.86**	**167**	P	**P**	**03 09 30.4**	**-0.3**
KNRA	**Kununurra**	**19.28**	**175**	P	**P**	**03 09 56.7**	**-0.6**
GUMO	**Guam**	**20.05**	**59**	LR	LR	03 16 38.7	
	comp=Z,85nm,21.8s,baz=283,slow=33						
FITZ	**Fitzroy Crossi**	**21.68**	**184**	P	**P**	**03 10 24.1**	**+0.7**
	0.5nm,0.3s,baz=13,slow=9.9,SNR=8.7						
LEM	**Lembang**	**22.14**	**242**	LR	LR	03 19 14.6	
	comp=Z,106nm,18.8s,baz=84,slow=37						
PMG	**Port Moresby**	**23.77**	**123**	LR	LR	03 22 52.6	
	comp=Z,94nm,18.3s,baz=275,slow=43						
WB0	**Warramunga Arr**	**24.34**	**163**	P	**P**	**03 10 50.3**	**-0.3**
WB0				IAmb	IAmb	03 11 00.4	
	comp=Z,17nm,0.9s						
WRAB	**Tennant Creek**	**24.48**	**164**	P	**P**	**03 10 51.2**	**-0.7**
WRAB				IAmb	IAmb	03 10 56.1	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**24.49**	**164**	P	**P**	**03 10 53.1**	**+1.1**
	comp=Z,263nm,0.8s,baz=342,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**24.49**	**164**	P	**P**	**03 10 51.8**	**-0.2**
WB2	**Warramunga Arr**	**24.49**	**164**	P	**P**	**03 10 49.7**	**-2.3**
WB2				IAmb	IAmb	03 11 02.0	
	comp=Z,18nm,0.8s						
WR0	**Warramunga Arr**	**24.56**	**163**	P	**P**	**03 10 51.0**	**-1.6**
ASAR	**Alice Springs**	**27.94**	**167**	P	**P**	**03 11 23.3**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=341,slow=6.8,SNR=13						
ASAR	**Alice Springs**	**27.94**	**167**	P	**P**	**03 11 22.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.30**	**300**	P	**P**	**03 11 53.8**	**+0.8**
	comp=Z,2.0nm,0.4s,baz=104,slow=6.3,SNR=5.4						
CMAR				LR	LR	03 25 41.6	
	comp=Z,21nm,20.9s,baz=210,slow=38						
STKA	**Stephens Creek**	**37.91**	**160**	P	**P**	**03 12 51.5**	**+1.5**
	comp=Z,3.5nm,0.6s,baz=338,slow=7.3,SNR=6.3						
STKA	**Stephens Creek**	**37.91**	**160**	P	**P**	**03 12 50.2**	**+0.2**
SHL	**Shillong**	**40.28**	**306**

SONM	Songino Array	47.51	341	P	P	03 14 07.6	-0.2
MK31	Makanchi Array	57.87	325	P	P	03 15 23.4	-1.0
MK31				IAmb	IAmb	03 15 26.3	
	comp=Z,3.3nm,0.6s						
MKAR	Makanchi Array	57.87	325	P	P	03 15 24.0	-0.4
	comp=Z,4.3nm,0.5s,baz=121,slow=7.5,SNR=67						
MKAR				LR	LR	03 40 56.5	
	comp=Z,35nm,21.7s,baz=74,slow=37						
MKAR	Makanchi Array	57.87	325	P	P	03 15 23.8	-0.6
MAKZ	Makanchi	58.06	325	P	P	03 15 24.5	-1.3
MAKZ				IAmb	IAmb	03 15 27.0	
	comp=Z,3.3nm,0.6s						
ZALV	Zalesovo Beam	60.85	333	P	P	03 15 44.6	-0.3
	comp=Z,1.2nm,0.6s,baz=134,slow=8.5,SNR=4.8						
ZALV	Zalesovo Beam	60.85	333	P	P	03 15 44.3	-0.6
KURK	Kurchatov	62.04	327	P	P	03 15 52.0	-0.9
BTK	Batken	62.30	314	P	P	03 15 54.6	-0.4
BTK				IAmb	IAmb	03 15 56.2	
	comp=Z,2.5nm,0.7s						
KKAR	Karatay Array	63.59	317	P	P	03 16 02.1	-1.5
BRVK	Borovoye	67.70	327	P	P	03 16 29.1	-0.7
BRVK				IAmb	IAmb	03 16 32.5	
	comp=Z,2.8nm,0.6s						
NRIK	Noril'sk	70.60	346	P	P	03 16 48.5	+1.0
	comp=Z,2.0nm,0.4s,baz=132,slow=5.4,SNR=4.7						
NRIK	Noril'sk	70.60	346	P	P	03 16 48.2	+0.6
NRIK				IAmb	IAmb	03 17 02.1	
	comp=Z,11nm,1.5s						
ABKAR	Akbulak array	72.49	321	P	P	03 16 58.6	-0.7
ABKAR	Akbulak array	72.49	321	P	P	03 16 58.5	-0.7
ABKAR				IAmb	IAmb	03 17 01.4	
	comp=Z,3.3nm,0.7s						
ARCES	ARCESS Array B	90.67	340	P	P	03 18 34.6	-0.3
	comp=Z,3.1nm,0.8s,baz=73,slow=5.5,SNR=14						
ARCES	ARCESS Array B	90.67	340	P	P	03 18 34.5	-0.5
FINES	FINESS Array B	92.11	332	P	P	03 18 41.3	-0.5
	comp=Z,2.5nm,0.8s,baz=72,slow=6.2,SNR=5.9						
NOA	NORSAR Array B	99.05	334	LR	LR	04 08 58.6	
	comp=Z,19nm,18.7s,baz=255,slow=38						

*TUL **13** 03:14:21.9±1.0, 35°.67N±0°.01×97°.39W±0°.02, h7km±6km, ML3.0, mb_Lg2.5/27(NEIC), Error ellipse: s-maj=3.0km s-min=1.1km az=115.0*

NEIC 13 03:14:22.0±0.7, 35°.68N±0°.02×97°.42W±0°.02, h6km, Error ellipse: s-maj=2.9km s-min=1.6km az=129.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.10	184	Pg	Pg	03 14 24.2	0.0
OK009				Sg	Sg	03 14 26.0	+0.4
OK025	Westminster Rd	0.12	148	Pg	Pg	03 14 24.5	0.0
OK025				Sg	Sg	03 14 26.3	+0.2
OK029	Liberty Lake	0.12	344	Pg	Pg	03 14 25.2	+0.6
OK029				Sg	Sg	03 14 27.6	+1.4
OK001	Jones High Sch	0.16	140	Pg	Pg	03 14 25.2	0.0
OK001				Sg	Sg	03 14 27.6	+0.2
BCOK	Bluff Creek, N	0.16	261	Pg	Pg	03 14 25.6	+0.4
BCOK				Sg	Sg	03 14 28.6	+1.2
OK005	Luther M Schoo	0.18	98	Pg	Pg	03 14 25.8	+0.1
OK005				Sg	Sg	03 14 28.3	+0.1
OKCFA	Oklahoma City	0.27	186	Pg	Pg	03 14 27.2	0.0
OKCFA				Sg	Sg	03 14 31.2	+0.4
OKCSW	OKLAHOMA CITY	0.28	184		Pg	03 14 27.4	0.0
OKCSW				Sg	Sg	03 14 31.4	+0.4
FNO	Franklin	0.42	178	Pg	Pg	03 14 30.1	-0.1
OK031	S. Brethren Rd	0.54	60	Pg	Pg	03 14 32.4	0.0
OK030	Cody Creek RV	0.57	64	Pg	Pg	03 14 32.8	-0.2
OK034	N. Norfolk Rd.	0.66	60	Pg	Pg	03 14 34.4	-0.3
W35A	Tecumseh	0.69	140	Pg	Pg	03 14 34.6	-0.6
QUOK	Quay	0.75	49	Pg	Pg	03 14 36.3	-0.2
CROK	Carrier	0.94	331		Pg	03 14 40.1	0.0
BLOK	Blackwell	1.09	8		Pg	03 14 42.9	0.0
X34A	Smith Ranch, M	1.13	198		Pg	03 14 43.2	-0.5
GC02	Grant County #	1.22	343		Pg	03 14 45.0	-0.4
OK032	Salt Plains WL	1.29	330		Pn	03 14 46.0	-0.7
KAN13	South Haven SW	1.33	358		Pn	03 14 47.0	-0.2
TUL1	Leonard	1.34	80		Pn	03 14 45.6	-1.7
KAN14	Manchester OK	1.35	341		Pn	03 14 47.1	-0.3
KAN17	Caldwell West	1.39	348		Pn	03 14 47.9	-0.1
T35A	Sooner Cattle	1.43	30		Pn	03 14 48.1	-0.5
WMOK	Wichita Mounta	1.46	230	Pn	Pn	03 14 48.3	-0.7
KAN01	Argonia South	1.50	349		Pn	03 14 49.0	-0.5
KAN10	Anthony SW Sta	1.54	339		Pn	03 14 50.1	0.0
KAN06	Argonia West S	1.60	347		Pn	03 14 50.6	-0.3
KAN08	Anthony NE Sta	1.61	344		Pn	03 14 51.1	+0.1
KAN16	Harper SW Stat	1.63	341		Pn	03 14 51.8	+0.5
KAN12	Harper NE Stat	1.68	344		Pn	03 14 52.0	0.0
LOOK	Love County	1.70	173	Pn	Pn	03 14 52.0	-0.2
X37A	Clayton	2.00	122		Pn	03 14 56.2	-0.2
U38A	Gravette	2.57	72	Pn	Pn	03 15 03.9	-0.4
HHAR	Hobbs	2.88	77	Pn	Pn	03 15 08.6	+0.1
W39A	Magazine	3.00	98	Pn	Pn	03 15 09.9	-0.2
MIAR	Mount Ida	3.34	109	Pn	Pn	03 15 15.4	+0.5
MIAR				IAmb_Lg		03 16 13.5	
	comp=Z,11nm,0.9s						
KSU1	Kansas State U	3.47	10	IAmb_Lg		03 16 20.0	
	comp=Z,6.9nm,0.8s						
CBKS	Cedar Bluff	3.63	330	IAmb_Lg		03 16 25.9	
	comp=Z,14nm,0.7s						
U40A	Yellville	3.76	78	IAmb_Lg		03 16 25.7	
	comp=Z,8.4nm,0.7s						
S39A	Bolivar	3.85	57	Pn	Pn	03 15 22.1	+0.2
S39A				IAmb_Lg		03 16 33.5	
	comp=Z,7.7nm,0.9s						
X40A	Basin Creek Fa	3.94	106	Pn	Pn	03 15 23.7	+0.6
X40A				IAmb_Lg		03 16 32.5	
	comp=Z,22nm,0.9s						
WHAR	Wooly Hollow	4.20	94	Pn	Pn	03 15 26.4	-0.2
WHAR				IAmb_Lg		03 16 37.0	
	comp=Z,17nm,1.1s						
W41B	Gary Mavity, V	4.25	95	Pn	Pn	03 15 27.3	0.0
W41B				IAmb_Lg		03 16 34.5	
	comp=Z,17nm,1.2s						
FCAR	Ozark Folk Cen	4.31	86	IAmb_Lg		03 16 45.1	
	comp=Z,9.1nm,0.8s						
MGMO	Mountain Grove	4.40	69	IAmb_Lg		03 16 47.4	
	comp=Z,11nm,1.0s						
435B	Jarrell	4.89	182	IAmb_Lg		03 16 59.6	
	comp=Z,13nm,1.0s						
P38A	Dawn	5.00	37	Pn	Pn	03 15 37.6	+0.1
KSCO	Kaye Shedlock'	5.32	310	IAmb_Lg		03 17 15.4	
	comp=Z,6.8nm,0.7s						
CCM	Cathedral Cave	5.49	63	IAmb_Lg		03 17 13.7	
	comp=Z,7.3nm,1.0s						
JCT	Junction City	5.56	202	IAmb_Lg		03 17 30.8	
	comp=Z,13nm,1.1s						
T25A	Trinidad	5.83	287	IAmb_Lg		03 17 27.6	
	comp=Z,9.4nm,0.7s						

*TUL **13** 03:44:19.2±1.2, 35°.95N±0°.01×97°.39W±0°.01, h8km±6km, ML3.1, mb_Lg2.6/30(NEIC), Error ellipse: s-maj=1.6km s-min=1.5km az=142.0*

NEIC 13 03:44:19.3±0.8, 35°.97N±0°.01×97°.40W±0°.01, h7km±6km, Error ellipse: s-maj=1.6km s-min=1.6km az=163.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.18	194	Pg	Pg	03 44 22.3	-0.6
OK029				Sg	Sg	03 44 25.6	+0.1
BCOK	Bluff Creek, N	0.35	209	Pg	Pg	03 44 26.2	0.0
BCOK				Sg	Sg	03 44 31.3	+0.3
OK005	Luther M Schoo	0.36	151	Pg	Pg	03 44 26.2	-0.1
OK005				Sg	Sg	03 44 31.3	+0.3
OK009	Oakdale Elemen	0.39	183	Pg	Pg	03 44 26.8	0.0
OK009				Sg	Sg	03 44 32.3	+0.3
OK025	Westminster Rd	0.39	172	Pg	Pg	03 44 26.9	0.0
OK025				Sg	Sg	03 44 32.3	+0.2
OK001	Jones High Sch	0.42	167	Pg	Pg	03 44 27.3	-0.1
OK001				Sg	Sg	03 44 33.1	+0.2
OK031	S. Brethren Rd	0.46	92	Pg	Pg	03 44 28.2	+0.1
OK031				Sg	Sg	03 44 34.5	+0.4
OK030	Cody Creek RV	0.50	95	Pg	Pg	03 44 29.1	+0.1
OK030				Sg	Sg	03 44 36.0	+0.4
OKCFA	Oklahoma City	0.56	184	Pg	Pg	03 44 29.9	-0.1
OKCFA				Sg	Sg	03 44 37.4	+0.1
OK034	N. Norfolk Rd.	0.56	86	Pg	Pg	03 44 30.1	-0.1
OKCSW	OKLAHOMA CITY	0.56	183		Pg	03 44 29.9	-0.3
QUOK	Quay	0.60	70	Pg	Pg	03 44 30.8	0.0
FNO	Franklin	0.71	180	Pg	Pg	03 44 32.5	-0.5
CROK	Carrier	0.71	319	Pg	Pg	03 44 33.2	+0.2
BLOK	Blackwell	0.80	11	Pg	Pg	03 44 34.6	-0.2
W35A	Tecumseh	0.92	152	Pg	Pg	03 44 35.9	-1.1
GC02	Grant County #	0.95	337		Pg	03 44 37.5	-0.1
KAN13	South Haven SW	1.04	357		Pg	03 44 39.2	-0.1
OK032	Salt Plains WL	1.06	322		Pg	03 44 39.3	-0.4
KAN14	Manchester OK	1.08	335		Pg	03 44 39.8	-0.3
KAN17	Caldwell West	1.11	345	Pn	Pg	03 44 40.4	-0.3
T35A	Sooner Cattle	1.19	37		Pg	03 44 41.4	-0.7
KAN01	Argonia South	1.22	346		Pb	03 44 42.3	-0.4
KAN10	Anthony SW Sta	1.28	334	Pn	Pn	03 44 43.1	-0.5
TUL1	Leonard	1.31	92	Pn	Pn	03 44 42.6	-1.3
KAN06	Argonia West S	1.33	344		Pn	03 44 44.1	-0.1
KAN08	Anthony NE Sta	1.34	340		Pn	03 44 44.3	-0.1
U32A	Winter Ranch,	1.36	288	Pn	Pn	03 44 44.4	-0.3
KAN16	Harper SW Stat	1.36	337		Pn	03 44 44.6	-0.1
X34A	Smith Ranch, M	1.41	195	Pn	Pn	03 44 45.3	-0.1
WMOK	Wichita Mounta	1.67	223	Pn	Pn	03 44 49.1	+0.1
LOOK	Love County	1.98	175		Pn	03 44 53.9	+0.7
X37A	Clayton	2.16	129	Pn	Pn	03 44 55.9	+0.2
X37A				IAmb_Lg		03 45 30.4	
	comp=Z,28nm,0.8s						
U38A	Gravette	2.48	78		Pn	03 45 00.0	-0.1
R32A	Long Quarter,	2.66	337	Pn	Pn	03 45 03.3	+0.7
HHAR	Hobbs	2.82	83	Pn	Pn	03 45 05.0	+0.2
W39A	Magazine	3.05	104	IAmb_Lg		03 46 01.1	
	comp=Z,27nm,0.8s						
KSU1	Kansas State U	3.19	11	IAmb_Lg		03 46 05.3	
	comp=Z,21nm,0.7s						
MIAR	Mount Ida	3.44	113	Pn	Pn	03 45 14.1	+0.8
MIAR				IAmb_Lg		03 46 17.2	
	comp=Z,13nm,0.8s						
AMTX	Amarillo	3.66	254	IAmb_Lg		03 46 12.9	
	comp=Z,16nm,1.2s						
S39A	Bolivar	3.69	61	Pn	Pn	03 45 17.0	+0.2
U40A	Yellville	3.70	83	Pn	Pn	03 45 16.4	-0.5
U40A				IAmb_Lg		03 46 18.4	
	comp=Z,18nm,0.7s						
X40A	Basin Creek Fa	4.02	110	Pn	Pn	03 45 20.9	-0.3
X40A				IAmb_Lg		03 46 31.3	
	comp=Z,23nm,0.8s						
WHAR	Wooly Hollow	4.22	98	Pn	Pn	03 45 24.1	+0.2
WHAR				IAmb_Lg		03 46 35.7	
	comp=Z,11nm,0.8s						
W41B	Gary Mavity, V	4.28	99	Pn	Pn	03 45 24.5	-0.2
FCAR	Ozark Folk Cen	4.28	90	IAmb_Lg		03 46 39.2	
	comp=Z,10nm,0.8s						
MGMO	Mountain Grove	4.30	73	IAmb_Lg		03 46 43.0	
	comp=Z,12nm,0.7s						
Z41A	Richland Creek	4.66	124	IAmb_Lg		03 46 55.7	
	comp=Z,17nm,1.1s						
P38A	Dawn	4.76	39	Pn	Pn	03 45 31.8	+0.4
KSCO	Kaye Shedlock'	5.15	308	Pn	Pn	03 45 37.1	+0.2
435B	Jarrell	5.17	182	IAmb_Lg		03 47 15.9	
	comp=Z,8.8nm,0.8s						
CCM	Cathedral Cave	5.35	65	IAmb_Lg		03 47 18.8	
	comp=Z,12nm,1.1s						
P40A	Paris	5.53	48	IAmb_Lg		03 47 20.3	
	comp=Z,11nm,1.1s						
N38A	Joes South For	5.82	33	IAmb_Lg		03 47 34.4	
	comp=Z,12nm,0.7s						

*IDC **13** 03:49:39.0±12.0, 7°.33S×128°.70E, h106km±141km, mb3.8/4, mb1 3.9/6, mb1mx3.4/31, mbtmp4.1/6, ML4.7/3, Error ellipse: s-maj=113.4km s-min=46.9km az=38.0*
*NEIC **13** 03:49:42.8±1.6, 7°.37S±0°.09×128°.73E±0°.07, h143km±11km, mb4.0/6, Error ellipse: s-maj=12.7km s-min=9.6km az=164.0*
*DJA **13** 03:49:44.7±1.1, 8°.S±5°.×12°.9E±°, h13km±8km, M4.3/7, mb4.6/4, mB5.0/2, MLv4.2/7, Mw(mB)4.3/2*

ISC 13 03:49:42.9±0.7, 7°.37S±0°.07×128°.67E±0°.05, h151km, n28, σ1°64/33, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.68	103	P	Pn	03 50 28.5	+2.2
SAUI				S	Sn	03 51 01.8	+2.0
SAUI	Saumlaki	2.68	103	Pn	Pn	03 50 26.0	-0.3
SAUI					Sn	03 50 55.9	-3.9
MSAI	Masohi	4.01	4	P	Pn	03 50 51.4	+8.1
SOEI	Soe	4.95	241	P	Pn	03 50 55.0	-0.8
SOEI				S	Sn	03 51 51.5	-1.2
SOEI	Soe	4.95	241		Pn	03 50 56.4	+0.6
SOEI				Sn	Sn	03 51 53.0	+0.3
FAKI	Fak Fak	5.68	39	Pn	Pn	03 51 04.9	-0.5
FAKI					Sn	03 52 06.9	-3.1
BATI	Baumata	5.69	240	P	Pn	03 51 06.3	+0.7
	21nm,0.3s,baz=115,slow=2.5,SNR=12						
BATI				S	Sn	03 52 09.2	-0.9
	9.8nm,0.3s,baz=122,slow=17,SNR=6.3						
BATI	Baumata	5.69	240	P	Pn	03 51 04.8	-0.7
	0.2nm65nm,0.7s						
BATI				S	Sn	03 52 07.3	-2.9
	0.2nm65nm,0.7s						
MTN	Manton Dam	5.96	156		Pn	03 51 09.3	+0.3
EDFI	Ende, Flores	7.04	258	P	Pn	03 51 25.6	+2.0
	0.0nm8.7nm,0.9s						
KNRA	Kununurra	8.26	179		Pn	03 51 38.8	-0.9
LUWI	Luwuk	8.61	317	P	Pn	03 50 51.3	-53
FITZ	Fitzroy Crossi	11.06	195	P	Pn	03 52 14.0	-3.0
	1.3nm,0.3s,baz=35,slow=11,SNR=35						
WB0	Warramunga Arr	13.52	156	P	Pn	03 52 46.6	-2.2
WRA	Warramunga Arr	13.65	157	P	Pn	03 52 47.9	-2.6
	12nm,0.3s,baz=336,slow=12,SNR=1.3						
COEN	Coen	15.68	116		P	03 53 16.0	-0.7
COEN				IAmb	IAmb	03 53 29.1	
	comp=Z,4.7nm,0.8s						
PSA00	Pilbara Seismi	16.49	210		Pn	03 53 25.8	+0.2
PSA00				IAmb	IAmb	03 53 38.5	
	comp=Z,7.8nm,0.8s						
PSA00	Pilbara Seismi	16.49	210		Pn	03 53 26.0	+0.4
PSA00				IAmb	IAmb	03 53 28.0	
	comp=Z,13nm,1.5s						
AS31	Alice Springs	16.96	163	P	P	03 53 30.3	-0.5
ASAR	Alice Springs	16.97	163	P	Pn	03 53 32.1	+0.7
	comp=Z,0.8nm,0.3s,baz=337,slow=10.0,SNR=69						
ASAR	Alice Springs	16.97	163	P	P	03 53 29.7	-1.1
BBOO	Buckleboo	26.23	166	P	P	03 55 05.3	+1.4
CMAR	Chiang Mai Arr	38.97	312	P	P	03 56 55.8	+1.2
	comp=Z,1.2nm,0.3s,baz=148,slow=7.9,SNR=4.4						
SONM	Songino Array	58.38	343	P	P	03 59 23.8	+1.3
	comp=Z,1.4nm,0.8s,baz=167,slow=8.4,SNR=8.7						
SONM	Songino Array	58.38	343	P	P	03 59 22.9	+0.4
SONM				IAmb	IAmb	03 59 25.3	
	comp=Z,2.0nm,1.0s						
MKAR	Makanchi Array	67.82	328	P	P	04 00 25.7	+1.0
	comp=Z,0.8nm,0.4s,baz=115,slow=8.4,SNR=20						
MKAR	Makanchi Array	67.82	328	P	P	04 00 25.1	+0.5
ZALV	Zalesovo Beam	71.33	334	P	P	04 00 45.9	-0.1
	comp=Z,1.3nm,0.6s,baz=136,slow=5.7,SNR=6.5						

*IDC **13** 04:16:47.9±2.0, 5°.39S×153°.20E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.7/34, mbtmp3.9/8, Error ellipse: s-maj=65.2km s-min=22.8km az=121.0*

ISC 13 04:16:53.4±1.9, 5°.4S±0°.3×153°.2E±0°.4, h37km, n10, σ0°77/10, mb3.8/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.32	230	P	P	04 21 57.8	-0.7
	146nm,0.6s,baz=50,slow=9.9,SNR=1.5						
ASAR	Alice Springs	25.95	224	P	P	04 22 24.2	+1.6
	0.5nm,0.7s,baz=55,slow=9.6,SNR=3.1						
FITZ	Fitzroy Crossi	29.70	243	P	P	04 22 55.6	-0.6
	1.9nm,0.9s,baz=63,slow=7.7,SNR=6.5						
PETK	Petropavlovsk-	58.45	3	P	P	04 26 45.7	+0.3
	1.6nm,0.7s,baz=175,slow=5.9,SNR=4.1						
CMAR	Chiang Mai Arr	58.50	295	P	P	04 26 46.6	+0.2
	1.9nm,0.3s,baz=122,slow=5.1,SNR=4.6						
SONM	Songino Array	67.07	328	P	P	04 27 43.4	+0.2
	0.3nm,0.4s,baz=132,slow=4.2,SNR=2.3						
MKAR	Makanchi Array	81.06	319	P	P	04 29 05.1	+0.3
	0.4nm,0.7s,baz=114,slow=5.7,SNR=4.5						
ZALV	Zalesovo Beam	81.89	326	P	P	04 29 08.4	-0.5
	1.3nm,0.7s,baz=123,slow=5.0,SNR=6.7						
ILAR	Eielson Array	82.60	22	P	P	04 29 11.9	-0.6
	0.4nm,0.8s,baz=235,slow=7.2,SNR=2.8						
TORD	Torodi Ar. Bea	150.87	287	PKPbc	PKPbc	04 36 43.3	+0.1
	1.2nm,0.8s,baz=52,slow=2.4,SNR=7.5						

*BUL **13** 04:18:21.7±0.7, 26°.84S×30°.28E, h0km±23km, MD4.3*

ISC 13 04:18:25.8±3.4, 26°.4S±0°.2×30°.4E±0°.1, h10km, n8, σ0°58/12, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	Changalane	1.57	85	*i* P	Pn	04 18 53.3	-0.5
CNG				*i* Sg	Sg	04 19 17.1	+0.7
CNG	Changalane	1.57	85	*i* P	Pn	04 18 53.3	-0.5
CNG				*i* Sg	Sg	04 19 17.1	+0.7
MOPA	Mopani	3.04	17	*i* P	Pn	04 19 13.4	-0.6
MOPA	Mopani	3.04	17	*i* P	Pn	04 19 13.4	-0.6
MATP	Matopo	6.25	343	*i* P	Pn	04 19 58.5	+0.2
MATP				*i* S	Sn	04 21 10.2	+0.4
MATP	Matopo	6.25	343	*i* P	Pn	04 19 58.5	+0.2
MATP				*i* S	Sn	04 21 10.2	+0.4
BLWY	Bulawayo	6.50	345	*i* S	Sn	04 21 15.3	-0.6
BLWY	Bulawayo	6.50	345	*i* S	Sn	04 21 15.3	-0.6

*IDC **13** 04:29:15.7±5.7, 22°.28S×179°.45W, h594km±35km, mb3.4/3, mb1 3.6/4, mb1mx3.1/25, mbtmp4.4/4, Error ellipse: s-maj=119.1km s-min=36.4km az=135.0*

ISC 13 04:29:15.6±3.4, 22°.2S±0°.3×179°.4W±0°.5, h600km, n7, σ1°44/7, mb4.1/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.10	331	P	P	04 30 49.2	-0.3
	14nm,0.3s,baz=248,slow=23,SNR=65						
STKA	Stephens Creek	35.90	246	P	P	04 35 27.3	+0.4
	2.1nm,0.5s,baz=96,slow=10.0,SNR=4.8						
ASAR	Alice Springs	42.90	259	P	P	04 36 22.4	-0.6
	4.4nm,0.8s,baz=100,slow=8.2,SNR=45						
WRA	Warramunga Arr	43.12	264	P	P	04 36 23.6	-1.2
	96nm,0.6s,baz=99,slow=8.3,SNR=1.7						
FITZ	Fitzroy Crossi	51.55	264	P	P	04 37 27.5	-0.2
	baz=85,slow=14						
CMAR	Chiang Mai Arr	89.50	290	P	P	04 41 12.5	+2.1
	0.8nm,0.3s,baz=106,slow=3.2,SNR=4.9						
AKASG	Malin Array Be	143.88	329	PKP	PKPdf	04 47 41.9	-1.4
	0.5nm,0.3s,baz=44,slow=4.7,SNR=5.7						

*IDC **13** 04:39:16.7±2.2, 6°.73S×129°.22E, h0km, mb3.7/1, mb1 3.8/2, mb1mx3.5/20, mbtmp3.7/2, ML3.8/1, Error ellipse: s-maj=158.5km s-min=31.3km az=68.0*
*DJA **13** 04:39:29.4±0.8, 7°.S±7°.×13°.0E±°, h191km±20km, M4.3/4, mb3.8/1, mB4.6/1, MLv4.5/4, Mw(mB)3.8/1*

ISC 13 04:39:29.1±1.0, 6°.75S±0°.07×129°.84E±0°.07, h200km, n13, σ1°67/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.89	130	P	Pn	04 40 06.5	-0.1
SAUI				S	Sn	04 40 33.2	-2.5
SAUI	Saumlaki	1.89	130	P	Pn	04 40 06.4	-0.1
FAKI	Fak Fak	4.50	32	P	Pn	04 40 38.4	+1.2
FAKI				S	Sn	04 41 28.7	-2.1
FAKI	Fak Fak	4.50	32	P	Pn	04 40 38.6	+1.4
DRS	Darwin Rock St	5.74	170	P	Pn	04 40 53.2	+0.1
MTN	Manton Dam	6.19	168	P	Pn	04 40 59.0	+0.1
SOEI	Soe	6.28	241	P	Pn	04 40 59.3	-0.8
SOEI				S	Sn	04 42 10.1	-2.0
SOEI	Soe	6.28	241	P	Pn	04 41 01.0	+0.9
KDU	Kakadu	6.44	156	P	Pn	04 41 02.1	-0.1
KNRA	Kununurra	8.94	187	P	Pn	04 41 34.2	-0.4
WRA	Warramunga Arr	13.82	162	Pn	Pn	04 42 36.2	-0.8
	baz=342,slow=13,SNR=1.3						
WRA				Sn	S	04 44 58.5	-12
	16nm,0.3s,baz=329,slow=26,SNR=1.5						
ASAR	Alice Springs	17.27	167	P	Pn	04 43 22.3	+3.6
	0.3nm,0.3s,baz=342,slow=9.7,SNR=18						
MKAR	Makanchi Array	67.93	327	P	P	04 50 15.2	+8.8
	0.3nm,0.3s,baz=124,slow=7.5,SNR=8.9						

IDC 13 04:56:01.3±4.8, 11°.82S×166°.29E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/44, mbtmp3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/61, Error ellipse: s-maj=248.5km s-min=33.4km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.67	290	LR	LR	05 00 38.8	
	comp=Z,100nm,18.5s,baz=162,slow=42						
WRA	Warramunga Arr	31.73	251	P	P	05 02 26.6	-0.7
	104nm,0.6s,baz=84,slow=8.3,SNR=1.8						
ASAR	Alice Springs	32.94	245	P	P	05 02 38.2	+0.4
	1.0nm,0.6s,baz=70,slow=9.4,SNR=12						
ILAR	Eielson Array	84.07	18	P	P	05 08 33.6	0.0
	0.3nm,0.8s,baz=241,slow=5.2,SNR=6.3						

*IDC **13** 05:07:13.3±0.9, 3°.54N×126°.53E, h0km, mb4.1/7, mb1 4.1/7, mb1mx3.8/52, mbtmp4.1/7, Error ellipse: s-maj=79.0km s-min=17.4km az=70.0*
*NEIC **13** 05:07:15.6±2.3, 3°.6N±0°.1×126°.9E±0°.1, h10km±1km, mb4.2/7, Error ellipse: s-maj=29.8km s-min=3.3km az=49.0*
*DJA **13** 05:07:16.6±2.1, 4°.N±24°.×12°.7E±1°.2, h35km±16km, M4.2/7, mb4.2/2, mB4.9/1, MLv4.1/7, Mw(mB)4.2/1*

**ISC 13

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.71**	**123**	P	**Pn**	**05 17 04.5**	**-0.7**
SAUI				S	**Sn**	**05 17 32.2**	**-0.7**
AAI	**Ambon**	**3.72**	**333**	P	**Pn**	**05 17 26.0**	**-1.9**
MSAI	**Masohi**	**3.78**	**346**	P	**Pn**	**05 17 27.8**	**-0.9**
FAKI	**Fak Fak**	**4.74**	**30**	P	**Pn**	**05 17 38.8**	**-1.8**
DRS	**Darwin Rock St**	**5.46**	**169**	P	**Pn**	**05 17 51.4**	**+1.6**
MTN	**Manton Dam**	**5.90**	**168**	P	**Pn**	**05 17 56.8**	**+1.2**
SOEI	**Soe** 48nm,0.8s	**6.16**	**244**	P	Pn	05 18 09.2	+10
SWI	**Sorong** 0.2nm2μm30nm,0.7s	**6.29**	**13**	P	**Pn**	**05 17 59.5**	**-1.1**
LBMI	**Labuha** 0.2nm48nm,0.5s	**6.78**	**340**	P	**Pn**	**05 18 05.5**	**-1.5**
BATI	**Baumata** 0.2nm26nm,0.5s	**6.89**	**242**	P	**Pn**	**05 18 06.6**	**-1.8**
EDFI	**Ende, Flores** 2.0nm,0.6s	**8.27**	**258**	P	**Pn**	**05 18 25.2**	**-1.2**
WRAB	**Tennant Creek**	**13.54**	**162**	P	**Pn**	**05 19 34.6**	**+0.8**
WRA	**Warramunga Arr** 15nm,0.3s,baz=347,slow=13,SNR=1.3	**13.54**	**162**	Pn	**Pn**	**05 19 34.5**	**+0.6**
WRA				Sn	**S**	**05 21 59.1**	**-5.8**
BBKI	**Banjar Baru** 5.2nm,0.3s,baz=337,slow=22,SNR=1.7	**15.37**	**283**	P	**P**	**05 19 58.3**	**+1.7**
QIS	**Mount Isa**	**16.42**	**146**	P	**Pn**	**05 20 15.2**	**+6.1**
ASAR	**Alice Springs** 2.0nm,0.3s,baz=343,slow=11,SNR=163	**16.98**	**167**	P	**Pn**	**05 20 18.9**	**+3.2**
STKA	**Stephens Creek** 1.2nm,0.5s,baz=336,slow=12,SNR=4.0	**27.03**	**158**	P	P	05 22 03.3	+10
CMAR	**Chiang Mai Arr** 1.2nm,0.3s,baz=136,slow=7.4,SNR=6.4	**39.65**	**310**	P	**P**	**05 23 43.5**	**+1.2**
MKAR	**Makanchi Array** 1.6nm,0.4s,baz=119,slow=8.1,SNR=39	**68.18**	**327**	P	P	05 27 12.2	+3.9

OMAN 13 05:35:37.3±0.0, 23°.16N×58°.10E, h0km, ml1.6/5, Error ellipse: s-maj=1.0km s-min=0.5km az=269.0, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMDO	**Samad** SNR=204	**0.11**	**204**	P	Pg	05 35 39.4	0.0
SMDO				S	Sg	05 35 41.8	+0.9
BIDO	**Bidbid**	**0.36**	**4**	P	Pg	05 35 44.2	-0.1
BIDO				S	Sg	05 35 49.4	+0.5
HOQ	**Hoqain**	**0.84**	**300**	P	Pg	05 35 53.4	0.0
HOQ				S	Sg	05 36 05.1	+0.9
WBK	**Wadi Bani Khal** SNR=16	**0.97**	**124**	P	Pg	05 35 55.6	-0.4
WBK				S	Sb	05 36 09.6	-0.9
JLN	**Jalan Bani Buh** SNR=11	**1.57**	**129**	P	Pn	05 36 05.2	-1.3
JLN				S	Sn	05 36 26.2	-1.5

*IDC **13** 05:35:40.0±2.9, 54°.22N×87°.20E, h0km, mb1 3.0/3, mb1mx2.5/48, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=28.8km s-min=16.9km az=61.0*
*NNC **13** 05:35:40.6±3.0, 54°.33N×86°.94E, h0km, mb1.8, mpv2.1, Error ellipse: s-maj=52.4km s-min=17.8km az=167.0, Suspected Mining explosion.*

ISC 13 05:35:38.8±2.9, 54°.4N±0°.2×87°.0E±0°.1, h0km, n8, σ1s37/10, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=78,slow=330,SNR=13	**1.39**	**251**	*i*		05 45 30.0	
ZAA0	**Zalesovo Array** 0.6nm,0.3s	**1.39**	**251**	⇓P	**Pg**	**05 36 04.8**	**-0.6**
ZAA0				⇑S	**Sg**	**05 36 22.9**	**-0.5**
ZALV	**Zalesovo Beam** 2.5nm,0.3s,baz=76,slow=17,SNR=47	**1.39**	**251**	Pg	**Pb**	**05 36 04.7**	**-0.9**
ZALV	1.6nm,0.3s,baz=82,slow=31,SNR=7.9			Lg	Lg	05 36 25.1	
ZALV	4.4nm,0.5s,baz=65,slow=26,SNR=7.1			Rg	Rg	05 36 34.7	
KURK	**Kurchatov**	**6.33**	**238**	⇓Pn	**Pn**	**05 37 13.3**	**0.0**
KURK				⇓Sn	**Sn**	**05 38 26.6**	**+0.3**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=13,SNR=9.0	**6.44**	**237**	Pn	**Pn**	**05 37 17.1**	**+2.3**
KURBB	**Kurchatov Arra** baz=58,slow=14	**6.44**	**237**	⇑Pn	**Pn**	**05 37 16.7**	**+2.0**
KURBB	baz=49,slow=22			⇑Sn	**Sn**	**05 38 30.0**	**+1.1**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=23,slow=13,SNR=5.4	**8.21**	**203**	Pn	**Pn**	**05 37 39.2**	**0.0**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=76,slow=16,SNR=2.1	**9.97**	**269**	Pn	**Pn**	**05 38 04.3**	**+1.1**

*IDC **13** 05:44:04.1±4.3, 52°.00N×171°.07E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.3/67, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=121.1km s-min=34.8km az=174.0*
*NEIC **13** 05:44:07.3±2.1, 52°.0N±0°.3×171°.2E±0°.1, h18km±8km, mb4.0/20, Error ellipse: s-maj=45.5km s-min=11.3km az=171.0*

ISC 13 05:44:08.1±2.3, 51°.9N±0°.4×171°.1E±0°.1, h35km, n35, σ1s09/30, mb3.9/12, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala** 18nm,0.3s,baz=232,slow=2.8,SNR=6.7	**2.01**	**65**	Pn	**Pn**	**05 44 37.9**	**-1.7**
SHEM	78nm,0.3s,baz=292,slow=23,SNR=29			Sn	**Sn**	**05 45 02.1**	**-1.3**
SMY	**Shemya**	**2.01**	**65**	Pn	**Pn**	**05 44 38.3**	**-1.2**
PEA0B	**Petropavlovsk-**	**8.27**	**284**	Pn	**Pn**	**05 46 04.8**	**-0.7**
PETK	**Petropavlovsk-** 1.2nm,0.3s,baz=96,slow=18,SNR=7.8	**8.27**	**284**	Pn	**Pn**	**05 46 04.3**	**-1.2**
TTA	**Tatalina**	**20.60**	**45**	P	**P**	**05 48 44.7**	**+0.8**
L19K	**White Mountain**	**20.92**	**47**	P	**P**	**05 48 48.7**	**+1.4**
L19K	comp=Z,9.3nm,1.5s			IAmb	IAmb	05 49 06.7	
KDAK	**Kodiak Island**	**21.52**	**60**	P	**P**	**05 48 52.8**	**-1.0**
K20K	**Telida**	**21.57**	**44**	P	**P**	**05 48 54.5**	**+0.2**
K20K	comp=Z,5.8nm,1.4s			IAmb	IAmb	05 49 14.4	
J20K	**Nowinta River**	**21.77**	**42**	P	**P**	**05 48 57.1**	**+0.6**
J20K	comp=Z,5.2nm,1.1s			IAmb	IAmb	05 49 00.2	
IMAR	**Indian Mountai**	**22.55**	**38**	P	**P**	**05 49 06.0**	**+1.3**
H21K	**Melozitna Rive**	**22.80**	**39**	P	**P**	**05 49 08.5**	**+1.1**
H21K	comp=Z,4.6nm,0.9s			IAmb	IAmb	05 49 10.0	
BPAW	**Bear Paw Mtn.**	**23.09**	**43**	P	**P**	**05 49 11.9**	**+1.5**
RND	**Reindeer**	**23.87**	**46**	P	**P**	**05 49 18.2**	**+0.2**
RND	comp=Z,4.6nm,1.1s			IAmb	IAmb	05 49 40.5	
MDM	**Murphy Dome**	**24.45**	**42**	P	**P**	**05 49 23.9**	**+0.6**
MDM	comp=Z,13nm,1.4s			IAmb	IAmb	05 49 25.4	
CCB	**Clear Creek Bu**	**24.56**	**43**	P	**P**	**05 49 24.9**	**+0.7**
H24K	**Noodor Dome**	**24.79**	**40**	P	**P**	**05 49 27.6**	**+1.2**
IL31		**24.97**	**43**	P	**P**	**05 49 27.9**	**+0.1**
IL31	comp=Z,4.1nm,1.2s			IAmb	IAmb	05 49 39.2	
ILAR	**Eielson Array** comp=Z,1.1nm,0.5s,baz=249,slow=7.3,SNR=16	**24.97**	**43**	P	**P**	**05 49 27.8**	**-0.2**
RIDG	**Independent Ri**	**25.69**	**46**	P	**P**	**05 49 34.7**	**+0.1**
HMT	**Hamilton**	**25.80**	**53**	P	**P**	**05 49 37.1**	**+1.5**
GLB	**Gilahina Butte**	**26.02**	**51**	P	**P**	**05 49 38.8**	**+1.2**
DOT	**Dot Lake**	**26.03**	**46**	P	**P**	**05 49 39.1**	**+1.5**
DOT	comp=Z,10nm,1.4s			IAmb	IAmb	05 49 39.7	
SCRK	**Sand Creek**	**26.10**	**45**	P	**P**	**05 49 39.0**	**+0.7**
SCRK	comp=Z,3.3nm,0.6s			IAmb	IAmb	05 49 42.4	
J26L	**Joseph Creek**	**26.34**	**44**	P	**P**	**05 49 40.4**	**-0.1**
BMAR	**Burnt Mountain**	**26.46**	**37**	P	**P**	**05 49 43.1**	**+1.6**
GRNC	**Granite Creek**	**27.03**	**52**	P	**P**	**05 49 47.7**	**+0.8**
EGAK	**Eagle**	**27.40**	**44**	P	**P**	**05 49 50.4**	**+0.5**
EGAK	comp=Z,9.1nm,1.5s			IAmb	IAmb	05 49 53.1	
H11N2	**WAKE ISLAND Hy** baz=4.7,slow=76,SNR=9.8	**32.28**	**187**	T	T	06 24 17.3	
H11N3	**WAKE ISLAND Hy** baz=4.7,slow=76,SNR=5.0	**32.29**	**187**	T	T	06 24 23.2	
H11N1	**WAKE ISLAND Hy** baz=4.7,slow=76,SNR=4.7	**32.30**	**187**	T	T	06 24 23.4	
H11S1	**WAKE ISLAND Hy** baz=5.0,slow=76,SNR=6.2	**33.51**	**188**	T	T	06 25 53.9	
H11S3	**WAKE ISLAND Hy** baz=5.0,slow=76,SNR=2.6	**33.52**	**188**	T	T	06 26 00.5	
H11S2	**WAKE ISLAND Hy** baz=5.0,slow=76,SNR=4.0	**33.52**	**188**	T	T	06 25 55.1	
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.4s,baz=290,slow=7.8,SNR=8.0	**39.36**	**45**	P	**P**	**05 51 34.7**	**+1.1**
PDAR	**Pinedale Array** comp=Z,0.6nm,1.0s,baz=0.0,slow=3.0,SNR=3.8	**52.01**	**67**	P	**P**	**05 53 15.2**	**+1.1**

*IDC **13** 05:47:28.6±0.5, 0°.45N×92°.28E, h0km, mb4.6/26, mb1 4.6/30, mb1mx4.4/69, mbtmp4.6/30, ML4.6/4, MS4.2/16, Ms1 4.2/16, ms1mx3.8/88, Error ellipse: s-maj=15.2km s-min=13.2km az=28.0*
*BJI **13** 05:47:28.3±0.0, 0°.37N×91°.90E, h12km, mb4.6/49, mB4.9/28, Ms4.6/40, Ms7 4.4/37*
*NEIC **13** 05:47:30.8±1.5, 0°.45N±0°.09×92°.27E±0°.07, h10km±1km, mb5.1/57, Error ellipse: s-maj=15.0km s-min=12.4km az=184.0*
*GCMT **13** 05:47:31.8±0.4, 0°.44N±0°.02×92°.29E±0°.02, h15km±2km, MW5.0/81, Moment Tensor Solution. s19,c23; s81,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.14±.15; $M_{\theta\theta}$-2.75±.15; $M_{\phi\phi}$2.61±.14; $M_{r\theta}$-0.40±.26; $M_{\theta\phi}$-1.54±.13; $M_{\phi r}$-1.57±.41; Best double couple: $M_0$3.48400×10^{16} NP1:ϕ_s118.00000°, δ64.00000°, λ173.00000°. NP2: ϕ_s211.00000°, δ84.00000°, λ26.00000°. Principal axes: T 3.6130, Plg23.0000°, Azm78.0000°; N -0.2580, Plg63.0000°, Azm223.0000°; P -3.3560, Plg14.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **13** 05:47:32.7±1.1, 0°.54N×92°.37E, h40km, mb5.1/40 Error ellipse: s-maj=9.4km s-min=5.4km az=109.9*
*KLM **13** 05:47:33, 0°.41N×92°.31E, h37km, mb5.3*
*DJA **13** 05:47:37.1±2.2, 0°N±5°×9°3E±1°8, h51km±24km, M5.2/21, mb5.5/21, mB5.6/19, MLv5.6/9, Mw(mB)5.0/19, MwMwp4.6/3, Mwp5.0/3*

ISC 13 05:47:33.9±0.4, 0°.31N±0°.05×92°.22E±0°.05, h35km, n330, σ2s00/331, mb4.9/110, MS4.3/26, 35C-8D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**4.61**	**63**	P	**Pn**	**05 48 36.9**	**-4.3**
GSI	**Gunungsitoli**	**5.45**	**80**	P	**Pn**	**05 48 49.3**	**-3.4**
GSI	**Gunungsitoli**	**5.45**	**80**	Pn	**Pn**	**05 48 49.9**	**-2.8**
GSI	**Gunungsitoli**	**5.45**	**80**	P	**Pn**	**05 48 49.9**	**-2.8**
TPTI		**5.76**	**59**	P	**Pn**	**05 48 52.7**	**-4.3**
PBSI	**Pulau Batu**	**6.08**	**93**	P	**Pn**	**05 48 59.0**	**-2.3**
KCSI	**Kotacane, Aceh** 2.8nm8μm774nm,0.6s	**6.41**	**60**	P	**Pn**	**05 49 02.4**	**-3.5**
LHMI	**Lhok Sumawe** 2.4nm8μm707nm,1.1s	**6.80**	**44**	P	**Pn**	**05 49 09.5**	**-1.8**
LHMI	**Lhok Sumawe**	**6.80**	**44**	Pn	**Pn**	**05 49 08.5**	**-2.8**
LHMI	**Lhok Sumawe**	**6.80**	**44**	P	**Pn**	**05 49 12.1**	**+0.8**
SISI	**Saibi** 0.8nm2μm237nm,0.7s	**7.06**	**103**	P	**Pn**	**05 49 12.5**	**-2.4**
RPSI	**Rantau Prapat**	**7.11**	**70**		**Pn**	**05 49 12.4**	**-3.2**
PSI	**Prapat** 3.0nm,0.3s,baz=271,slow=6.4,SNR=42	**7.15**	**70**	Pn	**Pn**	**05 49 12.4**	**-3.8**
PSI	comp=Z,3μm,18.9s,baz=286,slow=42			LR	LR	05 52 22.4	
MNSI	**Mandailing Nat** 7.3nm25μm2μm,0.7s	**7.38**	**86**	P	**Pn**	**05 49 17.1**	**-2.1**
PPI	**Padang Panjang** 0.8nm2μm266nm,0.8s	**8.22**	**95**	P	**Pn**	**05 49 28.6**	**-2.1**
PPSI	**Pulau Pagai** 6μm648nm,0.8s	**8.37**	**111**	P	**Pn**	**05 49 30.9**	**-1.9**
BKNI	**Bangkinang** 7μm566nm,1.2s	**8.82**	**90**	P	**Pn**	**05 49 36.0**	**-3.1**
BKNI	**Bangkinang**	**8.82**	**90**	Pn	**Pn**	**05 49 37.1**	**-2.0**
BKNI	**Bangkinang**	**8.82**	**90**	P	**Pn**	**05 49 37.5**	**-1.6**
KRJI	**Kerinci** 39μm4μm,0.7s	**9.55**	**104**	P	**Pn**	**05 49 47.2**	**-1.9**
IPM	**Ipoh**	**9.73**	**65**	Pn	**Pn**	**05 49 48.1**	**-3.4**
IPM	**Ipoh**	**9.73**	**65**	P	**Pn**	**05 49 49.0**	**-2.5**
IPM	**Ipoh** 86nm,0.8s	**9.73**	**65**	P	**Pn**	**05 49 48.1**	**-3.4**
KULM	**Kulim**	**9.77**	**59**	Pn	**Pn**	**05 49 48.0**	**-4.0**
KULM	**Kulim**	**9.77**	**59**	P	**Pn**	**05 49 48.0**	**-4.0**
MASI	**Maura Aman, Be** 4μm446nm,0.9s	**10.59**	**109**	P	**Pn**	**05 50 01.3**	**-2.0**
JRMM	**Jerantut**	**10.85**	**71**	P	**Pn**	**05 50 04.0**	**-2.9**
SRIT	**Nakonsritamara**	**11.04**	**42**	Pn	**Pn**	**05 50 05.2**	**-4.3**
MNAI	**Manna** 3μm252nm,0.7s	**11.69**	**113**	P	**Pn**	**05 50 16.0**	**-2.4**
MNAI	**Manna**	**11.69**	**113**	Pn	**Pn**	**05 50 15.8**	**-2.6**
MNAI	**Manna**	**11.69**	**113**	P	Pn	05 50 24.4	+6.0
LHSI	**Lahat** 4μm144nm,0.7s	**12.02**	**110**	P	**Pn**	**05 50 20.6**	**-2.3**
TPRI	**Tanjung Pinang**	**12.32**	**87**	P	**Pn**	**05 50 22.7**	**-4.4**
DSRI	**Dabo** 32nm,0.8s	**12.39**	**94**	P	**Pn**	**05 50 25.0**	**-2.9**
MDSI	**Maura Dua** 931nm47nm,0.8s	**12.87**	**112**	P	**Pn**	**05 50 32.2**	**-2.2**
PALK	**Pallekele** 5.2nm,0.3s,baz=221,slow=11,SNR=15	**13.40**	**301**	Pn	**Pn**	**05 50 38.3**	**-3.5**
PALK	comp=Z,322nm,18.2s,baz=225,slow=34			LR	LR	05 55 04.0	
PALK	**Pallekele**	**13.40**	**301**	Pn	**Pn**	**05 50 38.4**	**-3.4**
KLSI	292nm29nm,0.7s	**13.45**	**112**	P	**Pn**	**05 50 40.1**	**-2.4**
TPI	**Tanjungpandan**	**15.73**	**101**	P	**Pn**	**05 51 10.3**	**-2.7**
LEM	**Lembang** 4.6nm,0.3s,baz=312,slow=14,SNR=1.6	**16.92**	**115**	Pn	**Pn**	**05 51 27.9**	**-0.4**
LEM	comp=Z,502nm,18.1s,baz=328,slow=36			LR	LR	05 57 31.2	
KSM	**Kuching**	**18.13**	**86**	P	**Pn**	**05 51 41.3**	**-1.8**
KSM	**Kuching**	**18.13**	**86**	P	**P**	**05 51 44.0**	**+0.8**
SKHT	**Srikalahasti**	**18.21**	**318**	*e*Pn	**P**	**05 51 43.2**	**-0.8**
SKHT				*e*Sn	**Sn**	**05 55 07.3**	**+0.9**
CM31	**Chiang Mai Arr**	**19.21**	**20**	P	**P**	**05 51 53.0**	**-2.0**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=217,slow=12,SNR=44	**19.21**	**20**	P	**P**	**05 51 52.6**	**-2.4**
CMAR	comp=Z,483nm,18.2s,baz=210,slow=39			LR	LR	05 59 59.1	
CMAR	**Chiang Mai Arr**	**19.21**	**20**	*i* P	**P**	**05 51 52.9**	**-2.1**
CMAR	comp=Z,43nm,1.1s			pmax	pmax		
KAAM	**Kaadhehdhoo**	**19.22**	**271**	P	**P**	**05 51 55.0**	**-0.2**
KAAM	comp=Z,97nm,0.9s			IAmb	IAmb	05 51 59.4	
CHTO	**Chiang Mai**	**19.54**	**19**	P	**P**	**05 51 56.5**	**-2.2**
CHTO	comp=Z,30nm,1.0s			pmax	pmax		
CHTO	**Chiang Mai**	**19.54**	**19**	P	**P**	**05 51 56.5**	**-2.2**
SMRI	**Semarang**	**19.60**	**112**	P	**Pn**	**05 52 04.0**	**+3.1**
CHLP	**Challavanipeta**	**19.78**	**337**	*e*P	**P**	**05 52 00.5**	**-0.7**
CHLP				*e*S	**Sn**	**05 55 44.0**	**-0.3**
PVM	**Polavaram**	**19.80**	**329**	*e*P	**P**	**05 52 00.7**	**-0.8**
UBPT	**Khong Chiam**	**19.82**	**41**	P	**P**	**05 52 00.7**	**-1.1**
DLV	**T Lat**	**19.86**	**54**	P	**P**	**05 52 01.3**	**-1.1**
DLV	comp=Z,106nm,1.2s			IAmb	IAmb	05 52 11.9	
MYLAV	**Mylavaram**	**19.93**	**326**	*e*P	**P**	**05 52 02.0**	**-0.9**
MYLAV				*e*S	**S**	**05 55 45.9**	**+0.5**
RCLA	**Racherla**	**19.95**	**320**	*e*P	**P**	**05 52 02.4**	**-0.8**
RCLA				*e*S	**S**	**05 55 46.9**	**+1.0**
SBUM	**Sibu**	**20.11**	**84**	P	**P**	**05 52 04.2**	**-0.7**
NJS	**Nagarjunasagar**	**20.56**	**322**	*e*P	**P**	**05 52 08.6**	**-1.1**
DGAR	**Diego Garcia**	**21.15**	**248**	⇑*e*P	**P**	**05 52 15.7**	**-0.5**
DGAR	comp=Z,54nm,1.0s			pmax	pmax		
HYB	**Hyderabad**	**21.68**	**322**	*e*P	**P**	**05 52 21.6**	**-0.2**
HYBB	**Hyderabad (bro**	**21.68**	**322**	*e*P	**P**	**05 52 21.1**	**-0.7**
HYBB				*e*S	**S**	**05 56 24.2**	**+4.0**
RPR	**Rampur**	**22.38**	**326**	*e*P	**P**	**05 52 28.9**	**-0.4**
KLRI	**Killari**	**23.39**	**320**	*e*P	**P**	**05 52 39.4**	**-0.4**
KLRI				*e*S	**S**	**05 56 52.7**	**+2.0**
SLVN	**Son La**	**23.81**	**28**	P	**P**	**05 52 41.6**	**-2.3**
BOK	**Bokaro**	**24.14**	**346**	*e*P	**P**	**05 52 46.3**	**-0.6**
IMP	**Imphal**	**24.44**	**4**	*e*P	**P**	**05 52 48.0**	**-1.6**
KKM	**Kota Kinabalu**	**24.62**	**76**	P	**P**	**05 52 50.8**	**-0.7**
SHL	**Shillong**	**25.11**	**359**	P	**P**	**05 52 53.5**	**-2.3**
SHL	comp=Z,70nm,0.7s			pmax	pmax		
SHL	**Shillong**	**25.11**	**359**	*e*P	**P**	**05 52 53.5**	**-2.3**
SHL	**Shillong**	**25.11**	**359**	P	**P**	**05 52 53.5**	**-2.3**
KOHI	**KOHIMA**	**25.33**	**4**	*e*P	**P**	**05 52 56.5**	**-1.3**
QIZ	**Qiongzhong**	**25.40**	**42**	P	**P**	**05 52 57.3**	**-1.0**
QIZ				S	**S**	**05 57 25.9**	**+3.0**
QIZ	comp=Z,1μm,19.2s			LR	LR		
QIZ	comp=Z,1μm,20.0s			LR	LR		
QIZ	comp=Z,860nm,9.8s			LR	LR		
MOKO	**MOKOCHONG**	**25.96**	**5**	*ex*	**P**	**05 52 58.6**	**-4.9**
MOKO	comp=Z,289nm,1.4s			IAmb	IAmb	05 53 07.5	
KMI	**Kunming**	**26.69**	**22**	⇑P	**P**	**05 53 10.1**	**-0.1**
KMI				sP	pP	05 53 18.9	+0.1
KMI				PP	**PnPn**	**05 53 56.3**	**+4.3**
KMI				S	**S**	**05 57 49.4**	**+5.9**
KMI	comp=Z,11nm,1.3s			pmax	pmax		
KMI	comp=Z,520nm,15.4s			LR	LR		
KMI	comp=Z,680nm,16.1s			LR	LR		
KMI	comp=Z,440nm,16.1s			LR	LR		
MYLDM	**Lahad Datu**	**26.69**	**79**	P	**P**	**05 53 09.7**	**-0.4**
ITAN	**ITANAGAR**	**26.72**	**3**	*e*P	**P**	**05 53 09.3**	**-0.9**
BHPL	**Bhopal**	**26.95**	**329**	*e*P	**P**	**05 53 12.6**	**+0.2**
BHPL	comp=Z,14nm,1.0s			IAmb	IAmb	05 53 23.9	
GTK	**Tadong**	**27.08**	**353**	*e*P	**P**	**05 53 13.5**	**-0.1**
GTK	comp=Z,47nm,1.3s			IAmb	IAmb	05 53 18.9	
LKP	**Lekhapani**	**27.10**	**7**	*e*P	**P**	**05 53 15.5**	**+1.9**
PZH	**PanZhiHua**	**27.61**	**19**	P	**P**	**05 53 21.8**	**+3.4**
PZH				S	**S**	**05 58 05.1**	**+7.2**
PZH	comp=Z,10.0nm,0.8s			pmax	pmax		
PZH	comp=Z,80nm,5.5s			pmax	pmax		
PZH	comp=Z,910nm,20.0s			LR	LR		
PZH	comp=Z,2μm,20.0s			LR	LR		
PZH	comp=Z,1μm,18.2s			LR	LR		
PKI	**Pulchoki**	**27.88**	**347**	*e*P	**P**	**05 53 20.2**	**-0.8**
PKIN	**Phulchoki**	**27.89**	**347**	*e*P	**P**	**05 53 20.2**	**-0.8**
DMN	**Daman** comp=Z,45nm,0.8s	**27.99**	**346**	*e*P	**P**	**05 53 21.4**	**-0.5**
GUN	**Gumba** comp=Z,89nm,0.7s	**28.11**	**348**	*e*P	**P**	**05 53 21.9**	**-1.1**
KKN	**Kakani**	**28.12**	**347**	*e*P	**P**	**05 53 22.2**	**-0.8**
GKN	**Gorkha** comp=Z,7.7nm,0.3s	**28.48**	**346**	*e*P	**P**	**05 53 24.8**	**-1.3**
KOLN	**Koldanda** comp=Z,16nm,0.6s	**28.53**	**344**	*e*P	**P**	**05 53 25.7**	**-0.9**
PYUN	**Piuthan** comp=Z,42nm,0.8s	**29.01**	**343**	*e*P	**P**	**05 53 29.7**	**-1.2**
DANN	**Dangsing** comp=Z,59nm,0.8s	**29.04**	**345**	*e*P	**P**	**05 53 29.9**	**-1.3**
LSA	**Lhasa**	**29.25**	**358**	P	**P**	**05 53 33.3**	**0.0**
LSA	comp=Z,28nm,0.6s			pmax	pmax		
LSA	**Lhasa**	**29.25**	**358**	P	**P**	**05 53 33.0**	**-0.3**
LSA	**Lhasa**	**29.25**	**358**	P	**P**	**05 53 33.3**	**0.0**
LSA	comp=Z,28nm,0.6s			IAmb	IAmb	05 53 44.2	
GYA	**Guiyang**	**29.49**	**27**	⇓P	**P**	**05 53 37.1**	**+2.0**
GYA				S	**S**	**05 58 27.8**	**+0.3**
GYA	comp=Z,8.0nm,0.8s			pmax	pmax		
GYA	comp=Z,66nm,3.5s			pmax	pmax		
GYA	comp=Z,430nm,15.4s			LR	LR		
GYA	comp=Z,560nm,16.5s			LR	LR		
GYA	comp=Z,310nm,15.0s			LR	LR		
CD2	**Chengdu**	**32.35**	**19**	P	**P**	**05 53 59.3**	**-0.8**
CD2	comp=Z,10.0nm,0.6s			pmax	pmax		
SMLA	**Simla**	**33.81**	**336**	*e*P	**P**	**05 54 12.3**	**-0.6**
DAV	**Davao City (W)** comp=Z,659nm,21.9s,baz=206,slow=37	**33.95**	**78**	LR	LR	06 08 05.8	
ENH	**Enshi**	**34.03**	**27**	P	**P**	**05 54 15.4**	**+0.6**
ENH	comp=Z,25nm,0.8s			IAmb	IAmb	05 54 30.5	
DHRM	**DHARAMSHALA**	**35.15**	**336**	*e*P	**P**	**05 54 23.7**	**-1.0**
GOMU	**GeErMu**	**35.79**	**4**	P	**P**	**05 54 29.6**	**-0.7**
GOMU				pP	pP	05 54 33.4	-5.7
GOMU				sP	sP	05 54 37.1	-5.7
GOMU	comp=Z,90nm,4.2s			pmax	pmax		
GOMU	comp=Z,70nm,13.7s			LR	LR		
GOMU	comp=Z,190nm,15.7s			LR	LR		
GOMU	comp=Z,130nm,11.3s			LR	LR		
MEEK	**Meekatharra** baz=38,SNR=6.1	**36.93**	**139**	P	**P**	**05 54 41.3**	**+1.5**
LZH	**Lanzhou**	**37.20**	**16**	*e*P	**P**	**05 54 41.3**	**-0.8**
LZH				sP	pP	05 54 50.4	-0.6
LZH				PP	**PnPn**	**05 56 11.6**	**+3.5**
LZH	comp=Z,26nm,1.3s			pmax	pmax		
LZH	comp=Z,410nm,14.1s			LR	LR		
LZH	comp=Z,730nm,13.0s			LR	LR		
LZH	comp=Z,450nm,15.7s			LR	LR		
FITZ	**Fitzroy Crossi** comp=Z,11nm,0.8s,baz=309,slow=6.3,SNR=15	**37.61**	**121**	P	**P**	**05 54 45.4**	**-0.2**
NIL	**Nilore**	**37.65**	**334**	P	**P**	**05 54 44.9**	**-0.9**
NIL	comp=Z,24nm,0.8s			pmax	pmax		
NIL	**Nilore**	**37.65**	**334**	P	**P**	**05 54 44.9**	**-0.9**
NIL	comp=Z,24nm,0.8s			IAmb	IAmb	05 54 55.8	
KNRA	**Kununurra** baz=40,SNR=5.3	**39.43**	**115**	P	**P**	**05 55 01.8**	**+0.9**
KNRA	**Kununurra**	**39.43**	**115**	P	**P**	**05 55 00.2**	**-0.7**
KNRA	comp=Z,33nm,0.7s			IAmb	IAmb	05 55 09.7	
GTA	**Gaotai**	**39.53**	**9**	*e*P	**P**	**05 55 00.3**	**-1.4**
GTA				pP	pP	05 55 04.6	-5.9
GTA				sP	sP	05 55 09.8	-4.3
GTA				S	**S**	**06 00 57.3**	**-4.6**
GTA	comp=Z,5.0nm,0.7s			pmax	pmax		
GTA	comp=Z,70nm,5.1s			pmax	pmax		
GTA	comp=Z,170nm,16.0s			LR	LR		
GTA	comp=Z,220nm,18.2s			LR	LR		
GTA	comp=Z,380nm,19.3s			LR	LR		
SOCY	**Socotra**	**39.72**	**289**	P	**P**	**05 55 04.2**	**+0.6**
NJ2	**Nanjing**	**40.37**	**36**	*e*P	**P**	**05 55 12.3**	**+3.7**
NJ2				S	S	06 01 25.5	+11
NJ2	comp=Z,16nm,0.5s			pmax	pmax		
NJ2	comp=Z,360nm,4.3s			pmax	pmax		
NJ2	comp=Z,450nm,11

comp=Z,290nm,16.8s
KSH LR LR
comp=Z,690nm,19.4s
KDU Kakadu 41.96 109 P P 05 55 21.2 -0.7
baz=42,SNR=3.5
DRK Karamyk 43.22 337 P P 05 55 31.1 -1.0
TARG Taragay, Kyrgy 43.24 344 IAmb IAmb 05 55 43.2
comp=Z,28nm,1.0s
WMQ Urumqi 43.51 355 *e*P **P 05 55 34.0 -0.1**
WMQ pP pP 05 55 37.4 -5.7
WMQ sP sP 05 55 44.1 -2.6
WMQ PP **PP 05 57 17.6 +1.8**
WMQ pmax pmax
comp=Z,36nm,0.9s
WMQ pmax pmax
comp=Z,210nm,4.3s
WMQ LR LR
comp=Z,380nm,22.3s
WMQ LR LR
comp=Z,430nm,23.1s
WMQ LR LR
comp=Z,340nm,22.7s
CHGR Chuyangaron 43.64 334 P **P 05 55 34.1 -1.2**
CHGR IAmb IAmb 05 55 48.1
comp=Z,26nm,1.0s
HHC Hu-ho-hao-te 44.01 21 *e*P **P 05 55 38.8 +0.6**
HHC sP pP 05 55 47.1 -0.1
HHC S **S 06 02 14.8 +6.7**
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,110nm,4.7s
HHC LR LR
comp=Z,410nm,13.7s
HHC LR LR
comp=Z,290nm,16.8s
HHC LR LR
comp=Z,380nm,18.6s
BTK Batken 44.11 336 P **P 05 55 38.6 -0.4**
BTK pmax pmax
comp=Z,30nm,1.1s
BTK Batken 44.11 336 P **P 05 55 38.6 -0.4**
BTK IAmb IAmb 05 55 50.6
comp=Z,30nm,1.1s
SHLS Shalkode 44.16 347 *e*P **P 05 55 35.9 -3.5**
SHLS Shalkode 44.16 347 *e*P **P 05 55 36.0 -3.5**
baz=347
UZB Uzynbulak 44.26 346 *e*P **P 05 55 37.8 -2.4**
UZB Uzynbulak 44.26 346 *e*P **P 05 55 37.9 -2.4**
baz=346
SATY Saty 44.33 346 *e*P **P 05 55 39.0 -1.7**
SATY Saty 44.33 346 *e*P **P 05 55 39.0 -1.7**
baz=345
ZHN Zhinishke 44.42 346 *e*P **P 05 55 39.5 -2.0**
ZHN Zhinishke 44.42 346 *e*P **P 05 55 39.6 -2.0**
baz=346
MDOK Medeo 44.78 344 *e*P **P 05 55 42.3 -2.1**
MDOK Medeo 44.78 344 *e*P **P 05 55 42.4 -2.1**
baz=344
KST Kastek 44.97 343 *e*P **P 05 55 44.0 -1.9**
comp=Z,25nm,1.4s,baz=343
AAK Ala-Archa 45.05 341 LR LR 06 14 31.1
comp=Z,549nm,21.2s,baz=147,slow=36
AAK Ala-Archa 45.05 341⇑*e*P **P 05 55 45.7 -0.9**
AAK pmax pmax
comp=Z,25nm,1.8s
KUU Kurty 45.65 344 *e*P **P 05 55 48.6 -2.5**
KUU pmax pmax
comp=Z,13nm,1.5s
KUU Kurty 45.65 344 *e*P **P 05 55 48.6 -2.5**
comp=Z,13nm,1.5s,baz=344
SGDS Sogindy 45.74 342 *e*P **P 05 55 49.4 -2.5**
baz=342
WB0 Warramunga Arr 45.88 118 P **P 05 55 53.2 -0.1**
WB0 IAmb IAmb 05 56 03.0
comp=Z,20nm,0.8s
WRA Warramunga Arr 45.90 119 P **P 05 55 52.9 -0.6**
comp=Z,13nm,0.9s,baz=295,slow=8.4,SNR=51
WRAB Tennant Creek 45.90 118‖*i*P **P 05 55 53.5 0.0**
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB Tennant Creek 45.90 118 P **P 05 55 52.8 -0.8**
WRAB IAmb IAmb 05 56 03.3
comp=Z,24nm,0.7s
WB2 Warramunga Arr 45.91 119 IAmb IAmb 05 56 03.3
comp=Z,23nm,0.7s
WR0 Warramunga Arr 46.08 118 P **P 05 55 54.5 -0.4**
WR0 IAmb IAmb 05 56 04.8
comp=Z,27nm,0.8s
TDK Taldyqorghan 46.16 346 *e*P **P 05 55 52.7 -2.4**
TDK Taldyqorghan 46.16 346 *e*P **P 05 55 52.8 -2.4**
baz=346
KKAR Karatay Array 46.83 338 P **P 05 55 59.2 -1.3**
KKAR Karatay Array 46.83 338 P **P 05 55 59.1 -1.3**
ASAR Alice Springs 46.96 123 P **P 05 56 01.5 -0.3**
comp=Z,3.5nm,0.9s,baz=295,slow=7.6,SNR=20
BRLS Borolday 47.03 338 *e*P **P 05 55 58.8 -3.1**
BRLS Borolday 47.03 338 *e*P **P 05 55 58.9 -3.1**
baz=337
MK31 Makanchi Array 47.10 351 P **P 05 56 00.8 -1.7**
MK31 pmax pmax
comp=Z,11nm,0.7s
MK31 Makanchi Array 47.10 351 P **P 05 56 00.8 -1.7**
MK31 IAmb IAmb 05 56 12.1
comp=Z,11nm,0.7s
MKAR Makanchi Array 47.10 351 P **P 05 56 00.7 -1.8**
comp=Z,8.6nm,0.7s,baz=170,slow=8.5,SNR=23
MKAR Makanchi Array 47.10 351 *i* P **P 05 56 01.1 -1.4**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 47.10 351 P **P 05 56 00.9 -1.6**
MAKZ Makanchi 47.17 350 P **P 05 56 01.7 -1.3**
MAKZ pmax pmax
comp=Z,25nm,1.5s
MAKZ Makanchi 47.17 350 P **P 05 56 01.7 -1.3**
MAKZ IAmb IAmb 05 56 13.3
comp=Z,25nm,1.5s
BTLS Baital 47.36 343 *e*P **P 05 56 02.0 -2.5**
BTLS Baital 47.36 343 *e*P **P 05 56 02.0 -2.5**
baz=342
ZSN Zaisan 47.39 353 *e*P **P 05 56 02.5 -2.2**
ZSN Zaisan 47.39 353 *e*P **P 05 56 02.5 -2.2**
baz=353
OPO Ambohidratompo 48.03 244 P **P 05 56 11.2 +0.9**
comp=Z,5.8nm,0.8s,baz=58,slow=10,SNR=5.2
ABPO Ambohimpanom 48.13 244 P **P 05 56 10.7 -0.4**
ABPO pmax pmax
comp=Z,14nm,1.1s
ABPO Ambohimpanom 48.13 244 P **P 05 56 10.7 -0.4**
ABPO IAmb IAmb 05 56 13.1
comp=Z,14nm,1.1s
XLT XiLinHaoTe 48.34 23 *e*P **P 05 56 13.8 +1.6**
XLT pP pP 05 56 17.6 -3.6
XLT sP sP 05 56 21.4 -3.4
XLT S **S 06 03 14.1 +4.0**
XLT sS sS 06 03 24.3 -0.7
XLT pmax pmax
comp=Z,10.0nm,1.7s
XLT pmax pmax
comp=Z,120nm,3.6s
XLT LR LR
comp=Z,460nm,21.1s
XLT LR LR
comp=Z,890nm,17.7s
XLT LR LR
comp=Z,280nm,17.3s
TJN Taejon 48.47 38⇑*e*P **P 05 56 11.8 -1.4**
GEYT Alibeck 48.85 324 P **P 05 56 15.8 -0.4**
comp=Z,2.9nm,0.6s,baz=94,slow=18,SNR=3.6
GEYT LR LR 06 18 33.1
comp=Z,238nm,19.7s,baz=156,slow=38
GEYT Alibeck 48.85 324 IAmb IAmb 05 56 27.7
comp=Z,16nm,1.2s
SONM Songino Array 48.92 13 P **P 05 56 15.8 -0.8**
comp=Z,11nm,0.7s,baz=196,slow=9.0,SNR=26
SONM Songino Array 48.92 13 P **P 05 56 15.2 -1.5**
SONM pmax pmax
comp=Z,30nm,0.8s
SONM Songino Array 48.92 13 P **P 05 56 15.2 -1.5**
ULN Ulaanbaatar 49.09 13⇑*e*P **P 05 56 17.1 -0.9**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 49.09 13 P **P 05 56 17.4 -0.6**
ULN IAmb IAmb 05 56 27.7
comp=Z,24nm,1.2s
KSRS Korea Array 49.50 38 P **P 05 56 19.9 -1.2**
comp=Z,4.7nm,0.8s,baz=229,slow=9.3,SNR=4.6
ZAK Zakamensk 50.77 9 *e*P **P 05 56 29.5 -1.2**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
RAYN Ar Rayn 50.84 300 P **P 05 56 30.8 -0.8**
RAYN pmax pmax
comp=Z,10.0nm,1.1s
RAYN Ar Rayn 50.84 300 P **P 05 56 30.8 -0.8**
KURBB Kurchatov Arra 51.47 349 P **P 05 56 34.1 -1.6**
comp=Z,2.4nm,0.7s,baz=161,slow=6.1,SNR=4.9
KURK Kurchatov 51.54 349*ce*P **P 05 56 34.8 -1.4**
KURK pmax pmax
comp=Z,13nm,1.3s
KURK Kurchatov 51.54 349 P **P 05 56 34.1 -2.1**
KURK Kurchatov 51.54 349 IAmb IAmb 05 56 46.4
comp=Z,23nm,0.9s
BRZS Berezniki 52.23 344 *e*P **P 05 56 39.0 -2.5**
BRZS Berezniki 52.23 344 *e*P **P 05 56 39.1 -2.5**
baz=344
CN2 Changchun 52.46 30 *e*P **P 05 56 43.3 0.0**
CN2 PP **PP 05 58 43.3 +0.9**
CN2 S **S 06 04 08.8 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ZAA0 Zalesovo Array 53.81 355 P **P 05 56 51.0 -2.0**
ZAA0 IAmb IAmb 05 57 02.3
comp=Z,24nm,0.8s
ZALV Zalesovo Beam 53.81 355 P **P 05 56 51.0 -2.0**
comp=Z,12nm,0.8s,baz=187,slow=7.7,SNR=20
ZALV LR LR 06 20 50.2
comp=Z,218nm,21.6s,baz=178,slow=37
ZALV Zalesovo Beam 53.81 355 *i* P **P 05 56 53.7 +0.7**
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 53.81 355 P **P 05 56 51.1 -1.9**
HIA Hailar 54.20 22 P **P 05 56 58.2 +2.2**
HIA pmax pmax
comp=Z,16nm,0.7s
HIA Hailar 54.20 22 P **P 05 56 58.2 +2.2**
HIA IAmb IAmb 05 57 05.8
comp=Z,16nm,0.7s
KMBO Kilima Mbogo 54.98 268 P **P 05 57 03.2 +0.6**
comp=Z,0.9nm,0.5s,baz=58,slow=9.5,SNR=5.7
KMBO Kilima Mbogo 54.98 268 *i* P **P 05 57 04.5 +1.9**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 55.60 344 P **P 05 57 03.5 -2.5**
comp=Z,2.7nm,0.7s,baz=146,slow=11,SNR=11
BRVK Borovoye 55.66 344‖*e*P **P 05 57 05.5 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
ABKAR Akbulak array 56.08 335 P **P 05 57 08.6 -0.9**
ABKAR IAmb IAmb 05 57 19.9
comp=Z,14nm,1.1s
ABKAR Akbulak array 56.08 335 P **P 05 57 07.9 -1.6**
LODK Lodwar 56.90 274 P **P 05 57 16.1 0.0**
AKTO Aktyubinsk 57.79 335 LR LR 06 23 53.9
comp=Z,87nm,18.3s,baz=153,slow=38
KLR Kul'dur 59.36 29 P **P 05 57 32.6 0.0**
comp=Z,3.1nm,0.7s,baz=260,slow=7.3,SNR=7.6
KLR Kul'dur 59.36 29⇑*e*P **P 05 57 32.7 0.0**
KLR pmax pmax
comp=Z,7.0nm,1.1s
GROC Groznyy 59.49 322 *e*P **P 05 57 29.4 -4.2**
GROC *e* 05 58 17.4
GROC *e*S **S 06 05 40.3 -0.5**
GROC pmax pmax
comp=Z,29nm,0.8s
CMSA Cobar Meteorol 59.64 127 P **P 05 57 35.0 +0.1**
baz=60,SNR=5.7
BOD Bodaibo 59.91 13 *e*P **P 05 57 39.2 +3.0**
BOD pmax pmax
comp=Z,29nm,1.2s
MBAR Mbarara 61.48 269 P **P 05 57 48.7 +0.7**
comp=Z,2.2nm,0.3s,baz=120,slow=4.9,SNR=11
MBAR LR LR 06 19 31.8
comp=Z,265nm,21.1s,baz=57,slow=31
MBAR Mbarara 61.48 269⇑*i*P **P 05 57 48.5 +0.5**
MBAR Mbarara 61.48 269 P **P 05 57 48.3 +0.3**
MBAR IAmb IAmb 05 57 49.7
comp=Z,17nm,1.4s
KBZ Khabaz 61.56 321⇑*e*P **P 05 57 48.7 +1.0**
KBZ pmax pmax
comp=Z,10.0nm,1.3s
KIV Kislovodsk 61.81 321 *e*P **P 05 57 48.4 -1.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 62.17 340 P **P 05 57 52.2 +0.6**
comp=Z,0.7nm,0.3s,baz=188,slow=7.1,SNR=4.1
ARU Arti 62.17 340*c i*P **P 05 57 52.5 +0.9**
ARU 06 00 08.0
ARU S **S 06 06 19.8 +5.3**
ARU SS **SS 06 10 13.7 -4.3**
ARU pmax pmax
comp=Z,4.0nm,0.9s
ARU MLR MLR
comp=Z,212nm,16.0s
ARU Arti 62.17 340 IAmb IAmb 05 58 00.5
comp=Z,8.2nm,0.9s
BELG Belogornoye 63.86 331⇑*e*P **P 05 58 04.0 +1.2**
BELG pmax pmax
comp=Z,1.0nm,0.8s
LSZ Lusaka 65.08 253 LR LR 06 21 59.9
comp=Z,390nm,20.7s,baz=100,slow=32
BR131 Keskin Array S 66.08 314⇑*e*P **P 05 58 18.1 +0.3**
BRTR Keskin Array B 66.08 314 P **P 05 58 17.5 -0.3**
comp=Z,1.4nm,0.5s,baz=126,slow=6.4,SNR=2.5
VRH Novokhopyorsk 66.15 328 *e*P **P 05 58 18.1 +0.3**
VRH pmax pmax
comp=Z,7.0nm,0.9s
VORD Divnogorie 67.33 327 *e*P **P 05 58 28.3 +3.0**
VORD pmax pmax
comp=Z,3.0nm,0.5s
YAK Yakutsk 67.73 18 *e*P **P 05 58 29.8 +2.2**
YAK *e* 05 58 52.9
YAK *e**SS **sS 06 07 36.1 -2.0**
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK Yakutsk 67.73 18 P **P 05 58 26.9 -0.8**
LPSR Galich'ya Gora 68.36 328 *e*P **P 05 58 32.2 +0.5**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
NRIK Noril'sk 68.98 358 P **P 05 58 34.2 -1.1**
comp=Z,8.3nm,0.8s,baz=173,slow=5.3,SNR=12
NRIK Noril'sk 68.98 358‖*e*P **P 05 58 34.7 -0.6**
NRIK pmax pmax
comp=Z,12nm,1.0s
NRIK Noril'sk 68.98 358 P **P 05 58 35.5 +0.2**
NRIK IAmb IAmb 05 58 44.4
comp=Z,15nm,0.8s
LBTB Lobatse 69.03 243 LR LR 06 24 45.6
comp=Z,290nm,20.0s,baz=92,slow=32
LBTB Lobatse 69.03 243 P **P 05 58 37.3 +0.6**
LBTB pmax pmax
comp=Z,15nm,0.9s
LBTB Lobatse 69.03 243 P **P 05 58 37.3 +0.6**
LBTB IAmb IAmb 05 58 38.0
comp=Z,16nm,0.9s
BOSA Boshof 70.03 239 P **P 05 58 43.1 +0.3**
comp=Z,8.9nm,1.1s,baz=78,slow=7.6,SNR=5.8
PRGR Permogore 70.56 338 *e*P **P 05 58 45.3 +0.2**
PRGR pmax pmax
comp=Z,22nm,0.8s
MOS Moscow 70.60 331 *e*P P 05 58 54.3 +8.8
OBN Obninsk 70.82 330 *i* P **P 05 58 47.1 +0.3**
OBN *i* 05 58 54.4
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,200nm,22.0s
KLMR Klimovskoe 72.46 336 *e*P **P 05 58 54.4 -2.2**
KLMR *e* 06 01 35.6
KLMR pmax pmax
comp=Z,27nm,1.3s
KLMR Klimovskoe 72.46 336 *e*P **P 05 58 54.4 -2.2**
KLMR AMP 05 59 07.6
comp=Z,27nm,1.3s
KLMR *e*PP **PP 06 01 35.6 -2.5**
SORM Soroca 72.60 321⇑P **P 05 58 56.7 -1.0**
SORM Soroca 72.60 321⇑P **P 05 58 56.7 -1.0**
BISRR Bisoca 72.83 318⇑P **P 05 59 03.5 +4.2**
VRI Vrincioaia 72.92 318⇑P **P 05 58 59.6 -0.1**
VRI Vrincioaia 72.92 318⇑P **P 05 58 59.6 -0.1**
PLOR Plostina 72.97 318⇑P **P 05 59 01.0 +0.9**
PLOR Plostina 72.97 318⇑P **P 05 59 01.0 +0.9**
AKASG Malin Array Be 72.97 324 P **P 05 59 00.5 +0.7**
comp=Z,1.6nm,0.8s,baz=92,slow=4.7,SNR=9.2
AKASG LR LR 06 33 06.8
comp=Z,146nm,21.6s,baz=94,slow=38
AKBB Malin Array Si 72.97 324‖*e*P **P 05 59 01.2 +1.3**
NEHR Nehoiu 73.08 318⇑P P 05 59 08.2 +7.5
MLR Muntele Rosu 73.33 318⇑P **P 05 59 03.1 +0.8**
MLR Muntele Rosu 73.33 318⇑P **P 05 59 03.1 +0.8**
MLR Muntele Rosu 73.33 318 P **P 05 59 01.7 -0.7**
PRAR RASCA 73.71 320⇑P **P 05 59 04.9 +0.6**
DOPR Dopca 73.84 318⇑P **P 05 59 07.0 +1.8**
VOIR 73.92 318⇑P **P 05 59 06.3 +0.6**
VOIR 73.92 318⇑P **P 05 59 06.3 +0.6**
ARR Arges 74.18 317⇑P **P 05 59 06.0 -1.2**
BURAR Bucovina Array 74.44 320⇑P **P 05 59 09.7 +1.0**
BURAR Bucovina Array 74.44 320⇑P **P 05 59 09.7 +1.0**
BUR08 Bucovina Ar. S 74.46 320 P **P 05 59 08.4 -0.5**
BUR08 IAmb IAmb 05 59 20.6
comp=Z,15nm,1.0s
TIXI Tiksi 74.98 11 P **P 05 59 10.6 -0.6**
comp=Z,20nm,0.7s,baz=230,slow=3.2,SNR=27
TIXI Tiksi 74.98 11⇑*e*P **P 05 59 11.2 0.0**
TIXI pmax pmax
comp=Z,16nm,0.6s
TIXI Tiksi 74.98 11 P **P 05 59 10.5 -0.6**
MNK Minsk 75.11 327 *i* P **P 05 59 12.8 +0.5**
MNK *i* 06 02 00.8
MNK *i* PPP PPP 06 03 46.7
MNK *i* S **S 06 08 51.3 +3.1**
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK pmax pmax
comp=N,26nm,0.8s
MNK Minsk 75.11 327 *i* P **P 05 59 12.8 +0.5**
comp=E,3.0nm,1.1s
MNK *i* P **P 05 59 12.8 +0.5**
comp=N,26nm,0.8s
MNK *i* P **P 05 59 12.8 +0.5**
comp=Z,16nm,0.8s,baz=291
MNK *i* PP **PP 06 02 00.8 +0.1**
MNK *i* PPP PPP 06 03 46.7
MNK *i* S **S 06 08 51.4 +3.2**
MNK *i* SS SS 06 13 02.6 -35
MNK *i* SSS SSS 06 17 04.9
MNK *i* LQ LQ 06 27 18.6
MNK *i* LR LR 06 31 19.8
PETK Petropavlovsk- 75.26 35 LR LR 06 33 02.7
comp=Z,167nm,20.9s,baz=135,slow=36
GZR Gura Zlata 75.45 317⇑P **P 05 59 18.1 +3.6**
GZR Gura Zlata 75.45 317⇑P **P 05 59 18.1 +3.6**
HERR Herculane 75.57 316⇑P **P 05 59 16.5 +1.4**
NACGM Naroch 75.85 327 *i* P P 05 59 26.2 +10
DRGR 75.85 318⇑P **P 05 59 20.1 +3.2**
DRGR 75.85 318⇑P **P 05 59 20.1 +3.2**
UZH Uzhgorod 76.60 320 *e*P **P 05 59 23.6 +2.7**
UZH *i* 05 59 31.8
CRVS Cervenica-Dubn 77.20 320 *e*P P 05 59 32.6 +8.2
CRVS Cervenica-Dubn 77.20 320 *e* P 05 59 32.6 +8.2
SUW Suwalki 77.56 326 *e*P **P 05 59 30.6 +4.4**
SUW Suwalki 77.56 326 P **P 05 59 28.8 +2.6**
SUW pmax pmax
comp=Z,46nm,0.9s
SUW Suwalki 77.56 326 P **P 05 59 28.8 +2.6**
SYO Syowa Base 77.66 197‖*e*P **P 05 59 28.0 +1.6**
NIE Niedzica 78.07 321 *e*P P 05 59 34.6 +5.4
APA Apatity 78.25 340‖*i*P **P 05 59 33.6 +3.8**
APA pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 78.52 333 P **P 05 59 30.9 -0.5**
comp=Z,5.0nm,0.8s,baz=224,slow=21,SNR=13
FINES LR LR 06 34 59.6
comp=Z,130nm,20.6s,baz=215,slow=36
KOVH Kovagotottos 78.80 317 P P 05 59 40.1 +6.8
KOVH PKPDF 06 15 11.0
VYHS Vyhne 78.80 319 *e*P P 05 59 42.9 +10
VYHS Vyhne 78.80 319 *e* P 05 59 42.9 +10
KOLL Kolacno 79.10 319 *e* P P 05 59 45.7 +11
JAVC Velka Javorina 79.63 320 *e*P **P 05 59 38.8 +0.9**
MODS Modra-Piesok 79.79 319 *e*P **P 05 59 39.5 +0.8**
MODS *e* 05 59 48.9
MODS Modra-Piesok 79.79 319 *e*P **P 05 59 39.5 +0.8**
MODS *e* 05 59 48.9
ZST Bratislava 79.87 319 *e*P P 05 59 49.5 +10
ZST Bratislava 79.87 319 *e* P 05 59 49.5 +10
MORC Moravsky Berou 79.90 321 *e*P **P 05 59 39.9 +0.6**
CONA Conrad Observa 80.64 319 *e*P **P 05 59 47.6 +4.2**
comp=Z,5.8nm,1.0s
ARSA Arzberg 80.75 318 *e*P **P 05 59 44.6 +0.7**
comp=Z,11nm,0.9s
DPC Dobruska-Polom 80.78 321 *e*P **P 05 59 44.8 +0.8**
DPC *e* 05 59 53.5
DPC Dobruska-Polom 80.78 321 *e*P **P 05 59 44.8 +0.8**
DPC *ex* x 05 59 53.5
SOKA Soboth 80.99 317 *e*P **P 05 59 45.6 +0.3**
comp=Z,24nm,0.9s
CHVC Chvalec 80.99 321 *e*P **P 05 59 44.6 -0.5**
CHVC *ex* x 05 59 55.4
OBKA Obir 81.29 317 *e*P **P 05 59 47.0 +0.1**
comp=Z,0.8nm,0.4s
MOA Molln 81.69 318 *e*P **P 05 59 49.0 +0.1**
comp=Z,0.3nm,0.2s
ARCES ARCESS Array B 81.72 341 P **P 05 59 48.2 -0.3**
comp=Z,11nm,0.9s,baz=87,slow=6.4,SNR=3.3
ARCES ARCESS Array B 81.72 341 P **P 05 59 47.9 -0.6**
ARCES pmax pmax
comp=Z,97nm,1.8s
ARCES ARCESS Array B 81.72 341 P **P 05 59 47.9 -0.6**
MYKA Terra Mystica 81.93 317 *e*P **P 05 59 53.2 +2.9**
comp=Z,11nm,0.9s
GEC2 GERESS Array S 82.21 319 P **P 05 59 51.7 0.0**
GERES GERESS Array B 82.21 319 P **P 05 59 51.8 +0.1**
comp=Z,3.7nm,0.6s,baz=103,slow=5.9,SNR=20
KHC Kasperske Hory 82.33 319‖*e*P **P 05 59 52.4 +0.2**
KHC pmax pmax
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 82.33 319 *e*P **P 05 59 52.5 +0.2**
KHC *ex* x 06 00 02.2
KHC Kasperske Hory 82.33 319 P **P 05 59 52.0 -0.2**
BRG Berggiesshubel 82.36 321 *e*P **P 05 59 55.0 +2.7**
BRG Amp 05 59 57.3
comp=Z,4.5nm,0.9s
BRG *ex* x 06 00 02.6
BRG Amp 06 00 04.5
comp=Z,8.7nm,0.9s
BRG Berggiesshubel 82.36 321 *e*P **P 05 59 55.0 +2.7**
BRG *e* 06 00 02.5
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,0.9s
ZOU Zoufplan 82.38 317 P **P 05 59 52.3 -0.4**
ABTA Abfaltersbach 82.72 317 *e*P **P 05 59 53.9 -0.5**
comp=Z,1.9nm,0.6s
CLL Collm 83.01 322 *e*P P 06 00 01.0 +5.4
CLL Collm 83.01 322 *es*P P 06 00 01.0 +5.4
CLL *ex* x 06 00 05.0
CLL LmV 06 54 00.0
comp=Z,200nm,21.9s
CTI Castel Tesino 83.22 316 P **P 05 59 56.7 -0.3**
CTI pmax pmax
comp=Z,18nm,0.8s
CTI Castel Tesino 83.22 316 P **P 05 59 56.7 -0.3**
CTI IAmb IAmb 06 00 08.7
comp=Z,18nm,0.8s
WTTA Wattenberg 83.37 317 *e*P **P 05 59 58.1 +0.3**
comp=Z,0.5nm,0.2s
WATA Walderalm 83.42 318 *e*P **P 05 59 57.8 -0.3**
comp=Z,9.7nm,0.8s
SQTA Sankt Quirin 83.66 317 *e*P **P 05 59 58.8 -0.4**
comp=Z,6.4nm,0.6s
MOTA Moosalm 83.74 317 *e*P **P 05 59 59.5 -0.2**
comp=Z,11nm,0.8s
FETA Feichten 83.96 317 *e*P **P 06 00 00.9 +0.1**
comp=Z,12nm,1.0s
RETA Reutte 83.99 318 *e*P **P 06 00 00.3 -0.6**
comp=Z,6.1nm,0.7s
KEST Kesra 84.03 306 P **P 06 00 01.9 +0.6**
comp=Z,5.0nm,1.0s,baz=236,slow=18,SNR=3.7

DAVA	Damuels	84.56 317	*e*P	P	06 00 04.1	+0.2
	comp=Z,12nm,0.9s					
NB2	NORSAR Subarra	85.37 331	P	P	06 00 15.6	+8.1
	comp=Z,9.8nm,1.2s,baz=91,slow=5.1					
SPITS	Spitsbergen Ar	86.81 348	LR	LR	06 43 13.4	
	comp=Z,181nm,20.6s,baz=228,slow=39					
TORD	Torodi Ar. Bea	90.44 283	P	P	06 00 32.9	+0.2
	comp=Z,1.9nm,1.0s,baz=76,slow=2.4,SNR=8.7					
DBIC	Dimbokro	96.99 277	P	P	06 01 04.0	+1.2
	comp=Z,2.1nm,0.6s,baz=184,slow=5.8,SNR=3.4					
MNTX	Cornudas Mount	144.07 26	PKPdf	PKPdf	06 07 05.9	-0.7
TX32	Lajitas Array	146.85 26		PKPbc	06 07 12.6	-0.7
TXAR	Lajitas Array	146.85 26	PKPbc	PKPdf	06 07 12.4	+0.8
	comp=Z,4.5nm,0.8s,baz=120,slow=0.8,SNR=23					
JCT	Junction City	147.32 19	PKP2	PKPdf	06 07 13.3	+1.0
JCT	Junction City	147.32 19		PKPdf	06 07 13.3	+1.0
PTLB	Pontes e Lacer	147.96 241		PKPbc	06 07 16.0	-0.6
AC02	Maricunga	148.10 213	PKPbc	PKPbc	06 07 17.8	+0.4
LPAZ	La Paz	154.94 230	PKP	PKPdf	06 07 25.4	+0.4
	comp=Z,1.1nm,0.8s,baz=101,slow=4.0,SNR=4.2					

BJI ***13*** *05:55:57.2±0.0, 14°.62S×174°.54W, h229km, mb5.6/71, mB5.7/53*
MOS ***13*** *05:55:59.2±0.9, 15°.06S×174°.95W, h247km, mb5.6/41, MS4.6/6, Error ellipse: s-maj=7.9km s-min=6.5km az=128.7*
IDC ***13*** *05:56:00.6±0.5, 15°.18S×174°.89W, h250km±4km, mb5.2/35, mb1 5.2/38, mb1mx5.0/42, mbtmp5.7/38, Error ellipse: s-maj=9.0km s-min=7.3km az=157.0*
NEIC ***13*** *05:56:02.6, 15°.23S×174°.91W, h265km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr-0.70; Mθθ-0.10; Mφφ0.80; Mrθ-0.08; Mθφ-0.24; Mφr-0.85; Fault plane solution: M0 1.7000×10^18^ NP1:φs1.05000°, δ69.59000°, λ-76.89000°. NP2:φs147.31000°, δ24.10000°, λ-121.37000°. Principal axes: T 1.2124, Plg24.0000°, Azm81.0000°; N -0.0962, Plg12.0000°, Azm176.0000°; P -1.1162, Plg63.0000°, Azm292.0000°;*
NEIC ***13*** *05:56:02.2±2.3, 15°.17S±0°.08×174°.88W±0°.08, h263km±1km, mb5.4/497, Mwb6.0/60, Mwc5.9/74, Mww5.9 Error ellipse: s-maj=13.6km s-min=12.7km az=101.0*
NOU ***13*** *05:56:02.0, 15°.27S×174°.74W, h270km, ML5.8/157, Tonga Islands*
BGR ***13*** *05:56:04.5±0.0, 14°.99S×174°.40W, h265km*
GCMT ***13*** *05:56:06.2±0.1, 15°.10S±0°.01×174°.67W, h264km, MW5.9/164, Moment Tensor Solution. s155,c342; s164,c502; Duration: 2s2 Moment tensor: Scale 10^18^ Nm; Mrr-0.43±.01; Mθθ0.00±.01; Mφφ0.43±.01; Mrθ-0.03±.01; Mθφ-0.12±.01; Mφr-0.81±.01; Best double couple: M0 0.93000×10^18^ NP1:φs150.00000°, δ16.00000°, λ-119.00000°. NP2:φs360.00000°, δ76.00000°, λ-82.00000°. Principal axes: T 0.9280, Plg31.0000°, Azm84.0000°; N 0.0040, Plg8.0000°, Azm178.0000°; P -0.9320, Plg58.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***13*** *05:56:07, 15°.19S×174°.90W, h260km, Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10^17^Nm; Mrr-5.08; Mθθ0.54; Mφφ4.55; Mrθ-0.35; Mθφ-0.93; Mφr-7.86; Fault plane solution: M0 9.28000×10^17^ NP1: φs158.00000°, δ17.00000°, λ-110.00000°. NP2: φs360.00000°, δ74.00000°, λ-83.00000°. Principal axes: T 8.9998, Plg29.0000°, Azm85.0000°; N 0.5452, Plg6.0000°, Azm178.0000°; P -9.5449, Plg60.0000°, Azm279.0000°;*
NEIC ***13*** *05:56:22.8, 15°.04S×175°.23W, h292km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-4.56; Mθθ2.02; Mφφ2.54; Mrθ0.59; Mθφ-1.14; Mφr-6.93; Fault plane solution: M0 7.95000×10^17^ NP1:φs140.44000°, δ16.30000°, λ-118.63000°. NP2:φs350.07000°, δ75.73000°, λ-82.02000°. Principal axes: T 7.0993, Plg30.0000°, Azm74.0000°; N 1.6991, Plg8.0000°, Azm168.0000°; P -8.7984, Plg59.0000°, Azm271.0000°;*
ISC 13 05:56:01.2±0.2, 15°.12S±0°.03×174°.85W±0°.03, h260km±1km, h260km:pP-P, n1623, σ1s77/1667, mb5.5/373, 130C-265D, Fault plane solution: NP1:φs333.03159°, δ62.76104°, λ-75.19968°. **NP2:**φs123.03509°, δ30.72756°, λ-116.39172°. **Principal axes:** T Plg16.5104°, Azm52.1722°; N Plg13.1278°, Azm146.1361°; P Plg68.6664°, Azm272.8014°; **Fault plane solution: NP1:**φs15.20311°, δ72.89042°, λ-101.07096°. **NP2:** φs228.83009°, δ20.28867°, λ-58.04349°. **Principal axes:** T Plg27.0781°, Azm113.9748°; N Plg10.5752°, Azm18.4977°; P Plg60.6062°, Azm269.1428°; **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.21**	**68**	P	**Pn**	**05 56 55.9**	**-0.7**
	1μm,0.3s,baz=182,slow=1.6,SNR=529						
AFI				S	**S**	**05 57 37.9**	**-2.7**
	643nm,0.3s,baz=308,slow=21,SNR=8.3						
TAVE	**Taveuni**	**5.12**	**251**	P	**Pn**	**05 57 21.3**	**+2.6**
DGTI	**Dogotuki**	**5.35**	**257**	P	**Pn**	**05 57 23.8**	**+2.2**
NIUE	**Niue**	**6.13**	**131**	P	**Pn**	**05 57 29.3**	**-1.9**
	baz=5.9						
NIUE	**Niue**	**6.13**	**131**	Pn	**Pn**	**05 57 29.7**	**-1.5**
NIUE				Sn	**S**	**05 58 37.9**	**-5.4**
NIUE	**Niue**	**6.13**	**131**	P	**Pn**	**05 57 30.8**	**-0.4**
MSVF	**Nonsavu**	**7.30**	**248**	P	**Pn**	**05 57 48.4**	**+2.6**
	21nm,0.3s,baz=96,slow=11,SNR=314						
MSVF	**Nonsavu**	**7.30**	**248**	P	**Pn**	**05 57 48.2**	**+2.4**
MSVF						05 59 14.1	
MSVF	**Nonsavu**	**7.30**	**248**	Pn	**Pn**	**05 57 48.2**	**+2.4**
MSVF				Sn	**S**	**05 59 14.1**	**+4.1**
MSVF	**Nonsavu**	**7.30**	**248**	P	**Pn**	**05 57 48.5**	**+2.7**
MSVF	**Nonsavu**	**7.30**	**248**	P	**Pn**	**05 57 48.3**	**+2.6**
FUNA	**Funafuti**	**8.77**	**318**	Pn	**Pn**	**05 58 05.5**	**+1.2**
RAR	**Rarotonga**	**15.55**	**115**	P	**Pn**	**05 59 27.3**	**-0.3**
	2.2nm,0.3s,baz=270,slow=6.3,SNR=12						
RAR	**Rarotonga**	**15.55**	**115**		**P**	**05 59 26.7**	**+0.1**
RAR	**Rarotonga**	**15.55**	**115**	P	**P**	**05 59 26.0**	**-0.5**
RAR	**Rarotonga**	**15.55**	**115**	P	**Pn**	**05 59 27.2**	**-0.4**
RTV	**Rentapao**	**16.27**	**258**	P	**Pn**	**05 59 36.9**	**+0.8**
DVP	**Devils Point**	**16.48**	**259**	P	**Pn**	**05 59 39.3**	**+0.6**
SANVU	**Saraoutou**	**17.32**	**267**	P	**P**	**05 59 45.3**	**-0.7**
SANVU	**Saraoutou**	**17.32**	**267**	P	**Pn**	**05 59 47.9**	**-0.6**
SANVU	**Saraoutou**	**17.32**	**267**	P	**P**	**05 59 46.2**	**+0.2**
MARNC	**Mare, Loyalty**	**17.44**	**246**	P	**P**	**05 59 45.9**	**-1.3**
MARNC	**Mare, Loyalty**	**17.44**	**246**	P	**P**	**05 59 47.4**	**+0.2**
LIFNC	**LIFOU**	**17.94**	**249**	P	**P**	**05 59 51.0**	**-1.7**
LIFNC	**LIFOU**	**17.94**	**249**	P	**P**	**05 59 52.6**	**-0.1**
PINNC	**Pines Island,**	**18.33**	**243**	P	**P**	**05 59 55.1**	**-1.7**
PINNC	**Pines Island,**	**18.33**	**243**	P	**P**	**05 59 56.9**	**+0.1**
OUENC	**Ouen Island, N**	**18.79**	**245**	P	**P**	**05 59 60.0**	**-1.8**
OUENC	**Ouen Island, N**	**18.79**	**245**	P	**P**	**06 00 01.6**	**-0.2**
DZM	**Mont Dzumac**	**19.02**	**246**	P	**P**	**06 00 02.6**	**-1.8**
	3.4nm,0.3s,baz=94,slow=12,SNR=39						
DZM	**Mont Dzumac**	**19.02**	**246**	*e*P	**P**	**06 00 02.7**	**-1.7**
	1μm,1.6s						
DZM	**Mont Dzumac**	**19.02**	**246**	P	**P**	**06 00 02.6**	**-1.7**
DZM	**Mont Dzumac**	**19.02**	**246**	P	**P**	**06 00 04.0**	**-0.4**
DZM	**Mont Dzumac**	**19.02**	**246**	P	**P**	**06 00 02.8**	**-1.7**
ONTNC	**Ouen Toro**	**19.09**	**245**	P	**P**	**06 00 03.5**	**-1.5**
ONTNC	**Ouen Toro**	**19.09**	**245**	P	**P**	**06 00 05.7**	**+0.7**
NOUC	**Port Laguerre**	**19.16**	**246**	P	**P**	**06 00 06.1**	**+0.4**
NOUC	**Port Laguerre**	**19.16**	**246**	P	**P**	**06 00 04.0**	**-1.7**
TARA	**Tarawa**	**20.36**	**322**	P	**P**	**06 00 18.6**	**0.0**
TARA	**Tarawa**	**20.36**	**322**	P	**P**	**06 00 20.4**	**+1.8**
TARA	**Tarawa**	**20.36**	**322**	P	**P**	**06 00 19.0**	**+0.4**
KOUNC	**Koumac, New Ca**	**20.58**	**252**	P	**P**	**06 00 21.1**	**+0.2**
NFK	**Norfolk Island**	**21.09**	**226**	P	**P**	**06 00 26.2**	**+0.2**
	baz=21,SNR=6.4						
NFK	**Norfolk Island**	**21.09**	**226**	P	**P**	**06 00 25.4**	**-0.6**
OUZ	**Omahuta**	**22.55**	**205**	P	**P**	**06 00 39.1**	**-0.2**
OUZ	**Omahuta**	**22.55**	**205**	P	**P**	**06 00 38.7**	**-0.6**
OUZ				IAmb	IAmb	06 00 41.2	
	comp=Z,264nm,1.2s						
OUZ	**Omahuta**	**22.55**	**205**	P	**P**	**06 00 39.7**	**+0.4**
GRZ	**Great Barrier**	**22.76**	**201**	P	**P**	**06 00 38.8**	**-2.5**
WCZ	**Waipu Caves**	**22.88**	**203**	P	**P**	**06 00 41.0**	**-1.3**
KUZ	**Kuaotunu**	**23.12**	**200**	P	**P**	**06 00 44.4**	**-0.1**
MXZ	**Matakaoa Point**	**23.16**	**194**	P	**P**	**06 00 45.4**	**+0.5**
MXZ				S	**S**	**06 04 40.6**	**+3.9**
MXZ	**Matakaoa Point**	**23.16**	**194**	P	**P**	**06 00 44.4**	**-0.5**
MXZ				IAmb	IAmb	06 01 41.6	
	comp=Z,184nm,1.2s						
ABAZ	**Army Bay**	**23.29**	**201**	P	**P**	**06 00 47.2**	**+1.1**
WIAZ	**Waiheke Island**	**23.36**	**201**	P	**P**	**06 00 47.1**	**+0.4**
WMGZ	**Waiomatatini S**	**23.39**	**194**	P	**P**	**06 00 48.6**	**+1.7**
WMGZ				S	**S**	**06 04 45.5**	**+5.3**
MBAZ	**Motutapu North**	**23.42**	**201**	P	**P**	**06 00 48.5**	**+1.2**
HAZ	**Te Kaha**	**23.47**	**195**	P	**P**	**06 00 48.7**	**+0.9**
PKGZ	**Pakihiroa**	**23.53**	**194**	P	**P**	**06 00 49.7**	**+1.4**
RVAZ	**Riverhead Bore**	**23.53**	**202**	P	**P**	**06 00 50.6**	**+2.4**
ETAZ	**East Tamaki Re**	**23.57**	**201**	P	**P**	**06 00 49.1**	**+0.5**
PUZ	**Puketiti**	**23.66**	**194**	P	**P**	**06 00 50.4**	**+0.9**
PUZ				S	**S**	**06 04 50.6**	**+5.9**
WTAZ	**Waiatarua**	**23.68**	**201**	P	**P**	**06 00 49.7**	**+0.1**
RUGZ	**Raukumara Rang**	**23.70**	**195**	P	**P**	**06 00 49.0**	**-0.9**
RUGZ				S	**S**	**06 04 53.3**	**+7.8**
AWAZ	**Awhitu Peninsu**	**23.77**	**201**	P	**P**	**06 00 50.6**	**+0.1**
OPRZ	**Ohinepanea**	**23.88**	**197**	P	**P**	**06 00 46.4**	**-5.0**
URZ	**Urewera**	**24.12**	**196**	P	**P**	**06 00 51.6**	**-1.9**
	comp=Z,228nm,0.9s,baz=49,slow=2.1,SNR=48						
URZ	**Urewera**	**24.12**	**196**	P	**P**	**06 00 49.9**	**-3.7**
URZ				IAmb	IAmb	06 00 59.9	
	comp=Z,195nm,0.8s						
URZ	**Urewera**	**24.12**	**196**	P	**P**	**06 00 52.2**	**-1.4**
XMAS	**Kiritimati**	**24.24**	**47**	P	**P**	**06 00 53.5**	**-1.4**
XMAS	**Kiritimati**	**24.24**	**47**	P	**P**	**06 00 55.7**	**+0.8**
PAE	**Paea**	**24.36**	**99**	*e*P	**P**	**06 00 56.1**	**+0.1**
	comp=Z,46nm,1.1s						
PAE	**Paea**	**24.36**	**99**	*e*T	T	06 24 39.6	
	comp=Z,12nm,0.3s						
PPT	**Papeete**	**24.36**	**99**	P	**P**	**06 00 56.1**	**0.0**
	comp=Z,154nm,1.0s,baz=258,slow=4.1,SNR=9.7						
PPT2	**Papeete2**	**24.36**	**99**	*e*P	**P**	**06 00 56.5**	**+0.3**
	comp=Z,255nm,1.3s						
PPT2	**Papeete2**	**24.36**	**99**	*e*T	T	06 24 47.2	
	comp=Z,12nm,0.3s						
PPTF	**Pamatai, Papee**	**24.38**	**99**	P	**P**	**06 00 55.9**	**-0.4**
PPTF	**Pamatai, Papee**	**24.38**	**99**	P	**P**	**06 00 55.6**	**-0.7**
TIAR	**Tiarei**	**24.58**	**99**	*e*P	**P**	**06 00 58.3**	**+0.2**
HIZ	**Hauiti**	**25.01**	**199**	P	**P**	**06 01 01.7**	**0.0**
HIZ	**Hauiti**	**25.01**	**199**	P	**P**	**06 01 02.5**	**+0.8**
HNR	**Honiara**	**25.26**	**280**	P	**P**	**06 01 04.0**	**-0.2**
	comp=Z,369nm,0.8s,baz=209,slow=4.7,SNR=7.2						
HNR	**Honiara**	**25.26**	**280**	P	**P**	**06 01 04.0**	**-0.2**
HNR	**Honiara**	**25.26**	**280**	P	**P**	**06 01 05.0**	**+0.8**
HNR	**Honiara**	**25.26**	**280**	P	**P**	**06 01 04.0**	**-0.2**
TBI	**Tubuai**	**25.30**	**113**	*e*P	**P**	**06 01 05.0**	**+0.6**
	comp=Z,460nm,1.4s						
TBI	**Tubuai**	**25.30**	**113**	*e*T	T	06 25 56.5	
	comp=Z,26nm,0.3s						
MEH	**Mehetia**	**25.81**	**100**	*e*P	**P**	**06 01 09.4**	**+0.3**
	comp=Z,128nm,1.3s						
PMOR	**Pomarioro Ree**	**26.02**	**93**	*e*P	**P**	**06 01 11.4**	**+0.4**
	comp=Z,893nm,1.3s						
VAH	**Vaihoa**	**26.26**	**94**	*e*P	**P**	**06 01 13.2**	**+0.1**
	comp=Z,345nm,1.1s						
VAH	**Vaihoa**	**26.26**	**94**	*e*T	T	06 27 33.3	
	comp=Z,13nm,0.3s						
BFZ	**Birch Farm**	**26.62**	**195**	P	**P**	**06 01 16.3**	**+0.2**
BFZ				IAmb	IAmb	06 01 19.0	
	comp=Z,116nm,1.0s						
BFZ	**Birch Farm**	**26.62**	**195**	P	**P**	**06 01 15.2**	**-0.9**
SNZO	**South Karori**	**27.63**	**197**	P	**P**	**06 01 23.8**	**-1.1**
QRZ	**Quartz Range**	**27.87**	**201**	P	**P**	**06 01 26.7**	**-0.4**
QRZ				IAmb	IAmb	06 01 27.7	
	comp=Z,174nm,0.8s						
QRZ	**Quartz Range**	**27.87**	**201**	P	**P**	**06 01 25.9**	**-1.2**
THZ	**Tophouse**	**28.59**	**199**	IAmb	IAmb	06 01 39.7	
	comp=Z,56nm,0.8s						
LHI	**Lord Howe Isla**	**28.88**	**231**	P	**P**	**06 01 35.4**	**-0.8**
	baz=29,SNR=13						
LHI	**Lord Howe Isla**	**28.88**	**231**	P	**P**	**06 01 34.8**	**-1.4**
LHI				IAmb	IAmb	06 01 37.4	
	comp=Z,130nm,0.8s						
LHI	**Lord Howe Isla**	**28.88**	**231**	P	**P**	**06 01 36.1**	**-0.1**
KHZ	**Kahutara**	**28.98**	**198**	IAmb	IAmb	06 01 36.6	
	comp=Z,154nm,1.0s						
KHZ	**Kahutara**	**28.98**	**198**	P	**P**	**06 01 36.4**	**-0.5**
KWAJ	**Kwajalein Atol**	**29.45**	**323**	P	**P**	**06 01 41.7**	**+0.4**
KWAJ				pmax	pmax		
	comp=Z,1μm,1.2s						
KWAJ	**Kwajalein Atol**	**29.45**	**323**	P	**P**	**06 01 41.7**	**+0.4**
KWAJ	**Kwajalein Atol**	**29.45**	**323**	P	**P**	**06 01 42.2**	**+0.9**
LTZ	**Lake Taylor**	**29.71**	**199**	IAmb	IAmb	06 01 45.6	
	comp=Z,111nm,0.9s						
OXZ	**Oxford**	**30.27**	**199**	IAmb	IAmb	06 01 47.5	
	comp=Z,218nm,1.0s						
RPZ	**Rata Peaks**	**30.94**	**200**	IAmb	IAmb	06 01 58.4	
	comp=Z,57nm,0.6s						
RPZ	**Rata Peaks**	**30.94**	**200**	P	**P**	**06 01 53.0**	**-1.1**
FOZ	**Fox Glacier**	**31.20**	**202**	IAmb	IAmb	06 01 57.4	
	comp=Z,193nm,0.9s						
LBZ	**Lake Benmore**	**31.82**	**201**	IAmb	IAmb	06 02 05.8	
	comp=Z,312nm,1.8s						
ODZ	**Otahua Downs**	**32.26**	**199**	IAmb	IAmb	06 02 05.4	
	comp=Z,99nm,1.3s						
ODZ	**Otahua Downs**	**32.26**	**199**	P	**P**	**06 02 03.8**	**-1.8**
WKZ	**Wanaka**	**32.61**	**202**	IAmb	IAmb	06 02 54.6	
	comp=Z,162nm,1.2s						
MLZ	**Mavora Lakes**	**33.40**	**202**	IAmb	IAmb	06 02 16.7	
	comp=Z,244nm,1.1s						
EIDS	**Eidsvold**	**33.47**	**247**	P	**P**	**06 02 14.3**	**-2.1**
	baz=34,SNR=16						
EIDS	**Eidsvold**	**33.47**	**247**	P	**P**	**06 02 13.9**	**-2.4**
EIDS				IAmb	IAmb	06 02 18.7	
	comp=Z,77nm,1.2s						
EIDS	**Eidsvold**	**33.47**	**247**	P	**P**	**06 02 15.3**	**-1.0**
RK1H	**Rockhampton Ha**	**33.67**	**250**	P	**P**	**06 02 17.4**	**-0.7**
	comp=Z,87nm,0.9s						
ARMA	**Armidale**	**34.30**	**238**	P	**P**	**06 02 22.4**	**-1.1**
	baz=34,SNR=57						
ARMA	**Armidale**	**34.30**	**238**	P	**P**	**06 02 23.0**	**-0.6**
PATS	**Pohnpei**	**34.41**	**307**	P	**P**	**06 02 25.9**	**+1.4**
	baz=35,SNR=11						
PATS	**Pohnpei**	**34.41**	**307**	P	**P**	**06 02 24.6**	**+0.1**
PATS	**Pohnpei**	**34.41**	**307**	P	**P**	**06 02 25.8**	**+1.4**
TAOE	**Nuku Hiva Isla**	**34.48**	**84**	*e*P	**P**	**06 02 25.3**	**+0.1**
	comp=Z,788nm,1.5s						
TAOE	**Nuku Hiva Isla**	**34.48**	**84**	*e*T	T	06 37 31.0	
	comp=Z,58nm,0.2s						
TAOE	**Nuku Hiva Isla**	**34.48**	**84**	P	**P**	**06 02 25.1**	**-0.1**
TAOE	**Nuku Hiva Isla**	**34.48**	**84**	P	**P**	**06 02 26.5**	**+1.3**
MGCD	**Mangrove Creek**	**35.69**	**234**	P	**P**	**06 02 34.7**	**-0.6**
	baz=36,SNR=13						
MGCD	**Mangrove Creek**	**35.69**	**234**	P	**P**	**06 02 34.6**	**-0.6**
RMQ	**Roma**	**35.73**	**246**	P	**P**	**06 02 34.7**	**-1.0**
	baz=36,SNR=47						
RMQ	**Roma**	**35.73**	**246**	P	**P**	**06 02 35.0**	**-0.7**
RIV	**Riverview**	**35.89**	**233**	P	**P**	**06 02 35.9**	**-1.0**
	baz=36,SNR=3.7						
SYDH	**Sydney Hard Ro**	**36.18**	**233**	P	**P**	**06 02 40.0**	**+0.7**
	comp=Z,119nm,1.4s						
CTA	**Charters Tower**	**37.35**	**257**	P	**P**	**06 02 48.8**	**-0.7**
	comp=Z,45nm,0.4s,baz=84,slow=10,SNR=49						
CTA				PcP	**PcP**	**06 05 03.5**	**+0.8**
	comp=Z,28nm,0.9s,baz=27,slow=7.7,SNR=3.9						
CTA	**Charters Tower**	**37.35**	**257**	P	**P**	**06 02 49.5**	**+0.1**
CTAO	**Charters Tower**	**37.35**	**257**	P	**P**	**06 02 48.7**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,275nm,1.2s						
CTAO	**Charters Tower**	**37.35**	**257**	P	**P**	**06 02 48.7**	**-0.7**
CTAO				IAmb	IAmb	06 02 51.3	
	comp=Z,275nm,1.1s						
CTAO	**Charters Tower**	**37.35**	**257**	P	**P**	**06 02 49.4**	**+0.1**
CTAO	**Charters Tower**	**37.35**	**257**	P	**P**	**06 02 48.7**	**-0.7**
PMG	**Port Moresby**	**37.52**	**274**	P	**P**	**06 02 52.1**	**+1.3**
	comp=Z,167nm,0.9s,baz=75,slow=5.8,SNR=76						
PMG	**Port Moresby**	**37.52**	**274**	P	**P**	**06 02 52.1**	**+1.3**
PMG	**Port Moresby**	**37.52**	**274**	P	**P**	**06 02 52.2**	**+1.3**
PMG	**Port Moresby**	**37.52**	**274**	P	**P**	**06 02 51.8**	**+0.9**
PMG				pP	**sP**	**06 04 15.4**	**+2.8**
CNB	**Canberra Magne**	**37.83**	**231**	P	**P**	**06 02 52.4**	**-0.8**
	baz=38,SNR=202						
CNB	**Canberra Magne**	**37.83**	**231**	P	**P**	**06 02 52.6**	**-0.7**
H11S2	**WAKE ISLAND Hy**	**38.02**	**331**	P	**P**	**06 02 55.4**	**+0.7**
	baz=188,slow=6.5,SNR=5.6						
H11S2				T	T	06 45 12.5	
	baz=152,slow=74,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.04**	**331**	P	**P**	**06 02 54.9**	**+0.1**
	baz=188,slow=6.5,SNR=4.6						
H11S3				T	T	06 45 46.8	
	SNR=11						
H11S1	**WAKE ISLAND Hy**	**38.04**	**331**	P	**P**	**06 02 54.8**	**0.0**
	baz=188,slow=6.5,SNR=3.3						
H11S1				T	T	06 45 07.2	
	baz=177,slow=74,SNR=11						
CAN	**Canberra**	**38.10**	**231**	IAmb	IAmb	06 02 56.7	
	comp=Z,116nm,0.8s						
CAN	**Canberra**	**38.10**	**231**	P	**P**	**06 02 55.0**	**-0.5**
CAN	**Canberra**	**38.10**	**231**	P	**P**	**06 02 54.5**	**-1.1**
CAN				pP	**sP**	**06 04 15.4**	**-1.4**
MILA	**Mila**	**38.68**	**229**	P	**P**	**06 02 59.1**	**-1.3**
	baz=39,SNR=13						
WAKE	**Wake Island**	**38.73**	**331**	P	**P**	**06 03 01.2**	**+0.5**
WAKE	**Wake Island**	**38.73**	**331**	P	**P**	**06 03 01.7**	**+0.9**
WAKE	**Wake Island**	**38.73**	**331**	P	**P**	**06 03 01.3**	**+0.5**
H11N3	**WAKE ISLAND Hy**	**38.99**	**332**	P	**P**	**06 03 03.0**	**+0.3**
	baz=313,slow=75,SNR=4.2						
H11N3				T	T	06 46 20.8	
	baz=150,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**39.00**	**332**	P	**P**	**06 03 02.6**	**-0.2**
	baz=313,slow=75,SNR=4.1						
H11N1				T	T	06 46 19.6	
	baz=150,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.01**	**332**	P	**P**	**06 03 03.6**	**+0.7**
	baz=313,slow=75,SNR=2.5						
H11N2				T	T	06 46 23.3	
	baz=150,slow=76,SNR=11						
MTSU	**Mount Surprise**	**39.19**	**260**	P	**P**	**06 03 04.7**	**0.0**
	baz=39,SNR=450						
MTSU	**Mount Surprise**	**39.19**	**260**	P	**P**	**06 03 05.1**	**+0.4**
KHLU	**Kahalu`u**	**39.21**	**29**	IAmb	IAmb	06 03 07.7	
	comp=Z,188nm,0.8s						
HLP	**Hilina Pali**	**39.23**	**30**	P	**P**	**06 03 08.3**	**+3.3**
HLP				IAmb	IAmb	06 03 08.8	
	comp=Z,208nm,1.0s						
HUH	**Hualalai**	**39.32**	**29**	IAmb	IAmb	06 03 09.2	
	comp=Z,136nm,1.0s						
CMSA	**Cobar Meteorol**	**39.50**	**239**	P	**P**	**06 03 05.8**	**-1.3**
	baz=40,SNR=97						
CMSA	**Cobar Meteorol**	**39.50**	**239**	P	**P**	**06 03 06.1**	**-1.0**
POHA	**Pohakuloa**	**39.52**	**29**	P	**P**	**06 03 08.4**	**+0.8**
POHA				IAmb	IAmb	06 03 10.4	
	comp=Z,179nm,0.9s						
POHA	**Pohakuloa**	**39.52**	**29**	P	**P**	**06 03 08.0**	**+0.4**
HPAH	**Hawaii Prepara**	**39.68**	**29**	IAmb	IAmb	06 03 11.6	
	comp=Z,226nm,0.8s						
QLP	**Quilpie**	**39.74**	**247**	P	**P**	**06 03 07.9**	**-1.3**
	baz=40,SNR=97						
QLP	**Quilpie**	**39.74**	**247**	P	**P**	**06 03 08.7**	**-0.5**
KIP	**Kipapa**	**39.90**	**25**	P	**P**	**06 03 10.7**	**+0.3**
KIP				pmax	pmax		
	comp=Z,146nm,1.0s						
KIP	**Kipapa**	**39.90**	**25**	P	**P**	**06 03 10.7**	**+0.3**
KIP				IAmb	IAmb	06 03 14.2	
	comp=Z,146nm,0.9s						
KIP	**Kipapa**	**39.90**	**25**	P	**P**	**06 03 11.3**	**+1.0**
KIP	**Kipapa**	**39.90**	**25**	P	**P**	**06 03 11.4**	**+1.1**
WMR	**Waimanalo Ridg**	**39.94**	**25**	P	**P**	**06 03 12.0**	**+1.3**
HLK	**Haleakala**	**40.06**	**28**	P	**P**	**06 03 12.0**	**0.0**
HLK				IAmb	IAmb	06 03 15.9	
	comp=Z,220nm,0.9s						
KHLH	**Kahului Airpor**	**40.10**	**27**	P	**P**	**06 03 12.5**	**+0.5**
KHLH				IAmb	IAmb	06 03 16.4	
	comp=Z,129nm,0.9s						
COEN	**Coen**	**40.61**	**266**	P	**P**	**06 03 16.6**	**+0.2**
COEN	**Coen**	**40.61**	**266**	P	**P**	**06 03 17.4**	**+1.0**
GLAD	**Gladstone**	**41.22**	**224**	P	**P**	**06 03 19.5**	**-1.5**
	comp=Z,131nm,1.3s						
TOO	**Toolangi**	**41.57**	**230**	P	**P**	**06 03 23.1**	**-0.8**
	baz=42,SNR=64						
TOO	**Toolangi**	**41.57**	**230**	P	**P**	**06 03 23.7**	**-0.2**
MOO	**Moorlands**	**42.45**	**222**	P	**P**	**06 03 32.0**	**+1.1**
	baz=43,SNR=4.4						
MOO	**Moorlands**	**42.45**	**222**	P	**P**	**06 03 29.8**	**-1.1**
TAU	**Tasmania Unive**	**42.59**	**222**	P	**P**	**06 03 30.2**	**-1.7**
TAU				pmax	pmax		
	comp=Z,166nm,1.5s						
TAU	**Tasmania Unive**	**42.59**	**222**	P	**P**	**06 03 30.2**	**-1.7**
TAU	**Tasmania Unive**	**42.59**	**222**	P	**P**	**06 03 31.5**	**-0.4**
BRAT	**Ballarat**	**42.72**	**231**	P	**P**	**06 03 34.0**	**+0.9**
	comp=Z,143nm,0.8s						
STKA	**Stephens Creek**	**42.97

DRS	Darwin Rock St	52.66	266	P	P	06 04 48.8 -0.7
	comp=Z,109nm,1.1s					
SAUI	Saumlaki	53.13	271	P	P	06 04 54.0 +1.0
	comp=Z,9µmcomp=Z,12µmcomp=Z,686nm,1.7s					
SAUI	Saumlaki	53.13	271	P	P	06 04 54.5 +1.5
	comp=Z,680nm,1.7s					
FAKI	Fak Fak	53.50	278	P	P	06 04 55.6 0.0
	comp=Z,6µmcomp=Z,5µmcomp=Z,241nm,2.1s					
FAKI	Fak Fak	53.50	278	IAmb	IAmb	06 04 56.4
	comp=Z,278nm,1.2s					
FAKI	Fak Fak	53.50	278	P	P	06 04 56.1 +0.5
WRKA	Warakurna	53.98	250	P	P	06 04 58.3 -0.7
	baz=54,SNR=1000					
WRKA	Warakurna	53.98	250	P	P	06 04 58.6 -0.5
KNRA	Kununurra	54.23	261	P	P	06 05 00.2 -0.6
	baz=54,SNR=14					
KNRA	Kununurra	54.23	261	P	P	06 05 00.9 0.0
FORT	Forrest	54.30	243	P	P	06 04 59.9 -1.3
	baz=54,SNR=65					
FORT	Forrest	54.30	243	P	P	06 05 00.8 -0.4
SWI	Sorong	55.04	280	P	P	06 05 06.9 +0.1
	comp=Z,6µmcomp=Z,13µmcomp=Z,1µm,1.0s					
BNDI	Bandanaira	55.31	275	P	P	06 05 09.3 +0.6
FITZ	Fitzroy Crossi	56.90	258	P	P	06 05 19.5 -0.3
	comp=Z,16nm,0.5s,baz=70,slow=5.5,SNR=77					
FITZ	Fitzroy Crossi	56.90	258	P	P	06 05 20.0 +0.2
	baz=57,SNR=23					
AAI	Ambon	57.17	275	P	P	06 05 21.7 -0.1
	comp=Z,7µmcomp=Z,7µmcomp=Z,375nm,1.4s					
LBMI	Labuha	58.70	279	P	P	06 05 33.0 +0.7
	comp=Z,4µmcomp=Z,6µmcomp=Z,474nm,1.2s					
TNTI	Ternate	59.25	280	P	P	06 05 36.8 +0.7
	comp=Z,4µmcomp=Z,6µmcomp=Z,303nm,1.7s					
TNTI	Ternate	59.25	280	P	P	06 05 36.9 +0.8
	comp=Z,304nm,1.8s					
DRV	Dumont d'Urvil	59.40	199	P	P	06 05 36.0 -0.2
SOEI	Soe	59.55	267	P	P	06 05 39.7 +1.4
	comp=Z,11µmcomp=Z,975nm,1.0s					
SOEI	Soe	59.55	267	P	P	06 05 38.5 +0.2
SANI	Sanana	59.74	277	P	P	06 05 39.2 -0.3
	comp=Z,6µmcomp=Z,6µmcomp=Z,342nm,1.5s					
SANI	Sanana	59.74	277	P	P	06 05 40.3 +0.8
BATI	Baumata	60.04	267	P	P	06 05 42.6 +1.1
	comp=Z,4µmcomp=Z,3µmcomp=Z,180nm,1.0s					
MMRI	Maumere	61.74	268	P	P	06 05 52.6 -0.3
	comp=Z,9µmcomp=Z,584nm,1.0s					
MMRI	Maumere	61.74	268	P	P	06 05 52.1 -0.9
MMRI	Maumere	61.74	268	P	P	06 05 53.5 +0.6
PSA00	Pilbara Seismi	61.95	253	P	P	06 05 53.5 -0.7
PSA00	Pilbara Seismi	61.95	253	IAmb	IAmb	06 05 55.8
	comp=Z,234nm,0.8s					
PSA00	Pilbara Seismi	61.95	253	P	P	06 05 53.8 -0.4
MBWA	Marble Bar	62.10	254	P	P	06 05 54.7 -0.4
MBWA	Marble Bar	62.10	254	P	P	06 05 54.8 -0.4
MBWA	Marble Bar	62.10	254	P	P	06 05 54.5 -0.7
MBWA				pP	sP	06 07 21.3 +0.6
EDFI	Ende, Flores	62.24	268	P	P	06 05 56.0 -0.4
	comp=Z,5µmcomp=Z,469nm,1.0s					
KMSI	Cibinong	62.41	279	P	P	06 05 58.1 +0.7
	comp=Z,290nm,0.6s					
DDMP	Don Marcelino,	62.56	285	⇑iP	P	06 05 57.2 -1.0
MEEK	Meekatharra	62.63	248	P	P	06 05 57.7 -1.0
	baz=63,SNR=41					
MEEK	Meekatharra	62.63	248	P	P	06 05 57.9 -0.8
BASI	Baing, Sumba	63.01	266	P	P	06 06 02.0 +0.7
	comp=Z,6µmcomp=Z,386nm,1.8s					
LUWI	Luwuk	63.11	277	P	P	06 06 02.9 +1.0
	comp=Z,10µmcomp=Z,603nm,1.4s					
LUWI	Luwuk	63.11	277	P	P	06 06 02.4 +0.4
LUWI	Luwuk	63.11	277	P	P	06 06 02.5 +0.6
	comp=Z,602nm,1.4s					
KLBR	Kellerberrin	63.14	242	P	P	06 06 00.9 -0.9
	baz=63,SNR=53					
KLBR	Kellerberrin	63.14	242	P	P	06 06 01.0 -0.9
GTOI	Gorontalo	63.36	278	P	P	06 06 04.4 +0.8
	comp=Z,2µmcomp=Z,85nm,1.1s					
SBA	Scott Base	63.42	184	P	P	06 06 04.9 +2.0
SBA				pmax	pmax	
	comp=Z,103nm,1.0s					
SBA	Scott Base	63.42	184	P	P	06 06 04.9 +2.0
SBA				IAmb	IAmb	06 06 05.8
	comp=Z,102nm,0.9s					
SBA	Scott Base	63.42	184	P	P	06 06 04.9 +2.0
VNDA	Vanda	63.52	186	P	P	06 06 04.8 +1.3
	comp=Z,39nm,0.9s,baz=3.9,slow=7.3,SNR=60					
VNDA	Vanda	63.52	186	P	P	06 06 04.6 +1.1
NWAO	Narrogin (SRO)	63.54	241	P	P	06 06 04.1 -0.4
NWAO	Narrogin (SRO)	63.54	241	P	P	06 06 04.1 -0.4
NWAO	Narrogin (SRO)	63.54	241	P	P	06 06 03.8 -0.8
NWAO				pP	pP	06 07 02.7 +0.4
NWAO				sP	sP	06 07 32.6 +2.4
BUTP	Butuan	63.66	288	⇑iP	P	06 06 06.3 +0.8
BUKP	Musuan	63.78	287	⇑iP	P	06 06 07.5 +1.1
BUKP	Musuan	63.78	287	‖eP	P	06 06 18.2 +12
BSSI	Bau Bau, Buton	63.99	270	P	P	06 06 07.7 0.0
	comp=Z,3µmcomp=Z,174nm,2.1s					
BLDU	Ballidu	64.07	243	P	P	06 06 06.9 -1.1
	baz=64,SNR=18					
BLDU	Ballidu	64.07	243	P	P	06 06 07.3 -0.7
APSI	Ampana	64.22	276	P	P	06 06 09.9 +0.7
	comp=Z,6µmcomp=Z,378nm,1.5s					
WBSI	Waikabubak, Su	64.27	266	P	P	06 06 09.7 +0.1
	comp=Z,5µmcomp=Z,347nm,1.6s					
CTBH	Cotabato--PC H	64.31	286	‖iP	P	06 06 10.4 +0.7
MRSI	Marisa	64.34	278	P	P	06 06 09.7 -0.2
	comp=Z,3µmcomp=Z,145nm,1.5s					
MUN	Mundaring	64.44	242	P	P	06 06 09.7 -0.6
	baz=65,SNR=10					
MUN	Mundaring	64.44	242	P	P	06 06 10.2 -0.1
BKSI	Bulukumba	64.54	271	P	P	06 06 10.7 -0.6
	comp=Z,2µmcomp=Z,90nm,2.0s					
JHJ2	Mitsune	64.61	319	P	P	06 06 11.3 0.0
JHJ2	Mitsune	64.61	319	P	P	06 06 12.3 +1.1
	comp=Z,1µm,1.5s					
MORW	Morawa	64.74	245	P	P	06 06 11.5 -0.8
	baz=65,SNR=9.0					
MORW	Morawa	64.74	245	IAmb	IAmb	06 06 12.3
	comp=Z,116nm,1.1s					
MORW	Morawa	64.74	245	P	P	06 06 11.8 -0.6
BNSI	Bone	64.79	272	P	P	06 06 13.0 +0.2
	comp=Z,5µmcomp=Z,327nm,1.7s					
MSLP	Maasin	64.79	289	‖eP	P	06 06 13.5 +0.7
KAPI	Kappang	64.98	271	P	P	06 06 14.2 +0.2
	comp=Z,57nm,0.9s,baz=158,slow=3.8,SNR=46					
KAPI	Kappang	64.98	271	P	P	06 06 14.4 +0.3
KAPI	Kappang	64.98	271	P	P	06 06 13.8 -0.3
KAPI				IAmb	IAmb	06 06 14.9
	comp=Z,147nm,1.1s					
KAPI	Kappang	64.98	271	P	P	06 06 14.7 +0.6
KAPI	Kappang	64.98	271	P	P	06 06 14.2 +0.2
KAPI				pP	pwP	06 07 14.6 -0.2
KAPI				sP	sP	06 07 43.7 +3.6
SPSI	Sidrap Palu	65.22	273	P	P	06 06 15.2 -0.4
	comp=Z,2µmcomp=Z,132nm,1.1s					
PAGZ	Pagadian	65.33	286	‖eP	P	06 06 17.4 +1.1
OCLP	Ormoc	65.36	290	‖eP	P	06 06 17.5 +1.0
TTSI	Tana Toraja	65.41	274	P	P	06 06 16.5 -0.3
	comp=Z,117nm,1.5s					
TBP	Tagbilaran	65.54	288	‖iP	P	06 06 18.1 +0.4
TOLI2	Tolitoli	65.63	278	IAmb	IAmb	06 06 18.9
	comp=Z,158nm,1.1s					
TOLI2	Tolitoli	65.63	278	P	P	06 06 18.8 +0.6
CNOP	Candoni, Negro	66.71	288	‖iP	P	06 06 24.0 -1.1
ADK	Adak	66.74	359	P	P	06 06 23.9 -0.5
ADK				pmax	pmax	
	comp=Z,217nm,1.1s					
ADK	Adak	66.74	359	P	P	06 06 23.9 -0.5
ADK	Adak	66.74	359	P	P	06 06 25.0 +0.6
GIRL	Giralia	66.99	252	P	P	06 06 27.5 +0.8
	baz=67,SNR=25					
GIRL	Giralia	66.99	252	P	P	06 06 27.9 +1.2
ATKA	Atka Island	67.04	0	P	P	06 06 27.8 +1.5
	comp=Z,260nm,1.3s					
RCP	Roxas	67.25	290	‖eP	P	06 06 28.6 +0.2
JGF	Kuroka	67.76	319	IAmb	IAmb	06 06 31.8
	comp=Z,42nm,0.8s					
INU	Inuyama	67.81	319	IAmb	IAmb	06 06 33.0
	comp=Z,230nm,1.7s					
INU	Inuyama	67.81	319	P	P	06 06 32.0 +0.5
	comp=Z,96nm,1.5s					
INU	Inuyama	67.81	319	P	P	06 06 31.3 -0.2
MJAR	Matsushiro Arr	67.83	321	P	P	06 06 31.4 -0.3
	comp=Z,30nm,0.6s,baz=156,slow=5.6,SNR=48					
MJAR	Matsushiro Arr	67.83	321	IAmb	IAmb	06 06 32.2
	comp=Z,115nm,1.2s					
MAJO	Matsushiro	67.83	321	*d*iP	P	06 06 31.5 -0.2
MAJO				pmax	pmax	
	comp=Z,69nm,1.1s					
MAJO	Matsushiro	67.83	321	P	P	06 06 31.2 -0.5
MAJO				IAmb	IAmb	06 06 32.2
	comp=Z,137nm,1.2s					
MAJO	Matsushiro	67.83	321	P	P	06 06 32.7 +1.0
MAJO	Matsushiro	67.83	321	P	P	06 06 31.2 -0.5
MAT	Matsushiro	67.83	321	P	P	06 06 31.4 -0.3
MAT				S	S	06 15 11.6 +3.0
MJB9	Matsu-Tunnel	67.84	321	IAmb	IAmb	06 06 32.2
	comp=Z,136nm,1.2s					
AUQP	San Andres	67.97	291	‖iP	P	06 06 35.4 +2.5
NIKH	Nikolski High	68.01	4	P	P	06 06 31.0 -1.3
	baz=186					
CCD	Concordia, Ant	68.39	194	P	P	06 06 35.2 +0.2
CUYO	Cuyo Island	68.57	288	‖iP	P	06 06 36.4 -0.2
BOAC	Boac	68.77	291	‖iP	P	06 06 39.1 +1.2
JSD	Sado	68.77	322	IAmb	IAmb	06 06 39.0
	comp=Z,126nm,0.9s					
ERM	Erimo	68.78	328	*d*iP	P	06 06 38.2 +0.9
ERM				pmax	pmax	
	comp=Z,94nm,1.0s					
ERM	Erimo	68.78	328	P	P	06 06 38.1 +0.9
ERM				IAmb	IAmb	06 06 40.1
	comp=Z,95nm,1.1s					
ERM	Erimo	68.78	328	P	P	06 06 39.3 +2.0
ERM	Erimo	68.78	328	P	P	06 06 38.2 +0.9
ERM				pP	pP	06 07 37.7 +2.5
JWT	Wachi	68.81	318	P	P	06 06 37.2 -0.5
JWT				IAmb	IAmb	06 06 38.6
	comp=Z,77nm,0.8s					
YUK	Yuzh-Kuril'sk	68.93	331	*e*P	P	06 06 37.0 -1.2
YUK				*e*		06 06 59.4
YUK				*e**PP	pP	06 07 34.5 -1.7
YUK				*e*		06 09 12.7
YUK				*e*PPP	PPP	06 10 55.5
YUK				*e*S	S	06 15 21.2 +0.1
YUK				*e*		06 16 13.7
YUK				*e*SS	SS	06 19 52.8 +0.2
YUK				pmax	pmax	
	comp=Z,339nm,1.2s					
YUK				pmax	pmax	
	comp=N,188nm,1.0s					
YUK				pmax	pmax	
	comp=E,193nm,0.9s					
YUK				pmax	pmax	
	comp=Z,410nm,1.4s					
KUR	Kuril'sk	68.93	333	⇑*i*P	P	06 06 37.2 -1.0
KUR				*e*SS	SS	06 19 53.6 +1.0
KUR				pmax	pmax	
	comp=Z,601nm,1.2s					
KUR				pmax	pmax	
	comp=E,126nm,1.0s					
KUR				pmax	pmax	
	comp=N,75nm,0.8s					
KUR				pmax	pmax	
	comp=Z,2µm,2.5s					
KUR				pmax	pmax	
	comp=N,2µm,2.7s					
KUR				pmax	pmax	
	comp=E,900nm,2.6s					
JTM	Tenmabayashi	69.02	326	IAmb	IAmb	06 06 39.9
	comp=Z,103nm,0.8s					
UNV	Unalaska Valle	69.06	5	P	P	06 06 38.1 -0.6
UNV				IAmb	IAmb	06 06 38.9
	comp=Z,67nm,0.7s					
UNV	Unalaska Valle	69.06	5	P	P	06 06 38.2 -0.6
	baz=189					
UNV				S	S	06 15 19.9 -2.3
	baz=189					
UNV	Unalaska Valle	69.06	5	P	P	06 06 38.9 +0.2
JOW	Kunigami	69.20	307	P	P	06 06 41.8 +1.5
JAGI	Jajag, Banyuwa	69.58	266	P	P	06 06 43.6 +0.7
TGY	Tagaytay City	69.83	291	P	P	06 06 45.6 +1.2
	comp=Z,422nm,1.0s,baz=157,slow=7.7,SNR=9.0					
QVP	Quezon City--P	69.96	292	‖*i*P	P	06 06 45.5 +0.4
CASY	Casey	70.08	205	P	P	06 06 44.2 -0.7
CASY				IAmb	IAmb	06 06 45.5
	comp=Z,87nm,0.9s					
CASY	Casey	70.08	205	P	P	06 06 44.5 -0.4
MACP	Maragondon, Ca	70.08	292	‖*i*P	P	06 06 45.8 -0.1
SKR	Severo-Kuril's	70.30	341	*e*P	P	06 06 43.4 -3.0
SKR				*e*S	S	06 15 28.2 -8.5
SKR				*e**SS	pS	06 16 41.4 -2.3
SKR				pmax	pmax	
	comp=Z,400nm,4.5s					
SKR				pmax	pmax	
	comp=Z,1µm,4.7s					
SKR				pmax	pmax	
	comp=Z,229nm,1.2s					
PPR	Puerto Princes	70.31	286	‖*i*P	P	06 06 48.3 +1.1
FALS	False Pass	70.37	7	P	P	06 06 46.2 -0.5
	baz=192					
FALS				S	S	06 15 35.5 -1.9
	baz=192					
ASAJ	Asahikawa	70.57	329	P	P	06 06 49.7 +1.5
	comp=Z,144nm,0.9s,baz=203,slow=6.7,SNR=62					
JNU	Nakatsue	70.59	314	P	P	06 06 48.8 +0.2
	comp=Z,169nm,0.8s,baz=99,slow=4.5,SNR=48					
JNU	Nakatsue	70.59	314	P	P	06 06 49.3 +0.6
SPMM	Sapulut	70.81	281	P	P	06 06 51.0 +0.6
SMPP	San Manuel, Pa	70.83	293	⇑*e*P	P	06 06 51.7 +1.3
BATP	Bataraza	70.84	285	‖*i*P	P	06 06 50.8 +0.3
CNBA	Chernabura Isl	70.86	9	IAmb	IAmb	06 06 50.1
	comp=Z,123nm,1.3s					
CHNA	Chernabura Isl	70.87	9	P	P	06 06 49.1 -0.6
	baz=196					
CHNA				S	S	06 15 42.6 -0.5
	baz=196					
SAMP	Sagada Mountai	71.00	294	‖*i*P	P	06 06 51.0 -0.4
APYP	Conner	71.00	295	‖*i*P	P	06 06 51.5 +0.2
SDPT	Sand Point	71.24	9	P	P	06 06 51.6 -0.4
	baz=195,SNR=8.2					
SCZP	Santa Cruz	71.38	293	⇑*e*P	P	06 06 54.8 +1.2
SNCC	San Nicolas Is	71.39	47	IAmb	IAmb	06 06 56.8
	comp=Z,80nm,0.9s					
SNCC	San Nicolas Is	71.39	47	P	P	06 06 54.9 +1.5
	baz=237					
SNCC				S	S	06 15 57.5 +7.4
	baz=237					
KKM	Kota Kinabalu	71.45	282	P	P	06 06 55.0 +0.7
PET	Petropavlovsk	71.61	343	*d*iP	P	06 06 53.7 -0.5
PET				*e*		06 07 11.9
PET				*i*S	S	06 15 52.7 +1.0
PET				*e*SS	SS	06 20 27.8 -5.5
PET				pmax	pmax	
	comp=Z,2µm,7.0s					
PET				pmax	pmax	
	comp=Z,205nm,1.3s					
PET				pmax	pmax	
	comp=Z,1µm,16.6s					
PET				MLR	MLR	
	comp=Z,300nm,17.0s					
PET	Petropavlovsk	71.61	343	P	P	06 06 53.8 -0.4
PET	Petropavlovsk	71.61	343	P	P	06 06 54.7 +0.5
	comp=Z,659nm,1.5s					
SBC	Santa Barbara	71.92	46	P	P	06 06 57.5 +1.0
	baz=236					
SBC				S	SKiKP	06 16 01.5 -5.0
	baz=236					
SCI2	San Clemente I	71.94	47	P	P	06 06 56.7 0.0
	baz=238					
SCI2				S	SKiKP	06 16 01.5 -5.1
	baz=238					
PEA0B	Petropavlovsk-	71.95	343	*d*iP	P	06 06 56.9 +0.7
PETK	Petropavlovsk-	71.95	343	P	P	06 06 55.9 -0.3
	comp=Z,315nm,0.9s,baz=146,slow=8.2,SNR=180					
SAO	San Andreas Ge	72.06	43	P	P	06 06 59.0 +1.7
SAO				pmax	pmax	
	comp=Z,44nm,1.0s					
SAO	San Andreas Ge	72.06	43	P	P	06 06 59.0 +1.7
PKM	Mcpherson Peak	72.09	45	P	P	06 06 59.4 +1.7
	baz=236,SNR=13					
PKM				S	S	06 16 02.3 +3.9
	baz=236					
SPIA	Saint Paul Isl	72.13	3	P	P	06 06 57.5 +0.4
	baz=185					
SMMC	Simmler	72.21	45	P	P	06 06 59.1 +0.8
	baz=236,SNR=6.2					
SMMC				S	S	06 15 56.2 -3.2
	baz=236					
BBGB	Big Mountain B	72.22	43	IAmb	IAmb	06 07 07.5
	comp=Z,67nm,0.9s					
CIS	Catalina Islan	72.26	47	P	P	06 06 59.9 +1.3
	baz=238					
CIS				S	SKiKP	06 16 03.9 -3.3
	baz=238					
PAGB	Antelope Grade	72.27	44	IAmb	IAmb	06 07 02.2
	comp=Z,78nm,1.4s					
CHGN	Chignik	72.47	10	IAmb	IAmb	06 07 02.6
	comp=Z,93nm,0.9s					
CHGN	Chignik	72.47	10	P	P	06 06 59.0 -0.2
	baz=197,SNR=15					
CHGN				S	S	06 15 59.4 -1.9
	baz=197					
CHIR	Chirikof Islan	72.50	11	P	P	06 06 59.9 +0.5
	baz=200					
FMP	Fort Macarthur	72.51	47	P	P	06 07 01.7 +1.7
	baz=238					
YSS	Yuzh-Sakhalins	72.56	331	κ*i*P	P	06 07 01.0 +1.1
YSS				*e**PP	pP	06 08 01.0 +2.5
YSS				*e**SP	sP	06 08 29.0 +3.4
YSS				*e*		06 09 46.0
YSS				*e*S	S	06 16 04.5 +1.8
YSS				*e*		06 16 42.1
YSS				*e*SS	SS	06 20 50.0 +1.9
YSS				pmax	pmax	
	comp=Z,380nm,1.0s					
YSS				pmax	pmax	
	comp=Z,2µm,6.6s					
YSS				smax	smax	
	comp=E,600nm,13.0s					
YSS				MLR	MLR	
	comp=Z,400nm,16.0s					
YSS				MLR	MLR	
	comp=N,300nm,13.0s					
YSS	Yuzh-Sakhalins	72.56	331	P	P	06 07 00.7 +0.8
YSS	Yuzh-Sakhalins	72.56	331	P	P	06 07 00.8 +0.8
	comp=N,459nm,1.2s					
OSI	Osito Audit: C	72.69	46	IAmb	IAmb	06 07 04.4
	comp=Z,160nm,1.8s					
OSI	Osito Audit: C	72.69	46	P	P	06 07 03.1 +1.9
	baz=237					
OSI				S	SKiKP	06 16 10.1 +2.3
	baz=237					
KMRM	Mail Ridge	72.70	39	IAmb	IAmb	06 07 06.3
	comp=Z,111nm,0.8s					
CCX	Cicese	72.72	49	IAmb	IAmb	06 07 04.1
	comp=Z,62nm,0.9s					
DECC	Green Verdugo	72.77	46	P	P	06 07 02.8 +1.2
	baz=237					
ARVC	Arvin	72.90	45	P	P	06 07 03.6 +1.3
	baz=237,SNR=6.1					
ARVC				S	SKiKP	06 16 12.8 +4.8
	baz=237					
109C	Camp Elliot, M	72.92	48	P	P	06 07 03.7 +1.3
	baz=239					
109C				S	SKiKP	06 16 12.1 +3.9
	baz=239					
MWC	Mount Wilson	72.95	46	IAmb	IAmb	06 07 05.4
	comp=Z,61nm,1.1s					
VES	Vestal, Richgr	73.12	45	P	P	06 07 04.9 +1.4
	baz=236,SNR=14					
VES				S	S	06 16 13.6 +4.0
	baz=236					
TKX	Tecate	73.12	49	IAmb	IAmb	06 07 06.4
	comp=Z,91nm,1.5s					
TWG	Pinlang	73.17	300	IAmb	IAmb	06 07 11.2
	comp=Z,159nm,1.3s					
VOG	Valley Oaks Go	73.18	44	P	P	06 07 05.2 +1.3
	baz=236					
VOG				S	S	06 16 14.4 +4.2
	baz=236					
UGM	Wanagama	73.20	266	P	P	06 07 04.9 +0.4
YULB	Yu-li	73.22	301	IAmb	IAmb	06 07 04.6
	comp=Z,68nm,0.9s					
MURC	Murrieta	73.23	47	P	P	06 07 05.7 +1.4
	baz=238,SNR=22					
MURC				S	S	06 16 14.8 +3.8
	baz=238					
BFSC	Mount Baldy Ra	73.24	47	P	P	06 07 05.6 +1.2
	baz=238,SNR=11					
BFSC				S	S	06 16 16.1 +4.8
	baz=238					
EDW2	Edwards Air Fo	73.34	46	P	P	06 07 06.6 +1.7
	baz=237,SNR=36					
EDW2				S	S	06 16 17.9 +5.7
	baz=237					
MONP2	Monument Peak	73.42	48	P	P	06 07 07.2 +1.6
	baz=239,SNR=26					
MONP2				S	S	06 16 18.2 +4.7
	baz=239					
ISA	Isabella, Lake	73.44	45	P	P	06 07 05.9 +0.4
ISA				pmax	pmax	
	comp=Z,114nm,1.8s					
ISA	Isabella, Lake	73.44	45	P	P	06 07 05.9 +0.4
ISA				IAmb	IAmb	06 07 08.8
	comp=Z,114nm,1.8s					
ISA	Isabella, Lake	73.44	45	P	P	06 07 07.2 +1.7
	baz=237,SNR=21					
ISA				S	S	06 16 18.4 +5.1
	baz=237					
SII	Sitkinak Islan	73.47	12	IAmb	IAmb	06 07 07.0
	comp=Z,136nm,0.9s					
SII	Sitkinak Islan	73.47	12	P	P	06 07 04.7 -0.4
	baz=201					
SII	Sitkinak Islan	73.47	12	P	P	06 07 05.8 +0.7
SMRI	Semarang	73.48	267	P	P	06 07 06.7 +0.6
	comp=Z,331nm,1.0s					
CMB	Columbia Colle	73.48	42	P	P	06 07 06.7 +1.0
CMB				pmax	pmax	
	comp=Z,27nm,0.9s					
CMB	Columbia Colle	73.48	42	P	P	06 07 06.7 +1.0
RMX	La Rumorosa	73.52	49	IAmb	IAmb	06 07 09.1
	comp=Z,71nm,0.9s					
IKP	In-Ko-Pah, Jac	73.52	49	P	P	06 07 07.8 +1.7
	baz=239,SNR=16					
IKP				S	S	06 16 19.6 +5.2
	baz=239					
WDC	Whiskeytown Da	73.63	39	P	P	06 07 07.4 +1.0
WDC				pmax	pmax	
	comp=Z,68nm,1.6s					
WDC	Whiskeytown Da	73.63	39	P	P	06 07 07.4 +1.0
SSLB	Suanglung	73.67	301	IAmb	IAmb	06 07 07.6
	comp=Z,115nm,0.9s					
SSLB	Suanglung	73.67	301	P	P	06 07 06.8 -0.3
YHNB	Yeheng	73.70	302	P	P	06 07 09.4 +2.2
TATO	Taipei	73.74	302	P	P	06 07 07.8 +0.4
TATO	Taipei	73.74	302	P	P	06 07 07.5 +0.1
TPUB	Ta-pu	73.74	300	P	P	06 07 07.2 -0.2
PFO	Pinyon Flats O	73.76	48	P	P	06 07 09.0 +1.5
PFO				pmax	pmax	
	comp=Z,44nm,1.1s					
PFO	Pinyon Flats O	73.76	48	P	P	06 07 09.0 +1.5
PFO	Pinyon Flats O	73.76	48	P	P	06 07 08.8 +1.4
	baz=239,SNR=14					
PFO				S	S	06 16 23.2 +6.1
	baz=239					
TPFO	Pinon Flats	73.76	48	P	P	06 07 08.7 +1.3
	baz=239,SNR=17					
TPFO				S	S	06 16 22.4 +5.3
	baz=239					
BBRC	Big Bear Solar	73.77	47	P	P	06 07 09.2 +1.6
	baz=238					
BBRC				S	S	06 16 21.7 +4.3
	baz=238					
N02D	Trinity Center	73.77	39	P	P	06 07 09.2 +1.9
	baz=232,SNR=8.8					
LRMC	Laurel Mtn Rad	73.88	46	P	P	06 07 09.8 +1.6
	baz=238,SNR=15					
LRMC				S	S	06 16 24.0 +5.6
	baz=238					
SWSC	Sam W. Stewart	73.89	49	P	P	06 07 09.7 +1.6
	baz=239,SNR=15					
O03E	Paynes Creek	73.91	40	P	P	06 07 09.9 +1.7
	baz=233					
O03E				S	S	06 16 22.7 +4.3
	baz=233					
M02C	Callahan	73.94	38	P	P	06 07 09.9 +1.7
	baz=232					
L02E	Cave Junction	73.97	37	S	S	06 16 24.9 +6.1
	baz=232

comp=Z,70nm,1.3s
SBUM Sibu 74.21 277 P **P 06 07 11.0 +0.7**
OHAK Old Harbor 74.27 12 IAmb IAmb 06 07 11.2
comp=Z,59nm,0.8s
OHAK Old Harbor 74.27 12 P **P 06 07 10.2 +0.6**
baz=202,SNR=5.8
MLAC Mammoth, Mammo 74.27 43 S **S 06 16 28.9 +6.1**
baz=236
BELC Belle Mtn. Jos 74.29 48 P **P 06 07 12.1 +1.6**
baz=239,SNR=38
BELC S **S 06 16 26.9 +3.9**
baz=239
TEY Ternei 74.31 326 ⇓ *e*P **P 06 07 10.9 +0.8**
TEY *e* 06 16 23.2
TEY pmax pmax
comp=E,10.0nm,2.0s
TEY pmax pmax
comp=Z,20nm,2.0s
TEY pmax pmax
comp=N,100nm,5.6s
TEY pmax pmax
comp=E,100nm,5.6s
TEY pmax pmax
comp=Z,100nm,5.6s
TEY pmax pmax
comp=N,20nm,2.0s
MPMC Manual Prospec 74.32 45 P **P 06 07 12.5 +1.7**
baz=238,SNR=27
MPMC S **S 06 16 28.8 +5.4**
baz=238
TIN Tinemaha, Big 74.36 44 P **P 06 07 12.7 +1.8**
baz=237,SNR=6.2
TIN S **S 06 16 29.7 +6.1**
baz=237
GSC Goldstone, Bar 74.39 46 P **P 06 07 12.6 +1.6**
baz=238,SNR=26
GSC S **S 06 16 28.5 +4.5**
baz=238
UGL Uglegorsk 74.42 332 *e*P **P 06 07 11.2 +0.5**
UGL pmax pmax
comp=Z,180nm,0.8s
HEC Hector,Ludlow 74.48 47 P **P 06 07 12.9 +1.4**
baz=239,SNR=24
HEC S **S 06 16 29.7 +4.8**
baz=239
BC3 Big Chuckawall 74.50 48 P **P 06 07 13.5 +1.8**
baz=240,SNR=28
BC3 S **S 06 16 29.7 +4.4**
baz=240
PNTR Pine Nut 74.59 42 IAmb IAmb 06 07 18.4
comp=Z,57nm,0.8s
GLA Glamis 74.65 49 IAmb IAmb 06 07 15.8
comp=Z,86nm,1.1s
GLA Glamis 74.65 49 P **P 06 07 14.5 +1.9**
baz=240,SNR=17
GLA S **S 06 16 32.1 +5.2**
baz=240
L04D Klamath Falls 74.76 38 IAmb IAmb 06 08 24.2
comp=Z,166nm,1.6s
L04D Klamath Falls 74.76 38 P **P 06 07 14.5 +1.5**
baz=232
L04D S **S 06 16 31.8 +3.9**
baz=232
M04C Macdoel 74.78 38 IAmb IAmb 06 08 24.9
comp=Z,159nm,1.8s
M04C Macdoel 74.78 38 P **P 06 07 15.0 +1.8**
baz=233,SNR=6.0
TJN Taejon 74.79 315 ⇑ *e*P **P 06 07 13.8 +0.7**
TJN Taejon 74.79 315 P **P 06 07 13.5 +0.4**
QSPA South Pole Qui 74.92 180 P **P 06 07 14.5 +0.9**
QSPA IAmb IAmb 06 07 15.2
comp=Z,147nm,0.9s
QSPA South Pole Qui 74.92 180 P **P 06 07 14.3 +0.7**
QSPA pP **pwP 06 08 15.2 -1.0**
GMRC Granite Mounta 74.93 47 P **P 06 07 15.7 +1.5**
baz=239,SNR=29
GMRC S **S 06 16 32.6 +2.5**
baz=239
KDAK Kodiak Island 74.93 12 P **P 06 07 14.3 +0.8**
comp=Z,65nm,0.5s,baz=242,slow=4.9,SNR=9.8
KDAK Kodiak Island 74.93 12 IAmb IAmb 06 07 14.8
comp=Z,91nm,0.6s
KDAK Kodiak Island 74.93 12 P **P 06 07 13.6 +0.2**
baz=202
KDAK S **S 06 16 32.3 +3.5**
baz=202
FURC Furnace Creek, 74.97 45 P **P 06 07 15.7 +1.5**
baz=238,SNR=13
FURC S **S 06 16 34.7 +4.7**
baz=238
IRM Iron Mountain 74.98 48 P **P 06 07 16.2 +1.9**
baz=240,SNR=47
IRM S **S 06 16 33.1 +2.7**
baz=240
KSRS Korea Array 74.99 316 P **P 06 07 15.4 +1.2**
comp=Z,59nm,0.9s,baz=129,slow=6.5,SNR=71
KSRS PP **PP 06 10 03.0 -3.2**
comp=Z,4.4nm,1.1s,baz=124,slow=10,SNR=2.9
KS19 Wonju Array Si 75.05 316 IAmb IAmb 06 07 16.4
comp=Z,152nm,1.2s
NVAR Mina Array Bea 75.06 43 P **P 06 07 16.6 +1.6**
comp=Z,39nm,0.8s,baz=228,slow=8.6,SNR=67
NVAR pP **pP 06 08 14.7 +0.8**
comp=Z,5.3nm,0.8s,baz=225,slow=8.9,SNR=1.6
NVAR PP **PP 06 10 05.9 -1.2**
comp=Z,2.9nm,0.9s,baz=233,slow=9.9,SNR=4.6
NVAR PKKPbc **PKKPbc 06 26 38.1 +0.1**
comp=Z,0.4nm,0.7s,baz=84,slow=3.7,SNR=3.8
NVAR PKPPKP **P'P'df 06 34 30.9 -7.7**
comp=Z,0.9nm,0.9s,baz=62,slow=2.8,SNR=4.7
I03D Drain, OR 75.07 36 S **S 06 16 34.9 +4.1**
baz=231
SHOC Shoshone, Teco 75.07 46 P **P 06 07 16.6 +1.8**
baz=238
SHOC S **S 06 16 37.1 +5.8**
baz=238
TUQ Turquoise Moun 75.08 46 P **P 06 07 16.8 +1.7**
baz=239,SNR=26
TUQ S **S 06 16 37.9 +6.3**
baz=239
K04D Chiloquin, OR 75.33 38 P **P 06 07 17.5 +1.2**
baz=233
TYV Tymovskoe 75.48 334 *e*P **P 06 07 17.4 +0.7**
TYV *e*S **S 06 16 33.6 -1.4**
TYV pmax pmax
comp=Z,249nm,1.0s
TYV pmax pmax
comp=Z,1μm,4.1s
TYV smax smax
comp=N,100nm,6.2s
TYV smax smax
comp=E,900nm,6.2s
J04D Umpqua Nationa 75.50 37 P **P 06 07 18.9 +1.6**
baz=232
214A Organ Pipe Nat 75.61 51 IAmb IAmb 06 07 21.1
comp=Z,76nm,1.2s
214A Organ Pipe Nat 75.61 51 P **P 06 07 19.7 +1.7**
baz=242,SNR=18
214A S **S 06 16 42.3 +4.9**
baz=242
TPNV Topopah Spring 75.64 45 P **P 06 07 20.0 +1.8**
baz=238,SNR=23
TPNV S **S 06 16 42.3 +4.5**
baz=238
NEE2 Needles Airpor 75.66 48 P **P 06 07 19.7 +1.6**
baz=240
NEE2 S **S 06 16 42.5 +4.7**
baz=240
I04A Tendick Farm, 75.66 36 P **P 06 07 19.3 +1.3**
baz=232
I04A S **S 06 16 41.3 +3.8**
baz=232
VLA Vladivostok 75.74 323 *d*iP **P 06 07 19.0 +0.7**
VLA pmax pmax
comp=Z,64nm,0.9s
PDMCI Parker Dam,Lak 75.77 48 P **P 06 07 20.4 +1.7**
baz=240,SNR=20
PDMCI S **S 06 16 43.1 +4.2**
baz=240
KSM Kuching 75.77 275 P **P 06 07 20.0 +0.7**
KSM Kuching 75.77 275 P **P 06 07 19.8 +0.5**
comp=Z,341nm,1.6s
Q19K Cape Douglas, 75.80 11 IAmb IAmb 06 07 24.7
comp=Z,80nm,0.7s
Q19K Cape Douglas, 75.80 11 P **P 06 07 18.8 +0.4**
baz=201
Q19K S **S 06 16 39.1 +0.8**
baz=201

MSHR Mys Shultsa 75.84 322 *de*P **P 06 07 20.2 +1.2**
MSHR pmax pmax
comp=Z,186nm,2.5s
INCN Inchon 75.87 316 P **P 06 07 20.4 +1.1**
INCN pmax pmax
comp=Z,194nm,1.0s
INCN Inchon 75.87 316 P **P 06 07 20.4 +1.1**
INCN Inchon 75.87 316 P **P 06 07 20.8 +1.5**
comp=Z,276nm,1.1s
K05A Summer Lake 75.90 38 IAmb IAmb 06 07 27.9
comp=Z,62nm,0.9s
H04D Lebanon 75.93 36 IAmb IAmb 06 07 26.0
comp=Z,64nm,0.9s
H04D Lebanon 75.93 36 P **P 06 07 21.3 +1.9**
baz=232
J05D Fort Rock, OR 76.03 37 P **P 06 07 22.1 +1.8**
baz=233,SNR=15
G03D McMinnville, O 76.06 35 P **P 06 07 21.4 +1.2**
baz=231
QZH Quanzhou 76.11 301 ⇓ *i*P **P 06 07 21.6 +0.7**
QZH sP **sP 06 08 43.4 -5.2**
QZH pmax pmax
comp=Z,130nm,1.0s
QZH pmax pmax
comp=Z,1μm,3.0s
USA0B Ussuriysk Arra 76.33 324 IAmb IAmb 06 07 23.4
comp=Z,224nm,1.7s
USRK Ussuriysk Ar. 76.33 324 P **P 06 07 22.4 +0.8**
comp=Z,33nm,0.8s,baz=134,slow=3.9,SNR=48
Y14A Wickenburg 76.42 49 IAmb IAmb 06 07 25.4
comp=Z,66nm,1.1s
PINE Pine Mountain 76.51 37 IAmb IAmb 06 07 25.8
comp=Z,64nm,0.9s
HHU Hamhung 76.59 318 P **P 06 07 24.9 +1.7**
HHU pP **PcP 06 07 31.0 -2.6**
HHU S **S 06 16 52.6 +5.0**
HHU AmB
comp=Z,2μm,2.9s
HHU AMS AMS
comp=N,365nm,2.1s
HHU AMS AMS
comp=E,524nm,3.0s
HHU AMS AMS
comp=Z,545nm,3.2s
I05D Terrebonne, OR 76.61 36 P **P 06 07 24.9 +1.6**
baz=233
SSE Sheshan 76.68 308 P **P 06 07 24.4 +0.5**
SSE S **S 06 16 54.5 +5.6**
SSE pmax pmax
comp=Z,35nm,0.8s
SSE pmax pmax
comp=Z,450nm,8.4s
SSE LR LR
comp=Z,200nm,19.2s
E03A Lebam 76.74 34 IAmb IAmb 06 07 29.9
comp=Z,93nm,0.9s
F04D Rainier, OR 76.75 34 P **P 06 07 25.6 +1.6**
baz=231
HJU Haeju 76.78 316 P **P 06 07 25.4 +1.1**
HJU pP **PcP 06 07 31.4 -3.0**
HJU S **S 06 16 53.3 +3.6**
HJU AmB
comp=Z,3μm,3.4s
HJU AMS AMS
comp=N,481nm,2.3s
HJU AMS AMS
comp=E,590nm,2.8s
HJU AMS AMS
comp=Z,510nm,2.4s
CNPM China Poot 76.82 12 IAmb IAmb 06 07 25.3
comp=Z,131nm,1.1s
R11A Troy Canyon, C 76.82 44 P **P 06 07 25.6 +0.8**
baz=238,SNR=18
R11A S **S 06 16 54.1 +3.5**
baz=238
O19K Port Alsworth 76.86 10 P **P 06 07 24.6 +0.3**
baz=200,SNR=40
O19K S **S 06 16 49.5 -0.1**
baz=200
WISH Wishkah 76.99 33 P **P 06 07 27.4 +2.2**
O20K Slope Mountain 77.06 11 P **P 06 07 25.8 +0.3**
baz=202,SNR=6.2
O20K S **S 06 16 54.5 +2.4**
baz=202
WVOR Wild Horse Val 77.09 39 IAmb IAmb 06 08 36.1
comp=Z,76nm,1.4s
BRLK Bradley Lake 77.11 12 IAmb IAmb 06 07 28.5
comp=Z,174nm,1.2s
NLWA Neilton Lookou 77.11 33 P **P 06 07 27.3 +1.3**
BRSE Bradley Lake S 77.12 12 P **P 06 07 26.4 +0.7**
baz=204,SNR=12
G05D Wamic, OR 77.16 36 P **P 06 07 27.2 +0.8**
baz=233
XMI Christmas Isla 77.27 262 P **P 06 07 28.3 +0.7**
comp=Z,202nm,1.9s
PYAG Pyongyang 77.28 317 P **P 06 07 29.0 +1.9**
E04D Cinebar 77.28 34 IAmb IAmb 06 08 29.8
comp=Z,196nm,1.5s
E04D Cinebar 77.28 34 P **P 06 07 28.6 +1.7**
baz=232
XMIS Christmas Isla 77.30 262 IAmb IAmb 06 07 28.5
comp=Z,129nm,1.1s
XMIS Christmas Isla 77.30 262 P **P 06 07 27.9 +0.1**
TUC Tucson 77.30 51 P **P 06 07 29.4 +1.9**
TUC pmax pmax
comp=Z,60nm,1.0s
TUC Tucson 77.30 51 P **P 06 07 29.4 +1.9**
TUC IAmb IAmb 06 07 30.8
comp=Z,60nm,0.9s
TUC Tucson 77.30 51 P **P 06 07 29.6 +2.1**
baz=243
TUC S **S 06 16 59.0 +3.2**
baz=243
N19K Bonanza Creek 77.42 10 P **P 06 07 27.4 -0.1**
baz=200
N19K S **S 06 16 54.8 -1.0**
baz=200
F05D White Salmon 77.47 35 P **P 06 07 29.2 +1.2**
baz=232,SNR=7.5
SVW2 Sparrevohn 77.50 9 IAmb IAmb 06 07 29.5
comp=Z,174nm,1.9s
D04E Lakebay 77.56 33 P **P 06 07 30.0 +1.6**
baz=231
D03D Eldon 77.61 33 P **P 06 07 30.3 +1.5**
baz=231
SEW Seward 77.72 13 IAmb IAmb 06 07 29.9
comp=Z,67nm,0.7s
SEW Seward 77.72 13 P **P 06 07 28.4 -0.6**
baz=205,SNR=11
SEW S **S 06 16 57.9 -1.0**
baz=205
X16A Lo Mia Camp, P 77.78 49 IAmb IAmb 06 07 37.0
comp=Z,63nm,0.9s
MDJ Mudanjiang 77.96 323 P **P 06 07 31.9 +1.2**
MDJ PP **PP 06 10 31.8 +0.9**
MDJ S **S 06 17 07.5 +5.4**
MDJ ScS **ScS 06 17 27.1 +1.4**
MDJ pmax pmax
comp=Z,100nm,1.7s
MDJ pmax pmax
comp=Z,2μm,4.9s
MDJ LR LR
comp=Z,570nm,24.9s
MDJ LR LR
comp=Z,600nm,24.5s
MDJ LR LR
comp=Z,750nm,24.2s
MDJ Mudanjiang 77.96 323 IAmb IAmb 06 07 32.5
comp=Z,116nm,1.2s
MDJ Mudanjiang 77.96 323 P **P 06 07 31.6 +0.9**
CAPN Captain Cook N 77.98 12 P **P 06 07 30.8 +0.4**
baz=203
NKL Nikolayevsk 77.98 334 *e*P **P 06 07 29.4 -1.2**
NKL *e* 06 08 58.5
NKL pmax pmax
comp=E,4.0nm,1.0s
NKL pmax pmax
comp=N,4.0nm,0.7s
NKL pmax pmax
comp=Z,129nm,1.1s
NKL pmax pmax
comp=Z,62nm,1.4s
319A Douglas 78.03 53 IAmb IAmb 06 07 34.8
comp=Z,95nm,0.9s
KNB Kanab 78.04 46 IAmb IAmb 06 08 43.8
comp=Z,99nm,1.6s
U15A North Rim 78.12 47 IAmb IAmb 06 07 35.7

comp=Z,58nm,1.1s
GRNR Gornyy 78.21 331 ⇓ *i*P **P 06 07 32.7 +0.7**
GRNR *e*S **S 06 17 05.5 +0.9**
GRNR pmax pmax
comp=Z,60nm,1.0s
GRNR smax smax
comp=E,1.0nm,0.9s
GRNR MLR MLR
comp=E,250nm,17.0s
GRNR MLR MLR
comp=N,160nm,15.0s
GRNR MLR MLR
comp=Z,240nm,16.0s
WUAZ Wupatki 78.35 48 IAmb IAmb 06 07 36.7
comp=Z,67nm,1.1s
WUAZ Wupatki 78.35 48 P **P 06 07 35.2 +1.9**
baz=242,SNR=30
WUAZ S **S 06 17 13.7 +6.6**
baz=242
M19K Big River Lodg 78.46 10 P **P 06 07 33.1 0.0**
baz=200,SNR=16
G08A Pilot Rock 78.53 37 IAmb IAmb 06 07 39.0
comp=Z,62nm,1.2s
RC01 Rabbit Creek A 78.56 12 P **P 06 07 33.8 +0.2**
baz=205,SNR=18
RC01 S **S 06 17 07.9 +0.1**
baz=205
A04D Lummi Island 78.56 32 P **P 06 07 35.4 +1.5**
baz=231,SNR=5.2
B05A Bryant 78.59 33 P **P 06 07 35.4 +1.3**
baz=232,SNR=17
PKCU Pink Cliffs 78.60 46 IAmb IAmb 06 07 38.3
comp=Z,81nm,1.2s
CRAG Craig 78.61 23 P **P 06 07 35.4 +1.4**
baz=221
CRAG S **S 06 17 14.5 +6.0**
baz=221
PWL Port Wells 78.64 13 IAmb IAmb 06 07 34.9
comp=Z,96nm,0.9s
PWL Port Wells 78.64 13 P **P 06 07 34.2 +0.1**
baz=206,SNR=20
L19K White Mountain 78.65 9 P **P 06 07 34.6 +0.5**
baz=200,SNR=8.3
L19K S **S 06 17 09.3 +0.5**
baz=200
SUJ Sinuiju 78.66 317 P **P 06 07 35.7 +1.0**
GAMB Gambell 78.68 1 IAmb IAmb 06 07 36.1
comp=Z,98nm,1.0s
GAMB Gambell 78.68 1 P **P 06 07 35.5 +1.3**
baz=183,SNR=8.9
SUA Susitna One 78.70 12 IAmb IAmb 06 07 35.7
comp=Z,73nm,0.7s
KAIM Kayak Island 78.73 15 P **P 06 07 35.5 +0.9**
baz=210,SNR=7.0
HAWA Hanford 78.85 35 IAmb IAmb 06 07 37.9
comp=Z,39nm,0.8s
NJ2 Nanjing 78.89 308 ⇓ *i*P **P 06 07 33.8 -2.3**
NJ2 S **S 06 17 20.8 +8.3**
NJ2 pmax pmax
comp=Z,91nm,1.0s
NJ2 pmax pmax
comp=Z,770nm,5.2s
GLI Glacier Island 78.93 13 P **P 06 07 35.7 +0.1**
baz=207,SNR=16
GLI S **S 06 17 10.5 -1.3**
baz=207
EYAK Cordova Ski Ar 78.95 14 IAmb IAmb 06 07 36.6
comp=Z,63nm,1.1s
EYAK Cordova Ski Ar 78.95 14 P **P 06 07 35.1 -0.6**
baz=209,SNR=7.1
EYAK S **S 06 17 10.6 -1.3**
baz=209
FID Port Fidalgo 78.95 14 IAmb IAmb 06 07 36.4
comp=Z,48nm,0.9s
MTPU Mount Pierson 78.98 46 IAmb IAmb 06 08 48.9
comp=Z,109nm,1.8s
C06D Leavenworth 79.02 34 P **P 06 07 36.9 +0.5**
baz=233,SNR=6.1
C06D S **S 06 17 20.7 +7.4**
baz=233
L20K Farewell, AK 79.08 10 P **P 06 07 36.5 0.0**
baz=201
L20K S **S 06 17 12.2 -1.2**
baz=201
M22K Willow 79.08 12 P **P 06 07 36.5 +0.1**
baz=204
M22K S **S 06 17 12.8 -0.5**
baz=204
KNK Knik Glacier 79.11 13 IAmb IAmb 06 07 37.7
comp=Z,64nm,0.8s
KNK Knik Glacier 79.11 13 P **P 06 07 37.0 +0.3**
baz=206,SNR=17
KNK S **S 06 17 14.2 +0.5**
baz=206
HMT Hamilton 79.12 15 IAmb IAmb 06 07 37.8
comp=Z,55nm,0.8s
PMR Palmer 79.14 12 IAmb IAmb 06 07 38.3
comp=Z,250nm,1.6s
PMR pP 06 08 37.7 +1.3
PMR Palmer 79.14 12 P **P 06 07 36.9 +0.2**
baz=205,SNR=26
PMR S **S 06 17 13.1 -0.8**
baz=205
E08A Dider Farm, El 79.17 36 IAmb IAmb 06 07 39.6
comp=Z,78nm,1.3s
E08A pP 06 08 39.4 +2.7
TTA Tatalina 79.18 9 P **P 06 07 37.6 +0.5**
baz=198,SNR=67
TTA S **S 06 17 17.9 +3.4**
baz=198
GHO Glory Hole Cre 79.34 12 IAmb IAmb 06 07 38.9
comp=Z,81nm,0.7s
W18A Petrified Fore 79.35 49 IAmb IAmb 06 08 49.6
comp=Z,110nm,1.9s
W18A Petrified Fore 79.35 49 P **P 06 07 40.5 +1.8**
baz=243,SNR=8.5
W18A S **S 06 17 22.1 +4.4**
baz=243
DIV Divide 79.45 14 IAmb IAmb 06 07 39.5
comp=Z,114nm,0.8s
MA2 Magadan 79.48 343 *d*iP **P 06 07 38.5 -0.2**
MA2 pmax pmax
comp=Z,191nm,1.0s
MA2 Magadan 79.48 343 P **P 06 07 38.7 +0.1**
MA2 Magadan 79.48 343 P **P 06 07 39.1 +0.4**
MA2 Magadan 79.48 343 P **P 06 07 37.6 -1.1**
SML Sawmill 79.50 12 IAmb IAmb 06 07 40.5
comp=Z,138nm,1.5s
SML Sawmill 79.50 12 P **P 06 07 38.7 0.0**
baz=206,SNR=10
SML S **S 06 17 17.3 -0.6**
baz=206
KLR Kul'dur 79.53 328 P **P 06 07 39.8 +0.6**
comp=Z,32nm,1.0s,baz=109,slow=6.9
KLR PP **PP 06 10 42.5 -1.4**
comp=Z,5.6nm,1.0s,baz=118,slow=9.7,SNR=2.6
KLR Kul'dur 79.53 328 *d*iP **P 06 07 39.6 +0.4**
KLR pmax pmax
comp=Z,42nm,1.0s
D08A Wollman Farm, 79.58 35 IAmb IAmb 06 07 41.8
comp=Z,58nm,0.9s
MESA MESA 79.58 16 P **P 06 07 40.4 +1.0**
baz=212,SNR=7.5
BMRM Bremner River 79.59 14 IAmb IAmb 06 07 40.9
comp=Z,140nm,1.0s
BMRM Bremner River 79.59 14 P **P 06 07 39.9 +0.6**
baz=210,SNR=28
BMRM S **S 06 17 19.1 +0.3**
baz=210
DUG Dugway, Tooele 79.61 43 P **P 06 07 41.2 +1.2**
baz=240,SNR=28
DUG S **S 06 17 23.8 +3.6**
baz=240
WRAK Wrangell Islan 79.62 22 P **P 06 07 40.6 +1.2**
baz=222
WRAK S **S 06 17 23.2 +4.1**
baz=222
CUT Chulitna 79.65 11 P **P 06 07 39.6 +0.1**
baz=204,SNR=10
121A Cookes Peak, D 79.67 52 IAmb IAmb 06 07 44.0
comp=Z,68nm,1.1s
121A Cookes Peak, D 79.67 52 P **P 06 07 42.3 +1.8**
baz=245,SNR=29
121A S **S 06 17 26.2 +5.0**
baz=245
SCM Sheep Creek Mo 79.73 13 IAmb IAmb 06 07 41.1
comp=Z,100nm,0.7s
SCM Sheep Creek Mo 79.73 13 P **P 06 07 40.4 +0.3**

	baz=207,SNR=24					
KLU	**Klutina**	**79.74**	**14**	IAmb	IAmb	06 07 41.1
	comp=Z,75nm,1.2s					
KLU	**Klutina**	**79.74**	**14**	P	**P**	**06 07 39.7 -0.4**
	baz=208,SNR=16					
PPLA	**Purkeypile**	**79.76**	**10**	P	**P**	**06 07 38.6 -1.6**
	baz=202					
ANM	**Nome**	**79.77**	**4**	IAmb	IAmb	06 07 42.7
	comp=Z,113nm,1.0s					
ANM	**Nome**	**79.77**	**4**	P	**P**	**06 07 41.4 +1.3**
	baz=189,SNR=49					
ANM				S	**S**	**06 17 23.4 +2.9**
	baz=189					
ISLE	**Juniper Island**	**79.84**	**16**	IAmb	IAmb	06 07 42.4
	comp=Z,97nm,0.8s					
TGL	**Tana Glacier**	**79.84**	**15**	IAmb	IAmb	06 07 42.0
	comp=Z,87nm,0.8s					
PNL	**Peninsula**	**79.86**	**17**	P	**P**	**06 07 41.6 +0.8**
	baz=215,SNR=9.1					
PNL				S	**S**	**06 17 23.5 +1.8**
	baz=215					
BNX	**BinXian**	**79.87**	**323**	⇓P	**P**	**06 07 41.1 +0.1**
BNX				PP	**PP**	**06 10 46.4 -0.3**
BNX				S	**S**	**06 17 24.8 +2.6**
BNX				pmax	pmax	
	comp=Z,90nm,1.4s					
BNX				pmax	pmax	
	comp=Z,1μm,7.0s					
K20K	**Telida**	**79.88**	**9**	P	**P**	**06 07 41.6 +0.9**
K20K				IAmb	IAmb	06 07 42.9
	comp=Z,128nm,1.1s					
K20K	**Telida**	**79.88**	**9**	P	**P**	**06 07 41.1 +0.4**
	baz=200					
K20K				S	**S**	**06 17 23.4 +1.8**
	baz=200					
F10A	**Beach Ranch, E**	**79.92**	**37**	IAmb	IAmb	06 07 43.2
	comp=Z,50nm,0.8s					
PCA	**Pinnacle**	**79.97**	**17**	IAmb	IAmb	06 07 42.6
	comp=Z,43nm,0.9s					
PINM	**Pinnacle**	**79.98**	**17**	P	**P**	**06 07 41.8 +0.4**
	baz=214,SNR=6.8					
CN2	**Changchun**	**79.98**	**321**	*e*P	**P**	**06 07 40.9 -0.8**
CN2				*e*PP	**PP**	**06 10 48.8 +1.1**
CN2				S	**S**	**06 17 23.1 -0.4**
CN2				SS	**SS**	**06 22 43.1 +3.0**
CN2				pmax	pmax	
	comp=Z,120nm,0.9s					
CN2				pmax	pmax	
	comp=Z,1μm,5.0s					
CN2				LR	LR	
	comp=Z,410nm,22.0s					
CN2				LR	LR	
	comp=Z,300nm,22.0s					
CN2				LR	LR	
	comp=Z,440nm,22.0s					
DL2	**Dalian**	**79.99**	**315**	⇓*i*P	**P**	**06 07 43.0 +1.2**
DL2				S	**S**	**06 17 29.4 +5.6**
DL2				pmax	pmax	
	comp=Z,150nm,1.3s					
DL2				pmax	pmax	
	comp=Z,1μm,5.8s					
TABL	**Table Mountain**	**80.02**	**16**	IAmb	IAmb	06 07 43.1
	comp=Z,78nm,0.8s					
TABL					pP	06 08 43.6 +2.0
BCPM	**Bancas Point**	**80.03**	**17**	IAmb	IAmb	06 07 43.0
	comp=Z,60nm,0.9s					
VRDI	**Verde Repeater**	**80.09**	**15**	IAmb	IAmb	06 07 43.3
	comp=Z,79nm,0.8s					
GRNC	**Granite Creek**	**80.10**	**16**	IAmb	IAmb	06 07 43.5
	comp=Z,68nm,0.8s					
B08A	**Colville Reser**	**80.12**	**34**	IAmb	IAmb	06 07 43.9
	comp=Z,50nm,0.8s					
SNY	**Shenyang**	**80.13**	**318**	⇓P	**P**	**06 07 43.4 +0.9**
SNY				pP	**pP**	**06 08 42.8 -0.3**
SNY				S	**S**	**06 17 31.6 +6.5**
SNY				pmax	pmax	
	comp=Z,140nm,1.3s					
SNY				pmax	pmax	
	comp=Z,1μm,6.3s					
N25K	**Chitina, Valde**	**80.15**	**14**	IAmb	IAmb	06 07 43.5
	comp=Z,101nm,0.7s					
N25K	**Chitina, Valde**	**80.15**	**14**	P	**P**	**06 07 42.8 +0.5**
	baz=210,SNR=62					
N25K				S	**S**	**06 17 25.3 +0.6**
	baz=210					
GLB	**Gilahina Butte**	**80.19**	**15**	IAmb	IAmb	06 07 43.6
	comp=Z,81nm,0.8s					
M24K	**Tolsona, Glenn**	**80.23**	**13**	P	**P**	**06 07 43.6 +1.0**
	baz=208,SNR=19					
M24K				S	**S**	**06 17 27.7 +2.3**
	baz=208					
TMUT	**Trail Mountain**	**80.25**	**45**	IAmb	IAmb	06 07 50.1
	comp=Z,66nm,0.9s					
CAST	**Castle Rocks**	**80.26**	**10**	IAmb	IAmb	06 07 43.2
	comp=Z,89nm,1.4s					
CAST	**Castle Rocks**	**80.26**	**10**	P	**P**	**06 07 41.3 -1.5**
	baz=202					
CAST				S	**S**	**06 17 23.7 -2.0**
	baz=202					
HLID	**Hailey**	**80.30**	**40**	IAmb	IAmb	06 07 46.3
	comp=Z,43nm,0.8s					
HLID	**Hailey**	**80.30**	**40**	P	**P**	**06 07 44.9 +1.2**
	baz=238,SNR=61					
HLID				S	**S**	**06 17 31.6 +4.3**
	baz=238					
WAT6	**Susitna Watana**	**80.31**	**12**	P	**P**	**06 07 43.1 -0.1**
	baz=206,SNR=35					
WAT6				S	**S**	**06 17 25.9 -0.7**
	baz=206					
LOGN	**Logan Glacier**	**80.38**	**16**	IAmb	IAmb	06 07 44.9
	comp=Z,66nm,0.8s					
LOGN					pP	06 08 45.5 +2.0
BESE	**Bessie Mountai**	**80.40**	**20**	IAmb	IAmb	06 07 46.0
	comp=Z,72nm,1.1s					
BARN	**Barnard Glacie**	**80.41**	**16**	IAmb	IAmb	06 07 45.6
	comp=Z,97nm,0.8s					
CTG	**Chitna Glacier**	**80.41**	**16**	P	**P**	**06 07 44.4 +0.6**
	baz=213,SNR=29					
CTG				S	**S**	**06 17 28.3 +0.7**
	baz=213					
CTGM	**Chitina Glacie**	**80.41**	**16**	IAmb	IAmb	06 07 45.5
	comp=Z,77nm,0.8s					
KTH	**Kantishna Hill**	**80.59**	**11**	IAmb	IAmb	06 07 45.6
	comp=Z,239nm,1.6s					
TRF	**Thorofare Moun**	**80.61**	**11**	IAmb	IAmb	06 07 46.0
	comp=Z,269nm,1.8s					
TRF	**Thorofare Moun**	**80.61**	**11**	P	**P**	**06 07 44.5 -0.3**
	baz=204					
TRF				S	**S**	**06 17 28.6 -1.0**
	baz=204					
TNA	**Tin City**	**80.61**	**3**	P	**P**	**06 07 45.9 +1.4**
	baz=187,SNR=157					
TNA				S	**S**	**06 17 30.0 +0.9**
	baz=187					
J20K	**Nowinta River**	**80.64**	**9**	P	**P**	**06 07 45.5 +0.8**
	baz=200					
J20K				S	**S**	**06 17 29.7 +0.2**
	baz=200					
CHUM	**Lake Minchumin**	**80.65**	**10**	P	**P**	**06 07 44.1 -0.7**
	baz=202					
HARP	**HAARP**	**80.71**	**14**	P	**P**	**06 07 45.7 +0.6**
	baz=209,SNR=13					
GCSA	**Galena City Sc**	**80.80**	**8**	P	**P**	**06 07 46.8 +1.3**
	baz=198,SNR=13					
GCSA				S	**S**	**06 17 31.4 +0.4**
	baz=198					
DHY	**Denali Highway**	**80.83**	**12**	IAmb	IAmb	06 07 47.6
	comp=Z,121nm,1.5s					
DHY	**Denali Highway**	**80.83**	**12**	P	**P**	**06 07 46.1 +0.1**
	baz=207,SNR=23					
DHY				S	**S**	**06 17 31.1 -0.8**
	baz=207					
SKAG	**Skagway**	**80.93**	**19**	IAmb	IAmb	06 07 49.1
	comp=Z,88nm,1.0s					
SKAG	**Skagway**	**80.93**	**19**	P	**P**	**06 07 47.9 +1.6**
	baz=218,SNR=24					
Y22D	**IRIS PASSCAL I**	**80.98**	**51**	P	**P**	**06 07 49.2 +1.7**
	baz=245					
Y22D				S	**S**	**06 17 38.8 +4.2**
	baz=245					
BPAW	**Bear Paw Mtn.**	**81.08**	**10**	P	**P**	**06 07 46.2 -0.9**
	baz=203,SNR=22					
BPAW				S	**S**	**06 17 32.5 -1.6**
	baz=203					
MCK	**McKinley**	**81.12**	**11**	P	**P**	**06 07 47.4 +0.1**
	baz=205,SNR=82					
MCK				S	**S**	**06 17 33.0 -1.5**
	baz=205					
PAX	**Paxson**	**81.14**	**13**	IAmb	IAmb	06 07 48.9
	comp=Z,94nm,1.4s					
PAX	**Paxson**	**81.14**	**13**	P	**P**	**06 07 47.4 -0.1**
	baz=209,SNR=20					
PAX				S	**S**	**06 17 33.5 -1.4**
	baz=209					
MVCO	**Mesa Verde**	**81.18**	**48**	P	**P**	**06 07 49.0 +0.5**
	baz=243,SNR=6.0					
MVCO				S	**S**	**06 17 34.9 -1.8**
	baz=243					
MNTX	**Cornudas Mount**	**81.18**	**54**	P	**P**	**06 07 49.6 +1.3**
	baz=246					
MNTX				S	**S**	**06 17 38.4 +1.9**
	baz=246					
M26K	**Nabesna, AK**	**81.22**	**14**	IAmb	IAmb	06 07 49.7
	comp=Z,146nm,1.1s					
M26K	**Nabesna, AK**	**81.22**	**14**	P	**P**	**06 07 48.5 +0.6**
	baz=211					
M26K				S	**S**	**06 17 36.7 +1.1**
	baz=211					
NEW	**Newport**	**81.27**	**35**	P	**P**	**06 07 49.0 +0.5**
	baz=236,SNR=12					
NEW				S	**S**	**06 17 32.9 -3.9**
	baz=236					
YUK3	**Moose Creek**	**81.32**	**16**	P	**P**	**06 07 49.3 +0.6**
	baz=214,SNR=40					
YUK3				S	**S**	**06 17 37.8 +0.7**
	baz=214					
MNAI	**Manna**	**81.36**	**268**	P	**P**	**06 07 49.9 +0.2**
PV23	**Carpenter Ridg**	**81.38**	**46**	IAmb	IAmb	06 07 55.6
	comp=Z,49nm,0.9s					
M27K	**Edge Creek, AK**	**81.45**	**15**	IAmb	IAmb	06 07 51.6
	comp=Z,143nm,1.1s					
M27K	**Edge Creek, AK**	**81.45**	**15**	P	**P**	**06 07 49.2 0.0**
	baz=212					
M27K				S	**S**	**06 17 37.5 -0.8**
	baz=212					
QIZ	**Qiongzhong**	**81.51**	**292**	P	**P**	**06 07 51.8 +1.5**
QIZ				pP	**pP**	**06 08 46.8 -4.5**
QIZ				S	**S**	**06 17 43.5 +3.2**
QIZ				sS	**sS**	**06 19 20.0 -7.4**
QIZ				pmax	pmax	
	comp=Z,50nm,1.7s					
QIZ				pmax	pmax	
	comp=Z,1μm,3.3s					
QIZ	**Qiongzhong**	**81.51**	**292**	P	**P**	**06 07 51.3 +1.0**
MENT	**Mentasta**	**81.51**	**14**	IAmb	IAmb	06 07 50.8
	comp=Z,75nm,1.0s					
TXAR	**Lajitas Array**	**81.62**	**57**	P	**P**	**06 07 52.5 +1.7**
	comp=Z,25nm,1.0s,baz=235,slow=4.4,SNR=30					
TXAR				pP	**pP**	**06 08 51.9 +1.4**
	comp=Z,1.8nm,0.9s,baz=39,slow=32,SNR=1.4					
TXAR				PKKPbc	**PKKPbc**	**06 26 23.2 +0.7**
	comp=Z,0.6nm,0.7s,baz=142,slow=1.5,SNR=5.2					
TXAR				PKPPKP	**P'P'df**	**06 34 23.0 -3.9**
	comp=Z,0.5nm,0.9s,baz=79,slow=2.7,SNR=3.7					
L26K	**Log Cabin Wild**	**81.67**	**14**	IAmb	IAmb	06 07 51.7
	comp=Z,54nm,0.8s					
L26K	**Log Cabin Wild**	**81.67**	**14**	P	**P**	**06 07 50.1 -0.1**
	baz=211,SNR=44					
L26K				S	**S**	**06 17 39.0 -1.2**
	baz=211					
ANMO	**Albuquerque**	**81.70**	**51***c*	*i*P	**P**	**06 07 52.8 +1.6**
ANMO				pmax	pmax	
	comp=Z,38nm,1.0s					
ANMO	**Albuquerque**	**81.70**	**51**	P	**P**	**06 07 53.0 +1.8**
ANMO	**Albuquerque**	**81.70**	**51**	P	**P**	**06 07 51.8 +0.6**
	baz=245					
ANMO				S	**S**	**06 17 45.2 +3.2**
	baz=245					
ANMO	**Albuquerque**	**81.70**	**51**	P	**P**	**06 07 53.1 +1.9**
ANMO				pP	**pP**	**06 08 52.8 +1.8**
BVCY	**Beaver Creek**	**81.75**	**15**	P	**P**	**06 07 51.6 +0.9**
	baz=213,SNR=44					
BVCY				S	**S**	**06 17 41.3 +0.2**
	baz=213					
WHN	**Wuhan**	**81.78**	**305**	⇓P	**P**	**06 07 52.3 +0.8**
WHN				S	**S**	**06 17 46.5 +3.9**
WHN				pmax	pmax	
	comp=Z,140nm,1.1s					
WHN				LR	LR	
	comp=Z,2μm,27.0s					
NEA2	**Nenana**	**81.87**	**11**	P	**P**	**06 07 50.7 -0.5**
	baz=205,SNR=36					
NEA2				S	**S**	**06 17 40.7 -1.5**
	baz=205					
SEY	**Seymchan**	**81.89**	**346**	P	**P**	**06 07 51.7 +0.4**
	comp=Z,137nm,0.7s,baz=142,slow=5.8,SNR=320					
I21K	**Tanana**	**81.91**	**10**	IAmb	IAmb	06 07 53.2
	comp=Z,87nm,1.2s					
I21K	**Tanana**	**81.91**	**10**	P	**P**	**06 07 51.7 +0.3**
	baz=202					
I21K				S	**S**	**06 17 41.4 -1.2**
	baz=202					
RIDG	**Independent Ri**	**81.96**	**13**	P	**P**	**06 07 52.1 +0.4**
	baz=209,SNR=32					
RIDG				S	**S**	**06 17 41.7 -1.4**
	baz=209					
RDMU	**Red Mountain**	**81.97**	**44**	IAmb	IAmb	06 07 54.5
	comp=Z,36nm,0.8s					
TIA	**Tai'an**	**81.97**	**311**	⇓P	**P**	**06 07 52.9 +0.6**
TIA				S	**S**	**06 17 48.5 +4.2**
TIA				pmax	pmax	
	comp=Z,110nm,1.1s					
AHID	**Auburn Hatcher**	**82.00**	**42**	IAmb	IAmb	06 07 54.8
	comp=Z,63nm,1.4s					
WHY	**Whitehorse**	**82.01**	**19**	IAmb	IAmb	06 07 54.4
	comp=Z,55nm,1.1s					
WHY	**Whitehorse**	**82.01**	**19**	P	**P**	**06 07 53.2 +1.0**
	baz=219,SNR=18					
CNSH	**ChangSha**	**82.04**	**302**	⇓P	**P**	**06 07 54.3 +1.4**
CNSH				S	**S**	**06 17 47.8 +2.5**
CNSH				LR	LR	
	comp=Z,550nm,11.2s					
CNSH				LR	LR	
	comp=Z,540nm,10.4s					
DOT	**Dot Lake**	**82.05**	**13**	IAmb	IAmb	06 07 53.3
	comp=Z,78nm,0.8s					
L27K	**Beaver Creek,**	**82.06**	**15**	IAmb	IAmb	06 07 53.7
	comp=Z,37nm,0.8s					
L27K	**Beaver Creek,**	**82.06**	**15**	P	**P**	**06 07 53.0 +0.7**
	baz=212					
L27K				S	**S**	**06 17 45.2 +1.0**
	baz=212					
MYKOM	**Kota Tinggi**	**82.07**	**274**	IAmb	IAmb	06 07 54.8
	comp=Z,150nm,1.1s					
MYKOM	**Kota Tinggi**	**82.07**	**274**	P	**P**	**06 07 54.0 +0.6**
HDA	**Harding Lake**	**82.11**	**12**	IAmb	IAmb	06 07 53.3
	comp=Z,70nm,0.6s					
HDA	**Harding Lake**	**82.11**	**12**	P	**P**	**06 07 52.7 +0.2**
	baz=207,SNR=74					
HDA				S	**S**	**06 17 44.0 -0.6**
	baz=207					
HDA				S	**S**	**06 17 44.0 -0.6**
	baz=207					
H21K	**Melozitna Rive**	**82.23**	**9**	P	**P**	**06 07 53.9 +0.9**
	baz=202					
H21K				S	**S**	**06 17 45.5 -0.3**
	baz=202					
MSO	**Missoula**	**82.30**	**37**	IAmb	IAmb	06 07 55.5
	comp=Z,84nm,1.6s					
MSO	**Missoula**	**82.30**	**37**	P	**P**	**06 07 54.0 +0.1**
	baz=238,SNR=15					
MSO				S	**S**	**06 17 47.8 +0.3**
	baz=238					
P33M	**Teslin, Yukon**	**82.32**	**20**	P	**P**	**06 07 54.3 +0.6**
	baz=221,SNR=14					
I23K	**Minto, Yukon-K**	**82.33**	**11**	P	**P**	**06 07 53.6 +0.1**
	baz=205,SNR=49					
I23K				S	**S**	**06 17 45.7 -0.9**
	baz=205					
DLMT	**Dillon**	**82.34**	**39**	IAmb	IAmb	06 07 56.7
	comp=Z,52nm,0.8s					
SCRK	**Sand Creek**	**82.35**	**13**	IAmb	IAmb	06 07 55.0
	comp=Z,52nm,0.7s					
SCRK	**Sand Creek**	**82.35**	**13**	P	**P**	**06 07 54.3 +0.5**
	baz=210,SNR=59					
SCRK				S	**S**	**06 17 46.3 -1.0**
	baz=210					
TCOL	**CIGO, UAF Yank**	**82.35**	**11**	P	**P**	**06 07 53.7 +0.1**
TCOL					**pP**	**06 08 55.5 +1.6**
TCOL	**CIGO, UAF Yank**	**82.35**	**11**	P	**P**	**06 07 53.8 +0.1**
	baz=206,SNR=53					
TCOL				S	**S**	**06 17 44.9 -2.0**
	baz=206					
COLA	**College**	**82.36**	**11***d*	*i*P	**P**	**06 07 53.7 +0.1**
COLA				*i* *PP	**pP**	**06 08 54.6 +0.8**
COLA				pmax	pmax	
	comp=Z,172nm,1.2s					
COLA	**College**	**82.36**	**11**	P	**P**	**06 07 53.5 -0.1**
	baz=206					
COLA				S	**S**	**06 17 45.9 -1.0**
	baz=206					
COLA	**College**	**82.36**	**11**	P	**P**	**06 07 53.8 +0.1**
COLA				pP	**pP**	**06 08 52.8 -1.1**
N31M	**Braeburn, Yuko**	**82.39**	**18**	IAmb	IAmb	06 07 56.2
	comp=Z,81nm,0.9s					
N31M	**Braeburn, Yuko**	**82.39**	**18**	P	**P**	**06 07 54.7 +0.7**
	baz=218,SNR=25					
REDW	**Red Top Meadow**	**82.44**	**41**	IAmb	IAmb	06 07 57.3
	comp=Z,73nm,1.1s					
ILAR	**Eielson Array**	**82.45**	**12**	P	**P**	**06 07 54.1 -0.1**
	comp=Z,39nm,0.4s,baz=213,slow=5.1,SNR=1006					
ILAR				pP	**pP**	**06 08 55.5 +1.0**
	comp=Z,24nm,1.1s,baz=218,slow=6.1,SNR=3.7					
ILAR				S	**S**	**06 17 47.9 0.0**
	comp=Z,0.7nm,1.0s,baz=217,slow=5.7,SNR=2.4					
ILAR				PKKP	**PKKPdf**	**06 26 17.0 +4.2**
	comp=Z,1.1nm,0.7s,baz=350,slow=3.2,SNR=12					
ILAR				PKPPKP		06 34 23.1
	comp=Z,0.5nm,0.8s,baz=278,slow=1.6,SNR=2.9					
S22A	**4UR Ranch, Cre**	**82.61**	**48**	IAmb	IAmb	06 07 58.7
	comp=Z,52nm,0.8s					
S22A	**4UR Ranch, Cre**	**82.61**	**48**	P	**P**	**06 07 57.8 +1.7**
	baz=244,SNR=80					
S22A				S	**S**	**06 17 53.4 +2.0**
	baz=244					
POKR	**Poker Plat Res**	**82.65**	**11**	P	**P**	**06 07 55.4 +0.2**
	baz=207,SNR=83					
POKR				S	**S**	**06 17 48.8 -1.3**
	baz=207					
O20A	**White River Ci**	**82.67**	**45**	IAmb	IAmb	06 07 58.3
	comp=Z,48nm,0.7s					
O20A	**White River Ci**	**82.67**	**45**	P	**P**	**06 07 57.0 +0.8**
	baz=243,SNR=31					
O20A				S	**S**	**06 17 54.0 +2.3**
	baz=243					
FLWY	**Flagg Ranch**	**82.89**	**41**	IAmb	IAmb	06 07 59.9
	comp=Z,71nm,0.9s					
J26L	**Joseph Creek**	**82.90**	**13**	P	**P**	**06 07 57.5 +0.9**
	baz=210					
M30M	**Minto, Yukon**	**82.97**	**17**	IAmb	IAmb	06 07 58.2
	comp=Z,61nm,0.9s					
M30M	**Minto, Yukon**	**82.97**	**17**	P	**P**	**06 07 57.4 +0.4**
	baz=217,SNR=44					
M30M				S	**S**	**06 17 52.3 -1.1**
	baz=217					
BW06	**Boulder Array**	**82.99**	**42**	IAmb	IAmb	06 07 59.4
	comp=Z,57nm,0.7s					
BW06	**Boulder Array**	**82.99**	**42**	P	**P**	**06 07 58.3 +0.6**
	baz=242,SNR=100					
BW06				S	**S**	**06 17 57.5 +2.6**
	baz=242					
PD31	**Pinedale Array**	**82.99**	**42**	IAmb	IAmb	06 07 59.4
	comp=Z,50nm,0.7s					
PDAR	**Pinedale Array**	**82.99**	**42**	P	**P**	**06 07 58.3 +0.5**
	comp=Z,52nm,0.7s,baz=211,slow=3.2,SNR=335					
PDAR				pP	**pP**	**06 08 58.9 +1.2**
	comp=Z,2.6nm,0.9s,baz=254,slow=6.4,SNR=0.6					
PDAR				PKKPbc	**PKKPbc**	**06 26 18.4 -2.0**
	comp=Z,2.9nm,0.8s,baz=82,slow=3.5,SNR=18					
YMR	**Madison River**	**83.00**	**40**	IAmb	IAmb	06 08 00.8
	comp=Z,62nm,0.8s					
BOZ	**Bozeman (W)**	**83.05**	**39**	P	**P**	**06 07 58.9 +1.0**
	baz=240,SNR=13					
BOZ				S	**S**	**06 17 58.3 +3.2**
	baz=240					
H17A	**Grant Village**	**83.11**	**41**	IAmb	IAmb	06 08 01.8
	comp=Z,41nm,0.8s					
H17A	**Grant Village**	**83.11**	**41**	P	**P**	**06 08 00.5 +2.1**
	baz=241,SNR=43					
SMCO	**Snowmass**	**83.13**	**46**	IAmb	IAmb	06 08 01.0
	comp=Z,44nm,0.7s					
GULI	**GuiLin**	**83.15**	**298**	⇓P	**P**	**06 08 00.9 +2.2**
H24K	**Noodor Dome**	**83.22**	**11**	P	**P**	**06 07 57.4 -0.7**
	baz=206,SNR=22					
H24K				S	**S**	**06 17 53.6 -2.2**
	baz=206					
LKWY	**Lake**	**83.31**	**40**	IAmb	IAmb	06 08 03.0
	comp=Z,55nm,0.9s					
M31M	**Drury Creek, Y**	**83.36**	**18**	P	**P**	**06 07 59.2 +0.2**
	baz=219,SNR=18					
PRP	**Porcupine Dome**	**83.38**	**12**	P	**P**	**06 07 59.6 +0.5**
	baz=208,SNR=112					
PRP				S	**S**	**06 17 56.5 -1.1**
	baz=208					
RDOG	**Red Dog Mine**	**83.40**	**4**	P	P	06 08 10.5 +12
	baz=192,SNR=81					
RDOG				S	S	06 18 11.3 +14
	baz=192					
DAWY	**Dawson**	**83.50**	**15**	P	**P**	**06 08 00.7 +1.1**
	baz=214,SNR=92					
DAWY				S	**S**	**06 17 57.9 -0.8**
	baz=214					
SDCO	**Great Sand Dun**	**83.56**	**48**	P	**P**	**06 08 01.8 +0.9**
	baz=245,SNR=27					
SDCO				S	**S**	**06 18 04.6 +3.7**
	baz=245					
EGAK	**Eagle**	**83.68**	**14**	IAmb	IAmb	06 08 02.5
	comp=Z,169nm,1.2s					
EGAK	**Eagle**	**83.68**	**14**	P	**P**	**06 08 01.2 +0.8**
	baz=213,SNR=61					
EGAK				S	**S**	**06 18 00.7 +0.4**
	baz=213					
JRMM	**Jerantut**	**83.95**	**276**	P	**P**	**06 08 04.0 +1.0**
BILL	**Bilibino**	**84.06**	**353***c*	*i*P	**P**	**06 08 02.3 0.0**
BILL				*i* *PP	**pP**	**06 09 00.9 -1.9**
BILL				pmax	pmax	
	comp=Z,170nm,1.1s					
BILL	**Bilibino**	**84.06**	**353**	P	**P**	**06 08 02.7 +0.3**
BILL	**Bilibino**	**84.06**	**353**	P	**P**	**06 08 02.6 +0.3**
COLD	**Coldfoot**	**84.09**	**9**	P	**P**	**06 08 03.8 +1.3**
	baz=204,SNR=92					
COLD				S	**S**	**06 18 06.3 +1.9**
	baz=204					
MSTX	**Muleshoe**	**84.09**	**53**	IAmb	IAmb	06 09 14.0
	comp=Z,98nm,1.4s					
MSTX	**Muleshoe**	**84.09**	**53**	P	**P**	**06 08 04.3 +0.9**
	baz=247					
MSTX				S	**S**	**06 18 04.4 -1.6**
	baz=247					
T25A	**Trinidad**	**84.11**	**49**	P	**P**	**06 08 04.0 +0.4**
	baz=246,SNR=11					
T25A				S	**S**	**06 18 06.0 -0.2**
	baz=246					
J29M	**Klondike Camp**	**84.12**	**15**	P	**P**	**06 08 04.0 +1.2**
	baz=215,SNR=19					
J29M				S	**S**	**06 18 06.0 +1.1**
	baz=215					
HNS	**HongShan**	**84.22**	**311**	⇓P	**P**	**06 08 05.0 +1.2**
HNS				PP	**PP**	**06 11 18.8 -3.7**
HNS				S	**S**	**06 18 03.9 -2.9**
HNS				pmax	pmax	
	comp=Z,150nm,1.4s					
HNS				pmax	pmax	
	comp=Z,1μm,6.0s					
BJT	**Baijiatuau**	**84.26**	**314**	P	**P**	**06 08 04.9 +0.9**
RLMT	**Red Lodge**	**84.28**	**40**	P	**P**	**06 08 05.5 +1.3**
	baz=242,SNR=34					
RLMT				S	**S**	**06 18 08.5 +0.9**
	baz=242					
Q24A	**Divide**	**84.32**	**47**		**pwP**	**06 09 08.8 -2.9**
Q24A				IAmb	IAmb	06 09 16.0
	comp=Z,92nm,1.6s					
Q24A	**Divide**	**84.32**	**47**	P	**P**	**06 08 05.6 +0.9**
	baz=245,SNR=14					
Q24A				S	**S**	**06 18 09.2 +0.7**
	baz=245					
ISCO	**Idaho Springs**	**84.34**	**46**	P	**P**	**06 08 05.3 +0.5**
ISCO				pmax	pmax	
	comp=Z,35nm,1.5s					
ISCO	**Idaho Springs**	**84.34**	**46**	P	**P**	**06 08 05.2 +0.5**
ISCO	**Idaho Springs**	**84.34**	**46**	P	**P**	**06 08 05.7 +1.0**
	baz=245,SNR=9.5					
ISCO				S	**S**	**06 18 07.1 -1.6**
	baz=245					
FYU	**Fort Yukon**	**84.36**	**11**	IAmb	IAmb	06 08 05.2
	comp=Z,145nm,1.8s					
BKNI	**Bangkinang**	**84.40**	**272**	P	**P**	**06 08 05.2 -0.1**
ZEA	**Zeya**	**84.47**	**330**	*e*P	**P**	**06 08 05.1 +0.4**
ZEA				*e*SP	**sP**	**06 09 33.6 +1.7**
ZEA				*e*S	**S**	**06 18 11.9 +3.3**
ZEA				pmax	pmax	
	comp=N,40nm,0.7s					

ZEA				pmax	pmax		
	comp=Z,50nm,0.8s						
ZEA				pmax	pmax		
	comp=N,200nm,4.1s						
ZEA				pmax	pmax		
	comp=Z,300nm,14.1s						
ZEA				smax	smax		
	comp=E,400nm,13.2s						
ZEA				smax	smax		
	comp=N,400nm,9.8s						
ZEA				MLR	MLR		
	comp=Z,200nm,25.0s						
N23A	**Red Feather La**	**84.58**	**45**	IAmb	IAmb	06 09 17.5	
	comp=Z,50nm,1.2s						
N23A	**Red Feather La**	**84.58**	**45**	P	**P**	**06 08 06.8**	**+1.0**
	baz=245,SNR=21						
N23A				S	**S**	**06 18 08.2**	**-2.6**
	baz=245						
833A	**Chaparral WMA,**	**84.75**	**59**	P	**P**	**06 08 07.8**	**+1.1**
	baz=250						
833A				S	**S**	**06 18 08.0**	**-4.4**
	baz=250						
LYN	**LuoYang**	**84.78**	**308**	⇓*i*P	**P**	**06 08 07.8**	**+1.1**
LYN				PP	**PP**	**06 11 24.0**	**-3.2**
LYN				S	**S**	**06 18 05.0**	**-7.5**
LYN				SS	**SS**	**06 23 50.3**	**-1.2**
LYN				pmax	pmax		
	comp=Z,150nm,0.9s						
LYN				pmax	pmax		
	comp=Z,800nm,5.3s						
I29M	**Ogilvie Camp,**	**84.84**	**15**	IAmb	IAmb	06 08 07.9	
	comp=Z,86nm,1.0s						
I29M	**Ogilvie Camp,**	**84.84**	**15**	P	**P**	**06 08 06.5**	**+0.3**
	baz=215,SNR=55						
I29M				S	**S**	**06 18 09.6**	**-2.2**
	baz=215						
K22A	**Casper**	**84.94**	**43**	P	**P**	**06 08 07.7**	**+0.2**
	baz=244,SNR=11						
K22A				S	**S**	**06 18 09.9**	**-4.2**
	baz=244						
PMSA	**Palmer Station**	**84.99**	**156**	P	**P**	**06 08 08.3**	**+1.2**
	comp=Z,30nm,0.8s,baz=261,slow=2.3,SNR=9.4						
PMSA	**Palmer Station**	**84.99**	**156**	P	**P**	**06 08 08.1**	**+1.0**
PMSA				IAmb	IAmb	06 08 08.9	
	comp=Z,44nm,0.9s						
JCT	**Junction City**	**85.16**	**57**	P	**P**	**06 08 09.4**	**+0.7**
	baz=249						
JCT				S	**S**	**06 18 12.5**	**-4.0**
	baz=249						
AMTX	**Amarillo**	**85.27**	**52**	IAmb	IAmb	06 09 19.7	
	comp=Z,54nm,1.1s						
AMTX	**Amarillo**	**85.27**	**52**	P	**P**	**06 08 09.7**	**+0.4**
	baz=248						
AMTX				S	**S**	**06 18 20.2**	**+2.7**
	baz=248						
EGMT	**Eagleton**	**85.36**	**38**	IAmb	IAmb	06 08 12.5	
	comp=Z,39nm,0.9s						
EGMT	**Eagleton**	**85.36**	**38**	P	**P**	**06 08 09.9**	**+0.6**
	baz=241,SNR=20						
EGMT				S	**S**	**06 18 15.7**	**-2.0**
	baz=241						
IPM	**Ipoh**	**85.50**	**276**	P	**P**	**06 08 12.0**	**+1.3**
IPM	**Ipoh**	**85.50**	**276**	P	**P**	**06 08 11.5**	**+0.8**
	comp=Z,312nm,1.1s						
ENH	**Enshi**	**85.59**	**303**	P	**P**	**06 08 11.5**	**+0.6**
MG05	**Puerto Natales**	**85.74**	**142**	IAmb	IAmb	06 08 16.8	
	comp=Z,46nm,1.1s						
XLT	**XiLinHaoTe**	**85.97**	**317**	⇓*i*P	**P**	**06 08 13.0**	**+0.6**
XLT				pP	pP	06 09 05.6	-7.8
XLT				sP	pwP	06 09 29.1	+11
XLT				S	**S**	**06 18 27.6**	**+3.7**
XLT				sS	sS	06 20 02.5	-8.8
XLT				pmax	pmax		
	comp=Z,130nm,1.3s						
XLT				pmax	pmax		
	comp=Z,2μm,6.9s						
TIY	**Taiyuan**	**86.01**	**311**	⇓*i*P	**P**	**06 08 14.0**	**+1.3**
TIY				S	**S**	**06 18 17.8**	**-6.7**
TIY				pmax	pmax		
	comp=Z,130nm,0.7s						
EPYK	**Eagle Plains**	**86.04**	**14**	P	**P**	**06 08 12.6**	**+0.4**
	baz=217,SNR=34						
EPYK				S	**S**	**06 18 22.1**	**-1.5**
	baz=217						
KULM	**Kulim**	**86.08**	**277**	IAmb	IAmb	06 08 15.4	
	comp=Z,123nm,1.1s						
KULM	**Kulim**	**86.08**	**277**	P	**P**	**06 08 15.0**	**+1.5**
HIA	**Hailar**	**86.14**	**323**	*d*iP	**P**	**06 08 13.4**	**+0.4**
HIA				pmax	pmax		
	comp=Z,52nm,1.0s						
HIA	**Hailar**	**86.14**	**323**	IAmb	IAmb	06 08 14.2	
	comp=Z,84nm,1.1s						
KSCO	**Kaye Shedlock'**	**86.14**	**48**		pwP	06 09 18.1	-3.1
KSCO	**Kaye Shedlock'**	**86.14**	**48**	P	**P**	**06 08 13.7**	**+0.3**
	baz=247						
KSCO				S	**S**	**06 18 26.9**	**+1.0**
	baz=247						
735A	**Kenedy**	**86.24**	**59**	IAmb	IAmb	06 08 19.6	
	comp=Z,77nm,0.9s						
H03S2	**Juan Fernandez**	**86.52**	**124**	T	T	07 42 38.9	
	baz=248,SNR=34						
H03S1	**Juan Fernandez**	**86.53**	**124**	T	T	07 42 40.4	
	baz=248,SNR=33						
H03S3	**Juan Fernandez**	**86.53**	**124**	T	T	07 42 37.4	
	baz=248,SNR=22						
H03N2	**Juan Fernandez**	**86.62**	**124**	T	T	07 42 44.8	
	baz=258,slow=72,SNR=5.0						
H03N3	**Juan Fernandez**	**86.62**	**124**	T	T	07 42 40.5	
	baz=258,slow=72,SNR=4.6						
H03N1	**Juan Fernandez**	**86.64**	**124**	T	T	07 42 46.3	
	baz=258,slow=72,SNR=14						
GYA	**Guiyang**	**86.68**	**298**	⇓*i*P	**P**	**06 08 17.8**	**+1.5**
GYA				sP	sP	06 09 38.1	-6.9
GYA				PP	**PP**	**06 11 40.8**	**-2.0**
GYA				SKS	**SKSac**	**06 18 16.8**	**-1.6**
GYA				S	**S**	**06 18 34.8**	**+3.3**
GYA				sS	sS	06 20 14.0	-6.0
GYA				pmax	pmax		
	comp=Z,190nm,0.7s						
GYA				pmax	pmax		
	comp=Z,2μm,8.7s						
GYA				LR	LR		
	comp=Z,230nm,5.6s						
GYA				LR	LR		
	comp=Z,160nm,3.8s						
GYA				LR	LR		
	comp=Z,280nm,12.3s						
LAO	**LASA Array**	**86.89**	**40**	P	**P**	**06 08 17.4**	**+0.7**
LAO				IAmb	IAmb	06 08 19.4	
	comp=Z,53nm,0.8s						
LAO				pP	**pP**	**06 09 18.3**	**+1.0**
LAO	**LASA Array**	**86.89**	**40**	P	**P**	**06 08 18.3**	**+1.5**
	baz=244,SNR=17						
LAO				S	**S**	**06 18 33.7**	**+1.2**
	baz=244						
A21K	**Barrow**	**87.12**	**6**	IAmb	IAmb	06 08 19.2	
	comp=Z,70nm,0.9s						
A21K	**Barrow**	**87.12**	**6**	P	**P**	**06 08 17.2**	**0.0**
	baz=198						
A21K				S	**S**	**06 18 32.7**	**-0.9**
	baz=198						
RSSD	**Black Hills**	**87.20**	**43**	P	**P**	**06 08 18.1**	**-0.4**
RSSD				pP	**pP**	**06 09 19.4**	**-0.1**
RSSD	**Black Hills**	**87.20**	**43**	P	**P**	**06 08 18.8**	**+0.3**
	baz=246						
RSSD				S	**S**	**06 18 36.1**	**+0.1**
	baz=246						
RSSD	**Black Hills**	**87.20**	**43**	P	**P**	**06 08 18.9**	**+0.3**
XAN	**Xi'an**	**87.34**	**306**	P	**P**	**06 08 20.1**	**+0.9**
XAN				SKS	**SKSac**	**06 18 20.6**	**-1.3**
XAN				S	**S**	**06 18 38.4**	**+1.0**
XAN				pmax	pmax		
	comp=Z,250nm,1.2s						
XAN				pmax	pmax		
	comp=Z,1μm,7.4s						
XAN	**Xi'an**	**87.34**	**306**	P	**P**	**06 08 19.9**	**+0.7**
CCIG	**Comitan**	**87.39**	**72**	IAmb	IAmb	06 08 23.4	
	comp=Z,70nm,1.1s						
WMOK	**Wichita Mounta**	**87.45**	**53**	P	**P**	**06 08 20.7**	**+1.1**
	baz=250						
WMOK				S	**S**	**06 18 37.6**	**-0.7**
	baz=250						
WHTX	**Lake Whitney,**	**87.56**	**56**	P	**P**	**06 08 20.3**	**+0.1**
WHTX				IAmb	IAmb	06 09 33.3	
	comp=Z,56nm,1.3s						
WHTX	**Lake Whitney,**	**87.56**	**56**	P	**P**	**06 08 21.3**	**+1.0**
	baz=250						
WHTX				S	**S**	**06 18 40.4**	**+1.0**
	baz=250						
MAW	**Mawson**	**87.61**	**199**	P	**P**	**06 08 20.1**	**+0.4**
	comp=Z,74nm,0.8s,baz=124,slow=6.4,SNR=48						
MAW	**Mawson**	**87.61**	**199**	P	**P**	**06 08 20.1**	**+0.4**
	baz=88,SNR=7.2						
MAW	**Mawson**	**87.61**	**199**	P	**P**	**06 08 20.4**	**+0.6**
MAW				pmax	pmax		
	comp=Z,128nm,1.8s						
MAW	**Mawson**	**87.61**	**199**	P	**P**	**06 08 20.4**	**+0.6**
MAW				IAmb	IAmb	06 08 21.5	
	comp=Z,128nm,1.8s						
HHC	**Hu-ho-hao-te**	**87.82**	**313**	⇓*i*P	**P**	**06 08 22.6**	**+1.2**
HHC				SKS	**SKSac**	**06 18 25.4**	**+0.8**
HHC				S	**ScS**	**06 18 47.0**	**-0.2**
HHC				pmax	pmax		
	comp=Z,210nm,1.5s						
HHC				pmax	pmax		
	comp=Z,560nm,5.2s						
U32A	**Winter Ranch,**	**87.85**	**52**	IAmb	IAmb	06 08 26.6	
	comp=Z,33nm,0.8s						
GSI	**Gunungsitoli**	**88.00**	**272**	P	**P**	**06 08 23.8**	**+1.1**
COYC	**Coyhaique**	**88.02**	**137**	P	**P**	**06 08 23.2**	**+1.0**
COYC				IAmb	IAmb	06 09 31.5	
	comp=Z,165nm,1.4s						
X34A	**Smith Ranch, M**	**88.14**	**54**	IAmb	IAmb	06 09 32.9	
	comp=Z,127nm,1.9s						
CBKS	**Cedar Bluff**	**88.16**	**49**	S	**S**	**06 18 43.7**	**-1.2**
	baz=249						
Z35A	**Perchaven, San**	**88.17**	**55**	P	**P**	**06 08 22.6**	**-0.4**
Z35A				IAmb	IAmb	06 09 34.4	
	comp=Z,42nm,1.0s						
HKT	**Hockley**	**88.22**	**58**	*c*iP	**P**	**06 08 24.8**	**+1.5**
HKT				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HKT	**Hockley**	**88.22**	**58**	P	**P**	**06 08 24.5**	**+1.2**
YAK	**Yakutsk**	**88.31**	**337**	P	**P**	**06 08 21.8**	**-1.3**
	comp=Z,76nm,0.8s,baz=121,slow=0.8,SNR=38						
YAK	**Yakutsk**	**88.31**	**337**	*d*iP	**P**	**06 08 21.7**	**-1.3**
YAK				*e**PP	**pP**	**06 09 22.2**	**-1.7**
YAK				*e*		06 11 51.2	
YAK				*e*S	**SKSac**	**06 18 25.7**	**-0.6**
YAK				*e*		06 18 38.5	
YAK				*e**SS	sS	06 20 22.5	-11
YAK				*e*SS	**SS**	**06 24 38.9**	**-2.7**
YAK				pmax	pmax		
	comp=Z,155nm,0.8s						
YAK				pmax	pmax		
	comp=E,23nm,1.0s						
YAK				pmax	pmax		
	comp=N,18nm,1.0s						
YAK				pmax	pmax		
	comp=Z,178nm,2.0s						
YAK				pmax	pmax		
	comp=E,100nm,1.8s						
YAK				pmax	pmax		
	comp=N,90nm,2.2s						
YAK				smax	smax		
	comp=E,92nm,3.8s						
YAK				smax	smax		
	comp=N,37nm,4.1s						
YAK	**Yakutsk**	**88.31**	**337**	P	**P**	**06 08 21.3**	**-1.7**
INK	**Inuvik**	**88.33**	**14**	P	**P**	**06 08 22.8**	**-0.1**
	comp=N,29nm,0.9s,baz=207,slow=5.1,SNR=12						
INK				pP	**pP**	**06 09 24.6**	**+0.5**
	comp=N,34nm,1.4s,baz=229,slow=9.8,SNR=2.7						
INK	**Inuvik**	**88.33**	**14**	IAmb	IAmb	06 08 24.6	
	comp=Z,49nm,1.1s						
INK	**Inuvik**	**88.33**	**14**	P	**P**	**06 08 22.9**	**-0.1**
	baz=220						
INK				S	**S**	**06 18 42.4**	**-2.7**
	baz=220						
OK032	**Salt Plains WL**	**88.59**	**51**	IAmb	IAmb	06 08 26.7	
	comp=Z,29nm,0.8s						
FNO	**Franklin**	**88.69**	**53**	IAmb	IAmb	06 08 27.5	
	comp=Z,44nm,0.7s						
R32A	**Long Quarter,**	**88.78**	**50**	IAmb	IAmb	06 08 27.5	
	comp=Z,46nm,1.0s						
DGMT	**Dagmar**	**88.88**	**39**	IAmb	IAmb	06 08 28.4	
	comp=Z,102nm,1.0s						
DGMT				pP	pP	06 09 30.2	+2.7
DGMT	**Dagmar**	**88.88**	**39**	P	**P**	**06 08 27.0**	**+0.9**
	baz=246,SNR=25						
DGMT				S	**S**	**06 18 52.5**	**+1.3**
	baz=246						
237A	**Washetta, Mont**	**88.89**	**57**	IAmb	IAmb	06 08 32.2	
	comp=Z,36nm,0.8s						
LL02	**Futaleuf**	**88.97**	**135**	IAmb	IAmb	06 09 35.7	
	comp=Z,45nm,1.2s						
BLOK	**Blackwell**	**89.33**	**52**	IAmb	IAmb	06 08 30.4	
	comp=Z,37nm,1.0s						
MTO3	**Montecristo**	**89.45**	**75**	IAmb	IAmb	06 08 32.5	
	comp=Z,35nm,1.1s						
KMI	**Kunming**	**89.65**	**296**	P	**P**	**06 08 32.2**	**+1.8**
NATX	**Nacogdoches**	**89.74**	**57**	IAmb	IAmb	06 08 36.5	
	comp=Z,32nm,0.8s						
NATX	**Nacogdoches**	**89.74**	**57**	P	**P**	**06 08 31.6**	**+1.1**
	baz=252						
NATX				S	**S**	**06 19 00.1**	**+0.3**
	baz=252						
LR03	**Panguipulli**	**89.81**	**131**	P	**P**	**06 08 31.6**	**+0.8**
T35A	**Sooner Cattle**	**89.91**	**52**	IAmb	IAmb	06 08 32.5	
	comp=Z,22nm,0.7s						
TUL1	**Leonard**	**90.14**	**53**	P	**P**	**06 08 32.9**	**+0.7**
	baz=251						
TUL1				S	**S**	**06 19 04.7**	**+1.5**
	baz=251						
K31A	**O'Neill**	**90.20**	**46**	IAmb	IAmb	06 08 34.8	
	comp=Z,68nm,0.8s						
BGNE	**Belgrade**	**90.21**	**47**	IAmb	IAmb	06 08 38.4	
	comp=Z,41nm,1.0s						
BGNE	**Belgrade**	**90.21**	**47**	P	**P**	**06 08 33.9**	**+1.5**
	baz=250						
E28A	**Huff**	**90.33**	**42**	IAmb	IAmb	06 12 11.0	
	comp=Z,48nm,1.2s						
YKA	**Yellowknife Ar**	**90.40**	**24**	P	**P**	**06 08 33.0**	**+0.2**
	comp=Z,18nm,0.8s,baz=234,slow=4.6,SNR=130						
YKA				pP	**pP**	**06 09 34.9**	**+1.0**
	comp=Z,8.0nm,1.1s,baz=240,slow=4.4,SNR=2.7						
YKA				PKKP	**PKKPdf**	**06 25 58.0**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=43,slow=2.1,SNR=10						
YKA				PKPPKP		06 33 57.4	
	comp=Z,0.4nm,0.8s,baz=71,slow=3.2,SNR=5.9						
LC01	**Cunco**	**90.40**	**130**	IAmb	IAmb	06 09 39.9	
	comp=Z,87nm,1.6s						
CD2	**Chengdu**	**90.48**	**302**	P	**P**	**06 08 34.8**	**+0.8**
CD2				pmax	pmax		
	comp=Z,50nm,0.6s						
KSU1	**Kansas State U**	**90.55**	**50**	IAmb	IAmb	06 08 37.1	
	comp=Z,24nm,0.8s						
KSU1	**Kansas State U**	**90.55**	**50**	P	**P**	**06 08 34.1**	**+0.1**
	baz=251						
KSU1				S	**S**	**06 19 05.8**	**-1.1**
	baz=251						
SUSD	**Miller**	**90.70**	**44**	S	**S**	**06 19 07.0**	**-1.0**
	baz=249						
PLCA	**Paso Flores**	**90.73**	**133**	P	**P**	**06 08 35.8**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=195,slow=2.9,SNR=11						
PLCA	**Paso Flores**	**90.73**	**133**	P	**P**	**06 08 35.6**	**+0.6**
PLCA				IAmb	IAmb	06 09 44.2	
	comp=Z,107nm,1.6s						
CIT	**Chita**	**90.89**	**324**	*e*P	**P**	**06 08 36.3**	**+0.9**
CIT				*e*		06 09 57.3	
CIT				pmax	pmax		
	comp=Z,334nm,2.0s						
PZH	**PanZhiHua**	**90.90**	**297**	⇓P	**P**	**06 08 37.3**	**+1.2**
PZH				pP	**pP**	**06 09 38.6**	**+0.5**
PZH				sP	sP	06 09 55.8	-9.2
PZH				PP	**PP**	**06 12 15.9**	**-0.4**
PZH				SKS	**SKSac**	**06 18 43.1**	**-0.2**
PZH				S	**ScS**	**06 19 15.5**	**+2.0**
PZH				pmax	pmax		
	comp=Z,50nm,1.3s						
PZH				pmax	pmax		
	comp=Z,870nm,7.1s						
PZH				LR	LR		
	comp=Z,660nm,24.6s						
PZH				LR	LR		
	comp=Z,870nm,23.2s						
PZH				LR	LR		
	comp=Z,460nm,20.6s						
CRIN	**San Cristobal**	**91.17**	**77**	IAmb	IAmb	06 08 42.8	
	comp=Z,80nm,1.1s						
CMAR	**Chiang Mai Arr**	**91.20**	**289**	P	**P**	**06 08 39.1**	**+1.6**
	comp=Z,69nm,0.9s,baz=91,slow=2.7,SNR=289						
CMAR				PP	**PP**	**06 12 18.2**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=98,slow=2.7,SNR=1.4						
CMAR				PKKPbc	**PKKPbc**	**06 25 60.0**	**+1.0**
	comp=Z,2.1nm,0.2s,baz=270,slow=4.4,SNR=4.1						
CHTO	**Chiang Mai**	**91.30**	**289**	P	**P**	**06 08 38.9**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,100nm,0.9s						
CHTO	**Chiang Mai**	**91.30**	**289**	P	**P**	**06 08 39.4**	**+1.5**
CHTO	**Chiang Mai**	**91.30**	**289**	P	**P**	**06 08 38.9**	**+0.9**
CHTO	**Chiang Mai**	**91.30**	**289**	P	**P**	**06 08 38.1**	**+0.1**
CHTO	**Chiang Mai**	**91.30**	**289**	P	**P**	**06 08 39.3**	**+1.3**
TGUH	**Tegucigalpa,Un**	**91.31**	**76**	IAmb	IAmb	06 08 40.9	
	comp=Z,53nm,1.1s						
MIAR	**Mount Ida**	**91.45**	**55**	P	**P**	**06 08 38.4**	**+0.1**
	baz=253						
MIAR				S	**S**	**06 19 15.2**	**+0.1**
	baz=253						
C36M	**Paulatuk**	**91.47**	**16**	IAmb	IAmb	06 08 39.0	
	comp=Z,92nm,1.2s						
C36M	**Paulatuk**	**91.47**	**16**	P	**P**	**06 08 37.0**	**-0.6**
	baz=228						
C36M				S	**S**	**06 19 10.8**	**-3.0**
	baz=228						
W39A	**Magazine**	**91.48**	**54**	P	**P**	**06 08 38.3**	**-0.1**
	baz=252						
W39A				S	**S**	**06 19 19.7**	**+4.3**
	baz=252						
MDND	**Maddock**	**91.48**	**41**	IAmb	IAmb	06 08 39.5	
	comp=Z,36nm,0.9s						
MDND	**Maddock**	**91.48**	**41**	P	**P**	**06 08 38.2**	**0.0**
	baz=249						
WLAR	**White Oak Lake**	**91.56**	**56**	IAmb	IAmb	06 08 41.7	
	comp=Z,32nm,0.8s						
Z41A	**Richland Creek**	**91.69**	**56**	P	**P**	**06 08 39.7**	**+0.3**
Z41A				IAmb	IAmb	06 08 42.0	
	comp=Z,36nm,0.8s						
Z41A	**Richland Creek**	**91.69**	**56**	P	**P**	**06 08 40.6**	**+1.2**
	baz=253						
Z41A				S	**S**	**06 19 20.0**	**+2.7**
	baz=253						
N35A	**Tabor**	**91.82**	**48**	IAmb	IAmb	06 08 42.6	
	comp=Z,44nm,0.8s						
LZH	**Lanzhou**	**91.94**	**307**	⇓P	**P**	**06 08 42.1**	**+1.3**
LZH				PP	**PP**	**06 12 22.0**	**-2.3**
LZH				SKS	**SKSac**	**06 18 50.6**	**+1.8**
LZH				S	**ScS**	**06 19 23.8**	**+2.0**
LZH				SS	**SS**	**06 25 42.0**	**+6.5**
LZH				pmax	pmax		
	comp=Z,170nm,1.4s						
LZH				pmax	pmax		
	comp=Z,610nm,7.3s						
X40A	**Basin Creek Fa**	**92.02**	**55**	P	**P**	**06 08 42.0**	**+1.0**
	baz=253						
X40A				S	**S**	**06 19 20.0**	**-0.2**
	baz=253						
ECSD	**EROS Data Cent**	**92.05**	**45**	IAmb	IAmb	06 08 41.8	
	comp=Z,43nm,1.6s						
ECSD	**EROS Data Cent**	**92.05**	**45**	P	**P**	**06 08 40.7**	**-0.2**
	baz=251						
ECSD				S	**S**	**06 19 18.3**	**-1.8**
	baz=251						
ORTG	**Ortega, Santa**	**92.07**	**80**	P	**P**	**06 08 42.2**	**+0.4**
ORTG				IAmb	IAmb	06 09 50.5	
	comp=Z,84nm,1.5s						
BOAB	**BOACO BROADBA**	**92.41**	**78**	IAmb	IAmb	06 08 44.5	
	comp=Z,38nm,1.0s						
JTS	**Las Juntas de**	**92.53**	**80**	*c*iP	**P**	**06 08 45.1**	**+1.3**
JTS				pmax	pmax		
	comp=Z,38nm,1.0s						
JTS	**Las Juntas de**	**92.53**	**80**	P	**P**	**06 08 42.8**	**-1.0**
JTS				IAmb	IAmb	06 08 47.1	
	comp=Z,49nm,1.1s						
U40A	**Yellville**	**92.54**	**53**	P	**P**	**06 08 44.0**	**+0.6**
	baz=253						
U40A				S	**S**	**06 19 20.2**	**-4.7**
	baz=253						
MT01	**Popeta**	**92.59**	**126**	IAmb	IAmb	06 09 52.1	
	comp=Z,89nm,1.1s						
SYO	**Syowa Base**	**92.59**	**192**	⇑*e*P	**P**	**06 08 40.4**	**-2.5**
SYO	**Syowa Base**	**92.59**	**192**	⇓*e*pP	pP	06 09 48.0	+3.0
W41B	**Gary Mavity, V**	**92.68**	**54**	P	**P**	**06 08 45.1**	**+1.1**
	baz=253						
W41B				S	**S**	**06 19 27.4**	**+1.4**
	baz=253						
CCAR	**Cane Creek**	**92.70**	**56**	IAmb	IAmb	06 08 47.0	
	comp=Z,32nm,1.0s						
344A	**Westbrook Farm**	**92.86**	**58**	IAmb	IAmb	06 08 55.1	
	comp=Z,27nm,0.9s						
A36M	**Sachs Harbour**	**92.96**	**14**	P	**P**	**06 08 44.6**	**+0.2**
	baz=227						
A36M				S	**S**	**06 19 23.3**	**-3.5**
	baz=227						
BOD	**Bodaibo**	**92.98**	**330**	*e*P	**P**	**06 08 43.8**	**-1.0**
BOD				pmax	pmax		
	comp=Z,32nm,1.8s						
P38A	**Dawn**	**92.98**	**50**	IAmb	IAmb	06 08 49.0	
	comp=Z,20nm,0.8s						
MGMO	**Mountain Grove**	**93.22**	**53**	IAmb	IAmb	06 08 48.4	
	comp=Z,50nm,0.8s						
VBMS	**Vicksburg**	**93.25**	**58**	S	**S**	**06 19 33.0**	**+2.0**
	baz=254						
SNAA	**Sanae**	**93.25**	**177**	P	**P**	**06 08 45.5**	**-0.6**
SNAA	**Sanae**	**93.25**	**177**	pP	pP	06 09 49.9	+1.7
SNAA	**Sanae**	**93.25**	**177**	IAmb	IAmb	06 08 47.6	
	comp=Z,78nm,1.5s						
VNA3	**Neumayer Olymp**	**93.25**	**175**	P	**P**	**06 08 46.2**	**+0.2**
VNA3	**Neumayer Olymp**	**93.25**	**175**	PKiKP	**PKiKP**	**06 13 31.3**	**+0.3**
VNA3	**Neumayer Olymp**	**93.25**	**175**	pP	pP	06 09 49.7	+1.7
PEL	**Peldehue**	**93.28**	**125**	IAmb	IAmb	06 09 55.5	
	comp=Z,80nm,1.3s						
ULN	**Ulaanbaatar**	**93.30**	**319**	*d*iP	**P**	**06 08 46.5**	**-0.2**
ULN				pmax	pmax		
	comp=Z,18nm,1.0s						
ULN	**Ulaanbaatar**	**93.30**	**319**	P	**P**	**06 08 46.5**	**-0.2**
ULN				IAmb	IAmb	06 08 47.7	
	comp=Z,36nm,1.2s						
ULN	**Ulaanbaatar**	**93.30**	**319**	P	**P**	**06 08 46.8**	**+0.1**
N38A	**Joes South For**	**93.54**	**49**	P	**P**	**06 08 48.1**	**+0.3**
N38A				IAmb	IAmb	06 08 49.6	
	comp=Z,42nm,0.9s						
R40A	**Maddies Statio**	**93.54**	**51**	IAmb	IAmb	06 08 49.6	
	comp=Z,40nm,0.8s						
SONM	**Songino Array**	**93.71**	**319**	P	**P**	**06 08 48.4**	**-0.2**
	comp=Z,8.1nm,1.0s,baz=116,slow=4.2,SNR=31						
SONM				PP	**PP**	**06 12 34.2**	**-3.6**
	comp=Z,6.3nm,1.1s,baz=111,slow=7.8,SNR=6.6						
SONM	**Songino Array**	**93.71**	**319**	P	**P**	**06 08 47.9**	**-0.7**
SONM				IAmb	IAmb	06 08 50.4	
	comp=Z,54nm,1.7s						
VNA2	**Neumayer--Watz**	**93.73**	**176**	P	**P**	**06 08 48.7**	**+0.5**
	baz=177,slow=3.5						
VNA2	**Neumayer--Watz**	**93.73**	**176**	PKiKP	**PKiKP**	**06 13 32.0**	**+0.3**
VNA2	**Neumayer--Watz**	**93.73**	**176**	pP	pP	06 09 52.4	+2.1
	baz=178,slow=3.3						
SCIA	**State Center**	**93.87**	**48**	IAmb	IAmb	06 08 51.0	
	comp=Z,33nm,0.9s						
SCIA	**State Center**	**93.87**	**48**	P	**P**	**06 08 49.8**	**+0.5**
	baz=253						
VNA1	**Neumayer--Stat**	**93.94**	**176**	P	**P**	**06 08 49.7**	**+0.6**
VNA1	**Neumayer--Stat**	**93.94**	**176**	pP	pP	06 09 53.5	+2.3
P40A	**Paris**	**94.05**	**50**	IAmb	IAmb	06 08 51.1	
	comp=Z,25nm,0.7s						
T42A	**Van Buren**	**94.09**	**53**	IAmb	IAmb	06 08 51.8	
	comp=Z,23nm,1.1s						
CCM	**Cathedral Cave**	**94.25**	**52**	P	**P**	**06 08 50.3**	**-0.9**
CCM				pmax	pmax		
	comp=Z,21nm,0.8s				

comp=Z,3.0nm,0.8s,baz=258,slow=4.8,SNR=2.0
ULM PP **PP** **06 12 43.6 -0.8**
comp=Z,5.5nm,1.0s,baz=255,slow=5.8,SNR=4.6
ULM Lac du Bonnet 94.59 39 P **P** **06 08 51.3 -1.1**
ULM IAmb IAmb 06 08 53.1
comp=Z,21nm,1.1s
ULM pP **pP** **06 09 55.8 +2.0**
F36A Milaca 94.79 44 IAmb IAmb 06 08 54.7
comp=Z,32nm,0.8s
FVM French Village 94.86 52 IAmb IAmb 06 08 56.0
comp=Z,18nm,0.9s
SPMN Marine on St. 95.10 45 IAmb IAmb 06 08 56.1
comp=Z,40nm,0.9s
SPMN Marine on St. 95.10 45 P **P** **06 08 54.8 -0.1**
baz=254
N41A Harden Midland 95.25 49 IAmb IAmb 06 08 57.3
comp=Z,44nm,0.9s
B35A Bob, Littlefor 95.38 41 IAmb IAmb 06 09 04.2
comp=Z,19nm,1.1s
GTA Gaotai 95.92 309 ⇓P **P** **06 08 59.3 +0.4**
GTA PP **PP** **06 12 51.6 -3.5**
GTA SKS **SKSac** **06 19 08.5 -1.6**
GTA S **ScS** **06 19 56.1 +1.4**
GTA pmax pmax
comp=Z,35nm,1.1s
GTA pmax pmax
comp=Z,360nm,7.6s
GTA LR LR
comp=Z,160nm,17.8s
GTA LR LR
comp=Z,240nm,18.5s
GTA LR LR
comp=Z,220nm,20.0s
P43A Skaggs, Pawnee 95.97 51 IAmb IAmb 06 09 00.8
comp=Z,29nm,0.8s
JFWS Jewell Farm 96.26 47 P **P** **06 09 00.2 0.0**
baz=255
HDIL Hopedale 96.36 50 P **P** **06 09 01.2 +0.5**
baz=256
WVT Waverly 96.40 54 P **P** **06 09 02.1 +1.1**
WVT pmax pmax
comp=Z,10.0nm,1.0s
WVT Waverly 96.40 54 P **P** **06 09 02.1 +1.1**
WVT Waverly 96.40 54 P **P** **06 09 01.1 +0.1**
baz=256
WVT S **S** **06 19 57.4 -0.9**
baz=256
ZAK Zakamensk 96.42 320 *e*P **P** **06 08 59.4 -1.4**
ZAK pmax pmax
comp=Z,14nm,1.3s
ZAK pmax pmax
comp=Z,17nm,1.2s
L42A Oliver, Polo 96.45 48 IAmb IAmb 06 09 02.3
comp=Z,35nm,1.0s
EYMN Ely 96.70 42 P **P** **06 09 02.0 0.0**
baz=255
EYMN S **S** **06 19 56.8 -3.6**
baz=255
MOY Mondy 98.14 321 *e*P **P** **06 09 07.9 -0.7**
MOY pmax pmax
comp=Z,33nm,2.2s
GOMU GeErMu 99.04 305 P **Pdif** **06 09 14.1 +0.8**
GOMU pmax pmax
comp=Z,15nm,1.3s
GOMU pmax pmax
comp=Z,65nm,5.3s
GOMU LR LR
comp=Z,100nm,19.8s
GOMU LR LR
comp=Z,130nm,16.3s
GOMU LR LR
comp=Z,93nm,21.1s
SHL Shillong 99.27 294 P **Pdif** **06 09 15.0 +0.7**
SNR=11
LSA Lhasa 100.75 298 Pdiff **Pdif** **06 09 22.5 +1.4**
LPAZ La Paz 101.22 110 PP **PP** **06 13 34.2 -1.9**
comp=Z,1.3nm,0.6s,baz=27,slow=10,SNR=6.7
RES Resolute Bay 101.83 16 P **Pdif** **06 09 24.6 +0.3**
comp=Z,6.6nm,1.0s,baz=232,slow=9.2,SNR=4.7
CHLP Challavanipeta 104.96 285 *e*PKiKP **PKiKP** **06 13 53.6 +0.4**
CHLP *e*PKiKP PP 06 13 54.1 -9.4
CHLP *e*PP PP 06 14 02.2 -1.2
CPUP Villa Florida 106.62 124 PKKPab PKKPab 06 25 32.6 -1.0
comp=Z,3.8nm,0.8s,baz=56,slow=3.2,SNR=3.6
NRIK Noril'sk 106.72 338 Pdiff **Pdif** **06 09 46.1 -0.1**
comp=Z,1.7nm,0.5s,baz=105,slow=5.9,SNR=5.1
NRIK PKiKP **PKiKP** **06 13 55.8 +0.9**
comp=Z,3.2nm,0.6s,baz=101,slow=5.8,SNR=4.6
NRIK PP **PP** **06 14 11.8 -3.1**
comp=Z,14nm,1.2s,baz=106,slow=7.4,SNR=9.6
SIV San Ignacio 107.67 113 PKKPbc PKKPbc 06 25 12.8 +0.2
comp=Z,4.7nm,0.9s,baz=92,slow=4.6,SNR=16
SIV PKKPab **PKKPab** **06 25 28.4 -0.3**
comp=Z,3.7nm,0.9s,baz=90,slow=4.8,SNR=8.5
ZSN Zaisan 107.91 315 *e*PKiKP **PKiKP** **06 13 57.0 -0.8**
baz=315
SKHT Srikalahasti 108.13 280 *e*PKiKP **PKiKP** **06 13 59.0 -0.2**
SKHT *es*PKiKP **sPKiKP** **06 15 33.0 +2.4**
ZALV Zalesovo Beam 108.15 322 Pdiff **Pdif** **06 09 52.4 -0.5**
comp=Z,3.6nm,0.9s,baz=99,slow=4.7,SNR=10
ZALV PKiKP **PKiKP** **06 13 57.3 -0.7**
comp=Z,6.5nm,0.6s,baz=77,slow=0.5,SNR=19
ADKI Addanki 108.29 282 *e*PKiKP **PKiKP** **06 13 56.2 -3.1**
ADKI *e*PP **PP** **06 14 24.7 -3.1**
NJS Nagarjunasagar 109.05 283 *e*PKiKP **PKiKP** **06 14 00.1 -0.7**
RCLA Racherla 109.18 281 *e*PKiKP **PKiKP** **06 13 59.9 -1.2**
SRLM Srisailam 109.36 282 *e*PKiKP **PKiKP** **06 14 01.4 -0.1**
SRLM *e*PP **PP** **06 14 35.8 +0.2**
MKAR Makanchi Array 109.64 315 Pdiff **Pdif** **06 09 59.3 -0.4**
comp=Z,1.7nm,0.9s,baz=85,slow=3.5,SNR=9.8
MKAR PKiKP **PKiKP** **06 14 00.3 -0.8**
comp=Z,17nm,0.7s,baz=64,slow=1.6,SNR=73
MKAR PP **PP** **06 14 30.4 -6.4**
comp=Z,5.0nm,1.0s,baz=100,slow=6.3,SNR=5.2
MKAR PKKPbc **PKKPbc** **06 25 06.4 -1.0**
comp=Z,1.1nm,0.7s,baz=274,slow=2.9,SNR=9.6
MKAR PKKPab **PKKPab** **06 25 17.1 -0.5**
comp=Z,0.9nm,0.7s,baz=272,slow=5.0,SNR=5.5
HYBB Hyderabad (bro 109.91 283 *e*PKiKP **PKiKP** **06 14 00.7 -1.8**
HYBB *e*PP **PP** **06 14 38.9 -0.7**
HYBB *e*PKiKP sPKiKP 06 15 35.8 +1.8
HYBB *e*SKSac **SKSac** **06 20 13.9 -2.1**
HYBB *e*SKKSac **SKKSac** **06 21 15.3 -0.5**
URV Uravakonda 110.69 281 *e*PKiKP **PKiKP** **06 14 03.6 -0.4**
URV *e*PP **PP** **06 14 44.0 -1.2**
SEM Semipalatinsk 110.99 319 *i* PKIKP **PKiKP** **06 14 02.0 -1.8**
SEM Semipalatinsk 110.99 319 *e*PKiKP **PKiKP** **06 14 02.1 -1.8**
baz=318
PDGK Podgornoye 111.56 311 PKIKP **PKiKP** **06 14 03.3 -1.7**
SHLS Shalkode 111.58 311 *i* PKIKP **PKiKP** **06 14 03.4 -1.6**
SHLS Shalkode 111.58 311 *e*PKiKP **PKiKP** **06 14 03.5 -1.6**
baz=311
NEEM North Greenlan 111.74 11 *i* P **PKiKP** **06 14 04.1 -0.5**
KLRI Killari 111.86 284 *e*PKiKP **PKiKP** **06 14 05.4 -0.8**
KLRI *e*PP **PP** **06 14 49.3 -4.3**
UZB Uzynbulak 111.90 311 *i* PKIKP **PKiKP** **06 14 04.6 -1.1**
UZB Uzynbulak 111.90 311 *e*PKiKP **PKiKP** **06 14 04.6 -1.1**
baz=311
KURK Kurchatov 112.01 319 *d* PKIKP **PKiKP** **06 14 04.4 -1.0**
KURBB Kurchatov Arra 112.08 319 PKiKP **PKiKP** **06 14 04.9 -0.7**
comp=Z,18nm,0.7s,baz=95,slow=1.8,SNR=75
KURBB PP **PP** **06 14 47.6 -6.5**
comp=Z,8.2nm,0.9s,baz=92,slow=6.4,SNR=6.5
ZHN Zhinishke 112.33 311 *i* PKIKP **PKiKP** **06 14 05.6 -0.9**
ZHN Zhinishke 112.33 311 *e*PKiKP **PKiKP** **06 14 05.6 -0.9**
baz=311
TDK Taldyqorghan 112.34 313 *i* PKIKP **PKiKP** **06 14 04.9 -1.4**
TDK Taldyqorghan 112.34 313 *e*PKiKP **PKiKP** **06 14 04.9 -1.4**
baz=313
SATY Saty 112.35 311 *i* PKIKP **PKiKP** **06 14 05.1 -1.4**
SATY Saty 112.35 311 *e*PKiKP **PKiKP** **06 14 05.2 -1.4**
baz=311
NOR Nord 112.84 3 *i* P **PKiKP** **06 14 05.4 -0.8**
MDOK Medeo 113.35 311 *i* PKIKP **PKiKP** **06 14 06.4 -2.0**
MDOK Medeo 113.35 311 *e*PKiKP **PKiKP** **06 14 06.5 -2.0**
baz=311
CHKK Chushkaly 113.38 312 *e*PKiKP **PKiKP** **06 14 06.7 -1.7**
baz=312
KUU Kurty 113.85 312 *i* PKIKP **PKiKP** **06 14 07.9 -1.3**
KUU pmax pmax
comp=Z,3.0nm,0.4s
KUU Kurty 113.85 312 *e*PKiKP **PKiKP** **06 14 08.0 -1.3**
comp=Z,3.4nm,0.4s,baz=312
KST Kastek 114.14 311 *e*PKP PKPdf 06 14 08.8 -1.1
comp=Z,7.7nm,1.0s,baz=311
KSH Kashi 114.19 307 PKP **PKiKP** **06 14 10.8 +0.6**

KSH PP **PP** **06 15 10.0 +0.4**
KSH SKKS 06 21 41.4
KSH SS **SS** **06 30 44.3 +4.0**
KSH AMB AMB
comp=Z,520nm,7.9s
TKM2 Tokmak 2 114.42 311 P PKPdf 06 14 10.0 -0.6
SNR=6.5
TKM2 Tokmak 2 114.42 311 PKIKP PKPdf 06 14 09.5 -1.1
POO Poona 114.51 284 *e*P PKPdf 06 14 06.0 -5.2
KBK Karagaybulak 114.90 310 P PKPdf 06 14 11.2 -0.4
SNR=6.5
CHMS Chumysh 115.03 311 P **PKiKP** **06 14 10.9 -0.6**
SNR=6.5
SGDS Sogindy 115.10 311 *e*PKP **PKiKP** **06 14 10.5 -1.2**
comp=Z,5.8nm,1.0s,baz=311
USP Ospenovka 115.21 311 P **PKPdf** **06 14 11.3 -0.6**
SNR=7.6
AAK Ala-Archa 115.24 310 P **PKPdf** **06 14 11.7 -0.4**
SNR=6.0
AAK Ala-Archa 115.24 310 *d* PKIKP **PKPdf** **06 14 11.5 -0.6**
AAK Ala-Archa 115.24 310 P **PKPdf** **06 14 11.9 -0.2**
AAK Ala-Archa 115.24 310 PKPdf **PKPdf** **06 14 11.9 -0.2**
AAK Ala-Archa 115.24 310 PKPdf **PKPdf** **06 14 11.8 -0.4**
UCH Uchtor 115.24 310 P **PKiKP** **06 14 12.7 +0.1**
SNR=12
BTLS Baital 115.43 313 *e*PKIKP **PKPdf** **06 14 11.0 -1.2**
BTLS pmax pmax
comp=Z,8.0nm,0.7s
BTLS Baital 115.43 313 *e*PKP **PKPdf** **06 14 11.0 -1.2**
comp=Z,7.9nm,0.7s,baz=313
EKS2 Erkin-Say 115.77 310 P **PKPdf** **06 14 12.5 -0.6**
SNR=7.5
AML Almayashu 115.85 310 P **PKPdf** **06 14 13.1 -0.6**
SNR=8.4
AML Almayashu 115.85 310 P **PKPdf** **06 14 13.5 -0.1**
AML Almayashu 115.85 310 *i* PKPdf **PKPdf** **06 14 11.0 -2.6**
SNR=8.5
BRZS Berezniki 115.87 318 *e*PKIKP **PKPdf** **06 14 11.5 -1.4**
BRZS Berezniki 115.87 318 *e*PKP **PKPdf** **06 14 11.6 -1.4**
baz=318
KBS Kingsbay 116.09 359 *i* P **PKPdf** **06 14 11.5 -1.0**
KBS Kingsbay 116.09 359 *e*PKPdf **PKiKP** **06 14 13.0 +0.5**
OTUK Ortayu 116.31 317 PKIKP **PKPdf** **06 14 12.7 -1.1**
SPA0 Spitsbergen Ar 116.68 357 *e*PKPdf **PKPdf** **06 14 13.6 -0.2**
BVAR Borovoye Array 116.81 322 PKP **PKPdf** **06 14 14.2 -0.4**
comp=Z,41nm,0.8s,baz=104,slow=3.1,SNR=117
BVAR PP pPKPdf 06 15 20.0 +0.1
comp=Z,4.6nm,0.9s,baz=74,slow=6.2,SNR=1.9
BRVK Borovoye 116.86 322 *d* PKIKP **PKPdf** **06 14 14.1 -0.6**
BRVK Borovoye 116.86 322 P **PKPdf** **06 14 14.6 -0.1**
BRVK Borovoye 116.86 322 PKPdf **PKPdf** **06 14 14.3 -0.4**
DAG Danmarks Havn 117.11 6 *i* P **PKPdf** **06 14 12.1 -2.4**
SUMG Summit 117.25 14 PKIKP **PKiKP** **06 14 15.8 +0.4**
SUMG Summit 117.25 14 *i* P **PKPdf** **06 14 15.0 -0.4**
SUMG Summit 117.25 14 PKPdf **PKiKP** **06 14 15.8 +0.4**
DZA Taraz 117.55 311 *e*PKIKP **PKPdf** **06 14 15.5 -0.9**
DZA Taraz 117.55 311 *e*PKP **PKPdf** **06 14 15.5 -0.9**
baz=311
IUG Iuzhnay 118.57 310 *e*PKIKP **PKPdf** **06 14 16.9 -1.5**
IUG Iuzhnay 118.57 310 *e*PKP **PKPdf** **06 14 17.0 -1.5**
baz=310
BRLS Borolday 118.63 311 *e*PKIKP **PKPdf** **06 14 17.5 -1.0**
BRLS pmax pmax
comp=Z,3.0nm,0.9s
BRLS Borolday 118.63 311 *e*PKP **PKPdf** **06 14 17.5 -1.0**
comp=Z,2.8nm,0.9s,baz=311
DY2G Dye2 118.63 21 *i* P **PKPdf** **06 14 16.8 -1.2**
DBG Daneborg 119.14 8 *i* P **PKPdf** **06 14 17.0 -1.5**
ICESG Greenland Ices 119.20 17 *i* P **PKPdf** **06 14 17.6 -1.6**
BDFB Brasilia 119.23 118 PKP **PKPdf** **06 14 20.0 -0.5**
comp=Z,3.0nm,0.6s,baz=252,slow=0.9,SNR=9.1
BDFB PKKPbc **PKKPbc** **06 24 34.2 +0.2**
comp=Z,4.5nm,0.9s,baz=50,slow=5.9,SNR=7.2
KBL Kabul 119.81 301 PKIKP **PKPdf** **06 14 21.0 -0.3**
KBL Kabul 119.81 301 PKPdf **PKPdf** **06 14 21.0 -0.3**
SVE Sverdlovsk 121.16 328 *e*PKIKP **PKPdf** **06 14 22.8 0.0**
SVE pmax pmax
comp=Z,59nm,1.0s
SCO Scoresbysund 122.21 10 *i* P **PKPdf** **06 14 24.4 -0.1**
ARU Arti 122.37 328 PKP **PKPdf** **06 14 24.8 -0.4**
comp=Z,20nm,0.7s,baz=89,slow=1.2,SNR=84
ARU PP **PP** **06 16 02.1 -2.8**
comp=Z,0.9nm,0.3s,baz=74,slow=6.2,SNR=8.9
ARU Arti 122.37 328 *i* PKIKP **PKPdf** **06 14 24.7 -0.4**
ARU 06 16 02.9
ARU PPP PPP 06 18 40.1
ARU 06 21 12.0
ARU Arti 122.37 328 PKPdf **PKPdf** **06 14 25.0 -0.2**
HAMF Hammerfest 123.35 353 *e*PKPdf **PKPdf** **06 14 26.3 -0.3**
KEV Kevo 123.71 351 PKIKP **PKPdf** **06 14 26.5 -0.9**
KEV Kevo 123.71 351 PKPdf **PKPdf** **06 14 26.5 -0.9**
LVZ Lovozero 123.92 347 PKIKP **PKPdf** **06 14 27.6 -0.3**
LVZ Lovozero 123.92 347 **PKPdf** **06 14 27.6 -0.3**
AB31 Akbulak array 124.10 320 *i* PKIKP **PKPdf** **06 14 28.1 -0.6**
ARA0 ARCESS Array S 124.13 352 *e*PKPdf **PKPdf** **06 14 28.1 -0.1**
ARCES ARCESS Array B 124.13 352 PKP **PKPdf** **06 14 28.1 -0.2**
comp=Z,56nm,0.8s,baz=9.8,slow=1.4,SNR=87
ARCES PKKPab **PKKPab** **06 24 13.6 +0.3**
comp=Z,4.3nm,0.7s,baz=204,slow=2.7,SNR=11
APA Apatity 124.46 347 ⇓*i* PKIKP **PKPdf** **06 14 27.3 -1.6**
APA pmax pmax
comp=Z,26nm,0.7s
APA MLR MLR
comp=Z,400nm,21.0s
TRO Tromso 124.83 354 *e*PKPdf **PKPdf** **06 14 29.1 -0.4**
AKTO Aktyubinsk 124.90 322 PKIKP **PKPdf** **06 14 29.6 -0.6**
KTK1 Kautokeino 124.93 352 *e*PKPdf **PKPdf** **06 14 28.8 -1.0**
PRGR Permogore 125.35 338 *e*PKIKP **PKPdf** **06 14 27.2 -3.5**
PRGR pmax pmax
comp=Z,67nm,1.4s
KIRV Kirov 125.67 333 PKP **PKPdf** **06 14 31.4 0.0**
comp=Z,75nm,0.8s,baz=66,slow=1.1,SNR=24
ABPO Ambohimpanom 126.46 232 PKIKP **PKiKP** **06 14 35.2 +0.3**
ABPO Ambohimpanom 126.46 232 PKPdf **PKiKP** **06 14 35.2 +0.3**
FAUS Fauske 127.36 355 *e*PKPdf **PKPdf** **06 14 33.9 -0.5**
SBV Sambava 127.39 240 P **PKiKP** **06 14 36.8 +0.3**
KLMR Klimovskoe 128.05 339 *e*PKIKP **PKPdf** **06 14 33.8 -2.1**
KLMR pmax pmax
comp=Z,122nm,1.3s
KLMR Klimovskoe 128.05 339 *e*PKPdf **PKPdf** **06 14 33.9 -2.0**
KLMR AMP 06 14 36.8
comp=Z,122nm,1.3s
KLMR *ep*PKPdf **pPKPdf** **06 15 44.4 +3.3**
KLMR *e*PP **PP** **06 16 37.8 -4.4**
GEYT Alibeck 128.22 307 PKhKP PKPpre 06 14 25.2
comp=Z,6.8nm,0.7s,baz=208,slow=2.9,SNR=7.9
GEYT PKP **PKPdf** **06 14 37.0 0.0**
comp=Z,10nm,0.8s,baz=222,slow=6.0,SNR=12
JLN Jalan Bani Buh 128.33 286 P **PKPdf** **06 14 37.6 0.0**
SNR=11
MOR8 Moi Rana 128.62 355 *e*PKPdf **PKPdf** **06 14 36.1 -0.8**
WBK Wadi Bani Khal 128.75 287 P **PKPdf** **06 14 36.9 -1.5**
JMDO Jabal Madar 129.55 287 P **PKPdf** **06 14 38.5 -1.4**
SNR=8.4
SMDO Samad 129.61 288 P **PKPdf** **06 14 39.1 -1.1**
SNR=13
BELG Belogornoye 129.90 327 *d* PKIKP **PKPdf** **06 14 39.4 -0.2**
DQM DQM 129.97 283 P **PKPdf** **06 14 40.7 -0.1**
SNR=6.0
HOQ Hoqain 130.30 288 P **PKiKP** **06 14 42.0 -0.2**
SNR=10.0
BSY Bisya 130.39 287 P **PKPdf** **06 14 41.3 -0.2**
SNR=9.8
SUR Sutherland 130.45 197 PKPdf **PKiKP** **06 14 42.3 -0.3**
ARQ Araqi 131.02 288 P **PKPdf** **06 14 42.6 -0.2**
SNR=6.8
BANOM Banah 131.17 291 P **PKPdf** **06 14 43.3 +0.3**
BANOM Banah 131.17 291 PKiKP **PKiKP** **06 14 44.2 +0.3**
UOSS Minazif 131.29 290 P **PKPdf** **06 14 43.0 -0.1**
UOSS Minazif 131.29 290 *i* PKPdf **PKPdf** **06 14 42.0 -1.2**
SNR=6.0
MSFE Esma-Masafi 131.32 291 *i* PKPdf **PKPdf** **06 14 42.0 -1.3**
SNR=6.3
HATD Hatta, Dubai 131.36 290 *i* PKPdf **PKPdf** **06 14 42.6 -0.7**
SNR=7.0
FINES FINESS Array B 131.36 347 PKhKP PKPpre 06 14 30.6
comp=Z,3.2nm,0.6s,baz=16,slow=2.7,SNR=15
FINES PKP **PKPdf** **06 14 41.9 -0.2**
comp=Z,11nm,0.6s,baz=129,slow=1.5,SNR=14
FINES SKPab **SKPab** **06 17 44.6 +1.4**
comp=Z,9.6nm,0.9s,baz=72,slow=6.2,SNR=5.9
SHAO Shalim 131.66 281 P **PKiKP** **06 14 45.1 0.0**
SHAO Shalim 131.66 281 *i* PKPdf **PKPdf** **06 14 42.6 -1.4**
SNR=6.2
ALNE Al Ain 131.72 289 P **PKiKP** **06 14 45.0 -0.1**

SNR=7.6
ALNE Al Ain 131.72 289 *i* PKPdf **PKPdf** **06 14 43.5 -0.5**
SNR=8.0
ASUD Al Ashush, Dub 132.09 290 P **PKPdf** **06 14 45.1 +0.4**
ASUD Al Ashush, Dub 132.09 290 PKPdf **PKPdf** **06 14 44.4 -0.3**
DMTO DMTO 132.28 280 P **PKPdf** **06 14 45.2 0.0**
SNR=6.4
BOSA Boshof 132.37 204 PKP **PKiKP** **06 14 46.5 0.0**
comp=Z,18nm,0.8s,baz=169,slow=1.5,SNR=23
MOS Moscow 132.42 336 *i* PKIKP **PKPdf** **06 14 39.9 -4.4**
MOS pmax pmax
comp=Z,73nm,0.9s
MOS pmax pmax
comp=Z,200nm,2.0s
SOCY Socotra 132.53 273 P **PKPdf** **06 14 46.4 +0.5**
SNR=5.8
SOCY Socotra 132.53 273 PKPdf **PKPdf** **06 14 46.0 +0.1**
RBK Rabkut 132.97 280 P **PKiKP** **06 14 48.0 +0.2**
SNR=13
DOK Doka 133.11 281 P **PKiKP** **06 14 48.0 0.0**
SNR=8.9
OBN Obninsk 133.29 336 *i* PKIKP **PKPdf** **06 14 46.4 +0.4**
OBN *i* 06 15 47.9
OBN *i* 06 17 14.4
OBN pmax pmax
comp=Z,43nm,0.9s
OBN Obninsk 133.29 336 **PKiKP** **06 14 46.8 -0.4**
WHFO Wadi Hawf 133.41 280 P **PKiKP** **06 14 48.3 -0.3**
SNR=8.3
FOO Floro 133.59 0 *e*PKPdf **PKiKP** **06 14 47.1 -0.5**
VRH Novokhopyorsk 133.59 329 *e*PKIKP **PKPdf** **06 14 45.9 -0.8**
VRH pmax pmax
comp=Z,70nm,1.2s
ABTO Aybut 133.82 280 P **PKPdf** **06 14 48.7 +0.5**
SNR=8.6
NB2 NORSAR Subarra 133.94 356 PKP PKPdf 06 14 36.0 -11
comp=Z,93nm,2.5s,baz=17,slow=2.6
NB2 NORSAR Subarra 133.94 356 PKP PKPdf 06 14 36.0 -11
baz=17,slow=2.6
NOA NORSAR Array B 133.94 356 PKhKP PKPpre 06 14 35.7
comp=Z,4.6nm,0.9s,baz=36,slow=2.0,SNR=10
NOA PKP **PKPdf** **06 14 46.9 -0.2**
comp=Z,8.2nm,0.9s,baz=8.0,slow=3.2,SNR=19
NOA PP **PP** **06 17 22.2 +2.4**
comp=Z,2.1nm,0.9s,baz=3.3,slow=6.2,SNR=3.8
NOA SKPab **SKPab** **06 17 55.7 +1.3**
comp=Z,3.4nm,1.0s,baz=6.6,slow=2.5,SNR=3.4
LPSR Galich'ya Gora 134.03 332 *e*PKIKP **PKPdf** **06 14 46.9 -0.6**
LPSR pmax pmax
comp=Z,50nm,1.4s
SUE Sulen 134.13 0⇑ *e*PKPdf **PKiKP** **06 14 48.1 -0.6**
NC602 NORSAR Array S 134.22 356 *e*PKPdf **PKPdf** **06 14 48.1 +0.5**
MAK Makhachkala 134.43 316 *e*P **Pdif** **06 11 51.9 +1.9**
MAK *i* 06 14 48.5
MAK *e* 06 15 51.3
MAK *e* 06 17 21.1
MAK *e* 06 21 39.7
MAK pmax pmax
comp=Z,242nm,1.1s
ASK Askoy 134.71 360 *e*PKPdf **PKiKP** **06 14 49.3 -0.7**
VSR Storozhevoye 134.83 330 *e*PKIKP **PKPdf** **06 14 48.5 -0.5**
VSR pmax pmax
comp=Z,20nm,0.8s
VORD Divnogorie 134.93 330 *e*PKIKP **PKPdf** **06 14 48.8 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.6s
ODD1 Odda 135.26 359 *e*PKPdf **PKiKP** **06 14 50.5 -0.7**
KMY Karmoy 135.98 360 *e*PKPdf **PKiKP** **06 14 51.9 -0.7**
IDID Didziasalis 136.56 342 *e*P **PKPdf** **06 14 47.7 -4.4**
IIGN Ignalina 136.68 343 *e*P **PKPdf** **06 14 46.5 -5.8**
MNK Minsk 136.90 341 *i* PKHKP PKPpre 06 14 46.2
MNK *i* 06 21 32.6
MNK *i* SS SS 06 35 19.7 -1.3
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,61nm,0.8s
MNK pmax pmax
comp=N,36nm,0.9s
MNK Minsk 136.90 341 *i* PKP **PKPdf** **06 14 46.2 -6.5**
comp=E,3.0nm,0.9s
MNK *i* PKP **PKPdf** **06 14 46.2 -6.5**
comp=N,36nm,0.9s
MNK *i* PKP **PKPdf** **06 14 46.2 -6.5**
comp=Z,61nm,0.8s,baz=213
MNK *i* pPKP **pPKPdf** **06 15 50.0 -8.0**
MNK *i* PP PP 06 17 23.8 -15
MNK *i* SKP 06 17 51.1
MNK *i* PKS PKSdf 06 18 19.5 -9.2
MNK *i* PPP PPP 06 20 28.7
MNK *i* SKS **SKSdf** **06 21 32.6 -5.8**
MNK *i* SKKS **SKKSdf** **06 31 11.2 -7.6**
MNK *i* PPS PPS 06 33 26.8
MNK *i* SS **SS** **06 35 19.8 -1.3**
MNK *i* SSS SSS 06 40 23.9
NACGM Naroch 136.90 342 *i* PKP **PKPdf** **06 14 51.7 -1.0**
KBZ Khabaz 137.07 319 PKP **PKPdf** **06 14 53.6 +0.3**
comp=Z,9.8nm,0.7s,baz=175,slow=1.7,SNR=14
KBZ PP **PP** **06 17 38.7 -1.6**
comp=Z,6.3nm,0.9s,baz=68,slow=10,SNR=5.4
KBZ Khabaz 137.07 319⇑ *i* PKIKP **PKiKP** **06 14 55.5 +0.2**
KIV Kislovodsk 137.09 320 *i* PKIKP **PKiKP** **06 14 55.6 +0.1**
KIV *e* 06 17 40.3
KIV *e*SS SS 06 35 27.1 +2.3
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,129nm,24.0s
PABE Paberze 137.16 344 *e*P PKPdf 06 14 45.0 -8.2
GNI Garni 137.48 314 PKIKP **PKiKP** **06 14 55.7 -0.8**
GNI Garni 137.48 314 P **PKPdf** **06 14 55.2 +0.6**
GNI Garni 137.48 314 PKPdf **PKiKP** **06 14 55.7 -0.8**
AKH Akhalkalaki 137.78 316 ⇑P PKPdf 06 14 42.8 -12
MATP Matopo 137.88 214 PKP **PKPdf** **06 14 56.1 +0.2**
comp=Z,15nm,0.9s,baz=176,slow=4.7,SNR=13
SUW Suwalki 138.70 344 *e*PKPdf **PKPdf** **06 14 56.2 +0.1**
SUW Suwalki 138.70 344 *e*P **PKPdf** **06 14 50.2 -5.9**
SOC Sochi 139.12 321 *i* PKIKP **PKPdf** **06 14 58.1 +0.9**
SOC *e* 06 17 51.4
SOC *e*PPP PPP 06 20 54.6
SOC *e*SS SS 06 35 45.2 -3.1
SOC *e*SSS SSS 06 41 03.1
AKASG Malin Array Be 139.54 336 PKhKP PKPpre 06 14 49.1
comp=Z,1.5nm,0.4s,baz=38,slow=4.1,SNR=16
AKASG PKP **PKPdf** **06 14 57.0 -0.7**
comp=Z,25nm,1.0s,baz=30,slow=2.7,SNR=16
AKASG PP **PP** **06 17 49.7 -5.2**
comp=Z,5.9nm,1.0s,baz=31,slow=6.3,SNR=5.5
AKASG Malin Array Be 139.54 336 PKIKP **PKPdf** **06 14 57.0 -0.7**
EDMD Edmundbyers 139.99 6 *e*P **PKiKP** **06 15 00.1 -0.8**
GKP Gorka Klasztor 140.76 349 *e*PKPdf **PKPdf** **06 15 00.1 +0.3**
RAYN Ar Rayn 141.12 289 PKHKP PKPpre 06 14 55.7
RAYN Ar Rayn 141.12 289 PKPpre 06 14 55.7
RAYN Ar Rayn 141.12 289 *i* PKPdf **PKPdf** **06 14 55.8 -5.7**
SNR=20
BEL Belsk 141.30 344 *e*PKPdf **PKPdf** **06 15 01.6 +0.7**
SBD1 Bryn Du 141.72 8 *e*P **PKPdf** **06 15 03.1 +1.5**
RUE Ruedersdorf 142.10 351 *e*P **PKPdf** **06 14 57.6 -4.6**
LVV Lvov 142.13 340 *e*PHKKP PKPpre 06 14 57.8
LSZ Lusaka 142.18 218 PKhKP PKPpre 06 14 58.9
comp=Z,7.4nm,0.6s,baz=152,slow=4.1,SNR=20
KIS Kishinev 142.60 333 *e*PKP **PKPdf** **06 14 59.0 -4.3**
comp=Z,140nm,4.4s
KIS Kishinev 142.60 333 *e*PKHKP PKPpre 06 14 59.0
KIS pmax pmax
comp=Z,140nm,4.4s
MILM Milestii Mici 142.67 333 *e*PKP **PKPdf** **06 14 58.0 -5.5**
comp=Z,400nm,6.7s
MILM *ep*P **pPKPdf** **06 16 14.0 +5.2**
MILM Milestii Mici 142.67 333 *i* PP PP 06 18 13.0 -1.0
MILM Milestii Mici 142.67 333 *e*PHKKP PKPpre 06 14 58.0
MILM *e* 06 15 05.0
MILM *i* 06 18 13.0
MILM pmax pmax
comp=Z,400nm,6.7s
KWP Kalwaria Pacla 142.72 341 *e*PKPdf **PKPdf** **06 14 59.7 -3.8**
OJC Ojcow 143.03 344 *e*PKPdf PKPab 06 15 00.2 +0.3
KIBK Kibwezi 143.11 245 P PKPbc 06 15 03.7 +0.7
SNR=47
CLZ Clausthal 143.13 355 *e*PKPbc PKPbc 06 15 01.9 0.0
baz=9.5,slow=3.3
ATD Arta Tunnel 143.18 269 PKhKP PKPpre 06 15 02.6
comp=Z,59nm,1.0s,baz=281,slow=2.2,SNR=10
ATD Arta Tunnel 143.18 269 *e*P PKPab 06 15 02.2 +0.5

ATD	Arta Tunnel	143.18 269	eP	PKPbc	06 15 02.9	-0.2
KSP	Ksiaz	143.25 348	ePKPdf	PKPbc	06 15 01.6	-0.5
VASR	Vaslui	143.33 334	⇑P	PKPbc	06 15 02.3	-0.2
CLL	Collm	143.35 352	i PKIKP	PKPab	06 15 01.8	+0.6
CLL			e		06 16 08.0	
CLL			pmax	pmax		
	comp=Z,44nm,0.8s					
CLL	Collm	143.35 352	i PKPpre	PKPpre	06 15 01.8	
	comp=Z,44nm,0.8s					
CLL			ePKPlp		06 15 03.0	
	comp=Z,300nm,19.9s					
CLL			i PKPdf	PKPdf	06 15 05.1	+0.6
	comp=Z,56nm,1.0s					
CLL			i PKiKP	PKiKP	06 15 07.9	0.0
CLL			ePKPdf	pPKPdf	06 16 08.0	-1.9
CLL			eSKPdf	SKPdf	06 18 12.0	-2.1
CLL			ePP	PP	06 18 20.0	+2.4
CLL			ePKSdf	PKSdf	06 18 39.0	-1.0
CLL			eSS	SS	06 36 31.0	-4.8
CLL			eSSS	SSS	06 42 07.0	
CLL	Collm	143.35 352	ePKPbc	PKPbc	06 15 02.1	-0.4
	baz=9.5,slow=3.3					
GTTG	Gottingen	143.46 355	ePKPbc	PKPbc	06 15 02.9	+0.2
	baz=9.5,slow=3.3					
WOL	Wolverton	143.53 7	eP	PKPbc	06 15 02.4	-0.5
CHVC	Chvalec	143.54 348	ePKP	PKPbc	06 15 03.2	+0.2
BURAR	Bucovina Array	143.58 337	⇑P	PKPbc	06 15 03.4	+0.1
BURAR	Bucovina Array	143.58 337	⇑PKIKP	PKPbc	06 15 03.4	+0.1
NEUB	Neuenburg	143.61 353	ePKPbc	PKPbc	06 15 03.2	+0.1
	baz=9.5,slow=3.3					
NIE	Niedzica	143.62 343	ePKPdf	PKPbc	06 15 04.0	+0.7
UPC	Upice	143.62 348	ePKIKP	PKPbc	06 15 03.6	+0.4
UPC	Upice	143.62 348	ePKP	PKPbc	06 15 03.6	+0.4
BRG	Berggiesshubel	143.64 351	ePKP	PKPab	06 15 02.7	+0.4
BRG			Amp		06 15 06.9	
	comp=Z,65nm,1.2s					
BRG			ex	x	06 15 33.0	
BRG			Amp		06 15 34.4	
	comp=Z,12nm,1.0s					
BRG			ex	x	06 16 05.4	
BRG			Amp		06 16 18.7	
	comp=Z,41nm,1.6s					
BRG	Berggiesshubel	143.64 351	ePKIKP	PKPab	06 15 02.7	+0.3
BRG			e		06 16 05.4	
BRG			e		06 36 34.0	
BRG			pmax	pmax		
	comp=Z,65nm,1.2s					
BRG			pmax	pmax		
	comp=Z,13nm,1.0s					
BRG			pmax	pmax		
	comp=Z,41nm,1.7s					
BRG	Berggiesshubel	143.64 351	ePKPbc	PKPbc	06 15 03.2	0.0
	baz=9.5,slow=3.3					
FBE	Freiberg	143.68 351	ePKPbc	PKPbc	06 15 03.8	+0.5
	baz=9.5,slow=3.3					
DPC	Dobruska-Polom	143.71 348	ePKIKP	PKPbc	06 15 03.6	0.0
DPC	Dobruska-Polom	143.71 348	ePKP	PKPbc	06 15 03.6	0.0
BUG	Bochum--Univer	143.73 358	ePKPbc	PKPbc	06 15 03.6	+0.2
	baz=9.5,slow=3.3					
UZH	Uzhgorod	143.73 341	ePKHKP	PKPpre	06 15 01.6	
CRVS	Cervenica-Dubn	143.75 342	ePKIKP	PKPbc	06 15 03.7	0.0
CRVS	Cervenica-Dubn	143.75 342	ePKP	PKPbc	06 15 03.7	0.0
TSUM	Tsumeb	143.77 200	PKP	PKPbc	06 15 04.4	-0.3
	comp=Z,48nm,0.7s,baz=154,slow=3.0,SNR=55					
TSUM			SKPbc	SKiKP	06 18 21.0	-0.2
	comp=Z,6.4nm,0.8s,baz=149,slow=6.3,SNR=4.8					
TSUM	Tsumeb	143.77 200	PKPdf	PKPbc	06 15 04.8	+0.1
OKC	Ostrava-Krasne	143.79 346	ePKIKP	PKPbc	06 15 03.8	+0.1
OKC	Ostrava-Krasne	143.79 346	ePKP	PKPbc	06 15 03.8	+0.1
VLDR	Vladesti	143.82 333	⇑P	PKPbc	06 15 04.0	+0.1
PVCC	Panska Ves	143.87 350	ePKIKP	PKPbc	06 15 04.4	+0.5
PVCC	Panska Ves	143.87 350	ePKP	PKPbc	06 15 04.4	+0.5
KRLC	Kraliky	143.88 347	ePKIKP	PKPbc	06 15 04.1	+0.1
KRLC	Kraliky	143.88 347	ePKP	PKPbc	06 15 04.1	+0.1
ELSH	Elham, Standar	143.92 4	eP	PKPbc	06 15 04.5	+0.4
GHRR		143.95 333	⇑P	PKPdf	06 15 05.2	-0.6
TLCR		143.99 331	⇑P	PKPbc	06 15 04.6	+0.2
TLCR		143.99 331	⇑PKIKP	PKPbc	06 15 04.6	+0.2
MORC	Moravsky Berou	143.99 346	⇑P	PKPbc	06 15 04.4	0.0
MORC	Moravsky Berou	143.99 346	⇑PKIKP	PKPbc	06 15 04.4	0.0
MORC	Moravsky Berou	143.99 346	⇓iPKP	PKPbc	06 15 04.4	0.0
MORC			ePKIKP	pPKPdf	06 16 11.3	+0.2
CCA1	Carnmenellis	144.02 11	eP	PKPbc	06 15 04.2	-0.2
TATR	Tatarca	144.02 332	⇑P	PKPbc	06 15 04.4	-0.1
GIUM	Giurgiulesti	144.04 332	⇑P	PKPdf	06 15 05.8	-0.1
LANS	Liptovska Anna	144.09 344	ePKIKP	PKPdf	06 15 05.9	-0.1
LANS	Liptovska Anna	144.09 344	ePKP	PKPdf	06 15 05.9	-0.1
HMNX	Herstmonceux	144.13 5	eP	PKPbc	06 15 05.0	+0.4
SLCR	Slobozia Conac	144.15 333	⇑P	PKPdf	06 15 05.8	-0.3
BMR	Baia Mare	144.16 339	⇓P	PKPbc	06 15 04.9	0.0
BMR	Baia Mare	144.16 339	⇓PKIKP	PKPbc	06 15 04.9	0.0
UBBA	Unterbreizbach	144.18 355	ePKPbc	PKPbc	06 15 05.2	+0.5
	baz=9.5,slow=3.3					
MOX	Moxa	144.18 353	ePKPbc	PKPbc	06 15 05.2	+0.4
	baz=9.5,slow=3.3					
SCHL	Schela	144.20 332	⇑P	PKPdf	06 15 05.8	-0.4
PLN	Plauen	144.27 352	ePKPbc	PKPdf	06 15 05.7	-0.5
	baz=9.5,slow=3.3					
WERD	Werda	144.29 352	ePKPbc	PKPdf	06 15 05.8	-0.4
	baz=9.5,slow=3.3					
TANN	Tannenbergstha	144.30 352	ePKPbc	PKPdf	06 15 05.9	-0.4
	baz=9.5,slow=3.3					
CFR	Carcaliu	144.31 332	⇑P	PKPab	06 15 05.1	0.0
CFR	Carcaliu	144.31 332	⇑PKIKP	PKPab	06 15 05.1	0.0
ODBI	Odobesti	144.33 333	⇑P	PKPdf	06 15 06.5	+0.1
ARCR	ARCALIA	144.34 337	⇑P	PKPbc	06 15 05.8	+0.3
GUNZ	Gunzen	144.37 352	ePKPbc	PKPdf	06 15 06.2	-0.2
	baz=9.5,slow=3.3					
KMBO	Kilima Mbogo	144.39 246	PKP	PKPdf	06 15 07.8	0.0
	comp=Z,82nm,0.9s,baz=85,slow=3.7,SNR=149					
KMBO			PP	PP	06 18 22.6	-3.4
	comp=Z,4.7nm,1.2s,baz=99,slow=7.2,SNR=3.1					
KMBO	Kilima Mbogo	144.39 246	P	PKPdf	06 15 08.1	+0.3
KMBO	Kilima Mbogo	144.39 246	eP	PKPdf	06 15 07.7	0.0
KMBO	Kilima Mbogo	144.39 246	eP	PKPab	06 15 03.5	-3.1
KMBO	Kilima Mbogo	144.39 246	i PKPdf	PKPdf	06 15 07.9	+0.1
	SNR=123					
VRI	Vrincioaia	144.39 334	⇑P	PKPab	06 15 05.4	-0.1
VRI	Vrincioaia	144.39 334	⇑PKIKP	PKPab	06 15 05.4	-0.1
PRU	Pruhonice	144.40 350	ePKIKP	PKPbc	06 15 05.9	+0.4
PRU	Pruhonice	144.40 350	ePKP	PKPbc	06 15 05.9	+0.4
PRU			eSS	SS	06 36 38.5	-9.3
UCC	Uccle	144.41 1	PKP	PKPbc	06 15 05.7	+0.2
BEBN	Eben Emael	144.41 359	PKP	PKPbc	06 15 05.9	+0.4
KECS	Kecovo	144.41 342	ePKIKP	PKPdf	06 15 06.2	-0.3
KECS	Kecovo	144.41 342	ePKP	PKPdf	06 15 06.2	-0.3
TPGR	Topolog	144.42 331	⇑P	PKPdf	06 15 06.8	+0.1
PLOR	Plostina	144.44 334	⇑P	PKPbc	06 15 05.8	0.0
PLOR	Plostina	144.44 334	⇑PKIKP	PKPbc	06 15 05.8	0.0
WERN	Wernitzgruen	144.44 352	ePKPbc	PKPdf	06 15 06.6	+0.1
	baz=9.5,slow=3.3					
NKC	Novy Kostel	144.48 352	ePKIKP	PKPdf	06 15 06.2	-0.4
NKC	Novy Kostel	144.48 352	ePKP	PKPdf	06 15 06.2	-0.4
IZAB	Izabela	144.56 343	ePKIKP	PKPdf	06 15 07.0	+0.2
MEM	Membach	144.60 359	PKP	PKPab	06 15 06.0	-0.1
OZUR		144.60 335	⇑P	PKPbc	06 15 06.5	+0.2
BTNL	Ternell	144.62 359	PKP	PKPbc	06 15 06.5	+0.3
BSTI	Sart Tilman	144.63 360	PKP	PKPdf	06 15 06.7	-0.1
AHRW	Bad Neuenahr-A	144.64 358	ePKPbc	PKPdf	06 15 07.0	+0.2
	baz=9.5,slow=3.3					
VRAC	Vranov	144.64 347	⇑P	PKPdf	06 15 06.8	0.0
VRAC	Vranov	144.64 347	⇑PKIKP	PKPdf	06 15 06.8	0.0
VRAC	Vranov	144.64 347	⇓iPKP	PKPdf	06 15 06.9	0.0
VRAC			ePKIKP	pPKPdf	06 16 12.2	-0.1
BISRR	Bisoca	144.65 333	⇓P	PKPdf	06 15 07.3	+0.2
GRER		144.67 333	⇓P	PKPdf	06 15 07.9	+0.9
SNF	Seneffe	144.70 1	PKP	PKPdf	06 15 06.8	-0.1
TIRR	Tirgusor	144.72 331	⇑P	PKPdf	06 15 07.1	0.0
TIRR	Tirgusor	144.72 331	⇑PKIKP	PKPdf	06 15 07.1	0.0
TGMR	Targu Mures	144.75 337	⇑P	PKPdf	06 15 07.8	+0.6
MANZ	Manzenberg	144.77 352	ePKPbc	PKPdf	06 15 07.6	+0.5
	baz=9.5,slow=3.3					
HARR	Harsova	144.77 331	⇓P	PKPdf	06 15 07.6	+0.4
HARR	Harsova	144.77 331	⇓PKIKP	PKPdf	06 15 07.6	+0.4
PBCC	Pribram	144.78 350	ePKP	PKPdf	06 15 07.1	0.0
BCLA	Clavier	144.79 360	PKP	PKPab	06 15 06.9	+0.1
MESR	Meseseni	144.80 339	⇑P	PKPdf	06 15 07.7	+0.5
JAVC	Velka Javorina	144.82 346	⇓iPKP	PKPdf	06 15 08.5	+1.2
TSCT	Constanta Port	144.83 330	⇑P	PKPdf	06 15 08.0	+0.6
BGES	Gesves	144.83 0	PKP	PKPbc	06 15 06.1	-0.7
TLBR	Topalu	144.83 331	⇑P	PKPdf	06 15 07.8	+0.5
BHOU	Houvegnez	144.85 359	PKP	PKPdf	06 15 07.5	+0.3
VYHS	Vyhne	144.86 344	ePKIKP	PKPdf	06 15 07.7	+0.4
VYHS			e		06 16 14.9	
VYHS	Vyhne	144.86 344	ePKP	PKPdf	06 15 07.7	+0.4
VYHS			e		06 16 14.9	
DOPR	Dopca	144.87 335	⇓P	PKPdf	06 15 08.1	+0.7
TREC	Trest	144.88 348	ePKIKP	PKPdf	06 15 07.5	+0.2
TREC	Trest	144.88 348	ePKP	PKPdf	06 15 07.5	+0.2
TNS	Taunus Mts	144.89 356	ePKPbc	PKPdf	06 15 08.1	+0.8
	baz=9.5,slow=3.3					
KOLL	Kolacno	144.90 345	ePKP	PKPdf	06 15 08.0	+0.7
EFOR	EFORIE	144.90 330	⇑P	PKPdf	06 15 08.3	+0.8
CBBR	Cluj-Babes-Bol	144.91 338	⇑P	PKPdf	06 15 07.6	+0.2
BMRD	Maredsous	144.91 0	PKP	PKPdf	06 15 07.3	0.0
KRUC	Moravsky	144.92 347	⇓iPKP	PKPdf	06 15 07.5	+0.2
KRUC			ePKIKP	pPKPdf	06 16 13.1	+0.3
NEHR	Nehoiu	144.93 334	⇑P	PKPbc	06 15 07.4	+0.1
MFTR	Murfatlar	144.93 330	⇑P	PKPab	06 15 07.9	+0.4
CJR	Cluj-Napoca	144.94 338	⇓P	PKPab	06 15 07.9	+0.4
CJR	Cluj-Napoca	144.94 338	⇓PKIKP	PKPab	06 15 07.9	+0.4
LTVH	Ltavrtes, Hu	144.95 340	⇑P	PKPab	06 15 08.1	+0.6
LTVH	Ltavrtes, Hu	144.95 340	PKPDF	PKPab	06 15 08.6	+1.1
ROTZ	Rotzenmuhle	144.97 352	ePKPbc	PKPab	06 15 08.4	+0.9
	baz=9.5,slow=3.3					
ROTZ			ePKPbc	pPKPdf	06 16 15.6	+2.8
CVDA	Cernavoda	144.99 331	⇑P	PKPab	06 15 08.7	+1.0
TEND	Ethiopian Broa	145.00 269	eP	PKPab	06 15 10.3	+1.6
MLR	Muntele Rosu	145.02 334	⇑P	PKPab	06 15 08.3	+0.3
MLR	Muntele Rosu	145.02 334	⇑PKIKP	PKPab	06 15 08.3	+0.3
PGOR	Pogoanele	145.03 333	⇑P	PKPab	06 15 08.8	+1.0
BRTR	Keskin Array B	145.06 320	PKP	PKPdf	06 15 07.5	-0.6
	comp=Z,105nm,0.8s,baz=113,slow=1.6,SNR=187					
BRTR			PKPbc	PKPbc	06 15 08.0	-0.1
	comp=Z,105nm,0.8s,baz=110,slow=1.7,SNR=153					
RCHB	Rochefort	145.06 360	PKP	PKPdf	06 15 07.6	+0.1
ISR	Istrita	145.06 333	⇑P	PKPab	06 15 08.5	+0.4
ISR	Istrita	145.06 333	⇑PKIKP	PKPab	06 15 08.5	+0.4
PSZ	Piszkesteto	145.09 343	⇑P	PKPab	06 15 08.2	+0.1
PSZ	Piszkesteto	145.09 343	⇑PKP2	PKPab	06 15 08.2	+0.1
AMRR	Amara	145.11 332	⇓P	PKPab	06 15 08.7	+0.6
AMRR	Amara	145.11 332	⇓PKP2	PKPab	06 15 08.7	+0.6
DOU	Dourbes	145.11 1	PKP	PKPdf	06 15 07.0	-0.6
MANR	Mangalia	145.12 330	⇑P	PKPab	06 15 08.7	+0.5
MDB	Medias	145.12 336	⇑P	PKPab	06 15 08.9	+0.7
MDB	Medias	145.12 336	⇑PKP2	PKPab	06 15 08.9	+0.7
GRF	Grafenberg Arr	145.17 353	ePKPbc	PKPab	06 15 09.2	+1.0
	baz=9.5,slow=3.3					
GRF			ePKPbc	pPKPdf	06 16 16.4	+3.2
GRFO	Grafenberg	145.17 353	PKP2	PKPab	06 15 08.8	+0.6
GRFO	Grafenberg	145.17 353		PKPab	06 15 08.8	+0.6
DRGR		145.19 339	⇑P	PKPbc	06 15 08.3	+0.1
BORR	Bors	145.25 340	⇑P	PKPab	06 15 09.5	+0.9
ICOR	Ion Corvin	145.27 331	⇑P	PKPab	06 15 08.9	+0.1
SECR		145.33 334	⇑P	PKPbc	06 15 08.7	+0.2
KDZE	Karadeniz Ereo	145.37 324	⇓P	PKPdf	06 15 08.3	-0.1
MODS	Modra-Piesok	145.37 346	ePKP2	PKPab	06 15 09.3	+0.2
MODS	Modra-Piesok	145.37 346	ePKP	PKPab	06 15 09.3	+0.2
MODS			e		06 16 17.0	
KHC	Kasperske Hory	145.39 350	ePKP2	PKPbc	06 15 08.5	-0.2
KHC	Kasperske Hory	145.39 350	ePKP	PKPbc	06 15 08.5	-0.2
KHC			ex	x	06 15 17.0	
KHC			ePKP	pPKPdf	06 16 16.0	+2.4
PSN	Preselentsi	145.41 330	i P	PKPab	06 15 09.7	+0.3
VOIR		145.44 335	⇑P	PKPbc	06 15 09.2	+0.2
VOIR		145.44 335	⇑PKP2	PKPbc	06 15 09.2	+0.2
LEHL	Lehliu	145.44 332	⇑P	PKPbc	06 15 09.1	+0.3
PLAR	PLOIESTI	145.45 333	⇑P	PKPab	06 15 09.5	+0.1
JVM	Valle D.L. Mar	145.47 9	eP	PKPbc	06 15 08.7	-0.1
WET	Wettzell	145.48 351	ePKPbc	PKPab	06 15 10.2	+0.7
	baz=9.5,slow=3.3					
WET			ePKPbc	pPKPdf	06 16 17.4	+3.6
ANTO	Ankara	145.49 321	PKP2	PKPbc	06 15 09.2	-0.1
ANTO	Ankara	145.49 321		PKPbc	06 15 09.2	-0.1
RASA	Rasa	145.50 332	⇑P	PKPbc	06 15 09.2	+0.2
JSA	Saint Aubin	145.50 8	eP	PKPbc	06 15 08.8	-0.1
JOE	Queens East	145.51 8	eP	PKPbc	06 15 08.7	-0.2
SULR		145.53 333	⇑P	PKPab	06 15 09.8	+0.1
WLF	Walferdange	145.54 359	ePKPbc	PKPab	06 15 10.6	+1.0
	baz=9.5,slow=3.3					
WLF			ePKPbc	pPKPdf	06 16 17.6	+3.8
WLF	Walferdange	145.54 359	PKP	PKPab	06 15 10.1	+0.4
BSZH	Besenyszg	145.54 342	⇑P	PKPbc	06 15 09.2	+0.2
CKRC	Cesky Krumlov	145.56 349	ePKP	PKPbc	06 15 09.2	0.0
CKRC			eSS	SS	06 36 53.8	-7.3
CKRC			eSS	SS	06 36 55.1	-6.0
ZST	Bratislava	145.57 346	ePKP2	PKPab	06 15 10.3	+0.4
ZST	Bratislava	145.57 346	ePKP	PKPab	06 15 10.2	+0.4
ZST			e		06 16 18.0	
MTUR	Matau	145.60 335	⇑P	PKiKP	06 15 13.1	+0.2
MTUR	Matau	145.60 335	⇑PKP2	PKiKP	06 15 13.1	+0.2
SRO	Srobarova	145.63 344	ePKP2	PKPab	06 15 10.8	+0.8
SRO	Srobarova	145.63 344	ePKP	PKPab	06 15 10.8	+0.8
GEC2	GERESS Array S	145.64 350	ePKPbc	PKPab	06 15 10.4	+0.1
	baz=9.5,slow=3.3					
GEC2			ePKPbc	pPKPdf	06 16 17.7	+3.5
GERES	GERESS Array B	145.64 350	PKP	PKPdf	06 15 08.6	-0.1
	comp=Z,50nm,0.8s,baz=45,slow=2.5,SNR=161					
GERES			PKPbc	PKPbc	06 15 09.1	-0.4
	comp=Z,50nm,0.8s,baz=46,slow=2.8,SNR=104					
GERES			pPKPbc	pPKPdf	06 16 16.3	+2.2
	comp=Z,12nm,1.0s,baz=20,slow=4.3,SNR=1.6					
ARR	Arges	145.66 335	⇑P	PKPab	06 15 10.0	-0.3
BUD	Budapest	145.74 343	PKPDF	PKPdf	06 15 08.6	-0.2
ANKE	Ethiopia-Afar	145.81 265	eP	PKPab	06 15 12.3	+0.1
ANKE	Ethiopia-Afar	145.81 265	eP	PKPab	06 15 13.2	+1.0
DEV	Deva	145.90 338	⇓P	PKPab	06 15 11.0	-0.1
DEV	Deva	145.90 338	⇓PKP2	PKPab	06 15 11.0	-0.1
LOT	Lotru	145.94 336	⇑P	PKPbc	06 15 10.1	-0.4
SIRR	Siria	146.01 339	⇑P	PKPbc	06 15 10.0	-0.6
SGRR	Singureni	146.02 333	⇑P	PKPbc	06 15 10.7	+0.1
CONA	Conrad Observa	146.11 347	i P	PKPdf	06 15 09.7	+0.2
	comp=Z,99nm,0.8s,SNR=103					
PRD	Provadia	146.15 330	i P	PKPab	06 15 11.7	-0.5
ROSF	Rostrenen	146.16 10	eP	PKPbc	06 15 10.7	-0.3
SOP	Sopron	146.18 346	⇑PKPB		06 15 12.1	
HUMR	Humele	146.20 334	⇑P	PKPdf	06 15 09.1	-0.6
AMBH	Ambrzfalva	146.24 340	⇑P	PKPbc	06 15 10.8	-0.4
EGYH	Egyhazaskeszo	146.24 345	⇑PKPB		06 15 11.6	
STU	Stuttgart	146.28 355	ePKPbc	PKPab	06 15 12.3	-0.2
	baz=9.5,slow=3.3					
GZR	Gura Zlata	146.36 337	⇑P	PKPdf	06 15 10.3	+0.3
GZR	Gura Zlata	146.36 337	⇑PKIKP	PKPdf	06 15 10.3	+0.3
DILA	Dilla	146.37 259	eP	PKPab	06 15 14.2	0.0
DILA	Dilla	146.37 259	eP	PKPdf	06 15 11.7	+0.6
COPA	Copaceanca	146.42 333	⇑P	PKPbc	06 15 11.2	-0.6
MPLH	Magyarpolny	146.42 345	PKPDF	PKPdf	06 15 10.7	+0.8
MOA	Molln	146.50 349	i P	PKPdf	06 15 10.2	+0.1
	comp=Z,59nm,0.6s,SNR=46					
TIH	Tihany	146.58 344	PKPDF	PKPdf	06 15 10.6	+0.4
BZS	Buzias	146.59 339	⇑P	PKPdf	06 15 10.7	+0.4
BZS	Buzias	146.59 339	⇑PKIKP	PKPdf	06 15 10.7	+0.4
TIM	Timisoara	146.62 339	⇑P	PKPab	06 15 13.4	-0.5
TIM	Timisoara	146.62 339	⇑PKP2	PKPab	06 15 13.4	-0.5
FURI	Furi	146.66 263	eP	PKPbc	06 15 14.0	+0.2
FURI	Furi	146.66 263	eP	PKPbc	06 15 14.4	+0.6
FUR	Furstenfeldbru	146.66 353	ePKPbc	PKPab	06 15 13.4	-0.6
	baz=9.5,slow=3.3					
FUR			ePKPbc	pPKPab	06 16 19.2	+1.9
BHL	Bhannes	146.72 310	eP	PKPdf	06 15 10.8	-0.2
RCY	Rachaya	146.77 309	eP	PKPdf	06 15 11.0	-0.2
BFO	Black Forest	146.78 356	PKIKP	PKPdf	06 15 10.3	-0.3
BFO	Black Forest	146.78 356	ePKPbc	PKPab	06 15 13.7	-0.9
	baz=9.5,slow=3.3					
BFO			ePKPbc	pPKPab	06 16 19.5	+1.7
BFO	Black Forest	146.78 356	PKPdf	PKPdf	06 15 10.3	-0.5
SZH	Strazhica	146.79 332	i P	PKPbc	06 15 13.1	+0.2
SRE	Strehaia	146.81 336	⇑P	PKPab	06 15 14.0	-0.8
SRE	Strehaia	146.81 336	⇑PKP2	PKPab	06 15 14.0	-0.8
ARSA	Arzberg	146.82 347	i P	PKPdf	06 15 11.0	+0.3
	comp=Z,42nm,1.1s,SNR=49					
VLAD	Vladila	146.88 334	⇑P	PKPbc	06 15 13.4	+0.3
DQRL	Deir Qamar	146.88 309	eP	PKPdf	06 15 11.7	+0.4
SHBL	Chebaa	146.90 309	eP	PKPdf	06 15 11.6	+0.2
HERR	Herculane	146.93 337	⇑P	PKPbc	06 15 12.5	-0.7
BANR	Banloc	146.96 339	⇓P	PKPab	06 15 14.5	-0.8
MORH	Mrgy, Hungar	147.00 343	⇓iP	PKPdf	06 15 10.4	-0.5
MORH	Mrgy, Hungar	147.00 343	PKPDF	PKPbc	06 15 12.7	-0.6
DJES	Djerdap	147.07 337	eP	PKPbc	06 15 14.3	+0.7
JMB	Yambol	147.10 330	i P	PKPbc	06 15 14.0	+0.2
PVL	Pavlikeni	147.10 332	i P	PKPbc	06 15 14.6	+0.9
PUNG	Punghina	147.24 336	⇑P	PKPbc	06 15 14.4	+0.3
MDVR	Moldovita	147.27 338	⇑P	PKPbc	06 15 14.8	+0.6
UBR	Ueberruh	147.28 354	ePKPbc	PKPbc	06 15 15.0	+0.8
	baz=9.5,slow=3.3					
SHEL	Horse Pasture	147.30 160	PKP2	PKiKP	06 15 17.0	-0.2
SHEL	Horse Pasture	147.30 160		PKiKP	06 15 17.0	-0.2
RETA	Reutte	147.39 353	i P	PKPdf	06 15 11.6	-0.1
	comp=Z,89nm,1.0s,SNR=27					
KBA	Koelnbreinsper	147.41 350	i P	PKPdf	06 15 11.8	-0.1
	comp=Z,74nm,0.7s,SNR=31					
WATA	Walderalm	147.44 352	i P	PKPdf	06 15 11.6	-0.3
	comp=Z,125nm,1.2s,SNR=36					
SOKA	Soboth	147.47 347	i P	PKPdf	06 15 11.6	-0.2
	comp=Z,77nm,0.9s,SNR=44					
MOTA	Moosalm	147.49 352	i P	PKPdf	06 15 12.0	0.0
	comp=Z,89nm,0.9s,SNR=53					
WTTA	Wattenberg	147.50 352	i P	PKPdf	06 15 11.5	-0.5
	comp=Z,114nm,0.5s,SNR=58					
FRGS	Fruska Gora	147.60 340	⇑P	PKPdf	06 15 11.9	-0.1
FRGS	Fruska Gora	147.60 340	⇓iP	PKPbc	06 15 14.7	-0.4
FRGS	Fruska Gora	147.60 340	eP	PKPbc	06 15 14.6	-0.5
SQTA	Sankt Quirin	147.60 352	i P	PKPdf	06 15 12.1	+0.1
	comp=Z,53nm,0.8s,SNR=49					
KUBS	Kucevo	147.60 338	eP	PKPbc	06 15 13.8	-1.3
KALN	Kalnik	147.66 345	P	PKPbc	06 15 14.8	-0.4
DAVA	Damuels	147.69 354	i P	PKPdf	06 15 13.0	+0.7
	comp=Z,130nm,0.8s,SNR=33					
LOBO	Lobor	147.73 346	P	PKPbc	06 15 15.0	-0.3
OBKA	Obir	147.73 348	i P	PKPdf	06 15 12.4	+0.1
	comp=Z,18nm,0.9s,SNR=13					
MYKA	Terra Mystica	147.79 349	i P	PKPdf	06 15 12.3	-0.1
	comp=Z,48nm,0.5s,SNR=18					
FETA	Feichten	147.86 353	i P	PKPdf	06 15 12.9	+0.4
	comp=Z,73nm,0.9s,SNR=39					
ABTA	Abfaltersbach	147.87 350	i P	PKPdf	06 15 12.2	-0.3
	comp=Z,155nm,1.0s,SNR=59					
SVIS	Svilajnac	147.90 338	eP	PKPbc	06 15 16.6	+0.8
ZAGS	Zajecar	147.91 336	eP	PKPbc	06 15 14.9	-1.0
LODK	Lodwar	148.06 252	P	PKPdf	06 15 14.8	+1.1
	SNR=53					
MOSL	Moslavina	148.07 345	P	PKPbc	06 15 16.1	-0.2
LEF	Lefka	148.13 314	⇑P	PKPbc	06 15 16.7	0.0
LJU	Ljubljana	148.18 348	⇓iP	PKPbc	06 15 16.6	+0.1
LJU	Ljubljana	148.18 348	i PKPdf	PKPdf	06 15 13.1	+0.2
LJU			i PKPbc	PKPbc	06 15 16.6	+0.1
LJU			i pPKPbc	pPKPbc	06 16 21.0	-0.4
CRES	Cresnjev	148.19 346	⇓iP	PKPbc	06 15 16.5	-0.1
ZAPS	Zavoj	148.20 335	eP	PKPbc	06 15 17.0	+0.3
TRUS	Trudelj	148.22 339	eP	PKPbc	06 15 16.6	-0.1
TEKS	Tekeris	148.23 340	⇓iP	PKPbc	06 15 16.3	-0.4
TEKS	Tekeris	148.23 340	eP	PKPbc	06 15 16.3	-0.4
BO

POLO	**Lamas de Olo**	151.53	21	*e*PKPbc	**PKiKP**	06 15 25.4	+0.1
POLO				*i* LQ	LQ	06 16 35.6	
PVRL	**Vila Real**	151.65	21	*e*PKPdf	**PKPdf**	06 15 19.5	+0.9
PVRL	**Vila Real**	151.65	21	*e*PKPbc	**PKiKP**	06 15 25.6	+0.2
PVRL	**Vila Real**	151.65	21	*e*PKPab	**PKPab**	06 15 33.5	-1.2
PVRL				*i* LQ	LQ	06 16 36.1	
LSK	**Leskovik**	151.65	335	P	**PKPbc**	06 15 24.4	-0.8
ATAL	**Atalanti**	151.73	330	P	**PKPbc**	06 15 23.9	-1.4
LKR	**Lokris**	151.78	330	P	**PKPbc**	06 15 22.9	-2.5
PTL	**Penteli**	151.80	328	P	**PKPbc**	06 15 22.9	-2.6
AGG	**Agios Georgios**	151.80	331	P	**PKPbc**	06 15 23.1	-2.4
MAKR	**Makrakomi, Fth**	151.90	331	P	**PKPbc**	06 15 23.4	-2.3
MVO	**Moncorvo**	151.98	20	*e*PKPbc	**PKiKP**	06 15 26.9	+0.8
MVO	**Moncorvo**	151.98	20	*e*PKPab	**PKPab**	06 15 34.5	-1.6
VLY	**Voula,Athens**	151.99	327	P	**PKPdf**	06 15 21.9	+2.8
VILL	**Villia**	152.00	328	P	**PKPbc**	06 15 23.6	-2.4
PVIS	**Viseu**	152.08	22	*e*PKPdf	**PKPdf**	06 15 20.0	+0.7
PVIS	**Viseu**	152.08	22	*e*PKPbc	**PKiKP**	06 15 26.5	+0.1
PVIS				*i* LQ	LQ	06 16 36.7	
THR8	**Santorini-Mono**	152.11	323	P	**PKPbc**	06 15 24.1	-2.1
EVR	**Evrytania**	152.13	331	P	**PKPbc**	06 15 24.8	-1.5
SACV	**Santiago Islan**	152.23	87		**PKiKP**	06 15 27.5	+0.2
LTK	**Loutraki**	152.28	329	P	**PKPdf**	06 15 22.6	+3.0
SERG	**Sergoula**	152.42	330	P	**PKPbc**	06 15 25.3	-1.6
PCAS	**Casmilo, Conde**	152.44	23	*e*PKPdf	**PKPdf**	06 15 19.8	+0.1
PCAS	**Casmilo, Conde**	152.44	23	*e*PKPbc	**PKPbc**	06 15 26.7	-0.1
PCAS	**Casmilo, Conde**	152.44	23	*e*PKPab	**PKPab**	06 15 38.2	+0.2
EFP	**Efpalio**	152.48	331	P	**PKPbc**	06 15 25.6	-1.3
MTE	**Manteigas**	152.48	21	*e*PKPdf	**PKPdf**	06 15 20.9	+1.0
MTE	**Manteigas**	152.48	21	*e*PKPbc	**PKiKP**	06 15 27.6	+0.4
MTE				*i* LQ	LQ	06 16 37.5	
LAKA	**Lakka**	152.59	330	P	**PKPbc**	06 15 26.0	-1.3
PSBE	**So Bento**	152.79	24	*e*PKPbc	**PKiKP**	06 15 28.2	+0.4
PSBE				*i* LQ	LQ	06 16 38.4	
PCBR	**Castelo Branco**	153.00	22	*e*PKPdf	**PKPdf**	06 15 21.6	+1.1
PCBR	**Castelo Branco**	153.00	22	*e*PKPbc	**PKiKP**	06 15 28.6	+0.4
PCBR	**Castelo Branco**	153.00	22	*e*PKPab	**PKPab**	06 15 40.5	+0.1
PCBR				*i* LQ	LQ	06 16 38.3	
PMAFR	**Mafra**	153.07	25	*e*PKPbc	**PKiKP**	06 15 29.4	+1.0
PMST	**Lisbon--Monsan**	153.30	26	*e*PKPbc	**PKPbc**	06 15 28.7	0.0
PMAR	**Madeira**	153.37	45	*e*PKPbc	**PKiKP**	06 15 30.7	+1.3
PMRV	**Marv??o**	153.40	22	*e*PKPdf	**PKPdf**	06 15 22.2	+1.0
PMRV	**Marv??o**	153.40	22	*e*PKPbc	**PKiKP**	06 15 29.5	+0.4
PMRV	**Marv??o**	153.40	22	*e*PKPab	**PKPab**	06 15 42.8	+0.7
PMRV				*i* LQ	LQ	06 16 39.4	
PMTG	**Montargil**	153.40	24	*e*PKPdf	**PKPdf**	06 15 21.8	+0.7
PMTG	**Montargil**	153.40	24	*e*PKiKP	**PKiKP**	06 15 29.8	+0.8
PMTG	**Montargil**	153.40	24	*e*PKPab	**PKPab**	06 15 42.4	+0.3
PMTG				*i* LQ	LQ	06 16 36.2	
PMPST	**Porto Santo, M**	153.55	44	*e*PKPab	**PKPab**	06 15 44.0	+1.0
PMPS	**Porto Santo**	153.57	44	*e*PKPbc	**PKiKP**	06 15 31.3	+1.7
PMPS	**Porto Santo**	153.57	44	*e*PKPab	**PKPab**	06 15 44.1	+1.1
JAWL	**J.Aulia**	153.62	274	*i* P	**PKiKP**	06 15 30.8	+0.7
JAWL				AMP		06 19 29.5	
	comp=N,4μm,0.1s						
PESTR	**Estremoz**	153.82	23	*e*PKPdf	**PKPdf**	06 15 22.3	+0.5
PESTR	**Estremoz**	153.82	23	*e*PKPbc	**PKiKP**	06 15 30.6	+0.7
PESTR	**Estremoz**	153.82	23	*e*PKPab	**PKPab**	06 15 44.0	+0.1
EVO	**Evora**	153.95	24	*e*PKPdf	**PKPdf**	06 15 23.0	+1.1
EVO	**Evora**	153.95	24	*e*PKPbc	**PKiKP**	06 15 30.8	+0.6
EVO	**Evora**	153.95	24	*e*PKPab	**PKPab**	06 15 45.2	+0.8
PNCL	**Nicolau / Gran**	154.10	25	*e*PKPdf	**PKPdf**	06 15 23.3	+1.2
PNCL	**Nicolau / Gran**	154.10	25	*e*PKPbc	**PKiKP**	06 15 31.5	+1.0
PNCL				*i* LQ	LQ	06 16 41.3	
ESDC	**Sonseca Array**	154.27	16	PKP	**PKPdf**	06 15 23.0	+0.6
	comp=N,6.5nm,1.0s,baz=341,slow=2.8,SNR=27						
ESDC				PKPbc	**PKiKP**	06 15 31.2	+0.3
	comp=N,10nm,0.8s,baz=335,slow=2.7,SNR=16						
ESDC				PKPab	**PKPab**	06 15 46.8	+0.9
	comp=N,21nm,1.1s,baz=360,slow=6.3,SNR=4.7						
ESDC				PP	**PP**	06 19 22.9	+2.0
	comp=N,1.6nm,0.9s,baz=347,slow=5.3,SNR=3.4						
PAB	**San Pablo**	154.28	17	PKiKP	**PKPdf**	06 15 23.4	+0.9
PAB	**San Pablo**	154.28	17	PKPdf	**PKPdf**	06 15 23.4	+0.9
PBEJ	**Beja**	154.44	24	*e*PKPdf	**PKPdf**	06 15 24.0	+1.3
PBEJ	**Beja**	154.44	24	*e*PKPbc	**PKiKP**	06 15 32.5	+1.3
PBEJ	**Beja**	154.44	24	*e*PKPab	**PKPab**	06 15 47.3	+0.7
PBEJ				*i* LQ	LQ	06 16 40.4	
MESJ	**Messejana**	154.46	25	*e*PKPdf	**PKPdf**	06 15 23.3	+0.7
MESJ	**Messejana**	154.46	25	*e*PKPdf	**PKPdf**	06 15 23.3	+0.7
PTEO	**Sao Teotonio**	154.50	26	*e*PKPdf	**PKPdf**	06 15 22.6	-0.1
PTEO	**Sao Teotonio**	154.50	26	*e*PKPbc	**PKiKP**	06 15 32.7	+1.4
PTEO	**Sao Teotonio**	154.50	26	*e*PKPab	**PKPab**	06 15 47.9	+1.1
PCVE	**Castro Verde**	154.71	25	*e*PKPdf	**PKPdf**	06 15 24.2	+1.2
PCVE	**Castro Verde**	154.71	25	*e*PKPbc	**PKiKP**	06 15 32.6	+0.8
PCVE	**Castro Verde**	154.71	25	*e*PKPab	**PKPab**	06 15 48.1	+0.4
MORF	**Marmelete**	154.73	26	*e*PKPdf	**PKPdf**	06 15 23.7	+0.6
MORF	**Marmelete**	154.73	26	*e*PKPdf	**PKPdf**	06 15 24.5	+1.4
MORF	**Marmelete**	154.73	26	*e*PKPbc	**PKiKP**	06 15 32.8	+0.9
MORF	**Marmelete**	154.73	26	*e*PKPab	**PKPab**	06 15 48.4	+0.5
MORF				*i* LQ	LQ	06 16 42.2	
PFVI	**Vila Bisbo**	154.80	27	*e*PKPdf	**PKPdf**	06 15 24.7	+1.5
PFVI	**Vila Bisbo**	154.80	27	*e*PKPbc	**PKiKP**	06 15 32.8	+0.8
PVAQ	**Vaqueiros**	155.04	25	*e*PKPdf	**PKPdf**	06 15 23.2	-0.3
PVAQ	**Vaqueiros**	155.04	25	*e*PKPbc	PKPdf	06 15 33.3	+10
PVAQ	**Vaqueiros**	155.04	25	*e*PKPab	**PKPab**	06 15 50.2	+1.1
PBDV	**Barranco-do-Ve**	155.09	25	*e*PKPdf	**PKPdf**	06 15 25.3	+1.7
PBDV	**Barranco-do-Ve**	155.09	25	*e*PKPab	**PKPab**	06 15 50.4	+1.0
PBDV				*i* LQ	LQ	06 16 41.8	
KEST	**Kesra**	159.13	350	PKP	**PKPdf**	06 15 29.0	+0.2
	comp=N,11nm,0.8s,baz=316,slow=3.6,SNR=9.0						
KEST				PKPab	**PKPab**	06 16 07.6	+0.7
	comp=N,49nm,1.1s,baz=292,slow=2.3,SNR=9.9						
JBK	**JBK**	159.64	19	P	**PKPdf**	06 15 31.0	+1.4
OUK	**Oukaimeden**	160.04	34	P	**PKPdf**	06 15 32.1	+1.8
MDT	**Midelt**	160.28	25	P	**PKPdf**	06 15 32.2	+2.0
OUZM	**OUZ**	160.86	33	P	**PKPdf**	06 15 33.0	+2.0
TDRA	**Tendrara**	161.00	19	P	**PKPdf**	06 15 33.0	+1.8
TZRR	**Tazzarine**	161.56	30	P	**PKPdf**	06 15 34.0	+2.3
FIGM	**Figuig**	162.08	18	P	**PKPdf**	06 15 34.0	+1.8
ZGR	**Zagora**	162.08	32	P	**PKPdf**	06 15 35.0	+2.8
LIC	**Lamto**	166.66	130	*e*PKIKP	**PKPdf**	06 15 35.1	-1.5
	comp=N,146nm,1.4s						
LIC	**Lamto**	166.66	130	*e*PKP2	**PKPab**	06 16 40.4	-0.1
	comp=N,124nm,1.5s						
TIC	**Toumodi**	166.94	129	*e*PKIKP	**PKPdf**	06 15 35.4	-1.4
TIC	**Toumodi**	166.94	129	*e*PKP2	**PKPab**	06 16 41.7	-0.1
KIC	**Kosan Boka**	166.96	131	*e*PKIKP	**PKPdf**	06 15 35.3	-1.5
	comp=N,48nm,1.1s						
KIC	**Kosan Boka**	166.96	131	*e*PKP2	**PKPab**	06 16 41.7	-0.2
	comp=N,20nm,0.9s						
DBIC	**Dimbokro**	167.08	129	PKP	**PKPdf**	06 15 36.2	-0.6
	comp=N,22nm,1.0s,baz=173,slow=1.7,SNR=17						
DBIC				PKPab	**pPKPdf**	06 16 42.7	0.0
	comp=N,23nm,0.8s,baz=222,slow=4.2,SNR=15						
DBIC				pPKPab	**pPKPab**	06 17 44.5	-0.3
	comp=N,10nm,0.9s,baz=238,slow=4.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	176.11	120	PKP	**PKPdf**	06 15 40.0	-1.1
	comp=N,16nm,1.1s,baz=342,slow=1.4,SNR=61						
TORD				pPKP	**pPKPdf**	06 16 46.7	-0.3
	comp=N,10nm,1.2s,baz=284,slow=0.9,SNR=3.9						
TORD				PKPab	**PKPab**	06 17 22.1	-0.4
	comp=N,8.5nm,0.8s,baz=261,slow=3.2,SNR=11						
TORD				pPKPab	**pPKPab**	06 18 25.6	+0.8
	comp=N,14nm,1.1s,baz=256,slow=4.9,SNR=9.3						
TORD				PP	**PP**	06 21 20.1	+4.7
	comp=N,2.5nm,1.0s,baz=161,slow=4.7,SNR=4.0						

SSNC 13 06:22:01.5±1.2, 18°.67N×81°.50W, h20km±22km, MD3.7, ML2.9, MW3.4, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGV	**Manicaragua**	**3.71**	**22**	*e*P	Pn	06 22 55.5	-2.2
MGV				*e*S	Sn	06 23 36.8	-4.0
MGV				*e*Sg	Sb	06 23 38.7	-12
MGV				IAML		06 23 39.4	
	comp=E,30nm,0.3s						
MGV				IAML		06 23 40.2	
	comp=N,30nm,0.3s						
CCCC	**Cccc**	**4.33**	**54**	*e*P	Pn	06 23 09.3	+3.2
CCCC				*e*S	Sn	06 24 00.3	+4.3
CCCC				IAML		06 24 08.8	
	comp=N,1.8nm,0.5s						
CCCC				IAML		06 24 08.8	
	comp=E,1.8nm,0.3s						
SOR	**Soroa**	**4.34**	**341**	*e*P	Pn	06 23 05.4	-1.0
SOR				*e*S	Sn	06 23 54.0	-2.4
SOR				IAML		06 23 56.7	
	comp=N,2.9nm,0.2s						
SOR				IAML		06 23 57.8	
	comp=E,8.6nm,0.2s						
LMGC	**Las Mercedes**	**4.47**	**71**	*e*P	Pn	06 23 06.2	-1.9
LMGC				*e*S	Sn	06 23 55.4	-4.1
LMGC				IAML		06 23 57.9	
	comp=N,2.9nm,0.1s						
LMGC				IAML		06 23 58.7	
	comp=E,2.6nm,0.1s						
RCC	**Rio Carpintero**	**5.64**	**76**	*e*P	Pn	06 23 22.5	-1.7
RCC				*e*S	Sn	06 24 22.9	-5.6
RCC				IAML		06 24 26.4	
	comp=E,0.4nm,0.1s						
RCC				IAML		06 24 27.5	
	comp=N,0.6nm,0.1s						

*IDC **13** 06:23:17.2±1.0, 0°.46S×120°.43E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/49, mbtmp3.7/7, ML4.0/1, Error ellipse: s-maj=59.2km s-min=17.6km az=71.0*
*DJA **13** 06:23:19.2±0.3, 1°.5S±2°.12°0E±°, h10km, M4.1/12, MLv4.1/12*
ISC 13 06:23:23.1±0.9, 0°.44S±0°.04×120°.00E±0°.06, h45km, n17, σ2♀16/20, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.78**	**353**	P	**Pn**	**06 23 35.6**	**-2.1**
MPSI				S	**Sn**	**06 23 47.7**	**-0.6**
APSI	**Ampana**	**1.72**	**106**	P	**Pn**	**06 23 49.9**	**-0.6**
APSI				S	**Sn**	**06 24 12.8**	**+1.5**
MRSI	**Marisa**	**2.15**	**65**	P	**Pn**	**06 23 53.6**	**-2.8**
TTSI	**Tana Toraja**	**2.59**	**184**	P	**Pn**	**06 24 00.3**	**-2.2**
LUWI	**Luwuk**	**2.84**	**102**	P	**Pn**	**06 24 06.1**	**+0.2**
GTOI	**Gorontalo**	**3.20**	**70**	P	**Pn**	**06 24 07.8**	**-3.0**
BKB	**Balikpapan**	**3.20**	**255**	P	**Pn**	**06 24 09.7**	**-1.2**
SPSI	**Sidrap Palu**	**3.51**	**184**	P	**Pn**	**06 24 12.2**	**-2.9**
BNSI	**Bone**	**3.93**	**178**	P	**Pn**	**06 24 19.0**	**-2.0**
KAPI	**Kappang**	**4.55**	**183**	Pn	**Pn**	**06 24 28.3**	**-1.1**
	6.7nm,0.3s,baz=350,slow=9.8,SNR=17						
KAPI				Sn	**Sn**	**06 25 22.1**	**+1.1**
	3.1nm,0.3s,baz=180,slow=22,SNR=1.7						
BKSI	**Bulukumba**	**4.85**	**179**	P	**Pn**	**06 24 31.9**	**-1.6**
WRA	**Warramunga Arr**	**23.93**	**145**	P	**P**	**06 28 31.9**	**-1.3**
	1.1nm,0.7s,baz=326,slow=10.0,SNR=8.6						
ASAR	**Alice Springs**	**26.74**	**151**	P	**P**	**06 28 55.0**	**-3.7**
	0.3nm,0.8s,baz=331,slow=9.5,SNR=2.6						
SONM	**Songino Array**	**49.52**	**348**	P	**P**	**06 32 11.9**	**+2.6**
	0.4nm,0.5s,baz=168,slow=8.7,SNR=4.1						
MKAR	**Makanchi Array**	**57.45**	**330**	P	**P**	**06 33 09.8**	**+2.3**
	0.8nm,0.8s,baz=141,slow=7.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**61.51**	**337**	P	**P**	**06 33 36.2**	**+0.9**
	0.7nm,0.6s,baz=147,slow=8.1,SNR=2.2						
KURBB	**Kurchatov Arra**	**61.87**	**331**	P	**P**	**06 33 39.4**	**+1.6**
	0.5nm,0.3s,baz=144,slow=6.4,SNR=4.3						

JMA 13 06:45:35.2±0.2, 38°.24N×143°.03E, h10km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.23**	**274**	P	Pn	06 45 58.1	-0.4
JIKH				*e*S	Sb	06 46 14.2	-0.3
JIO	**Ouri**	**1.34**	**280**	P	Pn	06 45 59.6	-0.3
JIO				S	Sb	06 46 16.9	-0.7
JKMT	**Kesennumamotoy**	**1.35**	**296**	P	Pn	06 45 59.7	-0.4
JKMT				*e*S	Sb	06 46 17.2	-0.6
OFUJ	**Ofunato**	**1.36**	**309**	P	Pn	06 46 00.0	-0.2
OFUJ				*e*S	Sb	06 46 18.0	-0.1
JMK	**Ichinoseki**	**1.59**	**297**	P	Pn	06 46 03.5	+0.2
JMK				*e*S	Sn	06 46 24.1	+0.2
JMM	**Marumori**	**1.81**	**259**	P	Pn	06 46 06.7	+0.4
JOM	**Ohasama**	**1.83**	**313**	P	Pb	06 46 07.9	-0.9
JOM				*e*S	Sb	06 46 31.0	-0.8
JOU	**Okura**	**1.87**	**275**	P	Pn	06 46 08.1	+0.9
JOU				*e*S	Sb	06 46 31.9	-0.9
JFK	**Kawauchi**	**1.92**	**244**	P	Pn	06 46 08.1	+0.2
JRG	**Rokugo**	**2.20**	**302**	P	Pn	06 46 13.3	+1.5
JYK	**Kaneyama**	**2.20**	**289**	P	Pn	06 46 13.0	+1.2
JFT	**Otama**	**2.25**	**252**	P	Pb	06 46 14.8	-1.1
JFT				*e*S	Sb	06 46 42.1	-1.7
JANG	**Nango**	**2.43**	**332**	P	Pb	06 46 17.2	-1.9
MAT	**Matsushiro**	**4.20**	**248**	P	Pn	06 46 40.1	+0.8
MAT				*e*S	Sn	06 47 25.8	-2.6

*PRE **13** 06:58:37.8±1.1, 27°.02S×26°.71E, h2km, ML2.0*
*EAF **13** 06:58:49.2±1.1, 27°.52S×26°.54E, h10km, MD4.1*
ISC 13 06:58:38.0±1.6, 26°.99S±0°.04×26°.69E±0°.05, h4km±16km, n14, σ2♀41/22, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.61**	**84**	*e*P	**Pg**	**06 58 49.4**	**-0.3**
PRYS				*e*S	**Sg**	**06 58 57.2**	**-0.4**
PRYS				IAML		06 58 58.6	
	comp=Z,20nm,0.1s						
KSR	**Koster**	**1.15**	**10**	*e*P	**Pb**	**06 59 01.2**	**+0.7**
KSR				*e*S	**Sb**	**06 59 16.1**	**+0.3**
KSR				IAML		06 59 37.0	
	comp=Z,183nm,0.1s						
SWZ	**Schweizer**	**1.22**	**261**	*e*P	**Pn**	**06 59 01.8**	**-0.2**
SWZ				*e*S	**Sb**	**06 59 18.1**	**+0.1**
SWZ				IAML		06 59 25.6	
	comp=Z,21nm,0.4s						
HRAO	**HartRAO**	**1.42**	**40**	*e*P	**Pn**	**06 59 05.5**	**+0.8**
HRAO				*e*S	**Sg**	**06 59 25.1**	**+1.6**
HRAO				IAML		06 59 43.5	
	comp=Z,22nm,0.1s						
SNKL	**Senekal, Frees**	**1.60**	**143**	*e*P	**Pn**	**06 59 07.1**	**-0.3**
SNKL				*e*S	**Sg**	**06 59 29.2**	**-0.4**
SNKL				IAML		06 59 32.0	
	comp=Z,18nm,0.2s						
BOSA	**Boshof**	**2.06**	**218**	*i* P	**Pb**	**06 59 16.3**	**+0.3**
BOSA	**Boshof**	**2.06**	**218**	*i* P	**Pb**	**06 59 16.3**	**+0.3**
LBTB	**Lobatse**	**2.20**	**333**	*e*P	**Pn**	**06 59 17.0**	**+1.6**
LBTB				*e*S	**Sn**	**06 59 45.2**	**+2.1**
LBTB				IAML		07 00 05.7	
	comp=Z,22nm,0.6s						
LBTB	**Lobatse**	**2.20**	**333**	*i* P	Pg	06 59 32.0	+12
LBTB	**Lobatse**	**2.20**	**333**	*i* P	Pg	06 59 32.0	+12
MOPA	**Mopani**	**5.49**	**52**	*i* P	**Pb**	**07 00 17.3**	**+2.8**
MOPA				*i* S	**Sb**	**07 01 19.5**	**-1.3**
MOPA	**Mopani**	**5.49**	**52**	*i* P	**Pb**	**07 00 17.3**	**+2.8**
MOPA				*i* S	**Sb**	**07 01 19.5**	**-1.3**
MATP	**Matopo**	**6.74**	**15**	*i* P	**Pb**	**07 00 35.0**	**-0.9**
MATP				*i* S	**Sb**	**07 01 50.8**	**-6.0**
MATP	**Matopo**	**6.74**	**15**	*i* P	**Pb**	**07 00 35.0**	**-0.9**
MATP				*i* S	**Sb**	**07 01 50.8**	**-6.0**

VAO 13 07:09:57.2±1.0, 7°.91S×73°.36W, h135km±5km, mbR3.8, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**0.68**	**74**	*e*P	Pn	07 10 19.1	+1.1
TBTG	**Tabatinga, AM**	**5.05**	**43**	*e*P	Pn	07 11 10.8	-0.3
ETMB	**Extrema**	**7.31**	**106**	*e*P	Pn	07 11 41.5	+0.1
VILB	**Vilhena**	**13.88**	**112**	*e*P	Pn	07 13 08.5	+0.2
PTLB	**Pontes e Lacer**	**15.81**	**120**	*e*P	Pn	07 13 31.4	-1.0
PDRB	**Porto dos Gac**	**16.80**	**104**	*e*P	Pn	07 13 44.9	+0.3
NPGB	**Novo Progresso**	**17.87**	**88**	*e*P	P	07 13 55.2	-1.1
ITTB	**Itaituba**	**17.87**	**80**	*e*P	P	07 13 55.6	-0.7
SALV	**Santo Antonio**	**19.01**	**116**	*e*P	P	07 14 09.3	+0.6
MALB	**Monte Alegre**	**19.95**	**73**	*e*P	P	07 14 20.4	+1.5
AQDB	**Aquidauana**	**21.16**	**128**	*e*P	P	07 14 31.9	0.0

NNC 13 07:10:53.4±0.4, 50°.05N×78°.77E, h0km, mb3.8, mpv3.5, 12C-4D, Error ellipse: s-maj=4.6km s-min=2.0km az=76.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.60**	**345**	⇑P	Pg	07 11 04.5	-0.3
	32nm,0.3s						
KURBB				⇑S	Sg	07 11 13.8	+1.2
	149nm,0.6s						
KURK	**Kurchatov**	**0.68**	**352**	⇑P	Pg	07 11 05.9	-0.5
	14nm,0.4s						
KURK				⇑S	Sg	07 11 16.4	+1.3
	7.8nm,0.3s						
SEM	**Semipalatinsk**	**1.02**	**69**	P	Pg	07 11 12.7	-0.1
	13nm,0.2s						
SEM				S	Sb	07 11 27.1	-0.8
	24nm,0.2s						
MAKZ	**Makanchi**	**3.88**	**145**	⇑Pn	Pn	07 11 53.9	-0.4
	0.4nm,0.5s						
MAKZ				⇑Pg	Pb	07 12 00.4	-2.3
	0.4nm,0.3s						
MAKZ				⇑Lg	Lg	07 12 52.8	
	15nm,0.6s						
BRZS	**Berezniki**	**3.93**	**271**	Pg	Pb	07 12 05.6	+2.1
	5.6nm,0.4s						
BRZS				Lg	Lg	07 12 57.5	
	5.1nm,0.3s						
MK31	**Makanchi Array**	**4.01**	**143**	Pn	Pn	07 11 55.9	-0.2
	0.2nm,0.1s,baz=330,slow=11,SNR=35						
MK31				⇓Pg	Pb	07 12 05.0	+0.1
	0.4nm,0.2s,baz=324,slow=14,SNR=8.6						
MK31				⇑Sn	Sn	07 12 44.3	+0.5
	2.1nm,0.5s						
MK31				⇓Lg	Lg	07 12 57.5	
	11nm,0.6s,baz=331,slow=26,SNR=6.7						
OTUK	**Ortayu**	**4.59**	**249**	⇑Pn	Pn	07 12 03.5	-0.6
	1.0nm,0.3s						
OTUK				⇑Sn	Sn	07 12 56.7	-1.4
	1.0nm,0.6s						
OTUK				⇓Lg	Lg	07 13 15.2	
	7.4nm,0.5s						
KAPS	**Kapalarasan**	**4.78**	**175**	Pg	Pg	07 12 21.6	-3.4
	1.4nm,0.3s						
KAPS				Lg	Lg	07 13 25.1	
	9.2nm,0.5s						
ZSN	**Zaisan**	**4.80**	**120**	Pg	Pb	07 12 19.2	+0.9
	4.3nm,0.2s						
ZSN				Lg	Lg	07 13 21.1	
	11nm,0.4s						
TDK	**Taldyqorghan**	**5.05**	**183**	Pg	Pg	07 12 28.2	-2.0
	28nm,0.1s						
TDK				Lg	Lg	07 13 36.3	
	67nm,0.3s						
DJR	**Jarkent**	**5.76**	**173**	Pg	Pg	07 12 41.1	-2.6
	1.3nm,0.3s						
DJR				Lg	Lg	07 13 58.9	
	8.2nm,0.5s						
ARXS	**Arharly**	**5.87**	**187**	Pg	Pg	07 12 43.7	-2.2
	1.3nm,0.2s						
ARXS				Lg	Lg	07 14 03.2	
	16nm,0.3s						
BTLS	**Baital**	**5.94**	**214**	Pg	Pb	07 12 42.3	+4.5
	1.2nm,0.4s						
BTLS				Lg	Lg	07 14 01.0	
	2.8nm,0.3s						
BLB	**Baldybastay**	**5.96**	**182**	Pg	Pg	07 12 45.2	-2.3
	4.0nm,0.3s						
BLB				Lg	Lg	07 14 05.9	
	15nm,0.3s						
BVA1	**Borovoye Array**	**6.02**	**303**	⇑Pn	Pn	07 12 23.7	0.0
	0.2nm,0.2s						
BVA1				⇑Sn	Sn	07 13 33.1	-0.1
	2.6nm,0.6s						
BVA1				⇓Lg	Lg	07 14 02.1	
	3.2nm,0.6s						
CHKK	**Chushkaly**	**6.32**	**192**	Pg	Pg	07 12 50.4	-3.9
	1.9nm,0.1s						
CHKK				Lg	Lg	07 14 15.0	
	12nm,0.3s						
KUU	**Kurty**	**6.38**	**196**	Pg	Pg	07 12 52.4	-3.1
	2.0nm,0.1s						
KUU				Lg	Lg	07 14 18.0	
	9.5nm,0.4s						
KTBS	**Karatobe**	**6.50**	**194**	Pg	Pg	07 12 54.5	-3.3
	1.0nm,0.2s						
KTBS				Lg	Lg	07 14 21.5	
	20nm,0.3s						
KURS	**Kuram**	**6.58**	**184**	Pg	Pg	07 12 56.7	-2.6
	8.5nm,0.6s						
KURS				Lg	Lg	07 14 25.1	
	6.1nm,0.6s						
KRBS	**Karabastau**	**6.70**	**200**	Pg	Pg

H11N3 WAKE ISLAND Hy 27.12 125 T T 08 05 34.4
baz=319,slow=75,SNR=4.6
MKAR Makanchi Array 45.19 302 P P 07 39 57.9 +3.1
0.3nm,0.8s,baz=88,slow=10,SNR=3.3
KURBB Kurchatov Arra 46.92 308 P **P 07 40 10.5 +2.3**
0.6nm,0.4s,baz=83,slow=8.0,SNR=8.5
WRA Warramunga Arr 57.96 190 P **P 07 41 30.2 0.0**
1.6nm,0.9s,baz=10,slow=7.4,SNR=8.8
ASAR Alice Springs 61.69 190 P **P 07 41 55.1 -0.7**
0.5nm,0.8s,baz=2.8,slow=5.1,SNR=4.4

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*MAN **13** 07:48:41.0, 5°.62N×125°.41E, h173km, mb5.1, ML4.1, MS4.2*
MAN INTENSITY II - GENERAL SANTOS CITY.
*IDC **13** 07:48:41.4±0.5, 5°.69N×125°.44E, h191km±4km, mb4.1/21, mb1 4.2/25, mb1mx4.0/53, mbtmp4.7/25, MS3.8/2, Ms1 3.8/2, ms1mx3.1/44, Error ellipse: s-maj=13.2km s-min=7.2km az=84.0*
*DJA **13** 07:48:41.6±0.3, 6°N±3°×12°6E±°, h177km±3km, M4.6/48, mb4.7/48, mB5.1/26, MLv5.1/12, Mw(mB)4.5/26, MwMwp5.7/1, Mwp5.8/1*
*NEIC **13** 07:48:42.0±2.4, 5°.64N±0°.07×125°.44E±0°.09, h191km±4km, mb4.8/51, Error ellipse: s-maj=12.9km s-min=9.6km az=81.0*
ISC 13 07:48:41.7±0.4, 5°.66N±0°.04×125°.43E±0°.05, h191km±4km, n232, σ1$38/252, mb4.7/77, 2C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.52**	**32⇑**	*eP*			**Pn**	**07 49 06.2**	**-1.7**
GSPH	**General Santos**	**0.64**	**312⇓**	*iP*			**Pn**	**07 49 06.6**	**-1.9**
GSPH				*i* S			**Sn**	**07 49 26.1**	**-3.2**
KCP	**Kidapawan**	**1.38**	**346⇓**	*iP*			**Pn**	**07 49 11.5**	**-2.1**
KCP				*i* S			**Sn**	**07 49 36.0**	**-2.6**
DAV	**Davao City (W)**	**1.41**	**6**	P			**Pn**	**07 49 13.2**	**-0.7**
	586nm,0.3s,baz=128,slow=1.6,SNR=109								
DAV				S			**Sn**	**07 49 38.0**	**-0.9**
	2μm,0.3s,baz=306,slow=22,SNR=19								
DAV				LR			LR	07 49 51.5	
	comp=Z,763nm,18.2s,baz=154,slow=51								
DAV	**Davao City (W)**	**1.41**	**6**	P			**Pn**	**07 49 13.1**	**-0.7**
MATI	**Mati**	**1.52**	**33⇓**	*iP*			**Pn**	**07 49 12.7**	**-2.1**
CTBH	**Cotabato--PC H**	**1.95**	**323⇓**	*iP*			**Pn**	**07 49 18.1**	**-0.9**
CTBH				*i* S			**Sn**	**07 49 46.1**	**-2.0**
SGSI	**Sangihe**	**1.96**	**177**	P			**Pn**	**07 49 18.0**	**-1.2**
BUKP	**Musuan**	**2.24**	**351⇓**	*iP*			**Pn**	**07 49 21.1**	**-1.1**
BUKP	**Musuan**	**2.24**	**351⇓**	*iP*			Pn	07 49 31.4	+9.3
BUKP				*e*S			Sn	07 49 42.1	-12
BIPH	**Bislig**	**2.67**	**20⇓**	*iP*			**Pn**	**07 49 29.9**	**+2.9**
BIPH				*i* S			**Sn**	**07 50 05.4**	**+2.9**
PAGZ	**Pagadian**	**2.98**	**317⇓**	*iP*			**Pn**	**07 49 29.6**	**-1.0**
TBP	**Tagbilaran**	**4.30**	**339**	*eP*			**Pn**	**07 49 47.2**	**+0.3**
TBP				*i* S			**Sn**	**07 50 36.9**	**-1.3**
TNTI	**Ternate**	**5.22**	**158**	P			**Pn**	**07 49 56.6**	**-2.2**
	2.6nm10μm562nm,0.6s								
TNTI	**Ternate**	**5.22**	**158**	Pn			**Pn**	**07 49 56.5**	**-2.2**
TNTI	**Ternate**	**5.22**	**158**	P			**Pn**	**07 49 57.1**	**-1.7**
KMSI	**Cibinong**	**5.25**	**196**	P			**Pn**	**07 49 59.2**	**0.0**
	1.2nm3μm325nm,0.8s								
GTOI	**Gorontalo**	**5.54**	**206**	P			**Pn**	**07 50 02.1**	**-0.8**
	0.8nm2μm247nm,1.0s								
MRSI	**Marisa**	**6.21**	**214**	P			**Pn**	**07 50 11.6**	**-0.1**
	0.4nm1μm110nm,0.8s								
TOLI2	**Tolitoli**	**6.48**	**226**	Pn			**Pn**	**07 50 14.3**	**-0.8**
TOLI2	**Tolitoli**	**6.48**	**226**	P			**Pn**	**07 50 14.8**	**-0.3**
LBMI	**Labuha**	**6.59**	**162**	P			**Pn**	**07 50 14.7**	**-1.8**
	1.0nm4μm124nm,0.7s								
MYLDM	**Lahad Datu**	**6.92**	**266**	Pn			**Pn**	**07 50 23.4**	**+2.6**
LUWI	**Luwuk**	**7.17**	**202**	P			**Pn**	**07 50 25.6**	**+1.5**
	0.7nm7μm157nm,0.9s								
LUWI	**Luwuk**	**7.17**	**202**	Pn			**Pn**	**07 50 25.4**	**+1.3**
LUWI	**Luwuk**	**7.17**	**202**	P			**Pn**	**07 50 26.0**	**+1.9**
APSI	**Ampana**	**7.54**	**210**	P			**Pn**	**07 50 30.9**	**+1.9**
	0.3nm970nm80nm,0.9s								
MPSI	**Mapaga**	**7.64**	**226**	P			**Pn**	**07 50 30.6**	**+0.3**
	0.2nm55nm,0.8s								
SANI	**Sanana**	**7.68**	**176**	P			**Pn**	**07 50 26.6**	**-4.2**
	1.1nm5μm215nm,0.6s								
SWI	**Sorong**	**8.71**	**138**	P			**Pn**	**07 50 45.0**	**+0.7**
	33nm,0.5s								
SIJI	**Sorong**	**8.72**	**138**	P			**Pn**	**07 50 44.5**	**+0.1**
	1.6nm,0.3s,baz=342,slow=7.8,SNR=7.4								
AAI	**Ambon**	**9.69**	**163**	P			**Pn**	**07 50 55.4**	**-1.6**
	2μm131nm,0.7s								
TTSI	**Tana Toraja**	**10.30**	**213**	P			**Pn**	**07 51 06.0**	**+0.9**
	54nm,0.7s								
FAKI	**Fak Fak**	**10.91**	**141**	P			**Pn**	**07 51 11.2**	**-1.7**
	29nm,1.0s								
FAKI	**Fak Fak**	**10.91**	**141**	Pn			**Pn**	**07 51 10.5**	**-2.4**
FAKI	**Fak Fak**	**10.91**	**141**	P			**Pn**	**07 51 12.1**	**-0.8**
SPSI	**Sidrap Palu**	**11.11**	**211**	P			**Pn**	**07 51 16.5**	**+1.1**
	17nm,0.9s								
BNSI	**Bone**	**11.32**	**208**	P			**Pn**	**07 51 20.4**	**+2.2**
	38nm,0.9s								
KAPI	**Kappang**	**12.02**	**208**	P			**Pn**	**07 51 28.5**	**+1.3**
	0.5nm,0.3s,baz=18,slow=7.9,SNR=4.5								
KAPI	**Kappang**	**12.02**	**208**	Pn			**Pn**	**07 51 27.8**	**+0.6**
KAPI	**Kappang**	**12.02**	**208**	P			**Pn**	**07 51 28.5**	**+1.3**
BKSI	**Bulukumba**	**12.13**	**206**	P			**Pn**	**07 51 30.3**	**+1.8**
	12nm,0.7s								
MTKI	**Muara Teweh, K**	**12.40**	**238**	P			**P**	**07 51 41.0**	**+4.7**
KBKI	**Kotabaru**	**12.84**	**226**	P			**Pn**	**07 51 39.2**	**+1.7**
	3μm63nm,1.0s								
SBUM	**Sibu**	**13.56**	**257**				**P**	**07 51 50.5**	**+1.2**
BBKI	**Banjar Baru**	**13.93**	**230**	P			**P**	**07 51 54.3**	**+1.0**
	63nm,0.8s								
EDFI	**Ende, Flores**	**14.79**	**195**	P			**P**	**07 52 02.5**	**-0.5**
	12nm,0.8s								
STKI	**Sintang**	**15.00**	**249**	P			**P**	**07 52 06.8**	**+1.6**
	18nm,0.5s								
SOEI	**Soe**	**15.36**	**184**	P			P	07 52 20.6	+11
SOEI	**Soe**	**15.36**	**184**				**P**	**07 52 10.4**	**+1.1**
SOEI				IAmb			IAmb	07 52 26.4	
	comp=Z,52nm,0.6s								
SOEI	**Soe**	**15.36**	**184**	P			**P**	**07 52 09.3**	**0.0**
KSM	**Kuching**	**15.65**	**255**				**P**	**07 52 13.7**	**+1.2**
KSM				IAmb			IAmb	07 52 15.5	
	comp=Z,22nm,0.7s								
KSM	**Kuching**	**15.65**	**255**	P			**P**	**07 52 14.3**	**+1.8**
BATI	**Baumata**	**15.86**	**186**	P			**Pn**	**07 52 15.8**	**+1.0**
	comp=Z,16nm,0.3s,baz=314,slow=1.5,SNR=13								
BATI				S			**S**	**07 55 10.9**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=98,slow=21,SNR=8.3								
BATI	**Baumata**	**15.86**	**186**	P			**Pn**	**07 52 15.3**	**+0.5**
	comp=Z,57nm,0.6s								
WBSI	**Waikabubak, Su**	**16.35**	**202**	P			**P**	**07 52 19.5**	**-0.6**
	comp=Z,26nm,0.8s								
GENI	**Genyem**	**16.85**	**119**	P			**Pn**	**07 52 28.3**	**+1.6**
	comp=Z,4μmcomp=Z,420nm,0.9s								
GENI	**Genyem**	**16.85**	**119**	P			**Pn**	**07 52 27.8**	**+1.1**
KMMI	**Kalianget**	**17.04**	**222**	P			**Pn**	**07 52 29.8**	**+0.9**
SRBI	**Singaraja**	**17.04**	**217**	P			**P**	**07 52 28.1**	**+0.4**
	comp=Z,50nm,0.7s								
JAY	**Jayapura**	**17.28**	**118**	P			**Pn**	**07 52 31.6**	**-0.3**
	comp=Z,2.7nm,0.3s,baz=248,slow=20,SNR=11								
JAY	**Jayapura**	**17.28**	**118**	P			**Pn**	**07 52 32.2**	**+0.3**
	comp=Z,31nm,0.9s								
DLV	**T Lat**	**17.86**	**292**	P			**Pn**	**07 52 38.4**	**-0.6**
DLV				IAmb			IAmb	07 52 40.4	
	comp=Z,51nm,1.1s								
DLV	**T Lat**	**17.86**	**292**	P			**Pn**	**07 52 38.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**17.99**	**219**	P			**Pn**	**07 52 39.3**	**-0.8**
	comp=Z,2μmcomp=Z,28nm,0.4s								
JAGI	**Jajag, Banyuwa**	**17.99**	**219**	P			**Pn**	**07 52 40.3**	**+0.2**
JAGI				IAmb			IAmb	07 52 42.1	
	comp=Z,54nm,1.1s								
JAGI	**Jajag, Banyuwa**	**17.99**	**219**	P			**Pn**	**07 52 40.2**	**+0.1**
TPUB	**Ta-pu**	**18.14**	**346**	P			**P**	**07 52 39.2**	**-0.5**
GMJI	**Gumukmas**	**18.29**	**221**	P			**Pn**	**07 52 42.9**	**-0.8**
	comp=Z,40nm,1.1s								
DRS	**Darwin Rock St**	**18.78**	**163**	P			**Pn**	**07 52 47.8**	**-1.6**
MTN	**Manton Dam**	**19.23**	**163**	P			**P**	**07 52 51.3**	**-0.2**
MTN				IAmb			IAmb	07 52 52.7	
	comp=Z,66nm,1.2s								
MTN	**Manton Dam**	**19.23**	**163**	P			**P**	**07 52 51.7**	**+0.1**
KDU	**Kakadu**	**19.52**	**159**	P			**P**	**07 52 54.8**	**+0.1**
TPI	**Tanjungpandan**	**19.62**	**245**	P			**P**	**07 52 52.0**	**-3.8**
	comp=Z,31nmcomp=Z,24nm,1.4s								
QIZ	**Qiongzhong**	**20.18**	**313**	P			**P**	**07 53 01.3**	**-0.5**
QIZ				S			**S**	**07 56 38.3**	**+0.4**
QIZ				pmax			pmax		
	comp=Z,27nm,1.5s								
QIZ				LR			LR		
	comp=Z,1μm,16.5s								
QIZ				LR			LR		
	comp=Z,2μm,16.5s								
QIZ				LR			LR		
	comp=Z,2μm,17.1s								
PPBI	**Pangkal Pinang**	**20.78**	**249**	P			**P**	**07 53 08.8**	**+0.7**
	comp=Z,15μmcomp=Z,28nm,0.6s								
JOW	**Kunigami**	**21.23**	**7**	P			**P**	**07 53 12.8**	**+0.1**
	comp=Z,71nm,0.9s,baz=187,slow=9.7,SNR=8.4								
JOW				LR			LR	08 01 03.4	
	comp=Z,396nm,21.6s,baz=130,slow=35								
JOW	**Kunigami**	**21.23**	**7**	P			**P**	**07 53 12.7**	**-0.1**
JOW	**Kunigami**	**21.23**	**7**	P			**P**	**07 53 13.5**	**+0.7**
KNRA	**Kununurra**	**21.45**	**171**	P			**P**	**07 53 13.9**	**-1.2**
KNRA	**Kununurra**	**21.45**	**171**	P			**P**	**07 53 15.1**	**-0.1**
LEM	**Lembang**	**21.68**	**235**	P			**P**	**07 53 19.4**	**+1.7**
	comp=Z,51nm,0.8s,baz=52,slow=8.7,SNR=10								
DSRI	**Dabo**	**21.70**	**254**	P			**P**	**07 53 19.6**	**+1.8**
	comp=Z,3μmcomp=Z,52nm,1.1s								
UBPT	**Khong Chiam**	**21.81**	**298**	P			**P**	**07 53 18.8**	**-0.1**
UBPT				IAmb			IAmb	07 53 19.4	
	comp=Z,23nm,0.9s								
MYKOM	**Kota Tinggi**	**21.87**	**261**	P			**P**	**07 53 20.7**	**+1.2**
MYKOM				IAmb			IAmb	07 53 21.7	
	comp=Z,40nm,0.8s								
CBJI	**Citeko**	**22.09**	**237**	P			**P**	**07 53 25.1**	**+3.5**
PMBI	**Palembang**	**22.33**	**248**	P			**P**	**07 53 26.9**	**+3.0**
CNJI	**Cibinong**	**22.35**	**235**	P			**P**	**07 53 26.5**	**+2.5**
	comp=Z,48nm,0.8s								
JMBI	**JAMBI**	**22.93**	**252**	P			**P**	**07 53 32.4**	**+3.0**
	comp=Z,221nm,0.8s								
BLSI	**Bandar Lampung**	**22.94**	**242**	P			**P**	**07 53 32.6**	**+3.2**
KLI	**Kotabumi**	**23.05**	**243**	P			**P**	**07 53 32.1**	**+1.7**
	comp=Z,417nm,0.9s								
KLSI		**23.09**	**244**	P			**P**	**07 53 32.4**	**+1.6**
	comp=Z,469nmcomp=Z,62nm,0.9s								
MDSI	**Maura Dua**	**23.50**	**245**	P			**P**	**07 53 35.6**	**+1.1**
	comp=Z,22nm,1.3s								
FITZ	**Fitzroy Crossi**	**23.61**	**180**	P			**P**	**07 53 35.2**	**-0.2**
	comp=Z,15nm,0.3s,baz=359,slow=7.1,SNR=129								
KASI	**Kota Agung**	**23.67**	**242**	P			**P**	**07 53 38.6**	**+2.5**
	comp=Z,1μmcomp=Z,145nm,0.9s								
LHSI	**Lahat**	**23.82**	**247**	P			**P**	**07 53 40.8**	**+3.3**
	comp=Z,2μmcomp=Z,99nm,1.1s								
LWLI	**Liwa**	**23.83**	**244**	P			**P**	**07 53 40.4**	**+2.7**
	comp=Z,65μmcomp=Z,131nm,0.8s								
IPM	**Ipoh**	**24.34**	**268**	P			**P**	**07 53 41.8**	**-0.5**
IPM				IAmb			IAmb	07 53 43.4	
	comp=Z,32nm,0.8s								
IPM	**Ipoh**	**24.34**	**268**	P			**P**	**07 53 42.8**	**+0.6**
MASI	**Maura Aman, Be**	**24.76**	**250**	P			**P**	**07 53 49.1**	**+3.1**
	comp=Z,1μmcomp=Z,113nm,0.8s								
BKNI	**Bangkinang**	**24.92**	**259**	P			**P**	**07 53 47.7**	**+0.2**
PPI	**Padang Panjang**	**25.72**	**257**	P			**P**	**07 53 55.1**	**+0.4**
	comp=Z,667nmcomp=Z,63nm,0.8s								
SRIT	**Nakonsritamara**	**25.79**	**278**	P			**P**	**07 53 56.2**	**+0.9**
MNSI	**Mandailing Nat**	**26.25**	**260**	P			**P**	**07 53 59.4**	**0.0**
COEN	**Coen**	**26.27**	**138**	P			**P**	**07 53 58.1**	**-1.4**
COEN				IAmb			IAmb	07 53 59.6	
	comp=Z,43nm,1.9s								
PSI	**Prapat**	**26.58**	**265**	P			**P**	**07 54 02.3**	**-0.2**
	comp=Z,14nm,0.9s,baz=72,slow=4.2,SNR=18								
WB0	**Warramunga Arr**	**26.76**	**161**	P			**P**	**07 54 02.7**	**-1.2**
WB0				IAmb			IAmb	07 54 03.9	
	comp=Z,26nm,0.9s								
WRAB	**Tennant Creek**	**26.90**	**161**	P			**P**	**07 54 03.7**	**-1.5**
WRAB				IAmb			IAmb	07 54 05.2	
	comp=Z,24nm,0.8s								
WRAB	**Tennant Creek**	**26.90**	**161**	P			**P**	**07 54 04.7**	**-0.5**
WRA	**Warramunga Arr**	**26.91**	**161**	P			**P**	**07 54 04.2**	**-1.0**
	comp=Z,17nm,0.8s,baz=338,slow=10,SNR=91								
NJ2	**Nanjing**	**26.97**	**348**	*eP*			**P**	**07 54 07.0**	**+1.4**
NJ2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
SISI	**Saibi**	**27.21**	**256**	P			**P**	**07 54 08.2**	**+0.2**
	comp=Z,1μmcomp=Z,117nm,0.8s								
MBWA	**Marble Bar**	**27.23**	**192**	P			**P**	**07 54 08.2**	**+0.1**
	comp=Z,34nm,1.5s								
PSA00	**Pilbara Seismi**	**27.61**	**191**	P			**P**	**07 54 10.3**	**-1.2**
PSA00				IAmb			IAmb	07 54 11.6	
	comp=Z,29nm,0.9s								
PSA00	**Pilbara Seismi**	**27.61**	**191**	P			**P**	**07 54 10.8**	**-0.6**
KCSI	**Kotacane, Aceh**	**27.65**	**267**	P			**P**	**07 54 11.5**	**-0.5**
GSI	**Gunungsitoli**	**28.13**	**262**	P			**P**	**07 54 15.2**	**-1.0**
GSI	**Gunungsitoli**	**28.13**	**262**	P			**P**	**07 54 15.5**	**-0.7**
TPTI		**28.26**	**266**	P			**P**	**07 54 19.4**	**+2.0**
	comp=Z,5.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**28.80**	**299**	P			**P**	**07 54 22.1**	**0.0**
	comp=Z,3.4nm,0.5s,baz=119,slow=7.5,SNR=24								
CHTO	**Chiang Mai**	**28.94**	**299**	P			**P**	**07 54 23.0**	**-0.3**
CHTO				IAmb			IAmb	07 54 25.0	
	comp=Z,16nm,1.4s								
CHTO	**Chiang Mai**	**28.94**	**299**	P			**P**	**07 54 23.8**	**+0.5**
QIS	**Mount Isa**	**29.54**	**152**	P			**P**	**07 54 28.5**	**-0.1**
MTSU	**Mount Surprise**	**30.10**	**142**	P			**P**	**07 54 34.0**	**+0.4**
AS31	**Alice Springs**	**30.30**	**164**	P			**P**	**07 54 34.5**	**-0.7**
AS31				IAmb			IAmb	07 54 36.5	
	comp=Z,7.0nm,0.5s								
ASAR	**Alice Springs**	**30.30**	**164**	P			**P**	**07 54 34.9**	**-0.4**
	comp=Z,10nm,0.5s,baz=342,slow=7.1,SNR=189								
ASAR				PcP			**PcP**	**07 57 30.5**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=347,slow=2.1,SNR=9.6								
ASAR				S			**S**	**07 59 20.7**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=351,slow=23,SNR=4.1								
ASAR	**Alice Springs**	**30.30**	**164**	P			**P**	**07 54 34.5**	**-0.7**
WRKA	**Warakurna**	**30.64**	**175**	P			**P**	**07 54 38.3**	**+0.1**
PZH	**PanZhiHua**	**30.67**	**315**	P			**P**	**07 54 39.8**	**+1.2**
PZH				pmax			pmax		
	comp=Z,10.0nm,0.6s								
PZH				pmax			pmax		
	comp=Z,110nm,6.0s								
KSRS	**Korea Array**	**31.73**	**4**	P			**P**	**07 54 47.3**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=183,slow=10,SNR=12								
XAN	**Xi'an**	**32.12**	**334**	P			**P**	**07 54 50.0**	**-1.2**
XAN				pmax			pmax		
	comp=Z,10.0nm,0.7s								
CTAO	**Charters Tower**	**32.77**	**142**	P			**P**	**07 54 57.6**	**+0.7**
CTAO				IAmb			IAmb	07 54 58.7	
	comp=Z,15nm,0.9s								
CTAO	**Charters Tower**	**32.77**	**142**	P			**P**	**07 54 57.8**	**+0.9**
MEEK	**Meekatharra**	**32.78**	**191**	P			**P**	**07 54 56.2**	**-0.7**
MJAR	**Matsushiro Arr**	**32.89**	**19**	P			**P**	**07 54 56.4**	**-1.4**
	comp=Z,6.6nm,0.7s,baz=199,slow=9.1,SNR=12								
MJAR	**Matsushiro Arr**	**32.89**	**19**	P			**P**	**07 54 55.6**	**-2.2**
MAT	**Matsushiro**	**32.90**	**19**	P			**P**	**07 54 56.3**	**-1.5**
MJB9	**Matsu-Tunnel**	**32.90**	**19**	P			**P**	**07 54 56.5**	**-1.3**
MJB9				IAmb			IAmb	07 55 00.8	
	comp=Z,14nm,0.9s								
OOD	**Oodnadatta**	**34.70**	**164**	P			**P**	**07 55 13.8**	**+0.4**
JMM	**Marumori**	**34.98**	**21**	P			**P**	**07 55 15.6**	**-0.1**
MORW	**Morawa**	**35.69**	**194**	P			**P**	**07 55 21.1**	**-0.7**
MORW				IAmb			IAmb	07 55 22.5	
	comp=Z,22nm,0.8s								
MORW	**Morawa**	**35.69**	**194**	P			**P**	**07 55 21.6**	**-0.3**
LZH	**Lanzhou**	**36.20**	**330**	⇑P			**P**	**07 55 31.1**	**+4.8**
LZH				pP			pP	07 56 08.3	+1.9
LZH				sP			sP	07 56 24.8	-3.5
LZH				pmax			pmax		
	comp=Z,19nm,1.2s								
FORT	**Forrest**	**36.32**	**176**	P			**P**	**07 55 26.7**	**-0.4**
FORT	**Forrest**	**36.32**	**176**	P			**P**	**07 55 27.1**	**-0.1**
INKA	**Innaminka**	**36.35**	**157**	P			**P**	**07 55 28.4**	**+0.9**
MULG	**Mulgathing**	**36.68**	**167**	P			**P**	**07 55 30.4**	**+0.2**
QLP	**Quilpie**	**36.87**	**151**	P			**P**	**07 55 31.3**	**-0.6**
BLDU	**Ballidu**	**37.02**	**193**	P			**P**	**07 55 33.0**	**-0.1**
HHC	**Hu-ho-hao-te**	**37.18**	**342**	*eP*			**P**	**07 55 35.5**	**+1.0**
HHC				S			**S**	**08 01 08.4**	**+1.6**
HHC				pmax			pmax		
	comp=Z,10.0nm,0.9s								
HHC				pmax			pmax		
	comp=Z,150nm,5.3s								
SHL	**Shillong**	**37.70**	**305**	P			**P**	**07 55 38.7**	**-0.5**
SHL				IAmb			IAmb	07 55 40.0	
	comp=Z,35nm,0.7s								
KLBR	**Kellerberrin**	**37.76**	**191**	P			**P**	**07 55 39.1**	**-0.2**
LCRK	**Leigh Creek**	**37.93**	**162**	P			**P**	**07 55 41.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**38.82**	**8**	P			**P**	**07 55 48.1**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=186,slow=8.6,SNR=6.0								
USRK	**Ussuriysk Ar.**	**38.82**	**8**	P			**P**	**07 55 48.0**	**0.0**
MDJ	**Mudanjiang**	**38.97**	**5**	P			**P**	**07 55 50.3**	**+1.0**
MDJ				pmax			pmax		
	comp=Z,19nm,0.8s								
MDJ				pmax			pmax		
	comp=Z,240nm,3.5s								
MDJ	**Mudanjiang**	**38.97**	**5**	IAmb			IAmb	07 55 50.9	
	comp=Z,15nm,0.9s								
MDJ	**Mudanjiang**	**38.97**	**5**	P			**P**	**07 55 50.7**	**+1.4**
	comp=Z,21nm,0.9s								
NWAO	**Narrogin (SRO)**	**39.16**	**191**	P			**P**	**07 55 52.0**	**+1.1**
	comp=Z,65nm,2.3s								
BBOO	**Buckleboo**	**39.57**	**166**	P			**P**	**07 55 54.2**	**-0.1**
BBOO	**Buckleboo**	**39.57**	**166**	P			**P**	**07 55 54.5**	**+0.2**
	comp=Z,105nm,0.7s								
EIDS	**Eidsvold**	**39.66**	**142**	P			**P**	**07 55 54.9**	**-0.3**
	comp=Z,16nm,1.1s								
STKA	**Stephens Creek**	**40.38**	**159**	P			**P**	**07 56 01.6**	**+0.5**
	comp=Z,23nm,0.8s,baz=331,slow=8.6,SNR=37								
STKA	**Stephens Creek**	**40.38**	**159**	P			**P**	**07 56 00.5**	**-0.6**
STKA	**Stephens Creek**	**40.38**	**159**	P			**P**	**07 56 01.4**	**+0.3**
	comp=Z,7.2nm,0.9s								
GTA	**Gaotai**	**40.79**	**329**	*eP*			**P**	**07 56 04.1**	**-0.4**
GTA				pP			pP	07 56 45.3	0.0
GTA				pmax			pmax		
	comp=Z,2.0nm,0.9s								
GTA				pmax			pmax		
	comp=Z,32nm,7.3s								
GTA				LR			LR		
	comp=Z,490nm,17.8s								
GTA				LR			LR		
	comp=Z,450nm,19.6s								
GTA				LR			LR		
	comp=Z,370nm,18.5s								
HTT	**Hallett**	**40.93**	**163**	P			**P**	**07 56 06.7**	**+1.2**
	comp=Z,26nm,0.9s								
ASAJ	**Asahikawa**	**41.17**	**19**	P			**P**	**07 56 08.1**	**+0.8**
	comp=Z,4.3nm,0.3s,baz=250,slow=9.0,SNR=10								
JKA	**Kamikawa-asahi**	**41.17**	**19**	P			**P**	**07 56 08.1**	**+0.8**
JKA	**Kamikawa-asahi**	**41.17**	**19**	IAmb			IAmb	07 56 48.2	
	comp=Z,80nm,1.7s								
GOMU	**GeErMu**	**41.38**	**321**	P			**P**	**07 56 12.5**	**+2.9**
GOMU				pmax			pmax		
	comp=Z,71nm,4.6s								
CMSA	**Cobar Meteorol**	**41.74**	**154**	P			**P**	**07 56 13.0**	**+0.9**
	comp=Z,14nm,0.7s								
JIRN	**Jiri**	**43.21**	**305**	*eP*			**P**	**07 56 24.8**	**+0.3**
	comp=Z,0.2nm,0.3s								
GUN	**Gumba**	**43.56**	**305**	*eP*			**P**	**07 56 27.0**	**-0.3**
	comp=Z,69nm,0.6s								
ARMA	**Armidale**	**43.78**	**147**	P			**P**	**07 56 28.4**	**-0.2**
ARMA				IAmb			IAmb	07 56 30.5	
	comp=Z,16nm,0.8s								
ARMA	**Armidale**	**43.78**	**147**	P			**P**	**07 56 29.8**	**+1.1**
	comp=Z,24nm,1.2s								
PKI	**Pulchoki**	**43.81**	**304**	*eP*			**P**	**07 56 28.9**	**-0.4**
PKIN	**Phulchoki**	**43.82**	**304**	*eP*			**P**	**07 56 28.8**	**-0.5**
	comp=Z,8.2nm,0.5s								
KKN	**Kakani**	**44.00**	**305**	*eP*			**P**	**07 56 30.6**	**-0.1**
DMN	**Daman**	**44.07**	**304**	*eP*			**P**	**07 56 31.7**	**+0.4**
	comp=Z,9.3nm,0.3s								
PVM	**Polavaram**	**44.34**	**289**	*eP*			**P**	**07 56 33.4**	**+0.2**
GKN	**Gorkha**	**44.61**	**305**	*eP*			**P**	**07 56 35.1**	**-0.3**
	comp=Z,6.6nm,0.2s								
ARPS	**Mount Arapiles**	**44.91**	**161**	P			**P**	**07 56 38.4

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.15±.37; $M_{\theta\theta}$0.08±.20; $M_{\phi\phi}$-4.23±.23; $M_{r\theta}$-0.11±.37; $M_{\phi\theta}$1.55±.13; $M_{\phi r}$4.10±.43; Best double couple: $M_0$6.05600×10^{16} NP1:ϕ_s149.00000°, δ25.00000°, λ67.00000°. NP2: ϕ_s354.00000°, δ67.00000°, λ100.00000°. Principal axes: T 5.8650, Plg67.0000°, Azm283.0000°; N 0.3800, Plg10.0000°, Azm170.0000°; P -6.2470, Plg21.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC ***13*** *07:52:34.2±3.9, 12°.18N×125°.66E, h29km±27km, mb4.4/31, mb1 4.4/31, mb1mx4.3/55, mbtmp4.5/31, MS4.2/19, Ms1 4.2/19, ms1mx4.0/45 Error ellipse: s-maj=23.4km s-min=11.0km az=71.0*

MOS ***13*** *07:52:38.6±1.0, 12°.20N×125°.50E, h82km, mb5.0/37, MS4.4/7, Error ellipse: s-maj=12.7km s-min=5.3km az=126.2*

NEIC ***13*** *07:52:40.8±1.2, 12°.23N±0°.06×125°.59E±0°.08, h83km±6km, mb5.0/63, Error ellipse: s-maj=12.4km s-min=6.9km az=119.0*

BJI ***13*** *07:52:40.5±0.0, 12°.17N×125°.61E, h108km, mb4.6/62, mB5.0/43*

DJA ***13*** *07:52:46.1±1.0, 12°N±4°×12°5E±°, h137km±9km, M4.6/31, mB5.2/19, mb4.6/31, Mw(mB)4.6/19*

ISC 13 07:52:41.0±0.4, 12°.18N±0°.03×125°.54E±0°.05, h90km±3km, h90km:pP-P, n348, σ1ř94/366, mb4.8/116, 63C-21D, Fault plane solution: NP1:ϕ_s220.84877°, δ16.44435°, λ129.67676°. NP2:ϕ_s359.99191°, δ77.41557°, λ79.32806°.

Principal axes: T Plg56.3301°, Azm256.3301°; N Plg10.4127°, Azm2.3430°; P Plg31.6090°, Azm98.8366°;

Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**1.88**	**276**	⇓*eP*	**Pn**	**07 53 07.5**	**-4.1**
MMPH				*i* S	**Sn**	**07 53 36.5**	**+1.5**
MSLP	**Maasin**	**2.14**	**198**	⇑*eP*	Pn	07 53 10.1	-4.9
MSLP				*e*S	**Sn**	**07 53 48.1**	**+7.0**
SCPH	**Surigao**	**2.39**	**181**	⇑*eP*	Pn	07 53 12.4	-5.9
SCPH				*e*S	**Sn**	**07 53 42.6**	**-4.2**
LLP	**Lapu-Lapu**	**2.41**	**220**	⇓*eP*	**Pn**	**07 53 14.2**	**-4.4**
LLP				*e*S	**Sn**	**07 53 50.1**	**+2.6**
RCP	**Roxas**	**2.81**	**258**	⇑*eP*	**Pn**	**07 53 20.1**	**-3.9**
RCP				*e*S	**Sn**	**07 53 59.6**	**+2.6**
TBP	**Tagbilaran**	**2.98**	**214**	⇑*eP*	**Pn**	**07 53 21.8**	**-4.4**
TBP				*i* S	**Sn**	**07 53 59.2**	**-1.8**
AUQP	**San Andres**	**3.02**	**292**	⇑*eP*	**Pn**	**07 53 27.4**	**+0.6**
BUTP	**Butuan**	**3.19**	**179**	⇑*eP*	Pn	07 53 24.2	-4.9
GQP	**Guinayangan**	**3.47**	**300**	⇓*eP*	**Pn**	**07 53 30.0**	**-2.8**
GQP				*i* S	**Sn**	**07 54 21.2**	**+8.3**
JCNP	**Jose Panganiba**	**3.47**	**307**	⇑*eP*	**Pn**	**07 53 30.9**	**-1.9**
JCNP				*e*S	Sn	07 54 24.2	+11
SNPH	**Sibulan**	**3.62**	**219**	⇑*eP*	**Pn**	**07 53 31.4**	**-3.5**
SNPH				*e*S	**Sn**	**07 54 19.6**	**+3.0**
CNOP	**Candoni, Negro**	**3.69**	**231**	⇑*eP*	**Pn**	**07 53 32.1**	**-3.7**
CNOP	**Candoni, Negro**	**3.69**	**231**	⇑*eP*	Pn	07 53 44.2	+8.4
CNOP				*i* S	**Sn**	**07 54 18.6**	**+0.4**
JAP	**San Jose, Anti**	**3.80**	**248**	⇑*eP*	**Pn**	**07 53 37.6**	**+0.2**
BOAC	**Boac**	**3.82**	**290**	⇑*eP*	**Pn**	**07 53 34.2**	**-3.4**
BIPH	**Bislig**	**4.05**	**168**	⇓*eP*	**Pn**	**07 53 45.3**	**+4.5**
BIPH				*e*S	Sn	07 54 40.1	+13
BUKP	**Musuan**	**4.30**	**186**	⇑*eP*	**Pn**	**07 53 44.6**	**+0.4**
BUKP	**Musuan**	**4.30**	**186**	⇑*eP*	Pn	07 53 54.2	+10
BUKP				*e*S	Sn	07 54 47.0	+14
SJMP	**San Jose**	**4.33**	**274**	⇑*eP*	**Pn**	**07 53 42.9**	**-1.6**
LQP	**Lukban**	**4.34**	**297**	⇑*eP*	**Pn**	**07 53 41.9**	**-3.0**
CUYO	**Cuyo Island**	**4.63**	**254**	⇓*eP*	**Pn**	**07 53 47.1**	**-1.4**
PGP	**Puerto Galera**	**4.66**	**287**	⇑*eP*	**Pn**	**07 53 44.5**	**-4.5**
PAGZ	**Pagadian**	**4.80**	**206**	⇓*eP*	**Pn**	**07 53 47.2**	**-3.7**
TGY	**Tagaytay City**	**4.87**	**294**	Pn	**Pn**	**07 53 51.6**	**-0.3**
	62nm,0.3s,baz=70,slow=6.1,SNR=7.9						
TGY	**Tagaytay City**	**4.87**	**294**	⇓*eP*	**Pn**	**07 53 53.5**	**+1.5**
QVP	**Quezon City--P**	**5.04**	**299**	⇑*eP*	**Pn**	**07 53 55.5**	**+1.4**
MACP	**Maragondon, Ca**	**5.13**	**294**	⇓*eP*	Pn	07 53 50.2	-5.2
KCP	**Kidapawan**	**5.16**	**185**	⇓*eP*	Pn	07 54 00.8	+4.9
LUBP	**Lubang**	**5.39**	**287**	⇑*eP*	**Pn**	**07 53 54.7**	**-4.2**
LUBP	**Lubang**	**5.39**	**287**	⇓*iP*	**Pn**	**07 53 58.4**	**-0.5**
SMPP	**San Manuel, Pa**	**6.15**	**310**	⇓*eP*	Pn	07 54 04.3	-4.9
SAMP	**Sagada Mountai**	**6.62**	**318**	⇓*iP*	Pn	07 54 00.6	-15
APYP	**Conner**	**7.01**	**324**	⇑*eP*	**Pn**	**07 54 20.6**	**-0.4**
BATP	**Bataraza**	**8.32**	**247**	⇑*eP*	**Pn**	**07 54 39.8**	**+0.9**
MYLDM	**Lahad Datu**	**9.84**	**226**	Pn	**Pn**	**07 55 00.4**	**+0.8**
I39PW	**PALAU INFRASON**	**10.00**	**117**	*i*		08 55 40.0	
	baz=297,slow=314,SNR=1.0						
KKM	**Kota Kinabalu**	**11.04**	**237**	Pn	**Pn**	**07 55 16.4**	**+0.3**
TNTI	**Ternate**	**11.48**	**171**	Pn	**Pn**	**07 55 23.2**	**+1.3**
GTOI	**Gorontalo**	**11.74**	**193**	P	**Pn**	**07 55 29.3**	**+3.8**
	2μm88nm,0.6s						
TOLI2	**Tolitoli**	**11.97**	**204**	Pn	**Pn**	**07 55 28.5**	**0.0**
MRSI	**Marisa**	**12.17**	**197**	P	**Pn**	**07 55 35.2**	**+4.0**
MPSI	**Mapaga**	**13.03**	**206**	P	**Pn**	**07 55 45.7**	**+3.0**
	2μm24nm,0.5s						
APSI	**Ampana**	**13.57**	**197**	P	**Pn**	**07 55 51.1**	**+1.3**
	59nm,1.0s						
SIJI	**Sorong**	**14.16**	**156**	Pn	**Pn**	**07 55 54.8**	**-2.7**
	0.6nm,0.3s,baz=334,slow=13,SNR=3.8						
TTSI	**Tana Toraja**	**16.16**	**201**	P	**P**	**07 56 26.4**	**+1.9**
TTSI	**Tana Toraja**	**16.16**	**201**	P	**P**	**07 56 24.8**	**+0.3**
	2μm58nm,0.9s						
SBUM	**Sibu**	**16.36**	**235**		**P**	**07 56 26.1**	**-0.6**
DLV	**T Lat**	**16.68**	**271**	P	**P**	**07 56 31.6**	**+1.2**
SPSI	**Sidrap Palu**	**17.04**	**200**	P	**P**	**07 56 38.8**	**+4.7**
SPSI	**Sidrap Palu**	**17.04**	**200**	P	**P**	**07 56 34.4**	**+0.3**
	850nm59nm,1.1s						
BNSI	**Bone**	**17.34**	**198**	P	**P**	**07 56 41.4**	**+4.0**
BNSI	**Bone**	**17.34**	**198**	P	**P**	**07 56 38.3**	**+0.9**
	1μm41nm,1.5s						
KAPI	**Kappang**	**18.03**	**199**	P	**Pn**	**07 56 45.8**	**0.0**
	0.6nm,0.3s,baz=51,slow=6.4,SNR=11						
KAPI				LR	LR	08 04 56.9	
	comp=Z,533nm,18.2s,baz=67,slow=41						
KAPI	**Kappang**	**18.03**	**199**	P	**Pn**	**07 56 45.2**	**-0.6**
KAPI				pmax	pmax		
	comp=Z,37nm,1.0s						
KAPI	**Kappang**	**18.03**	**199**		**Pn**	**07 56 45.2**	**-0.6**
BKSI	**Bulukumba**	**18.21**	**198**	P	**Pn**	**07 56 54.6**	**+6.7**
BKSI	**Bulukumba**	**18.21**	**198**	P	**Pn**	**07 56 49.2**	**+1.3**
	comp=Z,433nmcomp=Z,23nm,0.9s						
STKI	**Sintang**	**18.43**	**230**	P	**Pn**	**07 56 52.8**	**+2.2**
STKI	**Sintang**	**18.43**	**230**	P	**Pn**	**07 56 51.8**	**+1.2**
	comp=Z,25nm,0.5s						
KSM	**Kuching**	**18.48**	**236**	P	**P**	**07 56 50.3**	**+0.3**
BBKI	**Banjar Baru**	**18.83**	**215**	P	Pn	07 57 04.2	+8.8
BBKI	**Banjar Baru**	**18.83**	**215**	P	**P**	**07 56 54.2**	**+0.3**
GUMO	**Guam**	**18.89**	**84**	LR	LR	08 02 47.1	
	comp=Z,491nm,20.6s,baz=266,slow=33						
SSE	**Sheshan**	**19.25**	**349**	P	**P**	**07 56 58.5**	**+0.2**
SSE				S	**S**	**08 00 32.3**	**+0.7**
SSE				pmax	pmax		
	comp=Z,29nm,1.4s						
SSE				pmax	pmax		
	comp=Z,140nm,6.0s						
SSE				LR	LR		
	comp=Z,400nm,13.9s						
SSE				LR	LR		
	comp=Z,360nm,14.1s						
GULI	**GuiLin**	**19.38**	**314**	⇑P	**P**	**07 56 59.9**	**+0.1**
GULI				S	**Sn**	**08 00 38.8**	**-0.4**
GULI				pmax	pmax		
	comp=Z,40nm,1.3s						
GULI				LR	LR		
	comp=Z,2μm,17.4s						
GULI				LR	LR		
	comp=Z,2μm,17.9s						
GULI				LR	LR		
	comp=Z,2μm,14.6s						
UBPT	**Khong Chiam**	**19.74**	**281**	P	**P**	**07 57 03.7**	**0.0**
UBPT				IAmb	IAmb	07 57 04.6	
	comp=Z,111nm,1.4s						
NJ2	**Nanjing**	**20.71**	**344**	*e*P	**P**	**07 57 14.3**	**+0.2**
NJ2				S	**S**	**08 01 03.4**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,18nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,300nm,4.7s						
NJ2				LR	LR		
	comp=Z,820nm,12.8s						
NJ2				LR	LR		
	comp=Z,1μm,12.3s						
NJ2				LR	LR		
	comp=Z,750nm,15.7s						
JAY	**Jayapura**	**20.98**	**133**	LR	LR	08 03 24.0	
	comp=Z,808nm,20.9s,baz=324,slow=31						
WHN	**Wuhan**	**21.01**	**332**	⇓P	**P**	**07 57 17.3**	**0.0**
WHN				S	**S**	**08 01 00.0**	**-6.3**
WHN				LR	LR		
	comp=Z,1μm,13.7s						
WHN				LR	LR		
	comp=Z,2μm,13.0s						
WHN				LR	LR		
	comp=Z,2μm,18.9s						
EDFI	**Ende, Flores**	**21.14**	**191**	P	P	07 57 28.3	+9.3
EDFI	**Ende, Flores**	**21.14**	**191**	P	**P**	**07 57 17.1**	**-1.9**
SOEI	**Soe**	**21.83**	**183**	P	**P**	**07 57 25.1**	**-1.2**
SOEI				IAmb	IAmb	07 57 56.5	
	comp=Z,63nm,0.9s						
BATI	**Baumata**	**22.32**	**185**	P	**P**	**07 57 29.9**	**-1.6**
	comp=Z,64nm,0.5s,baz=284,slow=1.4,SNR=5.7						
BATI				LR	LR	08 06 44.3	
	comp=Z,503nm,20.6s,baz=348,slow=38						
BATI	**Baumata**	**22.32**	**185**	P	**P**	**07 57 35.0**	**+3.5**
BATI	**Baumata**	**22.32**	**185**	P	**P**	**07 57 31.0**	**-0.5**
	comp=Z,53nm,0.7s						
SLVN	**Son La**	**22.60**	**297**	P	**P**	**07 57 34.3**	**-0.2**
GYA	**Guiyang**	**22.74**	**311**	⇓P	**P**	**07 57 35.1**	**-0.8**
GYA				pmax	pmax		
	comp=Z,25nm,1.4s						
GYA				pmax	pmax		
	comp=Z,350nm,3.8s						
GYA				LR	LR		
	comp=Z,940nm,12.7s						
GYA				LR	LR		
	comp=Z,1μm,15.2s						
GYA				LR	LR		
	comp=Z,2μm,17.0s						
TPI	**Tanjungpandan**	**23.16**	**231**	P	**P**	**07 57 39.1**	**-0.8**
TPI	**Tanjungpandan**	**23.16**	**231**	P	**P**	**07 57 38.9**	**-1.0**
	comp=Z,89nm,1.5s						
JAGI	**Jajag, Banyuwa**	**23.43**	**209**	P	**P**	**07 57 44.5**	**+2.0**
JAGI	**Jajag, Banyuwa**	**23.43**	**209**	P	**P**	**07 57 42.9**	**+0.4**
	comp=Z,1μmcomp=Z,75nm,1.1s						
JAGI	**Jajag, Banyuwa**	**23.43**	**209**	P	**P**	**07 57 41.5**	**-1.0**
JAGI				IAmb	IAmb	07 58 05.7	
	comp=Z,81nm,1.1s						
MYKOM	**Kota Tinggi**	**23.85**	**246**	P	**P**	**07 57 45.9**	**-0.3**
MYKOM				IAmb	IAmb	07 57 48.6	
	comp=Z,136nm,1.4s						
DSRI	**Dabo**	**24.32**	**240**	P	**P**	**07 57 52.8**	**+2.4**
DSRI	**Dabo**	**24.32**	**240**	P	**P**	**07 57 50.5**	**+0.1**
	comp=Z,1μmcomp=Z,45nm,1.5s						
UGM	**Wanagama**	**24.93**	**218**	P	P	07 58 07.9	+12
KMI	**Kunming**	**25.09**	**304**	⇓P	**P**	**07 57 57.4**	**-0.3**
KMI				pP	pP	07 58 18.1	+0.2
KMI				sP	sP	07 58 30.5	+2.1
KMI				PP	**PnPn**	**07 58 42.3**	**+5.6**
KMI				S	**S**	**08 02 19.6**	**+3.5**
KMI				pmax	pmax		
	comp=Z,24nm,1.3s						
KMI				pmax	pmax		
	comp=Z,160nm,3.5s						
KMI				LR	LR		
	comp=Z,450nm,14.9s						
KMI				LR	LR		
	comp=Z,780nm,19.0s						
KMI				LR	LR		
	comp=Z,900nm,17.1s						
TIA	**Tai'an**	**25.10**	**344**	⇑P	**P**	**07 57 57.1**	**-0.3**
TIA				S	**S**	**08 02 19.4**	**+3.9**
TIA				pmax	pmax		
	comp=Z,17nm,1.3s						
TIA				pmax	pmax		
	comp=Z,190nm,7.6s						
TIA				LR	LR		
	comp=Z,360nm,12.8s						
TIA				LR	LR		
	comp=Z,630nm,10.8s						
TIA				LR	LR		
	comp=Z,470nm,16.3s						
LYN	**LuoYang**	**25.24**	**334**	*e*P	**P**	**07 57 57.8**	**-0.9**
LYN				pP	pP	07 58 17.8	-0.3
LYN				S	**S**	**08 02 12.8**	**-5.0**
LYN				pmax	pmax		
	comp=Z,30nm,1.4s						
LYN				pmax	pmax		
	comp=Z,190nm,8.2s						
LYN				LR	LR		
	comp=Z,510nm,15.7s						
LYN				LR	LR		
	comp=Z,620nm,15.2s						
KSRS	**Korea Array**	**25.25**	**4**	P	**P**	**07 57 56.7**	**-2.0**
	comp=Z,3.8nm,1.0s,baz=180,slow=9.1,SNR=4.1						
RGRI	**Rengat**	**26.19**	**243**	P	**P**	**07 58 10.0**	**+2.6**
CM31	**Chiang Mai Arr**	**26.38**	**287**	P	**P**	**07 58 08.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**26.38**	**287**	P	**P**	**07 58 08.3**	**-0.9**
	comp=Z,4.0nm,0.4s,baz=94,slow=7.3,SNR=25						
CMAR				LR	LR	08 09 45.7	
	comp=Z,594nm,18.1s,baz=100,slow=39						
CMAR	**Chiang Mai Arr**	**26.38**	**287**	P	**P**	**07 58 08.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**26.38**	**287**	P	**P**	**07 58 08.9**	**-0.3**
CHTO	**Chiang Mai**	**26.44**	**288**	P	**P**	**07 58 08.8**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CHTO	**Chiang Mai**	**26.44**	**288**	P	**P**	**07 58 08.8**	**-0.9**
XAN	**Xi'an**	**26.51**	**328**	P	**P**	**07 58 08.9**	**-1.3**
XAN				pmax	pmax		
	comp=Z,31nm,1.7s						
XAN				pmax	pmax		
	comp=Z,120nm,3.0s						
XAN				LR	LR		
	comp=Z,1μm,16.7s						
XAN				LR	LR		
	comp=Z,500nm,16.7s						
XAN				LR	LR		
	comp=Z,1μm,15.2s						
PZH	**PanZhiHua**	**26.52**	**306**	⇑P	**P**	**07 58 10.0**	**-0.5**
PZH				pP	**pP**	**07 58 29.8**	**-1.0**
PZH				S	**S**	**08 02 38.0**	**-0.5**
PZH				sS	**sS**	**08 03 13.8**	**+0.4**
PZH				pmax	pmax		
	comp=Z,30nm,1.4s						
PZH				pmax	pmax		
	comp=Z,160nm,4.8s						
PZH				LR	LR		
	comp=Z,660nm,15.5s						
PZH				LR	LR		
	comp=Z,700nm,15.3s						
PZH				LR	LR		
	comp=Z,960nm,15.3s						
KLSI		**26.63**	**232**	P	P	07 58 19.2	+7.8
KLSI		**26.63**	**232**	P	**P**	**07 58 10.7**	**-0.7**
	comp=Z,6.7nm,1.6s						
HNS	**HongShan**	**26.92**	**341**	⇑P	**P**	**07 58 12.9**	**-0.9**
HNS				pmax	pmax		
	comp=Z,37nm,1.0s						
HNS				LR	LR		
	comp=Z,390nm,11.9s						
HNS				LR	LR		
	comp=Z,840nm,14.1s						
HNS				LR	LR		
	comp=Z,530nm,16.7s						
MDSI	**Maura Dua**	**26.93**	**233**	P	**P**	**07 58 17.1**	**+3.0**
MDSI	**Maura Dua**	**26.93**	**233**	P	**P**	**07 58 13.4**	**-0.7**
	comp=Z,782nmcomp=Z,9.4nm,1.4s						
CD2	**Chengdu**	**27.43**	**316**	P	**P**	**07 58 18.1**	**-0.4**
CD2				pP	pP	07 58 41.8	+3.0
CD2				S	**S**	**08 02 52.8**	**+0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,190nm,6.6s						
CD2				LR	LR		
	comp=Z,200nm,18.6s						
CD2				LR	LR		
	comp=Z,2μm,18.6s						
CD2				LR	LR		
	comp=Z,840nm,15.2s						
PSI	**Prapat**	**27.96**	**253**	LR	LR	08 10 32.4	
	comp=Z,723nm,19.0s,baz=102,slow=38						
GSI	**Gunungsitoli**	**29.76**	**251**	P	**P**	**07 58 39.3**	**0.0**
FITZ	**Fitzroy Crossi**	**30.09**	**180**	P	**P**	**07 58 40.4**	**-1.7**
	comp=Z,14nm,1.2s,baz=0.4,slow=14,SNR=8.3						
LZH	**Lanzhou**	**30.81**	**324**	⇓P	**P**	**07 58 49.5**	**+0.9**
LZH				S	**S**	**08 03 52.8**	**+7.0**
LZH				sS	sS	08 04 21.8	+1.0
LZH				SS	**SnSn**	**08 05 33.5**	**-0.5**
LZH				pmax	pmax		
	comp=Z,26nm,1.3s						
LZH				pmax	pmax		
	comp=Z,160nm,5.0s						
LZH				LR	LR		
	comp=Z,2μm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,13.5s						
LZH				LR	LR		
	comp=Z,2μm,15.2s						
HHC	**Hu-ho-hao-te**	**31.09**	**339**	*e*P	**P**	**07 58 52.3**	**+1.5**
HHC				pP	pwP	07 59 12.8	+1.9
HHC				S	**S**	**08 03 55.4**	**+5.6**
HHC				pmax	pmax		
	comp=Z,16nm,1.3s						
HHC				pmax	pmax		
	comp=Z,130nm,5.8s						
HHC				LR	LR		
	comp=Z,430nm,14.5s						
HHC				LR	LR		
	comp=Z,520nm,15.0s						
HHC				LR	LR		
	comp=Z,500nm,15.8s						
XLT	**XiLinHaoTe**	**32.64**	**347**	*e*P	**P**	**07 59 03.0**	**-1.4**
XLT				pP	pwP	07 59 26.8	-2.0
XLT				S	**S**	**08 04 10.4**	**-3.5**
XLT				sS	sS	08 04 52.8	+3.8
XLT				SS	**SnSn**	**08 06 18.8**	**+0.8**
XLT				pmax	pmax		
	comp=Z,22nm,1.2s						
XLT				pmax	pmax		
	comp=Z,160nm,4.7s						
XLT				LR	LR		
	comp=Z,500nm,16.2s						
XLT				LR	LR		
	comp=Z,770nm,14.0s						
XLT				LR	LR		
	comp=Z,370nm,15.6s						
WB0	**Warramunga Arr**	**32.92**	**165**	P	**P**	**07 59 05.6**	**-1.4**
WRA	**Warramunga Arr**	**33.08**	**165**	P	**P**	**07 59 07.7**	**-0.7**
	comp=Z,3.2nm,1.0s,baz=344,slow=9.3,SNR=7.9						
SHL	**Shillong**	**34.40**	**298**	P	**P**	**07 59 19.2**	**-0.9**
SHL				pmax	pmax		
	comp=Z,83nm,1.6s						
SHL	**Shillong**	**34.40**	**298**	P	**P**	**07 59 19.2**	**-0.9**
GTA	**Gaotai**	**35.41**	**325**	⇑P	**P**	**07 59 28.6**	**+0.1**
GTA				S	**S**	**08 04 59.1**	**+2.1**
GTA				pmax	pmax		
	comp=Z,11nm,1.4s						
GTA				pmax	pmax		
	comp=Z,180nm,5.1s						
GTA				LR	LR		
	comp=Z,490nm,17.1s						
GTA				LR	LR		
	comp=Z,450nm,17.1s						
GTA				LR	LR		
	comp=Z,590nm,17.8s						
YUK	**Yuzh-Kuril'sk**	**36.24**	**25**	*e*P	**P**	**07 59 34.9**	**-0.4**
YUK				*e*		08 00 59.5	
YUK				*e*S	**S**	**08 05 08.9**	**-0.2**
YUK				pmax	pmax		
	comp=N,197nm,1.1s						
YUK				pmax	pmax		
	comp=Z,232nm,1.1s						
YUK				pmax	pmax		
	comp=E,315nm,1.4s						
YUK				pmax	pmax		
	comp=Z,201nm,1.6s						
YUK				MLR	MLR		
	comp=Z,108nm,14.0s						
YUK				MLR	MLR		
	comp=E,111nm,18.0s						
YUK				MLR	MLR		
	comp=N,43nm,11.0s						
LSA	**Lhasa**	**36.35**	**304**	IAmb	IAmb	07 59 39.3	
	comp=Z,28nm,1.1s						
AS31	**Alice Springs**	**36.55**	**167**	P	**P**	**07 59 38.8**	**+0.5**
ASAR	**Alice Springs**	**36.56**	**167**	P	**P**	**07 59 36.4**	**-1.9**
	comp=Z,2.0nm,0.5s,baz=343,slow=7.7,SNR=9.9						
ASAR				PcP	**PcP**	**08 02 00.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=338,slow=2.9,SNR=4.1						
ASAR				ScP	**ScP**	**08 05 44.2**	**+5.4**
	comp=Z,1.9nm,1.0s,baz=1.9,slow=2.8,SNR=7.5						
ASAR	**Alice Springs**	**36.56**	**167**	P	**P**	**07 59 37.5**	**-0.8**
ASAR	**Alice Springs**	**36.56**	**167**	P	**P**	**07 59 37.5**	**-0.8**
GOMU	**GeErMu**	**36.57**	**316**	P	**P**	**07 59 40.0**	**+1.3**
GOMU				PP	**PnPn**	**08 01 06.0**	**+1.6**
GOMU				pmax	pmax		
	comp=Z,19nm,1.3s						
GOMU				pmax	pmax		
	comp=Z,110nm,4.2s						
GOMU				LR	LR		
	comp=Z,630nm,13.7s						
GOMU				LR	LR		
	comp=Z,430nm,16.5s						
GOMU				LR	LR		
	comp=Z,770nm,16.3s						
KLR	**Kul'dur**	**37.29**	**7**	*ce*P	**P**	**07 59 46.0**	**+1.8**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**37.58**	**19**	*e*P	P	07 59 52.6	+6.0
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
ULN	**Ulaanbaatar**	**38.79**	**340**	*ce*P	**P**	**07 59 56.3**	**-0.8**
ULN				pmax	pmax		
	comp=Z,12nm,1.7s						
ULN	**Ulaanbaatar**	**38.79**	**340**	P	**P**	**07 59 56.6**	**-0.5**
SONM	**Songino Array**	**38.99**	**339**	P	**P**	**07 59 58.2**	**-0.5**
	comp=Z,5.5nm,1.1s,baz=158,slow=7.3,SNR=14						
SONM	**Songino Array**	**38.99**	**339**	P	**P**	**07 59 58.1**	**-0.5**
SONM				pmax	pmax		
	comp=Z,15nm,1.1s						
SONM	**Songino Array**	**38.99**	**339**	P	**P**	**07 59 58.1**	**-0.5**
SONM				IAmb	IAmb	08 00 09.7	
	comp=Z,15nm,1.1s						
GUN	**Gumba**	**40.20**	**299**	*e*P	**P**	**08 00 09.0**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**40.38**	**74**	T	T	08 43 29.8	
	baz=266,slow=74,SNR=41						
HNR	**Honiara**	**40.38**	**121**	LR	LR	08 13 59.3	
	comp=Z,492nm,22.0s,baz=296,slow=32						
H11N2	**WAKE ISLAND Hy**	**40.38**	**74**	T	T	08 43 27.4	
	baz=266,slow=74,SNR=37						
H11N3	**WAKE ISLAND Hy**	**40.39**	**74**	T	T	08 43 31.2	
	baz=266,slow=74,SNR=38						
CHLP	**Challavanipeta**	**40.43**	**284**	*e*P	**P**	**08 00 11.1**	**+0.3**
PKI	**Pulchoki**	**40.52**	**298**	*e*P	**P**	**08 00 11.3**	**-0.6**
PKIN	**Phulchoki**	**40.53**	**298**	*e*P	**P**	**08 00 11.3**	**-0.7**
KKN	**Kakani**	**40.69**	**299**	*e*P	**P**	**08 00 12.7**	**-0.4**
DMN	**Daman**	**40.79**	**298**	*e*P	**P**	**08 00 13.8**	**-0.3**
TYV	**Tymovskoe**	**41.03**	**17**	*e*P	P	08 00 26.8	+12
TYV				pmax	pmax		
	comp=Z,11nm,1.2s						
TYV				pmax	pmax		
	comp=Z,200nm,5.1s						
GKN	**Gorkha**	**41.29**	**299**	*e*P	**P**	**08 00 17.5**	**-0.5**
DANN	**Dangsing**	**42.12**	**299**	*e*P	**P**	**08 00 24.7**	**-0.3**
	comp=Z,263nm,1.3s						
KOLN	**Koldanda**	**42.13**	**298**	*e*P	**P**	**08 00 24.8**	**-0.1**
	comp=Z,224nm,1.3s						
ZAK	**Zakamensk**	**42.23**	**339**	*e

WMQ LR LR
comp=Z,1μm,16.3s
WMQ LR LR
comp=Z,1μm,14.3s
WMQ LR LR
comp=Z,560nm,14.5s
CUPL Choutuppal 45.29 282 *e*P **P 08 00 50.0 -0.2**
RCLA Racherla 45.29 280⇓ *e*P **P 08 00 49.1 -1.1**
RCLA *e*S **S 08 07 25.7 +1.4**
SRLM Srisailam 45.33 281 *e*P **P 08 00 51.1 +0.5**
HYBB Hyderabad (bro 45.64 282 *e*P **P 08 00 52.6 -0.4**
HYBB *es*P **sP 08 01 23.6 -1.1**
HYBB *e*S **S 08 07 28.6 -0.9**
SRSP Sriramsagar 45.85 285 *e*P **P 08 00 54.7 +0.1**
BOD Bodaibo 46.38 351 *e*P **P 08 00 57.1 -1.0**
BOD pmax pmax
comp=Z,15nm,1.6s
STKA Stephens Creek 46.43 161 P **P 08 00 58.9 +0.1**
comp=Z,2.2nm,0.5s,baz=326,slow=11,SNR=3.3
KLRI Killari 47.50 283 *e*P **P 08 01 07.7 +0.2**
PETK Petropavlovsk- 48.22 25 P **P 08 01 12.2 -0.2**
comp=Z,2.8nm,0.8s,baz=208,slow=2.1,SNR=2.3
PET Petropavlovsk 48.56 26 *e*P **P 08 01 17.3 +2.2**
PET *e**PP **sP 08 01 40.5 -3.1**
PET *e*S **S 08 08 11.9 +2.1**
PET MLR MLR
comp=Z,200nm,20.0s
DGZ Jazzator, Alta 48.78 328*c i*P **P 08 01 17.6 +0.6**
DGZ pmax pmax
comp=Z,17nm,1.0s
YAK Yakutsk 49.86 3 *e*P **P 08 01 25.2 +0.4**
YAK *e**PP **pP 08 01 47.9 +2.6**
YAK *e* 08 02 45.1
YAK *e* 08 03 20.4
YAK *e*S **S 08 08 28.4 +0.7**
YAK *e* 08 11 07.0
YAK pmax pmax
comp=Z,21nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,209nm,5.4s
YAK pmax pmax
comp=N,58nm,4.3s
YAK pmax pmax
comp=E,96nm,5.0s
YAK smax smax
comp=E,87nm,3.3s
YAK smax smax
comp=N,52nm,2.9s
YAK Yakutsk 49.86 3 P **P 08 01 24.7 -0.1**
MK31 Makanchi Array 50.08 322 *i* P **P 08 01 27.2 +0.3**
MK31 Makanchi Array 50.08 322 P **P 08 01 27.2 +0.3**
MK31 IAmb IAmb 08 01 29.0
comp=Z,37nm,1.5s
MKAR Makanchi Array 50.08 322 P **P 08 01 27.4 +0.6**
comp=Z,8.3nm,0.7s,baz=116,slow=8.4,SNR=27
SHLS Shalkode 50.27 317 *e*P **P 08 01 25.9 -2.5**
SHLS pmax pmax
comp=Z,13nm,1.1s
SHLS Shalkode 50.27 317 *e*P **P 08 01 26.0 -2.5**
comp=Z,13nm,1.1s,baz=317
MAKZ Makanchi 50.28 322 P **P 08 01 28.7 +0.4**
MAKZ pmax pmax
comp=Z,30nm,1.2s
MAKZ Makanchi 50.28 322 P **P 08 01 28.7 +0.4**
MAKZ IAmb IAmb 08 01 30.4
comp=Z,30nm,1.2s
PDGK Podgornoye 50.32 317 P **P 08 01 29.0 +0.2**
UZB Uzynbulak 50.56 317 *e*P **P 08 01 30.4 -0.2**
UZB pmax pmax
comp=Z,15nm,1.0s
UZB Uzynbulak 50.56 317 *e*P **P 08 01 30.4 -0.2**
comp=Z,15nm,1.0s,baz=317
PRZ Przheval'sk 50.72 316 P **P 08 01 33.2 +1.2**
PRZ pmax pmax
comp=Z,71nm,1.5s
PRZ Przheval'sk 50.72 316 P **P 08 01 33.1 +1.2**
TARG Taragay, Kyrgy 50.86 314 P **P 08 01 33.5 +0.3**
TARG IAmb IAmb 08 01 36.0
comp=Z,24nm,1.4s
SATY Saty 50.94 316 *e*P **P 08 01 33.0 -0.5**
SATY pmax pmax
comp=Z,22nm,1.2s
SATY Saty 50.94 316 *e*P **P 08 01 33.1 -0.5**
comp=Z,22nm,1.2s,baz=316
ZHN Zhinishke 50.96 316 *e*P **P 08 01 33.7 +0.1**
ZHN Zhinishke 50.96 316 *e*P **P 08 01 33.8 +0.1**
baz=316
KSH Kashi 51.44 311 P **P 08 01 39.8 +2.5**
KSH PcP **PcP 08 02 48.8 -1.8**
KSH S **S 08 08 50.9 +0.3**
KSH pmax pmax
comp=Z,23nm,1.3s
KSH LR LR
comp=Z,640nm,20.8s
KSH LR LR
comp=Z,710nm,18.9s
KSH LR LR
comp=Z,840nm,19.2s
TDK Taldyqorghan 51.71 319 *e*P **P 08 01 39.2 +0.2**
TDK Taldyqorghan 51.71 319 *e*P **P 08 01 39.3 +0.2**
baz=319
MDOK Medeo 51.90 316 *e*P **P 08 01 40.6 -0.1**
MDOK Medeo 51.90 316 *e*P **P 08 01 40.7 -0.1**
baz=316
TNSS Tian-Shan 51.92 316 *e*P **P 08 01 41.9 +0.7**
baz=316
NIL Nilore 52.08 303 P **P 08 01 42.1 0.0**
NIL pmax pmax
comp=Z,107nm,1.4s
NIL Nilore 52.08 303 P **P 08 01 42.1 0.0**
CHKK Chushkaly 52.20 317 *e*P **P 08 01 42.8 +0.1**
baz=317
KST Kastek 52.60 315 *e*P **P 08 01 45.6 -0.2**
comp=Z,58nm,1.5s,baz=315
DZM Mont Dzumac 52.61 130 LR LR 08 23 54.9
comp=Z,130nm,18.6s,baz=216,slow=36
ZAA0 Zalesovo Array 52.62 331 P **P 08 01 45.5 -0.1**
ZAA0 IAmb IAmb 08 02 03.7
comp=Z,15nm,1.4s
ZALV Zalesovo Beam 52.62 331 P **P 08 01 45.1 -0.5**
comp=Z,1.3nm,0.6s,baz=118,slow=5.4,SNR=8.0
ZALV Zalesovo Beam 52.62 331 *i* P **P 08 01 45.0 -0.6**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 52.62 331 P **P 08 01 45.4 -0.2**
TKM2 Tokmak 2 52.81 315 P **P 08 01 48.5 +1.1**
SNR=6.4
TKM2 Tokmak 2 52.81 315 P **P 08 01 47.5 0.0**
KBK Karagaybulak 53.17 315 P **P 08 01 51.4 +1.3**
SNR=7.3
UCH Uchtor 53.33 314 P **P 08 01 53.0 +1.3**
SNR=27
CHMS Chumysh 53.42 315 P **P 08 01 52.5 +0.7**
SNR=8.5
AAK Ala-Archa 53.48 314 P **P 08 01 53.6 +1.2**
comp=Z,2.3nm,0.9s,baz=110,slow=7.2,SNR=8.9
AAK Ala-Archa 53.48 314 P **P 08 01 53.3 +0.9**
AAK Ala-Archa 53.48 314 P **P 08 01 52.8 +0.4**
AAK IAmb IAmb 08 01 54.9
comp=Z,18nm,1.5s
SGDS Sogindy 53.65 315 *e*P **P 08 01 53.2 -0.3**
baz=316
USP Ospenovka 53.68 315 P **P 08 01 54.3 +0.6**
SNR=10
AML Almayashu 53.88 314 P **P 08 01 57.0 +1.4**
SNR=10.0
EKS2 Erkin-Say 53.99 314 P **P 08 01 57.5 +1.5**
SNR=9.8
KURK Kurchatov 54.10 325*c i*P **P 08 01 56.8 +0.3**
KURK pmax pmax
comp=Z,72nm,1.5s
KURK Kurchatov 54.10 325 P **P 08 01 56.6 +0.1**
KURBB Kurchatov Arra 54.10 325 P **P 08 01 56.9 +0.4**
comp=Z,12nm,0.6s,baz=126,slow=7.5,SNR=4.9
KURBB Kurchatov Arra 54.10 325 P **P 08 01 56.6 +0.1**
DRK Karamyk 54.53 310 P **P 08 02 00.1 -0.1**
DRK IAmb IAmb 08 02 02.6
comp=Z,37nm,1.2s
BTLS Baital 54.59 317 *e*P **P 08 01 59.4 -0.7**
BTLS pmax pmax
comp=Z,17nm,1.5s
BTLS Baital 54.59 317 *e*P **P 08 01 59.5 -0.7**
comp=Z,16nm,1.5s,baz=317
BTK Batken 55.40 310 P **P 08 02 06.4 +0.2**
BTK pmax pmax
comp=Z,23nm,1.1s
BTK Batken 55.40 310 P **P 08 02 06.4 +0.2**
BTK IAmb IAmb 08 02 08.3
comp=Z,23nm,1.1s
KBL Kabul 55.68 304 P **P 08 02 08.2 -0.3**
KBL pmax pmax
comp=Z,66nm,1.7s
KBL Kabul 55.68 304 P **P 08 02 08.2 -0.3**
DZA Taraz 55.78 314 *e*P **P 08 02 08.8 0.0**
DZA pmax pmax
comp=Z,25nm,1.5s
DZA Taraz 55.78 314 *e*P **P 08 02 08.8 0.0**
comp=Z,25nm,1.5s,baz=314
CHGR Chuyangaron 56.34 308 P **P 08 02 12.6 -0.4**
KKAR Karatay Array 56.41 314 P **P 08 02 13.5 +0.1**
KKAR Karatay Array 56.41 314 P **P 08 02 13.4 +0.1**
IUG Iuzhnay 56.50 313 *e*P **P 08 02 14.2 +0.1**
IUG Iuzhnay 56.50 313 *e*P **P 08 02 14.2 +0.1**
baz=313
OTUK Ortayu 56.81 320 P **P 08 02 15.9 -0.1**
BRLS Borolday 56.87 314 *e*P **P 08 02 16.7 +0.1**
comp=Z,13nm,1.7s,baz=313
BRZS Berezniki 57.23 322 *e*P **P 08 02 19.0 0.0**
BRZS pmax pmax
comp=Z,16nm,1.6s
BRZS Berezniki 57.23 322 *e*P **P 08 02 19.0 0.0**
comp=Z,16nm,1.6s,baz=322
TIXI Tiksi 59.47 1 *i* P **P 08 02 32.2 -1.9**
TIXI pmax pmax
comp=Z,22nm,1.2s
TIXI Tiksi 59.47 1 P **P 08 02 33.5 -0.5**
TIXI IAmb IAmb 08 02 43.3
comp=Z,20nm,1.1s
BVAR Borovoye Array 59.70 325 P **P 08 02 36.3 +0.2**
comp=Z,5.7nm,0.7s,baz=120,slow=8.8,SNR=24
BRVK Borovoye 59.77 325 P **P 08 02 36.6 +0.1**
BRVK pmax pmax
comp=Z,50nm,1.5s
BRVK Borovoye 59.77 325 P **P 08 02 36.5 +0.1**
HRA Herat 61.23 303 P **P 08 02 47.0 -0.1**
HRA IAmb IAmb 08 02 48.6
comp=Z,16nm,1.1s
BILL Bilibino 61.77 16 *i* P **P 08 02 51.7 +1.9**
BILL *i* 08 03 28.2
BILL pmax pmax
comp=Z,9.0nm,1.1s
NRIK Noril'sk 62.00 346 P **P 08 02 51.4 0.0**
comp=Z,1.2nm,0.4s,baz=143,slow=7.5,SNR=6.4
NRIK Noril'sk 62.00 346*ce*P **P 08 02 50.8 -0.5**
NRIK pmax pmax
comp=Z,9.0nm,0.9s
NRIK Noril'sk 62.00 346 P **P 08 02 51.3 0.0**
NRIK IAmb IAmb 08 03 02.1
comp=Z,29nm,1.2s
GEYT Alibeck 64.84 306 P **P 08 03 11.8 +1.1**
comp=Z,12nm,1.1s,baz=200,slow=5.7,SNR=13
GEYT Alibeck 64.84 306 P **P 08 03 11.3 +0.6**
GEYT IAmb IAmb 08 03 13.2
comp=Z,23nm,1.2s
GYA0B ALIBECK ARRAY 64.84 306 P **P 08 03 11.3 +0.6**
GYA0B IAmb IAmb 08 03 13.2
comp=Z,45nm,1.4s
AB31 Akbulak array 64.97 319 *i* P **P 08 03 11.0 -0.3**
ABKAR Akbulak array 64.97 319 P **P 08 03 11.1 -0.2**
ABKAR IAmb IAmb 08 03 13.0
comp=Z,13nm,0.9s
SVE Sverdlovsk 66.23 327 *e*P **P 08 03 19.8 +0.6**
SVE pmax pmax
comp=Z,35nm,1.4s
AKTO Aktyubinsk 66.41 320 P **P 08 03 20.7 +0.2**
comp=Z,2.7nm,0.7s,baz=104,slow=9.6,SNR=8.8
AKTO Aktyubinsk 66.41 320 P **P 08 03 20.1 -0.4**
ARU Arti 67.25 326 P **P 08 03 25.5 -0.2**
comp=Z,1.7nm,0.4s,baz=109,slow=4.3,SNR=9.5
ARU Arti 67.25 326*c i*P **P 08 03 25.2 -0.5**
ARU S **S 08 12 14.4 +0.9**
ARU SS **SS 08 16 27.6 -6.8**
ARU pmax pmax
comp=Z,21nm,1.2s
ARU MLR MLR
comp=Z,243nm,16.0s
ARU Arti 67.25 326 P **P 08 03 25.0 -0.7**
ARU IAmb IAmb 08 03 26.7
comp=Z,19nm,1.2s
AFI Afiamalu 67.31 111 LR LR 08 26 09.4
comp=Z,203nm,21.4s,baz=186,slow=30
URZ Urewera 69.56 139 LR LR 08 38 06.6
comp=Z,139nm,18.3s,baz=244,slow=39
LKRN Lenkeran, Azer 72.20 307 P **P 08 03 57.8 +1.3**
KIRV Kirov 72.46 328 P **P 08 03 57.6 +0.1**
comp=Z,6.0nm,0.6s,baz=80,slow=2.0,SNR=7.7
KIRV Kirov 72.46 328*ce*P **P 08 03 56.8 -0.8**
MAK Makhachkala 73.07 311*c i*P **P 08 03 59.4 -2.2**
MAK *e**PP **pP 08 04 24.9 +0.2**
MAK *e* 08 06 43.4
MAK *e*PPP PPP 08 08 27.4
MAK *e*S **S 08 13 15.0 -6.9**
MAK *e**SS **ScS 08 14 02.7 +0.9**
MAK *e*SS **SS 08 17 58.7 -5.7**
MAK *e*SSS SSS 08 21 17.6
MAK pmax pmax
comp=Z,308nm,1.1s
BELG Belogornoye 73.08 321 P **P 08 04 01.8 +0.4**
comp=Z,19nm,0.9s,baz=22,slow=20,SNR=7.5
BELG Belogornoye 73.08 321 *i* P **P 08 04 02.4 +1.0**
BELG pmax pmax
comp=Z,4.0nm,0.9s
SEKA Sheki 73.34 310 P **P 08 04 03.7 +0.4**
GANJ Ganja 74.03 309 P **P 08 04 07.6 +0.3**
PRGR Permogore 74.57 331 *e*P P 08 04 16.2 +6.3
PRGR pmax pmax
comp=Z,76nm,1.5s
A21K Barrow 74.64 19 IAmb IAmb 08 04 21.7
comp=Z,22nm,1.1s
A21K Barrow 74.64 19 P **P 08 04 11.6 +1.4**
baz=262
GNI Garni 75.26 309 P **P 08 04 16.6 +2.0**
comp=Z,6.0nm,0.6s,baz=223,slow=21,SNR=4.7
GNI Garni 75.26 309*ce*P **P 08 04 16.5 +1.9**
GNI pmax pmax
comp=Z,21nm,1.3s
GNI Garni 75.26 309 IAmb IAmb 08 04 17.4
comp=Z,30nm,1.2s
CHUM Lake Minchumin 75.69 27 P **P 08 04 18.7 +2.3**
baz=268
CAST Castle Rocks 75.78 27 IAmb IAmb 08 06 34.0
comp=Z,40nm,1.9s
CAST Castle Rocks 75.78 27 P **P 08 04 18.7 +1.8**
baz=269
I21K Tanana 75.87 26 P **P 08 04 19.4 +2.0**
baz=268
RAYN Ar Rayn 76.20 291 P **P 08 04 19.8 -0.4**
RAYN pmax pmax
comp=Z,43nm,1.4s
RAYN Ar Rayn 76.20 291 P **P 08 04 19.8 -0.4**
RAYN IAmb IAmb 08 04 21.5
comp=Z,42nm,1.4s
BPAW Bear Paw Mtn. 76.28 27 P **P 08 04 20.2 +0.4**
BPAW IAmb IAmb 08 04 30.8
comp=Z,16nm,1.1s
BPAW Bear Paw Mtn. 76.28 27 P **P 08 04 20.2 +0.4**
baz=270
SUA Susitna One 76.39 29 IAmb IAmb 08 05 49.0
comp=Z,69nm,2.0s
KBZ Khabaz 76.40 312 P **P 08 04 22.0 +1.2**
comp=Z,2.0nm,0.3s,baz=71,slow=6.6,SNR=6.2
KBZ Khabaz 76.40 312 *i* P **P 08 04 21.9 +1.2**
KBZ pmax pmax
comp=Z,21nm,1.6s
KIV Kislovodsk 76.53 313 *e*P **P 08 04 22.5 +0.8**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,223nm,18.0s
VRH Novokhopyorsk 76.75 320 *e*P **P 08 04 21.2 -1.4**
VRH pmax pmax
comp=Z,30nm,1.4s
I23K Minto, Yukon-K 76.98 26 P **P 08 04 24.1 +0.5**
I23K IAmb IAmb 08 04 30.3
comp=Z,35nm,1.9s
I23K Minto, Yukon-K 76.98 26 P **P 08 04 24.1 +0.5**
baz=271
MCK McKinley 77.19 27 P **P 08 04 24.3 -0.6**
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 77.19 27 P **P 08 04 24.3 -0.6**
SIRT Sirnak 77.26 306 P **P 08 04 26.8 +0.9**
KLMR Klimovskoe 77.52 330 *e*P **P 08 04 24.3 -2.4**
KLMR *e* 08 07 20.3
KLMR pmax pmax
comp=Z,44nm,1.4s
KLMR Klimovskoe 77.52 330 *e*P **P 08 04 24.3 -2.4**
KLMR AMP 08 04 38.2
comp=Z,44nm,1.4s
KLMR *e*PP **PP 08 07 20.4 -1.9**
WAT6 Susitna Watana 77.77 28 P **P 08 04 29.6 +1.3**
baz=273
HDA Harding Lake 78.03 26 P **P 08 04 28.9 -0.6**
HDA IAmb IAmb 08 04 37.8
comp=Z,43nm,2.0s
ILAR Eielson Array 78.04 26 P **P 08 04 29.5 0.0**
comp=Z,0.8nm,0.7s,baz=241,slow=6.1,SNR=6.8
ILAR LR LR 08 39 39.2
comp=Z,63nm,19.4s,baz=266,slow=36
VSR Storozhevoye 78.35 320 *e*P **P 08 04 30.7 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.1s
LPSR Galich'ya Gora 78.38 322 *e*P **P 08 04 30.1 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
SOC Sochi 78.71 312 *e*P **P 08 04 30.7 -3.0**
SOC *e*PPP PPP 08 09 19.7
SOC *e*S **S 08 14 18.7 -5.3**
SOC *e*SSS SSS 08 22 54.6
SOC MLR MLR
comp=Z,451nm,22.0s
BMAR Burnt Mountain 78.80 23 P **P 08 04 34.8 +1.0**
MOS Moscow 78.87 325 *e*P **P 08 04 33.0 -1.3**
CASY Casey 79.03 186 P **P 08 04 35.2 +0.5**
OBN Obninsk 79.53 324 *i* P **P 08 04 37.4 -0.5**
OBN *i* 08 04 46.5
OBN *i* 08 07 40.3
OBN *i* S **S 08 14 27.3 -4.9**
OBN pmax pmax
comp=Z,39nm,1.3s
OBN MLR MLR
comp=Z,252nm,17.0s
RAR Rarotonga 80.47 114 LR LR 08 33 23.3
comp=Z,165nm,21.2s,baz=248,slow=30
EPYK Eagle Plains 82.02 24 P **P 08 04 51.5 +0.4**
EPYK IAmb IAmb 08 04 56.1
comp=Z,19nm,1.3s
EPYK Eagle Plains 82.02 24 P **P 08 04 51.9 +0.9**
baz=282
ARCES ARCESS Array B 82.16 340 P **P 08 04 52.4 +0.7**
comp=Z,12nm,1.1s,baz=86,slow=6.2,SNR=8.1
ASF Jabal al Asfar 82.49 301 P **P 08 04 55.6 +1.4**
comp=Z,9.9nm,0.9s,baz=5.8,slow=3.4,SNR=10
INK Inuvik 82.78 22 P **P 08 04 55.9 +1.1**
baz=285
MMAI Mount Meron Ar 83.58 302 P **P 08 05 01.2 +1.3**
comp=Z,0.7nm,0.3s,baz=72,slow=5.5,SNR=12
FINES FINESS Array B 83.88 332 P **P 08 05 00.9 +0.3**
comp=Z,7.3nm,0.8s,baz=79,slow=4.2,SNR=15
FINES FINESS Array B 83.88 332 *i* P **P 08 05 01.2 +0.6**
FINES pmax pmax
comp=Z,7.0nm,0.8s
A36M Sachs Harbour 84.31 17 P **P 08 05 03.4 +0.8**
A36M Sachs Harbour 84.31 17 P **P 08 05 03.8 +1.3**
baz=292
EIL Elat 84.58 299 P **P 08 05 06.6 +1.8**
comp=Z,14nm,1.1s,baz=157,slow=4.4,SNR=9.2
EIL LR LR 08 49 18.7
comp=Z,161nm,18.2s,baz=88,slow=40
MNK Minsk 84.59 325 *i* P **P 08 05 04.7 +0.4**
MNK *i* *PP **pP 08 05 26.4 -1.1**
MNK *i* 08 08 24.4
MNK *i* PPP PPP 08 10 15.9
MNK *i* S **S 08 15 19.4 -4.7**
MNK *i* SS **SS 08 20 53.9 -2.5**
MNK *i* SSS SSS 08 24 24.8
MNK pmax pmax
comp=N,36nm,1.0s
MNK pmax pmax
comp=E,5.0nm,1.1s
MNK pmax pmax
comp=Z,34nm,1.2s
MNK MLR MLR
comp=N,265nm,24.0s
MNK MLR MLR
comp=Z,294nm,18.0s
MNK MLR MLR
comp=E,35nm,16.0s
MNK Minsk 84.59 325 *i* P **P 08 05 04.7 +0.4**
comp=E,5.0nm,1.1s
MNK *i* P **P 08 05 04.7 +0.4**
comp=N,36nm,1.0s
MNK *i* P **P 08 05 04.7 +0.4**
comp=Z,34nm,1.2s,baz=258
MNK *i* pP **pP 08 05 26.5 -1.1**
MNK *i* PP **PP 08 08 24.4 +3.7**
MNK *i* PPP PPP 08 10 15.9
MNK *i* S **S 08 15 19.5 -4.6**
MNK *i* SS **SS 08 20 54.0 -2.5**
MNK *i* SSS SSS 08 24 24.9
MNK *i* LR LR 08 41 28.9
MNK *i* LRM MLR 08 45 06.8
comp=N,265nm,23.9s
MNK *i* LRM MLR 08 45 22.2
comp=Z,294nm,17.5s
MNK *i* LRM MLR 08 45 24.2
comp=E,35nm,15.9s
NOR Nord 84.62 355 *i* P **P 08 05 02.6 -1.5**
AKASG Malin Array Be 84.64 321 P **P 08 05 04.3 -0.3**
comp=E,3.2nm,0.7s,baz=61,slow=5.2,SNR=29
AKASG Malin Array Be 84.64 321 IAmb IAmb 08 05 06.1
comp=Z,22nm,1.4s
AKBB Malin Array Si 84.64 321 P **P 08 05 04.4 -0.3**
AKBB pmax pmax
comp=Z,28nm,1.3s
AKBB Malin Array Si 84.64 321 P **P 08 05 04.4 -0.3**
AKBB IAmb IAmb 08 05 05.8
comp=Z,28nm,1.3s
CSS Mathiatis 84.92 305 P **P 08 05 06.6 +0.1**
NACGM Naroch 85.11 325 *i* P **P 08 05 07.4 +0.4**
C36M Paulatuk 85.69 19 P **P 08 05 09.3 -0.3**
BURAR Bucovina Array 87.95 318 P **P 08 05 21.1 0.0**
BUR08 Bucovina Ar. S 87.95 318 P **P 08 05 21.3 +0.1**
BUR08 IAmb IAmb 08 05 23.1
comp=Z,27nm,1.8s
DAG Danmarks Havn 88.77 352 *i* P P 08 05 18.6 -5.7
PPT Papeete 88.84 108 LR LR 08 39 11.5
comp=Z,77nm,19.9s,baz=231,slow=32
PPT2 Papeete2 88.84 108 *e*LR LR 08 33 35.2
comp=Z,210nm,25.2s
UZH Uzhgorod 89.53 320⇑ *i*P **P 08 05 29.2 +0.8**
UZH *e* 08 05 52.5
RES Resolute Bay 89.75 10 LR LR 08 45 59.7
comp=Z,52nm,21.7s,baz=286,slow=36
CRVS Cervenica-Dubn 89.97 320 *e*P **P 08 05 31.4 +0.9**
CRVS pmax pmax
comp=Z,25nm,1.3s
CRVS Cervenica-Dubn 89.97 320 *e*P **P 08 05 31.4 +0.9**
TBI Tubuai 90.25 114 *e*LR LR 08 34 14.2
comp=Z,174nm,25.5s
NC405 NORSAR Array S 90.49 334 P **P 08 05 32.7 0.0**
NOA NORSAR Array B 90.74 334 P **P 08 05 33.9 +0.1**
comp=Z,0.9nm,0.7s,baz=68,slow=4.7,SNR=4.1
YKA Yellowknife Ar 92.31 24 P **P 08 05 42.2 +1.2**
comp=Z,1.0nm,0.9s,baz=300,slow=4.6,SNR=6.7
YKA Yellowknife Ar 92.31 24 *i* P **P 08 05 45.5 +4.5**
YKA pmax pmax
comp=Z,1.0nm,0.9s
CLL Collm 94.13 324 *e*P **P 08 05 50.0 +0.4**
CLL Collm 94.13 324 *e*P **P 08 05 50.0 +0.4**
CLL *e*PS **PS 08 18 18.0 -1.2**
CLL *e*SSSS 08 30 12.0
SUMG Summit 94.77 355 *i* P P 08 05 58.0 +5.3
TAOE Nuku Hiva Isla 96.01 98 *e*PS PS 08 18 28.4 -13
comp=Z,142nm,27.1s
TAOE Nuku Hiva Isla 96.01 98 *e*LR LR 08 36 52.2
comp=Z,179nm,22.0s
YBH Yreka Blue Hor 97.59 45 LR LR 08 43 32.9
comp=Z,71nm,19.5s,baz=314,slow=31
DAVOX Davos/Dischmat 97.97 321 LR LR 08 51 53.2
comp=Z,217nm,18.6s,baz=66,slow=36

BORG	**Borgarnes**	**99.31**	**346**	LR	LR	08 56 05.7	
	comp=Z,106nm,18.9s,baz=45,slow=38						
PLCA	**Paso Flores**	**148.24**	**156**	PKPbc	**PKPbc**	**08 12 17.7**	**+0.6**
	comp=Z,4.5nm,0.8s,baz=208,slow=1.9,SNR=8.8						
PLCA	**Paso Flores**	**148.24**	**156**	PKP2	**PKPab**	**08 12 19.9**	**-0.4**
PLCA	**Paso Flores**	**148.24**	**156**		**PKPab**	**08 12 19.9**	**-0.4**
SDV	**Santo Domingo**	**153.61**	**38**		**PKPab**	**08 12 40.7**	**-2.6**

DJA 13 07:54:59.5±0.7, 0°N±6°×12°2E±°, h164km±7km, M3.0/6, MLv3.0/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.20**	**23**	P	Pn	07 55 22.0	+0.5
MRSI				S	Sn	07 55 39.4	+1.0
MRSI	**Marisa**	**0.20**	**23**	P	Pn	07 55 22.3	+0.8
GTOI	**Gorontalo**	**1.20**	**73**	P	Pn	07 55 27.1	-0.2
GTOI				S	Sn	07 55 48.0	-0.6
GTOI	**Gorontalo**	**1.20**	**73**	P	Pn	07 55 27.2	-0.1
GTOI				S	Sn	07 55 50.9	+2.3
APSI	**Ampana**	**1.21**	**190**	P	Pn	07 55 28.1	+0.7
LUWI	**Luwuk**	**1.61**	**145**	P	Pn	07 55 30.7	-0.5
MPSI	**Mapaga**	**1.96**	**271**	P	Pn	07 55 34.9	-0.2
MPSI				S	Sn	07 56 02.9	+0.4
KMSI	**Cibinong**	**2.14**	**82**	P	Pn	07 55 37.3	+0.2

*NEIC **13** 08:22:05.7±1.7, 17°.96S±0°.05×71°.02W±0°.10, h53km±14km, Error ellipse: s-maj=14.2km s-min=5.3km az=71.0*
*GUC **13** 08:22:06.5±0.8, 17°.94S×70°.86W, h70km±7km, ML4.1*
*IDC **13** 08:22:08.2±5.0, 17°.98S×70°.66W, h75km±44km, mb3.5/3, mb1 3.8/5, mb1mx3.5/27, mbtmp4.0/5, ML3.9/2, MS3.8/2, Ms1 3.8/2, ms1mx3.0/30, Error ellipse: s-maj=51.1km s-min=23.7km az=105.0*
*ARE **13** 08:22:08±2.3, 17°.92S±0°.07×70°.9W±0°.1, h49km±7km, ML4.7, mb4.1/2(NEIC), Error ellipse: s-maj=14.6km s-min=9.5km az=100.0*

ISC 13 08:22:05.3±1.0, 18°.01S±0°.06×71°.04W±0°.10, h58km±9km, n41, σ1s05/46, mb4.2/4, 1C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.75**	**119**	*eP*	**Pn**	**08 22 20.6**	**+0.5**
AP01				*i* S	**Sn**	**08 22 31.3**	**+0.4**
AP01	**Chacalluta**	**0.75**	**119**		**Pn**	**08 22 21.2**	**+1.1**
PB12	**IPOC Station P**	**0.90**	**132**	↑*iP*	**Pn**	**08 22 22.6**	**+0.5**
PB12				*i* S	**Sn**	**08 22 34.8**	**+0.3**
PB12				IAML		08 22 38.1	
	comp=N,7μm,0.1s						
PB12	**IPOC Station P**	**0.90**	**132**		**Pn**	**08 22 22.4**	**+0.3**
PB16	**IPOC Station P**	**1.49**	**103**		**Pn**	**08 22 30.8**	**+0.4**
PB11	**IPOC Station P**	**2.18**	**143**	*eP*	**Pn**	**08 22 39.8**	**+0.4**
PB11				*i* S	**Sn**	**08 23 05.4**	**+0.2**
PB11				IAML		08 23 12.8	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**2.18**	**143**	Pn	**Pn**	**08 22 40.2**	**+0.9**
TA02	**Huaiquique**	**2.41**	**159**	*eP*	**Pn**	**08 22 43.8**	**+1.4**
TA02				*i* S	**Sn**	**08 23 10.9**	**+0.2**
TA02				IAML		08 23 11.5	
	comp=N,2μm,0.1s						
TA02	**Huaiquique**	**2.41**	**159**		**Pn**	**08 22 43.6**	**+1.3**
TA01	**Diego Aracena**	**2.67**	**163**	*eP*	**Pn**	**08 22 46.8**	**+0.9**
TA01				*i* S	**Sn**	**08 23 16.2**	**-0.8**
TA01				IAML		08 23 32.3	
	comp=N,451nm,0.4s						
TA01	**Diego Aracena**	**2.67**	**163**	Pn	**Pn**	**08 22 46.9**	**+1.0**
PB08	**IPOC Station P**	**2.77**	**140**	*eP*	**Pn**	**08 22 48.7**	**+1.1**
PB08				*i* S	**Sn**	**08 23 20.3**	**+0.2**
PB08				IAML		08 23 32.6	
	comp=E,736nm,0.2s						
PB08	**IPOC Station P**	**2.77**	**140**		**Pn**	**08 22 48.9**	**+1.3**
PB01	**IPOC Station P**	**3.35**	**154**	*eP*	**Pn**	**08 22 55.9**	**+0.5**
PB01				*eS*	**Sn**	**08 23 32.8**	**-1.1**
PB01				IAML		08 23 54.3	
	comp=N,416nm,0.2s						
PB01	**IPOC Station P**	**3.35**	**154**		**Pn**	**08 22 55.9**	**+0.5**
PB07	**IPOC Station P**	**3.85**	**164**	*eP*	**Pn**	**08 23 03.2**	**+1.0**
PB07				*eS*	**Sn**	**08 23 44.6**	**-1.8**
PB07	**IPOC Station P**	**3.85**	**164**		**Pn**	**08 23 03.1**	**+0.8**
PB09	**IPOC Station P**	**4.13**	**156**	*eP*	**Pn**	**08 23 07.5**	**+1.4**
PB09	**IPOC Station P**	**4.13**	**156**		**Pn**	**08 23 07.5**	**+1.4**
PB04	**IPOC Station P**	**4.38**	**169**		**Pn**	**08 23 09.3**	**-0.3**
PB06	**IPOC Station P**	**4.87**	**164**		**Pn**	**08 23 16.2**	**0.0**
LVC	**Limon Verde**	**4.99**	**157**	P	**Pn**	**08 23 19.4**	**+1.3**
	comp=N,4.2nm,0.3s,baz=340,slow=9.4,SNR=68						
LVC				S	**Sn**	**08 24 15.2**	**+0.6**
	comp=N,18nm,0.3s,baz=85,slow=16,SNR=12						
PB15	**IPOC Station P**	**5.38**	**164**		**Pn**	**08 23 23.3**	**+0.1**
PB10	**IPOC Station P**	**5.49**	**175**	Pn	**Pn**	**08 23 24.4**	**-0.2**
PB10					**Sn**	**08 24 24.1**	**-2.4**
AC02	**Maricunga**	**8.96**	**169**	Pn	**Pn**	**08 24 12.7**	**+0.2**
ETMB	**Extrema**	**9.39**	**30**	Pn	**Pn**	**08 24 17.5**	**-0.6**
SIV	**San Ignacio**	**9.74**	**80**	P	**Pn**	**08 24 21.8**	**-1.1**
	comp=N,1.5nm,0.3s,baz=266,slow=9.8,SNR=58						
VILB	**Vilhena**	**11.59**	**66**	Pn	**Pn**	**08 24 47.0**	**-1.1**
PTLB	**Pontes e Lacer**	**11.68**	**79**	Pn	**Pn**	**08 24 47.7**	**-1.6**
H03N1	**Juan Fernandez**	**16.91**	**203**	T	T	08 43 36.2	
	baz=27,slow=73,SNR=383						
H03N2	**Juan Fernandez**	**16.92**	**203**	T	T	08 43 37.4	
	baz=27,slow=73,SNR=730						
H03N3	**Juan Fernandez**	**16.93**	**203**	T	T	08 43 36.4	
	baz=27,slow=73,SNR=653						
LC01	**Cunco**	**20.82**	**182**	P	**P**	**08 26 42.9**	**+0.8**
LC01				IAmb	IAmb	08 26 48.9	
	comp=Z,8.5nm,1.4s						
PLCA	**Paso Flores**	**22.65**	**179**	P	**P**	**08 27 04.0**	**+2.3**
	comp=Z,4.0nm,1.1s,baz=4.2,slow=12,SNR=4.2						
PLCA	**Paso Flores**	**22.65**	**179**	IAmb	IAmb	08 27 05.8	
	comp=Z,18nm,1.4s						
MDP	**Montagnes des**	**29.27**	**40**	LR	LR	08 40 36.1	
	comp=Z,111nm,19.4s,baz=144,slow=38						
PMSA	**Palmer Station**	**46.97**	**176**	LR	LR	08 48 31.3	
	comp=Z,180nm,19.2s,baz=228,slow=34						
DBIC	**Dimbokro**	**69.74**	**76**	pP	pP	08 33 25.0	-1.0
	comp=Z,3.8nm,0.6s,baz=273,slow=7.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**78.13**	**72**	P	**P**	**08 33 57.5**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=257,slow=5.5,SNR=5.3						
TORD				pP	**pP**	**08 34 14.3**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=253,slow=5.8,SNR=7.1						
YKA	**Yellowknife Ar**	**87.25**	**341**	P	**P**	**08 34 46.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=136,slow=5.0,SNR=9.1						
YKA				pP	**pP**	**08 35 02.1**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=135,slow=4.7,SNR=18						
WRA	**Warramunga Arr**	**134.80**	**215**	PKP	**PKiKP**	**08 41 20.6**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=118,slow=2.6,SNR=3.6						

*NAO **13** 08:47:14.9±4.2, 74°.65N×9°.19E, ML3.3*
*BER **13** 08:47:18.1±2.6, 74°.69N×9°.26E, h17km±30km, ML1.9, ML3.3(NAO), Confirmed Earthquake*
*IDC **13** 08:47:19.1±1.7, 74°.72N×10°.77E, h0km, mb3.0/2, mb1 3.5/5, mb1mx3.3/45, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=35.3km s-min=12.0km az=65.0*

ISC 13 08:47:17.1±1.2, 74°.70N±0°.05×9°.94E±0°.09, h10km, n22, σ2s16/38, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.43**	**90**	Pn	**Pb**	**08 47 59.9**	**-0.8**
BJO1				Sn	**Sn**	**08 48 26.2**	**-0.1**
BJO1	**Bjornoya**	**2.43**	**90**	*eP*	**Pn**	**08 47 58.8**	**+2.1**
BJO1				*eS*	**Sn**	**08 48 27.0**	**+0.7**
BJO1				IAML		08 48 31.0	
	comp=Z,28nm,0.5s						
HSPB	**Hornsund (broa**	**2.69**	**28**	Pn	**Pn**	**08 47 60.0**	**-0.3**
HSPB				Sn	**Sn**	**08 48 29.0**	**-3.9**
HSPB	**Hornsund (broa**	**2.69**	**28**	*eP*	**Pn**	**08 48 00.1**	**-0.2**
HSPB				*eS*	**Sn**	**08 48 29.6**	**-3.3**
HSPB				IAML		08 48 31.7	
	comp=Z,4.4nm,0.5s						
BRBA	**Barentsburg A**	**3.53**	**15**	Pn	**Pn**	**08 48 10.9**	**-0.8**
BRBA				Sn	**Sn**	**08 48 52.9**	**-0.5**
BRBB	**Barentsburg B**	**3.56**	**14**	Pn	**Pn**	**08 48 11.3**	**-0.9**
BRBB				Sn	**Sn**	**08 48 54.0**	**-0.2**
BRBB	**Barentsburg B**	**3.56**	**14**	*eP*	**Pn**	**08 48 11.0**	**-1.2**
BRBB				*eS*	**Sn**	**08 48 52.9**	**-1.3**
SPA0	**Spitsbergen Ar**	**3.81**	**20**	Pn	**Pn**	**08 48 15.8**	**+0.2**
	baz=199,slow=14						
SPA0				Sn	**Sn**	**08 48 58.0**	**-2.4**
	baz=195,slow=22						
SPA0	**Spitsbergen Ar**	**3.81**	**20**	*eP*	**Pn**	**08 48 15.9**	**+0.2**
SPA0				*eS*	**Sn**	**08 48 58.3**	**-2.1**
SPA0				IAML		08 49 03.1	
	comp=Z,7.1nm,0.7s						
SPITS	**Spitsbergen Ar**	**3.81**	**20**	Pn	**Pn**	**08 48 15.9**	**+0.2**
	baz=200,slow=16,SNR=7.5						
HOPEN	**Hopen**	**4.17**	**57**	Pn	**Pn**	**08 48 22.1**	**+1.5**
HOPEN				Sn	**Sn**	**08 49 09.4**	**+0.1**
HOPEN	**Hopen**	**4.17**	**57**	*eP*	**Pn**	**08 48 21.9**	**+1.3**
HOPEN				*eS*	**Sn**	**08 49 08.2**	**-1.1**
KBS	**Kingsbay**	**4.28**	**5**	Pn	**Pn**	**08 48 19.9**	**-2.1**
KBS	**Kingsbay**	**4.28**	**5**	*eP*	**Pn**	**08 48 20.7**	**-1.3**
KBS				*eS*	**Sn**	**08 49 06.8**	**-5.1**
KBS				IAML		08 49 15.2	
	comp=Z,3.5nm,0.7s						
HAMF	**Hammerfest**	**5.77**	**128**	Pn	**Pn**	**08 48 41.9**	**-0.7**
HAMF				Sn	**Sn**	**08 49 44.2**	**-4.6**
KIF	**Kilpisjarvi**	**6.64**	**144**	Pn	**Pn**	**08 48 56.0**	**+1.5**
ARA0	**ARCESS Array S**	**7.04**	**130**	Pn	**Pn**	**08 48 59.5**	**-0.4**
	baz=329,slow=11						
ARA0				Sn	**Sn**	**08 50 16.8**	**-3.1**
	baz=332,slow=22						
ARCES	**ARCESS Array B**	**7.04**	**130**	Pn	**Pn**	**08 48 59.9**	**-0.1**
	baz=332,slow=11,SNR=11						
ARCES				Sn	**Sn**	**08 50 16.2**	**-3.7**
	baz=326,slow=21,SNR=10						
FINES	**FINESS Array B**	**14.52**	**148**	Pn	**Pn**	**08 50 41.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=340,slow=7.7,SNR=4.0						
YKA	**Yellowknife Ar**	**38.37**	**322**	P	**P**	**08 54 41.7**	**+4.0**
	comp=Z,0.3nm,0.9s,baz=14,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array**	**40.90**	**91**	P	**P**	**08 55 01.3**	**+2.4**
	comp=Z,0.1nm,0.5s,baz=9.8,slow=7.1,SNR=5.2						

MAN 13 08:47:29.7, 13°.92N×120°.02E, h30km, mb3.6, ML2.3, MS1.8, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**131**	↑*eP*	Pn	08 47 39.1	+1.2
LUBP				*i* S	Sb	08 47 42.5	+0.5
MACP	**Maragondon, Ca**	**0.76**	**63**	↑*eP*	Pn	08 47 43.6	-0.8
PGP	**Puerto Galera**	**1.00**	**115**	↑*eP*	Pb	08 47 49.7	+1.3
PGP				*i* S	Sn	08 48 01.0	+0.2

IDC 13 09:00:28.7±2.9, 52°.28N×35°.26E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.0/45, mbtmp3.7/3, ML2.8/3, Error ellipse: s-maj=43.8km s-min=14.7km az=130.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.94**	**15**	Lg	Lg	09 01 56.5	
	1.4nm,0.3s,baz=13,slow=23,SNR=9.8						
AKASG	**Malin Array Be**	**4.09**	**250**	Pn	Pn	09 01 30.1	-2.2
	0.8nm,0.3s,baz=56,slow=12,SNR=3.0						
AKASG				Pg	Pb	09 01 41.3	-0.2
	1.6nm,0.3s,baz=58,slow=15,SNR=7.6						
AKASG				Lg	Lg	09 02 34.8	
	1.8nm,0.3s,baz=66,slow=30,SNR=3.8						
I43RU	**DUBNA INFRASON**	**4.59**	**14**	*i*		09 26 20.0	
	baz=186,slow=320,SNR=5.0						
FINES	**FINESS Array B**	**10.46**	**335**	Pn	Pn	09 02 53.5	-6.2
	0.1nm,0.3s,baz=152,slow=14,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**14.35**	**88**	*i*		10 24 44.7	
	baz=292,slow=320,SNR=2.1						
ARCES	**ARCESS Array B**	**17.91**	**349**	Pn	Pn	09 04 34.1	-4.7
	baz=162,slow=9.2,SNR=7.0						
YKA	**Yellowknife Ar**	**63.12**	**345**	P	P	09 10 58.0	+0.5
	0.3nm,0.7s,baz=17,slow=6.5,SNR=5.6						

NNC 13 09:15:01.2±0.7, 51°.69N×75°.26E, h0km, mb3.7, mpv3.3, 6C-3D, Error ellipse: s-maj=8.8km s-min=4.1km az=9.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.32**	**116**	⇓Pn	Pn	09 15 41.8	+1.2
	11nm,0.7s						
KURBB				↑Sn	Sb	09 16 11.6	-1.5
	44nm,0.7s						
KURK	**Kurchatov**	**2.33**	**113**	↑Pn	Pn	09 15 41.2	+0.4
	5.9nm,0.7s						
KURK				↑Sn	Sn	09 16 10.4	+0.3
	22nm,0.7s						
BRZS	**Berezniki**	**2.36**	**225**	Pg	Pb	09 15 44.3	-0.4
	9.6nm,0.4s						
BRZS				Lg	Lg	09 16 16.9	
	4.6nm,0.2s						
BVA3	**Borovoye Array**	**3.28**	**296**	↑Pg	Pb	09 15 59.8	-0.4
	2.4nm,0.5s						
BVA3				⇓Lg	Lg	09 16 45.5	
	9.6nm,0.8s						
SEM	**Semipalatinsk**	**3.40**	**110**	Pg	Pb	09 16 02.2	-0.2
	3.2nm,0.2s						
SEM				Lg	Lg	09 16 47.6	
	9.4nm,0.1s						
BTLS	**Baital**	**6.70**	**187**	Pg	Pg	09 17 04.0	-5.5
	0.5nm,0.3s						
BTLS				Lg	Lg	09 18 33.7	
	2.7nm,0.3s						
MK31	**Makanchi Array**	**6.72**	**134**	↑Pn	Pn	09 16 41.5	+0.4
	0.5nm,0.7s,baz=316,slow=12,SNR=5.8						
MK31				↑Sn	Sn	09 17 57.8	-0.5
	1.1nm,0.7s						
MK31				⇓Lg	Lg	09 18 31.0	
	2.1nm,0.6s,baz=317,slow=30,SNR=3.5						
KAPS	**Kapalarasan**	**6.96**	**155**	Pg	Pb	09 17 07.2	+4.2
	0.5nm,0.2s						
KAPS				Lg	Lg	09 18 38.8	
	7.1nm,0.7s						
ZSN	**Zaisan**	**7.55**	**120**	Pg	Pb	09 17 13.7	+0.7
	5.2nm,0.2s						
ZSN				Lg	Lg	09 18 50.3	
	6.0nm,0.5s						
ARXS	**Arharly**	**7.67**	**166**	Pg	Pg	09 17 22.0	-6.1
	2.0nm,0.7s						
ARXS				Lg	Lg	09 19 04.4	
	4.4nm,0.4s						
KTBS	**Karatobe**	**8.04**	**173**	Pg	Pg	09 17 28.9	-6.2
	0.6nm,0.3s						
KTBS				Lg	Lg	09 19 16.2	
	6.5nm,0.4s						

IDC 13 09:18:11.7±1.8, 2°.95S×125°.29E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/35, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=190.4km s-min=26.4km az=63.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.06**	**153**	P	P	09 22 33.9	-1.8
	0.2nm,0.3s,baz=329,slow=12,SNR=14						
ASAR	**Alice Springs**	**22.22**	**159**	P	P	09 23 09.7	-0.4
	3.0nm,0.6s,baz=344,slow=12,SNR=59						
STKA	**Stephens Creek**	**32.61**	**154**	P	P	09 24 46.8	+1.6
	0.6nm,0.5s,baz=343,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**62.31**	**328**	P	P	09 28 35.7	-0.1
	0.2nm,0.5s,baz=121,slow=6.6,SNR=1.5						

BUC 13 09:35:37.5±0.4, 45°.50N×26°.28E, h144km±2km, ml3.6/32, 46C-25D, Error ellipse: s-maj=2.5km s-min=1.9km az=168.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.07**	**172**	↑P	Pn	09 35 57.5	+0.5
NEHR				↑S	Sn	09 36 11.7	0.0
MLR	**Muntele Rosu**	**0.24**	**268**	↑P	Pn	09 35 57.7	+0.4
MLR				↑S	Sn	09 36 12.6	+0.2
BISRR	**Bisoca**	**0.30**	**81**	↑P	Pn	09 35 58.2	+0.8
BISRR				↑S	Sn	09 36 13.8	+1.2
ISR	**Istrita**	**0.42**	**154**	↑P	Pn	09 35 58.5	+0.6
ISR				⇓S	Sn	09 36 14.7	+1.3
PLOR	**Plostina**	**0.44**	**36**	⇓P	Pn	09 35 58.5	+0.5
PLOR				↑S	Sn	09 36 14.3	+0.7
VRI	**Vrincioaia**	**0.48**	**40**	↑P	Pn	09 35 58.4	+0.3
VRI				⇓S	Sn	09 36 14.4	+0.5
SECR		**0.49**	**198**	↑P	Pn	09 35 58.9	+0.7
SECR				↑S	Sn	09 36 15.2	+1.4
GRER		**0.50**	**104**	↑P	Pn	09 35 58.9	+0.7
ODBI	**Odobesti**	**0.60**	**64**	⇓P	Pn	09 36 00.0	+1.3
ODBI				⇓S	Sn	09 36 16.0	+1.1
PLAR	**PLOIESTI**	**0.61**	**197**	↑P	Pn	09 35 59.5	+0.7
PLAR				⇓S	Sn	09 36 16.4	+1.4
OZUR		**0.69**	**330**	↑P	Pn	09 35 59.3	-0.1
OZUR				↑S	Sn	09 36 15.3	-0.8
PGOR	**Pogoanele**	**0.77**	**140**	⇓S	Sn	09 36 18.1	+1.2
DOPR	**Dopca**	**0.78**	**307**	↑P	Pn	09 35 60.0	0.0
DOPR				↑S	Sn	09 36 17.2	0.0
SULR		**0.82**	**181**	↑P	Pn	09 36 00.9	+0.6
SULR				↑S	Sn	09 36 18.7	+1.1
VOIR		**0.87**	**266**	↑P	Pn	09 36 00.5	-0.2
VOIR				⇓S	Sn	09 36 17.9	-0.5
GHRR		**0.97**	**54**	⇓P	Pn	09 36 01.9	+0.5
GHRR				↑S	Sn	09 36 20.4	+0.8
TESR	**Tescani**	**1.04**	**14**	↑P	Pn	09 36 02.1	0.0
TESR				⇓S	Sn	09 36 20.0	-0.9
LEHL	**Lehliu**	**1.09**	**159**	↑S	Sn	09 36 22.9	+1.3
AMRR	**Amara**	**1.16**	**140**	↑S	Sn	09 36 23.1	+0.4
BUC1	**Bucharest**	**1.17**	**189**	⇓S	Sn	09 36 22.9	+0.1
ARR	**Arges**	**1.17**	**264**	↑P	Pn	09 36 04.0	+0.7
ARR				↑S	Sn	09 36 22.7	-0.3
VARL	**Varlezi**	**1.17**	**69**	⇓P	Pn	09 36 03.9	+0.7
BIR	**Birlad**	**1.21**	**50**	⇓P	Pn	09 36 04.2	+0.5
BIR				↑S	Sn	09 36 23.9	+0.3
SCTR	**Scanteiesti**	**1.22**	**81**	⇓P	Pn	09 36 04.3	+0.6
SCTR				↑S	Sn	09 36 24.4	+0.8
TATR	**Tatarca**	**1.25**	**85**	↑P	Pn	09 36 04.5	+0.5
TATR				⇓S	Sn	09 36 24.5	+0.3
VLDR	**Vladesti**	**1.31**	**74**	↑P	Pn	09 36 05.1	+0.5
VLDR				↑S	Sn	09 36 25.1	-0.2
HUMR	**Humele**	**1.34**	**224**	↑S	Sn	09 36 25.5	-0.4
CFR	**Carcaliu**	**1.35**	**103**	⇓P	Pn	09 36 05.0	0.0
CFR				⇓S	Sn	09 36 25.2	-0.7
HARR	**Harsova**	**1.42**	**124**	↑P	Pn	09 36 05.9	+0.2
VASR	**Vaslui**	**1.55**	**42**	⇓P	Pn	09 36 07.3	+0.2
VASR				⇓S	Sn	09 36 29.1	-0.8
COPA	**Copaceanca**	**1.56**	**209**	↑P	Pn	09 36 07.3	+0.1
COPA				↑S	Sn	09 36 30.2	+0.2
TLBR	**Topalu**	**1.57**	**127**	⇓S	Sn	09 36 29.1	-1.1
TPGR	**Topolog**	**1.64**	**112**	↑P	Pn	09 36 08.1	-0.1
TPGR				⇓S	Sn	09 36 30.6	-1.1
LEOM	**Leova**	**1.68**	**54**	↑P	Pn	09 36 08.9	+0.4
LEOM				↑S	Sn	09 36 32.0	-0.4
CVDA	**Cernavoda**	**1.71**	**132**	↑S	Sn	09 36 32.7	-0.2
ICOR	**Ion Corvin**	**1.76**	**141**	↑S	Sn	09 36 33.2	-0.7
TLCR		**1.81**	**99**	⇓P	Pn	09 36 10.4	+0.3
TLCR				⇓S	Sn	09 36 35.3	+0.2
TIRR	**Tirgusor**	**1.84**	**124**	↑P	Pn	09 36 10.5	+0.1
TIRR				↑S	Sn	09 36 34.6	-0.9
MILM	**Milestii Mici**	**2.26**	**50**	↑P	Pn	09 36 15.4	+0.1
SRE	**Strehaia**	**2.33**	**250**	⇓S	Sn	09 36 44.9	-1.2
GZR	**Gura Zlata**	**2.47**	**269**	↑P	Pn	09 36 18.5	+0.5
GZR				⇓S	Sn	09 36 49.2	+0.1
DRGR		**2.80**	**299**	↑P	Pn	09 36 21.6	-0.4
SORM	**Soroca**	**3.00**	**28**	↑P	Pn	09 36 24.1	-0.4

*MAN **13** 09:46:31.3, 2°.94N×126°.47E, h1km, mb5.0, ML4.0, MS4.0*
*IDC **13** 09:46:35.9±0.7, 3°.77N×126°.91E, h0km, mb4.2/13, mb1 4.3/14, mb1mx3.9/48, mbtmp4.2/14, ML3.8/1, MS3.4/13, Ms1 3.4/13, ms1mx3.1/74, Error ellipse: s-maj=43.8km s-min=13.9km az=67.0*
*NEIC **13** 09:46:38.0±1.2, 3°.81N±0°.06×127°.03E±0°.09, h10km±1km, mb4.5/23, Error ellipse: s-maj=15.5km s-min=9.7km az=70.0*
*DJA **13** 09:46:39.6±1.0, 4°N±10°×12°7E±°, h10km, M4.1/8, mb4.1/3, mB5.1/1, MLv4.1/8, Mw(mB)4.4/1*

ISC 13 09:46:37.5±0.4, 3°.81N±0°.05×126°.99E±0°.06, h10km, n68, σ1s16/58, mb4.4/24, MS3.4/10, 2C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.46**	**265**	P	**Pb**	**09 47 06.3**	**+1.5**
DDMP	**Don Marcelino,**	**2.62**	**331**	↑*eP*	**Pn**	**09 47 21.6**	**+1.7**
TNTI	**Ternate**	**3.04**	**173**	P	**Pb**	**09 47 29.7**	**-2.0**
TNTI	**Ternate**	**3.04**	**173**		**Pn**	**09 47 26.1**	**+0.4**
TNTI					**Sn**	**09 48 03.4**	**+1.3**
KCP	**Kidapawan**	**3.70**	**329**	⇓*eP*	**Pn**	**09 47 39.1**	**+4.2**
LBMI	**Labuha**	**4.44**	**173**	P	**Pn**	**09 47 47.3**	**+2.3**
BUKP	**Musuan**	**4.48**	**335**	⇓*eP*	Pn	09 47 51.1	+5.6
BUKP	**Musuan**	**4.48**	**335**	↑*eP*	**Pg**	**09 48 01.2**	**-2.1**
GTOI	**Gorontalo**	**5.07**	**232**	P	Pn	09 47 59.3	+5.7
	0.0nm7.9nm,0.8s						
MRSI	**Marisa**	**6.03**	**237**	P	**Pn**	**09 48 10.8**	**+3.9**
	0.1nm1μm28nm,0.7s						
SWI	**Sorong**	**6.30**	**137**	P	Pn	09 48 14.9	+4.3
SIJI	**Sorong**	**6.31**	**137**	Pn	**Pn**	**09 48 12.9**	**+2.2**
	1.9nm,0.3s,baz=359,slow=9.2,SNR=8.9						
SIJI				LR	LR	09 50 59.4	
	comp=Z,359nm,18.9s,baz=312,slow=42						
FAKI	**Fak Fak**	**8.50**	**142**	Pn	**Pn**	**09 48 41.5**	**+0.7**
MYLDM	**Lahad Datu**	**8.57**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM				IAmb	IAmb	09 55 14.2	
	comp=Z,2.3nm,0.8s						
MK31	**Makanchi Array**	**57.64**	**325**		**P**	**09 56 28.6**	**+0.5**
MK31				IAmb	IAmb	09 56 28.8	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**57.64**	**325**	P	**P**	**09 56 27.9**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=124,slow=8.5,SNR=34						
MKAR				PcP	**PcP**	**09 57 21.4**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=114,slow=5.0,SNR=7.6						
MKAR				LR	LR	10 23 06.3	
	comp=Z,40nm,19.5s,baz=14,slow=38						
MKAR	**Makanchi Array**	**57.64**	**325**	P	**P**	**09 56 28.3**	**+0.2**
MAKZ	**Makanchi**	**57.83**	**325**		**P**	**09 56 30.1**	**+0.8**
MAKZ				IAmb	IAmb	09 56 30.4	
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**09 56 48.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=144,slow=6.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**09 56 48.6**	**0.0**
KBL	**Kabul**	**61.68**	**307**	P	**P**	**09 56 56.0**	**-0.3**
KURK	**Kurchatov**	**61.82**	**327**	P	**P**	**09 56 57.2**	**+0.6**
KURK				IAmb	IAmb	09 56 57.3	
	comp=Z,4.9nm,0.8s						
URZ	**Urewera**	**62.42**	**137**	LR	LR	10 25 48.7	
	comp=Z,137nm,18.5s,baz=212,slow=38						
BVAR	**Borovoye Array**	**67.40**	**327**	P	**P**	**09 57 33.2**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=103,slow=4.6,SNR=4.1						
TIXI	**Tiksi**	**67.77**	**1**	P	**P**	**09 57 34.7**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=160,slow=4.1,SNR=8.0						
TIXI	**Tiksi**	**67.77**	**1**	P	**P**	**09 57 34.7**	**-0.3**
TIXI				IAmb	IAmb	09 57 36.4	
	comp=Z,2.8nm,0.9s						
ABKAR	**Abkulak array**	**72.26**	**321**	P	**P**	**09 58 03.2**	**+0.1**
IMAR	**Indian Mountai**	**82.17**	**24**	P	**P**	**09 58 58.2**	**-0.3**
ARCES	**ARCESS Array B**	**90.47**	**340**	P	**P**	**09 59 38.7**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=59,slow=5.8,SNR=8.1						
ARCES	**ARCESS Array B**	**90.47**	**340**	P	**P**	**09 59 39.1**	**-0.1**
FINES	**FINESS Array B**	**91.89**	**332**	P	**P**	**09 59 45.7**	**-0.2**
	comp=Z,4.7nm,1.0s,baz=35,slow=5.3,SNR=3.8						
FINES	**FINESS Array B**	**91.89**	**332**	P	**P**	**09 59 45.8**	**-0.1**
AKASG	**Malin Array Be**	**92.00**	**321**	P	**P**	**09 59 45.9**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=69,slow=4.6,SNR=6.8						
NOA	**NORSAR Array B**	**98.83**	**334**	LR	LR	10 48 01.5	
	comp=Z,24nm,18.3s,baz=65,slow=37						

IDC 13 09:51:30.2±2.4, 3°66N×127°11E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/46, mbtmp3.6/3, 1C, Error ellipse: s-maj=201.1km s-min=26.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**12.09**	**326**	↑eP	Pn	09 54 37.4	+13
WRA	**Warramunga Arr**	**24.51**	**163**	P	P	09 56 50.7	-0.8
	2.8nm,0.9s,baz=343,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**27.96**	**167**	P	P	09 57 23.8	+1.1
	0.4nm,0.7s,baz=337,slow=6.0,SNR=3.0						
MKAR	**Makanchi Array**	**57.83**	**325**	P	P	10 01 23.6	-0.1
	0.6nm,0.5s,baz=118,slow=8.1,SNR=9.7						

*STR **13** 09:52:45.2±0.2, 43°N±2°×±°, h2km, MLv1.8/7, preliminary*
*LDG **13** 09:52:45.3±0.1, 43°09N×2°35E, h3km, Md2.4/2, Ml2.5/17, Error ellipse: s-maj=1.1km s-min=0.8km az=160.0*

ISC 13 09:52:44.4±1.0, 43°11N±0°03×2°36E±0°02, h18km±8km, n25, σ0°82/54, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTLF	**Montolieu**	**0.26**	**337**	*e*Pg	**Pb**	**09 52 50.5**	**-0.1**
MTLF				*e*Sg	**Sg**	**09 52 54.2**	**+0.1**
	167nm,0.2s						
MTLF	**Montolieu**	**0.26**	**337**	Pg	**Pb**	**09 52 50.5**	**-0.1**
MTLF				Sg	**Sg**	**09 52 54.2**	**+0.1**
FNEB	**Nbias**	**0.27**	**222**	Pg	**Pb**	**09 52 50.7**	**-0.2**
FNEB				Sg	**Sb**	**09 52 54.6**	**-0.5**
SJAF	**Saint Jean de**	**0.73**	**148**	Pg	**Pb**	**09 52 58.8**	**+0.1**
SJAF				Sg	**Sb**	**09 53 08.4**	**0.0**
MLS	**Moulis**	**0.94**	**261**	Pg	**Pn**	**09 53 03.4**	**+0.6**
MLS				Sg	**Sn**	**09 53 16.9**	**+1.2**
LASF	**Ste Croix**	**1.46**	**48**	*e*Pn	**Pn**	**09 53 10.6**	**+0.7**
LASF	**Ste Croix**	**1.46**	**48**	*e*Pg	**Pg**	**09 53 12.9**	**+0.4**
LASF				*e*Sg	**Sg**	**09 53 32.0**	**+0.5**
	22nm,0.4s						
EPF	**Esparros**	**1.48**	**268**	*e*Pn	**Pb**	**09 53 11.1**	**-0.3**
EPF	**Esparros**	**1.48**	**268**	*e*Pg	**Pg**	**09 53 12.8**	**-0.1**
EPF				*e*Sg	**Sg**	**09 53 31.9**	**-0.3**
	6.8nm,0.2s						
MONQ	**Montcuq**	**1.52**	**327**	Pn	**Pg**	**09 53 14.1**	**+0.5**
MONQ				Sn	**Sg**	**09 53 34.1**	**+0.8**
TRBF	**Trabuc cave**	**1.53**	**49**	P	**Pn**	**09 53 11.5**	**+0.6**
TRBF				Pn	**Pb**	**09 53 13.1**	**+0.8**
TRBF				Pg	**Pg**	**09 53 14.2**	**+0.3**
TRBF				Sn	**Sg**	**09 53 34.1**	**+0.2**
ECHI	**Chisagues Biel**	**1.65**	**255**	Pn	**Pg**	**09 53 15.8**	**-0.4**
ECHI				Pg	**Pb**	**09 53 16.9**	**+2.5**
ECHI				Sn	**Sg**	**09 53 37.7**	**+0.1**
CAF	**Calviac**	**1.83**	**354**	*e*Pg	**Pg**	**09 53 19.7**	**+0.1**
CAF				*e*Sg	**Sg**	**09 53 43.5**	**+0.1**
	15nm,0.4s						
ETSF	**Etsaut**	**2.15**	**265**	*e*Pg	**Pg**	**09 53 25.0**	**-0.6**
ETSF				*e*Sg	**Sg**	**09 53 52.2**	**-1.3**
	3.8nm,0.2s						
LFF	**La Frestale**	**2.17**	**328**	*e*Pg	**Pg**	**09 53 25.4**	**-0.7**
LFF				*e*Sg	**Sg**	**09 53 54.5**	**+0.3**
	13nm,0.3s						
RJF	**Les Rejaudoux**	**2.28**	**345**	*e*Pg	**Pg**	**09 53 27.9**	**-0.2**
RJF				*e*Sn	**Sn**	**09 53 49.4**	**+0.6**
RJF				*e*Sg	**Sg**	**09 53 57.6**	**-0.1**
	8.2nm,0.2s						
VIVF	**Saint-Julien-l**	**2.42**	**43**	*e*Pg	**Pg**	**09 53 30.4**	**-0.4**
VIVF				*e*Sn	**Sn**	**09 53 52.5**	**+0.1**
VIVF				*e*Sg	**Sg**	**09 54 01.7**	**-0.5**
	5.8nm,0.2s						
SMRF	**Simiane la Rot**	**2.50**	**69**	*e*Pg	**Pg**	**09 53 32.3**	**0.0**
SMRF				*e*Sn	**Sn**	**09 53 54.4**	**+0.1**
	4.2nm,0.6s						
SJPF	**Ste Jean**	**2.62**	**271**	*e*Pg	**Pg**	**09 53 33.6**	**-1.1**
SJPF				*e*Sn	**Sn**	**09 53 57.3**	**0.0**
	1.1nm,0.3s						
SJPF				*e*Sg	**Sg**	**09 54 07.7**	**-1.0**
	1.2nm,0.3s						
LMR	**La Mourre**	**3.04**	**84**	*e*Pg	**Pg**	**09 53 41.4**	**-1.3**
LMR				*e*Sn	**Sn**	**09 54 07.5**	**-0.2**
LMR				*e*Sg	**Sg**	**09 54 21.2**	**-1.0**
	1.3nm,0.2s						
TCF	**Toulx Ste Croi**	**3.18**	**358**	*e*Pg	**Pg**	**09 53 44.3**	**-1.1**
TCF				*e*Sg	**Sg**	**09 54 25.7**	**-0.9**
	2.6nm,0.3s						
BGF	**Bois d'Agland**	**3.47**	**6**	*e*Pg	**Pg**	**09 53 50.4**	**-0.4**
BGF				*e*Sg	**Sg**	**09 54 35.0**	**-0.8**
	8.7nm,0.3s						
AVF	**Avril sur Loir**	**3.75**	**11**	*e*Pg	**Pg**	**09 53 55.1**	**-1.1**
AVF				*e*Sg	**Sg**	**09 54 43.7**	**-1.1**
	0.9nm,0.2s						
MFF	**Saint Martin d**	**3.92**	**334**	*e*Pg	**Pg**	**09 53 58.0**	**-1.5**
MFF				*e*Sg	**Sg**	**09 54 48.6**	**-1.7**
	1.2nm,0.2s						
SSF	**Saint Saulge**	**4.04**	**11**	*e*Sg	**Sg**	**09 54 52.2**	**-1.8**
	1.5nm,0.2s						

*IDC **13** 09:54:31.3±0.8, 37°54N×143°80E, h0km, mb3.9/11, mb1 4.1/14, mb1mx3.8/48, mbtmp4.0/14, ML4.0/3, MS3.0/6, Ms1 3.0/6, ms1mx2.7/89, Error ellipse: s-maj=23.8km s-min=15.6km az=111.0*
*NIED **13** 09:54:34.9, 37°72N×143°59E, h44km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=6.72; $M_{\theta\theta}$1.23; $M_{\phi\phi}$5.49; $M_{r\theta}$5.07; $M_{\theta\phi}$4.01; $M_{\phi r}$0.33; Fault plane solution: $M_0$8.93000×10^{14} NP1: ϕ_s237.00000°, δ62.00000°, λ-61.00000°. NP2:ϕ_s7.00000°, δ40.00000°, λ-132.00000°.*
*JMA **13** 09:54:34.9±0.2, 37°72N×143°59E, h44km, M4.0*
*NEIC **13** 09:54:37.0±1.8, 37°60N±0°07×143°64E±0°09, h35km±4km, mb4.5/17, Error ellipse: s-maj=12.5km s-min=6.6km az=134.0*

ISC 13 09:54:36.4±0.6, 37°64N±0°04×143°67E±0°06, h35km, n75, σ1°65/85, mb4.1/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.86**	**292**	P	**Pn**	**09 55 04.1**	**-1.7**
JIKH				S	**Sn**	**09 55 25.7**	**-2.4**
JIO	**Ouri**	**2.00**	**295**	P	**Pn**	**09 55 06.2**	**-1.5**
JIO				S	**Sn**	**09 55 29.2**	**-2.4**
JKMT	**Kesennumamotoy**	**2.09**	**305**	P	**Pn**	**09 55 07.1**	**-1.8**
JKMT				S	**Sn**	**09 55 30.9**	**-2.7**
OFUJ	**Ofunato**	**2.13**	**313**	P	**Pn**	**09 55 07.6**	**-1.9**
OFUJ				*e*S	**Sn**	**09 55 31.8**	**-3.0**
JMM	**Marumori**	**2.29**	**277**		**Pn**	**09 55 10.1**	**-1.6**
JMM				Sn	**Sn**	**09 55 38.1**	**-0.5**
JMK	**Ichinoseki**	**2.33**	**305**	P	**Pn**	**09 55 10.8**	**-1.4**
JMK				*e*S	**Sn**	**09 55 37.4**	**-2.2**
JOM	**Ohasama**	**2.61**	**315**	P	**Pn**	**09 55 14.9**	**-1.2**
JOM				S	**Sn**	**09 55 44.7**	**-1.9**
JFT	**Otama**	**2.65**	**268**	P	**Pn**	**09 55 16.1**	**-0.5**
JFT				*e*S	**Sn**	**09 55 46.3**	**-1.2**
JYK	**Kaneyama**	**2.90**	**297**	P	**Pn**	**09 55 19.4**	**-0.7**
JYK				*e*S	**Sn**	**09 55 52.9**	**-0.8**
JYT	**Yasato**	**3.12**	**244**		**Pn**	**09 55 20.9**	**-2.1**
JANG	**Nango**	**3.21**	**329**	P	**Pn**	**09 55 23.9**	**-0.4**
JANG				*e*S	**Sn**	**09 55 59.3**	**-2.0**
JAG	**Ashikaga**	**3.58**	**252**	P	**Pn**	**09 55 28.5**	**-0.9**
JAG				*e*S	**Sn**	**09 56 08.6**	**-1.9**
BSO1	**Boso 1**	**3.69**	**217**	P	**Pn**	**09 55 28.6**	**-1.8**
BSO1				*e*S	**Sn**	**09 56 10.8**	**-1.5**
JTM	**Tenmabayashi**	**3.74**	**328**		**Pn**	**09 55 31.5**	**-0.1**
JRY	**Ryogami san**	**4.15**	**249**	P	**Pn**	**09 55 35.9**	**-1.4**
JRY				*e*S	**Sn**	**09 56 21.1**	**-3.5**
JSD	**Sado**	**4.30**	**277**	Pn	**Pn**	**09 55 40.1**	**+0.9**
ERM	**Erimo**	**4.39**	**355**	Pn	**Pn**	**09 55 39.6**	**-0.9**
MJAR	**Matsushiro Arr**	**4.50**	**258**	Pn	**Pn**	**09 55 42.2**	**+0.1**
	3.0nm,0.3s,baz=71,slow=10.0,SNR=106						
MJAR				LR	LR	09 57 37.5	
	comp=Z,124nm,18.7s,baz=54,slow=41						
MJAR	**Matsushiro Arr**	**4.50**	**258**		**Pn**	**09 55 43.0**	**+1.0**
MAJO	**Matsushiro**	**4.50**	**258**		**Pn**	**09 55 43.0**	**+0.9**
MAT	**Matsushiro**	**4.50**	**258**	P	**Pn**	**09 55 42.0**	**-0.1**
MAT				S	**Sn**	**09 56 33.6**	**+0.4**
MJB9	**Matsu-Tunnel**	**4.50**	**258**		**Pn**	**09 55 43.0**	**+0.9**
JKB	**Kayabe**	**4.71**	**335**	*e*S	**Sn**	**09 56 33.8**	**-4.4**
JCH	**Churui**	**4.98**	**357**	P	**Pn**	**09 55 46.8**	**-1.8**
JCH				*e*S	**Sn**	**09 56 39.0**	**-5.9**
JGF	**Kuroka**	**5.46**	**250**		**Pn**	**09 55 56.7**	**+1.4**
JEW	**Eniwo**	**5.47**	**343**		**Pn**	**09 55 55.8**	**+0.5**
JHJ2	**Mitsune**	**5.50**	**216**	Pn	**Pn**	**09 55 53.9**	**-1.9**
JHJ	**Hachijo jima 2**	**5.51**	**216**	Pn	**Pn**	**09 55 54.0**	**-1.9**
	42nm,0.3s,baz=95,slow=21,SNR=9.6						
JHJ				Sn	**Sn**	**09 56 52.0**	**-6.1**
	52nm,0.3s,baz=85,slow=22,SNR=3.4						
INU	**Inuyama**	**5.82**	**249**		**Pn**	**09 56 01.4**	**+1.2**
JKA	**Kamikawa-asahi**	**6.53**	**353**	Pn	**Pn**	**09 56 09.6**	**-0.2**
ASAJ	**Asahikawa**	**6.53**	**353**	Pn	**Pn**	**09 56 09.7**	**-0.1**
	2.8nm,0.3s,baz=206,slow=13,SNR=15						
JWT	**Wachi**	**7.06**	**253**	Pn	**Pn**	**09 56 17.9**	**+0.7**
JHS	**Saijyo**	**8.91**	**256**	Pn	**Pn**	**09 56 43.2**	**+0.5**
YSS	**Yuzh-Sakhalins**	**9.34**	**356**	Pn	**Pn**	**09 56 48.1**	**-0.3**
USA0B	**Ussuriysk Arra**	**11.00**	**310**	Pn	**Pn**	**09 57 11.5**	**+0.4**
USRK	**Ussuriysk Ar.**	**11.00**	**310**	LR	LR	10 01 29.6	
	comp=Z,93nm,18.2s,baz=170,slow=38						
USRK	**Ussuriysk Ar.**	**11.00**	**310**	Pn	**Pn**	**09 57 12.1**	**+0.9**
KSRS	**Korea Array**	**12.50**	**274**	LR	LR	10 02 15.1	
	comp=Z,45nm,18.4s,baz=85,slow=37						
KLR	**Kul'dur**	**14.44**	**327**	LR	LR	10 02 47.9	
	comp=Z,62nm,20.1s,baz=142,slow=34						
SEY	**Seymchan**	**25.88**	**9**	P	**P**	**10 00 05.9**	**+1.3**
	1.1nm,0.6s,baz=163,slow=3.7,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**26.96**	**125**	T	T	10 28 31.6	
	baz=317,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**26.97**	**125**	T	T	10 28 28.6	
	baz=317,slow=75,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**26.98**	**125**	T	T	10 28 31.3	
	baz=317,slow=75,SNR=8.1						
ZALV	**Zalesovo Beam**	**42.84**	**312**	P	**P**	**10 02 31.8**	**+1.0**
	0.7nm,0.7s,baz=94,slow=8.9,SNR=3.7						
ZALV				PcP	**PcP**	**10 04 21.9**	**+0.5**
	1.5nm,0.6s,baz=80,slow=2.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**42.84**	**312**	P	**P**	**10 02 31.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**43.38**	**257**	P	**P**	**10 02 36.7**	**+1.1**
	0.9nm,0.4s,baz=50,slow=6.1,SNR=6.3						
CMAR				LR	LR	10 23 39.2	
	comp=Z,22nm,18.9s,baz=300,slow=40						
MK31	**Makanchi Array**	**45.32**	**302**		**P**	**10 02 51.6**	**+0.8**
MK31				IAmb	IAmb	10 02 52.9	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**45.32**	**302**	P	**P**	**10 02 51.8**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=85,slow=10.0,SNR=14						
MKAR	**Makanchi Array**	**45.32**	**302**	P	**P**	**10 02 51.2**	**+0.3**
MAKZ	**Makanchi**	**45.53**	**302**	P	**P**	**10 02 52.9**	**+0.4**
MAKZ				IAmb	IAmb	10 02 55.1	
	comp=Z,2.2nm,0.9s						
KURK	**Kurchatov**	**46.98**	**308**	P	**P**	**10 03 04.0**	**+0.2**
KURK				IAmb	IAmb	10 03 05.6	
	comp=Z,6.2nm,0.8s						
KAPI	**Kappang**	**47.92**	**213**	LR	LR	10 23 20.0	
	comp=Z,19nm,21.9s,baz=242,slow=36						
ILAR	**Eielson Array**	**48.02**	**33**	P	**P**	**10 03 11.3**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=260,slow=5.8,SNR=6.1						
ILAR	**Eielson Array**	**48.02**	**33**	P	**P**	**10 03 12.6**	**+0.8**
KNRA	**Kununurra**	**54.85**	**198**	P	**P**	**10 04 03.9**	**+0.7**
CHGR	**Chuyangaron**	**57.02**	**296**	P	**P**	**10 04 19.8**	**+0.9**
ARU	**Arti**	**57.10**	**319**	P	**P**	**10 04 19.2**	**+0.2**
ARU				IAmb	IAmb	10 04 20.5	
	comp=Z,6.5nm,1.1s						
WB0	**Warramunga Arr**	**57.76**	**190**	P	**P**	**10 04 23.2**	**-0.7**
WB0				IAmb	IAmb	10 04 24.5	
	comp=Z,6.2nm,0.8s						
WR0	**Warramunga Arr**	**57.93**	**190**	P	**P**	**10 04 24.7**	**-0.4**
WR0				IAmb	IAmb	10 04 25.3	
	comp=Z,3.7nm,0.8s						
WRAB	**Tennant Creek**	**57.93**	**190**	P	**P**	**10 04 24.2**	**-1.0**
WRAB				IAmb	IAmb	10 04 25.3	
	comp=Z,5.2nm,0.8s						
WB2	**Warramunga Arr**	**57.94**	**190**		**P**	**10 04 24.7**	**-0.5**
WB2				IAmb	IAmb	10 04 25.8	
	comp=Z,6.1nm,0.8s						
WRA	**Warramunga Arr**	**57.94**	**190**	P	**P**	**10 04 24.6**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=10.0,slow=7.3,SNR=35						
WRA	**Warramunga Arr**	**57.94**	**190**		**P**	**10 04 24.5**	**-0.7**
ABKAR	**Abkulak array**	**58.92**	**310**	P	**P**	**10 04 32.3**	**+0.5**
ABKAR				IAmb	IAmb	10 04 33.1	
	comp=Z,2.8nm,1.1s						
ASAR	**Alice Springs**	**61.66**	**190**	P	**P**	**10 04 50.5**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=9.6,slow=6.5,SNR=17						
YKA	**Yellowknife Ar**	**62.38**	**31**	P	**P**	**10 04 56.1**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=304,slow=7.5,SNR=5.4						
YKA	**Yellowknife Ar**	**62.38**	**31**	P	**P**	**10 04 55.2**	**0.0**
FINES	**FINESS Array B**	**69.11**	**333**	P	**P**	**10 05 39.5**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=50,slow=13,SNR=1.4						
STKA	**Stephens Creek**	**69.18**	**182**	P	**P**	**10 05 39.5**	**+0.3**
SUMG	**Summit**	**70.08**	**1**	P	**P**	**10 05 44.1**	**-0.8**
AKASG	**Malin Array Be**	**74.91**	**323**	P	**P**	**10 06 14.0**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=45,slow=6.2,SNR=5.0						
AKASG	**Malin Array Be**	**74.91**	**323**	P	**P**	**10 06 13.5**	**+0.1**
SIRT	**Sirnak**	**75.78**	**306**	P	**P**	**10 06 16.9**	**-2.0**
PDAR	**Pinedale Array**	**75.96**	**47**	P	**P**	**10 06 20.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=207,slow=1.3,SNR=3.5						
PDAR	**Pinedale Array**	**75.96**	**47**	P	**P**	**10 06 21.5**	**+1.5**

IDC 13 11:03:44.5±2.6, 4°15N×127°00E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/42, mbtmp3.3/3, MS3.2/1, Ms1 3.2/1, ms1mx2.2/33, Error ellipse: s-maj=201.9km s-min=29.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.00**	**163**	P	P	11 09 08.9	-1.3
	1.1nm,0.8s,baz=343,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**28.45**	**167**	P	P	11 09 42.9	+1.5
	0.1nm,0.4s,baz=343,slow=11,SNR=4.3						
KLR	**Kul'dur**	**45.10**	**4**	LR	LR	11 34 58.1	
	comp=Z,25nm,18.7s,baz=198,slow=42						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	11 13 34.7	0.0
	0.1nm,0.5s,baz=120,slow=8.5,SNR=2.1						

IDC 13 11:06:42.4±7.2, 3°91S×128°20E, h75km±71km, mb3.1/3, mb1 3.2/4, mb1mx3.1/36, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=130.1km s-min=25.2km az=65.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.03**	**160**	P	Pn	11 10 35.4	-0.5
	0.1nm,0.3s,baz=341,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**20.40**	**165**	P	P	11 11 13.2	-0.4
	0.1nm,0.3s,baz=346,slow=12,SNR=5.9						
STKA	**Stephens Creek**	**30.54**	**157**	P	P	11 12 50.3	+1.4
	2.3nm,0.8s,baz=321,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**64.67**	**327**	P	P	11 17 12.4	0.0
	0.1nm,0.3s,baz=134,slow=6.2,SNR=5.0						

*IDC **13** 11:20:03.5±1.8, 37°29N×143°65E, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.4/49, mbtmp3.7/8, ML3.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.4/93, Error ellipse: s-maj=36.1km s-min=23.7km az=72.0*
*JMA **13** 11:20:05.8±0.2, 37°68N×143°56E, h52km, M3.6*
*NIED **13** 11:20:05.8, 37°68N×143°56E, h52km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.17; $M_{\theta\theta}$0.62; $M_{\phi\phi}$1.55; $M_{r\theta}$1.16; $M_{\theta\phi}$1.19; $M_{\phi r}$0.47; Fault plane solution: $M_0$2.60000×10^{14} NP1: ϕ_s230.00000°, δ59.00000°, λ-73.00000°. NP2:ϕ_s19.00000°, δ35.00000°, λ-116.00000°.*

ISC 13 11:20:07.8±1.3, 37°71N±0°05×143°6E±0°1, h50km, n30, σ2°06/35, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.76**	**291**	P	**Pn**	**11 20 34.9**	**-1.0**
JIKH				*e*S	**Sn**	**11 20 55.8**	**-1.3**
JIO	**Ouri**	**1.90**	**294**	P	**Pn**	**11 20 37.0**	**-0.7**
JIO				*e*S	**Sn**	**11 20 59.7**	**-0.8**
JKMT	**Kesennumamotoy**	**1.98**	**305**	P	**Pn**	**11 20 37.8**	**-1.0**
JKMT				*e*S	**Sn**	**11 21 01.4**	**-1.0**
OFUJ	**Ofunato**	**2.02**	**313**	P	**Pn**	**11 20 38.3**	**-1.2**
OFUJ				*e*S	**Sn**	**11 21 02.4**	**-1.1**
JMK	**Ichinoseki**	**2.22**	**305**	P	**Pn**	**11 20 41.6**	**-0.6**
JMK				*e*S	**Sn**	**11 21 07.8**	**-0.6**
JOM	**Ohasama**	**2.50**	**316**	P	**Pn**	**11 20 45.5**	**-0.6**
JOM				S	**Sn**	**11 21 15.3**	**-0.1**
JFT	**Otama**	**2.57**	**267**	P	**Pn**	**11 20 46.7**	**-0.2**
JFT				*e*S	**Sn**	**11 21 17.2**	**+0.3**
JYK	**Kaneyama**	**2.79**	**297**	P	**Pn**	**11 20 50.2**	**+0.2**
JYK				*e*S	**Sn**	**11 21 23.4**	**+0.9**
JANG	**Nango**	**3.10**	**330**	P	**Pn**	**11 20 54.5**	**+0.2**
JAG	**Ashikaga**	**3.52**	**250**	P	**Pn**	**11 20 59.0**	**-1.0**
JAG				*e*S	**Sn**	**11 21 38.7**	**-1.8**
JRY	**Ryogami san**	**4.10**	**247**	P	**Pn**	**11 21 06.8**	**-1.1**
JRY				*e*S	**Sn**	**11 21 52.4**	**-2.2**
MJAR	**Matsushiro Arr**	**4.43**	**256**	Pn	**Pn**	**11 21 12.5**	**0.0**
	1.1nm,0.3s,baz=72,slow=9.6,SNR=31						
MJAR				Sn	**Sn**	**11 22 06.1**	**+3.3**
	0.1nm,0.3s,baz=85,slow=28,SNR=1.6						
MAT	**Matsushiro**	**4.43**	**256**	P	**Pn**	**11 21 13.3**	**+0.8**
MAT				S	**Sn**	**11 22 04.8**	**+2.0**
JKB	**Kayabe**	**4.61**	**336**	*e*S	**Sn**	**11 22 04.5**	**-2.6**
JCH	**Churui**	**4.91**	**358**	P	**Pn**	**11 21 17.2**	**-1.8**
JCH				*e*S	**Sn**	**11 22 09.9**	**-4.5**
JHJ	**Hachijo jima 2**	**5.52**	**215**	Pn	**Pn**	**11 21 23.1**	**-4.3**
	19nm,0.3s,baz=341,slow=22,SNR=13						
JHJ				Sn	**Sn**	**11 22 23.2**	**-6.3**
	28nm,0.3s,baz=24,slow=24,SNR=6.4						
USRK	**Ussuriysk Ar.**	**10.89**	**310**	LR	LR	11 27 10.6	
	comp=Z,37nm,19.1s,baz=234,slow=38						
KLR	**Kul'dur**	**14.34**	**327**	Pn	**P**	**11 23 32.7**	**-0.9**
	0.2nm,0.3s,baz=138,slow=6.0,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**27.07**	**125**	T	T	11 54 05.9	
	baz=317,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**27.08**	**125**	T	T	11 53 58.8	
	baz=317,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**27.09**	**125**	T	T	11 53 59.0	
	baz=317,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**27.84**	**127**	T	T	11 54 58.6	
	baz=319,slow=76,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**27.84**	**127**

comp=Z,1.0nm,0.5s,baz=129,slow=5.9,SNR=5.3
ZALV Zalesovo Beam 95.48 324 P P 11 38 40.5 -0.8
ARCES ARCESS Array B 118.18 346 PKP PKPdf 11 44 02.3 -0.5
comp=Z,3.7nm,1.0s,baz=72,slow=1.6,SNR=14
ESDC Sonseca Array 151.92 345 PKPbc PKiKP 11 45 11.8 -0.1
comp=Z,0.4nm,0.7s,baz=45,slow=2.0,SNR=1.9
ESDC PKPab **PKPab 11 45 20.7 -0.3**
comp=Z,1.0nm,0.6s,baz=8.5,slow=3.9,SNR=5.7
TORD Torodi Ar. Bea 165.44 273 PKPab PKPab 11 46 19.5 -0.8
comp=Z,0.8nm,0.8s,baz=86,slow=5.6,SNR=5.0

IDC 13 11:33:55.2±1.8, 18°.17N×147°.02E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.2/41, mbtmp3.5/4, Error ellipse: s-maj=352.6km s-min=24.0km az=112.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.87**	**199**	P	P	11 41 30.8	-0.1
	0.9nm,0.6s,baz=21,slow=8.4,SNR=7.5						
ASAR	**Alice Springs**	**43.51**	**198**	P	P	11 42 00.5	-0.2
	0.1nm,0.3s,baz=15,slow=8.3,SNR=8.2						
ILAR	**Eielson Array**	**63.57**	**26**	P	P	11 44 27.8	+0.4
	0.3nm,0.9s,baz=254,slow=5.9,SNR=1.4						
YKA	**Yellowknife Ar**	**77.86**	**28**	P	P	11 45 54.2	-0.3
	0.2nm,0.7s,baz=287,slow=5.4,SNR=4.9						

*NEIC **13** 11:36:47.7±1.8, 23°.54S±0°.05×68°.04W±0°.02, h114km±5km, mb4.9/138, Mwr4.5/25, ML4.7(GUC), Error ellipse: s-maj=7.5km s-min=3.0km az=173.0*
*NEIC **13** 11:36:48.8, 23°.49S×68°.08W, h116km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.01; $M_{\theta\theta}$-1.73; $M_{\phi\phi}$3.74; $M_{r\theta}$1.50; $M_{\theta\phi}$-2.27; $M_{\phi r}$-5.81; Fault plane solution: $M_0$7.19000×10^{15} NP1:ϕ_s347.75000°, δ75.99000°, λ-82.94000°. NP2:ϕ_s140.66000°, δ15.66000°, λ-116.22000°. Principal axes: T 8.1011, Plg31.0000°, Azm72.0000°; N -2.4780, Plg7.0000°, Azm166.0000°; P -5.6231, Plg58.0000°, Azm267.0000°;*
*SJA **13** 11:36:48.5±1.7, 23°.42S×68°.15W, h100km, ML4.5, MW4.2*
*IDC **13** 11:36:48.6±0.8, 23°.37S×67°.99W, h117km±6km, mb4.4/13, mb1 4.4/18, mb1mx4.4/24, mbtmp4.7/18, MS3.7/6, Ms1 3.6/6, ms1mx3.2/54, Error ellipse: s-maj=15.1km s-min=12.0km az=28.0*
*VAO **13** 11:36:49.1±0.3, 23°.35S×67°.94W, h118km, mb5.0*
*GUC **13** 11:36:49.4±0.9, 23°.42S×68°.30W, h139km±6km, ML4.7, MW4.8*

ISC 13 11:36:47.6±0.6, 23°.47S±0°.04×68°.07W±0°.04, h114km±6km, n430, σ1§22/451, mb4.9/78, 8C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.15 318**		P	**Pn**	**11 37 12.9**	**+1.9**
	553nm,0.3s,baz=142,slow=7.3,SNR=7553						
LVC				S	**Sn**	**11 37 30.0**	**+1.2**
	2μm,0.3s,baz=184,slow=2.5,SNR=23						
LVC	**Limon Verde**	**1.15 318**		*i* P	**Pn**	**11 37 12.2**	**+1.1**
LVC				*e*S	**Sn**	**11 37 30.3**	**+1.5**
LVC	**Limon Verde**	**1.15 318**		*e*P	**Pn**	**11 37 12.9**	**+1.9**
LVC	**Limon Verde**	**1.15 318**			**Pn**	**11 37 12.9**	**+1.9**
LVC				Sn	**Sn**	**11 37 30.4**	**+1.6**
LVC	**Limon Verde**	**1.15 318**		*i* P	**Pn**	**11 37 12.0**	**+0.9**
LVC				⇓*e*S	**Sn**	**11 37 30.8**	**+2.0**
LVC				IAML		11 37 31.1	
	comp=Z,4μm,0.8s						
PB15	**IPOC Station P**	**1.31 281**		⇑*i*P	**Pn**	**11 37 13.9**	**+1.3**
PB15				*i* S	**Sn**	**11 37 32.7**	**+1.0**
PB15	**IPOC Station P**	**1.31 281**			**Pn**	**11 37 14.0**	**+1.3**
PB15				Sn	**Sn**	**11 37 33.2**	**+1.5**
PB15	**IPOC Station P**	**1.31 281**		*i* P	**Pn**	**11 37 14.0**	**+1.3**
PB15				*e*S	**Sn**	**11 37 33.9**	**+2.2**
PB15				IAML		11 37 37.5	
	comp=Z,46μm,0.3s						
PB06	**IPOC Station P**	**1.57 298**		⇑*i*P	**Pn**	**11 37 16.9**	**+1.2**
PB06				*i* S	**Sn**	**11 37 37.5**	**+0.4**
PB06				IAML		11 37 40.5	
	comp=N,21μm,0.4s						
PB06	**IPOC Station P**	**1.57 298**			**Pn**	**11 37 16.8**	**+1.2**
PB06				Sn	**Sn**	**11 37 37.4**	**+0.4**
PB06	**IPOC Station P**	**1.57 298**		*i* P	**Pn**	**11 37 17.0**	**+1.2**
PB06				*e*S	**Sn**	**11 37 37.8**	**+0.8**
PB06				IAML		11 37 40.7	
	comp=Z,11μm,0.2s						
PB09	**IPOC Station P**	**1.98 327**		⇓*i*P	**Pn**	**11 37 22.7**	**+2.0**
PB09				*i* S	**Sn**	**11 37 47.5**	**+1.5**
PB09				IAML		11 37 51.4	
	comp=E,4μm,0.4s						
PB09	**IPOC Station P**	**1.98 327**			**Pn**	**11 37 22.5**	**+1.8**
PB09	**IPOC Station P**	**1.98 327**		*i* P	**Pn**	**11 37 22.0**	**+1.3**
PB09				IAML		11 37 51.6	
	comp=Z,6μm,0.5s						
PB05	**IPOC Station P**	**2.05 287**		⇑*i*P	**Pn**	**11 37 21.7**	**+0.2**
PB05				*i* S	**Sn**	**11 37 46.2**	**-1.3**
PB05				IAML		11 37 51.4	
	comp=E,4μm,0.4s						
PB05	**IPOC Station P**	**2.05 287**		*i* P	**Pn**	**11 37 21.0**	**-0.5**
PB05				*e*S	**Sn**	**11 37 47.5**	**0.0**
PB05				IAML		11 37 50.6	
	comp=Z,2μm,0.4s						
PB03	**IPOC Station P**	**2.10 312**		⇑*i*P	**Pn**	**11 37 23.0**	**+0.9**
PB03				*i* S	**Sn**	**11 37 48.5**	**-0.1**
PB03				IAML		11 37 49.5	
	comp=E,9μm,0.2s						
PB03	**IPOC Station P**	**2.10 312**		*i* P	**Pn**	**11 37 23.0**	**+0.9**
PB03				*e*S	**Sn**	**11 37 48.5**	**-0.1**
PB03				IAML		11 37 51.6	
	comp=Z,5μm,0.3s						
PB04	**IPOC Station P**	**2.22 300**		⇑*i*P	**Pn**	**11 37 24.2**	**+0.4**
PB04				*i* S	**Sn**	**11 37 50.4**	**-1.0**
PB04	**IPOC Station P**	**2.22 300**			**Pn**	**11 37 24.1**	**+0.4**
PB04	**IPOC Station P**	**2.22 300**		*i* P	**Pn**	**11 37 24.0**	**+0.3**
PB04				*e*S	**Sn**	**11 37 51.2**	**-0.2**
PB04				IAML		11 37 52.7	
	comp=Z,7μm,0.7s						
PB10	**IPOC Station P**	**2.28 268**		⇑*i*P	**Pn**	**11 37 24.5**	**+0.2**
PB10				*i* S	**Sn**	**11 37 50.2**	**-2.3**
PB10				IAML		11 38 03.8	
	comp=N,2μm,0.3s						
PB10	**IPOC Station P**	**2.28 268**		Pn	**Pn**	**11 37 24.5**	**+0.2**
PB10	**IPOC Station P**	**2.28 268**		*i* P	**Pn**	**11 37 24.5**	**+0.2**
PB10				⇓*e*S	**Sn**	**11 37 53.9**	**+1.5**
PB10				IAML		11 38 00.6	
	comp=Z,2μm,0.9s						
PB07	**IPOC Station P**	**2.41 316**		⇑*i*P	**Pn**	**11 37 27.0**	**+0.8**
PB07				*e*S	**Sn**	**11 37 54.4**	**-1.3**
PB07				IAML		11 37 56.9	
	comp=N,6μm,0.4s						
PB07	**IPOC Station P**	**2.41 316**			**Pn**	**11 37 27.0**	**+0.8**
PB07	**IPOC Station P**	**2.41 316**		*i* P	**Pn**	**11 37 27.0**	**+0.8**
PB07				IAML		11 38 00.5	
	comp=Z,4μm,0.3s						
PB14	**IPOC Station P**	**2.42 241**		⇑*i*P	**Pn**	**11 37 26.6**	**+0.1**
PB14				*i* S	**Sn**	**11 37 54.6**	**-1.6**
PB14	**IPOC Station P**	**2.42 241**			**Pn**	**11 37 26.6**	**+0.1**
PB14	**IPOC Station P**	**2.42 241**		*i* P	**Pn**	**11 37 26.0**	**-0.5**
PB14				*e*S	**Sn**	**11 37 54.9**	**-1.3**
PB14				IAML		11 38 01.2	
	comp=Z,2μm,0.3s						
HJA	**Humahuaca**	**2.46**	**85**	*i* P	Pn	11 37 32.0	+5.0
HJA				IAML		11 38 14.9	
	comp=Z,171nm,0.7s						
YJA	**Yavi**	**2.69**	**62**	*i* P	**Pn**	**11 37 34.0**	**+4.0**
YJA				IAML		11 38 23.3	
	comp=Z,46nm,0.6s						
PB01	**IPOC Station P**	**2.74 331**		⇓*i*P	**Pn**	**11 37 31.1**	**+0.7**
PB01				*i* S	**Sn**	**11 38 02.8**	**-0.6**
PB01				IAML		11 38 06.7	
	comp=N,3μm,0.5s						
PB01	**IPOC Station P**	**2.74 331**			**Pn**	**11 37 31.2**	**+0.8**
PB01	**IPOC Station P**	**2.74 331**		*i* P	**Pn**	**11 37 31.0**	**+0.6**
PB01				*e*S	**Sn**	**11 38 02.3**	**-1.1**
PB01				IAML		11 38 06.6	
	comp=Z,2μm,0.7s						
FSA	**Cafayete**	**3.25 145**		*i* P	**Pn**	**11 37 41.0**	**+3.8**
PB08	**IPOC Station P**	**3.46 343**		⇓*e*P	**Pn**	**11 37 41.4**	**+1.3**
PB08	**IPOC Station P**	**3.46 343**			**Pn**	**11 37 41.5**	**+1.4**
PB08	**IPOC Station P**	**3.46 343**		*i* P	**Pn**	**11 37 41.3**	**+1.1**
PB08				*e*S	**Sn**	**11 38 15.4**	**-5.3**
PB08				IAML		11 38 21.3	
	comp=Z,457nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**3.49 325**		⇓*i*P	**Pn**	**11 37 39.2**	**-1.0**
TA01	**Diego Aracena**	**3.49 325**			**Pn**	**11 37 39.7**	**-0.4**
TA01	**Diego Aracena**	**3.49 325**		*i* P	**Pn**	**11 37 39.0**	**-1.1**
TA01				IAML		11 38 38.0	
	comp=Z,911nm,0.5s						
AC02	**Maricunga**	**3.49 196**			**Pn**	**11 37 42.1**	**+1.5**
AC02	**Maricunga**	**3.49 196**		*i* P	**Pn**	**11 37 42.4**	**+1.8**
AC02				IAML		11 38 26.7	
	comp=Z,855nm,0.5s						
TA02	**Huaiquique**	**3.71 329**			**Pn**	**11 37 43.0**	**-0.2**
PB11	**IPOC Station P**	**3.97 338**		Pn	**Pn**	**11 37 46.6**	**-0.2**
PB11	**IPOC Station P**	**3.97 338**		*i* P	**Pn**	**11 37 46.0**	**-0.8**
PB11				IAML		11 39 13.6	
	comp=Z,817nm,1.1s						
AHML	**Horco Molle**	**4.13 144**		*i* P	**Pn**	**11 37 51.6**	**+2.8**
AHML				*i* P	**Pn**	**11 37 52.0**	**+3.2**
AHML				IAML		11 38 48.6	
	comp=Z,31nm,0.6s						
GO03	**Copiap**	**4.55 205**		Pn	**Pn**	**11 37 53.5**	**-1.0**
GO03	**Copiap**	**4.55 205**		*i* P	**Pn**	**11 37 53.0**	**-1.4**
PB12	**IPOC Station P**	**5.27 336**		Pn	**Pn**	**11 38 03.9**	**-0.3**
PB12	**IPOC Station P**	**5.27 336**		*i* P	**Pn**	**11 38 02.0**	**-2.2**
PB12				IAML		11 39 40.0	
	comp=Z,285nm,1.0s						
PB16	**IPOC Station P**	**5.28 345**			**Pn**	**11 38 05.0**	**+0.2**
AC04	**Llanos de Chal**	**5.44 209**		Pn	**Pn**	**11 38 03.2**	**-3.2**
AC04	**Llanos de Chal**	**5.44 209**		*i* P	**Pn**	**11 38 03.0**	**-3.4**
AC04				IAML		11 39 21.6	
	comp=Z,421nm,0.5s						
LCO	**Las Campanas**	**6.00 203**		Pn	**Pn**	**11 38 12.2**	**-2.1**
LCO	**Las Campanas**	**6.00 203**		*i* P	**Pn**	**11 38 12.0**	**-2.3**
LCO				IAML		11 39 18.7	
	comp=Z,2μm,0.5s						
AROD	**Rodeo**	**6.79 190**		*i* P	**Pn**	**11 38 25.0**	**+0.1**
CO05	**La Serena**	**7.02 203**			**Pn**	**11 38 24.7**	**-3.1**
GO04	**Tololo Observa**	**7.11 199**			**Pn**	**11 38 26.6**	**-2.6**
GO04	**Tololo Observa**	**7.11 199**		*i* P	**Pn**	**11 38 26.0**	**-3.2**
LPAZ	**La Paz**	**7.14 360**		P	**Pn**	**11 38 31.0**	**+1.0**
	comp=Z,3.5nm,0.3s,baz=172,slow=2.7,SNR=72						
LPAZ	**La Paz**	**7.14 360**		Pn	**Pn**	**11 38 31.7**	**+1.7**
LPAZ	**La Paz**	**7.14 360**		*i* P	**Pn**	**11 38 31.0**	**+1.0**
ACCO	**Cerro Coronel**	**7.15 187**		*i* P	**Pn**	**11 38 29.0**	**-0.8**
ACCO				IAML		11 39 53.1	
	comp=Z,98nm,0.4s						
AVFE	**Valle Fertil**	**7.19 176**		*i* P	**Pn**	**11 38 30.0**	**-0.1**
AVFE				IAML		11 39 50.2	
	comp=Z,27nm,0.3s						
CO03	**El Pedregal**	**7.71 197**			**Pn**	**11 38 34.3**	**-2.8**
CO03	**El Pedregal**	**7.71 197**		*i* P	**Pn**	**11 38 35.0**	**-2.1**
CO03				IAML		11 40 01.9	
	comp=Z,126nm,0.3s						
ACHE	**Chepes**	**7.77 171**		*i* P	**Pn**	**11 38 38.0**	**0.0**
RTLS	**Leoncito**	**8.37 187**		*i* P	**Pn**	**11 38 45.0**	**-1.3**
RTLS				IAML		11 40 21.8	
	comp=Z,21nm,0.7s						
RTCV	**Cerro Valdivia**	**8.38 183**		*i* P	**Pn**	**11 38 45.0**	**-1.1**
AUSP	**Uspallata**	**8.80 187**		*i* P	**Pn**	**11 38 51.0**	**-1.1**
ASAL	**Salagasta**	**9.12 184**		*i* P	**Pn**	**11 38 55.0**	**-1.2**
ASAL				IAML		11 41 06.2	
	comp=Z,16nm,0.9s						
ARCO	**CERRO ARCO**	**9.37 184**		*i* P	**Pn**	**11 39 00.0**	**+0.3**
ARCO				IAML		11 41 28.9	
	comp=Z,26nm,0.7s						
VA03	**San Esteban**	**9.52 193**			**Pn**	**11 38 59.4**	**-2.2**
VA03	**San Esteban**	**9.52 193**		*i* P	**Pn**	**11 39 01.0**	**-0.7**
VA03				*i* P	**Pn**	**11 39 01.0**	**-0.7**
VA03				IAML		11 41 15.1	
	comp=Z,45nm,0.8s						
AAGR	**Agrelo**	**9.61 184**		*i* P	**Pn**	**11 39 02.0**	**-0.9**
AAGR				IAML		11 41 05.2	
	comp=Z,24nm,0.7s						
AAGR				IAML		11 41 05.2	
	comp=Z,24nm,0.7s						
SIV	**San Ignacio**	**9.93**	**43**	P	**Pn**	**11 39 06.1**	**-1.2**
	comp=Z,20nm,0.3s,baz=242,slow=9.7,SNR=243						
SIV				S	**Sn**	**11 40 53.7**	**-3.4**
	comp=Z,2.7nm,0.3s,baz=289,slow=12,SNR=4.0						
MT02	**Curacav**	**10.12 195**			**Pn**	**11 39 05.1**	**-4.6**
CPUP	**Villa Florida**	**10.16 109**		P	**Pn**	**11 39 10.0**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=284,slow=13,SNR=10.0						
CPUP				LR	LR	11 43 10.4	
	comp=Z,120nm,21.0s,baz=272,slow=38						
CPUP	**Villa Florida**	**10.16 109**		*e*P	**Pn**	**11 39 10.3**	**0.0**
CPUP	**Villa Florida**	**10.16 109**			**Pn**	**11 39 11.4**	**+1.1**
MT09	**Talagante**	**10.59 193**		Pn	**Pn**	**11 39 13.0**	**-3.2**
MT01	**Popeta**	**10.73 194**			Pn	11 39 12.7	-5.2
MT01	**Popeta**	**10.73 194**		*i* P	**Pn**	**11 39 14.0**	**-3.9**
BO01	**Tunca**	**11.20 193**			**Pn**	**11 39 19.7**	**-4.6**
RFA	**San Rafael**	**11.27 182**		*i* P	**Pn**	**11 39 22.0**	**-3.3**
PTLB	**Pontes e Lacer**	**11.60**	**48**	*e*P	**Pn**	**11 39 27.9**	**-1.8**
PTLB	**Pontes e Lacer**	**11.60**	**48**		**Pn**	**11 39 28.9**	**-0.7**
AQDB	**Aquidauana**	**11.86**	**78**	*e*P	**Pn**	**11 39 33.3**	**+0.2**
AQDB	**Aquidauana**	**11.86**	**78**	Pn	**Pn**	**11 39 33.0**	**-0.1**
ITQB	**Itaqui**	**11.96 124**		*e*P	**Pn**	**11 39 35.1**	**+0.7**
VILB	**Vilhena**	**12.85**	**37**	*e*P	**Pn**	**11 39 45.9**	**-0.3**
VILB	**Vilhena**	**12.85**	**37**		**Pn**	**11 39 45.6**	**-0.6**
ETMB	**Extrema**	**13.69**	**8**	*e*P	**Pn**	**11 39 56.2**	**-0.9**
ETMB	**Extrema**	**13.69**	**8**		**Pn**	**11 39 54.4**	**-2.7**
SALV	**Santo Antonio**	**13.87**	**59**	*e*P	**Pn**	**11 39 58.5**	**-0.9**
NNA	**Nana**	**14.14 322**		LR	LR	11 44 46.4	
	comp=Z,78nm,21.2s,baz=94,slow=34						
CPSB	**Cacapava Do Su**	**14.76 121**		*e*P	**Pn**	**11 40 11.3**	**+0.6**
ITAB	**Concordia**	**14.89 108**		*e*P	**P**	**11 40 13.9**	**-1.2**
ITAB	**Concordia**	**14.89 108**			**Pn**	**11 40 12.4**	**+0.1**
PLTB	**Pedras Altas**	**15.25 126**		*e*P	**P**	**11 40 18.7**	**-0.3**
PLTB	**Pedras Altas**	**15.25 126**		Pn	**Pn**	**11 40 16.3**	**-0.5**
PCMB	**Pacaembu**	**15.64**	**86**	*e*P	**Pn**	**11 40 21.6**	**-0.2**
LC01	**Cunco**	**15.72 191**			**Pn**	**11 40 20.5**	**-2.1**
PDRB	**Porto dos Gac**	**15.98**	**44**	*e*P	**Pn**	**11 40 25.4**	**-0.6**
CZSB	**Cruzeiro do Su**	**16.27 343**		*e*P	**Pn**	**11 40 29.6**	**+0.1**
CZSB	**Cruzeiro do Su**	**16.27 343**			**Pn**	**11 40 29.2**	**-0.3**
ITRB	**Iturama**	**16.89**	**81**	*e*P	**Pn**	**11 40 37.2**	**0.0**
FRTB	**Fartura**	**16.99**	**93**	*e*P	**P**	**11 40 39.5**	**+1.0**
CLDB	**Colider**	**17.14**	**45**	*e*P	**Pn**	**11 40 40.3**	**+0.1**
ARAG	**Araguaiana, MT**	**17.15**	**66**	*e*P	**Pn**	**11 40 40.7**	**+0.4**
PLCA	**Paso Flores**	**17.34 186**		P	**Pn**	**11 40 42.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=29,slow=14,SNR=12						
PLCA				PcP	**PcP**	**11 45 18.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=39,slow=1.8,SNR=7.6						
PLCA	**Paso Flores**	**17.34 186**		*e*P	**Pn**	**11 40 43.8**	**+1.3**
PLCA	**Paso Flores**	**17.34 186**		P	**P**	**11 40 40.0**	**-2.3**
TIJ01	**Guaruva-PR**	**17.47 100**		*e*P	**Pn**	**11 40 44.8**	**+0.6**
TER01	**Tubaro-SC**	**17.76 111**		*e*P	**P**	**11 40 46.7**	**-0.1**
LL04	**Puerto Octay**	**17.77 191**		P	**P**	**11 40 46.2**	**-0.6**
LL04				IAmb	IAmb	11 40 49.9	
	comp=Z,69nm,1.5s						
LL03	**Petrohue**	**17.99 191**		P	**P**	**11 40 48.8**	**-0.4**
LL03				IAmb	IAmb	11 40 52.5	
	comp=Z,47nm,0.7s						
BB19B	**Bebedouro**	**18.25**	**86**	*e*P	**Pn**	**11 40 53.0**	**-0.6**
RCLB	**Rio Claro- Sao**	**18.95**	**91**	*e*P	**P**	**11 41 00.2**	**+0.3**
ATAH	**Atahualpa**	**19.03 327**		P	**Pn**	**11 41 03.5**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=125,slow=11,SNR=4.8						
PET01	**Itanhaem-SP**	**19.04**	**97**	*e*P	**P**	**11 41 01.3**	**+0.5**
TBTG	**Tabatinga, AM**	**19.25 354**		*e*P	**Pn**	**11 41 04.6**	**-0.8**
TBTG	**Tabatinga, AM**	**19.25 354**		P	**P**	**11 41 03.4**	**+0.2**
IPMB	**Ipameri, GO**	**19.36**	**77**	*e*P	**P**	**11 41 04.7**	**+0.3**
VAO	**Valinhos**	**19.40**	**93**	*e*P	**P**	**11 41 05.0**	**+0.1**
SNDB	**Serra Nova Dou**	**19.62**	**57**	*e*P	**P**	**11 41 06.8**	**-0.5**
LL02	**Futaleuf**	**19.92 188**		P	**P**	**11 41 08.2**	**-2.1**
BDFB	**Brasilia**	**20.43**	**71**	P	**P**	**11 41 15.6**	**-0.4**
	comp=Z,143nm,0.8s,baz=241,slow=12,SNR=116						
BDFB	**Brasilia**	**20.43**	**71**	P	**P**	**11 41 15.4**	**-0.6**
PARB	**Paraibuna**	**20.61**	**94**	*e*P	**P**	**11 41 17.6**	**-0.3**
MACA	**Manacapuru-AM**	**21.41**	**21**	*e*P	**P**	**11 41 25.4**	**-1.1**
MACA	**Manacapuru-AM**	**21.41**	**21**	P	**P**	**11 41 25.1**	**-1.4**
BSCB	**Bom Sucesso**	**21.70**	**88**	*e*P	**P**	**11 41 28.8**	**-0.9**
PEXB	**Peixe**	**21.93**	**62**	*e*P	**P**	**11 41 30.5**	**-1.4**
COYC	**Coyhaique**	**22.29 187**		P	**P**	**11 41 34.0**	**-1.5**
ITTB	**Itaituba**	**22.42**	**34**	*e*P	**P**	**11 41 35.4**	**-1.6**
VAS01	**Vassouras-RJ**	**22.72**	**92**	*e*P	**P**	**11 41 39.4**	**-0.6**
DIAM	**Diamantina, MG**	**23.36**	**82**	*e*P	**P**	**11 41 45.2**	**-1.1**
JANB	**Januaria**	**23.91**	**74**	*e*P	**P**	**11 41 50.5**	**-0.6**
SMTB	**Santa Maria do**	**24.40**	**57**	*e*P	**P**	**11 41 54.7**	**-0.8**
CAM01	**Campos-RJ**	**24.43**	**91**	*e*P	**P**	**11 41 54.4**	**-1.2**
PRPB	**Parauapebas**	**24.59**	**48**	*e*P	**P**	**11 41 56.2**	**-1.0**
SDBA	**SAO DESIDERIO**	**24.59**	**67**	*e*P	**P**	**11 41 55.5**	**-1.8**
MALB	**Monte Alegre**	**25.31**	**34**	*e*P	**P**	**11 42 02.9**	**-0.8**
ALF01	**Guarapari-ES**	**25.49**	**89**	*e*P	**P**	**11 42 04.7**	**-0.7**
SJMB	**Sao Joao De Ma**	**25.51**	**84**	*e*P	**P**	**11 42 05.7**	**+0.1**
OTAV	**Otavalo**	**25.63 335**		*e*P	**P**	**11 42 08.2**	**+1.0**
OTAV	**Otavalo**	**25.63 335**		P	**P**	**11 42 06.9**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIB01	**Linhares ES**	**26.08**	**86**	*e*P	**P**	**11 42 10.6**	**-0.1**
BOAV	**Boa Vista**	**26.74**	**17**	*e*P	**P**	**11 42 17.1**	**+0.5**
BOAV	**Boa Vista**	**26.74**	**17**	P	**P**	**11 42 16.9**	**+0.3**
BOAV				IAmb	IAmb	11 42 18.4	
	comp=Z,18nm,0.7s						
GUA01	**Guaratinga, BA**	**27.39**	**81**	*e*P	**P**	**11 42 21.0**	**-1.5**
MCPB	**Macapa, AP**	**27.74**	**36**	*e*P	**P**	**11 42 25.2**	**-0.4**
CMC01	**Camacan, BA**	**28.07**	**79**	*e*P	**P**	**11 42 28.6**	**+0.1**
NBIT	**Itapeh - BA**	**28.30**	**78**	*e*P	**P**	**11 42 30.0**	**-0.7**
TMAB	**Tom-Au,PA,Br**	**28.53**	**46**	*e*P	**P**	**11 42 32.9**	**+0.3**
GDU01	**Guandu, BA**	**28.65**	**75**	*e*P	**P**	**11 42 31.8**	**-1.9**
ROSC	**El Rosal**	**28.79 347**		LR	LR	11 55 22.4	
	comp=Z,178nm,18.6s,baz=126,slow=39						
ROSB	**Rosrio**	**30.90**	**52**	*e*P	**P**	**11 42 54.8**	**+1.2**
ZARC	**Zaragoza, Cauc**	**31.48 347**		P	**P**	**11 42 56.9**	**-1.7**
NBPS	**Pedro II - PI**	**31.94**	**58**	*e*P	**P**	**11 43 02.2**	**-0.5**
MDP	**Montagnes des**	**32.14**	**30**	LR	LR	11 55 22.4	
	comp=Z,94nm,20.8s,baz=74,slow=35						
BAUV	**El Baul**	**32.21**	**0**	P	**P**	**11 43 04.1**	**-0.9**
NBMA	**Muriti-CE**	**32.37**	**65**	*e*P	**P**	**11 43 05.4**	**-1.2**
NBPB	**Pedra_Branca-C**	**32.72**	**61**	*e*P	**P**	**11 43 08.3**	**-1.3**
NBAN	**Anadia - AL**	**33.33**	**71**	*e*P	**P**	**11 43 14.2**	**-0.7**
NBMO	**Morrinhos-CE**	**33.70**	**58**	*e*P	**P**	**11 43 16.7**	**-1.4**
SJCC	**San Jacinto, C**	**33.88 347**		P	**P**	**11 43 17.1**	**-2.5**
SJCC				IAmb	IAmb	11 43 44.2	
	comp=Z,37nm,1.5s						
NBCL	**Cascavel-CE**	**34.53**	**61**	*e*P	**P**	**11 43 24.6**	**-0.7**
NBRF	**Rio Formoso -**	**34.79**	**70**	*e*P	**P**	**11 43 27.3**	**-0.2**
RCBR	**Riachuelo**	**35.59**	**66**	*e*P	**P**	**11 43 33.1**	**-1.2**
RCBR	**Riachuelo**	**35.59**	**66**	P	**P**	**11 43 32.3**	**-2.1**
RCBR				IAmb	IAmb	11 43 36.0	
	comp=Z,29nm,1.1s						
NBPV	**Pedro Velho**	**35.79**	**67**	*e*P	**P**	**11 43 35.2**	**-0.8**
RIMA	**Rio Macho**	**36.46 333**		P	**P**	**11 43 44.3**	**+2.4**
RIMA				IAmb	IAmb	11 43 45.0	
	comp=Z,12nm,0.9s						
COVE	**Coope Vega, Sa**	**37.54 333**		P	**P**	**11 43 52.7**	**+1.8**
STVI	**Saint Thomas**	**41.67**	**4**	P	**P**	**11 44 22.6**	**-2.4**
BRAL	**Brewton**	**57.29 341**		P	**P**	**11 46 23.3**	**-0.1**
	baz=159						
VNA3	**Neumayer Olymp**	**57.98 161**		P	**P**	**11 46 28.7**	**+0.9**
VNA3	**Neumayer Olymp**	**57.98 161**		PcP	**PcP**	**11 47 19.1**	**+0.5**
VNA1	**Neumayer--Stat**	**58.18 160**		P	**P**	**11 46 30.6**	**+1.4**
VNA1	**Neumayer--Stat**	**58.18 160**		sP	sP	11 47 11.6	+0.6
VNA1	**Neumayer--Stat**	**58.18 160**		PcP	**PcP**	**11 47 17.7**	**-1.7**
GOGA	**Godfrey**	**58.43 345**		P	**P**	**11 46 30.8**	**-0.6**
	baz=164						
VNA2	**Neumayer--Watz**	**58.55 160**		P	**P**	**11 46 32.7**	**+0.9**
	baz=280,slow=8.5						
VNA2	**Neumayer--Watz**	**58.55 160**		PcP	**PcP**	**11 47 19.8**	**-1.0**
VNA2	**Neumayer--Watz**	**58.55 160**		PP	PP	11 48 41.4	-0.8
JSC	**Jenk

baz=154
FCAR Ozark Folk Cen 63.27 338 P P 11 47 03.4 -0.6
FCAR IAmb IAmb 11 47 04.4
comp=Z,17nm,1.5s
LOOK Love County 63.50 333 P P 11 47 05.8 +0.1
LOOK IAmb IAmb 11 47 06.7
comp=Z,17nm,0.9s
PBMO Poplar Bluff 63.52 340 P P 11 47 05.1 -0.6
WCI Wyandotte Cave 63.71 344 P P 11 47 06.2 -0.7
baz=161
U40A Yellville 63.94 338 P P 11 47 08.2 -0.3
baz=155
P52A Corning 64.13 348 P P 11 47 09.3 -0.4
baz=166
HHAR Hobbs 64.26 337 P P 11 47 10.1 -0.5
X34A Smith Ranch, M 64.29 333 P 11 47 11.2 +0.4
X34A IAmb IAmb 11 47 11.8
comp=Z,9.8nm,0.6s
PAL Palisades 64.37 355 P P 11 47 11.4 +0.3
baz=174
W35A Tecumseh 64.38 334 P 11 47 10.8 -0.5
W35A IAmb IAmb 11 47 11.4
comp=Z,7.7nm,0.6s
P49A Miami Univ. Ec 64.57 346 P P 11 47 11.7 -0.9
baz=163
TUL1 Leonard 64.61 335 P 11 47 12.9 +0.1
TUL1 IAmb IAmb 11 47 13.7
comp=Z,12nm,1.1s
TUL1 Leonard 64.61 335 P P 11 47 12.5 -0.4
baz=152
FVM French Village 64.63 341 P P 11 47 12.9 0.0
WMOK Wichita Mounta 64.81 332 P P 11 47 13.7 -0.5
baz=149
ACSO Alum Creek Sta 64.88 347 P P 11 47 14.5 0.0
baz=165
OK025 Westminster Rd 64.94 334 P 11 47 14.3 -0.6
CCM Cathedral Cave 64.95 340 P P 11 47 14.4 -0.5
CCM IAmb IAmb 11 47 15.4
comp=Z,15nm,0.7s
CCM Cathedral Cave 64.95 340 P P 11 47 14.5 -0.5
baz=157
OK030 Cody Creek RV 65.02 335 P 11 47 15.3 -0.2
N54A Moraine State 65.05 350 P P 11 47 15.7 +0.1
baz=168
OK031 S. Brethren Rd 65.06 334 P 11 47 15.6 -0.2
OK034 N. Norfolk Rd. 65.06 335 P 11 47 15.8 +0.1
OK029 Liberty Lake 65.17 334 P 11 47 16.0 -0.5
OK029 IAmb IAmb 11 47 16.9
comp=Z,15nm,0.8s
QUOK Quay 65.20 335 P 11 47 16.7 +0.1
S39A Bolivar 65.30 338 P P 11 47 17.1 -0.2
MNTX Cornudas Mount 65.45 325 P P 11 47 18.2 -0.2
MNTX Cornudas Mount 65.45 325 P P 11 47 18.1 -0.2
baz=142
R40A Maddies Statio 65.50 339 P P 11 47 17.9 -0.6
R40A IAmb IAmb 11 47 18.9
comp=Z,26nm,1.4s
M54A Oil Creek Stat 65.53 350 P P 11 47 18.4 -0.3
baz=168
BLOK Blackwell 65.91 335 P 11 47 21.2 -0.1
BLOK IAmb IAmb 11 47 22.2
comp=Z,14nm,0.7s
MSTX Muleshoe 65.97 329 P P 11 47 21.4 -0.4
MSTX Muleshoe 65.97 329 P P 11 47 21.7 -0.1
baz=145
AMTX Amarillo 66.22 330 P P 11 47 23.2 -0.1
baz=146
KAN17 Caldwell West 66.38 334 P 11 47 24.4 +0.2
KAN17 IAmb IAmb 11 47 24.7
comp=Z,9.1nm,0.7s
KAN01 Argonia South 66.47 334 P P 11 47 25.1 +0.3
KAN01 IAmb IAmb 11 47 25.8
comp=Z,20nm,1.0s
P40A Paris 66.55 340 P P 11 47 25.1 -0.1
P40A IAmb IAmb 11 47 25.8
comp=Z,13nm,0.9s
KAN08 Anthony NE Sta 66.61 334 P P 11 47 25.5 -0.2
KAN08 IAmb IAmb 11 47 26.8
comp=Z,15nm,0.7s
KAN16 Harper SW Stat 66.65 334 P 11 47 26.0 0.0
KAN16 IAmb IAmb 11 47 27.0
comp=Z,17nm,0.7s
HDIL Hopedale 66.69 343 P P 11 47 25.1 -0.9
HDIL IAmb IAmb 11 47 25.9
comp=Z,14nm,0.8s
HDIL Hopedale 66.69 343 P P 11 47 25.0 -1.0
baz=159
KAN12 Harper NE Stat 66.69 334 P 11 47 26.5 +0.3
KAN12 IAmb IAmb 11 47 27.4
comp=Z,12nm,0.7s
QSPA South Pole Qui 66.74 180 P P 11 47 27.5 +1.1
P38A Dawn 67.12 339 P P 11 47 28.4 -0.4
P38A IAmb IAmb 11 47 29.3
comp=Z,14nm,0.7s
319A Douglas 67.31 322 P P 11 47 31.9 +1.5
319A IAmb IAmb 11 47 32.7
comp=Z,11nm,0.7s
121A Cookes Peak, D 67.37 324 P P 11 47 32.3 +1.5
121A Cookes Peak, D 67.37 324 P P 11 47 32.3 +1.5
baz=141
KSU1 Kansas State U 67.73 336 P P 11 47 32.4 -0.3
baz=152
R32A Long Quarter, 67.94 334 P P 11 47 34.3 +0.2
R32A IAmb IAmb 11 47 35.3
comp=Z,23nm,1.1s
BNM Barren Site 68.02 326 P P 11 47 35.7 +0.8
LENM Lemitar 68.21 326 P P 11 47 37.5 +1.4
LIC Lamto 68.21 73 eP P 11 47 36.2 -0.1
comp=Z,44nm,1.2s
TIC Toumodi 68.42 72 eP P 11 47 37.2 -0.4
KIC Kosan Boka 68.53 73 eP P 11 47 38.3 0.0
comp=Z,28nm,0.5s
ANMO Albuquerque 68.56 327 P P 11 47 38.9 +0.7
ANMO IAmb IAmb 11 47 40.4
comp=Z,10nm,0.8s
ANMO Albuquerque 68.56 327 P P 11 47 39.4 +1.1
baz=142
DBIC Dimbokro 68.57 72 P P 11 47 38.8 +0.3
comp=Z,9.0nm,0.4s,baz=235,slow=6.1,SNR=25
DBIC Dimbokro 68.57 72 P P 11 47 38.4 -0.1
DBIC IAmb IAmb 11 47 39.8
comp=Z,20nm,0.9s
L40A Anamosa 68.63 342 P P 11 47 38.3 0.0
L40A IAmb IAmb 11 47 39.0
comp=Z,16nm,0.8s
CBKS Cedar Bluff 68.69 334 P P 11 47 39.2 +0.4
CBKS IAmb IAmb 11 47 40.3
comp=Z,21nm,0.8s
CBKS Cedar Bluff 68.69 334 P P 11 47 39.3 +0.6
baz=149,SNR=5.3
TUC Tucson 68.86 322 P P 11 47 40.9 +0.9
TUC Tucson 68.86 322 P P 11 47 41.2 +1.2
baz=138
JFWS Jewell Farm 69.14 343 P P 11 47 41.1 -0.3
baz=158
T25A Trinidad 69.32 330 P P 11 47 44.1 +1.1
T25A IAmb IAmb 11 47 45.1
comp=Z,24nm,1.5s
T25A Trinidad 69.32 330 P P 11 47 44.1 +1.1
baz=145
214A Organ Pipe Nat 69.76 320 P P 11 47 47.2 +1.7
baz=137
X18A Snowflake 70.06 324 P P 11 47 48.8 +1.4
KSCO Kaye Shedlock' 70.06 332 P P 11 47 47.8 +0.4
KSCO IAmb IAmb 11 47 49.2
comp=Z,16nm,0.9s
KSCO Kaye Shedlock' 70.06 332 P P 11 47 48.3 +0.9
baz=146,SNR=6.1
BGNE Belgrade 70.32 336 P P 11 47 48.5 -0.2
BGNE Belgrade 70.32 336 P P 11 47 48.9 +0.2
baz=151,SNR=5.6
SDCO Great Sand Dun 70.32 329 P P 11 47 50.1 +0.9
SDCO IAmb IAmb 11 47 51.4
comp=Z,25nm,1.5s
SDCO Great Sand Dun 70.32 329 P P 11 47 50.3 +1.2
baz=144,SNR=11
X16A Lo Mia Camp, P 70.79 323 P P 11 47 53.3 +1.3
X16A IAmb IAmb 11 47 54.5
comp=Z,14nm,1.3s
S22A 4UR Ranch, Cre 70.96 328 P P 11 47 54.2 +1.2
S22A 4UR Ranch, Cre 70.96 328 P P 11 47 54.2 +1.2
baz=143
Q24A Divide 71.14 330 P P 11 47 55.3 +1.2
Q24A IAmb IAmb 11 47 56.3
comp=Z,11nm,0.9s
Q24A Divide 71.14 330 P P 11 47 55.2 +1.0
baz=144,SNR=8.0
MVCO Mesa Verde 71.36 327 P P 11 47 56.2 +0.8
MVCO Mesa Verde 71.36 327 P P 11 47 56.7 +1.3
baz=141,SNR=7.1
OGNE Ogallala 71.43 333 P P 11 47 56.3 +0.8
baz=147
WUAZ Wupatki 71.57 324 P P 11 47 57.4 +0.8
WUAZ IAmb IAmb 11 47 59.2
comp=Z,12nm,0.9s
WUAZ Wupatki 71.57 324 P P 11 47 58.1 +1.5
baz=139,SNR=11
K31A O'Neill 71.59 337 P P 11 47 56.9 +0.5
ECSD EROS Data Cent 71.82 339 P P 11 47 57.6 -0.1
ECSD EROS Data Cent 71.82 339 P P 11 47 57.5 -0.2
baz=153
SPMN Marine on St. 71.98 342 P P 11 47 58.3 -0.3
baz=156
ISCO Idaho Springs 72.03 330 P P 11 48 00.6 +1.1
ISCO Idaho Springs 72.03 330 P P 11 48 00.5 +1.1
baz=144
SMCO Snowmass 72.16 329 P P 11 48 01.1 +0.8
IKP In-Ko-Pah, Jac 72.22 319 P P 11 48 01.8 +1.4
baz=134
PDMCI Parker Dam,Lak 72.22 321 P P 11 48 02.1 +1.8
baz=136
SWSC Sam W. Stewart 72.24 319 P P 11 48 01.9 +1.5
baz=135
BC3 Big Chuckawall 72.53 320 P P 11 48 03.8 +1.5
baz=135,SNR=5.8
MONP2 Monument Peak 72.58 319 P P 11 48 04.1 +1.4
baz=134
IRM Iron Mountain 72.70 321 P P 11 48 04.6 +1.4
baz=135
N23A Red Feather La 73.06 331 P P 11 48 06.7 +1.2
N23A Red Feather La 73.06 331 P P 11 48 06.7 +1.2
baz=144
TPFO Pinon Flats 73.09 319 P P 11 48 07.1 +1.5
baz=134
BELC Belle Ken. Jos 73.09 320 P P 11 48 07.0 +1.4
baz=135
PFO Pinyon Flats O 73.10 319 P P 11 48 07.1 +1.4
baz=134
GMRC Granite Mounta 73.45 321 P P 11 48 09.5 +1.8
baz=135,SNR=10
O20A White River Ci 73.52 329 P P 11 48 08.6 +0.5
O20A IAmb IAmb 11 48 10.3
comp=Z,15nm,0.8s
O20A White River Ci 73.52 329 P P 11 48 09.4 +1.3
baz=142,SNR=11
MURC Murrieta 73.53 319 P P 11 48 09.8 +1.7
baz=134
HEC Hector,Ludlow 73.87 320 P P 11 48 12.0 +1.8
baz=135
TUQ Turquoise Moun 74.06 321 P P 11 48 12.7 +1.4
baz=135
BFSC Mount Baldy Ra 74.25 319 P P 11 48 13.7 +1.3
baz=134
RWWY Rawlins 74.27 331 P P 11 48 12.4 -0.1
RWWY IAmb IAmb 11 48 14.9
comp=Z,13nm,0.9s
GSC Goldstone, Bar 74.48 320 P P 11 48 15.3 +1.7
baz=134,SNR=5.4
K22A Casper 74.74 332 P P 11 48 16.2 +1.1
baz=144
EDW2 Edwards Air Fo 74.89 319 P P 11 48 17.0 +1.0
baz=134
RSSD Black Hills 74.89 334 P P 11 48 17.1 +1.1
baz=146
D32A Dogwood Acres, 74.97 340 P P 11 48 16.1 0.0
D32A IAmb IAmb 11 48 16.8
comp=Z,15nm,0.6s
QSM Queen of Sheba 74.98 321 P P 11 48 17.8 +1.4
VNDA Vanda 75.06 190 P P 11 48 18.0 +1.7
comp=Z,2.5nm,0.9s,baz=332,slow=8.0,SNR=5.3
LRMC Laurel Mtn Rad 75.12 320 P P 11 48 18.7 +1.3
baz=134
TPNV Topopah Spring 75.31 322 P P 11 48 20.5 +2.0
baz=135,SNR=8.2
FURC Furnace Creek, 75.32 321 P P 11 48 20.0 +1.6
baz=135,SNR=7.7
MPMC Manual Prospec 75.40 321 P P 11 48 20.3 +1.2
baz=134,SNR=6.3
ISA Isabella, Lake 75.71 320 P P 11 48 22.2 +1.5
baz=133,SNR=8.2
DUG Dugway, Tooele 75.81 326 P P 11 48 21.9 +0.7
DUG Dugway, Tooele 75.81 326 P P 11 48 22.6 +1.4
baz=138,SNR=6.6
R11A Troy Canyon, C 75.94 323 P P 11 48 23.7 +1.7
baz=136,SNR=9.7
PKM Mcpherson Peak 76.00 318 P P 11 48 24.0 +1.5
baz=132
CWC Cottonwood Cre 76.01 320 P P 11 48 24.1 +1.6
baz=134
BW06 Boulder Array 76.19 330 P P 11 48 24.2 +0.8
baz=141
PDAR Pinedale Array 76.19 330 P P 11 48 23.9 +0.5
comp=Z,2.1nm,0.6s,baz=129,slow=7.4,SNR=20
PDAR Pinedale Array 76.19 330 P P 11 48 23.5 +0.1
VES Vestal, Richgr 76.20 319 P P 11 48 24.8 +1.5
baz=133
SMMC Simmler 76.39 319 P P 11 48 26.4 +1.8
baz=132,SNR=6.1
MDND Maddock 76.44 339 P P 11 48 25.3 +0.9
baz=150
AHID Auburn Hatcher 76.91 329 P P 11 48 28.0 +0.5
AHID IAmb IAmb 11 48 29.3
comp=Z,13nm,0.8s
HVU Hansel Valley 76.98 327 P P 11 48 28.2 +0.4
REDW Red Top Meadow 77.25 329 P P 11 48 30.3 +0.9
TORD Torodi Ar. Bea 77.30 70 P P 11 48 30.2 +0.2
comp=Z,39nm,0.7s,baz=256,slow=5.5,SNR=200
LOHW Long Hollow 77.33 330 P P 11 48 30.6 +0.8
ULM Lac du Bonnet 77.42 342 P P 11 48 29.7 -0.2
comp=Z,13nm,0.6s,baz=150,slow=5.9,SNR=20
ULM LR LR 12 27 26.6
comp=Z,51nm,18.3s,baz=158,slow=39
ULM Lac du Bonnet 77.42 342 P P 11 48 29.5 -0.4
ULM IAmb IAmb 11 48 30.4
comp=Z,12nm,0.6s
ELK Elko 77.47 325 P P 11 48 31.1 +0.4
MOOW Moose Ponds 77.50 330 P P 11 48 31.1 +0.4
NVAR Mina Array Bea 77.51 322 P P 11 48 32.1 +1.1
comp=Z,1.0nm,0.6s,baz=150,slow=5.9,SNR=9.3
NVAR Mina Array Bea 77.51 322 P P 11 48 31.7 +0.8
FLWY Flagg Ranch 77.74 330 P P 11 48 33.1 +1.1
FLWY IAmb IAmb 11 48 34.6
comp=Z,9.8nm,0.8s
KVN Kaiserville 77.83 322 P P 11 48 33.9 +1.2
LAO LASA Array 77.88 334 P P 11 48 33.3 +0.6
baz=145
RLMT Red Lodge 77.90 332 P P 11 48 34.1 +1.1
RLMT Red Lodge 77.90 332 P P 11 48 34.1 +1.1
baz=142
H17A Grant Village 77.92 330 P P 11 48 35.1 +1.9
baz=141
SCHQ Schefferville 77.98 1 P P 11 48 32.8 -0.1
comp=Z,2.7nm,0.7s,baz=260,slow=12,SNR=4.4
DGMT Dagmar 78.57 336 P P 11 48 37.5 +1.2
baz=147
HLID Hailey 79.11 328 P P 11 48 40.4 +0.8
HLID IAmb IAmb 11 48 42.3
comp=Z,9.8nm,0.8s
HLID Hailey 79.11 328 P P 11 48 41.3 +1.7
baz=138
MCMT McKenzie Canyo 79.30 329 P P 11 48 42.1 +1.5
DLMT Dillon 79.59 330 P P 11 48 43.4 +1.3
LRM Limekiln Ridge 79.87 330 P P 11 48 44.9 +1.2
ORV Oroville 80.10 321 P P 11 48 45.8 +0.9
ORV IAmb IAmb 11 48 47.2
comp=Z,12nm,1.1s
EGMT Eagleton 80.39 333 P P 11 48 46.9 +0.7
baz=142
PLID Pearl Lake 81.00 328 P P 11 48 50.7 +0.9
PLID IAmb IAmb 11 48 51.8
comp=Z,12nm,0.8s
J08A Circle Bar Ran 81.02 325 P P 11 48 50.3 +0.5
MSO Missoula 81.31 330 P P 11 48 52.5 +1.3
baz=138
BOSA Boshof 81.85 118 P P 11 48 56.2 +1.6
comp=Z,6.1nm,0.7s,baz=261,slow=4.1,SNR=13
JTMT Jette 82.14 331 P P 11 48 56.6 +1.0
MAW Mawson 82.23 163 P P 11 48 56.9 +1.2
comp=Z,4.1nm,0.4s,baz=216,slow=7.1,SNR=13
I05D Terrebonne, OR 83.20 325 P P 11 49 02.8 +1.7
baz=132
RAR Rarotonga 83.28 250 LR LR 12 15 37.3
comp=Z,320nm,21.8s,baz=278,slow=28
K02D Willamette Mer 83.39 322 P P 11 49 02.2 0.0
baz=130
I04A Tendick Farm, 83.42 324 P P 11 49 03.7 +1.5
baz=131
J01E Myrtle Point 83.84 322 P P 11 49 06.0 +1.7
baz=130
I03D Drain, OR 83.87 323 P P 11 49 05.5 +1.1
baz=131
C09A Chrisman Ranch 84.04 329 P P 11 49 05.6 +0.4
C09A IAmb IAmb 11 49 06.8
comp=Z,13nm,0.6s
ESDC Sonseca Array 86.69 44 P P 11 49 18.8 +0.1
comp=Z,0.9nm,0.8s,baz=216,slow=4.1,SNR=3.1
YKA Yellowknife Ar 93.29 340 P P 11 49 49.1 +0.3
comp=Z,3.3nm,0.7s,baz=138,slow=4.6,SNR=84
YKA Yellowknife Ar 93.29 340 P P 11 49 50.0 +1.1
ASAR Alice Springs 128.51 206 PKP PKPdf 11 55 41.9 0.0
comp=Z,4.1nm,0.7s,baz=133,slow=1.8,SNR=56
ASAR Alice Springs 128.51 206 PKPdf PKPdf 11 55 42.0 +0.2
WRA Warramunga Arr 131.63 209 PKP PKPdf 11 55 47.7 -0.1
comp=Z,2.6nm,0.5s,baz=150,slow=1.7,SNR=42
WRA Warramunga Arr 131.63 209 PKPdf PKPdf 11 55 47.9 +0.1
PETK Petropavlovsk- 134.59 323 PKP PKiKP 11 55 53.5 -0.2
comp=Z,1.5nm,0.6s,baz=87,slow=4.9,SNR=1.7
ZALV Zalesovo Beam 143.37 27 PKP PKPbc 11 56 06.7 +1.1
comp=Z,3.3nm,0.7s,baz=294,slow=3.4,SNR=15
KSH Kashi 145.68 54 PKPbc PKPab 11 56 14.5 +0.6
MJAR Matsushiro Arr 153.87 306 PKPbc PKPbc 11 56 32.9 -0.9
comp=Z,1.7nm,0.4s,baz=124,slow=6.4,SNR=5.0
MJAR PKPab **PKPab 11 56 48.0 +0.7**
comp=Z,2.9nm,0.6s,baz=73,slow=4.3,SNR=4.1
SONM Songino Array 155.28 9 PKP PKPdf 11 56 27.5 0.0
comp=Z,0.6nm,0.8s,baz=273,slow=1.3,SNR=5.7
SONM PKPbc PKPbc 11 56 37.2
comp=Z,0.8nm,0.6s,baz=293,slow=1.2,SNR=5.8
SONM PKPab **PKPab 11 56 53.4 +0.4**
comp=Z,0.9nm,0.6s,baz=325,slow=4.2,SNR=6.8
CMAR Chiang Mai Arr 166.89 110 PKP PKPdf 11 56 40.9 +0.4
comp=Z,0.3nm,0.3s,baz=290,slow=1.0,SNR=5.0
PZH PanZhiHua 170.28 70 PKP PKPdf 11 56 42.1 -0.5

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*ROM **13** 11:42:42.5±0.1, 43°.961N±0°.005×11°.966E±0°.007, h8km, ML2.4/17, Error ellipse: s-maj=0.6km s-min=0.4km az=230.0*
*VIE **13** 11:42:45.9±0.9, 44°.10N×12°.11E, h10km, mb2.6/7, ml2.4/14, Error ellipse: s-maj=7.9km s-min=4.8km az=165.0 35 km NW of San Marino*
ISC 13 11:42:43.3±0.9, 43°.96N±0°.03×11°.97E±0°.02, h10km±7km, n43, σ1°15/71, 7C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**238**	⇑*i*P	**Pg**	**11 42 45.4**	**-0.5**
SFI				S	**Sg**	**11 42 47.7**	**-0.1**
SFI				AML	AML		
comp=E,13300μm,0.1s							
SFI				AML	AML		
comp=N,19200μm,0.1s							
SFI				AML	AML		
comp=E,13250μm,0.1s							
SFI				AML	AML		
comp=N,19200μm,0.1s							
SFI				AML	AML		
comp=E,13750μm,0.1s							
SFI				AML	AML		
comp=N,19700μm,0.1s							
ASQU	**Asqua**	**0.21**	**218**	⇑*i*P	**Pg**	**11 42 47.3**	**-0.3**
ASQU				S	**Sg**	**11 42 51.3**	**+0.7**
ASQU				AML	AML		
comp=E,2640μm,0.8s							
ASQU				AML	AML		
comp=N,2340μm,0.8s							
LMD	**Lutirano**	**0.22**	**303**	⇑*i*P	**Pg**	**11 42 47.1**	**-0.8**
LMD				S	**Sg**	**11 42 51.3**	**+0.3**
LMD				AML	AML		
comp=N,2050μm,0.2s							
LMD				AML	AML		
comp=E,2425μm,1.1s							
CPGN	**Carpegna, Ital**	**0.30**	**121**	P	**Pg**	**11 42 49.9**	**+0.5**
CRE	**Caprese Michel**	**0.34**	**182**	⇑*i*P	**Pg**	**11 42 49.7**	**-0.4**
CRE				S	**Sg**	**11 42 55.7**	**+1.1**
CRE				AML	AML		
comp=N,4030μm,0.3s							
CRE				AML	AML		
comp=E,986μm,1.3s							
RUFI	**Rufina**	**0.35**	**250**	⇑*i*P	**Pg**	**11 42 49.7**	**-0.6**
RUFI				S	**Sg**	**11 42 55.6**	**+0.7**
RUFI				AML	AML		
comp=E,695μm,1.0s							
RUFI				AML	AML		
comp=N,1225μm,0.3s							
BRIS	**BRISIGHELLA**	**0.38**	**300**	P	**Pg**	**11 42 49.2**	**-1.6**
BRIS				S	**Sg**	**11 42 54.8**	**-1.1**
BRIS				AML	AML		
comp=E,1133μm,0.3s							
BRIS				AML	AML		
comp=N,2340μm,0.3s							
SSP9	**Sansepolcro**	**0.40**	**163**	⇑*i*P	**Pg**	**11 42 50.9**	**-0.4**
SSP9				S	**Sg**	**11 42 58.0**	**+1.4**
IMOL	**Imola, Italy**	**0.43**	**338**	P	**Pg**	**11 42 52.5**	**+0.6**
BADI	**Badiali**	**0.49**	**156**	⇓*i*P	**Pg**	**11 42 52.4**	**-0.5**
BADI				S	**Sg**	**11 43 00.5**	**+1.1**
BADI				AML	AML		
comp=E,547μm,0.2s							
BADI				AML	AML		
comp=E,546μm,0.2s							
BADI				AML	AML		
comp=N,495μm,0.8s							
PIEI	**Pieia**	**0.59**	**135**	P	**Pg**	**11 42 53.9**	**-0.9**
PIEI				S	**Sg**	**11 43 03.8**	**+1.2**
PIEI				AML	AML		
comp=E,246μm,0.3s							
PIEI				AML	AML		
comp=N,118μm,0.4s							
ATPI	**Pietralunga -**	**0.60**	**148**	P	**Pg**	**11 42 54.3**	**-0.7**
ATPI				S	**Sb**	**11 43 04.4**	**-0.1**
MPPT	**Montemurlo**	**0.63**	**270**	*i* P	**Pg**	**11 42 54.8**	**-0.8**
MPPT				S	**Sb**	**11 43 04.8**	**-0.6**
MPPT				AML	AML		
comp=E,225μm,1.0s							
MPPT				AML	AML		
comp=N,426μm,0.8s							
FNVD	**Fontana Vidola**	**0.64**	**289**	P	**Pg**	**11 42 55.3**	**-0.5**
FNVD				S	**Sb**	**11 43 05.4**	**-0.3**
FSSB	**Fossombrone**	**0.65**	**114**	P	**Pg**	**11 42 55.3**	**-0.5**
FSSB				AML	AML		
comp=E,396μm,0.6s							
FSSB				AML	AML		
comp=N,642μm,0.4s							
ATVO	**AVT- Monte Val**	**0.66**	**151**	⇑P	**Pg**	**11 42 55.4**	**-0.7**
ATVO				S	**Sb**	**11 43 06.2**	**0.0**
ATVO				AML	AML		
comp=E,382μm,0.5s							
ATVO				AML	AML		
comp=N,266μm,0.2s							
ATMI	**Monte Miggiano**	**0.66**	**160**	P	**Pg**	**11 42 55.7**	**-0.5**
ATMI				AML	AML		
comp=N,985μm,0.4s							
ATMI				AML	AML		
comp=E,692μm,0.3s							
MPAG	**Monte Paganucc**	**0.66**	**119**	P	**Pg**	**11 42 55.8**	**-0.4**
MPAG				AML	AML		
comp=N,152μm,1.1s							
MPAG				AML	AML		
comp=E,146μm,1.2s							
OSSC	**Osservatorio P**	**0.68**	**230**	P	**Pg**	**11 42 55.9**	**-0.6**
OSSC				AML	AML		
comp=E,308μm,1.0s							
OSSC				AML	AML		
comp=N,472μm,0.4s							
CSNT	**Castellina Chi**	**0.69**	**225**	P	**Pg**	**11 42 56.4**	**-0.2**
CSNT				AML	AML		
comp=E,291μm,0.7s							
CSNT				AML	AML		
comp=N,362μm,0.7s							
MTCR	**Monte La Croce**	**0.70**	**276**	P	**Pg**	**11 42 56.1**	**-0.8**
CRMI	**Carmignano**	**0.74**	**257**	P	**Pg**	**11 42 57.0**	**-0.6**
CRMI				S	**Sg**	**11 43 07.8**	**+0.5**
CRMI				AML	AML		
comp=N,230μm,0.5s							
CRMI				AML	AML		
comp=E,188μm,0.9s							
ATTE	**AVT- Monte Tez**	**0.81**	**159**	P	**Pg**	**11 42 58.0**	**-0.9**
ATTE				AML	AML		

comp=E,224μm,0.4s
ATTE AML AML
comp=N,216μm,0.3s
ATCC AVT- Casa Cast 0.92 147 P **Pg 11 43 00.1 -0.9**
PII Pisa 1.07 258 P **Pg 11 43 02.6 -1.2**
PII AML AML
comp=E,205μm,0.3s
PII AML AML
comp=N,206μm,1.5s
BRJN Brijuni 1.59 53 *e*Pn **Pn 11 43 10.6 -0.9**
SMRN Sveta Marina 1.90 55 *e*Pn **Pn 11 43 14.6 -1.2**
SMRN Sn **Sn 11 43 39.2 -0.6**
CTL8 Castelleone 2.05 311 ⇓P **Pn 11 43 18.5 +0.6**
RABC Rab 2.17 68 *e*Pn **Pn 11 43 18.2 -1.3**
RABC Sn **Sn 11 43 45.9 -0.6**
NVLJ Novalja 2.17 73 *e*Pn **Pn 11 43 19.6 0.0**
NVLJ Sn **Sn 11 43 46.8 +0.3**
ABTA Abfaltersbach 2.82 8 *e*Pn **Pn 11 43 30.6 +2.1**
comp=N,0.1nm,0.1s
ABTA *e*Sn **Sn 11 44 03.3 +0.7**
comp=N,1.7nm,0.3s
MYKA Terra Mystica 2.92 23 *e*Pn **Pn 11 43 31.4 +1.5**
comp=N,0.5nm,0.2s
MYKA *e*Sn **Sn 11 44 06.7 +1.6**
comp=N,1.4nm,0.3s
OBKA Obir 3.14 35 *e*Pn **Pn 11 43 33.4 +0.5**
comp=N,0.7nm,0.2s
OBKA *e*Sn **Sn 11 44 09.1 -1.4**
comp=N,3.3nm,0.4s
FETA Feichten 3.18 345 *e*Pn **Pn 11 43 35.4 +1.8**
comp=N,0.1nm,0.2s
FETA *e*Sn **Sn 11 44 15.3 +3.6**
comp=N,1.2nm,0.4s
KBA Koelnbreinsper 3.27 17 *e*Pn **Pn 11 43 35.5 +0.7**
comp=N,2.0nm,0.4s
KBA *e*Sn **Sn 11 44 15.4 +1.6**
comp=N,1.0nm,0.2s
SQTA Sankt Quirin 3.31 351 *e*Pn **Pn 11 43 36.3 +1.0**
comp=N,2.3nm,0.2s
SQTA *e*Sn **Sn 11 44 16.3 +1.6**
comp=N,3.7nm,0.3s
WTTA Wattenberg 3.31 356 *e*Pn **Pn 11 43 36.4 +1.0**
comp=N,0.7nm,0.2s
WTTA *e*Sn **Sn 11 44 17.2 +2.3**
comp=N,2.6nm,0.3s
WATA Walderalm 3.39 356 *e*Pn **Pn 11 43 37.2 +0.8**
comp=N,1.5nm,0.2s
WATA *e*Sn **Sn 11 44 15.3 -1.5**
MOTA Moosalm 3.44 350 *e*Pn **Pn 11 43 37.8 +0.7**
comp=N,0.6nm,0.3s
MOTA *e*Sn **Sn 11 44 16.9 -1.2**
comp=N,1.4nm,0.4s
SOKA Soboth 3.48 37 *e*Sn **Sn 11 44 16.7 -2.1**
comp=N,0.9nm,0.3s
RETA Reutte 3.63 347 *e*Pn **Pn 11 43 40.5 +0.8**
comp=N,0.3nm,0.1s
RETA *e*Sn **Sn 11 44 20.6 -2.0**
comp=N,1.2nm,0.3s
MOA Molln 4.21 22 *e*Pn **Pn 11 43 47.4 -0.2**
comp=N,0.5nm,0.2s
MOA *e*Sn **Sn 11 44 34.3 -2.5**
comp=N,1.1nm,0.3s
CONA Conrad Observa 4.81 33 *e*Pn **Pn 11 43 55.5 -0.4**
comp=N,0.4nm,0.3s

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*BUL **13** 11:55:04.2±2.8,26.°13S×29.°90E, h0km±18km, MD4.3*
*EAF **13** 11:55:04.0±2.9,26.°12S×29.°90E, h0km±19km, MD4.0*
ISC 13 11:55:05.6±1.3,25.°97S±0.°07×30.°00E±0.°04,h10km,n10,
σ1§18/18,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**1.99**	**100**	*i* P		**Pn**	**11 55 39.5**	**+0.2**
CNG				*i* Sg		**Sb**	**11 56 07.3**	**+0.5**
CNG	**Changalane**	**1.99**	**100**	*i* P		**Pn**	**11 55 39.5**	**+0.2**
CNG				*i* Sg		**Sb**	**11 56 07.3**	**+0.5**
MOPA	**Mopani**	**2.75**	**28**	*e*P		**Pn**	**11 55 50.0**	**+0.2**
MOPA	**Mopani**	**2.75**	**28**	*e*P		**Pn**	**11 55 50.0**	**+0.2**
MSNA	**Messina**	**3.61**	**0**	*i* P		**Pn**	**11 56 03.4**	**+1.8**
MSNA				*i* Sg		**Sg**	**11 57 00.1**	**-1.5**
MSNA	**Messina**	**3.61**	**0**	*i* P		**Pn**	**11 56 03.4**	**+1.8**
MSNA				*i* Sg		**Sg**	**11 57 00.1**	**-1.5**
LBTB	**Lobatse**	**4.09**	**283**	*i* P		**Pn**	**11 56 08.7**	**+0.4**
LBTB				*i* Sg		**Sb**	**11 57 07.2**	**-0.2**
LBTB	**Lobatse**	**4.09**	**283**	*i* P		**Pn**	**11 56 08.7**	**+0.4**
LBTB				*i* Sg		**Sb**	**11 57 07.2**	**-0.2**
MATP	**Matopo**	**5.69**	**346**	*i* P		**Pn**	**11 56 32.3**	**+2.0**
MATP				*i* S		**Sn**	**11 57 35.0**	**-0.8**
MATP	**Matopo**	**5.69**	**346**	*i* P		**Pn**	**11 56 32.3**	**+2.0**
MATP				*i* S		**Sn**	**11 57 35.0**	**-0.8**

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*NNC **13** 11:55:21.5±0.5,45.°85N×80.°90E, h4km±7km, mb3.8, mpv3.5, Error ellipse: s-maj=6.0km s-min=2.2km az=134.0*
*SOME **13** 11:55:23.7,45.°85N×80.°68E, h15km*
ISC 13 11:55:21.2±0.8,45.°83N±0.°03×80.°95E±0.°04,h10km,n56,
σ2§82/88,16C-8D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.21**	**36**	⇑P		**Pb**	**11 55 44.5**	**+0.3**
MAKZ	8.0nm,0.4s			⇓S		**Sb**	**11 56 00.2**	**+0.3**
	24nm,0.2s							
KAPS	**Kapalarasan**	**1.25**	**245**	*e*P		**Pn**	**11 55 44.8**	**0.0**
KAPS	14nm,0.1s			*e*S		**Sb**	**11 56 00.8**	**-0.2**
	119nm,0.2s							
KAPS	**Kapalarasan**	**1.25**	**245**	P		**Pn**	**11 55 44.8**	**0.0**
KAPS	14nm,0.1s			S		**Sb**	**11 56 00.8**	**-0.2**
	119nm,0.2s							
MK31	**Makanchi Array**	**1.34**	**43**	⇑P		**Pn**	**11 55 47.0**	**+1.0**
	3.9nm,0.2s,baz=217,slow=15,SNR=558							
MK31				⇓S		**Sb**	**11 56 04.5**	**+0.9**
	25nm,0.2s,baz=223,slow=29,SNR=34							
DJR	**Jarkent**	**1.71**	**209**	*e*P		**Pb**	**11 55 54.2**	**+1.4**
DJR	26nm,0.2s			*e*S		**Sb**	**11 56 15.9**	**+1.6**
	111nm,0.5s							
DJR	**Jarkent**	**1.71**	**209**	P		**Pb**	**11 55 54.2**	**+1.4**
DJR	26nm,0.2s			S		**Sb**	**11 56 16.0**	**+1.6**
	111nm,0.5s							
BLB	**Baldybastay**	**2.47**	**226**	*e*P		**Pb**	**11 56 07.3**	**+1.5**
BLB	36nm,0.3s			*e*S		**Sb**	**11 56 39.0**	**+2.8**
	111nm,0.4s							
BLB	**Baldybastay**	**2.47**	**226**	Pg		**Pb**	**11 56 07.3**	**+1.5**
BLB	36nm,0.3s			Lg		Lg	11 56 39.0	
	111nm,0.4s							
PDGK	**Podgornoye**	**2.71**	**203**	⇑Pg		**Pb**	**11 56 11.4**	**+1.6**
PDGK	4.9nm,0.5s			⇓Lg		Lg	11 56 46.5	
	47nm,0.3s							
ARXS	**Arharly**	**2.74**	**235**	*e*P		**Pb**	**11 56 11.7**	**+1.3**
ARXS	18nm,0.2s			*e*S		**Sb**	**11 56 46.6**	**+2.5**
	91nm,0.4s							
ARXS	**Arharly**	**2.74**	**235**	Pg		**Pb**	**11 56 11.7**	**+1.3**
ARXS	18nm,0.2s			Lg		Lg	11 56 46.6	
	91nm,0.4s							
SHLS	**Shalkode**	**2.88**	**202**	*e*P		**Pb**	**11 56 13.2**	**+0.5**
SHLS	10nm,0.2s			*e*S		**Sb**	**11 56 48.6**	**+0.6**
	91nm,0.5s							
SHLS	**Shalkode**	**2.88**	**202**	Pg		**Pb**	**11 56 13.2**	**+0.5**
SHLS	10nm,0.2s			Lg		Lg	11 56 48.6	
	91nm,0.5s							
UZB	**Uzynbulak**	**3.02**	**208**	*e*P		**Pb**	**11 56 17.1**	**+2.0**
UZB	5.4nm,0.2s			*e*S		**Sb**	**11 56 55.4**	**+3.3**
	172nm,0.3s							
UZB	**Uzynbulak**	**3.02**	**208**	Pg		**Pb**	**11 56 17.1**	**+2.0**
UZB	5.4nm,0.2s			Lg		Lg	11 56 55.4	
	172nm,0.3s							
KURS	**Kuram**	**3.07**	**221**	*e*P		**Pb**	**11 56 17.9**	**+2.0**
KURS	4.4nm,0.2s			*e*S		**Sb**	**11 56 56.9**	**+3.5**
	29nm,0.4s							
KURS	**Kuram**	**3.07**	**221**	Pg		**Pb**	**11 56 17.9**	**+2.0**
KURS	4.4nm,0.2s			Lg		Lg	11 56 56.9	
	29nm,0.4s							
ZSN	**Zaisan**	**3.15**	**58**	*e*P		**Pb**	**11 56 19.7**	**+2.5**
ZSN	7.2nm,0.2s			*e*S		**Sb**	**11 56 59.8**	**+4.2**
	22nm,0.3s							
ZSN	**Zaisan**	**3.15**	**58**	Pg		**Pb**	**11 56 19.7**	**+2.5**
ZSN	7.2nm,0.2s			Lg		Lg	11 56 59.8	
	22nm,0.3s							
ZHN	**Zhinishke**	**3.21**	**215**	*e*P		**Pb**	**11 56 20.3**	**+1.9**
ZHN	7.0nm,0.1s			*e*S		**Sb**	**11 57 00.7**	**+3.1**
	183nm,0.2s							
ZHN	**Zhinishke**	**3.21**	**215**	Pg		**Pb**	**11 56 20.3**	**+1.9**
ZHN	7.0nm,0.1s			Lg		Lg	11 57 00.7	
	183nm,0.2s							
SATY	**Saty**	**3.32**	**214**	*e*P		**Pb**	**11 56 22.3**	**+2.1**
SATY	2.1nm,0.2s			*e*S		**Sb**	**11 57 04.3**	**+3.7**
	113nm,0.3s							
SATY	**Saty**	**3.32**	**214**	Pg		**Pb**	**11 56 22.3**	**+2.1**
SATY	2.1nm,0.2s			Lg		Lg	11 57 04.3	
	113nm,0.3s							
CHKK	**Chushkaly**	**3.44**	**236**	*e*P		**Pb**	**11 56 24.9**	**+2.6**
CHKK	2.4nm,0.1s			*e*S		**Sg**	**11 57 09.1**	**-2.7**
	37nm,0.2s							
CHKK	**Chushkaly**	**3.44**	**236**	Pg		**Pb**	**11 56 24.9**	**+2.6**
CHKK	2.4nm,0.1s			Lg		Lg	11 57 09.1	
	37nm,0.2s							
KTBS	**Karatobe**	**3.71**	**237**	*e*P		**Pb**	**11 56 29.1**	**+2.3**
KTBS	9.6nm,0.5s			*e*S		**Sb**	**11 57 16.2**	**+4.4**
	38nm,0.6s							
KTBS	**Karatobe**	**3.71**	**237**	Pg		**Pb**	**11 56 29.1**	**+2.3**
KTBS	9.6nm,0.5s			Lg		Lg	11 57 16.2	
	38nm,0.6s							
KOTS	**Kotyrbulak**	**3.78**	**228**	*e*P		**Pb**	**11 56 31.2**	**+3.2**
KOTS	5.5nm,0.4s			*e*S		**Sg**	**11 57 19.5**	**-3.0**
	41nm,0.3s							
KOTS	**Kotyrbulak**	**3.78**	**228**	Pg		**Pb**	**11 56 31.2**	**+3.2**
KOTS	5.5nm,0.4s			Lg		Lg	11 57 19.5	
	41nm,0.3s							
KUU	**Kurty**	**3.81**	**241**	*e*P		**Pb**	**11 56 30.6**	**+2.1**
KUU	12nm,0.2s			*e*S		**Sb**	**11 57 18.7**	**+4.0**
	43nm,0.3s							
KUU	**Kurty**	**3.81**	**241**	Pg		**Pb**	**11 56 30.6**	**+2.1**
KUU	12nm,0.2s			Lg		Lg	11 57 18.7	
	43nm,0.3s							
MDOK	**Medeo**	**3.86**	**228**	*e*P		**Pb**	**11 56 31.9**	**+2.4**
MDOK	1.0nm,0.2s			*e*S		**Sb**	**11 57 20.8**	**+4.5**
	26nm,0.3s							
MDOK	**Medeo**	**3.86**	**228**	⇑Pg		**Pb**	**11 56 32.3**	**+2.8**
MDOK	3.3nm,0.4s			⇓Lg		Lg	11 57 21.2	
	28nm,0.6s							
MDOK	**Medeo**	**3.86**	**228**	Pg		**Pb**	**11 56 31.9**	**+2.4**
MDOK	1.0nm,0.2s			Lg		Lg	11 57 20.8	
	26nm,0.3s							
TNSS	**Tian-Shan**	**4.00**	**227**	*e*P		**Pb**	**11 56 34.5**	**+2.4**
TNSS	6.2nm,0.4s			*e*S		**Sb**	**11 57 25.1**	**+4.5**
	6.6nm,0.3s							
TNSS	**Tian-Shan**	**4.00**	**227**	Pg		**Pb**	**11 56 34.5**	**+2.4**
TNSS	6.2nm,0.4s			Lg		Lg	11 57 25.1	
	6.6nm,0.3s							
MTBS	**Maitube**	**4.21**	**232**	*e*P		**Pb**	**11 56 37.6**	**+2.1**
MTBS	2.5nm,0.2s			*e*S		**Sb**	**11 57 30.5**	**+4.1**
	36nm,0.4s							
MTBS	**Maitube**	**4.21**	**232**	Pg		**Pb**	**11 56 37.6**	**+2.1**
MTBS	2.5nm,0.2s			Lg		Lg	11 57 30.5	
	36nm,0.4s							
KRBS	**Karabastau**	**4.32**	**242**	*e*P		**Pb**	**11 56 40.5**	**+3.2**
KRBS	4.2nm,0.2s			*e*S		**Sg**	**11 57 36.1**	**-3.9**
	21nm,0.4s							
KRBS	**Karabastau**	**4.32**	**242**	Pg		**Pb**	**11 56 40.4**	**+3.2**
KRBS	4.2nm,0.2s			Lg		Lg	11 57 36.1	
	21nm,0.4s							
DGS	**Degeres**	**4.52**	**237**	*e*P		**Pb**	**11 56 44.1**	**+3.4**
DGS	5.0nm,0.4s			*e*S		**Sg**	**11 57 41.5**	**-4.7**
	17nm,0.3s							
DGS	**Degeres**	**4.52**	**237**	Pg		**Pb**	**11 56 44.1**	**+3.4**
DGS	5.0nm,0.4s			Lg		Lg	11 57 41.5	
	17nm,0.3s							
KST	**Kastek**	**4.53**	**234**	*e*P		**Pb**	**11 56 44.1**	**+3.2**
KST	3.6nm,0.5s			*e*S		**Sg**	**11 57 41.9**	**-4.7**
	20nm,0.7s							
KST	**Kastek**	**4.53**	**234**	Pg		**Pb**	**11 56 44.1**	**+3.2**
KST	3.6nm,0.5s			Lg		Lg	11 57 41.9	
	20nm,0.7s							
SEM	**Semipalatinsk**	**4.61**	**354**	*e*P		**Pg**	**11 56 46.1**	**-3.3**
SEM	2.4nm,0.1s			*e*S		**Sg**	**11 57 44.9**	**-4.1**
	17nm,0.2s							
SEM	**Semipalatinsk**	**4.61**	**354**	Pg		**Pg**	**11 56 46.1**	**-3.3**
SEM	2.4nm,0.1s			Lg		Lg	11 57 44.9	
	17nm,0.2s							
TKM2	**Tokmak 2**	**4.82**	**235**	⇑Pg		**Pb**	**11 56 49.7**	**+3.9**
TKM2	3.4nm,0.9s			⇑Lg		Lg	11 57 51.4	
	11nm,0.8s							
BTLS	**Baital**	**4.93**	**263**	*e*P		**Pg**	**11 56 52.4**	**-3.2**
BTLS	3.7nm,0.4s			*e*S		**Sg**	**11 57 56.6**	**-2.7**
	4.8nm,0.5s							
BTLS	**Baital**	**4.93**	**263**	Pg		**Pg**	**11 56 52.4**	**-3.2**
BTLS	3.7nm,0.4s			Lg		Lg	11 57 56.6	
	4.8nm,0.5s							
KURBB	**Kurchatov Arra**	**5.06**	**342**	⇑Pn		**Pn**	**11 56 40.1**	**+3.0**
KURBB	2.0nm,1.2s			⇓Pg		**Pb**	**11 56 53.6**	**+3.8**
	1.8nm,0.4s							
KURBB				⇓Sn		**Sn**	**11 57 36.3**	**+0.7**
	1.7nm,0.2s							
KURBB				⇑Lg		Lg	11 57 59.3	
	35nm,0.6s							
SGDS	**Sogindy**	**5.10**	**244**	*e*P		**Pb**	**11 56 54.6**	**+4.0**
SGDS	1.8nm,0.3s			*e*S		**Sg**	**11 57 59.6**	**-5.3**
	7.9nm,0.5s							
SGDS	**Sogindy**	**5.10**	**244**	Pg		**Pb**	**11 56 54.6**	**+4.0**
SGDS	1.8nm,0.3s			Lg		Lg	11 57 59.6	
	7.9nm,0.5s							
KURK	**Kurchatov**	**5.13**	**343**	⇑Pn		**Pn**	**11 56 39.8**	**+1.8**
KURK	2.2nm,1.3s			⇑Pg		**Pb**	**11 56 53.7**	**+2.7**
	1.4nm,0.5s							
KURK				⇑Sn		**Sn**	**11 57 38.0**	**+0.7**
	2.2nm,0.5s							
KURK				⇑Lg		Lg	11 58 00.8	
	8.9nm,0.6s							
AAK	**Ala-Archa**	**5.63**	**238**	⇑Pg		**Pb**	**11 57 04.4**	**+4.7**
AAK	2.2nm,0.6s			⇓Lg		Lg	11 58 17.5	
	7.9nm,0.5s							
OTUK	**Ortayu**	**6.37**	**295**	⇑Pn		**Pn**	**11 56 56.5**	**+1.5**
OTUK	1.4nm,0.5s			⇑Sn		**Sn**	**11 58 07.5**	**-0.3**
OTUK				⇑Lg		Lg	11 58 41.0	
	13nm,0.6s							
AB31	**Akbulak array**	**14.59**	**291**	⇓Pn		**Pn**	**11 58 45.7**	**-1.8**
	0.3nm,0.5s,baz=102,slow=15,SNR=9.3							

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*NEIC **13** 12:07:39.0±1.9,23.°5S±0.°2×175.°2W±0.°1, h10km±2km, mb4.6/16, Error ellipse: s-maj=27.8km s-min=15.8km az=182.0*
*IDC **13** 12:07:39.1±1.1,23.°36S×175.°55W, h0km, mb4.3/10, mb1 4.6/12, mb1mx4.3/39, mbtmp4.4/12, ML6.0/1, MS3.9/33, Ms1 3.9/33, ms1mx3.7/56, Error ellipse: s-maj=48.4km s-min=18.4km az=162.0*
*NOU **13** 12:07:46.1,22.°88S×175.°04W, h40km, mb4.9/12, Tonga Islands Region*
ISC 13 12:07:44.2±0.6,23.°27S±0.°09×175.°55W±0.°07,h30km,n83,
σ1§92/44,mb4.5/17,MS3.9/32,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.70**	**53**	P		Pn	12 09 14.3	-6.3
NIUE	**Niue**	**6.70**	**53**	P		Pn	12 09 13.8	-6.8
TAVE	**Taveuni**	**7.71**	**327**	P		**Pn**	**12 09 35.5**	**+1.0**
MSVF	**Nonsavu**	**8.15**	**311**	Pn		**Pn**	**12 09 41.1**	**+0.5**
	6.5nm,0.3s,baz=100,slow=23,SNR=37							
MSVF				LR		LR	12 12 29.7	
	comp=Z,2μm,19.2s,baz=114,slow=36							
MSVF	**Nonsavu**	**8.15**	**311**			**Pn**	**12 09 42.3**	**+1.8**
MSVF	**Nonsavu**	**8.15**	**311**	P		**Pn**	**12 09 43.4**	**+2.9**
DGTI	**Dogotuki**	**8.23**	**327**	P		**Pn**	**12 09 42.2**	**+0.5**
AFI	**Afiamalu**	**9.97**	**22**	Pn		Pn	12 09 59.0	-6.6
	2.6nm,0.3s,baz=53,slow=20,SNR=1.6							
AFI				Sn		Sn	12 11 36.6	-20
	4.4nm,0.3s,baz=172,slow=18,SNR=2.0							
AFI				LR		LR	12 13 42.4	
	comp=Z,214nm,19.7s,baz=202,slow=36							
RAR	**Rarotonga**	**14.75**	**85**	Pn		**Pn**	**12 11 09.1**	**-1.7**
	3.3nm,0.3s,baz=264,slow=11,SNR=6.3							
RAR	**Rarotonga**	**14.75**	**85**			Pn	12 11 04.1	-6.7
MARNC	**Mare, Loyalty**	**15.30**	**274**	P		**P**	**12 11 25.3**	**+2.7**
URZ	**Urewera**	**16.21**	**201**	Pn		**P**	**12 11 32.9**	**+0.4**
	0.6nm,0.3s,baz=31,slow=19,SNR=0.9							
URZ				Sn		**Sn**	**12 14 26.9**	**-1.6**
	1.2nm,0.3s,baz=61,slow=18,SNR=5.8							
URZ	**Urewera**	**16.21**	**201**	P		**P**	**12 11 37.3**	**+4.7**
DZM	**Mont Dzumac**	**16.67**	**271**	Pn		**P**	**12 11 41.3**	**+3.4**
	0.5nm,0.3s,baz=71,slow=19,SNR=6.0							
DZM				LR		LR	12 15 33.9	
	comp=Z,221nm,21.1s,baz=108,slow=28							
DZM	**Mont Dzumac**	**16.67**	**271**	*e*P		**P**	**12 11 42.4**	**+4.5**
	27nm,0.9s							
DZM				*e*LR		LR	12 15 27.9	
	comp=Z,800nm,24.2s							
HIZ	**Hauiti**	**17.26**	**206**	P		P	12 11 51.3	+7.0
SANVU	**Saraoutou**	**18.03**	**292**	P		**P**	**12 11 55.1**	**+2.2**
SANVU				IAmb		IAmb	12 11 58.5	
	comp=Z,32nm,0.7s							
TBI	**Tubuai**	**23.95**	**95**	*e*S		**S**	**12 17 16.0**	**+5.2**
	comp=Z,280nm,27.7s							
TBI				*e*LR		LR	12 18 53.3	
	comp=Z,664nm,26.2s,baz=263							
TBI	**Tubuai**	**23.95**	**95**	*e*T		T	12 37 43.3	
	comp=Z,15nm,0.3s							
PAE	**Paea**	**24.94**	**82**	*e*T		T	12 38 38.7	
	comp=Z,20nm,0.3s							
PPT2	**Papeete2**	**24.96**	**82**	*e*S		**S**	**12 17 29.0**	**+1.6**
	comp=Z,214nm,28.5s							
PPT2				*e*LR		LR	12 19 13.7	
	comp=Z,751nm,25.2s,baz=249							
PPT2	**Papeete2**	**24.96**	**82**	*e*T		T	12 38 43.1	
	comp=Z,28nm,0.3s							
PPT	**Papeete**	**24.97**	**82**	LR		LR	12 20 17.7	
	comp=Z,209nm,20.4s,baz=282,slow=30							
MEH	**Mehetia**	**26.26**	**83**	*e*T		T	12 40 20.5	
	comp=Z,89nm,0.3s							
HNR	**Honiara**	**27.18**	**296**	LR		LR	12 22 59.9	
	comp=Z,172nm,19.2s,baz=158,slow=34							
VAH	**Vaihoa**	**27.51**	**78**	*e*T		T	12 41 47.4	
	comp=Z,6.1nm,0.2s							
CTA	**Charters Tower**	**35.57**	**268**	P		**P**	**12 14 39.6**	**+0.5**
	comp=Z,6.6nm,0.4s,baz=96,slow=11,SNR=11							
CTAO	**Charters Tower**	**35.57**	**268**	P		**P**	**12 14 40.1**	**+0.9**
PMG	**Port Moresby**	**38.22**	**285**	P		**P**	**12 15 00.1**	**-1.5**
	comp=Z,16nm,0.9s,baz=121,slow=4.7,SNR=5.5							
PMG				LR		LR	12 29 40.0	
	comp=Z,227nm,18.4s,baz=154,slow=34							
PMG	**Port Moresby**	**38.22**	**285**	P		**P**	**12 14 59.1**	**-2.6**
STKA	**Stephens Creek**	**38.74**	**248**	P		**P**	**12 15 04.9**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=95,slow=11,SNR=5.1							
STKA				LR		LR	12 29 03.4	
	comp=Z,198nm,19.5s,baz=51,slow=33							
STKA	**Stephens Creek**	**38.74**	**248**	P		**P**	**12 15 03.5**	**-2.5**
COEN	**Coen**	**40.08**	**276**	P		**P**	**12 15 16.3**	**-1.0**
COEN				IAmb		IAmb	12 15 38.3	
	comp=Z,9.8nm,1.1s							
AS31	**Alice Springs**	**46.16**	**259**	P		**P**	**12 16 05.9**	**-0.6**
ASAR	**Alice Springs**	**46.17**	**259**	P		**P**	**12 16 06.0**	**-0.4**
	comp=Z,8.3nm,1.0s,baz=97,slow=7.3,SNR=39							
ASAR				LR		LR	12 34 02.2	
	comp=Z,247nm,19.9s,baz=116,slow=34							
WR0	**Warramunga Arr**	**46.34**	**264**	P		**P**	**12 16 06.8**	**-1.0**
WR0				IAmb		IAmb	12 16 10.8	
	comp=Z,8.0nm,1.2s							
WB2	**Warramunga Arr**	**46.52**	**264**	P		**P**	**12 16 07.8**	**-1.4**
WB0	**Warramunga Arr**	**46.52**	**264**	P		**P**	**12 16 08.3**	**-1.0**
WB0				IAmb		IAmb	12 16 09.4	
	comp=Z,6.3nm,0.9s							
WRAB	**Tennant Creek**	**46.52**	**264**	P		**P**	**12 16 08.1**	**-1.2**
WRAB				IAmb		IAmb	12 16 09.5	
	comp=Z,6.3nm,0.8s							
WRA	**Warramunga Arr**	**46.53**	**264**	P		**P**	**12 16 07.7**	**-1.6**
	comp=Z,5.9nm,0.9s,baz=91,slow=8.4,SNR=60							
WRA				LR		LR	12 35 40.3	
	comp=Z,212nm,18.1s,baz=110,slow=36							
WRA	**Warramunga Arr**	**46.53**	**264**	P		**P**	**12 16 07.9**	**-1.4**
JAY	**Jayapura**	**47.09**	**289**	LR		LR	12 34 15.6	
	comp=Z,135nm,20.8s,baz=186,slow=34							
MTN	**Manton Dam**	**51.50**	**272**	P		**P**	**12 16 46.5**	**-0.9**
MTN				IAmb		IAmb	12 16 53.5	
	comp=Z,9.8nm,1.0s							
KNRA	**Kununurra**	**52.79**	**268**	P		**P**	**12 16 56.5**	**-0.5**
KNRA				IAmb		IAmb	12 17 02.2	
	comp=Z,10nm,1.0s							
GUMO	**Guam**	**53.31**	**309**	LR		LR	12 36 50.1	
	comp=Z,51nm,21.4s,baz=96,slow=33							
VNDA	**Vanda**	**55.38**	**186**	LR		LR	12 40 24.3	
	comp=Z,148nm,18.1s,baz=206,slow=36							
SIJI	**Sorong**	**56.16**	**285**	LR		LR	12 40 20.2	
	comp=Z,92nm,19.5s,baz=152,slow=35							
PSA00	**Pilbara Seismi**	**59.29**	**258**	P		**P**	**12 17 42.8**	**-0.8**
DAV	**Davao City (W)**	**64.93**	**290**	LR		LR	12 45 53.2	
	comp=Z,41nm,18.1s,baz=85,slow=35							
JHJ	**Hachijo jima 2**	**70.42**	**321**	LR		LR	12 50 24.9	
	comp=Z,24nm,18.0s,baz=94,slow=36							
MJAR	**Matsushiro Arr**	**73.78**	**323**	LR		LR	12 45 34.3	
	comp=Z,51nm,21.4s,baz=176,slow=31							
LEM	**Lembang**	**75.27**	**269**	LR		LR	12 51 50.2	
	comp=Z,70nm,21.1s,baz=135,slow=35							
LPIG	**La Paz**	**78.90**	**58**	LR		LR	12 51 12.8	
	comp=Z,96nm,18.1s,baz=198,slow=33							
PETK	**Petropavlovsk-**	**79.54**	**344**	LR		LR	12 49 51.2	
	comp=Z,54nm,19.6s,baz=138,slow=32							
PFO	**Pinyon Flats O**	**79.76**	**47**	LR		LR	12 50 38.8	
	comp=Z,65nm,19.2s,baz=216,slow=32							
KSRS	**Korea Array**	**80.46**	**318**	LR		LR	12 49 30.9	
	comp=Z,44nm,22.0s,baz=105,slow=31							
NVAR	**Mina Array Bea**	**81.51**	**42**	P		**P**	**12 20 00.1**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=218,slow=8.6,SNR=5.6							
NVAR				LR		LR	12 51 57.2	
	comp=Z,62nm,19.6s,baz=260,slow=32							
H03S2	**Juan Fernandez**	**82.56**	**124**	T		T	13 51 32.4	
	SNR=456							
H03S1	**Juan Fernandez**	**82.57**	**124**	T		T	13 51 38.9	
	SNR

comp=Z,0.5nm,0.9s,baz=204,slow=2.7,SNR=4.6
TXAR LR LR 12 58 04.7
comp=Z,36nm,18.3s,baz=195,slow=35
NEW Newport 88.31 35 LR LR 12 51 54.5
comp=Z,104nm,20.2s,baz=186,slow=30
CMIG Matias Romero 88.40 71 LR LR 12 53 14.3
comp=Z,45nm,18.3s,baz=224,slow=31
SEY Seymchan 89.59 346 LR LR 12 58 38.9
comp=Z,40nm,18.9s,baz=32,slow=34
ILAR Eielson Array 90.52 12 P **P 12 20 41.5 -1.2**
comp=Z,0.4nm,0.7s,baz=228,slow=4.6,SNR=4.3
J26L Joseph Creek 90.95 13 P **P 12 20 44.9 +0.1**
NNA Nana 93.16 104 LR LR 12 52 49.8
comp=Z,81nm,21.1s,baz=234,slow=29
CMAR Chiang Mai Arr 93.17 289 P **P 12 20 55.0 -1.1**
comp=Z,0.5nm,0.3s,baz=106,slow=2.0,SNR=1.8
ATAH Atahualpa 93.73 99 LR LR 12 56 51.3
comp=Z,54nm,18.1s,baz=267,slow=32
YAK Yakutsk 95.53 337 LR LR 12 59 01.6
comp=Z,28nm,20.2s,baz=247,slow=32
YKA Yellowknife Ar 98.08 24 P **P 12 21 17.0 -0.4**
comp=Z,0.4nm,0.9s,baz=236,slow=5.0,SNR=4.4
SONM Songino Array 99.33 318 LR LR 13 02 35.0
comp=Z,30nm,21.1s,baz=42,slow=33
BVAR Borovoye Array 122.66 319 PKP **PKPdf 12 26 36.1 -0.6**
comp=Z,1.0nm,0.6s,baz=64,slow=3.4,SNR=4.0
AKASG Malin Array Be 146.53 331 PKPbc **PKPdf 12 27 21.3 +0.4**
comp=Z,0.9nm,0.4s,baz=41,slow=4.1,SNR=4.9
BRTR Keskin Array B 150.37 310 PKPbc **PKPbc 12 27 32.5 -0.6**
comp=Z,1.4nm,0.5s,baz=164,slow=4.9,SNR=4.3
BRTR Keskin Array B 150.37 310 PKPbc **PKPbc 12 27 32.6 -0.4**

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*IDC **13** 12:10:03.7±0.9, 30°.67N×132°.81E, h0km, mb3.7/7, mb1 3.9/11, mb1mx3.7/62, mbtmp3.8/11, ML3.4/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/92, Error ellipse: s-maj=26.9km s-min=17.3km az=86.0*
*JMA **13** 12:10:06.6±0.2, 30°.62N×132°.80E, h71km, M3.2*
*NEIC **13** 12:10:08.9±1.6, 30°.69N±0°.06×132°.8E±0°.1, h27km±1km, mb4.4/10, Error ellipse: s-maj=12.7km s-min=9.0km az=103.0*
ISC 13 12:10:05.0±2.6,**30°.71N**±0°.05×**132°.74E**±0°.06,**h8**km±16km,
n49,σ1§**38**/54,**mb4.1**/13,**Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**1.50**	**303**	P	**Pb**	**12 10 33.3**	**+0.2**
JNKG	**Nichinankitago**	**1.50**	**310**	P	**Pb**	**12 10 33.5**	**+0.3**
JNKG				*e*S	**Sg**	**12 10 53.4**	**0.0**
JTN	**Tanegashima 3**	**1.52**	**268**	P	**Pb**	**12 10 32.8**	**-0.5**
JTN				S	**Sb**	**12 10 52.3**	**-0.4**
JMTN	**Minamitane**	**1.61**	**259**	P	**Pb**	**12 10 34.5**	**-0.5**
JTSR	**Tashiro 2**	**1.62**	**287**	P	**Pb**	**12 10 34.5**	**-0.7**
JTZ	**Takazaki**	**1.84**	**311**	P	**Pb**	**12 10 38.0**	**-1.0**
JSU	**Suzuyama**	**2.11**	**293**		**Pb**	**12 10 42.1**	**-1.5**
JTO	**Tosashimizu**	**2.15**	**1**	P	**Pn**	**12 10 39.9**	**-1.2**
JTO				*e*S	**Sn**	**12 11 03.6**	**-4.3**
JNA	**Nagahama**	**2.85**	**356**	P	**Pn**	**12 10 50.7**	**-0.1**
JNU	**Nakatsue**	**2.88**	**327**	Pn	**Pn**	**12 10 53.0**	**+1.8**
JNU	13nm,0.3s,baz=199,slow=9.5,SNR=86			Sn	**Sb**	**12 11 28.6**	**-3.4**
JNU	10nm,0.3s,baz=223,slow=5.0,SNR=4.2 **Nakatsue**	**2.88**	**327**		**Pn**	**12 10 53.2**	**+2.0**
JNU				Sn	**Sn**	**12 11 27.6**	**+1.6**
JMN	**Monobe**	**3.16**	**18**	P	**Pn**	**12 10 54.9**	**-0.2**
JMN	**Monobe**	**3.16**	**18**	Pn	**Pn**	**12 10 55.1**	**0.0**
JAI	**Aioi**	**3.40**	**25**	P	**Pn**	**12 10 58.1**	**-0.2**
JTAJ	**Takarajima**	**3.44**	**244**	P	**Pn**	**12 10 58.0**	**-0.8**
JHT	**Toyohira**	**3.95**	**356**	P	**Pn**	**12 11 06.5**	**+0.5**
JHS	**Saijyo**	**4.29**	**4**		**Pn**	**12 11 10.9**	**+0.3**
JWT	**Wachi**	**5.08**	**25**	Pn	**Pn**	**12 11 21.7**	**+0.3**
JOW	**Kunigami**	**5.50**	**226**	Pn	**Pn**	**12 11 27.7**	**+0.5**
JOW	3.2nm,0.3s,baz=292,slow=20,SNR=19			Sn	**Sn**	**12 12 27.1**	**-3.6**
JOW	0.9nm,0.3s,baz=64,slow=28,SNR=1.1 **Kunigami**	**5.50**	**226**	Pn	**Pn**	**12 11 29.0**	**+1.8**
JHJ	**Hachijo jima 2**	**6.46**	**66**	LR	LR	12 13 45.9	
	comp=Z,48nm,21.4s,baz=20,slow=34						
TJN	**Taejon**	**7.21**	**323**	Pn	**Pn**	**12 11 52.3**	**+1.6**
MAJO	**Matsushiro**	**7.39**	**37**	Pn	**Pn**	**12 11 55.0**	**+1.8**
MJAR	**Matsushiro Arr**	**7.39**	**37**	Pn	**Pn**	**12 11 54.5**	**+1.3**
	0.1nm,0.3s,baz=244,slow=13,SNR=10.0						
MJAR	**Matsushiro Arr**	**7.39**	**37**		**Pn**	**12 11 55.0**	**+1.8**
MJB9	**Matsu-Tunnel**	**7.39**	**37**	Pn	**Pn**	**12 11 54.7**	**+1.5**
YOJ	**Yonaguni jima**	**10.63**	**237**	Pn	**Pn**	**12 12 36.9**	**-0.8**
KLR	**Kul'dur**	**18.51**	**358**	P	**P**	**12 14 21.9**	**+0.3**
	0.1nm,0.3s,baz=177,slow=7.6,SNR=9.1						
SONM	**Songino Array**	**26.42**	**318**	P	**P**	**12 15 41.8**	**-0.4**
	0.2nm,0.6s,baz=131,slow=5.9,SNR=1.7						
MTN	**Manton Dam**	**43.33**	**182**	P	**P**	**12 18 08.0**	**+0.4**
MTN				IAmb	IAmb	12 18 09.8	
	comp=Z,9.5nm,1.1s						
KURK	**Kurchatov**	**44.51**	**313**	P	**P**	**12 18 18.6**	**+1.8**
MNAI	**Manna**	**45.01**	**224**	P	**P**	**12 18 21.1**	**-0.1**
KNRA	**Kununurra**	**46.28**	**185**	P	**P**	**12 18 31.9**	**+0.9**
BVAR	**Borovoye Array**	**49.73**	**315**	P	**P**	**12 18 59.3**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=95,slow=12,SNR=8.4						
BRVK	**Borovoye**	**49.79**	**316**	P	**P**	**12 18 59.9**	**+1.9**
BRVK				IAmb	IAmb	12 19 00.4	
	comp=Z,3.0nm,0.8s						
WB0	**Warramunga Arr**	**50.21**	**178**	P	**P**	**12 19 01.8**	**+0.3**
WB0				IAmb	IAmb	12 19 30.8	
	comp=Z,5.4nm,1.4s						
WRA	**Warramunga Arr**	**50.38**	**178**	P	**P**	**12 19 02.5**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=352,slow=8.4,SNR=4.1						
WRA	**Warramunga Arr**	**50.38**	**178**	P	**P**	**12 19 02.4**	**-0.4**
WB2	**Warramunga Arr**	**50.38**	**178**	P	**P**	**12 19 01.9**	**-0.9**
WB2				IAmb	IAmb	12 19 28.6	
	comp=Z,4.9nm,1.2s						
ASAR	**Alice Springs**	**54.08**	**179**	P	**P**	**12 19 29.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=11,slow=12,SNR=6.8						
ASAR	**Alice Springs**	**54.08**	**179**	P	**P**	**12 19 30.3**	**+0.1**
ABKAR	**Abkulak array**	**56.58**	**311**	P	**P**	**12 19 49.1**	**+1.1**
MDM	**Murphy Dome**	**58.02**	**30**	P	**P**	**12 19 59.4**	**+1.3**
MDM				IAmb	IAmb	12 20 00.2	
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**58.61**	**30**	P	**P**	**12 20 01.8**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=293,slow=7.6,SNR=6.3						
A36M	**Sachs Harbour**	**64.71**	**20**	P	**P**	**12 20 44.4**	**+1.3**
FINES	**FINESS Array B**	**70.91**	**331**	P	**P**	**12 21 21.7**	**-0.7**
	comp=Z,6.8nm,1.0s,baz=76,slow=8.0,SNR=5.5						
FINES	**FINESS Array B**	**70.91**	**331**	P	**P**	**12 21 20.9**	**-1.5**
YKA	**Yellowknife Ar**	**72.78**	**27**	P	**P**	**12 21 33.8**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=297,slow=5.5,SNR=5.0						
AKASG	**Malin Array Be**	**74.68**	**320**	P	**P**	**12 21 45.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=55,slow=6.5,SNR=2.1						

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*IDC **13** 12:10:10.4±0.3, 67°.15N×20°.74E, h0km, mb3.7/1, mb1 3.4/6, mb1mx3.1/57, mbtmp3.4/6, ML2.6/5, Error ellipse: s-maj=5.6km s-min=2.0km az=97.0*
*DNK **13** 12:10:10.9±0.4, 67°.19N×20°.67E, h0km, ML3.0(UPP), Suspected explosion*
*NAO **13** 12:10:11.0±0.7, 67°.16N×21°.06E, ML2.9*
*HEL **13** 12:10:11.1±0.1, 67°.18N×20°.68E, h0km, ML2.4, ML3.0(UPP), Explosion*
*BER **13** 12:10:13.0±3.7, 67°.10N×20°.83E, h0km, ML2.9(NAO), Suspected explosion*
ISC 13 12:10:09.5±0.7,**67°.15N**±0°.02×**20°.59E**±0°.03,**h0**km,**n55**,
σ1§**60**/89,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.63**	**60**	P	**Pg**	**12 10 21.8**	**+0.3**
MASU				S	**Sg**	**12 10 29.5**	**-0.1**
MASU	**Masugnsbyn**	**0.63**	**60**	*i* P	**Pg**	**12 10 21.8**	**+0.3**
MASU				*i* S	**Sg**	**12 10 29.5**	**-0.1**
KUA	**Kurravaara**	**0.81**	**353**	*i* P	**Pg**	**12 10 25.0**	**-0.1**
SALU	**Saltoluokta**	**0.84**	**287**	P	**Pb**	**12 10 26.9**	**-0.1**
SALU	**Saltoluokta**	**0.84**	**287**	*i* P	**Pb**	**12 10 26.9**	**-0.1**
ERTU	**Ertsjaerv**	**0.87**	**133**	P	**Pg**	**12 10 26.7**	**+0.6**
ERTU	**Ertsjaerv**	**0.87**	**133**	*e*P	**Pg**	**12 10 26.3**	**+0.2**
ERTU				*e*SB	**Sg**	**12 10 38.5**	**+1.1**
NIKU	**Nikkaluokta**	**0.94**	**321**	P	**Pg**	**12 10 28.0**	**+0.5**
NIKU	**Nikkaluokta**	**0.94**	**321**	*e*P	**Pg**	**12 10 28.0**	**+0.5**
PAJU	**Pajala**	**1.00**	**96**	P	**Pg**	**12 10 28.5**	**0.0**
PAJU	**Pajala**	**1.00**	**96**	*e*P	**Pg**	**12 10 28.2**	**-0.3**
LANU	**Lannavaara**	**1.05**	**30**	P	**Pg**	**12 10 29.0**	**-0.6**
LANU	**Lannavaara**	**1.05**	**30**	*e*P	**Pg**	**12 10 26.4**	**-3.1**
KOVU	**Salmi**	**1.09**	**352**	P	**Pg**	**12 10 30.0**	**-0.4**
KOVU	**Salmi**	**1.09**	**352**	*e*P	**Pg**	**12 10 30.0**	**-0.4**
SJUU	**Sjulsmark**	**1.70**	**166**	P	**Pb**	**12 10 41.8**	**+0.3**
SJUU	**Sjulsmark**	**1.70**	**166**	*e*P	**Pb**	**12 10 41.8**	**+0.3**
KALU	**Kalix**	**1.71**	**138**	P	**Pn**	**12 10 41.6**	**+1.2**
KALU	**Kalix**	**1.71**	**138**	*e*PG	**Pn**	**12 10 41.6**	**+1.2**
KALU				*e*SN	**Sb**	**12 11 04.3**	**+0.7**
HEF	**Hetta**	**1.72**	**41**	Pn	**Pn**	**12 10 40.8**	**+0.1**
HEF				Sn	**Sn**	**12 11 02.7**	**-0.6**
HEF	**Hetta**	**1.72**	**41**	*e*P	**Pn**	**12 10 40.7**	**+0.1**
HEF				Sn	**Sn**	**12 11 02.7**	**-0.6**
HEF	**Hetta**	**1.72**	**41**	*e*P	**Pn**	**12 10 40.3**	**-0.4**
HEF	baz=226			MSG		12 11 00.7	
	comp=Z,26nm,0.2s						
HEF				*e*SG	**Sn**	**12 11 02.5**	**-0.9**
TOF	**Tornio**	**1.84**	**124**	*e*PN	**Pn**	**12 10 43.5**	**+1.3**
TOF	baz=306			MSG		12 11 05.9	
	comp=Z,28nm,0.2s						
TOF				*e*SN	**Sb**	**12 11 08.1**	**+0.7**
KIF	**Kilpisjarvi**	**1.86**	**2**	Pn	**Pb**	**12 10 44.1**	**-0.2**
KIF				Sn	**Sg**	**12 11 10.8**	**+1.5**
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*P	**Pb**	**12 10 44.0**	**-0.4**
KIF				Sn	**Sg**	**12 11 10.8**	**+1.5**
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*P	**Pb**	**12 10 43.8**	**-0.6**
KIF	baz=181			MSG		12 11 05.9	
	comp=Z,50nm,0.2s						
KIF				*e*SG	**Sg**	**12 11 09.7**	**+0.3**
KTK1	**Kautokeino**	**2.12**	**27**	*e*P	**Pb**	**12 10 47.8**	**-0.9**
RNF	**Rovaniemi**	**2.21**	**102**	*e*PB	**Pn**	**12 10 48.9**	**+1.5**
RNF				*e*SG	**Sb**	**12 11 18.6**	**+0.5**
JETT	**Jettan, Norway**	**2.42**	**358**	Pn	**Pn**	**12 10 52.0**	**+1.7**
JETT				Sn	**Sb**	**12 11 22.9**	**-1.3**
ARA0	**ARCESS Array S**	**3.01**	**35**	Pn	**Pn**	**12 10 59.0**	**+0.7**
ARA0	baz=211,slow=16			Sn	**Sn**	**12 11 35.1**	**0.0**
	baz=214,slow=28						
ARA0				Lg	Lg	12 11 40.3	
	baz=219,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**35**	Pn	**Pn**	**12 10 59.0**	**+0.7**
ARA0	baz=211,slow=16			Sn	**Sn**	**12 11 35.1**	**0.0**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**35**	*e*PG	**Pg**	**12 11 06.0**	**-1.1**
ARA0				*e*		12 11 29.1	
ARCES	**ARCESS Array B**	**3.01**	**35**	Pn	**Pn**	**12 10 58.9**	**+0.5**
ARCES	baz=221,slow=14,SNR=160			Sn	**Sn**	**12 11 35.3**	**+0.2**
	baz=222,slow=23,SNR=7.2						
OUF	**Merijarvi**	**3.27**	**147**	*e*P	**Pn**	**12 11 04.0**	**+2.0**
OUF	baz=333			*e*SG	**Sg**	**12 11 53.8**	**-0.8**
VRF	**Varrio**	**3.53**	**76**	*e*P	**Pn**	**12 11 06.1**	**+0.6**
KEV	baz=265 **Kevo**	**3.53**	**39**	*e*P	**Pn**	**12 11 05.9**	**+0.4**
KEV				*e*S	**Sn**	**12 11 47.2**	**-0.5**
MSF	**Maaselka**	**3.60**	**106**	*e*P	**Pn**	**12 11 07.8**	**+1.3**
MSF	baz=295			*e*		12 12 05.8	
HUSU	**Husum**	**3.87**	**189**	*e*P	**Pn**	**12 11 12.6**	**+2.5**
HUSU				*e*S	**Sn**	**12 11 57.0**	**+0.8**
KU6	**Riekki**	**3.88**	**103**	*e*P	**Pn**	**12 11 11.6**	**+1.3**
KU6	baz=291			*e*S	**Sn**	**12 11 58.2**	**+1.7**
VAF	**Ylistaro**	**4.22**	**167**	*e*P	**Pn**	**12 11 18.0**	**+3.1**
VAF	baz=348			*e*SG	**Sg**	**12 12 23.5**	**-1.3**
HEMU	**Hemsoen**	**4.62**	**195**	*e*S	**Sn**	**12 12 16.0**	**+1.3**
APA0	**Apatity Array**	**4.81**	**79**	Pn	**Pn**	**12 11 22.6**	**-0.4**
APA0	baz=287,slow=14			Sn	**Sn**	**12 12 17.1**	**-2.4**
	baz=275,slow=28						
APA0				Lg	Lg	12 12 34.2	
	baz=280,slow=28						
APA0	**Apatity Array**	**4.81**	**79**	Pn	**Pn**	**12 11 22.6**	**-0.4**
APA0	baz=287,slow=14			Sn	**Sn**	**12 12 17.1**	**-2.4**
	baz=275,slow=28						
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**12 11 45.0**	**+2.8**
FIA0	baz=347,slow=16			Sn	**Sn**	**12 12 53.1**	**-0.6**
	baz=346,slow=28						
FIA0				Lg	Lg	12 13 23.3	
	baz=346,slow=37						
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**12 11 45.0**	**+2.8**
FIA0	baz=347,slow=16			Sg	**Sg**	**12 13 23.3**	**-5.2**
	baz=346,slow=37						
FINES	**FINESS Array B**	**6.20**	**155**	Pn	**Pn**	**12 11 44.6**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=348,slow=12,SNR=12						
FINES				Sn	**Sn**	**12 12 53.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=347,slow=24,SNR=7.5						
FINES				Lg	Lg	12 13 24.8	
	comp=Z,1.1nm,0.3s,baz=354,slow=27,SNR=7.1						
NB2	**NORSAR Subarra**	**7.37**	**218**	Pn	**Pn**	**12 12 00.6**	**+2.4**
NB2				Sn	**Sn**	**12 13 22.5**	**0.0**
NB2				Lg	Lg	12 14 01.3	
NB2	**NORSAR Subarra**	**7.37**	**218**	Pn	**Pn**	**12 12 00.6**	**+2.4**
NB2				Sn	**Sn**	**12 13 22.5**	**0.0**
NB2				Sg	**Sg**	**12 14 01.3**	**-4.7**
NOA	**NORSAR Array B**	**7.37**	**218**	Pn	**Pn**	**12 12 00.5**	**+2.2**
	comp=Z,0.0nm,0.3s,baz=28,slow=11,SNR=5.1						
NOA				Sn	**Sn**	**12 13 24.4**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=35,slow=20,SNR=2.8						
NOA				Lg	Lg	12 13 55.0	
	comp=Z,0.1nm,0.3s,baz=56,slow=20,SNR=5.7						
HFS	**Hagfors**	**7.68**	**207**	Pn	**Pn**	**12 12 02.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=24,slow=14,SNR=8.4						
HFS				Sn	**Sn**	**12 13 28.3**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=25,slow=21,SNR=8.0						
HFS				Lg	Lg	12 14 09.6	
	comp=Z,0.4nm,0.3s,baz=27,slow=26,SNR=3.0						
HFS	**Hagfors**	**7.68**	**207**	Pn	**Pn**	**12 12 03.2**	**+0.8**
	baz=34,slow=14						
HFS				Sn	**Sn**	**12 13 28.7**	**-1.3**
	baz=24,slow=22						
HFS				Lg	Lg	12 14 09.6	
	baz=31,slow=28						
HFS	**Hagfors**	**7.68**	**207**	Pn	**Pn**	**12 12 03.2**	**+0.8**
	baz=34,slow=14						
HFS				Sn	**Sn**	**12 13 28.7**	**-1.3**
	baz=24,slow=22						
HFS				Sg	**Sg**	**12 14 09.6**	**-6.2**
	baz=31,slow=28						
SPA0	**Spitsbergen Ar**	**11.15**	**356**	Pn	**Pn**	**12 12 49.9**	**0.0**
	baz=169,slow=16						
SPITS	**Spitsbergen Ar**	**11.15**	**356**	Pn	**Pn**	**12 12 49.1**	**-0.8**
	baz=162,slow=16,SNR=7.7						
AKTO	**Aktyubinsk**	**25.03**	**113**	P	**P**	**12 15 36.5**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=338,slow=9.9,SNR=4.0						

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*IDC **13** 12:19:11.9±0.7, 25°.25N×128°.04E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.2/36, mbtmp4.2/19, ML3.7/2, MS3.4/4, Ms1 3.4/4, ms1mx2.8/88, Error ellipse: s-maj=21.6km s-min=13.4km az=85.0*
*NEIC **13** 12:19:13.6±1.5, 25°.28N±0°.05×128°.0E±0°.1, h10km±1km, mb4.5/34, Error ellipse: s-maj=17.7km s-min=4.0km az=117.0*
*NIED **13** 12:19:15.6, 25°.35N×128°.05E, h72km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.04; $M_{\theta\theta}$=1.07; $M_{\phi\phi}$=1.11; $M_{r\theta}$=0.59; $M_{\theta\phi}$=-0.05; $M_{\phi r}$=0.66; Fault plane solution: M_0=1.41000×10^{15} NP1: ϕ_s=223.00000°, δ=89.00000°, λ=-39.00000°. NP2: ϕ_s=314.00000°, δ=51.00000°, λ=-179.00000°.*
*JMA **13** 12:19:15.6±0.3, 25°.35N×128°.05E, h72km±4km, M4.2*
ISC 13 12:19:12.7±3.3,**25°.25N**±0°.04×**128°.16E**±0°.04,**h11**km±20km,
n90,σ1§**54**/105,**mb4.4**/35,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.95**	**339**	P	**Pn**	**12 19 32.3**	**+0.2**
JJT3				S	**Sn**	**12 19 45.0**	**-0.7**
JNTH	**Nagotoyohara**	**1.27**	**355**	P	**Pb**	**12 19 36.4**	**-0.3**
JNTH				*e*S	**Sb**	**12 19 50.5**	**-2.6**
JAGN	**Aguni-jima**	**1.57**	**329**	P	**Pn**	**12 19 40.9**	**+0.4**
JAGN				*e*S	**Sn**	**12 19 59.3**	**-1.6**
JOW	**Kunigami**	**1.58**	**4**	Pn	**Pn**	**12 19 41.0**	**+0.3**
	299nm,0.3s,baz=157,slow=19,SNR=1213						
JOW				Sn	**Sn**	**12 19 59.2**	**-2.1**
	433nm,0.3s,baz=246,slow=30,SNR=23						
JOW				LR	LR	12 20 04.1	
	comp=Z,158nm,19.9s,baz=218,slow=33						
JOW	**Kunigami**	**1.58**	**4**	P	**Pn**	**12 19 40.9**	**+0.2**
JOW				S	**Sn**	**12 19 59.1**	**-2.1**
JKE	**Kume jima 2**	**1.64**	**311**	P	**Pn**	**12 19 41.2**	**-0.3**
JKE				S	**Sn**	**12 20 00.4**	**-2.2**
JIH	**Iheya**	**1.79**	**355**	P	**Pn**	**12 19 44.2**	**+0.6**
JIH				S	**Sn**	**12 20 04.4**	**-1.9**
JYRO	**Yoronjima**	**1.79**	**8**	P	**Pn**	**12 19 43.8**	**+0.2**
JYRO				S	**Sn**	**12 20 03.3**	**-3.0**
JOKE	**Okinoerabujima**	**2.14**	**10**	P	**Pn**	**12 19 48.7**	**+0.3**
JOKE				S	**Sn**	**12 20 12.3**	**-2.7**
JOGS	**Gusukube**	**2.54**	**260**	P	**Pn**	**12 19 53.9**	**0.0**
JOGS				*e*S	**Sn**	**12 20 22.6**	**-2.3**
JMJ2	**Miyako jima3**	**2.62**	**259**	P	**Pn**	**12 19 54.7**	**-0.3**
JMJ2				S	**Sn**	**12 20 24.1**	**-2.6**
JTK	**Tokunoshima**	**2.63**	**16**	P	**Pn**	**12 19 55.5**	**+0.4**
JTK				*e*S	**Sn**	**12 20 23.6**	**-3.4**
JIKM	**Ikemajima**	**2.66**	**264**	P	**Pn**	**12 19 55.5**	**0.0**
JIKM				S	**Sn**	**12 20 25.3**	**-2.4**
JIRB	**Irabujima**	**2.74**	**262**	P	**Pn**	**12 19 56.1**	**-0.5**
JIRB				*e*S	**Sn**	**12 20 26.8**	**-3.0**
JMZ	**Minamidaito 2**	**2.83**	**78**	P	**Pn**	**12 19 56.7**	**-1.2**
JMZ				*e*S	**Sn**	**12 20 27.1**	**-4.8**
JKDJ	**Kitadaitoujima**	**2.92**	**75**	P	**Pn**	**12 19 58.2**	**-1.0**
JKDJ				S	**Sn**	**12 20 29.8**	**-4.5**
JAMN	**Amaminishikomi**	**3.12**	**17**	P	**Pn**	**12 20 03.2**	**+1.3**
JAMN				*e*S	**Sn**	**12 20 36.8**	**-2.4**
JTJ	**Tarama**	**3.19**	**260**	P	**Pn**	**12 20 02.3**	**-0.6**
JTJ				*e*S	**Sn**	**12 20 37.3**	**-3.7**
YOJ	**Yonaguni jima**	**4.74**	**262**	Pn	**Pn**	**12 20 23.7**	**-0.5**
NACB	**Ninganchiao**	**6.06**	**261**		**Pn**	**12 20 40.2**	**-2.2**
YHNB	**Yeheng**	**6.18**	**266**		**Pn**	**12 20 44.9**	**+0.8**
YULB	**Yu-li**	**6.52**	**255**		**Pn**	**12 20 45.6**	**-3.1**
JSU	**Suzuyama**	**6.55**	**17**	Pn	**Pn**	**12 20 50.3**	**+1.2**
SSLB	**Suanglung**	**6.72**	**259**		**Pn**	**12 20 49.4**	**-2.0**
TWG	**Pinlang**	**6.91**	**251**		**Pn**	**12 20 50.8**	**-3.2**
TPUB	**Ta-pu**	**7.14**	**256**		**Pn**	**12 20 55.8**	**-1.3**
JNU	**Nakatsue**	**8.20**	**16**	Pn	**Pn**	**12 21 13.2**	**+1.5**
JNU	2.0nm,0.3s,baz=274,slow=3.2,SNR=13			Sn	**Sn**	**12 22 43.5**	**-1.0**
	0.3nm,0.3s,baz=182,slow=22,SNR=1.4						
KSRS	**Korea Array**	**12.17**	**359**	LR	LR	12 27 16.4	
	comp=Z,120nm,18.3s,baz=175,slow=40						
ENH	**Enshi**	**17.26**	**291**	P	**Pn**	**12 23 13.6**	**-0.3**
BJT	**Baijiatuau**	**17.83**	**329**	P	**Pn**	**12 23 20.0**	**-0.8**
DAV	**Davao City (W)**	**18.24**	**188**	LR	LR	12 29 21.3	
	comp=Z,56nm,21.0s,baz=336,slow=33						
USRK	**Ussuriysk Ar.**	**19.16**	**8**	P	**P**	**12 23 35.9**	**-0.3**
	baz=181,slow=9.7,SNR=4.7						
ASAJ	**Asahikawa**	**22.20**	**28**	P	**P**	**12 24 10.6**	**+1.6**
	4.5nm,0.6s,baz=195,slow=5.8,SNR=7.1						
KLR	**Kul'dur**	**24.10**	**6**	P	**P**	**12 24 28.5**	**+0.1**
	3.2nm,0.9s,baz=205,slow=6.1,SNR=9.5						
TNTI	**Ternate**	**24.34**	**182**	P	**P**	**12 24 31.8**	**+0.9**
TNTI				IAmb	IAmb	12 24 34.6	
	comp=Z,15nm,1.1s						
CHTO	**Chiang Mai**	**27.79**	**263**	P	**P**	**12 25 02.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**27.91**	**262**	P	**P**	**12 25 03.9**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=56,slow=7.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**27.91**	**262**	P	**P**	**12 25 03.5**	**+0.5**
ULN	**Ulaanbaatar**	**28.05**	**329**	P	**P**	**12 25 03.5**	**-0.8**
ULN				IAmb	IAmb	12 25 15.4	
	comp=Z,3.9nm,0.7s						
SONM	**Songino Array**	**28.34**	**328**	P	**P**	**12 25 06.3**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=144,slow=10.0,SNR=16						
SONM	**Songino Array**	**28.34**	**328**	P	**P**	**12 25 06.1**	**-0.7**
YAK	**Yakutsk**	**36.79**	**1**	P	**P**	**12 26 19.6**	**-0.7**
YAK				IAmb	IAmb	12 26 22.2	
	comp=Z,9.9nm,0.8s						
PMG	**Port Moresby**	**39.11**	**149**	LR	LR	12 41 28.3	
	comp=Z,42nm,21.1s,baz=322,slow=34						
KNRA	**Kununurra**	**40.68**	**179**	P	**P**	**12 26 53.8**	**+0.4**
MK31	**Makanchi Array**	**42.14**	**313**	P	**P**	**12 27 05.0**	**-0.2**
MK31				IAmb	IAmb	12 27 06.8	
	comp=Z,3.2nm,0.6s						
MKAR	**Makanchi Array**	**42.14**	**313**	P	**P**	**12 27 05.1**	**-0.1**
	comp=Z,5.7nm,0.6s,baz=98,slow=10,SNR=54						
MAKZ	**Makanchi**	**42.35**	**313**	P	**P**	**12 27 07.0**	**+0.1**
MAKZ				IAmb	IAmb	12 27 08.7	
	comp=Z,4.0nm,0.8s						
ZAA0	**Zalesovo Array**	**42.99**	**323**	P	**P**	**12 27 11.2**	**-

ARE ***13*** *12:20:38±0.0, 19°.38S×70°.31W, h44km, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*
IDC ***13*** *12:20:39.9±0.4, 19°.10S×69°.93W, h56km±3km, mb4.3/15, mb1 4.5/19, mb1mx4.4/25, mbtmp4.6/19, MS3.8/12, Ms1 3.8/12, ms1mx3.5/56, Error ellipse: s-maj=14.9km s-min=9.4km az=67.0*
NEIC ***13*** *12:20:39.6±1.9, 19°.29S±0°.03×70°.17W±0°.06, h55km±4km, mb4.9/129, Mwr4.7/34, Mww4.8, ML5.4(ARE), Mwr5.0(GUC), Error ellipse: s-maj=7.6km s-min=5.0km az=89.0*
NEIC ***13*** *12:20:39.7, 19°.27S×70°.15W, h59km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.94; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-0.91; $M_{r\theta}$0.22; $M_{r\phi}$0.40; $M_{\theta\phi}$-0.82; Fault plane solution: $M_0$1.32000×10^{16} NP1:ϕ_s163.21000°, δ65.15000°, λ94.08000°. NP2:ϕ_s333.57000°, δ25.16000°, λ81.26000°. Principal axes: T 1.2495, Plg70.0000°, Azm82.0000°; N 0.1260, Plg4.0000°, Azm341.0000°; P -1.3755, Plg20.0000°, Azm250.0000°;*
NEIC ***13*** *12:20:40, 19°.49S×70°.92W, h60km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.87; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-1.35; $M_{r\theta}$0.07; $M_{r\phi}$0.85; $M_{\theta\phi}$0.15; Fault plane solution: $M_0$1.89000×10^{16} NP1: ϕ_s144.00000°, δ44.00000°, λ84.00000°. NP2: ϕ_s332.00000°, δ46.00000°, λ96.00000°. Principal axes: T 1.8844, Plg86.0000°, Azm310.0000°; N 0.0049, Plg4.0000°, Azm148.0000°; P -1.8892, Plg1.0000°, Azm58.0000°;*
GUC ***13*** *12:20:40.4±0.8, 19°.28S×70°.13W, h53km±7km, ML4.8*
VAO ***13*** *12:20:40.4±0.3, 19°.17S×69°.95W, h58km, mb4.7*
ISC 13 12:20:39.2±0.4, 19°.25S±0°.03×70°.11W±0°.05, h56km±3km, n402, σ1§28/387, mb4.8/75, MS3.9/10, 5C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.66**	**341**	⇑	*i*P		**Pn**	**12 20 53.7**	**+0.9**
PB12					*i*S		**Sn**	**12 21 03.9**	**+1.2**
PB12	**IPOC Station P**	**0.66**	**341**				**Pn**	**12 20 53.8**	**+0.9**
PB12	**IPOC Station P**	**0.66**	**341**		*e*P		**Pn**	**12 20 53.0**	**+0.2**
PB12					*e*P		**Pn**	**12 20 53.4**	**+0.6**
PB12					*e*S		**Sn**	**12 21 04.4**	**+1.7**
PB12					IAML			12 21 04.9	
	comp=Z,77μm,0.3s								
PB11	**IPOC Station P**	**0.67**	**140**		*e*P		**Pn**	**12 20 53.4**	**+0.5**
PB11					*i*S		**Sn**	**12 21 03.6**	**+0.7**
PB11					IAML			12 21 05.4	
	comp=E,58μm,0.4s								
PB11	**IPOC Station P**	**0.67**	**140**				**Pn**	**12 20 53.0**	**+0.1**
PB11						Sn	**Sn**	**12 21 03.7**	**+0.7**
PB11	**IPOC Station P**	**0.67**	**140**		*e*P		**Pn**	**12 20 53.0**	**+0.1**
PB11					*e*P		**Pn**	**12 20 53.4**	**+0.5**
PB11					*e*S		**Sn**	**12 21 04.1**	**+1.2**
PB11					IAML			12 21 07.4	
	comp=Z,22μm,0.3s								
AP01	**Chacalluta**	**0.90**	**346**	⇓	*i*P		**Pn**	**12 20 56.8**	**+1.1**
AP01					*i*S		**Sn**	**12 21 09.0**	**+1.1**
AP01	**Chacalluta**	**0.90**	**346**				**Pn**	**12 20 57.1**	**+1.4**
AP01	**Chacalluta**	**0.90**	**346**		*e*P		**Pn**	**12 20 57.0**	**+1.3**
AP01					IAML			12 21 12.1	
	comp=Z,65μm,0.4s								
TA02	**Huaiquique**	**1.02**	**181**		*e*P		**Pn**	**12 20 57.5**	**+0.1**
TA02					*i*S		**Sn**	**12 21 09.8**	**-0.9**
TA02					IAML			12 21 14.0	
	comp=E,31μm,0.2s								
TA02	**Huaiquique**	**1.02**	**181**				**Pn**	**12 20 57.5**	**+0.1**
TA02						Sn	**Sn**	**12 21 10.2**	**-0.5**
TA02	**Huaiquique**	**1.02**	**181**		*e*P		**Pn**	**12 20 57.0**	**-0.3**
TA02					*e*P		**Pn**	**12 20 57.7**	**+0.3**
TA02					*e*S		**Sn**	**12 21 10.8**	**0.0**
TA02					IAML			12 21 14.6	
	comp=Z,16μm,0.4s								
PB16	**IPOC Station P**	**1.07**	**32**				**Pn**	**12 20 59.6**	**+1.1**
PB08	**IPOC Station P**	**1.27**	**135**		*i*P		**Pn**	**12 21 02.0**	**+1.0**
PB08					*i*S		**Sn**	**12 21 18.1**	**+1.0**
PB08	**IPOC Station P**	**1.27**	**135**				**Pn**	**12 21 02.0**	**+1.0**
PB08	**IPOC Station P**	**1.27**	**135**		*e*P		**Pn**	**12 21 02.0**	**+1.0**
PB08					*e*S		**Sn**	**12 21 19.2**	**+2.0**
PB08					IAML			12 21 22.3	
	comp=Z,7μm,0.4s								
TA01	**Diego Aracena**	**1.32**	**183**	⇑	*i*P		**Pn**	**12 21 01.4**	**+0.1**
TA01					*i*S		**Sn**	**12 21 17.3**	**-0.5**
TA01					IAML			12 21 24.7	
	comp=E,27μm,0.8s								
TA01	**Diego Aracena**	**1.32**	**183**				**Pn**	**12 21 01.8**	**+0.5**
TA01						Sn	**Sn**	**12 21 17.4**	**-0.5**
TA01	**Diego Aracena**	**1.32**	**183**		*e*P		**Pn**	**12 21 01.0**	**-0.3**
TA01					*e*S		**Pn**	**12 21 01.5**	**+0.2**
TA01					IAML			12 21 19.9	
	comp=Z,7μm,0.6s								
PB01	**IPOC Station P**	**1.88**	**162**	⇑	*i*P		**Pn**	**12 21 09.6**	**+0.6**
PB01					IAML			12 21 49.8	
	comp=E,7μm,0.5s								
PB01	**IPOC Station P**	**1.88**	**162**				**Pn**	**12 21 09.3**	**+0.2**
PB01	**IPOC Station P**	**1.88**	**162**		*e*P		**Pn**	**12 21 09.0**	**-0.1**
PB01					*e*S		**Sn**	**12 21 34.4**	**+2.7**
PB01					IAML			12 21 46.1	
	comp=Z,4μm,0.7s								
PB07	**IPOC Station P**	**2.48**	**175**	⇑	*e*P		**Pn**	**12 21 18.1**	**+0.8**
PB07					IAML			12 22 07.8	
	comp=E,10μm,0.8s								
PB07	**IPOC Station P**	**2.48**	**175**				**Pn**	**12 21 18.1**	**+0.8**
PB07	**IPOC Station P**	**2.48**	**175**		*e*P		**Pn**	**12 21 17.9**	**+0.7**
PB07					*e*S		**Sn**	**12 21 49.2**	**+2.7**
PB07					IAML			12 22 04.6	
	comp=Z,4μm,0.6s								
PB09	**IPOC Station P**	**2.67**	**162**		*e*P		**Pn**	**12 21 21.6**	**+1.7**
PB09					IAML			12 22 10.8	
	comp=E,9μm,0.8s								
PB09	**IPOC Station P**	**2.67**	**162**				**Pn**	**12 21 21.5**	**+1.7**
PB09	**IPOC Station P**	**2.67**	**162**		*e*P		Pn	12 21 10.8	-9.1
PB09					*e*P		**Pn**	**12 21 22.0**	**+2.2**
PB09					*e*S		**Sn**	**12 21 54.2**	**+3.1**
PB09					*e*S		**Sn**	**12 21 54.7**	**+3.6**
PB09					IAML			12 22 00.5	
	comp=Z,5μm,0.9s								
PB03	**IPOC Station P**	**2.81**	**173**		*e*P		**Pn**	**12 21 22.6**	**+0.8**
PB03					*i*S		**Sn**	**12 21 54.5**	**0.0**
PB03					IAML			12 22 13.3	
	comp=E,3μm,0.5s								
PB03	**IPOC Station P**	**2.81**	**173**		*e*P		**Pn**	**12 21 22.0**	**+0.2**
PB03					*e*S		**Sn**	**12 21 54.7**	**+0.1**
PB03					IAML			12 22 03.2	
	comp=Z,4μm,0.9s								
PB04	**IPOC Station P**	**3.07**	**181**		*e*P		**Pn**	**12 21 25.7**	**+0.3**
PB04					*i*S		**Sn**	**12 22 02.7**	**+1.6**
PB04					IAML			12 22 21.5	
	comp=E,3μm,0.1s								
PB04	**IPOC Station P**	**3.07**	**181**				**Pn**	**12 21 25.4**	**-0.1**
PB04	**IPOC Station P**	**3.07**	**181**		*e*P		**Pn**	**12 21 26.0**	**+0.6**
PB04					*e*S		**Sn**	**12 22 02.7**	**+1.6**
PB04					IAML			12 22 35.3	
	comp=Z,2μm,0.8s								
PB06	**IPOC Station P**	**3.48**	**172**		*e*P		**Pn**	**12 21 31.3**	**+0.3**
PB06					IAML			12 22 33.0	
	comp=N,2μm,0.7s								
PB06	**IPOC Station P**	**3.48**	**172**				**Pn**	**12 21 31.0**	**0.0**
PB06	**IPOC Station P**	**3.48**	**172**		*e*P		**Pn**	**12 21 31.0**	**0.0**
PB06					*e*S		**Sn**	**12 22 14.2**	**+3.1**
PB06					IAML			12 22 32.9	
	comp=Z,2μm,0.8s								
LPAZ	**La Paz**	**3.49**	**33**		P		**Pn**	**12 21 36.0**	**+4.4**
	comp=Z,12nm,0.3s,baz=272,slow=4.5,SNR=321								
LPAZ	**La Paz**	**3.49**	**33**				**Pn**	**12 21 35.6**	**+4.0**
LPAZ	**La Paz**	**3.49**	**33**		*e*P		**Pn**	**12 21 36.0**	**+4.4**
LVC	**Limon Verde**	**3.53**	**162**		P		**Pn**	**12 21 33.9**	**+2.0**
	comp=Z,48nm,0.3s,baz=334,slow=8.1,SNR=118								
LVC					S		**Sn**	**12 22 16.2**	**+3.7**
	comp=Z,72nm,0.3s,baz=190,slow=5.0,SNR=5.0								
LVC	**Limon Verde**	**3.53**	**162**		*e*P		**Pn**	**12 21 33.2**	**+1.4**
LVC	**Limon Verde**	**3.53**	**162**		*e*P		**Pn**	**12 21 33.3**	**+1.4**
LVC	**Limon Verde**	**3.53**	**162**				**Pn**	**12 21 33.7**	**+1.8**
LVC	**Limon Verde**	**3.53**	**162**		*e*P		**Pn**	**12 21 28.7**	**-3.2**
LVC					*e*P		**Pn**	**12 21 33.9**	**+2.0**
LVC					*e*S		Sn	12 22 24.2	+12
LVC					IAML			12 22 42.7	
	comp=Z,861nm,0.7s								
PB05	**IPOC Station P**	**3.59**	**181**	⇑	*i*P		**Pn**	**12 21 32.2**	**-0.3**
PB05					IAML			12 22 43.2	
	comp=N,1μm,0.5s								
PB05	**IPOC Station P**	**3.59**	**181**		*e*P		**Pn**	**12 21 32.4**	**-0.1**
PB05					*e*S		Sn	12 22 28.7	+15
PB05					IAML			12 22 35.2	
	comp=Z,1μm,1.0s								
PB15	**IPOC Station P**	**3.99**	**172**				**Pn**	**12 21 38.1**	**+0.1**
PB15	**IPOC Station P**	**3.99**	**172**		*e*P		**Pn**	**12 21 39.0**	**+1.0**
PB15					*e*S		**Sn**	**12 22 32.2**	**+8.6**
PB15					IAML			12 22 45.7	
	comp=Z,2μm,0.2s								
PB10	**IPOC Station P**	**4.27**	**186**		Pn		**Pn**	**12 21 40.5**	**-1.2**
PB10	**IPOC Station P**	**4.27**	**186**		*e*P		**Pn**	**12 21 40.8**	**-0.9**
PB10					*e*S		**Sn**	**12 22 29.2**	**-1.0**
PB10					IAML			12 23 12.3	
	comp=Z,396nm,0.6s								
YJA	**Yavi**	**5.19**	**125**		*e*P		**Pn**	**12 21 54.2**	**-0.6**
PB14	**IPOC Station P**	**5.36**	**183**		Pn		**Pn**	**12 21 55.7**	**-1.2**
PB14	**IPOC Station P**	**5.36**	**183**		*e*P		**Pn**	**12 21 57.4**	**+0.5**
PB14					*e*S		**Sn**	**12 22 56.0**	**-1.6**
PB14					IAML			12 23 26.3	
	comp=Z,342nm,0.6s								
HJA	**Humahuaca**	**5.89**	**133**		*e*P		**Pn**	**12 22 02.7**	**-1.6**
AC02	**Maricunga**	**7.61**	**173**		Pn		**Pn**	**12 22 27.2**	**-0.7**
AC02	**Maricunga**	**7.61**	**173**		*e*P		**Pn**	**12 22 27.0**	**-0.9**
GO03	**Copiap**	**8.31**	**181**		Pn		**Pn**	**12 22 35.9**	**-1.3**
GO03	**Copiap**	**8.31**	**181**		*e*P		**Pn**	**12 22 36.8**	**-0.3**
SIV	**San Ignacio**	**9.20**	**71**		P		**Pn**	**12 22 48.4**	**-1.0**
	comp=Z,6.5nm,0.3s,baz=254,slow=10,SNR=78								
SIV					S		**Sn**	**12 24 30.8**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=334,slow=22,SNR=3.7								
SIV					LR		LR	12 27 13.0	
	comp=Z,590nm,21.9s,baz=277,slow=44								
NNA	**Nana**	**9.70**	**317**		P		**Pn**	**12 22 56.7**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=163,slow=8.9,SNR=10								
NNA					LR		LR	12 26 45.7	
	comp=Z,223nm,21.6s,baz=172,slow=38								
NNA	**Nana**	**9.70**	**317**		Pn		**Pn**	**12 22 55.5**	**-0.7**
ETMB	**Extrema**	**10.10**	**22**		*e*P		**Pn**	**12 23 01.4**	**-0.2**
ETMB	**Extrema**	**10.10**	**22**		Pn		**Pn**	**12 23 01.6**	**0.0**
PTLB	**Pontes e Lacer**	**11.13**	**72**		*e*P		**Pn**	**12 23 15.0**	**-0.7**
PTLB	**Pontes e Lacer**	**11.13**	**72**		Pn		**Pn**	**12 23 15.7**	**0.0**
VILB	**Vilhena**	**11.39**	**58**		*e*P		**Pn**	**12 23 18.0**	**-1.3**
VILB	**Vilhena**	**11.39**	**58**		Pn		**Pn**	**12 23 19.8**	**+0.5**
CZSB	**Cruzeiro do Su**	**11.72**	**347**		*e*P		**Pn**	**12 23 22.7**	**-1.0**
CZSB	**Cruzeiro do Su**	**11.72**	**347**				**Pn**	**12 23 21.2**	**-2.5**
AQDB	**Aquidauana**	**13.61**	**98**		*e*P		**Pn**	**12 23 49.0**	**-0.5**
AQDB	**Aquidauana**	**13.61**	**98**				**Pn**	**12 23 48.3**	**-1.2**
CPUP	**Villa Florida**	**13.73**	**123**		P		**Pn**	**12 23 50.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=299,slow=12,SNR=22								
CPUP					LR		LR	12 30 01.5	
	comp=Z,268nm,18.5s,baz=302,slow=41								
CPUP	**Villa Florida**	**13.73**	**123**		*e*P		**Pn**	**12 23 50.6**	**-0.5**
CPUP	**Villa Florida**	**13.73**	**123**		Pn		**Pn**	**12 23 50.5**	**-0.5**
PP1B	**Ponte de Pedra**	**14.54**	**86**		*e*P		**Pn**	**12 24 01.8**	**-0.2**
MT01	**Popeta**	**14.60**	**184**				**Pn**	**12 24 02.8**	**+0.3**
PDRB	**Porto dos Gac**	**14.96**	**61**		*e*P		**Pn**	**12 24 06.1**	**-1.2**
TBTG	**Tabatinga, AM**	**14.97**	**1**		*e*P		**Pn**	**12 24 09.1**	**+1.6**
BO01	**Tunca**	**15.11**	**183**		P		**Pn**	**12 24 09.2**	**-0.1**
BO02	**Sierra Bellavi**	**15.50**	**182**		P		**Pn**	**12 24 11.9**	**-2.4**
ITQB	**Itaqui**	**16.06**	**133**		*e*P		**Pn**	**12 24 20.7**	**-0.7**
ITQB	**Itaqui**	**16.06**	**133**		Pn		**Pn**	**12 24 20.2**	**-1.2**
CLDB	**Colider**	**16.12**	**61**		*e*P		**Pn**	**12 24 20.6**	**-1.7**
H03N1	**Juan Fernandez**	**16.18**	**207**		T		T	12 40 44.3	
	baz=32,SNR=1585								
H03N2	**Juan Fernandez**	**16.19**	**207**		T		T	12 40 40.8	
	baz=32,slow=74,SNR=918								
H03N3	**Juan Fernandez**	**16.20**	**207**		T		T	12 40 40.8	
	baz=32,slow=74,SNR=1170								
PTGB	**Pitanga**	**17.59**	**111**		*e*P		**P**	**12 24 41.7**	**+0.7**
ARAG	**Araguaiana, MT**	**17.80**	**81**		*e*P		**Pn**	**12 24 42.5**	**-0.7**
PCMB	**Pacaembu**	**17.82**	**101**		*e*P		**P**	**12 24 43.5**	**+0.1**
ITAB	**Concordia**	**18.32**	**119**		*e*P		**P**	**12 24 48.5**	**-0.4**
ITAB	**Concordia**	**18.32**	**119**		P		**P**	**12 24 48.3**	**-0.6**
ITAB					IAmb		IAmb	12 24 52.9	
	comp=Z,44nm,0.7s								
MACA	**Manacapuru-AM**	**18.45**	**31**		*e*P		**P**	**12 24 49.2**	**-1.1**
MACA	**Manacapuru-AM**	**18.45**	**31**		P		**P**	**12 24 48.3**	**-2.1**
MACA					IAmb		IAmb	12 24 51.6	
	comp=Z,58nm,0.7s								
ITRB	**Iturama**	**18.63**	**95**		*e*P		**Pn**	**12 24 52.9**	**-0.3**
CPSB	**Cacapava Do Su**	**18.75**	**130**		*e*P		**Pn**	**12 24 54.5**	**+0.1**
NPGB	**Novo Progresso**	**18.77**	**52**		*e*P		**P**	**12 24 52.7**	**-1.3**
PLTB	**Pedras Altas**	**19.39**	**133**		*e*P		**P**	**12 25 00.6**	**0.0**
PLTB	**Pedras Altas**	**19.39**	**133**		P		**P**	**12 25 00.7**	**0.0**
SNDB	**Serra Nova Dou**	**19.50**	**71**		*e*P		**P**	**12 25 00.7**	**-1.2**
FRTB	**Fartura**	**19.57**	**106**		*e*P		**P**	**12 25 03.2**	**+0.5**
LC01	**Cunco**	**19.64**	**184**		P		**P**	**12 25 02.9**	**-0.4**
BB19B	**Bebedouro**	**20.34**	**99**		*e*P		**P**	**12 25 10.0**	**-1.1**
ITTB	**Itaituba**	**20.38**	**45**		*e*P		**P**	**12 25 10.1**	**-1.4**
TIJ01	**Guaruva-PR**	**20.43**	**111**		*e*P		**P**	**12 25 12.1**	**0.0**
IPMB	**Ipameri, GO**	**20.79**	**90**		*e*P		**P**	**12 25 14.5**	**-1.5**
OTAV	**Otavalo**	**21.02**	**336**		*e*P		**P**	**12 25 21.5**	**+2.6**
TER01	**Tubaro-SC**	**21.27**	**120**		*e*P		**P**	**12 25 20.6**	**-0.4**
RCLB	**Rio Claro- Sao**	**21.33**	**102**		*e*P		**P**	**12 25 21.8**	**0.0**
BDFB	**Brasilia**	**21.38**	**84**		P		**P**	**12 25 22.0**	**-0.3**
	comp=Z,9.9nm,0.6s,baz=264,slow=12,SNR=13								
BDFB					LR		LR	12 35 33.7	
	comp=Z,114nm,21.3s,baz=299,slow=42								
BDFB	**Brasilia**	**21.38**	**84**		P		**P**	**12 25 22.1**	**-0.3**
PLCA	**Paso Flores**	**21.42**	**181**		P		**P**	**12 25 24.3**	**+1.7**
	comp=Z,8.4nm,1.0s,baz=1.0,slow=12,SNR=14								
PLCA					PcP		**PcP**	**12 29 25.6**	**+1.3**
	comp=Z,3.3nm,1.0s,baz=242,slow=5.8,SNR=3.1								
PLCA					pPcP			12 29 41.6	
	comp=Z,3.7nm,0.9s,baz=38,slow=0.9,SNR=5.0								
PLCA	**Paso Flores**	**21.42**	**181**		*e*P		**P**	**12 25 24.4**	**+1.9**
PLCA	**Paso Flores**	**21.42**	**181**		P		**P**	**12 25 22.4**	**-0.2**
LL04	**Puerto Octay**	**21.68**	**185**		P		**P**	**12 25 23.9**	**-1.3**
PET01	**Itanhaem-SP**	**21.78**	**107**		*e*P		**P**	**12 25 27.1**	**+0.6**
VAO	**Valinhos**	**21.90**	**104**		*e*P		**P**	**12 25 26.9**	**-1.0**
PEXB	**Peixe**	**22.15**	**75**		*e*P		**P**	**12 25 30.7**	**+0.1**
PARB	**Paraibuna**	**23.16**	**104**		*e*P		**P**	**12 25 39.6**	**-1.6**
BOAV	**Boa Vista**	**23.48**	**25**		*e*P		**P**	**12 25 43.3**	**-0.8**
BOAV	**Boa Vista**	**23.48**	**25**		IAmb		IAmb	12 26 05.3	
	comp=Z,28nm,1.0s								
BSCB	**Bom Sucesso**	**23.84**	**99**		*e*P		**P**	**12 25 46.8**	**-0.8**
SMTB	**Santa Maria do**	**24.13**	**68**		*e*P		**P**	**12 25 50.5**	**+0.4**
JANB	**Januaria**	**24.99**	**84**		*e*P		**P**	**12 25 56.6**	**-1.4**
DIAM	**Diamantina, MG**	**25.04**	**92**		*e*P		**P**	**12 25 57.8**	**-0.7**
SDBA	**SAO DESIDERIO**	**25.16**	**78**		*e*P		**P**	**12 25 59.2**	**-0.4**
MCPB	**Macapa, AP**	**25.80**	**45**		*e*P		**P**	**12 26 04.0**	**-1.2**
ZARC	**Zaragoza, Cauc**	**26.98**	**350**		P		**P**	**12 26 14.2**	**-1.7**
SJMB	**Sao Joao De Ma**	**27.34**	**94**		*e*P		**P**	**12 26 18.1**	**-1.1**
SDV	**Santo Domingo**	**27.96**	**359**		P		**P**	**12 26 23.1**	**-1.7**
	comp=Z,8.3nm,0.7s,baz=323,slow=1.3,SNR=6.6								
SDV					LR		LR	12 38 49.8	
	comp=Z,297nm,18.3s,baz=170,slow=39								
SDV	**Santo Domingo**	**27.96**	**359**		*e*P		**P**	**12 26 24.2**	**-0.6**
SDV	**Santo Domingo**	**27.96**	**359**		P		**P**	**12 26 23.1**	**-1.7**
RIB01	**Linhares ES**	**28.03**	**95**		*e*P		**P**	**12 26 24.0**	**-1.3**
BAUV	**El Baul**	**28.08**	**4**		P		**P**	**12 26 24.6**	**-1.2**
GUA01	**Guaratinga, BA**	**28.94**	**90**		*e*P		**P**	**12 26 32.6**	**-0.8**
SJCC	**San Jacinto, C**	**29.39**	**350**		P		**P**	**12 26 35.1**	**-2.3**
NBIT	**Itapeh - BA**	**29.61**	**86**		*e*P		**P**	**12 26 39.2**	**-0.2**
MDP	**Montagnes des**	**29.68**	**37**		P		**P**	**12 26 38.1**	**-1.9**
	comp=Z,7.6nm,0.6s,baz=216,slow=6.0,SNR=4.5								
MDP					LR		LR	12 39 14.5	
	comp=Z,294nm,21.0s,baz=286,slow=38								
GDU01	**Guandu, BA**	**29.76**	**84**		*e*P		**P**	**12 26 40.9**	**+0.1**
BIRV	**Birongo**	**29.77**	**8**		P		**P**	**12 26 40.2**	**-0.6**
BIRV					IAmb		IAmb	12 26 41.2	
	comp=Z,32nm,0.8s								
NBPN	**Ponto Novo - B**	**30.03**	**78**		*e*P		**P**	**12 26 43.2**	**+0.1**
ROSB	**Rosrio**	**30.15**	**61**		*e*P		**P**	**12 26 43.4**	**-0.8**
NBPS	**Pedro II - PI**	**31.62**	**66**		*e*P		**P**	**12 26 56.2**	**-1.0**
NBLA	**Lagarto - SE**	**32.21**	**80**		*e*P		**P**	**12 27 00.8**	**-1.6**
NBMA	**Muriti-CE**	**32.64**	**73**		*e*P		**P**	**12 27 05.3**	**-0.8**
NBPB	**Pedra_Branca-C**	**32.69**	**69**		*e*P		**P**	**12 27 05.9**	**-0.7**
JTS	**Las Juntas de**	**32.80**	**332**		LR		LR	12 38 58.1	
	comp=Z,101nm,18.1s,slow=34								
NBMO	**Morrinhos-CE**	**33.37**	**65**		*e*P		**P**	**12 27 11.4**	**-1.0**
NBAN	**Anadia - AL**	**34.06**	**79**		*e*P		**P**	**12 27 17.4**	**-1.0**
NBCL	**Cascavel-CE**	**34.45**	**68**		*e*P		**P**	**12 27 21.6**	**-0.1**
FDF	**Fort de France**	**34.90**	**15**		P		**P**	**12 27 25.2**	**-0.4**
NBRF	**Rio Formoso -**	**35.46**	**78**		*e*P		**P**	**12 27 30.8**	**+0.2**
RCBR	**Riachuelo**	**35.86**	**73**		*e*P		**P**	**12 27 34.1**	**+0.1**
NBPV	**Pedro Velho**	**36.17**	**74**		*e*P		**P**	**12 27 37.0**	**+0.4**
RPN	**Rapa Nui**	**36.79**	**250**		LR		LR	12 39 16.2	
	comp=Z,165nm,18.5s,baz=114,slow=30								
SJG	**San Juan**	**37.33**	**6**		P		**P**	**12 27 44.3**	**-2.0**
SJG					IAmb		IAmb	12 27 45.1	
	comp=Z,30nm,1.0s								
CBYP	**Canovanas**	**37.52**	**7**		P		**P**	**12 27 45.8**	**-2.2**
SMAI	**San Martin Ant**	**48.91**	**179**		P		**P**	**12 29 19.1**	**0.0**
NHSC	**New Hope**	**52.94**	**349**		P		**P**	**12 29 49.9**	**0.0**
	baz=168								
SWET	**Sewanee**	**56.21**	**344**		IAmb		IAmb	12 30 31.5	
	comp=Z,12nm,1.0s								
V48A	**Smith Brothers**	**56.93**	**344**		IAmb		IAmb	12 30 19.1	
	comp=Z,12nm,1.1s								
BLA	**Blacksburg**	**56.99**	**350**		P		**P**	**12 30 19.1**	**0.0**
	baz=168								
CLTN	**Cedars of Leba**	**57.14**	**344**		IAmb		IAmb	12 30 39.1	
	comp=Z,11nm,1.0s								
WHTX	**Lake Whitney,**	**57.29**	**332**		P		**P**	**12 30 20.9**	**-0.4**
	baz=149								
WVT	**Waverly**	**57.57**	**343**		P		**P**	**12 30 22.3**	**-0.9**
WVT					IAmb		IAmb	12 30 22.6	
	comp=Z,10nm,0.8s								
WVT	**Waverly**	**57.57**	**343**		P		**P**	**12 30 22.5**	**-0.7**
	baz=160								
MIAR	**Mount Ida**	**57.97**	**337**		IAmb		IAmb	12 30 41.5	
	comp=Z,13nm,0.8s								
MIAR	**Mount Ida**	**57.97**	**337**		P		**P**	**12 30 25.8**	**-0.2**
	baz=154,SNR=8.0								
W41B	**Gary Mavity, V**	**58.06**	**339**		P		**P**	**12 30 26.0**	**-0.6**
	baz=155								
TXAR	**Lajitas Array**	**58.15**	**325**		P		**P**	**12 30 28.1**	**+0.6**
	comp=Z,1.7nm,1.0s,baz=148,slow=9.9,SNR=11								
TXAR					PcP		**PcP**	**12 31 19.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=193,slow=3.7,SNR=2.0								
TXAR					pPcP			12 31 35.6	
	comp=Z,1.0nm,0.8s,baz=151,slow=7.0,SNR=3.8								
TX32	**Lajitas Array**	**58.15**	**325**		IAmb		IAmb	12 30 49.2	
	comp=Z,21nm,2.0s								
W39A	**Magazine**	**58.62**	**337**		P		**P**	**12 30 30.5**	**-0.1**
	baz=154,SNR=6.4								
X37A	**Clayton**	**58.68**	**336**		P		**P**	**12 30 30.5**	**-0.5**
LOOK	**Love County**	**58.89**	**334**		P		**P**	**12 30 31.9**	**-0.6**
LOOK					IAmb		IAmb	12 30 48.7	
	comp=Z,16nm,0.8s								
PBMO	**Poplar Bluff**	**58.93**	**341**		P		**P**	**12 30 31.9**	**-0.8**
PBMO					IAmb		IAmb	12 30 47.5	
	comp=Z,10nm,0.8s								
WCI	**Wyandotte Cave**	**59.16**	**345**		P		**P**	**12 30 33.7**	**-0.5**
	ba

ISCO	Idaho Springs	67.44	331	P	P	12 31 29.7 +0.3
	baz=144,SNR=5.6					
PV15	Paradox Valley	67.66	328	IAmb	IAmb	12 31 50.0
	comp=Z,11nm,0.9s					
PDMCI	Parker Dam,Lak	67.76	322	P	P	12 31 32.6 +1.4
	baz=135					
IKP	In-Ko-Pah, Jac	67.81	319	P	P	12 31 33.3 +1.7
	baz=133					
SWSC	Sam W. Stewart	67.82	319	P	P	12 31 33.5 +2.0
	baz=133					
BC3	Big Chuckawall	68.09	320	P	P	12 31 34.7 +1.3
	baz=134,SNR=5.4					
MONP2	Monument Peak	68.16	319	P	P	12 31 35.2 +1.2
	baz=133					
U15A	North Rim	68.23	324	IAmb	IAmb	12 31 37.5
	comp=Z,10nm,1.0s					
IRM	Iron Mountain	68.25	321	P	P	12 31 35.7 +1.4
	baz=134,SNR=8.3					
TAOE	Nuku Hiva Isla	68.36	268	eT	T	13 45 28.6
	comp=Z,43nm,0.2s					
N23A	Red Feather La	68.47	332	P	P	12 31 36.4 +0.6
	baz=144					
BELC	Belle Mtn. Jos	68.66	320	P	P	12 31 38.4 +1.4
	baz=134					
TPFO	Pinon Flats	68.67	320	P	P	12 31 38.5 +1.5
	baz=133					
PFO	Pinyon Flats O	68.67	320	P	P	12 31 38.6 +1.6
	baz=133					
O20A	White River Ci	68.94	330	P	P	12 31 39.6 +0.9
	baz=142					
GMRC	Granite Mounta	68.99	321	P	P	12 31 40.5 +1.5
	baz=134,SNR=8.7					
F33A	5 Mile Ranch,	69.00	341	P	P	12 31 38.1 -0.6
F33A				IAmb	IAmb	12 31 54.5
	comp=Z,6.7nm,0.7s					
MURC	Murrieta	69.12	319	P	P	12 31 41.3 +1.6
	baz=132					
DBIC	Dimbokro	69.20	75	P	P	12 31 39.5 -1.1
	comp=Z,6.8nm,0.8s,baz=215,slow=6.1,SNR=7.9					
DBIC				LR	LR	13 00 09.3
	comp=Z,79nm,20.3s,baz=166,slow=34					
DBIC	Dimbokro	69.20	75	P	P	12 31 39.7 -0.9
DBIC				IAmb	IAmb	12 31 40.2
	comp=Z,10.0nm,0.9s					
SRU	San Rafael Swe	69.28	327	P	P	12 31 41.4 +0.7
SRU				IAmb	IAmb	12 31 42.9
	comp=Z,8.0nm,0.9s					
HEC	Hector,Ludlow	69.43	321	P	P	12 31 43.4 +1.7
	baz=133,SNR=6.6					
TUQ	Turquoise Moun	69.60	321	P	P	12 31 44.3 +1.5
	baz=134					
P17A	Butcher Ranch,	69.66	327	P	P	12 31 43.9 +0.8
P17A				IAmb	IAmb	12 31 45.4
	comp=Z,11nm,0.9s					
BFSC	Mount Baldy Ra	69.83	319	P	P	12 31 45.9 +1.6
	baz=132					
GSC	Goldstone, Bar	70.03	321	P	P	12 31 46.9 +1.5
	baz=133					
SHOC	Shoshone, Teco	70.12	321	P	P	12 31 47.7 +1.9
	baz=134					
K22A	Casper	70.14	332	P	P	12 31 46.8 +0.9
	baz=144					
RSSD	Black Hills	70.29	335	P	P	12 31 47.4 +0.5
RSSD	Black Hills	70.29	335	P	P	12 31 47.9 +1.0
	baz=146					
EDW2	Edwards Air Fo	70.47	320	P	P	12 31 49.5 +1.5
	baz=132,SNR=6.0					
LRMC	Laurel Mtn Rad	70.68	320	P	P	12 31 50.9 +1.6
	baz=133					
TPNV	Topopah Spring	70.83	322	P	P	12 31 51.7 +1.4
	baz=134,SNR=8.4					
FURC	Furnace Creek,	70.86	322	P	P	12 31 52.0 +1.8
	baz=133,SNR=9.4					
QSPA	South Pole Qui	70.93	180	P	P	12 31 51.2 +0.7
QSPA				IAmb	IAmb	12 31 53.0
	comp=Z,16nm,1.1s					
MPMC	Manual Prospec	70.95	321	P	P	12 31 52.6 +1.5
	baz=133,SNR=5.4					
AGMN	Agassiz Nation	71.08	342	P	P	12 31 51.0 -0.3
AGMN	Agassiz Nation	71.08	342	P	P	12 31 51.2 -0.1
	baz=154					
DUG	Dugway, Tooele	71.27	327	IAmb	IAmb	12 31 55.6
	comp=Z,11nm,1.0s					
DUG	Dugway, Tooele	71.27	327	P	P	12 31 54.0 +1.1
	baz=138,SNR=11					
ISA	Isabella, Lake	71.28	320	P	P	12 31 54.9 +2.0
	baz=132,SNR=9.4					
R11A	Troy Canyon, C	71.43	324	P	P	12 31 55.5 +1.6
	baz=135,SNR=7.7					
CWC	Cottonwood Cre	71.56	321	P	P	12 31 56.5 +1.8
	baz=132					
PKM	Mcpherson Peak	71.59	319	P	P	12 31 56.5 +1.5
	baz=131					
BW06	Boulder Array	71.61	330	P	P	12 31 56.6 +1.7
	baz=141					
PDAR	Pinedale Array	71.61	330	P	P	12 31 55.0 0.0
	comp=Z,0.8nm,0.5s,baz=127,slow=7.0,SNR=12					
PDAR				pP	pP	12 32 10.6 -0.1
	comp=Z,1.6nm,0.7s,baz=127,slow=7.6,SNR=8.1					
VES	Vestal, Richgr	71.77	320	P	P	12 31 57.0 +1.3
	baz=132					
MDND	Maddock	71.83	340	P	P	12 31 56.3 +0.4
	baz=151					
SMMC	Simmler	71.98	319	P	P	12 31 59.3 +2.2
	baz=131					
TIN	Tinemaha, Big	72.06	321	P	P	12 31 59.6 +2.0
	baz=132					
TPH	Tonopah	72.17	323	IAmb	IAmb	12 32 01.2
	comp=Z,26nm,0.9s					
AHID	Auburn Hatcher	72.33	330	IAmb	IAmb	12 32 00.9
	comp=Z,11nm,1.1s					
ULM	Lac du Bonnet	72.84	343	P	P	12 32 01.6 -0.3
	comp=Z,4.8nm,0.6s,baz=139,slow=4.6,SNR=8.8					
ULM				pP	pP	12 32 16.6 -1.1
	comp=Z,4.5nm,0.5s,baz=168,slow=3.4,SNR=6.0					
ULM	Lac du Bonnet	72.84	343	IAmb	IAmb	12 32 18.0
	comp=Z,20nm,1.4s					
NVAR	Mina Array Bea	73.03	322	P	P	12 32 04.5 +1.0
	comp=Z,4.9nm,0.8s,baz=152,slow=6.1,SNR=22					
NVAR				pP	pP	12 32 21.2 +1.9
	comp=Z,4.5nm,0.8s,baz=149,slow=6.9,SNR=10.0					
FLWY	Flagg Ranch	73.15	331	IAmb	IAmb	12 32 06.6
	comp=Z,12nm,0.9s					
TBI	Tubuai	73.17	251	eLR	LR	12 54 37.0
	comp=Z,171nm,31.2s					
LAO	LASA Array	73.28	335	P	P	12 32 05.2 +0.6
	baz=145					
RLMT	Red Lodge	73.31	332	IAmb	IAmb	12 32 07.1
	comp=Z,17nm,1.4s					
RLMT	Red Lodge	73.31	332	P	P	12 32 06.0 +1.0
	baz=142					
KVN	Kaiserville	73.34	323	IAmb	IAmb	12 32 08.2
	comp=Z,11nm,1.0s					
LKWY	Lake	73.38	331	IAmb	IAmb	12 32 23.8
	comp=Z,8.9nm,0.9s					
SCHQ	Schefferville	73.83	2	P	P	12 32 07.6 +0.1
	comp=Z,9.9nm,0.7s,baz=199,slow=4.0,SNR=10					
YERR	Yerington	73.95	322	IAmb	IAmb	12 32 11.9
	comp=Z,18nm,1.3s					
DGMT	Dagmar	73.97	337	IAmb	IAmb	12 32 25.6
	comp=Z,12nm,0.8s					
DGMT	Dagmar	73.97	337	P	P	12 32 09.5 +0.9
	baz=147					
PAHR	Pah Rah Range	74.51	323	IAmb	IAmb	12 32 15.1
	comp=Z,18nm,0.8s					
TIAR	Tiarei	74.54	257	eT	T	13 53 14.4
	comp=Z,1.8nm,0.2s					
HLID	Hailey	74.55	328	IAmb	IAmb	12 32 15.6
	comp=Z,9.9nm,1.0s					
HLID	Hailey	74.55	328	P	P	12 32 13.8 +1.5
	baz=137					
MFID	Camas Ranch	75.15	327	IAmb	IAmb	12 32 18.5
	comp=Z,13nm,1.0s					
ORV	Oroville	75.64	321	IAmb	IAmb	12 32 37.2
	comp=Z,17nm,0.9s					
EGMT	Eagleton	75.79	334	IAmb	IAmb	12 32 20.6
	comp=Z,9.3nm,0.8s					
EGMT	Eagleton	75.79	334	P	P	12 32 20.1 +0.9
	baz=142					
PLID	Pearl Lake	76.43	328	IAmb	IAmb	12 32 25.7
	comp=Z,12nm,0.9s					
MOD	Modoc Plateau	76.50	324	IAmb	IAmb	12 32 26.0
	comp=Z,40nm,1.8s					
MSO	Missoula	76.72	331	P	P	12 32 25.9 +1.4
	baz=138					
BMO	Blue Mountains	76.92	328	IAmb	IAmb	12 32 27.9
	comp=Z,8.0nm,0.8s					
N02D	Trinity Center	77.26	322	P	P	12 32 28.9 +1.2
	baz=130					
M04C	Macdoel	77.28	323	P	P	12 32 29.0 +1.2
	baz=131					
I07A	Izee	77.53	326	IAmb	IAmb	12 32 47.2
	comp=Z,10nm,1.0s					
M02C	Callahan	77.61	322	P	P	12 32 30.8 +1.2
	baz=130					
F10A	Beach Ranch, E	77.67	328	IAmb	IAmb	12 32 57.6
	comp=Z,8.7nm,0.9s					
TORD	Torodi Ar. Bea	77.68	71	P	P	12 32 28.9 -1.6
	comp=Z,9.7nm,0.9s,baz=258,slow=5.6,SNR=47					
YBH	Yreka Blue Hor	77.75	323	P	P	12 32 30.6 +0.2
K04D	Chiloquin, OR	77.78	324	P	P	12 32 32.0 +1.5
	baz=131					
J05D	Fort Rock, OR	77.93	324	P	P	12 32 33.1 +1.7
	baz=131					
WALA	Waterton Lakes	78.36	332	P	P	12 32 34.6 +0.9
WALA				IAmb	IAmb	12 32 42.9
	comp=Z,43nm,1.9s					
I05D	Terrebonne, OR	78.68	325	P	P	12 32 37.2 +1.8
	baz=132					
VNDA	Vanda	78.86	190	P	P	12 32 37.8 +1.9
	comp=Z,2.3nm,0.9s,baz=91,slow=5.2,SNR=2.3					
VNDA	Vanda	78.86	190	P	P	12 32 36.2 +0.3
VNDA				IAmb	IAmb	12 33 29.2
	comp=Z,22nm,1.7s					
K02D	Willamette Mer	78.91	323	P	P	12 32 38.9 +2.2
	baz=129					
HAWA	Hanford	79.11	328	IAmb	IAmb	12 32 40.3
	comp=Z,12nm,0.8s					
C09A	Chrisman Ranch	79.46	329	IAmb	IAmb	12 32 42.0
	comp=Z,14nm,0.7s					
H04D	Lebanon	79.56	325	P	P	12 32 41.5 +1.4
	baz=130					
F05D	White Salmon	79.77	326	P	P	12 32 43.0 +1.8
	baz=132					
MORF	Marmelete	80.66	45	eP	P	12 32 47.4 +1.1
MORF				IAmb	IAmb	12 32 48.9
	comp=Z,14nm,0.7s					
MORF	Marmelete	80.66	45	eP	P	12 32 47.6 +1.3
PTEO	Sao Teotonio	80.74	45	eP	P	12 32 48.6 +1.9
PNCL	Nicolau / Gran	81.18	45	eP	P	12 32 49.7 +0.7
MESJ	Messejana	81.24	45	eP	P	12 32 50.1 +0.8
MESJ				IAmb	IAmb	12 32 50.3
	comp=Z,8.3nm,0.8s					
MESJ	Messejana	81.24	45	eP	P	12 32 50.1 +0.8
MESJ				iAmb		12 32 50.3
PCVE	Castro Verde	81.25	45	eP	P	12 32 50.2 +0.8
D04E	Lakebay	81.30	327	P	P	12 32 50.7 +1.3
	baz=131					
B06A	Marblemount	81.53	328	IAmb	IAmb	12 32 52.1
	comp=Z,14nm,0.8s					
PBEJ	Beja	81.57	45	eP	P	12 32 52.4 +1.3
B05A	Bryant	81.66	328	P	P	12 32 52.3 +1.0
	baz=131					
TSUM	Tsumeb	81.77	107	P	P	12 32 52.9 +0.1
TSUM				IAmb	IAmb	12 32 54.1
	comp=Z,9.4nm,0.9s					
PMTG	Montargil	81.89	44	eP	P	12 32 53.7 +1.0
PCAB	Cabril	83.45	42	eP	P	12 33 01.5 +0.7
ESDC	Sonseca Array	85.03	45	P	P	12 33 08.7 -0.3
	comp=Z,2.1nm,0.9s,baz=252,slow=6.0,SNR=8.0					
ESDC				LR	LR	13 07 42.7
	comp=Z,42nm,19.0s,baz=250,slow=33					
ESDC	Sonseca Array	85.03	45	P	P	12 33 09.0 +0.1
ESDC				IAmb	IAmb	12 33 09.7
	comp=Z,8.8nm,1.5s					
BOSA	Boshof	85.50	119	P	P	12 33 11.8 +0.1
	comp=Z,3.2nm,0.8s,baz=227,slow=7.5,SNR=4.6					
BOSA	Boshof	85.50	119	P	P	12 33 11.6 -0.1
BOSA				IAmb	IAmb	12 33 12.4
	comp=Z,11nm,1.1s					
YKA	Yellowknife Ar	88.70	341	P	P	12 33 26.2 +0.2
	comp=Z,14nm,0.7s,baz=136,slow=4.8,SNR=252					
YKA				pP	pP	12 33 42.1 -0.2
	comp=Z,12nm,0.9s,baz=135,slow=4.7,SNR=10					
P33M	Teslin, Yukon	93.88	334	P	P	12 33 52.1 +1.8
	baz=123					
SUMG	Summit	94.02	9		P	12 33 51.6 +0.4
SKAG	Skagway	94.56	332	P	P	12 33 54.9 +1.5
	baz=121					
URZ	Urewera	94.93	227	LR	LR	13 06 06.4
	comp=Z,92nm,21.2s,baz=210,slow=29					
VAE	Valguarnera	97.28	53	LR	LR	13 18 03.9
	comp=Z,50nm,18.2s,baz=340,slow=36					
ILAR	Eielson Array	101.74	335	PP	PKiKP	12 38 43.0 -5.5
	comp=Z,0.3nm,0.9s,baz=135,slow=7.5,SNR=4.2					
H11S2	WAKE ISLAND Hyl	26.45	279	T	T	14 58 42.8
	baz=100,slow=74,SNR=4292					
H11S1	WAKE ISLAND Hyl	26.46	279	T	T	14 58 43.5
	baz=100,slow=74,SNR=1665					
H11S3	WAKE ISLAND Hyl	26.47	279	T	T	14 58 44.1
	baz=100,slow=74,SNR=1988					
H11N3	WAKE ISLAND Hyl	26.47	281	T	T	14 58 42.4
	baz=100,slow=74,SNR=349					
H11N2	WAKE ISLAND Hyl	26.49	281	T	T	14 58 43.2
	baz=100,slow=74,SNR=345					
H11N1	WAKE ISLAND Hyl	26.49	281	T	T	14 58 41.7
	baz=100,slow=74,SNR=197					
ASAR	Alice Springs	131.34	210	PKP	PKPdf	12 39 46.0 -0.1
	comp=Z,2.5nm,0.9s,baz=141,slow=2.2,SNR=15					
ASAR				pPKP	pPKPdf	12 40 02.2 -0.7
	comp=Z,3.8nm,0.9s,baz=148,slow=2.1,SNR=13					
WRA	Warramunga Arr	134.27	213	PKP	PKPdf	12 39 51.7 +0.1
	comp=Z,2.3nm,0.7s,baz=155,slow=1.8,SNR=22					
WRA				pPKP	pPKPdf	12 40 07.9 -0.6
	comp=Z,3.5nm,0.8s,baz=162,slow=1.8,SNR=10					
ZALV	Zalesovo Beam	140.36	23	PKnKP	PKPpre	12 39 57.4
	comp=Z,4.6nm,0.7s,baz=329,slow=3.3,SNR=8.9					
ZALV				PKP	PKPdf	12 40 02.1 +0.4
	comp=Z,4.7nm,0.7s,baz=325,slow=1.2,SNR=14					
MKAR	Makanchi Array	144.42	33	PKP	PKPbc	12 40 08.0 +0.2
	comp=Z,3.9nm,1.0s,baz=327,slow=3.7,SNR=28					
KSH	Kashi	144.50	48	PKP	PKPdf	12 40 09.0 -0.8
KLRI	Killari	148.46	87	ePKiKP	PKiKP	12 40 21.5 -0.6
KLRI				ePKPab	PKPab	12 40 23.6 -0.4
URV	Uravakonda	148.54	93	ePKiKP	PKPbc	12 40 21.3 +0.5
USRK	Ussuriysk Ar.	149.01	328	PKPbc	PKiKP	12 40 22.2 -0.1
	comp=Z,11nm,0.9s,baz=256,slow=0.8,SNR=6.7					
USRK				pPKPbc	pPKPbc	12 40 38.0 +0.1
	comp=Z,7.1nm,0.8s,baz=14,slow=2.5,SNR=5.1					
WMQ	Urumqi	149.23	32	ePKPbc	PKPdf	12 40 17.8 +0.3
MJAR	Matsushiro Arr	149.78	311	PKPbc	PKiKP	12 40 24.0 -0.3
	comp=Z,10nm,0.8s,baz=68,slow=0.8,SNR=18					
MJAR				pPKPbc	pPKPbc	12 40 40.0 +0.1
	comp=Z,2.2nm,0.6s,baz=89,slow=1.3,SNR=3.4					
MAT	Matsushiro	149.78	311	PKP	PKPbc	12 40 21.5 -1.8
SRSP	Sriramsagar	150.20	85	ePKiKP	PKiKP	12 40 25.3 -0.3
HYBB	Hyderabad (bro	150.21	88	ePKiKP	PKiKP	12 40 25.6 -0.1
RCLA	Racherla	150.25	92	ePKiKP	PKiKP	12 40 25.5 -0.3
SRLM	Srisailam	150.32	91	ePKiKP	PKiKP	12 40 25.6 -0.3
CUPL	Choutuppal	150.54	89	ePKPbc	PKPbc	12 40 25.0 -0.6
CUPL				ePKiKP	PKiKP	12 40 26.0 -0.4
SKHT	Srikalahasti	150.57	96	ePKiKP	PKiKP	12 40 26.3 -0.1
NJS	Nagarjunasagar	150.79	90	ePKiKP	PKiKP	12 40 26.6 -0.3
RPR	Rampur	151.09	86	ePKiKP	PKiKP	12 40 27.1 -0.3
ADKI	Addanki	151.28	92	ePKPbc	PKPbc	12 40 26.8 -0.5
ADKI				ePKiKP	PKiKP	12 40 27.7 -0.2
SONM	Songino Array	151.34	5	PKP	PKPdf	12 40 21.9 +1.2
	comp=Z,0.9nm,0.8s,baz=338,slow=1.4,SNR=7.9					
SONM				PKPbc	PKiKP	12 40 27.5 +0.2
	comp=Z,9.3nm,0.8s,baz=319,slow=1.4,SNR=61					
SONM				pPKPbc	pPKPbc	12 40 44.4 +0.8
	comp=Z,5.9nm,0.8s,baz=298,slow=1.2,SNR=8.0					
MYLAV	Mylavaram	152.08	90	ePKPbc	PKPbc	12 40 28.8 -0.4
CHLP	Challavanipeta	155.55	87	ePKPab	PKPab	12 40 54.4 +0.9
KSRS	Korea Array	155.97	323	PKPab	PKPab	12 40 55.4 +0.7
	comp=Z,2.2nm,0.9s,baz=64,slow=2.8,SNR=2.7					
KSRS				pPKPab	pPKPab	12 41 11.1 +0.1
	comp=Z,1.7nm,0.6s,baz=49,slow=4.1,SNR=3.8					
GTA	Gaotai	158.10	21	ePKP	PKPdf	12 40 31.8 +1.5
GTA				PKPab	PKPab	12 41 04.0 +0.1
HHC	Hu-ho-hao-te	158.42	357	ePKP	PKPdf	12 40 32.6 +2.0
GOMU	GeErMu	158.52	35	PKP	PKPdf	12 40 28.3 -2.9
GOMU				sPKP		12 40 55.9
GOMU				AMB	AMB	
	comp=Z,39nm,4.9s					
NJ2	Nanjing	164.91	329	ePKP	PKPdf	12 40 36.5 -0.9
CD2	Chengdu	167.13	24	PKP	PKPdf	12 40 37.6 -1.7
PZH	PanZhiHua	169.58	45	PKP	PKPdf	12 40 39.8 -1.4
CMAR	Chiang Mai Arr	169.60	93	PKP	PKPdf	12 40 41.8 +0.6
	comp=Z,0.4nm,0.4s,baz=265,slow=2.0,SNR=6.2					
CMAR				PKPab	PKPab	12 41 55.0 -0.1
	comp=Z,2.2nm,0.9s,baz=255,slow=6.1,SNR=11					
CMAR	Chiang Mai Arr	169.60	93	PKPdf	PKPdf	12 40 41.2 0.0
CMAR					PKPab	12 41 55.2 +0.1
GYA	Guiyang	172.23	22	PKP	PKPdf	12 40 40.3 -2.3

*IDC **13** 12:25:53.0±1.3,31°.74N×130°.84E,h112km±12km,mb3.4/9, mb1 3.6/12,mb1mx3.5/33,mbtmp3.9/12,Error ellipse: s-maj=21.7km s-min=14.1km az=77.0*
*NEIC **13** 12:25:55.3±1.9,31°.99N±0°.06×130°.94E±0°.09, h114km±6km,mb4.4/5,Error ellipse: s-maj=12.5km s-min=6.5km az=121.0*
*JMA **13** 12:25:55.2±0.1,32°.00N×130°.97E,h110km±1km,M3.3*
ISC 13 12:25:53.9±0.7,31°.92N±0°.04×130°.97E±0°.05,h118km±5km, n43,σ1°51/53,mb3.6/12,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTZ	Takazaki	0.10	100	P	Pn	12 26 10.4	+0.3
JTZ				S	Sn	12 26 21.7	-0.5
JZO	Okuchi	0.39	305	P	Pn	12 26 11.3	+0.2
JZO				S	Sn	12 26 23.1	-0.9
JSU	Suzuyama	0.60	227	P	Pn	12 26 13.2	+0.8
JIU3	Izumi3	0.64	348	P	Pn	12 26 12.7	+0.1
JIU3				S	Sn	12 26 25.4	-1.4
JSJ	Shimokoshiki	1.10	258	P	Pn	12 26 17.4	+0.7
JSJ				eS	Sn	12 26 34.6	+0.6
JNU	Nakatsue	1.20	356	P	Pn	12 26 17.6	-0.3
	26nm,0.3s,baz=180,slow=1.7,SNR=472						
JNU				S	Sn	12 26 34.8	-1.3
	114nm,0.3s,baz=25,slow=17,SNR=24						
JNU	Nakatsue	1.20	356		Pn	12 26 17.8	-0.1
JNU				Sn	Sn	12 26 35.0	-1.1
JTN	Tanegashima 3	1.26	180	P	Pn	12 26 20.1	+1.5
JTN				S	Sn	12 26 38.5	+1.3
JTU	Tsushima	2.91	334	Pn	Pn	12 26 39.1	+0.1
JMN	Monobe	3.04	53		Pn	12 26 41.0	+0.3
JHS	Saijyo	3.56	30	Pn	Pn	12 26 48.6	+1.1
JWT	Wachi	4.99	47		Pn	12 27 07.6	+0.9
JOW	Kunigami	5.59	206	P	Pn	12 27 11.6	-3.3
	1.7nm,0.3s,baz=100,slow=19,SNR=1.6						
JOW				S	Sn	12 28 15.8	-2.0
	3.5nm,0.3s,baz=117,slow=25,SNR=7.4						
JOW	Kunigami	5.59	206	Pn	Pn	12 27 15.6	+0.7
KSRS	Korea Array	6.07	336	P	Pn	12 27 22.1	+0.9
	0.2nm,0.3s,baz=158,slow=14,SNR=2.5						
INU	Inuyama	6.09	54		Pn	12 27 23.3	+1.8
JGF	Kuroka	6.46	54	Pn	Pn	12 27 27.9	+1.3
JHJ	Hachijo jima 2	7.54	79	P	Pn	12 27 43.0	+1.9
	7.8nm,0.3s,baz=90,slow=20,SNR=1.9						
MAJO	Matsushiro	7.56	50	Pn	Pn	12 27 43.5	+2.0
MAT	Matsushiro	7.56	50	P	Pn	12 27 42.9	+1.5
MAT				eS	Sn	12 29 03.2	-2.3
MJB9	Matsu-Tunnel	7.56	50	Pn	Pn	12 27 43.7	+2.3
MJAR	Matsushiro Arr	7.56	50	P	Pn	12 27 43.9	+2.4
	0.2nm,0.3s,baz=239,slow=13,SNR=8.3						
MJAR				S	Sn	12 29 04.1	-1.4
	0.2nm,0.3s,baz=245,slow=33,SNR=3.5						
MJAR	Matsushiro Arr	7.56	50		Pn	12 27 43.7	+2.3
JHJ2	Mitsune	7.56	79	Pn	Pn	12 27 43.4	+2.0
YOJ	Yonaguni jima	10.22	225	Pn	Pn	12 28 16.6	-0.8
SONM	Songino Array	24.52	318	P	P	12 31 02.7	+0.3
	1.7nm,0.9s,baz=137,slow=10,SNR=8.5						
FAKI	Fak Fak	34.67	178	P	P	12 32 28.8	-3.5
MKAR	Makanchi Array	39.82	306	P	P	12 33 15.8	+0.3
	0.5nm,0.7s,baz=98,slow=8.7,SNR=5.7						
MKAR	Makanchi Array	39.82	306	P	P	12 33 15.3	-0.2
MAKZ	Makanchi	40.03	306	P	P	12 33 17.6	+0.2
MTN	Manton Dam	44.51	180	P	P	12 33 56.0	+2.2
MTN				IAmb	IAmb	12 33 59.5	
	comp=Z,14nm,0.9s						
NRIK	Noril'sk	44.67	340	P	P	12 33 55.5	+0.9
NRIK				IAmb	IAmb	12 34 20.6	
	comp=Z,2.1nm,0.9s						
NIL	Nilore	48.01	288	P	P	12 34 22.3	+1.2
KKAR	Karatay Array	48.29	301	P	P	12 34 24.6	+1.4
WRA	Warramunga Arr	51.67	176	P	P	12 34 48.8	0.0
	comp=Z,0.4nm,0.6s,baz=356,slow=7.5,SNR=5.2						
ASAR	Alice Springs	55.34	177	P	P	12 35 13.0	-2.6
	comp=Z,0.4nm,0.6s,baz=344,slow=9.2,SNR=9.5						
SCRK	Sand Creek	59.69	31	P	P	12 35 47.5	+1.7
SCRK				IAmb	IAmb	12 35 49.4	
	comp=Z,5.0nm,1.0s						
STKA	Stephens Creek	64.24	170	P	P	12 36 13.9	-2.4
	comp=Z,1.1nm,0.7s,baz=343,slow=11,SNR=2.9						
FINES	FINESS Array B	69.12	330	P	P	12 36 47.2	+0.2
	comp=Z,1.4nm,0.3s,baz=69,slow=4.9,SNR=13						
YKA	Yellowknife Ar	72.38	26	P	P	12 37 07.5	+0.8
	comp=Z,0.3nm,0.7s,baz=303,slow=5.6,SNR=5.3						
NOA	NORSAR Array B	75.27	334	P	P	12 37 23.4	-0.3
	comp=Z,0.7nm,0.6s,baz=51,slow=5.6,SNR=2.2						
NVAR	Mina Array Bea	84.88	48	P	P	12 38 17.4	+1.4
	comp=Z,0.4nm,0.6s,baz=306,slow=3.5,SNR=3.6						
NVAR	Mina Array Bea	84.88	48	P	P	12 38 16.2	+0.2

IDC 13 12:27:08.2±407.0,52°.60N×102°.51E,h0km,Error ellipse: s-maj=177.4km s-min=104.2km az=148.0,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	SONGINO INFRAS	5.42	151	i		13 01 10.0	
	baz=334,slow=328,SNR=1.0						
I46RU	ZALESOVO INFRA	10.68	284	i		13 33 20.0	
	baz=90,slow=340,SNR=1.6						
I45RU	USSURIYSK INFR	21.17	102	i		14 36 40.0	
	baz=302,slow=333,SNR=1.5						

RSNC 13 12:30:08.7±1.0,3°.78N×71°.53W,h0km±7km,ML3.2,Mw3.5, 1C,Colombia

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02				Sg	Sg	12 36 05.2	+0.2
KAN17	**Caldwell West**	**0.10**	**17**	Pg	Pg	12 36 03.6	+0.1
KAN17				Sg	Sg	12 36 05.4	+0.3
KAN14	**Manchester OK**	**0.13**	**276**	Pg	Pg	12 36 03.7	-0.3
KAN01	**Argonia South**	**0.21**	**9**		Pg	12 36 05.5	0.0
KAN01				Sg	Sg	12 36 08.7	+0.3
KAN13	**South Haven SW**	**0.27**	**75**	Pg	Pg	12 36 06.8	+0.2
KAN10	**Anthony SW Sta**	**0.29**	**308**	Pg	Pg	12 36 06.9	-0.2
KAN10				Sg	Sg	12 36 11.1	+0.1
KAN06	**Argonia West S**	**0.31**	**352**		Pg	12 36 07.3	-0.1
KAN08	**Anthony NE Sta**	**0.31**	**335**		Pg	12 36 07.4	-0.1
KAN08				Sg	Sg	12 36 11.8	+0.2
KAN16	**Harper SW Stat**	**0.35**	**323**	Pg	Pg	12 36 08.0	-0.1
OK032	**Salt Plains WL**	**0.35**	**247**	Pg	Pg	12 36 08.1	-0.1
KAN12	**Harper NE Stat**	**0.39**	**336**	Pg	Pg	12 36 08.7	-0.2
CROK	**Carrier**	**0.46**	**198**	Pg	Pg	12 36 10.2	0.0
CROK				Sg	Sg	12 36 16.7	+0.4
BLOK	**Blackwell**	**0.51**	**111**	Pg	Pg	12 36 10.8	-0.2
T35A	**Sooner Cattle**	**1.03**	**91**		Pg	12 36 20.8	-0.4
QUOK	**Quay**	**1.17**	**131**		Pg	12 36 23.1	-0.6
OK029	**Liberty Lake**	**1.18**	**166**	Pg	Pg	12 36 23.3	-0.6
OK031	**S. Brethren Rd**	**1.26**	**142**		Pg	12 36 24.7	-0.7
OK034	**N. Norfolk Rd.**	**1.28**	**136**		Pn	12 36 25.2	-0.6
BCOK	**Bluff Creek, N**	**1.29**	**173**	Pn	Pn	12 36 25.5	-0.5
OK030	**Cody Creek RV**	**1.30**	**141**	Pn	Pn	12 36 25.9	-0.2
OK025	**Westminster Rd**	**1.41**	**164**	Pn	Pn	12 36 27.6	-0.1
OKCFA	**Oklahoma City**	**1.55**	**169**	IAmb_Lg		12 36 52.7	
	comp=Z,22nm,0.9s						
R32A	**Long Quarter,**	**1.64**	**334**		Pn	12 36 31.4	+0.5
FNO	**Franklin**	**1.71**	**169**		Pn	12 36 32.3	+0.5
TUL1	**Leonard**	**1.92**	**122**	Pn	Pn	12 36 35.5	+0.9
TUL1				IAmb_Lg		12 37 05.0	
	comp=Z,19nm,0.8s						
W35A	**Tecumseh**	**1.94**	**157**	Pn	Pn	12 36 35.2	+0.3
KSU1	**Kansas State U**	**2.35**	**23**	IAmb_Lg		12 37 19.1	
	comp=Z,19nm,0.7s						
LOOK	**Love County**	**2.99**	**170**	IAmb_Lg		12 37 40.3	
	comp=Z,19nm,1.0s						
S39A	**Bolivar**	**3.65**	**77**	Pn	Pn	12 36 58.9	+0.5

*IDC **13** 12:46:49.6±3.1, 22°.73N×11°.66W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.3/44, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=91.5km s-min=36.2km az=73.0*

ISC 13 12:46:50.2±1.7, 22°.6N±0°.2×11°.8W±0°.2, h10km, n8, σ0°56/9, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.93**	**124**	Pn	**Pn**	**12 50 35.3**	**+0.7**
	0.2nm,0.3s,baz=307,slow=13,SNR=4.6						
TORD				Sn	**Sn**	**12 53 30.9**	**-0.4**
	0.1nm,0.3s,baz=305,slow=22,SNR=2.6						
TIC	**Toumodi**	**17.17**	**156**	*e*P	**P**	**12 50 52.8**	**+0.7**
DBIC	**Dimbokro**	**17.21**	**156**	P	**P**	**12 50 52.2**	**-0.2**
	0.7nm,0.3s,baz=350,slow=12,SNR=8.8						
KIC	**Kosan Boka**	**17.54**	**156**	*e*P	**Pn**	**12 50 54.5**	**-0.5**
	7.1nm,0.5s						
LIC	**Lamto**	**17.56**	**157**	*e*P	**P**	**12 50 56.4**	**+0.1**
	13nm,0.5s						
KURBB	**Kurchatov Arra**	**73.09**	**42**	P	**P**	**12 58 20.2**	**-0.5**
	0.3nm,0.4s,baz=282,slow=5.9,SNR=4.7						
MKAR	**Makanchi Array**	**76.58**	**45**	P	**P**	**12 58 41.4**	**+0.4**
	0.2nm,0.5s,baz=279,slow=7.5,SNR=2.2						
ASAR	**Alice Springs**	**148.51**	**99**	PKPbc	**PKPbc**	**13 06 37.9**	**-0.2**
	0.2nm,0.6s,baz=283,slow=2.9,SNR=4.8						

*IDC **13** 12:48:22.7±1.2, 28°.07N×129°.46E, h0km, mb3.3/6, mb1 3.5/6, mb1mx3.2/57, mbtmp3.3/6, Error ellipse: s-maj=53.9km s-min=24.0km az=68.0*
*JMA **13** 12:48:26.8±0.1, 28°.07N×129°.51E, h29km±3km, M3.8*
JMA Felt II J1.
*NIED **13** 12:48:26.8, 28°.07N×129°.51E, h29km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.24; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-0.66; $M_{r\theta}$4.50; $M_{\theta\phi}$-0.72; $M_{\phi r}$-0.78; Fault plane solution: $M_0$4.69000×10^{14} NP1:ϕ_s97.00000°, δ85.00000°, λ99.00000°. NP2:ϕ_s218.00000°, δ10.00000°, λ31.00000°.*

ISC 13 12:48:25.6±0.8, 27°.98N±0°.03×129°.59E±0°.04, h21km±3km, n25, σ0°88/33, mb3.3/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.43**	**2**	P	**Pb**	**12 48 34.4**	**-0.1**
JAM				S	**Sb**	**12 48 40.0**	**-0.5**
JAMN	**Amaminishikomi**	**0.45**	**306**	P	**Pb**	**12 48 34.7**	**-0.1**
JAMN				S	**Sb**	**12 48 40.5**	**-0.6**
JZK	**Kikaishima**	**0.48**	**45**	P	**Pb**	**12 48 36.7**	**+1.4**
JZK				S	**Sn**	**12 48 45.0**	**0.0**
JTK	**Tokunoshima**	**0.60**	**251**	P	**Pb**	**12 48 37.7**	**+0.2**
JTK				*e*S	**Sb**	**12 48 45.6**	**+0.1**
JOKE	**Okinoerabujima**	**1.09**	**236**	P	**Pn**	**12 48 46.1**	**+0.4**
JTAJ	**Takarajima**	**1.22**	**344**	P	**Pn**	**12 48 46.5**	**-1.0**
JYRO	**Yoronjima**	**1.39**	**227**	P	**Pb**	**12 48 50.8**	**0.0**
JYRO				*e*S	**Sb**	**12 49 08.7**	**+0.6**
JOW	**Kunigami**	**1.63**	**226**	P	**Pn**	**12 48 53.9**	**+0.7**
JIH	**Iheya**	**1.72**	**237**	P	**Pn**	**12 48 55.1**	**+0.8**
JNN	**Nakanoshima**	**1.87**	**8**	P	**Pn**	**12 48 56.7**	**+0.2**
JNTH	**Nagotoyohara**	**2.01**	**224**	P	**Pn**	**12 48 59.1**	**+0.7**
JYAK	**Yakushimahirau**	**2.39**	**19**	P	**Pn**	**12 49 03.9**	**+0.3**
JJT3	**Tamagusuku3**	**2.43**	**222**	P	**Pn**	**12 49 05.1**	**+0.9**
JKDJ	**Kitadaitoujima**	**2.53**	**143**	P	**Pn**	**12 49 05.1**	**-0.4**
JKDJ				*e*S	**Sn**	**12 49 33.8**	**-1.9**
JKO	**Kuchinoerabu**	**2.53**	**12**	P	**Pn**	**12 49 06.1**	**+0.6**
JMZ	**Minamidaito 2**	**2.60**	**145**	P	**Pn**	**12 49 05.9**	**-0.5**
JMZ				*e*S	**Sn**	**12 49 35.8**	**-1.6**
JMTN	**Minamitane**	**2.67**	**25**	P	**Pn**	**12 49 08.0**	**+0.6**
JMTN				*e*S	**Sn**	**12 49 39.6**	**+0.4**
JTN	**Tanegashima 3**	**2.93**	**24**	P	**Pn**	**12 49 11.5**	**+0.5**
JKE	**Kume jima 2**	**2.99**	**237**	P	**Pn**	**12 49 12.5**	**+0.7**
SONM	**Songino Array**	**26.80**	**324**	P	**P**	**12 54 04.7**	**+0.3**
	0.4nm,0.8s,baz=134,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**41.31**	**310**	P	**P**	**12 56 08.1**	**-1.6**
	0.2nm,0.6s,baz=95,slow=11,SNR=2.7						
KURBB	**Kurchatov Arra**	**44.45**	**315**	P	**P**	**12 56 33.5**	**-1.5**
	0.3nm,0.5s,baz=100,slow=9.0,SNR=3.5						
WRA	**Warramunga Arr**	**47.86**	**174**	P	**P**	**12 57 03.7**	**+1.5**
	0.3nm,0.9s,baz=352,slow=7.5,SNR=1.8						
ASAR	**Alice Springs**	**51.51**	**175**	P	**P**	**12 57 30.6**	**+0.6**
	0.2nm,0.6s,baz=9.6,slow=12,SNR=1.2						
YKA	**Yellowknife Ar**	**76.44**	**25**	P	**P**	**13 00 13.7**	**+0.3**
	0.3nm,0.7s,baz=303,slow=5.4,SNR=4.3						

IDC 13 12:54:44.0±2.1, 3°.73N×127°.00E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.1/58, mbtmp3.4/4, Error ellipse: s-maj=205.0km s-min=23.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.60**	**163**	P	P	13 00 05.8	-0.4
	0.5nm,0.7s,baz=343,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**28.05**	**166**	P	P	13 00 37.7	+0.5
	0.1nm,0.3s,baz=342,slow=11,SNR=1.2						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	13 04 36.5	-0.1
	0.3nm,0.5s,baz=119,slow=7.5,SNR=7.7						
KURBB	**Kurchatov Arra**	**61.89**	**327**	P	P	13 05 05.2	0.0
	0.3nm,0.5s,baz=129,slow=6.1,SNR=8.4						

*NAO **13** 13:03:02.4±244.0, 74°.57N×8°.03E, h17km±16km, ML3.3*
*BER **13** 13:03:06.8±2.5, 74°.73N×9°.53E, h10km, ML2.2, ML3.3(NAO), Confirmed Earthquake*
*IDC **13** 13:03:06.4±1.0, 74°.71N×10°.25E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.5/57, mbtmp3.6/9, ML3.3/3, MS3.3/17, Ms1 3.3/17, ms1mx3.0/97, Error ellipse: s-maj=19.8km s-min=9.4km az=75.0*
*DNK **13** 13:03:08.4±2.9, 75°.06N×7°.21E, h19km±37km, ML1.0*

ISC 13 13:03:06.4±0.8, 74°.78N±0°.06×10°.35E±0°.07, h10km, n46, σ1°97/47, mb3.3/6, MS3.4/12, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.32**	**93**	Pn	**Pb**	**13 03 48.5**	**+0.2**
BJO1				Sn	**Sb**	**13 04 15.5**	**-1.3**
BJO1	**Bjornoya**	**2.32**	**93**	*e*P	**Pb**	**13 03 46.7**	**-1.5**
BJO1				*e*S	**Sb**	**13 04 15.4**	**-1.4**
BJO1				IAML		13 04 22.1	
	comp=Z,42nm,0.6s						
HSPB	**Hornsund (broa**	**2.57**	**27**	Pn	**Pn**	**13 03 48.5**	**+0.5**
HSPB				Sn	**Sn**	**13 04 18.6**	**-0.6**
HSPB	**Hornsund (broa**	**2.57**	**27**	*e*P	**Pn**	**13 03 48.5**	**+0.5**
HSPB				*e*S	**Sn**	**13 04 18.6**	**-0.6**
HSPB				IAML		13 04 24.6	
	comp=Z,9.1nm,0.4s						
BRBA	**Barentsburg A**	**3.42**	**14**	Pn	**Pn**	**13 03 59.5**	**-0.1**
BRBA				Sn	**Sn**	**13 04 40.0**	**-0.1**
BRBA	**Barentsburg A**	**3.42**	**14**	*e*P	**Pn**	**13 03 59.8**	**+0.1**
BRBB	**Barentsburg B**	**3.45**	**13**	Pn	**Pn**	**13 03 59.9**	**-0.2**
BRBB				Sn	**Sn**	**13 04 40.9**	**-0.1**
BRBB	**Barentsburg B**	**3.45**	**13**	*e*P	**Pn**	**13 04 00.2**	**+0.1**
SPA0	**Spitsbergen Ar**	**3.70**	**20**	Pn	**Pn**	**13 04 04.4**	**+1.0**
	baz=191,slow=14						
SPA0				Sn	**Sn**	**13 04 47.2**	**+0.3**
SPA0	**Spitsbergen Ar**	**3.70**	**20**	Pn	**Pn**	**13 04 04.4**	**+1.0**
	baz=191,slow=14						
SPA0				Sn	**Sn**	**13 04 47.2**	**+0.3**
SPITS	**Spitsbergen Ar**	**3.70**	**20**	Pn	**Pn**	**13 04 04.3**	**+0.8**
	baz=206,slow=16,SNR=358						
SPITS				Sn	**Sn**	**13 04 46.9**	**-0.1**
	baz=196,slow=31,SNR=1.2						
HOPEN	**Hopen**	**4.04**	**58**	Pn	**Pn**	**13 04 10.2**	**+2.2**
HOPEN				Sn	**Sn**	**13 04 56.3**	**+1.0**
HOPEN	**Hopen**	**4.04**	**58**	*e*P	**Pn**	**13 04 11.0**	**+2.9**
HOPEN				*e*S	**Sn**	**13 04 56.3**	**+1.0**
HOPEN				IAML		13 05 00.3	
	comp=Z,13nm,0.2s						
KBS	**Kingsbay**	**4.19**	**4**	Pn	**Pn**	**13 04 08.6**	**-1.5**
KBS	**Kingsbay**	**4.19**	**4**	*i* P	**Pn**	**13 04 08.4**	**-1.8**
KBS				*i* S	**Sn**	**13 04 53.1**	**-5.9**
KBS	**Kingsbay**	**4.19**	**4**	*e*P	**Pn**	**13 04 09.1**	**-1.1**
KBS				*e*S	**Sn**	**13 04 55.3**	**-3.7**
JMIC	**Jan Mayen**	**6.71**	**245**	LR	LR	13 06 16.1	
	comp=Z,66nm,21.9s,baz=238,slow=28						
ARA0	**ARCESS Array S**	**7.00**	**131**	Pn	**Pn**	**13 04 48.3**	**-0.6**
	baz=330,slow=11						
ARA0				Sn	**Sn**	**13 06 05.6**	**-2.8**
	baz=325,slow=22						
ARA0	**ARCESS Array S**	**7.00**	**131**	Pn	**Pn**	**13 04 48.3**	**-0.6**
	baz=330,slow=11						
ARA0				*e*P	**Pn**	**13 04 48.9**	**0.0**
ARA0				Sn	**Sn**	**13 06 05.6**	**-2.8**
	baz=325,slow=22						
ARCES	**ARCESS Array B**	**7.00**	**131**	Pn	**Pn**	**13 04 48.8**	**-0.1**
	baz=329,slow=11,SNR=21						
ARCES				Sn	**Sn**	**13 06 05.7**	**-2.7**
	baz=331,slow=20,SNR=10.0						
ARCES				LR	LR	13 07 59.0	
	comp=Z,111nm,18.7s,baz=96,slow=42						
KEV	**Kevo**	**7.13**	**127**	*e*P	**Pn**	**13 04 52.2**	**+1.6**
DAG	**Danmarks Havn**	**7.36**	**299**	*e*P	Pn	13 04 42.5	-11
DAG				*i* S	Sn	13 05 50.1	-27
DAG				IAML		13 05 57.5	
	comp=Z,1.3nm,0.2s						
DBG	**Daneborg**	**8.12**	**282**	Pn	Pn	13 04 51.1	-13
DBG				Sn	Sn	13 06 08.6	-27
DBG	**Daneborg**	**8.12**	**282**	*i* P	Pn	13 04 50.7	-13
DBG				*i* S	Sn	13 06 10.7	-25
DBG				IAML		13 06 11.9	
	comp=Z,0.4nm,0.2s						
SCO	**Scoresbysund**	**10.45**	**262**	*i* P	Pn	13 05 24.5	-11
SCO				*i* S	Sn	13 07 02.5	-30
SCO				IAML		13 07 13.8	
	comp=Z,0.2nm,0.2s						
NOA	**NORSAR Array B**	**13.81**	**178**	LR	LR	13 10 55.3	
	comp=Z,36nm,20.3s,baz=255,slow=34						
FIA0	**FINESS Array S**	**14.53**	**149**	Pn	**Pn**	**13 06 27.7**	**-4.0**
	baz=335,slow=16						
FIA0	**FINESS Array S**	**14.53**	**149**	Pn	**Pn**	**13 06 27.7**	**-4.0**
	baz=335,slow=16						
FINES	**FINESS Array B**	**14.53**	**149**	Pn	**Pn**	**13 06 29.1**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=5.7						
FINES				LR	LR	13 11 59.7	
	comp=Z,56nm,21.2s,baz=12,slow=37						
HFS	**Hagfors**	**14.77**	**173**	LR	LR	13 11 36.3	
	comp=Z,65nm,18.7s,baz=16,slow=35						
KIRV	**Kirov**	**21.72**	**117**	LR	LR	13 16 59.9	
	comp=Z,85nm,20.2s,baz=30,slow=38						
NRIK	**Noril'sk**	**22.71**	**64**	LR	LR	13 19 45.9	
	comp=Z,49nm,18.4s,baz=30,slow=44						
AKASG	**Malin Array Be**	**25.40**	**151**	P	**P**	**13 08 33.5**	**0.0**
	comp=Z,1μm,0.4s,baz=342,slow=8.8,SNR=2.3						
AKASG				LR	LR	13 18 13.8	
	comp=Z,61nm,20.7s,baz=325,slow=36						
VRAC	**Vranov**	**25.70**	**171**	P	**P**	**13 08 36.4**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=31,slow=5.9,SNR=1.9						
FRB	**Frobisher Bay**	**27.57**	**289**	LR	LR	13 18 24.2	
	comp=Z,58nm,21.1s,baz=336,slow=33						
AKTO	**Aktyubinsk**	**31.21**	**114**	LR	LR	13 22 57.8	
	comp=Z,61nm,18.2s,baz=21,slow=38						
SCHQ	**Schefferville**	**34.86**	**279**	LR	LR	13 23 21.8	
	comp=Z,82nm,18.1s,baz=116,slow=35						
ZALV	**Zalesovo Beam**	**34.94**	**84**	P	**P**	**13 10 00.2**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=336,slow=6.6,SNR=2.0						
ZALV				LR	LR	13 26 56.4	
	comp=Z,36nm,18.8s,baz=342,slow=41						
YKA	**Yellowknife Ar**	**38.38**	**322**	P	**P**	**13 10 28.8**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=11,slow=8.1,SNR=4.4						
ILAR	**Eielson Array**	**39.91**	**345**	P	**P**	**13 10 39.8**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=12,slow=5.1,SNR=5.2						
MKAR	**Makanchi Array**	**40.80**	**91**	P	**P**	**13 10 50.0**	**+2.6**
	comp=Z,0.2nm,0.6s,baz=334,slow=8.1,SNR=3.9						
MKAR				LR	LR	13 31 19.9	
	comp=Z,48nm,18.1s,baz=342,slow=42						
SADO	**Sadowa**	**47.27**	**284**	LR	LR	13 28 49.8	
	comp=Z,66nm,18.1s,baz=46,slow=33						
NEW	**Newport**	**52.40**	**318**	LR	LR	13 33 59.6	
	comp=Z,70nm,18.9s,baz=327,slow=35						
PDAR	**Pinedale Array**	**56.25**	**310**	LR	LR	13 35 30.9	
	comp=Z,50nm,18.6s,baz=34,slow=35						
TORD	**Torodi Ar. Bea**	**61.81**	**190**	P	**P**	**13 13 28.0**	**+2.9**
	comp=Z,0.7nm,0.9s,baz=0.7,slow=7.4,SNR=3.6						
JTS	**Las Juntas de**	**81.54**	**278**	LR	LR	13 54 45.6	
	comp=Z,29nm,19.8s,slow=38						

*IDC **13** 13:03:23.2±6.7, 39°.17N×141°.63E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.0/65, mbtmp3.5/3, ML2.4/1, Error ellipse: s-maj=121.1km s-min=35.7km az=107.0*
*JMA **13** 13:03:26.3, 38°.64N×141°.91E, h48km±1km, M3.5*
JMA Felt I J1.
*NIED **13** 13:03:26.3, 38°.64N×141°.91E, h48km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.38; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-2.46; $M_{r\theta}$0.85; $M_{\theta\phi}$0.15; $M_{\phi r}$1.47; Fault plane solution: $M_0$2.96000×10^{14} NP1:ϕ_s14.00000°, δ63.00000°, λ107.00000°. NP2:ϕ_s161.00000°, δ32.00000°, λ61.00000°.*

ISC 13 13:03:25.7±2.1, 38°.65N±0°.05×142°.0E±0°.1, h44km±11km, n14, σ0°97/23, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.43**	**293**	||P	**Pn**	**13 03 36.1**	**+0.4**
JKMT				S	**Sn**	**13 03 42.8**	**0.0**
OFUJ	**Ofunato**	**0.50**	**331**	||P	**Pn**	**13 03 37.2**	**+0.6**
OFUJ				S	**Sn**	**13 03 44.7**	**+0.4**
JIKH	**Ishinomakikobu**	**0.52**	**230**	||P	**Pn**	**13 03 37.0**	**+0.1**
JIKH				S	**Sn**	**13 03 44.4**	**-0.4**
JIO	**Ouri**	**0.53**	**249**	||P	**Pn**	**13 03 37.0**	**0.0**
JIO				S	**Sn**	**13 03 44.4**	**-0.6**
JMK	**Ichinoseki**	**0.67**	**298**	||P	**Pn**	**13 03 39.1**	**+0.3**
JMK				S	**Sn**	**13 03 48.0**	**-0.2**
JOM	**Ohasama**	**0.98**	**327**	||P	**Pn**	**13 03 43.6**	**+0.5**
JOM				*e*S	**Sn**	**13 03 55.7**	**-0.1**
JOU	**Okura**	**1.07**	**255**	||P	**Pn**	**13 03 44.2**	**-0.1**
JOU				S	**Sn**	**13 03 57.6**	**-0.3**
JMM	**Marumori**	**1.21**	**230**	||P	**Pn**	**13 03 45.8**	**-0.4**
JMM				S	**Sn**	**13 04 00.1**	**-1.4**
JRG	**Rokugo**	**1.29**	**306**	P	**Pn**	**13 03 47.6**	**+0.4**
JYK	**Kaneyama**	**1.29**	**283**	P	**Pn**	**13 03 47.5**	**+0.2**
MJAR	**Matsushiro Arr**	**3.66**	**236**	Pn	**Pn**	**13 04 21.8**	**+2.0**
	0.3nm,0.3s,baz=43,slow=12,SNR=13						
MJAR				Sn	Sn	13 05 10.4	+8.7
	0.1nm,0.3s,baz=43,slow=16,SNR=1.6						
MAT	**Matsushiro**	**3.66**	**236**	P	**Pn**	**13 04 21.6**	**+1.8**
MAT				*e*S	**Sn**	**13 05 04.0**	**+2.3**
ZALV	**Zalesovo Beam**	**41.18**	**311**	P	**P**	**13 11 04.8**	**-0.8**
	0.4nm,0.4s,baz=94,slow=7.8,SNR=2.5						
MKAR	**Makanchi Array**	**43.66**	**301**	P	**P**	**13 11 25.2**	**-0.8**
	0.5nm,0.8s,baz=88,slow=9.6,SNR=4.9						

IDC 13 13:04:09.9±2.5, 3°.34N×126°.30E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/53, mbtmp3.4/3, Error ellipse: s-maj=235.0km s-min=26.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.45**	**161**	P	P	13 09 30.1	-0.7
	0.6nm,0.8s,baz=340,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**27.85**	**165**	P	P	13 10 02.5	+1.0
	0.3nm,0.8s,baz=342,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**57.62**	**326**	P	P	13 14 01.7	-0.2
	0.4nm,0.5s,baz=129,slow=7.2,SNR=7.3						

*GUC **13** 13:09:15.3±0.7, 32°.76S×68°.73W, h15km, ML4.0*
*NEIC **13** 13:09:18.8±1.2, 32°.79S±0°.06×68°.8W±0°.1, h54km±8km, mb4.2/6, Md3.8(SJA), Error ellipse: s-maj=13.0km s-min=8.5km az=80.0*
*IDC **13** 13:09:19.4±3.1, 32°.68S×68°.75W, h66km±27km, mb3.6/5, mb1 3.8/9, mb1mx3.6/38, mbtmp3.9/9, ML3.8/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/43, Error ellipse: s-maj=33.5km s-min=17.9km az=93.0*

ISC 13 13:09:13.0±3.3, 32°.68S±0°.06×68°.56W±0°.06, h13km±20km, n53, σ1°19/63, mb4.1/9, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**1.68**	**267**	*e*P	**Pn**	**13 09 41.7**	**-0.5**
VA03				*i* S	**Sn**	**13 10 02.7**	**-1.0**
VA03				IAML		13 10 04.2	
	comp=N,6μm,0.4s						
VA03	**San Esteban**	**1.68**	**267**	Pn	**Pn**	**13 09 41.5**	**-0.7**
LMEL	**Las Melosas**	**1.81**	**229**	*e*P	**Pn**	**13 09 44.3**	**+0.3**
LMEL				*i* S	**Sn**	**13 10 06.5**	**-0.4**
PEL	**Peldehue**	**1.85**	**255**	*e*P	**Pn**	**13 09 44.3**	**-0.2**
PEL				*i* S	**Sn**	**13 10 06.7**	**-1.1**
PEL	**Peldehue**	**1.85**	**255**	Pn	**Pn**	**13 09 44.3**	**-0.2**
MT05	**Renca**	**1.97**	**248**	*e*P	**Pn**	**13 09 46.5**	**+0.4**
MT05				*i* S	**Sn**	**13 10 10.2**	**-0.5**
MT05	**Renca**	**1.97**	**248**	Pn	**Pn**	**13 09 46.7**	**+0.6**
ROCH	**El Roble**	**2.09**	**261**	*e*P	**Pn**	**13 09 48.7**	**+0.7**
ROCH				*i* S	**Sn**	**13 10 14.5**	**+0.6**
ROCH				IAML		13 10 19.1	
	comp=N,2μm,0.6s						
MT02	**Curacav**	**2.25**	**254**	*e*P	**Pn**	**13 09 50.8**	**+0.9**
MT02				*i* S	**Sn**	**13 10 18.4**	**+0.9**
MT02	**Curacav**	**2.25**	**254**	Pn	**Pn**	**13 09 50.9**	**+1.0**
MT09	**Talagante**	**2.31**	**241**	*e*P	**Pn**	**13 09 52.1**	**+1.1**
MT09				*i* S	**Sn**	**13 10 20.3**	**+0.9**
MT09	**Talagante**	**2.31**	**241**	Pn	**Pn**	**13 09 52.3**	**+1.3**
VA06	**Catapilco**	**2.32**	**272**	*e*P	**Pn**	**13 09 52.5**	**+1.6**
VA06				*i* S	**Sn**	**13 10 20.7**	**+1.6**
MT01	**Popeta**	**2.55**	**242**	*e*P	**Pn**	**13 09 55.6**	**+1.6**
MT01				*i* S	**Sn**	**13 10 26.1**	**+1.1**
MT01	**Popeta**	**2.55**	**242**	Pn	**Pn**	**13 09 54.5**	**+0.5**
CO03	**El Pedregal**	**2.58**	**315**	*e*P	**Pb**	**13 09 58.2**	**-1.0**
CO03				*i* S	**Sb**	**13 10 30.6**	**-0.3**
CO03	**El Pedregal**	**2.58**	**315**	Pn	**Pb**	**13 09 58.7**	**-0.5**
VA01	**Torpederas**	**2.62**	**262**	*e*P	**Pn**	**13 09 56.8**	**+1.8**
VA01				*i* S	**Sn**	**13 10 28.6**	**+1.8**
VA01				IAML		13 10 33.1	
	comp=N,717nm,0.5s						
VA01	**Torpederas**	**2.62**	**262**	Pn	**Pn**	**13 09 55.7**	**+0.7**
BO01	**Tunca**	**2.72**	**230**	Pn	**Pn**	**13 09 56.2**	**-0.2**
VA05	**Santo Domingo**	**2.75**	**248**	*e*P	**Pn**	**13 09 58.4**	**+1.6**
VA05				*i* S	**Sn**	**13 10 31.0**	**+1.3**
VA05				IAML		13 10 36.2	
	comp=E,1μm,0.5s						
VA05	**Santo Domingo**	**2.75**	**248**	Pn	**Pn**	**13 09 57.0**	**+0.2**
BO02	**Sierra Bellavi**	**2.81**	**221**	Pn	**Pn**	**13 09 58.3**	**+0.6**
GO04	**Tololo Observa**	**3.15**	**322**	Pn	**Pb**	**13 10 07.5**	**-1.4**
CO06	**Fray Jorge**	**3.30**	**306**	Pn	**Pn**	**13 10 06.8**	**+2.4**
GO05	**Huala**	**3.65**	**229**	Pn	**Pn**	**13 10 09.9**	**+0.8**
ML02	**Panimavida**	**3.88**	**217**	Pn	**Pn**	**13 10 13.0**	**+0.6**
PLCA	**Paso Flores**	**8.20**	**191**	P	**Pn**	**13 11 15.5**	**+3.8**
	comp=E,0.1nm

ILAR	**Eielson Array**	**81.75**	**23**	P	**P**	**13 35 06.8**	**-0.1**
	0.8nm,0.7s,baz=252,slow=5.3,SNR=8.2						
YKA	**Yellowknife Ar**	**95.30**	**28**	P	**P**	**13 36 12.2**	**0.0**
	0.2nm,0.8s,baz=271,slow=4.3,SNR=4.1						

*ISK **13** 13:26:35.2,37.15N×28.60E,h10km,ML2.5/8*
*DDA **13** 13:26:36.0±0.0,37.21N×28.58E,h7km±5km,ML2.0*
ISC 13 13:26:36.0±1.0,37.18N±0.03×28.58E±0.02,h8km±9km, n23,σ1§10/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.22**	**291**	P	**Pg**	**13 26 40.7**	**+0.2**
MULA				S	**Sg**	**13 26 44.8**	**+1.2**
MULA				*i* AML	AML	13 26 45.0	
	comp=E,420nm,0.5s						
MULA				*i* AML	AML	13 26 45.0	
	comp=N,528nm,0.3s						
YER	**Yerkesik**	**0.24**	**260**	PG	**Pg**	**13 26 40.9**	**0.0**
YER				SG	**Sg**	**13 26 44.9**	**+0.7**
TAVA	**DENIZLI_Tavas**	**0.39**	**42**	P	**Pg**	**13 26 42.9**	**-0.7**
TAVA				S	**Sg**	**13 26 48.8**	**0.0**
TAVA				*i* AML	AML	13 26 50.0	
	comp=N,165nm,0.1s						
TAVA				*i* AML	AML	13 26 51.0	
	comp=E,156nm,0.3s						
TURN	**Turunc**	**0.48**	**214**	PG	**Pg**	**13 26 44.4**	**-1.0**
TURN				SG	**Sg**	**13 26 52.0**	**+0.3**
MRSB	**Marmaris-Mugla**	**0.56**	**214**	PG	**Pg**	**13 26 46.1**	**-0.6**
CAEL	**Denizli, Camel**	**0.59**	**95**	P	**Pb**	**13 26 48.7**	**0.0**
CAEL				S	**Sn**	**13 26 59.7**	**-1.0**
CAEL				*i* AML	AML	13 27 00.0	
	comp=N,128nm,0.9s						
CAEL				*i* AML	AML	13 27 03.0	
	comp=E,151nm,1.0s						
CAME	**Cameli-Denizli**	**0.62**	**112**	PG	**Pg**	**13 26 46.9**	**-1.1**
CAME				SG	**Sg**	**13 26 56.2**	**0.0**
FETY	**Fethiye**	**0.67**	**143**	PG	**Pg**	**13 26 48.2**	**-0.8**
FETY	**Fethiye**	**0.67**	**143**	P	**Pg**	**13 26 48.3**	**-0.6**
FETY				S	**Sg**	**13 26 57.1**	**-0.7**
FETY				*i* AML	AML	13 27 00.0	
	comp=N,62nm,0.6s						
FETY				*i* AML	AML	13 27 01.0	
	comp=E,73nm,0.6s						
AYDN	**Tasoluk**	**0.74**	**311**	P	**Pb**	**13 26 50.4**	**-0.7**
AYDN				S	**Sg**	**13 26 59.7**	**-0.2**
AYDN				*i* AML	AML	13 27 01.0	
	comp=N,61nm,0.5s						
AYDN				*i* AML	AML	13 27 05.0	
	comp=E,71nm,0.3s						
GOLH	**Golhisar**	**0.78**	**85**	P	**Pg**	**13 26 50.0**	**-1.0**
GOLH				S	**Sb**	**13 27 03.3**	**+0.6**
DAT	**Datca**	**0.92**	**241**	PG	**Pg**	**13 26 53.6**	**-0.1**
DAT	**Datca**	**0.92**	**241**	P	**Pg**	**13 26 53.5**	**-0.1**
DAT				S	**Sn**	**13 27 08.7**	**0.0**
DAT				*i* AML	AML	13 27 12.0	
	comp=N,48nm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**0.94**	**325**	PG	**Pb**	**13 26 54.4**	**-0.3**
BODT	**Bodrum**	**1.02**	**264**	PG	**Pb**	**13 26 55.7**	**-0.2**
ARG	**Arkhangelos**	**1.03**	**201**	PG	**Pg**	**13 26 54.3**	**-1.4**
GCAM	**G?zelcaml?**	**1.19**	**296**	PN	**Pg**	**13 26 59.1**	**+0.2**
GCAM	**G?zelcaml?**	**1.19**	**296**	P	**Pg**	**13 26 59.1**	**+0.2**
GCAM				*i* AML	AML	13 27 11.0	
	comp=N,95nm,0.9s						
GCAM				S	**Sn**	**13 27 15.1**	**-0.2**
GCAM				*i* AML	AML	13 27 19.0	
	comp=E,33nm,0.6s						
AKAS	**Kas**	**1.25**	**139**	PN	**Pg**	**13 26 59.7**	**-0.3**
AKAS	**Kas**	**1.25**	**139**	P	**Pg**	**13 27 00.3**	**+0.3**
AKAS				S	**Sn**	**13 27 19.4**	**+2.5**
AKAS				*i* AML	AML	13 27 24.0	
	comp=E,67nm,0.4s						
AKAS				*i* AML	AML	13 27 25.0	
	comp=Z,60nm,0.6s						
KULA	**Kula-Manisa**	**1.34**	**3**	PN	**Pn**	**13 27 00.4**	**-0.6**
PASA	**Karahalli, USA**	**1.37**	**31**	P	**Pn**	**13 27 01.2**	**-0.3**
PASA				S	**Sg**	**13 27 20.0**	**-0.1**
KORT	**Korkueli**	**1.42**	**97**	P	**Pn**	**13 27 01.9**	**-0.3**
KORT				*i* AML	AML	13 27 25.0	
	comp=N,29nm,1.0s						
KORT				S	**Sg**	**13 27 26.4**	**+4.6**
KORT				*i* AML	AML	13 27 27.0	
	comp=E,24nm,1.1s						

*VAO **13** 13:31:02.7±0.4,24.09S×67.11W,h158km,mb4.7*
*NEIC **13** 13:31:03.6±1.4,24.15S±0.06×67.08W±0.09,h160km±6km, mb4.9/52,Error ellipse: s-maj=11.4km s-min=9.2km az=82.0*
*IDC **13** 13:31:04.0±0.8,24.11S×67.07W,h167km±7km,mb4.1/14, mb1 4.3/21,mb1mx4.2/28,mbtmp4.6/21,MS2.7/1, Ms1 2.7/1,ms1mx2.4/54,Error ellipse: s-maj=14.0km s-min=9.5km az=48.0*
*GUC **13** 13:31:06.2±0.6,24.07S×67.37W,h190km±7km,ML4.9*
ISC 13 13:31:03.5±0.6,24.11S±0.04×67.11W±0.05,h167km±5km, n290,σ1§01/308,mb4.8/35,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.23**	**312**	P	**Pn**	**13 31 44.3**	**+1.6**
	310nm,0.3s,baz=136,slow=7.6,SNR=646						
LVC				S	**Sn**	**13 32 13.9**	**+0.9**
	172nm,0.3s,baz=116,slow=7.0,SNR=16						
LVC	**Limon Verde**	**2.23**	**312**	*e*P	**Pn**	**13 31 44.3**	**+1.6**
LVC				*i* S	**Sn**	**13 32 13.8**	**+0.8**
PB15	**IPOC Station P**	**2.34**	**292**	*e*P	**Pn**	**13 31 45.0**	**+1.1**
PB15				*i* S	**Sn**	**13 32 15.0**	**-0.1**
PB15	**IPOC Station P**	**2.34**	**292**		**Pn**	**13 31 44.3**	**+0.4**
PB06	**IPOC Station P**	**2.66**	**301**	*e*P	**Pn**	**13 31 48.6**	**+1.0**
PB06				*i* S	**Sn**	**13 32 21.1**	**-0.7**
PB06				IAML		13 32 23.5	
	comp=N,4μm,0.2s						
PB06	**IPOC Station P**	**2.66**	**301**	Pn	**Pn**	**13 31 48.4**	**+0.8**
PB09	**IPOC Station P**	**3.03**	**319**	*e*P	**Pn**	**13 31 53.6**	**+1.5**
PB09				*i* S	**Sn**	**13 32 30.0**	**+0.1**
PB09				IAML		13 32 31.7	
	comp=N,2μm,0.6s						
PB14	**IPOC Station P**	**3.05**	**260**		**Pn**	**13 31 51.9**	**-0.6**
PB05	**IPOC Station P**	**3.10**	**293**	*e*P	**Pn**	**13 31 53.2**	**+0.2**
PB05				*i* S	**Sn**	**13 32 28.9**	**-2.5**
PB05				IAML		13 32 32.9	
	comp=N,1μm,0.7s						
PB03	**IPOC Station P**	**3.19**	**310**	*e*P	**Pn**	**13 31 54.7**	**+0.6**
PB03				*i* S	**Sn**	**13 32 31.8**	**-1.6**
PB03				IAML		13 32 34.6	
	comp=E,2μm,0.5s						
PB10	**IPOC Station P**	**3.21**	**280**	*e*P	**Pn**	**13 31 54.3**	**+0.1**
PB10				*i* S	**Sn**	**13 32 31.1**	**-2.5**
PB10				IAML		13 32 36.5	
	comp=E,1μm,0.3s						
AC02	**Maricunga**	**3.27**	**214**	Pn	**Pn**	**13 31 55.6**	**+0.3**
PB04	**IPOC Station P**	**3.31**	**302**	*e*P	**Pn**	**13 31 55.8**	**+0.2**
PB04				*i* S	**Sn**	**13 32 34.0**	**-2.1**
PB04				IAML		13 32 37.6	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	**3.31**	**302**	Pn	**Pn**	**13 31 56.0**	**+0.4**
PB07	**IPOC Station P**	**3.49**	**312**	*e*P	**Pn**	**13 31 58.4**	**+0.5**
PB07				*i* S	**Sn**	**13 32 38.0**	**-2.3**
PB07	**IPOC Station P**	**3.49**	**312**	Pn	**Pn**	**13 31 58.4**	**+0.5**
PB01	**IPOC Station P**	**3.76**	**324**	*i* S	**Sn**	**13 32 44.3**	**-2.0**
PB02	**IPOC Station P**	**3.79**	**317**	*e*P	**Pn**	**13 32 01.2**	**-0.4**
PB02				*i* S	**Sn**	**13 32 44.2**	**-2.7**
PB08	**IPOC Station P**	**4.38**	**334**	*e*P	**Pn**	**13 32 10.7**	**+1.1**
PB08				*i* S	**Sn**	**13 33 00.6**	**-0.5**
TA01	**Diego Aracena**	**4.53**	**321**	*i* S	**Sn**	**13 33 00.7**	**-3.4**
PB11	**IPOC Station P**	**4.93**	**331**	*e*P	**Pn**	**13 32 15.9**	**-0.6**
PB11				*i* S	**Sn**	**13 33 10.2**	**-3.5**
AC04	**Llanos de Chal**	**5.41**	**220**	Pn	**Pn**	**13 32 19.7**	**-2.9**
PB12	**IPOC Station P**	**6.24**	**331**	Pn	**Pn**	**13 32 32.8**	**-0.9**
LPAZ	**La Paz**	**7.84**	**353**	P	**Pn**	**13 32 56.8**	**+1.4**
	comp=N,12nm,0.3s,baz=151,slow=6.1,SNR=196						
LPAZ				S	**Sn**	**13 34 23.6**	**-0.1**
	comp=N,2.5nm,0.3s,baz=152,slow=19,SNR=5.6						
LPAZ	**La Paz**	**7.84**	**353**		**Pn**	**13 32 56.3**	**+0.8**
CPUP	**Villa Florida**	**9.13**	**106**	P	**Pn**	**13 33 13.0**	**+1.2**
	comp=N,0.4nm,0.3s,baz=292,slow=12,SNR=8.1						
CPUP				LR	LR	13 37 15.2	
	comp=N,52nm,21.1s,baz=49,slow=41						
CPUP	**Villa Florida**	**9.13**	**106**	*e*P	**Pn**	**13 33 10.8**	**-0.9**
SIV	**San Ignacio**	**9.87**	**36**	P	**Pn**	**13 33 21.1**	**-0.6**
	comp=N,3.4nm,0.3s,baz=212,slow=13,SNR=27						
SIV				S	**Sn**	**13 35 08.6**	**-2.8**
	comp=N,0.1nm,0.3s,baz=283,slow=22,SNR=4.5						
ITQB	**Itaqui**	**10.87**	**123**	*e*P	**Pn**	**13 33 34.9**	**+0.3**
AQDB	**Aquidauana**	**11.17**	**73**	*e*P	**Pn**	**13 33 38.3**	**-0.2**
AQDB	**Aquidauana**	**11.17**	**73**	Pn	**Pn**	**13 33 38.1**	**-0.4**
PTLB	**Pontes e Lacer**	**11.43**	**42**	*e*P	**Pn**	**13 33 42.1**	**+0.1**
PP1B	**Ponte de Pedra**	**13.14**	**63**	*e*P	**Pn**	**13 34 03.8**	**-0.1**
SALV	**Santo Antonio**	**13.48**	**55**	*e*P	**Pn**	**13 34 08.3**	**0.0**
CPSB	**Cacapava Do Su**	**13.67**	**120**	*e*P	**Pn**	**13 34 10.1**	**-0.5**
PTGB	**Pitanga**	**13.72**	**96**	*e*P	**Pn**	**13 34 11.5**	**+0.1**
ITAB	**Concordia**	**13.86**	**106**	*e*P	**Pn**	**13 34 12.6**	**-0.3**
ITAB	**Concordia**	**13.86**	**106**		**Pn**	**13 34 12.9**	**-0.1**
PLTB	**Pedras Altas**	**14.15**	**126**	*e*P	**Pn**	**13 34 15.7**	**-1.0**
PLTB	**Pedras Altas**	**14.15**	**126**		**Pn**	**13 34 14.8**	**-1.8**
ETMB	**Extrema**	**14.24**	**4**	*e*P	**Pn**	**13 34 16.4**	**-1.5**
PCMB	**Pacaembu**	**14.82**	**83**	*e*P	**Pn**	**13 34 25.6**	**+0.6**
NNA	**Nana**	**15.19**	**321**	P	**P**	**13 34 30.8**	**0.0**
	comp=N,1.2nm,0.3s,baz=166,slow=11,SNR=6.8						
PDRB	**Porto dos Gac**	**15.87**	**40**	*e*P	**Pn**	**13 34 38.2**	**+0.3**
FRTB	**Fartura**	**16.09**	**91**	*e*P	**P**	**13 34 41.1**	**+0.5**
ITRB	**Iturama**	**16.15**	**77**	*e*P	**P**	**13 34 41.2**	**-0.2**
TIJ01	**Guaruva-PR**	**16.50**	**98**	*e*P	**P**	**13 34 46.2**	**+0.9**
TER01	**Tubaro-SC**	**16.71**	**109**	*e*P	**P**	**13 34 47.6**	**+0.2**
PLCA	**Paso Flores**	**16.82**	**189**	P	**P**	**13 34 48.7**	**+0.1**
	comp=N,1.0nm,0.3s,baz=11,slow=10,SNR=29						
PLCA	**Paso Flores**	**16.82**	**189**	*e*P	**P**	**13 34 49.0**	**+0.3**
CLDB	**Colider**	**17.01**	**41**	*e*P	**P**	**13 34 50.6**	**-0.2**
CZSB	**Cruzeiro do Su**	**17.15**	**341**	*e*P	**Pn**	**13 34 53.6**	**+0.3**
BB19B	**Bebedouro**	**17.43**	**84**	*e*P	**P**	**13 34 56.1**	**+0.7**
LL03	**Petrohue**	**17.55**	**193**	P	**P**	**13 34 56.1**	**-0.4**
RCLB	**Rio Claro- Sao**	**18.07**	**89**	*e*P	**P**	**13 35 02.5**	**+0.1**
PET01	**Itanhaem-SP**	**18.10**	**95**	*e*P	**P**	**13 35 02.9**	**+0.2**
VAO	**Valinhos**	**18.50**	**91**	*e*P	**P**	**13 35 07.0**	**-0.2**
IPMB	**Ipameri, GO**	**18.66**	**75**	*e*P	**P**	**13 35 09.1**	**+0.2**
SNDB	**Serra Nova Dou**	**19.26**	**54**	*e*P	**P**	**13 35 15.3**	**-0.1**
PARB	**Paraibuna**	**19.69**	**92**	*e*P	**P**	**13 35 19.8**	**-0.3**
BDFB	**Brasilia**	**19.82**	**68**	P	**P**	**13 35 22.0**	**+0.4**
	comp=N,8.9nm,0.3s,baz=245,slow=9.5,SNR=128						
BDFB	**Brasilia**	**19.82**	**68**	P	**P**	**13 35 21.4**	**-0.1**
TBTG	**Tabatinga, AM**	**20.00**	**352**	*e*P	**P**	**13 35 24.4**	**+1.1**
TBTG	**Tabatinga, AM**	**20.00**	**352**	P	**P**	**13 35 24.0**	**+0.7**
ATAH	**Atahualpa**	**20.05**	**326**	P	**P**	**13 35 25.7**	**+1.4**
	comp=N,7.8nm,0.8s,baz=132,slow=11,SNR=5.1						
NPGB	**Novo Progresso**	**20.38**	**35**	*e*P	**P**	**13 35 26.0**	**-1.4**
BSCB	**Bom Sucesso**	**20.86**	**86**	*e*P	**P**	**13 35 32.1**	**-0.5**
PEXB	**Peixe**	**21.47**	**60**	*e*P	**P**	**13 35 38.0**	**-1.0**
MACA	**Manacapuru-AM**	**21.73**	**18**	*e*P	**P**	**13 35 40.7**	**-1.1**
VAS01	**Vassouras-RJ**	**21.83**	**90**	*e*P	**P**	**13 35 42.4**	**-0.4**
ITTB	**Itaituba**	**22.49**	**31**	*e*P	**P**	**13 35 47.9**	**-1.2**
DIAM	**Diamantina, MG**	**22.59**	**80**	*e*P	**P**	**13 35 49.9**	**-0.4**
JANB	**Januaria**	**23.26**	**71**	*e*P	**P**	**13 35 55.5**	**-0.9**
CAM01	**Campos-RJ**	**23.54**	**90**	*e*P	**P**	**13 35 58.4**	**-0.3**
SMTB	**Santa Maria do**	**24.04**	**54**	*e*P	**P**	**13 36 03.1**	**-0.2**
SDBA	**SAO DESIDERIO**	**24.05**	**65**	*e*P	**P**	**13 36 02.8**	**-0.7**
PRPB	**Parauapebas**	**24.38**	**46**	*e*P	**P**	**13 36 06.0**	**-0.4**
ALF01	**Guarapari-ES**	**24.63**	**87**	*e*P	**P**	**13 36 08.1**	**-0.5**
SJMB	**Sao Joao De Ma**	**24.71**	**82**	*e*P	**P**	**13 36 10.1**	**+0.7**
BSFB	**Barra de Sao F**	**24.98**	**83**	*e*P	**P**	**13 36 11.1**	**-0.8**
RIB01	**Linhares ES**	**25.26**	**84**	*e*P	**P**	**13 36 13.4**	**-0.9**
MALB	**Monte Alegre**	**25.38**	**31**	*e*P	**P**	**13 36 14.1**	**-1.4**
OTAV	**Otavalo**	**26.59**	**334**	*e*P	**P**	**13 36 26.5**	**-0.4**
GUA01	**Guaratinga, BA**	**26.64**	**79**	*e*P	**P**	**13 36 26.3**	**-0.5**
BOAV	**Boa Vista**	**27.12**	**15**	*e*P	**P**	**13 36 31.4**	**+0.3**
BOAV	**Boa Vista**	**27.12**	**15**	P	**P**	**13 36 31.3**	**+0.3**
CMC01	**Camacan, BA**	**27.35**	**77**	*e*P	**P**	**13 36 32.3**	**-0.8**
NBIT	**Itapeh - BA**	**27.59**	**76**	*e*P	**P**	**13 36 35.1**	**-0.2**
MCPB	**Macapa, AP**	**27.76**	**34**	*e*P	**P**	**13 36 36.5**	**-0.3**
GDU01	**Guandu, BA**	**27.97**	**73**	*e*P	**P**	**13 36 37.5**	**-1.2**
NBPN	**Ponto Novo - B**	**28.79**	**67**	*e*P	**P**	**13 36 45.3**	**-0.7**
NBLA	**Lagarto - SE**	**30.77**	**70**	*e*P	**P**	**13 37 01.8**	**-1.7**
NBPS	**Pedro II - PI**	**31.55**	**56**	*e*P	**P**	**13 37 09.3**	**-1.1**
NBMA	**Muriti-CE**	**31.86**	**63**	*e*P	**P**	**13 37 12.9**	**-0.1**
NBPB	**Pedra_Branca-C**	**32.27**	**60**	*e*P	**P**	**13 37 15.7**	**-0.9**
ZARC	**Zaragoza, Cauc**	**32.31**	**346**	P	**P**	**13 37 15.4**	**-1.5**
ZARC				IAmb	IAmb	13 37 16.7	
	comp=Z,10.0nm,0.7s						
BAUV	**El Baul**	**32.87**	**358**	P	**P**	**13 37 20.9**	**-0.7**
BAUV				IAmb	IAmb	13 37 21.8	
	comp=Z,32nm,0.8s						
SDV	**Santo Domingo**	**32.98**	**354**	*e*P	**P**	**13 37 22.3**	**-0.5**
NBCL	**Cascavel-CE**	**34.09**	**59**	*e*P	**P**	**13 37 33.0**	**+0.7**
NBRF	**Rio Formoso -**	**34.19**	**69**	*e*P	**P**	**13 37 32.3**	**-0.9**
BIRV	**Birongo**	**34.39**	**1**	P	**P**	**13 37 34.6**	**-0.3**
BIRV				IAmb	IAmb	13 38 51.1	
	comp=Z,28nm,1.2s						
RCBR	**Riachuelo**	**35.06**	**64**	*e*P	**P**	**13 37 41.7**	**+0.9**
NBPV	**Pedro Velho**	**35.24**	**65**	*e*P	**P**	**13 37 41.9**	**-0.3**
TOSP	**Speyside**	**35.78**	**11**	P	**P**	**13 37 47.2**	**+0.5**
TOSP				IAmb	IAmb	13 38 55.7	
	comp=Z,61nm,1.4s						
MLPR	**Magueyes Islan**	**41.83**	**0**	P	**P**	**13 38 36.0**	**-0.9**
MLPR				IAmb	IAmb	13 38 36.7	
	comp=Z,36nm,0.9s						
CRPR	**Cabo Rojo, PR**	**41.86**	**0**	P	**P**	**13 38 35.7**	**-1.5**
CRPR				IAmb	IAmb	13 38 36.4	
	comp=Z,32nm,0.8s						
CELP	**Cerrillos**	**41.94**	**1**	P	**P**	**13 38 36.6**	**-1.3**
CELP				IAmb	IAmb	13 38 37.8	
	comp=Z,21nm,0.6s						
MTO3	**Montecristo**	**44.02**	**328**	P	**P**	**13 38 56.3**	**+1.4**
MTO3				IAmb	IAmb	13 38 56.9	
	comp=Z,16nm,0.7s						
SMAI	**San Martin Ant**	**44.03**	**180**	P	**P**	**13 38 54.9**	**+0.8**
VNA3	**Neumayer Olymp**	**57.08**	**161**	P	**P**	**13 40 32.5**	**+0.7**
VNA1	**Neumayer--Stat**	**57.28**	**160**	P	**P**	**13 40 33.8**	**+0.6**
VNA1	**Neumayer--Stat**	**57.28**	**160**	pP	pP	13 41 09.0	-4.1
VNA2	**Neumayer--Watz**	**57.65**	**160**	P	**P**	**13 40 35.7**	**-0.1**
	baz=284,slow=7.5						
VNA2				S	**S**	**13 48 22.9**	**+2.3**
	baz=32,slow=36						
VNA2	**Neumayer--Watz**	**57.65**	**160**	ScP	**ScP**	**13 45 10.9**	**-0.2**
NHSC	**New Hope**	**58.25**	**347**	P	**P**	**13 40 39.8**	**-0.5**
	baz=166						
SNAA	**Sanae**	**59.28**	**161**	P	**P**	**13 40 47.1**	**0.0**
SNAA	**Sanae**	**59.28**	**161**	ScP	**ScP**	**13 45 15.6**	**-2.8**
SNAA	**Sanae**	**59.28**	**161**	P	**P**	**13 40 47.1**	**0.0**
	comp=Z,4.7nm,0.6s,baz=239,slow=5.9						
SNAA	**Sanae**	**59.28**	**161**	P	**P**	**13 40 47.5**	**+0.4**
GOGA	**Godfrey**	**59.29**	**344**	P	**P**	**13 40 47.0**	**-0.5**
	baz=163						
JSC	**Jenkinsville**	**59.61**	**346**	P	**P**	**13 40 50.1**	**+0.4**
JSC				IAmb	IAmb	13 40 51.0	
	comp=Z,19nm,1.0s						
BIRD	**Birdtown, Kers**	**59.80**	**347**	P	**P**	**13 40 51.6**	**+0.6**
W57A	**Gilead**	**60.20**	**348**	P	**P**	**13 40 54.2**	**+0.5**
KMSC	**Kings Mountain**	**60.45**	**347**	P	**P**	**13 40 55.4**	**-0.1**
	baz=165						
Y49A	**Blount Mountai**	**60.51**	**342**	P	**P**	**13 40 55.7**	**-0.2**
Y49A				IAmb	IAmb	13 43 03.5	
	comp=Z,33nm,1.6s						
833A	**Chaparral WMA,**	**60.71**	**327**	P	**P**	**13 40 58.2**	**+0.8**
833A	**Chaparral WMA,**	**60.71**	**327**	P	**P**	**13 40 57.9**	**+0.6**
	baz=146						
V55A	**Taylorsville**	**61.12**	**347**	P	**P**	**13 41 00.3**	**+0.4**
V55A				IAmb	IAmb	13 41 01.4	
	comp=Z,21nm,0.7s						
V53A	**Saluda**	**61.29**	**345**	P	**P**	**13 41 01.3**	**+0.1**
SWET	**Sewanee**	**61.64**	**343**	P	**P**	**13 41 02.9**	**-0.6**
SWET				IAmb	IAmb	13 41 03.8	
	comp=Z,14nm,0.7s						
BLA	**Blacksburg**	**62.27**	**348**	P	**P**	**13 41 07.7**	**0.0**
	baz=166						
JCT	**Junction City**	**62.69**	**328**	P	**P**	**13 41 10.9**	**+0.2**
JCT				IAmb	IAmb	13 41 11.9	
	comp=Z,18nm,0.8s						
JCT	**Junction City**	**62.69**	**328**	P	**P**	**13 41 11.0**	**+0.4**
	baz=146						
WHTX	**Lake Whitney,**	**62.88**	**331**	P	**P**	**13 41 12.0**	**+0.2**
	baz=149						
HPIG		**62.94**	**321**	P	**P**	**13 41 13.3**	**+0.7**
HPIG				IAmb	IAmb	13 41 14.2	
	comp=Z,7.9nm,0.5s						
WVT	**Waverly**	**63.04**	**341**	P	**P**	**13 41 12.1**	**-0.6**
WVT				IAmb	IAmb	13 41 13.0	
	comp=Z,24nm,1.1s						
WVT	**Waverly**	**63.04**	**341**	P	**P**	**13 41 11.9**	**-0.9**
	baz=159						
MIAR	**Mount Ida**	**63.52**	**336**	P	**P**	**13 41 16.2**	**+0.2**
MIAR				IAmb	IAmb	13 41 16.9	
	comp=Z,22nm,1.2s						
MIAR	**Mount Ida**	**63.52**	**336**	P	**P**	**13 41 16.0**	**0.0**
	baz=153,SNR=5.4						
W41B	**Gary Mavity, V**	**63.60**	**337**	P	**P**	**13 41 15.9**	**-0.5**
	baz=154						
TX31	**Lajitas Ar. Si**	**63.71**	**325**	P	**P**	**13 41 18.3**	**+0.8**
TX31				IAmb	IAmb	13 41 18.6	
	comp=Z,11nm,0.8s						
TX32	**Lajitas Array**	**63.71**	**325**	P	**P**	**13 41 18.3**	**+0.8**
TXAR	**Lajitas Array**	**63.71**	**325**	P	**P**	**13 41 18.0**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=152,slow=8.2,SNR=29						
TXAR	**Lajitas Array**	**63.71**	**325**	P	**P**	**13 41 17.7**	**+0.2**
W39A	**Magazine**	**64.18**	**336**	P	**P**	**13 41 20.9**	**+0.6**
W39A				IAmb	IAmb	13 41 21.8	
	comp=Z,20nm,0.8s						
W39A	**Magazine**	**64.18**	**336**	P	**P**	**13 41 20.8**	**+0.6**
	baz=153,SNR=9.2						
MCWV	**Mont Chateau**	**64.55**	**349**	P	**P**	**13 41 22.7**	**+0.1**
	baz=167						
WCI	**Wyandotte Cave**	**64.58**	**343**	P	**P**	**13 41 22.2**	**-0.6**
	baz=161						
U40A	**Yellville**	**64.87**	**337**	P	**P**	**13 41 24.6**	**-0.2**
	baz=154						
P52A	**Corning**	**64.95**	**347**	P	**P**	**13 41 24.7**	**-0.4**
	baz=165						
O53A	**New Philadelph**	**65.37**	**348**	P	**P**	**13 41 27.5**	**-0.3**
	baz=166						
P49A	**Miami Univ. Ec**	**65.42**	**345**	P	**P**	**13 41 27.7**	**-0.5**
	baz=162						
FVM	**French Village**	**65.54**	**340**	P	**P**	**13 41 28.9**	**-0.1**
TUL1	**Leonard**	**65.57**	**335**	P	**P**	**13 41 29.4**	**+0.2**
	baz=151						
ACSO	**Alum Creek Sta**	**65.70**	**347**	P	**P**	**13 41 29.6**	**-0.3**
	baz=164						
WMOK	**Wichita Mounta**	**65.80**	**332**	P	**P**	**13 41 30.6**	**-0.1**
	baz=148						
N54A	**Moraine State**	**65.84**	**349**	P	**P**	**13 41 31.5**	**+0.6**
	baz=167						
CCM	**Cathedral Cave**	**65.86**	**339**	P	**P**	**13 41 31.1**	**0.0**
CCM				IAmb	IAmb	13 41 31.7	
	comp=Z,26nm,1.1s						
CCM	**Cathedral Cave**	**65.86**	**339**	P	**P**	**13 41 30.7**	**-0.4**
	baz=156						
OK034	**N. Norfolk Rd.**	**66.02**	**334**	P	**P**	**13 41 32.8**	**+0.6**
OK031	**S. Brethren Rd**	**66.03**	**334**		**P**	**13 41 32.6**	**+0.5**
QSPA	**South Pole Qui**	**66.09**	**180**	P	**P**	**13 41 33.2**	**+0.8**
	comp=Z,6.7nm,0.5s,baz=339,slow=1.1,SNR=112						
QSPA	**South Pole Qui**	**66.09**	**180**	P	**P**	**13 41 33.1**	**+0.7**
QSPA				IAmb	IAmb	13 41 33.9	
	comp=Z,7.4nm,0.6s						
M54A	**Oil Creek Stat**	**66.32**	**350**	P	**P**	**13 41 34.0**	**+0.1**
	baz=168						
MNTX	**Cornudas Mount**	**66.48**	**325**	P	**P**	**13 41 35.0**	**-0.1**
	baz=142						
BINY	**Binghamton**	**66.49**	**353**	P	**P**	**13 41 33.2**	**-1.8**
	baz=171						
SFIN	**Lafayette**	**66.81**	**343**	P	**P**	**13 41 35.8**	**-1.2**
	baz=160						
ERPA	**Erie**	**66.97**	**350**	P	**P**	**13 41 37.6**	**-0.3**
	baz=167						
AMTX	**Amarillo**	**67.22**	**330**	P	**P**	**13 41 39.2**	**-0.6**
	baz=146						
DBIC	**Dimbokro**	**67.93**	**72**	P	**P**	**13 41 44.5**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=258,slow=5.8,SNR=4.4						
121A	**Cookes Peak, D**	**68.41**	**324**	P	**P**	**13 41 48.5**	**+1.0**
	baz=140						
ANMO	**Albuquerque**	**69.58**	**326**	P	**P**	**13 41 56.1**	**+1.4**
ANMO				IAmb	IAmb	13 41 57.1	
	comp=Z,13nm,0.9s						
ANMO	**Albuquerque**	**69.58**	**326**	P	**P**	**13 41 55.6**	**+0.9**
	baz=142						
CBKS	**Cedar Bluff**	**69.66**	**333**	P	**P**	**13

CWC	Cottonwood Cre	77.07	320	P		P	13 42 39.9	+1.4
	baz=133							
BW06	Boulder Array	77.19	329	P		P	13 42 39.5	+0.4
BW06	Boulder Array	77.19	329	P		P	13 42 39.6	+0.5
	baz=141							
PDAR	Pinedale Array	77.19	329	P		P	13 42 39.8	+0.7
	comp=Z,1.6nm,0.5s,baz=135,slow=7.8,SNR=19							
HWUT	Hardware Ranch	77.27	327	P		P	13 42 40.0	+0.6
MDND	Maddock	77.36	338	P		P	13 42 40.5	+0.9
	baz=150							
SMMC	Simmler	77.46	318	P		P	13 42 42.0	+1.6
	baz=132							
TSUM	Tsumeb	77.72	106	P		P	13 42 42.5	0.0
ULM	Lac du Bonnet	78.30	342	P		P	13 42 44.8	+0.1
	comp=Z,10nm,0.7s,baz=153,slow=7.1,SNR=13							
NVAR	Mina Array Bea	78.56	321	P		P	13 42 48.1	+1.4
	comp=Z,1.8nm,0.6s,baz=148,slow=5.4,SNR=12							
SCHQ	Schefferville	78.62	0	P		P	13 42 46.6	+0.2
	comp=Z,2.3nm,0.5s,baz=244,slow=5.9,SNR=5.8							
LAO	LASA Array	78.85	334	P		P	13 42 48.7	+0.8
	baz=144							
KVN	Kaiserville	78.88	322	P		P	13 42 49.3	+0.9
RLMT	Red Lodge	78.89	331	P		P	13 42 49.7	+1.4
	baz=141							
H17A	Grant Village	78.92	330	P		P	13 42 50.3	+1.7
	baz=140							
DGMT	Dagmar	79.52	336	P		P	13 42 52.7	+1.3
	baz=146							
HLID	Hailey	80.13	327	P		P	13 42 56.6	+1.6
	baz=137							
BOSA	Boshof	80.77	117	P		P	13 42 59.3	+0.4
	comp=Z,7.5nm,0.5s,baz=250,slow=3.1,SNR=22							
BOSA	Boshof	80.77	117	P		P	13 42 59.0	+0.1
BOSA				IAmb		IAmb	13 42 59.8	
	comp=Z,9.7nm,0.6s							
MAW	Mawson	81.36	163	P		P	13 43 01.9	+0.9
	comp=Z,4.0nm,0.5s,baz=200,slow=6.5,SNR=6.7							
MAW	Mawson	81.36	163	IAmb		IAmb	13 44 22.6	
	comp=Z,32nm,1.9s							
EGMT	Eagleton	81.37	333	P		P	13 43 01.9	+0.5
	baz=141							
PLID	Pearl Lake	82.02	327	P		P	13 43 06.0	+1.0
PLID				IAmb		IAmb	13 43 07.1	
	comp=Z,13nm,0.8s							
MSO	Missoula	82.31	330	P		P	13 43 07.5	+1.2
	baz=138							
LBTB	Lobatse	82.43	114	P		P	13 43 07.7	+0.1
LBTB				IAmb		IAmb	13 43 08.8	
	comp=Z,9.4nm,0.6s							
N02D	Trinity Center	82.79	321	P		P	13 43 09.5	+0.6
	baz=131							
M04C	Macdoel	82.82	322	P		P	13 43 10.2	+1.1
	baz=131							
JTMT	Jette	83.14	330	P		P	13 43 11.4	+0.8
M02C	Callahan	83.14	321	P		P	13 43 11.8	+1.1
	baz=131							
F10A	Beach Ranch, E	83.25	327	P		P	13 43 12.2	+0.9
K04D	Chiloquin, OR	83.33	323	P		P	13 43 12.7	+1.0
	baz=132							
J05D	Fort Rock, OR	83.48	323	P		P	13 43 13.3	+0.8
	baz=132							
I05D	Terrebonne, OR	84.24	324	P		P	13 43 17.5	+1.3
	baz=132							
H04D	Lebanon	85.12	324	P		P	13 43 21.8	+1.3
	baz=131							
F05D	White Salmon	85.34	325	P		P	13 43 23.0	+1.4
	baz=132							
YKA	Yellowknife Ar	94.20	340	P		P	13 44 03.0	+0.2
	comp=Z,5.0nm,0.7s,baz=132,slow=4.6,SNR=103							
CRAG	Craig	97.03	328	P		P	13 44 16.7	+0.9
	baz=123							
ASAR	Alice Springs	128.31	205	PKP		PKPdf	13 49 50.5	-0.3
	comp=Z,1.9nm,0.7s,baz=140,slow=1.9,SNR=32							
ASAR				SKPbc		SKiKP	13 52 54.2	-18
	comp=Z,0.7nm,1.0s,baz=149,slow=3.3,SNR=5.3							
AKTO	Aktyubinsk	130.43	43	PKP		PKiKP	13 49 54.1	-0.6
	comp=Z,1.0nm,0.6s,baz=200,slow=4.7,SNR=3.7							
WRA	Warramunga Arr	131.48	207	PKP		PKPdf	13 49 57.0	+0.1
	comp=Z,1.2nm,0.5s,baz=160,slow=1.7,SNR=29							
WRA				SKPbc		SKPab	13 53 05.5	-1.8
	comp=Z,2.9nm,0.9s,baz=153,slow=3.4,SNR=14							
PETK	Petropavlovsk-	135.64	323	PKP		PKiKP	13 50 04.5	-0.7
	comp=Z,2.7nm,0.8s,baz=96,slow=3.0,SNR=9.4							
BVAR	Borovoye Array	136.95	37	PKP		PKiKP	13 50 07.3	-0.6
	comp=Z,0.5nm,0.5s,baz=355,slow=5.1,SNR=4.1							
KURK	Kurchatov	142.53	36			PKPdf	13 50 13.0	-3.3
KURBB	Kurchatov Arra	142.53	36	PKhKP		PKPpre	13 50 13.0	
	comp=Z,0.4nm,0.4s,baz=309,slow=3.0,SNR=4.3							
ZALV	Zalesovo Beam	143.54	28	PKP		PKPbc	13 50 16.2	+0.5
	comp=Z,5.2nm,0.5s,baz=294,slow=4.3,SNR=28							
ZALV				SKPbc		SKiKP	13 53 41.1	-0.6
	comp=Z,1.3nm,0.6s,baz=296,slow=3.5,SNR=5.9							
KLRI	Killari	145.68	93	*e*PKiKP		PKiKP	13 50 26.6	-0.2
MKAR	Makanchi Array	146.68	40	PKPbc		PKPdf	13 50 24.2	+0.6
	comp=Z,8.6nm,0.8s,baz=336,slow=1.9,SNR=55							
MKAR				SKPbc		SKiKP	13 53 49.1	+0.5
	comp=Z,0.4nm,0.8s,baz=326,slow=3.1,SNR=3.1							
RCLA	Racherla	147.00	99	*e*PKiKP		PKiKP	13 50 29.3	-0.3
SKHT	Srikalahasti	147.04	102	*e*PKiKP		PKiKP	13 50 29.9	+0.2
SRLM	Srisailam	147.16	98	*e*PKiKP		PKiKP	13 50 29.7	-0.2
HYBB	Hyderabad (bro	147.27	95	*e*PKiKP		PKPab	13 50 30.4	+0.2
HYBB				*es*PKiKP		sPKPdf	13 51 28.7	+0.4
SRSP	Sriramsagar	147.50	92	*e*PKPbc		PKPbc	13 50 28.1	-0.5
NJS	Nagarjunasagar	147.68	97	*e*PKPbc		PKPbc	13 50 28.4	-0.7
ADKI	Addanki	148.05	99	*e*PKPab		PKPab	13 50 32.6	-0.6
RPR	Rampur	148.35	93	*e*PKPbc		PKPbc	13 50 30.2	-0.6
ASAJ	Asahikawa	148.59	317	PKPbc		PKiKP	13 50 31.1	-0.9
	comp=Z,13nm,1.1s,baz=79,slow=5.2,SNR=8.0							
MYLAV	Mylavaram	148.95	98	*e*PKiKP		PKiKP	13 50 34.3	+0.7
PVM	Polavaram	150.01	97	*e*PKPbc		PKPbc	13 50 34.6	-0.3
PVM				*e*PKPab		PKPab	13 50 40.3	-0.9
KLR	Kul'dur	150.88	334	PKPbc		PKiKP	13 50 36.2	-0.4
	comp=Z,8.6nm,0.7s,baz=48,slow=2.0,SNR=28							
CHLP	Challavanipeta	152.59	96	*e*PKPab		PKPab	13 50 51.6	-0.4
MJAR	Matsushiro Arr	154.96	306	PKPbc		PKiKP	13 50 46.8	+1.2
	comp=Z,1.5nm,0.6s,baz=78,slow=2.0,SNR=1.9							
MJAR				PKPab		PKPab	13 51 02.3	+0.7
	comp=Z,7.3nm,0.9s,baz=85,slow=2.5,SNR=7.5							
MAT	Matsushiro	154.96	306	*e*PKP		PKiKP	13 50 45.6	+0.1
SONM	Songino Array	155.77	11	PKPbc		PKPdf	13 50 47.5	+10
	comp=Z,0.4nm,0.4s,baz=340,slow=5.5,SNR=3.7							
SONM				PKPab		PKPab	13 51 05.7	+1.0
	comp=Z,1.1nm,0.6s,baz=313,slow=4.4,SNR=4.9							
CMAR	Chiang Mai Arr	165.84	111	PKPab		PKPab	13 51 50.1	+0.5
	comp=Z,1.6nm,0.8s,baz=258,slow=5.3,SNR=12							
PZH	PanZhiHua	169.64	74	PKP		PKPdf	13 50 51.8	+0.2

INET ***13*** *13:41:58.2±0.4, 12°.35N×87°.86W, h66km±14km, MW3.2*
SNET ***13*** *13:41:59.1±0.5, 12°.41N×87°.99W, h23km±3km, ML3.2*
ISC 13:41:53.3±2.6, 12°.2N±0°.1×87°.98W±0°.08, h3km±16km, n10, σ1§14/15, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.04	60	*e*P		Pg	13 42 15.1	+1.8
CNCH	Conchagua	1.10	7	⇑*e*P		Pg	13 42 15.3	+0.8
CNCH				*e*S		Sg	13 42 28.5	-0.4
JUCU	Jucuarın	1.10	346	*e*P		Pg	13 42 15.2	+0.7
JUCU				*e*S		Sg	13 42 28.0	-0.8
LCND	La Caada	1.13	4	⇓*e*P		Pg	13 42 15.6	+0.5
LCND				*e*S		Sg	13 42 28.5	-1.2
LCND				IAML			13 42 31.4	
	comp=Z,680nm,0.3s							
ALJI	Alcalda de J	1.28	333	*e*P		Pg	13 42 18.5	+0.5
ALJI				*e*S		Sg	13 42 33.4	-1.2
PACA	Pacayal	1.33	345	*e*P		Pg	13 42 19.4	+0.6
PACA				*e*S		Sg	13 42 34.7	-1.4
COPN	Copaltepe	1.35	90	*e*P		Pg	13 42 19.5	+0.2
MOMN	Momotombo	1.42	80	*e*P		Pg	13 42 19.7	-0.9
SCLA	Alcaldia de Sa	1.69	334	⇑*i*P		Pn	13 42 24.8	+1.0
SCLA				*e*S		Sn	13 42 44.7	-1.2
PMON	Piamonte	2.01	320	*e*P		Pn	13 42 14.2	-14

IDC ***13*** *13:42:18.8±1.3, 38°.90N×110°.62E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.3/56, mbtmp3.4/6, ML2.8/1, Error ellipse: s-maj=36.0km s-min=20.2km az=75.0*
ISC 13:13:42:23.9±1.2, 38°.9N±0°.1×110°.5E±0°.2, h35km, n6, σ0§89/6, mb3.4/5, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.38	343	Pn		Pn	13 44 35.8	-0.8
	0.1nm,0.3s,baz=156,slow=14,SNR=10							
SONM				Lg		Lg	13 47 19.7	
	0.1nm,0.3s,baz=158,slow=25,SNR=5.9							
MKAR	Makanchi Array	22.03	300	P		P	13 47 16.0	+0.8
	0.5nm,0.7s,baz=92,slow=12,SNR=7.0							
CMAR	Chiang Mai Arr	22.75	209	P		P	13 47 22.4	-0.7
	1.4nm,0.9s,baz=11,slow=9.5,SNR=12							
KURBB	Kurchatov Arra	25.32	308	P		P	13 47 47.9	+0.8
	0.3nm,0.2s,baz=105,slow=10.0,SNR=4.1							
ASAR	Alice Springs	66.02	157	P		P	13 53 07.1	+0.1
	0.4nm,0.8s,baz=345,slow=6.2,SNR=4.8							
YKA	Yellowknife Ar	72.61	20	P		P	13 53 47.6	+0.3
	0.1nm,0.5s,baz=328,slow=4.9,SNR=3.9							

IDC ***13*** *14:19:24.7±2.5, 36°.37N×71°.32E, h70km±23km, mb4.1/29, mb1 4.3/34, mb1mx4.1/54, mbtmp4.5/34, MS3.2/20, Ms1 3.2/20, ms1mx3.0/89, Error ellipse: s-maj=12.6km s-min=9.6km az=27.0*
MOS ***13*** *14:19:25.9±1.1, 36°.52N×71°.37E, h90km, mb4.7/27, Error ellipse: s-maj=5.9km s-min=3.4km az=89.1*
BJI ***13*** *14:19:25.9±0.0, 36°.49N×71°.47E, h71km, mb4.6/41, mB4.5/21, Ms4.0/5, Ms7 3.7/4*
NEIC ***13*** *14:19:27.6±1.9, 36°.51N±0°.05×71°.21E±0°.08, h86km±5km, mb4.7/33, Mwr4.5/16, Error ellipse: s-maj=9.3km s-min=7.7km az=85.0*
NEIC ***13*** *14:19:27.8, 36°.51N×71°.20E, h74km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.71; $M_{\theta\theta}$-3.51; $M_{\phi\phi}$-2.19; $M_{r\theta}$-3.49; $M_{\theta\phi}$-2.48; $M_{\phi r}$0.02; Fault plane solution: $M_0$6.57000×10^{15} NP1:φs38.45000°, δ33.52000°, λ63.12000°. NP2:φs249.75000°, δ60.49000°, λ106.67000°. Principal axes: T 6.9514, Plg70.0000°, Azm196.0000°; N -0.8412, Plg14.0000°, Azm61.0000°; P -6.1102, Plg14.0000°, Azm328.0000°;*
NNC ***13*** *14:19:29.3±2.5, 36°.83N×70°.85E, h128km±30km, mb4.2, mpv5.0 Error ellipse: s-maj=21.9km s-min=12.0km az=163.0*
ISC 13 14:19:26.2±0.4, 36°.48N±0°.03×71°.21E±0°.04, h80km±3km, h80km:pP-P, n324, σ1§83/353, mb4.6/86, 19C-17D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.62	223	PN		Pn	14 20 09.3	+2.7
KBL	Kabul	2.62	223			Pn	14 20 09.3	+2.7
CEP	Cherat	2.71	168	P		Pn	14 20 10.3	+2.6
CEP				S		Sn	14 20 43.0	+3.4
CHGR	Chuyangaron	2.72	324	PN		Pn	14 20 08.3	+0.5
CHGR	Chuyangaron	2.72	324	Pn		Pn	14 20 08.3	+0.5
DRK	Karamyk	3.04	9			Pn	14 20 14.8	+2.5
CHCP	Chirah Chowk	3.28	148	P		Pn	14 20 18.3	+3.0
NIL	Nilore	3.28	149	PN		Pn	14 20 17.5	+2.2
NIL	Nilore	3.28	149	Pn		Pn	14 20 17.5	+2.2
BTK	Batken	3.59	355	PN		Pn	14 20 22.0	+2.4
BTK	Batken	3.59	355			Pn	14 20 22.0	+2.4
THW	Thamme Wali	3.70	173	P		Pn	14 20 23.1	+2.1
SARP	Sargodha	4.70	165	P		Pn	14 20 35.1	+0.5
JMU	Jammu	4.83	140	*e*P		Pn	14 20 31.5	-4.8
JMU				*e*P		Pn	14 20 37.8	+1.4
JMU				*e*S		Sn	14 21 23.0	-8.0
JMU				*e*S		Sn	14 21 30.0	-0.9
KSH	Kashi	4.83	50	Pn		Pn	14 20 33.8	-2.7
KSH	Kashi	4.83	50	Sn		Sn	14 21 23.4	-7.8
KSH				pmax		pmax		
	comp=Z,230nm,0.7s							
KSH				smax		smax		
	comp=N,2μm,0.5s							
KSH				smax		smax		
	comp=E,1μm,0.6s							
TAS	Tashkent	5.07	343	PN		Pn	14 20 40.4	+0.8
TAS	Tashkent	5.07	343	Pn		Pn	14 20 40.4	+0.8
IUG	Iuzhnay	5.74	351	*e*PN		Pn	14 20 48.3	-0.5
IUG	Iuzhnay	5.74	351	*e*P		Pn	14 20 48.4	-0.5
	baz=350							
IUG				*e*S		Sn	14 21 51.8	-1.5
	baz=350							
DHRM	DHARAMSHALA	5.96	134	*e*P		Pn	14 20 52.9	+0.9
DHRM				*e*S		Sn	14 21 55.3	-3.6
AML	Almayashu	5.97	18	P		Pn	14 20 53.5	+1.2
	SNR=366							
UCH	Uchtor	6.29	23	P		Pn	14 20 57.8	+1.1
	SNR=120							
DZA	Taraz	6.41	1	*e*PN		Pn	14 20 57.3	-0.6
DZA				pmax		pmax		
	comp=Z,147nm,0.9s							
DZA	Taraz	6.41	1	*e*P		Pn	14 20 57.4	-0.6
	comp=Z,147nm,0.9s,baz=360							
EKS2	Erkin-Say	6.49	17	P		Pn	14 21 00.4	+1.4
	SNR=235							
BRLS	Borolday	6.63	351	*e*PN		Pn	14 20 56.4	-4.5
BRLS	Borolday	6.63	351	*e*P		Pn	14 20 56.5	-4.5
	baz=349							
KK02	Karatay Array	6.64	356	⇑P		Pn	14 21 00.8	-0.3
	comp=Z,59nm,0.6s							
KK02				⇑S		Sn	14 22 11.8	-3.4
	comp=Z,81nm,0.5s							
KK31	Karatay Array	6.64	356	PN		Pn	14 21 01.3	+0.2
KKAR	Karatay Array	6.64	356	PN		Pn	14 21 01.7	+0.6
KKAR	Karatay Array	6.64	356			Pn	14 21 01.7	+0.6
BHK	Bhakra	6.64	138	*e*P		Pn	14 21 00.9	-0.3
AAK	Ala-Archa	6.66	21	P		Pn	14 21 02.5	+1.1
	comp=Z,34nm,0.3s,baz=196,slow=6.9,SNR=644							
AAK				S		Sn	14 22 15.3	-0.5
	comp=Z,9.7nm,0.3s,baz=327,slow=22,SNR=10.0							
AAK				LR		LR	14 23 08.0	
	comp=Z,61nm,19.7s,baz=206,slow=33							
AAK	Ala-Archa	6.66	21	P		Pn	14 21 03.0	+1.6
	SNR=138							
AAK	Ala-Archa	6.66	21	*d i*PN		Pn	14 21 03.0	+1.6
AAK	Ala-Archa	6.66	21	⇓P		Pn	14 21 02.9	+1.6
	comp=Z,104nm,0.5s							
AAK				S		Sn	14 22 15.3	-0.5
AAK	Ala-Archa	6.66	21	Pn		Pn	14 21 03.0	+1.6
KBK	Karagaybulak	6.81	24	P		Pn	14 21 05.3	+1.8
	SNR=66							
FRU1	Bishkek	6.85	22	PN		Pn	14 21 05.8	+1.8
FRU1	Bishkek	6.85	22			Pn	14 21 05.8	+1.8
ULHL	Ulahol	6.96	33	P		Pn	14 21 07.9	+2.4
	SNR=21							
BOOM	Boomskoye usch	7.03	30	PN		Pn	14 21 07.7	+1.2
BOOM	Boomskoye usch	7.03	30			Pn	14 21 07.7	+1.2
CHMS	Chumysh	7.06	22	P		Pn	14 21 08.1	+1.2
	SNR=125							
USP	Ospenovka	7.24	19	P		Pn	14 21 09.9	+0.7
	SNR=76							
TKM2	Tokmak 2	7.27	26	P		Pn	14 21 11.2	+1.4
	SNR=108							
TKM2	Tokmak 2	7.27	26	PN		Pn	14 21 10.8	+1.0
TKM2	Tokmak 2	7.27	26	⇓P		Pn	14 21 10.9	+1.0
	comp=Z,59nm,0.5s							
TKM2				⇑S		Sn	14 22 28.0	-2.9
	comp=Z,46nm,0.9s							
SMLA	Simla	7.28	135	*e*P		Pn	14 21 09.4	-0.4
SMLA				*e*S		Sn	14 22 24.6	-6.3
TARG	Taragay, Kyrgy	7.33	42			Pn	14 21 12.2	+1.3
SGDS	Sogindy	7.45	20	*e*PN		Pn	14 21 12.4	+0.3
SGDS	Sogindy	7.45	20	*e*P		Pn	14 21 10.6	-1.5
	comp=Z,6.5nm,0.3s,baz=19							
KST	Kastek	7.51	28	*e*P		Pn	14 21 11.7	-1.3
	comp=Z,24nm,0.9s,baz=28							
HRA	Herat	7.61	257			Pn	14 21 17.2	+2.7
TNSS	Tian-Shan	7.90	32	*e*P		Pn	14 21 17.2	-1.4
	baz=32							
MDOK	Medeo	8.05	32	PN		Pn	14 21 21.9	+1.5
MDOK				S		Sn	14 22 59.5	+10
MDOK	Medeo	8.05	32	*e*P		Pn	14 21 19.8	-0.6
	baz=32							
MDOK	Medeo	8.05	32	⇑P		Pn	14 21 21.0	+0.6
	comp=Z,30nm,0.7s							
MDOK				⇓S		Sn	14 22 49.5	-0.3
	comp=Z,16nm,0.9s							
PRZ	Przheval'sk	8.18	41	PN		Pn	14 21 23.2	+1.0
PRZ	Przheval'sk	8.18	41			Pn	14 21 23.2	+1.0
KUU	Kurty	8.38	26	*e*PN		Pn	14 21 23.3	-1.5
KUU				pmax		pmax		
	comp=Z,20nm,0.8s							
KUU	Kurty	8.38	26	*e*P		Pn	14 21 23.3	-1.5
	comp=Z,20nm,0.8s,baz=26							
CHKK	Chushkaly	8.59	29	*e*P		Pn	14 21 26.6	-1.0
	baz=29							
SATY	Saty	8.59	38	*e*PN		Pn	14 21 27.1	-0.7
SATY	Saty	8.59	38	*e*P		Pn	14 21 27.1	-0.7
	baz=38							
ZHN	Zhinishke	8.69	38	*e*PN		Pn	14 21 28.3	-0.8
ZHN	Zhinishke	8.69	38	*e*P		Pn	14 21 28.3	-0.8
	baz=38							
UZB	Uzynbulak	8.97	40	*e*PN		Pn	14 21 32.1	-0.8
UZB				pmax		pmax		
	comp=Z,5.0nm,0.6s							
UZB	Uzynbulak	8.97	40	*e*P		Pn	14 21 32.1	-0.8
	comp=Z,4.8nm,0.6s,baz=40							
SHLS	Shalkode	9.21	41	*e*P		Pn	14 21 37.9	+1.8
SHLS	Shalkode	9.21	41	*e*P		Pn	14 21 38.0	+1.8
	baz=43							
ARXS	Arharly	9.23	31	*e*P		Pn	14 21 35.9	-0.5
NDI	New Delhi	9.27	145	*e*P		Pn	14 21 34.8	-2.3
NDI				*e*P		Pn	14 21 36.0	-1.0
NDI				*e*S		Sn	14 23 14.0	-5.7
PDGK	Podgornoye	9.34	40	P		Pn	14 21 37.4	-0.6
PDGK				S		Sn	14 23 27.8	+6.5
PDGK	Podgornoye	9.34	40	⇓P		Pn	14 21 37.4	-0.6
	comp=Z,21nm,1.2s							
PDGK				⇑S		Sn	14 23 23.4	+2.0
	comp=Z,29nm,1.0s							
KUDL	Kundal	9.43	150	*e*P		Pn	14 21 37.0	-2.2
KUDL				*e*S		Sn	14 23 14.6	-8.9
SONA	Sohna	9.59	147	*e*S		Sn	14 23 19.4	-7.8
TDK	Taldyqorghan	10.11	30	*e*P		Pn	14 21 46.8	-1.6
TDK	Taldyqorghan	10.11	30	*e*P		Pn	14 21 46.8	-1.6
	baz=30							
AJM	Ajmer	10.39	163	*e*P		Pn	14 21 51.0	-1.3
AJM				*e*P		Pn	14 21 51.7	-0.6
AJM				*i* S		Sn	14 23 39.0	-7.9
AJM				*e*S		Sn	14 23 40.4	-6.6
GEYT	Alibeck	10.55	282	P		Pn	14 21 51.2	-3.1
	comp=Z,5.0nm,0.3s,baz=112,slow=11,SNR=44							
GEYT				S		Sn	14 23 42.8	-7.9
	comp=Z,8.8nm,0.3s,baz=165,slow=23,SNR=4.4							
GEYT				LR		LR	14 27 50.9	
	comp=Z,142nm,18.4s,baz=127,slow=48							
GYA0	ALIBECK ARRAY	10.55	282	P		Pn	14 21 52.4	-2.0
GYA0B	ALIBECK ARRAY	10.55	282	⇑P		Pn	14 21 52.5	-1.9
GYA0B				⇓S		Sn	14 23 43.0	-7.7
OTUK	Ortayu	11.79	4	P		Pn	14 22 09.1	-2.1
OTUK				S		Sn	14 24 28.9	+8.0
OTUK	Ortayu	11.79	4	⇓P		Pn	14 22 09.2	-2.1
	comp=Z,29nm,0.8s							
OTUK				⇑S		Sn	14 24 15.7	-5.2
	comp=Z,22nm,0.8s							
JHNI	Jhansi	12.64	148	*e*P		Pn	14 22 20.1	-2.8
PYUN	Piuthan	12.99	127	*e*P		Pn	14 22 23.6	-4.2
	comp=Z,94nm,0.6s							
MAKZ	Makanchi	13.08	35	P		Pn	14 22 27.2	-1.4
MAKZ	Makanchi	13.08	35	⇓P		Pn	14 22 26.8	-1.8
	comp=Z,18nm,1.1s							
MAKZ	Makanchi	13.08	35			Pn	14 22 27.2	-1.4
MK31	Makanchi Array	13.21	35	*i* P		Pn	14 22 28.9	-1.5
MK31	Makanchi Array	13.21	35	⇑P		Pn	14 22 28.9	-1.5
	comp=Z,5.1nm,0.6s,baz=202,slow=8.7,SNR=81							
MKAR	Makanchi Array	13.21	35	P		Pn	14 22 28.3	-2.1
	comp=Z,0.4nm,0.3s,baz=222,slow=13,SNR=56							
MKAR				LR		LR	14 27 13.3	
	comp=Z,31nm,18.2s,baz=220,slow=35							
MKAR	Makanchi Array	13.21	35	*i* P		Pn	14 22 29.2	-1.2
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MKAR	Makanchi Array	13.21	35			Pn	14 22 29.1	-1.3
DANN	Dangsing	13.33	124	*e*P		Pn	14 22 28.2	-4.2
KOLN	Koldanda	13.61	126	*e*P		Pn	14 22 31.4	-4.5
	comp=Z,34nm,0.5s							
VLK	Valmikinagar	14.09	127	*e*P		Pn	14 22 38.7	-3.3
GKN	Gorkha	14.15	123	*e*P		Pn	14 22 38.7	-4.2
	comp=Z,35nm,0.3s							
BHPL	Bhopal	14.24	156	*e*P		Pn	14 22 42.0	-2.0
BHPL				*i* x		x	14 22 49.2	
BHPL				*e*S		Sn	14 25 07.7	-13
WMQ	Urumqi	14.57	55	*e*P		Pn	14 22 48.0	-0.2
WMQ				pP		P	14 22 59.8	+7.3
WMQ				pmax		pmax		
	comp=Z,18nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,110nm,4.5s							
DMN	Daman	14.72	123	*e*P		Pn	14 22 45.9	-4.5
	comp=Z,22nm,0.4s							
KKN	Kakani	14.72	122	*e*P		Pn	14 22 45.8	-4.6
	comp=Z,26nm,0.5s							
ZSN	Zaisan	14.92	38	*e*P		Pn	14 22 51.2	-1.4
ZSN	Zaisan	14.92	38	*e*P		Pn	14 22 51.3	-1.4
	baz=39							
PKIN	Phulchoki	14.94	122	*e*P		P

ZAA0 IAmb IAmb 14 23 50.8
comp=Z,30nm,0.5s
ZALV Zalesovo Beam 19.87 24 P **P 14 23 49.9 -0.7**
comp=Z,8.7nm,0.3s,baz=212,slow=10.0,SNR=139
ZALV LR LR 14 31 32.3
comp=Z,53nm,18.2s,baz=199,slow=36
ZALV Zalesovo Beam 19.87 24 *i* P **P 14 23 49.9 -0.7**
ZALV pmax pmax
comp=Z,33nm,0.4s
ZALV Zalesovo Beam 19.87 24 P **P 14 23 49.6 -1.0**
HYBB Hyderabad (bro 20.06 159 *e*P **P 14 23 54.3 +1.2**
HYBB *es*P **sP 14 24 22.6 +1.8**
HYBB *e*S **S 14 27 35.5 +1.3**
HYB Hyderabad 20.07 159 IAmb IAmb 14 23 55.1
comp=Z,21nm,0.3s
RAGD RAYAGADA 20.26 145 *e*P **P 14 23 55.5 +0.3**
CUPL Choutuppal 20.29 158 *e*S **S 14 27 41.1 +2.5**
BWNR Bhubaneshwar 20.57 138 *e*P **P 14 23 58.8 +0.4**
GROC Groznyy 20.59 297 *e*P **P 14 23 59.9 +1.3**
GROC *e**SP **sP 14 24 26.5 +0.7**
GROC pmax pmax
comp=Z,43nm,0.7s
SHL Shillong 20.74 116 P **P 14 23 59.7 -0.9**
SHL pmax pmax
comp=Z,20nm,0.7s
SHL Shillong 20.74 116 P **P 14 23 59.7 -0.9**
SHL IAmb IAmb 14 24 00.7
comp=Z,20nm,0.7s
GNI Garni 21.06 288 P **P 14 24 04.3 +0.4**
comp=Z,17nm,0.7s,baz=218,slow=22,SNR=3.3
NJS Nagarjunasagar 21.10 158 *e*P **P 14 24 05.1 +0.8**
NJS *e*pP **pP 14 24 22.0 +0.3**
NJS *e*S **S 14 27 56.4 +1.7**
CHLP Challavanipeta 21.18 144 *e*P **P 14 24 06.3 +1.3**
CHLP *e*S **S 14 27 58.2 +2.0**
PVM Polavaram 21.26 152 *e*P **P 14 24 07.1 +1.3**
PVM *es*P **sP 14 24 34.4 +0.8**
MYLAV Mylavaram 21.35 154 *e*P **P 14 24 06.7 -0.2**
MYLAV *es*P **sP 14 24 35.5 +1.1**
MYLAV *e*S **S 14 28 01.7 +2.1**
SRLM Srisailam 21.41 159 *e*P **P 14 24 08.2 +0.6**
SRLM *e*S **S 14 28 02.7 +1.8**
SVE Sverdlovsk 21.56 344 *e*P **P 14 24 09.0 +0.2**
SVE pmax pmax
comp=Z,43nm,0.7s
ARU Arti 21.71 341 P **P 14 24 10.9 +0.5**
comp=Z,11nm,0.6s,baz=142,slow=5.1,SNR=19
ARU LR LR 14 33 51.0
comp=Z,49nm,21.1s,baz=164,slow=40
ARU Arti 21.71 341 *d i*P **P 14 24 10.3 -0.1**
ARU S **S 14 28 06.4 +0.3**
ARU SS **SnSn 14 28 38.5 +1.6**
ARU pmax pmax
comp=Z,24nm,1.0s
ARU Arti 21.71 341 P **P 14 24 10.3 -0.1**
ARU IAmb IAmb 14 24 17.1
comp=Z,57nm,1.1s
ADKI Addanki 21.98 157 *e*P **P 14 24 15.0 +1.5**
ADKI *e*S **S 14 28 12.8 +1.2**
RCLA Racherla 22.04 160 *e*P **P 14 24 15.8 +1.5**
RCLA *es*P **sP 14 24 43.2 +0.9**
RCLA *e*S **S 14 28 14.2 +1.5**
URV Uravakonda 22.11 164 *e*P **P 14 24 16.3 +1.3**
URV *e*Sn Sn 14 28 31.0 +0.9
NCK Nalchik 22.23 297 *i* P **P 14 24 18.0 +1.9**
NCK pmax pmax
comp=Z,62nm,1.1s
GTA Gaotai 22.71 74 ⇑P **P 14 24 22.9 +1.5**
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,87nm,4.4s
GTA LR LR
comp=Z,110nm,16.7s
GTA LR LR
comp=Z,89nm,13.8s
GTA LR LR
comp=Z,98nm,15.3s
KBZ Khabaz 22.76 297 P **P 14 24 21.9 +0.2**
comp=Z,11nm,0.8s,baz=150,slow=7.2,SNR=8.2
KBZ LR LR 14 35 53.4
comp=Z,70nm,19.1s,baz=58,slow=43
KBZ Khabaz 22.76 297 *i* P **P 14 24 23.2 +1.5**
KBZ pmax pmax
comp=Z,11nm,0.8s
NEY Neytrino 22.82 296 *i* P **P 14 24 25.3 +2.7**
NEY pmax pmax
comp=Z,4.0nm,1.0s
GOF Gofitskoye 22.90 301⇑*e*P **P 14 24 24.9 +1.7**
KIV Kislovodsk 22.95 298 *e*P **P 14 24 25.6 +1.8**
KIV *e*S **S 14 28 29.8 +2.1**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,44nm,14.0s
KIV Kislovodsk 22.95 298 P **P 14 24 25.3 +1.5**
KIV IAmb IAmb 14 24 51.8
comp=Z,17nm,0.8s
BELG Belogornoye 23.02 321 P **P 14 24 24.5 +0.4**
comp=Z,36nm,0.7s,baz=96,slow=0.5,SNR=16
BELG Belogornoye 23.02 321⇑*i*P **P 14 24 24.3 +0.1**
BELG pmax pmax
comp=Z,12nm,1.1s
SKHT Srikalahasti 23.89 159 *e*P **P 14 24 34.7 +2.3**
SKHT *e*S **S 14 28 44.8 +1.9**
VRH Novokhopyorsk 25.65 314 *e*P **P 14 24 48.2 +0.1**
VRH pmax pmax
comp=Z,10.0nm,0.7s
MOY Mondy 26.00 45 *e*P **P 14 24 55.2 +3.7**
MOY pmax pmax
comp=Z,14nm,1.4s
LZH Lanzhou 26.24 81 *e*P **P 14 24 56.0 +2.1**
LZH pP pP 14 25 13.3 -0.5
LZH sP sP 14 25 22.5 -1.4
LZH pmax pmax
comp=Z,23nm,1.1s
KIRV Kirov 26.34 334 P **P 14 24 55.3 +1.1**
comp=Z,18nm,0.8s,baz=124,slow=2.7,SNR=9.0
KIRV LR LR 14 35 38.8
comp=Z,65nm,21.4s,baz=109,slow=37
KIRV Kirov 26.34 334 *ce*P **P 14 24 55.1 +0.9**
ZAK Zakamensk 26.88 49 *e*P **P 14 24 58.6 -0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
VORD Divnogorie 26.98 313 *e*P **P 14 25 03.3 +3.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 27.14 313 *e*P **P 14 25 01.9 +0.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
CD2 Chengdu 27.56 92 *e*P **P 14 25 06.0 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
PZH PanZhiHua 27.77 102 P **P 14 25 08.0 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,6.2s
LPSR Galich'ya Gora 27.79 316 *e*P **P 14 25 07.1 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 28.21 55 P **P 14 25 11.2 -0.1**
comp=Z,1.7nm,0.8s,baz=252,slow=8.9,SNR=10
SONM Songino Array 28.21 55 P **P 14 25 12.0 +0.6**
SONM pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 28.21 55 P **P 14 25 12.0 +0.6**
ULN Ulaanbaatar 28.65 55 *i* P **P 14 25 17.1 +1.8**
BRTR Keskin Array B 29.60 288 P **P 14 25 25.3 +1.5**
comp=Z,1.7nm,0.7s,baz=94,slow=9.9,SNR=4.4
BRTR Keskin Array B 29.60 288 *i* P **P 14 25 26.0 +2.2**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
PRGR Permogore 29.86 336 *e*P **P 14 25 25.8 +0.2**
PRGR pmax pmax
comp=Z,12nm,0.6s
OBN Obninsk 30.07 319 LR LR 14 40 28.4
comp=Z,13nm,18.8s,baz=335,slow=42
OBN Obninsk 30.07 319 *i* P **P 14 25 27.9 +0.4**
OBN *i* 14 26 30.1
OBN pmax pmax
comp=Z,20nm,0.8s
OBN MLR MLR
comp=Z,45nm,17.0s
CM31 Chiang Mai Arr 30.29 119 P **P 14 25 30.4 +0.5**
CM31 IAmb IAmb 14 25 32.1
comp=Z,27nm,1.9s
CMAR Chiang Mai Arr 30.29 119 P **P 14 25 29.0 -0.9**
comp=Z,1.7nm,0.8s,baz=306,slow=8.8,SNR=20
CMAR LR LR 14 40 40.2
comp=Z,24nm,20.9s,baz=295,slow=42
CMAR Chiang Mai Arr 30.29 119 *i* P **P 14 25 30.7 +0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 30.29 119 P **P 14 25 30.3 +0.4**
PALK Pallekele 30.33 161 P **P 14 25 29.5 -0.8**
comp=Z,4.0nm,0.9s,baz=100,slow=11,SNR=4.7
PALK LR LR 14 36 46.0
comp=Z,60nm,19.1s,baz=17,slow=34
KLMR Klimovskoe 31.59 331 *e*P **P 14 25 40.7 -0.1**
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR Klimovskoe 31.59 331 *e*P **P 14 25 40.8 -0.1**
KLMR AMP 14 25 41.8
comp=Z,27nm,1.4s
HHC Hu-ho-hao-te 31.61 70 *e*P **P 14 25 43.6 +2.1**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,46nm,5.3s
GYA Guiyang 31.69 98 ⇑P **P 14 25 43.3 +1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
AKASG Malin Array Be 33.09 309 P **P 14 25 54.9 +0.8**
comp=Z,448nm,0.3s,baz=80,slow=7.8,SNR=27
AKASG LR LR 14 42 36.6
comp=Z,44nm,20.9s,baz=47,slow=42
AKBB Malin Array Si 33.09 309 *ce*P **P 14 25 55.6 +1.5**
AKBB Malin Array Si 33.09 309 P **P 14 25 54.8 +0.7**
AKBB IAmb IAmb 14 25 57.3
comp=Z,15nm,1.1s
NRIK Noril'sk 34.12 10 P **P 14 26 04.0 +1.2**
comp=Z,1.5nm,0.3s,baz=128,slow=3.9,SNR=3.1
NRIK Noril'sk 34.12 10 *ce*P **P 14 26 03.6 +0.8**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
MNK Minsk 34.64 315 *i* P **P 14 26 07.7 +0.2**
MNK *i* *PP **pP 14 26 28.5 +1.6**
MNK *i* 14 27 25.5
MNK *i* 14 28 41.2
MNK *i* S **S 14 31 29.4 -1.6**
MNK *i* SS **SnSn 14 33 50.2 -0.6**
MNK pmax pmax
comp=N,23nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK MLR MLR
comp=Z,108nm,24.0s
MNK MLR MLR
comp=N,477nm,25.0s
MNK MLR MLR
comp=E,25nm,17.0s
MNK Minsk 34.64 315 *i* P **P 14 26 07.8 +0.3**
comp=E,4.0nm,0.9s
MNK *i* P **P 14 26 07.8 +0.3**
comp=N,23nm,0.9s
MNK *i* P **P 14 26 07.8 +0.3**
comp=Z,19nm,0.9s,baz=282
MNK *i* pP **pP 14 26 28.5 +1.6**
MNK *i* PP **PnPn 14 27 25.6 +0.1**
MNK *i* PcP **PcP 14 28 41.3 +1.3**
MNK *i* S **S 14 31 29.4 -1.6**
MNK *i* SS **SnSn 14 33 50.2 -0.6**
MNK *i* LQ LQ 14 37 27.2
MNK *i* LR LR 14 40 19.6
MNK *i* LRM MLR 14 41 53.6
comp=Z,108nm,24.3s
MNK *i* LRM MLR 14 41 60.0
comp=N,477nm,25.2s
MNK *i* LRM MLR 14 42 02.5
comp=E,25nm,16.9s
MLR Muntele Rosu 34.94 299 P **P 14 26 11.7 +1.3**
comp=E,12nm,0.8s,baz=96,slow=4.5,SNR=13
MLR Muntele Rosu 34.94 299 P **P 14 26 13.1 +2.7**
MLR pmax pmax
comp=Z,20nm,0.9s
MLR Muntele Rosu 34.94 299 P **P 14 26 13.1 +2.7**
BUR08 Bucovina Ar. S 35.45 303 P **P 14 26 15.7 +1.0**
BUR08 IAmb IAmb 14 26 54.9
comp=Z,15nm,1.8s
IDID Didziasalis 35.47 316 *e*P **P 14 26 16.4 +1.8**
ATD Arta Tunnel 35.64 233 P **P 14 26 16.4 -0.2**
IIGN Ignalina 35.76 316 *e*P **P 14 26 19.0 +1.8**
LVV L'vov 36.31 307 *e*P **P 14 26 25.0 +3.1**
PABE Paberze 37.05 316 *e*P **P 14 26 29.7 +1.7**
UBPT Khong Chiam 37.07 116 P **P 14 26 28.2 -0.4**
LVZ Lovozero 37.54 338 P **P 14 26 33.1 +0.9**
LVZ pmax pmax
comp=Z,30nm,0.8s
LVZ Lovozero 37.54 338 P **P 14 26 33.1 +0.9**
FIA1 FINESS Array S 37.60 326 P **P 14 26 33.6 +1.0**
FINES FINESS Array B 37.60 326 P **P 14 26 33.9 +1.2**
comp=Z,5.9nm,0.4s,baz=119,slow=8.3,SNR=56
FINES LR LR 14 42 32.4
comp=Z,81nm,20.5s,baz=56,slow=37
APA Apatity 37.72 337 ‖*i*P **P 14 26 33.5 -0.1**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,600nm,20.0s
MTSE Matsula 37.85 321 *e*P **P 14 26 36.2 +1.5**
CRVS Cervenica-Dubn 37.97 305 *e*P **P 14 26 37.6 +1.7**
CRVS Cervenica-Dubn 37.97 305 *e*P **P 14 26 37.6 +1.7**
NIE Niedzica 38.73 306 *e*P **P 14 26 45.5 +3.1**
OJC Ojcow 39.05 307 *e*P **P 14 26 46.4 +1.3**
NJ2 Nanjing 39.31 82 *e*P **P 14 26 47.3 0.0**
NJ2 pmax pmax
comp=Z,14nm,0.5s
MORC Moravsky Berou 40.52 306 P **P 14 26 59.0 +1.8**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 40.52 306 *e*P **P 14 26 59.0 +1.8**
MORC Moravsky Berou 40.52 306 P **P 14 26 59.0 +1.8**
KEV Kevo 40.89 338 P **P 14 27 00.5 +0.6**
KEV pmax pmax
comp=Z,190nm,1.9s
KEV Kevo 40.89 338 P **P 14 27 00.5 +0.6**
VRAC Vranov 41.15 306 P **P 14 27 04.2 +1.8**
comp=Z,5.5nm,0.7s,baz=86,slow=6.2,SNR=5.3
VRAC Vranov 41.15 306 *e*P **P 14 27 04.2 +1.8**
ARA0 ARCESS Array S 41.23 338 *e*P **P 14 27 03.9 +1.2**
ARCES ARCESS Array B 41.23 338 P **P 14 27 03.9 +1.1**
comp=Z,16nm,0.7s,baz=113,slow=8.4,SNR=84
ARCES LR LR 14 45 24.4
comp=Z,112nm,18.0s,baz=20,slow=38
ARCES ARCESS Array B 41.23 338 P **P 14 27 03.8 +1.0**
ARCES IAmb IAmb 14 27 04.4
comp=Z,13nm,0.7s
DPC Dobruska-Polom 41.28 307 *e*P **P 14 27 05.5 +2.0**
DPC Dobruska-Polom 41.28 307 *e*P **P 14 27 05.5 +2.0**
CHVC Chvalec 41.44 308 *e*P **P 14 27 06.8 +2.0**
KTK1 Kautokeino 41.71 336 *e*P **P 14 27 07.7 +1.1**
CONA Conrad Observa 41.73 304 *e*P **P 14 27 09.5 +2.2**
comp=Z,8.6nm,0.9s
PSI Prapat 42.15 136 P **P 14 27 09.9 -1.0**
comp=Z,4.9nm,0.8s,baz=254,slow=4.9,SNR=4.5
PSI Prapat 42.15 136 P **P 14 27 10.0 -1.0**
RPSI Rantau Prapat 42.23 136 P **P 14 27 09.9 -1.6**
HAMF Hammerfest 42.31 339 *e*P **P 14 27 13.0 +1.5**
SOKA Soboth 42.43 302 *i* P **P 14 27 15.0 +2.1**
comp=Z,7.6nm,0.7s,SNR=5.8
PRU Pruhonice 42.44 307 *e*P **P 14 27 15.0 +2.1**
PRU Pruhonice 42.44 307 *e*P **P 14 27 15.0 +2.1**
GSI Gunungsitoli 42.66 139 P **P 14 27 15.8 +0.8**
GSI IAmb IAmb 14 27 16.5
comp=Z,16nm,0.7s
BRG Berggiesshubel 42.77 308 *e*P **P 14 27 17.6 +2.1**
BRG Amp 14 27 19.9
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 42.77 308 *e*P **P 14 27 17.6 +2.1**
BRG pmax pmax
comp=Z,10.0nm,1.0s
OBKA Obir 42.78 302 *e*P **P 14 27 18.1 +2.4**
comp=Z,18nm,1.8s
MOA Molln 42.81 304 *e*P **P 14 27 17.7 +1.8**
comp=Z,5.9nm,0.8s
JETT Jettan, Norway 42.85 336 *e*P **P 14 27 20.0 +4.1**
GERES GERESS Array B 43.08 305 P **P 14 27 18.5 +0.3**
comp=Z,1.0nm,0.7s,baz=79,slow=6.9,SNR=5.6
KHC Kasperske Hory 43.14 306 *e*P **P 14 27 16.9 -1.7**
KHC Kasperske Hory 43.14 306 *e*P **P 14 27 16.9 -1.7**
HFS Hagfors 43.19 322 LR LR 14 46 00.1
comp=Z,66nm,19.5s,baz=98,slow=37
CLL Collm 43.34 309 *e*P **P 14 27 21.0 +0.9**
CLL *e**SP **sP 14 27 51.0 +1.4**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 43.34 309 *e*P **P 14 27 21.0 +0.9**
comp=Z,8.0nm,1.0s
CLL *es*P **sP 14 27 51.0 +1.4**
YAK Yakutsk 43.89 35 *ce*P **P 14 27 23.6 -0.7**
YAK pmax pmax
comp=Z,8.0nm,0.9s
FAUS Fauske 43.90 332 *e*P **P 14 27 25.7 +1.3**
MOR8 Moi Rana 43.92 331 *e*P **P 14 27 24.9 +0.3**
MNSI Mandailing Nat 44.17 137 P **P 14 27 26.4 -0.7**
comp=Z,26nm,0.5s
NC602 NORSAR Array S 44.31 323 *e*P **P 14 27 29.2 +1.4**
NC602 NORSAR Array S 44.31 323 P **P 14 27 28.4 +0.6**
NB2 NORSAR Subarra 44.50 323 P **P 14 27 29.7 +0.4**
comp=Z,4.1nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.50 323 P **P 14 27 29.7 +0.4**
baz=97,slow=7.9
NOA NORSAR Array B 44.50 323 P **P 14 27 29.2 -0.1**
comp=Z,6.7nm,0.6s,baz=96,slow=7.7,SNR=34
NOA LR LR 14 47 13.8
comp=Z,24nm,21.2s,baz=270,slow=37
KONS Konsvik 44.52 331 *e*P **P 14 27 30.4 +1.2**
NAO01 NORSAR Array S 44.65 323 *e*P **P 14 27 31.8 +1.3**
WTTA Wattenberg 44.65 303 *e*P **P 14 27 32.0 +1.1**
comp=Z,9.3nm,1.1s
KSRS Korea Array 44.73 71 P **P 14 27 30.4 -1.0**
comp=Z,2.1nm,0.5s,baz=276,slow=7.6,SNR=11
KSRS LR LR 14 48 35.5
comp=Z,29nm,18.3s,baz=220,slow=39
MOTA Moosalm 45.00 304 *e*P **P 14 27 34.3 +0.7**
comp=Z,6.5nm,0.7s
KLR Kul'dur 45.02 54 LR LR 14 49 27.6
comp=Z,28nm,20.5s,baz=264,slow=40
KONO Kongsberg 45.21 321 *ce*P **P 14 27 37.0 +2.1**
KONO pmax pmax
comp=Z,25nm,1.7s
FETA Feichten 45.30 303 *e*P **P 14 27 36.5 +0.5**
comp=Z,5.0nm,1.0s,SNR=4.2
TIXI Tiksi 45.73 22 *ce*P **P 14 27 38.5 -0.4**
TIXI Tiksi 45.73 22 P **P 14 27 38.5 -0.4**
DAVA Damuels 45.83 304 *i* P **P 14 27 40.3 +0.1**
comp=Z,10nm,0.5s,SNR=4.4
SKAR Skarslia 45.90 322 *e*P **P 14 27 42.2 +1.8**
DAVOX Davos/Dischmat 45.92 303 P **P 14 27 41.6 +0.7**
comp=Z,3.5nm,0.6s,baz=124,slow=9.7,SNR=8.2
AKN Aaknes 46.59 324 *e*P **P 14 27 47.3 +1.5**
ASK Askoy 47.43 322 *e*P **P 14 27 53.6 +1.4**
SPITS Spitsbergen Ar 47.55 347 P **P 14 27 53.6 +0.6**
comp=Z,11nm,0.8s,baz=126,slow=11,SNR=7.5
SPITS LR LR 14 50 28.1
comp=Z,36nm,18.0s,baz=172,slow=39
KBS Kingsbay 48.67 347 *e*P **P 14 28 04.4 +2.7**
EKA Eskdalemuir Ar 52.42 316 P **P 14 28 30.6 +0.5**
comp=Z,3.0nm,0.8s,baz=100,slow=7.1,SNR=4.4
MBAR Mbarara 52.63 235 P **P 14 28 31.8 -0.6**
comp=Z,3.7nm,0.2s,baz=239,slow=9.8,SNR=5.1
MBAR Mbarara 52.63 235 IAmb IAmb 14 28 33.6
comp=Z,3.3nm,0.7s
JMIC Jan Mayen 52.67 336 LR LR 14 50 05.6
comp=Z,35nm,18.6s,baz=86,slow=35
DAG Danmarks Havn 54.80 344 *i* P **P 14 28 47.2 0.0**
DAG IAmb IAmb 14 28 49.8
comp=Z,8.0nm,0.8s
DBG Daneborg 55.66 341 *i* P **P 14 28 53.5 +0.1**
DBG IAmb IAmb 14 28 56.1
comp=Z,2.5nm,0.9s
MPSI Mapaga 57.62 117 P **P 14 29 07.9 -0.2**
comp=Z,17nm,1.2s
ESDC Sonseca Array 57.62 298 P **P 14 29 08.7 +0.7**
comp=Z,1.4nm,0.9s,baz=58,slow=6.9,SNR=6.8
ESDC Sonseca Array 57.62 298 IAmb IAmb 14 29 35.3
comp=Z,8.0nm,1.8s
BILL Bilibino 58.55 26 *i* P P 14 29 21.2 +7.3
BILL *i* 14 30 07.0
BILL *i* 14 31 26.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,366nm,18.0s
MRSI Marisa 59.00 115 P **P 14 29 17.9 +0.2**
comp=Z,31nm,0.9s
TTSI Tana Toraja 59.94 120 P **P 14 29 23.3 -0.9**
comp=Z,769nmcomp=Z,11nm,0.8s
SOEG Soedalen 61.09 335 *i* P P 14 29 39.3 +8.0
SOEG IAmb IAmb 14 29 40.5
comp=Z,13nm,0.8s
NEEM North Greenlan 61.09 348 *i* P **P 14 29 31.9 +0.3**
NEEM IAmb IAmb 14 29 33.8
comp=Z,5.4nm,1.0s
SUMG Summit 61.14 341 P **P 14 29 33.3 +1.2**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 61.14 341 *i* P **P 14 29 33.0 +0.9**
SUMG IAmb IAmb 14 29 35.2
comp=Z,10nm,0.7s
SUMG Summit 61.14 341 P **P 14 29 33.2 +1.2**
TORD Torodi Ar. Bea 65.89 269 P **P 14 30 02.9 -0.9**
comp=Z,3.5nm,0.7s,baz=47,slow=5.7,SNR=28
A36M Sachs Harbour 71.21 5 P **P 14 30 37.4 +1.4**
A36M IAmb IAmb 14 31 00.7
comp=Z,9.6nm,0.8s
CAST Castle Rocks 74.65 19 P **P 14 30 56.4 0.0**
CAST IAmb IAmb 14 30 57.8
comp=Z,8.9nm,1.0s
ILAR Eielson Array 74.75 16 P **P 14 30 56.6 -0.4**
comp=Z,1.5nm,0.9s,baz=319,slow=5.1,SNR=16
LBTB Lobatse 74.78 222 P **P 14 30 58.7 +0.9**
LBTB pmax pmax
comp=Z,23nm,1.4s
LBTB Lobatse 74.78 222 P **P 14 30 58.6 +0.9**
LBTB IAmb IAmb 14 30 59.1
comp=Z,23nm,1.4s
KNRA Kununurra 75.07 123 P **P 14 30 59.0 -0.5**
KNRA IAmb IAmb 14 31 20.6
comp=Z,21nm,1.4s
RND Reindeer 75.47 17 P **P 14 31 00.6 -0.6**
RND pmax pmax
comp=Z,17nm,1.5s
RND Reindeer 75.47 17 P **P 14 31 00.6 -0.6**
RND IAmb IAmb 14 32 46.2
comp=Z,17nm,1.5s
BOSA Boshof 77.84 220 P **P 14 31 14.8 -0.1**
comp=Z,7.4nm,0.8s,baz=38,slow=4.0,SNR=12
BOSA Boshof 77.84 220 P **P 14 31 14.9 -0.1**
BOSA IAmb IAmb 14 31 15.5
comp=Z,6.8nm,0.8s
YKA Yellowknife Ar 81.26 3 P **P 14 31 33.2 +0.2**
comp=Z,1.9nm,0.5s,baz=348,slow=5.4,SNR=45
WRA Warramunga Arr 81.83 122 P **P 14 31 35.1 -1.6**
comp=Z,1.3nm,0.6s,baz=322,slow=4.9,SNR=16
ASAR Alice Springs 84.10 125 P **P 14 31 46.9 -1.5**
comp=Z,1.0nm,0.6s,baz=312,slow=5.1,SNR=26
VNA1 Neumayer--Stat 120.59 202 Pdiff **Pdif 14 34 33.2 +0.2**
PLCA Paso Flores 149.98 250 PKPbc **PKPbc 14 39 06.5 -0.7**
comp=Z,2.3nm,0.9s,baz=140,slow=1.7,SNR=4.4

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*TUL **13** 14:48:16.4±0.6, 35°.658N±0°.006×97°.41W±0°.01, h6km±2km, ML2.6, mb_Lg1.8/3(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=85.0*

NEIC 13 14:48:16.8±0.7, 35°.662N±0°.008×97°.41W±0°.01, h6km±2km, Error ellipse: s-maj=1.5km s-min=1.1km az=123.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.08**	**189**		Pg	14 48 18.5	-0.1
OK009				Sg	Sg	14 48 20.2	+0.3
OK025	**Westminster Rd**	**0.10**	**145**	Pg	Pg	14 48 18.9	0.0
OK025				Sg	Sg	14 48 20.8	+0.4
OK001	**Jones High Sch**	**0.14**	**137**	Pg	Pg	14 48 19.7	+0.1
OK001				Sg	Sg	14 48 22.1	+0.6
OK029	**Liberty Lake**	**0.14**	**344**	Pg	Pg	14 48 19.7	+0.1
OK029				Sg	Sg	14 48 22.2	+0.6
BCOK	**Bluff Creek, N**	**0.17**	**268**	Pg	Pg	14 48 19.9	-0.2
BCOK				Sg	Sg	14 48 22.8	+0.4
OKCFA	**Oklahoma City**	**0.25**	**188**	Pg	Pg	14 48 21.5	-0.1

OKCFA				Sg	Sg	14 48 25.4	+0.4
FNO	**Franklin**	**0.40**	**179**	Pg	Pg	14 48 24.4	-0.2
FNO				Sg	Sg	14 48 30.3	+0.4
OK031	**S. Brethren Rd**	**0.55**	**58**	Pg	Pg	14 48 27.0	-0.3
OK031				Sg	Sg	14 48 34.7	+0.3
OK030	**Cody Creek RV**	**0.57**	**62**	Pg	Pg	14 48 27.5	-0.3
OK030				Sg	Sg	14 48 35.6	+0.3
OK034	**N. Norfolk Rd.**	**0.66**	**58**	Pg	Pg	14 48 29.0	-0.5
OK034				IAmb_Lg		14 48 37.2	
	comp=Z,8.6nm,1.0s						
OK034				Sg	Sg	14 48 38.3	+0.2
W35A	**Tecumseh**	**0.67**	**139**	Pg	Pg	14 48 29.1	-0.5
W35A				IAmb_Lg		14 48 38.2	
	comp=Z,11nm,0.8s						
W35A				Sg	Sg	14 48 38.3	0.0
QUOK	**Quay**	**0.76**	**48**	Pg	Pg	14 48 30.8	-0.6
QUOK				Sg	Sg	14 48 41.5	+0.2
CROK	**Carrier**	**0.96**	**331**	Pg	Pg	14 48 34.4	-0.8
BLOK	**Blackwell**	**1.11**	**8**	Pg	Pg	14 48 37.1	-0.9
X34A	**Smith Ranch, M**	**1.11**	**198**	Pg	Pg	14 48 37.7	-0.4
GC02	**Grant County #**	**1.24**	**343**		Pg	14 48 39.3	-1.3
OK032	**Salt Plains WL**	**1.31**	**331**		Pn	14 48 40.2	-1.4
TUL1	**Leonard**	**1.34**	**79**		Pn	14 48 40.1	-1.9
T35A	**Sooner Cattle**	**1.45**	**30**		Pn	14 48 42.5	-1.0
WMOK	**Wichita Mounta**	**1.46**	**231**		Pn	14 48 42.4	-1.2
X40A	**Basin Creek Fa**	**3.93**	**106**	IAmb_Lg		14 50 30.6	
	comp=Z,6.9nm,0.8s						

*IDC **13** 14:58:47.1±1.3,22°.21S×174°.28W,h0km,mb4.2/10, mb1 4.5/11,mb1mx4.1/34,mbtmp4.2/11,ML5.2/1,MS3.7/17, Ms1 3.7/17,ms1mx3.4/67,Error ellipse: s-maj=54.4km s-min=21.1km az=161.0*

*NEIC **13** 14:58:50.7±2.9,21°.97S±0°.09×173°.77W±0°.10,h23km±5km, mb4.4/11,Error ellipse: s-maj=14.2km s-min=11.7km az=136.0*

ISC 13 14:58:51.7±0.5,21°.82S±0°.08×173°.87W±0°.08,h35km,n53, σ2§29/35,mb4.2/14,MS3.7/16,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.59**	**54**		**Pn**	**14 59 57.3**	**-1.4**
AFI	**Afiamalu**	**8.11**	**15**	Pn	**Pn**	**15 00 46.1**	**-1.0**
	3.9nm,0.3s,baz=268,slow=4.5,SNR=4.3						
AFI				Sn	**Sn**	**15 02 11.4**	**-6.2**
	5.6nm,0.3s,baz=201,slow=23,SNR=2.6						
RAO	**Raoul Island**	**8.26**	**205**	Pn	**Pn**	**15 00 46.4**	**-2.5**
MSVF	**Nonsavu**	**8.62**	**297**	Pn	**Pn**	**15 00 52.8**	**-1.2**
	0.9nm,0.3s,baz=135,slow=14,SNR=5.8						
MSVF				LR	LR	15 03 50.4	
	comp=Z,663nm,18.1s,baz=117,slow=36						
MSVF	**Nonsavu**	**8.62**	**297**		**Pn**	**15 00 56.5**	**+2.4**
RAR	**Rarotonga**	**13.14**	**90**	Pn	**Pn**	**15 01 54.4**	**-1.4**
	5.4nm,0.3s,baz=254,slow=11,SNR=19						
RAR				LR	LR	15 06 28.1	
	comp=Z,199nm,18.2s,baz=258,slow=34						
PINNC	**Pines Island,**	**17.32**	**264**	P	**Pn**	**15 02 50.7**	**-0.1**
PINNC				IAmb	IAmb	15 03 11.3	
	comp=Z,72nm,1.5s						
URZ	**Urewera**	**18.14**	**203**	LR	LR	15 10 01.8	
	comp=Z,125nm,18.4s,baz=30,slow=38						
DZM	**Mont Dzumac**	**18.27**	**266**	LR	LR	15 09 04.0	
	comp=Z,196nm,18.0s,baz=150,slow=34						
DZM	**Mont Dzumac**	**18.27**	**266**	*e*LR	LR	15 07 17.2	
	comp=Z,200nm,24.9s						
DZM	**Mont Dzumac**	**18.27**	**266**	P	**Pn**	**15 03 04.5**	**+2.0**
DZM				IAmb	IAmb	15 03 12.1	
	comp=Z,28nm,1.3s						
TUWZ	**Tuamarina**	**22.09**	**205**	P	**P**	**15 03 44.0**	**+0.3**
NNZ	**Nelson**	**22.14**	**206**	P	**P**	**15 03 42.5**	**-1.7**
NNZ				IAmb	IAmb	15 04 09.9	
	comp=Z,38nm,1.1s						
TBI	**Tubuai**	**22.59**	**99**	*e*LR	LR	15 09 13.3	
	comp=Z,213nm,27.5s						
PPT2	**Papeete2**	**23.25**	**84**	*e*LR	LR	15 09 28.3	
	comp=Z,298nm,25.5s,baz=265						
PPT	**Papeete**	**23.25**	**84**	LR	LR	15 11 27.7	
	comp=Z,136nm,19.3s,baz=268,slow=32						
TAOE	**Nuku Hiva Isla**	**34.88**	**74**	*e*LR	LR	15 14 30.8	
	comp=Z,246nm,27.8s						
CTAO	**Charters Tower**	**37.21**	**265**	P	**P**	**15 05 58.3**	**-1.7**
CTAO				IAmb	IAmb	15 06 13.7	
	comp=Z,8.2nm,1.1s						
STKA	**Stephens Creek**	**40.74**	**246**	LR	LR	15 22 10.7	
	comp=Z,136nm,18.5s,baz=37,slow=35						
STKA	**Stephens Creek**	**40.74**	**246**	P	**P**	**15 06 29.3**	**0.0**
AS31	**Alice Springs**	**47.98**	**257**	P	**P**	**15 07 27.1**	**-0.3**
AS31				IAmb	IAmb	15 07 33.2	
	comp=Z,1.5nm,1.0s						
ASAR	**Alice Springs**	**47.98**	**257**	P	**P**	**15 07 24.1**	**-3.4**
ASAR				LR	LR	15 27 18.9	
	comp=Z,72nm,19.0s,baz=156,slow=36						
ASAR	**Alice Springs**	**47.98**	**257**	P	**P**	**15 07 27.3**	**-0.1**
JAY	**Jayapura**	**48.11**	**287**	LR	LR	15 25 38.9	
	comp=Z,80nm,19.3s,baz=221,slow=34						
WB0	**Warramunga Arr**	**48.23**	**263**	P	**P**	**15 07 26.8**	**-2.5**
WB0				IAmb	IAmb	15 07 29.2	
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**48.24**	**262**	P	**P**	**15 07 26.5**	**-2.9**
	comp=Z,2.4nm,0.8s,baz=102,slow=8.3,SNR=18						
WRA				LR	LR	15 28 06.4	
	comp=Z,56nm,18.4s,baz=106,slow=37						
WRA	**Warramunga Arr**	**48.24**	**262**	P	**P**	**15 07 27.2**	**-2.3**
FORT	**Forrest**	**52.33**	**247**	P	**P**	**15 07 58.5**	**-1.8**
SIJI	**Sorong**	**57.30**	**284**	LR	LR	15 32 34.1	
	comp=Z,55nm,19.5s,baz=124,slow=36						
BATI	**Baumata**	**60.80**	**270**	LR	LR	15 37 22.4	
	comp=Z,53nm,18.5s,baz=161,slow=38						
KAPI	**Kappang**	**66.23**	**274**	LR	LR	15 37 01.9	
	comp=Z,20nm,19.7s,baz=181,slow=35						
QSPA	**South Pole Qui**	**68.26**	**180**	P	**P**	**15 09 49.7**	**+0.9**
MJAR	**Matsushiro Arr**	**73.59**	**321**	P	**P**	**15 10 22.1**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=161,slow=5.6,SNR=2.7						
MJAR	**Matsushiro Arr**	**73.59**	**321**	IAmb	IAmb	15 10 26.6	
	comp=Z,2.1nm,0.9s						
ASAJ	**Asahikawa**	**76.77**	**329**	LR	LR	15 39 37.3	
	comp=Z,58nm,20.6s,baz=166,slow=32						
LPIG	**La Paz**	**76.82**	**57**	LR	LR	15 40 06.8	
	comp=Z,79nm,18.9s,baz=167,slow=32						
PETK	**Petropavlovsk-**	**78.59**	**343**	P	**P**	**15 10 51.0**	**+1.7**
	comp=Z,3.6nm,0.8s,baz=101,slow=6.4,SNR=4.1						
YBH	**Yreka Blue Hor**	**78.98**	**36**	LR	LR	15 39 44.4	
	comp=Z,47nm,18.5s,baz=184,slow=31						
NVAR	**Mina Array Bea**	**79.40**	**41**	P	**P**	**15 10 58.3**	**+3.8**
	comp=Z,2.1nm,0.9s,baz=218,slow=9.3,SNR=8.2						
TXAR	**Lajitas Array**	**84.56**	**56**	P	P	15 11 25.9	+4.2
	comp=Z,2.2nm,1.1s,baz=193,slow=4.9,SNR=9.8						
ANMO	**Albuquerque**	**85.27**	**50**	LR	LR	15 43 08.7	
	comp=Z,46nm,18.4s,baz=190,slow=31						
NEW	**Newport**	**86.24**	**34**	LR	LR	15 47 00.3	
	comp=Z,70nm,18.1s,baz=199,slow=33						
PDAR	**Pinedale Array**	**87.33**	**42**	P	**P**	**15 11 38.5**	**+3.3**
	comp=Z,0.9nm,0.9s,baz=211,slow=1.7,SNR=6.4						
ILAR	**Eielson Array**	**88.79**	**11**	P	**P**	**15 11 43.6**	**+2.3**
	comp=Z,1.2nm,1.0s,baz=206,slow=5.4,SNR=7.5						
CMAR	**Chiang Mai Arr**	**94.19**	**288**	P	**P**	**15 12 08.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=132,slow=3.8,SNR=2.9						
YKA	**Yellowknife Ar**	**96.13**	**24**	P	**P**	**15 12 19.4**	**+4.2**
	comp=Z,0.3nm,0.8s,baz=232,slow=4.4,SNR=6.1						
KBZ	**Khabaz**	**142.57**	**314**	PKP	**PKPdf**	**15 18 20.8**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=226,slow=3.1,SNR=8.3						
GEVA	**Gevas**	**144.34**	**306**	PKPdf	**PKPdf**	**15 18 24.4**	**-0.2**
SUW	**Suwalki**	**145.34**	**342**	PKPdf	**PKiKP**	**15 18 27.3**	**-2.2**
AKASG	**Malin Array Be**	**145.97**	**334**	PKPbc	**PKPab**	**15 18 28.8**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=35,slow=4.3,SNR=5.8						
AKASG	**Malin Array Be**	**145.97**	**334**	PKPbc	**PKiKP**	**15 18 29.3**	**-1.5**
BNN	**Bunyan**	**149.43**	**310**	PKPab	**PKPab**	**15 18 42.0**	**-0.3**
CLL	**Collm**	**150.08**	**351**	*e*PKPbc	**PKPab**	**15 18 42.0**	**-2.3**

*IDC **13** 14:59:42.6±2.1,0°.97N×126°.99E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.2/34,mbtmp3.5/3,MS3.2/1,Ms1 3.2/1, ms1mx2.2/35,Error ellipse: s-maj=179.4km s-min=25.2km az=66.0*

*DJA **13** 14:59:46.5±0.4,1°.N±6°×12°.6E±°,h10km,M3.0/7,MLv3.0/7*

ISC 13 14:59:49.1±1.2,0°.54N±0°.10×126°.26E±0°.07,h35km,n9, σ0§97/8,mb3.5/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.13**	**78**	P	**Pn**	**15 00 08.9**	**+0.5**
LBMI	**Labuha**	**1.71**	**133**	P	**Pn**	**15 00 16.8**	**+0.4**
KMSI	**Cibinong**	**2.28**	**271**	P	**Pn**	**15 00 23.9**	**-0.4**
SANI	**Sanana**	**2.59**	**186**	P	**Pn**	**15 00 28.7**	**+0.2**
GTOI	**Gorontalo**	**3.25**	**272**	P	**Pn**	**15 00 39.1**	**+1.5**
LEM	**Lembang**	**19.99**	**248**	LR	LR	15 14 22.1	
	comp=Z,63nm,18.4s,baz=205,slow=42						
WRA	**Warramunga Arr**	**21.84**	**159**	P	**P**	**15 04 38.0**	**-0.7**
	0.9nm,0.5s,baz=340,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**25.18**	**163**	P	**P**	**15 05 12.3**	**+0.8**
	0.4nm,0.3s,baz=349,slow=13,SNR=21						
MKAR	**Makanchi Array**	**59.91**	**327**	P	**P**	**15 09 50.9**	**-0.8**
	0.2nm,0.4s,baz=121,slow=8.0,SNR=6.3						

NNC 13 15:05:31.0±7.0,38°.09N×72°.95E,h0km,mb3.7,mpv3.4, 8C-4D,Error ellipse: s-maj=53.2km s-min=38.9km az=155.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**4.65**	**3**	Pg	Pn	15 06 45.6	+3.0
MRKS				Lg	Lg	15 07 56.2	
	2.7nm,0.5s						
	12nm,0.4s						
AAK	**Ala-Archa**	**4.69**	**14**	⇓Pn	Pn	15 06 46.3	+3.0
	1.3nm,0.5s						
AAK				⇓Pg	Pb	15 06 57.6	+3.3
	3.4nm,0.5s						
AAK				⇓Sn	Sn	15 07 42.6	+4.1
	13nm,0.9s						
AAK				⇑Lg	Lg	15 08 01.9	
	14nm,1.0s						
TKM2	**Tokmak 2**	**5.23**	**22**	⇑Pn	Pn	15 06 53.9	+3.3
	1.7nm,0.8s						
TKM2				⇑Pg	Pg	15 07 08.4	-2.8
	3.1nm,0.6s						
TKM2				⇑Sn	Sn	15 07 55.1	+3.3
	4.4nm,0.7s						
TKM2				⇓Lg	Lg	15 08 17.3	
	8.7nm,1.1s						
KK02	**Karatay Array**	**5.34**	**340**	⇑Pn	Pn	15 06 52.9	+0.9
	3.4nm,0.4s,baz=148,slow=12						
KK02				⇑Pg	Pb	15 07 09.0	+3.8
	2.6nm,0.5s						
KK02				⇑Sn	Sn	15 07 54.5	+0.4
	7.8nm,0.6s,baz=152,slow=21						
KK02				⇑Lg	Lg	15 08 20.2	
	7.0nm,0.7s						
KST	**Kastek**	**5.45**	**24**	Pg	Pb	15 07 02.1	-5.1
	2.4nm,0.6s						
KST				Lg	Lg	15 08 24.0	
	13nm,0.9s						
DGS	**Degeres**	**5.57**	**22**	Pg	Pb	15 07 04.0	-5.2
	1.6nm,0.9s						
DGS				Lg	Lg	15 08 27.9	
	8.6nm,0.7s						
MDOK	**Medeo**	**5.95**	**30**	Lg	Lg	15 08 41.5	
	9.1nm,1.0s						
CHKK	**Chushkaly**	**6.52**	**27**	Pg	Pb	15 07 22.9	-2.3
	0.7nm,0.1s						
CHKK				Lg	Lg	15 08 59.4	
	4.1nm,0.4s						
AB31	**Akbulak array**	**14.57**	**324**	Pn	Pn	15 08 53.4	-5.0
	0.6nm,0.5s,baz=133,slow=13,SNR=20						

*NEIC **13** 15:14:13.4±2.0,10°.8S±0°.1×165°.35E±0°.10,h42km±10km, mb4.2/8,Error ellipse: s-maj=20.8km s-min=5.2km az=219.0*

*IDC **13** 15:14:15.6±3.9,10°.87S×165°.17E,h65km±33km,mb3.5/7, mb1 3.7/9,mb1mx3.6/35,mbtmp3.9/9,ML4.2/2,MS3.4/4, Ms1 3.4/4,ms1mx2.9/37,Error ellipse: s-maj=36.1km s-min=28.4km az=100.0*

ISC 13 15:14:11.7±0.9,10°.72S±0°.09×165°.4E±0°.1,h31km,n31, σ1§29/28,mb3.8/9,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**5.02**	**160**	Pn	**Pn**	**15 15 25.7**	**+0.8**
SANVU	**Saraoutou**	**5.02**	**160**	P	**Pn**	**15 15 26.0**	**+1.1**
HNR	**Honiara**	**5.52**	**283**	P	**Pn**	**15 15 32.8**	**+1.0**
	27nm,0.3s,baz=138,slow=7.7,SNR=6.4						
HNR				S	**Sn**	**15 16 36.0**	**+1.8**
	12nm,0.3s,baz=315,slow=22,SNR=2.0						
HNR				LR	LR	15 17 45.3	
	comp=Z,367nm,18.1s,baz=70,slow=39						
HNR	**Honiara**	**5.52**	**283**	Pn	**Pn**	**15 15 32.3**	**+0.5**
DZM	**Mont Dzumac**	**11.34**	**175**	P	**Pn**	**15 16 53.0**	**+1.3**
	0.5nm,0.3s,baz=20,slow=5.2,SNR=44						
DZM				S	**Sn**	**15 18 57.3**	**0.0**
	0.2nm,0.3s,baz=200,slow=20,SNR=1.6						
DZM	**Mont Dzumac**	**11.34**	**175**	Pn	**Pn**	**15 16 51.5**	**-0.2**
ONTNC	**Ouen Toro**	**11.57**	**175**	Pn	**Pn**	**15 16 57.0**	**+2.2**
MSVF	**Nonsavu**	**14.10**	**121**	LR	LR	15 22 07.6	
	comp=Z,116nm,19.1s,baz=297,slow=33						
PMG	**Port Moresby**	**18.01**	**273**	LR	LR	15 25 06.7	
	comp=Z,123nm,18.0s,baz=105,slow=37						
MANU	**Manus Island**	**19.87**	**294**	P	**Pn**	**15 18 41.7**	**-0.6**
MANU				IAmb	IAmb	15 18 41.9	
	comp=Z,8.1nm,0.9s						
EIDS	**Eidsvold**	**19.91**	**221**	P	**P**	**15 18 41.6**	**+0.7**
CTAO	**Charters Tower**	**20.66**	**241**	P	**P**	**15 18 49.4**	**+0.4**
CTAO				IAmb	IAmb	15 18 55.2	
	comp=Z,13nm,1.1s						
ARMA	**Armidale**	**23.42**	**211**	P	**P**	**15 19 17.4**	**-0.9**
H11S2	**WAKE ISLAND Hy**	**29.05**	**3**	T	T	15 50 44.8	
	baz=183,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**29.05**	**3**	T	T	15 50 36.1	
	baz=183,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**29.07**	**3**	T	T	15 50 43.3	
	baz=183,slow=76,SNR=20						
STKA	**Stephens Creek**	**30.45**	**223**	P	**P**	**15 20 20.5**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=58,slow=11,SNR=3.6						
STKA				LR	LR	15 31 09.9	
	comp=Z,97nm,18.2s,baz=198,slow=34						
WB0	**Warramunga Arr**	**31.19**	**250**	P	**P**	**15 20 27.0**	**-1.4**
WB0				IAmb	IAmb	15 20 27.0	
	comp=Z,5.6nm,1.1s						
WB2	**Warramunga Arr**	**31.27**	**249**	P	**P**	**15 20 28.0**	**-1.0**
WB2				IAmb	IAmb	15 20 35.2	
	comp=Z,7.0nm,1.4s						
WRA	**Warramunga Arr**	**31.28**	**249**	P	**P**	**15 20 27.5**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=82,slow=9.3,SNR=5.7						
WRA	**Warramunga Arr**	**31.28**	**249**	P	**P**	**15 20 27.3**	**-1.9**
ASAR	**Alice Springs**	**32.64**	**243**	P	**P**	**15 20 38.3**	**-2.8**
	comp=Z,0.6nm,0.6s,baz=65,slow=10,SNR=10						
ASAR	**Alice Springs**	**32.64**	**243**	P	**P**	**15 20 38.6**	**-2.5**
BBOO	**Buckleboo**	**34.81**	**226**	P	**P**	**15 20 60.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**71.67**	**294**	P	**P**	**15 25 30.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=121,slow=5.5,SNR=6.5						
CMAR	**Chiang Mai Arr**	**71.67**	**294**	P	**P**	**15 25 31.3**	**+0.3**
SONM	**Songino Array**	**78.20**	**324**	P	**P**	**15 26 08.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=132,slow=6.0,SNR=3.8						
IMAR	**Indian Mountai**	**82.20**	**16**	P	**P**	**15 26 29.7**	**+0.4**
ILAR	**Eielson Array**	**83.31**	**19**	P	**P**	**15 26 35.8**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=243,slow=4.9,SNR=1.7						
MKAR	**Makanchi Array**	**93.05**	**317**	P	**P**	**15 27 22.0**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=95,slow=6.5,SNR=2.8						
MKAR	**Makanchi Array**	**93.05**	**317**	P	**P**	**15 27 22.3**	**-0.2**

*NEIC **13** 15:24:38.5±0.6,7°.4S±0°.1×124°.52E±0°.08,h528km±16km, mb4.2/8,Error ellipse: s-maj=19.4km s-min=6.4km az=149.0*

*IDC **13** 15:24:38.4±2.3,7°.42S×124°.58E,h533km±31km,mb2.6/1, mb1 3.1/5,mb1mx2.3/54,mbtmp3.8/5,Error ellipse: s-maj=101.6km s-min=18.9km az=59.0*

ISC 13 15:24:38.0±0.8,7°.40S±0°.09×124°.6E±0°.1,h528km,n23, σ1§09/25,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.36**	**187**	P	**P**	**15 25 48.1**	**+0.5**
MMRI	**Maumere**	**2.60**	**242**	P	**P**	**15 25 49.0**	**+0.2**
BATI	**Baumata**	**2.92**	**198**	P	**P**	**15 25 52.0**	**+1.3**
	82nm,0.3s,baz=94,slow=1.7,SNR=118						
BATI				S	**S**	**15 26 50.9**	**+0.9**
	9.8nm,0.3s,baz=61,slow=19,SNR=4.3						
KAPI	**Kappang**	**5.33**	**296**	P	**P**	**15 26 11.2**	**+1.7**
	2.0nm,0.3s,baz=187,slow=7.0,SNR=6.3						
MTN	**Manton Dam**	**8.43**	**130**	P	**P**	**15 26 40.2**	**+0.7**
FAKI	**Fak Fak**	**8.86**	**60**	P	**P**	**15 26 42.9**	**-1.0**
KNRA	**Kununurra**	**9.20**	**154**	P	**P**	**15 26 48.2**	**+1.0**
TOLI2	**Tolitoli**	**9.26**	**336**	P	**P**	**15 26 48.5**	**+0.6**
JAGI	**Jajag, Banyuwa**	**10.36**	**263**	P	**P**	**15 26 56.6**	**-2.8**
FITZ	**Fitzroy Crossi**	**10.69**	**174**	P	**P**	**15 27 03.5**	**+0.8**
	0.2nm,0.3s,baz=0.9,slow=10,SNR=10						
FITZ				S	**S**	**15 29 00.9**	**-0.9**
	0.1nm,0.3s,baz=142,slow=20,SNR=3.9						
WB0	**Warramunga Arr**	**15.56**	**143**	P	**P**	**15 27 53.1**	**-0.6**
WRAB	**Tennant Creek**	**15.66**	**144**	P	**P**	**15 27 54.3**	**-0.4**
WRAB				IAmb	IAmb	15 27 55.9	
	comp=Z,4.2nm,0.6s						
WRA	**Warramunga Arr**	**15.67**	**144**	P	**P**	**15 27 53.1**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=323,slow=11,SNR=69						
WRA	**Warramunga Arr**	**15.67**	**144**	P	**P**	**15 27 53.0**	**-1.7**
WB2	**Warramunga Arr**	**15.67**	**144**	P	**P**	**15 27 54.1**	**-0.7**
WB2				IAmb	IAmb	15 27 54.6	
	comp=Z,4.4nm,0.6s						
WR0	**Warramunga Arr**	**15.80**	**143**	P	**P**	**15 27 55.7**	**-0.4**
WR0				IAmb	IAmb	15 27 56.3	
	comp=Z,7.4nm,0.9s						
AS31	**Alice Springs**	**18.50**	**152**	P	**P**	**15 28 22.3**	**+0.8**
ASAR	**Alice Springs**	**18.50**	**152**	P	**P**	**15 28 22.3**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=326,slow=8.5,SNR=44						
ASAR	**Alice Springs**	**18.50**	**152**	P	**P**	**15 28 22.1**	**+0.6**
COEN	**Coen**	**19.41**	**111**	P	**P**	**15 28 30.0**	**+0.1**
COEN				IAmb	IAmb	15 28 54.0	
	comp=Z,7.8nm,1.1s						
BBOO	**Buckleboo**	**27.45**	**159**	P	**P**	**15 29 41.7**	**+0.3**
MKAR	**Makanchi Array**	**65.71**	**330**	P	**P**	**15 34 30.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=121,slow=6.5,SNR=4.3						
MKAR	**Makanchi Array**	**65.71**	**330**	P	**P**	**15 34 30.4**	**+0.1**

*IDC **13** 15:24:55.8±0.9,13°.12N×50°.18E,h0km,mb3.9/12, mb1 4.1/15,mb1mx3.7/63,mbtmp4.0/15,ML4.0/3,MS3.6/29, Ms1 3.6/29,ms1mx3.3/81,Error ellipse: s-maj=22.2km s-min=18.3km az=164.0*

*NEIC **13** 15:24:57.6±2.6,13°.1N±0°.1×50°.25E±0°.06,h10km±1km, mb4.0/9,Error ellipse: s-maj=19.9km s-min=9.0km az=195.0*

*OMAN **13** 15:24:57.2±1.5,13°.22N×50°.06E,h50km±231km,mb4.8/5, ml3.7/1,Error ellipse: s-maj=50.5km s-min=20.6km az=235.0*

ISC 13 15:24:57.0±0.7,13°.19N±0°.09×50°.21E±0°.08,h10km,n59, σ1§25/41,mb4.0/14,MS3.6/27,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**3.82**	**105**	P	**Pn**	**15 25 54.4**	**-1.7**
	SNR=33						
SOCY	**Socotra**	**3.82**	**105**		Pn	15 25 54.0	-2.0
ABTO	**Aybut**	**5.10**	**35**	P	**Pn**	**15 26 12.6**	**-1.0**
	SNR=15						
ABTO				S	**Sn**	**15 27 10.1**	**-2.6**
RBK	**Rabkut**	**5.76**	**41**	P	**Pn**	**15 26 21.1**	**-1.7**
	SNR=6.4						
RBK				S	**Sn**	**15 27 28.1**	**-0.9**
WHFO	**Wadi Hawf**	**5.82**	**36**	P	**Pn**	**15 26 21.6**	**-1.9**
	SNR=14						
WHFO				S	**Sn**	**15 27 29.1**	**-1.3**
DMTO	**DMTO**	**6.41**	**45**	P	**Pn**	**15 26 30.4**	**-1.2**
DMTO				S	**Sn**	**15 27 44.6**	**-0.4**
DOK	**Doka**	**6.58**	**34**	P	**Pn**	**15 26 32.3**	**-1.6**
	SNR=23						
DOK				S	**Sn**	**15 27 47.9**	**-1.2**
ATD	**Arta Tunnel**	**7.38**	**258**	Pn	**Pn**	**15 26 44.0**	**-0.9**
	16nm,0.3s,baz=203,slow=23,SNR=26						
ATD				LR	LR	15 28 55.9	
	comp=Z,326nm,20.6s,baz=100,slow=33						
ATD	**Arta Tunnel**	**7.38**	**258**		**Pn**	**15 26 44.0**	**-0.9**
SMDO	**Samad**	**12.32**	**36**	P	Pn	15 27 49.4	-3.3
WSAR	**Wadi Sarin**	**12.80**	**37**	Pn	**Pn**	**15 28 00.1**	**+1.0**
	0.2nm,0.3s,baz=240,slow=7.1,SNR=4.0						
WSAR				LR	LR	15 32 45.2	
	comp=Z,218nm,20.1s,baz=235,slow=36						
UOSS	**Minazif**	**12.99**	**25**	P	**Pn**	**15 27 59.6**	**-2.1**
KMBO	**Kilima Mbogo**	**19.17**	**223**	P	**P**	**15 29 19.8**	**-1.3**
	0.2nm,0.3s,baz=30,slow=10,SNR=5.9						
KMBO	**Kilima Mbogo**	**19.17**	**223**	P	**P**	**15 29 20.4**	**-0.8**
EIL	**Elat**	**21.65**	**322**	LR	LR	15 37 58.5	
	comp=Z,123nm,18.8s,baz=112,slow=36						
ASF	**Jabal al Asfar**	**22.49**	**329**	P	**P**	**15 29 59.0**	**+2.1**
	3.9nm,0.8s,baz=86,slow=5.9,SNR=4.7						
GEYT	**Alibeck**	**25.62**	**15**	P	**P**	**15 30 28.4**	**+1.6**
	4.0nm,0.7s,baz=220,slow=20,SNR=3.9						
GEYT				LR	LR	15 42 34.9	
	comp=Z,322nm,18.4s,baz=192,slow=41						
GEYT	**Alibeck**	**25.62**	**15**	P	**P**	**15 30 26.2**	**-0.6**
GEYT				IAmb	IAmb	15 30 32.6	
	comp=Z,4.2nm,0.8s						
GNI	**Garni**	**27.28**	**351**	LR	LR	15 43 21.3	
	comp=Z,211nm,18.1s,baz=174,slow=40						
BRTR	**Keskin Array B**	**30.20**	**334**	LR	LR	15

comp=Z,1.4nm,1.0s,baz=296,slow=4.0,SNR=6.5
WRA Warramunga Arr 89.04 111 P P 15 37 53.4 +0.4
ASAR Alice Springs 89.57 114 P P 15 37 56.0 +0.6
comp=Z,0.5nm,0.6s,baz=287,slow=4.5,SNR=14
ASAR Alice Springs 89.57 114 P P 15 37 55.5 +0.1
INK Inuvik 98.67 1 LR LR 16 30 41.5
comp=Z,36nm,19.9s,baz=112,slow=40

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*PRE **13** 15:35:36.8±1.0, 26°.47S×27°.33E, h2km, ML2.9*
*BUL **13** 15:35:37.4±3.6, 26°.70S×27°.68E, h0km±28km, MD4.4*
*EAF **13** 15:35:37.0±3.7, 26°.73S×27°.73E, h0km±29km, MD4.1*
ISC 13 15:35:37.8±1.3, 26°.48S±0°.03×27°.35E±0°.03, h6km±10km, n25, σ1°80/46, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.45**	**179**	*eP*	**Pg**	**15 35 46.3**	**-0.2**
PRYS				*eS*	**Sg**	**15 35 52.5**	**+0.2**
PRYS				IAML		15 36 01.9	
comp=Z,658nm,0.4s							
HRAO	**HartRAO**	**0.66**	**27**	*eP*	**Pb**	**15 35 49.5**	**-2.3**
HRAO				*eS*	**Sb**	**15 35 58.7**	**-2.6**
HRAO				IAML		15 36 06.9	
comp=Z,398nm,0.1s							
SLR	**Silverton**	**1.12**	**49**	*eP*	**Pb**	**15 35 59.1**	**-0.5**
SLR				*eS*	**Sb**	**15 36 14.8**	**+0.3**
SLR				IAML		15 36 20.3	
comp=Z,409nm,0.3s							
SNKL	**Senekal, Frees**	**1.83**	**168**	*eP*	**Pn**	**15 36 09.8**	**-0.2**
SNKL				*eS*	**Sn**	**15 36 34.2**	**+0.6**
SNKL				IAML		15 36 41.0	
comp=Z,506nm,0.3s							
SWZ	**Schweizer**	**1.94**	**248**	*eP*	**Pn**	**15 36 11.9**	**+0.4**
SWZ				*eS*	**Sn**	**15 36 36.1**	**-0.1**
SWZ				IAML		15 36 42.5	
comp=Z,215nm,0.2s							
LBTB	**Lobatse**	**2.15**	**312**	*eP*	**Pn**	**15 36 14.2**	**-0.2**
LBTB				*eS*	**Sn**	**15 36 41.0**	**-0.4**
LBTB				IAML		15 36 48.2	
comp=Z,379nm,0.7s							
LBTB	**Lobatse**	**2.15**	**312**	*i P*	**Pg**	**15 36 19.1**	**-0.1**
LBTB	**Lobatse**	**2.15**	**312**	*i P*	**Pg**	**15 36 19.1**	**-0.1**
CRLN	**Carolina, Mapu**	**2.45**	**79**	*eP*	**Pn**	**15 36 18.5**	**0.0**
CRLN				*eS*	**Sn**	**15 36 49.0**	**+0.2**
CRLN				IAML		15 37 00.9	
comp=Z,39nm,0.2s							
NWCL	**Newcastle**	**2.59**	**120**	*eP*	**Pn**	**15 36 20.6**	**+0.2**
NWCL				*eS*	**Sn**	**15 36 53.4**	**+1.2**
NWCL				IAML		15 37 07.6	
comp=Z,95nm,0.6s							
BOSA	**Boshof**	**2.83**	**221**	*eP*	**Pn**	**15 36 24.2**	**+0.6**
BOSA				*eS*	**Sn**	**15 36 58.2**	**+0.1**
BOSA				IAML		15 37 10.6	
comp=Z,65nm,0.5s							
BOSA	**Boshof**	**2.83**	**221**	*i* Sg	**Sb**	**15 37 05.2**	**+1.5**
BOSA	**Boshof**	**2.83**	**221**	*i* Sg	**Sb**	**15 37 05.2**	**+1.5**
POGA	**Pongola**	**3.98**	**103**	*eP*	**Pn**	**15 36 39.4**	**0.0**
POGA				*eS*	**Sn**	**15 37 26.6**	**0.0**
POGA				IAML		15 37 54.8	
comp=Z,24nm,0.3s							
HVD	**Gariep Dam**	**4.42**	**201**	*eP*	**Pn**	**15 36 46.0**	**+0.3**
HVD				*eS*	**Sn**	**15 37 36.2**	**-1.4**
HVD				IAML		15 38 06.2	
comp=Z,16nm,0.4s							
MOPA	**Mopani**	**4.71**	**52**	*eP*	**Pn**	**15 36 49.2**	**-0.2**
MOPA				*eS*	**Sn**	**15 37 42.3**	**-2.1**
MOPA				IAML		15 38 17.8	
comp=Z,23nm,0.7s							
MOPA	**Mopani**	**4.71**	**52**	*i* P	**Pn**	**15 36 50.1**	**+0.6**
MOPA				*i* Sg	**Sb**	**15 37 58.0**	**+0.2**
MOPA	**Mopani**	**4.71**	**52**	*i* P	**Pn**	**15 36 50.1**	**+0.6**
MOPA				*i* Sg	**Sb**	**15 37 58.0**	**+0.2**
MSNA	**Messina**	**4.78**	**31**	*eP*	**Pn**	**15 36 49.6**	**-0.8**
MSNA				*eS*	**Sn**	**15 37 42.6**	**-3.7**
MSNA				IAML		15 38 16.1	
comp=Z,21nm,0.2s							
MSNA	**Messina**	**4.78**	**31**	*i* P	**Pn**	**15 36 51.6**	**+1.1**
MSNA				*i* Sg	**Sb**	**15 38 05.0**	**+5.0**
MSNA	**Messina**	**4.78**	**31**	*i* P	**Pn**	**15 36 51.6**	**+1.1**
MSNA				*i* Sg	**Sb**	**15 38 05.0**	**+5.0**
UPI	**Upington**	**5.74**	**250**	*eP*	**Pn**	**15 37 04.0**	**+0.3**
UPI				*eS*	**Sn**	**15 38 07.5**	**-2.4**
UPI				IAML		15 38 41.2	
comp=Z,14nm,1.2s							
MATP	**Matopo**	**6.12**	**10**	*i* P	**Pn**	**15 37 12.1**	**+3.2**
MATP				*i* S	**Sn**	**15 38 19.5**	**+0.1**
MATP	**Matopo**	**6.12**	**10**	*i* P	**Pn**	**15 37 12.1**	**+3.2**
MATP				*i* S	**Sn**	**15 38 19.5**	**+0.1**
ARMS	**Ukamas**	**6.95**	**255**	*eP*	**Pn**	**15 37 21.1**	**+0.8**
ARMS				*eS*	**Sn**	**15 38 35.8**	**-4.0**
ARMS				IAML		15 39 19.1	
comp=Z,25nm,2.5s							

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*IDC **13** 15:35:50.3±2.0, 7°.16S×129°.38E, h182km±26km, mb2.9/1, mb1 3.0/6, mb1mx2.6/41, mbtmp3.5/6, Error ellipse: s-maj=34.6km s-min=20.0km az=95.0*
ISC 13 15:35:48.7±1.0, 7°.12S±0°.08×129°.4E±0°.1, h150km, n6, σ2°16/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.46**	**241**	P	**Pn**	**15 37 23.5**	**+1.8**
1.9nm,0.3s,baz=222,slow=2.2,SNR=4.4							
BATI				S	**Sn**	**15 38 33.1**	**-1.4**
1.7nm,0.3s,baz=234,slow=23,SNR=2.5							
SIJI	**Sorong**	**6.48**	**17**	P	**Pn**	**15 37 24.4**	**+2.5**
0.2nm,0.3s,baz=314,slow=23,SNR=6.1							
SIJI				S	**Sn**	**15 38 32.2**	**-2.6**
0.3nm,0.3s,baz=264,slow=22,SNR=2.3							
FITZ	**Fitzroy Crossi**	**11.52**	**198**	P	**Pn**	**15 38 27.9**	**-0.8**
baz=23,slow=9.7,SNR=0.9							
FITZ				S	Sn	15 40 27.2	-8.8
0.1nm,0.3s,baz=251,slow=9.5,SNR=2.2							
WRA	**Warramunga Arr**	**13.61**	**160**	P	**Pn**	**15 38 55.0**	**-0.8**
0.2nm,0.3s,baz=338,slow=12,SNR=17							
WRA				S	Sn	15 41 15.1	-11
0.3nm,0.3s,baz=336,slow=20,SNR=10.0							
ASAR	**Alice Springs**	**17.00**	**166**	P	**P**	**15 39 37.9**	**+0.8**
0.1nm,0.3s,baz=344,slow=9.7,SNR=17							
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**15 46 30.1**	**-1.7**
0.2nm,0.5s,baz=118,slow=7.6,SNR=5.0							

IDC 13 15:39:11.4±2.7, 6°.42S×129°.87E, h132km±34km, mb3.0/1, mb1 3.1/5, mb1mx2.6/50, mbtmp3.5/5, Error ellipse: s-maj=61.0km s-min=16.0km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.69**	**14**	P	Pn	15 40 32.9	-1.0
2.3nm,0.3s,baz=239,slow=23,SNR=26							
SIJI				S	Sn	15 41 31.5	-6.7
1.0nm,0.3s,baz=244,slow=23,SNR=8.1							
FITZ	**Fitzroy Crossi**	**12.31**	**199**	P	Pn	15 42 04.3	+2.0
0.1nm,0.3s,baz=23,slow=12,SNR=1.1							
WRA	**Warramunga Arr**	**14.12**	**163**	P	Pn	15 42 27.1	+1.4
0.0nm,0.3s,baz=341,slow=13,SNR=1.3							
WRA				S	Sn	15 44 58.9	-3.0
0.5nm,0.3s,baz=339,slow=21,SNR=7.6							
ASAR	**Alice Springs**	**17.58**	**168**	P	Pn	15 43 08.7	+0.4
0.1nm,0.3s,baz=343,slow=9.8,SNR=7.2							
ASAR				S	S	15 46 22.4	-1.3
0.1nm,0.3s,baz=328,slow=15,SNR=6.1							
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	15 49 54.4	0.0
0.2nm,0.6s,baz=120,slow=9.5,SNR=4.0							

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*TUL **13** 15:44:07.9±0.9, 36°.937N±0°.009×97°.71W±0°.01, h3km±6km, ML3.2, mb_Lg2.8/29(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=60.0*
NEIC 13 15:44:08.3±0.6, 36°.927N±0°.009×97°.71W±0°.01, h5km±6km, Error ellipse: s-maj=1.6km s-min=1.2km az=118.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.13**	**338**	Pg	Pg	15 44 10.8	-0.2
KAN17				Sg	Sg	15 44 12.7	0.0
GC02	**Grant County #**	**0.14**	**238**	Pg	Pg	15 44 11.3	0.0
GC02				Sg	Sg	15 44 13.6	+0.4
KAN13	**South Haven SW**	**0.20**	**65**	Pg	Pg	15 44 12.3	-0.1
KAN13				Sg	Sg	15 44 15.2	+0.2
KAN14	**Manchester OK**	**0.21**	**278**	Pg	Pg	15 44 12.3	-0.2
KAN14				Sg	Sg	15 44 15.4	+0.2
KAN01	**Argonia South**	**0.23**	**349**		Pg	15 44 12.7	-0.2
KAN06	**Argonia West S**	**0.34**	**339**		Pg	15 44 14.9	-0.2
KAN06				Sg	Sg	15 44 19.6	+0.1
KAN08	**Anthony NE Sta**	**0.37**	**325**		Pg	15 44 15.4	-0.1
KAN08				Sg	Sg	15 44 20.4	+0.1
KAN10	**Anthony SW Sta**	**0.37**	**302**	Pg	Pg	15 44 15.4	-0.1
KAN10				Sg	Sg	15 44 20.4	+0.1
KAN16	**Harper SW Stat**	**0.41**	**316**	Pg	Pg	15 44 16.2	-0.2
KAN16				Sg	Sg	15 44 21.6	-0.1
OK032	**Salt Plains WL**	**0.42**	**253**	Pg	Pg	15 44 16.4	-0.1
OK032				Sg	Sg	15 44 22.0	0.0
BLOK	**Blackwell**	**0.43**	**113**	Pg	Pg	15 44 16.6	0.0
BLOK				Sg	Sg	15 44 22.6	+0.4
KAN12	**Harper NE Stat**	**0.44**	**328**	Pg	Pg	15 44 16.5	-0.3
KAN12				Sg	Sg	15 44 22.5	-0.1
CROK	**Carrier**	**0.48**	**208**	Pg	Pg	15 44 17.6	+0.1
CROK				Sg	Sg	15 44 24.3	+0.5
OK035	**E0210 Rd and N**	**0.83**	**255**	Pg	Pg	15 44 23.9	-0.5
T35A	**Sooner Cattle**	**0.96**	**90**		Pg	15 44 26.1	-0.6
T35A				Sg	Sg	15 44 38.7	-0.5
QUOK	**Quay**	**1.10**	**133**	Pg	Pg	15 44 28.8	-0.7
OK029	**Liberty Lake**	**1.15**	**170**	Pg	Pg	15 44 29.6	-0.7
U32A	**Winter Ranch,**	**1.18**	**243**	Pg	Pg	15 44 30.0	-0.9
OK031	**S. Brethren Rd**	**1.20**	**144**		Pg	15 44 30.6	-0.7
OK031				Sg	Sg	15 44 46.4	-0.4
OK034	**N. Norfolk Rd.**	**1.22**	**139**		Pg	15 44 30.9	-0.7
OK030	**Cody Creek RV**	**1.25**	**143**		Pg	15 44 31.5	-0.7
BCOK	**Bluff Creek, N**	**1.27**	**176**	Pg	Pg	15 44 32.0	-0.7
OK025	**Westminster Rd**	**1.38**	**167**	Pn	Pn	15 44 33.8	-0.5
TUL1	**Leonard**	**1.85**	**123**	IAmb_Lg		15 45 10.2	
comp=Z,38nm,0.8s							
W35A	**Tecumseh**	**1.90**	**159**	Pn	Pn	15 44 41.2	-0.1
X34A	**Smith Ranch, M**	**2.32**	**183**	IAmb_Lg		15 45 23.7	
comp=Z,29nm,0.7s							
WMOK	**Wichita Mounta**	**2.35**	**202**	Pn	Pn	15 44 47.8	+0.1
U38A	**Gravette**	**2.71**	**99**	Pn	Pn	15 44 52.4	-0.2
LOOK	**Love County**	**2.96**	**171**	Pn	Pn	15 44 56.1	+0.1
X37A	**Clayton**	**3.01**	**140**	Pn	Pn	15 44 56.6	0.0
X37A				IAmb_Lg		15 45 49.7	
comp=Z,27nm,0.8s							
HHAR	**Hobbs**	**3.10**	**101**	Pn	Pn	15 44 58.3	+0.4
S39A	**Bolivar**	**3.58**	**76**	Pn	Pn	15 45 04.5	0.0
Z35A	**Perchaven, San**	**3.61**	**174**	Pn	Pn	15 45 05.0	+0.1
W39A	**Magazine**	**3.62**	**117**	Pn	Pn	15 45 05.1	+0.1
W39A				IAmb_Lg		15 46 10.3	
comp=Z,26nm,0.7s							
AMTX	**Amarillo**	**3.82**	**239**	Pn	Pn	15 45 07.6	-0.3
U40A	**Yellville**	**3.94**	**97**	Pn	Pn	15 45 10.1	+0.6
MIAR	**Mount Ida**	**4.12**	**124**	Pn	Pn	15 45 08.5	-3.4
P38A	**Dawn**	**4.25**	**49**	IAmb_Lg		15 46 29.1	
comp=Z,17nm,0.8s							
MGMO	**Mountain Grove**	**4.36**	**85**	Pn	Pn	15 45 16.3	+1.1
MGMO				IAmb_Lg		15 46 29.6	
comp=Z,14nm,0.8s							
R40A	**Maddies Statio**	**4.53**	**71**	IAmb_Lg		15 46 36.3	
comp=Z,15nm,1.0s							
FCAR	**Ozark Folk Cen**	**4.62**	**101**	IAmb_Lg		15 46 34.9	
comp=Z,17nm,1.0s							
X40A	**Basin Creek Fa**	**4.65**	**120**	IAmb_Lg		15 46 40.0	
comp=Z,15nm,0.9s							
WHAR	**Wooly Hollow**	**4.68**	**109**	IAmb_Lg		15 46 49.2	
comp=Z,15nm,0.7s							
L34A	**Svendsen Farm,**	**5.14**	**11**	IAmb_Lg		15 46 52.4	
comp=Z,20nm,0.7s							
P40A	**Paris**	**5.16**	**58**	IAmb_Lg		15 46 52.0	
comp=Z,19nm,0.8s							
N38A	**Joes South For**	**5.20**	**41**	IAmb_Lg		15 47 04.5	
comp=Z,19nm,0.7s							
T25A	**Trinidad**	**5.37**	**274**	Pn	Pn	15 45 29.2	-0.1
K31A	**O'Neill**	**5.75**	**352**	IAmb_Lg		15 47 19.2	
comp=Z,20nm,0.7s							
PBMO	**Poplar Bluff**	**5.84**	**89**	IAmb_Lg		15 47 17.6	
comp=Z,12nm,0.7s							
FVM	**French Village**	**5.89**	**77**	Pn	Pn	15 45 36.4	+0.1
SDCO	**Great Sand Dun**	**6.26**	**280**	Pn	Pn	15 45 41.9	+0.2

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*IDC **13** 15:49:40.5±8.6, 33°.88S×179°.84W, h51km±66km, mb3.7/3, mb1 4.0/4, mb1mx3.4/31, mbtmp4.1/4, ML4.1/1, MS3.6/22, Ms1 3.6/22, ms1mx3.4/56, Error ellipse: s-maj=68.9km s-min=28.9km az=46.0*
*WEL **13** 15:49:40.9±0.6, 34°.S±5°.×17°.9W±1°.1, h33km, M4.5/29, mB5.1/13, ML5.1/30, MLv4.8/29, Mw(mB)4.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8*
ISC 13 15:49:39.6±0.9, 34°.18S±0°.07×179°.4W±0°.1, h53km, n85, σ1°81/83, mb3.8/3, MS3.7/20, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	**Pakihiroa**	**4.25**	**209**	P	**Pn**	**15 50 43.0**	**+1.2**
PKGZ				S	**Sn**	**15 51 29.0**	**-1.1**
HAZ	**Te Kaha**	**4.26**	**212**	P	**Pn**	**15 50 43.9**	**+2.0**
PUZ	**Puketiti**	**4.34**	**206**	P	**Pn**	**15 50 44.0**	**+0.9**
PUZ				S	**Sn**	**15 51 34.3**	**+1.9**
WIZ	**White Island**	**4.36**	**219**	P	**Pn**	**15 50 43.6**	**+0.3**
WIZ				S	**Sn**	**15 51 33.0**	**+0.2**
RUGZ	**Raukumara Rang**	**4.48**	**212**	P	**Pn**	**15 50 46.2**	**+1.1**
TWGZ	**Tauwhareparae**	**4.54**	**208**	P	**Pn**	**15 50 46.8**	**+1.0**
TWGZ				S	**Sn**	**15 51 36.2**	**-1.0**
GRZ	**Great Barrier**	**4.72**	**243**	P	**Pn**	**15 50 50.1**	**+1.9**
CNGZ	**Carnagh Statio**	**4.73**	**204**	P	**Pn**	**15 50 49.6**	**+1.3**
KUZ	**Kuaotunu**	**4.76**	**236**	P	**Pn**	**15 50 51.1**	**+2.3**
TKGZ	**Te Karaka**	**4.81**	**207**	P	**Pn**	**15 50 49.7**	**+0.2**
MWZ	**Matawai**	**4.85**	**210**	P	**Pn**	**15 50 50.6**	**+0.5**
OPRZ	**Ohinepanea**	**4.94**	**221**	P	**Pn**	**15 50 53.6**	**+2.5**
URZ	**Urewera**	**4.97**	**214**	P	**Pn**	**15 50 53.3**	**+1.6**
8.0nm,0.3s,baz=280,slow=3.5,SNR=74							
URZ				S	**Sn**	**15 51 47.3**	**-0.6**
29nm,0.3s,baz=100,slow=20,SNR=7.0							
URZ	**Urewera**	**4.97**	**214**	P	**Pn**	**15 50 52.2**	**+0.5**
MARZ	**Manawahe**	**4.98**	**219**	P	**Pn**	**15 50 54.3**	**+2.6**
EDRZ	**Edgecumbe**	**5.03**	**218**	P	**Pn**	**15 50 55.7**	**+3.1**
RAGZ	**Rawiri**	**5.04**	**210**	P	**Pn**	**15 50 54.4**	**+1.7**
GLKZ	**Green Lake**	**5.05**	**14**	P	**Pn**	**15 50 51.4**	**-1.4**
GLKZ				S	**Sn**	**15 51 49.5**	**-0.3**
RIGZ	**Rimuhau**	**5.08**	**206**	P	Pn	15 50 58.2	+5.0
OMRZ	**Omania**	**5.23**	**220**	P	**Pn**	**15 50 59.5**	**+4.3**
PRGZ	**Paritu Road**	**5.23**	**204**	P	**Pn**	**15 50 55.4**	**+0.1**
KARZ	**Kaharoa**	**5.23**	**222**	P	**Pn**	**15 50 57.7**	**+2.4**
TARZ	**Mount Tarawera**	**5.25**	**218**	P	**Pn**	**15 50 59.4**	**+3.8**
KMRZ	**Kaimai**	**5.28**	**225**	P	**Pn**	**15 50 58.9**	**+2.9**
MUGZ	**Murupara**	**5.31**	**215**	P	**Pn**	**15 50 57.8**	**+1.5**
MUGZ				S	**Sn**	**15 51 54.2**	**-1.9**
SNGZ	**Shannon Statio**	**5.31**	**209**	P	**Pn**	**15 50 58.1**	**+1.7**
SNGZ				S	**Sn**	**15 51 55.3**	**-0.9**
RTZ	**Ruatahuna**	**5.32**	**213**	P	**Pn**	**15 50 57.2**	**+0.6**
RTZ				S	**Sn**	**15 51 54.4**	**-2.2**
RRRZ	**Republican Roa**	**5.33**	**218**	P	**Pn**	**15 50 59.0**	**+2.4**
HLRZ	**Highlands Stat**	**5.34**	**219**	P	**Pn**	**15 50 58.1**	**+1.3**
UTU	**Utuhina**	**5.37**	**221**	P	**Pn**	**15 50 58.0**	**+0.8**
KNZ	**Kokohu**	**5.39**	**205**	P	**Pn**	**15 50 57.8**	**+0.3**
KNZ				S	**Sn**	**15 51 54.2**	**-4.0**
MHGZ	**Mahia Peninsul**	**5.43**	**203**	P	**Pn**	**15 50 57.7**	**-0.2**
MHGZ				S	**Sn**	**15 51 57.6**	**-1.5**
WCZ	**Waipu Caves**	**5.45**	**249**	P	**Pn**	**15 50 58.0**	**-0.3**
RAHZ	**Arahi**	**5.53**	**210**	P	**Pn**	**15 50 59.9**	**+0.6**
RAHZ				S	**Sn**	**15 52 02.4**	**+0.8**
GRRZ	**Galatos Road**	**5.54**	**220**	P	**Pn**	**15 51 03.0**	**+3.5**
MTHZ	**Maungataniwha**	**5.58**	**212**	P	**Pn**	**15 51 00.6**	**+0.6**
MTHZ				S	**Sn**	**15 52 01.4**	**-1.5**
ALRZ	**Allen Road**	**5.58**	**217**	P	**Pn**	**15 51 01.8**	**+1.7**
ALRZ				S	**Sn**	**15 52 02.5**	**-0.4**
MRHZ	**Matea Rd**	**5.76**	**215**	P	**Pn**	**15 51 03.4**	**+0.8**
MRHZ				S	**Sn**	**15 52 05.0**	**-2.3**
NMHZ	**Naumai**	**5.80**	**211**	P	**Pn**	**15 51 04.4**	**+1.4**
NMHZ				S	**Sn**	**15 52 08.6**	**+0.4**
TLZ	**Tolley Road**	**5.84**	**223**	P	**Pn**	**15 51 06.0**	**+2.3**
ARHZ	**Aropaoanui**	**5.86**	**209**	P	**Pn**	**15 51 05.0**	**+1.1**
BKZ	**Black Stump Fm**	**5.99**	**213**	P	**Pn**	**15 51 05.8**	**+0.1**
MCHZ	**McNeill Hill**	**6.14**	**210**	P	**Pn**	**15 51 08.4**	**+0.7**
CKHZ	**Cape Kidnapper**	**6.17**	**206**	P	**Pn**	**15 51 11.2**	**+3.1**
CKHZ				S	**Sn**	**15 52 13.7**	**-3.6**
KATZ	**Kakaramea**	**6.23**	**218**	P	**Pn**	**15 51 10.9**	**+1.9**
KWHZ	**Kaweka Forest**	**6.24**	**212**	P	**Pn**	**15 51 09.0**	**0.0**
KWHZ				S	**Sn**	**15 52 17.6**	**-1.4**
TMVZ	**Te Maari**	**6.33**	**217**	P	**Pn**	**15 51 11.0**	**+0.6**
NTVZ	**North Tongarir**	**6.33**	**218**	P	**Pn**	**15 51 10.7**	**+0.3**
ETVZ	**East Tongariro**	**6.34**	**217**	P	**Pn**	**15 51 11.1**	**+0.5**
KAHZ	**Kahuranaki**	**6.37**	**207**	P	**Pn**	**15 51 09.4**	**-1.4**
KAHZ				S	**Sn**	**15 52 18.8**	**-3.4**
OTVZ	**Oturere**	**6.38**	**217**	P	**Pn**	**15 51 12.0**	**+0.8**
WTVZ	**West Tongariro**	**6.38**	**218**	P	**Pn**	**15 51 12.1**	**+0.9**
SNVZ	**South Ngauruho**	**6.41**	**217**	P	**Pn**	**15 51 12.6**	**+1.0**
NGZ	**Ngauruhoe**	**6.42**	**218**	P	**Pn**	**15 51 12.9**	**+1.2**
KRHZ	**Kereru**	**6.44**	**211**	P	**Pn**	**15 51 11.3**	**-0.5**
BHHZ	**Black Hill Sta**	**6.45**	**213**	P	**Pn**	**15 51 12.1**	**+0.1**
WNVZ	**Wahianoa**	**6.54**	**217**	P	**Pn**	**15 51 13.7**	**+0.3**
TRVZ	**Turoa**	**6.54**	**217**	P	**Pn**	**15 51 15.1**	**+1.7**
MSVF	**Nonsavu**	**16.54**	**351**	LR	LR	15 58 13.2	
comp=Z,239nm,20.7s,baz=186,slow=32							
DZM	**Mont Dzumac**	**17.36**	**310**	LR	LR	15 58 57.9	
comp=Z,321nm,20.9s,baz=202,slow=33							
RAR	**Rarotonga**	**21.57**	**58**	LR	LR	16 01 48.2	
comp=Z,63nm,21.5s,baz=269,slow=33							
HNR	**Honiara**	**31.10**	**318**	LR	LR	16 06 47.6	
comp=Z,67nm,18.9s,baz=199,slow=34							
STKA	**Stephens Creek**	**32.68**	**263**	LR	LR	16 08 00.8	
comp=Z,194nm,19.1s,baz=35,slow=34							
PMG	**Port Moresby**	**39.37**	**301**	LR	LR	16 10 43.6	
comp=Z,125nm,20.3s,baz=99,slow=32							
ASAR	**Alice Springs**	**41.91**	**272**	P	**P**	**15 57 23.4**	**-1.8**
0.8nm,0.5s,baz=112,slow=6.8,SNR=40							
ASAR				PcP	**PcP**	**15 59 18.6**	**-1.3**
0.3nm,0.5s,baz=118,slow=4.0,SNR=4.1							
WRA	**Warramunga Arr**	**43.24**	**277**	P	**P**	**15 57 33.1**	**-2.9**
0.7nm,0.4s,baz=117,slow=7.7,SNR=20							
WRA				LR	LR	16 14 35.1	
comp=Z,99nm,20.3s,baz=110,slow=35							
JAY	**Jayapura**	**48.74**	**301**	LR	LR	16 16 24.4	
comp=Z,81nm,20.5s,baz=194,slow=33							
QSPA	**South Pole Qui**	**55.94**	**180**	P	**P**	**15 59 15.3**	**+3.2**
2.4nm,0.8s,baz=164,slow=1.7,SNR=16							
SIJI	**Sorong**	**56.76**	**295**	LR	LR	16 24 51.2	
comp=Z,83nm,18.3s,baz=262,slow=38							
BATI	**Baumata**	**57.10**	**281**	LR	LR	16 23 06.6	
comp=Z,57nm,18.5s,baz=144,slow=35							
RPN	**Rapa Nui**	**59.60**	**104**	LR	LR	16 20 47.8	
comp=Z,37nm,18.7s,baz=157,slow=31							
PSI	**Prapat**	**84.71**	**277**	LR	LR	16 43 27.1	
comp=Z,51nm,18.5s,baz=188,slow=38							
ASAJ	**Asahikawa**	**85.27**	**334**	LR	LR	16 33 59.8	
comp=Z,34nm,20.7s,baz=108,slow=31							
PETK	**Petropavlovsk-**	**89.19**	**346**	LR	LR	16 36 12.3	
comp=Z,25nm,20.7s,baz=117,slow=31							
NVAR	**Mina Array Bea**	**91.78**	**43**	LR	LR	16 36 04.0	
comp=Z,36nm,20.4s,baz=148,slow=30							
NNA	**Nana**	**93.47**	**107**	LR	LR	16 35 00.0	
comp=Z,49nm,21.1s,baz=226,slow=29							
CMAR	**Chiang Mai Arr**	**93.57**	**290**	LR	LR	16 46 26.9	
comp=Z,7.9nm,20.1s,baz=165,slow=37							
CMIG	**Matias Romero**	**94.99**	**73**	LR	LR	16 37 50.6	
comp=Z,30nm,20.5s,baz=232,slow=30							
ELK	**Elko**	**95.08**	**43**	LR	LR	16 38 26.3	
comp=Z,37nm,20.2s,baz=224,slow=31							
TXAR	**Lajitas Array**	**95.37**	**58**	LR	LR	16 42 13.8	
comp=Z,21nm,18.4s,baz=180,slow=33							
ANMO	**Albuquerque**	**96.81**	**52**	LR	LR	16 41 13.1	
comp=Z,30nm,18.0s,baz=184,slow=32							
NEW	**Newport**	**99.09**	**37**	LR	LR	16 43 39.1	
comp=Z,39nm,18.0s,baz=264,slow=33							
ARCES	**ARCESS Array B**	**142.00**	**346**	PKP	**PKPdf**	**16 09 04.8**	**+0.2**
0.7nm,0.5s,baz=45,slow=3.6,SNR=5.3							
FINES	**FINESS Array B**	**148.22**	**337**	PKPbc	**PKPdf**	**16 09 18.8**	**+3.4**
1.1nm,0.4s,baz=36,slow=4.6,SNR=19							
AKASG	**Malin Array Be**	**153.44**	**317**	PKPbc	**PKPbc**	**16 09 31.4**	**-0.1**
0.2nm,0.3s,baz=47,slow=2.8,SNR=4.0							

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*SOME **13** 15:53:09.2, 38°.35N×68°.43E, h0km*
*BJI **13** 15:53:27.1±0.0, 38°.45N×68°.53E, h25km, mb4.6/4, mB4.8/2*
*ISU **13** 15:53:28, 38°.91N×68°.58E, h5km*
*NEIC **13** 15:53:29.2±2.5, 38°.86N±0°.04×68°.59E±0°.05, h10km±1km,

NIL	**Nilore**	**6.46**	**143**	Pn		**Pn**	**15 55 04.9**	**+1.0**
BOOM	**Boomskoye usch**	**6.62**	**55**	Pn		**Pn**	**15 55 08.4**	**+2.2**
TKM2	**Tokmak 2**	**6.64**	**51**	P		**Pn**	**15 55 09.0**	**+2.6**
	SNR=5.8							
TKM2	**Tokmak 2**	**6.64**	**51**	⇑Pn		**Pn**	**15 55 08.7**	**+2.2**
	3.1nm,0.5s							
TKM2				⇓Sn		**Sn**	**15 56 26.0**	**+3.7**
	8.0nm,0.6s							
TKM2				⇑Lg		Lg	15 57 02.1	
	7.7nm,0.6s							
KST	**Kastek**	**6.93**	**51**	*e*P		**Pb**	**15 55 27.3**	**-1.9**
	7.1nm,0.6s							
KST				*e*S		**Sg**	**15 57 07.7**	**-3.4**
	24nm,0.7s							
KRBS	**Karabastau**	**7.15**	**46**	*e*P		**Pb**	**15 55 30.8**	**-2.1**
	3.0nm,0.5s							
KRBS				*e*S		**Sg**	**15 57 12.8**	**-5.4**
	11nm,0.6s							
KDJ	**Kajisay**	**7.28**	**61**	Pn		**Pn**	**15 55 18.0**	**+2.7**
GEYT	**Alibeck**	**8.29**	**266**	Pn		**Pn**	**15 55 30.8**	**+1.8**
	0.7nm,0.3s,baz=94,slow=13,SNR=2.7							
GEYT				Sn		**Sn**	**15 57 00.4**	**-2.2**
	2.7nm,0.3s,baz=81,slow=29,SNR=3.5							
GEYT	**Alibeck**	**8.29**	**266**			**Pn**	**15 55 27.8**	**-1.1**
DHRM	**DHARAMSHALA**	**9.14**	**134**	*e*P		**Pn**	**15 55 40.8**	**0.0**
DHRM				*e*S		**Sn**	**15 57 18.6**	**-5.3**
DHRM				IAML			15 57 29.7	
	comp=N,23nm,0.2s							
DHRM				IAML			15 57 30.5	
	comp=E,46nm,0.3s							
BHK	**Bhakra**	**9.84**	**137**	*e*P		Pn	15 56 14.0	+24
SMLA	**Simla**	**10.47**	**135**	*e*P		**Pn**	**15 55 58.5**	**-0.3**
SMLA				*e*S		**Sn**	**15 57 48.4**	**-7.8**
SMLA				IAML			15 57 56.3	
	comp=N,19nm,0.3s							
SMLA				IAML			15 58 02.4	
	comp=E,20nm,0.2s							
AB31	**Akbulak array**	**12.05**	**332**	⇓Pn		**Pn**	**15 56 19.1**	**-1.3**
	comp=E,2.0nm,0.3s,baz=160,slow=12,SNR=237							
AB31				⇑Sn		**Sn**	**15 58 28.6**	**-6.2**
	comp=E,16nm,1.0s,baz=156,slow=23,SNR=7.4							
ABKAR	**Akbulak array**	**12.05**	**332**	Pn		**Pn**	**15 56 18.8**	**-1.6**
KUDL	**Kundal**	**12.59**	**146**	*e*P		**Pn**	**15 56 26.8**	**-1.1**
MK31	**Makanchi Array**	**12.75**	**47**	Pn		**Pn**	**15 56 31.3**	**+1.3**
MKAR	**Makanchi Array**	**12.75**	**47**	Pn		**Pn**	**15 56 30.2**	**+0.2**
	comp=E,0.1nm,0.3s,baz=236,slow=13,SNR=6.3							
MKAR	**Makanchi Array**	**12.75**	**47**			**Pn**	**15 56 31.0**	**+1.0**
KURBB	**Kurchatov Arra**	**13.65**	**28**	Pn		**Pn**	**15 56 39.9**	**-2.3**
	comp=E,0.0nm,0.3s,baz=219,slow=13,SNR=2.3							
AKTO	**Aktyubinsk**	**13.74**	**330**	Pn		**Pn**	**15 56 42.0**	**-1.5**
	comp=E,0.8nm,0.3s,baz=145,slow=14,SNR=27							
AKTO				Sn		**Sn**	**15 59 11.2**	**-4.8**
	comp=E,0.5nm,0.3s,baz=230,slow=23,SNR=7.4							
AKTO	**Aktyubinsk**	**13.74**	**330**	⇓Pn		**Pn**	**15 56 42.7**	**-0.8**
	comp=E,8.9nm,0.8s							
AKTO				⇑Sn		**Sn**	**15 59 10.3**	**-5.8**
	comp=E,5.6nm,0.8s							
BVAR	**Borovoye Array**	**14.17**	**4**	Pn		**Pn**	**15 56 48.6**	**-0.7**
	comp=E,0.3nm,0.3s,baz=178,slow=13,SNR=6.3							
BRVK	**Borovoye**	**14.19**	**4**	Pn		**Pn**	**15 56 49.5**	**-0.1**
WMQ	**Urumqi**	**15.14**	**63**	*e*P		**Pn**	**15 57 05.8**	**+3.1**
ZAA0	**Zalesovo Array**	**18.67**	**31**	P		**P**	**15 57 46.8**	**+0.2**
ZALV	**Zalesovo Beam**	**18.67**	**31**	P		**P**	**15 57 46.6**	**0.0**
	comp=E,0.5nm,0.3s,baz=223,slow=11,SNR=8.9							
ZALV	**Zalesovo Beam**	**18.67**	**31**	P		**P**	**15 57 46.9**	**+0.3**
ARU	**Arti**	**18.75**	**342**	P		**P**	**15 57 47.1**	**-0.3**
	comp=E,0.0nm,0.3s,baz=141,slow=12,SNR=4.7							
ARU	**Arti**	**18.75**	**342**	P		**P**	**15 57 47.6**	**+0.2**
ONI	**Oni**	**19.38**	**289**	P		**Pn**	**15 57 57.3**	**+1.6**
ONI				IAmb		IAmb	15 57 59.0	
	comp=Z,9.7nm,0.8s							
BELG	**Belogornoye**	**19.82**	**320**	P		**P**	**15 57 59.5**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=85,slow=1.6,SNR=6.2							
KBZ	**Khabaz**	**19.86**	**292**	P		**P**	**15 58 00.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=121,slow=9.3,SNR=6.2							
LZH	**Lanzhou**	**28.00**	**85**	*e*P		**P**	**15 59 20.8**	**+0.9**
LZH				pP		pP	15 59 23.1	-0.8
LZH				pmax		pmax		
	comp=Z,15nm,1.1s							
HHC	**Hu-ho-hao-te**	**32.79**	**73**	*e*P		**P**	**16 00 00.1**	**-2.0**
HHC				pmax		pmax		
	comp=Z,8.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,110nm,6.4s							
FINES	**FINESS Array B**	**34.42**	**325**	P		**P**	**16 00 16.5**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=119,slow=8.7,SNR=6.5							
FINES	**FINESS Array B**	**34.42**	**325**	P		**P**	**16 00 16.4**	**+0.5**
ARCES	**ARCESS Array B**	**38.19**	**337**	P		**P**	**16 00 48.4**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=85,slow=2.6,SNR=7.9							
ARCES	**ARCESS Array B**	**38.19**	**337**	P		**P**	**16 00 48.5**	**+0.5**
CLL	**Collm**	**40.21**	**307**	*e*P		**P**	**16 01 06.0**	**+0.9**
NB2	**NORSAR Subarra**	**41.31**	**322**	P		**P**	**16 01 14.0**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=96,slow=8.6							
NOA	**NORSAR Array B**	**41.31**	**322**	P		**P**	**16 01 13.9**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=96,slow=8.1,SNR=9.7							
KULM	**Kulim**	**44.30**	**131**	P		**P**	**16 01 41.6**	**+2.8**
TORD	**Torodi Ar. Bea**	**63.93**	**266**	P		**P**	**16 04 01.3**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=47,slow=6.1,SNR=12							
IMAR	**Indian Mountai**	**70.44**	**17**	P		**P**	**16 04 42.4**	**-0.3**
H21K	**Melozitna Rive**	**70.92**	**17**	P		**P**	**16 04 46.0**	**+0.3**
H21K				IAmb		IAmb	16 04 48.5	
	comp=Z,4.0nm,1.2s							
BMAR	**Burnt Mountain**	**71.03**	**13**	P		**P**	**16 04 47.4**	**+1.1**
INK	**Inuvik**	**71.81**	**8**	P		**P**	**16 04 51.5**	**+0.6**
INK				IAmb		IAmb	16 04 51.9	
	comp=Z,1.6nm,0.6s							
NEA2	**Nenana**	**72.66**	**16**	P		**P**	**16 04 56.4**	**+0.3**
NEA2				IAmb		IAmb	16 05 12.8	
	comp=Z,4.1nm,1.3s							
ILAR	**Eielson Array**	**72.96**	**15**	P		**P**	**16 04 57.5**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=340,slow=4.0,SNR=6.3							
PPLA	**Purkeypile**	**73.41**	**18**	P		**P**	**16 05 00.8**	**+0.1**
BCAR	**Beaver Creek A**	**75.49**	**14**	P		**P**	**16 05 13.8**	**+1.0**
YKA	**Yellowknife Ar**	**78.90**	**2**	P		**P**	**16 05 32.1**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=350,slow=5.8,SNR=23							
YKA	**Yellowknife Ar**	**78.90**	**2**	P		**P**	**16 05 31.9**	**+0.1**
WRA	**Warramunga Arr**	**84.87**	**121**	P		**P**	**16 06 06.1**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=310,slow=2.9,SNR=6.3							
WRA	**Warramunga Arr**	**84.87**	**121**	P		**P**	**16 06 06.3**	**+2.5**
WB2	**Warramunga Arr**	**84.88**	**121**			**P**	**16 06 03.0**	**-0.9**
WB2				IAmb		IAmb	16 06 14.9	
	comp=Z,4.2nm,1.3s							

IDC 13 16:02:28.6±1.5,25°.03N×95°.94E,h0km,mb3.4/4, mb1 3.4/5,mb1mx3.0/44,mbtmp3.4/5,ML3.0/1,MS2.6/1, Ms1 2.8/1,ms1mx2.3/60,Error ellipse: s-maj=54.4km s-min=18.8km az=68.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.11**	**156**	Pn	Pn	16 04 12.9	-1.1
	0.1nm,0.3s,baz=334,slow=12,SNR=6.8						
CMAR				Pg	Pg	16 04 39.5	-5.5
	0.3nm,0.3s,baz=336,slow=17,SNR=20						
CMAR				Lg	Lg	16 06 15.2	
	0.2nm,0.3s,baz=331,slow=29,SNR=4.2						
CMAR				LR	LR	16 07 08.2	
	comp=Z,48nm,20.2s,baz=305,slow=39						
SONM	**Songino Array**	**24.22**	**17**	P	P	16 07 47.1	+0.1
	0.3nm,0.4s,baz=198,slow=9.1,SNR=2.1						
MKAR	**Makanchi Array**	**24.30**	**337**	P	P	16 07 47.9	+0.3
	0.7nm,0.7s,baz=137,slow=9.4,SNR=8.5						
KURBB	**Kurchatov Arra**	**28.86**	**337**	P	P	16 08 28.1	-0.6
	0.6nm,0.7s,baz=148,slow=9.4,SNR=2.5						
BVAR	**Borovoye Array**	**33.93**	**332**	P	P	16 09 13.6	+0.3
	0.3nm,0.5s,baz=121,slow=16,SNR=2.2						

*IDC **13** 16:13:12.5±0.6,7°.75N×74°.82W,h56km±6km,mb3.3/6, mb1 3.7/8,mb1mx3.5/33,mbtmp3.7/8,MS3.2/2,Ms1 3.2/2, ms1mx2.7/32,Error ellipse: s-maj=13.9km s-min=9.1km az=76.0*

*RSNC **13** 16:13:14.9±1.3,7°.70N×74°.68W,h31km±4km,ML3.8, Mw3.8,Fault plane solution: NP1:ϕ_s93.00000°, δ68.00000°,λ-28.00000°.*

ISC 13 16:13:11.6±0.6,7.72N±0°.02×74.71W±0°.02,h31km±4km, n50,σ_S2°36/86,mb3.8/6,6C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZARC	**Zaragoza, Cauc**	**0.27**	**214**	⇓*i*P	**Pn**	**16 13 21.9**	**+2.4**
ZARC				*e*S	**Sn**	**16 13 27.9**	**+3.3**
ZARC				*i*		16 13 29.1	
	comp=Z,19μm,0.1s						
UREC	**San Jos de Ur**	**0.82**	**272**	*e*P	**Pn**	**16 13 28.8**	**+1.7**
UREC				*e*S	**Sn**	**16 13 41.0**	**+2.8**
UREC				*i*		16 13 42.6	
	comp=Z,5μm,0.2s						
BRRC	**Barranca, Sant**	**1.16**	**122**	⇑*i*P	**Pn**	**16 13 33.4**	**+1.7**
BRRC				*e*S	**Sn**	**16 13 48.1**	**+1.6**
BRRC				*i*		16 13 50.1	
	comp=Z,2μm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.20**	**168**	⇑*i*P	**Pn**	**16 13 33.3**	**+1.0**
PTBC				*e*S	**Sn**	**16 13 49.4**	**+1.8**
PTBC				*i*		16 13 51.6	
	comp=Z,2μm,0.2s						
SMLC	**San Martn de**	**1.24**	**30**	⇓*i*P	**Pn**	**16 13 34.5**	**+1.6**
SMLC				*e*S	**Sb**	**16 13 51.7**	**+1.5**
SMLC				*i*		16 13 53.3	
	comp=Z,2μm,0.3s						
MOTC	**Monteria, Cord**	**1.42**	**318**	⇑*i*P	**Pb**	**16 13 38.0**	**+0.6**
MOTC				*e*S	**Sb**	**16 13 56.9**	**+1.8**
MOTC				*i*		16 14 02.0	
	comp=Z,532nm,0.6s						
OCAC	**Ocana**	**1.47**	**69**	*e*P	**Pn**	**16 13 37.6**	**+1.5**
OCAC				*e*S	**Sn**	**16 13 56.0**	**+1.6**
OCAC				*i*		16 14 01.6	
	comp=Z,2μm,0.3s						
DBBC	**Dabeiba**	**1.65**	**245**	⇓*i*P	**Pn**	**16 13 40.3**	**+1.8**
DBBC				*i*		16 14 08.0	
	comp=Z,3μm,0.8s						
HELC	**Santa Helena**	**1.73**	**208**	*e*P	**Pn**	**16 13 41.6**	**+1.8**
HELC				*e*S	**Sn**	**16 14 04.3**	**+3.3**
HELC				*i*		16 14 08.4	
	comp=Z,1μm,0.4s						
BARC	**Barichara**	**1.88**	**126**	⇑*e*P	**Pn**	**16 13 44.0**	**+2.1**
BARC				*e*S	**Sn**	**16 14 07.3**	**+2.6**
BARC				*i*		16 14 10.4	
	comp=Z,722nm,0.2s						
LCBC	**Los crdobas,**	**2.00**	**305**	*e*P	**Pb**	**16 13 46.4**	**-0.9**
LCBC				*e*S	**Sb**	**16 14 11.4**	**-0.3**
LCBC				*i*		16 14 25.9	
	comp=Z,322nm,0.3s						
PAMC	**Pamplona, Colo**	**2.02**	**101**	*e*P	**Pn**	**16 13 46.4**	**+2.3**
PAMC				*e*S	**Sn**	**16 14 11.8**	**+3.3**
NORC	**Norcasia**	**2.15**	**184**	⇑*e*P	**Pn**	**16 13 46.7**	**+1.3**
NORC				*e*S	**Sn**	**16 14 13.3**	**+2.2**
NORC				*i*		16 14 16.8	
	comp=Z,1μm,0.2s						
SPBC	**San Pablo de B**	**2.15**	**163**	*e*P	**Pn**	**16 13 47.4**	**+1.9**
SPBC				*e*S	**Sn**	**16 14 14.0**	**+2.9**
SPBC				*i*		16 14 17.1	
	comp=Z,691nm,0.2s						
ARGC	**Ariguani, Magd**	**2.17**	**12**	*e*P	**Pb**	**16 13 49.4**	**-0.9**
ARGC				*e*S	**Sb**	**16 14 18.1**	**+1.3**
ARGC				*i*		16 14 26.0	
	comp=Z,160nm,0.3s						
SJCC	**San Jacinto, C**	**2.21**	**348**	⇑*i*P	**Pn**	**16 13 48.5**	**+2.2**
SJCC				*e*S	**Sb**	**16 14 16.9**	**-1.2**
SJCC				*i*		16 14 27.3	
	comp=Z,269nm,0.5s						
CBOC	**Ciudad Bolivar**	**2.25**	**215**	*e*P	**Pn**	**16 13 49.0**	**+2.1**
CBOC				*e*S	**Sb**	**16 14 20.6**	**+1.2**
CBOC				*i*		16 14 27.6	
	comp=Z,348nm,0.3s						
RUSC	**La Rusia**	**2.43**	**138**	*e*P	**Pn**	**16 13 51.9**	**+2.3**
RUSC				*e*S	**Sn**	**16 14 20.9**	**+2.3**
GUY2C	**Guyana, Caldas**	**2.56**	**195**	*e*P	**Pn**	**16 13 53.6**	**+2.1**
GUY2C				*e*S	**Sn**	**16 14 24.9**	**+3.0**
GUY2C				*i*		16 14 32.1	
	comp=Z,587nm,0.6s						
CAPC	**Capurgana**	**2.77**	**289**	*e*P	**Pn**	**16 13 55.2**	**+1.3**
CAPC				*e*S	**Sn**	**16 14 27.0**	**+0.7**
CAPC				*i*		16 14 29.4	
	comp=Z,320nm,0.4s						
ROSC	**El Rosal**	**2.89**	**172**	P	**Pn**	**16 13 58.6**	**+2.8**
	comp=Z,18nm,0.3s,baz=132,slow=18,SNR=27						
ROSC				S	**Sn**	**16 14 33.2**	**+3.5**
	comp=Z,78nm,0.3s,baz=209,slow=23,SNR=14						
ROSC	**El Rosal**	**2.89**	**172**	*e*P	**Pn**	**16 13 59.1**	**+3.3**
ROSC				*e*S	**Sn**	**16 14 32.0**	**+2.3**
CVALL	**Valledupar, Ce**	**3.12**	**27**	*e*P	**Pn**	**16 14 01.8**	**+3.1**
CVALL				*e*S	**Sn**	**16 14 39.9**	**+5.0**
CVALL				*i*		16 14 45.0	
	comp=Z,188nm,0.4s						
PTAC	**Punta Ardita,**	**3.13**	**260**	*e*P	**Pn**	**16 14 00.9**	**+2.1**
PTAC				*e*S	**Sn**	**16 14 36.2**	**+1.0**
PTAC				*i*		16 14 38.5	
	comp=Z,440nm,0.2s						
PLMC	**San Jos del P**	**3.21**	**209**	*e*P	**Pn**	**16 14 02.1**	**+2.1**
PLMC				*e*S	**Sb**	**16 14 46.8**	**+0.1**
PLMC				*i*		16 14 59.3	
	comp=Z,170nm,0.6s						
CHIC	**Chingaza**	**3.22**	**162**	*e*P	**Pn**	**16 14 03.5**	**+3.0**
CHIC				*e*S	**Sn**	**16 14 40.5**	**+2.5**
ANIL	**Santa Ana**	**3.28**	**192**	*e*P	**Pn**	**16 14 08.1**	**-1.3**
ANIL				*e*S	**Sb**	**16 14 47.5**	**-1.5**
ANIL				*i*		16 15 00.1	
	comp=Z,789nm,0.3s						
SMRC	**Santa Marta, M**	**3.46**	**8**	*e*P	**Pb**	**16 14 09.2**	**-2.9**
SMRC				*e*S	**Sb**	**16 14 54.6**	**+0.9**
SMRC				*i*		16 15 01.4	
	comp=Z,76nm,0.3s						
VILC	**Villavicencio,**	**3.72**	**164**	*e*P	**Pn**	**16 14 10.1**	**+3.0**
VILC				*e*S	**Sn**	**16 14 53.1**	**+3.0**
CRJC	**Cerrejon, Guaj**	**3.74**	**29**	*e*P	**Pn**	**16 14 09.3**	**+2.0**
CRJC				*e*S	**Sn**	**16 14 52.8**	**+2.4**
CRJC				*i*		16 15 01.5	
	comp=Z,183nm,0.4s						
ORTC	**Ortega, Tolima**	**3.82**	**188**	*e*P	**Pn**	**16 14 11.1**	**+2.6**
ORTC				*e*S	**Sn**	**16 15 00.7**	**+8.3**
ORTC				*i*		16 15 09.9	
	comp=Z,188nm,0.3s						
YOTC	**Yotoco, Valle**	**4.05**	**204**	*e*P	**Pn**	**16 14 13.2**	**+1.6**
YOTC				*e*S	**Sn**	**16 14 59.5**	**+1.3**
YOTC				*i*		16 15 25.3	
	comp=Z,42nm,0.5s						
SDV	**Santo Domingo**	**4.19**	**74**	P	**Pn**	**16 14 17.0**	**+3.4**
	comp=Z,9.7nm,0.3s,baz=273,slow=9.6,SNR=14						
SDV				S	**Sn**	**16 15 05.4**	**+3.7**
	comp=Z,29nm,0.3s,baz=308,slow=20,SNR=6.5						
MARP	**Paez Belalcaza**	**5.00**	**194**	*e*P	**Pn**	**16 14 27.0**	**+2.1**
MARP				*e*S	**Sn**	**16 15 25.2**	**+3.4**
MARP				*i*		16 15 44.0	
	comp=Z,11nm,0.5s						
DABV	**Dabajuro**	**5.12**	**51**	*e*P	**Pn**	**16 14 28.3**	**+2.0**
DABV				*e*S	**Sn**	**16 15 26.8**	**+2.4**
ELOV	**Elorza**	**5.23**	**98**	*e*P	**Pn**	**16 14 27.7**	**0.0**
ELOV				*e*S	**Sn**	**16 15 27.7**	**+0.7**
GUVC	**San Jose del G**	**5.54**	**158**	*e*P	**Pn**	**16 14 32.4**	**+0.3**
GUVC				*e*S	**Sn**	**16 15 34.6**	**-0.2**
GARC	**Garzon, Huila**	**5.55**	**188**	*e*P	Pn	16 14 40.4	+7.9
GARC				*i*		16 15 54.4	
	comp=Z,77nm,0.8s						
MACC	**Macarena, Meta**	**5.60**	**171**	*e*P	**Pn**	**16 14 34.4**	**+1.5**
MACC				*e*S	**Sn**	**16 15 33.8**	**-2.5**
MACC				*i*		16 16 07.2	
	comp=Z,62nm,0.6s						
FLOC	**Florencia**	**6.17**	**189**	*e*P	Pn	16 14 46.7	+6.0
FLOC				*i*		16 16 21.4	
	comp=Z,26nm,0.6s						
ATAH	**Atahualpa**	**15.21**	**194**	LR	LR	16 23 10.1	
	comp=Z,101nm,20.7s,baz=25,slow=39						
LPAZ	**La Paz**	**24.73**	**165**	P	**P**	**16 18 28.4**	**-2.7**
	comp=Z,2.4nm,0.6s,baz=2.4,slow=9.8,SNR=10						
SIV	**San Ignacio**	**27.15**	**150**	P	**P**	**16 18 49.6**	**-2.8**
	comp=Z,1.0nm,0.4s,baz=336,slow=6.9,SNR=4.2						
TKL	**Tuckaleechee C**	**29.02**	**345**	LR	LR	16 30 20.5	
	comp=Z,38nm,18.3s,baz=77,slow=36						
TXAR	**Lajitas Array**	**34.70**	**312**	P	**P**	**16 19 57.2**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=131,slow=9.7,SNR=1.8						
TXAR				pP	**sP**	**16 20 11.5**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=150,slow=7.3,SNR=2.5						
PDAR	**Pinedale Array**	**46.43**	**324**	P	**P**	**16 21 34.6**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=104,slow=7.5,SNR=2.3						
PLCA	**Paso Flores**	**48.36**	**176**	P	P	16 21 47.7	-2.9
	comp=Z,1.2nm,0.9s,baz=329,slow=7.4,SNR=5.0						
YKA	**Yellowknife Ar**	**61.89**	**340**	P	**P**	**16 23 26.3**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=133,slow=7.0,SNR=8.5						
YKA				pP	**sP**	**16 23 40.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=133,slow=6.9,SNR=7.0						
ASAR	**Alice Springs**	**148.32**	**237**	PKPbc	**PKPdf**	**16 32 52.5**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=119,slow=3.5,SNR=13						
ASAR				pPKPbc	**pPKPab**	**16 33 08.2**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=118,slow=3.9,SNR=3.0						
WRA	**Warramunga Arr**	**149.35**	**244**	PKPbc	**PKPdf**	**16 32 55.2**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=107,slow=2.8,SNR=14						
WRA				pPKPbc	**pPKPbc**	**16 33 10.6**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=109,slow=2.8,SNR=5.0						

IDC 13 16:18:25.2±1.7,25°.09N×96°.16E,h0km,mb3.1/2, mb1 3.2/3,mb1mx2.9/48,mbtmp3.1/3,Error ellipse: s-maj=68.0km s-min=20.9km az=66.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.08**	**158**	Pn	Pn	16 20 11.2	+1.1
	baz=329,slow=13,SNR=4.7						
CMAR				Pg	Pg	16 20 35.2	-5.8
	0.4nm,0.3s,baz=336,slow=17,SNR=14						
CMAR				Lg	Lg	16 22 10.3	
	0.2nm,0.3s,baz=336,slow=26,SNR=2.1						
MKAR	**Makanchi Array**	**24.33**	**336**	P	P	16 23 44.9	+0.3
	0.3nm,0.4s,baz=143,slow=9.5,SNR=7.5						
ASAR	**Alice Springs**	**60.72**	**140**	P	P	16 28 37.9	-0.8
	0.1nm,0.8s,baz=332,slow=7.4,SNR=1.2						

*IDC **13** 16:44:33.2±8.2,37°.01N×71°.63E,h121km±51km,mb3.5/5, mb1 3.4/11,mb1mx3.0/59,mbtmp3.7/11,Error ellipse: s-maj=71.3km s-min=31.8km az=173.0*

*NNC **13** 16:44:35.8±4.7,37°.32N×71°.28E,h177km±87km,mb2.8, mpv3.8,Error ellipse: s-maj=47.1km s-min=26.3km az=22.0*

ISC 13 16:44:31.0±1.7,37°.0N±0°.1×71°.4E±0°.1,h100km,n21, σ_S19°06/25,mb3.7/5,7C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.46**	**18**	P	**Pn**	**16 45 51.8**	**+1.5**
	SNR=33						
UCH	**Uchtor**	**5.79**	**24**	P	**Pn**	**16 45 55.9**	**+1.2**
	SNR=6.5						
EKS2	**Erkin-Say**	**5.98**	**17**	P	**Pn**	**16 45 58.3**	**+1.2**
	SNR=8.6						
AAK	**Ala-Archa**	**6.16**	**22**	P	**Pn**	**16 46 00.9**	**+1.4**
	2.9nm,0.3s,baz=187,slow=6.4,SNR=38						
AAK				S	**Sn**	**16 47 09.3**	**+0.8**
	1.7nm,0.3s,baz=151,slow=24,SNR=14						
AAK	**Ala-Archa**	**6.16**	**22**	P	**Pn**	**16 46 00.5**	**+1.1**
	SNR=14						
AAK	**Ala-Archa**	**6.16**	**22**	⇑Pn	**Pn**	**16 46 00.5**	**+1.1**
	3.2nm,0.3s						
AAK				⇑S	**Sn**	**16 47 08.7**	**+0.2**
	13nm,0.7s						
KK02	**Karatay Array**	**6.17**	**354**	⇑Pn	**Pn**	**16 46 00.5**	**+1.0**
	7.6nm,0.3s						
KK02				⇓S	**Sn**	**16 47 07.3**	**-1.4**
	3.9nm,0.2s						
CHMS	**Chumysh**	**6.56**	**22**	P	**Pn**	**16 46 05.9**	**+1.1**
	SNR=7.6						
TKM2	**Tokmak 2**	**6.78**	**27**	⇑P	**Pn**	**16 46 09.0**	**+1.1**
	1.9nm,0.6s						
TKM2				⇑S	**Sn**	**16 47 23.8**	**+0.2**
	6.0nm,0.8s						
MKAR	**Makanchi Array**	**12.74**	**36**	P	**Pn**	**16 47 28.0**	**-0.3**
	0.0nm,0.3s,baz=218,slow=14,SNR=3.4						
KURBB	**Kurchatov Arra**	**14.59**	**18**	P	**Pn**	**16 47 52.9**	**+0.6**
	0.1nm,0.3s,baz=208,slow=10,SNR=5.9						
AB31	**Akbulak array**	**14.84**	**330**	⇑P	**Pn**	**16 47 54.5**	**-0.9**
	0.7nm,0.4s,baz=153,slow=10,SNR=44						
AB31				⇑S	Sn	16 50 31.6	-7.4
	1.8nm,0.7s,baz=157,slow=24,SNR=8.3						
BVAR	**Borovoye Array**	**16.08**	**358**	P	**Pn**	**16 48 09.7**	**-1.3**
	0.2nm,0.3s,baz=149,slow=11,SNR=6.8						
AKTO	**Aktyubinsk**	**16.54**	**329**	P	**Pn**	**16 48 17.2**	**+0.5**
	0.4nm,0.3s,baz=130,slow=12,SNR=9.7						
ZALV	**Zalesovo Beam**	**19.37**	**24**	P	**P**	**16 48 46.8**	**-1.7**
	0.3nm,0.3s,baz=217,slow=10,SNR=6.7						
FINES	**FINESS Array B**	**37.28**	**326**	P	**P**	**16 51 34.0**	**+1.3**
	1.0nm,0.3s,baz=119,slow=9.6,SNR=14						
ARCES	**ARCESS Array B**	**40.84**	**337**	P	**P**	**16 52 03.0**	**+0.6**
	0.9nm,0.7s,baz=108,slow=5.8,SNR=4.9						
NB2	**NORSAR Subarra**	**44.20**	**323**	P	**P**	**16 52 30.1**	**+0.4**
	comp

AGST	**Augusta-Monte**	**1.19**	**14**	P	**Pn**	**17 01 50.9**	**-0.6**
AGST				S	**Sg**	**17 02 08.0**	**+0.4**
AGST				AML	AML		
	comp=E,11910μm,0.6s						
AGST				AML	AML		
	comp=N,15900μm,0.8s						
AGST				AML	AML		
	comp=E,11880μm,0.6s						
AGST				AML	AML		
	comp=N,15850μm,0.8s						
AGST				AML	AML		
	comp=E,11915μm,0.6s						
HAGA	**Augusta**	**1.21**	**11**	⇑*i*P	**Pb**	**17 01 51.3**	**-0.6**
HAGA				S	**Sg**	**17 02 08.3**	**+0.2**
HAGA				AML	AML		
	comp=N,18350μm,0.6s						
HAGA				AML	AML		
	comp=E,8735μm,0.7s						
HLNI	**Lentini**	**1.25**	**0**	P	**Pn**	**17 01 51.3**	**-1.0**
HLNI				S	**Sg**	**17 02 09.2**	**-0.1**
HLNI				AML	AML		
	comp=E,8985μm,0.6s						
HLNI				AML	AML		
	comp=N,12000μm,0.4s						
CLTA	**Licata**	**1.28**	**326**	⇓*i*P	**Pn**	**17 01 51.8**	**-1.0**
CLTA				AML	AML		
	comp=N,8865μm,0.8s						
CLTA				AML	AML		
	comp=E,6345μm,0.7s						
VAE	**Valguarnera**	**1.42**	**345**	Pn	**Pg**	**17 01 56.5**	**0.0**
	comp=E,71nm,0.3s,baz=141,slow=8.6,SNR=54						
VAE				Lg	Lg	17 02 15.3	
	comp=E,158nm,0.3s,baz=334,slow=9.9,SNR=9.2						
ECNV	**Catenanuova**	**1.50**	**356**	P	**Pg**	**17 01 57.2**	**-0.7**
ECNV				AML	AML		
	comp=E,12750μm,1.6s						
ECNV				AML	AML		
	comp=N,11570μm,0.9s						
FAVR	**Favara**	**1.51**	**321**	P	**Pn**	**17 01 55.3**	**-0.6**
FAVR				AML	AML		
	comp=E,5225μm,0.8s						
FAVR				AML	AML		
	comp=N,3580μm,1.6s						
FAVR				AML	AML		
	comp=E,5220μm,0.8s						
ESML	**S. M. di Licod**	**1.52**	**1**	P	**Pb**	**17 01 57.2**	**0.0**
ESML				AML	AML		
	comp=E,5665μm,0.5s						
ESML				AML	AML		
	comp=N,4810μm,0.7s						
CAGR	**Agira**	**1.55**	**349**	P	**Pg**	**17 01 57.9**	**-0.9**
CAGR				AML	AML		
	comp=E,6260μm,0.7s						
CAGR				AML	AML		
	comp=N,8275μm,0.6s						
ESLN	**Serra La Nave**	**1.59**	**3**	P	**Pb**	**17 01 58.6**	**0.0**
ESLN				AML	AML		
	comp=N,5515μm,1.0s						
ESLN				AML	AML		
	comp=E,6325μm,0.9s						
GALF	**Gagliano Caste**	**1.63**	**352**	P	**Pb**	**17 01 58.2**	**-0.9**
GALF				AML	AML		
	comp=E,6250μm,0.6s						
GALF				AML	AML		
	comp=N,4315μm,0.6s						
RESU	**Resuttano**	**1.67**	**338**	P	**Pg**	**17 01 59.8**	**-1.4**
RESU				AML	AML		
	comp=E,2980μm,0.5s						
RESU				AML	AML		
	comp=N,2985μm,0.6s						
EMSG	**Monte Spagnolo**	**1.72**	**2**	P	**Pb**	**17 02 00.3**	**-0.4**
EMSG				AML	AML		
	comp=N,7165μm,0.5s						
EMSG				AML	AML		
	comp=E,6250μm,0.5s						
EPZF	**Pizzo Felice**	**1.72**	**360**	P	**Pb**	**17 02 00.5**	**-0.3**
EPZF				AML	AML		
	comp=E,4940μm,0.6s						
EPZF				AML	AML		
	comp=N,6075μm,1.1s						
PETRA	**Petralia Sopra**	**1.83**	**341**	P	**Pb**	**17 02 01.5**	**-1.1**
PETRA				AML	AML		
	comp=N,4110μm,1.5s						
PETRA				AML	AML		
	comp=E,4980μm,0.8s						
MNO	**Monte Soro**	**1.84**	**356**	P	**Pb**	**17 02 01.7**	**-1.0**
MNO				AML	AML		
	comp=E,8505μm,0.8s						
MNO				AML	AML		
	comp=E,8510μm,0.8s						
MNO				AML	AML		
	comp=N,6940μm,0.5s						
ALJA	**Alia**	**1.87**	**332**	P	**Pb**	**17 02 01.6**	**-1.6**
ALJA				AML	AML		
	comp=E,1960μm,0.8s						
ALJA				AML	AML		
	comp=N,1915μm,0.4s						
ALJA				AML	AML		
	comp=E,1965μm,0.8s						
AIO	**Antillo**	**1.89**	**9**	P	**Pb**	**17 02 01.8**	**-1.8**
AIO				AML	AML		
	comp=E,1910μm,1.1s						
AIO				AML	AML		
	comp=N,1865μm,1.1s						
LPDG	**Lampedusa Capo**	**1.90**	**253**	P	**Pn**	**17 01 59.9**	**-1.4**
NOV	**Novara**	**1.94**	**6**	P	**Pb**	**17 02 02.5**	**-1.9**
NOV				AML	AML		
	comp=E,4295μm,0.6s						
NOV				AML	AML		
	comp=N,2730μm,0.8s						
MUCR	**Ucria**	**1.94**	**0**	P	**Pb**	**17 02 02.6**	**-1.8**
MUCR				AML	AML		
	comp=E,3625μm,0.8s						
MUCR				AML	AML		
	comp=N,3160μm,1.2s						
MSFR	**San Fratello**	**1.94**	**354**	P	**Pb**	**17 02 02.7**	**-1.8**
MSFR				AML	AML		
	comp=N,2105μm,1.2s						
MSFR				AML	AML		
	comp=E,2120μm,1.0s						
CSLB	**Castelbuono**	**1.94**	**341**	⇓P	**Pb**	**17 02 02.9**	**-1.6**
CSLB				AML	AML		
	comp=N,2240μm,0.8s						
CSLB				AML	AML		
	comp=E,1855μm,0.7s						
CLTB	**Caltabellotta**	**1.98**	**319**	Pn	**Pn**	**17 02 01.0**	**-1.5**
CLTB				Sn	**Sn**	**17 02 26.3**	**-1.0**
MCSR	**Castroreale**	**1.99**	**9**	P	**Pn**	**17 02 02.9**	**+0.3**
MCSR				AML	AML		
	comp=E,4295μm,1.0s						
MCSR				AML	AML		
	comp=N,4250μm,0.3s						
GIB	**Gibilmanna**	**2.00**	**341**	P	**Pb**	**17 02 03.7**	**-1.8**
GIB				AML	AML		
	comp=E,6960μm,0.9s						
GIB				AML	AML		
	comp=N,8195μm,0.7s						
MPNC	**Port Mandanici**	**2.08**	**11**	P	**Pb**	**17 02 04.8**	**-2.0**
MPNC				AML	AML		
	comp=N,4315μm,1.0s						
MPNC				AML	AML		
	comp=E,3775μm,0.6s						
MMGO	**Monte Magaggia**	**2.17**	**316**	P	**Pn**	**17 02 02.8**	**-2.3**
CORL	**Corleone**	**2.18**	**326**	P	**Pn**	**17 02 04.5**	**-0.8**
CORL				AML	AML		
	comp=E,1715μm,0.5s						
CORL				AML	AML		
	comp=N,1400μm,0.7s						
CORL	**Corleone**	**2.18**	**326**	Pn	**Pn**	**17 02 04.3**	**-1.0**
SOI	**Samo**	**2.19**	**26**	P	**Pn**	**17 02 06.0**	**+0.7**
SOI				AML	AML		
	comp=E,868μm,0.6s						
SOI				AML	AML		
	comp=N,744μm,0.8s						
MSRU	**Castanea**	**2.22**	**13**	P	**Pn**	**17 02 06.8**	**+1.0**
MSRU				AML	AML		
	comp=E,2695μm,0.4s						
MSRU				AML	AML		
	comp=N,3020μm,0.7s						
SOLUN	**Solunto**	**2.25**	**332**	P	**Pn**	**17 02 05.8**	**-0.3**
SOLUN				AML	AML		
	comp=N,1225μm,0.8s						
SOLUN				AML	AML		
	comp=E,1395μm,0.8s						
VPL	**Vulcano Piano**	**2.28**	**2**	P	**Pn**	**17 02 07.0**	**+0.5**
VPL				AML	AML		
	comp=E,8720μm,0.5s						
VPL				AML	AML		
	comp=N,9935μm,0.8s						
CEL	**Celeste**	**2.31**	**21**	Pn	**Pn**	**17 02 06.9**	**-0.1**
MPG	**Monte Pellegri**	**2.38**	**330**	P	**Pn**	**17 02 07.8**	**-0.2**
MPG				AML	AML		
	comp=E,565μm,0.9s						
MPG				AML	AML		
	comp=N,635μm,1.1s						
JOPP	**Joppolo**	**2.63**	**18**	P	**Pn**	**17 02 12.3**	**+0.9**
JOPP				AML	AML		
	comp=E,522μm,1.5s						
JOPP				AML	AML		
	comp=N,574μm,1.6s						
PLAC	**Placanica**	**2.66**	**28**	P	**Pn**	**17 02 13.3**	**+1.5**
PLAC				AML	AML		
	comp=E,872μm,0.6s						
PLAC				AML	AML		
	comp=N,622μm,0.5s						
PLAC				AML	AML		
	comp=N,860μm,0.6s						
PLAC				AML	AML		
	comp=E,642μm,0.5s						
GRI	**Girifalco**	**2.99**	**24**	P	**Pn**	**17 02 17.6**	**+1.3**
GRI				AML	AML		
	comp=N,481μm,1.4s						
GRI				AML	AML		
	comp=E,672μm,0.4s						
SERS	**Sersale**	**3.27**	**26**	P	**Pn**	**17 02 21.6**	**+1.3**
SERS				AML	AML		
	comp=E,356μm,0.4s						
SERS				AML	AML		
	comp=N,314μm,0.4s						
SPS2	**Spezzano della**	**3.40**	**20**	P	**Pn**	**17 02 23.0**	**+1.0**
SPS2				AML	AML		
	comp=N,254μm,0.6s						
SPS2				AML	AML		
	comp=E,198μm,0.4s						
TIP	**Timpagrande**	**3.42**	**26**	⇓P	**Pn**	**17 02 23.5**	**+1.2**
TIP	**Timpagrande**	**3.42**	**26**	P	**Pn**	**17 02 23.5**	**+1.2**
TIP				AML	AML		
	comp=E,202μm,0.6s						
TIP				AML	AML		
	comp=N,376μm,0.6s						
TIP	**Timpagrande**	**3.42**	**26**	Pn	**Pn**	**17 02 23.5**	**+1.2**
CELI	**Celico**	**3.55**	**21**	P	**Pn**	**17 02 25.1**	**+1.0**
CELI				AML	AML		
	comp=N,763μm,1.2s						
CELI				AML	AML		
	comp=E,418μm,1.5s						
SALB	**San Lorenzo Be**	**3.95**	**17**	P	**Pn**	**17 02 31.1**	**+1.5**
SALB				AML	AML		
	comp=E,188μm,0.7s						
SALB				AML	AML		
	comp=N,142μm,0.5s						
MCEL	**Monticello**	**4.28**	**10**	P	**Pn**	**17 02 35.6**	**+1.5**
KEST	**Kesra**	**4.49**	**267**	Pn	**Pn**	**17 02 36.7**	**-0.3**
	comp=N,4.2nm,0.3s,baz=133,slow=6.9,SNR=67						
KEST				Sn	**Sn**	**17 03 27.3**	**-1.9**
	comp=N,10.0nm,0.3s,baz=37,slow=19,SNR=12						
KEST	**Kesra**	**4.49**	**267**	Pn	**Pn**	**17 02 36.6**	**-0.4**
LTRZ	**Laterza**	**4.75**	**18**	P	**Pn**	**17 02 40.2**	**-0.3**
ACER	**Acerenza**	**4.76**	**10**	P	**Pn**	**17 02 42.9**	**+2.2**
MATE	**Matera**	**4.77**	**17**	⇓P	**Pn**	**17 02 40.9**	**+0.2**
MATE	**Matera**	**4.77**	**17**	P	**Pn**	**17 02 41.0**	**+0.2**
MATE				AML	AML		
	comp=N,159μm,0.4s						
MATE				AML	AML		
	comp=E,148μm,1.6s						
SCTE	**Santa Cesarea**	**4.88**	**35**	P	**Pn**	**17 02 41.3**	**-1.1**
SCTE	**Santa Cesarea**	**4.88**	**35**	Pn	**Pn**	**17 02 41.2**	**-1.1**
AMUR	**Altamura**	**4.99**	**15**	P	**Pn**	**17 02 44.0**	**+0.1**
NOCI	**Noci**	**4.99**	**20**	P	**Pn**	**17 02 43.2**	**-0.7**
NOCI				AML	AML		
	comp=E,280μm,1.2s						
NOCI				AML	AML		
	comp=N,274μm,1.6s						
PSDA	**Pessada-Kefalo**	**5.00**	**65**	P	**Pn**	**17 02 45.0**	**+1.1**
VLS	**Valsamata**	**5.03**	**64**	P	**Pn**	**17 02 45.0**	**+0.7**
VLS	**Valsamata**	**5.03**	**64**	P	**Pn**	**17 02 44.8**	**+0.5**
DRAG	**Dragano-Lefkad**	**5.23**	**59**	P	**Pn**	**17 02 47.7**	**+0.6**
EVGI	**Lefkada island**	**5.26**	**60**	P	**Pn**	**17 02 48.8**	**+1.3**
KEK	**Kerkira**	**5.32**	**46**	P	**Pn**	**17 02 47.4**	**-0.9**
NYDR	**Nydri-Lefkada**	**5.33**	**59**	P	**Pn**	**17 02 49.2**	**+0.8**
VSL	**Villasalto**	**5.51**	**310**	P	**Pn**	**17 02 49.5**	**-1.4**
VSL	**Villasalto**	**5.51**	**310**		**Pn**	**17 02 49.7**	**-1.2**
SGRT	**San Giovanni R**	**5.69**	**7**	Pn	**Pn**	**17 02 54.4**	**+1.0**
ITM	**Ithomi**	**5.78**	**77**	Pn	**Pn**	**17 02 56.4**	**+1.7**
MAKR	**Makrakomi, Fth**	**6.47**	**61**	P	**Pn**	**17 03 07.1**	**+3.0**
TIR	**Tirane**	**6.54**	**35**	Pn	**Pn**	**17 03 04.4**	**-0.7**
AGG	**Agios Georgios**	**6.61**	**62**	P	**Pn**	**17 03 08.4**	**+2.3**
AGG	**Agios Georgios**	**6.61**	**62**	Pn	**Pn**	**17 03 08.3**	**+2.3**
THL	**Klokotos Trika**	**6.63**	**56**	P	**Pn**	**17 03 07.7**	**+1.3**
THL	**Klokotos Trika**	**6.63**	**56**	P	**Pn**	**17 03 07.5**	**+1.2**
OHR	**Ohrid**	**6.83**	**41**	*i* Pn	**Pn**	**17 03 10.0**	**+0.9**
OHR				*i* Sn	**Sn**	**17 04 26.6**	**-0.1**
FNA	**Florina**	**6.93**	**46**	Pn	**Pn**	**17 03 10.5**	**+0.1**
STON	**Ston**	**7.11**	**17**	*e*Pn	**Pn**	**17 03 12.0**	**-0.9**
TREB	**Trebinje**	**7.14**	**21**	*e*Pn	**Pn**	**17 03 11.9**	**-1.4**
PDG	**Podgorica**	**7.18**	**27**	⇑P	**Pn**	**17 03 12.1**	**-1.8**
PDG	**Podgorica**	**7.18**	**27**	Pn	**Pn**	**17 03 11.8**	**-2.1**
VAY	**Valandovo**	**7.97**	**47**	*i* Pn	**Pn**	**17 03 23.0**	**-1.7**
VAY				*i* Sn	**Sn**	**17 04 51.1**	**-3.5**
STIP	**Stip**	**7.99**	**43**	*i* Pn	**Pn**	**17 03 26.8**	**+1.9**
SJES	**Sjenica**	**8.17**	**27**	*e*Pn	**Pn**	**17 03 29.3**	**+1.8**
IDI	**Anoyia**	**8.20**	**93**	Pn	**Pn**	**17 03 28.9**	**+0.9**
	comp=N,5.9nm,0.3s,baz=258,slow=14,SNR=32						
IDI				Sn	**Sn**	**17 04 59.1**	**-1.5**
	comp=N,15nm,0.3s,baz=37,slow=22,SNR=11						
IVAS	**Ivanjica**	**8.50**	**27**	*e*Pn	**Pn**	**17 03 30.2**	**-1.9**
BBLS	**Lazići**	**8.50**	**23**	*e*Pn	**Pn**	**17 03 31.3**	**-0.8**
SELS	**Selova**	**8.59**	**32**	*e*Pn	**Pn**	**17 03 32.1**	**-1.1**
BARS	**Barje**	**8.60**	**37**	*e*Pn	**Pn**	**17 03 32.3**	**-1.0**
BARS	**Barje**	**8.60**	**37**	*e*Pn	Pn	17 03 45.3	+12
BOSS	**Bosilegrad**	**8.70**	**40**	*e*Pn	**Pn**	**17 03 33.3**	**-1.4**
DIVS	**Divibare**	**8.90**	**25**	Pn	**Pn**	**17 03 36.1**	**-1.4**
DIVS	**Divibare**	**8.90**	**25**	*e*Pn	**Pn**	**17 03 34.8**	**-2.8**
GRUS	**Gruza**	**8.98**	**28**	*e*Pn	**Pn**	**17 03 37.2**	**-1.4**
TRUS	**Trudelj**	**9.16**	**26**	*e*Pn	**Pn**	**17 03 39.3**	**-1.6**
VTS	**Vitosha**	**9.19**	**42**	⇑P	**Pn**	**17 03 43.0**	**+1.5**
VTS	**Vitosha**	**9.19**	**42**	Pn	**Pn**	**17 03 40.4**	**-1.1**
VTS	**Vitosha**	**9.19**	**42**	*e*Pn	**Pn**	**17 03 41.9**	**+0.4**
ZAPS	**Zavoj**	**9.34**	**38**	*e*Pn	**Pn**	**17 03 43.0**	**-0.5**
ALN	**Alexandroupoli**	**9.99**	**58**	Pn	**Pn**	**17 03 53.0**	**+0.6**
MDVR	**Moldovita**	**10.12**	**29**	⇑P	**Pn**	**17 03 52.2**	**-2.0**
HERR	**Herculane**	**10.49**	**31**	⇑P	**Pn**	**17 03 57.7**	**-1.4**
MORH	**Mrgy, Hungar**	**10.50**	**15**	⇑P	**Pn**	**17 03 58.1**	**-1.2**
ABTA	**Abfaltersbach**	**10.78**	**351**	*i* Pn	**Pn**	**17 04 01.1**	**-2.2**
	comp=N,1.3nm,0.1s						
BZS	**Buzias**	**10.79**	**26**	⇓P	**Pn**	**17 04 01.3**	**-2.0**
BALB	**Balikesir**	**10.88**	**67**	Pn	**Pn**	**17 04 05.5**	**+1.0**
GZR	**Gura Zlata**	**11.05**	**30**	⇑P	**Pn**	**17 04 06.4**	**-0.5**
HUMR	**Humele**	**11.42**	**39**	⇑P	**Pn**	**17 04 11.4**	**-0.5**
ARR	**Arges**	**11.85**	**36**	⇓P	**Pn**	**17 04 16.3**	**-1.6**
AKAS	**Kas**	**11.92**	**85**	Pn	**Pn**	**17 04 20.9**	**+1.9**
VOIR		**12.10**	**36**	⇑P	**Pn**	**17 04 21.3**	**0.0**
ELL	**Elmali**	**12.14**	**82**	Pn	**Pn**	**17 04 23.7**	**+1.7**
DRGR		**12.19**	**26**	⇓P	**Pn**	**17 04 20.7**	**-1.8**
MLR	**Muntele Rosu**	**12.58**	**38**	Pn	**Pn**	**17 04 27.8**	**-0.1**
	comp=N,0.2nm,0.3s,baz=172,slow=13,SNR=3.0						
GERES	**GERESS Array B**	**12.77**	**357**	Pn	**Pn**	**17 04 33.5**	**+3.0**
	comp=N,0.1nm,0.3s,baz=174,slow=14,SNR=2.5						
GERES				LR	LR	17 10 21.0	
	comp=N,49nm,21.6s,baz=294,slow=42						
GERES	**GERESS Array B**	**12.77**	**357**		**Pn**	**17 04 28.9**	**-1.6**
PLOR	**Plostina**	**13.19**	**39**	⇑P	**Pn**	**17 04 36.5**	**+0.4**
VRI	**Vrincioaia**	**13.24**	**39**	⇑P	**Pn**	**17 04 37.5**	**+0.7**
CSS	**Mathiatis**	**15.09**	**89**	Pn	**Pn**	**17 04 59.7**	**-2.3**
BRTR	**Keskin Array B**	**15.26**	**71**	Pn	**Pn**	**17 05 06.2**	**+1.8**
	comp=N,0.5nm,0.3s,baz=252,slow=12,SNR=6.3						
BRTR	**Keskin Array B**	**15.26**	**71**		**P**	**17 05 07.0**	**-2.3**
CLL	**Collm**	**15.26**	**356**	*e*PP	**P**	**17 05 13.0**	**+3.9**
ESDC	**Sonseca Array**	**15.28**	**289**	Pn	**Pn**	**17 05 05.7**	**+1.0**
	baz=88,slow=12,SNR=4.0						
SORM	**Soroca**	**15.62**	**35**	⇑P	**Pn**	**17 05 08.8**	**-0.1**
MDT	**Midelt**	**16.39**	**264**	Pn	**Pn**	**17 05 18.6**	**-0.5**
	comp=N,0.1nm,0.3s,baz=78,slow=18,SNR=1.1						
KZIT	**Kziot**	**17.09**	**102**	Pn	**Pn**	**17 05 27.6**	**-0.2**
MMC7	**Mount Meron ar**	**17.19**	**94**	Pn	**Pn**	**17 05 29.2**	**+0.1**
MMAI	**Mount Meron Ar**	**17.20**	**94**	P	**Pn**	**17 05 27.7**	**-1.6**
	comp=N,3.3nm,0.3s,baz=280,slow=12,SNR=11						
MMAI				S	**Sn**	**17 08 35.7**	**-4.7**
	comp=N,3.6nm,0.3s,baz=292,slow=22,SNR=6.1						
GEM	**Giv'at Ha'Em**	**17.36**	**93**	Pn	**Pn**	**17 05 30.2**	**-0.9**
YTIR	**Yattir**	**17.49**	**100**	Pn	**Pn**	**17 05 32.8**	**-0.1**
YTIR				Sn	Sn	17 08 35.7	-12
HMDT	**Nahal Hemdat**	**17.52**	**97**	Pn	**Pn**	**17 05 33.1**	**-0.1**
KSHT	**Keshet**	**17.54**	**94**	Pn	**Pn**	**17 05 33.5**	**+0.1**
DSI	**Dead Sea**	**17.63**	**99**	Pn	**P**	**17 05 35.2**	**-0.3**
MSBI	**Mazada**	**17.70**	**100**	Pn	**P**	**17 05 35.7**	**-0.5**
PRNI	**Paran**	**17.79**	**103**	Pn	**P**	**17 05 37.5**	**+0.2**
PRNI				Sn	Sn	17 08 43.0	-12
AKASG	**Malin Array Be**	**17.89**	**31**	P	**P**	**17 05 39.5**	**+1.2**
	comp=N,0.3nm,0.3s,baz=224,slow=10,SNR=9.8						
AKBB	**Malin Array Si**	**17.89**	**31**	P	**P**	**17 05 37.5**	**-0.7**
HRFI	**Mount Harif**	**17.95**	**104**	Pn	**P**	**17 05 39.8**	**+0.8**
HRFI				Sn	Sn	17 08 47.5	-11
MBRI	**Mt Berech**	**17.95**	**105**	Pn	**P**	**17 05 40.8**	**+1.6**
EIL	**Elat**	**18.04**	**105**	P	**P**	**17 05 40.6**	**+0.6**
	comp=N,0.2nm,0.3s,baz=291,slow=8.6,SNR=1.8						
ASF	**Jabal al Asfar**	**18.65**	**96**	P	**Pn**	**17 05 48.1**	**+0.9**
	comp=N,0.6nm,0.3s,baz=25,slow=1.0,SNR=5.9						
HFS	**Hagfors**	**24.06**	**359**	P	**P**	**17 06 47.4**	**+3.5**
	comp=N,4.3nm,1.0s,baz=163,slow=16,SNR=1.7						
TORD	**Torodi Ar. Bea**	**25.74**	**211**	P	**P**	**17 06 59.7**	**+0.1**
	comp=N,0.5nm,0.5s,baz=15,slow=12,SNR=4.1						
FINES	**FINESS Array B**	**26.34**	**12**	P	**P**	**17 07 04.5**	**-0.1**
	comp=N,1.8nm,0.8s,baz=204,slow=17,SNR=1.3						
MK31	**Makanchi Array**	**50.22**	**56**	P	**P**	**17 10 25.8**	**+1.0**
MK31				IAmb	IAmb	17 10 32.6	
	comp=Z,2.3nm,1.5s						
MKAR	**Makanchi Array**	**50.22**	**56**	P	**P**	**17 10 25.7**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=278,slow=6.5,SNR=8.6						
WMQ	**Urumqi**	**54.71**	**58**	*e*P	**P**	**17 11 02.0**	**+3.8**
HHC	**Hu-ho-hao-te**	**71.91**	**52**	*e*P	**P**	**17 12 53.9**	**+1.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,96nm,4.7s						

IDC ***13*** *17:11:45.0±0.8, 24°.07N×121°.87E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.8/45, mbtmp3.8/12, ML3.5/2, MS3.4/8, Ms1 3.4/8, ms1mx2.9/91, Error ellipse: s-maj=23.9km s-min=17.4km az=76.0*

BJI ***13*** *17:11:45.6±0.0, 24°.13N×121°.96E, h6km, mb4.0/26, mB4.4/19, ML4.0/5, Ms4. 1/19, Ms7 3.9/17*

TAP ***13*** *17:11:46.8, 24°.11N×121°.84E, h7km, ML4.4, C*

NIED ***13*** *17:11:47.6, 24°.07N×121°.78E, h8km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; Mrr1.47; Mθθ-1.17; Mφφ-0.30; Mrθ2.26; Mφθ-0.62; Mφr1.04; Fault plane solution: M0 2.90000×10^15^ NP1:φs65.00000°, δ75.00000°, λ91.00000°. NP2:φs240.00000°, δ15.00000°, λ85.00000°.*

JMA ***13*** *17:11:47.5±0.1, 24°.07N×121°.78E, h8km±2km, M4.1*

NEIC ***13*** *17:11:47.5±1.8, 24°.07N±0°.02×121°.81E±0°.02, h13km±5km, mb4.1/11, ML4.4(TAP), Error ellipse: s-maj=3.3km s-min=2.6km az=223.0*

ISC 13 17:11:47.8±0.8, 24°.08N±0°.01×121°.85E±0°.01, h13km±5km, n194, σ1§18/297, mb4.0/18, MS3.3/8, 10C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.22**	**290**	⇓*i*P	**Pg**	**17 11 51.7**	**-0.9**
	baz=284						
ETL				*e*S	**Sg**	**17 11 55.4**	**-0.5**
	baz=284						
TWD	**Chiawan**	**0.23**	**269**	⇓*i*P	**Pg**	**17 11 52.2**	**-0.6**
	baz=273						
TWD				*i* S	**Sg**	**17 11 56.2**	**+0.1**
	baz=273						
EHP	**Heping Village**	**0.25**	**336**	P	**Pg**	**17 11 52.3**	**-0.7**
	baz=336						
EHP				S	**Sg**	**17 11 56.3**	**-0.2**
	baz=336						
HWA	**Hwalien**	**0.25**	**245**	P	**Pb**	**17 11 53.7**	**-0.4**
	baz=250						
HWA				S	**Sb**	**17 11 59.4**	**+0.9**
	baz=250						
NACB	**Ninganchiao**	**0.25**	**291**	⇓*i*P	**Pg**	**17 11 52.1**	**-1.0**
	baz=286						
NACB				*i* S	**Sg**	**17 11 56.3**	**-0.4**
	baz=286						
NACB	**Ninganchiao**	**0.25**	**291**		**Pg**	**17 11 52.1**	**-1.0**
TEYL	**Yanliau Villag**	**0.32**	**227**	*i* P	**Pb**	**17 11 55.2**	**-0.2**
	baz=223						
TEYL				*e*S	**Sb**	**17 12 01.7**	**+1.4**
	baz=223						
ETM	**Tongmen**	**0.35**	**250**	*i* P	**Pg**	**17 11 54.8**	**0.0**
	baz=257						
ETM				S	**Sb**	**17 12 00.6**	**-0.7**
	baz=257						
ENA	**Nanau**	**0.36**	**344**	⇓*i*P	**Pg**	**17 11 54.3**	**-0.7**
	baz=337						
ENA				*i* S	**Sg**	**17 11 59.6**	**-0.3**
	baz=337						
ETLH	**Xiulin Townshi**	**0.36**	**290**	⇑*i*P	**Pg**	**17 11 54.3**	**-0.7**
	baz=286						
ETLH				*i* S	**Sg**	**17 11 59.7**	**-0.3**
	baz=286						
EWUT	**Wuta**	**0.36**	**349**	P	**Pg**	**17 11 54.7**	**-0.4**
	baz=342						
EWUT				S	**Sg**	**17 12 00.1**	**0.0**
	baz=342						
ESL	**Shilin**	**0.47**	**235**	⇑*i*P	**Pg**	**17 11 57.0**	**0.0**
	baz=242						
ESL				*i* S	**Sb**	**17 12 05.5**	**+0.8**
	baz=242						
TEGC	**Jichi Village**	**0.47**	**217**	P	**Pn**	**17 11 59.5**	**-0.8**
	baz=208						
TEGC				S	**Sn**	**17 12 07.8**	**-0.6**
	baz=208						
TWC	**Suao**	**0.52**	**360**	⇓*i*P	**Pg**	**17 11 57.5**	**-0.5**
	baz=354						
WHF	**Hehuan Shan**	**0.54**	**277**	⇓*i*P	**Pg**	**17 11 57.8**	**-0.6**
	baz=274						
WHF				*i* S	**Sb**	**17 12 06.7**	**-0.6**
	baz=274						
NNSB	**Datong**	**0.55**	**309**	⇓*i*P	**Pg**	**17 11 57.8**	**-0.7**
	baz=305						
NNSB				S	**Sg**	**17 12 05.5**	**-0.4**
	baz=305						
NDS	**Dongshan**	**0.56**	**347**	P	**Pg**	**17 11 58.3**	**-0.5**
	baz=345						
NDS				S	**Sg**	**17 12 06.7**	**+0.5**
	baz=345						
NNS	**Nan Shan**	**0.56**	**309**	⇓*i*P	**Pg**	**17 11 58.0**	**-0.8**
	baz=306						
NNS				S	**Sg**	**17 12 05.9**	**-0.5**
	baz=306						
EGFH	**Guangfu**	**0.57**

ILA S **Sb** **17 12 11.2 +0.2**
baz=346
HGSD Ruisui 0.71 214 P **Pn** **17 12 03.1 -0.4**
baz=207
HGSD S **Sn** **17 12 15.1 +0.7**
baz=207
YHNB Yeheng 0.73 323 *i* P **Pg** **17 12 01.7 -0.2**
baz=322
YHNB S **Sg** **17 12 11.7 +0.2**
baz=322
YHNB Yeheng 0.73 323 Pg **Pg** **17 12 01.5 -0.4**
VWDT VWDT 0.73 243⇓*i*P **Pg** **17 12 02.0 +0.1**
baz=239
VWDT *i* S **Sb** **17 12 12.6 +0.3**
baz=239
NSK Sanguang 0.74 323⇓*i*P **Pg** **17 12 01.8 -0.4**
baz=321
NSK S **Sg** **17 12 12.2 +0.3**
baz=321
NWLT Wulai 0.76 335 P **Pg** **17 12 02.2 -0.3**
baz=334
NWLT S **Sg** **17 12 12.3 -0.2**
baz=334
NTC Toucheng 0.77 358 P **Pg** **17 12 02.6 0.0**
baz=348
NTC S **Sb** **17 12 13.8 +0.4**
baz=348
WPL Puli Township 0.82 265 *i* P **Pg** **17 12 03.6 0.0**
baz=263
WPL *e*S **Sb** **17 12 15.3 +0.3**
baz=263
DPDB Guoxing 0.85 267 *i* P **Pg** **17 12 04.3 +0.1**
baz=264
DPDB *i* S **Sb** **17 12 16.3 +0.6**
baz=264
WHP Taichung City 0.85 283 P **Pg** **17 12 04.3 0.0**
baz=281
WHP S **Sb** **17 12 15.8 0.0**
baz=281
YULB Yu-li 0.86 217 *e*P **Pg** **17 12 03.3 -1.0**
baz=225
YULB *e*S **Sn** **17 12 17.1 -0.9**
baz=225
YULB Yu-li 0.86 217 **Pg** **17 12 03.1 -1.2**
WCS Beigang Elemen 0.86 268 *e*P **Pg** **17 12 03.0 -1.4**
baz=257
WCS *e*S **Sb** **17 12 16.6 +0.5**
baz=257
NFF Wufeng Townshi 0.86 309 P **Pg** **17 12 04.3 -0.2**
baz=315
NFF S **Sg** **17 12 15.5 -0.3**
baz=315
SSLB Suanglung 0.87 250⇑*i*P **Pg** **17 12 04.2 -0.5**
baz=259
SSLB S **Sg** **17 12 15.7 -0.4**
baz=259
SSLB Suanglung 0.87 250 **Pg** **17 12 04.1 -0.5**
EYUL Yuli 0.88 214 *e*P **Pb** **17 12 04.9 -0.1**
baz=227
TIPB Shuangxi 0.88 358 P **Pb** **17 12 04.6 -0.4**
baz=349
TIPB S **Sg** **17 12 16.5 0.0**
baz=349
TWF1 Yuli 0.89 215 P **Pg** **17 12 05.1 +0.1**
baz=227
SMLT Sun Moon Lake 0.89 257⇑*i*P **Pg** **17 12 04.7 -0.4**
baz=255
SMLT *i* S **Sb** **17 12 17.4 +0.3**
baz=255
NHDH Xindian Distri 0.92 341 *e*P **Pb** **17 12 05.5 -0.2**
baz=331
NHDH *e*S **Sb** **17 12 17.8 -0.1**
baz=331
TWA Mucha 0.93 345 P **Pb** **17 12 05.6 -0.2**
baz=335
TYC Yuchr 0.93 259⇑*i*P **Pb** **17 12 05.1 -0.6**
baz=257
TYC *i* S **Sb** **17 12 17.9 -0.1**
baz=257
TWB1 Santiao Chiao 0.93 8 P **Pb** **17 12 05.5 -0.2**
baz=1.0
TWB1 *e*S **Sn** **17 12 19.9 +0.1**
baz=1.0
LIOB Emei 0.94 306⇑*i*P **Pg** **17 12 06.3 +0.3**
baz=304
LIOB S **Sb** **17 12 18.6 0.0**
baz=304
TATO Taipei 0.95 340 P **Pg** **17 12 06.5 +0.5**
baz=339
TATO Taipei 0.95 340 **Pb** **17 12 05.8 -0.3**
NSTT Nanjuang 0.95 305 P **Pb** **17 12 05.6 -0.5**
baz=303
NSTT S **Sb** **17 12 18.4 -0.2**
baz=303
BACT New Taipei Cit 0.98 338 *e*P **Pn** **17 12 07.7 +0.4**
baz=337
NWF Wu-fen Shan 0.98 356⇓*i*P **Pb** **17 12 06.7 -0.1**
baz=346
NWF *e*S **Sg** **17 12 20.1 +0.4**
baz=346
WFSB Wu-fen Shan 0.98 356 P **Pn** **17 12 07.2 -0.1**
baz=336
NHY Taipei 0.98 345 *e*P **Pn** **17 12 07.5 +0.2**
baz=326
TAP Taipei 1.00 342 P **Pg** **17 12 07.4 +0.3**
baz=342
YUS Yu-Shan 1.01 234 P **Pb** **17 12 07.3 -0.2**
baz=230
FULB Fuli 1.02 210 *e*P **Pn** **17 12 08.3 +0.4**
baz=179
FULB *e*S **Sn** **17 12 23.3 +1.3**
baz=179
TWQ1 Liyutan 1.02 285 P **Pg** **17 12 07.6 +0.2**
baz=294
TWQ1 *e*S **Sn** **17 12 22.9 +0.8**
baz=294
HSN1 Hsinchu 1.03 312 P **Pn** **17 12 08.5 +0.6**
baz=312
NTY Taoyuan 1.04 331 *i* P **Pn** **17 12 08.3 +0.2**
baz=331
NSY Sanyi 1.05 289 P **Pn** **17 12 08.8 +0.6**
baz=298
NSY *e*S **Sn** **17 12 24.5 +1.7**
baz=298
WWF Wufeng 1.05 268 *i* P **Pg** **17 12 09.0 +0.9**
baz=266
SBCB Hsinchu 1.06 312 *e*P **Pg** **17 12 08.4 +0.3**
baz=310
SBCB *e*S **Sn** **17 12 23.7 +0.7**
baz=310
WJS Zhushan 1.06 256 *e*P **Pg** **17 12 08.7 +0.5**
baz=254
WJS *e*S **Sn** **17 12 24.4 +1.3**
baz=254
JYNG Yonagunijimaku 1.06 70 P **Pg** **17 12 08.9 +0.6**
JYNG *e*S **Sn** **17 12 24.1 +1.0**
NMLH Miaoli 1.07 295 *e*P **Pg** **17 12 08.8 +0.4**
baz=293
NMLH *e*S **Sn** **17 12 23.1 -0.2**
baz=293
NCUH Zhongli 1.07 326 P **Pg** **17 12 08.6 +0.2**
baz=325
NCU National Centr 1.07 326⇑P **Pn** **17 12 08.4 -0.1**
baz=323
NCU S **Sn** **17 12 24.5 +1.2**
baz=323
HSN Hsinchu 1.08 312 P **Pg** **17 12 08.9 +0.4**
baz=301
HSN *e*S **Sn** **17 12 25.1 +1.7**
baz=301
NJN Zhunan 1.08 304 P **Pg** **17 12 09.5 +1.0**
baz=304
TCU Taichung 1.08 274 P **Pg** **17 12 09.2 +0.6**
baz=263
TCU S **Sn** **17 12 25.5 +2.1**
baz=263
CHKT Chengkung 1.08 205 *e*P **Pb** **17 12 07.9 -0.4**
baz=176
CHKT *e*S **Sn** **17 12 25.0 +1.6**
baz=176
TWS1 Kuangyinshan 1.09 339 P **Pn** **17 12 08.7 -0.1**
baz=321
TWS1 *e*S **Sn** **17 12 25.3 +1.6**
baz=321
WNT1 Nantou City 1.09 261 *i* P **Pg** **17 12 09.4 +0.7**
baz=241
WNT Mingjian 1.09 259 P **Pg** **17 12 09.0 +0.3**
baz=241
WNT S **Sn** **17 12 24.9 +1.2**
baz=241
YM01 YM01 1.09 346 *e*P **Pb** **17 12 08.5 0.0**
baz=329
ALS Alishan 1.12 239⇑*i*P **Pb** **17 12 08.9 -0.3**
baz=237
ALS *e*S **Sn** **17 12 25.1 +0.2**
baz=237
YOJ Yonaguni jima 1.12 70 P **Pg** **17 12 09.6 +0.2**
YOJ *e*S **Sn** **17 12 25.8 +1.2**
YOJ Yonaguni jima 1.12 70 *e*P **Pg** **17 12 09.7 +0.3**
baz=78
YOJ *e*S **Sn** **17 12 26.3 +1.7**
baz=78
YOJ Yonaguni jima 1.12 70 **Pg** **17 12 09.7 +0.3**
NTST Danshui 1.14 341 *e*P **Pg** **17 12 10.5 +0.9**
baz=341
WDJ Dajia District 1.14 284 *e*P **Pg** **17 12 10.2 +0.6**
baz=283
WDJ *e*S **Sn** **17 12 27.3 +2.4**
baz=283
ANP Anpu 1.14 345 *i* P **Pn** **17 12 09.7 +0.2**
baz=345
WYL Yuanlin Townsh 1.17 264 *i* P **Pg** **17 12 10.9 +0.6**
baz=264
WYL *e*S **Sg** **17 12 28.0 +2.5**
baz=264
ELDTW Lidau 1.18 221 *e*P **Pn** **17 12 08.4 -1.7**
baz=200
ELDTW *e*S **Sg** **17 12 26.6 +0.8**
baz=200
CHN5 Tsauling 1.18 246⇑*i*P **Pg** **17 12 10.4 -0.1**
baz=229
CHN5 S **Sg** **17 12 27.5 +1.6**
baz=229
WCHH Zhanghua 1.18 270 *e*P **Pg** **17 12 10.7 +0.2**
baz=271
WCHH *e*S **Sg** **17 12 28.1 +2.2**
baz=271
TWY Chenhua 1.21 349 *e*P **Pg** **17 12 11.0 0.0**
baz=328
EDH Donghe 1.22 205 *e*P **Pn** **17 12 09.9 -0.6**
baz=178
EDH *e*S **Sg** **17 12 27.0 0.0**
baz=178
WGK Gukeng 1.25 252 *i* P **Pg** **17 12 11.8 +0.1**
baz=247
WDLH Douliu 1.27 252 *e*P **Pb** **17 12 11.8 +0.3**
baz=252
WDLH *e*S **Sg** **17 12 31.1 +2.6**
baz=252
STYH Taoyuan 1.34 228 *e*P **Pb** **17 12 12.6 -0.2**
baz=207
STYH *e*S **Sg** **17 12 31.0 0.0**
baz=207
LONT Longtian 1.35 210 *e*P **Pg** **17 12 13.7 0.0**
baz=199
STYT Tauyuan 1.36 228 *i* P **Pn** **17 12 12.6 0.0**
baz=208
STYT S **Sg** **17 12 32.6 +1.0**
baz=208
WRL Guolierlin Hig 1.36 263 *e*P **Pb** **17 12 13.0 -0.1**
baz=263
WRL *e*S **Sg** **17 12 32.9 +1.2**
baz=263
CHN4 Tsaushan 1.36 238 P **Pb** **17 12 13.4 +0.1**
baz=236
CHN4 S **Sg** **17 12 34.7 +2.9**
baz=236
TPUB Ta-pu 1.36 235 *e*P **Pn** **17 12 12.8 +0.2**
baz=232
TPUB *e*S **Sg** **17 12 31.8 0.0**
baz=232
TPUB Ta-pu 1.36 235 Pn **Pb** **17 12 12.9 -0.3**
CHN2 Minshiung 1.38 247 *e*P **Pg** **17 12 14.0 -0.3**
baz=244
CHN2 *e*S **Sg** **17 12 35.0 +2.9**
baz=244
WTK Tuku 1.40 254 *e*P **Pb** **17 12 13.8 0.0**
baz=254
WTK *e*S **Sg** **17 12 33.0 +0.2**
baz=254
WTP Ta-pu 1.41 234⇑*i*P **Pb** **17 12 13.7 -0.2**
baz=231
WTP *e*S **Sg** **17 12 34.4 +1.2**
baz=231
CHY Chiayi 1.43 246 *e*P **Pb** **17 12 14.6 +0.3**
baz=247
CHY *e*S **Sg** **17 12 36.3 +2.4**
baz=247
TWG Pinlang 1.45 210 **Pn** **17 12 12.0 -1.7**
TWGBT Beinan 1.45 209 *e*P **Pn** **17 12 11.5 -2.2**
baz=184
LDUT Ludao 1.45 194 *e*P **Pn** **17 12 11.7 -2.0**
baz=172
WTCT Ta-ch'eng 1.45 262 *e*P **Pn** **17 12 14.1 +0.3**
baz=261
WTCT *e*S **Sg** **17 12 35.1 +0.5**
baz=261
TWK Hsinying 1.49 237 P **Pb** **17 12 15.3 -0.1**
baz=216
TWK *e*S **Sg** **17 12 36.7 +0.9**
baz=216
CHN1 Nanshi 1.51 234 P **Pb** **17 12 15.7 0.0**
baz=231
CHN1 *e*S **Sg** **17 12 38.2 +1.9**
baz=231
SNST Tainan City 1.51 236 *e*P **Pb** **17 12 15.7 0.0**
baz=233
SNST *e*S **Sg** **17 12 37.8 +1.4**
baz=233
SGST Jiashian 1.53 230 *e*P **Pn** **17 12 15.2 +0.3**
baz=227
SGST *e*S **Sg** **17 12 37.5 +0.4**
baz=227
WSF Szhu 1.56 254 P **Pb** **17 12 16.5 0.0**
baz=254
WSF S **Sg** **17 12 38.7 +0.8**
baz=254
WSL Shuilin Townsh 1.59 250 *e*P **Pb** **17 12 16.8 -0.2**
baz=250
WSL *e*S **Sg** **17 12 39.2 +0.3**
baz=250
ICHU Yijhu 1.61 244 *e*P **Pb** **17 12 16.8 -0.6**
baz=245
ICHU *e*S **Sg** **17 12 39.4 -0.3**
baz=245
CHN3 Shinhua 1.69 234 *e*P **Pb** **17 12 19.4 +0.6**
baz=231
CHN3 *e*S **Sg** **17 12 44.3 +2.0**
baz=231
ECL Taimali 1.69 209 *e*P **Pb** **17 12 18.7 -0.1**
baz=185
IRIF Iriomote-Funau 1.73 81 P **Pn** **17 12 18.4 +0.8**
IRIF *e*S **Sb** **17 12 42.3 +1.1**
SHHT Tainan City 1.74 233 *e*P **Pb** **17 12 19.7 +0.1**
baz=225
SSD Sandimen 1.74 220 P **Pb** **17 12 19.2 -0.4**
baz=218
SSD *e*S **Sg** **17 12 43.5 -0.3**
baz=218
TSMG Majia 1.77 219 *e*P **Pb** **17 12 19.7 -0.3**
baz=217
TSMG *e*S **Sg** **17 12 43.7 -0.8**
baz=217
SCLT Jiali 1.77 240 *e*P **Pb** **17 12 19.2 -0.9**
baz=241
SCLT *e*S **Sg** **17 12 44.6 -0.1**
baz=241
HATJ Hateruma jima 1.79 90 P **Pb** **17 12 20.1 -0.3**
HATJ S **Sb** **17 12 43.3 +0.6**
TWM1 Shoushan 1.82 227 *e*P **Pb** **17 12 21.1 +0.2**
baz=222
TWM1 *e*S **Sg** **17 12 49.6 +3.3**
baz=222
SGLT Jiouru 1.84 223 *e*P **Pg** **17 12 22.3 -0.8**
baz=216
MASBT Mashibuluo 1.84 218 *e*P **Pb** **17 12 20.2 -1.2**
baz=211
MASBT *e*S **Sb** **17 12 44.1 -0.4**
baz=211
EAST Anshuo 1.93 209 *e*P **Pb** **17 12 22.6 -0.2**
baz=187
TAW Tawu 1.93 207 *e*P **Pb** **17 12 23.1 +0.3**
baz=196
JKRS Kuro-shima 1.98 85 P **Pb** **17 12 22.3 -1.3**
JKRS *e*S **Sb** **17 12 47.7 -0.5**
SSPT Xinbi 1.98 217 *e*P **Pb** **17 12 22.8 -1.0**
baz=208
SCZT Fangliau 2.05 214 *e*P **Pb** **17 12 23.4 -1.4**
baz=184
SCZT *e*S **Sb** **17 12 51.9 +1.6**
baz=184
LYUB Lan-yu 2.09 187 *e*P **Pn** **17 12 20.1 -2.4**
baz=177
SLIU Shizi 2.10 208 *e*P **Pn** **17 12 23.5 +0.8**
baz=187
JIJ Ishigaki jima 2.11 82 P **Pn** **17 12 23.3 +0.5**
JIJ *e*S **Sn** **17 12 50.2 +1.2**
PHUB P'eng-hu 2.16 255 *e*P **Pn** **17 12 23.5 -0.1**
baz=255
PHUB *e*S **Sb** **17 12 52.0 -1.6**
baz=255
PNG Penghu 2.17 257 *e*P **Pn** **17 12 23.9 +0.3**
baz=256
PNG *e*S **Sb** **17 12 52.2 -1.5**
baz=256
WDGT Dungji 2.17 248 *e*P **Pn** **17 12 24.0 +0.3**
baz=244
JISG Ishigakijimahi 2.30 77 P **Pn** **17 12 25.8 +0.4**
JISG S **Sn** **17 12 55.1 +1.5**
HEN Hengchun 2.31 207 *e*P **Pb** **17 12 28.8 -0.6**
baz=182
TWKBT Hengchun 2.34 204 *e*P **Pn** **17 12 25.1 -0.9**
baz=184
VCHM Qimei 2.39 249 *e*P **Pn** **17 12 27.3 +0.7**
baz=245
JTJ Tarama 2.66 77 P **Pn** **17 12 31.5 +1.2**
JTJ *e*S **Sn** **17 13 03.6 +1.1**
PTMZ Houxiangcun 2.66 291 *e*P **Pn** **17 12 29.8 -0.6**
baz=294
QZH Quanzhou 3.09 287 Pn **Pn** **17 12 35.8 -0.5**
QZH Sn **Sn** **17 13 12.3 -0.8**
QZH smax smax
comp=N,290nm,1.1s
QZH smax smax
comp=E,190nm,0.9s
QZH LR LR
comp=Z,1μm,9.0s
LYJJ Jianjiangzhen 3.10 323 *e*P **Pn** **17 12 35.5 -1.0**
baz=321
JIRB Irabujima 3.12 76 *e*S **Sn** **17 13 16.5 +2.7**
KNMB Chin-men Tao 3.18 278 **Pn** **17 12 36.9 -0.7**
JIKM Ikemajima 3.20 74 *e*S **Sn** **17 13 17.7 +1.7**
JMJ2 Miyako jima3 3.23 78 P **Pn** **17 12 40.7 +2.4**
JMJ2 *e*S **Sn** **17 13 19.2 +2.5**
JOW Kunigami 6.42 63 Pn **Pn** **17 13 21.9 -0.2**
3.2nm,0.3s,baz=132,slow=12,SNR=11
NJ2 Nanjing 8.37 342 *e*P Pn 17 13 42.3 -6.5
NJ2 S **Sn** **17 15 19.8 -3.4**
NJ2 pmax pmax
comp=Z,11nm,0.8s
NJ2 smax smax
comp=N,56nm,0.8s
NJ2 smax smax
comp=E,65nm,0.9s
NJ2 LR LR
comp=N,550nm,8.5s
NJ2 LR LR
comp=E,410nm,9.0s
NJ2 LR LR
comp=Z,750nm,9.3s
GYA Guiyang 13.94 283⇓P **Pn** **17 15 07.5 +2.2**
GYA sP P 17 15 10.6 -2.8
GYA S **Sn** **17 17 43.5 +3.4**
GYA SS **S** **17 18 04.6 +2.6**
GYA pmax pmax
comp=Z,5.0nm,1.3s
GYA pmax pmax
comp=Z,110nm,4.1s
GYA LR LR
comp=Z,260nm,9.8s
GYA LR LR
comp=Z,610nm,10.2s
GYA LR LR
comp=Z,710nm,9.6s
KSRS Korea Array 14.31 20 Pn **Pn** **17 15 08.6 -1.5**
comp=Z,0.1nm,0.3s,baz=203,slow=11,SNR=1.9
KSRS LR LR 17 21 38.5
comp=Z,84nm,19.6s,baz=200,slow=42
PZH PanZhiHua 18.34 282 P **P** **17 16 04.0 +1.8**
PZH S **Sn** **17 19 28.3 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.0s
PZH LR LR
comp=Z,150nm,10.6s
PZH LR LR
comp=Z,360nm,11.6s
PZH LR LR
comp=Z,380nm,12.5s
HHC Hu-ho-hao-te 18.81 335 *e*P **Pn** **17 16 08.3 +0.6**
HHC PP **PnPn** **17 16 29.4 +9.4**
HHC S **Sn** **17 19 36.0 -2.2**
HHC sS S 17 19 40.4 -0.7
HHC SS **SnSn** **17 19 56.8 +4.5**
HHC pmax pmax
comp=Z,4.0nm,0.7s
HHC pmax pmax
comp=Z,120nm,6.1s
HHC LR LR
comp=Z,320nm,10.8s
HHC LR LR
comp=Z,110nm,10.4s
HHC LR LR
comp=Z,310nm,14.6s
LZH Lanzhou 19.61 312 *e*P **Pn** **17 16 17.3 -0.1**
LZH pP pwP 17 16 21.9 +2.7
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=Z,260nm,10.3s
LZH LR LR
comp=Z,450nm,11.4s
LZH LR LR
comp=Z,490nm,12.5s
XLT XiLinHaoTe 20.33 348 *e*P Pn 17 16 28.9 +3.1
XLT sP pwP 17 16 36.5 +6.6
XLT pmax pmax
comp=Z,8.0nm,1.2s
XLT pmax pmax
comp=Z,89nm,6.0s
CMAR Chiang Mai Arr 22.06 260 P **P** **17 16 42.0 -0.6**
comp=Z,0.6nm,0.9s,baz=57,slow=9.0,SNR=5.5
CMAR LR LR 17 25 44.5
comp=Z,33nm,19.0s,baz=100,slow=38
GTA Gaotai 24.09 315 *e*P **P** **17 17 03.5 +0.2**
GTA pP sP 17 17 14.1 +6.4
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,38nm,6.9s
GTA LR LR
comp=Z,140nm,10.9s
GTA LR LR
comp=Z,280nm,12.7s
GTA LR LR
comp=Z,250nm,15.3s
GOMU GeErMu 26.22 304 P P 17 17 30.3 +7.4
GOMU pP sP 17 17 34.3 +6.3
GOMU sP pP 17 17 37.3 +11
GOMU S S 17 22 12.6 +17
GOMU pmax pmax
comp=Z,2.0nm,0.8s
GOMU pmax pmax
comp=Z,48nm,4.6s
GOMU LR LR
comp=N,120nm,8.5s
GOMU LR LR
comp=E,92nm,8.6s
GOMU LR LR
comp=Z,72nm,7.0s
KLR Kul'dur 26.28 15 P **P** **17 17 23.2 +0.4**
comp=Z,1.6nm,0.8s,baz=235,slow=8.7,SNR=5.6
KLR LR LR 17 27 54.8
comp=Z,42nm,18.1s,baz=200,slow=37
ULN Ulaanbaatar 26.49 337 P **P** **17 17 24.2 -0.8**
ULN IAmb IAmb 17 17 32.6
comp=Z,3.4nm,0.7s
SONM Songino Array 26.70 336 P **P** **17 17 26.3 -0.6**
comp=Z,1.8nm,1.0s,baz=155,slow=10,SNR=8.0
SONM LR LR 17 28 38.3
comp=Z,69nm,19.4s,baz=160,slow=38

SONM	**Songino Array**	**26.70 336**	P		**P**	**17 17 26.9**	**+0.1**
SONM			IAmb		IAmb	17 17 27.7	
comp=Z,5.5nm,1.3s							
LSA	**Lhasa**	**27.90 288**	P		**P**	**17 17 35.3**	**-2.9**
LSA			IAmb		IAmb	17 17 45.3	
comp=Z,2.9nm,0.6s							
WMQ	**Urumqi**	**34.16 314**	*e*P		**P**	**17 18 34.4**	**+1.6**
MK31	**Makanchi Array**	**38.83 316**	P		**P**	**17 19 12.2**	**-0.3**
MKAR	**Makanchi Array**	**38.83 316**	P		**P**	**17 19 12.4**	**-0.2**
comp=Z,1.7nm,0.7s,baz=103,slow=10.0,SNR=21							
MKAR	**Makanchi Array**	**38.83 316**	P		**P**	**17 19 12.1**	**-0.5**
MAKZ	**Makanchi**	**39.04 316**	P		**P**	**17 19 14.2**	**-0.1**
MAKZ			IAmb		IAmb	17 19 15.8	
comp=Z,6.1nm,1.3s							
ZAA0	**Zalesovo Array**	**40.66 327**	P		**P**	**17 19 26.3**	**-1.3**
ZAA0			IAmb		IAmb	17 19 27.3	
comp=Z,2.8nm,0.8s							
ZALV	**Zalesovo Beam**	**40.66 327**	P		**P**	**17 19 26.5**	**-1.1**
comp=Z,3.3nm,0.8s,baz=120,slow=8.8,SNR=12							
ZALV			LR		LR	17 37 16.8	
comp=Z,40nm,19.5s,baz=112,slow=38							
ZALV	**Zalesovo Beam**	**40.66 327**	P		**P**	**17 19 26.0**	**-1.6**
H11S3	**WAKE ISLAND Hy**	**42.01 89**	T		T	18 04 47.3	
baz=292,SNR=8.3							
H11S1	**WAKE ISLAND Hy**	**42.02 89**	T		T	18 04 50.8	
baz=292,slow=74,SNR=5.5							
H11S2	**WAKE ISLAND Hy**	**42.03 89**	T		T	18 04 51.0	
baz=292,slow=74,SNR=4.6							
KURK	**Kurchatov**	**42.56 320**	P		**P**	**17 19 42.6**	**-0.6**
WRA	**Warramunga Arr**	**45.42 163**	P		**P**	**17 20 04.6**	**-1.9**
comp=Z,0.5nm,0.5s,baz=346,slow=8.6,SNR=9.0							
KKAR	**Karatay Array**	**46.02 307**	P		**P**	**17 20 10.0**	**-1.1**
TIXI	**Tiksi**	**47.76 3**	P		**P**	**17 20 21.8**	**-2.4**
TIXI			IAmb		IAmb	17 20 29.8	
comp=Z,3.0nm,0.9s							
BRVK	**Borovoye**	**48.21 321**	P		**P**	**17 20 27.1**	**-0.9**
ASAR	**Alice Springs**	**48.89 165**	P		**P**	**17 20 33.4**	**-0.1**
comp=Z,0.2nm,0.3s,baz=339,slow=7.0,SNR=15							
ABKAR	**Abkulak array**	**53.95 314**			**P**	**17 21 09.7**	**-1.5**
ABKAR	**Abkulak array**	**53.95 314**	P		**P**	**17 21 09.7**	**-1.5**
ABKAR			IAmb		IAmb	17 21 11.9	
comp=Z,1.8nm,0.9s							
ARU	**Arti**	**55.55 323**	LR		LR	17 49 15.6	
comp=Z,27nm,18.2s,baz=46,slow=40							
NEA2	**Nenana**	**68.13 28**	P		**P**	**17 22 47.7**	**+0.4**
ILAR	**Eielson Array**	**69.02 27**	P		**P**	**17 22 52.2**	**-0.6**
comp=Z,0.3nm,0.6s,baz=272,slow=4.7,SNR=2.0							
FINES	**FINESS Array B**	**71.84 330**	P		**P**	**17 23 09.3**	**-0.8**
FINES			LR		LR	17 57 39.5	
comp=Z,54nm,18.4s,baz=188,slow=38							
HFS	**Hagfors**	**77.95 331**	LR		LR	18 01 29.0	
comp=Z,78nm,18.1s,baz=76,slow=38							
YKA	**Yellowknife Ar**	**82.82 23**	P		**P**	**17 24 09.7**	**-2.0**
comp=Z,0.8nm,0.6s,baz=312,slow=4.9,SNR=17							

*IDC **13** 17:22:35.3±0.8, 24°.14N×122°.02E, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.7/45, mbtmp3.8/14, ML3.4/2, MS3.5/6, Ms1 3.5/6, ms1mx2.9/89, Error ellipse: s-maj=22.5km s-min=17.4km az=69.0*

*JMA **13** 17:22:37.3±0.1, 24°.08N×121°.77E, h0km, M4.0*

*TAP **13** 17:22:37.6, 24°.11N×121°.83E, h10km, ML4.4, C*

*BJI **13** 17:22:37.5±0.0, 24°.14N×121°.93E, h24km, mb4.0/15, mB4.5/10, ML4.1/4, Ms4.1/16, Ms7 3.9/14*

*NEIC **13** 17:22:38.2±2.0, 24°.10N±0°.05×121°.78E±0°.02, h16km±5km, mb4.1/14, ML4.4(TAP), Error ellipse: s-maj=7.4km s-min=2.0km az=169.0*

ISC 13 17:22:37.5±0.8, 24°.10N±0°.01×121°.87E±0°.01, h13km±5km, n192, σ1$10/275, mb4.0/20, MS3.9/7, 13C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.23**	**285**	⇓*i*P			**Pg**	**17 22 42.2**	**-0.2**
baz=286									
ETL				*e*S			**Sg**	**17 22 45.8**	**-0.1**
baz=286									
EHP	**Heping Village**	**0.24**	**332**	P			**Pg**	**17 22 42.7**	**+0.1**
baz=338									
EHP				*i* S			**Sg**	**17 22 47.0**	**+0.9**
baz=338									
TWD	**Chiawan**	**0.25**	**266**	⇓*i*P			**Pg**	**17 22 42.7**	**0.0**
baz=274									
TWD				*i* S			**Sg**	**17 22 46.5**	**+0.3**
baz=274									
NACB	**Ninganchiao**	**0.26**	**287**	⇓*i*P			**Pg**	**17 22 42.6**	**-0.3**
baz=288									
NACB				*i* S			**Sg**	**17 22 46.5**	**-0.1**
baz=288									
NACB	**Ninganchiao**	**0.26**	**287**				**Pg**	**17 22 42.4**	**-0.5**
HWA	**Hwalien**	**0.27**	**243**	P			**Pb**	**17 22 44.5**	**+0.3**
baz=250									
HWA				S			**Sb**	**17 22 48.8**	**+0.1**
baz=250									
ENA	**Nanau**	**0.35**	**341**	⇓*i*P			**Pg**	**17 22 44.7**	**+0.2**
baz=337									
ENA				*i* S			**Sg**	**17 22 49.8**	**+0.6**
baz=337									
EWUT	**Wuta**	**0.35**	**347**	⇓*i*P			**Pg**	**17 22 45.0**	**+0.4**
baz=342									
EWUT				*i* S			**Sb**	**17 22 50.8**	**-0.4**
baz=342									
ETLH	**Xiulin Townshi**	**0.37**	**287**	⇓*i*P			**Pg**	**17 22 44.7**	**-0.2**
baz=288									
ETLH				*i* S			**Sg**	**17 22 50.0**	**+0.1**
baz=288									
ESL	**Shilin**	**0.49**	**234**	⇑*i*P			**Pg**	**17 22 47.5**	**+0.4**
baz=241									
ESL				*e*S			**Sb**	**17 22 54.5**	**-0.6**
baz=241									
TWC	**Suao**	**0.51**	**358**	⇓*i*P			**Pb**	**17 22 48.1**	**-0.3**
baz=351									
TWC				*e*S			**Sb**	**17 22 55.8**	**+0.1**
baz=351									
NDS	**Dongshan**	**0.55**	**346**	⇓*i*P			**Pg**	**17 22 48.7**	**+0.4**
baz=346									
NDS				S			**Sb**	**17 22 57.2**	**+0.3**
baz=346									
NNSB	**Datong**	**0.55**	**307**	⇓*i*P			**Pg**	**17 22 48.3**	**0.0**
baz=308									
NNSB				*i* S			**Sg**	**17 22 55.9**	**+0.2**
baz=308									
WHF	**Hehuan Shan**	**0.55**	**275**	⇓*i*P			**Pg**	**17 22 48.2**	**-0.2**
baz=276									
WHF				*e*S			**Sg**	**17 22 56.4**	**+0.6**
baz=276									
NNS	**Nan Shan**	**0.56**	**307**	⇓*i*P			**Pg**	**17 22 48.5**	**0.0**
baz=309									
NNS				S			**Sg**	**17 22 56.5**	**+0.4**
baz=309									
EGFH	**Guangfu**	**0.59**	**223**	P			**Pb**	**17 22 49.9**	**+0.2**
baz=232									
EGFH				*e*S			**Sb**	**17 22 57.7**	**-0.2**
baz=232									
FUSS	**Fushou**	**0.59**	**285**	⇓*i*P			**Pg**	**17 22 49.2**	**+0.2**
baz=286									
FUSS				S			**Sb**	**17 22 57.7**	**-0.5**
baz=286									
NDT	**Datong Townshi**	**0.60**	**327**	⇓*i*P			**Pg**	**17 22 49.6**	**+0.4**
baz=329									
NDT				S			**Sb**	**17 22 59.1**	**+0.9**
baz=329									
ENTT	**Nioudou**	**0.60**	**333**	⇓*i*P			**Pg**	**17 22 49.6**	**+0.3**
baz=335									
ENTT				*i* S			**Sb**	**17 22 58.3**	**-0.1**
baz=335									
CHGB	**Renai**	**0.63**	**267**	⇓*i*P			**Pg**	**17 22 50.1**	**+0.2**
baz=267									
CHGB				S			**Sg**	**17 22 57.5**	**-0.8**
baz=267									
TWE	**Neicheng**	**0.65**	**344**	⇓*i*P			**Pb**	**17 22 50.6**	**-0.1**
baz=346									
TWE				*i* S			**Sb**	**17 22 59.6**	**0.0**
baz=346									
OWD	**Renai**	**0.65**	**257**	⇓*i*P			**Pg**	**17 22 50.3**	**+0.1**
baz=257									
OWD				*e*S			**Sb**	**17 23 00.0**	**+0.3**
baz=257									
TWT	**Tachien**	**0.65**	**284**	⇓*i*P			**Pb**	**17 22 50.7**	**-0.1**
baz=293									
TWT				S			**Sb**	**17 22 59.5**	**-0.3**
baz=293									
TDCB	**Techi**	**0.66**	**284**	⇓*i*P			**Pg**	**17 22 50.8**	**+0.3**
baz=293									
TDCB				*e*S			**Sg**	**17 22 58.8**	**-0.5**
baz=293									
ILA	**Ilan**	**0.67**	**351**	P			**Pb**	**17 22 51.3**	**+0.2**
baz=345									
ILA				*e*S			**Sg**	**17 22 59.7**	**+0.2**
baz=345									
YHNB	**Yeheng**	**0.72**	**322**	⇓*i*P			**Pb**	**17 22 52.0**	**-0.1**
baz=322									
YHNB				S			**Sb**	**17 23 01.9**	**0.0**
baz=322									
YHNB	**Yeheng**	**0.72**	**322**				**Pb**	**17 22 51.9**	**-0.1**
HGSD	**Ruisui**	**0.73**	**214**	*e*P			**Pb**	**17 22 52.8**	**+0.8**
baz=213									
HGSD				*e*S			**Sn**	**17 23 04.7**	**+0.2**
baz=213									
NSK	**Sanguang**	**0.74**	**321**	⇓*i*P			**Pb**	**17 22 52.2**	**-0.1**
baz=322									
NSK				*e*S			**Sb**	**17 23 02.3**	**-0.1**
baz=322									
EGS		**0.75**	**5**	*e*P			**Pn**	**17 22 53.7**	**-0.1**
baz=5.0									
EGS				*e*S			**Sb**	**17 23 02.9**	**+0.4**
baz=5.0									
VWDT	**VWDT**	**0.75**	**243**	⇑*i*P			**Pb**	**17 22 52.4**	**0.0**
baz=242									
VWDT				S			**Sg**	**17 23 02.0**	**+0.2**
baz=242									
NWLT	**Wulai**	**0.75**	**334**	P			**Pb**	**17 22 52.6**	**+0.1**
baz=334									
NWLT				*e*S			**Sb**	**17 23 02.9**	**+0.2**
baz=334									
NTC	**Toucheng**	**0.75**	**358**	P			**Pb**	**17 22 52.7**	**+0.2**
baz=359									
EHY	**Hungye**	**0.77**	**220**	P			**Pg**	**17 22 52.7**	**+0.2**
baz=231									
EHY				*e*S			**Sn**	**17 23 05.7**	**+0.1**
baz=231									
WHP	**Taichung City**	**0.86**	**282**	⇑*i*P			**Pb**	**17 22 54.5**	**+0.2**
baz=290									
WHP				*i* S			**Sb**	**17 23 06.6**	**+0.8**
baz=290									
NFF	**Wufeng Townshi**	**0.86**	**308**	*e*P			**Pb**	**17 22 54.6**	**+0.1**
baz=308									
NFF				S			**Sg**	**17 23 05.0**	**-0.5**
baz=308									
TIPB	**Shuangxi**	**0.87**	**358**	⇑*i*P			**Pn**	**17 22 55.2**	**-0.4**
baz=348									
TIPB				S			**Sb**	**17 23 06.5**	**+0.3**
baz=348									
WCS	**Beigang Elemen**	**0.87**	**267**	⇑P			**Pg**	**17 22 54.5**	**+0.2**
baz=261									
WCS				S			**Sb**	**17 23 06.5**	**+0.4**
baz=261									
YULB	**Yu-li**	**0.88**	**217**	*e*P			**Pg**	**17 22 54.1**	**-0.3**
baz=227									
YULB				S			**Sg**	**17 23 05.3**	**-0.6**
baz=227									
YULB	**Yu-li**	**0.88**	**217**				**Pg**	**17 22 53.2**	**-1.2**
SSLB	**Suanglung**	**0.89**	**250**	⇑*i*P			**Pg**	**17 22 54.5**	**-0.2**
baz=259									
SSLB				S			**Sg**	**17 23 06.0**	**-0.4**
baz=259									
SSLB	**Suanglung**	**0.89**	**250**				**Pg**	**17 22 54.4**	**-0.3**
EYUL	**Yuli**	**0.90**	**214**	*e*P			**Pn**	**17 22 56.8**	**+0.9**
baz=230									
EYUL				*e*S			**Sn**	**17 23 10.1**	**+1.2**
baz=230									
SMLT	**Sun Moon Lake**	**0.91**	**257**	⇑*i*P			**Pg**	**17 22 55.1**	**0.0**
baz=257									
SMLT				S			**Sb**	**17 23 07.6**	**+0.3**
baz=257									
TWB1	**Santiao Chiao**	**0.91**	**7**	P			**Pn**	**17 22 56.4**	**+0.3**
baz=359									
TWB1				*e*S			**Sn**	**17 23 09.7**	**+0.6**
baz=359									
NHDH	**Xindian Distri**	**0.92**	**340**	⇑P			**Pn**	**17 22 55.8**	**-0.3**
baz=333									
NHDH				*e*S			**Sb**	**17 23 07.3**	**0.0**
baz=333									
TWA	**Mucha**	**0.92**	**344**	*e*P			**Pn**	**17 22 55.9**	**-0.2**
baz=337									
TWA				*e*S			**Sn**	**17 23 08.9**	**-0.3**
baz=337									
TATO	**Taipei**	**0.94**	**339**	Pn			**Pb**	**17 22 55.8**	**+0.1**
TYC	**Yuchr**	**0.94**	**258**	⇑*i*P			**Pg**	**17 22 55.4**	**-0.3**
baz=259									
TYC				*i* S			**Sb**	**17 23 08.2**	**+0.1**
baz=259									
LIOB	**Emei**	**0.95**	**305**	*i* P			**Pn**	**17 22 56.4**	**-0.2**
baz=306									
LIOB				S			**Sb**	**17 23 09.0**	**+0.7**
baz=306									
NSTT	**Nanjuang**	**0.95**	**304**	P			**Pg**	**17 22 56.0**	**+0.2**
baz=305									
NSTT				*i* S			**Sb**	**17 23 08.8**	**+0.4**
baz=305									
NWF	**Wu-fen Shan**	**0.97**	**355**	⇓*i*P			**Pn**	**17 22 57.1**	**+0.2**
baz=348									
NWF				*e*S			**Sn**	**17 23 10.6**	**-0.1**
baz=348									
TAP	**Taipei**	**0.99**	**341**	P			**Pn**	**17 22 57.5**	**+0.4**
baz=331									
TAP				*e*S			**Sg**	**17 23 10.2**	**+0.5**
baz=331									
TWQ1	**Liyutan**	**1.03**	**284**	*e*P			**Pn**	**17 22 58.0**	**+0.3**
baz=294									
TWQ1				S			**Sn**	**17 23 13.4**	**+1.5**
baz=294									
FULB	**Fuli**	**1.04**	**210**	*e*P			**Pn**	**17 22 57.9**	**0.0**
baz=196									
JYNG	**Yonagunijimaku**	**1.05**	**70**	P			**Pn**	**17 22 59.3**	**+1.4**
JYNG				*e*S			**Sn**	**17 23 14.9**	**+2.5**
NSY	**Sanyi**	**1.06**	**288**	⇑P			**Pn**	**17 22 58.9**	**+0.8**
baz=289									
NSY				*e*S			**Sn**	**17 23 14.0**	**+1.3**
baz=289									
SBCB	**Hsinchu**	**1.06**	**311**	*e*P			**Pn**	**17 22 58.7**	**+0.6**
baz=311									
SBCB				*e*S			**Sb**	**17 23 11.6**	**0.0**
baz=311									
NCU	**National Centr**	**1.06**	**325**	*e*P			**Pn**	**17 22 58.4**	**+0.2**
baz=324									
NCU				*e*S			**Sn**	**17 23 14.3**	**+1.4**
baz=324									
NCUH	**Zhongli**	**1.06**	**325**	P			**Pn**	**17 22 58.7**	**+0.5**
baz=324									
NCUH				*e*S			**Sn**	**17 23 14.7**	**+1.8**
baz=324									
NMLH	**Miaoli**	**1.07**	**294**	*e*P			**Pn**	**17 22 59.4**	**+1.1**
baz=295									
NMLH				*e*S			**Sn**	**17 23 13.7**	**+0.6**
baz=295									
HSN	**Hsinchu**	**1.08**	**311**	P			**Pn**	**17 22 59.1**	**+0.8**
baz=305									
HSN				*e*S			**Sn**	**17 23 14.0**	**+0.9**
baz=305									
WJS	**Zhushan**	**1.08**	**255**	P			**Pn**	**17 22 59.0**	**+0.6**
baz=256									
WJS				S			**Sn**	**17 23 14.1**	**+0.9**
baz=256									
YM01	**YM01**	**1.08**	**346**	P			**Pn**	**17 22 58.6**	**+0.2**
baz=344									
YM01				*e*S			**Sn**	**17 23 13.5**	**+0.3**
baz=344									
TWS1	**Kuangyinshan**	**1.08**	**338**	P			**Pn**	**17 22 59.1**	**+0.7**
baz=337									
TWS1				*e*S			**Sn**	**17 23 15.6**	**+2.4**
baz=337									
TCU	**Taichung**	**1.09**	**273**	*e*P			**Pg**	**17 23 00.1**	**+1.7**
baz=269									
TCU				S			**Sn**	**17 23 14.3**	**+0.8**
baz=269									
CHKT	**Chengkung**	**1.10**	**205**	*e*P			**Pb**	**17 22 58.1**	**-0.2**
baz=177									
CHKT				*e*S			**Sg**	**17 23 13.1**	**+0.2**
baz=177									
WNT	**Mingjian**	**1.10**	**259**	⇑*i*P			**Pg**	**17 22 59.4**	**+0.6**
baz=247									
WNT				S			**Sn**	**17 23 15.3**	**+1.5**
baz=247									
YOJ	**Yonaguni jima**	**1.11**	**71**	P			**Pg**	**17 23 00.0**	**+1.2**
YOJ				*e*S			**Sn**	**17 23 16.8**	**+2.9**
YOJ	**Yonaguni jima**	**1.11**	**71**	*e*P			**Pg**	**17 23 00.0**	**+1.2**
baz=75									
YOJ				*e*S			**Sn**	**17 23 15.6**	**+1.7**
baz=75									
YOJ	**Yonaguni jima**	**1.11**	**71**	Pn			**Pg**	**17 22 59.7**	**+0.8**
NTST	**Danshui**	**1.13**	**340**	*e*P			**Pg**	**17 22 59.8**	**+0.6**
baz=339									
NTST				*e*S			**Sn**	**17 23 17.4**	**+3.0**
baz=339									
ANP	**Anpu**	**1.13**	**344**	*e*P			**Pg**	**17 22 59.7**	**+0.5**
baz=344									
ALS	**Alishan**	**1.13**	**239**	⇑*i*P			**Pb**	**17 22 59.2**	**0.0**
baz=229									
ALS				*e*S			**Sb**	**17 23 13.8**	**-0.1**
baz=229									
WDJ	**Dajia District**	**1.15**	**283**	P			**Pg**	**17 23 00.6**	**+1.0**
baz=285									
WDJ				*e*S			**Sn**	**17 23 17.6**	**+2.7**
baz=285									
ELDTW	**Lidau**	**1.19**	**221**	*e*P			**Pn**	**17 22 58.7**	**-1.4**
baz=219									
WCHH	**Zhanghua**	**1.20**	**269**	*e*P			**Pg**	**17 23 01.1**	**+0.6**
baz=270									
WCHH				*e*S			**Sg**	**17 23 18.4**	**+2.3**
baz=270									
CHN5	**Tsauling**	**1.20**	**246**	*e*P			**Pg**	**17 23 00.7**	**+0.2**
baz=232									
CHN5				*e*S			**Sn**	**17 23 19.7**	**+3.4**
baz=232									
TWY	**Chenhua**	**1.20**	**348**	*e*P			**Pg**	**17 23 00.7**	**+0.2**
baz=328									
EDH	**Donghe**	**1.23**	**205**	*e*P			**Pb**	**17 23 01.0**	**+0.3**
baz=184									
WDLH	**Douliu**	**1.28**	**252**	*e*P			**Pg**	**17 23 02.0**	**-0.1**
baz=250									
STYH	**Taoyuan**	**1.36**	**227**	*e*P			**Pb**	**17 23 02.9**	**0.0**
baz=212									
LONT	**Longtian**	**1.37**	**210**	*e*P			**Pn**	**17 23 01.6**	**-0.8**
baz=209									
WRL	**Guolierlin Hig**	**1.38**	**262**	*e*P			**Pb**	**17 23 03.3**	**+0.2**
baz=262									
TPUB	**Ta-pu**	**1.38**	**235**	P			**Pb**	**17 23 03.7**	**+0.5**
baz=236									
TPUB				*e*S			**Sg**	**17 23 23.0**	**+0.9**
baz=236									
TPUB	**Ta-pu**	**1.38**	**235**	Pn			**Pn**	**17 23 02.4**	**-0.2**
CHN2	**Minshiung**	**1.39**	**246**	*e*P			**Pg**	**17 23 04.8**	**+0.5**
baz=245									
WTK	**Tuku**	**1.41**	**253**	*e*P			**Pg**	**17 23 04.3**	**-0.4**
baz=254									
WTK				*e*S			**Sg**	**17 23 23.6**	**+0.6**
baz=254									
WTP	**Ta-pu**	**1.43**	**234**	*e*P			**Pb**	**17 23 04.3**	**+0.2**
baz=234									
WTP				*e*S			**Sg**	**17 23 24.9**	**+1.4**
baz=234									
CHY	**Chiayi**	**1.45**	**246**	*e*P			**Pg**	**17 23 06.3**	**+1.0**
baz=247									
CHY				*e*S			**Sg**	**17 23 26.9**	**+2.6**
baz=247									
LDUT	**Ludao**	**1.47**	**194**	*e*P			**Pn**	**17 23 03.6**	**-0.1**
baz=177									
TWGBT	**Beinan**	**1.47**	**210**	*e*P			**Pn**	**17 23 02.9**	**-0.8**
baz=209									
TWG	**Pinlang**	**1.47**	**210**	Pn			**Pn**	**17 23 02.8**	**-0.9**
WTCT	**Ta-ch'eng**	**1.47**	**261**	*e*P			**Pb**	**17 23 04.9**	**+0.2**
baz=261									
WTCT				*e*S			**Sg**	**17 23 26.6**	**+1.8**
baz=261									
TTN	**Taitung**	**1.49**	**206**	*e*P			**Pn**	**17 23 04.4**	**+0.3**
baz=206									
TWK	**Hsinying**	**1.51**	**237**	*e*P			**Pg**	**17 23 06.1**	**-0.4**
baz=235									
CHN1	**Nanshi**	**1.53**	**234**	*e*P			**Pg**	**17 23 06.4**	**-0.5**
baz=232									
SNST	**Tainan City**	**1.53**	**235**	*e*P			**Pg**	**17 23 06.9**	**0.0**
baz=234									
PCYT	**Pengchaiyu**	**1.54**	**7**	*e*P			**Pb**	**17 23 05.8**	**-0.1**
baz=5.0									
SGST	**Jiashian**	**1.55**	**230**	*e*P			**Pb**	**17 23 05.7**	**-0.5**
baz=216									
SLGT	**Liugui**	**1.57**	**226**	*e*P			**Pb**	**17 23 07.0**	**+0.5**
baz=217									
SLGT				*e*S			**Sg**	**17 23 29.5**	**+1.4**
baz=217									
WSF	**Szhu**	**1.57**	**253**	*e*P			**Pb**	**17 23 06.8**	**+0.3**
baz=254									
WSF				*e*S			**Sg**	**17 23 29.3**	**+1.1**
baz=254									
WSL	**Shuilin Townsh**	**1.61**	**249**	*e*P			**Pb**	**17 23 07.0**	**-0.1**
baz=249									
WSL				*e*S			**Sg**	**17 23 29.5**	**+0.3**
baz=249									
ICHU	**Yijhu**	**1.63**	**244**	*e*P			**Pb**	**17 23 07.0**	**-0.5**
baz=244									
ICHU				*e*S			**Sg**	**17 23 30.5**	**+0.6**
baz=244									
CHN3	**Shinhua**	**1.71**	**234**	*e*P			**Pg**	**17 23 09.8**	**-0.6**
baz=235									
CHN3				*e*S			**Sg**	**17 23 34.9**	**+2.3**
baz=235									
ECL	**Taimali**	**1.71**	**209**	*e*P			**Pb**	**17 23 08.7**	**-0.2**
baz=191									
IRIF	**Iriomote-Funau**	**1.72**	**82**	P			**Pb**	**17 23 08.8**	**-0.2**
IRIF				*e*S			**Sg**	**17 23 32.9**	**+0.1**
SHHT	**Tainan City**	**1.76**	**233**	*e*P			**Pg**	**17 23 10.8**	**-0.5**
baz=232									
SSD	**Sandimen**	**1.76**	**220**	*e*P			**Pb**	**17 23 09.7**	**0.0**
baz=223									
SSD				*e*S			**Sg**	**17 23 34.8**	**+0.7**
baz=223									
HATJ	**Hateruma jima**	**1.77**	**91**	P			**Pb**	**17 23 10.6**	**+0.7**
HATJ				*e*S			**Sg**	**17 23 34.3**	**-0.3**
TSMG	**Majia**	**1.78**	**219**	*e*P			**Pb**	**17 23 10.2**	**+0.1**
baz=210									
SCLT	**Jiali**	**1.79**	**239**	*e*P			**Pg**	**17 23 11.3**	**-0.5**
baz=238									
TWM1	**Shoushan**	**1.83**	**227**	*e*P			**Pg**	**17 23 12.3**	**-0.4**
baz=225									
SGLT	**Jiouru**	**1.86**	**223**	*e*P			**Pb**	**17 23 11.9**	**+0.5**
baz=222									
MASBT	**Mashibuluo**	**1.86**	**218**	*e*P			**Pn**	**17 23 10.2**	**+1.0**
baz=207									
SNJT	**Kaohsiung City**	**1.94**	**227**	*e*P			**Pb**	**17 23 12.1**	**-0.7**
baz=226									
EAST	**Anshuo**	**1.95**	**209**	*e*P			**Pn**	**17 23 10.7**	**+0.3**
baz=192									
JKRS	**Kuro-shima**	**1.96**	**86**	P			**Pb**	**17 23 12.7**	**-0.4**
JKRS				*e*S			**Sb**	**17 23 38.8**	**+1.3**
TAWH	**Dawu Township**	**1.97**	**207**	*e*P			**Pn**	**17 23 11.4**	**+0.8**
baz=208									
SSPT	**Xinbi**	**2.00**	**217**	*e*P			**Pb**

AXDP Jialang 3.64 283 *eP* **Pn 17 23 33.8 +0.2**
baz=283
ZPLA Ao Xicun 3.77 268 *eP* **Pn 17 23 35.0 -0.3**
baz=267
JOW Kunigami 6.40 63 Pn **Pn 17 24 10.8 -0.8**
2.7nm,0.3s,baz=130,slow=20,SNR=7.2
JOW Kunigami 6.40 63 Pn 17 24 12.5 +1.0
NJ2 Nanjing 8.36 342 *eP* **Pn 17 24 34.4 -4.0**
NJ2 S **Sn 17 26 10.9 -1.8**
NJ2 pmax pmax
comp=Z,12nm,0.8s
NJ2 smax smax
comp=N,61nm,0.8s
NJ2 smax smax
comp=E,72nm,0.9s
NJ2 LR LR
comp=N,680nm,6.2s
NJ2 LR LR
comp=E,190nm,6.2s
NJ2 LR LR
comp=Z,570nm,10.4s
CNSH ChangSha 9.00 299 ⇑P **Pn 17 24 42.5 -4.7**
CNSH S **Sn 17 26 22.8 -5.7**
CNSH smax smax
comp=N,210nm,0.9s
CNSH smax smax
comp=E,120nm,1.0s
GYA Guiyang 13.95 283 ⇓P **Pn 17 25 56.8 +1.6**
GYA S **Sn 17 28 34.1 +4.0**
GYA pmax pmax
comp=E,7.0nm,1.3s
GYA pmax pmax
comp=E,110nm,3.6s
GYA LR LR
comp=E,250nm,7.5s
GYA LR LR
comp=E,620nm,8.0s
GYA LR LR
comp=E,680nm,9.7s
KSRS Korea Array 14.29 20 Pn **Pn 17 25 58.5 -1.0**
comp=E,0.1nm,0.3s,baz=205,slow=13,SNR=2.4
KSRS LR LR 17 32 29.1
comp=E,68nm,20.8s,baz=195,slow=42
DAV Davao City (W) 17.30 168 LR LR 17 33 48.4
comp=E,40nm,18.9s,baz=3.0,slow=39
PZH PanZhiHua 18.35 282 P **P 17 26 53.8 +1.7**
PZH S **Sn 17 30 13.8 -3.2**
PZH pmax pmax
comp=E,10.0nm,0.6s
PZH pmax pmax
comp=E,140nm,4.5s
PZH LR LR
comp=E,220nm,13.1s
PZH LR LR
comp=E,370nm,14.1s
PZH LR LR
comp=E,330nm,11.0s
CMAR Chiang Mai Arr 22.07 260 P **P 17 27 34.5 +2.1**
comp=E,0.6nm,0.7s,baz=59,slow=8.4,SNR=7.0
CMAR Chiang Mai Arr 22.07 260 P **P 17 27 31.1 -1.3**
GTA Gaotai 24.09 315 *eP* **P 17 27 54.0 +1.0**
GTA pP sP 17 28 01.0 +3.5
GTA sP pP 17 28 04.6 +8.1
GTA pmax pmax
comp=E,2.0nm,0.9s
GTA pmax pmax
comp=E,79nm,5.5s
GTA LR LR
comp=E,130nm,14.9s
GTA LR LR
comp=E,220nm,13.4s
GTA LR LR
comp=E,270nm,13.5s
GUMO Guam 24.11 112 LR LR 17 36 23.5
comp=E,7.2nm,20.1s,baz=116,slow=34
KLR Kul'dur 26.26 15 P **P 17 28 11.7 -0.8**
comp=E,2.0nm,0.8s,baz=247,slow=9.0,SNR=6.1
ULN Ulaanbaatar 26.48 337 P **P 17 28 15.0 +0.4**
ULN IAmb IAmb 17 28 42.9
comp=Z,6.9nm,1.4s
SONM Songino Array 26.69 336 P **P 17 28 16.7 +0.2**
comp=Z,2.0nm,1.0s,baz=157,slow=8.8,SNR=9.7
SONM LR LR 17 40 16.2
comp=Z,88nm,18.4s,baz=142,slow=40
SONM Songino Array 26.69 336 P **P 17 28 16.5 0.0**
SONM IAmb IAmb 17 28 20.8
comp=Z,6.3nm,1.4s
LSA Lhasa 27.91 288 P **P 17 28 29.1 +1.1**
LSA IAmb IAmb 17 28 42.8
comp=Z,2.9nm,0.9s
WMQ Urumqi 34.16 314 *eP* **P 17 29 25.0 +2.5**
WMQ LR LR
comp=Z,170nm,14.9s
WMQ LR LR
comp=Z,130nm,14.9s
MK31 Makanchi Array 38.83 316 P **P 17 30 02.2 -0.1**
MKAR Makanchi Array 38.83 316 P **P 17 30 02.2 -0.1**
comp=Z,1.7nm,0.7s,baz=103,slow=10,SNR=24
MKAR Makanchi Array 38.83 316 P **P 17 30 02.0 -0.3**
MAKZ Makanchi 39.04 316 P **P 17 30 03.7 -0.3**
MAKZ IAmb IAmb 17 30 05.6
comp=Z,4.0nm,0.9s
ZAA0 Zalesovo Array 40.66 327 P **P 17 30 16.6 -0.7**
ZAA0 IAmb IAmb 17 30 18.1
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 40.66 327 P **P 17 30 17.1 -0.2**
comp=Z,3.3nm,0.9s,baz=111,slow=8.1,SNR=14
ZALV Zalesovo Beam 40.66 327 P **P 17 30 15.8 -1.5**
KURK Kurchatov 42.56 320 P **P 17 30 33.2 +0.2**
KURBB Kurchatov Arra 42.58 320 P **P 17 30 33.5 +0.4**
comp=Z,1.4nm,0.9s,baz=106,slow=6.9,SNR=7.8
WRA Warramunga Arr 45.43 163 P **P 17 30 55.3 -1.0**
comp=Z,0.6nm,0.6s,baz=345,slow=8.7,SNR=7.8
WRA Warramunga Arr 45.43 163 IAmb IAmb 17 30 57.9
comp=Z,0.2nm,1.3s
KKAR Karatay Array 46.02 307 P **P 17 31 01.0 +0.2**
TIXI Tiksi 47.74 3 P **P 17 31 11.6 -2.2**
BVAR Borovoye Array 48.13 321 P **P 17 31 17.6 +0.5**
comp=Z,1.0nm,0.6s,baz=96,slow=11,SNR=7.8
BRVK Borovoye 48.20 321 P 17 31 16.3 -1.4
BRVK IAmb IAmb 17 31 18.9
comp=Z,2.8nm,0.8s
ASAR Alice Springs 48.90 165 P **P 17 31 23.6 +0.2**
comp=Z,0.4nm,0.7s,baz=337,slow=6.9,SNR=6.6
ABKAR Akbulak array 53.95 314 P **P 17 32 01.0 +0.1**
ABKAR IAmb IAmb 17 32 02.3
comp=Z,1.9nm,0.8s
ABKAR Akbulak array 53.95 314 P **P 17 32 00.6 -0.3**
ILAR Eielson Array 69.00 27 P **P 17 33 41.5 -1.0**
comp=Z,0.2nm,0.5s,baz=284,slow=6.2,SNR=4.6
BMAR Burnt Mountain 69.35 24 P **P 17 33 44.3 -0.3**
L27K Beaver Creek, 71.59 28 P **P 17 33 57.0 -1.4**
BCAR Beaver Creek A 71.61 28 P **P 17 33 57.6 -0.9**
M27K Edge Creek, AK 71.78 29 P **P 17 33 58.0 -1.6**
M27K IAmb IAmb 17 34 03.6
comp=Z,4.8nm,1.2s
FINES FINESS Array B 71.83 330 P **P 17 33 59.1 -0.7**
comp=Z,1.6nm,0.9s,baz=64,slow=9.4,SNR=1.5
FINES FINESS Array B 71.83 330 P **P 17 33 59.8 0.0**
CTGM Chitina Glacie 72.44 31 P **P 17 34 03.0 -0.6**
MLR Muntele Rosu 77.16 314 LR LR 18 12 52.3
comp=Z,53nm,18.9s,baz=350,slow=39
YKA Yellowknife Ar 82.81 23 P **P 17 35 00.2 -1.0**
comp=Z,0.9nm,0.5s,baz=313,slow=4.9,SNR=17
BORG Borgarnes 86.97 345 LR LR 18 17 27.7
comp=Z,43nm,19.0s,baz=269,slow=38
EKA Eskdalemuir Ar 88.08 332 LR LR 18 19 14.7
comp=Z,72nm,18.6s,baz=171,slow=39

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*PRE **13** 17:23:53.7±1.1,26°.94S×26°.75E,h2km,ML2.6*
*BUL **13** 17:23:58.6±1.3,26°.94S×26°.71E,h8km±13km,MD3.6*
*EAF **13** 17:23:58.5±1.4,26°.94S×26°.72E,h8km±13km,MD3.5*
ISC 13 17:23:55.4±1.3,**26°.90S**±0°.04×**26.75E**±0°.03,**h2**km±11km,
n17,σ1§77/30,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.54**	**93**	*eP*	**Pg**	**17 24 04.1**	**-1.8**
PRYS				*eS*	**Sg**	**17 24 12.2**	**-0.7**
PRYS				IAML		17 24 16.9	
comp=Z,187nm,0.9s							
KSR	**Koster**	**1.05**	**7**	*eP*	**Pg**	**17 24 15.6**	**+0.1**
KSR				*eS*	**Sb**	**17 24 30.0**	**-0.6**
KSR				IAML		17 24 36.2	
comp=Z,343nm,0.2s							
SWZ	**Schweizer**	**1.30**	**257**	*eP*	**Pg**	**17 24 18.7**	**-1.6**
SWZ				*eS*	**Sg**	**17 24 35.8**	**-1.4**
SWZ				IAML		17 24 41.9	
comp=Z,130nm,0.2s							
HRAO	**HartRAO**	**1.30**	**40**	*eP*	**Pg**	**17 24 19.6**	**-0.8**
HRAO				*eS*	**Sg**	**17 24 37.8**	**+0.4**
HRAO				IAML		17 24 41.5	
comp=Z,72nm,0.2s							
SLR	**Silverton**	**1.79**	**50**	*eP*	**Pn**	**17 24 27.7**	**+0.2**
SLR				*eS*	**Sn**	**17 24 50.7**	**-0.3**
SLR				IAML		17 24 54.8	
comp=Z,70nm,0.3s							
LBTB	**Lobatse**	**2.14**	**331**	*i* P	**Pb**	**17 24 35.5**	**+0.5**
LBTB				*i* Sg	**Sg**	**17 25 05.6**	**+1.3**
LBTB	**Lobatse**	**2.14**	**331**	*i* P	**Pb**	**17 24 35.5**	**+0.5**
LBTB				*i* Sg	**Sg**	**17 25 05.6**	**+1.3**
BOSA	**Boshof**	**2.17**	**217**	*i* P	**Pn**	**17 24 33.9**	**+1.3**
BOSA				*i* Sg	**Sb**	**17 25 03.8**	**+1.1**
BOSA	**Boshof**	**2.17**	**217**	*i* P	**Pn**	**17 24 33.9**	**+1.3**
BOSA				*i* Sg	**Sb**	**17 25 03.8**	**+1.1**
CNG	**Changalane**	**4.90**	**84**	*i* P	**Pn**	**17 25 13.2**	**+3.1**
CNG				*i* S	**Sn**	**17 26 06.6**	**-0.9**
CNG	**Changalane**	**4.90**	**84**	*i* P	**Pn**	**17 25 13.2**	**+3.1**
CNG				*i* S	**Sn**	**17 26 06.6**	**-0.9**
MOPA	**Mopani**	**5.39**	**52**	*i* P	**Pn**	**17 25 18.7**	**+1.9**
MOPA				*i* S	**Sn**	**17 26 17.8**	**-1.7**
MOPA	**Mopani**	**5.39**	**52**	*i* P	**Pn**	**17 25 18.7**	**+1.9**
MOPA				*i* S	**Sn**	**17 26 17.8**	**-1.7**
MSNA	**Messina**	**5.42**	**34**	*i* S	**Sn**	**17 26 17.6**	**-2.7**
MSNA	**Messina**	**5.42**	**34**	*i* S	**Sn**	**17 26 17.6**	**-2.7**
MATP	**Matopo**	**6.64**	**14**	*i* S	**Sn**	**17 26 47.7**	**-2.7**
MATP	**Matopo**	**6.64**	**14**	*i* S	**Sn**	**17 26 47.7**	**-2.7**

IDC 13 17:29:43.2±2.7,**3°.33S**×**135°.34E,h0**km,**mb3.4**/2,
mb1 3.7/4,**mb1mx3.5**/28,**mbtmp3.5**/4,**ML3.4**/2,**Error**
ellipse: s-maj=82.4km s-min=27.7km az=70.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.75**	**301**	Pn	Pn	17 30 54.1	-2.0
1.6nm,0.3s,baz=169,slow=23,SNR=16							
SIJI				Sn	Sn	17 31 44.9	-7.1
1.5nm,0.3s,baz=323,slow=23,SNR=14							
WRA	**Warramunga Arr**	**16.54**	**183**	Pn	P	17 33 38.6	-0.9
0.2nm,0.3s,baz=5.1,slow=12,SNR=15							
ASAR	**Alice Springs**	**20.26**	**184**	P	P	17 34 19.6	-0.9
1.2nm,0.6s,baz=5.9,slow=11,SNR=20							
MKAR	**Makanchi Array**	**68.26**	**324**	P	P	17 40 46.8	+0.7
0.3nm,0.6s,baz=123,slow=8.1,SNR=4.0							

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*MOS **13** 18:08:21.6±1.5,49°.53N×156°.01E,h63km,mb4.4/1,Error*
ellipse: s-maj=20.7km s-min=4.5km az=72.0
*KRSC **13** 18:08:23.1±1.7,49°.72N×156°.90E,h15km±24km,ML4.2*
*IDC **13** 18:08:26.0±3.2,49°.80N×155°.94E,h80km±29km,mb3.0/6,*
mb1 3.2/8,mb1mx3.0/42,mbtmp3.3/8,MS2.3/1,Ms1 2.3/1,
ms1mx2.0/16,Error ellipse: s-maj=34.0km s-min=20.3km
az=135.0
ISC 13 18:08:22.4±0.8,**49°.46N**±0°.08×**156°.40E**±0°.09,**h57**km,**n67,**
σ2§10/78,mb3.1/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.24**	**352**	PN	**Pn**	**18 08 41.5**	**-2.0**
SKR				S	**Sn**	**18 08 55.6**	**-3.7**
SKR	**Severo-Kuril's**	**1.24**	**352**	*eP*	**Pn**	**18 08 41.5**	**-2.0**
SKR				*eS*	**Sn**	**18 08 55.6**	**-3.7**
PAU	**Pauzhetka**	**2.03**	**7**	PN	**Pn**	**18 08 53.4**	**-0.8**
PAU				S	**Sn**	**18 09 16.5**	**-1.9**
PAU	**Pauzhetka**	**2.03**	**7**	*eP*	**Pn**	**18 08 53.4**	**-0.8**
PAU				*eS*	**Sn**	**18 09 16.5**	**-1.9**
KDTR	**Khodutka, Kamc**	**2.59**	**24**	PN	**Pn**	**18 09 01.2**	**-0.6**
KDTR				S	**Sn**	**18 09 29.9**	**-2.1**
KDTR	**Khodutka, Kamc**	**2.59**	**24**	*eP*	**Pn**	**18 09 01.2**	**-0.6**
KDTR				*eS*	**Sn**	**18 09 29.9**	**-2.1**
RUS	**Russkaya**	**3.27**	**23**	PN	**Pn**	**18 09 10.9**	**-0.2**
RUS				S	**Sn**	**18 09 46.0**	**-2.6**
RUS	**Russkaya**	**3.27**	**23**	*eP*	**Pn**	**18 09 10.9**	**-0.2**
RUS				*eS*	**Sn**	**18 09 46.0**	**-2.6**
GRL	**Gorelyy**	**3.27**	**18**	PN	**Pn**	**18 09 11.7**	**+0.4**
GRL				S	**Sn**	**18 09 48.2**	**-0.9**
GRL	**Gorelyy**	**3.27**	**18**	*eP*	**Pn**	**18 09 11.7**	**+0.4**
GRL				*eS*	**Sn**	**18 09 48.2**	**-0.9**
APC	**Apacha**	**3.51**	**7**	PN	**Pn**	**18 09 17.0**	**+2.7**
APC	**Apacha**	**3.51**	**7**	*eP*	**Pn**	**18 09 17.0**	**+2.7**
KRMR	**Karymshinskiy**	**3.55**	**17**	PN	**Pn**	**18 09 15.6**	**+0.7**
KRMR				S	**Sn**	**18 09 54.0**	**-1.6**
KRMR	**Karymshinskiy**	**3.55**	**17**	*eP*	**Pn**	**18 09 15.6**	**+0.7**
KRMR				*eS*	**Sn**	**18 09 54.0**	**-1.6**
PETK	**Petropavlovsk-**	**3.75**	**12**	P	**Pn**	**18 09 17.8**	**+0.2**
0.8nm,0.3s,baz=268,slow=17,SNR=23							
PETK				S	**Sn**	**18 10 07.2**	**+6.7**
0.7nm,0.3s,baz=154,slow=15,SNR=1.3							
PETK				LR	LR	18 11 02.4	
comp=Z,43nm,19.6s,baz=319,slow=45							
PET	**Petropavlovsk**	**3.84**	**21**	*e*PN	**Pn**	**18 09 22.9**	**+4.0**
PET				*eS*	**Sn**	**18 10 01.9**	**-0.9**
PET				smax	smax		
comp=N,71nm,0.5s							
PET				smax	smax		
comp=E,123nm,0.5s							
PET	**Petropavlovsk**	**3.84**	**21**	*eP*	**Pn**	**18 09 20.1**	**+1.2**
PET				*eS*	**Sn**	**18 10 03.0**	**+0.2**
DALK	**Dalny**	**3.87**	**22**	PN	**Pn**	**18 09 20.3**	**+1.0**
DALK				S	**Sn**	**18 10 03.7**	**+0.2**
DALK	**Dalny**	**3.87**	**22**	*eP*	**Pn**	**18 09 20.3**	**+1.0**
DALK				*eS*	**Sn**	**18 10 03.7**	**+0.2**
UGLR	**Uglovaya**	**4.05**	**21**	PN	**Pn**	**18 09 23.8**	**+1.9**
UGLR	**Uglovaya**	**4.05**	**21**	*eP*	**Pn**	**18 09 23.8**	**+1.9**
AVH	**Avacha**	**4.08**	**20**	PN	**Pn**	**18 09 24.4**	**+2.0**
AVH	**Avacha**	**4.08**	**20**	*eP*	**Pn**	**18 09 24.4**	**+2.0**
KOK	**Koryaka**	**4.09**	**19**	PN	**Pn**	**18 09 24.5**	**+2.1**
KOK	**Koryaka**	**4.09**	**19**	*eP*	**Pn**	**18 09 24.5**	**+2.1**
SMAR	**Somma**	**4.10**	**21**	PN	**Pn**	**18 09 24.9**	**+2.2**
SMAR	**Somma**	**4.10**	**21**	*eP*	**Pn**	**18 09 24.9**	**+2.2**
KRER	**Koryakskii**	**4.12**	**20**	PN	**Pn**	**18 09 24.5**	**+1.5**
KRER	**Koryakskii**	**4.12**	**20**	*eP*	**Pn**	**18 09 24.5**	**+1.5**
SDLR	**Sedlovina**	**4.13**	**21**	PN	**Pn**	**18 09 24.2**	**+1.2**
SDLR	**Sedlovina**	**4.13**	**21**	*eP*	**Pn**	**18 09 24.2**	**+1.2**
NLC	**Nalytchevo**	**4.15**	**25**	PN	**Pn**	**18 09 24.5**	**+1.3**
NLC	**Nalytchevo**	**4.15**	**25**	P	**Pn**	**18 09 24.5**	**+1.3**
NLC				S	**Sn**	**18 10 07.9**	**-2.5**
SPN	**Mys Shipunski**	**4.30**	**31**	PN	**Pn**	**18 09 25.3**	**+0.1**
SPN	**Mys Shipunski**	**4.30**	**31**	*eP*	**Pn**	**18 09 25.3**	**+0.1**
SPN				*eS*	**Sn**	**18 10 12.2**	**-1.7**
GNL	**Ganaly**	**4.35**	**12**	PN	**Pn**	**18 09 28.6**	**+2.6**
GNL	**Ganaly**	**4.35**	**12**	*eP*	**Pn**	**18 09 28.6**	**+2.6**
MKZ	**Mys Kozlova**	**6.07**	**31**	PN	**Pn**	**18 09 50.8**	**+1.3**
MKZ	**Mys Kozlova**	**6.07**	**31**	P	**Pn**	**18 09 50.8**	**+1.3**
TUMD	**Tumrok D**	**6.25**	**22**	P	**Pn**	**18 09 55.0**	**+3.0**
TUMR	**Tumrok**	**6.27**	**20**	PN	**Pn**	**18 09 55.1**	**+2.8**
TUMR	**Tumrok**	**6.27**	**20**	P	**Pn**	**18 09 55.1**	**+2.8**
KMNR	**Kamenistaya**	**6.73**	**19**	PN	**Pn**	**18 10 01.2**	**+2.7**
KMNR	**Kamenistaya**	**6.73**	**19**	*eP*	**Pn**	**18 10 01.2**	**+2.7**
KUR	**Kuril'sk**	**7.17**	**237**	*e*PN	**Pn**	**18 10 05.9**	**+1.3**
KUR				S	**Sn**	**18 11 27.7**	**+3.1**
KBTR	**Krutoberegovo**	**7.80**	**27**	PN	**Pn**	**18 10 14.9**	**+1.8**
KBTR	**Krutoberegovo**	**7.80**	**27**	*eP*	**Pn**	**18 10 14.9**	**+1.8**
SHO	**Shikotan**	**8.63**	**233**	*e*PN	**Pn**	**18 10 21.6**	**-2.9**
YUK	**Yuzh-Kuril'sk**	**9.04**	**237**	*e*PN	**Pn**	**18 10 28.9**	**-1.2**
NMR	**Nemuro--Hokkai**	**9.56**	**234**	*e*PN	**Pn**	**18 10 33.8**	**-3.4**
ASAJ	**Asahikawa**	**10.86**	**246**	P	**Pn**	**18 10 56.7**	**+1.7**
comp=E,0.2nm,0.3s,baz=68,slow=16,SNR=1.6							
TIXI	**Tiksi**	**25.58**	**340**	P	**P**	**18 13 43.2**	**-2.4**
comp=E,0.9nm,0.5s,baz=130,slow=12,SNR=8.2							
H11N2	**WAKE ISLAND Hy**	**30.83**	**160**	T	T	18 47 25.7	
baz=347,slow=77,SNR=9.9							
H11N1	**WAKE ISLAND Hy**	**30.84**	**160**	T	T	18 47 27.0	
baz=347,slow=77,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**30.84**	**160**	T	T	18 47 30.4	
baz=347,slow=77,SNR=16							
H11S1	**WAKE ISLAND Hy**	**31.97**	**161**	T	T	18 49 01.6	
baz=347,slow=76,SNR=126							
H11S3	**WAKE ISLAND Hy**	**31.98**	**161**	T	T	18 48 50.4	
baz=347,slow=76,SNR=169							
H11S2	**WAKE ISLAND Hy**	**31.99**	**161**	T	T	18 48 53.5	
baz=347,slow=76,SNR=96							
ILAR	**Eielson Array**	**33.06**	**41**	P	**P**	**18 14 53.2**	**+1.1**
comp=E,0.1nm,0.4s,baz=255,slow=7.5,SNR=1.6							
MKAR	**Makanchi Array**	**47.68**	**297**	P	**P**	**18 16 50.7**	**-2.2**
comp=E,0.1nm,0.4s,baz=56,slow=7.7,SNR=1.9							
CMAR	**Chiang Mai Arr**	**55.14**	**257**	P	**P**	**18 17 48.1**	**-0.8**
comp=E,0.2nm,0.4s,baz=37,slow=6.6,SNR=4.2							
TXAR	**Lajitas Array**	**74.27**	**63**	P	**P**	**18 19 54.9**	**+1.3**
comp=E,0.1nm,0.5s,baz=294,slow=6.6,SNR=2.3							
ASAR	**Alice Springs**	**75.50**	**201**	P	**P**	**18 20 03.0**	**+2.6**
comp=E,0.2nm,0.7s,baz=14,slow=5.6,SNR=4.7							
ASAR	**Alice Springs**	**75.50**	**201**	P	**P**	**18 20 03.0**	**+2.6**
H03N2	**Juan Fernandez**	**136.55**	**90**	T	T	20 59 42.8	
baz=312,slow=77,SNR=11							
H03N1	**Juan Fernandez**	**136.56**	**90**	T	T	20 59 47.5	
baz=312,slow=77,SNR=12							
H03N3	**Juan Fernandez**	**136.56**	**90**	T	T	20 59 47.9	
baz=312,slow=77,SNR=14							

IDC 13 18:09:29.6±2.0,**3°.84N**×**127°.65E,h0**km,**mb3.1**/3,
mb1 3.4/3,**mb1mx3.0**/40,**mbtmp3.1**/3,**Error ellipse:**
s-maj=173.1km s-min=18.2km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.53**	**165**	P	P	18 14 51.0	-0.2
0.6nm,0.7s,baz=344,slow=10,SNR=6.7							
ASAR	**Alice Springs**	**28.01**	**168**	P	P	18 15 23.1	+0.5
0.2nm,0.8s,baz=345,slow=11,SNR=1.9							
MKAR	**Makanchi Array**	**57.99**	**325**	P	P	18 19 24.1	-0.1
0.1nm,0.5s,baz=115,slow=9.4,SNR=1.2							

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*TUL **13** 18:22:31.1±1.2,36°.95N±0°.01×97°.83W±0°.02,h5km±7km,*
ML3.0,mb_Lg2.7/26(NEIC),Error ellipse: s-maj=3.0km
s-min=1.6km az=113.0
NEIC 13 18:22:31.2±0.8,**36°.93N**±0°.02×**97°.82W**±0°.03,**h5**km±7km,
Error ellipse: s-maj=3.2km s-min=2.2km az=72.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GC02	**Grant County #**	**0.08**	**205**	Pg	Pg	18 22 33.5	+0.5
KAN14	**Manchester OK**	**0.12**	**285**	Pg	Pg	18 22 33.7	0.0
KAN17	**Caldwell West**	**0.13**	**19**	Pg	Pg	18 22 33.8	0.0
KAN01	**Argonia South**	**0.23**	**12**		Pg	18 22 35.7	-0.1
KAN13	**South Haven SW**	**0.29**	**72**	Pg	Pg	18 22 37.0	+0.2
KAN10	**Anthony SW Sta**	**0.30**	**312**	Pg	Pg	18 22 37.0	0.0
KAN06	**Argonia West S**	**0.33**	**354**		Pg	18 22 37.4	-0.1
KAN08	**Anthony NE Sta**	**0.33**	**338**		Pg	18 22 37.4	-0.1
OK032	**Salt Plains WL**	**0.34**	**249**	Pg	Pg	18 22 38.0	+0.2
KAN16	**Harper SW Stat**	**0.36**	**327**	Pg	Pg	18 22 38.1	-0.1
KAN12	**Harper NE Stat**	**0.40**	**339**	Pg	Pg	18 22 38.8	-0.2
CROK	**Carrier**	**0.44**	**198**	Pg	Pg	18 22 40.3	+0.6
BLOK	**Blackwell**	**0.51**	**109**	Pg	Pg	18 22 41.3	+0.3
T35A	**Sooner Cattle**	**1.05**	**90**		Pg	18 22 51.0	-0.2
U32A	**Winter Ranch,**	**1.10**	**241**		Pg	18 22 51.8	-0.4
OK033	**Mehan**	**1.13**	**141**		Pg	18 22 52.9	0.0
OK029	**Liberty Lake**	**1.16**	**165**		Pg	18 22 53.5	0.0
QUOK	**Quay**	**1.17**	**130**		Pg	18 22 53.5	-0.1
OK031	**S. Brethren Rd**	**1.25**	**141**		Pg	18 22 55.0	-0.2
OK034	**N. Norfolk Rd.**	**1.27**	**135**		Pg	18 22 55.3	-0.3
BCOK	**Bluff Creek, N**	**1.28**	**172**		Pg	18 22 55.3	-0.3
OK030	**Cody Creek RV**	**1.30**	**140**		Pn	18 22 55.7	-0.3
OK025	**Westminster Rd**	**1.40**	**164**		Pn	18 22 57.5	+0.1
OKCFA	**Oklahoma City**	**1.54**	**169**	IAmb_Lg		18 23 23.3	
comp=Z,52nm,0.9s							
OKCSW	**OKLAHOMA CITY**	**1.55**	**168**		Pn	18 22 59.6	+0.2
R32A	**Long Quarter,**	**1.66**	**335**		Pn	18 23 01.2	+0.3
FNO	**Franklin**	**1.70**	**168**	Pn	Pb	18 23 02.4	-0.5
TUL1	**Leonard**	**1.92**	**121**		Pb	18 23 05.7	-1.0
TUL1				IAmb_Lg		18 23 35.0	
comp=Z,46nm,0.8s							
W35A	**Tecumseh**	**1.93**	**156**		Pn	18 23 05.2	+0.6
WMOK	**Wichita Mounta**	**2.32**	**200**		Pn	18 23 10.5	+0.5
X34A	**Smith Ranch, M**	**2.32**	**180**		Pn	18 23 10.7	+0.7
KSU1	**Kansas State U**	**2.37**	**23**		Pn	18 23 11.4	+0.6
CBKS	**Cedar Bluff**	**2.42**	**322**		Pn	18 23 11.8	+0.3
X37A	**Clayton**	**3.06**	**139**	Pn	Pn	18 23 19.0	-1.3
X37A				IAmb_Lg		18 24 13.8	
comp=Z,24nm,0.8s							
HHAR	**Hobbs**	**3.19**	**100**	Pn	Pn	18 23 21.3	-0.6
AMTX	**Amarillo**	**3.74**	**238**	Pn	Pn	18 23 28.3	-1.4
AMTX				IAmb_Lg		18 24 36.4	
comp=Z,19nm,0.7s							
P38A	**Dawn**	**4.32**	**50**	IAmb_Lg		18 24 54.0	
comp=Z,12nm,0.7s							
Z38A	**Mt. Pleasant**	**4.33**	**147**	IAmb_Lg		18 24 50.6	
comp=Z,18nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.33**	**300**	IAmb_Lg		18 24 57.4	
comp=Z,15nm,0.7s							
MGMO	**Mountain Grove**	**4.45**	**85**	Pn	Pn	18 23 38.0	-1.3
MGMO				IAmb_Lg		18 24 53.4	
comp=Z,11nm,0.7s							
BGNE	**Belgrade**	**4.49**	**357**	IAmb_Lg		18 25 02.9	
comp=Z,22nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.71**	**101**	IAmb_Lg		18 24 59.1	
comp=Z,19nm,1.1s							
X40A	**Basin Creek Fa**	**4.73**	**119**	IAmb_Lg		18 25 02.1	
comp=Z,12nm,1.0s							
WHAR	**Wooly Hollow**	**4.76**	**108**	IAmb_Lg		18 25 07.2	
comp=Z,16nm,0.8s							
K31A	**O'Neill**	**5.74**	**353**	IAmb_Lg		18 25 34.5	
comp=Z,18nm,0.7s							
PBMO	**Poplar Bluff**	**5.93**	**89**	IAmb_Lg		18 25 44.2	
comp=Z,11nm,0.8s							

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*UCR **13** 18:25:45.8±1.0,12°.39N×89°.07W,h17km±3km,ML3.6*
*SNET **13** 18:25:45.6±1.1,12°.38N×89°.08W,h16km±4km,ML3.6*
*IDC **13** 18:25:52.7±4.0,13°.50N×87°.99W,h42km±46km,mb3.5/2,*
mb1 3.9/3,mb1mx3.1/47,mbtmp3.7/3,Error ellipse:
s-maj=128.3km s-min=34.1km az=50.0
ISC 13 18:25:50.1±1.2,**12°.52N**±0°.08×**89°.03W**±0°.05,**h40**km,**n58,**
σ1§56/66,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.92**	**29**	*eP*	**Pn**	**18 26 05.0**	**-1.6**
ALJI	**Alcalda de J**	**0.92**	**29**	*eP*	**Pn**	**18 26 05.0**	**-1.6**
LALI	**Alcalda de L**	**1.00**	**344**	*eP*	**Pn**	**18 26 05.7**	**-2.0**
LALI	**Alcalda de L**	**1.00**	**344**	*eP*	**Pn**	**18 26 05.7**	**-2.0**
TECO	**Alcaldia de Te**	**1.04**	**14**	*eP*	**Pn**	**18 26 06.8**	**-1.5**
TECO	**Alcaldia de Te**	**1.04**	**14**	*eP*	**Pn**	**18 26 06.8**	**-1.5**
JUCU	**Jucuarjn**	**

LCND	La Caada	1.36	55	eP	Pn	18 26 10.8	-1.9
LCND				eS	Sn	18 26 30.5	+1.0
LCND				IAML		18 26 38.4	
	comp=Z,748nm,0.4s						
LCND	La Caada	1.36	55	eP	Pn	18 26 10.8	-1.9
LCND				eS	Sn	18 26 30.5	+1.0
LCND				IAML		18 26 38.4	
	comp=Z,748nm,0.4s						
CNCH	Conchagua	1.39	57	eP	Pn	18 26 11.8	-1.3
CNCH	Conchagua	1.39	57	eP	Pn	18 26 11.8	-1.3
CEVE	Cerro Verde	1.42	336	eP	Pn	18 26 12.6	-1.1
CEVE				eS	Sn	18 26 34.3	+3.0
CEVE				IAML		18 26 38.7	
	comp=Z,2µm,0.4s						
CEVE	Cerro Verde	1.42	336	eP	Pn	18 26 12.6	-1.1
CEVE				eS	Sn	18 26 34.3	+3.0
CEVE				IAML		18 26 38.7	
	comp=Z,2µm,0.4s						
SBLS	San Blas	1.43	336	eP	Pn	18 26 12.7	-1.2
SBLS	San Blas	1.43	336	eP	Pn	18 26 12.7	-1.2
SNJE	San Jose	1.45	337	eP	Pn	18 26 13.1	-1.0
SNJE	San Jose	1.45	337	eP	Pn	18 26 13.1	-1.0
TACO	Tacachico	1.47	348	eP	Pn	18 26 13.0	-1.3
TACO	Tacachico	1.47	348	eP	Pn	18 26 13.0	-1.3
RTR	El Retiro	1.49	337	eP	Pn	18 26 13.2	-1.4
RTR	El Retiro	1.49	337	eP	Pn	18 26 13.2	-1.4
NUBE	Las Nubes	1.55	332	eP	Pn	18 26 14.2	-1.3
NUBE				eS	Sn	18 26 35.6	+1.1
NUBE				IAML		18 26 42.4	
	comp=Z,501nm,0.4s						
NUBE	Las Nubes	1.55	332	eP	Pn	18 26 14.2	-1.3
NUBE				eS	Sn	18 26 35.6	+1.1
NUBE				IAML		18 26 42.4	
	comp=Z,501nm,0.4s						
LLGN	La Laguna	1.63	3	eP	Pn	18 26 16.5	0.0
LLGN	La Laguna	1.63	3	eP	Pn	18 26 16.5	0.0
SLOZ	Alcaldia de Sa	1.67	334	eP	Pn	18 26 16.1	-0.8
MTO3	Montecristo	1.89	350	eP	Pn	18 26 19.5	-0.7
MTO3	Montecristo	1.89	350	eP	Pn	18 26 19.5	-0.7
TGUH	Tegucigalpa,Un	2.30	48	eP	Pn	18 26 24.7	-0.9
TGUH	Tegucigalpa,Un	2.30	48	eP	Pn	18 26 24.7	-0.9
JTS	Las Juntas de	4.57	119	P	Pn	18 26 56.4	-0.5
TXAR	Lajitas Array	21.56	323	P	P	18 30 37.0	+0.6
	comp=Z,3.4nm,0.7s,baz=146,slow=11,SNR=31						
YKA	Yellowknife Ar	53.15	345	P	P	18 35 01.4	-2.3
	comp=Z,0.5nm,0.8s,baz=140,slow=7.9,SNR=10						
WRA	Warramunga Arr	137.80	254	PKP	PKiKP	18 45 16.7	+3.6
	comp=Z,1.3nm,1.2s,baz=87,slow=1.9,SNR=2.7						
CMAR	Chiang Mai Arr	148.23	346	PKPbc	PKPbc	18 45 31.7	-1.1
	comp=Z,0.7nm,0.6s,baz=341,slow=3.6,SNR=5.1						

IDC 13 18:28:20.2±2.3, 5°.78S×132°.96E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.0/38, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=122.5km s-min=9.4km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.14	175	Pn	Pn	18 31 42.0	0.0
	0.3nm,0.3s,baz=351,slow=15,SNR=32						
WRA				Sn	Sn	18 34 05.3	-15
	0.6nm,0.3s,baz=341,slow=22,SNR=11						
ASAR	Alice Springs	17.81	177	P	Pn	18 32 29.8	+0.1
	0.2nm,0.3s,baz=342,slow=9.3,SNR=34						
ASAR				S	Sn	18 35 31.1	-18
	0.2nm,0.3s,baz=355,slow=28,SNR=5.8						
MKAR	Makanchi Array	68.86	325	P	P	18 39 26.6	-0.1
	0.1nm,0.3s,baz=115,slow=6.5,SNR=5.3						

*NEIC **13** 18:29:03.9±1.5, 21°.50S±0°.08×174°.0W±0°.1, h10km±1km, mb5.1/75, Error ellipse: s-maj=16.2km s-min=13.0km az=99.0*

*IDC **13** 18:29:05.9±0.5, 21°.87S×174°.42W, h0km, mb4.8/23, mb1 5.0/25, mb1mx4.7/45, mbtmp4.8/25, ML4.3/2, MS4.3/48, Ms1 4.3/48, ms1mx4.1/66, Error ellipse: s-maj=20.0km s-min=14.6km az=153.0*

*MOS **13** 18:29:07.0±2.8, 22°.08S×174°.32W, h27km, mb5.2/15, MS4.6/4, Error ellipse: s-maj=11.9km s-min=11.1km az=94.4*

*GCMT **13** 18:29:08.9±0.3, 22°.02S±0°.03×173°.78W±0°.02, h17km±1km, MW4.9/87, Moment Tensor Solution. s29,c36; s87,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.34±.15; $M_{\theta\theta}$-0.32±.09; $M_{\phi\phi}$-2.03±.09; $M_{r\theta}$0.50±.27; $M_{\theta\phi}$-0.30±.05; $M_{\phi r}$1.55±.21; Best double couple: $M_0$2.74500×10^{16} NP1:ϕ_s186.00000°, δ27.00000°, λ83.00000°. NP2: ϕ_s14.00000°, δ63.00000°, λ94.00000°. Principal axes: T 2.8800, Plg72.0000°, Azm292.0000°; N -0.2770, Plg3.0000°, Azm193.0000°; P -2.6100, Plg18.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **13** 18:29:09.8, 21°.79S×173°.61W, h65km, mb5.1/39, Tonga Islands*

*BGR **13** 18:29:10.8±0.0, 22°.67S×173°.89W, h33km, Ms4.8*

*BJI **13** 18:29:11.0±0.0, 22°.00S×174°.40W, h40km, mb4.9/38, mB5.5/25, Ms4.9/11, Ms7 4.7/11*

ISC 13 18:29:09.7±0.3, 22°.12S±0°.05×174°.32W±0°.06, h27km, n535, σ1$75/461, mb5.1/103, MS4.4/56, 48C-21D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.11	54	P	Pn	18 30 13.8	-11
	baz=4.4,SNR=35						
NIUE	Niue	5.11	54		Pn	18 30 12.9	-12
NIUE				Sn	Sn	18 31 04.9	-18
NIUE	Niue	5.11	54	P	Pn	18 30 14.6	-10
TAVE	Taveuni	7.54	315	P	Pn	18 30 59.7	+1.9
	179nm,0.9s						
RAO	Raoul Island	7.80	204	Sn	Sn	18 32 32.4	+3.5
	115nm,0.3s,baz=72,slow=22,SNR=4.6						
RAO	Raoul Island	7.80	204	P	Pn	18 30 59.5	-2.0
RAO						18 32 32.4	
RAO	Raoul Island	7.80	204	Pn	Pn	18 30 59.5	-2.0
DGTI	Dogotuki	8.07	315	P	Pn	18 31 06.6	+1.5
	125nm,1.0s						
MSVF	Nonsavu	8.40	300	Pn	Pn	18 31 11.8	+2.1
	3.8nm,0.3s,baz=122,slow=15,SNR=63						
MSVF				LR	LR	18 34 07.0	
	comp=Z,3µm,18.1s,baz=116,slow=37						
MSVF	Nonsavu	8.40	300	P	Pn	18 31 12.6	+2.8
MSVF	Nonsavu	8.40	300		Pn	18 31 12.6	+2.8
MSVF	Nonsavu	8.40	300	P	Pn	18 31 13.6	+3.8
	328nm,1.2s						
AFI	Afiamalu	8.52	17	Pn	Pn	18 31 02.2	-9.2
	7.8nm,0.3s,baz=63,slow=7.3,SNR=5.6						
AFI				Sn	Sn	18 32 30.1	-17
	11nm,0.3s,baz=268,slow=12,SNR=4.2						
AFI				LR	LR	18 34 13.3	
	comp=Z,1µm,18.8s,baz=190,slow=37						
RAR	Rarotonga	13.56	89	Pn	Pn	18 32 11.6	-8.7
	6.8nm,0.3s,baz=272,slow=8.0,SNR=16						
RAR				LR	LR	18 37 13.9	
	comp=Z,1µm,18.5s,baz=268,slow=36						
RAR	Rarotonga	13.56	89	Pn	Pn	18 32 07.1	-13
RAR	Rarotonga	13.56	89	P	Pn	18 32 09.9	-10
	188nm,0.9s						
MARNC	Mare, Loyalty	16.41	269	Pn	Pn	18 32 56.0	-2.1
PINNC	Pines Island,	16.88	265	Pn	Pn	18 33 00.9	-3.1
DVP	Devils Point	17.02	282	P	P	18 33 12.4	+4.9
	232µm,0.8s						
OUENC	Ouen Island, N	17.44	265	Pn	Pn	18 33 09.0	-2.2
OUENC	Ouen Island, N	17.44	265	P	P	18 33 17.3	+5.1
	38nm,1.1s						
URZ	Urewera	17.69	203	P	P	18 33 17.8	+3.0
	1.3nm,0.3s,baz=323,slow=1.8,SNR=6.4						
URZ				S	Sn	18 36 23.5	-6.8
	0.5nm,0.3s,baz=184,slow=21,SNR=2.2						
URZ	Urewera	17.69	203	P	Pn	18 33 12.4	-1.7
DZM	Mont Dzumac	17.83	267	P	P	18 33 16.7	+0.1
	0.9nm,0.3s,baz=81,slow=19,SNR=12						
DZM				LR	LR	18 37 35.1	
	comp=Z,430nm,20.0s,baz=118,slow=29						
DZM	Mont Dzumac	17.83	267	eP	P	18 33 17.8	+1.2
	70nm,1.2s						
DZM				eLR	LR	18 37 32.3	
	comp=Z,967nm,23.3s						
DZM	Mont Dzumac	17.83	267	P	Pn	18 33 13.6	-2.4
DZM	Mont Dzumac	17.83	267	P	P	18 33 21.3	+4.7
	27nm,0.8s						
NOUC	Port Laguerre	17.96	266	P	P	18 33 23.6	+5.7
	35nm,1.0s						
SANVU	Saraoutou	18.70	288	P	P	18 33 20.2	-6.0
SANVU				IAmb	IAmb	18 33 48.1	
	comp=Z,166nm,1.3s						
SANVU	Saraoutou	18.70	288	P	Pn	18 33 29.0	+2.4
	comp=Z,101nm,1.1s						
KOUNC	Koumac, New Ca	19.99	271	P	Pn	18 33 43.6	+1.6
	comp=Z,53nm,1.0s						
BFZ	Birch Farm	20.15	201	P	P	18 33 43.1	+1.3
BFZ				IAmb	IAmb	18 33 59.9	
	comp=Z,67nm,1.1s						
BFZ	Birch Farm	20.15	201	P	Pn	18 33 45.4	+1.6
	comp=Z,63nm,0.9s						
TUWZ	Tuamarina	21.64	205	P	P	18 33 58.0	+0.2
TBI	Tubuai	22.95	98	eLR	LR	18 39 31.9	
	comp=Z,1µm,28.0s,baz=265						
LTZ	Lake Taylor	23.44	205	P	P	18 34 15.8	-1.0
LTZ				IAmb	IAmb	18 34 28.1	
	comp=Z,32nm,0.8s						
PPT2	Papeete2	23.69	83	eLR	LR	18 39 36.4	
	comp=Z,1µm,25.8s,baz=245						
PPT	Papeete	23.70	83	LR	LR	18 41 53.8	
	comp=Z,694nm,19.0s,baz=280,slow=32						
OXZ	Oxford	23.99	205	P	P	18 34 21.3	-0.7
OXZ				IAmb	IAmb	18 34 34.6	
	comp=Z,29nm,0.6s						
FOZ	Fox Glacier	25.08	208	P	P	18 34 32.4	+0.5
FOZ				IAmb	IAmb	18 34 49.7	
	comp=Z,99nm,1.4s						
HNR	Honiara	27.73	293	LR	LR	18 44 07.3	
	comp=Z,243nm,21.4s,baz=128,slow=33						
EIDS	Eidsvold	31.78	257	P	P	18 35 32.4	+0.5
	baz=32,SNR=3.7						
RMQ	Roma	33.85	255	P	P	18 35 50.9	+0.8
	baz=34,SNR=6.4						
RMQ	Roma	33.85	255	P	P	18 35 51.2	+1.1
	comp=Z,18nm,0.8s						
TAOE	Nuku Hiva Isla	35.37	74	eLR	LR	18 45 04.9	
	comp=Z,773nm,26.4s						
CMSA	Cobar Meteorol	36.73	247	P	P	18 36 15.6	+0.9
	baz=37,SNR=6.5						
CMSA	Cobar Meteorol	36.73	247	P	P	18 36 15.6	+0.9
	comp=Z,12nm,1.0s						
CTAO	Charters Tower	36.77	266	P	P	18 36 13.9	-1.4
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s						
CTAO	Charters Tower	36.77	266	P	P	18 36 13.9	-1.4
CTAO	Charters Tower	36.77	266	P	P	18 36 15.5	+0.2
	comp=Z,15nm,0.6s						
TOO	Toolangi	37.80	237	P	P	18 36 24.5	+0.7
TOO				pmax	pmax		
	comp=Z,21nm,1.3s						
TOO	Toolangi	37.80	237	P	P	18 36 24.5	+0.7
QLP	Quilpie	37.90	255	P	P	18 36 24.3	-0.4
	baz=38,SNR=11						
QLP	Quilpie	37.90	255	P	P	18 36 26.5	+1.7
	comp=Z,35nm,1.2s						
TAU	Tasmania Unive	37.98	228	P	P	18 36 27.6	+2.4
TAU				pmax	pmax		
	comp=Z,32nm,1.1s						
TAU	Tasmania Unive	37.98	228	P	P	18 36 27.6	+2.4
TAU				IAmb	IAmb	18 36 39.1	
	comp=Z,32nm,1.1s						
MTSU	Mount Surprise	38.96	268	P	P	18 36 33.4	-0.4
	baz=40,SNR=9.9						
MTSU	Mount Surprise	38.96	268	P	P	18 36 35.8	+2.0
	comp=Z,11nm,0.7s						
PMG	Port Moresby	39.05	283	P	P	18 36 32.9	-1.6
	comp=Z,21nm,0.9s,baz=130,slow=3.3,SNR=8.3						
PMG				LR	LR	18 51 06.2	
	comp=Z,390nm,18.5s,baz=148,slow=34						
PMG	Port Moresby	39.05	283	P	P	18 36 31.8	-2.7
PMG				pmax	pmax		
	comp=Z,17nm,0.9s						
PMG	Port Moresby	39.05	283	P	P	18 36 31.8	-2.7
PMG	Port Moresby	39.05	283	P	P	18 36 36.9	+2.4
	comp=Z,21nm,0.9s						
PMG	Port Moresby	39.05	283	P	P	18 36 36.8	+2.3
	comp=Z,21nm,0.9s						
STKA	Stephens Creek	40.23	246	LR	LR	18 52 18.9	
	comp=Z,595nm,19.2s,baz=65,slow=35						
INKA	Innaminka	40.96	253	P	P	18 36 51.1	+0.8
	comp=Z,58nm,1.2s						
COEN	Coen	41.11	274	P	P	18 36 50.0	-1.7
BBOO	Buckleboo	44.94	245	P	P	18 37 22.3	-0.2
BBOO				IAmb	IAmb	18 37 31.5	
	comp=Z,54nm,1.4s						
OOD	Oodnadatta	45.43	252	P	P	18 37 28.2	+1.8
	comp=Z,64nm,1.0s						
DHH	Diamond Head	46.04	22	P	P	18 37 21.8	-9.3
MULG	Mulgathing	46.70	249	P	P	18 37 36.6	+0.2
	comp=Z,52nm,1.5s						
AS31	Alice Springs	47.51	258	P	P	18 37 42.0	-0.8
ASAR	Alice Springs	47.51	258	P	P	18 37 42.1	-0.7
	comp=Z,15nm,0.9s,baz=90,slow=8.4,SNR=76						
ASAR				PcP	PcP	18 39 13.8	+0.9
	comp=Z,2.9nm,0.8s,baz=104,slow=3.8,SNR=4.8						
ASAR				LR	LR	18 56 37.0	
	comp=Z,361nm,18.9s,baz=112,slow=35						
ASAR	Alice Springs	47.51	258	P	P	18 37 41.4	-1.4
ASAR	Alice Springs	47.51	258	P	P	18 37 41.4	-1.4
WR0	Warramunga Arr	47.60	263	P	P	18 37 42.0	-1.5
WR0				IAmb	IAmb	18 37 42.9	
	comp=Z,13nm,1.0s						
WB0	Warramunga Arr	47.77	263	P	P	18 37 43.6	-1.3
WB0				IAmb	IAmb	18 37 44.3	
	comp=Z,26nm,0.8s						
WB2	Warramunga Arr	47.78	263	P	P	18 37 43.6	-1.3
WB2				IAmb	IAmb	18 37 44.4	
	comp=Z,26nm,0.8s						
WRAB	Tennant Creek	47.78	263	ceP	P	18 37 42.9	-2.1
WRAB				pmax	pmax		
	comp=Z,30nm,0.9s						
WRAB	Tennant Creek	47.78	263	P	P	18 37 43.5	-1.4
WRAB				IAmb	IAmb	18 37 44.3	
	comp=Z,27nm,0.9s						
WRAB	Tennant Creek	47.78	263	P	P	18 37 45.1	+0.1
	comp=Z,34nm,1.1s						
WRA	Warramunga Arr	47.79	263	P	P	18 37 43.6	-1.5
	comp=Z,22nm,1.0s,baz=99,slow=7.0,SNR=71						
WRA				LR	LR	18 56 33.8	
	comp=Z,226nm,19.1s,baz=110,slow=34						
WRA	Warramunga Arr	47.79	263	P	P	18 37 42.5	-2.5
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	Warramunga Arr	47.79	263	P	P	18 37 42.5	-2.5
JAY	Jayapura	47.81	288	P	P	18 37 45.8	+0.6
	comp=Z,14nm,1.4s						
SMPI	Sarmi	49.81	287	P	P	18 38 01.5	+0.9
	comp=Z,13nm,1.4s						
KDU	Kakadu	51.41	271	P	P	18 38 11.6	-1.1
	baz=52,SNR=7.2						
KDU	Kakadu	51.41	271	P	P	18 38 12.8	+0.1
	comp=Z,20nm,1.0s						
FORT	Forrest	51.83	248	P	P	18 38 15.3	-0.3
	baz=52,SNR=26						
FORT	Forrest	51.83	248	P	P	18 38 15.2	-0.4
FORT	Forrest	51.83	248	P	P	18 38 16.7	+1.1
	comp=Z,98nm,0.7s						
WRKA	Warakurna	52.34	255	P	P	18 38 18.7	-0.9
	baz=53,SNR=17						
WRKA	Warakurna	52.34	255	P	P	18 38 21.6	+2.0
	comp=Z,37nm,0.9s						
MTN	Manton Dam	52.61	271	P	P	18 38 20.2	-1.4
	baz=53,SNR=4.2						
MTN	Manton Dam	52.61	271	P	P	18 38 20.0	-1.6
GUMO	Guam	53.49	308	LR	LR	18 58 21.7	
	comp=Z,86nm,21.7s,baz=158,slow=33						
KNRA	Kununurra	53.98	266	P	P	18 38 30.8	-0.9
	baz=54,SNR=14						
KNRA	Kununurra	53.98	266	P	P	18 38 30.4	-1.3
KNRA				IAmb	IAmb	18 38 31.6	
	comp=Z,26nm,0.9s						
KNRA	Kununurra	53.98	266	P	P	18 38 32.0	+0.4
	comp=Z,45nm,1.4s						
VNDA	Vanda	56.63	186	P	P	18 38 51.6	+1.8
	comp=Z,3.8nm,0.9s,baz=17,slow=9.2,SNR=6.4						
VNDA				LR	LR	18 59 10.8	
	comp=Z,172nm,20.9s,baz=1.0,slow=32						
VNDA	Vanda	56.63	186	P	P	18 38 51.7	+1.8
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
VNDA	Vanda	56.63	186	IAmb	IAmb	18 38 56.4	
	comp=Z,7.5nm,1.1s						
SIJI	Sorong	56.96	284	LR	LR	19 02 50.5	
	comp=Z,232nm,19.6s,baz=157,slow=36						
SWI	Sorong	56.97	284	P	P	18 38 52.4	-0.8
	comp=Z,680nmcomp=Z,61nm,0.9s						
RPN	Rapa Nui	58.72	109	LR	LR	18 58 56.1	
	comp=Z,329nm,21.3s,baz=242,slow=30						
SOEI	Soe	59.97	271	P	P	18 39 15.0	+0.7
	comp=Z,950nmcomp=Z,94nm,1.0s						
SOEI	Soe	59.97	271	P	P	18 39 12.8	-1.6
BATI	Baumata	60.38	271	LR	LR	19 05 38.8	
	comp=Z,196nm,18.9s,baz=144,slow=36						
BATI	Baumata	60.38	271	P	P	18 39 18.0	+1.0
	comp=Z,21nm,0.9s						
LBMI	Labuha	60.46	282	P	P	18 39 18.8	+1.3
	comp=Z,572nmcomp=Z,11nm,1.0s						
KLBR	Kellerberrin	60.49	245	P	P	18 39 18.5	+0.9
	baz=61,SNR=8.8						
MEEK	Meekatharra	60.63	251	P	P	18 39 18.1	-0.5
	baz=61,SNR=3.5						
PSA00	Pilbara Seismi	60.65	257	P	P	18 39 17.2	-1.5
PSA00				IAmb	IAmb	18 39 19.1	
	comp=Z,26nm,1.2s						
PSA00	Pilbara Seismi	60.65	257	P	P	18 39 17.6	-1.1
PSA00				IAmb	IAmb	18 39 19.2	
	comp=Z,13nm,1.1s						
PSA00	Pilbara Seismi	60.65	257	P	P	18 39 19.4	+0.7
	comp=Z,17nm,2.2s						
MBWA	Marble Bar	60.85	257	P	P	18 39 20.8	+0.7
	comp=Z,22nm,1.2s						
TNTI	Ternate	61.18	284	P	P	18 39 22.3	-0.1
	comp=Z,456nmcomp=Z,14nm,1.0s						
TNTI	Ternate	61.18	284	P	P	18 39 19.4	-3.0
TNTI				IAmb	IAmb	18 39 29.4	
	comp=Z,17nm,1.1s						
TNTI	Ternate	61.18	284	P	P	18 39 22.3	-0.1
	comp=Z,15nm,1.0s						
SANI	Sanana	61.25	280	P	P	18 39 21.5	-1.4
	comp=Z,11nm,1.1s						
SANI	Sanana	61.25	280	P	P	18 39 21.5	-1.4
	comp=Z,11nm,1.1s						
BLDU	Ballidu	61.54	246	P	P	18 39 25.3	+0.7
	baz=62,SNR=5.9						
MUN	Mundaring	61.73	245	P	P	18 39 26.9	+1.0
	baz=62,SNR=3.4						
MMRI	Maumere	62.24	272	P	P	18 39 29.1	-0.5
	comp=Z,31nm,0.9s						
MMRI	Maumere	62.24	272	P	P	18 39 27.8	-1.8
MMRI	Maumere	62.24	272	P	P	18 39 29.1	-0.5
	comp=Z,31nm,0.9s						
MORW	Morawa	62.39	248	P	P	18 39 31.1	+0.7
	baz=63,SNR=4.8						
MORW	Morawa	62.39	248	P	P	18 39 30.0	-0.4
MORW				IAmb	IAmb	18 39 34.0	
	comp=Z,22nm,1.1s						
EDFI	Ende, Flores	62.71	271	P	P	18 39 31.7	-1.1
	comp=Z,15nm,1.0s						
KAPI	Kappang	65.84	275	LR	LR	19 10 49.2	
	comp=Z,56nm,18.0s,baz=125,slow=38						
TOLI2	Tolitoli	67.29	281	P	P	18 39 59.3	-3.2
TOLI2				IAmb	IAmb	18 40 03.6	
	comp=Z,9.9nm,0.8s						
QSPA	South Pole Qui	67.95	180	LR	LR	19 05 31.3	
	comp=Z,239nm,20.3s,baz=24,slow=32						
QSPA	South Pole Qui	67.95	180	P	P	18 40 08.2	+2.2
QSPA				IAmb	IAmb	18 40 21.1	
	comp=Z,14nm,1.1s						
SRBI	Singaraja	68.94	270	P	P	18 40 13.4	+0.5
	comp=Z,29nm,0.8s						
JAGI	Jajag, Banyuwa	69.79	269	P	P	18 40 16.1	-2.1
GMJI	Gumukmas	70.52	269	P	P	18 40 23.0	+0.4
	comp=Z,33nm,1.2s						
JYT	Yasato	72.22	323	P	P	18 40 27.2	-5.2
PCJI	Pacitan	72.65	268	P	P	18 40 37.1	+1.7
	comp=Z,97nm,1.0s						
MJAR	Matsushiro Arr	73.57	322	P	P	18 40 38.8	-1.6
	comp=Z,12nm,0.8s,baz=159,slow=5.8,SNR=18						
MJAR	Matsushiro Arr	73.57	322	P	P	18 40 33.8	-6.6
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MJAR	Matsushiro Arr	73.57	322	P	P	18 40 33.8	-6.6
MAJO	Matsushiro	73.58	322	iP	P	18 40 38.9	-1.5
MAJO				pmax	pmax		
	comp=Z,12nm,0.7s						
MAJO	Matsushiro	73.58	322	P	P	18 40 35.0	-5.4
MAJO				IAmb	IAmb	18 40 40.0	
	comp=Z,15nm,0.8s						
MAT	Matsushiro	73.58	322	P	P	18 40 39.1	-1.3
MJB9	Matsu-Tunnel	73.58	322	P	P	18 40 35.4	-5.0
MJB9				IAmb	IAmb	18 40 40.0	
	comp=Z,14nm,0.8s						
JOW	Kunigami	73.85	308	LR	LR	19 08 54.5	
	comp=Z,123nm,21.5s,baz=349,slow=32						
H06S1	SOCORRO T	74.07	62	T	T	20 02 41.6	
	SNR=7.8						
SHEM	Shemya Is, Ala	75.22	353	LR	LR	19 09 25.1	
	comp=Z,272nm,19.6s,baz=144,slow=32						
UNV	Unalaska Valle	75.95	5	P	P	18 40 54.7	+1.0
	baz=188						
PKM	Mcpherson Peak	76.74	43	P	P	18 40 59.7	+0.7
	baz=231						
ASAJ	Asahikawa	76.82	330	LR	LR	19 10 55.1	
	comp=Z,208nm,20.1s,baz=150,slow=33						
SMMC	Simmler	76.89	43	P	P	18 40 59.8	+0.3
	baz=231						
KSM	Kuching	77.02	277	P	P	18 40 57.7	-3.1
KSM				IAmb	IAmb	18 41 02.1	
	comp=Z,17nm,0.8s						
LPIG	La Paz	77.33	57	LR	LR	19 08 35.9	
	comp=Z,286nm,19.1s,baz=211,slow=31						
CHNA	Chernabura Isl	77.67	9	P	P	18 41 04.3	+0.9
	baz=194						
BFSC	Mount Baldy Ra	77.73	45	P	P	18 41 04.5	+0.1
	baz=233						
MONP2	Monument Peak	77.75	47	P	P	18 41 04.9	+0.3
	baz=234						
IKP	In-Ko-Pah, Jac	77.82	47	P	P	18 41 05.8	+0.9
	baz=234						
EDW2	Edwards Air Fo	77.91	44	P	P	18 41 05.9	+0.6
	baz=232,SNR=6.3						
ISA	Isabella, Lake	78.08	44	P	P	18 40 58.0	-8.3
ISA				IAmb	IAmb	18 41 08.4	
	comp=Z,28nm,1.4s						
ISA	Isabella, Lake	78.08	44	P	P	18 41 07.1	+0.9
	baz=232,SNR=7.3						
PFO	Pinyon Flats O	78.15	46	P	P	18 41 06.4	-0.3
	comp=Z,6.8nm,1.0s,baz=245,slow=2.9,SNR=5.1						
PFO				LR	LR	19 09 12.8	
	comp=Z,85nm,18.8s,baz=224,slow=31						
PFO	Pinyon Flats O	78.15	46	P	P	18 41 07.3	+0.5

HEC	**Hector,Ludlow**	**78.96**	**45**	P	**P**	**18 41 11.8**	**+0.7**
	baz=233,SNR=9.3						
N02D	**Trinity Center**	**78.97**	**37**	P	**P**	**18 41 11.8**	**+0.7**
	baz=228						
O03E	**Paynes Creek**	**79.03**	**38**	P	P	18 41 02.9	-8.5
O03E	**Paynes Creek**	**79.03**	**38**	P	**P**	**18 41 11.8**	**+0.4**
	baz=229						
M02C	**Callahan**	**79.17**	**37**	P	**P**	**18 41 12.9**	**+0.7**
	baz=228						
QSM	**Queen of Sheba**	**79.29**	**44**	P	P	18 41 05.5	-7.4
QSM				IAmb	IAmb	18 41 16.3	
	comp=Z,21nm,1.4s						
IRM	**Iron Mountain**	**79.35**	**46**	P	**P**	**18 41 14.0**	**+0.7**
	baz=234,SNR=11						
GMRC	**Granite Mounta**	**79.38**	**46**	P	**P**	**18 41 13.0**	**-0.5**
	baz=234,SNR=5.8						
YBH	**Yreka Blue Hor**	**79.47**	**37**	P	**P**	**18 41 14.1**	**+0.3**
	comp=Z,12nm,1.0s,baz=198,slow=1.8,SNR=9.8						
YBH				LR	LR	19 09 36.7	
	comp=Z,257nm,18.5s,baz=220,slow=31						
113A	**Mohawk Valley,**	**79.49**	**48**	P	P	18 41 07.5	-6.5
PNTR	**Pine Nut**	**79.53**	**40**	P	P	18 41 06.3	-8.1
PNTR				IAmb	IAmb	18 41 16.4	
	comp=Z,29nm,0.9s						
GWY	**Greenwater Val**	**79.56**	**44**	P	P	18 41 07.2	-7.2
LCH	**Last Change Ra**	**79.57**	**43**	P	P	18 41 07.0	-7.5
LCH				IAmb	IAmb	18 41 16.4	
	comp=Z,20nm,1.3s						
K02D	**Willamette Mer**	**79.61**	**35**	P	**P**	**18 41 15.7**	**+1.2**
	baz=227						
214A	**Organ Pipe Nat**	**79.70**	**49**	P	**P**	**18 41 15.8**	**+0.6**
	baz=236						
KASI	**Kota Agung**	**79.79**	**268**	P	**P**	**18 41 16.4**	**+0.3**
	comp=Z,614nmcomp=Z,54nm,1.0s						
RYN	**Ryan**	**79.89**	**41**	P	P	18 41 08.5	-7.7
RYN				IAmb	IAmb	18 41 18.4	
	comp=Z,22nm,1.3s						
NVAR	**Mina Array Bea**	**79.90**	**41**	P	**P**	**18 41 15.9**	**-0.5**
	comp=Z,12nm,1.0s,baz=223,slow=8.5,SNR=28						
NVAR				LR	LR	19 09 15.8	
	comp=Z,143nm,19.5s,baz=264,slow=30						
NVAR	**Mina Array Bea**	**79.90**	**41**	P	P	18 41 08.7	-7.7
M04C	**Macdoel**	**79.99**	**37**	P	**P**	**18 41 17.6**	**+0.9**
	baz=228						
NV11	**Mina Array Sit**	**80.00**	**41**	P	P	18 41 08.8	-8.0
NV11				IAmb	IAmb	18 41 18.6	
	comp=Z,28nm,1.2s						
L04D	**Klamath Falls**	**80.02**	**36**	P	**P**	**18 41 17.5**	**+0.7**
	baz=228						
PDMCI	**Parker Dam,Lak**	**80.11**	**47**	P	**P**	**18 41 17.9**	**+0.6**
	baz=235						
TPNV	**Topopah Spring**	**80.28**	**44**	P	**P**	**18 41 19.5**	**+1.1**
	baz=233,SNR=5.9						
LWLI	**Liwa**	**80.38**	**268**	P	P	18 41 27.5	+8.1
KSRS	**Korea Array**	**80.39**	**317**	P	**P**	**18 41 19.1**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=144,slow=6.0,SNR=8.3						
KSRS				LR	LR	19 12 36.3	
	comp=Z,65nm,20.4s,baz=205,slow=33						
MDSI	**Maura Dua**	**80.46**	**269**	P	**P**	**18 41 19.1**	**-0.6**
	comp=Z,19nm,1.2s						
J04D	**Umpqua Nationa**	**80.81**	**36**	P	**P**	**18 41 22.1**	**+0.9**
	baz=228						
I04A	**Tendick Farm,**	**81.03**	**35**	P	**P**	**18 41 23.2**	**+1.1**
	baz=228						
MAW	**Mawson**	**81.18**	**199**	LR	LR	19 17 14.0	
	comp=Z,263nm,18.4s,baz=236,slow=36						
J05D	**Fort Rock, OR**	**81.32**	**36**	P	**P**	**18 41 24.9**	**+1.1**
	baz=229						
PRN	**Pahroc Range**	**81.33**	**44**	P	P	18 41 16.2	-7.8
PRN				IAmb	IAmb	18 41 26.6	
	comp=Z,26nm,1.3s						
TUC	**Tucson**	**81.33**	**50**	P	P	18 41 16.4	-7.6
TUC	**Tucson**	**81.33**	**50**	P	**P**	**18 41 24.9**	**+0.9**
	baz=237						
H04D	**Lebanon**	**81.34**	**35**	P	**P**	**18 41 24.5**	**+0.9**
	baz=227						
R11A	**Troy Canyon, C**	**81.55**	**43**	P	**P**	**18 41 26.0**	**+0.8**
	baz=233,SNR=6.2						
I05D	**Terrebonne, OR**	**81.96**	**35**	P	**P**	**18 41 27.9**	**+0.9**
	baz=228						
USRK	**Ussuriysk Ar.**	**82.25**	**324**	P	**P**	**18 41 28.8**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=60,slow=11,SNR=4.8						
USRK				LR	LR	19 15 40.8	
	comp=Z,110nm,18.3s,baz=141,slow=34						
WUAZ	**Wupatki**	**82.67**	**47**	P	**P**	**18 41 32.0**	**+0.8**
	baz=236						
MASI	**Maura Aman, Be**	**82.75**	**270**	P	**P**	**18 41 32.2**	**+0.3**
	comp=Z,1µmcomp=Z,83nm,1.0s						
E04D	**Cinebar**	**82.81**	**33**	P	**P**	**18 41 32.4**	**+1.1**
	baz=227						
MYKOM	**Kota Tinggi**	**83.10**	**275**	P	**P**	**18 41 30.9**	**-2.7**
ELK	**Elko**	**83.19**	**41**	P	**P**	**18 41 34.4**	**+0.6**
	comp=Z,5.3nm,1.0s,baz=254,slow=5.2,SNR=12						
ELK				LR	LR	19 14 18.3	
	comp=Z,186nm,18.2s,baz=248,slow=33						
ELK	**Elko**	**83.19**	**41**	P	**P**	**18 41 33.4**	**-0.3**
ELK				pmax	pmax		
	comp=Z,15nm,1.3s						
ELK	**Elko**	**83.19**	**41**	P	**P**	**18 41 33.4**	**-0.3**
ELK				IAmb	IAmb	18 41 35.6	
	comp=Z,15nm,1.2s						
121A	**Cookes Peak, D**	**83.60**	**51**	P	**P**	**18 41 36.0**	**+0.1**
	baz=239						
O19K	**Port Alsworth**	**83.63**	**10**	P	**P**	**18 41 35.4**	**+0.3**
	baz=199,SNR=5.8						
O20K	**Slope Mountain**	**83.81**	**11**	P	**P**	**18 41 37.8**	**+1.6**
	baz=200						
MDJ	**Mudanjiang**	**83.84**	**323**	P	**P**	**18 41 36.8**	**+0.2**
MDJ				S	**S**	**18 52 00.8**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,18nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,180nm,4.1s						
B05A	**Bryant**	**84.21**	**32**	P	**P**	**18 41 38.6**	**+0.2**
	baz=228						
A04D	**Lummi Island**	**84.22**	**31**	P	**P**	**18 41 39.2**	**+0.8**
	baz=227						
BBB	**Bella Bella**	**84.26**	**27**	LR	LR	19 15 12.7	
	comp=Z,78nm,18.5s,baz=224,slow=33						
DUG	**Dugway, Tooele**	**84.37**	**43**	P	**P**	**18 41 40.4**	**+0.7**
	baz=235,SNR=5.3						
MFID	**Camas Ranch**	**84.45**	**39**	P	**P**	**18 41 40.1**	**+0.1**
MFID				IAmb	IAmb	18 41 41.8	
	comp=Z,22nm,1.1s						
GRNR	**Gornyy**	**84.55**	**331**	⇑*i*P	**P**	**18 41 40.1**	**0.0**
GRNR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,80nm,15.0s						
MNTX	**Cornudas Mount**	**84.94**	**53**	P	**P**	**18 41 42.7**	**+0.1**
	baz=240						
TXAR	**Lajitas Array**	**85.08**	**56**	P	**P**	**18 41 44.0**	**+0.6**
	comp=E,7.7nm,1.0s,baz=207,slow=5.3,SNR=20						
TXAR				LR	LR	19 13 20.7	
	comp=E,158nm,18.7s,baz=224,slow=31						
TXAR	**Lajitas Array**	**85.08**	**56**	P	**P**	**18 41 41.9**	**-1.6**
TXAR	**Lajitas Array**	**85.08**	**56**	P	**P**	**18 41 41.9**	**-1.6**
RC01	**Rabbit Creek A**	**85.27**	**12**	P	**P**	**18 41 43.9**	**+0.4**
	baz=203						
PWL	**Port Wells**	**85.33**	**12**	P	**P**	**18 41 44.0**	**+0.1**
	baz=204,SNR=5.3						
HLID	**Hailey**	**85.36**	**39**	P	**P**	**18 41 45.4**	**+0.8**
	baz=234,SNR=15						
L19K	**White Mountain**	**85.44**	**9**	P	**P**	**18 41 44.7**	**+0.4**
	baz=198						
MVCO	**Mesa Verde**	**85.54**	**47**	P	**P**	**18 41 45.3**	**-0.4**
	baz=238						
GLI	**Glacier Island**	**85.60**	**13**	P	**P**	**18 41 45.7**	**+0.5**
	baz=205						
GAMB	**Gambell**	**85.64**	**1**	P	**P**	**18 41 46.2**	**+1.0**
	baz=183						
PLCA	**Paso Flores**	**85.66**	**132**	P	**P**	**18 41 47.6**	**+1.4**
	comp=E,3.1nm,1.1s,baz=287,slow=6.2,SNR=3.6						
PLCA				LR	LR	19 12 18.4	
	comp=E,159nm,18.8s,baz=222,slow=30						
KLR	**Kul'dur**	**85.69**	**328**	P	**P**	**18 41 46.4**	**+0.5**
	comp=E,2.6nm,0.9s,baz=104,slow=2.2,SNR=9.2						
KLR				LR	LR	19 16 04.7	
	comp=E,166nm,20.2s,baz=144,slow=33						
KLR	**Kul'dur**	**85.69**	**328**	*ce*P	**P**	**18 41 45.8**	**-0.1**
KLR				pmax	pmax		
	comp=Z,12nm,2.2s						
CN2	**Changchun**	**85.69**	**321**	*e*P	**P**	**18 41 44.8**	**-1.2**
CN2				PP	**PP**	**18 45 05.9**	**+0.3**
CN2				SKS	S	18 52 00.1	-17
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,240nm,4.0s						
BNX	**BinXian**	**85.75**	**323**	⇑P	**P**	**18 41 47.8**	**+1.6**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,160nm,6.3s						
ANMO	**Albuquerque**	**85.78**	**50**	P	**P**	**18 41 47.0**	**0.0**
	comp=Z,18nm,1.0s,baz=212,slow=5.5,SNR=28						
ANMO				LR	LR	19 14 24.0	
	comp=Z,216nm,18.7s,baz=242,slow=32						
ANMO	**Albuquerque**	**85.78**	**50**	*ce*P	**P**	**18 41 46.4**	**-0.6**
ANMO				pmax	pmax		
	comp=Z,39nm,1.3s						
ANMO	**Albuquerque**	**85.78**	**50**	P	**P**	**18 41 46.8**	**-0.2**
ANMO	**Albuquerque**	**85.78**	**50**	P	**P**	**18 41 46.7**	**-0.2**
	baz=240						
KNK	**Knik Glacier**	**85.81**	**12**	P	**P**	**18 41 46.5**	**+0.3**
	baz=204						
PMR	**Palmer**	**85.85**	**12**	P	**P**	**18 41 47.3**	**+1.0**
	baz=203						
SYO	**Syowa Base**	**85.87**	**192**	⇓*e*P	**P**	**18 41 43.2**	**-3.4**
WRAK	**Wrangell Islan**	**85.88**	**22**	P	**P**	**18 41 47.7**	**+1.1**
	baz=219						
TTA	**Tatalina**	**86.00**	**8**	P	**P**	**18 41 47.7**	**+0.5**
	baz=197,SNR=8.6						
SML	**Sawmill**	**86.20**	**12**	P	**P**	**18 41 49.2**	**+1.0**
	baz=204						
BMRM	**Bremner River**	**86.22**	**14**	P	**P**	**18 41 48.3**	**0.0**
	baz=208						
SNAA	**Sanae**	**86.27**	**177**	P	**P**	**18 41 51.7**	**+3.0**
SNAA	**Sanae**	**86.27**	**177**	PP	PP	18 45 08.3	-0.6
SNAA	**Sanae**	**86.27**	**177**	*ce*P	**P**	**18 41 51.2**	**+2.5**
SNAA				pmax	pmax		
	comp=Z,25nm,1.7s						
SNAA	**Sanae**	**86.27**	**177**	P	**P**	**18 41 47.0**	**-1.7**
SNAA				IAmb	IAmb	18 41 52.1	
	comp=Z,16nm,1.1s						
VNA3	**Neumayer Olymp**	**86.27**	**175**	P	**P**	**18 41 51.3**	**+2.7**
MA2	**Magadan**	**86.29**	**343**	*ce*P	**P**	**18 41 46.8**	**-1.8**
MA2				pmax	pmax		
	comp=Z,27nm,1.7s						
PNL	**Peninsula**	**86.38**	**17**	P	**P**	**18 41 49.1**	**+0.1**
	baz=212						
KLU	**Klutina**	**86.40**	**13**	P	**P**	**18 41 49.7**	**+0.5**
	baz=206						
SCM	**Sheep Creek Mo**	**86.42**	**12**	P	**P**	**18 41 49.2**	**-0.1**
	baz=205,SNR=5.2						
IPM	**Ipoh**	**86.73**	**276**	P	**P**	**18 41 50.8**	**-1.1**
NEW	**Newport**	**86.73**	**34**	LR	LR	19 15 18.1	
	comp=Z,405nm,18.7s,baz=213,slow=32						
NEW	**Newport**	**86.73**	**34**	P	**P**	**18 41 51.3**	**+0.2**
	baz=232						
VNA2	**Neumayer--Watz**	**86.75**	**176**	P	**P**	**18 41 53.9**	**+3.0**
	baz=196,slow=1.7						
N25K	**Chitina, Valde**	**86.79**	**14**	P	**P**	**18 41 51.6**	**+0.5**
	baz=208						
M24K	**Tolsona, Glenn**	**86.90**	**13**	P	**P**	**18 41 52.6**	**+1.0**
	baz=206						
TIA	**Tai'an**	**86.91**	**311**	⇓P	**P**	**18 41 52.9**	**+0.7**
TIA				pmax	pmax		
	comp=Z,15nm,0.8s						
CMIG	**Matias Romero**	**86.95**	**70**	LR	LR	19 12 40.8	
	comp=Z,160nm,19.3s,baz=230,slow=30						
S22A	**4UR Ranch, Cre**	**86.95**	**47**	P	**P**	**18 41 53.3**	**+0.5**
	baz=239						
VNA1	**Neumayer--Stat**	**86.96**	**175**	P	**P**	**18 41 55.2**	**+3.3**
CTG	**Chitna Glacier**	**86.98**	**15**	P	**P**	**18 41 52.7**	**+0.5**
	baz=210						
WAT6	**Susitna Watana**	**87.02**	**12**	P	**P**	**18 41 52.4**	**0.0**
	baz=205,SNR=6.2						
CAST	**Castle Rocks**	**87.04**	**10**	P	**P**	**18 41 51.2**	**-1.0**
	baz=201						
O20A	**White River Ci**	**87.26**	**45**	P	**P**	**18 41 54.1**	**+0.1**
	baz=238						
KTH	**Kantishna Hill**	**87.35**	**10**	P	P	18 41 46.1	-7.7
SKAG	**Skagway**	**87.36**	**19**	P	**P**	**18 41 54.6**	**+0.8**
	baz=216						
TRF	**Thorofare Moun**	**87.36**	**11**	P	**P**	**18 41 52.7**	**-1.2**
TRF	**Thorofare Moun**	**87.36**	**11**	P	**P**	**18 41 53.2**	**-0.8**
	baz=202,SNR=9.1						
HARP	**HAARP**	**87.38**	**13**	P	**P**	**18 41 54.3**	**+0.4**
	baz=207						
CHUM	**Lake Minchumin**	**87.44**	**10**	P	**P**	**18 41 54.7**	**+0.6**
	baz=200						
J20K	**Nowinta River**	**87.44**	**9**	P	P	18 41 47.2	-6.9
J20K	**Nowinta River**	**87.44**	**9**	P	**P**	**18 41 54.0**	**-0.1**
	baz=199,SNR=7.6						
DHY	**Denali Highway**	**87.54**	**12**	P	**P**	**18 41 54.7**	**-0.1**
	baz=205						
TNA	**Tin City**	**87.54**	**3**	P	**P**	**18 41 54.9**	**+0.4**
	baz=186						
RND	**Reindeer**	**87.57**	**11**	P	**P**	**18 41 53.4**	**-1.4**
RND				pmax	pmax		
	comp=Z,30nm,1.0s						
RND	**Reindeer**	**87.57**	**11**	P	**P**	**18 41 53.4**	**-1.4**
PAX	**Paxson**	**87.82**	**13**	P	**P**	**18 41 55.7**	**-0.4**
	baz=207						
BW06	**Boulder Array**	**87.83**	**42**	P	**P**	**18 41 56.4**	**-0.4**
	baz=237						
PDAR	**Pinedale Array**	**87.83**	**42**	P	**P**	**18 41 56.5**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=215,slow=3.5,SNR=24						
PDAR				LR	LR	19 17 57.4	
	comp=Z,80nm,18.7s,baz=256,slow=33						
M26K	**Nabesna, AK**	**87.85**	**14**	P	P	18 41 48.8	-7.4
M26K				IAmb	IAmb	18 41 58.3	
	comp=Z,17nm,1.1s						
BPAW	**Bear Paw Mtn.**	**87.85**	**10**	P	**P**	**18 41 55.3**	**-0.8**
	baz=202						
MCK	**McKinley**	**87.86**	**11**	P	**P**	**18 41 56.4**	**+0.3**
	baz=204,SNR=9.3						
SDCO	**Great Sand Dun**	**87.86**	**48**	P	**P**	**18 41 56.9**	**-0.2**
	baz=240						
YUK3	**Moose Creek**	**87.90**	**15**	P	**P**	**18 41 57.0**	**+0.4**
	baz=211,SNR=8.1						
833A	**Chaparral WMA,**	**87.94**	**58**	P	**P**	**18 41 57.4**	**0.0**
	baz=244						
MSTX	**Muleshoe**	**87.96**	**52**	P	**P**	**18 41 57.4**	**-0.1**
	baz=242						
PSI	**Prapat**	**88.04**	**274**	LR	LR	19 23 23.4	
	comp=Z,111nm,20.2s,baz=123,slow=37						
T25A	**Trinidad**	**88.31**	**49**	P	**P**	**18 41 59.2**	**-0.1**
	baz=241						
L26K	**Log Cabin Wild**	**88.32**	**14**	P	**P**	**18 41 59.4**	**+1.1**
	baz=209,SNR=5.2						
BVCY	**Beaver Creek**	**88.35**	**15**	P	**P**	**18 41 59.4**	**+0.8**
	baz=211						
WHY	**Whitehorse**	**88.46**	**18**	P	**P**	**18 41 59.0**	**-0.2**
	baz=216						
JCT	**Junction City**	**88.58**	**56**	P	**P**	**18 41 60.0**	**-0.4**
	baz=244						
NEA2	**Nenana**	**88.62**	**11**	P	**P**	**18 41 59.6**	**-0.1**
	baz=203						
RIDG	**Independent Ri**	**88.64**	**13**	P	**P**	**18 42 00.0**	**+0.1**
	baz=207						
WRH	**Wood River Hil**	**88.68**	**11**	P	P	18 41 52.6	-7.4
L27K	**Beaver Creek,**	**88.69**	**14**	P	**P**	**18 42 01.0**	**+0.8**
	baz=210						
BCAR	**Beaver Creek A**	**88.70**	**14**	P	**P**	**18 41 60.0**	**-0.2**
DOT	**Dot Lake**	**88.72**	**13**	P	P	18 41 54.4	-5.9
DOT				IAmb	IAmb	18 42 02.1	
	comp=Z,14nm,1.0s						
SEY	**Seymchan**	**88.76**	**345**	P	**P**	**18 41 60.0**	**-0.4**
	comp=Z,14nm,0.9s,baz=142,slow=5.2,SNR=29						
HDA	**Harding Lake**	**88.83**	**12**	P	P	18 41 54.6	-6.2
HDA				IAmb	IAmb	18 42 01.6	
	comp=Z,13nm,1.0s						
HDA	**Harding Lake**	**88.83**	**12**	P	**P**	**18 42 01.0**	**+0.3**
	baz=205,SNR=7.7						
N31M	**Braeburn, Yuko**	**88.88**	**17**	P	**P**	**18 42 01.9**	**+0.8**
	baz=215						
CCB	**Clear Creek Bu**	**88.89**	**11**	P	P	18 41 53.9	-7.1
SCRK	**Sand Creek**	**89.03**	**13**	P	**P**	**18 42 01.7**	**-0.1**
	baz=208						
I23K	**Minto, Yukon-K**	**89.09**	**10**	P	**P**	**18 42 02.2**	**+0.4**
	baz=203						
TCOL	**CIGO, UAF Yank**	**89.09**	**11**	P	**P**	**18 42 01.7**	**-0.2**
	baz=204						
COLA	**College**	**89.09**	**11**	*i* P	**P**	**18 42 01.7**	**-0.1**
COLA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
COLA	**College**	**89.09**	**11**	P	**P**	**18 42 01.8**	**-0.1**
	baz=204						
MDM	**Murphy Dome**	**89.11**	**11**	P	P	18 41 54.3	-7.7
N23A	**Red Feather La**	**89.15**	**45**	P	**P**	**18 42 02.6**	**-0.5**
	baz=240						
ILAR	**Eielson Array**	**89.17**	**11**	P	**P**	**18 42 02.5**	**+0.1**
	comp=Z,5.1nm,1.0s,baz=215,slow=5.6,SNR=21						
ILAR				LR	LR	19 19 47.2	
	comp=Z,56nm,18.5s,baz=182,slow=34						
ILAR	**Eielson Array**	**89.17**	**11**	P	P	18 41 55.8	-6.5
ILAR	**Eielson Array**	**89.17**	**11**	P	P	18 41 55.8	-6.5
AMTX	**Amarillo**	**89.18**	**52**	P	**P**	**18 42 02.7**	**-0.5**
	baz=242						
IMAR	**Indian Mountai**	**89.22**	**8**	P	P	18 41 56.6	-5.9
POKR	**Poker Plat Res**	**89.39**	**11**	P	**P**	**18 42 03.4**	**+0.1**
	baz=205						
LYN	**LuoYang**	**89.45**	**308**	⇓*i*P	**P**	**18 42 05.9**	**+1.6**
J26L	**Joseph Creek**	**89.58**	**13**	P	**P**	**18 42 04.1**	**-0.2**
K22A	**Casper**	**89.67**	**43**	P	**P**	**18 42 05.4**	**0.0**
	baz=239						
ENH	**Enshi**	**89.79**	**303**	P	**P**	**18 42 06.0**	**-0.1**
M31M	**Drury Creek, Y**	**89.85**	**18**	P	**P**	**18 42 06.1**	**+0.5**
	baz=217						
PRP	**Porcupine Dome**	**90.10**	**12**	P	**P**	**18 42 06.1**	**-0.8**
PRP				IAmb	IAmb	18 42 08.7	
	comp=Z,20nm,1.1s						
PRP	**Porcupine Dome**	**90.10**	**12**	P	**P**	**18 42 07.0**	**+0.2**
	baz=207,SNR=12						
DAWY	**Dawson**	**90.11**	**15**	P	**P**	**18 42 07.8**	**+1.0**
	baz=212,SNR=9.6						
EGAK	**Eagle**	**90.33**	**14**	P	**P**	**18 42 08.6**	**+1.0**
	baz=211,SNR=6.2						
GYA	**Guiyang**	**90.43**	**298**	⇓P	**P**	**18 42 10.8**	**+1.5**
GYA				pP	sP	18 42 21.3	+2.7
GYA				S	**S**	**18 53 01.9**	**-1.0**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,250nm,3.8s						
GYA				LR	LR		
	comp=Z,150nm,4.2s						
GYA				LR	LR		
	comp=Z,110nm,5.4s						
GYA				LR	LR		
	comp=Z,120nm,4.8s						
EGMT	**Eagleton**	**90.58**	**37**	P	**P**	**18 42 10.2**	**+0.7**
	baz=237						
ZEA	**Zeya**	**90.73**	**330**	*e*P	**P**	**18 42 12.0**	**+2.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ZEA				MLR	MLR		
	comp=Z,200nm,14.0s						
COLD	**Coldfoot**	**90.89**	**9**	P	**P**	**18 42 11.2**	**+1.0**
	baz=202						
BILL	**Bilibino**	**91.03**	**353**	⇓*i*P	**P**	**18 42 10.1**	**-0.8**
BILL				*i*		18 42 19.5	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,137nm,18.0s						
BILL	**Bilibino**	**91.03**	**353**	P	P	18 42 05.2	-5.7
WMOK	**Wichita Mounta**	**91.24**	**53**	P	**P**	**18 42 12.7**	**0.0**
	baz=244						
XLT	**XiLinHaoTe**	**91.44**	**317**	*e*P	**P**	**18 42 14.8**	**+1.3**
XLT				pmax	pmax		
	comp=Z,9.0nm,1.7s						
XLT				pmax	pmax		
	comp=Z,180nm,3.9s						
HKT	**Hockley**	**91.45**	**58**	*i* P	**P**	**18 42 14.1**	**+0.4**
HKT				pmax	pmax		
	comp=Z,10.0nm,1.4s						
HKT	**Hockley**	**91.45**	**58**	P	P	18 42 06.8	-6.9
HKT				IAmb	IAmb	18 42 16.0	
	comp=Z,15nm,1.2s						
I29M	**Ogilvie Camp,**	**91.46**	**14**	P	**P**	**18 42 13.9**	**+0.9**
	baz=213						
XAN	**Xi'an**	**91.85**	**306**	P	**P**	**18 42 15.6**	**0.0**
XAN				pP	sP	18 42 27.9	+3.0
XAN				pmax	pmax		
	comp=Z,18nm,1.5s						
XAN				pmax	pmax		
	comp=Z,90nm,2.9s						
RSSD	**Black Hills**	**91.98**	**43**	P	**P**	**18 42 16.5**	**+0.3**
	baz=241						
NNA	**Nana**	**92.34**	**104**	LR	LR	19 14 38.3	
	comp=Z,122nm,19.8s,baz=240,slow=30						
CBKS	**Cedar Bluff**	**92.36**	**49**	P	**P**	**18 42 18.3**	**+0.4**
	baz=244						
ATAH	**Atahualpa**	**92.80**	**99**	LR	LR	19 15 10.0	
	comp=Z,261nm,19.5s,baz=247,slow=30						
HHC	**Hu-ho-hao-te**	**92.95**	**313**	*e*P	**P**	**18 42 22.1**	**+1.5**
HHC				pmax	pmax		
	comp=Z,11nm,1.2s						
HHC				pmax	pmax		
	comp=Z,110nm,5.6s						
KMI	**Kunming**	**93.14**	**296**	⇑P	**P**	**18 42 23.5**	**+1.5**
KMI				pP	pwP	18 42 34.4	-2.2
KMI				sP	sP	18 42 39.8	+8.5
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
KMI				pmax	pmax		
	comp=Z,110nm,4.4s						
KMI				LR	LR		
	comp=Z,120nm,21.7s						
KMI				LR	LR		
	comp=Z,170nm,18.4s						
KMI				LR	LR		
	comp=Z,200nm,21.2s						
JTS	**Las Juntas de**	**93.23**	**80**	LR	LR	19 15 11.9	
	comp=Z,79nm,18.2s,slow=30						
CMAR	**Chiang Mai Arr**	**93.88**	**288**	P	**P**	**18 42 26.0**	**+0.8**
	comp=Z,4.5nm,1.0s,baz=118,slow=3.0,SNR=26						
DGMT	**Dagmar**	**94.00**	**39**	P	**P**	**18 42 25.0**	**-0.1**
	baz=241						
PZH	**PanZhiHua**	**94.50**	**297**	P	**P**	**18 42 28.5**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.9s						
CD2	**Chengdu**	**94.55**	**301**	*e*P	**P**	**18 42 27.5**	**-0.6**
LVC	**Limon Verde**	**94.85**	**117**	LR	LR	19 16 38.5	
	comp=Z,189nm,19.7s,baz=228,slow=30						
YAK	**Yakutsk**	**94.92**	**337**	P	**P**	**18 42 27.6**	**-1.3**
	comp=Z,1.8nm,0.4s,baz=45,slow=0.8,SNR=6.2						
YAK				LR	LR	19 22 17.4	
	comp=Z,80nm,18.9s,baz=90,slow=34						
YAK	**Yakutsk**	**94.92**	**337**	*ce*P	**P**	**18 42 27.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YAK	**Yakutsk**	**94.92**	**337**	P	P	18 42 21.7	-7.2
YAK				IAmb	IAmb	18 42

comp=Z,81nm,14.5s
GTA LR LR
comp=Z,80nm,17.1s
TIXI Tiksi 101.21 344 *i* P **Pdif 18 42 57.7 +0.7**
TIXI pmax pmax
comp=Z,2.0nm,1.1s
WMQ Urumqi 110.58 310 *e*PKP **PKiKP 18 47 40.3 +0.4**
MKAR Makanchi Array 114.81 313 PKP PKPdf 18 47 46.6 -1.1
comp=Z,0.2nm,0.7s,baz=58,slow=6.0,SNR=1.9
KURK Kurchatov 117.51 317 *i* PKIKP **PKPdf 18 47 51.4 -1.4**
ARU Arti 128.48 326 *i* PKIKP **PKiKP 18 48 15.2 +0.9**
ARU 18 50 21.4
ARU PPP PPP 18 53 03.8
ARU 18 55 23.3
ARU SS SS 19 07 35.0 +1.6
ARU SSS SSS 19 12 14.2
ARU MLR MLR
comp=Z,157nm,20.0s
ARCES ARCESS Array B 131.09 351 PKP **PKiKP 18 48 19.6 +0.4**
comp=Z,1.9nm,0.6s,baz=298,slow=2.6,SNR=5.1
KIRV Kirov 132.06 331 *e*PKIKP **PKiKP 18 48 22.0 +0.6**
OBN Obninsk 139.79 333 *i* PKIKP **PKPdf 18 48 35.2 +0.4**
OBN *i* 18 51 27.0
OBN pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 142.54 314 *i* PKIKP **PKiKP 18 48 42.9 -0.5**
KIV pmax pmax
comp=Z,8.0nm,1.1s
SUW Suwalki 145.51 342 *e*PKP **PKPdf 18 48 45.0 0.0**
SUW Suwalki 145.51 342 PKHKP PKPpre 18 48 38.8
SUW Suwalki 145.51 342 PKPdf 18 48 38.8 -6.2
MUD Monsted U'grnd 145.62 357 *i* P **PKPdf 18 48 44.0 -1.1**
AKASG Malin Array Be 146.05 333 PKPbc **PKPdf 18 48 45.4 -0.6**
comp=Z,11nm,0.8s,baz=40,slow=4.2,SNR=38
AKASG Malin Array Be 146.05 333 PKHKP PKPpre 18 48 39.9
AKASG Malin Array Be 146.05 333 PKPdf 18 48 39.9 -6.2
AKBB Malin Array Si 146.05 333 PKHKP PKPpre 18 48 39.9
AKBB Malin Array Si 146.05 333 PKPdf 18 48 39.9 -6.1
MBAR Mbarara 146.72 231 *c i* PKP2 **PKPab 18 48 52.2 +0.8**
BSEG Bad Segeberg 148.04 355 *e*PKPbc **PKiKP 18 48 54.1 -0.1**
baz=9.2,slow=2.4
SORM Soroca 148.34 331 ⇑P **PKPbc 18 48 53.7 +0.3**
SORM Soroca 148.34 331 ⇑PKP2 **PKPbc 18 48 53.7 +0.3**
PURM Purcari 148.74 327 ⇑P **PKPab 18 48 59.3 +1.1**
LVV L'vov 148.80 337 *e*PKP2 **PKiKP 18 48 55.9 0.0**
GAZ Gaziantep 148.94 306 PKPdf 18 48 46.2 -5.2
FLTG Flechtingen 149.54 353 *e*PKPbc **PKiKP 18 48 57.7 +0.4**
baz=9.2,slow=2.4
IBBN Ibbenburen 149.83 357 *e*PKPbc **PKiKP 18 48 58.7 +0.7**
baz=9.2,slow=2.4
OJC Ojcow 149.84 342 *e*PKP **PKiKP 18 48 59.7 +1.6**
OJC Ojcow 149.84 342 PKIKP **PKPdf 18 48 47.3 -5.0**
OJC Ojcow 149.84 342 PKPdf 18 48 47.3 -5.0
BURAR Bucovina Array 150.11 333 ⇑P **PKPbc 18 48 58.4 +0.4**
CLZ Clausthal 150.11 354 *e*PKPbc **PKiKP 18 48 59.7 +1.0**
baz=9.2,slow=2.4
VLDR Vladesti 150.11 328 ⇑P **PKPab 18 49 04.7 +0.8**
KSP Ksiaz 150.16 346 *e*PKP **PKiKP 18 48 59.5 +0.8**
TLCR 150.20 326 ⇓P **PKPab 18 49 04.1 -0.1**
GHRR 150.29 329 ⇓P **PKiKP 18 48 59.3 +0.2**
CLL Collm 150.32 351 PKIKP **PKPdf 18 48 46.3 -6.7**
CLL Collm 150.32 351 *i* PKPbc **PKPbc 18 48 58.4 +0.2**
comp=Z,50nm,1.6s
CLL *i* PKPab **sPKPdf 18 49 03.8 +1.9**
CLL *i* x x 18 49 09.6
CLL *es*PKPab sPKPab 18 49 25.0 +12
CLL Lm MLR 19 56 00.0
comp=Z,100nm,19.1s
CLL Collm 150.32 351 *e*PKPbc **PKiKP 18 48 59.9 +0.9**
baz=9.2,slow=2.4
CLL Collm 150.32 351 PKPdf **PKPdf 18 48 46.3 -6.7**
TESR Tescani 150.32 330 ⇑P **PKPab 18 49 02.7 -2.0**
NIE Niedzica 150.40 341 *e*PKP **PKiKP 18 49 01.2 +1.9**
UZH Uzhgorod 150.42 337 *e*PKIKP **PKPbc 18 48 56.8 -1.7**
UZH *i* 18 49 01.2
UZH *i* 18 49 05.6
OSTC Ostas 150.44 346 ⇑*e*PKP **PKPbc 18 48 59.1 +0.5**
GTTG Gottingen 150.44 355 *e*PKPbc **PKiKP 18 49 00.3 +1.1**
baz=9.2,slow=2.4
CHVC Chvalec 150.45 347 ⇑*e*PKP **PKiKP 18 49 00.2 +0.8**
BRTR Keskin Array B 150.46 313 PKPbc **PKPbc 18 48 58.9 -0.3**
comp=Z,1.8nm,0.8s,baz=71,slow=5.4,SNR=4.8
BRTR Keskin Array B 150.46 313 PKPdf 18 48 47.2 -6.6
BRTR Keskin Array B 150.46 313 PKPdf 18 48 47.2 -6.6
CRVS Cervenica-Dubn 150.47 339 *e*PKIKP **PKiKP 18 49 00.7 +1.2**
CRVS Cervenica-Dubn 150.47 339 *e*PKP **PKiKP 18 49 00.7 +1.2**
UPC Upice 150.53 347 *e*PKIKP **PKPbc 18 48 59.5 +0.7**
UPC Upice 150.53 347 ⇑*e*PKP **PKPbc 18 48 59.5 +0.7**
CFR Carcaliu 150.55 327 ⇑P **PKPbc 18 48 59.8 +0.8**
CFR Carcaliu 150.55 327 ⇑PKIKP **PKPbc 18 48 59.8 +0.8**
NEUB Neuenburg 150.58 352 *e*PKPbc **PKiKP 18 49 00.6 +1.0**
baz=9.2,slow=2.4
BRG Berggiesshubel 150.59 349 *e*PKP **PKPdf 18 48 55.3 +1.8**
BRG Amp 18 48 56.5
comp=Z,7.2nm,1.3s
BRG *ex* x 18 48 59.5
BRG Amp 18 49 01.6
comp=Z,74nm,2.0s
BRG *ex* x 18 49 21.1
BRG Amp 18 49 26.8
comp=Z,37nm,1.8s
BRG Berggiesshubel 150.59 349 *e*PKIKP **PKPdf 18 48 55.3 +1.8**
BRG *e* 18 48 59.5
BRG pmax pmax
comp=Z,7.0nm,1.3s
BRG pmax pmax
comp=Z,75nm,2.0s
BRG pmax pmax
comp=Z,37nm,1.8s
BRG Berggiesshubel 150.59 349 *e*PKPbc **PKiKP 18 49 00.7 +1.1**
baz=9.2,slow=2.4
DPC Dobruska-Polom 150.61 346 *e*PKIKP **PKPbc 18 48 59.8 +0.8**
DPC *e* 18 49 05.7
DPC Dobruska-Polom 150.61 346 ⇑*e*PKP **PKPbc 18 48 59.8 +0.8**
DPC *e*PKPAB **PKPab 18 49 05.7 -0.1**
TPGR Topolog 150.63 326 ⇑P **PKPab 18 49 06.6 +0.6**
FBE Freiberg 150.64 350 *e*PKPbc **PKiKP 18 49 01.1 +1.4**
baz=9.2,slow=2.4
BUG Bochum--Univer 150.71 358 *e*PKPbc **PKiKP 18 49 00.8 +1.1**
baz=9.2,slow=2.4
VRI Vrincioaia 150.76 329 ⇓P **PKiKP 18 49 00.5 +0.3**
VRI Vrincioaia 150.76 329 ⇓PKIKP **PKiKP 18 49 00.5 +0.3**
PLOR Plostina 150.80 329 ⇑P **PKiKP 18 49 00.7 +0.4**
PLOR Plostina 150.80 329 ⇑PKIKP **PKiKP 18 49 00.7 +0.4**
MORC Moravsky Berou 150.85 344 ⇑P **PKPbc 18 48 58.5 -1.1**
MORC Moravsky Berou 150.85 344 PKIKP **PKPdf 18 48 47.7 -6.3**
MORC Moravsky Berou 150.85 344 *e*PKP **PKiKP 18 49 01.0 +0.8**
MORC Moravsky Berou 150.85 344 PKPdf **PKPdf 18 48 47.7 -6.3**
LANS Liptovska Anna 150.89 341 *e*PKIKP **PKiKP 18 49 01.3 +1.0**
LANS Liptovska Anna 150.89 341 *e*PKP **PKiKP 18 49 01.3 +1.0**
TIRR Tirgusor 150.90 325 ⇓P **PKPab 18 49 07.2 +0.1**
HARR Harsova 151.00 326 ⇑P **PKPbc 18 49 00.8 +0.8**
HARR Harsova 151.00 326 ⇑PKIKP **PKPbc 18 49 00.8 +0.8**
OZUR 151.03 330 ⇓P **PKPdf 18 48 57.6 +3.3**
TLBR Topalu 151.03 326 ⇓P **PKPab 18 49 07.8 +0.1**
MOX Moxa 151.16 352 *e*PKPbc **PKiKP 18 49 02.0 +1.2**
baz=9.2,slow=2.4
MOX *eL* L 19 57 00.3
comp=Z,110nm,20.5s
MANR Mangalia 151.24 324 ⇑P **PKiKP 18 49 02.8 +1.7**
PLN Plauen 151.24 351 *e*PKPbc **PKiKP 18 49 02.2 +1.2**
baz=9.2,slow=2.4
WERD Werda 151.26 351 *e*PKPbc **PKiKP 18 49 02.3 +1.2**
baz=9.2,slow=2.4
TANN Tannenbergstha 151.26 351 *e*PKPbc **PKiKP 18 49 02.5 +1.4**
baz=9.2,slow=2.4
DOPR Dopca 151.30 331 ⇑P **PKPbc 18 49 01.2 +0.4**
PRU Pruhonice 151.33 348 *e*PKIKP **PKPbc 18 49 01.2 +0.6**
PRU Pruhonice 151.33 348 ⇑*e*PKP **PKPbc 18 49 01.2 +0.6**
GUNZ Gunzen 151.33 351 *e*PKPbc **PKiKP 18 49 02.7 +1.5**
baz=9.2,slow=2.4
WERN Wernitzgruen 151.40 351 *e*PKPbc **PKiKP 18 49 02.9 +1.6**
baz=9.2,slow=2.4
MLR Muntele Rosu 151.40 329 ⇑P **PKiKP 18 49 02.4 +0.8**
MLR Muntele Rosu 151.40 329 ⇑PKIKP **PKiKP 18 49 02.4 +0.8**
MLR Muntele Rosu 151.40 329 PKPdf 18 48 50.1 -5.0
NKC Novy Kostel 151.44 351 *e*PKIKP **PKiKP 18 49 02.3 +0.9**
NKC Novy Kostel 151.44 351 ⇑*e*PKP **PKiKP 18 49 02.3 +0.9**
VRAC Vranov 151.52 345 ⇓P **PKPbc 18 49 01.6 +0.4**
VRAC Vranov 151.52 345 ⇓PKIKP **PKPbc 18 49 01.6 +0.4**
VRAC Vranov 151.52 345 PKPdf 18 49 02.1 +0.5
MEM Membach 151.57 360 PKiKP **PKiKP 18 49 02.3 +0.7**
BTNL Ternell 151.59 359 PKiKP **PKiKP 18 49 02.7 +1.0**

BSTI Sart Tilman 151.59 0 PKiKP **PKiKP 18 49 02.1 +0.5**
JAVC Velka Javorina 151.66 343 *e*PKP **PKiKP 18 49 03.2 +1.2**
VYHS Vyhne 151.67 341 *e*PKIKP **PKiKP 18 49 03.0 +1.1**
VYHS Vyhne 151.67 341 *e*PKP **PKiKP 18 49 03.0 +1.1**
MDUB Mudurnu 151.70 316 PKPdf 18 48 54.2 -1.5
KOLL Kolacno 151.72 342 *e*PKP **PKiKP 18 49 02.7 +0.7**
MANZ Manzenberg 151.73 351 *e*PKPbc **PKiKP 18 49 03.5 +1.5**
baz=9.2,slow=2.4
DRGR 151.79 335 ⇑P **PKiKP 18 49 02.7 +0.4**
DRGR 151.79 335 ⇑PKIKP **PKiKP 18 49 02.7 +0.4**
KRUC Moravsky 151.80 345 *e*PKP **PKiKP 18 49 02.5 +0.3**
PSZ Piszkesteto 151.85 340 ⇓P **PKPab 18 49 09.4 -1.7**
VOIR 151.86 330 ⇑P **PKPbc 18 49 02.7 +0.6**
BMRD Maredsous 151.87 1 PKiKP **PKPbc 18 49 02.6 +0.7**
TNS Taunus Mts 151.87 356 *e*PKPbc **PKiKP 18 49 03.7 +1.3**
baz=9.2,slow=2.4
ROTZ Rotzenmuhle 151.93 351 *e*PKPbc **PKiKP 18 49 03.9 +1.5**
baz=9.2,slow=2.4
ARR Arges 152.10 331 ⇓P **PKiKP 18 49 03.4 +0.4**
GRF Grafenberg Arr 152.14 352 *eL* L 20 02 58.2
comp=Z,174nm,19.8s
MODS Modra-Piesok 152.21 343 *e*PKIKP **PKiKP 18 49 03.5 +0.4**
MODS Modra-Piesok 152.21 343 *e*PKP **PKiKP 18 49 03.5 +0.4**
KHC Kasperske Hory 152.33 349 PKIKP **PKPdf 18 48 50.4 -5.8**
KHC Kasperske Hory 152.33 349 ⇑*e*PKP **PKPbc 18 49 03.5 +0.5**
KHC *e*PKPAB **pPKPbc 18 49 11.6 +2.0**
KHC Kasperske Hory 152.33 349 PKPdf 18 48 50.4 -5.8
WET Wettzell 152.44 350 *e*PKPbc **PKiKP 18 49 05.0 +1.5**
baz=9.2,slow=2.4
CKRC Cesky Krumlov 152.49 348 ⇑*e*PKP **PKPbc 18 49 03.7 +0.3**
RAZG Razgrad 152.51 326 ⇓P **PKPdf 18 48 51.7 -5.0**
WLF Walferdange 152.51 359 PKIKP **PKiKP 18 49 04.9 +1.3**
WLF Walferdange 152.51 359 PKiKP 18 49 04.9 +1.3
WLF Walferdange 152.51 359 PKiKP **PKiKP 18 49 05.4 +1.8**
GEC2 GERESS Array S 152.58 348 *e*PKPbc **PKiKP 18 49 05.2 +1.3**
baz=9.2,slow=2.4
GERES GERESS Array B 152.58 348 PKP **PKPdf 18 48 57.3 +0.6**
comp=Z,0.7nm,0.8s,baz=319,slow=3.9,SNR=5.7
GERES PKPbc **PKPbc 18 49 04.0 +0.3**
comp=Z,3.1nm,0.9s,baz=42,slow=2.2,SNR=14
GERES GERESS Array B 152.58 348 PKIKP PKPdf 18 48 48.9 -7.8
GERES GERESS Array B 152.58 348 PKPdf 18 48 48.9 -7.8
COPA Copaceanca 152.75 328 ⇑P **PKPdf 18 48 59.2 +2.3**
GZR Gura Zlata 152.90 333 ⇑P **PKPbc 18 49 04.2 -0.3**
GZR Gura Zlata 152.90 333 ⇑PKIKP **PKPbc 18 49 04.2 -0.3**
CONA Conrad Observa 152.99 345 *eP* **PKiKP 18 49 05.2 +0.5**
comp=Z,2.3nm,0.6s
BZS Buzias 153.19 335 ⇓P **PKPbc 18 49 05.5 +0.5**
BZS Buzias 153.19 335 ⇓PKIKP **PKPbc 18 49 05.5 +0.5**
HERR Herculane 153.46 333 ⇓P **PKPbc 18 49 05.2 -0.4**
MORH Mrgy, Hungar 153.75 339 ⇑P **PKPdf 18 48 58.9 +0.6**
FRGS Fruska Gora 154.27 337 ⇓P **PKPdf 18 49 01.9 +2.7**
SOKA Soboth 154.36 345 *eP* **PKiKP 18 49 08.4 +0.8**
comp=Z,6.9nm,1.1s
WTTA Wattenberg 154.46 351 *eP* **PKPab 18 49 23.0 +0.8**
comp=Z,24nm,1.7s
ABTA Abfaltersbach 154.82 349 *eP* **PKPdf 18 49 01.6 +1.6**
comp=Z,8.0nm,1.1s
FETA Feichten 154.83 352 *eP* **PKPdf 18 48 58.3 -1.7**
comp=Z,6.8nm,1.2s
VTS Vitosha 154.85 328 ⇑P **PKiKP 18 49 09.7 +0.8**
VTS Vitosha 154.85 328 ⇑PKIKP **PKiKP 18 49 09.7 +0.8**
PDG Podgorica 156.78 334 ⇑P **PKPdf 18 49 01.0 -1.6**
ESDC Sonseca Array 160.67 23 PKPab **PKPab 18 49 48.4 -0.7**
comp=Z,2.2nm,1.1s,baz=324,slow=4.4,SNR=5.4
TORD Torodi Ar. Bea 170.30 156 PKP **PKPdf 18 49 15.7 -0.3**
comp=Z,1.5nm,1.1s,baz=310,slow=4.3,SNR=7.3
TORD PKPab **PKPab 18 50 33.5 +1.6**
comp=Z,3.7nm,1.1s,baz=229,slow=5.0,SNR=9.2
TORD PP PP 18 54 30.2 +9.4
comp=Z,0.4nm,0.6s,baz=194,slow=4.1,SNR=4.1

NAO ***13*** *18:48:22.7±1.0, 76°.90N×18°.38E, h10km±10km, ML2.8*
IEPN ***13*** *18:48:23.0, 76°.91N×18°.38E, h10km*
BER ***13*** *18:48:24.1±2.5, 76°.84N×18°.26E, h17km±13km, ML2.3, ML2.8(NAO), Confirmed Earthquake*
ISC 13 18:48:22.4±1.2, 76°.96N±0°.03×18°.51E±0°.04, h14km±11km, n22, σ1°.03/41, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.68**	**275**	Pg	**Pb**	**18 48 35.7**	**-0.1**
HSPB				Lg	Lg	18 48 44.0	
HSPB	**Hornsund (broa**	**0.68**	**275**	*eP*	**Pb**	**18 48 35.8**	**-0.1**
HSPB				*eS*	**Sg**	**18 48 44.1**	**-0.3**
HSPB				IAML		18 48 49.2	
comp=Z,85nm,0.5s							
HSPB	**Hornsund (broa**	**0.68**	**275**	⇑*iP*	**Pb**	**18 48 35.7**	**-0.1**
HSPB				*eS*	**Sg**	**18 48 44.1**	**-0.3**
SPA0	**Spitsbergen Ar**	**1.31**	**340**	Pn	**Pb**	**18 48 47.0**	**+0.3**
baz=155,slow=18							
SPA0				Lg	Lg	18 49 06.1	
baz=162,slow=37							
SPA0	**Spitsbergen Ar**	**1.31**	**340**	Pn	**Pb**	**18 48 47.0**	**+0.3**
baz=155,slow=18							
SPA0				Sg	**Sg**	**18 49 06.1**	**+1.6**
baz=162,slow=37							
SPA0	**Spitsbergen Ar**	**1.31**	**340**	*eP*	**Pb**	**18 48 47.0**	**+0.3**
SPA0				*eS*	**Sg**	**18 49 05.5**	**+1.0**
BRBA	**Barentsburg A**	**1.45**	**322**	Pn	**Pg**	**18 48 49.7**	**-0.4**
BRBA				Lg	Lg	18 49 09.1	
BRBA	**Barentsburg A**	**1.45**	**322**	*ePg*	**Pg**	**18 48 50.2**	**+0.1**
BRBA				*eSg*	**Sg**	**18 49 09.2**	**+0.4**
BRBB	**Barentsburg B**	**1.47**	**323**	Pn	**Pb**	**18 48 49.4**	**0.0**
BRBB				Pg	**Pg**	**18 48 50.6**	**0.0**
BRBB				Lg	Lg	18 49 09.7	
BRBB	**Barentsburg B**	**1.47**	**323**	*eP*	**Pb**	**18 48 49.3**	**-0.1**
BRBB				*ePg*	**Pg**	**18 48 50.6**	**0.0**
BRBB				*eS*	**Sn**	**18 49 08.2**	**+0.8**
BRBB				*eSg*	**Sg**	**18 49 10.0**	**+0.3**
HOPEN	**Hopen**	**1.57**	**104**	Pn	**Pn**	**18 48 50.3**	**+0.6**
HOPEN				Sn	**Sn**	**18 49 09.5**	**-0.2**
HOPEN				Lg	Lg	18 49 12.1	
HOPEN	**Hopen**	**1.57**	**104**	*eP*	**Pn**	**18 48 50.1**	**+0.5**
HOPEN				*eS*	**Sn**	**18 49 09.9**	**+0.2**
HOPEN				IAML		18 49 16.8	
comp=Z,56nm,0.5s							
HOPEN	**Hopen**	**1.57**	**104**	*eP*	**Pn**	**18 48 50.1**	**+0.5**
HOPEN				*eS*	**Sn**	**18 49 09.8**	**+0.1**
KBS	**Kingsbay**	**2.41**	**328**	Pn	**Pn**	**18 49 01.5**	**+0.3**
KBS				Pg	**Pg**	**18 49 07.7**	**-0.7**
KBS				Lg	Lg	18 49 37.6	
KBS	**Kingsbay**	**2.41**	**328**	⇑*iP*	**Pn**	**18 49 01.5**	**+0.3**
KBS				*ePg*	**Pg**	**18 49 07.8**	**-0.7**
KBS				*eSg*	**Sg**	**18 49 37.9**	**-1.7**
KBS				IAML		18 49 41.8	
comp=Z,73nm,0.4s							
KBS	**Kingsbay**	**2.41**	**328**	*eP*	**Pn**	**18 49 01.4**	**+0.3**
KBS				*eS*	**Sn**	**18 49 30.2**	**-0.3**
BJO1	**Bjornoya**	**2.48**	**177**	Pg	**Pb**	**18 49 07.4**	**+0.9**
BJO1				Lg	Lg	18 49 38.5	
BJO1	**Bjornoya**	**2.48**	**177**	*ePg*	**Pg**	**18 49 08.0**	**-1.7**
BJO1				*eSg*	**Sb**	**18 49 37.8**	**+1.0**
BJO1				IAML		18 49 43.3	
comp=Z,35nm,0.6s							
BJO1	**Bjornoya**	**2.48**	**177**	*eP*	**Pb**	**18 49 07.2**	**+0.7**
BJO1				*eS*	**Sb**	**18 49 38.4**	**+1.6**
ZFI	**Zemlya Franca-**	**6.74**	**42**	*eP*	**Pn**	**18 50 01.5**	**+0.9**
ZFI				*eS*	**Sn**	**18 51 12.5**	**-4.4**
comp=Z,9.6nm,2.2s							
ARA0	**ARCESS Array S**	**7.72**	**161**	Pn	**Pn**	**18 50 13.6**	**-0.6**
baz=360,slow=10							
ARA0				Sn	Sn	18 51 32.2	-9.1
baz=357,slow=22							
ARA0	**ARCESS Array S**	**7.72**	**161**	Pn	**Pn**	**18 50 13.6**	**-0.6**
baz=360,slow=10							
ARA0				Sn	Sn	18 51 32.2	-9.1
baz=357,slow=22							

SOME ***13*** *18:48:58.7, 41°.53N×74°.62E, h5km*
NNC ***13*** *18:48:58.8±0.8, 41°.49N×74°.61E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=5.5km s-min=4.0km az=3.0*
KNET ***13*** *18:48:59.1±0.8, 41°.53N×74°.60E, h11km±5km, ml2.8, Error ellipse: s-maj=5.0km s-min=3.7km az=168.0*
KRNET ***13*** *18:48:59.0±0.1, 41°.48N×74°.62E, h23km, mb3.7*
ISC 13 18:48:58.7±1.3, 41°.49N±0°.03×74°.64E±0°.02, h2km±10km, n79, σ1°.21/129, 35C-38D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.44**	**327**	⇑*iP*	**Pg**	**18 49 07.4**	**+0.3**
baz=30							
ARLS				⇑*iS*	**Sg**	**18 49 13.8**	**+1.0**
baz=30							
UCH	**Uchtor**	**0.74**	**353**	P	**Pg**	**18 49 13.5**	**+0.6**
263nm,0.2s,SNR=770							
UCH				⇓*iS*	**Sb**	**18 49 24.2**	**-1.2**
320nm,0.3s							
UCH	**Uchtor**	**0.74**	**353**	⇓*iP*	**Pg**	**18 49 13.5**	**+0.6**
baz=54							
UCH				⇓*iS*	**Sb**	**18 49 24.2**	**-1.2**
baz=54							
AML	**Almayashu**	**0.95**	**312**	⇓P	**Pg**	**18 49 16.7**	**-0.3**
58nm,0.1s,SNR=100							
AML				⇑S	**Sg**	**18 49 29.7**	**+0.3**
237nm,0.2s							
AAK	**Ala-Archa**	**1.15**	**355**	⇓P	**Pb**	**18 49 20.8**	**-0.6**
56nm,0.2s,SNR=166							
AAK				⇑S	**Sn**	**18 49 36.9**	**-1.5**
141nm,0.2s							
AAK	**Ala-Archa**	**1.15**	**355**	⇑P	**Pb**	**18 49 20.6**	**-0.8**
29nm,0.3s							
AAK				⇓S	**Sn**	**18 49 36.5**	**-1.9**
74nm,0.5s							
AAK	**Ala-Archa**	**1.15**	**355**	⇓*iP*	**Pb**	**18 49 20.7**	**-0.7**
baz=56							
AAK				⇓*iS*	**Sg**	**18 49 36.1**	**+0.5**
baz=56							
KBK	**Karagaybulak**	**1.19**	**11**	⇓P	**Pb**	**18 49 21.5**	**-0.5**
57nm,0.1s,SNR=137							
KBK				⇓S	**Sn**	**18 49 38.1**	**-1.3**
215nm,0.2s							
KBK	**Karagaybulak**	**1.19**	**11**	⇑*iP*	**Pb**	**18 49 21.2**	**-0.8**
baz=12							
KBK				⇑*iS*	**Sg**	**18 49 37.3**	**+0.5**
baz=12							
FRU1	**Bishkek**	**1.32**	**360**	⇓*iP*	**Pn**	**18 49 23.6**	**-0.6**
baz=0.0							
FRU1				⇓*iS*	**Sg**	**18 49 41.5**	**+0.5**
baz=0.0							
EKS2	**Erkin-Say**	**1.33**	**331**	⇓P	**Pn**	**18 49 23.9**	**-0.7**
14nm,0.1s,SNR=38							
BOOM	**Boomskoye usch**	**1.39**	**44**	⇓*iP*	**Pn**	**18 49 24.8**	**-0.5**
baz=44							
BOOM				⇓*iS*	**Sb**	**18 49 43.4**	**-0.4**
baz=44							
ULHL	**Ulahol**	**1.41**	**57**	⇓P	**Pn**	**18 49 24.7**	**-0.9**
31nm,0.2s,SNR=28							
ULHL	**Ulahol**	**1.41**	**57**	⇑*iP*	**Pn**	**18 49 25.0**	**-0.7**
baz=57							
ULHL				⇑*iS*	**Sb**	**18 49 44.1**	**-0.4**
baz=57							
CHMS	**Chumysh**	**1.51**	**3**	⇓P	**Pb**	**18 49 27.3**	**-0.2**
32nm,0.2s,SNR=39							
CHMS	**Chumysh**	**1.51**	**3**	⇑*eP*	**Pb**	**18 49 26.8**	**-0.6**
baz=4.0							
CHMS				⇑*iS*	**Sg**	**18 49 46.7**	**-0.4**
baz=4.0							
TKM2	**Tokmak 2**	**1.59**	**26**	P	**Pb**	**18 49 28.6**	**-0.5**
44nm,0.2s,SNR=60							
TKM2				⇓S	**Sg**	**18 49 50.5**	**+0.5**
228nm,0.3s							
TKM2	**Tokmak 2**	**1.59**	**26**	⇓P	**Pb**	**18 49 28.4**	**-0.6**
15nm,0.3s							
TKM2				⇑S	**Sg**	**18 49 50.3**	**+0.3**
130nm,0.4s							
TKM2	**Tokmak 2**	**1.59**	**26**	⇓*iP*	**Pb**	**18 49 28.5**	**-0.5**
baz=27							
TKM2				⇓*iS*	**Sg**	**18 49 49.7**	**-0.2**
baz=27							
MRKS	**Merke**	**1.64**	**320**	*eP*	**Pb**	**18 49 29.6**	**-0.1**
24nm,0.3s							
MRKS				*eS*	**Sg**	**18 49 51.8**	**+0.5**
178nm,0.2s							
MRKS	**Merke**	**1.64**	**320**	P	**Pb**	**18 49 29.6**	**-0.1**
24nm,0.3s							
MRKS				S	**Sg**	**18 49 51.8**	**+0.5**
178nm,0.2s							
OHH	**Osh**	**1.71**	**236**	⇑*iP*	**Pn**	**18 49 29.4**	**-0.2**
baz=36							
OHH				⇑*iS*	**Sn**	**18 49 51.4**	**-0.6**
baz=36							
SFK	**Sufi-Kurgan**	**1.71**	**211**	⇑*eP*	**Pn**	**18 49 29.7**	**-0.1**
baz=10.0							
SFK				⇑*eS*	**Sn**	**18 49 52.1**	**-0.3**
baz=10.0							
USP	**Ospenovka**	**1.78**	**357**	⇑*iP*	**Pb**	**18 49 30.9**	**-1.1**
baz=57							
USP				⇑*iS*	**Sb**	**18 49 53.9**	**-0.9**
baz=57							
KST	**Kastek**	**1.83**	**32**	*eP*	**Pb**	**18 49 33.3**	**+0.3**
60nm,0.3s							
KST				*eS*	**Sg**	**18 49 58.2**	**+0.6**
354nm,0.4s							
KST	**Kastek**	**1.83**	**32**	P	**Pb**	**18 49 33.3**	**+0.3**
60nm,0.3s							
KST				S	**Sg**	**18 49 58.2**	**+0.6**
354nm,0.4s							
MNAS	**Manas**	**1.88**	**303**	⇑*iP*	**Pb**	**18 49 32.5**	**-1.3**
baz=3.0							
MNAS				⇑*iS*	**Sb**	**18 49 56.5**	**-1.3**
baz=3.0							
DGS	**Degeres**	**1.94**	**25**	*eP*	**Pb**	**18 49 35.2**	**+0.3**
61nm,0.4s							
DGS				*eS*	**Sg**	**18 50 01.4**	**+0.4**
220nm,0.5s							
DGS	**Degeres**	**1.94**	**25**	Pg	**Pb**	**18 49 35.2**	**+0.3**
61nm,0.4s							
DGS				Lg	Lg	18 50 01.4	
220nm,0.5s							
SGDS	**Sogindy**	**1.96**	**360**	*eP*	**Pb**	**18 49 35.4**	**+0.3**
117nm,0.3s							
SGDS				*eS*	**Sg**	**18 50 02.4**	**+0.8**
174nm,0.4s							
SGDS	**Sogindy**	**1.96**	**360**	Pg	**Pb**	**18 49 35.4**	**+0.3**
117nm,0.3s							
SGDS				Lg	Lg	18 50 02.4	
174nm,0.4s							
KDJ	**Kajisay**	**2.00**	**71**	⇓*iP*	**Pn**	**18 49 34.2**	**+0.4**
baz=71							
KDJ				⇓*iS*	**Sn**	**18 50 00.0**	**+0.5**
baz=71							
ARK	**Arkit**	**2.03**	**280**	⇑*iP*	**Pn**	**18 49 33.9**	**-0.2**
baz=80							
ARK				⇑*iS*	**Sn**	**18 49 59.2**	**-0.9**
baz=80							
MTBS	**Maitube**	**2.11**	**38**	*eP*	**Pb**	**18 49 37.9**	**+0.2**
44nm,0.2s							
MTBS				*eS*	**Sg**	**18 50 06.5**	**+0.1**
273nm,0.5s							
MTBS	**Maitube**	**2.11**	**38**	Pg	**Pb**	**18 49 37.9**	**+0.2**
44nm,0.2s							
MTBS				Lg	Lg	18 50 06.4	
273nm,0.5s							
TNSS	**Tian-Shan**	**2.30**	**47**	*eP*	**Pb**	**18 49 40.9**	**-0.4**
72nm,0.3s							
TNSS				*eS*	**Sg**	**18 50 12.2**	**-0.5**
125nm,0.6s							

KOTS *eS* **Sg** **18 50 19.1 -0.7**
390nm,0.8s
KOTS Kotyrbulak 2.53 46 Pg **Pb** **18 49 45.5 +0.6**
97nm,0.3s
KOTS Lg Lg 18 50 19.1
390nm,0.8s
ANVS Anan'yevo 2.59 59 ⇓*iP* **Pn** **18 49 42.5 +0.6**
baz=59
ANVS ⇓*iS* **Sn** **18 50 13.7 -0.4**
baz=59
TRKS Terek-Say 2.63 272 ⇓*iP* **Pn** **18 49 41.8 -0.6**
baz=71
TRKS ⇓*iS* **Sn** **18 50 13.0 -2.0**
baz=71
KTBS Karatobe 2.68 34 *eP* **Pb** **18 49 48.1 +0.7**
57nm,0.4s
KTBS *eS* **Sg** **18 50 23.6 -1.3**
595nm,0.6s
KTBS Karatobe 2.68 34 Pg **Pb** **18 49 48.1 +0.7**
57nm,0.4s
KTBS Lg Lg 18 50 23.6
595nm,0.6s
KUU Kurty 2.71 27 *eP* **Pb** **18 49 48.5 +0.6**
68nm,0.3s
KUU *eS* **Sg** **18 50 24.0 -1.6**
206nm,0.4s
KUU Kurty 2.71 27 Pg **Pb** **18 49 48.5 +0.6**
68nm,0.3s
KUU Lg Lg 18 50 24.0
206nm,0.4s
DZA Taraz 2.83 301 *eP* **Pb** **18 49 51.3 +1.3**
32nm,0.2s
DZA *eS* **Sg** **18 50 28.8 -0.8**
171nm,0.3s
DZA Taraz 2.83 301 Pg **Pb** **18 49 51.3 +1.3**
32nm,0.2s
DZA Lg Lg 18 50 28.8
171nm,0.3s
CHKK Chushkaly 2.93 35 *eP* **Pb** **18 49 52.2 +0.6**
10.0nm,0.3s
CHKK *eS* **Sg** **18 50 30.8 -1.9**
119nm,0.5s
CHKK Chushkaly 2.93 35 Pg **Pb** **18 49 52.2 +0.6**
10.0nm,0.3s
CHKK Lg Lg 18 50 30.8
119nm,0.5s
DRK Karamyk 2.96 228 ⇓*iP* **Pn** **18 49 46.8 -0.2**
baz=28
DRK ⇓*iS* **Sn** **18 50 21.6 -1.6**
baz=28
PRZ Przheval'sk 2.97 69 ⇓*iP* **Pn** **18 49 47.7 +0.6**
baz=69
PRZ ⇓*iS* **Sn** **18 50 23.3 -0.1**
baz=69
SATY Saty 3.20 59 *eP* **Pb** **18 49 57.6 +1.2**
8.6nm,0.3s
SATY *eS* **Sg** **18 50 39.8 -1.8**
84nm,0.5s
SATY Saty 3.20 59 Pg **Pb** **18 49 57.6 +1.2**
8.6nm,0.3s
SATY Lg Lg 18 50 39.8
84nm,0.5s
BTK Batken 3.24 245 ⇑*iP* **Pn** **18 49 50.8 +0.1**
baz=45
BTK ⇑*iS* **Sn** **18 50 28.1 -1.7**
baz=45
ZHN Zhinishke 3.27 58 *eP* **Pb** **18 49 58.8 +1.2**
14nm,0.3s
ZHN *eS* **Sg** **18 50 41.5 -2.3**
27nm,0.4s
ZHN Zhinishke 3.27 58 Pg **Pb** **18 49 58.8 +1.2**
14nm,0.3s
ZHN Lg Lg 18 50 41.5
27nm,0.4s
KURS Kuram 3.28 51 *eP* **Pb** **18 49 58.0 +0.2**
5.3nm,0.3s
KURS *eS* **Sb** **18 50 40.3 +2.1**
41nm,0.6s
KURS Kuram 3.28 51 Pg **Pb** **18 49 58.0 +0.2**
5.3nm,0.3s
KURS Lg Lg 18 50 40.3
41nm,0.6s
KK02 Karatay Array 3.46 299 ⇑Pn **Pn** **18 49 55.4 +1.8**
0.4nm,0.5s
KK02 ⇑Pg **Pb** **18 50 01.2 +0.4**
7.3nm,0.5s
KK02 ⇑Lg Lg 18 50 47.1
18nm,0.5s
BTLS Baital 3.57 353 *eP* **Pb** **18 50 02.6 -0.1**
3.4nm,0.3s
BTLS *eS* **Sb** **18 50 48.3 +1.9**
37nm,0.4s
BTLS Baital 3.57 353 Pg **Pb** **18 50 02.6 -0.1**
3.4nm,0.3s
BTLS Lg Lg 18 50 48.3
37nm,0.4s
BRLS Borolday 3.88 295 *eP* **Pb** **18 50 09.5 +1.5**
4.9nm,0.8s
BRLS *eS* **Sg** **18 51 00.2 -3.2**
23nm,0.6s
BRLS Borolday 3.88 295 Pg **Pb** **18 50 09.5 +1.5**
4.9nm,0.8s
BRLS Lg Lg 18 51 00.3
23nm,0.6s
PDGK Podgornoye 4.03 61 ⇑Pn **Pn** **18 50 01.7 +0.1**
1.5nm,0.8s
PDGK ⇑Pg **Pb** **18 50 12.3 +1.7**
13nm,0.7s
PDGK ⇓Lg Lg 18 51 04.6
34nm,0.6s
DJR Jarkent 4.73 51 *eP* **Pg** **18 50 26.7 -2.6**
7.7nm,0.6s
DJR *eS* **Sg** **18 51 30.1 -0.4**
25nm,0.9s
DJR Jarkent 4.73 51 Pg **Pg** **18 50 26.7 -2.6**
7.7nm,0.6s
DJR Lg Lg 18 51 30.1
25nm,0.9s
KAPS Kapalarasan 5.12 41 *eP* **Pb** **18 50 32.3 +3.4**
8.3nm,0.3s
KAPS *eS* **Sg** **18 51 38.2 -4.7**
26nm,0.6s
KAPS Kapalarasan 5.12 41 Pg **Pb** **18 50 32.3 +3.4**
8.3nm,0.3s
KAPS Lg Lg 18 51 38.2
26nm,0.6s
OTUK Ortayu 6.95 347 ⇓Pn **Pn** **18 50 44.4 +2.9**
1.0nm,0.7s
OTUK ⇓Lg Lg 18 52 37.1
13nm,0.6s
MAKZ Makanchi 7.49 42 ⇑Pn **Pn** **18 50 50.8 +1.9**
1.9nm,0.8s
MAKZ ⇑Lg Lg 18 52 52.9
6.5nm,1.1s
MK31 Makanchi Array 7.64 43 ⇓Pn **Pn** **18 50 53.2 +2.2**
1.2nm,0.6s,baz=224,slow=14,SNR=15
MK31 ⇓Lg Lg 18 53 01.2
1.5nm,0.6s,baz=225,slow=31,SNR=4.0
KURBB Kurchatov Arra 9.52 15 ⇑Lg Lg 18 54 00.8
14nm,0.7s
AB31 Akbulak array 12.91 312 ⇑Pn **Pn** **18 52 04.8 +1.7**
0.5nm,0.7s,baz=116,slow=13,SNR=5.7

NEIC ***13*** *19:57:35.6±0.6, 55.°4S±0.°2×28.°9W±0.°2, h10km±1km, mb4.5/7, Error ellipse: s-maj=27.7km s-min=18.9km az=16.0*
IDC ***13*** *19:57:42.2±7.0, 55.°46S×28.°68W, h54km±61km, mb3.9/6, mb1 4.0/7, mb1mx3.7/22, mbtmp4.1/7, ML4.2/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/39, Error ellipse: s-maj=26.6km s-min=25.3km az=90.0*
ISC 13 19:57:37.7±0.6, 55.°4S±0.°1×29.°0W±0.°1, h24km, n32, σ0=83/20, mb4.3/5, MS3.4/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.50**	**281**			**Pn**	**19 58 43.7**	**-0.5**
SNAA	**Sanae**	**19.73**	**156**	P		**P**	**20 02 05.1**	**-0.2**
0.8nm,0.3s,baz=308,slow=12,SNR=25								
SNAA	**Sanae**	**19.73**	**156**	P		**P**	**20 02 04.0**	**-1.3**
SNAA				IAmb		IAmb	20 02 13.8	
comp=Z,28nm,1.5s								
PLCA	**Paso Flores**	**30.91**	**281**	LR		LR	20 15 02.0	
comp=Z,38nm,21.8s,baz=175,slow=34								
QSPA	**South Pole Qui**	**34.84**	**180**	P		**P**	**20 04 26.7**	**+0.2**
CPUP	**Villa Florida**	**35.64**	**313**	LR		LR	20 18 54.3	
comp=Z,36nm,18.9s,baz=194,slow=36								
SIV	**San Ignacio**	**46.42**	**315**	LR		LR	20 27 12.0	
comp=Z,82nm,18.0s,baz=108,slow=38								
BOSA	**Boshof**	**46.80**	**78**	P		**P**	**20 06 05.4**	**+0.1**
comp=Z,1.5nm,0.6s,baz=225,slow=11,SNR=4.5								
BOSA	**Boshof**	**46.80**	**78**	IAmb		IAmb	20 06 12.3	
comp=Z,11nm,1.5s								
VNDA	**Vanda**	**47.16**	**183**	P		**P**	**20 06 08.9**	**+1.5**
comp=Z,2.4nm,1.0s,baz=184,slow=5.9,SNR=6.4								
VNDA	**Vanda**	**47.16**	**183**	IAmb		IAmb	20 06 10.7	
comp=Z,5.1nm,1.1s								
H10S2	**ASCENSION HYDR**	**47.70**	**19**	T		T	20 57 44.5	
baz=30,slow=74,SNR=6.1								
H10S3	**ASCENSION HYDR**	**47.70**	**19**	T		T	20 57 44.2	
baz=190,slow=74,SNR=8.8								
H10N1	**ASCENSION HYDR**	**48.82**	**19**	T		T	20 59 14.1	
baz=190,slow=75,SNR=13								
H10N3	**ASCENSION HYDR**	**48.82**	**19**	T		T	20 59 06.5	
baz=190,slow=75,SNR=21								
H10N2	**ASCENSION HYDR**	**48.83**	**19**	T		T	20 59 07.1	
baz=190,slow=75,SNR=21								
LPAZ	**La Paz**	**49.20**	**307**	P		**P**	**20 06 26.4**	**+1.9**
comp=Z,1.6nm,0.5s,baz=187,slow=7.4,SNR=7.4								
LPAZ	**La Paz**	**49.20**	**307**	P		**P**	**20 06 24.0**	**-0.6**
LPAZ				IAmb		IAmb	20 06 29.2	
comp=Z,2.3nm,0.7s								
LBTB	**Lobatse**	**49.79**	**75**	P		**P**	**20 06 28.3**	**-0.1**
comp=Z,3.2nm,0.8s,baz=209,slow=5.0,SNR=3.8								
LBTB	**Lobatse**	**49.79**	**75**	IAmb		IAmb	20 06 29.9	
comp=Z,10nm,1.4s								
NNA	**Nana**	**57.07**	**300**	P		**P**	**20 07 21.8**	**0.0**
SDV	**Santo Domingo**	**72.86**	**317**	LR		LR	20 43 12.7	
comp=Z,98nm,19.6s,baz=73,slow=37								
TORD	**Torodi Ar. Bea**	**73.01**	**31**	P		**P**	**20 09 06.2**	**+0.9**
comp=Z,1.3nm,0.6s,baz=199,slow=6.4,SNR=12								
ASAR	**Alice Springs**	**99.89**	**164**	P		**Pdif**	**20 11 19.6**	**-0.8**
comp=Z,0.3nm,0.7s,baz=187,slow=4.7,SNR=4.2								
GSC	**Goldstone, Bar**	**117.07**	**293**			**PKPdf**	**20 16 19.6**	**-0.4**
FINES	**FINESS Array B**	**124.29**	**28**	PKP		**PKPdf**	**20 16 32.1**	**-0.8**
comp=Z,1.3nm,0.6s,baz=192,slow=1.8,SNR=12								
FINES	**FINESS Array B**	**124.29**	**28**			**PKiKP**	**20 16 33.1**	**0.0**
CMAR	**Chiang Mai Arr**	**126.22**	**112**	PKP		**PKiKP**	**20 16 38.0**	**-0.5**
comp=Z,0.3nm,0.4s,baz=226,slow=3.8,SNR=5.1								
ARCES	**ARCESS Array B**	**130.72**	**22**	PKP		**PKiKP**	**20 16 45.5**	**-0.4**
comp=Z,3.1nm,0.9s,baz=77,slow=1.6,SNR=8.4								
YKA	**Yellowknife Ar**	**135.03**	**319**	PKP		**PKPdf**	**20 16 53.3**	**+0.1**
comp=Z,0.5nm,0.6s,baz=126,slow=2.4,SNR=9.2								
ILAR	**Eielson Array**	**148.95**	**313**	PKPbc		**PKiKP**	**20 17 22.5**	**-0.7**
comp=Z,4.9nm,0.7s,baz=122,slow=1.8,SNR=65								
SONM	**Songino Array**	**151.68**	**87**	PKPbc		**PKiKP**	**20 17 29.1**	**-0.5**
comp=Z,1.0nm,0.5s,baz=204,slow=3.3,SNR=11								

MAN ***13*** *20:17:42.9, 3.°31N×126.°39E, h1km, mb5.0, ML3.9, MS3.9*
IDC ***13*** *20:17:42.4±0.6, 3.°75N×126.°92E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.0/47, mbtmp4.2/14, ML4.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.0/78, Error ellipse: s-maj=42.4km s-min=12.5km az=69.0*
NEIC ***13*** *20:17:44.2±1.6, 3.°77N±0.°08×126.°92E±0.°08, h10km±1km, mb4.4/25, Error ellipse: s-maj=15.1km s-min=12.1km az=57.0*
DJA ***13*** *20:17:45.5±0.7, 4.°N±6.°×12.°7E±.°, h10km, M4.1/11, mb4.2/6, MLv4.1/11*
ISC 13 20:17:43.9±0.4, 3.°82N±0.°04×126.°95E±0.°07, h10km, n80, σ1=58/75, mb4.3/25, MS3.2/5, 1C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.42**	**265**	P		**Pg**	**20 18 11.9**	**+0.7**
DDMP	**Don Marcelino,**	**2.58**	**332**	⇑*eP*		**Pn**	**20 18 28.8**	**+2.9**
GSPH	**General Santos**	**3.01**	**319**	⇓*iP*		**Pb**	**20 18 35.9**	**-1.8**
TNTI	**Ternate**	**3.05**	**172**	P		**Pn**	**20 18 34.1**	**+1.8**
TNTI				S		**Sn**	**20 19 11.3**	**+2.4**
TNTI	**Ternate**	**3.05**	**172**	Pn		**Pn**	**20 18 32.4**	**+0.1**
TNTI	**Ternate**	**3.05**	**172**	P		**Pn**	**20 18 33.5**	**+1.2**
DAV	**Davao City (W)**	**3.51**	**337**	Pn		**Pn**	**20 18 42.0**	**+3.5**
KCP	**Kidapawan**	**3.67**	**330**	⇓*eP*		**Pb**	**20 18 45.7**	**-3.2**
KMSI	**Cibinong**	**4.38**	**223**	P		Pn	20 18 55.0	+4.6
LBMI	**Labuha**	**4.46**	**173**	P		**Pn**	**20 18 53.8**	**+2.2**
GTOI	**Gorontalo**	**5.04**	**231**	P		**Pn**	**20 19 03.1**	**+3.5**
0.0nm11nm,0.7s								
BUTP	**Butuan**	**5.29**	**346**	⇓*eP*		Pb	20 19 10.7	-5.7
PAGZ	**Pagadian**	**5.35**	**319**	⇓*eP*		**Pn**	**20 19 06.7**	**+2.8**
SANI	**Sanana**	**5.90**	**189**	P		**Pn**	**20 19 11.3**	**-0.2**
0.1nm12nm,0.8s								
SANI	**Sanana**	**5.90**	**189**	P		**Pn**	**20 19 11.4**	**-0.1**
MRSI	**Marisa**	**6.00**	**237**	P		**Pn**	**20 19 16.9**	**+4.1**
0.1nm37nm,0.6s								
SWI	**Sorong**	**6.34**	**137**	P		**Pn**	**20 19 19.3**	**+1.8**
0.1nm23nm,0.5s								
SIJI	**Sorong**	**6.35**	**137**	Pn		**Pn**	**20 19 18.6**	**+1.0**
3.0nm,0.3s,baz=2.4,slow=16,SNR=20								
SIJI				Sn		**Sn**	**20 20 30.4**	**+0.2**
0.3nm,0.3s,baz=144,slow=23,SNR=1.3								
SIJI				LR		LR	20 22 06.3	
comp=Z,257nm,18.6s,baz=285,slow=42								
LUWI	**Luwuk**	**6.38**	**221**	Pn		**Pn**	**20 19 17.1**	**-0.9**
TOLI2	**Tolitoli**	**6.72**	**247**	Pn		**Pn**	**20 19 24.1**	**+1.4**
TOLI2	**Tolitoli**	**6.72**	**247**	P		**Pn**	**20 19 25.3**	**+2.6**
MYLDM	**Lahad Datu**	**8.53**	**279**	Pn		**Pn**	**20 19 51.5**	**+3.9**
FAKI	**Fak Fak**	**8.54**	**142**			**Pn**	**20 19 49.7**	**+2.1**
FAKI	**Fak Fak**	**8.54**	**142**	P		**Pn**	**20 19 49.9**	**+2.2**
SBUM	**Sibu**	**14.77**	**265**			**Pn**	**20 21 10.3**	**-2.6**
DRS	**Darwin Rock St**	**16.61**	**166**	P		**P**	**20 21 38.6**	**-0.9**
KSM	**Kuching**	**16.78**	**262**			**P**	**20 21 40.5**	**-0.9**
MTN	**Manton Dam**	**17.07**	**166**	Pn		**Pn**	**20 21 41.3**	**-1.5**
KNRA	**Kununurra**	**19.45**	**175**	P		**P**	**20 22 10.0**	**-0.8**
KNRA				IAmb		IAmb	20 22 11.7	
comp=Z,12nm,0.6s								
KNRA	**Kununurra**	**19.45**	**175**	P		**P**	**20 22 10.9**	**+0.1**
GUMO	**Guam**	**20.18**	**60**	LR		LR	20 28 46.0	
comp=Z,34nm,20.4s,baz=75,slow=33								
FITZ	**Fitzroy Crossi**	**21.81**	**183**	P		**P**	**20 22 35.1**	**-1.3**
comp=Z,2.2nm,0.5s,baz=88,slow=3.0,SNR=15								
PMG	**Port Moresby**	**24.05**	**123**	LR		LR	20 34 41.2	
comp=Z,81nm,18.1s,baz=292,slow=42								
WB0	**Warramunga Arr**	**24.55**	**163**	P		**P**	**20 23 02.3**	**-1.8**
WRAB	**Tennant Creek**	**24.70**	**163**	P		**P**	**20 23 04.1**	**-1.3**
WRA	**Warramunga Arr**	**24.70**	**163**	P		**P**	**20 23 04.7**	**-0.7**
comp=Z,16nm,0.6s,baz=344,slow=11,SNR=126								
WRA	**Warramunga Arr**	**24.70**	**163**	P		**P**	**20 23 03.2**	**-2.2**
WB2	**Warramunga Arr**	**24.71**	**163**	P		**P**	**20 23 03.9**	**-1.5**
WR0	**Warramunga Arr**	**24.78**	**163**	P		**P**	**20 23 04.6**	**-1.5**
AS31	**Alice Springs**	**28.14**	**166**	P		**P**	**20 23 35.7**	**-0.8**
ASAR	**Alice Springs**	**28.14**	**166**	P		**P**	**20 23 35.8**	**-0.7**
comp=Z,1.4nm,0.4s,baz=340,slow=6.7,SNR=30								
ASAR				PcP		**PcP**	**20 26 51.1**	**+0.4**
comp=Z,1.1nm,0.5s,baz=354,slow=2.5,SNR=8.3								
ASAR	**Alice Springs**	**28.14**	**166**	P		**P**	**20 23 36.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**31.02**	**300**	P		**P**	**20 24 03.1**	**+1.1**
comp=Z,0.7nm,0.5s,baz=115,slow=6.8,SNR=8.0								
ENH	**Enshi**	**31.06**	**330**	P		**P**	**20 24 00.5**	**-1.9**
ENH				IAmb		IAmb	20 24 15.5	
comp=Z,9.3nm,1.4s								
CHTO	**Chiang Mai**	**31.16**	**301**	P		**P**	**20 24 02.8**	**-0.5**
CHTO				IAmb		IAmb	20 24 12.1	
comp=Z,5.5nm,1.4s								
HNR	**Honiara**	**35.42**	**112**	LR		LR	20 38 46.0	
comp=Z,24nm,18.7s,baz=190,slow=36								
BJT	**Baijiatuan**	**37.34**	**346**	P		**P**	**20 24 56.3**	**-0.2**
BJT				IAmb		IAmb	20 24 58.3	
comp=Z,6.7nm,0.9s								
STKA	**Stephens Creek**	**38.13**	**160**	P		**P**	**20 25 03.1**	**-0.3**
comp=Z,5.0nm,0.6s,baz=330,slow=10.0,SNR=19								
STKA	**Stephens Creek**	**38.13**	**160**	P		**P**	**20 25 02.6**	**-0.8**
SHL	**Shillong**	**40.00**	**306**	P		**P**	**20 25 18.8**	**-0.5**
SHL				IAmb		IAmb	20 25 19.6	
comp=Z,5.9nm,0.7s								
XLT	**XiLinHaoTe**	**41.06**	**348**	*eP*		**P**	**20 25 28.8**	**+1.1**
XLT				pmax		pmax		
comp=Z,9.0nm,0.9s								
XLT				pmax		pmax		
comp=Z,95nm,3.5s								
GTA	**Gaotai**	**43.13**	**329**	*eP*		P	20 25 50.3	+5.5
GTA				pP		sP	20 25 56.3	+7.7
GTA				sP		pP	20 25 59.3	+12
GTA				pmax		pmax		
comp=Z,2.0nm,1.0s								
KLR	**Kul'dur**	**45.44**	**4**	P		**P**	**20 26 02.8**	**-0.1**
comp=Z,0.7nm,0.5s,baz=130,slow=4.2,SNR=4.9								
ULN	**Ulaanbaatar**	**47.10**	**342**	P		**P**	**20 26 17.3**	**+1.0**
ULN				IAmb		IAmb	20 26 20.3	
comp=Z,4.0nm,0.9s								
SONM	**Songino Array**	**47.29**	**341**	P		**P**	**20 26 19.1**	**+1.4**
comp=Z,1.5nm,0.6s,baz=157,slow=8.4,SNR=12								
SONM				PcP		**PcP**	**20 27 49.4**	**+0.7**
comp=Z,0.7nm,0.7s,baz=169,slow=4.9,SNR=4.0								
SONM	**Songino Array**	**47.29**	**341**	P		**P**	**20 26 17.9**	**+0.2**
WMQ	**Urumqi**	**52.78**	**325**	*eP*		**P**	**20 27 00.9**	**+1.5**
MK31	**Makanchi Array**	**57.61**	**325**	P		**P**	**20 27 34.3**	**+0.1**
MK31				IAmb		IAmb	20 27 35.1	
comp=Z,1.7nm,0.7s								
MKAR	**Makanchi Array**	**57.61**	**325**	P		**P**	**20 27 34.6**	**+0.4**
comp=Z,2.4nm,0.6s,baz=120,slow=8.1,SNR=48								
MKAR				PcP		**PcP**	**20 28 27.9**	**+0.5**
comp=Z,1.9nm,0.7s,baz=111,slow=4.8,SNR=6.9								
MKAR	**Makanchi Array**	**57.61**	**325**	P		**P**	**20 27 34.3**	**+0.1**
MAKZ	**Makanchi**	**57.80**	**325**	P		**P**	**20 27 35.6**	**+0.1**
MAKZ				IAmb		IAmb	20 27 36.5	
comp=Z,2.2nm,0.7s								
YAK	**Yakutsk**	**58.12**	**2**	P		**P**	**20 27 36.9**	**-0.4**
ZALV	**Zalesovo Beam**	**60.61**	**333**	P		**P**	**20 27 54.4**	**-0.4**
comp=Z,0.6nm,0.5s,baz=126,slow=7.5,SNR=3.6								
ZALV	**Zalesovo Beam**	**60.61**	**333**	P		**P**	**20 27 53.2**	**-1.5**
KURBB	**Kurchatov Arra**	**61.78**	**327**	P		**P**	**20 28 03.0**	**+0.2**
comp=Z,2.5nm,0.6s,baz=128,slow=6.2,SNR=24								
KURK	**Kurchatov**	**61.78**	**327**	P		**P**	**20 28 02.8**	**0.0**
BRVK	**Borovoye**	**67.44**	**327**	P		**P**	**20 28 40.0**	**+0.3**
BRVK				IAmb		IAmb	20 28 55.2	
comp=Z,2.8nm,0.8s								
TIXI	**Tiksi**	**67.75**	**1**	P		**P**	**20 28 41.1**	**-0.2**
TIXI				IAmb		IAmb	20 28 48.4	
comp=Z,2.0nm,0.7s								
NRIK	**Noril'sk**	**70.40**	**346**	P		**P**	**20 28 58.9**	**+1.0**
comp=Z,1.9nm,0.5s,baz=152,slow=7.8,SNR=4.0								
NRIK	**Noril'sk**	**70.40**	**346**	IAmb		IAmb	20 29 01.0	
comp=Z,5.8nm,1.2s								
ABKAR	**Akbulak array**	**72.22**	**321**	P		**P**	**20 29 07.2**	**-2.0**
ABKAR	**Akbulak array**	**72.22**	**321**	P		**P**	**20 29 08.5**	**-0.8**
ABKAR				IAmb		IAmb	20 29 13.3	
comp=Z,3.7nm,1.2s								
ATD	**Arta Tunnel**	**83.47**	**281**	LR		LR	21 02 32.4	
comp=Z,222nm,20.8s,baz=59,slow=32								
ARCES	**ARCESS Array B**	**90.44**	**340**	P		**P**	**20 30 44.2**	**-1.3**
comp=Z,3.1nm,1.0s,baz=48,slow=1.8,SNR=9.1								
AKASG	**Malin Array Be**	**91.96**	**321**	P		**P**	**20 30 52.4**	**-0.5**
comp=Z,1.0nm,0.7s,baz=70,slow=4.4,SNR=5.7								
AKASG	**Malin Array Be**	**91.96**	**321**	IAmb		IAmb	20 30 53.4	
comp=Z,1.3nm,1.1s								
IDI	**Anoyia**	**97.61**	**306**	LR		LR	21 19 25.8	
comp=Z,233nm,21.8s,baz=92,slow=38								
TORD	**Torodi Ar. Bea**	**123.10**	**288**	PKP		**PKPdf**	**20 36 42.0**	**+0.1**
comp=Z,0.4nm,0.8s,baz=353,slow=1.7,SNR=4.6								
PLCA	**Paso Flores**	**140.01**	**159**	PKP		**PKPdf**	**20 37 13.5**	**+0.3**
comp=Z,1.3nm,0.9s,baz=265,slow=2.9,SNR=3.0								
SDV	**Santo Domingo**	**158.41**	**54**	PKP		**PKPdf**	**20 37 42.9**	**0.0**
comp=Z,2.8nm,0.4s,baz=284,slow=4.2,SNR=3.5								

NEIC ***13*** *20:20:58.0±0.9, 20.°6S±0.°2×178.°2W±0.°1, h569km±11km, mb4.1/6, Error ellipse: s-maj=29.7km s-min=14.9km az=168.0*
IDC ***13*** *20:20:58.5±2.6, 20.°59S×178.°39W, h576km±21km, mb3.3/6, mb1 3.5/7, mb1mx3.0/48, mbtmp4.2/7, Error ellipse: s-maj=56.2km s-min=15.7km az=156.0*
ISC 13 20:20:59.4±0.9, 20.°5S±0.°2×178.°4W±0.°1, h587km, n19, σ0=98/21, mb3.9/10, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.31**	**309**	P		**P**	**20 22 24.4**	**-1.9**
3.7nm,0.3s,baz=297,slow=24,SNR=18								
MSVF	**Nonsavu**	**4.31**	**309**	P		**P**	**20 22 25.2**	**-1.1**
CTAO	**Charters Tower**	**33.10**	**264**	P		**P**	**20 26 48.6**	**+0.3**
PMG	**Port Moresby**	**34.95**	**283**	P		**P**	**20 27 04.2**	**+0.4**
PMG				IAmb		IAmb	20 28 36.8	
comp=Z,11nm,1.1s								
JAY	**Jayapura**	**43.66**	**289**	P		**P**	**20 28 14.8**	**+1.1**
comp=Z,9.0nm,0.5s,baz=136,slow=5.6,SNR=11								
AS31	**Alice Springs**	**44.14**	**257**	P		**P**	**20 28 17.3**	**0.0**
AS31				IAmb		IAmb	20 28 58.1	
comp=Z,1.0nm,1.0s								
ASAR	**Alice Springs**	**44.14**	**257**	P		**P**	**20 28 17.4**	**+0.1**
comp=Z,1.5nm,0.5s,baz=95,slow=7.8,SNR=22								
ASAR				PcP		**PcP**	**20 29 49.5**	**+0.3**
comp=Z,0.8nm,0.6s,baz=97,slow=3.7,SNR=7.3								
ASAR				S		**S**	**20 34 08.8**	**+0.2**
comp=Z,0.7nm,0.7s,baz=91,slow=15,SNR=7.9								
WB0	**Warramunga Arr**	**44.19**	**262**	P		**P**	**20 28 17.0**	**-0.7**
WB0				IAmb		IAmb	20 30 06.0	
comp=Z,22nm,1.9s								
WRA	**Warramunga Arr**	**44.21**	**262**	P		**P**	**20 28 17.5**	**-0.3**
comp=Z,0.5nm,0.3s,baz=96,slow=7.7,SNR=31								
SIJI	**Sorong**	**52.85**	**285**	P		**P**	**20 29 22.1**	**+0.3**
comp=Z,4.3nm,0.6s,baz=149,slow=9.2,SNR=5.1								
QSPA	**South Pole Qui**	**69.59**	**180**	P		**P**	**20 31 09.8**	**-0.5**
QSPA				IAmb		IAmb	20 31 11.5	
comp=Z,4.4nm,0.9s								
ILAR	**Eielson Array**	**88.38**	**13**	P		**P**	**20 32 48.6**	**-0.5**
comp=Z,0.4nm,0.4s,baz=223,slow=5.6,SNR=5.9								
PDAR	**Pinedale Array**	**89.22**	**43**	P		**P**	**20 32 55.1**	**+1.3**
comp=Z,0.7nm,0.6s,baz=227,slow=2.8,SNR=8.6								
MKAR	**Makanchi Array**	**110.90**	**313**	PKiKP		**PKiKP**	**20 38 26.6**	**0.0**
comp=Z,0.3nm,0.6s,baz=85,slow=2.2,SNR=5.1								
BVAR	**Borovoye Array**	**118.81**	**320**	PKP		**PKPdf**	**20 38 41.3**	**-0.1**
comp=Z,0.8nm,0.4s,baz=99,slow=2.7,SNR=11								
ARCES	**ARCESS Array B**	**128.83**	**349**	PKP		**PKPdf**	**20 39 01.0**	**+0.8**
comp=Z,3.1nm,0.9s,baz=20,slow=3.9,SNR=6.0								
AKASG	**Malin Array Be**	**142.80**	**331**	PKP		**PKPdf**	**20 39 23.9**	**-2.6**
comp=Z,0.7nm,0.5s,baz=43,slow=4.4,SNR=18								
CLL	**Collm**	**147.95**	**346**	⇓iPKPbc		**PKPbc**	**20 39 39.9**	**+0.7**
comp=Z,4.0nm,0.6s								
GERES	**GERESS Array B**	**150.07**	**344**	PKPbc		**PKPbc**	**20 39 45.2**	**+0.7**
comp=Z,0.7nm,0.6s,baz=112,slow=1.4,SNR=5.7								

IDC ***13*** *20:28:11.9±0.8, 19.°46N×110.°55W, h0km, mb3.8/8, mb1 4.2/11, mb1mx4.0/34, mbtmp3.9/11, ML3.9/3, MS3.4/7, Ms1 3.4/7, ms1mx3.2/62, Error ellipse: s-maj=22.9km s-min=9.0km az=108.0*
NEIC ***13*** *20:28:13.6±3.0, 19.°51N±0.°05×110.°41W±0.°07, h10km±2km, mb4.1/45, Md4.4/6(MEX), Error ellipse: s-maj=12.1km s-min=6.9km az=302.0*
MEX ***13*

GLA	**Glamis**	**14.04**	**345**	Pn	**Pn**	**20 31 32.9**	**+0.8**
JCT	**Junction City**	**14.53**	**39**	Pn	**Pn**	**20 31 38.9**	**+0.1**
Y14A	**Wickenburg**	**14.54**	**351**		**Pn**	**20 31 38.6**	**-0.4**
X16A	**Lo Mia Camp, P**	**14.87**	**357**		**Pn**	**20 31 45.2**	**+1.7**
BNM	**Barren Site**	**14.95**	**12**	Pn	**Pn**	**20 31 42.1**	**-2.6**
X18A	**Snowflake**	**14.95**	**1**		**Pn**	**20 31 43.4**	**-1.3**
PFO	**Pinyon Flats O**	**15.04**	**340**	Pn	**Pn**	**20 31 47.1**	**+1.4**
	0.2nm,0.3s,baz=172,slow=14,SNR=2.3						
PFO				LR	LR	20 37 27.7	
	comp=Z,96nm,18.2s,baz=175,slow=37						
ANMO	**Albuquerque**	**15.76**	**12**	LR	LR	20 36 48.5	
	comp=Z,90nm,18.1s,baz=172,slow=33						
W13A	**Hualapai Mount**	**15.82**	**349**	Pn	**Pn**	**20 31 54.3**	**-1.8**
W13A				IAmb	IAmb	20 32 06.7	
	comp=Z,12nm,1.0s						
WUAZ	**Wupatki**	**15.96**	**357**	P	**Pn**	**20 31 59.5**	**+1.7**
WUAZ				IAmb	IAmb	20 32 04.7	
	comp=Z,14nm,1.0s						
PASC	**Pasadena Art C**	**16.15**	**336**	Pn	**Pn**	**20 32 00.1**	**0.0**
PASC				IAmb	IAmb	20 32 03.6	
	comp=Z,8.6nm,0.8s						
GSC	**Goldstone, Bar**	**16.71**	**341**	P	**Pn**	**20 32 06.7**	**-0.6**
GSC				IAmb	IAmb	20 32 15.5	
	comp=Z,12nm,1.1s						
HKT	**Hockley**	**16.80**	**49**	Pn	**Pn**	**20 32 06.9**	**-1.5**
HKT				IAmb	IAmb	20 32 19.7	
	comp=Z,18nm,1.2s						
U15A	**North Rim**	**16.92**	**355**	P	**Pn**	**20 32 09.9**	**-0.3**
U15A				IAmb	IAmb	20 32 18.0	
	comp=Z,13nm,1.2s						
QSM	**Queen of Sheba**	**17.34**	**342**		**Pn**	**20 32 15.8**	**+0.6**
SHPR	**Sheep Range**	**17.43**	**347**	Pn	**Pn**	**20 32 15.1**	**-1.4**
LCMT	**Little Creek M**	**17.60**	**352**	P	**Pn**	**20 32 19.5**	**+0.9**
TPNV	**Topopah Spring**	**18.10**	**345**	P	**P**	**20 32 26.0**	**+0.8**
CCUT	**Cedar City**	**18.15**	**352**	P	**Pn**	**20 32 26.0**	**+0.6**
CCUT				IAmb	IAmb	20 32 31.3	
	comp=Z,12nm,1.2s						
PRN	**Pahroc Range**	**18.28**	**348**	P	**Pn**	**20 32 25.1**	**-1.7**
WMOK	**Wichita Mounta**	**18.32**	**32**	P	**Pn**	**20 32 27.6**	**+0.2**
WMOK				IAmb	IAmb	20 32 29.3	
	comp=Z,9.8nm,0.9s						
MTPU	**Mount Pierson**	**18.52**	**356**	P	**Pn**	**20 32 30.9**	**+0.9**
PV13	**Radium Mtn., P**	**18.62**	**4**	P	**Pn**	**20 32 32.0**	**+0.9**
PSUT	**Pine Spring**	**19.18**	**352**	P	**P**	**20 32 33.4**	**-3.6**
R11A	**Troy Canyon, C**	**19.29**	**348**		**Pn**	**20 32 40.7**	**+1.4**
TPH	**Tonopah**	**19.41**	**344**	P	**Pn**	**20 32 41.0**	**+0.2**
SPR3	**Spring Creek 3**	**19.70**	**351**	P	**P**	**20 32 43.8**	**+0.9**
TMUT	**Trail Mountain**	**19.72**	**358**	P	**P**	**20 32 42.7**	**-0.3**
TMUT				IAmb	IAmb	20 32 52.1	
	comp=Z,14nm,1.5s						
SMCO	**Snowmass**	**19.81**	**8**	P	**P**	**20 32 45.2**	**+1.1**
P17A	**Butcher Ranch,**	**19.88**	**359**	P	**P**	**20 32 45.3**	**+0.7**
P17A				IAmb	IAmb	20 32 51.4	
	comp=Z,17nm,1.4s						
LHV	**Little Huntoon**	**19.95**	**341**	P	**P**	**20 32 44.4**	**-0.8**
NV11	**Mina Array Sit**	**20.01**	**342**	P	**P**	**20 32 45.5**	**-0.6**
P18A	**Preston Nutter**	**20.04**	**0**	P	**P**	**20 32 48.0**	**+1.5**
NVAR	**Mina Array Bea**	**20.05**	**342**	P	**P**	**20 32 48.1**	**+1.6**
	comp=Z,7.0nm,0.9s,baz=167,slow=13,SNR=16						
NVAR	**Mina Array Bea**	**20.05**	**342**	Pn	Pn	20 32 50.9	+2.6
CMB	**Columbia Colle**	**20.39**	**337**		**P**	**20 32 49.1**	**-1.0**
CMB				IAmb	IAmb	20 32 55.2	
	comp=Z,13nm,1.2s						
MPU	**Maple Canyon**	**20.45**	**357**	P	Pn	20 32 53.0	0.0
MPU				IAmb	IAmb	20 33 00.7	
	comp=Z,11nm,1.1s						
KVN	**Kaiserville**	**20.57**	**343**	P	Pn	20 32 54.2	-0.2
KVN				IAmb	IAmb	20 32 58.3	
	comp=Z,15nm,1.1s						
DUG	**Dugway, Tooele**	**20.71**	**355**	P	**P**	**20 32 55.1**	**+1.5**
DUG				IAmb	IAmb	20 33 00.6	
	comp=Z,11nm,1.0s						
MTO3	**Montecristo**	**20.75**	**101**	P	**P**	**20 32 53.6**	**-0.8**
MTO3				IAmb	IAmb	20 32 58.0	
	comp=Z,12nm,1.2s						
KAN13	**South Haven SW**	**20.77**	**30**	P	**P**	**20 32 54.6**	**+0.4**
RDMU	**Red Mountain**	**20.99**	**2**		**P**	**20 32 59.6**	**+2.9**
RDMU				IAmb	IAmb	20 33 09.0	
	comp=Z,6.6nm,1.0s						
T35A	**Sooner Cattle**	**21.17**	**32**	P	**P**	**20 32 57.2**	**-1.3**
T35A				IAmb	IAmb	20 33 03.5	
	comp=Z,15nm,1.1s						
W39A	**Magazine**	**21.43**	**40**	P	**P**	**20 33 01.4**	**+0.1**
ELK	**Elko**	**21.55**	**350**	P	**P**	**20 33 04.3**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=162,slow=8.6,SNR=5.4						
ELK				LR	LR	20 39 56.8	
	comp=Z,93nm,18.2s,baz=166,slow=33						
HWUT	**Hardware Ranch**	**22.04**	**358**	P	**P**	**20 33 07.7**	**-0.2**
HWUT				IAmb	IAmb	20 33 20.1	
	comp=Z,6.3nm,0.9s						
HVU	**Hansel Valley**	**22.28**	**355**	P	**P**	**20 33 11.8**	**+1.3**
HVU				IAmb	IAmb	20 33 18.8	
	comp=Z,5.0nm,1.0s						
PDAR	**Pinedale Array**	**23.18**	**2**	P	**P**	**20 33 21.1**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=186,slow=8.6,SNR=3.7						
CNGN	**Cerro Negro**	**23.81**	**103**	P	**P**	**20 33 23.5**	**-2.8**
TPAW	**Teton Pass**	**23.90**	**359**	P	**P**	**20 33 27.6**	**+0.3**
TPAW				IAmb	IAmb	20 33 40.1	
	comp=Z,6.2nm,1.1s						
YHH	**Holmes Hill**	**25.20**	**359**	P	**P**	**20 33 36.3**	**-2.8**
YHH				IAmb	IAmb	20 33 51.4	
	comp=Z,6.6nm,1.3s						
QLMT	**Earthquake Lak**	**25.25**	**358**	P	**P**	**20 33 33.6**	**-5.9**
YHL	**Hebgen Lake**	**25.26**	**359**	P	**P**	**20 33 33.6**	**-6.1**
YHL				IAmb	IAmb	20 33 43.2	
	comp=Z,5.6nm,0.9s						
BBB	**Bella Bella**	**35.42**	**341**	LR	LR	20 48 57.2	
	comp=Z,107nm,18.3s,baz=264,slow=35						
M57A	**Sunshine Farm,**	**35.67**	**45**	P	**P**	**20 35 08.6**	**-2.8**
SADO	**Sadowa**	**36.15**	**39**	LR	LR	20 50 09.6	
	comp=Z,110nm,18.8s,baz=136,slow=36						
OTAV	**Otavalo**	**36.71**	**118**	P	**P**	**20 35 22.1**	**+0.9**
YKA	**Yellowknife Ar**	**43.03**	**357**	P	**P**	**20 36 12.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=168,slow=7.9,SNR=6.5						
NNA	**Nana**	**45.53**	**131**	LR	LR	20 51 24.7	
	comp=Z,71nm,20.2s,baz=354,slow=30						
ILAR	**Eielson Array**	**51.31**	**341**	P	**P**	**20 37 17.8**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=151,slow=7.0,SNR=16						
LPAZ	**La Paz**	**54.71**	**128**	P	**P**	**20 37 44.6**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=294,slow=6.5,SNR=3.5						
LPAZ	**La Paz**	**54.71**	**128**	IAmb	IAmb	20 37 45.3	
	comp=Z,1.7nm,0.8s						
H03N2	**Juan Fernandez**	**60.63**	**150**	T	T	21 44 06.2	
	baz=328,slow=77,SNR=36						
H03N1	**Juan Fernandez**	**60.64**	**150**	T	T	21 44 06.4	
	baz=328,slow=77,SNR=32						
H03N3	**Juan Fernandez**	**60.65**	**150**	T	T	21 44 07.6	
	baz=328,slow=77,SNR=29						
CPUP	**Villa Florida**	**68.78**	**130**	P	**P**	**20 39 17.9**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=351,slow=4.8,SNR=4.5						
CPUP	**Villa Florida**	**68.78**	**130**	P	**P**	**20 39 18.6**	**+1.0**
PLCA	**Paso Flores**	**70.47**	**149**	P	**P**	**20 39 29.4**	**+1.6**
	comp=Z,1.5nm,1.0s,baz=313,slow=7.1,SNR=3.1						

*IDC **13** 20:34:56.4±0.4, 32°.55N×91°.66E, h0km, mb4.8/27, mb1 4.9/31, mb1mx4.9/37, mbtmp4.8/31, ML3.9/5, MS4.8/77, Ms1 4.8/77, ms1mx4.8/89, Error ellipse: s-maj=14.1km s-min=10.9km az=49.0*

*BJI **13** 20:34:56.8±0.0, 32°.62N×91°.67E, h10km, mb4.8/59, mB5.1/40, ML5.2/2, Ms5.5/74, MS7 5.3/70*

*NDI **13** 20:34:57.2±3.4, 32°.78N×91°.38E, h10km, mb4.9, mb5.2(NEIC)*

*MOS **13** 20:34:58.0±1.1, 32°.52N×91°.60E, h25km, mb5.3/32, MS5.0/23, Error ellipse: s-maj=5.9km s-min=3.2km az=122.3*

*NEIC **13** 20:34:58.8±1.8, 32°.65N±0°.06×91°.63E±0°.10, h10km±1km, mb5.2/221, Error ellipse: s-maj=14.4km s-min=10.3km az=71.0*

*GCMT **13** 20:34:59.8±0.1, 32°.52N±0°.01×91°.73E±0°.01, h23km, MW5.4/146, Moment Tensor Solution. s98,c148; s146,c286; Duration: 1s2 Moment tensor: Scale 1017 Nm; Mrr-0.27±.02; Mθθ-0.81±.02; Mφφ 1.08±.02; Mrθ-0.09±.03; Mrφ 1.32±.02; Mθφ 0.19±.03; Best double couple: M0 1.64000×1017 NP1:φs72.00000°, δ82.00000°, λ-3.00000°. NP2:φs162.00000°, δ87.00000°, λ-172.00000°. Principal axes: T 1.7660, Plg4.0000°, Azm297.0000°; N -0.2540, Plg82.0000°, Azm181.0000°; P -1.5140, Plg8.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **13** 20:35:02.3±0.0, 32°.80N×91°.86E, h33km, mb5.3, Ms5.2*

ISC 13 20:34:58.2±0.2, **32°.58**N±0°.03×**91°.59**E±0°.02, **h10**km, **n921,**

σ1**§61**/929, **mb5.2**/260, **MS4.9**/119, **57C-35D, Xizang**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.90**	**188**	P	**Pb**	**20 35 48.8**	**-1.5**
LSA	**Lhasa**	**2.90**	**188**	Pg	**Pb**	**20 35 49.3**	**-1.0**
LSA				Sg	**Sg**	**20 36 30.6**	**-0.8**
LSA				smax	smax		
	comp=N,7μm,1.9s						
LSA				smax	smax		
	comp=E,10μm,1.7s						
LSA	**Lhasa**	**2.90**	**188**		**Pb**	**20 35 48.8**	**-1.5**
LSA	**Lhasa**	**2.90**	**188**	Pn	**Pb**	**20 35 49.0**	**-1.3**
GOMU	**GeErMu**	**4.49**	**36**	Pn	**Pn**	**20 36 08.9**	**+2.3**
GOMU				LR	LR		
	comp=N,16μm,6.1s						
GOMU				LR	LR		
	comp=E,11μm,8.8s						
GOMU				LR	LR		
	comp=Z,13μm,10.2s						
ITAN	**ITANAGAR**	**5.73**	**161**	*e*P	**Pn**	**20 36 26.8**	**+3.5**
ITAN				*ex*	**Sn**	**20 37 35.4**	**+6.3**
DIBR	**DIBRUGARH**	**5.86**	**150**	*e*P	**Pn**	**20 36 26.9**	**+1.8**
LKP	**Lekhapani**	**6.40**	**144**	*e*P	**Pn**	**20 36 34.0**	**+1.4**
SLGI	**Shiliguri**	**6.48**	**206**	*e*P	Pb	20 36 56.0	+5.0
MOKO	**MOKOCHONG**	**6.74**	**157**	*e*P	**Pn**	**20 36 38.5**	**+1.1**
MOKO				*e*S	**Sn**	**20 37 56.8**	**+2.5**
GUN	**Gumba**	**6.79**	**228**	*e*P	**Pn**	**20 36 40.9**	**+2.7**
	132nm,0.6s						
SHL	**Shillong**	**7.00**	**178**	P	**Pn**	**20 36 40.7**	**-0.3**
SHL	**Shillong**	**7.00**	**178**	*e*P	**Pn**	**20 36 41.2**	**+0.2**
SHL				*i* x	x	20 37 04.9	
SHL	**Shillong**	**7.00**	**178**	Pn	**Pn**	**20 36 40.7**	**-0.3**
KOHI	**KOHIMA**	**7.18**	**162**	*e*P	**Pn**	**20 36 44.4**	**+0.9**
KOHI				*e*S	**Sn**	**20 38 04.3**	**-0.9**
KKN	**Kakani**	**7.25**	**230**	*e*P	**Pn**	**20 36 47.3**	**+2.8**
	84nm,0.5s						
PKI	**Pulchoki**	**7.32**	**229**	*e*P	**Pn**	**20 36 47.7**	**+2.2**
	184nm,0.6s						
PKIN	**Phulchoki**	**7.33**	**229**	*e*P	**Pn**	**20 36 47.7**	**+2.2**
	136nm,0.5s						
DMN	**Daman**	**7.49**	**230**	*e*P	**Pn**	**20 36 50.3**	**+2.5**
	147nm,0.6s						
GKN	**Gorkha**	**7.55**	**235**	*e*P	**Pn**	**20 36 50.4**	**+1.9**
	159nm,0.5s						
DANN	**Dangsing**	**7.96**	**240**	*e*P	**Pn**	**20 36 55.8**	**+1.5**
	332nm,0.6s						
IMP	**Imphal**	**8.00**	**164**	*e*P	**Pn**	**20 36 55.8**	**+1.2**
IMP				*e*S	**Sn**	**20 38 22.5**	**-2.6**
KOLN	**Koldanda**	**8.41**	**237**	*e*P	**Pn**	**20 37 01.4**	**+1.0**
	236nm,0.8s						
VLK	**Valmikinagar**	**8.51**	**234**	*e*P	**Pn**	**20 37 06.2**	**+4.7**
PYUN	**Piuthan**	**8.67**	**241**	*e*P	**Pn**	**20 37 04.0**	**+0.1**
	100nm,0.4s						
AGT	**Agartala**	**8.67**	**182**	*ex*	**Pn**	**20 37 08.5**	**+4.7**
BELO	**BELONIA**	**9.30**	**181**	*e*P	**Pn**	**20 37 14.3**	**+1.9**
BELO				*ex*	**Sn**	**20 39 01.1**	**+4.0**
GTA	**Gaotai**	**9.53**	**42**	⇓P	**Pn**	**20 37 16.3**	**+0.7**
GTA				pP		20 37 20.3	
GTA				sP		20 37 23.5	
GTA				S	**Sn**	**20 39 08.3**	**+5.5**
GTA				SS	**SnSn**	**20 39 22.4**	**+7.9**
GTA				pmax	pmax		
	comp=Z,83nm,1.7s						
GTA				pmax	pmax		
	comp=Z,750nm,4.4s						
GTA				LR	LR		
	comp=N,15μm,14.2s						
GTA				LR	LR		
	comp=E,15μm,14.2s						
GTA				LR	LR		
	comp=Z,9μm,16.7s						
BRDH	**Bariadhala**	**9.87**	**180**	Pn	**Pn**	**20 37 19.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=0.4,slow=24,SNR=14						
BRDH				Sn	**Sn**	**20 39 10.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=360,slow=24,SNR=8.1						
BOK	**Bokaro**	**10.10**	**211**	*e*P	**Pn**	**20 37 22.8**	**-0.5**
BOK				IAmb	IAmb	20 37 26.8	
	comp=Z,417nm,0.2s						
CD2	**Chengdu**	**10.49**	**96**	P	**Pn**	**20 37 29.7**	**+0.9**
CD2				S	**Sn**	**20 39 28.9**	**+2.4**
CD2				pmax	pmax		
	comp=Z,50nm,0.8s						
CD2				pmax	pmax		
	comp=Z,220nm,3.6s						
CD2				LR	LR		
	comp=Z,4μm,11.2s						
CD2				LR	LR		
	comp=Z,11μm,11.2s						
CD2				LR	LR		
	comp=Z,14μm,7.2s						
PZH	**PanZhiHua**	**10.71**	**122**	P	**Pn**	**20 37 31.3**	**-0.6**
PZH				pP		20 37 34.7	
PZH				S	**Sn**	**20 39 32.6**	**+0.6**
PZH				SS	**SnSn**	**20 39 47.4**	**+3.6**
PZH				pmax	pmax		
	comp=Z,40nm,1.1s						
PZH				pmax	pmax		
	comp=Z,290nm,4.4s						
PZH				LR	LR		
	comp=Z,12μm,9.3s						
PZH				LR	LR		
	comp=Z,9μm,9.4s						
PZH				LR	LR		
	comp=Z,14μm,11.0s						
LZH	**Lanzhou**	**10.72**	**68**	*e*P	**Pn**	**20 37 32.3**	**+0.4**
LZH				pP		20 37 35.8	
LZH				sP		20 37 38.4	
LZH				PP	**PnPn**	**20 37 42.3**	**+2.7**
LZH				S	**Sn**	**20 39 31.6**	**-0.5**
LZH				sS		20 39 37.1	
LZH				SS	**SnSn**	**20 39 45.5**	**+1.7**
LZH				pmax	pmax		
	comp=Z,45nm,1.1s						
LZH				pmax	pmax		
	comp=Z,220nm,4.6s						
LZH				LR	LR		
	comp=Z,24μm,7.0s						
LZH				LR	LR		
	comp=Z,15μm,6.2s						
LZH				LR	LR		
	comp=Z,9μm,8.0s						
WMQ	**Urumqi**	**11.63**	**346**	*e*P	**Pn**	**20 37 45.4**	**+1.1**
WMQ				pP		20 37 49.7	
WMQ				S	**Sn**	**20 39 58.3**	**+4.1**
WMQ				pmax	pmax		
	comp=Z,20nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,210nm,4.9s						
WMQ				LR	LR		
	comp=Z,14μm,11.3s						
WMQ				LR	LR		
	comp=Z,4μm,17.3s						
KMI	**Kunming**	**12.27**	**124**	⇑P	**Pn**	**20 37 51.1**	**-2.2**
KMI				PP	**PnPn**	**20 38 04.1**	**+3.0**
KMI				S	**Sn**	**20 40 12.1**	**+1.8**
KMI				pmax	pmax		
	comp=Z,42nm,1.0s						
KMI				pmax	pmax		
	comp=Z,170nm,4.4s						
KMI				LR	LR		
	comp=Z,14μm,12.0s						
KMI				LR	LR		
	comp=Z,12μm,11.7s						
KMI				LR	LR		
	comp=Z,9μm,15.2s						
SMLA	**Simla**	**12.35**	**267**	*e*P	Pn	20 37 49.1	-5.0
JHSG	**JHARSUGUGA**	**12.82**	**215**	*e*P	**Pn**	**20 37 59.1**	**-1.5**
DHRM	**DHARAMSHALA**	**12.93**	**273**	*e*P	**Pn**	**20 38 00.4**	**-1.8**
DHRM				IAmb	IAmb	20 38 10.6	
	comp=Z,20nm,0.8s						
BWNR	**Bhubaneshwar**	**13.28**	**204**	*e*P	**Pn**	**20 38 06.7**	**-0.2**
BLSP	**Bilaspur**	**13.37**	**221**	*e*P	**Pn**	**20 38 04.7**	**-3.4**
KUDL	**Kundal**	**13.77**	**255**	*e*P	**Pn**	**20 38 11.8**	**-1.6**
JMU	**Jammu**	**14.07**	**275**	*e*P	**Pn**	**20 38 18.9**	**+1.4**
TARG	**Taragay, Kyrgy**	**14.27**	**314**	Pn	**Pn**	**20 38 21.7**	**+1.0**
PRZ	**Przheval'sk**	**14.38**	**317**	P	**Pn**	**20 38 22.9**	**+0.9**
PRZ	**Przheval'sk**	**14.38**	**317**	Pn	**Pn**	**20 38 22.9**	**+0.9**
KSH	**Kashi**	**14.39**	**303**	P	**Pn**	**20 38 22.8**	**+0.7**
KSH				pP	P	20 38 26.9	-2.3
KSH				sP		20 38 30.2	
KSH				S	**Sn**	**20 41 06.4**	**+4.5**
KSH				pmax	pmax		
	comp=Z,22nm,1.2s						
KSH				LR	LR		
	comp=Z,4μm,12.2s						
KSH				LR	LR		
	comp=Z,16μm,15.5s						
KSH				LR	LR		
	comp=Z,18μm,16.1s						
UZB	**Uzynbulak**	**14.46**	**320**	*c i*P	**Pn**	**20 38 23.2**	**+0.1**
UZB				*e*S	**Sn**	**20 41 04.3**	**+0.7**
UZB				pmax	pmax		
	comp=Z,154nm,2.4s						
UZB				smax	smax		
	comp=N,58nm,2.5s						
UZB	**Uzynbulak**	**14.46**	**320**	⇑ *i*P	**Pn**	**20 38 23.2**	**+0.1**
	comp=N,154nm,2.4s,baz=320						
UZB				*e*S	**Sn**	**20 41 04.3**	**+0.7**
	comp=N,58nm,2.5s,baz=320						
GYA	**Guiyang**	**14.47**	**111**	⇓ *i*P	**Pn**	**20 38 20.9**	**-2.3**
GYA				S	**Sn**	**20 41 01.4**	**-2.4**
GYA				SS	**S**	**20 41 23.0**	**-0.7**
GYA				pmax	pmax		
	comp=N,140nm,1.2s						
GYA				pmax	pmax		
	comp=N,1μm,3.5s						
GYA				LR	LR		
	comp=N,5μm,8.8s						
GYA				LR	LR		
	comp=N,6μm,13.0s						
GYA				LR	LR		
	comp=N,9μm,21.0s						
XAN	**Xi'an**	**14.57**	**80**	P	**Pn**	**20 38 22.3**	**-2.2**
XAN				pP	P	20 38 28.3	-2.7
XAN				S	**Sn**	**20 41 07.6**	**+1.5**
XAN				pmax	pmax		
	comp=Z,21nm,1.9s						
XAN				pmax	pmax		
	comp=Z,290nm,4.5s						
XAN				LR	LR		
	comp=N,28μm,18.6s						
XAN				LR	LR		
	comp=E,7μm,18.4s						
XAN				LR	LR		
	comp=Z,13μm,14.7s						
SATY	**Saty**	**14.74**	**319**	*c i*P	**Pn**	**20 38 27.1**	**+0.2**
SATY				*e*S	**Sn**	**20 41 10.9**	**+0.6**
SATY				pmax	pmax		
	comp=Z,122nm,2.1s						
SATY	**Saty**	**14.74**	**319**	⇑ *i*P	**Pn**	**20 38 27.1**	**+0.2**
	comp=Z,122nm,2.1s,baz=319						
SATY				*e*S	**Sn**	**20 41 11.0**	**+0.6**
	baz=319						
ZHN	**Zhinishke**	**14.80**	**319**	*e*P	**Pn**	**20 38 27.3**	**-0.3**
ZHN	**Zhinishke**	**14.80**	**319**	*e*P	**Pn**	**20 38 27.4**	**-0.3**
	baz=319						
KDJ	**Kajisay**	**14.88**	**314**	P	**Pn**	**20 38 28.5**	**-0.4**
KDJ	**Kajisay**	**14.88**	**314**	Pn	**Pn**	**20 38 28.5**	**-0.4**
RAGD	**RAYAGADA**	**15.15**	**211**	*e*P	**Pn**	**20 38 30.1**	**-2.3**
CHTO	**Chiang Mai**	**15.22**	**152**	P	**Pn**	**20 38 30.0**	**-3.3**
CHTO				pmax	pmax		
	comp=Z,52nm,1.4s						
CHTO	**Chiang Mai**	**15.22**	**152**	Pn	**Pn**	**20 38 30.0**	**-3.3**
CHCP	**Chirah Chowk**	**15.40**	**279**	P	**Pn**	**20 38 31.8**	**-3.8**
NIL	**Nilore**	**15.41**	**279**	P	**Pn**	**20 38 32.5**	**-3.2**
NIL				pmax	pmax		
	comp=Z,219nm,0.9s						
NIL	**Nilore**	**15.41**	**279**	Pn	**Pn**	**20 38 32.5**	**-3.2**
ENH	**Enshi**	**15.45**	**94**	Pn	**Pn**	**20 38 33.0**	**-3.3**
ENH				IAmb	IAmb	20 38 46.5	
	comp=Z,122nm,1.0s						
CM31	**Chiang Mai Arr**	**15.54**	**153**	Pn	**Pn**	**20 38 35.2**	**-2.4**
CMAR	**Chiang Mai Arr**	**15.54**	**153**	Pn	**Pn**	**20 38 34.6**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=332,slow=12,SNR=32						
CMAR	**Chiang Mai Arr**	**15.54**	**153**	P	**Pn**	**20 38 34.2**	**-3.4**
CMAR	**Chiang Mai Arr**	**15.54**	**153**	Pn	**Pn**	**20 38 34.2**	**-3.4**
TNSS	**Tian-Shan**	**15.56**	**316**	*e*P	**Pn**	**20 38 38.1**	**+0.1**
	baz=316						
CHLP	**Challavanipeta**	**15.57**	**208**	*e*Pn	**Pn**	**20 38 39.5**	**+1.6**
CHLP				*e*Sn	**Sn**	**20 41 33.9**	**+3.4**
MDOK	**Medeo**	**15.58**	**317**	*e*P	**Pn**	**20 38 37.6**	**-0.4**
MDOK	**Medeo**	**15.58**	**317**	*e*P	**Pn**	**20 38 37.6**	**-0.4**
	baz=316						
BHPL	**Bhopal**	**15.59**	**237**	*e*P	**Pn**	**20 38 34.2**	**-3.9**
BHPL				IAmb	IAmb	20 38 41.0	
	comp=Z,116nm,1.2s						
SLVN	**Son La**	**15.67**	**133**	Pn	**Pn**	**20 38 37.9**	**-1.3**
ZSN	**Zaisan**	**15.71**	**343**	*e*P	**Pn**	**20 38 39.5**	**0.0**
ZSN	**Zaisan**	**15.71**	**343**	*e*P	**Pn**	**20 38 39.6**	**0.0**
	baz=343						
BOOM	**Boomskoye usch**	**15.85**	**313**	P	**Pn**	**20 38 40.6**	**-1.0**
BOOM				pmax	pmax		
	comp=Z,156nm,1.1s						
BOOM	**Boomskoye usch**	**15.85**	**313**	Pn	**Pn**	**20 38 40.6**	**-1.0**
BOOM				IAmb	IAmb	20 38 52.3	
	comp=Z,156nm,1.1s						
MK31	**Makanchi Array**	**15.88**	**336**	*i* P	**Pn**	**20 38 41.3**	**-0.4**
MK31				pmax	pmax		
	comp=Z,33nm,0.9s						
MK31	**Makanchi Array**	**15.88**	**336**		**Pn**	**20 38 40.5**	**-1.3**
MKAR	**Makanchi Array**	**15.88**	**336**	Pn	**Pn**	**20 38 40.5**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=143,slow=12,SNR=68						
MKAR				LR	LR	20 44 42.3	
	comp=Z,3μm,20.3s,baz=154,slow=37						
MKAR	**Makanchi Array**	**15.88**	**336**	*i* P	**Pn**	**20 38 41.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,22nm,1.0s						
MKAR	**Makanchi Array**	**15.88**	**336**	Pn	**Pn**	**20 38 40.2**	**-1.5**
AJM	**Ajmer**	**15.95**	**252**	*e*P	**P**	**20 38 46.9**	**+0.5**
MAKZ	**Makanchi**	**16.00**	**335**	P	**Pn**	**20 38 41.4**	**-1.9**
MAKZ				pmax	pmax		
	comp=Z,83nm,1.3s						
MAKZ	**Makanchi**	**16.00**	**335**	Pn	**Pn**	**20 38 41.4**	**-1.9**
TDK	**Taldyqorghan**	**16.08**	**324**	*e*P	**Pn**	**20 38 44.6**	**+0.3**
TDK				pmax	pmax		
	comp=Z,153nm,2.4s						
TDK	**Taldyqorghan**	**16.08**	**324**	*e*P	**Pn**	**20 38 44.7**	**+0.3**
	comp=Z,153nm,2.4s,baz=324						
KST	**Kastek**	**16.14**	**315**	*e*P	**Pn**	**20 38 45.5**	**+0.2**
	baz=314					

DGZ	**Jazzator, Alta**	**17.38 351**	⇑*i*P	**P**	**20 39 01.8**	**-0.5**
DGZ			pmax	pmax		
comp=Z,117nm,1.6s						
DRK	**Karamyk**	**17.41 299**	P	**Pn**	**20 39 00.1**	**-1.3**
LYN	**LuoYang**	**17.51 78**	⇓P	**Pn**	**20 39 01.0**	**-1.5**
LYN			S	**Sn**	**20 42 17.0**	**-0.5**
LYN			pmax	pmax		
comp=Z,20nm,0.9s						
LYN			pmax	pmax		
comp=Z,210nm,8.3s						
LYN			LR	LR		
comp=Z,39μm,14.2s						
LYN			LR	LR		
comp=Z,10μm,11.3s						
RPR	**Rampur**	**17.57 222**	*e*Pn	**P**	**20 39 04.8**	**+0.4**
AKL	**Akola**	**17.58 231**	*e*P	**Pn**	**20 39 00.7**	**-2.7**
PVM	**Polavaram**	**17.72 213**	*e*P	**P**	**20 39 07.1**	**+1.1**
TIY	**Taiyuan**	**17.79 67**	⇑P	**P**	**20 39 06.4**	**-0.4**
TIY			PP	**PnPn**	**20 39 20.7**	**+4.1**
TIY			S	**S**	**20 42 26.9**	**-4.4**
TIY			pmax	pmax		
comp=Z,81nm,1.3s						
TIY			LR	LR		
comp=Z,7μm,6.9s						
TIY			LR	LR		
comp=Z,8μm,8.2s						
TIY			LR	LR		
comp=Z,5μm,9.3s						
GULI	**GuiLin**	**17.96 109**	⇑P	**Pn**	**20 39 04.5**	**-3.5**
GULI			pmax	pmax		
comp=Z,110nm,1.5s						
GULI			LR	LR		
comp=Z,7μm,11.4s						
GULI			LR	LR		
comp=Z,3μm,9.2s						
HHC	**Hu-ho-hao-te**	**17.99 57**	*e*P	**P**	**20 39 08.6**	**-0.4**
HHC			PP	**PnPn**	**20 39 22.9**	**+3.6**
HHC			S	**Sn**	**20 42 30.4**	**+1.3**
HHC			SS	**SnSn**	**20 42 46.2**	**+3.5**
HHC			pmax	pmax		
comp=Z,36nm,1.2s						
HHC			pmax	pmax		
comp=Z,390nm,6.5s						
HHC			LR	LR		
comp=Z,9μm,10.5s						
HHC			LR	LR		
comp=Z,10μm,10.1s						
BTK	**Batken**	**18.30 300**	P	**Pn**	**20 39 11.5**	**-0.8**
BTK			pmax	pmax		
comp=Z,337nm,1.2s						
BTK	**Batken**	**18.30 300**	P	**Pn**	**20 39 11.5**	**-0.8**
BTK			IAmb	IAmb	20 39 21.3	
comp=Z,337nm,1.2s						
BTLS	**Baital**	**18.43 317***c i*P		**Pn**	**20 39 14.6**	**+0.8**
BTLS			pmax	pmax		
comp=Z,86nm,2.0s						
BTLS	**Baital**	**18.43 317**⇑*i*P		**Pn**	**20 39 14.6**	**+0.8**
comp=Z,86nm,2.0s,baz=317						
MYLAV	**Mylavaram**	**18.62 215**	*e*P	**Pn**	**20 39 16.5**	**+0.3**
VJD	**Vijayawada**	**18.82 214**	*e*P	**P**	**20 39 16.4**	**-1.6**
KBL	**Kabul**	**18.89 282**	P	**P**	**20 39 17.1**	**-1.9**
KBL			pmax	pmax		
comp=Z,120nm,0.9s						
KBL	**Kabul**	**18.89 282**	P	**P**	**20 39 17.1**	**-1.9**
KBL			IAmb	IAmb	20 39 23.5	
comp=Z,120nm,0.9s						
SONM	**Songino Array**	**18.92 32**	P	**Pn**	**20 39 19.7**	**-0.1**
comp=Z,0.7nm,0.3s,baz=219,slow=13,SNR=174						
SONM			LR	LR	20 47 40.3	
comp=Z,4μm,19.1s,baz=220,slow=40						
SONM	**Songino Array**	**18.92 32**	P	**P**	**20 39 18.9**	**-0.3**
SONM			pmax	pmax		
comp=Z,105nm,1.2s						
SONM	**Songino Array**	**18.92 32**	P	**P**	**20 39 18.9**	**-0.3**
CNSH	**ChangSha**	**18.92 98**	⇑P	**P**	**20 39 14.9**	**-4.3**
CNSH			S	**Sn**	**20 42 45.5**	**-6.2**
CNSH			LR	LR		
comp=Z,5μm,11.1s						
DZA	**Taraz**	**19.00 309**	*i* P	**Pn**	**20 39 20.9**	**+0.2**
DZA			pmax	pmax		
comp=Z,13nm,0.8s						
DZA	**Taraz**	**19.00 309**	*i* P	**Pn**	**20 39 20.9**	**+0.2**
comp=Z,13nm,0.8s,baz=308						
CUPL	**Choutuppal**	**19.04 220**	*e*P	**P**	**20 39 21.4**	**+0.8**
HYBB	**Hyderabad (bro**	**19.14 221**	*e*P	**Pn**	**20 39 22.6**	**0.0**
HYBB			*e*S	**S**	**20 43 01.0**	**+2.1**
HYB	**Hyderabad**	**19.14 221**	*e*P	**P**	**20 39 19.8**	**-2.0**
HYB			IAmb	IAmb	20 39 24.5	
comp=Z,134nm,1.5s						
CHGR	**Chuyangaron**	**19.20 295**	P	**P**	**20 39 21.3**	**-1.0**
CHGR	**Chuyangaron**	**19.20 295**	P	**P**	**20 39 20.8**	**-1.5**
CHGR			IAmb	IAmb	20 39 26.4	
comp=Z,152nm,1.0s						
ULN	**Ulaanbaatar**	**19.24 33**	⇓*i*P	**Pn**	**20 39 23.2**	**-0.5**
ULN			pmax	pmax		
comp=Z,185nm,1.5s						
ULN	**Ulaanbaatar**	**19.24 33**		**P**	**20 39 22.3**	**-0.5**
ULN			IAmb	IAmb	20 39 29.7	
comp=Z,183nm,1.4s						
DGPR	**DIGLIPUR**	**19.36 176**	*e*P	**Pn**	**20 39 25.9**	**+0.9**
DGPR			IAmb	IAmb	20 39 29.2	
comp=Z,56nm,0.8s						
NJS	**Nagarjunasagar**	**19.45 218**	*e*P	**Pn**	**20 39 26.3**	**0.0**
WHN	**Wuhan**	**19.50 90**	⇓P	**Pn**	**20 39 26.1**	**-0.6**
WHN			S	**Sn**	**20 43 00.9**	**-4.7**
WHN			pmax	pmax		
comp=Z,150nm,1.0s						
WHN			LR	LR		
comp=Z,51μm,15.8s						
WHN			LR	LR		
comp=Z,35μm,14.8s						
WHN			LR	LR		
comp=Z,21μm,9.2s						
HNS	**HongShan**	**19.52 69**	⇓P	**P**	**20 39 25.2**	**-0.5**
HNS			S	**Sn**	**20 42 57.0**	**-9.1**
HNS			pmax	pmax		
comp=Z,67nm,1.3s						
HNS			pmax	pmax		
comp=Z,500nm,3.9s						
HNS			LR	LR		
comp=Z,5μm,10.8s						
HNS			LR	LR		
comp=Z,6μm,10.4s						
KKAR	**Karatay Array**	**19.63 308**	P	**P**	**20 39 27.1**	**+0.2**
KKAR	**Karatay Array**	**19.63 308**	P	**P**	**20 39 27.1**	**+0.2**
ADKI	**Addanki**	**19.72 215**	*e*P	**Pn**	**20 39 29.4**	**-0.1**
ADKI			*e*S	**Sn**	**20 43 12.7**	**+1.6**
KLRI	**Killari**	**19.78 227**	*e*P	**P**	**20 39 29.2**	**+0.5**
KLRI			*e*S	**Sn**	**20 43 14.4**	**+1.9**
ZAK	**Zakamensk**	**19.78 23**	*e*P	**Pn**	**20 39 29.8**	**-0.3**
ZAK			pmax	pmax		
comp=Z,80nm,1.3s						
ZAK			pmax	pmax		
comp=Z,55nm,1.3s						
TAS	**Tashkent**	**19.80 302**	P	**Pn**	**20 39 30.4**	**+0.1**
TAS			pmax	pmax		
comp=Z,485nm,1.5s						
TAS	**Tashkent**	**19.80 302**	Pn	**Pn**	**20 39 30.4**	**+0.1**
SRLM	**Srisailam**	**20.05 218**	*e*P	**P**	**20 39 32.9**	**+1.2**
SRLM			*e*S	Sn	20 43 19.6	+0.6
BRLS	**Borolday**	**20.05 308***c i*P		**P**	**20 39 32.6**	**+1.1**
BRLS	**Borolday**	**20.05 308**⇑*i*P		**P**	**20 39 32.6**	**+1.1**
baz=306						
MOY	**Mondy**	**20.27 17**	*e*P	Pn	20 39 35.0	-0.9
MOY			pmax	pmax		
comp=Z,108nm,2.0s						
KURBB	**Kurchatov Arra**	**20.44 336**	P	**P**	**20 39 36.8**	**+1.1**
comp=Z,21nm,0.9s,baz=138,slow=12,SNR=37						
KURBB			LR	LR	20 47 28.6	
comp=Z,2μm,19.2s,baz=125,slow=37						
KURK	**Kurchatov**	**20.49 336***ce*P		**P**	**20 39 36.9**	**+0.8**
KURK			pmax	pmax		
comp=Z,75nm,1.1s						
KURK	**Kurchatov**	**20.49 336**	P	**P**	**20 39 35.8**	**-0.3**
RCLA	**Racherla**	**20.55 217**	*e*P	**P**	**20 39 38.0**	**+0.9**
RCLA			*e*S	**S**	**20 43 29.5**	**+2.4**
PBA	**Port Blair**	**20.86 177**	Pn	Pn	20 39 44.2	+1.4
PBA			IAmb	IAmb	20 40 12.8	
comp=Z,74nm,0.8s						
BJT	**Baijiatuau**	**21.11 62**	P	**P**	**20 39 43.3**	**+0.3**
BJT			pmax	pmax		
comp=Z,56nm,1.3s						
BJT	**Baijiatuau**	**21.11 62**	P	**P**	**20 39 43.3**	**+0.3**
BJI	**Beijing**	**21.12 62**	P	**P**	**20 39 39.4**	**-3.7**
BJI			S	**S**	**20 43 36.8**	**-1.2**
BJI			sS	Sn	20 43 38.0	-6.5
BJI			pmax	pmax		
comp=Z,55nm,1.3s						
BJI			LR	LR		
comp=Z,14μm,12.5s						
BJI			LR	LR		
comp=Z,7μm,15.0s						
POO	**Poona**	**21.21 233**	*e*P	**P**	**20 39 45.4**	**+1.1**
QIZ	**Qiongzhong**	**21.22 125**	P	**P**	**20 39 45.6**	**+1.3**
QIZ			S	Sn	20 43 43.4	-3.8
QIZ			pmax	pmax		
comp=Z,81nm,0.9s						
QIZ			LR	LR		
comp=Z,5μm,10.8s						
QIZ			LR	LR		
comp=Z,4μm,15.2s						
QIZ			LR	LR		
comp=Z,7μm,10.3s						
QIZ	**Qiongzhong**	**21.22 125**	P	**P**	**20 39 45.1**	**+0.8**
QIZ			IAmb	IAmb	20 39 48.0	
comp=Z,99nm,1.0s						
UBPT	**Khong Chiam**	**21.35 141**	P	**P**	**20 39 44.8**	**-0.9**
UBPT			IAmb	IAmb	20 39 57.1	
comp=Z,98nm,0.8s						
TIA	**Tai'an**	**21.36 73**	⇓P	**P**	**20 39 45.4**	**-0.3**
TIA			S	**S**	**20 43 42.3**	**-0.5**
TIA			pmax	pmax		
comp=Z,35nm,1.2s						
TIA			pmax	pmax		
comp=Z,250nm,7.8s						
TIA			LR	LR		
comp=Z,7μm,12.6s						
TIA			LR	LR		
comp=Z,7μm,13.6s						
BHUJ	**Bhuj**	**21.46 250**	*e*P	**P**	**20 39 48.4**	**+1.6**
BHUJ			IAmb	IAmb	20 39 52.5	
comp=Z,76nm,0.7s						
IRK	**Irkutsk**	**21.70 21**	*e*P	**P**	**20 39 50.6**	**+1.4**
IRK			*e*		20 40 17.8	
IRK			pmax	pmax		
comp=Z,218nm,2.1s						
KAD	**Karad**	**21.87 230**	*e*P	**P**	**20 39 53.0**	**+1.7**
URV	**Uravakonda**	**21.87 220**	*e*P	**P**	**20 39 52.2**	**+0.9**
ZAA0	**Zalesovo Array**	**21.90 349**	P	**P**	**20 39 50.2**	**-1.0**
ZALV	**Zalesovo Beam**	**21.90 349**	P	**P**	**20 39 50.9**	**-0.4**
comp=Z,27nm,0.9s,baz=161,slow=10,SNR=95						
ZALV	**Zalesovo Beam**	**21.90 349**	P	**P**	**20 39 50.2**	**-1.0**
ZALV	**Zalesovo Beam**	**21.90 349**	P	**P**	**20 39 50.2**	**-1.0**
XLT	**XiLinHaoTe**	**22.23 52**	⇓*i*P	**P**	**20 39 54.3**	**-0.7**
XLT			pP	pP	20 39 58.4	-0.9
XLT			sP	sP	20 40 01.6	+0.4
XLT			S	**S**	**20 43 59.9**	**+0.2**
XLT			sS	pS	20 44 04.3	-1.4
XLT			SS	**SnSn**	**20 44 31.1**	**+4.5**
XLT			pmax	pmax		
comp=Z,29nm,1.4s						
XLT			pmax	pmax		
comp=Z,350nm,3.7s						
XLT			LR	LR		
comp=N,15μm,19.4s						
XLT			LR	LR		
comp=E,5μm,19.8s						
XLT			LR	LR		
comp=Z,5μm,13.4s						
BRZS	**Berezniki**	**22.35 327**	*e*P	**P**	**20 39 56.8**	**+0.6**
BRZS			pmax	pmax		
comp=Z,29nm,1.0s						
BRZS	**Berezniki**	**22.35 327**	*e*P	**P**	**20 39 56.8**	**+0.6**
comp=Z,29nm,1.0s,baz=326						
HKPS	**Hong Kong Po S**	**22.45 112**	P	**P**	**20 39 58.5**	**+1.0**
HKPS			IAmb	IAmb	20 40 01.3	
comp=Z,88nm,0.9s						
NJ2	**Nanjing**	**23.03 84**	*e*P	**P**	**20 39 58.9**	**-4.6**
NJ2			PP	**PnPn**	**20 40 31.1**	**+2.8**
NJ2			S	**S**	**20 44 10.3**	**-4.0**
NJ2			sS	**pS**	**20 44 17.5**	**-1.7**
NJ2			SS	**SnSn**	**20 44 51.9**	**+5.6**
NJ2			pmax	pmax		
comp=Z,21nm,1.0s						
NJ2			LR	LR		
comp=Z,11μm,10.9s						
NJ2			LR	LR		
comp=Z,4μm,10.4s						
NJ2			LR	LR		
comp=Z,11μm,11.4s						
GOA	**Goa**	**23.45 228**	*e*P	**P**	**20 40 07.1**	**-0.7**
GOA			IAmb	IAmb	20 40 11.5	
comp=Z,19nm,0.9s						
SALM	**Salem**	**24.20 214**	*e*P	**P**	**20 40 14.9**	**-0.1**
HRA	**Herat**	**24.51 282**	P	**P**	**20 40 17.1**	**-1.0**
HRA			IAmb	IAmb	20 40 22.4	
comp=Z,50nm,0.9s						
QZH	**Quanzhou**	**24.82 101**	*e*P	P	20 40 12.1	-8.5
QZH			S	**S**	**20 44 46.1**	**+2.8**
QZH			LR	LR		
comp=N,4μm,10.9s						
QZH			LR	LR		
comp=E,3μm,11.4s						
QZH			LR	LR		
comp=Z,6μm,11.8s						
SRIT	**Nakonsritamara**	**25.00 161**	P	**P**	**20 40 22.6**	**+0.3**
DL2	**Dalian**	**25.11 67**	⇓*i*P	**P**	**20 40 24.9**	**+1.7**
DL2			pmax	pmax		
comp=Z,51nm,0.9s						
DL2			pmax	pmax		
comp=Z,190nm,5.3s						
DL2			LR	LR		
comp=Z,7μm,17.7s						
DL2			LR	LR		
comp=Z,3μm,15.7s						
DL2			LR	LR		
comp=Z,6μm,13.1s						
SSE	**Sheshan**	**25.15 85**	P	**P**	**20 40 19.0**	**-4.6**
SSE			S	**S**	**20 44 46.7**	**-1.9**
SSE			pmax	pmax		
comp=Z,53nm,0.8s						
SSE			pmax	pmax		
comp=Z,140nm,5.0s						
SSE			LR	LR		
comp=Z,4μm,11.3s						
SSE			LR	LR		
comp=Z,1μm,11.2s						
SSE			LR	LR		
comp=Z,3μm,9.8s						
BVAR	**Borovoye Array**	**25.50 330**	P	**P**	**20 40 27.1**	**+0.5**
comp=Z,18nm,0.9s,baz=129,slow=12,SNR=39						
BRVK	**Borovoye**	**25.57 329***ce*P		**P**	**20 40 27.4**	**+0.2**
BRVK			pmax	pmax		
comp=Z,33nm,0.8s						
BRVK	**Borovoye**	**25.57 329**	P	**P**	**20 40 27.4**	**+0.2**
BRVK			IAmb	IAmb	20 40 31.8	
comp=Z,35nm,0.9s						
HIA	**Hailar**	**26.80 43**	P	**P**	**20 40 39.3**	**+0.8**
HIA			pmax	pmax		
comp=Z,64nm,1.3s						
HIA	**Hailar**	**26.80 43**	P	**P**	**20 40 39.3**	**+0.8**
HIA			IAmb	IAmb	20 40 41.2	
comp=Z,64nm,1.3s						
SNY	**Shenyang**	**26.97 61**	⇓P	**P**	**20 40 40.4**	**+0.4**
SNY			S	**S**	**20 45 17.9**	**+0.8**
SNY			pmax	pmax		
comp=Z,25nm,1.6s						
SNY			pmax	pmax		
comp=Z,200nm,3.3s						
SNY			LR	LR		
comp=N,15μm,12.3s						
SNY			LR	LR		
comp=E,3μm,18.0s						
SNY			LR	LR		
comp=Z,6μm,10.9s						
PALK	**Pallekele**	**27.14 204**	P	**P**	**20 40 42.3**	**+0.5**
comp=Z,18nm,0.8s,baz=129,slow=11,SNR=7.4						
PALK			LR	LR	20 52 24.3	
comp=Z,1μm,18.9s,baz=148,slow=39						
PALK	**Pallekele**	**27.14 204**	P	**P**	**20 40 42.5**	**+0.8**
PALK			IAmb	IAmb	20 40 46.1	
comp=Z,66nm,1.2s						
GEYT	**Alibeck**	**27.75 291**	P	**P**	**20 40 48.0**	**+0.9**
comp=Z,15nm,0.9s,baz=151,slow=6.4,SNR=12						
GEYT			LR	LR	20 54 04.3	
comp=Z,5μm,21.0s,baz=96,slow=41						
GEYT	**Alibeck**	**27.75 291**	P	**P**	**20 40 48.1**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**27.75 291**	P	**P**	**20 40 47.9**	**+0.7**
KULM	**Kulim**	**28.44 161**	P	**P**	**20 40 53.1**	**-0.2**
CN2	**Changchun**	**28.68 57**	*e*P	**P**	**20 40 54.0**	**-1.3**
CN2			*e*PP	**PnPn**	**20 41 46.0**	**+0.6**
CN2			*e*S	**S**	**20 45 42.1**	**-2.0**
CN2			*e*SS	**SnSn**	**20 47 07.0**	**+2.7**
CN2			pmax	pmax		
comp=Z,20nm,1.1s						
CN2			pmax	pmax		
comp=Z,150nm,3.5s						
CN2			LR	LR		
comp=N,16μm,15.0s						
CN2			LR	LR		
comp=E,4μm,15.0s						
CN2			LR	LR		
comp=Z,4μm,15.0s						
ABKAR	**Akbulak array**	**28.86 315**	P	**P**	**20 40 56.7**	**-0.1**
ABKAR	**Akbulak array**	**28.86 315**	P	**P**	**20 40 56.9**	**+0.1**
INCN	**Inchon**	**29.00 70**	P	**P**	**20 40 57.4**	**-0.8**
INCN			pmax	pmax		
comp=Z,55nm,1.1s						
INCN	**Inchon**	**29.00 70**	P	**P**	**20 40 57.4**	**-0.8**
INCN			IAmb	IAmb	20 41 01.0	
comp=Z,55nm,1.1s						
IPM	**Ipoh**	**29.32 161**	P	**P**	**20 41 00.7**	**-0.4**
BOD	**Bodaibo**	**29.49 24**	*e*P	**P**	**20 41 02.9**	**+0.6**
BOD			pmax	pmax		
comp=Z,28nm,1.6s						
TJN	**Taejon**	**29.63 73**	P	**P**	**20 41 02.4**	**-1.3**
TJN			pmax	pmax		
comp=Z,393nm,1.5s						
TJN	**Taejon**	**29.63 73**	P	**P**	**20 41 02.4**	**-1.3**
KS19	**Wonju Array Si**	**29.98 70**	P	**P**	**20 41 08.4**	**+1.6**
KSAR	**Wonju Array Be**	**30.00 70**	P	**P**	**20 41 05.6**	**-1.4**
KSAR	**Wonju Array Be**	**30.00 70**	P	**P**	**20 41 05.6**	**-1.4**
KSRS	**Korea Array**	**30.03 70**	P	**P**	**20 41 06.0**	**-1.2**
comp=Z,14nm,1.0s,baz=276,slow=9.5,SNR=16						
KSRS			PcP	**PcP**	**20 44 10.4**	**+1.2**
comp=Z,2.9nm,0.8s,baz=297,slow=1.7,SNR=5.7						
KSRS			LR	LR	20 52 54.7	
comp=Z,2μm,18.8s,baz=255,slow=36						
PSI	**Prapat**	**30.42 165**	LR	LR	20 54 43.2	
comp=Z,1μm,18.1s,baz=339,slow=39						
BNX	**BinXian**	**30.45 54**	⇓P	**P**	**20 41 09.6**	**-1.4**
BNX			S	**S**	**20 46 10.0**	**-1.9**
BNX			pmax	pmax		
comp=Z,9.0nm,2.1s						
BNX			pmax	pmax		
comp=Z,170nm,3.8s						
BNX			LR	LR		
comp=Z,12μm,16.5s						
BNX			LR	LR		
comp=Z,4μm,12.7s						
BNX			LR	LR		
comp=Z,5μm,10.6s						
AKTO	**Aktyubinsk**	**30.47 316**	LR	LR	20 54 55.2	
comp=Z,4μm,20.9s,baz=120,slow=39						
WSAR	**Wadi Sarin**	**30.48 261**	LR	LR	20 54 03.4	
comp=Z,1μm,20.7s,baz=109,slow=38						
SVE	**Sverdlovsk**	**32.25 328***ce*P		**P**	**20 41 27.7**	**+1.1**
SVE			*e*		20 51 55.2	
SVE			pmax	pmax		
comp=Z,78nm,1.0s						
SVE			MLR	MLR		
comp=Z,2μm,18.0s						
JOW	**Kunigami**	**32.27 91**	LR	LR	20 54 55.7	
comp=Z,3μm,19.6s,baz=292,slow=37						
MNSI	**Mandailing Nat**	**32.50 165**	P	**P**	**20 41 29.2**	**0.0**
comp=Z,21nm,0.7s						
ARU	**Arti**	**32.98 326**	LR	LR	20 56 39.9	
comp=Z,4μm,18.8s,baz=113,slow=40						
ARU	**Arti**	**32.98 326***d i*P		**P**	**20 41 33.4**	**+0.4**
ARU			S	**S**	**20 46 54.2**	**+3.1**
ARU			SS	**SnSn**	**20 48 53.5**	**+5.0**
ARU			pmax	pmax		
comp=Z,34nm,0.9s						
ARU			MLR	MLR		
comp=Z,4μm,18.0s						
ARU	**Arti**	**32.98 326**	P	**P**	**20 41 33.2**	**+0.2**
ARU			IAmb	IAmb	20 41 36.5	
comp=Z,27nm,0.8s						
ZEA	**Zeya**	**33.01 39**	*e*P	**P**	**20 41 33.9**	**+0.6**
ZEA			*e*S	**S**	**20 46 47.0**	**-4.6**
ZEA			pmax	pmax		
comp=Z,10.0nm,1.1s						
ZEA			MLR	MLR		
comp=E,3μm,13.0s						
ZEA			MLR	MLR		
comp=N,1μm,10.0s						
ZEA			MLR	MLR		
comp=Z,3μm,13.0s						
USRK	**Ussuriysk Ar.**	**33.41 58**	LR	LR	20 55 11.6	
comp=Z,2μm,20.1s,baz=255,slow=36						
KLR	**Kul'dur**	**34.14 49***ce*P		**P**	**20 41 43.0**	**-0.2**
KLR			pmax	pmax		
comp=Z,22nm,1.1s						
KSM	**Kuching**	**35.61 147**	P	**P**	**20 41 55.9**	**-0.3**
MAK	**Makhachkala**	**35.99 300**	*e*P	**P**	**20 41 54.9**	**-4.3**
MAK			*e*S	**S**	**20 47 32.1**	**-5.7**
MAK			*e*SS	**SnSn**	**20 49 58.7**	**-3.1**
MAK			pmax	pmax		
comp=Z,313nm,1.9s						
MAK			MLR	MLR		
comp=Z,2μm,12.0s						
JWT	**Wachi**	**36.23 73**	P	**P**	**20 42 00.9**	**-0.5**
JWT			IAmb	IAmb	20 42 04.7	
comp=Z,55nm,1.0s						
NRIK	**Noril'sk**	**36.88 358**	P	**P**	**20 42 06.9**	**+0.4**
comp=Z,10nm,0.9s,baz=165,slow=8.9,SNR=9.1						
NRIK	**Noril'sk**	**36.88 358***ce*P		**P**	**20 42 06.3**	**-0.2**
NRIK			pmax	pmax		
comp=Z,16nm,1.1s						
NRIK	**Noril'sk**	**36.88 358**	P	**P**	**20 42 06.2**	**-0.2**
MYLDM	**Lahad Datu**	**37.07 132**	P	**P**	**20 42 09.7**	**+0.9**
PPBI	**Pangkal Pinang**	**37.20 155**	P	**P**	**20 42 09.9**	**+0.1**
GROC	**Groznyy**	**37.25 300**	*e*P	**P**	**20 42 10.4**	**+0.4**
GROC			*e*		20 43 33.7	
GROC			*e*		20 44 28.1	
GROC			pmax	pmax		
comp=Z,57nm,1.1s						
BELG	**Belogornoye**	**37.26 315**	LR	LR	20 59 33.7	
comp=Z,2μm,19.1s,baz=108,slow=40						
BELG	**Belogornoye**	**37.26 315**	*i* P	**P**	**20 42 09.6**	**-0.3**
BELG			pmax	pmax		
comp=Z,12nm,1.5s						
STKI	**Sintang**	**37.39 146**	P	**P**	**20 42 10.9**	**-0.5**
comp=Z,3μmcomp=Z,16nm,0.5s						
GRNR	**Gornyy**	**37.42 47**	⇓*i*P	**P**	**20 42 11.0**	**-0.4**
GRNR			*e*S	**S**	**20 48 01.1**	**+1.6**
GRNR			pmax	pmax		
comp=N,1.0nm,1.0s						
GRNR			pmax	pmax		
comp=Z,4.0nm,1.1s						
GRNR			smax	smax		
comp=N,2.0nm,0.6s						
GRNR			MLR	MLR		
comp=E,1μm,11.0s						
GRNR			MLR	MLR		
comp=N,1μm,12.0s						
GRNR			MLR	MLR		
comp=Z,2μm,10.0s						
GNI	**Garni**	**38.11 295**	LR	LR	21 00 44.2	
comp=Z,744nm,21.2s,baz=105,slow=40						
YAK	**Yakutsk**	**38.20 28**	LR	LR	20 59 25.6	
comp=Z,2μm,19.7s,baz=252,slow=38						
YAK	**Yakutsk**	**38.20 28**	*e*P	**P**	**20 42 17.0**	**-0.7**
YAK			*e**PP	**sP**	**20 42 26.4**	**+2.2**
YAK			*e*		20 43 46.7	
YAK			*e*		20 44 35.1	
YAK			*e*S	**S**	**20 48 08.2**	**-2.7**
YAK			*e**SS	**ScP**	**20 48 23.3**	**+3.4**
YAK			*e*		20 52 28.4	
YAK			pmax	pmax		
comp=Z,14nm,1.3s						
YAK			pmax	pmax		
comp=N,4.0nm,1.1s						
YAK			pmax	pmax		
comp=E,7.0nm,1.2s						
YAK			pmax	pmax		
comp=Z,168nm,3.6s						
YAK			pmax	pmax		
comp=E,118nm,3.9s						
YAK			pmax	pmax		
comp=N,76nm,3.3s						
YAK			smax	smax		
comp=E,116nm,4.9s						
YAK			smax	smax		
comp=N,143nm,5.8s						
YAK			MLR	MLR		
comp=Z,2μm,22.0s						

YAK				MLR	MLR		
	comp=N,1μm,23.0s						
YAK				MLR	MLR		
	comp=E,1μm,20.0s						
YAK	**Yakutsk**	**38.20**	**28**	P	**P**	**20 42 17.6**	**-0.2**
MJB9	**Matsu-Tunnel**	**38.30**	**71**	P	**P**	**20 42 18.8**	**-0.3**
MAT	**Matsushiro**	**38.30**	**71**	P	**P**	**20 42 18.1**	**-0.9**
MAT				*e*S	**S**	**20 48 14.6**	**+1.3**
MJAR	**Matsushiro Arr**	**38.31**	**71**	P	**P**	**20 42 18.1**	**-0.9**
	comp=E,9.8nm,0.9s,baz=282,slow=10,SNR=9.6						
MJAR				LR	LR	20 57 41.7	
	comp=E,1μm,18.1s,baz=268,slow=36						
KIRV	**Kirov**	**38.35**	**325**	LR	LR	20 59 57.1	
	comp=E,2μm,19.1s,baz=113,slow=39						
KIRV	**Kirov**	**38.35**	**325**	*ce*P	**P**	**20 42 19.1**	**+0.1**
MDSI	**Maura Dua**	**38.76**	**160**	P	**P**	**20 42 21.2**	**-1.7**
	comp=E,3.7nm,0.9s						
NCK	**Nalchik**	**38.85**	**300**	*i* P	**P**	**20 42 25.6**	**+2.0**
NCK				pmax	pmax		
	comp=Z,22nm,1.1s						
ONI	**Oni**	**38.97**	**299**	P	**P**	**20 42 25.7**	**+1.1**
ONI				pmax	pmax		
	comp=Z,49nm,1.0s						
ONI	**Oni**	**38.97**	**299**	P	**P**	**20 42 25.7**	**+1.1**
ONI				IAmb	IAmb	20 42 30.2	
	comp=Z,49nm,1.0s						
AKH	**Akhalkalaki**	**38.99**	**297**	⇓P	**P**	**20 42 26.8**	**+1.9**
GOF	**Gofitskoye**	**39.27**	**303**	⇑*e*P	**P**	**20 42 27.8**	**+0.8**
GOF				pmax	pmax		
	comp=Z,97nm,1.0s						
KBZ	**Khabaz**	**39.36**	**301**	P	**P**	**20 42 28.1**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=145,slow=7.7,SNR=5.5						
KBZ				LR	LR	21 02 13.2	
	comp=Z,868nm,20.3s,baz=78,slow=42						
NEY	**Neytrino**	**39.49**	**300**	*i* P	**P**	**20 42 29.3**	**+0.2**
KVAR	**Kislovodsk Arr**	**39.51**	**301**	LR	LR	21 02 21.6	
	comp=Z,987nm,18.2s,baz=211,slow=42						
KIV	**Kislovodsk**	**39.51**	**301**	*e*P	**P**	**20 42 29.0**	**-0.1**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
KIV				MLR	MLR		
	comp=Z,343nm,14.0s						
MTKI	**Muara Teweh, K**	**39.96**	**142**	P	P	20 42 40.2	+7.2
JHJ	**Hachijo jima 2**	**40.20**	**76**	LR	LR	20 58 36.9	
	comp=Z,2μm,18.7s,baz=68,slow=35						
DAV	**Davao City (W)**	**40.51**	**121**	LR	LR	21 01 44.8	
	comp=Z,2μm,19.1s,baz=334,slow=40						
VRH	**Novokhopyorsk**	**40.63**	**312**	*e*P	**P**	**20 42 37.8**	**-0.4**
VRH				pmax	pmax		
	comp=Z,40nm,0.8s						
UGL	**Uglegorsk**	**40.79**	**51**	*e*P	**P**	**20 42 39.9**	**+0.4**
UGL				pmax	pmax		
	comp=Z,40nm,0.9s						
UGL				MLR	MLR		
	comp=Z,4μm,12.0s						
UGL				MLR	MLR		
	comp=N,3μm,12.0s						
UGL				MLR	MLR		
	comp=E,3μm,12.0s						
ASAJ	**Asahikawa**	**41.03**	**59**	LR	LR	20 59 26.7	
	comp=E,760nm,21.7s,baz=280,slow=36						
YSS	**Yuzh-Sakhalins**	**41.14**	**54**	*e*P	**P**	**20 42 42.5**	**+0.1**
YSS				*e*		20 44 16.0	
YSS				*e*S	**S**	**20 48 53.4**	**-2.1**
YSS				*e*SS	**SS**	**20 51 57.2**	**-0.7**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS				MLR	MLR		
	comp=Z,3μm,15.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
PRGR	**Permogore**	**41.31**	**329**	*e*P	**P**	**20 42 43.5**	**-0.1**
PRGR				pmax	pmax		
	comp=Z,42nm,1.2s						
RAYN	**Ar Rayn**	**41.40**	**269**	P	**P**	**20 42 44.2**	**-0.7**
RAYN				pmax	pmax		
	comp=Z,12nm,0.9s						
RAYN	**Ar Rayn**	**41.40**	**269**	P	**P**	**20 42 44.2**	**-0.7**
RAYN	**Ar Rayn**	**41.40**	**269**	*i* P	**P**	**20 42 44.6**	**-0.3**
	SNR=8.4						
SOC	**Sochi**	**41.67**	**301**	*e*P	**P**	**20 42 48.2**	**+1.3**
SOC				*e*		20 44 23.6	
SOC				*e*PPP	PPP	20 44 52.8	
SOC				*e*S	**S**	**20 49 07.9**	**+4.4**
SOC				*e*SS	**SS**	**20 52 08.9**	**+0.3**
SOC				*e*SSS	SSS	20 52 40.6	
SOC				pmax	pmax		
	comp=Z,37nm,1.5s						
SOC				MLR	MLR		
	comp=Z,655nm,20.0s						
MPSI	**Mapaga**	**41.72**	**135**	P	P	20 42 53.8	+6.3
LEM	**Lembang**	**42.06**	**156**	LR	LR	21 01 27.4	
	comp=Z,497nm,19.3s,baz=307,slow=38						
BBKI	**Banjar Baru**	**42.09**	**144**	P	**P**	**20 42 49.0**	**-1.5**
	comp=Z,11nm,1.0s						
VORD	**Divnogorie**	**42.12**	**312**	*e*P	**P**	**20 42 49.1**	**-1.4**
VORD				pmax	pmax		
	comp=Z,30nm,0.8s						
VSR	**Storozhevoye**	**42.23**	**312**	*e*P	**P**	**20 42 48.5**	**-2.8**
VSR				pmax	pmax		
	comp=Z,40nm,1.0s						
LPSR	**Galich'ya Gora**	**42.52**	**314**	*e*P	**P**	**20 42 52.2**	**-1.5**
LPSR				pmax	pmax		
	comp=Z,100nm,1.1s						
MRSI	**Marisa**	**42.87**	**132**	P	**P**	**20 42 57.5**	**+0.6**
	comp=Z,22nm,1.1s						
SMRI	**Semarang**	**43.31**	**152**	P	**P**	**20 43 01.4**	**+1.0**
	comp=Z,110nm,1.0s						
SMRI	**Semarang**	**43.31**	**152**	P	**P**	**20 43 01.0**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**43.38**	**58**	*e*P	**P**	**20 43 01.6**	**+0.9**
YUK				*e*		20 44 42.2	
YUK				*e*PPP	PPP	20 45 15.7	
YUK				*e*S	**S**	**20 49 30.3**	**+1.7**
YUK				*e*SSS	SSS	20 53 22.0	
YUK				pmax	pmax		
	comp=Z,398nm,1.2s						
YUK				pmax	pmax		
	comp=E,391nm,1.3s						
YUK				pmax	pmax		
	comp=N,436nm,1.0s						
YUK				pmax	pmax		
	comp=Z,471nm,1.2s						
YUK				MLR	MLR		
	comp=Z,1μm,14.0s						
YUK				MLR	MLR		
	comp=N,1μm,13.0s						
YUK				MLR	MLR		
	comp=E,1μm,14.0s						
GTOI	**Gorontalo**	**43.42**	**131**	P	**P**	**20 42 59.0**	**-2.4**
	comp=E,15nm,0.9s						
MOS	**Moscow**	**43.71**	**319**	*e*P	**P**	**20 43 04.4**	**+1.2**
MOS				*e*		20 44 51.6	
MOS				*e*S	**S**	**20 49 35.9**	**+2.8**
MOS				pmax	pmax		
	comp=Z,90nm,0.9s						
MOS				pmax	pmax		
	comp=Z,100nm,0.9s						
MOS				MLR	MLR		
	comp=Z,2μm,20.0s						
KLMR	**Klimovskoe**	**43.83**	**326**	*e*P	**P**	**20 43 03.8**	**-0.3**
KLMR				*e*		20 44 45.9	
KLMR				pmax	pmax		
	comp=Z,34nm,0.8s						
KLMR				MLR	MLR		
	comp=Z,2μm,15.0s						
KLMR	**Klimovskoe**	**43.83**	**326**	*e*P	**P**	**20 43 03.8**	**-0.3**
KLMR				AMP		20 43 07.2	
	comp=Z,34nm,0.8s						
KLMR				*e*PP	**PP**	**20 44 45.9**	**-0.1**
KLMR				LQ	LQ	20 57 10.2	
KLMR				LQ	LQ	20 57 10.2	
KLMR				LR	LR	21 01 23.5	
KLMR				AMP		21 02 54.8	
	comp=Z,2μm,14.8s						
TIXI	**Tiksi**	**43.85**	**16**	LR	LR	21 02 30.1	
	comp=Z,872nm,18.5s,baz=254,slow=38						
TIXI	**Tiksi**	**43.85**	**16**	*ce*P	**P**	**20 43 03.1**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**43.85**	**16**	P	**P**	**20 43 02.6**	**-1.6**
KMSI	**Cibinong**	**44.09**	**130**	P	**P**	**20 43 04.4**	**-2.4**
	comp=Z,2μmcomp=Z,105nm,0.9s						
OBN	**Obninsk**	**44.21**	**318**	LR	LR	21 04 03.8	
	comp=Z,262nm,19.4s,baz=86,slow=40						
OBN	**Obninsk**	**44.21**	**318**	*i* P	**P**	**20 43 06.8**	**-0.5**
OBN				*i*		20 44 49.6	
OBN				*i* S	**S**	**20 49 42.8**	**+2.3**
OBN				*i* SS	**SS**	**20 52 50.6**	**-7.5**
OBN				pmax	pmax		
	comp=Z,32nm,0.9s						
OBN				MLR	MLR		
	comp=Z,944nm,17.0s						
OBN	**Obninsk**	**44.21**	**318**	P	**P**	**20 43 05.9**	**-1.4**
OBN				IAmb	IAmb	20 43 10.6	
	comp=Z,30nm,0.9s						
GAZ	**Gaziantep**	**44.34**	**292**	P	**P**	**20 43 10.2**	**+1.5**
TTSI	**Tana Toraja**	**44.40**	**138**	P	**P**	**20 43 07.0**	**-2.2**
	comp=Z,22nm,1.0s						
BNN	**Bunyan**	**45.10**	**294**	P	**P**	**20 43 12.4**	**-2.3**
BNN				IAmb	IAmb	20 43 20.2	
	comp=Z,34nm,1.0s						
SPSI	**Sidrap Palu**	**45.12**	**138**	P	**P**	**20 43 13.9**	**-1.1**
	comp=Z,433nmcomp=Z,20nm,1.3s						
SIM	**Simferopol'**	**45.60**	**303**	*i* P	**P**	**20 43 17.4**	**-1.1**
SIM				pmax	pmax		
	comp=Z,43nm,1.0s						
KAPI	**Kappang**	**45.98**	**139**	LR	LR	21 04 12.5	
	comp=Z,576nm,20.8s,baz=338,slow=38						
SRBI	**Singaraja**	**46.29**	**147**	P	**P**	**20 43 23.6**	**-0.6**
	comp=Z,25nm,0.9s						
ILGA	**Ilgaz**	**46.35**	**298**	P	**P**	**20 43 25.2**	**+0.4**
BR131	**Keskin Array S**	**46.63**	**296**	*i* P	**P**	**20 43 26.8**	**-0.1**
BR131	**Keskin Array S**	**46.63**	**296**	P	**P**	**20 43 26.6**	**-0.3**
BRTR	**Keskin Array B**	**46.63**	**296**	P	**P**	**20 43 26.8**	**-0.1**
	comp=Z,8.8nm,1.0s,baz=93,slow=7.4,SNR=13						
BRTR				LR	LR	21 06 44.1	
	comp=Z,1μm,19.8s,baz=118,slow=41						
BRTR	**Keskin Array B**	**46.63**	**296**	P	**P**	**20 43 25.1**	**-1.8**
BRTR	**Keskin Array B**	**46.63**	**296**	P	**P**	**20 43 25.1**	**-1.8**
MMAI	**Mount Meron Ar**	**46.73**	**287**	LR	LR	21 07 02.7	
	comp=Z,1μm,19.0s,baz=246,slow=41						
MA2	**Magadan**	**47.04**	**37**	*ce*P	**P**	**20 43 28.7**	**-0.9**
MA2				pmax	pmax		
	comp=Z,12nm,0.8s						
MA2	**Magadan**	**47.04**	**37**	P	**P**	**20 43 29.1**	**-0.5**
MA2				IAmb	IAmb	20 43 33.4	
	comp=Z,31nm,1.1s						
GHAJ	**Ghor Haditha**	**47.08**	**284**	P	**P**	**20 43 29.7**	**-0.6**
GHAJ				IAmb	IAmb	20 43 34.4	
	comp=Z,23nm,1.0s						
ANTO	**Ankara**	**47.25**	**296**	P	**P**	**20 43 31.7**	**+0.1**
ANTO				pmax	pmax		
	comp=Z,31nm,0.9s						
ANTO	**Ankara**	**47.25**	**296**	P	**P**	**20 43 31.7**	**+0.1**
ANTO				IAmb	IAmb	20 43 38.1	
	comp=Z,31nm,0.9s						
BR231	**Keskin MP Arra**	**47.27**	**296**	P	**P**	**20 43 32.1**	**+0.3**
LBMI	**Labuha**	**47.33**	**127**	P	**P**	**20 43 30.5**	**-1.9**
	comp=Z,32nm,1.0s						
SANI	**Sanana**	**47.38**	**130**	P	**P**	**20 43 28.9**	**-3.9**
	comp=Z,15nm,1.1s						
LVZ	**Lovozero**	**47.90**	**335**	*ce*P	**P**	**20 43 38.5**	**+2.2**
LVZ				pmax	pmax		
	comp=Z,96nm,1.7s						
EIL	**Elat**	**48.09**	**282**	LR	LR	21 07 01.0	
	comp=Z,2μm,18.3s,baz=92,slow=40						
PUL	**Pulkovo**	**48.12**	**323**	*i* P	**P**	**20 43 40.6**	**+2.7**
PUL				pmax	pmax		
	comp=Z,75nm,0.5s						
APA	**Apatity**	**48.26**	**334**	⇑*i* P	P	20 43 46.3	+7.3
APA				MLR	MLR		
	comp=Z,2μm,16.0s						
SEY	**Seymchan**	**48.31**	**32**	LR	LR	21 05 29.5	
	comp=Z,2μm,18.4s,baz=270,slow=38						
MDUB	**Mudurnu**	**48.34**	**297**	P	**P**	**20 43 40.0**	**-0.1**
PURM	**Purcari**	**48.40**	**306**	⇑P	**P**	**20 43 40.9**	**+0.5**
AKASG	**Malin Array Be**	**48.50**	**311**	P	**P**	**20 43 40.5**	**-0.6**
	comp=Z,13nm,0.8s,baz=78,slow=6.6,SNR=22						
AKASG				LR	LR	21 08 18.1	
	comp=Z,2μm,19.4s,baz=86,slow=41						
AKASG	**Malin Array Be**	**48.50**	**311**	P	**P**	**20 43 40.8**	**-0.2**
AKBB	**Malin Array Si**	**48.50**	**311**	P	**P**	**20 43 40.3**	**-0.7**
AKBB				pmax	pmax		
	comp=Z,23nm,1.0s						
AKBB	**Malin Array Si**	**48.50**	**311**	P	**P**	**20 43 40.3**	**-0.7**
AKBB				IAmb	IAmb	20 43 44.0	
	comp=Z,23nm,0.9s						
KIS	**Kishinev**	**49.07**	**306**	*e*P	**P**	**20 43 47.0**	**+1.5**
KIS				*e*L	L	21 07 10.0	
KIS				LRM	MLR	21 09 09.0	
	comp=Z,500nm,14.0s						
KIS	**Kishinev**	**49.07**	**306**	*e*P	**P**	**20 43 47.0**	**+1.5**
KIS				MLR	MLR		
	comp=Z,600nm,15.0s						
KIS				MLR	MLR		
	comp=E,500nm,14.0s						
MILM	**Milestii Mici**	**49.08**	**306**	⇑*i* P	**P**	**20 43 45.0**	**-0.6**
	comp=E,430nm,5.2s						
MILM				*e*SS	SS	20 54 22.0	+0.8
MILM				*e*LQ	LQ	21 03 36.0	
	comp=E,900nm,18.0s						
MILM				*e*LR	LR	21 04 33.0	
	comp=E,1μm,16.0s						
MILM	**Milestii Mici**	**49.08**	**306**	*c* *i* P	**P**	**20 43 45.0**	**-0.6**
MILM				*e*SS	SS	20 54 22.0	+0.8
MILM				pmax	pmax		
	comp=Z,430nm,5.2s						
MILM				MLR	MLR		
	comp=Z,1μm,16.0s						
MILM				MLR	MLR		
	comp=E,800nm,16.5s						
SORM	**Soroca**	**49.26**	**308**	⇑P	**P**	**20 43 46.6**	**-0.3**
TLCR		**49.30**	**304**	⇑P	**P**	**20 43 47.7**	**+0.4**
TLCR		**49.30**	**304**	P	**P**	**20 43 50.3**	**+3.0**
JURR	**Jurilovca**	**49.32**	**303**	⇑P	**P**	**20 43 47.8**	**+0.4**
LEOM	**Leova**	**49.52**	**306**	⇑P	**P**	**20 43 49.6**	**+0.7**
LEOM	**Leova**	**49.52**	**306**	P	**P**	**20 43 53.1**	**+4.1**
TPGR	**Topolog**	**49.63**	**304**	⇓P	**P**	**20 43 49.9**	**+0.1**
TIRR	**Tirgusor**	**49.69**	**303**	⇓P	**P**	**20 43 49.9**	**-0.4**
TIRR	**Tirgusor**	**49.69**	**303**	P	**P**	**20 43 49.4**	**-0.9**
TIRR				pmax	pmax		
	comp=Z,46nm,1.1s						
TIRR	**Tirgusor**	**49.69**	**303**	P	**P**	**20 43 49.4**	**-0.9**
TIRR				IAmb	IAmb	20 43 55.0	
	comp=Z,46nm,1.1s						
VLDR	**Vladesti**	**49.72**	**305**	⇓P	**P**	**20 43 51.1**	**+0.6**
CFR	**Carcaliu**	**49.78**	**304**	⇑P	**P**	**20 43 50.8**	**-0.1**
SCTR	**Scanteiesti**	**49.80**	**305**	⇑P	**P**	**20 43 51.3**	**+0.1**
VASR	**Vaslui**	**49.81**	**306**	⇑P	**P**	**20 43 51.7**	**+0.5**
NACGM	**Naroch**	**49.83**	**317**	*i* P	**P**	**20 43 51.5**	**+0.4**
IDID	**Didziasalis**	**49.84**	**317**	*e*P	**P**	**20 43 51.5**	**+0.2**
VSU	**Vasula**	**49.87**	**322**	*e*P	**P**	**20 43 53.1**	**+1.7**
TLBR	**Topalu**	**49.94**	**303**	⇑P	**P**	**20 43 52.6**	**+0.4**
PSN	**Preselentsi**	**49.98**	**302**	P	**P**	**20 43 55.2**	**+2.7**
HARR	**Harsova**	**50.00**	**303**	⇓P	**P**	**20 43 52.8**	**+0.2**
HARR	**Harsova**	**50.00**	**303**	P	**P**	**20 43 57.2**	**+4.6**
SWI	**Sorong**	**50.08**	**124**	P	**P**	**20 43 51.2**	**-2.3**
	comp=Z,622nmcomp=Z,21nm,1.1s						
SIJI	**Sorong**	**50.09**	**124**	LR	LR	21 05 47.4	
	comp=Z,428nm,21.4s,baz=346,slow=37						
ELL	**Elmali**	**50.14**	**293**	P	**P**	**20 43 52.1**	**-1.9**
ELL				pmax	pmax		
	comp=Z,382nm,1.1s						
ELL	**Elmali**	**50.14**	**293**	P	**P**	**20 43 52.0**	**-1.9**
IIGN	**Ignalina**	**50.14**	**317**	*e*P	**P**	**20 43 54.0**	**+0.4**
GHRR		**50.16**	**305**	⇑P	**P**	**20 43 55.0**	**+1.3**
ICOR	**Ion Corvin**	**50.18**	**303**	⇓P	**P**	**20 43 54.8**	**+0.8**
MMRI	**Maumere**	**50.34**	**139**	P	**P**	**20 43 55.3**	**-0.2**
MMRI				IAmb	IAmb	20 44 05.5	
	comp=Z,18nm,0.6s						
FINES	**FINESS Array B**	**50.34**	**325**	P	**P**	**20 43 55.0**	**0.0**
	comp=Z,5.9nm,0.7s,baz=115,slow=8.6,SNR=12						
FINES				LR	LR	21 06 59.1	
	comp=Z,2μm,18.0s,baz=90,slow=38						
FINES	**FINESS Array B**	**50.34**	**325**	P	**P**	**20 43 55.0**	**0.0**
TESR	**Tescani**	**50.61**	**306**	⇑P	**P**	**20 43 57.6**	**+0.4**
PRD	**Provadia**	**50.63**	**302**	P	**P**	**20 43 57.8**	**+0.4**
VRI	**Vrincioaia**	**50.65**	**305**	⇓P	**P**	**20 43 58.2**	**+0.6**
PETK	**Petropavlovsk-**	**50.67**	**45**	LR	LR	21 06 48.7	
	comp=Z,728nm,18.7s,baz=257,slow=38						
PLOR	**Plostina**	**50.71**	**305**	⇓P	**P**	**20 43 59.0**	**+0.9**
BISRR	**Bisoca**	**50.72**	**305**	⇑P	**P**	**20 43 58.6**	**+0.4**
ISR	**Istrita**	**50.90**	**304**	⇓P	**P**	**20 44 00.5**	**+0.9**
BALB	**Balikesir**	**51.00**	**297**	P	**P**	**20 44 00.0**	**-0.2**
BALB				IAmb	IAmb	20 44 04.1	
	comp=Z,54nm,1.2s						
NEHR	**Nehoiu**	**51.02**	**305**	⇑P	**P**	**20 44 01.1**	**+0.6**
PET	**Petropavlovsk**	**51.25**	**46**	*ce*P	**P**	**20 44 03.6**	**+1.7**
PET				pmax	pmax		
	comp=Z,157nm,2.5s						
MLR	**Muntele Rosu**	**51.26**	**305**	⇑P	**P**	**20 44 03.5**	**+1.2**
MLR	**Muntele Rosu**	**51.26**	**305**	LR	LR	21 11 16.9	
	comp=Z,928nm,18.2s,baz=71,slow=42						
MLR	**Muntele Rosu**	**51.26**	**305**	P	**P**	**20 44 02.1**	**-0.2**
MLR				pmax	pmax		
	comp=Z,121nm,1.1s						
MLR	**Muntele Rosu**	**51.26**	**305**	P	**P**	**20 44 02.1**	**-0.2**
OZUR		**51.27**	**306**	⇓P	**P**	**20 44 02.8**	**+0.5**
JMB	**Yambol**	**51.36**	**301**	P	**P**	**20 44 03.6**	**+0.7**
PABE	**Paberze**	**51.42**	**318**	*e*P	**P**	**20 44 03.3**	**+0.2**
PABE	**Paberze**	**51.42**	**318**	P	**P**	**20 44 03.0**	**-0.2**
BURAR	**Bucovina Array**	**51.42**	**308**	⇓P	**P**	**20 44 03.6**	**+0.1**
BUR08	**Bucovina Ar. S**	**51.43**	**308**	P	**P**	**20 44 03.0**	**-0.5**
ARCES	**ARCESS Array B**	**51.53**	**336**	P	**P**	**20 44 04.6**	**+0.7**
	comp=Z,13nm,0.9s,baz=81,slow=7.5,SNR=11						
ARCES				LR	LR	21 08 14.9	
	comp=Z,1μm,18.9s,baz=102,slow=39						
ARCES	**ARCESS Array B**	**51.53**	**336**	IAmb	IAmb	20 44 07.6	
	comp=Z,22nm,1.1s						
DOPR	**Dopca**	**51.56**	**305**	⇑P	**P**	**20 44 04.8**	**+0.4**
SZH	**Strazhica**	**51.67**	**302**	P	**P**	**20 44 05.4**	**+0.2**
VOIR		**51.88**	**305**	⇓P	**P**	**20 44 06.6**	**-0.3**
LVV	**L'vov**	**51.90**	**310**	*e*P	**P**	**20 44 06.9**	**+0.1**
LVV				*e*S	**S**	**20 51 25.0**	**-4.5**
LVV				MLR	MLR		
	comp=Z,1μm,15.0s						
SUW	**Suwalki**	**51.98**	**316**	*e*P	**P**	**20 44 07.0**	**-0.3**
SUW	**Suwalki**	**51.98**	**316**	P	**P**	**20 44 07.0**	**-0.3**
SUW				pmax	pmax		
	comp=Z,43nm,0.8s						
SUW	**Suwalki**	**51.98**	**316**	*e*P	**P**	**20 44 07.5**	**+0.1**
SUW	**Suwalki**	**51.98**	**316**	P	**P**	**20 44 07.0**	**-0.3**
GUMO	**Guam**	**51.98**	**98**	LR	LR	21 07 45.2	
	comp=Z,538nm,18.9s,baz=316,slow=38						
ZIMR		**51.99**	**303**	⇑P	**P**	**20 44 08.5**	**+0.8**
ZIMR		**51.99**	**303**	P	P	20 44 12.9	+5.3
COPA	**Copaceanca**	**52.01**	**303**	⇑P	**P**	**20 44 08.6**	**+0.8**
ARCR	**ARCALIA**	**52.08**	**307**	⇑P	**P**	**20 44 09.8**	**+1.5**
HUMR	**Humele**	**52.10**	**304**	⇑P	**P**	**20 44 09.0**	**+0.6**
ARR	**Arges**	**52.19**	**305**	⇓P	**P**	**20 44 09.4**	**+0.2**
DIM	**Dimitrovgrad**	**52.21**	**301**	P	**P**	**20 44 11.7**	**+2.5**
FAKI	**Fak Fak**	**52.23**	**125**	P	**P**	**20 44 08.0**	**-1.7**
	comp=Z,32nm,1.1s						
FAKI	**Fak Fak**	**52.23**	**125**	P	**P**	**20 44 08.2**	**-1.5**
FAKI				IAmb	IAmb	20 44 17.0	
	comp=Z,25nm,0.9s						
KDZ	**Kurdzhali**	**52.38**	**300**	P	**P**	**20 44 11.2**	**+0.6**
SOEI	**Soe**	**52.39**	**138**	P	**P**	**20 44 08.1**	**-2.9**
SOEI	**Soe**	**52.39**	**138**	P	**P**	**20 44 08.5**	**-2.5**
RDO	**Rodhopi**	**52.40**	**299**	P	**P**	**20 44 12.9**	**+2.2**
BATI	**Baumata**	**52.42**	**139**	LR	LR	21 09 19.9	
	comp=Z,952nm,18.9s,baz=306,slow=39						
BMR	**Baia Mare**	**52.56**	**308**	⇑P	**P**	**20 44 13.0**	**+1.2**
KWP	**Kalwaria Pacla**	**52.77**	**310**	*e*P	**P**	**20 44 13.7**	**+0.4**
KWP	**Kalwaria Pacla**	**52.77**	**310**	P	**P**	**20 44 13.0**	**-0.4**
KWP				pmax	pmax		
	comp=Z,540nm,1.1s						
KWP	**Kalwaria Pacla**	**52.77**	**310**	P	**P**	**20 44 13.0**	**-0.4**
RZN	**Rozhen**	**52.88**	**300**	P	**P**	**20 44 14.8**	**+0.3**
PGB	**Panagyurishte**	**53.09**	**301**	P	**P**	**20 44 18.3**	**+2.5**
UZH	**Uzhgorod**	**53.20**	**309**	⇓*i* P	**P**	**20 44 18.0**	**+1.5**
UZH				*i*		20 44 25.3	
MPEP	**Malo Peshtene**	**53.21**	**302**	P	**P**	**20 44 17.5**	**+0.8**
DRGR		**53.24**	**307**	⇓P	**P**	**20 44 17.4**	**+0.5**
GZR	**Gura Zlata**	**53.47**	**305**	⇓P	**P**	**20 44 18.3**	**-0.3**
NVR	**Nevrokopi**	**53.58**	**300**	P	P	20 44 30.3	+11
MMB	**Musomiste**	**53.62**	**300**	P	**P**	**20 44 19.6**	**-0.2**
SANT	**Santorini**	**53.69**	**294**	P	**P**	**20 44 17.8**	**-2.5**
CRVS	**Cervenica-Dubn**	**53.70**	**310**	*e*P	**P**	**20 44 23.0**	**+2.8**
CRVS				pmax	pmax		
	comp=Z,22nm,1.2s						
CRVS	**Cervenica-Dubn**	**53.70**	**310**	*e*P	**P**	**20 44 23.0**	**+2.8**
VTS	**Vitosha**	**53.74**	**302**	⇓P	**P**	**20 44 21.4**	**+0.6**
VTS	**Vitosha**	**53.74**	**302**	P	**P**	**20 44 19.8**	**-1.0**
VTS				pmax	pmax		
	comp=Z,29nm,1.0s						
VTS	**Vitosha**	**53.74**	**302**	P	**P**	**20 44 19.8**	**-1.0**
VTS				IAmb	IAmb	20 44 24.9	
	comp=Z,29nm,1.0s						
VTS	**Vitosha**	**53.74**	**302**	*e*P	**P**	**20 44 21.2**	**+0.4**
VTS	**Vitosha**	**53.74**	**302**	P	**P**	**20 44 21.2**	**+0.4**
HERR	**Herculane**	**53.82**	**305**	⇑P	**P**	**20 44 21.0**	**-0.1**
ZAPS	**Zavoj**	**54.02**	**303**	*e*P	**P**	**20 44 23.2**	**+0.5**
KKB	**Krupnik**	**54.03**	**301**	P	**P**	**20 44 24.6**	**+1.9**
ZAGS	**Zajecar**	**54.18**	**303**	*e*P	**P**	**20 44 23.5**	**-0.3**
BZS	**Buzias**	**54.22**	**306**	⇓P	**P**	**20 44 24.2**	**+0.2**
BOSS	**Bosilegrad**	**54.31**	**302**	*e*P	**P**	**20 44 24.8**	**0.0**
MDVR	**Moldovita**	**54.33**	**305**	⇑P	**P**	**20 44 24.9**	**0.0**
KNT	**Kendrikon**	**54.33**	**300**	P	**P**	**20 44 24.7**	**-0.3**
NIE	**Niedzica**	**54.36**	**310**	*e*P	**P**	**20 44 26.5**	**+1.5**
KUBS	**Kucevo**	**54.44**	**304**	*e*P	**P**	**20 44 25.2**	**-0.5**
BILL	**Bilibino**	**54.52**	**26**	*c* *i* P	**P**	**20 44 26.3**	**+0.5**
BILL				*i*		20 45 29.5	
BILL				*i*		20 46 26.1	
BILL				pmax	pmax		
	comp=Z,22nm,0.9s						
BILL				MLR	MLR		
	comp=Z,890nm,16.0s						
**BILL

comp=Z,71nm,1.0s
KBN **Korca** 56.02 300 P **P** 20 44 36.2 -1.0
MORC **Moravsky Berou** 56.05 311 ⇓P **P** 20 44 37.8 +0.5
MORC **Moravsky Berou** 56.05 311 P **P** 20 44 37.4 +0.1
MORC pmax pmax
comp=Z,37nm,1.3s
MORC **Moravsky Berou** 56.05 311 *e*P **P** 20 44 36.3 -0.9
MORC **Moravsky Berou** 56.05 311 P **P** 20 44 37.4 +0.1
MORC IAmb IAmb 20 44 41.1
comp=Z,37nm,1.3s
MORH **Mrgy, Hungar** 56.11 307 ⇓P **P** 20 44 37.4 -0.2
MORH **Mrgy, Hungar** 56.11 307 P **P** 20 44 36.5 -1.2
BBLS **Lazići** 56.16 304 *e*P **P** 20 44 37.1 -1.0
JAVC **Velka Javorina** 56.16 310 *e*P **P** 20 44 38.2 +0.1
HFS **Hagfors** 56.45 324 LR LR 21 10 30.4
comp=Z,1μm,18.2s,baz=77,slow=38
KRLC **Kraliky** 56.47 312 AMS AMS 21 12 20.0
comp=Z,1μm,15.1s
KOVH **Kovagotottos** 56.51 307 P **P** 20 44 39.7 -0.8
MODS **Modra-Piesok** 56.52 310 *e*P **P** 20 44 44.1 +3.5
MODS pmax pmax
comp=Z,15nm,1.1s
MODS **Modra-Piesok** 56.52 310 *e*P **P** 20 44 44.1 +3.5
MPLH **Magyarpolny** 56.62 308 P **P** 20 44 40.5 -0.8
PDG **Podgorica** 56.64 302 ⇓P **P** 20 44 40.8 -0.7
PDG **Podgorica** 56.64 302 P **P** 20 44 40.8 -0.7
PDG IAmb IAmb 20 44 45.5
comp=Z,36nm,1.1s
ZST **Bratislava** 56.67 310 *e*P **P** 20 44 43.9 +2.2
ZST **Bratislava** 56.67 310 *e*P **P** 20 44 43.9 +2.2
DPC **Dobruska-Polom** 56.70 312 *e*P **P** 20 44 42.3 +0.4
DPC MLR MLR
comp=Z,2μm,18.8s
DPC **Dobruska-Polom** 56.70 312 *e*P **P** 20 44 42.3 +0.4
DPC AMS AMS 21 13 00.0
comp=Z,2μm,18.8s
EGYH **Egyhazaskeszo** 56.70 309 P **P** 20 44 42.9 +1.0
OSTC **Ostas** 56.72 312 *e*P **P** 20 44 42.5 +0.5
OSTC AMS AMS 21 12 20.0
comp=Z,2μm,17.2s
VRAC **Vranov** 56.75 311 ⇓P **P** 20 44 43.0 +0.8
VRAC **Vranov** 56.75 311 LR LR 21 13 34.2
comp=Z,1μm,18.4s,baz=80,slow=41
VRAC **Vranov** 56.75 311 P P 20 44 47.0 +4.8
VRAC **Vranov** 56.75 311 *e*P **P** 20 44 41.8 -0.4
CHVC **Chvalec** 56.81 312 AMS AMS 21 13 10.0
comp=Z,2μm,15.6s
UPC **Upice** 56.86 312 AMS AMS 21 13 10.0
comp=Z,2μm,14.6s
KRUC **Moravsky** 56.93 311 *e*P **P** 20 44 42.6 -0.9
SOP **Sopron** 57.15 309 P **P** 20 44 47.9 +2.8
NC602 **NORSAR Array S** 57.42 325 P **P** 20 44 46.7 0.0
TREC **Trest** 57.46 311 AMS AMS 21 13 20.0
comp=Z,1μm,16.1s
NB2 **NORSAR Subarra** 57.53 325 P **P** 20 44 46.5 -1.1
comp=Z,3.0nm,0.7s,baz=81,slow=7.4
NOA **NORSAR Array B** 57.53 325 P **P** 20 44 46.9 -0.7
comp=Z,5.1nm,0.8s,baz=81,slow=7.1,SNR=14
NOA LR LR 21 11 30.6
comp=Z,2μm,18.3s,baz=80,slow=38
CONA **Conrad Observa** 57.55 309 *i* P **P** 20 44 48.3 +0.4
comp=Z,37nm,1.1s,SNR=15
NC204 **NORSAR Array S** 57.70 326 P **P** 20 44 50.4 +1.5
NC204 IAmb IAmb 20 45 08.3
comp=Z,28nm,1.1s
NAO01 **NORSAR Array S** 57.72 325 P **P** 20 44 49.8 +0.9
PVCC **Panska Ves** 57.75 313 *e*P **P** 20 44 50.0 +0.8
PVCC MLR MLR
comp=Z,1μm,15.4s
PVCC **Panska Ves** 57.75 313 *e*P **P** 20 44 50.0 +0.8
PVCC AMS AMS 21 13 50.0
comp=Z,1μm,15.4s
PRU **Pruhonice** 57.89 312 *e*P **P** 20 44 50.9 +0.7
PRU MLR MLR
comp=Z,2μm,14.8s
PRU **Pruhonice** 57.89 312 *e*P **P** 20 44 50.9 +0.7
PRU AMS AMS 21 13 00.0
comp=Z,2μm,14.8s
ARSA **Arzberg** 57.94 309 *e*P **P** 20 44 50.7 +0.1
comp=Z,17nm,1.2s
BRG **Berggiesshubel** 58.06 313 *e*P **P** 20 44 51.5 +0.1
BRG Amp 20 44 54.6
comp=Z,17nm,0.9s
BRG ⇑PP **PcP** 20 45 46.2 +3.0
BRG Amp 20 45 47.9
comp=Z,9.7nm,1.4s
BRG **Berggiesshubel** 58.06 313 SS **SS** 20 56 35.0 -7.8
BRG Amp 21 14 12.0
comp=E,1.1nm,17.5s
BRG Amp 21 14 20.0
comp=N,0.3nm,17.5s
BRG Amp 21 14 26.0
comp=Z,1.7nm,17.9s
BRG **Berggiesshubel** 58.06 313 *e*P **P** 20 44 51.5 +0.1
BRG 20 45 46.1
BRG S **S** 20 52 46.0 -6.1
BRG pmax pmax
comp=Z,17nm,0.9s
BRG pmax pmax
comp=Z,10.0nm,1.4s
BRG smax smax
comp=E,1μm,17.5s
BRG MLR MLR
comp=N,340nm,17.5s
BRG MLR MLR
comp=Z,2μm,17.9s
BRG **Berggiesshubel** 58.06 313 *e*P **P** 20 44 52.0 +0.7
comp=Z,17nm,0.9s,baz=74,slow=6.8
JAY **Jayapura** 58.08 117 LR LR 21 07 54.5
comp=Z,495nm,20.9s,baz=338,slow=34
GROS **Grobnik** 58.16 308 *i* P **P** 20 44 51.8 -0.5
PBCC **Pribram** 58.31 312 *e*P **P** 20 44 53.2 0.0
CKRC **Cesky Krumlov** 58.33 311 *e*P **P** 20 44 53.8 +0.5
CKRC *e*S **S** 20 52 56.9 +1.2
CKRC AMS AMS 21 14 20.0
comp=Z,1μm,14.9s
PERS **Pernice** 58.37 308 *i* P **P** 20 44 53.5 -0.2
FBE **Freiberg** 58.41 313 *e*P **P** 20 44 54.7 +0.9
comp=Z,24nm,1.1s,baz=74,slow=6.8
SOKA **Soboth** 58.41 308 *i* P **P** 20 44 54.1 +0.1
comp=Z,36nm,1.2s,SNR=6.6
CLL **Collm** 58.53 314 P **P** 20 44 53.9 -0.7
CLL pmax pmax
comp=Z,17nm,1.1s
CLL **Collm** 58.53 314 *e*P **P** 20 44 54.0 -0.7
comp=Z,17nm,1.1s
CLL *e*PP **PP** 20 47 03.0 -0.8
CLL *e*S **S** 20 52 58.0 -0.2
CLL *e*SS **SS** 20 56 48.0 -2.2
CLL Lm MLR 21 14 00.0
comp=N,600nm,20.2s
CLL Lm MLR 21 14 00.0
comp=E,2μm,18.3s
CLL Lm MLR 21 14 00.0
comp=Z,2μm,19.6s
CLL **Collm** 58.53 314 *e*P **P** 20 44 55.9 +1.3
comp=Z,17nm,1.1s,baz=74,slow=6.8
CLL **Collm** 58.53 314 P **P** 20 44 53.9 -0.7
CLL IAmb IAmb 20 44 58.0
comp=Z,17nm,1.1s
KONO **Kongsberg** 58.57 324 *ce*P **P** 20 44 56.5 +1.7
KONO pmax pmax
comp=Z,21nm,1.3s
MOA **Molln** 58.60 310 *e*P **P** 20 44 55.4 +0.1
comp=Z,21nm,0.9s,SNR=7.0
GEC2 **GERESS Array S** 58.71 311 *e*P **P** 20 44 56.9 +0.8
comp=Z,40nm,1.1s,baz=74,slow=6.8
GEC2 **GERESS Array S** 58.71 311 P **P** 20 44 56.0 -0.1
GEC2 IAmb IAmb 20 45 00.5
comp=Z,34nm,1.0s
GERES **GERESS Array B** 58.71 311 P **P** 20 44 56.4 +0.3
comp=Z,24nm,0.9s,baz=77,slow=5.8,SNR=42
GERES LR LR 21 15 01.7
comp=Z,991nm,18.8s,baz=84,slow=41
GERES **GERESS Array B** 58.71 311 P **P** 20 44 55.6 -0.5
GERES **GERESS Array B** 58.71 311 P **P** 20 44 55.6 -0.5
KHC **Kasperske Hory** 58.71 311 *e*P **P** 20 44 56.4 +0.4
KHC *e* 20 45 09.5
KHC *e*S **S** 20 52 53.4 -7.4
KHC MLR MLR
comp=Z,1μm,15.4s
KHC **Kasperske Hory** 58.71 311 *e*P **P** 20 44 56.4 +0.4
KHC *ex* x 20 45 09.5
KHC *e*S **S** 20 52 53.4 -7.4
KHC AMS AMS 21 14 20.0
comp=Z,1μm,15.4s
KHC **Kasperske Hory** 58.71 311 P **P** 20 44 56.5 +0.4
OBKA **Obir** 58.78 308 *e*P **P** 20 44 56.2 -0.4
comp=Z,13nm,0.8s
TANN **Tannenbergstha** 59.08 313 *e*P **P** 20 44 59.1 +0.5
comp=Z,18nm,1.0s,baz=74,slow=6.8
NKC **Novy Kostel** 59.14 313 *e*P **P** 20 45 00.4 +1.4
NKC MLR MLR
comp=Z,1μm,15.7s
NKC **Novy Kostel** 59.14 313 *e*P **P** 20 45 00.4 +1.4
NKC AMS AMS 21 11 50.0
comp=Z,1μm,15.7s
WET **Wettzell** 59.15 311 *e*P **P** 20 44 59.9 +0.8
comp=Z,21nm,1.0s,baz=74,slow=6.8
WERN **Wernitzgruen** 59.17 313 *e*P **P** 20 44 59.9 +0.7
comp=Z,21nm,1.1s,baz=74,slow=6.8
WERD **Werda** 59.17 313 *e*P **P** 20 44 59.7 +0.5
comp=Z,29nm,1.3s,baz=74,slow=6.8
GUNZ **Gunzen** 59.18 313 *e*P **P** 20 44 59.9 +0.7
comp=Z,22nm,0.9s,baz=74,slow=6.8
PLN **Plauen** 59.25 313 *e*P **P** 20 45 00.3 +0.6
comp=Z,17nm,1.1s,baz=74,slow=6.8
NEUB **Neuenburg** 59.30 314 *e*P **P** 20 45 00.4 +0.4
comp=Z,29nm,0.9s,baz=74,slow=6.8
FLTG **Flechtingen** 59.34 315 *e*P **P** 20 45 00.3 +0.1
comp=Z,24nm,1.1s,baz=74,slow=6.8
MYKA **Terra Mystica** 59.35 308 *e*P **P** 20 45 00.5 -0.1
comp=Z,11nm,0.9s
TIP **Timpagrande** 59.41 299 ⇑P **P** 20 45 00.0 -1.0
TIP **Timpagrande** 59.41 299 P **P** 20 45 01.7 +0.6
ROTZ **Rotzenmuhle** 59.41 312 *e*P **P** 20 45 02.1 +1.2
comp=Z,12nm,1.1s,baz=74,slow=6.8
MANZ **Manzenberg** 59.41 313 *e*P **P** 20 45 01.8 +0.9
comp=Z,5.3nm,1.2s,baz=74,slow=6.8
KBA **Koelnbreinsper** 59.42 309 *i* P **P** 20 45 01.3 +0.2
comp=Z,12nm,0.8s
BSEG **Bad Segeberg** 59.47 317 *e*P **P** 20 45 02.3 +1.2
comp=Z,36nm,1.2s,baz=74,slow=6.8
MOX **Moxa** 59.54 313 *e*P **P** 20 45 02.4 +0.7
comp=Z,22nm,1.1s,baz=74,slow=6.8
MOX *e*L L 21 15 23.0
comp=Z,2μm,18.2s
KNRA **Kununurra** 59.73 138 P **P** 20 45 04.2 +0.9
KNRA IAmb IAmb 20 45 07.3
comp=Z,39nm,1.4s
NRDL **Niedersach Rie** 59.96 316 *e*P **P** 20 45 05.6 +1.1
comp=Z,45nm,1.2s,baz=74,slow=6.8
CLZ **Clausthal** 59.98 315 *e*P **P** 20 45 05.5 +0.8
comp=Z,39nm,0.9s,baz=74,slow=6.8
LODK **Lodwar** 59.98 253 P **P** 20 45 06.6 +1.3
LODK IAmb IAmb 20 45 11.0
comp=Z,21nm,1.3s
FITZ **Fitzroy Crossi** 60.01 142 LR LR 21 14 45.8
comp=Z,513nm,19.9s,baz=314,slow=40
GRA1 **Grafenberg Arr** 60.05 312 P **P** 20 45 04.8 -0.4
GRF **Grafenberg Arr** 60.05 312 P **P** 20 45 04.8 -0.4
GRF pmax pmax
comp=Z,35nm,0.9s
GRF **Grafenberg Arr** 60.05 312 *e*P **P** 20 45 06.3 +1.1
comp=Z,44nm,1.0s,baz=74,slow=6.8
GRF *e*L L 21 15 18.1
comp=Z,1μm,18.9s
GRFO **Grafenberg** 60.05 312 P **P** 20 45 04.7 -0.5
GRFO pmax pmax
comp=Z,33nm,0.9s
GRFO **Grafenberg** 60.05 312 P **P** 20 45 04.7 -0.5
ABTA **Abfaltersbach** 60.06 309 *i* P **P** 20 45 06.2 +0.8
comp=Z,20nm,0.9s,SNR=6.8
STAL **STALIGIAL** 60.07 308 P **P** 20 45 03.7 -1.8
PSA00 **Pilbara Seismi** 60.25 149 P **P** 20 45 06.5 -0.3
PSA00 **Pilbara Seismi** 60.25 149 P **P** 20 45 06.6 -0.2
PSA00 IAmb IAmb 20 45 11.6
comp=Z,18nm,1.2s
GTTG **Gottingen** 60.30 315 *e*P **P** 20 45 07.8 +0.9
comp=Z,34nm,1.1s,baz=74,slow=6.8
CEL **Celeste** 60.35 299 P **P** 20 45 07.2 -0.4
FUR **Furstenfeldbru** 60.45 311 *e*P **P** 20 45 09.1 +1.1
comp=Z,91nm,1.1s,baz=74,slow=6.8
WTTA **Wattenberg** 60.48 310 *i* P **P** 20 45 08.0 -0.5
comp=Z,37nm,1.2s,SNR=7.3
WATA **Walderalm** 60.50 310 *e*P **P** 20 45 08.0 -0.5
comp=Z,14nm,1.0s
SHEM **Shemya Is, Ala** 60.50 44 LR LR 21 11 11.9
comp=Z,597nm,22.0s,baz=286,slow=36
NOR **Nord** 60.58 351 *i* P **P** 20 45 06.6 -1.8
NOR IAmb IAmb 20 45 10.5
comp=Z,3.6nm,0.9s
SQTA **Sankt Quirin** 60.77 310 *i* P **P** 20 45 09.3 -1.0
comp=Z,20nm,0.8s,SNR=6.0
AQU **L'Aquila** 60.80 304 P **P** 20 45 08.5 -2.0
AQU pmax pmax
comp=Z,47nm,1.1s
AQU **L'Aquila** 60.80 304 P **P** 20 45 08.5 -2.0
MOTA **Moosalm** 60.80 310 *i* P **P** 20 45 09.5 -1.1
comp=Z,25nm,0.9s,SNR=6.3
CTI **Castel Tesino** 60.84 308 P **P** 20 45 08.6 -2.2
CTI pmax pmax
comp=Z,33nm,1.3s
CTI **Castel Tesino** 60.84 308 P **P** 20 45 08.6 -2.2
CTI IAmb IAmb 20 45 13.2
comp=Z,33nm,1.3s
RETA **Reutte** 60.98 310 *i* P **P** 20 45 11.1 -0.6
comp=Z,26nm,0.9s,SNR=8.6
TEOL **Teolo** 61.03 307 P **P** 20 45 10.4 -1.7
MURB **Monte Urbino** 61.12 305 P **P** 20 45 13.1 +0.3
FETA **Feichten** 61.14 310 *i* P **P** 20 45 12.6 -0.3
comp=Z,28nm,1.1s,SNR=9.4
KMBO **Kilima Mbogo** 61.21 248 P **P** 20 45 13.9 0.0
comp=Z,8.7nm,0.8s,baz=42,slow=9.3,SNR=26
KMBO **Kilima Mbogo** 61.21 248 *e*P **P** 20 45 13.0 -0.9
KMBO IAmb IAmb 20 45 16.9
comp=Z,567nm,2.7s
KMBO **Kilima Mbogo** 61.21 248 P **P** 20 45 13.1 -0.8
KMBO pmax pmax
comp=Z,19nm,1.2s
KMBO **Kilima Mbogo** 61.21 248 P **P** 20 45 13.1 -0.8
KMBO IAmb IAmb 20 45 18.5
comp=Z,19nm,1.1s
KMBO **Kilima Mbogo** 61.21 248 *i* P **P** 20 45 13.5 -0.4
SNR=10.0
KIBK **Kibwezi** 61.35 246 P **P** 20 45 15.4 +0.8
STU **Stuttgart** 61.59 312 P **P** 20 45 16.0 +0.3
STU pmax pmax
comp=Z,33nm,1.0s
STU **Stuttgart** 61.59 312 *e*P **P** 20 45 16.3 +0.6
comp=Z,96nm,1.1s,baz=74,slow=6.8
STU **Stuttgart** 61.59 312 P **P** 20 45 16.0 +0.3
TNS **Taunus Mts** 61.61 314 *e*P **P** 20 45 16.5 +0.6
comp=Z,36nm,1.2s,baz=74,slow=6.8
DAVA **Damuels** 61.61 310 *i* P **P** 20 45 16.0 -0.1
comp=Z,38nm,1.1s,SNR=7.3
SALO **Salr** 61.72 308 P **P** 20 45 16.2 -0.4
DAVOX **Davos/Dischmat** 61.77 309 LR LR 21 16 05.2
comp=Z,1μm,20.2s,baz=64,slow=40
OSSC **Osservatorio P** 61.91 306 P **P** 20 45 18.8 +0.8
BUG **Bochum--Univer** 61.95 315 *e*P **P** 20 45 18.8 +0.7
comp=Z,32nm,1.2s,baz=74,slow=6.8
TUE **Stuetta** 62.22 309 P **P** 20 45 19.1 -1.2
BFO **Black Forest** 62.27 312 P **P** 20 45 19.3 -1.1
BFO pmax pmax
comp=Z,29nm,1.1s
BFO **Black Forest** 62.27 312 *e*P **P** 20 45 20.7 +0.3
comp=Z,35nm,1.2s,baz=74,slow=6.8
BFO **Black Forest** 62.27 312 P **P** 20 45 19.2 -1.1
BFO IAmb IAmb 20 45 24.2
comp=Z,29nm,1.1s
AHRW **Bad Neuenahr-A** 62.34 314 *e*P **P** 20 45 21.5 +0.7
comp=Z,31nm,1.1s,baz=74,slow=6.8
BTNL **Ternell** 62.90 314 P **P** 20 45 24.8 +0.3
MEM **Membach** 62.97 315 P **P** 20 45 26.1 +1.2
comp=Z,11nm,1.0s
DAG **Danmarks Havn** 62.98 346 *i* P **P** 20 45 22.4 -2.2
DAG IAmb IAmb 20 45 26.2
comp=Z,2.8nm,0.8s
ECH **Echery** 63.05 312 P **P** 20 45 25.0 -0.6
ECH pmax pmax
comp=Z,27nm,1.0s
ECH **Echery** 63.05 312 P **P** 20 45 25.0 -0.6
ECH IAmb IAmb 20 45 29.7
comp=Z,27nm,1.0s
WLF **Walferdange** 63.19 313 P **P** 20 45 28.2 +1.8
WLF pmax pmax
comp=Z,57nm,1.0s
WLF **Walferdange** 63.19 313 *e*P **P** 20 45 27.7 +1.2
comp=Z,76nm,1.1s,baz=74,slow=6.8
WLF **Walferdange** 63.19 313 P **P** 20 45 28.2 +1.8
comp=Z,35nm,1.1s
WLF **Walferdange** 63.19 313 P **P** 20 45 26.5 +0.1
BSTI **Sart Tilman** 63.24 315 P **P** 20 45 27.4 +0.7
BCLA **Clavier** 63.45 314 P **P** 20 45 28.2 +0.1
comp=Z,13nm,1.0s
RCHB **Rochefort** 63.59 314 P **P** 20 45 29.2 +0.1
comp=Z,14nm,0.9s
SENIN **Lac Senin/Sane** 63.59 310 P **P** 20 45 28.6 -0.8
BGES **Gesves** 63.59 314 P **P** 20 45 29.4 +0.3
comp=Z,10nm,0.8s
BMRD **Maredsous** 63.82 314 P **P** 20 45 30.4 -0.1
comp=Z,13nm,0.9s
DOU **Dourbes** 63.99 314 P **P** 20 45 31.8 +0.1
comp=Z,10nm,1.0s
GAMB **Gambell** 64.13 29 P **P** 20 45 32.0 -0.3
baz=291
BNI **Bardonecchia** 64.46 309 P **P** 20 45 34.7 -0.3
BNI pmax pmax
comp=Z,25nm,1.0s
BNI **Bardonecchia** 64.46 309 P **P** 20 45 34.7 -0.3
BNI IAmb IAmb 20 45 43.3
comp=Z,25nm,1.0s
DBG **Daneborg** 64.51 344 *i* P **P** 20 45 33.5 -1.2
DBG IAmb IAmb 20 45 37.1
comp=Z,6.2nm,0.8s
TNA **Tin City** 64.95 27 P **P** 20 45 37.8 +0.1
TNA **Tin City** 64.95 27 P **P** 20 45 38.0 +0.3
baz=294
MORW **Morawa** 65.56 157 P **P** 20 45 43.4 +1.4
MORW IAmb IAmb 20 45 45.2
comp=Z,29nm,1.1s
SSB **Saint Sauveur** 65.78 309 P **P** 20 45 43.2 -0.3
SSB pmax pmax
comp=Z,21nm,0.9s
SSB **Saint Sauveur** 65.78 309 P **P** 20 45 43.2 -0.3
SSB IAmb IAmb 20 45 46.1
comp=Z,21nm,0.9s
A21K **Barrow** 66.02 19 P **P** 20 45 44.8 +0.3
baz=301
MBAR **Mbarara** 66.07 253 P **P** 20 45 46.7 +0.7
MBAR pmax pmax
comp=Z,10.0nm,0.9s
MBAR **Mbarara** 66.07 253 P **P** 20 45 46.7 +0.7
KEST **Kesra** 66.15 298 P **P** 20 45 46.1 0.0
comp=Z,45nm,1.0s,baz=321,slow=3.4,SNR=20
KEST LR LR 21 19 52.8
comp=Z,439nm,20.5s,baz=315,slow=41
KEST **Kesra** 66.15 298 P **P** 20 45 47.6 +1.5
CLF **Chambon-Foret** 66.18 313 P **P** 20 45 46.1 +0.2
WB0 **Warramunga Arr** 66.22 136 P **P** 20 45 46.1 -0.4
WRA **Warramunga Arr** 66.33 136 P **P** 20 45 46.5 -0.7
comp=Z,17nm,0.8s,baz=331,slow=6.6,SNR=69
WRA LR LR 21 17 48.2
comp=Z,279nm,18.9s,baz=316,slow=39
WRA **Warramunga Arr** 66.33 136 P **P** 20 45 46.3 -0.9
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA **Warramunga Arr** 66.33 136 P **P** 20 45 46.3 -0.9
WRAB **Tennant Creek** 66.33 136 P **P** 20 45 46.4 -0.8
WRAB pmax pmax
comp=Z,27nm,0.9s
WRAB **Tennant Creek** 66.33 136 P **P** 20 45 46.4 -0.8
WB2 **Warramunga Arr** 66.33 136 P **P** 20 45 46.3 -0.9
ANM **Nome** 66.35 27 P **P** 20 45 47.1 +0.3
ANM pmax pmax
comp=Z,19nm,1.0s
ANM **Nome** 66.35 27 P **P** 20 45 47.1 +0.3
ANM IAmb IAmb 20 45 51.2
comp=Z,19nm,1.0s
EKA **Eskdalemuir Ar** 66.43 322 LR LR 21 17 07.4
comp=Z,998nm,18.8s,baz=65,slow=38
WR0 **Warramunga Arr** 66.46 136 P **P** 20 45 47.1 -0.9
WR0 IAmb IAmb 20 45 55.5
comp=Z,17nm,1.0s
SCO **Scoresbysund** 66.95 340 P **P** 20 45 52.0 +1.5
SCO pmax pmax
comp=Z,28nm,1.2s
SCO **Scoresbysund** 66.95 340 *i* P **P** 20 45 51.4 +0.9
SCO IAmb IAmb 20 45 54.0
comp=Z,7.1nm,0.8s
SCO **Scoresbysund** 66.95 340 P **P** 20 45 52.0 +1.5
SCO IAmb IAmb 20 45 55.1
comp=Z,28nm,1.2s
EUNU **Eureka** 67.60 360 P **P** 20 45 54.6 +0.1
NEEM **North Greenlan** 67.91 352 *i* P **P** 20 45 54.4 -2.4
NEEM IAmb IAmb 20 45 59.0
comp=Z,25nm,0.9s
AS31 **Alice Springs** 68.99 139 P **P** 20 46 03.5 -0.5
ASAR **Alice Springs** 68.99 139 P **P** 20 46 03.7 -0.3
comp=Z,14nm,0.7s,baz=322,slow=5.9,SNR=57
ASAR LR LR 21 18 47.8
comp=Z,328nm,21.8s,baz=320,slow=38
ASAR **Alice Springs** 68.99 139 P **P** 20 46 03.5 -0.5
ASAR **Alice Springs** 68.99 139 P **P** 20 46 03.5 -0.5
VOI **Vohitsoka** 69.05 224 P **P** 20 46 04.6 +0.2
VOI IAmb IAmb 20 46 06.0
comp=Z,17nm,0.8s
VOI **Vohitsoka** 69.05 224 P **P** 20 46 08.5 +4.1
GCSA **Galena City Sc** 69.44 25 P **P** 20 46 06.9 +0.7
baz=303
SUMG **Summit** 69.67 346 P **P** 20 46 08.6 +0.6
SUMG pmax pmax
comp=Z,23nm,1.1s
SUMG **Summit** 69.67 346 *i* P **P** 20 46 07.0 -1.0
SUMG IAmb IAmb 20 46 11.2
comp=Z,8.7nm,1.0s
SUMG **Summit** 69.67 346 P **P** 20 46 08.6 +0.6
SUMG IAmb IAmb 20 46 11.9
comp=Z,23nm,1.1s
IMAR **Indian Mountai** 69.83 23 P **P** 20 46 08.4 -0.2
BORG **Borgarnes** 69.93 335 LR LR 21 18 00.7
comp=Z,446nm,19.1s,baz=53,slow=37
COLD **Coldfoot** 70.22 21 P **P** 20 46 10.3 -0.7
COLD **Coldfoot** 70.22 21 P **P** 20 46 11.8 +0.7
baz=308
H21K **Melozitna Rive** 70.34 23 P **P** 20 46 11.4 -0.3
H21K IAmb IAmb 20 46 16.0
comp=Z,16nm,1.2s
TULEG **Thule** 70.45 355 *i* P **P** 20 46 10.6 -1.6
TULEG IAmb IAmb 20 46 13.9
comp=Z,14nm,0.7s
TULEG **Thule** 70.45 355 P **P** 20 46 11.0 -1.2
TULEG IAmb IAmb 20 46 15.0
comp=Z,25nm,0.9s
J20K **Nowinta River** 70.74 25 P **P** 20 46 14.8 +0.6
J20K IAmb IAmb 20 46 18.9
comp=Z,26nm,0.8s
J20K **Nowinta River** 70.74 25 P **P** 20 46 14.9 +0.8
baz=305
TTA **Tatalina** 70.77 27 P **P** 20 46 14.3 -0.1
baz=304
I21K **Tanana** 70.90 24 P **P** 20 46 15.9 +0.8
I21K **Tanana** 70.90 24 P **P** 20 46 15.0 -0.1
baz=307
K20K **Telida** 71.25 26 P **P** 20 46 18.6 +1.3
K20K IAmb IAmb 20 46 22.2
comp=Z,17nm,1.0s
CHUM **Lake Minchumin** 71.56 25 P **P** 20 46 20.1 +0.9
baz=307,SNR=8.4
L19K **White Mountain** 71.64 27 P **P** 20 46 20.7 +1.0
L19K IAmb IAmb 20 46 24.4
comp=Z,20nm,0.9s
L19K **White Mountain** 71.64 27 P **P** 20 46 20.3 +0.6
baz=305,SNR=12
BMAR **Burnt Mountain** 71.76 20 P **P** 20 46 21.4 +1.0
I23K **Minto, Yukon-K** 71.79 23 P **P** 20 46 20.9 +0.4
I23K IAmb IAmb 20 46 25.6
comp=Z,29nm,1.4s
I23K **Minto, Yukon-K** 71.79 23 P **P** 20 46 20.7 +0.2
baz=309
H24K **Noodor Dome** 71.83 22 P **P** 20 46 21.3 +0.4
H24K IAmb IAmb 20 46 26.0
comp=Z,24nm,1.5s
BPAW **Bear Paw Mtn.** 71.90 24 P **P** 20 46 20.7 -0.5
BPAW IAmb IAmb 20 46 25.9
comp=Z,17nm,1.0s
BPAW **Bear Paw Mtn.** 71.90 24 P **P** 20 46 21.4 +0.1
baz=308,SNR=9.3
CAST **Castle Rocks** 71.93 25 P **P** 20 46 22.1 +0.7
CAST IAmb IAmb 20 46 26.0
comp=Z,24nm,0.9s
CAST **Castle Rocks** 71.93 25 P **P** 20 46 21.9 +0.5
baz=307,SNR=17
SVW2 **Sparrevohn** 71.98 28 P **P** 20 46 21.4 -0.4
SVW2 IAmb IAmb 20 46 26.5
comp=Z,18nm,1.0s

FYU	Fort Yukon	72.16	21	P	P	20 46 23.5	+0.8
PPLA	Purkeypile	72.21	26	P	P	20 46 24.0	+0.7
PPLA	Purkeypile	72.21	26	P	P	20 46 23.7	+0.4
	baz=307,SNR=13						
NEA2	Nenana	72.24	23	P	P	20 46 23.5	+0.2
NEA2				IAmb	IAmb	20 46 27.8	
	comp=Z,30nm,1.1s						
NEA2	Nenana	72.24	23	P	P	20 46 23.4	+0.2
	baz=309,SNR=14						
KTH	Kantishna Hill	72.26	25	P	P	20 46 23.6	+0.1
KTH				IAmb	IAmb	20 46 27.7	
	comp=Z,19nm,1.0s						
MDM	Murphy Dome	72.28	23	P	P	20 46 23.7	+0.2
MDM				IAmb	IAmb	20 46 28.3	
	comp=Z,25nm,1.2s						
BWN	Browne	72.37	24	P	P	20 46 24.7	+0.7
POKR	Poker Plat Res	72.44	22	P	P	20 46 24.6	+0.2
POKR				IAmb	IAmb	20 46 28.7	
	comp=Z,37nm,1.1s						
POKR	Poker Plat Res	72.44	22	P	P	20 46 24.7	+0.2
	baz=311,SNR=5.3						
TCOL	CIGO, UAF Yank	72.46	23	P	P	20 46 24.8	+0.3
TCOL	CIGO, UAF Yank	72.46	23	P	P	20 46 24.5	0.0
	baz=310						
COLA	College	72.46	23	P	P	20 46 24.8	+0.3
COLA				pmax	pmax		
	comp=Z,38nm,0.9s						
COLA	College	72.46	23	P	P	20 46 24.8	+0.3
COLA	College	72.46	23	P	P	20 46 24.7	+0.2
	baz=310						
ICESG	Greenland Ices	72.52	344	*i* P	P	20 46 24.9	-0.4
ICESG				IAmb	IAmb	20 46 29.1	
	comp=Z,31nm,0.9s						
TRF	Thorofare Moun	72.54	25	P	P	20 46 26.2	+1.0
TRF	Thorofare Moun	72.54	25	P	P	20 46 24.8	-0.5
	baz=309						
N19K	Bonanza Creek	72.58	28	P	P	20 46 26.2	+0.7
N19K				IAmb	IAmb	20 46 36.2	
	comp=Z,33nm,1.5s						
A36M	Sachs Harbour	72.59	11	P	P	20 46 25.6	+0.4
A36M	Sachs Harbour	72.59	11	P	P	20 46 25.4	+0.2
	baz=328,SNR=5.4						
UPNV	Upernavik	72.60	350	*i* P	P	20 46 23.3	-1.9
UPNV				IAmb	IAmb	20 46 27.2	
	comp=Z,12nm,0.8s						
CCB	Clear Creek Bu	72.62	23	P	P	20 46 25.5	0.0
WRH	Wood River Hil	72.64	23	P	P	20 46 25.2	-0.4
PRP	Porcupine Dome	72.77	21	P	P	20 46 26.8	+0.2
PRP				IAmb	IAmb	20 46 31.1	
	comp=Z,24nm,0.9s						
PRP	Porcupine Dome	72.77	21	P	P	20 46 27.1	+0.5
	baz=312,SNR=22						
MCK	McKinley	72.83	24	P	P	20 46 27.3	+0.5
MCK				pmax	pmax		
	comp=Z,16nm,1.3s						
MCK	McKinley	72.83	24	P	P	20 46 27.3	+0.5
MCK	McKinley	72.83	24	P	P	20 46 26.8	0.0
	baz=310						
IL31		72.84	22	P	P	20 46 26.1	-0.7
IL31				IAmb	IAmb	20 46 29.9	
	comp=Z,18nm,0.9s						
ILAR	Eielson Array	72.84	22	P	P	20 46 26.3	-0.5
	comp=Z,14nm,0.9s,baz=298,slow=5.2,SNR=63						
ILAR				LR	LR	21 23 03.3	
	comp=Z,461nm,18.4s,baz=340,slow=40						
ILAR	Eielson Array	72.84	22	P	P	20 46 26.0	-0.8
ILAR	Eielson Array	72.84	22	P	P	20 46 25.9	-0.8
RES	Resolute Bay	72.92	2	LR	LR	21 21 09.5	
	comp=Z,632nm,18.1s,baz=338,slow=38						
RES	Resolute Bay	72.92	2	P	P	20 46 27.4	+0.3
RES				pmax	pmax		
	comp=Z,12nm,1.2s						
RES	Resolute Bay	72.92	2	P	P	20 46 27.4	+0.3
O19K	Port Alsworth	73.01	28	P	P	20 46 28.5	+0.6
O19K				IAmb	IAmb	20 46 32.2	
	comp=Z,23nm,0.8s						
O19K	Port Alsworth	73.01	28	P	P	20 46 28.2	+0.3
	baz=306						
HDA	Harding Lake	73.06	23	P	P	20 46 27.1	-1.0
HDA	Harding Lake	73.06	23	P	P	20 46 27.2	-0.9
	baz=311						
CUT	Chulitna	73.21	25	P	P	20 46 28.5	-0.5
	baz=309						
CHNA	Chernabura Isl	73.77	35	P	P	20 46 32.3	-0.1
	baz=304						
DHY	Denali Highway	73.80	24	P	P	20 46 32.6	-0.1
DHY	Denali Highway	73.80	24	P	P	20 46 32.2	-0.5
	baz=311						
ESBB	Sonseca Array	73.87	307	P	P	20 46 33.7	+0.3
ESBB				IAmb	IAmb	20 46 36.8	
	comp=Z,17nm,1.0s						
ESDC	Sonseca Array	73.87	307	P	P	20 46 33.2	-0.3
	comp=Z,14nm,1.0s,baz=51,slow=5.8,SNR=34						
ESDC				LR	LR	21 24 32.9	
	comp=Z,636nm,18.8s,baz=46,slow=40						
ESDC	Sonseca Array	73.87	307	P	P	20 46 33.3	-0.1
INK	Inuvik	73.98	16	LR	LR	21 22 44.6	
	comp=Z,324nm,19.6s,baz=332,slow=39						
INK	Inuvik	73.98	16	P	P	20 46 33.3	-0.1
INK				pmax	pmax		
	comp=Z,20nm,1.0s						
INK	Inuvik	73.98	16	P	P	20 46 33.3	-0.1
INK				IAmb	IAmb	20 46 37.1	
	comp=Z,20nm,0.9s						
INK	Inuvik	73.98	16	P	P	20 46 33.3	-0.1
	baz=322,SNR=16						
WAT6	Susitna Watana	74.00	24	P	P	20 46 33.2	-0.6
	baz=311						
Q19K	Cape Douglas,	74.05	29	P	P	20 46 34.0	-0.1
	baz=307						
J26L	Joseph Creek	74.08	22	P	P	20 46 33.1	-1.1
J26L				IAmb	IAmb	20 46 37.7	
	comp=Z,21nm,0.8s						
PMR	Palmer	74.14	26	P	P	20 46 34.1	-0.4
PMR				pmax	pmax		
	comp=Z,24nm,0.8s						
PMR	Palmer	74.14	26	P	P	20 46 34.0	-0.4
PMR				IAmb	IAmb	20 46 38.1	
	comp=Z,24nm,0.8s						
PMR	Palmer	74.14	26	P	P	20 46 34.4	0.0
	baz=310						
RIDG	Independent Ri	74.19	23	P	P	20 46 34.2	-0.7
RIDG	Independent Ri	74.19	23	P	P	20 46 34.0	-0.9
	baz=313,SNR=6.3						
PAB	San Pablo	74.20	307	P	P	20 46 35.9	+0.5
PAB				pmax	pmax		
	comp=Z,32nm,1.4s						
PAB	San Pablo	74.20	307	P	P	20 46 35.9	+0.5
PAB				IAmb	IAmb	20 46 40.1	
	comp=Z,32nm,1.4s						
RC01	Rabbit Creek A	74.24	26	P	P	20 46 35.3	+0.2
RC01				IAmb	IAmb	20 46 38.7	
	comp=Z,25nm,1.0s						
RC01	Rabbit Creek A	74.24	26	P	P	20 46 34.8	-0.3
	baz=310,SNR=9.2						
SML	Sawmill	74.29	25	P	P	20 46 35.5	0.0
SML	Sawmill	74.29	25	P	P	20 46 35.7	+0.2
	baz=311,SNR=31						
SCRK	Sand Creek	74.31	22	P	P	20 46 35.1	-0.5
SCRK				IAmb	IAmb	20 46 39.2	
	comp=Z,29nm,0.9s						
SCRK	Sand Creek	74.31	22	P	P	20 46 35.4	-0.3
	baz=314,SNR=28						
KNK	Knik Glacier	74.50	26	P	P	20 46 36.0	-0.7
KNK				IAmb	IAmb	20 46 40.7	
	comp=Z,24nm,0.8s						
KNK	Knik Glacier	74.50	26	P	P	20 46 36.7	0.0
	baz=311						
DOT	Dot Lake	74.51	22	P	P	20 46 38.2	+1.5
PAX	Paxson	74.51	23	P	P	20 46 36.4	-0.4
PAX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PAX	Paxson	74.51	23	P	P	20 46 36.4	-0.4
PAX	Paxson	74.51	23	P	P	20 46 36.8	0.0
	baz=313						
EGAK	Eagle	74.62	21	P	P	20 46 37.4	+0.1
EGAK				IAmb	IAmb	20 46 43.5	
	comp=Z,17nm,0.9s						
EGAK	Eagle	74.62	21	P	P	20 46 37.2	0.0
	baz=316,SNR=13						
SCM	Sheep Creek Mo	74.64	25	P	P	20 46 37.7	+0.2
SCM				pmax	pmax		
	comp=Z,31nm,0.9s						
SCM	Sheep Creek Mo	74.64	25	P	P	20 46 37.7	+0.2
SCM				IAmb	IAmb	20 46 41.5	
	comp=Z,31nm,0.9s						
SCM	Sheep Creek Mo	74.64	25	P	P	20 46 37.4	-0.1
	baz=312						
BRLK	Bradley Lake	74.64	28	P	P	20 46 36.8	-0.7
BRLK				IAmb	IAmb	20 46 40.5	
	comp=Z,33nm,0.8s						
BRSE	Bradley Lake S	74.72	28	P	P	20 46 37.8	-0.1
	baz=309						
M24K	Tolsona, Glenn	74.86	24	P	P	20 46 39.4	+0.7
M24K	Tolsona, Glenn	74.86	24	P	P	20 46 38.9	+0.2
	baz=312						
PWL	Port Wells	74.91	26	P	P	20 46 39.4	+0.3
PWL				IAmb	IAmb	20 46 42.8	
	comp=Z,27nm,0.8s						
PWL	Port Wells	74.91	26	P	P	20 46 38.8	-0.2
	baz=311						
HARP	HAARP	75.01	24	P	P	20 46 39.1	-0.5
	baz=313						
I29M	Ogilvie Camp,	75.01	19	P	P	20 46 38.8	-0.7
I29M	Ogilvie Camp,	75.01	19	P	P	20 46 39.0	-0.6
	baz=318,SNR=5.1						
C36M	Paulatuk	75.06	12	P	P	20 46 38.4	-1.3
C36M				IAmb	IAmb	20 46 43.5	
	comp=Z,41nm,1.1s						
C36M	Paulatuk	75.06	12	P	P	20 46 39.0	-0.7
	baz=329,SNR=24						
MVO	Moncorvo	75.17	309	*e*LR	LR	21 11 28.9	
	comp=Z,584nm,18.0s						
L26K	Log Cabin Wild	75.18	23	P	P	20 46 39.9	-0.6
	baz=314						
KDAK	Kodiak Island	75.19	30	LR	LR	21 22 15.6	
	comp=Z,1μm,20.2s,baz=337,slow=38						
KDAK	Kodiak Island	75.19	30	P	P	20 46 40.5	-0.2
	baz=308						
KLU	Klutina	75.36	25	P	P	20 46 41.8	+0.1
KLU	Klutina	75.36	25	P	P	20 46 41.5	-0.2
	baz=313,SNR=18						
PCAB	Cabril	75.54	310	*e*P	P	20 46 43.8	+0.8
PGAV	Gavieira, Arco	75.57	311	*e*P	P	20 46 45.5	+2.2
L27K	Beaver Creek,	75.64	22	P	P	20 46 44.0	+0.7
L27K				IAmb	IAmb	20 46 47.9	
	comp=Z,23nm,0.9s						
L27K	Beaver Creek,	75.64	22	P	P	20 46 43.9	+0.6
	baz=316,SNR=24						
BCAR	Beaver Creek A	75.65	22	P	P	20 46 43.5	+0.2
DAWY	Dawson	75.66	21	P	P	20 46 43.1	-0.2
DAWY				IAmb	IAmb	20 46 47.8	
	comp=Z,19nm,1.1s						
DAWY	Dawson	75.66	21	P	P	20 46 42.6	-0.8
	baz=317,SNR=12						
DIV	Divide	75.66	25	P	P	20 46 43.7	+0.2
DIV				IAmb	IAmb	20 46 47.6	
	comp=Z,22nm,0.8s						
FID	Port Fidalgo	75.67	25	P	P	20 46 43.8	+0.4
FID				IAmb	IAmb	20 46 47.4	
	comp=Z,30nm,1.0s						
J29M	Klondike Camp	75.72	20	P	P	20 46 44.1	+0.4
J29M				IAmb	IAmb	20 46 47.7	
	comp=Z,17nm,0.8s						
J29M	Klondike Camp	75.72	20	P	P	20 46 43.6	-0.1
	baz=318						
M26K	Nabesna, AK	75.73	23	P	P	20 46 44.3	+0.5
M26K				IAmb	IAmb	20 47 04.7	
	comp=Z,21nm,1.1s						
N25K	Chitina, Valde	75.75	24	P	P	20 46 44.6	+0.6
N25K				IAmb	IAmb	20 46 48.6	
	comp=Z,30nm,0.9s						
N25K	Chitina, Valde	75.75	24	P	P	20 46 44.7	+0.8
	baz=314,SNR=16						
MTE	Manteigas	75.90	309	*e*P	P	20 46 47.7	+2.6
MTE	Manteigas	75.90	309	*e*LR	LR	21 11 54.9	
	comp=Z,453nm,20.0s						
PVIS	Viseu	75.97	309	*e*P	P	20 46 48.2	+2.7
M27K	Edge Creek, AK	76.13	23	P	P	20 46 47.0	+0.9
M27K				IAmb	IAmb	20 46 51.0	
	comp=Z,28nm,1.1s						
GLB	Gilahina Butte	76.13	24	P	P	20 46 46.1	0.0
DY2G	Dye2	76.14	344	*i* P	P	20 46 45.2	-1.1
DY2G				IAmb	IAmb	20 46 48.4	
	comp=Z,19nm,0.7s						
PCBR	Castelo Branco	76.14	308	*e*P	P	20 46 47.5	+1.1
BMRM	Bremner River	76.19	25	P	P	20 46 46.9	+0.5
BMRM	Bremner River	76.19	25	P	P	20 46 47.1	+0.7
	baz=314,SNR=5.5						
PMRV	Marv??o	76.29	308	*e*LR	LR	21 13 08.9	
	comp=Z,480nm,22.0s						
VRDI	Verde Repeater	76.41	24	P	P	20 46 48.3	+0.5
VRDI				IAmb	IAmb	20 46 52.3	
	comp=Z,16nm,0.9s						
BVCY	Beaver Creek	76.42	22	P	P	20 46 47.9	+0.3
	baz=316						
Q23K	Middleton Isla	76.61	26	P	P	20 46 49.1	+0.4
	baz=313						
SFJD	Kangerlussuaq	76.67	346	LR	LR	21 25 04.2	
	comp=Z,419nm,18.4s,baz=30,slow=39						
SFJD	Kangerlussuaq	76.67	346	P	P	20 46 48.2	-0.7
SFJD				pmax	pmax		
	comp=Z,69nm,1.2s						
SFJD	Kangerlussuaq	76.67	346	*i* P	P	20 46 47.6	-1.3
SFJD				IAmb	IAmb	20 46 50.6	
	comp=Z,13nm,0.8s						
SFJD	Kangerlussuaq	76.67	346	P	P	20 46 48.2	-0.7
PESTR	Estremoz	76.71	308	*e*P	P	20 46 52.2	+2.4
HMT	Hamilton	76.75	25	P	P	20 46 50.7	+1.1
HMT				IAmb	IAmb	20 46 54.0	
	comp=Z,23nm,0.8s						
KAIM	Kayak Island	76.98	25	P	P	20 46 51.3	+0.5
	baz=314						
YUK3	Moose Creek	77.02	23	P	P	20 46 51.4	+0.2
	baz=317						
LSZ	Lusaka	77.03	242	LR	LR	21 19 38.4	
	comp=Z,249nm,19.1s,baz=57,slow=35						
LSZ	Lusaka	77.03	242	*e*P	P	20 46 50.0	-1.9
LSZ				IAmb	IAmb	20 46 55.8	
	comp=Z,1μm,2.5s						
LSZ	Lusaka	77.03	242	P	P	20 46 50.0	-1.9
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LSZ	Lusaka	77.03	242	P	P	20 46 50.0	-1.9
PMTG	Montargil	77.03	308	*e*P	P	20 46 54.8	+3.3
	comp=Z,27nm,1.5s						
BARN	Barnard Glacie	77.14	24	P	P	20 46 53.1	+1.2
EVO	Evora	77.17	308	*e*P	P	20 46 53.0	+0.7
	comp=Z,26nm,1.4s						
HNR	Honiara	77.29	110	LR	LR	21 18 44.2	
	comp=Z,408nm,22.0s,baz=305,slow=34						
CTG	Chitna Glacier	77.31	24	P	P	20 46 52.2	-0.7
	baz=316						
CTGM	Chitina Glacie	77.32	24	P	P	20 46 53.2	+0.3
CTGM				IAmb	IAmb	20 46 58.4	
	comp=Z,41nm,1.2s						
PBEJ	Beja	77.33	307	*e*P	P	20 46 55.9	+2.7
GRNC	Granite Creek	77.34	24	P	P	20 46 53.6	+0.5
GRNC				IAmb	IAmb	20 46 60.0	
	comp=Z,17nm,1.0s						
LOGN	Logan Glacier	77.53	23	P	P	20 46 54.4	+0.3
LOGN				IAmb	IAmb	20 47 08.0	
	comp=Z,30nm,1.2s						
PVAQ	Vaqueiros	77.56	306	*e*P	P	20 46 57.1	+2.6
	comp=Z,38nm,1.3s						
PVAQ	Vaqueiros	77.56	306	*e*LR	LR	21 14 23.3	
	comp=Z,444nm,16.0s						
PVAQ	Vaqueiros	77.56	306	P	P	20 46 56.5	+2.0
PVAQ				IAmb	IAmb	20 46 59.3	
	comp=Z,31nm,1.3s						
YAH	Yahtse	77.61	24	P	P	20 46 55.5	+0.9
MESJ	Messejana	77.67	307	*e*P	P	20 46 55.5	+0.4
MESJ				IAmb	IAmb	20 46 59.2	
	comp=Z,28nm,1.2s						
MESJ	Messejana	77.67	307	*e*P	P	20 46 55.5	+0.4
MESJ				iAmb		20 46 59.2	
MESJ	Messejana	77.67	307	*e*P	P	20 46 55.5	+0.4
MESA	MESA	77.68	24	P	P	20 46 54.1	-0.8
	baz=316						
PNCL	Nicolau / Gran	77.74	307	*e*P	P	20 46 58.0	+2.5
MDT	Midelt	77.74	301	LR	LR	21 26 44.6	
	comp=Z,234nm,20.0s,baz=73,slow=40						
PBDV	Barranco-do-Ve	77.79	306	*e*P	P	20 46 58.9	+3.1
	comp=Z,61nm,2.0s						
PINM	Pinnacle	78.32	24	P	P	20 46 57.7	-0.7
	baz=317						
M31M	Drury Creek, Y	78.56	20	P	P	20 46 59.7	+0.1
M31M	Drury Creek, Y	78.56	20	P	P	20 46 59.1	-0.5
	baz=322						
N31M	Braeburn, Yuko	78.71	21	P	P	20 46 59.3	-1.2
N31M				IAmb	IAmb	20 47 05.3	
	comp=Z,39nm,1.2s						
N31M	Braeburn, Yuko	78.71	21	P	P	20 46 59.4	-1.0
	baz=321,SNR=5.0						
FARO	Faro, Yukon	78.84	20	P	P	20 47 00.4	-0.8
	baz=323						
PNL	Peninsula	78.93	24	P	P	20 47 01.3	-0.4
	baz=318						
WHY	Whitehorse	79.63	21	P	P	20 47 07.6	+2.0
WHY	Whitehorse	79.63	21	P	P	20 47 04.9	-0.7
	baz=322						
STKA	Stephens Creek	79.63	139	P	P	20 47 04.6	-1.2
	comp=Z,4.7nm,0.7s,baz=306,slow=6.8,SNR=8.2						
STKA				LR	LR	21 26 18.1	
	comp=Z,366nm,20.2s,baz=311,slow=39						
STKA	Stephens Creek	79.63	139	P	P	20 47 07.4	+1.6
BLWY	Bulawayo	79.81	238	*e*P	P	20 47 06.5	-0.7
BLWY				IAmb	IAmb	20 47 08.9	
	comp=Z,202nm,2.0s						
MOPA	Mopani	80.06	234	*e*P	P	20 47 10.4	+2.1
MOPA				IAmb	IAmb	20 47 11.0	
	comp=Z,2.7nm,1.9s						
MATP	Matopo	80.07	238	LR	LR	21 20 52.2	
	comp=Z,202nm,18.8s,baz=54,slow=34						
MSNA	Messina	80.24	236	*e*P	P	20 47 10.5	+1.2
MSNA				IAmb	IAmb	20 47 13.4	
	comp=Z,12nm,1.2s						
SKAG	Skagway	80.43	22	P	P	20 47 09.2	-0.5
SKAG				IAmb	IAmb	20 47 14.7	
	comp=Z,32nm,1.0s						
SKAG	Skagway	80.43	22	P	P	20 47 09.3	-0.5
	baz=321						
WRGLY	Wrigley	80.51	15	P	P	20 47 09.4	-0.7
	baz=331						
P33M	Teslin, Yukon	80.61	21	P	P	20 47 10.8	0.0
P33M				IAmb	IAmb	20 47 14.9	
	comp=Z,31nm,1.4s						
P33M	Teslin, Yukon	80.61	21	P	P	20 47 10.2	-0.7
	baz=323						
EIDS	Eidsvold	80.83	128	P	P	20 47 12.0	-0.4
EIDS				IAmb	IAmb	20 47 24.3	
	comp=Z,16nm,0.9s						
POGA	Pongola	82.42	231	*e*P	P	20 47 21.8	+1.1
POGA				IAmb	IAmb	20 47 25.7	
	comp=Z,6.3nm,0.8s						
FRB	Frobisher Bay	82.71	351	LR	LR	21 26 24.0	
	comp=Z,694nm,21.9s,baz=22,slow=37						
DLBC	Dease Lake	82.89	21	LR	LR	21 27 07.7	
	comp=Z,520nm,18.2s,baz=332,slow=38						
YKA	Yellowknife Ar	82.94	12	P	P	20 47 22.4	-0.6
	comp=Z,7.9nm,0.9s,baz=331,slow=4.9,SNR=26						
YKA				LR	LR	21 26 15.5	
	comp=Z,498nm,21.9s,baz=325,slow=37						
YKA	Yellowknife Ar	82.94	12	P	P	20 47 22.0	-1.0
YKA	Yellowknife Ar	82.94	12	P	P	20 47 22.0	-1.0
TORD	Torodi Ar. Bea	82.95	281	P	P	20 47 23.4	-0.5
	comp=Z,13nm,0.9s,baz=46,slow=4.6,SNR=23						
TORD	Torodi Ar. Bea	82.95	281	P	P	20 47 23.1	-0.8
TORD				IAmb	IAmb	20 47 27.4	
	comp=Z,16nm,1.0s						
HRAO	HartRAO	84.16	234	*e*P	P	20 47 28.6	-1.3
HRAO				IAmb	IAmb	20 47 31.8	
	comp=Z,80nm,2.2s						
ARMA	Armidale	84.59	131	P	P	20 47 31.4	-0.6
ARMA				IAmb	IAmb	20 47 36.4	
	comp=Z,13nm,0.9s						
LBTB	Lobatse	85.05	236	LR	LR	21 22 07.0	
	comp=Z,483nm,21.5s,baz=50,slow=33						
LBTB	Lobatse	85.05	236	*e*P	P	20 47 35.6	+1.2
LBTB				IAmb	IAmb	20 47 41.5	
	comp=Z,10nm,0.9s						
LBTB	Lobatse	85.05	236	P	P	20 47 34.4	0.0
LBTB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LBTB	Lobatse	85.05	236	P	P	20 47 34.4	0.0
SNKL	Senekal, Frees	85.64	233	*e*P	P	20 47 37.7	+0.3
SNKL				IAmb	IAmb	20 47 38.5	
	comp=Z,15nm,1.0s						
SWZ	Schweizer	86.60	235	*e*P	P	20 47 41.0	-1.2
SWZ				IAmb	IAmb	20 47 44.5	
	comp=Z,66nm,2.0s						
TSUM	Tsumeb	87.44	245	LR	LR	21 27 49.3	
	comp=Z,265nm,18.6s,baz=50,slow=36						
BOSA	Boshof	87.56	234	P	P	20 47 46.5	-0.2
	comp=Z,7.1nm,0.9s,baz=33,slow=6.4,SNR=8.9						
BOSA				LR	LR	21 24 56.2	
	comp=Z,566nm,18.9s,baz=57,slow=34						
BOSA	Boshof	87.56	234	*e*P	P	20 47 46.8	+0.1
BOSA				IAmb	IAmb	20 47 50.8	
	comp=Z,493nm,4.0s						
BOSA	Boshof	87.56	234	P	P	20 47 46.5	-0.2
BOSA				IAmb	IAmb	20 47 50.5	
	comp=Z,11nm,1.0s						
BBB	Bella Bella	88.72	23	LR	LR	21 30 36.8	
	comp=Z,681nm,19.6s,baz=314,slow=38						
FCC	Fort Churchill	88.88	3	P	P	20 47 53.8	+1.4
FCC				pmax	pmax		
	comp=Z,12nm,1.2s						
FCC	Fort Churchill	88.88	3	P	P	20 47 53.8	+1.4
FCC				IAmb	IAmb	20 47 54.7	
	comp=Z,12nm,1.1s						
DZM	Mont Dzumac	89.75	116	*e*LR	LR	21 16 36.9	
	comp=Z,584nm,25.4s						
SCHQ	Schefferville	90.98	348	P	P	20 48 03.0	+0.6
	comp=Z,7.6nm,0.9s,baz=350,slow=0.9,SNR=4.4						
SCHQ				LR	LR	21 31 24.1	
	comp=Z,498nm,21.5s,baz=21,slow=37						
DBIC	Dimbokro	91.85	279	P	P	20 48 07.8	+0.6
	comp=Z,6.3nm,0.9s,baz=43,slow=5.0,SNR=8.1						
DBIC				LR	LR	21 32 28.1	
	comp=Z,851nm,20.9s,baz=66,slow=38						
DBIC	Dimbokro	91.85	279	*e*P	P	20 48 07.1	0.0
DBIC	Dimbokro	91.85	279	P	P	20 48 07.7	+0.6
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DBIC	Dimbokro	91.85	279	P	P	20 48 07.7	+0.6
DBIC				IAmb	IAmb	20 48 10.3	
	comp=Z,7.6nm,0.9s						
NEW	Newport	95.51	19	LR	LR	21 36 29.1	
	comp=Z,769nm,18.0s,baz=341,slow=39						
MSVF	Nonsavu	96.46	107	LR	LR	21 25 50.8	
	comp=Z,375nm,20.8s,baz=327,slow=32						
ULM	Lac du Bonnet	97.27	5	LR	LR	21 33 20.0	
	comp=Z,422nm,21.6s,baz=360,slow=36						
YBH	Yreka Blue Hor	99.59	25	LR	LR	21 35 17.7	
	comp=Z,428nm,20.7s,baz=340,slow=36						
TXAR	Lajitas Array	116.74	15	PKP	PKiKP	20 53 44.7	+1.3
	comp=Z,0.3nm,0.5s,baz=17,slow=1.2,SNR=3.7						
PPT2	Papeete2	123.32	90	*e*LR	LR	21 32 11.1	
	comp=Z,432nm,28.0s						
VNA2	Neumayer--Watz	123.33	203	PKPdf	PKiKP	20 53 56.1	+1.4
	baz=45,slow=2.1						
VNA3	Neumayer Olymp	124.09	203	PKPdf	PKiKP	20 53 57.3	+1.1
TBI	Tubuai	125.93	97	*e*LR	LR	21 33 26.8	
	comp=Z,230nm,29.2s						
TAOE	Nuku Hiva Isla	126.77	76	*e*LR	L

GQP			*i* S		**Sb**	**20 46 37.7**	**-2.5**
JCNP	**Jose Panganiba**	**1.25 331**	⇑*e*P		Pn	20 46 24.2	-3.8
JCNP			*i* S		**Sb**	**20 46 41.8**	**-2.6**
BOAC	**Boac**	**1.46 281**	⇑*e*P		**Pn**	**20 46 30.8**	**-0.1**
RCP	**Roxas**	**1.71 199**	⇑*e*P		**Pn**	**20 46 35.4**	**+1.1**
LQP	**Lukban**	**1.96 298**	⇑*e*P		**Pn**	**20 46 36.7**	**-1.2**
LQP			*i* S		**Sn**	**20 47 04.6**	**+2.1**
PGP	**Puerto Galera**	**2.32 278**	⇑*e*P		**Pn**	**20 46 43.4**	**+0.6**
OCLP	**Ormoc**	**2.47 149**	⇑*e*P		**Pn**	**20 46 46.8**	**+2.0**
TGY	**Tagaytay City**	**2.49 292**	Pn		**Pn**	**20 46 47.3**	**+2.3**
	74nm,0.3s,baz=137,slow=4.8,SNR=14						
TGY			Sn		**Sg**	**20 47 25.5**	**+0.7**
	54nm,0.3s,baz=60,slow=20,SNR=3.4						
TGY	**Tagaytay City**	**2.49 292**	⇑*e*P		**Pn**	**20 46 46.6**	**+1.6**
MACP	**Maragondon, Ca**	**2.74 293**	⇑*e*P		**Pn**	**20 46 52.8**	**+4.2**
CUYO	**Cuyo Island**	**3.23 224**	⇑*e*P		**Pn**	**20 46 56.6**	**+1.3**
MSLP	**Maasin**	**3.39 153**	⇓*e*P		**Pn**	**20 47 00.8**	**+3.4**
CNOP	**Candoni, Negro**	**3.40 191**	⇓*e*P		**Pb**	**20 47 02.0**	**-3.0**
TBP	**Tagbilaran**	**3.51 171**	⇓*e*P		**Pn**	**20 47 01.6**	**+2.4**
SAMP	**Sagada Mountai**	**4.52 329**	⇓*e*P		**Pn**	**20 47 12.1**	**-0.9**
BUTP	**Butuan**	**4.76 151**	⇓*e*P		**Pb**	**20 47 23.9**	**-4.3**
TWG	**Pinlang**	**9.82 348**	Pn		**Pn**	**20 48 27.1**	**+1.4**
SBUM	**Sibu**	**15.31 227**			**Pn**	**20 49 40.2**	**-0.6**
SBUM			IAmb		IAmb	20 49 52.2	
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**24.02 286**	P		**P**	**20 51 20.8**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=98,slow=7.7,SNR=6.6						
BJT	**Baijiatuau**	**27.46 348**	P		**P**	**20 51 52.2**	**+1.6**
BJT			IAmb		IAmb	20 51 54.2	
	comp=Z,4.4nm,0.9s						
WB0	**Warramunga Arr**	**34.51 161**	P		P	20 52 46.1	-6.9
WB0			IAmb		IAmb	20 52 54.5	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**34.66 162**	P		**P**	**20 52 54.1**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=343,slow=9.4,SNR=11						
WB2	**Warramunga Arr**	**34.66 162**	P		P	20 52 47.1	-7.2
WB2			IAmb		IAmb	20 53 09.2	
	comp=Z,6.1nm,1.2s						
WR0	**Warramunga Arr**	**34.74 161**	P		P	20 52 48.0	-6.9
WR0			IAmb		IAmb	20 53 06.7	
	comp=Z,5.3nm,1.1s						
ULN	**Ulaanbaatar**	**37.14 342**	P		**P**	**20 53 15.7**	**+0.3**
ULN			IAmb		IAmb	20 53 19.6	
	comp=Z,4.1nm,1.0s						
SONM	**Songino Array**	**37.32 341**	P		**P**	**20 53 18.7**	**+1.8**
	comp=Z,1.7nm,1.0s,baz=158,slow=5.8,SNR=7.8						
SONM	**Songino Array**	**37.32 341**	IAmb		IAmb	20 53 19.4	
	comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**38.06 164**	P		**P**	**20 53 23.1**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=338,slow=6.2,SNR=12						
MK31	**Makanchi Array**	**47.97 323**	P		**P**	**20 54 43.6**	**+0.3**
MK31			IAmb		IAmb	20 54 48.1	
	comp=Z,1.9nm,1.1s						
MKAR	**Makanchi Array**	**47.97 323**	P		**P**	**20 54 43.6**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=134,slow=8.8,SNR=8.3						
STKA	**Stephens Creek**	**48.11 159**	P		**P**	**20 54 42.1**	**-2.4**
	comp=Z,2.1nm,0.8s,baz=324,slow=8.7,SNR=2.0						
STKA	**Stephens Creek**	**48.11 159**	IAmb		IAmb	20 54 43.7	
	comp=Z,1.3nm,1.1s						
ZALV	**Zalesovo Beam**	**50.70 332**	P		**P**	**20 55 05.9**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=102,slow=12,SNR=2.3						
KURK	**Kurchatov**	**52.04 325**	P		**P**	**20 55 14.2**	**+0.1**
KKAR	**Karatay Array**	**54.16 314**	P		**P**	**20 55 30.6**	**+0.7**
BRVK	**Borovoye**	**57.71 325**	P		**P**	**20 55 55.7**	**+0.5**

IDC 13 20:47:30.2±2.2,2.79N×125.98E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.0/46,mbtmp3.3/3,Error ellipse: s-maj=206.7km s-min=26.1km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04 160**		P	P	20 52 47.0	-0.3
	0.3nm,0.5s,baz=339,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**27.41 164**		P	P	20 53 18.5	+0.7
	0.4nm,0.8s,baz=339,slow=6.5,SNR=1.6						
MKAR	**Makanchi Array**	**57.90 326**		P	P	20 57 23.9	-0.3
	0.2nm,0.4s,baz=125,slow=7.3,SNR=7.3						

*IDC **13** 21:03:25.4±2.1,4.19N×126.70E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.3/49,mbtmp3.6/4,Error ellipse: s-maj=175.6km s-min=27.2km az=65.0*
*DJA **13** 21:03:27.5±1.0,4.N±9.×12.7E±.,h10km,M4.0/7,mb4.1/4, mB4.7/1,MLv4.0/7,Mw(mB)4.0/1*

ISC 13 21:03:26.2±1.2,4.3N±0.1×126.9E±0.2,h10km,n10, σ1°25/10,mb3.6/4,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.51 247**		P	**Pn**	**21 03 52.2**	**-1.1**
KCP	**Kidapawan**	**3.26 326**		⇓*e*P	**Pb**	**21 04 23.5**	**-0.7**
KMSI	**Cibinong**	**4.72 219**		P	**Pn**	**21 04 37.8**	**+0.4**
GTOI	**Gorontalo**	**5.33 227**		P	**Pn**	**21 04 44.9**	**-1.0**
	0.0nm7.2nm,0.5s						
MRSI	**Marisa**	**6.25 233**		P	**Pn**	**21 04 59.4**	**+0.8**
	0.1nm604nm30nm,0.5s						
SANI	**Sanana**	**6.36 188**		P	**Pn**	**21 04 58.0**	**-2.1**
WRA	**Warramunga Arr**	**25.16 163**		P	**P**	**21 08 52.1**	**+0.3**
	1.3nm,0.8s,baz=343,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**28.61 167**		P	**P**	**21 09 22.5**	**-0.4**
	0.3nm,0.7s,baz=342,slow=7.2,SNR=4.4						
STKA	**Stephens Creek**	**38.58 160**		P	**P**	**21 10 51.0**	**+1.6**
	2.1nm,0.7s,baz=340,slow=9.6,SNR=3.1						
MKAR	**Makanchi Array**	**57.21 325**		P	**P**	**21 13 14.1**	**+0.4**
	0.3nm,0.5s,baz=129,slow=8.1,SNR=3.6						

IDC 13 21:05:56.9±2.1,4.09N×126.57E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.2/52,mbtmp3.3/4,Error ellipse: s-maj=195.8km s-min=23.8km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.07 163**		P	P	21 11 22.6	-0.7
	1.4nm,1.0s,baz=342,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**28.50 166**		P	P	21 11 55.0	+0.8
	0.1nm,0.4s,baz=346,slow=12,SNR=1.6						
MKAR	**Makanchi Array**	**57.17 325**		P	P	21 15 44.9	-0.8
	0.1nm,0.4s,baz=119,slow=5.6,SNR=1.5						
KURBB	**Kurchatov Arra**	**61.35 327**		P	P	21 16 15.0	+0.5
	0.2nm,0.4s,baz=127,slow=6.4,SNR=5.3						

*IDC **13** 21:10:14.2±1.0,9.07S×158.17E,h0km,mb3.9/7, mb1 4.1/7,mb1mx3.7/46,mbtmp3.9/7,MS4.1/1,Ms1 4.1/1, ms1mx3.1/53,Error ellipse: s-maj=33.7km s-min=20.8km az=148.0*
*NEIC **13** 21:10:17.6±2.2,9.2S±0.1×158.29E±0.08,h10km±1km, mb4.2/8,Error ellipse: s-maj=23.3km s-min=12.4km az=12.0*

ISC 13 21:10:18.2±0.7,9.1S±0.1×158.14E±0.07,h23km,n21, σ1°59/21,mb3.9/9,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.81 101**		Pn	**Pn**	**21 10 46.9**	**-1.1**
	22nm,0.3s,baz=212,slow=6.2,SNR=4.4						
HNR				Sn	**Sb**	**21 11 16.1**	**+3.1**
	254nm,0.3s,baz=10,slow=20,SNR=9.2						
HNR	**Honiara**	**1.81 101**			**Pn**	**21 10 46.6**	**-1.5**
RABL	**Rabaul**	**7.68 309**		Pn	**Pn**	**21 12 11.5**	**+2.7**
PMG	**Port Moresby**	**10.85 268**		Pn	**Pn**	**21 12 52.1**	**0.0**
COEN	**Coen**	**15.44 250**		Pn	**P**	**21 13 57.9**	**-1.2**
COEN				IAmb	IAmb	21 14 06.6	
	comp=Z,27nm,1.4s						
PATS	**Pohnpei**	**15.83**	**1**	Pn	**P**	**21 14 01.9**	**-1.5**
EIDS	**Eidsvold**	**17.52 202**			**P**	**21 14 21.1**	**-1.0**
EIDS				IAmb	IAmb	21 14 34.3	
	comp=Z,15nm,1.2s						
WR0	**Warramunga Arr**	**25.23 242**		P	**P**	**21 15 43.3**	**+0.7**
WR0				IAmb	IAmb	21 15 50.3	
	comp=Z,4.3nm,0.8s						
WB0	**Warramunga Arr**	**25.29 243**		P	**P**	**21 15 44.2**	**+1.0**
WB0				IAmb	IAmb	21 15 54.3	
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**25.40 242**		P	**P**	**21 15 43.8**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=67,slow=8.8,SNR=18						
WRA	**Warramunga Arr**	**25.40 242**		P	**P**	**21 15 44.8**	**+0.6**
ASAR	**Alice Springs**	**27.33 235**		P	**P**	**21 16 00.8**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=64,slow=9.5,SNR=10						
ASAR	**Alice Springs**	**27.33 235**		P	**P**	**21 16 04.6**	**+3.0**
STKA	**Stephens Creek**	**27.38 212**		P	**P**	**21 16 02.3**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=41,slow=16,SNR=1.9						
STKA	**Stephens Creek**	**27.38 212**		P	**P**	**21 16 03.7**	**+1.8**
BBOO	**Buckleboo**	**31.20 218**		P	**P**	**21 16 37.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**32.78 251**		P	**P**	**21 16 49.8**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=55,slow=12,SNR=1.6						
BATI	**Baumata**	**34.00 265**		LR	LR	21 32 01.4	
	comp=Z,280nm,19.7s,baz=234,slow=38						
SONM	**Songino Array**	**72.79 326**		P	**P**	**21 21 45.4**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=128,slow=5.1,SNR=6.2						
ILAR	**Eielson Array**	**84.20 21**		P	**P**	**21 22 46.8**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=235,slow=3.2,SNR=4.3						
YKA	**Yellowknife Ar**	**96.73 28**		P	**P**	**21 23 44.8**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=264,slow=4.9,SNR=1.7						

*IDC **13** 21:18:12.4±0.4,42.15N×84.27E,h0km,mb5.2/42, mb1 5.3/49,mb1mx5.1/52,mbtmp5.2/49,ML4.5/7,MS4.5/67, Ms1 4.5/67,ms1mx4.4/93,Error ellipse: s-maj=9.7km s-min=7.8km az=25.0*
*MOS **13** 21:18:12.6±0.9,42.15N×84.25E,h12km,mb5.7/38, MS4.7/37,Error ellipse: s-maj=4.6km s-min=3.3km az=133.7*
*NEIC **13** 21:18:14.5±1.2,42.21N±0.06×84.27E±0.09,h10km±1km, mb5.6/330,Ms_20 4.9/93,Mwc5.1(GCMT),Error ellipse: s-maj=10.7km s-min=10.6km az=56.0*
*BJI **13** 21:18:14.1±0.0,42.19N×84.12E,h8km,mb5.2/54, mB5.1/37,ML5.6/12,Ms5.1/61,Ms7 5.0/56*
*GCMT **13** 21:18:15.5±0.2,42.11N±0.01×84.11E±0.02,h22km, MW5.1/108,Moment Tensor Solution. s71,c92; s108,c171; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}4.26±.14; $M_{\theta\theta}$-4.84±.10; $M_{\phi\phi}$0.57±.09; $M_{r\theta}$2.60±.14; $M_{\theta\phi}$0.58±.06; $M_{\phi r}$-1.62±.17; Best double couple: $M_0$5.53200×10^16^ NP1:ϕ_s260.00000°,δ31.00000°, λ63.00000°. NP2:ϕ_s111.00000°,δ62.00000°,λ106.00000°. Principal axes: T 5.3750, Plg69.0000°, Azm52.0000°; N 0.3060, Plg14.0000°, Azm284.0000°; P -5.6890, Plg16.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SOME **13** 21:18:16.5,42.30N×84.07E,h10km,MS4.9*
*NNC **13** 21:18:16.9±1.5,42.28N×84.10E,h11km±5km,mb5.7, mpv5.4,Error ellipse: s-maj=10.6km s-min=7.0km az=137.0*
*BGR **13** 21:18:19.7±0.0,42.62N×83.85E,h24km±3km,mb5.6, mB_BB5.8,Ms4.2*
*DSN **13** 21:18:19.0±1.0,41.79N×83.90E,h10km,mb5.8/7,Ms4.5/9, Error ellipse: s-maj=19.1km s-min=5.2km az=33.0*

ISC 13 21:18:14.3±0.4,42.18N±0.02×84.15E±0.02,h11km±2km, h11km:pP-P,n1425,σ1°51/1473,mb5.5/371,MS4.8/150, 362C-135D,Fault plane solution: NP1:ϕ_s239.91785°, δ51.76975°,λ37.07995°. **NP2:ϕ_s**124.85367°,δ61.73054°, λ135.36197°. **Principal axes:** T Plg50.5765°, Azm87.2548°; N Plg38.8065°, Azm279.2294°; P Plg5.8932°, Azm184.4677°; **Fault plane solution: NP1:ϕ_s**115.13409°,δ55.26206°,λ87.56175°. **NP2:** ϕ_s299.40768°,δ34.81268°,λ93.51083°. **Principal axes:** T Plg79.5701°, Azm15.5689°; N Plg2.0035°, Azm116.5240°; P Plg10.2314°, Azm206.8858°; **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.07 296**		*e*P	**Pg**	**21 19 11.3**	**-1.8**
	417nm,0.4s						
KTMS				*e*S	**Sg**	**21 19 50.4**	**-2.3**
	2μm,0.5s						
KTMS	**Ketmen**	**3.07 296**		Pg	**Pb**	**21 19 10.0**	**+1.1**
	303nm,0.4s						
KTMS				Lg	Lg	21 19 49.4	
	2μm,0.4s						
WMQ	**Urumqi**	**3.08**	**57**	Pn	**Pb**	**21 19 06.3**	**-2.8**
WMQ				smax	smax		
	comp=N,30μm,1.1s						
WMQ				smax	smax		
	comp=E,44μm,1.1s						
PDGK	**Podgornoye**	**3.62 290**		⇑Pn	**Pn**	**21 19 12.9**	**+2.6**
	123nm,0.8s						
PDGK				⇑Pg	**Pg**	**21 19 22.6**	**-0.9**
	3μm,0.8s						
PDGK				⇑Lg	Lg	21 20 09.1	
	11μm,1.0s						
DJR	**Jarkent**	**3.84 306**		*e*P	**Pg**	**21 19 25.0**	**-2.9**
	413nm,0.3s						
DJR				*e*S	**Sg**	**21 20 15.2**	**-2.4**
	3μm,0.6s						
DJR	**Jarkent**	**3.84 306**		*i* P	**Pn**	**21 19 15.8**	**+2.4**
	baz=304						
DJR	**Jarkent**	**3.84 306**		Pg	**Pg**	**21 19 25.0**	**-2.9**
	413nm,0.3s						
DJR				Lg	Lg	21 20 15.2	
	3μm,0.6s						
UZB	**Uzynbulak**	**3.90 286**		⇑*i*P	**Pn**	**21 19 16.9**	**+2.7**
UZB				*e*S	**Sn**	**21 20 03.1**	**+3.0**
UZB	**Uzynbulak**	**3.90 286**		*e*P	**Pg**	**21 19 27.3**	**-1.7**
	455nm,0.5s						
UZB				*e*S	**Sg**	**21 20 18.7**	**-0.9**
	2μm,0.6s						
UZB	**Uzynbulak**	**3.90 286**		⇑*i*P	**Pn**	**21 19 16.9**	**+2.7**
	baz=285						
UZB				*e*S	**Sn**	**21 20 03.1**	**+3.0**
	baz=285						
UZB	**Uzynbulak**	**3.90 286**		Pg	**Pg**	**21 19 27.3**	**-1.7**
	455nm,0.5s						
UZB				Lg	Lg	21 20 18.7	
	2μm,0.6s						
PRZ	**Przheval'sk**	**4.27 276**		P	**Pn**	**21 19 22.1**	**+2.7**
PRZ	**Przheval'sk**	**4.27 276**		Pn	**Pn**	**21 19 22.1**	**+2.7**
ZHN	**Zhinishke**	**4.33 285**		*e*P	**Pn**	**21 19 22.6**	**+2.5**
ZHN	**Zhinishke**	**4.33 285**		*e*P	**Pg**	**21 19 35.2**	**-2.0**
	695nm,0.3s						
ZHN				*e*S	**Sg**	**21 20 31.5**	**-1.6**
	3μm,0.5s						
ZHN	**Zhinishke**	**4.33 285**		*e*P	**Pn**	**21 19 22.6**	**+2.5**
	baz=284						
ZHN	**Zhinishke**	**4.33 285**		Pg	**Pg**	**21 19 35.2**	**-2.0**
	695nm,0.3s						
ZHN				Lg	Lg	21 20 31.5	
	3μm,0.5s						
SATY	**Saty**	**4.33 284**		⇑*i*P	**Pn**	**21 19 22.7**	**+2.6**
SATY	**Saty**	**4.33 284**		*e*P	**Pg**	**21 19 37.8**	**+0.6**
	1μm,0.6s						
SATY				*e*S	**Sg**	**21 20 36.1**	**+2.9**
	5μm,0.8s						
SATY	**Saty**	**4.33 284**		⇑*i*P	**Pn**	**21 19 22.8**	**+2.6**
	baz=283						
SATY	**Saty**	**4.33 284**		Pg	**Pg**	**21 19 37.8**	**+0.6**
	1μm,0.6s						
SATY				Lg	Lg	21 20 36.1	
	5μm,0.8s						
BLB	**Baldybastay**	**4.57 297**		*e*P	**Pb**	**21 19 37.9**	**+3.4**
	822nm,0.5s						
BLB				*e*S	**Sg**	**21 20 37.2**	**-3.8**
	4μm,0.5s						
BLB	**Baldybastay**	**4.57 297**		Pg	**Pb**	**21 19 37.9**	**+3.4**
	822nm,0.5s						
BLB				Lg	Lg	21 20 37.2	
	4μm,0.5s						
KURS	**Kuram**	**4.58 289**		*e*P	**Pg**	**21 19 40.7**	**-1.4**
	1μm,0.6s						
KURS				*e*S	**Sg**	**21 20 41.5**	**0.0**
	2μm,0.7s						
KURS	**Kuram**	**4.58 289**		Pg	**Pg**	**21 19 40.7**	**-1.4**
	1μm,0.6s						
KURS				Lg	Lg	21 20 41.5	
	2μm,0.7s						
KAPS	**Kapalarasan**	**4.66 313**		*e*P	**Pb**	**21 19 38.5**	**+2.5**
	572nm,0.5s						
KAPS				*e*S	**Sg**	**21 20 38.0**	**-5.7**
	2μm,0.4s						
KAPS	**Kapalarasan**	**4.66 313**		Pg	**Pb**	**21 19 38.5**	**+2.5**
	572nm,0.5s						
KAPS				Lg	Lg	21 20 38.0	
	2μm,0.4s						
TARG	**Taragay, Kyrgy**	**4.75 267**			**Pn**	**21 19 28.8**	**+2.6**
MK31	**Makanchi Array**	**4.80 345**		*i* P	**Pn**	**21 19 28.5**	**+1.9**
MK31				pmax	pmax		
	comp=Z,155nm,0.6s						
MK31	**Makanchi Array**	**4.80 345**		⇑Pn	**Pn**	**21 19 28.4**	**+1.9**
	comp=Z,42nm,0.3s,baz=162,slow=14						
MK31				⇑Pg	**Pg**	**21 19 43.4**	**-2.9**
	comp=Z,416nm,0.4s,baz=150,slow=16,SNR=76						
MK31				⇓Lg	Lg	21 20 45.5	
	comp=Z,9μm,0.9s,baz=164,slow=27,SNR=12						
MK31	**Makanchi Array**	**4.80 345**			**Pn**	**21 19 28.0**	**+1.5**
MKAR	**Makanchi Array**	**4.80 345**		Pn	**Pn**	**21 19 28.6**	**+2.0**
	comp=Z,12nm,0.3s,baz=158,slow=15,SNR=454						
MKAR				Pg	**Pg**	**21 19 42.9**	**-3.4**
	comp=Z,363nm,0.3s,baz=158,slow=17,SNR=42						
MKAR				Lg	Lg	21 20 45.0	
	comp=Z,662nm,0.3s,baz=150,slow=27,SNR=9.8						
MKAR				LR	LR	21 21 39.8	
	comp=Z,8μm,20.6s,baz=172,slow=43						
MKAR	**Makanchi Array**	**4.80 345**		P	**Pn**	**21 19 28.3**	**+1.7**
MKAR	**Makanchi Array**	**4.80 345**			**Pn**	**21 19 28.2**	**+1.7**
MAKZ	**Makanchi**	**4.88 342**		P	**Pn**	**21 19 28.8**	**+1.1**
MAKZ	**Makanchi**	**4.88 342**		⇑Pn	**Pn**	**21 19 29.6**	**+2.0**
	comp=Z,194nm,0.8s						
MAKZ				⇓Pg	**Pg**	**21 19 44.8**	**-3.0**
	comp=Z,1μm,0.6s						
MAKZ				⇑Sn	**Sn**	**21 20 26.2**	**+2.1**
	comp=Z,2μm,1.1s						
MAKZ				⇓Lg	Lg	21 20 48.1	
	comp=Z,5μm,0.8s						
MAKZ	**Makanchi**	**4.88 342**			**Pn**	**21 19 28.8**	**+1.1**
TDK	**Taldyqorghan**	**5.04 306**		*i* P	**Pn**	**21 19 32.3**	**+2.6**
TDK				pmax	pmax		
	comp=Z,115nm,0.7s						
TDK	**Taldyqorghan**	**5.04 306**		*e*P	**Pg**	**21 19 48.5**	**-2.2**
	comp=Z,2μm,0.7s						
TDK				*e*S	**Sg**	**21 20 55.3**	**-0.6**
	comp=Z,3μm,0.6s						
TDK	**Taldyqorghan**	**5.04 306**		*i* P	**Pn**	**21 19 32.3**	**+2.6**
	comp=Z,115nm,0.7s,baz=305						
TDK	**Taldyqorghan**	**5.04 306**		Pg	**Pg**	**21 19 48.5**	**-2.2**
	comp=Z,2μm,0.7s						
TDK				Lg	Lg	21 20 55.3	
	comp=Z,3μm,0.6s						
ARXS	**Arharly**	**5.05 296**		*e*P	**Pn**	**21 19 32.3**	**+2.3**
ARXS	**Arharly**	**5.05 296**		*e*P	**Pb**	**21 19 46.1**	**+3.4**
	comp=Z,622nm,0.7s						
ARXS				*e*S	**Sg**	**21 20 51.1**	**-5.2**
	comp=Z,2μm,0.8s						
ARXS	**Arharly**	**5.05 296**		Pg	**Pb**	**21 19 46.1**	**+3.4**
	comp=Z,622nm,0.7s						
ARXS				Lg	Lg	21 20 51.1	
	comp=Z,2μm,0.8s						
KOTS	**Kotyrbulak**	**5.29 284**		*e*P	**Pg**	**21 19 52.8**	**-2.8**
	comp=Z,484nm,0.6s						
KOTS				*e*S	**Sg**	**21 21 01.7**	**-2.4**
	comp=Z,4μm,0.9s						
KOTS	**Kotyrbulak**	**5.29 284**		Pg	**Pg**	**21 19 52.8**	**-2.8**
	comp=Z,484nm,0.6s						
KOTS				Lg	Lg	21 21 01.7	
	comp=Z,4μm,0.9s						
ZSN	**Zaisan**	**5.30**	**5**	*e*P	**Pn**	**21 19 34.9**	**+1.6**
ZSN				pmax	pmax		
	comp=Z,21nm,0.6s						
ZSN	**Zaisan**	**5.30**	**5**	*e*P	**Pg**	**21 19 52.6**	**-3.1**
	comp=Z,616nm,0.4s						
ZSN				*e*S	**Sg**	**21 21 01.5**	**-2.9**
	comp=Z,9μm,0.9s						
ZSN	**Zaisan**	**5.30**	**5**	*e*P	**Pn**	**21 19 34.9**	**+1.6**
	comp=Z,21nm,0.6s,baz=5.2						
ZSN	**Zaisan**	**5.30**	**5**	Pg	**Pg**	**21 19 52.6**	**-3.1**
	comp=Z,616nm,0.4s						
ZSN				Lg	Lg	21 21 01.5	
	comp=Z,9μm,0.9s						
MDOK	**Medeo**	**5.33 283**		*i* P	**Pn**	**21 19 36.1**	**+2.3**
MDOK	**Medeo**	**5.33 283**		*e*P	**Pg**	**21 19 54.0**	**-2.3**
	comp=Z,170nm,0.6s						
MDOK				*e*S	**Sg**	**21 21 04.1**	**-1.1**
	comp=Z,2μm,1.1s						
MDOK	**Medeo**	**5.33 283**		*i* P	**Pn**	**21 19 36.2**	**+2.3**
	baz=282						
MDOK	**Medeo**	**5.33 283**		⇓Pn	**Pn**	**21 19 36.2**	**+2.3**
	comp=Z,253nm,0.6s						
MDOK				⇑Pg	**Pg**	**21 19 55.4**	**-0.8**
	comp=Z,1μm,1.0s						
MDOK				⇑Sn	**Sn**	**21 20 39.5**	**+4.3**
	comp=Z,2μm,0.9s						
MDOK				⇓Lg	Lg	21 21 07.1	
	comp=Z,4μm,1.0s						
MDOK	**Medeo**	**5.33 283**		Pg	**Pg**	**21 19 54.0**	**-2.3**
	comp=Z,170nm,0.6s						
MDOK				Lg	Lg	21 21 04.1	
	comp=Z,2μm,1.1s						
TNSS	**Tian-Shan**	**5.38 282**		*e*P	**Pg**	**21 19 54.5**	**-2.9**
	comp=Z,219nm,0.3s						
TNSS				*e*S	**Sg**	**21 21 04.6**	**-2.4**
	comp=Z,873nm,0.7s						
TNSS	**Tian-Shan**	**5.38 282**		*e*P	**Pn**	**21 19 37.6**	**+2.8**
	baz=281						
TNSS	**Tian-Shan**	**5.38 282**		Pg	**Pg**	**21 19 54.4**	**-2.9**
	comp=Z,219nm,0.3s						
TNSS				Lg	Lg	21 21 04.6	
	comp=Z,873nm,0.7s						
KNDC	**Almaty**	**5.39 284**		P	**Pn**	**21 19 37.0**	**+2.3**
KNDC	**Almaty**	**5.39 284**		⇑Pn	**Pn**	**21 19 37.8**	**+3.1**
	comp=Z,69nm,0.7s						
KNDC				⇑Pg	**Pg**	**21 19 55.1**	**-2.5**
	comp=Z,2μm,0.8s						
KNDC				⇑Lg	Lg	21 21 11.3	
	comp=Z,8μm,1.4s						
CHKK	**Chushkaly**	**5.51 290**		*i* P	**Pn**	**21 19 37.8**	**+1.6**
	baz=289						
MTBS	**Maitube**	**5.77 282**		*e*P	**Pg**	**21 20 01.1**	**-3.7**
	comp=Z,160nm,0.4s						
MTBS				*e*S	**Sg**	**21 21 16.1**	**-3.4**
	comp=Z,1μm,0.8s						
MTBS	**Maitube**	**5.77 282**		*e*P	**Pn**	**21 19 42.4**	**+2.5**
	baz=281						
MTBS	**Maitube**	**5.77 282**		Pg	**Pg**	**21 20 01.1**	**-3.7**
	comp=Z,160nm,0.4s						
MTBS				Lg	Lg	21 21 16.1	
	comp=Z,1μm,0.8s						
ULHL	**

SGDS Lg Lg 21 22 04.5
comp=Z,664nm,1.1s
UCH Uchtor 7.15 274 P **Pn 21 20 01.8 +2.6**
SNR=70
AAK Ala-Archa 7.16 277 Pn **Pn 21 20 01.3 +2.2**
comp=Z,8.5nm,0.3s,baz=114,slow=9.7,SNR=112
AAK Lg Lg 21 22 07.0
comp=Z,30nm,0.3s,baz=282,slow=16,SNR=4.4
AAK Ala-Archa 7.16 277 P **Pn 21 20 01.4 +2.4**
SNR=54
AAK Ala-Archa 7.16 277 *ce*P **Pn 21 20 01.0 +1.9**
AAK pmax pmax
comp=Z,156nm,1.3s
AAK Ala-Archa 7.16 277 P **Pn 21 20 01.2 +2.2**
AAK S **Sn 21 21 19.2 -1.2**
AAK Ala-Archa 7.16 277 ⇑Pn **Pn 21 20 00.9 +1.8**
comp=Z,27nm,0.7s
AAK ⇑Pg **Pg 21 20 27.6 -3.7**
comp=Z,328nm,1.5s
AAK ⇓Lg Lg 21 22 03.8
comp=Z,1μm,1.3s
AAK Ala-Archa 7.16 277 **Pn 21 20 00.9 +1.9**
AAK Ala-Archa 7.16 277 *i* P **Pn 21 20 02.3 +3.3**
SNR=25
AAK Ala-Archa 7.16 277 *i* P **Pn 21 20 02.3 +3.3**
SNR=25
USP Ospenovka 7.19 282 P **Pn 21 20 01.1 +1.8**
SNR=134
EKS2 Erkin-Say 7.69 277 P **Pn 21 20 08.2 +1.9**
SNR=46
AML Almayashu 7.77 273 P **Pn 21 20 10.4 +2.9**
SNR=26
AML Almayashu 7.77 273 *i* P **Pn 21 20 10.4 +2.9**
SNR=39
AML Almayashu 7.77 273 *i* P **Pn 21 20 10.4 +2.9**
SNR=39
DGZ Jazzator, Alta 7.87 16 ⇑*i*P **Pn 21 20 11.5 +2.8**
DGZ pmax pmax
comp=Z,528nm,0.7s
BTLS Baital 7.87 295 *e*P **Pn 21 20 09.7 +1.2**
BTLS Baital 7.87 295 *e*P Pg 21 20 39.9 -5.0
comp=Z,74nm,0.7s
BTLS *e*S **Sg 21 22 22.4 -4.2**
comp=Z,70nm,1.5s
BTLS Baital 7.87 295 *e*P **Pn 21 20 09.8 +1.2**
baz=294
BTLS Baital 7.87 295 Pg Pg 21 20 39.9 -5.0
comp=Z,74nm,0.7s
BTLS Lg Lg 21 22 22.4
comp=Z,70nm,1.5s
MRKS Merke 8.09 278 *e*P **Pg 21 20 45.3 -3.9**
comp=Z,96nm,1.1s
MRKS *e*S **Sg 21 22 32.1 -1.9**
comp=Z,274nm,0.6s
MRKS Merke 8.09 278 Pg **Pg 21 20 45.3 -3.9**
comp=Z,96nm,1.1s
MRKS Lg Lg 21 22 32.1
comp=Z,274nm,0.6s
KURBB Kurchatov Arra 9.29 337 Pn **Pn 21 20 28.2 +0.1**
comp=Z,1.4nm,0.3s,baz=146,slow=13,SNR=125
KURBB Sn **Sn 21 22 19.9 +7.4**
comp=Z,6.3nm,0.3s,baz=145,slow=23,SNR=5.7
KURBB Lg Lg 21 23 10.8
comp=Z,9.7nm,0.3s,baz=157,slow=30,SNR=7.4
KURBB LR LR 21 24 22.2
comp=Z,5μm,19.3s,baz=132,slow=40
KURBB Kurchatov Arra 9.29 337 ⇑Pn **Pn 21 20 27.4 -0.7**
comp=Z,182nm,0.8s
KURBB ⇓Lg Lg 21 23 07.8
comp=Z,4μm,1.1s
KURK Kurchatov 9.35 338 *ce*P **Pn 21 20 28.9 0.0**
KURK pmax pmax
comp=Z,40nm,1.3s
KURK Kurchatov 9.35 338 P **Pn 21 20 28.9 0.0**
KURK S **Sn 21 22 16.7 +2.8**
KURK Kurchatov 9.35 338 Pn **Pn 21 20 28.8 -0.1**
DRK Karamyk 9.74 258 **Pn 21 20 36.4 +1.8**
KK02 Karatay Array 10.09 280 ⇑Pn **Pn 21 20 40.6 +1.5**
comp=Z,30nm,0.8s
KK02 ⇑Pg 21 21 21.7
comp=Z,69nm,0.8s
KK02 ⇑Lg Lg 21 23 36.5
comp=Z,287nm,0.9s
KKAR Karatay Array 10.09 280 P **Pn 21 20 40.3 +1.2**
KKAR Karatay Array 10.09 280 Pn **Pn 21 20 40.2 +1.2**
BTK Batken 10.28 263 P **Pn 21 20 43.0 +1.3**
BTK Batken 10.28 263 Pn **Pn 21 20 43.0 +1.3**
OTUK Ortayu 10.30 310 ⇓Pn **Pn 21 20 41.5 -0.4**
comp=Z,85nm,0.8s
OTUK ⇑Lg Lg 21 23 40.3
comp=Z,1μm,1.2s
TAS Tashkent 11.13 271 P **Pn 21 20 53.8 +0.5**
TAS Tashkent 11.13 271 Pn **Pn 21 20 53.8 +0.5**
DHRM DHARAMSHALA 11.71 215 *e*P **Pn 21 20 59.2 -2.3**
ZAA0 Zalesovo Array 11.79 2 Pn **Pn 21 20 00.9 -1.4**
ZALV Zalesovo Beam 11.79 2 Pn **Pn 21 21 01.2 -1.0**
comp=Z,9.4nm,0.3s,baz=185,slow=14,SNR=156
ZALV Sn **Sn 21 23 07.9 -5.8**
comp=Z,18nm,0.3s,baz=185,slow=25,SNR=8.5
ZALV Lg Lg 21 24 27.0
comp=Z,6.0nm,0.3s,baz=183,slow=25,SNR=5.9
ZALV LR LR 21 25 55.3
comp=Z,6μm,18.3s,baz=194,slow=39
ZALV Zalesovo Beam 11.79 2 P **Pn 21 21 01.0 -1.2**
ZALV Zalesovo Beam 11.79 2 Pn **Pn 21 21 01.0 -1.2**
CHGR Chuyangaron 11.95 258 P **Pn 21 21 04.1 -0.5**
CHGR Chuyangaron 11.95 258 Pn **Pn 21 21 04.1 -0.5**
JMU Jammu 11.95 221 *e*P Pn 21 20 59.0 -5.6
JMU *e*S Sn 21 23 08.5 -9.4
CHCP Chirah Chowk 12.08 229 P **Pn 21 21 05.9 -0.4**
NIL Nilore 12.09 229 P **Pn 21 21 05.7 -0.8**
NIL Nilore 12.09 229 P **Pn 21 21 05.5 -1.0**
NIL P **Pn 21 21 05.5 -1.0**
NIL Nilore 12.09 229 Pn **Pn 21 21 05.7 -0.8**
CEP Cherat 12.74 233 P **Pn 21 21 13.9 -1.6**
CEP S **Sn 21 23 33.0 -4.4**
PTH Pithoragarh 12.99 195 *e*P Pn 21 21 11.9 -7.1
THW Thamme Wali 13.57 230 P **Pn 21 21 23.5 -3.3**
LSA Lhasa 13.67 153 P **Pn 21 21 29.3 +0.8**
LSA Lhasa 13.67 153 P **Pn 21 21 30.9 +2.4**
LSA S **Sn 21 24 02.6 +2.0**
LSA pmax pmax
comp=Z,290nm,1.6s
LSA LR LR
comp=Z,13μm,13.5s
LSA LR LR
comp=Z,9μm,14.2s
LSA LR LR
comp=Z,17μm,12.8s
LSA Lhasa 13.67 153 Pn **Pn 21 21 29.3 +0.8**
LSA Lhasa 13.67 153 P **Pn 21 21 30.3 +1.8**
LSA Lhasa 13.67 153 P **Pn 21 21 30.3 +1.8**
DANN Dangsing 13.80 181 *e*P **Pn 21 21 27.8 -2.3**
comp=Z,107nm,0.8s
PYUN Piuthan 14.07 184 *e*P **Pn 21 21 29.8 -4.0**
comp=Z,233nm,0.9s
KBL Kabul 14.08 242 P **Pn 21 21 32.0 -1.8**
KBL Kabul 14.08 242 P **Pn 21 21 32.5 -1.3**
SNR=48
KBL P **Pn 21 21 32.5 -1.3**
SNR=48
KBL S **Sn 21 24 08.1 -1.9**
KBL S **Sn 21 24 08.1 -1.9**
KBL Kabul 14.08 242 Pn **Pn 21 21 32.0 -1.8**
GKN Gorkha 14.15 178 *e*P **Pn 21 21 33.1 -1.6**
comp=Z,68nm,0.6s
BVAR Borovoye Array 14.25 324 Pn **Pn 21 21 35.6 -0.3**
comp=Z,2.7nm,0.3s,baz=125,slow=15,SNR=83
BVAR Lg Lg 21 25 48.7
comp=Z,7.1nm,0.3s,baz=144,slow=28,SNR=4.5
GUN Gumba 14.30 174 *e*P **Pn 21 21 36.3 -0.7**
comp=Z,500nm,1.0s
BRVK Borovoye 14.32 324 *ce*P **Pn 21 21 37.8 +1.0**
BRVK pmax pmax
comp=Z,35nm,0.7s
BRVK Borovoye 14.32 324 P **Pn 21 21 36.1 -0.7**
BRVK Borovoye 14.32 324 ⇑Pn **Pn 21 21 37.7 +1.0**
comp=Z,264nm,1.1s
BRVK ⇓Lg Lg 21 25 50.6
comp=Z,2μm,1.4s
BRVK Borovoye 14.32 324 Pn **Pn 21 21 37.1 +0.3**
KOLN Koldanda 14.38 182 *e*P **Pn 21 21 34.7 -3.2**
comp=Z,489nm,0.9s
KKN Kakani 14.38 176 *e*P **Pn 21 21 36.0 -2.0**
comp=Z,158nm,0.9s
DMN Daman 14.55 177 *e*P **Pn 21 21 38.3 -2.1**
comp=Z,175nm,1.0s
PKIN Phulchoki 14.60 176 *e*P **Pn 21 21 39.2 -1.8**
comp=Z,123nm,0.5s
PKI Pulchoki 14.61 176 *e*P **Pn 21 21 39.3 -1.9**
comp=Z,103nm,0.7s
MOY Mondy 14.89 45 *e*P **Pn 21 21 45.7 +1.0**
MOY pmax pmax
comp=Z,214nm,2.7s
ZAK Zakamensk 15.54 52 *e*P **Pn 21 21 53.8 +0.5**
ZAK pmax pmax
comp=Z,336nm,1.0s
LZH Lanzhou 16.44 105 ⇓P **Pn 21 22 04.6 -0.4**
LZH pP P 21 22 08.6 +0.9
LZH sP pP 21 22 11.1 -0.3
LZH PP **PnPn 21 22 19.6 +5.7**
LZH *e*S **Sn 21 25 07.9 +0.5**
LZH sS S 21 25 12.8 -6.8
LZH SS **SnSn 21 25 24.7 +4.5**
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,440nm,4.8s
LZH LR LR
comp=Z,4μm,12.5s
LZH LR LR
comp=Z,6μm,13.0s
LZH LR LR
comp=Z,4μm,14.6s
SONM Songino Array 16.70 63 Pn **Pn 21 22 08.1 -0.1**
comp=Z,5.6nm,0.3s,baz=256,slow=12,SNR=196
SONM Lg Lg 21 27 02.4
comp=Z,0.6nm,0.3s,baz=254,slow=25,SNR=4.6
SONM LR LR 21 28 49.5
comp=Z,3μm,21.1s,baz=262,slow=38
SONM Songino Array 16.70 63 P **Pn 21 22 07.6 -0.6**
SONM pmax pmax
comp=Z,209nm,0.9s
SONM Songino Array 16.70 63 **Pn 21 22 07.6 -0.6**
IRK Irkutsk 16.93 47 *e*P **Pn 21 22 11.8 +0.9**
IRK pmax pmax
comp=Z,475nm,2.3s
ULN Ulaanbaatar 17.14 63 ⇑*i*P **Pn 21 22 13.7 -0.1**
ULN pmax pmax
comp=Z,182nm,0.8s
ULN Ulaanbaatar 17.14 63 P **Pn 21 22 13.2 -0.6**
ULN Ulaanbaatar 17.14 63 Pn **Pn 21 22 13.0 -0.8**
SHL Shillong 17.75 156 P **Pn 21 22 19.2 -2.4**
SHL pmax pmax
comp=Z,475nm,1.0s
SHL Shillong 17.75 156 *e*P **Pn 21 22 19.7 -1.8**
SHL IAmb IAmb 21 22 24.4
comp=Z,187nm,1.0s
SHL *i* x x 21 30 00.8
SHL Shillong 17.75 156 P **Pn 21 22 21.0 -0.5**
SNR=151
SHL Shillong 17.75 156 Pn **Pn 21 22 19.2 -2.4**
SHL IAmb IAmb 21 22 31.4
comp=Z,475nm,1.0s
AB31 Akbulak array 18.27 301 ⇑Pn **Pn 21 22 26.5 -1.2**
comp=Z,50nm,0.8s,baz=101,slow=11,SNR=303
AB31 ⇑Lg Lg 21 27 59.0
comp=Z,155nm,1.1s
ABKAR Akbulak array 18.27 301 **Pn 21 22 26.6 -1.0**
ABKAR Akbulak array 18.27 301 **Pn 21 22 26.4 -1.2**
BOK Bokaro 18.39 175 *e*P **P 21 22 26.3 -2.9**
BOK IAmb IAmb 21 22 34.0
BOK *i* x x 21 30 26.1
HRA Herat 18.84 253 **P 21 22 34.3 0.0**
JBP Jabalpur 19.27 192 *e*P **P 21 22 35.4 -3.4**
JBP IAmb IAmb 21 22 46.7
comp=Z,238nm,0.8s
JBP ⇓*e*S **Sn 21 26 12.6 -3.3**
CD2 Chengdu 19.31 119 P **Pn 21 22 40.3 -0.1**
CD2 S **Sn 21 26 16.3 -0.5**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,3μm,11.0s
CD2 LR LR
comp=Z,4μm,10.6s
BHPL Bhopal 19.70 199 *e*P **P 21 22 41.6 -1.9**
BHPL IAmb IAmb 21 22 48.9
comp=Z,92nm,0.6s
BHPL *i* x x 21 31 08.2
AKTO Aktyubinsk 19.77 304 P **P 21 22 44.5 +0.3**
comp=Z,4.3nm,0.3s,baz=106,slow=9.8,SNR=59
AKTO LR LR 21 30 54.9
comp=Z,2μm,18.7s,baz=113,slow=38
AKTO Aktyubinsk 19.77 304 ⇑Pn **P 21 22 44.3 +0.1**
comp=Z,133nm,0.9s
AKTO ⇓Lg Lg 21 28 44.3
comp=Z,115nm,1.3s
GEYT Alibeck 20.34 267 P **P 21 22 51.4 +0.8**
comp=Z,30nm,0.7s,baz=88,slow=9.0,SNR=22
GEYT LR LR 21 32 15.7
comp=Z,3μm,18.2s,baz=90,slow=41
GEYT Alibeck 20.34 267 P Pn 21 22 51.6 -1.0
GYA0B ALIBECK ARRAY 20.34 267 ⇑Pn Pn 21 22 51.9 -0.6
GYA0B ALIBECK ARRAY 20.34 267 P **P 21 22 51.0 +0.5**
HHC Hu-ho-hao-te 20.55 84 *e*P **P 21 22 53.0 +0.2**
SVE Sverdlovsk 21.01 322 *d*/*i*P **P 21 22 58.3 +0.7**
SVE *e*S Sn 21 26 58.2 +0.8
SVE pmax pmax
comp=Z,473nm,1.2s
SVE MLR MLR
comp=Z,5μm,12.0s
PZH PanZhiHua 21.28 132 ⇑P **P 21 23 00.8 0.0**
PZH PP **PnPn 21 23 25.9 +5.5**
PZH S **S 21 26 54.3 -2.9**
PZH PcP **PcP 21 27 09.0 +3.6**
PZH ScP **ScP 21 30 41.3 -0.8**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,330nm,11.3s
PZH LR LR
comp=Z,3μm,15.9s
PZH LR LR
comp=Z,2μm,15.4s
PZH LR LR
comp=Z,4μm,14.9s
ARU Arti 21.77 320 P **P 21 23 06.1 +0.3**
comp=Z,54nm,0.6s,baz=127,slow=6.0,SNR=116
ARU LR LR 21 32 08.9
comp=Z,2μm,19.1s,baz=112,slow=38
ARU Arti 21.77 320 *c*/*i*P **P 21 23 06.0 +0.3**
ARU PPP PPP 21 23 35.2
ARU S **S 21 27 08.8 +2.6**
ARU SSS SSS 21 27 46.7
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 21.77 320 P **P 21 23 05.5 -0.2**
ARU IAmb IAmb 21 23 16.6
comp=Z,246nm,0.9s
ARU IAMs_20 IAMs_20 21 31 55.2
comp=Z,2μm,18.0s
TIY Taiyuan 22.09 92 *e*P **P 21 23 08.8 -0.7**
TIY S **S 21 27 15.4 +2.5**
TIY pmax pmax
comp=Z,87nm,0.7s
TIY LR LR
comp=Z,1μm,6.9s
TIY LR LR
comp=Z,3μm,11.3s
TIY LR LR
comp=Z,4μm,12.7s
CIT Chita 22.17 54 *e*P **P 21 23 09.4 -0.7**
CIT *e* 21 23 37.4
CIT *e* 21 23 45.4
CIT *e* 21 34 28.0
CIT pmax pmax
comp=Z,331nm,1.5s
BHUJ Bhuj 22.41 217 *e*P **P 21 23 08.9 -3.8**
BHUJ IAmb IAmb 21 23 23.3
comp=Z,94nm,0.9s
KMI Kunming 22.91 132 ⇑P **P 21 23 17.8 -0.6**
KMI sP sP 21 23 23.6 -0.2
KMI PP **PnPn 21 23 46.4 +3.5**
KMI S **S 21 27 26.8 -1.6**
KMI sS pS 21 27 32.7 -0.5
KMI SS **SnSn 21 28 06.9 +7.2**
KMI pmax pmax
comp=Z,63nm,1.1s
KMI pmax pmax
comp=Z,290nm,4.0s
KMI LR LR
comp=Z,1μm,14.6s
KMI LR LR
comp=Z,540nm,11.6s
KMI LR LR
comp=Z,1μm,13.4s
XLT XiLinHaoTe 23.33 75 ⇑*i*P **P 21 23 22.0 -0.5**
XLT pP sP 21 23 28.1 -0.1
XLT sP pP 21 23 33.9 +7.5
XLT S **S 21 27 37.2 +2.2**
XLT sS sS 21 27 40.6 -1.3
XLT SS **SnSn 21 28 17.6 +8.3**
XLT pmax pmax
comp=Z,130nm,1.1s
XLT pmax pmax
comp=Z,720nm,3.7s
XLT LR LR
comp=Z,3μm,8.8s
XLT LR LR
comp=Z,3μm,15.2s
XLT LR LR
comp=Z,4μm,16.5s
LYN LuoYang 23.40 100 ⇑*i*P **P 21 23 22.9 -0.2**
LYN S **S 21 27 33.9 -2.2**
LYN pmax pmax
comp=Z,90nm,1.3s
LYN LR LR
comp=Z,3μm,12.2s
LYN LR LR
comp=Z,3μm,11.6s
ENH Enshi 23.55 112 P **P 21 23 23.3 -1.4**
ENH IAmb IAmb 21 23 32.2
comp=Z,250nm,1.2s
CHLP Challavanipeta 23.59 180 *e*P **P 21 23 25.9 +0.9**
CHLP *es*P **sP 21 23 30.5 -0.1**
RPR Rampur 23.61 192 *e*P **P 21 23 24.9 -0.2**
RPR *es*P **sP 21 23 30.5 -0.2**
RPR *e*S **S 21 27 40.4 +0.9**
HNS HongShan 23.89 91 ⇑P **P 21 23 27.9 +0.1**
HNS S **S 21 27 48.6 +4.7**
HNS pmax pmax
comp=Z,98nm,1.4s
HNS LR LR
comp=Z,2μm,14.1s
HNS LR LR
comp=Z,4μm,14.1s
HNS LR LR
comp=Z,4μm,16.5s
BJT Baijiatuau 24.16 84 P **P 21 23 29.7 -0.6**
BJT pmax pmax
comp=Z,45nm,1.1s
BJT MLR MLR
comp=Z,600nm,18.0s
BJT Baijiatuau 24.16 84 P **P 21 23 29.7 -0.6**
GYA Guiyang 24.22 123 ⇑*i*P **P 21 23 31.0 -0.1**
GYA PcP **PcP 21 27 11.9 +0.5**
GYA S **S 21 27 47.6 -1.9**
GYA sS sS 21 27 59.8 +3.8
GYA pmax pmax
comp=Z,81nm,1.3s
GYA pmax pmax
comp=Z,460nm,3.5s
GYA LR LR
comp=Z,890nm,11.1s
GYA LR LR
comp=Z,1μm,11.5s
GYA LR LR
comp=Z,2μm,11.9s
VIS Vishakhapatnam 24.38 182 *e*P **P 21 23 31.9 -0.6**
VIS IAmb IAmb 21 23 35.5
comp=Z,123nm,1.1s
VIS *i* x x 21 33 48.5
BOD Bodaibo 24.48 40 *e*P **P 21 23 32.8 -0.3**
BOD pmax pmax
comp=Z,88nm,1.7s
KLRI Killari 24.88 197 *e*P **P 21 23 37.7 +0.7**
KLRI *es*P **sP 21 23 43.1 +0.5**
KLRI *e*S **S 21 28 01.4 +1.4**
PVM Polavaram 24.94 186 *e*P **P 21 23 38.7 +1.2**
PVM *es*P **sP 21 23 44.2 +1.2**
PVM *e*S **S 21 28 03.0 +2.2**
HYBB Hyderabad (bro 25.13 193 *e*P **P 21 23 40.1 +0.8**
HYBB *e*S **S 21 28 06.0 +1.9**
HYB Hyderabad 25.14 193 *e*P **P 21 23 38.6 -0.8**
HYB IAmb IAmb 21 23 45.2
comp=Z,58nm,0.7s
HYB *i* x x 21 34 13.9
POO Poona 25.15 204 *e*P **P 21 23 37.0 -2.5**
comp=Z,110nm,1.0s
POO *e*P **P 21 23 38.3 -1.1**
POO IAmb IAmb 21 23 48.8
comp=Z,79nm,1.0s
POO *e*S **S 21 28 15.0 +11**
POO *i* x x 21 34 18.1
CUPL Choutuppal 25.20 192 *e*P **P 21 23 40.2 +0.3**
MYLAV Mylavaram 25.52 188 *e*P **P 21 23 43.6 +0.8**
MYLAV *e*S **S 21 28 12.1 +2.0**
HIA Hailar 25.66 62 P **P 21 23 43.3 -0.7**
HIA pmax pmax
comp=Z,49nm,0.9s
HIA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 25.66 62 P **P 21 23 43.3 -0.7**
HIA Hailar 25.66 62 IAMs_20 IAMs_20 21 34 08.8
comp=Z,2μm,19.0s
NJS Nagarjunasagar 25.87 191 *e*P **P 21 23 46.9 +1.0**
NJS *e*S **S 21 28 18.2 +2.5**
TIA Tai'an 26.14 92 ⇑P **P 21 23 48.4 +0.1**
TIA pmax pmax
comp=Z,37nm,0.8s
TIA pmax pmax
comp=Z,290nm,4.6s
TIA LR LR
comp=Z,2μm,12.8s
TIA LR LR
comp=Z,3μm,14.7s
TIA LR LR
comp=Z,4μm,15.4s
SRLM Srisailam 26.38 191 *e*P **P 21 23 51.4 +0.8**
SRLM *e*S **S 21 28 25.3 +1.6**
CHTO Chiang Mai 26.47 147 P **P 21 23 50.7 -0.7**
CHTO pmax pmax
comp=Z,102nm,1.2s
CHTO Chiang Mai 26.47 147 P **P 21 23 51.2 -0.2**
CHTO S **S 21 28 23.2 -1.9**
CHTO Chiang Mai 26.47 147 P **P 21 23 50.7 -0.7**
CHTO IAmb IAmb 21 23 55.3
comp=Z,102nm,1.2s
ADKI Addanki 26.48 189 *e*P **P 21 23 52.1 +0.6**
ADKI *e*S **S 21 28 25.9 +0.6**
BELG Belogornoye 26.53 305 P **P 21 23 52.0 +0.4**
comp=Z,205nm,0.9s,baz=96,slow=0.5,SNR=45
BELG LR LR 21 35 18.4
comp=Z,640nm,21.0s,baz=106,slow=39
SLVN Son La 26.60 135 P **P 21 23 52.5 -0.2**
CM31 Chiang Mai Arr 26.79 147 P **P 21 23 53.9 -0.4**
CM31 IAmb IAmb 21 23 58.7
comp=Z,148nm,1.2s
CMAR Chiang Mai Arr 26.79 147 P **P 21 23 54.8 +0.4**
comp=Z,48nm,1.0s,baz=323,slow=9.0,SNR=133
CMAR Chiang Mai Arr 26.79 147 P **P 21 23 53.3 -1.1**
WHN Wuhan 26.81 106 ⇑P **P 21 23 54.7 +0.3**
WHN pmax pmax
comp=Z,200nm,0.9s
WHN LR LR
comp=Z,6μm,12.0s
WHN LR LR
comp=Z,5μm,13.9s
WHN LR LR
comp=Z,9μm,12.0s
MAK Makhachkala 26.86 284 *e*P **P 21 23 48.8 -6.0**
MAK *e*S **S 21 28 24.0 -7.1**
MAK pmax pmax
comp=Z,399nm,1.6s
MAK MLR MLR
comp=Z,1μm,12.0s
RCLA Racherla 27.00 191 *e*P **P 21 23 57.0 +0.8**
RCLA *e*S **S 21 28 35.8 +2.3**
KIRV Kirov 27.15 319 P **P 21 23 57.6 +0.5**
comp=Z,35nm,0.4s,baz=103,slow=2.4,SNR=44
KIRV LR LR 21 36 01.9
comp=Z,376nm,21.0s,baz=113,slow=39
CNSH ChangSha 27.21 112 ⇓P **P 21 23 56.5 -1.5**
CNSH S **S 21 28 35.4 -1.3**
CNSH pmax pmax

comp=Z,80nm,1.0s
CNSH LR LR
comp=Z,2μm,13.1s
CNSH LR LR
comp=Z,1μm,15.8s
NRIK Noril'sk 27.29 3 P **P 21 23 58.4 0.0**
comp=Z,79nm,0.8s,baz=180,slow=6.0,SNR=65
NRIK Noril'sk 27.29 3 *ce*P **P 21 23 58.2 -0.1**
NRIK pmax pmax
comp=Z,84nm,0.8s
NRIK Noril'sk 27.29 3 P **P 21 23 57.9 -0.4**
NRIK IAmb IAmb 21 24 09.4
comp=Z,128nm,0.8s
GULI GuiLin 27.39 120 ⇑P **P 21 23 59.9 +0.2**
GULI S **S 21 28 46.7 +7.0**
GULI LR LR
comp=Z,2μm,11.4s
GULI LR LR
comp=Z,1μm,11.4s
GULI LR LR
comp=Z,2μm,13.0s
URV Uravakonda 27.78 194 *e*P **P 21 24 03.1 -0.1**
BANOM Banah 28.03 244 P **P 21 24 07.7 +2.3**
BANOM Banah 28.03 244 P **P 21 24 07.7 +2.3**
GROC Groznyy 28.05 285 *e*P **P 21 24 05.0 -0.4**
GROC *e* 21 24 49.8
GROC *e*S **S 21 28 50.4 +0.7**
GROC pmax pmax
comp=Z,65nm,1.0s
SHME Shamm 28.05 244 P **P 21 24 07.8 +2.2**
SHME Shamm 28.05 244 P **P 21 24 07.8 +2.2**
WSAR Wadi Sarin 28.42 236 P **P 21 24 10.8 +1.9**
comp=Z,23nm,0.9s,baz=92,slow=5.6,SNR=15
WSAR LR LR 21 38 16.7
comp=Z,805nm,21.4s,baz=82,slow=42
DL2 Dalian 28.52 84 P **P 21 24 10.9 +1.2**
DL2 S **S 21 29 00.6 +3.3**
DL2 pmax pmax
comp=Z,20nm,1.6s
DL2 pmax pmax
comp=Z,98nm,4.5s
DL2 LR LR
comp=Z,1μm,17.7s
DL2 LR LR
comp=Z,1μm,13.5s
DL2 LR LR
comp=Z,2μm,17.7s
UOSS Minazif 28.75 242 P **P 21 24 13.0 +1.2**
JLN Jalan Bani Buh 28.76 234 P **P 21 24 13.5 +1.6**
SNR=10
JLN P **P 21 24 13.5 +1.6**
SNR=10
HATD Hatta, Dubai 28.88 242 P **P 21 24 15.4 +2.4**
HATD Hatta, Dubai 28.88 242 P **P 21 24 15.2 +2.2**
SMDO Samad 28.91 237 P **P 21 24 15.3 +2.0**
SNR=5.9
SMDO P **P 21 24 15.3 +2.0**
SNR=5.9
NAZ Nazwa, Dubai 29.08 243 P **P 21 24 16.4 +1.6**
NAZ Nazwa, Dubai 29.08 243 P **P 21 24 16.4 +1.6**
FAQ Al Faqa, Dubai 29.29 243 P **P 21 24 18.3 +1.6**
FAQ Al Faqa, Dubai 29.29 243 P **P 21 24 18.3 +1.6**
JMDO Jabal Madar 29.39 236 P **P 21 24 20.1 +2.6**
ASUD Al Ashush, Dub 29.55 243 P **P 21 24 20.9 +2.0**
ASUD Al Ashush, Dub 29.55 243 P **P 21 24 20.9 +2.0**
GNI Garni 29.56 279 P **P 21 24 20.8 +1.8**
comp=Z,26nm,0.9s,baz=2.4,slow=4.4,SNR=9.3
GNI LR LR 21 37 56.6
comp=Z,446nm,18.7s,baz=70,slow=40
GNI Garni 29.56 279 P **P 21 24 21.2 +2.1**
GNI IAmb IAmb 21 25 25.0
comp=Z,98nm,1.2s
NCK Nalchik 29.56 286⇑ *e*P **P 21 24 19.6 +0.7**
NCK pmax pmax
comp=Z,19nm,0.8s
GOF Gofitskoye 29.67 290⇑ *e*P **P 21 24 21.0 +1.2**
GOF pmax pmax
comp=Z,62nm,0.9s
ARQ Araqi 29.68 239 P P 21 24 27.0 +6.9
ARQ P P 21 24 27.0 +6.9
ONI Oni 29.86 285 P **P 21 24 22.8 +1.2**
ONI pmax pmax
comp=Z,35nm,0.8s
ONI Oni 29.86 285 P **P 21 24 22.8 +1.2**
DGPR DIGLIPUR 29.88 163 *e*P **P 21 24 20.6 -1.3**
KBZ Khabaz 30.01 287 P **P 21 24 23.9 +1.0**
comp=Z,12nm,0.8s,baz=107,slow=7.1,SNR=29
KBZ LR LR 21 39 18.7
comp=Z,793nm,18.5s,baz=75,slow=42
KBZ Khabaz 30.01 287 *ce*P **P 21 24 23.5 +0.7**
KBZ pmax pmax
comp=Z,13nm,0.8s
PRGR Permogore 30.07 324 *e*P **P 21 24 22.6 -0.5**
PRGR *e*S **S 21 29 27.3 +6.3**
PRGR pmax pmax
comp=Z,46nm,1.0s
VRH Novokhopyorsk 30.10 302 *e*P **P 21 24 23.2 -0.3**
VRH pmax pmax
comp=Z,40nm,0.7s
VRH MLR MLR
comp=Z,790nm,12.0s
KIV Kislovodsk 30.12 288 *e*P **P 21 24 25.2 +1.3**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,377nm,15.0s
KIV Kislovodsk 30.12 288 P **P 21 24 24.5 +0.6**
AKH Akhalkalaki 30.12 282 ⇑P **P 21 24 26.5 +2.4**
NEY Neytrino 30.24 286 *i* P **P 21 24 26.8 +1.7**
NEY pmax pmax
comp=Z,20nm,2.5s
ZEA Zeya 30.63 53 *e*P **P 21 24 29.0 +0.8**
ZEA *e*S **S 21 29 26.5 -3.6**
ZEA pmax pmax
comp=N,50nm,0.7s
ZEA pmax pmax
comp=E,70nm,0.7s
ZEA pmax pmax
comp=Z,140nm,0.7s
ZEA smax smax
comp=E,200nm,14.8s
ZEA smax smax
comp=N,200nm,13.4s
ZEA MLR MLR
comp=Z,1μm,10.0s
UMZA Um Al Zommool 30.99 240 P **P 21 24 33.6 +1.9**
BNX BinXian 31.06 68 ⇑P **P 21 24 31.8 -0.3**
BNX pP **sP 21 24 37.5 -0.5**
BNX sP **pP 21 24 41.3 +5.0**
BNX S **S 21 29 34.2 -2.8**
BNX pmax pmax
comp=Z,18nm,0.8s
BNX pmax pmax
comp=Z,120nm,3.9s
BNX LR LR
comp=Z,2μm,10.1s
BNX LR LR
comp=Z,1μm,9.5s
BNX LR LR
comp=Z,4μm,14.4s
PBA Port Blair 31.32 164 P **P 21 24 35.7 +1.1**
PBA IAmb IAmb 21 24 47.1
comp=Z,69nm,0.9s
GEVA Gevas 31.38 277 P **P 21 24 36.1 +0.9**
VORD Divnogorie 31.63 302 *e*P **P 21 24 36.3 -0.7**
VORD pmax pmax
comp=Z,70nm,0.7s
VSR Storozhevoye 31.70 302 *e*P **P 21 24 37.7 0.0**
VSR pmax pmax
comp=Z,60nm,0.5s
VSR MLR MLR
comp=Z,740nm,12.0s
QIZ Qiongzhong 31.74 129 P **P 21 24 38.6 +0.3**
QIZ S **S 21 29 48.9 +0.9**
QIZ LR LR
comp=Z,640nm,8.5s
QIZ LR LR
comp=Z,820nm,12.0s
QIZ LR LR
comp=Z,880nm,10.7s
QIZ Qiongzhong 31.74 129 P **P 21 24 38.0 -0.3**
QIZ IAmb IAmb 21 25 27.1
comp=Z,152nm,1.6s
LPSR Galich'ya Gora 31.85 305 *e*P **P 21 24 39.1 +0.2**
LPSR pmax pmax
comp=Z,170nm,0.8s
LPSR MLR MLR
comp=Z,680nm,12.0s
HKPS Hong Kong Po S 31.96 119 IAMs_20 IAMs_20 21 38 43.7
comp=Z,1μm,19.0s
SIRT Sirnak 32.13 276 P **P 21 24 42.2 +0.5**
SOC Sochi 32.30 288 *e*P **P 21 24 42.6 -0.4**
SOC *e* 21 25 48.3
SOC *e*S **S 21 29 58.1 +1.7**
SOC *e*SSS SSS 21 31 47.3
SOC pmax pmax
comp=Z,45nm,0.9s
SOC MLR MLR
comp=Z,315nm,13.0s
UBPT Khong Chiam 32.49 139 P **P 21 24 44.1 -0.8**
UBPT IAmb IAmb 21 24 47.6
comp=Z,69nm,1.5s
KLMR Klimovskoe 32.62 320 *e*P **P 21 24 43.6 -2.0**
KLMR *e* 21 25 58.2
KLMR *e* 21 27 27.1
KLMR pmax pmax
comp=Z,157nm,0.9s
KLMR Klimovskoe 32.62 320 *e*P **P 21 24 43.6 -2.0**
KLMR AMP 21 24 55.7
comp=Z,157nm,0.9s
KLMR *e*PP **PP 21 25 58.2 -1.0**
KLMR *e*PcP **PcP 21 27 27.1 -4.3**
KLMR LQ LQ 21 34 55.0
KLMR LQ LQ 21 34 55.0
KLMR LR LR 21 37 13.1
KOPT Kop Dagi 32.70 281 P **P 21 24 48.5 +1.6**
INCN Inchon 32.71 84 P **P 21 24 45.8 -0.9**
INCN pmax pmax
comp=Z,62nm,1.0s
INCN MLR MLR
comp=Z,3μm,18.0s
INCN Inchon 32.71 84 P **P 21 24 45.8 -0.9**
INCN IAmb IAmb 21 24 46.9
comp=Z,62nm,0.9s
INCN Inchon 32.71 84 IAMs_20 IAMs_20 21 39 08.5
comp=Z,3μm,18.0s
MDJ Mudanjiang 32.79 70 P **P 21 24 46.9 -0.4**
KTUT Trabzon 32.94 283 ⇑P **P 21 24 51.6 +3.0**
OBN Obninsk 33.32 309 ⇓P **P 21 24 52.5 +0.8**
OBN Obninsk 33.32 309 P **P 21 24 52.2 +0.4**
comp=Z,14nm,0.6s,baz=37,slow=2.1,SNR=26
OBN LR LR 21 39 02.0
comp=Z,221nm,20.9s,baz=86,slow=37
OBN Obninsk 33.32 309 *c i*P **P 21 24 51.8 0.0**
OBN pmax pmax
comp=Z,115nm,1.2s
OBN MLR MLR
comp=Z,718nm,17.0s
OBN Obninsk 33.32 309 P **P 21 24 52.0 +0.2**
OBN IAMs_20 IAMs_20 21 38 48.1
comp=Z,1μm,20.0s
KNMB Chin-men Tao 33.34 111 IAMs_20 IAMs_20 21 39 06.9
comp=Z,1μm,19.0s
YAK Yakutsk 33.34 38 P **P 21 24 51.4 -0.6**
comp=Z,138nm,0.6s,baz=92,slow=0.3,SNR=94
YAK LR LR 21 38 55.4
comp=Z,2μm,19.3s,baz=266,slow=37
YAK Yakutsk 33.34 38 *c i*P **P 21 24 51.3 -0.6**
YAK *e*'PP **sP 21 24 59.3 +1.5**
YAK *e* 21 26 01.0
YAK *e* 21 27 33.1
YAK *e*S **S 21 30 08.8 -3.4**
YAK *e*SS **SnSn 21 32 06.8 -5.9**
YAK *e* 21 35 15.2
YAK pmax pmax
comp=Z,229nm,0.9s
YAK pmax pmax
comp=E,54nm,1.1s
YAK pmax pmax
comp=N,32nm,1.2s
YAK pmax pmax
comp=Z,45nm,0.9s
YAK smax smax
comp=N,63nm,2.2s
YAK smax smax
comp=E,41nm,2.0s
YAK MLR MLR
comp=Z,3μm,18.0s
YAK MLR MLR
comp=E,2μm,14.0s
YAK MLR MLR
comp=N,1μm,16.0s
YAK Yakutsk 33.34 38 P **P 21 24 51.2 -0.7**
YAK IAMs_20 IAMs_20 21 38 44.0
comp=Z,3μm,18.0s
KLR Kul'dur 33.52 61 P **P 21 24 53.7 +0.1**
comp=Z,118nm,0.6s,baz=278,slow=8.2,SNR=502
KLR LR LR 21 39 16.4
comp=Z,1μm,19.7s,baz=274,slow=38
KS19 Wonju Array Si 33.62 83 P **P 21 24 54.1 -0.5**
KS19 IAmb IAmb 21 25 21.8
comp=Z,128nm,1.8s
KSAR Wonju Array Be 33.65 83 P **P 21 24 53.4 -1.5**
KSAR Wonju Array Be 33.65 83 P **P 21 24 53.4 -1.5**
KSRS Korea Array 33.68 83 P **P 21 24 54.0 -1.1**
comp=Z,16nm,0.7s,baz=289,slow=9.1,SNR=48
KSRS PcP **PcP 21 27 34.4 -0.4**
comp=Z,3.4nm,0.9s,baz=280,slow=1.2,SNR=4.6
TJN Taejon 33.68 85 *ce*P **P 21 24 53.4 -1.7**
TRD Trivandrum 34.13 193 *i* x x 21 39 34.5
SHAO Shalim 34.19 234 P **P 21 25 01.1 +1.4**
SHAO P **P 21 25 01.1 +1.4**
SHAO Shalim 34.19 234 P **P 21 25 01.5 +1.8**
SHAO Shalim 34.19 234 P **P 21 25 01.5 +1.8**
USRK Ussuriysk Ar. 34.56 70 P **P 21 25 01.8 -0.9**
comp=Z,5.5nm,0.7s,baz=288,slow=6.0,SNR=9.6
USRK LR LR 21 40 25.3
comp=Z,2μm,19.0s,baz=275,slow=39
USRK Ussuriysk Ar. 34.56 70 P **P 21 25 01.4 -1.3**
USRK Ussuriysk Ar. 34.56 70 P **P 21 25 01.4 -1.3**
DOK Doka 34.65 237 P **P 21 25 04.7 +1.0**
SNR=9.0
DOK P **P 21 25 04.7 +1.0**
SNR=9.0
PALK Pallekele 34.89 186 LR LR 21 41 17.5
comp=Z,690nm,19.5s,baz=104,slow=40
PALK Pallekele 34.89 186 P **P 21 25 06.1 +0.2**
PALK pmax pmax
comp=Z,40nm,1.4s
PALK MLR MLR
comp=Z,800nm,18.0s
PALK Pallekele 34.89 186 P **P 21 25 06.1 +0.2**
YHNB Yeheng 35.30 108 P **P 21 25 09.7 +0.3**
YHNB IAmb IAmb 21 25 11.4
comp=Z,127nm,1.0s
YHNB IAMs_20 IAMs_20 21 40 14.8
comp=Z,2μm,18.0s
WHFO Wadi Hawf 35.40 236 P **P 21 25 10.7 +0.4**
SNR=12
WHFO P **P 21 25 10.7 +0.4**
SNR=12
RBK Rabkut 35.45 235 P **P 21 25 11.1 +0.4**
SNR=5.3
RBK P **P 21 25 11.1 +0.4**
SNR=5.3
SSLB Suanglung 35.56 109 P **P 21 25 11.8 +0.1**
SSLB IAmb IAmb 21 25 13.6
comp=Z,46nm,0.8s
SSLB IAMs_20 IAMs_20 21 40 33.8
comp=Z,1μm,18.0s
TPUB Ta-pu 35.65 110 IAMs_20 IAMs_20 21 40 45.1
comp=Z,1μm,19.0s
NACB Ninganchiao 35.77 108 IAMs_20 IAMs_20 21 40 31.2
comp=Z,1μm,19.0s
SIM Simferopol' 35.90 292 *i* P **P 21 25 14.0 -0.2**
SIM *e*S S 21 31 02.0 +10
SIM pmax pmax
comp=Z,95nm,0.9s
SNOP Sinop 35.91 287 P **P 21 25 14.8 +0.4**
SNOP IAmb IAmb 21 25 59.6
comp=Z,87nm,1.3s
YULB Yu-li 36.06 109 P **P 21 25 15.6 -0.2**
YULB IAmb IAmb 21 25 25.5
comp=Z,50nm,1.1s
YULB IAMs_20 IAMs_20 21 40 52.9
comp=Z,1μm,19.0s
GAZ Gaziantep 36.11 278 P **P 21 25 16.7 +0.5**
GAZ IAmb IAmb 21 25 18.1
comp=Z,47nm,1.0s
SRIT Nakonsritamara 36.12 153 P **P 21 25 16.5 +0.2**
ABTO Aybut 36.12 236 P **P 21 25 16.7 +0.3**
SNR=7.2
ABTO P **P 21 25 16.7 +0.3**
SNR=7.2
TWG Pinlang 36.27 110 P **P 21 25 18.1 +0.5**
TWG IAmb IAmb 21 25 20.3
comp=Z,130nm,0.9s
TWG IAMs_20 IAMs_20 21 41 06.8
comp=Z,1μm,19.0s
GRNR Gornyy 36.34 58⇑ *i*P **P 21 25 18.4 +0.5**
GRNR *e*S **S 21 31 02.5 +3.9**
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=Z,40nm,1.0s
GRNR smax smax
comp=N,5.0nm,0.7s
GRNR MLR MLR
comp=E,790nm,12.0s
GRNR MLR MLR
comp=N,360nm,11.0s
GRNR MLR MLR
comp=Z,1μm,10.0s
BNN Bunyan 36.48 281 P **P 21 25 20.4 +0.9**
BNN IAmb IAmb 21 25 22.3
comp=Z,61nm,1.0s
LVZ Lovozero 36.69 331 *ce*P **P 21 25 20.1 -0.7**
LVZ pmax pmax
comp=Z,149nm,1.3s
LVZ Lovozero 36.69 331 P **P 21 25 21.0 +0.3**
LVZ IAmb IAmb 21 25 22.0
comp=Z,100nm,0.8s
LVZ IAMs_20 IAMs_20 21 40 38.0
comp=Z,1μm,19.0s
TIXI Tiksi 36.70 22 P **P 21 25 20.2 -0.6**
comp=Z,24nm,0.6s,baz=246,slow=4.8,SNR=140
TIXI LR LR 21 41 35.3
comp=Z,5μm,18.1s,baz=250,slow=38
TIXI Tiksi 36.70 22 *ce*P **P 21 25 20.1 -0.6**
TIXI pmax pmax
comp=Z,51nm,1.2s
TIXI Tiksi 36.70 22 P **P 21 25 19.9 -0.9**
TIXI IAmb IAmb 21 25 21.4
comp=Z,72nm,1.3s
BZK Bozkurt 36.78 287⇑P **P 21 25 24.1 +2.3**
BZK Bozkurt 36.78 287 P **P 21 25 22.4 +0.6**
BZK IAmb IAmb 21 25 40.5
comp=Z,128nm,1.0s
DLV T Lat 36.84 138 IAMs_20 IAMs_20 21 41 51.5
comp=Z,1μm,19.0s
PUL Pulkovo 36.97 317 *ce*P **P 21 25 24.2 +1.1**
PUL pmax pmax
comp=Z,60nm,0.5s
RAYN Ar Rayn 37.02 252 P **P 21 25 24.8 +0.7**
RAYN pmax pmax
comp=Z,44nm,0.9s
RAYN MLR MLR
comp=Z,600nm,22.0s
RAYN Ar Rayn 37.02 252 P **P 21 25 25.0 +0.9**
RAYN Ar Rayn 37.02 252 P **P 21 25 24.8 +0.7**
RAYN Ar Rayn 37.02 252 *i* P **P 21 25 24.8 +0.7**
SNR=31
RAYN Ar Rayn 37.02 252 *i* P **P 21 25 24.8 +0.7**
SNR=31
APA Apatity 37.04 330⇑ *i*P **P 21 25 22.1 -1.6**
APA *i* 21 26 47.0
APA *i* 21 27 16.0
APA pmax pmax
comp=Z,26nm,0.6s
APA MLR MLR
comp=Z,2μm,11.0s
ILGA Ilgaz 37.27 286 P **P 21 25 26.8 +0.5**
ILGA IAmb IAmb 21 25 29.1
comp=Z,322nm,1.6s
JNU Nakatsue 37.69 88 P **P 21 25 28.9 -0.8**
BR131 Keskin Array S 37.77 284⇑ *i*P **P 21 25 31.6 +1.1**
BR131 Keskin Array S 37.77 284 P **P 21 25 31.2 +0.8**
BRTR Keskin Array B 37.78 284 P **P 21 25 31.6 +1.1**
comp=Z,21nm,0.8s,baz=97,slow=9.0,SNR=51
BRTR Keskin Array B 37.78 284 P **P 21 25 30.8 +0.3**
BRTR Keskin Array B 37.78 284 P **P 21 25 30.8 +0.3**
AKASG Malin Array Be 38.01 302 P **P 21 25 32.1 0.0**
comp=Z,30nm,0.7s,baz=68,slow=8.8,SNR=60
AKASG LR LR 21 42 30.2
comp=Z,593nm,19.3s,baz=78,slow=38
AKASG Malin Array Be 38.01 302 P **P 21 25 32.0 0.0**
AKBB Malin Array Si 38.01 302 *ce*P **P 21 25 32.3 +0.2**
AKBB Malin Array Si 38.01 302 P **P 21 25 32.1 +0.1**
AKBB IAmb IAmb 21 25 33.2
comp=Z,48nm,0.8s
JSU Suzuyama 38.15 91 P **P 21 25 32.2 -1.3**
JSU IAmb IAmb 21 25 45.8
comp=Z,73nm,1.1s
ANTO Ankara 38.34 284 P **P 21 25 35.8 +0.7**
ANTO pmax pmax
comp=Z,26nm,0.8s
ANTO Ankara 38.34 284 P **P 21 25 35.8 +0.7**
BR231 Keskin MP Arra 38.36 284 P **P 21 25 36.3 +1.0**
BR231 IAmb IAmb 21 25 37.9
comp=Z,125nm,1.8s
MNK Minsk 38.36 309 *i* P **P 21 25 36.1 +1.1**
MNK *i* 21 27 04.5
MNK *i* 21 27 48.4
MNK *i* S **S 21 31 33.1 +3.9**
MNK pmax pmax
comp=Z,145nm,0.9s
MNK pmax pmax
comp=E,21nm,1.0s
MNK pmax pmax
comp=N,39nm,1.1s
MNK Minsk 38.36 309 *i* P **P 21 25 36.2 +1.2**
comp=E,21nm,1.0s
MNK *i* P **P 21 25 36.2 +1.2**
comp=Z,145nm,0.9s,baz=265
MNK *i* P **pP 21 25 36.7 -2.5**
comp=N,39nm,1.1s
MNK *i* PP **PnPn 21 27 04.5 +0.3**
MNK *i* PcP **PcP 21 27 48.5 0.0**
MNK *i* S **S 21 31 33.1 +4.0**
MNK *i* SS **SS 21 34 21.5 +3.9**
MNK *i* LQ LQ 21 38 39.2
MNK *i* LR LR 21 41 34.8
PURM Purcari 38.41 296⇑P **P 21 25 36.0 +0.4**
JHS Saijyo 38.51 84 P **P 21 25 34.8 -1.8**
JHS IAmb IAmb 21 25 35.5
comp=Z,52nm,0.8s
LHMI Lhok Sumawe 38.52 159 P **P 21 25 37.7 +1.0**
comp=Z,209nm,0.9s
LHMI Lhok Sumawe 38.52 159 P **P 21 25 36.9 +0.2**
LHMI IAmb IAmb 21 25 47.2
comp=Z,168nm,0.9s
VSU Vasula 38.78 315 *i* P **P 21 25 39.3 +0.8**
VSU pmax pmax
comp=Z,169nm,0.9s
VSU Vasula 38.78 315 *e*P **P 21 25 39.4 +0.8**
IDID Didziasalis 38.95 310 *e*P **P 21 25 40.8 +0.9**
NACGM Naroch 38.96 309 *i* P **P 21 25 41.3 +1.3**
KIS Kishinev 39.00 297⇑ *i*P **P 21 25 40.0 -0.5**
comp=Z,40nm,0.5s
KIS *e*LR LR 21 42 44.0
comp=Z,300nm,13.0s
KIS Kishinev 39.00 297 *c i*P **P 21 25 40.0 -0.5**
KIS pmax pmax
comp=Z,50nm,1.2s
KIS MLR MLR
comp=Z,300nm,13.0s
JOW Kunigami 39.01 99 LR LR 21 43 10.4
comp=Z,871nm,19.7s,baz=284,slow=38
JOW Kunigami 39.01 99 P **P 21 25 39.6 -1.2**
JOW IAmb IAmb 21 25 41.3
comp=Z,97nm,1.0s
MILM Milestii Mici 39.02 296⇑ *i*P **P 21 25 40.0 -0.7**
comp=Z,120nm,1.0s
MILM Milestii Mici 39.02 296 *e*PP PP 21 27 20.0 +10
MILM *e*S **S 21 31 36.0 -3.4**
MILM *e*L L 21 41 28.0
MILM LRM MLR 21 46 21.0
comp=Z,700nm,13.5s
MILM Milestii Mici 39.02 296⇓P **P 21 25 41.0 +0.4**
MILM Milestii Mici 39.02 296 *c i*P **P 21 25 40.0 -0.7**
MILM *e* 21 25 46.0
MILM *e* 21 27 20.0
MILM *e*S **S 21 31 36.0 -3.4**
MILM pmax pmax
comp=Z,200nm,2.3s

MILM MLR MLR
comp=Z,700nm,13.5s
SORM Soroca 39.05 298 ⇓P **P 21 25 41.1 +0.2**
FIA1 FINESS Array S 39.14 320 P **P 21 25 41.6 +0.1**
FINES FINESS Array B 39.15 320 P **P 21 25 41.8 +0.3**
comp=Z,14nm,0.5s,baz=102,slow=9.8,SNR=119
FINES PcP **PcP 21 27 50.9 +0.1**
comp=Z,7.4nm,0.5s,baz=86,slow=4.6,SNR=3.6
FINES LR LR 21 42 48.8
comp=Z,534nm,20.8s,baz=92,slow=38
FINES FINESS Array B 39.15 320 *i* P **P 21 25 41.7 +0.2**
FINES pmax pmax
comp=Z,14nm,0.4s
FINES FINESS Array B 39.15 320 P **P 21 25 41.6 +0.2**
MMAI Mount Meron Ar 39.23 273 LR LR 21 44 16.4
comp=Z,289nm,19.5s,baz=221,slow=40
IIGN Ignalina 39.24 310 *e*P **P 21 25 43.4 +1.1**
MDUB Mudurnu 39.27 286 P **P 21 25 43.2 +0.3**
MDUB IAmb IAmb 21 25 45.5
comp=Z,103nm,0.8s
TLCR 39.47 294 ⇑P **P 21 25 45.2 +0.8**
TLCR 39.47 294 P **P 21 25 45.6 +1.2**
JURR Jurilovca 39.54 293 ⇓P **P 21 25 45.6 +0.6**
KULM Kulim 39.56 154 P **P 21 25 44.5 -0.9**
JMN Monobe 39.64 85 P **P 21 25 44.9 -1.1**
SOCY Socotra 39.76 230 P **P 21 25 45.4 -1.8**
SOCY Socotra 39.76 230 P **P 21 25 45.4 -1.8**
VASR Vaslui 39.77 296 ⇓P **P 21 25 47.3 +0.4**
VLDR Vladesti 39.79 295 ⇑P **P 21 25 47.9 +0.8**
IAS Iasi 39.79 297 ⇓P **P 21 25 47.3 +0.3**
TPGR Topolog 39.83 293 ⇑P **P 21 25 48.1 +0.6**
KEV Kevo 39.87 333 P **P 21 25 48.1 +0.7**
KEV pmax pmax
comp=Z,93nm,0.8s
KEV MLR MLR
comp=Z,700nm,18.0s
KEV Kevo 39.87 333 P **P 21 25 48.1 +0.7**
KEV IAmb IAmb 21 25 49.0
comp=Z,93nm,0.8s
TATR Tatarca 39.87 295 ⇓P **P 21 25 49.2 +1.5**
CSS Mathiatis 39.88 277 P **P 21 25 48.6 +0.6**
SCTR Scanteiesti 39.89 295 ⇑P **P 21 25 49.2 +1.3**
EFOR EFORIE 39.91 292 ⇑P **P 21 25 49.2 +1.2**
VARL Varlezi 39.93 295 ⇑P **P 21 25 49.8 +1.6**
CFR Carcaliu 39.93 294 ⇑P **P 21 25 49.0 +0.8**
GHAJ Ghor Haditha 39.93 270 P **P 21 25 49.6 +1.2**
GHAJ IAmb IAmb 21 25 59.2
comp=Z,66nm,0.8s
TIRR Tirgusor 39.95 293 ⇓P **P 21 25 49.0 +0.6**
TIRR Tirgusor 39.95 293 P **P 21 25 48.9 +0.5**
TIRR pmax pmax
comp=Z,37nm,0.7s
TIRR Tirgusor 39.95 293 P **P 21 25 48.9 +0.5**
BIR Birlad 39.98 296 ⇓P **P 21 25 49.5 +0.9**
BIR Birlad 39.98 296 P **P 21 25 50.6 +1.9**
MANR Mangalia 40.02 292 ⇓P **P 21 25 49.6 +0.6**
MFTR Murfatlar 40.02 292 ⇑P **P 21 25 50.2 +1.1**
SLCR Slobozia Conac 40.06 295 ⇑P **P 21 25 50.4 +1.0**
JWT Wachi 40.07 82 P **P 21 25 48.9 -0.7**
IZVR Izvoarele 40.08 295 ⇓P **P 21 25 50.9 +1.5**
LEF Lefka 40.14 277 ⇑P **P 21 25 51.3 +1.2**
TLBR Topalu 40.17 293 ⇑P **P 21 25 50.7 +0.5**
GHRR 40.18 296 ⇑P **P 21 25 52.0 +1.6**
HARR Harsova 40.21 293 ⇑P **P 21 25 51.1 +0.5**
HARR Harsova 40.21 293 P **P 21 25 52.3 +1.7**
UGL Uglegorsk 40.22 60⇑*i*P **P 21 25 50.6 0.0**
UGL *e*S **S 21 32 00.0 +2.7**
UGL pmax pmax
comp=E,110nm,0.6s
UGL pmax pmax
comp=Z,150nm,1.2s
UGL MLR MLR
comp=E,1μm,11.0s
UGL MLR MLR
comp=Z,2μm,16.0s
CVDA Cernavoda 40.24 293 ⇓P **P 21 25 52.0 +1.1**
MTSE Matsula 40.30 315 *e*P **P 21 25 52.0 +0.9**
ARA0 ARCESS Array S 40.34 332 *e*P **P 21 25 52.2 +0.8**
ARCES ARCESS Array B 40.34 332 P **P 21 25 52.1 +0.7**
comp=Z,91nm,0.6s,baz=89,slow=8.0,SNR=571
ARCES LR LR 21 43 20.3
comp=Z,754nm,20.4s,baz=119,slow=37
ARCES ARCESS Array B 40.34 332 P **P 21 25 52.1 +0.7**
ARCES IAmb IAmb 21 25 53.1
comp=Z,126nm,0.9s
IPM Ipoh 40.44 153 P **P 21 25 51.4 -1.3**
ICOR Ion Corvin 40.47 293 ⇑P **P 21 25 54.2 +1.4**
PABE Paberze 40.50 311 *e*P **P 21 25 54.0 +1.2**
PABE Paberze 40.50 311 P **P 21 25 53.6 +0.8**
PABE IAMs_20 IAMs_20 21 42 53.8
comp=Z,1μm,18.0s
ODBI Odobesti 40.50 295 ⇑P **P 21 25 55.1 +2.1**
TESR Tescani 40.57 296 ⇓P **P 21 25 54.0 +0.4**
PRAR RASCA 40.63 298 ⇑P **P 21 25 54.9 +0.9**
GRER 40.66 295 ⇑P **P 21 25 55.7 +1.3**
VRI Vrincioaia 40.69 295 ⇓P **P 21 25 55.5 +0.9**
ISP Isparta 40.75 282 P **P 21 25 55.9 +0.7**
ISP pmax pmax
comp=Z,65nm,0.8s
ISP Isparta 40.75 282 P **P 21 25 55.9 +0.7**
ISP IAmb IAmb 21 25 57.3
comp=Z,65nm,0.8s
PLOR Plostina 40.75 295 ⇓P **P 21 25 57.0 +1.9**
PLOR Plostina 40.75 295 P **P 21 25 57.9 +2.8**
BISRR Bisoca 40.79 295 ⇓P **P 21 25 57.4 +1.9**
JSD Sado 41.02 77 P **P 21 25 55.1 -2.2**
JSD IAmb IAmb 21 25 56.6
comp=Z,127nm,1.1s
ISR Istrita 41.03 294 ⇑P **P 21 25 59.4 +2.0**
PRD Provadia 41.03 291 P **P 21 25 58.7 +1.3**
KTK1 Kautokeino 41.04 331 *e*P **P 21 25 57.7 +0.6**
NEHR Nehoiu 41.11 295 ⇑P **P 21 26 00.2 +2.2**
SUW Suwalki 41.16 308 *e*P **P 21 25 58.6 +0.3**
SUW Suwalki 41.16 308 P **P 21 25 58.4 +0.2**
SUW pmax pmax
comp=Z,232nm,1.0s
SUW MLR MLR
comp=Z,1μm,20.0s
SUW Suwalki 41.16 308 *e*P **P 21 25 58.9 +0.7**
SUW Suwalki 41.16 308 P **P 21 25 58.4 +0.2**
SUW IAMs_20 IAMs_20 21 43 28.3
comp=Z,952nm,20.0s
HAMF Hammerfest 41.16 334 *e*P **P 21 25 59.1 +1.0**
YSS Yuzh-Sakhalins 41.19 63α*i*P **P 21 25 58.1 -0.5**
YSS pmax pmax
comp=Z,400nm,4.9s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS Yuzh-Sakhalins 41.19 63 P **P 21 25 57.7 -0.9**
YSS IAMs_20 IAMs_20 21 44 35.6
comp=Z,2μm,18.0s
BURAR Bucovina Array 41.22 298 ⇑P **P 21 26 00.6 +1.5**
BURAR Bucovina Array 41.22 298 P **P 21 26 01.9 +2.8**
BUR08 Bucovina Ar. S 41.23 298 P **P 21 25 59.4 +0.3**
OZUR 41.26 296 ⇓P **P 21 26 00.6 +1.3**
MLR Muntele Rosu 41.32 295 ⇓P **P 21 26 01.4 +1.4**
MLR Muntele Rosu 41.32 295 LR LR 21 45 00.8
comp=Z,603nm,19.1s,baz=40,slow=39
MLR Muntele Rosu 41.32 295 P **P 21 26 01.5 +1.5**
MLR pmax pmax
comp=Z,34nm,0.7s
MLR Muntele Rosu 41.32 295 P **P 21 26 01.5 +1.5**
JGF Kuroka 41.37 81 P **P 21 25 58.2 -2.2**
SECR 41.38 294 ⇓P **P 21 26 01.9 +1.7**
LVV L'vov 41.45 302 *e*P **P 21 26 01.2 +0.4**
JEW Eniwo 41.54 69 P **P 21 26 00.8 -0.8**
DOPR Dopca 41.56 296 ⇑P **P 21 26 02.7 +1.0**
PBUR Paburge 41.58 312 *e*P **P 21 26 02.4 +0.7**
MAJO Matsushiro 41.59 79 *i*P **P 21 25 59.8 -2.3**
MAJO pmax pmax
comp=Z,21nm,0.9s
MAJO Matsushiro 41.59 79 P **P 21 26 00.1 -2.1**
MAT Matsushiro 41.59 79 P **P 21 25 59.5 -2.6**
MJAR Matsushiro Arr 41.59 79 P **P 21 26 00.8 -1.4**
comp=Z,17nm,0.8s,baz=294,slow=10,SNR=27
MJAR PcP **PcP 21 27 58.9 -0.2**
comp=Z,6.4nm,0.9s,baz=283,slow=3.6,SNR=4.7
MJAR LR LR 21 43 29.8
comp=Z,226nm,18.0s,baz=292,slow=37
MJAR Matsushiro Arr 41.59 79 P **P 21 26 00.1 -2.1**
MJAR pmax pmax
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 41.59 79 P **P 21 26 00.1 -2.1**

ELL Elmali 41.63 281 P **P 21 26 03.5 +0.9**
ELL pmax pmax
comp=Z,131nm,0.8s
ELL Elmali 41.63 281 P **P 21 26 03.5 +0.9**
ELL IAmb IAmb 21 26 05.0
comp=Z,131nm,0.8s
JMB Yambol 41.84 291 P **P 21 26 05.7 +1.7**
ASAJ Asahikawa 41.91 67 LR LR 21 44 31.4
comp=Z,798nm,21.7s,baz=302,slow=38
ASAJ Asahikawa 41.91 67 P **P 21 26 03.7 -0.9**
ASAJ pmax pmax
comp=Z,38nm,0.9s
JKA Kamikawa-asahi 41.92 67 P **P 21 26 03.7 -1.0**
ARCR ARCALIA 41.93 298 ⇑P **P 21 26 06.7 +1.9**
VOIR 41.94 295 ⇑P **P 21 26 06.3 +1.3**
JTM Tenmabayashi 41.98 72 P **P 21 26 02.4 -2.8**
JTM IAmb IAmb 21 26 32.7
comp=Z,218nm,1.5s
MTUR Matau 42.00 295 ⇑P **P 21 26 06.3 +0.9**
MTUR Matau 42.00 295 P **P 21 26 08.6 +3.2**
SZH Strazhica 42.02 292 P **P 21 26 06.5 +1.0**
JETT Jettan, Norway 42.11 332 *e*P **P 21 26 07.8 +1.8**
COPA Copaceanca 42.23 293 ⇓P **P 21 26 08.4 +1.2**
ARR Arges 42.24 295 ⇑P **P 21 26 09.4 +2.0**
HUMR Humele 42.27 294 ⇓P **P 21 26 08.2 +0.7**
HOPEN Hopen 42.29 343 *e*P **P 21 26 08.8 +1.6**
KWP Kalwaria Pacla 42.33 302 *e*P **P 21 26 09.3 +1.3**
KWP Kalwaria Pacla 42.33 302 P **P 21 26 08.9 +0.9**
KWP Kalwaria Pacla 42.33 302 P **P 21 26 08.8 +0.9**
GSI Gunungsitoli 42.44 160 P **P 21 26 10.0 +0.8**
comp=Z,92nm,0.8s
GSI Gunungsitoli 42.44 160 P **P 21 26 09.0 -0.2**
GSI IAmb IAmb 21 26 15.6
comp=Z,61nm,0.7s
TRO Tromso 42.63 332 *e*P **P 21 26 10.7 +0.6**
KLNR Kaliningrad 42.77 310 *i*P **P 21 26 12.0 +0.6**
ALN Alexandroupoli 42.77 289 P **P 21 26 12.3 +0.6**
ALN Alexandroupoli 42.77 289 P **P 21 26 12.2 +0.6**
LOT Lotru 42.80 296 ⇑P **P 21 26 12.7 +0.8**
VLAD Vladila 42.83 294 ⇑P **P 21 26 13.7 +1.6**
UZH Uzhgorod 42.85 301⇑*i*P **P 21 26 12.8 +0.7**
UZH *i* 21 26 19.6
JMM Marumori 42.92 76 P **P 21 26 11.2 -1.6**
JMM IAmb IAmb 21 26 13.8
comp=Z,101nm,0.6s
KDZ Kurdzhali 42.94 290 P **P 21 26 14.5 +1.5**
BEL Belsk 42.99 306 *e*P **P 21 26 14.2 +0.9**
ERM Erimo 43.01 69 P **P 21 26 12.3 -1.2**
ERM pmax pmax
comp=Z,107nm,1.1s
ERM MLR MLR
comp=Z,2μm,18.0s
ERM Erimo 43.01 69 P **P 21 26 12.3 -1.2**
ERM IAmb IAmb 21 27 01.1
comp=Z,107nm,1.1s
ERM Erimo 43.01 69 IAMs_20 IAMs_20 21 45 25.8
comp=Z,2μm,18.0s
DRGR 43.09 298 ⇓P **P 21 26 15.9 +1.6**
JYT Yasato 43.17 79 P **P 21 26 13.1 -1.9**
BJO1 Bjornoya 43.26 339 *e*P **P 21 26 16.0 +0.9**
CRVS Cervenica-Dubn 43.30 301 *e*P **P 21 26 16.3 +0.4**
CRVS Cervenica-Dubn 43.30 301 *e*P **P 21 26 16.3 +0.4**
UPP Uppsala 43.37 318 *e*P **P 21 26 17.1 +0.9**
RZN Rozhen 43.42 299 P **P 21 26 18.4 +1.3**
MA2 Magadan 43.45 43*ce*P **P 21 26 16.0 -0.9**
MA2 pmax pmax
comp=Z,188nm,1.7s
MA2 Magadan 43.45 43 P **P 21 26 16.9 -0.1**
MA2 IAmb IAmb 21 26 18.1
comp=Z,94nm,0.8s
MA2 IAMs_20 IAMs_20 21 45 11.3
comp=Z,1μm,20.0s
MNSI Mandailing Nat 43.48 157 P **P 21 26 14.7 -2.8**
comp=Z,71nm,0.7s
GZR Gura Zlata 43.48 296 ⇑P **P 21 26 18.4 +1.0**
PGB Panagyurishte 43.49 292 P **P 21 26 19.5 +2.0**
MPEP Malo Peshtene 43.50 293 P **P 21 26 18.6 +1.1**
BAIL Bailesti 43.54 294 ⇓P **P 21 26 18.6 +0.8**
SEY Seymchan 43.87 38 P **P 21 26 20.2 0.0**
comp=Z,20nm,0.6s,baz=279,slow=6.7,SNR=118
SEY LR LR 21 45 45.1
comp=Z,1μm,19.4s,baz=276,slow=38
HERR Herculane 43.88 295 ⇑P **P 21 26 21.1 +0.5**
NIE Niedzica 43.90 302 *e*P **P 21 26 22.9 +2.2**
STEI Steigen 43.91 329 *e*P **P 21 26 20.9 +0.4**
OJC Ojcow 44.00 304 *e*P **P 21 26 22.3 +0.9**
OJC Ojcow 44.00 304 P **P 21 26 22.0 +0.6**
OJC pmax pmax
comp=Z,82nm,0.8s
OJC Ojcow 44.00 304 P **P 21 26 22.0 +0.6**
OJC IAmb IAmb 21 26 23.3
comp=Z,82nm,0.8s
KECS Kecovo 44.04 301 *e*P **P 21 26 23.3 +1.5**
KECS Kecovo 44.04 301 *e*P **P 21 26 23.3 +1.5**
VTS Vitosha 44.11 292 ⇓P **P 21 26 23.9 +1.3**
VTS Vitosha 44.11 292 P **P 21 26 23.5 +0.9**
VTS pmax pmax
comp=Z,80nm,1.5s
VTS Vitosha 44.11 292 P **P 21 26 23.5 +0.9**
VTS IAmb IAmb 21 26 25.3
comp=Z,80nm,1.5s
VTS Vitosha 44.11 292 *e*P **P 21 26 24.1 +1.5**
VTS Vitosha 44.11 292 P **P 21 26 23.8 +1.2**
BZS Buzias 44.18 297 ⇓P **P 21 26 22.9 0.0**
MOR8 Moi Rana 44.28 327 *e*P **P 21 26 22.8 -0.7**
ZAPS Zavoj 44.29 293 *e*P **P 21 26 26.0 +2.1**
JHJ Hachijo jima 2 44.29 83 LR LR 21 46 02.9
comp=Z,607nm,18.3s,baz=104,slow=38
BKNI Bangkinang 44.35 155 P **P 21 26 23.4 -1.2**
BKNI IAmb IAmb 21 26 30.7
comp=Z,43nm,0.9s
ZAGS Zajecar 44.37 294 *e*P **P 21 26 23.5 -1.0**
MDVR Moldovita 44.39 296 ⇑P **P 21 25 26.6 +0.9**
KKB Krupnik 44.49 291 P **P 21 26 26.6 +1.1**
LANS Liptovska Anna 44.50 302 *e*P **P 21 26 27.2 +1.7**
LANS Liptovska Anna 44.50 302 *e*P **P 21 26 27.2 +1.7**
HSPB Hornsund (broa 44.53 343 *e*P **P 21 26 26.1 +0.9**
HSPB Hornsund (broa 44.53 343 *e*P **P 21 26 26.1 +0.9**
KUBS Kucevo 44.54 295 *e*P **P 21 26 24.0 -1.9**
LOF Lofoten 44.55 330 *e*P **P 21 26 25.6 +0.1**
SPB2 Spitsbergen Ar 44.56 344 P **P 21 26 25.8 +0.3**
SPB2 IAmb IAmb 21 26 28.5
comp=Z,64nm,1.1s
SPA0 Spitsbergen Ar 44.56 344 *e*P **P 21 26 26.7 +1.1**
SPITS Spitsbergen Ar 44.56 344 P **P 21 26 26.4 +0.8**
comp=Z,15nm,0.5s,baz=99,slow=11,SNR=35
SPITS PcP **PcP 21 28 08.6 +0.2**
comp=Z,5.7nm,0.7s,baz=101,slow=4.6,SNR=1.7
SPITS LR LR 21 49 48.8
comp=Z,879nm,18.6s,baz=180,slow=42
SPITS Spitsbergen Ar 44.56 344 P **P 21 26 25.5 -0.1**
SPITS pmax pmax
comp=Z,83nm,1.2s
PSZ Piszkesteto 44.59 300 ⇑P **P 21 26 27.7 +1.4**
PSZ Piszkesteto 44.59 300 P **P 21 26 26.9 +0.6**
PSZ pmax pmax
comp=Z,19nm,1.0s
PSZ Piszkesteto 44.59 300 P **P 21 26 26.9 +0.6**
PSZ Piszkesteto 44.59 300 P **P 21 26 26.9 +0.6**
BOSS Bosilegrad 44.67 292 *e*P **P 21 26 28.2 +1.3**
GKP Gorka Klasztor 44.77 308 *e*P **P 21 26 28.4 +0.9**
GKP Gorka Klasztor 44.77 308 *e*P **P 21 26 28.3 +0.8**
KONS Konsvik 44.79 327 *e*P **P 21 26 27.8 +0.3**
BOVS Bovan 44.79 294 *e*P **P 21 26 28.4 +0.6**
BARS Barje 45.01 293 *e*P P 21 26 24.3 -5.3
BARS Barje 45.01 293 *e*P **P 21 26 30.7 +1.1**
VYHS Vyhne 45.09 301 *e*P **P 21 26 31.5 +1.3**
VYHS pmax pmax
comp=Z,67nm,1.8s
VYHS Vyhne 45.09 301 *e*P **P 21 26 31.5 +1.3**
OKC Ostrava-Krasne 45.13 303 ⇑AMS AMS 21 45 50.0
comp=Z,800nm,14.4s
STIP Stip 45.17 291 *i*P **P 21 26 30.6 -0.4**
KOLL Kolacno 45.34 302 *e*P **P 21 26 33.6 +1.5**
SELS Selova 45.34 294 *e*P **P 21 26 32.3 0.0**
GRUS Gruza 45.37 295 *e*P **P 21 26 33.5 +1.0**
NSS Namsos 45.45 325 *e*P **P 21 26 32.7 -0.1**
TRUS Trudelj 45.46 295 *e*P **P 21 26 33.0 -0.2**
MORC Moravsky Berou 45.52 303 ⇑P **P 21 26 34.9 +1.3**
MORC Moravsky Berou 45.52 303 P **P 21 26 34.2 +0.6**
MORC pmax pmax
comp=Z,39nm,0.8s
MORC Moravsky Berou 45.52 303 *e*P **P 21 26 34.7 +1.1**

MORC Moravsky Berou 45.52 303 P **P 21 26 34.2 +0.6**
MORC IAmb IAmb 21 26 35.9
comp=Z,39nm,0.8s
FRGS Fruska Gora 45.53 297 ⇓P **P 21 26 34.2 +0.4**
FRGS Fruska Gora 45.53 297 ⇑*i*P **P 21 26 33.7 -0.1**
FRGS Fruska Gora 45.53 297 *e*P **P 21 26 34.1 +0.4**
KBS Kingsbay 45.55 345 P **P 21 26 34.0 +0.5**
KBS pmax pmax
comp=Z,38nm,0.8s
KBS Kingsbay 45.55 345 *i*P **P 21 26 33.6 +0.2**
KBS Kingsbay 45.55 345 *e*P **P 21 26 34.5 +1.0**
KBS Kingsbay 45.55 345 P **P 21 26 34.0 +0.5**
KBS IAmb IAmb 21 26 35.1
comp=Z,38nm,0.8s
SKO Skopje 45.58 292 *i*P **P 21 26 35.4 +1.2**
SRO2 Moca 45.60 301 *e*P **P 21 26 34.8 +0.6**
SRO2 Moca 45.60 301 *e*P **P 21 26 34.8 +0.6**
SRO Srobarova 45.63 301 *e*P **P 21 26 36.3 +1.8**
SRO Srobarova 45.63 301 *e*P **P 21 26 36.3 +1.8**
BSD Bornholm Skovb 45.66 311 *i*P **P 21 26 33.0 -1.5**
BSD *i*P **P 21 26 33.0 -1.5**
BSD IAmb IAmb 21 26 34.4
comp=Z,33nm,0.6s
JAVC Velka Javorina 45.71 302 *e*P **P 21 26 37.4 +2.2**
DIVS Divibare 45.78 295⇑*i*P **P 21 26 36.4 +0.5**
DIVS Divibare 45.78 295 P **P 21 26 36.4 +0.5**
DIVS IAmb IAmb 21 26 37.6
comp=Z,35nm,0.7s
DIVS Divibare 45.78 295 *e*P **P 21 26 36.6 +0.8**
CSKK Cskako 45.81 300 P **P 21 26 35.4 -0.5**
IVAS Ivanjica 45.86 294 *e*P **P 21 26 36.7 +0.2**
KRLC Kraliky 45.90 304 ⇑AMS AMS 21 46 20.0
comp=Z,1μm,11.7s
DEL Delary 45.92 313 *i*P **P 21 26 36.0 -0.6**
IDI Anoyia 45.93 282 LR LR 21 51 26.8
comp=Z,163nm,18.1s,baz=82,slow=43
TEKS Tekeris 45.93 296 *e*P **P 21 26 36.2 -0.7**
MORH Mrgy, Hungar 45.94 298 ⇓P **P 21 26 37.2 +0.3**
MORH Mrgy, Hungar 45.94 298⇑*i*P **P 21 26 37.2 +0.3**
MORH Mrgy, Hungar 45.94 298 P **P 21 26 35.2 -1.7**
KSP Ksiaz 45.98 305 *e*P **P 21 26 38.2 +1.0**
NC405 NORSAR Array S 46.07 320 P **P 21 26 37.4 -0.4**
FNA Florina 46.09 290 P **P 21 26 38.2 -0.1**
FNA pmax pmax
comp=Z,17nm,0.9s
FNA Florina 46.09 290 P **P 21 26 38.2 -0.1**
DPC Dobruska-Polom 46.10 305⇑*i*P **P 21 26 39.7 +1.5**
DPC MLR MLR
comp=Z,900nm,13.5s
DPC Dobruska-Polom 46.10 305⇑*i*P **P 21 26 39.7 +1.5**
DPC AMS AMS 21 46 30.0
comp=Z,900nm,13.5s
SJES Sjenica 46.10 294 *e*P **P 21 26 39.5 +1.1**
OSTC Ostas 46.10 305⇑*e*P **P 21 26 39.5 +1.3**
MODS Modra-Piesok 46.11 302 *e*P **P 21 26 39.7 +1.4**
MODS pmax pmax
comp=Z,33nm,1.2s
MODS Modra-Piesok 46.11 302 *e*P **P 21 26 39.7 +1.4**
AGG Agios Georgios 46.14 288 P **P 21 26 38.5 -0.1**
AGG pmax pmax
comp=Z,36nm,0.9s
AGG Agios Georgios 46.14 288 P **P 21 26 38.5 -0.1**
AGG IAmb IAmb 21 26 39.7
comp=Z,36nm,0.9s
CHVC Chvalec 46.19 305⇑*i*P **P 21 26 40.1 +1.2**
CHVC *ex* x 21 26 46.6
CHVC AMS AMS 21 46 40.0
comp=Z,1μm,14.3s
NC303 NORSAR Array S 46.22 320 P **P 21 26 39.3 +0.3**
NC303 IAmb IAmb 21 26 40.5
comp=Z,82nm,1.2s
NC602 NORSAR Array S 46.23 320 P **P 21 26 39.1 +0.1**
UPC Upice 46.24 305 ⇑AMS AMS 21 46 40.0
comp=Z,1μm,14.0s
VRAC Vranov 46.25 303 ⇑P **P 21 26 40.2 +0.9**
VRAC Vranov 46.25 303 LR LR 21 47 25.0
comp=Z,414nm,18.9s,baz=86,slow=38
VRAC Vranov 46.25 303 P **P 21 26 41.9 +2.5**
VRAC Vranov 46.25 303 *e*P **P 21 26 40.6 +1.2**
BBLS Lazići 46.26 295 *e*P **P 21 26 40.4 +0.8**
BBLS Lazići 46.26 295 *e*P **P 21 26 40.1 +0.5**
ZST Bratislava 46.28 302 *e*P **P 21 26 41.2 +1.6**
ZST Bratislava 46.28 302 *e*P **P 21 26 41.2 +1.6**
DSRI Dabo 46.29 151 P **P 21 26 43.7 +3.7**
comp=Z,287nmcomp=Z,17nm,1.1s
NB2 NORSAR Subarra 46.33 320 P **P 21 26 39.8 0.0**
comp=Z,42nm,0.7s,baz=78,slow=7.9
NB2 NORSAR Subarra 46.33 320 P **P 21 26 39.8 0.0**
baz=78,slow=7.9
NOA NORSAR Array B 46.33 320 P **P 21 26 39.4 -0.5**
comp=Z,34nm,0.7s,baz=80,slow=8.0,SNR=114
NOA LR LR 21 47 12.8
comp=Z,682nm,19.5s,baz=80,slow=38
MPLH Magyarpolny 46.34 300 P **P 21 26 40.8 +0.7**
KOVH Kovagotottos 46.34 298 P **P 21 26 40.0 -0.1**
RUDO Rudo 46.38 295 *e*P **P 21 26 40.4 0.0**
TBLU Trondheim 46.38 323 *e*P **P 21 26 40.0 -0.2**
KRUC Moravsky 46.45 303 *e*P **P 21 26 42.4 +1.5**
NAO01 NORSAR Array S 46.52 320 *e*P **P 21 26 41.5 +0.2**
RGN Rugen 46.69 311 *e*P **P 21 26 43.6 +1.0**
RGN Rugen 46.69 311 P **P 21 26 43.9 +1.2**
OSL Oslo 46.78 319 *e*P **P 21 26 43.9 +0.5**
SOP Sopron 46.79 301 P **P 21 26 44.6 +0.9**
KSM Kuching 46.84 143 P **P 21 26 44.2 -0.1**
KSM IAmb IAmb 21 26 45.9
comp=Z,26nm,0.9s
UPM Unac-Piva 46.85 294 *e*P **P 21 26 45.3 +1.0**
SBUM Sibu 46.87 140 P **P 21 26 44.5 0.0**
PDG Podgorica 46.91 293 ⇑P **P 21 26 45.7 +1.2**
PDG Podgorica 46.91 293⇑*i*P **P 21 26 45.4 +0.9**
PDG Podgorica 46.91 293 P **P 21 26 45.4 +0.9**
PDG IAmb IAmb 21 26 46.4
comp=Z,30nm,0.7s
PDG Podgorica 46.91 293 *e*P **P 21 26 45.5 +0.9**
TREC Trest 46.94 303 ⇑AMS AMS 21 47 00.0
comp=Z,1μm,12.1s
RUE Ruedersdorf 47.00 308 *e*P **P 21 26 46.1 +0.9**
RUE Ruedersdorf 47.00 308 *e*P **P 21 26 45.9 +0.8**
comp=Z,87nm,0.7s,baz=70,slow=7.7
DRME Dracevica, Mon 47.05 293 *e*P **P 21 26 46.5 +0.8**
PVCC Panska Ves 47.12 305 *e*P **P 21 26 47.7 +1.6**
PVCC *e* 21 26 54.0
PVCC MLR MLR
comp=Z,1μm,9.7s
PVCC Panska Ves 47.12 305⇑*e*P **P 21 26 47.7 +1.6**
PVCC *ex* x 21 26 54.0
PVCC AMS AMS 21 47 10.0
comp=Z,1μm,9.7s
ATD Arta Tunnel 47.14 242 LR LR 21 50 40.7
comp=Z,239nm,20.2s,baz=48,slow=41
DOMB Dombas 47.14 322 *e*P **P 21 26 46.6 +0.4**
CONA Conrad Observa 47.15 302 *i*P **P 21 26 48.0 +1.4**
comp=Z,49nm,1.3s,SNR=14
BRY Bratogost 47.21 294 *e*P **P 21 26 47.8 +0.7**
PRU Pruhonice 47.30 305⇑*i*P **P 21 26 48.8 +1.2**
PRU *e* 21 26 54.7
PRU MLR MLR
comp=Z,1μm,13.3s
PRU Pruhonice 47.30 305⇑*i*P **P 21 26 48.8 +1.2**
PRU *ex* x 21 26 54.7
PRU AMS AMS 21 47 10.0
comp=Z,1μm,13.3s
BRG Berggiesshubel 47.39 306⇑*i*P **P 21 26 49.2 +1.0**
BRG Amp 21 26 50.3
comp=Z,32nm,0.7s
BRG *i* x x 21 26 54.9
BRG Amp 21 26 56.2
comp=Z,21nm,0.6s
BRG Berggiesshubel 47.39 306⇑*i*P **P 21 26 49.2 +1.0**
BRG *i* 21 26 54.9
BRG pmax pmax
comp=Z,32nm,0.7s
BRG Berggiesshubel 47.39 306 *e*P **P 21 26 49.3 +1.0**
comp=Z,32nm,0.7s,baz=70,slow=7.7
BRG *ep*P **sP 21 26 55.6 +1.4**
baz=70,slow=7.8
KONO Kongsberg 47.40 318*ce*P **P 21 26 48.0 -0.2**
KONO pmax pmax
comp=Z,95nm,1.3s
KONO Kongsberg 47.40 318 *e*P **P 21 26 49.0 +0.8**
KONO Kongsberg 47.40 318 P **P 21 26 48.8 +0.6**
TREB Trebinje 47.41 294 *e*P **P 21 26 48.9 +0.4**
TREB Trebinje 47.41 294 *e*P **P 21 26 49.2 +0.7**

HCY Herceg Novi 47.42 294 *eP* **P 21 26 49.0 +0.4**
BLY Banja Luka 47.42 297 *eP* **P 21 26 49.0 +0.4**
MRAK Mrakovica 47.51 297 *eP* **P 21 26 46.2 -3.1**
ARSA Arzberg 47.60 301 *i* P **P 21 26 50.7 +0.8**
comp=Z,18nm,1.2s,SNR=7.7
MGRS Mrkonjic Grad 47.61 297 *eP* **P 21 26 51.5 +1.4**
FBE Freiberg 47.73 306 *eP* **P 21 26 52.1 +1.2**
comp=Z,67nm,0.7s,baz=70,slow=7.7
MOL Molde 47.73 322 *eP* **P 21 26 51.4 +0.8**
PBCC Pribram 47.73 304‖ *eP* **P 21 26 52.3 +1.3**
STON Ston 47.79 295 *eP* **P 21 26 50.6 -0.8**
STON Ston 47.79 295 P **P 21 26 50.4 -1.0**
SKAR Skarslia 47.80 320 *eP* **P 21 26 52.6 +1.3**
CLL Collm 47.81 307⇑ *i*P **P 21 26 52.3 +0.8**
CLL *e* 21 26 58.0
CLL *eS* **S 21 33 48.0 +0.1**
CLL pmax pmax
comp=Z,114nm,0.7s
CLL MLR MLR
comp=Z,500nm,18.6s
CLL Collm 47.81 307⇑ *i*P **P 21 26 52.3 +0.8**
comp=Z,114nm,0.7s
CLL *es*P **sP 21 26 58.0 +0.5**
CLL *e*PP **PP 21 28 46.0 +2.9**
CLL *e*PPP PPP 21 29 28.0
CLL *es*PPP 21 29 37.0
CLL *eS* **S 21 33 48.0 +0.1**
CLL *e*SS **SS 21 37 18.0 +2.1**
CLL LmH 21 44 00.0
comp=N,2μm,20.5s
CLL LmH 21 44 00.0
comp=E,600nm,20.8s
CLL LmV 21 47 00.0
comp=Z,500nm,18.6s
CLL Collm 47.81 307 *eP* **P 21 26 52.2 +0.8**
comp=Z,114nm,0.7s,baz=70,slow=7.7
CLL *ep*P **sP 21 26 58.6 +1.1**
baz=70,slow=7.8
CLL Collm 47.81 307 P **P 21 26 52.2 +0.7**
CKRC Cesky Krumlov 47.83 303⇑ *i*P **P 21 26 53.3 +1.6**
CKRC *ex* x 21 26 58.9
CKRC AMS AMS 21 47 30.0
comp=Z,800nm,13.3s
MYLDM Lahad Datu 47.84 131 P **P 21 26 53.6 +1.5**
MYLDM IAmb IAmb 21 27 06.0
comp=Z,68nm,1.2s
GROS Grobnik 47.90 300 *i* P **P 21 26 52.7 +0.4**
RICI Ricice 47.93 296 P **P 21 26 51.9 -0.7**
GOLS Golise 47.98 299 *i* P **P 21 26 53.6 +0.7**
MASI Maura Aman, Be 48.00 155 P **P 21 26 50.9 -2.4**
comp=Z,50nm,0.8s
AKN Aaknes 48.06 322 *eP* **P 21 26 54.4 +1.0**
PERS Pernice 48.08 300 *i* P **P 21 26 54.2 +0.5**
PERS *e* 21 27 04.2
MAKA Makarska 48.09 295 P **P 21 26 52.4 -1.3**
SOKA Soboth 48.12 300 *i* P **P 21 26 54.8 +0.8**
comp=Z,52nm,1.4s,SNR=11
CRES Cresnjev 48.16 299 *eP* **P 21 26 54.7 +0.4**
KHC Kasperske Hory 48.18 304⇑ *i*P **P 21 26 55.5 +1.1**
KHC *e* 21 27 01.1
KHC MLR MLR
comp=Z,800nm,16.3s
KHC Kasperske Hory 48.18 304⇑ *i*P **P 21 26 55.5 +1.1**
KHC *ep*P **sP 21 27 01.1 +0.7**
KHC *ex* x 21 27 17.5
KHC AMS AMS 21 50 30.0
comp=Z,800nm,16.3s
KHC Kasperske Hory 48.18 304 P **P 21 26 55.4 +1.0**
MOA Molln 48.19 302 *eP* **P 21 26 55.5 +1.0**
comp=Z,20nm,1.3s
GEC2 GERESS Array S 48.20 303 *eP* **P 21 26 55.9 +1.2**
comp=Z,25nm,0.9s,baz=70,slow=7.7
GEC2 *ep*P **sP 21 27 01.4 +0.7**
baz=70,slow=7.8
GEC2 GERESS Array S 48.20 303 P **P 21 26 55.7 +1.1**
GEC2 IAmb IAmb 21 26 56.9
comp=Z,56nm,1.5s
GERES GERESS Array B 48.20 303 P **P 21 26 55.8 +1.1**
comp=Z,12nm,0.7s,baz=70,slow=8.7,SNR=60
GERES GERESS Array B 48.20 303 P **P 21 26 55.6 +0.9**
GERES GERESS Array B 48.20 303 P **P 21 26 55.5 +0.9**
HOMB Homborsund 48.29 317 *i* P **P 21 26 55.0 -0.1**
HOMB Homborsund 48.29 317 *eP* **P 21 26 55.7 +0.7**
TANN Tannenbergstha 48.43 306 *eP* **P 21 26 57.4 +1.0**
comp=Z,47nm,1.0s,baz=70,slow=7.7
TANN *ep*P **sP 21 27 03.8 +1.5**
baz=70,slow=7.8
MUD Monsted U'grnd 48.44 314 *i* P **P 21 26 56.0 -0.3**
OBKA Obir 48.49 300 *i* P **P 21 26 57.9 +0.9**
comp=Z,26nm,1.1s,SNR=6.5
NKC Novy Kostel 48.50 305 *eP* **P 21 26 58.0 +1.2**
NKC MLR MLR
comp=Z,1μm,12.4s
NKC Novy Kostel 48.50 305⇑ *eP* **P 21 26 58.0 +1.2**
NKC AMS AMS 21 48 00.0
comp=Z,1μm,12.4s
WERD Werda 48.51 306 *eP* **P 21 26 58.0 +1.0**
comp=Z,43nm,1.0s,baz=70,slow=7.7
WERD *ep*P **sP 21 27 04.4 +1.4**
baz=70,slow=7.8
SKR Severo-Kuril's 48.51 54 *eP* P 21 27 07.0 +10
SKR MLR MLR
comp=Z,1μm,17.0s
WERN Wernitzgruen 48.52 306 *eP* **P 21 26 58.3 +1.2**
comp=Z,33nm,0.9s,baz=70,slow=7.7
WERN *ep*P **sP 21 27 04.6 +1.6**
baz=70,slow=7.8
GUNZ Gunzen 48.52 306 *eP* **P 21 26 58.3 +1.2**
comp=Z,53nm,0.8s,baz=70,slow=7.7
GUNZ *ep*P **sP 21 27 04.6 +1.6**
baz=70,slow=7.8
FLTG Flechtingen 48.53 308 *eP* **P 21 26 57.5 +0.5**
comp=Z,71nm,0.7s,baz=70,slow=7.7
FLTG *ep*P **sP 21 27 03.9 +0.9**
baz=70,slow=7.8
BSEG Bad Segeberg 48.56 311 *eP* **P 21 26 58.7 +1.5**
comp=Z,92nm,1.3s,baz=70,slow=7.7
NEUB Neuenburg 48.58 307 *eP* **P 21 26 58.4 +1.0**
comp=Z,108nm,0.7s,baz=70,slow=7.7
NEUB *ep*P **sP 21 27 04.7 +1.3**
baz=70,slow=7.8
PLN Plauen 48.59 306 *eP* **P 21 26 58.4 +0.9**
comp=Z,32nm,1.1s,baz=70,slow=7.7
PLN *ep*P **sP 21 27 04.9 +1.4**
baz=70,slow=7.8
WET Wettzell 48.60 304 *eP* **P 21 26 58.9 +1.2**
comp=Z,30nm,0.9s,baz=70,slow=7.7
WET *ep*P **sP 21 27 05.3 +1.6**
baz=70,slow=7.8
STKI Sintang 48.62 142 P **P 21 26 59.2 +1.1**
PEA0B Petropavlovsk- 48.66 50 *ce*P **P 21 26 58.8 +0.8**
PEA0B Petropavlovsk- 48.66 50 P **P 21 26 57.5 -0.5**
PEA0B IAmb IAmb 21 26 59.0
comp=Z,79nm,1.2s
PETK Petropavlovsk- 48.66 50 P **P 21 26 57.5 -0.6**
comp=Z,16nm,0.8s,baz=264,slow=5.1,SNR=33
PETK LR LR 21 48 47.0
comp=Z,1μm,19.0s,baz=296,slow=38
PETK Petropavlovsk- 48.66 50 P **P 21 26 57.0 -1.0**
PETK Petropavlovsk- 48.66 50 P **P 21 26 57.0 -1.0**
LJU Ljubljana 48.68 300⇑ *i*P **P 21 26 58.8 +0.5**
LJU Ljubljana 48.68 300 *i* P **P 21 26 58.9 +0.5**
HYA Hoyanger 48.68 321 *eP* **P 21 26 59.2 +1.1**
MORI Morici 48.74 297 P **P 21 26 58.3 -0.4**
MANZ Manzenberg 48.79 305 *eP* **P 21 27 00.2 +1.1**
comp=Z,11nm,1.4s,baz=70,slow=7.7
MANZ *ep*P **sP 21 27 06.6 +1.5**
baz=70,slow=7.8
ODD1 Odda 48.79 319 *eP* **P 21 27 00.3 +1.3**
ROTZ Rotzenmuhle 48.80 305 *eP* **P 21 27 00.4 +1.2**
comp=Z,11nm,1.4s,baz=70,slow=7.7
BILL Bilibino 48.84 30 *d*/*i*P **P 21 26 59.6 +0.4**
BILL *i* 21 27 04.1
BILL *i* 21 28 22.9
BILL *i* 21 28 52.2
BILL pmax pmax
comp=Z,55nm,1.0s
BILL MLR MLR
comp=Z,2μm,17.0s
BILL Bilibino 48.84 30 P **P 21 26 59.5 +0.2**
BILL IAmb IAmb 21 27 00.8
comp=Z,44nm,0.9s
BILL IAMs_20 IAMs_20 21 49 27.4
comp=Z,2μm,20.0s
CEY Cerknica 48.86 299⇑ *i*P **P 21 27 00.0 +0.3**

MOX Moxa 48.86 306 *eP* **P 21 27 00.7 +1.0**
comp=Z,68nm,1.3s,baz=70,slow=7.7
MOX *eL* L 22 02 45.9
comp=Z,201nm,20.1s
ZIRJ Zirje 48.86 296 P **P 21 26 59.4 -0.3**
SNART Snartemo 48.93 317 *i* P **P 21 27 00.0 0.0**
SNART Snartemo 48.93 317 *eP* **P 21 27 00.9 +0.9**
BLS5 Blasjo 49.01 319 *eP* **P 21 27 01.9 +1.2**
MYKA Terra Mystica 49.03 301 *eP* **P 21 27 01.5 +0.5**
comp=Z,6.7nm,0.7s
KBA Koelnbreinsper 49.05 301 *eP* **P 21 27 01.9 +0.6**
comp=Z,18nm,0.7s
FOO Floro 49.10 322 *eP* **P 21 27 01.6 +0.4**
NRDL Niedersach Rie 49.13 309 *eP* **P 21 27 03.2 +1.6**
comp=Z,85nm,0.8s,baz=70,slow=7.7
CLZ Clausthal 49.19 308 *eP* **P 21 27 03.3 +1.1**
comp=Z,44nm,1.1s,baz=70,slow=7.7
CLZ *ep*P **sP 21 27 09.7 +1.5**
baz=70,slow=7.8
PET Petropavlovsk 49.23 50 *ce*P **P 21 27 02.2 -0.2**
PET pmax pmax
comp=Z,45nm,1.0s
BER Bergen 49.29 320 *eP* **P 21 27 03.9 +1.2**
ASK Askoy 49.33 320 *eP* **P 21 27 04.2 +1.2**
GRA1 Grafenberg Arr 49.43 305 P **P 21 27 05.2 +1.2**
GRF Grafenberg Arr 49.43 305 P **P 21 27 05.2 +1.2**
GRF pmax pmax
comp=Z,100nm,0.8s
GRF MLR MLR
comp=Z,500nm,18.0s
GRF Grafenberg Arr 49.43 305 *eP* **P 21 27 05.7 +1.7**
comp=Z,104nm,0.8s,baz=70,slow=7.7
GRF *ep*P **sP 21 27 12.1 +2.2**
baz=70,slow=7.8
GRF *eL* L 22 05 41.2
comp=Z,318nm,18.0s
GRFO Grafenberg 49.43 305 P **P 21 27 05.3 +1.3**
GRFO pmax pmax
comp=Z,89nm,0.7s
GRFO MLR MLR
comp=Z,500nm,18.0s
GRFO Grafenberg 49.43 305 P **P 21 27 05.3 +1.3**
RETH Rethem/Aller, 49.48 309 *eP* **P 21 27 05.5 +1.2**
comp=Z,57nm,1.3s,baz=70,slow=7.7
RETH *ep*P **sP 21 27 11.9 +1.7**
baz=70,slow=7.8
ZOU Zoufplan 49.48 301 P **P 21 27 04.5 -0.1**
GTTG Gottingen 49.53 308 *eP* **P 21 27 06.1 +1.4**
comp=Z,159nm,0.9s,baz=70,slow=7.7
GTTG *ep*P **sP 21 27 12.5 +1.8**
baz=70,slow=7.8
ABTA Abfaltersbach 49.70 301 *eP* **P 21 27 05.9 -0.3**
comp=Z,5.4nm,0.8s
STAL STALIGIAL 49.76 301 P **P 21 27 06.6 -0.1**
MDSI Maura Dua 49.89 153 P **P 21 27 04.8 -3.0**
comp=Z,1μmcomp=Z,7.0nm,1.1s
FUR Furstenfeldbru 49.95 303 *eP* **P 21 27 09.6 +1.7**
comp=Z,124nm,1.2s,baz=70,slow=7.7
TIP Timpagrande 49.98 290 P **P 21 27 09.2 +0.8**
TIP IAmb IAmb 21 27 11.0
comp=Z,54nm,1.0s
WTTA Wattenberg 50.06 302 *i* P **P 21 27 09.9 +0.9**
comp=Z,88nm,1.1s,SNR=26
WATA Walderalm 50.07 302 *i* P **P 21 27 09.9 +0.8**
comp=Z,72nm,1.3s,SNR=23
NOR Nord 50.12 349 *i* P **P 21 27 08.2 -0.7**
NOR IAmb IAmb 21 27 09.7
comp=Z,28nm,0.7s
LWLI Liwa 50.35 154 P **P 21 27 12.2 +0.8**
comp=Z,76nm,0.6s
SQTA Sankt Quirin 50.35 302 *i* P **P 21 27 11.9 +0.7**
comp=Z,32nm,0.5s,SNR=17
MOTA Moosalm 50.37 302 *i* P **P 21 27 12.0 +0.7**
comp=Z,79nm,1.1s,SNR=21
RETA Reutte 50.52 303 *i* P **P 21 27 13.4 +0.9**
comp=Z,38nm,0.9s,SNR=11
CTI Castel Tesino 50.53 301 P **P 21 27 12.3 -0.2**
CTI pmax pmax
comp=Z,17nm,1.1s
CTI Castel Tesino 50.53 301 P **P 21 27 12.3 -0.2**
IBBN Ibbenburen 50.55 309 *eP* **P 21 27 13.5 +1.0**
comp=Z,73nm,0.8s,baz=70,slow=7.7
IBBN *ep*P **sP 21 27 19.8 +1.4**
baz=70,slow=7.8
DAV Davao City (W) 50.59 122 LR LR 21 50 37.2
comp=Z,475nm,20.2s,baz=332,slow=38
FETA Feichten 50.73 302 *i* P **P 21 27 14.7 +0.6**
comp=Z,49nm,1.2s,SNR=17
TEOL Teolo 50.79 300 P **P 21 27 13.9 -0.4**
TEOL IAmb IAmb 21 27 15.6
comp=Z,62nm,0.9s
UBR Ueberruh 50.86 303 *eP* **P 21 27 16.1 +1.1**
comp=Z,90nm,1.1s,baz=70,slow=7.7
UBR *ep*P **sP 21 27 22.4 +1.5**
baz=70,slow=7.8
AQU L'Aquila 50.90 296 P **P 21 27 16.2 +0.9**
AQU pmax pmax
comp=Z,26nm,0.7s
AQU L'Aquila 50.90 296⇑ *i*P **P 21 27 16.2 +0.9**
AQU L'Aquila 50.90 296 P **P 21 27 16.2 +0.9**
TNS Taunus Mts 50.90 307 *eP* **P 21 27 16.2 +1.0**
comp=Z,31nm,0.8s,baz=70,slow=7.7
KASI Kota Agung 50.97 154 P **P 21 27 12.2 -3.7**
comp=Z,27nm,1.2s
STU Stuttgart 51.00 305 P **P 21 27 16.9 +1.0**
STU pmax pmax
comp=Z,44nm,0.9s
STU MLR MLR
comp=Z,400nm,20.0s
STU Stuttgart 51.00 305 *eP* **P 21 27 16.8 +1.0**
comp=Z,130nm,1.0s,baz=70,slow=7.7
STU *ep*P **sP 21 27 23.3 +1.4**
baz=70,slow=7.8
STU Stuttgart 51.00 305 P **P 21 27 16.9 +1.0**
STU IAmb IAmb 21 27 17.9
comp=Z,44nm,0.9s
MURB Monte Urbino 51.09 297 P **P 21 27 18.3 +1.5**
MURB IAmb IAmb 21 27 19.6
comp=Z,89nm,1.2s
MTKI Muara Teweh, K 51.11 139 P **P 21 27 18.5 +1.4**
BUG Bochum–Univer 51.15 308 *eP* **P 21 27 18.0 +1.1**
comp=Z,56nm,1.1s,baz=70,slow=7.7
DAVA Damuels 51.16 303 *i* P **P 21 27 18.0 +0.7**
comp=Z,20nm,0.8s,SNR=5.1
DAVOX Davos/Dischmat 51.36 302 LR LR 21 51 23.1
comp=Z,392nm,20.4s,baz=63,slow=39
AHRW Bad Neuenahr-A 51.60 307 *eP* **P 21 27 21.6 +1.2**
comp=Z,52nm,1.1s,baz=70,slow=7.7
JMIC Jan Mayen 51.63 335 LR LR 21 52 51.0
comp=Z,348nm,18.5s,baz=88,slow=40
ZCCA Zocca 51.65 299 P **P 21 27 22.4 +1.5**
ZCCA IAmb IAmb 21 27 54.4
comp=Z,209nm,1.9s
BFO Black Forest 51.70 304 P **P 21 27 21.5 +0.3**
BFO pmax pmax
comp=Z,36nm,1.0s
BFO MLR MLR
comp=Z,600nm,18.0s
BFO Black Forest 51.70 304 *eP* **P 21 27 21.9 +0.7**
comp=Z,52nm,1.2s,baz=70,slow=7.7
BFO Black Forest 51.70 304 P **P 21 27 21.5 +0.3**
BFO IAMs_20 IAMs_20 21 52 51.4
comp=Z,595nm,18.0s
TUE Stuetta 51.82 302 P **P 21 27 22.4 +0.1**
TUE IAmb IAmb 21 27 36.8
comp=Z,44nm,0.9s
TUE IAMs_20 IAMs_20 21 50 56.7
comp=Z,1μm,19.0s
OSSC Osservatorio P 51.83 298 P **P 21 27 22.6 +0.4**
FURI Furi 51.84 244 P **P 21 27 24.0 +1.0**
FURI Furi 51.84 244 IAMs_20 IAMs_20 21 53 16.1
comp=Z,510nm,18.0s
VLC Villacollemand 52.12 299 P **P 21 27 25.1 +0.7**
VLC IAmb IAmb 21 27 33.1
comp=Z,116nm,1.3s
BTNL Ternell 52.14 308 P **P 21 27 25.1 +0.7**
comp=Z,15nm,1.2s
DAG Danmarks Havn 52.19 343 *i* P **P 21 27 22.9 -1.5**
DAG IAmb IAmb 21 27 24.8
comp=Z,57nm,0.5s
MEM Membach 52.20 308 P **P 21 27 25.7 +0.8**
comp=Z,13nm,1.1s
BHOU Houvegnez 52.30 308 P **P 21 27 26.3 +0.7**
BEBN Eben Emael 52.32 308 P **P 21 27 25.9 +0.3**
VAE Valguarnera 52.40 290 LR LR 21 54 41.9
comp=Z,106nm,18.6s,baz=72,slow=42

ECH Echery 52.47 305 P **P 21 27 27.1 +0.2**
ECH pmax pmax
comp=Z,30nm,0.9s
ECH MLR MLR
comp=Z,400nm,18.0s
ECH Echery 52.47 305 P **P 21 27 27.1 +0.2**
TOLI2 Tolitoli 52.47 131 P **P 21 27 26.9 -0.2**
BSTI Sart Tilman 52.47 308 P **P 21 27 28.0 +1.2**
WLF Walferdange 52.49 307 P **P 21 27 27.8 +0.8**
WLF pmax pmax
comp=Z,36nm,1.0s
WLF Walferdange 52.49 307 *eP* **P 21 27 28.3 +1.3**
comp=Z,41nm,1.0s,baz=70,slow=7.7
WLF Walferdange 52.49 307 P **P 21 27 27.8 +0.8**
WLF Walferdange 52.49 307 P **P 21 27 28.3 +1.3**
comp=Z,21nm,1.1s
RAFF Raffo Rosso 52.56 289 P **P 21 27 28.7 +1.1**
RAFF IAmb IAmb 21 27 48.6
comp=Z,94nm,1.2s
MPSI Mapaga 52.62 133 P **P 21 27 29.3 +1.0**
comp=Z,38nm,1.0s
BCLA Clavier 52.69 308 P **P 21 27 28.3 -0.1**
comp=Z,17nm,1.0s
BGES Gesves 52.83 308 P **P 21 27 30.4 +0.9**
comp=Z,15nm,1.1s
RCHB Rochefort 52.84 308 P **P 21 27 30.4 +0.9**
comp=Z,13nm,1.0s
BMRD Maredsous 53.05 308 P **P 21 27 31.7 +0.6**
comp=Z,17nm,1.2s
SENIN Lac Senin/Sane 53.15 303 P **P 21 27 31.9 -0.3**
DOU Dourbes 53.23 308 P **P 21 27 33.1 +0.7**
comp=Z,19nm,1.1s
LEM Lembang 53.27 150 LR LR 21 52 36.1
comp=Z,200nm,18.0s,baz=339,slow=39
BBKI Banjar Baru 53.28 141 P **P 21 27 34.0 +0.8**
comp=Z,43nm,0.9s
DBG Daneborg 53.60 341 *i* P **P 21 27 34.2 -0.5**
DBG IAmb IAmb 21 27 35.5
comp=Z,19nm,0.7s
MRSI Marisa 53.64 130 P **P 21 27 37.3 +1.5**
comp=Z,560nmcomp=Z,34nm,1.1s
KBKI Kotabaru 53.77 139 P **P 21 27 37.6 +0.8**
comp=Z,59nm,0.9s
BNI Bardonecchia 54.11 301 P **P 21 27 39.5 +0.3**
BNI pmax pmax
comp=Z,60nm,1.0s
BNI Bardonecchia 54.11 301 P **P 21 27 39.5 +0.3**
BNI IAmb IAmb 21 27 46.0
comp=Z,60nm,1.0s
GTOI Gorontalo 54.12 129 P **P 21 27 38.4 -0.9**
comp=Z,269nmcomp=Z,29nm,1.1s
MLA1 Latheron 54.19 319 *eP* **P 21 27 40.1 +0.8**
BIGH Upper Bighouse 54.37 320 *eP* **P 21 27 41.5 +0.9**
BIGH IAmb IAmb 21 27 41.8
comp=Z,67nm,0.7s
WACR West Acre 54.41 312 *eP* **P 21 27 41.8 +0.8**
WACR IAmb IAmb 21 27 43.0
comp=Z,232nm,1.0s
MCD Coleburn Disti 54.43 319 *eP* **P 21 27 41.6 +0.5**
ELMS Elmsett, Ipswi 54.47 311 *eP* **P 21 27 42.3 +0.8**
EDU Dundee 54.73 317 *eP* **P 21 27 43.7 +0.4**
ESY Stoneypath 54.80 317 *eP* **P 21 27 43.4 -0.4**
EDMD Edmundbyers 54.92 315 *eP* **P 21 27 44.8 +0.1**
EDMD IAmb IAmb 21 27 46.2
comp=Z,101nm,1.3s
MDO Dochfour 55.03 319 *eP* **P 21 27 45.8 +0.4**
EBL Broad Law 55.08 317 *eP* **P 21 27 46.2 +0.4**
EDI Edinburgh 55.08 317 *eP* **P 21 27 46.0 +0.1**
EDI IAmb IAmb 21 27 46.5
comp=Z,62nm,0.9s
HPK Haverah Park 55.11 314 *eP* **P 21 27 46.5 +0.4**
HPK IAmb IAmb 21 27 47.3
comp=Z,81nm,0.9s
INVG Invergeldie, C 55.30 318 *eP* **P 21 27 47.6 +0.2**
EKA Eskdalemuir Ar 55.32 316 LR LR 21 53 25.5
comp=Z,728nm,18.4s,baz=64,slow=38
LUWI Luwuk 55.35 131 P **P 21 27 48.2 -0.1**
LUWI IAmb IAmb 21 28 07.5
comp=Z,61nm,0.9s
ESK Eskdalemuir 55.35 316 *eP* **P 21 27 48.0 +0.2**
ESK IAmb IAmb 21 27 49.0
comp=Z,68nm,1.1s
ESK Eskdalemuir 55.35 316 P **P 21 27 48.1 +0.2**
ESK pmax pmax
comp=Z,58nm,1.0s
ESK Eskdalemuir 55.35 316 P **P 21 27 48.0 +0.2**
ESK IAmb IAmb 21 27 49.8
comp=Z,58nm,0.9s
SSB Saint Sauveur 55.36 302 P **P 21 27 48.2 +0.1**
SSB pmax pmax
comp=Z,21nm,1.0s
SSB Saint Sauveur 55.36 302 P **P 21 27 48.2 +0.1**
TTSI Tana Toraja 55.41 135 P **P 21 27 48.9 +0.2**
comp=Z,48nm,1.0s
CLF Chambon-Foret 55.51 306 P **P 21 27 49.6 +0.5**
CLF IAmb IAmb 21 27 50.8
comp=Z,120nm,1.1s
KESW Keswick, Cumbr 55.62 315 *eP* **P 21 27 49.8 0.0**
KESW IAmb IAmb 21 27 51.7
comp=Z,195nm,1.5s
KPL Plockton 55.70 319 *eP* **P 21 27 50.1 -0.1**
KPL IAmb IAmb 21 27 50.9
comp=Z,31nm,0.7s
SCO Scoresbysund 55.89 337 P **P 21 27 52.5 +1.1**
SCO pmax pmax
comp=Z,18nm,0.7s
SCO Scoresbysund 55.89 337 P **P 21 27 52.5 +1.1**
LEWI Lewis, Hebride 55.94 320 *eP* **P 21 27 52.4 +0.5**
LEWI IAmb IAmb 21 27 53.5
comp=Z,46nm,0.7s
NEWG New Galloway 55.97 316 *eP* **P 21 27 52.7 +0.5**
NEWG IAmb IAmb 21 27 53.5
comp=Z,29nm,0.7s
SPSI Sidrap Palu 56.16 136 P **P 21 27 54.1 0.0**
comp=Z,42nm,1.0s
SWN1 Swindon 56.28 311 *eP* **P 21 27 55.7 +1.2**
SWN1 IAmb IAmb 21 27 56.9
comp=Z,86nm,1.1s
GAL1 Galloway 56.33 316 *eP* **P 21 27 55.3 +0.5**
GAL1 IAmb IAmb 21 27 56.1
comp=Z,73nm,1.1s
STRD Stroud 56.37 312 *eP* **P 21 27 55.4 +0.3**
STRD IAmb IAmb 21 27 56.2
comp=Z,92nm,1.0s
TNTI Ternate 56.59 125 P **P 21 27 57.0 -0.2**
TNTI IAmb IAmb 21 28 36.3
comp=Z,27nm,0.7s
WIM Isle of Man 56.64 315 *eP* **P 21 27 57.4 +0.3**
LLW Llanuwychllyn 56.70 314 *eP* **P 21 27 58.0 +0.5**
MCH1 Michaelchurch 56.73 312 *eP* **P 21 27 57.9 +0.2**
MCH1 IAmb IAmb 21 27 58.9
comp=Z,125nm,1.1s
WME Myndd Eilian 56.79 314 *eP* **P 21 27 58.5 +0.5**
KEST Kesra 56.80 290 P **P 21 27 59.2 +0.6**
comp=Z,17nm,0.9s,baz=332,slow=1.3,SNR=17
KEST LR LR 21 56 52.4
comp=Z,134nm,18.3s,baz=301,slow=41
KEST Kesra 56.80 290 P **P 21 27 59.0 +0.3**
CLGH Cloghs, Cushen 56.95 317 *eP* **P 21 27 59.5 +0.2**
YRC Rhoscolyn 57.00 314 *eP* **P 21 28 00.1 +0.6**
KAPI Kappang 57.04 136 LR LR 21 54 15.3
comp=Z,154nm,22.0s,baz=320,slow=38
KAPI Kappang 57.04 136 P **P 21 27 59.6 -0.7**
KAPI pmax pmax
comp=Z,16nm,1.0s
KAPI Kappang 57.04 136 P **P 21 27 59.6 -0.7**
JAGI Jajag, Banyuwa 57.39 144 P **P 21 28 01.4 -1.4**
BKSI Bulukumba 57.50 136 P **P 21 28 03.8 +0.3**
comp=Z,31nm,1.1s
NEEM North Greenlan 57.50 349 *i* P **P 21 28 01.9 -1.3**
SRBI Singaraja 57.52 143 P **P 21 28 03.4 -0.3**
comp=Z,37nm,1.1s
ILTH Belurgan, Co L 57.56 316 *eP* **P 21 28 03.1 -0.4**
LBMI Labuha 57.79 126 P **P 21 28 05.9 +0.3**
comp=Z,516nmcomp=Z,37nm,1.0s
SHEM Shemya Is, Ala 57.90 46 LR LR 21 54 23.9
comp=Z,690nm,20.0s,baz=302,slow=38
SMY Shemya 57.90 46 P **P 21 28 04.7 -1.3**
SMY pmax pmax
comp=Z,313nm,1.2s
SMY Shemya 57.90 46 P **P 21 28 04.7 -1.3**
EUNU Eureka 57.91 358 P **P 21 28 06.0 +0.2**
EUNU IAmb IAmb 21 28 07.4
comp=Z,39nm,1.1s
SANI Sanana 58.02 128 P **P 21 28 06.4 -0.8**

comp=Z,760nmcomp=Z,51nm,1.2s
LODK Lodwar 58.09 242 P P 21 28 08.7 +0.8
SNR=6.3
LODK Lodwar 58.09 242 P P 21 28 08.4 +0.5
IWEX Carrickbyrne, 58.59 314 *eP* **P 21 28 11.7 +0.9**
GAMB Gambell 58.77 30 P P 21 28 11.5 -0.3
GAMB IAMs_20 IAMs_20 21 55 03.0
comp=Z,866nm,19.0s
GAMB Gambell 58.77 30 P P 21 28 12.0 +0.2
baz=302
SUMG Summit 58.86 343 P P 21 28 13.7 +0.8
SUMG pmax pmax
comp=Z,61nm,1.1s
SUMG Summit 58.86 343 *i* **P P 21 28 12.1 -0.8**
SUMG IAmb IAmb 21 28 14.3
comp=Z,14nm,0.6s
SUMG Summit 58.86 343 P P 21 28 13.7 +0.8
SUMG IAmb IAmb 21 28 14.8
comp=Z,61nm,1.1s
A21K Barrow 58.92 19 P P 21 28 12.8 +0.1
A21K IAmb IAmb 21 28 13.4
comp=Z,57nm,0.7s
A21K IAMs_20 IAMs_20 21 58 23.1
comp=Z,846nm,18.0s
A21K Barrow 58.92 19 P P 21 28 12.7 -0.1
baz=311
BBSI Bau Bau 58.92 134 P P 21 28 22.4 +8.9
TNA Tin City 59.13 27 P P 21 28 14.7 +0.4
TNA IAmb IAmb 21 28 16.2
comp=Z,58nm,1.0s
TNA Tin City 59.13 27 P P 21 28 14.9 +0.6
baz=304,SNR=33
RDOG Red Dog Mine 59.27 24 P P 21 28 25.8 +10
baz=307
SOEG Soedalen 59.94 337 *i* **P P 21 28 19.4 -0.4**
SOEG IAmb IAmb 21 28 21.4
comp=Z,33nm,0.5s
SWI Sorong 60.28 122 P P 21 28 26.4 +3.5
comp=Z,19nm,1.0s
SIJI Sorong 60.29 122 P P 21 28 22.4 -0.6
comp=Z,13nm,0.9s,baz=342,slow=11,SNR=9.6
TULEG Thule 60.32 353 *i* **P P 21 28 20.5 -1.9**
TULEG Thule 60.32 353 P P 21 28 21.7 -0.6
TULEG IAmb IAmb 21 28 31.2
comp=Z,22nm,0.9s
TULEG IAMs_20 IAMs_20 21 58 09.1
comp=Z,1μm,18.0s
KMBO Kilima Mbogo 60.34 237 P P 21 28 24.6 +1.0
comp=Z,3.1nm,0.9s,baz=33,slow=11,SNR=7.8
KMBO Kilima Mbogo 60.34 237 P P 21 28 24.3 +0.6
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO MLR MLR
comp=Z,400nm,18.0s
KMBO Kilima Mbogo 60.34 237 P P 21 28 24.3 +0.6
ANM Nome 60.59 28 P P 21 28 25.2 +0.8
ANM pmax pmax
comp=Z,82nm,1.1s
ANM Nome 60.59 28 P P 21 28 25.2 +0.8
ANM IAmb IAmb 21 28 26.7
comp=Z,82nm,1.1s
ANM Nome 60.59 28 P P 21 28 25.5 +1.0
baz=307
AAI Ambon 60.63 127 P P 21 28 29.0 +3.7
KIBK Kibwezi 60.80 236 P P 21 28 26.6 0.0
WBSI Waikabubak, Su 60.84 139 P P 21 28 24.8 -1.9
comp=Z,628nmcomp=Z,49nm,0.9s
EDFI Ende, Flores 61.22 137 P P 21 28 27.8 -1.6
MMRI Maumere 61.40 136 P P 21 28 28.6 -1.9
comp=Z,49nm,1.0s
MMRI Maumere 61.40 136 P P 21 28 28.2 -2.3
MMRI IAmb IAmb 21 28 29.3
comp=Z,69nm,1.2s
ICESG Greenland Ices 61.58 340 *i* **P P 21 28 30.6 -0.9**
UPNV Upernavik 62.08 348 *i* **P P 21 28 33.8 -0.5**
FAKI Fak Fak 62.49 123 P P 21 28 37.6 -0.3
comp=Z,633nmcomp=Z,52nm,1.1s
FAKI Fak Fak 62.49 123 P P 21 28 37.0 -0.8
FAKI IAmb IAmb 21 28 38.5
comp=Z,58nm,1.1s
CART Cartagena 62.85 297 P P 21 28 40.2 +0.1
CART IAmb IAmb 21 28 41.2
comp=Z,37nm,1.1s
GCSA Galena City Sc 63.27 25 P P 21 28 43.0 +0.7
baz=313,SNR=7.9
IMAR Indian Mountai 63.34 23 P P 21 28 42.6 -0.3
SOEI Soe 63.41 135 P P 21 28 48.4 +4.4
comp=Z,47nm,1.3s
SOEI Soe 63.41 135 P P 21 28 42.8 -1.2
SOEI IAmb IAmb 21 28 58.0
comp=Z,40nm,1.0s
COLD Coldfoot 63.42 21 P P 21 28 43.4 0.0
COLD Coldfoot 63.42 21 P P 21 28 43.6 +0.3
baz=318,SNR=60
RES Resolute Bay 63.43 360 LR LR 22 00 21.9
comp=Z,392nm,18.0s,baz=295,slow=40
RES Resolute Bay 63.43 360 P P 21 28 43.0 -0.3
RES pmax pmax
comp=Z,40nm,1.5s
RES Resolute Bay 63.43 360 P P 21 28 43.0 -0.3
RES IAmb IAmb 21 28 44.4
comp=Z,40nm,1.4s
BATI Baumata 63.47 136 P P 21 28 44.0 -0.3
comp=Z,22nm,1.2s
ANGG Ammassalik, Gr 63.51 337 *i* **P P 21 28 42.8 -1.1**
ANGG IAmb IAmb 21 28 44.3
comp=Z,14nm,0.6s
ANGG Ammassalik, Gr 63.51 337 P P 21 28 44.1 +0.1
ANGG IAmb IAmb 21 28 54.8
comp=Z,34nm,1.1s
ESBB Sonseca Array 63.62 301 P P 21 28 45.6 +0.4
ESBB IAmb IAmb 21 28 46.2
comp=Z,19nm,0.8s
ESDC Sonseca Array 63.62 301 P P 21 28 45.6 +0.4
comp=Z,20nm,1.0s,baz=54,slow=6.7,SNR=83
ESDC LR LR 21 58 16.6
comp=Z,195nm,19.3s,baz=48,slow=38
ESDC Sonseca Array 63.62 301 P P 21 28 45.6 +0.4
SBV Sambava 63.69 218 P P 21 28 48.6 +2.9
H21K Melozitna Rive 63.85 23 P P 21 28 46.5 +0.2
baz=316
PAB San Pablo 63.94 301 P P 21 28 47.6 +0.2
PAB pmax pmax
comp=Z,23nm,1.0s
PAB San Pablo 63.94 301 P P 21 28 47.6 +0.2
PAB IAmb IAmb 21 29 00.8
comp=Z,23nm,1.0s
PAB San Pablo 63.94 301 P P 21 28 47.7 +0.3
ILULI Ilulissat 64.13 344 P P 21 28 47.9 0.0
ILULI pmax pmax
comp=Z,118nm,1.1s
ILULI Ilulissat 64.13 344 *i* **P P 21 28 46.0 -2.0**
ILULI Ilulissat 64.13 344 P P 21 28 47.9 0.0
MBAR Mbarara 64.14 243 LR LR 21 59 32.4
comp=Z,230nm,18.2s,baz=23,slow=39
MBAR Mbarara 64.14 243 P P 21 28 49.2 +0.1
MBAR pmax pmax
comp=Z,13nm,0.8s
MBAR MLR MLR
comp=Z,300nm,20.0s
MBAR Mbarara 64.14 243 P P 21 28 49.2 +0.1
PBRG Braganca 64.17 304 *eP* **P 21 28 49.5 +0.7**
A36M Sachs Harbour 64.26 10 P P 21 28 48.8 -0.1
A36M Sachs Harbour 64.26 10 P P 21 28 48.8 -0.1
baz=336
I21K Tanana 64.44 23 IAMs_20 IAMs_20 22 00 13.9
comp=Z,1μm,21.0s
I21K Tanana 64.44 23 P P 21 28 50.6 +0.5
baz=317
J20K Nowinta River 64.52 24 IAMs_20 IAMs_20 21 59 11.1
comp=Z,998nm,20.0s
J20K Nowinta River 64.52 24 P P 21 28 51.4 +0.8
baz=316
BMAR Burnt Mountain 64.67 19 P P 21 28 52.0 +0.3
MVO Moncorvo 64.72 303 *eP* **P 21 28 53.6 +1.2**
TTA Tatalina 64.81 26 P P 21 28 53.1 +0.4
baz=314,SNR=8.8
PCAB Cabril 65.02 304 *eP* **P 21 28 55.5 +1.2**
comp=Z,113nm,2.2s
PGAV Gavieira, Arco 65.02 305 *eP* **P 21 28 55.6 +1.2**
POLO Lamas de Olo 65.07 304 *eP* **P 21 28 55.3 +0.6**
PVRL Vila Real 65.08 304 *eP* **P 21 28 55.8 +1.1**
H24K Noodor Dome 65.08 21 P P 21 28 54.5 +0.1
H24K IAmb IAmb 21 28 55.4
comp=Z,26nm,0.7s
H24K Noodor Dome 65.08 21 P P 21 28 54.8 +0.5
baz=320
K20K Telida 65.13 25 IAMs_20 IAMs_20 21 59 52.3
comp=Z,1μm,18.0s
K20K Telida 65.13 25 P P 21 28 55.5 +0.8
baz=316,SNR=34
FYU Fort Yukon 65.19 20 P P 21 28 55.5 +0.6
I23K Minto, Yukon-K 65.20 22 P P 21 28 55.5 +0.5
baz=319,SNR=50
DY2G Dye2 65.21 340 *i* **P P 21 28 55.0 -0.4**
CHUM Lake Minchumin 65.29 24 P P 21 28 56.5 +0.8
baz=317,SNR=32
MTE Manteigas 65.47 303 *eP* **P 21 28 58.5 +1.2**
MTE Manteigas 65.47 303 P P 21 28 58.2 +0.8
MTE IAmb IAmb 21 28 59.4
comp=Z,37nm,1.0s
PVIS Viseu 65.51 303 *eP* **P 21 28 58.6 +1.0**
BPAW Bear Paw Mtn. 65.52 23 P P 21 28 57.1 -0.1
BPAW Bear Paw Mtn. 65.52 23 P P 21 28 57.3 +0.1
baz=318,SNR=52
MDM Murphy Dome 65.66 22 P P 21 28 58.1 0.0
MDM IAmb IAmb 21 28 59.2
comp=Z,40nm,0.8s
MDM IAMs_20 IAMs_20 22 00 48.2
comp=Z,1μm,20.0s
CAST Castle Rocks 65.70 24 P P 21 28 58.8 +0.5
baz=317,SNR=41
NEA2 Nenana 65.70 22 P P 21 28 58.2 -0.1
NEA2 IAmb IAmb 21 28 59.5
comp=Z,50nm,0.8s
NEA2 IAMs_20 IAMs_20 22 00 29.5
comp=Z,957nm,20.0s
NEA2 Nenana 65.70 22 P P 21 28 58.3 -0.1
baz=319,SNR=47
L19K White Mountain 65.72 26 P P 21 28 59.4 +0.9
L19K IAmb IAmb 21 29 00.6
comp=Z,47nm,1.0s
L19K White Mountain 65.72 26 P P 21 28 59.4 +0.9
baz=316,SNR=23
JBK JBK 65.74 295 P P 21 29 00.2 +0.9
POKR Poker Plat Res 65.75 21 P P 21 28 59.2 +0.5
baz=320,SNR=25
PCBR Castelo Branco 65.75 302 *eP* **P 21 29 00.2 +1.1**
L20K Farewell, AK 65.83 26 P P 21 28 59.9 +0.7
baz=316
TCOL CIGO, UAF Yank 65.83 22 IAMs_20 IAMs_20 22 00 53.7
comp=Z,1μm,21.0s
TCOL CIGO, UAF Yank 65.83 22 P P 21 28 59.3 +0.2
baz=320,SNR=16
COLA College 65.83 22 P P 21 28 59.1 0.0
COLA pmax pmax
comp=Z,91nm,0.8s
COLA MLR MLR
comp=Z,1μm,19.0s
COLA College 65.83 22 P P 21 28 59.1 0.0
COLA College 65.83 22 IAMs_20 IAMs_20 22 01 02.7
comp=Z,1μm,19.0s
COLA College 65.83 22 P P 21 28 59.3 +0.2
baz=320
SFJD Kangerlussuaq 65.83 342 LR LR 22 02 28.1
comp=Z,612nm,18.1s,baz=38,slow=40
SFJD Kangerlussuaq 65.83 342 P P 21 28 59.1 0.0
SFJD pmax pmax
comp=Z,44nm,0.8s
SFJD Kangerlussuaq 65.83 342 *i* **P P 21 28 57.7 -1.4**
SFJD Kangerlussuaq 65.83 342 P P 21 28 59.1 0.0
SFJD IAmb IAmb 21 28 59.8
comp=Z,44nm,0.8s
SAUI Saumlaki 65.90 127 P P 21 29 01.1 +0.9
comp=Z,5μmcomp=Z,258nm,1.1s
SAUI Saumlaki 65.90 127 P P 21 29 00.3 +0.1
BWN Browne 65.91 23 IAMs_20 IAMs_20 22 00 15.2
comp=Z,734nm,20.0s
PMRV Marv??o 65.94 302 *eP* **P 21 29 01.0 +0.7**
comp=Z,55nm,1.4s
SMPI Sarmi 65.94 117 P P 21 29 01.9 +1.4
comp=Z,25nm,1.3s
PRP Porcupine Dome 65.95 20 IAmb IAmb 21 29 01.6
comp=Z,53nm,0.9s
PRP Porcupine Dome 65.95 20 P P 21 29 00.5 +0.4
baz=322,SNR=18
CCB Clear Creek Bu 66.02 22 IAmb IAmb 21 29 01.1
comp=Z,95nm,1.3s
PPLA Purkeypile 66.05 25 P P 21 29 01.3 +0.5
baz=317,SNR=36
WRH Wood River Hil 66.07 22 IAmb IAmb 21 29 01.3
comp=Z,60nm,1.2s
COI Coimbra 66.12 303 *eP* **P 21 29 02.9 +1.5**
TDRA Tendrara 66.13 294 P P 21 29 03.1 +1.3
FIGM Figuig 66.14 292 P P 21 29 02.0 +0.2
IL31 66.17 21 P P 21 29 00.7 -0.6
IL31 IAmb IAmb 21 29 01.8
comp=Z,50nm,0.8s
ILAR Eielson Array 66.17 21 P P 21 29 00.7 -0.6
comp=Z,42nm,0.8s,baz=313,slow=5.1,SNR=366
ILAR LR LR 22 01 57.9
comp=Z,1μm,18.4s,baz=324,slow=40
TRF Thorofare Moun 66.22 24 IAmb IAmb 21 29 03.6
comp=Z,42nm,1.0s
TRF Thorofare Moun 66.22 24 P P 21 29 01.4 -0.4
baz=319,SNR=10
PCAS Casmilo, Conde 66.27 303 *eP* **P 21 29 02.6 +0.2**
INK Inuvik 66.28 14 P P 21 29 02.0 +0.1
comp=Z,37nm,0.8s,baz=344,slow=7.8,SNR=107
INK Inuvik 66.28 14 IAmb IAmb 21 29 03.2
comp=Z,63nm,1.0s
INK Inuvik 66.28 14 P P 21 29 02.2 +0.2
baz=330,SNR=37
PESTR Estremoz 66.39 302 *eP* **P 21 29 04.4 +1.2**
comp=Z,37nm,1.3s
PESTR Estremoz 66.39 302 P P 21 29 03.5 +0.3
MCK McKinley 66.40 23 IAMs_20 IAMs_20 22 01 25.8
comp=Z,1μm,21.0s
MCK McKinley 66.40 23 P P 21 29 03.1 +0.2
baz=320,SNR=20
HDA Harding Lake 66.44 22 P P 21 29 01.9 -1.1
baz=321,SNR=21
PMTG Montargil 66.67 302 *eP* **P 21 29 05.5 +0.5**
comp=Z,30nm,2.1s
PSBE So Bento 66.77 303 *eP* **P 21 29 07.7 +2.1**
SMIR Smir Dam 66.83 298 P P 21 29 07.0 +0.9
EVO Evora 66.86 302 *eP* **P 21 29 06.7 +0.5**
comp=Z,31nm,2.1s
C36M Paulatuk 66.86 11 P P 21 29 05.0 -0.6
C36M Paulatuk 66.86 11 P P 21 29 05.1 -0.6
baz=337,SNR=107
UNV Unalaska Valle 66.87 37 P P 21 29 06.4 +0.4
baz=310
CUT Chulitna 67.01 24 P P 21 29 06.2 -0.6
CUT IAMs_20 IAMs_20 22 01 13.1
comp=Z,1μm,20.0s
CUT Chulitna 67.01 24 P P 21 29 06.1 -0.7
baz=319,SNR=8.6
PBEJ Beja 67.06 301 *eP* **P 21 29 08.4 +0.9**
comp=Z,35nm,1.4s
CHEFC Chefchaouen 67.14 297 P P 21 29 08.1 0.0
J26L Joseph Creek 67.26 20 P P 21 29 08.2 -0.2
J26L Joseph Creek 67.26 20 P P 21 29 08.2 -0.2
baz=323
O18K Koktuh Hills 67.28 28 P P 21 29 09.8 +1.3
baz=316
PVAQ Vaqueiros 67.33 300 *eP* **P 21 29 10.1 +0.9**
comp=Z,44nm,1.4s
PVAQ Vaqueiros 67.33 300 P P 21 29 09.7 +0.5
PVAQ IAmb IAmb 21 29 16.9
comp=Z,48nm,1.6s
O19K Port Alsworth 67.34 27 P P 21 29 09.9 +1.1
baz=317,SNR=26
DHY Denali Highway 67.36 23 P P 21 29 08.5 -0.7
DHY IAMs_20 IAMs_20 22 03 19.1
comp=Z,850nm,18.0s
DHY Denali Highway 67.36 23 P P 21 29 08.4 -0.7
baz=321,SNR=63
GENI Genyem 67.36 116 P P 21 29 11.1 +1.5
comp=Z,57nm,0.8s
MESJ Messejana 67.40 301 *eP* **P 21 29 10.4 +0.8**
MESJ IAmb IAmb 21 29 10.9
comp=Z,20nm,0.8s
MESJ Messejana 67.40 301 *eP* **P 21 29 10.4 +0.8**
MESJ iAmb 21 29 10.9
MESJ Messejana 67.40 301 *eP* **P 21 29 10.4 +0.8**
PCVE Castro Verde 67.40 301 *eP* **P 21 29 10.6 +0.9**
comp=Z,31nm,1.3s
PMAFR Mafra 67.41 303 *eP* **P 21 29 10.7 +1.0**
PNCL Nicolau / Gran 67.43 301 *eP* **P 21 29 11.0 +1.2**
comp=Z,36nm,1.5s
RIDG Independent Ri 67.53 21 P P 21 29 09.6 -0.5
RIDG Independent Ri 67.53 21 P P 21 29 09.5 -0.7
baz=323,SNR=34
PBDV Barranco-do-Ve 67.57 300 *eP* **P 21 29 11.8 +1.1**
SCRK Sand Creek 67.58 21 P P 21 29 09.8 -0.7
SCRK Sand Creek 67.58 21 P P 21 29 10.2 -0.3
baz=323,SNR=75
P18K Big Mountain, 67.61 28 IAMs_20 IAMs_20 22 01 31.8
comp=Z,922nm,20.0s
P18K Big Mountain, 67.61 28 P P 21 29 11.6 +1.0
baz=316
WAT6 Susitna Watana 67.63 23 P P 21 29 10.1 -0.8
baz=321,SNR=41
EGAK Eagle 67.64 19 P P 21 29 10.5 -0.2
EGAK IAmb IAmb 21 29 11.7
comp=Z,86nm,1.1s
EGAK Eagle 67.64 19 P P 21 29 10.6 -0.1
baz=325,SNR=47
JAY Jayapura 67.66 116 LR LR 21 57 24.7
comp=Z,170nm,21.6s,baz=134,slow=35
LCRM LCR 67.66 296 P P 21 29 12.0 +0.5
RSO Redoubt South 67.67 27 P P 21 29 11.3 +0.1
I29M Ogilvie Camp, 67.83 18 P P 21 29 11.0 -0.9
I29M IAmb IAmb 21 29 12.3
comp=Z,41nm,0.8s
I29M Ogilvie Camp, 67.83 18 P P 21 29 11.3 -0.6
baz=327,SNR=37
PTEO Sao Teotonio 67.89 301 *eP* **P 21 29 13.8 +1.1**
comp=Z,63nm,1.8s
GHO Glory Hole Cre 67.91 24 P P 21 29 12.0 -0.5
GHO IAmb IAmb 21 29 13.5
comp=Z,72nm,1.0s
CAPN Captain Cook N 67.97 26 P P 21 29 13.0 +0.2
baz=319
PAX Paxson 67.98 22 P P 21 29 12.3 -0.7
PAX pmax pmax
comp=Z,203nm,1.6s
PAX Paxson 67.98 22 P P 21 29 12.3 -0.7
PAX Paxson 67.98 22 P P 21 29 12.5 -0.5
baz=322,SNR=46
PMR Palmer 67.98 24 P P 21 29 12.4 -0.4
PMR Palmer 67.98 24 P P 21 29 12.4 -0.4
PMR IAmb IAmb 21 29 13.5
comp=Z,64nm,1.2s
PMR Palmer 67.98 24 P P 21 29 12.4 -0.4
baz=320,SNR=14
MORF Marmelete 67.99 301 *eP* **P 21 29 14.6 +1.2**
O20K Slope Mountain 68.00 27 P P 21 29 13.2 0.0
baz=318
MDT Midelt 68.01 295 P P 21 29 14.7 +1.0
SML Sawmill 68.06 24 IAMs_20 IAMs_20 22 01 55.7
comp=Z,1μm,19.0s
SML Sawmill 68.06 24 P P 21 29 13.2 -0.3
baz=320,SNR=36
RC01 Rabbit Creek A 68.18 25 P P 21 29 13.4 -0.7
RC01 Rabbit Creek A 68.18 25 P P 21 29 13.8 -0.3
baz=320,SNR=19
PFVI Vila Bisbo 68.20 301 *eP* **P 21 29 15.8 +1.1**
KNK Knik Glacier 68.33 24 P P 21 29 15.0 -0.1
KNK Knik Glacier 68.33 24 P P 21 29 15.2 +0.1
baz=320,SNR=17
SCM Sheep Creek Mo 68.34 24 P P 21 29 15.2 -0.1
baz=321,SNR=41
M24K Tolsona, Glenn 68.46 23 P P 21 29 16.4 +0.4
baz=322,SNR=38
MENT Mentasta 68.48 21 P P 21 29 15.9 -0.2
MENT IAmb IAmb 21 29 16.8
comp=Z,29nm,1.0s
Q19K Cape Douglas, 68.50 28 P P 21 29 15.8 -0.5
Q19K Cape Douglas, 68.50 28 P P 21 29 15.6 -0.7
baz=317
L26K Log Cabin Wild 68.51 21 P P 21 29 16.1 -0.1
L26K IAmb IAmb 21 29 17.4
comp=Z,50nm,1.1s
L26K Log Cabin Wild 68.51 21 P P 21 29 16.1 -0.1
baz=324,SNR=26
HARP HAARP 68.52 22 P P 21 29 16.8 +0.5
baz=323,SNR=26
J29M Klondike Camp 68.62 18 P P 21 29 16.7 -0.2
J29M IAmb IAmb 21 29 18.0
comp=Z,55nm,0.9s
J29M Klondike Camp 68.62 18 P P 21 29 16.8 -0.2
baz=327,SNR=13
CHGN Chignik 68.63 32 P P 21 29 15.7 -1.3
baz=315
DAWY Dawson 68.67 19 P P 21 29 16.6 -0.6
DAWY IAmb IAmb 21 29 18.0
comp=Z,100nm,1.4s
DAWY Dawson 68.67 19 P P 21 29 16.9 -0.3
baz=327,SNR=40
PWL Port Wells 68.79 25 IAmb IAmb 21 29 18.7
comp=Z,42nm,0.9s
PWL IAMs_20 IAMs_20 22 02 10.1
comp=Z,1μm,19.0s
PWL Port Wells 68.79 25 P P 21 29 17.7 -0.3
baz=321,SNR=11
BRSE Bradley Lake S 68.88 26 P P 21 29 18.0 -0.6
baz=319
L27K Beaver Creek, 68.89 21 P P 21 29 19.3 +0.7
baz=325
BCAR Beaver Creek A 68.89 21 P P 21 29 19.0 +0.3
KLU Klutina 69.02 23 IAMs_20 IAMs_20 22 03 05.2
comp=Z,1μm,19.0s
KLU Klutina 69.02 23 P P 21 29 19.7 +0.2
baz=322,SNR=15
SEW Seward 69.03 26 P P 21 29 19.0 -0.4
baz=320
M26K Nabesna, AK 69.12 21 P P 21 29 20.6 +0.6
baz=324
GLI Glacier Island 69.16 24 P P 21 29 20.0 -0.3
baz=322
CHNA Chernabura Isl 69.19 34 P P 21 29 19.4 -1.1
baz=314
N25K Chitina, Valde 69.31 23 P P 21 29 21.9 +0.5
baz=323,SNR=53
DIV Divide 69.36 23 IAmb IAmb 21 29 22.5
comp=Z,88nm,1.7s
M27K Edge Creek, AK 69.45 21 IAMs_20 IAMs_20 22 03 40.6
comp=Z,981nm,21.0s
M27K Edge Creek, AK 69.45 21 P P 21 29 23.1 +0.9
baz=325
BVCY Beaver Creek 69.67 21 P P 21 29 24.2 +0.8
baz=326,SNR=9.9
MTN Manton Dam 69.71 131 P P 21 29 23.0 -1.1
KDAK Kodiak Island 69.73 29 LR LR 22 03 48.3
comp=Z,460nm,18.8s,baz=326,slow=39
KDAK Kodiak Island 69.73 29 P P 21 29 24.0 +0.2
KDAK pmax pmax
comp=Z,61nm,0.7s
KDAK Kodiak Island 69.73 29 P P 21 29 24.0 +0.2
KDAK Kodiak Island 69.73 29 P P 21 29 24.0 +0.2
baz=318
ABPO Ambohimpanom 69.78 217 P P 21 29 25.1 +0.3
ABPO pmax pmax
comp=Z,11nm,0.9s
ABPO Ambohimpanom 69.78 217 P P 21 29 25.1 +0.3
EYAK Cordova Ski Ar 69.83 24 P P 21 29 24.8 +0.5
baz=323,SNR=6.0
BMRM Bremner River 69.83 23 IAmb IAmb 21 29 25.8
comp=Z,61nm,1.0s
BMRM Bremner River 69.83 23 P P 21 29 24.7 +0.2
baz=323,SNR=15
MAYO Mayo, Yukon 69.89 18 P P 21 29 24.8 +0.1
baz=329
TZRR Tazzarine 69.89 294 P P 21 29 26.0 +0.6
OHAK Old Harbor 69.90 29 P P 21 29 25.3 +0.5
OHAK Old Harbor 69.90 29 P P 21 29 25.3 +0.5
baz=318
IVI Ivigtut 69.94 338 *i* **P P 21 29 24.8 -0.2**
IVI Ivigtut 69.94 338 P P 21 29 24.9 -0.1
IVI IAmb IAmb 21 29 26.1
comp=Z,52nm,0.7s
CHIR Chirikof Islan 70.06 31 P P 21 29 26.4 +0.5
baz=317
SII Sitkinak Islan 70.06 30 P P 21 29 25.6 -0.3
SII Sitkinak Islan 70.06 30 P P 21 29 26.3 +0.4
baz=318
GIRL Giralia 70.24 151 P P 21 29 27.6 +0.3
YUK3 Moose Creek 70.31 21 P P 21 29 27.9 +0.3
baz=326,SNR=20
ZGR Zagora 70.33 293 P P 21 29 29.0 +0.8
TGL Tana Glacier 70.51 22 P P 21 29 29.1 +0.4
Q23K Middleton Isla 70.53 25 P P 21 29 28.3 -0.4
baz=322
M30M Minto, Yukon 70.55 19 P P 21 29 28.9 0.0
M30M Minto, Yukon 70.55 19 P P 21 29 28.7 -0.2
baz=329,SNR=13

OUZM	OUZ	70.62	294	P	P	21 29 31.1	+1.2	
KAIM	Kayak Island	70.72	24	P	P	21 29 30.7	+0.8	
	baz=324							
KNRA	Kununurra	70.73	134	P	P	21 29 30.1	-0.3	
KNRA				IAmb	IAmb	21 29 31.3		
	comp=Z,80nm,1.4s							
CTG	Chitna Glacier	70.75	22	P	P	21 29 31.0	+0.7	
	baz=326,SNR=36							
CTGM	Chitina Glacie	70.75	22	P	P	21 29 30.4	+0.2	
WAX	Waxell Ridge	70.75	23	P	P	21 29 30.8	+0.7	
ISLE	Juniper Island	70.77	22	P	P	21 29 30.5	+0.1	
ISLE				IAmb	IAmb	21 29 33.1		
	comp=Z,72nm,1.2s							
GRNC	Granite Creek	70.83	22	P	P	21 29 30.9	+0.1	
YAH	Yahtse	71.14	22	P	P	21 29 33.2	+0.5	
YUK4	Talbot Arm	71.15	20	P	P	21 29 32.7	0.0	
	baz=328							
OUK	Oukaimeden	71.18	295	P	P	21 29 35.0	+1.4	
MESA	MESA	71.23	22	P	P	21 29 34.2	+1.0	
	baz=326,SNR=15							
M31M	Drury Creek, Y	71.44	18	P	P	21 29 34.3	+0.1	
M31M				IAmb	IAmb	21 29 35.6		
	comp=Z,75nm,1.0s							
M31M	Drury Creek, Y	71.44	18	P	P	21 29 34.4	+0.2	
	baz=331,SNR=43							
PSA00	Pilbara Seismi	71.50	145	P	P	21 29 34.3	-0.7	
PSA00	Pilbara Seismi	71.50	145	P	P	21 29 34.1	-0.8	
PSA00				IAmb	IAmb	21 29 40.6		
	comp=Z,39nm,1.8s							
YUK6	Outpost Mounta	71.56	20	P	P	21 29 35.5	+0.2	
	baz=328							
FARO	Faro, Yukon	71.65	17	P	P	21 29 35.5	0.0	
	baz=332,SNR=18							
N31M	Braeburn, Yuko	71.74	19	P	P	21 29 36.3	+0.2	
N31M	Braeburn, Yuko	71.74	19	P	P	21 29 36.5	+0.4	
	baz=330,SNR=26							
PINM	Pinnacle	71.77	22	P	P	21 29 37.0	+0.7	
	baz=327,SNR=15							
HYT	Haines Junctio	71.88	20	P	P	21 29 37.7	+0.6	
	baz=329							
TTIG	Tnine Tigouga,	71.98	295	P	P	21 29 39.0	+0.8	
FRB	Frobisher Bay	72.22	348	LR	LR	22 06 01.3		
	comp=Z,640nm,18.9s,baz=16,slow=40							
PNL	Peninsula	72.37	22	P	P	21 29 40.6	+0.7	
	baz=328,SNR=6.4							
VOI	Vohitsoka	72.51	216	P	P	21 29 41.6	+0.4	
VOI				IAmb	IAmb	21 29 48.3		
	comp=Z,63nm,0.9s							
VOI	Vohitsoka	72.51	216	P	P	21 29 42.0	+0.8	
WRGLY	Wrigley	72.66	13	P	P	21 29 41.8	+0.4	
	baz=339,SNR=22							
WHY	Whitehorse	72.68	19	P	P	21 29 41.5	-0.3	
	baz=331,SNR=11							
P33M	Teslin, Yukon	73.56	18	P	P	21 29 47.1	+0.1	
P33M				IAmb	IAmb	21 29 48.2		
	comp=Z,86nm,1.0s							
P33M	Teslin, Yukon	73.56	18	P	P	21 29 47.1	+0.1	
	baz=332,SNR=37							
SKAG	Skagway	73.61	20	P	P	21 29 48.0	+0.9	
	baz=330,SNR=16							
YKA	Yellowknife Ar	74.59	9	P	P	21 29 52.3	-0.5	
	comp=Z,37nm,0.6s,baz=339,slow=6.0,SNR=414							
YKA	Yellowknife Ar	74.59	9	*i* P	P	21 29 52.2	-0.6	
YKA				pmax	pmax			
	comp=Z,38nm,0.6s							
SIT	Sitka	75.72	21	P	P	21 30 00.4	+1.0	
SIT				pmax	pmax			
	comp=Z,104nm,1.0s							
SIT	Sitka	75.72	21	P	P	21 30 00.4	+1.0	
SIT	Sitka	75.72	21	P	P	21 30 00.7	+1.3	
	baz=331							
TORD	Torodi Ar. Bea	75.74	275	P	P	21 29 59.6	-0.6	
	comp=Z,15nm,0.5s,baz=42,slow=4.9,SNR=136							
DLBC	Dease Lake	75.79	18	LR	LR	22 07 46.4		
	comp=Z,514nm,18.7s,baz=340,slow=39							
DLBC	Dease Lake	75.79	18	P	P	21 30 00.2	+0.3	
DLBC				IAmb	IAmb	21 30 01.9		
	comp=Z,54nm,1.1s							
MORW	Morawa	76.75	152	P	P	21 30 05.2	-0.3	
MORW				IAmb	IAmb	21 30 15.4		
	comp=Z,36nm,1.3s							
RABL	Rabaul	76.77	108	P	P	21 30 06.0	-0.1	
RABL				IAmb	IAmb	21 30 07.6		
	comp=Z,114nm,1.2s							
LSZ	Lusaka	76.91	235	P	P	21 30 07.0	+0.2	
LSZ				pmax	pmax			
	comp=Z,25nm,1.1s							
LSZ	Lusaka	76.91	235	P	P	21 30 07.0	+0.2	
PMG	Port Moresby	77.04	116	LR	LR	22 08 05.4		
	comp=Z,68nm,18.2s,baz=282,slow=39							
PMG	Port Moresby	77.04	116	P	P	21 30 06.8	-0.7	
PMG				pmax	pmax			
	comp=Z,37nm,1.0s							
PMG	Port Moresby	77.04	116	P	P	21 30 06.8	-0.7	
PMG				IAmb	IAmb	21 30 08.5		
	comp=Z,37nm,1.0s							
WRAK	Wrangell Islan	77.05	20	P	P	21 30 08.0	+1.1	
	baz=333							
WB0	Warramunga Arr	77.13	132	P	P	21 30 07.4	-0.5	
WB0				IAmb	IAmb	21 30 08.5		
	comp=Z,46nm,0.9s							
WRA	Warramunga Arr	77.24	132	P	P	21 30 07.9	-0.6	
	comp=Z,33nm,0.8s,baz=331,slow=5.4,SNR=140							
WRA	Warramunga Arr	77.24	132	P	P	21 30 07.7	-0.8	
WRA				pmax	pmax			
	comp=Z,2.0nm,1.1s							
WRA	Warramunga Arr	77.24	132	P	P	21 30 07.7	-0.8	
CRAG	Craig	77.70	21	P	P	21 30 11.7	+1.1	
	baz=332							
COEN	Coen	77.82	122	P	P	21 30 11.4	-0.4	
COEN				IAmb	IAmb	21 30 12.3		
	comp=Z,34nm,0.9s							
FCC	Fort Churchill	79.42	359	P	P	21 30 19.3	-0.7	
FCC				pmax	pmax			
	comp=Z,73nm,1.2s							
FCC	Fort Churchill	79.42	359	P	P	21 30 19.3	-0.7	
FCC				IAmb	IAmb	21 30 20.5		
	comp=Z,74nm,1.2s							
GRNB	Grenville Isla	79.97	20	P	P	21 30 23.9	+0.8	
GRNB				IAmb	IAmb	21 30 25.1		
	comp=Z,40nm,0.8s							
AS31	Alice Springs	80.02	135	P	P	21 30 23.2	-0.6	
ASAR	Alice Springs	80.02	135	P	P	21 30 23.4	-0.3	
	comp=Z,28nm,0.9s,baz=325,slow=5.2,SNR=177							
ASAR				PKKPbc	PKKPbc	21 49 08.6	+0.3	
	comp=Z,0.5nm,0.7s,baz=125,slow=2.4,SNR=5.1							
ASAR				LR	LR	22 09 33.5		
	comp=Z,91nm,18.3s,baz=314,slow=38							
SCHQ	Schefferville	80.24	343	P	P	21 30 23.9	-0.8	
	comp=Z,14nm,0.8s,baz=15,slow=7.0,SNR=16							
SCHQ				LR	LR	22 10 50.3		
	comp=Z,301nm,18.2s,baz=35,slow=39							
SCHQ	Schefferville	80.24	343	P	P	21 30 24.1	-0.5	
SCHQ				IAmb	IAmb	21 30 24.5		
	comp=Z,39nm,1.1s							
BBB	Bella Bella	81.95	19	LR	LR	22 10 07.7		
	comp=Z,628nm,19.8s,baz=296,slow=38							
DRLN	Deer Lake	82.91	336	P	P	21 30 38.7	-0.1	
FORT	Forrest	83.09	143	P	P	21 30 39.4	-0.4	
FORT				IAmb	IAmb	21 30 40.3		
	comp=Z,61nm,1.0s							
CTAO	Charters Tower	84.35	123	P	P	21 30 46.2	-0.3	
CTAO				pmax	pmax			
	comp=Z,42nm,1.1s							
CTAO	Charters Tower	84.35	123	P	P	21 30 46.2	-0.3	
CTAO				IAmb	IAmb	21 30 47.2		
	comp=Z,42nm,1.1s							
CBB	Campbell River	84.60	19	P	P	21 30 48.4	+0.9	
DBIC	Dimbokro	84.83	274	P	P	21 30 48.5	-0.6	
	comp=Z,8.3nm,0.6s,baz=46,slow=5.6,SNR=18							
DBIC	Dimbokro	84.83	274	P	P	21 30 48.4	-0.8	
DBIC				pmax	pmax			
	comp=Z,27nm,1.3s							
DBIC	Dimbokro	84.83	274	P	P	21 30 48.4	-0.8	
DBIC				IAmb	IAmb	21 30 49.6		
	comp=Z,27nm,1.2s							
LLLB	Lilloоet	84.84	16	P	P	21 30 48.8	+0.1	
LLLB				IAmb	IAmb	21 30 50.4		
	comp=Z,29nm,1.0s							
KIC	Kosan Boka	84.95	274	*e*PKP1	P	21 30 49.1	-0.7	
	comp=Z,21nm,0.5s							
TIC	Toumodi	84.97	274	*e*PKP1	P	21 30 49.0	-0.9	
LIC	Lamto	85.25	274	*e*PKP1	P	21 30 50.1	-1.2	
	comp=Z,87nm,1.3s							
LBTB	Lobatse	85.95	231	P	P	21 30 54.9	+0.3	
LBTB				pmax	pmax			
	comp=Z,22nm,1.2s							
LBTB	Lobatse	85.95	231	P	P	21 30 54.9	+0.3	
PGC	Sidney	86.34	18	P	P	21 30 56.7	+0.6	
A04D	Lummi Island	86.44	17	P	P	21 30 57.4	+0.8	
	baz=340							
TSUM	Tsumeb	86.52	240	LR	LR	22 15 03.1		
	comp=Z,295nm,18.6s,baz=41,slow=39							
B05A	Bryant	87.01	17	P	P	21 30 59.8	+0.4	
	baz=341							
D03D	Eldon	87.47	18	P	P	21 31 02.9	+1.2	
	baz=340							
B08A	Colville Reser	87.50	15	P	P	21 31 02.3	+0.4	
B08A				IAmb	IAmb	21 31 03.2		
	comp=Z,57nm,0.9s							
GBN	Guysborough	87.57	337	P	P	21 31 03.0	+0.8	
C06D	Leavenworth	87.59	17	P	P	21 31 02.4	+0.1	
	baz=342							
WALA	Waterton Lakes	87.77	12	P	P	21 31 02.7	-0.6	
WALA				IAmb	IAmb	21 31 03.8		
	comp=Z,39nm,1.0s							
LMQ	La Malbaie	87.84	343	P	P	21 31 03.6	+0.2	
ULM	Lac du Bonnet	87.96	0	P	P	21 31 02.8	-1.2	
	comp=Z,18nm,0.7s,baz=358,slow=5.5,SNR=25							
ULM				LR	LR	22 12 40.3		
	comp=Z,290nm,20.1s,baz=354,slow=37							
ULM	Lac du Bonnet	87.96	0	P	P	21 31 02.8	-1.2	
ULM				IAmb	IAmb	21 31 03.5		
	comp=Z,20nm,0.8s							
D62A	Allapoint, All	88.00	342	P	P	21 31 04.4	+0.2	
NEW	Newport	88.00	14	LR	LR	22 16 04.4		
	comp=Z,354nm,18.0s,baz=334,slow=40							
NEW	Newport	88.00	14	P	P	21 31 04.4	+0.1	
NEW				pmax	pmax			
	comp=Z,39nm,1.0s							
NEW	Newport	88.00	14	P	P	21 31 04.4	+0.1	
NEW				IAmb	IAmb	21 31 05.4		
	comp=Z,39nm,0.9s							
NEW	Newport	88.00	14	P	P	21 31 04.4	+0.1	
	baz=344							
LMN	Caledonia Moun	88.09	339	P	P	21 31 04.6	-0.1	
C09A	Chrisman Ranch	88.24	15	P	P	21 31 05.7	+0.3	
E04D	Cinebar	88.52	18	P	P	21 31 07.8	+1.1	
	baz=340							
VLDQ	Val d'Or	88.64	348	P	P	21 31 07.2	0.0	
VLDQ				IAmb	IAmb	21 31 07.6		
	comp=Z,21nm,0.8s							
D08A	Wollman Farm,	88.82	16	IAmb	IAmb	21 31 09.0		
	comp=Z,15nm,0.8s							
F04D	Rainier, OR	88.86	19	P	P	21 31 09.4	+1.1	
	baz=340							
BOSA	Boshof	88.91	229	P	P	21 31 09.0	+0.2	
	comp=Z,5.8nm,0.9s,baz=80,slow=5.1,SNR=6.3							
BOSA	Boshof	88.91	229	P	P	21 31 08.9	+0.2	
BOSA				pmax	pmax			
	comp=Z,24nm,1.2s							
BOSA	Boshof	88.91	229	P	P	21 31 08.9	+0.1	
BOSA				IAmb	IAmb	21 31 15.7		
	comp=Z,24nm,1.2s							
EGMT	Eagleton	89.35	9	P	P	21 31 09.9	-0.8	
EGMT	Eagleton	89.35	9	P	P	21 31 10.1	-0.6	
	baz=350							
F05D	White Salmon	89.40	18	P	P	21 31 11.6	+0.7	
F05D				IAmb	IAmb	21 31 13.1		
	comp=Z,62nm,1.1s							
F05D	White Salmon	89.40	18	P	P	21 31 11.8	+0.9	
	baz=341							
DGMT	Dagmar	89.44	6	P	P	21 31 10.8	-0.2	
DGMT	Dagmar	89.44	6	P	P	21 31 11.3	+0.3	
	baz=354,SNR=31							
G03D	McMinnville, O	89.62	19	P	P	21 31 12.8	+1.0	
	baz=340							
PKME	Peake-Kenny Pk	89.77	342	P	P	21 31 12.6	0.0	
	baz=19							
B35A	Bob, Littlefor	89.83	359	P	P	21 31 11.9	-0.9	
B35A				IAmb	IAmb	21 31 13.0		
	comp=Z,32nm,1.1s							
AGMN	Agassiz Nation	89.91	0	P	P	21 31 12.3	-0.9	
	baz=360							
MSO	Missoula	89.93	12	P	P	21 31 12.9	-0.5	
MSO				IAmb	IAmb	21 31 14.3		
	comp=Z,47nm,1.2s							
TRQ	Mont Tremblant	89.97	345	IAmb	IAmb	21 31 14.1		
	comp=Z,32nm,1.0s							
EYMN	Ely	90.18	357	P	P	21 31 13.7	-0.8	
EYMN				IAmb	IAmb	21 31 15.0		
	comp=Z,32nm,0.9s							
EYMN	Ely	90.18	357	P	P	21 31 13.9	-0.6	
	baz=3.1							
F10A	Beach Ranch, E	90.19	15	P	P	21 31 14.9	+0.2	
F10A				IAmb	IAmb	21 31 16.2		
	comp=Z,50nm,0.8s							
MDND	Maddock	90.30	3	P	P	21 31 14.7	-0.3	
	baz=357							
HRY	Holter Researc	90.36	11	P	P	21 31 15.6	+0.1	
H04D	Lebanon	90.39	19	P	P	21 31 16.6	+1.1	
H04D	Lebanon	90.39	19	P	P	21 31 16.9	+1.4	
	baz=340,SNR=6.2							
STKA	Stephens Creek	90.65	134	P	P	21 31 16.0	-0.7	
	comp=Z,10nm,0.6s,baz=322,slow=5.8,SNR=19							
STKA				LR	LR	22 16 29.2		
	comp=Z,96nm,19.5s,baz=310,slow=39							
STKA	Stephens Creek	90.65	134	P	P	21 31 15.9	-0.7	
STKA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
STKA	Stephens Creek	90.65	134	P	P	21 31 15.9	-0.7	
I05D	Terrebonne, OR	90.89	18	P	P	21 31 18.9	+1.0	
	baz=341,SNR=9.5							
I03D	Drain, OR	91.02	20	P	P	21 31 19.5	+1.1	
	baz=340							
LAO	LASA Array	91.04	7	P	P	21 31 18.7	+0.1	
LAO				IAmb	IAmb	21 31 20.3		
	comp=Z,65nm,1.1s							
LAO	LASA Array	91.04	7	P	P	21 31 19.0	+0.5	
	baz=352,SNR=5.3							
LRM	Limekiln Ridge	91.14	12	P	P	21 31 18.9	-0.4	
I04A	Tendick Farm,	91.16	19	P	P	21 31 19.8	+0.6	
	baz=341,SNR=9.0							
BMO	Blue Mountains	91.26	15	P	P	21 31 18.9	-0.7	
BMO				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BMO	Blue Mountains	91.26	15	P	P	21 31 18.9	-0.7	
PLID	Pearl Lake	91.27	14	P	P	21 31 19.1	-0.8	
LBNH	Lisbon	91.33	343	P	P	21 31 19.9	0.0	
	baz=17							
BOZ	Bozeman (W)	91.48	11	P	P	21 31 20.5	-0.3	
BOZ				pmax	pmax			
	comp=Z,49nm,1.1s							
BOZ	Bozeman (W)	91.48	11	P	P	21 31 20.5	-0.3	
BOZ				IAmb	IAmb	21 31 21.9		
	comp=Z,49nm,1.1s							
BOZ	Bozeman (W)	91.48	11	P	P	21 31 20.8	0.0	
	baz=348,SNR=20							
LONY	Lake Ozonia	91.51	345	P	P	21 31 21.0	+0.3	
LONY				IAmb	IAmb	21 31 22.1		
	comp=Z,33nm,0.9s							
LONY	Lake Ozonia	91.51	345	P	P	21 31 21.0	+0.3	
	baz=16							
E38A	The Farm, Brul	91.52	357	IAmb	IAmb	21 31 20.8		
	comp=Z,48nm,1.3s							
I07A	Izee	91.55	17	P	P	21 31 21.8	+0.8	
I07A				IAmb	IAmb	21 31 23.3		
	comp=Z,46nm,1.0s							
GCMT	Greycliff	91.56	10	P	P	21 31 20.8	-0.3	
DLMT	Dillon	91.57	12	IAmb	IAmb	21 31 22.5		
	comp=Z,42nm,1.1s							
J04D	Umpqua Nationa	91.75	19	P	P	21 31 23.0	+0.9	
	baz=341,SNR=6.3							
K02D	Willamette Mer	91.88	20	P	P	21 31 22.9	+0.3	
	baz=340							
J05D	Fort Rock, OR	91.92	18	P	P	21 31 24.0	+1.2	
	baz=341,SNR=9.2							
SADO	Sadowa	92.16	348	LR	LR	22 16 37.7		
	comp=Z,427nm,19.3s,baz=15,slow=38							
RLMT	Red Lodge	92.26	9	P	P	21 31 24.4	-0.1	
	baz=350,SNR=9.6							
F36A	Milaca	92.32	358	P	P	21 31 23.4	-1.0	
F36A				IAmb	IAmb	21 31 24.7		
	comp=Z,16nm,1.1s							
F33A	5 Mile Ranch,	92.37	0	IAmb	IAmb	21 31 24.7		
	comp=Z,20nm,0.9s							
YHH	Holmes Hill	92.39	11	P	P	21 31 24.9	-0.3	
L02E	Cave Junction	92.40	20	P	P	21 31 26.0	+1.1	
	baz=340							
K04D	Chiloquin, OR	92.42	19	P	P	21 31 25.9	+0.8	
	baz=341							
J08A	Circle Bar Ran	92.46	16	P	P	21 31 25.5	+0.2	
J08A				IAmb	IAmb	21 31 27.0		
	comp=Z,34nm,1.0s							
BCYI	Bear Canyon	92.47	13	P	P	21 31 25.2	-0.2	
J59A	Piesco	92.61	345	P	P	21 31 26.4	+0.5	
J59A				IAmb	IAmb	21 31 27.4		
	comp=Z,41nm,0.9s							
L04D	Klamath Falls	92.67	19	P	P	21 31 26.4	+0.1	
L04D	Klamath Falls	92.67	19	P	P	21 31 26.8	+0.5	
	baz=341							
GLMI	Grayling	92.80	352	P	P	21 31 26.5	-0.2	
	baz=8.2							
H17A	Grant Village	92.81	11	P	P	21 31 28.7	+1.7	
	baz=349,SNR=18							
MFID	Camas Ranch	92.92	14	IAmb	IAmb	21 31 29.0		
	comp=Z,13nm,0.9s							
YBH	Yreka Blue Hor	93.03	20	LR	LR	22 16 04.6		
	comp=Z,301nm,18.1s,baz=341,slow=37							
HLID	Hailey	93.03	13	P	P	21 31 27.8	-0.2	
HLID				IAmb	IAmb	21 31 29.3		
	comp=Z,12nm,0.9s							
HLID	Hailey	93.03	13	P	P	21 31 28.2	+0.2	
	baz=346,SNR=16							
M04C	Macdoel	93.19	19	P	P	21 31 29.1	+0.4	
	baz=341							
L61B	Northampton	93.21	343	P	P	21 31 28.6	0.0	
	baz=17							
M02C	Callahan	93.31	20	P	P	21 31 29.8	+0.6	
	baz=340							
MOD	Modoc Plateau	93.44	18	P	P	21 31 29.9	0.0	
MOD				IAmb	IAmb	21 31 31.8		
	comp=Z,29nm,1.0s							
SUSD	Miller	93.72	2	P	P	21 31 30.6	-0.4	
SUSD	Miller	93.72	2	P	P	21 31 30.5	-0.4	
	baz=358							
N02D	Trinity Center	93.74	20	P	P	21 31 31.4	+0.3	
N02D				IAmb	IAmb	21 31 45.2		
	comp=Z,53nm,1.6s							
N02D	Trinity Center	93.74	20	P	P	21 31 32.1	+0.9	
	baz=340							
RSSD	Black Hills	93.77	6	P	P	21 31 31.5	0.0	
RSSD				pmax	pmax			
	comp=Z,36nm,0.9s							
RSSD	Black Hills	93.77	6	P	P	21 31 31.5	0.0	
RSSD				IAmb	IAmb	21 31 32.5		
	comp=Z,36nm,0.8s							
RSSD	Black Hills	93.77	6	P	P	21 31 31.4	-0.1	
	baz=354							
BINY	Binghamton	94.12	345	P	P	21 31 32.8	0.0	
	baz=14							
WDC	Whiskeytown Da	94.15	20	P	P	21 31 33.0	0.0	
WDC				pmax	pmax			
	comp=Z,31nm,1.4s							
WDC	Whiskeytown Da	94.15	20	P	P	21 31 33.0	0.0	
WDC				IAmb	IAmb	21 31 35.0		
	comp=Z,31nm,1.4s							
SUR	Sutherland	94.26	229	LR	LR	22 15 18.3		
	comp=Z,88nm,19.1s,baz=48,slow=36							
AHID	Auburn Hatcher	94.33	11	P	P	21 31 33.8	-0.3	
AHID				IAmb	IAmb	21 31 35.1		
	comp=Z,18nm,1.0s							
WVNY	West Valley, N	94.38	347	IAmb	IAmb	21 31 34.8		
	comp=Z,38nm,0.8s							
ECSD	EROS Data Cent	94.47	1	P	P	21 31 33.9	-0.5	
	baz=359							
BW06	Boulder Array	94.55	10	P	P	21 31 34.6	-0.5	
	baz=350							
PD31	Pinedale Array	94.55	10	P	P	21 31 34.5	-0.6	
PDAR	Pinedale Array	94.55	10	P	P	21 31 34.4	-0.7	
	comp=Z,4.3nm,0.5s,baz=39,slow=3.0,SNR=56							
PDAR				LR	LR	22 20 51.8		
	comp=Z,472nm,18.0s,baz=354,slow=40							
O03E	Paynes Creek	94.61	20	P	P	21 31 36.4	+1.3	
	baz=341							
K22A	Casper	95.01	8	P	P	21 31 36.7	-0.4	
	baz=352							
JFWS	Jewell Farm	95.14	356	P	P	21 31 36.9	-0.6	
JFWS				pmax	pmax			
	comp=Z,62nm,0.7s							
JFWS	Jewell Farm	95.14	356	P	P	21 31 36.9	-0.6	
JFWS	Jewell Farm	95.14	356	P	P	21 31 36.8	-0.7	
	baz=4.1							
N59A	State Game Lan	95.31	345	P	P	21 31 38.2	-0.2	
	baz=15							
M54A	Oil Creek Stat	95.42	348	P	P	21 31 38.4	-0.4	
	baz=12							
K31A	O'Neill	95.54	2	P	P	21 31 39.2	-0.2	
ELK	Elko	95.61	15	LR	LR	22 21 03.9		
	comp=Z,337nm,18.1s,baz=344,slow=40							
ELK	Elko	95.61	15	P	P	21 31 40.0	0.0	
ELK				pmax	pmax			
	comp=Z,11nm,1.2s							
ELK	Elko	95.61	15	P	P	21 31 40.0	0.0	
M53A	WI Miller and	95.64	349	P	P	21 31 39.1	-0.7	
	baz=11							
L44A	Lake County Fo	95.72	354	P	P	21 31 39.1	-1.0	
	baz=5.8							
SSPA	Standing Stone	95.98	346	P	P	21 31 40.7	-0.6	
	baz=13							
SCIA	State Center	96.27	358	P	P	21 31 42.5	-0.1	
	baz=1.9							
P60A	Greenville	96.36	344	P	P	21 31 42.5	-0.5	
	baz=15							
O56A	Blue Knob Stat	96.45	347	P	P	21 31 43.3	-0.2	
	baz=13							
DUG	Dugway, Tooele	96.58	13	P	P	21 31 44.7	+0.5	
	baz=347							
RDMU	Red Mountain	96.70	10	IAmb	IAmb	21 31 46.4		
	comp=Z,27nm,0.9s							
BGNE	Belgrade	96.77	2	P	P	21 31 44.6	-0.3	
	baz=358							
O53A	New Philadelph	96.89	349	P	P	21 31 45.0	-0.4	
	baz=11							
OGNE	Ogallala	97.07	5	P	P	21 31 45.8	-0.6	
	baz=355							
ACSO	Alum Creek Sta	97.15	350	P	P	21 31 45.9	-0.7	
	baz=9.5							
NVAR	Mina Array Bea	97.21	18	P	Pdif	21 31 47.4	+0.1	
	comp=Z,6.6nm,0.9s,baz=334,slow=3.0,SNR=18							
NVAR				LR	LR	22 20 10.1		
	comp=Z,332nm,18.9s,baz=326,slow=38							
NVAR	Mina Array Bea	97.21	18	P	Pdif	21 31 47.7	+0.4	
NV11	Mina Array Sit	97.24	17	P	P	21 31 47.2	-0.1	
NV11				IAmb	IAmb	21 31 48.6		
	comp=Z,8.2nm,0.9s							
O20A	White River Ci	97.30	10	P	Pdif	21 31 47.8	+0.2	
	baz=351							
HDIL	Hopedale	97.44	355	P	P	21 31 47.3	-0.6	
	baz=4.8							
SFIN	Lafayette	97.44	353	P	P	21 31 47.1	-0.9	
	baz=6.4							
P52A	Corning	97.62	349	P	P	21 31 47.8	-1.

GMRC	**Granite Mounta**	**101.29**	**17**	P	**Pdif**	**21 32 05.9**	**+0.5**
	baz=345						
WUAZ	**Wupatki**	**101.39**	**13**	P	**Pdif**	**21 32 06.3**	**+0.4**
	baz=348						
U40A	**Yellville**	**101.80**	**358**	P	**Pdif**	**21 32 07.0**	**-0.5**
	baz=2.2						
OK031	**S. Brethren Rd**	**102.24**	**1**	IAMs_20	IAMs_20	22 09 13.3	
	comp=Z,358nm,20.0s						
ANMO	**Albuquerque**	**102.64**	**9**	P	**Pdif**	**21 32 12.0**	**+0.5**
	baz=352						
WMOK	**Wichita Mounta**	**103.41**	**2**	P	**Pdif**	**21 32 15.1**	**+0.4**
	baz=358						
TXAR	**Lajitas Array**	**108.48**	**7**	Pdiff	**Pdif**	**21 32 40.0**	**+2.6**
	comp=Z,0.5nm,0.6s,baz=11,slow=2.6,SNR=7.7						
TXAR				PKiKP	**PKiKP**	**21 36 43.6**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=5.9,slow=2.7,SNR=3.5						
TXAR				PP	**PP**	**21 37 10.6**	**+4.0**
	comp=Z,2.6nm,1.1s,baz=14,slow=5.6,SNR=4.9						
TXAR				PKKPbc	**PKKPdf**	**21 48 02.4**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=180,slow=0.5,SNR=3.8						
TXAR	**Lajitas Array**	**108.48**	**7**	P	**Pdif**	**21 32 39.4**	**+1.9**
TXAR	**Lajitas Array**	**108.48**	**7**		**Pdif**	**21 32 39.4**	**+1.9**
SMRT	**St. Maarten**	**112.86**	**326**	IAMs_20	IAMs_20	22 27 17.4	
	comp=Z,226nm,18.0s						
SDDR	**Presa de Saban**	**115.05**	**334**	IAMs_20	IAMs_20	22 09 03.4	
	comp=Z,452nm,18.0s						
SYO	**Syowa Base**	**115.67**	**196⇓**	*e*PKPdf	**PKPdf**	**21 36 54.0**	**-1.2**
SDV	**Santo Domingo**	**124.18**	**329**	*e*P	**PKPdf**	**21 37 12.8**	**-0.8**
BOAV	**Boa Vista**	**125.32**	**315**	PKPdf	**PKPdf**	**21 37 15.0**	**-0.6**
PRPB	**Paraiapebas**	**125.77**	**298**	*e*P	**PKiKP**	**21 37 16.8**	**0.0**
SMTB	**Santa Maria do**	**126.25**	**294**	*e*P	**PKiKP**	**21 37 18.0**	**+0.3**
SDBA	**SAO DESIDERIO**	**126.89**	**288**	*e*P	**PKiKP**	**21 37 19.0**	**-0.1**
ITTB	**Itaituba**	**128.12**	**305**	*e*P	**PKPdf**	**21 37 20.8**	**-0.1**
VNDA	**Vanda**	**128.21**	**164**	PKP	**PKPdf**	**21 37 18.1**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=274,slow=4.5,SNR=6.1						
JANB	**Januaria**	**128.27**	**286**	*e*P	**PKiKP**	**21 37 21.7**	**0.0**
SNAA	**Sanae**	**128.47**	**204**	PKPdf	**PKPdf**	**21 37 19.6**	**-0.3**
SNAA	**Sanae**	**128.47**	**204**	PKP	**PKPdf**	**21 37 20.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=19,slow=6.9,SNR=5.0						
SNAA	**Sanae**	**128.47**	**204**	PKIKP	**PKPdf**	**21 37 19.8**	**-0.1**
SNAA	**Sanae**	**128.47**	**204**		**PKPdf**	**21 37 19.8**	**-0.1**
PEXB	**Peixe**	**129.05**	**292**	*e*P	**PKiKP**	**21 37 23.2**	**-0.1**
ROSC	**El Rosal**	**129.27**	**332**	PKP	**PKPdf**	**21 37 23.7**	**+0.1**
	comp=Z,6.9nm,0.3s,baz=316,slow=18,SNR=5.1						
VNA2	**Neumayer--Watz**	**129.66**	**205**	PKPdf	**PKPdf**	**21 37 22.4**	**+0.3**
	baz=46,slow=2.5						
VNA1	**Neumayer--Stat**	**129.87**	**206**	PKPdf	**PKPdf**	**21 37 22.0**	**-0.4**
DIAM	**Diamantina, MG**	**129.92**	**282**	*e*P	**PKiKP**	**21 37 25.1**	**0.0**
NPGB	**Novo Progresso**	**129.98**	**303**	*e*P	**PKiKP**	**21 37 24.9**	**-0.3**
VNA3	**Neumayer Olymp**	**130.46**	**205**	PKPdf	**PKiKP**	**21 37 24.0**	**-0.4**
QSPA	**South Pole Qui**	**131.95**	**180**	PKP	**PKPdf**	**21 37 25.6**	**-0.9**
	comp=Z,6.6nm,0.7s,baz=281,slow=3.7,SNR=4.0						
QSPA	**South Pole Qui**	**131.95**	**180**		**PKPdf**	**21 37 26.0**	**-0.6**
IPMB	**Ipameri, GO**	**132.99**	**286**	*e*P	**PKPdf**	**21 37 30.0**	**-0.1**
SALV	**Santo Antonio**	**136.78**	**295**	*e*P	**PKPdf**	**21 37 37.5**	**+0.4**
PTLB	**Pontes e Lacer**	**138.73**	**299**	*e*P	**PKPdf**	**21 37 41.8**	**+1.1**
CZSB	**Cruzeiro do Su**	**140.06**	**323**		**PKPdf**	**21 37 40.9**	**-2.4**
CPUP	**Villa Florida**	**144.78**	**284**	PKP	**PKPab**	**21 37 49.7**	**-0.4**
	comp=Z,44nm,0.9s,baz=50,slow=3.7,SNR=37						
CPUP	**Villa Florida**	**144.78**	**284**	PKPdf	**PKPab**	**21 37 49.8**	**-0.3**
LPAZ	**La Paz**	**144.92**	**309**	PKIKP	**PKPab**	**21 37 50.6**	**-1.1**
LPAZ	**La Paz**	**144.92**	**309**		**PKPab**	**21 37 50.5**	**-1.1**
PLTB	**Pedras Altas**	**144.99**	**273**	*e*P	PKPbc	21 37 50.8	0.0
PLTB	**Pedras Altas**	**144.99**	**273**		PKPbc	21 37 50.2	-0.6
ITQB	**Itaqui**	**146.16**	**279**	*e*P	**PKPbc**	**21 37 54.8**	**+0.3**
PB16	**IPOC Station P**	**147.34**	**309**		**PKPdf**	**21 37 57.5**	**+1.0**
PB12	**IPOC Station P**	**148.03**	**309**		**PKPdf**	**21 37 56.5**	**-0.6**
PB08	**IPOC Station P**	**148.53**	**306**		**PKPdf**	**21 37 58.7**	**-0.4**
PB11	**IPOC Station P**	**148.54**	**307**		**PKPdf**	**21 37 57.4**	**-0.5**
SMAI	**San Martin Ant**	**149.81**	**201**		**PKPbc**	**21 38 02.5**	**-0.5**
CO03	**El Pedregal**	**156.91**	**291**		**PKPab**	**21 38 39.6**	**-0.2**
BO01	**Tunca**	**159.11**	**284**		**PKPab**	**21 38 48.2**	**-0.9**
PLCA	**Paso Flores**	**160.99**	**266**	PKP	**PKPdf**	**21 38 14.2**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=85,slow=2.9,SNR=7.3						
PLCA	**Paso Flores**	**160.99**	**266**	*e*P	**PKPdf**	**21 38 15.1**	**+0.8**

*NNC **13** 21:31:08.0±6.4, 42°.48N×83°.90E, h20km±29km, mb4.0, mpv3.6 Error ellipse: s-maj=46.2km s-min=30.1km az=139.0*

*SOME **13** 21:31:09.4, 42°.68N×83°.90E, h10km*

ISC 13 21:31:07.7±2.1, 42°.47N±0°.09×83°.86E±0°.07, h10km, n29, σ2S21/46, 8C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.75**	**292**	*e*P	**Pg**	**21 31 59.5**	**-0.9**
	18nm,0.2s						
KTMS				*e*S	**Sg**	**21 32 35.7**	**-0.4**
	72nm,0.1s						
KTMS	**Ketmen**	**2.75**	**292**	Pg	**Pg**	**21 31 59.5**	**-0.9**
	18nm,0.2s						
KTMS				Lg	Lg	21 32 35.7	
	72nm,0.1s						
PDGK	**Podgornoye**	**3.32**	**286**	⇓Pn	**Pn**	**21 31 57.7**	**-2.2**
	4.9nm,0.9s						
PDGK				⇑Pg	**Pb**	**21 32 06.4**	**-0.3**
	5.9nm,0.4s						
PDGK				⇑Lg	Lg	21 32 53.1	
	46nm,0.8s						
DJR	**Jarkent**	**3.50**	**304**	*e*P	**Pg**	**21 32 14.0**	**-0.7**
	7.6nm,0.3s						
DJR				*e*S	**Sg**	**21 33 00.3**	**+0.3**
	23nm,0.4s						
DJR	**Jarkent**	**3.50**	**304**	Pg	**Pg**	**21 32 14.0**	**-0.7**
	7.6nm,0.3s						
DJR				Lg	Lg	21 33 00.3	
	23nm,0.4s						
UZB	**Uzynbulak**	**3.62**	**282**	*e*P	**Pb**	**21 32 15.1**	**+3.3**
	8.4nm,0.5s						
UZB				*e*S	**Sg**	**21 33 01.9**	**-2.1**
	31nm,0.4s						
UZB	**Uzynbulak**	**3.62**	**282**	Pg	**Pb**	**21 32 15.1**	**+3.3**
	8.4nm,0.5s						
UZB				Lg	Lg	21 33 01.9	
	31nm,0.4s						
SATY	**Saty**	**4.06**	**280**	*e*P	**Pg**	**21 32 25.0**	**-0.3**
	8.6nm,0.3s						
SATY				*e*S	**Sg**	**21 33 18.8**	**+0.9**
	26nm,0.4s						
SATY	**Saty**	**4.06**	**280**	Pg	**Pg**	**21 32 25.0**	**-0.3**
	8.6nm,0.3s						
SATY				Lg	Lg	21 33 18.8	
	26nm,0.4s						
BLB	**Baldybastay**	**4.25**	**294**	*e*P	**Pg**	**21 32 27.5**	**-1.6**
	11nm,0.4s						
BLB				*e*S	**Sg**	**21 33 23.5**	**-0.7**
	17nm,0.3s						
BLB	**Baldybastay**	**4.25**	**294**	Pg	**Pg**	**21 32 27.5**	**-1.6**
	11nm,0.4s						
BLB				Lg	Lg	21 33 23.5	
	17nm,0.3s						
KURS	**Kuram**	**4.29**	**286**	*e*P	**Pg**	**21 32 29.0**	**-1.0**
	10nm,0.5s						
KURS				*e*S	**Sg**	**21 33 25.6**	**+0.1**
	33nm,0.8s						
KURS	**Kuram**	**4.29**	**286**	Pg	**Pg**	**21 32 29.0**	**-1.0**
	10nm,0.5s						
KURS				Lg	Lg	21 33 25.6	
	33nm,0.8s						
KAPS	**Kapalarasan**	**4.30**	**312**	*e*P	**Pg**	**21 32 27.8**	**-2.3**
	8.7nm,0.6s						
KAPS				*e*S	**Sg**	**21 33 23.6**	**-2.1**
	18nm,0.4s						
KAPS	**Kapalarasan**	**4.30**	**312**	Pg	**Pg**	**21 32 27.8**	**-2.3**
	8.7nm,0.6s						
KAPS				Lg	Lg	21 33 23.6	
	18nm,0.4s						
MK31	**Makanchi Array**	**4.47**	**346**	⇑Pn	**Pn**	**21 32 14.6**	**-0.9**
	0.3nm,0.5s,baz=27,slow=12,SNR=14						
MK31				⇑Pg	**Pb**	**21 32 27.7**	**+1.5**
	3.3nm,0.5s,baz=155,slow=16,SNR=22						
MK31				⇓Lg	Lg	21 33 29.2	
	13nm,0.5s,baz=163,slow=26,SNR=5.8						
MAKZ	**Makanchi**	**4.54**	**343**	⇑Pn	**Pn**	**21 32 15.8**	**-0.6**
	24nm,1.4s						
MAKZ				⇑Pg	**Pb**	**21 32 28.9**	**+1.5**
	26nm,1.2s						
MAKZ				⇑Sn	**Sn**	**21 33 09.6**	**+0.4**
	4.6nm,0.5s						
MAKZ				⇑Lg	Lg	21 33 32.4	
	14nm,0.8s						
TDK	**Taldyqorghan**	**4.69**	**305**	*e*P	**Pb**	**21 32 33.9**	**+3.9**
	16nm,0.6s						
TDK				*e*S	**Sg**	**21 33 35.3**	**-3.0**
	50nm,0.6s						
TDK	**Taldyqorghan**	**4.69**	**305**	Pg	**Pb**	**21 32 33.9**	**+3.9**
	16nm,0.6s						
TDK				Lg	Lg	21 33 35.3	
	50nm,0.6s						
ARXS	**Arharly**	**4.73**	**294**	*e*P	**Pb**	**21 32 34.9**	**+4.2**
	5.1nm,0.5s						
ARXS				*e*S	**Sg**	**21 33 36.6**	**-2.9**
	19nm,0.6s						
ARXS	**Arharly**	**4.73**	**294**	Pg	**Pb**	**21 32 34.9**	**+4.2**
	5.1nm,0.5s						
ARXS				Lg	Lg	21 33 36.6	
	19nm,0.6s						
ZSN	**Zaisan**	**5.03**	**8**	*e*P	**Pb**	**21 32 37.2**	**+1.4**
	6.0nm,0.3s						
ZSN				*e*S	**Sb**	**21 33 40.4**	**+4.1**
	18nm,0.5s						
ZSN	**Zaisan**	**5.03**	**8**	Pg	**Pg**	**21 32 41.8**	**-2.2**
	9.3nm,0.5s						
ZSN				Lg	Lg	21 33 47.3	
	24nm,0.7s						
TNSS	**Tian-Shan**	**5.12**	**279**	*e*P	**Pg**	**21 32 43.1**	**-2.7**
	3.0nm,0.3s						
TNSS				*e*S	**Sg**	**21 33 49.6**	**-2.4**
	5.1nm,0.6s						
TNSS	**Tian-Shan**	**5.12**	**279**	Pg	**Pg**	**21 32 43.1**	**-2.7**
	3.0nm,0.3s						
TNSS				Lg	Lg	21 33 49.6	
	5.1nm,0.6s						
CHKK	**Chushkaly**	**5.21**	**288**	*e*P	**Pg**	**21 32 45.6**	**-1.9**
	1.9nm,0.5s						
CHKK				*e*S	**Sg**	**21 33 54.0**	**-0.9**
	11nm,0.4s						
CHKK	**Chushkaly**	**5.21**	**288**	Pg	**Pg**	**21 32 45.6**	**-1.9**
	1.9nm,0.5s						
CHKK				Lg	Lg	21 33 54.0	
	11nm,0.4s						
KUU	**Kurty**	**5.68**	**287**	*e*P	**Pg**	**21 32 54.1**	**-2.3**
	6.9nm,1.0s						
KUU				*e*S	**Sg**	**21 34 08.6**	**-1.3**
	9.8nm,0.7s						
KUU	**Kurty**	**5.68**	**287**	Pg	**Pg**	**21 32 54.1**	**-2.3**
	6.9nm,1.0s						
KUU				Lg	Lg	21 34 08.6	
	9.8nm,0.7s						

*IDC **13** 21:36:12.2±0.8, 59°.56S×26°.12W, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.1/22, mbtmp4.3/6, ML4.7/1, MS3.8/2, Ms1 3.8/2, ms1mx3.3/41, Error ellipse: s-maj=32.0km s-min=20.8km az=72.0*

*NEIC **13** 21:36:14.0±1.3, 59°.6S±0°.1×26°.1W±0°.3, h10km±1km, mb4.6/23, Error ellipse: s-maj=25.4km s-min=19.6km az=220.0*

ISC 13 21:36:17.6±0.6, 59°.7S±0°.1×25°.9W±0°.1, h40km, n48, σ1S56/43, mb4.6/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.18**	**154**	P	**Pn**	**21 39 22.7**	**+0.9**
VNA3	**Neumayer Olymp**	**13.33**	**157**	P	**Pn**	**21 39 24.2**	**+0.3**
VNA2	**Neumayer--Watz**	**13.57**	**154**	P	**Pn**	**21 39 28.0**	**+0.8**
	baz=312,slow=16						
SNAA	**Sanae**	**15.15**	**152**	P	**Pn**	**21 39 48.6**	**+0.1**
SNAA	**Sanae**	**15.15**	**152**	Pn	**Pn**	**21 39 48.6**	**+0.1**
	3.0nm,0.3s,baz=310,slow=13,SNR=56						
SNAA				Sn	**Sn**	**21 42 27.7**	**-7.2**
	0.8nm,0.3s,baz=220,slow=23,SNR=6.0						
SNAA	**Sanae**	**15.15**	**152**		**Pn**	**21 39 48.7**	**+0.2**
SNAA				IAmb	IAmb	21 40 00.0	
	comp=Z,16nm,0.6s						
EFI	**East Falkland**	**19.64**	**280**	P	**P**	**21 40 41.8**	**-0.7**
DSPA	**Despedida**	**23.53**	**265**	P	**P**	**21 41 23.5**	**-0.2**
MG02	**Cerro Sombrero**	**24.65**	**267**	P	**P**	**21 41 32.6**	**-1.4**
QSPA	**South Pole Qui**	**30.53**	**180**	P	**P**	**21 42 28.9**	**+2.1**
	baz=213,slow=9.3						
QSPA				LR	LR	21 54 40.0	
	comp=Z,207nm,18.2s,baz=258,slow=36						
QSPA	**South Pole Qui**	**30.53**	**180**	P	**P**	**21 42 29.4**	**+2.6**
QSPA				IAmb	IAmb	21 42 30.0	
	comp=Z,6.8nm,0.8s						
PLCA	**Paso Flores**	**33.43**	**284**	P	**P**	**21 42 51.5**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=150,slow=5.1,SNR=7.7						
PLCA	**Paso Flores**	**33.43**	**284**	P	**P**	**21 42 51.8**	**-0.5**
PLCA				IAmb	IAmb	21 42 55.9	
	comp=Z,8.0nm,1.2s						
LC01	**Cunco**	**35.49**	**285**	P	**P**	**21 43 09.2**	**-0.9**
GO05	**Huala**	**38.61**	**289**	P	**P**	**21 43 35.8**	**-0.8**
GO05				IAmb	IAmb	21 43 52.6	
	comp=Z,15nm,1.0s						
BO01	**Tunca**	**38.71**	**290**	P	**P**	**21 43 38.0**	**+0.7**
BO01				IAmb	IAmb	21 43 41.1	
	comp=Z,12nm,1.1s						
MT09	**Talagante**	**39.16**	**291**	P	**P**	**21 43 40.8**	**-0.6**
MT09				IAmb	IAmb	21 43 45.1	
	comp=Z,12nm,0.8s						
MT01	**Popeta**	**39.22**	**291**	P	**P**	**21 43 40.9**	**-0.8**
MT01				IAmb	IAmb	21 44 05.6	
	comp=Z,16nm,1.1s						
MT02	**Curacav**	**39.66**	**291**	P	**P**	**21 43 44.4**	**-1.0**
MT02				IAmb	IAmb	21 44 05.7	
	comp=Z,20nm,1.4s						
VNDA	**Vanda**	**42.94**	**182**	P	**P**	**21 44 14.3**	**+2.6**
	comp=Z,2.5nm,0.7s,baz=186,slow=6.5,SNR=11						
VNDA	**Vanda**	**42.94**	**182**	P	**P**	**21 44 14.4**	**+2.6**
BOSA	**Boshof**	**46.37**	**71**	P	**P**	**21 44 39.8**	**0.0**
LVC	**Limon Verde**	**47.76**	**302**	P	**P**	**21 44 50.9**	**0.0**
LVC				IAmb	IAmb	21 44 53.3	
	comp=Z,8.1nm,1.2s						
PB04	**IPOC Station P**	**48.54**	**301**	P	**P**	**21 44 55.0**	**-1.7**
PB09	**IPOC Station P**	**48.62**	**302**	P	**P**	**21 44 56.1**	**-1.2**
PB09				IAmb	IAmb	21 45 14.9	
	comp=Z,6.2nm,1.0s						
PB07	**IPOC Station P**	**48.96**	**301**	P	**P**	**21 44 58.8**	**-1.1**
PB07				IAmb	IAmb	21 45 06.4	
	comp=Z,8.3nm,0.9s						
PB01	**IPOC Station P**	**49.39**	**302**	P	**P**	**21 45 02.5**	**-0.6**
PB01				IAmb	IAmb	21 45 06.3	
	comp=Z,6.0nm,0.7s						
PB08	**IPOC Station P**	**50.04**	**303**	P	**P**	**21 45 08.0**	**-0.5**
PB11	**IPOC Station P**	**50.59**	**303**	P	**P**	**21 45 12.3**	**-0.1**
PB11				IAmb	IAmb	21 45 33.5	
	comp=Z,12nm,1.3s						
H10S2	**ASCENSION HYDR**	**51.35**	**14**	T	T	22 41 06.6	
	baz=33,slow=74,SNR=7.4						
H10S3	**ASCENSION HYDR**	**51.36**	**14**	T	T	22 41 04.5	
	baz=187,slow=74,SNR=12						
H10N1	**ASCENSION HYDR**	**52.47**	**14**	T	T	22 42 25.4	
	baz=180,slow=72,SNR=2.3						
H10N3	**ASCENSION HYDR**	**52.47**	**14**	T	T	22 42 26.0	
	baz=180,slow=72,SNR=12						
H10N2	**ASCENSION HYDR**	**52.49**	**14**	T	T	22 42 26.2	
	baz=180,slow=72,SNR=9.1						
LPAZ	**La Paz**	**53.06**	**306**	P	**P**	**21 45 31.1**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=124,slow=7.3,SNR=6.5						
LPAZ	**La Paz**	**53.06**	**306**	P	**P**	**21 45 30.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**75.96**	**28**	P	**P**	**21 48 01.3**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=202,slow=6.4,SNR=15						
TORD	**Torodi Ar. Bea**	**75.96**	**28**	P	**P**	**21 48 00.6**	**+0.6**
ATD	**Arta Tunnel**	**89.51**	**66**	LR	LR	22 26 19.7	
	comp=Z,33nm,18.1s,baz=68,slow=34						
ASAR	**Alice Springs**	**95.30**	**162**	P	**P**	**21 49 37.1**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=181,slow=4.0,SNR=9.7						
ARCES	**ARCESS Array B**	**134.09**	**23**	PKP	**PKPdf**	**21 55 28.9**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=297,slow=3.8,SNR=4.8						
YKA	**Yellowknife Ar**	**139.28**	**315**	PKP	**PKPdf**	**21 55 37.6**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=129,slow=2.4,SNR=7.9						
YKA	**Yellowknife Ar**	**139.28**	**315**		**PKPdf**	**21 55 37.9**	**-0.6**
INK	**Inuvik**	**148.99**	**317**	PKPbc	**PKPbc**	**21 55 58.3**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=65,slow=1.8,SNR=5.3						
SONM	**Songino Array**	**150.11**	**92**	PKPbc	**PKiKP**	**21 56 03.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=227,slow=2.1,SNR=6.4						
SONM	**Songino Array**	**150.11**	**92**		**PKiKP**	**21 56 03.7**	**-0.1**
ILAR	**Eielson Array**	**152.94**	**306**	PKPbc	**PKPbc**	**21 56 08.1**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=90,slow=0.4,SNR=5.4						
ILAR	**Eielson Array**	**152.94**	**306**		**PKPbc**	**21 56 07.9**	**-0.8**

*SOME **13** 21:37:26.7, 38°.65N×72°.93E, h10km, MS4.7*

*NNC **13** 21:37:34.5±2.2, 38°.59N×73°.06E, h0km, mb5.4, mpv5.2, Error ellipse: s-maj=20.3km s-min=13.5km az=164.0*

*MOS **13** 21:37:34.5±0.9, 38°.62N×73°.23E, h14km, mb5.2/29, MS4.2/13, Error ellipse: s-maj=5.2km s-min=3.5km az=89.1*

*IDC **13** 21:37:34.2±0.4, 38°.66N×73°.31E, h0km, mb4.6/41, mb1 4.7/49, mb1mx4.6/61, mbtmp4.6/49, ML4.2/8, MS4.1/43, Ms1 4.1/43, ms1mx3.9/90, Error ellipse: s-maj=10.1km s-min=8.3km az=169.0*

*BJI **13** 21:37:37.5±0.0, 38°.68N×73°.17E, h37km, mb4.9/61, mB5.1/39, ML5.1/5, Ms4.6/56, Ms7 4.4/53*

*NEIC **13** 21:37:37.0±1.8, 38°.73N±0°.05×73°.20E±0°.07, h13km±4km, mb5.0/151, Error ellipse: s-maj=8.4km s-min=6.6km az=136.0*

*GCMT **13** 21:37:39.0±0.2, 38°.78N±0°.02×73°.21E±0°.02, h23km±1km, MW4.9/77, Moment Tensor Solution. s22,c22; s77,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43±.14; $M_{\theta\theta}$-2.01±.10; $M_{\phi\phi}$2.45±.10; $M_{r\theta}$-1.03±.19; $M_{\theta\phi}$0.17±.07; $M_{\phi r}$-0.82±.13; Best double couple: $M_0$2.61700×10^{16} NP1:ϕ_s139.00000°, δ59.00000°, λ-172.00000°. NP2: ϕ_s45.00000°, δ83.00000°, λ-32.00000°. Principal axes: T 2.7050, Plg16.0000°, Azm96.0000°; N -0.1710, Plg58.0000°, Azm213.0000°; P -2.5280, Plg27.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DSN **13** 21:37:41.6±1.4, 38°.62N×73°.12E, h30km, mb5.3/11 Error ellipse: s-maj=26.9km s-min=14.2km az=103.0*

*BGR **13** 21:37:43.3±0.0, 38°.91N×73°.67E, h33km, mb4.9*

ISC 13 21:37:35.6±0.5, 38°.74N±0°.03×73°.28E±0°.02, h7km±2km, h7km:pP-P, n726, σ2S24/773, mb5.0/191, MS4.2/68, 69C-49D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.23**	**69**	P	**Pn**	**21 38 09.8**	**-3.3**
KSH				S	**Sn**	**21 38 35.6**	**-5.4**
KSH				smax	smax		
	comp=N,27μm,0.9s						
KSH				smax	smax		
	comp=E,28μm,1.0s						
CHGR	**Chuyangaron**	**3.23**	**270**	PN	**Pn**	**21 38 28.6**	**+1.8**
CHGR	**Chuyangaron**	**3.23**	**270**	Pn	**Pn**	**21 38 28.6**	**+1.8**
AML	**Almayashu**	**3.40**	**5**	P	**Pn**	**21 38 32.7**	**+3.3**
	SNR=111						
AML	**Almayashu**	**3.40**	**5**	*i* P	**Pb**	**21 38 33.9**	**-2.5**
	SNR=48						
AML	**Almayashu**	**3.40**	**5**	*i* P	**Pb**	**21 38 33.9**	**-2.5**
	SNR=48						
UCH	**Uchtor**	**3.61**	**15**	P	**Pb**	**21 38 36.1**	**-3.8**
	SNR=475						
EKS2	**Erkin-Say**	**3.93**	**5**	P	**Pb**	**21 38 41.3**	**-4.0**
	SNR=47						
AAK	**Ala-Archa**	**4.00**	**13**	Pn	**Pn**	**21 38 41.0**	**+3.6**
	20nm,0.3s,baz=170,slow=7.6,SNR=170						
AAK				Sn	**Sb**	**21 39 34.1**	**-1.0**
	73nm,0.3s,baz=338,slow=22,SNR=6.7						
AAK	**Ala-Archa**	**4.00**	**13**	P	**Pn**	**21 38 41.6**	**+4.2**
	SNR=469						
AAK	**Ala-Archa**	**4.00**	**13**	⇑*i*PN	**Pn**	**21 38 41.9**	**+4.5**
AAK	**Ala-Archa**	**4.00**	**13**	⇑Pn	**Pn**	**21 38 41.7**	**+4.2**
	744nm,0.8s						
AAK				⇓Sn	**Sb**	**21 39 32.7**	**-2.4**
	2μm,0.9s						
AAK	**Ala-Archa**	**4.00**	**13**	Pn	**Pn**	**21 38 40.5**	**+3.1**
AAK	**Ala-Archa**	**4.00**	**13**	*i* P	**Pn**	**21 38 41.7**	**+4.2**
	SNR=710						
AAK	**Ala-Archa**	**4.00**	**13**	*i* P	**Pn**	**21 38 41.7**	**+4.2**
	SNR=710						
MRKS	**Merke**	**4.00**	**359**	*e*P	**Pb**	**21 38 43.9**	**-2.5**
	171nm,0.6s						
MRKS				*e*S	**Sb**	**21 39 39.0**	**+4.0**
	987nm,1.0s						
TAS	**Tashkent**	**4.00**	**311**	PN	**Pn**	**21 38 39.3**	**+1.9**
TAS	**Tashkent**	**4.00**	**311**	Pn	**Pn**	**21 38 39.3**	**+1.9**
KBK	**Karagaybulak**	**4.11**	**17**	P	**Pb**	**21 38 44.3**	**-4.0**
	SNR=8.3						
ULHL	**Ulahol**	**4.16**	**32**	P	**Pb**	**21 38 47.8**	**-1.5**
	SNR=9.7						
CHMS	**Chumysh**	**4.40**	**14**	P	**Pn**	**21 38 47.1**	**+4.4**
	SNR=8.2						
DZA	**Taraz**	**4.40**	**341**	*e*PN	**Pn**	**21 38 45.5**	**+2.6**
DZA	**Taraz**	**4.40**	**341**	*e*P	**Pn**	**21 38 45.7**	**+2.9**
	808nm,0.5s						
DZA				*e*S	**Sb**	**21 39 42.8**	**-3.8**
	3μm,0.9s						
DZA	**Taraz**	**4.40**	**341**	*e*P	**Pn**	**21 38 45.5**	**+2.6**
	baz=342						
TKM2	**Tokmak 2**	**4.53**	**22**	P	Pn	21 38 49.9	+5.2
	SNR=15						
TKM2	**Tokmak 2**	**4.53**	**22**	⇑Pn	**Pn**	**21 38 47.9**	**+3.1**
	130nm,0.8s						
TKM2				⇓Pg	**Pg**	**21 39 01.6**	**-0.7**
	439nm,0.8s						
TKM2				⇓Lg	Lg	21 40 04.7	
	2μm,1.1s						
CHM	**Chimkent**	**4.54**	**323**	*e*P	**

6μm,1.2s
KOTS Kotyrbulak 5.34 32 *e*P **Pb 21 39 09.2 -0.2**
256nm,0.5s
KOTS *e*S **Sg 21 40 22.8 -4.2**
2μm,0.8s
KBL Kabul 5.40 220 PN **Pn** 21 39 00.0 +3.2
KBL Kabul 5.40 220 P Pn 21 39 02.0 +5.2
SNR=105
KBL Kabul 5.40 220 Pn **Pn 21 38 60.0 +3.2**
KTBS Karatobe 5.59 26 *e*P **Pb 21 39 15.4 +2.0**
213nm,0.8s
KTBS *e*S **Sg 21 40 33.9 -1.0**
1μm,0.7s
KUU Kurty 5.64 23 *e*PN **Pn 21 39 02.2 +2.4**
KUU pmax pmax
comp=Z,28nm,1.0s
KUU Kurty 5.64 23 *e*P **Pb 21 39 14.3 0.0**
comp=Z,86nm,0.8s
KUU *e*S **Sg 21 40 32.6 -3.9**
comp=Z,628nm,1.2s
KUU Kurty 5.64 23 *e*P **Pn 21 39 02.2 +2.4**
comp=Z,28nm,1.0s,baz=23
SATY Saty 5.80 40⇑*i*PN **Pn 21 39 04.6 +2.5**
SATY Saty 5.80 40 *e*P **Pb 21 39 17.0 -0.2**
comp=Z,414nm,1.0s
SATY *e*S **Sg 21 40 36.0 -5.8**
comp=Z,1μm,2.0s
SATY Saty 5.80 40⇑*i*P **Pn 21 39 04.7 +2.5**
baz=40
CHKK Chushkaly 5.82 27 *e*P **Pn 21 39 05.5 +3.2**
baz=27
ZHN Zhinishke 5.89 40 *e*PN **Pn 21 39 06.0 +2.6**
ZHN Zhinishke 5.89 40 *e*P **Pn 21 39 06.1 +2.6**
baz=39
THW Thamme Wali 6.07 192⇓P **Pn 21 39 08.3 +2.6**
JMU Jammu 6.15 167 *e*P **Pn 21 39 03.5 -3.4**
JMU *e*P **Pn 21 39 09.4 +2.5**
JMU *e*S **Sn 21 40 14.0 -3.5**
UZB Uzynbulak 6.18 43⇑*i*PN **Pn 21 39 09.9 +2.5**
UZB pmax pmax
comp=Z,11nm,0.6s
UZB Uzynbulak 6.18 43 *e*P **Pb 21 39 24.8 +1.2**
comp=Z,102nm,0.8s
UZB *e*S **Sg 21 40 49.6 -4.4**
comp=Z,454nm,0.8s
UZB Uzynbulak 6.18 43⇑*i*P **Pn 21 39 09.9 +2.5**
comp=Z,11nm,0.6s,baz=42
BTLS Baital 6.32 5 *e*PN **Pn 21 39 12.3 +3.1**
BTLS pmax pmax
comp=Z,12nm,0.8s
BTLS Baital 6.32 5 *e*P **Pb 21 39 23.7 -2.2**
comp=Z,36nm,1.1s
BTLS *e*S **Sb 21 40 47.9 +6.2**
comp=Z,24nm,1.1s
BTLS Baital 6.32 5 *e*P **Pn 21 39 12.3 +3.1**
comp=Z,12nm,0.8s,baz=5.3
ARXS Arharly 6.44 31 *e*PN **Pn 21 39 12.1 +1.2**
ARXS Arharly 6.44 31 *e*P **Pb 21 39 29.5 +1.5**
comp=Z,94nm,0.8s
ARXS *e*S **Sg 21 40 58.8 -3.6**
comp=Z,588nm,1.0s
PDGK Podgornoye 6.56 44⇑Pn **Pn 21 39 15.3 +2.7**
comp=Z,88nm,0.8s
PDGK ⇓Pg **Pg 21 39 38.3 -2.8**
comp=Z,216nm,0.7s
PDGK ⇓Lg Lg 21 41 04.7
BLB Baldybastay 6.62 34 *e*P **Pb 21 39 32.1 +1.0**
comp=Z,75nm,0.7s
BLB *e*S **Sg 21 41 02.2 -5.9**
comp=Z,635nm,1.3s
SARP Sargodha 6.82 184 P **Pn 21 39 17.7 +1.6**
DHRM DHARAMSHALA 6.93 158 *e*P **Pn 21 39 19.8 +2.0**
TDK Taldyqorghan 7.33 30 *e*P **Pn 21 39 26.1 +3.1**
TDK Taldyqorghan 7.33 30 *e*P **Pb 21 39 45.5 +2.4**
comp=Z,119nm,1.1s
TDK *e*S **Sg 21 41 24.9 -5.8**
comp=Z,714nm,1.3s
TDK Taldyqorghan 7.33 30 *e*P **Pn 21 39 26.1 +3.1**
baz=30
BHK Bhakra 7.75 160 *e*P **Pn 21 39 30.8 +2.0**
SMLA Simla 8.24 156 *e*P **Pn 21 39 36.0 +0.5**
KKR Kurukshetra 9.23 161 *e*P **Pn 21 39 50.5 +1.4**
OTUK Ortayu 9.52 356⇓Pn **Pn 21 39 54.7 +1.6**
comp=Z,52nm,1.1s
OTUK ⇑Lg Lg 21 42 36.1
comp=Z,328nm,1.3s
HRA Herat 9.88 247 Pn **Pn 21 39 58.8 +0.5**
MAKZ Makanchi 10.28 36 P **Pn 21 40 06.9 +3.4**
MAKZ Makanchi 10.28 36⇑Pn **Pn 21 40 06.7 +3.3**
comp=Z,58nm,1.2s
MAKZ ⇓Lg Lg 21 43 00.9
comp=Z,81nm,1.2s
MAKZ Makanchi 10.28 36 Pn **Pn 21 40 06.9 +3.4**
MK31 Makanchi Array 10.41 37 *i* P **Pn 21 40 08.3 +3.0**
MK31 pmax pmax
comp=Z,68nm,0.8s
MK31 Makanchi Array 10.41 37 Pn **Pn 21 40 08.3 +3.0**
comp=Z,68nm,0.8s,baz=206,slow=11,SNR=267
MK31 Makanchi Array 10.41 37 Pn 21 40 08.0 +2.7
MKAR Makanchi Array 10.41 37 Pn **Pn 21 40 08.4 +3.1**
comp=Z,1.8nm,0.3s,baz=210,slow=11,SNR=122
MKAR LR LR 21 44 32.7
comp=Z,1μm,21.1s,baz=226,slow=40
MKAR Makanchi Array 10.41 37 P **Pn 21 40 06.5 +1.2**
MKAR Makanchi Array 10.41 37 Pn **Pn 21 40 06.5 +1.2**
NDI New Delhi 10.55 161 *e*P **Pn 21 40 06.5 -0.8**
NDI *e*S Sn 21 41 54.9 -11
AYAN Aya Nagar 10.72 162 *e*P **Pn 21 40 09.9 +0.4**
KUDL Kundal 10.90 165 *e*P **Pn 21 40 12.2 +0.2**
SONA Sohna 10.93 162 *e*P **Pn 21 40 12.5 +0.1**
BRZS Berezniki 11.25 358 *e*P **Pn 21 40 18.9 +2.2**
BRZS Berezniki 11.25 358 *e*P **Pn 21 40 18.9 +2.2**
baz=358
GEYT Alibeck 11.94 271 Pn **Pn 21 40 24.0 -2.3**
comp=Z,4.8nm,0.3s,baz=97,slow=12,SNR=30
GEYT Sn **Sn 21 42 36.5 -3.2**
comp=Z,3.0nm,0.3s,baz=183,slow=22,SNR=4.3
GEYT Alibeck 11.94 271 Pn **Pn 21 40 24.3 -2.0**
GYA0B ALIBECK ARRAY 11.94 271⇑Pn **Pn 21 40 23.6 -2.6**
GYA0B ⇑Sn **Sn 21 42 33.8 -6.0**
GYA0B ALIBECK ARRAY 11.94 271 Pn **Pn 21 40 24.6 -1.7**
JASL Jaisalmer 11.95 190 *e*P **Pn 21 40 26.0 -0.4**
WMQ Urumqi 11.97 60 *e*P **Pn 21 40 27.9 +1.3**
WMQ pP 21 40 37.6
WMQ sP 21 40 42.4
WMQ S **Sn 21 42 42.3 +1.9**
WMQ pmax pmax
comp=Z,120nm,0.9s
WMQ pmax pmax
comp=Z,310nm,3.7s
WMQ LR LR
comp=Z,3μm,9.7s
WMQ LR LR
comp=Z,1μm,8.7s
WMQ LR LR
comp=Z,1μm,19.9s
ZSN Zaisan 12.13 40 *e*P **Pn 21 40 31.2 +2.5**
ZSN pmax pmax
comp=Z,4.0nm,1.0s
ZSN Zaisan 12.13 40 *e*P **Pn 21 40 31.3 +2.5**
comp=Z,4.2nm,1.0s,baz=40
AJM Ajmer 12.28 174 *e*P **Pn 21 40 29.0 -1.9**
AJM *e*S Sn 21 42 38.5 -10
KURBB Kurchatov Arra 12.45 16 Pn **Pn 21 40 32.3 -0.7**
comp=Z,0.3nm,0.3s,baz=205,slow=12,SNR=25
KURBB Sn **Sn 21 42 57.5 +5.5**
comp=Z,0.1nm,0.3s,baz=186,slow=29,SNR=4.2
KURBB LR LR 21 45 41.2
comp=Z,993nm,20.7s,baz=178,slow=39
KURBB Kurchatov Arra 12.45 16⇓Pn **Pn 21 40 32.5 -0.5**
comp=Z,21nm,0.8s
KURBB ⇑Lg Lg 21 44 07.1
comp=Z,338nm,1.0s
KURK Kurchatov 12.55 16 *i* P **Pn 21 40 36.8 +2.3**
KURK Kurchatov 12.55 16⇓Pn **Pn 21 40 34.7 +0.2**
comp=Z,26nm,1.1s
KURK ⇓Lg Lg 21 44 13.2
comp=Z,427nm,1.3s
KURK Kurchatov 12.55 16 Pn **Pn 21 40 34.2 -0.3**
SEM Semipalatinsk 12.67 21 *e*P **Pn 21 40 39.3 +3.0**
SEM pmax pmax
comp=Z,18nm,1.8s
SEM Semipalatinsk 12.67 21 *e*P **Pn 21 40 39.3 +3.0**
comp=Z,18nm,1.8s,baz=21
PYUN Piuthan 13.34 140 *e*P **Pn 21 40 41.5 -4.1**
comp=Z,135nm,0.6s
DANN Dangsing 13.54 137 *e*P Pn 21 40 43.4 -5.0
comp=Z,45nm,0.5s
KOLN Koldanda 13.92 139 *e*P **Pn 21 40 49.3 -4.2**
comp=Z,56nm,0.6s
JHNI Jhansi 13.96 160 *e*P **Pn 21 40 50.7 -3.1**
AB31 Akbulak array 14.21 322 Pn **Pn 21 40 54.6 -2.6**
comp=Z,46nm,0.8s,baz=130,slow=12,SNR=608
AB31 ⇑Sn **Sn 21 43 28.8 -6.2**
comp=Z,40nm,0.8s,baz=129,slow=24,SNR=5.7
ABKAR Akbulak array 14.21 322 Pn **Pn 21 40 54.8 -2.3**
ABKAR Akbulak array 14.21 322 Pn **Pn 21 40 54.6 -2.6**
GKN Gorkha 14.29 135 *e*P Pn 21 40 52.8 -5.7
comp=Z,26nm,0.4s
BVAR Borovoye Array 14.43 353 Pn **Pn 21 40 59.0 -1.1**
comp=Z,0.8nm,0.3s,baz=142,slow=13,SNR=27
BRVK Borovoye 14.47 353 *i* P **Pn 21 41 01.9 +1.2**
BRVK Borovoye 14.47 353⇓Pn **Pn 21 40 59.4 -1.2**
comp=Z,94nm,0.8s
BRVK ⇓Lg Lg 21 45 08.3
comp=Z,162nm,1.4s
BRVK Borovoye 14.47 353 Pn **Pn 21 40 59.0 -1.7**
KKN Kakani 14.81 134 *e*P Pn 21 40 59.7 -6.0
comp=Z,58nm,0.7s
DGZ Jazzator, Alta 14.90 38 *i* P **Pn 21 41 08.2 +1.5**
BHUJ Bhuj 15.75 192 *e*P **Pn 21 41 15.8 -2.1**
BHUJ IAmb IAmb 21 41 19.0
comp=Z,112nm,0.7s
BHPL Bhopal 15.85 166 *e*P **Pn 21 41 16.3 -2.9**
BHPL IAmb IAmb 21 41 23.7
comp=Z,27nm,1.1s
AKTO Aktyubinsk 15.93 322 Pn **Pn 21 41 19.5 -0.6**
comp=Z,3.9nm,0.3s,baz=133,slow=15,SNR=24
AKTO Sn **Sn 21 44 09.4 -7.4**
comp=Z,0.7nm,0.3s,baz=4.6,slow=21,SNR=3.0
AKTO LR LR 21 47 21.7
comp=Z,441nm,18.7s,baz=139,slow=37
AKTO Aktyubinsk 15.93 322⇓Pn **Pn 21 41 18.9 -1.2**
comp=Z,144nm,0.9s
AKTO ⇑Sn **Sn 21 44 11.6 -5.2**
comp=Z,89nm,0.9s
ZAA0 Zalesovo Array 17.13 24⇑Pn **Pn 21 41 34.2 -1.1**
comp=Z,18nm,1.1s
ZAA0 Zalesovo Array 17.13 24 Pn **Pn 21 41 34.8 -0.6**
ZAA0 IAmb IAmb 21 41 40.9
comp=Z,88nm,0.9s
ZALV Zalesovo Beam 17.13 24 P **Pn 21 41 35.0 -0.4**
comp=Z,2.9nm,0.3s,baz=212,slow=11,SNR=62
ZALV LR LR 21 48 32.9
comp=Z,747nm,19.9s,baz=215,slow=38
ZALV Zalesovo Beam 17.13 24 P **Pn 21 41 34.6 -0.7**
ZALV Zalesovo Beam 17.13 24 Pn **Pn 21 41 34.6 -0.7**
GOMU GeErMu 17.28 92 P **Pn 21 41 36.1 -1.6**
GOMU pP sP 21 41 44.3 +0.4
GOMU sP pP 21 41 47.6 +5.1
GOMU S **Sn 21 44 43.6 -6.6**
GOMU pmax pmax
comp=Z,20nm,0.9s
GOMU LR LR
comp=Z,560nm,15.7s
GOMU LR LR
comp=Z,470nm,17.1s
GOMU LR LR
comp=Z,550nm,17.2s
LSA Lhasa 17.29 116 P **Pn 21 41 36.8 -1.1**
LSA pmax pmax
comp=Z,25nm,0.9s
LSA Lhasa 17.29 116 P **Pn 21 41 36.6 -1.3**
LSA pmax pmax
comp=Z,17nm,1.0s
LSA Lhasa 17.29 116 **Pn 21 41 36.8 -1.1**
BLSP Bilaspur 18.21 153 *e*P **Pn 21 41 48.8 -0.1**
AKL Akola 18.26 169 *e*P **Pn 21 41 48.1 -1.5**
BOK Bokaro 18.36 141 *e*P **Pn 21 41 47.3 -3.4**
BOK IAmb IAmb 21 41 52.3
BANOM Banah 19.18 233 P **Pn 21 42 00.8 +0.1**
BANOM Banah 19.18 233 P **Pn 21 42 00.8 +0.1**
MSFE Esma-Masafi 19.67 232 *i* P **Pn 21 42 06.3 -0.3**
SNR=8.0
MSFE Esma-Masafi 19.67 232 *i* P **Pn 21 42 06.3 -0.3**
SNR=8.0
WSAR Wadi Sarin 19.87 223 P **P 21 42 07.4 0.0**
comp=Z,0.8nm,0.3s,baz=67,slow=9.7,SNR=16
MAK Makhachkala 19.92 290*c i*P **P 21 42 03.0 -4.8**
MAK *e*S **S 21 45 45.5 -6.6**
MAK pmax pmax
comp=Z,254nm,1.4s
MAK MLR MLR
comp=Z,707nm,13.0s
SVE Sverdlovsk 19.93 339 *e*P **Pn 21 42 08.9 -0.5**
SVE pmax pmax
comp=Z,27nm,0.8s
SVE MLR MLR
comp=Z,1μm,12.0s
UOSS Minazif 19.95 231 P **P 21 42 07.0 -1.2**
UOSS IAmb IAmb 21 42 09.1
comp=Z,49nm,0.8s
UOSS Minazif 19.95 231 *i* P **P 21 42 08.4 +0.2**
SNR=7.7
UOSS Minazif 19.95 231 *i* P **P 21 42 08.4 +0.2**
SNR=7.7
HATD Hatta, Dubai 20.08 231 *i* P Pn 21 42 11.0 -0.4
SNR=7.8
HATD Hatta, Dubai 20.08 231 *i* P Pn 21 42 11.0 -0.4
SNR=7.8
WBK Wadi Bani Khal 20.21 221 P Pn 21 42 12.9 -0.1
SNR=7.6
ARU Arti 20.21 336 P **P 21 42 11.7 +0.9**
comp=Z,4.4nm,0.5s,baz=154,slow=6.6,SNR=27
ARU LR LR 21 50 18.4
comp=Z,507nm,19.2s,baz=148,slow=38
ARU Arti 20.21 336*d i*P **P 21 42 11.7 +0.9**
ARU PPP PPP 21 42 37.1
ARU S Sn 21 46 01.5 +1.2
ARU SS **SnSn 21 46 19.8 +5.0**
ARU SSS SSS 21 46 36.1
ARU pmax pmax
comp=Z,35nm,1.4s
ARU MLR MLR
comp=Z,469nm,11.0s
ARU Arti 20.21 336 P **P 21 42 10.6 -0.2**
ARU IAmb IAmb 21 42 29.6
comp=Z,60nm,1.1s
SRSP Sriramsagar 20.23 166 *e*P **P 21 42 11.0 -0.3**
NAZ Nazwa, Dubai 20.25 233 P **P 21 42 11.3 -0.2**
NAZ Nazwa, Dubai 20.25 233 P **P 21 42 11.3 -0.2**
JLN Jalan Bani Buh 20.37 220 P Pn 21 42 14.0 -0.8
SNR=8.1
SHL Shillong 20.46 124 P **P 21 42 11.5 -2.4**
SHL pmax pmax
comp=Z,48nm,0.8s
SHL Shillong 20.46 124 *e*P **P 21 42 10.4 -3.5**
SHL IAmb IAmb 21 42 15.6
comp=Z,19nm,0.6s
SHL Shillong 20.46 124 P **P 21 42 11.9 -2.0**
SNR=20
SHL Shillong 20.46 124 P **P 21 42 11.5 -2.4**
SHL IAmb IAmb 21 42 33.1
comp=Z,48nm,0.8s
FAQ Al Faqa, Dubai 20.47 232 P **P 21 42 13.6 -0.3**
FAQ Al Faqa, Dubai 20.47 232 P **P 21 42 13.6 -0.3**
RPR Rampur 20.49 164 *e*P **P 21 42 14.8 +0.7**
GTA Gaotai 20.59 80⇑P Pn 21 42 17.6 +0.1
GTA pP sP 21 42 28.3 +8.3
GTA S Sn 21 46 09.3 -0.5
GTA pmax pmax
comp=Z,110nm,1.2s
GTA pmax pmax
comp=Z,420nm,4.4s
GTA LR LR
comp=Z,760nm,15.6s
GTA LR LR
comp=Z,830nm,14.9s
GTA LR LR
comp=Z,740nm,16.4s
ASUD Al Ashush, Dub 20.72 232 *i* P **P 21 42 16.4 -0.2**
SNR=6.4
ASUD Al Ashush, Dub 20.72 232 *i* P **P 21 42 16.4 -0.2**
SNR=6.4
JMDO Jabal Madar 20.86 223 P **P 21 42 19.1 +0.9**
SNR=10
ALNE Al Ain 20.88 231 P **P 21 42 18.6 +0.2**
SNR=8.7
ALNE Al Ain 20.88 231 *i* P **P 21 42 18.0 -0.4**
SNR=22
ALNE Al Ain 20.88 231 *i* P **P 21 42 18.0 -0.4**
SNR=22
ARQ Araqi 20.97 228 P Pn 21 42 20.7 -1.2
SNR=7.6
BSY Bisya 21.05 225 P **P 21 42 20.8 +0.6**
SNR=7.8
GROC Groznyy 21.18 291 *e*P **P 21 42 20.6 -0.9**
GROC *e* 21 42 41.2
GROC pmax pmax
comp=Z,111nm,1.1s
BWNR Bhubaneshwar 21.33 146 *e*P **P 21 42 25.8 +2.6**
RAGD RAYAGADA 21.34 153 *e*P **P 21 42 23.4 +0.1**
KAD Karad 21.37 178 *e*P **P 21 42 23.6 -0.1**
MOKO MOKOCHONG 21.71 119 *e*P **P 21 42 26.8 -0.6**
MOKO IAmb IAmb 21 42 32.5
comp=Z,58nm,0.8s
HYBB Hyderabad (bro 21.74 166 *e*P **P 21 42 28.1 +0.5**
HYBB *e*S **S 21 46 29.7 +1.2**
HYB Hyderabad 21.74 166 *e*P **P 21 42 26.7 -0.9**
HYB IAmb IAmb 21 42 31.8
comp=Z,27nm,0.7s
KOHI KOHIMA 21.82 120 *e*P **P 21 42 28.0 -0.6**
KOHI IAmb IAmb 21 42 31.5
comp=Z,78nm,0.8s
GNI Garni 22.05 283 P **P 21 42 32.8 +1.8**
comp=Z,37nm,0.8s,baz=3.1,slow=3.5,SNR=15
GNI LR LR 21 53 09.3
comp=Z,190nm,18.5s,baz=96,slow=42
GNI Garni 22.05 283 P **P 21 42 30.6 -0.4**
GNI pmax pmax
comp=Z,162nm,1.0s
GNI Garni 22.05 283 P **P 21 42 30.6 -0.4**
GNI Garni 22.05 283 P **P 21 42 36.2 +5.2**
GNI Garni 22.05 283 P **P 21 42 36.2 +5.2**
CHLP Challavanipeta 22.24 152 *e*P **P 21 42 33.0 +0.1**
IMP Imphal 22.31 122 *e*P **P 21 42 33.6 -0.2**
IMP IAmb IAmb 21 42 37.4
comp=Z,42nm,0.7s
BELG Belogornoye 22.41 316 P **P 21 42 33.8 -0.7**
comp=Z,167nm,0.9s,baz=27,slow=1.0,SNR=39
BELG LR LR 21 52 11.4
comp=Z,287nm,19.6s,baz=116,slow=39
NJS Nagarjunasagar 22.73 165 *e*P **P 21 42 39.1 +0.9**
NCK Nalchik 22.80 292 *i* P **P 21 42 38.7 -0.1**
NCK pmax pmax
comp=Z,58nm,0.7s
MYLAV Mylavaram 22.84 162 *e*P **P 21 42 39.8 +0.4**
ONI Oni 22.89 289 P **P 21 42 40.7 +0.8**
ONI pmax pmax
comp=Z,83nm,0.9s
ONI Oni 22.89 289 P **P 21 42 40.7 +0.8**
ONI IAmb IAmb 21 42 46.7
comp=Z,83nm,0.9s
SRLM Srisailam 23.09 166 *e*P **P 21 42 42.2 +0.2**
MOY Mondy 23.25 47 *e*P **P 21 42 45.0 +1.5**
MOY pmax pmax
comp=Z,126nm,1.6s
GOF Gofitskoye 23.29 295⇑*e*P **P 21 42 47.1 +3.2**
GOF pmax pmax
comp=Z,101nm,0.9s
KBZ Khabaz 23.32 292 P **P 21 42 43.2 -0.8**
comp=Z,5.4nm,0.9s,baz=130,slow=9.3,SNR=6.0
KBZ LR LR 21 53 34.1
comp=Z,252nm,20.8s,baz=96,slow=41
KBZ Khabaz 23.32 292 *i* P **P 21 42 42.5 -1.6**
KBZ pmax pmax
comp=Z,19nm,0.9s
NEY Neytrino 23.43 291 *i* P **P 21 42 47.6 +2.1**
NEY pmax pmax
comp=Z,10.0nm,0.8s
KVAR Kislovodsk Arr 23.47 293 P **P 21 42 45.3 -0.5**
comp=Z,3.2nm,0.8s,baz=90,slow=20,SNR=2.1
KIV Kislovodsk 23.48 293 *e*P **P 21 42 45.9 +0.1**
KIV *e*S **S 21 47 00.2 +0.4**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,187nm,14.0s
KIV Kislovodsk 23.48 293 P **P 21 42 46.0 +0.1**
KIV IAmb IAmb 21 43 13.4
comp=Z,40nm,0.7s
KIV Kislovodsk 23.48 293 *i* P **P 21 42 48.9 +3.1**
SNR=5.2
KIV Kislovodsk 23.48 293 *i* P **P 21 42 48.9 +3.1**
SNR=5.2
ADKI Addanki 23.55 164 *e*P **P 21 42 47.9 +1.3**
RCLA Racherla 23.73 166 *e*P **P 21 42 48.8 +0.4**
RCLA *e*S **S 21 47 04.3 +0.5**
URV Uravakonda 23.96 171 *e*P **P 21 42 50.1 -0.5**
ZAK Zakamensk 24.16 51 *e*P **P 21 42 54.2 +1.8**
ZAK pmax pmax
comp=Z,78nm,1.0s
ZAK pmax pmax
comp=Z,30nm,1.2s
LZH Lanzhou 24.36 87⇑P **P 21 42 56.4 +2.0**
LZH sP sP 21 43 13.1 +14
LZH S **S 21 47 10.4 -3.8**
LZH sS sS 21 47 28.3 +8.3
LZH pmax pmax
comp=Z,120nm,1.2s
LZH pmax pmax
comp=Z,380nm,4.9s
LZH LR LR
comp=Z,890nm,11.6s
LZH LR LR
comp=Z,1μm,14.5s
KIRV Kirov 25.11 330 P **P 21 43 00.9 +0.3**
comp=Z,18nm,0.7s,baz=145,slow=1.3,SNR=12
KIRV LR LR 21 52 38.4
comp=Z,364nm,21.4s,baz=135,slow=36
IRK Irkutsk 25.35 48 *e*P **P 21 43 04.7 +1.7**
IRK pmax pmax
comp=Z,100nm,1.3s
VRH Novokhopyorsk 25.36 310 *e*P **P 21 43 02.9 -0.1**
VRH pmax pmax
comp=Z,20nm,0.8s
SONM Songino Array 25.59 58 P **P 21 43 07.2 +1.8**
comp=Z,129nm,0.9s,baz=261,slow=7.9,SNR=120
SONM LR LR 21 54 02.6
comp=Z,883nm,19.4s,baz=263,slow=39
SONM Songino Array 25.59 58 P **P 21 43 06.5 +1.1**
SONM pmax pmax
comp=Z,141nm,0.9s
SONM Songino Array 25.59 58 P **P 21 43 06.5 +1.1**
SOC Sochi 25.62 292 *e*P **P 21 43 02.3 -3.2**
SOC *e*PPP PPP 21 43 47.6
SOC *e*S **S 21 47 30.2 -3.7**
SOC *e*SSS SSS 21 48 39.4
SOC pmax pmax
comp=Z,26nm,1.1s
SOC MLR MLR
comp=Z,244nm,17.0s
SHAO Shalim 25.75 222 P **P 21 43 06.2 -0.7**
ULN Ulaanbaatar 26.04 59 *i* P **P 21 43 11.0 +1.5**
ULN pmax pmax
comp=Z,95nm,1.1s
ULN Ulaanbaatar 26.04 59 P **P 21 43 10.7 +1.2**
DOK Doka 26.06 225 P **P 21 43 09.6 -0.1**
SNR=8.4
CD2 Chengdu 26.12 98 P **P 21 43 11.1 +0.8**
CD2 S **S 21 47 41.1 -1.0**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 LR LR
comp=Z,640nm,13.0s
CD2 LR LR
comp=Z,760nm,12.0s
VORD Divnogorie 26.77 308 *e*P **P 21 43 17.4 +1.6**
VORD pmax pmax
comp=Z,20nm,0.8s
PZH PanZhiHua 26.78 109 P **P 21 43 17.4 +1.0**
PZH S **S 21 47 56.3 +3.5**
PZH ScS **ScS 21 54 08.9 -1.8**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,250nm,6.7s
PZH LR LR
comp=Z,790nm,17.6s
PZH LR LR
comp=Z,760nm,18.2s
PZH LR LR
comp=Z,1μm,21.0s
WHFO Wadi Hawf 26.82 225 P **P 21 43 16.0 -0.6**
SNR=10
VSR Storozhevoye 26.91 309 *e*P **P 21 43 17.0 -0.1**

VSR pmax pmax
comp=Z,30nm,0.9s
RBK Rabkut 26.93 224 P **P 21 43 18.0 +0.4**
SNR=6.3
LPSR Galich'ya Gora 27.42 312 *e*P **P 21 43 24.0 +2.3**
LPSR pmax pmax
comp=Z,50nm,0.8s
ABTO Aybut 27.55 225 P **P 21 43 22.5 -0.7**
SNR=8.8
RAYN Ar Rayn 28.07 245 P **P 21 43 27.7 -0.1**
RAYN pmax pmax
comp=Z,16nm,1.0s
RAYN Ar Rayn 28.07 245 P **P 21 43 27.7 -0.1**
RAYN IAmb IAmb 21 44 00.6
comp=Z,16nm,0.9s
RAYN Ar Rayn 28.07 245 P **P 21 43 28.8 +1.0**
KMI Kunming 28.31 110 ⇑P **P 21 43 32.3 +2.2**
KMI pP sP 21 43 41.8 +6.8
KMI sP pP 21 43 45.3 +12
KMI S **S 21 48 15.8 -1.2**
KMI sS sS 21 48 28.0 +5.3
KMI SS **SnSn 21 49 42.4 +8.7**
KMI pmax pmax
comp=Z,9.0nm,1.2s
KMI LR LR
comp=Z,320nm,13.1s
KMI LR LR
comp=Z,250nm,17.4s
KMI LR LR
comp=Z,380nm,11.3s
PRGR Permogore 28.55 332 *e*P **P 21 43 30.4 -1.3**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
XAN Xi'an 28.95 88 P **P 21 43 36.6 +1.0**
XAN pP sP 21 43 44.0 +3.5
XAN pmax pmax
comp=Z,28nm,0.9s
XAN pmax pmax
comp=Z,250nm,8.3s
XAN LR LR
comp=Z,580nm,17.1s
XAN LR LR
comp=Z,870nm,15.2s
SNOP Sinop 29.03 289 P **P 21 43 36.7 +0.5**
MOS Moscow 29.15 317 *e*P **P 21 43 41.6 +4.6**
MOS pmax pmax
comp=Z,46nm,1.3s
MOS MLR MLR
comp=Z,500nm,20.0s
HHC Hu-ho-hao-te 29.33 74 *e*P **P 21 43 42.9 +3.9**
HHC pP sP 21 43 53.1 +9.2
HHC S **S 21 48 29.6 -3.1**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.1s
HHC LR LR
comp=Z,600nm,15.1s
HHC LR LR
comp=Z,460nm,12.9s
HHC LR LR
comp=Z,680nm,13.0s
OBN Obninsk 29.51 316 ⇓P **P 21 43 41.3 +1.1**
OBN Obninsk 29.51 316 P **P 21 43 42.1 +1.9**
comp=Z,3.2nm,0.5s,baz=122,slow=17,SNR=4.3
OBN LR LR 21 56 30.4
comp=Z,58nm,20.3s,baz=120,slow=38
OBN Obninsk 29.51 316 *i* P **P 21 43 40.3 +0.1**
OBN *i* 21 44 36.8
OBN pmax pmax
comp=Z,27nm,1.0s
OBN MLR MLR
comp=Z,242nm,18.0s
OBN Obninsk 29.51 316 P **P 21 43 39.8 -0.5**
OBN IAmb IAmb 21 44 45.1
comp=Z,58nm,1.3s
SIM Simferopol' 29.61 295 *i* P **P 21 43 44.4 +3.1**
SIM S **S 21 48 36.4 -0.4**
SIM pmax pmax
comp=Z,29nm,0.6s
CHTO Chiang Mai 29.83 124 P **P 21 43 43.2 -0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 29.83 124 P **P 21 43 43.2 -0.3**
CM31 Chiang Mai Arr 30.09 125 P **P 21 43 47.5 +1.8**
CMAR Chiang Mai Arr 30.09 125 P **P 21 43 46.1 +0.3**
comp=Z,0.6nm,0.4s,baz=312,slow=8.8,SNR=7.8
ASF Jabal al Asfar 30.21 269 P **P 21 43 49.0 +2.1**
comp=Z,0.9nm,0.5s,baz=185,slow=3.7,SNR=4.3
KLMR Klimovskoe 30.49 328 *e*P **P 21 43 47.8 -1.1**
KLMR pmax pmax
comp=Z,26nm,1.3s
KLMR Klimovskoe 30.49 328 *e*P **P 21 43 47.8 -1.1**
KLMR AMP 21 43 58.9
comp=Z,26nm,1.3s
GYA Guiyang 30.50 104 ⇓P **P 21 43 50.3 +0.8**
GYA pmax pmax
comp=Z,11nm,0.7s
BR131 Keskin Array S 30.55 285 P **P 21 43 50.1 +0.2**
BR131 pmax pmax
comp=Z,11nm,0.9s
BR131 Keskin Array S 30.55 285 P **P 21 43 50.1 +0.2**
BRTR Keskin Array B 30.55 285 P **P 21 43 51.5 +1.6**
comp=Z,5.5nm,0.8s,baz=87,slow=8.8,SNR=12
BRTR LR LR 21 58 29.8
comp=Z,205nm,18.6s,baz=114,slow=41
BRTR Keskin Array B 30.55 285 P **P 21 43 50.7 +0.8**
BRTR Keskin Array B 30.55 285 P **P 21 43 50.7 +0.8**
CIT Chita 30.82 51 *e*P **P 21 43 50.0 -2.0**
CIT *e* 21 45 07.6
CIT pmax pmax
comp=Z,91nm,1.4s
ENH Enshi 30.85 95 P **P 21 43 53.6 +1.2**
ENH IAmb IAmb 21 43 54.6
comp=Z,29nm,1.1s
MMAI Mount Meron Ar 31.07 271 P **P 21 43 56.0 +1.7**
comp=Z,0.7nm,0.5s,baz=76,slow=11,SNR=5.2
ANTO Ankara 31.17 285 P **P 21 43 55.6 +0.4**
ANTO pmax pmax
comp=Z,10.0nm,1.0s
ANTO Ankara 31.17 285 P **P 21 43 55.6 +0.4**
BR231 Keskin MP Arra 31.18 285 P **P 21 43 55.7 +0.3**
BR231 IAmb IAmb 21 44 49.1
comp=Z,20nm,1.3s
SLVN Son La 31.48 115 P **P 21 43 58.6 +0.5**
LYN LuoYang 31.55 85 ⇑*i*P **P 21 44 00.6 +2.1**
LYN S **S 21 49 13.3 +6.0**
LYN pmax pmax
comp=Z,20nm,0.8s
LYN LR LR
comp=Z,1μm,14.7s
LYN LR LR
comp=Z,570nm,14.7s
GHAJ Ghor Haditha 31.60 268 P **P 21 43 58.6 -0.3**
GHAJ IAmb IAmb 21 44 04.7
comp=Z,17nm,1.1s
NRIK Noril'sk 31.61 10 P **P 21 43 59.2 +0.6**
comp=Z,16nm,1.0s,baz=199,slow=5.8,SNR=15
NRIK LR LR 21 58 20.8
comp=Z,244nm,20.7s,baz=190,slow=39
NRIK Noril'sk 31.61 10 P **P 21 43 58.5 -0.1**
NRIK pmax pmax
comp=Z,17nm,1.0s
NRIK Noril'sk 31.61 10 P **P 21 43 58.5 -0.1**
NRIK IAmb IAmb 21 44 03.1
comp=Z,17nm,1.0s
PALK Pallekele 32.04 166 LR LR 21 57 02.7
comp=Z,438nm,20.1s,baz=92,slow=37
PALK Pallekele 32.04 166 P **P 21 44 02.5 -0.5**
PALK pmax pmax
comp=Z,17nm,1.0s
PALK Pallekele 32.04 166 P **P 21 44 02.5 -0.5**
PALK IAmb IAmb 21 44 16.6
comp=Z,18nm,1.0s
MDUB Mudurnu 32.25 287 P **P 21 44 04.3 -0.5**
XLT XiLinHaoTe 32.28 67 *e*P **P 21 44 07.0 +2.1**
XLT S **S 21 49 10.8 -7.9**
XLT pmax pmax
comp=Z,9.0nm,1.5s
XLT pmax pmax
comp=Z,370nm,5.9s
XLT LR LR
comp=Z,1μm,18.1s
XLT LR LR
comp=Z,850nm,15.6s
XLT LR LR
comp=Z,1μm,15.1s
HNS HongShan 32.44 79 ⇑P **P 21 44 08.3 +2.0**
HNS S **S 21 49 23.9 +2.7**
HNS pmax pmax
comp=Z,25nm,1.0s
HNS LR LR
comp=Z,510nm,13.2s
HNS LR LR
comp=Z,550nm,14.2s
HNS LR LR
comp=Z,560nm,16.3s
BOD Bodaibo 32.47 41 *e*P **P 21 44 07.0 +0.7**
BOD pmax pmax
comp=Z,51nm,1.3s
PURM Purcari 32.53 298 ⇓P **P 21 44 11.4 +4.4**
EIL Elat 32.77 266 P **P 21 44 10.5 +1.2**
comp=Z,3.5nm,0.7s,baz=39,slow=7.2,SNR=4.2
EIL LR LR 21 59 05.1
comp=Z,226nm,21.5s,baz=80,slow=39
BJI Beijing 32.94 74 P **P 21 44 08.1 -2.5**
BJI pmax pmax
comp=Z,24nm,0.8s
BJI pmax pmax
comp=Z,140nm,4.1s
BJI LR LR
comp=Z,460nm,17.6s
BJT Baijiatuau 32.94 74 P **P 21 44 11.6 +0.9**
BJT pmax pmax
comp=Z,12nm,0.8s
BJT Baijiatuau 32.94 74 P **P 21 44 11.6 +0.9**
BJT IAmb IAmb 21 44 13.4
comp=Z,12nm,0.8s
AKASG Malin Array Be 33.03 306 P **P 21 44 11.3 0.0**
comp=Z,3.1nm,0.5s,baz=79,slow=7.3,SNR=12
AKASG LR LR 21 57 58.9
comp=Z,280nm,19.5s,baz=82,slow=37
AKASG Malin Array Be 33.03 306 P **P 21 44 11.3 0.0**
AKBB Malin Array Si 33.03 306 *i* P **P 21 44 10.9 -0.4**
AKBB Malin Array Si 33.03 306 P **P 21 44 10.9 -0.4**
AKBB IAmb IAmb 21 45 08.2
comp=Z,13nm,0.9s
KIS Kishinev 33.24 299 *e*P **P 21 44 17.0 +3.8**
KIS *e*LR LR 22 00 07.0
comp=Z,140nm,14.5s
KIS Kishinev 33.24 299 ⇑P **P 21 44 16.5 +3.3**
KIS Kishinev 33.24 299 ⇑P **P 21 44 16.5 +3.3**
MILM Milestii Mici 33.25 299 *e*P **P 21 44 13.0 -0.2**
comp=Z,16nm,0.6s
MILM M M 21 44 16.5
comp=Z,50nm,0.9s
MILM Milestii Mici 33.25 299 *e*PP PP 21 45 26.0 -2.3
MILM *e*LR LR 21 59 24.0
comp=Z,300nm,17.0s
MILM Milestii Mici 33.25 299 ⇓P **P 21 44 16.1 +2.8**
MILM Milestii Mici 33.25 299 *e*P **P 21 44 13.0 -0.2**
MILM *i* 21 44 16.0
MILM *e* 21 44 23.0
MILM *e* 21 45 26.0
MILM pmax pmax
comp=Z,16nm,0.6s
MILM pmax pmax
comp=Z,50nm,0.9s
MILM MLR MLR
comp=Z,300nm,17.0s
JURR Jurilovca 33.34 295 ⇑P **P 21 44 17.9 +3.8**
TLCR 33.35 296 ⇑P **P 21 44 17.8 +3.6**
TLCR 33.35 296 ⇑P **P 21 44 17.8 +3.6**
SORM Soroca 33.53 301 ⇓P **P 21 44 18.8 +3.1**
SORM Soroca 33.53 301 ⇓P **P 21 44 18.8 +3.1**
TPGR Topolog 33.66 295 ⇑P **P 21 44 20.6 +3.7**
MFTR Murfatlar 33.73 294 ⇓P **P 21 44 21.4 +3.9**
VLDR Vladesti 33.81 297 ⇑P **P 21 44 21.6 +3.4**
CFR Carcaliu 33.83 296 ⇓P **P 21 44 21.9 +3.6**
CFR Carcaliu 33.83 296 ⇓P **P 21 44 21.9 +3.6**
TATR Tatarca 33.85 297 ⇑P **P 21 44 22.6 +4.0**
SCTR Scanteiesti 33.89 297 ⇑P **P 21 44 23.2 +4.4**
TLBR Topalu 33.96 295 ⇑P **P 21 44 23.8 +4.3**
VARL Varlezi 33.97 297 ⇓P **P 21 44 23.6 +4.0**
HARR Harsova 34.02 295 ⇑P **P 21 44 23.6 +3.6**
HARR Harsova 34.02 295 ⇑P **P 21 44 23.6 +3.6**
IAS Iasi 34.09 299 ⇑P **P 21 44 23.1 +2.5**
IAS Iasi 34.09 299 ⇑P **P 21 44 23.1 +2.5**
ELL Elmali 34.12 280 P **P 21 44 20.7 -0.5**
ELL pmax pmax
comp=Z,312nm,2.0s
ELL Elmali 34.12 280 P **P 21 44 20.7 -0.5**
ICOR Ion Corvin 34.18 294 ⇑P **P 21 44 25.1 +3.7**
MNK Minsk 34.26 312 *i* P **P 21 44 22.0 +0.1**
MNK *i* 21 45 38.4
MNK *i* 21 46 54.9
MNK *i* S **S 21 49 51.3 +2.3**
MNK *i* SS **SnSn 21 52 05.1 +7.8**
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=N,32nm,1.3s
MNK MLR MLR
comp=N,413nm,20.0s
MNK MLR MLR
comp=Z,313nm,17.0s
MNK MLR MLR
comp=E,30nm,15.0s
MNK Minsk 34.26 312 *i* P **P 21 44 22.1 +0.1**
comp=E,5.0nm,0.9s
MNK *i* P **P 21 44 22.1 +0.1**
comp=N,32nm,1.3s
MNK *i* P **P 21 44 22.1 +0.1**
comp=Z,18nm,0.9s,baz=278
MNK *i* PP **PP 21 45 38.5 -0.9**
MNK *i* PcP **PcP 21 46 54.9 -3.3**
MNK *i* S **S 21 49 51.4 +2.4**
MNK *i* SS **SnSn 21 52 05.1 +7.8**
MNK *i* LQ LQ 21 56 00.4
MNK *i* LR LR 21 58 37.0
MNK *i* LRM MLR 21 59 54.7
comp=N,413nm,19.7s
MNK *i* LRM MLR 22 00 07.8
comp=Z,313nm,16.9s
MNK *i* LRM MLR 22 00 16.1
comp=E,30nm,14.9s
GHRR 34.27 297 ⇓P **P 21 44 24.6 +2.4**
CNSH ChangSha 34.48 96 ⇓P **P 21 44 23.6 -0.5**
CNSH S **S 21 49 52.5 -0.4**
CNSH pmax pmax
comp=E,24nm,1.0s
CNSH LR LR
comp=E,370nm,18.6s
CNSH LR LR
comp=E,560nm,17.5s
CNSH LR LR
comp=E,710nm,18.2s
WHN Wuhan 34.53 91 ⇓P **P 21 44 26.3 +1.7**
WHN pmax pmax
comp=E,76nm,1.0s
HIA Hailar 34.53 57 P **P 21 44 25.1 +0.6**
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA Hailar 34.53 57 P **P 21 44 25.1 +0.6**
ODBI Odobesti 34.53 297 ⇑P **P 21 44 27.5 +3.0**
TIA Tai'an 34.64 80 ⇓P **P 21 44 27.8 +2.3**
TIA pmax pmax
comp=Z,46nm,1.0s
PGOR Pogoanele 34.67 295 ⇓P **P 21 44 29.9 +4.3**
VRI Vrincioaia 34.75 297 ⇓P **P 21 44 30.7 +4.3**
VRI Vrincioaia 34.75 297 ⇓P **P 21 44 30.7 +4.3**
TESR Tescani 34.76 298 ⇑P **P 21 44 30.3 +3.9**
PLOR Plostina 34.81 297 ⇓P **P 21 44 31.0 +4.1**
PLOR Plostina 34.81 297 ⇓P **P 21 44 31.0 +4.1**
NACGM Naroch 34.95 313 *i* P **P 21 44 28.6 +0.7**
ISR Istrita 34.96 296 ⇓P **P 21 44 32.9 +4.7**
ISR Istrita 34.96 296 ⇓P **P 21 44 32.9 +4.7**
PRAR RASCA 34.99 300 ⇑P **P 21 44 32.2 +3.8**
IDID Didziasalis 35.03 314 *e*P **P 21 44 29.9 +1.3**
NEHR Nehoiu 35.10 296 ⇑P **P 21 44 32.4 +3.0**
RAZG Razgrad 35.18 293 ⇑P **P 21 44 34.3 +4.2**
IIGN Ignalina 35.33 314 *e*P **P 21 44 32.5 +1.3**
MLR Muntele Rosu 35.34 297 ⇑P **P 21 44 36.1 +4.5**
MLR Muntele Rosu 35.34 297 P **P 21 44 32.1 +0.5**
comp=Z,20nm,0.8s,baz=110,slow=4.8,SNR=16
MLR LR LR 22 00 41.9
comp=Z,329nm,21.0s,baz=68,slow=39
MLR Muntele Rosu 35.34 297 P **P 21 44 31.9 +0.3**
MLR pmax pmax
comp=Z,28nm,0.9s
MLR Muntele Rosu 35.34 297 P **P 21 44 31.9 +0.3**
MLR IAmb IAmb 21 44 37.5
comp=Z,28nm,0.9s
VSU Vasula 35.62 319 *e*P **P 21 44 35.3 +1.6**
BURAR Bucovina Array 35.66 300 ⇓P **P 21 44 36.8 +2.5**
BUR08 Bucovina Ar. S 35.67 300 P **P 21 44 33.8 -0.5**
DOPR Dopca 35.67 297 ⇓P **P 21 44 38.7 +4.4**
VOIR 35.97 297 ⇑P **P 21 44 40.5 +3.6**
VOIR 35.97 297 ⇑P **P 21 44 40.5 +3.6**
COPA Copaceanca 36.02 294 ⇓P **P 21 44 41.8 +4.5**
LVZ Lovozero 36.09 336 P **P 21 44 38.1 +0.5**
LVZ pmax pmax
comp=Z,72nm,1.3s
LVZ Lovozero 36.09 336 P **P 21 44 38.1 +0.5**
HUMR Humele 36.13 295 ⇑P **P 21 44 40.7 +2.5**
ARR Arges 36.27 297 ⇑P **P 21 44 43.5 +4.0**
ARCR ARCALIA 36.28 299 ⇑P **P 21 44 42.1 +2.6**
LVV L'vov 36.34 304 *e*P **P 21 44 43.3 +3.3**
PABE Paberze 36.62 314 *e*P **P 21 44 43.5 +1.3**
PABE Paberze 36.62 314 P **P 21 44 42.4 +0.2**
PABE IAmb IAmb 21 44 47.2
comp=Z,29nm,0.9s
UBPT Khong Chiam 36.68 121 P **P 21 44 41.9 -1.3**
UBPT IAmb IAmb 21 44 54.1
comp=Z,85nm,1.9s
FIA1 FINESS Array S 36.69 324 P **P 21 44 42.6 -0.1**
FINES FINESS Array B 36.69 324 P **P 21 44 43.0 +0.2**
comp=Z,12nm,0.6s,baz=113,slow=9.4,SNR=70
FINES LR LR 21 59 40.7
comp=Z,253nm,19.5s,baz=104,slow=36
FINES FINESS Array B 36.69 324 P **P 21 44 42.6 -0.2**
FINES FINESS Array B 36.69 324 P **P 21 44 42.6 -0.2**
BMR Baia Mare 36.81 301 ⇑P **P 21 44 48.3 +4.3**
BMR Baia Mare 36.81 301 ⇑P **P 21 44 48.3 +4.3**
LOT Lotru 36.86 297 ⇑P **P 21 44 48.9 +4.3**
SUW Suwalki 36.95 311 *e*P **P 21 44 48.0 +2.9**
MTSE Matsula 37.17 319 *e*P **P 21 44 47.7 +0.8**
KWP Kalwaria Pacla 37.21 304 P **P 21 44 47.7 +0.3**
KWP pmax pmax
comp=Z,209nm,1.0s
KWP Kalwaria Pacla 37.21 304 P **P 21 44 47.7 +0.3**
MESR Meseseni 37.23 300 ⇑P **P 21 44 51.7 +4.2**
DRGR 37.43 299 ⇓P **P 21 44 53.5 +4.1**
DRGR 37.43 299 ⇓P **P 21 44 53.5 +4.1**
NJ2 Nanjing 37.44 86 ⇑P **P 21 44 47.5 -2.0**
NJ2 pP **sP 21 44 57.3 +2.9**
NJ2 S **S 21 50 35.6 -2.6**
NJ2 pmax pmax
comp=Z,28nm,0.8s
NJ2 pmax pmax
comp=Z,260nm,4.7s
NJ2 LR LR
comp=Z,560nm,9.0s
NJ2 LR LR
comp=Z,320nm,11.4s
NJ2 LR LR
comp=Z,690nm,12.8s
UZH Uzhgorod 37.54 302 ⇑*i*P **P 21 44 53.5 +3.3**
UZH *e* 21 45 00.7
GZR Gura Zlata 37.56 297 ⇑P **P 21 44 54.4 +3.9**
GZR Gura Zlata 37.56 297 ⇑P **P 21 44 54.4 +3.9**
VTS Vitosha 37.71 292 ⇓P **P 21 44 56.2 +4.3**
VTS Vitosha 37.71 292 ⇓P **P 21 44 56.2 +4.3**
VTS Vitosha 37.71 292 P **P 21 44 51.8 -0.1**
VTS Vitosha 37.71 292 *e*P **P 21 44 52.3 +0.4**
HERR Herculane 37.89 296 ⇑P **P 21 44 57.0 +3.8**
ZAPS Zavoj 38.01 293 *e*P **P 21 44 55.8 +1.5**
ZAGS Zajecar 38.20 294 *e*P **P 21 44 59.1 +3.3**
BOSS Bosilegrad 38.28 292 *e*P **P 21 44 58.5 +2.0**
BZS Buzias 38.34 297 ⇑P **P 21 45 00.7 +3.7**
BZS Buzias 38.34 297 ⇑P **P 21 45 00.7 +3.7**
MDVR Moldovita 38.40 296 ⇑P **P 21 45 01.7 +4.2**
STIP Stip 38.67 291 *e*P **P 21 44 59.0 -0.7**
BARS Barje 38.69 293 *e*P **P 21 44 56.7 -3.3**
BARS Barje 38.69 293 *e*P **P 21 45 01.2 +1.2**
SELS Selova 39.11 294 *e*P **P 21 45 06.2 +2.7**
SKO Skopje 39.15 292 *i* P **P 21 45 07.1 +3.3**
ZEA Zeya 39.23 49 *e*P **P 21 45 06.6 +2.3**
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=E,300nm,13.0s
ZEA MLR MLR
comp=Z,300nm,12.0s
AGG Agios Georgios 39.23 287 P **P 21 45 03.0 -1.6**
AGG pmax pmax
comp=Z,59nm,1.6s
AGG Agios Georgios 39.23 287 P **P 21 45 03.0 -1.6**
AGG IAmb IAmb 21 45 28.8
comp=Z,59nm,1.6s
GRUS Gruza 39.27 295 *e*P **P 21 45 07.1 +2.4**
TRUS Trudelj 39.42 295 *e*P **P 21 45 10.6 +4.6**
KEV Kevo 39.43 337 P **P 21 45 05.8 +0.1**
KEV pmax pmax
comp=Z,112nm,1.6s
KEV Kevo 39.43 337 P **P 21 45 05.8 +0.1**
FRGS Fruska Gora 39.67 297 ⇓P **P 21 45 10.8 +2.6**
FRGS Fruska Gora 39.67 297 *e*P **P 21 45 11.0 +2.9**
IVAS Ivanjica 39.73 295 *e*P **P 21 45 09.3 +0.6**
DIVS Divibare 39.74 295 P **P 21 45 09.3 +0.6**
DIVS Divibare 39.74 295 *e*P **P 21 45 09.8 +1.0**
ARA0 ARCESS Array S 39.80 336 *e*P **P 21 45 09.8 +0.9**
ARCES ARCESS Array B 39.80 336 P **P 21 45 09.1 +0.1**
comp=Z,6.6nm,0.5s,baz=110,slow=8.0,SNR=35
ARCES LR LR 22 02 26.8
comp=Z,467nm,19.0s,baz=116,slow=37
ARCES ARCESS Array B 39.80 336 P **P 21 45 09.0 +0.1**
ARCES pmax pmax
comp=Z,105nm,1.8s
ARCES ARCESS Array B 39.80 336 P **P 21 45 09.0 +0.1**
ARCES IAmb IAmb 21 45 26.6
comp=Z,105nm,1.8s
BNX BinXian 40.02 62 ⇓P **P 21 45 12.4 +1.4**
BNX pmax pmax
comp=Z,7.0nm,1.4s
BNX pmax pmax
comp=Z,210nm,6.7s
MORH Mrgy, Hungar 40.29 299 ⇑P **P 21 45 15.9 +2.7**
MORH Mrgy, Hungar 40.29 299 P **P 21 45 13.7 +0.4**
KTK1 Kautokeino 40.33 335 *e*P **P 21 45 13.0 -0.3**
PDG Podgorica 40.62 293 P **P 21 45 16.2 +0.2**
PDG Podgorica 40.62 293 *e*P **P 21 45 18.8 +2.8**
KOVH Kovagotottos 40.69 299 P **P 21 45 19.5 +2.9**
HAMF Hammerfest 40.84 337 *e*P **P 21 45 19.2 +1.8**
YAK Yakutsk 41.09 37 P **P 21 45 19.1 -0.6**
comp=Z,31nm,0.8s,baz=273,slow=6.0,SNR=20
YAK LR LR 22 02 43.7
comp=Z,498nm,19.5s,baz=268,slow=37
YAK Yakutsk 41.09 37 *e*P **P 21 45 18.9 -0.7**
YAK *e**PP **pP 21 45 22.4 -0.6**
YAK *e* 21 47 16.9
YAK *e*S **S 21 51 31.3 -1.1**
YAK *e**SS **sS 21 51 38.8 +0.8**
YAK *e*SS **SS 21 54 37.9 +3.5**
YAK *e* 21 55 18.9
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,18nm,1.4s
YAK smax smax
comp=E,70nm,2.8s
YAK MLR MLR
comp=Z,762nm,10.0s
YAK MLR MLR
comp=N,96nm,11.0s
YAK MLR MLR
comp=E,198nm,12.0s
YAK Yakutsk 41.09 37 P **P 21 45 19.0 -0.6**
VRAC Vranov 41.21 304 P **P 21 45 20.7 -0.1**
comp=E,2.6nm,0.3s,baz=104,slow=1.8,SNR=5.9
VRAC LR LR 22 04 15.7
comp=E,225nm,18.1s,baz=88,slow=39
DPC Dobruska-Polom 41.26 305 AMS AMS 22 03 50.0
comp=E,300nm,16.5s
UPC Upice 41.44 306 *e*P **P 21 45 26.2 +3.5**
UPC MLR MLR
comp=Z,300nm,15.1s
UPC Upice 41.44 306 *e*P **P 21 45 26.2 +3.5**

UPC AMS AMS 22 03 10.0
comp=Z,300nm,15.1s
JETT Jettan, Norway 41.47 335 *e*P **P** **21 45 24.9 +2.2**
KULM Kulim 41.52 136 P **P** **21 45 24.1 +0.4**
STON Ston 41.63 294 *e*P **P** **21 45 23.9 -0.4**
CONA Conrad Observa 41.89 302 *e*P **P** **21 45 30.2 +3.7**
comp=Z,6.5nm,0.9s
TRO Tromso 41.98 335 *e*P **P** **21 45 27.0 +0.2**
ARSA Arzberg 42.23 301 *e*P **P** **21 45 33.4 +4.2**
comp=Z,3.2nm,0.7s
DEL Delary 42.33 315 *i* P **P** **21 45 29.0 -0.8**
KLR Kul'dur 42.37 56 P **P** **21 45 30.1 -0.2**
comp=Z,7.6nm,0.5s,baz=271,slow=7.8,SNR=31
KLR LR LR 22 04 35.4
comp=Z,661nm,18.2s,baz=278,slow=38
KS19 Wonju Array Si 42.42 74 P **P** **21 45 31.5 +0.7**
PRU Pruhonice 42.44 305 *e*P **P** **21 45 31.3 +0.4**
PRU MLR MLR
comp=Z,300nm,12.6s
PRU Pruhonice 42.44 305 *e*P **P** **21 45 31.3 +0.4**
PRU AMS AMS 22 05 50.0
comp=Z,300nm,12.6s
KSAR Wonju Array Be 42.45 74 P **P** **21 45 32.1 +1.0**
KSAR Wonju Array Be 42.45 74 P **P** **21 45 32.1 +1.0**
HFS Hagfors 42.47 320 P **P** **21 45 30.9 0.0**
comp=Z,17nm,0.5s,baz=98,slow=11,SNR=39
HFS LR LR 22 03 51.7
comp=Z,208nm,18.4s,baz=92,slow=37
KSRS Korea Array 42.48 74 P **P** **21 45 31.0 -0.3**
comp=Z,17nm,0.9s,baz=282,slow=7.5,SNR=31
KSRS LR LR 22 04 53.5
comp=Z,188nm,20.1s,baz=275,slow=39
SOKA Soboth 42.67 300 *e*P **P** **21 45 37.4 +4.6**
comp=Z,5.0nm,0.6s
BRG Berggiesshubel 42.71 307 *e*P **P** **21 45 34.0 +1.0**
BRG Amp 21 45 34.6
comp=Z,3.5nm,0.7s
BRG *ex* x 21 45 36.8
BRG Amp 21 45 37.6
comp=Z,12nm,0.9s
BRG Amp 21 47 36.0
comp=E,0.7nm,12.0s
BRG Amp 21 47 39.0
comp=Z,1.0nm,12.0s
BRG Amp 21 47 42.0
comp=N,0.5nm,9.8s
BRG Amp 22 06 30.0
comp=E,0.4nm,19.8s
BRG Amp 22 06 31.0
comp=N,0.2nm,19.8s
BRG Amp 22 06 34.0
comp=Z,3μm,17.0s
BRG Berggiesshubel 42.71 307 *e*P **P** **21 45 34.0 +1.0**
BRG *e* 21 45 36.7
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,12nm,0.9s
BRG MLR MLR
comp=E,720nm,12.0s
BRG MLR MLR
comp=Z,1μm,12.0s
BRG MLR MLR
comp=N,470nm,9.8s
BRG MLR MLR
comp=E,360nm,19.8s
BRG MLR MLR
comp=N,160nm,19.8s
BRG MLR MLR
comp=Z,3032μm,17.0s
PSI Prapat 42.74 140 P **P** **21 45 32.5 -1.3**
comp=Z,3.9nm,0.8s,baz=321,slow=13,SNR=4.8
PSI LR LR 22 06 53.1
comp=Z,87nm,18.1s,baz=301,slow=41
CKRC Cesky Krumlov 42.77 303 *e*P **P** **21 45 37.0 +3.4**
CKRC AMS AMS 22 03 20.0
comp=Z,300nm,16.1s
YHNB Yeheng 42.78 95 P **P** **21 45 35.4 +1.4**
YHNB IAmb IAmb 21 45 48.9
comp=Z,40nm,0.9s
MOR8 Moi Rana 42.79 329 *e*P **P** **21 45 32.9 -0.6**
SSLB Suanglung 42.91 96 P **P** **21 45 36.6 +1.5**
SSLB IAmb IAmb 21 45 38.3
comp=Z,42nm,0.8s
MOA Molln 42.96 302 *e*P **P** **21 45 38.7 +3.5**
comp=Z,2.5nm,0.7s
TIXI Tiksi 43.02 23 P **P** **21 45 34.2 -1.0**
comp=Z,16nm,0.6s,baz=268,slow=4.8,SNR=118
TIXI LR LR 22 02 38.2
comp=Z,154nm,19.2s,baz=262,slow=35
TIXI Tiksi 43.02 23 ⇑ *i*P **P** **21 45 35.1 -0.1**
TIXI pmax pmax
comp=Z,16nm,0.7s
TIXI Tiksi 43.02 23 P **P** **21 45 35.0 -0.2**
TIXI IAmb IAmb 21 45 39.0
comp=Z,17nm,0.6s
OBKA Obir 43.03 300 *e*P **P** **21 45 39.8 +4.0**
comp=Z,6.2nm,0.9s
GEC2 GERESS Array S 43.16 304 P **P** **21 45 37.0 +0.2**
GERES GERESS Array B 43.16 304 P **P** **21 45 36.7 -0.2**
comp=Z,5.1nm,0.9s,baz=69,slow=7.3,SNR=14
GERES LR LR 22 05 58.8
comp=Z,167nm,18.2s,baz=120,slow=39
KHC Kasperske Hory 43.19 304 P **P** **21 45 37.1 +0.1**
KHC pmax pmax
comp=Z,33nm,1.5s
KHC Kasperske Hory 43.19 304 *e*P **P** **21 45 37.8 +0.8**
KHC *e*pP **sP** **21 45 43.5 +1.4**
KHC AMS AMS 22 03 20.0
comp=Z,400nm,16.3s
KHC Kasperske Hory 43.19 304 P **P** **21 45 37.1 +0.1**
KHC IAmb IAmb 21 45 45.9
comp=Z,32nm,1.5s
CLL Collm 43.24 307 *e*P **P** **21 45 36.0 -1.3**
CLL *i* 21 45 40.1
CLL Collm 43.24 307 *e*P **P** **21 45 36.0 -1.3**
CLL *i* x x 21 45 37.8
comp=Z,5.0nm,0.6s
CLL *i* pP **pP** **21 45 40.1 -0.6**
comp=Z,12nm,0.8s
CLL *e*PP **PP** **21 47 17.0 -0.5**
CLL *e*PcP **PcP** **21 47 25.0 -1.4**
comp=Z,69nm,2.0s
CLL *es*PcP 21 47 33.0
CLL Collm 43.24 307 P **P** **21 45 37.0 -0.3**
SGRT San Giovanni R 43.32 293 P **P** **21 45 38.2 0.0**
KONS Konsvik 43.37 330 *e*P **P** **21 45 39.8 +1.7**
GSI Gunungsitoli 43.39 143 P **P** **21 45 38.5 -0.4**
GSI IAmb IAmb 21 45 46.0
comp=Z,28nm,0.6s
USRK Ussuriysk Ar. 43.52 63 P **P** **21 45 40.0 +0.3**
comp=Z,3.9nm,0.7s,baz=280,slow=7.9,SNR=7.4
USRK LR LR 22 05 34.8
comp=Z,355nm,20.2s,baz=279,slow=39
USRK Ussuriysk Ar. 43.52 63 P **P** **21 45 40.0 +0.3**
USRK Ussuriysk Ar. 43.52 63 P **P** **21 45 40.2 +0.6**
TWG Pinlang 43.52 97 P **P** **21 45 40.9 +1.0**
NC602 NORSAR Array S 43.55 321 *e*P **P** **21 45 41.4 +1.7**
MYKA Terra Mystica 43.62 300 *e*P **P** **21 45 44.8 +4.2**
comp=Z,1.9nm,0.6s
NB201 NORSAR Array S 43.68 322 P **P** **21 45 40.5 -0.3**
NB2 NORSAR Subarra 43.72 322 P **P** **21 45 40.5 -0.6**
comp=Z,7.3nm,0.7s,baz=92,slow=8.6
NB2 NORSAR Subarra 43.72 322 P **P** **21 45 40.5 -0.6**
baz=92,slow=8.6
NOA NORSAR Array B 43.72 322 P **P** **21 45 40.9 -0.3**
comp=Z,12nm,0.8s,baz=92,slow=7.9,SNR=23
NOA LR LR 22 04 36.7
comp=Z,288nm,18.6s,baz=100,slow=37
NKC Novy Kostel 43.74 306 *e*P P 21 45 46.7 +5.3
NKC Novy Kostel 43.74 306 *e*P **P** 21 45 46.7 +5.3
NAO01 NORSAR Array S 43.88 321 *e*P **P** **21 45 44.5 +2.2**
ZOU Zoufplan 44.08 300 P **P** **21 45 43.9 -0.5**
ABTA Abfaltersbach 44.35 301 *e*P **P** **21 45 49.7 +3.2**
comp=Z,2.2nm,0.7s
KONO Kongsberg 44.52 320 P **P** **21 45 47.2 -0.3**
KONO pmax pmax
comp=Z,157nm,2.0s
KONO Kongsberg 44.52 320 *e*P **P** **21 45 47.5 0.0**
KONO Kongsberg 44.52 320 P **P** **21 45 47.2 -0.3**
GRF Grafenberg Arr 44.61 305 *e*P **P** **21 45 52.9 +4.5**
comp=Z,15nm,1.0s,baz=85,slow=7.0
DOMB Dombas 44.77 323 *e*P **P** **21 45 48.1 -1.3**
MNSI Mandailing Nat 44.80 141 P **P** **21 45 49.3 -0.8**
comp=Z,21nm,0.9s
WTTA Wattenberg 44.82 302 *i* P **P** **21 45 53.3 +3.0**
comp=Z,5.1nm,0.7s,SNR=5.3
WATA Walderalm 44.85 302 *i* P **P** **21 45 53.6 +3.2**
comp=Z,4.4nm,0.6s
CTI Castel Tesino 45.09 300 P **P** **21 45 52.5 +0.1**
CTI pmax pmax
comp=Z,10.0nm,1.0s
CTI Castel Tesino 45.09 300 P **P** **21 45 52.5 +0.1**
GRNR Gornyy 45.10 53 ⇑ *i*P **P** **21 45 53.6 +1.3**
GRNR *e*S **S** **21 52 36.8 +5.2**
GRNR pmax pmax
comp=E,4.0nm,0.6s
GRNR pmax pmax
comp=Z,8.0nm,0.8s
GRNR smax smax
comp=E,1.0nm,0.7s
GRNR MLR MLR
comp=E,4μm,17.0s
GRNR MLR MLR
comp=N,1μm,17.0s
GRNR MLR MLR
comp=Z,330nm,16.0s
MOTA Moosalm 45.16 302 *i* P **P** **21 45 56.0 +3.0**
comp=Z,3.8nm,0.6s,SNR=5.6
FETA Feichten 45.48 302 *e*P **P** **21 45 58.2 +2.7**
comp=Z,2.4nm,0.9s
AKN Aaknes 45.74 323 *e*P **P** **21 46 00.7 +3.6**
SPB2 Spitsbergen Ar 45.74 346 P **P** **21 45 58.0 +1.1**
SPB2 IAmb IAmb 21 46 54.6
comp=Z,22nm,1.1s
SPITS Spitsbergen Ar 45.74 346 P **P** **21 45 57.3 +0.3**
comp=Z,7.0nm,0.6s,baz=116,slow=12,SNR=12
SPITS LR LR 22 06 43.0
comp=Z,168nm,21.8s,baz=176,slow=38
DAVA Damuels 45.98 302 *i* P **P** **21 46 00.1 +0.6**
comp=Z,9.8nm,0.8s,SNR=5.0
OSSC Osservatorio P 46.02 297 P **P** **21 45 59.3 -0.3**
OSSC IAmb IAmb 21 46 21.8
comp=Z,19nm,1.1s
DAVOX Davos/Dischmat 46.10 301 P **P** **21 45 60.0 -0.5**
comp=Z,5.9nm,0.5s,baz=79,slow=7.1,SNR=13
DAVOX Davos/Dischmat 46.10 301 P **P** **21 46 00.0 -0.5**
JNU Nakatsue 46.32 78 P **P** **21 46 03.5 +1.4**
TUE Stuetta 46.53 301 P **P** **21 46 03.9 0.0**
TUE IAmb IAmb 21 46 12.3
comp=Z,13nm,1.2s
KBS Kingsbay 46.84 347 P **P** **21 46 06.1 +0.5**
KBS pmax pmax
comp=Z,18nm,0.9s
KBS Kingsbay 46.84 347 *e*P **P** **21 46 06.5 +0.9**
KBS Kingsbay 46.84 347 P **P** **21 46 06.1 +0.5**
KBS IAmb IAmb 21 46 11.7
comp=Z,18nm,0.8s
JOW Kunigami 47.10 88 LR LR 22 10 11.5
comp=Z,246nm,18.4s,baz=54,slow=42
JOW Kunigami 47.10 88 P **P** **21 46 08.8 +0.5**
JHS Saijyo 47.27 75 P **P** **21 46 09.6 0.0**
WLF Walferdange 47.84 306 P **P** **21 46 14.2 +0.4**
WLF pmax pmax
comp=Z,15nm,0.8s
WLF Walferdange 47.84 306 P **P** **21 46 14.2 +0.4**
WLF IAmb IAmb 21 46 24.6
comp=Z,16nm,0.8s
SENIN Lac Senin/Sane 47.93 302 P **P** **21 46 14.3 -0.5**
SENIN IAmb IAmb 21 46 20.1
comp=Z,8.3nm,0.8s
JMN Monobe 48.36 76 P **P** **21 46 19.0 +1.0**
BNI Bardonecchia 48.72 300 P **P** **21 46 20.5 -0.3**
BNI pmax pmax
comp=Z,21nm,1.2s
BNI Bardonecchia 48.72 300 P **P** **21 46 20.5 -0.3**
BNI IAmb IAmb 21 46 29.5
comp=Z,21nm,1.2s
JWT Wachi 48.88 74 P **P** **21 46 23.1 +1.1**
LODK Lodwar 49.25 234 P **P** **21 46 25.1 0.0**
MASI Maura Aman, Be 49.51 141 P **P** **21 46 28.5 +1.5**
comp=Z,86nm,0.8s
YSS Yuzh-Sakhalins 50.06 57 *e*P **P** **21 46 31.3 +0.5**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,700nm,15.0s
YSS Yuzh-Sakhalins 50.06 57 P **P** **21 46 31.7 +0.8**
YSS IAmb IAmb 21 46 47.3
comp=Z,32nm,1.1s
KEST Kesra 50.07 288 P **P** **21 46 31.4 +0.3**
comp=Z,7.6nm,0.8s,baz=300,slow=4.0,SNR=7.4
KEST Kesra 50.07 288 P **P** **21 46 32.0 +0.9**
KEST IAmb IAmb 21 46 36.8
comp=Z,20nm,1.1s
SSB Saint Sauveur 50.09 301 P **P** **21 46 31.8 +0.6**
SSB pmax pmax
comp=Z,19nm,1.4s
SSB Saint Sauveur 50.09 301 P **P** **21 46 31.8 +0.6**
SSB IAmb IAmb 21 46 47.1
comp=Z,19nm,1.4s
JGF Kuroka 50.22 72 P **P** **21 46 32.8 +0.5**
JGF IAmb IAmb 21 46 35.0
comp=Z,22nm,0.8s
MJB9 Matsu-Tunnel 50.47 71 P **P** **21 46 34.8 +0.7**
MJB9 IAmb IAmb 21 46 35.2
comp=Z,27nm,0.8s
MAJO Matsushiro 50.48 71 *i* P **P** **21 46 33.8 -0.4**
MAJO pmax pmax
comp=Z,29nm,0.8s
MAT Matsushiro 50.48 71 P **P** **21 46 34.1 -0.1**
MJAR Matsushiro Arr 50.48 71 P **P** **21 46 34.1 -0.1**
comp=Z,23nm,0.8s,baz=293,slow=9.4,SNR=26
MJAR LR LR 22 09 03.2
comp=Z,217nm,19.7s,baz=308,slow=37
MJAR Matsushiro Arr 50.48 71 P **P** **21 46 34.6 +0.4**
KKM Kota Kinabalu 50.61 119 P **P** **21 46 35.6 +0.2**
KKM IAmb IAmb 21 47 34.3
comp=Z,34nm,1.1s
PPBI Pangkal Pinang 50.72 136 P **P** **21 46 37.1 +1.0**
CLF Chambon-Foret 50.75 305 P **P** **21 46 36.3 +0.3**
ASAJ Asahikawa 50.85 60 LR LR 22 10 13.7
comp=Z,584nm,18.1s,baz=306,slow=38
JTM Tenmabayashi 50.94 65 P **P** **21 46 36.6 -0.9**
MA2 Magadan 51.48 39 *i* P **P** **21 46 41.6 +0.2**
MA2 Magadan 51.48 39 P **P** **21 46 42.0 +0.7**
SEY Seymchan 51.55 35 LR LR 22 09 52.9
comp=Z,310nm,19.0s,baz=314,slow=38
KMBO Kilima Mbogo 51.67 229 P **P** **21 46 42.9 -0.7**
comp=Z,4.2nm,0.9s,baz=22,slow=8.3,SNR=8.1
KMBO Kilima Mbogo 51.67 229 P **P** **21 46 42.8 -0.8**
KMBO Kilima Mbogo 51.67 229 P **P** **21 46 42.8 -0.8**
JMM Marumori 51.85 68 P **P** **21 46 45.0 +0.6**
NOR Nord 51.94 349 *i* P **P** **21 46 43.7 -0.7**
NOR IAmb IAmb 21 46 49.3
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 51.96 315 LR LR 22 08 55.5
comp=Z,134nm,18.5s,baz=78,slow=36
ERM Erimo 51.97 63 P **P** **21 46 46.4 +1.2**
ERM pmax pmax
comp=Z,153nm,1.4s
ERM Erimo 51.97 63 P **P** **21 46 46.4 +1.2**
JYT Yasato 52.07 71 P **P** **21 46 46.1 0.0**
KIBK Kibwezi 52.20 227 P **P** **21 46 46.2 -1.1**
MYLDM Lahad Datu 52.80 117 P **P** **21 46 52.3 +0.5**
MYLDM IAmb IAmb 21 47 10.8
comp=Z,18nm,0.9s
JHJ Hachijo jima 2 53.09 74 LR LR 22 12 08.9
comp=Z,288nm,18.9s,baz=66,slow=39
DAG Danmarks Havn 53.10 343 *i* P **P** **21 46 53.0 -0.1**
DAG IAmb IAmb 21 46 57.1
comp=Z,11nm,0.7s
DBG Daneborg 54.08 340 *i* P **P** **21 47 00.3 0.0**
DBG IAmb IAmb 21 47 14.9
comp=Z,2.6nm,0.7s
MBAR Mbarara 55.28 235 P **P** **21 47 08.8 -1.2**
MBAR pmax pmax
comp=Z,15nm,1.2s
MBAR Mbarara 55.28 235 P **P** **21 47 08.8 -1.2**
MBAR IAmb IAmb 21 47 10.2
comp=Z,15nm,1.1s
BILL Bilibino 55.80 27 *i* P **P** **21 47 13.4 +0.5**
BILL *i* 21 48 17.1
BILL *i* 21 49 17.7
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL MLR MLR
comp=Z,358nm,18.0s
BILL Bilibino 55.80 27 P **P** **21 47 13.2 +0.3**
PETK Petropavlovsk- 57.10 46 LR LR 22 12 30.5
comp=Z,201nm,20.2s,baz=294,slow=37
MPSI Mapaga 57.26 120 P **P** **21 47 24.0 0.0**
comp=Z,13nm,1.1s
BORG Borgarnes 57.59 330 LR LR 22 11 02.7
comp=Z,82nm,18.9s,baz=83,slow=35
ESBB Sonseca Array 58.02 297 P **P** **21 47 29.3 +0.1**
ESBB IAmb IAmb 21 48 22.3
comp=Z,55nm,2.0s
ESDC Sonseca Array 58.02 297 P **P** **21 47 29.1 -0.1**
comp=Z,2.1nm,0.7s,baz=55,slow=7.2,SNR=16
ESDC Sonseca Array 58.02 297 P **P** **21 47 28.7 -0.5**
MRSI Marisa 58.55 118 P **P** **21 47 34.0 +1.0**
comp=Z,27nm,0.9s
NEEM North Greenlan 59.23 348 *i* P **P** **21 47 37.4 +0.1**
NEEM IAmb IAmb 21 47 42.3
comp=Z,11nm,0.9s
SUMG Summit 59.53 341 P **P** **21 47 40.0 +0.4**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 59.53 341 *i* P **P** **21 47 39.0 -0.6**
SUMG IAmb IAmb 21 47 44.0
comp=Z,10nm,0.8s
SUMG Summit 59.53 341 P **P** **21 47 40.0 +0.4**
SUMG IAmb IAmb 21 47 45.8
comp=Z,18nm,0.9s
EUNU Eureka 60.91 356 P **P** **21 47 48.8 +0.3**
EUNU IAmb IAmb 21 48 00.8
comp=Z,7.8nm,0.9s
KAPI Kappang 61.15 124 LR LR 22 16 55.5
comp=Z,62nm,20.2s,baz=330,slow=39
ICESG Greenland Ices 61.82 338 *i* P **P** **21 47 55.8 +0.7**
ICESG IAmb IAmb 21 48 01.4
comp=Z,14nm,1.0s
TULEG Thule 62.53 351 P **P** **21 47 59.6 +0.2**
TULEG IAmb IAmb 21 48 04.6
comp=Z,18nm,1.4s
UPNV Upernavik 63.44 345 *e*P **P** **21 48 02.4 -3.1**
UPNV IAmb IAmb 21 48 08.9
comp=Z,6.2nm,0.6s
A21K Barrow 64.68 16 P **P** **21 48 15.0 +1.5**
GAMB Gambell 65.70 26 P **P** **21 48 20.5 +0.2**
baz=309
TNA Tin City 65.79 24 P **P** **21 48 21.6 +0.7**
TNA IAmb IAmb 21 49 51.0
comp=Z,11nm,1.2s
TNA Tin City 65.79 24 P **P** **21 48 21.0 +0.1**
baz=311
SHEM Shemya Is, Ala 66.08 41 LR LR 22 17 56.3
comp=Z,150nm,18.8s,baz=319,slow=37
SIJI Sorong 66.10 112 LR LR 22 20 46.3
comp=Z,56nm,19.1s,baz=92,slow=39
RES Resolute Bay 66.58 357 P **P** **21 48 25.8 -0.1**
RES pmax pmax
comp=Z,23nm,1.9s
RES Resolute Bay 66.58 357 P **P** **21 48 25.8 -0.1**
RES IAmb IAmb 21 49 40.9
comp=Z,23nm,1.9s
GUMO Guam 67.31 91 LR LR 22 19 29.2
comp=Z,61nm,19.9s,baz=94,slow=37
TORD Torodi Ar. Bea 67.58 269 P **P** **21 48 31.9 -1.2**
comp=Z,7.8nm,0.9s,baz=44,slow=5.2,SNR=16
TORD Torodi Ar. Bea 67.58 269 P **P** **21 48 32.0 -1.1**
SOEI Soe 67.64 124 P **P** **21 48 33.5 0.0**
SOEI IAmb IAmb 21 49 35.4
comp=Z,21nm,1.1s
A36M Sachs Harbour 68.80 6 P **P** **21 48 39.8 0.0**
A36M Sachs Harbour 68.80 6 P **P** **21 48 39.8 0.0**
baz=345,SNR=12
COLD Coldfoot 69.32 17 P **P** **21 48 43.4 +0.2**
COLD IAmb IAmb 21 48 52.4
comp=Z,14nm,0.8s
COLD Coldfoot 69.32 17 P **P** **21 48 43.4 +0.2**
baz=325
IMAR Indian Mountai 69.48 19 P **P** **21 48 43.8 -0.4**
H21K Melozitna Rive 69.98 19 P **P** **21 48 47.1 -0.2**
H21K IAmb IAmb 21 49 10.2
comp=Z,8.8nm,1.0s
BMAR Burnt Mountain 70.33 15 P **P** **21 48 50.0 +0.6**
I21K Tanana 70.57 19 P **P** **21 48 51.0 +0.1**
I21K IAmb IAmb 21 48 54.6
comp=Z,13nm,1.1s
J20K Nowinta River 70.82 20 P **P** **21 48 52.8 +0.4**
J20K IAmb IAmb 21 48 56.9
comp=Z,13nm,0.9s
FYU Fort Yukon 70.94 15 P **P** **21 48 54.1 +1.0**
H24K Noodor Dome 70.99 17 P **P** **21 48 54.2 +0.6**
I23K Minto, Yukon-K 71.23 18 P **P** **21 48 55.3 +0.4**
I23K IAmb IAmb 21 48 59.3
comp=Z,19nm,1.1s
I23K Minto, Yukon-K 71.23 18 P **P** **21 48 55.0 +0.1**
baz=326
TTA Tatalina 71.28 21 P **P** **21 48 55.7 +0.3**
TTA pmax pmax
comp=Z,34nm,1.8s
TTA Tatalina 71.28 21 P **P** **21 48 55.7 +0.3**
TTA IAmb IAmb 21 49 44.6
comp=Z,34nm,1.8s
TTA Tatalina 71.28 21 P **P** **21 48 55.5 +0.1**
baz=321
INK Inuvik 71.39 10 P **P** **21 48 55.6 -0.2**
comp=Z,11nm,0.8s,baz=358,slow=8.6,SNR=30
INK Inuvik 71.39 10 P **P** **21 48 56.2 +0.3**
INK IAmb IAmb 21 48 57.6
comp=Z,12nm,0.8s
INK Inuvik 71.39 10 P **P** **21 48 56.0 +0.1**
baz=338,SNR=12
C36M Paulatuk 71.46 6 P **P** **21 48 56.0 -0.3**
C36M Paulatuk 71.46 6 P **P** **21 48 55.8 -0.5**
baz=346,SNR=14
K20K Telida 71.49 20 P **P** **21 48 56.5 -0.1**
K20K IAmb IAmb 21 49 01.1
comp=Z,11nm,1.0s
CHUM Lake Minchumin 71.54 19 P **P** **21 48 56.7 0.0**
baz=324
MDM Murphy Dome 71.65 17 P **P** **21 48 57.4 -0.1**
MDM IAmb IAmb 21 49 16.6
comp=Z,16nm,1.3s
BPAW Bear Paw Mtn. 71.70 19 P **P** **21 48 57.6 -0.2**
BPAW Bear Paw Mtn. 71.70 19 P **P** **21 48 57.4 -0.5**
baz=325,SNR=6.5
POKR Poker Plat Res 71.70 17 P **P** **21 48 57.9 +0.1**
baz=328
NEA2 Nenana 71.76 18 P **P** **21 48 58.2 0.0**
NEA2 IAmb IAmb 21 49 07.4
comp=Z,15nm,1.0s
NEA2 Nenana 71.76 18 P **P** **21 48 57.8 -0.3**
baz=326,SNR=11
TCOL CIGO, UAF Yank 71.81 17 P **P** **21 48 58.5 +0.1**
baz=327
COLA College 71.81 17 P **P** **21 48 58.6 +0.2**
COLA pmax pmax
comp=Z,19nm,1.0s
COLA College 71.81 17 P **P** **21 48 58.6 +0.2**
COLA IAmb IAmb 21 49 07.9
comp=Z,19nm,0.9s
COLA College 71.81 17 P **P** **21 48 58.5 +0.1**
baz=327
CAST Castle Rocks 71.97 20 P **P** **21 48 59.6 +0.1**
CAST IAmb IAmb 21 49 03.2
comp=Z,21nm,1.3s
CAST Castle Rocks 71.97 20 P **P** **21 48 59.0 -0.5**
baz=324,SNR=7.8
BWN Browne 72.02 18 P **P** **21 48 59.9 +0.2**
IL31 72.12 17 P **P** **21 48 59.4 -0.9**
IL31 IAmb IAmb 21 49 09.1
comp=Z,14nm,1.1s
ILAR Eielson Array 72.12 17 P **P** **21 48 59.8 -0.6**
comp=Z,6.0nm,0.9s,baz=317,slow=4.8,SNR=48
L19K White Mountain 72.21 22 P **P** **21 49 01.1 +0.2**
L19K IAmb IAmb 21 50 01.3
comp=Z,20nm,1.4s
L19K White Mountain 72.21 22 P **P** **21 49 00.8 -0.1**
baz=322
PPLA Purkeypile 72.37 20 P **P** **21 49 01.7 -0.4**
baz=324
TRF Thorofare Moun 72.41 19 P **P** **21 49 01.6 -0.7**
baz=326
HDA Harding Lake 72.42 17 P **P** **21 49 01.8 -0.2**
baz=328
MCK McKinley 72.52 18 P **P** **21 49 01.7 -1.0**
baz=327
J26L Joseph Creek 73.08 16 P **P** **21 49 06.1 -0.1**
CUT Chulitna 73.28 20 P **P** **21 49 06.8 -0.4**
CUT Chulitna 73.28 20 P **P** **21 49 06.5 -0.8**
baz=326
EGAK Eagle 73.33 15 P **P** **21 49 07.8 +0.3**
EGAK Eagle 73.33 15 P **P** **21 49 07.4 -0.1**

baz=333
I29M Ogilvie Camp, 73.35 13 P **P 21 49 07.3 -0.3**
I29M IAmb IAmb 21 49 16.6
comp=Z,8.5nm,0.8s
I29M Ogilvie Camp, 73.35 13 P **P 21 49 06.6 -1.0**
baz=335,SNR=9.3
DHY Denali Highway 73.45 18 P **P 21 49 08.1 -0.3**
DHY IAmb IAmb 21 49 16.5
comp=Z,17nm,1.2s
DHY Denali Highway 73.45 18 P **P 21 49 08.0 -0.4**
baz=328
SCRK Sand Creek 73.45 16 P **P 21 49 08.2 -0.1**
SCRK Sand Creek 73.45 16 P **P 21 49 07.6 -0.8**
baz=330,SNR=5.6
RIDG Independent Ri 73.47 17 P **P 21 49 07.6 -0.8**
baz=330
WAT6 Susitna Watana 73.78 18 P **P 21 49 09.6 -0.8**
baz=328
PAX Paxson 73.99 17 P **P 21 49 11.0 -0.6**
PAX pmax pmax
comp=Z,14nm,1.0s
PAX Paxson 73.99 17 P **P 21 49 10.9 -0.6**
PAX IAmb IAmb 21 49 12.0
comp=Z,14nm,1.0s
PAX Paxson 73.99 17 P **P 21 49 10.5 -1.0**
baz=330
GHO Glory Hole Cre 74.16 19 P **P 21 49 12.6 0.0**
GHO IAmb IAmb 21 49 28.2
comp=Z,25nm,1.1s
PSA00 Pilbara Seismi 74.18 135 P **P 21 49 12.2 -0.8**
PSA00 IAmb IAmb 21 50 20.5
comp=Z,18nm,1.2s
PSA00 Pilbara Seismi 74.18 135 P **P 21 49 13.1 +0.2**
PSA00 IAmb IAmb 21 50 20.5
comp=Z,5.2nm,1.1s
PMR Palmer 74.26 20 P **P 21 49 11.7 -1.2**
baz=327
SML Sawmill 74.29 19 P **P 21 49 12.6 -0.7**
baz=327,SNR=8.0
DAWY Dawson 74.32 14 P **P 21 49 12.5 -0.8**
baz=334,SNR=7.2
UNV Unalaska Valle 74.40 32 P **P 21 49 13.7 -0.2**
baz=316
L26K Log Cabin Wild 74.42 16 P **P 21 49 13.9 -0.1**
baz=331
SCM Sheep Creek Mo 74.52 19 P **P 21 49 14.6 0.0**
SCM pmax pmax
comp=Z,21nm,1.0s
SCM Sheep Creek Mo 74.52 19 P **P 21 49 14.6 0.0**
SCM IAmb IAmb 21 49 26.1
comp=Z,21nm,1.0s
SCM Sheep Creek Mo 74.52 19 P **P 21 49 14.0 -0.6**
baz=328,SNR=6.0
RC01 Rabbit Creek A 74.52 20 P **P 21 49 13.8 -0.7**
baz=326
HARP HAARP 74.56 17 P **P 21 49 14.6 -0.2**
baz=330,SNR=7.3
M24K Tolsona, Glenn 74.57 18 P **P 21 49 15.0 +0.1**
baz=329
KNK Knik Glacier 74.59 19 P **P 21 49 14.8 -0.2**
baz=327
L27K Beaver Creek, 74.72 16 P **P 21 49 15.5 -0.2**
baz=332,SNR=5.1
BCAR Beaver Creek A 74.73 16 P **P 21 49 16.2 +0.5**
KNRA Kununurra 74.96 125 P **P 21 49 17.1 -0.5**
KNRA IAmb IAmb 21 49 34.9
comp=Z,12nm,0.8s
PWL Port Wells 75.09 20 P **P 21 49 17.7 -0.2**
baz=328
KLU Klutina 75.16 18 P **P 21 49 18.2 -0.1**
KLU IAmb IAmb 21 49 24.5
comp=Z,24nm,1.2s
KLU Klutina 75.16 18 P **P 21 49 17.8 -0.5**
baz=329
M27K Edge Creek, AK 75.34 16 P **P 21 49 19.9 +0.6**
M27K IAmb IAmb 21 49 23.6
comp=Z,14nm,1.1s
BMRM Bremner River 75.94 18 P **P 21 49 22.7 0.0**
BMRM Bremner River 75.94 18 P **P 21 49 22.5 -0.3**
baz=330,SNR=5.1
VRDI Verde Repeater 75.98 17 P **P 21 49 23.3 +0.1**
VRDI IAmb IAmb 21 49 44.9
comp=Z,26nm,1.5s
EYAK Cordova Ski Ar 76.02 19 P **P 21 49 23.0 -0.1**
baz=330
YUK3 Moose Creek 76.16 16 P **P 21 49 23.9 -0.4**
baz=334
M30M Minto, Yukon 76.17 14 P **P 21 49 23.9 -0.2**
baz=336
DBIC Dimbokro 76.61 268 P **P 21 49 27.2 -0.1**
comp=Z,4.8nm,0.8s,baz=38,slow=8.2,SNR=4.6
DBIC LR LR 22 27 53.6
comp=Z,205nm,18.5s,baz=63,slow=39
DBIC Dimbokro 76.61 268 P **P 21 49 27.9 +0.7**
OHAK Old Harbor 76.67 24 P **P 21 49 26.6 -0.2**
baz=324
CTG Chitna Glacier 76.70 17 P **P 21 49 26.8 -0.4**
baz=333
KIC Kosan Boka 76.71 267 *e*P **P 21 49 29.6 +1.8**
comp=Z,8.3nm,0.7s
TIC Toumodi 76.75 268 *e*P **P 21 49 30.5 +2.4**
KAIM Kayak Island 76.89 18 P **P 21 49 27.8 -0.3**
baz=331
SII Sitkinak Islan 76.92 25 P **P 21 49 27.6 -0.7**
baz=324
M31M Drury Creek, Y 76.95 13 P **P 21 49 28.4 0.0**
M31M IAmb IAmb 21 49 30.2
comp=Z,12nm,1.2s
M31M Drury Creek, Y 76.95 13 P **P 21 49 27.8 -0.6**
baz=338
LIC Lamto 77.02 268 *e*P **P 21 49 32.5 +3.0**
comp=Z,28nm,1.0s
FARO Faro, Yukon 77.10 12 P **P 21 49 29.3 0.0**
baz=339
MESA MESA 77.26 17 P **P 21 49 30.4 0.0**
baz=333
N31M Braeburn, Yuko 77.36 14 P **P 21 49 30.9 +0.1**
N31M IAmb IAmb 21 49 47.6
comp=Z,24nm,1.4s
N31M Braeburn, Yuko 77.36 14 P **P 21 49 30.9 +0.1**
baz=337
WRGLY Wrigley 77.49 8 P **P 21 49 31.7 +0.3**
baz=347
LBTB Lobatse 77.55 223 P **P 21 49 31.8 -0.6**
comp=Z,2.1nm,0.4s,baz=22,slow=12,SNR=3.1
LBTB Lobatse 77.55 223 P **P 21 49 31.1 -1.2**
LBTB pmax pmax
comp=Z,14nm,1.4s
LBTB Lobatse 77.55 223 P **P 21 49 31.1 -1.2**
LBTB IAmb IAmb 21 49 40.6
comp=Z,14nm,1.4s
TSUM Tsumeb 77.72 233 P **P 21 49 32.1 -1.3**
comp=Z,5.7nm,1.0s,baz=102,slow=3.3,SNR=4.4
WHY Whitehorse 78.29 14 P **P 21 49 35.5 -0.5**
baz=338
MORW Morawa 78.38 143 P **P 21 49 36.5 -0.2**
YKA Yellowknife Ar 78.91 4 P **P 21 49 39.2 0.0**
comp=Z,12nm,0.8s,baz=349,slow=5.4,SNR=108
YKA Yellowknife Ar 78.91 4 *i* P **P 21 49 39.2 0.0**
YKA pmax pmax
comp=Z,13nm,0.8s
P33M Teslin, Yukon 79.08 13 P **P 21 49 39.7 -0.7**
P33M Teslin, Yukon 79.08 13 P **P 21 49 40.2 -0.2**
baz=340
WB0 Warramunga Arr 81.59 124 P **P 21 49 53.2 -1.0**
WB0 IAmb IAmb 21 51 21.1
comp=Z,34nm,1.8s
WRA Warramunga Arr 81.68 124 P **P 21 49 53.7 -1.0**
comp=Z,4.2nm,0.8s,baz=325,slow=5.2,SNR=34
WRA Warramunga Arr 81.68 124 P **P 21 49 53.8 -1.0**
WR0 Warramunga Arr 81.82 124 P **P 21 49 54.4 -1.1**
WR0 IAmb IAmb 21 50 09.0
comp=Z,24nm,1.9s
FCC Fort Churchill 82.28 353 P **P 21 49 56.9 -0.5**
FCC pmax pmax
comp=Z,32nm,1.8s
FCC Fort Churchill 82.28 353 P **P 21 49 56.9 -0.5**
FCC IAmb IAmb 21 50 56.3
comp=Z,32nm,1.8s
COEN Coen 83.59 113 P **P 21 50 04.8 0.0**
COEN IAmb IAmb 21 50 21.3
comp=Z,9.5nm,0.9s
AS31 Alice Springs 84.09 127 P **P 21 50 07.8 +0.6**
ASAR Alice Springs 84.09 127 P **P 21 50 06.2 -1.1**
comp=Z,2.0nm,0.8s,baz=324,slow=5.9,SNR=18
ASAR Alice Springs 84.09 127 P **P 21 50 07.0 -0.2**
EDM Edmonton 88.23 4 P **P 21 50 27.7 +0.4**

EDM pmax pmax
comp=Z,21nm,1.0s
EDM Edmonton 88.23 4 P **P 21 50 27.7 +0.4**
AGMN Agassiz Nation 92.80 353 P **P 21 50 48.3 -0.4**
baz=8.5
ALF01 Guarapari-ES 121.08 268 *e*P **PKiKP 21 56 31.4 +2.1**
SDV Santo Domingo 121.93 317 *e*P **PKiKP 21 56 33.3 +1.7**
PEXB Peixe 122.04 281 *e*P **PKiKP 21 56 34.6 +3.1**
NPGB Novo Progresso 124.10 291 *e*P **PKiKP 21 56 38.3 +2.7**
IPMB Ipameri, GO 125.46 275 *e*P **PKiKP 21 56 39.2 +1.0**
TER01 Tubaro-SC 131.68 264 *e*P **PKiKP 21 56 53.2 +2.9**
PLCA Paso Flores 152.24 254 PKPbc **PKiKP 21 57 32.9 +0.7**
comp=Z,3.6nm,0.9s,baz=7.0,slow=2.2,SNR=8.6

IDC 13 22:15:20.9±1.8, 3°.89N×127°.47E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.0/40, mbtmp3.4/3, Error ellipse: s-maj=166.8km s-min=14.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.63**	**164**	P	P	22 20 43.2	-0.1
	1.3nm,0.8s,baz=344,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.10**	**167**	P	P	22 21 16.4	+1.8
	0.2nm,0.4s,baz=343,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**57.85**	**325**	P	P	22 25 14.3	-0.1
	0.2nm,0.6s,baz=118,slow=7.7,SNR=4.1						

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*UPP **13** 22:16:52.8±0.1, 67°.18N×20°.64E, h0km, ML2.9, Explosion*
*NAO **13** 22:16:53.7±0.7, 67°.15N×21°.19E, ML2.6*
*DNK **13** 22:16:53.2±0.5, 67°.19N×20°.64E, h0km, ML2.9(UPP), Explosion*
*IDC **13** 22:16:53.8±0.8, 67°.14N×20°.95E, h0km, mb1 3.4/5, mb1mx2.9/53, mbtmp3.4/5, ML2.7/5, Error ellipse: s-maj=14.5km s-min=7.1km az=105.0*
*HEL **13** 22:16:53.6±0.0, 67°.19N×20°.67E, h1km, ML2.1, ML2.9(UPP), Confirmed Induced event*
*BER **13** 22:16:55.3±3.2, 67°.21N×20°.54E, h1km, ML2.1, ML2.6(NAO), Confirmed Induced event*
ISC 13 22:16:52.7±0.7, 67°.19N±0°.02×20°.62E±0°.02, h0km, n67, σ1$42/101, 1D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.60**	**63**	P	**Pg**	**22 17 04.2**	**+0.2**
MASU				S	**Sg**	**22 17 12.3**	**+0.5**
MASU	**Masugnsbyn**	**0.60**	**63**	P	**Pg**	**22 17 04.2**	**+0.2**
MASU				S	**Sg**	**22 17 12.3**	**+0.5**
MASU	**Masugnsbyn**	**0.60**	**63**	*i* P	**Pg**	**22 17 04.2**	**+0.2**
MASU				*i* S	**Sg**	**22 17 12.3**	**+0.5**
KUA	**Kurravaara**	**0.78**	**352**	P	**Pg**	**22 17 07.3**	**-0.2**
KUA	**Kurravaara**	**0.78**	**352**	*i* P	**Pg**	**22 17 07.3**	**-0.2**
SALU	**Saltoluokta**	**0.84**	**284**	P	**Pg**	**22 17 09.1**	**+0.3**
SALU	**Saltoluokta**	**0.84**	**284**	‖ *i* P	**Pg**	**22 17 09.1**	**+0.3**
SALU	**Saltoluokta**	**0.84**	**284**	P	**Pg**	**22 17 09.1**	**+0.3**
SALU	**Saltoluokta**	**0.84**	**284**	*i* P	**Pg**	**22 17 09.1**	**+0.3**
ERTU	**Ertsjaerv**	**0.89**	**135**	P	**Pg**	**22 17 09.1**	**-0.5**
ERTU	**Ertsjaerv**	**0.89**	**135**	P	**Pg**	**22 17 09.1**	**-0.5**
ERTU	**Ertsjaerv**	**0.89**	**135**	*e*P	**Pg**	**22 17 09.2**	**-0.5**
ERTU				*e*S	**Sg**	**22 17 20.4**	**-0.8**
NIKU	**Nikkaluokta**	**0.91**	**319**	P	**Pg**	**22 17 10.2**	**0.0**
NIKU	**Nikkaluokta**	**0.91**	**319**	P	**Pg**	**22 17 10.2**	**0.0**
NIKU	**Nikkaluokta**	**0.91**	**319**	*e*P	**Pg**	**22 17 10.2**	**0.0**
PAJU	**Pajala**	**0.99**	**99**	P	**Pg**	**22 17 11.0**	**-0.6**
PAJU	**Pajala**	**0.99**	**99**	P	**Pg**	**22 17 11.0**	**-0.6**
PAJU	**Pajala**	**0.99**	**99**	*e*P	**Pg**	**22 17 11.0**	**-0.6**
LANU	**Lannavaara**	**1.01**	**31**	P	**Pg**	**22 17 11.4**	**-0.6**
LANU	**Lannavaara**	**1.01**	**31**	P	**Pg**	**22 17 11.4**	**-0.6**
LANU	**Lannavaara**	**1.01**	**31**	*e*P	**Pg**	**22 17 11.4**	**-0.6**
LANU				*e*S	**Sg**	**22 17 23.5**	**-1.6**
KOVU	**Salmi**	**1.05**	**351**	P	**Pg**	**22 17 12.3**	**-0.5**
KOVU	**Salmi**	**1.05**	**351**	P	**Pg**	**22 17 12.3**	**-0.5**
KOVU	**Salmi**	**1.05**	**351**	*e*P	**Pg**	**22 17 12.3**	**-0.5**
HEF	**Hetta**	**1.68**	**42**	Pn	**Pn**	**22 17 23.2**	**-0.1**
HEF				Sn	**Sn**	**22 17 45.1**	**-0.4**
HEF	**Hetta**	**1.68**	**42**	*e*P	**Pn**	**22 17 23.2**	**-0.1**
HEF	**Hetta**	**1.68**	**42**	*e*P	**Pn**	**22 17 23.1**	**-0.1**
HEF				*e*S	**Sn**	**22 17 43.8**	**-1.8**
KALU	**Kalix**	**1.73**	**139**	P	**Pn**	**22 17 23.9**	**+0.1**
KALU	**Kalix**	**1.73**	**139**	P	**Pn**	**22 17 23.9**	**+0.1**
KALU	**Kalix**	**1.73**	**139**	*e*P	**Pn**	**22 17 24.0**	**+0.1**
KALU				*e*S	**Sn**	**22 17 46.0**	**-0.6**
SJUU	**Sjulsmark**	**1.73**	**166**	P	**Pn**	**22 17 24.1**	**+0.2**
SJUU	**Sjulsmark**	**1.73**	**166**	P	**Pn**	**22 17 24.1**	**+0.2**
SJUU	**Sjulsmark**	**1.73**	**166**	*e*P	**Pn**	**22 17 24.1**	**+0.2**
KIF	**Kilpisjarvi**	**1.82**	**2**	Pn	**Pb**	**22 17 26.3**	**-0.6**
KIF				Sn	**Sg**	**22 17 52.2**	**+1.0**
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	**Pb**	**22 17 26.5**	**-0.3**
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	**Pb**	**22 17 26.3**	**-0.6**
KIF				*e*S	**Sb**	**22 17 49.6**	**-0.6**
KIF				MSG		22 17 53.7	
comp=Z,22nm,0.2s							
TOF	**Tornio**	**1.85**	**125**	*e*P	**Pn**	**22 17 26.2**	**+0.6**
TOF				*e*S	**Sn**	**22 17 49.7**	**+0.1**
TOF				MSG		22 17 53.1	
comp=Z,10nm,0.2s							
KTK1	**Kautokeino**	**2.08**	**27**	*e*P	**Pb**	**22 17 30.1**	**-1.1**
KTK1				IAML		22 17 59.4	
comp=Z,52nm,0.5s							
RNF	**Rovaniemi**	**2.21**	**103**	*e*P	**Pn**	**22 17 31.3**	**+0.9**
RNF				*e*S	**Sn**	**22 17 57.3**	**-1.1**
RNF				MSG		22 18 02.5	
comp=Z,10nm,0.1s							
JETT	**Jettan, Norway**	**2.38**	**358**	Pn	**Pn**	**22 17 34.4**	**+1.4**
TRO	**Tromso**	**2.53**	**346**	*e*P	**Pn**	**22 17 36.1**	**+1.2**
TRO				*e*S	**Sn**	**22 18 07.3**	**+0.9**
BURU	**Burvik**	**2.64**	**173**	*e*P	**Pn**	**22 17 37.2**	**+0.9**
BURU				*e*S	**Sn**	**22 18 08.7**	**-0.3**
LOF	**Lofoten**	**2.87**	**293**	*e*P	**Pn**	**22 17 38.9**	**-0.6**
LOF				IAML		22 18 35.6	
comp=Z,10nm,0.4s							
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**22 17 41.5**	**+0.5**
	baz=216,slow=13,SNR=148						
ARCES				Sn	**Sn**	**22 18 19.0**	**+1.7**
	baz=213,slow=25,SNR=9.1						
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**22 17 41.4**	**+0.4**
	baz=210,slow=14						
ARA0				Sn	**Sn**	**22 18 17.9**	**+0.6**
	baz=215,slow=22						
ARA0				Lg	Lg	22 18 22.4	
	baz=203,slow=37						
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**22 17 41.4**	**+0.4**
	baz=210,slow=14						
ARA0				Sn	**Sn**	**22 18 17.9**	**+0.6**
	baz=215,slow=22						
OBF4	**Vikkela, Lumij**	**3.01**	**140**	*e*P	**Pn**	**22 17 42.4**	**+1.0**
OBF4				*e*S	**Sn**	**22 18 18.1**	**0.0**
OBF0	**Syolatti, Pyha**	**3.08**	**150**	*e*P	**Pn**	**22 17 42.9**	**+0.4**
OUF	**Merijarvi**	**3.30**	**147**	*e*P	**Pn**	**22 17 46.3**	**+0.8**
OUF				*e*S	**Sn**	**22 18 25.3**	**-0.1**
KEV	**Kevo**	**3.49**	**39**	*e*P	**Pn**	**22 17 48.5**	**+0.4**
KEV				*e*S	**Sn**	**22 18 29.1**	**-0.9**
HAMF	**Hammerfest**	**3.64**	**16**	*e*P	**Pn**	**22 17 50.9**	**+0.7**
HAMF				IAML		22 18 52.2	
comp=Z,11nm,0.5s							
APA0	**Apatity Array**	**4.79**	**79**	Pn	**Pn**	**22 18 05.7**	**-0.3**
	baz=261,slow=12						
APA0				Sn	**Sn**	**22 19 00.5**	**-1.6**
	baz=270,slow=28						
APA0				Lg	Lg	22 19 18.0	
	baz=290,slow=28						
APA0	**Apatity Array**	**4.79**	**79**	Pn	**Pn**	**22 18 05.7**	**-0.3**
	baz=261,slow=12						
APA0				Sn	**Sn**	**22 19 00.5**	**-1.6**
	baz=270,slow=28						
APA0				Sg	**Sb**	**22 19 18.0**	**+2.5**
	baz=290,slow=28						
FIA0	**FINESS Array S**	**6.24**	**155**	Pn	**Pn**	**22 18 26.9**	**+1.1**
	baz=349,slow=16						
FIA0				Sn	**Sn**	**22 19 36.1**	**-1.5**
	baz=347,slow=28						
FIA0				Lg	Lg	22 20 04.2	
	baz=346,slow=28						
FIA0	**FINESS Array S**	**6.24**	**155**	Pn	**Pn**	**22 18 26.9**	**+1.1**
	baz=349,slow=16						
FIA0				Sn	**Sn**	**22 19 36.1**	**-1.5**
	baz=347,slow=28						
FIA0				Sg	**Sb**	**22 20 04.2**	**+7.3**
	baz=346,slow=28						
FINES	**FINESS Array B**	**6.24**	**155**	Pn	**Pn**	**22 18 26.9**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=346,slow=12,SNR=28						
FINES				Sn	**Sn**	**22 19 35.6**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=346,slow=24,SNR=5.2						
FINES				Lg	Lg	22 20 05.0	
	comp=Z,0.6nm,0.3s,baz=341,slow=27,SNR=5.9						
NB2	**NORSAR Subarra**	**7.41**	**218**	Pn	**Pn**	**22 18 43.0**	**+1.0**
	baz=50,slow=16						
NB2				Sn	**Sn**	**22 20 02.3**	**-4.4**
NB2	**NORSAR Subarra**	**7.41**	**218**	Pn	**Pn**	**22 18 43.0**	**+1.0**
	baz=50,slow=16						
NB2				Sn	**Sn**	**22 20 02.3**	**-4.4**
NOA	**NORSAR Array B**	**7.41**	**218**	Pn	**Pn**	**22 18 43.1**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=29,slow=11,SNR=2.0						
NRA0	**NORESS Array S**	**7.60**	**216**	Pn	**Pn**	**22 18 45.1**	**+0.5**
	baz=20,slow=14						
NRA0				Sn	**Sn**	**22 20 08.2**	**-3.1**
	baz=17,slow=28						
NRA0	**NORESS Array S**	**7.60**	**216**	Pn	**Pn**	**22 18 45.1**	**+0.5**
	baz=20,slow=14						
NRA0				Sn	**Sn**	**22 20 08.2**	**-3.1**
	baz=17,slow=28						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**22 18 45.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=27,slow=13,SNR=17						
HFS				Sn	**Sn**	**22 20 11.0**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=22,slow=21,SNR=7.6						
HFS				Lg	Lg	22 20 55.2	
	comp=Z,0.4nm,0.3s,baz=20,slow=26,SNR=1.8						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**22 18 45.4**	**-0.7**
	baz=24,slow=14						
HFS				Sn	**Sn**	**22 20 11.3**	**-2.8**
	baz=27,slow=22						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**22 18 45.4**	**-0.7**
	baz=24,slow=14						
HFS				Sn	**Sn**	**22 20 11.3**	**-2.8**
	baz=27,slow=22						
SPA0	**Spitsbergen Ar**	**11.12**	**355**	Pn	**Pn**	**22 19 32.4**	**-0.2**
	baz=166,slow=14						
SPA0	**Spitsbergen Ar**	**11.12**	**355**	Pn	**Pn**	**22 19 32.4**	**-0.2**
	baz=166,slow=14						
SPITS	**Spitsbergen Ar**	**11.12**	**355**	Pn	**Pn**	**22 19 32.1**	**-0.5**
	baz=160,slow=15,SNR=7.6						

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*IDC **13** 22:21:29.1±2.5, 37°.74N×142°.80E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.3/41, mbtmp3.7/7, ML2.2/2, Error ellipse: s-maj=59.4km s-min=24.6km az=71.0*
*JMA **13** 22:21:33.7±0.1, 37°.76N×142°.31E, h34km±2km, M3.6*
*NIED **13** 22:21:33.7, 37°.76N×142°.31E, h34km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.85; $M_{\theta\theta}$=0.34; $M_{\phi\phi}$=1.19; $M_{r\theta}$=0.59; $M_{\theta\phi}$=0.00; $M_{\phi r}$=1.67; Fault plane solution: M_0=2.06000×10^{14} NP1: ϕ_s=198.00000°, δ=76.00000°, λ=-77.00000°. NP2: ϕ_s=335.00000°, δ=19.00000°, λ=-131.00000°.*
ISC 13 22:21:33.0±3.5, 37.73N±0°.04×142°.30E±0°.08, h16km±23km, n27, σ1$24/32, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.88**	**311**	P	**Pb**	**22 21 49.6**	**-0.2**
JIKH				S	**Sb**	**22 22 01.0**	**-0.3**
JIO	**Ouri**	**1.04**	**314**	P	**Pb**	**22 21 52.1**	**-0.5**
JIO				S	**Sb**	**22 22 05.0**	**-1.0**
JMST	**Minamisoumatoc**	**1.12**	**270**	P	**Pn**	**22 21 53.4**	**-0.6**
JMST				S	**Sb**	**22 22 07.5**	**-0.8**
JFK	**Kawauchi**	**1.19**	**252**	P	**Pn**	**22 21 54.5**	**-0.5**
JFK				*e*S	**Sb**	**22 22 09.7**	**-0.7**
JMM	**Marumori**	**1.20**	**277**	P	**Pn**	**22 21 54.7**	**-0.4**
JMM				*e*S	**Sb**	**22 22 10.0**	**-0.7**
JKMT	**Kesennumamotoy**	**1.26**	**329**	P	**Pn**	**22 21 55.1**	**-0.8**
JKMT				S	**Sb**	**22 22 10.2**	**-2.0**
JOU	**Okura**	**1.44**	**296**	P	**Pn**	**22 21 58.8**	**+0.4**
JMK	**Ichinoseki**	**1.48**	**325**	P	**Pn**	**22 21 58.7**	**-0.3**
JMK				*e*S	**Sn**	**22 22 16.7**	**-1.3**
JFT	**Otama**	**1.57**	**263**	P	**Pn**	**22 22 01.0**	**+0.7**
JFT				*e*S	**Sn**	**22 22 21.4**	**+1.1**
JOM	**Ohasama**	**1.91**	**336**	P	**Pn**	**22 22 04.9**	**+0.1**
JOM				*e*S	**Sn**	**22 22 27.8**	**-0.7**
JYK	**Kaneyama**	**1.93**	**308**	P	**Pn**	**22 22 05.6**	**+0.4**
JFY	**Yanaizu**	**2.09**	**262**	P	**Pb**	**22 22 10.0**	**-0.5**
JRG	**Rokugo**	**2.11**	**322**	P	**Pn**	**22 22 08.5**	**+0.8**
MJAR	**Matsushiro Arr**	**3.48**	**251**	Pn	**Pn**	**22 22 29.6**	**+3.1**
	0.4nm,0.3s,baz=81,slow=16,SNR=5.6						
MAT	**Matsushiro**	**3.48**	**251**	P	**Pn**	**22 22 25.2**	**-1.3**
MAT				*e*S	**Sn**	**22 23 06.6**	**-0.8**
JHJ	**Hachijo jima 2**	**5.04**	**205**	Pn	**Pn**	**22 22 48.3**	**+0.4**
	12nm,0.3s,baz=80,slow=19,SNR=1.6						
JHJ				Sn	**Sn**	**22 23 44.1**	**-1.7**
	8.6nm,0.3s,baz=267,slow=22,SNR=1.0						
USRK	**Ussuriysk Ar.**	**10.12**	**313**	Pn	**Pn**	**22 24 00.5**	**+2.9**
	baz=129,slow=14,SNR=1.4						
H11N2	**WAKE ISLAND Hy**	**27.92**	**123**	T	T	22 56 30.0	
	baz=320,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**27.93**	**123**	T	T	22 56 31.6	
	baz=320,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**27.94**	**123**	T	T	22 56 32.2	
	baz=320,slow=75,SNR=18						
SONM	**Songino Array**	**27.99**	**303**	P	**P**	**22 27 24.7**	**+1.6**
	0.4nm,0.5s,baz=100,slow=6.0,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	22 57 26.0	
	baz=317,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	22 57 32.4	
	baz=317,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	22 57 36.3	
	baz=317,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**41.97**	**312**	P	**P**	**22 29 24.5**	**+1.5**
	0.3nm,0.4s,baz=80,slow=10,SNR=1.9						
MKAR	**Makanchi Array**	**44.35**	**302**	P	**P**	**22 29 42.6**	**+0.2**
	0.3nm,0.5s,baz=92,slow=8.5,SNR=6.0						
WRA	**Warramunga Arr**	**57.86**	**189**	P	**P**	**22 31 23.1**	**-0.9**
	0.6nm,0.6s,baz=6.3,slow=7.1,SNR=9.1						

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*IDC **13** 22:54:31.2±1.3, 4°.00N×126°.40E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/34, mbtmp3.6/6, Error ellipse: s-maj=98.4km s-min=20.2km az=71.0*
*DJA **13** 22:54:35.6±1.2, 4°N±9°×12°7E±°, h18km±4km, M3.9/6, mb4.2/3, MLv3.8/6*
ISC 13 22:54:33.7±1.0, 4°.00N±0°.08×126°.74E±0°.09, h10km, n11, σ2°09/12, mb3.6/6, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.25**	**256**	P	**Pb**	**22 54 57.5**	**+0.1**
SGSI				S	**Sb**	**22 55 11.8**	**-1.7**
DDMP	**Don Marcelino,**	**2.33**	**334**	‖ *e*P	Pn	22 55 07.7	-4.4
KCP	**Kidapawan**	**3.41**	**331**	‖ *e*P	**Pn**	**22 55 30.4**	**+3.3**
GTOI	**Gorontalo**	**5.00**	**228**	P	**Pn**	**22 55 50.8**	**+1.9**
	0.0nm9.8nm,0.8s						
GTOI				S	**Sn**	**22 56 48.1**	**+1.3**
	0.0nm9.8nm,0.8s						
MRSI	**Marisa**	**5.94**	**234**	P	**Pn**	**22 56 03.7**	**+2.0**
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	**P**	**22 59 27.7**	**-0.3**
	1.2nm,0.5s,baz=12,slow=8.8,SNR=5.7						
WRA	**Warramunga Arr**	**24.93**	**163**	P	**P**	**22 59 56.5**	**-0.8**
	1.7nm,0.8s,baz=343,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**23 00 27.4**	**-0.9**
	0.4nm,0.8s,baz=344,slow=9.3,SNR=5.1						
STKA	**Stephens Creek**	**38.38**	**159**	P	**P**	**23 01 56.6**	**+1.5**
	1.9nm,0.8s,baz=333,slow=6.8,SNR=2.3						
SONM	**Songino Array**	**47.05**	**341**	P	**P**	**23 03 05.2**	**-0.3**
	0.1nm,0.4s,baz=149,slow=7.5,SNR=1.6						
MKAR	**Makanchi Array**	**57.34**	**325**	P	**P**	**23 04 18.6**	**-3.5**
	0.5nm,0.6s,baz=129,slow=8.3,SNR=4.0						

**WEL 13 23:

RUGZ			S	Sn	23 04 58.4	+1.0
TWGZ	**Tauwhareparae**	**6.20 203**	P	Pn	23 03 49.2	-0.6
TWGZ			S	Sn	23 04 59.6	+0.2
CNGZ	**Carnagh Statio**	**6.41 200**	P	Pn	23 03 56.0	+3.3
TKGZ	**Te Karaka**	**6.48 203**	P	Pn	23 03 56.3	+2.7
TKGZ			S	Sn	23 05 06.7	+0.6
OPRZ	**Ohinepanea**	**6.48 213**	P	Pn	23 03 57.3	+3.7
MWZ	**Matawai**	**6.50 205**	P	Pn	23 03 52.8	-1.0
MWZ			S	Sn	23 05 05.6	-0.9
URZ	**Urewera**	**6.59 208**	P	Pn	23 03 54.0	-1.0
URZ			S	Sn	23 05 09.4	+0.7
RIGZ	**Rimuhau**	**6.75 202**	P	Pn	23 03 59.2	+1.9
MUGZ	**Murupara**	**6.91 209**	P	Pn	23 03 58.4	-1.0
MUGZ			S	Sn	23 05 16.9	+0.3
RTZ	**Ruatahuna**	**6.95 207**	P	Pn	23 03 58.3	-1.7
SNGZ	**Shannon Statio**	**6.96 205**	P	Pn	23 04 00.0	-0.1
SNGZ			S	Sn	23 05 17.8	0.0
MHGZ	**Mahia Peninsul**	**7.12 200**	P	Pn	23 04 04.5	+2.3
RAHZ	**Arahi**	**7.17 206**	P	Pn	23 04 02.2	-0.8
RAHZ			S	Sn	23 05 23.9	+1.0
MTHZ	**Maungataniwha**	**7.21 207**	P	Pn	23 04 01.9	-1.6
MTHZ			S	Sn	23 05 23.8	0.0
NMHZ	**Naumai**	**7.43 206**	P	Pn	23 04 05.6	-1.0
NMHZ			S	Sn	23 05 29.7	+0.3
ARHZ	**Aropaoanui**	**7.51 205**	P	Pn	23 04 06.7	-0.9
ARHZ			S	Sn	23 05 31.2	+0.1
MCHZ	**McNeill Hill**	**7.78 206**	P	Pn	23 04 10.8	-0.4
HIZ	**Hauiti**	**7.84 218**	P	Pn	23 04 16.4	+4.3
KWHZ	**Kaweka Forest**	**7.86 207**	P	Pn	23 04 10.0	-2.4
TMVZ	**Te Maari**	**7.90 212**	P	Pn	23 04 13.0	0.0
ETVZ	**East Tongariro**	**7.92 212**	P	Pn	23 04 12.5	-0.7
OTVZ	**Oturere**	**7.96 212**	P	Pn	23 04 13.9	+0.2
SNVZ	**South Ngauruho**	**7.99 212**	P	Pn	23 04 15.1	+0.9
NGZ	**Ngauruhoe**	**8.00 212**	P	Pn	23 04 15.3	+1.0
KAHZ	**Kahuranaki**	**8.03 204**	P	Pn	23 04 12.3	-2.3
KAHZ			S	Sn	23 05 40.8	-2.9
KRHZ	**Kereru**	**8.07 207**	P	Pn	23 04 12.4	-2.8
KRHZ			S	Sn	23 05 41.5	-3.3
FWVZ	**Far West T-bar**	**8.08 212**	P	Pn	23 04 17.1	+1.5
MOVZ	**Moawhango**	**8.12 210**	P	Pn	23 04 14.5	-1.4
MOVZ			S	Sn	23 05 43.8	-2.2
WNVZ	**Wahianoa**	**8.12 211**	P	Pn	23 04 17.7	+1.7
PNHZ	**Pukenui**	**8.37 206**	P	Pn	23 04 16.2	-3.0
PNHZ			S	Sn	23 05 48.4	-3.7
PRHZ	**Porangahau**	**8.53 203**	P	Pn	23 04 18.5	-2.9
PRHZ			S	Sn	23 05 53.3	-2.6
NEZ	**North Egmont**	**8.80 218**	P	Pn	23 04 27.8	+2.7
PKE	**Pukeiti**	**8.80 219**	P	Pn	23 04 28.3	+3.2
BFZ	**Birch Farm**	**9.03 204**	P	Pn	23 04 23.8	-4.4
BFZ			S	Sn	23 06 03.2	-4.9
MRZ	**Mangatainoka R**	**9.26 207**	P	Pn	23 04 26.8	-4.4
MRZ			S	Sn	23 06 06.8	-6.7
HOWZ	**Holdsworth Sta**	**9.49 206**	P	Pn	23 04 29.4	-4.9
HOWZ			S	Sn	23 06 11.8	-7.2
TMWZ	**Te Maipa**	**9.54 204**	P	Pn	23 04 30.1	-4.9
TMWZ			S	Sn	23 06 13.6	-6.6
OGWZ	**Otaki Gorge**	**9.55 208**	P	Pn	23 04 30.7	-4.4
OGWZ			S	Sn	23 06 15.6	-5.0
KIW	**Kapiti Island**	**9.69 209**	P	Pn	23 04 32.9	-4.2
KIW			S	Sn	23 06 17.7	-6.3
MTW	**Mount Morrison**	**9.72 206**	P	Pn	23 04 34.7	-2.7
CAW	**Cannon Point**	**9.84 207**	P	Pn	23 04 34.4	-4.7
CAW			S	Sn	23 06 21.6	-6.0
PAWZ	**Paruwai Farm**	**9.94 205**	P	Pn	23 04 36.2	-4.2
PAWZ			S	Sn	23 06 23.3	-6.9
MSWZ	**Moikau Station**	**10.04 206**	P	Pn	23 04 38.5	-3.2
MSWZ			S	Sn	23 06 25.3	-7.1
DUWZ	**D'Urville Isla**	**10.07 213**	P	Pn	23 04 39.0	-3.2
PLWZ	**Palliser**	**10.17 205**	P	Pn	23 04 38.3	-5.2
PLWZ			S	Sn	23 06 28.2	-7.5
TUWZ	**Tuamarina**	**10.57 210**	P	Pn	23 04 45.1	-3.8
BSWZ	**Blackbirch Sta**	**10.83 210**	P	Pn	23 04 49.3	-3.1

IDC 13 23:11:15.1±2.1, 6°53S×129°25E, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.5/49, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=143.6km s-min=30.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.21**	**160**	Pn	Pn	23 14 37.1	-0.7
	0.7nm,0.3s,baz=339,slow=12,SNR=28						
ASAR	**Alice Springs**	**17.61**	**166**	P	Pn	23 15 22.6	+0.5
	0.3nm,0.3s,baz=340,slow=10.0,SNR=8.0						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	23 22 12.6	0.0
	0.7nm,0.4s,baz=120,slow=8.2,SNR=9.8						

OMAN 13 23:11:57.1±2.6, 27°64N×56°53E, h92km±43km, mb4.0/1, ml3.1/7, Error ellipse: s-maj=42.9km s-min=23.2km az=63.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.62**	**192**	P	Pn	23 12 24.5	0.0
	SNR=7.0						
SHME				S	Sn	23 12 44.9	-0.3
BANOM	**Banah**	**1.72**	**187**	P	Pn	23 12 25.6	-0.2
	SNR=56						
BANOM				S	Sn	23 12 50.7	+3.1
MASF	**Masafi**	**2.28**	**188**	P	Pn	23 12 35.0	+1.9
UOSS	**Minazif**	**2.70**	**186**	P	Pn	23 12 38.8	+0.2
FAQ	**Al Faqa, Dubai**	**3.00**	**197**	P	Pn	23 12 43.0	+0.3
	SNR=12						
SMDO	**Samad**	**4.76**	**163**	P	Pn	23 13 07.0	+0.4
SMDO				S	Sn	23 14 01.1	+0.4
BSY	**Bisya**	**4.91**	**173**	P	Pn	23 13 10.5	+1.9
BSY				S	Sn	23 14 05.6	+1.5
UMZA	**Um Al Zommool**	**5.06**	**195**	P	Pn	23 13 09.4	-1.1
JLN	**Jalan Bani Buh**	**6.06**	**154**	P	Pn	23 13 23.4	-0.7

*IDC **13** 23:15:22.9±2.9, 37°55N×72°70E, h0km, mb3.3/2, mb1 3.4/6, mb1mx3.2/57, mbtmp3.4/6, ML3.0/4, Error ellipse: s-maj=75.5km s-min=24.4km az=132.0*
*NNC **13** 23:15:35.4±3.4, 38°47N×72°09E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=31.3km s-min=19.8km az=177.0*

ISC 13 23:15:33.8±4.3, 38°3N±0°3×72°2E±0°1, h10km, n12, σ1§88/14, 7C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.72**	**21**	Pn	**Pn**	**23 16 46.4**	**+1.2**
	1.0nm,0.3s,baz=188,slow=7.2,SNR=13						
AAK	**Ala-Archa**	**4.72**	**21**	⇓Pn	**Pn**	**23 16 45.9**	**+0.8**
	4.0nm,0.9s						
AAK				⇑Pg	**Pb**	**23 16 58.2**	**+1.4**
	14nm,0.6s						
AAK				⇓Lg	Lg	23 18 02.9	
KK02	**Karatay Array**	**5.02**	**346**	⇑Pn	**Pn**	**23 16 50.8**	**+1.6**
	2.9nm,0.3s						
KK02				⇑Lg	Lg	23 18 08.4	
	12nm,0.6s						
TKM2	**Tokmak 2**	**5.33**	**28**	⇓Pn	**Pn**	**23 16 54.3**	**+0.6**
	1.9nm,0.7s						
TKM2				⇑Pg	**Pb**	**23 17 08.6**	**+1.4**
	4.5nm,0.6s						
TKM2				⇑Lg	Lg	23 18 22.7	
	7.5nm,0.7s						
MDOK	**Medeo**	**6.14**	**35**	Pn	**Pn**	**23 17 05.4**	**+0.7**
	1.4nm,0.6s						
MDOK				Pg	**Pb**	**23 17 22.6**	**+1.8**
	4.1nm,0.6s						
MDOK				Lg	Lg	23 18 45.5	
	19nm,1.0s						
MKAR	**Makanchi Array**	**11.32**	**38**	Pn	**Pn**	**23 18 13.3**	**-2.3**
	0.1nm,0.3s,baz=228,slow=14,SNR=5.8						
AB31	**Akbulak array**	**14.10**	**325**	⇓Pn	**Pn**	**23 18 53.9**	**+0.3**
	1.4nm,0.7s,baz=138,slow=13,SNR=8.7						
AB31				⇑Sn	**Sn**	**23 21 28.4**	**-1.6**
	2.5nm,0.8s,baz=135,slow=24,SNR=3.3						
BVAR	**Borovoye Array**	**14.83**	**356**	Pn	**Pn**	**23 19 01.0**	**-2.5**
	0.1nm,0.3s,baz=148,slow=14,SNR=5.0						
AKTO	**Aktyubinsk**	**15.82**	**325**	⇑Pn	**Pn**	**23 19 16.4**	**-0.1**
	3.4nm,0.9s						
ZALV	**Zalesovo Beam**	**17.93**	**25**	P	**Pn**	**23 19 39.6**	**-3.5**
	0.2nm,0.3s,baz=210,slow=12,SNR=5.1						
TORD	**Torodi Ar. Bea**	**66.72**	**269**	P	P	23 26 19.0	-6.3
	0.2nm,0.5s,baz=52,slow=5.4,SNR=6.0						
YKA	**Yellowknife Ar**	**79.45**	**3**	P	P	23 27 33.1	-6.8
	0.1nm,0.5s,baz=346,slow=5.5,SNR=1.9						

*IDC **13** 23:15:44.1±0.7, 29°46N×87°90E, h0km, mb4.1/20, mb1 4.2/22, mb1mx4.0/57, mbtmp4.1/22, ML3.5/1, MS3.6/31, Ms1 3.6/31, ms1mx3.4/91, Error ellipse: s-maj=18.8km s-min=14.0km az=51.0*
*NEIC **13** 23:15:46.2±2.2, 29°70N±0°09×88°01E±0°09, h10km±1km, mb4.4/33, Error ellipse: s-maj=16.0km s-min=12.2km az=199.0*
*BJI **13** 23:15:46.4±0.0, 29°69N×88°20E, h7km, mb4.3/15, mB4.6/9, ML4.1/1, Ms3.9/13, Ms7 3.7/14*

ISC 13 23:15:49.0±0.4, 29°55N±0°06×88°05E±0°04, h35km, n104, σ1§67/81, mb4.3/29, MS3.6/28, 2C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.70**	**86**	Pg	**Pn**	**23 16 32.1**	**+1.7**
LSA				Sg	**Sn**	**23 17 06.1**	**+4.0**
LSA				smax	smax		
	comp=N,880nm,0.7s						
LSA				smax	smax		
	comp=E,1μm,1.0s						
LSA	**Lhasa**	**2.70**	**86**		**Pn**	**23 16 31.3**	**+0.9**
KKN	**Kakani**	**3.00**	**235**	*e*P	Pn	23 16 38.5	+4.3
	99nm,0.4s						
PKIN	**Phulchoki**	**3.05**	**231**	*e*P	**Pn**	**23 16 38.0**	**+3.0**
	229nm,0.5s						
GKN	**Gorkha**	**3.37**	**244**	*e*P	Pn	23 16 44.3	+5.1
	35nm,0.6s						
DANN	**Dangsing**	**3.94**	**253**	*e*P	Pn	23 16 52.3	+5.0
	101nm,0.5s						
KOLN	**Koldanda**	**4.29**	**247**	*e*P	**Pn**	**23 16 55.7**	**+3.7**
	26nm,0.4s						
PYUN	**Piuthan**	**4.67**	**253**	*e*P	**Pn**	**23 17 00.2**	**+3.0**
	65nm,0.6s						
SHL	**Shillong**	**5.22**	**138**	Pn	**Pn**	**23 17 05.8**	**+1.0**
GOMU	**GeErMu**	**8.74**	**39**	P	**Pn**	**23 17 55.3**	**+2.2**
GOMU				S	Sn	23 19 39.3	+8.7
GOMU				pmax	pmax		
	comp=Z,15nm,1.1s						
GOMU				pmax	pmax		
	comp=Z,65nm,4.4s						
GOMU				LR	LR		
	comp=E,610nm,11.8s						
GOMU				LR	LR		
	comp=Z,430nm,10.4s						
PZH	**PanZhiHua**	**12.47**	**101**	P	**Pn**	**23 18 44.8**	**+0.7**
PZH				S	**Sn**	**23 21 02.8**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,80nm,4.2s						
PZH				LR	LR		
	comp=N,250nm,12.1s						
PZH				LR	LR		
	comp=E,210nm,11.2s						
PZH				LR	LR		
	comp=Z,260nm,13.3s						
NIL	**Nilore**	**13.26**	**292**	Pn	**Pn**	**23 18 52.3**	**-2.4**
KMI	**Kunming**	**13.78**	**105**	⇑P	**P**	**23 19 06.0**	**-4.1**
KMI				sP	Pn	23 19 15.1	+13
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KMI				LR	LR		
	comp=N,490nm,16.1s						
KMI				LR	LR		
	comp=E,290nm,17.8s						
KMI				LR	LR		
	comp=Z,350nm,14.4s						
GTA	**Gaotai**	**13.81**	**41**	*e*P	**Pn**	**23 19 02.6**	**+0.3**
GTA				pP	P	23 19 06.0	-4.2
GTA				sP		23 19 09.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,110nm,5.1s						
GTA				LR	LR		
	comp=N,620nm,14.5s						
GTA				LR	LR		
	comp=E,600nm,15.3s						
GTA				LR	LR		
	comp=Z,250nm,14.5s						
KSH	**Kashi**	**14.06**	**318**	P	**Pn**	**23 19 06.6**	**+0.9**
KSH				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ	**Urumqi**	**14.25**	**359**	*e*P	**Pn**	**23 19 08.9**	**+0.7**
WMQ				LR	LR		
	comp=E,200nm,11.1s						
WMQ				LR	LR		
	comp=Z,200nm,13.3s						
CHTO	**Chiang Mai**	**14.58**	**135**	Pn	**Pn**	**23 19 11.1**	**-1.8**
CM31	**Chiang Mai Arr**	**14.85**	**136**	Pn	**Pn**	**23 19 16.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**14.85**	**136**	Pn	**Pn**	**23 19 14.7**	**-1.8**
	baz=314,slow=13,SNR=8.7						
CMAR				LR	LR	23 25 32.3	
	comp=Z,176nm,18.5s,baz=325,slow=40						
CMAR	**Chiang Mai Arr**	**14.85**	**136**		**Pn**	**23 19 15.4**	**-1.1**
HYBB	**Hyderabad (bro**	**14.88**	**218**	*e*Pn	**Pn**	**23 19 18.0**	**+1.1**
SRLM	**Srisailam**	**15.81**	**214**	*e*Pn	**P**	**23 19 30.3**	**-2.2**
RCLA	**Racherla**	**16.34**	**213**	*e*Pn	**P**	**23 19 36.9**	**-1.4**
AAK	**Ala-Archa**	**17.02**	**324**	LR	LR	23 27 19.7	
	comp=Z,202nm,20.4s,baz=136,slow=41						
MK31	**Makanchi Array**	**17.80**	**347**		**P**	**23 19 53.4**	**-0.9**
MKAR	**Makanchi Array**	**17.80**	**347**	P	**Pn**	**23 19 52.3**	**-1.5**
	0.2nm,0.3s,baz=173,slow=16,SNR=14						
MKAR				LR	LR	23 28 31.7	
	comp=Z,60nm,20.5s,baz=157,slow=43						
MKAR	**Makanchi Array**	**17.80**	**347**	P	**P**	**23 19 53.9**	**-0.4**
MAKZ	**Makanchi**	**17.87**	**346**		**P**	**23 19 54.7**	**-0.4**
CHGR	**Chuyangaron**	**18.07**	**305**	P	**Pn**	**23 19 56.0**	**-1.3**
CHGR				IAmb	IAmb	23 19 59.7	
	comp=Z,22nm,0.8s						
UBPT	**Khong Chiam**	**21.43**	**128**	P	**P**	**23 20 33.3**	**-0.8**
UBPT				IAmb	IAmb	23 20 37.5	
	comp=Z,22nm,0.9s						
KURBB	**Kurchatov Arra**	**22.24**	**344**	P	**P**	**23 20 41.1**	**-1.4**
	comp=Z,7.4nm,1.0s,baz=160,slow=10,SNR=24						
KURK	**Kurchatov**	**22.30**	**344**	P	**P**	**23 20 41.4**	**-1.8**
KURK				IAmb	IAmb	23 20 46.2	
	comp=Z,17nm,1.2s						
HRA	**Herat**	**22.39**	**289**	P	**P**	**23 20 44.1**	**-0.5**
SONM	**Songino Array**	**23.10**	**33**	P	**P**	**23 20 52.3**	**+0.5**
	comp=Z,6.3nm,0.9s,baz=232,slow=10,SNR=28						
SONM				LR	LR	23 30 47.1	
	comp=Z,153nm,18.1s,baz=112,slow=39						
SONM	**Songino Array**	**23.10**	**33**	P	**P**	**23 20 45.3**	**-6.5**
ULN	**Ulaanbaatar**	**23.44**	**33**	P	**P**	**23 20 52.8**	**-2.4**
ULN				IAmb	IAmb	23 20 59.1	
	comp=Z,8.7nm,0.9s						
ZAA0	**Zalesovo Array**	**24.50**	**355**	P	**P**	**23 21 02.9**	**-1.9**
ZAA0				IAmb	IAmb	23 21 07.8	
	comp=Z,10nm,1.3s						
ZALV	**Zalesovo Beam**	**24.50**	**355**	P	**P**	**23 21 04.3**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=189,slow=7.5,SNR=11						
ZALV				LR	LR	23 31 51.3	
	comp=Z,149nm,19.4s,baz=170,slow=39						
ZALV	**Zalesovo Beam**	**24.50**	**355**	P	**P**	**23 21 02.2**	**-2.5**
GEYT	**Alibeck**	**26.18**	**297**	LR	LR	23 33 48.8	
	comp=Z,183nm,20.0s,baz=136,slow=42						
BVAR	**Borovoye Array**	**26.81**	**336**	P	**P**	**23 21 27.7**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=134,slow=6.2,SNR=3.0						
PSI	**Prapat**	**28.53**	**157**	LR	LR	23 37 00.3	
	comp=Z,102nm,19.0s,baz=306,slow=45						
AKTO	**Aktyubinsk**	**30.73**	**321**	P	**P**	**23 22 01.9**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=150,slow=8.9,SNR=5.2						
AKTO				LR	LR	23 35 04.4	
	comp=Z,96nm,19.0s,baz=124,slow=38						
AKTO	**Aktyubinsk**	**30.73**	**321**	⇑Sn	**P**	**23 22 02.2**	**+1.6**
	comp=Z,7.7nm,1.5s						
ARU	**Arti**	**33.97**	**331**	P	**P**	**23 22 29.6**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=112,slow=6.3,SNR=8.1						
ARU				LR	LR	23 37 49.5	
	comp=Z,120nm,18.8s,baz=138,slow=39						
ARU	**Arti**	**33.97**	**331**	P	**P**	**23 22 27.6**	**-1.3**
ARU				IAmb	IAmb	23 22 29.9	
	comp=Z,4.4nm,0.6s						
KSRS	**Korea Array**	**33.97**	**66**	LR	LR	23 36 22.8	
	comp=Z,65nm,21.2s,baz=0.0,slow=36						
GNI	**Garni**	**36.76**	**299**	LR	LR	23 40 16.8	
	comp=Z,39nm,20.0s,baz=85,slow=40						
BELG	**Belogornoye**	**37.42**	**319**	LR	LR	23 39 58.4	
	comp=Z,70nm,20.0s,baz=145,slow=39						
USRK	**Ussuriysk Ar.**	**37.61**	**55**	P	**P**	**23 23 03.4**	**+3.1**
	comp=Z,3.3nm,0.8s,baz=276,slow=7.5,SNR=5.5						
USRK	**Ussuriysk Ar.**	**37.61**	**55**	P	**P**	**23 23 00.3**	**0.0**
RAYN	**Ar Rayn**	**38.38**	**271**	P	**P**	**23 23 07.4**	**+0.3**
KLR	**Kul'dur**	**38.42**	**47**	P	**P**	**23 23 09.9**	**+2.8**
	comp=Z,2.3nm,0.7s,baz=269,slow=8.4,SNR=9.1						
KBZ	**Khabaz**	**38.42**	**304**	LR	LR	23 41 45.6	
	comp=Z,90nm,19.7s,baz=84,slow=41						
NRIK	**Noril'sk**	**39.83**	**360**	P	**P**	**23 23 20.3**	**+1.8**
	comp=Z,2.0nm,0.6s,baz=175,slow=6.7,SNR=6.2						
NRIK	**Noril'sk**	**39.83**	**360**	P	**P**	**23 23 18.1**	**-0.5**
NRIK				IAmb	IAmb	23 23 22.3	
	comp=Z,9.0nm,1.2s						
MJAR	**Matsushiro Arr**	**42.23**	**67**	LR	LR	23 40 39.3	
	comp=Z,37nm,21.8s,baz=168,slow=35						
YAK	**Yakutsk**	**42.29**	**28**	LR	LR	23 42 35.1	
	comp=Z,85nm,18.2s,baz=48,slow=38						
KLMR	**Klimovskoe**	**44.74**	**329**	*e*	**P**	**23 23 59.0**	**+0.4**
KLMR				AMP		23 24 06.9	
	comp=Z,29nm,1.5s						
BRTR	**Keskin Array B**	**45.30**	**298**	LR	LR	23 47 37.6	
	comp=Z,72nm,18.0s,baz=88,slow=42						
EIL	**Elat**	**45.81**	**284**	LR	LR	23 46 48.5	
	comp=Z,45nm,20.3s,baz=78,slow=41						
KAPI	**Kappang**	**45.90**	**133**	LR	LR	23 45 26.8	
	comp=Z,35nm,20.2s,baz=320,slow=39						
TIXI	**Tiksi**	**47.60**	**16**	P	**P**	**23 24 19.6**	**-1.3**
TIXI				IAmb	IAmb	23 24 23.9	
	comp=Z,6.1nm,1.1s						
AKASG	**Malin Array Be**	**48.28**	**313**	P	**P**	**23 24 26.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=79,slow=7.2,SNR=6.6						
AKASG				LR	LR	23 46 33.2	
	comp=Z,79nm,20.0s,baz=77,slow=38						
ELL	**Elmali**	**48.57**	**295**	P	**P**	**23 24 29.4**	**+0.2**
BURAR	**Bucovina Array**	**50.92**	**309**	P	**P**	**23 24 46.8**	**0.0**
BUR08	**Bucovina Ar. S**	**50.93**	**309**	P	**P**	**23 24 46.6**	**-0.3**
FIA1	**FINESS Array S**	**51.17**	**327**	P	**P**	**23 24 47.9**	**-0.4**
FINES	**FINESS Array B**	**51.17**	**327**	P	**P**	**23 24 48.7**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=88,slow=9.4,SNR=10						
FINES	**FINESS Array B**	**51.17**	**327**	P	**P**	**23 24 48.6**	**+0.3**
ARCES	**ARCESS Array B**	**53.09**	**337**	P	**P**	**23 25 03.0**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=108,slow=8.6,SNR=9.4						
ARCES	**ARCESS Array B**	**53.09**	**337**	P	**P**	**23 25 02.4**	**-0.1**
VRAC	**Vranov**	**56.48**	**312**	LR	LR	23 52 35.2	
	comp=Z,90nm,19.9s,baz=70,slow=39						
HFS	**Hagfors**	**57.16**	**325**	LR	LR	23 50 21.2	
	comp=Z,77nm,18.6s,baz=77,slow=36						
KMBO	**Kilima Mbogo**	**57.24**	**247**	P	**P**	**23 25 33.5**	**0.0**
	comp=Z,3.5nm,0.9s,baz=56,slow=9.2,SNR=7.7						
KMBO	**Kilima Mbogo**	**57.24**	**247**	P	**P**	**23 25 34.4**	**+0.9**
KMBO				IAmb	IAmb	23 25 36.1	
	comp=Z,3.7nm,0.9s						
NB2	**NORSAR Subarra**	**58.32**	**326**	P	**P**	**23 25 39.1**	**-1.1**
	comp=Z,4.4nm,0.9s,baz=85,slow=6.9						
NOA	**NORSAR Array B**	**58.32**	**326**	P	**P**	**23 25 39.2**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=86,slow=6.7,SNR=6.1						
NOA				LR	LR	23 51 10.2	
	comp=Z,39nm,19.2s,baz=90,slow=36						
GERES	**GERESS Array B**	**58.42**	**312**	P	**P**	**23 25 41.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=72,slow=8.6,SNR=3.9						
GERES				LR	LR	23 53 33.6	
	comp=Z,86nm,18.8s,baz=277,slow=39						
GERES	**GERESS Array B**	**58.42**	**312**	P	**P**	**23 25 40.8**	**-0.4**
CLL	**Collm**	**58.46**	**315**	*e*P	**P**	**23 25 42.0**	**+0.7**
CLL				*e*PPPP		23 29 37.0	
CLL				*e*SS	SS	23 37 30.0	-4.3
PSA00	**Pilbara Seismi**	**59.34**	**145**	P	**P**	**23 25 47.7**	**+0.1**
PSA00				IAmb	IAmb	23 25 49.1	
	comp=Z,7.2nm,1.1s						
DAVOX	**Davos/Dischmat**	**61.37**	**310**	LR	LR	23 57 03.7	
	comp=Z,53nm,18.8s,baz=76,slow=40						
WB0	**Warramunga Arr**	**66.32**	**132**	P	**P**	**23 26 34.1**	**-0.1**
WRA	**Warramunga Arr**	**66.41**	**132**	P	**P**	**23 26 35.1**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=326,slow=6.8,SNR=39						
WRA	**Warramunga Arr**	**66.41**	**132**	P	**P**	**23 26 35.0**	**+0.2**
ASAR	**Alice Springs**	**68.86**	**135**	P	**P**	**23 26 50.7**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=322,slow=6.7,SNR=23						
ASAR	**Alice Springs**	**68.86**	**135**	P	**P**	**23 26 50.9**	**+0.7**
BORG	**Borgarnes**	**71.39**	**335**	LR	LR	23 59 20.8	
	comp=Z,64nm,19.7s,baz=346,slow=37						
SUMG	**Summit**	**71.84**	**345**	P	**P**	**23 27 08.2**	**0.0**
LSZ	**Lusaka**	**72.92**	**241**	P	**P**	**23 27 16.3**	**+1.2**
LSZ				IAmb	IAmb	23 27 16.9	
	comp=Z,5.1nm,0.8s						
ESDC	**Sonseca Array**	**73.24**	**306**	LR	LR	00 03 08.0	
	comp=Z,61nm,18.2s,baz=70,slow=39						
BMAR	**Burnt Mountain**	**75.51**	**18**	P	**P**	**23 27 30.5**	**+0.5**
CAST	**Castle Rocks**	**75.94**	**24**	P	**P**	**23 27 31.4**	**-0.5**
CAST				IAmb	IAmb	23 27 36.3	
	comp=Z,3.0nm,0.8s						
PPLA	**Purkeypile**	**76.23**	**24**	P	**P**	**23 27 34.1**	**+0.5**
ILAR	**Eielson Array**	**76.78**	**21**	P	**P**	**23 27 39.0**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=322,slow=5.7,SNR=4.1						
INK	**Inuvik**	**77.70**	**15**	LR	LR	00 06 27.9	
	comp=Z,40nm,18.3s,baz=105,slow=39						
J26L	**Joseph Creek**	**77.99**	**20**	P	**P**	**23 27 43.0**	**-0.5**
J26L				IAmb	IAmb	23 27 46.7	
	comp=Z,1.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.51**	**280**	P	**P**	**23 27 58.4**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=60,slow=4.6,SNR=12						
**BOS

K05A	Summer Lake	80.35	39	P		P	23 32 04.3	+0.5
K05A				IAmb		IAmb	23 32 07.5	
comp=Z,18nm,1.4s								
U15A	North Rim	82.67	48	P		P	23 32 15.8	-0.2
GHO	Glory Hole Cre	82.92	14	P		P	23 32 15.7	-0.6
GHO				IAmb		IAmb	23 32 44.8	
comp=Z,5.9nm,1.2s								
K20K	Telida	83.31	11	P		P	23 32 17.6	-0.5
K20K				IAmb		IAmb	23 32 22.7	
comp=Z,6.0nm,1.4s								
CAST	Castle Rocks	83.73	12	P		P	23 32 18.5	-1.7
CAST				IAmb		IAmb	23 32 19.7	
comp=Z,2.4nm,0.9s								
N25K	Chitina, Valde	83.81	16	P		P	23 32 20.6	-0.1
GLB	Gilahina Butte	83.88	16	P		P	23 32 20.5	-0.6
GLB				IAmb		IAmb	23 32 22.2	
comp=Z,7.1nm,1.4s								
ILAR	Eielson Array	85.99	13	P		P	23 32 30.1	-1.0
comp=Z,0.4nm,0.4s,baz=220,slow=5.2,SNR=7.0								
TXAR	Lajitas Array	86.16	58	P		P	23 32 34.1	+1.3
comp=Z,0.8nm,0.7s,baz=230,slow=6.8,SNR=11								
TXAR	Lajitas Array	86.16	58	P		P	23 32 33.2	+0.4
PDAR	Pinedale Array	87.50	43	P		P	23 32 39.0	-0.1
comp=Z,0.5nm,0.5s,baz=234,slow=3.0,SNR=5.5								
PDAR	Pinedale Array	87.50	43	P		P	23 32 39.0	-0.1
BMAR	Burnt Mountain	88.76	12	P		P	23 32 44.3	+0.2

NEIC ***13*** *23:21:42±2.3, 9°.77N±0°.05×79°.31W±0°.05, h10km±2km, mb4.2/2, Error ellipse: s-maj=10.6km s-min=5.0km az=130.0*
UPA ***13*** *23:21:45.0±0.8, 9°.55N×79°.30W, h43km±4km, MW4.3*

ISC 13 23:21:44.0±0.8, 9°.65N±0°.05×79°.31W±0°.03, h48km±11km, n80, σ1§05/108, 4C-6D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPO	Chepo, Panama	0.52	158	eP	Pn	23 21 54.7	-0.6
CHPO				eS	Sn	23 22 02.3	-1.1
MAD3	Madden Dam	0.53	215	eP	Pn	23 21 55.0	-0.5
MAD3				eS	Sn	23 22 03.3	-0.5
CNTA3	Canitas, Panam	0.60	136	eP	Pn	23 21 55.8	-0.5
CNTA3				eS	Sn	23 22 04.1	-1.1
PML3	Paraiso	0.70	206	eP	Pn	23 21 57.3	-0.4
PML3				eS	Sn	23 22 06.7	-0.8
UPA	Univ. de Panam	0.70	198	↓iP	Pn	23 21 57.0	-0.7
UPA				eS	Sn	23 22 06.1	-1.6
UPA				eS	Sn	23 22 06.5	-1.2
MFS3	Miraflores	0.71	203	eP	Pn	23 21 57.5	-0.3
MFS3				eS	Sn	23 22 06.4	-1.2
BCIP	Isla Barro Col	0.71	227	eP	Pn	23 21 57.2	-0.6
BCIP	Isla Barro Col	0.71	227	Pg	Pn	23 21 57.2	-0.6
BCIP				Sg	Sn	23 22 07.1	-0.7
BCIP	Isla Barro Col	0.71	227	eP	Pn	23 21 57.5	-0.3
BCIP				eS	Sn	23 22 07.1	-0.7
CORZ	Corozal	0.72	202	eP	Pn	23 21 57.7	-0.2
CORZ				eS	Sn	23 22 06.7	-1.3
ARRA3	Arraijan, Pana	0.76	207	eP	Pn	23 21 58.4	-0.1
ARRA3				eS	Sn	23 22 08.8	-0.3
CHOR3	La Chorrera	0.87	211	eP	Pn	23 22 00.4	+0.4
CHOR3				eS	Sn	23 22 11.5	-0.1
ZANG	Zanguenga, Cho	0.89	219	eP	Pn	23 22 00.1	0.0
ZANG				eS	Sn	23 22 11.8	-0.1
TABO3	Taboga, Panama	0.89	196	↑iP	Pn	23 22 00.1	0.0
TABO3				eS	Sn	23 22 11.0	-1.0
VTON	El Valle, Cocl	1.30	218	eP	Pn	23 22 06.1	+0.2
VTON				eS	Sn	23 22 21.3	-0.9
PNME	Penonome	1.54	221	eP	Pn	23 22 09.0	0.0
PNME				eS	Sn	23 22 27.4	-0.3
UPD2	Meteti	1.69	131	↓eP	Pn	23 22 11.4	+0.4
UPD2				eS	Sn	23 22 30.0	-1.5
AZU	Azuero	2.08	207	↓iP	Pn	23 22 15.7	-0.7
AZU				eS	Sn	23 22 39.8	-1.4
PCRI3	Pocri, Los San	2.14	202	↓eP	Pn	23 22 16.8	-0.4
PCRI3				eS	Sn	23 22 40.6	-1.9
PESE3	Pese, Herrera	2.16	217	↓eP	Pn	23 22 17.4	-0.1
PESE3				eS	Sn	23 22 42.0	-1.1
CAP2	Capurgana	2.17	117	eP	Pn	23 22 17.6	0.0
CAP2				eS	Sn	23 22 42.3	-1.0
CAPC	Capurgana	2.18	117	eP	Pn	23 22 17.5	-0.3
RSUS3	Rio de Jesus,	2.47	228	↓eP	Pn	23 22 22.2	+0.5
RSUS3				eS	Sn	23 22 49.8	-1.0
CACAO	El Cacao, Vera	2.76	214	eP	Pn	23 22 25.9	+0.1
CACAO				eS	Sn	23 22 56.6	-1.2
PTAC	Punta Ardita,	2.90	149	eP	Pn	23 22 25.8	-1.8
PTAC	Punta Ardita,	2.90	149	eP	Pn	23 22 26.1	-1.6
PTAC				eS	Sn	23 22 59.6	-1.7
BRU2	Volcan	3.45	256	Pn	Pn	23 22 36.1	+0.8
BRU2				Sn	Sn	23 23 12.2	-2.8
CDITO	Canoas	3.68	253		Pn	23 22 39.3	+1.0
MOTC	Monteria, Cord	3.70	103	eP	Pn	23 22 39.2	+0.6
MOTC	Monteria, Cord	3.70	103	Pn	Pn	23 22 39.3	+0.6
MONA	Monteria	3.71	103	eP	Pn	23 22 39.4	+0.6
MONA				eS	Sn	23 23 20.1	-1.2
SRBA	San Rafael, Bu	4.02	264		Pn	23 22 43.9	+0.7
DBBC	Dabeiba	4.03	130	eP	Pn	23 22 44.9	+1.6
SJCC	San Jacinto, C	4.08	86	eP	Pn	23 22 44.6	+0.8
SJCC	San Jacinto, C	4.08	86	Pn	Pn	23 22 44.1	+0.2
SJCC	San Jacinto, C	4.08	86	eP	Pn	23 22 44.7	+0.8
SJCC				eS	Sn	23 23 30.2	-0.3
UREC	San Jos de Ur	4.18	117	eP	Pn	23 22 46.0	+0.7
UREC	San Jos de Ur	4.18	117	eP	Pn	23 22 45.9	+0.5
UREC				eS	Sn	23 23 31.8	-1.2
PRVC	Isla de Provid	4.21	332	Pn	Pn	23 22 44.1	-1.6
PEZE	Perez Zeledon,	4.32	267	Pn	Pn	23 22 47.3	+0.1
CVTR	Volcan Turrial	4.40	275	Pn	Pn	23 22 49.1	+0.4
RIMA	Rio Macho	4.49	272	Pn	Pn	23 22 50.6	+0.9
HDC	Heredia	4.75	275		Pn	23 22 53.5	+0.3
ZARC	Zaragoza, Cauc	4.90	116	eP	Pn	23 22 54.8	-0.3
ZARC	Zaragoza, Cauc	4.90	116	Pn	Pn	23 22 55.2	+0.1
CBOC	Ciudad Bolivar	4.98	139	eP	Pn	23 22 56.5	0.0
HELC	Santa Helena	5.08	132	eP	Pn	23 22 59.0	+1.0
COVE	Coope Vega, Sa	5.12	282		Pn	23 22 58.3	+0.1
SMLC	San Martn de	5.24	99	eP	Pn	23 22 59.0	-0.8
JACO	JACO, Garabito	5.28	271		Pn	23 23 01.9	+1.6
ESPN	Las Esperanzas	5.51	298		Pn	23 23 03.3	-0.2
JTS	Las Juntas de	5.59	277	Pn	Pn	23 23 05.8	+1.0
PTBC	PUERTO BERRIO,	5.71	122	eP	Pn	23 23 07.3	+1.0
CAO2	Cobano, Puntar	5.72	271		Pn	23 23 07.8	+1.4
LL6C	La Loma 6 Bece	5.95	89	eP	Pn	23 23 10.0	+0.4
NORC	Norcasia	5.99	132	eP	Pn	23 23 12.5	+2.4
OCAC	Ocana	6.08	103	eP	Pn	23 23 10.4	-0.7
OCAC	Ocana	6.08	103		Pn	23 23 10.8	-0.7
ORTG	Ortega, Santa	6.10	277	Pn	Pn	23 23 13.2	+1.5
DUNO	Dulce Nombre,	6.11	274		Pn	23 23 13.1	+1.4
ACON	Acoyapa	6.20	292		Pn	23 23 13.6	+0.6
HZTE	Horizontes, Gu	6.28	280	Pn	Pn	23 23 14.8	+0.7
CRJC	Cerrejon, Guaj	6.47	77	eP	Pn	23 23 16.5	-0.3
BOAB	BOACO BROADBAN	6.83	295	Pn	Pn	23 23 21.3	-0.3
PAMC	Pamplona, Colo	6.93	109	eP	Pn	23 23 23.2	-0.2
RUSC	La Rusia	7.21	121	eP	Pn	23 23 28.4	+1.1
CHIC	Chingaza	7.45	132	eP	Pn	23 23 32.6	+2.1
URIC	Uribia, Colomb	7.47	74	Pn	Pn	23 23 30.4	0.0
PCON	Cinco Dias	7.83	158	eP	Pn	23 23 39.4	+3.5
SDV	Santo Domingo	8.60	94	eP	Pn	23 23 46.1	0.0
SDV	Santo Domingo	8.60	94	Pn	Pn	23 23 45.8	-0.3
MTDJ	Mount Denham	8.69	11	Pn	Pn	23 23 46.9	-0.4
OTAV	Otavalo	9.39	175		Pn	23 23 58.9	+1.7
LGNH	Logne	10.94	36		Pn	23 24 18.9	+1.0
GTBY	Guantanamo Bay	10.99	21	Pn	Pn	23 24 19.6	+1.0
BAUV	El Baul	11.14	93		Pn	23 24 18.4	-2.4
SDDR	Presa de Saban	12.10	39		Pn	23 24 35.2	+1.4
BIRV	Birongo	12.87	85	Pn	Pn	23 24 42.6	-1.7
ETMB	Extrema	23.32	146	P	P	23 26 47.4	-0.7
ETMB				IAmb	IAmb	23 26 48.2	
comp=Z,3.4nm,0.7s							
WCI	Wyandotte Cave	29.14	349	P	P	23 27 39.6	-0.8
WCI				IAmb	IAmb	23 27 47.0	
comp=Z,10nm,1.2s							

CRAAG ***13*** *23:41:55.6, 35°.83N×0°.31W, Ml3.2*
CNRM ***13*** *23:41:57.7, 35°.95N×0°.40W, h35km, ml2.8*
INMG ***13*** *23:41:58.7±1.2, 35°.94N×0°.46W, h25km±16km, ML2.3, Error ellipse: s-maj=7.7km s-min=4.2km az=145.0*

ISC 13 23:41:56.5±1.1, 35°.95N±0°.04×0°.33W±0°.04, h27km, n25, σ1§26/34, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	Oran	0.28	220	P	Pb	23 42 01.8	-1.6
ODJA	Bouhanifia	0.64	167	P	Pb	23 42 06.8	-2.3
OJBR	Djebel Berber	0.66	124	P	Pb	23 42 09.0	-0.5
OJGS	Djebel Guires	0.98	117	P	Pn	23 42 15.3	+0.7
OLHC	Oulhaca	1.13	232	P	Pb	23 42 18.4	+0.9
EBNR	Beni Rached	1.54	77	P	Pn	23 42 22.7	+0.4
CART	Cartagena	1.72	342	P	Pn	23 42 25.2	+0.5
CART				S	Sn	23 42 45.4	-0.3
GOG	Mont Gurugu	2.29	252	P	Pn	23 42 32.1	-0.6
GOG				S	Sn	23 43 00.1	0.0
JBK	JBK	2.44	229	P	Pn	23 42 35.2	+0.4
JBK				S	Sn	23 43 05.9	+2.0
PALE	Palemas	3.03	257	P	Pn	23 42 42.3	-0.5
PALE				S	Sn	23 43 15.7	-2.5
FIGM	Figuig	3.89	192	P	Pn	23 42 54.2	-0.4
FIGM				S	Sn	23 43 41.2	+1.8
SMIR	Smir Dam	4.12	268	P	Pn	23 42 56.1	-1.5
SMIR				S	Sn	23 43 46.6	+1.8
LCRM	LCR	4.36	240	P	Pn	23 43 02.8	+1.7
MDT	Midelt	4.72	230	P	Pn	23 43 06.5	+0.4
MD31	MD31	4.78	231	P	Pn	23 43 07.8	+0.9
PVAQ	Vaqueiros	6.11	286	ePn	Pn	23 43 25.5	+0.4
PVAQ				eSn	Sn	23 44 33.8	-0.3
PVAQ				A	A	23 44 34.9	
2.1nm,0.5s							
PVAQ	Vaqueiros	6.11	286	P	Pn	23 43 25.3	+0.3
PESTR	Estremoz	6.47	299	ePn	Pn	23 43 31.4	+1.4
PESTR	Estremoz	6.47	299	P	Pn	23 43 31.0	+1.0
PMRV	Marv??o	6.59	304	ePn	Pn	23 43 33.3	+1.7
PMRV				eSn	Sn	23 44 45.1	-0.8
EVO	Evora	6.65	295	ePn	Pn	23 43 33.9	+1.5
EVO				eSn	Sn	23 44 46.2	-1.1
PCBR	Castelo Branco	6.86	307	ePn	Pn	23 43 37.0	+1.7
PNCL	Nicolau / Gran	6.91	291	ePn	Pn	23 43 36.4	+0.5
PMTG	Montargil	7.01	299	ePn	Pn	23 43 37.9	+0.6
PSBE	So Bento	7.59	300	ePn	Pn	23 43 46.7	+1.3

NEIC ***13*** *23:53:23.1±1.8, 5°.86S±0°.07×151°.72E±0°.08, h10km±1km, mb4.6/24, Error ellipse: s-maj=17.6km s-min=6.1km az=129.0*
IDC ***13*** *23:53:25.0±3.4, 5°.60S×151°.13E, h20km±19km, mb4.0/11, mb1 4.2/11, mb1mx3.7/48, mbtmp4.1/11, MS3.6/9, Ms1 3.6/9, ms1mx3.2/57, Error ellipse: s-maj=27.7km s-min=14.3km az=123.0*
DJA ***13*** *23:53:30.8±0.6, 6°.S±5°.×15°.2E±°, h56km±11km, M4.7/6, mB4.7/2, mb4.3/6, MLv4.9/3, Mw(mB)3.9/2*

ISC 13 23:53:27.4±0.5, 5°.82S±0°.08×151°.5E±0°.1, h41km, n58, σ1§78/57, mb4.4/24, MS3.6/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.74	22		Pn	23 53 55.7	+0.4
RABL				Sn	Sn	23 54 20.0	+3.7
MANU	Manus Island	5.59	312	Pn	Pn	23 54 52.7	+4.5
PMG	Port Moresby	5.60	230	Pn	Pn	23 54 51.3	+3.0
7.4nm,0.3s,baz=20,slow=9.6,SNR=24							
PMG				Sn	Sn	23 55 47.7	-3.7
2.0nm,0.3s,baz=77,slow=18,SNR=1.8							
PMG				LR	LR	23 56 36.7	
comp=Z,216nm,20.1s,baz=66,slow=35							
PMG	Port Moresby	5.60	230	Pn	Pn	23 54 49.9	+1.7
PMG				Sn	Sn	23 55 54.2	+2.8
JAY	Jayapura	11.28	287	LR	LR	23 59 55.6	
comp=Z,344nm,19.8s,baz=136,slow=36							
COEN	Coen	11.53	225	Pn	Pn	23 56 09.7	+0.2
FAKI	Fak Fak	19.43	278	P	Pn	23 57 54.6	+2.6
6.0nm,1.1s							
SAUI	Saumlaki	20.19	263	P	Pn	23 58 09.0	+8.0
MTN	Manton Dam	21.28	249	P	P	23 58 10.4	-0.2
MTN				IAmb	IAmb	23 58 29.5	
comp=Z,20nm,1.1s							
DZM	Mont Dzumac	21.66	140	LR	LR	00 05 38.4	
comp=Z,281nm,19.6s,baz=293,slow=33							
WRA	Warramunga Arr	21.82	228	P	P	23 58 16.5	+0.1
comp=Z,9.5nm,0.9s,baz=52,slow=10,SNR=28							
WRA				S	S	00 02 13.5	-2.0
comp=Z,6.9nm,1.2s,baz=53,slow=17,SNR=12							
WRA				ScP	ScP	00 05 53.6	+3.9
comp=Z,1.1nm,1.0s,baz=48,slow=2.8,SNR=4.7							
WRA	Warramunga Arr	21.82	228	P	P	23 58 16.3	0.0
KNRA	Kununurra	24.38	245	P	P	23 58 42.0	0.0
KNRA				IAmb	IAmb	23 59 06.4	
comp=Z,15nm,0.9s							
ARMA	Armidale	24.46	180	P	P	23 58 40.7	-2.1
ARMA				IAmb	IAmb	23 58 56.4	
comp=Z,11nm,1.2s							
AS31	Alice Springs	24.54	222	P	P	23 58 43.6	+0.1
ASAR	Alice Springs	24.54	222	P	P	23 58 44.5	+0.9
comp=Z,4.7nm,0.8s,baz=57,slow=8.7,SNR=44							
ASAR				ScP	ScP	00 06 00.7	+3.8
comp=Z,0.3nm,0.6s,baz=42,slow=3.8,SNR=5.6							
ASAR				LR	LR	00 09 12.0	
comp=Z,97nm,18.8s,baz=17,slow=39							
ASAR	Alice Springs	24.54	222	P	P	23 58 44.0	+0.6
SOEI	Soe	27.28	260	P	P	23 59 08.6	+0.1
SOEI				IAmb	IAmb	23 59 37.1	
comp=Z,17nm,0.9s							
STKA	Stephens Creek	27.53	198	P	P	23 59 15.1	+4.7
comp=Z,6.4nm,1.0s,baz=21,slow=14,SNR=5.2							
STKA				LR	LR	00 09 54.1	
comp=Z,79nm,18.6s,baz=22,slow=36							
STKA	Stephens Creek	27.53	198	P	P	23 59 10.9	+0.5
BBOO	Buckleboo	30.47	206	P	P	23 59 36.2	-0.3
PSA00	Pilbara Seismi	34.42	240	P	P	00 00 10.6	-0.6
PSA00				IAmb	IAmb	00 00 14.8	
comp=Z,12nm,1.0s							
GIRL	Giralia	39.66	241	P	P	00 00 56.0	+0.3
MORW	Morawa	40.72	231	P	P	00 01 04.2	-0.3
MORW				IAmb	IAmb	00 01 05.8	
comp=Z,25nm,1.2s							
LZH	Lanzhou	61.09	317	eP	P	00 03 35.8	-1.9
LZH				pP	pP	00 03 40.0	-10
LZH				pmax	pmax		
comp=Z,17nm,1.3s							
LZH				LR	LR		
comp=N,470nm,15.7s							
LZH				LR	LR		
comp=E,330nm,15.4s							
LZH				LR	LR		
comp=Z,190nm,17.6s							
SONM	Songino Array	66.52	329	P	P	00 04 12.8	-0.4
comp=Z,2.2nm,0.9s,baz=142,slow=4.3,SNR=10.0							
SONM	Songino Array	66.52	329	P	P	00 04 13.0	-0.2
CASY	Casey	66.67	197	P	P	00 04 13.4	-0.2
SEY	Seymchan	68.56	0	LR	LR	00 34 20.1	
comp=Z,31nm,19.7s,baz=7.5,slow=36							
VNDA	Vanda	71.86	178	P	P	00 04 47.5	+1.9
comp=Z,2.8nm,0.9s,baz=0.9,slow=6.2,SNR=6.0							
VNDA	Vanda	71.86	178	P	P	00 04 45.4	-0.3
VNDA				IAmb	IAmb	00 04 48.4	
comp=Z,7.1nm,1.1s							
WMQ	Urumqi	75.64	318	eP	P	00 05 11.8	+3.3
CNPM	China Poot	79.18	26	P	P	00 05 27.7	-0.2
K20K	Telida	80.15	22	P	P	00 05 32.8	-0.3
K20K				IAmb	IAmb	00 05 39.9	
comp=Z,6.5nm,1.4s							
MK31	Makanchi Array	80.26	319	P	P	00 05 33.6	-0.4
MKAR	Makanchi Array	80.26	319	P	P	00 05 31.5	-2.6
comp=Z,1.0nm,0.9s,baz=101,slow=6.5,SNR=5.6							
MKAR	Makanchi Array	80.26	319	P	P	00 05 33.6	-0.5
MAKZ	Makanchi	80.47	319	P	P	00 05 35.6	+0.5
ZALV	Zalesovo Beam	81.30	327	P	P	00 05 36.8	-2.5
comp=Z,1.7nm,0.9s,baz=120,slow=5.8,SNR=6.5							
ZALV	Zalesovo Beam	81.30	327	P	P	00 05 38.8	-0.6
SML	Sawmill	81.58	25	P	P	00 05 40.7	-0.1
SML				IAmb	IAmb	00 05 41.6	
comp=Z,5.6nm,0.9s							
IMAR	Indian Mountai	81.77	20	P	P	00 05 41.0	-0.7
NIL	Nilore	83.50	305	P	P	00 05 50.1	-1.3
NIL				IAmb	IAmb	00 05 50.8	
comp=Z,4.9nm,0.9s							
KURBB	Kurchatov Arra	83.82	322	P	P	00 05 50.2	-2.3
comp=Z,0.8nm,0.9s,baz=116,slow=3.9,SNR=4.7							
KURBB				LR	LR	00 41 52.0	
comp=Z,30nm,21.7s,baz=167,slow=35							
BARN	Barnard Glacie	84.12	27	P	P	00 05 53.4	-0.7
QSPA	South Pole Qui	84.14	180	P	P	00 05 54.8	+0.7
QSPA				IAmb	IAmb	00 05 56.0	
comp=Z,3.8nm,0.9s							
M27K	Edge Creek, AK	84.54	25	P	P	00 05 56.7	+0.5
M27K				IAmb	IAmb	00 05 58.0	
comp=Z,2.5nm,0.8s							

NRIK	Noril'sk	86.52	341	P		P	00 06 04.3	-1.4
comp=Z,1.4nm,0.6s,baz=136,slow=2.4,SNR=4.7								
BVAR	Borovoye Array	89.30	323	P		P	00 06 17.3	-2.0
comp=Z,0.9nm,0.7s,baz=97,slow=7.6,SNR=5.5								
LHV	Little Huntoon	93.54	52	P		P	00 06 37.3	-2.0
NVAR	Mina Array Bea	93.71	52	P		P	00 06 41.8	+1.4
comp=Z,2.2nm,0.8s,baz=256,slow=7.0,SNR=10								
NVAR	Mina Array Bea	93.71	52	P		P	00 06 41.1	+0.6
PFO	Pinyon Flats O	94.86	57	LR		LR	00 41 51.0	
comp=Z,44nm,19.4s,baz=226,slow=31								
GEYT	Alibeck	96.22	307	LR		LR	00 49 52.3	
comp=Z,47nm,20.9s,baz=126,slow=35								
YKA	Yellowknife Ar	96.92	28	P		P	00 06 54.3	+0.1
comp=Z,0.2nm,0.7s,baz=269,slow=5.0,SNR=5.3								
PDAR	Pinedale Array	100.47	48	P		Pdif	00 07 10.7	-0.2
comp=Z,0.4nm,0.6s,baz=290,slow=2.6,SNR=3.8								
TORD	Torodi Ar. Bea	149.39	286	PKPbc		PKPbc	00 13 12.3	-0.8
comp=Z,10nm,0.7s,baz=65,slow=2.8,SNR=80								
BDFB	Brasilia	151.20	138	PKPbc		PKPbc	00 13 17.7	+0.1
comp=Z,3.2nm,0.6s,baz=153,slow=5.7,SNR=7.8								

IDC ***13*** *23:56:10.2±1.0, 6°.05S×76°.72W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/30, mbtmp3.7/6, ML4.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/43, Error ellipse: s-maj=26.9km s-min=19.0km az=99.0*

ISC 13 23:56:15.5±0.9, 6°.07S±0°.09×76°.7W±0°.1, h35km, n7, σ0§68/9, mb3.6/5, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	1.95	237	Pn	Pn	23 56 45.5	-1.0
43nm,0.3s,baz=54,slow=8.5,SNR=146							
ATAH				Sn	Sn	23 57 10.9	+1.0
64nm,0.3s,baz=215,slow=14,SNR=13							
NNA	Nana	5.88	181	Pn	Pn	23 57 40.0	-0.2
8.5nm,0.3s,baz=357,slow=8.4,SNR=10							
NNA				Sn	Sn	23 58 46.5	+0.1
16nm,0.3s,baz=89,slow=20,SNR=8.3							
NNA				LR	LR	00 00 17.4	
comp=Z,89nm,19.7s,baz=22,slow=42							
PLCA	Paso Flores	34.95	172	P	P	00 03 04.4	+0.1
0.6nm,0.5s,baz=346,slow=12,SNR=5.0							
TXAR	Lajitas Array	43.70	325	P	P	00 04 17.4	0.0
0.2nm,0.5s,baz=149,slow=9.2,SNR=2.6							
PDAR	Pinedale Array	57.02	332	P	P	00 05 58.9	+0.7
0.1nm,0.4s,baz=145,slow=5.0,SNR=1.6							
YKA	Yellowknife Ar	74.25	343	P	P	00 07 48.2	-0.4
0.4nm,0.5s,baz=140,slow=6.3,SNR=12							
TORD	Torodi Ar. Bea	80.19	76	P	P	00 08 22.8	-0.2
0.5nm,0.4s,baz=274,slow=5.6,SNR=7.3							

IDC ***14*** *00:03:52.0±1.1, 29°.58N×88°.23E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.7/71, mbtmp4.0/14, ML3.8/2, MS3.4/15, Ms1 3.4/15, ms1mx3.1/93, Error ellipse: s-maj=30.6km s-min=21.2km az=55.0*
BJI ***14*** *00:03:52.5±0.0, 29°.68N×88°.21E, h8km, mb4.2/17, mB4.5/6, ML4.0/1, Ms3.9/9, Ms7 3.8/7*
NEIC ***14*** *00:03:52.6±2.3, 29°.5N±0°.1×87°.81E±0°.05, h10km±1km, mb4.1/19, Error ellipse: s-maj=17.0km s-min=7.9km az=182.0*
NDI ***14*** *00:03:56.8±3.7, 29°.64N×88°.18E, h10km, ML3.5, mb4.1(NEIC)*

ISC 14 00:03:52.7±0.5, 29°.47N±0°.05×87°.88E±0°.04, h10km, n69, σ1§69/58, mb4.0/18, MS3.2/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGI	Shiliguri	2.80	170	eP	Pg	00 04 45.4	-0.9
KKN	Kakani	2.83	234	eP	Pg	00 04 46.9	0.0
60nm,0.3s							
LSA	Lhasa	2.86	85	Pg	Pn	00 04 39.8	+1.0
LSA				Sg	Sn	00 05 13.6	0.0
LSA				smax	smax		
comp=N,790nm,1.0s							
LSA				smax	smax		
comp=E,930nm,0.9s							
LSA	Lhasa	2.86	85	Pn	Pn	00 04 39.5	+0.7
PKIN	Phulchoki	2.88	230	eP	Pg	00 04 47.6	-0.3
142nm,0.5s							
GKN	Gorkha	3.20	244	eP	Pg	00 04 51.1	-2.8
306nm,0.7s							
DANN	Dangsing	3.78	254	eP	Pb	00 04 58.3	-1.3
60nm,0.6s							
KOLN	Koldanda	4.12	247	eP	Pb	00 05 03.8	-1.7
26nm,0.4s							
PYUN	Piuthan	4.50	254	eP	Pb	00 05 07.8	-4.1
57nm,0.7s							
SHL	Shillong	5.27	137	eP	Pn	00 05 13.8	+2.1
SHL	Shillong	5.27	137	Pn	Pn	00 05 13.7	+2.0
ITAN	ITANAGAR	5.65	113	eP	Pn	00 05 19.8	+3.1
BOK	Bokaro	5.92	198	eP	Pn	00 05 26.8	+6.3
BOK				IAmb	IAmb

ZALV **Zalesovo Beam** 24.56 356 P **P** 00 09 11.8 -0.7
BJI **Beijing** 25.43 58 P **P** 00 09 17.4 -3.1
BJI pmax pmax
comp=Z,4.0nm,0.5s
GEYT **Alibeck** 26.07 297 LR LR 00 21 55.9
comp=Z,79nm,19.9s,baz=156,slow=41
WSAR **Wadi Sarin** 26.89 264 LR LR 00 22 03.1
comp=Z,44nm,18.7s,baz=199,slow=40
ABKAR **Akbulak array** 29.01 321 P **P** 00 09 51.1 -1.5
ABKAR **Akbulak array** 29.01 321 P **P** 00 09 51.0 -1.6
ABKAR IAmb IAmb 00 09 59.1
comp=Z,2.5nm,0.8s
AKTO **Aktyubinsk** 30.69 321 LR LR 00 23 20.9
comp=Z,33nm,18.1s,baz=120,slow=38
ARU **Arti** 33.97 331 P **P** 00 10 36.9 +0.8
comp=Z,1.1nm,0.8s,baz=128,slow=4.5,SNR=3.7
ARU LR LR 00 25 00.1
comp=Z,36nm,19.3s,baz=146,slow=37
ARU **Arti** 33.97 331 P **P** 00 10 36.0 -0.1
GNI **Garni** 36.67 299 LR LR 00 28 25.0
comp=Z,36nm,19.9s,baz=127,slow=40
KBZ **Khabaz** 38.34 304 LR LR 00 29 16.8
comp=Z,37nm,21.7s,baz=67,slow=40
NRIK **Noril'sk** 39.91 360 P **P** 00 11 27.5 +1.1
NRIK IAmb IAmb 00 11 29.9
comp=Z,3.8nm,0.9s
MJAR **Matsushiro Arr** 42.40 67 LR LR 00 30 50.4
comp=Z,150nm,19.0s,baz=218,slow=38
BRTR **Keskin Array B** 45.20 298 LR LR 00 34 29.5
comp=Z,49nm,18.3s,baz=291,slow=40
TIXI **Tiksi** 47.72 16 P **P** 00 12 27.7 -1.6
comp=Z,2.3nm,0.7s,baz=202,slow=3.9,SNR=7.4
TIXI **Tiksi** 47.72 16 P **P** 00 12 28.7 -0.5
TIXI IAmb IAmb 00 12 31.5
comp=Z,2.4nm,0.8s
AKASG **Malin Array Be** 48.22 313 P **P** 00 12 34.6 +1.2
comp=Z,0.2nm,0.3s,baz=82,slow=6.5,SNR=6.2
FINES **FINESS Array B** 51.15 327 P **P** 00 12 58.5 +2.9
comp=Z,2.9nm,0.7s,baz=116,slow=8.9,SNR=7.4
FINES **FINESS Array B** 51.15 327 P **P** 00 12 58.1 +2.5
ARCES **ARCESS Array B** 53.10 337 P **P** 00 13 11.5 +1.6
comp=Z,4.9nm,1.0s,baz=102,slow=7.5,SNR=5.9
VRAC **Vranov** 56.41 312 LR LR 00 39 53.2
comp=Z,44nm,19.6s,baz=71,slow=38
HFS **Hagfors** 57.13 325 LR LR 00 38 14.6
comp=Z,49nm,18.8s,baz=73,slow=36
NB2 **NORSAR Subarra** 58.30 326 P **P** 00 13 50.3 +2.8
comp=Z,2.7nm,0.9s,baz=86,slow=7.4
NOA **NORSAR Array B** 58.30 326 P **P** 00 13 50.3 +2.8
comp=Z,2.4nm,0.9s,baz=87,slow=7.0,SNR=4.8
WRA **Warramunga Arr** 66.47 132 P **P** 00 14 43.1 +0.5
comp=Z,1.5nm,0.5s,baz=327,slow=6.6,SNR=4.7
TORD **Torodi Ar. Bea** 80.38 280 P **P** 00 16 06.7 +1.9
comp=Z,1.3nm,0.8s,baz=46,slow=4.8,SNR=5.6
YKA **Yellowknife Ar** 86.60 10 P **P** 00 16 34.5 -1.5
comp=Z,1.1nm,1.0s,baz=335,slow=4.8,SNR=5.3
MSVF **Nonsavu** 98.67 105 LR LR 01 02 07.8
comp=Z,36nm,18.0s,baz=182,slow=36

*MAN **14** 00:10:17.0,3°.26N×126°.42E,h1km,mb4.7,ML3.6,MS3.5*
*BJI **14** 00:10:18.6±0.0,3°.53N×127°.11E,h42km,mb4.6/46,*
mB5.0/24,Ms4.6/14,Ms7 4.3/15
*NEIC **14** 00:10:18.7±1.7,3°.67N±0°.06×126°.83E±0°.08,h10km±1km,*
mb4.7/40,Error ellipse: s-maj=14.8km s-min=8.9km
az=69.0
*DJA **14** 00:10:19.6±0.7,4°N±3°×12°7E±°,h16km±5km,M4.3/18,*
mB4.8/6,mb4.6/18,MLv4.3/10,Mw(mB)4.0/6
*IDC **14** 00:10:21.7±7.1,3°.70N×126°.75E,h33km±55km,mb4.4/21,*
mb1 4.4/22,mb1mx4.1/56,mbtmp4.5/22,ML4.3/1,MS3.6/19,
Ms1 3.6/19,ms1mx3.3/75,Error ellipse: s-maj=38.4km
s-min=14.6km az=70.0

ISC 14 00:10:23.1±0.4,3°.66N±0°.04×126°.89E±0°.07,h48km,n132,
σ1§32/115,mb4.6/49,MS3.7/20,2C-5D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	1.36	271	P	Pn	00 10 46.2	+0.5
DDMP	**Don Marcelino,**	2.70	334	‖eP	Pn	00 11 03.1	-1.0
DDMP				eS	Sn	00 11 41.2	+5.6
TNTI	**Ternate**	2.90	171	P	Pn	00 11 09.2	+2.4
TNTI	**Ternate**	2.90	171	Pn	Pn	00 11 06.0	-0.8
TNTI				Sn	Sn	00 11 40.3	-0.2
GSPH	**General Santos**	3.10	321	‖iP	Pn	00 11 08.8	-0.8
MATI	**Mati**	3.33	349	‖iP	Pn	00 11 15.4	+2.7
MATI				eS	Sn	00 12 01.2	+10
DAV	**Davao City (W)**	3.64	339	Pn	Pn	00 11 15.3	-1.7
KMSI	**Cibinong**	4.22	224	P	Pn	00 11 44.6	+20
LBMI	**Labuha**	4.31	172	P	Pn	00 11 27.2	+1.1
CTBH	**Cotabato--PC H**	4.42	323	eP	Pn	00 11 30.2	+2.6
GTOI	**Gorontalo**	4.90	232	P	Pn	00 11 35.3	+1.0
	0.1nm240nm23nm,0.8s						
PAGZ	**Pagadian**	5.44	320	‖eP	Pn	00 11 41.1	-0.5
SANI	**Sanana**	5.74	189	P	Pn	00 11 53.2	+7.4
MRSI	**Marisa**	5.87	238	P	Pn	00 11 50.8	+3.2
	0.3nm813nm74nm,1.0s						
LUWI	**Luwuk**	6.22	222	P	Pn	00 12 04.5	+12
LUWI	**Luwuk**	6.22	222	Pn	Pn	00 11 51.0	-1.4
SWI	**Sorong**	6.26	136	P	Pn	00 11 52.7	-0.2
	0.2nm37nm,1.2s						
SIJI	**Sorong**	6.27	136	Pn	Pn	00 11 53.2	+0.1
	7.2nm,0.3s,baz=337,slow=14,SNR=11						
SIJI				LR	LR	00 14 45.9	
	comp=Z,506nm,20.9s,baz=348,slow=41						
TOLI2	**Tolitoli**	6.61	248	Pn	Pn	00 11 55.7	-2.0
MSLP	**Maasin**	6.75	343	‖eP	Pn	00 12 05.3	+5.7
APSI	**Ampana**	6.93	229	P	Pn	00 12 10.3	+8.2
MPSI	**Mapaga**	7.73	245	P	Pn	00 12 27.9	+15
FAKI	**Fak Fak**	8.44	141	P	Pn	00 12 23.0	+0.1
	24nm,0.8s						
FAKI	**Fak Fak**	8.44	141	Pn	Pn	00 12 22.2	-0.7
MYLDM	**Lahad Datu**	8.50	281	Pn	Pn	00 12 23.9	+0.2
TTSI	**Tana Toraja**	9.71	227	P	Pn	00 12 52.2	+12
KAPI	**Kappang**	11.18	220	LR	LR	00 17 25.6	
	comp=Z,124nm,21.1s,baz=82,slow=38						
MTKI	**Muara Teweh, K**	12.83	249	P	P	00 13 31.8	-0.8
EDFI	**Ende, Flores**	13.37	203	P	P	00 13 50.5	+12
GENI	**Genyem**	14.65	115	P	P	00 13 59.1	+6.3
SBUM	**Sibu**	14.70	266		Pn	00 13 48.0	-0.3
JAY	**Jayapura**	15.10	114	LR	LR	00 19 27.9	
	comp=Z,197nm,19.1s,baz=354,slow=36						
GUMO	**Guam**	20.31	60	LR	LR	00 21 14.1	
	comp=Z,161nm,21.3s,baz=224,slow=32						
YULB	**Yu-li**	20.36	345	P	P	00 14 52.7	-3.0
YULB				IAmb	IAmb	00 14 58.8	
	comp=Z,80nm,1.5s						
YHNB	**Yeheng**	21.56	346	P	P	00 15 07.5	-1.2
YHNB				IAmb	IAmb	00 15 11.1	
	comp=Z,60nm,1.5s						
LEM	**Lembang**	21.88	242	LR	LR	00 23 56.9	
	comp=Z,131nm,20.4s,baz=54,slow=37						
CGJI	**Cibinong**	23.49	244	P	P	00 15 30.3	+1.4
	comp=Z,27nm,0.9s						
PMG	**Port Moresby**	24.01	123	LR	LR	00 25 57.1	
	comp=Z,134nm,21.3s,baz=297,slow=39						
UBPT	**Khong Chiam**	24.05	300	P	P	00 15 32.9	-1.1
MDSI	**Maura Dua**	24.09	251	P	P	00 15 36.5	+2.1
	comp=Z,330nmcomp=Z,3.8nm,0.9s						
WRAB	**Tennant Creek**	24.56	163	P	P	00 15 37.6	-1.0
WRAB				IAmb	IAmb	00 15 39.9	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	24.57	163	P	P	00 15 39.0	+0.3
	comp=Z,13nm,0.8s,baz=343,slow=10,SNR=25						
WRA	**Warramunga Arr**	24.57	163	P	P	00 15 37.9	-0.7
PSA00	**Pilbara Seismi**	26.00	195	P	P	00 15 52.0	+0.3
PSA00	**Pilbara Seismi**	26.00	195	P	P	00 15 51.7	0.0
PSA00				IAmb	IAmb	00 16 04.8	
	comp=Z,14nm,1.1s						
PSI	**Prapat**	27.94	269	LR	LR	00 29 24.7	
	comp=Z,116nm,18.1s,baz=54,slow=41						
AS31	**Alice Springs**	28.00	166	P	P	00 16 11.6	+1.9
ASAR	**Alice Springs**	28.00	166	P	P	00 16 11.5	+1.8
	comp=Z,0.9nm,0.4s,baz=343,slow=9.8,SNR=5.3						
ASAR				LR	LR	00 29 03.8	
	comp=Z,106nm,19.3s,baz=18,slow=40						
ASAR	**Alice Springs**	28.00	166	P	P	00 16 11.0	+1.3
NJ2	**Nanjing**	29.24	346	eP	P	00 16 22.8	+2.3
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
WHN	**Wuhan**	29.25	337	P	P	00 16 20.4	-0.3
CMAR	**Chiang Mai Arr**	31.05	300	P	P	00 16 36.0	-0.7
	comp=Z,1.9nm,0.4s,baz=113,slow=7.0,SNR=15						
CMAR				LR	LR	00 31 12.3	
	comp=Z,82nm,18.2s,baz=100,slow=40						
CMAR	**Chiang Mai Arr**	31.05	300	P	P	00 16 35.7	-1.1
ENH	**Enshi**	31.17	330	P	P	00 16 36.5	-1.3
ENH				IAmb	IAmb	00 16 41.4	
	comp=Z,8.8nm,0.8s						
CHTO	**Chiang Mai**	31.20	301	P	P	00 16 36.9	-1.1
PZH	**PanZhiHua**	33.11	316	P	P	00 16 56.8	+1.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,5.5s						
LYN	**LuoYang**	33.54	338	eP	P	00 16 57.3	-1.0
LYN				pmax	pmax		
	comp=Z,150nm,11.0s						
LYN				LR	LR		
	comp=Z,180nm,18.8s						
LYN				LR	LR		
	comp=Z,130nm,16.3s						
KSRS	**Korea Array**	33.65	1	P	P	00 17 01.2	+1.9
	comp=Z,1.2nm,0.5s,baz=175,slow=9.9,SNR=4.2						
XAN	**Xi'an**	34.56	333	P	P	00 17 05.8	-1.5
XAN				pP	pP	00 17 20.8	+0.9
XAN				pmax	pmax		
	comp=Z,15nm,1.1s						
XAN				pmax	pmax		
	comp=Z,120nm,5.6s						
XAN				LR	LR		
	comp=Z,390nm,20.0s						
XAN				LR	LR		
	comp=Z,140nm,14.1s						
XAN				LR	LR		
	comp=Z,190nm,11.8s						
CD2	**Chengdu**	34.80	324	P	P	00 17 07.6	-1.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HNS	**HongShan**	35.40	343	‖P	P	00 17 14.4	+0.1
HNS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
EIDS	**Eidsvold**	37.19	142	P	P	00 17 29.9	0.0
BBOO	**Buckleboo**	37.29	167	P	P	00 17 31.1	+0.5
BJT	**Baijiatuan**	37.48	346	P	P	00 17 32.1	0.0
BJI	**Beijing**	37.50	346	P	P	00 17 28.5	-3.7
BJI				pmax	pmax		
	comp=Z,34nm,1.2s						
BJI				pmax	pmax		
	comp=Z,130nm,4.7s						
STKA	**Stephens Creek**	38.00	159	P	P	00 17 37.4	+0.8
	comp=Z,16nm,1.0s,baz=338,slow=10,SNR=12						
STKA	**Stephens Creek**	38.00	159	P	P	00 17 36.3	-0.4
LZH	**Lanzhou**	38.65	329	eP	P	00 17 41.3	-1.0
LZH				pmax	pmax		
	comp=Z,13nm,1.2s						
LZH				LR	LR		
	comp=Z,470nm,14.5s						
LZH				LR	LR		
	comp=Z,290nm,16.0s						
LZH				LR	LR		
	comp=Z,210nm,16.0s						
HHC	**Hu-ho-hao-te**	39.52	342	eP	P	00 17 52.0	+2.6
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.0s						
SHL	**Shillong**	40.05	306	P	P	00 17 52.9	-1.3
USRK	**Ussuriysk Ar.**	40.63	6	P	P	00 17 58.1	-0.2
	comp=Z,3.7nm,0.8s,baz=195,slow=12,SNR=4.3						
USRK	**Ussuriysk Ar.**	40.63	6	P	P	00 17 58.4	0.0
XLT	**XiLinHaoTe**	41.20	348	eP	P	00 18 03.0	-0.2
XLT				pP	pP	00 18 13.8	-2.1
XLT				sP	sP	00 18 18.3	-3.2
XLT				pmax	pmax		
	comp=Z,22nm,1.3s						
XLT				pmax	pmax		
	comp=Z,200nm,4.0s						
LSA	**Lhasa**	42.61	311	P	P	00 18 15.0	-0.4
LSA	**Lhasa**	42.61	311	P	P	00 18 14.6	-0.8
ASAJ	**Asahikawa**	42.62	17	LR	LR	00 35 32.2	
	comp=Z,109nm,20.9s,baz=201,slow=35						
GTA	**Gaotai**	43.24	329	eP	P	00 18 20.4	+0.4
GTA				pP	pP	00 18 33.3	+0.4
GTA				sP	sP	00 18 39.8	+1.3
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,71nm,6.5s						
GTA				LR	LR		
	comp=Z,150nm,14.5s						
GTA				LR	LR		
	comp=Z,260nm,16.0s						
GTA				LR	LR		
	comp=Z,170nm,16.0s						
GOMU	**GeErMu**	43.84	322	P	P	00 18 25.8	+0.6
GOMU				pmax	pmax		
	comp=Z,51nm,6.3s						
KLR	**Kul'dur**	45.60	4	P	P	00 18 38.5	0.0
	comp=Z,0.8nm,0.4s,baz=271,slow=9.4,SNR=4.1						
HIA	**Hailar**	45.85	353	P	P	00 18 40.0	-0.5
HIA				IAmb	IAmb	00 18 56.2	
	comp=Z,9.6nm,1.2s						
PALK	**Pallekele**	46.10	277	LR	LR	00 39 18.2	
	comp=Z,59nm,19.3s,baz=216,slow=38						
ULN	**Ulaanbaatar**	47.24	342	P	P	00 18 52.2	+0.6
SONM	**Songino Array**	47.42	341	P	P	00 18 53.2	+0.2
	comp=Z,4.5nm,0.8s,baz=162,slow=8.2,SNR=28						
SONM				PcP	PcP	00 20 23.8	+0.9
	comp=Z,1.6nm,0.8s,baz=165,slow=3.0,SNR=6.1						
SONM	**Songino Array**	47.42	341	P	P	00 18 53.7	+0.8
SONM				IAmb	IAmb	00 18 54.3	
	comp=Z,5.4nm,1.0s						
WMQ	**Urumqi**	52.88	325	eP	P	00 19 35.0	+0.7
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
PETK	**Petropavlovsk-**	55.44	22	P	P	00 19 53.4	+0.7
MK31	**Makanchi Array**	57.71	325	P	P	00 20 08.4	-0.6
MKAR	**Makanchi Array**	57.71	325	P	P	00 20 08.3	-0.7
	comp=Z,3.5nm,0.5s,baz=119,slow=7.4,SNR=60						
MAKZ	**Makanchi**	57.90	325	P	P	00 20 09.6	-0.6
MAKZ				IAmb	IAmb	00 20 12.1	
	comp=Z,3.6nm,0.6s						
NIL	**Nilore**	58.10	308	P	P	00 20 11.1	-0.9
KSH	**Kashi**	58.21	315	P	P	00 20 14.4	+1.6
KSH				pP	sP	00 20 30.3	-0.9
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSH				LR	LR		
	comp=Z,200nm,8.2s						
KSH				LR	LR		
	comp=Z,180nm,6.7s						
KSH				LR	LR		
	comp=Z,290nm,9.1s						
YAK	**Yakutsk**	58.28	2	P	P	00 20 12.6	0.0
AAK	**Ala-Archa**	60.52	318	LR	LR	00 48 34.5	
	comp=Z,74nm,18.9s,baz=104,slow=38						
AAK	**Ala-Archa**	60.52	318	P	P	00 20 28.7	0.0
ZAA0	**Zalesovo Array**	60.73	333	P	P	00 20 28.7	-0.9
ZALV	**Zalesovo Beam**	60.73	333	P	P	00 20 28.7	-0.9
	comp=Z,1.3nm,0.4s,baz=115,slow=6.7,SNR=11						
ZALV				LR	LR	00 48 32.1	
	comp=Z,61nm,19.3s,baz=160,slow=38						
ZALV	**Zalesovo Beam**	60.73	333	P	P	00 20 28.2	-1.5
KBL	**Kabul**	61.70	307	P	P	00 20 35.7	-1.2
KBL				IAmb	IAmb	00 20 37.2	
	comp=Z,4.3nm,0.9s						
KURBB	**Kurchatov Arra**	61.89	327	P	P	00 20 37.2	-0.4
	comp=Z,3.3nm,0.5s,baz=129,slow=6.4,SNR=35						
KURK	**Kurchatov**	61.89	327	P	P	00 20 36.8	-0.7
KKAR	**Karatay Array**	63.40	317	P	P	00 20 47.5	-0.3
BVAR	**Borovoye Array**	67.47	327	P	P	00 21 13.2	-0.8
	comp=Z,3.5nm,0.7s,baz=111,slow=8.1,SNR=20						
BRVK	**Borovoye**	67.54	327	P	P	00 21 13.6	-0.8
BRVK				IAmb	IAmb	00 21 15.6	
	comp=Z,6.3nm,0.8s						
TIXI	**Tiksi**	67.92	1	P	P	00 21 17.4	+1.0
TIXI				IAmb	IAmb	00 21 26.5	
	comp=Z,3.7nm,0.9s						
WSAR	**Wadi Sarin**	68.60	293	LR	LR	00 54 24.1	
	comp=Z,29nm,19.2s,baz=156,slow=39						
NRIK	**Noril'sk**	70.54	346	P	P	00 21 32.7	+0.1
	comp=Z,6.3nm,0.8s,baz=135,slow=5.5,SNR=16						
NRIK				LR	LR	00 55 51.4	
	comp=Z,69nm,18.4s,baz=116,slow=39						
NRIK	**Noril'sk**	70.54	346	P	P	00 21 33.1	+0.4
NRIK				IAmb	IAmb	00 21 35.4	
	comp=Z,10.0nm,1.1s						
ABKAR	**Akbulak array**	72.31	321	P	P	00 21 42.9	-0.8
ABKAR				IAmb	IAmb	00 21 45.4	
	comp=Z,5.1nm,1.0s						
ABKAR	**Akbulak array**	72.31	321	P	P	00 21 43.1	-0.6
AKTO	**Aktyubinsk**	73.82	322	P	P	00 21 52.3	-0.4
	comp=Z,4.0nm,0.7s,baz=106,slow=5.3,SNR=12						
ARU	**Arti**	75.09	328	P	P	00 21 59.5	-0.3
	comp=Z,2.1nm,0.5s,baz=91,slow=3.1,SNR=15						
ARU	**Arti**	75.09	328	P	P	00 21 59.1	-0.7
ARU				IAmb	IAmb	00 22 00.8	
	comp=Z,6.0nm,0.5s						
KIRV	**Kirov**	80.37	329	P	P	00 22 29.1	-0.1
	comp=Z,12nm,0.7s,baz=143,slow=1.1,SNR=9.7						
BELG	**Belogornoye**	80.57	322	P	P	00 22 29.4	-1.0
	comp=Z,15nm,1.1s,baz=136,slow=3.8,SNR=4.4						
RAYN	**Ar Rayn**	80.66	293	P	P	00 22 31.2	-0.4
RAYN				IAmb	IAmb	00 22 39.7	
	comp=Z,7.5nm,1.4s						
TTA	**Tatalina**	80.89	27	P	P	00 22 33.1	+1.1
IMAR	**Indian Mountai**	82.35	24	P	P	00 22 41.2	+1.6
PPLA	**Purkeypile**	82.62	27	P	P	00 22 41.8	+0.6
PPLA				IAmb	IAmb	00 22 49.0	
	comp=Z,6.7nm,1.3s						
KLMR	**Klimovskoe**	85.55	331	eP	P	00 22 54.7	-1.3
KLMR				AMP		00 22 57.6	
	comp=Z,26nm,0.9s						
BMAR	**Burnt Mountain**	86.08	23	P	P	00 22 59.2	+0.6
BRTR	**Keskin Array B**	90.19	310	P	P	00 23 18.2	-0.7
	comp=Z,1.5nm,0.8s,baz=74,slow=9.1,SNR=3.6						
BRTR				LR	LR	01 10 54.6	
	comp=Z,25nm,18.4s,baz=88,slow=40						
ARCES	**ARCESS Array B**	90.57	340	P	P	00 23 19.6	-0.3
	comp=Z,5.2nm,0.6s,baz=82,slow=7.0,SNR=21						
ARCES				LR	LR	01 09 59.2	
	comp=Z,35nm,19.3s,baz=158,slow=40						
ARCES	**ARCESS Array B**	90.57	340	P	P	00 23 19.3	-0.5
FINES	**FINESS Array B**	91.97	332	P	P	00 23 26.6	+0.2
	comp=Z,7.6nm,1.1s,baz=56,slow=7.6,SNR=6.4						
FINES	**FINESS Array B**	91.97	332	P	P	00 23 26.2	-0.3
AKASG	**Malin Array Be**	92.05	321	P	P	00 23 26.3	-0.7
	comp=Z,1.8nm,0.8s,baz=70,slow=4.4,SNR=8.4						
AKASG	**Malin Array Be**	92.05	321	P	P	00 23 25.1	-1.9
AKASG				IAmb	IAmb	00 23 26.3	
	comp=Z,4.2nm,1.4s						
SYO	**Syowa Base**	92.41	201	‖ePcP	PcP	00 23 31.7	+2.7
BUR08	**Bucovina Ar. S**	95.17	318	P	P	00 23 41.4	-0.3
BUR08				IAmb	IAmb	00 23 48.5	
	comp=Z,3.1nm,1.1s						
HFS	**Hagfors**	98.16	332	LR	LR	01 10 31.9	
	comp=Z,47nm,20.2s,baz=72,slow=37						
NOA	**NORSAR Array B**	98.93	334	P	P	00 23 56.7	-1.5
	comp=Z,1.7nm,0.9s,baz=67,slow=4.5,SNR=3.5						
NOA				LR	LR	01 12 44.9	
	comp=Z,44nm,21.8s,baz=75,slow=38						
TORD	**Torodi Ar. Bea**	123.10	288	PKP	PKiKP	00 29 16.2	+0.5
	comp=Z,0.9nm,0.8s,baz=58,slow=1.8,SNR=6.2						

*IDC **14** 00:11:00.5±3.4,7°.50S×128°.77E,h115km±41km,mb3.3/2,*
mb1 3.8/7,mb1mx3.2/46,mbtmp4.1/7,Error ellipse:
s-maj=34.8km s-min=22.3km az=3.0

ISC 14 00:11:02.1±0.9,7°.555±0°.08×128°.77E±0°.08,h131km,n15,
σ2§48/17,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	4.96	243	P	Pn	00 12 16.2	+1.4
DRS	**Darwin Rock St**	5.29	157	P	Pn	00 12 21.3	+2.2
BATI	**Baumata**	5.69	242	P	Pn	00 12 24.2	-0.4
	3.0nm,0.3s,baz=63,slow=9.0,SNR=1.6						
BATI				S	Sn	00 13 28.1	-0.8
	7.2nm,0.3s,baz=330,slow=23,SNR=5.9						
FAKI	**Fak Fak**	5.76	37	P	Pn	00 12 23.6	-1.8
MTN	**Manton Dam**	5.76	156	P	Pn	00 12 27.3	+1.9
KDU	**Kakadu**	6.28	145	P	Pn	00 12 33.9	+1.5
FITZ	**Fitzroy Crossi**	10.92	196	P	Pn	00 13 32.3	-2.5
	0.9nm,0.3s,baz=30,slow=11,SNR=7.7						
FITZ				S	Sn	00 15 29.7	-5.6
	1.2nm,0.3s,baz=95,slow=16,SNR=4.9						
JAY	**Jayapura**	12.90	68	P	Pn	00 13 59.2	-1.6
	0.6nm,0.3s,baz=262,slow=7.1,SNR=4.4						
WRA	**Warramunga Arr**	13.46	157	P	Pn	00 14 07.0	-0.9
	1.8nm,0.3s,baz=332,slow=12,SNR=70						
COEN	**Coen**	15.52	115	P	P	00 14 37.3	+1.8
QIS	**Mount Isa**	16.66	142	P	P	00 14 51.4	+3.3
ASAR	**Alice Springs**	16.77	163	P	Pn	00 14 50.8	+1.4
	0.5nm,0.3s,baz=337,slow=9.1,SNR=32						
WRKA	**Warakurna**	17.40	181	P	Pn	00 15 00.5	+3.6
MKAR	**Makanchi Array**	68.02	328	P	P	00 21 47.4	+0.1
	0.3nm,0.5s,baz=120,slow=8.9,SNR=1.2						
ZALV	**Zalesovo Beam**	71.53	334	P	P	00 22 08.4	-0.3
	0.5nm,0.5s,baz=126,slow=7.3,SNR=2.3						

NEIC 14 00:16:30.3±0.5,36°.67N±0°.01×97°.97W±0°.01,h2km±7km,
mb_Lg2.5/10,Error ellipse: s-maj=2.2km s-min=1.2km
az=156.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	0.20	26		Pg	00 16 34.5	+0.2
GC02				Sg	Sg	00 16 37.3	+0.4
OK032	**Salt Plains WL**	0.24	305	Pg	Pg	00 16 35.0	+0.1
OK032				Sg	Sg	00 16 38.2	+0.3
KAN14	**Manchester OK**	0.29	1		Pg	00 16 35.9	0.0
KAN17	**Caldwell West**	0.41	24	Pg	Pg	00 16 38.2	0.0
KAN17				Sg	Sg	00 16 43.6	+0.1
KAN10	**Anthony SW Sta**	0.46	347	Pg	Pg	00 16 39.1	-0.1
KAN01	**Argonia South**	0.51	19		Pg	00 16 40.0	-0.1
KAN13	**South Haven SW**	0.52	49	Pg	Pg	00 16 40.5	+0.2
KAN08	**Anthony NE Sta**	0.56	360		Pg	00 16 40.9	-0.1
KAN16	**Harper SW Stat**	0.56	352	Pg	Pg	00 16 40.9	-0.2
KAN06	**Argonia West S**	0.58	9		Pg	00 16 41.3	-0.2
OK035	**E0210 Rd and N**	0.60	274	Pg	Pg	00 16 41.6	-0.1
BLOK	**Blackwell**	0.61	81	Pg	Pg	00 16 42.3	+0.3
KAN12	**Harper NE Stat**	0.63	358	Pg	Pg	00 16 41.9	-0.4
U32A	**Winter Ranch,**	0.88	251	Pg	Pg	00 16 47.2	0.0
OK029	**Liberty Lake**	0.96	154	Pg	Pg	00 16 48.9	+0.1
BCOK	**Bluff Creek, N**	1.05

mb1 4.3/17, mb1mx4.0/44, mbtmp4.4/17, MS3.4/3, Ms1 3.3/3, ms1mx2.7/57, Error ellipse: s-maj=12.6km s-min=9.3km az=25.0

*NEIC **14** 00:24:04.3±1.7, 10°.11S±0°.09×161°.45E±0°.09, h97km±1km, mb4.5/35, Error ellipse: s-maj=14.4km s-min=10.5km az=217.0*

ISC 14 00:24:02.8±0.5, 10°.12S±0°.06×161°.45E±0°.07, h85km, n88, σ1°22/91, mb4.6/39, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.63**	**295**	P	**Pn**	**00 24 31.4**	**+1.4**
	123nm,0.3s,baz=194,slow=8.4,SNR=9.2						
HNR				S	**Sn**	**00 24 53.3**	**+2.6**
	346nm,0.3s,baz=178,slow=22,SNR=18						
HNR	**Honiara**	**1.63**	**295**		**Pn**	**00 24 31.1**	**+1.1**
HNR				Sn	**Sn**	**00 24 52.8**	**+2.1**
SANVU	**Saraoutou**	**7.71**	**134**		**Pn**	**00 25 53.1**	**+0.7**
LIFNC	**LIFOU**	**11.97**	**153**	Pn	**Pn**	**00 26 50.1**	**-0.3**
DZM	**Mont Dzumac**	**12.81**	**159**	P	**Pn**	**00 27 03.7**	**+1.9**
	3.3nm,0.3s,baz=355,slow=8.4,SNR=34						
DZM	**Mont Dzumac**	**12.81**	**159**	Pn	**Pn**	**00 27 03.5**	**+1.7**
MARNC	**Mare, Loyalty**	**12.94**	**152**	Pn	**Pn**	**00 27 05.2**	**+1.8**
ONTNC	**Ouen Toro**	**13.03**	**159**	Pn	**Pn**	**00 27 07.3**	**+2.7**
OUENC	**Ouen Island, N**	**13.27**	**158**	Pn	**Pn**	**00 27 09.2**	**+1.3**
PMG	**Port Moresby**	**14.11**	**272**	Pn	**Pn**	**00 27 20.0**	**+1.3**
PATS	**Pohnpei**	**17.13**	**349**		**P**	**00 27 58.0**	**+0.6**
CTAO	**Charters Tower**	**17.69**	**234**	Pn	**Pn**	**00 28 05.2**	**+1.4**
CTAO				IAmb	IAmb	00 28 07.4	
	comp=Z,39nm,1.3s						
EIDS	**Eidsvold**	**18.08**	**212**	P	**Pn**	**00 28 09.7**	**+1.2**
COEN	**Coen**	**18.28**	**256**		**Pn**	**00 28 11.2**	**+0.4**
COEN				IAmb	IAmb	00 28 16.3	
	comp=Z,32nm,1.1s						
ARMA	**Armidale**	**22.17**	**203**	P	**P**	**00 28 52.3**	**+0.2**
SMPI	**Sarmi**	**24.00**	**288**	P	**P**	**00 29 08.5**	**-1.3**
	comp=Z,3μmcomp=Z,25nm,1.0s						
WR0	**Warramunga Arr**	**27.73**	**246**	P	**P**	**00 29 42.8**	**-0.7**
WR0				IAmb	IAmb	00 29 43.8	
	comp=Z,8.4nm,1.0s						
WB0	**Warramunga Arr**	**27.81**	**247**	P	**P**	**00 29 43.6**	**-0.6**
WB0				IAmb	IAmb	00 29 44.6	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**27.91**	**246**	P	**P**	**00 29 44.4**	**-0.7**
	comp=Z,7.8nm,0.8s,baz=76,slow=9.0,SNR=47						
WRA				pP	**pwP**	**00 30 06.7**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=74,slow=9.2,SNR=3.2						
WRA	**Warramunga Arr**	**27.91**	**246**	P	**P**	**00 29 43.5**	**-1.6**
STKA	**Stephens Creek**	**28.40**	**217**	P	**P**	**00 29 50.2**	**+0.9**
	comp=Z,2.5nm,0.5s,baz=59,slow=14,SNR=8.7						
STKA				LR	LR	00 40 03.4	
	comp=Z,81nm,20.4s,baz=21,slow=34						
STKA	**Stephens Creek**	**28.40**	**217**	P	**P**	**00 29 49.1**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**28.90**	**10**	T	T	01 01 21.2	
	baz=188,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**28.90**	**10**	T	T	01 01 27.6	
	baz=188,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.91**	**10**	T	T	01 01 23.9	
	baz=188,slow=76,SNR=16						
AS31	**Alice Springs**	**29.52**	**239**	P	**P**	**00 29 58.1**	**-1.4**
ASAR	**Alice Springs**	**29.53**	**239**	P	**P**	**00 29 58.0**	**-1.5**
	comp=Z,5.4nm,0.9s,baz=69,slow=9.6,SNR=41						
ASAR				pP	**pwP**	**00 30 22.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=63,slow=10,SNR=3.4						
ASAR				LR	LR	00 40 11.4	
	comp=Z,104nm,20.9s,baz=107,slow=33						
ASAR	**Alice Springs**	**29.53**	**239**	P	**P**	**00 29 58.2**	**-1.3**
MTN	**Manton Dam**	**29.83**	**262**	P	**P**	**00 30 02.0**	**-0.2**
MTN				IAmb	IAmb	00 30 28.8	
	comp=Z,4.9nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.13**	**10**	T	T	01 00 51.3	
	baz=193,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**30.13**	**10**	T	T	01 00 35.2	
	baz=193,slow=76,SNR=10						
H11N2	**WAKE ISLAND Hy**	**30.14**	**10**	T	T	01 00 36.0	
	baz=193,slow=76,SNR=9.7						
TOO	**Toolangi**	**30.89**	**205**	P	**P**	**00 30 11.7**	**+0.4**
TOO				IAmb	IAmb	00 30 17.7	
	comp=Z,12nm,1.0s						
KNRA	**Kununurra**	**32.31**	**257**	P	**P**	**00 30 23.4**	**-0.7**
KNRA				IAmb	IAmb	00 30 24.5	
	comp=Z,11nm,0.6s						
BBOO	**Buckleboo**	**32.52**	**222**	P	**P**	**00 30 25.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**35.57**	**253**	P	**P**	**00 30 50.9**	**-1.4**
	comp=Z,4.5nm,0.6s,baz=80,slow=6.5,SNR=23						
FITZ				pP	**pwP**	**00 31 16.7**	**+2.3**
	comp=Z,5.4nm,0.7s,baz=136,slow=5.5,SNR=5.3						
EDFI	**Ende, Flores**	**39.23**	**269**	P	**P**	**00 31 22.2**	**-1.2**
	comp=Z,9.1nm,0.7s						
PSA00	**Pilbara Seismi**	**41.49**	**249**	P	**P**	**00 31 40.8**	**-1.0**
PSA00	**Pilbara Seismi**	**41.49**	**249**	P	**P**	**00 31 41.0**	**-0.8**
PSA00				IAmb	IAmb	00 31 44.5	
	comp=Z,24nm,1.4s						
MORW	**Morawa**	**46.41**	**239**	P	**P**	**00 32 20.4**	**-0.7**
MORW				IAmb	IAmb	00 32 26.2	
	comp=Z,16nm,1.1s						
JAGI	**Jajag, Banyuwa**	**46.68**	**268**	P	**P**	**00 32 21.3**	**-2.1**
UGM	**Wanagama**	**50.31**	**268**	P	**P**	**00 32 50.0**	**-1.4**
MJAR	**Matsushiro Arr**	**51.31**	**336**	P	**P**	**00 32 57.6**	**-0.9**
	comp=Z,2.9nm,0.6s,baz=182,slow=8.3,SNR=5.0						
TPUB	**Ta-pu**	**51.95**	**310**	P	**P**	**00 33 01.9**	**-1.5**
SSLB	**Suanglung**	**51.98**	**311**	P	**P**	**00 33 02.7**	**-1.0**
JHS	**Saijyo**	**52.28**	**330**	P	**P**	**00 33 05.3**	**-0.4**
CGJI	**Cibinong**	**55.23**	**269**	P	**P**	**00 33 25.3**	**-2.2**
JKA	**Kamikawa-asahi**	**56.63**	**344**	P	**P**	**00 33 37.3**	**+0.3**
ASAJ	**Asahikawa**	**56.63**	**344**	P	**P**	**00 33 37.9**	**+0.9**
	comp=Z,7.2nm,0.4s,baz=200,slow=6.0,SNR=5.2						
ASAJ				LR	LR	00 55 37.5	
	comp=Z,19nm,21.4s,baz=102,slow=33						
NJ2	**Nanjing**	**58.45**	**318**	*e*P	**P**	**00 33 51.1**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**60.31**	**336**	P	**P**	**00 34 02.6**	**0.0**
USRK	**Ussuriysk Ar.**	**60.31**	**336**	P	**P**	**00 34 03.0**	**+0.4**
	comp=Z,7.9nm,0.8s,baz=139,slow=5.7,SNR=8.8						
USRK				pP	**pP**	**00 34 27.4**	**+3.9**
	comp=Z,4.6nm,0.8s,baz=117,slow=5.4,SNR=4.3						
USRK	**Ussuriysk Ar.**	**60.31**	**336**	P	**P**	**00 34 02.8**	**+0.3**
BNX	**BinXian**	**63.47**	**334**	⇑P	**P**	**00 34 22.8**	**-0.9**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BNX				pmax	pmax		
	comp=Z,160nm,5.0s						
KLR	**Kul'dur**	**64.61**	**339**	P	**P**	**00 34 31.2**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=156,slow=6.7,SNR=9.0						
VNDA	**Vanda**	**67.38**	**180**	P	**P**	**00 34 48.5**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=351,slow=5.1,SNR=8.0						
VNDA	**Vanda**	**67.38**	**180**	P	**P**	**00 34 48.3**	**-0.3**
VNDA				IAmb	IAmb	00 34 48.6	
	comp=Z,3.4nm,0.9s						
XLT	**XiLinHaoTe**	**67.70**	**326**	*e*P	**P**	**00 34 51.9**	**+0.7**
XLT				pP	pwP	00 35 15.8	+1.2
XLT				sP	sP	00 35 25.8	+4.1
XLT				S	**S**	**00 43 40.3**	**-1.9**
XLT				sS	sS	00 44 19.9	+1.1
XLT				pmax	pmax		
	comp=Z,30nm,0.8s						
XLT				pmax	pmax		
	comp=Z,190nm,3.9s						
CMAR	**Chiang Mai Arr**	**67.88**	**295**	P	**P**	**00 34 51.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=125,slow=5.6,SNR=4.9						
PZH	**PanZhiHua**	**68.44**	**304**	P	**P**	**00 34 57.5**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,110nm,5.7s						
LZH	**Lanzhou**	**71.04**	**314**	*e*P	P	00 35 24.3	+12
LZH				pP	PcP	00 35 28.8	-3.1
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
ULN	**Ulaanbaatar**	**75.11**	**325**	P	**P**	**00 35 35.3**	**-0.5**
ULN				IAmb	IAmb	00 35 37.3	
	comp=Z,7.8nm,0.8s						
GTA	**Gaotai**	**75.41**	**315**	*e*P	**P**	**00 35 37.6**	**-0.1**
GTA				pP	PcP	00 35 45.3	-5.2
GTA				sP	pP	00 35 50.1	-9.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**75.47**	**325**	P	**P**	**00 35 37.7**	**-0.1**
	comp=Z,8.2nm,0.8s,baz=143,slow=5.7,SNR=32						
SONM				pP	**pwP**	**00 36 00.8**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=136,slow=5.6,SNR=3.7						
SONM	**Songino Array**	**75.47**	**325**	P	**P**	**00 35 37.6**	**-0.2**
SONM				IAmb	IAmb	00 35 39.0	
	comp=Z,8.0nm,0.8s						
SVW2	**Sparrevohn**	**78.61**	**20**	P	**P**	**00 35 55.2**	**+0.2**
SVW2				IAmb	IAmb	00 35 57.1	
	comp=Z,8.1nm,1.0s						
L19K	**White Mountain**	**79.64**	**19**	P	**P**	**00 36 01.2**	**+0.6**
L19K				IAmb	IAmb	00 36 02.4	
	comp=Z,8.3nm,1.0s						
QSPA	**South Pole Qui**	**79.88**	**180**	P	**P**	**00 36 01.1**	**-0.9**
QSPA				IAmb	IAmb	00 36 02.2	
	comp=Z,6.9nm,0.8s						
CAST	**Castle Rocks**	**81.42**	**19**	P	**P**	**00 36 09.7**	**-0.4**
CAST				IAmb	IAmb	00 36 10.6	
	comp=Z,5.3nm,0.8s						
MCK	**McKinley**	**82.67**	**20**	P	**P**	**00 36 16.8**	**+0.2**
MCK				IAmb	IAmb	00 36 17.8	
	comp=Z,11nm,1.0s						
IMAR	**Indian Mountai**	**82.72**	**17**	P	**P**	**00 36 17.3**	**+0.5**
MDM	**Murphy Dome**	**83.71**	**19**	P	**P**	**00 36 22.0**	**0.0**
MDM				IAmb	IAmb	00 36 22.8	
	comp=Z,5.0nm,0.9s						
IL31	**Eielson Array**	**84.03**	**20**	P	**P**	**00 36 23.3**	**-0.2**
ILAR	**Eielson Array**	**84.03**	**20**	P	**P**	**00 36 23.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=254,slow=5.1,SNR=11						
ILAR				pP	**pwP**	**00 36 49.5**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=264,slow=4.1,SNR=3.6						
ILAR	**Eielson Array**	**84.03**	**20**	P	**P**	**00 36 23.2**	**-0.3**
BCAR	**Beaver Creek A**	**84.82**	**22**	P	**P**	**00 36 28.5**	**+0.9**
EGAK	**Eagle**	**86.01**	**21**	P	**P**	**00 36 34.5**	**+1.0**
EGAK				IAmb	IAmb	00 36 44.1	
	comp=Z,9.2nm,1.4s						
BMAR	**Burnt Mountain**	**86.41**	**18**	P	**P**	**00 36 36.6**	**+1.1**
NVAR	**Mina Array Bea**	**88.68**	**51**	P	**P**	**00 36 48.4**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=231,slow=5.7,SNR=3.0						
MK31	**Makanchi Array**	**89.98**	**318**	P	**P**	**00 36 51.3**	**-1.5**
MKAR	**Makanchi Array**	**89.98**	**318**	P	**P**	**00 36 51.7**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=94,slow=6.1,SNR=14						
MKAR				pP	**pwP**	**00 37 16.6**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=98,slow=6.4,SNR=6.4						
MKAR	**Makanchi Array**	**89.98**	**318**	P	**P**	**00 36 51.5**	**-1.4**
KURBB	**Kurchatov Arra**	**93.28**	**321**	P	**P**	**00 37 06.2**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=111,slow=3.7,SNR=5.7						
YKA	**Yellowknife Ar**	**96.11**	**28**	P	**P**	**00 37 20.0**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=255,slow=4.6,SNR=14						
YKA				pP	**pP**	**00 37 44.2**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=259,slow=4.7,SNR=3.3						
KEST	**Kesra**	**144.05**	**320**	PKP	PKPbc	00 43 26.8	-0.5
	comp=Z,5.3nm,1.0s,baz=347,slow=5.1,SNR=7.4						
KEST	**Kesra**	**144.05**	**320**		**PKPab**	**00 43 26.6**	**-0.1**
ESDC	**Sonseca Array**	**147.83**	**339**	PKPbc	**PKPbc**	**00 43 38.0**	**-0.4**
	comp=Z,2.1nm,1.1s,baz=297,slow=26,SNR=4.2						
ESDC	**Sonseca Array**	**147.83**	**339**		**PKPbc**	**00 43 37.0**	**-1.4**

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*ATH **14** 00:27:57.9, 38°.95N×24°.08E, h16km±1km, ML3.4/16, Error ellipse: s-maj=1.9km s-min=0.8km az=52.0*

*THE **14** 00:27:57.7, 38°.95N×24°.08E, h10km, ML3.3/15, Error ellipse: s-maj=0.9km s-min=0.4km az=191.0*

*ISK **14** 00:27:58.2, 39°.04N×24°.15E, h20km, ML3.3/22*

*DDA **14** 00:27:58.8±0.0, 39°.03N×24°.11E, h17km±2km, MW3.7*

ISC 14 00:27:57.8±0.9, 38°.94N±0°.02×24°.09E±0°.01, h14km±7km, n142, σ0°91/182, 5C-11D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	**Alonissos**	**0.27**	**320**	P	**Pg**	**00 28 03.4**	**-0.2**
ALNA				S	**Sg**	**00 28 07.3**	**-0.1**
ALNA				AML	AML	00 28 07.6	
	comp=E,64302μm,0.3s						
ALNA				AML	AML	00 28 08.1	
	comp=N,56884μm,0.5s						
KYMI	**Kymi, Euboea I**	**0.31**	**179**	P	**Pg**	**00 28 04.3**	**+0.1**
KYMI				S	**Sg**	**00 28 09.0**	**+0.4**
	comp=N,4μm,0.4s						
SKY	**Skiros Island**	**0.36**	**100**	P	**Pg**	**00 28 05.4**	**+0.2**
SKY				S	**Sg**	**00 28 10.6**	**+0.4**
	comp=N,24μm,0.2s						
SKY	**Skiros Island**	**0.36**	**100**	P	**Pg**	**00 28 05.5**	**+0.2**
SKY				S	**Sg**	**00 28 10.6**	**+0.4**
SKY				AML	AML	00 28 11.5	
	comp=N,38668μm,0.2s						
SKY				AML	AML	00 28 11.5	
	comp=E,57072μm,0.2s						
NEO	**Neokhori**	**0.77**	**299**	P	**Pg**	**00 28 12.6**	**-0.1**
NEO				S	**Sg**	**00 28 23.3**	**+0.5**
	comp=E,5μm,0.4s						
NEO	**Neokhori**	**0.77**	**299**	P	**Pg**	**00 28 12.1**	**-0.6**
NEO				AML	AML	00 28 25.3	
	comp=N,9232μm,0.5s						
NEO				AML	AML	00 28 26.3	
	comp=E,10542μm,0.3s						
XOR	**Xorichti**	**0.82**	**301**	P	**Pg**	**00 28 13.6**	**-0.1**
XOR				S	**Sg**	**00 28 24.0**	**-0.4**
	comp=E,4μm,0.3s						
XOR	**Xorichti**	**0.82**	**301**	P	**Pg**	**00 28 13.5**	**-0.1**
XOR				S	**Sg**	**00 28 23.9**	**-0.5**
XOR				AML	AML	00 28 26.1	
	comp=N,9840μm,0.3s						
XOR				AML	AML	00 28 27.0	
	comp=E,4538μm,0.3s						
ATAL	**Atalanti**	**0.87**	**254**	P	**Pg**	**00 28 14.1**	**-0.6**
ATAL				S	**Sb**	**00 28 27.1**	**+0.9**
	comp=E,2μm,0.6s						
ATAL	**Atalanti**	**0.87**	**254**	P	**Pg**	**00 28 13.8**	**-0.9**
ATAL				S	**Sg**	**00 28 25.1**	**-1.0**
ATAL				AML	AML	00 28 28.6	
	comp=E,3550μm,0.5s						
ATAL				AML	AML	00 28 31.9	
	comp=N,2597μm,0.7s						
LKR	**Lokris**	**0.90**	**251**	P	**Pg**	**00 28 14.3**	**-0.9**
LKR				S	**Sg**	**00 28 27.3**	**+0.3**
	comp=N,2μm,0.3s						
LKR	**Lokris**	**0.90**	**251**	P	**Pg**	**00 28 14.4**	**-0.9**
LKR				AML	AML	00 28 28.8	
	comp=E,2612μm,0.4s						
LKR				AML	AML	00 28 30.4	
	comp=N,3678μm,0.3s						
PTL	**Penteli**	**0.91**	**191**	P	**Pg**	**00 28 15.1**	**-0.3**
PTL				S	**Sb**	**00 28 27.6**	**+0.3**
	comp=N,2μm,0.3s						
PTL	**Penteli**	**0.91**	**191**	P	**Pg**	**00 28 15.1**	**-0.3**
PTL				S	**Sg**	**00 28 27.1**	**-0.2**
PTL				AML	AML	00 28 29.8	
	comp=N,3428μm,0.3s						
PTL				AML	AML	00 28 29.8	
	comp=E,4128μm,0.3s						
EFSA	**Agios Efstrati**	**0.92**	**49**	P	**Pg**	**00 28 14.8**	**-0.8**
EFSA				AML	AML	00 28 30.5	
	comp=N,4979μm,0.4s						
EFSA				AML	AML	00 28 32.5	
	comp=E,3353μm,0.3s						
KARY	**Karystos**	**0.95**	**163**	P	**Pg**	**00 28 15.7**	**-0.4**
KARY	**Karystos**	**0.95**	**163**	P	**Pg**	**00 28 15.8**	**-0.4**
KARY				S	**Sg**	**00 28 28.1**	**-0.4**
KARY				AML	AML	00 28 31.5	
	comp=N,50μm,0.1s						
KARY				AML	AML	00 28 32.5	
	comp=E,4824μm,0.4s						
VIL2	**Platees**	**0.97**	**222**	P	**Pg**	**00 28 15.9**	**-0.7**
VIL2				AML	AML	00 28 33.1	
	comp=N,6730μm,0.7s						
VIL2				AML	AML	00 28 33.7	
	comp=E,3558μm,0.5s						
VILL	**Villia**	**0.99**	**218**	P	**Pg**	**00 28 15.8**	**-1.1**
VILL				S	**Sb**	**00 28 30.4**	**+0.8**
	comp=E,3μm,0.7s						
ATHU	**Athens Univers**	**1.00**	**194**	P	**Pb**	**00 28 16.6**	**-0.3**
ATHU				S	**Sb**	**00 28 30.8**	**+0.8**
	comp=E,760nm,0.5s						
ATHU	**Athens Univers**	**1.00**	**194**	P	**Pb**	**00 28 16.8**	**-0.1**
ATHU				S	**Sg**	**00 28 29.4**	**-0.9**
ATHU				AML	AML	00 28 32.6	
	comp=N,1672μm,0.6s						
ATHU				AML	AML	00 28 33.8	
	comp=E,1138μm,0.4s						
ATH	**Athens Observa**	**1.01**	**197**	P	**Pb**	**00 28 16.9**	**-0.2**
ATH				S	**Sn**	**00 28 31.7**	**+0.2**
	comp=E,2μm,0.3s						
ATH	**Athens Observa**	**1.01**	**197**	P	**Pb**	**00 28 16.4**	**-0.7**
ATH				S	**Sg**	**00 28 29.8**	**-0.7**
ATH				AML	AML	00 28 32.8	
	comp=E,3299μm,0.3s						
ATH				AML	AML	00 28 33.8	
	comp=N,3657μm,0.3s						
PAIG	**Paliouri**	**1.03**	**342**	P	**Pb**	**00 28 17.0**	**-0.4**
PAIG				S	**Sg**	**00 28 31.4**	**+0.1**
	comp=N,1μm,0.5s						
PAIG	**Paliouri**	**1.03**	**342**	P	**Pb**	**00 28 17.1**	**-0.3**
PAIG				S	**Sb**	**00 28 30.9**	**+0.1**
PAIG				AML	AML	00 28 33.5	
	comp=N,2412μm,0.5s						
PAIG				AML	AML	00 28 35.5	
	comp=E,2311μm,0.4s						
VLY	**Voula,Athens**	**1.11**	**192**	P	**Pb**	**00 28 18.6**	**-0.2**
VLY				S	**Sn**	**00 28 34.4**	**+0.4**
	comp=E,3μm,0.4s						
VLY	**Voula,Athens**	**1.11**	**192**	P	**Pb**	**00 28 18.2**	**-0.6**
VLY				AML	AML	00 28 35.4	
	comp=N,5152μm,0.4s						
VLY				AML	AML	00 28 35.5	
	comp=E,7546μm,0.4s						
PSRA	**Psara**	**1.22**	**109**	P	**Pn**	**00 28 20.1**	**-0.2**
LTK	**Loutraki**	**1.27**	**224**	P	**Pn**	**00 28 20.9**	**-0.2**
LTK				S	**Sb**	**00 28 38.1**	**+0.4**
	comp=E,1μm,0.4s						
LTK	**Loutraki**	**1.27**	**224**	P	**Pn**	**00 28 20.9**	**-0.2**
LIA	**Limnos Island**	**1.28**	**41**	P	**Pn**	**00 28 20.4**	**-0.7**
LIA				S	**Sb**	**00 28 38.0**	**+0.2**
	comp=E,975nm,0.4s						
LIA	**Limnos Island**	**1.28**	**41**	P	**Pn**	**00 28 20.5**	**-0.6**
AGG	**Agios Georgios**	**1.37**	**274**	P	**Pn**	**00 28 22.2**	**-0.3**
AGG				S	**Sb**	**00 28 41.3**	**+0.6**
	comp=E,450nm,0.6s						
AGG	**Agios Georgios**	**1.37**	**274**	P	**Pn**	**00 28 22.3**	**-0.2**
AGG	**Agios Georgios**	**1.37**	**274**	PN	**Pb**	**00 28 23.4**	**+0.1**
AGG	**Agios Georgios**	**1.37**	**274**	SPECP		00 28 22.0	
AGG				P	**Pn**	**00 28 22.6**	**0.0**
AGG				S	**Sn**	**00 28 40.8**	**+0.3**
AGG				*i* AML	AML	00 28 46.0	
	comp=E,184nm,0.4s						
AGG				*i* AML	AML	00 28 51.0	
	comp=E,121nm,0.5s						
AGG				*i* AML	AML	00 28 51.0	
	comp=E,207nm,0.7s						
OUR	**Ouranopolis**	**1.39**	**357**	P	**Pn**	**00 28 22.3**	**-0.5**
OUR	**Ouranopolis**	**1.39**	**357**	P	**Pn**	**00 28 22.3**	**-0.5**
OUR				AML	AML	00 28 44.0	
	comp=N,2315μm,0.4s						
OUR				AML	AML	00 28 44.7	
	comp=E,1774μm,0.5s						
OUR	**Ouranopolis**	**1.39**	**357**	PN	**Pn**	**00 28 22.1**	**-0.7**
SIGR	**SIGRI**	**1.40**	**78**	P	**Pn**	**00 28 22.6**	**-0.2**
SIGR	**SIGRI**	**1.40**	**78**	P	**Pn**	**00 28 23.2**	**+0.4**
SIGR				AML	AML	00 28 44.9	
	comp=E,1808μm,0.6s						
SIGR				AML	AML	00 28 44.9	
	comp=N,2485μm,0.8s						
SIGR	**SIGRI**	**1.40**	**78**	PN	**Pn**	**00 28 22.8**	**0.0**
SIGR				SN	**Sn**	**00 28 40.2**	**-0.9**
THAL	**Thalero**	**1.44**	**232**	P	**Pn**	**00 28 23.3**	**0.0**
THAL	**Thalero**	**1.44**	**232**	P	**Pn**	**00 28 23.4**	**0.0**
PLG	**Polygyros**	**1.51**	**341**	P	**Pn**	**00 28 23.8**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.53**	**273**	P	**Pn**	**00 28 25.0**	**+0.3**
EPID	**Epidavros**	**1.53**	**210**	P	**Pn**	**00 28 24.3**	**-0.4**
TYRN	**Tyrnavos**	**1.63**	**299**	P	**Pn**	**00 28 26.0**	**-0.1**
CHOS	**Chios island**	**1.64**	**109**	P	**Pn**	**00 28 26.4**	**+0.3**
CHOS	**Chios island**	**1.64**	**109**	PN	**Pn**	**00 28 26.5**	**+0.3**
KOCA	**Canakkale, Ayv**	**1.69**	**70**	SPECP		00 28 27.0	
KOCA				P	**Pn**	**00 28 27.2**	**+0.4**
KOCA				S	**Sg**	**00 28 52.9**	**+0.8**
KOCA				*i* AML	AML	00 28 53.0	
	comp=N,261nm,0.9s						
KOCA				*i* AML	AML	00 28 57.0	
	comp=N,286nm,0.4s						
KOCA				*i* AML	AML	00 28 58.0	
	comp=N,156nm,0.7s						
KRND	**KRANIDI**	**1.72**	**206**	P	**Pn**	**00 28 26.7**	**-0.6**
THL	**Klokotos Trika**	**1.73**	**292**	P	**Pn**	**00 28 27.4**	**+0.1**
ANX	**Ano Chora**	**1.73**	**259**	P	**Pn**	**00 28 27.9**	**+0.4**
THAS	**Thassos island**	**1.73**	**16**	P	**Pn**	**00 28 26.2**	**-1.2**
BOZC	**Bozcaada**	**1.77**	**59**	PN	**Pn**	**00 28 27.6**	**-0.3**
BOZC	**Bozcaada**	**1.77**	**59**	SPECP		00 28 28.0	
BOZC				P	**Pn**	**00 28 28.1**	**+0.2**
BOZC				*i* AML	AML	00 28 56.0	
	comp=N,148nm,0.3s						
BOZC				*i* AML	AML	00 28 56.0	
	comp=N,118nm,0.3s						
BOZC				*i* AML	AML	00 29 08.0	
	comp=N,63nm,0.6s						
KLV	**Kalavryta, Ach**	**1.77**	**240**	P	**Pn**	**00 28 27.7**	**-0.3**
HORT	**Hortiatis**	**1.82**	**336**	PN	**Pn**	**00 28 28.5**	**-0.2**
GADA	**Gvkgeada**	**1.87**	**48**	P	**Pn**	**00 28 29.0**	**-0.4**
GADA	**Gvkgeada**	**1.87**	**48**	PN	**Pn**	**00 28 28.9**	**-0.4**
KOKK	**Kokkinochori,**	**1.87**	**358**	P	**Pn**	**00 28 28.9**	**-0.5**
SMTH	**Samothraki Isl**	**1.89**	**36**	P	**Pn**	**00 28 28.4**	**-1.2**
EZN	**Ezine**	**1.94**	**62**	PN	**Pn**	**00 28 30.1**	**-0.2**
ECEA	**Canakkale, Ece**	**1.95**	**55**	P	**Pb**	**00 28 33.7**	**+0.6**
ECEA				S	**Sg**	**00 29 00.4**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**2.02**	**110**	SPECP		00 28 31.0	
ZEYE				P	**

ITM	**Ithomi**	**2.45**	**225**	PN	**Pn**	**00 28 38.7**	**+1.3**
ALN	**Alexandroupoli**	**2.46**	**37**	P	**Pn**	**00 28 36.5**	**-1.0**
ALN	**Alexandroupoli**	**2.46**	**37**	PN	**Pn**	**00 28 35.9**	**-1.6**
ALN	**Alexandroupoli**	**2.46**	**37**	SPECP		00 28 36.0	
ALN				P	**Pn**	**00 28 36.6**	**-1.0**
ALN				S	**Sg**	**00 29 16.9**	**-0.1**
ALN				*i* AML	AML	00 29 18.0	
	comp=N,20nm,0.5s						
ALN				*i* AML	AML	00 29 25.0	
	comp=N,31nm,0.4s						
ALN				*i* AML	AML	00 29 34.0	
	comp=N,24nm,0.6s						
RDO	**Rodhopi**	**2.46**	**26**	PN	**Pn**	**00 28 36.4**	**-1.1**
LPK	**Lapseki**	**2.51**	**54**	PN	**Pn**	**00 28 37.9**	**-0.2**
ERIK	**Erikli-Kesan**	**2.54**	**46**	PN	**Pn**	**00 28 37.7**	**-0.8**
VAY	**Valandovo**	**2.65**	**334**	*i* Pn	**Pg**	**00 28 49.9**	**+1.3**
KESN	**Edirne-Kesan**	**2.74**	**46**	SPECP		00 28 40.0	
KESN				P	**Pn**	**00 28 40.8**	**-0.8**
KESN				S	**Sg**	**00 29 25.5**	**-0.4**
KESN				*i* AML	AML	00 29 31.0	
	comp=N,66nm,0.6s						
KESN				*i* AML	AML	00 29 33.0	
	comp=N,66nm,0.4s						
KESN				*i* AML	AML	00 29 40.0	
	comp=N,26nm,0.6s						
FNA	**Florina**	**2.78**	**312**	P	**Pn**	**00 28 42.4**	**+0.5**
FNA	**Florina**	**2.78**	**312**	PN	**Pn**	**00 28 42.4**	**+0.5**
FNA	**Florina**	**2.78**	**312**	P	**Pn**	**00 28 42.8**	**+0.9**
FNA				*i* AML	AML	00 29 16.0	
	comp=N,15nm,0.6s						
FNA				*i* AML	AML	00 29 16.0	
	comp=N,23nm,0.8s						
FNA				*i* AML	AML	00 29 45.0	
	comp=N,21nm,1.0s						
SANT	**Santorini**	**2.79**	**157**	PN	**Pn**	**00 28 44.2**	**+2.2**
SANT	**Santorini**	**2.79**	**157**	P	**Pg**	**00 28 51.4**	**+0.2**
SANT				S	**Sg**	**00 29 25.0**	**-2.4**
STEP	**BALIKESIR_Sava**	**2.85**	**80**	SPECP		00 28 45.0	
STEP				P	**Pn**	**00 28 45.2**	**+2.3**
STEP				*i* AML	AML	00 29 32.0	
	comp=N,121nm,0.8s						
STEP				*i* AML	AML	00 29 35.0	
	comp=N,113nm,0.5s						
STEP				*i* AML	AML	00 29 39.0	
	comp=N,53nm,0.8s						
KRBG	**Karabiga-Canak**	**2.87**	**59**	PN	**Pn**	**00 28 43.2**	**+0.2**
AKHS	**Akhisar**	**2.91**	**90**	P	**Pn**	**00 28 44.2**	**+0.6**
AKHS				*i* AML	AML	00 29 27.0	
	comp=N,15nm,0.8s						
AKHS				*i* AML	AML	00 29 35.0	
	comp=N,37nm,0.5s						
AKHS				*i* AML	AML	00 30 27.0	
	comp=N,1.8nm,3.2s						
UKOP	**Uzunkopru-Edir**	**2.93**	**41**	PN	**Pn**	**00 28 43.7**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.95**	**53**	PN	**Pn**	**00 28 44.1**	**-0.1**
SART	**Tekirdag**	**2.95**	**53**	SPECP		00 28 44.0	
SART				P	**Pn**	**00 28 44.6**	**+0.4**
SART				*i* AML	AML	00 29 39.0	
	comp=N,52nm,0.6s						
SART				*i* AML	AML	00 29 40.0	
	comp=N,64nm,1.3s						
SART				*i* AML	AML	00 29 42.0	
	comp=N,56nm,0.9s						
MAR6	**Marsite Statio**	**3.01**	**53**	PN	**Pn**	**00 28 45.2**	**+0.2**
BALB	**Balikesir**	**3.02**	**75**	PN	**Pn**	**00 28 45.7**	**+0.5**
MAR3	**Marsite Statio**	**3.05**	**53**	PN	**Pn**	**00 28 45.8**	**+0.2**
GZKV	**Gazikoy-Tekird**	**3.08**	**53**	PN	**Pn**	**00 28 46.1**	**+0.2**
STIP	**Stip**	**3.11**	**333**	*i* Pn	**Pn**	**00 28 48.2**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**3.15**	**107**	PN	**Pn**	**00 28 48.3**	**+1.3**
BODT	**Bodrum**	**3.16**	**125**	PN	**Pn**	**00 28 48.5**	**+1.4**
MRMT	**Marmara Adasi**	**3.17**	**57**	PN	**Pn**	**00 28 47.4**	**+0.1**
PLD	**Plovdiv**	**3.19**	**8**	PN	**Pn**	**00 28 47.6**	**+0.1**
EDC	**Edincik**	**3.23**	**63**	PN	**Pn**	**00 28 48.5**	**+0.4**
DURS	**Dursunbey**	**3.47**	**78**	SPECP		00 28 52.0	
DURS				P	**Pn**	**00 28 52.5**	**+1.1**
DURS				*i* AML	AML	00 29 50.0	
	comp=N,25nm,0.5s						
DURS				*i* AML	AML	00 29 51.0	
	comp=N,24nm,0.8s						
DURS				*i* AML	AML	00 29 57.0	
	comp=N,24nm,0.6s						
IMMV	**Iera Moni Meta**	**3.48**	**181**	PN	**Pn**	**00 28 54.4**	**+3.0**
EDRB	**Edirne**	**3.54**	**34**	PN	**Pn**	**00 28 51.3**	**-1.0**
VTS	**Vitosha**	**3.73**	**350**	⇑P	**Pn**	**00 28 55.4**	**+0.4**
VTS	**Vitosha**	**3.73**	**350**	*e*Pn	**Pn**	**00 28 55.4**	**+0.4**
BOSS	**Bosilegrad**	**3.75**	**341**	*e*Pn	**Pn**	**00 28 54.9**	**-0.4**
YER	**Yerkesik**	**3.77**	**117**	PN	**Pn**	**00 28 57.2**	**+1.7**
ARMN	**Kirklareli, Me**	**3.87**	**40**	SPECP		00 28 56.0	
ARMN				P	**Pn**	**00 28 56.1**	**-0.8**
ARMN				*i* AML	AML	00 29 43.0	
	comp=N,6.8nm,0.5s						
ARMN				*i* AML	AML	00 30 18.0	
	comp=N,8.1nm,0.6s						
ARMN				*i* AML	AML	00 30 20.0	
	comp=N,5.3nm,0.8s						
VIZE	**Kirklareli, Vi**	**3.89**	**46**	SPECP	**P**	**00 28 56.0**	**-1.2**
VIZE				P	**P**	**00 28 56.0**	**-1.2**
VIZE				*i* AML	AML	00 30 08.0	
	comp=N,8.7nm,0.8s						
VIZE				*i* AML	AML	00 30 15.0	
	comp=N,6.6nm,0.9s						
VIZE				*i* AML	AML	00 30 18.0	
	comp=N,5.1nm,0.4s						
BARS	**Barje**	**4.24**	**337**	*e*Pn	**Pn**	**00 29 02.5**	**+0.6**
ZAPS	**Zavoj**	**4.46**	**346**	*e*Pn	**Pn**	**00 29 06.1**	**+1.1**
SELS	**Selova**	**4.83**	**333**	*e*Pn	**Pn**	**00 29 10.3**	**+0.3**
SJES	**Sjenica**	**5.32**	**326**	*e*Pn	**Pn**	**00 29 19.5**	**+2.7**
IVAS	**Ivanjica**	**5.50**	**329**	*e*Pn	**Pn**	**00 29 23.3**	**+4.0**
GRUS	**Gruza**	**5.55**	**334**	*e*Pn	**Pn**	**00 29 22.0**	**+2.0**
HUMR	**Humele**	**5.62**	**7**	⇓P	**Pn**	**00 29 20.8**	**0.0**
ICOR	**Ion Corvin**	**5.87**	**27**	⇓P	**Pn**	**00 29 24.4**	**+0.1**
DIVS	**Divibare**	**6.00**	**330**	*e*Pn	**Pn**	**00 29 27.6**	**+1.5**
HARR	**Harsova**	**6.42**	**25**	⇓P	**Pn**	**00 29 32.9**	**+1.1**
ARR	**Arges**	**6.43**	**3**	⇓P	**Pn**	**00 29 32.1**	**0.0**
GZR	**Gura Zlata**	**6.52**	**352**	⇑P	**Pn**	**00 29 33.4**	**+0.1**
VOIR		**6.53**	**6**	⇓P	**Pn**	**00 29 33.4**	**0.0**
MLR	**Muntele Rosu**	**6.69**	**11**	⇓P	**Pn**	**00 29 36.7**	**+1.1**
BZS	**Buzias**	**6.92**	**345**	⇓P	**Pn**	**00 29 38.1**	**-0.5**
CFR	**Carcaliu**	**6.92**	**24**	⇓P	**Pn**	**00 29 39.6**	**+0.9**
DOPR	**Dopca**	**7.09**	**7**	⇓P	**Pn**	**00 29 41.0**	**0.0**
PLOR	**Plostina**	**7.16**	**15**	⇑P	**Pn**	**00 29 42.4**	**+0.4**
VRI	**Vrincioaia**	**7.19**	**15**	⇑P	**Pn**	**00 29 42.8**	**+0.3**
TESR	**Tescani**	**7.79**	**13**	⇓P	**Pn**	**00 29 52.2**	**+1.5**
BURAR	**Bucovina Array**	**8.71**	**5**	⇓P	**Pn**	**00 30 04.7**	**+1.4**
SORM	**Soroca**	**9.69**	**17**	⇑P	**Pn**	**00 30 18.4**	**+1.7**

*IDC **14** 00:29:37.5±2.9, 28°.67S×69°.88W, h71km±25km, mb3.9/5, mb1 4.0/7, mb1mx3.7/28, mbtmp4.2/7, MS2.8/1, Ms1 2.8/1, ms1mx2.5/49, Error ellipse: s-maj=29.2km s-min=19.9km az=119.0*
*NEIC **14** 00:29:40.5±2.8, 28°.64S±0°.04×70°.01W±0°.07, h97km±6km, mb4.4/11, ML4.2(GUC), Error ellipse: s-maj=8.7km s-min=5.4km az=95.0*
*GUC **14** 00:29:40.7±0.8, 28°.65S×70°.08W, h110km±8km, ML4.2*
*VAO **14** 00:29:44.0±1.0, 28°.65S×69°.73W, h120km, mb4.1*
ISC 14 00:29:40.1±0.6, **28°.64S**±0°.04×**70°.02W**±0°.06, **h98**km±6km, **n96**, σ1§**19**/106, **mb4.2**/8, **7C-1D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.71**	**238**	*e*P	**Pn**	**00 29 57.9**	**+0.1**
LCO				*e*S	**Sn**	**00 30 12.1**	**+1.2**
LCO	**Las Campanas**	**0.71**	**238**		**Pn**	**00 29 58.5**	**+0.8**
LCO				Sn	**Sn**	**00 30 12.3**	**+1.3**
AC04	**Llanos de Chal**	**1.03**	**295**	⇓*i*P	**Pn**	**00 30 01.4**	**+0.7**
AC04				*i* S	**Sn**	**00 30 17.3**	**+1.0**
AC04				IAML		00 30 18.5	
	comp=E,4μm,0.2s						
AC04	**Llanos de Chal**	**1.03**	**295**		**Pn**	**00 30 01.4**	**+0.7**
AC04				Sn	**Sn**	**00 30 17.2**	**+1.0**
GO03	**Copiap**	**1.06**	**349**	*e*P	**Pn**	**00 30 01.9**	**+0.8**
GO03				*i* S	**Sn**	**00 30 17.9**	**+0.9**
GO03				IAML		00 30 19.7	
	comp=N,8μm,0.3s						
GO03	**Copiap**	**1.06**	**349**		**Pn**	**00 30 01.8**	**+0.7**
GO03				Sn	**Sn**	**00 30 17.9**	**+0.9**
CO05	**La Serena**	**1.66**	**220**	⇑*i*P	**Pn**	**00 30 08.5**	**+0.3**
CO05				*e*S	**Sn**	**00 30 29.7**	**0.0**
CO05	**La Serena**	**1.66**	**220**	Pn	**Pn**	**00 30 08.5**	**+0.3**
CO05				Sn	**Sn**	**00 30 29.8**	**+0.1**
GO04	**Tololo Observa**	**1.67**	**204**	⇑*i*P	**Pn**	**00 30 09.2**	**+0.5**
GO04				*i* S	**Sn**	**00 30 31.4**	**+1.0**
GO04				IAML		00 30 33.0	
	comp=N,7μm,0.4s						
GO04	**Tololo Observa**	**1.67**	**204**	Pn	**Pn**	**00 30 09.2**	**+0.5**
GO04				Sn	**Sn**	**00 30 31.3**	**+1.0**
AC02	**Maricunga**	**1.96**	**24**	⇑*i*P	**Pn**	**00 30 14.0**	**+1.4**
AC02				*e*S	**Sn**	**00 30 39.5**	**+2.1**
AC02				IAML		00 30 41.8	
	comp=E,1μm,0.4s						
AC02	**Maricunga**	**1.96**	**24**	Pn	**Pn**	**00 30 14.0**	**+1.4**
CO03	**El Pedregal**	**2.27**	**195**	⇑*i*P	**Pn**	**00 30 16.7**	**+0.5**
CO03				*e*S	**Sn**	**00 30 44.1**	**+0.3**
CO03				IAML		00 30 46.8	
	comp=E,2μm,0.7s						
CO03	**El Pedregal**	**2.27**	**195**	Pn	**Pn**	**00 30 16.7**	**+0.5**
CO06	**Fray Jorge**	**2.47**	**214**	⇑*i*P	**Pn**	**00 30 18.1**	**-0.7**
CO06	**Fray Jorge**	**2.47**	**214**	Pn	**Pn**	**00 30 18.2**	**-0.5**
ZON	**Zonda**	**3.12**	**159**	Pn	**Pn**	**00 30 28.5**	**+1.1**
PB14	**IPOC Station P**	**4.01**	**355**		**Pn**	**00 30 38.7**	**-1.1**
VA06	**Catapilco**	**4.06**	**195**	⇑*i*P	**Pn**	**00 30 39.2**	**-0.8**
VA03	**San Esteban**	**4.13**	**186**	⇑*i*P	**Pn**	**00 30 41.3**	**+0.1**
VA03	**San Esteban**	**4.13**	**186**		**Pn**	**00 30 41.2**	**+0.1**
PEL	**Peldehue**	**4.53**	**187**	Pn	**Pn**	**00 30 45.9**	**-0.5**
MT02	**Curacav**	**4.70**	**192**	Pn	**Pn**	**00 30 47.1**	**-1.7**
MT05	**Renca**	**4.78**	**187**		**Pn**	**00 30 49.4**	**-0.4**
PB10	**IPOC Station P**	**5.13**	**354**	Pn	**Pn**	**00 30 52.5**	**-2.1**
VA05	**Santo Domingo**	**5.18**	**195**		**Pn**	**00 30 52.7**	**-2.6**
MT09	**Talagante**	**5.19**	**189**	Pn	**Pn**	**00 30 53.8**	**-1.7**
MT01	**Popeta**	**5.31**	**191**	Pn	**Pn**	**00 30 54.8**	**-2.2**
PB15	**IPOC Station P**	**5.43**	**5**	Pn	**Pn**	**00 30 57.6**	**-1.3**
BO01	**Tunca**	**5.81**	**189**		**Pn**	**00 31 01.4**	**-2.3**
PB06	**IPOC Station P**	**5.92**	**4**	Pn	**Pn**	**00 31 03.1**	**-2.4**
LVC	**Limon Verde**	**6.09**	**10**	P	**Pn**	**00 31 06.3**	**-1.7**
	comp=E,11nm,0.3s,baz=166,slow=9.7,SNR=40						
LVC				*S*	**Sn**	**00 32 13.4**	**-3.0**
	comp=E,5.9nm,0.3s,baz=321,slow=22,SNR=6.3						
LVC				LR	LR	00 33 22.1	
	comp=E,90nm,19.5s,baz=196,slow=37						
LVC	**Limon Verde**	**6.09**	**10**		**Pn**	**00 31 06.2**	**-1.8**
BO02	**Sierra Bellavi**	**6.17**	**186**	Pn	**Pn**	**00 31 06.8**	**-1.9**
GO05	**Huala**	**6.55**	**194**	Pn	**Pn**	**00 31 10.8**	**-3.1**
PB09	**IPOC Station P**	**6.85**	**6**	Pn	**Pn**	**00 31 16.1**	**-2.0**
TA01	**Diego Aracena**	**8.04**	**359**	Pn	**Pn**	**00 31 32.7**	**-1.5**
H03N1	**Juan Fernandez**	**9.01**	**236**	P	**Pn**	**00 31 45.9**	**-1.1**
	baz=113,slow=18,SNR=26						
H03N1				T	T	00 39 32.6	
	baz=72,slow=72,SNR=646						
H03N2	**Juan Fernandez**	**9.02**	**236**	P	**Pn**	**00 31 46.2**	**-1.0**
	baz=113,slow=18,SNR=16						
H03N2				T	T	00 39 32.7	
	baz=72,slow=72,SNR=718						
H03N3	**Juan Fernandez**	**9.02**	**236**	P	**Pn**	**00 31 46.0**	**-1.3**
	baz=113,slow=18,SNR=25						
H03N3				T	T	00 39 31.2	
	baz=72,slow=72,SNR=586						
H03S3	**Juan Fernandez**	**9.20**	**234**	T	T	00 39 35.1	
	baz=208,SNR=25						
H03S1	**Juan Fernandez**	**9.21**	**234**	T	T	00 39 35.8	
	baz=208,SNR=29						
H03S2	**Juan Fernandez**	**9.22**	**234**	T	T	00 39 34.3	
	baz=208,SNR=23						
CPUP	**Villa Florida**	**11.50**	**81**	*e*P	**Pn**	**00 32 21.0**	**0.0**
CPUP	**Villa Florida**	**11.50**	**81**	Pn	**Pn**	**00 32 21.1**	**0.0**
ITQB	**Itaqui**	**11.75**	**98**		**Pn**	**00 32 22.2**	**-2.3**
PLCA	**Paso Flores**	**12.07**	**182**	Pn	**Pn**	**00 32 28.4**	**-0.3**
LPAZ	**La Paz**	**12.42**	**8**	*e*P	**Pn**	**00 32 35.4**	**+1.5**
LPAZ	**La Paz**	**12.42**	**8**		**Pn**	**00 32 31.9**	**-2.1**
PLTB	**Pedras Altas**	**14.53**	**106**	*e*P	**Pn**	**00 32 59.9**	**-0.9**
PLTB	**Pedras Altas**	**14.53**	**106**	Pn	**Pn**	**00 32 60.0**	**-0.9**
SIV	**San Ignacio**	**15.05**	**35**	P	**Pn**	**00 33 04.0**	**-3.6**
	comp=E,0.2nm,0.3s,baz=228,slow=11,SNR=9.3						
ITAB	**Concordia**	**15.87**	**89**		**Pn**	**00 33 17.4**	**-0.5**
ITAB				IAmb	IAmb	00 33 22.9	
	comp=Z,26nm,1.2s						
PTLB	**Pontes e Lacer**	**16.54**	**40**	*e*P	**P**	**00 33 27.4**	**+0.4**
PTLB	**Pontes e Lacer**	**16.54**	**40**		**Pn**	**00 33 24.1**	**-2.0**
VILB	**Vilhena**	**18.09**	**32**	*e*P	**Pn**	**00 33 45.0**	**-0.1**
VILB	**Vilhena**	**18.09**	**32**	P	**P**	**00 33 43.9**	**-0.3**
VILB				IAmb	IAmb	00 33 45.5	
	comp=Z,18nm,0.7s						
SALV	**Santo Antonio**	**18.32**	**49**	*e*P	**P**	**00 33 46.2**	**-0.4**
ETMB	**Extrema**	**19.06**	**12**	*e*P	**Pn**	**00 33 57.1**	**+0.5**
ETMB	**Extrema**	**19.06**	**12**	P	**P**	**00 33 55.0**	**+0.1**
ITRB	**Iturama**	**20.00**	**68**	*e*P	**P**	**00 34 05.0**	**+0.1**
PDRB	**Porto dos Gac**	**21.00**	**39**	*e*P	**P**	**00 34 15.6**	**-0.3**
ARAG	**Araguaiana, MT**	**21.17**	**56**	*e*P	**P**	**00 34 17.1**	**-0.4**
RCLB	**Rio Claro- Sao**	**21.20**	**78**	*e*P	**P**	**00 34 18.1**	**+0.2**
VAO	**Valinhos**	**21.48**	**80**	*e*P	**P**	**00 34 20.9**	**-0.1**
CLDB	**Colider**	**22.13**	**40**	*e*P	**P**	**00 34 28.6**	**+0.8**
PARB	**Paraibuna**	**22.54**	**82**	*e*P	**P**	**00 34 32.0**	**-0.1**
IPMB	**Ipameri, GO**	**22.62**	**67**	*e*P	**P**	**00 34 31.4**	**-1.6**
NPGB	**Novo Progresso**	**25.56**	**36**	*e*P	**P**	**00 35 01.2**	**+1.3**
GDU01	**Guandu, BA**	**31.91**	**69**	*e*P	**P**	**00 35 57.2**	**+0.7**
VNA3	**Neumayer Olymp**	**53.71**	**160**	P	**P**	**00 38 52.0**	**+0.5**
VNA2	**Neumayer--Watz**	**54.32**	**159**	P	**P**	**00 38 56.6**	**+0.7**
	baz=291,slow=8.1						
SNAA	**Sanae**	**55.93**	**159**	P	**P**	**00 39 08.0**	**+0.5**
SNAA	**Sanae**	**55.93**	**159**	P	**P**	**00 39 07.5**	**-0.1**
QSPA	**South Pole Qui**	**61.58**	**180**	P	**P**	**00 39 47.9**	**+1.0**
QSPA				IAmb	IAmb	00 39 48.6	
	comp=Z,4.4nm,0.8s						
TXAR	**Lajitas Array**	**66.02**	**328**	P	**P**	**00 40 18.0**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=138,slow=9.9,SNR=4.6						
TXAR	**Lajitas Array**	**66.02**	**328**	P	**P**	**00 40 17.3**	**+1.0**
DBIC	**Dimbokro**	**71.83**	**72**	P	**P**	**00 40 52.8**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=230,slow=3.6,SNR=5.1						
DBIC	**Dimbokro**	**71.83**	**72**	P	**P**	**00 40 52.4**	**-0.3**
DBIC				IAmb	IAmb	00 40 52.7	
	comp=Z,3.9nm,0.9s						
SUR	**Sutherland**	**75.91**	**119**	P	**P**	**00 41 16.8**	**+0.3**
MAW	**Mawson**	**77.81**	**163**	P	**P**	**00 41 26.8**	**+0.7**
MAW				IAmb	IAmb	00 41 46.6	
	comp=Z,4.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**80.74**	**70**	P	**P**	**00 41 43.1**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=271,slow=4.9,SNR=24						
BOSA	**Boshof**	**81.01**	**118**	P	**P**	**00 41 44.3**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=276,slow=1.6,SNR=7.4						
BOSA	**Boshof**	**81.01**	**118**	P	**P**	**00 41 43.9**	**-0.6**
BOSA				IAmb	IAmb	00 42 02.6	
	comp=Z,14nm,1.4s						
LBTB	**Lobatse**	**82.96**	**115**	P	**P**	**00 41 54.2**	**-0.5**
LBTB				IAmb	IAmb	00 42 13.5	
	comp=Z,3.5nm,1.0s						
YKA	**Yellowknife Ar**	**97.57**	**341**	P	**P**	**00 43 02.7**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=141,slow=4.0,SNR=7.4						
ASAR	**Alice Springs**	**123.12**	**206**	PKP	**PKPdf**	**00 48 25.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=122,slow=1.1,SNR=4.7						
WRA	**Warramunga Arr**	**126.28**	**209**	PKP	**PKPdf**	**00 48 31.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=168,slow=1.6,SNR=20						
CHGR	**Chuyangaron**	**144.82**	**63**		**PKPab**	**00 49 04.9**	**-0.1**
KURK	**Kurchatov**	**147.69**	**38**	PKPbc	**PKPbc**	**00 49 13.0**	**+0.1**
AAK	**Ala-Archa**	**148.20**	**54**	PKPbc	**PKPbc**	**00 49 15.0**	**+0.2**
ZAA0	**Zalesovo Array**	**148.75**	**29**		**PKPbc**	**00 49 16.0**	**+0.5**
ZALV	**Zalesovo Beam**	**148.75**	**29**	PKPbc	**PKPbc**	**00 49 16.1**	**+0.6**
	comp=Z,4.8nm,0.6s,baz=298,slow=3.4,SNR=31						
MAKZ	**Makanchi**	**151.59**	**43**		**PKPbc**	**00 49 22.9**	**+0.3**
MK31	**Makanchi Array**	**151.79**	**42**		**PKPbc**	**00 49 23.3**	**+0.1**
MKAR	**Makanchi Array**	**151.79**	**42**	PKPbc	**PKPbc**	**00 49 23.3**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=308,slow=2.2,SNR=30						

*OSPL **14** 00:30:33.5±0.5, 18°.58N×72°.66W, h8km±2km, ML3.0*
*SSNC **14** 00:30:34.0±7.5, 20°.71N×71°.96W, h5km, MD3.4, ML2.7, MW4.1*
ISC 14 00:30:32.6±0.9, **18°.55N**±0°.07×**72°.70W**±0°.06, **h10**km, **n11**, σ2§**28**/20, **1C, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	**Logne**	**0.10**	**115**	*i* P	**Pg**	**00 30 35.7**	**+0.5**
LGNH				*e*S	**Sg**	**00 30 37.0**	**-0.1**
LGNH				IAML		00 30 37.4	
	comp=Z,22μm,0.2s						
JAKH	**Jacmel**	**0.36**	**151**	*i* P	**Pg**	**00 30 40.3**	**+0.6**
JAKH				*e*S	**Sg**	**00 30 45.3**	**+0.8**
JAKH				IAML		00 30 48.1	
	comp=Z,1μm,1.0s						
PAPH	**Port-au-Prince**	**0.38**	**95**	*i* P	**Pg**	**00 30 40.1**	**0.0**
PAPH				*e*S	**Sg**	**00 30 44.7**	**-0.6**
PAPH				IAML		00 30 46.0	
	comp=Z,2μm,0.3s						
LOPE2	**Hotel El Peder**	**1.05**	**120**	*i* P	**Pg**	**00 30 51.4**	**-1.3**
LOPE2				*e*S	**Sg**	**00 31 05.3**	**-1.1**
LOPE2				IAML		00 31 06.2	
	comp=Z,317nm,0.4s						
SDDR	**Presa de Saban**	**1.41**	**72**	*e*P	Pg	00 31 05.0	+5.3
MASC	**Masc**	**2.16**	**318**	*e*P	**Pn**	**00 31 09.8**	**+1.1**
MASC				*e*S	**Sn**	**00 31 36.5**	**+0.9**
MASC				IAML		00 31 37.1	
	comp=E,32nm,0.4s						
MASC				IAML		00 31 46.9	
	comp=N,18nm,0.5s						
GTMO	**Guantanamo**	**2.76**	**304**	⇑*e*P	**Pn**	**00 31 16.6**	**-0.3**
GTMO				*e*S	**Sn**	**00 31 53.8**	**+3.5**
MOAC	**Moa**	**2.99**	**315**	*e*P	**Pn**	**00 31 23.0**	**+3.0**
MOAC				*e*S	**Sb**	**00 32 00.5**	**-2.0**
RCC	**Rio Carpintero**	**3.17**	**297**	*e*P	**Pn**	**00 31 23.3**	**+0.8**
RCC				*e*S	**Sn**	**00 31 55.9**	**-4.5**
RCC				IAML		00 32 11.0	
	comp=N,21nm,0.3s						
RCC				IAML		00 32 12.7	
	comp=E,16nm,0.5s						
HLGC	**Holguin**	**3.92**	**307**	*e*P	**Pn**	**00 31 37.2**	**+4.2**
HLGC				*e*S	**Sn**	**00 32 17.0**	**-2.2**
LMGC	**Las Mercedes**	**4.33**	**291**	*e*P	**Pn**	**00 31 40.2**	**+1.7**
LMGC				*e*S	**Sn**	**00 32 25.9**	**-3.2**

*IDC **14** 00:30:42.9±0.8, 32°.54N×91°.63E, h0km, mb4.0/11, mb1 4.1/14, mb1mx3.9/52, mbtmp3.9/14, ML3.8/2, Error ellipse: s-maj=26.5km s-min=16.0km az=56.0*
ISC 14 00:30:44.2±0.8, **32°.5N**±0°.1×**91°.5E**±0°.1, **h10**km, **n15**, σ1§**09**/14, **mb4.1**/10, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.52**	**153**	Pn	**Pn**	**00 34 21.9**	**-1.4**
	0.5nm,0.3s,baz=330,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**15.90**	**336**	Pn	**Pn**	**00 34 26.5**	**-1.6**
	0.1nm,0.3s,baz=140,slow=12,SNR=5.3						
HHC	**Hu-ho-hao-te**	**18.05**	**57**	*e*P	**P**	**00 34 57.4**	**+1.7**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,6.7s						
SONM	**Songino Array**	**18.98**	**32**	P	**P**	**00 35 04.1**	**-1.8**
	baz=219,slow=11,SNR=9.1						
KURBB	**Kurchatov Arra**	**20.47**	**336**	P	Pn	00 35 23.2	-0.9
	comp=Z,1.1nm,0.8s,baz=158,slow=8.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**21.94**	**349**	P	**P**	**00 35 38.0**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=170,slow=11,SNR=16						
BVAR	**Borovoye Array**	**25.52**	**330**	P	**P**	**00 36 13.4**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=152,slow=6.5,SNR=3.9						
KLR	**Kul'dur**	**34.20**	**49**	P	**P**	**00 37 30.3**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=239,slow=7.7,SNR=4.9						
AKASG	**Malin Array Be**	**48.50**	**311**	P	**P**	**00 39 27.3**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=77,slow=6.8,SNR=7.9						
GERES	**GERESS Array B**	**58.71**	**311**	P	**P**	**00 40 43.2**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=76,slow=7.0,SNR=8.9						
WRA	**Warramunga Arr**	**66.32**	**136**	P	**P**	**00 41 33.5**	**+0.3**
	comp=Z,4.7nm,1.1s,baz=331,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**68.99**	**139**	P	**P**	**00 41 50.1**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=327,slow=6.9,SNR=16						
ILAR	**Eielson Array**	**72.90**	**22**	P	**P**	**00 42 12.9**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=296,slow=5.0,SNR=16						
TORD	**Torodi

comp=E,8μm,0.5s
THAL Thalero 0.99 51 P **Pg 01 39 00.2 -0.3**
THAL S **Sg 01 39 13.4 -0.1**
THAL AML AML 01 39 18.4
comp=E,16627μm,0.7s
THAL AML AML 01 39 19.3
comp=N,13399μm,0.4s
TRIZ Trizonia 0.99 18 P **Pg 01 38 59.7 -0.8**
TRIZ S **Sn 01 39 15.1 +0.2**
TRIZ Trizonia 0.99 18 P **Pg 01 38 59.8 -0.8**
EFP Efpalio 1.02 10 P **Pb 01 39 00.5 -0.4**
EFP S **Sn 01 39 16.6 +1.0**
comp=N,5μm,0.7s
EFP Efpalio 1.02 10 P **Pb 01 39 00.6 -0.3**
EFP S **Sg 01 39 14.7 +0.3**
EFP AML AML 01 39 18.7
comp=E,11116μm,0.7s
EFP AML AML 01 39 19.3
comp=N,6058μm,0.7s
SERG Sergoula 1.03 16 P **Pb 01 39 00.5 -0.7**
SERG S **Sn 01 39 16.7 +0.7**
comp=N,3μm,0.4s
SERG Sergoula 1.03 16 P **Pb 01 39 00.8 -0.4**
PSDA Pessada-Kefalo 1.11 309 P **Pb 01 39 02.0 -0.5**
VLS Valsamata 1.15 311 P **Pg 01 39 03.8 +0.2**
VLS AML AML 01 39 25.5
comp=N,2574μm,0.6s
VLS AML AML 01 39 26.0
comp=E,2086μm,0.4s
EPID Epidavros 1.16 80 P **Pb 01 39 03.0 -0.3**
EPID Epidavros 1.16 80 P **Pb 01 39 03.0 -0.3**
KRND KRANIDI 1.17 91 P **Pg 01 39 03.9 0.0**
KRND S **Sn 01 39 21.6 +2.4**
comp=E,2μm,0.5s
KRND KRANIDI 1.17 91 P **Pb 01 39 03.2 -0.2**
KRND AML AML 01 39 24.5
comp=N,2729μm,0.5s
KRND AML AML 01 39 26.5
comp=E,3237μm,0.4s
LTK Loutraki 1.18 59 P **Pb 01 39 03.5 -0.2**
LTK S **Sn 01 39 20.1 +0.5**
comp=E,2μm,0.5s
LTK Loutraki 1.18 59 P **Pb 01 39 03.8 +0.1**
LTK AML AML 01 39 21.6
comp=E,2460μm,0.4s
LTK AML AML 01 39 23.7
comp=N,3033μm,0.3s
ANX Ano Chora 1.19 9 P **Pb 01 39 03.1 -0.7**
ANX S **Sn 01 39 21.5 +1.7**
comp=N,4μm,0.7s
ANX Ano Chora 1.19 9 P **Pb 01 39 03.6 -0.2**
ANX AML AML 01 39 24.6
comp=E,7787μm,0.5s
ANX AML AML 01 39 24.8
comp=N,8047μm,0.5s
VLI Veliai 1.22 125 P **Pg 01 39 05.2 +0.3**
VLI Veliai 1.22 125 P **Pg 01 39 05.0 +0.1**
VLI AML AML 01 39 29.8
comp=E,2374μm,0.5s
VLI AML AML 01 39 33.9
comp=N,1186μm,0.5s
DLFA Delphi 1.23 31 P **Pn 01 39 04.0 -0.4**
DLFA AML AML 01 39 24.2
comp=N,1268μm,0.5s
DLFA AML AML 01 39 24.8
comp=E,1678μm,0.5s
LXRA Lixouri, Kepha 1.26 309 P **Pb 01 39 05.0 0.0**
LXRA AML AML 01 39 30.5
comp=N,5656μm,0.6s
LXRA AML AML 01 39 35.2
comp=E,5481μm,0.5s
KEF4 Livadi, Kephal 1.30 310 P **Pg 01 39 06.3 -0.2**
MNVA Monemvasia 1.30 124 P **Pg 01 39 06.1 -0.4**
KEF3 Kipouria, Keph 1.32 307 P **Pg 01 39 06.6 -0.2**
VIL2 Platees 1.48 57 P **Pn 01 39 08.1 +0.3**
VILL Viliia 1.49 60 P **Pb 01 39 09.0 +0.1**
EVR Evrytania 1.50 4 P **Pb 01 39 09.2 +0.1**
EVR Evrytania 1.50 4 P **Pn 01 39 08.4 +0.3**
NYDR Nydri-Lefkada 1.51 329 P **Pb 01 39 09.7 +0.4**
DRAG Dragano-Lefkad 1.54 325 P **Pb 01 39 10.4 +0.6**
LKR Lokris 1.61 40 P **Pn 01 39 10.2 +0.7**
ATAL Atalanti 1.65 39 P **Pb 01 39 11.3 -0.4**
ATAL Atalanti 1.65 39 P **Pb 01 39 11.5 -0.1**
ATAL AML AML 01 39 37.9
comp=E,2514μm,0.6s
ATAL AML AML 01 39 39.3
comp=N,2216μm,0.5s
AGG Agios Georgios 1.68 17 P **Pb 01 39 11.7 -0.5**
ATH Athens Observa 1.70 71 P **Pb 01 39 12.7 +0.2**
ATH Athens Observa 1.70 71 P **Pb 01 39 12.8 +0.2**
VLY Voula,Athens 1.73 75 P **Pb 01 39 13.1 +0.1**
VLY Voula,Athens 1.73 75 P **Pb 01 39 13.0 +0.1**
ATHU Athens Univers 1.75 71 P **Pb 01 39 13.2 -0.2**
ATHU Athens Univers 1.75 71 P **Pb 01 39 13.4 0.0**
ATHU AML AML 01 39 40.1
comp=N,831μm,0.4s
ATHU AML AML 01 39 44.2
comp=E,288μm,0.6s
PTL Penteli 1.84 69 P **Pb 01 39 14.4 -0.5**
PTL S **Sb 01 39 37.8 0.0**
comp=E,582nm,0.5s
PTL Penteli 1.84 69 P **Pb 01 39 14.6 -0.3**
NEO Neokhori 2.24 32 P **Pn 01 39 19.0 +0.8**
XOR Xorichti 2.27 31 P **Pn 01 39 19.7 +1.0**
IDI Anoyia 3.35 129 Pn **Pn 01 39 35.2 +1.6**
comp=E,1.4nm,0.3s,baz=230,slow=12,SNR=10
OHR Ohrid 3.75 350 *i* Pn **Pg 01 39 55.1 +1.8**
VAY Valandovo 3.95 10 *i* Pn **Pn 01 39 45.4 +3.6**
STIP Stip 4.29 5 *i* Pn **Pn 01 39 50.7 +4.4**
BOSS Bosilegrad 5.11 7 *e*Pn **Pn 01 40 01.4 +3.8**
DRME Dracevica, Mon 5.13 339 *e*Pn **Pn 01 39 58.3 +0.3**
VTS Vitosha 5.33 12 *e*Pn **Pn 01 40 04.4 +3.6**
PDG Podgorica 5.34 340 *e*Pn **Pn 01 40 01.2 +0.4**
PDG Podgorica 5.34 340 *e*Pn **Pn 01 40 01.0 +0.2**
BARS Barje 5.39 1 *e*Pn **Pn 01 40 03.4 +1.9**
HCY Herceg Novi 5.59 335 *e*Pn **Pn 01 40 05.0 +0.8**
VAE Valguarnera 5.79 273 Pn **Pn 01 40 09.7 +2.7**
comp=E,1.8nm,0.3s,baz=112,slow=6,0,SNR=9.4
SELS Selova 5.81 356 *e*Pn **Pn 01 40 07.7 +0.4**
TREB Trebinje 5.88 335 *e*Pn **Pn 01 40 07.3 -0.9**
TREB Trebinje 5.88 335 *e*Pn **Pn 01 40 08.1 -0.1**
SJES Sjenica 5.98 348 *e*Pn **Pn 01 40 10.6 +0.9**
BRY Bratogost 5.98 337 *e*Pn **Pn 01 40 09.5 -0.3**
UPM Unac-Piva 6.15 341 *e*Pn **Pn 01 40 13.0 +0.8**
STON Ston 6.24 332 *e*Pn **Pn 01 40 12.7 -0.5**
STON Ston 6.24 332 *e*Pn **Pn 01 40 12.7 -0.5**
IVAS Ivanjica 6.26 350 *e*Pn **Pn 01 40 13.8 +0.3**
RUDO Rudo 6.44 345 *e*Pn **Pn 01 40 13.6 -2.3**
GRUS Gruza 6.50 354 *e*Pn **Pn 01 40 17.5 +0.7**
BBLS Lazići 6.67 346 *e*Pn **Pn 01 40 19.9 +0.8**
DIVS Divibare 6.79 350 *e*Pn **Pn 01 40 20.5 -0.3**
DIVS Divibare 6.79 350 *e*Pn **Pn 01 40 21.1 +0.3**
FRGS Fruska Gora 7.86 350 *e*Pn **Pn 01 40 34.2 -1.2**
FRGS Fruska Gora 7.86 350 *e*Pn **Pn 01 40 34.6 -0.8**
MRAK Mrakovica 8.40 336 *e*Pn **Pn 01 40 41.6 -1.2**
MORH Mrgy, Hungar 9.07 346 *e*Pn **Pn 01 40 49.7 -2.3**
CRES Cresnjev 9.60 333 *e*Pn **Pn 01 40 58.1 -1.2**
MMAI Mount Meron Ar 12.04 107 Pn **Pn 01 41 32.5 -0.3**
comp=E,0.3nm,0.3s,baz=300,slow=12,SNR=6.4
HFS Hagfors 23.30 350 P **P 01 43 47.1 -1.6**
comp=E,2.2nm,0.9s,baz=156,slow=11,SNR=5.5
FINES FINESS Array B 24.20 5 P **P 01 43 56.5 -0.9**
comp=E,4.1nm,1.0s,baz=178,slow=11,SNR=4.2
EKA Eskdalemuir Ar 24.58 325 P **P 01 44 00.5 -0.4**
comp=E,1.0nm,0.5s,baz=128,slow=9,7,SNR=6.7
TORD Torodi Ar. Bea 30.05 222 P **P 01 44 50.8 +0.4**
comp=E,1.0nm,0.6s,baz=34,slow=9.0,SNR=12
ARCES ARCESS Array B 32.24 3 P **P 01 45 08.5 -0.6**
comp=E,1.4nm,0.8s,baz=188,slow=9.8,SNR=8.1
DBIC Dimbokro 38.99 225 P **P 01 46 07.8 +0.3**
comp=E,1.9nm,0.5s,baz=52,slow=6.9,SNR=4.4
MKAR Makanchi Array 44.91 58 P **P 01 46 55.0 -0.7**
comp=E,0.2nm,0.3s,baz=280,slow=7.4,SNR=7.6
ZALV Zalesovo Beam 45.51 48 P **P 01 46 59.5 -0.8**
comp=E,1.5nm,0.5s,baz=271,slow=9.0,SNR=8.0

IDC 14 01:40:59.7±1.0, 29°.92N×42°.18W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.6/36, mbtmp3.7/7, MS3.6/27, Ms1 3.6/27, ms1mx3.3/87, Error ellipse: s-maj=33.8km s-min=22.7km az=29.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.27**	**29**	Pg	Pg	02 04 09.2	+0.1
OK032				Sg	Sg	02 04 13.2	+0.5
OK035	**E0210 Rd and N**	**0.30**	**298**	Pg	Pg	02 04 09.7	0.0
OK035				Sg	Sg	02 04 14.0	+0.3
CROK	**Carrier**	**0.32**	**101**		Pg	02 04 10.4	+0.4
CROK				Sg	Sg	02 04 15.4	+1.1
GC02	**Grant County #**	**0.50**	**55**	Pg	Pg	02 04 13.4	0.0
GC02				Sg	Sg	02 04 20.6	+0.6
KAN14	**Manchester OK**	**0.51**	**40**	Pg	Pg	02 04 13.4	-0.3
KAN14				Sg	Sg	02 04 20.7	+0.3
U32A	**Winter Ranch,**	**0.54**	**250**	Pg	Pg	02 04 13.9	-0.2
U32A				Sg	Sg	02 04 21.7	+0.6
KAN10	**Anthony SW Sta**	**0.60**	**22**	Pg	Pg	02 04 14.9	-0.4
KAN10				Sg	Sg	02 04 23.3	+0.1
KAN17	**Caldwell West**	**0.68**	**46**	Pg	Pg	02 04 16.6	-0.3
KAN08	**Anthony NE Sta**	**0.73**	**26**	Pg	Pg	02 04 17.6	-0.3
KAN01	**Argonia South**	**0.77**	**40**		Pg	02 04 18.0	-0.5
KAN06	**Argonia West S**	**0.80**	**31**	Pg	Pg	02 04 18.7	-0.4
KAN13	**South Haven SW**	**0.85**	**58**	Pg	Pg	02 04 19.6	-0.4
BLOK	**Blackwell**	**0.95**	**78**	Pg	Pg	02 04 21.7	-0.3
OK029	**Liberty Lake**	**1.07**	**136**	Pg	Pg	02 04 23.9	-0.4
BCOK	**Bluff Creek, N**	**1.10**	**145**	Pg	Pg	02 04 24.4	-0.5
OK025	**Westminster Rd**	**1.29**	**139**	Pn	Pn	02 04 27.7	-0.7
OKCFA	**Oklahoma City**	**1.37**	**147**	Pn	Pn	02 04 29.4	0.0
OK031	**S. Brethren Rd**	**1.38**	**116**		Pn	02 04 29.4	-0.2
OKCSW	**OKLAHOMA CITY**	**1.39**	**146**		Pn	02 04 29.3	-0.3
QUOK	**Quay**	**1.40**	**106**	Pn	Pn	02 04 29.9	0.0
OK030	**Cody Creek RV**	**1.44**	**116**		Pn	02 04 30.2	-0.1
OK034	**N. Norfolk Rd.**	**1.45**	**112**		Pn	02 04 30.3	-0.2
FNO	**Franklin**	**1.53**	**148**		Pn	02 04 31.5	0.0
T35A	**Sooner Cattle**	**1.54**	**76**		Pn	02 04 31.9	+0.1
WMOK	**Wichita Mounta**	**1.85**	**190**	Pn	Pn	02 04 36.0	-0.1
W35A	**Tecumseh**	**1.86**	**139**	Pn	Pn	02 04 36.5	+0.3
R32A	**Long Quarter,**	**1.87**	**352**	Pn	Pn	02 04 36.6	+0.2
R32A				IAmb_Lg		02 05 01.7	
	comp=Z,22nm,0.9s						
X34A	**Smith Ranch, M**	**2.01**	**167**	Pn	Pn	02 04 38.9	+0.7
X34A				IAmb_Lg		02 05 06.4	
	comp=Z,28nm,1.3s						
TUL1	**Leonard**	**2.19**	**107**		Pn	02 04 40.8	+0.2
TUL1				IAmb_Lg		02 05 13.6	
	comp=Z,24nm,0.9s						
CBKS	**Cedar Bluff**	**2.49**	**335**		Pn	02 04 44.2	-0.7
LOOK	**Love County**	**2.75**	**159**	Pn	Pn	02 04 49.0	+0.6
KSU1	**Kansas State U**	**2.89**	**28**	Pn	Pn	02 04 50.0	-0.4
KSU1				IAmb_Lg		02 05 40.2	
	comp=Z,22nm,0.9s						
X37A	**Clayton**	**3.14**	**128**	IAmb_Lg		02 05 52.1	
	comp=Z,32nm,0.8s						
AMTX	**Amarillo**	**3.17**	**239**	Pn	Pn	02 04 53.7	-0.6
AMTX				IAmb_Lg		02 05 45.6	
	comp=Z,26nm,0.7s						
U38A	**Gravette**	**3.22**	**91**	Pn	Pn	02 04 54.4	-0.5
U38A				IAmb_Lg		02 05 54.6	
	comp=Z,16nm,0.7s						
HHAR	**Hobbs**	**3.59**	**93**	IAmb_Lg		02 05 58.5	
	comp=Z,16nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.16**	**307**	IAmb_Lg		02 06 14.5	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**4.19**	**73**	Pn	Pn	02 05 08.4	+0.2
N33A	**J Bar K, Exete**	**4.23**	**10**	IAmb_Lg		02 06 22.1	
	comp=Z,20nm,0.8s						
Z38A	**Mt. Pleasant**	**4.32**	**139**	IAmb_Lg		02 06 25.6	
	comp=Z,9.1nm,0.8s						
MIAR	**Mount Ida**	**4.40**	**116**	IAmb_Lg		02 06 34.0	
	comp=Z,14nm,0.7s						
U40A	**Yellville**	**4.46**	**91**	IAmb_Lg		02 06 24.7	
	comp=Z,18nm,0.9s						
P38A	**Dawn**	**4.89**	**50**	IAmb_Lg		02 06 44.0	
	comp=Z,15nm,1.1s						
X40A	**Basin Creek Fa**	**4.97**	**113**	IAmb_Lg		02 06 45.1	
	comp=Z,15nm,0.8s						
LCAR	**Lake Charles**	**5.85**	**93**	IAmb_Lg		02 07 09.9	
	comp=Z,7.5nm,0.8s						
T42A	**Van Buren**	**5.86**	**83**	IAmb_Lg		02 07 11.3	
	comp=Z,14nm,1.2s						
I37A	**Lemond, Waseca**	**8.35**	**26**	IAmb_Lg		02 08 29.2	
	comp=Z,8.0nm,1.1s						
K22A	**Casper**	**8.74**	**317**	IAmb_Lg		02 09 03.5	
	comp=Z,4.9nm,0.8s						

*IPEC **14** 02:13:09.8±0.4, 51°.56N×16°.20E, h1km±2km, ML-1.0, Error ellipse: s-maj=3.9km s-min=1.8km az=58.0*
*DNK **14** 02:13:10.3±2.0, 51°.67N×16°.51E, h0km±65km, ML1.8*
*LDG **14** 02:13:10.4±0.3, 51°.46N×16°.10E, h1km, Ml3.0/4, Error ellipse: s-maj=6.6km s-min=2.1km az=20.0, Suspected Mining induced.*
*PRU **14** 02:13:11.1±0.0, 51°.51N×16°.15E, h0km*
*BGR **14** 02:13:11.3±0.3, 51°.50N×16°.12E, h1km, ML2.9/7, Error ellipse: s-maj=3.3km s-min=2.2km az=22.0*
*IDC **14** 02:13:11.5±0.8, 51°.43N×16°.06E, h0km, mb3.1/1, mb1 3.6/7, mb1mx3.2/50, mbtmp3.5/7, ML2.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.0/32, Error ellipse: s-maj=14.2km s-min=8.8km az=99.0*
*VIE **14** 02:13:14.3±0.9, 51°.30N×15°.96E, h0km, mb2.8/12, ml2.7/15, ms3.5/1, Error ellipse: s-maj=5.4km s-min=4.4km az=14.0 76 km WNW of Wroclaw Suspected Mining induced.*

ISC 14 02:13:09.1±0.6, 51°.56N±0°.03×16°.12E±0°.02, h0km, n82, σ1§70/146, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**02 13 23.9**	**+0.9**
KSP				*e*Sg	**Sg**	**02 13 33.0**	**+0.6**
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**02 13 23.9**	**+0.9**
	SNR=50						
KSP				*e*Sg	**Sg**	**02 13 32.9**	**+0.6**
	SNR=2.1						
CHVC	**Chvalec**	**0.97**	**182**	*e*PG	**Pg**	**02 13 28.5**	**+0.8**
CHVC				*e*SG	**Sg**	**02 13 41.2**	**+0.9**
	comp=Z,126nm,0.5s						
OSTC	**Ostas**	**1.01**	**176**	*e*PG	**Pg**	**02 13 28.9**	**+0.5**
OSTC				*e*SG	**Sg**	**02 13 41.1**	**-0.3**
	comp=Z,101nm,0.4s						
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**02 13 29.9**	**+0.6**
UPC				*e*SG	**Sg**	**02 13 43.2**	**+0.2**
	comp=Z,136nm,0.4s						
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**02 13 32.6**	**+0.2**
DPC				*e*SG	**Sg**	**02 13 47.4**	**-0.8**
	comp=Z,61nm,0.7s						
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*Pg	**Pg**	**02 13 32.7**	**+0.3**
	SNR=94						
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pn**	**02 13 36.8**	**+0.6**
PVCC				*e*SG	**Sb**	**02 13 55.8**	**+0.7**
	comp=Z,164nm,0.3s						
PVCC	**Panska Ves**	**1.42**	**224**	*e*Pg	**Pn**	**02 13 36.9**	**+0.7**
	SNR=97						
BRG	**Berggiesshubel**	**1.53**	**244**	Pg	**Pb**	**02 13 39.1**	**+0.8**
BRG				Sg	**Sg**	**02 13 59.6**	**+1.3**
BRG				Amp		02 14 00.3	
	comp=Z,71nm,0.7s						
BRG	**Berggiesshubel**	**1.53**	**244**	*e*Pn	**Pb**	**02 13 39.0**	**+0.7**
	SNR=6.3						
BRG				*e*Pg	**Pg**	**02 13 39.6**	**+1.2**
	SNR=41						
BRG				*e*Sg	**Sg**	**02 13 59.5**	**+1.3**
	SNR=5.8						
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**02 13 38.2**	**+0.3**
KRLC				*e*SG	**Sg**	**02 13 58.6**	**-0.1**
	comp=Z,67nm,0.4s						
RUE	**Ruedersdorf**	**1.71**	**303**	*e*Pn	**Pn**	**02 13 40.9**	**+0.8**
	SNR=4.1						
RUE				*e*Sg	**Sg**	**02 14 07.6**	**+3.5**
	SNR=3.7						
FBE	**Freiberg**	**1.85**	**251**	*e*Pg	**Pb**	**02 13 44.9**	**+1.2**
	SNR=10						
FBE				*e*Sg	**Sg**	**02 14 09.3**	**+0.8**
	SNR=2.0						
PRU	**Pruhonice**	**1.87**	**213**	*e*PG	**Pn**	**02 13 43.1**	**+0.8**
PRU				*e*SG	**Sg**	**02 14 09.6**	**+0.6**
	comp=Z,62nm,0.6s						
PRU	**Pruhonice**	**1.87**	**213**	*e*Pn	**Pn**	**02 13 42.5**	**+0.3**
	SNR=6.3						
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**02 13 44.0**	**+0.4**
CLL				*i* Pg	**Pg**	**02 13 47.3**	**+0.5**
CLL				*ex*	x	02 13 50.0	
CLL				*e*Sg	**Sg**	**02 14 13.0**	**+0.8**
	comp=Z,27nm,0.5s						
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**02 13 44.0**	**+0.4**
	SNR=5.3						
CLL				*e*Pg	**Pg**	**02 13 47.3**	**+0.5**
	SNR=5.6						
CLL				*e*Sg	**Sg**	**02 14 13.5**	**+1.3**
	SNR=2.2						
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**02 13 44.3**	**+0.1**
	baz=335						
MORC				*e*Sg	**Sb**	**02 14 11.9**	**0.0**
	baz=335						
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**02 13 44.4**	**+0.3**
	SNR=19						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pb**	**02 13 49.3**	**+0.4**
OKC				*e*SG	**Sb**	**02 14 16.8**	**+0.6**
	comp=Z,67nm,0.6s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*Pg	**Pg**	**02 13 51.1**	**+0.8**
	SNR=3.3						
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**02 13 48.4**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=341,slow=18,SNR=13						
VRAC				Lg	Lg	02 14 20.7	
	comp=Z,1.8nm,0.3s,baz=66,slow=15,SNR=4.3						
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**02 13 48.2**	**+0.3**
	baz=354						
VRAC				*e*Sg	**Sb**	**02 14 20.6**	**+0.9**
	baz=354						
VRAC	**Vranov**	**2.27**	**172**	*e*PN	**Pn**	**02 13 48.3**	**+0.3**
VRAC				*e*SG	**Sb**	**02 14 20.7**	**+1.0**
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**02 13 48.4**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**30.54**	**332**	LR	LR	01 58 06.7	
	comp=Z,103nm,19.7s,baz=77,slow=34						
MDT	**Midelt**	**32.10**	**75**	LR	LR	01 56 48.3	
	comp=Z,56nm,20.4s,baz=258,slow=30						
SADO	**Sadowa**	**32.60**	**307**	LR	LR	01 58 24.2	
	comp=Z,71nm,21.6s,baz=181,slow=32						
TKL	**Tuckaleechee C**	**35.24**	**290**	LR	LR	01 59 07.1	
	comp=Z,60nm,20.1s,baz=94,slow=31						
BORG	**Borgarnes**	**37.22**	**15**	LR	LR	01 59 21.9	
	comp=Z,57nm,18.8s,baz=222,slow=30						
SFJD	**Kangerlussuaq**	**37.45**	**355**	LR	LR	01 58 55.7	
	comp=Z,61nm,19.8s,baz=178,slow=29						
FRB	**Frobisher Bay**	**37.77**	**341**	LR	LR	02 01 43.8	
	comp=Z,59nm,18.8s,baz=184,slow=33						
ROSC	**El Rosal**	**39.28**	**237**	LR	LR	02 02 54.2	
	comp=Z,57nm,20.1s,baz=104,slow=34						
DBIC	**Dimbokro**	**42.01**	**116**	P	P	01 48 53.0	0.0
	2.3nm,0.6s,baz=343,slow=7.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**43.80**	**103**	P	P	01 49 05.9	-1.6
	1.2nm,0.9s,baz=301,slow=8.7,SNR=7.9						
JTS	**Las Juntas de**	**44.34**	**253**	LR	LR	02 05 39.8	
	comp=Z,34nm,22.0s,slow=33						
ULM	**Lac du Bonnet**	**44.72**	**313**	LR	LR	02 08 08.4	
	comp=Z,74nm,18.8s,baz=104,slow=36						
H10N2	**ASCENSION HYDR**	**46.01**	**140**	T	T	02 38 25.3	
	baz=326,slow=75,SNR=999						
H10N3	**ASCENSION HYDR**	**46.02**	**140**	T	T	02 38 25.4	
	baz=326,slow=75,SNR=1034						
GERES	**GERESS Array B**	**46.03**	**49**	P	P	01 49 26.8	+1.7
	0.6nm,0.8s,baz=252,slow=9.1,SNR=2.6						
H10N1	**ASCENSION HYDR**	**46.03**	**140**	T	T	02 38 26.7	
	baz=326,slow=75,SNR=1240						
H10S3	**ASCENSION HYDR**	**46.85**	**141**	T	T	02 39 36.2	
	baz=326,slow=74,SNR=618						
H10S2	**ASCENSION HYDR**	**46.86**	**141**	T	T	02 39 37.3	
	baz=254,slow=74,SNR=325						
RES	**Resolute Bay**	**51.81**	**344**	LR	LR	02 09 45.2	
	comp=Z,58nm,19.3s,baz=96,slow=33						
LPAZ	**La Paz**	**52.32**	**212**	P	P	01 50 15.0	+0.9
	0.9nm,0.6s,baz=47,slow=3.5,SNR=4.0						
ANMO	**Albuquerque**	**53.66**	**293**	LR	LR	02 10 29.4	
	comp=Z,52nm,21.3s,baz=86,slow=33						
PDAR	**Pinedale Array**	**54.43**	**303**	P	P	01 50 28.1	-1.0
	0.8nm,0.9s,baz=81,slow=9.2,SNR=4.8						
PDAR				LR	LR	02 12 34.7	
	comp=Z,77nm,18.9s,baz=94,slow=35						
YKA	**Yellowknife Ar**	**55.86**	**328**	P	P	01 50 37.1	-1.6
	0.5nm,0.9s,baz=92,slow=7.4,SNR=4.0						
YKA				LR	LR	02 13 09.3	
	comp=Z,46nm,19.3s,baz=286,slow=35						
NEW	**Newport**	**58.67**	**311**	LR	LR	02 17 51.2	
	comp=Z,47nm,18.1s,baz=107,slow=38						
ELK	**Elko**	**59.01**	**302**	LR	LR	02 17 18.2	
	comp=Z,52nm,18.1s,baz=99,slow=37						
NVAR	**Mina Array Bea**	**61.92**	**300**	LR	LR	02 15 43.6	
	comp=Z,39nm,20.7s,baz=36,slow=34						
PFO	**Pinyon Flats O**	**61.98**	**295**	LR	LR	02 17 11.6	
	comp=Z,65nm,18.8s,baz=72,slow=35						
INK	**Inuvik**	**63.05**	**335**	LR	LR	02 17 22.8	
	comp=Z,71nm,19.9s,baz=83,slow=35						
DLBC	**Dease Lake**	**63.94**	**324**	LR	LR	02 20 11.6	
	comp=Z,90nm,18.7s,baz=328,slow=37						
YBH	**Yreka Blue Hor**	**64.15**	**305**	LR	LR	02 18 22.0	
	comp=Z,48nm,19.1s,baz=99,slow=35						
BBB	**Bella Bella**	**64.60**	**317**	LR	LR	02 20 19.1	
	comp=Z,53nm,18.1s,baz=186,slow=36						
BELG	**Belogornoye**	**66.79**	**42**	LR	LR	02 19 07.9	
	comp=Z,40nm,18.0s,baz=213,slow=34						
ILAR	**Eielson Array**	**69.27**	**334**	P	P	01 52 09.8	+1.5
	0.8nm,1.0s,baz=66,slow=4.4,SNR=3.3						
ILAR				LR	LR	02 21 47.2	
	comp=Z,64nm,19.5s,baz=120,slow=35						
H09N1	**TRISTAN DA CUN**	**72.28**	**155**	T	T	03 11 31.3	
	SNR=12						
H09W1	**TRISTAN DA CUN**	**72.30**	**155**	T	T	03 11 24.2	
	SNR=10						
KDAK	**Kodiak Island**	**75.11**	**329**	LR	LR	02 26 38.8	
	comp=Z,62nm,18.2s,baz=107,slow=36						
AAK	**Ala-Archa**	**87.28**	**41**	LR	LR	02 31 31.3	
	comp=Z,20nm,19.3s,baz=294,slow=35						
PETK	**Petropavlovsk-**	**95.52**	**348**	LR	LR	02 38 05.3	
	comp=Z,26nm,18.8s,baz=88,slow=36						

WEL 14 01:50:29.9±1.0, 32°S×18°W±2°0, h232km±20km, M4.4/5, mB4.2/2, ML4.5/7, MLv4.4/5, Mw(mB)3.3/2, Error ellipse: s-maj=0.0km s-min=0.0km az=108.3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.09**	**33**	S	S	01 52 03.7	+0.3
MXZ	**Matakaoa Point**	**5.88**	**194**	P	Pn	01 51 57.1	+1.1
MXZ				S	S	01 53 05.5	+1.0
WMGZ	**Waiomatatini S**	**6.10**	**193**	P	Pn	01 51 60.0	+1.2
WMGZ				S	S	01 53 11.5	+1.8
HAZ	**Te Kaha**	**6.18**	**198**	P	Pn	01 52 00.4	+0.6
HAZ				S	S	01 53 14.3	+2.6
PKGZ	**Pakihiroa**	**6.24**	**195**	P	Pn	01 52 00.4	-0.2
PKGZ				S	S	01 53 13.8	+0.8
PUZ	**Puketiti**	**6.38**	**193**	P	Pn	01 52 03.0	+0.7
PUZ				S	S	01 53 14.0	-2.2
OUZ	**Omahuta**	**6.40**	**237**	P	Pn

SNR=1.7
TREC Trest 2.30 190 *e*PG **Pb 02 13 51.8 +0.3**
TREC *e*SG **Sb 02 14 21.7 +1.2**
comp=Z,38nm,0.6s
TREC Trest 2.30 190 *e*Pn **Pn 02 13 49.3 +1.0**
SNR=3.2
PBCC Pribram 2.31 217 *e*PG **Pb 02 13 52.0 +0.3**
PBCC *e*SG **Sg 02 14 23.0 -0.3**
comp=Z,13nm,0.6s
KRUC Moravsky 2.51 176 *e*Pn **Pn 02 13 51.7 +0.6**
baz=357
KRUC *e*Sg **Sb 02 14 28.2 +1.8**
baz=357
KRUC Moravsky 2.51 176 *e*Pn **Pn 02 13 52.1 +1.0**
SNR=4.7
KRUC *e*Pg **Pb 02 13 56.1 +1.1**
SNR=4.2
KRUC *e*Sg **Sg 02 14 29.3 -0.3**
SNR=4.2
TANN Tannenbergstha 2.58 245 *e*Pn **Pn 02 13 53.0 +0.8**
SNR=4.5
TANN *e*Sg **Sg 02 14 32.0 +0.1**
SNR=4.6
WERD Werda 2.65 247 *e*Sg **Sg 02 14 34.8 +0.5**
SNR=3.1
NKC Novy Kostel 2.68 242 *e*PN **Pn 02 13 54.5 +1.1**
NKC *e*PG **Pb 02 13 59.7 +1.8**
NKC *e*SG **Sg 02 14 36.5 +1.5**
comp=Z,61nm,0.3s
NKC Novy Kostel 2.68 242 *e*Pn **Pn 02 13 54.6 +1.2**
SNR=4.0
NKC *e*Pg **Pg 02 14 02.0 +1.6**
SNR=5.1
OJC Ojcow 2.69 119 *e*Pg **Pg 02 14 01.2 +0.7**
OJC *e*Sg **Sg 02 14 36.4 +1.0**
OJC Ojcow 2.69 119 *e*Pg **Pg 02 14 01.0 +0.5**
SNR=6.4
OJC *e*Sg **Sg 02 14 35.9 +0.5**
SNR=3.9
KHC Kasperske Hory 2.93 215 *e*PN **Pn 02 13 57.2 +0.3**
KHC *e*PG **Pb 02 14 02.8 +0.7**
KHC *e*SN **Sn 02 14 32.8 +0.1**
KHC *e*SG **Sg 02 14 42.3 -0.7**
comp=Z,21nm,0.5s
KHC Kasperske Hory 2.93 215 *e*Pn **Pn 02 13 57.3 +0.4**
SNR=5.8
CKRC Cesky Krumlov 2.98 204 *e*PN **Pn 02 13 58.8 +1.2**
CKRC *e*PG **Pb 02 14 03.5 +0.5**
CKRC *e*SG **Sg 02 14 43.8 -1.0**
MOX Moxa 2.98 254 *e*Sg **Sg 02 14 46.6 +1.7**
SNR=5.9
GEC2 GERESS Array S 3.13 211 *e*Pn **Pn 02 14 01.2 +1.5**
SNR=7.5
GERES GERESS Array B 3.13 211 Pn **Pn 02 14 00.5 +0.7**
comp=Z,1.3nm,0.3s,baz=34,slow=13,SNR=36
GERES Lg Lg 02 14 47.0
comp=Z,3.5nm,0.3s,baz=32,slow=28,SNR=10
WET Wettzell 3.19 222 *e*PN **Pn 02 14 01.3 +0.9**
SNR=6.7
LANS Liptovska Anna 3.23 137 *e*PG **Pg 02 14 10.3 -0.6**
LANS *e*SG **Sg 02 14 52.3 -0.4**
MODS Modra-Piesok 3.28 166 *e*PG **Pg 02 14 11.9 +0.1**
MODS *e*SG **Sg 02 14 54.0 -0.3**
ZST Bratislava 3.43 169 *e*SG **Sg 02 14 57.1 -2.0**
VYHS Vyhne 3.53 149 *e*PN **Pn 02 14 06.7 +1.5**
VYHS *e*PG **Pg 02 14 16.3 -0.5**
VYHS *e*SG **Sg 02 15 00.2 -2.4**
BSD Bornholm Skovb 3.63 349 *i* P **Pn 02 14 07.5 +0.9**
BSD *i* S **Sn 02 14 49.0 -1.0**
BSD IAML 02 14 52.3
comp=Z,1.1nm,0.1s
CONA Conrad Observa 3.64 183 *i* Pn **Pn 02 14 08.0 +1.3**
comp=Z,1.3nm,0.2s
CONA *e*Sg **Sg 02 15 03.9 -2.1**
comp=Z,19nm,0.5s
MOA Molln 3.91 199 *i* Pn **Pn 02 14 11.4 +1.1**
comp=Z,2.6nm,0.3s,SNR=14
MOA *e*Sg **Sg 02 15 13.8 -0.7**
comp=Z,16nm,0.6s
ARSA Arzberg 4.33 185 *e*Pn **Pn 02 14 18.7 +2.5**
comp=Z,1.1nm,0.2s
ARSA *e*Sg **Sg 02 15 27.9 -0.2**
comp=Z,21nm,0.7s
LUNU Lund 4.38 340 *i* P **Pn 02 14 16.7 -0.1**
LUNU *i* S **Sn 02 15 07.4 -1.0**
BLEU Blekinge 4.76 358 *i* P **Pn 02 14 22.6 +0.7**
BLEU *i* S **Sn 02 15 14.4 -3.3**
KBA Koelnbreinsper 4.84 203 *i* Pn **Pn 02 14 24.5 +1.3**
comp=Z,3.2nm,0.5s,SNR=6.0
KBA *e*Sg **Sg 02 15 45.1 +0.6**
comp=Z,10nm,0.6s
SOKA Soboth 4.94 189 *e*Pn **Pn 02 14 24.5 -0.1**
comp=Z,0.9nm,0.4s
SOKA *e*Sg **Sg 02 15 48.6 +1.0**
comp=Z,3.7nm,0.7s
DEL Delary 5.09 346 *i* P **Pn 02 14 27.2 +0.6**
DEL *i* S **Sn 02 15 23.1 -2.9**
OBKA Obir 5.16 192 *e*Sg **Sg 02 15 57.0 +2.2**
comp=Z,6.4nm,0.5s
WATA Walderalm 5.16 217 *i* Pn **Pn 02 14 29.4 +1.7**
comp=Z,1.5nm,0.3s,SNR=4.4
WATA *e*Sg **Sg 02 15 58.3 +3.5**
comp=Z,5.6nm,0.6s
WTTA Wattenberg 5.20 216 *e*Pn **Pn 02 14 30.0 +1.7**
comp=Z,0.9nm,0.2s
WTTA *e*Sg **Sg 02 15 56.7 +0.7**
comp=Z,5.0nm,0.5s
MOTA Moosalm 5.34 220 *e*Pn **Pn 02 14 31.4 +1.2**
comp=Z,0.8nm,0.2s
MOTA *e*Sg **Sg 02 15 59.3 -1.2**
comp=Z,4.5nm,0.5s
RETA Reutte 5.37 223 *i* Pn **Pn 02 14 31.0 +0.6**
comp=Z,0.8nm,0.2s,SNR=5.3
RETA *e*Sg **Sg 02 16 02.4 +1.1**
comp=Z,4.6nm,0.6s
ABTA Abfaltersbach 5.37 208 *e*Pn **Pn 02 14 32.4 +2.0**
comp=Z,2.2nm,0.6s
ABTA *e*Sg **Sg 02 16 00.2 -1.1**
comp=Z,7.4nm,0.6s
SQTA Sankt Quirin 5.40 218 *e*Pn **Pn 02 14 32.2 +1.3**
comp=Z,1.5nm,0.2s,SNR=5.8
FETA Feichten 5.75 220 Pn **Pn 02 14 37.1 +1.3**
comp=Z,0.9nm,0.5s
FABU Falkenberg 5.80 341 *i* P **Pn 02 14 37.3 +1.0**
FABU *i* S **Sn 02 15 41.3 -2.2**
DAVA Damuels 5.90 226 *e*Pn **Pn 02 14 40.1 +2.2**
comp=Z,1.2nm,0.3s
DAVA *e*Sg **Sg 02 16 22.8 +4.2**
comp=Z,9.4nm,0.8s
ONAU Onsala 6.34 339 *i* P **Pn 02 14 44.7 +1.1**
ONAU *i* S **Sn 02 15 53.2 -3.4**
BORU Boraas 6.39 344 *i* P **Pn 02 14 45.6 +1.3**
BORU *i* S **Sn 02 15 55.9 -2.1**
CDF Champ du Feu 6.51 245 *e*Pn **Pn 02 14 45.4 -0.8**
CDF *e*Sg **Sg 02 16 33.5 -4.7**
comp=Z,15nm,0.9s
HINF Hinteralfeld 7.08 242 *e*Pn **Pn 02 14 51.9 -2.0**
HINF *e*Sg **Sg 02 16 49.7 -6.7**
comp=Z,1.2nm,0.3s
HAU Haudompre 7.26 244 *e*P **Pn 02 14 59.4 +3.1**
HAU *e*Sg **Sg 02 16 55.4 -6.6**
comp=Z,1.6nm,0.4s
SAVF Savonnieres en 7.66 252 *e*P **Pn 02 15 04.8 +3.0**
BAIF Baives 7.70 263 *e*Pn **Pn 02 15 00.8 -1.5**
BAIF *e*Sn **Sn 02 16 24.0 -6.1**
BAIF *e*Sg **Sg 02 17 10.9 -5.1**
comp=Z,1.2nm,0.4s
AKASG Malin Array Be 8.29 91 Pn **Pn 02 15 10.1 -0.3**
comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=5.3
HFS Hagfors 8.70 352 Pn **Pn 02 15 16.7 +0.7**
comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=2.0
LOR Lormes 9.07 247 *e*Pn **Pn 02 15 20.5 -0.7**
FINES FINESS Array B 11.31 25 Pn **Pn 02 15 52.1 +0.3**
comp=Z,0.1nm,0.3s,baz=217,slow=11,SNR=5.4
EKA Eskdalemuir Ar 12.09 296 Pn **Pn 02 16 00.4 -2.0**
baz=104,slow=14,SNR=1.6
ARCES ARCESS Array B 18.57 10 Pn **P 02 17 26.7 -0.5**
baz=206,slow=10.0,SNR=4.0
WSAR Wadi Sarin 43.13 115 LR LR 02 44 45.2
comp=Z,36nm,18.0s,baz=234,slow=44
YKA Yellowknife Ar 59.81 336 P **P 02 23 17.8 +2.2**
comp=Z,0.1nm,0.5s,baz=32,slow=6.5,SNR=3.1

*IDC **14** 02:15:09.7±3.0, 27°.01N×52°.81E, h0km, mb3.8/5,*
mb1 3.9/5, mb1mx3.3/50, mbtmp3.8/5, Error ellipse: s-maj=75.3km s-min=33.8km az=144.0
*TEH **14** 02:15:10.7, 27°.04N×52°.69E, h8km, ML3.4*
ISC 14 02:15:11.5±1.2, 27°.01N±0°.08×52°.74E±0°.06, h10km, n19, σ1§02/21, mb3.8/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.50**	**49**	*e*Pg	**Pg**	**02 15 20.6**	**-0.7**
LMD1				*e*Sg	**Sb**	**02 15 28.9**	**-0.9**
LMD1				*e*		02 15 35.0	
	comp=Z,42μm,0.5s						
QIR1	**Qir**	**1.48**	**11**	*e*Pg	**Pg**	**02 15 39.0**	**-1.0**
QIR1				*e*Sg	**Sg**	**02 15 59.7**	**+0.4**
LAR1	**LAR**	**1.60**	**65**	*e*Pg	**Pg**	**02 15 41.2**	**-1.0**
LAR1				*e*		02 16 24.5	
	comp=Z,7μm,0.7s						
JHRM	**Jahrom**	**1.66**	**26**	*e*Pg	**Pg**	**02 15 43.6**	**+0.2**
JHRM				*e*		02 16 10.5	
	comp=Z,8μm,0.4s						
KLNJ	**Kolanjah**	**4.11**	**346**	*e*Pn	**Pn**	**02 16 15.5**	**+0.8**
TVBK	**TV Kerman**	**4.62**	**49**	*e*Pn	**Pn**	**02 16 23.4**	**+1.7**
TVBK				*e*		02 16 39.2	
	comp=Z,347nm,0.4s						
IMEH	**Mehriz**	**4.66**	**20**	*e*Pn	**Pn**	**02 16 23.2**	**+1.0**
KHGB	**Koh Gabri**	**4.69**	**44**	*e*Pn	**Pn**	**02 16 22.8**	**+0.2**
KHGB				*e*		02 17 32.3	
	comp=Z,147nm,0.8s						
IRAM	**Ramesheh**	**4.79**	**356**	*e*Pn	**Pn**	**02 16 25.2**	**+1.3**
CHMN	**Cheshme madani**	**5.09**	**55**	*e*Pn	**Pn**	**02 16 30.3**	**+2.1**
CHMN				*e*		02 16 39.2	
	comp=Z,334nm,0.5s						
ICHK	**Chekchek**	**5.41**	**15**	*e*Pn	**Pn**	**02 16 34.1**	**+1.6**
AMIS	**Naft Sefid**	**5.53**	**328**	*e*Pn	**Pn**	**02 16 34.6**	**+0.7**
ANAR	**Anarak**	**6.22**	**8**	*e*Pn	**Pn**	**02 16 44.1**	**+0.6**
KRSH	**Karshahi**	**6.95**	**356**	*e*Pn	**Pn**	**02 16 54.6**	**+1.0**
ZALV	**Zalesovo Beam**	**35.79**	**32**	P	**P**	**02 22 10.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=218,slow=9.4,SNR=5.4						
FINES	**FINESS Array B**	**38.80**	**340**	P	**P**	**02 22 36.0**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=131,slow=14,SNR=4.7						
HFS	**Hagfors**	**42.45**	**332**	P	**P**	**02 23 06.1**	**-0.2**
	comp=Z,6.2nm,1.1s,baz=113,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**49.57**	**264**	P	**P**	**02 24 03.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=71,slow=6.6,SNR=6.6						
YKA	**Yellowknife Ar**	**90.23**	**354**	P	**P**	**02 28 11.8**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=5.8,slow=4.3,SNR=5.1						

*MOS **14** 02:29:52.4±1.2, 46°.89N×152°.08E, h129km, mb3.8/4, Error ellipse: s-maj=16.5km s-min=9.6km az=52.9*
*SKHL **14** 02:29:53.3±0.7, 46°.80N×152°.10E, h126km±4km, mb5.0/6, msha5.7/6*
*IDC **14** 02:29:56.7±3.9, 47°.20N×151°.84E, h134km±28km, mb3.6/8, mb1 3.7/10, mb1mx3.2/54, mbtmp4.0/10, Error ellipse: s-maj=74.1km s-min=21.6km az=135.0*
*NEIC **14** 02:29:58.6±0.5, 47°.4N±0°.2×151°.7E±0°.3, h137km±14km, mb4.1/12, Error ellipse: s-maj=38.8km s-min=9.9km az=142.0*
ISC 14 02:29:52.2±1.0, 46°.9N±0°.1×152°.1E±0°.1, h106km, n59, σ1§71/65, mb4.1/13, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.36**	**243**	*e*PN	**Pn**	**02 30 46.2**	**+3.4**
KUR				*i* S	**Sn**	**02 31 26.2**	**+4.2**
KUR				pmax	pmax		
	comp=N,45nm,0.2s						
KUR				pmax	pmax		
	comp=Z,82nm,0.2s						
KUR				smax	smax		
	comp=N,189nm,0.2s						
KUR				smax	smax		
	comp=E,102μm,0.3s						
KUR	**Kuril'sk**	**3.36**	**243**	*e*P	**Pn**	**02 30 45.2**	**+2.4**
KUR				AMB	AMB	02 30 47.6	
	comp=E,40nm,0.3s						
KUR				*i* S	**Sn**	**02 31 24.7**	**+2.7**
KUR				A	A	02 31 27.9	
	comp=E,140nm,0.4s						
KUR				A	A	02 31 27.9	
	comp=E,190nm,0.4s						
SKR	**Severo-Kuril's**	**4.66**	**33**	*e*P	**Pn**	**02 31 02.9**	**+2.7**
SKR				AMB	AMB	02 31 04.3	
	comp=E,50nm,0.5s						
SKR				*e*S	**Sn**	**02 31 55.7**	**+2.5**
SKR				A	A	02 31 56.9	
	comp=E,80nm,0.3s						
SKR				A	A	02 31 56.9	
	comp=E,70nm,0.3s						
SHO	**Shikotan**	**4.76**	**233**	*e*PN	**Pn**	**02 31 01.2**	**-0.5**
SHO				pmax	pmax		
	comp=N,9.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,19nm,0.3s						
SHO				pmax	pmax		
	comp=Z,25nm,0.3s						
SHO	**Shikotan**	**4.76**	**233**	*e*P	**Pn**	**02 31 02.9**	**+1.2**
SHO				AMB	AMB	02 31 03.5	
	comp=Z,30nm,0.3s						
SHO				*e*S	**Sn**	**02 31 52.3**	**-3.4**
SHO				A	A	02 31 57.2	
	comp=Z,20nm,0.3s						
SHO				A	A	02 31 57.2	
	comp=Z,130nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.22**	**240**	*e*PN	**Pn**	**02 31 09.8**	**+2.0**
YUK				*e*S	**Sn**	**02 32 05.0**	**-1.7**
YUK				pmax	pmax		
	comp=Z,137nm,0.3s						
YUK				smax	smax		
	comp=N,152nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.22**	**240**	*e*P	**Pn**	**02 31 09.5**	**+1.7**
YUK				AMB	AMB	02 31 13.5	
	comp=N,140nm,0.3s						
YUK				*e*S	**Sn**	**02 32 06.6**	**-0.1**
YUK				A	A	02 32 10.7	
	comp=N,150nm,0.2s						
GRPR	**Tuman**	**5.29**	**240**	*e*PN	**Pn**	**02 31 10.5**	**+1.7**
GRPR				*e*S	**Sn**	**02 32 06.9**	**-1.7**
GRPR				pmax	pmax		
	comp=Z,83nm,0.3s						
GRPR				smax	smax		
	comp=N,124nm,0.3s						
GRPR				smax	smax		
	comp=E,137nm,0.5s						
GRPR	**Tuman**	**5.29**	**240**	*e*P	**Pn**	**02 31 10.5**	**+1.7**
GRPR				AMB	AMB	02 31 13.9	
	comp=E,80nm,0.3s						
GRPR				*e*S	**Sn**	**02 32 06.9**	**-1.7**
GRPR				A	A	02 32 11.6	
	comp=E,120nm,0.5s						
GRPR				A	A	02 32 11.6	
	comp=E,140nm,0.5s						
RUSJ	**Misakicho**	**5.55**	**243**	*e*PN	**Pn**	**02 31 14.6**	**+2.3**
RUSJ				*e*S	**Sn**	**02 32 16.2**	**+1.5**
PAU	**Pauzhetka**	**5.55**	**32**	*e*P	**Pn**	**02 31 14.3**	**+2.0**
PAU				AMB	AMB	02 31 16.5	
	comp=E,40nm,0.5s						
PAU				*e*S	**Sn**	**02 32 15.0**	**+0.2**
PAU				A	A	02 32 15.9	
	comp=E,90nm,0.2s						
PAU				A	A	02 32 15.9	
	comp=E,100nm,0.2s						
NMR	**Nemuro--Hokkai**	**5.70**	**235**	⇑*i*PN	**Pn**	**02 31 14.2**	**-0.1**
NMR				*e*S	**Sn**	**02 32 13.9**	**-4.5**
NMR	**Nemuro--Hokkai**	**5.70**	**235**	*i* P	**Pn**	**02 31 14.2**	**-0.1**
PEA0B	**Petropavlovsk-**	**7.22**	**28**	PN	**Pn**	**02 31 37.0**	**+2.0**
PEA0B	**Petropavlovsk-**	**7.22**	**28**	Pn	**Pn**	**02 31 37.0**	**+2.0**
PETK	**Petropavlovsk-**	**7.22**	**28**	P	**Pn**	**02 31 36.5**	**+1.5**
	comp=E,0.6nm,0.3s,baz=196,slow=8.6,SNR=14						
NKL	**Nikolayevsk**	**9.68**	**315**	*e*P	**Pn**	**02 32 09.0**	**+0.8**
KBG	**Krutoberegovo**	**11.48**	**31**	*e*P	**Pn**	**02 32 31.6**	**-1.0**
USRK	**Ussuriysk Ar.**	**14.34**	**267**	P	**P**	**02 33 11.3**	**-2.7**
	baz=67,slow=11,SNR=7.5						
INU	**Inuyama**	**16.13**	**230**	Pn	**P**	**02 33 37.2**	**+3.2**
KSRS	**Korea Array**	**20.17**	**251**	P	**Pn**	**02 34 20.9**	**0.0**
	comp=E,1.2nm,0.5s,baz=46,slow=11,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**29.64**	**151**	T	T	03 07 31.6	
	baz=340,slow=76,SNR=64						
H11N1	**WAKE ISLAND Hy**	**29.66**	**151**	T	T	03 07 32.7	
	baz=340,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy**	**29.66**	**151**	T	T	03 07 33.8	
	baz=340,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hy**	**30.72**	**152**	T	T	03 08 54.2	
	baz=340,slow=76,SNR=79						
H11S3	**WAKE ISLAND Hy**	**30.73**	**152**	T	T	03 08 48.2	
	baz=340,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**30.74**	**152**	T	T	03 08 51.5	
	baz=340,slow=76,SNR=60						
IMAR	**Indian Mountai**	**34.09**	**36**	P	**P**	**02 36 27.4**	**+1.3**
L27K	**Beaver Creek,**	**39.26**	**41**	P	**P**	**02 37 11.7**	**+1.7**
L27K				IAmb	IAmb	02 37 31.4	
	comp=Z,4.1nm,1.4s						
MK31	**Makanchi Array**	**46.27**	**297**	P	**P**	**02 38 05.8**	**-1.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MK31	**Makanchi Array**	**46.27**	**297**	P	**P**	**02 38 05.8**	**-1.0**
MKAR	**Makanchi Array**	**46.27**	**297**	P	**P**	**02 38 05.8**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=68,slow=7.2,SNR=15						
MKAR				PcP	**PcP**	**02 39 39.7**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=72,slow=1.5,SNR=4.2						
MKAR	**Makanchi Array**	**46.27**	**297**	P	**P**	**02 38 05.7**	**-1.1**
KURK	**Kurchatov**	**46.72**	**303**	P	**P**	**02 38 08.7**	**-1.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**46.72**	**303**	P	**P**	**02 38 08.7**	**-1.5**
KURK				IAmb	IAmb	02 38 09.5	
	comp=Z,1.7nm,0.5s						
KURK	**Kurchatov**	**46.72**	**303**	*e*P	**P**	**02 38 08.7**	**-1.5**
BRVK	**Borovoye**	**50.29**	**309**	P	**P**	**02 38 36.5**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**50.29**	**309**	P	**P**	**02 38 36.5**	**-1.0**
BRVK				IAmb	IAmb	02 38 37.7	
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**50.29**	**309**	*e*P	**P**	**02 38 36.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**51.72**	**255**	P	**P**	**02 38 49.7**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=27,slow=6.1,SNR=1.9						
ARCES	**ARCESS Array B**	**57.52**	**340**	P	**P**	**02 39 29.1**	**-0.7**
	comp=Z,4.4nm,1.0s,baz=32,slow=7.7,SNR=2.6						
ARCES	**ARCESS Array B**	**57.52**	**340**	P	**P**	**02 39 28.9**	**-0.9**
ABKAR	**Akbulak array**	**57.82**	**309**	P	**P**	**02 39 31.2**	**-1.0**
ABKAR				IAmb	IAmb	02 39 32.8	
	comp=Z,3.8nm,1.4s						
CHGR	**Chuyangaron**	**58.77**	**295**	P	**P**	**02 39 39.3**	**+0.2**
FCC	**Fort Churchill**	**61.55**	**33**	P	**P**	**02 39 57.5**	**-0.1**
FCC	**Fort Churchill**	**61.55**	**33**	P	**P**	**02 39 57.5**	**-0.1**
FINES	**FINESS Array B**	**63.65**	**334**	P	**P**	**02 40 10.2**	**-1.3**
	comp=Z,3.7nm,0.9s,baz=39,slow=8.4,SNR=11						
FINES	**FINESS Array B**	**63.65**	**334**	P	**P**	**02 40 10.5**	**-0.9**
FINES	**FINESS Array B**	**63.65**	**334**	P	**P**	**02 40 10.5**	**-0.9**
NB201	**NORSAR Array S**	**67.87**	**341**	P	**P**	**02 40 38.0**	**-0.7**
NB2	**NORSAR Subarra**	**67.90**	**341**	P	**P**	**02 40 38.4**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**67.90**	**341**	P	**P**	**02 40 38.5**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=29,slow=6.6,SNR=7.6						
AKASG	**Malin Array Be**	**71.07**	**326**	P	**P**	**02 40 57.2**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=35,slow=6.3,SNR=9.3						
AKASG	**Malin Array Be**	**71.07**	**326**	P	**P**	**02 40 58.0**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,1.4s						
AKASG	**Malin Array Be**	**71.07**	**326**	P	**P**	**02 40 58.0**	**-0.4**
BUR08	**Bucovina Ar. S**	**75.09**	**326**	P	**P**	**02 41 21.8**	**-0.5**
BUR08				IAmb	IAmb	02 41 22.9	
	comp=Z,2.2nm,0.6s						
BURAR	**Bucovina Array**	**75.11**	**326**	P	**P**	**02 41 21.5**	**-0.9**
GERES	**GERESS Array B**	**78.05**	**333**	P	**P**	**02 41 38.7**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=23,slow=7.2,SNR=3.9						
GERES	**GERESS Array B**	**78.05**	**333**	P	**P**	**02 41 38.5**	**-0.4**

*IDC **14** 02:35:59.9±1.3, 3°.56N×126°.65E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.4/42, mbtmp4.0/5, MS3.5/2, Ms1 3.5/2, ms1mx2.6/74, Error ellipse: s-maj=190.0km s-min=19.2km az=69.0*
*NEIC **14** 02:36:01.6±1.4, 3°.59N±0°.09×126°.55E±0°.06, h10km±1km, mb4.3/11, Error ellipse: s-maj=18.1km s-min=5.8km az=29.0*
ISC 14 02:36:06.2±0.7, 3°.49N±0°.08×126°.47E±0°.09, h53km, n23, σ1§08/23, mb4.2/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.84**	**162**	Pn	**Pn**	**02 36 47.8**	**-1.3**
TNTI				Sn	**Sn**	**02 37 24.0**	**+1.8**
TOLI2	**Tolitoli**	**6.15**	**248**	Pn	**Pn**	**02 37 33.1**	**-1.4**
TOLI2				Sn	**Sn**	**02 38 44.5**	**+0.8**
MYLDM	**Lahad Datu**	**8.12**	**282**	Pn	**Pn**	**02 38 01.0**	**-0.5**
FAKI	**Fak Fak**	**8.60**	**138**	Pn	**Pn**	**02 38 06.3**	**-1.8**
TPUB	**Ta-pu**	**20.49**	**345**	P	**P**	**02 40 38.4**	**-1.5**
TPUB				IAmb	IAmb	02 40 44.1	
	comp=Z,12nm,0.7s						
UBPT	**Khong Chiam**	**23.77**	**301**	P	**P**	**02 41 14.1**	**+0.1**
PMG	**Port Moresby**	**24.27**	**122**	LR	LR	02 51 17.7	
	comp=Z,78nm,18.6s,baz=236,slow=38						
WB0	**Warramunga Arr**	**24.39**	**162**	P	**P**	**02 41 19.5**	**-0.2**
WB0				IAmb	IAmb	02 41 21.2	
	comp=Z,5.2nm,0.7s						
WRA	**Warramunga Arr**	**24.54**	**162**	P	**P**	**02 41 21.2**	**+0.1**
	comp=Z,46nm,0.4s,baz=343,slow=10,SNR=2.9						
WB2	**Warramunga Arr**	**24.54**	**162**	P	**P**	**02 41 21.1**	**+0.1**
WB2				IAmb	IAmb	02 41 25.0	
	comp=Z,10.0nm,1.1s						
WR0	**Warramunga Arr**	**24.61**	**162**	P	**P**	**02 41 21.8**	**+0.1**
WR0				IAmb	IAmb	02 41 25.6	
	comp=Z,6.2nm,1.0s						
ASAR	**Alice Springs**	**27.95**	**165**	P	**P**	**02 41 52.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=344,slow=12,SNR=6.4						
BBOO	**Buckleboo**	**37.23**	**167**	P	**P**	**02 43 13.3**	**+0.6**
BBOO				IAmb	IAmb	02 43 17.5	
	comp=Z,7.9nm,0.9s						
STKA	**Stephens Creek**	**38.00**	**159**	P	**P**	**02 43 20.0**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=5.3,slow=9.3,SNR=3.9						
STKA	**Stephens Creek**	**38.00**	**159**	P	**P**	**02 43 19.6**	**+0.4**
ULN	**Ulaanbaatar**	**47.27**	**342**	P	**P**	**02 44 33.1**	**-1.3**
ULN				IAmb	IAmb	02 44 36.4	
	comp=Z,2.2nm,0.8s						
SONM	**Songino Array**	**47.44**	**342**	P	**P**	**02 44 36.8**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=157,slow=8.3,SNR=5.1						
MSVF	**Nonsavu**	**55.05**	**114**	LR	LR	03 06 58.4	
	comp=Z,49nm,18.4s,baz=58,slow=34						
MK31	**Makanchi Array**	**57.60**	**325**	P	**P**	**02 45 52.0**	**+1.2**
MK31				IAmb	IAmb	02 46 00.7	
	comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**02 45 52.1**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=122,slow=8.3,SNR=22						
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**02 45 51.6**	**+0.8**
KURK	**Kurchatov**	**61.80**	**328**	P	**P**	**02 46 20.6**	**+1.1**
ARCES	**ARCESS Array B**	**90.58**	**340**	P	**P**	**02 49 03.0**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=70,slow=5.8,SNR=4.8						

IDC 14 02:37:40.5±2.0, 31°.19S×178°.28W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.0/28, mbtmp3.9/2, MS3.9/1, Ms1 3.9/1, ms1mx2.9/52, Error ellipse: s-maj=53.6km s-min=37.4km az=52.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.83**	**268**	P	P	02 45 40.6	+0.1
	0.6nm,0.3s,baz=105,slow=7.4,SNR=20						
WRA	**Warramunga Arr**	**43.89**	**273**	P	P	02 45 48.8	-0.3
	61nm,0.5s,baz=112,slow=7.8,SNR=18						
VNDA	**Vanda**	**47.28**	**186**	P	P	02 46 14.9	-0.3
	0.6nm,0.3s,baz=45,slow=2.9,SNR=7.7						
QSPA	**South Pole Qui**	**58.92**	**180**	LR	LR	03 08 40.0	
	comp=Z,112nm,21.

SOME ***14*** *03:24:30.2, 41°.23N×69°.52E, h15km*

ISC 14 03:24:30.8±0.8, 41°.38N±0°.03×69°.24E±0°.03, h11km±5km, **n67**, σ2s23/104, **24C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.07**	**145**	*i* P	**Pg**	**03 24 33.0**	**-0.2**
TAS				*e*S	**Sg**	**03 24 35.0**	**0.0**
TAS	**Tashkent**	**0.07**	**145**	⇑*i*P	**Pg**	**03 24 32.5**	**-0.7**
	baz=1.0						
TAS				⇑*i*S	**Sg**	**03 24 33.9**	**-1.1**
	baz=1.0						
TAS	**Tashkent**	**0.07**	**145**	Pg	**Pg**	**03 24 32.5**	**-0.7**
TAS				Sg	**Sg**	**03 24 33.9**	**-1.1**
TGS	**TashGRES**	**0.21**	**79**	*i* P	**Pg**	**03 24 33.0**	**-2.3**
TGS				*e*S	**Sg**	**03 24 35.0**	**-3.4**
YBZ	**Yangibazar**	**0.27**	**107**	*e*P	**Pg**	**03 24 35.0**	**-1.4**
YBZ				*e*S	**Sg**	**03 24 39.0**	**-1.1**
CHMG	**Chimgan**	**0.60**	**74**	*i* P	**Pg**	**03 24 41.0**	**-1.5**
CHMG				*e*S	**Sg**	**03 24 49.0**	**-1.5**
CHM	**Chimkent**	**0.97**	**16**	*e*P	**Pn**	**03 24 51.3**	**+0.9**
	3.8nm,0.2s						
CHM				*e*S	**Sn**	**03 25 06.3**	**+2.1**
	3μm,0.4s						
TCH	**Chimkent**	**0.97**	**16**	*e*P	**Pn**	**03 24 51.3**	**+1.0**
	baz=7.0						
TCH				*e*S	**Sn**	**03 25 06.3**	**+2.2**
	baz=7.0						
TRKS	**Terek-Say**	**1.44**	**84**	⇑*i*P	**Pn**	**03 24 55.7**	**-1.2**
	baz=81						
TRKS				⇑*i*S	**Sg**	**03 25 14.6**	**-2.4**
	baz=81						
DZI	**Dzhizak**	**1.66**	**221**	*i* P	**Pn**	**03 25 01.0**	**+1.2**
DZI				*e*S	**Sb**	**03 25 23.0**	**+0.7**
BRLS	**Borolday**	**1.70**	**15**	*e*P	**Pn**	**03 24 58.4**	**-2.1**
	131nm,0.2s						
BRLS				*e*S	**Sn**	**03 25 18.8**	**-3.4**
	438nm,0.1s						
BRLS	**Borolday**	**1.70**	**15**	*e*P	**Pn**	**03 24 58.4**	**-2.1**
	baz=10.0						
BRLS				*e*S	**Sn**	**03 25 18.8**	**-3.4**
	baz=10.0						
BTK	**Batken**	**1.79**	**137**	*e*P	**Pn**	**03 25 00.0**	**-1.6**
BTK				*e*S	**Sn**	**03 25 23.0**	**-1.4**
BTK	**Batken**	**1.79**	**137**	⇑*i*P	**Pn**	**03 25 00.6**	**-1.1**
	baz=38						
BTK				⇑*i*S	**Sn**	**03 25 23.0**	**-1.4**
	baz=38						
BTK	**Batken**	**1.79**	**137**	Pn	**Pn**	**03 25 00.4**	**-1.3**
KK02	**Karatay Array**	**1.96**	**28**	⇑Pn	**Pn**	**03 25 04.8**	**+0.8**
	1.1nm,0.2s,baz=211,slow=17						
KK02				⇓Sn	**Sg**	**03 25 33.3**	**-0.5**
	223nm,0.5s,baz=207,slow=26						
KKAR	**Karatay Array**	**1.96**	**28**		**Pn**	**03 25 04.4**	**+0.4**
ARK	**Arkit**	**2.08**	**78**	*e*P	**Pn**	**03 25 06.0**	**+0.2**
ARK				*e*S	**Sn**	**03 25 32.0**	**+0.2**
ARK	**Arkit**	**2.08**	**78**	⇑*e*P	**Pn**	**03 25 07.2**	**+1.4**
	baz=74						
ARK				⇑*i*S	**Sn**	**03 25 34.2**	**+2.4**
	baz=74						
DZA	**Taraz**	**2.17**	**45**	*e*P	**Pb**	**03 25 10.3**	**+0.3**
	140nm,0.1s						
DZA				*e*S	**Sg**	**03 25 39.0**	**-1.4**
	999nm,0.4s						
DZA	**Taraz**	**2.17**	**45**	*e*P	**Pb**	**03 25 10.3**	**+0.3**
	baz=41						
DZA				*e*S	**Sg**	**03 25 39.0**	**-1.4**
	baz=41						
FRG	**Fergana**	**2.18**	**117**	*i* P	**Pn**	**03 25 09.0**	**+2.0**
FRG				*e*S	**Sb**	**03 25 38.0**	**+0.8**
AGL	**Agalyk**	**2.59**	**225**	*e*P	**Pn**	**03 25 13.0**	**+0.3**
AGL				*e*S	**Sg**	**03 25 52.0**	**-2.1**
MNAS	**Manas**	**2.67**	**65**	⇑*i*P	**Pn**	**03 25 15.9**	**+2.0**
	baz=61						
MNAS				⇑*i*S	**Sn**	**03 25 49.3**	**+3.0**
	baz=61						
CHGR	**Chuyangaron**	**2.73**	**181**	Pn	**Pn**	**03 25 15.0**	**+0.5**
DRK	**Karamyk**	**2.73**	**133**	⇑*e*P	**Pn**	**03 25 15.2**	**+0.4**
	baz=34						
DRK				⇑*i*S	**Sn**	**03 25 48.2**	**+0.3**
	baz=34						
DRK	**Karamyk**	**2.73**	**133**		**Pn**	**03 25 15.9**	**+1.2**
OHH	**Osh**	**2.82**	**107**	*e*P	**Pn**	**03 25 19.0**	**+3.2**
OHH				*e*S	**Sb**	**03 25 56.0**	**+0.3**
OHH	**Osh**	**2.82**	**107**	⇑*i*P	**Pn**	**03 25 16.5**	**+0.7**
	baz=5.0						
OHH				⇑*i*S	**Sn**	**03 25 50.4**	**+0.6**
	baz=5.0						
NUT	**Nurota**	**2.82**	**254**	*e*P	**Pn**	**03 25 17.0**	**+1.2**
NUT				*e*S	**Sn**	**03 25 52.0**	**+2.2**
MRKS	**Merke**	**3.26**	**64**	*e*P	**Pb**	**03 25 29.7**	**+0.9**
	27nm,0.3s						
MRKS				*e*S	**Sb**	**03 26 12.2**	**+3.7**
	156nm,0.4s						
AML	**Almayashu**	**3.42**	**76**	P	**Pb**	**03 25 32.1**	**+0.6**
	SNR=18						
SFK	**Sufi-Kurgan**	**3.52**	**112**	⇓*e*P	**Pn**	**03 25 26.3**	**+0.7**
	baz=11						
SFK				⇓*e*S	**Sn**	**03 26 07.2**	**-0.1**
	baz=11						
EKS2	**Erkin-Say**	**3.61**	**68**	P	**Pb**	**03 25 36.3**	**+1.6**
	SNR=6.0						
EKS2	**Erkin-Say**	**3.61**	**68**	⇓*e*P	**Pn**	**03 25 28.8**	**+2.0**
	baz=66						
EKS2				⇓*i*S	**Sn**	**03 26 11.5**	**+2.0**
	baz=66						
ARLS	**Aral**	**3.84**	**81**	⇑*i*P	**Pn**	**03 25 31.5**	**+1.6**
	baz=79						
ARLS				⇑*i*S	**Sn**	**03 26 16.3**	**+1.2**
	baz=79						
UCH	**Uchtor**	**4.03**	**76**	P	**Pb**	**03 25 42.7**	**+0.6**
	SNR=5.8						
AAK	**Ala-Archa**	**4.11**	**71**	P	**Pb**	**03 25 44.8**	**+1.6**
	SNR=7.0						
AAK	**Ala-Archa**	**4.11**	**71**	⇑Pn	**Pn**	**03 25 35.3**	**+1.7**
	0.8nm,0.3s						
AAK				⇑Pg	**Pb**	**03 25 44.5**	**+1.2**
	6.8nm,0.3s						
AAK				⇓Lg	Lg	03 26 36.1	
	34nm,0.7s						
AAK	**Ala-Archa**	**4.11**	**71**	Pn	**Pn**	**03 25 34.3**	**+0.6**
USP	**Ospenovka**	**4.33**	**63**	P	**Pb**	**03 25 48.5**	**+1.6**
	SNR=6.5						
CHMS	**Chumysh**	**4.40**	**67**	P	**Pb**	**03 25 49.2**	**+1.1**
	SNR=8.8						
DZN	**Dzhankel'dy**	**4.49**	**265**	*e*S	**Sn**	**03 26 28.0**	**-2.9**
SGDS	**Sogindy**	**4.49**	**61**	*e*P	**Pb**	**03 25 50.5**	**+0.8**
	8.5nm,0.3s						
SGDS				*e*S	**Sb**	**03 26 48.0**	**+4.2**
	58nm,0.4s						
TKM2	**Tokmak 2**	**4.97**	**70**	P	**Pb**	**03 25 58.3**	**+0.4**
	SNR=9.6						
TKM2	**Tokmak 2**	**4.97**	**70**	⇓Pn	**Pn**	**03 25 46.0**	**+0.5**
	0.4nm,0.2s						
TKM2				⇓Pg	**Pb**	**03 25 58.5**	**+0.6**
	5.6nm,0.4s						
TKM2				⇓Lg	Lg	03 27 02.7	
	50nm,0.6s						
BOOM	**Boomskoye usch**	**5.12**	**75**	Pn	**Pn**	**03 25 48.2**	**+0.7**
DGS	**Degeres**	**5.19**	**67**	*e*P	**Pb**	**03 26 04.0**	**+2.5**
	14nm,0.5s						
DGS				*e*S	**Sg**	**03 27 10.9**	**-6.4**
	58nm,0.3s						
KST	**Kastek**	**5.26**	**69**	*e*P	**Pb**	**03 26 05.3**	**+2.5**
	11nm,0.5s						
KST				*e*S	**Sb**	**03 27 13.0**	**+7.0**
	65nm,0.6s						
KRBS	**Karabastau**	**5.29**	**62**	*e*P	**Pb**	**03 26 05.3**	**+2.1**
	5.1nm,0.3s						
KRBS				*e*S	**Sb**	**03 27 13.0**	**+6.4**
	37nm,0.4s						
KUU	**Kurty**	**5.80**	**62**	*e*P	**Pb**	**03 26 15.8**	**+3.8**
KUU				*e*S	**Sg**	**03 27 31.1**	**-5.9**
KDJ	**Kajisay**	**5.99**	**80**	Pn	**Pn**	**03 25 58.8**	**-0.7**
MDOK	**Medeo**	**6.06**	**70**	*e*P	**Pb**	**03 26 19.9**	**+3.5**
MDOK				*e*S	**Sg**	**03 27 38.0**	**-7.2**
MDOK	**Medeo**	**6.06**	**70**	Pg	**Pb**	**03 26 19.0**	**+2.6**
	11nm,0.6s						
MDOK				Lg	Lg	03 27 38.3	
	19nm,0.6s						
TARG	**Taragay, Kyrgy**	**6.43**	**84**	Pn	**Pn**	**03 26 05.8**	**0.0**
OTUK	**Ortayu**	**7.20**	**17**	⇑Pn	**Pn**	**03 26 17.2**	**+1.2**
	1.6nm,0.3s						
OTUK				⇑Sn	**Sn**	**03 27 36.6**	**-1.2**
	2.5nm,0.3s						
NIL	**Nilore**	**8.35**	**156**	Pn	**Pn**	**03 26 33.1**	**+1.3**
ABKAR	**Akbulak array**	**10.23**	**323**	Pn	**Pn**	**03 26 56.6**	**-0.8**
ABKAR	**Akbulak array**	**10.23**	**323**	Pn	**Pn**	**03 26 57.7**	**+0.3**
MAKZ	**Makanchi**	**10.64**	**55**	Pn	**Pn**	**03 27 01.2**	**-1.9**
MK31	**Makanchi Array**	**10.83**	**56**	⇑Pn	**Pn**	**03 27 07.6**	**+1.9**
	0.2nm,0.3s,baz=238,slow=15,SNR=5.5						
MK31				⇑Lg	Lg	03 30 09.9	
	5.8nm,0.8s,baz=237,slow=28,SNR=4.8						
MK31	**Makanchi Array**	**10.83**	**56**	Pn	**Pn**	**03 27 05.8**	**+0.1**
KURBB	**Kurchatov Arra**	**11.26**	**32**	⇓Lg	Lg	03 30 27.9	
	15nm,0.7s						
KURK	**Kurchatov**	**11.37**	**32**	⇑Lg	Lg	03 30 28.3	
	11nm,0.9s						
BRVK	**Borovoye**	**11.70**	**3**	Pn	**Pn**	**03 27 16.7**	**-0.8**
ZAA0	**Zalesovo Array**	**16.32**	**34**	Pn	**Pn**	**03 28 18.6**	**-1.1**
ZAA0				IAmb	IAmb	03 28 22.7	
	comp=Z,1.9nm,1.1s						
ENH	**Enshi**	**34.19**	**96**	P	**P**	**03 31 15.2**	**-1.0**
ENH				IAmb	IAmb	03 31 15.5	
	comp=Z,8.0nm,0.6s						

MOS ***14*** *03:25:26.9±1.0, 19°.78S×63°.31W, h584km, mb5.9/32, Error ellipse: s-maj=11.0km s-min=7.5km az=115.0*

NEIC ***14*** *03:25:27.8, 19°.80S×63°.33W, h592km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr=0.78; Mθθ=0.49; Mφφ 1.27; Mrθ=0.12; Mθφ0.74; Mφr1.05; Fault plane solution: M0 1.70000×10^18 NP1:φs56.31000°, δ37.04000°, λ=31.35000°. NP2:φs172.25000°, δ71.74000°, λ=122.80000°. Principal axes: T 1.8800, Plg20.0000°, Azm286.0000°; N -0.4629, Plg31.0000°, Azm184.0000°; P -1.4171, Plg52.0000°, Azm44.0000°;*

IDC ***14*** *03:25:27.8±0.5, 19°.72S×63°.26W, h576km±5km, mb5.5/23, mb1 5.6/30, mb1mx5.5/36, mbtmp6.4/30 Error ellipse: s-maj=9.5km s-min=7.0km az=85.0*

VAO ***14*** *03:25:27.9±0.2, 19°.80S×63°.26W, h582km, mb6.1*

BJI ***14*** *03:25:28.9±0.0, 19°.80S×63°.40W, h583km, mB5.5/1*

NEIC ***14*** *03:25:28.3±2.1, 19°.76S±0°.07×63°.33W±0°.08, h583km±4km, mb6.0/642, Mwb6.1/35, Mww6.1, Error ellipse: s-maj=11.5km s-min=9.3km az=128.0*

GCMT ***14*** *03:25:29.3±0.3, 19°.77S±0°.03×63°.11W±0°.02, h591km±2km, MW6.1/76, Moment Tensor Solution. s76,c120; s66,c85; Duration: 2s9 Moment tensor: Scale 10^18Nm; Mrr=0.89±.03; Mθθ=0.59±.05; Mφφ 1.48±.05; Mrθ=0.39±.05; Mθφ0.83±.05; Mφr1.29±.04; Best double couple: M0 2.02600×10^18 NP1:φs56.00000°, δ38.00000°, λ=27.00000°. NP2:φs168.00000°, δ73.00000°, λ=125.00000°. Principal axes: T 2.1850, Plg21.0000°, Azm284.0000°; N -0.3190, Plg34.0000°, Azm179.0000°; P -1.8660, Plg49.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

NEIC ***14*** *03:25:30, 19°.80S×63°.33W, h590km, Moment Tensor Solution. Duration: 5s2 Moment tensor: Scale 10^18Nm; Mrr=0.81; Mθθ=0.42; Mφφ 1.22; Mrθ=0.17; Mθφ0.72; Mφr1.31; Fault plane solution: M0 1.85000×10^18 NP1:φs56.00000°, δ32.00000°, λ=32.00000°. NP2:φs174.00000°, δ73.00000°, λ=118.00000°. Principal axes: T 2.0015, Plg23.0000°, Azm285.0000°; N -0.3579, Plg27.0000°, Azm182.0000°; P -1.6436, Plg53.0000°, Azm50.0000°;*

SCB ***14*** *03:25:38.0±10.0, 19°.70S×63°.64W, h0km±154km, ML5.6/1 Error ellipse: s-maj=60.3km s-min=32.8km az=2.0*

ISC 14 03:25:27.6±0.3, 19°.71S±0°.03×63°.32W±0°.03, h582km±2km, **h583**km**:pP-P, n1462,** σ1s**55**/1480, **mb6.0**/455, **86C-377D, Fault plane solution: NP1:**φs56.70310°, δ46.34090°, λ=38.50155°. **NP2:**φs175.47748°, δ63.23195°, λ=129.35539°. **Principal axes:** T Plg9.7701°, Azm292.5421°; N Plg34.4838°, Azm195.7496°; P Plg53.7679°, Azm36.1335°; **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**3.20**	**220**	P	**P**	**03 26 45.4**	**-1.5**
SIV	**San Ignacio**	**4.27**	**30**	P	**P**	**03 26 55.3**	**+1.4**
	2μm,0.3s,baz=212,slow=6.8,SNR=8559						
SIV				S	**S**	**03 28 05.5**	**+1.4**
	35nm,0.3s,baz=79,slow=18,SNR=14						
SIV	**San Ignacio**	**4.27**	**30**	P	**P**	**03 26 55.0**	**+1.1**
BBOE	**La Paz, Chanca**	**5.29**	**302**	P	**P**	**03 27 02.3**	**-0.2**
SLA	**San Lorenzo**	**5.38**	**202**	P	**P**	**03 27 01.2**	**-1.4**
PB08	**IPOC Station P**	**5.51**	**265**	P	**P**	**03 27 03.2**	**-0.8**
PB08				S	**S**	**03 28 19.6**	**-3.1**
LPAZ	**La Paz**	**5.71**	**306**	P	**P**	**03 27 06.5**	**+0.5**
	536nm,0.3s,baz=107,slow=5.9						
LPAZ				S	**S**	**03 28 24.6**	**-1.7**
	45nm,0.3s,baz=264,slow=22,SNR=12						
LPAZ				ScP	**ScP**	**03 35 31.7**	**+0.8**
	4.2nm,0.3s,baz=62,slow=1.6,SNR=5.9						
LPAZ				ScS	**ScS**	**03 39 04.1**	**-0.6**
	0.2nm,0.3s,baz=221,slow=24,SNR=11						
LPAZ	**La Paz**	**5.71**	**306**	*e*P	**P**	**03 27 06.7**	**+0.7**
LPAZ	**La Paz**	**5.71**	**306**	*e*P	**P**	**03 27 06.7**	**+0.7**
LPAZ	**La Paz**	**5.71**	**306**	P	**P**	**03 27 06.7**	**+0.7**
LPAZ				S	**S**	**03 28 23.5**	**-2.8**
LPAZ	**La Paz**	**5.71**	**306**	P	**P**	**03 27 06.8**	**+0.7**
PTLB	**Pontes e Lacer**	**5.82**	**44**	*e*P	**P**	**03 27 07.7**	**+1.4**
PTLB				*e*S	**S**	**03 28 27.5**	**+0.6**
PTLB	**Pontes e Lacer**	**5.82**	**44**	P	**P**	**03 27 07.6**	**+1.3**
PTLB	**Pontes e Lacer**	**5.82**	**44**	P	**P**	**03 27 06.6**	**+0.3**
BBOD	**La Paz, Gloria**	**5.88**	**300**	P	**P**	**03 27 08.2**	**+0.8**
PB09	**IPOC Station P**	**5.92**	**248**	P	**P**	**03 27 06.5**	**-0.7**
PB09	**IPOC Station P**	**5.92**	**248**	P	**P**	**03 27 06.3**	**-1.0**
PB01	**IPOC Station P**	**5.94**	**256**	P	**P**	**03 27 05.9**	**-1.5**
PB01	**IPOC Station P**	**5.94**	**256**	P	**P**	**03 27 06.4**	**-1.0**
LVC	**Limon Verde**	**5.96**	**240**	P	**P**	**03 27 06.8**	**-1.1**
	2μm,0.3s,baz=50,slow=5.7,SNR=1314						
LVC				S	**S**	**03 28 26.7**	**-3.2**
	763nm,0.3s,baz=248,slow=20,SNR=17						
LVC	**Limon Verde**	**5.96**	**240**	*e*P	**P**	**03 27 07.0**	**-0.8**
LVC	**Limon Verde**	**5.96**	**240**	P	**P**	**03 27 06.8**	**-1.1**
LVC	**Limon Verde**	**5.96**	**240**	P	**P**	**03 27 06.6**	**-1.3**
PB11	**IPOC Station P**	**5.97**	**268**	P	**P**	**03 27 06.6**	**-1.2**
PB11	**IPOC Station P**	**5.97**	**268**	P	**P**	**03 27 06.4**	**-1.4**
I08BO	**LAS PENAS INFR**	**6.00**	**305**	P	**P**	**03 27 10.0**	**+1.5**
	baz=104,slow=8.1,SNR=5.2						
I08BO				S	**S**	**03 28 25.7**	**-5.1**
	baz=75,slow=31,SNR=1.4						
PB16	**IPOC Station P**	**6.01**	**282**	P	**P**	**03 27 08.2**	**-0.4**
PB02	**IPOC Station P**	**6.37**	**254**	P	**P**	**03 27 11.4**	**+0.2**
TA02	**Huaiquique**	**6.43**	**264**	P	**P**	**03 27 09.9**	**-1.8**
PB03	**IPOC Station P**	**6.45**	**248**	P	**P**	**03 27 11.4**	**-0.6**
PB07	**IPOC Station P**	**6.47**	**251**	P	**P**	**03 27 10.9**	**-1.3**
PB07	**IPOC Station P**	**6.47**	**251**	P	**P**	**03 27 11.6**	**-0.6**
TA01	**Diego Aracena**	**6.50**	**261**	P	**P**	**03 27 10.5**	**-1.8**
PB06	**IPOC Station P**	**6.55**	**242**	P	**P**	**03 27 11.7**	**-1.2**
PB06	**IPOC Station P**	**6.55**	**242**	P	**P**	**03 27 12.6**	**-0.3**
PB15	**IPOC Station P**	**6.71**	**238**	P	**P**	**03 27 13.1**	**-1.2**
PB15	**IPOC Station P**	**6.71**	**238**	P	**P**	**03 27 14.0**	**-0.3**
PB12	**IPOC Station P**	**6.72**	**278**	P	**P**	**03 27 12.6**	**-1.8**
AP01	**Chacalluta**	**6.78**	**280**	P	**P**	**03 27 13.6**	**-1.2**
PB04	**IPOC Station P**	**6.89**	**247**	P	**P**	**03 27 14.7**	**-1.3**
PB04	**IPOC Station P**	**6.89**	**247**	P	**P**	**03 27 16.1**	**0.0**
PB04				S	**S**	**03 28 40.1**	**-4.7**
PB04				IAML		03 28 49.7	
	1μm,0.3s						
AQDB	**Aquidauana**	**7.20**	**97**	*e*P	**P**	**03 27 19.1**	**+0.3**
AQDB				*e*S	**S**	**03 28 50.0**	**+0.3**
AQDB	**Aquidauana**	**7.20**	**97**	P	**P**	**03 27 18.9**	**+0.2**
VILB	**Vilhena**	**7.36**	**24**	*e*P	**P**	**03 27 21.3**	**+1.0**
VILB				*e*S	**S**	**03 28 53.7**	**+1.2**
VILB	**Vilhena**	**7.36**	**24**	P	**P**	**03 27 21.4**	**+1.0**
PB10	**IPOC Station P**	**7.72**	**239**	P	**P**	**03 27 22.7**	**-0.9**
PB10	**IPOC Station P**	**7.72**	**239**	P	**P**	**03 27 23.5**	**-0.1**
PB14	**IPOC Station P**	**8.19**	**232**	P	**P**	**03 27 27.8**	**-0.7**
SALV	**Santo Antonio**	**8.19**	**64**	*e*P	**P**	**03 27 28.9**	**+0.7**
SALV				*e*S	**S**	**03 29 07.8**	**+0.7**
PP1B	**Ponte de Pedra**	**8.27**	**77**	*e*P	**P**	**03 27 29.6**	**+0.6**
PP1B				*e*S	**S**	**03 29 07.4**	**-1.1**
CPUP	**Villa Florida**	**8.59**	**141**	P	**P**	**03 27 31.1**	**-0.9**
	349nm,0.3s,baz=328,slow=9.0,SNR=2700						
CPUP				S	**S**	**03 29 10.6**	**-3.4**
	baz=233,slow=20,SNR=1.3						
CPUP	**Villa Florida**	**8.59**	**141**	*e*P	**P**	**03 27 31.3**	**-0.7**
CPUP				*e*S	**S**	**03 29 13.3**	**-0.7**
CPUP	**Villa Florida**	**8.59**	**141**	P	**P**	**03 27 31.1**	**-0.9**
AC02	**Maricunga**	**8.88**	**216**	P	**P**	**03 27 34.3**	**-1.0**
GO03	**Copiap**	**10.09**	**218**	P	**P**	**03 27 45.7**	**-1.1**
ETMB	**Extrema**	**10.23**	**344**	*e*P	**P**	**03 27 49.8**	**+1.3**
ETMB				*e*S	**S**	**03 29 45.8**	**+1.7**
ETMB	**Extrema**	**10.23**	**344**	P	**P**	**03 27 49.7**	**+1.2**
PDRB	**Porto dos Gac**	**10.25**	**39**	*e*P	**P**	**03 27 49.1**	**+0.4**
AC04	**Llanos de Chal**	**11.03**	**219**	P	**P**	**03 27 55.3**	**-1.1**
CLDB	**Colider**	**11.39**	**41**	*e*P	**P**	**03 28 00.3**	**+0.1**
CLDB				*e*S	**S**	**03 30 05.5**	**-0.1**
LCO	**Las Campanas**	**11.44**	**215**	P	**P**	**03 27 59.9**	**-0.9**
LCO	**Las Campanas**	**11.44**	**215**	P	**P**	**03 27 59.9**	**-0.9**
PCMB	**Pacaembu**	**11.44**	**102**	*e*P	**P**	**03 28 00.1**	**-0.5**
PCMB				*e*S	**S**	**03 30 05.1**	**-1.4**
PTGB	**Pitanga**	**11.55**	**118**	*e*P	**P**	**03 28 01.1**	**-0.7**
ITQB	**Itaqui**	**11.63**	**150**	*e*P	**P**	**03 28 00.8**	**-1.6**
ITQB	**Itaqui**	**11.63**	**150**	P	**P**	**03 28 00.7**	**-1.7**
ARAG	**Araguaiana, MT**	**11.66**	**72**	*e*P	**P**	**03 28 02.7**	**-0.2**
ITRB	**Iturama**	**12.21**	**92**	*e*P	**P**	**03 28 08.1**	**-0.4**
ITRB				*e*S	**S**	**03 30 19.8**	**-1.0**
GO04	**Tololo Observa**	**12.43**	**212**	P	**P**	**03 28 09.5**	**-1.3**
ITAB	**Concordia**	**12.70**	**128**	*e*P	**P**	**03 28 11.7**	**-1.7**
ITAB	**Concordia**	**12.70**	**128**	P	**P**	**03 28 11.6**	**-1.8**
FRTB	**Fartura**	**13.30**	**108**	*e*P	**P**	**03 28 18.3**	**-1.3**
SNDB	**Serra Nova Dou**	**13.88**	**58**	*e*P	**P**	**03 28 25.2**	**-0.5**
CPSB	**Cacapava Do Su**	**13.90**	**142**	*e*P	**P**	**03 28 23.2**	**-2.5**
TIJ01	**Guaruva-PR**	**14.35**	**116**	*e*P	**P**	**03 28 30.4**	**+0.2**
TIJ01				*e*S	**S**	**03 30 59.6**	**-0.4**
IPMB	**Ipameri, GO**	**14.40**	**86**	*e*P	**P**	**03 28 29.8**	**-1.0**
IPMB				*e*S	**S**	**03 31 00.5**	**-0.4**
NPGB	**Novo Progresso**	**14.77**	**33**	*e*P	**P**	**03 28 33.6**	**-0.8**
PLTB	**Pedras Altas**	**14.84**	**146**	*e*P	**P**	**03 28 32.5**	**-2.2**
PLTB	**Pedras Altas**	**14.84**	**146**	P	**P**	**03 28 32.2**	**-2.6**
PEL	**Peldehue**	**14.91**	**205**	P	**P**	**03 28 34.2**	**-1.2**
PEL	**Peldehue**	**14.91**	**205**	P	**P**	**03 28 34.2**	**-1.2**
RCLB	**Rio Claro- Sao**	**14.98**	**103**	*e*P	**P**	**03 28 35.0**	**-1.3**
RCLB				*e*S	**S**	**03 31 09.1**	**-1.6**
CZSB	**Cruzeiro do Su**	**14.99**	**321**	P	**P**	**03 28 34.8**	**-1.6**
NNA	**Nana**	**15.10**	**299**	P	**P**	**03 28 38.0**	**+0.5**
	168nm,0.3s,baz=134,slow=8.3,SNR=278						
NNA				S	**S**	**03 31 14.5**	**+1.6**
	10nm,0.3s,baz=117,slow=15,SNR=1.3						
NNA	**Nana**	**15.10**	**299**	*e*P	**P**	**03 28 37.8**	**+0.3**
NNA	**Nana**	**15.10**	**299**	P	**P**	**03 28 38.0**	**+0.5**
BDFB	**Brasilia**	**15.13**	**77**	P	**P**	**03 28 37.3**	**-0.5**
	145nm,0.3s,baz=253,slow=9.9,SNR=625						
BDFB				S	**S**	**03 31 13.1**	**-0.3**
	11nm,0.3s,baz=128,slow=19,SNR=1.9						
BDFB	**Brasilia**	**15.13**	**77**	P	**P**	**03 28 37.4**	**-0.5**
BDFB				pmax	pmax		
	comp=Z,1μm,1.3s						
BDFB	**Brasilia**	**15.13**	**77**	P	**P**	**03 28 37.4**	**-0.5**
BDFB				IAmb	IAmb	03 28 39.9	
	comp=Z,1μm,1.3s						
MT05	**Renca**	**15.15**	**204**	P	**P**	**03 28 36.8**	**-0.9**
PET01	**Itanhaem-SP**	**15.56**	**110**	*e*P	**P**	**03 28 39.8**	**-1.9**
PET01				*e*S	**S**	**03 31 19.2**	**-0.9**
VAO	**Valinhos**	**15.58**	**105**	*e*P	**P**	**03 28 40.4**	**-1.6**
VAO				*e*S	**S**	**03 31 19.6**	**-1.1**
TER01	**Tubaro-SC**	**15.64**	**127**	*e*P	**P**	**03 28 40.3**	**-2.1**
TER01				*e*S	**S**	**03 31 19.9**	**-1.5**
LPA	**La Plata**	**15.87**	**164**	*i* P	**P**	**03 28 45.0**	**+0.6**
LPA				sP	sP	03 30 49.9	-15
LPA				S	**S**	**03 31 24.2**	**-0.7**
LPA				PCP	**PcP**	**03 33 03.6**	**0.0**
LPA				SCS	**ScS**	**03 39 16.6**	**-6.1**
LPA				PKIKP	PKiKP	03 40 47.9	-9.4
LPA				SKIKP		03 43 25.2	
LPA				PKIKS		03 44 10.3	
LPA				SKIKS		03 46 46.3	
PEXB	**Peixe**	**16.29**	**65**	*e*P	**P**	**03 28 49.4**	**+0.7**
MACA	**Manacapuru-AM**	**16.65**	**9**	*e*P	**P**	**03 28 53.0**	**+1.1**
MACA	**Manacapuru-AM**	**16.65**	**9**	P	**P**	**03 28 52.8**	**+0.9**
TBTG	**Tabatinga, AM**	**16.72**	**337**	*e*P	**P**	**03 28 53.4**	**+0.8**
TBTG	**Tabatinga, AM**	**16.72**	**337**	*e*P	**P**	**03 28 53.6**	**+1.1**
TBTG	**Tabatinga, AM**	**16.72**	**337**	P	**P**	**03 28 53.3**	**+0.8**
PARB	**Paraibuna**	**16.85**	**106**	*e*P	**P**	**03 28 53.4**	**-0.3**
ITTB	**Itaituba**	**16.95**	**27**	*e*P	**P**	**03 28 55.1**	**+0.6**
BSCB	**Bom Sucesso**	**17.44**	**97**	*e*P	**P**	**03 28 59.6**	**+0.6**
BSCB				*e*S	**S**	**03 31 50.6**	**-0.5**
DIAM	**Diamantina, MG**	**18.63**	**89**	*e*P

MARP Paez Belalcaza 25.62 330 *eP* **P 03 30 11.8 -0.9**
POPC Popayan, Colom 25.71 328 *eP* **P 03 30 13.4 -0.1**
VILC Villavicencio, 25.78 336 *eP* **P 03 30 14.4 +0.5**
PRAC Prado 25.91 333 *eP* **P 03 30 14.5 -0.4**
NBLA Lagarto - SE 26.07 74 *eP* **P 03 30 16.2 -0.1**
NBPS Pedro II - PI 26.20 57 *eP* **P 03 30 18.2 +0.6**
CTUM2 Tumaco 26.21 323 *eP* **P 03 30 18.6 +1.0**
TUMC Tumaco 26.21 323 *eP* **P 03 30 15.0 -2.5**
ORTC Ortega, Tolima 26.24 332 *eP* **P 03 30 17.5 -0.3**
CHIC Chingaza 26.27 336 *eP* **P 03 30 18.3 -0.2**
ROSC El Rosal 26.69 335 P **P 03 30 23.4 +1.2**
comp=Z,402nm,0.6s,baz=172,slow=4.5,SNR=153
ROSC S **S 03 34 17.4 -0.6**
comp=Z,218nm,0.6s,baz=183,slow=24,SNR=8.5
ROSC ScP **ScP 03 36 11.7 0.0**
comp=Z,357nm,0.8s,baz=192,slow=23,SNR=5.5
ROSC ScS **ScS 03 40 02.7 -1.4**
comp=Z,83nm,0.9s,baz=142,slow=18,SNR=6.6
ROSC El Rosal 26.69 335 *eP* **P 03 30 23.2 +1.0**
ROSC El Rosal 26.69 335 IAmb IAmb 03 30 25.1
comp=Z,766nm,1.2s
ROSC ScP **ScP 03 36 11.6 -0.1**
CROSA EL ROSAL, CUND 26.70 335 *eP* P 03 30 29.9 +7.7
COYC Coyhaique 26.79 194 P **P 03 30 21.8 -0.4**
NBMA Muriti-CE 26.79 66 *eP* **P 03 30 22.9 +0.1**
MDP Montagnes des 26.80 24 P **P 03 30 23.6 +0.9**
comp=Z,2µm,0.7s,baz=193,slow=12,SNR=787
MDP S **S 03 34 18.2 -0.9**
comp=Z,314nm,0.9s,baz=304,slow=20,SNR=26
YOTC Yotoco, Valle 26.80 330 *eP* **P 03 30 22.0 -0.9**
YOTC Yotoco, Valle 26.80 330 *eP* **P 03 30 21.3 -1.6**
ANIL Santa Ana 26.83 332 *eP* **P 03 30 22.1 -1.2**
NBPB Pedra_Branca-C 27.05 62 *eP* **P 03 30 26.0 +1.1**
RUSC La Rusia 27.20 338 *eP* **P 03 30 26.3 -0.4**
ELOV Elorza 27.23 347 *eP* **P 03 30 26.6 +0.2**
TAMC Tame, Arauca 27.29 341 *eP* **P 03 30 26.9 -0.1**
TAMC Tame, Arauca 27.29 341 *eP* **P 03 30 26.5 -0.5**
SPBC San Pablo de B 27.34 336 *eP* **P 03 30 27.0 -0.5**
GUY2C Guyana, Caldas 27.47 333 *eP* **P 03 30 28.8 -0.3**
NORC Norcasia 27.57 334 *eP* **P 03 30 28.7 -0.8**
PLMC San Jos del P 27.59 331 *eP* **P 03 30 28.2 -1.4**
BARC Barichara 27.88 339 *eP* **P 03 30 31.4 -1.0**
NBAN Anadia - AL 27.96 73 *eP* **P 03 30 33.2 +0.4**
NBMO Morrinhos-CE 27.96 57 *eP* **P 03 30 33.0 +0.1**
PIZC Pizarro, Choco 28.14 329 *eP* **P 03 30 34.3 -0.2**
PTBC PUERTO BERRIO, 28.30 336 *eP* **P 03 30 33.1 -2.6**
CBOC Ciudad Bolivar 28.32 333 *eP* **P 03 30 35.1 -1.1**
HELC Santa Helena 28.41 334 *eP* **P 03 30 34.9 -2.2**
PAMC Pamplona, Colo 28.42 340 *eP* **P 03 30 36.5 -0.9**
BRRC Barranca, Sant 28.55 338 *eP* **P 03 30 35.6 -2.4**
SOCV Socops 28.79 344 *eP* **P 03 30 38.9 -1.2**
NBCL Cascavel-CE 28.85 61 *eP* **P 03 30 41.6 +1.1**
BAUV El Baul 28.85 350 *eP* **P 03 30 40.3 -0.2**
SOLC Bahia Solano 29.27 330 *eP* **P 03 30 43.8 -0.4**
SDV Santo Domingo 29.32 345 P **P 03 30 44.5 -0.2**
comp=Z,150nm,0.4s,baz=173,slow=8.7,SNR=184
SDV S **S 03 34 54.0 -4.4**
comp=Z,108nm,0.7s,baz=278,slow=22,SNR=6.1
SDV Santo Domingo 29.32 345 *eP* **P 03 30 44.5 -0.2**
SDV Santo Domingo 29.32 345 *eP* **P 03 30 44.6 -0.2**
SDV Santo Domingo 29.32 345 P **P 03 30 44.6 -0.2**
SDV IAmb IAmb 03 30 46.1
comp=Z,398nm,1.1s
ZARC Zaragoza, Cauc 29.32 336 *eP* **P 03 30 43.0 -1.6**
NBRF Rio Formoso - 29.40 72 *eP* **P 03 30 45.4 +0.1**
DBBC Dabeiba 29.44 333 *eP* **P 03 30 44.3 -1.4**
OCAC Ocana 29.47 340 *eP* **P 03 30 43.3 -2.8**
PCRV Puerto La Cruz 29.73 357 P **P 03 30 49.0 +0.9**
comp=Z,192nm,0.5s,baz=183,slow=6.5,SNR=137
PCRV S **S 03 35 02.1 -2.4**
comp=Z,46nm,0.9s,baz=278,slow=22,SNR=6.5
UREC San Jos de Ur 29.82 335 *eP* **P 03 30 46.9 -2.1**
TPP Pointe-a-Pierr 29.89 4 *eP* **P 03 30 52.5 +2.9**
RCBR Riachuelo 30.02 66 *ceP* **P 03 30 51.9 +1.2**
RCBR pmax pmax
comp=Z,1µm,0.8s
RCBR Riachuelo 30.02 66 *eP* **P 03 30 51.6 +0.9**
RCBR Riachuelo 30.02 66 P **P 03 30 52.0 +1.2**
TBH Brigand Hill 30.09 4 *eP* **P 03 30 54.1 +2.9**
BIRV Birongo 30.14 354 IAmb IAmb 03 30 54.1
comp=Z,450nm,1.2s
TRN Trinidad (W) 30.23 4 *eP* **P 03 30 52.7 +0.4**
SMLC San Martn de 30.25 339 *eP* **P 03 30 49.3 -3.3**
NBPV Pedro Velho 30.26 68 *eP* **P 03 30 54.0 +1.2**
PTAC Punta Ardita, 30.26 330 *eP* **P 03 30 52.5 -0.3**
BOT Bacolet 30.79 5 *eP* **P 03 30 59.2 +2.0**
MOTC Monteria, Cord 30.81 336 *eP* **P 03 30 55.1 -2.3**
LL6C La Loma 6 Bece 30.86 341 *eP* **P 03 30 54.3 -3.5**
TOSP Speyside 30.94 5 *eP* **P 03 30 59.0 +0.6**
LCBC Los crdobas, 31.16 334 *eP* **P 03 31 00.9 +0.5**
DABV Dabajuro 31.28 346 *eP* **P 03 30 59.8 -1.6**
ARGC Ariguani, Magd 31.29 339 *eP* **P 03 30 59.4 -2.2**
GRFF Grenada Fort F 31.60 3 *eP* **P 03 31 04.5 +0.4**
SJCC San Jacinto, C 31.66 337 *eP* **P 03 31 02.9 -1.8**
SJCC San Jacinto, C 31.66 337 P **P 03 31 02.8 -1.9**
SJCC pP **pP 03 32 38.7 -0.9**
GRGR Grenville 31.68 3 *eP* **P 03 31 04.9 +0.1**
GRGR Grenville 31.68 3 P **P 03 31 05.4 +0.5**
CRJC Cerrejon, Guaj 31.96 342 *eP* **P 03 31 03.7 -3.6**
GCMP Grenada, Carri 32.05 3 *eP* **P 03 31 07.9 0.0**
EFI East Falkland 32.16 174 ‖ *eP* **P 03 31 07.4 -1.0**
EFI pmax pmax
comp=Z,381nm,1.0s
EFI East Falkland 32.16 174 P **P 03 31 08.2 -0.2**
EFI IAmb IAmb 03 31 09.9
comp=Z,365nm,0.9s
URIC Uribia, Colomb 32.36 344 *eP* **P 03 31 07.4 -3.2**
URIC Uribia, Colomb 32.36 344 *eP* **P 03 31 07.4 -3.2**
URIC Uribia, Colomb 32.36 344 IAmb IAmb 03 31 09.8
comp=Z,508nm,1.3s
PAYG Puerto Ayora 32.48 302 P **P 03 31 12.4 +0.7**
SMRC Santa Marta, M 32.51 340 *eP* **P 03 31 10.0 -1.8**
AUA1 Aruba 32.69 348 IAmb IAmb 03 31 13.1
comp=Z,517nm,0.8s
BBSP Saint Philip 32.83 7 *eP* **P 03 31 17.7 +3.2**
SVB Belmont 32.84 4 *eP* **P 03 31 14.4 -0.2**
BBGH Gun Hill 32.86 7 *eP* **P 03 31 16.7 +2.0**
SVV Soufriere Volc 32.89 4 *eP* **P 03 31 16.0 +1.0**
BCIP Isla Barro Col 32.99 329 IAmb IAmb 03 31 17.5
comp=Z,433nm,0.9s
MCLT Moule a Chique 33.29 4 *eP* **P 03 31 17.0 -1.4**
MG02 Cerro Sombrero 33.32 187 IAmb IAmb 03 32 58.7
comp=Z,853nm,1.3s
SLCP Castries, St. 33.59 4 *eP* **P 03 31 21.2 +0.4**
SLBI Saint Lucia, B 33.60 4 *eP* **P 03 31 20.6 -0.3**
MG04 Isla Riesco 33.70 189 IAmb IAmb 03 31 25.1
comp=Z,229nm,0.8s
GO10 Punta Arenas 33.91 188 P **P 03 31 23.3 +0.1**
GO10 IAmb IAmb 03 31 26.1
comp=Z,304nm,0.8s
GO10 pP **pP 03 32 56.8 -2.7**
H05S1 Guadeloupe/Mar 34.01 4 P **P 03 31 24.3 0.0**
SNR=91
MPOM Morne Pois Mar 34.03 4 *eP* **P 03 31 23.5 -1.0**
BIM Bigot 34.09 4 *eP* **P 03 31 24.5 -0.6**
BIM Bigot 34.09 4 P **P 03 31 24.8 -0.3**
BIM **PcP 03 33 45.9 +0.5**
BRU2 Volcan 34.15 324 *eP* **P 03 31 27.2 +1.4**
FDF Fort de France 34.30 4 *eP* **P 03 31 26.3 -0.5**
ILAM Ilet Lapin Mar 34.35 4 *eP* **P 03 31 26.1 -1.1**
MDN Morne-Daniel 34.86 3 *eP* **P 03 31 30.8 -0.7**
DLPL La Plaine 34.88 3 *eP* **P 03 31 31.4 -0.3**
DSLB Salisbury 34.98 3 *eP* **P 03 31 31.4 -1.1**
MDCT Cottage Hill, 35.15 3 *eP* **P 03 31 34.4 +0.5**
USHA Ushuaia 35.28 185 P **P 03 31 34.6 +0.2**
comp=Z,45nm,0.5s,baz=27,slow=8.4,SNR=58
USHA PcP **PcP 03 33 49.1 +0.8**
comp=Z,77nm,1.3s,baz=342,slow=3.1,SNR=4.6
MG01 Puerto William 35.31 184 P **P 03 31 35.0 +0.2**
TDBA Terre de Bas, 35.38 3 *eP* **P 03 31 34.6 -1.1**
TBG Guadaloupe-3 35.38 3 *eP* **P 03 31 35.5 -0.2**
MAGL Barre de l'ile 35.49 3 *eP* **P 03 31 36.4 -0.3**
CBE Ff, Capester 35.60 3 *eP* **P 03 31 36.5 -1.1**
RIMA Rio Macho 35.60 324 P **P 03 31 38.8 +0.8**
RIMA IAmb IAmb 03 31 40.9
comp=Z,273nm,0.9s
CVTR Volcan Turrial 35.75 324 P **P 03 31 41.4 +2.0**
CVTR IAmb IAmb 03 31 42.8
comp=Z,386nm,1.0s
H05N1 Guadeloupe/Mar 35.87 4 P **P 03 31 39.1 -0.7**
SNR=154
HDC Heredia 35.94 323 P **P 03 31 42.0 +1.4**

JACO JACO, Garabito 35.97 322 ⇑ *iP* **P 03 31 42.5 +1.7**
JACO JACO, Garabito 35.97 322 P **P 03 31 41.1 +0.4**
JACO IAmb IAmb 03 31 44.5
comp=Z,466nm,0.9s
CAO2 Cobano, Puntar 36.25 322 P **P 03 31 43.8 +0.8**
CAO2 IAmb IAmb 03 31 46.8
comp=Z,778nm,1.2s
ANBD Bethesda, Anti 36.56 2 *eP* **P 03 31 43.8 -1.7**
ANBD Bethesda, Anti 36.56 2 *e* 03 36 37.1
JTS Las Juntas de 36.65 323 *cP* **P 03 31 48.2 +1.9**
JTS pmax pmax
comp=Z,1µm,0.8s
JTS Las Juntas de 36.65 323 *eP* **P 03 31 48.2 +1.9**
JTS Las Juntas de 36.65 323 P **P 03 31 47.4 +1.1**
ARE1 Arenal 1 36.65 323 ‖ *eP* **P 03 31 48.0 +1.7**
CEDE Laguna Cedeo 36.66 323 *eP* **P 03 31 48.8 +2.3**
COVE Coope Vega, Sa 36.68 324 P **P 03 31 46.4 -0.2**
DUNO Dulce Nombre, 36.79 322 P **P 03 31 48.6 +1.1**
SKI Saint Kitts 36.82 1 *eP* **P 03 31 46.8 -0.8**
SKI Saint Kitts 36.82 1 *e* 03 36 43.9
GUAI GUAI 36.95 322 ‖ *eP* **P 03 31 50.6 +1.9**
ACAL Aguas Claras 36.97 323 *eP* **P 03 31 50.9 +1.9**
SEUS St. Eustatius 36.97 1 *eP* **P 03 31 47.5 -1.3**
SEUS St. Eustatius 36.97 1 *e* 03 36 46.4
SEUS St. Eustatius 36.97 1 P **P 03 31 48.2 -0.6**
SEUS **PcP 03 33 54.1 0.0**
ORTG Ortega, Santa 37.00 322 P **P 03 31 50.2 +1.0**
PTEN Parque Tenorio 37.01 323 *eP* **P 03 31 51.1 +1.8**
CUI Cuipilapa 37.06 323 *eP* **P 03 31 51.1 +1.4**
COLC Colonia 37.09 323 *eP* **P 03 31 51.4 +1.5**
HORNC Hornillas 37.12 323 *eP* **P 03 31 52.0 +1.8**
GUAB Guayabo de Bag 37.14 323 *eP* **P 03 31 52.5 +2.1**
LIM1 Limonal 37.15 323 *eP* **P 03 31 51.9 +1.5**
ANWB Willy Bob 37.18 2 *eP* **P 03 31 48.4 -2.1**
ANWB Willy Bob 37.18 2 *e* 03 36 43.0
ANWB Willy Bob 37.18 2 P **P 03 31 48.6 -1.9**
LAPC Finca la Perla 37.31 322 *eP* **P 03 31 52.9 +1.2**
BUEV Buena Vista 37.32 322 *eP* **P 03 31 53.0 +1.2**
GB1A Boringuen Arri 37.33 322 *eP* **P 03 31 54.2 +2.3**
GBS3 Finca Las Img 37.33 322 *eP* **P 03 31 53.1 +1.2**
BUAI Buenos Aires 37.34 323 ‖ *eP* **P 03 31 54.1 +2.2**
HZTE Horizontes, Gu 37.36 322 P **P 03 31 53.8 +1.7**
PRVC Isla de Provid 37.37 330 *eP* **P 03 31 52.3 +0.2**
PRVC Isla de Provid 37.37 330 P **P 03 31 52.4 +0.2**
ICMP Isla Caja de M 37.50 355 P **P 03 31 52.4 -0.7**
SMRT St. Maarten 37.53 0 *eP* **P 03 31 50.7 -2.7**
PDPR Patillas Dam, 37.59 356 P **P 03 31 53.0 -0.8**
MLPR Magueyes Islan 37.62 354 P **P 03 31 52.3 -1.9**
MTP Monte Pirata 37.64 357 P **P 03 31 53.0 -1.2**
OBIP Obispado Ponce 37.66 355 P **P 03 31 53.9 -0.6**
CRPR Cabo Rojo, PR 37.67 354 P **P 03 31 53.9 -0.6**
SJG San Juan 37.69 356 P **P 03 31 53.5 -1.2**
SJG pmax pmax
comp=Z,1µm,1.0s
SJG San Juan 37.69 356 *eP* **P 03 31 53.5 -1.2**
SJG San Juan 37.69 356 P **P 03 31 53.5 -1.2**
HUMP Col San Antoni 37.70 356 P **P 03 31 52.9 -1.9**
HUMP **PcP 03 33 56.5 +0.2**
CBYP Canovanas 37.83 356 P **P 03 31 54.2 -1.7**
CBYP **PcP 03 33 56.5 -0.3**
CUPR Culebra, Puert 37.83 357 P **P 03 31 54.0 -1.8**
CUPR **PcP 03 33 56.7 0.0**
STVI Saint Thomas 37.86 357 P **P 03 31 54.5 -1.6**
STVI IAmb IAmb 03 31 58.1
comp=Z,496nm,0.8s
PRSN Puerto Rico Se 37.88 354 P **P 03 31 55.3 -0.9**
GCPR Guaynabo City 37.88 356 P **P 03 31 55.1 -1.2**
GCPR **PcP 03 33 56.4 -0.5**
AOPR Arecibo Observ 37.97 355 P **P 03 31 55.9 -1.1**
EMPR Esperanza - Ma 38.08 355 P **P 03 31 56.5 -1.3**
AGPR Aguadilla, PR 38.12 354 P **P 03 31 56.7 -1.5**
ACON Acoyapa 38.13 324 P **P 03 31 59.3 +0.9**
PCDR Punta Cana, DR 38.31 352 P **P 03 31 59.5 -0.2**
SDD Santo Domingo 38.48 350 P **P 03 32 01.8 +0.7**
JAKH Jacmel 38.78 346 IAmb IAmb 03 32 04.5
comp=Z,374nm,0.6s
LGNH Logne 39.06 346 IAmb IAmb 03 32 07.8
comp=Z,368nm,0.7s
LGNH Logne 39.06 346 *eP* **P 03 32 05.6 -0.1**
LGNH IAmb IAmb 03 32 07.6
comp=Z,149nm,0.6s
SDDR Presa de Saban 39.24 348 *eP* **P 03 32 06.0 -1.3**
SDDR Presa de Saban 39.24 348 IAmb IAmb 03 32 10.1
comp=Z,281nm,0.7s
SDDR Presa de Saban 39.24 348 *eP* **P 03 32 07.0 -0.3**
SDDR IAmb IAmb 03 32 10.3
comp=Z,270nm,0.6s
SC01 Santiago de lo 39.57 349 IAmb IAmb 03 32 32.5
comp=Z,392nm,0.8s
CMJ Castle Mountai 39.73 340 ‖ *iP* **P 03 32 11.2 0.0**
GWJ Greenwich 39.79 340 *i P* **P 03 32 11.7 -0.1**
STH Stony Hill 39.82 340 ‖ *iP* **P 03 32 11.9 0.0**
MCJ Malvern 39.97 338 *i P* **P 03 32 13.4 +0.2**
HOPE Hope Point 40.13 156 P **P 03 32 13.7 -0.1**
HOPE pmax pmax
comp=Z,469nm,0.8s
HOPE Hope Point 40.13 156 P **P 03 32 13.7 -0.1**
HOPE IAmb IAmb 03 32 14.9
comp=Z,468nm,0.8s
MTDJ Mount Denham 40.20 339 P **P 03 32 13.8 -1.2**
MTDJ IAmb IAmb 03 32 15.9
comp=Z,244nm,0.8s
MTDJ Mount Denham 40.20 339 *eP* **P 03 32 13.9 -1.1**
MTDJ IAmb IAmb 03 32 16.1
comp=Z,252nm,0.9s
LCND La Caada 40.77 322 *eP* **P 03 32 19.6 +0.2**
LCND La Caada 40.77 322 *eP* **P 03 32 19.6 +0.2**
TGUH Tegucigalpa,Un 41.01 323 *eP* **P 03 32 21.0 -0.6**
TGUH Tegucigalpa,Un 41.01 323 IAmb IAmb 03 32 25.5
comp=Z,325nm,0.8s
GTBY Guantanamo Bay 41.05 343 P **P 03 32 20.2 -1.4**
GTBY IAmb IAmb 03 32 22.8
comp=Z,307nm,1.0s
GTBY Guantanamo Bay 41.05 343 *eP* **P 03 32 20.3 -1.3**
GTBY IAmb IAmb 03 32 22.6
comp=Z,248nm,0.9s
MASC Masc 41.06 344 *eP* **P 03 32 19.8 -1.9**
MASC IAmb IAmb 03 32 23.1
comp=Z,80nm,0.7s
ALJI Alcalda de J 41.18 321 *eP* **P 03 32 23.7 +1.0**
ALJI Alcalda de J 41.18 321 *eP* **P 03 32 23.7 +1.0**
GTMO Guantanamo 41.21 343 *eP* **P 03 32 19.7 -3.1**
RCC Rio Carpintero 41.28 342 *eP* **P 03 32 22.0 -1.4**
RCC IAmb IAmb 03 32 23.9
comp=Z,88nm,1.1s
COEB Comit de Eme 41.29 321 *eP* **P 03 32 24.9 +1.1**
COEB Comit de Eme 41.29 321 *eP* **P 03 32 24.9 +1.1**
COEG Centro de Oper 41.59 321 *eP* **P 03 32 26.9 +0.8**
COEG Centro de Oper 41.59 321 *eP* **P 03 32 26.9 +0.8**
GRTK Grand Turk 41.68 349 P **P 03 32 25.5 -1.0**
GRTK Grand Turk 41.68 349 *eP* **P 03 32 26.3 -0.2**
GRTK IAmb IAmb 03 32 28.0
comp=Z,1µm,0.9s
PAVA Las Pavas 41.70 321 *eP* **P 03 32 27.7 +0.7**
PAVA Las Pavas 41.70 321 *eP* **P 03 32 27.7 +0.7**
LFRS El Faro 41.71 321 *eP* **P 03 32 28.3 +1.3**
LFRS El Faro 41.71 321 *eP* **P 03 32 28.3 +1.3**
MOAC Moa 41.71 343 *eP* **P 03 32 26.4 -0.4**
MOAC IAmb IAmb 03 32 28.3
comp=Z,310nm,0.9s
LMGC Las Mercedes 41.74 340 *eP* **P 03 32 24.6 -2.5**
LMGC IAmb IAmb 03 32 27.5
comp=Z,68nm,1.0s
LBRS Las Brisas 41.78 321 *eP* **P 03 32 29.0 +1.4**
LBRS Las Brisas 41.78 321 *eP* **P 03 32 29.0 +1.4**
OPAM Oficina de Pla 41.86 321 *eP* **P 03 32 29.9 +1.8**
OPAM Oficina de Pla 41.86 321 *eP* **P 03 32 29.9 +1.8**
BOQS Boqueron 41.92 320 *eP* **P 03 32 30.6 +1.7**
BOQS Boqueron 41.92 320 *eP* **P 03 32 30.6 +1.7**
CEVE Cerro Verde 42.20 320 *eP* **P 03 32 32.1 +1.0**
CEVE Cerro Verde 42.20 320 *eP* **P 03 32 32.1 +1.0**
HLGC Holguin 42.23 342 *eP* **P 03 32 30.9 -0.1**
HLGC IAmb IAmb 03 32 33.8
comp=Z,412nm,0.8s
NUBE Las Nubes 42.36 320 *eP* **P 03 32 32.8 +0.7**
NUBE Las Nubes 42.36 320 *eP* **P 03 32 32.8 +0.7**
LCCY Blossom Villag 42.45 336 IAmb IAmb 03 32 33.5
comp=Z,606nm,0.8s
MTO3 Montecristo 42.49 321 *eP* **P 03 32 33.5 +0.2**
MTO3 Montecristo 42.49 321 *eP* **P 03 32 33.5 +0.2**
ESQI Esquipulas 42.61 321 *eP* **P 03 32 33.8 -0.2**
RPN Rapa Nui 42.68 251 P **P 03 32 34.1 -0.3**

RPN pmax pmax
comp=Z,668nm,1.0s
RPN Rapa Nui 42.68 251 P **P 03 32 34.1 -0.3**
RPN IAmb IAmb 03 32 38.3
comp=Z,668nm,1.0s
VA02 Isla de Pascua 42.77 251 P **P 03 32 34.3 -0.8**
CCCC Cccc 43.05 340 *eP* **P 03 32 35.6 -1.6**
CCCC IAmb IAmb 03 32 39.0
comp=Z,56nm,1.0s
MRL Marmol 43.22 321 *eP* **P 03 32 40.2 +1.3**
NBG Las Nubes 43.23 320 *eP* **P 03 32 40.8 +1.7**
PCG Pacaya 43.24 320 *eP* **P 03 32 40.0 +0.9**
FUG Fuego 3 43.42 319 *eP* **P 03 32 42.0 +1.5**
RTAL Retalhuleu 44.01 319 P **P 03 32 44.7 -0.1**
STG3 Santiaguito 3, 44.08 319 *eP* **P 03 32 46.6 +1.1**
MGV Manicaragua 44.64 338 ‖ *eP* **P 03 32 48.0 -1.6**
PETF Flores 44.78 323 IAmb IAmb 03 32 53.2
comp=Z,655nm,1.1s
PMSA Palmer Station 45.04 180 P **P 03 32 53.0 +1.1**
comp=Z,25nm,0.4s,baz=3.5,slow=5.6,SNR=37
PMSA Palmer Station 45.04 180 *eP* **P 03 32 52.5 +0.6**
PMSA Palmer Station 45.04 180 P **P 03 32 52.3 +0.4**
CCIG Comitan 45.63 320 P **P 03 32 56.9 -0.4**
SOR Soroa 46.41 335 IAmb IAmb 03 33 04.4
comp=Z,389nm,0.8s
SOR Soroa 46.41 335 *eP* **P 03 33 02.5 -0.5**
SOR IAmb IAmb 03 33 04.7
comp=Z,405nm,0.8s
H09W1 TRISTAN DA CUN 47.50 123 P **P 03 33 11.4 +0.4**
SNR=16
H09N1 TRISTAN DA CUN 47.51 123 P **P 03 33 11.7 +0.6**
SNR=12
H10S3 ASCENSION HYDR 48.19 84 P **P 03 33 17.4 +1.2**
baz=20,slow=74,SNR=4.8
H10S2 ASCENSION HYDR 48.20 84 P **P 03 33 17.5 +1.2**
baz=200,slow=74,SNR=10
SMAI San Martin Ant 48.47 182 P **P 03 33 17.8 +0.2**
H10N3 ASCENSION HYDR 48.69 83 P **P 03 33 21.4 +1.5**
baz=80,slow=75,SNR=19
H10N2 ASCENSION HYDR 48.71 83 P **P 03 33 21.5 +1.5**
baz=80,slow=75,SNR=19
H10N1 ASCENSION HYDR 48.71 83 P **P 03 33 21.5 +1.5**
baz=80,slow=75,SNR=30
ASCN Ascension 48.80 83 P **P 03 33 20.9 -0.1**
ASCN IAmb IAmb 03 33 23.2
comp=Z,445nm,0.8s
060A Indiantown 49.32 340 IAmb IAmb 03 33 26.4
comp=Z,697nm,0.9s
DWPF Disney Wildern 50.67 339 P **P 03 33 34.6 +0.3**
DWPF IAmb IAmb 03 33 36.0
comp=Z,369nm,0.8s
DWPF Disney Wildern 50.67 339 P **P 03 33 34.3 0.0**
baz=158
DWPF S **S 03 40 03.9 -3.0**
baz=158
DWPF Disney Wildern 50.67 339 *eP* **P 03 33 33.6 -0.7**
DWPF IAmb IAmb 03 33 36.2
comp=Z,225nm,0.8s
TLIG Tlapa 50.70 315 P **P 03 33 35.0 +0.1**
TLIG IAmb IAmb 03 33 37.5
comp=Z,302nm,0.7s
BBSR BB Station 51.80 359 P **P 03 33 42.2 -0.3**
BBSR IAmb IAmb 03 33 44.1
comp=Z,292nm,0.7s
SACV Santiago Islan 52.09 52 P **P 03 33 44.1 -0.8**
SACV IAmb IAmb 03 33 46.2
comp=Z,522nm,0.9s
UNM Universidad Na 52.36 316 IAmb IAmb 03 33 49.6
comp=Z,278nm,0.7s
456A Hilliard 53.27 340 IAmb IAmb 03 33 55.6
comp=Z,1µm,1.0s
553A Crawfordville 53.62 337 IAmb IAmb 03 33 58.0
comp=Z,831nm,0.9s
MOIG Morelia 53.94 314 IAmb IAmb 03 34 00.7
comp=Z,360nm,0.8s
TIGA Tifton 54.45 339 IAmb IAmb 03 34 03.3
comp=Z,376nm,0.8s
TIGA Tifton 54.45 339 P **P 03 34 01.3 0.0**
baz=156,SNR=53
TIGA S **S 03 40 54.7 -2.2**
baz=156
451A Vernon 54.49 336 IAmb IAmb 03 34 03.6
comp=Z,690nm,0.9s
255A Hazlehurst 54.53 340 IAmb IAmb 03 34 03.7
comp=Z,914nm,0.9s
SHEL Horse Pasture 54.72 96 P **P 03 34 03.4 -0.1**
SHEL pmax pmax
comp=Z,356nm,0.9s
SHEL Horse Pasture 54.72 96 P **P 03 34 03.4 -0.1**
NHSC New Hope 54.94 343 IAmb IAmb 03 34 07.0
comp=Z,812nm,0.9s
NHSC New Hope 54.94 343 P **P 03 34 05.0 +0.4**
baz=161,SNR=59
NHSC S **S 03 41 01.5 -1.7**
baz=161
352A Blakely 54.96 337 IAmb IAmb 03 34 06.6
comp=Z,815nm,0.8s
Y59A Loris 55.42 344 IAmb IAmb 03 34 09.6
comp=Z,638nm,0.9s
BRAL Brewton 55.49 335 IAmb IAmb 03 34 09.9
comp=Z,898nm,0.8s
BRAL Brewton 55.49 335 P **P 03 34 08.4 0.0**
baz=153,SNR=61
BRAL S **S 03 41 05.9 -4.5**
baz=153
250A Grady 55.90 336 IAmb IAmb 03 34 12.8
comp=Z,924nm,0.8s
X58A Rowland 56.08 344 IAmb IAmb 03 34 14.2
comp=Z,524nm,1.1s
GOGA Godfrey 56.22 340 P **P 03 34 13.4 -0.1**
baz=157,SNR=161
GOGA S **S 03 41 16.1 -3.7**
baz=157
JSC Jenkinsville 56.35 342 IAmb IAmb 03 34 16.5
comp=Z,585nm,0.9s
CNNC Cliffs of the 56.37 346 P **P 03 34 14.2 -0.3**
baz=164,SNR=12
CNNC S **S 03 41 18.6 -3.0**
baz=164
BIRD Birdtown, Kers 56.46 343 IAmb IAmb 03 34 17.1
comp=Z,633nm,0.9s
V61A Roper 56.61 347 IAmb IAmb 03 34 18.6
comp=Z,823nm,1.6s
346A Big Creek Wild 56.67 333 IAmb IAmb 03 34 17.7
comp=Z,529nm,0.8s
W57A Gilead 56.81 344 IAmb IAmb 03 34 19.3
comp=Z,484nm,0.9s
MBO M'Bour 56.82 57 P **P 03 34 18.6 +0.7**
MBO IAmb IAmb 03 34 20.5
comp=Z,1µm,0.9s
Y52A Lilburn 56.83 339 IAmb IAmb 03 34 18.9
comp=Z,377nm,0.8s
PAULI Pauline 57.01 342 IAmb IAmb 03 34 21.1
comp=Z,420nm,0.8s
KMSC Kings Mountain 57.17 342 IAmb IAmb 03 34 22.1
comp=Z,619nm,0.9s
KMSC Kings Mountain 57.17 342 P **P 03 34 20.2 +0.2**
baz=160,SNR=182
KMSC S **S 03 41 30.0 -1.9**
baz=160
344A Westbrook Farm 57.27 332 P **P 03 34 21.0 +0.2**
344A PcP **PcP 03 35 08.1 +1.4**
BG3 Lake Jocassee 57.51 341 IAmb IAmb 03 34 24.1
comp=Z,466nm,0.8s
Y49A Blount Mountai 57.64 337 IAmb IAmb 03 34 24.4
comp=Z,972nm,0.7s
Z47A Carrollton 57.68 335 IAmb IAmb 03 34 24.4
comp=Z,527nm,0.8s
KVTX Kingsville 57.69 323 IAmb IAmb 03 34 26.8
comp=Z,647nm,0.8s
X51A Calhoun 57.73 339 IAmb IAmb 03 34 25.4
comp=Z,618nm,0.8s
V55A Taylorsville 57.80 343 IAmb IAmb 03 34 26.7
comp=Z,863nm,0.8s
VBMS Vicksburg 57.84 333 P **P 03 34 24.3 -0.2**
baz=150,SNR=26
VBMS S **S 03 41 35.0 -5.4**
baz=150
342A Flagon Creek P 57.92 331 IAmb IAmb 03 34 27.1
comp=Z,636nm,0.8s
342A pP pP 03 36 17.4 +0.1
T60A Surry 57.94 347 IAmb IAmb 03 34 27.2
comp=Z,842nm,0.8s
FPAL Fort Paine 57.97 338 IAmb IAmb 03 34 26.7
comp=Z,615nm,0.8s
U56A King 58.04 344 IAmb IAmb 03 34 28.2
comp=Z,594nm,1.1s

V53A	**Saluda**	**58.10 341**	IAmb	IAmb	03 34 28.4
	comp=Z,714nm,0.9s				
S61A	**Accomac**	**58.26 348**	IAmb	IAmb	03 34 29.9
	comp=Z,921nm,1.2s				
TKL	**Tuckaleechee C**	**58.38 340**	IAmb	IAmb	03 34 29.7
	comp=Z,532nm,0.8s				
X48A	**Hartselle**	**58.40 337**	IAmb	IAmb	03 34 29.5
	comp=Z,726nm,0.8s				
HKT	**Hockley**	**58.47 327**	*c iP*	**P**	**03 34 30.4 +1.6**
HKT			pmax	pmax	
	comp=Z,414nm,1.0s				
HKT	**Hockley**	**58.47 327**	P	**P**	**03 34 29.4 +0.7**
V52A	**Sevierville**	**58.49 341**	IAmb	IAmb	03 34 30.0
	comp=Z,464nm,0.7s				
U54A	**Nelsons Funny**	**58.60 343**	IAmb	IAmb	03 34 31.8
	comp=Z,1μm,0.9s				
143A	**Socs Landing,**	**58.63 332**	IAmb	IAmb	03 34 32.5
	comp=Z,685nm,0.9s				
735A	**Kenedy**	**58.66 324**	IAmb	IAmb	03 34 32.7
	comp=Z,700nm,0.7s				
R61A	**Willards**	**58.83 349**	IAmb	IAmb	03 34 33.8
	comp=Z,725nm,0.9s				
Y45A	**Yeager Farm, C**	**58.85 335**	IAmb	IAmb	03 34 32.6
	comp=Z,978nm,0.7s				
BLA	**Blacksburg**	**58.87 344**	P	**P**	**03 34 31.8 +0.4**
	baz=161,SNR=47				
BLA			S	**S**	**03 41 52.1 -1.3**
	baz=161				
CBN	**Corbin Frederi**	**59.10 347**	P	**P**	**03 34 32.9 0.0**
	baz=165,SNR=19				
CBN			S	**S**	**03 41 54.1 -2.0**
	baz=165				
TZTN	**Tazewell**	**59.13 341**	P	**P**	**03 34 32.9 -0.3**
	baz=158,SNR=82				
TZTN			S	**S**	**03 41 53.6 -3.0**
	baz=158				
833A	**Chaparral WMA,**	**59.13 323**	P	**P**	**03 34 33.8 +0.5**
	baz=140,SNR=381				
833A			S	**S**	**03 41 54.8 -2.1**
	baz=140				
NATX	**Nacogdoches**	**59.35 329**	IAmb	IAmb	03 34 37.2
	comp=Z,570nm,0.7s				
NATX	**Nacogdoches**	**59.35 329**	P	**P**	**03 34 35.8 +1.1**
	baz=145,SNR=99				
NATX			S	**S**	**03 41 59.0 -0.5**
	baz=145				
Q61A	**Milford**	**59.36 349**	IAmb	IAmb	03 34 37.2
	comp=Z,797nm,0.9s				
Q61A	**Milford**	**59.36 349**	P	**P**	**03 34 35.4 +0.8**
	baz=167,SNR=11				
Q61A			S	**S**	**03 42 00.1 +0.8**
	baz=167				
CLTN	**Cedars of Leba**	**59.62 338**	IAmb	IAmb	03 34 37.5
	comp=Z,502nm,0.7s				
S54A	**Dingess, Beckl**	**59.66 344**	IAmb	IAmb	03 34 38.3
	comp=Z,524nm,0.7s				
Z41A	**Richland Creek**	**59.73 331**	P	**P**	**03 34 36.8 -0.4**
	baz=148,SNR=17				
Z41A			S	**S**	**03 42 01.6 -2.6**
	baz=148				
P61A	**Hammonton**	**60.04 350**	IAmb	IAmb	03 34 41.5
	comp=Z,1μm,1.1s				
435B	**Jarrell**	**60.05 326**	S	**S**	**03 42 07.4 -0.9**
	baz=142				
MET	**Memphis--Engin**	**60.10 335**	IAmb	IAmb	03 34 40.4
	comp=Z,504nm,0.8s				
237A	**Washetta, Mont**	**60.11 328**	IAmb	IAmb	03 34 42.3
	comp=Z,543nm,0.8s				
VNA3	**Neumayer Olymp**	**60.14 163**	P	**P**	**03 34 39.7 +0.3**
VNA3	**Neumayer Olymp**	**60.14 163**	PcP	**PcP**	**03 35 17.1 -0.6**
VNA3	**Neumayer Olymp**	**60.14 163**	pP	pP	03 36 33.6 +0.9
WVT	**Waverly**	**60.19 337**	P	**P**	**03 34 39.2 -1.0**
WVT			pmax	pmax	
	comp=Z,853nm,0.8s				
WVT	**Waverly**	**60.19 337**	P	**P**	**03 34 39.2 -1.0**
WVT			IAmb	IAmb	03 34 40.8
	comp=Z,853nm,0.8s				
WVT	**Waverly**	**60.19 337**	P	**P**	**03 34 39.2 -1.0**
	baz=153				
WVT			S	**S**	**03 42 04.2 -5.6**
	baz=153				
WLAR	**White Oak Lake**	**60.23 331**	IAmb	IAmb	03 34 42.3
	comp=Z,589nm,0.7s				
VNA1	**Neumayer--Stat**	**60.27 162**	P	**P**	**03 34 40.7 +0.5**
VNA1	**Neumayer--Stat**	**60.27 162**	PcP	**PcP**	**03 35 18.2 0.0**
VNA1	**Neumayer--Stat**	**60.27 162**	pP	pP	03 36 32.2 -1.3
P60A	**Greenville**	**60.32 349**	IAmb	IAmb	03 34 43.0
	comp=Z,473nm,0.9s				
P60A	**Greenville**	**60.32 349**	P	**P**	**03 34 41.2 +0.3**
	baz=167,SNR=98				
P60A			S	**S**	**03 42 09.6 -1.7**
	baz=167				
R53A	**Hurricane**	**60.33 343**	IAmb	IAmb	03 34 43.0
	comp=Z,752nm,0.8s				
H06S1	**SOCORRO T**	**60.36 306**	P	**P**	**03 34 43.2 +1.5**
	SNR=18				
H06E1	**SOCORRO T-PHAS**	**60.36 306**	P	**P**	**03 34 43.2 +1.5**
	SNR=5.8				
H06N1	**SOCORRO T-PHAS**	**60.46 306**	P	**P**	**03 34 44.1 +1.8**
HALT	**Halls**	**60.56 336**	IAmb	IAmb	03 34 43.2
	comp=Z,538nm,0.8s				
VNA2	**Neumayer--Watz**	**60.65 162**	P	**P**	**03 34 42.9 +0.2**
	baz=304,slow=6.8				
VNA2	**Neumayer--Watz**	**60.65 162**	pP	pP	03 36 38.0 +1.7
	baz=295,slow=8.0				
T47A	**Sharon Grove**	**60.70 338**	IAmb	IAmb	03 34 44.4
	comp=Z,642nm,0.8s				
Z38A	**Mt. Pleasant**	**60.74 330**	IAmb	IAmb	03 34 45.9
	comp=Z,539nm,0.7s				
UTMT	**University of**	**60.76 336**	IAmb	IAmb	03 34 44.5
	comp=Z,502nm,0.7s				
X40A	**Basin Creek Fa**	**60.78 332**	P	**P**	**03 34 43.5 -0.5**
	baz=148,SNR=28				
X40A			S	**S**	**03 42 11.6 -5.5**
	baz=148				
WHTX	**Lake Whitney,**	**60.93 327**	IAmb	IAmb	03 34 47.1
	comp=Z,345nm,0.7s				
WHTX	**Lake Whitney,**	**60.93 327**	P	**P**	**03 34 45.5 +0.4**
	baz=143,SNR=127				
WHTX			S	**S**	**03 42 18.9 -0.3**
	baz=143				
R50A	**Paris**	**60.97 341**	IAmb	IAmb	03 34 46.8
	comp=Z,855nm,1.4s				
BRNJ	**Basking Ridge**	**60.99 350**	IAmb	IAmb	03 34 47.9
	comp=Z,564nm,1.0s				
CPNY	**Central Park**	**61.00 351**	IAmb	IAmb	03 34 47.5
	comp=Z,409nm,0.9s				
JCT	**Junction City**	**61.01 324**	IAmb	IAmb	03 34 47.5
	comp=Z,376nm,0.7s				
JCT	**Junction City**	**61.01 324**	P	**P**	**03 34 45.8 +0.1**
	baz=140,SNR=194				
JCT			S	**S**	**03 42 18.7 -1.6**
	baz=140				
Q52A	**Bidwell**	**61.01 343**	IAmb	IAmb	03 34 47.3
	comp=Z,690nm,0.8s				
LUPA	**Lehigh Univers**	**61.04 350**	IAmb	IAmb	03 34 48.0
	comp=Z,491nm,1.1s				
MCWV	**Mont Chateau**	**61.05 345**	IAmb	IAmb	03 34 47.8
	comp=Z,381nm,0.7s				
MCWV	**Mont Chateau**	**61.05 345**	P	**P**	**03 34 46.4 +0.6**
	baz=162,SNR=100				
MCWV			S	**S**	**03 42 20.1 -0.2**
	baz=162				
N62A	**Caumsett State**	**61.06 351**	IAmb	IAmb	03 34 48.0
	comp=Z,848nm,1.2s				
HICK	**Hickman**	**61.07 336**	IAmb	IAmb	03 34 46.4
	comp=Z,515nm,0.6s				
W41B	**Gary Mavity, V**	**61.10 333**	P	**P**	**03 34 45.5 -0.7**
	baz=149,SNR=59				
W41B			S	**S**	**03 42 16.5 -4.7**
	baz=149				
MIAR	**Mount Ida**	**61.15 332**	P	**P**	**03 34 46.0 -0.6**
	baz=147,SNR=84				
MIAR			S	**S**	**03 42 17.4 -4.5**
	baz=147				
PAL	**Palisades**	**61.20 351**	IAmb	IAmb	03 34 48.8
	comp=Z,570nm,0.9s				
PAL	**Palisades**	**61.20 351**	P	**P**	**03 34 46.9 +0.2**
	baz=169,SNR=57				
PAL			S	**S**	**03 42 21.0 -1.1**
	baz=169				
WSPT	**Westport, CT**	**61.28 351**	IAmb	IAmb	03 34 49.4
	comp=Z,585nm,0.9s				
M65A	**Busby, Falmout**	**61.34 354**	IAmb	IAmb	03 34 49.6
	comp=Z,509nm,0.8s				
M65A	**Busby, Falmout**	**61.34 354**	P	**P**	**03 34 48.0 +0.5**
	baz=172				
M65A			S	**S**	**03 42 22.3 -1.5**
	baz=172				
O56A	**Blue Knob Stat**	**61.34 347**	IAmb	IAmb	03 34 50.4
	comp=Z,639nm,1.0s				
O56A	**Blue Knob Stat**	**61.34 347**	P	**P**	**03 34 48.4 +0.7**
	baz=164,SNR=137				
O56A			S	**S**	**03 42 23.2 -0.8**
	baz=164				
M63A	**Gales Ferry**	**61.34 353**	IAmb	IAmb	03 34 49.7
	comp=Z,1μm,1.9s				
YLE	**Yale**	**61.37 352**	IAmb	IAmb	03 34 50.4
	comp=Z,1μm,1.1s				
ODNJ	**Ogdensburg**	**61.38 350**	IAmb	IAmb	03 34 50.1
	comp=Z,338nm,0.8s				
LCAR	**Lake Charles**	**61.42 334**	IAmb	IAmb	03 34 49.5
	comp=Z,391nm,0.8s				
N59A	**State Game Lan**	**61.42 349**		**P**	**03 34 48.6 +0.5**
N59A			IAmb	IAmb	03 34 50.8
	comp=Z,518nm,1.1s				
N59A	**State Game Lan**	**61.42 349**	P	**P**	**03 34 48.9 +0.7**
	baz=167,SNR=69				
N59A			S	**S**	**03 42 24.0 -1.0**
	baz=167				
N58A	**Sunbury**	**61.52 348**	IAmb	IAmb	03 34 51.3
	comp=Z,954nm,0.8s				
WCI	**Wyandotte Cave**	**61.54 340**	P	**P**	**03 34 48.3 -0.7**
WCI			pmax	pmax	
	comp=Z,394nm,0.7s				
WCI	**Wyandotte Cave**	**61.54 340**	P	**P**	**03 34 48.3 -0.7**
WCI			IAmb	IAmb	03 34 49.7
	comp=Z,394nm,0.7s				
WCI	**Wyandotte Cave**	**61.54 340**	P	**P**	**03 34 48.0 -1.0**
	baz=155				
WCI			S	**S**	**03 42 20.7 -5.8**
	baz=155				
SSPA	**Standing Stone**	**61.55 347**	P	**P**	**03 34 49.3 +0.3**
SSPA			IAmb	IAmb	03 34 51.5
	comp=Z,535nm,0.8s				
SSPA	**Standing Stone**	**61.55 347**	P	**P**	**03 34 49.7 +0.7**
	baz=164				
SSPA			S	**S**	**03 42 25.4 -1.1**
	baz=164				
P52A	**Corning**	**61.60 344**	IAmb	IAmb	03 34 50.6
	comp=Z,591nm,0.7s				
P52A	**Corning**	**61.60 344**	P	**P**	**03 34 49.3 0.0**
	baz=160,SNR=130				
P52A			S	**S**	**03 42 24.5 -2.7**
	baz=160				
P51A	**Williamsport**	**61.71 343**	IAmb	IAmb	03 34 51.5
	comp=Z,560nm,1.4s				
L64A	**Middleborough**	**61.73 354**	IAmb	IAmb	03 34 52.3
	comp=Z,574nm,0.8s				
PBMO	**Poplar Bluff**	**61.74 335**	IAmb	IAmb	03 34 51.6
	comp=Z,788nm,0.8s				
UCCT	**U. Connecticut**	**61.75 352**	IAmb	IAmb	03 34 52.2
	comp=Z,508nm,0.9s				
W39A	**Magazine**	**61.79 332**	P	**P**	**03 34 50.7 0.0**
	baz=147,SNR=56				
W39A			S	**S**	**03 42 26.0 -3.7**
	baz=147				
KSCT	**Kent School, K**	**61.85 351**	IAmb	IAmb	03 34 52.6
	comp=Z,273nm,0.7s				
Z35A	**Perchaven, San**	**61.90 328**	IAmb	IAmb	03 34 53.5
	comp=Z,391nm,0.8s				
O53A	**New Philadelph**	**61.94 345**	IAmb	IAmb	03 34 53.5
	comp=Z,938nm,0.8s				
O53A	**New Philadelph**	**61.94 345**	P	**P**	**03 34 51.7 +0.2**
	baz=161,SNR=186				
O53A			S	**S**	**03 42 29.4 -1.9**
	baz=161				
O52A	**Adamsville**	**61.97 344**	IAmb	IAmb	03 34 53.6
	comp=Z,564nm,0.8s				
KSPA	**Keystone Colle**	**62.04 349**	IAmb	IAmb	03 34 54.6
	comp=Z,896nm,0.8s				
M57A	**Sunshine Farm,**	**62.07 348**	IAmb	IAmb	03 34 55.1
	comp=Z,960nm,0.8s				
S44A	**Carbondale**	**62.10 337**	IAmb	IAmb	03 34 52.8
	comp=Z,268nm,0.7s				
P49A	**Miami Univ. Ec**	**62.24 341**	IAmb	IAmb	03 34 54.1
	comp=Z,749nm,0.7s				
P49A	**Miami Univ. Ec**	**62.24 341**	P	**P**	**03 34 52.9 -0.6**
	baz=157,SNR=233				
P49A			S	**S**	**03 42 30.3 -4.7**
	baz=157				
QUA2	**Belchertown**	**62.24 352**	IAmb	IAmb	03 34 55.5
	comp=Z,397nm,0.9s				
SNAA	**Sanae**	**62.30 162**	P	**P**	**03 34 53.6 0.0**
SNAA	**Sanae**	**62.30 162**	pP	pP	03 36 49.0 +1.1
SNAA	**Sanae**	**62.30 162**	PKPPKP		04 03 19.3
	comp=Z,6.7nm,0.9s,baz=92,slow=3.1,SNR=9.1				
SNAA	**Sanae**	**62.30 162**	*i* P	**P**	**03 34 53.3 -0.2**
SNAA	**Sanae**	**62.30 162**	P	**P**	**03 34 53.5 0.0**
N54A	**Moraine State**	**62.32 346**	P	**P**	**03 34 54.8 +0.8**
	baz=162,SNR=114				
N54A			S	**S**	**03 42 34.6 -1.4**
	baz=162				
U40A	**Yellville**	**62.37 333**	IAmb	IAmb	03 34 55.7
	comp=Z,316nm,0.8s				
U40A	**Yellville**	**62.37 333**	P	**P**	**03 34 53.8 -0.6**
	baz=148,SNR=68				
U40A			S	**S**	**03 42 32.5 -4.2**
	baz=148				
HRV	**Adam Dziewonsk**	**62.37 353**	P	**P**	**03 34 55.0 +0.7**
HRV			pmax	pmax	
	comp=Z,834nm,1.0s				
HRV	**Adam Dziewonsk**	**62.37 353**	P	**P**	**03 34 55.0 +0.7**
HRV			IAmb	IAmb	03 34 56.6
	comp=Z,834nm,1.0s				
HRV	**Adam Dziewonsk**	**62.37 353**	P	**P**	**03 34 54.8 +0.6**
	baz=171				
HRV			S	**S**	**03 42 35.6 -0.8**
	baz=171				
N53A	**Lisbon**	**62.37 345**	IAmb	IAmb	03 34 56.6
	comp=Z,965nm,0.9s				
TXAR	**Lajitas Array**	**62.38 320**	P	**P**	**03 34 54.7 -0.1**
	comp=Z,97nm,0.7s,baz=147,slow=8.2,SNR=506				
TXAR			PKPPKP	P'P'df	04 03 20.4 -30
	comp=Z,2.9nm,1.0s,baz=282,slow=2.9,SNR=8.2				
TXAR	**Lajitas Array**	**62.38 320**	P	**P**	**03 34 55.0 +0.3**
TXAR			pP	**pP**	**03 36 48.5 -1.2**
TX31	**Lajitas Ar. Si**	**62.39 320**	IAmb	IAmb	03 34 56.4
	comp=Z,274nm,0.7s				
ACSO	**Alum Creek Sta**	**62.39 343**	P	**P**	**03 34 54.3 -0.2**
	baz=159,SNR=290				
ACSO			S	**S**	**03 42 31.9 -4.9**
	baz=159				
P48A	**Milroy**	**62.39 341**	IAmb	IAmb	03 34 55.2
	comp=Z,510nm,1.0s				
LOOK	**Love County**	**62.39 329**	IAmb	IAmb	03 34 57.0
	comp=Z,719nm,0.9s				
L61B	**Northampton**	**62.45 352**	IAmb	IAmb	03 34 56.9
	comp=Z,769nm,0.9s				
L61B	**Northampton**	**62.45 352**	P	**P**	**03 34 55.2 +0.4**
	baz=170,SNR=85				
L61B			S	**S**	**03 42 35.9 -1.5**
	baz=170				
BLO	**Bloomington**	**62.47 340**	IAmb	IAmb	03 34 56.1
	comp=Z,616nm,0.8s				
L59A	**Walton**	**62.54 350**	IAmb	IAmb	03 34 58.0
	comp=Z,632nm,0.8s				
K62A	**Royalston**	**62.61 353**	IAmb	IAmb	03 34 58.2
	comp=Z,578nm,0.9s				
BINY	**Binghamton**	**62.70 349**	P	**P**	**03 34 57.3 +0.9**
	baz=167,SNR=226				
BINY			S	**S**	**03 42 41.0 +0.4**
	baz=167				
O49A	**Covington**	**62.73 342**	IAmb	IAmb	03 34 57.8
	comp=Z,576nm,0.8s				
M54A	**Oil Creek Stat**	**62.77 346**	P	**P**	**03 34 57.4 +0.5**
	baz=163,SNR=298				
M54A			S	**S**	**03 42 40.0 -1.4**
	baz=163				
HHAR	**Hobbs**	**62.77 332**	IAmb	IAmb	03 34 58.2
	comp=Z,345nm,0.7s				
FVM	**French Village**	**62.79 336**	IAmb	IAmb	03 34 57.5
	comp=Z,284nm,0.7s				
MGMO	**Mountain Grove**	**62.80 334**	IAmb	IAmb	03 34 58.6
	comp=Z,506nm,0.8s				
LIC	**Lamto**	**62.86 72**	*eP*	**P**	**03 34 57.2 -0.8**
	comp=Z,2μm,1.4s				
TRY	**Troy**	**62.86 351**	IAmb	IAmb	03 35 00.0
	comp=Z,819nm,0.9s				
N51A	**Ashland**	**62.87 344**	IAmb	IAmb	03 34 59.1
	comp=Z,676nm,0.8s				
M53A	**WI Miller and**	**62.93 345**	P	**P**	**03 34 58.5 +0.5**
	baz=162,SNR=176				
M53A			S	**S**	**03 42 40.8 -2.5**
	baz=162				
TIC	**Toumodi**	**63.05 71**	*eP*	**P**	**03 34 58.4 -0.9**
Q44A	**Meyer Farm, Va**	**63.08 338**	IAmb	IAmb	03 34 59.2
	comp=Z,506nm,0.8s				
KIC	**Kosan Boka**	**63.17 72**	*eP*	**P**	**03 34 59.4 -0.7**
	comp=Z,1μm,0.8s				
CCM	**Cathedral Cave**	**63.17 336**	P	**P**	**03 34 58.8 -0.7**
CCM			pmax	pmax	
	comp=Z,533nm,1.0s				
CCM	**Cathedral Cave**	**63.17 336**	P	**P**	**03 34 58.8 -0.7**
CCM			IAmb	IAmb	03 35 00.4
	comp=Z,533nm,0.9s				
CCM	**Cathedral Cave**	**63.17 336**	P	**P**	**03 34 58.7 -0.9**
	baz=150				
CCM			S	**S**	**03 42 41.0 -5.4**
	baz=150				
M52A	**Chesterland**	**63.19 345**	IAmb	IAmb	03 35 01.5
	comp=Z,487nm,0.8s				
DBIC	**Dimbokro**	**63.20 72**	P	**P**	**03 35 00.2 0.0**
	comp=Z,1μm,0.8s,baz=241,slow=6.2,SNR=649				
DBIC			S	**S**	**03 42 45.6 -2.1**
	comp=Z,9.2nm,0.7s,baz=340,slow=22,SNR=13				
DBIC	**Dimbokro**	**63.20 72**	*‖ iP*	**P**	**03 35 00.0 -0.2**
DBIC	**Dimbokro**	**63.20 72**	P	**P**	**03 35 00.4 +0.1**
DBIC			pmax	pmax	
	comp=Z,1μm,0.9s				
DBIC	**Dimbokro**	**63.20 72**	P	**P**	**03 35 00.4 +0.1**
X34A	**Smith Ranch, M**	**63.20 328**	IAmb	IAmb	03 35 02.4
	comp=Z,262nm,0.7s				
TUL1	**Leonard**	**63.29 331**	IAmb	IAmb	03 35 01.8
	comp=Z,400nm,0.8s				
TUL1	**Leonard**	**63.29 331**	P	**P**	**03 35 00.4 0.0**
	baz=146,SNR=154				
TUL1			S	**S**	**03 42 44.9 -3.0**
	baz=146				
K57A	**Scipio Center**	**63.31 349**	IAmb	IAmb	03 35 02.4
	comp=Z,752nm,0.9s				
J61A	**Chester**	**63.32 352**	IAmb	IAmb	03 35 03.0
	comp=Z,430nm,1.1s				
FFD	**Franklin Falls**	**63.33 353**	IAmb	IAmb	03 35 03.1
	comp=Z,545nm,0.8s				
ERPA	**Erie**	**63.42 346**	P	**P**	**03 35 01.6 +0.6**
	baz=162,SNR=250				
ERPA			S	**S**	**03 42 47.2 -2.0**
	baz=162				
HNH	**Hanover**	**63.64 353**	IAmb	IAmb	03 35 05.3
	comp=Z,681nm,0.9s				
OKCFA	**Oklahoma City**	**63.67 329**	IAmb	IAmb	03 35 04.2
	comp=Z,644nm,0.7s				
I62A	**Tamworth**	**63.70 354**	IAmb	IAmb	03 35 05.3
	comp=Z,381nm,1.1s				
S39A	**Bolivar**	**63.70 334**	IAmb	IAmb	03 35 04.5
	comp=Z,491nm,0.8s				
J58A	**Remsen**	**63.72 350**	IAmb	IAmb	03 35 05.4
	comp=Z,1μm,1.4s				
SFIN	**Lafayette**	**63.75 340**	P	**P**	**03 35 02.1 -1.1**
	baz=155,SNR=126				
SFIN			S	**S**	**03 42 46.3 -6.9**
	baz=155				
OK030	**Cody Creek RV**	**63.77 330**	IAmb	IAmb	03 35 04.9
	comp=Z,335nm,0.8s				
R40A	**Maddies Statio**	**63.78 335**	IAmb	IAmb	03 35 04.2
	comp=Z,335nm,0.8s				
WMOK	**Wichita Mounta**	**63.78 328**	P	**P**	**03 35 03.3 -0.2**
	baz=143,SNR=190				
WMOK			S	**S**	**03 42 52.4 -1.6**
	baz=143				
OK034	**N. Norfolk Rd.**	**63.80 330**	IAmb	IAmb	03 35 05.1
	comp=Z,317nm,0.8s				
OK031	**S. Brethren Rd**	**63.81 330**	IAmb	IAmb	03 35 05.2
	comp=Z,309nm,0.8s				
J57A	**Williamstown**	**63.88 350**	IAmb	IAmb	03 35 06.1
	comp=Z,684nm,1.1s				
QUOK	**Quay**	**63.93 330**	IAmb	IAmb	03 35 05.9
	comp=Z,313nm,0.7s				
O44A	**Mansfield**	**64.00 339**	IAmb	IAmb	03 35 04.7
	comp=Z,346nm,0.7s				
HAL	**Halifax**	**64.03 360**	IAmb	IAmb	03 35 06.9
	comp=Z,668nm,0.9s				
J55A	**Hilton**	**64.07 348**	IAmb	IAmb	03 35 06.9
	comp=Z,459nm,0.7s				
MEDO	**Medina**	**64.09 348**	IAmb	IAmb	03 35 07.3
	comp=Z,670nm,0.8s				
NCB	**Newcomb**	**64.15 351**	IAmb	IAmb	03 35 07.9
	comp=Z,435nm,1.0s				
WVL	**Waterville**	**64.22 355**	IAmb	IAmb	03 35 08.5
	comp=Z,593nm,0.9s				
J54A	**Appleton**	**64.24 348**	IAmb	IAmb	03 35 08.1
	comp=Z,481nm,0.8s				
T35A	**Sooner Cattle**	**64.45 331**	IAmb	IAmb	03 35 09.9
	comp=Z,588nm,0.9s				
AAM	**Ann Arbor**	**64.50 343**	IAmb	IAmb	03 35 09.2
	comp=Z,524nm,0.8s				
AAM	**Ann Arbor**	**64.50 343**	P	**P**	**03 35 07.5 -0.3**
	baz=159,SNR=63				
AAM			S	**S**	**03 42 56.4 -5.8**
	baz=159				
GGN	**Saint George**	**64.59 357**	IAmb	IAmb	03 35 10.8
	comp=Z,594nm,0.8s				
BLOK	**Blackwell**	**64.65 330**	IAmb	IAmb	03 35 10.7
	comp=Z,312nm,0.7s				
HDIL	**Hopedale**	**64.65 338**	IAmb	IAmb	03 35 09.5
	comp=Z,669nm,0.8s				
HDIL	**Hopedale**	**64.65 338**	P	**P**	**03 35 07.8 -1.0**
	baz=153,SNR=106				
HDIL			S	**S**	**03 42 56.8 -7.2**
	baz=153				
G65A	**Princeton**	**64.71 357**	IAmb	IAmb	03 35 11.5
	comp=Z,707nm,0.9s				
P40A	**Paris**	**64.76 336**	IAmb	IAmb	03 35 10.5
	comp=Z,448nm,1.1s				
CROK	**Carrier**	**64.80 330**	IAmb	IAmb	03 35 11.6
	comp=Z,594nm,0.7s				
GBN	**Guysborough**	**64.83 1**	P	**P**	**03 35 09.9 +0.1**
GBN			IAmb	IAmb	03 35 11.7
	comp=Z,569nm,1.2s				
LONY	**Lake Ozonia**	**64.84 351**	IAmb	IAmb	03 35 12.3
	comp=Z,614nm,0.8s				
LONY	**Lake Ozonia**	**64.84 351**	P	**P**	**03 35 10.6 +0.6**
	baz=168,SNR=124				
LONY			S	**S**	**03 43 06.2 0.0**
	baz=168				
PKME	**Peaks-Kenny Pk**	**64.89 355**	P	**P**	**03 35 10.8 +0.6**
	baz=174,SNR=69				
PKME			S	**S**	**03 43 05.0 -1.7**
	baz=174				
FRNY	**Flat Rock**	**64.91 352**	IAmb	IAmb	03 35 12.7
	comp=Z,507nm,1.4s				
G62A	**West of Eustis**	**64.95 354**	IAmb	IAmb	03 35 13.3
	comp=Z,744nm,1.1s				
M44A	**Midewin, Midew**	**64.97 340**	IAmb	IAmb	03 35 11.3
	comp=Z,340nm,0.8s				
KAN13	**South Haven SW**	**64.97 330**	IAmb	IAmb	03 35 12.7
	comp=Z,582nm,0.7s				
MNTX	**Cornudas Mount**	**65.11 321**	P	**P**	**03 35 11.5 -0.5**
	baz=136,SNR=180				
MNTX			S	**S**	**03 43 06.7 -3.2**
	baz=136				
KAN17	**Caldwell West**	**65.13 330**	IAmb	IAmb	03 35 13.7
	comp=Z,424nm,0.7s				
OK032	**Salt Plains WL**	**65.15 330**	IAmb	IAmb	03 35 13.9
	comp=Z,405nm,0.8s				
KAN14	**Manchester OK**	**65.16 330**	IAmb	IAmb	03 35 13.8
	comp=Z,335nm,0.8s				
U32A	**Winter Ranch,**	**65.19 329**	IAmb	IAmb	03 35 14.3
	comp=Z,310nm,0.8s				
KAN01	**Argonia South**	**65.22 330**	IAmb	IAmb	03 35 14.3
	comp=Z,449nm,0.8s				
DELO	**Deloro Mine**	**65.24 349**	IAmb	IAmb	03 35 14.2
	comp=Z,322nm,0.7s				
LMN	**Caledonia Moun**	**65.26 359**	IAmb	IAmb	03 35 14.3
	comp=Z,565nm,0.8s				
HQIL	**Hanson Quary C**	**65.28 340**	IAmb	IAmb	03 35 12.9
	comp=Z,542nm,0.6s				
MSTX	**Muleshoe**	**65.29 324**	P	**P**	**03 35 13.3 +0.2**
	baz=139,SNR=470				
MSTX			S	**S**	**03 43 09.9 -2.3**
	baz=139				
F63A	**Nahmakanta, Br**	**65.31 356**	IAmb	IAmb	03 35 16.0
	comp=Z,298nm,0.8s				
OK035	**E0210 Rd and N**	**65.31 329**	IAmb	IAmb	03 35 15.1
	comp=Z,557nm,0.7s				
KAN06	**Argonia West S**	**65.34 330**	IAmb	IAmb	03 35 15.1
	comp=Z,285nm,0.8s				
KAN08	**Anthony NE Sta**	**65.38 330**	IAmb	IAmb	03 35 15.8
	comp=Z,429nm,1.0s				
AMTX	**Amarillo**	**65.39 326**	IAmb	IAmb	03 35 15.2
	comp=Z,270nm,0.8s				
AMTX	**Amarillo**	**65.39 326**	P	**P**	**03 35 13.6 -0.1**
	baz

AMTX S **S** **03 43 09.8 -3.5**
baz=140
KAN16 Harper SW Stat 65.42 300 IAmb IAmb 03 35 15.6
comp=Z,442nm,0.8s
F62A Pittston Farm, 65.57 355 IAmb IAmb 03 35 16.9
comp=Z,530nm,1.1s
MNTQ Montreal, Queb 65.57 352 IAmb IAmb 03 35 16.7
comp=Z,761nm,1.0s
L44A Lake County Fo 65.64 340 IAmb IAmb 03 35 16.0
comp=Z,512nm,0.8s
L44A Lake County Fo 65.64 340 P **P** **03 35 14.1 -0.9**
baz=155,SNR=23
L44A S **S** **03 43 08.5 -7.3**
baz=155
MACI Morro de la Ar 65.73 45 P **P** **03 35 16.4 +0.3**
MACI IAmb IAmb 03 35 18.2
comp=Z,691nm,0.8s
SADO Sadowa 65.77 348 S **S** **03 43 15.1 -2.2**
comp=Z,87nm,1.2s,baz=280,slow=20,SNR=18
SADO Sadowa 65.77 348 IAmb IAmb 03 35 17.3
comp=Z,377nm,0.9s
H07S1 FLORES T-PHASE 66.01 27 P **P** **03 35 18.2 +0.8**
SNR=27
H07S1 FLORES T-PHASE 66.01 27⇓*e*P **P** **03 35 18.0 +0.6**
L42A Oliver, Polo 66.06 339 IAmb IAmb 03 35 18.2
comp=Z,370nm,0.7s
PQI Presque Isle 66.20 356 P **P** **03 35 19.0 +0.6**
PQI IAmb IAmb 03 35 20.6
comp=Z,628nm,0.8s
K43A Burlington 66.25 340 P **P** **03 35 18.4 -0.3**
K43A pP **pP** **03 37 17.1 +1.7**
E62A Clayton Lake 66.26 355 P **P** **03 35 19.6 +0.9**
E62A sP **sP** **03 38 13.7 -2.5**
KSU1 Kansas State U 66.29 332 IAmb IAmb 03 35 20.5
comp=Z,608nm,0.8s
KSU1 Kansas State U 66.29 332 P **P** **03 35 18.7 -0.4**
baz=146,SNR=152
KSU1 S **S** **03 43 19.6 -3.9**
baz=146
H07N1 FLORES T-PHASE 66.30 27 P **P** **03 35 20.2 +1.0**
SNR=18
H07N1 FLORES T-PHASE 66.30 27 *e*P **P** **03 35 20.7 +1.5**
N38A Joes South For 66.31 336 IAmb IAmb 03 35 20.0
comp=Z,444nm,0.7s
PFCBR Castelo Branco 66.40 29 *e*P **P** **03 35 20.8 +1.0**
comp=Z,334nm,1.8s
TRQ Mont Tremblant 66.41 352 P **P** **03 35 20.1 +0.3**
HOR Horta 66.44 29 *e*P **P** **03 35 21.6 +1.6**
comp=Z,588nm,0.9s
CALA Caldeira 66.45 29 *e*P **P** **03 35 21.7 +1.5**
comp=Z,723nm,1.5s
PCAN Candelaria 66.46 29 *e*P **P** **03 35 21.1 +0.9**
comp=Z,875nm,1.2s
PCED Cedros 66.49 29⇓*e*P **P** **03 35 21.9 +1.5**
comp=Z,517nm,0.8s
PICO Pico 66.52 29⇓*e*P **P** **03 35 22.4 +1.8**
comp=Z,677nm,1.1s
SRIG Santa Rosalia 66.57 313 IAmb IAmb 03 35 23.9
comp=Z,408nm,1.1s
PID Ribeirinha 66.61 30 *e*P **P** **03 35 23.1 +2.0**
comp=Z,810nm,0.9s
L40A Anamosa 66.66 338 IAmb IAmb 03 35 22.6
comp=Z,489nm,0.8s
R32A Long Quarter, 66.69 330 IAmb IAmb 03 35 23.4
comp=Z,493nm,0.8s
BATG Bathurst New B 66.72 358 IAmb IAmb 03 35 23.8
comp=Z,780nm,1.0s
PMAN Manadas 66.78 29 *e*P **P** **03 35 23.3 +1.2**
comp=Z,1µm,1.1s
ROSA Rosais, 66.78 29 *e*P **P** **03 35 23.5 +1.4**
comp=Z,980nm,1.2s
ROSA Rosais 66.78 29 P **P** **03 35 21.7 -0.5**
ROSA IAmb IAmb 03 35 25.0
comp=Z,673nm,1.0s
PSMA Santa Maria 66.92 33 *e*P **P** **03 35 23.9 +0.9**
comp=Z,996nm,1.5s
JFWS Jewell Farm 67.07 339 P **P** **03 35 23.5 -0.4**
baz=152,SNR=180
JFWS S **S** **03 43 26.9 -5.6**
baz=152
GLMI Grayling 67.10 344 P **P** **03 35 23.5 -0.5**
baz=158,SNR=48
GLMI S **S** **03 43 27.8 -5.1**
baz=158
SRBC Serra Branca 67.13 29 *e*P **P** **03 35 25.5 +1.2**
comp=Z,775nm,0.8s
121A Cookes Peak, D 67.14 320 P **P** **03 35 26.2 +1.5**
baz=134,SNR=78
121A S **S** **03 43 34.6 +0.4**
baz=134
PGRA Graciosa 67.15 29 *e*P **P** **03 35 24.6 +0.2**
comp=Z,830nm,1.1s
PDA Ponta Delgada 67.24 32 *e*P **P** **03 35 25.6 +0.7**
comp=Z,332nm,0.6s
LMQ La Malbaie 67.24 355 IAmb IAmb 03 35 26.7
comp=Z,380nm,0.8s
SCIA State Center 67.26 336 P **P** **03 35 24.5 -0.6**
baz=150,SNR=50
SCIA S **S** **03 43 28.2 -6.6**
baz=150
319A Douglas 67.27 318 IAmb IAmb 03 35 28.8
comp=Z,320nm,0.8s
PSET Sete Cidades 67.27 32 *e*P **P** **03 35 26.3 +1.1**
comp=Z,886nm,1.3s
PSCM Serra do Cume 67.29 30 *e*P **P** **03 35 26.3 +1.0**
comp=Z,1µm,1.0s
PAGU Agualva, Azore 67.31 30 *e*P **P** **03 35 26.8 +1.4**
comp=Z,1µm,1.0s
GRON Grota Negra 67.32 32⇓*e*P **P** **03 35 26.6 +1.1**
comp=Z,968nm,0.8s
N35A Tabor 67.34 334 IAmb IAmb 03 35 26.8
comp=Z,576nm,0.9s
PCALD Caldeiras da R 67.36 32 *e*P **P** **03 35 27.5 +1.7**
comp=Z,516nm,0.8s
CBKS Cedar Bluff 67.48 330 P **P** **03 35 27.3 +0.8**
baz=143,SNR=126
CBKS S **S** **03 43 36.8 -0.9**
baz=143
I42A Draeger Farm, 67.50 340 IAmb IAmb 03 35 28.0
comp=Z,518nm,1.0s
H43A Windswept, Lux 67.67 341 IAmb IAmb 03 35 28.7
comp=Z,742nm,0.9s
Y22D IRIS PASSCAL I 67.71 322 IAmb IAmb 03 38 07.3
comp=Z,307nm,1.1s
Y22D IRIS PASSCAL I 67.71 322 P **P** **03 35 30.1 +1.9**
baz=136,SNR=13
Y22D S **S** **03 43 42.2 +1.5**
baz=136
N33A J Bar K, Exete 68.00 333 IAmb IAmb 03 35 30.7
comp=Z,519nm,0.7s
I40A Norwalk 68.06 339 IAmb IAmb 03 35 31.1
comp=Z,356nm,1.1s
ANMO Albuquerque 68.06 323 S **S** **03 43 43.7 -1.3**
comp=Z,5.2nm,1.1s,baz=38,slow=23,SNR=7.6
ANMO PKPPKP 04 03 37.0
comp=Z,2.7nm,1.0s,baz=259,slow=3.3,SNR=4.2
ANMO Albuquerque 68.06 323*c i*P **P** **03 35 31.3 +1.0**
ANMO pmax pmax
comp=Z,169nm,1.1s
ANMO Albuquerque 68.06 323 P **P** **03 35 31.4 +1.0**
ANMO Albuquerque 68.06 323 P **P** **03 35 31.3 +1.0**
baz=136
ANMO S **S** **03 43 43.6 -1.3**
baz=136
PMOZ Porto Moniz, M 68.35 41 *e*P **P** **03 35 32.2 +0.2**
comp=Z,862nm,0.9s
PMOZ Porto Moniz, M 68.35 41 P **P** **03 35 32.2 +0.2**
PMOZ Porto Moniz, M 68.35 41 P **P** **03 35 32.6 +0.7**
FUL Funchal 68.42 41 *e*P **P** **03 35 32.6 +0.4**
comp=Z,590nm,1.4s
PMAR Madeira 68.45 41 *e*P **P** **03 35 32.8 +0.1**
comp=Z,571nm,1.6s
E46A Sault Ste Mari 68.46 345 IAmb IAmb 03 35 33.3
comp=Z,418nm,0.8s
T25A Trinidad 68.54 326 IAmb IAmb 03 37 41.3
comp=Z,517nm,1.4s
T25A Trinidad 68.54 326 P **P** **03 35 34.2 +1.1**
baz=138,SNR=118
T25A S **S** **03 43 50.8 +0.5**
baz=138
TUC Tucson 68.84 318 P **P** **03 35 36.0 +1.1**
TUC pmax pmax
comp=Z,133nm,0.9s
TUC Tucson 68.84 318 P **P** **03 35 36.0 +1.1**
TUC Tucson 68.84 318 P **P** **03 35 36.1 +1.1**
baz=132
TUC S **S** **03 43 52.9 -0.8**
baz=132

BGNE Belgrade 68.85 333 P **P** **03 35 34.7 -0.1**
baz=145,SNR=174
BGNE S **S** **03 43 50.3 -3.0**
baz=145
PMPS Porto Santo 69.04 41 *e*P **P** **03 35 37.4 +1.4**
comp=Z,936nm,1.4s
KSCO Kaye Shedlock' 69.04 328 IAmb IAmb 03 35 38.6
comp=Z,413nm,0.8s
KSCO Kaye Shedlock' 69.04 328 P **P** **03 35 37.2 +1.1**
baz=140,SNR=97
KSCO S **S** **03 43 56.0 +0.2**
baz=140
PMPST Porto Santo, M 69.05 41 *e*P **P** **03 35 36.6 +0.5**
comp=Z,1µm,1.3s
I37A Lemond, Waseca 69.14 337 IAmb IAmb 03 35 37.8
comp=Z,631nm,0.8s
G40A Rib Lake 69.14 340 IAmb IAmb 03 37 44.4
comp=Z,435nm,1.4s
E43A Lone Tree Farm 69.18 343 IAmb IAmb 03 35 38.0
comp=Z,360nm,1.0s
TANT Tantan 69.43 48 P **P** **03 35 40.0 +1.5**
SDCO Great Sand Dun 69.57 325 P **P** **03 35 40.5 +1.1**
baz=138,SNR=287
SDCO S **S** **03 44 02.8 +0.5**
baz=138
214A Organ Pipe Nat 69.91 317 IAmb IAmb 03 35 44.4
comp=Z,232nm,0.8s
214A Organ Pipe Nat 69.91 317 P **P** **03 35 42.7 +1.5**
baz=130,SNR=143
214A S **S** **03 44 07.7 +2.0**
baz=130
SPMN Marine on St. 69.98 338 IAmb IAmb 03 35 42.4
comp=Z,263nm,0.8s
SPMN Marine on St. 69.98 338 P **P** **03 35 40.6 -0.7**
baz=150,SNR=120
SPMN S **S** **03 44 01.0 -4.9**
baz=150
W18A Petrified Fore 70.10 321 P **P** **03 35 43.8 +1.3**
baz=134,SNR=104
W18A S **S** **03 44 09.0 +0.9**
baz=134
ECSD EROS Data Cent 70.13 335 IAmb IAmb 03 37 35.5
comp=Z,1µm,1.5s
ECSD EROS Data Cent 70.13 335 P **P** **03 35 41.8 -0.5**
baz=147,SNR=288
ECSD S **S** **03 44 03.2 -4.6**
baz=147
OGNE Ogallala 70.25 330 P **P** **03 35 43.9 +0.8**
baz=141,SNR=48
OGNE S **S** **03 44 10.2 +0.8**
baz=141
Q24A Divide 70.29 326 P **P** **03 35 44.7 +1.0**
baz=138,SNR=170
Q24A S **S** **03 44 10.9 +0.5**
baz=138
S22A 4UR Ranch, Cre 70.29 325 P **P** **03 35 44.8 +1.1**
baz=137,SNR=108
S22A S **S** **03 44 09.7 -0.8**
baz=137
QSPA South Pole Qui 70.47 180 P **P** **03 35 45.1 +1.0**
QSPA IAmb IAmb 03 35 47.2
comp=Z,511nm,1.6s
SFX San Felipe 70.67 315 P **P** **03 35 45.7 0.0**
SFNM Sidi Ifni 70.74 48 P **P** **03 35 48.0 +1.9**
E38A The Farm, Brul 70.77 340 IAmb IAmb 03 37 35.3
comp=Z,887nm,1.3s
F36A Milaca 70.78 338 IAmb IAmb 03 35 47.2
comp=Z,310nm,0.8s
MVCO Mesa Verde 70.83 323 P **P** **03 35 48.0 +1.2**
baz=135,SNR=207
MVCO S **S** **03 44 17.3 +0.8**
baz=135
ISCO Idaho Springs 71.15 327 P **P** **03 35 49.8 +1.1**
baz=138,SNR=151
ISCO S **S** **03 44 21.2 +1.1**
baz=138
WUAZ Wupatki 71.35 320 P **P** **03 35 51.5 +1.7**
baz=132,SNR=202
WUAZ S **S** **03 44 24.5 +2.3**
baz=132
GUVIX Guadalupe Vict 71.61 315 IAmb IAmb 03 35 54.5
comp=Z,439nm,0.9s
PV15 Paradox Valley 71.63 324 IAmb IAmb 03 35 55.1
comp=Z,244nm,0.8s
SUSD Miller 71.67 334 P **P** **03 35 50.9 -0.4**
baz=145,SNR=92
SUSD S **S** **03 44 22.2 -2.8**
baz=145
PV13 Radium Mtn., P 71.69 324 IAmb IAmb 03 37 50.7
comp=Z,319nm,1.0s
CGR Cap Guir 71.71 47 P **P** **03 35 53.0 +1.2**
F33A 5 Mile Ranch, 71.77 336 IAmb IAmb 03 37 27.6
comp=Z,719nm,1.4s
PV11 David Mesa, Pa 71.81 324 IAmb IAmb 03 37 23.2
comp=Z,877nm,1.5s
TORD Torodi Ar. Bea 71.83 68 P **P** **03 35 52.6 -0.2**
comp=Z,2µm,0.7s,baz=253,slow=5.6
TORD pP **pP** **03 37 54.5 +2.4**
comp=Z,133nm,1.0s,baz=260,slow=5.4,SNR=5.1
TORD Torodi Ar. Bea 71.83 68 P **P** **03 35 52.8 0.0**
TORD pP **pP** **03 37 50.7 -1.4**
CPBX Cerro Prieto 71.83 315 IAmb IAmb 03 38 02.6
comp=Z,783nm,1.7s
GLA Glamis 71.91 316 P **P** **03 35 52.6 -0.4**
GLA pmax pmax
comp=Z,147nm,0.7s
GLA Glamis 71.91 316 P **P** **03 35 52.6 -0.4**
GLA Glamis 71.91 316 P **P** **03 35 54.4 +1.4**
baz=129,SNR=29
GLA S **SKiKP** **03 44 30.9 +2.3**
baz=129
EYMN Ely 71.93 340 P **P** **03 35 51.9 -0.7**
EYMN IAmb IAmb 03 37 29.8
comp=Z,1µm,1.4s
EYMN Ely 71.93 340 P **P** **03 35 52.0 -0.7**
baz=152,SNR=42
EYMN S **S** **03 44 23.7 -4.1**
baz=152
PV10 Paradox Valley 71.96 324 P **P** **03 35 52.5 -0.9**
PV10 IAmb IAmb 03 37 37.5
comp=Z,662nm,1.0s
PV23 Carpenter Ridg 72.00 324 IAmb IAmb 03 37 22.2
comp=Z,552nm,1.2s
N23A Red Feather La 72.13 327 IAmb IAmb 03 37 37.1
comp=Z,512nm,1.4s
N23A Red Feather La 72.13 327 P **P** **03 35 55.7 +1.3**
baz=138,SNR=103
N23A S **S** **03 44 31.5 +0.6**
baz=138
PDMCI Parker Dam,Lak 72.27 318 P **P** **03 35 56.4 +1.5**
baz=130,SNR=37
PDMCI S **S** **03 44 34.0 +1.9**
baz=130
AUSN Aus 72.41 113 *e*P **P** **03 35 56.4 +0.1**
AUSN IAmb IAmb 03 35 58.2
comp=Z,472nm,1.3s
SWSC Sam W. Stewart 72.48 316 P **P** **03 35 57.5 +1.3**
baz=129,SNR=23
SWSC S **S** **03 44 38.4 +3.9**
baz=129
IKP In-Ko-Pah, Jac 72.51 315 P **P** **03 35 57.9 +1.4**
baz=128,SNR=29
IKP S **S** **03 44 38.4 +3.3**
baz=128
U15A North Rim 72.51 320 IAmb IAmb 03 36 00.2
comp=Z,246nm,0.8s
TTIG Tnine Tigouga, 72.66 48 P **P** **03 35 58.6 +1.2**
BC3 Big Chuckawall 72.70 316 P **P** **03 35 58.8 +1.2**
baz=129,SNR=135
BC3 S **S** **03 44 40.7 +3.5**
baz=129
O20A White River Ci 72.77 325 IAmb IAmb 03 36 01.2
comp=Z,382nm,0.8s
O20A White River Ci 72.77 325 P **P** **03 35 59.2 +1.2**
baz=136,SNR=234
O20A S **S** **03 44 39.2 +1.3**
baz=136
IRM Iron Mountain 72.81 317 P **P** **03 35 59.5 +1.4**
baz=129,SNR=102
IRM S **S** **03 44 40.6 +2.3**
baz=129
MONP2 Monument Peak 72.86 315 P **P** **03 36 00.2 +1.5**
baz=128,SNR=68
MONP2 S **S** **03 44 41.9 +2.7**
baz=128
NEE2 Needles Airpor 72.87 318 P **P** **03 35 59.6 +1.2**
baz=130,SNR=9.0
NEE2 S **S** **03 44 41.7 +2.9**

baz=130
B35A Bob, Littlefor 73.02 339 IAmb IAmb 03 36 00.2
comp=Z,275nm,0.6s
TJX Tijuana 73.05 315 IAmb IAmb 03 36 02.6
comp=Z,265nm,0.8s
D32A Dogwood Acres, 73.13 337 IAmb IAmb 03 37 34.1
comp=Z,464nm,1.1s
PKCU Pink Cliffs 73.20 321 IAmb IAmb 03 37 40.2
comp=Z,397nm,1.3s
KNB Kanab 73.22 321 IAmb IAmb 03 36 04.2
comp=Z,464nm,0.9s
BELC Belle Mtn. Jos 73.27 316 P **P** **03 36 02.3 +1.4**
baz=129,SNR=95
BELC S **S** **03 44 46.6 +3.1**
baz=129
SRU San Rafael Swe 73.30 323 IAmb IAmb 03 36 03.7
comp=Z,345nm,0.7s
109C Camp Elliot, M 73.31 315 P **P** **03 36 02.4 +1.4**
baz=128,SNR=7.2
109C S **S** **03 44 46.1 +2.4**
baz=128
TPFO Pinon Flats 73.32 316 P **P** **03 36 02.8 +1.6**
baz=128,SNR=58
TPFO S **S** **03 44 47.7 +3.6**
baz=128
PFO Pinyon Flats O 73.33 316 *e*P **P** **03 36 02.7 +1.5**
PFO Pinyon Flats O 73.33 316 P **P** **03 36 01.6 +0.4**
PFO Pinyon Flats O 73.33 316 P **P** **03 36 02.6 +1.4**
baz=128,SNR=61
PFO S **S** **03 44 47.7 +3.6**
baz=128
RWWY Rawlins 73.36 327 P **P** **03 36 01.7 +0.3**
RWWY IAmb IAmb 03 37 20.5
comp=Z,485nm,1.1s
OUK Oukaimeden 73.44 47 P **P** **03 36 03.0 +0.9**
P18A Preston Nutter 73.51 324 IAmb IAmb 03 36 05.7
comp=Z,407nm,0.7s
ELIM Elim 73.54 121 *e*P **P** **03 36 02.5 +0.1**
ELIM IAmb IAmb 03 36 04.0
comp=Z,405nm,1.0s
GMRC Granite Mounta 73.54 317 P **P** **03 36 04.0 +1.7**
baz=129,SNR=218
GMRC S **S** **03 44 49.2 +2.7**
baz=129
RSSD Black Hills 73.64 331 P **P** **03 36 03.5 +0.6**
RSSD pmax pmax
comp=Z,204nm,0.9s
RSSD Black Hills 73.64 331 P **P** **03 36 03.5 +0.6**
RSSD Black Hills 73.64 331 P **P** **03 36 03.1 +0.3**
baz=140
RSSD S **S** **03 44 46.0 -1.3**
baz=140
P17A Butcher Ranch, 73.67 324 P **P** **03 36 04.5 +1.4**
P17A IAmb IAmb 03 36 05.9
comp=Z,312nm,0.8s
AGMN Agassiz Nation 73.70 338 IAmb IAmb 03 36 04.4
comp=Z,367nm,0.8s
AGMN Agassiz Nation 73.70 338 P **P** **03 36 02.7 0.0**
baz=148
AGMN S **S** **03 44 43.0 -4.2**
baz=148
K22A Casper 73.72 328 IAmb IAmb 03 37 12.8
comp=Z,522nm,1.4s
K22A Casper 73.72 328 P **P** **03 36 03.9 +0.7**
baz=138,SNR=91
K22A S **S** **03 44 48.4 +0.2**
baz=138
RDMU Red Mountain 73.80 325 IAmb IAmb 03 37 12.7
comp=Z,552nm,1.0s
MURC Murrieta 73.81 315 P **P** **03 36 05.3 +1.5**
baz=128,SNR=39
MURC S **S** **03 44 53.3 +4.1**
baz=128
HEC Hector,Ludlow 74.00 317 P **P** **03 36 06.8 +1.8**
baz=129,SNR=40
HEC S **S** **03 44 55.0 +3.7**
baz=129
BBRC Big Bear Solar 74.03 316 P **P** **03 36 07.1 +1.8**
baz=128,SNR=28
BBRC S **S** **03 44 55.8 +3.8**
baz=128
OUZM OUZ 74.05 48 P **P** **03 36 06.1 +0.8**
TUQ Turquoise Moun 74.12 318 P **P** **03 36 07.2 +1.6**
baz=129,SNR=40
TUQ S **S** **03 44 55.1 +2.4**
baz=129
WIN Windhoek 74.16 109⇓*i*P **P** **03 36 05.9 -0.4**
WIN IAmb IAmb 03 36 07.9
comp=Z,120nm,1.0s
WIN Windhoek 74.16 109 IAmb IAmb 03 36 08.1
comp=Z,318nm,1.0s
CVNA Calvinia 74.26 118⇓*i*P **P** **03 36 07.1 +0.5**
CVNA IAmb IAmb 03 36 08.8
comp=Z,583nm,1.1s
SCHQ Schefferville 74.30 358 P **P** **03 36 06.1 +0.1**
comp=Z,467nm,0.7s,baz=188,slow=4.5,SNR=472
SCHQ Schefferville 74.30 358 IAmb IAmb 03 36 07.8
comp=Z,462nm,0.7s
SCI2 San Clemente I 74.34 314 P **P** **03 36 08.4 +1.6**
baz=127,SNR=6.7
SCI2 S **S** **03 44 57.8 +2.9**
baz=127
ZGR Zagora 74.41 49 P **P** **03 36 08.3 +0.9**
RRX Edison Barstow 74.46 317 P **P** **03 36 09.8 +2.4**
baz=128
RRX S **S** **03 44 59.3 +3.2**
baz=128
BFSC Mount Baldy Ra 74.50 316 P **P** **03 36 09.1 +1.3**
baz=128,SNR=47
BFSC S **S** **03 44 59.9 +3.0**
baz=128
CIS Catalina Islan 74.50 315 P **P** **03 36 09.7 +2.0**
baz=127,SNR=18
CIS S **S** **03 44 59.7 +3.0**
baz=127
MATJ Matjiesfontein 74.52 120⇓*i*P **P** **03 36 08.5 +0.5**
MATJ IAmb IAmb 03 36 10.1
comp=Z,669nm,1.0s
GSC Goldstone, Bar 74.60 317 P **P** **03 36 10.1 +1.8**
baz=128,SNR=71
GSC S **S** **03 45 01.3 +3.5**
baz=128
FMP Fort Macarthur 74.61 315 P **P** **03 36 10.0 +1.8**
baz=127,SNR=5.1
FMP S **S** **03 45 00.5 +2.8**
baz=127
SHOC Shoshone, Teco 74.63 318 P **P** **03 36 10.1 +1.7**
baz=129,SNR=30
SHOC S **S** **03 45 01.7 +3.7**
baz=129
MDND Maddock 74.71 336 P **P** **03 36 09.1 +0.6**
baz=145,SNR=518
MDND S **S** **03 44 54.6 -3.7**
baz=145
TAOE Nuku Hiva Isla 74.73 266 *e*P **P** **03 36 11.3 +1.8**
comp=Z,362nm,1.2s
PASC Pasadena Art C 74.81 315 P **P** **03 36 10.7 +1.4**
TZRR Tazzarine 74.82 49 P **P** **03 36 10.6 +1.0**
PRN Pahroc Range 74.82 320 P **P** **03 36 11.4 +1.9**
PSUT Pine Spring 74.83 321 P **P** **03 36 11.3 +1.6**
PSUT IAmb IAmb 03 36 13.0
comp=Z,247nm,0.7s
JLU Jordanelle 74.85 324 P **P** **03 36 10.9 +1.2**
JLU IAmb IAmb 03 36 12.7
comp=Z,263nm,0.7s
SUR Sutherland 74.92 119 P **P** **03 36 10.8 +0.4**
SUR IAmb IAmb 03 36 12.9
comp=Z,564nm,1.1s
DECC Green Verdugo 74.96 315 P **P** **03 36 11.9 +1.7**
baz=127,SNR=26
DECC S **S** **03 45 03.6 +2.0**
baz=127
AVE Averroes 74.98 46 P **P** **03 36 08.9 -1.4**
AVE Averroes 74.98 46 P **P** **03 36 11.5 +1.1**
QSM Queen of Sheba 75.05 318 P **P** **03 36 11.9 +1.3**
QSM IAmb IAmb 03 37 05.3
comp=Z,394nm,1.1s
GWY Greenwater Val 75.06 318 P **P** **03 36 12.0 +1.1**
GWY IAmb IAmb 03 36 13.8
comp=Z,236nm,0.7s
CTU Camp Tracy 75.08 324 P **P** **03 36 12.0 +1.0**
ARMS Ukamas 75.08 115 *e*P **P** **03 36 11.4 +0.1**
ARMS IAmb IAmb 03 36 13.0
comp=Z,295nm,0.9s
EDW2 Edwards Air Fo 75.11 316 P **P** **03 36 12.3 +1.1**
baz=128,SNR=98
EDW2 S **S** **03 45 04.3 +1.0**

baz=128
SNCC San Nicolas Is 75.16 314 P **P 03 36 12.1 +0.8**
SNCC San Nicolas Is 75.16 314 P **P 03 36 12.7 +1.3**
baz=126,SNR=5.4
SNCC S **S 03 45 06.2 +2.5**
baz=126
LRMC Laurel Mtn Rad 75.27 317 P **P 03 36 13.6 +1.5**
baz=128,SNR=16
LRMC S **S 03 45 08.3 +3.1**
baz=128
TPNV Topopah Spring 75.27 319 P **P 03 36 13.4 +1.3**
TPNV pmax pmax
comp=Z,148nm,1.0s
TPNV Topopah Spring 75.27 319 P **P 03 36 13.3 +1.3**
TPNV Topopah Spring 75.27 319 P **P 03 36 13.8 +1.7**
baz=129,SNR=132
TPNV S **S 03 45 09.1 +3.9**
baz=129
DUG Dugway, Tooele 75.33 323 P **P 03 36 13.8 +1.4**
DUG pmax pmax
comp=Z,175nm,0.8s
DUG Dugway, Tooele 75.33 323 P **P 03 36 13.8 +1.4**
DUG Dugway, Tooele 75.33 323 P **P 03 36 13.8 +1.4**
baz=132,SNR=237
DUG S **S 03 45 07.1 +1.4**
baz=132
BW06 Boulder Array 75.34 327 P **P 03 36 13.2 +0.7**
BW06 Boulder Array 75.34 327 P **P 03 36 12.9 +0.4**
baz=135,SNR=184
BW06 S **S 03 45 06.1 +0.2**
baz=135
PD31 Pinedale Array 75.34 327 P **P 03 36 13.1 +0.6**
PDAR Pinedale Array 75.34 327 P **P 03 36 12.8 +0.4**
comp=Z,65nm,0.5s,baz=127,slow=8.5,SNR=508
PDAR PKKP **PKKPdf 03 55 11.9 -3.9**
comp=Z,0.7nm,0.8s,baz=64,slow=3.4,SNR=3.6
PDAR Pinedale Array 75.34 327 P **P 03 36 12.9 +0.4**
FURC Furnace Creek, 75.36 318 P **P 03 36 14.2 +1.9**
baz=129,SNR=128
FURC S **S 03 45 09.0 +3.3**
baz=129
ULM Lac du Bonnet 75.36 339 P **P 03 36 11.7 -0.4**
comp=Z,208nm,0.5s,baz=147,slow=6.7,SNR=240
ULM S **S 03 45 00.1 -5.1**
comp=Z,36nm,0.8s,baz=61,slow=23,SNR=28
ULM Lac du Bonnet 75.36 339 P **P 03 36 11.9 -0.2**
ULM pmax pmax
comp=Z,289nm,0.6s
ULM Lac du Bonnet 75.36 339 P **P 03 36 11.9 -0.2**
ULM IAmb IAmb 03 36 13.0
comp=Z,289nm,0.6s
S11A Rachel 75.40 319 P **P 03 36 13.9 +1.1**
S11A IAmb IAmb 03 37 34.1
comp=Z,675nm,1.2s
SPR3 Spring Creek 3 75.42 321 P **P 03 36 14.2 +1.1**
SPR3 IAmb IAmb 03 36 16.0
comp=Z,233nm,0.7s
OSI Osito Audit: C 75.43 315 P **P 03 36 13.5 +0.6**
OSI Osito Audit: C 75.43 315 P **P 03 36 14.2 +1.4**
baz=127,SNR=12
OSI S **S 03 45 09.0 +2.3**
baz=127
TSUM Tsumeb 75.50 105 ⇓*i*P P **03 36 13.6 -0.2**
TSUM Tsumeb 75.50 105 P **P 03 36 14.0 +0.2**
TSUM IAmb IAmb 03 36 15.9
comp=Z,595nm,1.0s
MPMC Manual Prospec 75.50 317 P **P 03 36 14.5 +1.1**
baz=128,SNR=116
MPMC S **S 03 45 11.1 +3.3**
baz=128
R11A Troy Canyon, C 75.75 320 P **P 03 36 15.4 +0.6**
R11A Troy Canyon, C 75.75 320 P **P 03 36 16.4 +1.6**
baz=130,SNR=292
R11A S **S 03 45 13.6 +3.3**
baz=130
GOLM Goulmima 75.77 48 P **P 03 36 16.1 +1.2**
ARVC Arvin 75.81 316 P **P 03 36 16.3 +1.4**
baz=127,SNR=20
ARVC S **S 03 45 13.8 +3.1**
baz=127
ISA Isabella, Lake 75.89 316 P **P 03 36 16.4 +0.9**
ISA pmax pmax
comp=Z,145nm,0.8s
ISA Isabella, Lake 75.89 316 P **P 03 36 16.4 +0.9**
ISA Isabella, Lake 75.89 316 P **P 03 36 17.0 +1.5**
baz=127,SNR=112
ISA S **S 03 45 15.0 +3.3**
baz=127
SBC Santa Barbara 75.98 315 P **P 03 36 17.2 +1.4**
baz=126
SBC S **S 03 45 14.9 +2.4**
baz=126
GRAN Grantham 76.05 120 ⇓*i*P **P 03 36 16.6 +0.1**
GRAN IAmb IAmb 03 36 18.6
comp=Z,270nm,1.0s
CWC Cottonwood Cre 76.11 317 P **P 03 36 18.0 +1.2**
baz=128
CWC S **S 03 45 17.0 +2.8**
baz=128
AHID Auburn Hatcher 76.15 326 P **P 03 36 17.6 +0.8**
AHID IAmb IAmb 03 36 19.6
comp=Z,255nm,0.8s
UPI Upington 76.29 115 ⇓*i*P **P 03 36 17.8 -0.1**
UPI IAmb IAmb 03 36 19.7
comp=Z,374nm,1.0s
SYO Syowa Base 76.30 159 ⇓*i*P **P 03 36 17.4 +0.4**
SYO Syowa Base 76.30 159 ⇓*e*PcP **PcP 03 36 24.4 -1.5**
PKM Mcpherson Peak 76.31 315 P **P 03 36 19.1 +1.2**
baz=126,SNR=79
PKM S **S 03 45 18.7 +2.2**
baz=126
LCH Last Change Ra 76.32 318 P **P 03 36 18.9 +1.1**
PFVI Vila Bisbo 76.36 42 *e*P **P 03 36 18.5 +0.7**
comp=Z,991nm,1.2s
PFVI Vila Bisbo 76.36 42 P **P 03 36 18.6 +0.7**
PFVI IAmb IAmb 03 36 20.6
comp=Z,689nm,1.1s
PFVI Vila Bisbo 76.36 42 P **P 03 36 18.8 +1.0**
HVU Hansel Valley 76.38 324 P **P 03 36 18.7 +0.6**
HVU pmax pmax
comp=Z,141nm,0.9s
HVU Hansel Valley 76.38 324 P **P 03 36 18.7 +0.6**
VES Vestal, Richgr 76.40 316 P **P 03 36 19.6 +1.5**
baz=127,SNR=54
VES S **S 03 45 19.5 +2.7**
baz=127
REDW Red Top Meadow 76.44 326 P **P 03 36 19.0 +0.6**
SNOW Snow King Moun 76.46 327 P **P 03 36 19.4 +0.8**
LOHW Long Hollow 76.48 327 P **P 03 36 19.6 +0.9**
ECR Eagle Creek 76.50 326 P **P 03 36 19.5 +0.8**
MORF Marmelete 76.58 42 *e*P **P 03 36 20.0 +0.8**
MORF IAmb IAmb 03 36 22.3
comp=Z,750nm,1.1s
MORF Marmelete 76.58 42 *e*P **P 03 36 20.1 +1.0**
comp=Z,975nm,1.4s
MORF Marmelete 76.58 42 *e*P **P 03 36 19.9 +0.8**
TPH Tonopah 76.58 319 P **P 03 36 20.7 +1.4**
TPH pmax pmax
comp=Z,1μm,1.0s
TPH Tonopah 76.58 319 P **P 03 36 20.7 +1.4**
TPH IAmb IAmb 03 37 01.8
comp=Z,1μm,1.0s
TIN Tinemaha, Big 76.58 318 P **P 03 36 20.8 +1.5**
baz=128,SNR=21
TIN S **S 03 45 22.8 +3.8**
baz=128
LAO LASA Array 76.59 331 P **P 03 36 19.5 +0.5**
LAO IAmb IAmb 03 36 57.7
comp=Z,750nm,1.4s
LAO LASA Array 76.59 331 P **P 03 36 19.3 +0.3**
baz=139,SNR=80
LAO S **S 03 45 17.2 -1.5**
baz=139
MDT Midelt 76.63 48 P **P 03 36 20.6 +1.0**
comp=Z,553nm,0.9s,baz=289,slow=2.0,SNR=874
MDT Midelt 76.63 48 P **P 03 36 20.6 +1.0**
MOOW Moose Ponds 76.65 327 P **P 03 36 19.8 +0.1**
IFR Ifrane 76.67 47 P **P 03 36 19.9 +0.1**
PTEO Sao Teotonio 76.68 42 *e*P **P 03 36 20.8 +1.2**
comp=Z,2μm,1.3s
SMMC Simmler 76.69 315 P **P 03 36 21.3 +1.6**
baz=126,SNR=80
SMMC S **S 03 45 23.9 +3.9**
baz=126
FLWY Flagg Ranch 76.86 327 P **P 03 36 21.7 +1.0**
FLWY IAmb IAmb 03 36 23.5
comp=Z,262nm,0.8s
VOG Valley Oaks Go 76.88 317 P **P 03 36 21.0 +0.3**
baz=127
RLMT Red Lodge 76.88 329 P **P 03 36 21.0 +0.2**
RLMT Red Lodge 76.88 329 P **P 03 36 21.5 +0.7**
baz=136,SNR=30
RLMT S **S 03 45 21.3 -0.9**
baz=136
LCRM LCR 76.95 47 P **P 03 36 22.0 +0.6**
PBDV Barranco-do-Ve 77.00 42 *e*P **P 03 36 22.4 +1.0**
comp=Z,1μm,1.6s
H17A Grant Village 77.02 327 P **P 03 36 23.5 +1.9**
H17A IAmb IAmb 03 37 02.3
comp=Z,465nm,1.2s
H17A Grant Village 77.02 327 P **P 03 36 23.1 +1.5**
baz=135,SNR=143
H17A S **S 03 45 26.1 +2.4**
baz=135
Q09A Carvers 77.03 320 P **P 03 36 22.3 +0.6**
Q09A IAmb IAmb 03 36 24.9
comp=Z,310nm,0.8s
LKWY Lake 77.05 328 P **P 03 36 23.3 +1.5**
LKWY pmax pmax
comp=Z,136nm,0.7s
LKWY Lake 77.05 328 P **P 03 36 23.3 +1.5**
YMP Mirror Lake Pl 77.05 328 P **P 03 36 22.3 +0.5**
DGMT Dagmar 77.07 333 P **P 03 36 21.6 +0.1**
DGMT IAmb IAmb 03 36 24.4
comp=Z,506nm,0.8s
DGMT Dagmar 77.07 333 P **P 03 36 22.6 +1.1**
baz=141,SNR=167
DGMT S **S 03 45 22.8 -0.7**
baz=141
ELK Elko 77.09 322 S **S 03 45 26.2 +1.7**
comp=Z,5.9nm,1.1s,baz=240,slow=23,SNR=6.9
ELK Elko 77.09 322 P **P 03 36 23.0 +0.9**
ELK pmax pmax
comp=Z,126nm,0.9s
ELK Elko 77.09 322 P **P 03 36 23.0 +0.9**
PAGB Antelope Grade 77.10 316 P **P 03 36 23.3 +1.4**
PAGB IAmb IAmb 03 36 25.0
comp=Z,366nm,0.7s
PMST Lisbon--Monsan 77.13 41 *e*P **P 03 36 23.2 +1.2**
comp=Z,851nm,1.1s
LIS Lisbon 77.14 41 *e*P **P 03 36 23.0 +0.9**
LIS IAmb IAmb 03 36 24.8
comp=Z,730nm,0.8s
LIS Lisbon 77.14 41 *e*P **P 03 36 23.1 +1.1**
comp=Z,918nm,0.9s
LIS Lisbon 77.14 41 *e*P **P 03 36 22.9 +0.9**
PNCL Nicolau / Gran 77.15 41 *e*P **P 03 36 22.8 +0.7**
comp=Z,460nm,1.7s
PCVE Castro Verde 77.16 42 *e*P **P 03 36 23.2 +1.0**
comp=Z,514nm,1.4s
MESJ Messejana 77.17 42 *e*P **P 03 36 23.2 +0.9**
MESJ IAmb IAmb 03 36 24.9
comp=Z,374nm,0.8s
MESJ Messejana 77.17 42 *e*P **P 03 36 23.2 +0.9**
MESJ IAmb 03 36 24.9
MESJ Messejana 77.17 42 *e*P **P 03 36 23.2 +0.9**
YFT Old Faithful 77.19 327 P **P 03 36 24.1 +1.5**
YFT pP **pP 03 38 25.4 +1.1**
PMAFR Mafra 77.20 40 *e*P **P 03 36 23.1 +0.7**
comp=Z,661nm,1.3s
YUF Upper Falls 77.21 328 P **P 03 36 23.9 +1.2**
PVAQ Vaqueiros 77.23 42 *e*P **P 03 36 23.4 +0.9**
comp=Z,768nm,1.8s
PVAQ Vaqueiros 77.23 42 P **P 03 36 23.8 +1.2**
PVAQ IAmb IAmb 03 36 25.4
comp=Z,1μm,1.9s
PVAQ Vaqueiros 77.23 42 P **P 03 36 23.5 +0.9**
YNR Norris Junctio 77.30 327 P **P 03 36 24.6 +1.5**
MLAC Mammoth, Mammo 77.31 318 P **P 03 36 25.1 +1.7**
baz=127,SNR=19
MLAC S **S 03 45 29.6 +2.6**
baz=127
NV11 Mina Array Sit 77.38 319 P **P 03 36 25.1 +1.5**
YMR Madison River 77.41 327 P **P 03 36 25.5 +1.8**
CHEFC Chefchaouen 77.43 45 P **P 03 36 25.2 +1.4**
YHH Holmes Hill 77.44 327 P **P 03 36 25.6 +1.7**
YHH IAmb IAmb 03 36 27.2
comp=Z,372nm,0.8s
NVAR Mina Array Bea 77.47 319 P **P 03 36 25.4 +1.3**
comp=Z,142nm,0.9s,baz=137,slow=5.4,SNR=438
NVAR PKPPKP **P'P'df 04 03 21.1 -3.5**
comp=Z,1.2nm,0.8s,baz=321,slow=2.1,SNR=3.8
NVAR P4KP 04 13 53.1
comp=Z,0.8nm,0.9s,baz=256,slow=4.4,SNR=3.9
NVAR Mina Array Bea 77.47 319 P **P 03 36 24.6 +0.5**
LHV Little Huntoon 77.48 319 P **P 03 36 26.1 +2.2**
LHV IAmb IAmb 03 36 51.3
comp=Z,649nm,1.1s
ROSN Rosenhof 77.50 122 *e*P **P 03 36 24.1 -0.2**
PBEJ Beja 77.51 42 *e*P **P 03 36 24.9 +0.8**
comp=Z,437nm,1.4s
GCMT Greycliff 77.56 329 P **P 03 36 24.8 +0.4**
SFS San Fernando 77.64 44 P **P 03 36 24.8 -0.1**
SFS San Fernando 77.64 44 P **P 03 36 26.6 +1.8**
SFS pmax pmax
comp=Z,704nm,1.0s
SFS San Fernando 77.64 44 P **P 03 36 26.6 +1.8**
SFS IAmb IAmb 03 36 28.0
comp=Z,704nm,1.0s
ARNO Arenosillo 77.67 43 P **P 03 36 24.9 -0.1**
CNIL Conil 77.69 44 P **P 03 36 29.0 +3.9**
KVN Kaiserville 77.72 319 P **P 03 36 26.4 +0.9**
KVN pmax pmax
comp=Z,227nm,0.7s
KVN Kaiserville 77.72 319 P **P 03 36 26.4 +0.9**
RYN Ryan 77.72 319 P **P 03 36 27.4 +1.9**
EVO Evora 77.73 41 P **P 03 36 23.3 -1.9**
EVO Evora 77.73 41 *e*P **P 03 36 25.8 +0.5**
comp=Z,354nm,2.0s
PMPB Monarch Peak 77.74 316 P **P 03 36 27.2 +1.7**
QLMT Earthquake Lak 77.76 327 P **P 03 36 26.6 +1.0**
PSBE So Bento 77.85 40 *e*P **P 03 36 26.8 +0.9**
comp=Z,1μm,1.9s
CEU Ceuta 77.86 45 P **P 03 36 24.6 -1.4**
PMTG Montargil 77.92 41 *e*P **P 03 36 27.0 +0.7**
comp=Z,1μm,2.1s
BMN Battle Mountai 78.05 321 P **P 03 36 27.0 -0.2**
BMN pmax pmax
comp=Z,232nm,1.3s
BMN Battle Mountai 78.05 321 P **P 03 36 27.0 -0.2**
BBGB Big Mountain B 78.11 316 P **P 03 36 27.4 -0.1**
BBGB IAmb IAmb 03 36 33.4
comp=Z,414nm,0.8s
PESTR Estremoz 78.19 41 *e*P **P 03 36 28.4 +0.7**
comp=Z,722nm,1.5s
PESTR Estremoz 78.19 41 P **P 03 36 28.5 +0.7**
PESTR IAmb IAmb 03 36 30.6
comp=Z,479nm,1.3s
PESTR Estremoz 78.19 41 P **P 03 36 28.5 +0.7**
PCAS Casmilo, Conde 78.36 40 *e*P **P 03 36 28.8 +0.2**
comp=Z,996nm,1.5s
YERR Yerington 78.39 319 P **P 03 36 29.7 +0.7**
YERR IAmb IAmb 03 36 32.2
comp=Z,287nm,0.7s
BOZ Bozeman (W) 78.39 328 P **P 03 36 29.7 +0.8**
BOZ pmax pmax
comp=Z,183nm,0.8s
BOZ Bozeman (W) 78.39 328 P **P 03 36 29.7 +0.8**
BOZ Bozeman (W) 78.39 328 P **P 03 36 29.6 +0.8**
baz=134,SNR=40
BCYI Bear Canyon 78.43 326 P **P 03 36 30.3 +1.1**
PALE Palemas 78.44 46 P **P 03 36 31.0 +1.8**
HLID Hailey 78.47 325 P **P 03 36 30.9 +1.5**
HLID IAmb IAmb 03 36 32.9
comp=Z,344nm,0.8s
HLID pP **pP 03 38 31.7 -0.2**
HLID Hailey 78.47 325 P **P 03 36 30.7 +1.4**
baz=132,SNR=669
SAO San Andreas Ge 78.48 316 P **P 03 36 29.8 +0.4**
SAO pmax pmax
comp=Z,81nm,0.9s
SAO San Andreas Ge 78.48 316 P **P 03 36 29.8 +0.4**
SBA Scott Base 78.49 190 P **P 03 36 29.5 +0.8**
SBA pP **pP 03 38 32.9 +2.0**
MCMT McKenzie Canyo 78.49 326 P **P 03 36 30.4 +0.9**
COI Coimbra 78.51 40 *e*P **P 03 36 30.2 +0.8**
comp=Z,1μm,1.1s
COI Coimbra 78.51 40 P **P 03 36 30.8 +1.4**
COI pmax pmax
comp=Z,1μm,1.0s
COI Coimbra 78.51 40 P **P 03 36 30.8 +1.4**
CMB Columbia Colle 78.54 317 P **P 03 36 31.1 +1.4**
CMB pmax pmax
comp=Z,197nm,1.0s
CMB Columbia Colle 78.54 317 P **P 03 36 31.1 +1.4**
FIGM Figuig 78.63 50 P **P 03 36 31.3 +0.8**
PMRV Marv??o 78.65 41 *e*P **P 03 36 30.6 +0.4**
comp=Z,410nm,1.5s
PNTR Pine Nut 78.67 319 P **P 03 36 31.9 +1.3**
PNTR IAmb IAmb 03 36 34.3
comp=Z,595nm,0.8s
SOE Somerset East 78.70 121 *e*P **P 03 36 30.9 0.0**
SOE IAmb IAmb 03 36 32.6
comp=Z,411nm,1.0s
DLMT Dillon 78.72 327 P **P 03 36 31.4 +0.8**
DLMT IAmb IAmb 03 36 43.1
comp=Z,796nm,1.5s
VCNR Virginia City 78.83 319 P **P 03 36 32.4 +1.0**
PCBR Castelo Branco 78.85 40 *e*P **P 03 36 31.6 +0.4**
comp=Z,408nm,1.4s
JBK JBK 78.89 47 P **P 03 36 32.2 +0.4**
PAHR Pah Rah Range 78.91 319 P **P 03 36 33.1 +1.4**
PAHR IAmb IAmb 03 36 34.9
comp=Z,295nm,0.8s
EMB Emerald Bay 78.92 318 P **P 03 36 33.2 +1.3**
LRM Limekiln Ridge 78.97 327 P **P 03 36 32.4 +0.4**
EMAL Malaga-Limoner 78.98 44 P **P 03 36 31.8 -0.2**
RUBR Rubicon Trail 79.00 318 P **P 03 36 32.0 -0.3**
RUBR IAmb IAmb 03 36 58.3
comp=Z,383nm,1.0s
TBI Tubuai 79.03 249 *e*P **P 03 36 34.5 +1.9**
comp=Z,448nm,1.0s
MPK Martis Peak 79.06 319 P **P 03 36 34.8 +2.0**
MPK IAmb IAmb 03 36 41.4
comp=Z,530nm,1.1s
PVIS Viseu 79.13 40 *e*P **P 03 36 33.2 +0.4**
comp=Z,449nm,1.5s
MTE Manteigas 79.15 40 *e*P **P 03 36 33.4 +0.5**
comp=Z,963nm,1.2s
MTE Manteigas 79.15 40 P **P 03 36 33.4 +0.5**
MTE IAmb IAmb 03 36 35.2
comp=Z,725nm,1.0s
MFID Camas Ranch 79.15 324 P **P 03 36 34.0 +1.0**
MFID pP **pP 03 38 36.3 +0.4**
EGMT Eagleton 79.20 330 P **P 03 36 33.0 -0.1**
EGMT IAmb IAmb 03 36 55.6
comp=Z,317nm,0.8s
HVD Gariep Dam 79.24 119 ⇓*i*P **P 03 36 34.0 +0.1**
HVD IAmb IAmb 03 36 35.6
comp=Z,421nm,0.8s
HRY Holter Researc 79.27 328 P **P 03 36 34.4 +1.0**
MEH Mehetia 79.37 255 *e*P **P 03 36 36.5 +1.9**
comp=Z,53nm,1.1s
CHAS Isla Isabel II 79.45 47 P **P 03 36 33.7 -0.7**
VNDA Vanda 79.47 189 P **P 03 36 35.5 +1.6**
comp=Z,15nm,0.6s,baz=127,slow=5.0,SNR=67
VNDA PKPPKP **P'P'df 04 03 21.4 -0.1**
comp=Z,2.1nm,0.9s,baz=302,slow=3.0,SNR=4.6
VNDA Vanda 79.47 189 P **P 03 36 34.4 +0.5**
VNDA pP **pP 03 38 35.0 -1.5**
PVRL Vila Real 79.58 39 *e*P **P 03 36 35.9 +0.8**
comp=Z,1μm,1.2s
POLO Lamas de Olo 79.59 39 *e*P **P 03 36 35.5 +0.2**
comp=Z,279nm,1.7s
BOSA Boshof 79.61 117 P **P 03 36 35.1 -0.7**
comp=Z,83nm,0.5s,baz=259,slow=3.5,SNR=260
BOSA pP **pP 03 38 38.8 +0.5**
comp=Z,70nm,0.9s,baz=251,slow=5.6,SNR=7.8
BOSA Boshof 79.61 117 ⇓*i*P **P 03 36 35.1 -0.7**
BOSA IAmb IAmb 03 36 37.0
comp=Z,368nm,1.1s
BOSA Boshof 79.61 117 P **P 03 36 35.4 -0.4**
BOSA *PP **pP 03 38 38.9 +0.5**
BOSA pmax pmax
comp=Z,658nm,1.5s
BOSA Boshof 79.61 117 *i*P **P 03 36 33.7 -2.1**
BOSA Boshof 79.61 117 *i*P **P 03 36 33.7 -2.1**
BOSA Boshof 79.61 117 P **P 03 36 35.4 -0.4**
BOSA IAmb IAmb 03 36 37.2
comp=Z,658nm,1.5s
BOSA pP **pP 03 38 38.9 +0.5**
PCAB Cabril 79.66 39 *e*P **P 03 36 35.8 +0.3**
comp=Z,654nm,1.3s
PGAV Gavieira, Arco 79.68 38 *e*P **P 03 36 36.0 +0.3**
comp=Z,584nm,1.7s
VAH Vaihoa 79.76 257 *e*P **P 03 36 38.7 +2.1**
comp=Z,344nm,1.0s
MVO Moncorvo 79.92 40 *e*P **P 03 36 37.5 +0.6**
comp=Z,1μm,1.1s
PMOR Pomariorio Ree 80.08 258 *e*P **P 03 36 40.4 +2.2**
comp=Z,374nm,1.0s
SWZ Schweizer 80.09 115 *e*P **P 03 36 37.6 -0.7**
SWZ IAmb IAmb 03 36 39.4
comp=Z,461nm,1.1s
PBRG Braganca 80.48 39 *e*P **P 03 36 40.4 +0.6**
comp=Z,791nm,1.6s
PAB San Pablo 80.62 42 P **P 03 36 41.2 +0.5**
PAB pP **pP 03 38 43.3 -0.5**
PAB San Pablo 80.62 42 P **P 03 36 41.2 +0.5**
TIAR Tiarei 80.63 255 *e*P **P 03 36 43.2 +2.1**
comp=Z,0.6nm,0.8s
PAE Paea 80.81 255 *e*P **P 03 36 44.0 +2.0**
comp=Z,47nm,1.0s
PPT2 Papeete2 80.83 255 *e*P **P 03 36 44.4 +2.2**
comp=Z,176nm,1.1s
ESDC Sonseca Array 80.94 42 P **P 03 36 42.8 +0.5**
comp=Z,209nm,0.8s,baz=246,slow=4.2,SNR=677
ESDC Sonseca Array 80.94 42 P **P 03 36 42.7 +0.5**
ESDC IAmb IAmb 03 36 44.8
comp=Z,1μm,1.6s
ESDC pP **pP 03 38 41.5 -4.0**
ESBB Sonseca Array 80.94 42 P **P 03 36 42.3 +0.1**
ESBB IAmb IAmb 03 36 44.7
comp=Z,958nm,1.5s
LBTB Lobatse 80.96 113 ⇓*i*P **P 03 36 41.8 -1.0**
LBTB IAmb IAmb 03 36 44.2
comp=Z,412nm,1.1s
LBTB Lobatse 80.96 113 *i*P **P 03 36 41.4 -1.4**
LBTB Lobatse 80.96 113 *i*P **P 03 36 41.4 -1.4**
LBTB Lobatse 80.96 113 P **P 03 36 42.0 -0.9**
LBTB IAmb IAmb 03 36 44.4
comp=Z,410nm,1.1s
LBTB pP **pP 03 38 46.8 +0.9**
USTO Oran 81.04 47 P **P 03 36 45.0 +2.3**
ODJA Bouhanifia 81.10 48 P **P 03 36 47.0 +3.9**
IVI Ivigtut 81.55 7 P **P 03 36 45.6 +0.9**
IVI IAmb IAmb 03 36 47.2
comp=Z,791nm,1.2s
OJBR Djebel Berber 81.58 48 P **P 03 36 48.0 +2.4**
M04C Macdoel 81.64 320 P **P 03 36 47.3 +1.4**
baz=126
N02D Trinity Center 81.71 319 P **P 03 36 47.7 +1.5**
baz=125
CART Cartagena 81.72 45 P **P 03 36 44.0 -2.1**
CART Cartagena 81.72 45 P **P 03 36 45.2 -0.9**
CART IAmb IAmb 03 36 48.0
comp=Z,689nm,1.5s
CART Cartagena 81.72 45 P **P 03 36 46.6 +0.4**
UCM Universidad Co 81.76 42 P **P 03 36 45.5 -0.9**
OJGS Djebel Guires 81.82 48 P **P 03 36 49.0 +2.1**
KSR Koster 81.82 114 ⇓*i*P **P 03 36 47.3 0.0**
KSR IAmb IAmb 03 36 48.9
comp=Z,576nm,1.0s
SNKL Senekal, Frees 81.82 117 ⇓*i*P **P 03 36 46.9 -0.4**
SNKL IAmb IAmb 03 36 48.8
comp=Z,1μm,1.0s
NRS Narsarsuaq 81.87 9 P **P 03 36 46.8 +0.5**
NRS pmax pmax
comp=Z,451nm,1.0s
NRS Narsarsuaq 81.87 9 *i*P **P 03 36 46.0 -0.3**
NRS Narsarsuaq 81.87 9 P **P 03 36 46.8 +0.5**
NRS IAmb IAmb 03 36 48.3
comp=Z,451nm,1.0s
PRYS Parys 81.89 116 ⇓*i*P **P 03 36 46.9 -0.7**
PRYS IAmb IAmb 03 36 48.8
comp=Z,344nm,1.0s
OKGL Djebel Kef Gue 82.02 47 P **P 03 36 50.0 +2.2**
M02C Callahan 82.04 319 S **S 03 46 13.3 -1.5**
baz=125
K04D Chiloquin, OR 82.08 321 P **P 03 36 49.5 +1.4**
baz=126
K04D S **S 03 46 13.3 -2.1**
baz=126
WDLM Western Deep L 82.10 115 *e*P **P 03 36 48.4 -0.4**
WDLM IAmb IAmb 03 36 50.2
comp=Z,471nm,1.1s

J05D Fort Rock, OR 82.16 321 P P 03 36 50.3 +1.8
baz=126
J05D S **S** 03 46 14.5 -1.7
baz=126
L04D Klamath Falls 82.18 320 P P 03 36 50.6 +2.1
baz=126
EANR 'Ain N'Sour 82.29 48 P P 03 36 51.6 +2.4
HRAO HartRAO 82.49 115 ⇓ *i*P P 03 36 50.6 0.0
HRAO IAmb IAmb 03 36 52.1
comp=Z,580nm,0.9s
ECHA Ech Chlef 82.58 48 P P 03 36 49.0 -1.5
J04D Umpqua Nationa 82.65 321 P P 03 36 52.8 +1.7
baz=126
EBNR Beni Rached 82.77 47 P P 03 36 47.2 -4.4
I05D Terrebonne, OR 82.85 322 P P 03 36 53.9 +2.1
baz=126
I05D S **S** 03 46 23.2 +0.4
baz=126
L02E Cave Junction 82.93 319 S S 03 46 23.3 -0.3
baz=125
SLR Silverton 83.05 115 ⇓ *i*P P 03 36 53.1 -0.3
SLR IAmb IAmb 03 36 54.9
comp=Z,522nm,1.0s
I04A Tendick Farm, 83.15 321 S S 03 46 26.0 +0.3
baz=126
K02D Willamette Mer 83.28 320 S S 03 46 27.2 +0.1
baz=125
G05D Wamic, OR 83.37 323 P P 03 36 56.3 +1.9
baz=127
G05D S **S** 03 46 29.4 +1.7
baz=127
I03D Drain, OR 83.65 321 P P 03 36 57.8 +2.0
baz=125
I03D S **S** 03 46 30.9 +0.4
baz=125
H04D Lebanon 83.77 322 S S 03 46 30.4 -1.2
baz=126
NWCL Newcastle 83.77 117 ⇓ *i*P P 03 36 56.5 -0.4
NWCL IAmb IAmb 03 36 58.4
comp=Z,245nm,0.8s
F05D White Salmon 83.83 323 S S 03 46 34.1 +1.8
baz=126
CRLN Carolina, Mapu 84.45 115 ⇓ *i*P P 03 36 59.5 -0.9
MAW Mawson 84.46 162 P P 03 36 59.8 +0.4
comp=Z,186nm,1.1s,baz=238,slow=5.9,SNR=44
MAW Mawson 84.46 162 P P 03 36 59.0 -0.3
G03D McMinnville, O 84.47 322 P P 03 37 01.4 +1.7
baz=125
G03D S **S** 03 46 39.8 +1.5
baz=125
F04D Rainier, OR 84.83 323 P P 03 37 03.2 +1.8
baz=125
F04D S **S** 03 46 42.3 +0.5
baz=125
MATP Matopo 84.93 110 *i* P P 03 37 01.9 -0.9
MATP Matopo 84.93 110 *i* P P 03 37 01.9 -0.9
BLWY Bulawayo 85.12 110 ⇓ *i*P P 03 37 03.7 0.0
BLWY IAmb IAmb 03 37 05.4
comp=Z,2μm,0.9s
D04E Lakebay 85.33 324 P P 03 37 05.8 +2.1
baz=126
POGA Pongola 85.42 117 ⇓ *i*P P 03 37 04.9 0.0
POGA IAmb IAmb 03 37 06.8
comp=Z,186nm,1.3s
SET Setif 85.44 49 P P 03 37 06.0 +1.2
B05A Bryant 85.59 325 P P 03 37 05.7 +0.7
baz=126
MSNA Messina 85.65 112 ⇓ *i*P P 03 37 06.9 +0.8
MSNA IAmb IAmb 03 37 08.6
comp=Z,634nm,1.1s
MSNA Messina 85.65 112 *i* P P 03 37 07.1 +1.0
MSNA Messina 85.65 112 *i* P P 03 37 07.1 +1.0
D03D Eldon 85.71 324 P P 03 37 07.1 +1.5
baz=125
DFRA Djebel Bou Aff 85.94 49 P P 03 37 08.9 +1.7
CNG Changalane 86.18 116 ⇓ *i*P P 03 37 08.8 +0.4
CNG IAmb IAmb 03 37 10.9
comp=Z,214nm,1.1s
CNG Changalane 86.18 116 *i* P P 03 37 09.3 +0.8
CNG Changalane 86.18 116 *i* P P 03 37 09.3 +0.8
A04D Lummi Island 86.19 325 P P 03 37 09.2 +1.4
baz=126
CASM Ain Smara 86.25 49 P P 03 37 09.3 +0.8
LSZ Lusaka 86.34 105 PKKPbc PKKPbc 03 55 04.9 +2.3
comp=Z,14nm,0.6s,baz=48,slow=2.0,SNR=15
LSZ SKKPbc SKKPbc 03 57 46.5 +2.0
comp=Z,3.3nm,0.7s,baz=50,slow=2.9,SNR=4.5
LSZ Lusaka 86.34 105 ⇓ *i*P P 03 37 10.1 +0.6
LSZ IAmb IAmb 03 37 12.3
comp=Z,3μm,1.1s
LSZ Lusaka 86.34 105 P P 03 37 10.8 +1.3
LSZ Lusaka 86.34 105 *i* P P 03 37 09.5 0.0
LSZ Lusaka 86.34 105 *i* P P 03 37 09.5 0.0
LSZ Lusaka 86.34 105 P P 03 37 10.8 +1.3
LSZ IAmb IAmb 03 37 12.6
comp=Z,293nm,1.1s
MAHO Mahon 86.43 45 P P 03 37 08.2 -1.0
MOPA Mopani 86.45 114 ⇓ *i*P P 03 37 10.3 +0.5
MOPA IAmb IAmb 03 37 12.6
comp=Z,25nm,0.9s
MOPA Mopani 86.45 114 *i* P P 03 37 11.0 +1.1
MOPA Mopani 86.45 114 *i* P P 03 37 11.0 +1.1
CKFL Kef-Lekhel 86.48 49 P P 03 37 10.1 +0.4
IWEX Carrickbyrne, 86.93 31 *e*P P 03 37 10.5 -0.7
ABSA Djebel Ababsia 86.97 50 P P 03 37 12.6 +0.6
HTL Hartland 87.23 33 *e*P P 03 37 11.9 -0.8
JSA Saint Aubin 87.41 35 *e*P P 03 37 13.1 -0.4
JSA IAmb IAmb 03 37 14.4
comp=Z,133nm,0.9s
RSBS Rosebush, Pemb 87.67 32 *e*P P 03 37 13.8 -1.0
RSBS IAmb IAmb 03 37 15.3
comp=Z,273nm,0.8s
KEST Kesra 88.08 51 P P 03 37 17.8 +0.6
comp=Z,191nm,0.9s,baz=226,slow=1.1,SNR=117
KEST PKiKP **PKiKP 03 42 14.9 +0.1**
comp=Z,101nm,1.1s,baz=351,slow=4.3,SNR=7.6
KEST Kesra 88.08 51 P P 03 37 16.6 -0.6
KEST IAmb IAmb 03 37 19.8
comp=Z,292nm,1.0s
YRC Rhoscolyn 88.52 31 *e*P P 03 37 17.8 -0.8
MCH1 Michaelchurch 88.57 33 *e*P P 03 37 17.7 -1.2
MCH1 IAmb IAmb 03 37 19.4
comp=Z,231nm,1.3s
WLF1 Llynfaes 88.63 31 *e*P P 03 37 18.3 -0.9
WLF1 IAmb IAmb 03 37 19.9
comp=Z,322nm,0.8s
WME Myndd Eilian 88.74 31 *e*P P 03 37 18.7 -1.0
STRD Stroud 88.87 33 *e*P P 03 37 19.2 -1.1
STRD IAmb IAmb 03 37 20.7
comp=Z,225nm,0.8s
SWN1 Swindon 88.91 33 *e*P P 03 37 19.9 -0.6
IOMK Kirk Michael 89.13 30 *e*P P 03 37 20.5 -1.0
IOMK IAmb IAmb 03 37 22.4
comp=Z,742nm,1.0s
GAL1 Galloway 89.42 30 *e*P P 03 37 21.8 -0.9
HMNX Herstmonceux 89.68 35 *e*P P 03 37 23.7 -0.3
HMNX IAmb IAmb 03 37 25.4
comp=Z,792nm,0.9s
VSL Villasalto 89.75 48 P P 03 37 25.4 +0.6
VSL IAmb IAmb 03 38 20.3
comp=Z,323nm,1.2s
NEWG New Galloway 89.79 30 *e*P P 03 37 23.6 -0.9
CWF Charnwood Fore 89.85 32 *e*P P 03 37 23.8 -1.1
CWF IAmb IAmb 03 37 25.6
comp=Z,172nm,1.1s
LBWR Ladybower, Pea 90.01 32 *e*P P 03 37 25.1 -0.5
LBWR IAmb IAmb 03 37 26.6
comp=Z,236nm,0.9s
KESW Keswick, Cumbr 90.01 30 *e*P P 03 37 24.8 -0.7
PGBU Glenifferbraes 90.09 29 *e*P P 03 37 24.9 -1.0
BORG Borgarnes 90.14 17 P P 03 37 27.5 +1.6
comp=Z,179nm,0.8s,baz=210,slow=3.6,SNR=5.6
ELSH Elham, Standar 90.26 35 *e*P P 03 37 25.7 -1.1
ELSH IAmb IAmb 03 37 27.8
comp=Z,785nm,0.9s
HPK Haverah Park 90.37 31 *e*P P 03 37 26.6 -0.7
ESK Eskdalemuir 90.39 30 *e*P P 03 37 26.1 -1.2
ESK IAmb IAmb 03 37 30.9
comp=Z,388nm,1.1s
ESK Eskdalemuir 90.39 30 P P 03 37 26.4 -0.9
ESK pmax pmax
comp=Z,366nm,1.1s
ESK Eskdalemuir 90.39 30 P P 03 37 26.4 -0.9
EKA Eskdalemuir Ar 90.42 30 P P 03 37 26.4 -1.0
comp=Z,156nm,1.0s,baz=229,slow=4.6,SNR=99

BNI Bardonecchia 90.46 42 P P 03 37 28.4 +0.3
BNI pmax pmax
comp=Z,429nm,1.0s
BNI Bardonecchia 90.46 42 P P 03 37 28.4 +0.3
ELMS Elmsett, Ipswi 90.68 34 *e*P P 03 37 27.7 -1.0
ELMS IAmb IAmb 03 37 29.4
comp=Z,550nm,1.2s
EDMD Edmundbyers 90.70 31 *e*P P 03 37 27.8 -0.9
WACR West Acre 90.83 33 *e*P P 03 37 28.4 -0.9
TETE Tete 90.92 107 ⇓ *i*P P 03 37 31.9 +1.2
TETE IAmb IAmb 03 37 33.6
comp=Z,319nm,1.0s
TETE Tete 90.92 107 *i* P P 03 37 32.5 +1.8
TETE Tete 90.92 107 *i* P P 03 37 32.5 +1.8
GDLE Glaisdale, N Y 91.02 31 *e*P P 03 37 28.9 -1.3
YKA Yellowknife Ar 91.34 339 P P 03 37 31.3 -0.2
comp=Z,91nm,0.5s,baz=127,slow=4.6,SNR=64
YKA pP **pP 03 39 41.0 +2.6**
comp=Z,45nm,0.9s,baz=123,slow=4.5,SNR=5.7
YKA PKiKP **PKiKP 03 42 19.1 -0.3**
comp=Z,6.5nm,0.9s,baz=139,slow=1.7,SNR=4.8
YKA ScS **S 03 47 41.6 +0.7**
comp=Z,4.5nm,0.9s,baz=139,slow=11,SNR=6.4
YKA PKKP **PKKPdf 03 54 49.4 +0.5**
comp=Z,0.7nm,0.5s,baz=348,slow=0.7,SNR=12
YKA Yellowknife Ar 91.34 339 P P 03 37 31.6 +0.1
YKA *PP **pP 03 39 39.3 +0.9**
YKA Yellowknife Ar 91.34 339 P P 03 37 31.6 +0.1
YKA pP **pP 03 39 39.3 +0.9**
DOU Dourbes 91.62 37 P P 03 37 32.1 -1.0
comp=Z,155nm,0.9s
SNF Seneffe 91.65 36 P P 03 37 31.1 -2.1
comp=Z,135nm,0.8s
CLTB Caltabellotta 91.68 51 P P 03 37 33.7 -0.1
BMRD Maredsous 91.82 37 P P 03 37 33.4 -0.6
comp=Z,276nm,0.9s
UCC Uccle 91.83 36 P P 03 37 33.0 -1.1
UCC pmax pmax
comp=Z,221nm,1.4s
UCC Uccle 91.83 36 P P 03 37 33.0 -1.1
UCC IAmb IAmb 03 37 41.7
comp=Z,221nm,1.4s
UCC Uccle 91.83 36 P P 03 37 33.3 -0.7
comp=Z,54nm,0.9s
CORL Corleone 91.87 50 P P 03 37 35.5 +0.9
CORL IAmb IAmb 03 37 44.5
comp=Z,205nm,0.9s
RCHB Rochefort 92.01 37 P P 03 37 33.5 -1.4
comp=Z,75nm,1.1s
BGES Gesves 92.04 37 P P 03 37 34.2 -0.8
comp=Z,146nm,0.8s
BCLA Clavier 92.18 37 P P 03 37 33.9 -1.8
comp=Z,69nm,0.8s
WLF Walferdange 92.30 38 P P 03 37 35.9 -0.3
WLF pmax pmax
comp=Z,509nm,1.2s
WLF Walferdange 92.30 38 P P 03 37 35.9 -0.3
WLF Walferdange 92.30 38 P P 03 37 35.9 -0.3
comp=Z,194nm,1.0s
RAFF Raffo Rosso 92.38 51 P P 03 37 37.3 +0.4
BSTI Sart Tilman 92.40 37 P P 03 37 36.2 -0.4
VLC Villacollemand 92.44 44 P P 03 37 36.8 -0.2
VAE Valguarnera 92.51 51 P P 03 37 38.4 +0.8
comp=Z,93nm,0.9s,baz=260,slow=1.3,SNR=22
BHOU Houvegnez 92.54 37 P P 03 37 37.0 -0.3
comp=Z,143nm,0.9s
BEBN Eben Emael 92.57 36 P P 03 37 37.3 -0.1
comp=Z,639nm,1.0s
PRMA PARMA 92.64 43 P P 03 37 38.2 +0.3
MEM Membach 92.66 37 P P 03 37 37.2 -0.7
comp=Z,354nm,1.1s
BTNL Ternell 92.72 37 P P 03 37 36.8 -1.4
LATE Laterza 92.73 46 P P 03 37 38.5 +0.1
OSSC Osservatorio P 92.73 45 P P 03 37 38.6 +0.2
TUE Stuetta 92.77 41 P P 03 37 38.7 0.0
BFO Black Forest 92.97 39 P P 03 37 38.8 -0.6
BFO pmax pmax
comp=Z,1μm,1.4s
BFO Black Forest 92.97 39 P P 03 37 38.8 -0.6
SALO Salr 93.14 42 P P 03 37 39.8 -0.5
DAVOX Davos/Dischmat 93.23 41 P P 03 37 40.9 +0.1
comp=Z,210nm,0.8s,baz=241,slow=5.3,SNR=234
DAVOX ScS **S 03 47 58.9 +0.4**
comp=Z,14nm,1.3s,baz=204,slow=23,SNR=3.1
MURB Monte Urbino 93.47 45 P P 03 37 41.0 -0.9
MBAR Mbarara 93.62 92 *i* P P 03 37 44.7 +1.3
MBAR pmax pmax
comp=Z,75nm,1.5s
MBAR Mbarara 93.62 92 P P 03 37 44.8 +1.5
AQU L'Aquila 93.70 46 P P 03 37 43.6 +0.7
AQU pmax pmax
comp=Z,2μm,1.3s
AQU L'Aquila 93.70 46 *e*P P 03 37 43.3 +0.4
AQU L'Aquila 93.70 46 P P 03 37 43.5 +0.7
TEOL Teolo 93.77 43 P P 03 37 42.8 -0.3
H02S1 DAWSON INLET T 93.80 326 P P 03 37 44.1 +1.2
CTI Castel Tesino 94.04 42 P P 03 37 44.6 +0.2
CTI pmax pmax
comp=Z,739nm,1.1s
CTI Castel Tesino 94.04 42 P P 03 37 44.6 +0.2
TIP Timpagrande 94.86 50 P P 03 37 47.3 -0.9
BRJN Brijuni 94.94 44 P P 03 37 47.2 -1.1
SGRT San Giovanni R 95.09 48 P P 03 37 47.9 -1.3
DLBC Dease Lake 95.12 331 PKKPbc PKKPbc 03 54 41.3 -1.0
comp=Z,2.6nm,0.8s,baz=351,slow=8.5,SNR=3.6
MRVN Minervino Murg 95.15 48 *i* P P 03 37 52.9 +3.4
WRAK Wrangell Islan 95.24 329 P P 03 37 51.2 +1.8
baz=118
WTLY Watson Lake, Y 95.42 333 P P 03 37 52.2 +2.0
baz=121
NOCI Noci 95.66 49 *i* P P 03 37 52.9 +1.1
RES Resolute Bay 96.31 352 PKKPbc PKKPbc 03 54 37.6 -1.8
comp=Z,8.0nm,1.0s,baz=270,slow=7.6,SNR=4.7
SCTE Santa Cesarea 96.41 50 P P 03 37 55.6 +0.5
GERES GERESS Array B 96.42 40 P P 03 37 55.5 +0.4
comp=Z,58nm,0.8s,baz=191,slow=1.4,SNR=11
GERES PKKPbc **PKKPbc 03 54 37.8 -0.7**
comp=Z,2.2nm,0.8s,baz=116,slow=3.1,SNR=5.0
CLL Collm 96.96 38 *i* P P 03 37 57.7 +0.4
CLL *e*PP **pP 03 40 04.0 -0.5**
CLL *e* 03 47 37.0
CLL pmax pmax
comp=Z,188nm,0.9s
CLL Collm 96.96 38 *i* Pdif P 03 37 57.7 +0.4
comp=Z,188nm,0.9s
CLL *e*pP **pP 03 40 04.0 -0.5**
CLL *e*x x 03 40 40.0
CLL *e*PP PP 03 42 12.0 +8.8
CLL *e*SKSac **SKSac 03 47 37.0 -1.3**
CLL *e*sS **sS 03 52 18.0 -1.1**
CLL *e*pPKKPbc 03 56 42.0
CLL *e*SKKPbc **SKKPbc 03 57 22.0 -2.0**
CLL *e*sSS 03 58 24.0
CLL *e*SSS SSS 03 59 12.0
FSK Fiskardo 97.40 52 P Pdif 03 37 58.5 -1.1
VTN Vitineika 97.69 53 P Pdif 03 37 59.9 -1.0
PYL PYLOS 97.78 54 P Pdif 03 38 00.9 -0.4
KMBO Kilima Mbogo 99.57 95 P Pdif 03 38 13.0 +2.9
comp=Z,7.0nm,0.9s,baz=242,slow=7.0,SNR=11
VOI Vohitsoka 100.16 118 P Pdif 03 38 25.4 +13
HFS Hagfors 100.62 30 PP PP 03 42 27.9 -2.5
comp=Z,51nm,0.8s,baz=237,slow=4.6,SNR=6.8
INK Inuvik 101.11 339 S SKSac 03 47 57.4 -0.5
comp=Z,12nm,1.1s,baz=291,slow=28,SNR=9.3
INK PKKPbc PKKPbc 03 54 24.1 -1.8
comp=Z,4.1nm,0.5s,baz=300,slow=0.4,SNR=24
ILAR Eielson Array 104.93 334 PKiKP PKiKP 03 42 43.3 -0.2
comp=Z,3.9nm,0.9s,baz=152,slow=5.5,SNR=5.5
ILAR PKKPbc **PKKPbc 03 54 11.8 -2.8**
comp=Z,1.6nm,0.9s,baz=297,slow=3.2,SNR=6.2
BPAW Bear Paw Mtn. 106.52 333 P PKiKP 03 42 47.3 +0.7
baz=101
AKASG Malin Array Be 106.58 42 PKiKP PKiKP 03 42 46.1 -0.8
comp=Z,4.8nm,0.4s,baz=276,slow=2.7,SNR=18
AKASG PP **PP 03 43 11.5 -2.7**
comp=Z,18nm,0.9s,baz=253,slow=8.2,SNR=8.2
AKASG PKKPbc **PKKPbc 03 54 08.2 -1.0**
comp=Z,1.5nm,0.7s,baz=64,slow=3.7,SNR=4.3
AKASG SKKPbc SKKPbc 03 56 55.3 -3.0
comp=Z,0.6nm,0.5s,baz=76,slow=1.8,SNR=4.5
FINES FINESS Array B 106.81 30 PKKPbc PKKPbc 03 54 07.2 -1.5
comp=Z,1.3nm,0.3s,baz=82,slow=4.0,SNR=16
CHIR Chirikof Islan 107.35 324 P PKiKP 03 42 49.3 +1.0
baz=100
BRTR Keskin Array B 107.54 53 PKiKP PKiKP 03 42 49.0 -0.3

comp=Z,1.9nm,0.7s,baz=180,slow=3.4,SNR=6.7
H21K Melozitna Rive 107.56 334 P PKiKP 03 42 49.6 +1.2
baz=99
MMAI Mount Meron Ar 107.57 61 PKiKP PKiKP 03 42 49.7 +0.2
comp=Z,9.1nm,0.6s,baz=77,slow=1.8,SNR=12
ARCES ARCESS Array B 107.88 22 PKKPbc PKKPbc 03 54 03.9 -1.9
comp=Z,1.3nm,0.5s,baz=78,slow=2.9,SNR=10
MSVF Nonsavu 109.19 242 PKKPbc PKKPbc 03 54 01.6 +0.9
comp=Z,19nm,0.8s,baz=124,slow=7.0,SNR=13
A21K Barrow 109.56 340 P PKiKP 03 42 53.5 +1.5
baz=94
SDPT Sand Point 110.02 323 P PKiKP 03 42 54.3 +1.0
baz=96
APA Apatity 110.61 24 ⇓ *i*P Pdif 03 38 57.2 -0.4
APA MLR MLR 03 45 31.1
comp=Z,5μm,23.0s
OBN Obninsk 111.55 37 PKiKP PKiKP 03 42 56.1 0.0
comp=Z,14nm,0.6s,baz=200,slow=3.4,SNR=5.8
OBN Obninsk 111.55 37 *i* PKIKP PKiKP 03 42 56.5 +0.3
OBN *e* 03 43 45.8
OBN *e*PPP PPP 03 46 21.4
OBN pmax pmax
comp=Z,68nm,0.9s
SOC Sochi 112.63 50 *i* PKIKP PKiKP 03 42 58.8 +0.2
SOC *e* 03 43 58.0
SOC *e*PPP PPP 03 46 30.3
SOC *e*PS **PKKPbc 03 53 46.2 -3.6**
SOC *e*SS SS 03 58 58.9 +3.0
TNA Tin City 113.81 334 P PKiKP 03 43 01.1 +0.9
baz=85
RAYN Ar Rayn 114.33 72 PKiKP PKiKP 03 43 02.6 0.0
KIV Kislovodsk 114.80 50 *e*PKIKP PKiKP 03 43 04.5 +1.6
KIV pmax pmax
comp=Z,63nm,1.1s
KIV Kislovodsk 114.80 50 PKiKP PKPdf 03 43 02.7 -0.2
KBZ Khabaz 114.94 50 PKP PKiKP 03 43 03.5 +0.4
comp=Z,99nm,0.9s,baz=254,slow=1.9,SNR=13
GOF Gofitskoye 115.13 49 ⇓ *i*PKIKP PKiKP 03 43 03.6 +0.2
GOF pmax pmax
comp=Z,233nm,1.0s
NCK Nalchik 115.43 50 *c* *i*PKIKP PKiKP 03 43 05.6 +1.5
GAMB Gambell 115.62 332 P PKiKP 03 43 05.0 +1.3
baz=82
GNI Garni 116.05 54 *c* *i*PKIKP PKiKP 03 43 07.1 +1.5
GNI pmax pmax
comp=Z,58nm,0.8s
GNI Garni 116.05 54 PKiKP PKiKP 03 43 05.8 +0.3
DZM Mont Dzumac 116.06 232 PKP PKiKP 03 43 07.3 +1.3
comp=Z,5.8nm,0.6s,baz=246,slow=8.0,SNR=7.8
DZM SKP 03 45 47.8
comp=Z,7.7nm,0.8s,baz=160,slow=7.3,SNR=6.5
BELG Belogornoye 118.12 40 PKP PKPdf 03 43 08.8 -0.1
comp=Z,224nm,0.9s,baz=349,slow=1.0,SNR=32
MAK Makhachkala 118.26 51 *i* P Pdif 03 39 32.0 -0.2
MAK *i* 03 43 07.2
MAK *e* 03 44 33.3
MAK *e* 03 49 01.9
MAK pmax pmax
comp=Z,231nm,1.4s
KIRV Kirov 118.44 33 PKP PKiKP 03 43 09.5 +0.1
comp=Z,53nm,0.5s,baz=254,slow=1.5,SNR=20
KIRV SKP 03 45 50.8
comp=Z,23nm,0.7s,baz=296,slow=12,SNR=3.8
SOCY Socotra 119.53 87 PKPdf 03 43 12.0 -0.8
SHAO Shalim 122.47 81 *i* PKiKP PKPdf 03 43 17.5 -0.8
SNR=20
BILL Bilibino 122.71 340 *e*PKiKP PKiKP 03 43 17.9 +0.4
BILL *e* 03 45 05.6
BILL *e* 03 46 27.5
BILL *e*PPP PPP 03 48 00.2
BILL pmax pmax
comp=Z,79nm,0.9s
BILL Bilibino 122.71 340 PKPdf PKiKP 03 43 17.4 -0.1
ASUD Al Ashush, Dub 123.37 73 *i* PKiKP PKiKP 03 43 20.0 -0.1
SNR=24
STKA Stephens Creek 123.42 205 PKP PKPdf 03 43 20.0 +0.1
comp=Z,44nm,0.9s,baz=114,slow=4.3,SNR=14
STKA PKKPbc **PKKPbc 03 53 10.9 -1.5**
comp=Z,22nm,0.8s,baz=326,slow=5.2,SNR=11
STKA Stephens Creek 123.42 205 PKPdf 03 43 19.7 -0.2
FAQ Al Faqa, Dubai 123.62 73 *i* PKiKP PKPdf 03 43 20.1 -0.2
SNR=22
ALNE Al Ain 123.67 74 *i* PKiKP PKiKP 03 43 21.3 +0.6
SNR=10
NAZ Nazwa, Dubai 123.72 73 *i* PKiKP PKiKP 03 43 21.0 +0.2
SNR=7.1
ARU Arti 123.72 35 PKP PKiKP 03 43 20.1 +0.3
comp=Z,39nm,0.6s,baz=18,slow=0.5,SNR=27
ARU Arti 123.72 35 *i* PKIKP PKiKP 03 43 20.1 +0.3
ARU 03 45 11.5
ARU 03 49 36.6
UMQ Umm Al-Quwin 123.79 72 PKiKP PKiKP 03 43 21.2 +0.3
HATD Hatta, Dubai 124.12 73 *i* PKiKP PKPdf 03 43 20.6 -0.7
SNR=5.6
UOSS Minazif 124.20 73 PKPdf PKPdf 03 43 20.0 -1.4
UOSS Minazif 124.20 73 *i* PKPdf PKPdf 03 43 20.1 -1.4
SNR=7.6
SHME Shamm 124.28 71 *i* PKiKP PKPdf 03 43 21.4 -0.1
SNR=21
SOHO SOHO 124.38 74 *i* PKiKP PKPdf 03 43 21.1 -0.7
SNR=22
BANOM Banah 124.41 72 *i* PKiKP PKPdf 03 43 21.1 -0.8
SNR=15
BBOO Buckleboo 124.58 200 PKPdf 03 43 21.1 -1.0
AKTO Aktyubinsk 124.82 42 PKP PKiKP 03 43 22.5 +0.2
comp=Z,71nm,0.8s,baz=339,slow=4.0,SNR=26
WSAR Wadi Sarin 126.16 75 PKP PKPdf 03 43 25.3 +0.1
comp=Z,142nm,0.9s,baz=248,slow=2.5,SNR=33
WSAR PP **PP 03 45 28.6 -0.9**
comp=Z,16nm,0.8s,baz=286,slow=8.0,SNR=5.1
AB31 Akbulak array 126.29 43 *i* PKIKP PKiKP 03 43 25.2 0.0
ABKAR Akbulak array 126.29 43 PKPdf PKiKP 03 43 25.6 +0.4
GEYT Alibeck 126.42 57 PKP PKPdf 03 43 25.6 +0.2
comp=Z,88nm,0.8s,baz=243,slow=8.5,SNR=26
GEYT PP **PP 03 45 29.5 -1.3**
comp=Z,17nm,0.8s,baz=263,slow=13,SNR=3.5
GEYT Alibeck 126.42 57 PKPdf PKPdf 03 43 25.6 +0.2
GYA0 ALIBECK ARRAY 126.42 57 PKIKP PKPdf 03 43 23.3 -2.1
GYA0B ALIBECK ARRAY 126.42 57 PKPdf PKiKP 03 43 26.1 +0.2
NRIK Noril'sk 127.27 13 PKP PKiKP 03 43 26.5 -0.1
comp=Z,38nm,0.8s,baz=125,slow=0.7,SNR=12
TIXI Tiksi 127.57 355 PKP PKiKP 03 43 26.9 -0.2
comp=Z,68nm,0.8s,baz=358,slow=2.8,SNR=20
TIXI SKPbc SKPbc 03 45 51.1
comp=Z,76nm,0.8s,baz=43,slow=2.6,SNR=20
TIXI Tiksi 127.57 355 *c* *i*PKIKP PKiKP 03 43 27.1 0.0
H08S1 Diego Garcia H 128.69 118 PKP PKiKP 03 43 31.9 +1.1
H08S2 Diego Garcia H 128.70 118 PKP PKiKP 03 43 31.9 +1.1
H08S3 Diego Garcia H 128.71 118 PKP PKiKP 03 43 31.9 +1.1
BRVK Borovoye 131.26 36 *c* *i*PKIKP PKiKP 03 43 36.9 +1.8
BRVK pmax pmax
comp=Z,72nm,1.3s
BVAR Borovoye Array 131.33 36 PKP PKiKP 03 43 35.2 0.0
comp=Z,28nm,0.5s,baz=352,slow=3.2,SNR=36
BVAR SKPbc **SKPbc 03 46 05.8 +0.3**
comp=Z,12nm,0.5s,baz=353,slow=2.6,SNR=16
PET Petropavlovsk 133.66 326 *e*PKIKP PKPdf 03 43 38.5 0.0
PET *e* 03 46 13.5
PET pmax pmax
comp=Z,107nm,1.8s
PET pmax pmax
comp=Z,267nm,0.9s
PET Petropavlovsk 133.66 326 PKPdf 03 43 37.9 -0.6
ASAR Alice Springs 133.73 202 PKP PKPdf 03 43 39.6 -0.1
comp=Z,16nm,0.4s,baz=154,slow=2.2,SNR=13
ASAR SKPbc **SKPbc 03 46 14.3 -0.4**
comp=Z,25nm,0.6s,baz=147,slow=3.3,SNR=4.3
ASAR PKKP **PKKPdf 03 53 25.6 -2.0**
comp=Z,2.4nm,0.6s,baz=356,slow=1.7,SNR=4.8
ASAR Alice Springs 133.73 202 PKIKP PKPdf 03 43 39.9 +0.2
ASAR Alice Springs 133.73 202 PKPdf PKPdf 03 43 39.9 +0.2
BRZS Berezniki 133.91 38 *e*PKIKP PKPdf 03 43 39.3 +0.2
BRZS Berezniki 133.91 38 *e*PKP PKPdf 03 43 39.3 +0.2
baz=39
PETK Petropavlovsk- 134.11 327 PKhKP PKPpre 03 43 29.2
comp=Z,27nm,0.8s,baz=111,slow=2.4,SNR=28
PETK PKP **PKPdf 03 43 40.1 +0.7**
comp=Z,11nm,0.7s,baz=254,slow=37,SNR=9.9
PETK SKPbc **SKPbc 03 46 15.1 +0.2**
comp=Z,162nm,0.8s,baz=131,slow=4.1,SNR=60
PETK Petropavlovsk- 134.11 327 PKiKP 03 43 40.4 -0.5
OTUK Ortayu 134.41 41 PKIKP PKiKP 03 43 41.1 -0.6
KKAR Karatay Array 134.92 48 PKIKP PKPdf 03 43 41.7 +0.5
KKAR Karatay Array 134.92 48 PKPdf PKPdf 03 43 41.7 +0.5
DZA Taraz 135.56 48 *e*PKIKP PKPdf 03 43 42.7 +0.3

DZA	Taraz	135.56	48	ePKP	PKPdf	03 43 42.8	+0.3
	baz=48						
BHUJ	Bhuj	136.24	77	eP	PKiKP	03 43 45.6	-0.5
BTLS	Baital	136.70	44	ePKIKP	PKPdf	03 43 44.8	+0.4
BTLS	Baital	136.70	44	ePKP	PKPdf	03 43 44.9	+0.4
	baz=44						
YAK	Yakutsk	136.76	351	ePKHKP	PKPpre	03 43 33.0	
YAK				pmax	pmax		
	comp=Z,325nm,1.1s						
KURBB	Kurchatov Arra	136.92	35	PKhKP	PKPpre	03 43 33.7	
	comp=Z,7.2nm,0.6s,baz=302,slow=3.3,SNR=16						
KURBB				PKP	PKPdf	03 43 45.4	+0.8
	comp=Z,134nm,0.9s,baz=302,slow=2.6,SNR=42						
KURBB				SKPbc	SKPbc	03 46 24.4	+0.9
	comp=Z,40nm,1.0s,baz=303,slow=4.0,SNR=16						
KURBB	Kurchatov Arra	136.92	35	PKiKP	PKPdf	03 43 44.5	-0.2
KURK	Kurchatov	136.92	35	c iPKIKP	PKiKP	03 43 46.0	-0.6
KURK				pmax	pmax		
	comp=Z,151nm,1.0s						
KURK	Kurchatov	136.92	35	PKPdf	PKPdf	03 43 44.7	+0.1
WRA	Warramunga Arr	136.96	205	PKP	PKPdf	03 43 46.0	+0.3
	comp=Z,102nm,0.9s,baz=171,slow=1.4,SNR=21						
WRA				SKPbc	SKPbc	03 46 24.2	-0.5
	comp=Z,166nm,1.0s,baz=164,slow=2.5,SNR=22						
WRA				SKKP		03 55 59.8	
	comp=Z,14nm,1.1s,baz=334,slow=5.6,SNR=6.8						
EKS2	Erkin-Say	137.34	48	P	PKiKP	03 43 47.6	-0.3
	SNR=13						
EKS2	Erkin-Say	137.34	48	P	SKPdf	03 46 26.5	+0.4
	SNR=7.0						
AML	Almayashu	137.45	49	P	PKiKP	03 43 48.9	+0.4
	SNR=9.8						
AML	Almayashu	137.45	49	P	SKPdf	03 46 27.1	+0.3
	SNR=6.3						
USP	Ospenovka	137.64	47	P	PKiKP	03 43 47.9	-0.6
	SNR=16						
USP	Ospenovka	137.64	47	P	SKPdf	03 46 27.4	+0.8
	SNR=6.2						
SGDS	Sogindy	137.66	46	ePKP	PKPdf	03 43 46.2	-0.2
	baz=46						
AAK	Ala-Archa	137.85	48	PKhKP	PKPpre	03 43 40.3	
	comp=Z,24nm,0.7s,baz=106,slow=1.3,SNR=16						
AAK				PKP	PKiKP	03 43 48.5	-0.5
	comp=Z,144nm,0.9s,baz=210,slow=3.2,SNR=22						
AAK				SKP		03 46 27.9	
	comp=Z,51nm,0.7s,baz=255,slow=4.3,SNR=13						
AAK	Ala-Archa	137.85	48	P	PKPdf	03 43 47.9	+1.0
	SNR=11						
AAK	Ala-Archa	137.85	48	P	SKPdf	03 46 28.1	+0.9
	SNR=12						
AAK	Ala-Archa	137.85	48	c iPKIKP	PKiKP	03 43 48.9	-0.1
AAK				pmax	pmax		
	comp=Z,694nm,1.3s						
CHMS	Chumysh	137.91	47	P	PKiKP	03 43 49.1	+0.1
	SNR=6.7						
CHMS	Chumysh	137.91	47	P	SKPdf	03 46 27.9	+0.9
	SNR=11						
SEM	Semipalatinsk	137.96	35	i PKIKP	PKPdf	03 43 46.9	0.0
SEM	Semipalatinsk	137.96	35	i PKP	PKPdf	03 43 47.0	0.0
	baz=35						
UCH	Uchtor	138.00	48	P	PKiKP	03 43 49.4	-0.4
	SNR=10						
UCH	Uchtor	138.00	48	P	SKPdf	03 46 29.1	+1.3
	SNR=9.2						
ZALV	Zalesovo Beam	138.02	28	PKhKP	PKPpre	03 43 37.2	
	comp=Z,43nm,0.8s,baz=305,slow=3.4,SNR=18						
ZALV				PKP	PKPdf	03 43 46.7	+0.2
	comp=Z,232nm,0.7s,baz=289,slow=1.2,SNR=31						
ZALV				SKPbc	SKPbc	03 46 26.9	+0.4
	comp=Z,42nm,0.6s,baz=306,slow=3.7,SNR=16						
KBK	Karagaybulak	138.16	47	P	SKPdf	03 46 29.1	+1.4
	SNR=9.1						
PMG	Port Moresby	138.31	229	PKP	PKPdf	03 43 48.9	+0.5
	comp=Z,49nm,0.7s,baz=244,slow=4.8,SNR=5.1						
PMG				SKPbc	SKPbc	03 46 30.0	+1.4
	comp=Z,30nm,0.8s,baz=70,slow=4.1,SNR=8.8						
PMG	Port Moresby	138.31	229		PKPdf	03 43 47.7	-0.6
TKM2	Tokmak 2	138.51	47	P	PKiKP	03 43 49.4	-1.0
	SNR=9.7						
TKM2	Tokmak 2	138.51	47	P	SKPdf	03 46 29.2	+0.9
	SNR=11						
TKM2	Tokmak 2	138.51	47	PKIKP	PKPdf	03 43 43.1	-5.0
ULHL	Ulahol	139.20	47	P	PKiKP	03 43 52.2	+0.3
	SNR=11						
ULHL	Ulahol	139.20	47	P	SKPdf	03 46 32.6	+3.0
	SNR=12						
MDOK	Medeo	139.41	46	ePKIKP	PKPdf	03 43 49.6	-0.1
MDOK	Medeo	139.41	46	ePKP	PKPdf	03 43 49.6	-0.1
	baz=46						
KSH	Kashi	139.90	52	PKP	PKPdf	03 43 43.6	-7.1
KSH				PP	PP	03 46 52.8	-2.4
KSH				AMB	AMB		
	comp=Z,15μm,14.6s						
KSH				LR	LR		
	comp=N,2μm,13.7s						
KSH				LR	LR		
	comp=E,2μm,17.2s						
TRD	Trivandrum	140.00	100	eP	PKPdf	03 43 49.7	-1.7
MAKZ	Makanchi	140.87	38	PKHKP	PKPpre	03 43 44.5	
PDGK	Podgornoye	140.98	44	PKHKP	PKPpre	03 43 48.2	
MK31	Makanchi Array	141.06	38	ePKHKP	PKPpre	03 43 47.0	
MKAR	Makanchi Array	141.06	38	PKhKP	PKPpre	03 43 46.9	
	comp=E,88nm,0.8s,baz=350,slow=2.8,SNR=90						
MKAR				PKP	PKPdf	03 43 53.5	+1.1
	comp=E,149nm,0.8s,baz=316,slow=1.6,SNR=20						
MKAR				SKPbc	SKiKP	03 46 35.8	-0.9
	comp=E,107nm,0.7s,baz=321,slow=2.6,SNR=15						
MKAR				SKKPab	SKKPbc	03 55 00.5	-2.5
	comp=E,8.1nm,0.9s,baz=122,slow=4.2,SNR=11						
MKAR				SKKPbc	SKKPab	03 55 03.2	0.0
	comp=E,8.6nm,1.0s,baz=112,slow=4.6,SNR=5.4						
MKAR	Makanchi Array	141.06	38	PKPdf	PKPdf	03 43 48.7	-3.6
DHRM	DHARAMSHALA	141.83	63	eP	PKPdf	03 43 54.1	-0.4
ZSN	Zaisan	142.15	36	ePKIKP	PKPdf	03 43 54.6	+0.3
ZSN	Zaisan	142.15	36	ePKP	PKPdf	03 43 54.6	+0.3
	baz=36						
SMLA	Simla	142.72	64	eP	PKPdf	03 43 52.9	-2.8
COCO	West Island	142.76	147	PKIKP	PKPdf	03 43 55.1	-1.2
COCO	West Island	142.76	147	PKPdf	PKPdf	03 43 55.1	-1.2
MANU	Manus Island	142.93	238		PKPdf	03 43 56.0	-0.6
PALK	Pallekele	142.99	104	PKP	PKPdf	03 43 54.8	-2.0
	comp=E,203nm,0.9s,baz=0.9,slow=3.2,SNR=53						
PALK				SKPbc	SKiKP	03 46 41.9	+0.2
	comp=E,19nm,0.9s,baz=51,slow=4.1,SNR=3.7						
PALK	Pallekele	142.99	104	PKIKP	PKPdf	03 43 55.1	-1.7
PALK	Pallekele	142.99	104	PKPdf	PKPdf	03 43 55.0	-1.7
BHPL	Bhopal	143.37	77	eP	PKPab	03 43 55.1	-0.6
KUR	Kuril'sk	143.78	322	d iPKIKP	PKPdf	03 43 56.8	-0.3
KUR				pmax	pmax		
	comp=Z,1μm,1.2s						
KUR				pmax	pmax		
	comp=N,155nm,1.1s						
KUR				pmax	pmax		
	comp=E,281nm,0.8s						
HYB	Hyderabad	143.83	87	eP	PKPbc	03 43 57.1	-0.3
HYBB	Hyderabad (bro	143.83	87	ePKPbc	PKPbc	03 43 56.2	-1.2
HYBB				ePKPdf	PKPab	03 43 57.3	-0.2
RCLA	Racherla	143.84	91	ePKPbc	PKPbc	03 43 56.2	-1.2
SRSP	Sriramsagar	143.86	85	ePKPab	PKPbc	03 43 57.0	-0.4
SRLM	Srisailam	143.91	90	ePKPdf	PKPbc	03 43 57.5	-0.2
SKHT	Srikalahasti	144.15	94	ePKPab	PKPbc	03 43 58.0	-0.4
CUPL	Choutuppal	144.16	88	ePKPbc	PKPbc	03 43 57.1	-1.2
UGL	Uglegorsk	144.32	331	ePKIKP	PKPab	03 43 58.9	+0.5
UGL				pmax	pmax		
	comp=E,270nm,1.1s						
UGL				pmax	pmax		
	comp=Z,630nm,1.2s						
NJS	Nagarjunasagar	144.39	89	ePKPbc	PKPdf	03 43 57.9	-1.1
MDRS	Chennai	144.48	95	eP	PKPbc	03 43 59.6	+0.2
RPR	Rampur	144.74	85	ePKPab	PKPdf	03 43 59.8	+0.2
ADKI	Addanki	144.87	90	ePKPbc	PKPdf	03 43 59.4	-0.5
ZEA	Zeya	145.07	349	ePKP2	PKPbc	03 44 00.2	+0.1
ZEA				pmax	pmax		
	comp=E,50nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,360nm,0.8s						
GRNR	Gornyy	145.29	338	⇑iPKP2	PKPab	03 44 02.2	+0.1
GRNR				pmax	pmax		
	comp=E,30nm,1.1s						
GRNR				pmax	pmax		
	comp=N,50nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,330nm,0.9s						
YSS	Yuzh-Sakhalins	145.48	328	ePKIKP	PKPbc	03 44 01.0	-0.4
YSS				pmax	pmax		
	comp=Z,710nm,0.7s						
YSS				pmax	pmax		
	comp=Z,270nm,1.0s						
YSS	Yuzh-Sakhalins	145.48	328		PKPbc	03 44 01.4	-0.1
MYLAV	Mylavaram	145.67	89	ePKPbc	PKPdf	03 44 01.6	+0.4
MOY	Mondy	145.81	17	ePKP2	PKPab	03 44 03.5	-0.8
MOY				pmax	pmax		
	comp=Z,1μm,1.4s						
WMQ	Urumqi	145.88	39	ePKPbc	PKPdf	03 44 01.5	+0.6
IRK	Irkutsk	146.12	14	ePKIKP	PKPdf	03 44 01.9	+0.9
IRK				pmax	pmax		
	comp=Z,1μm,1.1s						
PVM	Polavaram	146.69	88	ePKPbc	PKPbc	03 44 05.0	-0.7
ZAK	Zakamensk	147.59	16	ePKP2	PKPbc	03 44 07.5	+0.3
ZAK				pmax	pmax		
	comp=Z,610nm,1.0s						
CIT	Chita	147.66	4	ePKIKP	PKPdf	03 44 05.4	+1.8
CIT				pmax	pmax		
	comp=Z,1μm,1.6s						
PYUN	Piuthan	148.17	68	eP	PKPdf	03 44 06.2	+0.8
VIS	Vishakhapatnam	148.38	88	eP	PKPdf	03 44 06.3	+0.7
ERM	Erimo	148.43	321	c iPKHKP	PKPpre	03 44 09.2	
ERM				pmax	pmax		
	comp=Z,780nm,0.8s						
ERM	Erimo	148.43	321		PKPbc	03 44 08.0	-1.4
KOLN	Koldanda	148.75	69	eP	PKPdf	03 44 07.1	+0.8
DANN	Dangsing	148.80	68	eP	PKPdf	03 44 07.8	+1.3
CHLP	Challavanipeta	149.17	87	ePKPdf	PKPdf	03 44 06.8	-0.1
CHLP				ePKPbc	PKPbc	03 44 11.3	-0.6
CHLP				ePKPab	PKPab	03 44 18.7	-0.2
BATI	Baumata	149.49	194	PKPbc	PKiKP	03 44 13.9	+0.3
	comp=Z,128nm,0.4s,baz=218,slow=2.1,SNR=9.7						
BATI				pPKPbc	pPKPab	03 46 29.8	+0.4
	comp=Z,58nm,0.6s,baz=138,slow=3.8,SNR=3.7						
GKN	Gorkha	149.62	68	eP	PKPdf	03 44 08.7	+1.1
DMN	Daman	150.09	69	eP	PKPdf	03 44 09.5	+1.0
KKN	Kakani	150.22	68	eP	PKPdf	03 44 09.5	+0.9
PKIN	Phulchoki	150.35	69	eP	PKPdf	03 44 09.5	+0.6
PKI	Pulchoki	150.36	69	eP	PKPdf	03 44 09.6	+0.6
GUN	Gumba	150.72	68	eP	PKPdf	03 44 10.6	+1.0
SONM	Songino Array	150.73	14	PKP	PKPdf	03 44 09.5	+0.8
	comp=Z,88nm,0.9s,baz=292,slow=0.8,SNR=56						
SONM				PKPbc	PKiKP	03 44 15.6	+0.3
	comp=Z,452nm,0.8s,baz=308,slow=1.4,SNR=86						
SONM				PKPab	PKPab	03 44 25.4	+0.8
	comp=Z,159nm,0.8s,baz=299,slow=3.9,SNR=9.0						
SONM				pPKPbc	pPKPab	03 46 32.2	-1.3
	comp=Z,28nm,0.9s,baz=276,slow=2.0,SNR=3.6						
ULN	Ulaanbaatar	150.85	13	PKIKP	PKPdf	03 44 09.0	+0.1
ULN	Ulaanbaatar	150.85	13	PKPdf	PKPdf	03 44 09.0	+0.1
BOK	Bokaro	151.14	76	eP	PKPdf	03 44 09.3	-0.6
LEM	Lembang	152.16	160	PKP	PKPdf	03 44 12.9	+1.0
	comp=Z,147nm,1.0s,baz=142,slow=4.6,SNR=8.6						
LEM				PKPbc	PKiKP	03 44 20.2	+0.9
	comp=Z,266nm,0.8s,baz=129,slow=5.3,SNR=15						
GUMO	Guam	152.34	262	pPKPbc	pPKPbc	03 46 36.5	+2.0
	comp=Z,414nm,1.0s,baz=205,slow=1.4,SNR=7.3						
USA0B	Ussuriysk Arra	152.44	336	PKIKP	PKPdf	03 44 11.6	+0.5
USA0B	Ussuriysk Arra	152.44	336		PKPdf	03 44 11.6	+0.5
USRK	Ussuriysk Ar.	152.44	336	PKP	PKPdf	03 44 11.8	+0.7
	comp=Z,27nm,0.9s,baz=249,slow=2.1,SNR=16						
USRK				PKPbc	PKiKP	03 44 19.0	+0.3
	comp=Z,174nm,0.8s,baz=316,slow=1.0,SNR=63						
USRK				PKPab	PKPab	03 44 32.7	+1.0
	comp=Z,109nm,0.8s,baz=22,slow=3.8,SNR=13						
USRK				pPKPbc	pPKPbc	03 46 35.8	+2.2
	comp=Z,21nm,0.7s,baz=325,slow=0.6,SNR=4.0						
BNX	BinXian	152.57	344	⇓PKPbc	PKPdf	03 44 11.8	+0.5
MDJ	Mudanjiang	152.94	339	PKPbc	PKPdf	03 44 12.9	+1.0
JYT	Yasato	153.61	313		PKPbc	03 44 20.6	-0.8
MAT	Matsushiro	154.76	316	PKP	PKPdf	03 44 15.7	+1.0
MJAR	Matsushiro Arr	154.76	316	PKP	PKPdf	03 44 15.8	+1.1
	comp=Z,37nm,0.9s,baz=64,slow=0.7,SNR=14						
MJAR				PKPab	PKPab	03 44 42.3	+0.3
	comp=Z,75nm,0.8s,baz=50,slow=3.7,SNR=21						
MJAR	Matsushiro Arr	154.76	316	PKPdf	PKPdf	03 44 14.6	-0.2
CN2	Changchun	154.88	345	ePKPbc	PKPdf	03 44 09.3	-5.3
SIJI	Sorong	155.04	217	PKP	PKPdf	03 44 16.8	+1.1
	comp=Z,20nm,0.9s,baz=60,slow=3.5,SNR=4.5						
SIJI				PKPbc	PKPbc	03 44 26.1	
	comp=Z,33nm,0.8s,baz=12,slow=5.2,SNR=6.8						
KAPI	Kappang	155.25	187	PKP	PKPdf	03 44 16.9	+0.9
	comp=Z,44nm,1.1s,baz=235,slow=4.7,SNR=6.1						
KAPI				PKPab	PKPab	03 44 45.7	+1.2
	comp=Z,75nm,1.1s,baz=226,slow=5.8,SNR=9.1						
KAPI				pPKPbc	pPKPbc	03 46 42.6	+2.1
	comp=Z,24nm,1.0s,baz=272,slow=2.0,SNR=4.4						
GTA	Gaotai	155.57	33	⇑PKP	PKPdf	03 44 16.5	+0.7
GTA				PKPab	PKPab	03 44 45.9	+0.4
GTA				sPKP		03 47 31.0	
PSI	Prapat	155.84	132	PKP	PKPdf	03 44 17.2	+0.3
	comp=Z,41nm,1.0s,baz=238,slow=5.2,SNR=14						
PSI				PKPbc	PKPbc	03 44 27.2	
	comp=Z,35nm,1.0s,baz=273,slow=4.3,SNR=7.2						
PSI				PKPab	PKPab	03 44 47.9	+0.5
	comp=Z,106nm,0.9s,baz=209,slow=5.9,SNR=18						
XLT	XiLinHaoTe	155.88	1	ePKP	PKPdf	03 44 14.9	-1.1
XLT				PKPab	PKPab	03 44 47.3	+0.7
XLT				pPKP	pPKPdf	03 46 35.8	+3.6
DGPR	DIGLIPUR	156.33	102	eP	PKPdf	03 44 17.5	+0.2
SHL	Shillong	156.40	71	PKP2	PKPab	03 44 49.0	-0.8
SHL	Shillong	156.40	71	eP	PKPdf	03 44 17.1	-0.2
SHL	Shillong	156.40	71	ePKPab	PKPab	03 44 49.0	-0.8
HHC	Hu-ho-hao-te	158.48	11	ePKP	PKPdf	03 44 22.0	+2.6
KSRS	Korea Array	159.78	333	PKP	PKPdf	03 44 21.6	+0.8
	comp=Z,44nm,1.0s,baz=64,slow=1.7,SNR=45						
KSRS				PKPab	PKPab	03 45 04.5	+0.9
	comp=Z,97nm,0.9s,baz=30,slow=4.0,SNR=39						
KSRS				PP	PP	03 48 48.6	+1.6
	comp=Z,9.1nm,0.9s,baz=14,slow=6.0,SNR=5.3						
KSAR	Wonju Array Be	159.81	333	PKIKP	PKPdf	03 44 19.2	-1.7
KSAR	Wonju Array Be	159.81	333	PKPdf	PKPdf	03 44 19.2	-1.7
LZH	Lanzhou	160.16	32	eP	pPKPab	03 47 17.9	+4.2
LZH				pP	sPKPdf	03 47 26.5	-7.2
LZH				sP	sPKPab	03 47 31.3	-40
LZH				pmax	pmax		
	comp=Z,30nm,1.3s						
LZH	Lanzhou	160.16	32	⇓PKP	PKPdf	03 44 23.4	+1.9
LZH				PKPab	PKPab	03 45 06.6	+1.0
INCN	Inchon	160.28	336	PKP2	PKPab	03 45 05.4	-0.5
INCN	Inchon	160.28	336	PKPab	PKPab	03 45 05.4	-0.5
DL2	Dalian	160.40	348	PKP	PKPdf	03 44 21.5	+0.1
DL2				PKPab	PKPab	03 45 06.3	0.0
HNS	HongShan	162.29	5	⇓PKP	PKPdf	03 44 24.6	+1.2
CMAR	Chiang Mai Arr	163.18	91	PKP	PKPdf	03 44 25.4	+0.5
	comp=Z,51nm,1.0s,baz=257,slow=1.8,SNR=38						
CMAR				PKPab	PKPab	03 45 19.4	+0.1
	comp=Z,153nm,0.9s,baz=255,slow=6.6,SNR=54						
CMAR				PP	PP	03 49 07.1	+0.4
	comp=Z,20nm,1.0s,baz=268,slow=6.0,SNR=7.7						
CMAR	Chiang Mai Arr	163.18	91	PKPab	PKPab	03 45 19.2	-0.1
CHTO	Chiang Mai	163.23	90	PKP2	PKPab	03 45 18.9	-0.7
CHTO	Chiang Mai	163.23	90	PKPab	PKPab	03 45 18.9	-0.7
TIA	Tai'an	163.56	359	P	PKPab	03 45 19.8	-0.4
TIA				pmax	pmax		
	comp=Z,60nm,0.7s						
TIA	Tai'an	163.56	359	PKP	PKPdf	03 44 25.6	+0.9
CD2	Chengdu	163.86	44	PKP	PKPdf	03 44 24.4	-0.8
XAN	Xi'an	164.15	24	PKP	PKPdf	03 44 26.4	+1.0
PZH	PanZhiHua	164.69	61	PKP	PKPdf	03 44 27.1	+0.9
PZH				PKPab	PKPab	03 45 25.4	-0.5
PZH				PP	PP	03 49 18.8	+4.7
PZH				SKKS		03 55 01.5	
LYN	LuoYang	164.75	13	⇑PKP	PKPdf	03 44 27.8	+2.0
LYN				PKPab	PKPab	03 45 26.3	+0.8
LYN				pPKP	pPKPdf	03 46 46.3	+3.9
KMI	Kunming	166.03	65	⇑PKP	PKPdf	03 44 28.8	+1.4
KKM	Kota Kinabalu	166.41	178		PKPdf	03 44 26.2	-1.6
NJ2	Nanjing	167.56	351	i PKP	PKPdf	03 44 27.0	-1.0
WHN	Wuhan	169.01	11	⇓PKP	PKPdf	03 44 30.3	+1.3
WHN				PKPab	PKPab	03 45 44.5	+0.1
WHN				pPKP	pPKPdf	03 46 49.6	+3.7
WHN				PP	PP	03 49 36.0	+2.0
CNSH	ChangSha	170.90	21	⇓P	PKPab	03 45 52.3	-0.6
CNSH				pmax	pmax		
	comp=Z,220nm,1.3s						

*BJI **14** 03:25:30.0±0.0, 42°.04N×142°.86E, h55km, mb6.5/88, mB6.6/74, Ms6.7/94, Ms7 6.5/90*
*KEA **14** 03:25:31.1, 42°.02N×143°.11E, h47km, MS6.0/3*
*DSN **14** 03:25:32.2±1.3, 41°.68N×143°.11E, h50km, mb7.1/21, Ms6.8/18, Error ellipse: s-maj=31.3km s-min=23.8km az=126.0*
*MOS **14** 03:25:32.1±0.9, 42°.01N×142°.73E, h57km, mb6.9/80, MS6.5/58, Error ellipse: s-maj=5.0km s-min=3.8km az=107.6*
MOS Felt (II-III) at Yuzhno-Kuril'sk.
*NIED **14** 03:25:33.3, 41°.97N×142°.80E, h52km, MW6.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^19Nm; Mrr0.91; Mθθ-0.22; Mφφ-0.69; Mrθ0.25; Mθφ-0.37; Mφr0.56; Fault plane solution: M0 1.09000×10^19 NP1:φs26.00000°, δ62.00000°, λ87.00000°. NP2:φs211.00000°, δ28.00000°, λ95.00000°.*
*JMA **14** 03:25:33.3±0.2, 41°.97N×142°.80E, h52km±2km, M6.7 Broadband fault plane solution: P waves. NP1: φs219.00000°, δ32.00000°, λ100.00000°. NP2: φs28.00000°, δ58.00000°, λ84.00000°. Principal axes: T Plg76.0000°, Azm280.0000°; N Plg5.0000°, Azm31.0000°; P Plg13.0000°, Azm122.0000°;*
*NEIC **14** 03:25:33.6±2.0, 41°.97N±0°.05×142°.78E±0°.09, h46km±1km, mb6.5/477, Ms_20 6.2/442, Mwb6.6/114, Mww6.7 Error ellipse: s-maj=11.4km s-min=7.8km az=104.0*
*NEIC **14** 03:25:34.4, 41°.96N×142°.70E, h51km, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr0.79; Mθθ-0.24; Mφφ-0.55; Mrθ0.34; Mθφ-0.18; Mφr0.71; Fault plane solution: M0 1.07000×10^19 NP1:φs204.59000°, δ21.16000°, λ89.34000°. NP2:φs25.30000°, δ68.85000°, λ90.26000°. Principal axes: T 1.1406, Plg66.0000°, Azm296.0000°; N -0.1578, Plg0.0000°, Azm205.0000°; P -0.9828, Plg24.0000°, Azm115.0000°;*
*IDC **14** 03:25:34.3±1.0, 42°.01N×142°.67E, h57km±8km, mb6.0/49, mb1 6.1/55, mb1mx5.9/63, mbtmp6.3/55, MS6.3/67, Ms1 6.3/67, ms1mx6.2/82 Error ellipse: s-maj=10.3km s-min=6.7km az=100.0*
*BGR **14** 03:25:36.8±0.0, 42°.78N×142°.65E, h33km, mb6.8, mB_BB6.9, Ms6.9*
*GCMT **14** 03:25:36.6±0.0, 42°.00N×142°.78E, h54km, MW6.7/167, Moment Tensor Solution. s165,c438; s167,c749; Duration: 5s2 Moment tensor: Scale 10^19Nm; Mrr0.93±.01; Mθθ-0.19±.00; Mφφ-0.74±.00; Mrθ0.29±.00; Mθφ-0.38±.00; Mφr0.73±.01; Best double couple: M0 1.22000×10^19 NP1:φs211.00000°, δ25.00000°, λ97.00000°. NP2:φs23.00000°, δ65.00000°, λ87.00000°. Principal axes: T 1.2180, Plg70.0000°, Azm287.0000°; N 0.0030, Plg3.0000°, Azm25.0000°; P -1.2220, Plg20.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **14** 03:25:37, 42°.05N×142°.85E, h50km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10^19Nm; Mrr0.79; Mθθ-0.10; Mφφ-0.69; Mrθ0.29; Mθφ-0.38; Mφr1.01; Fault plane solution: M0 1.34000×10^19 NP1: φs216.00000°, δ20.00000°, λ107.00000°. NP2: φs18.00000°, δ71.00000°, λ84.00000°. Principal axes: T 1.3072, Plg64.0000°, Azm278.0000°; N 0.0681, Plg6.0000°, Azm20.0000°; P -1.3753, Plg26.0000°, Azm113.0000°;*

ISC 14 03:25:33.6±0.2, 42°.04N±0°.02×142°.70E±0°.02, h55km±1km, h55km:pP-P, n2379, σ1°63/2657, mb6.5/553, MS6.3/386, 865C-97D, Fault plane solution: NP1:φs2.53448°, δ54.06833°, λ99.20089°. **NP2:**φs167.10332°, δ36.93675°, λ77.55808°. **Principal axes:** T Plg78.5604°, Azm307.2894°; N Plg7.4390°, Azm177.1046°; P Plg8.6412°, Azm85.9676°; **Fault plane solution: NP1:** φs51.80697°, δ52.17067°, λ77.31396°. **NP2:**φs251.96162°, δ39.59583°, λ105.79189°. **Principal axes:** T Plg78.1099°, Azm272.8959°; N Plg9.9888°, Azm59.6675°; P Plg6.3840°, Azm150.7966°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.24	10	⇑P	Pn	03 25 42.5	-0.3
ERM	Erimo	0.34	95	c iPN	Pn	03 25 43.0	-0.6
ERM	Erimo	0.34	95	⇑P	Pn	03 25 42.1	-1.5
ERM	Erimo	0.34	95	Pn	Pn	03 25 42.3	-1.3
ERM				Sn	Sn	03 25 50.5	-0.2
ERM	Erimo	0.34	95	P	Pn	03 25 43.7	+0.1
JEM	Erimo	0.34	95	⇑P	Pn	03 25 42.2	-1.4
JEM	Erimo	0.34	95	Pn	Pn	03 25 42.6	-1.0
JSHD	Hidakashinhida	0.40	335	⇓P	Pn	03 25 44.7	+0.5
JTHR	Tokachihiroo	0.51	61	⇑P	Pn	03 25 44.5	-0.8
JTHR				eS	Sn	03 25 53.4	-0.4
JCH	Churui	0.75	41	⇑P	Pn	03 25 47.9	-0.4
JBT2	Biratori 2	0.78	342	⇓P	Pn	03 25 49.3	+0.8
JIAM	Iburiatsuma	0.82	315	⇓P	Pn	03 25 51.0	+1.9
JFR	Furan	1.12	356	⇓P	Pn	03 25 53.7	+0.6
JOB	Onbets	1.20	44	P	Pn	03 25 55.0	+0.8
JOB				eS	Sn	03 26 11.8	+2.3
JEW	Eniwo	1.22	311	⇓P	Pn	03 25 55.8	+1.4
JEW	Eniwo	1.22	311

GRPR				pmax	pmax	
	comp=E,12μm,0.5s					
GRPR				pmax	pmax	
	comp=Z,12μm,0.5s					
GRPR				smax	smax	
	comp=N,21μm,0.5s					
GRPR				smax	smax	
	comp=E,76μm,0.4s					
GRPR				smax	smax	
	comp=E,132μm,2.0s					
GRPR				smax	smax	
	comp=N,141μm,1.3s					
YUK	**Yuzh-Kuril'sk**	**3.06**	**48***d*	*i*PN	**Pn**	**03 26 19.8 +0.4**
YUK				*i* S	**Sn**	**03 26 54.5 -0.2**
YUK				pmax	pmax	
	comp=E,6μm,0.5s					
YUK				pmax	pmax	
	comp=Z,16μm,0.5s					
YUK				pmax	pmax	
	comp=N,2μm,0.2s					
YUK				pmax	pmax	
	comp=Z,47μm,1.5s					
YUK				smax	smax	
	comp=N,227μm,1.7s					
YUK				smax	smax	
	comp=E,148μm,1.0s					
YUK				smax	smax	
	comp=N,97μm,0.7s					
YUK				smax	smax	
	comp=E,102μm,0.8s					
YUK				MLR	MLR	
	comp=Z,317μm,14.0s					
YUK				MLR	MLR	
	comp=N,262μm,9.0s					
OFUJ	**Ofunato**	**3.06**	**195**	⇓P	**Pn**	**03 26 18.7 -0.8**
JRR	**Rishiri**	**3.25**	**342**	⇓P	**Pn**	**03 26 24.6 +2.5**
SHO	**Shikotan**	**3.54**	**58***d*	*i*PN	**Pn**	**03 26 24.9 -1.1**
SHO				*i* S	**Sn**	**03 27 03.7 -2.9**
SHO				pmax	pmax	
	comp=Z,14μm,4.4s					
SHO				pmax	pmax	
	comp=Z,5μm,0.4s					
SHO				pmax	pmax	
	comp=E,2μm,0.5s					
SHO				pmax	pmax	
	comp=N,2μm,0.2s					
SHO				smax	smax	
	comp=E,42μm,1.0s					
SHO				smax	smax	
	comp=N,56μm,2.0s					
SHO				smax	smax	
	comp=N,10μm,0.2s					
SHO				smax	smax	
	comp=E,50μm,0.5s					
JOFO	**Osakifurukawao**	**3.70**	**202**	⇓P	**Pn**	**03 26 28.5 +0.3**
JYA	**Atsumi**	**4.13**	**214**	⇑P	**Pn**	**03 26 35.2 +1.0**
JMM	**Marumori**	**4.42**	**200**	⇑P	**Pn**	**03 26 37.1 -1.0**
JMM	**Marumori**	**4.42**	**200**		**Pn**	**03 26 37.1 -1.0**
YSS	**Yuzh-Sakhalins**	**4.91**	**0***o*	*i*PN	**Pn**	**03 26 47.6 +2.8**
YSS				*e*S	**Sn**	**03 27 43.4 +3.2**
YSS				pmax	pmax	
	comp=Z,34μm,2.6s					
YSS				pmax	pmax	
	comp=N,36μm,3.1s					
YSS				pmax	pmax	
	comp=Z,4μm,1.2s					
YSS				pmax	pmax	
	comp=N,4μm,1.1s					
YSS				smax	smax	
	comp=N,6μm,1.3s					
YSS				smax	smax	
	comp=N,97μm,4.1s					
YSS				smax	smax	
	comp=E,77μm,6.4s					
YSS				MLR	MLR	
	comp=Z,230μm,13.4s					
YSS				MLR	MLR	
	comp=N,173μm,13.1s					
YSS	**Yuzh-Sakhalins**	**4.91**	**0**	⇑P	**Pn**	**03 26 47.5 +2.8**
YSS	**Yuzh-Sakhalins**	**4.91**	**0**	Pn	**Pn**	**03 26 46.8 +2.0**
YSS	**Yuzh-Sakhalins**	**4.91**	**0**	P	**Pn**	**03 26 48.4 +3.6**
YSS	**Yuzh-Sakhalins**	**4.91**	**0**	P	**Pn**	**03 26 47.7 +2.8**
KUR	**Kuril'sk**	**4.92**	**48***d*	*i*PN	**Pn**	**03 26 46.0 +1.0**
KUR				*i* S	**Sn**	**03 27 43.0 +2.4**
KUR				pmax	pmax	
	comp=Z,91μm,5.6s					
KUR				pmax	pmax	
	comp=E,46μm,2.9s					
KUR				pmax	pmax	
	comp=N,58μm,3.1s					
KUR				pmax	pmax	
	comp=Z,7μm,0.6s					
KUR				pmax	pmax	
	comp=N,954nm,0.4s					
KUR				pmax	pmax	
	comp=E,2μm,0.3s					
KUR				smax	smax	
	comp=E,365μm,9.2s					
KUR				smax	smax	
	comp=N,230μm,5.1s					
KUR				smax	smax	
	comp=E,17μm,0.6s					
KUR				smax	smax	
	comp=N,5μm,0.4s					
KUR				MLR	MLR	
	comp=Z,329μm,19.0s					
KUR				MLR	MLR	
	comp=E,375μm,18.0s					
KUR				MLR	MLR	
	comp=N,431μm,19.0s					
ONAJ	**Iwakimizuishiy**	**5.15**	**197**	P	**Pn**	**03 26 46.5 -1.7**
JSD	**Sado**	**5.25**	**222**	⇑P	**Pn**	**03 26 51.0 +1.4**
JSD	**Sado**	**5.25**	**222**	Pn	**Pn**	**03 26 50.9 +1.4**
TEY	**Ternei**	**5.34**	**306**	⇓*e*PN	**Pn**	**03 26 51.9 +1.1**
TEY				pmax	pmax	
	comp=Z,2μm,0.9s					
TEY				pmax	pmax	
	comp=N,980nm,0.9s					
TEY				pmax	pmax	
	comp=E,15μm,4.0s					
TEY				pmax	pmax	
	comp=N,10μm,3.7s					
TEY				pmax	pmax	
	comp=Z,14μm,3.9s					
TEY				MLR	MLR	
	comp=E,292μm,17.0s					
TEY				MLR	MLR	
	comp=N,194μm,12.0s					
TEY				MLR	MLR	
	comp=Z,394μm,16.0s					
JIZZ	**Izumozaki**	**5.45**	**216**	⇑P	**Pn**	**03 26 54.2 +1.9**
JHG	**Hegura jima**	**6.10**	**229**	⇑P	**Pn**	**03 27 03.3 +2.1**
JYT	**Yasato**	**6.12**	**199**	⇑P	**Pn**	**03 26 59.5 -2.1**
JYT	**Yasato**	**6.12**	**199**		**Pn**	**03 26 59.4 -2.1**
JGK	**Kuni**	**6.31**	**211**	⇑P	**Pn**	**03 27 05.1 +1.0**
MJB9	**Matsu-Tunnel**	**6.50**	**214**		**Pn**	**03 27 07.4 +0.7**
MAJO	**Matsushiro**	**6.50**	**214***c*	*i*PN	**Pn**	**03 27 07.5 +0.8**
MAJO	**Matsushiro**	**6.50**	**214**	⇑P	**Pn**	**03 27 07.3 +0.6**
MAJO	**Matsushiro**	**6.50**	**214**	Pn	**Pn**	**03 27 07.2 +0.5**
MAJO				Sn	**Sn**	**03 28 16.2 -3.3**
MAJO	**Matsushiro**	**6.50**	**214**	P	**Pn**	**03 27 08.4 +1.7**
MAT	**Matsushiro**	**6.50**	**214**	P	**Pn**	**03 27 07.5 +0.8**
MAT				S	**Sn**	**03 28 19.0 -0.5**
MJAR	**Matsushiro Arr**	**6.50**	**214**	P	**Pn**	**03 27 07.4 +0.7**
	comp=Z,5.7nm,0.3s,baz=22,slow=14,SNR=315					
MJAR				LR	LR	03 30 12.3
	comp=Z,338μm,20.6s,baz=25,slow=43					
MJAR	**Matsushiro Arr**	**6.50**	**214**	Pn	**Pn**	**03 27 07.2 +0.5**
JTT	**Ttatey**	**6.84**	**219**	⇑P	**Pn**	**03 27 12.8 +1.5**
JJH	**Hakui**	**6.86**	**224**	⇑P	**Pn**	**03 27 13.5 +2.0**
I30JP	**ISUMI INFRASON**	**6.98**	**196**	*i*		04 02 40.0
	baz=8.5,slow=328,SNR=1.9					
UGL	**Uglegorsk**	**7.05**	**357**	⇑*i*PN	**Pn**	**03 27 16.3 +2.2**
UGL				S	**Sn**	**03 28 37.0 +4.3**
UGL				pmax	pmax	
	comp=Z,4μm,1.0s					
UGL				pmax	pmax	
	comp=Z,34μm,6.6s					
UGL				smax	smax	
	comp=E,27μm,4.5s					
UGL				smax	smax	
	comp=N,84μm,6.0s					
UGL				MLR	MLR	
	comp=Z,266μm,17.0s					
UGL				MLR	MLR	
	comp=E,219μm,17.0s					
UGL				MLR	MLR	
	comp=N,379μm,18.0s					
JKG	**Kaga**	**7.59**	**223**	⇑P	**Pn**	**03 27 23.3 +1.8**
JGF	**Kuroka**	**7.66**	**215**	⇑P	**Pn**	**03 27 23.2 +0.6**
JGF	**Kuroka**	**7.66**	**215**	⇑P	**Pn**	**03 27 23.2 +0.6**
JGF	**Kuroka**	**7.66**	**215**		**Pn**	**03 27 23.0 +0.4**
JNY	**Yasuok**	**7.67**	**211**	P	**Pn**	**03 27 22.2 -0.6**
INU	**Inuyama**	**8.02**	**215**	⇑P	**Pn**	**03 27 27.8 +0.2**
INU	**Inuyama**	**8.02**	**215**	Pn	**Pn**	**03 27 27.4 -0.1**
INU	**Inuyama**	**8.02**	**215**	P	**Pn**	**03 27 30.7 +3.2**
INU	**Inuyama**	**8.02**	**215**	P	**Pn**	**03 27 31.4 +3.8**
VLA	**Vladivostok**	**8.05**	**281***c*	*i*PN	**Pn**	**03 27 31.2 +3.4**
USA0B	**Ussuriysk Arra**	**8.12**	**289**	*i* PN	**Pn**	**03 27 30.0 +1.2**
USA0B	**Ussuriysk Arra**	**8.12**	**289**		**Pn**	**03 27 30.0 +1.2**
USRK	**Ussuriysk Ar.**	**8.12**	**289**	P	**Pn**	**03 27 30.1 +1.2**
	baz=95,slow=16,SNR=148					
USRK				S	**Sn**	**03 29 03.0 +3.8**
	baz=125,slow=35,SNR=1.5					
USRK				LR	LR	03 30 55.9
	comp=N,194μm,20.4s,baz=150,slow=40					
USRK	**Ussuriysk Ar.**	**8.12**	**289**	PN	**Pn**	**03 27 31.0 +2.2**
USRK	**Ussuriysk Ar.**	**8.12**	**289**	Pn	**Pn**	**03 27 31.0 +2.2**
I45RU	**USSURIYSK INFR**	**8.13**	**289**	*i*		04 10 10.0
	baz=97,slow=339,SNR=3.1					
JSG	**Sagara**	**8.16**	**207**	⇓P	**Pn**	**03 27 29.0 -0.4**
JSG	**Sagara**	**8.16**	**207**		**Pn**	**03 27 27.9 -1.5**
MSHR	**Mys Shultsa**	**8.57**	**277***ce*	PN	**Pn**	**03 27 36.0 +1.1**
MSHR				pmax	pmax	
	comp=Z,2μm,1.3s					
TYV	**Tymovskoe**	**8.82**	**360**	*e*PN	**Pn**	**03 27 41.6 +3.3**
TYV				*e*S	**Sn**	**03 29 23.0 +6.8**
TYV				pmax	pmax	
	comp=Z,23μm,3.8s					
TYV				pmax	pmax	
	comp=Z,3μm,1.3s					
TYV				smax	smax	
	comp=N,310nm,1.3s					
TYV				smax	smax	
	comp=E,562nm,1.3s					
TYV				smax	smax	
	comp=N,36μm,6.3s					
TYV				smax	smax	
	comp=E,70μm,6.3s					
TYV				MLR	MLR	
	comp=N,204μm,18.0s					
TYV				MLR	MLR	
	comp=Z,130μm,18.0s					
TSUJ	**Tsu 2**	**8.82**	**216**	⇑P	**Pn**	**03 27 39.0 +0.5**
JWT	**Wachi**	**8.84**	**223**	⇑P	**Pn**	**03 27 40.3 +1.7**
JWT	**Wachi**	**8.84**	**223**	Pn	**Pn**	**03 27 39.1 +0.5**
JHJ	**Hachijo jima 2**	**9.20**	**195**	P	**Pn**	**03 27 40.3 -3.3**
	comp=Z,262nm,0.3s,baz=282,slow=21,SNR=27					
JHJ				S	**Sn**	**03 29 17.6 -8.1**
	comp=Z,340nm,0.3s,baz=251,slow=23,SNR=9.7					
JHJ2	**Mitsune**	**9.20**	**195**	⇑P	**Pn**	**03 27 40.5 -3.2**
JHJ2	**Mitsune**	**9.20**	**195**	P	**Pn**	**03 27 40.9 -2.8**
GRNR	**Gornyy**	**9.74**	**336**	⇑*i*PN	**Pn**	**03 27 53.9 +3.0**
GRNR				*e*S	**Sn**	**03 29 45.9 +7.2**
GRNR				pmax	pmax	
	comp=N,2μm,0.9s					
GRNR				pmax	pmax	
	comp=E,1μm,0.9s					
GRNR				pmax	pmax	
	comp=Z,3μm,0.9s					
GRNR				smax	smax	
	comp=E,1μm,0.8s					
GRNR				MLR	MLR	
	comp=E,74μm,14.0s					
GRNR				MLR	MLR	
	comp=N,70μm,18.0s					
GRNR				MLR	MLR	
	comp=Z,127μm,19.0s					
MDJ	**Mudanjiang**	**9.89**	**289**	P	**Pn**	**03 27 54.9 +1.9**
MDJ				sP		03 28 11.0
MDJ				S	**Sn**	**03 29 45.8 +3.3**
MDJ				pmax	pmax	
	comp=Z,500nm,1.0s					
MDJ				pmax	pmax	
	comp=Z,32μm,4.1s					
MDJ				LR	LR	
	comp=Z,120μm,15.7s					
MDJ				LR	LR	
	comp=Z,344μm,20.6s					
MDJ				LR	LR	
	comp=Z,684μm,19.9s					
MDJ	**Mudanjiang**	**9.89**	**289**	P	**Pn**	**03 27 55.0 +1.9**
JHS	**Saijyo**	**10.28**	**230**	⇑P	**Pn**	**03 28 00.3 +1.9**
JHS	**Saijyo**	**10.28**	**230**	Pn	**Pn**	**03 27 59.9 +1.5**
KLR	**Kul'dur**	**10.50**	**317**	P	**Pn**	**03 28 03.7 +2.4**
	comp=Z,8.6nm,0.3s,baz=127,slow=13,SNR=235					
KLR				LR	LR	03 32 26.1
	comp=Z,417μm,21.9s,baz=149,slow=39					
KLR				P3KPbc		04 04 39.0
	comp=Z,0.0nm,0.3s,baz=293,slow=1.5,SNR=3.6					
JMN	**Monobe**	**10.83**	**223**	⇑P	**Pn**	**03 28 05.4 -0.6**
JMN	**Monobe**	**10.83**	**223**	Pn	**Pn**	**03 28 05.4 -0.6**
NKL	**Nikolayevsk**	**11.20**	**354**	*e*PN	**Pn**	**03 28 10.9 +0.2**
NKL				pmax	pmax	
	comp=N,12nm,0.7s					
NKL				pmax	pmax	
	comp=E,10.0nm,0.7s					
NKL				pmax	pmax	
	comp=Z,5μm,1.3s					
NKL				MLR	MLR	
	comp=Z,138μm,19.0s					
OKH	**Okha**	**11.52**	**1***c*	*i*PN	**Pn**	**03 28 15.2 +0.1**
OKH				pmax	pmax	
	comp=Z,10μm,8.2s					
OKH				MLR	MLR	
	comp=E,217μm,21.0s					
OKH				MLR	MLR	
	comp=N,68μm,22.0s					
OKH				MLR	MLR	
	comp=Z,73μm,17.0s					
BNX	**BinXian**	**11.63**	**294**	⇑P	**Pn**	**03 28 18.4 +1.6**
BNX				PP	**PnPn**	**03 28 29.0 +4.4**
BNX				sP		03 28 33.8
BNX				S	**Sn**	**03 30 30.3 +5.2**
BNX				pmax	pmax	
	comp=Z,2μm,1.1s					
BNX				pmax	pmax	
	comp=Z,36μm,7.6s					
BNX				LR	LR	
	comp=Z,101μm,15.2s					
BNX				LR	LR	
	comp=Z,262μm,19.2s					
BNX				LR	LR	
	comp=Z,379μm,19.5s					
HHU	**Hamhung**	**11.66**	**265**	P	**Pn**	**03 28 19.3 +2.1**
HHU				pP		03 28 27.8
HHU				S	**Sn**	**03 30 33.0 +7.3**
HHU				AMS	AMS	
	comp=N,9μm,16.7s					
HHU				AMS	AMS	
	comp=E,1μm,2.4s					
HHU				AMS	AMS	
	comp=Z,926nm,1.7s					
KSRS	**Korea Array**	**12.26**	**253**	P	**Pn**	**03 28 27.5 +2.2**
	comp=Z,16nm,0.3s,baz=68,slow=13,SNR=330					
KSRS				S	**Sn**	**03 30 47.7 +7.4**
	comp=Z,53nm,0.3s,baz=68,slow=24,SNR=10					
KSRS				LR	LR	03 32 43.3
	comp=Z,313μm,20.5s,baz=74,slow=35					
KSAR	**Wonju Array Be**	**12.29**	**253**	PN	**Pn**	**03 28 27.1 +1.3**
KSAR	**Wonju Array Be**	**12.29**	**253**	Pn	**Pn**	**03 28 27.1 +1.3**
SKR	**Severo-Kuril's**	**12.65**	**42**	⇑*e*PN	**Pn**	**03 28 30.1 -0.6**
CN2	**Changchun**	**12.77**	**284**	*e*P	**Pn**	**03 28 31.8 -0.5**
CN2				PP	**P**	**03 28 43.0 +1.3**
CN2				S	**Sn**	**03 30 53.8 +1.1**
CN2				SS	**SnSn**	**03 31 09.5 +4.4**
CN2				pmax	pmax	
	comp=Z,1μm,1.0s					
CN2				pmax	pmax	
	comp=Z,24μm,5.0s					
CN2				LR	LR	
	comp=Z,257μm,16.0s					
CN2				LR	LR	
	comp=Z,255μm,16.0s					
CN2				LR	LR	
	comp=Z,299μm,16.0s					
JTU	**Tsushima**	**12.86**	**239**	⇑P	**Pn**	**03 28 34.8 +1.2**
JNU	**Nakatsue**	**12.92**	**230**	P	**Pn**	**03 28 34.3 -0.1**
	comp=Z,9.3nm,0.3s,baz=52,slow=7,8,SNR=70					
JNU	**Nakatsue**	**12.92**	**230**	⇑P	**Pn**	**03 28 34.1 -0.3**
JNU	**Nakatsue**	**12.92**	**230**	Pn	**Pn**	**03 28 34.2 -0.3**
JNU	**Nakatsue**	**12.92**	**230**	P	**Pn**	**03 28 34.3 -0.1**
TJN	**Taejon**	**13.16**	**250***c*	*i*PN	**Pn**	**03 28 39.6 +1.9**
TJN	**Taejon**	**13.16**	**250**	Pn	**Pn**	**03 28 38.5 +0.9**
TJN	**Taejon**	**13.16**	**250**	P	**Pn**	**03 28 40.3 +2.6**
INCN	**Inchon**	**13.17**	**255**	PN	**Pn**	**03 28 38.4 +0.6**
INCN	**Inchon**	**13.17**	**255**	P	**Pn**	**03 28 39.0 +1.2**
INCN				P	**Pn**	**03 28 39.0 +1.2**
INCN	**Inchon**	**13.17**	**255**	⇑P	**Pn**	**03 28 38.9 +1.2**
INCN	**Inchon**	**13.17**	**255**	Pn	**Pn**	**03 28 38.4 +0.6**
INCN	**Inchon**	**13.17**	**255**	P	**Pn**	**03 28 39.8 +2.0**
INCN	**Inchon**	**13.17**	**255**	P	**Pn**	**03 28 39.0 +1.2**
PYAG	**Pyongyang**	**13.23**	**263**	P	**Pn**	**03 28 40.0 +1.5**
PYAG				pP	**P**	**03 28 48.5 +1.7**
PYAG				S	**Sn**	**03 31 09.4 +5.5**
PYAG				AMS	AMS	
	comp=N,20μm,7.5s					
PYAG				AMS	AMS	
	comp=E,24μm,9.1s					
PYAG				AMS	AMS	
	comp=Z,11μm,4.2s					
HJU	**Haeju**	**13.60**	**259**	P	**Pn**	**03 28 44.9 +1.2**
HJU				pP	**P**	**03 28 53.2 +2.3**
HJU				S	**Sn**	**03 31 16.7 +3.6**
HJU				AMS	AMS	
	comp=N,49μm,13.9s					
HJU				AMS	AMS	
	comp=E,50μm,14.2s					
HJU				AMS	AMS	
	comp=Z,22μm,6.2s					
SUJ	**Sinuiju**	**13.87**	**268**	P	**Pn**	**03 28 47.7 +0.4**
SNY	**Shenyang**	**14.24**	**276**	⇑P	**Pn**	**03 28 52.9 +0.7**
SNY				S	**Sn**	**03 31 37.4 +8.9**
SNY				pmax	pmax	
	comp=Z,910nm,1.5s					
SNY				pmax	pmax	
	comp=Z,29μm,10.0s					
SNY				LR	LR	
	comp=Z,158μm,19.2s					
SNY				LR	LR	
	comp=Z,175μm,26.3s					
SNY				LR	LR	
	comp=Z,367μm,31.9s					
JSU	**Suzuyama**	**14.37**	**227**	⇑P	**Pn**	**03 28 52.5 -1.4**
JSU	**Suzuyama**	**14.37**	**227**	Pn	**Pn**	**03 28 52.6 -1.4**
JCJ	**Chichijima**	**14.92**	**182**	Pn	**Pn**	**03 28 57.5 -3.7**
JCJ	**Chichijima**	**14.92**	**182**	P	**Pn**	**03 28 58.0 -3.2**
PEA0B	**Petropavlovsk-**	**14.96**	**37**	*i* P	**Pn**	**03 28 59.4 -2.2**
PEA0B	**Petropavlovsk-**	**14.96**	**37**	Pn	**Pn**	**03 28 58.4 -3.3**
PETK	**Petropavlovsk-**	**14.96**	**37**	P	**Pn**	**03 28 57.9 -3.7**
	comp=Z,2.7nm,0.3s,baz=198,slow=2.3,SNR=52					
PETK				LR	LR	03 34 52.7
	comp=Z,50μm,18.3s,baz=220,slow=37					
PETK				ScP	**ScP**	**03 37 38.0 +1.5**
	baz=20,slow=6.6,SNR=3.8					
PET	**Petropavlovsk**	**15.35**	**39***d*	*i*P	**Pn**	**03 29 01.1 -5.4**
PET				*e*S	**Sn**	**03 31 49.6 -5.7**
PET				pmax	pmax	
	comp=Z,540nm,1.2s					
PET				pmax	pmax	
	comp=Z,24μm,11.2s					
PET				pmax	pmax	
	comp=Z,26μm,10.3s					
PET				MLR	MLR	
	comp=Z,219μm,19.0s					
PET				MLR	MLR	
	comp=Z,176μm,18.0s					
PET	**Petropavlovsk**	**15.35**	**39**	⇑P	**Pn**	**03 29 05.2 -1.3**
PET	**Petropavlovsk**	**15.35**	**39**	P	**Pn**	**03 29 06.0 -0.5**
ZEA	**Zeya**	**15.59**	**324***ce*	P	**Pn**	**03 29 08.4 -1.2**
ZEA				*e*S	**Sn**	**03 31 53.4 -7.7**
ZEA				pmax	pmax	
	comp=N,12μm,5.0s					
ZEA				pmax	pmax	
	comp=Z,17μm,6.6s					
ZEA				pmax	pmax	
	comp=E,390nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,3μm,1.2s					
ZEA				smax	smax	
	comp=E,28μm,11.6s					
ZEA				MLR	MLR	
	comp=E,137μm,15.0s					
ZEA				MLR	MLR	
	comp=N,88μm,16.0s					
ZEA				MLR	MLR	
	comp=Z,174μm,16.0s					
DL2	**Dalian**	**16.33**	**266**	⇑*i*P	**Pn**	**03 29 19.0 -0.2**
DL2				S	**Sn**	**03 32 21.3 +2.0**
DL2				pmax	pmax	
	comp=Z,3μm,1.0s					
DL2				pmax	pmax	
	comp=Z,32μm,6.4s					
DL2				LR	LR	
	comp=Z,55μm,17.4s					
DL2				LR	LR	
	comp=Z,113μm,20.1s					
DL2				LR	LR	
	comp=Z,161μm,26.1s					
HIA	**Hailar**	**17.56**	**302**	*i* P	**Pn**	**03 29 32.2 -2.2**
HIA	**Hailar**	**17.56**	**302**	P	**Pn**	**03 29 32.8 -1.5**
HIA	**Hailar**	**17.56**	**302**	P	**Pn**	**03 29 32.1 -2.2**
JKDJ	**Kitadaitoujima**	**18.60**	**214**	P	**P**	**03 29 46.3 0.0**
JMZ	**Minamidaito 2**	**18.75**	**214**	P	**Pn**	**03 29 48.5 -0.4**
JOW	**Kunigami**	**19.24**	**222**	P	**P**	**03 29 50.3 -3.0**
	comp=Z,20nm,0.3s,baz=36,slow=7.9,SNR=87					
JOW	**Kunigami**	**19.24**	**222**	P	**P**	**03 29 52.9 -0.5**
JOW	**Kunigami**	**19.24**	**222**	P	**P**	**03 29 52.2 -1.2**
XLT	**XiLinHaoTe**	**19.54**	**284**	⇑*i*P	**P**	**03 29 55.1 -1.5**
XLT				pP	pP	03 30 05.3 -3.3
XLT				sP	sP	03 30 11.8 -3.6
XLT				S	**S**	**03 33 32.3 -2.0**
XLT				sS	Sn	03 33 44.9 +8.0
XLT				pmax	pmax	
	comp=Z,2μm,1.2s					
XLT				pmax	pmax	
	comp=Z,34μm,5.5s					
XLT				LR	LR	
	comp=Z,168μm,17.7s					
XLT				LR	LR	
	comp=Z,167μm,18.5s					
XLT				LR	LR	
	comp=Z,205μm,17.7s					
JJT3	**Tamagusuku3**	**20.05**	**222**	P	**P**	**03 30 01.7 -0.5**
JJT3				S	Sn	03 33 54.2 +4.9
BJI	**Beijing**	**20.08**	**273**	P	**P**	**03 29 56.3 -6.1**
BJI				S	Sn	03 33 48.0 -1.8
BJI				pmax	pmax	
	comp=Z,2μm,1.2s					
BJI				pmax	pmax	
	comp=Z,16μm,7.7s					
BJI				LR	LR	
	comp=N,33μm,15.7s					
BJI				LR	LR	
	comp=E,109μm,15.7s					
BJI				LR	LR	
	comp=Z,152μm,16.8s					
BJT	**Baijiatuau**	**20.09**	**273**	IAmb	IAmb	03 30 02.4
	comp=Z,3μm,1.2s					
BJT	**Baijiatuau**	**20.09**	**273**	P	**P**	**03 30 00.5 -2.1**
SSE	**Sheshan**	**20.39**	**245**	P	**P**	**03 30 04.0 -1.8**
SSE				S	**S**	**03 33 46.8 -4.3**
SSE				pmax	pmax	
	comp=Z,330nm,1.4s					
SSE				pmax	pmax	
	comp=Z,8μm,8.6s					
SSE	**Sheshan**	**20.39**	**245**	P	**P**	**03 30 03.3 -2.5**
TIA	**Tai'an**	**20.64**	**262**	P	**P**	**03 30 06.8 -1.7**
TIA				S	**S**	**03 33 50.6 -5.5**
TIA				pmax	pmax	
	comp=Z,1μm,1.0s					
TIA				pmax	pmax	
	comp=Z,9μm,4.3s					
TIA				LR	LR	
	comp=Z,59μm,18.5s					
TIA				LR	LR	
	comp=Z,78μm,20.6s					
TIA				LR	LR	
	comp=Z,110μm,17.1s					
NJ2	**Nanjing**	**21.42**	**250**	⇑*i*P	**P**	**03 30 12.5 -4.4**
NJ2				pP	**pP**	**03 30 24.3 -4.7**
NJ2				PP	**sP**	**03 30 36.6 +0.9**
NJ2				S	**S**	**03 34 02.6 -9.0**
NJ2				pmax	pmax	
	comp=Z,530nm,1.0s					
NJ2				pmax	pmax	

comp=Z,14μm,4.9s
NJ2 LR LR
comp=Z,262μm,15.1s
NJ2 LR LR
comp=Z,224μm,19.0s
NJ2 LR LR
comp=Z,199μm,18.6s
YAK Yakutsk 21.48 343 P **P** **03 30 13.6 -3.7**
comp=Z,348nm,0.6s,baz=137,slow=4.4,SNR=151
YAK S **S** **03 34 03.8 -8.4**
comp=Z,231nm,0.9s,baz=257,slow=22,SNR=3.7
YAK Yakutsk 21.48 343*c i*P **P** **03 30 13.5 -3.7**
YAK *e**PP **pP** **03 30 33.2 +3.5**
YAK *e*S **S** **03 34 06.2 -6.0**
YAK *e* 03 34 12.7
YAK *e* 03 41 26.2
YAK pmax pmax
comp=Z,3μm,1.3s
YAK pmax pmax
comp=N,2μm,1.2s
YAK pmax pmax
comp=E,551nm,1.6s
YAK smax smax
comp=N,29μm,2.9s
YAK smax smax
comp=E,9μm,1.8s
YAK Yakutsk 21.48 343 P **P** **03 30 13.9 -3.3**
YAK IAmb IAmb 03 30 38.5
comp=Z,3μm,1.1s
YAK Yakutsk 21.48 343 P **P** **03 30 13.5 -3.7**
SEY Seymchan 21.69 12 P **P** **03 30 16.9 -2.6**
comp=Z,653nm,0.9s,baz=203,slow=8.9,SNR=332
SEY S **S** **03 34 09.7 -6.7**
comp=Z,56nm,1.0s,baz=165,slow=20,SNR=2.0
HNS HongShan 21.98 267 ⇑P **P** **03 30 19.8 -3.0**
HNS S **S** **03 34 12.9 -9.3**
HNS pmax pmax
comp=Z,700nm,1.4s
HNS LR LR
comp=Z,59μm,18.2s
HNS LR LR
comp=Z,109μm,16.5s
HNS LR LR
comp=Z,141μm,18.2s
CIT Chita 22.09 307 *e*P **P** **03 30 21.0 -3.0**
CIT *e* 03 30 43.2
CIT *e* 03 30 52.2
CIT *e* 03 31 00.2
CIT *e*S **S** **03 34 17.8 -6.4**
CIT pmax pmax
comp=Z,3μm,2.3s
JOGS Gusukube 22.41 225 P **P** **03 30 26.5 -1.1**
JMJ Miyako jima 2 22.43 225 P **P** **03 30 27.6 -0.1**
JMJ2 Miyako jima3 22.47 225 P **P** **03 30 26.9 -1.3**
JTJ Tarama 22.88 226 P **P** **03 30 30.4 -2.1**
JTJ S **S** **03 34 34.8 -3.3**
JISG Ishigakijimahi 23.14 227 P **P** **03 30 32.2 -2.9**
HHC Hu-ho-hao-te 23.31 278 ⇑*i*P **P** **03 30 33.8 -3.0**
HHC PP **PnPn** **03 31 03.0 -1.6**
HHC S **S** **03 34 39.9 -5.3**
HHC sS Sn 03 34 58.4 -8.8
HHC pmax pmax
comp=Z,470nm,1.2s
HHC LR LR
comp=Z,55μm,15.3s
HHC LR LR
comp=Z,130μm,17.9s
HHC LR LR
comp=Z,217μm,19.5s
JIJ Ishigaki jima 23.41 227 P **P** **03 30 34.7 -3.0**
TIY Taiyuan 23.56 270 ⇑*i*P **P** **03 30 36.6 -2.5**
TIY S **S** **03 34 43.5 -5.7**
TIY sS **sS** **03 35 12.0 -0.2**
TIY pmax pmax
comp=Z,250nm,1.1s
TIY pmax pmax
comp=Z,14μm,5.9s
TIY LR LR
comp=Z,55μm,17.9s
TIY LR LR
comp=Z,83μm,18.6s
TIY LR LR
comp=Z,121μm,18.6s
SHEM Shemya Is, Ala 23.61 52 P **P** **03 30 40.3 +1.0**
comp=Z,530nm,1.0s,baz=353,slow=4.8,SNR=10
SMY Shemya 23.61 52 P **P** **03 30 39.9 +0.5**
SMY pmax pmax
comp=Z,3μm,1.6s
SMY Shemya 23.61 52 ⇑P **P** **03 30 40.2 +0.9**
SMY Shemya 23.61 52 P **P** **03 30 39.9 +0.5**
SMY IAmb IAmb 03 31 02.2
comp=Z,3μm,1.6s
YOJ Yonaguni jima 23.96 229 P **P** **03 30 42.9 +0.1**
BOD Bodaibo 24.03 321 ⇓*i*P **P** **03 30 39.6 -3.6**
BOD pmax pmax
comp=Z,886nm,1.5s
TATO Taipei 24.44 233 P **P** **03 30 46.1 -1.1**
TATO P **P** **03 30 46.1 -1.1**
TATO Taipei 24.44 233 P **P** **03 30 46.3 -0.9**
TATO Taipei 24.44 233 IAMs_20 IAMs_20 03 40 50.0
comp=Z,75μm,22.0s
TATO Taipei 24.44 233 P **P** **03 30 46.3 -0.9**
YHNB Yeheng 24.74 232 IAmb IAmb 03 30 59.4
comp=Z,2μm,0.9s
YHNB Yeheng 24.74 232 P **P** **03 30 48.6 -1.4**
LYN LuoYang 24.79 262 ⇑*i*P **P** **03 30 47.4 -2.9**
LYN PP **PnPn** **03 31 24.6 -0.2**
LYN S **S** **03 35 02.4 -6.4**
LYN SS **SnSn** **03 36 06.1 +6.1**
LYN pmax pmax
comp=Z,550nm,1.5s
LYN pmax pmax
comp=Z,14μm,9.4s
LYN LR LR
comp=Z,96μm,20.2s
LYN LR LR
comp=Z,104μm,25.3s
NACB Ninganchiao 24.99 231 IAMs_20 IAMs_20 03 40 56.6
comp=Z,67μm,21.0s
WHN Wuhan 25.45 252 ⇑P **P** **03 30 53.8 -2.5**
WHN pP **pP** **03 31 07.4 -2.3**
WHN S **S** **03 35 16.1 -3.3**
WHN ScS **ScS** **03 41 51.3 +0.7**
WHN pmax pmax
comp=Z,3μm,0.9s
WHN pmax pmax
comp=Z,28μm,3.7s
WHN LR LR
comp=Z,274μm,14.8s
WHN LR LR
comp=Z,65μm,11.9s
WHN LR LR
comp=Z,418μm,19.3s
SSLB Suanglung 25.66 232 P **P** **03 30 55.7 -2.6**
SSLB Suanglung 25.66 232 P **P** **03 30 57.0 -1.3**
ULN Ulaanbaatar 25.73 295*c i*P **P** **03 30 58.5 -0.3**
ULN pmax pmax
comp=Z,3μm,1.6s
ULN MLR MLR
comp=Z,222μm,20.0s
ULN Ulaanbaatar 25.73 295 P **P** **03 30 58.6 -0.3**
ULN P **P** **03 30 58.6 -0.3**
ULN Ulaanbaatar 25.73 295 ⇑P **P** **03 30 58.3 -0.6**
ULN Ulaanbaatar 25.73 295 P **P** **03 30 58.2 -0.6**
ULN IAmb IAmb 03 31 00.9
comp=Z,5μm,1.7s
ULN Ulaanbaatar 25.73 295 P **P** **03 30 58.3 -0.6**
YULB Yu-li 25.77 230 IAMs_20 IAMs_20 03 41 22.1
comp=Z,96μm,21.0s
SONM Songino Array 26.17 295 P **P** **03 31 02.6 -0.2**
comp=Z,802nm,1.0s,baz=90,slow=5.8,SNR=1601
SONM LR LR 03 42 00.4
comp=Z,232μm,20.8s,baz=97,slow=38
SONM Songino Array 26.17 295 P **P** **03 31 02.5 -0.4**
TPUB Ta-pu 26.22 231 IAMs_20 IAMs_20 03 41 39.2
comp=Z,87μm,22.0s
TPUB Ta-pu 26.22 231 P **P** **03 31 02.6 -0.8**
QZH Quanzhou 26.23 237 ⇑*i*P **P** **03 31 03.8 +0.4**
QZH S **S** **03 35 32.9 +1.2**
QZH pmax pmax
comp=Z,700nm,0.9s
QZH pmax pmax
comp=Z,30μm,7.1s
QZH LR LR
comp=Z,52μm,22.7s
QZH LR LR
comp=Z,25μm,13.7s
QZH LR LR
comp=Z,48μm,28.9s
TWG Pinlang 26.34 230 IAMs_20 IAMs_20 03 41 38.3
comp=Z,100μm,21.0s
KNMB Chin-men Tao 26.70 237 P **P** **03 31 08.3 +0.6**
KNMB IAmb IAmb 03 31 11.1
comp=Z,2μm,1.0s
XAN Xi'an 27.64 264 P **P** **03 31 14.6 -1.4**
XAN pP sP 03 31 33.0 -3.0
XAN S **S** **03 35 50.1 -3.9**
XAN pmax pmax
comp=Z,2μm,1.7s
XAN pmax pmax
comp=Z,22μm,10.4s
XAN LR LR
comp=Z,65μm,22.9s
XAN LR LR
comp=Z,100μm,20.8s
XAN LR LR
comp=Z,137μm,22.1s
XAN Xi'an 27.64 264 P **P** **03 31 14.7 -1.4**
IRK Irkutsk 27.75 305 *e*P **P** **03 31 16.5 -0.4**
IRK *e* 03 31 30.5
IRK pmax pmax
comp=Z,4μm,3.0s
CNSH ChangSha 27.84 250 ⇑P **P** **03 31 16.8 -1.0**
CNSH S **S** **03 35 53.6 -3.6**
CNSH pmax pmax
comp=Z,1μm,1.3s
CNSH LR LR
comp=Z,174μm,19.6s
CNSH LR LR
comp=Z,122μm,17.8s
CNSH LR LR
comp=Z,141μm,18.7s
ZAK Zakamensk 28.24 301 *e*P **P** **03 31 21.9 +0.5**
ZAK pmax pmax
comp=Z,1μm,1.2s
GUMO Guam 28.41 176 LR LR 03 45 24.8
comp=Z,9μm,18.7s,baz=13,slow=42
GUMO Guam 28.41 176 IAMs_20 IAMs_20 03 41 18.5
comp=Z,96μm,22.0s
BILL Bilibino 28.95 18 *e*P **P** **03 31 24.5 -2.9**
BILL *e**PP **pP** **03 31 40.6 -0.8**
BILL *e**SP **sP** **03 31 49.7 +1.7**
BILL *e* 03 32 22.6
BILL *e* 03 34 35.8
BILL *e*S **S** **03 36 11.9 -2.1**
BILL *e*SS ScP 03 37 44.8 -27
BILL pmax pmax
comp=Z,293nm,1.2s
BILL MLR MLR
comp=Z,40μm,20.0s
BILL Bilibino 28.95 18 P **P** **03 31 24.2 -3.2**
ADK Adak 29.07 56 P **P** **03 31 28.0 -0.5**
ADK pmax pmax
comp=Z,547nm,1.4s
ADK MLR MLR
comp=Z,37μm,22.0s
ADK Adak 29.07 56 ⇓P **P** **03 31 28.8 +0.2**
ADK Adak 29.07 56 P **P** **03 31 28.0 -0.5**
ADK Adak 29.07 56 P **P** **03 31 29.5 +1.0**
ENH Enshi 29.10 257 IAmb IAmb 03 31 32.8
comp=Z,830nm,0.7s
ENH Enshi 29.10 257 P **P** **03 31 27.5 -1.5**
MOY Mondy 29.73 303 *e*P **P** **03 31 35.4 +0.8**
MOY pmax pmax
comp=Z,5μm,2.8s
H11N2 WAKE ISLAND Hy 30.24 130 P **P** **03 31 40.0 +1.0**
baz=293,slow=10,SNR=11
H11N2 T T 04 03 13.4
baz=323,slow=75,SNR=1977
H11N1 WAKE ISLAND Hy 30.25 130 P **P** **03 31 40.2 +1.1**
baz=293,slow=10,SNR=9.9
H11N1 T T 04 03 10.8
baz=323,slow=75,SNR=2509
H11N3 WAKE ISLAND Hy 30.26 130 P **P** **03 31 40.3 +1.1**
baz=293,slow=10,SNR=11
H11N3 T T 04 03 23.2
baz=323,slow=75,SNR=2739
WAKE Wake Island 30.46 131 ⇑P **P** **03 31 41.7 +0.6**
WAKE Wake Island 30.46 131 P **P** **03 31 40.4 -0.7**
WAKE Wake Island 30.46 131 IAMs_20 IAMs_20 03 41 33.3
comp=Z,62μm,20.0s
WAKE Wake Island 30.46 131 P **P** **03 31 42.3 +1.2**
TIXI Tiksi 30.46 351 P **P** **03 31 37.3 -3.3**
comp=Z,87nm,0.8s,baz=136,slow=11,SNR=12
TIXI Tiksi 30.46 351*c i*P **P** **03 31 37.5 -3.2**
TIXI pmax pmax
comp=Z,263nm,1.2s
TIXI MLR MLR
comp=Z,61μm,24.0s
TIXI Tiksi 30.46 351 P **P** **03 31 37.3 -3.3**
TIXI Tiksi 30.46 351 P **P** **03 31 37.4 -3.2**
LZH Lanzhou 30.56 272 ⇑P **P** **03 31 41.5 -0.6**
LZH pP pP 03 31 52.9 -2.8
LZH sP sP 03 31 58.6 -3.4
LZH PP **PnPn** **03 32 43.9 +1.0**
LZH S **S** **03 36 38.6 -1.5**
LZH pmax pmax
comp=Z,1μm,1.3s
LZH pmax pmax
comp=Z,12μm,5.4s
LZH LR LR
comp=Z,74μm,15.2s
LZH LR LR
comp=Z,106μm,17.0s
LZH LR LR
comp=Z,84μm,17.3s
ATKA Atka Island 30.62 56 P **P** **03 31 42.6 +0.4**
HKC Hong Kong Obse 30.93 239 ⇑P **P** **03 31 47.0 +1.8**
HKPS Hong Kong Po S 30.96 239 P **P** **03 31 46.3 +0.7**
HKPS IAmb IAmb 03 31 50.7
comp=Z,2μm,1.4s
HKPS IAMs_20 IAMs_20 03 44 11.1
comp=Z,67μm,20.0s
H11S1 WAKE ISLAND Hy 31.11 132 P **P** **03 31 47.5 +0.8**
baz=300,slow=7.3,SNR=7.6
H11S1 T T 04 04 20.7
baz=324,slow=76,SNR=3737
H11S3 WAKE ISLAND Hy 31.11 132 P **P** **03 31 47.3 +0.6**
baz=300,slow=7.3,SNR=4.9
H11S3 T T 04 04 03.2
baz=324,slow=76,SNR=22
H11S2 WAKE ISLAND Hy 31.12 132 P **P** **03 31 47.3 +0.5**
baz=300,slow=7.3,SNR=5.9
H11S2 T T 04 04 16.1
baz=324,slow=76,SNR=1745
GULI GuiLin 31.43 248 ⇑P **P** **03 31 50.4 +0.7**
GULI PP **PnPn** **03 32 57.5 +3.3**
GULI S **S** **03 36 50.8 -2.8**
GULI pmax pmax
comp=Z,970nm,0.7s
GULI LR LR
comp=Z,96μm,19.0s
GULI LR LR
comp=Z,94μm,17.3s
GULI LR LR
comp=Z,72μm,27.1s
MCO Taipa Grande 31.45 240 P **P** **03 31 51.0 +1.1**
GTA Gaotai 32.36 280 ⇑P **P** **03 31 57.8 -0.1**
GTA pP sP 03 32 14.8 -3.2
GTA sP pP 03 32 22.3 +11
GTA PP **PP** **03 33 09.3 -2.3**
GTA PcP **PcP** **03 34 44.6 +0.2**
GTA S **S** **03 37 04.3 -3.8**
GTA ScP **ScP** **03 38 24.3 +0.9**
GTA PcS **PcS** **03 38 30.8 +1.3**
GTA ScS **ScS** **03 42 21.9 -0.8**
GTA pmax pmax
comp=Z,12μm,5.8s
GTA LR LR
comp=Z,50μm,18.5s
GTA LR LR
comp=Z,87μm,19.3s
GTA LR LR
comp=Z,132μm,20.7s
CD2 Chengdu 32.97 263 ⇑*i*P **P** **03 32 01.9 -1.2**
CD2 pP pP 03 32 16.8 0.0
CD2 PP **PP** **03 33 17.8 -0.6**
CD2 S **S** **03 37 12.0 -5.5**
CD2 sS sS 03 37 41.8 +0.9
CD2 pmax pmax
comp=Z,370nm,0.8s
CD2 LR LR
comp=Z,8μm,17.1s
CD2 LR LR
comp=Z,65μm,21.1s
CD2 LR LR
comp=Z,63μm,22.6s
SPIA Saint Paul Isl 33.28 47 P **P** **03 32 06.1 +0.6**
baz=263
SPIA S **S** **03 37 23.3 +1.5**
baz=263
GYA Guiyang 33.32 254 ⇑P **P** **03 32 05.3 -1.0**
GYA sP sP 03 32 27.4 +1.1
GYA S **S** **03 37 17.4 -5.7**
GYA sS sS 03 37 43.3 -3.3
GYA SS SS 03 39 30.8 -18
GYA ScS **ScS** **03 42 26.8 -1.2**
GYA pmax pmax
comp=Z,76nm,0.9s
GYA pmax pmax
comp=Z,13μm,12.7s
GYA LR LR
comp=Z,29μm,18.7s
GYA LR LR
comp=Z,58μm,22.9s
GYA LR LR
comp=Z,102μm,21.7s
GAMB Gambell 33.97 35 P **P** **03 32 11.1 -0.3**
GAMB Gambell 33.97 35 P **P** **03 32 09.9 -1.5**
baz=252,SNR=9.8
GAMB S **S** **03 37 30.7 -1.6**
baz=252
UNV Unalaska Valle 35.27 53 S **S** **03 37 46.6 -5.8**
baz=272
TNA Tin City 36.05 32 ⇑P **P** **03 32 28.9 -0.4**
TNA Tin City 36.05 32 P **P** **03 32 28.7 -0.6**
TNA Tin City 36.05 32 P **P** **03 32 28.8 -0.6**
baz=254,SNR=80
TNA S **S** **03 38 02.6 -1.6**
baz=254
QIZ Qiongzhong 36.08 241 P **P** **03 32 30.8 +0.7**
QIZ S **S** **03 38 06.3 +0.8**
QIZ pmax pmax
comp=Z,280nm,1.6s
QIZ pmax pmax
comp=Z,12μm,4.9s
QIZ LR LR
comp=Z,69μm,18.0s
QIZ LR LR
comp=Z,45μm,15.9s
QIZ LR LR
comp=Z,43μm,24.1s
QIZ Qiongzhong 36.08 241 IAmb IAmb 03 32 35.4
comp=Z,2μm,1.8s
QIZ Qiongzhong 36.08 241 IAMs_20 IAMs_20 03 47 56.4
comp=Z,46μm,18.0s
QIZ Qiongzhong 36.08 241 P **P** **03 32 31.6 +1.5**
PZH PanZhiHua 36.85 258 ⇑P **P** **03 32 36.0 -0.7**
PZH pP **pP** **03 32 50.9 +0.4**
PZH sP **sP** **03 32 56.4 -0.4**
PZH PP **PP** **03 34 02.4 +1.0**
PZH S **S** **03 38 15.6 -1.8**
PZH SS **SnSn** **03 40 50.9 -2.6**
PZH ScS **ScS** **03 42 44.3 -2.8**
PZH pmax pmax
comp=Z,1μm,1.1s
PZH pmax pmax
comp=Z,16μm,7.3s
PZH LR LR
comp=Z,44μm,19.2s
PZH LR LR
comp=Z,48μm,19.6s
PZH LR LR
comp=Z,58μm,21.7s
ANM Nome 36.86 35 P **P** **03 32 36.4 +0.2**
ANM pmax pmax
comp=Z,218nm,1.0s
ANM MLR MLR
comp=Z,23μm,21.0s
ANM Nome 36.86 35 P **P** **03 32 36.4 +0.2**
ANM Nome 36.86 35 P **P** **03 32 36.8 +0.6**
baz=258,SNR=53
ANM S **S** **03 38 16.8 +0.3**
baz=258
KMI Kunming 36.94 256 ⇑P **P** **03 32 37.3 -0.3**
KMI sP sP 03 32 57.3 -0.4
KMI PP **PnPn** **03 34 03.8 +0.6**
KMI S **S** **03 38 13.1 -5.9**
KMI sS ScP 03 38 38.5 -1.6
KMI SS **SnSn** **03 40 47.9 -7.9**
KMI ScS **ScS** **03 42 46.5 -1.3**
KMI pmax pmax
comp=Z,2μm,1.8s
KMI pmax pmax
comp=Z,20μm,6.7s
KMI LR LR
comp=Z,42μm,20.3s
KMI LR LR
comp=Z,69μm,19.6s
KMI LR LR
comp=Z,88μm,20.9s
KMI Kunming 36.94 256 P **P** **03 32 37.5 -0.2**
FALS False Pass 37.04 51 P P 03 32 32.3 -5.5
baz=272
GOMU GeErMu 37.21 277 P **P** **03 32 39.9 -0.1**
GOMU PP **PP** **03 34 05.8 +0.2**
GOMU PcP **PcP** **03 34 57.5 -1.4**
GOMU SS SS 03 40 50.4 -17
GOMU pmax pmax
comp=Z,350nm,0.8s
GOMU LR LR
comp=Z,44μm,21.9s
GOMU LR LR
comp=Z,74μm,21.0s
GOMU LR LR
comp=Z,102μm,21.5s
DAV Davao City (W) 37.99 208 LR LR 03 46 59.5
comp=Z,52μm,21.8s,baz=48,slow=34
DAV Davao City (W) 37.99 208 IAMs_20 IAMs_20 03 46 25.6
comp=Z,59μm,22.0s
DAV Davao City (W) 37.99 208 P **P** **03 32 47.5 +1.2**
DAV Davao City (W) 37.99 208 P **P** **03 32 46.6 +0.3**
DGZ Jazzator, Ålta 38.46 301*c i*P **P** **03 32 51.4 +1.2**
DGZ pmax pmax
comp=Z,4μm,1.4s
DGZ MLR MLR
comp=Z,228μm,20.0s
SLVN Son La 38.50 250 P **P** **03 32 51.5 +0.8**
RDOG Red Dog Mine 38.62 29 P P 03 33 00.4 +9.3
baz=256
RDOG S **S** **03 38 48.7 +5.6**
baz=256
SDPT Sand Point 38.70 50 P **P** **03 32 50.4 -1.4**
baz=274
NRIK Noril'sk 39.21 333 P **P** **03 32 54.1 -1.8**
comp=Z,570nm,1.1s,baz=110,slow=9.1,SNR=277
NRIK PcP **PcP** **03 35 04.0 0.0**
comp=Z,243nm,1.1s,baz=101,slow=5.7,SNR=4.4
NRIK ScP **ScP** **03 38 48.0 +0.4**
comp=Z,32nm,1.0s,baz=295,slow=21,SNR=10
NRIK LR LR 03 50 08.1
comp=Z,220μm,21.8s,baz=103,slow=38
NRIK PKPPKP 04 05 28.2
comp=Z,1.1nm,0.3s,baz=162,slow=2.0,SNR=4.2
NRIK Noril'sk 39.21 333*c i*P **P** **03 32 54.1 -1.8**
NRIK pmax pmax
comp=Z,853nm,1.2s
NRIK MLR MLR
comp=Z,219μm,21.0s
NRIK Noril'sk 39.21 333 PcP **PcP** **03 35 04.7 +0.7**
CHNA Chernabura Isl 39.25 51 P **P** **03 32 55.2 -1.2**
baz=276,SNR=9.5
CHNA S **S** **03 38 48.7 -4.2**
baz=276
CNBA Chernabura Isl 39.25 51 P **P** **03 32 55.9 -0.5**
CNBA IAMs_20 IAMs_20 03 49 36.9
comp=Z,30μm,22.0s
ZALV Zalesovo Beam 39.44 308 P **P** **03 32 58.3 +0.2**
comp=Z,2μm,0.8s,baz=86,slow=7.6,SNR=2653
ZALV PcP **PcP** **03 35 05.4 +0.4**
comp=Z,151nm,0.8s,baz=87,slow=3.1,SNR=4.8
ZALV ScP **ScP** **03 38 49.1 +0.3**
comp=Z,28nm,0.8s,baz=78,slow=3.5,SNR=3.7
ZALV LR LR 03 50 31.9
comp=Z,131μm,18.5s,baz=82,slow=38
ZALV Zalesovo Beam 39.44 308 P **P** **03 32 58.7 +0.7**

ZALV PcP 03 35 06.0 +1.0
WMQ Urumqi 39.68 292⇑iP P 03 33 01.3 +1.0
WMQ pP pP 03 33 11.3 -2.9
WMQ sP sP 03 33 22.8 +2.3
WMQ S **S 03 39 03.8 +4.0**
WMQ SS **SS 03 41 53.3 -3.3**
WMQ pmax pmax
comp=Z,2μm,1.1s
WMQ pmax pmax
comp=Z,23μm,4.3s
WMQ LR LR
comp=Z,47μm,14.9s
WMQ LR LR
comp=Z,71μm,17.3s
WMQ LR LR
comp=Z,67μm,18.5s
WMQ Urumqi 39.68 292 P **P 03 33 01.0 +0.7**
KWAJ Kwajalein Atol 39.73 139 IAMs_20 IAMs_20 03 46 37.9
comp=Z,53μm,21.0s
CHGN Chignik 39.78 48 P **P 03 32 59.8 -1.1**
baz=275
CHGN S **S 03 38 54.4 -6.3**
baz=275
GCSA Galena City Sc 40.50 35 P **P 03 33 06.1 -0.5**
baz=266,SNR=9.0
GCSA S **S 03 39 09.8 -1.5**
baz=266
ZSN Zaisan 40.61 298*c iP* **P 03 33 08.7 +0.8**
ZSN *i* S **S 03 39 14.8 +1.3**
ZSN pmax pmax
comp=Z,2μm,1.6s
ZSN smax smax
comp=E,1μm,4.7s
ZSN Zaisan 40.61 298⇑iP P 03 33 08.7 +0.8
comp=E,2μm,1.6s,baz=298
ZSN *i* S **S 03 39 14.8 +1.3**
comp=E,1μm,4.7s,baz=298
LKP Lekhapani 40.72 264⇑iP P 03 33 09.4 +0.4
TTA Tatalina 40.80 38⇑P P 03 33 09.7 +0.4
TTA Tatalina 40.80 38 P **P 03 33 10.1 +0.7**
baz=269,SNR=53
TTA S **S 03 39 16.2 +0.2**
baz=269
SGSI Sangihe 41.16 207 P **P 03 33 11.8 -0.9**
comp=E,67μmcomp=E,694nm,1.0s
O18K Koktuh Hills 41.24 43 P **P 03 33 13.5 +0.6**
baz=273
O18K S **S 03 39 25.1 +2.6**
baz=273
P18K Big Mountain, 41.26 43 P **P 03 33 14.0 +0.9**
baz=274
P18K S **S 03 39 25.0 +2.1**
baz=274
DIBR DIBRUGARH 41.34 265⇑iP P 03 33 15.6 +1.5
DIBR ⇑*ex* x 03 33 15.6
CHIR Chirikof Islan 41.39 49 IAmb IAmb 03 33 29.7
comp=Z,399nm,0.7s
CHIR IAMs_20 IAMs_20 03 51 25.6
comp=Z,31μm,22.0s
CHIR Chirikof Islan 41.39 49 P **P 03 33 14.7 +0.5**
baz=277,SNR=23
CHIR S **S 03 39 23.9 -0.9**
baz=277
A21K Barrow 41.48 25 IAmb IAmb 03 33 29.3
comp=Z,695nm,0.9s
A21K IAMs_20 IAMs_20 03 53 39.6
comp=Z,32μm,20.0s
A21K Barrow 41.48 25 P **P 03 33 13.5 -1.2**
baz=259,SNR=40
A21K S **S 03 39 20.1 -5.7**
baz=259
N19K Bonanza Creek 41.55 41 P **P 03 33 16.4 +0.9**
baz=272
N19K S **S 03 39 29.8 +2.5**
baz=272
J20K Nowinta River 41.66 36 IAmb IAmb 03 33 45.1
comp=Z,2μm,1.9s
J20K Nowinta River 41.66 36 P **P 03 33 16.9 +0.7**
baz=269
J20K S **S 03 39 29.4 +0.8**
baz=269
UBPT Khong Chiam 41.66 241⇑P P 03 33 17.6 +0.8
UBPT Khong Chiam 41.66 241 P **P 03 33 17.4 +0.7**
UBPT IAmb IAmb 03 33 19.3
comp=Z,1μm,1.3s
K20K Telida 41.69 37 IAmb IAmb 03 33 41.1
comp=Z,1μm,1.8s
K20K IAMs_20 IAMs_20 03 50 57.8
comp=Z,29μm,21.0s
K20K Telida 41.69 37 P **P 03 33 17.4 +0.9**
baz=270
K20K S **S 03 39 30.4 +1.3**
baz=270
IMAR Indian Mountai 41.88 33 P **P 03 33 17.8 -0.2**
SII Sitkinak Islan 42.09 47 P **P 03 33 20.9 +1.0**
SII IAmb IAmb 03 33 42.2
comp=Z,690nm,1.2s
SII IAMs_20 IAMs_20 03 51 00.2
comp=Z,36μm,21.0s
SII Sitkinak Islan 42.09 47 P **P 03 33 20.3 +0.4**
baz=278,SNR=14
SII S **S 03 39 34.1 -1.1**
baz=278
SII Sitkinak Islan 42.09 47 P **P 03 33 20.9 +1.0**
Q19K Cape Douglas, 42.11 44 IAmb IAmb 03 33 43.6
comp=Z,799nm,1.4s
Q19K Cape Douglas, 42.11 44 P **P 03 33 20.0 0.0**
baz=275,SNR=13
Q19K S **S 03 39 32.4 -3.0**
baz=275
H21K Melozitna Rive 42.26 34 IAMs_20 IAMs_20 03 53 13.0
comp=Z,25μm,20.0s
H21K Melozitna Rive 42.26 34 P **P 03 33 21.3 +0.2**
baz=269
H21K S **S 03 39 37.2 -0.2**
baz=269
DLV T Lat 42.27 235 IAmb IAmb 03 33 24.2
comp=Z,777nm,1.0s
DLV IAMs_20 IAMs_20 03 51 27.3
comp=Z,24μm,18.0s
DLV T Lat 42.27 235 P **P 03 33 23.5 +1.6**
MOKO MOKOCHONG 42.27 264⇑iP P 03 33 23.1 +1.2
ITAN ITANAGAR 42.40 266⇑iP P 03 33 24.3 +1.6
CHUM Lake Minchumin 42.46 36 P **P 03 33 23.7 +0.9**
baz=271,SNR=123
CHUM S **S 03 39 42.3 +1.9**
baz=271
MK31 Makanchi Array 42.48 298 *i* P **P 03 33 22.7 -0.5**
MK31 Makanchi Array 42.48 298 IAmb IAmb 03 33 25.0
comp=Z,2μm,1.2s
MKAR Makanchi Array 42.48 298 P **P 03 33 23.5 +0.3**
comp=Z,1μm,1.0s,baz=78,slow=8.8,SNR=2105
MKAR LR LR 03 52 53.6
comp=Z,37μm,18.2s,baz=93,slow=39
MKAR PKPPKP P'P'df 04 05 19.1 -8.8
comp=Z,1.6nm,1.0s,baz=225,slow=1.5,SNR=4.5
MKAR P4KPbc 04 11 23.2
comp=Z,0.6nm,0.8s,baz=44,slow=3.7,SNR=4.3
MKAR Makanchi Array 42.48 298 P **P 03 33 23.5 +0.3**
OHAK Old Harbor 42.49 46 IAmb IAmb 03 33 55.2
comp=Z,596nm,1.2s
OHAK Old Harbor 42.49 46 P **P 03 33 23.1 +0.1**
baz=278,SNR=36
OHAK S **S 03 39 39.2 -1.7**
baz=278
O20K Slope Mountain 42.52 42 P **P 03 33 24.0 +0.6**
baz=275,SNR=16
O20K S **S 03 39 41.4 -0.2**
baz=275
PPLA Purkeypile 42.55 38 IAmb IAmb 03 33 49.8
comp=Z,2μm,1.6s
PPLA Purkeypile 42.55 38 P **P 03 33 24.9 +1.2**
baz=272,SNR=125
PPLA S **S 03 39 43.2 +1.2**
baz=272
MYLDM Lahad Datu 42.56 217⇑P P 03 33 25.4 +1.2
MYLDM Lahad Datu 42.56 217 P **P 03 33 25.3 +1.2**
MYLDM IAmb IAmb 03 33 48.1
comp=Z,3μm,1.8s
CAST Castle Rocks 42.58 37 IAMs_20 IAMs_20 03 51 36.4
comp=Z,29μm,21.0s
CAST Castle Rocks 42.58 37 P **P 03 33 24.8 +1.0**
baz=272,SNR=199
CAST S **S 03 39 43.2 +1.0**
baz=272
I21K Tanana 42.60 35 IAMs_20 IAMs_20 03 53 24.9
comp=Z,26μm,21.0s
I21K Tanana 42.60 35 P **P 03 33 24.2 +0.4**
baz=270,SNR=68
I21K S **S 03 39 42.8 +0.5**
baz=270
MAKZ Makanchi 42.68 298 P **P 03 33 25.4 +0.6**
MAKZ pmax pmax
comp=Z,3μm,1.2s
MAKZ MLR MLR
comp=Z,63μm,19.0s
MAKZ Makanchi 42.68 298⇑P P 03 33 24.4 -0.4
MAKZ Makanchi 42.68 298 P **P 03 33 25.4 +0.6**
MAKZ Makanchi 42.68 298 P **P 03 33 25.3 +0.5**
KDAK Kodiak Island 42.79 45 P **P 03 33 26.2 +0.7**
KDAK pmax pmax
comp=Z,507nm,1.2s
KDAK MLR MLR
comp=Z,44μm,22.0s
KDAK Kodiak Island 42.79 45⇑P P 03 33 25.7 +0.1
KDAK Kodiak Island 42.79 45 P **P 03 33 26.2 +0.7**
KDAK Kodiak Island 42.79 45 IAMs_20 IAMs_20 03 51 55.8
comp=Z,44μm,22.0s
KDAK Kodiak Island 42.79 45 P **P 03 33 25.6 0.0**
baz=277
KDAK S **S 03 39 43.5 -1.8**
baz=277
SEM Semipalatinsk 42.84 303*c iP* **P 03 33 26.0 -0.3**
SEM pmax pmax
comp=Z,2μm,1.9s
SEM MLR MLR
comp=Z,26μm,17.0s
SEM Semipalatinsk 42.84 303⇑iP P 03 33 26.1 -0.3
comp=Z,2μm,1.9s,baz=303
SEM LR LR 03 50 41.0
comp=Z,26μm,17.4s,baz=303
KKM Kota Kinabalu 42.88 221⇑P P 03 33 27.7 +1.0
KKM Kota Kinabalu 42.88 221 P **P 03 33 28.2 +1.4**
SKT Skwentna 42.91 39 P **P 03 33 26.8 +0.4**
baz=274
SKT S **S 03 39 47.9 +0.9**
baz=274
KOHI KOHIMA 42.91 264⇑iP P 03 33 27.6 +0.5
LSA Lhasa 42.95 271 P **P 03 33 29.5 +1.7**
LSA S **S 03 39 50.4 +1.1**
LSA pmax pmax
comp=Z,6μm,1.4s
LSA pmax pmax
comp=Z,47μm,11.4s
LSA LR LR
comp=Z,112μm,16.4s
LSA LR LR
comp=Z,43μm,24.2s
LSA LR LR
comp=Z,58μm,17.1s
LSA Lhasa 42.95 271 IAmb IAmb 03 33 31.1
comp=Z,1μm,0.9s
LSA Lhasa 42.95 271 P **P 03 33 29.3 +1.6**
LSA Lhasa 42.95 271 P **P 03 33 29.4 +1.6**
BPAW Bear Paw Mtn. 43.04 36 IAMs_20 IAMs_20 03 52 00.7
comp=Z,25μm,20.0s
BPAW Bear Paw Mtn. 43.04 36 P **P 03 33 28.1 +0.6**
baz=272,SNR=104
BPAW S **S 03 39 49.9 +0.9**
baz=272
HOM Homer 43.05 43 IAmb IAmb 03 33 52.3
comp=Z,671nm,1.1s
HOM Homer 43.05 43 P **P 03 33 27.8 +0.2**
baz=276
HOM S **S 03 39 45.6 -3.6**
baz=276
KTH Kantishna Hill 43.09 37 IAmb IAmb 03 33 56.5
comp=Z,755nm,1.0s
KTH IAMs_20 IAMs_20 03 51 52.0
comp=Z,27μm,20.0s
CAPN Captain Cook N 43.19 41 IAMs_20 IAMs_20 03 51 14.3
comp=Z,26μm,21.0s
CAPN Captain Cook N 43.19 41 P **P 03 33 29.3 +0.7**
baz=275
CAPN S **S 03 39 51.8 +0.8**
baz=275
COLD Coldfoot 43.33 32 P **P 03 33 29.9 +0.1**
baz=269,SNR=91
COLD S **S 03 39 51.2 -1.9**
baz=269
TNTI Ternate 43.35 203⇑P P 03 33 30.5 +0.1
TNTI Ternate 43.35 203 P **P 03 33 29.8 -0.6**
comp=Z,18μmcomp=Z,10μmcomp=Z,562nm,1.3s
TNTI Ternate 43.35 203 IAmb IAmb 03 33 58.7
comp=Z,664nm,1.1s
TNTI IAMs_20 IAMs_20 03 52 37.5
comp=Z,22μm,19.0s
TNTI Ternate 43.35 203 P **P 03 33 31.3 +0.9**
TRF Thorofare Moun 43.38 37 IAMs_20 IAMs_20 03 52 12.7
comp=Z,28μm,22.0s
TRF Thorofare Moun 43.38 37 P **P 03 33 31.0 +0.6**
baz=273,SNR=59
TRF S **S 03 39 54.7 +0.4**
baz=273
BRLK Bradley Lake 43.42 42 IAMs_20 IAMs_20 03 53 14.4
comp=Z,26μm,22.0s
BAKI Biak 43.45 190 P **P 03 33 31.0 -0.2**
CUT Chulitna 43.47 39 IAmb IAmb 03 34 00.9
comp=Z,702nm,1.2s
CUT Chulitna 43.47 39 P **P 03 33 31.1 +0.2**
baz=274,SNR=46
CUT S **S 03 39 54.6 -0.5**
baz=274
BRSE Bradley Lake S 43.50 42 P **P 03 33 31.1 -0.2**
baz=277,SNR=15
BRSE S **S 03 39 52.2 -3.6**
baz=277
IMP Imphal 43.54 263⇑iP P 03 33 29.7 -2.4
M22K Willow 43.59 39 P **P 03 33 32.0 +0.1**
baz=275,SNR=10
M22K S **S 03 39 56.4 -0.5**
baz=275
CHTO Chiang Mai 43.65 252 P **P 03 33 33.5 +0.5**
CHTO pmax pmax
comp=Z,787nm,1.0s
CHTO MLR MLR
comp=Z,81μm,19.0s
CHTO Chiang Mai 43.65 252 P **P 03 33 33.8 +0.9**
CHTO P **P 03 33 33.8 +0.9**
CHTO Chiang Mai 43.65 252⇑P P 03 33 33.7 +0.7
CHTO Chiang Mai 43.65 252 P **P 03 33 33.5 +0.5**
CHTO IAmb IAmb 03 33 34.7
comp=Z,787nm,0.9s
CHTO Chiang Mai 43.65 252 P **P 03 33 34.0 +1.0**
CHTO Chiang Mai 43.65 252 P **P 03 33 33.4 +0.5**
I23K Minto, Yukon-K 43.70 35 IAMs_20 IAMs_20 03 54 10.2
comp=Z,25μm,20.0s
I23K Minto, Yukon-K 43.70 35 P **P 03 33 33.6 +0.8**
baz=272,SNR=84
I23K S **S 03 39 58.7 +0.1**
baz=272
BWN Browne 43.71 36 IAmb IAmb 03 34 00.7
comp=Z,2μm,1.2s
BWN IAMs_20 IAMs_20 03 55 20.2
comp=Z,23μm,20.0s
KURK Kurchatov 43.78 304*c iP* **P 03 33 33.8 +0.2**
KURK pmax pmax
comp=Z,5μm,1.2s
KURK MLR MLR
comp=Z,58μm,16.0s
KURK Kurchatov 43.78 304 P **P 03 33 34.0 +0.5**
KURK P **P 03 33 34.0 +0.5**
KURK Kurchatov 43.78 304⇑P P 03 33 33.6 0.0
KURK Kurchatov 43.78 304 P **P 03 33 34.1 +0.5**
KURK **ScP 03 39 08.2 +2.1**
KURK Kurchatov 43.78 304 P **P 03 33 33.8 +0.2**
RC01 Rabbit Creek A 43.84 40 P **P 03 33 33.9 -0.1**
baz=276,SNR=39
RC01 S **S 03 39 58.6 -2.0**
baz=276
KURBB Kurchatov Arra 43.85 304 P **P 03 33 34.4 +0.2**
comp=Z,2μm,0.8s,baz=77,slow=8.4,SNR=1808
KURBB ScP **ScP 03 39 04.5 -1.9**
comp=Z,19nm,1.1s,baz=71,slow=3.4,SNR=1.9
KURBB S **S 03 40 03.3 +2.2**
comp=Z,51nm,1.1s,baz=75,slow=16,SNR=4.3
KURBB Kurchatov Arra 43.85 304 P **P 03 33 33.1 -1.1**
NEA2 Nenana 43.85 35 IAMs_20 IAMs_20 03 55 20.2
comp=Z,21μm,18.0s
NEA2 Nenana 43.85 35 P **P 03 33 34.7 +0.6**
baz=273,SNR=310
NEA2 S **S 03 40 00.9 +0.1**
baz=273
CM31 Chiang Mai Arr 43.89 251 IAmb IAmb 03 33 54.4
comp=Z,3μm,1.9s
CMAR Chiang Mai Arr 43.89 251 P **P 03 33 35.5 +0.6**
comp=Z,236nm,0.9s,baz=46,slow=6.7,SNR=601
CMAR ScP **ScP 03 39 08.3 +1.2**
comp=Z,12nm,0.9s,baz=15,slow=3.9,SNR=2.6
CMAR S **S 03 40 04.2 +1.9**
comp=Z,3.5nm,0.3s,baz=37,slow=6.1,SNR=3.1
CMAR LR LR 03 53 11.5
comp=Z,69μm,19.4s,baz=90,slow=38
CMAR PKPPKP P'P'df 04 05 01.3 -21
comp=Z,1.1nm,0.3s,baz=276,slow=3.9,SNR=4.5
CMAR Chiang Mai Arr 43.89 251 P **P 03 33 35.8 +1.0**
CMAR Chiang Mai Arr 43.89 251 P **P 03 33 35.8 +1.0**
SPMM Sapulut 43.92 219 P **P 03 33 36.0 +0.9**
SWI Sorong 43.95 197 P **P 03 33 35.6 +0.4**
comp=Z,33μmcomp=Z,14μmcomp=Z,471nm,0.8s
SIJI Sorong 43.95 197 LR LR 03 52 17.2
comp=Z,8μm,18.4s,baz=17,slow=36
MCK McKinley 43.97 37 IAMs_20 IAMs_20 03 52 31.1
comp=Z,30μm,20.0s
MCK McKinley 43.97 37 P **P 03 33 35.1 +0.2**
baz=274,SNR=163
MCK S **S 03 40 01.8 -0.7**
baz=274
SMPI Sarmi 43.98 186 P **P 03 33 36.6 +1.1**
comp=Z,16μmcomp=Z,8μmcomp=Z,324nm,1.4s
RND Reindeer 44.03 37 IAMs_20 IAMs_20 03 52 31.7
comp=Z,33μm,22.0s
PMR Palmer 44.08 40 P **P 03 33 35.8 0.0**
baz=276,SNR=55
PMR S **S 03 40 02.6 -1.4**
baz=276
SEW Seward 44.10 42 P **P 03 33 35.9 -0.1**
SEW Seward 44.10 42 P **P 03 33 36.1 +0.1**
baz=277,SNR=22
SEW S **S 03 40 01.5 -2.9**
baz=277
GHO Glory Hole Cre 44.15 39 IAMs_20 IAMs_20 03 55 23.9
comp=Z,24μm,21.0s
MDM Murphy Dome 44.19 35 P **P 03 33 37.5 +0.8**
WRH Wood River Hil 44.28 35 P **P 03 33 37.9 +0.4**
WRH IAmb IAmb 03 34 09.0
comp=Z,1μm,1.9s
WRH IAMs_20 IAMs_20 03 55 34.5
comp=Z,30μm,21.0s
H24K Noodor Dome 44.29 33 P **P 03 33 38.5 +1.0**
H24K Noodor Dome 44.29 33 P **P 03 33 38.6 +1.0**
baz=273
H24K S **S 03 40 07.6 +0.4**
baz=273
TCOL CIGO, UAF Yank 44.35 35 P **P 03 33 38.8 +0.8**
TCOL IAmb IAmb 03 33 49.5
comp=Z,431nm,0.8s
TCOL IAMs_20 IAMs_20 03 54 40.4
comp=Z,30μm,22.0s
TCOL CIGO, UAF Yank 44.35 35 P **P 03 33 38.7 +0.8**
baz=274,SNR=67
TCOL S **S 03 40 08.4 +0.4**
baz=274
COLA College 44.36 35*c iP* **P 03 33 38.9 +0.9**
COLA pmax pmax
comp=Z,333nm,0.8s
COLA MLR MLR
comp=Z,27μm,21.0s
COLA College 44.36 35⇑P P 03 33 38.6 +0.7
COLA College 44.36 35 P **P 03 33 38.7 +0.7**
COLA IAmb IAmb 03 33 49.4
comp=Z,431nm,0.8s
COLA College 44.36 35 IAMs_20 IAMs_20 03 54 40.4
comp=Z,29μm,22.0s
COLA College 44.36 35 P **P 03 33 38.8 +0.9**
baz=274
COLA S **S 03 40 08.1 +0.1**
baz=274
COLA College 44.36 35 P **P 03 33 38.7 +0.7**
CCB Clear Creek Bu 44.40 35 P **P 03 33 38.5 +0.1**
CCB IAMs_20 IAMs_20 03 55 37.5
comp=Z,29μm,20.0s
SILR SILCHAR 44.41 263⇑iP P 03 33 40.8 +1.8
KNK Knik Glacier 44.42 40 P **P 03 33 39.0 +0.4**
KNK IAmb IAmb 03 34 01.9
comp=Z,978nm,1.6s
KNK Knik Glacier 44.42 40 P **P 03 33 39.0 +0.4**
baz=277,SNR=58
KNK S **S 03 40 08.0 -1.1**
baz=277
SML Sawmill 44.43 39 P **P 03 33 39.2 +0.5**
SML IAmb IAmb 03 33 55.5
comp=Z,1μm,1.6s
SML IAMs_20 IAMs_20 03 55 32.2
comp=Z,28μm,21.0s
SML Sawmill 44.43 39 P **P 03 33 39.3 +0.5**
baz=277,SNR=82
SML S **S 03 40 09.2 -0.1**
baz=277
GENI Genyem 44.49 184⇑P P 03 33 40.6 +1.1
GENI Genyem 44.49 184 P **P 03 33 40.6 +1.1**
comp=Z,26μmcomp=Z,13μmcomp=Z,482nm,1.0s
GENI Genyem 44.49 184 P **P 03 33 42.0 +2.5**
POKR Poker Plat Res 44.52 35 P **P 03 33 40.3 +0.9**
POKR IAmb IAmb 03 34 08.3
comp=Z,1μm,1.5s
POKR IAMs_20 IAMs_20 03 54 34.7
comp=Z,26μm,22.0s
POKR Poker Plat Res 44.52 35 P **P 03 33 40.3 +0.9**
baz=274,SNR=95
POKR S **S 03 40 10.7 +0.3**
baz=274
PWL Port Wells 44.55 41 P **P 03 33 39.5 -0.2**
PWL IAMs_20 IAMs_20 03 50 28.3
comp=Z,25μm,22.0s
PWL Port Wells 44.55 41 P **P 03 33 39.7 +0.1**
baz=278,SNR=40
PWL S **S 03 40 10.1 -0.9**
baz=278
KMSI Cibinong 44.59 207 P **P 03 33 41.6 +1.2**
comp=Z,961nmcomp=Z,12μmcomp=Z,990nm,0.9s
WAT6 Susitna Watana 44.62 38 P **P 03 33 40.1 -0.2**
baz=276,SNR=65
WAT6 S **S 03 40 11.5 -0.8**
baz=276
SHL Shillong 44.65 265 P **P 03 33 40.9 -0.2**
SHL pmax pmax
comp=Z,2μm,1.1s
SHL Shillong 44.65 265⇑iP P 03 33 40.9 -0.2
SHL Shillong 44.65 265 P **P 03 33 41.1 0.0**
SNR=363
SHL Shillong 44.65 265 P **P 03 33 40.9 -0.2**
SHL IAmb IAmb 03 33 59.7
comp=Z,2μm,1.1s
LBMI Labuha 44.65 202 P **P 03 33 41.4 +0.5**
comp=Z,22μmcomp=Z,10μmcomp=Z,542nm,0.9s
DHY Denali Highway 44.73 37 P **P 03 33 41.5 +0.3**
DHY Denali Highway 44.73 37 P **P 03 33 41.4 +0.2**
baz=276,SNR=135
DHY S **S 03 40 12.9 -0.9**
baz=276
IL31 44.78 35 P **P 03 33 41.4 +0.1**
ILAR Eielson Array 44.78 35 P **P 03 33 41.1 -0.3**
comp=Z,252nm,1.0s,baz=266,slow=5.4,SNR=449
ILAR LR LR 03 52 02.3
comp=Z,13μm,21.3s,baz=276,slow=35
ILAR Eielson Array 44.78 35 P **P 03 33 41.2 -0.2**
ILAR Eielson Array 44.78 35 P **P 03 33 41.1 -0.2**
HDA Harding Lake 44.78 35 P **P 03 33 41.3 -0.1**
HDA IAmb IAmb 03 34 11.5
comp=Z,763nm,1.5s
HDA IAMs_20 IAMs_20 03 56 06.7
comp=Z,23μm,21.0s
HDA Harding Lake 44.78 35 P **P 03 33 41.3 -0.1**
baz=275,SNR=110
HDA S **S 03 40 12.6 -1.7**
baz=275
HDA S **S 03 40 12.6 -1.7**
baz=275
GTOI Gorontalo 44.88 209 P **P 03 33 41.9 -0.8**
comp=Z,15μmcomp=Z,6μmcomp=Z,362nm,0.8s
SCM Sheep Creek Mo 44.90 39 P **P 03 33 43.4 +0.9**
SCM pmax pmax
comp=Z,428nm,1.0s
SCM Sheep Creek Mo 44.90 39 P **P 03 33 43.4 +0.9**
SCM IAmb IAmb 03 33 58.8
comp=Z,428nm,1.0s
SCM Sheep Creek Mo 44.90 39 P **P 03 33 42.8 +0.3**
baz=277,SNR=61
SCM S **S 03 40 17.2 +1.0**

baz=277
GLI Glacier Island 45.14 40 P P 03 33 45.0 +0.7
GLI Glacier Island 45.14 40 P P 03 33 44.4 +0.1
baz=278,SNR=14
GLI S S 03 40 20.4 +0.8
baz=278
TOLI2 Tolitoli 45.27 212 P P 03 33 45.8 0.0
TOLI2 IAmb IAmb 03 34 07.5
comp=Z,1μm,1.9s
TOLI2 Tolitoli 45.27 212 P P 03 33 46.2 +0.4
PRP Porcupine Dome 45.28 34 P P 03 33 46.9 +1.3
PRP IAmb IAmb 03 33 57.0
comp=Z,389nm,0.8s
PRP IAMs_20 IAMs_20 03 51 42.0
comp=Z,24μm,22.0s
PRP Porcupine Dome 45.28 34 P P 03 33 46.0 +0.4
baz=275,SNR=81
PRP S S 03 40 22.1 +0.3
baz=275
FYU Fort Yukon 45.31 32 P P 03 33 46.8 +1.2
FYU IAmb IAmb 03 34 04.6
comp=Z,1μm,1.7s
M24K Tolsona, Glenn 45.40 39 P P 03 33 47.5 +1.0
M24K IAmb IAmb 03 34 14.9
comp=Z,677nm,1.1s
M24K Tolsona, Glenn 45.40 39 P P 03 33 47.8 +1.3
baz=278,SNR=39
M24K S S 03 40 26.5 +3.1
baz=278
MRSI Marisa 45.41 210 P P 03 33 47.0 +0.1
comp=Z,36μmcomp=Z,23μmcomp=Z,2μm,1.2s
FID Port Fidalgo 45.46 41 P P 03 33 47.4 +0.5
FID IAmb IAmb 03 33 56.7
comp=Z,631nm,1.5s
FID IAMs_20 IAMs_20 03 54 45.1
comp=Z,25μm,22.0s
PDGK Podgornoye 45.48 294 P P 03 33 45.8 -1.6
BMAR Burnt Mountain 45.50 31 P P 03 33 48.0 +0.8
SHLS Shalkode 45.56 294 *c i* P **P 03 33 45.8 -2.2**
SHLS *e*S **S 03 40 22.7 -3.5**
SHLS pmax pmax
comp=Z,1μm,2.2s
SHLS Shalkode 45.56 294⇑ *i* P **P 03 33 45.9 -2.2**
comp=Z,1μm,2.2s,baz=294
SHLS *e*S **S 03 40 22.7 -3.5**
baz=294
PAX Paxson 45.60 37 P P 03 33 48.0 0.0
PAX pmax pmax
comp=Z,348nm,1.3s
PAX Paxson 45.60 37 P P 03 33 48.0 0.0
PAX Paxson 45.60 37 P P 03 33 48.1 0.0
baz=278,SNR=34
PAX S S 03 40 25.7 -0.7
baz=278
KLU Klutina 45.61 40 P P 03 33 48.9 +0.8
KLU Klutina 45.61 40 P P 03 33 48.7 +0.5
baz=279,SNR=104
KLU S S 03 40 28.4 +1.9
baz=279
TDK Taldyqorghan 45.62 297 *i* P **P 03 33 49.1 +0.8**
TDK *e*S **S 03 40 28.4 +1.6**
TDK pmax pmax
comp=Z,4μm,1.4s
TDK MLR MLR
comp=Z,43μm,17.0s
TDK Taldyqorghan 45.62 297 *i* P **P 03 33 49.2 +0.8**
comp=Z,4μm,1.4s,baz=296
TDK *e*S **S 03 40 28.4 +1.6**
baz=296
TDK LR LR 03 53 04.6
comp=Z,43μm,17.2s,baz=296
DIV Divide 45.74 40 P P 03 33 50.0 +0.9
DIV IAmb IAmb 03 33 59.6
comp=Z,675nm,1.3s
FAKI Fak Fak 45.75 195 ⇑P **P 03 33 49.5 0.0**
FAKI Fak Fak 45.75 195 P P 03 33 49.4 -0.2
comp=Z,31μmcomp=Z,15μmcomp=Z,817nm,1.2s
FAKI Fak Fak 45.75 195 P P 03 33 49.7 +0.2
FAKI IAmb IAmb 03 34 12.5
comp=Z,2μm,1.6s
FAKI IAMs_20 IAMs_20 03 51 21.1
comp=Z,26μm,20.0s
FAKI Fak Fak 45.75 195 P P 03 33 50.1 +0.5
Q23K Middleton Isla 45.76 42 P P 03 33 50.1 +1.0
baz=281
Q23K S S 03 40 30.9 +2.5
baz=281
RIDG Independent Ri 45.78 36 P P 03 33 49.2 -0.2
RIDG IAmb IAmb 03 34 22.2
comp=Z,1μm,1.6s
RIDG IAMs_20 IAMs_20 03 56 33.0
comp=Z,22μm,20.0s
RIDG Independent Ri 45.78 36 P P 03 33 49.2 -0.2
baz=278,SNR=58
RIDG S S 03 40 27.0 -1.7
baz=278
HARP HAARP 45.83 38 P P 03 33 50.9 +1.1
baz=279,SNR=59
HARP S S 03 40 31.4 +2.0
baz=279
EYAK Cordova Ski Ar 45.85 41 P P 03 33 50.8 +0.9
EYAK Cordova Ski Ar 45.85 41 P P 03 33 51.0 +1.1
baz=280,SNR=26
EYAK S S 03 40 32.1 +2.4
baz=280
UZB Uzynbulak 45.86 294 *c i* P **P 03 33 50.5 +0.1**
UZB *e*S **S 03 40 31.2 +0.6**
UZB pmax pmax
comp=Z,1μm,1.9s
UZB Uzynbulak 45.86 294⇑ *i* P **P 03 33 50.5 +0.1**
comp=Z,1μm,1.9s,baz=294
UZB *e*S **S 03 40 31.3 +0.6**
baz=294
SCRK Sand Creek 46.12 36 P P 03 33 52.1 -0.1
SCRK IAmb IAmb 03 33 53.6
comp=Z,1μm,1.7s
SCRK Sand Creek 46.12 36 P P 03 33 52.1 -0.1
baz=278,SNR=219
SCRK S S 03 40 31.9 -2.0
baz=278
DOT Dot Lake 46.14 36 P P 03 33 52.0 -0.1
N25K Chitina, Valde 46.22 39 P P 03 33 53.9 +1.0
N25K IAMs_20 IAMs_20 03 51 34.5
comp=Z,23μm,22.0s
N25K Chitina, Valde 46.22 39 P P 03 33 54.1 +1.1
baz=280,SNR=25
N25K S S 03 40 36.6 +1.4
baz=280
J26L Joseph Creek 46.23 35 P P 03 33 52.1 -0.9
J26L IAMs_20 IAMs_20 03 56 42.0
comp=Z,29μm,22.0s
J26L Joseph Creek 46.23 35 P P 03 33 52.3 -0.7
baz=278
J26L S S 03 40 33.5 -1.8
baz=278
ZHN Zhinishke 46.25 294 *i* P **P 03 33 53.9 +0.4**
ZHN *e*S **S 03 40 36.6 +0.4**
ZHN pmax pmax
comp=Z,467nm,1.5s
ZHN Zhinishke 46.25 294 *i* P **P 03 33 54.0 +0.4**
comp=Z,466nm,1.5s,baz=294
ZHN *e*S **S 03 40 36.7 +0.4**
baz=294
SATY Saty 46.31 294 *c i* P **P 03 33 54.4 +0.5**
SATY *e*S **S 03 40 37.9 +0.8**
SATY pmax pmax
comp=Z,2μm,2.0s
SATY Saty 46.31 294⇑ *i* P **P 03 33 54.5 +0.5**
comp=Z,2μm,2.0s,baz=294
SATY *e*S **S 03 40 37.9 +0.8**
baz=294
BMRM Bremner River 46.33 40 P P 03 33 54.8 +1.0
BMRM IAmb IAmb 03 34 22.0
comp=Z,526nm,1.2s
BMRM Bremner River 46.33 40 P P 03 33 54.6 +0.9
baz=280,SNR=50
BMRM S S 03 40 38.5 +1.8
baz=280
MENT Mentasta 46.40 37 P P 03 33 55.6 +1.3
MENT IAmb IAmb 03 34 26.6
comp=Z,405nm,1.1s
SANI Sanana 46.43 203 ⇑P **P 03 33 53.5 -1.4**
SANI Sanana 46.43 203 P P 03 33 53.9 -1.0
comp=Z,35μmcomp=Z,14μmcomp=Z,633nm,1.0s
SANI Sanana 46.43 203 P P 03 33 54.7 -0.2
LUWI Luwuk 46.52 208 ⇑P **P 03 33 53.9 -1.7**
LUWI Luwuk 46.52 208 P P 03 33 54.2 -1.4
comp=Z,32μmcomp=Z,16μmcomp=Z,852nm,1.2s
LUWI Luwuk 46.52 208 P P 03 33 54.2 -1.4
LUWI IAmb IAmb 03 34 14.9
comp=Z,1μm,1.1s
LUWI Luwuk 46.52 208 P P 03 33 55.0 -0.6
PRZ Przheval'sk 46.53 293 P P 03 33 56.9 +1.1
PRZ pmax pmax
comp=Z,1μm,1.1s
PRZ Przheval'sk 46.53 293 P P 03 33 56.9 +1.1
L26K Log Cabin Wild 46.55 37 P P 03 33 56.7 +1.2
L26K IAmb IAmb 03 34 15.5
comp=Z,388nm,1.1s
L26K IAMs_20 IAMs_20 03 54 12.4
comp=Z,35μm,21.0s
L26K Log Cabin Wild 46.55 37 P P 03 33 56.6 +1.1
baz=280,SNR=196
L26K S S 03 40 41.9 +2.1
baz=280
HMT Hamilton 46.62 41 P P 03 33 57.0 +1.0
HMT IAmb IAmb 03 34 45.7
comp=Z,512nm,1.3s
HMT IAMs_20 IAMs_20 03 55 25.0
comp=Z,21μm,21.0s
GLB Gilahina Butte 46.62 39 P P 03 33 57.2 +1.2
KAIM Kayak Island 46.62 41 P P 03 33 58.0 +2.0
KAIM IAmb IAmb 03 34 13.9
comp=Z,609nm,1.2s
KAIM IAMs_20 IAMs_20 03 55 50.1
comp=Z,26μm,18.0s
KAIM Kayak Island 46.62 41 P P 03 33 57.4 +1.5
baz=282,SNR=7.2
KAIM S S 03 40 42.9 +2.1
baz=282
APSI Ampana 46.80 210 P P 03 33 57.6 -0.2
comp=Z,22μmcomp=Z,10μmcomp=Z,693nm,1.1s
RABL Rabaul 46.82 167 P P 03 33 57.7 -0.3
M26K Nabesna, AK 46.82 38 P P 03 33 59.1 +1.5
M26K IAmb IAmb 03 34 15.5
comp=Z,734nm,1.3s
M26K Nabesna, AK 46.82 38 P P 03 33 59.0 +1.4
baz=280
M26K S S 03 40 47.2 +3.4
baz=280
VRDI Verde Repeater 46.83 40 P P 03 33 58.8 +1.0
VRDI IAmb IAmb 03 34 20.6
comp=Z,593nm,1.4s
BERG Berg Lake 46.88 41 P P 03 33 59.5 +1.5
BERG IAmb IAmb 03 34 09.6
comp=Z,846nm,1.2s
BERG IAMs_20 IAMs_20 03 54 20.9
comp=Z,32μm,22.0s
MSAI Masohi 46.88 199 P P 03 34 00.1 +1.7
comp=Z,1μmcomp=Z,82nm,1.3s
SUCK Suckling Hills 46.91 41 P P 03 33 59.6 +1.3
SUCK IAmb IAmb 03 34 09.5
comp=Z,815nm,1.4s
SUCK IAMs_20 IAMs_20 03 55 51.6
comp=Z,20μm,20.0s
CHKK Chushkaly 46.98 296⇑ *i* P **P 03 33 59.2 +0.1**
baz=296
BGLC Bering Glacier 47.14 41 P P 03 34 00.7 +0.8
baz=282
BGLC S S 03 40 53.1 +5.0
baz=282
MDOK Medeo 47.19 295 *i* P **P 03 34 01.5 +0.6**
MDOK *e*S **S 03 40 50.5 +0.8**
MDOK MLR MLR
comp=Z,34μm,18.0s
MDOK Medeo 47.19 295 *i* P **P 03 34 01.6 +0.6**
baz=295
MDOK *e*S **S 03 40 50.6 +0.8**
baz=295
MDOK LR LR 03 53 18.2
comp=Z,34μm,18.0s,baz=295
EGAK Eagle 47.21 35 P P 03 34 00.8 +0.3
EGAK IAmb IAmb 03 34 24.1
comp=Z,780nm,1.4s
EGAK IAMs_20 IAMs_20 03 53 04.9
comp=Z,24μm,22.0s
EGAK Eagle 47.21 35 P P 03 34 00.5 0.0
baz=280,SNR=263
EGAK S S 03 40 48.9 -0.2
baz=280
TGL Tana Glacier 47.22 40 P P 03 34 01.6 +0.8
TGL IAmb IAmb 03 34 17.2
comp=Z,481nm,1.0s
TGL IAMs_20 IAMs_20 03 54 15.1
comp=Z,22μm,22.0s
L27K Beaver Creek, 47.23 37 P P 03 34 02.4 +1.6
L27K IAmb IAmb 03 34 18.3
comp=Z,326nm,1.0s
L27K IAMs_20 IAMs_20 03 54 42.3
comp=Z,32μm,21.0s
L27K Beaver Creek, 47.23 37 P P 03 34 02.1 +1.3
baz=281
L27K S S 03 40 52.5 +3.0
baz=281
KNDC Almaty 47.23 295 P P 03 34 00.9 -0.2
TARG Taragay, Kyrgy 47.23 293 P P 03 34 02.4 +0.8
TARG IAmb IAmb 03 34 03.9
comp=Z,951nm,0.9s
BCAR Beaver Creek A 47.25 37 P P 03 34 02.3 +1.4
WAX Waxell Ridge 47.28 41 P P 03 34 02.5 +1.3
WAX IAmb IAmb 03 34 26.3
comp=Z,739nm,1.2s
WAX IAMs_20 IAMs_20 03 54 34.5
comp=Z,28μm,22.0s
TNSS Tian-Shan 47.31 295 *i* P **P 03 34 02.9 +0.8**
baz=295
M27K Edge Creek, AK 47.34 38 P P 03 34 03.1 +1.3
M27K IAmb IAmb 03 34 19.4
comp=Z,477nm,1.1s
M27K IAMs_20 IAMs_20 03 56 23.3
comp=Z,23μm,22.0s
M27K Edge Creek, AK 47.34 38 P P 03 34 02.8 +1.0
baz=281,SNR=129
M27K S S 03 40 54.7 +3.3
baz=281
SNH Sunshine Point 47.34 41 P P 03 34 03.3 +1.6
SNH IAmb IAmb 03 34 18.7
comp=Z,540nm,0.9s
SNH IAMs_20 IAMs_20 03 54 35.2
comp=Z,25μm,22.0s
KUU Kurty 47.40 296 *c i* P **P 03 34 02.0 -0.3**
KUU *e*S **S 03 40 52.4 +0.1**
KUU pmax pmax
comp=Z,3μm,1.5s
KUU Kurty 47.40 296⇑ *i* P **P 03 34 02.0 -0.3**
comp=Z,3μm,1.5s,baz=296
KUU *e*S **S 03 40 52.5 +0.1**
baz=296
ISLE Juniper Island 47.49 40 P P 03 34 03.8 +0.9
ISLE IAmb IAmb 03 34 38.2
comp=Z,346nm,0.8s
ISLE IAMs_20 IAMs_20 03 54 31.2
comp=Z,30μm,22.0s
KDJ Kajisay 47.50 293 P P 03 34 04.2 +0.9
KDJ pmax pmax
comp=Z,1μm,1.0s
KDJ Kajisay 47.50 293 P P 03 34 04.2 +0.9
BRZS Berezniki 47.63 305 *c i* P **P 03 34 04.3 +0.3**
BRZS *e*S **S 03 40 56.2 +0.7**
BRZS pmax pmax
comp=Z,1μm,1.5s
BRZS Berezniki 47.63 305⇑ *i* P **P 03 34 04.3 +0.3**
comp=Z,1μm,1.5s,baz=305
BRZS *e*S **S 03 40 56.3 +0.7**
baz=305
BARN Barnard Glacie 47.72 40 P P 03 34 06.0 +1.3
BARN IAmb IAmb 03 34 21.5
comp=Z,587nm,1.4s
GRNC Granite Creek 47.74 40 P P 03 34 06.2 +1.2
GRNC IAmb IAmb 03 34 22.8
comp=Z,470nm,1.0s
MESA MESA 47.77 41 P P 03 34 06.8 +1.6
MESA IAmb IAmb 03 34 23.4
comp=Z,390nm,0.9s
MESA IAMs_20 IAMs_20 03 54 59.7
comp=Z,22μm,21.0s
MESA MESA 47.77 41 P P 03 34 06.4 +1.2
baz=283,SNR=21
MESA S S 03 41 00.4 +2.8
baz=283
BNDI Bandanaira 47.79 197 ⇑P **P 03 34 05.5 0.0**
BNDI Bandanaira 47.79 197 P P 03 34 06.1 +0.6
BVCY Beaver Creek 47.79 38 P P 03 34 06.1 +1.0
baz=282,SNR=62
BVCY S S 03 40 59.2 +1.7
baz=282
GUN Gumba 47.82 272 *e*P **P 03 34 05.8 -0.4**
YAH Yahtse 47.83 40 P P 03 34 06.9 +1.2
YAH IAmb IAmb 03 34 32.0
comp=Z,379nm,1.0s
JOHN Johnston Islan 47.89 107 P P 03 34 06.7 +0.4
JOHN IAmb IAmb 03 34 15.0
comp=Z,2μm,1.6s
JOHN Johnston Islan 47.89 107 IAMs_20 IAMs_20 03 50 06.4
comp=Z,38μm,22.0s
JOHN Johnston Islan 47.89 107 P P 03 34 09.8 +3.5
CTG Chitna Glacier 47.89 40 P P 03 34 06.9 +0.9
baz=283,SNR=71
CTG S S 03 41 00.5 +1.4
baz=283
CTGM Chitina Glacie 47.89 40 P P 03 34 07.2 +1.2
CTGM IAmb IAmb 03 34 23.4
comp=Z,271nm,0.7s
SBUM Sibu 47.96 223 ⇑P **P 03 34 07.4 +0.6**
SBUM Sibu 47.96 223 P P 03 34 07.0 +0.2
SBUM Sibu 47.96 223 P P 03 34 08.0 +1.2
KST Kastek 47.97 295⇑ *i* P **P 03 34 07.8 +0.9**
comp=Z,3μm,1.5s,baz=295
KST *e*S **S 03 41 02.0 +1.2**
baz=295
BVAR Borovoye Array 48.05 309 P P 03 34 07.7 +0.5
comp=Z,353nm,0.5s,baz=71,slow=11,SNR=1687
BVAR S S 03 41 05.1 +3.8
comp=Z,98nm,1.1s,baz=56,slow=13,SNR=3.5
BVAR PKPPKP **P'P'df 04 05 18.8 -2.5**
comp=Z,1.1nm,0.8s,baz=197,slow=4.6,SNR=4.1
BVAR P4KPbc 04 11 47.3
comp=Z,4.9nm,1.1s,baz=104,slow=4.7,SNR=13
LOGN Logan Glacier 48.08 40 P P 03 34 08.7 +1.1
ULHL Ulahol 48.10 294 P P 03 34 08.6 +0.6
SNR=117
DAWY Dawson 48.10 35 P P 03 34 07.8 +0.3
DAWY Dawson 48.10 35 P P 03 34 07.8 +0.3
baz=282,SNR=49
DAWY S S 03 41 02.9 +1.1
baz=282
BRVK Borovoye 48.10 309 *c i* P **P 03 34 08.4 +0.8**
BRVK pmax pmax
comp=Z,3μm,1.8s
BRVK MLR MLR
comp=Z,104μm,21.0s
BRVK Borovoye 48.10 309 P P 03 34 08.3 +0.8
BRVK P **P 03 34 08.3 +0.8**
BRVK Borovoye 48.10 309 ⇑P **P 03 34 08.1 +0.5**
BRVK Borovoye 48.10 309 P P 03 34 08.3 +0.8
BRVK Borovoye 48.10 309 P P 03 34 08.3 +0.8
TABL Table Mountain 48.10 40 P P 03 34 08.7 +0.9
TABL IAmb IAmb 03 34 36.6
comp=Z,338nm,1.1s
YUK3 Moose Creek 48.12 38 P P 03 34 08.3 +0.5
baz=283,SNR=78
YUK3 S S 03 41 04.6 +2.2
baz=283
SMKI Samarinda 48.15 215 P P 03 34 11.1 +2.8
comp=Z,45μmcomp=Z,23μmcomp=Z,575nm,0.9s
TKM2 Tokmak 2 48.27 295 P P 03 34 10.2 +0.9
SNR=1426
TKM2 Tokmak 2 48.27 295 P P 03 34 08.5 -0.8
I29M Ogilvie Camp, 48.29 33 P P 03 34 10.3 +1.4
I29M IAmb IAmb 03 34 37.8
comp=Z,446nm,1.1s
I29M IAMs_20 IAMs_20 03 57 02.5
comp=Z,28μm,21.0s
I29M Ogilvie Camp, 48.29 33 P P 03 34 09.7 +0.8
baz=282,SNR=89
I29M S S 03 41 05.2 +0.8
baz=282
KKN Kakani 48.33 272 *e*P **P 03 34 09.6 -0.4**
PKI Pulchoki 48.35 272 *e*P **P 03 34 09.5 -0.8**
PKIN Phulchoki 48.36 272 *e*P **P 03 34 09.4 -0.8**
OTUK Ortayu 48.42 303 P P 03 34 08.5 -1.7
BTLS Baital 48.49 298 *c i* P **P 03 34 10.5 -0.1**
BTLS pmax pmax
comp=Z,947nm,1.9s
BTLS Baital 48.49 298⇑ *i* P **P 03 34 10.6 -0.1**
comp=Z,947nm,1.9s,baz=298
J29M Klondike Camp 48.52 35 P P 03 34 12.4 +1.7
J29M IAmb IAmb 03 34 36.3
comp=Z,608nm,1.7s
J29M IAMs_20 IAMs_20 03 56 58.5
comp=Z,39μm,22.0s
J29M Klondike Camp 48.52 35 P P 03 34 11.2 +0.5
baz=282,SNR=25
J29M S S 03 41 09.1 +1.3
baz=282
DMN Daman 48.56 272 *e*P **P 03 34 11.3 -0.5**
PCA Pinnacle 48.62 41 P P 03 34 12.8 +1.3
PCA IAmb IAmb 03 34 54.3
comp=Z,327nm,1.2s
PINM Pinnacle 48.62 41 P P 03 34 12.1 +0.6
baz=285,SNR=17
PINM S S 03 41 10.9 +1.6
baz=285
GKN Gorkha 48.70 273 *e*P **P 03 34 12.2 -0.5**
SGDS Sogindy 48.71 296 *e*P **P 03 34 12.6 +0.1**
SGDS Sogindy 48.71 296⇑ *i* P **P 03 34 12.9 +0.4**
comp=Z,2μm,2.1s,baz=296
SGDS *e*S **S 03 41 12.2 +1.1**
baz=296
TARA Tarawa 48.77 138 IAMs_20 IAMs_20 03 50 39.6
comp=Z,27μm,20.0s
CHMS Chumysh 48.81 295 P P 03 34 13.9 +0.7
SNR=5.2
KBK Karagaybulak 48.81 295 P P 03 34 14.1 +0.7
SNR=874
USP Ospenovka 48.87 296 P P 03 34 14.1 +0.4
SNR=746
BCPM Bancas Point 48.96 41 P P 03 34 15.2 +1.2
BCPM IAmb IAmb 03 34 24.5
comp=Z,423nm,1.4s
BCPM IAMs_20 IAMs_20 03 55 36.9
comp=Z,22μm,22.0s
FRU1 Bishkek 48.97 295 P P 03 34 15.2 +0.7
FRU1 pmax pmax
comp=Z,1μm,1.0s
FRU1 Bishkek 48.97 295 P P 03 34 15.2 +0.7
BKB Balikpapan 49.01 215 ⇑P **P 03 34 15.9 +1.0**
BKB Balikpapan 49.01 215 P P 03 34 15.8 +0.8
comp=Z,54μmcomp=Z,30μmcomp=Z,2μm,2.1s
BKB Balikpapan 49.01 215 P P 03 34 14.8 -0.2
BKB Balikpapan 49.01 215 P P 03 34 15.8 +0.8
AAK Ala-Archa 49.13 295 P P 03 34 16.2 +0.3
comp=Z,358nm,0.9s,baz=90,slow=6.1,SNR=593
AAK LR LR 03 56 46.7
comp=Z,62μm,20.0s,baz=76,slow=38
AAK P4KPbc 04 11 53.0
comp=Z,1.3nm,0.4s,baz=136,slow=1.7,SNR=5.1
AAK Ala-Archa 49.13 295 P P 03 34 16.3 +0.5
SNR=48
AAK Ala-Archa 49.13 295 *c i* P **P 03 34 16.3 +0.5**
AAK pmax pmax
comp=Z,1μm,1.6s
AAK MLR MLR
comp=Z,56μm,19.0s
AAK Ala-Archa 49.13 295 P P 03 34 16.3 +0.5
AAK P **P 03 34 16.3 +0.5**
AAK Ala-Archa 49.13 295 ⇑P **P 03 34 16.1 +0.3**
AAK ⇑P **P 03 34 16.2 +0.3**
AAK Ala-Archa 49.13 295 P P 03 34 16.4 +0.5
AAK Ala-Archa 49.13 295 P P 03 34 16.3 +0.3
AAK Ala-Archa 49.13 295 *i* P **P 03 34 16.1 +0.3**
SNR=608
PNL Peninsula 49.15 41 P P 03 34 16.2 +0.6
baz=286,SNR=7.1
PNL S S 03 41 17.5 +0.9
baz=286
DANN Dangsing 49.16 274 *e*P **P 03 34 16.4 0.0**
UCH Uchtor 49.28 295 P P 03 34 17.8 +0.5
SNR=266
KSH Kashi 49.42 291 P P 03 34 22.3 +4.3
KSH sP sP 03 34 45.1 +6.5
KSH pmax pmax
comp=Z,1μm,1.1s
TTSI Tana Toraja 49.45 211 P P 03 34 17.6 -0.7
comp=Z,29μmcomp=Z,5μmcomp=Z,132nm,1.5s
INK Inuvik 49.50 29 LR LR 03 57 24.6
comp=Z,25μm,20.9s,baz=268,slow=39
INK Inuvik 49.50 29 P P 03 34 18.4 +0.4

INK pmax pmax
comp=Z,153nm,0.9s
INK Inuvik 49.50 29 ⇑P **P 03 34 18.1 +0.1**
INK Inuvik 49.50 29 P **P 03 34 18.4 +0.4**
INK Inuvik 49.50 29 P **P 03 34 18.4 +0.4**
baz=283,SNR=122
INK S **S 03 41 19.3 -2.0**
baz=283
M30M Minto, Yukon 49.59 37 P **P 03 34 19.9 +1.0**
M30M IAms_20 IAms_20 03 57 17.7
comp=Z,21μm,21.0s
M30M Minto, Yukon 49.59 37 P **P 03 34 20.5 +1.6**
baz=285,SNR=95
M30M S **S 03 41 26.5 +3.7**
baz=285
KOLN Koldanda 49.59 273 *e*P **P 03 34 19.0 -0.6**
EKS2 Erkin-Say 49.60 295 P **P 03 34 19.7 +0.3**
SNR=526
MTKI Muara Teweh, K 49.62 218 P **P 03 34 20.3 +0.7**
comp=Z,26μmcomp=Z,16μmcomp=Z,869nm,1.0s
MAYO Mayo, Yukon 49.72 35 P **P 03 34 21.3 +1.5**
baz=285,SNR=17
MAYO S **S 03 41 28.3 +3.8**
baz=285
KSM Kuching 49.77 225 ⇑P **P 03 34 21.8 +1.0**
KSM Kuching 49.77 225 P **P 03 34 21.4 +0.6**
KSM IAmb IAmb 03 34 22.8
comp=Z,565nm,1.0s
KSM IAms_20 IAms_20 03 53 59.0
comp=Z,25μm,22.0s
KSM Kuching 49.77 225 P **P 03 34 22.0 +1.2**
KSM Kuching 49.77 225 P **P 03 34 22.2 +1.4**
PYUN Piuthan 49.87 274 *e*P **P 03 34 21.4 -0.3**
AML Almayashu 49.88 295 P **P 03 34 22.7 +0.9**
SNR=680
AML Almayashu 49.88 295 P **P 03 34 22.7 +0.9**
AML Almayashu 49.88 295 *i* P **P 03 34 22.7 +0.9**
SNR=683
BOK Bokaro 50.12 267 ⇑*i*P **P 03 34 24.3 +0.9**
BOK IAmb IAmb 03 34 25.8
comp=Z,405nm,0.8s
SPSI Sidrap Palu 50.31 210 P **P 03 34 23.8 -1.0**
comp=Z,34μmcomp=Z,8μmcomp=Z,266nm,1.3s
N31M Braeburn, Yuko 50.35 38 P **P 03 34 26.4 +1.7**
N31M IAmb IAmb 03 34 48.8
comp=Z,464nm,0.9s
N31M Braeburn, Yuko 50.35 38 P **P 03 34 26.7 +2.0**
baz=287,SNR=108
N31M S **S 03 41 38.4 +5.0**
baz=287
STKI Sintang 50.38 222 P **P 03 34 26.3 +1.0**
comp=Z,28μmcomp=Z,275nm,1.0s
SRIT Nakonsritamara 50.44 241 P **P 03 34 27.0 +1.2**
SRIT IAmb IAmb 03 34 28.4
comp=Z,893nm,1.0s
BNSI Bone 50.59 210 P **P 03 34 26.8 -0.1**
comp=Z,34μmcomp=Z,12μmcomp=Z,633nm,1.3s
BBSI Bau Bau 50.74 206 P **P 03 34 29.9 +1.9**
comp=Z,986nmcomp=Z,79nm,1.3s
M31M Drury Creek, Y 50.77 37 P **P 03 34 29.4 +1.6**
M31M IAmb IAmb 03 34 38.8
comp=Z,488nm,1.5s
M31M Drury Creek, Y 50.77 37 P **P 03 34 29.0 +1.2**
baz=287,SNR=65
M31M S **S 03 41 43.4 +4.2**
baz=287
SAUI Saumlaki 50.87 195 P **P 03 34 30.4 +1.5**
comp=Z,37μmcomp=Z,30μmcomp=Z,586nm,1.4s
SAUI Saumlaki 50.87 195 P **P 03 34 29.6 +0.7**
WHY Whitehorse 51.02 39 ⇑P **P 03 34 31.2 +1.4**
WHY Whitehorse 51.02 39 P **P 03 34 31.3 +1.5**
WHY IAmb IAmb 03 34 41.0
comp=Z,478nm,1.4s
WHY Whitehorse 51.02 39 P **P 03 34 31.2 +1.4**
baz=288,SNR=75
WHY S **S 03 41 47.9 +5.1**
baz=288
DZA Taraz 51.14 297 *e*P **P 03 34 31.6 +0.7**
DZA pmax pmax
comp=Z,2μm,1.3s
DZA Taraz 51.14 297 *e*P **P 03 34 31.7 +0.7**
comp=Z,2μm,1.3s,baz=297
KBKI Kotabaru 51.16 215 P **P 03 34 30.8 -0.4**
comp=Z,2μmcomp=Z,5μmcomp=Z,344nm,0.9s
SKAG Skagway 51.19 40 ⇑P **P 03 34 32.7 +1.8**
SKAG Skagway 51.19 40 P **P 03 34 32.7 +1.8**
SKAG Skagway 51.19 40 P **P 03 34 32.5 +1.6**
baz=289,SNR=33
SKAG S **S 03 41 49.4 +4.6**
baz=289
FARO Faro, Yukon 51.23 37 P **P 03 34 32.3 +1.1**
baz=288,SNR=80
FARO S **S 03 41 49.7 +4.3**
baz=288
A36M Sachs Harbour 51.26 23 IAmb IAmb 03 34 55.1
comp=Z,348nm,1.0s
A36M Sachs Harbour 51.26 23 P **P 03 34 31.8 +0.5**
baz=287,SNR=125
A36M S **S 03 41 44.7 -0.8**
baz=287
KAPI Kappang 51.29 210 P **P 03 34 32.3 +0.2**
comp=Z,104nm,0.9s,baz=50,slow=5.8,SNR=92
KAPI LR LR 03 54 12.4
comp=Z,7μm,21.8s,baz=46,slow=34
KAPI PKPPKP **P'P'df 04 05 10.5 +2.2**
comp=Z,3.2nm,0.8s,baz=314,slow=3.0,SNR=3.5
KAPI Kappang 51.29 210 P **P 03 34 32.4 +0.2**
KAPI P **P 03 34 32.4 +0.2**
KAPI Kappang 51.29 210 P **P 03 34 31.8 -0.3**
KAPI IAmb IAmb 03 34 59.8
comp=Z,1μm,1.5s
KAPI Kappang 51.29 210 P **P 03 34 33.0 +0.9**
KAPI Kappang 51.29 210 P **P 03 34 32.4 +0.3**
PMG Port Moresby 51.36 174 P **P 03 34 33.0 +0.3**
comp=Z,33nm,0.8s,baz=15,slow=9.0,SNR=12
PMG LR LR 03 53 47.9
comp=Z,15μm,21.8s,baz=343,slow=33
PMG Port Moresby 51.36 174 P **P 03 34 33.2 +0.6**
PMG pmax pmax
comp=Z,152nm,1.1s
PMG Port Moresby 51.36 174 P **P 03 34 33.2 +0.6**
PMG Port Moresby 51.36 174 P **P 03 34 34.2 +1.6**
BKSI Bulukumba 51.44 209 P **P 03 34 32.8 -0.4**
comp=Z,36μmcomp=Z,8μmcomp=Z,209nm,1.2s
KKAR Karatay Array 51.60 297 P **P 03 34 34.4 +0.1**
KKAR Karatay Array 51.60 297 P **P 03 34 34.4 +0.1**
DGPR DIGLIPUR 51.70 251 ⇑*i*P **P 03 34 36.6 +1.3**
BESE Bessie Mountai 51.71 41 IAmb IAmb 03 34 46.0
comp=Z,521nm,1.3s
BBKI Banjar Baru 51.88 216 P **P 03 34 36.2 -0.4**
comp=Z,23μmcomp=Z,12μmcomp=Z,594nm,1.0s
SIT Sitka 52.00 43 IAmb IAmb 03 34 48.3
comp=Z,479nm,1.4s
SIT Sitka 52.00 43 P **P 03 34 38.9 +1.9**
baz=291,SNR=8.4
SIT S **S 03 42 01.9 +5.8**
baz=291
JIS Juneau Island 52.05 42 IAmb IAmb 03 34 54.8
comp=Z,327nm,1.1s
BSSI Bau Bau, Buton 52.06 208 P **P 03 34 37.9 0.0**
comp=Z,20μmcomp=Z,6μmcomp=Z,215nm,1.3s
BRLS Borolday 52.08 297 *i* P **P 03 34 39.4 +1.6**
BRLS pmax pmax
comp=Z,452nm,1.8s
BRLS Borolday 52.08 297 *i* P **P 03 34 39.4 +1.6**
comp=Z,452nm,1.8s,baz=297
SVE Sverdlovsk 52.13 316 *d* *i*P **P 03 34 38.7 +0.7**
SVE *e* 03 36 31.8
SVE *e*S **S 03 41 57.7 -0.2**
SVE *e* 03 45 38.5
SVE pmax pmax
comp=Z,3μm,1.5s
SVE pmax pmax
comp=Z,6μm,9.3s
SVE MLR MLR
comp=N,33μm,18.0s
SVE MLR MLR
comp=E,102μm,17.0s
SVE MLR MLR
comp=Z,135μm,17.0s
P33M Teslin, Yukon 52.13 39 P **P 03 34 39.6 +1.5**
P33M IAmb IAmb 03 34 50.0
comp=Z,498nm,1.2s
P33M IAms_20 IAms_20 03 57 41.9
comp=Z,31μm,22.0s
P33M Teslin, Yukon 52.13 39 P **P 03 34 39.7 +1.6**
baz=290,SNR=144
P33M S **S 03 42 02.6 +4.5**
baz=290
JRMM Jerantut 52.24 235 P **P 03 34 41.0 +1.7**
KULM Kulim 52.27 237 ⇑P **P 03 34 40.5 +1.0**
KULM Kulim 52.27 237 IAmb IAmb 03 34 42.4
comp=Z,591nm,1.0s
KULM IAms_20 IAms_20 03 56 29.7
comp=Z,24μm,21.0s
KULM Kulim 52.27 237 P **P 03 34 41.0 +1.4**
DRK Karamyk 52.33 292 IAmb IAmb 03 34 42.0
comp=Z,1μm,1.1s
C36M Paulatuk 52.49 27 IAmb IAmb 03 35 03.6
comp=Z,795nm,1.6s
C36M Paulatuk 52.49 27 P **P 03 34 40.5 0.0**
baz=290,SNR=102
C36M S **S 03 42 01.0 -1.4**
baz=290
SMLA Simla 52.57 281 ⇑*i*P **P 03 34 42.2 +0.6**
SMLA *i* pP **sP 03 34 59.7 -2.7**
DHRM DHARAMSHALA 52.62 282 ⇑*i*P **P 03 34 42.6 +0.3**
IPM Ipoh 52.66 236 IAmb IAmb 03 34 44.6
comp=Z,352nm,1.0s
IPM IAms_20 IAms_20 03 57 02.0
comp=Z,25μm,19.0s
IPM Ipoh 52.66 236 P **P 03 34 43.0 +0.5**
IPM Ipoh 52.66 236 P **P 03 34 43.0 +0.5**
PBKI Pangkalan Bun 52.68 220 P **P 03 34 43.2 +0.7**
PBA Port Blair 52.88 250 ⇑*i*P **P 03 34 44.7 +0.7**
PBA Port Blair 52.88 250 P **P 03 34 44.8 +0.7**
SNR=19
PBA Port Blair 52.88 250 ⇑P **P 03 34 44.4 +0.3**
PBA Port Blair 52.88 250 P **P 03 34 44.5 +0.5**
PBA IAmb IAmb 03 34 51.1
comp=Z,585nm,0.8s
MYKOM Kota Tinggi 53.09 232 ⇑P **P 03 34 46.9 +1.3**
MYKOM Kota Tinggi 53.09 232 IAmb IAmb 03 34 48.7
comp=Z,786nm,1.6s
MYKOM Kota Tinggi 53.09 232 P **P 03 34 47.0 +1.4**
OPA Opana 53.21 93 P **P 03 34 47.2 +0.8**
OPA pmax pmax
comp=Z,1μm,1.8s
OPA Opana 53.21 93 P **P 03 34 47.2 +0.8**
OPA IAmb IAmb 03 35 21.1
comp=Z,1μm,1.8s
ARU Arti 53.34 316 P **P 03 34 47.2 +0.3**
comp=Z,556nm,1.0s,baz=69,slow=3.9,SNR=685
ARU S **S 03 42 13.5 -1.0**
comp=Z,4.0nm,0.2s,baz=279,slow=14,SNR=1.3
ARU PKPPKP **P'P'df 04 05 07.5 -6.5**
comp=Z,1.8nm,0.2s,baz=284,slow=4.2,SNR=5.7
ARU P4KPbc 04 12 09.3
comp=Z,3.0nm,0.2s,baz=317,slow=7.9,SNR=4.1
ARU Arti 53.34 316 *c* *i*P **P 03 34 47.3 +0.3**
ARU *PP **pP 03 35 02.1 +0.5**
ARU *SP **sP 03 35 08.2 +0.4**
ARU 03 35 48.7
ARU 03 36 44.7
ARU S **S 03 42 15.7 +1.3**
ARU *SS **sS 03 42 40.4 +1.3**
ARU 03 44 25.9
ARU SSS SSS 03 47 46.3
ARU pmax pmax
comp=Z,4μm,1.5s
ARU pmax pmax
comp=Z,8μm,9.0s
ARU MLR MLR
comp=Z,114μm,15.0s
ARU Arti 53.34 316 P **P 03 34 47.4 +0.5**
ARU Arti 53.34 316 P **P 03 34 47.1 +0.2**
KIP Kipapa 53.36 93 P **P 03 34 49.3 +1.8**
KIP pmax pmax
comp=Z,595nm,1.6s
KIP Kipapa 53.36 93 P **P 03 34 49.3 +1.8**
KIP IAmb IAmb 03 35 04.7
comp=Z,595nm,1.6s
KIP Kipapa 53.36 93 IAms_20 IAms_20 03 52 42.7
comp=Z,22μm,19.0s
KIP Kipapa 53.36 93 P **P 03 34 50.1 +2.5**
KIP Kipapa 53.36 93 P **P 03 34 50.0 +2.5**
TPRI Tanjung Pinang 53.41 230 P **P 03 34 49.5 +1.6**
comp=Z,13μmcomp=Z,255nm,1.9s
HNR Honiara 53.61 159 LR LR 03 54 07.8
comp=Z,30μm,21.2s,baz=336,slow=32
HNR Honiara 53.61 159 IAms_20 IAms_20 03 53 46.4
comp=Z,33μm,22.0s
WMR Waimanalo Ridg 53.67 93 P **P 03 34 50.4 +0.5**
CRAG Craig 53.74 45 P **P 03 34 51.3 +1.5**
baz=293,SNR=6.5
CRAG S **S 03 42 25.5 +5.8**
baz=293
WRAK Wrangell Islan 53.77 43 IAms_20 IAms_20 03 55 45.0
comp=Z,20μm,22.0s
WRAK Wrangell Islan 53.77 43 P **P 03 34 51.9 +1.9**
baz=293,SNR=8.4
WRAK S **S 03 42 23.6 +3.5**
baz=293
MMRI Maumere 53.80 205 ⇑P **P 03 34 50.4 -0.3**
MMRI Maumere 53.80 205 P **P 03 34 50.4 -0.3**
comp=Z,34μmcomp=Z,20μmcomp=Z,798nm,1.7s
MMRI Maumere 53.80 205 P **P 03 34 50.4 -0.3**
comp=Z,1μm,1.4s
NDI New Delhi 53.83 278 *e*P P 03 34 57.0 +6.1
NDI *e*S **S 03 42 24.0 +2.2**
WTLY Watson Lake, Y 54.04 38 P **P 03 34 53.6 +1.5**
baz=293,SNR=8.3
EDFI Ende, Flores 54.09 206 P **P 03 34 51.2 -1.7**
comp=Z,20μmcomp=Z,6μmcomp=Z,156nm,1.3s
NIL Nilore 54.12 285 P **P 03 34 53.9 +0.9**
NIL pmax pmax
comp=Z,1μm,1.0s
NIL MLR MLR
comp=Z,28μm,20.0s
NIL Nilore 54.12 285 P **P 03 34 53.9 +0.9**
NIL Nilore 54.12 285 IAms_20 IAms_20 04 02 26.8
comp=Z,28μm,20.0s
NIL Nilore 54.12 285 P **P 03 34 53.8 +0.9**
SOEI Soe 54.25 203 ⇑P **P 03 34 53.4 -0.7**
SOEI Soe 54.25 203 P **P 03 34 53.4 -0.7**
comp=Z,37μmcomp=Z,15μmcomp=Z,943nm,0.8s
SOEI Soe 54.25 203 IAms_20 IAms_20 03 55 54.5
comp=Z,25μm,22.0s
SOEI Soe 54.25 203 P **P 03 34 54.3 +0.2**
CHLP Challavanipeta 54.67 263 *e*P **P 03 34 58.1 +1.0**
CHLP *e*PcP **PcP 03 35 60.0 +0.6**
LHMI Lhok Sumawe 54.69 241 ⇑P **P 03 34 59.1 +1.9**
LHMI Lhok Sumawe 54.69 241 IAmb IAmb 03 35 01.0
comp=Z,863nm,1.1s
LHMI IAms_20 IAms_20 03 57 37.6
comp=Z,37μm,21.0s
LHMI Lhok Sumawe 54.69 241 P **P 03 34 57.9 +0.6**
BATI Baumata 54.85 203 P **P 03 34 57.5 -0.8**
comp=Z,180nm,0.8s,baz=166,slow=1.0,SNR=46
BATI LR LR 03 59 25.9
comp=Z,5μm,20.1s,baz=34,slow=37
BATI Baumata 54.85 203 P **P 03 34 57.8 -0.6**
comp=Z,17μmcomp=Z,8μmcomp=Z,258nm,0.6s
KHLH Kahului Airpor 54.86 93 IAmb IAmb 03 35 16.4
comp=Z,1μm,1.9s
JBP Jabalpur 54.88 271 *e*P **P 03 34 58.8 +0.2**
JBP *e*S S 03 42 26.5 -9.5
PPBI Pangkal Pinang 55.05 227 P **P 03 35 00.6 +0.8**
comp=Z,42μmcomp=Z,64μmcomp=Z,470nm,1.3s
ALE Alert 55.05 4 P **P 03 34 59.0 -0.1**
HLK Haleakala 55.08 93 P **P 03 35 00.2 -0.2**
HLK IAmb IAmb 03 35 24.5
comp=Z,980nm,1.6s
WRGLY Wrigley 55.09 33 P **P 03 35 00.7 +1.2**
baz=295,SNR=66
WRGLY S **S 03 42 40.4 +2.6**
baz=295
KDU Kakadu 55.27 192 ⇑P **P 03 35 00.9 -0.4**
KDU ⇑P **P 03 35 00.9 -0.4**
KDU Kakadu 55.27 192 P **P 03 35 01.2 -0.1**
PSI Prapat 55.28 237 S **S 03 42 42.2 +0.6**
comp=Z,2.5nm,0.3s,baz=110,slow=23,SNR=2.2
PSI LR LR 04 01 02.8
comp=Z,16μm,18.0s,baz=24,slow=38
PSI PKP2bc 04 05 19.2
comp=Z,1.7nm,0.3s,baz=237,slow=9.6,SNR=3.6
DRS Darwin Rock St 55.28 194 P **P 03 35 01.3 -0.1**
HOPEN Hopen 55.44 345 ⇑*i*P **P 03 35 02.7 +0.9**
HOPEN *e*S **S 03 42 40.5 -1.6**
HOPEN IVMs_BB IVMs_BB 04 00 59.8
comp=Z,17μm,20.0s
KMMI Kalianget 55.46 215 P **P 03 35 02.1 -0.7**
comp=Z,38μmcomp=Z,13μmcomp=Z,416nm,2.6s
AB31 Akbulak array 55.56 308 *i* P **P 03 35 03.3 +0.2**
ABKAR Akbulak array 55.56 308 ⇑P **P 03 35 03.4 +0.4**
ABKAR ⇑P **P 03 35 03.5 +0.4**
ABKAR Akbulak array 55.56 308 P **P 03 35 03.5 +0.4**
ABKAR Akbulak array 55.56 308 IAmb IAmb 03 35 05.2
comp=Z,1μm,1.1s
MTN Manton Dam 55.64 194 ⇑P **P 03 35 03.4 -0.6**
MTN ⇑P **P 03 35 03.8 -0.2**
MTN Manton Dam 55.64 194 P **P 03 35 03.7 -0.2**
MTN IAmb IAmb 03 35 31.4
comp=Z,729nm,1.2s
MTN Manton Dam 55.64 194 P **P 03 35 04.0 0.0**
VIS Vishakhapatnam 55.70 263 ⇑*i*P **P 03 35 05.4 +0.9**
WBSI Waikabubak, Su 55.70 208 P **P 03 35 02.3 -2.2**
comp=Z,6μmcomp=Z,235nm,0.9s
COEN Coen 55.72 179 P **P 03 35 05.4 +0.8**
COEN IAmb IAmb 03 35 06.8
comp=Z,422nm,1.1s
COEN Coen 55.72 179 P **P 03 35 05.5 +0.9**
SPA0 Spitsbergen Ar 55.81 348 ⇑*i*P **P 03 35 04.3 -0.3**
SPA0 *e*S **S 03 42 44.6 -2.6**
SPA0 IVMs_BB IVMs_BB 03 59 07.5
comp=Z,15μm,21.3s
SPITS Spitsbergen Ar 55.81 348 P **P 03 35 04.3 -0.3**
comp=Z,121nm,0.8s,baz=81,slow=10,SNR=95
SPITS ScP **ScP 03 39 57.5 +0.4**
comp=Z,26nm,1.0s,baz=117,slow=14,SNR=2.3
SPITS Spitsbergen Ar 55.81 348 P **P 03 35 04.4 -0.2**
SPITS pmax pmax
comp=Z,3μm,1.8s
SPB2 Spitsbergen Ar 55.81 348 P **P 03 35 04.4 -0.2**
BASI Baing, Sumba 55.83 207 P **P 03 35 03.9 -1.5**
comp=Z,18μmcomp=Z,8μmcomp=Z,476nm,1.1s
SRBI Singaraja 55.87 214 P **P 03 35 05.6 -0.1**
comp=Z,37μmcomp=Z,21μmcomp=Z,838nm,1.3s
KBS Kingsbay 55.90 350 *i* P **P 03 35 04.9 -0.3**
KBS Kingsbay 55.90 350 ⇑*i*P **P 03 35 05.5 +0.3**
KBS *e*S **S 03 42 45.7 -2.6**
KBS IVMs_BB IVMs_BB 03 55 23.1
comp=Z,11μm,26.2s
KBS Kingsbay 55.90 350 ⇑P **P 03 35 05.3 +0.1**
KBS Kingsbay 55.90 350 IAms_20 IAms_20 04 01 01.0
comp=Z,20μm,20.0s
KBS Kingsbay 55.90 350 P **P 03 35 05.4 +0.3**
BKNI Bangkinang 55.92 233 ⇑P **P 03 35 07.1 +1.0**
BKNI Bangkinang 55.92 233 IAms_20 IAms_20 04 00 05.3
comp=Z,17μm,21.0s
BKNI Bangkinang 55.92 233 P **P 03 35 07.6 +1.5**
HPAH Hawaii Prepara 55.93 93 IAmb IAmb 03 35 09.2
comp=Z,703nm,1.6s
ABJI Asem Bagus 56.02 215 P **P 03 35 06.8 +0.1**
comp=Z,35μmcomp=Z,16μmcomp=Z,602nm,2.1s
TPTI 56.03 239 P **P 03 35 05.2 -1.7**
comp=Z,2μmcomp=Z,55nm,1.2s
HUH Hualalai 56.04 94 P **P 03 35 08.1 +0.9**
HUH IAmb IAmb 03 35 38.4
comp=Z,704nm,1.6s
NOR Nord 56.12 356 *i* P **P 03 35 06.0 -0.7**
NOR IAmb IAmb 03 35 06.5
comp=Z,853nm,1.4s
AKTO Aktyubinsk 56.14 310 P **P 03 35 07.4 +0.1**
comp=Z,586nm,1.2s,baz=70,slow=8.0,SNR=307
AKTO PP **PP 03 37 14.1 +1.6**
comp=Z,316nm,1.0s,baz=84,slow=7.7,SNR=4.9
AKTO PKP2bc 04 05 15.2
comp=Z,4.8nm,1.2s,baz=130,slow=1.7,SNR=7.5
AKTO P4KPbc 04 12 22.4
comp=Z,7.1nm,0.9s,baz=77,slow=4.5,SNR=17
POHA Pohakuloa 56.22 93 ⇑P **P 03 35 10.4 +1.9**
POHA Pohakuloa 56.22 93 P **P 03 35 10.6 +2.1**
BLJI Banyuglugur 56.24 215 P **P 03 35 08.1 -0.2**
comp=Z,20μmcomp=Z,6μmcomp=Z,100nm,1.8s
UWJI Ujung Watu 56.26 219 P **P 03 35 09.9 +1.4**
comp=Z,14μmcomp=Z,484nm,1.8s
MWH Moku'aweowe 56.34 94 IAmb IAmb 03 35 39.2
comp=Z,387nm,1.1s
DNP Denpasar 56.41 213 P **P 03 35 08.8 -0.7**
comp=Z,30μmcomp=Z,664nm,0.9s
PMBI Palembang 56.43 227 P **P 03 35 09.8 +0.1**
AIN Ainahou 56.51 94 P **P 03 35 11.5 +1.0**
AIN IAmb IAmb 03 35 13.8
comp=Z,707nm,1.2s
IGBI Denpasar 56.56 213 P **P 03 35 08.8 -1.8**
comp=Z,18μmcomp=Z,6μmcomp=Z,242nm,0.7s
JAGI Jajag, Banyuwa 56.66 214 P **P 03 35 09.3 -2.0**
comp=Z,29μmcomp=Z,6μmcomp=Z,143nm,1.1s
JAGI Jajag, Banyuwa 56.66 214 IAmb IAmb 03 35 53.1
comp=Z,283nm,1.1s
JAGI Jajag, Banyuwa 56.66 214 P **P 03 35 09.7 -1.6**
KBL Kabul 56.66 289 P **P 03 35 10.9 -0.6**
KBL pmax pmax
comp=Z,695nm,0.9s
KBL Kabul 56.66 289 P **P 03 35 10.7 -0.7**
SNR=508
KBL P **P 03 35 10.7 -0.7**
SNR=508
KBL Kabul 56.66 289 P **P 03 35 10.9 -0.6**
KBL IAmb IAmb 03 35 17.4
comp=Z,695nm,0.8s
KBL Kabul 56.66 289 P **P 03 35 10.5 -1.0**
BHPL Bhopal 56.74 272 ⇑*i*P **P 03 35 11.8 -0.2**
BHPL IAmb IAmb 03 35 14.3
comp=Z,351nm,1.1s
BHPL *i* pP **pP 03 35 29.4 +2.9**
HSPB Hornsund (broa 56.77 348 *i* P **P 03 35 11.6 +0.3**
HSPB *e*S **S 03 42 57.4 -2.3**
HSPB Hornsund (broa 56.77 348 ⇑*i*P **P 03 35 11.6 +0.3**
HSPB *e*S **S 03 42 57.1 -2.7**
HSPB IVMs_BB IVMs_BB 03 57 22.0
comp=Z,14μm,30.6s
GMJI Gumukmas 56.78 215 P **P 03 35 11.1 -1.1**
comp=Z,29μmcomp=Z,9μmcomp=Z,233nm,2.4s
KIRV Kirov 56.91 321 P **P 03 35 12.8 +0.2**
comp=Z,1μm,0.9s,baz=66,slow=4.9,SNR=513
KIRV LR LR 04 02 38.5
comp=Z,111μm,18.7s,baz=72,slow=39
KIRV PKP2bc 04 05 19.5
comp=Z,3.4nm,0.5s,baz=113,slow=2.7,SNR=5.0
KIRV P4KPbc 04 12 25.4
comp=Z,2.6nm,0.5s,baz=57,slow=8.1,SNR=4.6
AJM Ajmer 56.95 277 ⇑*i*x **P 03 35 13.0 -0.4**
SMRI Semarang 57.05 219 ⇑P **P 03 35 14.7 +0.5**
SMRI Semarang 57.05 219 P **P 03 35 14.6 +0.5**
comp=Z,48μmcomp=Z,25μmcomp=Z,1μm,1.1s
SMRI Semarang 57.05 219 IAms_20 IAms_20 03 59 11.9
comp=Z,18μm,21.0s
SMRI Semarang 57.05 219 P **P 03 35 14.2 +0.1**
PRGR Permogore 57.15 326 *e*P **P 03 35 14.4 +0.2**
PRGR *e*S **S 03 43 14.0 +8.9**
PRGR pmax pmax
comp=Z,6μm,1.4s
PVM Polavaram 57.25 264 *e*P **P 03 35 16.5 +1.0**
GSI Gunungsitoli 57.28 237 ⇑P **P 03 35 16.0 +0.2**
GSI Gunungsitoli 57.28 237 IAms_20 IAms_20 03 59 53.4
comp=Z,17μm,19.0s
GSI Gunungsitoli 57.28 237 P **P 03 35 16.4 +0.6**
RES Resolute Bay 57.51 15 PKPPKP 04 05 05.1
comp=Z,3.9nm,1.1s,baz=150,slow=5.7,SNR=4.5
RES PKP2bc 04 05 15.1
comp=Z,11nm,1.1s,baz=20,slow=2.9,SNR=6.1
RES P4KPbc 04 12 27.7
comp=Z,1.4nm,0.8s,baz=285,slow=7.7,SNR=4.0
RES Resolute Bay 57.51 15 ⇑P **P 03 35 16.1 -0.5**
RES ⇑P **P 03 35 16.1 -0.5**
RES Resolute Bay 57.51 15 IAmb IAmb 03 35 17.1
comp=Z,308nm,0.8s
PCJI Pacitan 57.72 218 P **P 03 35 18.3 -0.5**
comp=Z,28μmcomp=Z,10μmcomp=Z,279nm,1.8s
UGM Wanagama 57.77 219 P **P 03 35 18.2 -1.0**
comp=Z,37μmcomp=Z,24μmcomp=Z,1μm,1.1s
UGM Wanagama 57.77 219 IAms_20 IAms_20 04 00 22.4
comp=Z,17μm,22.0s
UGM Wanagama 57.77 219 P **P 03 35 18.5 -0.7**
YOGI Yogyakarta 57.79 219 P **P 03 35 18.5 -0.8**
comp=Z,18μmcomp=Z,14μmcomp=Z,950nm,1.2s
LHSI Lahat 57.86 228 P **P 03 35 20.7 +0.9**
comp=Z,40μmcomp=Z,27μmcomp=Z,1μm,1.0s
BJO1 Bjornoya 57.89 345 ⇑*i*P **P 03 35 18.2 -1.0**
BJO1 *e*S **S 03 43 13.1 -1.4**
BJO1 IVMs_BB IVMs_BB 04 00 54.6
comp=Z,13μm,24.9s
PBSI Pulau Batu 57.90 236 P **P 03 35 21.0 +0.9**
comp=Z,45μmcomp=Z,20μmcomp=Z,642nm,1.2s

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KLSI                 57.92 226  P          P          03 35 20.0 -0.2
     comp=Z,9μmcomp=Z,377nm,2.0s
LVZ  Lovozero        57.98 335c iP         P          03 35 19.1 -1.0
LVZ  Lovozero        57.98 335  P          P          03 35 19.3 -0.8
LVZ                             IAmb       IAmb       03 35 22.2
     comp=Z,478nm,1.1s
LVZ  Lovozero        57.98 335  P          P          03 35 19.1 -1.0
KLI  Kotabumi        58.00 226  P          P          03 35 20.5 -0.3
     comp=Z,41μmcomp=Z,22μmcomp=Z,2μm,1.1s
MASI Maura Aman, Be  58.02 230  P          P          03 35 21.4 +0.4
     comp=Z,48μmcomp=Z,22μmcomp=Z,1μm,1.0s
MDSI Maura Dua       58.05 227  P          P          03 35 20.5 -0.6
     comp=Z,24μmcomp=Z,10μmcomp=Z,332nm,1.3s
BLSI Bandar Lampung  58.21 225  P          P          03 35 22.0 -0.3
     comp=Z,32μmcomp=Z,13μmcomp=Z,485nm,1.0s
LEM  Lembang         58.23 222  LR         LR         04 00 13.4
     comp=Z,15μm,22.0s,baz=27,slow=36
MYLAV Mylavaram      58.30 264  eP         P          03 35 24.1 +1.2
MYLAV                           esP        sP         03 35 42.5 -1.2
SBJI Serang          58.38 224  P          P          03 35 24.5 +1.0
     comp=Z,9μmcomp=Z,262nm,1.2s
SISI Saibi           58.41 234  P          P          03 35 25.4 +1.7
     comp=Z,24μmcomp=Z,7μmcomp=Z,273nm,1.0s
DBJI Dramaga         58.44 223  P          P          03 35 23.1 -0.7
     comp=Z,33μmcomp=Z,18μmcomp=Z,475nm,1.3s
APA  Apatity         58.55 335⇓ iP         P          03 35 22.1 -1.9
APA                             i          3          03 37 32.0
APA                             i PPP      PPP        03 39 03.0
APA                             i S        S          03 43 13.0 -10
APA                             i PS       PnS        03 43 40.0 -1.6
APA                             i          3          03 45 07.0
APA                             pmax       pmax
     comp=Z,220nm,1.0s
LWLI Liwa            58.56 227  P          P          03 35 24.0 -0.8
     comp=Z,57μmcomp=Z,502nm,0.9s
MNAI Manna           58.62 228 ⇑P          P          03 35 23.9 -1.3
MNAI Manna           58.62 228  P          P          03 35 25.3 +0.2
     comp=Z,35μmcomp=Z,21μmcomp=Z,849nm,1.6s
MNAI Manna           58.62 228  P          P          03 35 25.6 +0.5
CMJI Cimerak         58.65 221  P          P          03 35 22.4 -2.9
     comp=Z,17μmcomp=Z,3μmcomp=Z,144nm,0.9s
SRSP Sriramsagar     58.65 268  eP         P          03 35 25.4 0.0
SRSP                            esP        sP         03 35 43.1 -3.0
KASI Kota Agung      58.74 226  P          P          03 35 24.0 -2.0
     comp=Z,33μmcomp=Z,7μmcomp=Z,377nm,1.1s
KNRA Kununurra       58.85 196  IAmb       IAmb       03 35 45.4
     comp=Z,356nm,0.7s
KNRA Kununurra       58.85 196  P          P          03 35 27.0 +0.4
CNJI Cibinong        58.89 222  P          P          03 35 24.2 -2.7
     comp=Z,28μmcomp=Z,6μmcomp=Z,410nm,1.0s
SKJI Sukabumi        58.92 223  P          P          03 35 24.9 -2.3
     comp=Z,2μmcomp=Z,157nm,0.6s
PPSI Pulau Pagai     59.01 232  P          P          03 35 28.0 +0.2
     comp=Z,42μmcomp=Z,17μmcomp=Z,787nm,1.2s
YKA  Yellowknife Ar  59.01  32  P          P          03 35 27.3 +0.1
     comp=Z,51nm,0.8s,baz=303,slow=6.7,SNR=498
YKA                             S          S          03 43 31.2 +1.9
     comp=Z,7.3nm,1.1s,baz=304,slow=13,SNR=2.6
YKA                             PKPPKP                04 04 51.6
     comp=Z,2.2nm,1.0s,baz=138,slow=2.6,SNR=6.1
YKA                             LR         LR         04 04 59.0
     comp=Z,11μm,18.5s,baz=0.0,slow=40
YKA                             P4KPbc                04 12 35.2
     comp=Z,2.0nm,1.1s,baz=307,slow=4.3,SNR=11
YKA  Yellowknife Ar  59.01  32  P          P          03 35 27.4 +0.2
YKA  Yellowknife Ar  59.01  32  P          P          03 35 27.4 +0.2
CGJI Cibinong        59.03 224  P          P          03 35 24.9 -3.0
     comp=Z,38μmcomp=Z,5μmcomp=Z,158nm,0.7s
KEV  Kevo            59.13 339  P          P          03 35 27.6 -0.3
KEV                             pmax       pmax
     comp=Z,639nm,1.1s
KEV                             MLR        MLR
     comp=Z,45μm,21.0s
KEV  Kevo            59.13 339 ⇑P          P          03 35 27.7 -0.3
KEV                           ⇑P          P          03 35 27.8 -0.1
KEV  Kevo            59.13 339  P          P          03 35 27.6 -0.3
KEV                             IAmb       IAmb       03 35 30.2
     comp=Z,639nm,1.1s
KEV  Kevo            59.13 339  P          P          03 35 27.8 -0.1
CUPL Choutuppal      59.23 266  eP         P          03 35 29.7 +0.3
ADKI Addanki         59.37 264  eP         P          03 35 31.2 +0.9
ADKI                            esP        sP         03 35 49.0 -2.1
ADKI                            ePP        PP         03 37 42.7 +0.8
ADKI                            eS         S          03 43 36.9 +1.7
NJS  Nagarjunasagar  59.41 265  eP         P          03 35 30.8 +0.2
NJS                             esP        sP         03 35 48.9 -2.6
HYBB Hyderabad (bro  59.43 266  eP         P          03 35 31.3 +0.4
HYBB                            ePcP       PcP        03 36 18.6 +0.4
HYBB                            ePP        PP         03 37 43.7 +1.2
HYBB                            eS         S          03 43 39.3 +3.3
HYBB                            eSS        SS         03 47 36.6 +5.0
HYB  Hyderabad       59.43 266⇑ iP         P          03 35 30.7 -0.2
HAMF Hammerfest      59.43 340⇑ eP         P          03 35 28.9 -1.1
HAMF                            IVmB_BB    3          03 35 30.4
     comp=Z,5μm,1.5s
HAMF                            eS         S          03 43 32.7 -1.9
HAMF                            IVMs_BB    IVMs_BB    04 04 13.1
     comp=Z,10μm,22.8s
ARA0 ARCESS Array S  59.68 339⇑ iP         P          03 35 31.7 -0.1
ARCES ARCESS Array B 59.68 339  P          P          03 35 31.6 -0.2
     comp=Z,211nm,1.0s,baz=46,slow=7.5,SNR=192
ARCES                           ScP        ScP        03 40 14.9 +0.6
     comp=Z,64nm,1.3s,baz=96,slow=2.4,SNR=4.3
ARCES                           PKP2bc                04 05 08.3
     comp=Z,12nm,1.1s,baz=3.3,slow=8.5,SNR=4.0
ARCES                           LR         LR         04 06 32.1
     comp=Z,50μm,19.4s,baz=55,slow=41
MTSU Mount Surprise  59.89 178  P          P          03 35 34.7 +0.9
SRLM Srisailam       60.00 265  eP         P          03 35 34.8 0.0
SRLM                            esP        pP         03 35 52.4 +3.0
TULEG Thule          60.01   8  i P        P          03 35 32.6 -1.3
TULEG                           IAmb       IAmb       03 35 33.5
     comp=Z,688nm,1.0s
TULEG Thule          60.01   8  IAMs_20   IAMs_20    04 02 50.6
     comp=Z,24μm,22.0s
KLMR Klimovskoe      60.09 327c iP         P          03 35 34.4 -0.3
KLMR                            eS         S          03 43 43.8 +0.5
KLMR                            eSS        SS         03 47 42.5 +2.5
KLMR                            pmax       pmax
     comp=Z,7μm,1.7s
KLMR                            pmax       pmax
     comp=Z,3μm,1.5s
KLMR                            MLR        MLR
     comp=Z,76μm,20.0s
KLMR Klimovskoe      60.09 327⇑ iP         P          03 35 34.7 0.0
KLMR                          ⇓ iP         P          03 35 34.7 0.0
KLMR                          ⇓ iP         P          03 35 34.7 0.0
KLMR                            AMP                   03 35 36.2
     comp=Z,3μm,1.5s
KLMR                            eS         S          03 43 43.9 +0.6
KLMR                            eS         S          03 43 43.9 +0.6
KLMR                            eSS        SS         03 47 42.6 +2.5
KLMR                            eSS        SS         03 47 42.6 +2.5
KLMR                            LQ         LQ         03 56 12.7
KLMR                            LQ         LQ         03 56 12.7
KLMR                            LR         LR         04 00 20.1
KLMR                            AMP                   04 03 46.1
     comp=Z,76μm,20.1s
RCLA Racherla        60.36 264  eP         P          03 35 37.6 +0.3
RCLA                            eS         S          03 43 49.3 +1.2
KLRI Killari         60.48 268  eP         P          03 35 37.9 -0.1
NEEM North Greenlan  60.48   3  i P        P          03 35 36.8 -0.7
NEEM                            IAmb       IAmb       03 35 39.3
     comp=Z,1μm,1.1s
KTK1 Kautokeino      60.63 339⇑ iP         P          03 35 38.4 +0.1
KTK1                            IVmBBB     3          03 35 39.1
     comp=Z,6μm,0.9s
KTK1                            eS         S          03 43 48.6 -1.4
KTK1                            IVMs_BB    IVMs_BB    04 06 46.1
     comp=Z,13μm,17.9s
BELG Belogornoye     60.86 316  P          P          03 35 40.5 +0.4
     comp=Z,2μm,1.1s,baz=227,slow=0.8,SNR=468
BELG                            PKPPKP     P'P'df     04 05 00.7 -1.8
     comp=Z,9.6nm,0.5s,baz=72,slow=11,SNR=4.9
BELG                            LR         LR         04 05 11.0
     comp=Z,174μm,18.1s,baz=55,slow=39
BELG                            P4KPbc                04 12 43.3
     comp=Z,3.7nm,0.4s,baz=159,slow=3.7,SNR=5.1
BELG Belogornoye     60.86 316c iP         P          03 35 40.4 +0.4
BELG                            pmax       pmax
     comp=Z,653nm,1.3s
BELG                            MLR        MLR
     comp=Z,25μm,18.0s
DAG  Danmarks Havn   60.87 355  i P        P          03 35 38.0 -1.8
DAG                             IAmb       IAmb       03 35 41.3
     comp=Z,798nm,1.1s
DAG                             e          3          04 04 52.5
DAG  Danmarks Havn   60.87 355 ⇑P          P          03 35 39.1 -0.7
DAG                           ⇑P          P          03 35 39.3 -0.5
MDRS Chennai         60.95 261⇑ iP         P          03 35 42.9 +1.7
JETT Jettan, Norway  61.00 340⇑ iP         P          03 35 41.9 +1.1
JETT                            IVmB_BB    3          03 35 42.6
     comp=Z,9μm,1.0s
JETT                            eS         S          03 43 55.2 +0.4
JETT                            IVMs_BB    IVMs_BB    04 06 34.6
     comp=Z,13μm,18.2s
TRO  Tromso          61.31 341⇑ iP         P          03 35 42.8 0.0
TRO                             IVmBBB     3          03 35 43.4
     comp=Z,9μm,1.5s
TRO                             eS         S          03 43 58.1 -0.5
TRO                             IVMs_BB    IVMs_BB    04 08 00.8
     comp=Z,12μm,17.1s
SANVU Saraoutou      61.51 153 ⇓P          P          03 35 45.0 +0.3
SANVU                         ⇑P          P          03 35 45.5 +0.8
SANVU Saraoutou      61.51 153  P          P          03 35 45.3 +0.5
SANVU                           IAmb       IAmb       03 36 10.1
     comp=Z,435nm,1.0s
SANVU                           IAMs_20    IAMs_20    03 58 16.2
     comp=Z,27μm,20.0s
SANVU Saraoutou      61.51 153  P          P          03 35 46.2 +1.4
SANVU Saraoutou      61.51 153  P          P          03 35 44.4 -0.4
CLRS Cowichan Lake   61.74  49  IAmb       IAmb       03 37 14.3
     comp=Z,167nm,0.8s
FITZ Fitzroy Crossi  61.88 198  P          P          03 35 47.5 +0.3
     comp=Z,110nm,0.9s,baz=25,slow=5.8,SNR=136
FITZ                            LR         LR         04 01 50.8
     comp=Z,6μm,20.7s,baz=30,slow=35
CTAO Charters Tower  61.91 176  P          P          03 35 47.5 +0.1
CTAO                            pmax       pmax
     comp=Z,158nm,1.1s
CTAO Charters Tower  61.91 176  P          P          03 35 47.5 +0.1
CTAO Charters Tower  61.91 176  IAMs_20    IAMs_20    04 00 06.7
     comp=Z,16μm,22.0s
CTAO Charters Tower  61.91 176  P          P          03 35 47.7 +0.3
CTAO Charters Tower  61.91 176  P          P          03 35 47.3 -0.1
URV  Uravakonda      61.95 265  eP         P          03 35 48.0 0.0
URV                             esP        pP         03 36 05.7 +3.0
WB0  Warramunga Arr  61.98 189  P          P          03 35 47.4 -0.5
WB0                             IAmb       IAmb       03 35 48.5
     comp=Z,360nm,0.9s
LLLB Lillooet        62.00  46  P          P          03 35 49.2 +1.3
LLLB                            IAmb       IAmb       03 35 50.8
     comp=Z,518nm,1.4s
WRAB Tennant Creek   62.15 189c iP         P          03 35 48.2 -0.8
WRAB                            pmax       pmax
     comp=Z,312nm,1.0s
WRAB Tennant Creek   62.15 189  P          P          03 35 48.6 -0.5
WRAB                            IAmb       IAmb       03 35 49.7
     comp=Z,266nm,0.9s
WRAB Tennant Creek   62.15 189  IAMs_20    IAMs_20    04 00 54.9
     comp=Z,22μm,22.0s
WRAB Tennant Creek   62.15 189  P          P          03 35 48.5 -0.5
WRAB Tennant Creek   62.15 189  P          P          03 35 48.3 -0.7
WR0  Warramunga Arr  62.15 189  IAmb       IAmb       03 35 49.8
     comp=Z,234nm,0.9s
WB2  Warramunga Arr  62.15 189  IAmb       IAmb       03 36 14.3
     comp=Z,607nm,1.4s
WRA  Warramunga Arr  62.16 189  P          P          03 35 48.1 -0.9
     comp=Z,171nm,0.9s,baz=4.9,slow=7.0,SNR=379
WRA                             S          S          03 44 06.2 -4.2
     comp=Z,5.3nm,0.4s,baz=6.8,slow=12,SNR=5.7
WRA                             LR         LR         04 02 26.8
     comp=Z,17μm,21.8s,baz=15,slow=36
WRA                             PKPPKP     P'P'df     04 04 49.2 -1.8
     comp=Z,7.0nm,1.2s,baz=199,slow=2.1,SNR=7.3
WRA                             PKP2bc                04 05 05.2
     comp=Z,14nm,1.0s,baz=184,slow=2.2,SNR=10.0
WRA  Warramunga Arr  62.16 189  P          P          03 35 48.0 -1.1
POO  Poona           62.24 270⇑ iP         P          03 35 50.2 +0.3
POO                             i S        S          03 44 09.0 -2.9
XMI  Christmas Isla  62.30 222  P          P          03 35 49.6 -0.6
XMIS Christmas Isla  62.34 222  P          P          03 35 49.2 -1.3
XMIS                            IAmb       IAmb       03 36 09.8
     comp=Z,531nm,1.1s
XMIS Christmas Isla  62.34 222  P          P          03 35 50.3 -0.2
QIS  Mount Isa       62.35 183  P          P          03 35 50.2 -0.2
GEYT Alibeck         62.35 297  P          P          03 35 50.7 +0.3
     comp=Z,1μm,1.2s,baz=253,slow=15,SNR=312
GEYT                            LR         LR         04 05 21.3
     comp=Z,118μm,19.0s,baz=45,slow=38
GEYT Alibeck         62.35 297  P          P          03 35 50.8 +0.3
BHUJ Bhuj            62.50 277⇑ iP         P          03 35 52.5 +1.0
BHUJ                            IAmb       IAmb       03 35 56.5
     comp=Z,368nm,0.9s
B04A Port Angeles    62.50  49  IAmb       IAmb       03 37 11.2
     comp=Z,280nm,1.0s
A04D Lummi Island    62.59  48  P          P          03 35 53.3 +1.6
     baz=303,SNR=8.7
A04D                            S          S          03 44 16.8 +1.5
     baz=303
NLWA Neilton Lookou  62.66  50  IAmb       IAmb       03 36 02.9
     comp=Z,269nm,1.1s
NLWA                            IAMs_20    IAMs_20    03 58 51.2
     comp=Z,18μm,22.0s
KAD  Karad           62.75 269⇑ iP         P          03 35 53.3 0.0
WISH Wishkah         62.87  50  IAmb       IAmb       03 37 08.8
     comp=Z,306nm,1.0s
D03D Eldon           63.02  49  P          P          03 35 56.7 +2.0
     baz=304,SNR=30
D03D                            S          S          03 44 21.3 +0.4
     baz=304
B05A Bryant          63.18  48  P          P          03 35 56.9 +1.2
     baz=304,SNR=58
B05A                            S          S          03 44 23.7 +0.9
     baz=304
E03A Lebam           63.30  50  IAmb       IAmb       03 36 02.0
     comp=Z,408nm,1.0s
DBG  Daneborg        63.37 355  i P        P          03 35 55.6 -0.9
DBG                             IAmb       IAmb       03 35 58.3
     comp=Z,522nm,1.2s
DBG                             e          3          04 04 45.5
B06A Marblemount     63.37  48  IAmb       IAmb       03 37 05.7
     comp=Z,321nm,0.7s
D04E Lakebay         63.40  50  P          P          03 35 59.6 +2.4
     baz=304
D04E                            S          S          03 44 29.4 +3.9
     baz=304
STEI Steigen         63.48 340⇑ iP         P          03 35 56.9 -0.4
STEI                            eS         S          03 44 25.7 -0.1
STEI                            IVMs_BB    IVMs_BB    04 02 46.3
     comp=Z,10μm,27.5s
LOF  Lofoten         63.74 341⇑ iP         P          03 35 58.4 -0.7
LOF                             IVmB_BB    3          03 35 59.2
     comp=Z,8μm,4.3s
LOF                             eS         S          03 44 26.5 -2.6
LOF                             IVMs_BB    IVMs_BB    04 05 51.7
     comp=Z,9μm,19.2s
D05A Enumclaw        63.84  49  IAmb       IAmb       03 36 27.4
     comp=Z,1μm,1.8s
MOS  Moscow          63.85 323  eP         P          03 35 56.9 -3.1
MOS                             e*PP       pP         03 36 12.4 -2.6
MOS                             e*SP       sP         03 36 21.4 +0.2
MOS                             e          3          03 38 16.8
MOS                             eS         S          03 44 28.0 -2.9
MOS                             e*SS       sS         03 44 52.7 -3.6
MOS                             e          3          03 45 45.2
MOS                             pmax       pmax
     comp=Z,11μm,2.5s
MOS                             pmax       pmax
     comp=N,4μm,2.4s
MOS                             pmax       pmax
     comp=E,3μm,2.4s
MOS                             pmax       pmax
     comp=Z,3μm,1.6s
MOS                             pmax       pmax
     comp=N,1μm,1.5s
MOS                             pmax       pmax
     comp=E,935nm,1.6s
MOS                             smax       smax
     comp=E,3μm,3.0s
MOS                             smax       smax
     comp=N,4μm,3.2s
MOS                             MLR        MLR
     comp=Z,74μm,19.0s
MOS                             MLR        MLR
     comp=N,47μm,18.0s
MOS                             MLR        MLR
     comp=E,48μm,19.0s
E04D Cinebar         63.87  50  IAmb       IAmb       03 36 04.5
     comp=Z,417nm,1.0s
E04D Cinebar         63.87  50  P          P          03 36 02.4 +2.1
     baz=304,SNR=62
E04D                            S          S          03 44 33.6 +2.2
     baz=304
F04D Rainier, OR     63.88  51  P          P          03 36 01.9 +1.5
     baz=304,SNR=9.1
F04D                            S          S          03 44 33.4 +1.8
     baz=304
FAUS Fauske          63.88 340⇑ iP         P          03 36 00.1 +0.1
FAUS                            IVmBBB     3          03 36 00.6
     comp=Z,11μm,1.9s
FAUS                            eS         S          03 44 28.3 -2.6
FAUS                            IVMs_BB    IVMs_BB    04 07 55.2
     comp=Z,11μm,18.6s
HEBO Mount Hebo      63.94  52  IAmb       IAmb       03 37 13.6
     comp=Z,389nm,1.1s
C06D Leavenworth     64.03  48  P          P          03 36 03.0 +1.6
     baz=305
C06D                            S          S          03 44 34.4 +0.9
     baz=305
GOA  Goa             64.15 268⇑ iP         P          03 36 03.2 +0.6
G03D McMinnville, O  64.22  52  IAmb       IAmb       03 37 28.1
     comp=Z,299nm,1.1s
G03D McMinnville, O  64.22  52  P          P          03 36 04.5 +1.9
     baz=304,SNR=7.7
G03D                            S          S          03 44 39.6 +3.8
     baz=304
F04A Amboy           64.30  51  IAmb       IAmb       03 36 06.9
     comp=Z,316nm,0.9s
PUL  Pulkovo         64.40 329c iP         P          03 36 03.7 +0.2
PUL                             pmax       pmax
     comp=Z,3μm,1.3s
PUL                             MLR        MLR
     comp=Z,50μm,24.0s
PUL  Pulkovo         64.40 329  eP         P          03 36 03.9 +0.4
PALK Pallekele       64.48 256  LR         LR         04 05 22.1
     comp=Z,26μm,21.9s,baz=146,slow=37
PALK Pallekele       64.48 256  P          P          03 36 05.0 +0.3
PALK                            pmax       pmax
     comp=Z,510nm,1.0s
PALK                            MLR        MLR
     comp=Z,28μm,22.0s
PALK Pallekele       64.48 256  P          P          03 36 05.1 +0.4
PALK                            P          P          03 36 05.1 +0.4
PALK Pallekele       64.48 256  P          P          03 36 05.0 +0.3
PALK                            IAmb       IAmb       03 36 06.0
     comp=Z,510nm,1.0s
PALK Pallekele       64.48 256  IAMs_20    IAMs_20    04 05 21.4
     comp=Z,28μm,22.0s
PALK Pallekele       64.48 256  P          P          03 36 04.8 +0.1
VRH  Novokhopyorsk   64.57 317  eP         P          03 36 04.5 -0.3
VRH                             e          3          03 38 23.3
VRH                             eS         S          03 44 37.2 -2.7
VRH                             eSS        SS         03 48 46.4 -4.0
VRH                             pmax       pmax
     comp=Z,1μm,1.2s
VRH                             pmax       pmax
     comp=Z,2μm,2.2s
VRH                             smax       smax
     comp=N,6μm,9.5s
VRH                             MLR        MLR
     comp=Z,79μm,18.0s
B08A Colville Reser  64.64  47  IAmb       IAmb       03 36 08.2
     comp=Z,364nm,1.2s
OBN  Obninsk         64.71 322  P          P          03 36 05.6 0.0
     comp=Z,339nm,1.1s,baz=50,slow=1.5,SNR=290
OBN                             PKP2bc                04 04 54.2
     comp=Z,2.1nm,0.4s,baz=226,slow=3.7,SNR=3.3
OBN                             LR         LR         04 06 53.2
     comp=Z,22μm,20.1s,baz=45,slow=38
OBN  Obninsk         64.71 322c iP         P          03 36 05.6 0.0
OBN                             e*PP       pP         03 36 21.6 +0.9
OBN                             e*SP       sP         03 36 28.2 +1.3
OBN                             e          3          03 36 38.3
OBN                             eS         S          03 44 39.9 -1.6
OBN                             e*SS       sS         03 45 11.7 +4.8
OBN                             eSS        SS         03 48 48.9 -3.4
OBN                             pmax       pmax
     comp=Z,3μm,1.3s
OBN                             MLR        MLR
     comp=Z,85μm,20.0s
OBN  Obninsk         64.71 322  P          P          03 36 05.7 +0.2
OBN  Obninsk         64.71 322  P          P          03 36 05.2 -0.4
UPNV Upernavik       64.72   6  i P        P          03 36 04.8 -0.6
UPNV                            IAmb       IAmb       03 36 06.0
     comp=Z,714nm,1.2s
FINES FINESS Array B 64.86 332  P          P          03 36 06.2 -0.2
     comp=Z,914nm,0.9s,baz=47,slow=6.5,SNR=1130
FINES                           LR         LR         04 06 58.3
     comp=Z,121μm,20.1s,baz=46,slow=38
FINES FINESS Array B 64.86 332  P          P          03 36 06.3 -0.2
F05D White Salmon    64.88  50  P          P          03 36 08.6 +1.6
     baz=305,SNR=18
F05D                            S          S          03 44 47.4 +3.4
     baz=305
H04D Lebanon         64.92  52  IAmb       IAmb       03 36 33.5
     comp=Z,445nm,1.4s
H04D Lebanon         64.92  52  P          P          03 36 08.9 +1.7
     baz=305,SNR=13
H04D                            S          S          03 44 47.9 +3.4
     baz=305
BUCK Buck Mountain   64.96  52  IAmb       IAmb       03 36 58.8
     comp=Z,506nm,0.8s
J01E Myrtle Point    64.99  54  IAmb       IAmb       03 36 49.2
     comp=Z,280nm,1.1s
J01E Myrtle Point    64.99  54  P          P          03 36 09.9 +2.2
     baz=305
J01E                            S          S          03 44 49.2 +3.8
     baz=305
MOR8 Moi Rana        65.02 339⇑ iP         P          03 36 06.2 -1.3
MOR8                            IVmB_BB    3          03 36 06.6
     comp=Z,13μm,1.6s
MOR8                            eS         S          03 44 41.9 -3.2
MOR8                            IVMs_BB    IVMs_BB    04 08 48.6
     comp=Z,21μm,18.7s
I03D Drain, OR       65.03  53  P          P          03 36 10.1 +2.1
     baz=305,SNR=21
I03D                            S          S          03 44 50.0 +4.1
     baz=305
HOOD Mount Hood Mea  65.09  51  IAmb       IAmb       03 36 42.3
     comp=Z,532nm,1.1s
KONS Konsvik         65.11 340⇑ iP         P          03 36 07.3 -0.7
KONS                            IVmB_BB    3          03 36 08.5
     comp=Z,6μm,1.2s
KONS                            eS         S          03 44 47.5 +1.4
LPSR Galich'ya Gora  65.13 319  eP         P          03 36 08.2 -0.2
LPSR                            eS         S          03 44 45.7 -1.0
LPSR                            eSS        SS         03 48 57.8 -1.2
LPSR                            pmax       pmax
     comp=Z,2μm,1.2s
LPSR                            pmax       pmax
     comp=Z,6μm,2.3s
LPSR                            smax       smax
     comp=N,10μm,9.6s
LPSR                            MLR        MLR
     comp=Z,22μm,20.0s
H04A Detroit Lake    65.15  52  IAmb       IAmb       03 36 57.5
     comp=Z,299nm,0.8s
STOK Stokkvaagen     65.26 340  eP         P          03 36 08.7 -0.3
STOK                            eS         S          03 44 47.5 -0.5
G05D Wamic, OR       65.33  51  P          P          03 36 11.6 +1.6
     baz=305,SNR=22
G05D                            S          S          03 44 52.2 +2.6
     baz=305
KBO  Bosley Butte    65.36  55  IAmb       IAmb       03 36 45.2
     comp=Z,482nm,1.3s
JMIC Jan Mayen       65.39 350  P          P          03 36 10.8 +1.0
     comp=Z,121nm,0.8s,baz=119,slow=11,SNR=6.8
JMIC Jan Mayen       65.39 350⇑ iP         P          03 36 10.7 +0.9
JMIC                            IVmB_BB    3          03 36 11.4
     comp=Z,7μm,2.5s
JMIC                            eS         S          03 44 55.5 +6.1
E07A Sunnyside       65.40  49  IAmb       IAmb       03 36 13.5
     comp=Z,472nm,1.3s
KOUNC Koumac, New Ca 65.40 158  P          P          03 36 09.8 -0.6
     comp=Z,127nm,1.8s
K02D Willamette Mer  65.42  54  P          P          03 36 12.2 +1.6
     baz=305,SNR=15
K02D                            S          S          03 44 53.3 +2.4
     baz=305
DBO  Dodson Butte    65.43  53  IAmb       IAmb       03 36 56.9
     comp=Z,839nm,1.9s
RK1H Rockhampton Ha  65.50 172  P          P          03 36 11.5 +0.5
I04A Tendick Farm,   65.53  52  P          P          03 36 12.9 +1.6
     baz=305,SNR=31
I04A                            S          S          03 44 54.3 +2.1
     baz=305
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C09A	**Chrisman Ranch**	65.55	47	IAmb	IAmb	03 36 56.0	
	comp=Z,238nm,0.8s						
VORR	**Voronezh**	65.55	318	*e*P	**P**	**03 36 11.1**	**0.0**
HAWA	**Hanford**	65.68	49	IAmb	IAmb	03 36 15.2	
	comp=Z,353nm,1.3s						
SUMG	**Summit**	65.68	0	P	**P**	**03 36 12.9**	**+0.8**
SUMG				pmax	pmax		
	comp=Z,819nm,0.8s						
SUMG				MLR	MLR		
	comp=Z,31μm,20.0s						
SUMG	**Summit**	65.68	0	*i* P	**P**	**03 36 11.9**	**-0.3**
SUMG				IAmb	IAmb	03 36 15.1	
	comp=Z,882nm,0.9s						
SUMG				*e*		04 04 51.6	
SUMG	**Summit**	65.68	0	P	**P**	**03 36 12.9**	**+0.8**
F07A	**Phinny Hill Vi**	65.75	49	IAmb	IAmb	03 36 16.4	
	comp=Z,271nm,0.9s						
L02E	**Cave Junction**	65.77	54	P	**P**	**03 36 14.2**	**+1.4**
L02E				IAmb	IAmb	03 36 46.8	
	comp=Z,472nm,1.6s						
L02E	**Cave Junction**	65.77	54	P	**P**	**03 36 14.9**	**+2.1**
	baz=305,SNR=17						
L02E				S	**S**	**03 44 58.0**	**+3.0**
	baz=305						
KSXB	**Camp Six Broad**	65.79	55	IAmb	IAmb	03 36 47.9	
	comp=Z,429nm,1.4s						
I05D	**Terrebonne, OR**	65.85	51	P	**P**	**03 36 14.7**	**+1.4**
	baz=306,SNR=37						
I05D				S	**S**	**03 44 57.9**	**+1.9**
	baz=306						
VSR	**Storozhevoye**	65.85	318	*e*P	**P**	**03 36 13.0**	**-0.1**
VSR				*e*		03 38 35.6	
VSR				*e*S	**S**	**03 44 51.4**	**-4.2**
VSR				*e*SS	**SS**	**03 49 13.1**	**+2.8**
VSR				pmax	pmax		
	comp=Z,2μm,1.3s						
VSR				pmax	pmax		
	comp=Z,1μm,1.3s						
VSR				smax	smax		
	comp=N,4μm,8.2s						
VSR				MLR	MLR		
	comp=Z,45μm,15.0s						
ASAR	**Alice Springs**	65.88	189	P	**P**	**03 36 13.4**	**-0.1**
	comp=Z,100nm,0.8s,baz=11,slow=6.3,SNR=427						
ASAR				LR	LR	04 04 29.9	
	comp=Z,25μm,21.9s,baz=355,slow=36						
ASAR				PKPPKP		04 04 38.9	
	comp=Z,2.8nm,0.9s,baz=191,slow=2.7,SNR=6.4						
ASAR				PKP2bc		04 04 54.5	
	comp=Z,57nm,1.3s,baz=176,slow=2.7,SNR=26						
ASAR	**Alice Springs**	65.88	189	P	**P**	**03 36 13.8**	**+0.3**
ASAR	**Alice Springs**	65.88	189	P	**P**	**03 36 13.8**	**+0.3**
NEW	**Newport**	65.89	46	S	**S**	**03 44 57.7**	**+1.3**
	comp=Z,4.9nm,1.0s,baz=136,slow=19,SNR=11						
NEW				PKPPKP		04 04 44.9	
	comp=Z,3.3nm,0.9s,baz=193,slow=3.2,SNR=4.5						
NEW	**Newport**	65.89	46	IAmb	IAmb	03 36 16.2	
	comp=Z,389nm,1.3s						
NEW	**Newport**	65.89	46	P	**P**	**03 36 14.6**	**+1.1**
	baz=307,SNR=162						
NEW				S	**S**	**03 44 57.6**	**+1.3**
	baz=307						
HUMO	**Hull Mountain**	65.90	54	P	**P**	**03 36 14.9**	**+1.3**
VORD	**Divnogorie**	65.94	318	*e*P	**P**	**03 36 12.8**	**-0.8**
VORD				*e*S	**S**	**03 44 53.3**	**-3.4**
VORD				pmax	pmax		
	comp=Z,1μm,1.6s						
VORD				pmax	pmax		
	comp=Z,820nm,1.1s						
VORD				smax	smax		
	comp=N,3μm,6.5s						
VORD				MLR	MLR		
	comp=Z,7μm,14.0s						
J04D	**Umpqua Nationa**	66.03	53	IAmb	IAmb	03 36 53.4	
	comp=Z,354nm,0.8s						
J04D	**Umpqua Nationa**	66.03	53	P	**P**	**03 36 16.4**	**+1.7**
	baz=306,SNR=26						
J04D				S	**S**	**03 45 00.2**	**+1.6**
	baz=306						
KRPM	**Rodgers**	66.09	56	IAmb	IAmb	03 36 54.2	
	comp=Z,241nm,1.0s						
NUUG	**Nuugaatsiaq**	66.16	5	*i* P	**P**	**03 36 13.8**	**-0.9**
NUUG				IAmb	IAmb	03 36 18.6	
	comp=Z,240nm,1.0s						
MAK	**Makhachkala**	66.20	307	*e*P	**P**	**03 36 11.9**	**-3.5**
MAK				*e**PP	**pP**	**03 36 28.0**	**-2.5**
MAK				*e**SP	**sP**	**03 36 36.5**	**-0.2**
MAK				*e*		03 38 37.3	
MAK				*e*S	**S**	**03 44 54.5**	**-5.6**
MAK				*e**SS	**sS**	**03 45 22.3**	**-3.2**
MAK				pmax	pmax		
	comp=Z,7μm,2.0s						
MAK				pmax	pmax		
	comp=Z,2μm,1.5s						
MAK				MLR	MLR		
	comp=E,37μm,15.0s						
JCC	**Jacoby Creek,**	66.29	56	IAmb	IAmb	03 36 53.0	
	comp=Z,294nm,1.1s						
TRD	**Trivandrum**	66.37	260⇑	*i* P	**P**	**03 36 17.7**	**+0.8**
MBWA	**Marble Bar**	66.38	203	P	**P**	**03 36 16.3**	**-0.4**
MBWA				P	**P**	**03 36 16.3**	**-0.4**
MBWA	**Marble Bar**	66.38	203	P	**P**	**03 36 16.7**	**0.0**
MBWA	**Marble Bar**	66.38	203	P	**P**	**03 36 16.4**	**-0.2**
E09A	**Wood Farm, Sta**	66.38	48	IAmb	IAmb	03 36 19.6	
	comp=Z,654nm,1.4s						
PINE	**Pine Mountain**	66.40	52	IAmb	IAmb	03 36 52.3	
	comp=Z,301nm,0.8s						
KHMM	**Horse Mountain**	66.44	56	IAmb	IAmb	03 36 52.4	
	comp=Z,413nm,1.0s						
KMPM	**Mount Pierce**	66.46	56	IAmb	IAmb	03 36 52.4	
	comp=Z,301nm,1.0s						
L04D	**Klamath Falls**	66.52	54	IAmb	IAmb	03 36 27.9	
	comp=Z,564nm,1.2s						
L04D	**Klamath Falls**	66.52	54	P	**P**	**03 36 19.4**	**+1.7**
	baz=306,SNR=48						
L04D				S	**S**	**03 45 06.5**	**+2.1**
	baz=306						
J05D	**Fort Rock, OR**	66.53	52	P	**P**	**03 36 19.4**	**+1.7**
	baz=306,SNR=60						
J05D				S	**S**	**03 45 07.6**	**+3.1**
	baz=306						
YBH	**Yreka Blue Hor**	66.56	54	LR	LR	04 02 32.0	
	comp=Z,4μm,20.1s,baz=308,slow=33						
YBH	**Yreka Blue Hor**	66.56	54	P	**P**	**03 36 17.8**	**-0.1**
YBH				pmax	pmax		
	comp=Z,161nm,1.2s						
YBH	**Yreka Blue Hor**	66.56	54	P	**P**	**03 36 17.8**	**-0.1**
K04D	**Chiloquin, OR**	66.61	53	P	**P**	**03 36 19.7**	**+1.5**
	baz=306,SNR=11						
K04D				S	**S**	**03 45 08.1**	**+2.7**
	baz=306						
G08A	**Pilot Rock**	66.65	50	P	**P**	**03 36 19.3**	**+0.8**
VSU	**Vasula**	66.66	329*c*	*i*P	**P**	**03 36 18.5**	**+0.4**
VSU				pmax	pmax		
	comp=Z,6μm,1.2s						
VSU				MLR	MLR		
	comp=Z,107μm,20.0s						
VSU	**Vasula**	66.66	329	*e*P	**P**	**03 36 18.5**	**+0.4**
M02C	**Callahan**	66.67	55	P	**P**	**03 36 20.7**	**+2.1**
	baz=306,SNR=33						
M02C				S	**S**	**03 45 09.4**	**+3.3**
	baz=306						
PSA00	**Pilbara Seismi**	66.73	203	P	**P**	**03 36 18.7**	**-0.2**
PSA00	**Pilbara Seismi**	66.73	203	P	**P**	**03 36 18.8**	**-0.2**
PSA00				IAmb	IAmb	03 36 40.1	
	comp=Z,452nm,1.5s						
PSA00	**Pilbara Seismi**	66.73	203	P	**P**	**03 36 19.0**	**0.0**
NSS	**Namsos**	66.95	339⇑	*i*P	**P**	**03 36 19.5**	**-0.4**
NSS				IVmB_BB		03 36 20.4	
	comp=Z,9μm,2.5s						
NSS				*e*S	**S**	**03 45 07.0**	**-1.5**
NSS				IVMs_BB	IVMs_BB	04 09 31.3	
	comp=Z,19μm,20.5s						
N02D	**Trinity Center**	67.01	55	P	**P**	**03 36 22.8**	**+2.1**
	baz=306,SNR=48						
N02D				S	**S**	**03 45 13.6**	**+3.5**
	baz=306						
M04C	**Macdoel**	67.05	54	IAmb	IAmb	03 36 55.8	
	comp=Z,542nm,1.1s						
M04C	**Macdoel**	67.05	54	P	**P**	**03 36 23.0**	**+1.9**
	baz=306,SNR=54						
M04C				S	**S**	**03 45 13.4**	**+2.6**
	baz=306						
K05A	**Summer Lake**	67.06	53	IAmb	IAmb	03 36 49.3	
	comp=Z,342nm,0.6s						
GROC	**Groznyy**	67.06	308⇑	*i*P	**P**	**03 36 21.2**	**+0.2**
GROC				*e**PP	**pP**	**03 36 36.0**	**-0.1**
GROC				*e**SP	**sP**	**03 36 42.8**	**+0.5**
GROC				*e*		03 36 49.0	
GROC				*e*S	**S**	**03 45 12.0**	**+1.4**
GROC				*e**SS	**sS**	**03 45 35.7**	**-0.4**
GROC				pmax	pmax		
	comp=Z,815nm,1.4s						
WALA	**Waterton Lakes**	67.10	44	IAmb	IAmb	03 36 23.9	
	comp=Z,344nm,1.2s						
SCO	**Scoresbysund**	67.23	354	*i* P	**P**	**03 36 22.0**	**+0.4**
SCO				IAmb	IAmb	03 36 22.6	
	comp=Z,608nm,1.3s						
SCO	**Scoresbysund**	67.23	354	IAmb	IAmb	03 36 22.9	
	comp=Z,562nm,1.3s						
SCO				IAMs_20	IAMs_20	04 04 53.2	
	comp=Z,15μm,22.0s						
DGTI	**Dogotuki**	67.36	141	P	**P**	**03 36 22.9**	**-0.2**
O02D	**Mt. Diablo Mer**	67.43	56	P	**P**	**03 36 25.3**	**+1.9**
	baz=306,SNR=27						
O02D				S	**S**	**03 45 18.9**	**+3.7**
	baz=306						
NOUC	**Port Laguerre**	67.46	156	P	**P**	**03 36 25.0**	**+1.5**
NOUC	**Port Laguerre**	67.46	156	P	**P**	**03 36 25.2**	**+1.7**
DZM	**Mont Dzumac**	67.47	156	LR	LR	04 01 49.9	
	comp=Z,34μm,21.6s,baz=350,slow=32						
DZM				PKPPKP		04 04 47.5	
	comp=Z,32nm,1.2s,baz=143,slow=4.4,SNR=10						
DZM	**Mont Dzumac**	67.47	156	*e*S	**S**	**03 45 15.7**	**-0.1**
	comp=Z,21μm,33.7s						
DZM				*e*LQ	LQ	03 53 48.7	
	comp=Z,58μm,35.9s						
DZM				*e*LR	LR	03 56 45.0	
	comp=Z,79μm,23.4s						
EIDS	**Eidsvold**	67.52	172	P	**P**	**03 36 24.9**	**+1.0**
GOF	**Gofitskoye**	67.53	311⇑	*i*P	**P**	**03 36 24.7**	**+0.8**
GOF				*e*S	**S**	**03 45 17.0**	**+0.8**
GOF				pmax	pmax		
	comp=Z,3μm,1.0s						
GOF				smax	smax		
	comp=N,204nm,1.3s						
GOF				smax	smax		
	comp=E,492nm,1.7s						
MTSE	**Matsula**	67.58	330	*e*P	**P**	**03 36 24.6**	**+0.6**
JTMT	**Jette**	67.72	45	IAmb	IAmb	03 36 45.5	
	comp=Z,213nm,0.8s						
BMO	**Blue Mountains**	67.85	49	IAMs_20	IAMs_20	04 01 57.5	
	comp=Z,12μm,22.0s						
MSVF	**Nonsavu**	67.85	143	LR	LR	04 00 35.9	
	comp=Z,32μm,21.6s,baz=326,slow=31						
MSVF				PKPPKP		04 04 41.8	
	comp=Z,5.4nm,0.8s,baz=188,slow=10,SNR=4.4						
AAL	**Aland**	67.87	333	*e*P	**P**	**03 36 25.5**	**-0.2**
O03E	**Paynes Creek**	67.96	55	P	**P**	**03 36 28.2**	**+1.3**
O03E				IAmb	IAmb	03 36 52.3	
	comp=Z,389nm,1.0s						
O03E	**Paynes Creek**	67.96	55	P	**P**	**03 36 27.7**	**+0.9**
	baz=307,SNR=91						
O03E				S	**S**	**03 45 23.0**	**+1.4**
	baz=307						
WRKA	**Warakurna**	68.06	194	P	**P**	**03 36 28.0**	**+0.7**
J08A	**Circle Bar Ran**	68.09	51	IAmb	IAmb	03 36 44.0	
	comp=Z,845nm,1.2s						
NCK	**Nalchik**	68.17	309*c*	*i*P	**P**	**03 36 28.8**	**+0.8**
NCK				pmax	pmax		
	comp=Z,2μm,1.2s						
NCK				MLR	MLR		
	comp=Z,52μm,22.0s						
QLP	**Quilpie**	68.30	179	P	**P**	**03 36 29.4**	**+0.7**
KVAR	**Kislovodsk Arr**	68.40	310	LR	LR	04 11 57.8	
	comp=Z,50μm,19.0s,baz=272,slow=41						
KIV	**Kislovodsk**	68.41	310⇑	P	**P**	**03 36 30.9**	**+1.3**
KIV	**Kislovodsk**	68.41	310	*e*P	**P**	**03 36 30.6**	**+1.1**
KIV				*e*		03 36 54.1	
KIV				*e*		03 38 59.1	
KIV				*e*S	**S**	**03 45 28.2**	**+1.3**
KIV				*e*SS	**SS**	**03 49 49.0**	**-1.4**
KIV				pmax	pmax		
	comp=Z,4μm,1.1s						
KIV				pmax	pmax		
	comp=Z,3μm,4.1s						
KIV				MLR	MLR		
	comp=Z,50μm,17.0s						
KIV	**Kislovodsk**	68.41	310	P	**P**	**03 36 30.9**	**+1.3**
KIV				P	**P**	**03 36 30.9**	**+1.3**
KIV	**Kislovodsk**	68.41	310	P	**P**	**03 36 30.7**	**+1.1**
KIV	**Kislovodsk**	68.41	310	P	**P**	**03 36 30.7**	**+1.1**
KIV	**Kislovodsk**	68.41	310	*i* P	**P**	**03 36 30.7**	**+1.1**
	SNR=691						
RMQ	**Roma**	68.42	174	P	**P**	**03 36 31.1**	**+1.6**
KBZ	**Khabaz**	68.43	310	P	**P**	**03 36 30.4**	**+0.9**
	comp=Z,763nm,0.9s,baz=48,slow=4.4,SNR=611						
KBZ				PcP	**PcP**	**03 36 55.1**	**+0.6**
	comp=Z,304nm,0.8s,baz=48,slow=7.0,SNR=6.0						
KBZ				PKP2bc		04 04 47.6	
	comp=Z,2.5nm,1.1s,baz=202,slow=9.9,SNR=3.6						
KBZ				LR	LR	04 11 56.0	
	comp=Z,47μm,19.2s,baz=33,slow=41						
KBZ	**Khabaz**	68.43	310*c*	*i*P	**P**	**03 36 30.7**	**+1.2**
KBZ				pmax	pmax		
	comp=Z,2μm,1.0s						
KBZ				MLR	MLR		
	comp=Z,53μm,19.0s						
TBLU	**Trondheim**	68.43	339⇑	*i*P	**P**	**03 36 28.2**	**-1.1**
TBLU				IVmBBB		03 36 28.7	
	comp=Z,9μm,0.9s						
TBLU				*e*S	**S**	**03 45 22.8**	**-3.5**
TBLU				IVMs_BB	IVMs_BB	04 10 21.1	
	comp=Z,14μm,17.9s						
COCO	**West Island**	68.46	229	P	**P**	**03 36 30.4**	**+0.4**
COCO				pmax	pmax		
	comp=Z,1μm,1.5s						
COCO				MLR	MLR		
	comp=Z,10μm,19.0s						
COCO	**West Island**	68.46	229	P	**P**	**03 36 30.4**	**+0.4**
COCO				IAmb	IAmb	03 36 51.9	
	comp=Z,1μm,1.4s						
MSO	**Missoula**	68.48	46	P	**P**	**03 36 30.7**	**+0.7**
	baz=309,SNR=129						
MSO				S	**S**	**03 45 27.9**	**+0.3**
	baz=309						
ILULI	**Ilulissat**	68.59	5	P	**P**	**03 36 29.9**	**-0.2**
ILULI				pmax	pmax		
	comp=Z,636nm,1.1s						
ILULI				MLR	MLR		
	comp=Z,27μm,22.0s						
ILULI	**Ilulissat**	68.59	5	*i* P	**P**	**03 36 29.4**	**-0.7**
ILULI				IAmb	IAmb	03 36 30.5	
	comp=Z,718nm,1.1s						
ILULI	**Ilulissat**	68.59	5	P	**P**	**03 36 29.9**	**-0.2**
ILULI				IAmb	IAmb	03 36 30.9	
	comp=Z,636nm,1.1s						
ILULI				IAMs_20	IAMs_20	04 06 29.2	
	comp=Z,27μm,22.0s						
NEY	**Neytrino**	68.82	309*c*	*i*P	**P**	**03 36 33.3**	**+1.0**
NEY				pmax	pmax		
	comp=Z,277nm,1.2s						
NEY				MLR	MLR		
	comp=Z,30μm,21.0s						
IDID	**Didziasalis**	68.83	327	*e*P	**P**	**03 36 32.6**	**+0.7**
UPP	**Uppsala**	68.90	334	*e*P	**P**	**03 36 32.2**	**+0.1**
MNK	**Minsk**	68.92	325	*i* P	**P**	**03 36 33.0**	**+0.6**
MNK				*i* *PP	**pP**	**03 36 49.4**	**+1.8**
MNK				*i*		03 39 06.4	
MNK				*i* PPP	PPP	03 40 46.9	
MNK				*i* S	**S**	**03 45 31.6**	**-0.8**
MNK				*i* *SS	**sS**	**03 46 00.8**	**+2.8**
MNK				*i* SS	**SS**	**03 50 00.3**	**+2.7**
MNK				pmax	pmax		
	comp=Z,2μm,1.2s						
MNK				pmax	pmax		
	comp=N,995nm,1.2s						
MNK				pmax	pmax		
	comp=E,152nm,1.2s						
MNK				MLR	MLR		
	comp=Z,128μm,21.0s						
MNK				MLR	MLR		
	comp=N,58μm,19.0s						
MNK				MLR	MLR		
	comp=E,12μm,21.0s						
MNK	**Minsk**	68.92	325	*i* P	**P**	**03 36 33.1**	**+0.7**
	comp=E,152nm,1.2s						
MNK				*i* P	**P**	**03 36 33.1**	**+0.7**
	comp=N,995nm,1.2s						
MNK				*i* P	**P**	**03 36 33.1**	**+0.7**
	comp=Z,2μm,1.2s,baz=46						
MNK				*i* pP	**pP**	**03 36 49.5**	**+1.9**
MNK				*i* PP	**PP**	**03 39 06.5**	**+1.9**
MNK				*i* PPP	PPP	03 40 47.0	
MNK				*i* S	**S**	**03 45 31.6**	**-0.7**
MNK				*i* sS	**sS**	**03 46 00.9**	**+2.9**
MNK				*i* SS	**SS**	**03 50 00.3**	**+2.8**
MNK				*i* SSS	SSS	03 53 17.4	
MNK				*i* LQ	LQ	04 02 04.6	
MNK				*i* LR	LR	04 07 19.6	
MNK				*i* LRM	MLR	04 09 21.3	
MNK				*i* LRM	MLR	04 09 24.5	
	comp=N,58μm,19.3s						
MNK				*i* LRM	MLR	04 09 27.7	
	comp=E,12μm,21.3s						
SLIT	**Slitere, Latvi**	68.92	330	*e*P	**P**	**03 36 32.6**	**+0.3**
IIGN	**Ignalina**	69.02	327	*e*P	**P**	**03 36 33.9**	**+0.9**
FCC	**Fort Churchill**	69.10	28	P	**P**	**03 36 33.7**	**+0.3**
FCC				pmax	pmax		
	comp=Z,2μm,1.7s						
FCC	**Fort Churchill**	69.10	28	P	**P**	**03 36 33.7**	**+0.3**
FCC				IAmb	IAmb	03 36 35.4	
	comp=Z,2μm,1.7s						
NACGM	**Naroch**	69.10	326	*i* P	**P**	**03 36 33.9**	**+0.4**
ICESG	**Greenland Ices**	69.17	1	*i* P	**P**	**03 36 34.2**	**0.0**
ICESG				IAmb	IAmb	03 36 35.3	
	comp=Z,1μm,1.1s						
ICESG				*e*		04 04 57.3	
MNCY	**Minicoy**	69.42	262⇑	*i*x	pP	03 36 52.4	+1.2
INKA	**Innaminka**	69.46	182	P	**P**	**03 36 36.9**	**+1.0**
	comp=Z,476nm,1.2s						
AKH	**Akhalkalaki**	69.51	308⇑	P	**P**	**03 36 38.3**	**+1.7**
CHVG	**Ch'k'valeri**	69.52	309⇑	P	**P**	**03 36 38.0**	**+1.7**
GIRL	**Giralia**	69.54	208	IAmb	IAmb	03 37 04.5	
	comp=Z,901nm,1.6s						
GIRL	**Giralia**	69.54	208	P	**P**	**03 36 37.3**	**+0.8**
GNI	**Garni**	69.54	306	LR	LR	04 10 10.7	
	comp=Z,18μm,19.0s,baz=43,slow=38						
GNI	**Garni**	69.54	306*c*	*i*P	**P**	**03 36 38.8**	**+2.0**
GNI				pmax	pmax		
	comp=Z,3μm,1.4s						
GNI				MLR	MLR		
	comp=Z,46μm,23.0s						
GNI	**Garni**	69.54	306	P	**P**	**03 36 37.8**	**+1.0**
GNI	**Garni**	69.54	306	P	**P**	**03 36 37.9**	**+1.2**
GNI	**Garni**	69.54	306	P	**P**	**03 36 38.5**	**+1.7**
AFI	**Afiamalu**	69.67	132	LR	LR	04 00 52.0	
	comp=Z,16μm,21.7s,baz=342,slow=30						
MOL	**Molde**	69.71	340⇑	*i*P	**P**	**03 36 37.4**	**+0.3**
MOL				IVmB_BB		03 36 38.0	
	comp=Z,10μm,3.0s						
MOL				*e*S	**S**	**03 45 39.6**	**-1.8**
MOL				IVMs_BB	IVMs_BB	04 11 16.7	
	comp=Z,11μm,21.0s						
DOMB	**Dombas**	69.74	339⇑	*i*P	**P**	**03 36 37.4**	**-0.1**
DOMB				IVmB_BB		03 36 38.0	
	comp=Z,11μm,2.6s						
DOMB				*e*S	**S**	**03 45 40.7**	**-1.2**
DOMB				IVMs_BB	IVMs_BB	04 10 56.0	
	comp=Z,18μm,16.9s						
NC303	**NORSAR Array S**	69.76	337	IAmb	IAmb	03 36 39.0	
	comp=Z,1μm,1.1s						
OOD	**Oodnadatta**	69.79	187	P	**P**	**03 36 38.9**	**+1.0**
PABE	**Paberze**	69.82	328	*e*P	**P**	**03 36 38.6**	**+0.7**
EGMT	**Eagleton**	69.89	43	IAMs_20	IAMs_20	04 07 37.5	
	comp=Z,13μm,21.0s						
EGMT	**Eagleton**	69.89	43	P	**P**	**03 36 39.6**	**+1.0**
	baz=311						
EGMT				S	**S**	**03 45 44.6**	**+0.3**
	baz=311						
HFS	**Hagfors**	69.94	336	P	**P**	**03 36 38.4**	**-0.2**
	comp=Z,372nm,0.6s,baz=46,slow=6.4,SNR=783						
HFS				PcP	**PcP**	**03 37 02.0**	**+1.4**
	comp=Z,162nm,0.8s,baz=72,slow=4.8,SNR=4.2						
HFS				LR	LR	04 10 16.1	
	comp=Z,44μm,20.8s,baz=40,slow=38						
NB2	**NORSAR Subarra**	69.96	337	P	**P**	**03 36 38.5**	**-0.3**
	comp=Z,2μm,1.2s,baz=36,slow=6.5						
NB2	**NORSAR Subarra**	69.96	337	P	**P**	**03 36 38.5**	**-0.3**
	baz=36,slow=6.5						
NOA	**NORSAR Array B**	69.96	337	P	**P**	**03 36 37.8**	**-1.0**
	comp=Z,575nm,1.0s,baz=36,slow=6.1,SNR=768						
NOA				LR	LR	04 10 48.2	
	comp=Z,44μm,21.4s,baz=40,slow=39						
SOEG	**Soedalen**	69.99	358	*i* P	**P**	**03 36 38.0**	**-0.7**
SOEG				IAmb	IAmb	03 36 39.1	
	comp=Z,379nm,1.0s						
NC602	**NORSAR Array S**	70.11	337⇑	*i*P	**P**	**03 36 39.3**	**-0.4**
NC602				IVmBBB		03 36 40.1	
	comp=Z,8μm,2.4s						
NC602				*e*S	**S**	**03 45 43.5**	**-2.7**
NC602				IVMs_BB	IVMs_BB	04 07 18.8	
	comp=Z,18μm,25.4s						
AKN	**Aaknes**	70.18	340⇑	*i*P	**P**	**03 36 40.4**	**+0.3**
AKN				IVmBBB		03 36 41.3	
	comp=Z,9μm,2.1s						
AKN				*e*S	**S**	**03 45 47.0**	**+0.1**
AKN				IVMs_BB	IVMs_BB	04 11 40.2	
	comp=Z,12μm,19.7s						
PBUR	**Paburge**	70.23	329	*e*P	**P**	**03 36 41.0**	**+0.6**
HLID	**Hailey**	70.28	49	IAMs_20	IAMs_20	04 10 17.8	
	comp=Z,13μm,21.0s						
HLID	**Hailey**	70.28	49	P	**P**	**03 36 42.7**	**+1.4**
	baz=310						
HLID				S	**S**	**03 45 42.2**	**-6.9**
	baz=310						
SOC	**Sochi**	70.32	311	*e*P	**P**	**03 36 39.3**	**-1.9**
SOC				*e**PP	**pP**	**03 36 55.5**	**-1.0**
SOC				*e**SP	**sP**	**03 37 02.6**	**0.0**
SOC				*e*		03 39 14.3	
SOC				*e*PPP	PPP	03 40 59.2	
SOC				*e*S	**S**	**03 45 47.4**	**-1.7**
SOC				*e**SS	**sS**	**03 46 13.5**	**-1.3**
SOC				pmax	pmax		
	comp=Z,6μm,2.1s						
SOC				pmax	pmax		
	comp=Z,1μm,1.3s						
SOC				MLR	MLR		
	comp=Z,59μm,19.0s						
BOZ	**Bozeman (W)**	70.50	46	P	**P**	**03 36 43.6**	**+1.1**
	baz=310						
BOZ				S	**S**	**03 45 52.7**	**+1.1**
	baz=310						
WSAR	**Wadi Sarin**	70.57	284	P	**P**	**03 36 44.0**	**+0.8**
	comp=Z,166nm,1.0s,baz=79,slow=4.9,SNR=57						
BANOM	**Banah**	70.59	288	P	**P**	**03 36 44.1**	**+0.8**
	SNR=49						
BANOM	**Banah**	70.59	288	*i* P	**P**	**03 36 43.7**	**+0.4**
	SNR=79						
SHME	**Shamm**	70.63	288	P	**P**	**03 36 43.7**	**+0.3**
	SNR=55						
SHME	**Shamm**	70.63	288	*i* P	**P**	**03 36 43.7**	**+0.3**
	SNR=102						
JLN	**Jalan Bani Buh**	70.68	283	P	**P**	**03 36 44.6**	**+0.9**
	SNR=150						
WBK	**Wadi Bani Khal**	70.72	283	P	**P**	**03 36 45.4**	**+1.4**
	SNR=116						
BIDO	**Bidbid**	70.76	285	P	**P**	**03 36 44.9**	**+0.7**
	SNR=69						
SFJD	**Kangerlussuaq**	70.81	6	P	**P**	**03 36 43.8**	**0.0**
	comp=Z,302nm,1.0s,baz=350,slow=7.1,SNR=90						
SFJD				S	**S**	**03 45 52.2**	**-1.9**
	comp=Z,7.3nm,1.0s,baz=258,slow=21,SNR=11						
SFJD				LR	LR	04 09 05.2	
	comp=Z,25μm,21.9s,baz=346,slow=37				

comp=Z,513nm,0.8s
AKASG Malin Array Be 70.96 322 P **P** **03 36 44.9 -0.1**
AKASG IAmb IAmb 03 36 46.4
comp=Z,1μm,1.2s
AKBB Malin Array Si 70.96 322 *ce*P **P** **03 36 44.6 -0.4**
OSL Oslo 70.99 337⇑ *i*P **P** **03 36 45.2 +0.2**
OSL *e*S **S** **03 45 54.9 -1.5**
OSL IVMs_BB IVMs_BB 04 06 22.1
comp=Z,13μm,29.0s
MASF Masafi 71.03 287 P **P** **03 36 46.4 +0.5**
SNR=49
MSFE Esma-Masafi 71.04 287 *i* P **P** **03 36 46.4 +0.4**
SNR=63
SKAR Skarslia 71.07 338⇑ *i*P **P** **03 36 46.2 +0.6**
SKAR IVmB_BB 03 36 46.9
comp=Z,10μm,2.4s
SKAR *e*S **S** **03 45 58.3 +0.8**
SKAR IVMs_BB IVMs_BB 04 09 28.4
comp=Z,16μm,24.5s
SMDO Samad 71.11 284 P **P** **03 36 47.1 +0.6**
SNR=122
FOO Floro 71.17 340⇑ *i*P **P** **03 36 46.4 +0.4**
FOO IVmB_BB 03 36 46.6
comp=Z,10μm,2.6s
FOO *e*S **S** **03 45 59.3 +1.0**
FOO IVMs_BB IVMs_BB 04 11 39.5
comp=Z,12μm,20.7s
SUW Suwalki 71.21 327 *i* P **P** **03 36 46.1 -0.3**
SUW *e*S **S** **03 45 57.2 -1.9**
SUW Suwalki 71.21 327 *e*P **P** **03 36 46.7 +0.2**
HYA Hoyanger 71.24 339⇑ *i*P **P** **03 36 45.8 -0.7**
HYA IVmBBB 03 36 47.5
comp=Z,10μm,1.4s
HYA *e*S **S** **03 46 00.9 +1.8**
NVAR Mina Array Bea 71.25 55 P **P** **03 36 49.1 +1.8**
comp=Z,208nm,1.0s,baz=292,slow=4.8,SNR=21
NVAR LR LR 04 04 02.0
comp=Z,5μm,21.0s,baz=299,slow=32
NVAR PKPPKP P'P'df 04 04 30.4 -15
comp=Z,1.1nm,0.8s,baz=132,slow=3.8,SNR=5.6
NVAR Mina Array Bea 71.25 55 P **P** **03 36 49.0 +1.8**
UOSS Minazif 71.26 287 P **P** **03 36 47.3 0.0**
UOSS Minazif 71.26 287 P **P** **03 36 47.1 -0.1**
UOSS Minazif 71.26 287 P **P** **03 36 46.9 -0.4**
UOSS Minazif 71.26 287 *i* P **P** **03 36 47.3 0.0**
SNR=22
UMQ Umm Al-Quwin 71.29 288 P **P** **03 36 48.4 +1.0**
SNR=14
UMQ Umm Al-Quwin 71.29 288 *i* P **P** **03 36 48.4 +1.0**
SNR=11
HOQ Hoqain 71.31 285 P **P** **03 36 48.1 +0.5**
SNR=86
HATD Hatta, Dubai 71.39 287 P **P** **03 36 48.6 +0.5**
SNR=78
HATD Hatta, Dubai 71.39 287 *i* P **P** **03 36 48.4 +0.3**
SNR=139
MLAC Mammoth, Mammo 71.42 56 P **P** **03 36 49.8 +1.4**
baz=309
MLAC S **S** **03 46 05.7 +3.1**
baz=309
JMDO Jabal Madar 71.49 284 P **P** **03 36 49.4 +0.7**
SNR=106
KONO Kongsberg 71.56 337 *c i*P **P** **03 36 48.6 +0.2**
KONO pmax pmax
comp=Z,572nm,1.2s
KONO Kongsberg 71.56 337⇑ *i*P **P** **03 36 48.7 +0.3**
KONO IVmB_BB 03 36 49.3
comp=Z,9μm,2.8s
KONO *e*S **S** **03 46 02.8 -0.2**
KONO IVMs_BB IVMs_BB 04 11 31.0
comp=Z,15μm,18.9s
KONO Kongsberg 71.56 337 P **P** **03 36 48.4 0.0**
KONO IAmb IAmb 03 36 49.4
comp=Z,479nm,1.1s
KONO Kongsberg 71.56 337 P **P** **03 36 48.4 0.0**
DY2G Dye2 71.59 4 *i* P **P** **03 36 48.5 -0.3**
DY2G IAmb IAmb 03 36 50.2
comp=Z,2μm,1.2s
ELK Elko 71.61 52 PKPPKP 04 04 38.1
comp=Z,2.3nm,1.0s,baz=85,slow=4.0,SNR=4.0
NAZ Nazwa, Dubai 71.62 287 P **P** **03 36 49.7 +0.2**
SNR=55
NAZ Nazwa, Dubai 71.62 287 *i* P **P** **03 36 49.6 +0.2**
SNR=55
FRB Frobisher Bay 71.68 14 S **S** **03 46 00.2 -3.9**
comp=Z,6.5nm,1.0s,baz=143,slow=19,SNR=1.5
FRB PKPPKP 04 04 36.0
comp=Z,4.0nm,1.1s,baz=2.5,slow=1.5,SNR=3.3
FRB LR LR 04 10 21.7
comp=Z,30μm,21.5s,baz=338,slow=38
SUE Sulen 71.70 340⇑ *i*P **P** **03 36 49.4 +0.2**
SUE IVmB_BB 03 36 50.2
comp=Z,11μm,3.0s
SUE *e*S **S** **03 46 05.4 +0.9**
SUE IVMs_BB IVMs_BB 04 04 37.8
comp=Z,9μm,37.7s
FAQ Al Faqa, Dubai 71.82 287 P **P** **03 36 50.6 0.0**
SNR=54
FAQ Al Faqa, Dubai 71.82 287 *i* P **P** **03 36 50.6 0.0**
SNR=72
LKWY Lake 71.83 46 IAMs_20 IAMs_20 04 11 22.9
comp=Z,13μm,22.0s
H17A Grant Village 71.85 46 P **P** **03 36 53.7 +2.9**
H17A S **S** **03 46 13.5 +6.1**
baz=311
MEEK Meekatharra 71.87 203 P **P** **03 36 50.5 -0.2**
VOG Valley Oaks Go 71.91 57 P **P** **03 36 51.7 +0.7**
baz=309
VOG S **S** **03 46 08.2 +0.4**
baz=309
BSY Bisya 71.91 284 P **P** **03 36 51.8 +0.6**
SNR=231
KLNR Kaliningrad 71.95 329 *c i*P **P** **03 36 50.7 -0.1**
KLNR pmax pmax
comp=Z,2μm,1.2s
KLNR MLR MLR
comp=Z,56μm,20.0s
KTUT Trabzon 71.95 309⇑ **P** **03 36 51.4 +0.2**
ARQ Araqi 72.03 285 P **P** **03 36 52.6 +0.6**
SNR=137
RLMT Red Lodge 72.06 45 P **P** **03 36 53.5 +1.5**
baz=312
RLMT S **S** **03 46 10.6 +0.8**
baz=312
ASK Askoy 72.08 339⇑ *i*P **P** **03 36 51.9 +0.4**
ASK *e*S **S** **03 46 11.8 +2.9**
ASUD Al Ashush, Dub 72.08 287 P **P** **03 36 52.9 +0.7**
SNR=40
ASUD Al Ashush, Dub 72.08 287 *i* P **P** **03 36 52.8 +0.7**
SNR=76
BER Bergen 72.13 339⇑ *i*P **P** **03 36 52.5 +0.7**
BER IVmB_BB 03 36 53.0
comp=Z,11μm,2.8s
BER *e*S **S** **03 46 08.0 -1.5**
BER IVMs_BB IVMs_BB 04 12 40.4
comp=Z,13μm,18.6s
ALNE Al Ain 72.14 286 P **P** **03 36 53.1 +0.5**
SNR=140
ALNE Al Ain 72.14 286 *i* P **P** **03 36 52.9 +0.3**
SNR=68
SMMC Simmler 72.15 58 P **P** **03 36 54.4 +1.9**
baz=309
SMMC S **S** **03 46 12.5 +1.8**
baz=309
TIN Tinemaha, Big 72.16 56 P **P** **03 36 54.2 +1.5**
baz=309
TIN S **S** **03 46 12.5 +1.6**
baz=309
ODD1 Odda 72.18 338⇑ *i*P **P** **03 36 52.8 +0.6**
ODD1 IVmB_BB 03 36 53.4
comp=Z,13μm,2.9s
ODD1 *e*S **S** **03 46 12.6 +2.4**
LCRK Leigh Creek 72.25 184 P **P** **03 36 54.2 +1.4**
DGMT Dagmar 72.33 40 IAMs_20 IAMs_20 04 06 41.1
comp=Z,22μm,22.0s
DGMT Dagmar 72.33 40 P **P** **03 36 53.9 +0.5**
baz=314
DGMT S **S** **03 46 13.1 +0.8**
baz=314
AJN Ajban 72.37 287 P **P** **03 36 53.8 -0.1**
SNR=31
AJN Ajban 72.37 287 *i* P **P** **03 36 53.8 -0.1**
SNR=18
VES Vestal, Richgr 72.39 58 P **P** **03 36 54.5 +0.6**
baz=309

VES S **S** **03 46 13.5 +0.1**
baz=309
MULG Mulgathing 72.41 188 P **P** **03 36 54.5 +0.8**
SIM Simferopol' 72.47 315 *c i*P **P** **03 36 53.6 -0.6**
SIM *PP **sP** **03 37 17.0 +1.4**
SIM *e* 03 39 37.0
SIM *e*S **S** **03 46 13.0 -0.9**
SIM pmax pmax
comp=Z,1μm,1.1s
PKM Mcpherson Peak 72.54 59 P **P** **03 36 56.9 +1.9**
baz=309
PKM S **S** **03 46 16.4 +1.0**
baz=309
LAO LASA Array 72.57 42 IAMs_20 IAMs_20 04 12 03.4
comp=Z,18μm,22.0s
LAO LASA Array 72.57 42 P **P** **03 36 56.0 +1.2**
baz=313
LAO S **S** **03 46 16.4 +1.2**
baz=313
ARMA Armidale 72.57 172 P **P** **03 36 55.6 +0.7**
BLS5 Blasjo 72.64 338⇑ *i*P **P** **03 36 55.5 +0.5**
BLS5 IVmB_BB 03 36 56.3
comp=Z,9μm,1.4s
BLS5 *e*S **S** **03 46 18.5 +3.1**
BLS5 IVMs_BB IVMs_BB 04 10 27.6
comp=Z,20μm,19.7s
CWC Cottonwood Cre 72.64 57 P **P** **03 36 57.1 +1.5**
baz=310
CWC S **S** **03 46 17.0 +0.5**
baz=310
ANGG Ammassalik, Gr 72.68 0 *i* P **P** **03 36 53.0 -2.0**
ANGG IAmb IAmb 03 37 13.8
comp=Z,315nm,0.8s
ANGG Ammassalik, Gr 72.68 0 IAmb IAmb 03 37 14.2
comp=Z,335nm,0.8s
ISOG Isortoq, Green 72.74 1 *i* P **P** **03 36 54.6 -0.7**
ISOG IAmb IAmb 03 36 56.1
comp=Z,907nm,1.2s
BORG Borgarnes 72.81 353 P **P** **03 36 57.7 +1.9**
comp=Z,261nm,1.0s,baz=11,slow=3.5,SNR=37
BORG Borgarnes 72.81 353 P **P** **03 36 57.0 +1.1**
BORG IAmb IAmb 03 36 58.5
comp=Z,508nm,1.1s
BORG Borgarnes 72.81 353 P **P** **03 36 57.6 +1.7**
SBC Santa Barbara 72.88 59 P **P** **03 36 58.6 +1.9**
baz=309
SBC S **S** **03 46 20.4 +1.4**
baz=309
ISA Isabella, Lake 72.89 57 P **P** **03 36 57.5 +0.5**
baz=310
ISA S **S** **03 46 18.3 -0.9**
baz=310
R11A Troy Canyon, C 72.94 54 P **P** **03 36 58.7 +1.3**
baz=310
R11A S **S** **03 46 20.1 +0.2**
baz=310
ARVC Arvin 73.01 58 P **P** **03 36 58.5 +0.9**
baz=310
ARVC S **S** **03 46 20.3 -0.1**
baz=310
HOMB Homborsund 73.02 337⇑ *i*P **P** **03 36 56.7 -0.5**
HOMB IVmB_BB 03 36 57.8
comp=Z,11μm,4.2s
HOMB *e*S **S** **03 46 19.1 -0.6**
HOMB IVMs_BB IVMs_BB 04 12 18.2
comp=Z,17μm,17.7s
KMY Karmoy 73.15 339⇑ *i*P **P** **03 36 58.5 +0.6**
KMY IVmBBB 03 36 59.4
comp=Z,8μm,2.5s
KMY *e*S **S** **03 46 22.6 +1.5**
SORM Soroca 73.16 320⇑ **P** **03 36 58.2 0.0**
MPMC Manual Prospec 73.25 56 P **P** **03 37 00.5 +1.3**
baz=310,SNR=11
MPMC S **S** **03 46 24.4 +0.8**
baz=310
CMSA Cobar Meteorol 73.27 177 P **P** **03 37 00.1 +1.3**
OVD Ostervraa, Den 73.29 335 *i* P **P** **03 36 58.8 0.0**
OVD IAmb IAmb 03 36 59.5
comp=Z,2μm,1.2s
SNART Snartemo 73.34 337⇑ *i*P **P** **03 36 59.4 +0.4**
SNART *e*S **S** **03 46 22.3 -1.0**
DUG Dugway, Tooele 73.37 51 P **P** **03 37 01.0 +1.2**
baz=311
DUG S **SKiKP** **03 46 26.9 +1.1**
baz=311
FURC Furnace Creek, 73.38 56 P **P** **03 37 01.3 +1.6**
baz=310
FURC S **SKiKP** **03 46 25.1 -0.5**
baz=310
UMZA Um Al Zommool 73.40 286 P **P** **03 36 59.6 -0.4**
OSI Osito Audit: C 73.40 58 P **P** **03 37 01.5 +1.5**
baz=310
OSI S **SKiKP** **03 46 26.5 +0.7**
baz=310
DQM DQM 73.43 282 P **P** **03 37 00.5 +0.3**
SNR=47
TPNV Topopah Spring 73.44 55 P **P** **03 37 01.8 +1.5**
baz=310
TPNV S **SKiKP** **03 46 27.6 +1.7**
baz=310
BW06 Boulder Array 73.49 47 IAMs_20 IAMs_20 04 11 54.6
comp=Z,11μm,22.0s
BW06 Boulder Array 73.49 47 P **P** **03 37 01.5 +0.9**
baz=312
BW06 S **SKiKP** **03 46 25.9 -0.1**
baz=312
PDAR Pinedale Array 73.49 47 P **P** **03 37 01.2 +0.6**
comp=Z,133nm,1.0s,baz=282,slow=1.4,SNR=18
PDAR PKPPKP 04 04 38.5
comp=Z,1.9nm,1.0s,baz=111,slow=3.3,SNR=3.7
PDAR LR LR 04 10 26.1
comp=Z,8μm,21.4s,baz=335,slow=37
PDAR Pinedale Array 73.49 47 P **P** **03 37 01.2 +0.6**
LRMC Laurel Mtn Rad 73.50 57 P **P** **03 37 01.5 +0.8**
baz=310,SNR=6.6
LRMC S **S** **03 46 26.1 -0.2**
baz=310
NUUK Nuuk 73.50 7 *i* P **P** **03 36 59.1 -0.8**
NUUK IAmb IAmb 03 37 01.5
comp=Z,1μm,1.3s
BSD Bornholm Skovb 73.51 332 *i* P **P** **03 36 59.4 -0.7**
BSD IAmb IAmb 03 37 01.1
comp=Z,2μm,1.2s
BSD Bornholm Skovb 73.51 332 *e*P **P** **03 37 00.6 +0.5**
PURM Purcari 73.55 318⇑ **P** **03 37 00.7 +0.2**
STKA Stephens Creek 73.56 181 P **P** **03 37 01.2 +0.7**
comp=Z,26nm,0.8s,baz=345,slow=6.8,SNR=37
STKA LR LR 04 08 54.0
comp=Z,10μm,21.3s,baz=1.7,slow=35
STKA Stephens Creek 73.56 181 P **P** **03 37 01.3 +0.7**
MZWR Madinat Zayed 73.66 287 P **P** **03 37 01.0 -0.5**
EDW2 Edwards Air Fo 73.69 58 P **P** **03 37 02.9 +1.2**
baz=310
EDW2 S **S** **03 46 29.1 +0.8**
baz=310
FORT Forrest 73.71 193 P **P** **03 37 01.2 -0.2**
FORT IAmb IAmb 03 37 24.4
comp=Z,329nm,0.8s
FORT Forrest 73.71 193 P **P** **03 37 02.5 +1.1**
KIS Kishinev 73.74 319⇑ *i*P **P** **03 37 01.5 -0.1**
comp=Z,2μm,1.2s
KIS *i* S **SKiKP** **03 46 26.0 +0.2**
KIS Kishinev 73.74 319⇑ **P** **03 37 01.6 0.0**
KIS Kishinev 73.74 319 *c i*P **P** **03 37 01.5 -0.1**
KIS *e* 03 37 25.0
KIS *i* S **SKiKP** **03 46 26.0 +0.2**
KIS pmax pmax
comp=Z,2μm,1.3s
KIS pmax pmax
comp=E,750nm,1.6s
KIS MLR MLR
comp=N,13μm,20.5s
SNCC San Nicolas Is 73.76 60 IAmb IAmb 03 37 05.1
comp=Z,418nm,1.2s
SNCC San Nicolas Is 73.76 60 P **P** **03 37 03.4 +1.3**
baz=310,SNR=7.2
SNCC S **S** **03 46 30.7 +1.7**
baz=310
MILM Milestii Mici 73.80 319⇑ *i*P **P** **03 37 01.5 -0.4**
comp=Z,4μm,1.9s
MILM Milestii Mici 73.80 319 *e*PP PP 03 39 59.0 +13
MILM *e*S **SKiKP** **03 46 27.0 +1.1**
comp=Z,3μm,7.9s
MILM Milestii Mici 73.80 319⇑ **P** **03 37 01.9 0.0**
MILM Milestii Mici 73.80 319 *c i*P **P** **03 37 01.5 -0.4**
MILM *e* 03 37 15.0

MILM *e* 03 37 23.0
MILM *e*S **SKiKP** **03 46 27.0 +1.1**
MILM pmax pmax
comp=Z,4μm,1.9s
MILM pmax pmax
comp=N,2μm,2.0s
MILM pmax pmax
comp=E,1μm,1.9s
MILM smax smax
comp=E,3μm,7.9s
MILM MLR MLR
comp=E,20μm,22.0s
BEL Belsk 73.80 327 *i* P **P** **03 37 02.8 +0.9**
BEL *e*S **S** **03 46 28.8 +0.1**
BEL *e*L L 04 12 06.8
comp=E,66μm,21.3s
GOET G??ttrup 73.83 336 *i* P **P** **03 37 01.6 -0.3**
GOET IAmb IAmb 03 37 03.3
comp=Z,1μm,1.1s
DECC Green Verdugo 73.88 58 P **P** **03 37 04.0 +1.2**
baz=310,SNR=7.4
DECC S **S** **03 46 31.3 +1.0**
baz=310
LVV L'vov 73.93 324 *i* P **P** **03 37 03.2 +0.5**
LVV *e* 03 39 46.0
LVV *e*S **SKiKP** **03 46 26.1 0.0**
LVV *e*SS **SS** **03 51 14.4 +0.1**
LVV MLR MLR
comp=Z,65μm,16.0s
GKP Gorka Klasztor 74.10 329 *i* P **P** **03 37 03.9 +0.3**
GKP *e*S **S** **03 46 30.4 -1.7**
GKP *e*L L 04 11 24.9
comp=Z,67μm,22.9s
GKP Gorka Klasztor 74.10 329 *e*P **P** **03 37 04.2 +0.6**
SHOC Shoshone, Teco 74.11 56 P **P** **03 37 05.3 +1.3**
baz=311
SHOC S **S** **03 46 33.9 +1.0**
baz=311
KHOR Al-Khor Airpor 74.15 290 P **P** **03 37 03.9 -0.4**
GSC Goldstone, Bar 74.17 57 P **P** **03 37 05.7 +1.3**
baz=310,SNR=8.2
GSC S **S** **03 46 34.6 +0.9**
baz=310
IAS Iasi 74.20 320⇑ **P** **03 37 04.7 +0.4**
GHWR Ruwais 74.24 288 P **P** **03 37 04.3 -0.6**
FMP Fort Macarthur 74.25 59 P **P** **03 37 06.0 +1.2**
baz=310
FMP S **S** **03 46 35.4 +0.9**
baz=310
BFSC Mount Baldy Ra 74.32 58 P **P** **03 37 06.3 +0.9**
baz=310,SNR=10
BFSC S **S** **03 46 35.5 0.0**
baz=310
RRX Edison Barstow 74.32 57 P **P** **03 37 06.7 +1.4**
baz=310
RRX S **S** **03 46 36.8 +1.5**
baz=310
MUD Monsted U'grnd 74.33 335 *i* P **P** **03 37 04.8 0.0**
MUD IAmb IAmb 03 37 05.8
comp=Z,880nm,1.2s
CIS Catalina Islan 74.38 59 P **P** **03 37 06.5 +0.9**
baz=310,SNR=9.1
CIS S **S** **03 46 37.1 +1.2**
baz=310
LEOM Leova 74.39 319⇓ **P** **03 37 06.1 +0.8**
SHMA Al-Shehemyia 74.39 291 P **P** **03 37 05.3 -0.4**
VASR Vaslui 74.49 320⇑ **P** **03 37 06.9 +0.9**
RGN Rugen 74.52 332 *e*P **P** **03 37 06.7 +0.7**
RGN Rugen 74.52 332 *e*P **P** **03 37 06.9 +1.0**
comp=Z,2μm,1.3s,baz=34,slow=5.5
BZK Bozkurt 74.55 313⇑ **P** **03 37 07.8 +1.4**
SCI2 San Clemente I 74.56 60 P **P** **03 37 07.9 +1.2**
baz=310
SCI2 S **S** **03 46 39.6 +1.6**
baz=310
SAKB Bahrain 74.61 291 P **P** **03 37 06.6 -0.4**
TUQ Turquoise Moun 74.63 56 P **P** **03 37 08.3 +1.2**
baz=311,SNR=15
TUQ S **S** **03 46 39.9 +1.0**
baz=311
KWP Kalwaria Pacla 74.64 324 *i* P **P** **03 37 07.8 +0.9**
KWP *e*S **S** **03 46 38.5 +0.1**
KAAM Kaadhehdhoo 74.69 257 P **P** **03 37 09.1 +1.5**
SNR=24
KAAM Kaadhehdhoo 74.69 257 P **P** **03 37 07.8 +0.3**
KAAM IAMs_20 IAMs_20 04 12 10.1
comp=Z,16μm,20.0s
PRAR RASCA 74.72 321⇓ **P** **03 37 08.0 +0.7**
BBOO Buckleboo 74.74 186 IAmb IAmb 03 37 26.3
comp=Z,973nm,2.0s
BBOO Buckleboo 74.74 186 P **P** **03 37 08.5 +1.1**
HEC Hector,Ludlow 74.77 57 P **P** **03 37 09.3 +1.4**
baz=311,SNR=12
HEC S **S** **03 46 41.8 +1.5**
baz=311
BBRC Big Bear Solar 74.77 58 P **P** **03 37 09.2 +1.0**
baz=311
BBRC S **S** **03 46 40.0 -0.7**
baz=311
ULM Lac du Bonnet 74.80 35 P **P** **03 37 07.8 +0.1**
comp=Z,174nm,1.1s,baz=320,slow=6.4,SNR=13
ULM LR LR 04 12 07.3
comp=Z,15μm,20.8s,baz=324,slow=37
BIR Birlad 74.83 319⇓ **P** **03 37 09.6 +1.6**
WHYH Whyalla 74.86 184 P **P** **03 37 09.4 +1.4**
MORW Morawa 74.91 204 IAmb IAmb 03 37 10.2
comp=Z,2μm,2.0s
MORW Morawa 74.91 204 P **P** **03 37 09.1 +0.6**
VLDR Vladesti 74.92 319⇑ **P** **03 37 09.5 +1.0**
TRNA Turayna 74.92 290 P **P** **03 37 08.2 -0.7**
MDND Maddock 74.93 38 P **P** **03 37 09.5 +0.9**
baz=317
MDND S **S** **03 46 41.7 0.0**
baz=317
NAPP Napperby 74.98 184 P **P** **03 37 10.3 +1.6**
BUR08 Bucovina Ar. S 74.99 322 IAmb IAmb 03 37 10.5
comp=Z,527nm,0.9s
VARL Varlezi 74.99 319⇓ **P** **03 37 10.3 +1.4**
BURAR Bucovina Array 75.00 322⇑ **P** **03 37 09.9 +0.8**
BURAR Bucovina Array 75.00 322 P **P** **03 37 09.6 +0.5**
SLWR Sila 75.01 289 P **P** **03 37 09.2 -0.2**
TLCR 75.02 318⇑ **P** **03 37 09.7 +0.7**
MURC Murrieta 75.02 58 P **P** **03 37 10.5 +1.1**
baz=311,SNR=12
MURC S **S** **03 46 43.8 +0.7**
baz=311
SCTR Scanteiesti 75.08 319⇑ **P** **03 37 10.6 +1.2**
GHRR 75.09 319⇑ **P** **03 37 10.9 +1.5**
TATR Tatarca 75.11 319⇑ **P** **03 37 10.5 +0.9**
GIUM Giurgiulesti 75.11 319⇓ **P** **03 37 10.8 +1.2**
TESR Tescani 75.13 320⇑ **P** **03 37 10.3 +0.6**
HTT Hallett 75.19 183 P **P** **03 37 10.9 +0.9**
K22A Casper 75.20 46 P **P** **03 37 11.1 +0.7**
baz=314
K22A S **S** **03 46 43.8 -1.3**
baz=314
GMRC Granite Mounta 75.22 56 P **P** **03 37 11.9 +1.3**
baz=311
GMRC S **S** **03 46 47.0 +1.6**
baz=311
SLCR Slobozia Conac 75.25 319⇑ **P** **03 37 11.4 +1.0**
IZVR Izvoarele 75.28 319⇑ **P** **03 37 11.7 +1.1**
SCHL Schela 75.28 319⇑ **P** **03 37 11.6 +1.0**
JURR Jurilovca 75.29 318⇑ **P** **03 37 11.4 +0.8**
CFR Carcaliu 75.36 318⇑ **P** **03 37 11.6 +0.6**
OJC Ojcow 75.44 326 *i* P **P** **03 37 12.2 +0.7**
OJC *e*S **S** **03 46 46.0 -1.1**
OJC *e*L L 04 13 18.5
comp=Z,101μm,21.1s
STHS Stebnicka Huta 75.44 325 *e*P **P** **03 37 11.8 +0.3**
STHS Stebnicka Huta 75.44 325 *e*P **P** **03 37 11.8 +0.3**
TPGR Topolog 75.45 318⇑ **P** **03 37 12.4 +0.8**
RSSD Black Hills 75.46 43 IAMs_20 IAMs_20 04 12 12.9
comp=Z,12μm,22.0s
RSSD Black Hills 75.46 43 P **P** **03 37 12.4 +0.5**
baz=315
RSSD S **S** **03 46 47.1 -1.0**
baz=315
RSSD Black Hills 75.46 43 P **P** **03 37 12.5 +0.5**
ODBI Odobesti 75.47 319⇑ **P** **03 37 13.9 +2.2**
PFO Pinyon Flats O 75.48 58 LR LR 04 03 41.7
comp=Z,12μm,21.6s,baz=296,slow=30
PFO Pinyon Flats O 75.48 58 IAMs_20 IAMs_20 04 03 27.6
comp=Z,12μm,20.0s
PFO Pinyon Flats O 75.48 58 P **P** **03 37 13.1 +1.0**

baz=311,SNR=11
PFO S **S** **03 46 48.8 +0.4**
baz=311
TPFO Pinon Flats 75.49 58 P **P** **03 37 13.0 +0.9**
baz=311,SNR=12
TPFO S **S** **03 46 48.9 +0.3**
baz=311
RWWY Rawlins 75.50 47 IAMs_20 IAMs_20 04 07 05.8
comp=Z,10μm,21.0s
BELC Belle Mtn. Jos 75.52 57 P **P** **03 37 13.1 +0.7**
baz=311,SNR=6.6
BELC S **S** **03 46 48.3 -0.6**
baz=311
109C Camp Elliot, M 75.54 59 IAmb IAmb 03 37 15.1
comp=Z,145nm,1.2s
109C IAMs_20 IAMs_20 04 05 46.2
comp=Z,9μm,22.0s
109C Camp Elliot, M 75.54 59 P **P** **03 37 13.5 +1.2**
baz=311,SNR=8.7
109C S **S** **03 46 49.3 +0.5**
baz=311
VRI Vrincioaia 75.56 320 ⇑P **P** **03 37 13.2 +0.9**
UZH Uzhgorod 75.57 324 ⇑*i*P **P** **03 37 11.5 -0.7**
UZH *e**PP **PcP** **03 37 25.6 +0.7**
UZH *e* 03 37 31.2
UZH *e*PPP PPP 03 41 44.7
UZH *i* S **S** **03 46 45.5 -3.1**
UZH *i* SP **SKSac** **03 47 16.5 -0.8**
UZH *e*PS **PnS** **03 47 30.4 -0.1**
UZH *e*SS **SS** **03 51 43.0 +3.7**
UZH MLR MLR
comp=N,17μm,20.0s
UZH MLR MLR
comp=E,18μm,20.0s
UZH MLR MLR
comp=Z,7μm,20.0s
PLOR Plostina 75.61 320 ⇑P **P** **03 37 13.6 +1.0**
CRVS Cervenica-Dubn 75.73 324 *e*P **P** **03 37 13.9 +0.8**
CRVS pmax pmax
comp=Z,1μm,1.3s
CRVS Cervenica-Dubn 75.73 324 *e*P **P** **03 37 13.9 +0.8**
CRVS *e*S **S** **03 46 47.5 -2.9**
CRVS *e*L L 04 13 48.8
TIRR Tirgusor 75.74 318 ⇑P **P** **03 37 13.7 +0.5**
TIRR Tirgusor 75.74 318 IAmb IAmb 03 37 14.5
comp=Z,1μm,1.2s
BMR Baia Mare 75.75 323 ⇑P **P** **03 37 14.4 +1.2**
GRER 75.79 319 ⇑P **P** **03 37 15.8 +2.3**
ARCR ARCALIA 75.79 322 ⇑P **P** **03 37 15.2 +1.7**
BISRR Bisoca 75.80 319 ⇓P **P** **03 37 15.6 +1.9**
SYDH Sydney Hard Ro 75.80 173 P **P** **03 37 14.6 +1.2**
HARR Harsova 75.81 318 ⇑P **P** **03 37 14.5 +0.8**
NIE Niedzica 75.84 325 *i* P **P** **03 37 15.7 +1.9**
NIE *e*S **S** **03 46 52.9 +1.2**
NIE *e*L L 04 13 41.5
comp=Z,55μm,20.4s
OZUR 75.84 320 ⇑P **P** **03 37 15.7 +1.8**
TLBR Topalu 75.86 318 ⇑P **P** **03 37 14.7 +0.8**
NEE2 Needles Airpor 75.87 56 P **P** **03 37 15.4 +1.3**
baz=312,SNR=6.1
NEE2 S **S** **03 46 54.0 +1.6**
baz=312
EFOR EFORIE 75.90 317 ⇑P **P** **03 37 15.3 +1.1**
MFTR Murfatlar 75.93 317 ⇑P **P** **03 37 15.2 +0.8**
IRM Iron Mountain 75.95 57 P **P** **03 37 16.0 +1.3**
baz=311,SNR=14
IRM S **S** **03 46 54.2 +0.8**
baz=311
MONP2 Monument Peak 75.98 58 P **P** **03 37 16.0 +1.0**
baz=311,SNR=5.3
MONP2 S **S** **03 46 54.4 +0.3**
baz=311
O20A White River Ci 76.00 48 P **P** **03 37 15.9 +0.8**
baz=314
O20A S **S** **03 46 54.4 +0.3**
baz=314
RUE Ruedersdorf 76.01 331 *e*P **P** **03 37 15.2 +0.6**
RUE Ruedersdorf 76.01 331 *e*P **P** **03 37 15.4 +0.8**
comp=Z,2μm,1.3s,baz=34,slow=5.5
SHAO Shalim 76.03 282 P **P** **03 37 15.6 +0.4**
SNR=17
SHAO Shalim 76.03 282 *i* P **P** **03 37 15.7 +0.4**
SNR=16
BSEG Bad Segeberg 76.04 333 *e*P **P** **03 37 15.6 +0.8**
comp=Z,1μm,1.2s,baz=34,slow=5.5
BSEG *e*L L 04 13 24.3
comp=Z,78μm,21.2s
BC3 Big Chuckawall 76.09 57 P **P** **03 37 16.6 +1.0**
baz=311,SNR=12
BC3 S **S** **03 46 54.6 -0.4**
baz=311
MANR Mangalia 76.11 317 ⇑P **P** **03 37 16.2 +0.8**
PGOR Pogoanele 76.12 319 ⇑P **P** **03 37 17.0 +1.6**
DOPR Dopca 76.13 320 ⇑P **P** **03 37 17.0 +1.5**
BLDU Ballidu 76.17 203 P **P** **03 37 16.1 +0.5**
AMRR Amara 76.17 318 ⇑P **P** **03 37 17.0 +1.3**
ISR Istrita 76.19 319 ⇓P **P** **03 37 17.7 +1.9**
RAC Raciborz 76.20 327 *e*P **P** **03 37 17.0 +1.2**
RAC *e*PP **PP** **03 40 07.3 +0.6**
RAC *e*S **S** **03 46 54.8 -0.7**
RAC LMZ LR 04 13 43.4
comp=Z,61nm,19.8s
RAC Raciborz 76.20 327 *e*P **P** **03 37 17.0 +1.2**
RAC *e* 03 40 07.3
RAC *e*S **S** **03 46 54.8 -0.7**
RAC MLR MLR
comp=Z,61μm,19.8s
MLR Muntele Rosu 76.21 320 ⇑P **P** **03 37 17.0 +0.9**
MLR Muntele Rosu 76.21 320 P **P** **03 37 16.6 +0.5**
comp=Z,471nm,1.2s,baz=10,slow=4.6,SNR=229
MLR PP **PP** **03 40 08.1 +1.0**
comp=Z,108nm,1.1s,baz=2.9,slow=3.6,SNR=4.1
MLR LR LR 04 13 50.0
comp=Z,75μm,21.3s,baz=48,slow=38
MLR Muntele Rosu 76.21 320 IAmb IAmb 03 37 18.5
comp=Z,1μm,1.4s
AGMN Agassiz Nation 76.28 36 P **P** **03 37 16.1 -0.2**
baz=319
AGMN S **S** **03 46 53.3 -3.1**
baz=319
BR131 Keskin Array S 76.28 311 *c i*P **P** **03 37 17.2 +0.5**
BR131 Keskin Array S 76.28 311 IAmb IAmb 03 37 18.1
comp=Z,865nm,1.1s
BRTR Keskin Array B 76.28 311 P **P** **03 37 17.1 +0.5**
comp=Z,303nm,1.1s,baz=70,slow=4.1,SNR=409
BRTR PP **PP** **03 40 07.8 -0.1**
comp=Z,102nm,0.9s,baz=64,slow=3.3,SNR=7.0
BRTR PKPPKP **P'P'df** **04 04 41.2 +5.0**
comp=Z,0.9nm,0.8s,baz=242,slow=3.1,SNR=1.9
BRTR LR LR 04 16 07.0
comp=Z,36μm,20.1s,baz=64,slow=40
BRTR Keskin Array B 76.28 311 P **P** **03 37 17.1 +0.5**
ICOR Ion Corvin 76.29 318 ⇑P **P** **03 37 17.7 +1.4**
IKP In-Ko-Pah, Jac 76.33 58 P **P** **03 37 18.2 +1.2**
baz=311,SNR=10
IKP S **S** **03 46 58.5 +0.8**
baz=311
SWSC Sam W. Stewart 76.33 58 P **P** **03 37 17.9 +1.1**
baz=311,SNR=7.7
SWSC S **S** **03 46 58.5 +1.0**
baz=311
KSP Ksiaz 76.37 328 *i* P **P** **03 37 17.4 +0.7**
KSP *e*S **S** **03 46 56.8 -0.5**
KDZE Karadeniz Ereo 76.39 314 ⇑P **P** **03 37 17.2 +0.2**
MESR Meseseni 76.39 322 ⇓P **P** **03 37 18.6 +1.8**
LANS Liptovska Anna 76.39 326 *e*P **P** **03 37 18.5 +1.6**
LANS pmax pmax
comp=Z,703nm,1.4s
LANS Liptovska Anna 76.39 326 *e*P **P** **03 37 18.5 +1.6**
CBBR Cluj-Babes-Bol 76.40 322 ⇓P **P** **03 37 18.3 +1.3**
PSN Preselentsi 76.41 317 *i* P **P** **03 37 18.1 +1.0**
OKC Ostrava-Krasne 76.41 327⇑*e*P **P** **03 37 17.7 +0.7**
OKC *e*S **S** **03 46 57.3 -0.5**
OKC MLR MLR
comp=Z,57μm,19.4s
OKC Ostrava-Krasne 76.41 327⇑*e*P **P** **03 37 17.7 +0.7**
OKC *e*S **S** **03 46 57.3 -0.5**
OKC AMS AMS 04 13 50.0
comp=Z,57μm,19.4s
CJR Cluj-Napoca 76.42 322 ⇑P **P** **03 37 18.7 +1.6**
KECS Kecovo 76.47 325 *e*P **P** **03 37 18.1 +0.8**
KECS pmax pmax
comp=Z,195nm,1.2s
KECS Kecovo 76.47 325 *e*P **P** **03 37 18.1 +0.8**
PDMCI Parker Dam,Lak 76.47 56 P **P** **03 37 18.9 +1.3**
baz=312,SNR=16
PDMCI S **S** **03 47 00.3 +1.3**
baz=312
SECR 76.48 319 ⇓P **P** **03 37 18.8 +1.3**
KALB Balgarevo 76.49 317 ⇓P **P** **03 37 18.9 +1.4**
LEHL Lehliu 76.52 319 ⇑P **P** **03 37 19.0 +1.3**
RASA Rasa 76.55 318 ⇓P **P** **03 37 18.9 +1.1**
OSTC Ostas 76.62 328⇑*e*P **P** **03 37 19.0 +0.8**
OSTC *e*S **S** **03 46 58.1 -2.1**
OSTC AMS AMS 04 09 50.0
comp=Z,57μm,28.2s
HLG Helgoland 76.63 335 *e*P **P** **03 37 19.0 +0.9**
comp=Z,1μm,1.1s,baz=34,slow=5.5
SULR 76.65 319 ⇑P **P** **03 37 19.3 +0.9**
ANTO Ankara 76.65 312 P **P** **03 37 19.8 +1.2**
ANTO pmax pmax
comp=Z,2μm,1.3s
ANTO Ankara 76.65 312 P **P** **03 37 19.8 +1.2**
CHVC Chvalec 76.66 328⇑*e*P **P** **03 37 19.4 +1.0**
CHVC *e*S **S** **03 46 53.4 -7.2**
CHVC AMS AMS 04 09 50.0
comp=Z,55μm,27.7s
VOIR 76.68 320 ⇑P **P** **03 37 19.5 +0.9**
LTVH Ltavrtes, Hu 76.68 323 ⇑P **P** **03 37 19.8 +1.3**
LTVH Ltavrtes, Hu 76.68 323 P **P** **03 37 18.7 +0.1**
MORC Moravsky Berou 76.70 327 ⇑P **P** **03 37 19.8 +1.1**
MORC Moravsky Berou 76.70 327⇑*i*P **P** **03 37 19.4 +0.7**
MORC *e*S **S** **03 47 00.6 -0.6**
MCD Coleburn Disti 76.72 342 *e*P **P** **03 37 18.2 -0.4**
DMTO DMTO 76.72 282 P **P** **03 37 19.0 -0.2**
SNR=34
IVI Ivigtut 76.72 5 *i* P **P** **03 37 17.9 -0.6**
IVI IAmb IAmb 03 37 19.2
comp=Z,447nm,1.1s
N23A Red Feather La 76.73 46 P **P** **03 37 20.5 +1.1**
baz=315,SNR=8.7
N23A S **S** **03 47 02.9 +0.6**
baz=315
IZAB Izabela 76.74 325 *e*P **P** **03 37 19.9 +1.0**
IZAB pmax pmax
comp=Z,515nm,1.3s
DOK Doka 76.74 283 P **P** **03 37 19.1 -0.2**
SNR=103
UPC Upice 76.74 328⇑*e*P **P** **03 37 19.6 +0.8**
UPC *e*S **S** **03 46 54.5 -6.9**
UPC MLR MLR
comp=Z,57μm,26.9s
UPC Upice 76.74 328⇑*e*P **P** **03 37 19.6 +0.8**
UPC *e*S **S** **03 46 54.5 -6.9**
UPC AMS AMS 04 10 00.0
comp=Z,57μm,26.9s
DPC Dobruska-Polom 76.74 328⇑*e*P **P** **03 37 20.1 +1.2**
DPC *e*S **S** **03 46 57.3 -4.3**
DPC MLR MLR
comp=Z,50μm,23.7s
DPC Dobruska-Polom 76.74 328⇑*e*P **P** **03 37 20.1 +1.2**
DPC *e*S **S** **03 46 57.3 -4.3**
DPC AMS AMS 04 09 50.0
comp=Z,50μm,23.7s
KRLC Kraliky 76.78 328⇑*e*P **P** **03 37 20.0 +0.9**
KRLC *e*S **S** **03 46 53.9 -8.0**
KRLC Kraliky 76.78 328⇑*e*P **P** **03 37 20.0 +0.9**
KRLC *e*S **S** **03 46 53.9 -8.0**
KRLC AMS AMS 04 09 20.0
comp=Z,42μm,29.1s
KLBR Kellerberrin 76.79 202 P **P** **03 37 19.8 +0.7**
TWOA Tennyson Woods 76.80 183 P **P** **03 37 20.0 +0.9**
MTUR Matau 76.83 320 ⇓P **P** **03 37 20.4 +0.9**
GLA Glamis 76.88 57 P **P** **03 37 21.4 +1.4**
baz=312,SNR=12
GLA S **S** **03 47 04.2 +0.6**
baz=312
NRS Narsarsuaq 76.94 4 IAMs_20 IAMs_20 04 15 53.8
comp=Z,14μm,19.0s
BORR Bors 76.96 323 ⇑P **P** **03 37 21.8 +1.7**
LEWI Lewis, Hebride 76.99 344 *e*P **P** **03 37 20.3 +0.2**
LEWI IAmb IAmb 03 37 21.7
comp=Z,725nm,1.2s
LEWI IAMs_20 IAMs_20 04 12 24.7
comp=Z,17μm,20.2s
FLTG Flechtingen 77.05 332 *e*P **P** **03 37 20.7 +0.2**
comp=Z,1μm,1.1s,baz=34,slow=5.5
SGRR Singureni 77.12 319 ⇓P **P** **03 37 21.5 +0.5**
PRD Provadia 77.15 317 P **P** **03 37 22.1 +0.9**
PSZ Piszkesteto 77.16 325 ⇑P **P** **03 37 22.6 +1.2**
PSZ Piszkesteto 77.16 325 P **P** **03 37 22.0 +0.7**
PSZ Piszkesteto 77.16 325 P **P** **03 37 21.6 +0.3**
VYHS Vyhne 77.17 325 *e*P **P** **03 37 22.2 +0.9**
VYHS pmax pmax
comp=Z,1μm,1.4s
VYHS Vyhne 77.17 325 *e*P **P** **03 37 22.2 +0.9**
VYHS *e*S **S** **03 47 04.2 -2.0**
VYHS *e*L L 04 14 33.2
CAN Canberra 77.21 175 IAMs_20 IAMs_20 04 10 12.0
comp=Z,13μm,22.0s
CAN Canberra 77.21 175 P **P** **03 37 24.0 +2.6**
comp=Z,223nm,1.3s
BRG Berggiesshubel 77.25 330⇑*i*P **P** **03 37 22.1 +0.5**
BRG Amp 03 37 23.7
comp=Z,810nm,1.4s
BRG *e*x x 03 37 42.1
BRG Amp 03 37 52.7
comp=Z,553nm,1.7s
BRG *e*x x 03 39 54.9
BRG Amp 03 40 02.3
comp=Z,116nm,1.3s
BRG PP **PP** **03 40 15.4 0.0**
BRG Amp 03 40 16.4
comp=Z,86nm,1.1s
BRG Berggiesshubel 77.25 330 SKS **S** **03 47 09.0 +2.1**
BRG Berggiesshubel 77.25 330⇑*i*P **P** **03 37 22.1 +0.5**
BRG *e* 03 37 42.0
BRG 03 40 15.4
BRG S **S** **03 47 09.0 +2.1**
BRG S **ScS** **03 47 40.0 +5.5**
BRG pmax pmax
comp=Z,810nm,1.4s
BRG pmax pmax
comp=Z,86nm,1.1s
BRG MLR MLR
comp=Z,71μm,23.7s
BRG MLR MLR
comp=N,36μm,21.2s
BRG Berggiesshubel 77.25 330 *e*P **P** **03 37 22.1 +0.5**
comp=N,809nm,1.4s,baz=34,slow=5.5
CLL Collm 77.25 330⇑*i*P **P** **03 37 21.8 +0.2**
CLL *e**PP **pP** **03 37 37.0 -0.1**
CLL *e*S **S** **03 47 05.0 -1.8**
CLL *e**SS **ScS** **03 47 34.0 -0.5**
CLL pmax pmax
comp=Z,1μm,1.1s
CLL MLR MLR
comp=Z,76μm,21.8s
CLL Collm 77.25 330 *e*P **P** **03 37 21.9 +0.2**
comp=Z,1μm,1.1s,baz=34,slow=5.5
CLL *e*L L 04 14 10.5
comp=Z,76μm,21.8s
LOT Lotru 77.28 321 ⇑P **P** **03 37 22.8 +0.7**
KOLL Kolacno 77.28 326 *e*P **P** **03 37 23.1 +1.2**
PVCC Panska Ves 77.28 329⇑*e*P **P** **03 37 22.9 +1.0**
PVCC *e*S **S** **03 47 03.1 -4.2**
PVCC MLR MLR
comp=Z,49μm,19.1s
PVCC Panska Ves 77.28 329⇑*e*P **P** **03 37 22.9 +1.0**
PVCC *e*S **S** **03 47 03.1 -4.2**
PVCC AMS AMS 04 14 10.0
comp=Z,49μm,19.1s
NRDL Niedersach Rie 77.30 333 *e*P **P** **03 37 22.5 +0.6**
comp=Z,944nm,1.3s,baz=34,slow=5.5
RAZG Razgrad 77.33 318 ⇑P **P** **03 37 23.0 +0.7**
WUAZ Wupatki 77.34 54 P **P** **03 37 24.4 +1.7**
baz=313
WUAZ S **S** **03 47 11.6 +2.8**
baz=313
DEV Deva 77.36 322 ⇑P **P** **03 37 23.4 +1.0**
RETH Rethem/Aller, 77.36 333 *e*P **P** **03 37 22.9 +0.7**
comp=Z,2μm,1.3s,baz=34,slow=5.5
JAVC Velka Javorina 77.37 326 *e*S **S** **03 47 09.2 +0.8**
JAVC Velka Javorina 77.37 326⇑*i*P **P** **03 37 24.3 +1.8**
SMCO Snowmass 77.37 48 IAMs_20 IAMs_20 04 15 03.4
comp=Z,12μm,21.0s
RBK Rabkut 77.40 282 P **P** **03 37 22.6 -0.4**
SNR=78
ASSE Asse, Remlinge 77.41 332 *e*P **P** **03 37 23.0 +0.6**
comp=Z,774nm,1.3s,baz=34,slow=5.5
FBE Freiberg 77.43 330 *e*P **P** **03 37 23.5 +0.8**
comp=Z,1μm,1.2s,baz=34,slow=5.5
WHFO Wadi Hawf 77.45 283 P **P** **03 37 22.7 -0.6**
SNR=85
VRAC Vranov 77.46 327 ⇑P **P** **03 37 24.1 +1.3**
VRAC Vranov 77.46 327 P **P** **03 37 23.9 +1.0**
comp=Z,605nm,1.1s,baz=42,slow=5.6,SNR=403
VRAC LR LR 04 14 29.1
comp=Z,44μm,20.7s,baz=34,slow=38
VRAC Vranov 77.46 327⇑*i*P **P** **03 37 23.9 +1.0**
VRAC *e*S **S** **03 47 09.8 +0.5**
BSZH Besenyszg 77.47 324 ⇑P **P** **03 37 24.6 +1.7**
BSZH Besenyszg 77.47 324 P **P** **03 37 23.0 0.0**
BSZH Besenyszg 77.47 324 P **P** **03 37 24.1 +1.2**
KPL Plockton 77.48 343 *e*P **P** **03 37 23.3 +0.5**
KPL IAmb IAmb 03 37 24.6
comp=Z,2μm,1.3s
KPL IAMs_20 IAMs_20 04 09 35.8
comp=Z,19μm,24.4s
COPA Copaceanca 77.55 319 ⇑P **P** **03 37 23.8 +0.3**
MUN Mundaring 77.59 203 P **P** **03 37 24.3 +0.7**
EDU Dundee 77.60 341⇑*e*P **P** **03 37 23.7 +0.2**
SIRR Siria 77.64 323 ⇑P **P** **03 37 24.9 +0.9**
MTKN Mount Kenneth 77.67 203 P **P** **03 37 24.7 +0.7**
ISCO Idaho Springs 77.68 47 IAMs_20 IAMs_20 04 15 39.7
comp=Z,12μm,22.0s
ISCO Idaho Springs 77.68 47 P **P** **03 37 26.2 +1.5**
baz=315
ISCO S **S** **03 47 12.3 -0.4**
baz=315
PRU Pruhonice 77.73 329 *e*P **P** **03 37 25.2 +0.9**
PRU *e*S **S** **03 47 09.7 -2.4**
PRU MLR MLR
comp=Z,50μm,25.1s
PRU Pruhonice 77.73 329⇑*e*P **P** **03 37 25.2 +0.9**
PRU *e*S **S** **03 47 09.7 -2.4**
PRU AMS AMS 04 10 30.0
comp=Z,50μm,25.1s
KRUC Moravsky 77.73 327 ⇑*i*P **P** **03 37 25.3 +0.9**
KRUC *e*S **S** **03 47 13.2 +1.0**
SUSD Miller 77.75 40 P **P** **03 37 25.1 +0.5**
baz=318,SNR=7.6
SUSD S **S** **03 47 10.2 -2.4**
baz=318
CLZ Clausthal 77.75 332 *e*P **P** **03 37 25.4 +0.9**
comp=Z,2μm,1.3s,baz=34,slow=5.5
NEUB Neuenburg 77.78 331 *e*P **P** **03 37 25.1 +0.5**
comp=Z,1μm,1.1s,baz=34,slow=5.5
GZR Gura Zlata 77.78 321 ⇑P **P** **03 37 25.5 +0.7**
ISK Istanbul-Kandi 77.83 315 P **P** **03 37 25.3 +0.2**
ZIMR 77.83 319 ⇓P **P** **03 37 25.7 +0.7**
SZH Strazhica 77.84 318 P **P** **03 37 25.7 +0.6**
BUD Budapest 77.87 325 P **P** **03 37 25.5 +0.3**
BUD Budapest 77.87 325 P **P** **03 37 25.4 +0.3**
MVCO Mesa Verde 77.87 51 IAMs_20 IAMs_20 04 11 31.7
comp=Z,10μm,22.0s
MVCO Mesa Verde 77.87 51 P **P** **03 37 26.8 +1.1**
baz=314
MVCO S **S** **03 47 15.8 +1.1**
baz=314
TREC Trest 77.91 328⇑*e*P **P** **03 37 26.2 +0.8**
TREC *e*S **S** **03 47 06.7 -7.5**
TREC MLR MLR
comp=Z,54μm,24.8s
TREC Trest 77.91 328⇑*e*P **P** **03 37 26.2 +0.8**
TREC *e*S **S** **03 47 06.7 -7.5**
TREC AMS AMS 04 09 50.0
comp=Z,54μm,24.8s
MODS Modra-Piesok 77.91 326 *e*P **P** **03 37 26.7 +1.3**
MODS pmax pmax
comp=Z,1μm,1.3s
MODS Modra-Piesok 77.91 326 *e*P **P** **03 37 26.7 +1.3**
MODS *e*S **S** **03 47 12.1 -2.1**
MODS *e*L L 04 15 09.1
SRO Srobarova 77.92 325 *e*P **P** **03 37 26.9 +1.5**
SRO pmax pmax
comp=Z,2μm,1.3s
SRO Srobarova 77.92 325 *e*P **P** **03 37 26.9 +1.5**
INVG Invergeldie, C 77.95 342⇑*e*P **P** **03 37 25.6 +0.1**
INVG IAmb IAmb 03 37 26.3
comp=Z,545nm,1.2s
INVG IAMs_20 IAMs_20 04 15 58.1
comp=Z,21μm,20.8s
EBH Black Hill 77.99 341 *e*P **P** **03 37 25.9 +0.2**
AMBH Ambrzfalva 77.99 323 ⇑P **P** **03 37 27.2 +1.4**
AMBH Ambrzfalva 77.99 323 P **P** **03 37 26.4 +0.6**
AMBH Ambrzfalva 77.99 323 P **P** **03 37 26.2 +0.4**
VLAD Vladila 78.05 319 ⇑P **P** **03 37 26.8 +0.6**
ESY Stoneypath 78.07 341 *e*P **P** **03 37 26.5 +0.3**
JMB Yambol 78.10 317 P **P** **03 37 27.3 +0.8**
ZST Bratislava 78.12 326 *e*P **P** **03 37 27.8 +1.2**
ZST *e*S **S** **03 47 11.4 -5.0**
ZST Bratislava 78.12 326 *e*P **P** **03 37 27.8 +1.2**
ZST *e*S **S** **03 47 11.4 -5.0**
SRE Strehaia 78.13 321 ⇑P **P** **03 37 27.7 +1.0**
GTTG Gottingen 78.14 332 *e*P **P** **03 37 27.3 +0.7**
comp=Z,1μm,1.1s,baz=34,slow=5.5
BZS Buzias 78.15 322 ⇑P **P** **03 37 27.1 +0.4**
ABTO Aybut 78.16 283 P **P** **03 37 27.0 -0.3**
SNR=117
TANN Tannenbergstha 78.17 330 *e*P **P** **03 37 27.4 +0.5**
comp=Z,776nm,1.6s,baz=34,slow=5.5
PVL Pavlikeni 78.17 318 P **P** **03 37 28.1 +1.2**
PBCC Pribram 78.18 329⇑*e*P **P** **03 37 27.5 +0.6**
PBCC *e*S **S** **03 47 13.8 -3.3**
NWAO Narrogin (SRO) 78.19 202 P **P** **03 37 27.5 +0.6**
NWAO Narrogin (SRO) 78.19 202 P **P** **03 37 27.7 +0.8**
NWAO Narrogin (SRO) 78.19 202 P **P** **03 37 27.4 +0.4**
WERD Werda 78.20 330 *e*P **P** **03 37 27.6 +0.6**
comp=Z,759nm,1.4s,baz=34,slow=5.5
PLN Plauen 78.23 330 *e*P **P** **03 37 27.7 +0.6**
comp=Z,808nm,1.4s,baz=34,slow=5.5
IBBN Ibbenburen 78.25 334 *e*P **P** **03 37 27.7 +0.5**
comp=Z,1μm,1.2s,baz=34,slow=5.5
GUNZ Gunzen 78.26 330 *e*P **P** **03 37 28.1 +0.7**
comp=Z,732nm,1.3s,baz=34,slow=5.5
CSKK Cskako 78.29 325 P **P** **03 37 27.5 0.0**
CSKK Cskako 78.29 325 P **P** **03 37 27.9 +0.4**
MOX Moxa 78.30 331 *e*P **P** **03 37 28.1 +0.6**
comp=Z,914nm,1.3s,baz=34,slow=5.5
MOX *e*L L 04 14 51.5
comp=Z,59μm,21.3s
WERN Wernitzgruen 78.31 330 *e*P **P** **03 37 28.4 +0.8**
comp=Z,727nm,1.2s,baz=34,slow=5.5
EBL Broad Law 78.31 341 *e*P **P** **03 37 27.8 +0.3**
EBL Broad Law 78.31 341 *e*P **P** **03 37 27.5 +0.1**
NKC Novy Kostel 78.32 330⇑*e*P **P** **03 37 28.2 +0.5**
NKC *e*S **S** **03 47 14.9 -3.7**
NKC MLR MLR
comp=Z,74μm,21.1s
NKC Novy Kostel 78.32 330⇑*e*P **P** **03 37 28.2 +0.5**
NKC *e*S **S** **03 47 14.9 -3.7**
NKC AMS AMS 04 14 30.0
comp=Z,74μm,21.1s
HERR Herculane 78.33 321 ⇑P **P** **03 37 28.1 +0.3**
EYMN Ely 78.41 34 IAMs_20 IAMs_20 04 18 05.8
comp=Z,12μm,21.0s
EYMN Ely 78.41 34 P **P** **03 37 28.2 +0.1**
baz=322,SNR=23
EYMN S **S** **03 47 15.9 -3.7**
baz=322
ARPS Mount Arapiles 78.44 181 P **P** **03 37 30.2 +2.0**
DJES Djerdap 78.45 321 *e*P **P** **03 37 28.6 +0.1**
S22A 4ÜR Ranch, Cre 78.45 49 P **P** **03 37 30.7 +1.7**
baz=315
S22A S **S** **03 47 23.8 +2.8**
baz=315
EDRB Edirne 78.47 317 P **P** **03 37 29.3 +0.7**
Q24A Divide 78.53 47 P **P** **03 37 30.4 +1.0**
baz=315
Q24A S **S** **03 47 22.1 +0.3**
baz=315
PUNG Punghina 78.55 320 ⇓P **P** **03 37 29.9 +0.9**
W18A Petrified Fore 78.59 53 P **P** **03 37 31.2 +1.6**
baz=314,SNR=7.6
W18A S **S** **03 47 24.7 +2.4**
baz=314
EGYH Egyhazaskeszo 78.64 326 P **P** **03 37 30.3 +0.9**
EGYH Egyhazaskeszo 78.64 326 P **P** **03 37 30.3 +0.9**
MANZ Manzenberg 78.65 330 *e*P **P** **03 37 30.1 +0.6**
comp=Z,145nm,1.2s,baz=34,slow=5.5
HWQ Hawqa 78.68 306 *e*P **P** **03 37 30.5 +0.4**
UBBA Unterbreizbach 78.73 332 *e*P **P** **03 37 30.1 +0.4**

comp=Z,1μm,1.7s,baz=34,slow=5.5
EKA Eskdalemuir Ar 78.74 341 PP PP 03 40 26.6 -1.1
comp=Z,90nm,1.2s,baz=32,slow=8.3,SNR=4.6
MDVR Moldovita 78.74 321 ⇑P **P 03 37 30.5 +0.4**
MPLH Magyarpolny 78.75 325 P **P 03 37 30.8 +0.7**
MPLH Magyarpolny 78.75 325 P **P 03 37 30.5 +0.5**
SOP Sopron 78.75 326 P **P 03 37 30.7 +0.6**
SOP Sopron 78.75 326 P **P 03 37 30.6 +0.6**
CKRC Cesky Krumlov 78.75 328⇑*e*P **P 03 37 30.8 +0.7**
CKRC *e*S **S 03 47 22.6 -0.7**
ESK Eskdalemuir 78.76 341 IAMs_20 IAMs_20 04 15 52.0
comp=Z,17μm,21.0s
OGNE Ogallala 78.77 44 P **P 03 37 31.2 +0.7**
baz=317,SNR=14
OGNE S **S 03 47 22.5 -1.4**
baz=317
KHC Kasperske Hory 78.79 329 *e*P **P 03 37 31.0 +0.7**
KHC *e* 03 37 42.0
KHC *e* 03 37 52.0
KHC *e*S **S 03 47 21.9 -1.8**
KHC MLR MLR
comp=Z,67μm,24.9s
KHC Kasperske Hory 78.79 329⇑*e*P **P 03 37 31.0 +0.7**
KHC *e*pP **PcP 03 37 42.0 +3.1**
KHC *e*sP **sP 03 37 52.0 +0.1**
KHC *e*S **S 03 47 21.9 -1.8**
KHC AMS AMS 04 13 20.0
comp=Z,67μm,24.9s
KHC Kasperske Hory 78.79 329 IAmb IAmb 03 37 32.0
comp=Z,668nm,1.0s
ROTZ Rotzenmuhle 78.80 330 *e*P **P 03 37 31.2 +1.0**
comp=Z,244nm,1.3s,baz=34,slow=5.5
TIH Tihany 78.81 325 P **P 03 37 28.9 -1.4**
TIH Tihany 78.81 325 P **P 03 37 29.0 -1.4**
CONA Conrad Observa 78.85 327 *i* P **P 03 37 31.9 +1.2**
comp=Z,911nm,1.4s,SNR=332
MPEP Malo Peshtene 78.85 319 *i* P **P 03 37 31.4 +0.7**
214A Organ Pipe Nat 78.87 57 P **P 03 37 32.3 +1.2**
baz=313,SNR=7.6
214A S **S 03 47 26.5 +1.4**
baz=313
DIM Dimitrovgrad 78.93 318 P **P 03 37 32.3 +1.2**
GEC2 GERESS Array S 78.97 328 *e*P **P 03 37 31.8 +0.5**
comp=Z,588nm,1.3s,baz=34,slow=5.5
GEC2 *e*L L 04 14 57.4
comp=Z,35μm,20.9s
GEC2 GERESS Array S 78.97 328 IAmb IAmb 03 37 32.6
comp=Z,414nm,1.1s
GERES GERESS Array B 78.97 328 P **P 03 37 31.6 +0.2**
comp=Z,118nm,0.9s,baz=39,slow=5.1,SNR=565
GERES PKKPbc **PKKPbc 03 56 23.1 +0.7**
comp=Z,1.5nm,1.0s,baz=309,slow=2.8,SNR=3.7
GERES PKPPKP 04 04 20.4
comp=Z,0.9nm,0.9s,baz=176,slow=3.9,SNR=5.3
GERES LR LR 04 15 08.3
comp=Z,37μm,21.4s,baz=43,slow=38
GERES GERESS Array B 78.97 328 P **P 03 37 31.6 +0.2**
MORH Mrgy, Hungar 79.02 324⇑*i*P **P 03 37 31.5 0.0**
MORH Mrgy, Hungar 79.02 324 P **P 03 37 31.0 -0.5**
KUBS Kucevo 79.03 321⇑*i*P **P 03 37 31.0 -0.7**
WET Wettzell 79.05 329 *e*P **P 03 37 32.7 +1.0**
comp=Z,1μm,1.2s,baz=34,slow=5.5
WET *e*L L 04 15 18.5
comp=Z,51μm,19.9s
BHL Bhannes 79.11 306 *e*P **P 03 37 33.2 +0.8**
BUG Bochum--Univer 79.15 333 *e*P **P 03 37 32.4 +0.3**
comp=Z,1μm,1.3s,baz=34,slow=5.5
NEWG New Galloway 79.19 341 *e*P **P 03 37 32.5 +0.2**
NEWG IAmb IAmb 03 37 33.2
comp=Z,503nm,1.2s
NEWG IAMs_20 IAMs_20 04 12 12.0
comp=Z,22μm,23.0s
SDCO Great Sand Dun 79.20 49 IAMs_20 IAMs_20 04 15 19.8
comp=Z,11μm,21.0s
SDCO Great Sand Dun 79.20 49 P **P 03 37 34.4 +1.3**
baz=315
SDCO S **S 03 47 30.0 +1.1**
baz=315
GRF Grafenberg Arr 79.22 330 *e*P **P 03 37 33.7 +1.1**
comp=Z,2μm,1.1s,baz=34,slow=5.5
GRF *e*L L 04 15 19.8
comp=Z,61μm,21.9s
GRFO Grafenberg 79.22 330 P **P 03 37 33.7 +1.1**
GRFO pmax pmax
comp=Z,2μm,1.3s
GRFO MLR MLR
comp=Z,60μm,21.0s
GRFO Grafenberg 79.22 330 P **P 03 37 33.7 +1.1**
GRFO Grafenberg 79.22 330 P **P 03 37 33.4 +0.8**
BRAT Ballarat 79.22 179 P **P 03 37 34.8 +2.4**
comp=Z,48nm,1.0s
ZAGS Zajecar 79.23 321⇑*i*P **P 03 37 32.0 -0.7**
PGB Panagyurishte 79.24 319 *i* P **P 03 37 33.9 +1.0**
TOO Toolangi 79.28 178 P **P 03 37 33.7 +0.9**
TOO pmax pmax
comp=Z,261nm,1.4s
TOO Toolangi 79.28 178 P **P 03 37 33.7 +0.9**
TOO Toolangi 79.28 178 P **P 03 37 34.2 +1.4**
RCY Rachaya 79.28 306 *e*P **P 03 37 34.5 +1.1**
KDZ Kurdzhali 79.29 317 P **P 03 37 34.5 +1.4**
DQRL Deir Qamar 79.30 306 *e*P **P 03 37 34.6 +1.2**
PLD Plovdiv 79.31 318 *i* P **P 03 37 33.9 +0.7**
FRGS Fruska Gora 79.32 323 ⇑P **P 03 37 33.3 +0.1**
FRGS Fruska Gora 79.32 323⇑*i*P **P 03 37 33.1 -0.1**
FRGS Fruska Gora 79.32 323 *e*P **P 03 37 32.9 -0.3**
ISP Isparta 79.35 312 IAmb IAmb 03 37 37.6
comp=Z,498nm,1.1s
KOVH Kovagotottos 79.35 324 P **P 03 37 33.4 0.0**
KOVH Kovagotottos 79.35 324 P **P 03 37 33.2 -0.2**
SVIS Svilajnac 79.36 321 *e*P **P 03 37 34.3 +0.9**
ECSD EROS Data Cent 79.39 39 IAMs_20 IAMs_20 04 10 51.9
comp=Z,14μm,21.0s
ECSD EROS Data Cent 79.39 39 P **P 03 37 34.1 +0.4**
baz=319
ECSD S **S 03 47 28.0 -2.3**
baz=319
KESW Keswick, Cumbr 79.40 341 *e*P **P 03 37 33.9 +0.5**
KESW IAmb IAmb 03 37 35.3
comp=Z,2μm,1.2s
KESW IAMs_20 IAMs_20 04 13 21.2
comp=Z,34μm,23.8s
SHBL Chebaa 79.44 305 *e*P **P 03 37 35.3 +1.0**
ZAPS Zavoj 79.44 320⇑*i*P **P 03 37 34.5 +0.5**
BALB Balikesir 79.48 315 IAmb IAmb 03 37 36.3
comp=Z,1μm,1.3s
ALN Alexandroupoli 79.52 316 P **P 03 37 34.8 +0.4**
ALN Alexandroupoli 79.52 316 IAmb IAmb 03 37 36.6
comp=Z,1μm,1.3s
ARSA Arzberg 79.52 326 *i* P **P 03 37 35.0 +0.7**
comp=Z,432nm,1.3s,SNR=137
ARSA *e*PP **PP 03 40 37.4 +2.8**
comp=Z,903nm,3.5s
ARSA *e*S **S 03 47 30.5 -1.0**
comp=Z,571nm,4.8s
GAL1 Galloway 79.53 342 *e*P **P 03 37 34.4 +0.3**
GAL1 IAmb IAmb 03 37 35.6
comp=Z,1μm,1.2s
GAL1 IAMs_20 IAMs_20 04 12 22.4
comp=Z,22μm,23.7s
ASF Jabal al Asfar 79.54 304 P **P 03 37 35.9 +1.1**
comp=Z,342nm,1.1s,baz=56,slow=2.5,SNR=231
ASF PP **PP 03 40 36.5 +1.2**
comp=Z,204nm,1.3s,baz=94,slow=2.2,SNR=5.1
MOA Molln 79.55 328 *i* P **P 03 37 35.1 +0.6**
comp=Z,399nm,1.9s,SNR=96
ENEZ Enez 79.58 316 P **P 03 37 35.4 +0.7**
HPK Haverah Park 79.59 339 *e*P **P 03 37 35.0 +0.5**
HPK IAmb IAmb 03 37 35.7
comp=Z,1μm,1.3s
HPK IAMs_20 IAMs_20 04 15 02.0
comp=Z,46μm,22.5s
RDO Rodhopi 79.60 317 P **P 03 37 35.8 +1.0**
BOVS Bovan 79.61 321 ⇑P **P 03 37 34.5 -0.3**
BOVS Bovan 79.61 321⇑*i*P **P 03 37 34.4 -0.4**
RZN Rozhen 79.61 318 P **P 03 37 36.2 +1.1**
VTS Vitosha 79.65 319 ⇑P **P 03 37 36.6 +1.4**
VTS Vitosha 79.65 319 *e*P **P 03 37 36.4 +1.2**
VTS Vitosha 79.65 319 *i* P **P 03 37 36.4 +1.2**
CLGH Cloghs, Cushen 79.66 342 *e*P **P 03 37 35.2 +0.4**
CLGH IAmb IAmb 03 37 36.6
comp=Z,1μm,1.1s
CLGH IAMs_20 IAMs_20 04 10 40.6
comp=Z,20μm,25.4s
RAYN Ar Rayn 79.68 292 P **P 03 37 36.3 +0.7**
RAYN pmax pmax
comp=Z,2μm,1.6s
RAYN MLR MLR
comp=Z,35μm,21.0s
RAYN Ar Rayn 79.68 292 P **P 03 37 36.0 +0.4**
RAYN Ar Rayn 79.68 292 P **P 03 37 36.3 +0.7**
RAYN Ar Rayn 79.68 292 P **P 03 37 35.7 +0.2**
RAYN Ar Rayn 79.68 292 *i* P **P 03 37 35.6 0.0**
SNR=518
CSS Mathiatis 79.76 308 IAmb IAmb 03 37 37.3
comp=Z,713nm,1.0s
TRUS Trudelj 79.77 322⇑*i*P **P 03 37 35.8 +0.1**
TNS Taunus Mts 79.78 332 *e*P **P 03 37 36.2 +0.5**
comp=Z,937nm,1.3s,baz=34,slow=5.5
TNS *e*L L 04 15 15.1
comp=Z,58μm,21.9s
BLJ Bijeljina 79.85 323⇑*i*P **P 03 37 36.4 +0.3**
KOGS Kog 79.86 326⇑*i*P **P 03 37 36.0 -0.1**
KOGS *e* 03 37 57.4
KOGS *e*S **S 03 47 34.0 -0.9**
KSCO Kaye Shedlock' 79.86 46 P **P 03 37 36.8 +0.3**
baz=317,SNR=9.2
KSCO S **S 03 47 34.3 -1.3**
baz=317
MMAI Mount Meron Ar 79.88 305 P **P 03 37 37.7 +1.2**
comp=Z,1μm,1.0s,baz=40,slow=6.6,SNR=635
MMAI PP **PP 03 40 38.5 +0.4**
comp=Z,89nm,1.0s,baz=59,slow=8.0,SNR=3.7
MMAI LR LR 04 17 13.0
comp=Z,20μm,20.7s,baz=35,slow=39
KULA Kula-Manisa 79.88 313 P **P 03 37 36.9 +0.4**
GRUS Gruza 79.88 321⇑*i*P **P 03 37 36.8 +0.5**
TUC Tucson 79.89 56 P **P 03 37 38.0 +1.4**
baz=314
LEF Lefka 79.91 308 ⇓P **P 03 37 37.2 +0.7**
TEKS Tekeris 79.92 323⇑*i*P **P 03 37 36.1 -0.4**
TEKS Tekeris 79.92 323⇑*i*P **P 03 37 36.1 -0.4**
AHRW Bad Neuenahr-A 79.98 333 *e*P **P 03 37 37.2 +0.6**
comp=Z,1μm,1.2s,baz=34,slow=5.5
SPMN Marine on St. 79.98 36 P **P 03 37 36.9 +0.1**
baz=322
KALN Kalnik 80.03 325 P **P 03 37 36.5 -0.5**
DIVS Divibare 80.05 322⇑*i*P **P 03 37 37.5 +0.2**
DIVS Divibare 80.05 322 IAmb IAmb 03 37 39.2
comp=Z,933nm,1.3s
DIVS Divibare 80.05 322⇑*i*P **P 03 37 37.5 +0.2**
IOMK Kirk Michael 80.05 341 *e*P **P 03 37 37.1 +0.1**
IOMK IAmb IAmb 03 37 38.5
comp=Z,2μm,1.3s
IOMK IAMs_20 IAMs_20 04 12 48.6
comp=Z,53μm,23.8s
WACR West Acre 80.08 338 *e*P **P 03 37 36.9 -0.2**
WACR IAmb IAmb 03 37 38.7
comp=Z,1μm,1.1s
WACR IAMs_20 IAMs_20 04 13 30.9
comp=Z,61μm,25.3s
SMTH Samothraki Isl 80.10 316 P **P 03 37 37.6 +0.1**
BOSS Bosilegrad 80.11 320 *e*P **P 03 37 38.5 +1.0**
GADA Gvkgeada 80.12 316 P **P 03 37 37.8 +0.2**
LBWR Ladybower, Pea 80.12 339⇑*e*P **P 03 37 37.6 +0.3**
LBWR IAmb IAmb 03 37 39.1
comp=Z,1μm,1.1s
LBWR IAMs_20 IAMs_20 04 11 22.6
comp=Z,45μm,26.7s
EZN Ezine 80.16 316 P **P 03 37 38.3 +0.5**
LOBO Lobor 80.17 326 P **P 03 37 37.1 -0.7**
MMB Musomiste 80.18 318 *i* P **P 03 37 39.1 +1.1**
BARS Barje 80.18 320⇑*i*P P 03 37 30.8 -7.1
BARS Barje 80.18 320⇑*i*P **P 03 37 38.0 +0.1**
PERS Pernice 80.18 326⇑*i*P **P 03 37 38.4 +0.5**
PERS *e*PcP **PcP 03 37 40.3 -4.8**
WIM Isle of Man 80.18 341 *e*P **P 03 37 38.1 +0.4**
SOKA Soboth 80.18 326 *i* P **P 03 37 38.6 +0.6**
comp=Z,1μm,1.2s,SNR=419
SOKA *e*PP **PP 03 40 42.9 +2.8**
comp=Z,469nm,2.9s
SOKA *e*S **S 03 47 37.9 -0.7**
comp=Z,12μm,14.3s
SELS Selova 80.20 321⇑*i*P **P 03 37 37.6 -0.5**
KAVA Kavala 80.23 317 P **P 03 37 39.0 +0.8**
T25A Trinidad 80.24 48 P **P 03 37 39.2 +0.6**
baz=316
SCHQ Schefferville 80.26 17 P **P 03 37 38.5 +0.4**
comp=Z,287nm,1.0s,baz=350,slow=7.1,SNR=20
SCHQ LR LR 04 17 52.9
comp=Z,7μm,18.7s,baz=338,slow=39
SCHQ Schefferville 80.26 17 IAmb IAmb 03 37 40.0
comp=Z,700nm,1.2s
KKB Krupnik 80.29 319 *i* P **P 03 37 39.8 +1.3**
NVR Nevrokopi 80.29 318 P **P 03 37 39.4 +0.8**
MOSL Moslavina 80.31 325 P **P 03 37 37.9 -0.7**
IVAS Ivanjica 80.38 322⇑*i*P **P 03 37 38.9 -0.2**
BGNE Belgrade 80.40 42 P **P 03 37 39.5 +0.3**
baz=319
PTJ Puntijarka 80.41 325 P **P 03 37 38.8 -0.4**
DOB Doboj 80.41 323 *e*P **P 03 37 39.3 +0.2**
THAS Thassos island 80.41 317 P **P 03 37 39.5 +0.3**
BSTI Sart Tilman 80.44 334 P **P 03 37 40.9 +1.7**
comp=Z,92nm,1.3s
FUR Furstenfeldbru 80.46 329 *e*P **P 03 37 40.3 +0.9**
comp=Z,2μm,1.1s,baz=34,slow=5.5
FUR *e*L L 04 16 30.5
comp=Z,72μm,19.9s
ZAG Zagreb 80.47 325⇑*i*P **P 03 37 40.0 +0.6**
BHOU Houvegnez 80.50 334 P **P 03 37 39.9 +0.4**
comp=Z,242nm,1.2s
BBLS Lazići 80.50 322⇑*i*P **P 03 37 40.6 +0.8**
BBLS Lazići 80.50 322⇑*i*P **P 03 37 40.5 +0.8**
OBKA Obir 80.52 327 *i* P **P 03 37 40.2 +0.4**
comp=Z,306nm,0.8s,SNR=104
OBKA *e*S **S 03 47 41.4 -0.8**
comp=Z,2μm,5.1s
ELMS Elmsett, Ipswi 80.54 337 *e*P **P 03 37 40.0 +0.4**
ELMS IAmb IAmb 03 37 40.6
comp=Z,1μm,1.0s
ELMS IAMs_20 IAMs_20 04 14 27.0
comp=Z,49μm,22.6s
KBA Koelnbreinsper 80.55 328 *i* P **P 03 37 40.5 +0.5**
comp=Z,1μm,1.4s,SNR=332
KBA *e*PP **PP 03 40 45.2 +1.9**
comp=Z,716nm,1.8s
KBA *e*S **S 03 47 42.8 +0.2**
comp=Z,1μm,3.1s
DGAR Diego Garcia 80.55 251 *e*P **P 03 37 41.5 +1.3**
DGAR pmax pmax
comp=Z,2μm,2.5s
DGAR Diego Garcia 80.55 251 P **P 03 37 39.7 -0.5**
DGAR Diego Garcia 80.55 251 IAMs_20 IAMs_20 04 13 26.3
comp=Z,17μm,21.0s
SRS Serrai 80.60 318 P **P 03 37 40.4 +0.2**
CWF Charnwood Fore 80.60 339⇑*e*P **P 03 37 39.7 -0.3**
CWF IAmb IAmb 03 37 40.8
comp=Z,730nm,1.3s
CWF IAMs_20 IAMs_20 04 11 36.8
comp=Z,42μm,28.4s
PRK Paraskevi 80.62 315 P **P 03 37 41.6 +1.3**
KOKK Kokkinochori, 80.62 318 P **P 03 37 40.6 +0.3**
ANMO Albuquerque 80.64 51 PKKPbc PKKPbc 03 56 20.5 +1.9
comp=Z,8.1nm,0.9s,baz=162,slow=4.9,SNR=18
ANMO LR LR 04 12 49.7
comp=Z,7μm,21.5s,baz=328,slow=35
ANMO Albuquerque 80.64 51 P **P 03 37 42.4 +1.6**
baz=315
BCLA Clavier 80.67 334 P **P 03 37 40.7 +0.3**
comp=Z,284nm,1.2s
H08S3 Diego Garcia H 80.68 251 P **P 03 37 41.5 +0.9**
baz=14,slow=11,SNR=5.1
H08S2 Diego Garcia H 80.69 251 P **P 03 37 41.5 +0.9**
baz=14,slow=11,SNR=5.2
CRES Cresnjev 80.69 326⇑*i*P **P 03 37 40.8 +0.2**
H08S1 Diego Garcia H 80.70 251 P **P 03 37 41.6 +0.9**
baz=14,slow=11,SNR=4.4
LIA Limnos Island 80.70 316 P **P 03 37 40.8 +0.1**
SJES Sjenica 80.71 321⇑*i*P **P 03 37 41.6 +0.7**
RUDO Rudo 80.71 322 *e*P **P 03 37 40.6 -0.2**
MRAK Mrakovica 80.72 324⇑*i*P **P 03 37 40.8 -0.1**
STU Stuttgart 80.73 331 *e*P **P 03 37 41.4 +0.6**
comp=Z,3μm,1.1s,baz=34,slow=5.5
STU Stuttgart 80.73 331 IAmb IAmb 03 37 42.7
comp=Z,885nm,1.0s
BGES Gesves 80.77 334 P **P 03 37 40.5 -0.4**
comp=Z,281nm,1.1s
WME Myndd Eilian 80.78 341⇑*e*P **P 03 37 41.0 +0.1**
WME IAmb IAmb 03 37 42.4
comp=Z,811nm,1.2s
MYKA Terra Mystica 80.79 327 *i* P **P 03 37 41.3 +0.1**
comp=Z,733nm,1.2s,SNR=154
BLY Banja Luka 80.80 324⇑*i*P **P 03 37 41.4 +0.2**
BLY Banja Luka 80.80 324 *e*P **P 03 37 41.5 +0.2**
PRIJ Prijedor 80.83 324⇑*i*P **P 03 37 41.6 +0.3**
STIP Stip 80.86 319 *i* P **P 03 37 41.2 -0.4**
SIGR SIGRI 80.86 315 P **P 03 37 41.8 +0.2**
WLF1 Llynfaes 80.90 341⇑*e*P **P 03 37 41.7 +0.2**
WLF1 IAmb IAmb 03 37 43.1
comp=Z,2μm,1.4s
WLF1 IAMs_20 IAMs_20 04 14 15.9
comp=Z,65μm,23.4s
LJU Ljubljana 80.90 326⇑*i*P **P 03 37 41.7 -0.1**
LJU Ljubljana 80.90 326⇑*i*P **P 03 37 41.6 -0.1**
LJU *i* PcP **PcP 03 37 43.2 -4.9**
LJU *e*S S 03 47 32.0 -14
KNT Kendrikon 80.91 318 P **P 03 37 42.1 +0.2**
RCHB Rochefort 80.92 334 P **P 03 37 41.7 0.0**
comp=Z,364nm,1.2s
SNF Seneffe 80.92 335 P **P 03 37 41.8 +0.1**
comp=Z,366nm,1.1s
PLE Pljevlja 80.92 322 *e*P **P 03 37 41.9 -0.1**
SOH Sokhos 80.94 318 P **P 03 37 42.1 0.0**
BMRD Maredsous 80.94 334 P **P 03 37 41.8 0.0**
comp=Z,521nm,1.1s
VAY Valandovo 80.95 319 *i* P **P 03 37 42.9 +0.8**
YRC Rhoscolyn 80.98 341⇑*e*P **P 03 37 42.1 +0.2**
YLL Llanberis 80.98 341⇑*e*P **P 03 37 42.5 +0.5**
Y22D IRIS PASSCAL I 80.98 52 IAMs_20 IAMs_20 04 09 41.1
comp=Z,10μm,22.0s
Y22D IRIS PASSCAL I 80.98 52 P **P 03 37 44.2 +1.7**
baz=315
OUR Ouranopolis 80.99 317 P **P 03 37 42.7 +0.4**
FETY Fethiye 81.00 312 P **P 03 37 42.3 -0.2**
SKO Skopje 81.00 320 *i* P **P 03 37 43.5 +1.1**
SOCY Socotra 81.00 278 P **P 03 37 41.4 -1.5**
SNR=84
SOCY Socotra 81.00 278 P **P 03 37 41.4 -1.5**
SOCY IAmb IAmb 03 37 42.9
comp=Z,1μm,1.2s
SOCY IAMs_20 IAMs_20 04 18 30.8
comp=Z,9μm,21.0s
GBAS Gorenja Brezov 81.03 326⇑*i*P **P 03 37 42.2 -0.2**
GBAS *e* 03 38 04.2
GBAS *e*S **S 03 47 46.5 -0.8**
WATA Walderalm 81.03 329 *i* P **P 03 37 42.9 +0.4**
comp=Z,1μm,1.3s,SNR=162
WATA *i* S **S 03 47 47.3 -0.2**
comp=Z,2μm,5.0s
IVA Berane 81.05 321 *e*P **P 03 37 42.6 -0.1**
WTTA Wattenberg 81.06 329 *i* P **P 03 37 43.4 +0.6**
comp=Z,794nm,1.0s,SNR=198
YER Yerkesik 81.08 313 P **P 03 37 43.7 +0.8**
MGRS Mrkonjic Grad 81.11 324⇑*i*P **P 03 37 44.0 +1.1**
ABTA Abfaltersbach 81.15 328 *i* P **P 03 37 42.7 -0.4**
comp=Z,483nm,1.2s,SNR=135
DOU Dourbes 81.18 334 P **P 03 37 41.3 -1.8**
comp=Z,237nm,1.2s
CEY Cerknica 81.19 326⇑*i*P **P 03 37 43.3 0.0**
MOTA Moosalm 81.20 329 *i* P **P 03 37 44.0 +0.5**
comp=Z,2μm,1.1s,SNR=483
MOTA *e*S **S 03 47 49.0 -0.4**
comp=Z,2μm,3.9s
RETA Reutte 81.22 329 *i* P **P 03 37 44.1 +0.7**
comp=Z,1μm,1.1s,SNR=441
RETA *e*S **S 03 47 49.4 0.0**
comp=Z,2μm,3.7s
PVY Plav 81.23 321 *e*P **P 03 37 43.9 +0.2**
PLG Polygyros 81.23 318 P **P 03 37 44.0 +0.4**
HORT Hortiatis 81.24 318 P **P 03 37 43.5 -0.2**
KOME Kolasin 81.24 321 *e*P **P 03 37 43.7 0.0**
UPM Unac-Piva 81.25 322⇑*i*P **P 03 37 43.8 0.0**
UPM Unac-Piva 81.25 322 *e*P **P 03 37 43.6 -0.2**
SQTA Sankt Quirin 81.27 329 *i* P **P 03 37 44.4 +0.6**
comp=Z,1μm,1.1s,SNR=358
SQTA *e*S **S 03 47 49.4 -0.5**
comp=Z,2μm,4.4s
THE Thessaloniki 81.28 318 P **P 03 37 43.4 -0.4**
GRG Griva 81.31 319 P **P 03 37 44.1 +0.1**
ELSH Elham, Standar 81.33 337 *e*P **P 03 37 44.0 +0.1**
ELSH IAmb IAmb 03 37 45.2
comp=Z,1μm,1.1s
ELSH IAMs_20 IAMs_20 04 11 43.8
comp=Z,47μm,29.6s
BCI Bajram Curri 81.36 321 *i* P **P 03 37 43.5 -0.8**
CHOS Chios island 81.37 315 P **P 03 37 44.9 +0.5**
PLIT Plitvice 81.38 325 P **P 03 37 44.1 -0.3**
BFO Black Forest 81.41 331 *e*P **P 03 37 45.0 +0.5**
comp=Z,1μm,1.5s,baz=34,slow=5.5
BFO *e*L L 04 15 37.7
comp=Z,31μm,21.9s
BFO Black Forest 81.41 331 P **P 03 37 44.7 +0.3**
SMG Samos 81.45 314 P **P 03 37 44.9 +0.1**
PAIG Paliouri 81.45 317 P **P 03 37 45.0 +0.3**
STAL STALIGIAL 81.47 327 IAmb IAmb 03 37 44.7
comp=Z,419nm,0.9s
RIY Rijeka 81.50 326⇑*i*P **P 03 37 44.5 -0.4**
RIY Rijeka 81.50 326 P **P 03 37 44.2 -0.7**
NKY Niksic 81.51 322 *e*P **P 03 37 45.1 0.0**
SKDS Skadanscina 81.52 326⇑*i*P **P 03 37 44.5 -0.5**
CBKS Cedar Bluff 81.53 44 IAMs_20 IAMs_20 04 17 41.6
comp=Z,10μm,22.0s
CBKS Cedar Bluff 81.53 44 P **P 03 37 45.2 -0.1**
baz=318
121A Cookes Peak, D 81.55 54 P **P 03 37 47.0 +1.3**
baz=315
NKME Niksic 81.56 322 *e*P **P 03 37 45.2 -0.2**
UDBI Udbina 81.60 325 P **P 03 37 45.0 -0.6**
FETA Feichten 81.61 329 *e*P **P 03 37 43.4 -2.3**
comp=Z,878nm,1.1s,SNR=242
FETA PP **PP 03 40 49.2 -2.8**
comp=Z,2μm,5.1s
FETA *e*S **S 03 47 53.2 -0.5**
comp=Z,881nm,4.1s
BRY Bratogost 81.65 322⇑*i*P **P 03 37 45.6 -0.3**
BRY Bratogost 81.65 322 *e*P **P 03 37 45.4 -0.5**
BODT Bodrum 81.67 313 P **P 03 37 45.9 -0.1**
PDG Podgorica 81.69 321 ⇑P **P 03 37 46.5 +0.5**
PDG Podgorica 81.69 321⇑*i*P **P 03 37 46.2 +0.3**
PDG Podgorica 81.69 321 *e*P **P 03 37 46.1 +0.2**
TTG Podgorica 81.69 321 *e*P **P 03 37 46.3 +0.3**
STRD Stroud 81.70 339⇑*e*P **P 03 37 46.2 +0.4**
STRD IAmb IAmb 03 37 48.2
comp=Z,3μm,1.3s
STRD IAMs_20 IAMs_20 04 12 07.4
comp=Z,42μm,27.6s
PHP Peshkopia 81.70 320 P **P 03 37 46.4 +0.3**
PHP Peshkopia 81.70 320 *i* P **P 03 37 47.6 +1.5**
DAVA Damuels 81.72 330 *e*S **S 03 47 54.4 -0.3**
comp=Z,1μm,4.2s
MCH1 Michaelchurch 81.72 339⇑*e*P **P 03 37 46.1 +0.1**
MCH1 IAmb IAmb 03 37 46.9
comp=Z,569nm,1.1s
MCH1 IAMs_20 IAMs_20 04 15 52.2
comp=Z,31μm,23.2s
KIJV Kijevo 81.73 324 P **P 03 37 46.0 -0.2**
CEME Cevo 81.75 322 *e*P **P 03 37 46.4 0.0**
DAT Datca 81.76 313 P **P 03 37 46.3 -0.3**
SKY Skiros Island 81.79 316 P **P 03 37 46.8 +0.2**
HMNX Herstmonceux 81.81 337 *e*P **P 03 37 46.8 +0.3**
HMNX IAmb IAmb 03 37 48.5
comp=Z,3μm,1.2s
HMNX IAMs_20 IAMs_20 04 15 17.9
comp=Z,50μm,22.0s
RICI Ricice 81.82 323 P **P 03 37 45.8 -0.8**
ARG Arkhangelos 81.84 312 P **P 03 37 47.4 +0.6**
RABC Rab 81.84 325 P **P 03 37 45.6 -1.1**
SWN1 Swindon 81.84 338 *e*P **P 03 37 46.5 0.0**
SWN1 IAmb IAmb 03 37 48.4
comp=Z,3μm,1.3s
SWN1 IAMs_20 IAMs_20 04 13 10.6
comp=Z,44μm,27.7s
SMRN Sveta Marina 81.87 326 P **P 03 37 45.7 -1.1**
KTI Kastanea 81.88 318 P **P 03 37 46.8 -0.4**
TREB Trebinje 81.88 322⇑*i*P **P 03 37 46.3 -0.7**
TREB Trebinje 81.88 322 *e*P **P 03 37 46.6 -0.4**
DRME Dracevica, Mon 81.91 321⇑*i*P **P 03 37 47.7 +0.6**
DRME Dracevica, Mon 81.91 321 *e*P **P 03 37 47.5 +0.4**
ECH Echery 81.92 332 P **P 03 37 47.3 +0.1**
FNA Florina 81.94 319 P **P 03 37 47.3 -0.1**
FNA Florina 81.94 319 IAmb IAmb 03 37 48.3
comp=Z,638nm,1.2s
FNA Florina 81.94 319 *i* P **P 03 37 46.2 -1.2**
NVLJ Novalja 81.95 325 P **P 03 37 46.3 -0.9**
BUM Brajici-Budva 81.95 321 *e*P **P 03 37 47.4 0.0**

OHR Ohrid 81.97 320 *i* P **P 03 37 47.8 +0.2**
HCY Herceg Novi 82.02 322⇑ *i*P **P 03 37 47.5 -0.2**
HCY Herceg Novi 82.02 322 *e*P **P 03 37 47.5 -0.2**
MAKA Makarska 82.03 323 P **P 03 37 46.8 -1.0**
ULC Ulcinj 82.05 321 *e*P **P 03 37 47.9 0.0**
STON Ston 82.05 323⇑ *i*P **P 03 37 47.2 -0.6**
STON Ston 82.05 323 P **P 03 37 46.5 -1.3**
STON Ston 82.05 323 *e*P **P 03 37 46.9 -0.9**
KOSK Kos Island 82.07 313 P **P 03 37 47.7 -0.3**
NISR Nisiros 82.09 313 P **P 03 37 47.9 -0.3**
KZN Kozani 82.12 319 P **P 03 37 47.9 -0.4**
XOR Xorichti 82.12 317 P **P 03 37 48.0 -0.3**
DAVOX Davos/Dischmat 82.14 329 P **P 03 37 49.1 +0.6**
comp=Z,397nm,1.0s,baz=18,slow=6.1,SNR=23
DAVOX LR LR 04 17 55.1
comp=Z,67µm,19.7s,baz=28,slow=38
NEO Neokhori 82.15 317 P **P 03 37 47.9 -0.6**
MORI Morici 82.15 324 P **P 03 37 47.6 -0.8**
KYMI Kymi, Euboea I 82.20 316 P **P 03 37 48.6 -0.1**
RSBS Rosebush, Pemb 82.21 340 *e*P **P 03 37 48.8 +0.3**
RSBS IAmb IAmb 03 37 49.4
comp=Z,652nm,1.2s
RSBS IAMs_20 IAMs_20 04 16 44.0
comp=Z,29µm,22.0s
TIR Tirane 82.24 320 P **P 03 37 49.3 +0.4**
TIR Tirane 82.24 320 *i* P **P 03 37 49.8 +1.0**
LRSO Larissa Observ 82.29 318 P **P 03 37 48.9 -0.2**
IWEX Carrickbyrne, 82.31 342 *e*P **P 03 37 49.3 +0.3**
IWEX IAMs_20 IAMs_20 04 13 20.9
comp=Z,27µm,26.7s
DUGI Dugi Otok 82.33 325 P **P 03 37 48.7 -0.5**
TYRN Tyrnavos 82.34 318 P **P 03 37 48.8 -0.6**
ZIRJ Zirje 82.35 324 P **P 03 37 48.5 -0.8**
RAR Rarotonga 82.35 127 IAMs_20 IAMs_20 04 06 40.6
comp=Z,19µm,22.0s
KBN Korca 82.35 319 P **P 03 37 49.7 +0.1**
KBN Korca 82.35 319 *i* P **P 03 37 50.5 +0.9**
HVAR Hvar 82.37 323 P **P 03 37 48.2 -1.3**
NEST Nestorio 82.39 319 P **P 03 37 49.8 0.0**
SCIA State Center 82.39 39 IAMs_20 IAMs_20 04 18 05.3
comp=Z,13µm,20.0s
SCIA State Center 82.39 39 P **P 03 37 50.3 +0.6**
baz=322,SNR=11
EIL Elat 82.47 303 P **P 03 37 51.1 +0.8**
comp=Z,433nm,1.0s,baz=78,slow=3.2,SNR=228
EIL PP **PP 03 40 59.6 +0.1**
comp=Z,176nm,1.2s,baz=25,slow=2.1,SNR=8.5
EIL LR LR 04 18 23.8
comp=Z,18µm,21.8s,baz=44,slow=38
KARY Karystos 82.48 315 P **P 03 37 50.1 -0.1**
LSTV Lastovo 82.50 323 P **P 03 37 49.1 -1.0**
THL Klokotos Trika 82.56 318 P **P 03 37 49.5 -1.1**
KPRO Kipourio 82.59 319 P **P 03 37 50.1 -0.7**
ATAL Atalanti 82.72 317 P **P 03 37 51.0 -0.4**
H43A Windswept, Lux 82.74 34 IAmb IAmb 03 37 53.3
comp=Z,872nm,1.4s
LKR Lokris 82.76 317 P **P 03 37 51.0 -0.6**
PTL Penteli 82.77 316 P **P 03 37 50.8 -0.9**
LSK Leskovik 82.81 319 P **P 03 37 52.7 +0.7**
LSK Leskovik 82.81 319 *i* P **P 03 37 53.3 +1.3**
AGG Agios Georgios 82.82 317 P **P 03 37 51.0 -1.0**
AGG Agios Georgios 82.82 317 IAmb IAmb 03 37 52.7
comp=Z,973nm,1.3s
ATHU Athens Univers 82.87 316 P **P 03 37 51.2 -1.0**
ATH Athens Observa 82.90 316 P **P 03 37 51.4 -0.9**
KSU1 Kansas State U 82.92 42 IAMs_20 IAMs_20 04 16 34.3
comp=Z,16µm,22.0s
KSU1 Kansas State U 82.92 42 P **P 03 37 52.3 -0.1**
baz=320
MAKR Makrakomi, Fth 82.92 317 P **P 03 37 51.7 -0.8**
JFWS Jewell Farm 82.94 36 IAMs_20 IAMs_20 04 16 00.7
comp=Z,16µm,22.0s
JFWS Jewell Farm 82.94 36 P **P 03 37 52.3 -0.2**
baz=323
VLY Voula,Athens 82.95 316 P **P 03 37 51.6 -1.0**
VILL Villia 82.97 316 P **P 03 37 51.6 -1.2**
HTL Hartland 83.02 340 *e*P **P 03 37 53.2 +0.5**
HTL IAmb IAmb 03 37 53.9
comp=Z,541nm,1.2s
HTL IAMs_20 IAMs_20 04 17 53.4
comp=Z,27µm,20.2s
JAN Janina 83.07 319 P **P 03 37 52.7 -0.5**
VLO Vlora 83.10 320 P **P 03 37 54.0 +0.7**
VLO Vlora 83.10 320 *i* P **P 03 37 52.9 -0.4**
CMBO Columbo, Santo 83.13 314 P **P 03 37 52.1 -1.5**
THR8 Santorini-Mono 83.14 314 P **P 03 37 53.2 -0.4**
THT2 Imerovigli 83.15 314 P **P 03 37 52.1 -1.6**
EVR Evrytania 83.16 318 P **P 03 37 53.2 -0.6**
SANT Santorini 83.18 314 P **P 03 37 52.2 -1.7**
STAX Taxiarchis Har 83.19 314 P **P 03 37 52.0 -1.8**
LTK Loutraki 83.25 316 P **P 03 37 52.6 -1.6**
SRN Sarande 83.31 319 P **P 03 37 54.6 +0.2**
SRN Sarande 83.31 319 *i* P **P 03 37 55.2 +0.8**
ANX Ano Chora 83.35 317 P **P 03 37 54.3 -0.5**
AMTX Amarillo 83.39 48 P **P 03 37 56.2 +1.1**
baz=318
THAL Thalero 83.39 317 P **P 03 37 53.2 -1.7**
IGT Igoumenitsa 83.42 319 P **P 03 37 55.0 0.0**
IGT Igoumenitsa 83.42 319 *i* P **P 03 37 54.5 -0.5**
SERG Sergoula 83.42 317 P **P 03 37 54.4 -0.7**
TRIZ Trizonia 83.45 317 P **P 03 37 54.5 -0.6**
MSTX Muleshoe 83.45 50 P **P 03 37 56.0 +0.5**
baz=317
EPID Epidavros 83.48 316 P **P 03 37 53.4 -2.0**
EFP Efpalio 83.48 317 P **P 03 37 55.0 -0.3**
MHLO Agia Marina, M 83.50 315 P **P 03 37 53.7 -1.8**
KEK Kerkira 83.54 319 P **P 03 37 55.7 +0.1**
KAN12 Harper NE Stat 83.58 44 IAmb IAmb 03 37 57.9
comp=Z,578nm,1.4s
MNTX Cornudas Mount 83.58 53 P **P 03 37 57.2 +1.2**
baz=316
LAKA Lakka 83.59 317 P **P 03 37 55.6 -0.4**
KAN16 Harper SW Stat 83.60 44 IAmb IAmb 03 37 58.0
comp=Z,599nm,1.4s
KRND KRANIDI 83.64 316 P **P 03 37 54.1 -2.1**
OK035 E0210 Rd and N 83.65 45 IAMs_20 IAMs_20 04 20 17.6
comp=Z,8µm,20.0s
KLV Kalavryta, Ach 83.65 317 P **P 03 37 55.2 -1.1**
ZKR Zakros 83.70 312 P **P 03 37 56.5 0.0**
STIA Sitia Lasithi 83.70 313 P **P 03 37 56.7 +0.2**
GLMI Grayling 83.72 32 IAMs_20 IAMs_20 04 20 36.3
comp=Z,9µm,20.0s
GLMI Grayling 83.72 32 P **P 03 37 56.8 +0.3**
baz=327,SNR=7.6
I45A Fountain 83.73 33 IAmb IAmb 03 37 58.8
comp=Z,2µm,1.6s
CLF Chambon-Foret 83.74 335 P **P 03 37 56.8 +0.3**
TSLK Tsoukalades, L 83.81 318 P **P 03 37 56.8 -0.2**
KAN01 Argonia South 83.81 44 IAmb IAmb 03 37 59.3
comp=Z,768nm,1.4s
SGRT San Giovanni R 83.82 323 *i* P **P 03 37 56.4 -0.8**
LKD2 Lefkada island 83.83 318 P **P 03 37 57.0 -0.2**
LKD2 Lefkada island 83.83 318 *i* P **P 03 37 55.4 -1.7**
OK032 Salt Plains WL 83.84 45 IAMs_20 IAMs_20 04 19 13.6
comp=Z,9µm,20.0s
NYDR Nydri-Lefkada 83.87 318 P **P 03 37 57.0 -0.3**
SCTE Santa Cesarea 83.90 320 *i* P **P 03 37 56.4 -1.1**
NPS Neapolis 83.92 313 P **P 03 37 57.0 -0.7**
DRO Drossia 83.95 317 P **P 03 37 57.9 +0.1**
CCA1 Carnmenellis 83.95 340 *e*P **P 03 37 57.7 +0.2**
CCA1 IAmb IAmb 03 37 58.6
comp=Z,1µm,1.3s
CCA1 IAMs_20 IAMs_20 04 17 09.9
comp=Z,26µm,22.0s
DRAG Dragano-Lefkad 83.95 318 P **P 03 37 57.4 -0.4**
EVGI Lefkada island 83.96 318 P **P 03 37 57.8 0.0**
RLS Riolos of Patr 83.99 317 P **P 03 37 58.2 +0.3**
JQE Queens East 83.99 338⇑ *e*P **P 03 37 58.0 +0.3**
JDG Jersey Dam (Ga 84.00 338⇑ *e*P **P 03 37 57.5 -0.3**
JDC Jersey Dam (Cr 84.01 338⇑ *e*P **P 03 37 57.5 -0.3**
FRMA Ierapetra Chan 84.04 313 P **P 03 37 58.1 -0.1**
JSA Saint Aubin 84.04 338 *e*P **P 03 37 58.1 +0.2**
JSA IAmb IAmb 03 37 58.8
comp=Z,470nm,1.1s
JSA IAMs_20 IAMs_20 04 15 39.7
comp=Z,52µm,24.9s
HRKL Herakleio 84.16 313 P **P 03 37 58.3 -0.6**
KSTL Kastelli Herak 84.18 313 P **P 03 37 58.5 -0.5**
VLI Veliai 84.25 315 P **P 03 37 57.3 -2.0**
MATE Matera 84.27 322 ⇑P **P 03 37 59.6 +0.3**
IDI Anoyia 84.29 313 P **P 03 37 58.8 -0.8**
comp=Z,1µm,1.1s,baz=22,slow=8.5,SNR=89
IDI PP **PP 03 41 14.0 -0.2**
comp=Z,139nm,1.1s,baz=26,slow=15,SNR=3.7
IDI LR LR 04 21 22.9
comp=Z,15µm,18.1s,baz=36,slow=40
IDI Anoyia 84.29 313 P **P 03 37 58.7 -0.9**
VLS Valsamata 84.34 318 P **P 03 37 59.5 -0.2**
MSSA Maissana 84.34 328 IAmb IAmb 03 38 00.6
comp=Z,1µm,1.2s
KEF4 Livadi, Kephal 84.36 318 P **P 03 37 59.8 0.0**
PSDA Pessada-Kefalo 84.39 318 P **P 03 37 59.7 -0.3**
ITM Ithomi 84.43 316 P **P 03 37 59.6 -0.6**
KEF3 Kipouria, Keph 84.44 318 P **P 03 37 59.9 -0.3**
PRNS Prines Rethymn 84.44 314 P **P 03 37 59.7 -0.6**
TMBK Timbaki Herakl 84.52 313 P **P 03 38 01.2 +0.5**
KTHA Kythira Island 84.54 315 P **P 03 37 59.7 -1.1**
L44A Lake County Fo 84.55 35 IAmb IAmb 03 38 02.4
comp=Z,833nm,1.4s
L44A IAMs_20 IAMs_20 04 20 52.3
comp=Z,10µm,20.0s
L44A Lake County Fo 84.55 35 P **P 03 38 01.0 +0.3**
baz=325,SNR=8.8
KTHR Kythira 84.57 315 P **P 03 38 00.1 -0.8**
LTHK Lithakia 84.57 317 P **P 03 38 00.4 -0.5**
VAM Vamos 84.58 314 P **P 03 37 59.9 -1.1**
IMMV Iera Moni Meta 84.65 314 P **P 03 38 00.8 -0.6**
TAU Tasmania Unive 84.67 177 IAMs_20 IAMs_20 04 11 22.7
comp=Z,16µm,21.0s
RODP Rodopos 84.70 314 P **P 03 38 01.2 -0.4**
ANKY Antikythira Is 84.71 315 P **P 03 38 00.7 -0.9**
HQIL Hanson Quary C 84.88 35 IAMs_20 IAMs_20 04 22 00.1
comp=Z,9µm,21.0s
KNDR Palaiochora Ch 84.98 314 P **P 03 38 02.7 -0.3**
GVDS Gavdos 85.06 314 P **P 03 38 03.2 -0.2**
GVD Gavdhos 85.06 314 P **P 03 38 03.1 -0.3**
WMOK Wichita Mounta 85.09 47 P **P 03 38 04.4 +0.8**
baz=319
OK031 S. Brethren Rd 85.20 45 IAMs_20 IAMs_20 04 21 46.8
comp=Z,8µm,21.0s
OK034 N. Norfolk Rd. 85.23 44 IAMs_20 IAMs_20 04 21 46.3
comp=Z,9µm,21.0s
OK030 Cody Creek RV 85.25 45 IAMs_20 IAMs_20 04 21 48.0
comp=Z,9µm,21.0s
HDIL Hopedale 85.26 37 IAMs_20 IAMs_20 04 23 14.1
comp=Z,9µm,20.0s
HDIL Hopedale 85.26 37 P **P 03 38 04.5 +0.2**
baz=324,SNR=9.9
OKCFA Oklahoma City 85.29 45 IAmb IAmb 03 38 07.1
comp=Z,894nm,1.4s
PMOR Pomariorio Ree 85.32 115 *e*T T 05 11 33.0
comp=Z,156nm,0.2s
HIZ Hauiti 85.36 155 IAMs_20 IAMs_20 04 09 18.8
comp=Z,19µm,22.0s
SSB Saint Sauveur 85.37 332 P **P 03 38 05.2 +0.3**
TUL1 Leonard 85.78 44 IAMs_20 IAMs_20 04 19 14.0
comp=Z,15µm,21.0s
TUL1 Leonard 85.78 44 P **P 03 38 07.6 +0.6**
baz=320,SNR=7.1
LPIG La Paz 85.87 61 LR LR 04 08 00.6
comp=Z,5µm,21.5s,baz=310,slow=30
PPT Papeete 86.03 118 LR LR 04 09 57.0
comp=Z,18µm,21.3s,baz=298,slow=31
PPT2 Papeete2 86.05 118 *e*S **S 03 48 37.2 -1.4**
comp=Z,27µm,26.2s
PPT2 Papeete2 86.05 118 *e*LR LR 04 05 16.4
comp=Z,110µm,26.5s,baz=310
PPT2 Papeete2 86.05 118 *e*T T 05 12 31.2
comp=Z,32nm,0.2s
TIAR Tiarei 86.18 118 *e*T T 05 12 38.5
comp=Z,7.0nm,0.2s
AAM Ann Arbor 86.22 33 IAMs_20 IAMs_20 04 18 18.4
comp=Z,13µm,22.0s
AAM Ann Arbor 86.22 33 P **P 03 38 09.7 +0.7**
baz=327,SNR=11
AAM S **S 03 48 37.7 -1.9**
baz=327
K50A Casco 86.22 32 IAmb IAmb 03 38 11.2
comp=Z,828nm,1.4s
TXAR Lajitas Array 86.31 53 P **P 03 38 10.3 +0.5**
comp=Z,54nm,0.8s,baz=298,slow=2.7,SNR=21
TXAR PKKPbc **PKKPbc 03 56 07.8 +2.4**
comp=Z,6.3nm,0.9s,baz=150,slow=5.2,SNR=14
TXAR Lajitas Array 86.31 53 P **P 03 38 10.5 +0.7**
TXAR Lajitas Array 86.31 53 P **P 03 38 10.5 +0.7**
CCM Cathedral Cave 86.36 40 IAMs_20 IAMs_20 04 20 51.3
comp=Z,13µm,20.0s
CCM Cathedral Cave 86.36 40 P **P 03 38 10.1 +0.3**
baz=323
CCM S **S 03 48 39.7 -1.4**
baz=323
SLM Saint Louis 86.37 39 IAmb IAmb 03 38 26.5
comp=Z,523nm,1.2s
SFIN Lafayette 86.37 36 P **P 03 38 10.2 +0.4**
baz=325,SNR=8.1
SFIN S **S 03 48 39.0 -2.2**
baz=325
TAOE Nuku Hiva Isla 86.47 105 *e*S **S 03 48 40.6 -2.3**
comp=Z,12µm,25.6s
TAOE Nuku Hiva Isla 86.47 105 *e*LR LR 04 05 30.8
comp=Z,56µm,24.0s,baz=319
TAOE Nuku Hiva Isla 86.47 105 *e*T T 05 13 04.9
comp=Z,254nm,0.2s
BKZ Black Stump Fm 86.47 154 IAMs_20 IAMs_20 04 16 02.3
comp=Z,16µm,22.0s
DELO Deloro Mine 86.57 28 IAmb IAmb 03 38 12.2
comp=Z,625nm,1.2s
U40A Yellville 86.92 42 IAMs_20 IAMs_20 04 16 42.2
comp=Z,10µm,22.0s
U40A Yellville 86.92 42 P **P 03 38 12.9 +0.2**
baz=322,SNR=10.0
U40A S **S 03 48 44.5 -2.2**
baz=322
MEH Mehetia 87.25 117 *e*T T 05 14 00.7
comp=Z,144nm,0.3s
PECO Prince Edward 87.29 28 IAmb IAmb 03 38 15.8
comp=Z,399nm,1.2s
W39A Magazine 87.36 43 IAMs_20 IAMs_20 04 19 10.9
comp=Z,15µm,22.0s
W39A Magazine 87.36 43 P **P 03 38 15.2 +0.4**
baz=322
W39A S **S 03 48 49.5 -1.4**
baz=322
MQOL MQOL 87.37 295 *i* P **P 03 38 14.7 -0.3**
MQOL AMP 03 38 16.5
comp=Z,1µm,1.7s
NNZ Nelson 87.40 157 P **P 03 38 14.9 +0.5**
MEDO Medina 87.45 29 IAmb IAmb 03 38 16.9
comp=Z,633nm,1.3s
LONY Lake Ozonia 87.49 26 IAMs_20 IAMs_20 04 24 00.8
comp=Z,9µm,19.0s
LONY Lake Ozonia 87.49 26 P **P 03 38 15.2 0.0**
baz=333,SNR=12
LONY S **S 03 48 49.1 -2.8**
baz=333
PQI Presque Isle 87.55 21 IAmb IAmb 03 38 17.0
comp=Z,626nm,1.3s
J55A Hilton 87.59 28 IAmb IAmb 03 38 17.4
comp=Z,702nm,1.4s
JCT Junction City 87.72 50 P **P 03 38 16.9 +0.3**
baz=319
JCT S **S 03 48 53.7 -0.9**
baz=319
BFZ Birch Farm 87.77 155 IAMs_20 IAMs_20 04 11 57.7
comp=Z,14µm,22.0s
THZ Tophouse 87.77 158 P **P 03 38 14.9 -1.3**
THZ IAmb IAmb 03 38 46.8
comp=Z,322nm,1.7s
ERPA Erie 87.80 30 IAMs_20 IAMs_20 04 19 05.2
comp=Z,14µm,22.0s
ERPA Erie 87.80 30 P **P 03 38 17.5 +0.8**
baz=330,SNR=17
ERPA S **S 03 48 52.2 -2.7**
baz=330
VAE Valguarnera 87.87 321 LR LR 04 22 49.7
comp=Z,35µm,18.4s,baz=50,slow=39
WHTX Lake Whitney, 87.89 48 P **P 03 38 17.9 +0.6**
baz=320
WHTX S **S 03 48 55.6 -0.5**
baz=320
J56A Wolcott 87.92 28 IAmb IAmb 03 38 18.8
comp=Z,609nm,1.3s
MIAR Mount Ida 87.98 43 IAMs_20 IAMs_20 04 20 16.2
comp=Z,9µm,21.0s
MIAR Mount Ida 87.98 43 P **P 03 38 18.4 +0.7**
baz=322,SNR=5.8
MIAR S **S 03 48 56.5 -0.4**
baz=322
J57A Williamstown 88.10 27 IAmb IAmb 03 38 19.9
comp=Z,768nm,1.3s
P49A Miami Univ. Ec 88.10 35 IAMs_20 IAMs_20 04 23 36.2
comp=Z,9µm,21.0s
P49A Miami Univ. Ec 88.10 35 P **P 03 38 18.5 +0.3**
baz=327,SNR=19
P49A S **S 03 48 55.8 -2.0**
baz=327
M53A WI Miller and 88.12 31 IAMs_20 IAMs_20 04 21 31.7
comp=Z,16µm,22.0s
M53A WI Miller and 88.12 31 P **P 03 38 19.0 +0.8**
baz=329,SNR=20
M53A S **S 03 48 55.8 -2.1**
baz=329
W41B Gary Mavity, V 88.16 42 P **P 03 38 18.7 +0.2**
baz=322
W41B S **S 03 48 57.9 -0.6**
baz=322
F64A Sherman 88.20 21 IAmb IAmb 03 38 20.5
comp=Z,426nm,1.2s
ACSO Alum Creek Sta 88.23 33 IAMs_20 IAMs_20 04 19 40.8
comp=Z,11µm,21.0s
ACSO Alum Creek Sta 88.23 33 P **P 03 38 19.3 +0.5**
baz=328,SNR=13
ACSO S **S 03 48 57.0 -2.1**
baz=328
Z38A Mt. Pleasant 88.25 45 IAmb IAmb 03 38 36.1
comp=Z,476nm,1.3s
VT1 Waterbury 88.33 25 IAMs_20 IAMs_20 04 21 42.2
comp=Z,16µm,21.0s
X40A Basin Creek Fa 88.40 43 IAMs_20 IAMs_20 04 19 42.4
comp=Z,17µm,22.0s
X40A Basin Creek Fa 88.40 43 P **P 03 38 20.4 +0.6**
baz=322,SNR=12
X40A S **S 03 48 59.8 -1.1**
baz=322
M54A Oil Creek Stat 88.44 30 IAMs_20 IAMs_20 04 25 52.4
comp=Z,14µm,20.0s
M54A Oil Creek Stat 88.44 30 P **P 03 38 20.5 +0.7**
baz=330,SNR=16
M54A S **S 03 48 59.2 -1.9**
baz=330
PKME Peaks-Kenny Pk 88.50 22 IAmb IAmb 03 38 22.2
comp=Z,685nm,1.4s
PKME IAMs_20 IAMs_20 04 22 44.4
comp=Z,16µm,21.0s
PKME Peaks-Kenny Pk 88.50 22 P **P 03 38 20.6 +0.6**
baz=337,SNR=12
PKME S **S 03 48 59.2 -2.2**
baz=337
WCI Wyandotte Cave 88.50 36 IAMs_20 IAMs_20 04 24 13.8
comp=Z,15µm,21.0s
WCI Wyandotte Cave 88.50 36 P **P 03 38 20.6 +0.6**
baz=326
WCI S **S 03 49 00.7 -1.0**
baz=326
WCI Wyandotte Cave 88.50 36 P **P 03 38 20.7 +0.6**
FOZ Fox Glacier 88.61 161 IAmb IAmb 03 38 58.2
comp=Z,226nm,1.3s
FOZ IAMs_20 IAMs_20 04 19 31.2
comp=Z,9µm,20.0s
435B Jarrell 88.74 48 S **S 03 49 03.1 -1.1**
baz=320
N54A Moraine State 88.79 31 IAMs_20 IAMs_20 04 18 03.6
comp=Z,13µm,22.0s
N54A Moraine State 88.79 31 P **P 03 38 22.1 +0.6**
baz=330,SNR=29
N54A S **S 03 49 03.4 -1.0**
baz=330
O53A New Philadelph 88.93 32 IAMs_20 IAMs_20 04 20 07.2
comp=Z,16µm,22.0s
O53A New Philadelph 88.93 32 P **P 03 38 22.7 +0.6**
baz=329,SNR=22
O53A S **S 03 49 04.5 -1.1**
baz=329
OXZ Oxford 88.99 159 IAmb IAmb 03 38 47.9
comp=Z,208nm,1.0s
WVL Waterville 89.04 22 IAmb IAmb 03 38 24.8
comp=Z,608nm,1.3s
WVL IAMs_20 IAMs_20 04 20 15.7
comp=Z,13µm,22.0s
HNH Hanover 89.04 25 IAmb IAmb 03 38 25.1
comp=Z,344nm,1.2s
HNH IAMs_20 IAMs_20 04 22 12.7
comp=Z,15µm,21.0s
P52A Corning 89.08 33 IAMs_20 IAMs_20 04 20 16.3
comp=Z,12µm,22.0s
P52A Corning 89.08 33 P **P 03 38 23.2 +0.4**
baz=328,SNR=15
P52A S **S 03 49 05.0 -2.1**
baz=328
H06E1 SOCORRO T-PHAS 89.17 65 T T 05 17 21.7
SNR=108
BINY Binghamton 89.17 28 IAMs_20 IAMs_20 04 24 27.4
comp=Z,13µm,20.0s
BINY Binghamton 89.17 28 P **P 03 38 23.4 +0.2**
baz=332,SNR=11
BINY S **S 03 49 05.1 -2.8**
baz=332
I62A Tamworth 89.17 24 IAmb IAmb 03 38 25.8
comp=Z,547nm,1.4s
H06S1 SOCORRO T 89.18 65 T T 05 17 14.4
SNR=42
J61A Chester 89.28 25 IAmb IAmb 03 38 26.2
comp=Z,498nm,1.3s
Z41A Richland Creek 89.39 44 P **P 03 38 25.2 +0.9**
baz=322
Z41A S **S 03 49 09.2 -0.9**
baz=322
FFD Franklin Falls 89.44 24 IAMs_20 IAMs_20 04 21 49.5
comp=Z,16µm,21.0s
TRY Troy 89.48 26 IAMs_20 IAMs_20 04 21 21.3
comp=Z,12µm,22.0s
LBZ Lake Benmore 89.50 161 IAmb IAmb 03 38 51.2
comp=Z,238nm,1.1s
LBZ IAMs_20 IAMs_20 04 14 18.8
comp=Z,11µm,21.0s
MQZ McQueen's Vall 89.51 159 IAMs_20 IAMs_20 04 16 52.0
comp=Z,15µm,21.0s
WVT Waverly 89.52 39 IAMs_20 IAMs_20 04 23 28.0
comp=Z,11µm,20.0s
WVT Waverly 89.52 39 P **P 03 38 25.6 +0.7**
baz=325
WVT S **S 03 49 09.7 -1.6**
baz=325
WVT Waverly 89.52 39 P **P 03 38 25.6 +0.7**
ATD Arta Tunnel 89.56 285 P **P 03 38 27.1 +1.6**
comp=Z,365nm,1.0s,baz=31,slow=2.9,SNR=97
ATD PP **PP 03 42 00.7 +3.2**
comp=Z,49nm,1.0s,baz=54,slow=6.5,SNR=4.5
ATD Arta Tunnel 89.56 285 *e*P **P 03 38 26.6 +1.1**
ATD Arta Tunnel 89.56 285 P **P 03 38 27.1 +1.6**
ATD Arta Tunnel 89.56 285 ⇑P **P 03 38 26.7 +1.2**
ATD PP **PP 03 42 00.2 +2.8**
ATD Arta Tunnel 89.56 285 *e*P **P 03 38 24.2 -1.3**
ATD *e*S S 03 48 57.3 -15
ATD AMP 03 49 47.0
comp=N,56µm,7.2s
833A Chaparral WMA, 89.57 51 P **P 03 38 26.4 +1.1**
baz=319
833A S **S 03 49 11.3 -0.7**
baz=319
NATX Nacogdoches 89.58 46 IAMs_20 IAMs_20 04 23 39.8
comp=Z,9µm,21.0s
NATX Nacogdoches 89.58 46 P **P 03 38 26.0 +0.7**
baz=321
NATX S **S 03 49 10.4 -1.7**
baz=321
DCZ Deep Cove 89.82 163 IAMs_20 IAMs_20 04 15 40.2
comp=Z,9µm,22.0s
SSPA Standing Stone 89.87 30 IAMs_20 IAMs_20 04 25 50.0
comp=Z,10µm,20.0s
SSPA Standing Stone 89.87 30 P **P 03 38 27.2 +0.8**
baz=331
SSPA S **S 03 49 12.4 -2.0**
baz=331
SSPA Standing Stone 89.87 30 P **P 03 38 27.3 +0.8**
O56A Blue Knob Stat 89.93 30 IAMs_20 IAMs_20 04 23 48.8
comp=Z,14µm,21.0s
O56A Blue Knob Stat 89.93 30 P **P 03 38 27.6 +0.7**
baz=331,SNR=20
O56A S **S 03 49 13.4 -1.7**
baz=331
MCWV Mont Chateau 89.97 31 IAMs_20 IAMs_20 04 22 39.8
comp=Z,15µm,19.0s
MCWV Mont Chateau 89.97 31 P **P 03 38 27.9 +1.0**
baz=330,SNR=21
MCWV S **S 03 49 13.9 -1.5**
baz=330
K62A Royalston 89.99 25 IAmb IAmb 03 38 29.6

comp=Z,626nm,1.2s
L61B Northampton 90.05 25 IAmb IAmb 03 38 29.4
comp=Z,260nm,1.2s
L61B IAMs_20 IAMs_20 04 22 38.4
comp=Z,15μm,20.0s
L61B Northampton 90.05 25 P **P** **03 38 27.7 +0.5**
L61B S **S** **03 49 14.5 -1.4**
baz=334
735A Kenedy 90.08 50 IAmb IAmb 03 38 46.0
comp=Z,436nm,1.1s
MAHO Mahon 90.14 329 P **P** **03 38 26.2 -1.5**
MAHO Mahon 90.14 329 PP PP 03 42 01.4 +0.5
ODZ Otahua Downs 90.23 161 IAMs_20 IAMs_20 04 15 45.2
comp=Z,13μm,21.0s
TBI Tubuai 90.27 122 *e*SKSac **SKSac** **03 48 53.2 -1.7**
comp=Z,7μm,27.8s
TBI Tubuai 90.27 122 *e*PS PS 03 50 28.7 -3.2
comp=Z,16μm,27.8s
TBI Tubuai 90.27 122 *e*LR LR 04 06 55.5
comp=Z,63μm,34.5s,baz=317
TBI Tubuai 90.27 122 *e*T T 05 17 49.3
comp=Z,115nm,0.3s
QUA2 Belchertown 90.31 25 IAmb IAmb 03 38 30.7
comp=Z,335nm,1.2s
QUA2 IAMs_20 IAMs_20 04 22 54.3
comp=Z,16μm,21.0s
PLAL Pickwick Lake 90.34 40 IAMs_20 IAMs_20 04 22 51.7
comp=Z,15μm,20.0s
HKT Hockley 90.35 48 IAMs_20 IAMs_20 04 15 38.7
comp=Z,12μm,22.0s
HRV Adam Dziewonsk 90.35 25 P **P** **03 38 29.6 +1.0**
HRV pmax pmax
comp=Z,686nm,1.2s
HRV MLR MLR
comp=Z,11μm,22.0s
HRV Adam Dziewonsk 90.35 25 P **P** **03 38 29.6 +1.0**
HRV Adam Dziewonsk 90.35 25 IAMs_20 IAMs_20 04 22 50.4
comp=Z,11μm,22.0s
HRV Adam Dziewonsk 90.35 25 P **P** **03 38 29.8 +1.1**
baz=335
HRV S **S** **03 49 17.2 -1.6**
baz=335
N59A State Game Lan 90.38 28 IAMs_20 IAMs_20 04 24 58.5
comp=Z,10μm,19.0s
N59A State Game Lan 90.38 28 P **P** **03 38 29.5 +0.6**
baz=332,SNR=40
N59A S **S** **03 49 16.4 -2.8**
baz=332
PYZ Puysegur Point 90.39 164 IAMs_20 IAMs_20 04 15 36.2
comp=Z,12μm,22.0s
WHZ Wether Hill Ro 90.40 163 IAMs_20 IAMs_20 04 16 10.5
comp=Z,10μm,22.0s
WES Weston 90.53 24 IAMs_20 IAMs_20 04 25 08.3
comp=Z,12μm,20.0s
HAL Halifax 90.55 18 IAmb IAmb 03 38 31.1
comp=Z,344nm,1.2s
BCX Boston College 90.62 24 IAmb IAmb 03 38 32.2
comp=Z,482nm,1.2s
BCX IAMs_20 IAMs_20 04 23 10.7
comp=Z,13μm,22.0s
TEND Ethiopian Broa 90.71 286 *e*P **P** **03 38 32.4 +1.5**
BRYW Bryant College 90.89 25 IAMs_20 IAMs_20 04 22 34.7
comp=Z,11μm,22.0s
PAL Palisades 90.94 27 IAMs_20 IAMs_20 04 24 24.1
comp=Z,9μm,21.0s
PAL Palisades 90.94 27 P **P** **03 38 32.2 +0.7**
baz=334,SNR=16
PAL S **S** **03 49 21.3 -2.9**
baz=334
YLE Yale 90.99 26 IAMs_20 IAMs_20 04 22 27.3
comp=Z,12μm,20.0s
WSPT Westport, CT 90.99 26 IAmb IAmb 03 38 33.5
comp=Z,538nm,1.3s
WSPT IAMs_20 IAMs_20 04 26 42.3
comp=Z,10μm,20.0s
KVTX Kingsville 91.02 51 IAmb IAmb 03 38 35.9
comp=Z,334nm,1.2s
KVTX IAMs_20 IAMs_20 04 24 24.9
comp=Z,8μm,22.0s
MSEY Mahe Island 91.03 265 P **P** **03 38 32.0 -0.3**
MSEY pmax pmax
comp=Z,286nm,1.3s
MSEY MLR MLR
comp=Z,23μm,21.0s
MSEY Mahe Island 91.03 265 P **P** **03 38 32.5 +0.2**
MSEY P **PcP** **03 38 32.7 -0.6**
MSEY Mahe Island 91.03 265 P **P** **03 38 32.0 -0.3**
MSEY IAmb IAmb 03 38 33.3
comp=Z,286nm,1.2s
MSEY Mahe Island 91.03 265 P **P** **03 38 32.5 +0.2**
MSEY Mahe Island 91.03 265 *i* P **P** **03 38 32.4 +0.2**
SNR=8.2
TZTN Tazewell 91.10 36 P **P** **03 38 32.7 +0.4**
baz=328,SNR=5.5
TZTN S **S** **03 49 23.8 -2.1**
baz=328
M63A Gales Ferry 91.19 25 IAmb IAmb 03 38 34.5
comp=Z,462nm,1.2s
VBMS Vicksburg 91.38 43 IAMs_20 IAMs_20 04 21 43.2
comp=Z,10μm,22.0s
VBMS Vicksburg 91.38 43 P **P** **03 38 34.7 +1.1**
baz=323
VBMS S **S** **03 49 30.1 +1.7**
baz=323
P60A Greenville 91.41 29 IAmb IAmb 03 38 35.7
comp=Z,477nm,1.2s
P60A IAMs_20 IAMs_20 04 22 43.6
comp=Z,12μm,22.0s
P60A Greenville 91.41 29 P **P** **03 38 34.1 +0.5**
baz=332,SNR=16
P60A S **S** **03 49 25.4 -3.1**
baz=332
M65A Busby, Falmout 91.49 24 IAMs_20 IAMs_20 04 23 33.6
comp=Z,16μm,22.0s
M65A Busby, Falmout 91.49 24 P **P** **03 38 34.7 +0.8**
baz=336
M65A S **S** **03 49 27.3 -1.8**
baz=336
KEST Kesra 91.61 324 P **P** **03 38 34.6 -0.2**
comp=Z,132nm,1.1s,baz=142,slow=4.7,SNR=6.3
KEST LR LR 04 24 35.1
comp=Z,58μm,19.9s,baz=330,slow=39
BLA Blacksburg 91.85 33 IAMs_20 IAMs_20 04 25 46.5
comp=Z,16μm,21.0s
BLA Blacksburg 91.85 33 P **P** **03 38 36.4 +0.6**
baz=329
BLA S **S** **03 49 29.6 -3.1**
baz=329
PBRG Braganca 92.09 338 *e*P **P** **03 38 36.6 -0.2**
comp=Z,481nm,1.8s
CBN Corbin Frederi 92.19 30 IAmb IAmb 03 38 39.4
comp=Z,487nm,1.7s
CBN IAMs_20 IAMs_20 04 27 23.4
comp=Z,13μm,20.0s
CBN Corbin Frederi 92.19 30 P **P** **03 38 37.6 +0.4**
baz=331
CBN S **S** **03 49 33.4 -2.1**
baz=331
SILA Clinic, Silare 92.19 289 ⇑P **P** **03 38 38.8 +0.9**
SILA PP **PP** **03 42 16.3 -2.0**
Q61A Milford 92.34 29 P **P** **03 38 38.7 +0.8**
baz=333
Q61A S **S** **03 49 37.4 +0.5**
baz=333
PGAV Gavieira, Arco 92.36 339 *e*P **P** **03 38 37.7 -0.4**
comp=Z,548nm,1.6s
PGAV Gavieira, Arco 92.36 339 *e*PP PP 03 42 19.3 +0.9
PGAV Gavieira, Arco 92.36 339 *e*LR LR 04 09 49.9
comp=Z,16μm,20.0s
UCM Universidad Co 92.41 335 P **P** **03 38 36.1 -2.2**
UCM Universidad Co 92.41 335 PP PP 03 42 18.4 -0.3
PCAB Cabril 92.53 338 *e*P **P** **03 38 38.2 -0.7**
comp=Z,514nm,1.7s
GOND University, Go 92.69 289 ⇑P **P** **03 38 41.2 +0.9**
GOND PP **PP** **03 42 24.0 +1.7**
MVO Moncorvo 92.76 338 *e*P **P** **03 38 39.4 -0.6**
comp=Z,554nm,1.6s
MVO Moncorvo 92.76 338 *e*PP PP 03 42 23.5 +2.0
MVO Moncorvo 92.76 338 *e*LR LR 04 09 59.2
comp=Z,21μm,22.0s
POLO Lamas de Olo 92.78 338 *e*P **P** **03 38 40.0 -0.1**
comp=Z,322nm,1.2s
PVRL Vila Real 92.85 338 *e*P **P** **03 38 40.1 -0.2**
comp=Z,612nm,1.8s
ANKE Ethiopia-Afar 93.11 286 *e*P **P** **03 38 43.6 +1.3**
ANKE Ethiopia-Afar 93.11 286 *e*P **P** **03 38 41.8 -0.6**

ANKE *e*S **SKSac** **03 49 14.2 +1.8**
ANKE IAMs_20 IAMs_20 03 50 22.2
comp=N,2μm,5.3s
ESDC Sonseca Array 93.21 335 P **P** **03 38 42.2 +0.2**
comp=N,121nm,1.0s,baz=22,slow=3.0,SNR=24
ESDC PP **PP** **03 42 24.6 -0.4**
comp=N,36nm,1.2s,baz=26,slow=8.7,SNR=6.1
ESDC ScS **S** **03 49 46.4 +1.6**
comp=N,6.5nm,1.3s,baz=16,slow=6.8,SNR=5.1
ESDC PKKPbc **PKKPbc** **03 55 49.7 +1.0**
comp=N,3.3nm,1.1s,baz=208,slow=1.7,SNR=4.8
ESDC LR LR 04 26 29.3
comp=N,20μm,18.7s,baz=345,slow=39
KMSC Kings Mountain 93.24 35 P **P** **03 38 42.3 +0.1**
baz=329
KMSC S **S** **03 49 40.5 -4.6**
baz=329
MERTO Secondary Scho 93.28 288 ⇑P **P** **03 38 44.2 +1.1**
MERTO PP **PP** **03 42 25.9 -1.2**
PVIS Viseu 93.42 338 *e*P **P** **03 38 42.6 -0.4**
comp=N,366nm,1.3s
BAHR High School, B 93.44 289 ⇑P **P** **03 38 44.4 +0.7**
BAHR PP **PP** **03 42 27.8 -0.3**
SHAW Medical Clinic 93.54 289 ⇑P **P** **03 38 45.1 +0.9**
SHAW PP **PP** **03 42 23.8 -5.2**
MTE Manteigas 93.62 338 *e*P **P** **03 38 44.0 +0.1**
comp=N,318nm,1.4s
MTE Manteigas 93.62 338 *e*PP **PP** **03 42 30.6 +2.4**
MTE *e*SKSac **SKSac** **03 49 17.2 +3.4**
MTE Manteigas 93.62 338 *e*LR LR 04 10 26.5
comp=N,20μm,20.0s
MTE Manteigas 93.62 338 IAmb IAmb 03 38 44.7
comp=Z,296nm,1.2s
GOGA Godfrey 93.78 37 IAMs_20 IAMs_20 04 26 32.5
comp=Z,13μm,19.0s
GOGA Godfrey 93.78 37 P **P** **03 38 45.0 +0.4**
baz=328
GOGA S **S** **03 49 45.9 -3.8**
baz=328
MUKA Police Camp, M 93.80 290 ⇑P **P** **03 38 45.5 +0.3**
MUKA PP **PP** **03 42 27.8 -3.0**
MELAE School, Dubaba 93.86 290 ⇑P **P** **03 38 45.1 -0.3**
MELAE PP **PP** **03 42 31.1 -0.2**
BRAL Brewton 93.95 41 IAMs_20 IAMs_20 04 26 58.3
comp=Z,9μm,21.0s
BRAL Brewton 93.95 41 P **P** **03 38 46.4 +0.9**
baz=325
BRAL S **S** **03 49 50.3 -1.1**
baz=325
COI Coimbra 94.04 338 *e*P **P** **03 38 45.6 -0.1**
comp=Z,511nm,1.3s
GINR Hospital, Gini 94.08 283 ⇑P **P** **03 38 47.8 +1.1**
GINR PP **PP** **03 42 32.3 -1.0**
CART Cartagena 94.11 332 P **P** **03 38 43.8 -2.3**
CART Cartagena 94.11 332 PP PP 03 42 27.9 -4.1
PCBR Castelo Branco 94.12 337 *e*P **P** **03 38 45.2 -0.9**
comp=Z,240nm,1.8s
PCAS Casmilo, Conde 94.21 338 *e*P **P** **03 38 45.3 -1.3**
comp=Z,373nm,1.5s
JAWL J.Aulia 94.25 295 *i* P **P** **03 38 45.3 -1.9**
JAWL *i* 03 38 55.4
baz=347,slow=18
FURI Furi 94.35 286 *e*P **P** **03 38 49.9 +1.9**
FURI Furi 94.35 286 P **P** **03 38 48.5 +0.5**
FURI Furi 94.35 286 P **P** **03 38 50.0 +2.1**
FURI Furi 94.35 286 ⇑P **P** **03 38 49.8 +1.9**
FURI PP **PP** **03 42 33.6 -1.8**
FURI Furi 94.35 286 *e*P **P** **03 38 48.5 +0.5**
FURI *e*S **SKSac** **03 49 24.5 +5.5**
FURI IAMs_20 IAMs_20 03 50 39.2
comp=Z,9μm,13.7s
CHGE School, Chagni 94.46 289 P **P** **03 38 49.0 +0.7**
CHGE PP **PP** **03 42 35.5 -0.6**
PMRV Marv??o 94.47 337 *e*P **P** **03 38 47.5 -0.3**
comp=Z,279nm,1.7s
PMRV Marv??o 94.47 337 *e*PP **PP** **03 42 36.3 +1.5**
PMRV *e*SKSac **SKSac** **03 49 22.3 +3.9**
PMRV Marv??o 94.47 337 *e*LR LR 04 10 51.4
comp=Z,17μm,22.0s
ABMD Abulta/Almeha 94.51 290 ⇑P **P** **03 38 48.4 -0.1**
ABMD PP **PP** **03 42 35.5 -0.8**
CNNC Cliffs of the 94.58 32 IAMs_20 IAMs_20 04 29 30.7
comp=Z,13μm,20.0s
CNNC Cliffs of the 94.58 32 P **P** **03 38 48.6 +0.3**
baz=331
V61A Roper 94.61 31 IAmb IAmb 03 38 50.5
comp=Z,469nm,1.4s
PSBE So Bento 94.79 338 *e*P **P** **03 38 48.7 -0.6**
comp=Z,459nm,1.6s
OKGL Djebel Kef Gue 94.89 330 P **PP** **03 42 35.0 -3.3**
KIRE School, Kiremu 94.91 288 ⇑P **P** **03 38 51.6 +1.1**
PMTG Montargil 95.05 338 *e*P **P** **03 38 49.7 -0.7**
comp=Z,199nm,2.0s
PESTR Estremoz 95.05 337 *e*P **P** **03 38 49.7 -0.8**
comp=Z,169nm,1.4s
GUBA Police Station 95.11 290 ⇑P **P** **03 38 51.0 -0.2**
GUBA PP **PP** **03 42 39.4 -1.6**
DEBR School, Debre 95.29 289 ⇑P **P** **03 38 52.9 +0.6**
DEBR PP **PP** **03 42 40.0 -2.7**
TIGA Tifton 95.37 38 P **P** **03 38 52.7 +0.7**
baz=327
TIGA S **S** **03 50 01.7 -2.1**
baz=327
HARO School, Haroo 95.38 288 ⇑P **P** **03 38 53.2 +0.6**
PMAFR Mafra 95.45 338 *e*P **P** **03 38 51.5 -0.7**
comp=Z,362nm,1.4s
NHSC New Hope 95.48 35 P **P** **03 38 52.8 +0.3**
baz=329
EVO Evora 95.48 337 P **P** **03 38 50.5 -1.9**
EVO Evora 95.48 337 PP **PP** **03 42 41.2 -1.5**
EVO Evora 95.48 337 *e*P **P** **03 38 52.2 -0.2**
comp=Z,265nm,1.9s
LIS Lisbon 95.63 338 *e*P **P** **03 38 52.8 -0.3**
LIS IAmb IAmb 03 38 53.4
comp=Z,243nm,1.3s
LIS Lisbon 95.63 338 *e*P **P** **03 38 52.7 -0.3**
comp=Z,286nm,2.2s
LIS Lisbon 95.63 338 *e*P **P** **03 38 52.7 -0.3**
ODJA Bouhanifia 95.81 330 P **PP** **03 42 46.0 +0.6**
PBEJ Beja 95.91 337 *e*P **P** **03 38 53.9 -0.5**
comp=Z,251nm,1.8s
SHERE Police Station 95.93 290 P **P** **03 38 54.8 -0.1**
SHERE PP **PP** **03 42 45.8 -1.6**
EMAL Malaga-Limoner 96.01 334 P **P** **03 38 52.7 -2.1**
EMAL Malaga-Limoner 96.01 334 PP **PP** **03 42 44.8 -2.0**
PNCL Nicolau / Gran 96.02 338 *e*P **P** **03 38 54.3 -0.6**
comp=Z,176nm,1.5s
NGLE Hospital, Nege 96.13 283 ⇑P **P** **03 38 56.5 +0.6**
NGLE PP **PP** **03 42 49.0 -0.2**
MESJ Messejana 96.19 337 *e*P **P** **03 38 55.5 -0.2**
MESJ IAmb IAmb 03 38 56.1
comp=Z,224nm,1.3s
MESJ Messejana 96.19 337 *e*P **P** **03 38 55.5 -0.2**
MESJ iAmb 03 38 56.1
MESJ Messejana 96.19 337 *e*P **P** **03 38 55.4 -0.2**
MEND High School, M 96.27 289 ⇑P **P** **03 38 57.0 +0.4**
MEND PP **PP** **03 42 49.0 -1.1**
DILA Dilla 96.31 284 *e*P **P** **03 38 57.6 +0.8**
DILA *e*S **SKSac** **03 49 29.6 +0.4**
DILA IAMs_20 IAMs_20 03 50 39.6
comp=N,8μm,30.9s
PCVE Castro Verde 96.33 337 *e*P **P** **03 38 56.2 -0.1**
comp=N,182nm,1.7s
ARNO Arenosillo 96.43 336 P **P** **03 38 55.7 -1.0**
ARNO Arenosillo 96.43 336 PP **PP** **03 42 49.1 -0.9**
UNM Universidad Na 96.43 57 IAMs_20 IAMs_20 04 16 23.4
comp=Z,13μm,22.0s
PVAQ Vaqueiros 96.45 337 *e*P **P** **03 38 56.7 -0.1**
comp=Z,127nm,1.4s
PVAQ Vaqueiros 96.45 337 *e*PP **PP** **03 42 53.8 +3.7**
PVAQ *e*SKSac **SKSac** **03 49 30.3 +1.4**
PVAQ Vaqueiros 96.45 337 *e*LR LR 04 11 54.6
comp=Z,48μm,20.0s
PTEO Sao Teotonio 96.61 337 *e*P **P** **03 38 57.3 -0.2**
comp=Z,334nm,1.8s
PBDV Barranco-do-Ve 96.66 337 *e*P **P** **03 38 57.9 +0.1**
comp=Z,165nm,1.7s
CHAS Isla Isabel II 96.77 332 P **P** **03 38 56.9 -1.4**
CHAS Isla Isabel II 96.77 332 PP **PP** **03 42 50.0 -2.7**
MORF Marmelete 96.81 337 *e*P **P** **03 38 58.6 0.0**
MORF IAmb IAmb 03 38 59.8
comp=Z,389nm,1.7s
MORF Marmelete 96.81 337 *e*P **P** **03 38 58.0 -0.5**
comp=Z,231nm,1.8s
MORF Marmelete 96.81 337 *e*P **P** **03 38 58.5 0.0**

SFS San Fernando 96.85 335 P **P** **03 38 58.4 -0.3**
SFS San Fernando 96.85 335 PP **PP** **03 42 52.7 -0.6**
CNIL Conil 96.89 335 P **P** **03 38 59.5 +0.7**
PFVI Vila Bisbo 97.02 337 *e*P **P** **03 38 58.9 -0.5**
comp=Z,201nm,1.9s
GOREE District Admin 97.10 288 ⇑P Pdif 03 39 01.9 +1.3
CEU Ceuta 97.11 334 P **P** **03 38 57.0 -2.9**
CEU Ceuta 97.11 334 PP **PP** **03 42 53.1 -2.2**
GIDAE Health Center, 97.18 289 ⇑P Pdif 03 39 01.4 +0.5
AIS Amsterdam Isla 99.15 227 IAMs_20 IAMs_20 04 22 38.1
comp=Z,6μm,20.0s
DWPF Disney Wildern 99.18 39 IAMs_20 IAMs_20 04 25 22.7
comp=Z,14μm,22.0s
DWPF Disney Wildern 99.18 39 P **Pdif** **03 39 09.8 +0.6**
baz=328
IFR Ifrane 99.21 333 P **Pdif** **03 39 07.5 -2.1**
IFR Ifrane 99.21 333 PP **PP** **03 43 06.7 -4.9**
MDT Midelt 99.67 333 P **Pdif** **03 39 11.6 +0.1**
comp=Z,53nm,1.1s,baz=58,slow=3.1,SNR=7.0
MDT PP **PP** **03 43 15.8 +0.8**
comp=Z,80nm,1.1s,baz=24,slow=10,SNR=17
MDT LR LR 04 28 29.7
comp=Z,21μm,21.4s,baz=26,slow=38
AVE Averroes 100.15 335 P **Pdif** **03 39 12.8 -0.7**
AVE Averroes 100.15 335 PP **PP** **03 43 18.9 +0.4**
LODK Lodwar 100.49 284 P **Pdif** **03 39 16.2 +0.8**
SNR=8.7
LODK Lodwar 100.49 284 IAMs_20 IAMs_20 04 30 30.7
comp=Z,13μm,20.0s
SBV Sambava 100.92 262 P **Pdif** **03 39 16.6 -0.4**
SBV Sambava 100.92 262 P **Pdif** **03 39 16.8 -0.3**
RER Riviere de l'E 101.68 252 IAMs_20 IAMs_20 04 23 24.6
comp=Z,9μm,22.0s
BBSR BB Station 101.78 23 IAMs_20 IAMs_20 04 28 21.0
comp=Z,14μm,22.0s
KMBO Kilima Mbogo 102.20 280 P **Pdif** **03 39 24.1 +0.8**
comp=Z,62nm,1.0s,baz=37,slow=5.5,SNR=53
KMBO PP **PP** **03 43 34.1 -1.5**
comp=Z,65nm,1.1s,baz=35,slow=9.3,SNR=9.6
KMBO Kilima Mbogo 102.20 280 P **Pdif** **03 39 23.8 +0.6**
KMBO Kilima Mbogo 102.20 280 *e*P **Pdif** **03 39 23.7 +0.5**
KMBO Kilima Mbogo 102.20 280 P **Pdif** **03 39 23.7 +0.5**
KMBO PP **PP** **03 43 30.7 -4.9**
KMBO Kilima Mbogo 102.20 280 *e*P **Pdif** **03 39 21.0 -2.2**
KMBO *e*S **SKSac** **03 50 03.3 +4.7**
KMBO AMP 03 58 40.9
comp=Z,18μm,16.9s
KMBO Kilima Mbogo 102.20 280 *i* P **Pdif** **03 39 24.0 +0.8**
SNR=50
KIBK Kibwezi 102.43 278 P **Pdif** **03 39 24.5 +0.5**
SNR=20
KIBK Kibwezi 102.43 278 IAMs_20 IAMs_20 04 33 09.8
comp=Z,12μm,20.0s
PMPST Porto Santo, M 102.80 342 *e*P **Pdif** **03 39 24.7 -0.6**
comp=Z,272nm,1.9s
PMPS Porto Santo 102.82 342 *e*P **Pdif** **03 39 25.0 -0.3**
comp=Z,322nm,1.7s
PMOZ Porto Moniz, M 103.24 343 *e*PP **PKiKP** **03 43 43.5 -3.0**
PMOZ Porto Moniz, M 103.24 343 *e*LR LR 04 14 49.7
comp=Z,8μm,22.0s
PMAR Madeira 103.27 342 *e*P **Pdif** **03 39 27.3 -0.3**
comp=Z,324nm,1.4s
KOND Kondoa 105.82 278 *i* P PKiKP 03 43 60.0 +8.3
MBAR Mbarara 106.59 285 PP **PP** **03 44 08.3 +0.2**
comp=Z,23nm,1.1s,baz=23,slow=9.5,SNR=7.1
MBAR Mbarara 106.59 285 *e*P **Pdif** **03 39 41.9 -0.8**
MBAR *e*S **SKSac** **03 50 12.6 -5.9**
MBAR IAMs_20 IAMs_20 04 00 14.5
comp=Z,26μm,48.8s
TGUH Tegucigalpa,Un 107.69 51 IAMs_20 IAMs_20 04 22 02.6
comp=Z,7μm,22.0s
VOI Vohitsoka 108.58 257 IAMs_20 IAMs_20 04 26 45.9
comp=Z,9μm,22.0s
GTBY Guantanamo Bay 109.12 38 IAMs_20 IAMs_20 04 31 24.1
comp=Z,7μm,22.0s
GRTK Grand Turk 109.45 33 IAMs_20 IAMs_20 04 27 46.5
comp=Z,12μm,22.0s
MTDJ Mount Denham 109.45 41 IAMs_20 IAMs_20 04 33 55.0
comp=Z,10μm,22.0s
SDDR Presa de Saban 111.64 35 IAMs_20 IAMs_20 04 34 28.6
comp=Z,9μm,21.0s
JTS Las Juntas de 112.05 52 IAMs_20 IAMs_20 04 32 48.1
comp=Z,5μm,22.0s
TORD Torodi Ar. Bea 114.40 318 PKP **PKiKP** **03 44 07.5 -0.2**
comp=Z,4.3nm,0.5s,baz=25,slow=2.1,SNR=8.9
TORD PP **PP** **03 45 00.1 -3.3**
comp=Z,272nm,1.1s,baz=21,slow=6.2,SNR=29
TORD PKKPbc **PKKPbc** **03 54 46.3 +0.9**
comp=Z,3.5nm,0.9s,baz=210,slow=1.6,SNR=7.1
ANWB Willy Bob 116.43 26 IAMs_20 IAMs_20 04 32 59.0
comp=Z,5μm,21.0s
PAYG Puerto Ayora 117.14 64 IAMs_20 IAMs_20 04 26 55.5
comp=Z,8μm,22.0s
SVN Savane Anatole 119.27 27 IAMs_20 IAMs_20 04 38 16.4
comp=Z,7μm,21.0s
CRZF Crozet Islands 119.30 232 IAMs_20 IAMs_20 04 31 24.9
comp=Z,5μm,21.0s
FDF Fort de France 119.38 27 IAMs_20 IAMs_20 04 38 50.2
comp=Z,7μm,20.0s
VNDA Vanda 119.88 175 PKP **PKiKP** **03 44 16.6 +0.3**
comp=Z,9.0nm,0.8s,baz=315,slow=5.2,SNR=16
VNDA PKKPbc **PKKPbc** **03 54 27.8 +0.7**
comp=Z,12nm,1.1s,baz=215,slow=3.5,SNR=8.2
SBA Scott Base 120.53 174 PKIKP **PKiKP** **03 44 19.3 +1.7**
SBA Scott Base 120.53 174 **PKiKP** **03 44 19.3 +1.7**
SBA Scott Base 120.53 174 IAMs_20 IAMs_20 04 29 47.8
comp=Z,6μm,22.0s
SDV Santo Domingo 120.84 39 *e*P **PKPdf** **03 44 20.2 -0.1**
SDV Santo Domingo 120.84 39 PKPdf **PKiKP** **03 44 20.5 0.0**
SDV Santo Domingo 120.84 39 IAMs_20 IAMs_20 04 41 52.5
comp=Z,8μm,22.0s
GRGR Grenville 121.62 28 IAMs_20 IAMs_20 04 37 59.9
comp=Z,8μm,21.0s
SACV Santiago Islan 121.88 344 IAMs_20 IAMs_20 04 35 46.5
comp=Z,10μm,22.0s
ROSC El Rosal 122.46 45 PKP **PKiKP** **03 44 24.8 +1.0**
comp=Z,18nm,0.9s,baz=216,slow=24,SNR=3.2
DBIC Dimbokro 123.19 320 PKP **PKPdf** **03 44 24.1 -0.5**
comp=Z,30nm,1.0s,baz=36,slow=2.6,SNR=9.9
DBIC PP **PP** **03 46 01.0 -3.1**
comp=Z,128nm,1.1s,baz=41,slow=7.8,SNR=7.4
DBIC Dimbokro 123.19 320 PKIKP **PKiKP** **03 44 24.7 -0.1**
DBIC Dimbokro 123.19 320 **PKiKP** **03 44 24.7 -0.1**
TIC Toumodi 123.29 321 *e*PKP1 **PKPdf** **03 44 23.6 -1.2**
KIC Kosan Boka 123.40 320 *e*PKP1 **PKPdf** **03 44 23.7 -1.3**
comp=Z,32nm,0.7s
LIC Lamto 123.66 320 *e*PKP1 **PKPdf** **03 44 24.4 -1.1**
comp=Z,292nm,1.4s
OTAV Otavalo 123.93 52 *e*P **PKPdf** **03 44 26.4 -0.2**
MAW Mawson 124.46 207 PKP **PKiKP** **03 44 25.8 +0.2**
comp=Z,15nm,0.9s,baz=171,slow=3.1,SNR=5.8
MAW Mawson 124.46 207 PKIKP **PKiKP** **03 44 26.2 +0.7**
MAW Mawson 124.46 207 PKPdf **PKiKP** **03 44 26.2 +0.7**
BOSA Boshof 128.29 264 PKiKP PKPpre 03 44 26.1
comp=Z,10nm,0.8s,baz=69,slow=1.4,SNR=6.9
BOSA PKP **PKiKP** **03 44 34.4 -0.3**
comp=Z,43nm,1.2s,baz=73,slow=2.1,SNR=8.2
BOSA PP **PP** **03 46 37.8 -1.4**
comp=Z,75nm,1.1s,baz=51,slow=8.5,SNR=5.5
TSUM Tsumeb 128.54 279 PKP **PKPdf** **03 44 35.0 +0.2**
comp=Z,30nm,1.0s,baz=14,slow=2.8
TSUM Tsumeb 128.54 279 PKPdf **PKiKP** **03 44 36.1 +0.7**
BOAV Boa Vista 131.01 31 *e*P **PKPdf** **03 44 39.6 0.0**
MDP Montagnes des 131.04 20 PKP **PKiKP** **03 44 40.8 +0.3**
comp=Z,24nm,1.0s,baz=325,slow=2.8,SNR=10.0
MDP SKPbc **SKPab** **03 48 00.3 +0.7**
comp=Z,54nm,1.3s,baz=349,slow=6.4,SNR=7.7
QSPA South Pole Qui 131.78 180 **PKiKP** **03 44 40.2 -0.2**
TBTG Tabatinga, AM 132.39 47 *e*P **PKiKP** **03 44 42.7 -0.5**
SYO Syowa Base 133.10 209⇑ *e*PKiKP **PKiKP** **03 44 47.1 +4.2**
SYO Syowa Base 133.10 209⇑ *e*pPKPdf pPKPdf 03 44 58.4 +0.7
SYO Syowa Base 133.10 209⇑ *e*sPKPdf sPKPdf 03 45 01.8 -1.8
CZSB Cruzeiro do Su 133.70 53 *e*P **PKPdf** **03 44 45.1 +0.6**
NNA Nana 134.41 61 PKIKP **PKPdf** **03 44 46.5 +0.6**
NNA Nana 134.41 61 PKPdf **PKPdf** **03 44 46.5 +0.6**
NNA Nana 134.41 61 IAMs_20 IAMs_20 04 49 13.0
comp=Z,7μm,22.0s
MACA Manacapuru-AM 135.99 35 *e*P **PKPdf** **03 44 48.7 -0.2**
MCPB Macapa, AP 136.42 22 *e*P **PKPdf** **03 44 49.8 +0.1**
MALB Monte Alegre 137.18 25 *e*P **PKPdf** **03 44 51.3 +0.2**
ETMB Extrema 139.08 47 *e*P **PKPdf** **03 44 54.7 +0.2**
TMAB Tom-Au,PA,Br 139.33 17 *e*P **PKiKP** **03 44 56.9 -0.4**
NBMO Morrinhos-CE 141.36 4 *e*P **PKPdf** **03 44 59.4 +0.7**
NVL N'lazarevskaya 142.28 204⇓ *i*PKIKP **PKPdf** **03 44 59.3 +0.8**
NVL *i* 03 48 06.8

NVL				pmax	pmax			
	comp=Z,209nm,2.7s							
NVL				MLR	MLR			
	comp=N,6μm,22.0s							
NVL				MLR	MLR			
	comp=E,5μm,22.0s							
NVL				MLR	MLR			
	comp=Z,6μm,22.0s							
LPAZ	**La Paz**	**143.15**	**55**	PKP	PKPbc	03 45 00.6	+1.1	
	comp=Z,37nm,1.3s,baz=35,slow=3.4,SNR=9.3							
LPAZ	**La Paz**	**143.15**	**55**	*eP*	**PKPdf**	**03 45 01.5**	**-1.0**	
PB12	**IPOC Station P**	**143.51**	**60**	IAMs_20	IAMs_20	04 55 25.1		
	comp=Z,4μm,21.0s							
PB16	**IPOC Station P**	**143.83**	**59**	IAMs_20	IAMs_20	04 54 05.6		
	comp=Z,6μm,22.0s							
RCBR	**Riachuelo**	**143.91**	**358**	PKIKP	PKPbc	03 45 01.1	0.0	
RCBR	**Riachuelo**	**143.91**	**358**	*eP*	PKPbc	03 45 01.5	+0.4	
RCBR	**Riachuelo**	**143.91**	**358**	PKPdf	PKPbc	03 45 01.1	0.0	
RCBR	**Riachuelo**	**143.91**	**358**	IAMs_20	IAMs_20	04 52 30.2		
	comp=Z,7μm,21.0s							
NBPV	**Pedro Velho**	**144.48**	**357**	*eP*	PKPbc	03 45 03.2	+0.5	
PB11	**IPOC Station P**	**144.77**	**61**	IAMs_20	IAMs_20	04 53 14.6		
	comp=Z,5μm,22.0s							
VILB	**Vilhena**	**144.84**	**41**	*eP*	PKPbc	03 45 04.3	+0.4	
CLDB	**Colider**	**144.98**	**33**	*eP*	**PKPdf**	**03 45 05.1**	**0.0**	
PDRB	**Porto dos Gac**	**145.26**	**35**	*eP*	**PKPbc**	**03 45 05.2**	**0.0**	
PB08	**IPOC Station P**	**145.37**	**61**	IAMs_20	IAMs_20	04 42 26.5		
	comp=Z,5μm,21.0s							
NBMA	**Muriti-CE**	**145.44**	**3**	*eP*	**PKPbc**	**03 45 05.8**	**0.0**	
SMTB	**Santa Maria do**	**145.73**	**18**	*eP*	**PKPab**	**03 45 07.7**	**+0.6**	
PB01	**IPOC Station P**	**145.80**	**62**	IAMs_20	IAMs_20	04 45 57.8		
	comp=Z,7μm,22.0s							
SNAA	**Sanae**	**145.82**	**199**	PKPdf	**PKPdf**	**03 45 05.0**	**+0.2**	
SNAA	**Sanae**	**145.82**	**199**	PKP2	**PKPbc**	**03 45 05.6**	**+0.1**	
SNAA				MLR	MLR			
	comp=Z,8μm,22.0s							
SNAA	**Sanae**	**145.82**	**199**	PKPdf	**PKPbc**	**03 45 05.6**	**+0.1**	
H03N2	**Juan Fernandez**	**146.25**	**89**	T	T	06 28 23.7		
	baz=300,slow=77,SNR=104							
H03N3	**Juan Fernandez**	**146.27**	**89**	T	T	06 28 22.4		
	baz=300,slow=77,SNR=118							
H03N1	**Juan Fernandez**	**146.27**	**89**	T	T	06 28 25.0		
	baz=300,slow=77,SNR=99							
PB09	**IPOC Station P**	**146.49**	**63**	IAMs_20	IAMs_20	04 42 06.1		
	comp=Z,7μm,21.0s							
NBRF	**Rio Formoso -**	**146.71**	**356**	*eP*	**PKPbc**	**03 45 09.3**	**-0.4**	
PB10	**IPOC Station P**	**146.77**	**67**	IAMs_20	IAMs_20	04 40 56.7		
	comp=Z,7μm,21.0s							
SIV	**San Ignacio**	**146.96**	**45**	PKP	**PKPdf**	**03 45 08.9**	**+0.6**	
	comp=Z,156nm,0.7s,baz=294,slow=1.5,SNR=49							
SIV				PKPbc	**PKPbc**	**03 45 10.5**	**+0.1**	
	comp=Z,156nm,0.7s,baz=313,slow=2.1,SNR=44							
SIV	**San Ignacio**	**146.96**	**45**		**PKPbc**	**03 45 10.5**	**+0.1**	
LVC	**Limon Verde**	**147.27**	**64**	PKP2	**PKPbc**	**03 45 11.7**	**+0.2**	
LVC	**Limon Verde**	**147.27**	**64**	*eP*	**PKPbc**	**03 45 10.3**	**-1.2**	
LVC	**Limon Verde**	**147.27**	**64**		**PKPbc**	**03 45 11.7**	**+0.2**	
PB15	**IPOC Station P**	**147.30**	**65**	IAMs_20	IAMs_20	04 46 33.8		
	comp=Z,7μm,21.0s							
VNA2	**Neumayer--Watz**	**147.39**	**198**	PKPdf	**PKPdf**	**03 45 07.6**	**+0.2**	
	baz=119,slow=2.1							
VNA2	**Neumayer--Watz**	**147.39**	**198**	PP	PP	03 48 35.8	-0.7	
	baz=178,slow=3.4							
PTLB	**Pontes e Lacer**	**147.50**	**42**	*eP*	**PKPdf**	**03 45 09.9**	**+0.7**	
SNDB	**Serra Nova Dou**	**147.65**	**26**	*eP*	**PKPdf**	**03 45 10.0**	**+0.5**	
VNA3	**Neumayer Olymp**	**147.65**	**196**	PKPdf	**PKPdf**	**03 45 07.7**	**-0.1**	
VNA3	**Neumayer Olymp**	**147.65**	**196**	PP	PP	03 48 36.1	-2.0	
NBAN	**Anadia - AL**	**147.74**	**358**	*eP*	**PKPdf**	**03 45 10.2**	**+0.5**	
VNA1	**Neumayer--Stat**	**147.79**	**198**	PKPdf	**PKPdf**	**03 45 08.2**	**+0.2**	
PEXB	**Peixe**	**148.67**	**21**	*eP*	**PKPdf**	**03 45 12.2**	**+1.0**	
NBPN	**Ponto Novo - B**	**148.82**	**6**	*eP*	**PKPdf**	**03 45 12.3**	**+0.9**	
NBLA	**Lagarto - SE**	**149.06**	**1**	*eP*	**PKPdf**	**03 45 12.5**	**+0.7**	
AC04	**Llanos de Chal**	**149.34**	**74**		**PKPbc**	**03 45 14.3**	**-2.0**	
SALV	**Santo Antonio**	**149.52**	**37**	*eP*	**PKPdf**	**03 45 13.1**	**+0.6**	
GO03	**Copiap**	**149.57**	**72**	PKPbc	**PKPbc**	**03 45 16.9**	**-0.1**	
SDBA	**SAO DESIDERIO**	**149.74**	**15**	*eP*	**PKPdf**	**03 45 13.1**	**+0.1**	
LCO	**Las Campanas**	**150.07**	**75**	PKIKP	**PKPdf**	**03 45 14.6**	**+1.2**	
LCO	**Las Campanas**	**150.07**	**75**	PKPdf	**PKPdf**	**03 45 14.6**	**+1.2**	
ARAG	**Araguaiana, MT**	**150.93**	**30**	*eP*	**PKPdf**	**03 45 15.1**	**+0.4**	
PP1B	**Ponte de Pedra**	**151.38**	**37**	*eP*	**PKPdf**	**03 45 16.1**	**+0.7**	
GDU01	**Guandu, BA**	**151.71**	**5**	*eP*	**PKPdf**	**03 45 16.8**	**+0.9**	
BDFB	**Brasília**	**152.12**	**23**	PKP	**PKPdf**	**03 45 17.2**	**+0.6**	
	comp=Z,20nm,1.1s,baz=12,slow=6.2,SNR=3.4							
BDFB				PKPbc	**PKiKP**	**03 45 24.0**	**+0.4**	
	comp=Z,82nm,0.8s,baz=260,slow=2.2,SNR=22							
JANB	**Januaria**	**152.44**	**15**	*eP*	**PKPdf**	**03 45 18.4**	**+1.3**	
PMSA	**Palmer Station**	**152.61**	**155**	*eP*	**PKPdf**	**03 45 16.8**	**+1.1**	
PMSA	**Palmer Station**	**152.61**	**155**		**PKiKP**	**03 45 23.9**	**+1.0**	
NBIT	**Itapeh - BA**	**152.92**	**5**	*eP*	**PKPdf**	**03 45 19.0**	**+1.3**	
CMC01	**Camacan, BA**	**153.34**	**5**	*eP*	**PKPdf**	**03 45 19.1**	**+0.8**	
IPMB	**Ipameri, GO**	**154.27**	**25**	*eP*	**PKPdf**	**03 45 20.7**	**+1.0**	
GUA01	**Guaratinga, BA**	**154.53**	**6**	*eP*	**PKPdf**	**03 45 20.6**	**+0.6**	
COYC	**Coyhaique**	**154.78**	**110**	PKPdf	**PKPdf**	**03 45 20.4**	**+0.9**	
PLCA	**Paso Flores**	**155.10**	**98**	PKP	**PKPdf**	**03 45 19.8**	**-0.3**	
	comp=Z,8.8nm,1.2s,baz=281,slow=2.9,SNR=7.0							
PLCA	**Paso Flores**	**155.10**	**98**	*eP*	**PKPdf**	**03 45 21.6**	**+1.5**	
ITRB	**Iturama**	**155.13**	**30**	*eP*	**PKPdf**	**03 45 21.6**	**+0.9**	
DIAM	**Diamantina, MG**	**155.71**	**15**	*eP*	**PKPdf**	**03 45 23.2**	**+1.5**	
NAN01	**Guarapari, ES**	**155.76**	**7**	*eP*	**PKPdf**	**03 45 22.9**	**+1.3**	
PCMB	**Pacaembu**	**156.49**	**34**	*eP*	**PKPdf**	**03 45 22.9**	**+0.4**	
SJMB	**Sao Joao De Ma**	**156.50**	**9**	*eP*	**PKPdf**	**03 45 24.0**	**+1.4**	
RIB01	**Linhares ES**	**157.19**	**8**	*eP*	**PKPdf**	**03 45 24.3**	**+0.8**	
CPUP	**Villa Florida**	**157.28**	**53**	PKP	**PKPdf**	**03 45 23.6**	**+0.2**	
	comp=Z,9.9nm,1.1s,baz=307,slow=4.7,SNR=6.4							
BSCB	**Bom Sucesso**	**158.09**	**19**	*eP*	**PKPdf**	**03 45 26.0**	**+1.3**	
ALF01	**Guarapari-ES**	**158.44**	**9**	*eP*	**PKPdf**	**03 45 26.1**	**+1.2**	
RCLB	**Rio Claro- Sao**	**158.64**	**27**	*eP*	**PKPdf**	**03 45 25.7**	**+0.4**	
FRTB	**Fartura**	**158.73**	**33**	*eP*	**PKPdf**	**03 45 26.3**	**+1.0**	
CAM01	**Campos-RJ**	**159.51**	**12**	*eP*	**PKPdf**	**03 45 27.8**	**+1.7**	
VAS01	**Vassouras-RJ**	**159.63**	**17**	*eP*	**PKPdf**	**03 45 27.8**	**+1.5**	
DUB01	**Friburgo-RJ**	**159.65**	**14**	*eP*	**PKPdf**	**03 45 27.4**	**+1.0**	
ITQB	**Itaqui**	**160.11**	**58**	*eP*	**PKPdf**	**03 45 27.8**	**+1.2**	
PET01	**Itanhaem-SP**	**160.45**	**28**	*eP*	**PKPdf**	**03 45 28.4**	**+1.3**	
TIJ01	**Guaruva-PR**	**160.72**	**34**	*eP*	**PKPdf**	**03 45 28.6**	**+1.0**	
ITAB	**Concordia**	**160.88**	**44**	*eP*	**PKPdf**	**03 45 28.4**	**+0.9**	
CPSB	**Cacapava Do Su**	**162.59**	**53**	*eP*	**PKPdf**	**03 45 30.4**	**+1.2**	
TER01	**Tubaro-SC**	**163.44**	**39**	*eP*	**PKPdf**	**03 45 32.0**	**+1.9**	

*BJI **14** 03:38:15.8±0.0,8˙.70S×123˙.00E,h150km,mb5.2/18*
*MOS **14** 03:38:15.4±0.9,8˙.50S×123˙.00E,h158km,mb5.1/27,Error ellipse: s-maj=13.0km s-min=6.2km az=123.9*
*IDC **14** 03:38:17.7±0.7,8˙.60S×123˙.03E,h166km±6km,mb4.5/26, mb1 4.6/31,mb1mx4.2/60,mbtmp5.0/31,Error ellipse: s-maj=13.7km s-min=7.7km az=62.0*
*DJA **14** 03:38:17.8±0.4,9˚S±3˚×12˚3E±˚,h156km±4km,M4.9/18, mb4.7/7,mB5.3/2,MLv5.0/18,Mw(mB)4.7/2,MwMwp5.8/1, Mwp5.9/1*
*NEIC **14** 03:38:18.1±1.7,8˙.60S±0˙.07×122˙.93E±0˙.06,h158km±1km, mb5.1/51,Error ellipse: s-maj=11.1km s-min=7.2km az=216.0*

ISC 14 03:38:17.2±0.5,**8˙.66S**±0˙.04×**122˙.92E**±0˙.05,**h159**km±5km, **n242**,σ1§**42**/250,**mb5.0**/74,**3C**,**Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.68**	**272**	P	**Pn**	**03 38 41.2**	**+0.7**
MMRI				S	**Sn**	**03 38 58.9**	**+0.6**
MMRI	**Maumere**	**0.68**	**272**	Pn	**Pn**	**03 38 41.4**	**+0.9**
MMRI				Sn	**Sn**	**03 38 59.0**	**+0.7**
EDFI	**Ende, Flores**	**1.22**	**266**	P	**Pn**	**03 38 45.6**	**+0.7**
EDFI				S	**Sn**	**03 39 06.7**	**+0.7**
BATI	**Baumata**	**1.70**	**155**	P	**Pn**	**03 38 50.9**	**+1.2**
	13μm,0.3s,baz=340,slow=3.0,SNR=2849						
BATI				S	**Sn**	**03 39 16.2**	**+1.5**
	3μm,0.3s,baz=204,slow=12,SNR=7.2						
BATI	**Baumata**	**1.70**	**155**	P	**Pn**	**03 38 50.8**	**+1.2**
BATI				S	**Sn**	**03 39 14.7**	**0.0**
SOEI	**Soe**	**1.72**	**129**	P	**Pn**	**03 38 51.1**	**+1.2**
SOEI	**Soe**	**1.72**	**129**	Pn	**Pn**	**03 38 51.1**	**+1.2**
SOEI				Sn	**Sn**	**03 39 15.8**	**+0.7**
BASI	**Baing, Sumba**	**2.78**	**236**	P	**Pn**	**03 39 02.3**	**0.0**
BASI				S	**Sn**	**03 39 36.2**	**-1.0**
BBSI	**Bau Bau**	**3.17**	**354**	P	**Pn**	**03 39 09.0**	**+1.9**
BSSI	**Bau Bau, Buton**	**3.47**	**316**	P	**Pn**	**03 39 12.1**	**+1.1**
WBSI	**Waikabubak, Su**	**3.62**	**254**	P	**Pn**	**03 39 11.7**	**-1.2**
BKSI	**Bulukumba**	**4.33**	**320**	P	**Pn**	**03 39 22.1**	**+0.1**
KAPI	**Kappang**	**4.80**	**319**	P	**Pn**	**03 39 29.1**	**+0.9**
	6.6nm,0.3s,baz=152,slow=6.4,SNR=13						
KAPI	**Kappang**	**4.80**	**319**	P	**Pn**	**03 39 29.3**	**+1.1**
KAPI	**Kappang**	**4.80**	**319**	Pn	**Pn**	**03 39 29.3**	**+1.1**
BNSI	**Bone**	**5.07**	**326**	P	**Pn**	**03 39 34.6**	**+2.8**
	0.7nm214nm,0.9s						
SPSI	**Sidrap Palu**	**5.62**	**326**	P	**Pn**	**03 39 40.8**	**+1.8**
	0.5nm53nm,1.1s						
SRBI	**Singaraja**	**7.65**	**274**	P	**Pn**	**03 40 06.6**	**+0.6**
	1.0nm72nm,0.7s						
IGBI	**Denpasar**	**7.69**	**268**	P	**Pn**	**03 40 04.9**	**-1.6**
	1.5nm112nm,0.6s						
APSI	**Ampana**	**7.80**	**351**	P	**Pn**	**03 40 09.2**	**+1.2**
SAUI	**Saumlaki**	**8.32**	**86**	Pn	**Pn**	**03 40 14.3**	**-0.6**
SAUI	**Saumlaki**	**8.32**	**86**	P	**Pn**	**03 40 14.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**8.68**	**271**	Pn	**Pn**	**03 40 19.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**8.68**	**271**	P	**Pn**	**03 40 19.4**	**-0.3**
DRS	**Darwin Rock St**	**8.69**	**116**	P	**Pn**	**03 40 18.8**	**-1.1**
KNRA	**Kununurra**	**9.01**	**141**	P	**Pn**	**03 40 22.2**	**-1.8**
	baz=9.2,SNR=56						
KNRA				S	**Sn**	**03 41 56.8**	**-7.5**
	baz=9.2						
KNRA	**Kununurra**	**9.01**	**141**	P	**Pn**	**03 40 22.3**	**-1.8**
MTN	**Manton Dam**	**9.08**	**118**	P	**Pn**	**03 40 23.6**	**-1.4**
	baz=9.2,SNR=159						
MTN				S	Sn	03 41 56.2	-10
	baz=9.2						
MTN	**Manton Dam**	**9.08**	**118**	Pn	**Pn**	**03 40 23.7**	**-1.2**
MTN	**Manton Dam**	**9.08**	**118**	P	**Pn**	**03 40 23.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**9.75**	**165**	P	**Pn**	**03 40 32.0**	**-1.8**
	15nm,0.3s,baz=0.7,slow=7.9,SNR=19						
TOLI2	**Tolitoli**	**9.94**	**348**	Pn	**Pn**	**03 40 36.7**	**+0.3**
KDU	**Kakadu**	**10.20**	**114**	P	**Pn**	**03 40 38.2**	**-1.6**
	baz=10,SNR=70						
KDU				S	Sn	03 42 22.0	-11
	baz=10						
KDU	**Kakadu**	**10.20**	**114**	P	**Pn**	**03 40 38.1**	**-1.8**
FAKI	**Fak Fak**	**10.89**	**59**	Pn	**Pn**	**03 40 46.9**	**-2.0**
FAKI	**Fak Fak**	**10.89**	**59**	P	**Pn**	**03 40 47.0**	**-1.9**
SIJI	**Sorong**	**11.36**	**47**	P	**Pn**	**03 40 54.0**	**-0.9**
	5.2nm,0.3s,baz=227,slow=7.2,SNR=9.9						
UGM	**Wanagama**	**12.29**	**273**	Pn	**Pn**	**03 41 04.3**	**-2.8**
UGM	**Wanagama**	**12.29**	**273**	P	**Pn**	**03 41 08.9**	**+1.7**
MBWA	**Marble Bar**	**12.80**	**194**	P	**Pn**	**03 41 13.8**	**+0.1**
PSA00	**Pilbara Seismi**	**13.18**	**193**	Pn	**Pn**	**03 41 20.0**	**+1.6**
PSA00	**Pilbara Seismi**	**13.18**	**193**	Pn	**Pn**	**03 41 18.9**	**+0.4**
PSA00	**Pilbara Seismi**	**13.18**	**193**	P	**Pn**	**03 41 20.4**	**+2.0**
MYLDM	**Lahad Datu**	**14.44**	**342**	Pn	**Pn**	**03 41 34.5**	**+0.1**
LEM	**Lembang**	**15.27**	**276**	P	**Pn**	**03 41 46.3**	**+1.4**
	5.6nm,0.3s,baz=54,slow=9.4,SNR=14						
SBUM	**Sibu**		**15.35**	**316**		**Pn**	**03 41 46.5**	**+0.8**
WB0	**Warramunga Arr**	**15.66**	**136**	Pn	**Pn**	**03 41 48.8**	**-0.7**
WRA	**Warramunga Arr**	**15.74**	**137**	P	**Pn**	**03 41 49.5**	**-1.0**
	14nm,0.3s,baz=319,slow=12,SNR=110						
WRA	**Warramunga Arr**	**15.74**	**137**	*i* P	**Pn**	**03 41 50.2**	**-0.3**
WRA				pmax	pmax		
	comp=Z,28nm,0.4s						
WRA	**Warramunga Arr**	**15.74**	**137**	Pn	**Pn**	**03 41 49.5**	**-1.0**
WRAB	**Tennant Creek**	**15.74**	**137**	*i* P	**Pn**	**03 41 49.2**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,38nm,0.4s						
WRAB	**Tennant Creek**	**15.74**	**137**	Pn	**Pn**	**03 41 49.8**	**-0.7**
WRAB				IAmb	IAmb	03 41 54.9	
	comp=Z,43nm,0.6s						
WRAB	**Tennant Creek**	**15.74**	**137**	P	**Pn**	**03 41 49.9**	**-0.7**
WB2	**Warramunga Arr**	**15.75**	**137**	Pn	**Pn**	**03 41 49.6**	**-1.0**
WB2				IAmb	IAmb	03 41 55.8	
	comp=Z,51nm,0.5s						
WR0	**Warramunga Arr**	**15.89**	**136**	Pn	**Pn**	**03 41 51.8**	**-0.6**
KKM	**Kota Kinabalu**	**16.06**	**335**	P	**Pn**	**03 41 54.9**	**+0.3**
KKM				IAmb	IAmb	03 41 59.0	
	comp=Z,141nm,1.3s						
KKM	**Kota Kinabalu**	**16.06**	**335**	P	**P**	**03 41 56.9**	**+2.1**
GIRL	**Giralia**	**16.22**	**210**	P	**Pn**	**03 41 55.2**	**-1.1**
	baz=16,SNR=7.6						
GIRL	**Giralia**	**16.22**	**210**	P	**Pn**	**03 41 56.2**	**0.0**
GIRL				IAmb	IAmb	03 42 05.5	
	comp=Z,212nm,1.5s						
GIRL	**Giralia**	**16.22**	**210**	P	**P**	**03 41 58.5**	**+2.2**
WRKA	**Warakurna**	**17.07**	**163**	P	**P**	**03 42 05.2**	**-0.7**
	baz=17,SNR=6.2						
WRKA	**Warakurna**	**17.07**	**163**	P	**Pn**	**03 42 07.3**	**+0.7**
XMIS	**Christmas Isla**	**17.13**	**263**	P	**P**	**03 42 07.0**	**+0.5**
XMIS				IAmb	IAmb	03 42 13.0	
	comp=Z,129nm,1.3s						
AS31	**Alice Springs**	**18.26**	**146**	P	**P**	**03 42 19.1**	**+0.3**
ASAR	**Alice Springs**	**18.26**	**146**	P	**P**	**03 42 20.0**	**+1.2**
	comp=Z,6.3nm,0.3s,baz=332,slow=13,SNR=41						
ASAR				S	**S**	**03 45 35.7**	**-3.7**
	comp=Z,1.6nm,0.3s,baz=314,slow=19,SNR=7.9						
ASAR				ScP	**ScP**	**03 50 03.0**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=344,slow=2.0,SNR=5.3						
ASAR	**Alice Springs**	**18.26**	**146**		**P**	**03 42 19.7**	**+0.9**
MEEK	**Meekatharra**	**18.34**	**192**	P	**P**	**03 42 19.5**	**-0.2**
	baz=18,SNR=18						
MEEK	**Meekatharra**	**18.34**	**192**	P	**P**	**03 42 21.4**	**+1.7**
QIS	**Mount Isa**	**19.99**	**128**	P	**P**	**03 42 38.7**	**+1.1**
	baz=20,SNR=263						
COEN	**Coen**	**20.54**	**107**	P	**P**	**03 42 43.7**	**+0.2**
COEN				IAmb	IAmb	03 42 49.1	
	comp=Z,47nm,0.6s						
COEN	**Coen**	**20.54**	**107**	P	**P**	**03 42 43.6**	**+0.1**
MORW	**Morawa**	**21.31**	**197**	P	**P**	**03 42 52.1**	**+0.5**
	baz=22,SNR=9.8						
MORW	**Morawa**	**21.31**	**197**	P	**P**	**03 42 51.7**	**+0.2**
MORW				IAmb	IAmb	03 43 37.5	
	comp=Z,58nm,1.1s						
FORT	**Forrest**	**22.52**	**168**	P	**P**	**03 43 04.3**	**+0.4**
	baz=23,SNR=8.2						
FORT	**Forrest**	**22.52**	**168**	P	**P**	**03 43 03.8**	**-0.1**
FORT				IAmb	IAmb	03 43 31.2	
	comp=Z,133nm,1.1s						
OOD	**Oodnadatta**	**22.53**	**149**	P	**P**	**03 43 04.7**	**+0.8**
BLDU	**Balliduq**	**22.60**	**194**	P	**P**	**03 43 05.1**	**+0.5**
	baz=23,SNR=21						
TGY	**Tagaytay City**	**22.70**	**355**	P	**P**	**03 43 05.8**	**+0.1**
	comp=Z,392nm,0.6s,baz=154,slow=5.3,SNR=7.9						
MTSU	**Mount Surprise**	**22.82**	**117**	P	**P**	**03 43 06.6**	**-0.1**
	baz=23,SNR=74						
KLBR	**Kellerberrin**	**23.32**	**191**	P	**P**	**03 43 11.8**	**+0.6**
	baz=24,SNR=11						
KLBR	**Kellerberrin**	**23.32**	**191**	P	**P**	**03 43 12.1**	**+1.0**
MULG	**Mulgathing**	**23.90**	**156**	P	**P**	**03 43 17.8**	**+1.3**
PMG	**Port Moresby**	**23.95**	**94**	P	**P**	**03 43 17.7**	**+0.6**
	comp=Z,32nm,0.5s,baz=268,slow=3.7,SNR=8.6						
PMG	**Port Moresby**	**23.95**	**94**	P	**P**	**03 43 17.2**	**+0.1**
PMG				IAmb	IAmb	03 43 51.3	
	comp=Z,64nm,0.9s						
MUN	**Mundaring**	**24.03**	**194**	P	**P**	**03 43 17.0**	**-0.6**
	baz=24,SNR=3.3						
MUN	**Mundaring**	**24.03**	**194**	P	**P**	**03 43 18.9**	**+1.3**
NWAO	**Narrogin (SRO)**	**24.72**	**191**	P	**P**	**03 43 24.6**	**+0.8**
CTAO	**Charters Tower**	**25.26**	**119**	P	**P**	**03 43 29.6**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,84nm,1.2s						
CTAO	**Charters Tower**	**25.26**	**119**		**P**	**03 43 29.6**	**+0.7**
CTAO				IAmb	IAmb	03 43 37.0	
	comp=Z,84nm,1.1s						
CTAO	**Charters Tower**	**25.26**	**119**	P	**P**	**03 43 30.2**	**+1.3**
PSI	**Prapat**	**26.50**	**294**	P	**P**	**03 43 40.1**	**-0.2**
	comp=Z,6.8nm,0.6s,baz=97,slow=7.6,SNR=5.5						
BBOO	**Buckleboo**	**26.94**	**155**	P	**P**	**03 43 44.5**	**+0.7**
BBOO				IAmb	IAmb	03 44 24.0	
	comp=Z,74nm,1.5s						
QLP	**Quilpie**	**26.95**	**134**	P	**P**	**03 43 44.0**	**0.0**
	baz=27,SNR=10						
HTT	**Hallett**	**28.74**	**151**	P	**P**	**03 44 01.7**	**+1.9**
	baz=29,SNR=6.2						
HTT	**Hallett**	**28.74**	**151**	P	**P**	**03 44 01.8**	**+1.9**
STKA	**Stephens Creek**	**28.89**	**146**	P	**P**	**03 44 02.4**	**+1.1**
	comp=Z,22nm,0.5s,baz=324,slow=9.4,SNR=18						
STKA	**Stephens Creek**	**28.89**	**146**	P	**P**	**03 44 02.6**	**+1.4**
	baz=29,SNR=12						
STKA	**Stephens Creek**	**28.89**	**146**	P	**P**	**03 44 02.5**	**+1.3**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
STKA	**Stephens Creek**	**28.89**	**146**	P	**P**	**03 44 02.5**	**+1.3**
STKA	**Stephens Creek**	**28.89**	**146**	P	**P**	**03 44 02.6**	**+1.4**
UBPT	**Khong Chiam**	**29.41**	**324**	P	**P**	**03 44 05.7**	**-0.2**
RK1H	**Rockhampton Ha**	**30.19**	**122**	P	**P**	**03 44 13.3**	**+0.5**
RMQ	**Roma**	**30.24**	**129**	P	**P**	**03 44 15.3**	**+2.1**
	baz=30,SNR=13						
RMQ	**Roma**	**30.24**	**129**	P	**P**	**03 44 15.3**	**+2.1**
CMSA	**Cobar Meteorol**	**31.10**	**140**	P	**P**	**03 44 22.5**	**+1.8**
	baz=31,SNR=31						
CMSA	**Cobar Meteorol**	**31.10**	**140**	P	**P**	**03 44 22.9**	**+2.2**
EIDS	**Eidsvold**	**31.53**	**125**	P	**P**	**03 44 24.8**	**+0.2**
YULB	**Yu-li**	**31.89**	**357**	P	**P**	**03 44 27.0**	**-0.7**
ARPS	**Mount Arapiles**	**32.84**	**151**	P	**P**	**03 44 37.8**	**+2.0**
	baz=33,SNR=20						
ARPS	**Mount Arapiles**	**32.84**	**151**	P	**P**	**03 44 37.9**	**+2.1**
ARMA	**Armidale**	**34.47**	**133**	P	**P**	**03 44 53.2**	**+3.1**
	baz=35,SNR=4.3						
ARMA	**Armidale**	**34.47**	**133**	P	**P**	**03 44 53.0**	**+2.9**
ARMA	**Armidale**	**34.47**	**133**	P	**P**	**03 44 53.5**	**+3.4**
TOO	**Toolangi**	**35.29**	**148**	P	**P**	**03 44 57.3**	**+0.3**
TOO				pmax	pmax		
	comp=Z,30nm,1.2s						
TOO	**Toolangi**	**35.29**	**148**	P	**P**	**03 44 57.3**	**+0.3**
MGCD	**Mangrove Creek**	**35.69**	**137**	P	**P**	**03 45 03.7**	**+3.2**
	baz=36,SNR=7.6						
MGCD	**Mangrove Creek**	**35.69**	**137**	P	**P**	**03 45 03.6**	**+3.1**
CMAR	**Chiang Mai Arr**	**35.86**	**319**	P	**P**	**03 45 02.2**	**+0.2**
	comp=Z,13nm,0.8s,baz=150,slow=4.9,SNR=13						
CNB	**Canberra Magne**	**35.90**	**142**	P	**P**	**03 45 04.7**	**+2.4**
	baz=36,SNR=5.6						
CNB	**Canberra Magne**	**35.90**	**142**	P	**P**	**03 45 04.5**	**+2.2**
CHTO	**Chiang Mai**	**36.12**	**319**	P	**P**	**03 45 03.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,132nm,1.0s						
CHTO	**Chiang Mai**	**36.12**	**319**	P	**P**	**03 45 03.9**	**-0.3**
KMI	**Kunming**	**38.91**	**330**	⇑P	**P**	**03 45 31.8**	**+3.9**
KMI				pmax	pmax		
	comp=Z,190nm,0.9s						
NJ2	**Nanjing**	**40.67**	**355**	*eP*	**P**	**03 45 44.8**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
CD2	**Chengdu**	**43.42**	**336**	*eP*	**P**	**03 46 07.0**	**+2.5**
TJN	**Taejon**	**44.99**	**5**	*i* P	**P**	**03 46 15.9**	**-0.8**
KSRS	**Korea Array**	**46.11**	**6**	P	**P**	**03 46 24.6**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=184,slow=9.1,SNR=4.3						
MJAR	**Matsushiro Arr**	**47.20**	**17**	P	**P**	**03 46 32.4**	**-1.6**
	comp=Z,3.6nm,0.4s,baz=197,slow=8.4,SNR=6.7						
BJT	**Baijiatuau**	**48.83**	**353**	P	**P**	**03 46 46.7**	**+0.2**
BJT				pmax	pmax		
	comp=Z,22nm,1.0s						
BJT	**Baijiatuau**	**48.83**	**353**	P	**P**	**03 46 46.7**	**+0

baz=325
MDOK Medeo 66.31 325 *e*P **P** 03 48 49.1 +0.2
MDOK Medeo 66.31 325 *e*P **P** 03 48 49.1 +0.2
baz=325
BOOM Boomskoye usch 66.53 324 P **P** 03 48 50.3 0.0
BOOM pmax pmax
comp=Z,44nm,0.8s
BOOM Boomskoye usch 66.53 324 P **P** 03 48 50.3 0.0
KBL Kabul 66.62 313 P **P** 03 48 49.9 -1.2
KBL pmax pmax
comp=Z,39nm,0.7s
KBL Kabul 66.62 313 P **P** 03 48 49.9 -1.2
TDK Taldyqorghan 66.75 327 *e*P **P** 03 48 51.0 -0.4
TDK pmax pmax
comp=Z,34nm,0.8s
TDK Taldyqorghan 66.75 327 *e*P **P** 03 48 50.1 -1.3
comp=Z,34nm,0.8s,baz=327
CHKK Chushkaly 66.78 326 *e*P **P** 03 48 50.9 -0.8
baz=326
KST Kastek 66.86 324 *e*P **P** 03 48 51.7 -0.6
comp=Z,24nm,1.1s,baz=324
KUU Kurty 67.17 325 *e*P **P** 03 48 53.3 -0.8
KUU pmax pmax
comp=Z,60nm,0.7s
KUU Kurty 67.17 325 *e*P **P** 03 48 53.3 -0.8
comp=Z,60nm,0.7s,baz=325
DRK Karamyk 67.32 319 P **P** 03 48 55.6 +0.1
AAK Ala-Archa 67.47 323 P **P** 03 48 56.3 +0.1
comp=Z,25nm,0.7s,baz=118,slow=5.1,SNR=11
AAK Ala-Archa 67.47 323 *i* P **P** 03 48 55.5 -0.7
AAK pmax pmax
comp=Z,31nm,0.9s
PETK Petropavlovsk- 68.27 22 P **P** 03 49 00.4 -0.3
comp=Z,9.2nm,0.8s,baz=175,slow=0.5,SNR=6.1
BTLS Baital 69.17 325 *e*P **P** 03 49 05.2 -1.3
BTLS Baital 69.17 325 *e*P **P** 03 49 05.2 -1.3
baz=325
SEM Semipalatinsk 69.50 332 *e*P **P** 03 49 06.9 -1.8
SEM pmax pmax
comp=Z,12nm,1.0s
SEM Semipalatinsk 69.50 332 *e*P **P** 03 49 07.0 -1.8
comp=Z,12nm,1.0s,baz=332
ZALV Zalesovo Beam 70.17 337 P **P** 03 49 11.1 -1.4
comp=Z,21nm,0.5s,baz=135,slow=4.9,SNR=38
ZALV Zalesovo Beam 70.17 337 P **P** 03 49 11.4 -1.0
ZALV Zalesovo Beam 70.17 337 P **P** 03 49 11.4 -1.0
KURBB Kurchatov Arra 70.44 332 P **P** 03 49 13.4 -0.8
comp=Z,19nm,0.6s,baz=145,slow=5.3,SNR=22
KURK Kurchatov 70.46 332 *i* P **P** 03 49 12.9 -1.4
KURK pmax pmax
comp=Z,37nm,0.7s
VNDA Vanda 71.74 172 P **P** 03 49 23.2 +1.6
comp=Z,2.4nm,0.6s,baz=315,slow=6.2,SNR=12
VNDA Vanda 71.74 172 P **P** 03 49 23.0 +1.4
BRZS Berezniki 72.90 329 *e*P **P** 03 49 27.8 -1.1
BRZS pmax pmax
comp=Z,13nm,0.7s
BRZS Berezniki 72.90 329 *e*P **P** 03 49 27.8 -1.1
comp=Z,13nm,0.7s,baz=329
OPO Ambohidratompo 73.83 253 P **P** 03 49 36.3 +1.0
comp=Z,10nm,0.7s,baz=68,slow=2.9,SNR=9.4
GEYT Alibeck 76.04 312 P **P** 03 49 46.9 -0.4
comp=Z,10.0nm,0.9s,baz=94,slow=13,SNR=4.2
GEYT Alibeck 76.04 312 P **P** 03 49 46.9 -0.4
SYO Syowa Base 79.58 201⇑ *e*pP pP 03 50 45.4 +1.1
TIXI Tiksi 80.23 2 P **P** 03 50 08.4 -1.2
comp=Z,6.8nm,0.5s,baz=183,slow=3.9,SNR=6.4
AKTO Aktyubinsk 81.19 324 P **P** 03 50 14.1 -1.1
comp=Z,5.9nm,0.5s,baz=108,slow=9.5,SNR=12
NRIK Noril'sk 81.58 348 P **P** 03 50 16.8 -0.1
comp=Z,3.4nm,0.3s,baz=145,slow=4.1,SNR=5.3
RAYN Ar Rayn 82.05 295 P **P** 03 50 19.6 -0.8
RAYN pmax pmax
comp=Z,14nm,0.8s
RAYN Ar Rayn 82.05 295 **P** 03 50 19.6 -0.8
BILL Bilibino 82.42 15 *e*P **P** 03 50 22.2 +1.0
BILL *e**PP **pP** 03 50 56.8 -3.9
BILL *e* 03 53 29.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 83.49 330 P **P** 03 50 25.7 -1.2
comp=Z,3.0nm,0.5s,baz=124,slow=6.0,SNR=4.9
ARU Arti 83.49 330 *c i* P **P** 03 50 25.4 -1.6
ARU S **S** 04 00 31.7 -3.4
ARU pmax pmax
comp=Z,37nm,1.4s
KMBO Kilima Mbogo 85.55 270 P **P** 03 50 38.9 +0.3
comp=Z,2.1nm,0.5s,baz=51,slow=12,SNR=4.8
KMBO Kilima Mbogo 85.55 270 *i* P **P** 03 50 39.4 +0.8
KMBO pmax pmax
comp=Z,11nm,1.3s
GEVA Gevas 87.45 309 P **P** 03 50 47.6 +0.4
BELG Belogornoye 87.96 324 P **P** 03 50 48.1 -0.9
comp=Z,13nm,0.8s,baz=6.0,slow=2.7,SNR=5.6
KIRV Kirov 88.88 330 P **P** 03 50 53.8 +0.6
comp=Z,11nm,0.6s,baz=42,slow=2.8,SNR=4.0
MBAR Mbarara 92.07 269 P **P** 03 51 09.6 +0.3
comp=Z,3.9nm,0.2s,baz=65,slow=16,SNR=4.8
LSZ Lusaka 92.27 254 P **P** 03 51 10.7 +0.5
comp=Z,6.9nm,0.7s,baz=78,slow=4.5,SNR=7.1
BOSA Boshof 92.56 241 P **P** 03 51 12.1 +0.8
comp=Z,3.8nm,0.8s,baz=117,slow=2.1,SNR=2.2
BOSA Boshof 92.56 241 P **P** 03 51 11.7 +0.4
BOSA IAmb IAmb 03 51 13.0
comp=Z,23nm,1.4s
OBN Obninsk 94.95 325 *e*P P 03 51 16.5 -4.9
OBN *e**PP pP 03 51 58.9 -2.6
OBN *e**SP sP 03 52 10.9 -7.2
OBN *e* 03 55 15.5
OBN pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 98.97 320 P **P** 03 51 37.8 -1.9
comp=Z,1.4nm,0.7s,baz=76,slow=4.9,SNR=5.0
AKASG Malin Array Be 98.97 320 *i* P **P** 03 51 37.4 -2.3
AKASG pmax pmax
comp=Z,2.0nm,0.8s
CLL Collm 109.14 321 *e*PKiKP **PKiKP** 03 56 30.0 +1.8
comp=Z,18nm,1.6s
TORD Torodi Ar. Bea 122.22 280 PKP **PKPdf** 03 56 53.3 -1.0
comp=Z,2.8nm,0.7s,baz=56,slow=1.7,SNR=5.9
TORD Torodi Ar. Bea 122.22 280 **PKPdf** 03 56 53.6 -0.7
P60A Greenville 144.82 25 **PKPab** 03 57 34.1 -0.9
V55A Taylorsville 145.11 36 **PKPbc** 03 57 35.3 -0.8
PAULI Pauline 145.47 37 **PKPdf** 03 57 36.7 -0.2

*TUL **14** 04:03:13.5±0.5, 35°.671N±0°.008×97°.413W±0°.008, h6km±3km, ML2.8, mb_Lg2.8/32(NEIC), Error ellipse: s-maj=1.3km s-min=0.7km az=146.0*
NEIC 14 04:03:14.1±0.6, 35°.675N±0°.009×97°.41W±0°.01, h6km±3km, Error ellipse: s-maj=1.5km s-min=1.1km az=216.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.09**	**185**	Pg	Pg	04 03 15.8	-0.4
OK009				Sg	Sg	04 03 17.6	-0.1
OK025	**Westminster Rd**	**0.11**	**147**	Pg	Pg	04 03 16.2	-0.3
OK025				Sg	Sg	04 03 17.9	-0.2
OK029	**Liberty Lake**	**0.13**	**344**	Pg	Pg	04 03 16.5	-0.3
OK029				Sg	Sg	04 03 18.8	+0.2
OK001	**Jones High Sch**	**0.15**	**138**	Pg	Pg	04 03 16.9	-0.3
OK001					Sg	04 03 19.6	+0.3
BCOK	**Bluff Creek, N**	**0.16**	**264**	Pg	Pg	04 03 17.1	-0.3
BCOK				Sg	Sg	04 03 19.7	+0.1
OK005	**Luther M Schoo**	**0.18**	**96**	Pg	Pg	04 03 17.6	-0.2
OK005				Sg	Sg	04 03 20.6	+0.4
OKCFA	**Oklahoma City**	**0.26**	**187**	Pg	Pg	04 03 18.9	-0.3
OKCFA				Sg	Sg	04 03 22.9	+0.2
OKCSW	**OKLAHOMA CITY**	**0.27**	**184**		Pg	04 03 19.0	-0.4
OKCSW					Sg	04 03 23.3	+0.3
OK031	**S. Brethren Rd**	**0.54**	**59**	Pg	Pg	04 03 24.2	-0.4
OK031				IAmb_Lg		04 03 30.7	
OK031				Sg	Sg	04 03 31.7	+0.1
OK030	**Cody Creek RV**	**0.57**	**64**	Pg	Pg	04 03 24.6	-0.5
OK030				IAmb_Lg		04 03 32.4	
OK030				Sg	Sg	04 03 32.5	0.0
OK034	**N. Norfolk Rd.**	**0.66**	**59**	Pg	Pg	04 03 26.0	-0.8
W35A	**Tecumseh**	**0.68**	**140**	Pg	Pg	04 03 26.6	-0.6
W35A				IAmb_Lg		04 03 34.5	
QUOK	**Quay**	**0.76**	**49**	Pg	Pg	04 03 27.9	-0.7
BLOK	**Blackwell**	**1.10**	**8**	Pg	Pg	04 03 33.9	-1.2
X34A	**Smith Ranch, M**	**1.12**	**198**	Pg	Pg	04 03 34.9	-0.7
GC02	**Grant County #**	**1.23**	**343**	Pg	Pg	04 03 36.0	-1.7
OK032	**Salt Plains WL**	**1.30**	**330**	Pg	Pn	04 03 37.0	-1.7
KAN13	**South Haven SW**	**1.34**	**358**	Pg	Pn	04 03 38.1	-1.2
TUL1	**Leonard**	**1.34**	**79**	Pg	Pn	04 03 37.2	-2.0
KAN17	**Caldwell West**	**1.40**	**348**	Pg	Pn	04 03 39.2	-0.9
T35A	**Sooner Cattle**	**1.44**	**30**	Pg	Pn	04 03 39.4	-1.2
T35A				IAmb_Lg		04 04 01.6	
WMOK	**Wichita Mounta**	**1.46**	**231**		Pn	04 03 39.5	-1.4
U32A	**Winter Ranch,**	**1.47**	**299**		Pn	04 03 40.1	-1.0
KAN01	**Argonia South**	**1.50**	**349**		Pn	04 03 40.9	-0.7
KAN10	**Anthony SW Sta**	**1.55**	**339**		Pn	04 03 41.7	-0.5
KAN08	**Anthony NE Sta**	**1.61**	**344**	IAmb_Lg		04 04 07.3	
LOOK	**Love County**	**1.69**	**173**	Pn	Pn	04 03 43.6	-0.4
LOOK				IAmb_Lg		04 04 11.2	
X37A	**Clayton**	**1.99**	**122**	Pn	Pn	04 03 47.5	-0.8
X37A				IAmb_Lg		04 04 17.8	
Z35A	**Perchaven, San**	**2.34**	**177**	Pn	Pn	04 03 52.9	-0.2
Z35A				IAmb_Lg		04 04 29.7	
U38A	**Gravette**	**2.57**	**72**	Pn	Pn	04 03 55.7	-0.5
HHAR	**Hobbs**	**2.88**	**77**	IAmb_Lg		04 04 43.7	
W39A	**Magazine**	**3.00**	**98**	Pn	Pn	04 04 01.7	-0.4
W39A				IAmb_Lg		04 04 57.2	
Z38A	**Mt. Pleasant**	**3.13**	**140**	Pn	Pn	04 04 03.9	-0.1
MIAR	**Mount Ida**	**3.34**	**109**	Pn	Pn	04 04 07.3	+0.5
KSU1	**Kansas State U**	**3.48**	**10**	IAmb_Lg		04 05 08.8	
CBKS	**Cedar Bluff**	**3.64**	**330**	IAmb_Lg		04 05 13.2	
U40A	**Yellville**	**3.76**	**78**	IAmb_Lg		04 05 19.0	
S39A	**Bolivar**	**3.85**	**57**	IAmb_Lg		04 05 16.4	
237A	**Washetta, Mont**	**3.90**	**160**	Pn	Pn	04 04 13.6	-0.9
W41B	**Gary Mavity, V**	**4.25**	**95**	Pn	Pn	04 04 18.5	-0.7
R40A	**Maddies Statio**	**4.88**	**56**	Pn	Pn	04 04 26.6	-1.3
PBMO	**Poplar Bluff**	**5.75**	**77**	IAmb_Lg		04 06 24.8	
SDCO	**Great Sand Dun**	**6.82**	**290**	Pn	Pn	04 04 55.5	+0.6
S44A	**Carbondale**	**6.86**	**71**	IAmb_Lg		04 07 03.9	

IDC 14 04:16:31.4±9.5, 8°.21S×129°.18E, h225km±106km, mb2.8/1, mb1 3.0/4, mb1mx2.4/37, mbtmp3.5/4, Error ellipse: s-maj=69.8km s-min=41.1km az=36.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.42**	**199**	P	Pn	04 18 55.1	-0.5
	0.2nm,0.3s,baz=30,slow=8.1,SNR=1.4						
FITZ				S	S	04 20 53.5	+1.0
	0.3nm,0.3s,baz=266,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**12.69**	**157**	P	Pn	04 19 22.6	-1.7
	0.1nm,0.3s,baz=342,slow=12,SNR=3.5						
WRA				S	S	04 21 44.5	-0.3
	0.4nm,0.3s,baz=331,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**16.02**	**164**	P	Pn	04 20 06.0	+1.0
	0.6nm,0.3s,baz=340,slow=9.7,SNR=47						
MKAR	**Makanchi Array**	**68.79**	**327**	P	P	04 27 11.2	-0.1
	0.3nm,0.7s,baz=131,slow=6.5,SNR=2.9						

*ANF **14** 04:23:57.8±0.1, 35°.41N×117°.81W, h12km±1km, ML3.8/40, Error ellipse: s-maj=0.8km s-min=0.8km az=22.0*
*PAS **14** 04:23:58.9±1.1, 35°.41N±0°.02×117°.81W±0°.01, h7km±7km, ML3.8/236, ML3.5/94(NEIC), Error ellipse: s-maj=3.0km s-min=1.2km az=203.0*
*NEIC **14** 04:23:58.4±1.2, 35°.39N±0°.03×117°.79W±0°.06, h6km±8km, Error ellipse: s-maj=6.5km s-min=5.0km az=85.0*
ISC 14 04:23:58.6±0.9, 35°.40N±0°.02×117°.80W±0°.02, h8km±8km, n102, c_0θ°79/129, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad**	**0.13**	**50**	P	**Pg**	**04 24 01.8**	**+0.2**
	baz=235,SNR=1000						
LRMC				S	**Sg**	**04 24 03.8**	**+0.2**
	baz=235						
EDW2	**Edwards Air Fo**	**0.54**	**197**	P	**Pg**	**04 24 08.9**	**-0.2**
	baz=16,SNR=555						
EDW2				S	**Sg**	**04 24 16.2**	**0.0**
	baz=16						
ISA	**Isabella, Lake**	**0.61**	**296**	Pg	**Pg**	**04 24 10.1**	**-0.3**
ISA				IAML		04 24 18.3	
	comp=N,2μm,0.6s						
ISA				IAML		04 24 19.0	
	comp=E,2μm,0.2s						
ISA	**Isabella, Lake**	**0.61**	**296**	P	**Pg**	**04 24 10.1**	**-0.3**
	baz=115,SNR=1000						
ISA				S	**Sg**	**04 24 18.0**	**-0.4**
	baz=115						
MPMC	**Manual Prospec**	**0.70**	**21**	P	**Pg**	**04 24 11.9**	**-0.4**
	baz=202,SNR=1000						
MPMC				S	**Sg**	**04 24 21.3**	**-0.2**
	baz=202						
GSC	**Goldstone, Bar**	**0.82**	**96**		**Pg**	**04 24 14.2**	**-0.2**
GSC				IAML		04 24 28.8	
	comp=N,2μm,0.5s						
GSC	**Goldstone, Bar**	**0.82**	**96**	P	**Pg**	**04 24 14.2**	**-0.2**
	baz=278,SNR=755						
GSC				S	**Sg**	**04 24 25.3**	**+0.2**
	baz=278						
RRX	**Edison Barstow**	**0.84**	**128**	P	**Pg**	**04 24 14.8**	**0.0**
	baz=309,SNR=39						
RRX				S	**Sg**	**04 24 26.1**	**+0.4**
	baz=309						
ARVC	**Arvin**	**0.89**	**252**	P	**Pg**	**04 24 14.9**	**-0.7**
	baz=71,SNR=79						
ARVC				S	**Sg**	**04 24 26.9**	**-0.2**
	baz=71						
QSM	**Queen of Sheba**	**0.95**	**53**		**Pg**	**04 24 16.4**	**-0.4**
QSM				IAML		04 24 32.9	
	comp=N,2μm,0.6s						
CWC	**Cottonwood Cre**	**1.06**	**348**	P	**Pg**	**04 24 18.1**	**-1.0**
	baz=168						
CWC				S	**Sg**	**04 24 31.7**	**-1.2**
	baz=168						
OSI	**Osito Audit: C**	**1.09**	**224**		**Pg**	**04 24 18.8**	**-0.8**
OSI	**Osito Audit: C**	**1.09**	**224**	P	**Pg**	**04 24 18.7**	**-0.8**
	baz=43,SNR=47						
OSI				S	**Sg**	**04 24 33.7**	**0.0**
	baz=43						
VES	**Vestal, Richgr**	**1.14**	**293**	P	**Pg**	**04 24 19.6**	**-0.8**
	baz=112,SNR=353						
VES				S	**Sg**	**04 24 34.7**	**-0.5**
	baz=112						
BFSC	**Mount Baldy Ra**	**1.16**	**174**	P	**Pg**	**04 24 20.2**	**-0.8**
	baz=354,SNR=296						
BFSC				S	**Sg**	**04 24 35.6**	**-0.4**
	baz=354						
MWC	**Mount Wilson**	**1.19**	**190**		**Pg**	**04 24 20.7**	**-0.8**
MWC				IAML		04 24 39.7	
	comp=N,1μm,0.5s						
MWC				IAML		04 24 40.7	
	comp=E,1μm,0.4s						
GWY	**Greenwater Val**	**1.21**	**49**	Pg	**Pg**	**04 24 20.4**	**-1.5**
GWY				IAML		04 24 39.5	
	comp=N,1μm,0.5s						
DECC	**Green Verdugo**	**1.22**	**201**	P	**Pg**	**04 24 21.3**	**-0.9**
	baz=20,SNR=133						
DECC				S	**Sb**	**04 24 38.2**	**+0.2**
	baz=20						
PASC	**Pasadena Art C**	**1.26**	**195**	Pn	**Pn**	**04 24 22.0**	**-0.6**
FURC	**Furnace Creek,**	**1.31**	**35**	P	**Pn**	**04 24 22.0**	**-1.2**
	baz=216,SNR=323						
FURC				S	**Sb**	**04 24 40.3**	**-0.1**
	baz=216						
HEC	**Hector,Ludlow**	**1.33**	**115**	P	**Pn**	**04 24 22.4**	**-1.2**
	baz=296,SNR=144						
HEC				Sg	**Sn**	**04 24 42.2**	**+0.7**
	baz=296						
SHOC	**Shoshone, Teco**	**1.34**	**68**	P	**Pn**	**04 24 22.2**	**-1.4**
	baz=249,SNR=51						
SHOC				Sg	**Sn**	**04 24 42.3**	**+0.6**
	baz=249						
GR2C	**Griffith Obs.**	**1.34**	**198**		**Pn**	**04 24 23.4**	**-0.2**
BBRC	**Big Bear Solar**	**1.34**	**147**	Pg	**Pn**	**04 24 24.0**	**0.0**
	baz=328						
BBRC				S	**Sb**	**04 24 41.5**	**-0.1**
	baz=328						
GVRC	**Garvey Reservo**	**1.37**	**191**		**Pn**	**04 24 24.1**	**0.0**
TUQ	**Turquoise Moun**	**1.53**	**88**	P	**Pn**	**04 24 25.1**	**-1.4**
	baz=269,SNR=199						
TUQ				Sb	**Sb**	**04 24 47.5**	**+0.4**
	baz=269						
VOG	**Valley Oaks Go**	**1.58**	**306**	Pb	**Pn**	**04 24 26.9**	**-0.1**
	baz=125						
VOG				Sb	**Sb**	**04 24 47.8**	**-0.4**
	baz=125						
HELL	**Mitchell Peak,**	**1.62**	**323**		**Pn**	**04 24 27.7**	**+0.2**
TIN	**Tinemaha, Big**	**1.69**	**348**	Pg	**Pb**	**04 24 29.8**	**-0.3**
	baz=168						
TIN				Sb	**Sg**	**04 24 51.9**	**-1.1**
	baz=168						
PKM	**Mcpherson Peak**	**1.73**	**253**	Pg	**Pb**	**04 24 30.7**	**0.0**
	baz=72						
PKM				Sb	**Sb**	**04 24 52.8**	**+0.1**
	baz=72						
FMP	**Fort Macarthur**	**1.73**	**194**	P	**Pn**	**04 24 28.4**	**-0.6**
	baz=13,SNR=5.0						
SMMC	**Simmler**	**1.80**	**268**	Pb	**Pn**	**04 24 30.5**	**+0.5**
	baz=86						
LCH	**Last Change Ra**	**1.83**	**4**		**Pn**	**04 24 30.2**	**-0.5**
SBC	**Santa Barbara**	**1.84**	**239**	P	**Pn**	**04 24 29.2**	**-1.3**
	baz=58						
SBC				Sg	**Sg**	**04 24 59.2**	**+1.5**
	baz=58						
GMRC	**Granite Mounta**	**1.86**	**109**	P	**Pn**	**04 24 29.1**	**-1.9**
	baz=290,SNR=546						
GMRC				Sb	**Sb**	**04 24 57.5**	**+1.1**
	baz=290						
MURC	**Murrieta**	**1.86**	**164**	P	**Pn**	**04 24 30.2**	**-0.7**
	baz=344,SNR=94						
MURC				Sb	**Sb**	**04 24 57.2**	**+0.8**
	baz=344						
TPNV	**Topopah Spring**	**1.99**	**39**		**Pn**	**04 24 32.1**	**-0.7**
TPNV				IAML		04 25 05.2	
	comp=N,192nm,0.8s						
TPNV				IAML		04 25 05.8	
	comp=N,240nm,1.2s						
TPNV	**Topopah Spring**	**1.99**	**39**	P	**Pn**	**04 24 32.0**	**-0.8**
	baz=220,SNR=151						
TPNV				Sb	**Sb**	**04 25 01.1**	**+0.8**
	baz=220						
PAGB	**Antelope Grade**	**2.02**	**280**	Pn	**Pn**	**04 24 33.5**	**+0.4**
PAGB				IAML		04 25 15.2	
	comp=E,224nm,0.8s						
PAGB				IAML		04 25 24.8	
	comp=N,227nm,0.9s						
BELC	**Belle Mtn. Jos**	**2.04**	**133**	P	**Pn**	**04 24 32.1**	**-1.3**
	baz=314,SNR=37						
BELC				Sb	**Sb**	**04 25 02.7**	**+1.2**
	baz=314						
CIS	**Catalina Islan**	**2.06**	**194**	P	**Pn**	**04 24 32.6**	**-0.9**
	baz=14,SNR=20						
CIS				Sb	**Sb**	**04 25 03.1**	**+1.2**
	baz=14						
PFO	**Pinyon Flats O**	**2.10**	**148**	Pn	**Pn**	**04 24 33.4**	**-0.8**
PFO				IAML		04 25 06.9	
	comp=N,426nm,0.6s						
PFO				IAML		04 25 06.9	
	comp=N,307nm,0.7s						
PFO	**Pinyon Flats O**	**2.10**	**148**	P	**Pn**	**04 24 33.2**	**-1.0**
	baz=329,SNR=39						
PFO				Sb	**Sb**	**04 25 04.1**	**+0.8**
	baz=329						
MLAC	**Mammoth, Mammo**	**2.38**	**340**	Pg	**Pb**	**04 24 42.7**	**+0.8**
	baz=159						
SHPR	**Sheep Range**	**2.41**	**62**		**Pn**	**04 24 38.0**	**-0.5**
SCI2	**San Clemente I**	**2.49**	**195**	Pg	**Pg**	**04 24 45.3**	**-1.1**
	baz=14						
IRM	**Iron Mountain**	**2.51**	**119**	P	**Pn**	**04 24 38.0**	**-1.8**
	baz=300,SNR=83						
109C	**Camp Elliot, M**	**2.57**	**167**		**Pn**	**04 24 40.1**	**-0.4**
109C				IAML		04 25 18.7	
	comp=E,270nm,0.3s						
109C				IAML		04 25 20.1	
	comp=N,266nm,0.4s						
109C	**Camp Elliot, M**	**2.57**	**167**	P	**Pn**	**04 24 40.0**	**-0.5**
	baz=347,SNR=12						
PMPB	**Monarch Peak**	**2.57**	**289**	Pn	**Pn**	**04 24 40.5**	**-0.1**
PMPB				IAML		04 25 27.2	
	comp=E,230nm,0.6s						
PMPB				IAML		04 25 34.3	
	comp=N,221nm,0.9s						
BC3	**Big Chuckawall**	**2.60**	**131**	P	**Pn**	**04 24 39.3**	**-1.8**
	baz=313						
NEE2	**Needles Airpor**	**2.68**	**103**	P	**Pn**	**04 24 40.5**	**-1.6**
	baz=285,SNR=11						
TPH	**Tonopah**	**2.71**	**10**		**Pn**	**04 24 42.6**	**-0.1**
TPH				IAML		04 25 43.7	
	comp=E,169nm,0.8s						
MONP2	**Monument Peak**	**2.75**	**155**	P	**Pn**	**04 24 43.0**	**-0.3**
	baz=336,SNR=28						
S11A	**Rachel**	**2.79**	**36**		**Pn**	**04 24 43.6**	**-0.1**
S11A				IAML		04 25 37.5	
	comp=N,179nm,0.8s						
S11A				IAML		04 25 45.8	
	comp=E,221nm,1.1s						
BAR	**Barrett**	**2.87**	**161**		**Pn**	**04 24 44.5**	**-0.2**
BAR				IAML		04 25 28.8	
	comp=N,199nm,0.5s						
BBGB	**Big Mountain B**	**2.88**	**295**	Pn	**Pn**	**04 24 45.0**	**+0.1**
LHV	**Little Huntoon**	**2.90**	**349**		**Pn**	**04 24 45.4**	**+0.3**
LHV				IAML		04 25 39.8	
	comp=N,133nm,0.7s						
LHV				IAML		04 25 42.2	
	comp=E,113nm,0.9s						
TJX	**Tijuana**	**2.95**	**168**	Pn	**Pn**	**04 24 44.7**	**-1.0**
SWSC	**Sam W. Stewart**	**2.96**	**145**	P	**Pn**	**04 24 45.5**	**-0.4**
	baz=326,SNR=16						
PRN	**Pahroc Range**	**2.99**	**47**		**Pn**	**04 24 46.5**	**0.0**
PRN				IAML		04 25 44.6	
	comp=N,178nm,0.7s						
PRN				IAML		04 25 47.5	
	comp=E,194nm,0.9s						
NV11	**Mina Array Sit**	**3.04**	**355**		**Pn**	**04 24 47.2**	**+0.1**
NVAR	**Mina Array Bea**	**3.05**	**353**	Pn	**Pn**	**04 24 47.5**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**3.08**	**152**	Pb	**Pb**	**04 24 54.1**	**+0.4**
	baz=333						
W13A	**Hualapai Mount**	**3.22**	**94**	Pn	**Pn**	**04 24 48.7**	**-1.0**
W13A				IAML		04 25 44.4	
	comp=N,153nm,0.6s						
W13A				IAML		04 25 44.5	
	comp=E,85nm,0.6s						
SAO	**San Andreas Ge**	**3.25**	**296**		**Pn**	**04 24 49.6**	**-0.3**
RYN	**Ryan**	**3.27**	**350**	Pn	**Pn**	**04 24 50.2**	**-0.2**
CMB	**Columbia Colle**	**3.35**	**322**	Pn	**Pn**	**04 24 51.4**	**0.0**
CMB				IAML		04 25 45.0	
	comp=E,108nm,0.8s						
CMB				IAML		04 25 45.4	
	comp=N,106nm,0.6s						
GLA	**Glamis**	**3.40**	**133**	Pn	**Pn**	**04 24 52.8**	**+0.8**
GLA	**Glamis**	**3.40**	**133**	Pg	**Pg**	**04 25 02.0**	**-1.8**
	baz=314						
R11A	**Troy Canyon, C**	**3.44**	**30**		**Pn**	**04 24 52.2**	**-0.5**
R11A	**Troy Canyon, C**	**3.44**	**30**	P	**Pn**	**04 24 50.8**	**-1.9**
	baz=212						
Q09A	**Carvers**	**3.46**	**8**	Pn	**Pn**	**04 24 52.6**	**-0.5**
Q09A				IAML		04 25 59.3	
	comp=N,107nm,0.9s						
Q09A				IAML		04 26 00.7	
	comp=E,116nm,0.9s						
KVN	**Kaiserville**	**3.65**	**356**		**Pn**	**04 24 56.0**	**+0.3**
YERR	**Yerington**	**3.76**	**343**	Pn	**Pn**	**04 24 57.1**	**0.0**
YERR				IAML		04 26 10.6	
	comp=E,86nm,0.8s						
YERR				IAML		04 26 17.2	
	comp=N,51nm,0.6s						
PNTR	**Pine Nut**	**3.95**	**339**	Pn	**Pn**	**04 24 59.9**	**0.0**
EMB	**Emerald Bay**	**4.01**	**333**	Pn	**Pn**	**04 25 00.9**	**+0.2**
VCNR	**Virginia City**	**4.16**	**340**	Pn	**Pn**	**04 25 02.6**	**0.0**
VCNR				IAML		04 26 19.3	
	comp=N,54nm,0.8s						
CCUT	**Cedar City**	**4.17**	**58**	Pn	**Pn**	**04 25 02.8**	**0.0**
Y14A	**Wickenburg**	**4.21**	**109**		**Pn**	**04 25 01.4**	**-1.8**
Y14A				IAML		04 26 20.8	
	comp=E,65nm,0.5s						
113A	**Mohawk Valley,**	**4.25**	**127**	Pn	**Pn**	**04 25 04.3**	**+0.7**
113A				IAML		04 26 23.8	
	comp=N,45nm,0.9s						
113

KNB					IAML			04 26 26.0	
	comp=E,31nm,1.1s								
KNB					IAML			04 26 32.8	
	comp=N,31nm,1.9s								
SZCU	**Shurtz Canyon**	**4.38**	**59**	Pn		**Pn**		**04 25 06.5**	**+0.8**
PSUT	**Pine Spring**	**4.45**	**44**	Pn		**Pn**		**04 25 08.1**	**+1.5**
PSUT					IAML			04 26 28.5	
	comp=E,38nm,1.0s								
PSUT					IAML			04 26 37.9	
	comp=N,35nm,1.6s								
PAHR	**Pah Rah Range**	**4.48**	**344**	Pn		**Pn**		**04 25 08.0**	**+1.0**
SPR3	**Spring Creek 3**	**4.54**	**37**	Pn		**Pn**		**04 25 08.7**	**+0.8**
SPR3					IAML			04 26 36.8	
	comp=E,26nm,1.6s								
U15A	**North Rim**	**4.59**	**75**			**Pn**		**04 25 09.1**	**+0.5**
U15A					IAML			04 26 22.1	
	comp=E,50nm,0.8s								
U15A					IAML			04 26 31.4	
	comp=N,44nm,1.9s								
BMN	**Battle Mountai**	**5.05**	**5**	Pn		**Pn**		**04 25 15.4**	**+0.6**
WUAZ	**Wupatki**	**5.25**	**87**			**Pn**		**04 25 18.0**	**+0.4**
X16A	**Lo Mia Camp, P**	**5.32**	**99**			**Pn**		**04 25 18.4**	**-0.2**
X16A					IAML			04 26 57.5	
	comp=E,16nm,1.2s								
X16A					IAML			04 27 00.4	
	comp=N,20nm,3.0s								
TCRU	**Three Creeks R**	**5.35**	**52**	Pn		**Pn**		**04 25 19.3**	**+0.2**
214A	**Organ Pipe Nat**	**5.39**	**128**	Pn		**Pn**		**04 25 18.6**	**-0.8**
MVU	**Marysvale**	**5.44**	**54**	Pn		**Pn**		**04 25 19.4**	**-0.9**
MSU	**Marysvale**	**5.47**	**54**	Pn		**Pn**		**04 25 21.3**	**+0.6**
ELK	**Elko**	**5.71**	**20**	Pn		**Pn**		**04 25 24.3**	**+0.4**
DUG	**Dugway, Tooele**	**6.21**	**38**	Pn		**Pn**		**04 25 31.9**	**+1.2**
NLU	**North Lily Min**	**6.43**	**43**	Pn		**Pn**		**04 25 33.6**	**-0.2**
X18A	**Snowflake**	**6.50**	**95**	Pn		**Pn**		**04 25 36.1**	**+1.2**
TMUT	**Trail Mountain**	**6.54**	**52**	Pn		**Pn**		**04 25 35.4**	**+0.1**
SRU	**San Rafael Swe**	**6.88**	**55**	Pn		**Pn**		**04 25 40.3**	**+0.3**
HVU	**Hansel Valley**	**7.49**	**30**	Pn		**Pn**		**04 25 48.1**	**-0.1**
PV13	**Radium Mtn., P**	**7.71**	**66**	Pn		**Pn**		**04 25 51.5**	**+0.1**

NEIC 14 04:24:46.1±0.6, 35°677N±0°010×97°42W±0°01, h7km±3km, ML2.3/28, Error ellipse: s-maj=1.6km s-min=1.3km az=113.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**184**	Pg	Pg	04 24 47.9	-0.5
OK009				Sg	Sg	04 24 49.6	-0.2
OK025	**Westminster Rd**	**0.12**	**147**	Pg	Pg	04 24 48.3	-0.3
OK029	**Liberty Lake**	**0.12**	**345**	Pg	Pg	04 24 48.7	-0.1
OK029				Sg	Sg	04 24 50.9	+0.3
OK029				IAML		04 24 51.1	
	1μm,0.2s						
BCOK	**Bluff Creek, N**	**0.16**	**263**	Pg	Pg	04 24 49.0	-0.4
BCOK				Sg	Sg	04 24 51.8	+0.2
BCOK				IAML		04 24 52.0	
	comp=E,712nm,0.2s						
BCOK				IAML		04 24 52.1	
	comp=N,1μm,0.2s						
OK005	**Luther M Schoo**	**0.18**	**97**	Pg	Pg	04 24 49.7	-0.2
OK005				Sg	Sg	04 24 52.6	+0.3
OKCFA	**Oklahoma City**	**0.26**	**187**	Pg	Pg	04 24 50.9	-0.5
OKCFA				Sg	Sg	04 24 55.0	+0.2
OKCFA				IAML		04 24 55.2	
	comp=E,583nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.27**	**184**	Pg	Pg	04 24 51.0	-0.5
OKCSW				Sg	Sg	04 24 55.3	+0.2
FNO	**Franklin**	**0.42**	**178**	Pg	Pg	04 24 53.8	-0.5
FNO				Sg	Sg	04 25 00.0	+0.2
OK031	**S. Brethren Rd**	**0.54**	**59**	Pg	Pg	04 24 56.2	-0.4
OK031				Sg	Sg	04 25 03.6	-0.1
OK030	**Cody Creek RV**	**0.57**	**64**	Pg	Pg	04 24 56.5	-0.6
OK034	**N. Norfolk Rd.**	**0.66**	**60**	Pg	Pg	04 24 58.2	-0.6
OK034				Sg	Sg	04 25 07.5	0.0
OK034				IAML		04 25 08.3	
	comp=E,139nm,0.1s						
QUOK	**Quay**	**0.76**	**49**	Pg	Pg	04 24 59.8	-0.9
QUOK				IAML		04 25 13.4	
	comp=N,174nm,0.2s						
QUOK				IAML		04 25 13.6	
	comp=E,124nm,0.2s						
X34A	**Smith Ranch, M**	**1.13**	**198**	Pg	Pg	04 25 06.9	-0.8
X34A				IAML		04 25 23.9	
	comp=E,74nm,0.4s						
GC02	**Grant County #**	**1.23**	**343**		Pg	04 25 08.2	-1.5
OK032	**Salt Plains WL**	**1.29**	**330**		Pn	04 25 09.2	-1.5
KAN13	**South Haven SW**	**1.33**	**358**		Pn	04 25 10.3	-1.0
TUL1	**Leonard**	**1.34**	**80**		Pn	04 25 09.3	-2.0
TUL1				IAML		04 25 32.0	
	comp=N,44nm,0.3s						
TUL1				IAML		04 25 34.1	
	comp=E,39nm,0.3s						
KAN14	**Manchester OK**	**1.35**	**341**		Pn	04 25 10.4	-1.0
KAN17	**Caldwell West**	**1.39**	**348**		Pn	04 25 11.2	-0.9
T35A	**Sooner Cattle**	**1.44**	**30**		Pn	04 25 11.7	-1.0
WMOK	**Wichita Mounta**	**1.46**	**230**		Pn	04 25 11.9	-1.1
U32A	**Winter Ranch,**	**1.46**	**299**		Pn	04 25 12.1	-0.9
U38A	**Gravette**	**2.57**	**72**	Pn	Pn	04 25 28.6	+0.3

IDC 14 04:24:54.8±4.0, 6°03S×150°66E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/46, mbtmp3.1/2, Error ellipse: s-maj=168.9km s-min=50.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.04**	**227**	P	P	04 29 40.4	-0.1
	1.3nm,1.1s,baz=53,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**23.82**	**221**	P	P	04 30 09.3	-0.4
	0.3nm,0.7s,baz=57,slow=8.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**148.61**	**285**	PKPbc	PKPbc	04 44 44.6	-0.3
	2.9nm,0.9s,baz=94,slow=2.4,SNR=5.4						

*IDC **14** 04:26:11.5±1.4, 13°60N×44°93W, h0km, mb4.0/7, mb1 4.3/8, mb1mx3.9/43, mbtmp4.0/8, ML3.5/1, Error ellipse: s-maj=43.2km s-min=28.9km az=7.0*
*NEIC **14** 04:26:14.7±1.6, 13°6N±0°1×45°1W±0°2, h10km±2km, mb4.7/7, Error ellipse: s-maj=29.8km s-min=21.2km az=130.0*

ISC 14 04:26:13.9±0.9, 13°6N±0°1×45°0W±0°2, h15km, n25, σ0§88/19, mb4.3/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**11.30**	**223**	Pn	**Pn**	**04 28 54.4**	**-0.6**
	0.3nm,0.3s,baz=34,slow=14,SNR=6.6						
H05S1	**Guadeloupe/Mar**	**15.41**	**275**	T	T	04 45 46.7	
	SNR=10						
BOAV	**Boa Vista**	**18.95**	**236**	P	**Pn**	**04 30 35.4**	**0.0**
BAUV	**El Baul**	**23.07**	**261**	P	**P**	**04 31 18.3**	**-0.9**
BAUV				IAmb	IAmb	04 31 28.9	
	comp=Z,139nm,1.7s						
ETMB	**Extrema**	**31.36**	**223**	P	**P**	**04 32 33.7**	**-0.6**
ETMB				IAmb	IAmb	04 32 43.3	
	comp=Z,6.1nm,1.4s						
H10N3	**ASCENSION HYDR**	**36.99**	**123**	T	T	05 12 19.8	
	baz=305,slow=75,SNR=5.9						
H10N2	**ASCENSION HYDR**	**36.99**	**123**	T	T	05 12 19.2	
	baz=305,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**37.01**	**123**	T	T	05 12 18.1	
	baz=305,slow=75,SNR=11						
H10S3	**ASCENSION HYDR**	**37.50**	**125**	T	T	05 12 55.6	
	baz=301,slow=74,SNR=4.2						
H10S2	**ASCENSION HYDR**	**37.52**	**125**	T	T	05 13 02.1	
	baz=279,slow=74,SNR=6.6						
TORD	**Torodi Ar. Bea**	**45.36**	**85**	P	**P**	**04 34 31.5**	**-0.6**
	comp=Z,9.0nm,0.9s,baz=284,slow=8.1,SNR=6.3						
ZON	**Zonda**	**50.29**	**206**	P	**P**	**04 35 11.7**	**+1.7**
TXAR	**Lajitas Array**	**56.29**	**296**	P	**P**	**04 35 55.7**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=125,slow=7.8,SNR=4.1						
TXAR	**Lajitas Array**	**56.29**	**296**	P	**P**	**04 35 54.7**	**+0.2**
PDAR	**Pinedale Array**	**62.28**	**311**	P	**P**	**04 36 36.4**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=87,slow=7.6,SNR=4.0						
PDAR	**Pinedale Array**	**62.28**	**311**	P	**P**	**04 36 36.0**	**+0.1**
ELK	**Elko**	**66.35**	**309**	P	**P**	**04 37 01.9**	**-0.7**
ELK				IAmb	IAmb	04 37 06.9	
	comp=Z,2.7nm,1.1s						
NEW	**Newport**	**68.12**	**317**	P	**P**	**04 37 12.7**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=127,slow=5.1,SNR=3.8						
NEW	**Newport**	**68.12**	**317**	P	**P**	**04 37 14.2**	**+0.7**
NEW				IAmb	IAmb	04 37 16.2	
	comp=Z,9.8nm,1.5s						
YKA	**Yellowknife Ar**	**68.68**	**332**	P	**P**	**04 37 15.2**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=100,slow=6.8,SNR=9.3						
INK	**Inuvik**	**76.97**	**338**	P	**P**	**04 38 06.3**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=83,slow=6.5,SNR=4.6						
BCAR	**Beaver Creek A**	**81.08**	**333**	P	**P**	**04 38 29.4**	**+1.0**
ILAR	**Eielson Array**	**82.84**	**335**	P	**P**	**04 38 38.0**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=72,slow=4.4,SNR=14						
ILAR	**Eielson Array**	**82.84**	**335**	P	**P**	**04 38 38.5**	**+0.9**
BMRM	**Bremner River**	**82.87**	**331**	P	**P**	**04 38 38.0**	**+0.2**
BMRM				IAmb	IAmb	04 38 56.6	
	comp=Z,13nm,1.4s						

*IDC **14** 04:28:00.2±1.5, 13°51N×44°76W, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.8/41, mbtmp3.9/9, ML3.4/1, Error ellipse: s-maj=45.3km s-min=30.4km az=5.0*
*NEIC **14** 04:28:00.7±1.5, 13°4N±0°1×44°38W±0°09, h10km±1km, mb4.6/11, Error ellipse: s-maj=24.0km s-min=5.9km az=145.0*

ISC 14 04:28:00.5±0.7, 13°4N±0°1×44°5W±0°1, h10km, n32, σ1§18/26, mb4.3/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**11.47**	**225**	Pn	**Pn**	**04 30 43.9**	**-0.6**
	0.3nm,0.3s,baz=38,slow=6.4,SNR=2.2						
H05S1	**Guadeloupe/Mar**	**15.89**	**276**	T	T	04 47 34.3	
	SNR=7.4						
BOAV	**Boa Vista**	**19.22**	**237**	P	**Pn**	**04 32 26.4**	**+0.5**
BOAV				IAmb	IAmb	04 32 29.0	
	comp=Z,32nm,1.4s						
RCBR	**Riachuelo**	**20.89**	**155**	P	**P**	**04 32 40.5**	**-2.7**
OBIP	**Obispado Ponce**	**21.77**	**285**	P	**P**	**04 32 53.0**	**+0.3**
MACA	**Manacapuru-AM**	**22.95**	**225**	P	**P**	**04 33 06.4**	**+1.1**
MACA				IAmb	IAmb	04 33 13.1	
	comp=Z,26nm,1.2s						
ETMB	**Extrema**	**31.53**	**224**	P	**P**	**04 34 24.5**	**+1.4**
ETMB				IAmb	IAmb	04 34 26.8	
	comp=Z,12nm,1.5s						
PMOZ	**Porto Moniz, M**	**31.58**	**48**	P	**P**	**04 34 21.9**	**-1.6**
H10N3	**ASCENSION HYDR**	**36.49**	**124**	T	T	05 14 10.8	
	baz=305,slow=75,SNR=7.7						
H10N2	**ASCENSION HYDR**	**36.49**	**124**	T	T	05 14 09.3	
	baz=305,slow=75,SNR=5.7						
H10N1	**ASCENSION HYDR**	**36.51**	**124**	T	T	05 14 12.4	
	baz=305,slow=75,SNR=7.0						
H10S3	**ASCENSION HYDR**	**37.01**	**125**	T	T	05 14 45.7	
	baz=301,slow=74,SNR=4.3						
H10S2	**ASCENSION HYDR**	**37.02**	**125**	T	T	05 14 50.8	
	baz=279,slow=74,SNR=5.8						
TORD	**Torodi Ar. Bea**	**44.92**	**85**	P	**P**	**04 36 19.1**	**+3.0**
	comp=Z,3.4nm,0.9s,baz=292,slow=8.7,SNR=4.0						
TXAR	**Lajitas Array**	**56.80**	**296**	P	**P**	**04 37 45.1**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=101,slow=4.7,SNR=2.6						
TXAR	**Lajitas Array**	**56.80**	**296**	P	**P**	**04 37 45.4**	**-0.1**
ISCO	**Idaho Springs**	**59.42**	**308**	P	**P**	**04 38 04.3**	**+0.3**
ISCO				IAmb	IAmb	04 38 08.6	
	comp=Z,7.6nm,1.4s						
PDAR	**Pinedale Array**	**62.77**	**311**	P	**P**	**04 38 26.5**	**0.0**
	comp=Z,0.7nm,0.9s,baz=108,slow=5.0,SNR=3.4						
BCYI	**Bear Canyon**	**65.71**	**313**	P	**P**	**04 38 46.3**	**+0.5**
ELK	**Elko**	**66.84**	**309**	P	**P**	**04 38 53.4**	**+0.2**
ELK				IAmb	IAmb	04 38 55.0	
	comp=Z,2.5nm,0.9s						
NEW	**Newport**	**68.59**	**317**	P	**P**	**04 39 03.1**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=307,slow=2.6,SNR=4.5						
NEW	**Newport**	**68.59**	**317**	P	**P**	**04 39 03.4**	**-0.4**
YKA	**Yellowknife Ar**	**69.08**	**332**	P	**P**	**04 39 05.5**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=103,slow=7.0,SNR=8.7						
YKA	**Yellowknife Ar**	**69.08**	**332**	P	**P**	**04 39 06.1**	**-0.4**
NVAR	**Mina Array Bea**	**69.18**	**306**	P	**P**	**04 39 07.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=107,slow=5.9,SNR=2.1						
NVAR	**Mina Array Bea**	**69.18**	**306**	P	**P**	**04 39 06.6**	**-1.3**
INK	**Inuvik**	**77.33**	**338**	P	**P**	**04 39 54.6**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=57,slow=9.5,SNR=4.4						
INK	**Inuvik**	**77.33**	**338**	P	**P**	**04 39 55.7**	**+0.5**
INK				IAmb	IAmb	04 39 57.4	
	comp=Z,7.7nm,1.4s						
M30M	**Minto, Yukon**	**79.31**	**332**	P	**P**	**04 40 04.7**	**-1.6**
M30M				IAmb	IAmb	04 40 18.1	
	comp=Z,17nm,1.8s						
BCAR	**Beaver Creek A**	**81.48**	**333**	P	**P**	**04 40 18.6**	**+0.6**
BMAR	**Burnt Mountain**	**81.61**	**337**	P	**P**	**04 40 19.6**	**+1.0**
ILAR	**Eielson Array**	**83.23**	**335**	P	**P**	**04 40 27.7**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=64,slow=4.6,SNR=13						

*IDC **14** 04:30:26.6±1.2, 29°45N×127°86E, h271km±11km, mb3.8/30, mb1 4.0/33, mb1mx3.8/59, mbtmp4.4/33, Error ellipse: s-maj=11.2km s-min=7.4km az=81.0*
*NEIC **14** 04:30:26.5±1.3, 29°38N±0°07×127°83E±0°05, h268km±7km, mb4.4/33, Error ellipse: s-maj=10.6km s-min=6.2km az=179.0*
*JMA **14** 04:30:27.5±0.2, 29°28N×127°91E, h267km±5km, M4.6*

ISC 14 04:30:26.5±0.5, 29°35N±0°04×127°90E±0°06, h273km±5km, n116, σ1§16/155, mb4.3/46, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**1.16**	**99**	P	**Pn**	**04 31 05.8**	**+0.9**
JTAJ				*eS*	**S**	**04 31 35.1**	**-0.1**
JAMN	**Amaminishikomi**	**1.57**	**134**	P	**Pn**	**04 31 07.7**	**+0.1**
JAMN				*eS*	**S**	**04 31 38.1**	**-2.1**
JAM	**Amami Oshima**	**1.77**	**122**	P	**Pn**	**04 31 09.2**	**+0.1**
JAM				*eS*	**S**	**04 31 40.4**	**-2.4**
JNN	**Nakanoshima**	**1.79**	**74**	P	**Pn**	**04 31 10.1**	**+0.9**
JNN				*eS*	**S**	**04 31 42.6**	**-0.5**
JTK	**Tokunoshima**	**1.81**	**149**	P	**Pn**	**04 31 09.5**	**0.0**
JTK				*eS*	**S**	**04 31 41.4**	**-2.1**
JOKE	**Okinoerabujima**	**2.07**	**163**	P	**Pn**	**04 31 11.5**	**-0.1**
JOKE				*eS*	**S**	**04 31 45.3**	**-2.1**
JZK	**Kikaishima**	**2.09**	**119**	P	**Pn**	**04 31 13.4**	**+1.6**
JZK				*eS*	**S**	**04 31 47.8**	**+0.1**
JKC	**Kuchinoerabu**	**2.28**	**60**	P	**Pn**	**04 31 14.5**	**+1.1**
JIH	**Iheya**	**2.31**	**178**	P	**Pn**	**04 31 13.7**	**0.0**
JIH				*eS*	**S**	**04 31 49.3**	**-1.9**
JYRO	**Yoronjima**	**2.37**	**168**	P	**Pn**	**04 31 14.1**	**-0.2**
JYRO				*eS*	**S**	**04 31 49.2**	**-3.0**
JYAK	**Yakushimahirau**	**2.44**	**68**	P	**Pn**	**04 31 15.3**	**+0.4**
JYAK				*eS*	**S**	**04 31 49.3**	**-3.9**
JOW	**Kunigami**	**2.53**	**172**	P	**Pn**	**04 31 15.8**	**0.0**
	128nm,0.3s,baz=115,slow=26,SNR=268						
JOW				S	**S**	**04 31 52.5**	**-2.5**
	324nm,0.3s,baz=95,slow=23,SNR=13						
JOW	**Kunigami**	**2.53**	**172**	P	**Pn**	**04 31 15.8**	**0.0**
JOW				*eS*	**S**	**04 31 52.4**	**-2.6**
JOW	**Kunigami**	**2.53**	**172**	Pn	**Pn**	**04 31 15.6**	**-0.2**
JOW				Sn	**S**	**04 31 52.7**	**-2.4**
JAGN	**Aguni-jima**	**2.81**	**192**	P	**Pn**	**04 31 18.6**	**0.0**
JAGN				*eS*	**S**	**04 31 58.0**	**-2.0**
JMTN	**Minamitane**	**2.81**	**67**	P	**Pn**	**04 31 18.9**	**+0.4**
JMTN				*eS*	**S**	**04 31 56.3**	**-3.6**
JNTH	**Nagotoyohara**	**2.82**	**178**	P	**Pn**	**04 31 19.0**	**+0.3**
JNTH				*eS*	**S**	**04 31 57.7**	**-2.5**
JTN	**Tanegashima 3**	**2.97**	**63**	P	**Pn**	**04 31 20.4**	**+0.2**
JTN				*eS*	**S**	**04 32 00.2**	**-2.7**
JSU	**Suzuyama**	**3.08**	**45**	Pn	**Pn**	**04 31 22.2**	**+0.9**
JKE	**Kume jima 2**	**3.17**	**198**	P	**Pn**	**04 31 22.1**	**-0.2**
JKE				*eS*	**S**	**04 32 05.2**	**-1.5**
JJT3	**Tamagusuku3**	**3.19**	**182**	P	**Pn**	**04 31 23.0**	**+0.4**
JJT3				*eS*	**S**	**04 32 06.0**	**-1.2**
JTZ	**Takazaki**	**3.75**	**46**	P	**Pn**	**04 31 29.6**	**+1.1**
JTZ				*eS*	**S**	**04 32 15.7**	**-2.2**
JNU	**Nakatsue**	**4.55**	**33**	P	**Pn**	**04 31 39.4**	**+1.7**
	25nm,0.3s,baz=192,slow=4.1,SNR=97						
JNU	**Nakatsue**	**4.55**	**33**	Pn	**Pn**	**04 31 39.0**	**+1.3**
JMN	**Monobe**	**6.72**	**48**	Pn	**Pn**	**04 32 02.9**	**-1.1**
JHS	**Saijyo**	**7.16**	**37**	Pn	**Pn**	**04 32 07.4**	**-2.0**
YHNB	**Yeheng**	**7.45**	**233**		**Pn**	**04 32 13.5**	**+0.3**
NACB	**Ninganchiao**	**7.63**	**229**		**Pn**	**04 32 14.1**	**-1.3**
KSRS	**Korea Array**	**8.09**	**0**	P	**Pn**	**04 32 22.2**	**+1.4**
	0.5nm,0.3s,baz=175,slow=12,SNR=8.7						
SSLB	**Suanglung**	**8.32**	**230**		**Pn**	**04 32 23.3**	**-0.8**
YULB	**Yu-li**	**8.38**	**226**		**Pn**	**04 32 22.9**	**-1.9**
TPUB	**Ta-pu**	**8.87**	**229**		**Pn**	**04 32 29.8**	**-1.2**
TWG	**Pinlang**	**8.94**	**225**		**Pn**	**04 32 29.8**	**-1.9**
INU	**Inuyama**	**9.76**	**50**	Pn	**Pn**	**04 32 42.3**	**+0.6**
MAJO	**Matsushiro**	**11.24**	**48**	P	**P**	**04 33 04.2**	**+0.9**
MAT	**Matsushiro**	**11.24**	**48**	P	**P**	**04 33 04.6**	**+1.3**
MJB9	**Matsu-Tunnel**	**11.24**	**48**	P	**P**	**04 33 04.1**	**+0.8**
MJAR	**Matsushiro Arr**	**11.24**	**48**	P	**Pn**	**04 33 01.1**	**+0.9**
	1.0nm,0.3s,baz=241,slow=11,SNR=28						
MJAR	**Matsushiro Arr**	**11.24**	**48**	Pn	**Pn**	**04 33 00.1**	**-0.1**
BJT	**Baijiatuau**	**14.35**	**321**		**P**	**04 33 37.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**15.18**	**11**	P	**Pn**	**04 33 49.0**	**+1.2**
	baz=186,slow=8.2,SNR=5.3						
KLR	**Kul'dur**	**20.07**	**7**	P	**P**	**04 34 38.7**	**-0.9**
	0.5nm,0.3s,baz=199,slow=8.9,SNR=9.4						
KLR				PcP	**PcP**	**04 38 43.0**	**+0.6**
	0.1nm,0.3s,baz=165,slow=4.8,SNR=4.3						
ULN	**Ulaanbaatar**	**24.51**	**325**	P	**P**	**04 35 20.8**	**-0.7**
ULN				IAmb	IAmb	04 35 25.0	
	comp=Z,6.9nm,0.8s						
SONM	**Songino Array**	**24.82**	**324**	P	**P**	**04 35 23.7**	**-0.5**
	comp=Z,5.1nm,0.4s,baz=136,slow=10,SNR=49						
SONM				PcP	**PcP**	**04 38 53.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=178,slow=5.2,SNR=4.1						
SONM	**Songino Array**	**24.82**	**324**	P	**P**	**04 35 24.0**	**-0.2**
SONM				IAmb	IAmb	04 35 28.0	
	comp=Z,13nm,1.1s						
FAKI	**Fak Fak**	**32.35**	**172**	P	**P**	**04 36 31.3**	**+0.5**
IPM	**Ipoh**	**35.48**	**231**	P	**P**	**04 36 57.2**	**-0.6**
IPM				IAmb	IAmb	04 37 00.4	
	comp=Z,14nm,0.9s						
SEY	**Seymchan**	**37.15**	**18**	P	**P**	**04 37 11.2**	**0.0**
	comp=Z,0.8nm,0.4s,baz=355,slow=24,SNR=1.3						
SEY				PcP	**PcP**	**04 39 25.3**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=8.7,slow=21,SNR=4.3						
PSI	**Prapat**	**38.13**	**232**	P	**P**	**04 37 22.1**	**+1.9**
	comp=Z,5.6nm,0.6s,baz=0.9,slow=7.1,SNR=8.3						
MK31	**Makanchi Array**	**39.29**	**309**	P	**P**	**04 37 29.1**	**-0.2**
MK31					**PcP**	**04 39 32.0**	**0.0**
MKAR	**Makanchi Array**	**39.29**	**309**	P	**P**	**04 37 29.0**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=92,slow=11,SNR=28						
MKAR				PcP	**PcP**	**04 39 32.2**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=80,slow=2.9,SNR=19						
MKAR				ScP	**ScP**	**04 42 53.6**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=117,slow=4.2,SNR=4.4						
MKAR	**Makanchi Array**	**39.29**	**309**	P	**P**	**04 37 29.3**	**0.0**
MKAR					**PcP**	**04 39 32.1**	**+0.1**
MKAR					**ScP**	**04 42 53.2**	**-0.9**
MAKZ	**Makanchi**	**39.51**	**309**	P	**P**	**04 37 31.0**	**0.0**
ZAA0	**Zalesovo Array**	**39.62**	**321**	P	**P**	**04 37 31.3**	**-0.6**
ZALV	**Zalesovo Beam**	**39.62**	**321**	P	**P**	**04 37 31.1**	**-0.7**
	comp=Z,4.2nm,0.4s,baz=109,slow=8.8,SNR=21						
ZALV				pP	**pP**	**04 38 30.3**	**+3.0**
	comp=Z,1.3nm,0.8s,baz=99,slow=7.7,SNR=2.0						
ZALV				PcP	**PcP**	**04 39 32.3**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=104,slow=4.7,SNR=7.0						
ZALV				ScP	**ScP**	**04 42 53.7**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=124,slow=4.1,SNR=7.2						
ZALV	**Zalesovo Beam**	**39.62**	**321**	P	**P**	**04 37 31.2**	**-0.6**
ZALV					**PcP**	**04 39 32.6**	**-0.2**
ZALV				ScP	**ScP**	**04 42 55.4**	**+0.2**
MTN	**Manton Dam**	**42.06**	**175**	P	**P**	**04 37 52.1**	**+0.1**
MTN				IAmb	IAmb	04 37 53.4	
	comp=Z,17nm,0.9s						
KURK	**Kurchatov**	**42.40**	**314**	P	**P**	**04 37 53.8**	**-0.6**
KURBB	**Kurchatov Arra**	**42.44**	**314**	P	**P**	**04 37 54.3**	**-0.4**
	comp=Z,7.9nm,0.6s,baz=100,slow=8.8,SNR=43						
KURBB				pP	**pP**	**04 38 54.2**	**+3.3**
	comp=Z,1.0nm,0.8s,baz=102,slow=8.9,SNR=2.4						
KURBB				PcP	**PcP**	**04 39 41.8**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=98,slow=3.3,SNR=13						
AAK	**Ala-Archa**	**44.51**	**302**	P	**P**	**04 38 12.0**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=114,slow=7.7,SNR=4.5						
AAK				PcP	**PcP**	**04 39 50.1**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=357,slow=13,SNR=3.8						
KNRA	**Kununurra**	**44.77**	**179**	P	**P**	**04 38 14.2**	**+0.8**
KNRA				IAmb	IAmb	04 38 15.4	
	comp=Z,14nm,0.8s						
NRIK	**Noril'sk**	**46.21**	**341**	P	**P**	**04 38 23.5**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=124,slow=6.3,SNR=3.7						
FITZ	**Fitzroy Crossi**	**47.22**	**183**	P	**P**	**04 38 33.8**	**+1.3**
	comp=Z,6.4nm,0.5s,baz=5.1,slow=6.9,SNR=32						
KKAR	**Karatay

	comp=Z,5.4nm,0.6s							
FRB	Frobisher Bay	86.31	7	P		P	04 42 36.7	-0.7
	comp=Z,3.9nm,0.6s,baz=347,slow=8.0,SNR=5.9							
HRY	Holter Researc	87.08	37	P		P	04 42 42.4	+0.8
NVAR	Mina Array Bea	88.56	46	P		P	04 42 50.0	+1.1
	comp=Z,0.8nm,0.6s,baz=304,slow=5.4,SNR=7.5							
PDAR	Pinedale Array	90.92	38	P		P	04 43 00.2	+0.4
	comp=Z,1.3nm,0.5s,baz=46,slow=0.8,SNR=18							
ULM	Lac du Bonnet	91.77	26	P		P	04 43 03.0	-0.3
	comp=Z,4.0nm,0.8s,baz=314,slow=4.8,SNR=6.0							
TORD	Torodi Ar. Bea	113.09	301	PKiKP		PKiKP	04 48 31.8	-0.3
	comp=Z,0.8nm,0.8s,baz=40,slow=1.8,SNR=4.8							
BOSA	Boshof	113.60	249	PKiKP		PKiKP	04 48 33.1	+0.3
	comp=Z,1.3nm,0.5s,baz=52,slow=2.6,SNR=5.4							

*TUL **14** 04:45:53.5±1.0, 36°.48N±0°.02×98°.75W±0°.03, h9km±6km, ML3.1, mb_Lg2.8/25(NEIC), Error ellipse: s-maj=3.4km s-min=2.5km az=136.0*

NEIC 14 04:45:53.8±1.0, 36°.46N±0°.03×98°.72W±0°.02, h10km±1km, Error ellipse: s-maj=4.2km s-min=2.7km az=165.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.24	251	Pg	Pg	04 45 58.4	-0.4
U32A				Sg	Sg	04 46 02.0	0.0
OK035	E0210 Rd and N	0.25	2	Pg	Pg	04 45 58.8	-0.2
OK035				Sg	Sg	04 46 02.2	-0.2
OK032	Salt Plains WL	0.54	50	Pg	Pg	04 46 04.0	-0.3
OK032				Sg	Sg	04 46 11.4	0.0
CROK	Carrier	0.60	85	Pg	Pg	04 46 05.4	-0.1
CROK				Sg	Sg	04 46 13.5	+0.2
KAN14	Manchester OK	0.79	51	Pg	Pg	04 46 08.7	-0.4
KAN14				Sg	Sg	04 46 19.1	-0.2
GC02	Grant County #	0.80	60	Pg	Pg	04 46 08.7	-0.5
GC02				Sg	Sg	04 46 19.7	+0.1
KAN10	Anthony SW Sta	0.83	37	Pg	Pg	04 46 09.1	-0.8
KAN10				Sg	Sg	04 46 20.9	+0.1
KAN17	Caldwell West	0.97	53		Pg	04 46 11.8	-0.7
KAN01	Argonia South	1.04	48		Pg	04 46 13.2	-0.6
KAN13	South Haven SW	1.14	61		Pb	04 46 14.9	-0.8
BCOK	Bluff Creek, N	1.21	131		Pb	04 46 16.8	0.0
OK029	Liberty Lake	1.22	122	Pn	Pn	04 46 16.3	-0.7
BLOK	Blackwell	1.25	76		Pn	04 46 16.6	-0.7
OK025	Westminster Rd	1.42	128		Pn	04 46 19.8	0.0
OKCFA	Oklahoma City	1.47	135	Pn	Pn	04 46 20.6	+0.3
OKCSW	OKLAHOMA CITY	1.48	135		Pn	04 46 21.0	+0.4
OK031	S. Brethren Rd	1.60	108		Pn	04 46 22.8	+0.5
FNO	Franklin	1.61	138	Pn	Pb	04 46 23.1	-0.6
QUOK	Quay	1.65	99	Pn	Pn	04 46 22.9	-0.1
OK030	Cody Creek RV	1.66	108		Pn	04 46 22.9	0.0
OK034	N. Norfolk Rd.	1.69	105		Pn	04 46 23.4	0.0
WMOK	Wichita Mounta	1.72	182	Pn	Pn	04 46 23.8	-0.1
T35A	Sooner Cattle	1.83	75	Pn	Pn	04 46 26.1	+0.6
R32A	Long Quarter,	1.96	0	Pn	Pn	04 46 27.9	+0.7
W35A	Tecumseh	1.99	130		Pn	04 46 27.8	+0.2
X34A	Smith Ranch, M	1.99	158	Pn	Pn	04 46 28.2	+0.6
TUL1	Leonard	2.43	102		Pn	04 46 33.8	+0.1
TUL1				IAmb_Lg		04 47 11.5	
	comp=Z,35nm,0.8s						
CBKS	Cedar Bluff	2.48	341	Pn	Pn	04 46 33.3	-1.1
LOOK	Love County	2.77	152	Pn	Pn	04 46 37.2	-1.1
LOOK				IAmb_Lg		04 47 24.0	
	comp=Z,30nm,0.8s						
AMTX	Amarillo	2.88	238	Pn	Pn	04 46 39.7	-0.2
AMTX				IAmb_Lg		04 47 30.1	
	comp=Z,40nm,0.8s						
X37A	Clayton	3.31	123	Pn	Pn	04 46 45.3	-0.4
X37A					Pb	04 46 45.9	-6.7
U38A	Gravette	3.50	89	Pn	Pn	04 46 48.4	+0.1
HHAR	Hobbs	3.86	91	Pn	Pn	04 46 53.6	+0.2
KSCO	Kaye Shedlock'	4.01	311	Pn	Pn	04 46 54.6	-0.8
KSCO				IAmb_Lg		04 48 11.2	
	comp=Z,25nm,0.9s						
W39A	Magazine	4.21	106	Pn	Pn	04 46 58.8	+0.7
S39A	Bolivar	4.49	72	IAmb_Lg		04 48 25.3	
	comp=Z,21nm,1.1s						
T25A	Trinidad	4.62	280	Pn	Pn	04 47 02.6	-1.2
T25A				IAmb_Lg		04 48 22.4	
	comp=Z,17nm,1.0s						
BGNE	Belgrade	4.96	5	IAmb_Lg		04 48 41.1	
	comp=Z,20nm,0.8s						
X40A	Basin Creek Fa	5.19	111	IAmb_Lg		04 48 43.0	
	comp=Z,15nm,0.7s						
WHAR	Wooly Hollow	5.35	101	IAmb_Lg		04 48 41.9	
	comp=Z,22nm,1.1s						
FCAR	Ozark Folk Cen	5.37	94	IAmb_Lg		04 48 44.5	
	comp=Z,12nm,0.7s						
W41B	Gary Mavity, V	5.42	102	IAmb_Lg		04 48 55.2	
	comp=Z,14nm,0.7s						
SDCO	Great Sand Dun	5.57	285	Pn	Pn	04 47 15.9	-1.1
L34A	Svendsen Farm,	5.79	18	Pn	Pn	04 47 19.2	-0.6
JCT	Junction City	6.03	189	IAmb_Lg		04 49 20.8	
	comp=Z,11nm,0.8s						
T42A	Van Buren	6.15	82	IAmb_Lg		04 49 22.0	
	comp=Z,11nm,1.0s						

*IDC **14** 05:01:12.1±6.3, 32°.39S×179°.34W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.3/27, mbtmp4.0/2, Error ellipse: s-maj=278.6km s-min=54.0km az=160.0*
*WEL **14** 05:01:16.1±0.5, 33°S±4°×17°9W±°, h33km, M4.5/17, mB5.1/10, ML4.9/21, MLv4.7/17, Mw(mB)4.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1*
*NEIC **14** 05:01:23.4±0.8, 33°.7S±0°.1×179°.3W±0°.2, h99km±6km, mb4.2/8, Error ellipse: s-maj=22.6km s-min=18.6km az=74.0*

ISC 14 05:01:15.4±0.9, 33°.31S±0°.06×178°.84W±0°.10, h48km, n52, σ1§55/76, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.11	11	P	Pn	05 02 15.4	-0.3
GLKZ				S	Sn	05 03 00.2	-2.3
MXZ	Matakaoa Point	4.84	208	P	Pn	05 02 26.4	+0.7
MXZ				S	Sn	05 03 19.7	-0.8
MXZ	Matakaoa Point	4.84	208	Pn	Pn	05 02 26.5	+0.7
WMGZ	Waiomatatini S	5.03	206	P	Pn	05 02 29.5	+1.2
WMGZ				S	Sn	05 03 26.4	+1.3
PKGZ	Pakihiroa	5.22	208	P	Pn	05 02 31.4	+0.5
PKGZ				S	Sn	05 03 31.0	+1.1
HAZ	Te Kaha	5.23	211	P	Pn	05 02 31.8	+0.8
PUZ	Puketiti	5.31	206	P	Pn	05 02 32.1	-0.1
PUZ				S	Sn	05 03 33.4	+1.3
RUGZ	Raukumara Rang	5.45	210	P	Pn	05 02 35.2	+1.0
RUGZ				S	Sn	05 03 36.3	+0.7
TWGZ	Tauwhareparae	5.51	207	P	Pn	05 02 34.2	-0.7
TWGZ				S	Sn	05 03 38.9	+2.0
KUZ	Kuaotunu	5.63	231	P	Pn	05 02 37.6	+1.1
CNGZ	Carnagh Statio	5.70	204	P	Pn	05 02 39.1	+1.6
TKGZ	Te Karaka	5.79	207	P	Pn	05 02 41.4	+2.8
TKGZ				S	Sn	05 03 44.9	+1.2
MWZ	Matawai	5.82	209	P	Pn	05 02 39.9	+0.7
MWZ				S	Sn	05 03 44.0	-0.7
OPRZ	Ohinepanea	5.88	218	P	Pn	05 02 43.3	+3.3
URZ	Urewera	5.94	213	P	Pn	05 02 40.2	-0.6
URZ				S	Sn	05 03 47.1	-0.4
URZ	Urewera	5.94	213		Pn	05 02 41.6	+0.8
URZ				Sn	Sn	05 03 46.1	-1.4
RAGZ	Rawiri	6.00	209	P	Pn	05 02 44.3	+2.5
RAGZ				S	Sn	05 03 48.6	-0.6
RIGZ	Rimuhau	6.05	206	P	Pn	05 02 42.6	+0.3
RIGZ				S	Sn	05 03 48.9	-1.4
PRGZ	Paritu Road	6.20	204	P	Pn	05 02 43.8	-0.6
PRGZ				S	Sn	05 03 52.0	-2.0
WCZ	Waipu Caves	6.21	243	P	Pn	05 02 46.5	+2.0
MUGZ	Murupara	6.27	213	P	Pn	05 02 46.1	+0.7
MUGZ				S	Sn	05 03 53.7	-2.0
SNGZ	Shannon Statio	6.28	208	P	Pn	05 02 46.8	+1.4
SNGZ				S	Sn	05 03 52.5	-3.5
RTZ	Ruatahuna	6.29	211	P	Pn	05 02 46.7	+1.0
KNZ	Kokohu	6.36	205	P	Pn	05 02 46.0	-0.6
KNZ				S	Sn	05 03 54.2	-3.7
MHGZ	Mahia Peninsul	6.40	203	P	Pn	05 02 47.5	+0.4
RAHZ	Arahi	6.50	209	P	Pn	05 02 49.9	+1.5
RAHZ				S	Sn	05 04 01.0	-0.3
MTHZ	Maungataniwha	6.55	211	P	Pn	05 02 50.4	+1.2
MTHZ				S	Sn	05 04 02.5	0.0
OUZ	Omahuta	6.55	251	P	Pn	05 02 51.2	+2.0
OUZ				S	Sn	05 03 58.3	-4.2
OUZ	Omahuta	6.55	251		Pn	05 02 50.9	+1.8
NMHZ	Naumai	6.77	210	P	Pn	05 02 53.2	+1.0
NMHZ				S	Sn	05 04 07.9	-0.1
ARHZ	Aropaoanui	6.83	208	P	Pn	05 02 54.9	+1.9
ARHZ				S	Sn	05 04 08.5	-0.9
BKZ	Black Stump Fm	6.96	212		Pn	05 02 54.8	0.0
MCHZ	McNeill Hill	7.11	209	P	Pn	05 02 57.9	+1.1
MCHZ				S	Sn	05 04 15.4	-0.7
KWHZ	Kaweka Forest	7.20	211	P	Pn	05 02 57.8	-0.3
KWHZ				S	Sn	05 04 16.4	-2.2
TMVZ	Te Maari	7.28	216	P	Pn	05 02 59.7	+0.4
HIZ	Hauiti	7.29	223	Pn	Pn	05 02 59.7	+0.3
ETVZ	East Tongariro	7.30	216	P	Pn	05 02 59.8	+0.3
BFZ	Birch Farm	8.35	207	Pn	Pn	05 03 11.6	-2.2
KHZ	Kahutara	10.90	211	Pn	Pn	05 03 45.4	-3.4
CTAO	Charters Tower	33.69	284	P	P	05 07 52.8	+0.8
CTAO				IAmb	IAmb	05 08 15.5	
	comp=Z,5.9nm,1.1s						
ASAR	Alice Springs	42.33	270	P	P	05 09 04.0	-0.9
	comp=Z,1.2nm,0.6s,baz=108,slow=7.7,SNR=16						
ASAR	Alice Springs	42.33	270	P	P	05 09 03.7	-1.2
WR0	Warramunga Arr	43.41	276	P	P	05 09 12.5	-1.2
WR0				IAmb	IAmb	05 09 23.6	
	comp=Z,5.3nm,1.2s						
WB2	Warramunga Arr	43.57	276	P	P	05 09 14.3	-0.7
WB2				IAmb	IAmb	05 09 24.5	
	comp=Z,4.8nm,1.2s						
WRA	Warramunga Arr	43.58	276	P	P	05 09 14.2	-0.9
	comp=Z,1.4nm,0.5s,baz=115,slow=7.4,SNR=19						
WRA	Warramunga Arr	43.58	276	P	P	05 09 14.4	-0.7
WB0	Warramunga Arr	43.62	276	P	P	05 09 14.5	-0.8
WB0				IAmb	IAmb	05 09 16.1	
	comp=Z,2.8nm,0.7s						
KNRA	Kununurra	50.29	277	P	P	05 10 06.1	-1.3
QSPA	South Pole Qui	56.81	180	P	P	05 10 55.0	+0.3
SNAA	Sanae	75.28	179	P	P	05 12 53.1	+0.2
FINES	FINESS Array B	147.59	338	PKPbc	PKPdf	05 20 54.0	+3.1
	comp=Z,2.6nm,0.7s,baz=50,slow=1.5,SNR=10						
FINES	FINESS Array B	147.59	338		PKPbc	05 20 54.5	+0.9

*IDC **14** 05:15:20.4±0.5, 11°.59N×85°.36W, h183km±6km, mb3.8/21, mb1 4.0/22, mb1mx3.8/40, mbtmp4.3/22, MS4.7/2, Ms1 4.7/2, ms1mx3.8/67, Error ellipse: s-maj=18.1km s-min=7.9km az=56.0*
*INET **14** 05:15:21.6±2.3, 11°.44N×85°.62W, h195km±16km, ML4.0*
*UCR **14** 05:15:21.2±1.9, 11°.45N×85°.76W, h184km±6km, ML4.4, MW4.8, mb4.8(NEIC)*
*NEIC **14** 05:15:22±0.9, 11°.38N±0°.04×85°.63W±0°.06, h190km±5km, mb4.8/139, Error ellipse: s-maj=8.2km s-min=6.6km az=79.0*
*SNET **14** 05:15:25.5±1.2, 11°.00N×86°.26W, h15km±692km, ML4.7*

ISC 14 05:15:21.1±0.5, 11°.40N±0°.04×85°.70W±0°.04, h197km±4km, n380, σ1§21/376, mb4.7/89, 14C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.18	23	eP	Pn	05 15 47.2	+0.1
BUAI	Buenos Aires	0.63	145	⇑iP	Pn	05 15 48.5	0.0
BUAI				i S	Sn	05 16 08.8	-0.9
GB1A	Borinquen Arri	0.65	153	⇑iP	Pn	05 15 48.4	-0.2
GB1A				i S	Sn	05 16 10.0	0.0
GBS3	Finca Las Img	0.66	159	⇑iP	Pn	05 15 48.0	-0.6
GBS3				i S	Sn	05 16 08.8	-1.1
BUEV	Buena Vista	0.66	154	⇑iP	Pn	05 15 48.3	-0.4
LAPC	Finca la Perla	0.68	157	⇑iP	Pn	05 15 48.0	-0.7
HZTE	Horizontes, Gu	0.69	171	eP	Pn	05 15 48.5	-0.2
HZTE				eS	Sn	05 16 08.8	-1.3
HZTE	Horizontes, Gu	0.69	171		Pn	05 15 48.4	-0.4
HZTE				Sn	Sn	05 16 09.2	-1.0
GPS3	Bodega del ICE	0.72	153	i P	Pn	05 15 48.5	-0.4
ACON	Acoyapa	0.77	42		Pn	05 15 49.0	-0.1
ACON				Sn	Sn	05 16 10.1	-0.7
ACON	Acoyapa	0.77	42	eP	Pn	05 15 49.2	+0.1
ACON				IAML		05 16 10.7	
	comp=E,1μm,0.7s						
VMAR	Armenia, Volca	0.81	136	eP	Pn	05 15 49.3	-0.2
LIM1	Limonal	0.82	148	⇑iP	Pn	05 15 49.2	-0.3
GUAB	Guayabo de Bag	0.82	146	⇑iP	Pn	05 15 49.3	-0.2
HORNC	Hornillas	0.85	143	⇑iP	Pn	05 15 49.5	-0.2
COLC	Colonia	0.87	146	⇑iP	Pn	05 15 49.6	-0.2
CUI	Cuipilapa	0.90	144	⇑iP	Pn	05 15 50.0	0.0
PTEN	Parque Tenorio	0.97	134	⇑iP	Pn	05 15 50.6	+0.1
ACAL	Aguas Claras	1.00	139	⇑iP	Pn	05 15 50.6	-0.1
BOAB	BOACO BROADBAN	.05	2		Pn	05 15 50.0	-0.9
BOAB				Sn	Sn	05 16 12.6	-1.6
BOAB	BOACO BROADBAN	.05	2	eP	Pn	05 15 50.2	-0.7
BOAB				eS	Sn	05 16 12.4	-1.7
ORTG	Ortega, Santa	1.05	167		Pn	05 15 50.6	-0.5
ORTG				Sn	Sn	05 16 12.3	-2.0
GUAI	GUAI	1.13	171	⇑iP	Pn	05 15 51.3	-0.3
COPN	Copaltepe	1.17	312	eP	Pn	05 15 51.6	-0.2
JTS	Las Juntas de	1.32	146	P	Pn	05 15 52.5	-0.5
JTS				S	Sn	05 16 14.8	-3.0
JTS	Las Juntas de	1.32	146	eP	Pn	05 15 52.6	-0.5
SAJU	San Juanillo,	1.32	180	eP	Pn	05 15 52.5	-0.6
DUNO	Dulce Nombre,	1.32	171		Pn	05 15 52.6	-0.5
CEDE	Laguna Cedeo	1.33	133	⇑iP	Pn	05 15 53.4	+0.2
ARE1	Arenal 1	1.34	134	eP	Pn	05 15 53.5	+0.3
ARE1				eS	Sn	05 16 17.1	-1.0
COVE	Coope Vega, Sa	1.44	118	eP	Pn	05 15 53.7	-0.3
COVE	Coope Vega, Sa	1.44	118		Pn	05 15 53.7	-0.3
BRAN	Las Pilas	1.46	334	eP	Pn	05 15 48.1	-6.1
BRAN				eS	Sn	05 16 13.4	-6.6
INDI	Punta indio, G	1.53	173	eP	Pn	05 15 54.2	-0.7
ESPN	Las Esperanzas	1.58	60		Pn	05 15 55.5	+0.2
ESPN	Las Esperanzas	1.58	60	eP	Pn	05 15 55.5	+0.2
ESPN				eS	Sn	05 16 21.2	-0.6
LAFE	Finca La Fe, P	1.76	154	eP	Pn	05 15 56.4	-0.6
CAO2	Cobano, Puntar	1.79	161	eP	Pn	05 15 56.7	-0.7
CAO2	Cobano, Puntar	1.79	161		Pn	05 15 56.8	-0.7
CRIN	San Cristobal	1.85	315		Pn	05 15 58.4	+0.5
CRIN	San Cristobal	1.85	315	eP	Pn	05 15 58.2	+0.2
CRIN				eS	Sn	05 16 28.1	+1.4
JACO	JACO, Garabito	2.00	149	eP	Pn	05 15 59.2	-0.2
JACO	JACO, Garabito	2.00	149		Pn	05 15 59.3	-0.2
HDC	Heredia	2.08	132		Pn	05 16 00.3	-0.2
LCR2	La Lucha 2	2.34	134	eP	Pn	05 16 03.2	-0.1
RIMA	Rio Macho	2.42	132		Pn	05 16 04.3	+0.1
PEZE	Perez Zeledon,	2.82	135	eP	Pn	05 16 09.7	+1.1
PEZE	Perez Zeledon,	2.82	135		Pn	05 16 08.3	-0.3
LCND	La Caada	2.86	312	eP	Pn	05 16 08.8	-0.3
LCND				eS	Sn	05 16 44.2	-2.3
LCND	La Caada	2.86	312	eP	Pn	05 16 08.8	-0.3
LCND				eS	Sn	05 16 44.2	-2.3
TGUH	Tegucigalpa,Un	3.06	330	Pn	Pn	05 16 13.4	+2.0
SRBA	San Rafael, Bu	3.15	133		Pn	05 16 12.5	-0.1
ALJI	Alcalda de J	3.40	305	eP	Pn	05 16 16.1	+0.7
ALJI				IAML		05 16 58.6	
	comp=Z,2μm,0.1s						
ALJI	Alcalda de J	3.40	305	eP	Pn	05 16 16.1	+0.7
ALJI				eS	Sn	05 16 54.4	-3.5
ALJI				IAML		05 16 58.6	
	comp=Z,2μm,0.1s						
RIOS	Rincon, Osa	3.44	141		Pn	05 16 15.7	-0.2
RIOS				Sn	Sn	05 16 56.6	-2.2
COEB	Comit de Eme	3.47	307	eP	Pn	05 16 17.5	+1.1
COEB				eS	Sn	05 16 58.5	-1.1
COEB	Comit de Eme	3.47	307	eP	Pn	05 16 19.2	+2.9
COEB	Comit de Eme	3.47	307	eP	Pn	05 16 17.5	+1.1
COEB				eS	Sn	05 16 58.5	-1.1
PQSS	Presa 15 de Se	3.56	309	eP	Pn	05 16 18.6	+1.1
PQSS				eS	Sn	05 16 59.2	-2.3
PQSS	Presa 15 de Se	3.56	309	eP	Pn	05 16 18.6	+1.1
PQSS				eS	Sn	05 16 59.2	-2.3
TECO	Alcaldia de Te	3.69	306	eS	Sn	05 17 01.6	-2.7
TECO	Alcaldia de Te	3.69	306	eS	Sn	05 17 01.6	-2.7
SCLA	Alcaldia de Sa	3.74	308	i P	Pn	05 16 20.9	+1.2
SCLA				eS	Sn	05 17 05.1	-0.5
SCLA	Alcaldia de Sa	3.74	308	i P	Pn	05 16 20.9	+1.2
SCLA				eS	Sn	05 17 05.1	-0.5
PAVA	Las Pavas	3.91	306	eP	Pn	05 16 22.4	+0.6
PAVA	Las Pavas	3.91	306	eP	Pn	05 16 22.4	+0.6
SJTE	Alcalda de S	3.91	305	eP	Pn	05 16 22.9	+1.1
SJTE				eS	Sn	05 17 07.7	-1.7
SJTE	Alcalda de S	3.91	305	eP	Pn	05 16 22.9	+1.1
SJTE				eS	Sn	05 17 07.7	-1.7
BRU2	Volcan	3.93	131		Pn	05 16 22.5	+0.4
CDITO	Canoas	3.95	135		Pn	05 16 22.3	+0.1
LALI	Alcalda de L	4.10	301	eP	Pn	05 16 25.1	+0.9
LALI	Alcalda de L	4.10	301	eP	Pn	05 16 25.1	+0.9
LALI				eS	Sn	05 17 09.7	-3.8
OPAM	Oficina de Pla	4.12	304	eS	Sn	05 17 12.9	-1.1
OPAM				IAML		05 17 17.7	
	comp=Z,924nm,0.3s						
OPAM	Oficina de Pla	4.12	304	eS	Sn	05 17 12.9	-1.1
OPAM				IAML		05 17 17.7	
	comp=Z,924nm,0.3s						
SNET	Serv Nac Est T	4.13	304	Pn	Pn	05 16 26.1	+1.6
CEVE	Cerro Verde	4.53	303	IAML		05 17 30.3	
	comp=Z,1μm,0.3s						
CEVE	Cerro Verde	4.53	303	IAML		05 17 30.3	
	comp=Z,1μm,0.3s						
MTO3	Montecristo	4.65	310		Pn	05 16 32.9	+1.6
PRVC	Isla de Provid	4.67	65	Pn	Pn	05 16 31.1	-0.2
NUBE	Las Nubes	4.70	302	eP	Pn	05 16 33.2	+1.4
ESQI	Esquipulas	4.74	312		Pn	05 16 33.9	+1.6
BCIP	Isla Barro Col	6.18	110	Pn	Pn	05 16 50.8	0.0
SJCC	San Jacinto, C	10.45	97		Pn	05 17 45.6	-0.7
CMIG	Matias Romero	10.55	304	P	Pn	05 17 47.9	+0.3
	comp=Z,2.8nm,0.3s,baz=157,slow=8.1,SNR=64						
ZARC	Zaragoza, Cauc	11.38	109		Pn	05 17 58.1	-0.1
GUY2C	Guyana, Caldas	11.92	120	eP	P	05 18 12.1	+1.4
NORC	Norcasia	12.18	118	eP	P	05 18 14.9	+1.9
POPC	Popayan, Colom	12.55	134	eP	P	05 18 19.7	+2.3
OCAC	Ocana	12.60	103		Pn	05 18 12.9	-1.0
ORTC	Ortega, Tolima	12.75	125	eP	P	05 18 20.4	+1.0
SPBC	San Pablo de B	12.83	115	eP	P	05 18 21.9	+1.4
SOTA	Rioblanco	12.88	135	eP	P	05 18 24.6	+3.2
GCUF	Volcan Galeras	13.07	140	eP	P	05 18 26.2	+2.7
PRAC	Prado	13.15	125	eP	P	05 18 25.1	+1.2
BARC	Barichara	13.25	110	eP	P	05 18 27.5	+2.3
SDV	Santo Domingo	15.04	98	P	Pn	05 18 45.2	+0.8
	comp=Z,0.7nm,0.3s,baz=281,slow=5.2,SNR=9.6						
SDV	Santo Domingo	15.04	98	eP	Pn	05 18 45.1	+0.8
SDV	Santo Domingo	15.04	98		Pn	05 18 44.6	+0.2
DWPF	Disney Wildern	17.10	13	P	Pn	05 19 10.0	+1.2
	baz=194						
GRTK	Grand Turk	17.20	52	P	P	05 19 08.6	+0.1
BAUV	El Baul	17.55	96	P	P	05 19 12.1	-0.4
656A	Willston	18.12	9	P	Pn	05 19 21.0	+0.2
656A				IAmb	IAmb	05 19 46.2	
	comp=Z,59nm,1.2s						
553A	Crawfordville	18.74	3	P	Pn	05 19 28.1	+0.1
553A				IAmb	IAmb	05 19 33.1	
	comp=Z,41nm,0.8s						
BIRV	Birongo	19.10	91	P	P	05 19 29.1	-0.2
BIRV				IAmb	IAmb	05 19 29.6	
	comp=Z,17nm,0.6s						
CRPR	Cabo Rojo, PR	19.14	68	P	P	05 19 30.5	+0.9
MLPR	Magueyes Islan	19.18	68	P	P	05 19 30.3	+0.2
MLPR				IAmb	IAmb	05 19 33.2	
	comp=Z,57nm,1.4s						
CELP	Cerrillos	19.64	68	P	P	05 19 35.9	+0.9
BRAL	Brewton	19.72	357	P	P	05 19 37.8	+2.1
	baz=176						
352A	Blakely	20.00	2	P	P	05 19 40.9	+2.2
352A				IAmb	IAmb	05 19 44.0	
	comp=Z,29nm,1.1s						
TIGA	Tifton	20.04	5	P	P	05 19 41.2	+2.0
	baz=186						
GCPR	Guaynabo City	20.16	68	P	P	05 19 40.5	-0.1
GCPR				IAmb	IAmb	05 19 43.0	
	comp=Z,17nm,0.7s						
255A	Hazlehurst	20.65	8	P	P	05 19 47.0	+1.4
255A				IAmb	IAmb	05 19 49.6	
	comp=Z,22nm,0.8s						
PCRV	Puerto La Cruz	20.73	91	P	P	05 19 48.2	+1.4
	comp=Z,19nm,0.5s,baz=235,slow=5.0,SNR=19						
PCRV				LR	LR	05 29 50.9	
	comp=Z,1μm,20.7s,slow=43						
833A	Chaparral WMA,	21.17	325	P	P	05 19 52.2	+1.0
833A	Chaparral WMA,	21.17	325	P	P	05 19 51.7	+0.5
	baz=140,SNR=5.5						
VBMS	Vicksburg	21.19	349	IAmb	IAmb	05 19 54.1	
	comp=Z,25nm,0.7s						
VBMS	Vicksburg	21.19	349	P	P	05 19 52.8	+1.4
	baz=167						
Z47A	Carrollton	21.81	355	P	P	05 19 58.9	+1.2
Z51A	Franklin	21.82	1	IAmb	IAmb	05 20 00.7	
	comp=Z,23nm,0.8s						
143A	Socs Landing,	21.85	347	P	P	05 19 59.1	+1.0
143A				IAmb	IAmb

V48A	Smith Brothers	24.26	358	P	P	05 20 21.3 +1.1
V48A				IAmb	IAmb	05 20 22.0
	comp=Z,29nm,0.8s					
V51A	Loudon	24.33	3	IAmb	IAmb	05 20 23.1
	comp=Z,23nm,0.8s					
W41B	Gary Mavity, V	24.41	347	IAmb	IAmb	05 20 23.2
	comp=Z,23nm,1.2s					
W41B	Gary Mavity, V	24.41	347	P	P	05 20 21.7 +0.2
	baz=164					
V52A	Sevierville	24.41	4	IAmb	IAmb	05 20 26.1
	comp=Z,11nm,0.7s					
TX31	Lajitas Ar. Si	24.48	319	P	P	05 20 23.6 +1.2
TX31				IAmb	IAmb	05 20 26.8
	comp=Z,16nm,0.7s					
TX32	Lajitas Array	24.48	319	P	P	05 20 23.5 +1.1
TXAR	Lajitas Array	24.48	319	P	P	05 20 23.5 +1.1
	comp=Z,4.0nm,0.5s,baz=146,slow=8.5,SNR=46					
TXAR				PcP	PcP	05 23 57.2 +1.5
	comp=Z,1.5nm,0.8s,baz=135,slow=4.3,SNR=9.0					
WHAR	Wooly Hollow	24.53	347	P	P	05 20 23.3 +0.7
WHAR				IAmb	IAmb	05 20 23.8
	comp=Z,13nm,0.7s					
CLTN	Cedars of Leba	24.59	359	P	P	05 20 24.2 +1.0
CLTN				IAmb	IAmb	05 20 25.0
	comp=Z,32nm,1.4s					
WVT	Waverly	24.70	356	P	P	05 20 24.4 +0.2
WVT				IAmb	IAmb	05 20 25.2
	comp=Z,11nm,0.7s					
WVT	Waverly	24.70	356	P	P	05 20 24.5 +0.3
	baz=175					
X37A	Clayton	24.71	341	P	P	05 20 25.7 +1.4
X37A				IAmb	IAmb	05 20 26.0
	comp=Z,11nm,0.6s					
W39A	Magazine	24.81	344	P	P	05 20 26.4 +1.2
W39A	Magazine	24.81	344	P	P	05 20 25.9 +0.8
	baz=161,SNR=5.6					
U49A	Red Boiling Sp	25.01	360	P	P	05 20 27.7 +0.7
U49A				IAmb	IAmb	05 20 28.7
	comp=Z,14nm,0.7s					
LCAR	Lake Charles	25.06	350	P	P	05 20 27.6 +0.2
LCAR				IAmb	IAmb	05 20 28.3
	comp=Z,14nm,0.6s					
TZTN	Tazewell	25.11	4	P	P	05 20 28.9 +0.9
TZTN				IAmb	IAmb	05 20 33.3
	comp=Z,14nm,0.7s					
TZTN	Tazewell	25.11	4	P	P	05 20 28.8 +0.9
	baz=185					
PARMO	Parma	25.42	352	P	P	05 20 31.6 +1.0
T47A	Sharon Grove	25.51	357	P	P	05 20 32.4 +0.9
T50A	Nancy	25.53	2	IAmb	IAmb	05 20 33.1
	comp=Z,7.7nm,0.6s					
T42A	Van Buren	25.98	350	IAmb	IAmb	05 20 36.5
	comp=Z,12nm,0.8s					
FNO	Franklin	26.02	338	IAmb	IAmb	05 20 37.7
	comp=Z,14nm,0.7s					
TUL1	Leonard	26.06	341	P	P	05 20 37.2 +0.7
	baz=157					
WMOK	Wichita Mounta	26.11	335	P	P	05 20 37.3 +0.4
	baz=150					
BLA	Blacksburg	26.14	10	P	P	05 20 37.3 +0.1
	baz=192					
S51A	Beattyville	26.20	4	IAmb	IAmb	05 20 39.4
	comp=Z,20nm,0.7s					
S44A	Carbondale	26.38	354	IAmb	IAmb	05 20 40.6
	comp=Z,27nm,1.0s					
OK030	Cody Creek RV	26.41	339	IAmb	IAmb	05 20 40.5
	comp=Z,11nm,0.7s					
OK031	S. Brethren Rd	26.45	339	IAmb	IAmb	05 20 41.0
	comp=Z,13nm,0.8s					
WCI	Wyandotte Cave	26.73	359	P	P	05 20 42.9 +0.5
WCI	Wyandotte Cave	26.73	359	P	P	05 20 42.9 +0.5
	baz=179					
R49A	Shelbyville	26.79	1	P	P	05 20 43.7 +0.7
R50A	Paris	26.80	2	P	P	05 20 44.0 +1.0
R50A				IAmb	IAmb	05 20 44.7
	comp=Z,14nm,0.7s					
FVM	French Village	26.81	352	P	P	05 20 43.9 +0.8
CCM	Cathedral Cave	27.01	350	P	P	05 20 45.7 +0.8
CCM				IAmb	IAmb	05 20 45.8
	comp=Z,12nm,0.7s					
CCM	Cathedral Cave	27.01	350	P	P	05 20 45.5 +0.6
	baz=168					
MNTX	Cornudas Mount	27.17	321	P	P	05 20 47.1 +0.6
	baz=134					
OLIL	Olney	27.31	356	IAmb	IAmb	05 20 48.9
	comp=Z,21nm,0.8s					
MSTX	Muleshoe	27.36	328	P	P	05 20 48.9 +0.8
	baz=141					
Q44A	Meyer Farm, Va	27.55	354	IAmb	IAmb	05 20 50.8
	comp=Z,26nm,0.9s					
Q52A	Bidwell	27.62	6	IAmb	IAmb	05 20 52.7
	comp=Z,29nm,1.1s					
BLO	Bloomington	27.67	359	IAmb	IAmb	05 20 51.8
	comp=Z,17nm,0.7s					
Q54A	Coxs Mills	27.81	8	IAmb	IAmb	05 20 54.0
	comp=Z,14nm,0.7s					
P49A	Miami Univ. Ec	28.04	2	P	P	05 20 53.9 -0.1
	baz=182,SNR=6.2					
P51A	Williamsport	28.07	4	IAmb	IAmb	05 20 55.8
	comp=Z,15nm,0.8s					
P52A	Corning	28.30	6	P	P	05 20 57.1 +0.8
	baz=187,SNR=5.9					
MCWV	Mont Chateau	28.62	9	P	P	05 20 59.7 +0.5
	baz=192					
ETMB	Extrema	28.63	137	eP	P	05 20 59.8 +0.3
ETMB	Extrema	28.63	137	P	P	05 20 59.8 +0.3
ETMB				IAmb	IAmb	05 21 00.5
	comp=Z,17nm,0.7s					
MACA	Manacapuru-AM	28.78	119	eP	P	05 21 01.2 +0.2
MACA	Manacapuru-AM	28.78	119	P	P	05 21 01.2 +0.2
P57A	Homestead Farm	28.80	12	IAmb	IAmb	05 21 03.6
	comp=Z,36nm,1.3s					
ACSO	Alum Creek Sta	28.82	4	P	P	05 21 01.3 +0.3
	baz=185,SNR=5.0					
SFIN	Lafayette	28.89	358	P	P	05 21 01.4 -0.2
	baz=177,SNR=5.6					
P38A	Dawn	28.96	347	IAmb	IAmb	05 21 02.7
	comp=Z,9.4nm,0.6s					
O53A	New Philadelph	29.01	7	P	P	05 21 03.4 +0.7
	baz=189,SNR=5.9					
HDIL	Hopedale	29.22	354	P	P	05 21 04.5 +0.1
	baz=173,SNR=5.5					
121A	Cookes Peak, D	29.24	319	P	P	05 21 06.2 +1.2
	baz=131					
N49A	Columbus Grove	29.44	2	IAmb	IAmb	05 21 07.5
	comp=Z,21nm,0.8s					
P60A	Greenville	29.67	16	P	P	05 21 09.2 +0.7
	baz=200					
PAGS	Pennsylvania G	29.79	14	IAmb	IAmb	05 21 12.3
	comp=Z,23nm,1.0s					
SSPA	Standing Stone	29.93	12	P	P	05 21 11.2 +0.5
	baz=195					
ANMO	Albuquerque	30.10	325	P	P	05 21 14.3 +1.8
	comp=Z,0.7nm,0.5s,baz=153,slow=5.5,SNR=3.8					
ANMO	Albuquerque	30.10	325	P	P	05 21 13.4 +0.8
	baz=136					
M53A	WI Miller and	30.25	8	P	P	05 21 14.7 +1.1
M53A	WI Miller and	30.25	8	P	P	05 21 13.6 +0.1
	baz=190					
M54A	Oil Creek Stat	30.46	9	P	P	05 21 15.6 +0.2
	baz=192					
N59A	State Game Lan	30.68	15	P	P	05 21 18.0 +0.6
	baz=199					
AAM	Ann Arbor	30.84	3	P	P	05 21 18.3 -0.4
	baz=184					
TUC	Tucson	31.08	316	P	P	05 21 22.4 +1.3
	baz=126					
KSCO	Kaye Shedlock'	31.36	334	P	P	05 21 24.0 +0.5
	baz=147					
WVNY	West Valley, N	31.51	10	P	P	05 21 25.4 +0.8
JFWS	Jewell Farm	31.65	354	P	P	05 21 26.1 +0.3
JFWS				IAmb	IAmb	05 21 35.7
	comp=Z,13nm,1.1s					
JFWS	Jewell Farm	31.65	354	P	P	05 21 25.8 0.0
	baz=171					
SDCO	Great Sand Dun	31.68	329	P	P	05 21 27.3 +0.8
	baz=141					
BINY	Binghamton	31.84	14	P	P	05 21 27.6 0.0
	baz=198					
W18A	Petrified Fore	32.16	321	P	P	05 21 31.4 +0.8
	baz=131					
214A	Organ Pipe Nat	32.29	314	P	P	05 21 34.0 +2.4
	baz=123					
S22A	4UR Ranch, Cre	32.36	328	P	P	05 21 33.3 +0.8
	baz=139					
LPAZ	La Paz	32.54	147	P	P	05 21 35.9 +1.3
	comp=Z,0.7nm,0.7s,baz=54,slow=4.0,SNR=5.6					
LPAZ				PcP	PcP	05 24 17.4 +0.8
	comp=Z,0.9nm,0.4s,baz=15,slow=2.0,SNR=9.6					
MVCO	Mesa Verde	32.87	325	P	P	05 21 37.7 +0.8
	baz=136					
I37A	Lemond, Waseca	33.17	350	IAmb	IAmb	05 21 39.6
	comp=Z,17nm,0.6s					
GLMI	Grayling	33.32	1	P	P	05 21 40.0 -0.3
	baz=182					
WUAZ	Wupatki	33.44	320	P	P	05 21 42.1 +0.4
	baz=130					
ECSD	EROS Data Cent	33.58	346	P	P	05 21 41.3 -1.2
	baz=160					
SADO	Sadowa	33.73	8	P	P	05 21 43.7 -0.2
	comp=Z,13nm,0.6s,baz=243,slow=4.7,SNR=11					
SPMN	Marine on St.	34.26	351	IAmb	IAmb	05 21 48.5
	comp=Z,12nm,0.4s					
SPMN	Marine on St.	34.26	351	P	P	05 21 47.6 -0.7
	baz=168					
GLA	Glamis	34.32	314	P	P	05 21 51.1 +1.9
	baz=122					
LONY	Lake Ozonia	34.46	14	P	P	05 21 50.2 +0.1
	baz=199					
PDMCI	Parker Dam,Lak	34.53	316	P	P	05 21 52.5 +1.6
	baz=125					
SUSD	Miller	34.85	343	P	P	05 21 52.8 -0.7
	baz=157					
O20A	White River Ci	34.88	329	P	P	05 21 54.1 0.0
	baz=139					
SWSC	Sam W. Stewart	34.96	313	P	P	05 21 56.1 +1.5
	baz=121					
VILB	Vilhena	35.01	133	eP	P	05 21 55.3 0.0
VILB	Vilhena	35.01	133	P	P	05 21 55.2 0.0
VILB				IAmb	IAmb	05 21 55.8
	comp=Z,16nm,0.7s					
IKP	In-Ko-Pah, Jac	35.03	312	P	P	05 21 57.6 +2.2
	baz=120					
BC3	Big Chuckawall	35.08	314	P	P	05 21 57.4 +1.6
	baz=122					
IRM	Iron Mountain	35.14	315	P	P	05 21 57.4 +1.3
	baz=123					
NPGB	Novo Progresso	35.31	120	eP	P	05 21 56.5 -1.4
SRU	San Rafael Swe	35.34	326	P	P	05 21 59.1 +1.1
MONP2	Monument Peak	35.38	312	P	P	05 22 00.0 +1.5
	baz=120					
F33A	5 Mile Ranch,	35.49	347	P	P	05 21 58.2 -0.7
F33A				IAmb	IAmb	05 21 59.4
	comp=Z,12nm,0.6s					
MNTQ	Montreal, Queb	35.52	15	P	P	05 22 00.3 +1.2
MNTQ				IAmb	IAmb	05 22 00.4
	comp=Z,16nm,1.1s					
BELC	Belle Mtn. Jos	35.65	314	P	P	05 22 02.2 +1.5
	baz=122					
TPFO	Pinon Flats	35.77	313	P	P	05 22 03.2 +1.5
	baz=121					
PFO	Pinyon Flats O	35.77	313	P	P	05 22 03.9 +2.2
	comp=Z,4.6nm,0.7s,baz=115,slow=7.1,SNR=5.7					
PFO	Pinyon Flats O	35.77	313	P	P	05 22 03.6 +1.9
	baz=121					
GMRC	Granite Mounta	35.83	315	P	P	05 22 03.4 +1.2
	baz=123					
K22A	Casper	36.03	334	P	P	05 22 03.4 -0.5
	baz=144					
MURC	Murrieta	36.30	313	P	P	05 22 08.2 +2.1
	baz=120,SNR=5.3					
SIV	San Ignacio	36.53	138	P	P	05 22 08.3 +0.1
	comp=Z,32nm,0.5s,baz=305,slow=7.8,SNR=175					
SIV				PcP	PcP	05 24 28.0 +0.5
	comp=Z,4.9nm,0.9s,baz=300,slow=1.8,SNR=8.2					
GSC	Goldstone, Bar	36.90	315	P	P	05 22 12.5 +1.3
	baz=122					
CLDB	Colider	37.05	126	eP	P	05 22 11.8 -0.7
CIS	Catalina Islan	37.09	311	P	P	05 22 15.2 +2.5
	baz=119					
FMP	Fort Macarthur	37.15	312	P	P	05 22 15.3 +2.2
	baz=119					
DUG	Dugway, Tooele	37.37	325	P	P	05 22 15.9 +0.8
	baz=133					
TPNV	Topopah Spring	37.44	318	P	P	05 22 17.3 +1.5
	baz=125					
PTLB	Pontes e Lacer	37.46	135	eP	P	05 22 15.2 -0.7
PTLB	Pontes e Lacer	37.46	135	P	P	05 22 15.2 -0.7
EDW2	Edwards Air Fo	37.52	314	P	P	05 22 17.7 +1.4
	baz=121					
PDAR	Pinedale Array	37.52	331	P	P	05 22 16.4 0.0
	comp=Z,0.4nm,0.5s,baz=132,slow=9.9,SNR=9.6					
PDAR				PcP	PcP	05 24 30.4 0.0
	comp=Z,0.5nm,0.6s,baz=143,slow=5.1,SNR=5.5					
BW06	Boulder Array	37.52	331	P	P	05 22 17.0 +0.6
	baz=139					
FURC	Furnace Creek,	37.58	317	P	P	05 22 18.2 +1.5
	baz=124					
AGMN	Agassiz Nation	37.76	349	P	P	05 22 17.4 -0.7
	baz=164					
MPMC	Manual Prospec	37.78	316	P	P	05 22 20.3 +1.6
	baz=123					
MDND	Maddock	38.17	345	P	P	05 22 21.7 +0.2
	baz=158					
ARVC	Arvin	38.23	314	P	P	05 22 24.5 +2.3
	baz=120					
ISA	Isabella, Lake	38.25	315	P	P	05 22 24.8 +2.3
	baz=121					
CWC	Cottonwood Cre	38.39	316	P	P	05 22 25.4 +1.7
	baz=122					
VES	Vestal, Richgr	38.77	314	P	P	05 22 28.7 +2.0
	baz=120					
ELK	Elko	39.12	324	P	P	05 22 31.3 +1.5
	comp=Z,0.9nm,0.7s,baz=150,slow=14,SNR=4.3					
SMMC	Simmler	39.15	313	P	P	05 22 31.8 +1.9
	baz=119					
NV11	Mina Array Sit	39.53	319	IAmb	IAmb	05 22 35.9
	comp=Z,23nm,1.4s					
NVAR	Mina Array Bea	39.62	318	P	P	05 22 36.3 +2.3
	comp=Z,1.5nm,0.5s,baz=130,slow=7.3,SNR=21					
NVAR				PcP	PcP	05 24 38.5 +1.5
	comp=Z,1.6nm,0.7s,baz=129,slow=4.0,SNR=9.7					
ULM	Lac du Bonnet	39.64	350	P	P	05 22 32.0 -1.6
	comp=Z,2.4nm,0.3s,baz=153,slow=7.3,SNR=8.5					
DGMT	Dagmar	40.06	341	P	P	05 22 37.7 +0.5
	baz=151					
SALV	Santo Antonio	40.22	132	eP	P	05 22 38.3 -0.5
HLID	Hailey	40.54	327	P	P	05 22 42.6 +1.2
HLID	Hailey	40.54	327	P	P	05 22 42.4 +1.0
	baz=134					
SNDB	Serra Nova Dou	41.31	123	eP	P	05 22 46.6 -1.2
EGMT	Eagleton	41.70	336	P	P	05 22 49.4 -1.3
	baz=143					
SMTB	Santa Maria do	42.91	116	eP	P	05 22 59.4 -1.4
ARAG	Araguaiana, MT	43.02	128	eP	P	05 23 00.6 -1.0
AQDB	Aquidauana	43.29	137	eP	P	05 23 02.9 -0.8
PEXB	Peixe	43.87	121	eP	P	05 23 08.2 -0.3
J01E	Myrtle Point	45.78	321	P	P	05 23 24.0 +0.9
	baz=122					
H04D	Lebanon	45.81	323	P	P	05 23 24.1 +0.7
	baz=125					
SCHQ	Schefferville	45.82	15	P	P	05 23 22.4 -0.9
	comp=Z,16nm,0.6s,baz=213,slow=6.4,SNR=36					
F05D	White Salmon	45.87	325	P	P	05 23 24.6 +0.8
	baz=127					
BDFB	Brasilia	45.97	125	P	P	05 23 24.4 -0.7
	comp=Z,3.5nm,0.5s,baz=302,slow=10.0,SNR=9.6					
BDFB	Brasilia	45.97	125	P	P	05 23 24.6 -0.6
IPMB	Ipameri, GO	47.14	128	eP	P	05 23 33.1 -1.0
JANB	Januaria	48.70	122	eP	P	05 23 44.1 -1.9
NBPN	Ponto Novo - B	50.32	114	eP	P	05 23 55.2 -3.2
DIAM	Diamantina, MG	50.90	125	eP	P	05 24 00.3 -2.4
FRB	Frobisher Bay	53.66	9	P	P	05 24 20.7 -1.5
	comp=Z,5.2nm,0.4s,baz=213,slow=8.7,SNR=35					
PLCA	Paso Flores	53.73	166	P	P	05 24 23.9 +0.8
	comp=Z,3.3nm,0.9s,baz=341,slow=9.3,SNR=8.6					
PLCA	Paso Flores	53.73	166	P	P	05 24 23.8 +0.8
YKA	Yellowknife Ar	55.08	344	P	P	05 24 31.2 -1.2
	comp=Z,1.5nm,0.3s,baz=143,slow=6.9,SNR=39					
YKA				pP	pP	05 25 17.9 +1.0
	comp=Z,1.7nm,0.8s,baz=139,slow=7.7,SNR=5.5					
M30M	Minto, Yukon	62.67	336	P	P	05 25 24.3 -0.4
	baz=121					
RES	Resolute Bay	63.48	357	P	P	05 25 28.9 -0.9
	comp=Z,1.0nm,0.4s,baz=178,slow=10,SNR=9.8					
BVCY	Beaver Creek	64.25	335	P	P	05 25 34.7 -0.4
	baz=117					
DAWY	Dawson	64.43	337	P	P	05 25 35.2 -1.0
	baz=119					
INK	Inuvik	64.72	342	P	P	05 25 37.8 -0.2
	comp=Z,1.6nm,0.6s,baz=102,slow=4.9,SNR=9.5					
INK	Inuvik	64.72	342	P	P	05 25 37.3 -0.6
	baz=126					
L27K	Beaver Creek,	64.93	335	P	P	05 25 39.1 -0.4
	baz=116					
A36M	Sachs Harbour	65.05	347	P	P	05 25 37.9 -2.1
	baz=136					
M26K	Nabesna, AK	65.14	334	P	P	05 25 40.8 0.0
	baz=114					
BMRM	Bremner River	65.27	333	P	P	05 25 41.3 -0.4
	baz=112					
EGAK	Eagle	65.44	337	P	P	05 25 41.8 -0.8
	baz=117					
KLU	Klutina	66.06	333	P	P	05 25 46.1 -0.6
	baz=111					
SCRK	Sand Creek	66.20	336	P	P	05 25 47.2 -0.4
	baz=114					
J26L	Joseph Creek	66.25	336	P	P	05 25 48.3 +0.4
	baz=115					
PAX	Paxson	66.41	334	P	P	05 25 48.4 -0.6
	baz=112					
RIDG	Independent Ri	66.45	335	P	P	05 25 48.9 -0.3
	baz=113					
WAT6	Susitna Watana	67.24	334	P	P	05 25 53.8 -0.5
	baz=110					
HDA	Harding Lake	67.56	336	P	P	05 25 55.5 -0.6
	baz=112					
RC01	Rabbit Creek A	67.66	332	P	P	05 25 55.7 -1.0
	baz=108					
ILAR	Eielson Array	67.67	336	P	P	05 25 56.2 -0.6
	comp=Z,1.4nm,0.6s,baz=125,slow=4.7,SNR=19					
ILAR				pP	pP	05 26 43.2 +0.3
	comp=Z,0.9nm,0.9s,baz=135,slow=5.2,SNR=4.1					
RND	Reindeer	68.00	334	P	P	05 25 59.4 +0.4
RND				IAmb	IAmb	05 25 59.8
	comp=Z,8.0nm,0.8s					
POKR	Poker Plat Res	68.02	336	P	P	05 25 58.2 -0.8
	baz=111					
MCK	McKinley	68.14	335	P	P	05 25 58.8 -1.0
	baz=109					
CUT	Chulitna	68.30	333	IAmb	IAmb	05 26 04.2
	comp=Z,14nm,0.7s					
TRF	Thorofare Moun	68.63	334	P	P	05 26 02.2 -0.7
	baz=108					
SKT	Skwentna	68.74	332	P	P	05 26 03.4 -0.1
	baz=106					
I23K	Minto, Yukon-K	68.79	336	P	P	05 26 03.9 +0.2
I23K	Minto, Yukon-K	68.79	336	P	P	05 26 03.4 -0.3
	baz=110					
BORG	Borgarnes	68.94	24	LR	LR	05 55 17.7
	comp=Z,753nm,21.9s,baz=185,slow=35					
BPAW	Bear Paw Mtn.	69.12	335	P	P	05 26 05.5 -0.3
BPAW	Bear Paw Mtn.	69.12	335	P	P	05 26 05.3 -0.5
	baz=108					
PPLA	Purkeypile	69.29	333	P	P	05 26 06.3 -0.7
	baz=106					
CAST	Castle Rocks	69.39	334	P	P	05 26 06.5 -0.9
	baz=106					
CHUM	Lake Minchumin	69.62	334	P	P	05 26 07.6 -1.2
	baz=106					
N19K	Bonanza Creek	69.82	331	P	P	05 26 08.9 -1.3
	baz=103					
I21K	Tanana	69.85	336	P	P	05 26 09.3 -0.9
	baz=107					
P18K	Big Mountain,	69.87	329	P	P	05 26 09.6 -0.9
	baz=102					
K20K	Telida	70.23	334	P	P	05 26 11.4 -1.2
	baz=104					
L19K	White Mountain	70.30	332	P	P	05 26 12.2 -0.9
	baz=103					
H21K	Melozitna Rive	70.32	336	P	P	05 26 11.9 -1.1
	baz=106					
J20K	Nowinta River	70.47	334	P	P	05 26 13.3 -0.7
	baz=105					
TTA	Tatalina	70.99	333	P	P	05 26 16.1 -1.1
	baz=102					
ESDC	Sonseca Array	76.49	52	P	P	05 26 48.9 -0.8
	comp=Z,2.4nm,0.7s,baz=293,slow=5.0,SNR=13					
TIC	Toumodi	79.61	85	eP	P	05 27 05.7 -1.6
LIC	Lamto	79.68	86	eP	P	05 27 06.3 -1.3
	comp=Z,37nm,0.7s					
DBIC	Dimbokro	79.77	85	P	P	05 27 06.7 -1.3
	comp=Z,4.7nm,0.8s,baz=298,slow=3.9,SNR=6.6					
DBIC	Dimbokro	79.77	85	P	P	05 27 07.0 -1.0
KIC	Kosan Boka	79.94	86	eP	P	05 27 07.6 -1.4
	comp=Z,11nm,0.7s					
NOA	NORSAR Array B	83.45	29	pP	pP	05 28 13.6 -0.9
	comp=Z,1.2nm,0.8s,baz=302,slow=5.0,SNR=3.4					
TORD	Torodi Ar. Bea	84.96	78	P	P	05 27 32.5 -2.5
	comp=Z,1.0nm,0.7s,baz=285,slow=5.4,SNR=11					
CLL	Collm	86.58	38	epP	pP	05 28 31.0 +0.4
CLL				esP	sP	05 28 50.0 -1.2
ARCES	ARCESS Array B	86.61	19	P	P	05 27 42.3 +0.2
	comp=Z,2.5nm,1.0s,baz=326,slow=1.7,SNR=4.5					
BOSA	Boshof	113.69	116	PKiKP	PKiKP	05 33 36.9 -0.1
	comp=Z,2.2nm,0.6s,baz=306,slow=2.2,SNR=6.5					
SONM	Songino Array	120.06	351	PKP	PKPdf	05 33 48.1 -0.7
	comp=Z,0.2nm,0.4s,baz=18,slow=0.8,SNR=2.4					
MKAR	Makanchi Array	121.08	10	PKP	PKPdf	05 33 49.6 -1.1
	comp=Z,0.1nm,0.3s,baz=318,slow=2.7,SNR=4.6					
ASAR	Alice Springs	140.45	247	PKhKP	PKPpre	05 34 20.8
	comp=Z,0.9nm,0.4s,baz=107,slow=3.2,SNR=18					
ASAR				PKP	PKPdf	05 34 28.6 +0.8
	comp=Z,3.4nm,0.6s,baz=96,slow=2.0,SNR=23					
WRA	Warramunga Arr	140.61	252	PKhKP	PKPpre	05 34 22.3
	comp=Z,0.8nm,0.5s,baz=100,slow=3.0,SNR=8.3					
WRA				PKP	PKPdf	05 34 29.1 +1.1
	comp=Z,4.2nm,0.6s,baz=92,slow=1.9,SNR=22					
PZH	PanZhiHua	141.64	349	PKP	PKPdf	05 34 30.8 +0.8
CMAR	Chiang Mai Arr	149.98	351	PKPbc	PKPbc	05 34 49.0 -0.2
	comp=Z,0.6nm,0.3s,baz=308,slow=3.3,SNR=4.2					
CMAR	Chiang Mai Arr	149.98	351	PKPbc	PKPbc	05 34 49.6 +0.4

NNC 14 05:38:36.7±2.0, 38°.83N×73°.25E, h0km, mb3.8, mpv3.4, 1C-3D, Error ellipse: s-maj=14.7km s-min=9.2km az=167.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	Merke	3.92	360	Pg	Pb	05 39 47.3	+0.6
	4.7nm,0.4s						
MRKS				Lg	Lg	05 40 41.5	
	5.4nm,0.4s						
AAK	Ala-Archa	3.92	14	Pn	Pn	05 39 38.7	+0.3
	4.8nm,0.6s						
AAK				Sn	Sn	05 40 26.1	+0.8
	6.9nm,0.6s						
TKM2	Tokmak 2	4.46	23	⇓Pg	Pb	05 39 56.5	+0.4
	3.2nm,0.6s						
TKM2				⇑Lg	Lg	05 41 01.2	
	5.1nm,0.7s						
KK08	Karatay Array	4.76	335	⇓Pn	Pn	05 39 50.4	+0.6
	1.6nm,0.3s,baz=143,slow=13						
KK08				⇓Sn	Sn	05 40 45.7	+0.1
	4.5nm,0.6s,baz=152,slow=24						
MTBS	Maitube	4.93	28	Pg	Pb	05 40 07.0	+3.0
	2.5nm,0.4s						
MTBS				Lg	Lg	05 41 15.2	
	4.1nm,0.7s						
BRLS	Borolday	4.93	330	Pg	Pb	05 40 04.9	+0.9
	5.8nm,0.5s						
BRLS				Lg	Lg	05 41 12.1	
	4.7nm,0.7s						
KUU	Kurty	5.57	24	Pg	Pb	05 40 18.3	+3.5
	3.2nm,0.9s						
KUU				Lg	Lg	05 41 34.6	
	3.8nm,0.6s						
ARXS	Arharly	6.39	31	Pg	Pb	05 40 32.8	+4.0
	2.4nm

AFI Afiamalu 3.04 44 P **Pn 05 40 25.2 -2.5**
460nm,0.3s,baz=45,slow=0.5,SNR=233
AFI S **Sn 05 40 58.4 -6.4**
4µm,0.3s,baz=50,slow=23,SNR=17
NIUE Niue 4.82 128 P **Pn 05 40 48.5 -2.1**
baz=4.7,SNR=145
NIUE Niue 4.82 128 Pn **Pn 05 40 48.6 -2.1**
NIUE Niue 4.82 128 P **Pn 05 40 49.0 -1.7**
TAVE Taveuni 5.76 263 P **Pn 05 41 05.8 +2.6**
DGTI Dogotuki 6.08 268 P **Pn 05 41 10.1 +2.5**
MSVF Nonsavu 7.83 257 P **Pn 05 41 33.8 +2.8**
2.2nm,0.3s,baz=113,slow=13,SNR=62
MSVF Nonsavu 7.83 257 P **Pn 05 41 33.9 +2.9**
MSVF Nonsavu 7.83 257 Pn **Pn 05 41 33.9 +2.9**
MSVF Nonsavu 7.83 257 P **Pn 05 41 34.2 +3.2**
FUNA Funafuti 10.10 318 Pn **Pn 05 42 02.5 +1.2**
FUNA Funafuti 10.10 318 P **Pn 05 42 01.4 +0.2**
458nm,0.6s
RAR Rarotonga 14.34 113 P **P 05 43 00.5 +1.9**
3.2nm,0.3s,baz=236,slow=6.9,SNR=5.8
RAR Rarotonga 14.34 113 P **P 05 43 00.2 +1.5**
RAR Rarotonga 14.34 113 **P 05 43 00.2 +1.5**
MARNC Mare, Loyalty 17.88 250 P **P 05 43 36.3 -1.4**
MARNC Mare, Loyalty 17.88 250 P **Pn 05 43 38.7 -0.4**
SANVU Saraoutou 18.16 270 P **P 05 43 40.7 -0.2**
SANVU Saraoutou 18.16 270 P **Pn 05 43 44.2 +1.6**
LIFNC LIFOU 18.44 253 P **P 05 43 42.5 -1.3**
PINNC Pines Island, 18.70 247 P **P 05 43 45.8 -0.9**
PINNC Pines Island, 18.70 247 P **P 05 43 46.2 -0.5**
OUENC Ouen Island, N 19.18 248 P **P 05 43 50.3 -1.7**
OUENC Ouen Island, N 19.18 248 P **P 05 43 51.3 -0.7**
DZM Mont Dzumac 19.45 249 P **P 05 43 53.5 -1.5**
1.2nm,0.3s,baz=89,slow=16,SNR=11
DZM Mont Dzumac 19.45 249 *e*P **P 05 43 53.9 -1.1**
496nm,1.4s
DZM Mont Dzumac 19.45 249 P **P 05 43 53.2 -1.7**
DZM Mont Dzumac 19.45 249 P **P 05 43 53.8 -1.2**
ONTNC Ouen Toro 19.50 249 P **P 05 43 54.2 -1.2**
ONTNC Ouen Toro 19.50 249 P **P 05 43 56.3 +0.9**
204nm,1.2s
NOUC Port Laguerre 19.58 249 P **P 05 43 55.1 -1.2**
KOUNC Koumac, New Ca 21.13 255 P **P 05 44 11.5 -1.4**
TARA Tarawa 21.69 322 P **P 05 44 19.0 +0.1**
TARA Tarawa 21.69 322 P **P 05 44 20.0 +1.1**
246nm,1.1s
TWGZ Tauwhareparae 23.09 196 P **P 05 44 34.4 +2.1**
PAE Paea 23.35 97 *e*T T 06 07 14.3
7.0nm,0.3s
PAE *e*T T 06 07 14.3
7.0nm,0.3s
PPT2 Papeete2 23.36 97 *e*T T 06 07 11.4
6.1nm,0.3s
PPT2 *e*T T 06 07 11.4
6.1nm,0.3s
TKGZ Te Karaka 23.37 196 P **P 05 44 36.9 +2.2**
HLRZ Highlands Stat 23.64 199 P **P 05 44 40.3 +3.1**
HSRZ Hossack Road 23.72 199 P **P 05 44 38.6 +0.5**
ALRZ Allen Road 23.92 199 P **P 05 44 41.2 +1.3**
RAHZ Arahi 24.03 197 P **P 05 44 42.2 +1.3**
BKZ Black Stump Fm 24.43 198 P **P 05 44 45.4 +0.9**
ETVZ East Tongariro 24.65 200 P **P 05 44 46.2 -0.4**
NNVZ North Ngauruho 24.67 200 P **P 05 44 49.3 +2.4**
OTVZ Oturere 24.69 200 P **P 05 44 46.9 -0.1**
NGZ Ngauruhoe 24.72 200 P **P 05 44 47.9 +0.7**
WNVZ Wahianoa 24.86 200 P **P 05 44 48.5 0.0**
BHHZ Black Hill Sta 24.86 199 P **P 05 44 47.2 -1.2**
KAHZ Kahuranaki 24.90 197 P **P 05 44 52.6 +3.8**
KRHZ Kereru 24.91 198 P **P 05 44 49.4 +0.6**
VRZ Vera Road 24.95 201 P **P 05 44 53.3 +4.1**
PNHZ Pukenui 25.21 198 P **P 05 44 52.8 +1.2**
QRZ Quartz Range 27.26 203 P **P 05 45 09.2 -0.7**
QRZ Quartz Range 27.26 203 P **P 05 45 09.3 -0.6**
KHZ Kahutara 28.31 200 P **P 05 45 17.4 -1.8**
TAOE Nuku Hiva Isla 33.74 82 *e*T T 06 21 09.0
49nm,0.2s
TAOE *e*T T 06 21 09.0
49nm,0.2s
EIDS Eidsvold 33.89 248 P **P 05 46 06.0 -2.4**
baz=34,SNR=4.5
EIDS Eidsvold 33.89 248 P **P 05 46 06.5 -2.0**
EIDS IAmb IAmb 05 46 06.9
comp=Z,25nm,0.9s
EIDS Eidsvold 33.89 248 P **P 05 46 06.1 -2.4**
ARMA Armidale 34.52 240 P **P 05 46 11.7 -2.2**
baz=35,SNR=8.6
ARMA Armidale 34.52 240 P **P 05 46 12.9 -1.1**
ARMA IAmb IAmb 05 46 13.7
comp=Z,51nm,1.4s
ARMA Armidale 34.52 240 P **P 05 46 12.8 -1.2**
PATS Pohnpei 35.71 308 P **P 05 46 23.8 -0.3**
RMQ Roma 36.13 247 P **P 05 46 26.4 -1.3**
baz=36,SNR=8.8
RMQ Roma 36.13 247 P **P 05 46 26.1 -1.6**
CNB Canberra Magne 37.90 233 P **P 05 46 41.4 -1.1**
baz=38,SNR=7.6
CNB Canberra Magne 37.90 233 P **P 05 46 41.3 -1.2**
CTAO Charters Tower 37.98 258 P **P 05 46 41.9 -1.5**
CTAO pmax pmax
comp=Z,20nm,1.5s
CTAO Charters Tower 37.98 258 P **P 05 46 41.9 -1.5**
CAN Canberra 38.18 233 P **P 05 46 44.3 -0.5**
CAN pmax pmax
comp=Z,62nm,1.3s
CAN Canberra 38.18 233 P **P 05 46 44.3 -0.5**
CAN IAmb IAmb 05 46 44.6
comp=Z,62nm,1.3s
CAN Canberra 38.18 233 P **P 05 46 44.0 -0.9**
PMG Port Moresby 38.48 275 P **P 05 46 47.2 -0.3**
comp=Z,55nm,0.8s,baz=100,slow=6.7,SNR=17
PMG Port Moresby 38.48 275 *e*P **P 05 46 47.4 -0.1**
PMG Port Moresby 38.48 275 P **P 05 46 47.4 -0.1**
PMG Port Moresby 38.48 275 P **P 05 46 48.1 +0.6**
comp=Z,86nm,1.1s
H11S2 WAKE ISLAND Hy 39.33 330 T T 06 28 18.6
baz=147,slow=76,SNR=41
H11S3 WAKE ISLAND Hy 39.34 330 T T 06 28 12.0
baz=147,slow=76,SNR=133
H11S1 WAKE ISLAND Hy 39.35 330 T T 06 28 19.9
baz=147,slow=76,SNR=64
CMSA Cobar Meteorol 39.74 240 P **P 05 46 56.4 -1.4**
baz=40,SNR=12
CMSA Cobar Meteorol 39.74 240 P **P 05 46 56.4 -1.4**
MTSU Mount Surprise 39.88 261 P **P 05 46 58.0 -1.3**
baz=40,SNR=30
MTSU Mount Surprise 39.88 261 P **P 05 46 58.4 -0.8**
WAKE Wake Island 40.04 331 P **P 05 47 00.3 0.0**
WAKE Wake Island 40.04 331 P **P 05 47 00.6 +0.3**
QLP Quilpie 40.16 248 P **P 05 46 59.6 -1.8**
baz=40,SNR=6.4
QLP Quilpie 40.16 248 P **P 05 46 59.7 -1.7**
H11N3 WAKE ISLAND Hy 40.30 331 T T 06 29 27.2
baz=147,slow=76,SNR=22
H11N1 WAKE ISLAND Hy 40.30 331 T T 06 29 27.3
baz=147,slow=76,SNR=30
H11N2 WAKE ISLAND Hy 40.31 331 T T 06 29 28.5
baz=147,slow=76,SNR=36
DHH Diamond Head 40.40 24 P **P 05 47 04.7 +1.5**
DHH Diamond Head 40.40 24 P **P 05 47 04.7 +1.5**
KIP Kipapa 40.46 23 P **P 05 47 05.1 +1.3**
KIP pmax pmax
comp=Z,85nm,1.2s
KIP Kipapa 40.46 23 P **P 05 47 05.1 +1.3**
KIP Kipapa 40.46 23 P **P 05 47 05.1 +1.3**
WMR Waimanalo Ridg 40.49 24 P **P 05 47 05.7 +1.7**
HLK Haleakala 40.57 26 P **P 05 47 06.1 +1.2**
COEN Coen 41.42 267 P **P 05 47 11.6 -0.2**
COEN IAmb IAmb 05 47 12.7
comp=Z,111nm,1.6s
COEN Coen 41.42 267 P **P 05 47 11.5 -0.3**
TOO Toolangi 41.60 231 P **P 05 47 12.4 -0.7**
TOO pmax pmax
comp=Z,68nm,1.4s
TOO Toolangi 41.60 231 P **P 05 47 12.4 -0.7**
TOO IAmb IAmb 05 47 13.4
comp=Z,68nm,1.4s
TOO Toolangi 41.60 231 P **P 05 47 13.3 +0.2**
TAU Tasmania Unive 42.43 223 P **P 05 47 18.7 -0.9**
TAU pmax pmax
comp=Z,56nm,1.1s
TAU Tasmania Unive 42.43 223 P **P 05 47 18.7 -0.9**
TAU IAmb IAmb 05 47 52.1
comp=Z,56nm,1.1s
BRAT Ballarat 42.77 232 P **P 05 47 22.7 +0.3**
STKA Stephens Creek 43.23 240 P **P 05 47 25.0 -1.3**
comp=Z,54nm,1.0s,baz=84,slow=9.0,SNR=32
STKA PcP **PcP 05 49 14.1 +1.2**
comp=Z,4.1nm,0.7s,baz=63,slow=9.0,SNR=4.1
STKA Stephens Creek 43.23 240 P **P 05 47 24.8 -1.4**
baz=43,SNR=27
STKA Stephens Creek 43.23 240 P **P 05 47 24.9 -1.3**
STKA Stephens Creek 43.23 240 P **P 05 47 25.6 -0.6**
INKA Innaminka 43.37 247 P **P 05 47 27.8 +0.3**
MCQ Macquarie Isla 43.67 203 P **P 05 47 28.1 -1.3**
MCQ pmax pmax
comp=Z,611nm,1.8s
MCQ Macquarie Isla 43.67 203 P **P 05 47 28.1 -1.3**
QIS Mount Isa 44.20 257 P **P 05 47 35.2 +1.0**
HTT Hallett 45.72 239 P **P 05 47 44.8 -1.3**
baz=46,SNR=7.5
HTT Hallett 45.72 239 P **P 05 47 45.1 -1.0**
LCRK Leigh Creek 45.87 243 P **P 05 47 45.9 -1.3**
NAPP Napperby 46.32 239 P **P 05 47 50.2 -0.5**
JAY Jayapura 46.63 282 P **P 05 47 52.7 -0.7**
comp=Z,36nm,0.9s,baz=88,slow=2.4,SNR=7.6
JAY Jayapura 46.63 282 P **P 05 47 54.1 +0.7**
comp=Z,834nmcomp=Z,43nm,1.7s
WHYH Whyalla 46.77 240 P **P 05 47 53.4 -0.8**
GENI Genyem 47.10 282 P P 05 48 04.4 +7.3
OOD Oodnadatta 47.85 247 P **P 05 48 01.7 -0.9**
BBOO Buckleboo 48.00 240 P **P 05 48 02.6 -1.1**
baz=48,SNR=27
BBOO Buckleboo 48.00 240 P **P 05 48 02.0 -1.8**
BBOO Buckleboo 48.00 240 P **P 05 48 02.4 -1.3**
WR0 Warramunga Arr 48.99 257 P **P 05 48 10.5 -0.9**
WR0 IAmb IAmb 05 48 13.4
comp=Z,22nm,0.8s
WB0 Warramunga Arr 49.14 258 P **P 05 48 11.3 -1.3**
WB2 Warramunga Arr 49.16 257 P **P 05 48 11.4 -1.4**
WB2 IAmb IAmb 05 48 13.1
comp=Z,50nm,0.9s
WRAB Tennant Creek 49.17 257 *i* P **P 05 48 10.0 -2.9**
WRAB pmax pmax
comp=Z,27nm,0.8s
WRAB Tennant Creek 49.17 257 P **P 05 48 11.1 -1.8**
WRAB IAmb IAmb 05 48 13.0
comp=Z,40nm,0.9s
WRAB Tennant Creek 49.17 257 P **P 05 48 11.6 -1.2**
WRA Warramunga Arr 49.18 257 P **P 05 48 10.2 -2.7**
comp=Z,33nm,1.0s,baz=91,slow=7.2,SNR=36
WRA PcP **PcP 05 49 34.3 +0.3**
comp=Z,8.3nm,0.9s,baz=92,slow=4.4,SNR=6.2
WRA Warramunga Arr 49.18 257 P **P 05 48 10.9 -2.0**
AS31 Alice Springs 49.39 253 P **P 05 48 12.9 -1.7**
ASAR Alice Springs 49.40 252 P **P 05 48 12.3 -2.2**
comp=Z,44nm,0.6s,baz=87,slow=8.0,SNR=187
ASAR PcP **PcP 05 49 34.8 -0.1**
comp=Z,11nm,0.9s,baz=89,slow=6.7,SNR=4.6
ASAR Alice Springs 49.40 252 P **P 05 48 13.1 -1.5**
MULG Mulgathing 49.43 244 P **P 05 48 13.5 -1.2**
GUMO Guam 50.30 304 P **P 05 48 21.4 0.0**
GUMO pmax pmax
comp=Z,368nm,1.4s
GUMO Guam 50.30 304 P **P 05 48 21.4 0.0**
KDU Kakadu 51.90 266 P **P 05 48 32.3 -1.1**
baz=52,SNR=30
KDU Kakadu 51.90 266 P **P 05 48 32.5 -0.9**
MTN Manton Dam 53.16 266 P **P 05 48 42.0 -0.6**
baz=53,SNR=5.8
MTN Manton Dam 53.16 266 P **P 05 48 41.2 -1.5**
MTN Manton Dam 53.16 266 P **P 05 48 42.4 -0.3**
DRS Darwin Rock St 53.46 266 P **P 05 48 44.5 -0.3**
SAUI Saumlaki 54.03 272 P **P 05 48 48.4 -0.6**
WRKA Warakurna 54.46 251 P **P 05 48 50.4 -1.6**
baz=55,SNR=44
WRKA Warakurna 54.46 251 P **P 05 48 50.5 -1.6**
FAKI Fak Fak 54.50 278 P **P 05 48 57.1 +4.7**
FAKI Fak Fak 54.50 278 P **P 05 48 51.0 -1.4**
FAKI IAmb IAmb 05 48 52.0
comp=Z,34nm,1.3s
FORT Forrest 54.63 244 P **P 05 48 51.6 -1.5**
baz=55,SNR=14
FORT Forrest 54.63 244 P **P 05 48 51.3 -1.8**
KNRA Kununurra 54.95 262 P **P 05 48 54.5 -1.1**
baz=55,SNR=24
KNRA Kununurra 54.95 262 P **P 05 48 54.9 -0.7**
KNRA Kununurra 54.95 262 P **P 05 48 54.8 -0.8**
SIJI Sorong 56.07 280 P **P 05 49 03.1 -0.5**
comp=Z,60nm,0.6s,baz=78,slow=5.8,SNR=50
SWI Sorong 56.08 280 P **P 05 49 03.6 -0.1**
comp=Z,2µmcomp=Z,159nm,1.3s
FITZ Fitzroy Crossi 57.55 259 P **P 05 49 12.8 -1.3**
comp=Z,12nm,0.7s,baz=95,slow=10,SNR=20
SOEI Soe 60.38 268 P **P 05 49 34.8 +1.0**
comp=Z,2µmcomp=Z,201nm,0.8s
SOEI Soe 60.38 268 P **P 05 49 32.7 -1.1**
SOEI Soe 60.38 268 P **P 05 49 34.6 +0.8**
SANI Sanana 60.73 277 P **P 05 49 35.5 -0.5**
comp=Z,834nmcomp=Z,60nm,1.4s
SANI Sanana 60.73 277 P **P 05 49 34.8 -1.2**
SBA Scott Base 62.48 185 P **P 05 49 47.5 +0.8**
SBA pmax pmax
comp=Z,17nm,1.0s
SBA Scott Base 62.48 185 P **P 05 49 47.5 +0.8**
SBA IAmb IAmb 05 49 50.3
comp=Z,17nm,1.0s
PSA00 Pilbara Seismi 62.50 254 P **P 05 49 46.6 -1.2**
PSA00 Pilbara Seismi 62.50 254 P **P 05 49 46.9 -1.0**
PSA00 IAmb IAmb 05 49 47.7
comp=Z,64nm,1.0s
PSA00 Pilbara Seismi 62.50 254 P **P 05 49 46.8 -1.0**
VNDA Vanda 62.60 186 P **P 05 49 48.9 +1.4**
comp=Z,9.5nm,1.0s,baz=14,slow=6.2,SNR=17
VNDA Vanda 62.60 186 P **P 05 49 49.0 +1.5**
VNDA pmax pmax
comp=Z,18nm,1.1s
VNDA Vanda 62.60 186 P **P 05 49 49.0 +1.5**
VNDA IAmb IAmb 05 49 50.3
comp=Z,18nm,1.1s
MBWA Marble Bar 62.66 254 P **P 05 49 47.6 -1.3**
MEEK Meekatharra 63.06 248 P **P 05 49 49.9 -1.6**
baz=63,SNR=11
MEEK Meekatharra 63.06 248 P **P 05 49 49.9 -1.6**
EDFI Ende, Flores 63.09 268 P **P 05 49 50.8 -1.1**
comp=Z,862nmcomp=Z,97nm,0.9s
KLBR Kellerberrin 63.44 242 P **P 05 49 52.2 -1.6**
baz=64,SNR=14
KLBR Kellerberrin 63.44 242 P **P 05 49 52.4 -1.5**
NWAO Narrogin (SRO) 63.81 241 P **P 05 49 55.2 -1.1**
LUWI Luwuk 64.09 277 P **P 05 49 58.6 +0.3**
GTOI Gorontalo 64.37 279 P **P 05 50 01.3 +1.1**
comp=Z,242nmcomp=Z,16nm,1.8s
BLDU Ballidu 64.40 243 P **P 05 49 58.7 -1.4**
baz=64,SNR=11
BLDU Ballidu 64.40 243 P **P 05 49 59.0 -1.1**
MUN Mundaring 64.73 242 P **P 05 50 01.4 -0.8**
baz=65,SNR=5.3
MUN Mundaring 64.73 242 P **P 05 50 01.7 -0.6**
WBSI Waikabubak, Su 65.09 267 P **P 05 50 05.8 +0.9**
comp=Z,1µmcomp=Z,76nm,1.4s
MORW Morawa 65.11 245 P **P 05 50 01.6 -3.2**
baz=65,SNR=4.5
MORW Morawa 65.11 245 P **P 05 50 03.7 -1.0**
MORW Morawa 65.11 245 P **P 05 50 03.5 -1.2**
APSI Ampana 65.20 277 P **P 05 50 07.6 +2.0**
comp=Z,1µmcomp=Z,82nm,1.5s
MRSI Marisa 65.34 278 P **P 05 50 06.6 +0.1**
comp=Z,970nmcomp=Z,22nm,0.7s
BNSI Bone 65.70 272 P **P 05 50 08.7 -0.1**
comp=Z,876nmcomp=Z,72nm,1.5s
KAPI Kapang 65.88 272 P **P 05 50 09.7 -0.1**
comp=Z,13nm,0.7s,baz=141,slow=6.0,SNR=9.0
KAPI Kappang 65.88 272 P **P 05 50 08.8 -1.1**
KAPI Kappang 65.88 272 P **P 05 50 09.8 -0.1**
comp=Z,45nm,1.8s
SPSI Sidrap Palu 66.14 273 P **P 05 50 10.7 -0.9**
comp=Z,32nm,1.3s
TTSI Tana Toraja 66.35 274 P **P 05 50 15.2 +2.3**
comp=Z,26nm,0.5s
TOLI2 Tolitoli 66.64 278 P **P 05 50 13.3 -1.5**
TOLI2 IAmb IAmb 05 50 15.1
comp=Z,49nm,1.1s
TOLI2 Tolitoli 66.64 278 P **P 05 50 14.2 -0.6**
comp=Z,45nm,1.9s
MPSI Mapaga 67.25 277 P **P 05 50 18.3 -0.3**
comp=Z,1µmcomp=Z,70nm,0.9s
GIRL Giralia 67.50 252 P **P 05 50 18.4 -1.6**
baz=68,SNR=4.5
GIRL Giralia 67.50 252 P **P 05 50 18.0 -2.0**
GIRL Giralia 67.50 252 P **P 05 50 20.3 +0.2**
MJAR Matsushiro Arr 69.16 320 P **P 05 50 29.5 -0.6**
comp=Z,4.6nm,0.3s,baz=148,slow=7.2,SNR=7.6
MJAR Matsushiro Arr 69.16 320 P **P 05 50 30.7 +0.6**
MJAR pmax pmax
comp=Z,24nm,1.8s
MJAR Matsushiro Arr 69.16 320 P **P 05 50 30.6 +0.6**
KBKI Kotabaru 69.78 272 P **P 05 50 35.3 +1.0**
comp=Z,3µmcomp=Z,53nm,1.1s
MYLDM Lahad Datu 70.09 282 P **P 05 50 35.5 -0.7**
ERM Erimo 70.09 327 P **P 05 50 35.7 +0.1**
ERM pmax pmax
comp=Z,83nm,1.2s
ERM Erimo 70.09 327 P **P 05 50 35.6 +0.1**
JAGI Jajag, Banyuwa 70.39 267 P **P 05 50 35.8 -2.3**
JAGI Jajag, Banyuwa 70.39 267 P **P 05 50 36.6 -1.5**
ABJI Asem Bagus 70.47 267 P **P 05 50 38.7 +0.1**
comp=Z,105nm,1.2s
BLJI Banyuglugur 71.10 267 P **P 05 50 42.4 +0.1**
comp=Z,2µmcomp=Z,114nm,0.8s
GMJI Gumukmas 71.12 267 P **P 05 50 41.9 -0.5**
comp=Z,58nm,0.8s
JNU Nakatsue 71.92 314 P **P 05 50 46.4 -0.5**
comp=Z,6.6nm,0.6s,baz=84,slow=6.1,SNR=5.3
JNU Nakatsue 71.92 314 P **P 05 50 46.7 -0.2**
PKM Mcpherson Peak 72.19 44 P **P 05 50 50.1 +1.4**
baz=235
SAO San Andreas Ge 72.22 42 P **P 05 50 49.7 +1.2**
SAO pmax pmax
comp=Z,35nm,1.1s
SAO San Andreas Ge 72.22 42 P **P 05 50 49.7 +1.2**
SAO IAmb IAmb 05 50 51.0
comp=Z,35nm,1.1s
CIS Catalina Islan 72.31 46 P **P 05 50 51.0 +1.7**
baz=236
SMMC Simmler 72.32 44 P **P 05 50 50.8 +1.6**
baz=235
PAGB Antelope Grade 72.39 43 P **P 05 50 50.8 +1.2**
PAGB IAmb IAmb 05 50 53.3
comp=Z,41nm,1.3s
KKM Kota Kinabalu 72.52 282 P **P 05 50 49.1 -1.8**
KKM IAmb IAmb 05 50 51.8
comp=Z,56nm,1.1s
KKM Kota Kinabalu 72.52 282 P **P 05 50 52.4 +1.5**
OSI Osito Audit: C 72.78 45 P **P 05 50 52.9 +0.9**
baz=236
KMPM Mount Pierce 72.83 38 P **P 05 50 52.9 +0.7**
DECC Green Verdugo 72.84 46 P **P 05 50 52.9 +0.6**
baz=236
PASC Pasadena Art C 72.90 46 P **P 05 50 53.4 +0.7**
109C Camp Elliot, M 72.95 47 P **P 05 50 53.7 +0.7**
baz=237
ARVC Arvin 72.99 45 P **P 05 50 53.7 +0.6**
baz=235
MWC Mount Wilson 73.02 46 P **P 05 50 54.3 +0.8**
MWC pmax pmax
comp=Z,17nm,0.8s
MWC Mount Wilson 73.02 46 P **P 05 50 54.3 +0.8**
BAR Barrett 73.15 48 P **P 05 50 55.1 +0.9**
PEA0B Petropavlovsk- 73.17 343 P **P 05 50 54.5 +0.7**
PEA0B pmax pmax
comp=Z,52nm,1.2s
PEA0B Petropavlovsk- 73.17 343 P **P 05 50 54.5 +0.7**
PEA0B IAmb IAmb 05 50 55.7
comp=Z,52nm,1.2s
PETK Petropavlovsk- 73.17 343 P **P 05 50 53.4 -0.3**
comp=Z,16nm,0.9s,baz=155,slow=7.4,SNR=11
VES Vestal, Richgr 73.23 44 P **P 05 50 55.1 +0.6**
baz=235,SNR=6.5
MURC Murrieta 73.27 47 P **P 05 50 55.7 +0.9**
baz=237,SNR=5.9
BFSC Mount Baldy Ra 73.30 46 P **P 05 50 55.6 +0.5**
baz=236,SNR=5.5
VOG Valley Oaks Go 73.30 43 P **P 05 50 55.9 +1.0**
baz=235
PCJI Pacitan 73.31 266 P **P 05 50 55.6 +0.1**
comp=Z,3µmcomp=Z,315nm,1.2s
CHGN Chignik 73.33 9 P **P 05 50 54.5 -0.1**
CHGN Chignik 73.33 9 P **P 05 50 54.7 +0.1**
baz=196
EDW2 Edwards Air Fo 73.42 45 P **P 05 50 56.5 +0.8**
baz=236,SNR=10
MONP2 Monument Peak 73.44 48 P **P 05 50 56.7 +0.7**
baz=238,SNR=5.5
O02D Mt. Diablo Mer 73.47 38 P **P 05 50 57.1 +1.1**
O02D IAmb IAmb 05 51 37.6
comp=Z,35nm,1.2s
O02D Mt. Diablo Mer 73.47 38 P **P 05 50 57.4 +1.5**
baz=231
IKP In-Ko-Pah, Jac 73.53 48 P **P 05 50 57.5 +1.0**
baz=238
ISA Isabella, Lake 73.53 44 P **P 05 50 57.6 +1.2**
ISA pmax pmax
comp=Z,33nm,1.4s
ISA Isabella, Lake 73.53 44 P **P 05 50 57.6 +1.2**
ISA IAmb IAmb 05 51 37.5
comp=Z,33nm,1.4s
ISA Isabella, Lake 73.53 44 P **P 05 50 57.5 +1.1**
baz=236,SNR=7.5
SFX San Felipe 73.61 50 P **P 05 50 57.4 +0.6**
CMB Columbia Colle 73.65 41 P **P 05 50 57.9 +0.9**
CMB pmax pmax
comp=Z,19nm,1.0s
CMB Columbia Colle 73.65 41 P **P 05 50 57.9 +0.9**
PFO Pinyon Flats O 73.80 47 *e*P **P 05 50 59.3 +1.2**
PFO Pinyon Flats O 73.80 47 P **P 05 50 58.5 +0.4**
PFO IAmb IAmb 05 51 00.2
comp=Z,60nm,1.9s
PFO Pinyon Flats O 73.80 47 P **P 05 50 58.8 +0.8**
baz=238
TPFO Pinon Flats 73.80 47 P **P 05 50 58.8 +0.8**
baz=238
BBRC Big Bear Solar 73.82 46 P **P 05 50 59.2 +0.9**
baz=237
YSS Yuzh-Sakhalins 73.86 331 *e*P **P 05 50 58.6 +0.7**
YSS *e* 06 00 23.9
YSS pmax pmax
comp=Z,30nm,0.8s
YSS Yuzh-Sakhalins 73.86 331 P **P 05 50 58.5 +0.5**
YSS IAmb IAmb 05 50 59.4
comp=Z,32nm,0.9s
YSS Yuzh-Sakhalins 73.86 331 P **P 05 50 59.1 +1.2**
comp=Z,45nm,1.2s
ORV Oroville 73.87 40 P **P 05 50 59.2 +1.0**
ORV pmax pmax
comp=Z,23nm,1.2s
ORV Oroville 73.87 40 P **P 05 50 59.2 +1.0**
WDC Whiskeytown Da 73.87 38 P **P 05 50 59.3 +1.1**
WDC pmax pmax
comp=Z,43nm,1.5s
WDC Whiskeytown Da 73.87 38 P **P 05 50 59.2 +1.1**
WDC IAmb IAmb 05 51 39.5
comp=Z,43nm,1.5s
SWSC Sam W. Stewart 73.91 48 P **P 05 50 59.7 +1.1**
baz=238
QSPA South Pole Qui 73.92 180 P **P 05 50 59.0 +0.8**
QSPA IAmb IAmb 05 51 00.5
comp=Z,41nm,1.0s
LRMC Laurel Mtn Rad 73.97 45 P **P 05 50 60.0 +1.0**
baz=236
UGM Wanagama 74.01 266 P **P 05 50 58.7 -0.9**
N02D Trinity Center 74.02 38 P **P 05 51 00.5 +1.4**
N02D IAmb IAmb 05 51 01.8
comp=Z,24nm,1.0s
N02D Trinity Center 74.02 38 P **P 05 51 00.5 +1.4**
baz=231
O03E Paynes Creek 74.14 39 P **P 05 51 00.9 +1.1**
O03E IAmb IAmb 05 51 01.9
comp=Z,60nm,1.4s
O03E Paynes Creek 74.14 39 P **P 05 51 00.6 +0.8**
baz=232
M02C Callahan 74.19 37 P **P 05 51 02.1 +1.9**
M02C IAmb IAmb 05 51 41.2
comp=Z,69nm,1.5s
M02C Callahan 74.19 37 P **P 05 51 01.3 +1.2**
baz=231
CWC Cottonwood Cre 74.23 44 P **P 05 51 01.4 +0.8**
baz=236
PBKI Pangkalan Bun 74.26 272 P **P 05 51 03.6 +2.6**
comp=Z,256nm,1.1s
SMRI Semarang 74.30 267 P **P 05 51 01.1 -0.2**
BELC Belle Mtn. Jos 74.33 47 P **P 05 51 02.2 +1.1**
baz=238,SNR=8.9
MLAC Mammoth, Mammo 74.41 43 P **P 05 51 02.9 +1.2**
baz=235
MPMC Manual Prospec 74.42 45 P **P 05 51 02.7 +1.0**
baz=236,SNR=17

GSC	Goldstone, Bar	74.47	45	P	P	05 51 03.3 +1.4
GSC				pmax	pmax	
comp=Z,16nm,1.0s						
GSC	Goldstone, Bar	74.47	45	P	P	05 51 03.3 +1.4
GSC	Goldstone, Bar	74.47	45	P	P	05 51 02.6 +0.8
baz=237,SNR=7.9						
YBH	Yreka Blue Hor	74.49	37	P	P	05 51 03.5 +1.6
YBH				pmax	pmax	
comp=Z,43nm,1.1s						
YBH	Yreka Blue Hor	74.49	37	P	P	05 51 03.5 +1.6
YBH				IAmb	IAmb	05 51 43.3
comp=Z,43nm,1.1s						
BC3	Big Chuckawall	74.53	48	P	P	05 51 03.4 +1.1
baz=238,SNR=7.7						
HEC	Hector,Ludlow	74.54	46	P	P	05 51 02.8 +0.5
baz=237,SNR=12						
K02D	Willamette Mer	74.56	36	P	P	05 51 04.0 +1.8
baz=230						
GLA	Glamis	74.66	48	P	P	05 51 04.4 +1.4
GLA				pmax	pmax	
comp=Z,30nm,1.1s						
GLA	Glamis	74.66	48	P	P	05 51 04.4 +1.4
GLA				IAmb	IAmb	05 51 44.2
comp=Z,30nm,1.1s						
GLA	Glamis	74.66	48	P	P	05 51 03.8 +0.8
baz=239						
PNTR	Pine Nut	74.77	41	P	P	05 51 04.6 +0.9
PNTR				IAmb	IAmb	05 51 06.0
comp=Z,39nm,0.9s						
QSM	Queen of Sheba	74.79	45	P	P	05 51 04.6 +1.0
QSM				IAmb	IAmb	05 51 05.6
comp=Z,23nm,0.9s						
VCNR	Virginia City	74.86	41	P	P	05 51 05.2 +1.0
YERR	Yerington	74.94	41	P	P	05 51 05.3 +0.6
YERR				IAmb	IAmb	05 51 06.7
comp=Z,21nm,0.9s						
LCH	Last Change Ra	74.97	43	P	P	05 51 05.5 +0.7
GMRC	Granite Mounta	74.98	46	P	P	05 51 05.6 +0.7
baz=238,SNR=8.3						
LHV	Little Huntoon	74.98	42	P	P	05 51 05.8 +1.2
LHV				IAmb	IAmb	05 51 46.2
comp=Z,74nm,1.6s						
IRM	Iron Mountain	75.01	47	P	P	05 51 05.9 +1.0
baz=238,SNR=14						
L04D	Klamath Falls	75.03	37	P	P	05 51 06.5 +1.4
L04D				IAmb	IAmb	05 51 46.3
comp=Z,54nm,1.1s						
L04D	Klamath Falls	75.03	37	P	P	05 51 06.4 +1.4
baz=231						
M04C	Macdoel	75.03	38	P	P	05 51 06.5 +1.4
M04C				IAmb	IAmb	05 51 07.4
comp=Z,29nm,0.9s						
M04C	Macdoel	75.03	38	P	P	05 51 06.3 +1.3
baz=232						
GWY	Greenwater Val	75.04	45	P	P	05 51 05.9 +0.6
FURC	Furnace Creek,	75.07	44	P	P	05 51 06.0 +0.8
baz=236,SNR=7.0						
TUQ	Turquoise Moun	75.15	46	P	P	05 51 06.8 +1.0
baz=237						
SHOC	Shoshone, Teco	75.16	45	P	P	05 51 06.0 +0.3
baz=237,SNR=8.8						
RYN	Ryan	75.19	42	P	P	05 51 06.7 +0.7
NVAR	Mina Array Bea	75.22	42	P	P	05 51 07.0 +0.8
comp=Z,14nm,0.8s,baz=226,slow=9.6,SNR=78						
NVAR				pP	pP	05 51 42.8 +0.1
comp=Z,14nm,1.1s,baz=231,slow=9.2,SNR=5.9						
NVAR	Mina Array Bea	75.22	42	P	P	05 51 06.9 +0.6
STKI	Sintang	75.22	274	P	P	05 51 07.6 +1.1
comp=Z,7μmcomp=Z,58nm,1.3s						
113A	Mohawk Valley,	75.28	49	IAmb	IAmb	05 51 08.7
comp=Z,76nm,1.9s						
NV11	Mina Array Sit	75.31	42	IAmb	IAmb	05 51 08.7
comp=Z,29nm,1.1s						
I03D	Drain, OR	75.38	35	P	P	05 51 08.2 +1.4
baz=230						
214A	Organ Pipe Nat	75.58	50	IAmb	IAmb	05 51 10.7
comp=Z,44nm,1.6s						
214A	Organ Pipe Nat	75.58	50	P	P	05 51 09.2 +1.0
baz=240,SNR=9.5						
K04D	Chiloquin, OR	75.60	37	P	P	05 51 09.3 +1.1
baz=232						
NEE2	Needles Airpor	75.70	47	P	P	05 51 10.0 +1.1
baz=238						
KDAK	Kodiak Island	75.74	12	eP	P	05 51 09.5 +1.0
KDAK	Kodiak Island	75.74	12	P	P	05 51 09.3 +0.8
KDAK	Kodiak Island	75.74	12	P	P	05 51 10.3 +1.9
baz=201						
TPNV	Topopah Spring	75.74	44	P	P	05 51 10.2 +1.0
baz=237,SNR=10						
J04D	Umpqua Nationa	75.78	36	IAmb	IAmb	05 51 50.6
comp=Z,60nm,1.0s						
J04D	Umpqua Nationa	75.78	36	P	P	05 51 10.3 +0.9
baz=231						
PDMCI	Parker Dam,Lak	75.80	48	P	P	05 51 10.3 +0.9
baz=239,SNR=7.3						
I04A	Tendick Farm,	75.96	36	P	P	05 51 11.3 +1.1
baz=231						
MOD	Modoc Plateau	76.01	38	IAmb	IAmb	05 51 51.7
comp=Z,28nm,1.0s						
K05A	Summer Lake	76.17	37	IAmb	IAmb	05 51 53.0
comp=Z,50nm,1.1s						
SHPR	Sheep Range	76.24	45	IAmb	IAmb	05 51 53.5
comp=Z,52nm,1.5s						
H04D	Lebanon	76.24	35	P	P	05 51 12.8 +1.2
baz=230						
J05D	Fort Rock, OR	76.31	37	P	P	05 51 13.4 +1.2
baz=232						
KSRS	Korea Array	76.32	316	P	P	05 51 13.2 +0.9
comp=Z,0.8nm,0.5s,baz=126,slow=6.2,SNR=4.8						
G03D	McMinnville, O	76.39	34	P	P	05 51 14.2 +1.7
baz=230						
S11A	Rachel	76.46	44	IAmb	IAmb	05 51 53.6
comp=Z,68nm,1.5s						
H04A	Detroit Lake	76.65	35	IAmb	IAmb	05 51 15.7
comp=Z,34nm,1.2s						
KSM	Kuching	76.74	275	P	P	05 51 15.9 +0.7
comp=Z,44nm,0.7s						
TYV	Tymovskoe	76.77	333	eP	P	05 51 14.6 +0.2
TYV				pmax	pmax	
comp=Z,20nm,0.5s						
TYV				pmax	pmax	
comp=Z,200nm,6.6s						
P18K	Big Mountain,	76.79	10	P	P	05 51 14.7 +0.3
baz=198						
PINE	Pine Mountain	76.79	36	IAmb	IAmb	05 51 56.6
comp=Z,46nm,1.1s						
PRN	Pahroc Range	76.79	44	IAmb	IAmb	05 51 17.8
comp=Z,60nm,1.4s						
I05D	Terrebonne, OR	76.90	36	P	P	05 51 16.5 +1.1
baz=232						
R11A	Troy Canyon, C	76.94	43	P	P	05 51 16.5 +0.5
baz=237,SNR=11						
BMN	Battle Mountai	77.04	41	IAmb	IAmb	05 51 18.5
comp=Z,18nm,0.8s						
LEM	Lembang	77.07	267	P	P	05 51 17.3 +0.1
comp=Z,49nm,0.5s,baz=113,slow=7.7,SNR=24						
O18K	Koktuh Hills	77.23	10	P	P	05 51 18.0 +1.1
baz=198						
TUC	Tucson	77.25	51	P	P	05 51 18.9 +1.2
TUC				pmax	pmax	
comp=Z,21nm,1.1s						
TUC	Tucson	77.25	51	P	P	05 51 18.9 +1.2
TUC	Tucson	77.25	51	P	P	05 51 19.0 +1.3
baz=241						
HOOD	Mount Hood Mea	77.34	35	P	P	05 51 18.5 +0.5
HOOD				IAmb	IAmb	05 51 58.3
comp=Z,43nm,1.3s						
CNJI	Cibinong	77.41	266	P	P	05 51 18.5 -0.4
comp=Z,1μmcomp=Z,132nm,1.2s						
G05D	Wamic, OR	77.48	35	P	P	05 51 19.5 +0.9
baz=231						
E04D	Cinebar	77.63	33	P	P	05 51 20.6 +1.2
baz=230						
USRK	Ussuriysk Ar.	77.66	323	P	P	05 51 19.3 -0.3
comp=Z,2.2nm,0.8s,baz=54,slow=3.3,SNR=4.1						
F05D	White Salmon	77.80	35	IAmb	IAmb	05 51 21.7
comp=Z,44nm,1.5s						
F05D	White Salmon	77.80	35	P	P	05 51 21.3 +0.9
baz=231						
O20K	Slope Mountain	77.88	11	P	P	05 51 20.8 +0.2
baz=201						
CBJI	Citeko	77.91	267	P	P	05 51 21.8 +0.1
BRSE	Bradley Lake S	77.92	12	P	P	05 51 21.1 +0.4
baz=203,SNR=7.9						
319A	Douglas	77.95	52	IAmb	IAmb	05 51 24.3
comp=Z,36nm,1.0s						
DBJI	Dramaga	77.97	267	P	P	05 51 22.3 +0.2
D03D	Eldon	77.99	32	P	P	05 51 22.5 +1.2
baz=230						
SKJI	Sukabumi	78.04	266	P	P	05 51 23.4 +1.0
comp=Z,140nm,0.7s						
KNB	Kanab	78.11	46	IAmb	IAmb	05 51 25.1
comp=Z,22nm,0.9s						
U15A	North Rim	78.18	46	IAmb	IAmb	05 51 25.8
comp=Z,43nm,1.0s						
N19K	Bonanza Creek	78.26	10	IAmb	IAmb	05 51 23.7
comp=Z,46nm,0.9s						
N19K	Bonanza Creek	78.26	10	P	P	05 51 22.4 -0.2
baz=199						
D05A	Enumclaw	78.34	33	IAmb	IAmb	05 51 26.5
comp=Z,77nm,1.4s						
WUAZ	Wupatki	78.37	48	IAmb	IAmb	05 51 26.7
comp=Z,36nm,1.1s						
WUAZ	Wupatki	78.37	48	P	P	05 51 24.9 +0.9
baz=240,SNR=17						
SEW	Seward	78.51	12	P	P	05 51 23.3 -0.6
baz=204						
CBB	Campbell River	78.52	30	IAmb	IAmb	05 51 27.5
comp=Z,71nm,1.6s						
CAPN	Captain Cook N	78.79	11	P	P	05 51 27.4 +2.0
baz=202						
B05A	Bryant	78.97	32	P	P	05 51 27.5 +0.9
baz=230,SNR=5.0						
CGJI	Cibinong	78.97	266	P	P	05 51 26.4 -1.1
comp=Z,2μmcomp=Z,184nm,1.0s						
SPCR	Spurr Chakacha	79.00	11	P	P	05 51 26.1 -0.6
baz=201,SNR=6.5						
MTPU	Mount Pierson	79.06	45	IAmb	IAmb	05 51 31.1
comp=Z,32nm,1.2s						
HAWA	Hanford	79.17	35	IAmb	IAmb	05 51 30.5
comp=Z,78nm,1.9s						
W18A	Petrified Fore	79.35	49	P	P	05 51 30.1 +0.7
baz=242,SNR=5.8						
RC01	Rabbit Creek A	79.36	12	P	P	05 51 28.3 -0.3
baz=204,SNR=13						
PWL	Port Wells	79.43	12	IAmb	IAmb	05 51 30.1
comp=Z,68nm,1.2s						
PWL	Port Wells	79.43	12	P	P	05 51 28.8 -0.1
baz=205,SNR=7.8						
KAIM	Kayak Island	79.47	15	P	P	05 51 30.4 +1.2
baz=209						
L19K	White Mountain	79.50	9	P	P	05 51 29.7 +0.4
baz=199,SNR=6.0						
121A	Cookes Peak, D	79.60	52	IAmb	IAmb	05 51 33.6
comp=Z,28nm,0.9s						
121A	Cookes Peak, D	79.60	52	P	P	05 51 31.8 +1.1
baz=243						
GAMB	Gambell	79.67	1	IAmb	IAmb	05 52 12.4
comp=Z,48nm,1.6s						
GAMB	Gambell	79.67	1	P	P	05 51 30.8 +0.7
baz=182						
GLI	Glacier Island	79.71	13	P	P	05 51 30.1 -0.4
baz=206,SNR=7.5						
EYAK	Cordova Ski Ar	79.71	14	P	P	05 51 30.3 -0.1
baz=208						
DUG	Dugway, Tooele	79.75	43	P	P	05 51 31.7 +0.4
baz=239,SNR=13						
SKT	Skwentna	79.85	11	IAmb	IAmb	05 51 31.6
comp=Z,28nm,1.2s						
SKT	Skwentna	79.85	11	P	P	05 51 29.8 -1.4
baz=202						
M22K	Willow	79.90	11	P	P	05 51 31.4 0.0
baz=203						
D08A	Wollman Farm,	79.91	35	IAmb	IAmb	05 51 33.8
comp=Z,35nm,1.2s						
KNK	Knik Glacier	79.91	12	IAmb	IAmb	05 51 32.9
comp=Z,27nm,0.8s						
KNK	Knik Glacier	79.91	12	P	P	05 51 31.5 0.0
baz=205,SNR=8.1						
BGLC	Bering Glacier	79.92	15	P	P	05 51 30.9 -0.7
baz=210						
PMR	Palmer	79.94	12	IAmb	IAmb	05 51 32.9
comp=Z,78nm,1.4s						
PMR	Palmer	79.94	12	P	P	05 51 31.7 +0.1
baz=204,SNR=15						
TTA	Tatalina	80.05	8	IAmb	IAmb	05 51 34.5
comp=Z,57nm,1.2s						
TTA	Tatalina	80.05	8	P	P	05 51 32.8 +0.5
baz=198,SNR=18						
GHO	Glory Hole Cre	80.14	12	IAmb	IAmb	05 51 34.1
comp=Z,44nm,0.8s						
NJ2	Nanjing	80.19	307	eP	P	05 51 36.3 +2.6
NJ2				pmax	pmax	
comp=Z,13nm,0.5s						
F10A	Beach Ranch, E	80.21	36	IAmb	IAmb	05 51 34.9
comp=Z,23nm,0.9s						
WRAK	Wrangell Islan	80.22	22	P	P	05 51 34.3 +1.1
baz=220						
DIV	Divide	80.22	13	IAmb	IAmb	05 51 34.6
comp=Z,47nm,0.9s						
SML	Sawmill	80.29	12	IAmb	IAmb	05 51 35.0
comp=Z,69nm,1.5s						
SML	Sawmill	80.29	12	P	P	05 51 33.5 -0.2
baz=205,SNR=6.3						
MESA	MESA	80.31	16	P	P	05 51 34.4 +0.5
baz=211						
BMRM	Bremner River	80.35	14	P	P	05 51 34.0 +0.1
baz=209,SNR=11						
TMUT	Trail Mountain	80.36	44	IAmb	IAmb	05 51 37.5
comp=Z,25nm,1.0s						
KASI	Kota Agung	80.40	267	P	P	05 51 34.7 -0.5
comp=Z,4μmcomp=Z,155nm,1.0s						
CUT	Chulitna	80.47	11	P	P	05 51 34.2 -0.3
baz=203,SNR=13						
KLU	Klutina	80.52	13	IAmb	IAmb	05 51 36.3
comp=Z,32nm,1.2s						
KLU	Klutina	80.52	13	P	P	05 51 34.9 0.0
baz=207,SNR=7.8						
HLID	Hailey	80.52	39	P	P	05 51 36.0 +0.6
baz=237,SNR=21						
SCM	Sheep Creek Mo	80.52	12	IAmb	IAmb	05 51 36.2
comp=Z,46nm,0.8s						
SCM	Sheep Creek Mo	80.52	12	P	P	05 51 34.8 0.0
baz=206,SNR=10						
PNL	Peninsula	80.57	17	P	P	05 51 35.3 +0.2
baz=214						
ISLE	Juniper Island	80.58	15	IAmb	IAmb	05 51 36.9
comp=Z,78nm,1.5s						
TGL	Tana Glacier	80.59	15	IAmb	IAmb	05 51 36.9
comp=Z,68nm,1.4s						
PPLA	Purkeypile	80.59	10	P	P	05 51 35.9 +0.6
baz=201						
MA2	Magadan	80.70	343	c iP	P	05 51 35.0 -0.8
MA2				pmax	pmax	
comp=Z,34nm,1.6s						
ANM	Nome	80.71	4	P	P	05 51 36.7 +1.0
baz=188						
K20K	Telida	80.73	9	IAmb	IAmb	05 51 37.6
comp=Z,45nm,1.1s						
K20K	Telida	80.73	9	P	P	05 51 36.1 +0.3
baz=199						
GRNC	Granite Creek	80.84	15	IAmb	IAmb	05 51 39.2
comp=Z,116nm,2.0s						
VRDI	Verde Repeater	80.85	14	IAmb	IAmb	05 51 38.3
comp=Z,71nm,1.5s						
KLR	Kul'dur	80.85	327⇑	eP	P	05 51 36.0 -0.8
KLR				pmax	pmax	
comp=Z,12nm,1.4s						
N25K	Chitina, Valde	80.91	14	IAmb	IAmb	05 51 38.5
comp=Z,39nm,1.1s						
N25K	Chitina, Valde	80.91	14	P	P	05 51 37.1 +0.1
baz=208,SNR=12						
GLB	Gilahina Butte	80.95	14	IAmb	IAmb	05 51 38.6
comp=Z,86nm,1.5s						
LWLI	Liwa	80.96	267	P	P	05 51 38.7 +0.4
comp=Z,70nm,0.9s						
MDSI	Maura Dua	80.98	268	P	P	05 51 36.9 -1.4
comp=Z,20nm,1.9s						
M24K	Tolsona, Glenn	81.01	13	P	P	05 51 37.6 +0.1
baz=207,SNR=11						
MNTX	Cornudas Mount	81.08	53	P	P	05 51 39.3 +0.8
baz=245						
CAST	Castle Rocks	81.10	10	P	P	05 51 36.4 -1.4
baz=201,SNR=14						
LOGN	Logan Glacier	81.11	16	IAmb	IAmb	05 52 19.3
comp=Z,49nm,1.4s						
WAT6	Susitna Watana	81.11	12	P	P	05 51 38.1 0.0
baz=206,SNR=16						
BARN	Barnard Glacie	81.14	15	IAmb	IAmb	05 51 40.0
comp=Z,60nm,1.4s						
CTG	Chitna Glacier	81.14	15	P	P	05 51 38.3 0.0
baz=212,SNR=5.6						
CTGM	Chitina Glacie	81.14	15	IAmb	IAmb	05 51 39.3
comp=Z,84nm,1.7s						
MVCO	Mesa Verde	81.22	47	P	P	05 51 39.9 +0.5
baz=242						
SMAI	San Martin Ant	81.27	159	IAmb	IAmb	05 51 41.6
comp=Z,28nm,1.1s						
CN2	Changchun	81.31	320	eP	P	05 51 38.6 -0.8
CN2				SKS	S	06 01 40.6 +3.0
CN2				esS	sS	06 02 38.8 -2.3
CN2				pmax	pmax	
comp=Z,10.0nm,1.0s						
CN2				LR	LR	
comp=Z,800nm,22.0s						
CN2				LR	LR	
comp=Z,490nm,22.0s						
CN2				LR	LR	
comp=Z,1μm,23.0s						
KTH	Kantishna Hill	81.42	10	IAmb	IAmb	05 51 41.0
comp=Z,47nm,1.2s						
TRF	Thorofare Moun	81.43	11	IAmb	IAmb	05 51 40.6
comp=Z,36nm,0.9s						
TRF	Thorofare Moun	81.43	11	P	P	05 51 39.3 -0.5
baz=203,SNR=13						
PV13	Radium Mtn., P	81.44	46	IAmb	IAmb	05 51 42.7
comp=Z,32nm,1.1s						
PV23	Carpenter Ridg	81.44	46	IAmb	IAmb	05 51 42.8
comp=Z,34nm,0.9s						
TX32	Lajitas Array	81.45	56	IAmb	IAmb	05 51 43.3
comp=Z,31nm,1.2s						
TXAR	Lajitas Array	81.45	56	P	P	05 51 41.5 +0.9
comp=Z,12nm,1.0s,baz=222,slow=6.7,SNR=71						
TXAR				pP	pwP	05 52 18.6 -0.9
comp=Z,8.9nm,1.1s,baz=239,slow=6.8,SNR=4.1						
PV11	David Mesa, Pa	81.47	46	IAmb	IAmb	05 51 42.8
comp=Z,62nm,1.4s						
HARP	HAARP	81.49	13	P	P	05 51 40.0 +0.1
baz=208						
CHUM	Lake Minchumin	81.50	9	P	P	05 51 39.1 -0.7
baz=201,SNR=23						
J20K	Nowinta River	81.50	9	IAmb	IAmb	05 51 41.8
comp=Z,56nm,1.1s						
J20K	Nowinta River	81.50	9	P	P	05 51 40.1 +0.3
baz=199						
TNA	Tin City	81.57	3	IAmb	IAmb	05 51 42.4
comp=Z,79nm,1.4s						
TNA	Tin City	81.57	3	P	P	05 51 40.6 +0.5
baz=186,SNR=22						
SKAG	Skagway	81.60	19	IAmb	IAmb	05 51 43.1
comp=Z,68nm,1.7s						
SKAG	Skagway	81.60	19	P	P	05 51 41.6 +1.2
baz=217						
NEW	Newport	81.60	34	P	P	05 51 40.7 -0.2
baz=234						
DHY	Denali Highway	81.63	12	IAmb	IAmb	05 51 42.0
comp=Z,41nm,1.3s						
DHY	Denali Highway	81.63	12	P	P	05 51 40.5 -0.3
baz=206,SNR=8.2						
RND	Reindeer	81.65	11	IAmb	IAmb	05 51 42.8
comp=Z,60nm,1.0s						
ANMO	Albuquerque	81.67	50	ceP	P	05 51 42.9 +1.2
ANMO				pmax	pmax	
comp=Z,46nm,1.4s						
ANMO	Albuquerque	81.67	50	P	P	05 51 42.9 +1.2
ANMO				IAmb	IAmb	05 51 44.2
comp=Z,46nm,1.3s						
ANMO	Albuquerque	81.67	50	P	P	05 51 42.9 +1.2
baz=244						
GCSA	Galena City Sc	81.68	7	P	P	05 51 40.0 -0.8
baz=197,SNR=6.5						
PV15	Paradox Valley	81.76	46	IAmb	IAmb	05 51 44.2
comp=Z,25nm,1.0s						
BPAW	Bear Paw Mtn.	81.92	10	P	P	05 51 40.9 -1.2
baz=202,SNR=9.7						
PAX	Paxson	81.93	13	IAmb	IAmb	05 51 43.3
comp=Z,31nm,1.4s						
PAX	Paxson	81.93	13	P	P	05 51 41.9 -0.4
baz=208,SNR=9.3						
MCK	McKinley	81.94	11	P	P	05 51 41.9 -0.4
baz=204,SNR=36						
M26K	Nabesna, AK	81.98	14	IAmb	IAmb	05 51 44.3
comp=Z,66nm,1.2s						
M26K	Nabesna, AK	81.98	14	P	P	05 51 42.8 +0.3
baz=210						
YUK3	Moose Creek	82.06	15	P	P	05 51 43.3 +0.2
baz=212,SNR=6.9						
AHID	Auburn Hatcher	82.17	41	IAmb	IAmb	05 51 46.1
comp=Z,41nm,1.4s						
M27K	Edge Creek, AK	82.20	14	IAmb	IAmb	05 51 46.0
comp=Z,69nm,1.3s						
M27K	Edge Creek, AK	82.20	14	P	P	05 51 44.5 +0.7
baz=211						
MENT	Mentasta	82.28	13	IAmb	IAmb	05 51 45.9
comp=Z,52nm,1.4s						
L26K	Log Cabin Wild	82.44	14	IAmb	IAmb	05 51 46.8
comp=Z,46nm,1.4s						
L26K	Log Cabin Wild	82.44	14	P	P	05 51 45.2 +0.4
baz=210,SNR=14						
BVCY	Beaver Creek	82.50	15	P	P	05 51 45.4 +0.2
baz=212,SNR=8.7						
DLBC	Dease Lake	82.57	22	IAmb	IAmb	05 51 47.7
comp=Z,61nm,1.6s						
MSO	Missoula	82.58	37	IAmb	IAmb	05 51 47.2
comp=Z,28nm,1.4s						
MSO	Missoula	82.58	37	P	P	05 51 45.5 -0.5
baz=237,SNR=9.0						
DLMT	Dillon	82.58	39	IAmb	IAmb	05 51 48.2
comp=Z,18nm,0.9s						
REDW	Red Top Meadow	82.62	41	IAmb	IAmb	05 51 48.6
comp=Z,63nm,1.4s						
S22A	4UR Ranch, Cre	82.64	47	P	P	05 51 47.8 +0.9
baz=243,SNR=54						
WHY	Whitehorse	82.69	18	IAmb	IAmb	05 51 48.6
comp=Z,50nm,1.8s						
WHY	Whitehorse	82.69	18	P	P	05 51 46.9 +0.6
baz=218						
NEA2	Nenana	82.70	11	IAmb	IAmb	05 51 48.3
comp=Z,18nm,0.9s						
NEA2	Nenana	82.70	11	P	P	05 51 45.4 -0.7
baz=204,SNR=9.6						
SNOW	Snow King Moun	82.74	41	IAmb	IAmb	05 51 49.2
comp=Z,30nm,0.9s						
RIDG	Independent Ri	82.74	13	IAmb	IAmb	05 51 47.9
comp=Z,52nm,1.2s						
RIDG	Independent Ri	82.74	13	P	P	05 51 46.6 +0.1
baz=208,SNR=14						
O20A	White River Ci	82.76	45	IAmb	IAmb	05 51 49.3
comp=Z,19nm,0.9s						
O20A	White River Ci	82.76	45	P	P	05 51 47.9 +0.6
baz=242						
I21K	Tanana	82.77	9	IAmb	IAmb	05 51 47.9
comp=Z,30nm,1.2s						
I21K	Tanana	82.77	9	P	P	05 51 46.5 0.0
baz=201						
L27K	Beaver Creek,	82.82	14	IAmb	IAmb	05 51 48.8
comp=Z,44nm,1.7s						
L27K	Beaver Creek,	82.82	14	P	P	05 51 47.3 +0.5
baz=211						
DOT	Dot Lake	82.83	13	IAmb	IAmb	05 51 48.4
comp=Z,47nm,1.1s						
LOHW	Long Hollow	82.91	41	IAmb	IAmb	05 51 49.9
comp=Z,39nm,1.4s						
HDA	Harding Lake	82.92	11	IAmb	IAmb	05 51 48.5
comp=Z,52nm,1.2s						
HDA	Harding Lake	82.92	11	P	P	05 51 47.2 -0.1
baz=206,SNR=22						
P33M	Teslin, Yukon	82.98	19	P	P	05 51 48.3 +0.5
baz=220						
FLWY	Flagg Ranch	83.08	40	IAmb	IAmb	05 51 51.2
comp=Z,30nm,0.8s						
N31M	Braeburn, Yuko	83.09	17	P	P	05 51 48.5 +0.2
baz=217						
H21K	Melozitna Rive	83.09	9	IAmb	IAmb	05 51 50.3
comp=Z,60nm,1.3s						
H21K	Melozitna Rive	83.09	9	P	P	05 51 48.9 +0.7
baz=200						
SCRK	Sand Creek	83.14	13	IAmb	IAmb	05 51 50.2
comp=Z,32nm,1.2s						
SCRK	Sand Creek	83.14	13	P	P	05 51 48.8 +0.2
baz=209,SNR=18						
BW06	Boulder Array	83.15	42	IAmb	IAmb	05 51 50.7
comp=Z,21nm,0.8s						
BW06	Boulder Array	83.15	42	P	P	05 51 49.3 0.0
baz=241,SNR=26						
PD31	Pinedale Array	83.15	42	IAmb	IAmb	05 51 50.7
comp=Z,20nm,0.8s						
PDAR	Pinedale Array	83.15	42	P	P	05 51 49.3 0.0
comp=Z,19nm,0.8s,baz=213,slow=3.3,SNR=130						

I23K	Minto, Yukon-K	83.16	10	P	P	05 51 48.4	-0.1
	baz=204,SNR=24						
TCOL	CIGO, UAF Yank	83.17	11	P	P	05 51 48.3	-0.3
	baz=205,SNR=18						
COLA	College	83.17	11	*i* P	P	05 51 48.9	+0.4
COLA				pmax	pmax		
	comp=Z,107nm,1.1s						
COLA	College	83.17	11	P	P	05 51 48.7	+0.2
COLA	College	83.17	11	P	P	05 51 48.3	-0.2
	baz=205						
SMCO	Snowmass	83.19	46	IAmb	IAmb	05 51 51.9	
	comp=Z,24nm,0.8s						
MASI	Maura Aman, Be	83.21	269	P	P	05 51 51.7	+1.7
	comp=Z,39nm,0.9s						
YMR	Madison River	83.21	40	IAmb	IAmb	05 51 52.2	
	comp=Z,25nm,0.8s						
ILAR	Eielson Array	83.26	11	P	P	05 51 48.6	-0.4
	comp=Z,21nm,1.1s,baz=215,slow=5.6,SNR=55						
ILAR				pP	pP	05 52 26.1	-0.2
	comp=Z,3.1nm,0.7s,baz=234,slow=6.7,SNR=2.4						
BOZ	Bozeman (W)	83.28	39	IAmb	IAmb	05 51 51.8	
	comp=Z,24nm,1.1s						
BOZ	Bozeman (W)	83.28	39	P	P	05 51 50.3	+0.5
	baz=239,SNR=11						
H17A	Grant Village	83.31	40	IAmb	IAmb	05 51 53.2	
	comp=Z,18nm,0.7s						
H17A	Grant Village	83.31	40	P	P	05 51 51.9	+1.8
	baz=240,SNR=17						
YNR	Norris Junctio	83.41	40	IAmb	IAmb	05 51 54.5	
	comp=Z,21nm,1.1s						
POKR	Poker Plat Res	83.47	11	P	P	05 51 50.2	+0.1
	baz=206,SNR=21						
LKWY	Lake	83.51	40	IAmb	IAmb	05 51 54.4	
	comp=Z,24nm,0.8s						
SDCO	Great Sand Dun	83.59	48	P	P	05 51 52.1	+0.4
	baz=244,SNR=18						
J26L	Joseph Creek	83.69	13	P	P	05 51 52.0	+0.7
	baz=209						
M30M	Minto, Yukon	83.69	16	IAmb	IAmb	05 51 52.9	
	comp=Z,65nm,1.8s						
M30M	Minto, Yukon	83.69	16	P	P	05 51 51.6	+0.3
	baz=216,SNR=8.3						
WALA	Waterton Lakes	83.81	35	IAmb	IAmb	05 51 53.8	
	comp=Z,62nm,1.9s						
MSTX	Muleshoe	84.01	52	P	P	05 51 54.4	+0.7
	baz=246						
H24K	Noodor Dome	84.05	10	P	P	05 51 52.4	-0.7
	baz=205						
M31M	Drury Creek, Y	84.06	17	IAmb	IAmb	05 51 54.6	
	comp=Z,33nm,1.7s						
M31M	Drury Creek, Y	84.06	17	P	P	05 51 53.1	0.0
	baz=218						
T25A	Trinidad	84.11	49	P	P	05 51 54.8	+0.5
	baz=245						
PRP	Porcupine Dome	84.19	11	P	P	05 51 54.1	+0.1
	baz=207,SNR=12						
WTLY	Watson Lake, Y	84.23	21	P	P	05 51 54.8	+0.7
	baz=223						
DAWY	Dawson	84.25	15	P	P	05 51 54.8	+0.6
	baz=213,SNR=19						
RDOG	Red Dog Mine	84.33	4	P	P	05 52 05.4	+11
	baz=191,SNR=5.4						
Q24A	Divide	84.37	47	IAmb	IAmb	05 51 58.5	
	comp=Z,77nm,1.9s						
Q24A	Divide	84.37	47	P	P	05 51 56.5	+0.8
	baz=244,SNR=8.7						
FARO	Faro, Yukon	84.38	18	P	P	05 51 54.8	-0.1
	baz=219						
ISCO	Idaho Springs	84.41	46	P	P	05 51 56.2	+0.3
ISCO				pmax	pmax		
	comp=Z,19nm,1.7s						
ISCO	Idaho Springs	84.41	46	P	P	05 51 56.1	+0.3
ISCO	Idaho Springs	84.41	46	P	P	05 51 56.2	+0.3
	baz=244,SNR=6.1						
EGAK	Eagle	84.45	13	IAmb	IAmb	05 51 56.8	
	comp=Z,49nm,1.3s						
EGAK	Eagle	84.45	13	P	P	05 51 55.5	+0.4
	baz=212,SNR=20						
RLMT	Red Lodge	84.48	40	P	P	05 51 56.9	+0.9
	baz=241						
833A	Chaparral WMA,	84.52	59	P	P	05 51 56.6	+0.3
	baz=248						
N23A	Red Feather La	84.67	45	IAmb	IAmb	05 54 35.7	
	comp=Z,51nm,1.6s						
N23A	Red Feather La	84.67	45	P	P	05 51 57.3	+0.2
	baz=243,SNR=6.5						
J29M	Klondike Camp	84.86	15	P	P	05 51 58.0	+0.8
	baz=214,SNR=8.8						
COLD	Coldfoot	84.94	9	IAmb	IAmb	05 51 59.8	
	comp=Z,54nm,1.2s						
COLD	Coldfoot	84.94	9	P	P	05 51 58.5	+1.0
	baz=203,SNR=15						
JCT	Junction City	84.98	56	P	P	05 51 59.2	+0.6
	baz=246						
K22A	Casper	85.07	43	IAmb	IAmb	05 52 00.5	
	comp=Z,30nm,1.4s						
K22A	Casper	85.07	43	P	P	05 51 58.9	0.0
	baz=243						
BILL	Bilibino	85.16	353	*de*P	P	05 51 58.3	-0.3
BILL				*e**PP	pP	05 52 36.4	+0.8
BILL				*e**SP	sP	05 52 52.1	+0.9
BILL				*e*		05 55 15.2	
BILL				pmax	pmax		
	comp=Z,44nm,1.3s						
BILL	Bilibino	85.16	353	P	P	05 51 58.7	+0.1
BILL				IAmb	IAmb	05 51 59.8	
	comp=Z,40nm,1.2s						
AMTX	Amarillo	85.20	52	IAmb	IAmb	05 52 01.3	
	comp=Z,26nm,0.9s						
AMTX	Amarillo	85.20	52	P	P	05 51 59.7	0.0
	baz=247						
H03S2	Juan Fernandez	85.23	124	T	T	07 25 49.1	
	baz=251,SNR=4.0						
H03S1	Juan Fernandez	85.24	124	T	T	07 25 51.8	
	baz=251,SNR=9.8						
H03S3	Juan Fernandez	85.25	124	T	T	07 25 50.4	
	baz=251,SNR=7.8						
HNS	HongShan	85.54	311	⇑P	P	05 52 01.8	+0.7
HNS				pmax	pmax		
	comp=Z,17nm,1.6s						
BJT	Baijiatuau	85.59	314	P	P	05 52 01.4	+0.1
BJT				pmax	pmax		
	comp=Z,33nm,1.4s						
BJT	Baijiatuau	85.59	314	P	P	05 52 01.4	+0.1
BJT				IAmb	IAmb	05 52 04.2	
	comp=Z,33nm,1.4s						
I29M	Ogilvie Camp,	85.60	14	IAmb	IAmb	05 52 02.2	
	comp=Z,49nm,1.4s						
I29M	Ogilvie Camp,	85.60	14	P	P	05 52 00.8	+0.1
	baz=214,SNR=12						
EGMT	Eagleton	85.62	37	P	P	05 52 01.7	+0.3
	baz=240						
ZEA	Zeya	85.78	329	*e*P	P	05 52 00.9	-1.0
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
LYN	LuoYang	86.09	307	*e*P	P	05 52 04.0	+0.1
LYN				pmax	pmax		
	comp=Z,20nm,1.3s						
KSCO	Kaye Shedlock'	86.17	48	P	P	05 52 04.5	+0.2
	baz=246						
IPM	Ipoh	86.47	276	IAmb	IAmb	05 52 07.1	
	comp=Z,34nm,1.3s						
435B	Jarrell	86.87	57	P	P	05 52 08.6	+0.8
	baz=249						
MAW	Mawson	86.94	199	P	P	05 52 07.2	-0.2
	comp=Z,11nm,0.9s,baz=136,slow=8.8,SNR=7.9						
MAW	Mawson	86.94	199	P	P	05 52 08.1	+0.6
	baz=87,SNR=5.0						
MAW	Mawson	86.94	199	P	P	05 52 08.1	+0.6
MAW				pmax	pmax		
	comp=Z,14nm,1.7s						
MAW	Mawson	86.94	199	P	P	05 52 08.1	+0.6
LAO	LASA Array	87.10	40	P	P	05 52 09.7	+1.1
	baz=243						
XLT	XiLinHaoTe	87.30	317	*e*P	P	05 52 10.1	+0.4
XLT				pP	pP	05 52 45.1	-1.8
XLT				sP	sP	05 53 00.8	-1.6
XLT				S	S	06 02 37.6	+0.2
XLT				sS	sS	06 03 41.3	-0.6
XLT				pmax	pmax		
	comp=Z,14nm,1.5s						
XLT				pmax	pmax		
	comp=Z,420nm,10.4s						
XLT				LR	LR		
	comp=Z,1μm,22.3s						
XLT				LR	LR		
	comp=Z,670nm,22.7s						
XLT				LR	LR		
	comp=Z,2μm,24.4s						
RSSD	Black Hills	87.35	43	P	P	05 52 09.1	-1.0
RSSD				pmax	pmax		
	comp=Z,11nm,1.2s						
RSSD	Black Hills	87.35	43	P	P	05 52 09.1	-1.0
RSSD	Black Hills	87.35	43	P	P	05 52 10.3	+0.2
	baz=245						
WMOK	Wichita Mounta	87.36	53	P	P	05 52 10.0	-0.1
	baz=248						
OGNE	Ogallala	87.37	46	P	P	05 52 10.6	+0.5
	baz=246						
WHTX	Lake Whitney,	87.40	56	P	P	05 52 11.7	+1.4
	baz=249						
GYA	Guiyang	87.93	298	⇓*i*P	P	05 52 14.1	+1.0
GYA				pmax	pmax		
	comp=Z,25nm,1.4s						
LL04	Puerto Octay	88.02	132	IAmb	IAmb	05 52 15.9	
	comp=Z,47nm,1.9s						
PSI	Prapat	88.02	273	P	P	05 52 12.9	-0.9
	comp=Z,6.4nm,0.9s,baz=187,slow=3.9,SNR=11						
CBKS	Cedar Bluff	88.16	49	P	P	05 52 14.2	+0.4
	baz=248						
WRGLY	Wrigley	88.24	20	P	P	05 52 14.3	+0.8
	baz=228						
LR03	Panguipulli	88.49	131	IAmb	IAmb	05 52 18.9	
	comp=Z,26nm,1.2s						
OK032	Salt Plains WL	88.54	51	IAmb	IAmb	05 52 16.8	
	comp=Z,18nm,1.1s						
FNO	Franklin	88.60	53	IAmb	IAmb	05 52 18.0	
	comp=Z,20nm,1.0s						
XAN	Xi'an	88.64	306	P	P	05 52 16.1	-0.1
XAN				pmax	pmax		
	comp=Z,26nm,1.7s						
R32A	Long Quarter,	88.76	49	IAmb	IAmb	05 52 18.3	
	comp=Z,23nm,0.9s						
KAN17	Caldwell West	88.96	51	IAmb	IAmb	05 52 20.5	
	comp=Z,24nm,1.2s						
W35A	Tecumseh	88.97	53	IAmb	IAmb	05 52 21.0	
	comp=Z,34nm,1.5s						
INK	Inuvik	89.10	14	P	P	05 52 17.1	-0.3
INK				pmax	pmax		
	comp=Z,21nm,1.3s						
INK	Inuvik	89.10	14	P	P	05 52 17.1	-0.3
INK				IAmb	IAmb	05 52 18.8	
	comp=Z,21nm,1.2s						
INK	Inuvik	89.10	14	P	P	05 52 17.5	+0.1
	baz=219						
DGMT	Dagmar	89.12	39	P	P	05 52 18.8	+0.7
DGMT	Dagmar	89.12	39	P	P	05 52 18.9	+0.7
	baz=244						
HHC	Hu-ho-hao-te	89.14	313	*e*P	P	05 52 20.3	+1.8
HHC				S	S	06 02 51.4	-3.5
HHC				pmax	pmax		
	comp=Z,21nm,1.3s						
HHC				pmax	pmax		
	comp=Z,270nm,7.4s						
HHC				LR	LR		
	comp=Z,810nm,21.8s						
HHC				LR	LR		
	comp=Z,440nm,19.0s						
HHC				LR	LR		
	comp=Z,2μm,22.7s						
KAN13	South Haven SW	89.16	51	IAmb	IAmb	05 52 21.1	
	comp=Z,28nm,1.3s						
BLOK	Blackwell	89.27	51	IAmb	IAmb	05 52 20.4	
	comp=Z,30nm,1.2s						
PLCA	Paso Flores	89.41	132	P	P	05 52 20.6	+0.8
	comp=Z,3.4nm,1.0s,baz=270,slow=4.1,SNR=5.7						
YAK	Yakutsk	89.58	337	*e*P	P	05 52 19.0	-0.8
YAK				pmax	pmax		
	comp=Z,18nm,1.3s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
TUL1	Leonard	90.06	53	P	P	05 52 22.5	-0.2
	baz=250						
YKA	Yellowknife Ar	90.97	24	P	P	05 52 26.3	0.0
	comp=E,6.2nm,1.1s,baz=238,slow=4.5,SNR=31						
YKA				pP	pP	05 53 03.1	-1.0
	comp=E,2.6nm,1.0s,baz=234,slow=4.6,SNR=4.1						
YKA				PKKPbc	PKKPdf	06 09 49.2	-0.2
	comp=E,0.2nm,0.6s,baz=38,slow=2.1,SNR=5.0						
W39A	Magazine	91.37	54	P	P	05 52 29.5	+0.7
	baz=251						
Z41A	Richland Creek	91.53	56	P	P	05 52 30.7	+1.1
	baz=252						
CD2	Chengdu	91.75	302	*e*P	P	05 52 31.0	+0.2
CD2				pmax	pmax		
	comp=E,10.0nm,0.5s						
SYO	Syowa Base	91.78	191	⇑*e*PcP	PcP	05 52 31.9	+1.0
X40A	Basin Creek Fa	91.88	55	P	P	05 52 31.2	0.0
	baz=252						
PEL	Peldehue	91.98	125	P	P	05 52 34.2	+2.3
PEL				pmax	pmax		
	comp=Z,16nm,0.9s						
PEL	Peldehue	91.98	125	P	P	05 52 34.2	+2.3
PEL				IAmb	IAmb	05 52 35.4	
	comp=Z,16nm,0.9s						
PZH	PanZhiHua	92.14	297	P	P	05 52 34.1	+1.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ECSD	EROS Data Cent	92.14	45	P	P	05 52 32.3	+0.1
	baz=250						
VNA3	Neumayer Olymp	92.18	175	P	P	05 52 31.9	-0.1
C36M	Paulatuk	92.20	16	IAmb	IAmb	05 52 33.0	
	comp=Z,15nm,1.2s						
C36M	Paulatuk	92.20	16	P	P	05 52 31.8	0.0
	baz=227						
SNAA	Sanae	92.20	177	P	P	05 52 32.2	0.0
SNAA	Sanae	92.20	177	*ce*P	P	05 52 31.6	-0.6
SNAA				pmax	pmax		
	comp=Z,14nm,1.0s						
SNAA	Sanae	92.20	177	P	P	05 52 32.2	0.0
SNAA				IAmb	IAmb	05 52 33.6	
	comp=Z,20nm,1.1s						
CMAR	Chiang Mai Arr	92.35	288	P	P	05 52 34.2	+0.4
	comp=Z,3.1nm,0.8s,baz=98,slow=2.9,SNR=25						
U40A	Yellville	92.45	53	P	P	05 52 33.7	-0.1
	baz=252						
S39A	Bolivar	92.51	52	IAmb	IAmb	05 52 35.3	
	comp=Z,15nm,1.2s						
W41B	Gary Mavity, V	92.55	54	P	P	05 52 35.1	+0.8
	baz=252						
VNA2	Neumayer--Watz	92.67	176	P	P	05 52 34.6	+0.3
	baz=170,slow=2.7						
FCAR	Ozark Folk Cen	92.87	54	IAmb	IAmb	05 52 37.1	
	comp=Z,28nm,1.5s						
VNA1	Neumayer--Stat	92.87	175	P	P	05 52 36.0	+0.8
NVL	N'lazarevskaya	93.23	182	*e*P	P	05 52 39.9	+3.1
NVL				pmax	pmax		
	comp=Z,38nm,1.5s						
NVL				pmax	pmax		
	comp=Z,16nm,0.8s						
NVL				pmax	pmax		
	comp=Z,16nm,1.0s						
NVL				pmax	pmax		
	comp=Z,22nm,1.4s						
NVL				pmax	pmax		
	comp=Z,61nm,1.1s						
NVL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NVL				pmax	pmax		
	comp=Z,14nm,1.0s						
NVL				pmax	pmax		
	comp=Z,17nm,1.2s						
NVL				pmax	pmax		
	comp=Z,25nm,0.6s						
NVL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LZH	Lanzhou	93.24	307	*e*P	P	05 52 38.4	+0.7
LZH				pmax	pmax		
	comp=Z,15nm,0.9s						
LCAR	Lake Charles	93.67	54	IAmb	IAmb	05 52 40.6	
	comp=Z,12nm,1.0s						
A36M	Sachs Harbour	93.73	14	P	P	05 52 39.1	+0.3
	baz=226						
T42A	Van Buren	94.00	53	IAmb	IAmb	05 52 41.7	
	comp=Z,13nm,1.1s						
P40A	Paris	94.02	50	IAmb	IAmb	05 52 41.9	
	comp=Z,18nm,1.1s						
AGMN	Agassiz Nation	94.18	41	IAmb	IAmb	05 52 41.8	
	comp=Z,19nm,1.2s						
AGMN	Agassiz Nation	94.18	41	P	P	05 52 40.3	-1.2
	baz=250						
CCM	Cathedral Cave	94.19	52	P	P	05 52 41.5	-0.3
CCM				pmax	pmax		
	comp=Z,13nm,1.3s						
CCM	Cathedral Cave	94.19	52	P	P	05 52 41.5	-0.3
CCM				IAmb	IAmb	05 52 42.9	
	comp=Z,13nm,1.2s						
CCM	Cathedral Cave	94.19	52	P	P	05 52 40.7	-1.0
	baz=253						
ULN	Ulaanbaatar	94.63	318	*ce*P	P	05 52 43.0	-0.8
ULN				pmax	pmax		
	comp=Z,11nm,2.5s						
ULM	Lac du Bonnet	94.82	39	P	P	05 52 43.7	-0.7
	comp=Z,1.8nm,0.5s,baz=270,slow=3.3,SNR=4.1						
ULM	Lac du Bonnet	94.82	39	IAmb	IAmb	05 52 44.2	
	comp=Z,18nm,1.4s						
F36A	Milaca	94.92	44	P	P	05 52 44.8	-0.1
F36A				IAmb	IAmb	05 52 45.9	
	comp=Z,13nm,1.0s						
SPMN	Marine on St.	95.20	45	P	P	05 52 46.0	-0.2
	baz=252						
TIXI	Tiksi	95.56	344	*ce*P	P	05 52 46.8	-0.4
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TIXI	Tiksi	95.56	344	P	P	05 52 46.6	-0.6
TIXI				IAmb	IAmb	05 52 49.5	
	comp=Z,15nm,1.6s						
WVT	Waverly	96.27	54	P	P	05 52 50.8	-0.5
	baz=255						
JFWS	Jewell Farm	96.30	47	P	P	05 52 51.2	-0.1
	baz=254						
HDIL	Hopedale	96.34	50	P	P	05 52 51.0	-0.5
	baz=254						
GTA	Gaotai	97.23	309	*e*P	Pdif	05 52 56.6	+0.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ZALV	Zalesovo Beam	109.48	322	PKiKP	PKiKP	05 57 51.5	-0.7
	comp=Z,0.8nm,0.5s,baz=101,slow=0.8,SNR=5.1						
MKAR	Makanchi Array	110.97	314	PKiKP	PKiKP	05 57 54.5	-0.7
	comp=Z,1.3nm,0.6s,baz=226,slow=0.6,SNR=14						
KURK	Kurchatov	113.35	319	*c i*PKiKP	PKiKP	05 57 59.4	-0.2
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BRVK	Borovoye	118.19	322	*c i*PKiKP	PKPdf	05 58 08.9	0.0
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
CHGR	Chuyangaron	120.82	306	PKPdf	PKPdf	05 58 14.1	-0.4
KBL	Kabul	121.08	301	PKiKP	PKPdf	05 58 15.2	-0.1
KBL	Kabul	121.08	301	PKPdf	PKPdf	05 58 15.2	-0.1
ARU	Arti	123.69	328	*i* PKiKP	PKiKP	05 58 20.0	+0.4
ARU						06 00 02.5	
ARU						06 05 17.2	
ARU				SS	SS	06 16 33.3	-6.3
ARU	Arti	123.69	328	PKPdf	PKPdf	05 58 19.3	0.0
ARCES	ARCESS Array B	125.26	352	PKP	PKPdf	05 58 21.9	-0.1
	comp=Z,13nm,0.7s,baz=7.3,slow=1.1,SNR=49						
ARCES				pPKP	pPKPdf	05 59 02.9	+1.5
	comp=Z,1.1nm,0.5s,baz=241,slow=1.2,SNR=1.2						
ARCES	ARCESS Array B	125.26	352		PKPdf	05 58 22.0	0.0
ABKAR	Akbulak array	125.44	319	PKPdf	PKPdf	05 58 22.2	-0.7
ABKAR	Akbulak array	125.44	319	PKPdf	PKPdf	05 58 22.4	-0.5
PRGR	Permogore	126.61	338	*e*PKiKP	PKPdf	05 58 22.8	-1.9
PRGR				pmax	pmax		
	comp=Z,55nm,1.5s						
KIRV	Kirov	126.96	333	*c i*PKiKP	PKiKP	05 58 26.0	0.0
KLMR	Klimovskoe	129.30	340	*e*PKiKP	PKPdf	05 58 28.6	-1.3
KLMR				pmax	pmax		
	comp=Z,29nm,1.4s						
KLMR	Klimovskoe	129.30	340	*e*PKPdf	PKPdf	05 58 28.7	-1.2
KLMR				AMP		05 58 30.6	
	comp=Z,29nm,1.4s						
BOSA	Boshof	131.80	203	PKP	PKiKP	05 58 37.3	+0.4
	comp=Z,5.6nm,1.0s,baz=181,slow=0.9,SNR=6.0						
FINES	FINESS Array B	132.54	347	PKP	PKiKP	05 58 36.8	-0.3
	comp=Z,5.1nm,0.6s,baz=25,slow=3.2,SNR=19						
OBN	Obninsk	134.57	336	*i* PKiKP	PKPdf	05 58 40.7	+0.7
OBN				*e*		05 59 20.2	
OBN				*e*		05 59 34.5	
OBN				*e*		06 01 13.5	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NB2	NORSAR Subarra	135.00	356	PKP	PKPdf	05 58 41.2	+0.4
	comp=Z,7.5nm,1.0s,baz=12,slow=4.0						
NOA	NORSAR Array B	135.00	356	PKP	PKPdf	05 58 41.2	+0.4
	comp=Z,2.6nm,0.9s,baz=14,slow=4.1,SNR=6.7						
NACGM	Naroch	138.12	342	*i* PKP	PKiKP	05 58 47.9	-0.8
KIV	Kislovodsk	138.42	320	*e*PKiKP	PKiKP	05 58 49.6	-0.2
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AKASG	Malin Array Be	140.81	337	PKhKP	PKPpre	05 58 44.9	
	comp=Z,1.6nm,0.7s,baz=36,slow=3.5,SNR=6.9						
AKASG	Malin Array Be	140.81	337	PKiKP	PKPdf	05 58 51.4	-0.3
AKASG	Malin Array Be	140.81	337	PKPdf	PKPdf	05 58 51.4	-0.3
AKBB	Malin Array Si	140.81	337	PKiKP	PKPdf	05 58 51.6	0.0
AKBB	Malin Array Si	140.81	337	PKPdf	PKPdf	05 58 51.6	0.0
LSZ	Lusaka	141.90	216	PKiKP	PKPdf	05 58 52.6	-2.3
LSZ	Lusaka	141.90	216		PKPdf	05 58 52.6	-2.3
RAYN	Ar Rayn	142.27	288	PKiKP	PKPdf	05 58 52.1	-3.1
RAYN	Ar Rayn	142.27	288	PKPdf	PKPdf	05 58 52.1	-3.1
TSUM	Tsumeb	143.10	198	PKPdf	PKPbc	05 58 54.2	+0.1
SORM	Soroca	143.20	335	⇓P	PKPab	05 58 51.7	-0.3
LVV	L'vov	143.38	340	*e*PKiKP	PKPbc	05 58 54.0	+0.2
KIBK	Kibwezi	143.45	243	PKPdf	PKPbc	05 58 55.7	+0.4
KWP	Kalwaria Pacla	143.95	342	*e*PKPdf	PKPbc	05 58 55.3	-0.2
KWP	Kalwaria Pacla	143.95	342	PKiKP	PKPbc	05 58 55.6	+0.1
KWP	Kalwaria Pacla	143.95	342		PKPbc	05 58 55.6	+0.1
OJC	Ojcow	144.23	345	*e*PKPdf	PKPab	05 58 55.8	-0.2
OJC	Ojcow	144.23	345	PKiKP	PKPbc	05 58 56.4	+0.1
OJC	Ojcow	144.23	345	PKPdf	PKPbc	05 58 56.4	0.0
KSP	Ksiaz	144.41	349	*e*PKPdf	PKPbc	05 58 56.8	0.0
CLL	Collm	144.47	352	⇓*i*PKiKP	PKPbc	05 58 57.0	0.0
CLL				*e*		06 02 18.0	
CLL				pmax	pmax		
	comp=Z,18nm,0.8s						
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLL	Collm	144.47	352	⇓*i*PKPdf	PKPbc	05 58 57.0	0.0
	comp=Z,18nm,0.8s						
CLL				*i* x	x	05 59 00.4	
	comp=Z,10.0nm,0.9s						
CLL				*i* PKiKP	PKiKP	05 59 02.1	+0.3
	comp=Z,17nm,1.0s						
CLL				*e*SKPdf	SKPdf	06 02 18.0	-0.6
CLL	Collm	144.47	352	PKPdf	PKPab	05 58 56.8	0.0
CHVC	Chvalec	144.70	349	*e*PKP	PKPab	05 58 57.5	-0.2
OSTC	Ostas	144.70	349	*e*PKP	PKPab	05 58 57.8	+0.1
KMBO	Kilima Mbogo	144.75	244	PKP	PKPdf	05 58 59.9	-0.1
	comp=Z,41nm,1.0s,baz=86,slow=3.3,SNR=52						
KMBO	Kilima Mbogo	144.75	244	PKiKP	PKPdf	05 59 00.0	-0.1
BRG	Berggiesshubel	144.77	351	*e*PKP	PKPbc	05 58 58.1	+0.1
BRG				Amp		05 58 59.7	
	comp=Z,19nm,1.1s						
BRG				*ex*	x	05 59 02.0	
BRG				Amp		05 59 04.0	
	comp=Z,12nm,1.1s						
BRG	Berggiesshubel	144.77	351	*e*PKiKP	PKPab	05 58 58.0	+0.1
BRG				pmax	pmax		
	comp=Z,19nm,1.1s						
BRG				pmax	pmax		
	comp=Z,12nm,1.2s						
BRG	Berggiesshubel	144.77	351	*e*PKPbc	PKPab	05 58 57.2	-0.8
	baz=9.1,slow=3.0						
UPC	Upice	144.78	349	*e*PKiKP	PKPbc	05 58 58.3	+0.2
UPC	Upice	144.78	349	*e*PKP	PKPbc

MORC	Moravsky Berou	145.17 347	ePKP	PKPbc	05 58 59.2	-0.2
MORC	Moravsky Berou	145.17 347		PKPbc	05 58 59.3	0.0
TESR	Tescani	145.19 335	⇓P	PKPab	05 58 59.9	+0.2
GHRR		145.24 334	⇑P	PKPbc	05 58 59.4	-0.2
UBBA	Unterbreizbach	145.25 356	ePKPbc	PKPbc	05 58 59.3	-0.1
	baz=9.1,slow=3.0					
MOX	Moxa	145.28 354	ePKPbc	PKPdf	05 58 59.1	-0.5
	baz=9.1,slow=3.0					
MOX			eL	L	07 17 53.7	
	comp=Z,299nm,21.7s					
LANS	Liptovska Anna	145.30 344	ePKIKP	PKPab	05 59 00.9	+0.9
LANS	Liptovska Anna	145.30 344	ePKP	PKPab	05 59 00.9	+0.9
PLN	Plauen	145.38 353	ePKPbc	PKPbc	05 59 00.0	+0.1
	baz=9.1,slow=3.0					
UCC	Uccle	145.39 2	PKP	PKPab	05 59 00.4	+0.2
WERD	Werda	145.40 353	ePKPbc	PKPbc	05 59 00.0	0.0
	baz=9.1,slow=3.0					
GAZ	Gaziantep	145.40 313	PKPdf	PKPdf	05 58 58.9	-1.4
BMR	Baia Mare	145.41 339	⇑P	PKPbc	05 59 00.3	+0.2
BMR	Baia Mare	145.41 339	⇑PKP2	PKPbc	05 59 00.3	+0.2
TANN	Tannenbergstha	145.41 353	ePKPbc	PKPdf	05 58 59.8	-0.1
	baz=9.1,slow=3.0					
BEBN	Eben Emael	145.42 0	PKP	PKPdf	05 58 59.7	-0.1
BNN	Bunyan	145.47 317		PKPab	05 59 01.7	+0.5
GUNZ	Gunzen	145.48 353	ePKPbc	PKPbc	05 59 00.4	+0.1
	baz=9.1,slow=3.0					
IZVR	Izvoarele	145.49 333	⇑P	PKPbc	05 59 00.6	+0.2
PRU	Pruhonice	145.54 350	ePKP2	PKPbc	05 59 00.6	+0.2
PRU	Pruhonice	145.54 350	ePKP	PKPbc	05 59 00.6	+0.2
WERN	Wernitzgruen	145.55 353	ePKPbc	PKPbc	05 59 00.6	+0.1
	baz=9.1,slow=3.0					
NKC	Novy Kostel	145.59 353	ePKP2	PKPdf	05 59 00.4	+0.2
NKC	Novy Kostel	145.59 353	ePKP	PKPdf	05 59 00.4	+0.2
CFR	Carcaliu	145.60 332	⇑P	PKPbc	05 59 00.7	-0.1
CFR	Carcaliu	145.60 332	⇑PKP2	PKPbc	05 59 00.7	-0.1
MEM	Membach	145.61 0	PKP	PKPbc	05 59 00.9	+0.3
MEM			pPKP	pPKPdf	05 59 39.7	+0.2
BTNL	Ternell	145.63 360	PKP	PKPbc	05 59 01.0	+0.3
BTNL			pPKP	pPKPdf	05 59 41.2	+1.6
BSTI	Sart Tilman	145.63 1	PKP	PKPab	05 59 01.5	+0.4
BSTI			PKiKP	PKiKP	05 59 05.8	+1.6
KECS	Kecovo	145.63 343	ePKP2	PKPbc	05 59 00.7	-0.1
KECS	Kecovo	145.63 343	ePKP	PKPbc	05 59 00.7	-0.1
AHRW	Bad Neuenahr-A	145.67 359	ePKPbc	PKPbc	05 59 00.9	+0.1
	baz=9.1,slow=3.0					
SNF	Seneffe	145.68 2	PKP	PKPab	05 59 01.3	0.0
VRI	Vrincioaia	145.68 334	⇑P	PKPdf	05 59 00.7	+0.3
VRI	Vrincioaia	145.68 334	⇑PKP2	PKPdf	05 59 00.7	+0.3
TPGR	Topolog	145.72 331	⇑P	PKPbc	05 59 01.3	+0.1
PLOR	Plostina	145.72 334	⇑P	PKPbc	05 59 01.0	-0.2
PLOR	Plostina	145.72 334	⇑PKP2	PKPbc	05 59 01.0	-0.2
BCLA	Clavier	145.79 1	PKPab	PKPab	05 59 01.6	-0.1
BCLA			pPKP	pPKPab	05 59 42.4	+2.3
BCLA			sPKP		05 59 56.1	
VRAC	Vranov	145.82 348	⇑P	PKPbc	05 59 01.4	+0.1
VRAC	Vranov	145.82 348	⇑PKP2	PKPbc	05 59 01.4	+0.1
VRAC	Vranov	145.82 348	ePKP	PKPbc	05 59 01.4	+0.1
BGES	Gesves	145.82 1	PKP	PKPbc	05 59 01.6	+0.4
BGES			pPKP	pPKPab	05 59 42.4	+2.2
BGES			sPKP		05 59 54.4	
BHOU	Houvegnez	145.87 0	PKP	PKPab	05 59 02.3	+0.2
BHOU			pPKP	pPKPab	05 59 40.2	-0.1
MANZ	Manzenberg	145.88 353	ePKPbc	PKPbc	05 59 01.4	-0.2
	baz=9.1,slow=3.0					
BMRD	Maredsous	145.90 1	PKP	PKPab	05 59 02.1	0.0
BMRD			PKiKP	PKiKP	05 59 05.5	+0.7
BMRD			pPKP	pPKPab	05 59 41.8	+1.4
PBCC	Pribram	145.92 351	ePKP	PKPbc	05 59 01.7	+0.1
TNS	Taunus Mts	145.94 357	ePKPbc	PKPbc	05 59 01.9	+0.1
	baz=9.1,slow=3.0					
JAVC	Velka Javorina	146.01 346	ePKP	PKPab	05 59 02.9	+0.2
TIRR	Tirgusor	146.03 331	⇓P	PKPdf	05 59 01.6	+0.6
TIRR	Tirgusor	146.03 331	⇓PKP2	PKPdf	05 59 01.6	+0.6
TREC	Trest	146.04 349	ePKP2	PKPbc	05 59 01.8	-0.2
TREC	Trest	146.04 349	ePKP	PKPbc	05 59 01.8	-0.2
RCHB	Rochefort	146.06 1	PKP	PKPbc	05 59 02.1	+0.2
RCHB			pPKP	pPKPab	05 59 40.9	-0.2
VYHS	Vyhne	146.07 345	ePKP2	PKPbc	05 59 02.2	+0.1
VYHS	Vyhne	146.07 345	ePKP	PKPbc	05 59 02.2	+0.1
HARR	Harsova	146.07 332	⇑P	PKPbc	05 59 02.0	-0.2
HARR	Harsova	146.07 332	⇑PKP2	PKPbc	05 59 02.0	-0.2
ROTZ	Rotzenmuhle	146.08 353	ePKPbc	PKPbc	05 59 02.1	0.0
	baz=9.1,slow=3.0					
KRUC	Moravsky	146.09 348	ePKP	PKPbc	05 59 01.9	-0.2
KOLL	Kolacno	146.10 345	ePKP	PKPab	05 59 02.9	-0.1
DOU	Dourbes	146.10 2	PKP	PKPbc	05 59 02.0	-0.2
DOU			x	x	05 59 15.4	
DOU			pPKP	pPKPdf	05 59 39.0	-1.3
DOPR	Dopca	146.15 336	⇑P	PKPdf	05 59 01.5	+0.2
NEHR	Nehoiu	146.21 334	⇑P	PKPbc	05 59 02.8	+0.1
GRF	Grafenberg Arr	146.27 354	eL	L	07 13 12.4	
	comp=Z,207nm,20.7s					
GRFO	Grafenberg	146.27 354	PKP2	PKPab	05 59 03.9	+0.3
GRFO	Grafenberg	146.27 354		PKPab	05 59 03.9	+0.3
MLR	Muntele Rosu	146.31 334	⇓P	PKPdf	05 59 01.8	+0.2
MLR	Muntele Rosu	146.31 334	⇓PKIKP	PKPdf	05 59 01.8	+0.2
MLR	Muntele Rosu	146.31 334	PKPdf	PKPdf	05 59 01.7	0.0
PSZ	Piszkesteto	146.31 343	⇑P	PKPbc	05 59 02.3	-0.6
PSZ	Piszkesteto	146.31 343	⇑PKP2	PKPbc	05 59 02.3	-0.6
PSZ	Piszkesteto	146.31 343	PKPdf	PKPdf	05 59 01.6	+0.1
PSZ	Piszkesteto	146.31 343	PKPDF	PKPdf	05 59 01.2	-0.4
PSZ	Piszkesteto	146.31 343	⇑PKPB		05 59 03.4	
ISR	Istrita	146.35 333	⇑P	PKPbc	05 59 02.5	-0.6
ISR	Istrita	146.35 333	⇑PKP2	PKPbc	05 59 02.5	-0.6
BRTR	Keskin Array B	146.39 320	PKPbc	PKPbc	05 59 03.2	-0.4
	comp=Z,13nm,0.8s,baz=103,slow=1.8,SNR=36					
BRTR			pPKPbc	pPKPab	05 59 43.1	+0.3
	comp=Z,9.9nm,1.0s,baz=129,slow=1.8,SNR=2.9					
BRTR	Keskin Array B	146.39 320	PKPdf	PKPdf	05 59 02.0	0.0
BRTR			PKPbc	PKPbc	05 59 04.1	+0.5
DRGR		146.44 339	⇑P	PKPbc	05 59 03.2	-0.1
DRGR		146.44 339	⇑PKP2	PKPbc	05 59 03.2	-0.1
KHC	Kasperske Hory	146.52 351	ePKP2	PKPdf	05 59 02.6	+0.8
KHC	Kasperske Hory	146.52 351	ePKP	PKPdf	05 59 02.6	+0.8
KHC			ePKP	pPKPab	05 59 43.0	0.0
KHC	Kasperske Hory	146.52 351		PKPdf	05 59 02.2	+0.5
MODS	Modra-Piesok	146.55 346	ePKP2	PKPab	05 59 04.8	0.0
MODS	Modra-Piesok	146.55 346	ePKP	PKPab	05 59 04.8	0.0
WLF	Walferdange	146.56 360	ePKPbc	PKPab	05 59 04.4	-0.3
	baz=9.1,slow=3.0					
WLF	Walferdange	146.56 360	PKP	PKPab	05 59 04.8	0.0
WLF			pPKP	pPKPab	05 59 43.5	+0.5
CKRC	Cesky Krumlov	146.71 350	ePKP	PKPdf	05 59 03.0	+0.9
VOIR		146.72 335	⇑P	PKPdf	05 59 03.3	+1.0
VOIR		146.72 335	⇑PKP2	PKPdf	05 59 03.3	+1.0
ZST	Bratislava	146.76 346	ePKP2	PKPbc	05 59 04.7	+0.6
ZST	Bratislava	146.76 346	ePKP	PKPbc	05 59 04.7	+0.6
GEC2	GERESS Array S	146.78 351	ePKPbc	PKPbc	05 59 04.4	+0.2
	baz=9.1,slow=3.0					
GEC2	GERESS Array S	146.78 351	PKPdf	PKPdf	05 59 02.7	+0.4
GEC2			PKPbc	PKPbc	05 59 05.0	+0.7
GERES	GERESS Array B	146.78 351	PKP	PKPdf	05 59 02.5	+0.2
	comp=Z,9.8nm,0.9s,baz=29,slow=2.2,SNR=32					
GERES			PKPbc	PKPbc	05 59 04.5	+0.2
	comp=Z,9.8nm,0.9s,baz=48,slow=2.0,SNR=44					
GERES			pPKPbc	pPKPab	05 59 44.2	+0.3
	comp=Z,3.2nm,0.9s,baz=120,slow=5.3,SNR=2.7					
GERES	GERESS Array B	146.78 351		PKPdf	05 59 00.6	-1.7
GERES			PKPbc	PKPbc	05 59 05.0	+0.7
ARR	Arges	146.94 336	⇑P	PKPbc	05 59 03.9	-0.9
BUD	Budapest	146.95 344	⇑PKPB		05 59 05.5	
BUD			PKPpB		05 59 07.9	
SIRR	Siria	147.25 340	⇑P	PKPdf	05 59 04.2	+1.1
CONA	Conrad Observa	147.28 348	eP	PKPdf	05 59 03.6	+0.4
	comp=Z,6.5nm,1.2s					
CONA			i P	PKPbc	05 59 06.7	+1.1
	comp=Z,34nm,1.1s,SNR=14					
SOP	Sopron	147.37 347	PKPDF	PKPdf	05 59 02.5	-0.6
SOP	Sopron	147.37 347	⇑PKPB		05 59 07.5	
MDUB	Mudurnu	147.39 323		PKPbc	05 59 06.7	+0.5
EGYH	Egyhazaskeszo	147.44 346	PKPDF	PKPbc	05 59 05.0	-1.0
EGYH	Egyhazaskeszo	147.44 346	⇑PKPB		05 59 07.3	
AMBH	Ambrzfalva	147.48 341	PKPDF	PKPbc	05 59 05.0	-1.1
AMBH			PKIKP	PKPab	05 59 08.8	+0.3
MPLH	Magyarpolny	147.62 345	PKPDF	PKPdf	05 59 02.0	-1.6
MPLH	Magyarpolny	147.62 345	⇑PKPB		05 59 07.1	
GZR	Gura Zlata	147.62 338	⇑P	PKPdf	05 59 04.9	+1.1
GZR	Gura Zlata	147.62 338	⇑PKIKP	PKPdf	05 59 04.9	+1.1
MOA	Molln	147.66 350	i P	PKPbc	05 59 07.5	+0.9
	comp=Z,18nm,1.0s,SNR=6.9					
FUR	Furstenfeldbru	147.77 353	ePKPbc	PKPbc	05 59 07.3	+0.4
	baz=9.1,slow=3.0					

BFO	Black Forest	147.84 357	PKIKP	PKPdf	05 59 04.2	+0.2
BFO					05 59 07.9	
BFO	Black Forest	147.84 357	ePKPbc	PKPbc	05 59 06.9	-0.2
	baz=9.1,slow=3.0					
BFO	Black Forest	147.84 357	PKPdf	PKPdf	05 59 04.2	+0.2
BFO			PKPbc	PKPbc	05 59 07.9	+0.8
BZS	Buzias	147.84 339	⇑P	PKPdf	05 59 04.5	+0.5
BZS	Buzias	147.84 339	⇑PKIKP	PKPdf	05 59 04.5	+0.5
ARSA	Arzberg	148.00 348	i P	PKPbc	05 59 08.0	+0.5
	comp=Z,20nm,1.4s,SNR=6.5					
HERR	Herculane	148.19 338	⇑P	PKPdf	05 59 05.2	+0.5
MORH	Mrgy, Hungar	148.22 343	eP	PKPdf	05 59 03.8	-0.8
UBR	Ueberruh	148.36 355	ePKPbc	PKPbc	05 59 08.3	-0.3
	baz=9.1,slow=3.0					
KOVH	Kovagotottos	148.48 344	PKPDF	PKPdf	05 59 03.6	-1.5
KOVH	Kovagotottos	148.48 344	⇑PKPB		05 59 06.2	
RETA	Reutte	148.49 354	i P	PKPbc	05 59 09.3	+0.4
	comp=Z,28nm,1.2s,SNR=7.0					
LODK	Lodwar	148.55 249	PKPdf	PKPdf	05 59 05.4	-0.8
LODK				PKPbc	05 59 10.1	0.0
WATA	Walderalm	148.55 353	eP	PKPdf	05 59 05.6	+0.2
	comp=Z,4.2nm,0.7s					
WATA			i P	PKPbc	05 59 09.6	+0.4
	comp=Z,20nm,0.7s,SNR=9.0					
KBA	Koelnbreinsper	148.56 350	eP	PKPbc	05 59 09.3	+0.1
	comp=Z,11nm,1.1s					
MOTA	Moosalm	148.60 353	i P	PKPbc	05 59 09.1	-0.2
	comp=Z,44nm,1.4s,SNR=9.5					
WTTA	Wattenberg	148.62 353	eP	PKPdf	05 59 05.2	-0.3
	comp=Z,4.3nm,0.9s					
WTTA			i P	PKPbc	05 59 10.0	+0.6
	comp=Z,25nm,0.7s,SNR=12					
SOKA	Soboth	148.64 348	eP	PKPdf	05 59 04.2	-1.2
	comp=Z,7.4nm,1.3s					
SOKA			i P	PKPbc	05 59 09.4	+0.1
	comp=Z,47nm,1.7s,SNR=12					
SQTA	Sankt Quirin	148.71 353	i P	PKPbc	05 59 10.1	+0.6
	comp=Z,45nm,1.4s,SNR=9.3					
DAVA	Damuels	148.77 355	i P	PKPbc	05 59 09.9	+0.2
	comp=Z,40nm,1.0s,SNR=7.3					
FRGS	Fruska Gora	148.84 341	⇑P	PKPdf	05 59 07.0	+1.3
FRGS	Fruska Gora	148.84 341	eP	PKPbc	05 59 09.1	-0.7
FRGS	Fruska Gora	148.84 341	eP	PKPbc	05 59 08.9	-0.9
KUBS	Kucevo	148.87 338	eP	PKPbc	05 59 08.6	-1.2
OBKA	Obir	148.90 349	eP	PKPbc	05 59 09.9	-0.1
	comp=Z,20nm,1.7s					
MYKA	Terra Mystica	148.94 350	eP	PKPdf	05 59 05.2	-0.7
	comp=Z,2.7nm,0.7s					
MYKA			i P	PKPbc	05 59 09.9	-0.1
	comp=Z,21nm,0.9s,SNR=6.8					
FETA	Feichten	148.96 354	eP	PKPdf	05 59 06.6	+0.5
	comp=Z,8.5nm,1.1s					
FETA			i P	PKiKP	05 59 11.0	-0.4
	comp=Z,55nm,1.4s,SNR=9.6					
ABTA	Abfaltersbach	149.01 351	eP	PKPdf	05 59 05.8	-0.3
	comp=Z,13nm,1.3s					
ABTA			i P	PKPbc	05 59 10.2	0.0
	comp=Z,33nm,0.9s,SNR=9.8					
ZOU	Zoufplan	149.12 351		PKPbc	05 59 10.5	-0.2
SVIS	Svilajnac	149.16 339	eP	PKPbc	05 59 10.9	+0.4
ZAGS	Zajecar	149.18 337	eP	PKPbc	05 59 09.2	-1.4
LJU	Ljubljana	149.35 348	eP	PKPbc	05 59 10.7	-0.3
CRES	Cresnjev	149.37 347	eP	PKPbc	05 59 10.7	-0.4
STAL	STALIGIAL	149.45 351	PKPdf	PKPdf	05 59 06.8	+0.1
TEKS	Tekeris	149.47 341	eP	PKPbc	05 59 09.9	-1.5
TEKS	Tekeris	149.47 341	eP	PKPbc	05 59 10.5	-0.9
TRUS	Trudelj	149.47 339	eP	PKPbc	05 59 11.6	+0.2
ZAPS	Zavoj	149.48 336	eP	PKiKP	05 59 13.3	+0.8
TUE	Stuetta	149.63 356		PKPdf	05 59 07.3	+0.2
TUE			PKPbc	PKiKP	05 59 12.7	-0.2
CEY	Cerknica	149.66 348	eP	PKPbc	05 59 11.0	-0.8
GRUS	Gruza	149.66 339	eP	PKPbc	05 59 12.3	+0.5
DIVS	Divibare	149.72 340	⇑P	PKPbc	05 59 12.0	-0.1
DIVS	Divibare	149.72 340	PKPdf	PKPdf	05 59 08.1	+0.9
DIVS				PKPbc	05 59 12.5	+0.4
DIVS	Divibare	149.72 340	eP	PKPbc	05 59 12.4	+0.4
VTS	Vitosha	149.78 334	⇑P	PKPdf	05 59 09.4	+1.9
VTS	Vitosha	149.78 334		PKPbc	05 59 12.8	+0.5
MRAK	Mrakovica	149.79 345	⇑i P	PKPbc	05 59 11.7	-0.5
CTI	Castel Tesino	149.81 352	PKP2	PKPbc	05 59 12.3	0.0
CTI	Castel Tesino	149.81 352		PKPbc	05 59 12.3	0.0
BLY	Banja Luka	149.97 344	⇑i P	PKPbc	05 59 12.3	-0.2
RIY	Rijeka	150.05 348	eP	PKPbc	05 59 12.6	-0.1
SELS	Selova	150.10 338	eP	PKPbc	05 59 12.9	0.0
BBLS	Lazići	150.12 340	eP	PKPbc	05 59 13.4	+0.4
BBLS	Lazići	150.12 340	eP	PKPbc	05 59 12.4	-0.6
IVAS	Ivanjica	150.13 339	eP	PKPbc	05 59 13.3	+0.2
BARS	Barje	150.18 336	eP	PKPdf	05 59 08.4	+0.5
BARS	Barje	150.18 336	eP	PKPbc	05 59 13.0	-0.1
BOSS	Bosilegrad	150.19 335	eP	PKPbc	05 59 11.5	-1.7
MGRS	Mrkonjic Grad	150.30 344	eP	PKiKP	05 59 14.3	+0.2
RUDO	Rudo	150.35 340	eP	PKPdf	05 59 10.5	+2.3
SALO	Salr	150.37 354		PKPbc	05 59 13.7	+0.2
SJES	Sjenica	150.47 339	eP	PKiKP	05 59 16.9	+2.3
MBAR	Mbarara	150.51 238	c i PKIKP	PKiKP	05 59 15.7	0.0
UPM	Unac-Piva	150.88 340	eP	PKPbc	05 59 14.4	-0.6
SSB	Saint Sauveur	150.91 2	PKIKP	PKiKP	05 59 15.8	+0.4
SSB	Saint Sauveur	150.91 2		PKiKP	05 59 15.8	+0.4
STIP	Stip	150.98 335	i P	PKPbc	05 59 14.5	-0.6
SKO	Skopje	151.05 336	i P	PKPbc	05 59 14.3	-0.9
VAY	Valandovo	151.13 334	i P	PKPbc	05 59 15.2	-0.1
BNI	Bardonecchia	151.16 359	PKIKP	PKiKP	05 59 16.5	+0.4
BNI	Bardonecchia	151.16 359		PKiKP	05 59 16.4	+0.4
BRY	Bratogost	151.26 341	eP	PKPbc	05 59 14.3	-1.5
PDG	Podgorica	151.45 339	⇑P	PKPdf	05 59 11.9	+2.0
PDG	Podgorica	151.45 339	eP	PKPbc	05 59 15.2	-0.9
PDG	Podgorica	151.45 339	PKPdf	PKPdf	05 59 10.4	+0.5
PDG			PKPab	PKPab	05 59 25.1	+0.3
TREB	Trebinje	151.49 341	eP	PKPbc	05 59 15.1	-1.1
STON	Ston	151.55 342	eP	PKPbc	05 59 14.0	-2.3
HCY	Herceg Novi	151.69 340	eP	PKPbc	05 59 16.4	-0.2
DRME	Dracevica, Mon	151.69 339	eP	PKPdf	05 59 10.3	+0.1
OHR	Ohrid	152.03 336	i P	PKPbc	05 59 17.6	+0.1
FNA	Florina	152.08 335	PKIKP	PKPbc	05 59 17.0	-0.6
FNA					05 59 27.6	
FNA	Florina	152.08 335		PKPbc	05 59 17.0	-0.6
FNA			PKPab	PKPab	05 59 27.6	0.0
MURB	Monte Urbino	152.40 350		PKPbc	05 59 18.1	-0.2
ESDC	Sonseca Array	154.96 19	PKP	PKPdf	05 59 15.9	+0.8
	comp=Z,1.6nm,0.9s,baz=350,slow=3.9,SNR=5.7					
ESDC			PKPbc	PKPbc	05 59 24.0	+0.1
	comp=Z,2.3nm,1.0s,baz=338,slow=3.0,SNR=5.6					
ESDC			PKPab	PKPab	05 59 40.6	+0.8
	comp=Z,8.5nm,1.2s,baz=320,slow=4.3,SNR=10					
ESDC	Sonseca Array	154.96 19		PKPdf	05 59 14.2	-0.9
ESDC				PKiKP	05 59 24.2	+0.2
ESDC			PKPab	PKPab	05 59 41.1	+1.3
LIC	Lamto	165.34 131	ePKP1	PKPdf	05 59 26.2	-1.1
	comp=Z,46nm,1.3s					
TIC	Toumodi	165.62 130	ePKP1	PKPdf	05 59 26.8	-0.7
KIC	Kosan Boka	165.64 131	ePKP1	PKPdf	05 59 27.0	-0.5
	comp=Z,19nm,1.2s					
DBIC	Dimbokro	165.76 130	PKP	PKPdf	05 59 27.1	-0.5
	comp=Z,8.5nm,1.1s,baz=91,slow=1.6,SNR=5.5					
TORD	Torodi Ar. Bea	174.84 124	PKP	PKPdf	05 59 31.7	-0.9
	comp=Z,6.5nm,1.0s,baz=334,slow=1.1,SNR=26					
TORD			pPKP	pPKPdf	06 00 12.1	-0.2
	comp=Z,1.5nm,1.0s,baz=333,slow=2.4,SNR=1.9					
TORD			PKPab	PKPab	06 01 08.0	+0.2
	comp=Z,1.2nm,0.9s,baz=221,slow=3.0,SNR=4.2					
TORD			pPKPab	pPKPab	06 01 48.8	+3.3
	comp=Z,2.2nm,1.0s,baz=267,slow=3.8,SNR=4.6					

*MAN **14** 05:40:58.0,3.°15N×126.°67E,h7km,mb4.7,ML3.6,MS3.5*
*NEIC **14** 05:41:01.7±1.0,3.°75N±0.°05×127.°01E±0.°10,h10km±1km, mb4.7/23, Error ellipse: s-maj=16.5km s-min=7.2km az=78.0*
*DJA **14** 05:41:04.3±0.7,4.°N±6.°×12.°7E±.°,h10km,M4.3/6,mb4.2/5, mB4.8/2,MLv4.3/6,Mw(mB)4.0/2*
*IDC **14** 05:41:06.8±4.5,3.°66N×126.°91E,h54km±44km,mb4.1/11, mb1 4.2/12,mb1mx4.0/35,mbtmp4.4/12,ML4.0/1,Error ellipse: s-maj=54.9km s-min=16.8km az=67.0*

ISC 14 05:41:04.8±0.5,**3.76N**±0.°05×**127.°02E**±0.°09,**h36**km,**n54,**
σ1§**15**/51,**mb4.5**/21,**1C-2D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.49 267		P	Pn	05 41 30.0	+1.0
DDMP	Don Marcelino,	2.67 331		⇑iP	Pn	05 41 45.7	+0.5
DDMP				eS	Sn	05 42 25.8	+9.5
TNTI	Ternate	2.99 173		P	Pn	05 41 52.2	+2.5
TNTI				S	Sn	05 42 28.3	+4.0
TNTI	Ternate	2.99 173			Pn	05 41 48.2	-1.5
DAV	Davao City (W)	3.58 337		Pn	Pn	05 41 56.9	-1.0
KCP	Kidapawan	3.75 329		⇓eP	Pn	05 42 03.5	+3.2
LBMI	Labuha	4.40 174		P	Pn	05 42 27.1	+18
BUKP	Musuan	4.53 335		⇓eP	Pn	05 42 23.1	+12
BUKP				eS	Sn	05 43 15.0	+13
GTOI	Gorontalo	5.07 232		P	Pn	05 42 22.1	+3.8
	13nm,1.1s						
SANI	Sanana	5.86 190		P	Pn	05 42 31.9	+2.7
	20nm,0.7s						
MRSI	Marisa	6.03 237		P	Pn	05 42 35.5	+4.0
	976nm58nm,0.6s						
SIJI	Sorong	6.26 137		P	Pn	05 42 36.5	+1.8
	3.9nm,0.3s,baz=347,slow=12,SNR=5.9						
LUWI	Luwuk	6.39 222		Pn	Pn	05 42 34.9	-1.5
TOLI2	Tolitoli	6.76 247		Pn	Pn	05 42 40.5	-1.1
FAKI	Fak Fak	8.45 142		Pn	Pn	05 43 03.6	-1.2
MYLDM	Lahad Datu	8.61 280		Pn	Pn	05 43 06.0	-0.9
MTN	Manton Dam	17.00 166			Pn	05 44 58.9	-0.9
KNRA	Kununurra	19.39 175		P	Pn	05 45 28.0	-1.1
KNRA				IAmb	IAmb	05 45 37.6	
	comp=Z,24nm,0.8s						
TPUB	Ta-pu	20.38 343		P	P	05 45 37.4	-1.2
TPUB				IAmb	IAmb	05 45 38.2	
	comp=Z,34nm,0.8s						
WB0	Warramunga Arr	24.48 163		P	P	05 46 19.8	-0.9
WRAB	Tennant Creek	24.62 163		P	P	05 46 21.9	-0.2
WRA	Warramunga Arr	24.63 163		P	P	05 46 21.7	-0.4
	comp=Z,8.1nm,0.7s,baz=344,slow=11,SNR=30						
WRA	Warramunga Arr	24.63 163		P	P	05 46 22.2	+0.1
WB2	Warramunga Arr	24.63 163		P	P	05 46 21.8	-0.3
WR0	Warramunga Arr	24.71 163		P	P	05 46 22.4	-0.3
WR0				IAmb	IAmb	05 46 30.5	
	comp=Z,31nm,0.8s						
ASAR	Alice Springs	28.08 166		P	P	05 46 52.8	-0.4
	comp=Z,0.6nm,0.5s,baz=343,slow=7.6,SNR=6.1						
CMAR	Chiang Mai Arr	31.10 300		P	P	05 47 20.1	0.0
	comp=Z,1.5nm,0.3s,baz=110,slow=6.9,SNR=7.4						
FORT	Forrest	34.36 178		P	P	05 47 48.8	+0.5
XAN	Xi'an	34.52 333		P	P	05 47 54.5	+4.7
XAN				pP	sP	05 48 03.0	-1.5
XAN				pmax	pmax		
	comp=Z,7.0nm,1.6s						
BJT	Baijiatuau	37.40 346		P	P	05 48 14.6	+0.3
BJT				IAmb	IAmb	05 48 17.1	
	comp=Z,8.8nm,0.7s						
STKA	Stephens Creek	38.06 160		P	P	05 48 20.0	0.0
	comp=Z,6.1nm,0.7s,baz=18,slow=9.1,SNR=3.0						
ARMA	Armidale	41.34 147		P	P	05 48 47.5	+0.1
ARMA				IAmb	IAmb	05 49 00.4	
	comp=Z,17nm,1.4s						
LSA	Lhasa	42.63 311		P	P	05 48 58.4	-0.1
ULN	Ulaanbaatar	47.18 342		P	P	05 49 34.2	+0.2
ULN				IAmb	IAmb	05 49 35.8	
	comp=Z,5.1nm,0.8s						
SONM	Songino Array	47.36 341		P	P	05 49 36.2	+0.8
	comp=Z,1.4nm,0.5s,baz=157,slow=8.9,SNR=20						
SONM	Songino Array	47.36 341		P	P	05 49 36.2	+0.8
MK31	Makanchi Array	57.69 325		P	P	05 50 52.3	+0.5
MK

KCP	**Kidapawan**	**1.69 322**	⇓*i*P	**Pn**	**05 56 05.3 -0.1**
KCP			*i* S	**Sn**	**05 56 29.4 +1.9**
CTBH	**Cotabato--PC H**	**2.43 310**	⇑*e*P	**Pn**	**05 56 14.3 -0.3**
CTBH			*i* S	**Sn**	**05 56 43.0 -1.1**
BUKP	**Musuan**	**2.44 334**	⇑*i*P	**Pn**	**05 56 15.8 +0.9**
BUKP			*e*S	**Sn**	**05 56 47.2 +2.6**
BIPH	**Bislig**	**2.51 5**	⇑*i*P	Pn	05 56 21.1 +5.3
BIPH			*i* S	**Sn**	**05 56 50.5 +4.4**
BUTP	**Butuan**	**3.32 351**	⇑*i*P	**Pn**	**05 56 30.0 +3.5**
PAGZ	**Pagadian**	**3.48 309**	⇑*i*P	**Pn**	**05 56 28.8 +0.1**
TNTI	**Ternate**	**5.02 166**	P	**Pn**	**05 56 49.6 +0.3**
94nm,0.8s					
TNTI	**Ternate**	**5.02 166**	Pn	**Pn**	**05 56 49.5 +0.3**
TNTI			Sn	**Sn**	**05 57 46.0 -0.1**
TNTI	**Ternate**	**5.02 166**	P	**Pn**	**05 56 49.1 -0.2**
GTOI	**Gorontalo**	**5.89 212**	P	**Pn**	**05 57 02.2 +1.1**
0.2nm522nm62nm,0.8s					
MRSI	**Marisa**	**6.64 219**	P	**Pn**	**05 57 12.8 +1.6**
878nm106nm,0.8s					
TOLI2	**Tolitoli**	**7.00 230**	Pn	**Pn**	**05 57 16.9 +0.7**
TOLI2			Sn	**Sn**	**05 58 34.7 +0.5**
TOLI2	**Tolitoli**	**7.00 230**	P	**Pn**	**05 57 16.8 +0.7**
MYLDM	**Lahad Datu**	**7.61 267**	Pn	**Pn**	**05 57 22.8 -1.6**
SANI	**Sanana**	**7.67 181**	P	**Pn**	**05 57 24.0 -1.2**
0.2nm1μm32nm,0.5s					
SANI	**Sanana**	**7.67 181**	P	**Pn**	**05 57 24.1 -1.2**
APSI	**Ampana**	**7.92 215**	P	Pn	05 57 38.6 +10
MPSI	**Mapaga**	**8.17 230**	P	Pn	05 57 40.2 +8.2
SIJI	**Sorong**	**8.28 142**	P	**Pn**	**05 57 32.7 -0.8**
1.1nm,0.3s,baz=235,slow=22,SNR=2.2					
FAKI	**Fak Fak**	**10.49 144**	P	**Pn**	**05 58 04.7 +1.1**
FAKI	**Fak Fak**	**10.49 144**		**Pn**	**05 58 03.4 -0.2**
FAKI	**Fak Fak**	**10.49 144**	P	**Pn**	**05 58 06.2 +2.6**
KAPI	**Kappang**	**12.37 211**	P	**Pn**	**05 58 30.2 +1.5**
0.7nm,0.3s,baz=37,slow=11,SNR=9.6					
KAPI	**Kappang**	**12.37 211**	Pn	**Pn**	**05 58 29.2 +0.5**
KAPI	**Kappang**	**12.37 211**	P	**Pn**	**05 58 29.7 +1.0**
SAMP	**Sagada Mountai**	**12.44 336**	⇓*e*P	P	05 58 42.8 +5.9
SBUM	**Sibu**	**14.24 258**	Pn	**Pn**	**05 58 52.6 -0.3**
SAUI	**Saumlaki**	**14.51 159**	Pn	**Pn**	**05 58 55.1 -1.3**
SOEI	**Soe**	**15.43 187**	Pn	**Pn**	**05 59 07.2 -0.9**
YULB	**Yu-li**	**18.23 346**	P	**P**	**05 59 36.9 -4.1**
YULB			IAmb	IAmb	05 59 46.4
comp=Z,67nm,1.4s					
YOJ	**Yonaguni jima**	**18.93 351**	P	**P**	**05 59 45.9 -2.7**
MTN	**Manton Dam**	**19.05 165**		**P**	**05 59 49.2 -0.8**
KDU	**Kakadu**	**19.29 161**	P	**Pn**	**05 59 55.5 +0.7**
SMRI	**Semarang**	**20.12 231**	P	**P**	**06 00 00.7 -0.9**
SMRI			IAmb	IAmb	06 00 25.5
comp=Z,32nm,0.8s					
KNRA	**Kununurra**	**21.37 173**	P	**P**	**06 00 15.4 +0.5**
KNRA			IAmb	IAmb	06 00 39.1
comp=Z,14nm,0.7s					
FITZ	**Fitzroy Crossi**	**23.62 181**	P	**P**	**06 00 38.5 +1.0**
comp=Z,1.7nm,0.4s,baz=333,slow=7.8					
PMG	**Port Moresby**	**25.76 125**	P	**P**	**06 00 55.0 -1.9**
PMG			IAmb	IAmb	06 00 57.4
comp=Z,14nm,0.8s					
COEN	**Coen**	**25.81 139**	P	**P**	**06 00 57.2 -0.2**
COEN			IAmb	IAmb	06 01 00.5
comp=Z,12nm,0.8s					
WB0	**Warramunga Arr**	**26.55 162**	P	**P**	**06 01 04.5 +0.5**
WB0			IAmb	IAmb	06 01 12.9
comp=Z,11nm,0.9s					
WRAB	**Tennant Creek**	**26.69 163**	P	**P**	**06 01 10.7 +5.4**
WRA	**Warramunga Arr**	**26.70 163**	P	**P**	**06 01 05.8 +0.5**
comp=Z,0.6nm,0.6s,baz=344,slow=10,SNR=4.8					
WRA	**Warramunga Arr**	**26.70 163**	P	**P**	**06 01 06.5 +1.2**
WB2	**Warramunga Arr**	**26.70 163**	P	**P**	**06 01 05.8 +0.4**
WR0	**Warramunga Arr**	**26.78 162**	P	**P**	**06 01 05.5 -0.5**
WR0			IAmb	IAmb	06 01 34.3
comp=Z,14nm,1.2s					
WHN	**Wuhan**	**27.11 337**	⇑P	P	06 01 19.3 +10
NJ2	**Nanjing**	**27.12 346**	*e*P	**P**	**06 01 09.9 +1.0**
NJ2			pmax	pmax	
comp=Z,7.0nm,0.5s					
QIS	**Mount Isa**	**29.23 153**	P	P	06 01 33.3 +5.4
comp=Z,9.8nm,1.0s					
CMAR	**Chiang Mai Arr**	**29.41 298**	ScP	**ScP**	**06 08 05.8 +0.7**
comp=Z,1.4nm,0.3s,baz=119,slow=1.8,SNR=4.4					
CMAR			LR	LR	06 14 05.3
comp=Z,121nm,21.1s,baz=265,slow=38					
MTSU	**Mount Surprise**	**29.69 143**	P	P	06 01 39.6 +7.6
comp=Z,8.3nm,0.9s					
ASAR	**Alice Springs**	**30.13 166**	P	**P**	**06 01 35.9 +0.1**
comp=Z,1.0nm,0.6s,baz=346,slow=7.2,SNR=18					
ASAR			ScP	**ScP**	**06 08 07.9 +0.6**
comp=Z,0.6nm,0.9s,baz=334,slow=4.2,SNR=4.9					
ASAR	**Alice Springs**	**30.13 166**	P	**P**	**06 01 34.6 -1.2**
PZH	**PanZhiHua**	**31.16 314**	P	**P**	**06 01 46.3 +1.3**
PZH			pmax	pmax	
comp=Z,10.0nm,0.5s					
PZH			pmax	pmax	
comp=Z,100nm,6.7s					
FORT	**Forrest**	**36.29 177**	P	**P**	**06 02 27.9 -1.3**
HHC	**Hu-ho-hao-te**	**37.38 342**	*e*P	**P**	**06 02 40.3 +1.8**
HHC			pmax	pmax	
comp=Z,11nm,1.0s					
HHC			pmax	pmax	
comp=Z,230nm,8.0s					
SHL	**Shillong**	**38.27 305**	P	**P**	**06 02 46.2 -0.1**
XLT	**XiLinHaoTe**	**39.09 348**	*e*P	**P**	**06 02 52.6 -0.2**
XLT			pP	pP	06 03 18.3 +1.2
XLT			sP	sP	06 03 30.8 +1.4
XLT			sS	sS	06 09 24.3 -1.7
XLT			LR	LR	
comp=N,580nm,16.4s					
XLT			LR	LR	
comp=E,520nm,18.1s					
EIDS	**Eidsvold**	**39.24 143**	P	**P**	**06 02 54.2 0.0**
EIDS			IAmb	IAmb	06 02 55.6
comp=Z,6.0nm,0.9s					
NWAO	**Narrogin (SRO)**	**39.30 192**	P	**P**	**06 02 55.0 +0.5**
BBOO	**Buckleboo**	**39.41 167**	P	**P**	**06 02 55.9 +0.5**
STKA	**Stephens Creek**	**40.14 159**	P	**P**	**06 03 03.6 +2.0**
comp=Z,2.8nm,0.6s,baz=30,slow=10,SNR=4.0					
STKA	**Stephens Creek**	**40.14 159**	P	**P**	**06 03 03.2 +1.6**
GTA	**Gaotai**	**41.14 329**	*e*P	**P**	**06 03 09.8 0.0**
GTA			pP	pP	06 03 21.4 -13
GTA			sP	pwP	06 03 25.0 -12
GTA			pmax	pmax	
comp=Z,2.0nm,0.7s					
SONM	**Songino Array**	**45.28 341**	P	**P**	**06 03 43.0 0.0**
comp=Z,0.6nm,0.9s,baz=154,slow=14,SNR=4.2					
WMQ	**Urumqi**	**50.81 325**	*e*P	**P**	**06 04 27.1 +1.5**
MK31	**Makanchi Array**	**55.63 325**	P	**P**	**06 05 00.4 -0.5**
MKAR	**Makanchi Array**	**55.63 325**	P	**P**	**06 04 60.0 -0.9**
comp=Z,2.6nm,0.8s,baz=127,slow=8.2,SNR=29					
MKAR	**Makanchi Array**	**55.63 325**	P	**P**	**06 05 00.2 -0.6**
MAKZ	**Makanchi**	**55.82 325**	P	**P**	**06 05 01.4 -0.7**
MAKZ			IAmb	IAmb	06 05 02.3
comp=Z,3.4nm,0.9s					
KSH	**Kashi**	**56.26 314**	P	**P**	**06 05 06.3 +0.7**
KSH			pmax	pmax	
comp=Z,5.0nm,1.4s					
DRK	**Karamyk**	**59.25 313**	P	**P**	**06 05 26.4 -0.3**
KURBB	**Kurchatov Arra**	**59.80 327**	P	**P**	**06 05 28.8 -1.0**
comp=Z,3.0nm,0.7s,baz=123,slow=6.1,SNR=11					
KURK	**Kurchatov**	**59.80 327**	P	**P**	**06 05 28.8 -1.0**
KURK			IAmb	IAmb	06 05 29.7
comp=Z,5.2nm,0.7s					
KBL	**Kabul**	**59.88 307**	P	**P**	**06 05 29.4 -1.6**
KBL			IAmb	IAmb	06 05 31.0
comp=Z,3.8nm,0.8s					
KKAR	**Karatay Array**	**61.42 317**	P	**P**	**06 05 40.1 -1.0**
BVAR	**Borovoye Array**	**65.38 327**	P	**P**	**06 06 06.1 -0.8**
comp=Z,1.8nm,0.7s,baz=106,slow=11,SNR=10					
BRVK	**Borovoye**	**65.45 327**	P	**P**	**06 06 06.6 -0.8**
BRVK			IAmb	IAmb	06 06 07.3
comp=Z,3.4nm,0.8s					
TIXI	**Tiksi**	**65.93 1**	P	**P**	**06 06 10.6 +0.6**
comp=Z,0.7nm,0.3s,baz=172,slow=3.0,SNR=7.9					
TIXI	**Tiksi**	**65.93 1**	P	**P**	**06 06 09.9 -0.2**
NRIK	**Noril'sk**	**68.42 346**	P	**P**	**06 06 25.6 -0.3**
comp=Z,2.0nm,0.6s,baz=162,slow=5.4,SNR=5.2					
NRIK	**Noril'sk**	**68.42 346**	P	**P**	**06 06 25.8 -0.1**
NRIK			IAmb	IAmb	06 06 26.7
comp=Z,5.1nm,1.0s					
ABKAR	**Akbulak array**	**70.28 320**	P	**P**	**06 06 36.6 -1.1**
ABKAR	**Akbulak array**	**70.28 320**	P	**P**	**06 06 36.7 -1.0**
ABKAR			IAmb	IAmb	06 06 37.5
comp=Z,10nm,1.9s					
AKTO	**Aktyubinsk**	**71.78 321**	P	**P**	**06 06 45.6 -1.2**
comp=Z,1.4nm,0.7s,baz=94,slow=8.9,SNR=7.1					
ARU	**Arti**	**72.99 328**	P	**P**	**06 06 52.5 -1.3**
comp=Z,0.9nm,0.3s,baz=58,slow=9.4,SNR=4.4					
ARU	**Arti**	**72.99 328**	P	**P**	**06 06 52.5 -1.3**
ARU			IAmb	IAmb	06 08 13.3
comp=Z,14nm,1.6s					
BELG	**Belogornoye**	**78.52 322**	P	**P**	**06 07 24.1 -1.3**
comp=Z,7.2nm,1.0s,baz=65,slow=6.1,SNR=4.0					
ILAR	**Eielson Array**	**83.62 26**	P	**P**	**06 07 52.0 -0.2**
comp=Z,1.1nm,1.0s,baz=232,slow=6.1,SNR=6.2					
BMAR	**Burnt Mountain**	**84.53 23**	P	**P**	**06 07 56.6 -0.3**
YKA	**Yellowknife Ar**	**97.99 24**	P	Pdif	06 09 00.2 +0.4
comp=Z,0.3nm,0.8s,baz=298,slow=4.7,SNR=3.2					
TORD	**Torodi Ar. Bea**	**121.74 289**	PKP	**PKPdf**	**06 14 18.2 -0.1**
comp=Z,1.2nm,0.7s,baz=44,slow=2.1,SNR=11					
TORD	**Torodi Ar. Bea**	**121.74 289**		**PKPdf**	**06 14 17.3 -1.0**

ROM 14 05:57:53.9±0.1, 41°.526N±0°.004×14°.614E±0°.005, h11km, ML1.3/3, Error ellipse: s-maj=0.3km s-min=0.3km az=180.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSO	**Busso**	**0.03**	**323**	P	Pg	05 57 56.2	+0.2
BSSO				S	Sg	05 57 58.0	+0.5
SACR	**S. Croce Del S**	**0.15**	**152**	P	Pg	05 57 57.7	+0.4
SACR				S	Sg	05 58 00.9	+1.1
GATE	**Gambatesa**	**0.22**	**93**	P	Pb	05 57 59.7	-0.3
GATE				S	Sg	05 58 02.9	+1.1
SGG	**Gregorio Mates**	**0.23**	**232**	P	Pg	05 57 58.9	+0.2
SGG				S	Sg	05 58 02.8	+0.9
SGG				AML	AML		
comp=E,81μm,1.6s							
SGG				AML	AML		
comp=N,117μm,0.7s							
SGG				AML	AML		
comp=N,117μm,0.7s							
TRIV	**Trivento**	**0.24**	**349**	P	Pb	05 57 59.7	-0.6
TRIV				S	Sg	05 58 04.0	+1.5
TRIV				AML	AML		
comp=E,180μm,1.6s							
TRIV				AML	AML		
comp=N,117μm,0.3s							
TRIV				AML	AML		
comp=E,181μm,1.6s							
TRIV				AML	AML		
comp=N,117μm,0.3s							
CIGN	**Sant'Elia a Pi**	**0.25**	**60**	P	Pb	05 57 59.9	-0.6
CIGN				S	Sg	05 58 03.5	+0.9
MIDA	**Miranda**	**0.29**	**293**	P	Pg	05 58 00.1	+0.2
MIDA				S	Sb	05 58 05.2	-1.0
MIDA				AML	AML		
comp=E,87μm,0.8s							
MIDA				AML	AML		
comp=N,87μm,1.5s							
MIDA				AML	AML		
comp=E,87μm,0.8s							
MIDA				AML	AML		
comp=N,88μm,1.5s							
VAGA	**Valle Agricola**	**0.31**	**249**	P	Pg	05 58 00.3	+0.2
VAGA				S	Sb	05 58 05.7	-0.8
VAGA				AML	AML		
comp=E,111μm,1.2s							
VAGA				AML	AML		
comp=E,111μm,1.2s							
VAGA				AML	AML		
comp=N,154μm,0.4s							
VITU	**Vitulano (BN)**	**0.34**	**178**	P	Pg	05 58 00.8	0.0
VITU				S	Sb	05 58 07.0	-0.5
RNI2	**Rionero Sannit**	**0.39**	**297**	P	Pg	05 58 01.8	+0.1
MELA	**Melanico ??? S**	**0.42**	**65**	P	Pg	05 58 02.1	-0.1
MELA				S	Sg	05 58 08.8	+0.9
MOCO	**Biccari - m.te**	**0.44**	**111**	P	Pb	05 58 03.2	-0.5
FRES	**Fresagrandinar**	**0.45**	**5**	P	Pg	05 58 02.7	0.0
FRES				S	Sg	05 58 09.5	+0.8
CERA	**Filignano**	**0.45**	**279**	P	Pg	05 58 02.8	0.0
LPEL	**Lama dei Pelig**	**0.61**	**328**	P	Pg	05 58 05.5	-0.4
LPEL				S	Sb	05 58 14.8	-0.5

ARE 14 06:05:49±2.8, 16°.1S±0°.1×72°.0W±0°.2, h12km±9km, ML4.1, Error ellipse: s-maj=23.3km s-min=15.3km az=121.0

NEIC 14 06:05:52.6±2.6, 16°.1S±0°.1×71°.9W±0°.2, h112km±36km, Error ellipse: s-maj=27.3km s-min=18.1km az=120.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.69**	**146**	Pn	Pn	06 06 33.0	-1.6
PB12	**IPOC Station P**	**2.90**	**148**		Pn	06 06 37.5	+0.1
PB16	**IPOC Station P**	**3.19**	**133**	Pn	Pn	06 06 39.5	-2.3
LPAZ	**La Paz**	**3.67**	**93**	Pn	Pn	06 06 48.0	-0.1
PB11	**IPOC Station P**	**4.21**	**149**		Pn	06 06 56.2	+1.2
TA02	**Huaiquique**	**4.45**	**158**	Pn	Pn	06 06 56.7	-1.4
TA01	**Diego Aracena**	**4.71**	**159**	Pn	Pn	06 07 02.1	+0.6
PB08	**IPOC Station P**	**4.78**	**147**		Pn	06 07 02.8	-0.1
PB01	**IPOC Station P**	**5.40**	**155**	Pn	Pn	06 07 11.7	+0.7
PB07	**IPOC Station P**	**5.89**	**161**	Pn	Pn	06 07 18.4	+0.8
PB04	**IPOC Station P**	**6.39**	**165**	Pn	Pn	06 07 22.8	-1.6
PB06	**IPOC Station P**	**6.90**	**161**	Pn	Pn	06 07 31.0	-0.3
LVC	**Limon Verde**	**7.04**	**156**	Pn	Pn	06 07 33.0	-0.4
PB10	**IPOC Station P**	**7.45**	**170**	Pn	Pn	06 07 37.5	-1.1
AC02	**Maricunga**	**10.96**	**167**	Pn	Pn	06 08 25.8	-0.8

IDC 14 06:07:53.6±2.6, 65°.29N×112°.57E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.2/50, mbtmp3.3/4, ML4.8/1, Error ellipse: s-maj=180.0km s-min=20.3km az=137.0, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**8.72**	**36**	Pn	Pn	06 09 58.4	-2.4
0.3nm,0.3s,baz=307,slow=8.0,SNR=2.1							
TIXI				Sn	Sn	06 11 34.7	-4.9
0.1nm,0.3s,baz=313,slow=17,SNR=1.4							
TIXI				Lg	Lg	06 12 21.4	
0.5nm,0.3s,baz=298,slow=18,SNR=6.8							
ZALV	**Zalesovo Beam**	**17.87**	**244**	P	Pn	06 12 03.5	+0.3
0.3nm,0.3s,baz=43,slow=8.7,SNR=3.6							
MKAR	**Makanchi Array**	**24.68**	**236**	P	P	06 13 15.7	-0.1
0.5nm,0.8s,baz=44,slow=7.7,SNR=5.2							
ILAR	**Eielson Array**	**38.11**	**43**	P	P	06 15 13.8	+0.2
0.3nm,0.7s,baz=308,slow=6.1,SNR=6.0							

IDC 14 06:37:33.9±1.4, 60°.17N×153°.28W, h128km±24km, mb3.2/3, mb1 3.4/7, mb1mx3.0/44, mbtmp3.7/7, Error ellipse: s-maj=35.6km s-min=11.1km az=110.0

NEIC 14 06:37:34.9±1.2, 60°.18N±0°.04×153°.36W±0°.08, h150km±4km, Error ellipse: s-maj=6.1km s-min=5.7km az=129.0

ANF 14 06:37:34.9±0.3, 60°.14N×153°.29W, h142km±3km, ML3.8/47, Error ellipse: s-maj=2.5km s-min=2.2km az=112.0

AEIC 14 06:37:35±1.1, 60°.17N±0°.04×153°.33W±0°.08, h148km±4km, ML3.5, ML3.6/125(NEIC), Error ellipse: s-maj=6.2km s-min=5.7km az=118.0

ISC 14 06:37:34.8±0.8, 60°.16N±0°.03×153°.31W±0°.03, h153km±5km, n243, σ0°.94/285, mb3.6/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.21**	**135**		**Pn**	**06 37 54.9**	**-0.8**
IVE					**Sn**	**06 38 10.7**	**-0.8**
ILS	**Iliamna Low So**	**0.24**	**150**		**Pn**	**06 37 55.8**	**+0.1**
O20K	**Slope Mountain**	**0.35**	**103**		**Pn**	**06 37 56.0**	**0.0**
O20K					**Sn**	**06 38 11.9**	**-0.2**
O20K	**Slope Mountain**	**0.35**	**103**	P	**Pn**	**06 37 56.0**	**0.0**
baz=284							
O20K				S	**Sn**	**06 38 11.5**	**-0.7**
baz=284							
RED	**Redoubt Volcan**	**0.37**	**46**		**Pn**	**06 37 55.7**	**-0.4**
RED					**Sn**	**06 38 11.3**	**-1.1**
RDWB	**Redoubt West**	**0.40**	**35**		**Pn**	**06 37 56.0**	**-0.3**
RDWB					**Sn**	**06 38 11.3**	**-1.5**
RSO	**Redoubt South**	**0.41**	**42**		**Pn**	**06 37 56.2**	**-0.1**
NCT	**North Crescent**	**0.44**	**25**		**Pn**	**06 37 56.3**	**-0.1**
NCT					**Sn**	**06 38 11.6**	**-1.3**
REF	**Redoubt East F**	**0.45**	**42**		**Pn**	**06 37 56.2**	**-0.3**
RDJH	**Redoubt Jeurge**	**0.50**	**30**		**Pn**	**06 37 56.4**	**-0.3**
RDJH					**Sn**	**06 38 12.5**	**-1.0**
OPT	**Oil Point**	**0.51**	**176**		**Pn**	**06 37 56.6**	**-0.1**
DFR	**Drift River**	**0.53**	**35**		**Pn**	**06 37 56.4**	**-0.4**
DFR					**Sn**	**06 38 12.8**	**-0.8**
AUL	**Augustine Lava**	**0.78**	**185**		**Pn**	**06 37 58.4**	**+0.2**
AUL					**Sn**	**06 38 16.1**	**0.0**
AU22	**Augustine Moun**	**0.79**	**182**		**Pn**	**06 37 58.3**	**0.0**
AU22					**Sn**	**06 38 15.9**	**-0.3**
AUW	**Augustine West**	**0.80**	**186**		**Pn**	**06 37 58.6**	**+0.3**
AGU	**Augustine-Summ**	**0.81**	**185**		**Pn**	**06 37 58.5**	**-0.1**
AUQ	**Augustine Qik'**	**0.81**	**184**		**Pn**	**06 37 58.6**	**+0.1**
N19K	**Bonanza Creek**	**0.88**	**319**		**Pn**	**06 37 58.5**	**-0.5**
N19K				Sn	**Sn**	**06 38 15.8**	**-1.7**
N19K	**Bonanza Creek**	**0.88**	**319**	P	**Pn**	**06 37 58.5**	**-0.5**
baz=138							
N19K				S	**Sn**	**06 38 15.9**	**-1.7**
baz=138							
HOM	**Homer**	**0.98**	**120**		**Pn**	**06 38 00.0**	**+0.3**
HOM					**Sn**	**06 38 18.6**	**0.0**
HOM				IAML		06 38 19.7	
comp=N,1μm,0.5s							
HOM	**Homer**	**0.98**	**120**	P	**Pn**	**06 37 60.0**	**+0.3**
baz=302,SNR=9.9							
HOM				S	**Sn**	**06 38 18.1**	**-0.5**
baz=302							
O18K	**Koktuh Hills**	**1.00**	**253**		**Pn**	**06 37 59.5**	**-0.4**
O18K	**Koktuh Hills**	**1.00**	**253**	P	**Pn**	**06 37 59.5**	**-0.4**
baz=71							
O18K				S	**Sn**	**06 38 17.5**	**-1.7**
baz=71							
SPCR	**Spurr Chakacha**	**1.17**	**27**		**Pn**	**06 38 01.5**	**0.0**
SPCR	**Spurr Chakacha**	**1.17**	**27**	P	**Pn**	**06 38 01.4**	**-0.1**
baz=208							
SPCR				S	**Sn**	**06 38 20.8**	**-1.2**
baz=208							
SPU	**Mount Spurr**	**1.20**	**31**		**Pn**	**06 38 01.6**	**0.0**
SPCN	**Chakachatna No**	**1.20**	**27**		**Pn**	**06 38 02.0**	**+0.3**
CNPM	**China Poot**	**1.23**	**120**		**Pn**	**06 38 02.1**	**+0.2**
CNPM				IAML		06 38 02.8	
comp=N,664nm,0.3s							
CNPM				IAML		06 38 03.0	
comp=E,639nm,0.5s							
CAPN	**Captain Cook N**	**1.23**	**59**		**Pn**	**06 38 03.5**	**+1.6**
CAPN				IAML		06 38 26.4	
comp=E,2μm,0.5s							
CAPN	**Captain Cook N**	**1.23**	**59**	P	**Pn**	**06 38 03.3**	**+1.5**
baz=242							
CAPN				S	**Sn**	**06 38 24.5**	**+1.9**
baz=242							
P18K	**Big Mountain,**	**1.24**	**232**		**Pn**	**06 38 01.6**	**-0.6**
P18K					**Sn**	**06 38 20.9**	**-2.0**
P18K	**Big Mountain,**	**1.24**	**232**	P	**Pn**	**06 38 01.5**	**-0.6**
baz=50							
P18K				S	**Sn**	**06 38 20.7**	**-2.2**
baz=50							
SPNN	**North Nagishla**	**1.25**	**14**		**Pn**	**06 38 02.3**	**+0.1**
Q19K	**Cape Douglas,**	**1.25**	**188**		**Pn**	**06 38 02.1**	**-0.1**
Q19K				Sn	**Sn**	**06 38 22.3**	**-0.7**
Q19K				IAML		06 38 27.7	
comp=N,935nm,0.9s							
Q19K				IAML		06 38 31.7	
comp=E,1μm,0.8s							
Q19K	**Cape Douglas,**	**1.25**	**188**	P	**Pn**	**06 38 02.0**	**-0.1**
baz=7.2,SNR=18							
Q19K				S	**Sn**	**06 38 22.0**	**-1.0**
baz=7.2							
BRLK	**Bradley Lake**	**1.28**	**107**		**Pn**	**06 38 02.8**	**+0.3**
BRLK				Sn	**Sn**	**06 38 22.8**	**-0.8**
BRLK				IAML		06 38 23.9	
comp=E,1μm,0.3s							
SPCG	**Spurr Capps Gl**	**1.30**	**29**		**Pn**	**06 38 02.7**	**0.0**
BRSE	**Bradley Lake S**	**1.36**	**107**		**Pn**	**06 38 03.2**	**+0.1**
BRSE					**Sn**	**06 38 23.6**	**-1.3**
BRSE	**Bradley Lake S**	**1.36**	**107**	P	**Pn**	**06 38 03.1**	**-0.1**
baz=289,SNR=96							
BRSE				S	**Sn**	**06 38 23.4**	**-1.5**
baz=289							
SVW2	**Sparrevohn**	**1.46**	**311**		**Pn**	**06 38 03.7**	**-0.5**
STLK	**Strandline Lak**	**1.52**	**28**		**Pn**	**06 38 05.0**	**+0.1**
SLKM	**Skilak Lake**	**1.57**	**76**		**Pn**	**06 38 04.8**	**-0.6**
FIS	**Fire Island**	**1.81**	**56**		**Pn**	**06 38 08.5**	**+0.6**
FIS				IAML		06 38 36.6	
comp=E,1μm,0.6s							
SEW	**Seward**	**1.93**	**90**		**Pn**	**06 38 09.1**	**-0.1**
SEW	**Seward**	**1.93**	**90**	P	**Pn**	**06 38 09.1**	**-0.1**
baz=274,SNR=7.8							
SEW				S	**Sn**	**06 38 33.4**	**-2.3**
baz=274							
RC01	**Rabbit Creek A**	**1.99**	**61**		**Pn**	**06 38 09.4**	**-0.6**
RC01				IAML		06 38 36.9	
comp=N,912nm,0.4s							
RC01				IAML		06 38 37.6	
comp=E,599nm,0.2s							
RC01	**Rabbit Creek A**	**1.99**	**61**	P	**Pn**	**06 38 09.3**	**-0.6**
baz=244,SNR=6.4							
RC01				S	**Sn**	**06 38 35.8**	**-1.2**
baz=244							
SKT	**Skwentna**	**2.02**	**25**		**Pn**	**06 38 10.3**	**0.0**
SKT	**Skwentna**	**2.02**	**25**	P	**Pn**	**06 38 10.3**	**0.0**
baz=206							
SKT				S	**Sn**	**06 38 37.2**	**-0.5**
baz=206							
KABU	**Katmai Buttres**	**2.15**	**209**		**Pn**	**06 38 12.3**	**+0.3**
L19K	**White Mountain**	**2.16**	**340**		**Pn**	**06 38 11.6**	**-0.3**
L19K	**White Mountain**	**2.16**	**340**	P	**Pn**	**06 38 11.7**	**-0.3**
baz=159,SNR=24							
L19K				S	**Sn**	**06 38 39.5**	**-1.2**
baz=159							
M22K	**Willow**	**2.23**	**43**		**Pn**	**06 38 12.4**	**-0.3**
M22K				IAML		06 38 48.7	
comp=E,795nm,0.5s							
M22K	**Willow**	**2.23**	**43**	P	**Pn**	**06 38 12.4**	**-0.3**
baz=226							
M22K				S	**Sn**	**06 38 41.4**	**-0.6**
baz=226							
L20K	**Farewell, AK**	**2.34**	**353**		**Pn**	**06 38 14.3**	**+0.2**
KDAK	**Kodiak Island**	**2.42**	**171**	P	**Pn**	**06 38 13.8**	**-1.3**
comp=E,4.0n

SML IAML 06 38 56.5
comp=E,230nm,0.4s
SML IAML 06 38 57.0
comp=N,352nm,0.3s
SML Sawmill 2.93 54 P Pn 06 38 20.2 -1.2
baz=238,SNR=5.0
SML S **Sn 06 38 54.5 -3.1**
baz=238
OHAK Old Harbor 2.95 180 Pn 06 38 20.0 -1.7
OHAK IAML 06 38 55.7
comp=E,247nm,0.2s
OHAK IAML 06 38 56.2
comp=N,210nm,0.3s
OHAK Old Harbor 2.95 180 P **Pn 06 38 19.9 -1.7**
baz=360
OHAK S **Sn 06 38 54.2 -3.6**
baz=360
TT01 Tatalina 3.05 336 Pn 06 38 22.4 -0.4
TTA Tatalina 3.06 336 Pn 06 38 23.2 +0.1
TTA Tatalina 3.06 336 P **Pn 06 38 22.6 -0.5**
baz=154,SNR=7.1
TTA S **Sn 06 38 59.5 -1.1**
baz=154
GLI Glacier Island 3.15 74 Pn 06 38 24.0 -0.3
GLI IAML 06 39 01.9
comp=E,215nm,0.3s
GLI IAML 06 39 02.9
comp=N,197nm,0.3s
GLI Glacier Island 3.15 74 P **Pn 06 38 23.9 -0.3**
baz=260
GLI S **Sn 06 39 00.1 -2.4**
baz=260
K20K Telida 3.23 354 Pn 06 38 25.4 +0.3
K20K Telida 3.23 354 P **Pn 06 38 25.4 +0.3**
baz=173
CAST Castle Rocks 3.32 10 Pn 06 38 26.5 +0.2
CAST Castle Rocks 3.32 10 P **Pn 06 38 26.5 +0.2**
baz=191,SNR=41
SCM Sheep Creek Mo 3.36 57 Pn 06 38 26.1 -0.8
SCM IAML 06 39 07.6
comp=E,259nm,0.8s
SCM IAML 06 39 08.0
comp=N,242nm,0.9s
SCM Sheep Creek Mo 3.36 57 P **Pn 06 38 25.7 -1.2**
baz=243,SNR=6.4
SCM S **Sn 06 39 05.6 -1.7**
baz=243
JPK Jack Peak 3.43 72 Pn 06 38 28.2 +0.5
WAT7 Susitna Watana 3.43 37 Pn 06 38 27.5 -0.3
FID Port Fidalgo 3.43 77 Pn 06 38 27.2 -0.6
KTH Kantishna Hill 3.59 17 Pn 06 38 29.5 -0.3
Q23K Middleton Isla 3.59 99 Pn 06 38 29.9 +0.1
Q23K IAML 06 39 00.3
comp=E,238nm,3.6s
Q23K IAML 06 39 58.3
comp=N,236nm,3.4s
Q23K Middleton Isla 3.59 99 P **Pn 06 38 29.3 -0.5**
baz=285
MID Middleton Isla 3.60 99 Pn 06 38 30.0 +0.2
MID IAML 06 39 58.4
comp=N,204nm,3.4s
TRF Thorofare Moun 3.60 22 Pn **Pn 06 38 29.9 -0.1**
TRF IAML 06 39 12.4
comp=E,45nm,0.4s
TRF IAML 06 39 12.6
comp=N,52nm,0.5s
TRF Thorofare Moun 3.60 22 P **Pn 06 38 29.9 -0.1**
baz=205,SNR=24
TRF S **Sn 06 39 10.3 -2.5**
baz=205
WAT6 Susitna Watana 3.62 45 Pn 06 38 29.4 -0.8
WAT6 Susitna Watana 3.62 45 P **Pn 06 38 29.4 -0.8**
baz=230,SNR=21
WAT6 S **Sn 06 39 10.5 -2.8**
baz=230
SII Sitkinak Islan 3.64 188 Pn 06 38 29.0 -1.5
SII IAML 06 39 13.1
comp=N,195nm,0.6s
SII IAML 06 39 22.2
comp=E,232nm,0.7s
SII Sitkinak Islan 3.64 188 P **Pn 06 38 29.0 -1.5**
baz=6.7
CHUM Lake Minchumin 3.76 7 Pn 06 38 32.1 +0.2
CHUM Lake Minchumin 3.76 7 P **Pn 06 38 32.0 +0.1**
baz=188,SNR=12
EYAK Cordova Ski Ar 3.77 81 Pn 06 38 32.2 +0.1
EYAK Cordova Ski Ar 3.77 81 P **Pn 06 38 32.1 +0.1**
baz=268
DIV Divide 3.83 72 Pn 06 38 32.5 -0.5
KLU Klutina 3.85 67 Pn 06 38 32.4 -0.9
KLU Klutina 3.85 67 P **Pn 06 38 32.3 -0.9**
baz=253,SNR=7.7
RND Reindeer 3.88 31 Pn 06 38 33.1 -0.5
M24K Tolsona, Glenn 3.97 57 Pn 06 38 34.4 -0.3
M24K Tolsona, Glenn 3.97 57 P **Pn 06 38 34.4 -0.3**
baz=244,SNR=8.1
J20K Nowinta River 4.05 355 Pn 06 38 36.1 +0.4
J20K Nowinta River 4.05 355 P **Pn 06 38 36.1 +0.4**
baz=174
DHY Denali Highway 4.07 42 Pn 06 38 35.7 -0.4
DHY IAML 06 39 25.0
comp=E,79nm,0.3s
DHY IAML 06 39 26.6
comp=N,70nm,0.5s
DHY Denali Highway 4.07 42 P **Pn 06 38 35.5 -0.5**
baz=227,SNR=30
BPAW Bear Paw Mtn. 4.10 14 Pn 06 38 36.1 -0.2
BPAW Bear Paw Mtn. 4.10 14 P **Pn 06 38 35.6 -0.7**
baz=197,SNR=22
MCK McKinley 4.13 28 Pn 06 38 36.9 +0.1
MCK McKinley 4.13 28 P **Pn 06 38 36.5 -0.3**
baz=212,SNR=31
PS12 TAPS Pump St12 4.21 68 Pn 06 38 37.7 -0.1
PS11 TAPS Pump St11 4.26 60 Pn 06 38 38.3 -0.1
GOAT Goat Mountain 4.28 81 Pn 06 38 39.1 +0.3
BMRM Bremner River 4.37 76 Pn 06 38 40.0 0.0
BMRM IAML 06 39 29.9
comp=E,108nm,0.4s
BMRM Bremner River 4.37 76 P **Pn 06 38 39.9 0.0**
baz=263
BWN Browne 4.41 22 Pn 06 38 40.5 +0.1
BWN IAML 06 40 06.0
comp=E,40nm,3.2s
BWN IAML 06 40 10.0
comp=N,46nm,2.3s
KAIM Kayak Island 4.46 89 Pn 06 38 41.5 +0.4
KAIM Kayak Island 4.46 89 P **Pn 06 38 41.7 +0.6**
baz=277
N25K Chitina, Valde 4.50 67 Pn 06 38 42.4 +0.8
N25K Chitina, Valde 4.50 67 P **Pn 06 38 41.0 -0.6**
baz=255
HMT Hamilton 4.51 84 Pn 06 38 41.8 0.0
CHIR Chirikof Islan 4.52 197 Pn 06 38 39.9 -2.0
CHIR IAML 06 39 31.3
comp=N,74nm,0.4s
CHIR IAML 06 40 02.9
comp=E,69nm,3.7s
CHIR Chirikof Islan 4.52 197 P **Pn 06 38 40.1 -1.8**
baz=15
HARP HAARP 4.53 57 Pn 06 38 42.0 0.0
HARP HAARP 4.53 57 P **Pn 06 38 41.6 -0.3**
baz=244
NICHA Nichawak Mount 4.66 85 Pn 06 38 44.0 +0.2
PAX Paxson 4.69 50 Pn 06 38 43.9 -0.2
PAX Paxson 4.69 50 P **Pn 06 38 43.9 -0.2**
baz=237,SNR=16
CHGN Chignik 4.72 217 Pn 06 38 44.1 -0.4
CHGN IAML 06 39 23.8
comp=E,40nm,2.9s
CHGN Chignik 4.72 217 P **Pn 06 38 43.9 -0.6**
baz=32,SNR=9.2
BERG Berg Lake 4.79 83 Pn 06 38 45.3 -0.1
GLB Gilahina Butte 4.83 70 Pn 06 38 46.5 +0.6
GLB IAML 06 39 42.3
comp=E,66nm,0.6s
GLB IAML 06 39 43.7
comp=N,68nm,0.7s
PS10 TAPS Pump St10 4.85 44 Pn 06 38 47.1 +0.9
NEA2 Nenana 4.87 22 Pn 06 38 45.8 -0.6
NEA2 Nenana 4.87 22 P **Pn 06 38 45.8 -0.6**
baz=206,SNR=85
VRDI Verde Repeater 4.96 73 Pn 06 38 48.1 +0.3
VRDI IAML 06 39 45.4
comp=E,65nm,0.6s
WRH Wood River Hil 4.96 27 Pn 06 38 47.0 -0.6
WRH IAML 06 41 10.7
comp=E,21nm,4.1s
WRH IAML 06 41 53.7
comp=N,18nm,4.3s
GRIN Grindle Hills 4.98 84 Pn 06 38 48.0 0.0
KHIT Khitrov Hills 5.01 82 Pn 06 38 48.3 -0.2
I21K Tanana 5.08 6 Pn 06 38 48.9 -0.2
I21K IAML 06 40 38.5
comp=E,17nm,3.3s
I21K IAML 06 40 40.7
comp=N,23nm,4.0s
I21K Tanana 5.08 6 P **Pn 06 38 48.9 -0.2**
baz=188
CCB Clear Creek Bu 5.18 27 Pn 06 38 49.9 -0.5
CCB IAML 06 39 51.9
comp=N,14nm,1.7s
HDA Harding Lake 5.19 32 Pn 06 38 50.5 -0.2
HDA IAML 06 39 49.4
comp=E,55nm,0.5s
HDA Harding Lake 5.19 32 P **Pn 06 38 50.3 -0.4**
baz=218,SNR=76
WAX Waxell Ridge 5.21 82 Pn 06 38 51.2 +0.2
TGL Tana Glacier 5.22 79 Pn **Pn 06 38 51.7 +0.5**
SNH Sunshine Point 5.23 85 Pn 06 38 51.5 +0.2
I23K Minto, Yukon-K 5.33 18 Pn 06 38 51.7 -0.7
I23K IAML 06 39 37.4
comp=N,16nm,4.5s
I23K IAML 06 41 04.4
comp=E,15nm,4.1s
I23K Minto, Yukon-K 5.33 18 P **Pn 06 38 51.7 -0.7**
baz=202,SNR=111
PS08 TAPS Pump Stn8 5.33 32 Pn 06 38 52.0 -0.5
MDM Murphy Dome 5.36 24 Pn 06 38 52.4 -0.5
MDM IAML 06 39 49.2
comp=E,14nm,4.0s
MDM IAML 06 40 14.1
comp=N,16nm,4.4s
TCOL CIGO, UAF Yank 5.36 26 Pn 06 38 52.6 -0.3
TCOL IAML 06 39 57.0
comp=E,45nm,0.6s
TCOL IAML 06 39 59.0
comp=N,50nm,0.6s
TCOL CIGO, UAF Yank 5.36 26 P **Pn 06 38 52.4 -0.4**
baz=211,SNR=40
COLA College 5.36 26 Pn 06 38 52.1 -0.8
COLA College 5.36 26 IAML 06 39 57.1
comp=N,52nm,0.7s
COLA IAML 06 40 00.1
comp=N,50nm,0.5s
COLA College 5.36 26 P **Pn 06 38 52.4 -0.5**
baz=211
RIDG Independent Ri 5.37 44 Pn 06 38 53.3 +0.2
RIDG IAML 06 39 53.0
comp=E,39nm,0.6s
RIDG IAML 06 39 57.9
comp=N,37nm,0.5s
RIDG Independent Ri 5.37 44 P **Pn 06 38 53.2 +0.1**
baz=232,SNR=29
PTPK Patty Peak 5.43 74 Pn 06 38 55.2 +1.2
M26K Nabesna, AK 5.46 61 Pn 06 38 54.7 +0.4
M26K Nabesna, AK 5.46 61 P **Pn 06 38 54.5 +0.3**
baz=250
KIAG Kiagna River 5.46 77 Pn 06 38 55.0 +0.6
ISLE Juniper Island 5.46 81 Pn 06 38 55.0 +0.6
BALM Baldy 5.47 76 Pn 06 38 55.2 +0.6
IL15 Eielson Array 5.49 30 Pn 06 38 53.8 -0.8
IL31 5.50 30 Pn 06 38 54.3 -0.4
ILAR Eielson Array 5.50 30 P **Pn 06 38 54.0 -0.8**
comp=N,11nm,0.3s,baz=214,slow=13,SNR=638
ILAR S **Sn 06 39 54.8 -2.5**
comp=N,2.9nm,0.3s,baz=213,slow=23,SNR=11
ILAR Eielson Array 5.50 30 Pn **Pn 06 38 53.8 -0.9**
H21K Melozitna Rive 5.52 2 Pn 06 38 55.1 0.0
H21K Melozitna Rive 5.52 2 P **Pn 06 38 54.9 -0.1**
baz=183
L26K Log Cabin Wild 5.55 55 Pn 06 38 56.0 +0.5
L26K Log Cabin Wild 5.55 55 P **Pn 06 38 55.8 +0.3**
baz=243,SNR=8.9
BAGL Bagley Icefiel 5.58 82 Pn 06 38 56.5 +0.7
DOT Dot Lake 5.59 47 Pn 06 38 55.9 -0.2
POKR Poker Plat Res 5.66 26 Pn 06 38 56.5 -0.4
POKR Poker Plat Res 5.66 26 P **Pn 06 38 56.6 -0.3**
baz=211,SNR=21
MESA MESA 5.67 85 Pn 06 38 58.1 +0.9
MESA MESA 5.67 85 P **Pn 06 38 57.9 +0.7**
baz=275
BARN Barnard Glacie 5.81 76 Pn 06 39 00.1 +1.0
SCRK Sand Creek 5.81 45 Pn 06 38 58.6 -0.5
SCRK Sand Creek 5.81 45 P **Pn 06 38 58.3 -0.7**
baz=233,SNR=12
IM03 5.85 358 Pn 06 38 59.6 +0.3
IMAR Indian Mountai 5.85 358 Pn **Pn 06 38 59.4 +0.1**
M27K Edge Creek, AK 5.94 63 Pn 06 39 01.9 +1.2
M27K Edge Creek, AK 5.94 63 P **Pn 06 39 01.6 +0.9**
baz=253
PS06 TAPS Pump Stn6 5.94 14 Pn 06 39 00.9 +0.3
CTG Chitna Glacier 5.96 77 P **Pn 06 39 01.2 +0.2**
baz=268
CTGM Chitna Glacier 5.96 77 Pn 06 39 02.0 +0.9
TABL Table Mountain 6.05 82 Pn 06 39 03.1 +0.8
CHX Chaix Hills 6.10 86 Pn 06 39 04.2 +1.4
LOGN Logan Glacier 6.12 78 Pn 06 39 04.0 +0.9
SDPT Sand Point 6.16 222 Pn **Pn 06 39 02.6 -1.0**
SDPT Sand Point 6.16 222 P **Pn 06 39 02.8 -0.8**
baz=35
L27K Beaver Creek, 6.20 57 Pn 06 39 04.1 0.0
L27K Beaver Creek, 6.20 57 P **Pn 06 39 04.1 0.0**
baz=247
H24K Noodor Dome 6.21 21 Pn 06 39 03.9 -0.3
H24K Noodor Dome 6.21 21 P **Pn 06 39 03.6 -0.6**
baz=206
BC03 6.22 57 Pn 06 39 05.0 +0.8
BCAR Beaver Creek A 6.22 57 Pn **Pn 06 39 04.7 +0.4**
SAMH Samovar Hills 6.26 85 Pn 06 39 06.4 +1.5
YUK2 White River 6.28 70 Pn 06 39 06.4 +1.1
J26L Joseph Creek 6.29 42 Pn 06 39 04.9 -0.3
J26L Joseph Creek 6.29 42 P **Pn 06 39 04.6 -0.7**
baz=231
BVCY Beaver Creek 6.41 64 Pn 06 39 08.0 +1.1
BVCY Beaver Creek 6.41 64 P **Pn 06 39 07.9 +1.1**
baz=255
PRP Porcupine Dome 6.45 30 Pn 06 39 07.4 0.0
PRP Porcupine Dome 6.45 30 P **Pn 06 39 07.2 -0.2**
baz=217
YUK3 Moose Creek 6.46 70 Pn 06 39 08.9 +1.1
YUK3 Moose Creek 6.46 70 P **Pn 06 39 08.6 +0.8**
baz=261
PCA Pinnacle 6.52 85 Pn 06 39 09.4 +1.0
PINM Pinnacle 6.52 85 P **Pn 06 39 08.8 +0.3**
baz=276
PS05 TAPS Pump Stn5 6.78 9 Pn 06 39 12.4 +0.7
PNL Peninsula 7.01 88 Pn 06 39 16.1 +1.2
PNL Peninsula 7.01 88 P **Pn 06 39 15.4 +0.4**
baz=280
ANM Nome 7.14 313 P **Pn 06 39 17.2 +0.8**
baz=123
COLD Coldfoot 7.23 10 Pn 06 39 17.5 -0.1
COLD Coldfoot 7.23 10 P **Pn 06 39 17.4 -0.3**
baz=192,SNR=12
EGAK Eagle 7.28 45 Pn 06 39 18.2 -0.2
EGAK Eagle 7.28 45 P **Pn 06 39 17.8 -0.6**
baz=236,SNR=6.9
FYU Fort Yukon 7.38 26 Pn **Pn 06 39 19.5 -0.1**
DAWY Dawson 7.60 53 Pn 06 39 23.4 +0.6
DAWY Dawson 7.60 53 P **Pn 06 39 23.1 +0.4**
baz=245
BM03 Burnt Mountain 8.23 24 Pn 06 39 30.1 -1.0
BMAR Burnt Mountain 8.24 24 Pn **Pn 06 39 29.9 -1.3**
BM01 Burnt Mountain 8.27 24 Pn 06 39 30.6 -1.0
INK Inuvik 11.80 38 P **Pn 06 40 17.8 -0.3**
comp=N,0.4nm,0.3s,baz=230,slow=14,SNR=14
INK Inuvik 11.80 38 Pn 06 40 18.1 0.0
INK Inuvik 11.80 38 P **Pn 06 40 17.3 -0.8**
baz=236
C36M Paulatuk 15.32 41 P **Pn 06 41 01.8 -0.8**
baz=248
A36M Sachs Harbour 16.20 32 P **Pn 06 41 13.1 -0.2**
baz=238
YKA Yellowknife Ar 18.53 66 P **Pn 06 41 41.1 -0.1**
comp=N,0.1nm,0.3s,baz=279,slow=12,SNR=9.2
YKA Yellowknife Ar 18.53 66 P **P 06 41 39.3 +0.2**
SONM Songino Array 54.57 306 P **P 06 46 49.3 +2.5**
comp=N,0.6nm,0.6s,baz=42,slow=5.5,SNR=5.0
ZALV Zalesovo Beam 57.15 323 P **P 06 47 06.5 +1.6**
comp=N,0.7nm,0.3s,baz=40,slow=6.7,SNR=1.7
MKAR Makanchi Array 64.21 321 P **P 06 47 53.0 +0.2**
comp=N,0.1nm,0.3s,baz=32,slow=8.2,SNR=2.0

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*NNC **14** 06:40:38.8±3.4, 38°.76N×73°.47E, h0km, mb3.9, mpv3.7,*
Error ellipse: s-maj=26.4km s-min=14.9km az=161.0
ISC 14 06:40:45.1±3.2, 39°.1N±0°.2×73°.39E±0°.08, h10km, n18, σ1s53/18, 4C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=23	**3.06**	**4**	P	**Pn**	**06 41 34.5**	**+0.6**
UCH	**Uchtor** SNR=22	**3.26**	**15**	P	**Pn**	**06 41 36.3**	**-0.4**
EKS2	**Erkin-Say** SNR=5.6	**3.59**	**5**	P	**Pn**	**06 41 42.3**	**+1.3**
AAK	**Ala-Archa** SNR=16	**3.66**	**13**	P	**Pn**	**06 41 43.2**	**+1.3**
AAK	**Ala-Archa** 7.9nm,0.5s	**3.66**	**13**	⇑Pn	**Pn**	**06 41 41.0**	**-0.8**
AAK	19nm,0.7s			⇑Sn	**Sb**	**06 42 32.2**	**-2.1**
TKM2	**Tokmak 2** 4.7nm,0.6s	**4.19**	**23**	⇑Pg	**Pg**	**06 42 03.5**	**-1.8**
TKM2	18nm,0.8s			⇓Lg	Lg	06 43 03.3	
USP	**Ospenovka** SNR=5.4	**4.27**	**11**	P	**Pn**	**06 41 52.2**	**+2.0**
DGS	**Degeres** 7.8nm,0.5s	**4.53**	**23**	Pg	**Pb**	**06 42 05.4**	**+0.6**
DGS	13nm,0.8s			Lg	Lg	06 43 08.4	
KK08	**Karatay Array** 5.0nm,0.5s,baz=155,slow=14	**4.58**	**332**	⇑Pn	**Pn**	**06 41 53.8**	**-0.7**
KK08	8.1nm,0.5s,baz=149,slow=27			⇓Sn	**Sn**	**06 42 51.1**	**+3.2**
MTBS	**Maitube** 3.5nm,0.5s	**4.65**	**29**	Pg	**Pb**	**06 42 07.6**	**+0.7**
MTBS	10nm,0.7s			Lg	Lg	06 43 11.5	
BRLS	**Borolday** 3.4nm,0.3s	**4.78**	**327**	Pg	**Pb**	**06 42 09.3**	**+0.4**
BRLS	9.6nm,0.6s			Lg	Lg	06 43 15.8	
TNSS	**Tian-Shan** 5.1nm,0.6s	**4.78**	**33**	Pg	**Pb**	**06 42 09.8**	**+0.5**
TNSS	4.3nm,0.5s			Lg	Lg	06 43 15.1	
KRBS	**Karabastau** 4.9nm,0.6s	**4.92**	**20**	Pg	**Pb**	**06 42 12.3**	**+0.8**
KRBS	5.4nm,0.6s			Lg	Lg	06 43 19.6	
MDOK	**Medeo** 4.9nm,0.6s	**4.93**	**33**	Pg	**Pb**	**06 42 12.9**	**+1.3**
MDOK	8.1nm,0.8s			Lg	Lg	06 43 21.8	
KUU	**Kurty** 2.5nm,0.1s	**5.30**	**24**	Pg	**Pb**	**06 42 19.4**	**+1.6**
KUU	9.3nm,0.8s			Lg	Lg	06 43 31.8	
ARXS	**Arharly** 3.7nm,0.6s	**6.11**	**31**	Pg	Pb	06 42 34.3	+2.6
ARXS	6.0nm,0.8s			Lg	Lg	06 43 57.3	
AB31	**Akbulak array** 0.6nm,0.6s,baz=155,slow=8.4,SNR=11	**14.00**	**321**	P	Pn	06 43 56.5	-7.0
AKTO	**Aktyubinsk** 0.9nm,0.7s	**15.72**	**321**	⇓P	**Pn**	**06 44 25.3**	**-1.2**

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*SSN **14** 06:40:52.9±34.0, 23°.29N×37°.47E, h0km±999km, ML3.9*
*IDC **14** 06:41:00.0±12.0, 21°.32N×37°.85E, h0km, mb3.7/3,*
mb1 3.7/3, mb1mx3.1/35, mbtmp3.7/3, Error ellipse:
s-maj=673.1km s-min=28.9km az=155.0
ISC 14 06:41:00.8±3.2, 21°N±1°×38°.0E±0°.7, h10km, n5, σ0s28/4, mb3.7/3, Sudan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQOL	**MQOL**	**0.94**	**244**	*i* P	**Pb**	**06 41 19.2**	**0.0**
MQOL	baz=276,slow=7.9			*i*		06 41 19.8	
MQOL	comp=Z,1μm,0.2s			AMP		06 41 30.4	
MQOL				*i* S	Sn	06 42 08.2	+35
JAWL	**J.Aulia**	**7.79**	**223**	*i* P	Pb	06 43 22.0	+6.0
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.9s,baz=68,slow=8.5,SNR=5.3	**35.48**	**263**	P	**P**	**06 47 57.9**	**+0.1**
MKAR	**Makanchi Array** comp=Z,1.2nm,0.8s,baz=242,slow=6.8,SNR=9.7	**44.05**	**44**	P	**P**	**06 49 08.7**	**-0.2**
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=271,slow=8.2,SNR=3.8	**60.30**	**46**	P	**P**	**06 51 10.0**	**+0.2**

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*IDC **14** 06:46:00.2±3.9, 28°.99N×141°.63E, h44km±35km, mb3.8/17,*
mb1 4.0/18, mb1mx3.7/42, mbtmp4.0/18, ML3.2/1, Error
ellipse: s-maj=21.5km s-min=15.9km az=97.0
*NEIC **14** 06:46:00.5±1.1, 28°.95N±0°.07×141°.5E±0°.1, h44km±7km,*
mb4.4/21, Error ellipse: s-maj=14.9km s-min=6.6km
az=55.0
ISC 14 06:46:01.1±0.5, 28°.96N±0°.07×141°.6E±0°.1, h56km, n56, σ0s84/57, mb4.3/28, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.92**	**165**		**Pn**	**06 46 29.9**	**-1.6**
JCJ				Sn	**Sn**	**06 46 54.0**	**-0.6**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=162,slow=11,SNR=7.9	**8.09**	**340**	P	**Pn**	**06 47 55.7**	**-0.2**
MJAR	**Matsushiro Arr**	**8.09**	**340**		**Pn**	**06 47 54.6**	**-1.3**
MAJO	**Matsushiro**	**8.09**	**340**	Pn	**Pn**	**06 47 56.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**8.09**	**340**	Pn	**Pn**	**06 47 56.2**	**+0.2**
JMM	**Marumori**	**8.91**	**356**		**Pn**	**06 48 04.1**	**-3.1**
KLR	**Kul'dur** 4.5nm,0.7s,baz=140,slow=9.4,SNR=17	**21.61**	**342**	P	**P**	**06 50 46.5**	**+0.3**
H11N2	**WAKE ISLAND Hy** baz=296,slow=75,SNR=23	**24.76**	**106**	T	T	07 16 51.5	
H11N1	**WAKE ISLAND Hy** baz=296,slow=75,SNR=20	**24.76**	**106**	T	T	07 16 51.6	
H11N3	**WAKE ISLAND Hy** baz=296,slow=75,SNR=24	**24.77**	**106**	T	T	07 16 52.7	
SONM	**Songino Array** 0.6nm,0.5s,baz=116,slow=8.0,SNR=3.8	**33.04**	**315**	P	**P**	**06 52 30.5**	**-0.8**
CMAR	**Chiang Mai Arr** 1.4nm,0.3s,baz=54,slow=8.1,SNR=5.1	**40.25**	**265**	P	**P**	**06 53 33.6**	**+0.8**
MTN	**Manton Dam**	**42.77**	**195**	P	**P**	**06 53 52.7**	**-0.6**
MTN	comp=Z,6.9nm,0.7s			IAmb	IAmb	06 53 53.7	
TIXI	**Tiksi**	**43.31**	**354**	P	**P**	**06 53 56.7**	**-0.4**
KNRA	**Kununurra**	**46.08**	**197**	P	**P**	**06 54 19.3**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.4s,baz=85,slow=7.0,SNR=4.2	**47.76**	**318**	P	**P**	**06 54 32.2**	**-0.3**
ZALV	**Zalesovo Beam**	**47.76**	**318**	P	**P**	**06 54 32.3**	**-0.1**
ANM	**Nome**	**48.54**	**27**	P	**P**	**06 54 39.4**	**+1.1**
ANM	comp=Z,2.0nm,0.8s			IAmb	IAmb	06 54 40.0	
MKAR	**Makanchi Array** comp=Z,0.8nm,0.8s,baz=90,slow=8.4,SNR=6.5	**48.91**	**308**	P	**P**	**06 54 41.0**	**-0.5**
MKAR	comp=Z,1.4nm,0.7s,baz=77,slow=6.4,SNR=8.7			PcP	**PcP**	**06 56 06.0**	**+0.9**
MKAR	**Makanchi Array**	**48.91**	**308**	P	**P**	**06 54 41.0**	**-0.5**
WB0	**Warramunga Arr**	**48.94**	**189**	P	**P**	**06 54 41.7**	**-0.2**
WB0	comp=Z,5.5nm,0.9s			IAmb	IAmb	06 54 42.3	
WR0	**Warramunga Arr**	**49.11**	**189**	P	**P**	**06 54 43.0**	**-0.1**
WR0	comp=Z,3.5nm,0.9s			IAmb	IAmb	06 54 49.2	
WRAB	**Tennant Creek**	**49.11**	**189**	P	**P**	**06 54 43.2**	**+0.1**
WB2	**Warramunga Arr**	**49.12**	**189**	P	**P**	**06 54 43.1**	**-0.1**
WB2	comp=Z,3.6nm,0.8s			IAmb	IAmb	06 54 43.8	
WRA	**Warramunga Arr** comp=Z,2.9nm,0.7s,baz=10,slow=8.2,SNR=22	**49.12**	**189**	P	**P**	**06 54 43.0**	**-0.3**
WRA	comp=Z,2.0nm,0.7s,baz=1.7,slow=3.6,SNR=8.0			PcP	**PcP**	**06 56 07.5**	**+1.4**
WRA	**Warramunga Arr**	**49.12**	**189**	P	**P**	**06 54 43.0**	**-0.3**
NRIK	**Noril'sk** comp=Z,1.3nm,0.4s,baz=118,slow=6.5,SNR=4.0	**50.74**	**338**	P	**P**	**06 54 55.2**	**+0.2**
O18K	**Koktuh Hills**	**52.02**	**35**	P	**P**	**06 55 06.1**	**+1.3**
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=11,slow=8.7,SNR=5.3	**52.84**	**189**	P	**P**	**06 55 10.7**	**-0.5**
ASAR	comp=Z,1.2nm,0.8s,baz=19,slow=4.2,SNR=9.9			PcP	**PcP**	**06 56 21.2**	**+1.4**
ASAR	**Alice Springs**	**52.84**	**189**	P	**P**	**06 55 11.4**	**+0.2**
J20K	**Nowinta River**	**53.14**	**30**	P	**P**	**06 55 14.0**	**+1.0**
J20K				IAmb	IAmb	06 55 23.2	

comp=Z,7.8nm,1.2s
IMAR Indian Mountai 53.62 27 P **P 06 55 16.9 +0.5**
H21K Melozitna Rive 53.95 28 P **P 06 55 19.9 +1.0**
I21K Tanana 54.22 28 P **P 06 55 21.8 +1.1**
I21K IAmb IAmb 06 55 47.1
comp=Z,9.1nm,1.5s
PSA00 Pilbara Seismi 54.45 205 P **P 06 55 23.2 +0.3**
PSA00 IAmb IAmb 06 55 27.2
comp=Z,2.7nm,0.9s
ILAR Eielson Array 56.33 29 P **P 06 55 35.2 -0.8**
comp=Z,0.7nm,0.7s,baz=257,slow=5.8,SNR=7.8
ILAR Eielson Array 56.33 29 P **P 06 55 35.5 -0.5**
BRVK Borovoye 56.40 317 P **P 06 55 37.3 +0.7**
BRVK IAmb IAmb 06 55 38.1
comp=Z,2.5nm,0.7s
DOT Dot Lake 57.54 31 P **P 06 55 44.6 0.0**
SCRK Sand Creek 57.57 30 P **P 06 55 45.3 +0.3**
SCRK IAmb IAmb 06 56 03.1
comp=Z,4.3nm,1.2s
KKAR Karatay Array 57.60 305 P **P 06 55 44.7 -0.7**
J26L Joseph Creek 57.76 30 P **P 06 55 46.3 +0.1**
INK Inuvik 61.55 25 P **P 06 56 12.3 +0.2**
comp=Z,0.7nm,0.8s,baz=283,slow=4.2,SNR=4.5
INK Inuvik 61.55 25 P **P 06 56 12.5 +0.5**
ARU Arti 62.65 322 P **P 06 56 19.5 -0.1**
ABKAR Akbulak array 63.45 314 P **P 06 56 24.3 -0.7**
ABKAR IAmb IAmb 06 56 25.5
comp=Z,1.8nm,0.6s
YKA Yellowknife Ar 70.75 29 P **P 06 57 10.7 -0.4**
comp=Z,0.4nm,0.6s,baz=292,slow=5.9,SNR=5.8
FINES FINESS Array B 76.06 333 P **P 06 57 42.3 0.0**
comp=Z,3.6nm,0.9s,baz=64,slow=4.4,SNR=4.8
FINES FINESS Array B 76.06 333 P **P 06 57 41.5 -0.8**
KBZ Khabaz 76.38 312 P **P 06 57 45.5 +1.0**
comp=Z,7.2nm,0.8s,baz=69,slow=3.6,SNR=13
NVAR Mina Array Bea 79.77 52 P **P 06 58 04.4 +0.7**
comp=Z,0.7nm,0.8s,baz=283,slow=6.0,SNR=5.3
NVAR Mina Array Bea 79.77 52 P **P 06 58 04.6 +0.9**
AKASG Malin Array Be 80.82 323 P **P 06 58 08.4 -0.4**
comp=Z,0.6nm,0.5s,baz=50,slow=5.6,SNR=5.0
BRTR Keskin Array B 84.37 313 P **P 06 58 28.0 +0.3**
comp=Z,2.7nm,0.7s,baz=97,slow=3.7,SNR=8.4
TXAR Lajitas Array 94.89 53 P **P 06 59 18.5 +0.9**
comp=Z,0.5nm,0.7s,baz=279,slow=2.7,SNR=6.0
TXAR Lajitas Array 94.89 53 P **P 06 59 19.3 +1.7**

*IDC **14** 07:30:08.9±3.2,25.°86S×66.°36W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.6/16,mbtmp3.6/3,ML4.2/1,Error ellipse: s-maj=110.8km s-min=51.3km az=50.0*
*GUC **14** 07:30:40.6±0.6,23.°98S×66.°90W,h202km±6km,ML3.5*
ISC 14 07:30:40.4±1.1,23.°93S±0.°08×66.°88W±0.°07,h200km,n16, σ0§95/26,9C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.48**	**122**	*eP*	**Pn**	**07 31 13.9**	**-0.2**
SLA				*i S*	**Sn**	**07 31 39.5**	**-0.9**
LVC	**Limon Verde**	**2.28**	**305**	⇓*eP*	**Pn**	**07 31 23.0**	**+0.7**
LVC				*i S*	**Sn**	**07 31 54.2**	**-0.7**
PB15	**IPOC Station P**	**2.48**	**286**	⇑*iP*	**Pn**	**07 31 25.1**	**+0.7**
PB15				*i S*	**Sn**	**07 31 58.4**	**-0.2**
PB06	**IPOC Station P**	**2.76**	**296**	⇑*iP*	**Pn**	**07 31 28.1**	**+0.7**
PB06				*i S*	**Sn**	**07 32 03.8**	**-0.3**
PB06				IAML		07 32 08.3	
comp=N,171nm,0.3s							
PB09	**IPOC Station P**	**3.04**	**314**	⇑*eP*	**Pn**	**07 31 31.9**	**+1.1**
PB09				*i S*	**Sn**	**07 32 10.5**	**+0.4**
PB09				IAML		07 32 13.3	
comp=N,29nm,0.3s							
PB05	**IPOC Station P**	**3.24**	**289**	⇑*iP*	**Pn**	**07 31 33.2**	**+0.2**
PB05				*i S*	**Sn**	**07 32 12.2**	**-1.9**
PB03	**IPOC Station P**	**3.24**	**305**	⇑*iP*	**Pn**	**07 31 33.4**	**+0.3**
PB03				*i S*	**Sn**	**07 32 13.7**	**-0.6**
PB10	**IPOC Station P**	**3.39**	**276**	⇑*iP*	**Pn**	**07 31 35.0**	**+0.2**
PB10				*i S*	**Sn**	**07 32 16.1**	**-1.2**
PB04	**IPOC Station P**	**3.40**	**297**	⇑*iP*	**Pn**	**07 31 35.2**	**+0.1**
PB07	**IPOC Station P**	**3.54**	**308**	⇑*iP*	**Pn**	**07 31 36.9**	**+0.1**
PB07				*i S*	**Sn**	**07 32 19.1**	**-1.6**
PB01	**IPOC Station P**	**3.75**	**319**	⇓*iP*	**Pn**	**07 31 39.6**	**+0.3**
PB01				*i S*	**Sn**	**07 32 24.7**	**-0.7**
PB08	**IPOC Station P**	**4.32**	**330**	⇑*iP*	**Pn**	**07 31 47.2**	**+0.5**
PB08				*i S*	**Sn**	**07 32 36.0**	**-2.7**
LPAZ	**La Paz**	**7.70**	**351**	Pn	**Pn**	**07 32 30.8**	**+0.4**
comp=N,1.0nm,0.3s,baz=167,slow=7.4,SNR=29							
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P	P	07 42 01.3	-7.2
comp=N,0.3nm,0.7s,baz=234,slow=5.8,SNR=1.4							
YKA	**Yellowknife Ar**	**94.10**	**340**	P	**P**	**07 43 36.0**	**+0.5**
comp=N,0.1nm,0.4s,baz=138,slow=4.8,SNR=5.1							
MKAR	**Makanchi Array**	**146.40**	**40**	PKPbc	**PKPdf**	**07 49 56.7**	**+0.6**
comp=N,0.3nm,0.5s,baz=292,slow=4.2,SNR=4.4							

*IDC **14** 07:40:07.5±1.1,32.°52N×91.°51E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.7/32,mbtmp3.7/8,ML3.5/1,Error ellipse: s-maj=42.0km s-min=22.1km az=70.0*
ISC 14 07:40:13.4±0.9,32.°6N±0.°1×91.°7E±0.°1,h35km,n17, σ0§67/17,mb3.7/6,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**6.89**	**228**	*eP*	**Pn**	**07 41 53.1**	**+0.8**
4.5nm,0.3s							
KKN	**Kakani**	**7.36**	**231**	*eP*	**Pn**	**07 41 59.3**	**+0.7**
2.4nm,0.2s							
PKI	**Pulchoki**	**7.43**	**229**	*eP*	**Pn**	**07 42 00.2**	**+0.6**
3.3nm,0.3s							
PKIN	**Phulchoki**	**7.43**	**229**	*eP*	**Pn**	**07 42 00.0**	**+0.4**
4.8nm,0.3s							
DMN	**Daman**	**7.59**	**230**	*eP*	**Pn**	**07 42 02.0**	**+0.1**
7.8nm,0.3s							
GKN	**Gorkha**	**7.65**	**235**	*eP*	**Pn**	**07 42 03.9**	**+1.3**
7.7nm,0.3s							
DANN	**Dangsing**	**8.07**	**240**	*eP*	**Pn**	**07 42 09.0**	**+0.6**
10nm,0.5s							
KOLN	**Koldanda**	**8.52**	**237**	*eP*	**Pn**	**07 42 14.3**	**-0.2**
1.1nm,0.2s							
PYUN	**Piuthan**	**8.77**	**241**	*eP*	**Pn**	**07 42 18.0**	**0.0**
4.0nm,0.4s							
SONM	**Songino Array**	**18.82**	**32**	P	**Pn**	**07 44 31.8**	**+0.9**
0.1nm,0.3s,baz=230,slow=11,SNR=9.4							
KURBB	**Kurchatov Arra**	**20.43**	**335**	P	**P**	**07 44 47.9**	**+0.5**
0.4nm,0.4s,baz=153,slow=9.2,SNR=2.1							
ZALV	**Zalesovo Beam**	**21.85**	**349**	P	**P**	**07 45 02.4**	**-0.3**
1.2nm,0.7s,baz=172,slow=12,SNR=4.9							
WRA	**Warramunga Arr**	**66.31**	**136**	P	**P**	**07 50 58.2**	**-0.3**
1.2nm,0.9s,baz=328,slow=6.8,SNR=4.0							
ASAR	**Alice Springs**	**68.98**	**139**	P	**P**	**07 51 15.2**	**-0.2**
0.9nm,0.7s,baz=325,slow=6.4,SNR=7.2							
ILAR	**Eielson Array**	**72.75**	**23**	P	**P**	**07 51 37.9**	**+0.2**
0.9nm,0.9s,baz=299,slow=5.4,SNR=7.5							
YKA	**Yellowknife Ar**	**82.86**	**12**	P	**P**	**07 52 33.7**	**-0.2**
0.5nm,0.9s,baz=330,slow=4.6,SNR=5.4							
TORD	**Torodi Ar. Bea**	**83.03**	**281**	P	**P**	**07 52 34.6**	**-1.1**
0.3nm,0.6s,baz=37,slow=4.7,SNR=3.6							

*NNC **14** 08:06:23.9±6.9,54.°06N×87.°31E,h0km,mb2.9,mpv2.7, Error ellipse: s-maj=58.1km s-min=35.0km az=24.0, Suspected Mining explosion.*
*IDC **14** 08:06:25.2±3.0,54.°18N×87.°20E,h0km,mb1 3.1/2, mb1mx3.0/41,mbtmp3.1/2,ML2.9/2,Error ellipse: s-maj=28.2km s-min=17.0km az=56.0*
ISC 14 08:06:26.0±4.3,54.°2N±0.°2×87.°0E±0.°2,h0km,n8,σ1§40/11, 5C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**260**	*i*		08 14 29.3	
baz=80,slow=352,SNR=15							
ZAA0	**Zalesovo Array**	**1.31**	**260**	⇑P	**Pg**	**08 06 50.5**	**-0.6**
0.8nm,0.3s							
ZAA0				⇑S	**Sn**	**08 07 10.3**	**+0.5**
3.9nm,0.5s							
ZALV	**Zalesovo Beam**	**1.31**	**260**	Pg	**Pb**	**08 06 50.8**	**-0.7**
8.8nm,0.3s,baz=82,slow=17,SNR=49							
ZALV				Lg	Lg	08 07 10.3	
5.4nm,0.3s,baz=77,slow=27,SNR=18							
KURK	**Kurchatov**	**6.20**	**239**	⇑Pn	**Pn**	**08 07 58.5**	**-0.2**
0.3nm,0.4s							
KURK				⇓Sn	**Sn**	**08 09 13.0**	**+2.8**
0.9nm,0.5s							
KURK				⇓Lg	Lg	08 09 45.1	
1.9nm,0.5s							
KURBB	**Kurchatov Arra**	**6.30**	**239**	Pn	**Pn**	**08 08 01.6**	**+1.5**
0.2nm,0.3s,baz=53,slow=13,SNR=8.7							
KURBB	**Kurchatov Arra**	**6.30**	**239**	⇑Pn	**Pn**	**08 08 01.0**	**+0.9**
0.7nm,0.3s							
KURBB				⇓Sn	**Sn**	**08 09 11.4**	**-1.3**
2.1nm,0.3s							
KURBB				⇓Lg	Lg	08 09 47.5	
3.1nm,0.6s							
MK31	**Makanchi Array**	**8.00**	**204**	Pn	**Pn**	**08 08 24.4**	**+0.9**
0.1nm,0.3s,baz=28,slow=14,SNR=18							
MK31				⇓Sn	**Sn**	**08 09 53.6**	**-1.0**
0.1nm,0.3s,baz=30,slow=24,SNR=4.1							
MK31				⇑Lg	Lg	08 10 34.8	
0.7nm,0.6s,baz=28,slow=33							
MKAR	**Makanchi Array**	**8.00**	**204**	Pn	**Pn**	**08 08 24.0**	**+0.6**
0.2nm,0.3s,baz=28,slow=14,SNR=11							

*NOU **14** 08:34:52.3,20.°99S×178.°55W,h587km,mb4.2/15,Fiji Islands Region*
*NEIC **14** 08:34:54.0±1.8,20.°9S±0.°1×178.°9W±0.°1,h586km±7km, mb4.3/22,Error ellipse: s-maj=20.1km s-min=16.6km az=137.0*
*IDC **14** 08:34:55.3±1.8,20.°82S×179.°02W,h602km±19km, mb3.3/10,mb1 3.6/12,mb1mx3.4/33,mbtmp4.2/12,Error ellipse: s-maj=26.4km s-min=15.1km az=137.0*
ISC 14 08:34:56.4±0.5,20.°8S±0.°1×179.°04W±0.°10,h619km,n62, σ1§42/62,mb4.2/23,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.14**	**318**	P	**P**	**08 36 21.3**	**-3.1**
13nm,0.3s,baz=147,slow=11,SNR=31							
MSVF	**Nonsavu**	**4.14**	**318**	P	**P**	**08 36 21.6**	**-2.8**
DGTI	**Dogotuki**	**4.66**	**345**	P	**P**	**08 36 24.5**	**-3.6**
MARNC	**Mare, Loyalty**	**12.09**	**265**	P	**P**	**08 37 34.0**	**-2.0**
MARNC	**Mare, Loyalty**	**12.09**	**265**	P	**P**	**08 37 35.1**	**-0.9**
PINNC	**Pines Island,**	**12.69**	**260**	P	**P**	**08 37 41.4**	**-0.5**
DZM	**Mont Dzumac**	**13.58**	**262**	P	**P**	**08 37 49.9**	**-0.8**
0.6nm,0.3s,baz=111,slow=21,SNR=11							
DZM	**Mont Dzumac**	**13.58**	**262**	P	**P**	**08 37 50.8**	**+0.1**
OUZ	**Omahuta**	**15.72**	**203**	P	**P**	**08 38 08.5**	**-1.7**
URZ	**Urewera**	**17.68**	**190**	P	**P**	**08 38 23.9**	**-4.1**
BFZ	**Birch Farm**	**20.18**	**190**	P	**P**	**08 38 48.0**	**-2.7**
QRZ	**Quartz Range**	**21.18**	**198**	P	**P**	**08 38 57.7**	**-1.9**
QRZ	**Quartz Range**	**21.18**	**198**	P	**P**	**08 38 57.7**	**-1.9**
KHZ	**Kahutara**	**22.40**	**195**	P	**P**	**08 39 06.9**	**-3.5**
EIDS	**Eidsvold**	**27.82**	**255**	P	**P**	**08 39 59.2**	**+0.7**
EIDS				IAmb	IAmb	08 40 00.3	
comp=Z,5.1nm,1.1s							
ARMA	**Armidale**	**28.05**	**244**	P	**P**	**08 40 01.6**	**+1.1**
ARMA				IAmb	IAmb	08 40 05.3	
comp=Z,21nm,1.4s							
ARMA	**Armidale**	**28.05**	**244**	P	**P**	**08 40 01.1**	**+0.7**
CNB	**Canberra Magne**	**31.23**	**236**	P	**P**	**08 40 28.4**	**+0.7**
CTAO	**Charters Tower**	**32.49**	**265**	P	**P**	**08 40 39.5**	**+1.0**
CTAO				IAmb	IAmb	08 40 40.1	
comp=Z,4.6nm,0.6s							
CMSA	**Cobar Meteorol**	**33.27**	**244**	P	**P**	**08 40 44.8**	**0.0**
comp=Z,9.6nm,1.4s							
PMG	**Port Moresby**	**34.48**	**284**	P	**P**	**08 40 55.8**	**+0.7**
COEN	**Coen**	**36.64**	**275**	P	**P**	**08 41 13.9**	**+1.0**
COEN				IAmb	IAmb	08 41 15.6	
comp=Z,8.7nm,1.1s							
STKA	**Stephens Creek**	**36.77**	**244**	P	**P**	**08 41 14.5**	**+0.8**
comp=Z,4.6nm,0.5s,baz=91,slow=10,SNR=4.6							
STKA	**Stephens Creek**	**36.77**	**244**	P	**P**	**08 41 14.3**	**+0.7**
BBOO	**Buckleboo**	**41.53**	**244**	P	**P**	**08 41 51.7**	**0.0**
AS31	**Alice Springs**	**43.50**	**257**	P	**P**	**08 42 07.5**	**+0.2**
ASAR	**Alice Springs**	**43.50**	**257**	P	**P**	**08 42 07.6**	**+0.3**
comp=Z,9.1nm,0.6s,baz=95,slow=8.2,SNR=136							
ASAR				PcP	**PcP**	**08 43 40.1**	**-0.9**
comp=Z,1.4nm,0.6s,baz=92,slow=5.7,SNR=8.4							
ASAR	**Alice Springs**	**43.50**	**257**	P	**P**	**08 42 07.3**	**0.0**
WB0	**Warramunga Arr**	**43.57**	**263**	P	**P**	**08 42 08.2**	**+0.4**
WB0				IAmb	IAmb	08 42 08.6	
comp=Z,6.6nm,0.6s							
WRA	**Warramunga Arr**	**43.59**	**263**	P	**P**	**08 42 08.1**	**+0.1**
comp=Z,4.5nm,0.7s,baz=96,slow=8.7,SNR=57							
WRA	**Warramunga Arr**	**43.59**	**263**	P	**P**	**08 42 08.0**	**-0.1**
MTN	**Manton Dam**	**48.20**	**271**	P	**P**	**08 42 43.0**	**+0.2**
MTN				IAmb	IAmb	08 42 44.1	
comp=Z,9.0nm,0.8s							
PSA00	**Pilbara Seismi**	**56.65**	**257**		**P**	**08 43 43.1**	**+0.3**
PSA00				IAmb	IAmb	08 43 44.0	
comp=Z,7.1nm,1.0s							
VNDA	**Vanda**	**57.49**	**185**	P	**P**	**08 43 48.0**	**+0.4**
comp=Z,1.3nm,0.7s,baz=13,slow=6.8,SNR=6.2							
MORW	**Morawa**	**58.80**	**248**	P	**P**	**08 43 58.0**	**+0.8**
MORW				IAmb	IAmb	08 44 13.6	
comp=Z,26nm,1.5s							
GIRL	**Giralia**	**61.53**	**255**	P	**P**	**08 44 16.7**	**+1.5**
QSPA	**South Pole Qui**	**69.23**	**180**	P	**P**	**08 45 02.3**	**-0.3**
QSPA				IAmb	IAmb	08 45 03.6	
comp=Z,6.6nm,0.9s							
PETK	**Petropavlovsk-**	**76.36**	**346**	P	**P**	**08 45 44.2**	**+1.1**
comp=Z,1.4nm,0.7s,baz=117,slow=5.2,SNR=5.9							
M02C	**Callahan**	**80.87**	**39**	P	**P**	**08 46 08.8**	**+1.3**
M02C				IAmb	IAmb	08 46 32.5	
comp=Z,4.8nm,1.2s							
PMSA	**Palmer Station**	**81.36**	**157**	P	**P**	**08 46 11.9**	**+2.5**
NVAR	**Mina Array Bea**	**81.94**	**44**	P	**P**	**08 46 13.8**	**+0.7**
comp=Z,0.7nm,0.7s,baz=227,slow=7.9,SNR=6.4							
NVAR	**Mina Array Bea**	**81.94**	**44**	P	**P**	**08 46 12.7**	**-0.4**
KVN	**Kaiserville**	**82.42**	**43**	P	**P**	**08 46 15.6**	**+0.1**
O18K	**Koktuh Hills**	**82.73**	**12**	P	**P**	**08 46 16.2**	**-0.1**
O18K				IAmb	IAmb	08 46 34.3	
comp=Z,27nm,1.3s							
GHO	**Glory Hole Cre**	**85.78**	**14**	P	**P**	**08 46 31.4**	**+0.2**
GHO				IAmb	IAmb	08 46 35.8	
comp=Z,10nm,0.7s							
TXAR	**Lajitas Array**	**88.06**	**58**	P	**P**	**08 46 43.9**	**+1.2**
comp=Z,0.4nm,0.8s,baz=216,slow=6.2,SNR=5.2							
CCB	**Clear Creek Bu**	**88.56**	**13**	P	**P**	**08 46 43.5**	**-0.6**
IMAR	**Indian Mountai**	**88.66**	**10**	P	**P**	**08 46 44.3**	**-0.2**
ILAR	**Eielson Array**	**88.86**	**13**	P	**P**	**08 46 45.1**	**-0.4**
comp=Z,0.8nm,0.6s,baz=215,slow=5.2,SNR=13							
CMAR	**Chiang Mai Arr**	**89.32**	**290**	P	**P**	**08 46 51.5**	**+2.8**
comp=Z,1.5nm,0.3s,baz=127,slow=2.6,SNR=9.7							
PDAR	**Pinedale Array**	**89.87**	**44**	P	**P**	**08 46 51.0**	**0.0**
comp=Z,0.6nm,0.7s,baz=210,slow=3.9,SNR=7.3							
YKA	**Yellowknife Ar**	**97.23**	**25**	P	Pdif	08 47 23.0	-0.6
comp=Z,0.3nm,0.8s,baz=249,slow=4.2,SNR=5.1							
BVAR	**Borovoye Array**	**118.72**	**320**	PKP	**PKiKP**	**08 52 35.1**	**-0.1**
comp=Z,1.4nm,0.4s,baz=104,slow=3.8,SNR=8.5							
AKTO	**Aktyubinsk**	**126.67**	**318**	PKP	**PKiKP**	**08 52 51.1**	**0.0**
comp=Z,0.4nm,0.5s,baz=84,slow=10,SNR=3.6							
ARCES	**ARCESS Array B**	**129.08**	**349**	PKP	**PKiKP**	**08 52 54.8**	**-0.6**
comp=Z,1.3nm,0.6s,baz=40,slow=2.1,SNR=8.4							
FINES	**FINESS Array B**	**135.82**	**343**	PKP	**PKiKP**	**08 53 08.9**	**-0.2**
comp=Z,3.5nm,1.1s,baz=106,slow=4.5,SNR=3.5							
AKASG	**Malin Array Be**	**142.83**	**330**	PKP	**PKPdf**	**08 53 18.1**	**-2.4**
comp=Z,5.3nm,0.4s,baz=43,slow=4.3,SNR=42							
EKA	**Eskdalemuir Ar**	**145.42**	**4**	PKPbc	**PKPbc**	**08 53 26.4**	**+0.2**
comp=Z,6.5nm,1.0s,baz=5.7,slow=2.1,SNR=4.9							
BRTR	**Keskin Array B**	**146.34**	**311**	PKPbc	**PKPbc**	**08 53 29.2**	**-0.3**
comp=Z,1.8nm,0.6s,baz=146,slow=4.3,SNR=9.5							
MLR	**Muntele Rosu**	**147.97**	**326**	PKPbc	**PKiKP**	**08 53 34.9**	**+0.1**
comp=Z,2.6nm,0.4s,baz=158,slow=8.2,SNR=3.1							
CLL	**Collm**	**148.16**	**346**	*i* PKPbc	**PKiKP**	**08 53 34.5**	**-0.3**
GERES	**GERESS Array B**	**150.25**	**343**	PKPbc	**PKiKP**	**08 53 39.2**	**-0.2**
comp=Z,1.3nm,0.6s,baz=33,slow=3.2,SNR=10							

IDC 14 08:35:21.1±36.0,25.°90N×91.°08E,h0km,mb3.3/3, mb1 3.4/3,mb1mx3.1/54,mbtmp3.4/3,MS3.4/2,Ms1 3.4/2, ms1mx2.6/48,Error ellipse: s-maj=595.0km s-min=78.9km az=14.0,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.99**	**344**	P	P	08 40 16.7	0.0
0.1nm,0.5s,baz=153,slow=11,SNR=1.9							
SONM	**Songino Array**	**25.00**	**25**	P	P	08 40 46.7	0.0
1.0nm,0.8s,baz=211,slow=11,SNR=7.1							
ZALV	**Zalesovo Beam**	**28.40**	**352**	P	P	08 41 17.1	0.0
0.5nm,0.4s,baz=168,slow=7.4,SNR=2.4							
BATI	**Baumata**	**47.89**	**134**	LR	LR	09 10 18.7	
comp=Z,37nm,19.2s,baz=148,slow=44							
SEY	**Seymchan**	**54.25**	**30**	LR	LR	09 08 33.4	
comp=Z,48nm,21.6s,baz=340,slow=37							

IDC 14 08:37:56.6±2.9,54.°06N×86.°53E,h0km,mb1 2.8/2, mb1mx2.7/52,mbtmp2.8/2,ML2.6/2,Error ellipse: s-maj=23.6km s-min=14.1km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**264**	*i*		08 44 05.3	
baz=83,slow=351,SNR=8.8							
ZALV	**Zalesovo Beam**	**1.02**	**264**	Pg	Pg	08 38 14.9	-1.2
0.7nm,0.3s,baz=84,slow=17,SNR=8.4							
ZALV				Lg	Lg	08 38 30.9	
1.5nm,0.3s,baz=84,slow=29,SNR=9.3							
ZALV				Rg	Rg	08 38 36.7	
1.1nm,0.3s,baz=78,slow=31,SNR=4.9							
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	08 39 27.4	+0.9
0.1nm,0.3s,baz=56,slow=13,SNR=2.4							
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	08 39 52.0	+1.2
0.1nm,0.3s,baz=22,slow=13,SNR=5.8							

IDC 14 08:39:37.7±2.0,17.°15S×179.°21W,h560km±18km, mb3.0/5,mb1 3.3/6,mb1mx3.0/35,mbtmp3.9/6,Error ellipse: s-maj=121.8km s-min=22.1km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.68**	**257**	P	P	08 40 51.8	0.0
6.8nm,0.3s,baz=105,slow=4.3,SNR=18							
STKA	**Stephens Creek**	**38.33**	**240**	P	P	08 46 11.5	+0.2
2.0nm,0.7s,baz=76,slow=8.6,SNR=3.7							
WRA	**Warramunga Arr**	**44.02**	**259**	P	P	08 46 55.9	-0.6
0.4nm,0.2s,baz=95,slow=7.8,SNR=6.5							
ASAR	**Alice Springs**	**44.27**	**254**	P	P	08 46 58.4	0.0
3.0nm,0.3s,baz=90,slow=8.4,SNR=53							
TXAR	**Lajitas Array**	**86.24**	**58**	P	P	08 51 21.1	+0.2
0.3nm,0.8s,baz=243,slow=6.0,SNR=3.8							
PDAR	**Pinedale Array**	**87.33**	**44**	P	P	08 51 25.3	-0.5
0.5nm,1.0s,baz=195,slow=2.8,SNR=3.9							

*IDC **14** 08:41:46.9±1.9,23.°96S×66.°76W,h190km±24km,mb3.6/1, mb1 3.5/6,mb1mx3.2/33,mbtmp4.0/6,Error ellipse: s-maj=32.1km s-min=21.8km az=128.0*
*GUC **14** 08:41:48.3±0.6,24.°09S×67.°19W,h220km±11km,ML4.0*
ISC 14 08:41:46.2±0.7,24.°05S±0.°05×66.°91W±0.°05,h205km±8km, n36,σ1§22/50,13C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.45**	**118**	⇓*iP*	**Pn**	**08 42 20.1**	**-0.1**
SLA				*i S*	**S**	**08 42 44.9**	**-1.2**
LVC	**Limon Verde**	**2.33**	**307**	P	**Pn**	**08 42 30.2**	**+1.2**
20nm,0.3s,baz=188,slow=6.9,SNR=300							
LVC				S	**S**	**08 43 02.2**	**+0.4**
26nm,0.3s,baz=268,slow=22,SNR=44							
LVC	**Limon Verde**	**2.33**	**307**	⇑*iP*	**Pn**	**08 42 30.0**	**+0.9**
LVC				*i S*	**S**	**08 43 02.1**	**+0.4**
PB15	**IPOC Station P**	**2.49**	**289**	⇑*iP*	**Pn**	**08 42 31.7**	**+1.0**
PB15				*i S*	**S**	**08 43 04.0**	**-0.7**
PB06	**IPOC Station P**	**2.79**	**298**	⇑*iP*	**Pn**	**08 42 35.0**	**+1.1**
PB06				*eS*	**S**	**08 43 10.1**	**-0.4**
PB06				IAML		08 43 13.2	
comp=E,490nm,0.2s							
PB09	**IPOC Station P**	**3.11**	**316**	⇑*iP*	**Pn**	**08 42 39.0**	**+1.4**
PB09				*i S*	**S**	**08 43 18.1**	**+0.9**
PB09				IAML		08 43 19.9	
comp=N,115nm,0.6s							
PB05	**IPOC Station P**	**3.25**	**291**	⇑*iP*	**Pn**	**08 42 39.7**	**+0.5**
PB05				*i S*	**S**	**08 43 18.6**	**-1.6**
PB03	**IPOC Station P**	**3.29**	**307**	⇑*iP*	**Pn**	**08 42 40.5**	**+0.8**
PB03				*i S*	**S**	**08 43 20.1**	**-1.0**
PB10	**IPOC Station P**	**3.38**	**278**	⇑*iP*	**Pn**	**08 42 41.4**	**+0.7**
PB10				*i S*	**S**	**08 43 21.7**	**-1.1**
AC02	**Maricunga**	**3.43**	**215**	⇑*iP*	**Pn**	**08 42 42.4**	**+0.7**
PB04	**IPOC Station P**	**3.44**	**299**	⇑*iP*	**Pn**	**08 42 42.1**	**+0.6**
PB04				*i S*	**S**	**08 43 22.9**	**-1.4**
PB07	**IPOC Station P**	**3.59**	**309**	⇑*iP*	**Pn**	**08 42 43.9**	**+0.6**
PB07				*i S*	**S**	**08 43 26.0**	**-1.6**
PB07				IAML		08 43 27.8	
PB01	**IPOC Station P**	**3.82**	**321**	⇑*iP*	**Pn**	**08 42 46.5**	**+0.3**
PB01				*i S*	**S**	**08 43 31.2**	**-1.5**
PB08	**IPOC Station P**	**4.41**	**331**	⇑*eP*	**Pn**	**08 42 55.2**	**+1.5**
PB08				*i S*	**S**	**08 43 46.5**	**+0.1**
TA01	**Diego Aracena**	**4.60**	**318**	*i S*	**S**	**08 43 48.1**	**-2.0**
GO03	**Copiap**	**4.63**	**220**	*i P*	**Pn**	**08 42 55.4**	**-0.8**
GO03				*i S*	**S**	**08 43 48.0**	**-2.9**
PB11	**IP

AKMS				AML	AML	09 05 58.2	
	0.6nm,0.9s						
TEKE	**Tekeli-Mersin**	**0.65**	**32**	PG	**Pn**	**09 05 45.6**	**+0.1**
TEKE				SG	**Sn**	**09 05 55.1**	**-0.4**
GAZI	**Gazipasa**	**0.71**	**335**	PG	**Pb**	**09 05 45.3**	**+0.3**
GAZI				SG	**Sg**	**09 05 54.6**	**+0.4**
GAZI	**Gazipasa**	**0.71**	**335**	P	**Pb**	**09 05 45.5**	**+0.5**
GAZI				S	**Sg**	**09 05 53.7**	**-0.5**
ATHAL	**Athalassa**	**0.73**	**128**	S	**Sg**	**09 05 53.5**	**-1.4**
LFK	**Lefkose**	**0.76**	**114**	PG	**Pn**	**09 05 47.2**	**+0.1**
CSS	**Mathiatis**	**0.82**	**140**	P	**Pb**	**09 05 47.1**	**+0.3**
CSS				S	**Sb**	**09 05 55.5**	**-2.2**
AKIN	**Akıncılar- Kıb**	**0.86**	**132**	PG	**Pn**	**09 05 48.6**	**+0.2**
BERE	**Bereket-Mersin**	**0.87**	**30**	PG	**Pn**	**09 05 48.6**	**-0.1**
BERE				SG	**Sn**	**09 06 00.9**	**-0.3**
AKKU	**Akkuyu-Mersin**	**0.90**	**51**	PG	**Pn**	**09 05 49.2**	**+0.2**
AKKU				SG	**Sn**	**09 06 01.7**	**0.0**
GULN	**MERSIN_Gulnar**	**0.91**	**49**	P	**Pn**	**09 05 49.6**	**+0.5**
GULN				S	**Sn**	**09 06 01.6**	**-0.3**
MVOU	**Mavrovouni**	**0.96**	**127**	P	**Pb**	**09 05 49.4**	**+0.1**
MVOU				AML	AML	09 06 01.1	
	0.5nm,0.1s						
MVOU				AML	AML	09 06 01.1	
	0.5nm,0.1s						
MVOU				S	**Sb**	**09 06 01.3**	**-0.5**
MVOU				AML	AML	09 06 02.5	
	0.3nm,0.2s						
MVOU				AML	AML	09 06 02.5	
	0.3nm,0.2s						
TISA	**Tisan-Mersin**	**0.98**	**54**	PG	**Pg**	**09 05 50.4**	**+0.4**
KARG	**Kargicak-Mersi**	**1.03**	**53**	PG	**Pn**	**09 05 51.0**	**+0.2**
IKL	**Isikli**	**1.03**	**51**	PG	**Pb**	**09 05 50.8**	**+0.3**
IKL				SG	**Sn**	**09 06 05.5**	**+0.5**
TEVE	**Tevekalti-Mers**	**1.04**	**36**	PG	**Pb**	**09 05 50.8**	**+0.1**
ERMK	**Ermenek**	**1.06**	**10**	P	**Pb**	**09 05 48.9**	**-2.3**
KEBE	**Keben-Mersin**	**1.19**	**44**	PN	**Pn**	**09 05 53.3**	**+0.2**
KEBE				SN	**Sg**	**09 06 09.6**	**+0.2**
SILI	**Silifke-Mersin**	**1.26**	**52**	PN	**Pn**	**09 05 54.4**	**+0.4**
HDMB	**Hadim**	**1.38**	**353**	PN	**Pn**	**09 05 55.3**	**-0.5**
KIZK	**Mersin**	**1.47**	**53**	PN	**Pn**	**09 05 57.5**	**+0.6**
KKBE	**Karaman, Kazim**	**1.64**	**7**	P	**Pb**	**09 06 01.7**	**+0.9**
KKBE				S	**Sb**	**09 06 22.1**	**+0.8**
SEYD	**Seydisehir-KON**	**1.94**	**339**	PN	**Pn**	**09 06 02.9**	**-0.5**
MERS	**Mersin**	**1.95**	**49**	PN	**Pn**	**09 06 04.1**	**+0.5**
SEDI	**Konya, Seydise**	**2.00**	**338**	P	**Pb**	**09 06 07.0**	**-0.1**
SEDI				S	**Sb**	**09 06 32.1**	**+0.2**
KERG	**Konya-Eregli**	**2.15**	**32**	P	**Pb**	**09 06 09.3**	**-0.4**
KERG				S	**Sb**	**09 06 36.7**	**+0.4**
KERG				*i* AML	AML	09 06 37.0	
	comp=N,26nm,1.5s						

*IDC **14** 09:13:04.0±2.8, 6°.51N×127°.78E, h0km, mb3.3/3, mb1 3.5/3, mb1mx2.7/51, mbtmp3.3/3, Error ellipse: s-maj=202.5km s-min=27.8km az=67.0*
*MAN **14** 09:13:18.9, 5°.85N×126°.57E, h22km, mb4.4, ML3.2, MS3.0*
ISC 14 09:13:19.3±1.3, 5°.5N±0°.1×126°.0E±0°.2, h100km, n6, σ1$15/8, mb2.9/3, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.64**	**334**	↓*e*P	**Pn**	**09 13 35.6**	**-0.7**
DDMP				*e*S	**Sn**	09 13 49.4	+0.5
GSPH	**General Santos**	**1.18**	**298**	↓*i*P	**Pn**	09 13 42.0	+0.1
BUKP	**Musuan**	**2.52**	**338**	↓*e*P	**Pn**	09 13 59.2	+0.6
BUKP				*e*S	**Sn**	09 14 29.8	+0.9
WRA	**Warramunga Arr**	**26.60**	**162**	P	**P**	**09 18 47.8**	**-0.6**
	0.1nm,0.3s,baz=346,slow=10,SNR=2.3						
ASAR	**Alice Springs**	**30.02**	**165**	P	**P**	**09 19 20.3**	**+1.5**
	0.1nm,0.4s,baz=349,slow=7.8,SNR=1.7						
MKAR	**Makanchi Array**	**55.68**	**325**	P	**P**	**09 22 43.7**	**-1.5**
	0.3nm,0.4s,baz=117,slow=7.2,SNR=7.4						

IDC 14 09:22:50.1±1.5, 2°.74S×139°.19E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.1/39, mbtmp3.5/3, ML3.5/1, MS3.5/1, Ms1 3.4/1, ms1mx2.4/29, Error ellipse: s-maj=31.9km s-min=22.9km az=160.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.53**	**82**	Pn	Pb	09 23 19.3	-0.1
	2.7nm,0.3s,baz=236,slow=13,SNR=8.1						
JAY				Sn	Sg	09 23 38.9	-0.4
	4.9nm,0.3s,baz=150,slow=21,SNR=6.8						
WRA	**Warramunga Arr**	**17.75**	**195**	P	P	09 26 59.4	-0.3
	0.2nm,0.3s,baz=17,slow=12,SNR=6.8						
ASAR	**Alice Springs**	**21.43**	**193**	P	P	09 27 39.4	-0.5
	0.9nm,0.9s,baz=18,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**29.07**	**176**	LR	LR	09 41 15.5	
	comp=Z,80nm,18.8s,baz=141,slow=38						
MKAR	**Makanchi Array**	**70.10**	**322**	P	P	09 34 04.3	0.0
	0.4nm,0.7s,baz=109,slow=8.4,SNR=4.9						

*NNC **14** 09:38:41.0±2.2, 53°.88N×90°.74E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=16.2km s-min=13.7km az=51.0, Suspected Mining explosion.*
IDC 14 09:38:44.0±4.6, 53°.47N×90°.52E, h0km, mb1 3.0/3, mb1mx2.9/43, mbtmp3.0/3, ML2.6/3, 5C-5D, Error ellipse: s-maj=46.6km s-min=25.9km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.42**	**280**	↑Pg	Pb	09 39 45.4	-0.1
	0.5nm,0.5s						
ZAA0				↓Lg	Lg	09 40 31.4	
	4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**3.42**	**280**	Pn	Pn	09 39 40.0	+1.3
	0.9nm,0.3s,baz=97,slow=16,SNR=11						
ZALV				Lg	Lg	09 40 32.5	
	1.1nm,0.3s,baz=92,slow=25,SNR=8.9						
KURK	**Kurchatov**	**7.83**	**254**	↓Pn	Pn	09 40 39.5	+0.4
	0.9nm,0.6s						
KURK				↓Sn	Sn	09 42 12.9	+4.5
	2.1nm,1.0s						
KURK				↑Lg	Lg	09 42 57.1	
	15nm,1.1s						
KURBB	**Kurchatov Arra**	**7.92**	**254**	Pn	Pn	09 40 40.1	-0.3
	0.1nm,0.3s,baz=65,slow=15,SNR=7.8						
KURBB				Lg	Lg	09 43 02.9	
	0.0nm,0.3s,baz=72,slow=32,SNR=10						
KURBB	**Kurchatov Arra**	**7.92**	**254**	↑Pn	Pn	09 40 40.1	-0.3
	2.1nm,0.7s						
KURBB				↑Sn	Sn	09 42 15.0	+4.4
	5.2nm,1.0s						
KURBB				↓Lg	Lg	09 43 01.0	
	9.1nm,0.8s						
MK31	**Makanchi Array**	**8.51**	**222**	Pn	Pn	09 40 50.0	+1.5
	0.5nm,0.7s,baz=41,slow=14,SNR=5.9						
MK31				↑Sn	Sn	09 42 34.3	+9.1
	0.2nm,0.5s						
MK31				↓Lg	Lg	09 43 19.7	
	3.3nm,0.9s						
MKAR	**Makanchi Array**	**8.51**	**222**	Pn	Pn	09 40 49.3	+0.8
	0.2nm,0.3s,baz=39,slow=12,SNR=10.0						
MKAR				Lg	Lg	09 43 13.4	
	0.1nm,0.3s,baz=32,slow=29,SNR=2.6						
SONM	**Songino Array**	**11.54**	**113**	Lg	Lg	09 44 39.3	
	0.2nm,0.3s,baz=301,slow=27,SNR=3.6						
I34MN	**SONGINO INFRAS**	**11.56**	**113**	*i*		10 44 10.0	
	baz=310,slow=325,SNR=2.0						

*IDC **14** 09:48:34.6±5.7, 36°.15N×70°.88E, h104km±51km, mb4.3/5, mb1 3.5/10, mb1mx3.2/59, mbtmp3.8/10, Error ellipse: s-maj=39.5km s-min=24.9km az=20.0*
*NNC **14** 09:48:38.8±4.5, 36°.40N×70°.95E, h122km±74km, mb3.4, mpv4.1, Error ellipse: s-maj=36.7km s-min=34.1km az=157.0*
ISC 14 09:48:44.2±1.1, 36°.64N±0°.10×71°.1E±0°.1, h188km, n22, σ1$69/26, mb3.3/5, 6C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.85**	**20**	P	**Pn**	**09 50 07.3**	**-2.3**
	SNR=99						
UCH	**Uchtor**	**6.19**	**25**	P	**Pn**	**09 50 12.0**	**-2.1**
	SNR=31						
EKS2	**Erkin-Say**	**6.37**	**18**	P	**Pn**	**09 50 14.1**	**-2.0**
	SNR=12						
KK08	**Karatay Array**	**6.47**	**356**	↑P	**Pn**	**09 50 14.3**	**-3.1**
	8.1nm,0.7s,baz=182,slow=13						
KK08				↑S	**Sn**	**09 51 31.3**	**+0.3**
	7.0nm,0.5s,baz=185,slow=20						
AAK	**Ala-Archa**	**6.55**	**23**	P	**Pn**	**09 50 16.8**	**-1.7**
	8.4nm,0.3s,baz=169,slow=6.4,SNR=71						
AAK				S	**Sn**	**09 51 31.7**	**-1.4**
	2.5nm,0.3s,baz=180,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.55**	**23**	P	**Pn**	**09 50 17.1**	**-1.4**
	SNR=31						
AAK	**Ala-Archa**	**6.55**	**23**	↑P	**Pn**	**09 50 16.7**	**-1.7**
	9.6nm,0.4s						
AAK				S	**Sn**	**09 51 31.7**	**-1.4**
	31nm,0.8s						
CHMS	**Chumysh**	**6.96**	**23**	P	**Pn**	**09 50 23.0**	**-0.7**
	SNR=13						
USP	**Ospenovka**	**7.13**	**21**	P	**Pn**	**09 50 24.5**	**-1.4**
	SNR=13						
TKM2	**Tokmak 2**	**7.18**	**28**	P	**Pn**	**09 50 26.1**	**-0.7**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.18**	**28**	↑P	**Pn**	**09 50 24.9**	**-1.9**
	5.1nm,0.6s						
TKM2				↓S	**Sn**	**09 51 47.9**	**-0.1**
	7.4nm,0.8s						
MKAR	**Makanchi Array**	**13.15**	**36**	P	**Pn**	**09 51 43.5**	**-0.3**
	0.1nm,0.3s,baz=224,slow=13,SNR=11						
KURBB	**Kurchatov Arra**	**14.98**	**19**	P	**P**	**09 52 08.5**	**+1.2**
	0.1nm,0.3s,baz=210,slow=10,SNR=9.9						
AB31	**Akbulak array**	**14.98**	**331**	↑Pn	**Pn**	**09 52 05.4**	**-1.1**
	0.5nm,0.3s,baz=147,slow=14,SNR=58						
BVAR	**Borovoye Array**	**16.39**	**359**	P	**Pn**	**09 52 25.2**	**+1.7**
	0.4nm,0.3s,baz=157,slow=13,SNR=13						
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**09 52 27.4**	**+0.4**
	0.6nm,0.3s,baz=137,slow=9.2,SNR=12						
AKTO	**Aktyubinsk**	**16.68**	**330**	↑P	**Pn**	**09 52 27.5**	**+0.4**
	3.0nm,0.7s						
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**09 55 40.8**	**+2.3**
	2.4nm,0.9s,baz=114,slow=13,SNR=1.9						
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**09 59 06.9**	**-2.4**
	1.1nm,0.6s,baz=53,slow=6.1,SNR=8.4						
YKA	**Yellowknife Ar**	**81.10**	**3**	P	**P**	**10 00 40.5**	**+2.5**
	0.1nm,0.5s,baz=353,slow=5.6,SNR=2.7						
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**10 00 42.9**	**-0.5**
	0.4nm,0.7s,baz=327,slow=5.1,SNR=5.2						
ASAR	**Alice Springs**	**84.30**	**125**	P	**P**	**10 00 54.4**	**-0.6**
	0.2nm,0.5s,baz=316,slow=6.5,SNR=2.3						

*DJA **14** 09:57:10.2±1.2, 7°.S±13°.×10°.6E±°, h109km±14km, M3.3/7, MLv3.3/7*
*IDC **14** 09:57:11.7±5.1, 8°.16S×107°.79E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.1/60, mbtmp4.0/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/77, Error ellipse: s-maj=156.4km s-min=18.4km az=68.0*
ISC 14 09:57:09.6±1.4, 6°.8S±0°.1×106°.12E±0°.09, h100km, n15, σ2$69/11, mb3.5/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.46**	**290**	P	**Pn**	**09 57 28.5**	**+3.4**
SKJI	**Sukabumi**	**0.49**	**119**	P	**Pn**	**09 57 28.5**	**+3.2**
SBJI	**Serang**	**0.65**	**1**	P	**Pn**	**09 57 27.6**	**+1.0**
CBJI	**Citeko**	**0.80**	**64**	P	**Pn**	**09 57 29.4**	**+1.4**
CNJI	**Cibinong**	**1.13**	**118**	P	**Pn**	**09 57 32.1**	**+0.6**
LEM	**Lembang**	**1.48**	**92**	Pn	**Pn**	**09 57 37.3**	**+1.4**
	13nm,0.3s,baz=155,slow=23,SNR=6.0						
LEM				Sn	**Sn**	**09 57 58.8**	**+3.0**
	11nm,0.3s,baz=346,slow=14,SNR=12						
BLSI	**Bandar Lampung**	**1.64**	**328**	P	**Pn**	**09 57 39.4**	**+1.7**
KLSI		**2.49**	**326**	P	**Pn**	**09 57 49.8**	**+1.2**
MDSI	**Maura Dua**	**2.98**	**319**	P	**Pn**	**09 57 55.3**	**+0.1**
KRJI	**Kerinci**	**6.57**	**315**	P	Pn	09 58 58.2	+14
STKI	**Sintang**	**8.64**	**38**	P	Pn	09 58 59.8	-12
WRA	**Warramunga Arr**	**30.35**	**118**	P	P	10 03 06.5	-5.6
	0.2nm,0.3s,baz=294,slow=9.8,SNR=8.5						
ASAR	**Alice Springs**	**31.53**	**125**	P	P	10 03 17.4	-5.2
	0.6nm,0.7s,baz=297,slow=7.9,SNR=10						
PMG	**Port Moresby**	**40.70**	**97**	LR	LR	10 22 39.8	
	comp=Z,26nm,18.4s,baz=154,slow=39						
STKA	**Stephens Creek**	**41.44**	**132**	P	**P**	**10 04 42.5**	**-4.2**
	5.1nm,0.4s,baz=308,slow=9.8,SNR=24						

*EAF **14** 10:02:47.4±8.5, 24°.71S×30°.13E, h10km, MD4.1*
BUL 14 10:02:48.4±17.0, 25°.05S×30°.05E, h10km, MD4.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**1.95**	**39**	*i* P	Pn	10 03 19.5	-2.2
MOPA	**Mopani**	**1.95**	**39**	*i* P	Pn	10 03 19.5	-2.2
CNG	**Changalane**	**2.29**	**123**	*i* P	Pn	10 03 15.7	-11
CNG				*e*Sg	Sg	10 04 10.2	+8.1
CNG	**Changalane**	**2.29**	**123**	*i* P	Pn	10 03 15.7	-11
CNG				*e*Sg	Sg	10 04 10.2	+8.1
MSNA	**Messina**	**2.69**	**359**	*i* P	Pn	10 03 28.9	-2.9
MSNA	**Messina**	**2.69**	**359**	*i* P	Pn	10 03 28.9	-2.9
LBTB	**Lobatse**	**4.04**	**270**	*i* P	Pn	10 03 44.6	-5.9
LBTB				*i* Sg	Sg	10 05 00.3	+2.0
LBTB	**Lobatse**	**4.04**	**270**	*i* P	Pn	10 03 44.6	-5.9
LBTB				*i* Sg	Sg	10 05 00.3	+2.0
BLWY	**Bulawayo**	**5.06**	**344**	*e*P	Pn	10 03 51.8	-13
BLWY				*i* S	Sb	10 05 13.9	-4.2
BLWY	**Bulawayo**	**5.06**	**344**	*e*P	Pn	10 03 51.8	-13
BLWY				*i* S	Sb	10 05 13.9	-4.2

*IDC **14** 10:06:46.6±5.9, 14°.94S×167°.36E, h143km±58km, mb3.4/6, mb1 3.5/7, mb1mx3.1/33, mbtmp3.8/7, Error ellipse: s-maj=53.3km s-min=29.7km az=150.0*
*NOU **14** 10:06:57.7, 15°.38S×167°.49E, h26km, MLv4.2/6, Vanuatu Islands*
ISC 14 10:06:45.4±1.1, 14°.86S±0°.10×167°.3E±0°.2, h129km, n10, σ1$15/11, mb3.5/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.60**	**192**	P	**Pn**	**10 07 06.0**	**+1.1**
DVP	**Devils Point**	**2.96**	**164**	P	Pn	10 07 36.5	+5.0
DZM	**Mont Dzumac**	**7.22**	**187**	P	**Pn**	**10 08 29.8**	**+1.4**
	1.2nm,0.3s,baz=84,slow=12,SNR=13						
DZM				S	**Sn**	**10 09 47.5**	**-1.6**
	0.4nm,0.3s,baz=121,slow=15,SNR=1.8						
STKA	**Stephens Creek**	**28.96**	**230**	P	**P**	**10 12 33.6**	**+0.9**
	1.1nm,0.4s,baz=40,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**31.86**	**256**	P	**P**	**10 12 57.5**	**-1.0**
	0.4nm,0.9s,baz=84,slow=8.6,SNR=2.4						
ASAR	**Alice Springs**	**32.69**	**249**	P	**P**	**10 13 04.9**	**-0.8**
	0.6nm,0.4s,baz=78,slow=8.9,SNR=14						
ASAR				PcP	**PcP**	**10 15 47.6**	**-1.0**
	0.4nm,0.9s,baz=105,slow=2.6,SNR=2.2						
SONM	**Songino Array**	**82.64**	**324**	P	**P**	**10 18 54.9**	**+0.5**
	0.4nm,0.6s,baz=133,slow=6.8,SNR=3.2						
ILAR	**Eielson Array**	**86.63**	**18**	P	**P**	**10 19 13.0**	**-0.9**
	0.3nm,0.7s,baz=234,slow=5.3,SNR=4.3						
MKAR	**Makanchi Array**	**97.34**	**316**	P	**P**	**10 20 04.8**	**+0.7**
	0.4nm,0.7s,baz=90,slow=6.3,SNR=3.8						
ARCES	**ARCESS Array B**	**120.39**	**345**	PKP	**PKPdf**	**10 25 20.4**	**-0.4**
	3.3nm,0.9s,baz=52,slow=2.4,SNR=8.7						

IDC 14 10:28:52.0±1.6, 4°.10N×127°.94E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/40, mbtmp3.5/5, Error ellipse: s-maj=156.7km s-min=22.3km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.71**	**165**	P	P	10 34 14.3	-0.8
	0.7nm,0.9s,baz=345,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**28.21**	**168**	P	P	10 34 47.5	+0.8
	0.2nm,0.5s,baz=349,slow=7.5,SNR=2.6						
SONM	**Songino Array**	**47.34**	**340**	P	P	10 37 27.5	-0.3
	0.4nm,0.7s,baz=140,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**57.95**	**325**	P	P	10 38 46.4	+0.1
	0.4nm,0.5s,baz=115,slow=8.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**60.81**	**332**	P	P	10 39 05.7	-0.2
	0.5nm,0.5s,baz=120,slow=8.8,SNR=4.3						

*IDC **14** 10:33:06.2±1.0, 2°.94S×123°.86E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/35, mbtmp3.7/7, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/68, Error ellipse: s-maj=40.9km s-min=19.3km az=70.0*
*DJA **14** 10:33:07.5±2.0, 3°.S±3°.×12°.3E±°, h25km±20km, M4.0/12, mb4.3/3, mB4.7/1, MLv3.9/12, Mw(mB)3.9/1*
ISC 14 10:33:10.3±0.8, 3°.25S±0°.05×123°.39E±0°.06, h35km, n21, σ1$50/20, mb3.7/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**2.28**	**344**	P	**Pn**	**10 33 44.0**	**-1.5**
LUWI				S	**Sn**	**10 34 12.2**	**-0.1**
BBSI	**Bau Bau**	**2.37**	**200**	P	Pn	10 33 42.0	-4.7
SANI	**Sanana**	**2.86**	**65**	P	**Pn**	**10 33 51.7**	**-1.8**
APSI	**Ampana**	**2.90**	**323**	P	**Pn**	**10 33 53.1**	**-0.9**
BNSI	**Bone**	**3.47**	**251**	P	**Pn**	**10 34 00.5**	**-1.3**
TTSI	**Tana Toraja**	**3.57**	**273**	P	**Pn**	**10 34 01.2**	**-2.0**
SPSI	**Sidrap Palu**	**3.68**	**259**	P	**Pn**	**10 34 03.3**	**-1.5**
BKSI	**Bulukumba**	**3.85**	**238**	P	**Pn**	**10 34 05.9**	**-1.2**
GTOI	**Gorontalo**	**3.88**	**354**	P	**Pn**	**10 34 08.4**	**+0.9**
MRSI	**Marisa**	**3.97**	**339**	P	Pn	10 34 02.0	-6.8
KAPI	**Kappang**	**4.03**	**244**	Pn	Pn	10 34 18.3	+8.8
	3.3nm,0.3s,baz=56,slow=5.9,SNR=7.2						
KAPI				Sn	**Sn**	**10 34 58.3**	**+2.7**
	2.4nm,0.3s,baz=270,slow=21,SNR=5.6						
BSSI	**Bau Bau, Buton**	**4.07**	**225**	P	**Pn**	**10 34 07.6**	**-2.6**
MPSI	**Mapaga**	**4.99**	**316**	P	**Pn**	**10 34 21.7**	**-1.0**
	0.2nm741nm51nm,1.0s						
EDFI	**Ende, Flores**	**5.72**	**197**	P	**Pn**	**10 34 31.0**	**-1.9**
WRA	**Warramunga Arr**	**19.74**	**148**	P	**Pn**	**10 37 39.1**	**+0.2**
	0.2nm,0.3s,baz=339,slow=9.0,SNR=9.3						
ASAR	**Alice Springs**	**22.70**	**154**	P	**P**	**10 38 10.1**	**+0.9**
	0.7nm,0.5s,baz=337,slow=12,SNR=9.2						
ASAR				PcP	**PcP**	**10 42 01.4**	**+0.6**
	0.3nm,0.6s,baz=351,slow=1.7,SNR=2.4						
PMG	**Port Moresby**	**24.39**	**106**	LR	LR	10 49 00.5	
	comp=Z,61nm,19.2s,baz=354,slow=40						
STKA	**Stephens Creek**	**33.23**	**151**	P	**P**	**10 39 45.4**	**+1.2**
	3.8nm,0.9s,baz=322,slow=12,SNR=4.4						
USRK	**Ussuriysk Ar.**	**47.86**	**8**	P	**P**	**10 41 44.1**	**-0.7**
	0.5nm,0.7s,baz=203,slow=6.3,SNR=4.6						
SONM	**Songino Array**	**53.01**	**346**	P	**P**	**10 42 23.8**	**0.0**
	0.4nm,1.0s,baz=160,slow=9.0,SNR=2.0						
MKAR	**Makanchi Array**	**61.57**	**329**	P	**P**	**10 43 24.2**	**0.0**
	0.5nm,0.7s,baz=131,slow=7.0,SNR=4.1						

*NOU **14** 10:43:19.6, 38°.52S×175°.98E, h171km, MLv4.0/8, North Island, New Zealand*
*WEL **14** 10:43:22.7±0.9, 38°.S±5°.×17°.6E±°, h137km±7km, M3.0/51, MLv3.0/51, Error ellipse: s-maj=0.0km s-min=0.0km az=148.8*
ISC 14 10:43:17.1±1.6, 38°.42S±0°.04×176°.00E±0°.05, h183km±8km, n149, σ1$66/154, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.12**	**52**	P	**Pn**	**10 43 42.3**	**+0.9**
KUTZ	**Kaahu Road**	**0.15**	**243**	P	**Pn**	**10 43 42.2**	**+0.9**
WPRZ	**Whakapapatarin**	**0.16**	**127**	P	**Pn**	**10 43 42.2**	**+0.8**
HSRZ	**Hossack Road**	**0.23**	**61**	P	**Pn**	**10 43 42.4**	**+0.9**
HRRZ	**Handcock Road**	**0.23**	**82**	P	**Pn**	**10 43 42.3**	**+0.8**
UTU	**Utuhina**	**0.29**	**33**	P	**Pn**	**10 43 42.6**	**+0.9**
ALRZ	**Allen Road**	**0.31**	**117**	P	**Pn**	**10 43 42.5**	**+0.8**
HLRZ	**Highlands Stat**	**0.33**	**59**	P	**Pn**	**10 43 43.2**	**+1.4**
WATZ	**Wairara**	**0.35**	**216**	P	**Pn**	**10 43 42.9**	**+1.1**
NGRZ	**Ngongotaha**	**0.35**	**25**	P	**Pn**	**10 43 42.6**	**+0.7**
TLZ	**Tolley Road**	**0.37**	**284**	P	**Pn**	**10 43 43.0**	**+1.1**
TLZ				S	**S**	**10 43 59.7**	**-1.2**
RRRZ	**Republican Roa**	**0.42**	**79**	P	**Pn**	**10 43 42.7**	**+0.8**
OMRZ	**Omania**	**0.43**	**43**	P	**Pn**	**10 43 42.7**	**+0.6**
TARZ	**Mount Tarawera**	**0.44**	**65**	P	**Pn**	**10 43 43.6**	**+1.5**
KARZ	**Kaharoa**	**0.45**	**26**	P	**Pn**	**10 43 42.8**	**+0.7**
HATZ	**Hinemaiaia**	**0.47**	**171**	P	**Pn**	**10 43 43.1**	**+0.9**
RATZ	**Rangitukua**	**0.48**	**201**	P	**Pn**	**10 43 43.3**	**+1.1**
RITZ	**Rihia Road**	**0.56**	**191**	P	**Pn**	**10 43 44.2**	**+1.6**
KMRZ	**Kaimai**	**0.58**	**356**	P	**Pn**	**10 43 43.5**	**+0.8**
KATZ	**Kakaramea**	**0.60**	**203**	P	**Pn**	**10 43 44.1**	**+1.3**
MUGZ	**Murupara**	**0.61**	**95**	P	**Pn**	**10 43 43.4**	**+0.7**
MUGZ				S	**S**	**10 44 00.1**	**-2.4**
NTVZ	**North Tongarir**	**0.72**	**200**	P	**Pn**	**10 43 45.0**	**+1.5**
TGRZ	**Tauranga**	**0.72**	**17**	P	**Pn**	**10 43 44.2**	**+0.8**
OPRZ	**Ohinepanea**	**0.73**	**38**	P	**Pn**	**10 43 44.1**	**+0.7**
OPRZ				S	**S**	**10 44 02.0**	**-1.6**
KRVZ	**Karewarewa**	**0.73**	**202**	P	**Pn**	**10 43 44.8**	**+1.3**
TMVZ	**Te Maari**	**0.73**	**198**	P	**Pn**	**10 43 45.0**	**+1.5**
ETVZ	**East Tongariro**	**0.75**	**197**	P	**Pn**	**10 43 45.3**	**+1.6**
WTVZ	**West Tongariro**	**0.76**	**204**	P	**Pn**	**10 43 45.2**	**+1.5**
NNVZ	**North Ngauruho**	**0.77**	**203**	P	**Pn**	**10 43 45.4**	**+1.6**
TWVZ	**Taurewa**	**0.78**	**214**	P	**Pn**	**10 43 45.3**	**+1.5**
OTVZ	**Oturere**	**0.78**	**199**	P	**Pn**	**10 43 45.6**	**+1.7**

PRWZ	**Pori Road**	**2.13 180**	P	**Pn**	**10 43 57.9 +2.1**
GRZ	**Great Barrier**	**2.21 349**	P	**Pn**	**10 43 58.9 +2.2**
MRZ	**Mangatainoka R**	**2.26 188**	P	**Pn**	**10 43 58.9 +1.7**
BFZ	**Birch Farm**	**2.27 175**	P	**Pn**	**10 43 59.1 +1.8**
BFZ	**Birch Farm**	**2.27 175**	P	**Pn**	**10 43 59.0 +1.8**
TIWZ	**Tintock**	**2.35 182**	P	**Pn**	**10 44 00.1 +1.9**
OGWZ	**Otaki Gorge**	**2.48 195**	P	**Pn**	**10 44 01.4 +1.7**
CPWZ	**Castlepoint**	**2.49 176**	P	**Pn**	**10 44 02.1 +2.4**
HOWZ	**Holdsworth Sta**	**2.50 188**	P	**Pn**	**10 44 01.4 +1.5**
KIW	**Kapiti Island**	**2.58 199**	P	**Pn**	**10 44 02.2 +1.4**
TMWZ	**Te Maipa**	**2.68 182**	P	**Pn**	**10 44 03.5 +1.5**
MTW	**Mount Morrison**	**2.76 188**	P	**Pn**	**10 44 04.2 +1.2**
CAW	**Cannon Point**	**2.78 195**	P	**Pn**	**10 44 04.5 +1.4**
WCZ	**Waipu Caves**	**2.81 331**	P	Pn	10 44 06.3 +2.8
DUWZ	**D'Urville Isla**	**2.87 213**	P	**Pn**	**10 44 05.6 +1.3**
TRWZ	**Traveller**	**2.98 184**	P	**Pn**	**10 44 07.0 +1.4**
PAWZ	**Paruwai Farm**	**2.99 188**	P	**Pn**	**10 44 07.0 +1.2**
WEL	**Wellington**	**3.01 198**	P	**Pn**	**10 44 07.3 +1.3**
MSWZ	**Moikau Station**	**3.04 191**	P	**Pn**	**10 44 07.5 +1.1**
SNZO	**South Karori**	**3.05 199**	P	**Pn**	**10 44 07.5 +1.1**
TCW	**Tory Channel**	**3.08 205**	P	**Pn**	**10 44 08.0 +1.2**
BHW	**Baring Head**	**3.11 196**	P	**Pn**	**10 44 08.1 +1.1**
PLWZ	**Palliser**	**3.19 190**	P	**Pn**	**10 44 09.3 +1.0**
TUWZ	**Tuamarina**	**3.39 207**	P	**Pn**	**10 44 11.8 +1.2**
NNZ	**Nelson**	**3.44 215**	P	**Pn**	**10 44 12.3 +1.1**
QRZ	**Quartz Range**	**3.60 227**	P	**Pn**	**10 44 13.9 +0.7**
QRZ	**Quartz Range**	**3.60 227**	P	**Pn**	**10 44 13.9 +0.7**
BSWZ	**Blackbirch Sta**	**3.67 206**	P	**Pn**	**10 44 15.3 +1.2**
OUZ	**Omahuta**	**3.73 328**	P	Pn	10 44 18.4 +3.5
OUZ	**Omahuta**	**3.73 328**	P	Pn	10 44 18.5 +3.6
THZ	**Tophouse**	**4.09 214**	P	**Pn**	**10 44 20.2 +0.7**
KHZ	**Kahutara**	**4.41 204**	P	**Pn**	**10 44 24.4 +1.0**
KHZ	**Kahutara**	**4.41 204**	P	**Pn**	**10 44 24.6 +1.2**
DSZ	**Denniston Nort**	**4.62 223**	P	**Pn**	**10 44 26.2 0.0**
GVZ	**Greta Valley S**	**5.07 205**	P	**Pn**	**10 44 32.6 +0.7**
LTZ	**Lake Taylor**	**5.20 212**	P	**Pn**	**10 44 34.6 +1.0**
AMCZ	**Amberley**	**5.38 207**	P	**Pn**	**10 44 36.3 +0.3**
INZ	**Inchbonnie**	**5.52 217**	P	**Pn**	**10 44 37.5 -0.2**
OKCZ	**Okains Bay**	**5.74 202**	P	**Pn**	**10 44 41.1 +0.4**
MQZ	**McQueen's Vall**	**5.85 204**	P	**Pn**	**10 44 41.5 -0.5**
AKCZ	**Akaroa Harbour**	**5.92 202**	P	**Pn**	**10 44 43.1 +0.1**
RACZ	**Rakaia**	**6.05 208**	P	**Pn**	**10 44 44.4 -0.2**
WACZ	**Wakanui South**	**6.34 208**	P	**Pn**	**10 44 48.6 +0.2**
ARCZ	**Arundel**	**6.61 212**	P	**Pn**	**10 44 52.3 +0.3**
FOZ	**Fox Glacier**	**6.92 221**	P	**Pn**	**10 44 55.5 -0.5**
TMZ	**Timaru**	**7.04 211**	P	**Pn**	**10 44 57.4 -0.2**
LBZ	**Lake Benmore**	**7.39 214**	P	**Pn**	**10 45 02.3 +0.1**
ODZ	**Otahua Downs**	**7.73 209**	P	**Pn**	**10 45 07.0 +0.3**
ODZ	**Otahua Downs**	**7.73 209**	P	**Pn**	**10 45 07.2 +0.5**

*ISK **14** 10:59:21.9, 39°.36N×40°.07E, h5km, ML3.5/23*
*DDA **14** 10:59:22.9±0.0, 39°.36N×40°.05E, h7km±3km, MW3.5*
*AZER **14** 10:59:37.1±7.9, 39°.08N×40°.56E, h9km±171km, Error ellipse: s-maj=488.5km s-min=50.2km az=256.0, Hypocentre not reviewed by the ISC*

ISC 14 10:59:22.5±0.7, 39°.39N±0°.02×40°.06E±0°.02, h10km, n51, σ1§42/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.38**	**80**	PG	**Pg**	**10 59 30.7**	**+0.9**
YEDI				SG	**Sb**	**10 59 36.7**	**-1.5**
EUZM	**Uzumlu**	**0.43**	**321**	SPECP		10 59 31.0	
EUZM				P	**Pg**	**10 59 31.7**	**+1.0**
EUZM				S	**Sb**	**10 59 38.7**	**-1.0**
TNCL	**Tunceli-Merkez**	**0.47**	**237**	SPECP		10 59 32.0	
TNCL				P	**Pb**	**10 59 32.5**	**-0.9**
TNCL				S	**Sb**	**10 59 39.5**	**-1.3**
BNGB	**Bingl**	**0.61**	**128**	PG	**Pg**	**10 59 34.3**	**+0.2**
BNGB				SG	**Sb**	**10 59 43.8**	**-1.0**
KOVA	**Elazig, Kovanc**	**0.69**	**196**	SPECP		10 59 36.0	
KOVA				P	**Pb**	**10 59 36.4**	**-0.6**
KOVA				S	**Sb**	**10 59 46.8**	**-0.2**
KOPT	**Kop Dagi**	**0.73**	**28**	SPECP		10 59 37.0	
KOPT				P	**Pb**	**10 59 37.3**	**-0.5**
KOPT				S	**Sb**	**10 59 47.9**	**-0.4**
KARO	**Karliova-Bingo**	**0.77**	**94**	PG	**Pb**	**10 59 37.7**	**-0.8**
KARO				SG	**Sb**	**10 59 49.3**	**-0.1**
SLHN	**Bingol, Solhan**	**0.86**	**118**	SPECP	**Pg**	**10 59 39.0**	**+0.2**
SLHN				P	**Pg**	**10 59 39.0**	**+0.2**
SLHN				S	**Sb**	**10 59 52.5**	**+0.7**
BAYB	**BAYBURT**	**0.90**	**10**	SPECP		10 59 39.0	
BAYB				P	**Pg**	**10 59 39.0**	**-0.6**
HANI	**Diyarbakir_Han**	**0.99**	**164**	P	**Pb**	**10 59 41.8**	**-0.3**
HANI				S	**Sg**	**10 59 54.0**	**-0.2**
KELT	**Kelkit**	**0.99**	**322**	SPECP		10 59 40.0	
KELT				P	**Pg**	**10 59 40.6**	**-0.8**
KELT				S	**Sb**	**10 59 56.7**	**+0.9**
BAYT	**Aydıntepe-Bayb**	**1.02**	**4**	PG	**Pb**	**10 59 42.6**	**-0.2**
EJDE	**Erzurum, Palan**	**1.07**	**64**	PG	**Pg**	**10 59 41.8**	**-1.0**
EJDE	**Erzurum, Palan**	**1.07**	**64**	P	**Pg**	**10 59 41.6**	**-1.2**
EJDE				S	**Sb**	**10 59 58.3**	**+0.2**
VRTB	**Varto-Mus**	**1.11**	**101**	PN	**Pb**	**10 59 43.8**	**-0.4**
VRTB	**Varto-Mus**	**1.11**	**101**	P	**Pg**	**10 59 43.5**	**0.0**
REFA	**Refahiye_ERZN**	**1.13**	**299**	SPECP		10 59 43.0	
REFA				P	**Pg**	**10 59 43.7**	**-0.3**
ERZM	**Erzurum**	**1.14**	**62**	PN	**Pb**	**10 59 44.9**	**+0.1**
ERZM	**Erzurum**	**1.14**	**62**	P	**Pg**	**10 59 43.4**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.15**	**211**	PN	**Pn**	**10 59 44.9**	**-0.5**
KRIK	**Erzurum-spir**	**1.18**	**35**	SPECP		10 59 45.0	
KRIK				P	**Pb**	**10 59 45.5**	**+0.1**
ELZG	**Elazig**	**1.21**	**224**	SPECP		10 59 45.0	
ELZG				P	**Pb**	**10 59 45.7**	**-0.2**
KEMA	**Kemaliye**	**1.22**	**266**	SPECP		10 59 45.0	
KEMA				P	**Pg**	**10 59 45.4**	**-0.2**
ARPR	**Arapgir-MALATY**	**1.36**	**259**	PN	**Pg**	**10 59 49.4**	**+0.9**
ALUC	**Giresun/Alucra**	**1.39**	**315**	SPECP	**Pb**	**10 59 49.0**	**+0.1**
ALUC				P	**Pb**	**10 59 49.0**	**+0.1**
DYBB	**Diyarbakir**	**1.42**	**177**	PN	**Pg**	**10 59 49.7**	**+0.2**
DIYA	**Diyarbakir**	**1.45**	**178**	SPECP	**Pg**	**10 59 51.0**	**+1.0**
DIYA				P	**Pg**	**10 59 51.0**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.51**	**143**	PN	**Pg**	**10 59 50.9**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.51**	**143**	SPECP		10 59 51.0	
SVAN				P	**Pg**	**10 59 51.6**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**1.52**	**65**	PN	**Pn**	**10 59 50.4**	**-0.1**
MACK	**Trabzon**	**1.58**	**352**	SPECP		10 59 51.0	
MACK				P	**Pb**	**10 59 51.8**	**-0.4**
KTUT	**Trabzon**	**1.63**	**352**	PN	**Pb**	**10 59 53.4**	**+0.4**
MALT	**Malatya**	**1.65**	**231**	PN	**Pb**	**10 59 52.7**	**-0.7**
CHOM	**Cayeli-Rize**	**1.81**	**17**	PN	**Pb**	**10 59 55.5**	**-0.5**
CUZAR	**Zara_SIVAS**	**1.84**	**287**	P	**Pb**	**10 59 56.7**	**+0.1**
MLAZ	**Malazgirt-MUS**	**1.95**	**96**	PN	**Pn**	**10 59 57.1**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.13**	**55**	PN	**Pb**	**11 00 00.1**	**-1.5**
URFA	**Urfa**	**2.16**	**207**	PN	**Pb**	**11 00 00.5**	**-1.5**
DARE	**Darende-Malaty**	**2.16**	**249**	PN	**Pb**	**11 00 00.7**	**-1.4**
AGRB	**Hanur-Agry**	**2.28**	**84**	PN	**Pn**	**11 00 02.1**	**+1.1**
RSDY	**Resadiye-TOKAT**	**2.34**	**297**	PN	**Pb**	**11 00 03.4**	**-1.6**
SVSK	**Karacayir**	**2.42**	**284**	PN	**Pn**	**11 00 04.5**	**+1.8**
AKDM	**Akdamar-Van**	**2.51**	**114**	PN	**Pn**	**11 00 05.2**	**+1.1**
KARS	**Kars**	**2.64**	**61**	PN	**Pn**	**11 00 07.3**	**+1.4**
SIRT	**Sirnak**	**2.64**	**134**	PN	**Pn**	**11 00 07.2**	**+1.3**
VANB	**Van**	**2.71**	**106**	PN	**Pn**	**11 00 08.7**	**+1.9**

*IDC **14** 11:04:16.1±0.5, 15°.50S×177°.27W, h0km, mb4.7/20, mb1 4.9/20, mb1mx4.8/24, mbtmp4.7/20, ML4.8/1, MS5.3/61, Ms1 5.3/61, ms1mx5.3/64, Error ellipse: s-maj=19.2km s-min=14.0km az=143.0*
*NEIC **14** 11:04:18.8±2.7, 15°.64S±0°.10×177°.16W±0°.08, h10km±1km, mb5.2/228, Ms_20 5.6/337, Mwb5.6/23, Error ellipse: s-maj=16.4km s-min=12.3km az=174.0*
*MOS **14** 11:04:19.4±1.5, 15°.43S×177°.37W, h24km, mb5.2/30, MS5.3/8, Error ellipse: s-maj=10.5km s-min=9.1km az=146.4*
*BJI **14** 11:04:22.0±0.0, 15°.60S×177°.30W, h50km, mb4.8/43, mB5.4/44, Ms5.5/51, Ms7 5.3/49*
*GCMT **14** 11:04:22.8±0.1, 15°.52S±0°.01×177°.11W±0°.01, h18km, MW5.8/162, Moment Tensor Solution. s137,c263; s162,c338; Duration: 1§8 Moment tensor: Scale 10^{17} Nm; M_{rr}0.28±.05; $M_{\theta\theta}$0.38±.05; $M_{\phi\phi}$-0.65±.05; $M_{r\theta}$0.34±.12; $M_{\theta\phi}$5.25±.05; $M_{\phi r}$-0.58±.12; Best double couple: $M_0$5.31400×10^{17} NP1:ϕ_s273.00000°, δ84.00000°, λ-3.00000°. NP2:ϕ_s3.00000°, δ87.00000°, λ-174.00000°. Principal axes: T 5.1400, Plg2.0000°, Azm138.0000°; N 0.3480, Plg83.0000°, Azm34.0000°; P -5.4890, Plg7.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **14** 11:04:26.1, 15°.84S×177°.36W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.00; $M_{\theta\theta}$1.44; $M_{\phi\phi}$-0.44; $M_{r\theta}$0.10; $M_{\theta\phi}$3.47; $M_{\phi r}$0.01; Fault plane solution: $M_0$3.70000×10^{17} NP1:ϕ_s7.55000°, δ88.37000°, λ-179.67000°. NP2:ϕ_s277.54000°, δ89.67000°, λ-1.63000°. Principal axes: T 4.1002, Plg1.0000°, Azm323.0000°; N -1.0022, Plg88.0000°, Azm86.0000°; P -3.0980, Plg1.0000°, Azm233.0000°;*

ISC 14 11:04:23.4±0.4, 15°.68S±0°.05×177°.23W±0°.05, h45km±3km, h47km:pP-P, n763, σ1§68/503, mb5.1/156, MS5.5/249, 33C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.97**	**245**	Pn	Pn	11 05 30.7	-4.8
	1.3nm,0.3s,baz=90,slow=20,SNR=3.6						
MSVF				LR	LR	11 07 24.8	
	comp=Z,85μm,20.4s,baz=56,slow=38						
MSVF	**Nonsavu**	**4.97**	**245**	*i* P	**Pn**	**11 05 34.7**	**-0.9**
MSVF				pmax	pmax		
	comp=Z,72nm,1.1s						
MSVF	**Nonsavu**	**4.97**	**245**	Pn	**Pn**	**11 05 32.0**	**-3.6**
MSVF	**Nonsavu**	**4.97**	**245**	P	**Pn**	**11 05 34.3**	**-1.3**
AFI	**Afiamalu**	**5.55**	**72**	Pn	Pn	11 05 35.3	-8.3
	comp=Z,9.8nm,0.3s,baz=282,slow=12,SNR=14						
AFI				LR	LR	11 07 33.3	
	comp=Z,36μm,21.1s,baz=243,slow=36						
NIUE	**Niue**	**7.75**	**117**	Pn	**Pn**	**11 06 11.1**	**-2.5**
RAO	**Raoul Island**	**13.53**	**183**	LR	LR	11 11 50.1	
	comp=Z,17μm,19.1s,baz=356,slow=33						
SANVU	**Saraoutou**	**15.01**	**269**	Pn	**Pn**	**11 07 52.2**	**-0.4**
SANVU				IAmb	IAmb	11 08 23.6	
	comp=Z,188nm,1.4s						
PINNC	**Pines Island,**	**16.04**	**242**	Pn	**Pn**	**11 08 05.2**	**-0.7**
OUENC	**Ouen Island, N**	**16.48**	**244**		**Pn**	**11 08 12.5**	**+1.0**
DZM	**Mont Dzumac**	**16.71**	**245**	LR	LR	11 13 30.7	
	comp=Z,23μm,21.7s,baz=77,slow=33						
DZM	**Mont Dzumac**	**16.71**	**245**	*e*Pn	**P**	**11 08 16.5**	**+0.3**
	comp=Z,225nm,1.4s						
DZM				*e*LQ	LQ	11 11 24.6	
	comp=Z,19μm,29.5s						
DZM				*e*LR	LR	11 12 08.2	
	comp=Z,32μm,25.2s						
DZM	**Mont Dzumac**	**16.71**	**245**	Pn	**Pn**	**11 08 13.4**	**-1.0**
DZM				IAmb	IAmb	11 08 46.7	
	comp=Z,451nm,1.8s						
DZM	**Mont Dzumac**	**16.71**	**245**	P	**P**	**11 08 16.2**	**-0.1**
DZM				pP	**sP**	**11 08 34.5**	**+2.8**
NOUC	**Port Laguerre**	**16.84**	**245**	P	**P**	**11 08 19.7**	**+2.1**
NOUC				pP	**sP**	**11 08 36.3**	**+3.3**
RAR	**Rarotonga**	**17.44**	**111**	P	**Pn**	**11 08 20.1**	**-3.4**
RAR				pmax	pmax		
	comp=Z,448nm,1.9s						
RAR	**Rarotonga**	**17.44**	**111**	Pn	**Pn**	**11 08 20.1**	**-3.4**
RAR				IAmb	IAmb	11 08 25.7	
	comp=Z,448nm,1.9s						
TARA	**Tarawa**	**19.52**	**329**	P	**P**	**11 08 46.0**	**-1.1**
TARA				IAmb	IAmb	11 09 45.9	
	comp=Z,230nm,1.2s						
OUZ	**Omahuta**	**21.13**	**201**	P	**P**	**11 09 04.8**	**+0.3**
OUZ				IAmb	IAmb	11 09 22.4	
	comp=Z,153nm,1.3s						
URZ	**Urewera**	**23.05**	**191**	IAMs_20	IAMs_20	11 16 44.4	
	comp=Z,14μm,19.0s						
HNR	**Honiara**	**23.12**	**283**	P	**P**	**11 09 24.6**	**-1.1**
	comp=Z,46nm,0.8s,baz=170,slow=6.1,SNR=1.8						
HNR				LR	LR	11 16 50.0	
	comp=Z,27μm,21.4s,baz=117,slow=33						
HNR	**Honiara**	**23.12**	**283**	P	**P**	**11 09 24.9**	**-0.8**
HNR	**Honiara**	**23.12**	**283**	IAMs_20	IAMs_20	11 16 39.4	
	comp=Z,24μm,19.0s						
HNR	**Honiara**	**23.12**	**283**	P	**P**	**11 09 26.6**	**+0.8**
HNR				pP	**pwP**	**11 09 39.2**	**0.0**
XMAS	**Kiritimati**	**26.32**	**50**	IAMs_20	IAMs_20	11 17 05.7	
	comp=Z,15μm,21.0s						
PPT	**Papeete**	**26.55**	**98**	LR	LR	11 18 16.0	
	comp=Z,3μm,19.2s,baz=268,slow=32						
PPT2	**Papeete2**	**26.55**	**98**	*e*S	**S**	**11 14 28.5**	**-0.5**
	comp=Z,255nm,24.0s						
PPT2				*e*LQ	LQ	11 15 35.0	
	comp=Z,19μm,25.7s						
PPT2				*e*LR	LR	11 16 44.4	
	comp=Z,9μm,24.2s,baz=254						
KWAJ	**Kwajalein Atol**	**28.58**	**327**	IAMs_20	IAMs_20	11 18 28.4	
	comp=Z,15μm,21.0s						
RPZ	**Rata Peaks**	**29.68**	**197**	IAMs_20	IAMs_20	11 22 49.2	
	comp=Z,9μm,18.0s						
LBZ	**Lake Benmore**	**30.55**	**198**	IAMs_20	IAMs_20	11 23 06.2	
	comp=Z,11μm,20.0s						
EIDS	**Eidsvold**	**31.14**	**247**	P	**P**	**11 10 37.5**	**-0.5**
EIDS				IAmb	IAmb	11 10 48.6	
	comp=Z,64nm,1.9s						
ARMA	**Armidale**	**32.07**	**237**	P	**P**	**11 10 46.2**	**-0.1**
WHZ	**Wether Hill Ro**	**32.59**	**199**	P	**P**	**11 10 51.0**	**+0.5**
PATS	**Pohnpei**	**32.98**	**311**	IAMs_20	IAMs_20	11 22 13.5	
	comp=Z,15μm,18.0s						
CTA	**Charters Tower**	**34.99**	**257**	P	**P**	**11 11 10.8**	**-0.8**
	comp=Z,15nm,1.0s,baz=78,slow=9.9,SNR=7.3						
CTA				LR	LR	11 25 12.6	
	comp=Z,3μm,18.3s,baz=81,slow=36						
CTAO	**Charters Tower**	**34.99**	**257**	P	**P**	**11 11 12.1**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,70nm,1.4s						
CTAO				MLR	MLR		
	comp=Z,4μm,18.0s						
CTAO	**Charters Tower**	**34.99**	**257**	P	**P**	**11 11 12.1**	**+0.4**
CTAO				IAmb	IAmb	11 11 24.3	
	comp=Z,70nm,1.4s						
CTAO	**Charters Tower**	**34.99**	**257**	P	**P**	**11 11 11.6**	**-0.1**
PMG	**Port Moresby**	**35.28**	**276**	P	**P**	**11 11 12.9**	**-1.3**
	comp=Z,16nm,0.9s,baz=101,slow=5.5,SNR=5.9						
PMG				LR	LR	11 23 27.0	
	comp=Z,5μm,21.4s,baz=92,slow=33						
PMG	**Port Moresby**	**35.28**	**276**	P	**P**	**11 11 14.8**	**+0.5**
PMG				IAmb	IAmb	11 11 37.9	
	comp=Z,34nm,1.2s						
PMG	**Port Moresby**	**35.28**	**276**	P	**P**	**11 11 15.0**	**+0.7**
CAN	**Canberra**	**35.97**	**231**	P	**P**	**11 11 20.1**	**+0.1**
CAN				pmax	pmax		
	comp=Z,80nm,1.5s						
CAN				MLR	MLR		
	comp=Z,4μm,21.0s						
CAN	**Canberra**	**35.97**	**231**	P	**P**	**11 11 20.1**	**+0.1**
CAN				IAmb	IAmb	11 12 05.6	
	comp=Z,80nm,1.5s						
TAOE	**Nuku Hiva Isla**	**36.82**	**84**	*e*S	**S**	**11 17 11.4**	**+2.4**
	comp=Z,422nm,28.5s						
TAOE				*e*LR	LR	11 21 12.3	
	comp=Z,8μm,28.3s,baz=256						
H11S2	**WAKE ISLAND Hy**	**37.46**	**334**	T	T	11 51 10.2	
	baz=155,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**37.47**	**334**	T	T	11 51 14.1	
	baz=155,slow=76,SNR=49						
H11S1	**WAKE ISLAND Hy**	**37.48**	**334**	T	T	11 51 15.7	
	baz=155,slow=76,SNR=40						
WAKE	**Wake Island**	**38.19**	**335**	IAMs_20	IAMs_20	11 24 05.6	
	comp=Z,10μm,19.0s						
H11N3	**WAKE ISLAND Hy**	**38.48**	**336**	T	T	11 52 25.3	
	baz=154,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**38.48**	**336**	T	T	11 52 26.3	
	baz=154,slow=76,SNR=28						
H11N2	**WAKE ISLAND Hy**	**38.49**	**336**	T	T	11 52 21.3	
	baz=154,slow=76,SNR=26						
STKA	**Stephens Creek**	**40.72**	**239**	P	**P**	**11 11 59.7**	**-0.2**
	comp=Z,43nm,1.2s,baz=60,slow=7.8,SNR=13						
STKA				LR	LR	11 26 41.0	
	comp=Z,5μm,21.5s,baz=58,slow=33						
STKA	**Stephens Creek**	**40.72**	**239**	P	**P**	**11 11 59.7**	**-0.2**
KHLU	**Kahalu`u**	**40.85**	**32**	P	**P**	**11 12 01.0**	**-0.1**
POHA	**Pohakuloa**	**41.17**	**32**	P	**P**	**11 12 03.8**	**-0.1**
HPAH	**Hawaii Prepara**	**41.31**	**32**	P	**P**	**11 12 02.5**	**-2.4**
DHH	**Diamond Head**	**41.36**	**28**	P	**P**	**11 12 02.7**	**-2.5**
DHH	**Diamond Head**	**41.36**	**28**	P	**P**	**11 12 02.6**	**-2.5**
WMR	**Waimanalo Ridg**	**41.47**	**28**	P	**P**	**11 12 04.8**	**-1.2**
HLK	**Haleakala**	**41.66**	**30**	P	**P**	**11 12 06.9**	**-1.0**
JAY	**Jayapura**	**43.44**	**283**	LR	LR	11 28 09.6	
	comp=Z,4μm,21.2s,baz=100,slow=33						
BBOO	**Buckleboo**	**45.49**	**239**	P	**P**	**11 12 37.1**	**-1.4**
WR0	**Warramunga Arr**	**46.00**	**257**	P	**P**	**11 12 41.1**	**-1.6**
WR0				IAmb	IAmb	11 13 05.4	
	comp=Z,34nm,1.7s						
WB0	**Warramunga Arr**	**46.15**	**258**	P	**P**	**11 12 41.6**	**-2.2**
WB0				IAmb	IAmb	11 12 58.6	
	comp=Z,21nm,1.1s						
WB2	**Warramunga Arr**	**46.18**	**257**	P	**P**	**11 12 42.5**	**-1.6**
WB2				IAmb	IAmb	11 12 53.2	
	comp=Z,50nm,1.7s						
WRAB	**Tennant Creek**	**46.18**	**257**	*i* P	**P**	**11 12 41.5**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRA	**Warramunga Arr**	**46.19**	**257**	P	**P**	**11 12 41.3**	**-2.9**
	comp=Z,13nm,1.1s,baz=89,slow=7.0,SNR=16						
WRA				PcP	**PcP**	**11 14 21.6**	**+2.0**
	comp=Z,2.5nm,1.1s,baz=88,slow=4.0,SNR=3.1						
WRA				LR	LR	11 29 55.4	
	comp=Z,3μm,19.8s,baz=86,slow=33						
WRA	**Warramunga Arr**	**46.19**	**257**	P	**P**	**11 12 42.6**	**-1.6**
WRA	**Warramunga Arr**	**46.19**	**257**		**PcP**	**11 14 21.6**	**+2.0**
AS31	**Alice Springs**	**46.52**	**252**	P	**P**	**11 12 43.9**	**-2.8**
ASAR	**Alice Springs**	**46.52**	**252**	P	**P**	**11 12 44.0**	**-2.8**
	comp=Z,20nm,0.6s,baz=85,slow=8.5,SNR=48						
ASAR				PcP	**PcP**	**11 14 21.7**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=104,slow=4.1,SNR=1.9						
ASAR				LR	LR	11 32 01.3	
	comp=Z,5μm,19.4s,baz=94,slow=36						
ASAR	**Alice Springs**	**46.52**	**252**	P	**P**	**11 12 43.7**	**-3.0**
ASAR	**Alice Springs**	**46.52**	**252**		**PcP**	**11 14 21.7**	**+1.0**
GUMO	**Guam**	**47.44**	**306**	LR	LR	11 29 57.6	
	comp=Z,2μm,20.6s,baz=106,slow=33						
MTN	**Manton Dam**	**50.03**	**266**	P	**P**	**11 13 13.3**	**-0.6**
KNRA	**Kununurra**	**51.88**	**262**	P	**P**	**11 13 27.3**	**-0.5**
KNRA				IAmb	IAmb	11 13 33.1	
	comp=Z,71nm,1.4s						
SIJI	**Sorong**	**52.88**	**281**	LR	LR	11 37 34.9	
	comp=Z,2μm,18.7s,baz=104,slow=38						
FITZ	**Fitzroy Crossi**	**54.54**	**259**	LR	LR	11 35 32.7	
	comp=Z,2μm,20.3s,baz=98,slow=34						
SOEI	**Soe**	**57.23**	**268**	P	**P**	**11 14 06.9**	**+0.1**
DRV	**Dumont d'Urvil**	**58.13**	**199**	P	**P**	**11 14 11.8**	**-0.3**
DRV				pP	**pP**	**11 14 25.0**	**+0.8**
MMRI	**Maumere**	**59.43**	**269**	P	**P**	**11 14 22.9**	**+0.9**
MBWA	**Marble Bar**	**59.74**	**254**	IAMs_20	IAMs_20	11 40 13.9	
	comp=Z,3μm,19.0s						
DAV	**Davao City (W)**	**60.98**	**287**	LR	LR	11 39 07.3	
	comp=Z,1μm,19.6s,baz=114,slow=34						
NWAO	**Narrogin (SRO)**	**61.27**	**241**	IAMs_20	IAMs_20	11 40 38.3	
	comp=Z,3μm,19.0s						
VNDA	**Vanda**	**62.75**	**185**	P	**P**	**11 14 44.3**	**+0.8**
	comp=Z,7.4nm,0.9s,baz=17,slow=7.0,SNR=9.3						
VNDA				LR	LR	11 37 13.5	
	comp=Z,632nm,21.5s,baz=30,slow=31						
VNDA	**Vanda**	**62.75**	**185**	P	**P**	**11 14 44.8**	**+1.3**
VNDA				pmax	pmax		
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**62.75**	**185**	P	**P**	**11 14 44.8**	**+1.3**
JHJ	**Hachijo jima 2**	**63.56**	**320**	LR	LR	11 42 11.2	
	comp=Z,1μm,18.4s,baz=123,slow=36						
RPN	**Rapa Nui**	**63.58**	**113**	LR	LR	11 35 02.6	
	comp=Z,2μm,21.6s,baz=270,slow=29						
MJAR	**Matsushiro Arr**	**66.83**	**322**	P	**P**	**11 15 07.8**	**-2.8**
	comp=Z,13nm,1.3s,baz=157,slow=6.6,SNR=6.2						
MJAR				LR	LR	11 38 44.6	
	comp=Z,2μm,21.8s,baz=143,slow=31						
JAGI	**Jajag, Banyuwa**	**67.25**	**267**	P	**P**	**11 15 13.3**	**-0.5**
CCD	**Concordia, Ant**	**67.30**	**194**	P	**P**	**11 15 14.3**	**+0.8**
JOW	**Kunigami**	**67.71**	**308**	LR	LR	11 39 05.7	
	comp=Z,2μm,21.7s,baz=126,slow=31						
TGY	**Tagaytay City**	**67.91**	**293**	LR	LR	11 41 28.8	
	comp=Z,3μm,20.1s,baz=112,slow=33						
YUK	**Yuzh-Kuril'sk**	**68.31**	**332**	*e*P	P	11 15 14.3	-5.5
YUK				*e*		11 17 56.5	
YUK				*e*S	**S**	**11 24 14.0**	**-3.4**
SHEM	**Shemya

	baz=238						
SSE	Sheshan	75.22	309	P	P	11 16 01.9	+0.3
SSE				S	S	11 25 37.3	-0.1
SSE				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SSE				pmax	pmax		
	comp=Z,90nm,6.6s						
SSE				LR	LR		
	comp=Z,260nm,19.9s						
BFSC	Mount Baldy Ra	75.30	48	P	P	11 16 04.3	+2.1
	baz=239						
MURC	Murrieta	75.30	48	P	P	11 16 03.8	+1.7
	baz=240						
EDW2	Edwards Air Fo	75.39	47	P	P	11 16 04.1	+1.5
	baz=239						
USRK	Ussuriysk Ar.	75.44	325	P	P	11 16 02.5	0.0
	comp=Z,4.3nm,0.9s,baz=177,slow=2.9,SNR=8.5						
USRK				LR	LR	11 44 09.4	
	comp=Z,2μm,20.8s,baz=123,slow=32						
USRK	Ussuriysk Ar.	75.44	325	P	P	11 16 03.4	+0.8
CMB	Columbia Colle	75.44	43	P	P	11 16 01.4	-1.4
CMB				pmax	pmax		
	comp=Z,22nm,1.2s						
CMB	Columbia Colle	75.44	43	P	P	11 16 01.4	-1.4
CMB				IAmb	IAmb	11 16 15.1	
	comp=Z,22nm,1.2s						
CMB				IAMs_20	IAMs_20	11 42 45.2	
	comp=Z,2μm,20.0s						
ISA	Isabella, Lake	75.46	46	IAmb	IAmb	11 16 20.8	
	comp=Z,61nm,1.9s						
ISA	Isabella, Lake	75.46	46	P	P	11 16 04.8	+1.8
	baz=238						
MONP2	Monument Peak	75.51	49	P	P	11 16 05.0	+1.5
	baz=240						
WDC	Whiskeytown Da	75.51	40	P	P	11 16 01.1	-2.0
WDC				pmax	pmax		
	comp=Z,46nm,1.7s						
WDC	Whiskeytown Da	75.51	40	P	P	11 16 01.1	-2.0
WDC				IAmb	IAmb	11 16 19.9	
	comp=Z,46nm,1.6s						
ORV	Oroville	75.58	41	P	P	11 16 03.2	-0.3
ORV				pmax	pmax		
	comp=Z,27nm,1.6s						
ORV	Oroville	75.58	41	P	P	11 16 03.2	-0.3
ORV				IAmb	IAmb	11 16 21.0	
	comp=Z,27nm,1.6s						
ORV				IAMs_20	IAMs_20	11 41 32.7	
	comp=Z,3μm,20.0s						
IKP	In-Ko-Pah, Jac	75.62	50	P	P	11 16 05.8	+1.9
	baz=240						
N02D	Trinity Center	75.64	40	IAmb	IAmb	11 16 22.2	
	comp=Z,22nm,1.0s						
N02D	Trinity Center	75.64	40	P	P	11 16 06.5	+2.5
	baz=234						
M02C	Callahan	75.80	39	P	P	11 16 06.6	+1.8
	baz=234						
L02E	Cave Junction	75.80	38	P	P	11 16 08.6	+3.9
	baz=233						
O03E	Paynes Creek	75.81	41	IAmb	IAmb	11 16 17.2	
	comp=Z,38nm,1.1s						
O03E				IAMs_20	IAMs_20	11 43 02.8	
	comp=Z,4μm,20.0s						
O03E	Paynes Creek	75.81	41	P	P	11 16 07.1	+2.2
	baz=235						
PFO	Pinyon Flats O	75.84	49	LR	LR	11 42 45.5	
	comp=Z,4μm,19.3s,baz=246,slow=30						
PFO	Pinyon Flats O	75.84	49	P	P	11 16 07.1	+1.8
	baz=240						
TPFO	Pinon Flats	75.84	49	P	P	11 16 06.9	+1.6
	baz=240						
LRMC	Laurel Mtn Rad	75.92	46	P	P	11 16 08.8	+3.1
	baz=239						
KDAK	Kodiak Island	75.98	13	LR	LR	11 45 46.4	
	comp=Z,1μm,18.4s,baz=227,slow=33						
KDAK	Kodiak Island	75.98	13	P	P	11 16 07.9	+2.6
	baz=204						
SWSC	Sam W. Stewart	75.99	50	P	P	11 16 06.9	+1.0
	baz=240						
YBH	Yreka Blue Hor	76.09	39	LR	LR	11 41 49.3	
	comp=Z,5μm,21.3s,baz=238,slow=30						
YBH	Yreka Blue Hor	76.09	39	IAmb	IAmb	11 16 12.8	
	comp=Z,15nm,0.8s						
K02D	Willamette Mer	76.09	38	P	P	11 16 08.8	+2.4
	baz=233						
CWC	Cottonwood Cre	76.14	45	P	P	11 16 08.1	+1.2
	baz=238						
J01E	Myrtle Point	76.22	37	IAMs_20	IAMs_20	11 42 00.5	
	comp=Z,4μm,20.0s						
MLAC	Mammoth, Mammo	76.25	44	P	P	11 16 09.8	+2.1
	baz=238						
LPIG	La Paz	76.34	60	LR	LR	11 40 56.9	
	comp=Z,3μm,21.7s,baz=249,slow=29						
MPMC	Manual Prospec	76.35	46	P	P	11 16 09.1	+0.8
	baz=239						
TIN	Tinemaha, Big	76.36	45	P	P	11 16 09.6	+1.5
	baz=238						
BELC	Belle Mtn. Jos	76.36	49	P	P	11 16 08.8	+0.6
	baz=240						
GSC	Goldstone, Bar	76.44	47	P	P	11 16 10.0	+1.4
	baz=239						
HUMO	Hull Mountain	76.45	38	IAMs_20	IAMs_20	11 41 48.9	
	comp=Z,4μm,22.0s						
SLBS	Sierra La Lagu	76.48	60	IAMs_20	IAMs_20	11 42 45.2	
	comp=Z,2μm,18.0s						
HEC	Hector,Ludlow	76.53	48	P	P	11 16 09.8	+0.7
	baz=240						
PNTR	Pine Nut	76.54	43	IAmb	IAmb	11 16 21.9	
	comp=Z,32nm,1.0s						
BC3	Big Chuckawall	76.59	49	P	P	11 16 10.1	+0.6
	baz=241						
L04D	Klamath Falls	76.62	39	IAMs_20	IAMs_20	11 42 37.1	
	comp=Z,4μm,20.0s						
L04D	Klamath Falls	76.62	39	P	P	11 16 11.5	+2.0
	baz=234						
M04C	Macdoel	76.64	39	IAmb	IAmb	11 16 15.2	
	comp=Z,18nm,0.9s						
M04C	Macdoel	76.64	39	P	P	11 16 11.6	+2.0
	baz=234						
YERR	Yerington	76.72	43	IAmb	IAmb	11 16 15.6	
	comp=Z,17nm,0.9s						
QSM	Queen of Sheba	76.73	46	P	P	11 16 08.2	-2.0
QSM				IAmb	IAmb	11 16 28.6	
	comp=Z,21nm,1.4s						
GLA	Glamis	76.76	50	P	P	11 16 11.8	+1.4
	baz=241						
Q19K	Cape Douglas,	76.80	12	P	P	11 16 12.8	+2.8
	baz=203						
LHV	Little Huntoon	76.81	44	IAmb	IAmb	11 16 23.4	
	comp=Z,34nm,1.0s						
I03D	Drain, OR	76.88	37	P	P	11 16 12.0	+1.2
	baz=233						
P18K	Big Mountain,	76.92	11	P	P	11 16 12.5	+1.8
	baz=202						
FURC	Furnace Creek,	76.99	46	P	P	11 16 12.2	+0.6
	baz=239						
GMRC	Granite Mounta	77.00	48	P	P	11 16 12.6	+0.8
	baz=240						
NVAR	Mina Array Bea	77.04	44	P	P	11 16 11.6	-0.5
	comp=Z,6.2nm,0.8s,baz=227,slow=8.7,SNR=31						
NVAR				LR	LR	11 42 12.2	
	comp=Z,1μm,20.2s,baz=243,slow=30						
MDJ	Mudanjiang	77.04	324	P	P	11 16 11.5	-0.1
MDJ				IAmb	IAmb	11 16 32.1	
	comp=Z,55nm,1.6s						
IRM	Iron Mountain	77.06	49	P	P	11 16 12.7	+0.7
	baz=241						
SHOC	Shoshone, Teco	77.11	47	P	P	11 16 12.8	+0.5
	baz=240						
TUQ	Turquoise Moun	77.13	47	P	P	11 16 13.7	+1.1
	baz=240						
NV11	Mina Array Sit	77.14	44	IAmb	IAmb	11 16 30.9	
	comp=Z,42nm,1.4s						
J04D	Umpqua Nationa	77.33	38	IAMs_20	IAMs_20	11 42 17.1	
	comp=Z,3μm,21.0s						
J04D	Umpqua Nationa	77.33	38	P	P	11 16 14.7	+1.1
	baz=234						
O18K	Koktuh Hills	77.35	11	P	P	11 16 14.1	+1.0
	baz=202						
NJ2	Nanjing	77.42	309	⇑P	P	11 16 16.1	+2.1
NJ2				PcP	PcP	11 16 25.0	+0.6
NJ2				pP	sP	11 16 29.8	-1.5
NJ2				S	S	11 26 04.3	+2.7
NJ2				SKS	SKSac	11 26 16.9	-6.8
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,220nm,4.3s						
NJ2				LR	LR		
	comp=Z,1μm,22.1s						
NJ2				LR	LR		
	comp=Z,1μm,21.6s						
NJ2				LR	LR		
	comp=Z,2μm,21.1s						
COR	Corvallis	77.44	36	IAMs_20	IAMs_20	11 42 05.8	
	comp=Z,4μm,20.0s						
I04A	Tendick Farm,	77.48	37	P	P	11 16 16.1	+1.9
	baz=234						
NKL	Nikolayevsk	77.52	336	*e*P	P	11 16 17.8	+3.7
NKL				*e*S	S	11 26 00.4	-1.3
NKL				*e*		11 26 12.8	
NKL				pmax	pmax		
	comp=N,8.0nm,0.6s						
NKL				pmax	pmax		
	comp=E,7.0nm,0.6s						
NKL				pmax	pmax		
	comp=Z,27nm,1.5s						
NKL				smax	smax		
	comp=N,9.0nm,1.1s						
NKL				MLR	MLR		
	comp=N,139nm,18.0s						
NKL				MLR	MLR		
	comp=E,115nm,19.0s						
NKL				MLR	MLR		
	comp=Z,2μm,19.0s						
GRNR	Gornyy	77.60	332	⇓*i*P	P	11 16 13.8	-0.8
GRNR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MOD	Modoc Plateau	77.66	40	IAmb	IAmb	11 16 33.9	
	comp=Z,29nm,1.4s						
MOD				IAMs_20	IAMs_20	11 43 02.6	
	comp=Z,4μm,20.0s						
TPNV	Topopah Spring	77.66	46	P	P	11 16 15.9	+0.4
	baz=239						
214A	Organ Pipe Nat	77.75	52	P	P	11 16 16.2	+0.3
	baz=243						
G03D	McMinnville, O	77.84	36	IAMs_20	IAMs_20	11 41 57.4	
	comp=Z,2μm,20.0s						
G03D	McMinnville, O	77.84	36	P	P	11 16 17.3	+1.2
	baz=233						
PDMCI	Parker Dam,Lak	77.86	49	P	P	11 16 16.9	+0.4
	baz=241						
J05D	Fort Rock, OR	77.88	38	P	P	11 16 17.5	+0.9
	baz=235						
HOM	Homer	77.89	13	P	P	11 16 17.8	+1.8
	baz=205						
O20K	Slope Mountain	78.07	12	P	P	11 16 19.9	+2.8
	baz=204						
H04A	Detroit Lake	78.14	37	P	P	11 16 18.7	+0.9
BRSE	Bradley Lake S	78.16	13	P	P	11 16 20.2	+2.6
	baz=206						
SHPR	Sheep Range	78.20	47	IAmb	IAmb	11 16 37.6	
	comp=Z,33nm,1.8s						
PINE	Pine Mountain	78.34	38	IAmb	IAmb	11 16 38.2	
	comp=Z,45nm,1.2s						
S11A	Rachel	78.36	45	P	P	11 16 19.9	+0.5
S11A				IAmb	IAmb	11 16 23.5	
	comp=Z,38nm,1.5s						
N19K	Bonanza Creek	78.38	11	P	P	11 16 16.3	-2.6
N19K				IAmb	IAmb	11 16 32.7	
	comp=Z,26nm,1.1s						
N19K	Bonanza Creek	78.38	11	P	P	11 16 19.3	+0.4
	baz=202						
I05D	Terrebonne, OR	78.42	37	P	P	11 16 20.0	+0.6
	baz=234						
DLV	T Lat	78.46	286	P	P	11 16 19.7	-0.7
PRN	Pahroc Range	78.72	46	IAmb	IAmb	11 16 34.8	
	comp=Z,21nm,1.2s						
DL2	Dalian	78.77	316	P	P	11 16 18.9	-2.5
DL2				S	S	11 26 14.8	-1.0
DL2				pmax	pmax		
	comp=Z,24nm,1.6s						
DL2				pmax	pmax		
	comp=Z,280nm,5.8s						
DL2				LR	LR		
	comp=Z,1μm,19.0s						
DL2				LR	LR		
	comp=Z,1μm,22.5s						
DL2				LR	LR		
	comp=Z,2μm,20.3s						
KLR	Kul'dur	78.79	329	LR	LR	11 45 26.8	
	comp=Z,5μm,21.8s,baz=133,slow=31						
KLR	Kul'dur	78.79	329	*ce*P	P	11 16 20.5	-0.8
KLR				pmax	pmax		
	comp=Z,25nm,2.0s						
R11A	Troy Canyon, C	78.82	45	P	P	11 16 23.5	+1.6
	baz=240						
NLWA	Neilton Lookou	78.84	34	IAMs_20	IAMs_20	11 43 05.8	
	comp=Z,3μm,22.0s						
BNX	BinXian	78.95	324	⇑P	P	11 16 26.9	+4.7
BNX				pmax	pmax		
	comp=Z,11nm,0.6s						
BNX				pmax	pmax		
	comp=Z,310nm,5.2s						
BNX				LR	LR		
	comp=Z,720nm,13.6s						
BNX				LR	LR		
	comp=Z,1μm,22.2s						
BNX				LR	LR		
	comp=Z,2μm,22.2s						
G05D	Wamic, OR	78.96	37	P	P	11 16 24.2	+1.9
	baz=234						
CN2	Changchun	78.97	322	*e*P	P	11 16 22.3	-0.1
CN2				*e*pP	sP	11 16 38.9	-0.8
CN2				*es*P	pwP	11 16 45.8	+7.7
CN2				SKS	S	11 26 27.3	+10
CN2				*es*S	ScS	11 26 43.6	+2.8
CN2				*e*SS	SS	11 31 24.0	-0.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.5s						
CN2				pmax	pmax		
	comp=Z,320nm,4.0s						
CN2				LR	LR		
	comp=Z,800nm,21.0s						
CN2				LR	LR		
	comp=Z,1μm,21.0s						
CN2				LR	LR		
	comp=Z,1μm,23.0s						
E04D	Cinebar	79.04	35	IAMs_20	IAMs_20	11 43 12.1	
	comp=Z,2μm,20.0s						
E04D	Cinebar	79.04	35	P	P	11 16 25.6	+2.9
	baz=233						
SPCR	Spurr Chakacha	79.18	12	P	P	11 16 26.1	+2.9
	baz=204						
F05D	White Salmon	79.26	36	IAMs_20	IAMs_20	11 44 06.0	
	comp=Z,3μm,21.0s						
F05D	White Salmon	79.26	36	P	P	11 16 27.1	+3.1
	baz=234						
D04E	Lakebay	79.30	34	P	P	11 16 27.1	+3.0
	baz=233						
GAMB	Gambell	79.31	2	P	P	11 16 25.8	+2.1
	baz=186						
D03D	Eldon	79.34	34	P	P	11 16 25.8	+1.5
	baz=232						
MA2	Magadan	79.36	344	*i*P	P	11 16 20.8	-3.4
MA2				pmax	pmax		
	comp=Z,29nm,1.6s						
MA2	Magadan	79.36	344	IAMs_20	IAMs_20	11 48 08.9	
	comp=Z,2μm,20.0s						
TUC	Tucson	79.44	52	P	P	11 16 25.3	-0.1
TUC				pmax	pmax		
	comp=Z,12nm,1.0s						
TUC	Tucson	79.44	52	P	P	11 16 25.3	-0.1
TUC	Tucson	79.44	52	IAMs_20	IAMs_20	11 43 23.8	
	comp=Z,4μm,20.0s						
TUC	Tucson	79.44	52	P	P	11 16 25.7	+0.4
	baz=244						
TUC	Tucson	79.44	52	P	P	11 16 29.2	+3.8
RC01	Rabbit Creek A	79.60	13	P	P	11 16 24.2	-1.2
RC01	Rabbit Creek A	79.60	13	P	P	11 16 26.9	+1.5
	baz=207						
QIZ	Qiongzhong	79.60	293	IAMs_20	IAMs_20	11 46 14.0	
	comp=Z,2μm,22.0s						
PWL	Port Wells	79.71	14	IAmb	IAmb	11 16 41.1	
	comp=Z,32nm,1.0s						
PWL	Port Wells	79.71	14	P	P	11 16 28.2	+2.2
	baz=208						
BBB	Bella Bella	79.83	28	LR	LR	11 44 05.9	
	comp=Z,2μm,20.2s,baz=235,slow=30						
KAIM	Kayak Island	79.88	16	P	P	11 16 28.9	+1.9
	baz=212						
SPR3	Spring Creek 3	80.00	45	P	P	11 16 26.8	-1.7
GLI	Glacier Island	80.02	14	P	P	11 16 29.1	+1.4
	baz=209						
CRAG	Craig	80.03	24	P	P	11 16 28.9	+1.1
	baz=223						
EYAK	Cordova Ski Ar	80.06	15	P	P	11 16 29.9	+2.0
	baz=211						
KNB	Kanab	80.09	47	IAmb	IAmb	11 17 16.7	
	comp=Z,41nm,1.9s						
TTA	Tatalina	80.09	10	P	P	11 16 27.4	-0.7
TTA				pmax	pmax		
	comp=Z,34nm,1.1s						
TTA	Tatalina	80.09	10	P	P	11 16 27.4	-0.7
TTA				IAmb	IAmb	11 16 43.8	
	comp=Z,34nm,1.1s						
TTA	Tatalina	80.09	10	P	P	11 16 29.3	+1.1
	baz=201,SNR=18						
M22K	Willow	80.11	13	IAMs_20	IAMs_20	11 48 21.5	
	comp=Z,2μm,18.0s						
M22K	Willow	80.11	13	P	P	11 16 30.1	+2.0
	baz=206						
KNK	Knik Glacier	80.17	14	P	P	11 16 29.9	+1.4
	baz=208						
PMR	Palmer	80.18	13	P	P	11 16 30.2	+1.7
	baz=207						
ELK	Elko	80.26	43	LR	LR	11 44 01.0	
	comp=Z,2μm,21.6s,baz=264,slow=30						
ELK	Elko	80.26	43	IAMs_20	IAMs_20	11 44 22.4	
	comp=Z,2μm,20.0s						
HMT	Hamilton	80.27	16	IAMs_20	IAMs_20	11 56 19.5	
	comp=Z,2μm,18.0s						
B05A	Bryant	80.32	34	P	P	11 16 30.8	+1.2
	baz=233						
G08A	Pilot Rock	80.36	38	IAmb	IAmb	11 16 48.6	
	comp=Z,39nm,1.3s						
GHO	Glory Hole Cre	80.39	13	IAmb	IAmb	11 16 56.2	
	comp=Z,51nm,1.4s						
WUAZ	Wupatki	80.43	49	IAMs_20	IAMs_20	11 44 09.4	
	comp=Z,3μm,20.0s						
LTY	Liberty	80.50	35	P	P	11 16 30.4	-0.3
LTY				IAmb	IAmb	11 16 58.0	
	comp=Z,36nm,1.6s						
ANM	Nome	80.51	5	P	P	11 16 31.4	+1.1
ANM				pmax	pmax		
	comp=Z,11nm,1.1s						
ANM	Nome	80.51	5	P	P	11 16 31.4	+1.1
ANM	Nome	80.51	5	P	P	11 16 32.2	+2.0
	baz=192,SNR=5.9						
SML	Sawmill	80.55	13	P	P	11 16 32.7	+2.1
	baz=208						
DIV	Divide	80.56	15	IAmb	IAmb	11 16 45.8	
	comp=Z,24nm,1.0s						
TIA	Tai'an	80.60	312	P	P	11 16 30.8	-0.6
TIA				pP	PcP	11 16 40.3	+2.1
TIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TIA				pmax	pmax		
	comp=Z,33nm,3.9s						
TIA				LR	LR		
	comp=Z,690nm,15.7s						
TIA				LR	LR		
	comp=Z,820nm,18.5s						
TIA				LR	LR		
	comp=Z,1μm,18.5s						
HAWA	Hanford	80.65	36	IAmb	IAmb	11 16 50.1	
	comp=Z,31nm,1.2s						
CUT	Chulitna	80.66	12	IAMs_20	IAMs_20	11 46 26.2	
	comp=Z,2μm,21.0s						
CUT	Chulitna	80.66	12	P	P	11 16 32.1	+1.0
	baz=206						
BMRM	Bremner River	80.71	15	P	P	11 16 32.6	+1.1
	baz=212						
PPLA	Purkeypile	80.73	11	P	P	11 16 33.2	+1.5
	baz=204						
C06D	Leavenworth	80.76	35	P	P	11 16 33.2	+1.1
	baz=234						
MESA	MESA	80.76	17	IAmb	IAmb	11 16 37.8	
	comp=Z,45nm,1.1s						
MESA	MESA	80.76	17	P	P	11 16 32.6	+0.6
	baz=214						
SCM	Sheep Creek Mo	80.80	14	IAmb	IAmb	11 16 45.6	
	comp=Z,29nm,1.2s						
SCM	Sheep Creek Mo	80.80	14	P	P	11 16 34.0	+2.0
	baz=209						
K20K	Telida	80.81	10	IAmb	IAmb	11 16 46.9	
	comp=Z,48nm,1.4s						
K20K	Telida	80.81	10	P	P	11 16 32.8	+0.9
	baz=203						
KLU	Klutina	80.83	15	P	P	11 16 34.0	+1.8
	baz=210						
E08A	Dider Farm, El	80.97	36	IAmb	IAmb	11 16 51.8	
	comp=Z,37nm,1.3s						
YAH	Yahtse	80.97	17	IAmb	IAmb	11 16 48.0	
	comp=Z,26nm,1.0s						
TGL	Tana Glacier	81.00	16	IAmb	IAmb	11 16 47.6	
	comp=Z,46nm,1.3s						
WRAK	Wrangell Islan	81.02	23	IAMs_20	IAMs_20	11 45 22.5	
	comp=Z,4μm,19.0s						
PNL	Peninsula	81.09	18	P	P	11 16 34.8	+1.3
	baz=217						
BMO	Blue Mountains	81.10	39	IAmb	IAmb	11 16 52.3	
	comp=Z,34nm,1.6s						
PINM	Pinnacle	81.19	18	P	P	11 16 35.8	+1.8
	baz=216						
MVU	Marysvale	81.21	46	IAmb	IAmb	11 16 47.3	
	comp=Z,38nm,1.1s						
CAST	Castle Rocks	81.23	11	P	P	11 16 34.0	-0.1
	baz=204						
VRDI	Verde Repeater	81.23	16	IAmb	IAmb	11 17 01.1	
	comp=Z,35nm,1.3s						
MFID	Camas Ranch	81.25	40	IAMs_20	IAMs_20	11 45 07.8	
	comp=Z,3μm,21.0s						
N25K	Chitina, Valde	81.26	15	IAmb	IAmb	11 16 57.8	
	comp=Z,47nm,1.6s						
N25K	Chitina, Valde	81.26	15	P	P	11 16 34.9	+0.5
	baz=212						
TNA	Tin City	81.30	4	IAmb	IAmb	11 16 50.6	
	comp=Z,30nm,1.0s						
TNA	Tin City	81.30	4	P	P	11 16 35.1	+0.7
	baz=189						
M24K	Tolsona, Glenn	81.31	14	P	P	11 16 36.4	+1.7
	baz=210						
WAT6	Susitna Watana	81.36	13	P	P	11 16 35.0	-0.1
	baz=209,SNR=6.3						
J20K	Nowinta River	81.56	10	P	P	11 16 37.0	+1.2
	baz=202						
LOGN	Logan Glacier	81.56	17	IAmb	IAmb	11 16 59.7	
	comp=Z,45nm,1.2s						
KTH	Kantishna Hill	81.57	12	P	P	11 16 36.0	-0.1
KTH				IAmb	IAmb	11 16 49.4	
	comp=Z,26nm,1.2s						
BARN	Barnard Glacie	81.58	17	IAmb	IAmb	11 16 40.8	
	comp=Z,31nm,1.1s						
CTG	Chitna Glacier	81.58	17	P	P	11 16 36.4	+0.1
	baz=215						
CTGM	Chitina Glacie	81.59	17	IAmb	IAmb	11 16 59.8	
	comp=Z,54nm,1.4s						
DUG	Dugway, Tooele	81.60	44	P	P	11 16 38.1	+1.3
	baz=241						
TRF	Thorofare Moun	81.60	12	IAmb	IAmb	11 16 56.7	
	comp=Z,50nm,1.3s						
TRF				IAMs_20	IAMs_20	11 49 03.9	
	comp=Z,2μm,20.0s						
TRF	Thorofare Moun	81.60	12	P	P	11 16 37.2	+0.9
	baz=206						
CHUM	Lake Minchumin	81.61	11	P	P	11 16 36.0	-0.1
	baz=204,SNR=5.5						
JIS	Juneau Island	81.65	21	IAMs_20	IAMs_20	11 50 12.1	
	comp=Z,3μm,20.0s						
GCSA	Galena City Sc	81.67	9	P	P	11 16 38.1	+1.8
	baz=200						
F10A	Beach Ranch, E	81.75	38	IAmb	IAmb	11 16 43.5	
	comp=Z,13nm,0.8s						
HARP	HAARP	81.80	14	P	P	11 16 38.3	+1.1
	baz=211						
121A	Cookes Peak, D	81.83	53	P	P	11 16 38.7	+0.4
	baz=246						
RND	Reindeer	81.85	12	IAmb	IAmb	11 16 50.0	
	comp=Z,41nm,1.2s						
RND				IAMs_20	IAMs_20	11 47 48.6	
	comp=Z,2μm,19.0s						
SEY	Seymchan	81.87	346	LR	LR	11 46 53.3	
	comp=Z,2μm,21.9s,baz=154,slow=31						
DHY	Denali Highway	81.88	13	IAmb	IAmb	11 16 55.3	
	comp=Z,66nm,2.0s						
DHY	Denali Highway	81.88	13	P	P	11 16 39.1	+1.4
	baz=209						
PLID	Pearl Lake	82.01	39	IAMs_20	IAMs_20	11 45 42.9	
	comp=Z,4μm,22.0s						
BPAW	Bear Paw Mtn.	82.05	11	P	P	11 16 39.3	+0.8
	baz=206,SNR=5.3						
MCK	McKinley	82.13	12	IAmb	IAmb	11 16 52.9	
	comp=Z,26nm,1.0s						

MCK				IAMs_20	IAMs_20	11 52 10.8		
	comp=Z,2µm,19.0s							
MCK	**McKinley**	**82.13**	**12**	P	**P**	**11 16 39.2**	**+0.3**	
	baz=208,SNR=8.6							
C09A	**Chrisman Ranch**	**82.15**	**36**	IAmb	IAmb	11 16 57.6		
	comp=Z,16nm,1.1s							
HLID	**Hailey**	**82.21**	**41**	IAmb	IAmb	11 16 52.8		
	comp=Z,18nm,1.2s							
HLID				IAMs_20	IAMs_20	11 46 29.2		
	comp=Z,3µm,20.0s							
HLID	**Hailey**	**82.21**	**41**	P	**P**	**11 16 39.6**	**-0.4**	
	baz=240							
PAX	**Paxson**	**82.22**	**14**	P	**P**	**11 16 41.6**	**+2.1**	
	baz=211							
SKAG	**Skagway**	**82.22**	**20**	P	**P**	**11 16 38.1**	**-1.3**	
SKAG	**Skagway**	**82.22**	**20**	P	**P**	**11 16 41.7**	**+2.3**	
	baz=220							
TMUT	**Trail Mountain**	**82.27**	**46**	IAmb	IAmb	11 16 52.4		
	comp=Z,17nm,1.1s							
M26K	**Nabesna, AK**	**82.34**	**15**	P	**P**	**11 16 41.0**	**+1.0**	
	baz=213							
BWN	**Browne**	**82.41**	**12**	IAMs_20	IAMs_20	11 53 16.3		
	comp=Z,2µm,18.0s							
YUK3	**Moose Creek**	**82.49**	**17**	P	**P**	**11 16 41.3**	**+0.2**	
	baz=216,SNR=8.3							
M27K	**Edge Creek, AK**	**82.59**	**16**	P	**P**	**11 16 41.8**	**+0.3**	
	baz=214							
MENT	**Mentasta**	**82.61**	**15**	IAmb	IAmb	11 17 04.4		
	comp=Z,19nm,1.2s							
SRU	**San Rafael Swe**	**82.66**	**46**	IAmb	IAmb	11 17 02.6		
	comp=Z,22nm,1.3s							
P17A	**Butcher Ranch,**	**82.68**	**46**	P	**P**	**11 16 40.7**	**-1.8**	
JLU	**Jordanelle**	**82.71**	**44**	P	**P**	**11 16 41.5**	**-1.3**	
L26K	**Log Cabin Wild**	**82.78**	**15**	IAmb	IAmb	11 17 06.2		
	comp=Z,24nm,1.6s							
L26K	**Log Cabin Wild**	**82.78**	**15**	P	**P**	**11 16 42.0**	**-0.3**	
	baz=213							
SMAI	**San Martin Ant**	**82.83**	**159**	P	**P**	**11 16 42.4**	**-0.2**	
I21K	**Tanana**	**82.86**	**10**	IAmb	IAmb	11 16 57.2		
	comp=Z,19nm,1.2s							
I21K	**Tanana**	**82.86**	**10**	P	**P**	**11 16 43.0**	**+0.3**	
	baz=204							
HNS	**HongShan**	**82.87**	**312**	⇑P	**P**	**11 16 44.9**	**+1.6**	
HNS				PP	**PP**	**11 19 56.3**	**+1.9**	
HNS				S	**S**	**11 26 58.4**	**-0.2**	
HNS				SS	**SS**	**11 32 19.9**	**-2.9**	
HNS				pmax	pmax			
	comp=Z,14nm,1.5s							
HNS				pmax	pmax			
	comp=Z,300nm,4.8s							
HNS				LR	LR			
	comp=Z,290nm,18.8s							
HNS				LR	LR			
	comp=Z,2µm,19.8s							
HNS				LR	LR			
	comp=Z,2µm,21.2s							
NEA2	**Nenana**	**82.87**	**12**	IAMs_20	IAMs_20	11 49 32.4		
	comp=Z,2µm,20.0s							
NEA2	**Nenana**	**82.87**	**12**	P	**P**	**11 16 43.5**	**+0.8**	
	baz=207							
BVCY	**Beaver Creek**	**82.91**	**16**	P	**P**	**11 16 44.0**	**+1.0**	
	baz=215,SNR=9.6							
COCO	**West Island**	**82.93**	**259**	IAMs_20	IAMs_20	11 50 58.5		
	comp=Z,2µm,22.0s							
WRH	**Wood River Hil**	**82.96**	**12**	IAMs_20	IAMs_20	11 53 01.8		
	comp=Z,2µm,19.0s							
BJT	**Baijiatuau**	**83.01**	**315**	IAmb	IAmb	11 17 03.2		
	comp=Z,38nm,1.4s							
BJI	**Beijing**	**83.01**	**315**	P	**P**	**11 16 43.6**	**-0.4**	
BJI				pmax	pmax			
	comp=Z,15nm,1.4s							
BJI				pmax	pmax			
	comp=Z,180nm,4.3s							
BJI				LR	LR			
	comp=Z,710nm,22.8s							
BJI				LR	LR			
	comp=Z,1µm,23.7s							
BJI				LR	LR			
	comp=Z,2µm,23.3s							
RIDG	**Independent Ri**	**83.03**	**14**	P	**P**	**11 16 43.8**	**+0.2**	
	baz=211							
NEW	**Newport**	**83.05**	**36**	LR	LR	11 45 32.5		
	comp=Z,2µm,21.9s,baz=228,slow=30							
NEW	**Newport**	**83.05**	**36**	IAMs_20	IAMs_20	11 47 22.3		
	comp=Z,2µm,20.0s							
NEW	**Newport**	**83.05**	**36**	P	**P**	**11 16 43.8**	**-0.3**	
	baz=237							
P18A	**Preston Nutter**	**83.09**	**46**	IAmb	IAmb	11 17 02.6		
	comp=Z,17nm,1.2s							
Y22D	**IRIS PASSCAL I**	**83.12**	**52**	IAMs_20	IAMs_20	11 45 42.2		
	comp=Z,3µm,20.0s							
DOT	**Dot Lake**	**83.13**	**14**	IAmb	IAmb	11 17 07.6		
	comp=Z,22nm,1.2s							
HDA	**Harding Lake**	**83.14**	**13**	P	**P**	**11 16 44.7**	**+0.5**	
	baz=209							
H21K	**Melozitna Rive**	**83.15**	**10**	P	**P**	**11 16 45.0**	**+0.8**	
	baz=204							
L27K	**Beaver Creek,**	**83.19**	**15**	IAmb	IAmb	11 16 52.5		
	comp=Z,37nm,1.8s							
L27K	**Beaver Creek,**	**83.19**	**15**	P	**P**	**11 16 46.2**	**+1.7**	
	baz=214							
BCAR	**Beaver Creek A**	**83.20**	**15**	P	**P**	**11 16 43.4**	**-1.1**	
BCYI	**Bear Canyon**	**83.21**	**40**	P	**P**	**11 16 43.9**	**-1.4**	
MVCO	**Mesa Verde**	**83.26**	**49**	IAMs_20	IAMs_20	11 46 51.3		
	comp=Z,4µm,20.0s							
MVCO	**Mesa Verde**	**83.26**	**49**	P	**P**	**11 16 47.0**	**+1.3**	
	baz=244							
WHY	**Whitehorse**	**83.28**	**20**	P	**P**	**11 16 46.1**	**+1.0**	
	baz=221							
I23K	**Minto, Yukon-K**	**83.31**	**11**	IAMs_20	IAMs_20	11 49 57.0		
	comp=Z,2µm,21.0s							
I23K	**Minto, Yukon-K**	**83.31**	**11**	P	**P**	**11 16 46.0**	**+1.1**	
	baz=207							
LYN	**LuoYang**	**83.32**	**309**	*e*P	**P**	**11 16 47.4**	**+1.7**	
LYN				PP	**PP**	**11 19 54.5**	**-3.6**	
LYN				pmax	pmax			
	comp=Z,100nm,9.6s							
LYN				LR	LR			
	comp=Z,1µm,17.5s							
LYN				LR	LR			
	comp=Z,380nm,19.2s							
LYN				LR	LR			
	comp=Z,1µm,21.0s							
DLBC	**Dease Lake**	**83.34**	**23**	LR	LR	11 46 58.2		
	comp=Z,4µm,20.2s,baz=232,slow=31							
TCOL	**CIGO, UAF Yank**	**83.36**	**12**	IAMs_20	IAMs_20	11 47 49.4		
	comp=Z,2µm,20.0s							
TCOL	**CIGO, UAF Yank**	**83.36**	**12**	P	**P**	**11 16 46.5**	**+1.3**	
	baz=208,SNR=7.5							
MDM	**Murphy Dome**	**83.36**	**12**	IAMs_20	IAMs_20	11 49 47.5		
	comp=Z,2µm,20.0s							
COLA	**College**	**83.36**	**12**	*i* P	**P**	**11 16 43.7**	**-1.5**	
COLA				pmax	pmax			
	comp=Z,20nm,1.0s							
COLA	**College**	**83.36**	**12**	P	**P**	**11 16 45.8**	**+0.6**	
COLA	**College**	**83.36**	**12**	P	**P**	**11 16 47.1**	**+1.9**	
	baz=208							
COLA	**College**	**83.36**	**12**	P	**P**	**11 16 46.4**	**+1.2**	
COLA				pP	**sP**	**11 17 02.5**	**-0.1**	
MNTX	**Cornudas Mount**	**83.37**	**55**	IAmb	IAmb	11 16 59.1		
	comp=Z,22nm,1.2s							
MNTX				IAMs_20	IAMs_20	11 46 09.7		
	comp=Z,4µm,20.0s							
MNTX	**Cornudas Mount**	**83.37**	**55**	P	**P**	**11 16 46.6**	**+0.5**	
	baz=247							
PV10	**Paradox Valley**	**83.38**	**47**	IAmb	IAmb	11 17 03.8		
	comp=Z,25nm,1.1s							
SCRK	**Sand Creek**	**83.43**	**14**	P	**P**	**11 16 48.0**	**+2.2**	
	baz=212							
IL31		**83.47**	**13**	IAmb	IAmb	11 17 09.0		
	comp=Z,32nm,1.4s							
ILAR	**Eielson Array**	**83.47**	**13**	P	**P**	**11 16 44.0**	**-1.8**	
	comp=Z,8.7nm,1.1s,baz=224,slow=6.1,SNR=12							
ILAR				PP	**PP**	**11 19 57.1**	**-1.5**	
	comp=Z,0.9nm,1.1s,baz=216,slow=8.9,SNR=4.4							
ILAR				LR	LR	11 48 02.2		
	comp=Z,495nm,20.7s,baz=224,slow=32							
P33M	**Teslin, Yukon**	**83.63**	**21**	IAMs_20	IAMs_20	11 48 11.5		
	comp=Z,3µm,20.0s							
P33M	**Teslin, Yukon**	**83.63**	**21**	P	**P**	**11 16 46.9**	**0.0**	
	baz=223							
N31M	**Braeburn, Yuko**	**83.63**	**19**	IAmb	IAmb	11 17 16.8		
	comp=Z,32nm,1.3s							
N31M				IAMs_20	IAMs_20	11 47 58.6		
	comp=Z,2µm,21.0s							
N31M	**Braeburn, Yuko**	**83.63**	**19**	P	**P**	**11 16 47.6**	**+0.9**	
	baz=220							
POKR	**Poker Plat Res**	**83.66**	**12**	P	**P**	**11 16 45.4**	**-1.4**	
POKR				IAMs_20	IAMs_20	11 49 55.4		
	comp=Z,2µm,18.0s							
POKR	**Poker Plat Res**	**83.66**	**12**	P	**P**	**11 16 47.8**	**+1.0**	
	baz=209							
PV07	**Paradox Valley**	**83.68**	**47**	P	P	11 16 44.1	-3.7	
PV07				IAmb	IAmb	11 17 09.4		
	comp=Z,46nm,1.8s							
PV15	**Paradox Valley**	**83.76**	**47**	P	**P**	**11 16 46.1**	**-2.2**	
PV15				IAmb	IAmb	11 16 54.7		
	comp=Z,10nm,0.8s							
ZEA	**Zeya**	**83.80**	**330**	*e*P	**P**	**11 16 47.4**	**-0.3**	
ZEA				*e*		11 27 01.0		
ZEA				pmax	pmax			
	comp=N,10.0nm,0.9s							
ZEA				pmax	pmax			
	comp=Z,20nm,1.0s							
ANMO	**Albuquerque**	**83.83**	**51**	LR	LR	11 46 38.1		
	comp=Z,4µm,20.7s,baz=234,slow=30							
ANMO	**Albuquerque**	**83.83**	**51**	*e*P	**P**	**11 16 47.7**	**-0.9**	
ANMO				pmax	pmax			
	comp=Z,9.0nm,1.7s							
ANMO	**Albuquerque**	**83.83**	**51**	P	**P**	**11 16 48.2**	**-0.3**	
ANMO				IAmb	IAmb	11 17 01.3		
	comp=Z,22nm,1.2s							
ANMO	**Albuquerque**	**83.83**	**51**	P	**P**	**11 16 48.4**	**-0.1**	
	baz=246							
TX32	**Lajitas Array**	**83.85**	**57**	IAmb	IAmb	11 17 02.3		
	comp=Z,28nm,1.4s							
TXAR	**Lajitas Array**	**83.85**	**57**	P	**P**	**11 16 47.3**	**-1.4**	
	comp=Z,3.4nm,1.0s,baz=231,slow=6.5,SNR=19							
TXAR				PP	**PP**	**11 20 01.0**	**-1.7**	
	comp=Z,0.5nm,1.0s,baz=217,slow=7.3,SNR=2.3							
TXAR				LR	LR	11 46 47.4		
	comp=Z,4µm,19.9s,baz=230,slow=30							
AHID	**Auburn Hatcher**	**83.95**	**43**	P	**P**	**11 16 46.7**	**-2.3**	
AHID				IAmb	IAmb	11 17 10.8		
	comp=Z,46nm,1.9s							
J26L	**Joseph Creek**	**83.97**	**14**	IAmb	IAmb	11 17 01.2		
	comp=Z,21nm,1.1s							
J26L	**Joseph Creek**	**83.97**	**14**	P	**P**	**11 16 48.6**	**+0.1**	
	baz=212							
RDMU	**Red Mountain**	**83.97**	**45**	IAmb	IAmb	11 16 55.4		
	comp=Z,8.7nm,0.7s							
MSO	**Missoula**	**84.14**	**38**	IAmb	IAmb	11 17 07.8		
	comp=Z,31nm,1.4s							
MSO				IAMs_20	IAMs_20	11 47 16.2		
	comp=Z,4µm,20.0s							
MSO	**Missoula**	**84.14**	**38**	P	**P**	**11 16 49.5**	**-0.3**	
	baz=240							
M30M	**Minto, Yukon**	**84.17**	**18**	P	**P**	**11 16 50.3**	**+0.8**	
M30M				IAmb	IAmb	11 17 13.9		
	comp=Z,35nm,1.4s							
M30M	**Minto, Yukon**	**84.17**	**18**	P	**P**	**11 16 51.4**	**+1.9**	
	baz=219,SNR=6.2							
H24K	**Noodor Dome**	**84.21**	**12**	IAMs_20	IAMs_20	11 54 36.8		
	comp=Z,2µm,19.0s							
H24K	**Noodor Dome**	**84.21**	**12**	P	**P**	**11 16 51.8**	**+2.2**	
	baz=208							
DLMT	**Dillon**	**84.23**	**40**	IAmb	IAmb	11 17 08.5		
	comp=Z,19nm,1.2s							
UNM	**Universidad Na**	**84.26**	**68**	IAMs_20	IAMs_20	11 45 56.2		
	comp=Z,4µm,20.0s							
BILL	**Biiibino**	**84.34**	**354**	*i* P	**P**	**11 16 47.9**	**-2.3**	
BILL				*e*		11 19 58.6		
BILL				*e*PPP	PPP	11 21 53.9		
BILL				pmax	pmax			
	comp=Z,8.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,1µm,18.0s							
REDW	**Red Top Meadow**	**84.38**	**42**	P	**P**	**11 16 52.9**	**+1.7**	
REDW				IAmb	IAmb	11 17 21.0		
	comp=Z,23nm,1.3s							
PRP	**Porcupine Dome**	**84.41**	**13**	P	**P**	**11 16 53.1**	**+2.4**	
	baz=211							
SNOW	**Snow King Moun**	**84.49**	**42**	P	**P**	**11 16 53.4**	**+1.5**	
SNOW				IAmb	IAmb	11 16 58.7		
	comp=Z,12nm,0.8s							
M31M	**Drury Creek, Y**	**84.61**	**19**	IAMs_20	IAMs_20	11 48 20.3		
	comp=Z,2µm,20.0s							
M31M	**Drury Creek, Y**	**84.61**	**19**	P	**P**	**11 16 52.8**	**+1.1**	
	baz=221							
MOOW	**Moose Ponds**	**84.63**	**42**	IAMs_20	IAMs_20	11 47 25.3		
	comp=Z,2µm,21.0s							
TIY	**Taiyuan**	**84.64**	**311**	P	**P**	**11 16 55.6**	**+3.1**	
TIY				LR	LR			
	comp=Z,670nm,19.9s							
TIY				LR	LR			
	comp=Z,1µm,20.6s							
TIY				LR	LR			
	comp=Z,1µm,19.9s							
DAWY	**Dawson**	**84.64**	**16**	P	**P**	**11 16 52.5**	**+0.6**	
	baz=216							
LOHW	**Long Hollow**	**84.66**	**42**	IAMs_20	IAMs_20	11 46 33.1		
	comp=Z,2µm,21.0s							
S22A	**4UR Ranch, Cre**	**84.69**	**49**	IAmb	IAmb	11 17 00.5		
	comp=Z,14nm,0.9s							
S22A	**4UR Ranch, Cre**	**84.69**	**49**	P	**P**	**11 16 53.1**	**+0.1**	
	baz=246							
O20A	**White River Ci**	**84.69**	**46**	P	**P**	**11 16 52.4**	**-0.5**	
	baz=244							
EGAK	**Eagle**	**84.78**	**15**	IAmb	IAmb	11 17 16.1		
	comp=Z,31nm,1.3s							
EGAK	**Eagle**	**84.78**	**15**	P	**P**	**11 16 52.6**	**+0.2**	
	baz=215							
FLWY	**Flagg Ranch**	**84.81**	**42**	IAMs_20	IAMs_20	11 46 49.2		
	comp=Z,2µm,21.0s							
XLT	**XiLinHaoTe**	**84.84**	**318**	*e*P	**P**	**11 16 51.4**	**-2.0**	
XLT				pP	pwP	11 17 07.8	-1.4	
XLT				sP	sP	11 17 17.3	+6.5	
XLT				S	S	11 27 10.4	-8.0	
XLT				pmax	pmax			
	comp=Z,17nm,1.5s							
XLT				pmax	pmax			
	comp=Z,570nm,4.6s							
XLT				LR	LR			
	comp=Z,1µm,23.2s							
XLT				LR	LR			
	comp=Z,970nm,20.2s							
XLT				LR	LR			
	comp=Z,2µm,23.6s							
YMR	**Madison River**	**84.92**	**41**	IAmb	IAmb	11 17 06.6		
	comp=Z,26nm,1.2s							
BOZ	**Bozeman (W)**	**84.94**	**40**	IAmb	IAmb	11 17 06.7		
	comp=Z,23nm,1.4s							
BOZ	**Bozeman (W)**	**84.94**	**40**	P	**P**	**11 16 53.7**	**-0.2**	
	baz=242							
BW06	**Boulder Array**	**84.96**	**43**	IAmb	IAmb	11 17 05.5		
	comp=Z,22nm,1.5s							
BW06				IAMs_20	IAMs_20	11 47 44.0		
	comp=Z,2µm,20.0s							
BW06	**Boulder Array**	**84.96**	**43**	P	**P**	**11 16 53.5**	**-0.7**	
	baz=243							
PD31	**Pinedale Array**	**84.96**	**43**	IAmb	IAmb	11 17 05.5		
	comp=Z,20nm,1.5s							
PDAR	**Pinedale Array**	**84.96**	**43**	P	**P**	**11 16 52.6**	**-1.5**	
	comp=Z,3.7nm,0.8s,baz=209,slow=2.7,SNR=17							
PDAR				PP	**PP**	**11 20 13.1**	**+1.4**	
	comp=Z,1.2nm,1.0s,baz=240,slow=8.2,SNR=4.8							
PDAR				LR	LR	11 47 12.8		
	comp=Z,2µm,21.3s,baz=250,slow=30							
COLD	**Coldfoot**	**85.03**	**10**	IAmb	IAmb	11 17 08.9		
	comp=Z,28nm,1.1s							
COLD	**Coldfoot**	**85.03**	**10**	P	**P**	**11 16 54.4**	**+0.7**	
	baz=206							
H17A	**Grant Village**	**85.04**	**41**	P	**P**	**11 16 52.2**	**-2.4**	
H17A				IAmb	IAmb	11 17 08.3		
	comp=Z,15nm,1.1s							
H17A	**Grant Village**	**85.04**	**41**	P	**P**	**11 16 55.2**	**+0.6**	
	baz=242							
YNR	**Norris Junctio**	**85.12**	**41**	IAmb	IAmb	11 17 08.9		
	comp=Z,22nm,1.2s							
SMCO	**Snowmass**	**85.18**	**47**	IAMs_20	IAMs_20	11 48 34.0		
	comp=Z,3µm,21.0s							
HIA	**Hailar**	**85.22**	**324**	*i* P	**P**	**11 16 54.5**	**-0.6**	
HIA				pmax	pmax			
	comp=Z,18nm,1.5s							
HIA	**Hailar**	**85.22**	**324**	IAMs_20	IAMs_20	11 50 05.5		
	comp=Z,3µm,21.0s							
MAYO	**Mayo, Yukon**	**85.23**	**17**	P	**P**	**11 16 56.1**	**+1.4**	
	baz=220							
LKWY	**Lake**	**85.23**	**41**	IAmb	IAmb	11 17 09.5		
	comp=Z,22nm,1.3s							
LKWY				IAMs_20	IAMs_20	11 50 18.1		
	comp=Z,3µm,19.0s							
J29M	**Klondike Camp**	**85.26**	**16**	IAmb	IAmb	11 17 07.7		
	comp=Z,24nm,1.1s							
J29M	**Klondike Camp**	**85.26**	**16**	P	**P**	**11 16 56.0**	**+1.0**	
	baz=218							
WALA	**Waterton Lakes**	**85.28**	**36**	IAmb	IAmb	11 17 13.0		
	comp=Z,36nm,1.8s							
PMSA	**Palmer Station**	**85.40**	**157**	LR	LR	11 50 21.8		
	comp=Z,661nm,18.2s,baz=256,slow=32							
PMSA	**Palmer Station**	**85.40**	**157**	IAMs_20	IAMs_20	11 45 55.8		
	comp=Z,2µm,21.0s							
SLVN	**Son La**	**85.63**	**293**	IAmb	IAmb	11 17 05.4		
	comp=Z,28nm,1.5s							
SLVN				IAMs_20	IAMs_20	11 50 23.4		
	comp=Z,2µm,22.0s							
SDCO	**Great Sand Dun**	**85.65**	**49**	IAMs_20	IAMs_20	11 47 38.6		
	comp=Z,3µm,20.0s							
SDCO	**Great Sand Dun**	**85.65**	**49**	P	**P**	**11 16 57.1**	**-0.7**	
	baz=246							
SRIT	**Nakonsritamara**	**85.79**	**280**	P	**P**	**11 16 58.1**	**-0.5**	
XAN	**Xi'an**	**85.82**	**307**	P	**P**	**11 16 59.3**	**+0.8**	
XAN				PP	**PP**	**11 20 14.4**	**-4.2**	
XAN				S	**S**	**11 27 30.8**	**+2.4**	
XAN				SS	**SS**	**11 33 04.4**	**-2.3**	
XAN				pmax	pmax			
	comp=Z,11nm,1.7s							
XAN				pmax	pmax			
	comp=Z,310nm,4.5s							
XAN				LR	LR			
	comp=Z,590nm,19.6s							
XAN				LR	LR			
	comp=Z,1µm,20.6s							
XAN				LR	LR			
	comp=Z,1µm,23.5s							
I29M	**Ogilvie Camp,**	**85.96**	**15**	IAmb	IAmb	11 17 17.8		
	comp=Z,21nm,1.2s							
I29M	**Ogilvie Camp,**	**85.96**	**15**	P	**P**	**11 16 58.7**	**+0.3**	
	baz=217							
RWWY	**Rawlins**	**86.06**	**45**	IAMs_20	IAMs_20	11 48 35.3		
	comp=Z,3µm,20.0s							
RLMT	**Red Lodge**	**86.20**	**41**	IAMs_20	IAMs_20	11 47 15.8		
	comp=Z,3µm,22.0s							
RLMT	**Red Lodge**	**86.20**	**41**	P	**P**	**11 17 00.7**	**+0.4**	
	baz=243							
T25A	**Trinidad**	**86.21**	**50**	P	**P**	**11 17 00.8**	**+0.3**	
	baz=247							
MAW	**Mawson**	**86.33**	**199**	LR	LR	11 52 32.9		
	comp=Z,2µm,19.6s,baz=108,slow=34							
Q24A	**Divide**	**86.39**	**48**	P	**P**	**11 17 02.0**	**+0.5**	
	baz=247							
ISCO	**Idaho Springs**	**86.39**	**47**	IAMs_20	IAMs_20	11 50 31.1		
	comp=Z,2µm,19.0s							
ISCO	**Idaho Springs**	**86.39**	**47**	P	**P**	**11 17 03.4**	**+1.9**	
	baz=246							
HHC	**Hu-ho-hao-te**	**86.54**	**314**	*e*P	**P**	**11 17 03.3**	**+1.4**	
HHC				sP	sP	11 17 23.3	+3.9	
HHC				S	**S**	**11 27 35.3**	**+0.1**	
HHC				pmax	pmax			
	comp=Z,17nm,1.0s							
HHC				pmax	pmax			
	comp=Z,190nm,4.8s							
HHC				LR	LR			
	comp=Z,880nm,16.5s							
HHC				LR	LR			
	comp=Z,2µm,20.2s							
HHC				LR	LR			
	comp=Z,3µm,22.0s							
N23A	**Red Feather La**	**86.60**	**46**	P	**P**	**11 17 03.8**	**+1.4**	
	baz=246							
K22A	**Casper**	**86.93**	**44**	P	**P**	**11 17 03.6**	**-0.2**	
	baz=246							
833A	**Chaparral WMA,**	**87.00**	**60**	P	**P**	**11 17 06.1**	**+1.8**	
	baz=250							
PHWY	**Pilot Hill**	**87.10**	**46**	IAMs_20	IAMs_20	11 49 34.9		
	comp=Z,3µm,20.0s							
EPYK	**Eagle Plains**	**87.16**	**15**	IAmb	IAmb	11 18 34.2		
	comp=Z,41nm,1.8s							
EPYK	**Eagle Plains**	**87.16**	**15**	P	**P**	**11 17 06.8**	**+2.6**	
	baz=219							
EGMT	**Eagleton**	**87.20**	**38**	IAMs_20	IAMs_20	11 48 42.3		
	comp=Z,3µm,20.0s							
JCT	**Junction City**	**87.39**	**58**	IAMs_20	IAMs_20	11 47 58.1		
	comp=Z,2µm,20.0s							
JCT	**Junction City**	**87.39**	**58**	P	**P**	**11 17 06.6**	**+0.4**	
	baz=250							
CMIG	**Matias Romero**	**87.46**	**72**	LR	LR	11 47 33.3		
	comp=Z,2µm,19.8s,baz=249,slow=30							
USHA	**Ushuaia**	**87.74**	**147**	LR	LR	11 46 00.4		
	comp=Z,1µm,21.9s,baz=214,slow=28							
KMI	**Kunming**	**87.84**	**297**	⇑P	**P**	**11 17 09.8**	**+1.1**	
KMI				pP	sP	11 17 27.1	+0.9	
KMI				PP	**PP**	**11 20 39.8**	**+4.5**	
KMI				S	**S**	**11 27 46.0**	**-2.7**	
KMI				pmax	pmax			
	comp=Z,14nm,1.4s							
KMI				pmax	pmax			
	comp=Z,210nm,4.0s							
KMI				LR	LR			
	comp=Z,340nm,26.2s							
KMI				LR	LR			
	comp=Z,2µm,24.5s							
KMI				LR	LR			
	comp=Z,2µm,24.5s							
YAK	**Yakutsk**	**87.94**	**338**	LR	LR	11 56 09.3		
	comp=Z,725nm,18.4s,baz=99,slow=36							
YAK	**Yakutsk**	**87.94**	**338**	*i* P	**P**	**11 17 06.3**	**-1.7**	
YAK				pmax	pmax			
	comp=Z,12nm,1.0s							
KVTX	**Kingsville**	**88.00**	**61**	IAMs_20	IAMs_20	11 53 32.5		
	comp=Z,2µm,18.0s							
H03S2	**Juan Fernandez**	**88.10**	**125**	T	T	12 54 36.5		
	baz=250,SNR=20							
H03S1	**Juan Fernandez**	**88.12**	**125**	T	T	12 54 38.0		
	baz=250,SNR=26							
H03S3	**Juan Fernandez**	**88.12**	**124**	T	T	12 54 44.4		
	baz=250,SNR=16							
H03N2	**Juan Fernandez**	**88.22**	**124**	T	T	12 54 38.1		
	baz=256,slow=73,SNR=6.7							
H03N3	**Juan Fernandez**	**88.22**	**124**	T	T	12 54 42.5		
	baz=256,slow=73,SNR=8.2							
H03N1	**Juan Fernandez**	**88.23**	**124**	T	T	12 54 41.9		
	baz=256,slow=73,SNR=6.2							
LAO	**LASA Array**	**88.79**	**41**	IAMs_20	IAMs_20	11 49 30.3		
	comp=Z,3µm,20.0s							
LAO	**LASA Array**	**88.79**	**41**	P	**P**	**11 17 15.7**	**+3.2**	
	baz=246							
CD2	**Chengdu**	**88.83**	**302**	P	**P**	**11 17 14.0**	**+1.0**	
CD2				pP	sP	11 17 30.8	+0.2	
CD2				S	**S**	**11 27 57.4**	**0.0**	
CD2				pmax	pmax			
	comp=Z,120nm,6.8s			

CHTO	**Chiang Mai**	**89.31**	**290**		IAMs_20	IAMs_20	11 53 08.9		
	comp=Z,2μm,20.0s								
OGNE	**Ogallala**	**89.36**	**47**		IAMs_20	IAMs_20	11 49 03.6		
	comp=Z,2μm,22.0s								
INK	**Inuvik**	**89.45**	**15**		LR	LR	11 50 39.8		
	comp=Z,581nm,20.6s,baz=214,slow=31								
INK	**Inuvik**	**89.45**	**15**		P	**P**	**11 17 17.1**	**+2.1**	
	baz=222								
WMOK	**Wichita Mounta**	**89.62**	**54**		P	**P**	**11 17 18.2**	**+1.6**	
	baz=251								
CBKS	**Cedar Bluff**	**90.26**	**50**		IAMs_20	IAMs_20	11 50 25.2		
	comp=Z,2μm,21.0s								
HKT	**Hockley**	**90.47**	**59**	*i*	P	**P**	**11 17 20.1**	**-0.5**	
HKT					pmax	pmax			
	comp=Z,9.0nm,1.3s								
HKT	**Hockley**	**90.47**	**59**		IAMs_20	IAMs_20	11 49 42.8		
	comp=Z,3μm,20.0s								
DGMT	**Dagmar**	**90.76**	**40**		P	**P**	**11 17 22.6**	**+1.0**	
	baz=247								
SNET	**Serv Nac Est T**	**91.74**	**76**		IAMs_20	IAMs_20	11 49 09.4		
	comp=Z,2μm,20.0s								
YKA	**Yellowknife Ar**	**91.84**	**24**		P	**P**	**11 17 24.5**	**-1.8**	
	comp=Z,1.1nm,1.0s,baz=241,slow=4.7,SNR=3.9								
YKA					PP	**PP**	**11 21 04.5**	**-1.4**	
	comp=Z,0.6nm,1.0s,baz=239,slow=7.5,SNR=3.8								
YKA					LR	LR	11 52 35.8		
	comp=Z,3μm,20.0s,baz=242,slow=32								
YKA	**Yellowknife Ar**	**91.84**	**24**		P	**P**	**11 17 24.5**	**-1.8**	
NATX	**Nacogdoches**	**91.97**	**58**		IAMs_20	IAMs_20	11 51 52.6		
	comp=Z,3μm,20.0s								
PLCA	**Paso Flores**	**92.03**	**133**		P	**P**	**11 17 28.7**	**+0.7**	
	comp=Z,3.8nm,1.1s,baz=239,slow=5.8,SNR=3.7								
PLCA					LR	LR	11 50 01.8		
	comp=Z,1μm,21.1s,baz=228,slow=30								
ULN	**Ulaanbaatar**	**92.21**	**319**	*ce*	P	**P**	**11 17 26.5**	**-2.0**	
ULN					pmax	pmax			
	comp=Z,7.0nm,1.2s								
SONM	**Songino Array**	**92.61**	**319**		P	**P**	**11 17 29.1**	**-1.3**	
	comp=Z,1.3nm,1.1s,baz=122,slow=4.1,SNR=5.0								
SONM					LR	LR	11 54 38.9		
	comp=Z,762nm,21.9s,baz=110,slow=33								
C36M	**Paulatuk**	**92.64**	**17**		P	**P**	**11 17 30.1**	**+0.3**	
C36M					IAmb	IAmb	11 17 32.6		
	comp=Z,22nm,1.3s								
C36M	**Paulatuk**	**92.64**	**17**		P	**P**	**11 17 31.4**	**+1.6**	
	baz=230								
KSU1	**Kansas State U**	**92.66**	**50**		IAMs_20	IAMs_20	11 52 26.7		
	comp=Z,3μm,20.0s								
SNAA	**Sanae**	**92.78**	**178**		LR	LR	11 53 45.5		
	comp=Z,2μm,22.0s,baz=187,slow=32								
MDND	**Maddock**	**93.40**	**41**		P	**P**	**11 17 34.7**	**+0.9**	
	baz=250								
A36M	**Sachs Harbour**	**94.05**	**14**		IAmb	IAmb	11 17 53.5		
	comp=Z,18nm,0.9s								
A36M	**Sachs Harbour**	**94.05**	**14**		P	**P**	**11 17 37.8**	**+1.6**	
	baz=230								
ECSD	**EROS Data Cent**	**94.08**	**46**		IAmb	IAmb	11 17 41.1		
	comp=Z,16nm,1.4s								
ECSD	**EROS Data Cent**	**94.08**	**46**		IAMs_20	IAMs_20	11 53 00.4		
	comp=Z,3μm,20.0s								
ECSD	**EROS Data Cent**	**94.08**	**46**		P	**P**	**11 17 37.2**	**+0.2**	
	baz=252								
X40A	**Basin Creek Fa**	**94.22**	**56**		IAMs_20	IAMs_20	11 52 25.0		
	comp=Z,2μm,21.0s								
TIXI	**Tiksi**	**94.30**	**345**		LR	LR	12 00 01.7		
	comp=Z,1μm,18.7s,baz=128,slow=36								
TIXI	**Tiksi**	**94.30**	**345**	*ce*	P	**P**	**11 17 35.7**	**-1.6**	
TIXI					pmax	pmax			
	comp=Z,8.0nm,1.1s								
TIXI	**Tiksi**	**94.30**	**345**		P	**P**	**11 17 36.7**	**-0.7**	
TIXI					IAmb	IAmb	11 17 46.9		
	comp=Z,8.7nm,1.1s								
TIXI					IAMs_20	IAMs_20	11 59 32.3		
	comp=Z,2μm,20.0s								
TIXI	**Tiksi**	**94.30**	**345**		P	**P**	**11 17 35.8**	**-1.6**	
GTA	**Gaotai**	**94.49**	**310**	*e*	P	**P**	**11 17 40.8**	**+1.6**	
GTA					sS	sS	11 29 09.3	-0.9	
GTA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
GTA					pmax	pmax			
	comp=Z,68nm,4.4s								
GTA					LR	LR			
	comp=Z,480nm,19.6s								
GTA					LR	LR			
	comp=Z,1μm,22.5s								
GTA					LR	LR			
	comp=Z,2μm,22.5s								
EFI	**East Falkland**	**94.71**	**147**		IAMs_20	IAMs_20	11 51 35.9		
	comp=Z,1μm,20.0s								
U40A	**Yellville**	**94.72**	**54**		IAMs_20	IAMs_20	11 54 18.1		
	comp=Z,3μm,19.0s								
U40A	**Yellville**	**94.72**	**54**		P	**P**	**11 17 40.1**	**-0.1**	
	baz=254								
S39A	**Bolivar**	**94.72**	**52**		P	**P**	**11 17 39.0**	**-1.2**	
S39A					IAmb	IAmb	11 17 44.8		
	comp=Z,9.7nm,1.0s								
BOAB	**BOACO BROADBAND**	**94.77**	**78**		IAMs_20	IAMs_20	11 49 33.6		
	comp=Z,3μm,21.0s								
W41B	**Gary Mavity, V**	**94.87**	**55**		P	**P**	**11 17 41.2**	**+0.4**	
	baz=254								
JTS	**Las Juntas de**	**94.89**	**81**		LR	LR	11 50 48.1		
	comp=Z,2μm,20.0s,slow=29								
JTS	**Las Juntas de**	**94.89**	**81**		IAMs_20	IAMs_20	11 50 54.8		
	comp=Z,2μm,20.0s								
ZAK	**Zakamensk**	**95.38**	**321**	*e*	P	**P**	**11 17 43.3**	**+0.3**	
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.4s								
VBMS	**Vicksburg**	**95.48**	**58**		IAMs_20	IAMs_20	11 58 05.5		
	comp=Z,2μm,20.0s								
HDC	**Heredia**	**95.61**	**81**		IAMs_20	IAMs_20	11 51 00.1		
	comp=Z,1μm,20.0s								
R40A	**Maddies Statio**	**95.69**	**52**		P	**P**	**11 17 43.0**	**-1.5**	
R40A					IAmb	IAmb	11 17 49.2		
	comp=Z,12nm,1.0s								
AGMN	**Agassiz Nation**	**95.93**	**42**		IAMs_20	IAMs_20	11 55 29.2		
	comp=Z,3μm,19.0s								
AGMN	**Agassiz Nation**	**95.93**	**42**		P	**P**	**11 17 46.2**	**+0.8**	
	baz=253								
CVTR	**Volcan Turrial**	**95.96**	**81**		P	**P**	**11 17 44.6**	**-2.2**	
CCM	**Cathedral Cave**	**96.40**	**52**		P	**P**	**11 17 47.9**	**+0.1**	
	baz=255								
ULM	**Lac du Bonnet**	**96.48**	**40**		LR	LR	11 54 15.8		
	comp=Z,4μm,21.7s,baz=254,slow=31								
ATAH	**Atahualpa**	**96.52**	**99**		LR	LR	11 52 05.3		
	comp=Z,1μm,19.6s,baz=259,slow=30								
NNA	**Nana**	**96.57**	**104**		LR	LR	11 52 43.8		
	comp=Z,836nm,20.8s,baz=252,slow=30								
GOMU	**GeErMu**	**97.48**	**305**		P	Pdif	11 17 55.3	+2.0	
GOMU					pmax	pmax			
	comp=Z,71nm,4.4s								
GOMU					LR	LR			
	comp=Z,310nm,19.2s								
GOMU					LR	LR			
	comp=Z,590nm,19.2s								
GOMU					LR	LR			
	comp=Z,550nm,19.8s								
PLAL	**Pickwick Lake**	**98.14**	**56**		IAMs_20	IAMs_20	11 56 43.7		
	comp=Z,3μm,20.0s								
PB14	**IPOC Station P**	**98.19**	**118**		IAMs_20	IAMs_20	11 51 15.2		
	comp=Z,2μm,22.0s								
JFWS	**Jewell Farm**	**98.33**	**48**		P	Pdif	11 17 57.6	+1.2	
	baz=256								
PB10	**IPOC Station P**	**98.46**	**117**		IAMs_20	IAMs_20	11 51 35.2		
	comp=Z,2μm,22.0s								
HDIL	**Hopedale**	**98.48**	**50**		IAMs_20	IAMs_20	11 57 12.6		
	comp=Z,3μm,19.0s								
EYMN	**Ely**	**98.66**	**43**		IAMs_20	IAMs_20	11 55 36.5		
	comp=Z,3μm,21.0s								
PB15	**IPOC Station P**	**99.50**	**117**		IAMs_20	IAMs_20	11 51 41.7		
	comp=Z,3μm,21.0s								
PB06	**IPOC Station P**	**99.60**	**117**		IAMs_20	IAMs_20	11 51 33.3		
	comp=Z,2μm,21.0s								
HQIL	**Hanson Quary C**	**99.81**	**49**		IAMs_20	IAMs_20	11 59 15.4		
	comp=Z,2μm,19.0s								
L44A	**Lake County Fo**	**99.85**	**49**		IAMs_20	IAMs_20	11 55 56.3		
	comp=Z,3μm,21.0s								
LVC	**Limon Verde**	**100.20**	**117**		IAMs_20	IAMs_20	11 52 27.3		
	comp=Z,2μm,21.0s								
PB09	**IPOC Station P**	**100.21**	**116**		IAMs_20	IAMs_20	11 53 13.7		
	comp=Z,1μm,22.0s								
WCI	**Wyandotte Cave**	**100.24**	**53**		IAMs_20	IAMs_20	11 56 02.4		
	comp=Z,2μm,20.0s								
PB12	**IPOC Station P**	**100.39**	**113**		IAMs_20	IAMs_20	11 52 50.7		
	comp=Z,2μm,20.0s								
PB11	**IPOC Station P**	**100.58**	**114**		IAMs_20	IAMs_20	11 52 36.7		
	comp=Z,2μm,21.0s								
PB08	**IPOC Station P**	**100.89**	**115**		IAMs_20	IAMs_20	11 52 15.7		
	comp=Z,1μm,22.0s								
PB16	**IPOC Station P**	**101.22**	**113**		IAMs_20	IAMs_20	11 53 17.6		
	comp=Z,2μm,22.0s								
GOGA	**Godfrey**	**101.54**	**58**		IAMs_20	IAMs_20	11 56 55.8		
	comp=Z,3μm,22.0s								
PALK	**Pallekele**	**103.51**	**274**		IAMs_20	IAMs_20	12 09 04.8		
	comp=Z,2μm,21.0s								
NHSC	**New Hope**	**104.19**	**59**		IAMs_20	IAMs_20	12 01 54.1		
	comp=Z,2μm,19.0s								
M53A	**WI Miller and**	**105.05**	**51**		IAMs_20	IAMs_20	11 59 14.6		
	comp=Z,3μm,20.0s								
ERPA	**Erie**	**105.64**	**50**		IAMs_20	IAMs_20	12 00 40.3		
	comp=Z,3μm,20.0s								
KAAM	**Kaadhehdhoo**	**109.16**	**265**		IAMs_20	IAMs_20	12 09 36.1		
	comp=Z,2μm,21.0s								
SDDR	**Presa de Saban**	**109.70**	**75**		IAMs_20	IAMs_20	11 59 44.3		
	comp=Z,2μm,20.0s								
BRVK	**Borovoye**	**115.88**	**322**		IAMs_20	IAMs_20	12 09 37.5		
	comp=Z,2μm,21.0s								
ILULI	**Ilulissat**	**116.97**	**19**		IAMs_20	IAMs_20	12 08 29.6		
	comp=Z,2μm,20.0s								
SMRT	**St. Maarten**	**117.24**	**78**		IAMs_20	IAMs_20	12 05 32.4		
	comp=Z,1μm,21.0s								
SEUS	**St. Eustatius**	**117.24**	**78**		IAMs_20	IAMs_20	12 12 24.0		
	comp=Z,990nm,20.0s								
SFJD	**Kangerlussuaq**	**118.21**	**21**		IAMs_20	IAMs_20	12 16 36.3		
	comp=Z,2μm,18.0s								
SUMG	**Summit**	**118.31**	**13**		IAMs_20	IAMs_20	12 13 36.0		
	comp=Z,1μm,20.0s								
VOI	**Vohitsoka**	**122.94**	**230**		IAMs_20	IAMs_20	12 09 19.0		
	comp=Z,946nm,22.0s								
SCO	**Scoresbysund**	**123.16**	**10**		IAMs_20	IAMs_20	12 20 01.0		
	comp=Z,1μm,19.0s								
ANGG	**Ammassalik, Gr**	**123.28**	**19**		IAMs_20	IAMs_20	12 11 15.4		
	comp=Z,2μm,21.0s								
KEV	**Kevo**	**123.88**	**350**		IAMs_20	IAMs_20	12 17 38.8		
	comp=Z,2μm,20.0s								
MSEY	**Mahe Island**	**124.06**	**253**		IAMs_20	IAMs_20	12 11 47.2		
	comp=Z,1μm,20.0s								
ABPO	**Ambohimpanom**	**124.30**	**233**		IAMs_20	IAMs_20	12 10 08.9		
	comp=Z,2μm,22.0s								
ARCES	**ARCESS Array B**	**124.32**	**351**		PKhKP	PKPpre	11 23 08.8		
	comp=Z,4.7nm,1.1s,baz=31,slow=2.3,SNR=3.9								
KLMR	**Klimovskoe**	**127.73**	**338**	*e*	PKIKP	**PKPdf**	**11 23 22.5**	**-1.0**	
KLMR				*e*			11 25 22.4		
KLMR					pmax	pmax			
	comp=Z,14nm,1.1s								
KLMR					MLR	MLR			
	comp=Z,1μm,18.0s								
SOCY	**Socotra**	**130.26**	**273**		IAMs_20	IAMs_20	12 21 50.4		
	comp=Z,786nm,20.0s								
OBN	**Obninsk**	**132.82**	**334**	*e*	PKIKP	PKPdf	11 23 25.4	-7.9	
OBN					pmax	pmax			
	comp=Z,4.0nm,0.8s								
OBN	**Obninsk**	**132.82**	**334**		IAMs_20	IAMs_20	12 20 08.8		
	comp=Z,1μm,21.0s								
MAK	**Makhachkala**	**133.21**	**315**	*i*	P	**Pdif**	**11 20 30.0**	**-1.5**	
MAK				*i*			11 23 34.0		
MAK				*e*			11 25 57.0		
MAK				*e*			11 30 35.4		
MAK				*e*SS	SS		11 43 35.8	-6.1	
MAK				*e*SSS	SSS		11 48 40.9		
MAK					pmax	pmax			
	comp=Z,167nm,1.2s								
KIV	**Kislovodsk**	**136.00**	**318**	*i*	PKIKP	**PKPdf**	**11 23 40.6**	**+0.8**	
KIV					pmax	pmax			
	comp=Z,7.0nm,1.1s								
KIV					MLR	MLR			
	comp=Z,1μm,24.0s								
KIV	**Kislovodsk**	**136.00**	**318**		IAMs_20	IAMs_20	12 27 22.3		
	comp=Z,1μm,19.0s								
SHA1	**Shidzhatmaz**	**136.12**	**318**	*i*	PKIKP	**PKPdf**	**11 23 40.3**	**+0.1**	
GNI	**Garni**	**136.17**	**312**		IAMs_20	IAMs_20	12 27 12.8		
	comp=Z,778nm,21.0s								
MNK	**Minsk**	**136.62**	**339**	*i*	PKIKP	**PKPdf**	**11 23 37.0**	**-3.4**	
MNK				*i*			11 26 18.2		
MNK				*i*			11 30 44.1		
MNK				*i*	SS	SS	11 44 22.7	+1.3	
MNK				*i*	SSS	SSS	11 49 26.8		
MNK					pmax	pmax			
	comp=Z,12nm,1.3s								
MNK	**Minsk**	**136.62**	**339**	*i*	PKP	**PKPdf**	**11 23 37.0**	**-3.4**	
MNK				*i*	PKP	**PKPdf**	**11 23 37.0**	**-3.4**	
MNK				*i*	PKP	**PKPdf**	**11 23 37.0**	**-3.4**	
	comp=Z,12nm,1.3s,baz=36								
MNK				*i*	PP	**PP**	**11 26 18.2**	**-3.9**	
MNK				*i*	SKP		11 27 09.5		
MNK				*i*	PKS		11 27 12.7		
MNK				*i*	PPP	PPP	11 29 15.4		
MNK				*i*	SKS	**SKSdf**	**11 30 44.2**	**-3.3**	
MNK				*i*	SKKS	SKKSdf	11 40 18.7	-10	
MNK				*i*	SS	**SS**	**11 44 22.7**	**+1.4**	
MNK				*i*	SSS	SSS	11 49 26.9		
MNK				*i*	LR	LR	12 21 59.9		
MNK				*i*	LRM	MLR	12 27 35.0		
	comp=Z,1μm,21.7s								
MNK				*i*	LRM	MLR	12 27 39.4		
	comp=E,114nm,17.2s								
MNK				*i*	LRM	MLR	12 28 07.5		
	comp=N,843nm,20.4s								
NACGM	**Naroch**	**136.67**	**340**	*i*	PKP	**PKPdf**	**11 23 40.4**	**-0.1**	
NACGM				*i*	PKP	**PKPdf**	**11 23 40.4**	**-0.1**	
NACGM				*i*	PKP	**PKPdf**	**11 23 40.4**	**-0.1**	
	baz=35								
NACGM				*i*	pPKP	**sPKPdf**	**11 23 58.0**	**-0.4**	
NACGM				*i*	sPKP		11 24 07.3		
NACGM				*i*	PP	**PP**	**11 26 23.3**	**+0.8**	
NACGM				*i*	PPP	PPP	11 29 22.6		
NACGM				*i*	SKS	SKSdf	11 30 23.5	-24	
NACGM				*i*	sSKS		11 31 16.9		
NACGM				*i*	SKKS		11 34 24.4		
NACGM				*i*	PS	PS	11 36 58.9	+10	
NACGM				*i*	SS	SS	11 43 35.2	-47	
NACGM				*i*	SSS	SSS	11 48 44.2		
NACGM				*i*	LQ	LQ	12 13 37.9		
NACGM				*i*	LR	LR	12 18 53.0		
PABE	**Paberze**	**137.04**	**342**		IAMs_20	IAMs_20	12 31 47.3		
	comp=Z,1μm,19.0s								
SUW	**Suwalki**	**138.56**	**342**		IAMs_20	IAMs_20	12 29 47.5		
	comp=Z,1μm,20.0s								
AKASG	**Malin Array Be**	**139.08**	**334**	*c*	PKIKP	**PKPdf**	**11 23 46.3**	**+1.2**	
	comp=Z,0.2nm,0.3s,baz=13,slow=1.2,SNR=4.9								
AKASG	**Malin Array Be**	**139.08**	**334**	*c*	PKIKP	**PKPdf**	**11 23 46.7**	**+1.6**	
RAYN	**Ar Rayn**	**139.12**	**288**		IAMs_20	IAMs_20	12 23 48.3		
	comp=Z,831nm,22.0s								
LSZ	**Lusaka**	**140.30**	**220**		IAMs_20	IAMs_20	12 27 22.7		
	comp=Z,904nm,20.0s								
KIBK	**Kibwezi**	**140.80**	**246**		IAMs_20	IAMs_20	12 22 22.6		
	comp=Z,1μm,20.0s								
ATD	**Arta Tunnel**	**140.88**	**269**		IAMs_20	IAMs_20	12 20 55.9		
	comp=Z,1μm,22.0s								
BSEG	**Bad Segeberg**	**141.37**	**353**	*e*	L	L	12 26 04.3		
	comp=Z,1μm,21.5s								
TSUM	**Tsumeb**	**142.40**	**203**		IAMs_20	IAMs_20	12 27 10.8		
	comp=Z,1μm,18.0s								
UZH	**Uzhgorod**	**143.44**	**338**	*e*	PKIKP	PKPab	11 23 49.9	+0.7	
UZH				*i*			11 23 53.7		
UZH				*i*			11 23 57.8		
CRVS	**Cervenica-Dubn**	**143.50**	**339**	*e*	PKIKP	PKPbc	11 23 51.7	+1.3	
CRVS	**Cervenica-Dubn**	**143.50**	**339**	*e*	PKP	PKPbc	11 23 51.7	+1.3	
CLL	**Collm**	**143.52**	**349**	*e*	PKIKP	**PKPdf**	**11 23 53.0**	**0.0**	
CLL	**Collm**	**143.52**	**349**	*e*	PKPdf	**PKPdf**	**11 23 53.0**	**0.0**	
CLL				*e*p	PKiKP	**PKiKP**	**11 24 01.0**	**+4.6**	
CLL				*ex*		x	11 26 42.0		
CLL				*e*(PKKSdf)			11 36 48.0		
CLL				*e*PSKS			11 37 30.0		
CLL				*e*PPS	PPS		11 39 36.0		
CLL				*ex*	x		11 40 42.0		
CLL				*e*SS	SS		11 45 48.0	+6.3	
CLL				*e*SSS	SSS		11 51 05.0		
CLL				*ex*	x		11 53 48.0		
CLL				*e*SSSS			11 54 48.0		
CLL	**Collm**	**143.52**	**349**	*e*	L	L	12 26 43.7		
	comp=Z,1μm,21.9s								
CLL	**Collm**	**143.52**	**349**		IAMs_20	IAMs_20	12 27 14.1		
	comp=Z,1μm,20.0s								
OSTC	**Ostas**	**143.55**	**346**	*e*	PKP	**PKPdf**	**11 23 55.1**	**+1.9**	
DPC	**Dobruska-Polom**	**143.72**	**345**	*e*	PKIKP	**PKPdf**	**11 23 53.3**	**-0.2**	
DPC	**Dobruska-Polom**	**143.72**	**345**	*e*	PKP	**PKPdf**	**11 23 53.3**	**-0.2**	
TPGR	**Topolog**	**143.74**	**329**	⇑	P	**PKPdf**	**11 23 55.4**	**+1.7**	
BRG	**Berggiesshubel**	**143.75**	**348**	*e*	PKP	**PKiKP**	**11 23 58.0**	**+1.0**	
BRG					Amp		11 24 00.7		
	comp=Z,4.9nm,1.0s								
BRG	**Berggiesshubel**	**143.75**	**348**	*e*	PKIKP	**PKiKP**	**11 23 57.9**	**+1.0**	
BRG					pmax	pmax			
	comp=Z,5.0nm,1.0s								
MORC	**Moravsky Berou**	**143.93**	**344**	*e*	PKP	PKPab	11 23 50.5	-0.6	
LANS	**Liptovska Anna**	**143.93**	**341**	*e*	PKIKP	PKPbc	11 23 53.3	+1.5	
LANS	**Liptovska Anna**	**143.93**	**341**	*e*	PKP	PKPbc	11 23 53.3	+1.5	
BR131	**Keskin Array S**	**143.96**	**318**		PKIKP	PKPab	11 23 51.1	-0.6	
BR131	**Keskin Array S**	**143.96**	**318**			PKPab	11 23 51.1	-0.6	
BRTR	**Keskin Array B**	**143.96**	**318**		PKP	PKPab	11 23 52.1	+0.4	
	comp=Z,6.7nm,1.0s,baz=270,slow=2.1,SNR=14								
BRTR	**Keskin Array B**	**143.96**	**318**	*c*	PKIKP	**PKPdf**	**11 23 56.2**	**+1.8**	
BRTR					pmax	pmax			
	comp=Z,7.0nm,1.0s								
BRTR	**Keskin Array B**	**143.96**	**318**		PKPdf	PKPab	11 23 51.4	-0.3	
OZUR		**144.08**	**332**	⇑	P	PKPab	11 23 40.7	-11	
TLBR	**Topalu**	**144.15**	**329**	⇑	P	**PKPdf**	**11 23 54.9**	**+0.6**	
FURI	**Furi**	**144.32**	**263**		IAMs_20	IAMs_20	12 27 24.7		
	comp=Z,812nm,20.0s								
MOX	**Moxa**	**144.40**	**350**	*e*	L	L	12 26 48.5		
	comp=Z,1μm,21.9s								
MLR	**Muntele Rosu**	**144.47**	**332**	⇑	P	**PKPdf**	**11 23 55.3**	**+0.2**	
MLR	**Muntele Rosu**	**144.47**	**332**		PKP	**PKPab**	**11 23 53.1**	**-0.3**	
	comp=Z,1.4nm,0.6s,baz=101,slow=5.2,SNR=3.8								
MLR	**Muntele Rosu**	**144.47**	**332**	⇑	PKIKP	**PKPdf**	**11 23 55.3**	**+0.2**	
MLR	**Muntele Rosu**	**144.47**	**332**		PKPdf	**PKPab**	**11 23 53.6**	**+0.2**	
PRU	**Pruhonice**	**144.47**	**347**	*e*	PKIKP	**PKPdf**	**11 23 56.2**	**+1.5**	
PRU	**Pruhonice**	**144.47**	**347**	*e*	PKP	**PKPdf**	**11 23 56.2**	**+1.5**	
PRU				*e*SS		SS	11 45 44.1	-8.6	
ISR	**Istrita**	**144.47**	**331**	⇑	P	PKPbc	11 23 54.5	+0.9	
ISR	**Istrita**	**144.47**	**331**	⇑	PKIKP	PKPbc	11 23 54.5	+0.9	
VRAC	**Vranov**	**144.61**	**344**	⇓	P	**PKPab**	**11 23 53.4**	**-0.2**	
VRAC	**Vranov**	**144.61**	**344**		PKP	**PKPab**	**11 23 52.9**	**-0.7**	
	comp=Z,12nm,1.1s,baz=27,slow=4.8,SNR=7.4								
VRAC	**Vranov**	**144.61**	**344**	⇓	PKIKP	**PKPab**	**11 23 53.4**	**-0.2**	
VRAC	**Vranov**	**144.61**	**344**	*e*	PKP	**PKPab**	**11 23 53.9**	**+0.3**	
NKC	**Novy Kostel**	**144.65**	**349**	*e*	PKIKP	**PKiKP**	**11 24 00.1**	**+1.3**	
NKC	**Novy Kostel**	**144.65**	**349**	*e*	PKP	**PKiKP**	**11 24 00.1**	**+1.3**	
PSN	**Preselentsi**	**144.69**	**327**	*e*	P	**PKiKP**	**11 23 59.1**	**+0.1**	
VYHS	**Vyhne**	**144.71**	**341**	*e*	PKIKP	**PKPdf**	**11 23 55.9**	**+0.7**	
VYHS	**Vyhne**	**144.71**	**341**	*e*	PKP	**PKPdf**	**11 23 55.9**	**+0.7**	
JAVC	**Velka Javorina**	**144.73**	**343**	*e*	PKP	**PKPab**	**11 23 54.2**	**+0.1**	
DRGR		**144.81**	**336**	⇓	P	**PKPdf**	**11 23 57.9**	**+2.3**	
DRGR		**144.81**	**336**	⇓	PKIKP	**PKPdf**	**11 23 57.9**	**+2.3**	
PBCC	**Pribram**	**144.87**	**347**	*e*	PKP	**PKiKP**	**11 23 58.8**	**-0.5**	
PSZ	**Piszkesteto**	**144.88**	**340**	⇑	P	**PKiKP**	**11 23 59.0**	**-0.4**	
PSZ	**Piszkesteto**	**144.88**	**340**	⇑	PKIKP	**PKiKP**	**11 23 59.0**	**-0.4**	
PSZ	**Piszkesteto**	**144.88**	**340**			**PKPab**	**11 23 54.4**	**-0.3**	
PSZ					IAMs_20	IAMs_20	12 28 33.0		
	comp=Z,1μm,21.0s								
KRUC	**Moravsky**	**144.89**	**344**	*e*	PKP	**PKPab**	**11 23 53.2**	**-1.4**	
TREC	**Trest**	**144.90**	**345**	*e*	PKIKP	**PKPab**	**11 23 54.5**	**-0.2**	
TREC	**Trest**	**144.90**	**345**	*e*	PKP	**PKPab**	**11 23 54.5**	**-0.2**	
VOIR		**144.91**	**332**	⇑	P	**PKPab**	**11 23 54.6**	**-0.4**	
VOIR		**144.91**	**332**	⇑	PKIKP	**PKPab**	**11 23 54.6**	**-0.4**	
MEM	**Membach**	**145.06**	**356**		PKP	**PKPdf**	**11 23 57.5**	**+1.8**	
MTUR	**Matau**	**145.07**	**332**	⇑	PKHKP	PKPpre	11 23 40.9		
BTNL	**Ternell**	**145.07**	**356**		PKP	**PKPdf**	**11 23 56.8**	**+1.0**	
ARR	**Arges**	**145.15**	**333**	⇑	P	**PKPdf**	**11 23 58.0**	**+1.9**	
SNF	**Seneffe**	**145.23**	**358**		PKP	**PKPab**	**11 23 56.5**	**+0.7**	
SNF					x	x	11 24 02.6		
TNS	**Taunus Mts**	**145.24**	**354**	*e*	L	L	12 29 43.1		
	comp=Z,769nm,21.4s								
MODS	**Modra-Piesok**	**145.28**	**343**	*e*	PKIKP	**PKPbc**	**11 23 55.8**	**-0.2**	
MODS	**Modra-Piesok**	**145.28**	**343**	*e*	PKP	**PKPbc**	**11 23 55.8**	**-0.2**	
BCLA	**Clavier**	**145.28**	**357**		PKP	**PKiKP**	**11 23 59.0**	**-1.0**	
BCLA					PKiKP	pPKPab	11

ABTA	Abfaltersbach	147.97	347	eP	PKPab	11 24 07.0	+0.4
	comp=Z,35nm,1.1s						
MBAR	Mbarara	147.99	242	IAMs_20	IAMs_20	12 22 11.0	
	comp=Z,965nm,22.0s						
FETA	Feichten	148.05	350	eP	PKPbc	11 24 04.0	-0.3
	comp=Z,22nm,1.3s						
DIVS	Divibare	148.12	336	IAMs_20	IAMs_20	12 37 38.2	
	comp=Z,862nm,19.0s						
DAVOX	Davos/Dischmat	148.43	351	PKPbc	PKPbc	11 24 04.3	-1.0
	comp=Z,8.0nm,0.9s,baz=315,slow=5.7,SNR=7.1						
MMB	Musomiste	148.47	329	eP	PKPbc	11 24 05.3	-0.1
KKB	Krupnik	148.57	330	eP	PKPbc	11 24 05.3	-0.3
STIP	Stip	149.13	331	i P	PKPbc	11 24 05.9	-1.1
SENIN	Lac Senin/Sane	149.17	354	IAMs_20	IAMs_20	12 28 28.3	
	comp=Z,1μm,22.0s						
VAY	Valandovo	149.24	330	i P	PKPab	11 24 14.3	+2.5
SKO	Skopje	149.25	332	i P	PKPdf	11 24 00.3	-2.8
PDG	Podgorica	149.81	335	‖P	PKiKP	11 24 12.1	+2.5
OHR	Ohrid	150.23	332	i P	PKiKP	11 24 13.0	+2.3
SSB	Saint Sauveur	150.45	357	IAMs_20	IAMs_20	12 30 56.9	
	comp=Z,1μm,20.0s						
BNI	Bardonecchia	150.53	354	IAMs_20	IAMs_20	12 31 01.2	
	comp=Z,1μm,20.0s						
SANT	Santorini	151.15	320	P	PKPdf	11 23 59.6	-6.7
SANT	Santorini	151.15	320	IAMs_20	IAMs_20	12 32 24.8	
	comp=Z,930nm,22.0s						
VSL	Villasalto	155.57	348	IAMs_20	IAMs_20	12 36 10.2	
	comp=Z,1μm,20.0s						
MESJ	Messejana	155.88	22	ePKPdf	PKPdf	11 24 13.5	+0.6
MESJ				IAMs_20	IAMs_20	12 25 59.0	
	comp=Z,3μm,29.0s						
MESJ	Messejana	155.88	22	ePKIKP	PKPdf	11 24 13.4	+0.6
CART	Cartagena	157.92	8	IAMs_20	IAMs_20	12 29 47.3	
	comp=Z,1μm,21.0s						
KEST	Kesra	159.18	345	PKPab	PKPab	11 24 50.8	-3.3
	comp=Z,2.9nm,0.7s,baz=329,slow=5.9,SNR=3.9						
MDT	Midelt	161.67	20	PKPab	PKPab	11 25 03.7	-1.4
	comp=Z,1.8nm,0.7s,baz=18,slow=5.6,SNR=2.0						
MDT	Midelt	161.67	20		PKPab	11 25 03.7	-1.4
TIC	Toumodi	168.21	139	ePKIKP	PKPdf	11 24 29.9	+3.8
TORD	Torodi Ar. Bea	177.28	157	PKP	PKPdf	11 24 27.6	-2.2
	comp=Z,2.0nm,1.2s,baz=241,slow=0.7,SNR=3.4						
TORD				PKPab	PKPab	11 26 17.4	+3.1
	comp=Z,6.5nm,1.2s,baz=208,slow=2.8,SNR=12						
TORD	Torodi Ar. Bea	177.28	157		PKPdf	11 24 27.6	-2.2

*NEIC **14** 11:04:28.3±1.8, 18°.88S±0°.07×169°.1E±0°.1, h146km±11km, mb4.4/16, Error ellipse: s-maj=14.0km s-min=10.3km az=92.0*

*NOU **14** 11:04:29.4, 18°.93S×169°.03E, h152km, MLv5.0/28, Vanuatu Islands*

*IDC **14** 11:04:30.6±4.8, 19°.08S×168°.95E, h168km±34km, mb3.9/6, mb1 4.0/7, mb1mx3.7/23, mbtmp4.4/7, Error ellipse: s-maj=44.6km s-min=22.7km az=48.0*

ISC 14 11:04:27.9±0.7, 18°.94S±0°.05×169°.10E±0°.08, h147km, n63, σ1§27/63, mb4.3/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	1.31	330	P	Pn	11 04 57.0	+1.8
DVP	Devils Point	1.49	324	P	Pn	11 04 58.8	+1.7
LIFNC	LIFOU	2.54	223		Pn	11 05 09.2	-0.1
LIFNC	LIFOU	2.54	223	P	Pn	11 05 09.1	-0.1
MARNC	Mare, Loyalty	2.72	202		Pn	11 05 11.8	+0.2
MARNC	Mare, Loyalty	2.72	202	P	Pn	11 05 11.6	0.0
SANVU	Saraoutou	3.92	332		Pn	11 05 26.9	-0.1
SANVU	Saraoutou	3.92	332	P	Pn	11 05 27.5	+0.5
PINNC	Pines Island,	3.97	203		Pn	11 05 28.2	+0.6
PINNC	Pines Island,	3.97	203	P	Pn	11 05 29.5	+1.8
DZM	Mont Dzumac	3.99	218	P	Pn	11 05 28.6	+0.5
	19nm,0.3s,baz=78,slow=9.8,SNR=418						
DZM				S	Sn	11 06 14.2	-0.6
	22nm,0.3s,baz=314,slow=23,SNR=9.9						
DZM	Mont Dzumac	3.99	218	ePn	Pn	11 05 28.7	+0.7
	467nm,1.4s						
DZM				eSn	Sn	11 06 13.8	-1.0
	867nm,1.3s						
DZM	Mont Dzumac	3.99	218		Pn	11 05 29.1	+1.0
DZM	Mont Dzumac	3.99	218	P	Pn	11 05 29.0	+1.0
OUENC	Ouen Island, N	4.06	211		Pn	11 05 29.5	+0.7
OUENC	Ouen Island, N	4.06	211	P	Pn	11 05 30.3	+1.5
NOUC	Port Laguerre	4.10	219	P	Pn	11 05 30.4	+1.1
ONTNC	Ouen Toro	4.17	216		Pn	11 05 31.3	+1.0
ONTNC	Ouen Toro	4.17	216	P	Pn	11 05 31.5	+1.2
KOUNC	Koumac, New Ca	4.81	250	P	Pn	11 05 41.0	+2.2
OUZ	Omahuta	16.70	167	Pn	Pn	11 08 15.7	+2.5
OUZ				IAmb	IAmb	11 08 43.1	
	comp=Z,33nm,1.3s						
OUZ	Omahuta	16.70	167	P	Pn	11 08 15.5	+2.3
EIDS	Eidsvold	17.87	246	Pn	Pn	11 08 27.6	+0.3
EIDS				IAmb	IAmb	11 08 28.4	
	comp=Z,9.8nm,0.7s						
EIDS	Eidsvold	17.87	246	P	Pn	11 08 28.2	+0.8
ARMA	Armidale	19.54	231		Pn	11 08 46.2	-0.8
ARMA				IAmb	IAmb	11 08 52.1	
	comp=Z,37nm,1.4s						
NIUE	Niue	19.83	94		P	11 08 47.3	0.0
HIZ	Hauiti	20.14	167	P	Pn	11 08 53.0	-0.9
URZ	Urewera	20.48	162	P	P	11 08 55.8	+1.7
URZ				IAmb	IAmb	11 08 57.1	
	comp=Z,18nm,0.9s						
CTA	Charters Tower	21.57	263	P	P	11 09 06.9	+0.9
	comp=Z,8.0nm,0.7s,baz=91,slow=12,SNR=12						
CTAO	Charters Tower	21.57	263	P	P	11 09 06.8	+0.9
CTAO				IAmb	IAmb	11 09 07.9	
	comp=Z,12nm,0.9s						
CTAO	Charters Tower	21.57	263	P	P	11 09 07.8	+1.8
THZ	Tophouse	22.98	173	P	P	11 09 20.4	+0.7
PMG	Port Moresby	23.27	291	P	P	11 09 23.2	+0.7
	comp=Z,8.7nm,0.7s,baz=139,slow=11,SNR=3.6						
KHZ	Kahutara	23.71	172	P	P	11 09 27.8	+1.6
CNB	Canberra Magne	23.90	223	P	P	11 09 29.3	+1.1
CMSA	Cobar Meteorol	24.55	235	P	P	11 09 34.5	+0.4
LCRK	Leigh Creek	30.22	242	P	P	11 10 24.8	+0.1
OOD	Oodnadatta	31.84	248	P	P	11 10 39.1	+0.2
WR0	Warramunga Arr	32.57	262	P	P	11 10 43.7	-1.7
WB0	Warramunga Arr	32.73	263	P	P	11 10 45.6	-1.2
WB0				IAmb	IAmb	11 11 01.3	
	comp=Z,8.8nm,1.4s						
WB2	Warramunga Arr	32.75	262	P	P	11 10 45.7	-1.3
WRAB	Tennant Creek	32.76	262	P	P	11 10 45.6	-1.5
WRA	Warramunga Arr	32.76	262	P	P	11 10 45.2	-1.9
	comp=Z,1.2nm,0.8s,baz=92,slow=8.3,SNR=17						
WRA	Warramunga Arr	32.76	262	P	P	11 10 45.2	-1.9
AS31	Alice Springs	33.08	256	P	P	11 10 49.1	-0.7
AS31				IAmb	IAmb	11 10 49.7	
	comp=Z,5.4nm,0.5s						
ASAR	Alice Springs	33.08	256	P	P	11 10 49.0	-0.8
	comp=Z,12nm,0.6s,baz=86,slow=9.1,SNR=167						
MULG	Mulgathing	33.68	244	P	P	11 10 54.8	-0.1
WRKA	Warakurna	38.22	253	P	P	11 11 33.5	-0.2
KNRA	Kununurra	38.59	268	P	P	11 11 36.2	-0.7
KNRA	Kununurra	38.59	268	P	P	11 11 36.2	-0.7
FAKI	Fak Fak	39.40	289	P	P	11 11 42.2	-1.4
FAKI				IAmb	IAmb	11 12 04.0	
	comp=Z,7.3nm,0.9s						
MEEK	Meekatharra	46.93	251	P	P	11 12 43.5	-0.5
QSPA	South Pole Qui	71.11	180	P	P	11 15 30.0	-0.1
	comp=Z,5.5nm,0.8s,baz=7.2,slow=3.1,SNR=13						
SONM	Songino Array	86.90	323	P	P	11 16 56.2	0.0
	comp=Z,0.8nm,0.8s,baz=141,slow=4.4,SNR=6.5						
SONM	Songino Array	86.90	323	IAmb	IAmb	11 16 57.3	
	comp=Z,1.0nm,0.9s						
VNA3	Neumayer Olymp	90.05	180	P	P	11 17 06.8	-3.7
VNA2	Neumayer--Watz	90.34	181	P	P	11 17 08.7	-3.2
	baz=342,slow=11						
CONA	Conrad Observa	143.82	329	eP	PKPdf	11 23 45.2	-0.5
	comp=Z,3.0nm,0.9s						
MOA	Molln	144.63	330	eP	PKPdf	11 23 46.8	-0.2
	comp=Z,1.4nm,0.4s						
SOKA	Soboth	145.09	328	eP	PKPdf	11 23 48.2	+0.2
	comp=Z,7.0nm,1.3s						
MOTA	Moosalm	146.44	333	eP	PKPbc	11 23 52.1	+0.2
	comp=Z,3.3nm,0.6s						
SQTA	Sankt Quirin	146.49	332	eP	PKPbc	11 23 52.4	+0.4
	comp=Z,6.1nm,0.9s						
FETA	Feichten	146.85	333	eP	PKPbc	11 23 53.7	+0.6
	comp=Z,5.1nm,1.1s						

*EAF **14** 11:13:51.2±6.0, 25°.59S×32°.08E, h0km±52km, MD3.9*

BUL 14 11:13:52.1±0.8, 25°.89S×31°.69E, h0km±8km, MD4.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.38	354	i P	Pn	11 14 26.8	-5.6
MOPA				i Sg	Sn	11 14 54.6	-7.7
MOPA	Mopani	2.38	354	i P	Pn	11 14 26.8	-5.6
MOPA				i Sg	Sn	11 14 54.6	-7.7
LBTB	Lobatse	5.57	278	i P	Pn	11 15 15.0	-1.4
LBTB	Lobatse	5.57	278	i P	Pn	11 15 15.0	-1.4
MATP	Matopo	6.18	331	i P	Pn	11 15 24.2	-0.6
MATP				i S	Sn	11 16 31.0	-5.2
MATP	Matopo	6.18	331	i P	Pn	11 15 24.2	-0.6
MATP				i S	Sn	11 16 31.0	-5.2
BLWY	Bulawayo	6.39	333	i P	Pn	11 15 26.9	-0.8
BLWY				i S	Sn	11 16 35.0	-6.4
BLWY	Bulawayo	6.39	333	i P	Pn	11 15 26.9	-0.8
BLWY				i S	Sn	11 16 35.0	-6.4

*NOU **14** 11:20:59.1, 37°.85S×177°.18E, h200km, MLv4.2/7, Off E. Coast of N. Island, N.Z.*

*WEL **14** 11:21:04.6±0.7, 38°S±4°×17°7E±°, h151km±6km, M3.4/72, ML3.2/10, MLv3.4/72, Error ellipse: s-maj=0.0km s-min=0.0km az=45.3*

ISC 14 11:20:59.8±1.7, 37°.78S±0°.05×176°.87E±0°.06, h192km±9km, n151, σ1§53/162, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHRZ	Whale Island	0.11	134	P	Pn	11 21 25.8	+0.7
MARZ	Manawahe	0.26	218	P	Pn	11 21 25.9	+0.6
OPRZ	Ohinepanea	0.26	256	P	Pn	11 21 25.6	+0.3
EDRZ	Edgecumbe	0.34	198	P	Pn	11 21 26.4	+0.8
WIZ	White Island	0.35	45	P	Pn	11 21 25.7	+0.2
LIRZ	Lichensteins R	0.45	243	P	Pn	11 21 26.7	+0.9
MKRZ	Makatiti	0.48	222	P	Pn	11 21 27.5	+1.5
TGRZ	Tauranga	0.49	276	P	Pn	11 21 26.4	+0.5
OMRZ	Omania	0.51	230	P	Pn	11 21 27.0	+0.9
URZ	Urewera	0.51	159	P	Pn	11 21 26.5	+0.5
URZ				S	S	11 21 43.8	-2.6
URZ	Urewera	0.51	159	P	Pn	11 21 26.5	+0.5
TARZ	Mount Tarawera	0.54	212	P	Pn	11 21 27.5	+1.2
KARZ	Kaharoa	0.55	244	P	Pn	11 21 27.0	+0.8
HLRZ	Highlands Stat	0.63	221	P	Pn	11 21 27.8	+1.2
RRRZ	Republican Roa	0.63	207	P	Pn	11 21 27.6	+1.0
NGRZ	Ngongotaha	0.63	239	P	Pn	11 21 27.8	+1.2
RUGZ	Raukumara Rang	0.66	107	P	Pn	11 21 26.7	-0.1
RUGZ				S	S	11 21 44.8	-3.0
UTU	Utuhina	0.67	233	P	Pn	11 21 28.1	+1.4
MUGZ	Murupara	0.70	187	P	Pn	11 21 27.8	+0.9
MUGZ				S	S	11 21 45.8	-2.3
MYRZ	Mayor Island	0.71	315	P	Pn	11 21 27.7	+0.8
HAZ	Te Waha	0.72	88	P	Pn	11 21 27.2	+0.3
HSRZ	Hossack Road	0.73	223	P	Pn	11 21 28.3	+1.3
KMRZ	Kaimai	0.74	265	P	Pn	11 21 28.1	+0.9
MWZ	Matawai	0.76	137	P	Pn	11 21 28.1	+0.8
MWZ				S	S	11 21 47.7	-0.9
HRRZ	Handcock Road	0.77	217	P	Pn	11 21 28.6	+1.3
PRRZ	Plateau Road	0.81	208	P	Pn	11 21 28.7	+1.2
GRRZ	Galatos Road	0.83	226	P	Pn	11 21 28.9	+1.3
RAGZ	Rawiri	0.83	149	P	Pn	11 21 29.1	+1.4
RTZ	Ruatahuna	0.84	174	P	Pn	11 21 28.9	+1.2
RTZ				S	S	11 21 48.6	-1.0
ALRZ	Allen Road	0.89	208	P	Pn	11 21 29.1	+1.2
WPRZ	Whakapapatarin	0.93	217	P	Pn	11 21 29.6	+1.3
PKGZ	Pakihiroa	0.96	97	P	Pn	11 21 29.6	+1.1
PKGZ				S	S	11 21 50.6	-0.1
TWGZ	Tauwhareparae	0.96	115	P	Pn	11 21 30.0	+1.5
TWGZ				S	S	11 21 51.5	+0.7
TKGZ	Te Karaka	1.01	131	P	Pn	11 21 30.4	+1.6
TKGZ				S	S	11 21 51.1	-0.2
SNGZ	Shannon Statio	1.07	160	P	Pn	11 21 31.1	+1.9
SNGZ				S	S	11 21 51.6	-0.6
MTHZ	Maungataniwha	1.07	181	P	Pn	11 21 30.7	+1.5
KUTZ	Kaahu Road	1.09	229	P	Pn	11 21 31.0	+1.6
MRHZ	Matea Rd	1.11	199	P	Pn	11 21 30.9	+1.3
PUZ	Puketiti	1.13	105	P	Pn	11 21 30.8	+1.1
PUZ				S	S	11 21 52.5	-0.3
WHTZ	Whakaora	1.14	219	P	Pn	11 21 31.4	+1.6
RAHZ	Arahi	1.15	172	P	Pn	11 21 31.9	+2.1
MXZ	Matakaoa Point	1.16	80	P	Pn	11 21 31.0	+1.1
MXZ				S	S	11 21 51.3	-1.8
RIGZ	Rimuhau	1.16	143	P	Pn	11 21 32.2	+2.3
TLZ	Tolley Road	1.19	242	P	Pn	11 21 31.7	+1.6
WMGZ	Waiomatatini S	1.22	92	P	Pn	11 21 31.8	+1.4
CNGZ	Carnagh Statio	1.27	124	P	Pn	11 21 33.1	+2.4
HATZ	Hinemaiaia	1.27	209	P	Pn	11 21 32.3	+1.5
WAITZ	Wairara	1.29	224	P	Pn	11 21 32.7	+1.8
NMHZ	Naumai	1.32	182	P	Pn	11 21 33.5	+2.2
KUZ	Kuaotunu	1.38	318	P	Pn	11 21 32.4	+0.7
RATZ	Rangitukua	1.39	218	P	Pn	11 21 33.5	+1.7
KNZ	Kokohu	1.39	153	P	Pn	11 21 33.9	+2.1
PRGZ	Paritu Road	1.39	146	P	Pn	11 21 34.0	+2.2
BKZ	Black Stump Fm	1.42	192	P	Pn	11 21 33.6	+1.5
RITZ	Rihia Road	1.44	213	P	Pn	11 21 34.2	+2.0
ARHZ	Aropaoanui	1.48	176	P	Pn	11 21 35.0	+2.4
KATZ	Kakaramea	1.51	217	P	Pn	11 21 34.7	+1.7
MHGZ	Mahia Peninsul	1.59	150	P	Pn	11 21 36.1	+2.5
NTVZ	North Tongarir	1.62	215	P	Pn	11 21 36.1	+2.1
TMVZ	Te Maari	1.62	214	P	Pn	11 21 35.7	+1.8
KRVZ	Karewarewa	1.63	216	P	Pn	11 21 36.0	+1.9
ETVZ	East Tongariro	1.63	214	P	Pn	11 21 35.9	+1.8
MCHZ	McNeill Hill	1.67	185	P	Pn	11 21 36.8	+2.5
WTVZ	West Tongariro	1.67	217	P	Pn	11 21 36.3	+1.8
NNVZ	North Ngauruho	1.67	216	P	Pn	11 21 36.4	+1.8
OTVZ	Oturere	1.68	214	P	Pn	11 21 36.5	+2.0
KWHZ	Kaweka Forest	1.68	192	P	Pn	11 21 36.5	+2.0
WIAZ	Waiheke Island	1.70	305	P	Pn	11 21 36.1	+1.4
SNVZ	South Ngauruho	1.71	214	P	Pn	11 21 37.0	+2.1
TWVZ	Taurewa	1.71	221	P	Pn	11 21 36.7	+1.8
NGZ	Ngauruhoe	1.71	215	P	Pn	11 21 36.9	+2.0
HIZ	Hauiti	1.75	245	P	Pn	11 21 37.4	+2.3
HIZ	Hauiti	1.75	245	P	Pn	11 21 37.4	+2.3
ETAZ	East Tamaki Re	1.76	297	P	Pn	11 21 36.9	+1.7
TUVZ	Tukino	1.77	212	P	Pn	11 21 37.4	+1.9
FWVZ	Far West T-bar	1.80	215	P	Pn	11 21 37.5	+1.6
WHVZ	Whangaehu Hut	1.81	213	P	Pn	11 21 37.8	+1.8
DRZ	Dome Shelter	1.81	214	P	Pn	11 21 38.0	+1.9
BHHZ	Black Hill Sta	1.82	200	P	Pn	11 21 37.5	+1.6
TRVZ	Turoa	1.84	214	P	Pn	11 21 38.2	+1.9
WNVZ	Wahianoa	1.84	213	P	Pn	11 21 38.0	+1.8
MOVZ	Moawhango	1.85	208	P	Pn	11 21 37.5	+1.4
MBAZ	Motutapu North	1.87	302	P	Pn	11 21 38.1	+1.8
CKHZ	Cape Kidnapper	1.88	175	P	Pn	11 21 38.8	+2.4
GRZ	Great Barrier	1.90	323	P	Pn	11 21 37.8	+1.1
KRHZ	Kereru	1.90	192	P	Pn	11 21 38.4	+1.8
AWAZ	Awhitu Peninsu	1.92	291	P	Pn	11 21 38.4	+1.6
EPAZ	Eden Park BICE	1.92	297	P	Pn	11 21 38.6	+1.8
PKVZ	Pokaka	1.93	218	P	Pn	11 21 39.0	+2.0
MTVZ	Mangateitei	1.94	214	P	Pn	11 21 39.3	+2.2
HBAZ	Herne Bay Bore	1.94	298	P	Pn	11 21 38.9	+1.8
ABAZ	Army Bay	2.01	305	P	Pn	11 21 39.7	+1.9
KAHZ	Kahuranaki	2.01	180	P	Pn	11 21 40.2	+2.4
WTAZ	Waiatarua	2.02	294	P	Pn	11 21 39.7	+1.7
RVAZ	Riverhead Bore	2.09	298	P	Pn	11 21 40.3	+1.6
VRZ	Vera Road	2.14	230	P	Pn	11 21 41.4	+2.3
PNHZ	Pukenui	2.19	194	P	Pn	11 21 41.4	+1.6
PXZ	Pawanui	2.25	180	P	Pn	11 21 42.3	+2.1
WPHZ	Waipukurau	2.31	188	P	Pn	11 21 42.8	+1.8
TSZ	Takapari Road	2.38	197	P	Pn	11 21 43.3	+1.4
WAZ	Wanganui	2.46	216	P	Pn	11 21 44.8	+2.1
PRHZ	Porangahau	2.49	184	P	Pn	11 21 44.9	+1.9
DVHZ	Dannevirke	2.58	192	P	Pn	11 21 45.4	+1.4
NEZ	North Egmont	2.64	235	P	Pn	11 21 48.1	+3.3
PKE	Pukeiti	2.67	237	P	Pn	11 21 48.1	+3.0
ANWZ	Angora Road	2.69	186	P	Pn	11 21 47.3	+2.0
OHWZ	Ohakea	2.71	206	P	Pn	11 21 47.5	+2.0
WCZ	Waipu Caves	2.74	311	P	Pn	11 21 47.7	+1.8
POWZ	Post Office Ro	2.75	198	P	Pn	11 21 47.5	+1.5
PRWZ	Pori Road	2.86	194	P	Pn	11 21 49.0	+1.7
BFZ	Birch Farm	2.94	189	P	Pn	11 21 49.7	+1.4
MRZ	Mangatainoka R	3.05	199	P	Pn	11 21 50.7	+1.2
TIWZ	Tintock	3.09	194	P	Pn	11 21 51.5	+1.5
CPWZ	Castlepoint	3.17	189	P	Pn	11 21 52.9	+2.0
HOWZ	Holdsworth Sta	3.29	198	P	Pn	11 21 53.3	+0.9
OGWZ	Otaki Gorge	3.31	203	P	Pn	11 21 53.7	+1.0
TMWZ	Te Maipa	3.41	193	P	Pn	11 21 55.2	+1.3
KIW	Kapiti Island	3.43	206	P	Pn	11 21 54.9	+0.7
MTW	Mount Morrison	3.54	197	P	Pn	11 21 56.0	+0.6

IDC 14 11:22:29.2±1.2, 3°.92N×127°.37E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/38, mbtmp3.6/5, Error ellipse: s-maj=76.2km s-min=22.6km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.68	164	P	P	11 27 50.8	-1.2
	1.8nm,0.8s,baz=344,slow=11,SNR=17						
ASAR	Alice Springs	28.14	167	P	P	11 28 24.9	+1.6
	0.2nm,0.4s,baz=341,slow=7.9,SNR=8.2						
STKA	Stephens Creek	38.08	160	P	P	11 29 49.3	-0.5
	2.1nm,0.8s,baz=322,slow=13,SNR=4.3						
MKAR	Makanchi Array	57.77	325	P	P	11 32 22.1	-0.1
	0.1nm,0.4s,baz=115,slow=8.5,SNR=5.4						
ILAR	Eielson Array	84.66	25	P	P	11 35 04.7	0.0
	0.4nm,1.0s,baz=268,slow=5.2,SNR=4.1						

*GUC **14** 11:29:54.8±0.8, 21°.34S×67°.54W, h215km±7km, ML3.7*

*SCB **14** 11:29:55.3±1.7, 21°.44S×67°.44W, h179km±24km, ML3.5/4, Error ellipse: s-maj=9.1km s-min=5.1km az=2.0*

*IDC **14** 11:29:59.4±9.1, 20°.82S×66°.89W, h219km±76km, mb3.4/1, mb1 3.3/2, mb1mx2.9/22, mbtmp3.8/2, Error ellipse: s-maj=114.7km s-min=93.1km az=50.0*

ISC 14 11:29:53.6±1.2, 21°.35S±0°.04×67°.46W±0°.07, h205km±11km, n32, σ1§27/50, 10C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	1.72	255	⇑i P	Pn	11 30 30.6	+0.8
PB09				i S	Sn	11 30 59.0	+1.0
PB09				IAML		11 31 02.4	
	comp=N,166nm,0.2s						
PB09	IPOC Station P	1.72	255	P	Pn	11 30 31.0	+1.2
LVC	Limon Verde	1.84	227	⇑i P	Pn	11 30 31.2	0.0
LVC				i S	Sn	11 31 00.8	+0.3
LVC	Limon Verde	1.84	227	P	Pn	11 30 32.2	+1.0
PB01	IPOC Station P	1.92	279	⇑e P	Pn	11 30 32.4	+0.7
PB01				i S	Sn	11 31 00.7	-0.6
PB01				IAML		11 31 02.9	
	comp=E,199nm,0.2s						
PB01	IPOC Station P	1.92	279	P	Pn	11 30 32.7	+1.0
YJA	Yavi	1.98	115	P	Pn	11 30 31.9	-0.8
PB08	IPOC Station P	1.99	307	‖i P	Pn	11 30 33.8	+1.0
PB08				i S	Sn	11 31 03.7	+0.4
PB08				IAML		11 31 04.7	
	comp=E,84nm,0.4s						
PB08	IPOC Station P	1.99	307	P	Pn	11 30 34.0	+1.2
PB03	IPOC Station P	2.24	252	⇑i P	Pn	11 30 35.5	+0.4
PB03				i S	Sn	11 31 07.0	-0.5
PB03				IAML		11 31 08.9	
	comp=E,446nm,0.5s						
PB03	IPOC Station P	2.24	252	P	Pn	11 30 36.0	+0.9
PB03				S	Sn	11 31 06.1	-1.4
PB03				IAML		11 31 08.0	
	comp=E,297nm,0.2s						
PB07	IPOC Station P	2.29	260	⇑i P	Pn	11 30 36.2	+0.6
PB07				i S	Sn	11 31 07.7	-0.7
PB07				IAML		11 31 08.6	
	comp=N,650nm,0.3s						
PB07	IPOC Station P	2.29	260	P	Pn	11 30 36.8	+1.1
PB07				S	Sn	11 31 07.2	-1.2
PB07				IAML		11 31 08.7	
	comp=N,404nm,0.3s						
PB06	IPOC Station P	2.38	235	⇑i P	Pn	11 30 37.2	+0.7
PB06				i S	Sn	11 31 10.4	+0.2
PB06				IAML		11 31 11.7	
	comp=E,294nm,0.3s						
PB06	IPOC Station P	2.38	235	P	Pn	11 30 37.5	+0.9
PB11	IPOC Station P	2.60	307	e P	Pn	11 30 39.5	+0.5
PB11				i S	Sn	11 31 13.2	-1.3
PB11				IAML		11 31 16.4	
	comp=N,344nm,0.1s						
PB15	IPOC Station P	2.62	225	⇑e P	Pn	11 30 40.2	+0.9
PB15				i S	Sn	11 31 15.6	+0.4
PB15	IPOC Station P	2.62	225	P	Pn	11 30 40.5	+1.2
TA01	Diego Aracena	2.66	287	⇑i P	Pn	11 30 39.9	+0.4
TA01				i S	Sn	11 31 13.9	-1.5
TA01				IAML		11 31 16.2

*IDC **14** 11:51:41.1±0.8, 6°.74N×72°.96W, h157km±12km, mb2.9/2, mb1 3.4/4, mb1mx3.0/34, mbtmp3.5/4, Error ellipse: s-maj=42.4km s-min=7.7km az=132.0*

*RSNC **14** 11:51:42.7±1.1, 6°.82N×73°.15W, h149km±4km, ML3.4, Mw3.7*

ISC 14 11:51:41.1±0.9, 6°.85N±0°.03×73°.12W±0°.03, h160km±6km, n38, σ1§67/72, 2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**194**	⇓*i*P	**Pn**	**11 52 02.9**	**-0.2**
BARC				*e*S	**Sn**	**11 52 17.8**	**-2.1**
BARC				*i*		11 52 19.1	
	comp=Z,501nm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**40**	*e*P	**Pn**	**11 52 05.8**	**+0.8**
PAMC				*e*S	**Sn**	**11 52 22.4**	**-0.8**
PAMC				*i*		11 52 25.1	
	comp=Z,596nm,0.5s						
BRRC	**Barranca, Sant**	**0.64**	**294**	⇑*i*P	**Pn**	**11 52 04.8**	**+0.4**
BRRC				*e*S	**Sn**	**11 52 22.0**	**-0.2**
BRRC				*i*		11 52 25.8	
	comp=Z,246nm,0.3s						
RUSC	**La Rusia**	**0.95**	**178**	*e*P	**Pn**	**11 52 06.9**	**-0.2**
RUSC				*e*S	**Sn**	**11 52 25.3**	**-1.6**
RUSC				*i*		11 52 26.7	
	comp=Z,311nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	*e*P	**Pn**	**11 52 09.3**	**-0.9**
PTBC				*e*S	**Sn**	**11 52 30.6**	**-1.8**
PTBC				*i*		11 52 37.6	
	comp=Z,236nm,0.7s						
TAMC	**Tame, Arauca**	**1.38**	**107**	⇓*i*P	**Pn**	**11 52 11.4**	**+1.1**
TAMC				*e*S	**Sn**	**11 52 33.2**	**+0.5**
OCAC	**Ocana**	**1.40**	**352**	*e*P	**Pn**	**11 52 11.0**	**+0.3**
OCAC				*e*S	**Sn**	**11 52 32.9**	**-0.5**
OCAC				*i*		11 52 37.7	
	comp=Z,380nm,0.3s						
SPBC	**San Pablo de B**	**1.52**	**219**	*e*P	**Pn**	**11 52 11.7**	**-0.1**
SPBC				*e*S	**Sn**	**11 52 34.1**	**-1.2**
SPBC				*i*		11 52 39.9	
	comp=Z,313nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	**Pn**	**11 52 15.4**	**+0.3**
ZARC				*e*S	**Sn**	**11 52 40.4**	**-0.9**
ZARC				*i*		11 52 49.7	
	comp=Z,193nm,0.2s						
NORC	**Norcasia**	**2.16**	**234**	*e*P	**Pn**	**11 52 18.8**	**0.0**
NORC				*e*S	**Sn**	**11 52 46.3**	**-1.5**
NORC				*i*		11 52 54.6	
	comp=Z,148nm,0.2s						
SMLC	**San Martn de**	**2.16**	**334**	*e*P	**Pn**	**11 52 19.0**	**+0.2**
SMLC				*e*S	**Sn**	**11 52 47.8**	**0.0**
SMLC				*i*		11 52 51.3	
	comp=Z,293nm,0.1s						
CHIC	**Chingaza**	**2.29**	**196**	⇑*e*P	**Pn**	**11 52 20.8**	**+0.2**
CHIC				*e*S	**Sn**	**11 52 50.1**	**-1.0**
CHIC				*i*		11 52 53.9	
	comp=Z,145nm,0.5s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**11 52 22.7**	**+1.5**
	comp=Z,61nm,0.3s,baz=310,slow=21,SNR=84						
ROSC				S	**Sn**	**11 52 51.6**	**-0.3**
	comp=Z,63nm,0.3s,baz=137,slow=19,SNR=9.9						
ROSC	**El Rosal**	**2.32**	**211**	*e*P	**Pn**	**11 52 22.6**	**+1.5**
ROSC				*e*S	**Sn**	**11 52 51.8**	**-0.1**
ROSC				*i*		11 52 57.6	
	comp=Z,192nm,0.4s						
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**11 52 23.5**	**+0.6**
HELC				*e*S	**Sn**	**11 52 52.8**	**-2.3**
HELC				*i*		11 53 01.0	
	comp=Z,107nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	**Pn**	**11 52 22.4**	**-1.1**
UREC				*e*S	**Sn**	**11 52 52.9**	**-3.3**
UREC				*i*		11 53 05.5	
	comp=Z,148nm,0.2s						
SOCV	**Socops**	**2.66**	**57**	*e*P	**Pn**	**11 52 24.9**	**+0.2**
SOCV				*e*S	**Sn**	**11 52 56.6**	**-1.9**
GUY2C	**Guyana, Caldas**	**2.75**	**234**	*e*P	**Pn**	**11 52 26.9**	**+0.6**
GUY2C				*e*S	**Sn**	**11 53 02.4**	**+1.1**
GUY2C				*i*		11 53 09.1	
	comp=Z,106nm,0.3s						
VILC	**Villavicencio,**	**2.78**	**192**	*e*P	**Pn**	**11 52 26.6**	**+0.3**
VILC				*e*S	**Sn**	**11 53 00.7**	**-0.6**
PTGC	**Puerto Gaitan,**	**2.81**	**160**	⇓*e*P	**Pn**	**11 52 26.2**	**-0.3**
PTGC				*e*S	**Sn**	**11 52 58.5**	**-3.3**
PTGC				*i*		11 53 04.3	
	comp=Z,160nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.04**	**251**	*e*P	**Pn**	**11 52 31.0**	**+1.5**
CBOC				*e*S	**Sn**	**11 53 05.7**	**-1.3**
CBOC				*i*		11 53 22.6	
	comp=Z,32nm,0.4s						
DBBC	**Dabeiba**	**3.07**	**273**	*e*P	**Pn**	**11 52 30.3**	**+0.4**
DBBC				*e*S	**Sn**	**11 53 04.4**	**-3.4**
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**11 52 31.6**	**+0.1**
	comp=Z,6.4nm,0.3s,baz=279,slow=5.9,SNR=12						
SDV				S	**Sn**	**11 53 09.1**	**-1.4**
	comp=Z,24nm,0.3s,baz=50,slow=20,SNR=40						
SDV	**Santo Domingo**	**3.19**	**50**	*e*P	**Pn**	**11 52 32.2**	**+0.7**
SDV				*e*S	**Sn**	**11 53 09.3**	**-1.2**
SDV				*i*		11 53 13.2	
	comp=Z,44nm,0.3s						
ANIL	**Santa Ana**	**3.26**	**224**	*e*P	**Pn**	**11 52 34.1**	**+1.6**
ANIL				*e*S	**Sn**	**11 53 12.2**	**-0.2**
ANIL				*i*		11 53 17.3	
	comp=Z,240nm,0.3s						
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**11 52 36.5**	**+0.2**
PRAC				*e*S	**Sn**	**11 53 18.2**	**-1.0**
PRAC				*i*		11 53 23.8	
	comp=Z,69nm,0.6s						
ORTC	**Ortega, Tolima**	**3.61**	**216**	*e*P	**Pn**	**11 52 37.3**	**+0.6**
ORTC				*e*S	**Sn**	**11 53 18.1**	**-1.8**
ORTC				*i*		11 53 24.3	
	comp=Z,50nm,0.4s						
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*P	**Pn**	**11 52 36.6**	**-0.6**
SJCC				*e*S	**Sn**	**11 53 18.1**	**-2.8**
SJCC				*i*		11 53 22.4	
	comp=Z,38nm,0.6s						
PLMC	**San Jos del P**	**3.69**	**239**	*e*P	**Pn**	**11 52 38.2**	**+0.4**
PLMC				*e*S	**Sn**	**11 53 20.7**	**-1.1**
PLMC				*i*		11 53 26.7	
	comp=Z,39nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	*e*P	**Pn**	**11 52 43.3**	**-0.5**
CRJC				*e*S	**Sn**	**11 53 29.5**	**-3.1**
CRJC				*i*		11 53 38.0	
	comp=Z,47nm,0.4s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P	**Pn**	**11 52 45.5**	**-0.1**
YOTC				*e*S	**Sn**	**11 53 38.6**	**+2.8**
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	**Pn**	**11 52 47.6**	**+0.3**
SMRC				*e*S	**Sn**	**11 53 36.1**	**-2.8**
SMRC				*i*		11 53 39.9	
	comp=Z,30nm,0.4s						
MACC	**Macarena, Meta**	**4.73**	**189**	*e*P	**Pn**	**11 52 49.9**	**-1.3**
MACC				*e*S	**Sn**	**11 53 38.4**	**-7.5**
MACC				*i*		11 53 48.4	
	comp=Z,41nm,0.9s						
MARP	**Paez Belalcaza**	**4.88**	**216**	*e*P	**Pn**	**11 52 52.6**	**-0.8**
MARP				*e*S	**Sn**	**11 53 47.5**	**-2.3**
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**11 58 32.6**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=124,slow=8.2,SNR=3.9						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**12 01 53.4**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=130,slow=6.5,SNR=6.1						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**12 11 11.4**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=123,slow=3.4,SNR=2.2						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**12 11 14.6**	**+0.1**
	comp=Z,0.7nm,1.1s,baz=108,slow=2.5,SNR=4.9						

IDC 14 12:04:14.4±2.2, 3°.31N×127°.75E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/59, mbtmp3.5/3, Error ellipse: s-maj=157.3km s-min=25.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.99**	**165**	P	P	12 09 30.6	-0.4
	0.8nm,0.5s,baz=344,slow=10,SNR=14						
ASAR	**Alice Springs**	**27.47**	**168**	P	P	12 10 02.8	+0.2
	0.4nm,0.4s,baz=356,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**58.48**	**325**	P	P	12 14 12.5	0.0
	0.1nm,0.3s,baz=114,slow=8.1,SNR=5.0						

*NEIC **14** 12:15:29.5±2.7, 53°.26S±0°.06×159°.8E±0°.1, h10km±1km, mb5.4/57, Mwb5.4/9, Mww5.5, Error ellipse: s-maj=15.6km s-min=9.8km az=109.0*

*IDC **14** 12:15:29.8±0.4, 53°.12S×159°.81E, h0km, mb5.2/18, mb1 5.2/18, mb1mx5.0/25, mbtmp5.1/18, MS4.7/26, Ms1 4.7/26, ms1mx4.5/46, Error ellipse: s-maj=18.6km s-min=12.6km az=78.0*

*BJI **14** 12:15:29.9±0.0, 53°.02S×159°.94E, h12km, mb5.3/14, mB5.8/6, Ms5.2/5, Ms7 4.8/4*

*NEIC **14** 12:15:29.7, 53°.20S×159°.92E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.06; $M_{\theta\theta}$1.60; $M_{\phi\phi}$-1.54; $M_{r\theta}$0.63; $M_{\theta\phi}$0.30; $M_{\phi r}$-0.21; Fault plane solution: $M_0$1.74000×10^{17} NP1:ϕ_s38.31000°, δ69.70000°, λ174.41000°. NP2:ϕ_s130.26000°, δ84.75000°, λ20.39000°. Principal axes: T 1.8314, Plg18.0000°, Azm356.0000°; N -0.2114, Plg69.0000°, Azm144.0000°; P -1.6200, Plg10.0000°, Azm263.0000°;*

*MOS **14** 12:15:31.5±1.9, 52°.79S×159°.72E, h10km, mb5.4/11 Error ellipse: s-maj=24.9km s-min=9.1km az=107.6*

*GCMT **14** 12:15:34.5±0.1, 53°.09S±0°.01×159°.44E±0°.01, h12km, MW5.4/131, Moment Tensor Solution. s106,c175; s131,c239; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.11±.02; $M_{\theta\theta}$1.66±.02; $M_{\phi\phi}$-1.55±.02; $M_{r\theta}$-0.01±.06; $M_{\theta\phi}$0.80±.02; $M_{\phi r}$-0.05±.06; Best double couple: $M_0$1.79400×10^{17} NP1:ϕ_s302.00000°, δ88.00000°, λ-1.00000°. NP2:ϕ_s32.00000°, δ89.00000°, λ-178.00000°. Principal axes: T 1.8490, Plg1.0000°, Azm167.0000°; N -0.1110, Plg88.0000°, Azm55.0000°; P -1.7400, Plg2.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **14** 12:15:35, 53°.22S×159°.79E, h16km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.09; $M_{\theta\theta}$1.74; $M_{\phi\phi}$-1.83; $M_{r\theta}$0.42; $M_{\theta\phi}$0.92; $M_{\phi r}$-0.35; Fault plane solution: $M_0$2.08000×10^{17} NP1:ϕ_s32.00000°, δ75.00000°, λ-178.00000°. NP2:ϕ_s301.00000°, δ89.00000°, λ-15.00000°. Principal axes: T 2.0166, Plg10.0000°, Azm347.0000°; N 0.1241, Plg75.0000°, Azm118.0000°; P -2.1408, Plg11.0000°, Azm255.0000°;*

ISC 14 12:15:30.6±0.2, 53°.26S±0°.04×159°.81E±0°.06, h10km, n484, σ1§92/450, mb5.4/80, MS4.7/30, 34C-10D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**1.34**	**202**	P	**Pn**	**12 15 51.9**	**-3.4**
	baz=1.4,SNR=221						
MCQ	**Macquarie Isla**	**1.34**	**202**	P	**Pn**	**12 15 51.8**	**-3.5**
MCQ	**Macquarie Isla**	**1.34**	**202**	P	**Pn**	**12 15 52.3**	**-3.1**
MCQ				S	**Sb**	**12 16 07.5**	**-5.5**
MCQ	**Macquarie Isla**	**1.34**	**202**	Pn	**Pn**	**12 15 51.8**	**-3.5**
MCQ	**Macquarie Isla**	**1.34**	**202**	P	**Pn**	**12 15 52.8**	**-2.6**
APZ	**The Paps**	**8.31**	**43**	P	**Pn**	**12 17 26.9**	**-4.2**
PYZ	**Puysegur Point**	**8.38**	**35**		**Pn**	**12 17 27.7**	**-4.4**
SYZ	**Scrubby Hill**	**9.02**	**46**	P	**Pn**	**12 17 37.1**	**-3.8**
WHZ	**Wether Hill Ro**	**9.07**	**39**	P	**Pn**	**12 17 37.6**	**-3.8**
WHZ	**Wether Hill Ro**	**9.07**	**39**		**Pn**	**12 17 37.7**	**-3.8**
DCZ	**Deep Cove**	**9.15**	**34**	P	**Pn**	**12 17 39.0**	**-3.6**
DCZ	**Deep Cove**	**9.15**	**34**		**Pn**	**12 17 39.6**	**-3.0**
MLZ	**Mavora Lakes**	**9.58**	**38**	P	**Pn**	**12 17 45.4**	**-3.1**
MLZ	**Mavora Lakes**	**9.58**	**38**		**Pn**	**12 17 45.6**	**-2.9**
TUZ	**Tuapeka**	**9.69**	**45**	P	**Pn**	**12 17 46.6**	**-3.4**
TUZ				S	Sn	12 19 25.1	-14
MSZ	**Milford Sound**	**10.11**	**35**	P	**Pn**	**12 17 53.1**	**-2.6**
EAZ	**Earnscleugh**	**10.15**	**41**	P	**Pn**	**12 17 51.6**	**-4.7**
HHSZ	**Highcliff Hill**	**10.17**	**48**	P	**Pn**	**12 17 53.5**	**-3.0**
WKZ	**Wanaka**	**10.37**	**39**	P	**Pn**	**12 17 56.0**	**-3.4**
WKZ	**Wanaka**	**10.37**	**39**		**Pn**	**12 17 56.3**	**-3.1**
ODZ	**Otahua Downs**	**10.85**	**45**	P	**Pn**	**12 18 01.4**	**-4.5**
ODZ	**Otahua Downs**	**10.85**	**45**		**Pn**	**12 18 02.0**	**-3.9**
ODZ	**Otahua Downs**	**10.85**	**45**	P	**Pn**	**12 18 01.7**	**-4.2**
JCZ	**Jackson Bay**	**10.93**	**36**	P	**Pn**	**12 18 04.6**	**-2.5**
LBZ	**Lake Benmore**	**11.20**	**42**	P	Pn	12 18 04.7	-6.0
LBZ	**Lake Benmore**	**11.20**	**42**	Pn	**Pn**	**12 18 06.2**	**-4.5**
TMZ	**Timaru**	**11.54**	**44**	P	**Pn**	**12 18 10.7**	**-4.6**
FOZ	**Fox Glacier**	**11.78**	**38**	P	**Pn**	**12 18 14.8**	**-3.7**
FOZ	**Fox Glacier**	**11.78**	**38**		**Pn**	**12 18 15.2**	**-3.3**
ARCZ	**Arundel**	**11.96**	**43**	P	**Pn**	**12 18 17.5**	**-3.6**
RPZ	**Rata Peaks**	**12.10**	**42**	P	**Pn**	**12 18 20.5**	**-2.5**
RPZ	**Rata Peaks**	**12.10**	**42**	Pn	**Pn**	**12 18 19.7**	**-3.3**
RPZ	**Rata Peaks**	**12.10**	**42**	P	**Pn**	**12 18 20.6**	**-2.5**
GCSZ	**Gaunt Creek Bo**	**12.15**	**39**	P	**Pn**	**12 18 19.3**	**-4.4**
WACZ	**Wakanui South**	**12.24**	**45**	P	**Pn**	**12 18 20.7**	**-4.2**
MHCZ	**Mount Hutt**	**12.46**	**43**	P	**Pn**	**12 18 25.4**	**-2.7**
WVZ	**Waitaha Valley**	**12.52**	**40**	P	**Pn**	**12 18 25.2**	**-3.4**
RACZ	**Rakaia**	**12.55**	**45**	P	**Pn**	**12 18 24.9**	**-4.2**
AKCZ	**Akaroa Harbour**	**12.77**	**48**	P	**Pn**	**12 18 29.3**	**-2.8**
MQZ	**McQueen's Vall**	**12.79**	**47**	P	**Pn**	**12 18 28.2**	**-4.1**
MQZ	**McQueen's Vall**	**12.79**	**47**	Pn	**Pn**	**12 18 29.1**	**-3.2**
OXZ	**Oxford**	**12.83**	**44**	P	**Pn**	**12 18 28.8**	**-4.2**
OXZ	**Oxford**	**12.83**	**44**		**Pn**	**12 18 28.7**	**-4.2**
OKCZ	**Okains Bay**	**12.95**	**48**	P	**Pn**	**12 18 32.1**	**-2.5**
INZ	**Inchbonnie**	**13.09**	**41**	P	**Pn**	**12 18 31.9**	**-4.6**
AMCZ	**Amberley**	**13.21**	**45**	P	**Pn**	**12 18 34.1**	**-4.0**
TAU	**Tasmania Unive**	**13.28**	**316**	P	**Pn**	**12 18 35.0**	**-4.1**
TAU	**Tasmania Unive**	**13.28**	**316**	Pn	**Pn**	**12 18 35.0**	**-4.1**
TAU	**Tasmania Unive**	**13.28**	**316**	P	**Pn**	**12 18 36.1**	**-3.0**
LTZ	**Lake Taylor**	**13.37**	**43**	Pn	Pn	12 18 35.4	-5.0
MOO	**Moorlands**	**13.72**	**317**	P	**Pn**	**12 18 42.1**	**-3.0**
	baz=14,SNR=14						
MOO	**Moorlands**	**13.72**	**317**	P	**Pn**	**12 18 41.7**	**-3.4**
KHZ	**Kahutara**	**14.21**	**46**	Pn	**Pn**	**12 18 49.2**	**-2.5**
KHZ	**Kahutara**	**14.21**	**46**	P	**Pn**	**12 18 48.0**	**-3.8**
THZ	**Tophouse**	**14.48**	**43**	Pn	**Pn**	**12 18 53.0**	**-2.6**
CORO	**Coronation Par**	**14.57**	**319**	P	**Pn**	**12 18 54.1**	**-2.7**
GLAD	**Gladstone**	**14.65**	**322**	P	**Pn**	**12 18 54.3**	**-3.5**
BSWZ	**Blackbirch Sta**	**14.93**	**45**		**Pn**	**12 18 59.1**	**-2.5**
QRZ	**Quartz Range**	**15.13**	**40**		**Pn**	**12 19 01.4**	**-2.9**
QRZ	**Quartz Range**	**15.13**	**40**	P	**Pn**	**12 19 00.4**	**-3.9**
TUWZ	**Tuamarina**	**15.19**	**44**		**Pn**	**12 19 02.2**	**-2.9**
BHW	**Baring Head**	**15.61**	**47**	P	**Pn**	**12 19 08.3**	**-2.2**
SNZO	**South Karori**	**15.61**	**46**		**Pn**	**12 19 09.3**	**-1.3**
SNZO				IAmb	IAmb	12 19 14.6	
	comp=Z,422nm,1.3s						
SNZO	**South Karori**	**15.61**	**46**	P	**Pn**	**12 19 09.3**	**-1.3**
PLWZ	**Palliser**	**15.64**	**48**		**Pn**	**12 19 09.0**	**-2.1**
MSWZ	**Moikau Station**	**15.77**	**47**	P	**Pn**	**12 19 09.1**	**-3.6**
BFZ	**Birch Farm**	**16.80**	**48**	IAmb	IAmb	12 19 32.6	
	comp=Z,335nm,1.3s						
BFZ	**Birch Farm**	**16.80**	**48**	P	**Pn**	**12 19 24.6**	**-1.3**
MILA	**Mila**	**17.83**	**331**	P	**Pn**	**12 19 37.9**	**-0.8**
	baz=18,SNR=57						
HIZ	**Hauiti**	**18.03**	**41**	P	**Pn**	**12 19 39.6**	**-1.6**
HIZ	**Hauiti**	**18.03**	**41**	P	**Pn**	**12 19 39.9**	**-1.3**
BKZ	**Black Stump Fm**	**18.15**	**46**	P	**P**	**12 19 43.4**	**+0.4**
GEXS	**Deakin Univers**	**18.49**	**318**	P	**Pn**	**12 19 48.8**	**+2.1**
TOO	**Toolangi**	**18.57**	**322**	P	**P**	**12 19 45.9**	**-1.8**
	baz=18,SNR=11						
TOO	**Toolangi**	**18.57**	**322**	P	**P**	**12 19 45.8**	**-1.8**
TOO				pmax	pmax		
	comp=Z,265nm,1.2s						
TOO	**Toolangi**	**18.57**	**322**		**P**	**12 19 45.8**	**-1.9**
TOO				IAmb	IAmb	12 19 50.2	
	comp=Z,265nm,1.2s						
TOO	**Toolangi**	**18.57**	**322**	P	**Pn**	**12 19 48.0**	**+0.1**
URZ	**Urewera**	**19.18**	**45**		**P**	**12 19 52.3**	**-1.9**
URZ	**Urewera**	**19.18**	**45**	P	**P**	**12 19 53.7**	**-0.5**
BRAT	**Ballarat**	**19.19**	**319**	P	**Pn**	**12 19 55.1**	**-0.2**
CNB	**Canberra Magne**	**19.40**	**333**	P	**P**	**12 19 55.3**	**-1.5**
	baz=19,SNR=77						
CNB	**Canberra Magne**	**19.40**	**333**	P	**P**	**12 19 57.1**	**+0.3**
CAN	**Canberra**	**19.49**	**333**	P	**P**	**12 19 56.1**	**-1.7**
CAN				pmax	pmax		
	comp=Z,960nm,1.5s						
CAN	**Canberra**	**19.49**	**333**		**P**	**12 19 56.1**	**-1.7**
CAN	**Canberra**	**19.49**	**333**	P	**P**	**12 19 58.0**	**+0.2**
MXZ	**Matakaoa Point**	**20.28**	**47**		**P**	**12 20 04.1**	**-2.1**
MXZ				IAmb	IAmb	12 20 16.2	
	comp=Z,226nm,1.0s						
RIV	**Riverview**	**20.38**	**339**	P	**P**	**12 20 06.2**	**-1.2**
	baz=20,SNR=15						
SYDH	**Sydney Hard Ro**	**20.54**	**338**	P	**P**	**12 20 09.4**	**+0.3**
ARPS	**Mount Arapiles**	**20.72**	**316**	P	**P**	**12 20 09.9**	**-1.1**
	baz=21,SNR=45						
ARPS	**Mount Arapiles**	**20.72**	**316**	P	**P**	**12 20 11.2**	**+0.2**
MGCD	**Mangrove Creek**	**20.99**	**339**	P	**P**	**12 20 12.6**	**-1.3**
	baz=21,SNR=11						
MGCD	**Mangrove Creek**	**20.99**	**339**	P	**P**	**12 20 14.4**	**+0.4**
NTLS	**Newcastle Soft**	**21.12**	**341**	P	**P**	**12 20 16.1**	**+0.7**
	comp=Z,877nm,1.0s						
NTLH	**Newcastle Hard**	**21.17**	**341**	P	**P**	**12 20 15.1**	**-0.8**
LHI	**Lord Howe Isla**	**21.73**	**358**	P	**P**	**12 20 21.4**	**-0.5**
	baz=22,SNR=16						
LHI	**Lord Howe Isla**	**21.73**	**358**	P	**P**	**12 20 20.4**	**-1.5**
LHI				IAmb	IAmb	12 20 38.4	
	comp=Z,374nm,1.4s						
ARMA	**Armidale**	**23.59**	**342**	P	**P**	**12 20 40.2**	**-1.3**
	baz=24,SNR=12						
ARMA	**Armidale**	**23.59**	**342**	P	**P**	**12 20 38.6**	**-2.9**
ARMA				IAmb	IAmb	12 20 44.8	
	comp=Z,189nm,1.4s						
ARMA	**Armidale**	**23.59**	**342**	P	**P**	**12 20 40.5**	**-1.1**
TWOA	**Tennyson Woods**	**23.60**	**312**	P	**P**	**12 20 41.1**	**-0.3**
CMSA	**Cobar Meteorol**	**24.00**	**329**	P	**P**	**12 20 44.7**	**-0.6**
	baz=24,SNR=34						
CMSA	**Cobar Meteorol**	**24.00**	**329**	P	**P**	**12 20 44.7**	**-0.6**
VNDA	**Vanda**	**24.37**	**179**	P	**P**	**12 20 49.5**	**+1.2**
	comp=Z,9.3nm,0.9s,baz=350,slow=10,SNR=17						
VNDA				LR	LR	12 28 41.3	
	comp=Z,2μm,21.6s,baz=2.5,slow=32						
VNDA	**Vanda**	**24.37**	**179**	P	**P**	**12 20 47.0**	**-1.4**
HTT	**Hallett**	**24.81**	**315**	P	**P**	**12 20 52.3**	**-0.4**
	baz=25,SNR=10						
HTT	**Hallett**	**24.81**	**315**	P	**P**	**12 20 52.2**	**-0.6**
SBA	**Scott Base**	**24.82**	**177**	P	**P**	**12 20 51.7**	**-0.8**
SBA				pmax	pmax		
	comp=Z,167nm,1.5s						
SBA	**Scott Base**	**24.82**	**177**	P	**P**	**12 20 51.7**	**-0.8**
SBA				IAmb	IAmb	12 21 10.6	
	comp=Z,167nm,1.5s						
NFK	**Norfolk Island**	**24.92**	**17**	P	**P**	**12 20 51.4**	**-2.4**
	baz=25,SNR=3.7						
STKA	**Stephens Creek**	**25.09**	**321**	P	**P**	**12 20 54.9**	**-0.4**
	comp=Z,148nm,1.0s,baz=148,slow=11,SNR=67						
STKA	**Stephens Creek**	**25.09**	**321**	P	**P**	**12 20 54.1**	**-1.2**
	baz=25,SNR=85						
STKA	**Stephens Creek**	**25.09**	**321**	P	**P**	**12 20 54.5**	**-0.8**
STKA	**Stephens Creek**	**25.09**	**321**	P	**P**	**12 20 55.1**	**-0.2**
NAPP	**Napperby**	**25.35**	**314**	P	**P**	**12 20 57.5**	**-0.1**
WHYH	**Whyalla**	**25.73**	**313**	P	**P**	**12 21 00.7**	**-0.3**
	comp=Z,106nm,1.0s						
BBOO	**Buckleboo**	**26.60**	**311**	P	**P**	**12 21 07.8**	**-1.2**
	baz=26,SNR=5.8						
BBOO	**Buckleboo**	**26.60**	**311**	P	**P**	**12 21 07.7**	**-1.2**
BBOO				IAmb	IAmb	12 21 09.8	
	comp=Z,112nm,1.4s						
BBOO	**Buckleboo**	**26.60**	**311**	P	**P**	**12 21 08.2**	**-0.7**
LCRK	**Leigh Creek**	**27.69**	**317**	P	**P**	**12 21 18.2**	**-0.5**
RMQ	**Roma**	**27.99**	**339**	P	**P**	**12 21 20.5**	**-1.0**
	baz=28,SNR=52						
RMQ	**Roma**	**27.99**	**339**	P	**P**	**12 21 20.5**	**-1.0**
EIDS	**Eidsvold**	**28.62**	**343**	P	**P**	**12 21 25.3**	**-1.7**
	baz=28,SNR=7.1						
EIDS	**Eidsvold**	**28.62**	**343**	P	**P**	**12 21 25.1**	**-2.0**
EIDS				IAmb	IAmb	12 21 29.7	
	comp=Z,129nm,1.6s						
EIDS	**Eidsvold**	**28.62**	**343**	P	**P**	**12 21 26.6**	**-0.4**
RAO	**Raoul Island**	**29.02**	**43**	LR	LR	12 31 53.6	
	comp=Z,1μm,18.6s,baz=74,slow=34						
QLP	**Quilpie**	**29.07**	**330**	P	**P**	**12 21 30.5**	**-0.5**
	baz=29,SNR=4.1						
QLP	**Quilpie**	**29.07**	**330**	P	**P**	**12 21 31.3**	**+0.2**
INKA	**Innaminka**	**29.14**	**324**	P	**P**	**12 21 31.9**	**+0.2**
MULG	**Mulgathing**	**29.64**	**311**	P	**P**	**12 21 35.7**	**-0.4**
RK1H	**Rockhampton Ha**	**30.66**	**343**	P	**P**	**12 21 46.5**	**+1.4**
	comp=Z,16nm,1.2s						
OOD	**Oodnadatta**	**31.07**	**315**	P	**P**	**12 21 47.8**	**-0.9**
ONTNC	**Ouen Toro**	**31.32**	**12**	P	**P**	**12 21 48.7**	**-2.3**
ONTNC	**Ouen Toro**	**31.32**	**12**	P	**P**	**12 21 50.7**	**-0.2**
NOUC	**Port Laguerre**	**31.50**	**12**	P	**P**	**12 21 52.6**	**0.0**
DZM	**Mont Dzumac**	**31.55**	**12**	P	**P**	**12 21 53.4**	**+0.3**
	comp=Z,41nm,0.7s,baz=186,slow=8.0,SNR=25						
DZM				LR	LR	12 32 06.0	
	comp=Z,948nm,21.1s,baz=203,slow=32						
DZM	**Mont

baz=40,SNR=3.8
COEN Coen 41.37 335 P **P 12 23 15.8 -1.0**
COEN IAmb IAmb 12 23 20.3
comp=Z,151nm,1.2s
COEN Coen 41.37 335 P **P 12 23 15.9 -0.9**
HNR Honiara 43.71 0 P **P 12 23 34.0 -1.8**
comp=Z,33nm,0.3s,baz=122,slow=5.8,SNR=5.7
HNR LR LR 12 37 43.2
comp=Z,2μm,21.9s,baz=188,slow=31
HNR Honiara 43.71 0 P **P 12 23 34.2 -1.6**
HNR pmax pmax
comp=Z,268nm,1.4s
HNR Honiara 43.71 0 P **P 12 23 34.2 -1.6**
PSA00 Pilbara Seismi 43.88 300 P **P 12 23 36.0 -1.1**
PSA00 Pilbara Seismi 43.88 300 P **P 12 23 35.6 -1.5**
PSA00 IAmb IAmb 12 23 44.6
comp=Z,12nm,0.9s
PSA00 Pilbara Seismi 43.88 300 P **P 12 23 39.5 +2.3**
MBWA Marble Bar 44.28 301 P **P 12 23 39.0 -1.4**
RAR Rarotonga 44.41 60 P **P 12 23 42.3 +0.9**
comp=Z,40nm,0.9s,baz=232,slow=6.0,SNR=4.5
RAR LR LR 12 40 05.9
comp=Z,786nm,21.3s,baz=214,slow=33
RAR Rarotonga 44.41 60 IAmb IAmb 12 23 46.2
comp=Z,229nm,1.4s
MAW Mawson 44.72 213 P **P 12 23 45.8 +2.5**
comp=Z,16nm,0.9s,baz=119,slow=9.7,SNR=5.9
MAW LR LR 12 40 08.6
comp=Z,704nm,19.2s,baz=112,slow=33
KNRA Kununurra 44.73 315 P **P 12 23 42.7 -1.3**
baz=45,SNR=19
KNRA Kununurra 44.73 315 P **P 12 23 42.7 -1.3**
KNRA Kununurra 44.73 315 P **P 12 23 42.9 -1.1**
PMG Port Moresby 44.91 342 LR LR 12 40 53.9
comp=Z,1μm,18.6s,baz=170,slow=34
PMG Port Moresby 44.91 342 P **P 12 23 44.6 -0.8**
PMG pmax pmax
comp=Z,57nm,0.9s
PMG Port Moresby 44.91 342 P **P 12 23 44.6 -0.8**
PMG IAmb IAmb 12 23 45.9
comp=Z,57nm,0.8s
PMG Port Moresby 44.91 342 P **P 12 23 45.3 -0.1**
AFI Afiamalu 45.25 41 LR LR 12 41 02.8
comp=Z,215nm,19.8s,baz=202,slow=34
KDU Kakadu 45.95 321 P **P 12 23 52.0 -1.7**
baz=46,SNR=15
KDU Kakadu 45.95 321 P **P 12 23 52.3 -1.4**
MTN Manton Dam 46.32 320 P **P 12 23 54.7 -1.9**
baz=46,SNR=24
MTN Manton Dam 46.32 320 P **P 12 23 55.0 -1.6**
DRS Darwin Rock St 46.79 320 P **P 12 23 58.9 -1.3**
SYO Syowa Base 50.45 204 ⇓*i*pP pP 12 24 29.0 -0.9
SAUI Saumlaki 50.72 322 P **P 12 24 32.0 +1.5**
comp=Z,9μmcomp=Z,62nm,0.8s
SAUI Saumlaki 50.72 322 P **P 12 24 31.5 +1.0**
comp=Z,61nm,1.0s
BATI Baumata 51.81 312 LR LR 12 46 57.8
comp=Z,1μm,18.6s,baz=192,slow=36
BATI Baumata 51.81 312 P **P 12 24 39.4 +0.7**
comp=Z,48nm,1.0s
SOEI Soe 51.95 313 P **P 12 24 40.6 +0.8**
comp=Z,68nm,0.8s
SOEI Soe 51.95 313 P **P 12 24 38.4 -1.5**
SOEI IAmb IAmb 12 24 50.0
comp=Z,48nm,0.8s
SOEI Soe 51.95 313 P **P 12 24 40.6 +0.8**
MANU Manus Island 52.08 344 IAmb IAmb 12 24 43.9
comp=Z,60nm,1.5s
PAE Paea 52.80 68 *e*P **P 12 24 47.8 +1.8**
comp=Z,12nm,0.9s
PPT2 Papeete2 52.86 68 *e*P **P 12 24 48.5 +1.9**
comp=Z,85nm,1.4s
PPT2 *e*S **S 12 32 14.3 -1.1**
comp=Z,865nm,28.2s
PPT2 *e*LQ LQ 12 37 41.6
comp=Z,1μm,30.0s
PPT2 *e*LR LR 12 39 54.6
comp=Z,2μm,24.2s
PPT Papeete 52.88 68 LR LR 12 43 32.9
comp=Z,539nm,20.3s,baz=238,slow=32
JAY Jayapura 52.99 336 LR LR 12 46 00.0
comp=Z,707nm,19.3s,baz=173,slow=35
TIAR Tiarei 53.02 68 *e*P **P 12 24 49.3 +1.7**
comp=Z,1.0nm,0.8s
GENI Genyem 53.05 335 P **P 12 24 50.4 +2.6**
comp=Z,77nm,1.5s
GENI Genyem 53.05 335 P **P 12 24 50.1 +2.3**
MMRI Maumere 53.84 312 P **P 12 24 53.5 -0.2**
comp=Z,9μmcomp=Z,45nm,0.9s
MMRI Maumere 53.84 312 IAmb IAmb 12 24 53.8
comp=Z,63nm,1.1s
MMRI Maumere 53.84 312 P **P 12 24 53.5 -0.2**
comp=Z,58nm,0.9s
EDFI Ende, Flores 53.98 311 P **P 12 24 53.8 -1.1**
comp=Z,23nm,0.9s
SMAI San Martin Ant 54.02 160 P **P 12 24 55.8 +1.4**
SMAI IAmb IAmb 12 24 57.6
comp=Z,37nm,1.2s
WBSI Waikabubak, Su 54.27 308 P **P 12 24 57.6 +0.7**
comp=Z,66nm,0.9s
BNDI Bandanaira 54.42 322 P **P 12 24 58.2 +0.3**
comp=Z,204nm,1.5s
SNAA Sanae 54.76 187 LR LR 12 47 03.3
comp=Z,2μm,21.5s,baz=173,slow=34
FAKI Fak Fak 55.09 326 P **P 12 25 01.6 -1.1**
comp=Z,896nmcomp=Z,79nm,0.8s
FAKI Fak Fak 55.09 326 P **P 12 25 01.1 -1.7**
FAKI IAmb IAmb 12 25 05.4
comp=Z,58nm,0.9s
FAKI Fak Fak 55.09 326 P **P 12 25 01.0 -1.7**
VNA3 Neumayer Olymp 55.57 184 P **P 12 25 06.1 +0.4**
VNA2 Neumayer--Watz 55.78 185 P **P 12 25 07.6 +0.5**
baz=168,slow=5.8
VAH Vaihoa 55.85 68 *e*P **P 12 25 10.1 +1.9**
comp=Z,87nm,1.3s
PMOR Pomariorio Ree 55.90 67 *e*P **P 12 25 10.4 +1.8**
comp=Z,171nm,1.3s
VNA1 Neumayer--Stat 56.10 185 P **P 12 25 10.2 +0.9**
BSSI Bau Bau, Buton 56.83 311 P **P 12 25 14.9 -0.3**
comp=Z,830nmcomp=Z,89nm,1.0s
SIJI Sorong 57.34 325 LR LR 12 51 00.6
comp=Z,866nm,18.4s,baz=148,slow=37
SWI Sorong 57.34 325 P **P 12 25 19.0 +0.2**
comp=Z,1μmcomp=Z,91nm,1.6s
PMSA Palmer Station 57.54 159 LR LR 12 44 48.1
comp=Z,417nm,21.6s,baz=180,slow=30
SRBI Singaraja 57.64 305 P **P 12 25 21.8 +0.9**
comp=Z,868nmcomp=Z,61nm,0.9s
BKSI Bulukumba 57.72 311 P **P 12 25 21.6 +0.1**
comp=Z,24nm,1.1s
SANI Sanana 58.19 319 P **P 12 25 22.8 -2.0**
comp=Z,717nmcomp=Z,68nm,1.1s
SANI Sanana 58.19 319 P **P 12 25 22.8 -2.0**
comp=Z,68nm,1.1s
BNSI Bone 58.55 312 P **P 12 25 28.6 +1.3**
comp=Z,39nm,1.2s
LBMI Labuha 58.90 321 P **P 12 25 30.4 +0.7**
comp=Z,46nm,1.5s
SPSI Sidrap Palu 59.09 312 P **P 12 25 31.0 0.0**
comp=Z,574nmcomp=Z,28nm,1.3s
TTSI Tana Toraja 59.88 312 P **P 12 25 36.3 -0.2**
comp=Z,743nmcomp=Z,40nm,0.9s
KMSI Cibinong 61.37 318 P **P 12 25 50.0 +3.3**
comp=Z,75nm,0.7s
BBKI Banjar Baru 61.82 307 P **P 12 25 50.2 +0.4**
MRSI Marisa 62.12 316 P P 12 25 58.3 +6.6
comp=Z,26nm,0.7s
LEM Lembang 62.61 298 P **P 12 25 56.9 +1.7**
comp=Z,33nm,0.7s,baz=153,slow=9.4,SNR=9.4
LEM LR LR 12 49 00.6
comp=Z,568nm,21.9s,baz=155,slow=32
MPSI Mapaga 62.86 314 P **P 12 25 56.2 -0.5**
comp=Z,854nmcomp=Z,86nm,1.1s
TOLI2 Tolitoli 63.18 315 P **P 12 25 57.5 -1.3**
TOLI2 IAmb IAmb 12 25 59.9
comp=Z,30nm,1.0s
TOLI2 Tolitoli 63.18 315 P **P 12 25 59.0 +0.2**
DBJI Dramaga 63.30 297 P P 12 26 09.0 +9.3
comp=Z,66μmcomp=Z,84nm,1.1s
MTKI Muara Teweh, K 64.00 308 P **P 12 26 04.5 +0.3**
comp=Z,40nm,0.8s
TAOE Nuku Hiva Isla 65.25 71 *e*LR LR 12 45 35.6
comp=Z,2μm,24.8s
TPI Tanjungpandan 66.03 300 P P 12 26 22.9 +5.5
comp=Z,11nm,0.8s
LWLI Liwa 66.03 296 P P 12 26 28.7 +11
MDSI Maura Dua 66.41 296 P P 12 26 27.0 +7.1
comp=Z,10nm,1.3s
STKI Sintang 66.52 305 P **P 12 26 21.5 +0.9**
MG05 Puerto Natales 66.62 148 P **P 12 26 22.2 +1.5**
DAV Davao City (W) 66.72 323 P **P 12 26 23.0 +1.2**
comp=Z,167nm,0.3s,baz=79,slow=11,SNR=2.1
MASI Maura Aman, Be 68.58 295 P P 12 26 44.4 +11
RPN Rapa Nui 69.23 108 LR LR 12 50 30.1
comp=Z,262nm,19.9s,baz=222,slow=30
GSI Gunungsitoli 74.83 294 P **P 12 27 15.9 +4.7**
comp=Z,1μmcomp=Z,28nm,1.2s
PLCA Paso Flores 76.80 143 P **P 12 27 23.4 +1.0**
comp=Z,5.3nm,1.0s,baz=182,slow=5.6,SNR=7.2
PLCA LR LR 12 53 55.4
comp=Z,518nm,19.9s,baz=206,slow=30
PLCA Paso Flores 76.80 143 P **P 12 27 21.1 -1.2**
LC01 Cunco 77.92 141 P **P 12 27 28.0 -0.5**
H03S2 Juan Fernandez 79.42 134 T T 13 55 44.2
baz=210
H03S1 Juan Fernandez 79.42 134 T T 13 55 45.5
baz=210
H03S3 Juan Fernandez 79.44 134 T T 13 55 42.5
baz=210
H03N3 Juan Fernandez 79.75 133 T T 13 56 03.5
baz=217,slow=77,SNR=451
H03N2 Juan Fernandez 79.76 133 T T 13 56 00.7
baz=217,slow=77,SNR=390
H03N1 Juan Fernandez 79.76 133 T T 13 56 05.3
baz=217,slow=77,SNR=385
BO02 Sierra Bellavi 81.94 140 P **P 12 27 49.9 -0.5**
BO02 IAmb IAmb 12 28 18.9
comp=Z,19nm,0.8s
BO01 Tunca 82.17 140 P **P 12 27 50.0 -1.5**
H08S2 Diego Garcia H 82.33 268 T T 13 58 33.5
baz=142,slow=76,SNR=895
H08S1 Diego Carcia H 82.34 268 T T 13 58 35.0
baz=142,slow=76,SNR=812
H08S3 Diego Garcia H 82.35 268 T T 13 58 35.4
baz=142,slow=76,SNR=932
MT01 Popeta 82.58 139 P **P 12 27 52.8 -0.9**
MT01 IAmb IAmb 12 27 59.6
comp=Z,34nm,1.4s
VA03 San Esteban 83.82 139 P **P 12 27 59.1 -1.2**
VA03 IAmb IAmb 12 28 06.3
comp=Z,38nm,1.6s
QIZ Qiongzhong 83.89 313 P **P 12 28 01.0 +0.6**
QIZ S **S 12 38 25.3 +1.4**
QIZ LR LR
comp=Z,600nm,20.6s
QIZ LR LR
comp=Z,350nm,25.1s
CO06 Fray Jorge 85.23 137 P **P 12 28 06.3 -1.0**
VOI Vohitsoka 85.50 239 P **P 12 28 06.6 -2.3**
VOI IAmb IAmb 12 28 14.3
comp=Z,36nm,1.3s
VOI Vohitsoka 85.50 239 P **P 12 28 12.9 +4.0**
ZON Zonda 85.63 140 P **P 12 28 08.3 -1.0**
ZON pmax pmax
comp=Z,15nm,1.3s
ZON Zonda 85.63 140 P **P 12 28 08.3 -1.0**
SUR Sutherland 87.57 214 P **P 12 28 20.1 +1.1**
CMAR Chiang Mai Arr 88.51 304 P **P 12 28 24.5 +1.2**
comp=Z,7.1nm,0.9s,baz=171,slow=3.9,SNR=29
CMAR Chiang Mai Arr 88.51 304 P **P 12 28 22.1 -1.1**
CHTO Chiang Mai 88.81 304 P **P 12 28 23.3 -1.3**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 88.81 304 P **P 12 28 23.3 -1.3**
BOSA Boshof 89.41 219 P **P 12 28 27.9 +0.2**
comp=Z,15nm,1.1s,baz=138,slow=7.2,SNR=7.9
BOSA Boshof 89.41 219 P **P 12 28 28.1 +0.4**
BOSA pmax pmax
comp=Z,59nm,1.6s
BOSA Boshof 89.41 219 P **P 12 28 28.1 +0.4**
BOSA IAmb IAmb 12 28 33.7
comp=Z,59nm,1.6s
MJAR Matsushiro Arr 91.38 343 P **P 12 28 36.1 -0.2**
comp=Z,19nm,1.2s,baz=177,slow=6.6,SNR=5.6
MJAR Matsushiro Arr 91.38 343 P **P 12 28 36.0 -0.2**
MJAR IAmb IAmb 12 28 40.9
comp=Z,22nm,1.4s
MAT Matsushiro 91.38 343 P **P 12 28 35.4 -0.8**
NJ2 Nanjing 92.12 326 ⇓P **P 12 28 40.3 +0.6**
NJ2 pmax pmax
comp=Z,12nm,0.9s
KMI Kunming 92.38 310 ⇑P **P 12 28 45.3 +3.9**
KMI pmax pmax
comp=Z,12nm,1.2s
LVC Limon Verde 93.48 136 LR LR 13 01 13.1
comp=Z,291nm,20.7s,baz=196,slow=29
PZH PanZhiHua 94.02 310 P **P 12 28 46.5 -2.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.9s
CPUP Villa Florida 94.42 147 P **P 12 28 52.0 +1.3**
comp=Z,4.6nm,1.0s,baz=194,slow=4.2,SNR=2.8
CPUP LR LR 13 06 08.5
comp=Z,358nm,19.1s,baz=134,slow=32
KSRS Korea Array 94.48 335 P **P 12 28 50.3 -0.1**
comp=Z,1.2nm,0.8s,baz=74,slow=1.5,SNR=2.5
KSRS PP **PP 12 32 38.0 -0.6**
comp=Z,2.4nm,0.9s,baz=152,slow=9.1,SNR=5.0
CD2 Chengdu 96.91 314 P **P 12 29 01.5 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
NNA Nana 99.10 124 LR LR 13 03 24.7
comp=Z,141nm,20.5s,baz=205,slow=29
LPAZ La Paz 99.42 134 LR LR 13 05 39.5
comp=Z,188nm,20.6s,baz=108,slow=30
LZH Lanzhou 101.33 317 *e*P **Pdif 12 29 27.3 +5.7**
LZH pP pwP 12 29 32.3 +4.9
LZH sP sPdif 12 29 34.8 +10
LZH pmax pmax
comp=Z,11nm,1.0s
HHC Hu-ho-hao-te 102.56 325 *e*P **Pdif 12 29 27.4 +0.6**
GTA Gaotai 105.83 316 *e*P PKiKP 12 33 43.5 -10
GTA pP PP 12 33 49.4 -16
GTA sP 12 33 55.0
GTA pmax pmax
comp=Z,2.0nm,1.1s
WMQ Urumqi 114.71 311 *e*PKP PKPdf 12 34 09.8 -0.7
NVAR Mina Array Bea 115.36 59 PKP **PKiKP 12 34 12.2 0.0**
comp=Z,0.5nm,0.9s,baz=216,slow=5.5,SNR=2.5
NVAR PKKPab **PKKPab 12 44 50.5 +1.0**
comp=Z,0.6nm,0.9s,baz=55,slow=4.9,SNR=4.3
TXAR Lajitas Array 116.69 76 PKP **PKiKP 12 34 14.9 +0.1**
comp=Z,0.5nm,1.0s,baz=191,slow=4.1,SNR=3.7
TXAR PKKPab **PKKPab 12 44 43.5 -1.0**
comp=Z,0.5nm,0.9s,baz=46,slow=2.6,SNR=3.1
DGZ Jazzator, Alta 119.33 315 *i* PKIKP **PKiKP 12 34 19.7 +0.3**
MKAR Makanchi Array 119.45 310 PKP **PKiKP 12 34 19.8 +0.2**
comp=Z,3.2nm,1.0s,baz=149,slow=3.0,SNR=14
MVCO Mesa Verde 119.71 67 P **PKiKP 12 34 20.9 +0.3**
baz=224
AAK Ala-Archa 120.22 302 PKP **PKiKP 12 34 23.6 +2.2**
comp=Z,1.2nm,0.6s,baz=112,slow=5.4,SNR=5.8
AAK Ala-Archa 120.22 302 *i* PKIKP **PKPdf 12 34 20.2 -1.1**
AAK Ala-Archa 120.22 302 **PKiKP 12 34 26.5 +5.2**
B05A Bryant 120.79 50 P **PKiKP 12 34 22.5 +0.4**
baz=223
BILL Bilibino 121.08 3 *e*PKIKP **PKiKP 12 34 23.1 +1.1**
BILL *e* 12 35 48.6
BILL *e*PPP PPP 12 38 23.5
BILL pmax pmax
comp=Z,1.0nm,1.1s
KKAR Karatay Array 122.61 300 PKIKP **PKPdf 12 34 24.2 -1.4**
KKAR Karatay Array 122.61 300 **PKPdf 12 34 24.2 -1.4**
RND Reindeer 123.02 25 PKIKP **PKPdf 12 34 25.0 -0.8**
RND Reindeer 123.02 25 **PKPdf 12 34 25.0 -0.8**
PDAR Pinedale Array 123.08 61 PKP **PKPdf 12 34 26.3 -0.5**
comp=Z,0.4nm,0.8s,baz=160,slow=4.7,SNR=3.9
NEW Newport 123.11 52 PKP **PKiKP 12 34 26.9 +0.2**
comp=Z,1.0nm,0.6s,baz=179,slow=3.8,SNR=3.5
ZALV Zalesovo Beam 123.56 317 PKP **PKiKP 12 34 29.1 +1.8**
comp=Z,1.2nm,0.8s,baz=108,slow=4.7,SNR=5.0
MSO Missoula 123.66 55 **PKPdf 12 34 27.5 -0.2**
MSO Missoula 123.66 55 P **PKPdf 12 34 27.4 -0.2**
baz=226
I21K Tanana 123.76 22 P **PKiKP 12 34 28.2 +0.8**
baz=213
KURBB Kurchatov Arra 123.94 311 PKP **PKPdf 12 34 27.1 -0.8**
comp=Z,3.4nm,0.8s,baz=133,slow=1.5,SNR=7.2
KURK Kurchatov 123.96 311 PKIKP **PKPdf 12 34 27.1 -0.8**
KURK Kurchatov 123.96 311 **PKPdf 12 34 27.1 -0.8**
BOZ Bozeman (W) 123.96 58 P **PKiKP 12 34 29.3 +0.6**
baz=226
HDA Harding Lake 124.33 25 P **PKiKP 12 34 29.0 +0.4**
baz=216
RIDG Independent Ri 124.33 26 P **PKiKP 12 34 29.2 +0.6**
baz=217
COLA College 124.48 24 *i* PKIKP **PKiKP 12 34 29.5 +0.7**
L27K Beaver Creek, 124.62 28 P **PKiKP 12 34 30.1 +0.9**
baz=218
IL31 124.64 25 **PKiKP 12 34 29.5 +0.4**
ILAR Eielson Array 124.64 25 PKP **PKPdf 12 34 28.9 +0.2**
comp=Z,1.9nm,1.1s,baz=228,slow=3.3,SNR=9.7
ILAR Eielson Array 124.64 25 PKIKP **PKPdf 12 34 29.0 +0.2**
ILAR Eielson Array 124.64 25 **PKiKP 12 34 29.1 -0.1**
RLMT Red Lodge 124.85 60 P **PKiKP 12 34 31.3 +0.8**
baz=227
TIXI Tiksi 126.52 348 PKP **PKPdf 12 34 31.0 -1.2**
comp=Z,0.4nm,0.2s,baz=115,slow=4.8,SNR=3.1
TIXI Tiksi 126.52 348 PKIKP **PKPdf 12 34 31.0 -1.2**
TIXI Tiksi 126.52 348 **PKPdf 12 34 30.1 -2.1**
FARO Faro, Yukon 126.56 32 P **PKiKP 12 34 32.9 -0.2**
baz=223
RSSD Black Hills 126.94 64 PKIKP **PKPdf 12 34 32.7 -1.5**
RSSD Black Hills 126.94 64 **PKPdf 12 34 32.7 -1.5**
RSSD Black Hills 126.94 64 P **PKPdf 12 34 34.3 +0.1**
baz=228
KSU1 Kansas State U 127.73 73 P **PKPdf 12 34 35.6 +0.1**
baz=228
EPYK Eagle Plains 128.57 27 P **PKiKP 12 34 36.8 -0.2**
baz=223
S39A Bolivar 128.68 77 **PKPdf 12 34 36.9 -0.6**
MGMO Mountain Grove 128.94 78 **PKPdf 12 34 37.4 -0.5**
BVAR Borovoye Array 129.31 309 PKP **PKiKP 12 34 38.8 0.0**
comp=Z,2.1nm,0.8s,baz=134,slow=6.2,SNR=10
BRVK Borovoye 129.38 309 *i* PKIKP **PKPdf 12 34 37.7 -0.5**
INK Inuvik 130.82 27 PKP **PKPdf 12 34 40.6 +0.1**
comp=Z,3.5nm,0.7s,baz=246,slow=6.5,SNR=13
INK Inuvik 130.82 27 P **PKPdf 12 34 40.7 +0.3**
baz=227
WVT Waverly 130.87 82 P **PKPdf 12 34 40.3 -1.3**
baz=227
DBIC Dimbokro 131.89 201 PKP **PKiKP 12 34 47.0 +1.8**
comp=Z,2.2nm,0.8s,baz=163,slow=2.9,SNR=3.3
NRIK Noril'sk 133.03 332 PKP **PKPdf 12 34 43.9 -0.8**
comp=Z,2.9nm,0.7s,baz=170,slow=2.9,SNR=4.1
NRIK Noril'sk 133.03 332 *i* PKIKP **PKiKP 12 34 50.0 +4.2**
YKA Yellowknife Ar 133.36 40 PKP **PKPdf 12 34 45.3 -0.1**
comp=Z,0.7nm,0.7s,baz=245,slow=2.2,SNR=8.3
AKTO Aktyubinsk 133.88 300 PKP **PKPdf 12 34 47.3 +0.5**
comp=Z,1.0nm,0.7s,baz=37,slow=3.6,SNR=2.0
ULM Lac du Bonnet 135.10 62 PKP **PKPdf 12 34 49.8 +0.7**
comp=Z,2.3nm,0.7s,baz=318,slow=7.1,SNR=3.7
GNI Garni 135.12 280 PKP **PKiKP 12 34 51.4 +0.2**
comp=Z,8.1nm,0.7s,baz=109,slow=17,SNR=1.9
TORD Torodi Ar. Bea 136.36 212 PKhKP PKPpre 12 34 48.1
comp=Z,1.8nm,0.8s,baz=163,slow=2.0,SNR=7.3
TORD PKP **PKiKP 12 34 53.7 -0.6**
comp=Z,5.4nm,1.0s,baz=154,slow=1.5,SNR=12
TORD Torodi Ar. Bea 136.36 212 **PKPdf 12 34 49.7 -2.9**
ARU Arti 136.87 307 PKP **PKiKP 12 34 53.3 -0.7**
comp=Z,1.6nm,0.2s,baz=295,slow=13,SNR=1.2
ARU Arti 136.87 307 *i* PKIKP **PKiKP 12 34 53.8 -0.2**
ARU 12 37 35.1
KBZ Khabaz 138.40 283 PKP **PKiKP 12 34 57.5 0.0**
comp=Z,3.5nm,1.0s,baz=90,slow=4.0,SNR=3.9
SHA1 Shidzhatmaz 138.54 283 *i* PKIKP **PKPdf 12 34 54.7 -1.3**
KIV Kislovodsk 138.66 283 *e*PKIKP **PKiKP 12 35 00.5 +2.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s
FCC Fort Churchill 140.28 52 PKHKP PKPpre 12 34 54.0
FCC Fort Churchill 140.28 52 **PKPdf 12 34 54.0 -4.3**
BELG Belogornoye 140.42 297 PKP **PKiKP 12 35 00.8 -0.5**
comp=Z,12nm,0.8s,baz=65,slow=5.0,SNR=3.0
BRTR Keskin Array B 141.47 272 PKP **PKPdf 12 34 59.9 -1.5**
comp=Z,0.4nm,0.5s,baz=156,slow=2.3,SNR=3.6
KIRV Kirov 142.25 307 *c* *i* PKIKP **PKiKP 12 35 06.4 +1.5**
VRH Novokhopyorsk 143.07 293 *e*PKIKP **PKPdf 12 35 03.1 -0.5**
VRH pmax pmax
comp=Z,9.0nm,0.9s
IDI Anoyia 143.78 259 PKP **PKPdf 12 35 05.3 -0.2**
comp=Z,10nm,0.8s,baz=96,slow=5.9,SNR=1.9
VLDQ Val d'Or 144.20 75 **PKPab 12 35 02.1 -1.4**
RES Resolute Bay 144.37 26 PKP **PKPab 12 35 02.8 -0.6**
comp=Z,12nm,0.8s,baz=300,slow=1.6,SNR=17
RES Resolute Bay 144.37 26 **PKPab 12 35 02.4 -1.0**
TRQ Mont Tremblant 144.92 79 **PKPab 12 35 04.1 -2.2**
PRGR Permogore 145.08 310 *e*PKIKP **PKPbc 12 35 05.1 -1.2**
PRGR pmax pmax
comp=Z,25nm,1.2s
LPSR Galich'ya Gora 145.24 293 *e*PKIKP **PKPdf 12 35 07.6 +0.3**
LPSR pmax pmax
comp=Z,20nm,1.2s
EUNU Eureka 146.03 17 **PKPdf 12 35 06.0 -2.1**
MOS Moscow 147.17 298 *e*PKP2 **PKPab 12 35 13.9 -0.6**
MOS pmax pmax
comp=Z,68nm,0.9s
TIRR Tirgusor 147.40 274 ⇓P **PKPbc 12 35 14.8 +1.0**
TIRR Tirgusor 147.40 274 ⇓PKP2 **PKPbc 12 35 14.8 +1.0**
OBN Obninsk 147.51 297 ⇑P **PKiKP 12 35 15.8 0.0**
OBN Obninsk 147.51 297 PKPbc **PKPbc 12 35 13.4 -0.3**
comp=Z,8.8nm,0.6s,baz=124,slow=3.5,SNR=13
OBN Obninsk 147.51 297 *i* PKP2 **PKPbc 12 35 13.6 -0.1**
OBN *e* 12 38 37.9
OBN pmax pmax
comp=Z,113nm,1.3s
TPGR Topolog 147.62 275 ⇑P **PKPbc 12 35 15.5 +1.0**
KLMR Klimovskoe 147.72 308 *e*PKIKP **PKPdf 12 35 12.7 +1.4**
KLMR pmax pmax
comp=Z,76nm,1.1s
KLMR Klimovskoe 147.72 308 *e*PKPdf **PKPdf 12 35 12.7 +1.4**
KLMR AMP 12 35 18.1
comp=Z,76nm,1.1s
HARR Harsova 147.82 274 ⇑P **PKPbc 12 35 15.3 +0.4**
HARR Harsova 147.82 274 ⇑PKP2 **PKPbc 12 35 15.3 +0.4**
CFR Carcaliu 147.96 275 ⇑P **PKPbc 12 35 14.9 -0.3**
CFR Carcaliu 147.96 275 ⇑PKIKP **PKPbc 12 35 14.9 -0.3**
LMQ La Malbaie 148.09 80 **PKPbc 12 35 15.4 -0.2**
E62A Clayton Lake 148.11 82 **PKPbc 12 35 15.8 +0.2**
VAY Valandovo 149.10 265 *i* P **PKPbc 12 35 17.1 -1.2**
VRI Vrincioaia 149.16 275 ⇑P **PKPbc 12 35 18.6 +0.2**
VRI Vrincioaia 149.16 275 ⇑PKP2 **PKPbc 12 35 18.6 +0.2**
NEHR Nehoiu 149.19 274 ⇓P **PKPbc 12 35 18.8 +0.3**
PLOR Plostina 149.20 275 ⇑P **PKPbc 12 35 18.7 +0.2**
PLOR Plostina 149.20 275 ⇑PKP2 **PKPbc 12 35 18.7 +0.2**
SORM Soroca 149.32 280 ⇑P **PKPbc 12 35 18.1 -0.6**
SORM Soroca 149.32 280 ⇑PKIKP **PKPbc 12 35 18.1 -0.6**
MLR Muntele Rosu 149.44 274 ⇑P **PKPbc 12 35 18.0 -1.2**
MLR Muntele Rosu 149.44 274 PKPbc **PKPbc 12 35 17.7 -1.5**
comp=Z,12nm,1.0s,baz=9.0,slow=1.8,SNR=9.2
MLR Muntele Rosu 149.44 274 ⇑PKIKP **PKPbc 12 35 18.0 -1.2**
COVR Voineasa-Covas 149.46 275 ⇑P **PKPbc 12 35 18.4 -0.7**
VTS Vitosha 149.47 267 ⇑P **PKPdf 12 35 17.0 +2.0**
VTS Vitosha 149.47 267 ⇑PKHKP PKPpre 12 35 17.0
VTS Vitosha 149.47 267 **PKiKP 12 35 21.2 +0.7**
TESR Tescani 149.54 276 ⇑P **PKPbc 12 35 19.2 -0.1**
STIP Stip 149.56 265 *i* P **PKPbc 12 35 20.0 +0.5**
KBN Korca 149.74 262 PKP2 **PKPab 12 35 23.8 -1.7**
KBN Korca 149.74 262 **PKPab 12 35 23.8 -1.7**
AKASG Malin Array Be 149.94 285 PKPbc **PKPbc 12 35 19.3 -0.8**
comp=Z,8.2nm,0.8s,baz=82,slow=2.3,SNR=18
AKBB Malin Array Si 149.94 285 PKHKP PKPpre 12 35 19.0
AKBB Malin Array Si 149.94 285 **PKPbc 12 35 19.0 -1.1**
VOIR 149.94 273 ⇑P **PKPbc 12 35 20.5 +0.1**
VOIR 149.94 273 ⇑PKHKP PKPpre 12 35 20.5
DOPR Dopca 150.01 275 ⇑P **PKPbc 12 35 20.7 +0.2**
OHR Ohrid 150.03 263 *i* P **PKiKP 12 35 21.6 0.0**
ARR Arges 150.16 273 ⇑P **PKPbc 12 35 20.4 -0.5**
SKO Skopje 150.17 265 *i* P **PKiKP 12 35 22.9 +1.1**
BURAR Bucovina Array 150.93 277 ⇑P **PKiKP 12 35 23.2 -0.1**
BURAR Bucovina Array 150.93 277 ⇑PKIKP **PKiKP 12 35 23.2 -0.1**
TIP Timpagrande 151.18 256 ⇓P **PKiKP 12 35 24.8 +0.7**
TIP Timpagrande 151.18 256 **PKPab 12 35 29.1 -2.4**
HERR Herculane 151.23 270 ⇑P **PKPbc 12 35 22.9 -0.5**
GZR Gura Zlata 151.28 272 ⇓P **PKPdf 12 35 19.0 +1.4**
GZR Gura Zlata 151.28 272 ⇓PKIKP **PKPdf 12 35 19.0 +1.4**
VAE Valguarnera 151.37 251 PKPbc **PKiKP 12 35 25.6 +1.1**
comp=Z,4.1nm,0.4s,baz=270,slow=2.0,SNR=1.6
MDVR Moldovita 151.60 270 ⇑P **PKPdf 12 35 19.4 +1.4**
PDG Podgorica 151.75 264 ⇓P **PKPbc 12 35 22.5 -2.1**
SPITS Spitsbergen Ar 151.85 345 PKPbc **PKiKP 12 35 25.5 +1.2**
comp=Z,28nm,0.7s,baz=35,slow=5.3,SNR=11
DRGR 152.03 274 ⇑P **PKPbc 12 35 22.8 -2.5**
DRGR 152.03 274 ⇑PKIKP **PKPbc 12 35 22.8 -2.5**
MNK Minsk 152.07 292 *i* PKIKP **PKPdf 12 35 17.9 -0.4**
MNK *i* 12 39 05.7
MNK *i* 12 42 26.4

MNK			*i* SS	SS	12 58 33.0	-2.0
MNK			*i* SSS	SSS	13 04 17.7	
MNK			pmax	pmax		
	comp=Z,390nm,4.2s					
MNK			pmax	pmax		
	comp=N,318nm,3.5s					
MNK			pmax	pmax		
	comp=E,89nm,3.5s					
MNK	**Minsk**	**152.07 292**	*i* PKP	**PKPdf**	**12 35 17.9**	**-0.4**
	comp=E,89nm,3.5s					
MNK			*i* PKP	**PKPdf**	**12 35 17.9**	**-0.4**
	comp=N,318nm,3.5s					
MNK			*i* PKP	**PKPdf**	**12 35 17.9**	**-0.4**
	comp=Z,390nm,4.2s,baz=107					
MNK			*i* SKP		12 38 51.4	
MNK			*i* PKS	**PKSdf**	**12 38 51.8**	**-0.7**
MNK			*i* PP	**PP**	**12 39 05.7**	**-1.6**
MNK			*i* PPP	PPP	12 42 29.6	
MNK			*i* SKKS		12 51 13.7	
MNK			*i* SS	**SS**	**12 58 33.0**	**-1.9**
MNK			*i* SSS	SSS	13 04 17.7	
MNK			*i* LR	LR	13 47 28.9	
MNK			*i* LRM	MLR	14 08 50.9	
	comp=E,115nm,17.9s					
MNK			*i* LRM	MLR	14 08 50.9	
	comp=N,255nm,15.3s					
MNK			*i* LRM	MLR	14 08 50.9	
	comp=Z,1μm,24.3s					
BZS	**Buzias**	**152.10 271**	⇑P	**PKiKP**	**12 35 25.6**	**0.0**
BZS	**Buzias**	**152.10 271**	⇑PKIKP	**PKiKP**	**12 35 25.6**	**0.0**
SIRR	**Siria**	**152.40 272**	⇓P	**PKPbc**	**12 35 24.9**	**-1.2**
LVV	**L'vov**	**152.62 281**	*e*PKIKP	**PKiKP**	**12 35 27.9**	**+1.3**
NACGM	**Naroch**	**152.79 293**	*i* PKP	**PKPbc**	**12 35 23.8**	**-2.8**
KEST	**Kesra**	**152.88 242**	PKPbc	**PKiKP**	**12 35 28.0**	**+0.3**
	comp=Z,8.2nm,0.9s,baz=281,slow=3.6,SNR=6.8					
SCHQ	**Schefferville**	**152.96 68**	PKPbc	**PKPbc**	**12 35 25.9**	**-1.0**
	comp=Z,12nm,1.2s,baz=278,slow=5.8,SNR=3.4					
FRB	**Frobisher Bay**	**153.32 48**	PKPbc	**PKPbc**	**12 35 26.4**	**-1.0**
	comp=Z,7.5nm,1.1s,baz=320,slow=4.8,SNR=5.0					
ARCES	**ARCESS Array B**	**153.63 325**	PKPbc	**PKiKP**	**12 35 29.9**	**+1.8**
	comp=Z,12nm,0.9s,baz=64,slow=4.2,SNR=12					
CRVS	**Cervenica-Dubn**	**153.75 277**	*e*PKIKP	**PKiKP**	**12 35 29.8**	**+0.8**
CRVS			*e*		12 35 43.3	
CRVS	**Cervenica-Dubn**	**153.75 277**	*e*PKP	**PKiKP**	**12 35 29.8**	**+0.8**
CRVS			*e*		12 35 43.3	
FINES	**FINESS Array B**	**154.24 307**	PKPbc	**PKiKP**	**12 35 31.8**	**+2.2**
	comp=Z,4.9nm,0.7s,baz=95,slow=3.3,SNR=9.9					
ARSA	**Arzberg**	**156.57 270**	*e*P	**PKPab**	**12 35 57.1**	**+3.0**
	comp=Z,28nm,1.4s					
SOKA	**Soboth**	**156.59 268**	*e*P	**PKPab**	**12 35 57.1**	**+2.8**
	comp=Z,14nm,1.7s					
CONA	**Conrad Observa**	**156.68 271**	*e*P	**PKPab**	**12 35 56.6**	**+2.0**
	comp=Z,9.6nm,1.3s					
KRLC	**Kraliky**	**157.02 277**	*e*PKP2	**PKPab**	**12 35 59.6**	**+3.7**
KRLC	**Kraliky**	**157.02 277**	*e*PKPAB	**PKPab**	**12 35 59.6**	**+3.7**
DPC	**Dobruska-Polom**	**157.39 277**	*e*PKP2	**PKPab**	**12 36 00.6**	**+3.0**
DPC	**Dobruska-Polom**	**157.39 277**	*e*PKPAB	**PKPab**	**12 36 00.6**	**+3.0**
MYKA	**Terra Mystica**	**157.40 267**	*e*P	**PKPab**	**12 36 01.5**	**+3.8**
	comp=Z,18nm,1.3s					
KBA	**Koelnbreinsper**	**157.79 267**	*e*P	**PKPab**	**12 36 01.6**	**+2.1**
	comp=Z,6.3nm,1.1s					
ABTA	**Abfaltersbach**	**158.13 266**	*e*P	**PKPab**	**12 36 04.2**	**+3.3**
	comp=Z,15nm,1.3s					
GERES	**GERESS Array B**	**158.37 272**	PKPab	**PKPab**	**12 36 01.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=134,slow=3.9,SNR=9.2					
KHC	**Kasperske Hory**	**158.56 273**	*e*PKP2	**PKPab**	**12 36 04.4**	**+1.8**
KHC	**Kasperske Hory**	**158.56 273**	*e*PKPAB	**PKPab**	**12 36 04.4**	**+1.8**
WTTA	**Wattenberg**	**158.91 266**	*e*P	**PKPab**	**12 36 06.6**	**+2.2**
	comp=Z,27nm,1.4s					
WATA	**Walderalm**	**158.98 266**	*e*P	**PKPab**	**12 36 07.3**	**+2.7**
	comp=Z,13nm,1.0s					
BRG	**Berggiesshubel**	**159.00 277**	*e*PKP2	**PKPab**	**12 36 05.5**	**+1.1**
BRG			pmax	pmax		
	comp=Z,3.0nm,0.9s					
SQTA	**Sankt Quirin**	**159.14 266**	*e*P	**PKPab**	**12 36 07.9**	**+2.6**
	comp=Z,7.3nm,0.8s					
MOTA	**Moosalm**	**159.26 266**	*e*P	**PKPab**	**12 36 08.4**	**+2.5**
	comp=Z,14nm,1.4s					
FETA	**Feichten**	**159.33 265**	*e*P	**PKPab**	**12 36 07.7**	**+1.5**
	comp=Z,17nm,1.4s					
RETA	**Reutte**	**159.54 266**	*e*P	**PKPab**	**12 36 08.5**	**+1.6**
	comp=Z,29nm,1.6s					
CLL	**Collm**	**159.70 278**	*e*PKP2	**PKPab**	**12 36 07.0**	**-0.4**
CLL	**Collm**	**159.70 278**	*e*PKPab	**PKPab**	**12 36 07.0**	**-0.4**
CLL			*ex*	x	12 36 25.0	
CLL			LmH		13 50 00.0	
	comp=N,200nm,20.6s					
CLL			LmH		13 50 00.0	
	comp=E,200nm,20.5s					
DAVOX	**Davos/Dischmat**	**159.72 264**	PKPab	**PKPab**	**12 36 09.2**	**+1.3**
	comp=E,7.6nm,0.9s,baz=135,slow=11,SNR=6.7					
DAVA	**Damuels**	**159.97 265**	*e*P	**PKPab**	**12 36 10.6**	**+1.6**
	comp=E,36nm,1.4s					
HFS	**Hagfors**	**160.34 304**	PKPab	**PKPab**	**12 36 09.6**	**-0.4**
	comp=E,7.6nm,0.8s,baz=56,slow=2.7,SNR=7.6					

PRU 14 12:18:06.8±0.0, 50°.25N×18°.94E, *h*0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.55**	**93**	*e*Pg	Pg	12 18 16.7	-0.7
OJC				*e*Sg	Sg	12 18 24.1	-0.4
MORC	**Moravsky Berou**	**1.02**	**243**	*e*PG	Pg	12 18 25.9	-0.4
MORC				*e*SG	Sg	12 18 39.9	+0.4
LANS	**Liptovska Anna**	**1.15**	**163**	*e*PG	Pg	12 18 28.4	-0.5
LANS				*e*SG	Sg	12 18 43.4	-0.4
LANS				*e*LG	Lg	12 18 46.9	
NIE	**Niedzica**	**1.21**	**133**	*e*Pg	Pg	12 18 30.1	+0.1
NIE				*e*Sg	Sb	12 18 46.9	+0.1
KRLC	**Kraliky**	**1.40**	**264**	*e*PG	Pg	12 18 32.2	-1.4
KRLC				*e*SG	Sb	12 18 52.2	0.0
	comp=Z,3.1nm,0.4s						
DPC	**Dobruska-Polom**	**1.68**	**274**	*e*PG	Pn	12 18 37.0	-0.5
DPC				*e*SG	Sg	12 19 01.9	+1.1
	comp=Z,3.8nm,0.4s						
VYHS	**Vyhne**	**1.76**	**182**	*e*SN	Sn	12 18 59.6	-2.0
VRAC	**Vranov**	**1.79**	**239**	*e*PN	Pn	12 18 38.7	-0.3
VRAC				*e*SG	Sn	12 19 02.8	+0.4
CHVC	**Chvalec**	**1.88**	**282**	*e*SG	Sg	12 19 08.1	+1.1
KRUC	**Moravsky**	**2.04**	**235**	*e*SG	Sb	12 19 10.3	-0.2
KHC	**Kasperske Hory**	**3.66**	**254**	*e*SG	Sg	12 20 03.8	-0.4

BER 14 12:18:56.5±1.1, 59°.74N×14°.33E, *h*0km, ML1.0, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC602	**NORSAR Array S**	**1.71**	**307**	*e*P	Pn	12 19 25.3	-2.3
NC602				*e*S	Sn	12 19 46.6	-3.6
NC602				IAML		12 19 49.4	
	comp=Z,3.6nm,0.4s						
STRU	**Stroemstad**	**1.76**	**248**	*e*P	Pn	12 19 25.6	-2.5
STRU				*e*S	Sn	12 19 48.7	-2.5
NB201	**NORSAR Array S**	**2.00**	**312**	*e*P	Pn	12 19 29.8	-1.7
NB201				*e*S	Sn	12 19 54.7	-2.5
NB201				IAML		12 19 57.7	
	comp=Z,1.9nm,0.7s						
NC303	**NORSAR Array S**	**2.09**	**317**	*e*P	Pn	12 19 31.5	-1.2
NC303				*e*S	Sn	12 19 55.9	-3.5
NC303				IAML		12 20 00.6	
	comp=Z,2.0nm,0.8s						

IDC 14 12:24:49.2±2.3, 17°.76S×178°.05W, *h*490km±16km, mb3.3/7, mb1 3.6/8, mb1mx3.2/37, mbtmp4.1/8, Error ellipse: s-maj=53.4km s-min=21.1km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.71**	**270**	P	P	12 26 02.8	-1.9
	19nm,0.3s,baz=106,slow=20,SNR=70						
MSVF				S	S	12 27 07.6	+1.4
	baz=95,slow=23,SNR=0.7						
HNR	**Honiara**	**22.91**	**288**	P	P	12 29 15.8	+1.0
	42nm,0.3s,baz=107,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**44.99**	**259**	P	P	12 32 19.9	-0.5
	1.1nm,0.5s,baz=97,slow=6.9,SNR=40						
ASAR	**Alice Springs**	**45.16**	**254**	P	P	12 32 21.9	+0.3
	8.4nm,0.4s,baz=90,slow=8.8,SNR=266						
ASAR				PcP	pP	12 33 52.5	-0.2
	0.3nm,0.5s,baz=97,slow=4.0,SNR=2.4						
PETK	**Petropavlovsk-**	**73.62**	**345**	P	P	12 35 31.9	+0.2
	2.0nm,0.9s,baz=129,slow=8.8,SNR=1.6						
TXAR	**Lajitas Array**	**85.63**	**58**	P	P	12 36 36.7	+0.9
	0.3nm,0.8s,baz=226,slow=11,SNR=2.1						
ILAR	**Eielson Array**	**85.66**	**13**	P	P	12 36 34.5	-0.5
	0.3nm,0.4s,baz=218,slow=5.7,SNR=1.1						
CMAR	**Chiang Mai Arr**	**89.15**	**290**	P	P	12 36 50.5	-2.0
	0.7nm,0.3s,baz=99,slow=5.8,SNR=5.0						
YKA	**Yellowknife Ar**	**94.05**	**25**	P	P	12 37 14.1	+0.1
	0.5nm,0.9s,baz=238,slow=5.5,SNR=3.8						
GERES	**GERESS Array B**	**147.55**	**345**	PKPbc	PKPbc	12 43 37.3	-0.6
	0.5nm,0.5s,baz=32,slow=5.8,SNR=4.0						

IDC 14 12:48:20.8±2.4, 2°.86S×127°.90E, *h*0km, mb3.7/2, mb1 3.8/4, mb1mx3.0/50, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=52.8km s-min=25.5km az=104.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.90**	**60**	Pn	Pn	12 49 22.8	+0.7
	3.8nm,0.3s,baz=234,slow=18,SNR=32						
SIJI				Sn	Sn	12 50 07.7	-0.9
	3.0nm,0.3s,baz=253,slow=19,SNR=7.0						
WRA	**Warramunga Arr**	**18.11**	**160**	P	Pn	12 52 32.8	-1.2
	0.1nm,0.3s,baz=340,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**21.49**	**165**	P	P	12 53 11.1	-0.2
	1.8nm,0.9s,baz=345,slow=12,SNR=12						
ASAR				S	S	12 57 04.2	-6.4
	0.2nm,0.7s,baz=351,slow=24,SNR=1.8						
PETK	**Petropavlovsk-**	**61.12**	**20**	P	P	12 58 37.1	+0.4
	2.0nm,1.0s,baz=201,slow=7.7,SNR=1.1						

*PRU **14** 12:53:02.1±0.0, 51°.51N×16°.08E, h0km*
*VIE **14** 12:53:03.5±2.2, 51°.38N×15°.98E, h0km, mb2.8/6, ml2.7/6, Error ellipse: s-maj=13.1km s-min=9.8km az=178.0 78 km WNW of Wroclaw Suspected Mining induced.*

ISC 14 12:53:01.0±1.2, 51°.55N±0°.05×16°.08E±0°.03, *h*0km, n33, σ0°.88/71, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**169**	*e*Pg	**Pg**	**12 53 15.1**	**+0.2**
KSP				*e*Sg	**Sg**	**12 53 24.8**	**+0.5**
CHVC	**Chvalec**	**0.97**	**181**	*e*PG	**Pg**	**12 53 19.8**	**+0.3**
CHVC				*e*SG	**Sg**	**12 53 31.5**	**-0.6**
	comp=Z,55nm,0.5s						
OSTC	**Ostas**	**1.00**	**175**	*e*PG	**Pg**	**12 53 20.4**	**+0.2**
OSTC				*e*SG	**Sg**	**12 53 33.5**	**+0.3**
	comp=Z,72nm,0.4s						
UPC	**Upice**	**1.05**	**182**	*e*PG	**Pg**	**12 53 21.1**	**0.0**
UPC				*e*SG	**Sg**	**12 53 34.8**	**+0.1**
	comp=Z,126nm,0.4s						
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	**Pg**	**12 53 23.7**	**-0.6**
DPC				*e*SG	**Sg**	**12 53 39.1**	**-0.9**
	comp=Z,45nm,0.5s						
PVCC	**Panska Ves**	**1.40**	**223**	*e*PG	**Pg**	**12 53 27.8**	**0.0**
PVCC				*e*SG	**Sn**	**12 53 46.7**	**-0.3**
	comp=Z,176nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**244**	Pg	**Pn**	**12 53 29.3**	**+0.1**
BRG				Sg	**Sn**	**12 53 50.0**	**+0.4**
BRG				Amp		12 53 50.8	
	comp=Z,87nm,0.6s						
KRLC	**Kraliky**	**1.55**	**163**	*e*PG	**Pn**	**12 53 29.0**	**-0.9**
KRLC				*e*SG	**Sg**	**12 53 49.3**	**-1.4**
	comp=Z,50nm,0.5s						
PRU	**Pruhonice**	**1.85**	**212**	*e*PG	**Pn**	**12 53 34.2**	**+0.3**
PRU				*e*SG	**Sg**	**12 53 59.5**	**-0.8**
	comp=Z,58nm,0.4s						
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**12 53 34.2**	**-1.0**
CLL				*e*Pg	**Pb**	**12 53 37.0**	**-0.2**
CLL				*i* x	x	12 53 41.2	
CLL				*e*Sg	**Sb**	**12 54 03.0**	**+1.0**
	comp=Z,33nm,0.8s						
MORC	**Moravsky Berou**	**2.01**	**152**	*e*PN	**Pn**	**12 53 35.0**	**-1.2**
MORC				*e*SG	**Sb**	**12 54 03.4**	**-0.6**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PG	**Pb**	**12 53 40.4**	**-0.7**
OKC				*e*SG	**Sb**	**12 54 08.8**	**+0.4**
	comp=Z,44nm,0.6s						
VRAC	**Vranov**	**2.27**	**171**	*e*PN	**Pn**	**12 53 39.4**	**-0.4**
VRAC				*e*SG	**Sg**	**12 54 12.5**	**-1.5**
PBCC	**Pribram**	**2.29**	**216**	*e*PG	**Pb**	**12 53 43.7**	**+0.4**
PBCC				*e*SG	**Sg**	**12 54 14.1**	**-0.5**
TREC	**Trest**	**2.29**	**190**	*e*PN	**Pn**	**12 53 40.9**	**+0.8**
TREC				*e*PG	**Pb**	**12 53 43.6**	**+0.3**
TREC				*e*SG	**Sg**	**12 54 13.1**	**-1.6**
	comp=Z,28nm,0.6s						
KRUC	**Moravsky**	**2.50**	**175**	*e*PN	**Pn**	**12 53 43.3**	**+0.3**
KRUC				*e*SG	**Sg**	**12 54 19.8**	**-1.6**
NKC	**Novy Kostel**	**2.65**	**241**	*e*PN	**Pn**	**12 53 45.3**	**+0.3**
NKC				*e*PG	**Pb**	**12 53 50.4**	**+1.0**
NKC				*e*SG	**Sg**	**12 54 26.3**	**+0.1**
	comp=Z,94nm,0.6s						
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**12 53 52.6**	**-0.3**
OJC				*e*Sg	**Sg**	**12 54 27.8**	**-0.2**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*PN	**Pn**	**12 53 49.1**	**+0.8**
KHC	**Kasperske Hory**	**2.91**	**214**	*e*PN	**Pn**	**12 53 48.9**	**+0.3**
KHC				*e*PG	**Pb**	**12 53 54.1**	**+0.4**
KHC				*e*SN	**Sn**	**12 54 24.2**	**0.0**
KHC				*e*SG	**Sg**	**12 54 33.6**	**-0.7**
	comp=Z,16nm,0.6s						
CKRC	**Cesky Krumlov**	**2.96**	**203**	*e*PN	**Pn**	**12 53 49.9**	**+0.6**
CKRC				*e*PG	**Pb**	**12 53 55.4**	**+0.7**
CKRC				*e*SG	**Sg**	**12 54 34.6**	**-1.6**
SMOL	**Smolenice**	**3.17**	**163**	*e*PG	**Pg**	**12 54 02.3**	**+0.6**
SMOL				*e*SG	**Sg**	**12 54 43.8**	**+1.1**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*PN	**Pn**	**12 53 54.7**	**+1.5**
LANS				*e*PG	**Pg**	**12 54 03.0**	**-0.1**
LANS				*e*SG	**Sg**	**12 54 45.5**	**+0.4**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*PN	**Pn**	**12 53 53.8**	**+0.2**
MODS				*e*PG	**Pg**	**12 54 03.0**	**-0.8**
MODS				*e*SG	**Sg**	**12 54 45.8**	**-0.4**
NIE	**Niedzica**	**3.44**	**127**	*e*P	**Pg**	**12 54 06.5**	**-0.5**
NIE				*e*S	**Sg**	**12 54 51.4**	**-0.1**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**12 53 58.0**	**+0.7**
VYHS				*e*SG	**Sg**	**12 54 54.3**	**-0.5**
CONA	**Conrad Observa**	**3.63**	**182**	*i* Pn	**Pn**	**12 53 59.0**	**+0.4**
	comp=Z,2.4nm,0.5s						
CONA				*i* Pg	**Pg**	**12 54 09.6**	**-1.0**
	comp=Z,4.7nm,0.4s						
CONA				*i* Sg	**Sg**	**12 54 56.9**	**-0.8**
	comp=Z,16nm,0.4s						
MOA	**Molln**	**3.89**	**198**	*i* Pn	**Pn**	**12 54 02.2**	**+0.2**
	comp=Z,4.0nm,0.4s						
MOA				*e*Sg	**Sg**	**12 55 06.4**	**+0.4**
	comp=Z,7.6nm,0.3s						
ARSA	**Arzberg**	**4.32**	**185**	*e*Pg	**Pg**	**12 54 22.7**	**-1.1**
	comp=Z,2.5nm,0.5s						
ARSA				*i* Sg	**Sg**	**12 55 22.3**	**+2.5**
	comp=Z,11nm,0.5s						
KBA	**Koelnbreinsper**	**4.82**	**203**	*e*Pn	**Pn**	**12 54 15.4**	**+0.4**
	comp=Z,3.3nm,0.4s						
KBA				*e*Pg	Pg	12 54 38.4	+5.0
	comp=Z,2.5nm,0.5s						
KBA				*e*Sg	**Sg**	**12 55 34.8**	**-1.1**
	comp=Z,11nm,0.6s						
OBKA	**Obir**	**5.15**	**192**	*e*Sg	**Sg**	**12 55 48.7**	**+2.3**
	comp=Z,6.9nm,0.7s						
WTTA	**Wattenberg**	**5.18**	**216**	*e*Sg	**Sg**	**12 55 47.0**	**-0.3**
	comp=Z,9.8nm,0.7s						
FETA	**Feichten**	**5.73**	**220**	*e*Sg	**Sg**	**12 56 02.7**	**-2.2**
	comp=Z,1.6nm,0.5s						

*TUL **14** 12:55:03.2±1.3, 36°.48N±0°.01×98°.75W±0°.02, h7km±7km, ML3.2, mb_Lg2.8/41(NEIC), Error ellipse: s-maj=2.9km s-min=1.6km az=85.0*

NEIC 14 12:55:03.5±1.0, 36°.48N±0°.01×98°.73W±0°.02, h5km±2km, Error ellipse: s-maj=3.2km s-min=2.9km az=257.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.23**	**4**	Pg	Pg	12 55 08.3	+0.2
OK035				Sg	Sg	12 55 12.1	+0.8
U32A	**Winter Ranch,**	**0.24**	**247**	Pg	Pg	12 55 08.2	0.0
U32A				Sg	Sg	12 55 11.8	+0.4
OK032	**Salt Plains WL**	**0.53**	**52**	Pg	Pg	12 55 13.8	0.0
CROK	**Carrier**	**0.60**	**87**	Pg	Pg	12 55 15.2	+0.1
KAN14	**Manchester OK**	**0.78**	**52**	Pg	Pg	12 55 18.6	0.0
GC02	**Grant County #**	**0.79**	**61**	Pg	Pg	12 55 18.6	-0.2
GC02				Sg	Sg	12 55 29.8	+0.6
KAN10	**Anthony SW Sta**	**0.82**	**38**	Pg	Pg	12 55 19.0	-0.3
KAN16	**Harper SW Stat**	**0.92**	**35**	Pg	Pg	12 55 20.8	-0.4
KAN17	**Caldwell West**	**0.96**	**53**	Pg	Pg	12 55 21.5	-0.5
KAN08	**Anthony NE Sta**	**0.97**	**39**		Pg	12 55 21.6	-0.4
KAN12	**Harper NE Stat**	**1.01**	**35**	Pg	Pg	12 55 22.5	-0.4
KAN01	**Argonia South**	**1.03**	**49**		Pg	12 55 23.0	-0.4
KAN13	**South Haven SW**	**1.14**	**62**		Pg	12 55 24.7	-0.7
BCOK	**Bluff Creek, N**	**1.22**	**132**		Pg	12 55 26.2	-0.7
OK029	**Liberty Lake**	**1.23**	**123**		Pg	12 55 26.3	-0.9
BLOK	**Blackwell**	**1.25**	**76**		Pg	12 55 26.6	-0.9
OK025	**Westminster Rd**	**1.44**	**128**	Pn	Pn	12 55 30.0	-0.3
OKCFA	**Oklahoma City**	**1.48**	**135**	Pn	Pn	12 55 30.6	-0.2
OKCSW	**OKLAHOMA CITY**	**1.50**	**135**	Pn	Pn	12 55 30.7	-0.3
OK031	**S. Brethren Rd**	**1.61**	**108**		Pn	12 55 32.7	0.0
FNO	**Franklin**	**1.62**	**138**		Pn	12 55 33.0	+0.2
FNO				IAmb_Lg		12 55 58.9	
	comp=Z,50nm,0.9s						
QUOK	**Quay**	**1.66**	**100**		Pn	12 55 33.4	+0.1
OK030	**Cody Creek RV**	**1.67**	**109**		Pn	12 55 33.3	-0.1
OK034	**N. Norfolk Rd.**	**1.69**	**105**		Pn	12 55 33.8	0.0
WMOK	**Wichita Mounta**	**1.73**	**181**		Pn	12 55 34.6	+0.3
T35A	**Sooner Cattle**	**1.84**	**75**		Pn	12 55 36.1	+0.4
T35A				IAmb_Lg		12 56 02.9	
	comp=Z,37nm,0.8s						
R32A	**Long Quarter,**	**1.94**	**0**		Pn	12 55 37.4	+0.1
W35A	**Tecumseh**	**2.00**	**131**		Pn	12 55 38.2	+0.2
X34A	**Smith Ranch, M**	**2.01**	**158**		Pn	12 55 38.5	+0.4
TUL1	**Leonard**	**2.44**	**102**		Pn	12 55 43.5	-0.5
TUL1				IAmb_Lg		12 56 27.4	
	comp=Z,35nm,0.8s						
AMTX	**Amarillo**	**2.88**	**237**	Pn	Pn	12 55 51.9	+1.7
AMTX				IAmb_Lg		12 56 38.9	
	comp=Z,41nm,0.8s						
KSU1	**Kansas State U**	**3.11**	**32**	Pn	Pn	12 55 53.8	+0.4
X37A	**Clayton**	**3.32**	**123**	Pn	Pn	12 55 56.5	+0.4
U38A	**Gravette**	**3.50**	**89**	Pn	Pn	12 55 59.1	+0.4
U38A				IAmb_Lg		12 57 00.1	
	comp=Z,32nm,0.9s						
HHAR	**Hobbs**	**3.87**	**91**	IAmb_Lg		12 57 09.1	
	comp=Z,27nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.99**	**311**	Pn	Pn	12 56 04.7	-0.8
MSTX	**Muleshoe**	**4.15**	**234**	IAmb_Lg		12 57 17.4	
	comp=Z,24nm,0.9s						
N33A	**J Bar K, Exete**	**4.37**	**13**	IAmb_Lg		12 57 34.0	
	comp=Z,17nm,0.8s						
S39A	**Bolivar**	**4.49**	**73**	IAmb_Lg		12 57 27.0	
	comp=Z,29nm,0.8s						
T25A	**Trinidad**	**4.61**	**280**	Pn	Pn	12 56 13.9	-0.1
T25A				IAmb_Lg		12 57 33.6	
	comp=Z,24nm,0.7s						
MIAR	**Mount Ida**	**4.62**	**113**	Pn	Pn	12 56 13.8	-0.3
MIAR				IAmb_Lg		12 57 41.2	
	comp=Z,19nm,0.7s						
BGNE	**Belgrade**	**4.95**	**5**	IAmb_Lg		12 57 45.6	
	comp=Z,18nm,0.7s						
WHAR	**Wooly Hollow**	**5.36**	**101**	IAmb_Lg		12 58 04.2	
	comp=Z,23nm,1.0s						
FCAR	**Ozark Folk Cen**	**5.38**	**94**	IAmb_Lg		12 57 56.8	
	comp=Z,22nm,0.9s						
WLAR	**White Oak Lake**	**5.38**	**119**	IAmb_Lg		12 58 07.2	
	comp=Z,16nm,0.9s						
W41B	**Gary Mavity, V**	**5.42**	**102**	IAmb_Lg		12 57 58.3	
	comp=Z,18nm,0.8s						
R40A	**Maddies Statio**	**5.46**	**69**	IAmb_Lg		12 57 58.0	
	comp=Z,11nm,0.8s						
JCT	**Junction City**	**6.05**	**189**	IAmb_Lg		12 58 27.4	
	comp=Z,13nm,1.0s						
LCAR	**Lake Charles**	**6.13**	**92**	IAmb_Lg		12 58 19.4	
	comp=Z,10nm,0.9s						
K31A	**O'Neill**	**6.14**	**360**	IAmb_Lg		12 58 21.9	
	comp=Z,13nm,0.8s						
CCM	**Cathedral Cave**	**6.17**	**73**	IAmb_Lg		12 58 22.7	
	comp=Z,15nm,0.8s						

*IDC **14** 12:55:21.8±0.7, 13°.59N×147°.72E, h0km, mb4.2/24, mb1 4.3/24, mb1mx4.0/65, mbtmp4.2/24, ML5.3/1, Error ellipse: s-maj=18.0km s-min=14.9km az=112.0*
*NEIC **14** 12:55:26.7±1.6, 13°.58N±0°.06×147°.6E±0°.1, h26km±4km, mb4.8/51, Error ellipse: s-maj=15.0km s-min=8.1km az=104.0*

ISC 14 12:55:27.2±0.6, 13°.56N±0°.10×147°.61E±0°.08, h35km, n82, σ0°.69/60, mb4.6/54, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.67**	**271**	Pn	**Pn**	**12 56 06.1**	**-1.5**
	523nm,0.3s,baz=108,slow=6.2,SNR=435						
GUMO				Sn	**Sn**	**12 56 38.5**	**-0.3**
	158nm,0.3s,baz=68,slow=6.6,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**18.98**	**73**	T	T	13 19 20.5	
	baz=268,slow=74						
H11S1	**WAKE ISLAND Hy**	**18.99**	**72**	T	T

comp=Z,4.9nm,0.9s,baz=259,slow=5.2,SNR=1.8
KDAK Kodiak Island 62.70 31 IAmb IAmb 13 05 52.6
comp=Z,32nm,1.4s
TTA Tatalina 63.03 25 P **P** **13 05 50.6 0.0**
ZALV Zalesovo Beam 63.21 324 P **P** **13 05 51.4 -0.4**
comp=Z,0.9nm,0.5s,baz=99,slow=7.6,SNR=5.3
MK31 Makanchi Array 63.37 316 P **P** **13 05 53.1 0.0**
MKAR Makanchi Array 63.37 316 P **P** **13 05 53.4 +0.2**
comp=Z,0.5nm,0.3s,baz=89,slow=8.9,SNR=11
MAKZ Makanchi 63.58 316 P **P** **13 05 55.4 +0.9**
MAKZ IAmb IAmb 13 06 19.6
comp=Z,5.0nm,0.8s
K20K Telida 64.01 25 IAmb IAmb 13 05 58.2
comp=Z,11nm,1.2s
J20K Nowinta River 64.31 24 P **P** **13 05 59.7 +0.8**
J20K IAmb IAmb 13 06 00.7
comp=Z,5.1nm,0.9s
PPLA Purkeypile 64.63 26 P **P** **13 06 01.9 +0.7**
CAST Castle Rocks 64.86 26 P **P** **13 06 02.5 -0.1**
CAST IAmb IAmb 13 06 03.7
comp=Z,7.7nm,0.8s
I21K Tanana 65.55 24 IAmb IAmb 13 06 08.1
comp=Z,14nm,1.4s
BPAW Bear Paw Mtn. 65.56 25 IAmb IAmb 13 06 08.3
comp=Z,12nm,1.4s
KURK Kurchatov 66.33 320 P **P** **13 06 11.7 -0.5**
KURK IAmb IAmb 13 06 27.4
comp=Z,6.5nm,0.9s
KURBB Kurchatov Arra 66.37 320 P **P** **13 06 12.2 -0.3**
comp=Z,2.5nm,0.6s,baz=96,slow=6.9,SNR=9.8
WRH Wood River Hil 66.88 25 IAmb IAmb 13 06 16.8
comp=Z,5.8nm,1.0s
COLD Coldfoot 66.97 22 IAmb IAmb 13 06 18.2
comp=Z,8.9nm,1.1s
H24K Noodor Dome 67.39 24 IAmb IAmb 13 06 20.1
comp=Z,11nm,1.1s
ILAR Eielson Array 67.46 25 P **P** **13 06 17.6 -1.6**
comp=Z,2.8nm,1.1s,baz=254,slow=4.8,SNR=12
DOT Dot Lake 68.36 26 IAmb IAmb 13 06 26.2
comp=Z,7.8nm,1.1s
SCRK Sand Creek 68.47 26 IAmb IAmb 13 06 26.4
comp=Z,9.7nm,1.2s
FYU Fort Yukon 68.62 23 P **P** **13 06 26.9 +0.4**
J26L Joseph Creek 68.78 26 P **P** **13 06 27.4 -0.2**
BMAR Burnt Mountain 69.11 22 P **P** **13 06 30.5 +1.0**
L27K Beaver Creek, 69.22 27 IAmb IAmb 13 06 31.4
comp=Z,6.2nm,1.1s
EGAK Eagle 69.85 26 IAmb IAmb 13 06 35.2
comp=Z,13nm,1.2s
DAWY Dawson 70.47 26 IAmb IAmb 13 06 39.5
comp=Z,7.5nm,1.1s
INK Inuvik 73.38 22 P **P** **13 06 54.9 -0.4**
comp=Z,3.2nm,0.8s,baz=256,slow=6.7,SNR=10
INK Inuvik 73.38 22 IAmb IAmb 13 06 55.8
comp=Z,7.8nm,1.1s
YKA Yellowknife Ar 81.66 28 P **P** **13 07 41.0 -0.6**
comp=Z,2.3nm,0.8s,baz=286,slow=5.4,SNR=31
BMO Blue Mountains 84.12 45 IAmb IAmb 13 07 55.8
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 84.85 52 P **P** **13 07 59.0 +0.1**
comp=Z,2.1nm,0.8s,baz=270,slow=5.4,SNR=18
ELK Elko 86.59 49 P **P** **13 08 07.7 +0.2**
ELK IAmb IAmb 13 08 08.8
comp=Z,4.1nm,1.0s
HRY Holter Researc 87.34 43 P **P** **13 08 10.7 -0.2**
ARCES ARCESS Array B 87.92 343 P **P** **13 08 12.4 -0.6**
comp=Z,1.7nm,0.7s,baz=56,slow=4.9,SNR=1.4
YHL Hebgen Lake 88.32 44 IAmb IAmb 13 08 17.7
comp=Z,7.8nm,1.2s
DUG Dugway, Tooele 88.52 49 P **P** **13 08 16.7 0.0**
DUG IAmb IAmb 13 08 17.9
comp=Z,5.8nm,1.0s
PDAR Pinedale Array 90.08 46 P **P** **13 08 24.7 +0.6**
comp=Z,0.2nm,0.6s,baz=238,slow=5.2,SNR=1.7
KVAR Kislovodsk Arr 91.13 316 P **P** **13 08 30.0 +1.3**
comp=Z,1.5nm,0.3s,baz=76,slow=4.2,SNR=1.6
FINES FINESS Array B 92.30 336 P **P** **13 08 31.9 -1.7**
comp=Z,1.9nm,0.5s,baz=62,slow=4.8,SNR=14
LPAZ La Paz 145.38 99 PKPbc **PKPbc** **13 15 02.4 -0.7**
comp=Z,1.3nm,0.5s,baz=284,slow=4.2,SNR=5.0
DBIC Dimbokro 146.07 305 PKPbc **PKPbc** **13 15 04.7 +0.1**
comp=Z,1.5nm,0.4s,baz=74,slow=1.9,SNR=5.1

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*SOME **14** 12:58:52.8, 40.78N×79.63E, h10km*
*KRNET **14** 12:58:53.4±0.1, 40.56N×79.39E, mb3.7*
*NNC **14** 12:58:56.5±1.1, 40.89N×79.51E, h0km, mb4.1, mpv3.8,*
Error ellipse: s-maj=7.3km s-min=5.5km az=162.0
ISC 14 12:58:56.8±2.0, 40.90N±0.09×79.45E±0.05, h10km, n60,
σ1§80/89, 22C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.49**	**304**	⇑*eP*	**Pg**	**12 59 24.6**	**-0.8**
TARG	baz=15			⇑*iS*	**Sg**	**12 59 47.3**	**+2.6**
PRZ	**Przheval'sk**	**1.76**	**334**	⇑*iP*	**Pg**	**12 59 31.1**	**+0.4**
PRZ	baz=39			⇑*iS*	**Sg**	**12 59 58.8**	**+5.2**
KDJ	**Kajisay**	**2.10**	**307**	⇑*eP*	**Pb**	**12 59 34.0**	**-1.1**
KDJ	baz=14			⇑*iS*	**Sg**	**13 00 03.6**	**-0.7**
SHLS	**Shalkode**	**2.25**	**0**	*eP*	**Pg**	**12 59 38.5**	**-1.5**
SHLS	45nm,0.7s			*eS*	**Sg**	**13 00 10.2**	**+0.9**
SHLS	**Shalkode**	**2.25**	**0**	Pg	**Pg**	**12 59 38.5**	**-1.5**
SHLS	45nm,0.7s			Lg	Lg	13 00 10.2	
UZB	**Uzynbulak**	**2.27**	**352**	*eP*	**Pb**	**12 59 37.5**	**-0.4**
UZB	23nm,0.3s			*eS*	**Sg**	**13 00 10.2**	**+0.5**
UZB	**Uzynbulak**	**2.27**	**352**	Pg	**Pb**	**12 59 37.7**	**-0.2**
UZB	50nm,0.2s			Lg	Lg	13 00 10.2	
SATY	**Saty**	**2.29**	**341**	*eP*	**Pb**	**12 59 38.8**	**+0.5**
SATY	53nm,0.8s			*eS*	**Sg**	**13 00 11.8**	**+1.3**
SATY	**Saty**	**2.29**	**341**	Pg	**Pg**	**12 59 39.9**	**-0.8**
SATY	53nm,0.8s			Lg	Lg	13 00 11.8	
ANVS	**Anan'yevo**	**2.30**	**325**	⇑*eP*	**Pb**	**12 59 38.0**	**-0.6**
ANVS	baz=30			⇑*iS*	**Sg**	**13 00 10.6**	**-0.2**
ZHN	**Zhinishke**	**2.39**	**342**	*eP*	**Pb**	**12 59 40.4**	**+0.4**
ZHN	15nm,0.2s			*eS*	**Sg**	**13 00 14.3**	**+0.8**
ZHN	**Zhinishke**	**2.39**	**342**	Pg	**Pg**	**12 59 41.4**	**-1.2**
ZHN	32nm,0.3s			Lg	Lg	13 00 14.5	
PDGK	**Podgornoye**	**2.43**	**1**	⇑Pg	**Pb**	**12 59 40.4**	**-0.2**
PDGK	20nm,0.5s			⇑Lg	Lg	13 00 14.5	
KTMS	**Ketmen**	**2.63**	**15**	*eP*	**Pb**	**12 59 43.7**	**-0.4**
KTMS	30nm,0.5s			*eS*	**Sg**	**13 00 20.2**	**-1.2**
KTMS	**Ketmen**	**2.63**	**15**	Pg	**Pb**	**12 59 44.2**	**+0.1**
KTMS	30nm,0.5s			Lg	Lg	13 00 18.7	
KURS	**Kuram**	**2.75**	**340**	*eP*	**Pb**	**12 59 47.3**	**+1.1**
KURS	38nm,0.5s			*eS*	**Sg**	**13 00 26.6**	**+1.3**
KURS	**Kuram**	**2.75**	**340**	Pg	**Pb**	**12 59 47.4**	**+1.1**
KURS	38nm,0.5s			Lg	Lg	13 00 24.2	
ULHL	**Ulahol**	**2.75**	**300**	⇑*iP*	**Pn**	**12 59 42.7**	**+1.5**
ULHL	baz=6.0			⇑*iS*	**Sb**	**13 00 18.7**	**-1.5**
TNSS	**Tian-Shan**	**2.83**	**320**	*eP*	**Pb**	**12 59 48.2**	**+0.5**
TNSS	44nm,0.8s			*eS*	**Sg**	**13 00 28.5**	**+0.6**
TNSS	**Tian-Shan**	**2.83**	**320**	Pg	**Pb**	**12 59 48.9**	**+1.1**
TNSS	33nm,0.4s			Lg	Lg	13 00 26.9	
TNSS	**Tian-Shan**	**2.83**	**320**	Pg	**Pg**	**12 59 49.0**	**-2.1**
TNSS	22nm,0.3s			Lg	Lg	13 00 29.9	
MDOK	**Medeo**	**2.88**	**322**	*eP*	**Pb**	**12 59 48.7**	**+0.3**
MDOK	14nm,0.5s			*eS*	**Sg**	**13 00 29.4**	**+0.1**
MDOK	**Medeo**	**2.88**	**322**	⇑Pg	**Pb**	**12 59 48.4**	**0.0**
MDOK	16nm,0.6s			Lg	Lg	13 00 30.3	
MDOK	**Medeo**	**2.88**	**322**	Pg	**Pb**	**12 59 49.4**	**+1.0**
MDOK	14nm,0.5s			Lg	Lg	13 00 28.3	
KOTS	**Kotyrbulak**	**2.91**	**324**	*eP*	**Pb**	**12 59 50.0**	**+1.2**
KOTS	13nm,0.3s			*eS*	**Sg**	**13 00 31.7**	**+1.4**
KOTS	**Kotyrbulak**	**2.91**	**324**	Pg	**Pg**	**12 59 51.5**	**-1.1**
KOTS	19nm,0.5s			Lg	Lg	13 00 32.2	
BOOM	**Boomskoye usch**	**3.07**	**302**	⇑*eP*	**Pn**	**12 59 47.2**	**+1.7**
BOOM	baz=8.0			⇑*eS*	**Sb**	**13 00 26.5**	**-2.7**
MTBS	**Maitube**	**3.16**	**316**	*eP*	**Pb**	**12 59 53.8**	**+0.6**
MTBS	5.2nm,0.3s			*eS*	**Sg**	**13 00 38.2**	**-0.2**
MTBS	**Maitube**	**3.16**	**316**	Pg	**Pb**	**12 59 52.6**	**-0.6**
MTBS	11nm,0.4s			Lg	Lg	13 00 32.8	
BLB	**Baldybastay**	**3.27**	**348**	*eP*	**Pb**	**12 59 55.8**	**+0.7**
BLB	33nm,0.3s			*eS*	**Sg**	**13 00 41.1**	**-0.9**
BLB	**Baldybastay**	**3.27**	**348**	Pg	**Pg**	**12 59 57.3**	**-2.2**
BLB	33nm,0.3s			Lg	Lg	13 00 41.1	
KST	**Kastek**	**3.37**	**311**	*eP*	**Pb**	**12 59 57.8**	**+1.1**
KST	22nm,0.4s			*eS*	**Sg**	**13 00 45.0**	**+0.1**
KST	**Kastek**	**3.37**	**311**	Pg	**Pg**	**12 59 58.8**	**-2.5**
KST	22nm,0.4s			Lg	Lg	13 00 43.7	
DJR	**Jarkent**	**3.44**	**4**	*eP*	**Pb**	**12 59 57.7**	**-0.1**
DJR	7.3nm,0.4s			*eS*	**Sg**	**13 00 44.5**	**-2.7**
DJR	**Jarkent**	**3.44**	**4**	Pg	**Pb**	**12 59 58.2**	**+0.3**
DJR	7.3nm,0.4s			Lg	Lg	13 00 44.1	
CHKK	**Chushkaly**	**3.47**	**329**	*eP*	**Pb**	**12 59 59.0**	**+0.7**
CHKK	6.3nm,0.4s			*eS*	**Sg**	**13 00 47.1**	**-1.0**
CHKK	**Chushkaly**	**3.47**	**329**	Pg	**Pg**	**13 00 00.8**	**-2.4**
CHKK	6.3nm,0.4s			Lg	Lg	13 00 47.1	
KTBS	**Karatobe**	**3.48**	**325**	*eP*	**Pb**	**12 59 59.2**	**+0.7**
KTBS	4.5nm,0.3s			*eS*	**Sg**	**13 00 47.6**	**-0.9**
KTBS	**Karatobe**	**3.48**	**325**	Pg	**Pb**	**12 59 59.9**	**+1.4**
KTBS	40nm,0.5s			Lg	Lg	13 00 47.6	
TKM2	**Tokmak 2**	**3.51**	**306**	⇑Pn	**Pn**	**12 59 54.7**	**+3.0**
TKM2	4.9nm,0.4s			⇑Lg	Lg	13 00 49.6	
TKM2	**Tokmak 2**	**3.51**	**306**	⇓*eP*	**Pn**	**12 59 53.7**	**+2.1**
TKM2	baz=11			⇓*iS*	**Sb**	**13 00 37.7**	**-4.2**
ARXS	**Arharly**	**3.52**	**341**	*eP*	**Pb**	**13 00 00.4**	**+1.2**
ARXS	11nm,0.4s			*eS*	**Sg**	**13 00 49.3**	**-0.5**
ARXS	**Arharly**	**3.52**	**341**	Pg	**Pb**	**13 00 00.6**	**+1.4**
ARXS	19nm,0.3s			Lg	Lg	13 00 49.9	
DGS	**Degeres**	**3.60**	**312**	*eP*	**Pb**	**13 00 01.4**	**+0.8**
DGS	13nm,0.4s			*eS*	**Sg**	**13 00 50.8**	**-1.6**
KUU	**Kurty**	**3.77**	**323**	*eP*	**Pb**	**13 00 04.9**	**+1.4**
KUU	2.2nm,0.4s			*eS*	**Sg**	**13 00 56.4**	**-1.5**
KUU	**Kurty**	**3.77**	**323**	Pg	**Pg**	**13 00 07.9**	**-1.2**
KUU	5.0nm,0.3s			Lg	Lg	13 00 59.3	
AAK	**Ala-Archa**	**4.09**	**297**	Pg	**Pg**	**13 00 11.8**	**-3.4**
AAK	9.6nm,0.8s			Lg	Lg	13 01 05.4	
TDK	**Taldyqorghan**	**4.17**	**350**	*eP*	**Pg**	**13 00 13.6**	**-3.0**
TDK	26nm,0.4s			*eS*	**Sg**	**13 01 12.4**	**+1.8**
TDK	**Taldyqorghan**	**4.17**	**350**	Pg	**Pg**	**13 00 15.1**	**-1.6**
TDK	48nm,0.6s			Lg	Lg	13 01 11.9	
KAPS	**Kapalarasan**	**4.38**	**359**	*eP*	**Pg**	**13 00 17.7**	**-3.0**
KAPS	6.1nm,0.6s			*eS*	**Sg**	**13 01 19.0**	**+1.5**
SGDS	**Sogindy**	**4.39**	**307**	*eP*	**Pb**	**13 00 16.6**	**+2.4**
SGDS	4.0nm,0.7s			*eS*	**Sg**	**13 01 16.4**	**-1.4**
SGDS	**Sogindy**	**4.39**	**307**	Pg	**Pg**	**13 00 17.8**	**-3.2**
SGDS	7.8nm,0.6s			Lg	Lg	13 01 16.4	
MRKS	**Merke**	**5.00**	**294**	*eP*	**Pg**	**13 00 29.9**	**-2.7**
MRKS	4.5nm,0.5s			*eS*	**Sg**	**13 01 40.4**	**+3.1**
BTLS	**Baital**	**5.73**	**318**	*eP*	**Pb**	**13 00 40.8**	**+4.0**
BTLS	1.5nm,0.6s			*eS*	**Sg**	**13 01 58.7**	**-1.9**
BTLS	**Baital**	**5.73**	**318**	Pg	**Pg**	**13 00 42.6**	**-3.9**
BTLS	1.9nm,0.6s			Lg	Lg	13 01 58.7	
MAKZ	**Makanchi**	**6.18**	**16**	⇑Pn	**Pn**	**13 00 29.6**	**+1.5**
MAKZ	0.7nm,0.4s			⇑Sn	**Sn**	**13 01 40.8**	**+1.9**
MAKZ	2.0nm,0.8s			⇑Lg	Lg	13 02 10.8	
MK31	**Makanchi Array**	**6.24**	**18**	Pn	**Pn**	**13 00 29.6**	**+0.6**
MK31	0.3nm,0.3s,baz=195,slow=12,SNR=26			⇓Sn	**Sn**	**13 01 43.5**	**+3.2**
MK31	1.7nm,0.5s,baz=192,slow=23,SNR=9.8			⇓Lg	Lg	13 02 10.7	
OTUK	**Ortayu**	**8.92**	**328**	⇑Lg	Lg	13 03 40.0	
KURBB	**Kurchatov Arra**	**9.74**	**357**	⇑Lg	Lg	13 04 07.8	
KURK	**Kurchatov**	**9.83**	**357**	⇓Lg	Lg	13 04 08.5	

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*BJI **14** 13:05:41.0±0.0, 9.14S×158.66E, h10km, mb4.6/37,*
mB5.0/17, Ms5.3/9, Ms7 4.9/8
*IDC **14** 13:05:43.2±0.5, 9.09S×158.07E, h0km, mb4.4/18,*
mb1 4.5/22, mb1mx4.3/51, mbtmp4.4/22, ML3.5/3, MS4.2/2,
Ms1 4.2/2, ms1mx3.5/52, Error ellipse: s-maj=17.1km
s-min=13.6km az=166.0
*NEIC **14** 13:05:44.0±2.7, 9.1S±0.1×158.21E±0.05, h11km±5km,*
mb4.7/18, Error ellipse: s-maj=15.2km s-min=6.9km
az=188.0
ISC 14 13:05:46.9±0.4, 9.27S±0.07×158.15E±0.05, h27km, n81,
σ1§41/85, mb4.6/38, MS4.9/3, 2C-1D,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.78**	**95**	Pn	**Pn**	**13 06 15.9**	**0.0**
HNR	42nm,0.3s,baz=194,slow=10,SNR=6.4			Sn	**Sb**	**13 06 42.5**	**+1.8**
HNR	**Honiara**	**1.78**	**95**	Pn	**Pn**	**13 06 14.4**	**-1.5**
SANVU	**Saraoutou**	**10.76**	**126**	Pn	**Pn**	**13 08 18.1**	**-1.2**
PMG	**Port Moresby**	**10.85**	**268**	Pn	**Pn**	**13 08 20.3**	**-0.2**
PMG	baz=169,slow=5.2,SNR=1.2			LR	LR	13 12 15.3	
DZM	**Mont Dzumac**	**15.01**	**149**	Pn	**P**	**13 09 20.1**	**-2.6**
DZM	comp=Z,272nm,18.2s,baz=20,slow=33			LR	LR	13 14 06.0	
DZM	**Mont Dzumac**	**15.01**	**149**		**P**	**13 09 21.3**	**-1.4**
DZM	comp=Z,31nm,1.1s			IAmb	IAmb	13 09 47.6	
ONTNC	**Ouen Toro**	**15.22**	**149**		**P**	**13 09 22.8**	**-1.9**
ONTNC	comp=Z,55nm,1.1s			IAmb	IAmb	13 09 29.9	
COEN	**Coen**	**15.39**	**251**	P	**P**	**13 09 25.1**	**-1.7**
COEN	comp=Z,49nm,1.2s			IAmb	IAmb	13 09 37.3	
CTA	**Charters Tower**	**15.74**	**226**	Pn	**Pn**	**13 09 26.9**	**0.0**
CTA	comp=Z,0.1nm,0.3s,baz=48,slow=15,SNR=2.3			LR	LR	13 15 10.1	
PATS	**Pohnpei**	**16.00**	**1**	Pn	**Pn**	**13 09 27.6**	**-2.7**
EIDS	**Eidsvold**	**17.36**	**202**		**Pn**	**13 09 47.6**	**+0.2**
JAY	**Jayapura**	**18.60**	**290**	P	**P**	**13 10 02.6**	**+0.3**
JAY	**Jayapura**	**18.60**	**290**	P	**P**	**13 10 01.6**	**-0.7**
GENI	**Genyem**	**19.07**	**289**	P	**Pn**	**13 10 11.7**	**+3.3**
MSVF	**Nonsavu**	**21.08**	**116**	P	**P**	**13 10 31.6**	**+2.2**
WR0	**Warramunga Arr**	**25.16**	**242**	P	**P**	**13 11 11.7**	**+1.5**
WR0	comp=Z,14nm,0.9s			IAmb	IAmb	13 11 31.9	
WB0	**Warramunga Arr**	**25.22**	**243**	P	**P**	**13 11 10.6**	**-0.1**
WB2	**Warramunga Arr**	**25.32**	**243**	P	**P**	**13 11 12.2**	**+0.6**
WB2	comp=Z,20nm,1.1s			IAmb	IAmb	13 11 21.3	
WRA	**Warramunga Arr**	**25.33**	**243**	P	**P**	**13 11 11.8**	**+0.1**
WRA	comp=Z,10nm,0.8s,baz=67,slow=9.2,SNR=35			PcP	**PcP**	**13 14 45.9**	**+1.6**
WRA	**Warramunga Arr**	**25.33**	**243**	P	**P**	**13 11 12.7**	**+1.0**
SAUI	**Saumlaki**	**26.58**	**271**	P	**P**	**13 11 23.9**	**+0.8**
MTN	**Manton Dam**	**26.75**	**260**	P	**P**	**13 11 23.0**	**-1.6**
MTN	comp=Z,13nm,0.9s			IAmb	IAmb	13 11 29.3	
AS31	**Alice Springs**	**27.24**	**235**	P	**P**	**13 11 28.4**	**-0.6**
ASAR	**Alice Springs**	**27.24**	**235**	P	**P**	**13 11 29.1**	**+0.1**
ASAR	comp=Z,4.0nm,0.9s,baz=65,slow=9.3,SNR=25			PcP	**PcP**	**13 14 50.1**	**+1.4**
ASAR	**Alice Springs**	**27.24**	**235**	P	**P**	**13 11 27.9**	**-1.1**
STKA	**Stephens Creek**	**27.24**	**212**	P	**P**	**13 11 30.6**	**+1.7**
KNRA	**Kununurra**	**29.37**	**255**	P	**P**	**13 11 49.0**	**+1.0**
KNRA	comp=Z,18nm,1.1s			IAmb	IAmb	13 11 49.9	
BBOO	**Buckleboo**	**31.07**	**218**	P	**P**	**13 12 03.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**32.74**	**251**	P	**P**	**13 12 16.4**	**-1.2**
LEM	**Lembang**	**50.06**	**269**	P	**P**	**13 14 40.5**	**+0.4**
TPI	**Tanjungpandan**	**50.59**	**274**	P	**P**	**13 14 39.7**	**-4.2**
MDSI	**Maura Dua**	**53.75**	**271**	P	**P**	**13 15 05.7**	**-1.7**
KSRS	**Korea Array**	**54.42**	**330**	P	**P**	**13 15 11.4**	**-0.3**
NJ2	**Nanjing**	**55.66**	**319**	*eP*	**P**	**13 15 22.0**	**+1.2**
NJ2	comp=Z,11nm,0.5s			pmax	pmax		
USRK	**Ussuriysk Ar.**	**58.26**	**338**	P	**P**	**13 15 38.5**	**-0.6**
BNX	**BinXian**	**61.32**	**336**	⇑P	**P**	**13 15 59.8**	**-0.3**
BNX	comp=Z,10.0nm,0.7s			pmax	pmax		
BNX	comp=Z,140nm,4.9s			pmax	pmax		
PETK	**Petropavlovsk-**	**62.14**	**360**	P	**P**	**13 16 06.7**	**+1.3**
KMI	**Kunming**	**63.87**	**304**	⇑P	**P**	**13 16 18.3**	**+0.5**
KMI	comp=Z,9.0nm,1.3s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**64.58**	**295**	P	**P**	**13 16 21.9**	**-0.4**
XLT	**XiLinHaoTe**	**65.22**	**328**	*eP*	**P**	**13 16 25.8**	**-0.3**
XLT				pP	sP	13 16 37.3	+0.6
XLT				S	**S**	**13 25 09.8**	**+1.9**
XLT	comp=Z,5.0nm,1.1s			pmax	pmax		
XLT	comp=Z,290nm,5.1s			pmax	pmax		
XLT	comp=Z,410nm,18.9s			LR	LR		
XLT	comp=Z,530nm,15.2s			LR	LR		
XLT	comp=Z,520nm,18.5s			LR	LR		
CD2	**Chengdu**	**65.66**	**310**	P	**P**	**13 16 29.4**	**+0.2**
HHC	**Hu-ho-hao-te**	**65.78**	**323**	*eP*	**P**	**13 16 31.4**	**+1.6**
HHC	comp=Z,9.0nm,1.1s			pmax	pmax		
HHC	comp=Z,130nm,5.6s			pmax	pmax		
LZH	**Lanzhou**	**68.12**	**315**	*eP*	**P**	**13 16 48.8**	**+3.9**
LZH				pP	pP	13 16 53.3	+0.7
LZH	comp=Z,15nm,1.1s			pmax	pmax		
GTA	**Gaotai**	**72.53**	**316**	*eP*	**P**	**13 17 12.6**	**+0.8**
GTA				pP	pP	13 17 20.6	+1.1
GTA				sP	pwP	13 17 24.8	+2.0
GTA	comp=Z,2.0nm,0.9s			pmax	pmax		
SONM	**Songino Array**	**72.94**	**326**	P	**P**	**13 17 13.6**	**-0.4**
SONM	**Songino Array**	**72.94**	**326**	P	**P**	**13 17 13.1**	**-1.0**
L19K	**White Mountain**	**79.95**	**20**	P	**P**	**13 17 53.0**	**-0.3**
QSPA	**South Pole Qui**	**80.72**	**180**	P	**P**	**13 17 59.2**	**+1.6**
QSPA	comp=Z,16nm,1.4s			IAmb	IAmb	13 18 00.8	
J20K	**Nowinta River**	**81.54**	**19**	P	**P**	**13 18 00.2**	**-1.5**
J20K	comp=Z,13nm,1.2s			IAmb	IAmb	13 18 03.1	
WMQ	**Urumqi**	**82.61**	**317**	*eP*	**P**	**13 18 08.9**	**+1.0**
WMQ				pP	sP	13 18 17.3	-1.4
WMQ	comp=Z,19nm,1.3s			pmax	pmax		
WMQ	comp=Z,420nm,13.9s			LR	LR		
WMQ	comp=Z,450nm,17.3s			LR	LR		
WMQ	comp=Z,300nm,17.9s			LR	LR		
TIXI	**Tiksi**	**83.06**	**351**	P	**P**	**13 18 08.9**	**-0.6**
ILAR	**Eielson Array**	**84.36**	**21**	P	**P**	**13 18 14.8**	**-1.6**
ILAR	**Eielson Array**	**84.36**	**21**	P	**P**	**13 18 13.9**	**-2.4**
ZSN	**Zaisan**	**85.69**	**319**	*eP*	**P**	**13 18 22.6**	**-0.8**
MK31	**Makanchi Array**	**87.17**	**318**	P	**P**	**13 18 29.4**	**-1.3**
MK31	comp=Z,4.9nm,1.0s			IAmb	IAmb	13 18 34.0	
MKAR	**Makanchi Array**	**87.17**	**318**	P	**P**	**13 18 29.9**	**-0.8**
MKAR	**Makanchi Array**	**87.17**	**318**	P	**P**	**13 18 29.1**	**-1.6**

ZALV	**Zalesovo Beam**	87.81	325	P	P	13 18 31.9	-1.7
	comp=Z,1.9nm,0.7s,baz=123,slow=5.5,SNR=8.6						
SHLS	**Shalkode**	88.13	314	*e*P	P	13 18 33.2	-2.4
	baz=314						
UZB	**Uzynbulak**	88.44	314	*e*P	P	13 18 36.2	-0.8
	baz=314						
SATY	**Saty**	88.86	314	*e*P	P	13 18 38.1	-0.9
	baz=314						
ZHN	**Zhinishke**	88.86	314	*i* P	P	13 18 37.8	-1.3
	baz=314						
TDK	**Taldyqorghan**	89.32	316	*e*P	P	13 18 40.1	-0.8
	comp=Z,3.7nm,0.5s,baz=316						
MDOK	**Medeo**	89.85	314	*e*P	P	13 18 42.8	-0.9
	baz=314						
KSH	**Kashi**	89.86	310	P	P	13 18 45.8	+2.0
KSH				sP	pwP	13 18 58.4	+3.6
KSH				pmax	pmax		
	comp=Z,8.0nm,2.0s						
KSH				LR	LR		
	comp=Z,3μm,20.6s						
KSH				LR	LR		
	comp=Z,2μm,19.6s						
KSH				LR	LR		
	comp=Z,3μm,17.2s						
CHKK	**Chushkaly**	90.05	314	*e*P	P	13 18 44.1	-0.3
	baz=314						
KUU	**Kurty**	90.51	314	*e*P	P	13 18 44.7	-1.8
	comp=Z,5.6nm,0.9s,baz=314						
KST	**Kastek**	90.60	313	*e*P	P	13 18 46.4	-0.8
	comp=Z,2.5nm,0.9s,baz=313						
NVAR	**Mina Array Bea**	90.68	51	P	P	13 18 49.0	+1.2
	comp=Z,3.8nm,1.0s,baz=245,slow=7.0,SNR=19						
SYO	**Syowa Base**	91.19	198	⇓*e*P	P	13 18 50.4	+1.2
SGDS	**Sogindy**	91.64	314	*e*P	P	13 18 50.5	-1.3
	baz=314						
BTLS	**Baital**	92.35	315	*e*P	P	13 18 53.8	-1.3
	baz=315						
YKA	**Yellowknife Ar**	96.88	28	P	P	13 19 15.0	-0.4
	comp=Z,1.3nm,1.0s,baz=258,slow=4.6,SNR=8.9						
PDAR	**Pinedale Array**	97.89	48	P	Pdif	13 19 20.6	-0.2
	comp=Z,0.5nm,0.8s,baz=242,slow=1.9,SNR=4.8						
AKASG	**Malin Array Be**	121.19	325	PKP	PKPdf	13 24 37.0	-0.3
	comp=Z,0.7nm,0.6s,baz=62,slow=2.1,SNR=5.1						
LPAZ	**La Paz**	127.63	119	PKP	PKiKP	13 24 53.6	+1.6
	comp=Z,1.3nm,0.8s,baz=21,slow=8.6,SNR=5.4						
BRG	**Berggiesshubel**	129.13	331	*e*PKP	PKiKP	13 24 53.7	+0.4
BRG				Amp		13 24 55.5	
	comp=Z,15nm,1.7s						
GERES	**GERESS Array B**	130.59	330	PKP	PKPdf	13 24 55.5	0.0
	comp=Z,0.2nm,0.3s,baz=336,slow=2.2,SNR=2.6						
BDFB	**Brasilia**	144.16	133	PKP	PKPdf	13 25 21.5	0.0
	comp=Z,6.2nm,0.9s,baz=250,slow=4.0,SNR=5.9						
ESDC	**Sonseca Array**	145.77	335	PKPbc	PKPdf	13 25 23.4	-0.1
	comp=Z,2.3nm,1.0s,baz=6.1,slow=2.9,SNR=7.9						
TORD	**Torodi Ar. Bea**	156.59	282	PKP	PKPdf	13 25 40.3	-0.3
	comp=Z,0.3nm,0.4s,baz=355,slow=3.0,SNR=2.4						
TORD				PKPab	PKPab	13 26 10.2	+0.6
	comp=Z,1.6nm,1.1s,baz=57,slow=4.0,SNR=4.5						

BJI ***14*** *13:14:43.5±0.0, 9°.31N×126°.41E, h33km, mb5.2/85, mB5.2/58, Ms5.1/90, Ms7 5.0/87*

DSN ***14*** *13:14:44.2±1.3, 9°.79N×126°.44E, h8km, mb5.9/19, Error ellipse: s-maj=33.9km s-min=19.1km az=96.0*

MOS ***14*** *13:14:46.2±1.0, 9°.56N×126°.12E, h35km, mb5.8/60, MS5.0/23, Error ellipse: s-maj=8.4km s-min=3.9km az=116.6*

MAN ***14*** *13:14:47.4, 9°.55N×126°.37E, h8km, mb5.9, ML5.0, MS5.5*

MAN INTENSITY IV - CARRASCAL, SURIGAO DEL SUR; GENERAL LUNA, SURIGAO DEL NORTE; INTENSITY III - BUTUAN CITY; TANDAG CITY; HINUNANGAN, SOUTHERN LEYTE; INTENSITY II - BISLIG CITY; GINGOOG CITY; PALO, LEYTE; INTENSITY I - CAGAYAN DE ORO CITY.

NEIC ***14*** *13:14:49.1±2.6, 9°.69N±0°.07×126°.31E±0°.09, h35km±1km, mb5.6/149, Ms_20 5.0/68, Mwb5.5/23, Mww5.6, Error ellipse: s-maj=14.4km s-min=11.1km az=96.0*

NEIC ***14*** *13:14:49.3, 9°.69N×126°.36E, h32km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.40; Mθθ0.68; Mφφ-2.07; Mrθ0.39; Mθφ0.17; Mφr0.50; Fault plane solution: M0 1.95000×10^17^ NP1:φs152.76000°, δ42.53000°, λ53.97000°. NP2:φs17.39000°, δ56.86000°, λ118.35000°. Principal axes: T 1.6442, Plg65.0000°, Azm341.0000°; N 0.5051, Plg23.0000°, Azm181.0000°; P -2.1492, Plg8.0000°, Azm88.0000°;*

IDC ***14*** *13:14:50.7±1.2, 9°.59N×126°.25E, h57km±10km, mb5.1/55, mb1 5.1/61, mb1mx4.9/72, mbtmp5.4/61, MS4.8/69, Ms1 4.8/69, ms1mx4.8/75 Error ellipse: s-maj=10.2km s-min=6.8km az=76.0*

GCMT ***14*** *13:14:51.2±0.1, 9°.62N±0°.01×126°.54E±0°.01, h32km, MW5.5/132, Moment Tensor Solution. s114,c187; s132,c247; Duration: 1s4 Moment tensor: Scale 10^17^ Nm; Mrr2.24±.04; Mθθ0.13±.03; Mφφ-2.36±.03; Mrθ0.17±.05; Mθφ0.09±.02; Mφr1.20±.05; Best double couple: M0 2.60200×10^17^ NP1:φs173.00000°, δ32.00000°, λ81.00000°. NP2:φs3.00000°, δ59.00000°, λ95.00000°. Principal axes: T 2.5480, Plg76.0000°, Azm288.0000°; N 0.1130, Plg5.0000°, Azm180.0000°; P -2.6550, Plg14.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***14*** *13:14:51.0±0.3, 10°N±2°×12°7E±°, h75km±3km, M5.3/114, mB5.7/96, mb5.4/114, MLv6.2/4, Mw(mB)5.2/96, MwMwp5.2/42, Mwp5.4/42*

NEIC ***14*** *13:14:52, 9°.61N×126°.47E, h36km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10^17^Nm; Mrr1.69; Mθθ-0.17; Mφφ-1.52; Mrθ-0.19; Mθφ-0.02; Mφr2.55; Fault plane solution: M0 3.02000×10^17^ NP1: φs184.00000°, δ16.00000°, λ97.00000°. NP2: φs357.00000°, δ74.00000°, λ88.00000°. Principal axes: T 3.1054, Plg61.0000°, Azm264.0000°; N -0.1785, Plg2.0000°, Azm357.0000°; P -2.9269, Plg29.0000°, Azm88.0000°;*

KLM ***14*** *13:14:54, 9°.55N×126°.42E, h89km, mb5.6*

ISC 14 13:14:48.6±0.3, 9°.60N±0°.02×126°.35E±0°.03, h41km±2km, h41km:pP-P, n1075, σ1s81/1137, mb5.5/253, MS5.0/152, 86C-33D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.87**	**282**	⇑*i*P		**Pn**	**13 15 04.5**	**+0.1**
SCPH				*i* S		**Sn**	**13 15 16.2**	**+0.3**
BUTP	**Butuan**	**0.95**	**229**	⇑*i*P		**Pn**	**13 15 05.3**	**-0.2**
BUTP				*e*S		**Sn**	**13 15 20.0**	**+2.1**
BIPH	**Bislig**	**1.40**	**180**	⇓*i*P		**Pn**	**13 15 15.2**	**+3.6**
BIPH				*i* S		**Sn**	**13 15 33.1**	**+4.2**
MSLP	**Maasin**	**1.56**	**290**	⇑*e*P		**Pn**	**13 15 15.9**	**+2.1**
MSLP				*i* S		**Sn**	**13 15 37.5**	**+4.6**
BUKP	**Musuan**	**2.13**	**217**	⇓*e*P		**Pn**	**13 15 23.9**	**+2.2**
BUKP				*i* S		**Sn**	**13 15 53.0**	**+6.1**
OCLP	**Ormoc**	**2.24**	**310**	⇓*e*P		**Pn**	**13 15 26.2**	**+3.0**
OCLP				*e*S		**Sn**	**13 15 58.4**	**+8.7**
TBP	**Tagbilaran**	**2.45**	**272**	⇓*e*P		**Pn**	**13 15 28.0**	**+1.8**
TBP				*i* S		**Sn**	**13 15 58.8**	**+3.8**
LLP	**Lapu-Lapu**	**2.46**	**287**	⇑*i*P		**Pn**	**13 15 29.2**	**+3.0**
LLP				*e*S		**Sn**	**13 16 00.6**	**+5.6**
DAV	**Davao City (W)**	**2.62**	**197**	P		**Pn**	**13 15 31.6**	**+3.2**
	367nm,0.3s,baz=359,slow=3.7,SNR=20							
DAV				S		**Sn**	**13 16 03.2**	**+4.1**
	529nm,0.3s,baz=136,slow=18,SNR=8.3							
DAV				LR		LR	13 16 04.5	
	comp=Z,7μm,21.1s,baz=358,slow=29							
DAV	**Davao City (W)**	**2.62**	**197**	P		**Pn**	**13 15 33.1**	**+4.6**
DAV	**Davao City (W)**	**2.62**	**197**			**Pn**	**13 15 31.7**	**+3.2**
DAV				Sn		**Sn**	**13 16 02.0**	**+2.9**
DAV	**Davao City (W)**	**2.62**	**197**	P		**Pn**	**13 15 31.7**	**+3.2**
MATI	**Mati**	**2.63**	**182**	⇑*i*P		**Pn**	**13 15 30.2**	**+1.5**
MATI				*e*S		**Sn**	**13 16 01.9**	**+2.6**
KCP	**Kidapawan**	**2.86**	**206**	⇓*i*P		**Pn**	**13 15 33.9**	**+2.2**
KCP				*i* S		**Sn**	**13 16 08.2**	**+3.2**
SNPH	**Sibulan**	**3.08**	**266**	⇓*e*P		**Pn**	**13 15 37.2**	**+2.4**
SNPH				*e*S		Sn	13 16 26.6	+16
DCPH	**Dipolog City**	**3.13**	**251**	⇓*e*P		**Pn**	**13 15 38.4**	**+3.1**
DCPH				*e*S		**Sn**	**13 16 04.0**	**-7.5**
CTBH	**Cotabato--PC H**	**3.15**	**222**	⇑*i*P		**Pn**	**13 15 38.0**	**+2.3**
CTBH				*i* S		**Sn**	**13 16 16.6**	**+4.7**
PAGZ	**Pagadian**	**3.41**	**240**	⇓*e*P		**Pn**	**13 15 41.6**	**+2.3**
PAGZ	**Pagadian**	**3.41**	**240**	⇑*e*P		**Pn**	**13 15 42.9**	**+3.7**
DDMP	**Don Marcelino,**	**3.53**	**190**	⇑*i*P		**Pn**	**13 15 42.2**	**+1.3**
DDMP				*e*S		**Sn**	**13 16 23.6**	**+2.2**
CNOP	**Candoni, Negro**	**3.67**	**274**	⇓*e*P		**Pn**	**13 15 45.8**	**+3.0**
GSPH	**General Santos**	**3.75**	**202**	⇑*e*P		**Pn**	**13 15 46.5**	**+2.4**
GSPH				*i* S		**Sn**	**13 16 32.2**	**+5.1**
MMPH	**Masbate**	**3.83**	**316**	⇑*i*P		**Pn**	**13 15 47.9**	**+2.8**
MMPH				*i* S		**Sn**	**13 16 31.0**	**+2.1**
RCP	**Roxas**	**4.05**	**299**	⇓*e*P		**Pn**	**13 15 51.7**	**+3.7**
ZCP	**Zamboanga City**	**4.99**	**238**	⇑*e*P		**Pn**	**13 16 04.9**	**+3.9**
CUYO	**Cuyo Island**	**5.39**	**284**	⇓*e*P		**Pn**	**13 16 09.9**	**+3.3**
GQP	**Guinayangan**	**5.74**	**319**	⇑*e*P		**Pn**	**13 16 15.0**	**+3.7**
GQP				*e*S		**Sn**	**13 17 14.1**	**-1.8**
BOAC	**Boac**	**5.85**	**311**	⇓*e*P		**Pn**	**13 16 15.6**	**+2.8**
SJMP	**San Jose**	**5.87**	**299**	⇑*i*P		**Pn**	**13 16 17.6**	**+4.5**
JCNP	**Jose Panganiba**	**5.88**	**323**	⇑*e*P		**Pn**	**13 16 14.5**	**+1.3**
JCNP				*i* S		**Sn**	**13 17 22.7**	**+3.4**
SGSI	**Sangihe**	**5.93**	**188**	P		**Pn**	**13 16 18.1**	**+4.2**
	12nm37μm1μm,0.6s							
LQP	**Lukban**	**6.50**	**314**	⇑*e*P		**Pn**	**13 16 24.9**	**+2.9**
PGP	**Puerto Galera**	**6.56**	**307**	⇑*e*P		**Pn**	**13 16 27.2**	**+4.6**
TGY	**Tagaytay City**	**6.94**	**311**	P		Pn	13 16 32.8	+4.9
	56nm,0.3s,baz=117,slow=3.1,SNR=18							
TGY	**Tagaytay City**	**6.94**	**311**	⇓*e*P		Pn	13 16 34.2	+6.4
ENPP	**El Nido**	**7.00**	**284**	⇑*i*P		**Pn**	**13 16 31.4**	**+2.8**
MACP	**Maragondon, Ca**	**7.20**	**311**	⇑*i*P		Pn	13 16 36.5	+5.1
LUBP	**Lubang**	**7.25**	**305**	⇑*i*P		**Pn**	**13 16 36.4**	**+4.3**
LUBP	**Lubang**	**7.25**	**305**	⇑*e*P		Pn	13 16 37.3	+5.1
PPR	**Puerto Princes**	**7.51**	**272**	⇑*i*P		**Pn**	**13 16 38.7**	**+3.0**
PCPH	**Panayan**	**7.84**	**320**	⇑*e*P		**Pn**	**13 16 43.5**	**+3.4**
I39PW	**PALAU INFRASON**	**8.36**	**104**	*i*			14 05 50.0	
	baz=284,slow=313,SNR=1.9							
BATP	**Bataraza**	**8.48**	**265**	⇑*i*P		**Pn**	**13 16 53.5**	**+4.6**
SMPP	**San Manuel, Pa**	**8.54**	**320**	⇓*e*P		**Pn**	**13 16 50.6**	**+0.8**
SCZP	**Santa Cruz**	**8.78**	**315**	⇑*i*P		Pn	13 16 58.8	+5.7
TNTI	**Ternate**	**8.82**	**173**	P		**Pn**	**13 16 58.0**	**+4.3**
	2μm4μm339nm,1.0s							
TNTI	**Ternate**	**8.82**	**173**	Pn		**Pn**	**13 16 57.2**	**+3.5**
MYLDM	**Lahad Datu**	**8.93**	**241**	Pn		**Pn**	**13 16 59.5**	**+4.3**
SAMP	**Sagada Mountai**	**9.13**	**325**	⇑*i*P		**Pn**	**13 16 58.6**	**+0.7**
BOLP	**Bolinao**	**9.21**	**318**	⇑*i*P		Pn	13 17 05.8	+6.9
KMSI	**Cibinong**	**9.27**	**195**	P		**Pn**	**13 17 02.6**	**+2.9**
	5μm391nm,0.8s							
GTOI	**Gorontalo**	**9.50**	**201**	P		**Pn**	**13 17 03.5**	**+0.6**
	1μm189nm,1.1s							
MRSI	**Marisa**	**10.06**	**206**	P		**Pn**	**13 17 11.1**	**+0.4**
	8μm3μm275nm,1.3s							
TOLI2	**Tolitoli**	**10.09**	**214**	Pn		**Pn**	**13 17 12.7**	**+1.7**
LBMI	**Labuha**	**10.23**	**174**	P		**Pn**	**13 17 15.5**	**+2.5**
	2μm3μm203nm,1.8s							
KKM	**Kota Kinabalu**	**10.64**	**251**	Pn		**Pn**	**13 17 21.8**	**+3.2**
SPMM	**Sapulut**	**10.94**	**244**	P		Pn	13 17 28.0	+5.3
LUWI	**Luwuk**	**11.15**	**199**	P		Pn	13 17 30.6	+5.0
	5μm7μm442nm,0.8s							
LUWI	**Luwuk**	**11.15**	**199**			**Pn**	**13 17 28.3**	**+2.7**
MPSI	**Mapaga**	**11.22**	**215**	P		Pn	13 17 31.8	+5.4
	7μm707nm32nm,1.0s							
APSI	**Ampana**	**11.44**	**204**	P		Pn	13 17 36.2	+6.7
	4μm2μm244nm,0.9s							
SWI	**Sorong**	**11.48**	**155**	P		**Pn**	**13 17 31.9**	**+1.8**
	8μm2μm173nm,1.0s							
SIJI	**Sorong**	**11.49**	**155**	P		**Pn**	**13 17 31.0**	**+0.8**
	18nm,0.3s,baz=200,slow=21,SNR=23							
SIJI				S		**Sn**	**13 19 29.6**	**-7.8**
	1.9nm,0.3s,baz=195,slow=20,SNR=1.3							
SANI	**Sanana**	**11.57**	**182**	P		**Pn**	**13 17 30.8**	**-0.5**
	4μm2μm147nm,0.5s							
MSAI	**Masohi**	**13.11**	**169**	P		**Pn**	**13 17 55.2**	**+2.9**
	1μm28nm,0.8s							
AAI	**Ambon**	**13.32**	**172**	P		**Pn**	**13 17 58.9**	**+3.7**
	2μm99nm,0.9s							
FAKI	**Fak Fak**	**13.75**	**154**	P		**Pn**	**13 18 02.7**	**+1.6**
	4μm4μm148nm,1.2s							
FAKI	**Fak Fak**	**13.75**	**154**	Pn		**Pn**	**13 18 01.3**	**+0.2**
TWG	**Pinlang**	**14.09**	**340**	P		**P**	**13 18 09.5**	**-3.0**
TTSI	**Tana Toraja**	**14.14**	**208**	P		**P**	**13 18 09.9**	**-3.3**
	5μm3μm224nm,1.0s							
BKB	**Balikpapan**	**14.32**	**222**	P		**Pn**	**13 18 11.6**	**+2.8**
	8μm5μm241nm,1.2s							
BKB	**Balikpapan**	**14.32**	**222**			**Pn**	**13 18 11.0**	**+2.3**
YULB	**Yu-li**	**14.55**	**341**	P		**P**	**13 18 15.6**	**-2.0**
TPUB	**Ta-pu**	**14.69**	**339**			**P**	**13 18 17.2**	**-2.0**
SPSI	**Sidrap Palu**	**14.98**	**206**	P		**P**	**13 18 20.4**	**-2.1**
	5μm4μm189nm,1.0s							
SSLB	**Suanglung**	**15.03**	**341**			**P**	**13 18 21.5**	**-1.5**
SRPI	**Serui, Papua**	**15.06**	**139**	P		**Pn**	**13 18 18.7**	**0.0**
YOJ	**Yonaguni jima**	**15.12**	**348**	P		**P**	**13 18 22.8**	**-1.2**
YOJ				pmax		pmax		
	comp=Z,188nm,0.9s							
YOJ	**Yonaguni jima**	**15.12**	**348**	P		**P**	**13 18 22.8**	**-1.2**
YOJ				IAmb		IAmb	13 18 29.4	
	comp=Z,188nm,0.9s							
NACB	**Ninganchiao**	**15.19**	**343**	P		**P**	**13 18 24.4**	**-0.3**
BNSI	**Bone**	**15.23**	**204**	P		**P**	**13 18 25.3**	**0.0**
	comp=Z,6μmcomp=Z,7μmcomp=Z,288nm,1.4s							
MTKI	**Muara Teweh, K**	**15.48**	**228**	P		**P**	**13 18 33.0**	**+4.9**
YHNB	**Yeheng**	**15.72**	**343**	P		**P**	**13 18 30.7**	**0.0**
YHNB				IAmb		IAmb	13 18 44.5	
	comp=Z,600nm,1.7s							
SBUM	**Sibu**	**15.73**	**244**			**P**	**13 18 29.8**	**-1.1**
SBUM	**Sibu**	**15.73**	**244**	P		**P**	**13 18 32.0**	**+1.1**
KAPI	**Kappang**	**15.93**	**205**	P		**Pn**	**13 18 31.2**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=39,slow=4.3,SNR=11							
KAPI				LR		LR	13 25 10.1	
	comp=Z,4μm,20.8s,baz=54,slow=39							
KAPI	**Kappang**	**15.93**	**205**	P		**P**	**13 18 32.0**	**-1.1**
KAPI				pmax		pmax		
	comp=Z,105nm,1.1s							
KAPI	**Kappang**	**15.93**	**205**	P		**P**	**13 18 33.6**	**+0.5**
KAPI	**Kappang**	**15.93**	**205**	Pn		**P**	**13 18 32.0**	**-1.1**
KAPI	**Kappang**	**15.93**	**205**	P		**Pn**	**13 18 30.0**	**0.0**
KAPI				pP		**pP**	**13 18 43.7**	**+0.7**
BKSI	**Bulukumba**	**16.07**	**203**	P		**P**	**13 18 35.4**	**+0.9**
	comp=Z,4μmcomp=Z,2μmcomp=Z,78nm,1.6s							
KBKI	**Kotabaru**	**16.34**	**219**	P		**P**	**13 18 39.6**	**+2.0**
	comp=Z,2μmcomp=Z,148nm,1.1s							
KNMB	**Chin-men Tao**	**16.62**	**334**			**P**	**13 18 40.9**	**+0.3**
BSSI	**Bau Bau, Buton**	**16.69**	**201**	P		**P**	**13 18 44.3**	**+2.8**
	comp=Z,1μmcomp=Z,38nm,1.1s							
QZH	**Quanzhou**	**16.95**	**335**	⇑*i*P		**Pn**	**13 18 41.8**	**-1.0**
QZH				sP		**sP**	**13 18 57.3**	**-2.0**
QZH				S		**Sn**	**13 21 48.4**	**-1.9**
QZH				sS		**S**	**13 21 59.6**	**+0.5**
QZH				SS		**SnSn**	**13 22 08.5**	**+4.2**
QZH				pmax		pmax		
	comp=Z,64nm,1.0s							
QZH				LR		LR		
	comp=Z,4μm,16.6s							
QZH				LR		LR		
	comp=Z,1μm,16.1s							
QZH				LR		LR		
	comp=Z,4μm,16.1s							
JOW	**Kunigami**	**17.24**	**6**	P		**P**	**13 18 49.6**	**+2.1**
	comp=Z,4.9nm,0.3s,baz=244,slow=7.7,SNR=11							
JOW				LR		LR	13 26 45.3	
	comp=Z,3μm,18.5s,baz=142,slow=41							
JOW	**Kunigami**	**17.24**	**6**	P		**P**	**13 18 49.3**	**+1.8**
BBKI	**Banjar Baru**	**17.31**	**222**	P		**P**	**13 18 50.5**	**+2.1**
	comp=Z,4μmcomp=Z,150nm,1.2s							
STKI	**Sintang**	**17.57**	**238**	P		**P**	**13 18 54.4**	**+3.1**
	comp=Z,6μmcomp=Z,94nm,1.0s							
DLV	**T Lat**	**17.70**	**279**	P		**P**	**13 18 53.9**	**+1.0**
KSM	**Kuching**	**17.88**	**244**			**P**	**13 18 57.4**	**+2.8**
KSM	**Kuching**	**17.88**	**244**	P		**P**	**13 18 59.0**	**+4.4**
SAUI	**Saumlaki**	**18.14**	**164**	P		**Pn**	**13 18 57.9**	**+0.3**
	comp=Z,315nm,0.8s							
SAUI	**Saumlaki**	**18.14**	**164**			**Pn**	**13 18 58.4**	**+0.8**
SAUI				IAmb		IAmb	13 19 27.7	
	comp=Z,549nm,1.2s							
GENI	**Genyem**	**18.33**	**131**	P		**Pn**	**13 19 02.7**	**+2.8**
	comp=Z,12μmcomp=Z,7μmcomp=Z,202nm,1.1s							
QIZ	**Qiongzhong**	**18.52**	**302**	P		**Pn**	**13 19 03.6**	**+1.4**
QIZ				S		**Sn**	**13 22 28.0**	**-0.5**
QIZ				pmax		pmax		
	comp=Z,59nm,0.9s							
QIZ				pmax		pmax		
	comp=Z,3μm,9.0s							
QIZ				LR		LR		
	comp=Z,4μm,20.6s							
QIZ				LR		LR		
	comp=Z,3μm,18.4s							
QIZ				LR		LR		
	comp=Z,6μm,19.2s							
GUMO	**Guam**	**18.57**	**76**	LR		LR	13 26 30.8	
	comp=Z,3μm,19.2s,baz=229,slow=38							
MMRI	**Maumere**	**18.57**	**193**	P		**Pn**	**13 19 04.6**	**+1.9**
	comp=Z,3μmcomp=Z,4μmcomp=Z,418nm,0.9s							
MMRI	**Maumere**	**18.57**	**193**	P		**Pn**	**13 19 04.4**	**+1.7**
MMRI				IAmb		IAmb	13 19 16.6	
	comp=Z,233nm,0.7s							
JAY	**Jayapura**	**18.69**	**129**	P		**Pn**	**13 19 05.2**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=296,slow=7.3,SNR=14							
JAY				S		**S**	**13 22 43.6**	**+9.0**
	comp=Z,0.3nm,0.3s,baz=131,slow=19,SNR=1.5							
JAY				LR		LR	13 26 07.9	
	comp=Z,5μm,18.3s,baz=336,slow=36							
JAY	**Jayapura**	**18.69**	**129**	P		**Pn**	**13 19 04.7**	**+0.4**
	comp=Z,3μmcomp=Z,97nm,2.1s							
EDFI	**Ende, Flores**	**18.81**	**194**	P		**Pn**	**13 19 06.3**	**+0.6**
	comp=Z,2μmcomp=Z,1μmcomp=Z,76nm,0.9s							
PBKI	**Pangkalan Bun**	**19.06**	**231**	P		**Pn**	**13 19 12.1**	**+3.4**
	comp=Z,4μmcomp=Z,258nm,1.1s							
SOEI	**Soe**	**19.34**	**186**	P		**Pn**	**13 19 14.9**	**+2.8**
	comp=Z,5μmcomp=Z,5μmcomp=Z,357nm,1.3s							
SOEI	**Soe**	**19.34**	**186**	P		**Pn**	**13 19 13.2**	**+1.1**
SOEI				IAmb		IAmb	13 19 52.0	
	comp=Z,296nm,0.9s							
BATI	**Baumata**	**19.85**	**188**	P		**Pn**	**13 19 17.6**	**-0.6**
	comp=Z,26nm,0.3s,baz=94,slow=0.3,SNR=82							
BATI				S		**Sn**	**13 23 02.4**	**+1.8**
	comp=Z,3.9nm,0.3s,baz=329,slow=13,SNR=6.7							
BATI	**Baumata**	**19.85**	**188**	P		**Pn**	**13 19 18.1**	**0.0**
	comp=Z,2μmcomp=Z,3μmcomp=Z,400nm,0.8s							
WBSI	**Waikabubak, Su**	**20.33**	**200**	P		**P**	**13 19 22.4**	**+0.9**
	comp=Z,2μmcomp=Z,122nm,0.7s							
BASI	**Baing, Sumba**	**20.50**	**196**	P		Pn	13 19 25.8	0.0
	comp=Z,2μmcomp=Z,2μmcomp=Z,138nm,0.8s							
BWJI	**Bawean**	**20.53**	**222**	P		Pn	13 19 25.0	-1.1
KMMI	**Kalianget**	**20.63**	**217**	P		Pn	13 19 27.2	0.0
	comp=Z,4μmcomp=Z,4μmcomp=Z,204nm,0.8s							
SRBI	**Singaraja**	**20.77**	**213**	P		Pn	13 19 27.7	-1.2
	comp=Z,2μmcomp=Z,130nm,0.9s							
ABJI	**Asem Bagus**	**21.07**	**215**	P		**P**	**13 19 33.4**	**+3.9**
	comp=Z,128nm,1.3s							
JAGI	**Jajag, Banyuwa**	**21.67**	**214**	P		**P**	**13 19 40.7**	**+4.8**
	comp=Z,2μmcomp=Z,134nm,1.3s							
JAGI	**Jajag, Banyuwa**	**21.67**	**214**	P		**P**	**13 19 38.4**	**+2.5**
GULI	**GuiLin**	**21.78**	**318**	⇑P		**P**	**13 19 37.4**	**+0.4**
GULI				S		**S**	**13 23 40.9**	**+5.0**
GULI				pmax		pmax		
	comp=Z,50nm,0.8s							
GULI				LR		LR		
	comp=Z,4μm,16.3s							
GULI				LR		LR		
	comp=Z,5μm,16.8s							
GULI				LR		LR		
	comp=Z,9μm,16.8s							
GMJI	**Gumukmas**	**21.92**	**216**	P		**P**	**13 19 42.0**	**+3.5**
	comp=Z,2μmcomp=Z,156nm,1.2s							
SSE	**Sheshan**	**21.93**	**348**	P		**P**	**13 19 39.8**	**+1.3**
SSE				pP		**pP**	**13 19 48.9**	**+0.8**
SSE				S		**S**	**13 23 40.0**	**+1.6**
SSE				pmax		pmax		
	comp=Z,150nm,1.2s							
SSE				pmax		pmax		
	comp=Z,430nm,3.6s							
SSE				LR		LR		
	comp=Z,920nm,19.4s							
SSE	**Sheshan**	**21.93**	**348**	P		**P**	**13 19 39.3**	**+0.8**
SSE				pP		**pP**	**13 19 47.4**	**-0.8**
UWJI	**Ujung Watu**	**22.10**	**225**	P		**P**	**13 19 44.7**	**+4.1**
	comp=Z,5μmcomp=Z,377nm,0.9s							
JSU	**Suzuyama**	**22.13**	**9**	P		**P**	**13 19 40.1**	**-0.7**
JSU				IAmb		IAmb	13 20 06.3	
	comp=Z,334nm,1.8s							
TPI	**Tanjungpandan**	**22.30**	**238**	P		**P**	**13 19 42.8**	**0.0**
	comp=Z,1μmcomp=Z,94nm,0.8s							
CNSH	**ChangSha**	**22.39**	**327**	⇑P		**P**	**13 19 43.0**	**-0.5**
CNSH

CBJI	**Citeko**	**25.11 231**	P	**P**	**13 20 12.6**	**+2.8**
	comp=Z,5μmcomp=Z,5μmcomp=Z,157nm,0.9s					
JMBI	**JAMBI**	**25.22 245**	P	**P**	**13 20 11.1**	**+0.3**
	comp=Z,107nm,1.0s					
KNRA	**Kununurra**	**25.22 175**	P	**P**	**13 20 10.7**	**-0.1**
	baz=25,SNR=58					
KNRA	**Kununurra**	**25.22 175**	P	**P**	**13 20 10.5**	**-0.2**
KNRA			IAmb	IAmb	13 20 15.6	
	comp=Z,181nm,0.7s					
DBJI	**Dramaga**	**25.27 231**	P	**P**	**13 20 13.8**	**+2.5**
	comp=Z,5μmcomp=Z,61nm,1.2s					
CNJI	**Cibinong**	**25.47 229**	P	**P**	**13 20 15.9**	**+2.9**
	comp=Z,3μmcomp=Z,2μmcomp=Z,207nm,1.3s					
SBJI	**Serang**	**25.49 233**	P	**P**	**13 20 15.1**	**+1.9**
	comp=Z,7μmcomp=Z,196nm,1.0s					
IPM	**Ipoh**	**25.63 260**	P	**P**	**13 20 15.9**	**+1.2**
IPM			IAmb	IAmb	13 20 19.5	
	comp=Z,96nm,0.8s					
IPM			IAMs_20	IAMs_20	13 32 06.9	
	comp=Z,3μm,20.0s					
IPM	**Ipoh**	**25.63 260**	P	**P**	**13 20 16.0**	**+1.4**
BLSI	**Bandar Lampung**	**25.75 236**	P	**P**	**13 20 18.1**	**+2.4**
KLI	**Kotabumi**	**25.79 237**	P	**P**	**13 20 18.5**	**+2.5**
KULM	**Kulim**	**25.83 262**	P	**P**	**13 20 17.5**	**+1.1**
KULM			IAMs_20	IAMs_20	13 31 42.1	
	comp=Z,3μm,20.0s					
KULM	**Kulim**	**25.83 262**	P	**P**	**13 20 18.0**	**+1.6**
ENH	**Enshi**	**25.90 325**	P	**P**	**13 20 15.7**	**-1.2**
JHS	**Saijyo**	**26.03 13**	P	**P**	**13 20 19.1**	**+1.1**
CGJI	**Cibinong**	**26.13 233**	P	**P**	**13 20 18.0**	**-1.1**
	comp=Z,2μmcomp=Z,109nm,0.8s					
MDSI	**Maura Dua**	**26.15 239**	P	**P**	**13 20 19.0**	**-0.2**
	comp=Z,910nmcomp=Z,71nm,1.5s					
LHSI	**Lahat**	**26.36 241**	P	**P**	**13 20 22.5**	**+1.3**
	comp=Z,4μmcomp=Z,69nm,0.9s					
KASI	**Kota Agung**	**26.45 236**	P	**P**	**13 20 22.8**	**+0.8**
	comp=Z,2μmcomp=Z,110nm,0.9s					
LWLI	**Liwa**	**26.54 238**	P	**P**	**13 20 24.2**	**+1.3**
	comp=Z,70μmcomp=Z,361nm,0.9s					
TJN	**Taejon**	**26.68 2**	*ce*P	**P**	**13 20 24.7**	**+0.9**
BKNI	**Bangkinang**	**26.82 251**	P	**P**	**13 20 26.8**	**+1.5**
	comp=Z,3μmcomp=Z,252nm,1.3s					
MASI	**Maura Aman, Be**	**27.15 243**	P	**P**	**13 20 29.9**	**+1.6**
	comp=Z,3μmcomp=Z,160nm,0.9s					
KMI	**Kunming**	**27.24 308**	⇑P	**P**	**13 20 31.4**	**+2.1**
KMI			pP	pP	13 20 39.5	-0.9
KMI			sP	sP	13 20 44.3	-1.1
KMI			PP	**PnPn**	**13 21 17.8**	**+3.7**
KMI			S	**S**	**13 25 10.9**	**+4.9**
KMI			SS	**SnSn**	**13 26 26.3**	**+10**
KMI			pmax	pmax		
	comp=Z,29nm,0.7s					
KMI			pmax	pmax		
	comp=Z,250nm,6.8s					
KMI			LR	LR		
	comp=Z,540nm,14.6s					
KMI			LR	LR		
	comp=Z,3μm,24.3s					
KMI			LR	LR		
	comp=Z,4μm,23.1s					
KRJI	**Kerinci**	**27.37 246**	P	**P**	**13 20 31.5**	**+1.1**
	comp=Z,3μmcomp=Z,8μmcomp=Z,365nm,0.7s					
INU	**Inuyama**	**27.42 19**	P	**P**	**13 20 30.0**	**-0.5**
INU			IAMs_20	IAMs_20	13 32 51.5	
	comp=Z,3μm,18.0s					
FITZ	**Fitzroy Crossi**	**27.53 181**	P	**P**	**13 20 31.6**	**0.0**
	comp=Z,166nm,0.8s,baz=11,slow=8.2,SNR=255					
FITZ			LR	LR	13 32 20.7	
	comp=Z,797nm,21.7s,baz=10.0,slow=38					
KSAR	**Wonju Array Be**	**27.76 3**	P	**P**	**13 20 33.1**	**-0.4**
KSAR	**Wonju Array Be**	**27.76 3**	P	**P**	**13 20 33.1**	**-0.4**
KSRS	**Korea Array**	**27.77 3**	P	**P**	**13 20 34.5**	**+0.9**
	comp=Z,13nm,0.7s,baz=180,slow=10,SNR=39					
KSRS			ScP	**ScP**	**13 27 26.6**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=197,slow=3.9,SNR=6.3					
KSRS			LR	LR	13 34 03.5	
	comp=Z,2μm,18.4s,baz=180,slow=42					
TIA	**Tai'an**	**27.79 344**	P	**P**	**13 20 34.0**	**+0.2**
TIA			PP	**PnPn**	**13 21 25.3**	**+4.0**
TIA			PcP	**PcP**	**13 23 50.5**	**+1.0**
TIA			S	**S**	**13 25 13.8**	**-0.1**
TIA			ScP	**ScP**	**13 27 29.0**	**+1.8**
TIA			pmax	pmax		
	comp=Z,67nm,0.8s					
TIA			LR	LR		
	comp=Z,2μm,17.8s					
TIA			LR	LR		
	comp=Z,670nm,12.8s					
TIA			LR	LR		
	comp=Z,2μm,19.2s					
KS19	**Wonju Array Si**	**27.82 3**	P	**P**	**13 20 34.5**	**+0.5**
LYN	**LuoYang**	**27.91 335**	⇑P	**P**	**13 20 34.9**	**+0.1**
LYN			pP	pP	13 20 44.0	-1.3
LYN			PcP	**PcP**	**13 23 49.5**	**-0.3**
LYN			S	**S**	**13 25 13.6**	**-2.2**
LYN			SS	**SnSn**	**13 26 42.5**	**+10**
LYN			pmax	pmax		
	comp=Z,60nm,0.7s					
LYN			pmax	pmax		
	comp=Z,380nm,4.9s					
LYN			LR	LR		
	comp=Z,2μm,16.1s					
LYN			LR	LR		
	comp=Z,2μm,17.8s					
CM31	**Chiang Mai Arr**	**27.98 291**	P	**P**	**13 20 36.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**27.98 291**	P	**P**	**13 20 36.1**	**+0.4**
	comp=Z,17nm,0.7s,baz=105,slow=7.1,SNR=93					
CMAR			PcP	**PcP**	**13 23 50.9**	**+0.6**
	comp=Z,7.8nm,0.9s,baz=77,slow=0.7,SNR=8.5					
CMAR			ScP	**ScP**	**13 27 25.5**	**-2.6**
	comp=Z,2.7nm,0.8s,baz=80,slow=1.9,SNR=7.8					
CMAR			LR	LR	13 33 10.0	
	comp=Z,3μm,18.2s,baz=115,slow=39					
CMAR	**Chiang Mai Arr**	**27.98 291**	P	**P**	**13 20 36.6**	**+0.9**
PMG	**Port Moresby**	**28.03 132**	P	**P**	**13 20 36.0**	**-0.1**
	comp=Z,100nm,0.9s,baz=217,slow=8.4,SNR=13					
PMG	**Port Moresby**	**28.03 132**	P	**P**	**13 20 35.4**	**-0.7**
PMG			IAmb	IAmb	13 20 44.0	
	comp=Z,134nm,1.1s					
PMG	**Port Moresby**	**28.03 132**	P	**P**	**13 20 36.0**	**-0.1**
MNSI	**Mandailing Nat**	**28.03 253**	P	**P**	**13 20 37.7**	**+1.5**
	comp=Z,3μmcomp=Z,221nm,1.0s					
CHTO	**Chiang Mai**	**28.07 292**	P	**P**	**13 20 36.9**	**+0.4**
CHTO			pmax	pmax		
	comp=Z,30nm,1.0s					
CHTO			MLR	MLR		
	comp=Z,3μm,19.0s					
CHTO	**Chiang Mai**	**28.07 292**	P	**P**	**13 20 36.5**	**0.0**
CHTO			P	**P**	**13 20 36.5**	**0.0**
CHTO	**Chiang Mai**	**28.07 292**	P	**P**	**13 20 36.9**	**+0.4**
CHTO	**Chiang Mai**	**28.07 292**	IAMs_20	IAMs_20	13 32 53.3	
	comp=Z,3μm,19.0s					
CHTO	**Chiang Mai**	**28.07 292**	P	**P**	**13 20 36.4**	**-0.1**
PSI	**Prapat**	**28.07 258**	P	**P**	**13 20 38.0**	**+1.3**
	comp=Z,42nm,0.7s,baz=82,slow=6.4					
PSI			PcP	**PcP**	**13 23 50.9**	**+0.1**
	comp=Z,24nm,0.8s,baz=40,slow=2.4,SNR=8.0					
PSI			ScP	**ScP**	**13 27 25.1**	**-3.5**
	comp=Z,4.0nm,0.6s,baz=170,slow=4.3,SNR=4.7					
PSI			LR	LR	13 33 47.6	
	comp=Z,2μm,20.2s,baz=104,slow=41					
PZH	**PanZhiHua**	**28.72 309**	P	**P**	**13 20 44.0**	**+1.6**
PZH			sP	**sP**	**13 20 59.1**	**+0.8**
PZH			PP	**PnPn**	**13 21 35.8**	**+1.6**
PZH			S	**S**	**13 25 34.5**	**+5.4**
PZH			SS	**SnSn**	**13 26 56.5**	**+4.2**
PZH			pmax	pmax		
	comp=Z,20nm,0.6s					
PZH			pmax	pmax		
	comp=Z,170nm,10.0s					
PZH			LR	LR		
	comp=Z,2μm,19.1s					
PZH			LR	LR		
	comp=Z,2μm,19.6s					
PZH			LR	LR		
	comp=Z,3μm,17.5s					
COEN	**Coen**	**28.75 144**	P	**P**	**13 20 42.5**	**0.0**
MAJO	**Matsushiro**	**28.90 20**	*i* P	**P**	**13 20 42.4**	**-1.3**
MAJO			pmax	pmax		
	comp=Z,20nm,0.9s					
MAJO	**Matsushiro**	**28.90 20**	IAMs_20	IAMs_20	13 34 23.3	
	comp=Z,3μm,18.0s					
MAT	**Matsushiro**	**28.90 20**	P	**P**	**13 20 42.9**	**-0.8**
MAT			S	**S**	**13 25 32.6**	**+1.1**
MJAR	**Matsushiro Arr**	**28.90 20**	P	**P**	**13 20 42.8**	**-1.0**
	comp=Z,15nm,0.8s,baz=197,slow=9.0,SNR=21					
MJAR			PcP	**PcP**	**13 23 53.0**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=153,slow=2.6,SNR=3.2					
PPSI	**Pulau Pagai**	**28.97 246**	P	**P**	**13 20 46.5**	**+2.0**
	comp=Z,2μmcomp=Z,120nm,0.9s					
KCSI	**Kotacane, Aceh**	**29.01 260**	P	**P**	**13 20 44.4**	**-0.5**
	comp=Z,1μmcomp=Z,158nm,0.9s					
XAN	**Xi'an**	**29.12 329**	P	**P**	**13 20 44.5**	**-1.2**
XAN			pP	pP	13 20 52.1	-4.7
XAN			S	**S**	**13 25 33.8**	**-1.2**
XAN			pmax	pmax		
	comp=Z,73nm,0.8s					
XAN			pmax	pmax		
	comp=Z,190nm,4.1s					
XAN			LR	LR		
	comp=Z,3μm,16.3s					
XAN			LR	LR		
	comp=Z,940nm,16.7s					
XAN			LR	LR		
	comp=Z,4μm,17.2s					
XAN	**Xi'an**	**29.12 329**	P	**P**	**13 20 43.8**	**-1.9**
SISI	**Saibi**	**29.23 250**	P	**P**	**13 20 47.6**	**+0.7**
	comp=Z,1μmcomp=Z,144nm,0.7s					
LHMI	**Lhok Sumawe**	**29.47 264**	P	**P**	**13 20 51.9**	**+2.9**
	comp=Z,4μmcomp=Z,4μmcomp=Z,438nm,0.9s					
DL2	**Dalian**	**29.49 353**	⇑*i* P	**P**	**13 20 50.3**	**+1.5**
DL2			S	**S**	**13 25 44.8**	**+4.2**
DL2			pmax	pmax		
	comp=Z,120nm,0.8s					
DL2			pmax	pmax		
	comp=Z,380nm,7.9s					
DL2			LR	LR		
	comp=Z,2μm,18.4s					
DL2			LR	LR		
	comp=Z,740nm,19.3s					
DL2			LR	LR		
	comp=Z,2μm,17.6s					
HNS	**HongShan**	**29.61 341**	⇓P	**P**	**13 20 50.3**	**+0.4**
HNS			S	**S**	**13 25 43.8**	**+1.3**
HNS			SS	**SnSn**	**13 27 17.5**	**+3.8**
HNS			pmax	pmax		
	comp=Z,140nm,0.9s					
HNS			LR	LR		
	comp=Z,3μm,16.1s					
HNS			LR	LR		
	comp=Z,940nm,15.3s					
HNS			LR	LR		
	comp=Z,3μm,17.7s					
TPTI		**29.64 260**	P	**P**	**13 20 51.0**	**+0.5**
	comp=Z,187nmcomp=Z,12nm,0.9s					
GSI	**Gunungsitoli**	**29.78 256**	P	**P**	**13 20 51.8**	**+0.1**
	comp=Z,3μmcomp=Z,350nm,0.9s					
GSI	**Gunungsitoli**	**29.78 256**	P	**P**	**13 20 52.7**	**+1.0**
GSI			PcP	**PcP**	**13 23 55.4**	**+0.5**
CD2	**Chengdu**	**29.86 318**	P	**P**	**13 20 53.3**	**+1.0**
CD2			S	**S**	**13 25 50.0**	**+3.3**
CD2			pmax	pmax		
	comp=Z,20nm,0.6s					
CD2			LR	LR		
	comp=Z,450nm,16.2s					
CD2			LR	LR		
	comp=Z,4μm,16.6s					
CD2			LR	LR		
	comp=Z,7μm,18.2s					
WB0	**Warramunga Arr**	**30.23 165**	P	**P**	**13 20 54.3**	**-1.4**
WRAB	**Tennant Creek**	**30.38 165**	P	**P**	**13 20 56.4**	**-0.6**
WRAB			pmax	pmax		
	comp=Z,28nm,0.8s					
WRAB	**Tennant Creek**	**30.38 165**	P	**P**	**13 20 56.4**	**-0.6**
WRAB	**Tennant Creek**	**30.38 165**	P	**P**	**13 20 55.7**	**-1.2**
WRA	**Warramunga Arr**	**30.39 165**	P	**P**	**13 20 55.9**	**-1.1**
	comp=Z,13nm,0.9s,baz=352,slow=9.3,SNR=48					
WRA			PcP	**PcP**	**13 23 56.6**	**+0.2**
	comp=Z,7.6nm,0.7s,baz=338,slow=3.0,SNR=3.0					
WRA			S	**S**	**13 25 48.7**	**-6.3**
	comp=Z,8.5nm,0.8s,baz=346,slow=14,SNR=6.1					
WRA			ScP	**ScP**	**13 27 31.7**	**-3.9**
	comp=Z,3.0nm,0.8s,baz=354,slow=3.2,SNR=2.7					
WRA			LR	LR	13 35 32.5	
	comp=Z,776nm,19.4s,baz=346,slow=41					
WRA	**Warramunga Arr**	**30.39 165**	P	**P**	**13 20 56.7**	**-0.3**
WB2	**Warramunga Arr**	**30.39 165**	P	**P**	**13 20 55.8**	**-1.2**
WR0	**Warramunga Arr**	**30.46 165**	P	**P**	**13 20 56.5**	**-1.1**
TIY	**Taiyuan**	**30.68 338**	P	**P**	**13 20 59.8**	**+0.3**
TIY			S	**S**	**13 25 55.0**	**-4.4**
TIY			SS	**SnSn**	**13 27 50.4**	**+11**
TIY			pmax	pmax		
	comp=Z,39nm,0.8s					
TIY			LR	LR		
	comp=Z,1μm,15.8s					
TIY			LR	LR		
	comp=Z,820nm,16.5s					
TIY			LR	LR		
	comp=Z,1μm,18.6s					
JMM	**Marumori**	**31.01 23**	P	**P**	**13 21 02.8**	**+0.5**
JMM			IAmb	IAmb	13 21 05.2	
	comp=Z,155nm,1.1s					
MBWA	**Marble Bar**	**31.25 192**	P	**P**	**13 21 04.6**	**+0.1**
MBWA	**Marble Bar**	**31.25 192**	P	**P**	**13 21 04.2**	**-0.4**
BJT	**Baijiatuau**	**31.62 345**	P	**P**	**13 21 07.7**	**0.0**
BJT			pmax	pmax		
	comp=Z,87nm,0.9s					
BJT			MLR	MLR		
	comp=Z,1μm,20.0s					
BJT	**Baijiatuau**	**31.62 345**	P	**P**	**13 21 07.7**	**0.0**
BJT			IAmb	IAmb	13 21 09.7	
	comp=Z,86nm,0.9s					
BJT	**Baijiatuau**	**31.62 345**	P	**P**	**13 21 08.4**	**+0.7**
PSA00	**Pilbara Seismi**	**31.62 192**	P	**P**	**13 21 08.1**	**+0.2**
PSA00			IAmb	IAmb	13 21 08.8	
	comp=Z,84nm,0.6s					
PSA00	**Pilbara Seismi**	**31.62 192**	P	**P**	**13 21 07.1**	**-0.8**
PSA00			IAmb	IAmb	13 21 08.8	
	comp=Z,30nm,0.8s					
BJI	**Beijing**	**31.64 345**	P	**P**	**13 21 08.5**	**+0.7**
BJI			S	**S**	**13 26 12.9**	**-1.4**
BJI			pmax	pmax		
	comp=Z,99nm,1.1s					
BJI			pmax	pmax		
	comp=Z,310nm,6.9s					
BJI			LR	LR		
	comp=Z,1μm,18.2s					
BJI			LR	LR		
	comp=Z,610nm,20.4s					
BJI			LR	LR		
	comp=Z,1μm,17.9s					
SNY	**Shenyang**	**32.20 356**	⇑P	**P**	**13 21 13.3**	**+0.6**
SNY			S	**S**	**13 26 22.9**	**0.0**
SNY			pmax	pmax		
	comp=Z,170nm,1.1s					
SNY			pmax	pmax		
	comp=Z,530nm,6.1s					
SNY			LR	LR		
	comp=Z,970nm,18.2s					
SNY			LR	LR		
	comp=Z,880nm,17.8s					
SNY			LR	LR		
	comp=Z,2μm,20.8s					
QIS	**Mount Isa**	**32.68 157**	P	**P**	**13 21 16.4**	**-0.8**
	baz=33,SNR=31					
MTSU	**Mount Surprise**	**32.77 147**	P	**P**	**13 21 18.4**	**+0.4**
	baz=33,SNR=31					
LZH	**Lanzhou**	**33.37 326**	*e*P	**P**	**13 21 23.3**	**0.0**
LZH			pP	pP	13 21 32.0	-2.4
LZH			PcP	**PcP**	**13 24 05.6**	**+1.2**
LZH			S	**S**	**13 26 41.3**	**-0.4**
LZH			sS	sS	13 27 00.3	+1.3
LZH			SS	**SnSn**	**13 28 44.3**	**-1.1**
LZH			pmax	pmax		
	comp=Z,34nm,1.0s					
LZH			pmax	pmax		
	comp=Z,260nm,6.5s					
LZH			LR	LR		
	comp=Z,2μm,14.6s					
LZH			LR	LR		
	comp=Z,4μm,17.3s					
LZH			LR	LR		
	comp=Z,4μm,15.2s					
HHC	**Hu-ho-hao-te**	**33.77 340**	*e*P	**P**	**13 21 27.4**	**+0.8**
HHC			pP	pP	13 21 35.8	-1.5
HHC			S	**S**	**13 26 49.3**	**+1.7**
HHC			sS	sS	13 27 03.4	-1.5
HHC			SS	**SnSn**	**13 28 54.4**	**-0.5**
HHC			pmax	pmax		
	comp=Z,100nm,0.9s					
HHC			pmax	pmax		
	comp=Z,370nm,7.3s					
HHC			LR	LR		
	comp=Z,1μm,19.5s					
HHC			LR	LR		
	comp=Z,1μm,19.6s					
HHC			LR	LR		
	comp=Z,2μm,19.3s					
AS31	**Alice Springs**	**33.87 168**	P	**P**	**13 21 26.8**	**-0.7**
ASAR	**Alice Springs**	**33.87 168**	P	**P**	**13 21 26.6**	**-0.9**
	comp=Z,12nm,0.5s,baz=358,slow=7.1,SNR=120					
ASAR			PcP	**PcP**	**13 24 05.8**	**-0.1**
	comp=Z,10.0nm,0.7s,baz=348,slow=3.2,SNR=5.2					
ASAR			S	**S**	**13 26 43.0**	**-6.4**
	comp=Z,5.7nm,0.7s,baz=355,slow=18,SNR=5.4					
ASAR			ScP	**ScP**	**13 27 44.0**	**-3.5**
	comp=Z,2.7nm,0.8s,baz=351,slow=3.2,SNR=2.8					
ASAR			LR	LR	13 37 48.7	
	comp=Z,1μm,18.0s,baz=344,slow=41					
ASAR	**Alice Springs**	**33.87 168**	P	**P**	**13 21 27.2**	**-0.4**
CN2	**Changchun**	**34.09 359**	*e*P	**P**	**13 21 29.0**	**-0.2**
CN2			*es*P	sP	13 21 42.8	-1.0
CN2			*e*S	**S**	**13 26 51.1**	**-1.1**
CN2			*es*S	sS	13 27 07.1	-2.3
CN2			*e*SS	**SnSn**	**13 28 59.3**	**-2.9**
CN2			pmax	pmax		
	comp=Z,30nm,0.7s					
CN2			pmax	pmax		
	comp=Z,360nm,4.5s					
CN2			LR	LR		
	comp=Z,1μm,17.0s					
CN2			LR	LR		
	comp=Z,840nm,17.0s					
CN2			LR	LR		
	comp=Z,2μm,17.0s					
GIRL	**Giralia**	**34.17 200**	P	**P**	**13 21 31.5**	**+1.4**
	baz=34,SNR=7.9					
GIRL	**Giralia**	**34.17 200**	P	**P**	**13 21 30.4**	**+0.3**
GIRL			IAmb	IAmb	13 21 57.3	
	comp=Z,189nm,1.1s					
WRKA	**Warakurna**	**34.48 177**	P	**P**	**13 21 32.9**	**+0.1**
	baz=35,SNR=158					
USA0B	**Ussuriysk Arra**	**34.82 7**	*c i* P	**P**	**13 21 36.5**	**+1.0**
USA0B	**Ussuriysk Arra**	**34.82 7**	P	**P**	**13 21 37.1**	**+1.6**
USA0B			IAmb	IAmb	13 21 39.0	
	comp=Z,70nm,0.8s					
USRK	**Ussuriysk Ar.**	**34.82 7**	P	**P**	**13 21 36.7**	**+1.2**
	comp=Z,53nm,0.7s,baz=191,slow=7.5,SNR=58					
USRK			LR	LR	13 37 19.8	
	comp=Z,927nm,18.2s,baz=177,slow=39					
USRK	**Ussuriysk Ar.**	**34.82 7**	P	**P**	**13 21 37.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**34.82 7**	P	**P**	**13 21 37.4**	**+1.9**
MDJ	**Mudanjiang**	**35.00 4**	P	**P**	**13 21 38.8**	**+1.7**
MDJ			S	**S**	**13 27 09.6**	**+3.3**
MDJ			SS	**SnSn**	**13 29 30.9**	**+6.5**
MDJ			pmax	pmax		
	comp=Z,130nm,0.7s					
MDJ			pmax	pmax		
	comp=Z,450nm,4.5s					
MDJ			LR	LR		
	comp=Z,1μm,18.9s					
MDJ			LR	LR		
	comp=Z,1μm,14.2s					
MDJ			LR	LR		
	comp=Z,2μm,16.4s					
MDJ	**Mudanjiang**	**35.00 4**	P	**P**	**13 21 37.5**	**+0.4**
MDJ			IAmb	IAmb	13 21 40.2	
	comp=Z,224nm,1.4s					
MDJ	**Mudanjiang**	**35.00 4**	P	**P**	**13 21 38.4**	**+1.3**
XLT	**XiLinHaoTe**	**35.32 347**	*e*P	**P**	**13 21 40.3**	**+0.3**
XLT			pP	pP	13 21 49.8	-1.0
XLT			sP	sP	13 21 53.3	-2.3
XLT			S	**S**	**13 27 11.3**	**-0.1**
XLT			sS	sS	13 27 25.5	-3.2
XLT			pmax	pmax		
	comp=Z,290nm,0.8s					
XLT			pmax	pmax		
	comp=Z,650nm,4.0s					
XLT			LR	LR		
	comp=Z,850nm,19.4s					
XLT			LR	LR		
	comp=Z,1μm,18.1s					
XLT			LR	LR		
	comp=Z,2μm,24.8s					
CTA	**Charters Tower**	**35.41 146**	P	**P**	**13 21 41.5**	**+0.7**
	comp=Z,12nm,0.6s,baz=332,slow=8.2,SNR=21					
CTA			LR	LR	13 38 09.4	
	comp=Z,1μm,19.2s,baz=332,slow=40					
CTAO	**Charters Tower**	**35.41 146**	P	**P**	**13 21 41.6**	**+0.7**
CTAO			pmax	pmax		
	comp=Z,104nm,1.5s					
CTAO			MLR	MLR		
	comp=Z,2μm,18.0s					
CTAO	**Charters Tower**	**35.41 146**	P	**P**	**13 21 41.6**	**+0.7**
CTAO			IAmb	IAmb	13 21 49.8	
	comp=Z,104nm,1.4s					
CTAO	**Charters Tower**	**35.41 146**	P	**P**	**13 21 42.1**	**+1.2**
CTAO			pP	**pP**	**13 21 48.8**	**-2.4**
BNX	**BinXian**	**36.03 1**	⇑P	**P**	**13 21 46.3**	**+0.5**
BNX			S	**S**	**13 27 22.3**	**+0.3**
BNX			pmax	pmax		
	comp=Z,39nm,1.0s					
BNX			pmax	pmax		
	comp=Z,510nm,6.7s					
BNX			LR	LR		
	comp=Z,2μm,17.3s					
BNX			LR	LR		
	comp=Z,1μm,16.5s					
BNX			LR	LR		
	comp=Z,2μm,18.4s					
SHL	**Shillong**	**36.34 300**	P	**P**	**13 21 49.3**	**+0.2**
SHL			pmax	pmax		
	comp=Z,170nm,0.7s					
SHL	**Shillong**	**36.34 300**	*e*P	**P**	**13 21 48.4**	**-0.7**
SHL			IAmb	IAmb	13 21 50.8	
	comp=Z,189nm,1.1s					
SHL			*i* x	x	13 35 01.9	
SHL	**Shillong**	**36.34 300**	P	**P**	**13 21 48.5**	**-0.7**
	SNR=37					
SHL	**Shillong**	**36.34 300**	P	**P**	**13 21 49.3**	**+0.2**
MEEK	**Meekatharra**	**36.79 192**	P	**P**	**13 21 53.0**	**+0.3**
	baz=37,SNR=40					
ASAJ	**Asahikawa**	**37.17 19**	P	**P**	**13 21 57.4**	**+1.8**
	comp=Z,33nm,0.7s,baz=241,slow=9.3,SNR=22					
GTA	**Gaotai**	**37.98 326**	*e*P	**P**	**13 22 01.8**	**-0.9**
GTA			pP	pP	13 22 10.3	-3.7
GTA			sP	sP	13 22 14.1	-4.7
GTA			PP	**PnPn**	**13 23 36.3**	**+4.7**
GTA			PcP	**PcP**	**13 24 18.6**	**+0.7**
GTA			S	**S**	**13 27 51.3**	**-0.9**
GTA			ScP	**ScP**	**13 28 04.6**	**+2.1**
GTA			SS	**SS**	**13 30 38.4**	**-0.8**
GTA			pmax	pmax		
	comp=Z,30nm,0.8s					
GTA			pmax	pmax		
	comp=Z,340nm,6.2s					
GTA			LR	LR		
	comp=Z,2μm,18.2s					
GTA			LR	LR		
	comp=Z,2μm,19.3s					
GTA			LR	LR		
	comp=Z,3μm,20.4s					
YUK	**Yuzh-Kuril'sk**	**38.27 23**	*e*P	P	13 21 59.1	-5.8
YUK			*e*PPP	PPP	13 23 58.2	
YUK			*e*S	**S**	**13 27 55.1**	**-0.9**
YUK			*e*SS	**SnSn**	**13 30 41.6**	**-1.7**
HNR	**Honiara**	**38.42 119**	P	**P**	**13 22 07.9**	**+1.4**
	comp=Z,32nm,0.6s,baz=202,slow=2.0,SNR=4.1					
HNR			LR	LR	13 36 03.8	
	comp=Z,1μm,22.0s,baz=294,slow=33					
LSA	**Lhasa**	**38.48 306**	P	**P**	**13 22 07.8**	**+0.3**
LSA			LR	LR		
	comp=Z,4μm,26.3s					
LSA			LR	LR		
	comp=Z,4μm,27.1s					
LSA			LR	LR		
	comp=Z,5μm,25.6s					
GOMU	**GeErMu**	**38.99 318**	P	**P**	**13 22 11.6**	**+0.1**
GOMU			pP	pP	13 22 16.8	-6.1
GOMU			SS	SS	13 30 53.8	-7.2
GOMU			pmax	pmax		
	comp=Z,7.0nm,1.0s					
GOMU			LR	LR		
	comp=Z,1μm,20.0s					
GOMU			LR	LR		
	comp=Z,2μm,20.4s					
GOMU			LR	LR		
	comp=Z,3μm,20.8s					

MORW Morawa 39.70 194 P **P** **13 22 17.6 +0.5**
baz=40,SNR=15
MORW Morawa 39.70 194 P **P** **13 22 18.1 +1.0**
MORW IAmb IAmb 13 22 19.7
comp=Z,80nm,0.7s
YSS Yuzh-Sakhalins 39.76 18 *e*P **P** **13 22 17.8 +0.5**
YSS *e*S **S** **13 28 20.4 +1.9**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,500nm,6.0s
YSS pmax pmax
comp=N,200nm,5.6s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=N,700nm,18.0s
YSS MLR MLR
comp=E,700nm,16.0s
YSS Yuzh-Sakhalins 39.76 18 P **P** **13 22 18.6 +1.3**
YSS IAmb IAmb 13 22 20.2
comp=Z,207nm,1.8s
KLR Kul'dur 39.77 6 P **P** **13 22 18.1 +0.8**
comp=Z,21nm,0.5s,baz=189,slow=5.6,SNR=77
HIA Hailar 39.93 353*c i*P **P** **13 22 19.3 +0.5**
HIA pmax pmax
comp=Z,53nm,0.9s
HIA Hailar 39.93 353 IAMs_20 IAMs_20 13 38 03.8
comp=Z,2μm,21.0s
HIA Hailar 39.93 353 P **P** **13 22 19.3 +0.5**
KUR Kuril'sk 40.05 24 *i* P **P** **13 22 20.3 +0.5**
KUR pmax pmax
comp=Z,315nm,1.3s
FORT Forrest 40.18 178 P **P** **13 22 21.6 +0.6**
baz=40,SNR=69
FORT Forrest 40.18 178 P **P** **13 22 21.4 +0.5**
H11N1 WAKE ISLAND Hy 40.40 71 T T 14 05 48.4
baz=261,slow=74
H11N2 WAKE ISLAND Hy 40.40 71 T T 14 05 40.1
baz=261,slow=74
H11N3 WAKE ISLAND Hy 40.41 71 T T 14 05 43.4
baz=261,slow=74
BLDU Ballidu 41.04 193 P **P** **13 22 28.6 +0.5**
baz=41,SNR=30
BOK Bokaro 41.09 295 *e*P **P** **13 22 29.4 +0.7**
BOK IAmb IAmb 13 22 31.2
comp=Z,39nm,0.6s
ULN Ulaanbaatar 41.48 340*ce*P **P** **13 22 31.8 +0.1**
ULN pmax pmax
comp=Z,41nm,1.0s
ULN Ulaanbaatar 41.48 340 P **P** **13 22 32.1 +0.4**
ULN Ulaanbaatar 41.48 340 P **P** **13 22 32.4 +0.6**
ULN Ulaanbaatar 41.48 340 P **P** **13 22 32.3 +0.5**
ULN pP **pP** **13 22 39.8 -2.8**
UGL Uglegorsk 41.50 16 *e*P **P** **13 22 33.5 +1.9**
UGL *e*S **S** **13 28 38.3 -6.0**
UGL pmax pmax
comp=Z,100nm,1.6s
UGL smax smax
comp=E,1μm,9.2s
UGL smax smax
comp=N,700nm,7.9s
UGL MLR MLR
comp=E,2μm,19.0s
UGL MLR MLR
comp=N,2μm,20.0s
UGL MLR MLR
comp=Z,2μm,17.0s
SONM Songino Array 41.67 340 P **P** **13 22 33.2 -0.1**
comp=Z,9.3nm,0.8s,baz=158,slow=9.2,SNR=69
SONM PcP **PcP** **13 24 29.5 0.0**
comp=Z,8.2nm,0.7s,baz=159,slow=3.8,SNR=8.6
SONM ScP **ScP** **13 28 15.8 -0.8**
comp=Z,4.7nm,1.1s,baz=144,slow=3.2,SNR=6.8
SONM LR LR 13 41 40.0
comp=Z,1μm,19.3s,baz=155,slow=39
SONM Songino Array 41.67 340 P **P** **13 22 33.5 +0.2**
KLBR Kellerberrin 41.77 191 P **P** **13 22 34.5 +0.4**
baz=42,SNR=46
CHLP Challavanipeta 41.88 287 *e*P **P** **13 22 35.6 +0.4**
CHLP *ep*P **pP** **13 22 45.5 -1.3**
RMQ Roma 41.96 149 P **P** **13 22 36.0 +0.3**
baz=42,SNR=4.1
GUN Gumba 42.18 301 *e*P **P** **13 22 37.7 -0.3**
comp=Z,397nm,0.7s
EIDS Eidsvold 42.29 146 P **P** **13 22 38.6 +0.2**
baz=42,SNR=4.6
EIDS Eidsvold 42.29 146 P **P** **13 22 37.0 -1.4**
EIDS IAmb IAmb 13 22 47.1
comp=Z,124nm,1.6s
MUN Mundaring 42.46 193 P **P** **13 22 40.1 +0.4**
baz=43,SNR=27
PKI Pulchoki 42.48 301 *e*P **P** **13 22 39.5 -0.9**
comp=Z,182nm,0.7s
PKIN Phulchoki 42.49 301 *e*P **P** **13 22 39.6 -0.8**
comp=Z,152nm,0.5s
VIS Vishakhapatnam 42.50 286 *e*P **P** **13 22 41.7 +1.5**
VIS IAmb IAmb 13 22 45.0
comp=Z,39nm,0.5s
KKN Kakani 42.65 301 *e*P **P** **13 22 41.0 -0.7**
comp=Z,124nm,0.7s
DMN Daman 42.74 300 *e*P **P** **13 22 41.9 -0.6**
comp=Z,68nm,0.4s
NWAO Narrogin (SRO) 43.17 191 P **P** **13 22 46.4 +0.9**
NWAO Narrogin (SRO) 43.17 191 P **P** **13 22 46.3 +0.9**
NWAO pP **pP** **13 22 54.4 -2.4**
BBOO Buckleboo 43.17 168 P **P** **13 22 45.6 +0.2**
baz=43,SNR=91
BBOO Buckleboo 43.17 168 P **P** **13 22 45.7 +0.2**
BBOO IAmb IAmb 13 22 46.6
comp=Z,127nm,0.7s
GKN Gorkha 43.26 301 *e*P **P** **13 22 45.7 -0.8**
comp=Z,94nm,0.5s
TYV Tymovskoe 43.29 15 *e*P **P** **13 22 48.6 +2.4**
TYV *e*S **S** **13 29 17.9 +7.3**
TYV pmax pmax
comp=Z,35nm,1.6s
TYV pmax pmax
comp=Z,400nm,4.2s
TYV smax smax
comp=E,500nm,6.5s
CIT Chita 43.58 349 *e*P **P** **13 22 50.1 +1.5**
CIT *e* 13 22 57.1
CIT *e* 13 23 03.7
CIT *e* 13 24 34.8
CIT pmax pmax
comp=Z,293nm,1.8s
STKA Stephens Creek 43.74 161 P **P** **13 22 49.5 -0.6**
comp=Z,24nm,0.6s,baz=338,slow=9.0,SNR=25
STKA LR LR 13 42 29.4
comp=Z,582nm,21.5s,baz=334,slow=38
STKA Stephens Creek 43.74 161 P **P** **13 22 50.0 -0.1**
baz=44,SNR=27
STKA Stephens Creek 43.74 161 P **P** **13 22 49.8 -0.3**
STKA pmax pmax
comp=Z,8.0nm,0.9s
STKA Stephens Creek 43.74 161 P **P** **13 22 49.8 -0.3**
ZEA Zeya 44.03 1*ce*P **P** **13 22 52.9 +0.8**
ZEA *e* 13 24 42.6
ZEA *e* 13 32 51.9
ZEA pmax pmax
comp=N,30nm,1.3s
ZEA pmax pmax
comp=Z,60nm,1.4s
ZEA MLR MLR
comp=N,800nm,18.0s
ZEA MLR MLR
comp=Z,900nm,19.0s
KOLN Koldanda 44.07 300 *e*P **P** **13 22 52.9 -0.2**
comp=Z,393nm,0.8s
PVM Polavaram 44.08 285 *e*P **P** **13 22 53.7 +0.7**
DANN Dangsing 44.10 301 *e*P **P** **13 22 52.9 -0.5**
comp=Z,372nm,0.7s
HTT Hallett 44.43 165 P **P** **13 22 56.1 +0.4**
baz=45,SNR=10.0
PYUN Piuthan 44.68 300 *e*P **P** **13 22 57.8 -0.2**
comp=Z,447nm,0.8s
CMSA Cobar Meteorol 44.90 156 P **P** **13 22 59.7 +0.4**
baz=45,SNR=9.0
ZAK Zakamensk 44.92 339 *e*P **P** **13 22 58.5 -0.9**
ZAK pmax pmax
comp=Z,16nm,1.0s
NKL Nikolayevsk 44.95 12 *e*P **P** **13 22 57.3 -2.1**
NKL *e* 13 24 35.8
NKL pmax pmax
comp=N,13nm,0.7s
NKL pmax pmax
comp=E,10.0nm,0.7s
NKL pmax pmax
comp=Z,92nm,1.2s
NKL MLR MLR
comp=E,57nm,15.0s
NKL MLR MLR
comp=N,64nm,13.0s
NKL MLR MLR
comp=Z,823nm,17.0s
MYLAV Mylavaram 44.99 284 *e*P **P** **13 23 01.3 +0.9**
PALK Pallekele 45.19 271 P **P** **13 23 02.9 +0.9**
comp=Z,33nm,0.8s,baz=167,slow=7.7,SNR=17
PALK PcP **PcP** **13 24 42.5 +0.6**
comp=Z,23nm,0.8s,baz=139,slow=3.7,SNR=5.8
PALK LR LR 13 40 52.9
comp=Z,836nm,21.9s,baz=194,slow=35
PALK Pallekele 45.19 271 P **P** **13 23 03.5 +1.5**
PALK Pallekele 45.19 271 P **P** **13 23 02.4 +0.4**
PALK IAmb IAmb 13 23 04.1
comp=Z,39nm,0.8s
PALK Pallekele 45.19 271 P **P** **13 23 03.5 +1.5**
ADKI Addanki 45.59 283 *e*P **P** **13 23 05.6 +0.5**
ADKI *es*P **sP** **13 23 19.7 -1.9**
SKHT Srikalahasti 45.81 280 *e*P **P** **13 23 07.1 +0.2**
IRK Irkutsk 46.17 341 *e*P **P** **13 23 09.0 -0.2**
IRK pmax pmax
comp=Z,60nm,2.4s
NJS Nagarjunasagar 46.26 284 *e*P **P** **13 23 11.0 +0.6**
RPR Rampur 46.41 287 *e*P **P** **13 23 12.3 +0.7**
RCLA Racherla 46.56 282 *e*P **P** **13 23 12.9 +0.2**
ARMA Armidale 46.62 149 P **P** **13 23 12.6 -0.5**
baz=47,SNR=5.5
SRLM Srisailam 46.64 283 *e*P **P** **13 23 13.3 -0.1**
CUPL Choutuppal 46.66 285 *e*P **P** **13 23 13.7 +0.1**
MOY Mondy 46.80 339 *e*P **P** **13 23 14.6 +0.4**
MOY pmax pmax
comp=Z,69nm,2.3s
HYB Hyderabad 47.02 285 *e*P **P** **13 23 16.9 +0.5**
HYB *i* x x 13 39 14.9
HYBB Hyderabad (bro 47.02 285 *e*P **P** **13 23 17.4 +1.0**
HYBB *es* **S** **13 30 06.5 +0.9**
SRSP Sriramsagar 47.31 287 *e*P **P** **13 23 18.9 +0.2**
WMQ Urumqi 47.80 322 ⇓P **P** **13 23 22.6 +0.5**
WMQ pP pP 13 23 34.1 +0.4
WMQ sP sP 13 23 38.6 +0.1
WMQ PcP **PcP** **13 24 51.0 +0.4**
WMQ pmax pmax
comp=Z,27nm,0.7s
WMQ pmax pmax
comp=Z,400nm,4.9s
WMQ LR LR
comp=Z,3μm,17.9s
WMQ LR LR
comp=Z,3μm,16.1s
WMQ LR LR
comp=Z,2μm,18.1s
WMQ Urumqi 47.80 322 P **P** **13 23 21.9 -0.2**
URV Uravakonda 48.19 281 *e*P **P** **13 23 25.8 +0.3**
ARPS Mount Arapiles 48.36 163 P **P** **13 23 26.9 +0.6**
baz=48,SNR=37
BHPL Bhopal 48.62 292 *e*P **P** **13 23 28.6 -0.1**
BHPL IAmb IAmb 13 23 31.2
comp=Z,68nm,0.8s
TRD Trivandrum 48.76 273 *e*P **P** **13 23 31.0 +1.2**
TRD IAmb IAmb 13 23 32.7
comp=Z,109nm,1.0s
BOD Bodaibo 49.05 351 ⇓*i*P **P** **13 23 32.0 +0.7**
BOD pmax pmax
comp=Z,109nm,1.8s
CAN Canberra 49.54 156 P **P** **13 23 35.2 -0.3**
CAN pmax pmax
comp=Z,71nm,1.2s
CAN Canberra 49.54 156 P **P** **13 23 35.2 -0.3**
CAN IAmb IAmb 13 23 40.6
comp=Z,71nm,1.2s
CNB Canberra Magne 49.68 155 P **P** **13 23 38.6 +2.0**
baz=50,SNR=5.8
PEA0B Petropavlovsk- 50.22 24 P **P** **13 23 40.9 +0.5**
PEA0B pmax pmax
comp=Z,72nm,1.0s
PEA0B Petropavlovsk- 50.22 24 P **P** **13 23 40.9 +0.5**
PEA0B IAmb IAmb 13 23 51.2
comp=Z,72nm,1.0s
PETK Petropavlovsk- 50.22 24 P **P** **13 23 41.9 +1.6**
comp=Z,14nm,0.6s,baz=200,slow=4.3,SNR=64
PETK PcP **PcP** **13 24 59.3 +0.2**
comp=Z,8.9nm,0.8s,baz=193,slow=5.6,SNR=1.7
PETK LR LR 13 45 06.6
comp=Z,790nm,19.3s,baz=208,slow=36
PETK Petropavlovsk- 50.22 24 P **P** **13 23 41.9 +1.6**
TOO Toolangi 50.23 160 P **P** **13 23 41.9 +1.2**
baz=50,SNR=16
TOO Toolangi 50.23 160 P **P** **13 23 41.5 +0.8**
TOO pmax pmax
comp=Z,86nm,1.2s
TOO Toolangi 50.23 160 P **P** **13 23 41.5 +0.8**
TOO IAmb IAmb 13 23 50.5
comp=Z,86nm,1.2s
LIFNC LIFOU 50.27 127 P **P** **13 23 41.9 +0.7**
SMLA Simla 50.36 303 *e*P **P** **13 23 40.8 -1.0**
SMLA IAmb IAmb 13 23 43.1
comp=Z,123nm,0.6s
DZM Mont Dzumac 50.36 129 P **P** **13 23 43.5 +1.5**
comp=Z,40nm,0.6s,baz=275,slow=8.1,SNR=47
DZM LR LR 13 44 29.8
comp=Z,375nm,21.1s,baz=328,slow=35
DZM Mont Dzumac 50.36 129 *e*P **P** **13 23 42.9 +0.9**
comp=Z,125nm,1.2s
DZM *e*S **S** **13 30 55.3 +2.7**
comp=Z,3μm,26.7s
DZM *e*LR LR 13 38 05.9
comp=Z,2μm,26.1s
DZM Mont Dzumac 50.36 129 P **P** **13 23 42.1 0.0**
DZM IAmb IAmb 13 23 45.4
comp=Z,42nm,0.6s
PET Petropavlovsk 50.54 25 *e*P **P** **13 23 44.1 +1.3**
PET *e*S **S** **13 30 55.2 +1.1**
PET pmax pmax
comp=Z,105nm,1.5s
PET pmax pmax
comp=Z,400nm,12.9s
PET MLR MLR
comp=Z,1μm,20.0s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 50.54 25 P **P** **13 23 44.5 +1.7**
PET IAmb IAmb 13 23 46.0
comp=Z,219nm,1.6s
DHRM DHARAMSHALA 51.35 304 *e*P **P** **13 23 48.6 -1.0**
DHRM IAmb IAmb 13 23 52.7
comp=Z,84nm,0.9s
DGZ Jazzator, Alta 51.38 329*c i*P **P** **13 23 49.3 -0.1**
DGZ pmax pmax
comp=Z,9.0nm,0.6s
PINNC Pines Island, 51.43 129 P **P** **13 23 50.1 +0.2**
ZSN Zaisan 51.46 325 *e*P **P** **13 23 48.4 -1.4**
ZSN *e*S **S** **13 31 05.7 -1.3**
ZSN Zaisan 51.46 325 *e*P **P** **13 23 48.5 -1.4**
baz=325
ZSN *e*S **S** **13 31 05.8 -1.3**
baz=325
POO Poona 51.54 286 *e*P **P** **13 23 50.5 -0.5**
POO IAmb IAmb 13 23 52.6
comp=Z,25nm,0.6s
YAK Yakutsk 52.40 2 P **P** **13 23 57.5 +1.0**
comp=Z,43nm,0.6s,baz=171,slow=3.2,SNR=73
YAK Yakutsk 52.40 2*c i*P **P** **13 23 56.7 +0.2**
YAK *e**PP **pwP** **13 24 12.5 +0.8**
YAK *e* 13 25 06.6
YAK *e* 13 25 53.3
YAK *e*PPP PPP 13 26 59.6
YAK *e*S **S** **13 31 17.9 -1.4**
YAK *e* 13 33 39.1
YAK *e*SS **SS** **13 34 57.3 -0.2**
YAK *e*SSS SSS 13 36 47.3
YAK pmax pmax
comp=Z,249nm,1.1s
YAK pmax pmax
comp=N,147nm,1.5s
YAK pmax pmax
comp=E,50nm,1.3s
YAK pmax pmax
comp=Z,200nm,4.0s
YAK pmax pmax
comp=N,97nm,2.9s
YAK pmax pmax
comp=E,118nm,3.4s
YAK smax smax
comp=N,269nm,4.7s
YAK smax smax
comp=E,228nm,4.0s
YAK Yakutsk 52.40 2 P **P** **13 23 57.2 +0.7**
YAK IAMs_20 IAMs_20 13 48 28.2
comp=Z,1μm,19.0s
YAK Yakutsk 52.40 2 P **P** **13 23 56.7 +0.2**
YAK pP **pP** **13 24 04.9 -2.3**
MK31 Makanchi Array 52.61 323 P **P** **13 23 57.8 -0.7**
MK31 pmax pmax
comp=Z,38nm,0.7s
MK31 Makanchi Array 52.61 323 P **P** **13 23 57.8 -0.7**
MK31 IAmb IAmb 13 23 59.7
comp=Z,38nm,0.7s
MKAR Makanchi Array 52.61 323 P **P** **13 23 57.9 -0.5**
comp=Z,42nm,0.6s,baz=121,slow=8.0,SNR=425
MKAR PcP **PcP** **13 25 08.0 -0.2**
comp=Z,22nm,0.8s,baz=109,slow=5.9,SNR=5.0
MKAR ScP **ScP** **13 29 02.3 0.0**
comp=Z,0.7nm,0.6s,baz=101,slow=4.6,SNR=2.3
MKAR LR LR 13 48 04.6
comp=Z,2μm,20.6s,baz=120,slow=38
MKAR PKPPKP **P'P'df** **13 54 26.5 -3.1**
comp=Z,0.4nm,0.8s,baz=241,slow=3.0,SNR=3.7
MKAR Makanchi Array 52.61 323 P **P** **13 23 57.9 -0.5**
SHLS Shalkode 52.69 318 *e*P **P** **13 23 55.6 -3.6**
SHLS pmax pmax
comp=Z,17nm,1.0s
SHLS Shalkode 52.69 318 *e*P **P** **13 23 55.7 -3.6**
comp=Z,17nm,1.0s,baz=318
PDGK Podgornoye 52.75 318 P **P** **13 23 58.0 -1.7**
MAKZ Makanchi 52.80 323 P **P** **13 23 59.6 -0.3**
MAKZ pmax pmax
comp=Z,47nm,1.0s
MAKZ MLR MLR
comp=Z,2μm,21.0s
MAKZ Makanchi 52.80 323 P **P** **13 23 59.6 -0.3**
MAKZ IAmb IAmb 13 24 01.0
comp=Z,47nm,0.9s
MAKZ Makanchi 52.80 323 P **P** **13 23 59.0 -0.8**
UZB Uzynbulak 52.98 318 *e*P **P** **13 23 59.8 -1.6**
UZB pmax pmax
comp=Z,17nm,0.5s
UZB Uzynbulak 52.98 318 *e*P **P** **13 23 59.9 -1.6**
comp=Z,17nm,0.5s,baz=318
PRZ Przheval'sk 53.13 317 P **P** **13 24 02.5 -0.1**
PRZ pmax pmax
comp=Z,53nm,0.9s
PRZ Przheval'sk 53.13 317 P **P** **13 24 02.5 -0.1**
PRZ IAmb IAmb 13 24 04.7
comp=Z,53nm,0.9s
MA2 Magadan 53.16 15*ce*P **P** **13 24 03.5 +1.3**
MA2 pmax pmax
comp=Z,93nm,1.7s
MA2 Magadan 53.16 15 P **P** **13 24 03.3 +1.0**
MA2 pP **pP** **13 24 09.7 -3.4**
TARG Taragay, Kyrgy 53.24 316 P **P** **13 24 03.4 -0.2**
SATY Saty 53.35 317 *e*P **P** **13 24 02.5 -1.6**
SATY pmax pmax
comp=Z,17nm,0.8s
SATY Saty 53.35 317 *e*P **P** **13 24 02.5 -1.6**
comp=Z,17nm,0.8s,baz=317
ZHN Zhinishke 53.38 317 *e*P **P** **13 24 02.8 -1.5**
ZHN Zhinishke 53.38 317 *e*P **P** **13 24 02.9 -1.5**
baz=317
KSH Kashi 53.74 312 P **P** **13 24 08.5 +1.5**
KSH pP pP 13 24 16.6 -2.1
KSH sP sP 13 24 23.8 +0.3
KSH PcP **PcP** **13 25 11.9 -0.8**
KSH pmax pmax
comp=Z,38nm,1.0s
KSH LR LR
comp=Z,3μm,18.5s
KSH LR LR
comp=Z,2μm,19.9s
KSH LR LR
comp=Z,3μm,17.5s
TDK Taldyqorghan 54.17 319 *e*P **P** **13 24 08.6 -1.3**
TDK pmax pmax
comp=Z,35nm,0.5s
TDK Taldyqorghan 54.17 319 *e*P **P** **13 24 08.7 -1.3**
comp=Z,35nm,0.5s,baz=320
NIL Nilore 54.18 305 P **P** **13 24 10.2 0.0**
NIL pmax pmax
comp=Z,242nm,0.8s
NIL Nilore 54.18 305 P **P** **13 24 10.2 0.0**
NIL Nilore 54.18 305 P **P** **13 24 10.2 0.0**
MDOK Medeo 54.31 317 *e*P **P** **13 24 10.1 -1.0**
MDOK Medeo 54.31 317 *e*P **P** **13 24 10.1 -1.0**
baz=317
TNSS Tian-Shan 54.33 317 *e*P **P** **13 24 10.3 -1.2**
baz=317
AAA Alma-Ata 54.42 317 *e*P **P** **13 24 09.4 -2.4**
ULHL Ulahol 54.51 316 P **P** **13 24 12.8 +0.1**
SNR=6.1
CHKK Chushkaly 54.62 318 *e*P **P** **13 24 11.9 -1.3**
baz=318
KST Kastek 55.00 316 *e*P **P** **13 24 14.6 -1.5**
comp=Z,54nm,0.6s,baz=316
KUU Kurty 55.07 317 *i* P **P** **13 24 13.6 -2.9**
KUU pmax pmax
comp=Z,150nm,1.2s
KUU Kurty 55.07 317 *i* P **P** **13 24 13.6 -2.9**
comp=Z,150nm,1.2s,baz=318
TKM2 Tokmak 2 55.20 316 P **P** **13 24 17.6 -0.1**
SNR=31
TKM2 Tokmak 2 55.20 316 P **P** **13 24 15.9 -1.8**
ZAA0 Zalesovo Array 55.25 332 P **P** **13 24 16.5 -1.0**
ZAA0 IAmb IAmb 13 24 17.6
comp=Z,29nm,0.8s
ZALV Zalesovo Beam 55.25 332 P **P** **13 24 16.3 -1.2**
comp=Z,31nm,0.7s,baz=118,slow=6.7,SNR=151
ZALV PcP **PcP** **13 25 16.6 -1.4**
comp=Z,10nm,0.6s,baz=129,slow=6.0,SNR=7.4
ZALV LR LR 13 50 28.7
comp=Z,1μm,18.1s,baz=130,slow=39
ZALV Zalesovo Beam 55.25 332 P **P** **13 24 16.3 -1.2**
KBK Karagaybulak 55.55 316 P **P** **13 24 20.3 +0.1**
SNR=42
UCH Uchtor 55.70 315 P **P** **13 24 22.0 +0.5**
SNR=139
BHUJ Bhuj 55.73 292 *e*P **P** **13 24 22.1 +0.6**
BHUJ IAmb IAmb 13 24 24.5
comp=Z,58nm,0.8s
CHMS Chumysh 55.81 316 P **P** **13 24 21.2 -0.6**
SNR=26
AAK Ala-Archa 55.86 315 LR LR 13 50 01.9
comp=Z,3μm,22.0s,baz=96,slow=38
AAK Ala-Archa 55.86 315 P **P** **13 24 22.5 +0.1**
SNR=20
AAK Ala-Archa 55.86 315 P **P** **13 24 21.5 -0.8**
AAK Ala-Archa 55.86 315 P **P** **13 24 22.5 +0.1**
AAK Ala-Archa 55.86 315 P **P** **13 24 22.4 +0.1**
AAK IAmb IAmb 13 24 31.4
comp=Z,84nm,1.7s
AAK Ala-Archa 55.86 315 P **P** **13 24 22.1 -0.2**
AAK pP **pP** **13 24 29.6 -4.5**
AAK Ala-Archa 55.86 315 P **P** **13 24 21.9 -0.5**
SGDS Sogindy 56.05 316 *e*P **P** **13 24 22.8 -0.8**
SGDS Sogindy 56.05 316 *e*P **P** **13 24 21.9 -1.7**
baz=316
USP Ospenovka 56.08 316 P **P** **13 24 23.5 -0.2**
SNR=11
AML Almayashu 56.24 315 P **P** **13 24 25.6 +0.2**
SNR=101
AML Almayashu 56.24 315 P **P** **13 24 26.0 +0.7**
AML Almayashu 56.24 315 P **P** **13 24 25.6 +0.2**
EKS2 Erkin-Say 56.36 315 P **P** **13 24 26.0 +0.1**
SNR=9.9
SEY Seymchan 56.45 14 P **P** **13 24 28.1 +2.1**
comp=Z,19nm,0.6s,baz=220,slow=5.7,SNR=66
SEY LR LR 13 51 15.1
comp=Z,548nm,18.1s,baz=224,slow=39
KURK Kurchatov 56.66 326*ce*P **P** **13 24 26.7 -1.0**
KURK pmax pmax
comp=Z,116nm,1.3s
KURK Kurchatov 56.66 326 P **P** **13 24 27.2 -0.5**
KURK Kurchatov 56.66 326 P **P** **13 24 26.6 -1.0**
KURK IAmb IAmb 13 24 28.5
comp=Z,111nm,1.1s
KURK Kurchatov 56.66 326 IAMs_20 IAMs_20 13 50 24.0
comp=Z,1μm,18.0s

KURK	**Kurchatov**	56.66	326	P	P	13 24 27.4	-0.4
KURK				pP	pP	13 24 34.5	-4.5
KURBB	**Kurchatov Arra**	56.67	326	LR	LR	13 50 37.1	
	comp=Z,1µm,19.0s,baz=111,slow=38						
KURBB	**Kurchatov Arra**	56.67	326	P	P	13 24 27.0	-0.7
DRK	**Karamyk**	56.80	311	P	P	13 24 29.2	-0.1
DRK				IAmb	IAmb	13 24 31.9	
	comp=Z,63nm,0.8s						
SHEM	**Shemya Is, Ala**	57.67	32	LR	LR	13 48 25.9	
	comp=Z,243nm,19.3s,baz=274,slow=35						
BTK	**Batken**	57.69	312	IAmb	IAmb	13 24 35.6	
	comp=Z,29nm,0.8s						
KBL	**Kabul**	57.78	305	P	P	13 24 35.4	-0.8
KBL				pmax	pmax		
	comp=Z,112nm,0.7s						
KBL	**Kabul**	57.78	305	P	P	13 24 35.7	-0.5
	SNR=36						
KBL	**Kabul**	57.78	305	P	P	13 24 35.4	-0.8
KBL	**Kabul**	57.78	305	P	P	13 24 35.2	-1.0
MSVF	**Nonsavu**	57.83	118	P	P	13 24 38.8	+2.3
	comp=Z,63nm,1.0s,baz=259,slow=5.4,SNR=24						
MSVF				LR	LR	13 47 27.5	
	comp=Z,958nm,20.9s,baz=295,slow=34						
DZA	**Taraz**	58.14	315	*e*P	P	13 24 36.8	-1.5
DZA				*e*S	S	13 32 35.9	-1.1
DZA				pmax	pmax		
	comp=Z,20nm,0.6s						
DZA	**Taraz**	58.14	315	*e*P	P	13 24 36.9	-1.5
	comp=Z,20nm,0.6s,baz=315						
DZA				*e*S	S	13 32 35.9	-1.1
	baz=315						
CHGR	**Chuyangaron**	58.57	310	P	P	13 24 40.8	-0.7
KKAR	**Karatay Array**	58.78	315	P	P	13 24 42.4	-0.4
KKAR	**Karatay Array**	58.78	315	P	P	13 24 42.4	-0.4
BRLS	**Borolday**	59.23	315	*e*P	P	13 24 44.8	-1.1
BRLS				pmax	pmax		
	comp=Z,16nm,0.6s						
BRLS	**Borolday**	59.23	315	*e*P	P	13 24 44.8	-1.1
	comp=Z,16nm,0.6s,baz=314						
OTUK	**Ortayu**	59.30	321	P	P	13 24 44.3	-2.0
BRZS	**Berezniki**	59.76	323	*e*P	P	13 24 47.2	-2.2
BRZS				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BRZS	**Berezniki**	59.76	323	*e*P	P	13 24 47.2	-2.2
	comp=Z,6.5nm,0.5s,baz=323						
TIXI	**Tiksi**	62.02	1	P	P	13 25 04.8	+0.5
	comp=Z,112nm,0.9s,baz=163,slow=4.6,SNR=394						
TIXI	**Tiksi**	62.02	1	*ce*P	P	13 25 04.1	-0.2
TIXI				pmax	pmax		
	comp=Z,147nm,1.0s						
TIXI	**Tiksi**	62.02	1	P	P	13 25 05.0	+0.7
TIXI				IAms_20	IAms_20	13 52 02.2	
	comp=Z,1µm,21.0s						
TIXI	**Tiksi**	62.02	1	P	P	13 25 04.0	-0.2
TIXI				pP	pP	13 25 12.9	-2.3
BRVK	**Borovoye**	62.33	326	P	P	13 25 06.3	-0.4
BRVK				pmax	pmax		
	comp=Z,80nm,0.9s						
BRVK				MLR	MLR		
	comp=Z,1µm,19.0s						
BRVK	**Borovoye**	62.33	326	P	P	13 25 06.3	-0.4
BRVK				IAmb	IAmb	13 25 07.5	
	comp=Z,80nm,0.9s						
BRVK	**Borovoye**	62.33	326	IAms_20	IAms_20	13 54 19.9	
	comp=Z,993nm,19.0s						
BRVK	**Borovoye**	62.33	326	P	P	13 25 06.4	-0.4
HRA	**Herat**	63.30	304	P	P	13 25 13.2	-0.6
HRA				IAmb	IAmb	13 25 13.9	
	comp=Z,26nm,0.8s						
BILL	**Bilibino**	64.03	16⇓	*e*P	P	13 25 18.7	+1.0
BILL				*e**PP	pP	13 25 29.0	0.0
BILL				*e**SP	sP	13 25 35.9	+2.4
BILL				*e*		13 25 51.4	
BILL				*e*		13 27 41.1	
BILL				*e*PPP	PPP	13 29 15.0	
BILL				pmax	pmax		
	comp=Z,175nm,1.7s						
BILL				MLR	MLR		
	comp=Z,534nm,21.0s						
BILL	**Bilibino**	64.03	16	P	P	13 25 18.6	+0.8
BILL	**Bilibino**	64.03	16	P	P	13 25 18.9	+1.2
NRIK	**Noril'sk**	64.68	346	P	P	13 25 22.1	+0.1
	comp=Z,48nm,0.8s,baz=126,slow=6.5,SNR=83						
NRIK				PcP	PcP	13 25 55.8	+0.3
	comp=Z,30nm,0.6s,baz=115,slow=3.5,SNR=8.4						
NRIK				LR	LR	13 57 44.7	
	comp=Z,1µm,18.1s,baz=148,slow=40						
AFI	**Afiamalu**	65.68	110	LR	LR	13 48 36.9	
	comp=Z,1µm,22.0s,baz=248,slow=31						
QRZ	**Quartz Range**	65.77	143	P	P	13 25 31.3	+1.8
QRZ				IAmb	IAmb	13 25 32.0	
	comp=Z,43nm,0.9s						
HIZ	**Hauiti**	65.80	140	P	P	13 25 31.6	+1.9
WSAR	**Wadi Sarin**	65.86	291	LR	LR	13 58 06.6	
	comp=Z,475nm,18.8s,baz=96,slow=40						
RAO	**Raoul Island**	66.13	128	LR	LR	13 53 10.0	
	comp=Z,269nm,20.2s,baz=74,slow=35						
BIDO	**Bidbid**	66.32	291	P	P	13 25 32.9	-0.5
	SNR=6.0						
JMDO	**Jabal Madar**	66.36	290	P	P	13 25 33.0	-0.7
	SNR=5.5						
THZ	**Tophouse**	66.58	144	P	P	13 25 35.2	+0.4
THZ				IAmb	IAmb	13 25 35.8	
	comp=Z,40nm,0.7s						
LBZ	**Lake Benmore**	66.76	147	P	P	13 25 37.0	+1.2
RPZ	**Rata Peaks**	66.78	146	P	P	13 25 36.6	+0.6
RPZ				IAmb	IAmb	13 25 50.2	
	comp=Z,50nm,0.9s						
LTZ	**Lake Taylor**	66.86	145	IAmb	IAmb	13 25 52.3	
	comp=Z,24nm,0.8s						
DQM	**DQM**	66.95	288	P	P	13 25 37.1	-0.5
	SNR=5.4						
GEYT	**Alibeck**	67.01	307	P	P	13 25 37.8	+0.1
	comp=Z,30nm,0.8s,baz=194,slow=9.2,SNR=28						
GEYT				LR	LR	13 59 54.0	
	comp=Z,1µm,20.1s,baz=82,slow=40						
GYA0	**ALIBECK ARRAY**	67.01	307	P	P	13 25 36.8	-0.8
HOQ	**Hoqain**	67.07	292	P	P	13 25 37.5	-0.7
	SNR=5.2						
BSY	**Bisya**	67.19	291	P	P	13 25 38.4	-0.6
	SNR=6.1						
NIKH	**Nikolski High**	67.30	36	P	P	13 25 38.7	-0.5
	baz=255						
SNZO	**South Karori**	67.37	142	IAms_20	IAms_20	13 56 42.4	
	comp=Z,1µm,20.0s						
AB31	**Akbulak array**	67.44	319	*i* P	P	13 25 38.0	-2.0
ABKAR	**Akbulak array**	67.44	319	P	P	13 25 39.4	-0.6
MXZ	**Matakaoa Point**	67.52	137	IAms_20	IAms_20	13 54 11.4	
	comp=Z,1µm,20.0s						
MQZ	**McQueen's Vall**	67.66	145	IAms_20	IAms_20	13 51 57.0	
	comp=Z,1µm,21.0s						
SPIA	**Saint Paul Isl**	67.71	32	P	P	13 25 41.0	-0.6
	baz=252						
SOHO	**SOHO**	67.78	292	*i* P	P	13 25 42.1	-0.6
	SNR=8.9						
BANOM	**Banah**	67.97	294	*i* P	P	13 25 43.9	-0.1
	SNR=6.1						
UOSS	**Minazif**	68.07	293	P	P	13 25 43.5	-1.0
UOSS	**Minazif**	68.07	293	P	P	13 25 43.2	-1.3
UOSS	**Minazif**	68.07	293	*i* P	P	13 25 43.5	-1.0
	SNR=6.0						
MSFE	**Esma-Masafi**	68.10	293	P	P	13 25 45.1	+0.4
SHME	**Shamm**	68.12	294	P	P	13 25 44.6	-0.2
HATD	**Hatta, Dubai**	68.13	293	P	P	13 25 44.7	-0.2
	SNR=7.9						
HATD	**Hatta, Dubai**	68.13	293	*i* P	P	13 25 44.8	-0.2
	SNR=19						
ALNE	**Al Ain**	68.49	292	P	P	13 25 46.9	-0.3
	SNR=11						
ALNE	**Al Ain**	68.49	292	*i* P	P	13 25 46.7	-0.5
	SNR=9.6						
NAZ	**Nazwa, Dubai**	68.56	293	P	P	13 25 46.8	-0.8
FAQ	**Al Faqa, Dubai**	68.62	293	*i* P	P	13 25 47.2	-0.8
	SNR=7.0						
SVE	**Sverdlovsk**	68.82	327	*d* P	P	13 25 48.3	-0.3
SVE				*e*S	S	13 34 48.4	-1.0
SVE				pmax	pmax		
	comp=Z,122nm,1.0s						
SVE				MLR	MLR		
	comp=Z,814nm,19.0s						
SHAO	**Shalim**	68.86	286	P	P	13 25 50.1	+0.5
	SNR=5.0						
SHAO				P	P	13 25 50.1	+0.5
	SNR=5.0						
SHAO	**Shalim**	68.86	286	*i* P	P	13 25 49.7	+0.2
	SNR=15						
ASUD	**Al Ashush, Dub**	68.87	293	P	P	13 25 49.5	0.0
ASUD	**Al Ashush, Dub**	68.87	293	*i* P	P	13 25 49.1	-0.4
	SNR=6.5						
UNV	**Unalaska Valle**	68.88	36	P	P	13 25 49.2	+0.2
	baz=257						
AKTO	**Aktyubinsk**	68.89	320	LR	LR	13 58 21.7	
	comp=Z,2µm,19.6s,baz=107,slow=38						
AKTO	**Aktyubinsk**	68.89	320	P	P	13 25 47.9	-1.3
GAMB	**Gambell**	69.24	25	P	P	13 25 52.4	+1.4
	baz=249,SNR=14						
DMTO	**DMTO**	69.52	285	P	P	13 25 53.8	+0.2
DMTO				P	P	13 25 56.0	+2.3
	SNR=5.0						
ARU	**Arti**	69.83	327	LR	LR	13 58 27.9	
	comp=Z,608nm,20.6s,baz=106,slow=38						
ARU	**Arti**	69.83	327	*c i* P	P	13 25 53.4	-1.4
ARU						13 26 12.4	
ARU						13 28 25.5	
ARU				S	S	13 35 01.4	+0.1
ARU				pmax	pmax		
	comp=Z,623nm,18.9s						
ARU				MLR	MLR		
	comp=Z,623nm,19.0s						
ARU	**Arti**	69.83	327	P	P	13 25 53.9	-1.0
ARU				IAms_20	IAms_20	14 00 50.1	
	comp=Z,652nm,19.0s						
ARU	**Arti**	69.83	327	P	P	13 25 53.8	-1.0
DOK	**Doka**	70.24	286	P	P	13 25 57.8	-0.3
	SNR=16						
RBK	**Rabkut**	70.24	285	P	P	13 25 58.2	+0.1
	SNR=18						
WHFO	**Wadi Hawf**	70.62	286	P	P	13 25 59.7	-0.8
	SNR=10						
FALS	**False Pass**	70.86	35	P	P	13 26 02.1	+1.0
	baz=259						
SOCY	**Socotra**	70.92	280	P	P	13 26 00.5	-1.8
SOCY				IAms_20	IAms_20	13 55 17.4	
	comp=Z,1µm,20.0s						
ABTO	**Aybut**	71.12	285	P	P	13 26 03.1	-0.4
	SNR=25						
TNA	**Tin City**	71.38	24	P	P	13 26 05.2	+1.1
TNA				IAmb	IAmb	13 26 07.4	
	comp=Z,128nm,2.0s						
TNA	**Tin City**	71.38	24	P	P	13 26 05.2	+1.1
	baz=252,SNR=12						
ANM	**Nome**	72.12	25	P	P	13 26 09.2	+0.6
ANM				pmax	pmax		
	comp=Z,46nm,1.4s						
ANM	**Nome**	72.12	25	P	P	13 26 09.2	+0.6
ANM	**Nome**	72.12	25	P	P	13 26 10.1	+1.5
	baz=254,SNR=13						
SLWR	**Sila**	72.20	292	P	P	13 26 10.0	+0.2
SDPT	**Sand Point**	72.60	35	P	P	13 26 12.3	+0.7
	baz=262						
CHNA	**Chernabura Isl**	73.04	36	P	P	13 26 15.1	+0.9
	baz=262						
CHGN	**Chignik**	73.88	34	P	P	13 26 19.1	0.0
	baz=263						
RDOG	**Red Dog Mine**	74.00	22	P	P	13 26 32.2	+13
	baz=256,SNR=30						
KIRV	**Kirov**	75.06	328	P	P	13 26 25.5	-0.4
	comp=Z,178nm,0.7s,baz=31,slow=0.4,SNR=66						
KIRV				LR	LR	14 02 52.4	
	comp=Z,779nm,19.4s,baz=104,slow=38						
KIRV	**Kirov**	75.06	328	*ce*P	P	13 26 24.7	-1.2
MAK	**Makhachkala**	75.37	312	*e*P	P	13 26 24.8	-3.3
MAK				*e*		13 29 11.7	
MAK				*e*PPP	PPP	13 31 00.0	
MAK				*e*S	S	13 36 00.2	-4.8
MAK				*e*SS	SS	13 40 51.6	-4.0
MAK				pmax	pmax		
	comp=Z,225nm,1.4s						
MAK				MLR	MLR		
	comp=Z,743nm,19.0s						
CHIR	**Chirikof Islan**	75.39	35	P	P	13 26 29.2	+1.3
	baz=266						
BELG	**Belogornoye**	75.58	322	P	P	13 26 28.4	-0.7
	comp=Z,144nm,0.8s,baz=327,slow=1.1,SNR=69						
BELG				LR	LR	14 02 37.1	
	comp=Z,438nm,19.1s,baz=110,slow=38						
BELG	**Belogornoye**	75.58	322	*c i* P	P	13 26 28.1	-0.9
BELG				pmax	pmax		
	comp=Z,34nm,0.9s						
GCSA	**Galena City Sc**	75.73	26	P	P	13 26 31.3	+1.6
	baz=262,SNR=12						
TTA	**Tatalina**	75.89	27	P	P	13 26 32.2	+1.5
	baz=263,SNR=8.6						
P18K	**Big Mountain,**	75.90	31	P	P	13 26 31.9	+1.0
	baz=265						
O18K	**Koktuh Hills**	75.95	31	P	P	13 26 32.9	+1.8
	baz=265						
SII	**Sitkinak Islan**	76.25	34	P	P	13 26 34.2	+1.4
	baz=267						
N19K	**Bonanza Creek**	76.40	30	P	P	13 26 35.4	+1.8
	baz=265						
CASY	**Casey**	76.56	187	P	P	13 26 34.4	+0.2
CASY				IAmb	IAmb	13 26 36.5	
	comp=Z,69nm,0.7s						
GROC	**Groznyy**	76.62	312	*e*P	P	13 26 32.6	-2.6
GROC				*e*		13 26 42.3	
GROC				*e*		13 29 22.4	
GROC				pmax	pmax		
	comp=Z,84nm,1.0s						
DRV	**Dumont d'Urvil**	76.71	174	P	P	13 26 34.6	-0.4
DRV				pP	PcP	13 26 41.5	-4.7
OHAK	**Old Harbor**	76.78	33	P	P	13 26 37.3	+1.6
	baz=267						
K20K	**Telida**	76.81	27	P	P	13 26 38.1	+2.2
	baz=265						
A21K	**Barrow**	76.82	19	P	P	13 26 36.4	+0.7
A21K	**Barrow**	76.82	19	P	P	13 26 37.5	+1.8
	baz=261						
J20K	**Nowinta River**	76.85	26	P	P	13 26 38.0	+1.9
	baz=265						
IMAR	**Indian Mountai**	77.18	24	P	P	13 26 39.5	+1.6
KDAK	**Kodiak Island**	77.18	33	P	P	13 26 38.9	+0.9
	comp=Z,25nm,0.6s,baz=277,slow=4.9,SNR=9.0						
KDAK				LR	LR	13 58 23.6	
	comp=Z,710nm,20.1s,baz=270,slow=34						
KDAK	**Kodiak Island**	77.18	33	P	P	13 26 39.1	+1.1
	baz=268						
PRGR	**Permogore**	77.21	331	*e*P	P	13 26 37.6	-0.5
PRGR				pmax	pmax		
	comp=Z,100nm,0.7s						
O20K	**Slope Mountain**	77.27	31	P	P	13 26 39.9	+1.4
	baz=267						
GNI	**Garni**	77.48	309	P	P	13 26 40.3	-0.1
	comp=Z,11nm,0.7s,baz=15,slow=4.6,SNR=4.1						
GNI				LR	LR	14 05 54.5	
	comp=Z,834nm,21.0s,baz=84,slow=40						
GNI	**Garni**	77.48	309	*ce*P	P	13 26 40.8	+0.5
GNI				pmax	pmax		
	comp=Z,73nm,1.7s						
GNI	**Garni**	77.48	309	P	P	13 26 39.9	-0.4
GNI	**Garni**	77.48	309	IAms_20	IAms_20	14 05 31.2	
	comp=Z,823nm,21.0s						
H21K	**Melozitna Rive**	77.54	25	P	P	13 26 41.6	+1.7
H21K				IAmb	IAmb	13 26 43.4	
	comp=Z,181nm,1.8s						
H21K	**Melozitna Rive**	77.54	25	P	P	13 26 41.9	+1.9
	baz=266						
PPLA	**Purkeypile**	77.63	28	P	P	13 26 41.6	+0.9
	baz=267,SNR=7.5						
CHUM	**Lake Minchumin**	77.63	27	P	P	13 26 42.3	+1.9
	baz=266						
CAST	**Castle Rocks**	77.70	27	P	P	13 26 42.1	+1.2
	baz=267,SNR=12						
HOM	**Homer**	77.74	31	P	P	13 26 41.7	+0.5
	baz=268						
RAYN	**Ar Rayn**	77.89	292	P	P	13 26 42.2	-0.6
RAYN				pmax	pmax		
	comp=Z,65nm,0.8s						
RAYN				MLR	MLR		
	comp=Z,1µm,20.0s						
RAYN	**Ar Rayn**	77.89	292	P	P	13 26 42.3	-0.5
RAYN	**Ar Rayn**	77.89	292	P	P	13 26 42.2	-0.6
RAYN				IAmb	IAmb	13 26 43.4	
	comp=Z,65nm,0.8s						
RAYN	**Ar Rayn**	77.89	292	IAms_20	IAms_20	14 04 18.3	
	comp=Z,1µm,20.0s						
RAYN	**Ar Rayn**	77.89	292	P	P	13 26 42.2	-0.6
RAYN	**Ar Rayn**	77.89	292	P	P	13 26 42.6	-0.1
CAPN	**Captain Cook N**	78.02	30	P	P	13 26 43.8	+1.1
	baz=268						
BRSE	**Bradley Lake S**	78.20	31	P	P	13 26 44.8	+1.1
	baz=269						
NCK	**Nalchik**	78.22	312	*i* P	P	13 26 43.8	-0.4
NCK				pmax	pmax		
	comp=Z,34nm,0.8s						
BPAW	**Bear Paw Mtn.**	78.22	26	P	P	13 26 44.7	+0.9
	baz=268,SNR=24						
AKH	**Akhalkalaki**	78.38	310	⇓P	P	13 26 46.4	+1.1
CUT	**Chulitna**	78.49	28	P	P	13 26 45.9	+0.7
	baz=269						
TRF	**Thorofare Moun**	78.51	27	P	P	13 26 46.5	+0.9
	baz=268,SNR=8.6						
M22K	**Willow**	78.55	29	P	P	13 26 46.0	+0.5
	baz=269						
GOF	**Gofitskoye**	78.56	314⇑	*e*P	P	13 26 44.6	-1.4
GOF				pmax	pmax		
	comp=Z,43nm,1.3s						
COLD	**Coldfoot**	78.68	23	P	P	13 26 48.2	+2.1
	baz=268,SNR=30						
RAR	**Rarotonga**	78.70	114	LR	LR	13 55 32.4	
	comp=Z,679nm,21.5s,baz=277,slow=31						
KBZ	**Khabaz**	78.72	313	P	P	13 26 46.5	-0.4
	comp=Z,22nm,0.9s,baz=113,slow=2.7,SNR=31						
KBZ				LR	LR	14 05 58.5	
	comp=Z,1µm,18.2s,baz=69,slow=39						
KBZ	**Khabaz**	78.72	313	*ce*P	P	13 26 46.3	-0.5
KBZ				pmax	pmax		
	comp=Z,40nm,1.0s						
RC01	**Rabbit Creek A**	78.72	30	P	P	13 26 46.6	0.0
	baz=269						
KVAR	**Kislovodsk Arr**	78.86	313	P	P	13 26 48.8	+1.0
	comp=Z,13nm,0.7s,baz=254,slow=20,SNR=6.4						
SEW	**Seward**	78.86	31	P	P	13 26 47.1	-0.1
SEW				IAmb	IAmb	13 26 56.8	
	comp=Z,156nm,1.5s						
SEW	**Seward**	78.86	31	P	P	13 26 47.5	+0.3
	baz=270						
KIV	**Kislovodsk**	78.86	313	⇑P	P	13 26 47.4	-0.5
KIV	**Kislovodsk**	78.86	313	*e*P	P	13 26 47.5	-0.3
KIV				pmax	pmax		
	comp=Z,65nm,1.0s						
KIV				MLR	MLR		
	comp=Z,1µm,19.0s						
KIV	**Kislovodsk**	78.86	313	P	P	13 26 47.9	+0.1
KIV	**Kislovodsk**	78.86	313	P	P	13 26 47.7	-0.1
KIV				IAmb	IAmb	13 26 48.9	
	comp=Z,50nm,0.8s						
KIV	**Kislovodsk**	78.86	313	P	P	13 26 47.3	-0.5
KIV				pP	PcP	13 26 53.1	-3.3
KIV	**Kislovodsk**	78.86	313	P	P	13 26 48.0	+0.2
NEY	**Neytrino**	78.87	312	*i* P	P	13 26 47.7	-0.3
NEY				pmax	pmax		
	comp=Z,12nm,1.4s						
SHA1	**Shidzhatmaz**	78.89	313	*i* P	P	13 26 47.7	-0.4
I23K	**Minto, Yukon-K**	78.96	25	P	P	13 26 49.5	+1.8
	baz=269						
PMR	**Palmer**	79.02	29	P	P	13 26 48.7	+0.6
	baz=270						
NEA2	**Nenana**	79.07	26	P	P	13 26 49.3	+0.9
	baz=269,SNR=8.5						
MCK	**McKinley**	79.12	27	P	P	13 26 49.5	+0.8
	baz=270,SNR=20						
VRH	**Novokhopyorsk**	79.23	320	*e*P	P	13 26 48.3	-1.2
VRH				pmax	pmax		
	comp=Z,90nm,0.8s						
KNK	**Knik Glacier**	79.34	29	P	P	13 26 50.6	+0.6
	baz=270						
CHVG	**Ch'k'valeri**	79.36	312	⇑P	P	13 26 51.1	+0.6
SML	**Sawmill**	79.40	29	P	P	13 26 51.1	+0.8
	baz=270,SNR=8.6						
PWL	**Port Wells**	79.41	30	P	P	13 26 51.2	+0.8
	baz=271						
H24K	**Noodor Dome**	79.58	25	P	P	13 26 52.8	+1.5
	baz=270						
TCOL	**CIGO, UAF Yank**	79.59	26	P	P	13 26 51.4	+0.2
	baz=270						
COLA	**College**	79.59	26	*i* P	P	13 26 52.0	+0.8
COLA				pmax	pmax		
	comp=Z,13nm,0.9s						
COLA	**College**	79.59	26	P	P	13 26 51.6	+0.4
	baz=270						
WAT6	**Susitna Watana**	79.67	28	P	P	13 26 53.0	+1.1
	baz=271,SNR=26						
POKR	**Poker Plat Res**	79.77	25	P	P	13 26 53.9	+1.7
	baz=271						
DHY	**Denali Highway**	79.83	27	IAmb	IAmb	13 26 57.2	
	comp=Z,153nm,2.0s						
DHY	**Denali Highway**	79.83	27	P	P	13 26 53.5	+0.8
	baz=271,SNR=10						
SCM	**Sheep Creek Mo**	79.88	29	P	P	13 26 54.0	+1.1
	baz=271,SNR=7.8						
HDA	**Harding Lake**	79.99	26	P	P	13 26 53.4	0.0
	baz=271,SNR=15						
ILAR	**Eielson Array**	80.01	26	P	P	13 26 53.1	-0.4
	comp=Z,5.9nm,0.6s,baz=239,slow=5.5,SNR=42						
ILAR				LR	LR	14 05 15.8	
	comp=Z,180nm,18.8s,baz=288,slow=38						
GLI	**Glacier Island**	80.01	30	P	P	13 26 54.4	+0.8
	baz=272						
KLMR	**Klimovskoe**	80.15	330	*e*P	P	13 26 51.5	-2.8
KLMR				pmax	pmax		
	comp=Z,223nm,1.2s						
KLMR	**Klimovskoe**	80.15	330	*e*P	P	13 26 51.5	-2.8
KLMR				AMP		13 26 54.9	
	comp=Z,223nm,1.2s						
KLMR				LQ	LQ	13 58 07.8	
KLMR				LQ	LQ	13 58 07.8	
KLMR				LR	LR	14 00 54.7	
M24K	**Tolsona, Glenn**	80.41	28	P	P	13 26 57.0	+1.3
	baz=272,SNR=7.0						
KLU	**Klutina**	80.56	29	P	P	13 26 58.1	+1.5
	baz=273,SNR=7.8						
PRP	**Porcupine Dome**	80.56	25	P	P	13 26 56.9	+0.2
PRP	**Porcupine Dome**	80.56	25	P	P	13 26 58.0	+1.3
	baz=272						
FYU	**Fort Yukon**	80.64	24	P	P	13 26 58.4	+1.6
FYU				IAmb	IAmb	13 27 01.3	
	comp=Z,104nm,1.3s						
DIV	**Divide**	80.65	29	P	P	13 26 57.9	+0.9
DIV				IAmb	IAmb	13 27 01.6	
	comp=Z,47nm,0.8s						
EYAK	**Cordova Ski Ar**	80.69	30	P	P	13 26 58.2	+1.1
	baz=273						
PAX	**Paxson**	80.70	28	P	P	13 26 58.3	+1.0
	baz=273,SNR=18						
VORD	**Divnogorie**	80.77	320	*e*P	P	13 26 56.0	-1.8
VORD				pmax	pmax		
	comp=Z,50nm,0.8s						
VORR	**Voronezh**	80.78	321	*e*P	P	13 26 56.7	-1.2
VORR				pmax	pmax		
	comp=Z,71nm,1.4s						
VORR				pmax	pmax		
	comp=N,11nm,0.7s						
VORR				pmax	pmax		
	comp=E,80nm,1.4s						
VSR	**Storozhevoye**	80.84	320	*e*P	P	13 26 56.7	-1.5
VSR				pmax	pmax		
	comp=Z,60nm,0.8s						
HARP	**HAARP**	80.87	28	P	P	13 26 59.7	+1.5
	baz=273						
LPSR	**Galich'ya Gora**	80.89	322	*e*P	P	13 26 57.5	-0.9
LPSR				pmax	pmax		
	comp=Z,130nm,0.8s						
RIDG	**Independent Ri**	80.94	27	P	P	13 26 59.5	+0.9
	baz=273,SNR=20						
SOC	**Sochi**	81.03

MOS MLR MLR
comp=Z,700nm,19.0s
J26L Joseph Creek 81.45 26 P **P 13 27 02.3 +1.0**
baz=274
L26K Log Cabin Wild 81.66 27 P **P 13 27 04.0 +1.6**
baz=275,SNR=11
ATD Arta Tunnel 81.82 280 LR LR 14 00 16.7
comp=Z,275nm,21.9s,baz=97,slow=33
LVZ Lovozero 81.82 338 *i* P **P 13 27 02.9 -0.2**
LVZ pmax pmax
comp=Z,61nm,1.1s
M26K Nabesna, AK 81.88 28 P **P 13 27 05.0 +1.5**
baz=275
OBN Obninsk 82.08 325 P **P 13 27 03.9 -0.8**
comp=Z,13nm,0.7s,baz=22,slow=2.9,SNR=15
OBN LR LR 14 05 41.6
comp=Z,264nm,20.4s,baz=82,slow=37
OBN Obninsk 82.08 325 *e*P **P 13 27 03.6 -1.1**
OBN *e* 13 27 11.0
OBN *e* 13 30 11.6
OBN *e*PPP PPP 13 32 02.1
OBN pmax pmax
comp=Z,112nm,1.3s
OBN MLR MLR
comp=Z,1μm,20.0s
TGL Tana Glacier 82.11 30 P **P 13 27 06.6 +1.7**
TGL IAmb IAmb 13 27 07.8
comp=Z,102nm,1.4s
WAX Waxell Ridge 82.12 30 P **P 13 27 05.9 +0.9**
WAX IAmb IAmb 13 27 08.3
comp=Z,193nm,1.8s
APA Apatity 82.33 337 ⇓*i*P **P 13 27 04.5 -1.2**
APA *i* 13 27 12.4
APA *i* 13 30 22.0
APA *i* S **S 13 37 12.0 -6.3**
APA *i* PS **PnS 13 38 11.0 -0.7**
APA pmax pmax
comp=Z,88nm,0.8s
L27K Beaver Creek, 82.35 27 P **P 13 27 07.6 +1.6**
L27K IAmb IAmb 13 27 09.5
comp=Z,44nm,1.1s
L27K Beaver Creek, 82.35 27 P **P 13 27 07.7 +1.7**
baz=276
ISLE Juniper Island 82.36 30 P **P 13 27 07.3 +1.1**
ISLE IAmb IAmb 13 27 09.3
comp=Z,54nm,1.1s
BCAR Beaver Creek A 82.37 27 P **P 13 27 07.5 +1.4**
M27K Edge Creek, AK 82.40 28 P **P 13 27 07.1 +0.7**
M27K Edge Creek, AK 82.40 28 P **P 13 27 08.2 +1.8**
baz=276
EGAK Eagle 82.46 26 P **P 13 27 07.8 +1.4**
EGAK Eagle 82.46 26 P **P 13 27 07.8 +1.4**
baz=276,SNR=20
MESA MESA 82.60 30 P **P 13 27 09.4 +1.8**
baz=276,SNR=5.1
CTG Chitna Glacier 82.81 29 P **P 13 27 10.9 +2.3**
baz=277,SNR=36
CTGM Chitina Glacie 82.81 29 IAmb IAmb 13 27 12.1
comp=Z,90nm,1.0s
BVCY Beaver Creek 82.86 28 P **P 13 27 10.8 +2.1**
baz=277,SNR=19
ABPO Ambohimpanom 82.97 249 P **P 13 27 09.2 -1.0**
ABPO pmax pmax
comp=Z,51nm,1.0s
ABPO Ambohimpanom 82.97 249 P **P 13 27 09.2 -1.0**
ABPO IAmb IAmb 13 27 11.2
comp=Z,51nm,0.9s
ABPO IAMs_20 IAMs_20 13 58 08.8
comp=Z,616nm,22.0s
TABL Table Mountain 82.97 30 IAmb IAmb 13 27 13.9
comp=Z,73nm,0.8s
LOGN Logan Glacier 82.99 30 IAmb IAmb 13 27 26.0
comp=Z,48nm,1.0s
YUK3 Moose Creek 83.13 29 P **P 13 27 12.3 +2.0**
baz=277,SNR=14
DAWY Dawson 83.31 26 P **P 13 27 12.3 +1.3**
DAWY IAmb IAmb 13 27 15.1
comp=Z,155nm,1.5s
DAWY Dawson 83.31 26 P **P 13 27 12.8 +1.8**
baz=278,SNR=46
PINM Pinnacle 83.45 30 P **P 13 27 14.1 +2.2**
baz=278,SNR=14
I29M Ogilvie Camp, 83.58 25 P **P 13 27 13.8 +1.5**
baz=279,SNR=65
GAZ Gaziantep 83.60 307 IAmb IAmb 13 27 12.7
comp=Z,50nm,0.8s
J29M Klondike Camp 83.76 26 P **P 13 27 15.2 +1.9**
baz=279,SNR=23
PNL Peninsula 83.94 31 P **P 13 27 16.5 +2.2**
baz=279,SNR=7.3
VOI Vohitsoka 84.00 247 P **P 13 27 14.2 -1.2**
EPYK Eagle Plains 84.05 24 P **P 13 27 16.1 +1.4**
baz=280
KEV Kevo 84.29 340 P **P 13 27 16.1 +0.3**
KEV pmax pmax
comp=Z,58nm,0.7s
KEV Kevo 84.29 340 P **P 13 27 16.1 +0.3**
KEV IAmb IAmb 13 27 16.9
comp=Z,58nm,0.7s
ASF Jabal al Asfar 84.50 302 P **P 13 27 18.1 +0.2**
comp=Z,16nm,0.8s,baz=122,slow=3.1,SNR=12
CCD Concordia, Ant 84.56 181 P **P 13 27 18.7 +1.3**
SPA0 Spitsbergen Ar 84.69 349 ⇑*i*P **P 13 27 18.0 +0.3**
SPITS Spitsbergen Ar 84.69 349 LR LR 14 11 49.7
comp=Z,621nm,18.1s,baz=221,slow=40
M30M Minto, Yukon 84.71 27 P **P 13 27 20.5 +2.3**
baz=281
PUL Pulkovo 84.81 330 *c*e**P** **P 13 27 18.3 -0.3**
PUL pmax pmax
comp=Z,106nm,0.3s
ARA0 ARCESS Array S 84.85 340 *e*P **P 13 27 18.5 -0.2**
ARCES ARCESS Array B 84.85 340 P **P 13 27 18.5 -0.2**
comp=Z,90nm,0.6s,baz=81,slow=7.2,SNR=267
ARCES LR LR 14 10 06.2
comp=Z,916nm,18.7s,baz=114,slow=39
SIM Simferopol' 84.88 315 *e*P **P 13 27 17.7 -1.6**
SIM pmax pmax
comp=Z,148nm,1.0s
INK Inuvik 84.88 22 LR LR 14 09 28.7
comp=Z,264nm,18.8s,baz=274,slow=39
INK Inuvik 84.88 22 P **P 13 27 20.0 +1.3**
baz=283
MAYO Mayo, Yukon 84.92 26 P **P 13 27 20.9 +1.8**
baz=281,SNR=19
HAMF Hammerfest 85.18 341 *e*P **P 13 27 19.8 -0.4**
KBS Kingsbay 85.20 350 ⇑*i*P **P 13 27 20.4 +0.1**
KBS Kingsbay 85.20 350 IAMs_20 IAMs_20 14 09 47.4
comp=Z,971nm,20.0s
N31M Braeburn, Yuko 85.38 28 P **P 13 27 23.4 +1.9**
baz=282,SNR=26
BZK Bozkurt 85.40 312 ⇑P **P 13 27 22.0 +0.1**
MMAI Mount Meron Ar 85.63 303 P **P 13 27 23.7 +0.2**
comp=Z,18nm,0.7s,baz=91,slow=6.2,SNR=12
MMAI LR LR 14 10 48.0
comp=Z,340nm,19.6s,baz=241,slow=39
GHAJ Ghor Haditha 85.75 301 IAMs_20 IAMs_20 14 10 13.7
comp=Z,658nm,22.0s
KTK1 Kautokeino 85.76 339 ⇑*i*P **P 13 27 23.2 0.0**
M31M Drury Creek, Y 85.88 28 IAmb IAmb 13 27 27.0
comp=Z,117nm,1.7s
M31M Drury Creek, Y 85.88 28 P **P 13 27 25.5 +1.5**
baz=283,SNR=21
WHY Whitehorse 85.98 29 P **P 13 27 26.3 +1.7**
baz=282,SNR=21
SKAG Skagway 86.02 30 P **P 13 27 26.6 +2.0**
baz=282,SNR=6.5
BR131 Keskin Array S 86.02 309 *c*i**P** **P 13 27 24.1 -1.2**
BR131 Keskin Array S 86.02 309 IAmb IAmb 13 27 25.4
comp=Z,23nm,0.8s
BRTR Keskin Array B 86.02 309 P **P 13 27 24.2 -1.1**
comp=Z,13nm,0.8s,baz=98,slow=4.3,SNR=71
BRTR LR LR 14 11 42.6
comp=Z,764nm,20.0s,baz=75,slow=40
FARO Faro, Yukon 86.35 28 P **P 13 27 27.9 +1.6**
baz=284,SNR=42
FINES FINESS Array B 86.52 332 P **P 13 27 26.3 -0.7**
comp=Z,64nm,0.6s,baz=77,slow=4.8,SNR=390
FINES LR LR 14 10 10.7
comp=Z,927nm,18.8s,baz=86,slow=38
FINES FINESS Array B 86.52 332 *i* P **P 13 27 26.2 -0.8**
FINES pmax pmax
comp=Z,64nm,0.6s
SIT Sitka 86.52 33 P **P 13 27 29.2 +2.0**
baz=282
EIL Elat 86.52 299 P **P 13 27 27.3 -0.5**
comp=Z,30nm,0.9s,baz=84,slow=3.0,SNR=7.3
EIL LR LR 14 14 31.0
comp=Z,434nm,18.8s,baz=92,slow=41
A36M Sachs Harbour 86.53 17 P **P 13 27 28.2 +1.3**
baz=290
JETT Jettan, Norway 86.57 340 ⇑*i*P **P 13 27 27.7 +0.5**
VSU Vasula 86.89 329 *i* P **P 13 27 28.4 -0.5**
VSU pmax pmax
comp=Z,104nm,1.1s
VSU Vasula 86.89 329 *e*P **P 13 27 28.8 -0.1**
CSS Mathiatis 87.03 305 IAMs_20 IAMs_20 14 11 07.2
comp=Z,587nm,22.0s
TRO Tromso 87.03 340 *e*P **P 13 27 28.3 -1.1**
P33M Teslin, Yukon 87.08 29 P **P 13 27 31.2 +1.2**
baz=284
AKASG Malin Array Be 87.13 321 P **P 13 27 29.2 -1.1**
comp=Z,5.4nm,0.5s,baz=64,slow=4.6,SNR=57
AKASG LR LR 14 10 59.4
comp=Z,677nm,19.4s,baz=76,slow=39
AKASG Malin Array Be 87.13 321 IAmb IAmb 13 27 30.6
comp=Z,27nm,0.9s
AKBB Malin Array Si 87.13 321 *c*e**P** **P 13 27 28.8 -1.5**
AKBB Malin Array Si 87.13 321 IAmb IAmb 13 27 30.5
comp=Z,28nm,0.8s
MNK Minsk 87.14 325 *i* P **P 13 27 29.5 -0.8**
MNK *i* 13 30 52.0
MNK *i* PPP PPP 13 32 46.3
MNK *i* S S 13 37 53.2 -13
MNK *i* SS **SS 13 43 53.2 +2.9**
MNK *i* SSS SSS 13 47 19.0
MNK pmax pmax
comp=Z,46nm,0.7s
MNK pmax pmax
comp=N,14nm,1.1s
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK MLR MLR
comp=E,111nm,17.0s
MNK MLR MLR
comp=Z,751nm,15.0s
MNK MLR MLR
comp=N,394nm,22.0s
MNK Minsk 87.14 325 *i* P **P 13 27 29.5 -0.7**
comp=E,3.0nm,0.7s
MNK *i* P **P 13 27 29.5 -0.7**
comp=N,14nm,1.1s
MNK *i* P **P 13 27 29.5 -0.7**
comp=Z,46nm,0.7s,baz=78
MNK *i* PP **PP 13 30 52.0 -2.0**
MNK *i* PPP PPP 13 32 46.3
MNK *i* S S 13 37 53.2 -13
MNK *i* SS **SS 13 43 53.3 +3.0**
MNK *i* SSS SSS 13 47 19.1
MNK *i* LQ LQ 14 00 46.2
MNK *i* LR LR 14 07 06.3
MNK *i* LRM MLR 14 08 44.7
comp=E,111nm,17.2s
MNK *i* LRM MLR 14 08 49.9
comp=Z,751nm,14.6s
MNK *i* LRM MLR 14 08 55.0
comp=N,394nm,22.4s
NOR Nord 87.25 355 *i* P **P 13 27 29.5 -0.9**
NOR IAmb IAmb 13 27 31.6
comp=Z,193nm,1.8s
PPT Papeete 87.28 108 LR LR 13 59 14.9
comp=Z,546nm,21.5s,baz=283,slow=30
PPT2 Papeete2 87.28 108 *e*S **S 13 38 09.8 +0.3**
comp=Z,626nm,25.2s
PPT2 Papeete2 87.28 108 *e*LR LR 13 55 16.9
comp=Z,1μm,23.2s,baz=292
PURM Purcari 87.54 317 ⇓P **P 13 27 31.8 -0.5**
C36M Paulatuk 87.85 20 P **P 13 27 34.4 +1.1**
baz=292
CRAG Craig 88.08 34 P **P 13 27 35.9 +1.2**
baz=284
MILM Milestii Mici 88.17 317 *i* P **P 13 27 33.8 -1.5**
comp=Z,26nm,0.6s
MILM Milestii Mici 88.17 317 *e*PP PP 13 30 59.0 -3.5
MILM *e*LR LR 14 08 51.0
comp=Z,1μm,21.0s
MILM Milestii Mici 88.17 317 ⇓P **P 13 27 34.1 -1.3**
MILM Milestii Mici 88.17 317 *i* P **P 13 27 33.8 -1.5**
MILM *e* 13 30 59.0
MILM MLR MLR
comp=Z,1μm,21.0s
MILM MLR MLR
comp=E,1μm,20.0s
SORM Soroca 88.22 318 ⇑P **P 13 27 34.4 -1.1**
MTSE Matsula 88.31 329 *e*P **P 13 27 35.6 -0.1**
TLCR 88.53 315 ⇑P **P 13 27 37.0 -0.1**
KIBK Kibwezi 88.71 267 P **P 13 27 38.5 -0.2**
SNR=17
ISP Isparta 88.75 308 IAMs_20 IAMs_20 14 13 35.5
comp=Z,681nm,20.0s
TPGR Topolog 88.87 315 ⇓P **P 13 27 38.3 -0.5**
STEI Steigen 88.91 339 ⇑*i*P **P 13 27 37.2 -1.2**
DLBC Dease Lake 88.93 31 P **P 13 27 40.2 +1.4**
comp=Z,6.4nm,1.0s,baz=259,slow=7.9,SNR=6.2
DLBC LR LR 14 02 01.2
comp=Z,241nm,20.6s,baz=300,slow=32
TIRR Tirgusor 88.96 315 ⇑P **P 13 27 38.4 -0.7**
SCTR Scanteiesti 88.99 316 ⇑P **P 13 27 39.7 +0.4**
CFR Carcaliu 89.00 316 ⇓P **P 13 27 38.6 -0.7**
WTLY Watson Lake, Y 89.04 29 P **P 13 27 40.4 +1.2**
baz=288
MAW Mawson 89.10 200 P **P 13 27 39.9 +0.8**
comp=Z,32nm,0.9s,baz=68,slow=5.7,SNR=13
MAW LR LR 14 01 31.3
comp=Z,406nm,20.9s,baz=56,slow=31
MAW Mawson 89.10 200 P **P 13 27 40.0 +0.9**
baz=89,SNR=11
MAW Mawson 89.10 200 P **P 13 27 39.0 -0.1**
MAW Mawson 89.10 200 P **P 13 27 39.0 -0.1**
FAUS Fauske 89.10 339 ⇑*i*P **P 13 27 38.2 -1.1**
VNDA Vanda 89.25 173 P **P 13 27 39.9 +0.3**
comp=Z,23nm,0.8s,baz=311,slow=5.5,SNR=41
VNDA LR LR 14 08 53.4
comp=Z,364nm,18.6s,baz=326,slow=36
VNDA Vanda 89.25 173 P **P 13 27 40.0 +0.3**
VNDA pmax pmax
comp=Z,30nm,1.0s
VNDA Vanda 89.25 173 P **P 13 27 40.0 +0.3**
VNDA IAmb IAmb 13 27 54.9
comp=Z,30nm,0.9s
KMBO Kilima Mbogo 89.30 269 P **P 13 27 42.1 +0.4**
comp=Z,23nm,1.0s,baz=70,slow=4.2,SNR=36
KMBO LR LR 14 07 15.2
comp=Z,361nm,19.2s,baz=90,slow=35
KMBO Kilima Mbogo 89.30 269 IAMs_20 IAMs_20 14 10 25.9
comp=Z,541nm,18.0s
KMBO Kilima Mbogo 89.30 269 P **P 13 27 41.8 +0.2**
KMBO Kilima Mbogo 89.30 269 P **P 13 27 42.0 +0.4**
LOF Lofoten 89.41 340 ⇑*i*P **P 13 27 40.0 -0.7**
ICOR Ion Corvin 89.47 315 ⇑P **P 13 27 41.3 -0.2**
TESR Tescani 89.71 317 ⇑P **P 13 27 41.9 -0.8**
VRI Vrincioaia 89.81 316 ⇓P **P 13 27 43.3 +0.1**
PLOR Plostina 89.87 316 ⇓P **P 13 27 43.3 -0.1**
MOR8 Moi Rana 89.89 338 ⇑*i*P **P 13 27 40.9 -2.2**
SUW Suwalki 89.94 325 *e*P **P 13 27 42.5 -1.0**
SUW Suwalki 89.94 325 *e*P **P 13 27 42.7 -0.8**
NEHR Nehoiu 90.21 316 ⇑P **P 13 27 45.4 +0.4**
KONS Konsvik 90.25 338 *e*P **P 13 27 43.5 -1.1**
WRGLY Wrigley 90.37 25 P **P 13 27 46.4 +1.1**
baz=292
BURAR Bucovina Array 90.39 318 IAmb IAmb 13 27 48.1
comp=Z,17nm,0.8s
LODK Lodwar 90.41 274 IAMs_20 IAMs_20 14 07 45.2
comp=Z,671nm,20.0s
MLR Muntele Rosu 90.43 316 ⇑P **P 13 27 46.3 +0.1**
MLR Muntele Rosu 90.43 316 P **P 13 27 45.9 -0.3**
comp=Z,9.5nm,0.8s,baz=59,slow=8.2,SNR=8.9
MLR LR LR 14 13 29.5
comp=Z,1μm,21.4s,baz=65,slow=39
LVV L'vov 90.58 321 *e*P **P 13 27 45.8 -0.8**
UPP Uppsala 90.96 331 *e*P **P 13 27 47.5 -0.6**
DAG Danmarks Havn 91.43 352 *i* P **P 13 27 48.0 -2.0**
DAG IAmb IAmb 13 27 50.3
comp=Z,117nm,1.3s
KWP Kalwaria Pacla 91.46 321 *e*P **P 13 27 50.5 -0.2**
NSS Namsos 91.53 337 ⇑*i*P **P 13 27 49.2 -1.5**
BBB Bella Bella 91.84 36 LR LR 14 04 05.0
comp=Z,150nm,20.5s,baz=282,slow=32
UZH Uzhgorod 92.00 320 ⇑*i*P **P 13 27 53.1 -0.1**
UZH *e* 13 28 02.7
UZH *i* 13 31 26.9
UZH *e* 13 38 24.6
UZH *i* S **S 13 38 48.4 -3.8**
RES Resolute Bay 92.14 10 P **P 13 27 54.0 +0.7**
comp=Z,27nm,0.8s,baz=303,slow=4.8,SNR=92
RES LR LR 14 14 40.3
comp=Z,226nm,18.4s,baz=290,slow=39
RES Resolute Bay 92.14 10 P **P 13 27 54.0 +0.7**
RES Resolute Bay 92.14 10 IAmb IAmb 13 27 55.5
comp=Z,32nm,0.8s
DRGR 92.26 318 ⇓P **P 13 27 54.3 -0.3**
CRVS Cervenica-Dubn 92.45 320 *e*P **P 13 27 55.5 +0.2**
CRVS pmax pmax
comp=Z,83nm,1.0s
CRVS Cervenica-Dubn 92.45 320 *e*P **P 13 27 55.5 +0.2**
HFS Hagfors 92.68 332 P **P 13 27 55.0 -1.1**
comp=Z,39nm,0.6s,baz=94,slow=4.6,SNR=153
HFS LR LR 14 13 50.6
comp=Z,872nm,19.3s,baz=68,slow=38
TBLU Trondheim 92.78 336 *e*P **P 13 27 55.3 -1.2**
HERR Herculane 93.00 316 ⇑P **P 13 27 57.8 -0.2**
NIE Niedzica 93.02 321 *e*P **P 13 27 58.8 +0.9**
OJC Ojcow 93.07 322 *e*P **P 13 27 57.6 -0.5**
NEEM North Greenlan 93.09 359 *i* P **P 13 27 57.4 -0.7**
NEEM IAmb IAmb 13 27 59.2
comp=Z,62nm,0.8s
SIRR Siria 93.11 318 ⇓P **P 13 27 58.1 -0.3**
KECS Kecovo 93.19 320 *e*P **P 13 27 58.8 +0.1**
KECS Kecovo 93.19 320 *e*P **P 13 27 58.8 +0.1**
NC602 NORSAR Array S 93.39 333 *e*P **P 13 27 58.1 -1.2**
NB2 NORSAR Subarra 93.39 334 P **P 13 27 57.4 -2.0**
comp=Z,18nm,0.6s,baz=66,slow=4.4
NB2 NORSAR Subarra 93.39 334 P **P 13 27 57.4 -2.0**
baz=66,slow=4.4
NOA NORSAR Array B 93.39 334 P **P 13 27 58.1 -1.3**
comp=Z,15nm,0.7s,baz=65,slow=4.6,SNR=64
NOA LR LR 14 14 05.8
comp=Z,703nm,19.0s,baz=70,slow=38
TULEG Thule 93.56 4 *i* P **P 13 27 58.5 -1.3**
TULEG IAmb IAmb 13 28 00.4
comp=Z,21nm,0.9s
TULEG Thule 93.56 4 IAMs_20 IAMs_20 14 12 57.7
comp=Z,580nm,19.0s
LANS Liptovska Anna 93.62 321 *e*P **P 13 28 01.0 +0.3**
LANS Liptovska Anna 93.62 321 *e*P **P 13 28 01.0 +0.3**
DBG Daneborg 93.71 351 *i* P **P 13 27 59.4 -1.1**
DBG IAmb IAmb 13 28 01.5
comp=Z,46nm,1.0s
IDI Anoyia 93.73 307 P **P 13 28 00.9 -0.7**
comp=Z,23nm,1.1s,baz=42,slow=12,SNR=2.9
IDI LR LR 14 16 53.0
comp=Z,326nm,20.2s,baz=90,slow=40
DOMB Dombas 93.84 335 *e*P **P 13 28 00.7 -0.8**
OSL Oslo 94.11 333 *e*P **P 13 28 02.2 -0.4**
MOL Molde 94.20 336 *e*P **P 13 28 02.6 -0.4**
OKC Ostrava-Krasne 94.20 322 AMS AMS 14 13 10.0
comp=Z,600nm,19.2s
VYHS Vyhne 94.23 320 *e*P **P 13 28 04.0 +0.5**
VYHS Vyhne 94.23 320 *e*P **P 13 28 04.0 +0.5**
YKA Yellowknife Ar 94.34 24 P **P 13 28 04.7 +1.0**
comp=Z,21nm,0.7s,baz=299,slow=4.5,SNR=313
YKA PKiKP **PKiKP 13 32 47.5 +0.5**
comp=Z,0.4nm,0.6s,baz=304,slow=1.7,SNR=6.0
YKA PKKP **PKKPdf 13 45 02.0 -2.3**
comp=Z,1.1nm,0.6s,baz=122,slow=3.0,SNR=19
YKA LR LR 14 09 40.9
comp=Z,307nm,21.8s,baz=284,slow=35
MORC Moravsky Berou 94.59 322 ⇑P **P 13 28 05.1 -0.1**
MORC Moravsky Berou 94.59 322 *e*P **P 13 28 04.8 -0.4**
AKN Aaknes 94.62 336 ⇑*i*P **P 13 28 04.7 -0.3**
FRGS Fruska Gora 94.68 317 ⇑P **P 13 28 04.4 -1.3**
KONO Kongsberg 94.75 333 *i* P **P 13 28 04.3 -1.3**
KONO pmax pmax
comp=Z,21nm,1.0s
KONO Kongsberg 94.75 333 *e*P **P 13 28 04.9 -0.7**
SKAR Skarslia 94.82 334 *e*P **P 13 28 05.8 -0.2**
JAVC Velka Javorina 94.83 321 *e*P **P 13 28 07.3 +1.0**
TAOE Nuku Hiva Isla 94.87 98 *e*LR LR 13 58 48.8
comp=Z,1μm,25.8s,baz=282
DIVS Divibare 94.89 316 IAMs_20 IAMs_20 14 15 37.2
comp=Z,587nm,22.0s
KRLC Kraliky 94.94 322 *e*P **P 13 28 06.4 -0.4**
KRLC *e* 13 28 13.6
KRLC MLR MLR
comp=Z,500nm,20.8s
KRLC Kraliky 94.94 322 *e*P **P 13 28 06.4 -0.4**
KRLC *ex* x 13 28 13.6
KRLC AMS AMS 14 12 20.0
comp=Z,500nm,20.8s
KSP Ksiaz 94.95 323 *e*P **P 13 28 06.8 0.0**
OSTC Ostas 95.11 323 AMS AMS 14 13 20.0
comp=Z,700nm,16.4s
MORH Mrgy, Hungar 95.11 318 ⇑P **P 13 28 06.5 -1.1**
DPC Dobruska-Polom 95.12 323 *e*P **P 13 28 07.5 -0.1**
DPC MLR MLR
comp=Z,800nm,21.4s
DPC Dobruska-Polom 95.12 323 *e*P **P 13 28 07.5 -0.1**
DPC AMS AMS 14 13 10.0
comp=Z,800nm,21.4s
CHVC Chvalec 95.19 323 *e*P **P 13 28 07.9 0.0**
CHVC AMS AMS 14 13 30.0
comp=Z,800nm,19.9s
UPC Upice 95.24 323 *e*P **P 13 28 07.4 -0.7**
UPC MLR MLR
comp=Z,800nm,18.8s
UPC Upice 95.24 323 *e*P **P 13 28 07.4 -0.7**
UPC AMS AMS 14 13 10.0
comp=Z,800nm,18.8s
VRAC Vranov 95.33 322 ⇑P **P 13 28 08.8 +0.2**
VRAC Vranov 95.33 322 P **P 13 28 08.7 +0.2**
comp=Z,10nm,0.7s,baz=77,slow=4.1,SNR=9.6
VRAC LR LR 14 14 27.0
comp=Z,542nm,18.5s,baz=83,slow=38
VRAC Vranov 95.33 322 *e*P **P 13 28 08.7 +0.2**
HYA Hoyanger 95.47 335 *e*P **P 13 28 08.3 -0.5**
MPLH Magyarpolny 95.50 320 P **P 13 28 07.9 -1.4**
KRUC Moravsky 95.55 322 *e*P **P 13 28 09.5 0.0**
MBAR Mbarara 95.63 270 LR LR 14 10 47.6
comp=Z,786nm,20.3s,baz=42,slow=35
FOO Floro 95.71 336 *e*P **P 13 28 09.1 -0.8**
HOMB Homborsund 95.90 332 *e*P **P 13 28 09.5 -1.3**
PDG Podgorica 95.93 315 ⇑P **P 13 28 10.6 -0.8**
PDG Podgorica 95.93 315 IAMs_20 IAMs_20 14 18 14.7
comp=Z,511nm,20.0s
ODD1 Odda 95.93 334 *e*P **P 13 28 10.7 -0.3**
TREC Trest 96.01 322 AMS AMS 14 16 40.0
comp=Z,800nm,19.9s
PVCC Panska Ves 96.09 323 AMS AMS 14 14 00.0
comp=Z,800nm,15.6s
BLS5 Blasjo 96.25 334 *e*P **P 13 28 12.4 -0.1**
CONA Conrad Observa 96.29 321 *e*P **P 13 28 13.7 +0.7**
comp=Z,16nm,1.6s
PRU Pruhonice 96.31 323 *e*P **P 13 28 12.9 -0.1**
PRU MLR MLR
comp=Z,900nm,17.9s
PRU Pruhonice 96.31 323 *e*P **P 13 28 12.9 -0.1**
PRU AMS AMS 14 14 30.0
comp=Z,900nm,17.9s
BRG Berggiesshubel 96.32 324 *e*P **P 13 28 13.1 +0.1**
BRG Amp 13 28 14.7
comp=Z,22nm,1.5s
BRG *ex* x 13 28 19.8
BRG Amp 13 28 22.6
comp=Z,19nm,1.5s
BRG Berggiesshubel 96.32 324 *e*P **P 13 28 13.0 +0.1**
BRG *e* 13 28 19.7
BRG pmax pmax
comp=Z,22nm,1.5s
BRG pmax pmax
comp=Z,19nm,1.5s
SNART Snartemo 96.47 332 *e*P **P 13 28 12.9 -0.6**
D03D Eldon 96.48 40 P **P 13 28 15.0 +1.2**
baz=292
CLL Collm 96.68 325 *e*P **P 13 28 14.0 -0.6**
CLL *e* 13 28 22.0
CLL pmax pmax
comp=Z,41nm,1.8s
CLL pmax pmax
comp=Z,42nm,2.2s
CLL MLR MLR
comp=Z,800nm,20.4s
CLL Collm 96.68 325 *e*P **P 13 28 14.0 -0.6**
comp=Z,41nm,1.8s
CLL *e*(pP) **pP 13 28 22.0 -4.7**
comp=Z,20nm,1.5s
CLL *e*PP **PP 13 32 07.0 -2.2**
CLL *ex* x 13 33 54.0

CLL				*e*PPPP				13 36 12.0	
CLL				*e*(SP)				13 40 42.0	
CLL				*e*PPS	PPS			13 41 24.0	
CLL				*i* PKKPbc	**PKKPbc**			**13 44 56.6**	**-2.6**
	comp=Z,42nm,2.2s								
CLL				*e*pPKKPbc				13 45 07.0	
CLL				LmH				14 15 00.0	
	comp=N,400nm,20.0s								
CLL				LmH				14 15 00.0	
	comp=E,500nm,20.2s								
CLL				LmV				14 16 00.0	
	comp=Z,800nm,20.4s								
CLL	**Collm**	**96.68**	**325**	*e*L	L			14 16 30.6	
	comp=Z,791nm,20.4s								
ARSA	**Arzberg**	**96.75**	**320**	*e*P	**P**			**13 28 15.6**	**+0.5**
	comp=Z,7.1nm,1.2s								
CKRC	**Cesky Krumlov**	**96.91**	**322**	*e*P	**P**			**13 28 15.3**	**-0.4**
CKRC				*ex*	x			13 28 24.0	
BSEG	**Bad Segeberg**	**97.03**	**328**	*e*L	L			14 21 03.8	
	comp=Z,524nm,19.2s								
E04D	**Cinebar**	**97.18**	**40**	P	Pdif			13 28 18.0	+0.9
	baz=292								
G03D	**McMinnville, O**	**97.22**	**42**	P	Pdif			13 28 19.0	+1.7
	baz=291								
KHC	**Kasperske Hory**	**97.23**	**322**	*e*P	**P**			**13 28 16.6**	**-0.6**
KHC				*e*				13 28 24.5	
KHC				MLR	MLR				
	comp=Z,800nm,19.6s								
KHC	**Kasperske Hory**	**97.23**	**322**	*e*P	**P**			**13 28 16.6**	**-0.6**
KHC				*ex*	x			13 28 24.5	
KHC				AMS	AMS			14 14 40.0	
	comp=Z,800nm,19.6s								
GEC2	**GERESS Array S**	**97.27**	**322**	*e*L	L			14 18 10.3	
	comp=Z,569nm,20.2s								
GERES	**GERESS Array B**	**97.27**	**322**	P	**P**			**13 28 16.8**	**-0.7**
	comp=Z,6.7nm,0.8s,baz=60,slow=5.4,SNR=44								
GERES				LR	LR			14 15 17.5	
	comp=Z,481nm,20.1s,baz=83,slow=37								
MOA	**Molln**	**97.31**	**321**	*e*P	**P**			**13 28 17.6**	**0.0**
	comp=Z,14nm,0.8s								
SUMG	**Summit**	**97.40**	**355**	*i* P	**P**			**13 28 17.0**	**-0.9**
NKC	**Novy Kostel**	**97.45**	**324**	AMS	AMS			14 14 50.0	
	comp=Z,1μm,21.0s								
WET	**Wettzell**	**97.64**	**323**	*e*L	L			14 15 19.2	
	comp=Z,732nm,19.9s								
SYO	**Syowa Base**	**97.72**	**201‖**	*e*P	Pdif			13 28 21.6	+2.8
SYO	**Syowa Base**	**97.72**	**201‖**	*e*X	Pdif			13 28 29.2	+10
MOX	**Moxa**	**97.76**	**324**	*e*L	L			14 17 23.4	
	comp=Z,613nm,20.6s								
UPNV	**Upernavik**	**97.78**	**1**	*i* P	**P**			**13 28 17.5**	**-1.6**
L02E	**Cave Junction**	**98.08**	**45**	P	Pdif			13 28 21.7	+0.5
	baz=291								
KBA	**Koelnbreinsper**	**98.19**	**321**	*e*P	**P**			**13 28 21.1**	**-0.7**
	comp=Z,2.7nm,0.6s								
GRB1	**Grafenberg Arr**	**98.27**	**323**	*e*Pdiff	**P**			**13 28 21.5**	**-0.4**
GRF	**Grafenberg Arr**	**98.40**	**324**	*e*L	L			14 16 00.5	
	comp=Z,955nm,20.5s								
G05D	**Wamic, OR**	**98.48**	**41**	P	Pdif			13 28 24.0	+1.1
	baz=293								
YBH	**Yreka Blue Hor**	**98.86**	**45**	LR	LR			14 05 02.8	
	comp=Z,455nm,21.9s,baz=300,slow=30								
M02C	**Callahan**	**98.88**	**45**	P	Pdif			13 28 25.9	+1.0
	baz=291								
FUR	**Furstenfeldbru**	**99.02**	**322**	*e*L	L			14 18 32.4	
	comp=Z,626nm,20.8s								
WTTA	**Wattenberg**	**99.18**	**321**	*e*P	**Pdif**			**13 28 24.5**	**-1.7**
	comp=Z,19nm,1.1s								
WATA	**Walderalm**	**99.19**	**321**	*e*P	**Pdif**			**13 28 25.7**	**-0.5**
	comp=Z,20nm,1.6s								
J05D	**Fort Rock, OR**	**99.29**	**43**	P	**Pdif**			**13 28 27.7**	**+0.9**
	baz=293								
M04C	**Macdoel**	**99.45**	**45**	P	**Pdif**			**13 28 28.5**	**+1.1**
	baz=292								
SQTA	**Sankt Quirin**	**99.46**	**321**	*e*P	**Pdif**			**13 28 26.7**	**-0.7**
	comp=Z,9.5nm,0.9s								
QSPA	**South Pole Qui**	**99.46**	**180**	LR	LR			14 15 55.3	
	comp=Z,479nm,18.1s,baz=331,slow=37								
QSPA	**South Pole Qui**	**99.46**	**180**		**Pdif**			**13 28 26.9**	**+0.1**
QSPA				IAmb	IAmb			13 28 39.3	
	comp=Z,22nm,1.2s								
MOTA	**Moosalm**	**99.47**	**321**	P	**Pdif**			**13 28 26.3**	**-1.1**
	comp=Z,11nm,1.0s								
TNS	**Taunus Mts**	**99.76**	**325**	*e*L	L			14 18 33.8	
	comp=Z,871nm,18.6s								
FETA	**Feichten**	**99.84**	**321**	*e*P	**Pdif**			**13 28 28.6**	**-0.6**
	comp=Z,11nm,1.2s								
NEW	**Newport**	**99.85**	**37**	LR	LR			14 10 22.5	
	comp=Z,183nm,19.7s,baz=306,slow=33								
NEW	**Newport**	**99.85**	**37**	P	**Pdif**			**13 28 30.2**	**+1.2**
	baz=297								
STU	**Stuttgart**	**100.00**	**323**	IAMs_20	IAMs_20			14 16 48.1	
	comp=Z,693nm,20.0s								
O03E	**Paynes Creek**	**100.02**	**46**	P	**Pdif**			**13 28 31.2**	**+1.2**
	baz=292								
LSZ	**Lusaka**	**100.28**	**256**	IAMs_20	IAMs_20			14 09 56.5	
	comp=Z,576nm,19.0s								
BFO	**Black Forest**	**100.71**	**323**	*e*L	L			14 17 10.0	
	comp=Z,817nm,20.2s								
EKA	**Eskdalemuir Ar**	**102.86**	**333**	Pdiff	**Pdif**			**13 28 42.0**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=39,slow=4.6,SNR=2.4								
NVAR	**Mina Array Bea**	**103.24**	**47**	Pdiff	**Pdif**			**13 28 45.3**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=277,slow=5.0,SNR=9.5								
NVAR				PP	**PP**			**13 32 58.9**	**-0.8**
	comp=Z,1.8nm,1.1s,baz=253,slow=5.6,SNR=4.5								
NVAR				PKKPbc	**PKKPbc**			**13 44 39.1**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=131,slow=4.1,SNR=6.9								
HLID	**Hailey**	**103.67**	**41**	P	**Pdif**			**13 28 47.4**	**+1.1**
	baz=298								
REDW	**Red Top Meadow**	**106.04**	**40**	IAMs_20	IAMs_20			14 06 16.8	
	comp=Z,516nm,20.0s								
PDAR	**Pinedale Array**	**107.16**	**40**	PKiKP	**PKiKP**			**13 33 11.8**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=352,slow=1.3,SNR=1.9								
PDAR				PP	**PP**			**13 33 28.4**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=292,slow=4.8,SNR=6.1								
PDAR				PKKPbc	**PKKPbc**			**13 44 27.4**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=151,slow=3.4,SNR=6.2								
PDAR				PKKP	**PKKPdf**			**13 44 40.4**	**-0.7**
	comp=Z,6.1nm,0.9s,baz=120,slow=5.4,SNR=24								
CART	**Cartagena**	**112.01**	**317**	IAMs_20	IAMs_20			14 22 51.0	
	comp=Z,426nm,21.0s								
ANMO	**Albuquerque**	**113.28**	**45**	*i* PKIKP	**PKiKP**			**13 33 22.8**	**+0.1**
ANMO	**Albuquerque**	**113.28**	**45**	P	**PKiKP**			**13 33 23.4**	**+0.7**
	baz=301								
T25A	**Trinidad**	**113.51**	**42**	P	**PKiKP**			**13 33 23.8**	**+0.7**
	baz=304								
MNTX	**Cornudas Mount**	**115.72**	**48**	P	**PKPdf**			**13 33 27.8**	**+0.5**
	baz=301								
TX32	**Lajitas Array**	**118.20**	**49**	PKPdf	**PKiKP**			**13 33 33.4**	**+1.2**
TXAR	**Lajitas Array**	**118.20**	**49**	PKP	**PKiKP**			**13 33 32.7**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=3.6,slow=1.6,SNR=35								
TXAR				PKKPbc	**PKKPbc**			**13 43 48.1**	**-3.2**
	comp=Z,0.2nm,0.7s,baz=150,slow=5.8,SNR=3.8								
TXAR				PKKPab	**PKKPab**			**13 43 52.7**	**-2.1**
	comp=Z,1.7nm,0.8s,baz=126,slow=6.4,SNR=16								
WMOK	**Wichita Mounta**	**118.62**	**42**	P	**PKPdf**			**13 33 32.8**	**0.0**
	baz=307								
JCT	**Junction City**	**120.41**	**46**	P	**PKiKP**			**13 33 36.7**	**+0.3**
	baz=305								
TORD	**Torodi Ar. Bea**	**120.59**	**291**	PKP	**PKPdf**			**13 33 36.1**	**-0.9**
	comp=Z,6.1nm,0.7s,baz=42,slow=2.0,SNR=40								
TORD				PKKPab	**PKKPab**			**13 43 44.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=272,slow=2.9,SNR=9.8								
TORD	**Torodi Ar. Bea**	**120.59**	**291**		**PKPdf**			**13 33 36.1**	**-0.9**
CCM	**Cathedral Cave**	**121.01**	**34**	P	**PKiKP**			**13 33 37.3**	**-0.1**
	baz=316								
WHTX	**Lake Whitney,**	**121.16**	**43**	P	**PKPdf**			**13 33 37.0**	**-0.7**
	baz=307								
U40A	**Yellville**	**121.28**	**37**	P	**PKPdf**			**13 33 37.6**	**-0.2**
	baz=313								
W39A	**Magazine**	**121.50**	**38**	P	**PKiKP**			**13 33 38.6**	**+0.2**
	baz=312								
833A	**Chaparral WMA,**	**121.91**	**48**	P	**PKiKP**			**13 33 39.9**	**+0.6**
	baz=304								
MIAR	**Mount Ida**	**122.06**	**39**	P	**PKiKP**			**13 33 40.1**	**+0.6**
	baz=312								
P49A	**Miami Univ. Ec**	**123.25**	**29**	P	**PKPdf**			**13 33 41.0**	**-0.5**
	baz=323								
ACSO	**Alum Creek Sta**	**123.48**	**27**	P	**PKPdf**			**13 33 41.8**	**-0.1**
	baz=325								
M54A	**Oil Creek Stat**	**123.80**	**23**	P	**PKiKP**			**13 33 42.8**	**+0.1**
	baz=329								
WVT	**Waverly**	**124.28**	**33**	PKIKP	**PKiKP**			**13 33 44.3**	**+0.5**
WVT	**Waverly**	**124.28**	**33**	PKPdf	**PKiKP**			**13 33 44.3**	**+0.5**
WVT	**Waverly**	**124.28**	**33**	P	**PKiKP**			**13 33 43.8**	**0.0**
	baz=318								
P52A	**Corning**	**124.35**	**26**	P	**PKPdf**			**13 33 43.1**	**-0.5**
	baz=326								
PMSA	**Palmer Station**	**124.42**	**175**	*e*P	**PKiKP**			**13 33 44.3**	**+1.2**
BINY	**Binghamton**	**124.54**	**20**	P	**PKPdf**			**13 33 43.4**	**-0.5**
	baz=333								
SSPA	**Standing Stone**	**125.23**	**22**	P	**PKPdf**			**13 33 45.2**	**0.0**
	baz=330								
HRV	**Adam Dziewonsk**	**125.62**	**16**	P	**PKiKP**			**13 33 46.3**	**0.0**
	baz=338								
KMSC	**Kings Mountain**	**128.38**	**29**	P	**PKPdf**			**13 33 51.6**	**+0.2**
	baz=324								
GOGA	**Godfrey**	**128.68**	**32**	P	**PKiKP**			**13 33 52.5**	**-0.2**
	baz=321								
KIC	**Kosan Boka**	**128.76**	**286**	*e*PKIKP	**PKPdf**			**13 33 51.9**	**-0.8**
	comp=Z,19nm,0.7s								
DBIC	**Dimbokro**	**128.77**	**287**	PKP	**PKPdf**			**13 33 52.1**	**-0.5**
	comp=Z,6.1nm,0.7s,baz=108,slow=2.6,SNR=0.1								
TIC	**Toumodi**	**128.93**	**287**	*e*PKIKP	**PKPdf**			**13 33 51.8**	**-1.2**
LIC	**Lamto**	**129.07**	**286**	*e*PKIKP	**PKPdf**			**13 33 52.2**	**-1.1**
	comp=Z,94nm,1.6s								
PLCA	**Paso Flores**	**145.56**	**157**	PKPbc	**PKPab**			**13 34 23.6**	**+0.4**
	comp=Z,48nm,0.8s,baz=223,slow=3.6,SNR=168								
PLCA	**Paso Flores**	**145.56**	**157**	*e*P	**PKPab**			**13 34 24.2**	**+0.9**
PLCA	**Paso Flores**	**145.56**	**157**	*e*P	**PKPab**			**13 34 24.0**	**+0.7**
PLCA	**Paso Flores**	**145.56**	**157**	*e*P	**PKPdf**			**13 34 22.5**	**-0.4**
PLCA	**Paso Flores**	**145.56**	**157**		**PKPab**			**13 34 24.1**	**+0.9**
LC01	**Cunco**	**146.56**	**154**		**PKPab**			**13 34 26.7**	**-0.4**
SDDR	**Presa de Saban**	**146.70**	**31**	*e*P	**PKPdf**			**13 34 22.4**	**-3.0**
BCIP	**Isla Barro Col**	**147.95**	**55**	PKP2	**PKiKP**			**13 34 31.6**	**-0.9**
BCIP	**Isla Barro Col**	**147.95**	**55**	*e*P	**PKPdf**			**13 34 28.1**	**+0.6**
BCIP	**Isla Barro Col**	**147.95**	**55**	PKPab	**PKiKP**			**13 34 31.6**	**-0.9**
MLPR	**Magueyes Islan**	**149.58**	**26**		**PKPbc**			**13 34 33.7**	**-0.9**
SJG	**San Juan**	**149.83**	**24**	*e*P	**PKPdf**			**13 34 25.2**	**-5.2**
CAPC	**Capurgana**	**150.25**	**53**	*e*P	**PKPdf**			**13 34 26.2**	**-5.0**
PTAC	**Punta Ardita,**	**150.75**	**56**	*e*P	**PKPdf**			**13 34 33.8**	**+1.8**
SMRC	**Santa Marta, M**	**150.95**	**45**	*e*P	**PKPbc**			**13 34 37.6**	**-0.4**
SJCC	**San Jacinto, C**	**151.12**	**48**	*e*P	**PKPdf**			**13 34 34.8**	**+2.1**
ARGC	**Ariguani, Magd**	**151.83**	**47**	*e*P	**PKPdf**			**13 34 36.7**	**+3.0**
CRJC	**Cerrejon, Guaj**	**151.98**	**43**	*e*P	**PKPdf**			**13 34 32.9**	**-1.1**
DBBC	**Dabeiba**	**152.12**	**55**	*e*P	**PKiKP**			**13 34 41.4**	**+0.3**
LL1C	**La Loma 1 Cana**	**152.54**	**47**	*e*P	**PKPdf**			**13 34 37.6**	**+2.9**
LL6C	**La Loma 6 Bece**	**152.61**	**46**	*e*P	**PKPdf**			**13 34 36.7**	**+1.9**
SMLC	**San Martn de**	**152.66**	**49**	*e*P	**PKPbc**			**13 34 38.6**	**-3.4**
ZARC	**Zaragoza, Cauc**	**152.90**	**52**	*e*P	**PKPdf**			**13 34 34.8**	**-0.5**
CBOC	**Ciudad Bolivar**	**152.94**	**56**	*e*P	**PKPdf**			**13 34 37.6**	**+2.1**
HELC	**Santa Helena**	**153.15**	**55**	*e*P	**PKPdf**			**13 34 31.9**	**-4.2**
PLMC	**San Jos del P**	**153.24**	**58‖**	*e*P	**PKPdf**			**13 34 35.7**	**-0.1**
OTAV	**Otavalo**	**153.45**	**70**	*e*P	**PKPdf**			**13 34 33.8**	**-2.8**
OTAV	**Otavalo**	**153.45**	**70**	*e*P	**PKPdf**			**13 34 37.7**	**+1.0**
CUSE	**Cuicocha Este**	**153.47**	**70**	*e*P	**PKPab**			**13 34 59.5**	**+2.9**
DABV	**Dabajuro**	**153.53**	**40**	*e*P	**PKPdf**			**13 34 33.8**	**-2.3**
OCAC	**Ocana**	**153.59**	**48**	*e*P	**PKiKP**			**13 34 44.3**	**0.0**
YOTC	**Yotoco, Valle**	**153.67**	**60**	*e*P	**PKPdf**			**13 34 34.8**	**-1.8**
PTBC	**PUERTO BERRIO**	**153.80**	**53**	*e*P	**PKPdf**			**13 34 35.7**	**-0.9**
GUY2C	**Guyana, Caldas**	**153.83**	**57**	*e*P	**PKPbc**			**13 34 41.4**	**-3.7**
TULM	**Tulcn-Chalpat**	**153.88**	**68**	*e*P	**PKPab**			**13 34 58.6**	**+0.2**
BRRC	**Barranca, Sant**	**154.02**	**51**	*e*P	**PKPdf**			**13 34 34.8**	**-2.1**
NORC	**Norcasia**	**154.04**	**55**	*e*P	**PKPbc**			**13 34 44.3**	**-0.8**
GCUF	**Volcan Galeras**	**154.07**	**67**	*e*P	**PKPdf**			**13 34 35.7**	**-1.9**
POPC	**Popayan, Colom**	**154.09**	**63**	*e*P	**PKPbc**			**13 34 43.3**	**-2.1**
ANIL	**Santa Ana**	**154.20**	**58‖**	*e*P	**PKPdf**			**13 34 35.7**	**-1.8**
SOTA	**Rioblanco**	**154.33**	**64‖**	*e*P	**PKPdf**			**13 34 36.7**	**-1.3**
PCON	**Cinco Dias**	**154.43**	**64**	*e*P	**PKPdf**			**13 34 38.6**	**+0.4**
PAMC	**Pamplona, Colo**	**154.64**	**49**	*e*P	**PKiKP**			**13 34 47.1**	**+0.3**
ORTC	**Ortega, Tolima**	**154.64**	**59**	*e*P	PKPdf			13 34 29.1	-8.8
BARC	**Barichara**	**154.75**	**51**	*e*P	**PKPbc**			**13 34 46.2**	**-0.6**
ROSC	**El Rosal**	**154.90**	**56**	PKP	**PKPdf**			**13 34 39.4**	**+0.8**
	comp=Z,6.6nm,0.4s,baz=105,slow=21,SNR=4.3								
ROSC	**El Rosal**	**154.90**	**56**	*e*P	**PKPdf**			**13 34 38.6**	**0.0**
SDV	**Santo Domingo**	**154.04**	**43**	PKP	**PKPdf**			**13 34 38.8**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=86,slow=0.8,SNR=7.9								
SDV				PKPab	**PKPab**			**13 35 03.1**	**+0.3**
	comp=Z,16nm,0.7s,baz=259,slow=2.9,SNR=5.4								
SDV	**Santo Domingo**	**155.04**	**43**	*e*P	**PKPdf**			**13 34 35.7**	**-2.8**
SDV	**Santo Domingo**	**155.04**	**43**	*e*P	**PKPdf**			**13 34 39.5**	**+0.9**
SDV	**Santo Domingo**	**155.04**	**43**	*e*P	**PKPdf**			**13 34 40.1**	**+1.5**
SDV	**Santo Domingo**	**155.04**	**43**	*e*P	**PKPdf**			**13 34 38.6**	**+0.1**
PRAC	**Prado**	**155.05**	**59‖**	*e*P	**PKPdf**			**13 34 44.3**	**+5.9**
RUSC	**La Rusia**	**155.27**	**52**	*e*P	**PKPdf**			**13 34 35.7**	**-3.5**
ATAH	**Atahualpa**	**155.40**	**86**	PKP	**PKPdf**			**13 34 39.5**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=233,slow=2.1,SNR=4.7								
FLOC	**Florencia**	**155.43**	**64**	*e*P	**PKPdf**			**13 34 38.6**	**-0.3**
CHIC	**Chingaza**	**155.50**	**56**	*e*P	**PKPdf**			**13 34 37.6**	**-1.8**
TAMC	**Tame, Arauca**	**155.91**	**49**	*e*P	PKPdf			13 34 30.0	-10
MACC	**Macarena, Meta**	**156.75**	**61**	*e*P	**PKPab**			**13 35 11.9**	**+1.8**
PTLC	**Puerto Leguiza**	**156.82**	**66**	*e*P	**PKPdf**			**13 34 39.5**	**-1.2**
GRGR	**Grenville**	**157.00**	**20**	IAMs_20	IAMs_20			14 41 33.1	
	comp=Z,317nm,20.0s								
PTGC	**Puerto Gaitan,**	**157.04**	**54**	*e*P	**PKPab**			**13 35 10.9**	**-0.3**
PLTB	**Pedras Altas**	**157.94**	**180**	*e*P	**PKPdf**			**13 34 42.4**	**+0.8**
CPSB	**Cacapava Do Su**	**159.29**	**181**	*e*P	**PKPdf**			**13 34 44.5**	**+1.2**
TER01	**Tubaro-SC**	**160.69**	**192**	*e*P	**PKPdf**			**13 34 46.4**	**+1.5**
CZSB	**Cruzeiro do Su**	**161.07**	**86**	*e*P	**PKPdf**			**13 34 47.0**	**+1.3**
CZSB	**Cruzeiro do Su**	**161.07**	**86**	*e*P	**PKPdf**			**13 34 46.9**	**+1.3**
NBPV	**Pedro Velho**	**161.55**	**278**	*e*P	**PKPdf**			**13 34 48.2**	**+2.0**
NBRF	**Rio Formoso -**	**161.69**	**271**	*e*P	**PKPdf**			**13 34 46.3**	**0.0**
NBRF	**Rio Formoso -**	**161.69**	**271**	*e*P	**PKPab**			**13 35 30.0**	**-1.6**
NBRF	**Rio Formoso -**	**161.69**	**271**	*e*P	**PKPdf**			**13 34 47.7**	**+1.5**
RCBR	**Riachuelo**	**162.02**	**281**	*e*P	**PKPdf**			**13 34 46.8**	**+0.1**
NBAN	**Anadia - AL**	**162.87**	**268**	*e*P	**PKPab**			**13 35 35.1**	**-1.6**
CPUP	**Villa Florida**	**162.99**	**169**	PKPab	**PKPab**			**13 35 36.7**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=200,slow=5.3,SNR=5.0								
RIB01	**Linhares ES**	**163.94**	**232**	*e*P	**PKPab**			**13 35 39.0**	**-2.2**
VAS01	**Vassouras-RJ**	**164.03**	**217**	*e*P	**PKPdf**			**13 34 50.2**	**+1.8**
PET01	**Itanhaem-SP**	**164.17**	**202**	*e*P	**PKPdf**			**13 34 49.5**	**+1.2**
PARB	**Paraibuna**	**164.32**	**208**	*e*P	PKPdf			13 34 57.0	+8.3
LPAZ	**La Paz**	**164.41**	**117**	PKP	**PKPdf**			**13 34 50.0**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=71,slow=4.3,SNR=5.3								
LPAZ				PKPab	**PKPab**			**13 35 45.5**	**+1.4**
	comp=Z,8.2nm,1.0s,baz=333,slow=1.7,SNR=6.1								
LPAZ	**La Paz**	**164.41**	**117**	PKIKP	**PKPdf**			**13 34 50.0**	**+0.4**
LPAZ	**La Paz**	**164.41**	**117**	*e*P	**PKPdf**			**13 34 45.2**	**-4.3**
LPAZ	**La Paz**	**164.41**	**117**	*e*P	**PKPdf**			**13 34 51.2**	**+1.7**
GUA01	**Guaratinga, BA**	**164.84**	**241**	*e*P	**PKPab**			**13 35 44.3**	**-1.0**
GUA01	**Guaratinga, BA**	**164.84**	**241**	*e*P	**PKPab**			**13 35 44.9**	**-0.4**
GUA01	**Guaratinga, BA**	**164.84**	**241**	*e*P	**PKPdf**			**13 34 50.2**	**+1.1**
SJMB	**Sao Joao De Ma**	**164.91**	**232**	*e*P	**PKPdf**			**13 34 49.8**	**+0.6**
CMC01	**Camacan, BA**	**165.06**	**246**	*e*P	**PKPdf**			**13 34 49.5**	**+0.2**
CMC01	**Camacan, BA**	**165.06**	**246**	*e*P	**PKPdf**			**13 34 50.2**	**+0.8**
CMC01	**Camacan, BA**	**165.06**	**246**	*e*P	**PKPdf**			**13 34 49.8**	**+0.4**
NBMA	**Muriti-CE**	**165.11**	**277**	*e*P	**PKPab**			**13 35 45.2**	**-1.5**
NBMA	**Muriti-CE**	**165.11**	**277**	*e*P	**PKPdf**			**13 34 50.2**	**+0.7**
GDU01	**Guandu, BA**	**165.62**	**252**	*e*P	**PKPdf**			**13 34 50.4**	**+0.5**
BOAV	**Boa Vista**	**166.26**	**30**	*e*P	**PKPdf**			**13 34 51.2**	**+0.8**
BOAV	**Boa Vista**	**166.26**	**30**	*e*P	**PKPdf**			**13 34 50.8**	**+0.4**
DIAM	**Diamantina, MG**	**167.02**	**227**	*e*P	**PKPdf**			**13 34 51.1**	**0.0**
DIAM	**Diamantina, MG**	**167.02**	**227**	*e*P	**PKPdf**			**13 34 51.0**	**0.0**
PCMB	**Paanembu**	**167.84**	**191**	*e*P	**PKPdf**			**13 34 52.7**	**+1.3**
ROSB	**Rosrio**	**168.43**	**305**	*e*P	**PKPdf**			**13 34 51.9**	**-0.2**
ROSB	**Rosrio**	**168.43**	**305**	*e*P	**PKPdf**			**13 34 52.2**	**+0.1**
AQDB	**Aquidauana**	**169.00**	**170**	*e*P	**PKPdf**			**13 34 54.5**	**+2.3**
SIV	**San Ignacio**	**170.37**	**132**	PKP	**PKPdf**			**13 34 53.0**	**-0.2**
	comp=Z,5.2nm,1.0s,baz=167,slow=2.7,SNR=9.8								
MCPB	**Macapa, AP**	**170.69**	**350**	*e*P	**PKPdf**			**13 34 53.2**	**-0.3**
MCPB	**Macapa, AP**	**170.69**	**350**	*e*P	**PKPdf**			**13 34 53.3**	**-0.1**
MCPB	**Macapa, AP**	**170.69**	**350**	*e*P	**PKPdf**			**13 34 53.7**	**+0.3**
TMAB	**Tom-Àu,PA,Br**	**170.94**	**322**	*e*P	**PKPdf**			**13 34 54.4**	**+0.8**
SDBA	**SAO DESIDERIO**	**170.97**	**251**	*e*P	**PKPdf**			**13 34 53.4**	**-0.2**
SDBA	**SAO DESIDERIO**	**170.97**	**251**	*e*P	**PKPdf**			**13 34 52.5**	**-1.1**
BDFB	**Brasilia**	**171.85**	**222**	PKPab	**PKPab**			**13 36 15.7**	**-0.6**
	comp=Z,9.1nm,0.9s,baz=135,slow=6.7,SNR=8.3								
PTLB	**Pontes e Lacer**	**172.09**	**138**	*e*P	**PKPdf**			**13 34 54.8**	**+0.8**
VILB	**Vilhena**	**172.76**	**118**	*e*P	**PKPdf**			**13 34 56.8**	**+2.4**
ARAG	**Araguaiana, MT**	**173.67**	**196**	*e*P	**PKPdf**			**13 34 55.0**	**+0.3**
ARAG	**Araguaiana, MT**	**173.67**	**196**	*e*P	**PKPdf**			**13 34 55.0**	**+0.3**
SMTB	**Santa Maria do**	**173.97**	**276**	*e*P	**PKPdf**			**13 34 54.5**	**-0.3**
SMTB	**Santa Maria do**	**173.97**	**276**	*e*P	**PKPdf**			**13 34 54.4**	**-0.5**
SMTB	**Santa Maria do**	**173.97**	**276**	*e*P	**PKPdf**			**13 34 53.6**	**-1.2**
PEXB	**Peixe**	**174.18**	**244**	*e*P	**PKPdf**			**13 34 54.3**	**-0.6**
ITTB	**Itaituba**	**174.41**	**22**	*e*P	**PKPdf**			**13 34 55.1**	**+0.1**
ITTB	**Itaituba**	**174.41**	**22**	*e*P	**PKPdf**			**13 34 55.2**	**+0.2**
PDRB	**Porto dos Gac**	**176.37**	**124**	*e*P	**PKPdf**			**13 34 55.5**	**0.0**
NPGB	**Novo Progresso**	**176.96**	**34**	*e*P	**PKPdf**			**13 34 55.4**	**-0.3**
NPGB	**Novo Progresso**	**176.96**	**34**	*e*P	**PKPdf**			**13 34 56.0**	**+0.4**
CLDB	**Colider**	**177.54**	**121**	*e*P	**PKPdf**			**13 34 55.6**	**-0.1**
CLDB	**Colider**	**177.54**	**121**	*e*P	**PKPdf**			**13 34 55.8**	**+0.1**

ANF ***14*** *13:25:20.8±0.2, 59.°54N× 153.°01W, h98km±4km, ML3.2/24, Error ellipse: s-maj=2.8km s-min=2.0km az=99.0*
NEIC ***14*** *13:25:21.1±0.7, 59.°58N±0.°03× 153.°04W±0.°07, h97km±1km, Error ellipse: s-maj=5.2km s-min=4.2km az=117.0*

AEIC ***14*** *13:25:22±0.9, 59.°57N±0.°03× 153.°03W±0.°07, h94km±4km, ML3.2, ML3.1/84(NEIC), Error ellipse: s-maj=5.1km s-min=4.4km az=134.0*

ISC 14 13:25:20.6±1.3, 59.°56N±0.°03× 153.°01W±0.°03, h100km±7km, n162, σ0.°55/158, Southern Alaska

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h

TTA	Tatalina	3.68	338	P		Pn	13 26 15.4	+0.1
	baz=156							
EYAK	Cordova Ski Ar	3.77	72			Pn	13 26 17.1	+0.5
EYAK	Cordova Ski Ar	3.77	72	P		Pn	13 26 16.4	-0.2
	baz=258							
K20K	Telida	3.84	353			Pn	13 26 18.4	+0.8
K20K	Telida	3.84	353	IAML			13 27 39.8	
	comp=E,24nm,4.0s							
K20K				IAML			13 28 34.2	
	comp=N,17nm,4.7s							
K20K	Telida	3.84	353	P		Pn	13 26 18.2	+0.6
	baz=172							
WAT7	Susitna Watana	3.85	30			Pn	13 26 18.5	+0.8
CAST	Castle Rocks	3.90	6			Pn	13 26 18.9	+0.6
CAST	Castle Rocks	3.90	6	IAML			13 26 47.8	
	comp=N,17nm,4.1s							
CAST				IAML			13 27 00.3	
	comp=E,22nm,4.7s							
CAST	Castle Rocks	3.90	6	P		Pn	13 26 19.0	+0.7
	baz=187,SNR=8.1							
DIV	Divide	3.93	63			Pn	13 26 19.4	+0.7
WAT6	Susitna Watana	3.97	38			Pn	13 26 19.5	+0.1
WAT6	Susitna Watana	3.97	38	P		Pn	13 26 19.4	+0.1
	baz=223							
KLU	Klutina	4.00	58			Pn	13 26 19.5	-0.2
KLU	Klutina	4.00	58	IAML			13 27 05.0	
	comp=N,30nm,0.4s							
KLU				IAML			13 27 08.0	
	comp=E,20nm,0.5s							
KLU	Klutina	4.00	58	P		Pn	13 26 19.4	-0.3
	baz=244							
TRF	Thorofare Moun	4.11	17			Pn	13 26 22.0	+0.7
TRF	Thorofare Moun	4.11	17	IAML			13 27 04.7	
	comp=E,34nm,3.4s							
TRF				IAML			13 27 45.2	
	comp=N,29nm,3.5s							
TRF	Thorofare Moun	4.11	17	P		Pn	13 26 22.0	+0.7
	baz=200							
KTH	Kantishna Hill	4.13	13			Pn	13 26 21.5	+0.1
KTH	Kantishna Hill	4.13	13	IAML			13 26 53.9	
	comp=N,22nm,4.2s							
KTH				IAML			13 28 41.5	
	comp=E,21nm,4.2s							
M24K	Tolsona, Glenn	4.21	50			Pn	13 26 22.3	-0.2
M24K	Tolsona, Glenn	4.21	50	P		Pn	13 26 22.6	+0.1
	baz=236							
GOAT	Goat Mountain	4.28	73			Pn	13 26 24.0	+0.6
RND	Reindeer	4.34	26			Pn	13 26 24.9	+0.5
RND	Reindeer	4.34	26	IAML			13 27 45.9	
	comp=E,19nm,4.5s							
RND				IAML			13 28 01.6	
	comp=N,18nm,4.4s							
CHUM	Lake Minchumin	4.35	4			Pn	13 26 25.2	+0.9
CHUM	Lake Minchumin	4.35	4	P		Pn	13 26 25.1	+0.7
	baz=185,SNR=5.3							
KAIM	Kayak Island	4.36	81			Pn	13 26 25.2	+0.6
BMRM	Bremner River	4.42	68			Pn	13 26 25.9	+0.6
BMRM	Bremner River	4.42	68	IAML			13 27 20.6	
	comp=N,27nm,2.9s							
BMRM	Bremner River	4.42	68	P		Pn	13 26 25.3	-0.1
	baz=255							
DHY	Denali Highway	4.45	35			Pn	13 26 26.2	+0.4
DHY	Denali Highway	4.45	35	IAML			13 27 06.5	
	comp=E,26nm,3.0s							
DHY				IAML			13 27 17.3	
	comp=N,27nm,2.1s							
DHY	Denali Highway	4.45	35	P		Pn	13 26 26.0	+0.2
	baz=220							
HMT	Hamilton	4.47	76			Pn	13 26 26.6	+0.6
NICHA	Nichawak Mount	4.61	78			Pn	13 26 28.6	+0.7
MCK	McKinley	4.61	23			Pn	13 26 28.8	+0.9
MCK	McKinley	4.61	23	P		Pn	13 26 28.5	+0.6
	baz=207							
N25K	Chitina, Valde	4.63	60			Pn	13 26 27.8	-0.4
N25K	Chitina, Valde	4.63	60	IAML			13 28 09.0	
	comp=E,18nm,3.9s							
N25K				IAML			13 29 08.9	
	comp=N,22nm,3.9s							
N25K	Chitina, Valde	4.63	60	P		Pn	13 26 27.9	-0.3
	baz=248							
BPAW	Bear Paw Mtn.	4.65	11			Pn	13 26 28.9	+0.4
BPAW	Bear Paw Mtn.	4.65	11	IAML			13 28 35.2	
	comp=N,21nm,4.2s							
BPAW	Bear Paw Mtn.	4.65	11	P		Pn	13 26 29.1	+0.6
	baz=193							
J20K	Nowinta River	4.66	354			Pn	13 26 29.2	+0.6
J20K	Nowinta River	4.66	354	IAML			13 28 17.6	
	comp=N,20nm,4.1s							
J20K				IAML			13 28 20.1	
	comp=E,14nm,4.7s							
J20K	Nowinta River	4.66	354	P		Pn	13 26 29.1	+0.6
	baz=173							
BERG	Berg Lake	4.75	76			Pn	13 26 30.2	+0.4
HARP	HAARP	4.77	50			Pn	13 26 30.8	+0.8
GLB	Gilahina Butte	4.92	64			Pn	13 26 32.9	+0.7
GLB	Gilahina Butte	4.92	64	IAML			13 27 17.8	
	comp=E,20nm,1.9s							
PAX	Paxson	4.99	44			Pn	13 26 32.6	-0.5
NEA2	Nenana	5.38	18			Pn	13 26 38.3	0.0
NEA2	Nenana	5.38	18	P		Pn	13 26 38.2	0.0
	baz=202,SNR=5.4							
WRH	Wood River Hil	5.44	23			Pn	13 26 39.2	0.0
ISLE	Juniper Island	5.45	74			Pn	13 26 39.8	+0.5
KIAG	Kiagna River	5.48	71			Pn	13 26 39.8	-0.1
PTPK	Patty Peak	5.48	68			Pn	13 26 40.9	+1.0
BALM	Baldy	5.51	70			Pn	13 26 40.5	+0.4
MESA	MESA	5.61	79	P		Pn	13 26 41.5	-0.1
	baz=268							
HDA	Harding Lake	5.64	28			Pn	13 26 42.0	+0.2
HDA	Harding Lake	5.64	28	P		Pn	13 26 42.0	+0.2
	baz=213							
M26K	Nabesna, AK	5.64	55			Pn	13 26 41.6	-0.3
CCB	Clear Creek Bu	5.66	23			Pn	13 26 41.8	-0.3
I21K	Tanana	5.66	4			Pn	13 26 42.3	+0.3
I21K	Tanana	5.66	4	P		Pn	13 26 42.6	+0.5
	baz=267							
RIDG	Independent Ri	5.72	39			Pn	13 26 43.3	+0.4
RIDG	Independent Ri	5.72	39	P		Pn	13 26 43.3	+0.4
	baz=227							
YAH	Yahtse	5.72	77			Pn	13 26 43.7	+0.6
PS08	TAPS Pump Stn8	5.78	28			Pn	13 26 43.9	+0.1
BARN	Barnard Glacie	5.84	70			Pn	13 26 45.0	+0.3
TCOL	CIGO, UAF Yank	5.85	22			Pn	13 26 44.8	+0.2
TCOL	CIGO, UAF Yank	5.85	22	P		Pn	13 26 44.6	0.0
	baz=207							
COLA	College	5.85	22			Pn	13 26 44.7	+0.1
COLA	College	5.85	22	P		Pn	13 26 44.6	0.0
	baz=207							
MDM	Murphy Dome	5.86	20			Pn	13 26 44.8	+0.1
I23K	Minto, Yukon-K	5.86	15			Pn	13 26 45.4	+0.7
I23K	Minto, Yukon-K	5.86	15	P		Pn	13 26 45.4	+0.7
	baz=199,SNR=26							
IL31		5.96	26			Pn	13 26 46.0	-0.1
POKR	Poker Plat Res	6.15	23	P		Pn	13 26 48.8	0.0
	baz=208							
SCRK	Sand Creek	6.16	40			Pn	13 26 49.0	+0.1
SCRK	Sand Creek	6.16	40	P		Pn	13 26 49.0	+0.1
	baz=228							
PNL	Peninsula	6.91	83			Pn	13 26 59.2	+0.1
PNL	Peninsula	6.91	83	P		Pn	13 26 59.1	0.0
	baz=275							

*IDC **14** 13:28:24.7±0.9, 3˙.62S×123˙.44E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.6/52, mbtmp3.8/10, ML3.4/4, Error ellipse: s-maj=27.2km s-min=19.1km az=63.0*
*DJA **14** 13:28:25.5±0.3, 4˙S±2˙×12˙4E± ˚, h153km±9km, M4.0/21, mb4.2/9, MLv3.9/21*
*NEIC **14** 13:28:27.4±2.0, 3˙.86S±0˙.07×123˙.42E±0˙.05, h32km±6km, mb4.3/8, Error ellipse: s-maj=10.9km s-min=5.6km az=145.0*

ISC 14 13:28:27.1±0.7, 3˙.83S±0˙.05×123˙.60E±0˙.06, h35km, n48, σ1§61/47, mb4.1/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	Bau Bau	1.94	212	P	Pn	13 28 59.8	+2.2
LUWI	Luwuk	2.89	343	P	Pn	13 29 09.3	-1.4
LUWI	Luwuk	2.89	343	Pn	Pn	13 29 09.7	-1.0
SANI	Sanana	2.97	53	P	Pn	13 29 12.4	+0.6
APSI	Ampana	3.50	326	P	Pn	13 29 17.2	-1.8
BNSI	Bone	3.53	261	P	Pn	13 29 19.0	-0.5
BKSI	Bulukumba	3.77	247	P	Pn	13 29 23.4	+0.6
SPSI	Sidrap Palu	3.82	268	P	Pn	13 29 23.0	-0.5
TTSI	Tana Toraja	3.85	282	P	Pn	13 29 23.6	-0.4
BSSI	Bau Bau, Buton	3.85	233	P	Pn	13 29 25.1	+1.1
KAPI	Kappang	4.01	253	Pn	Pn	13 29 27.4	+1.2
	12nm,0.3s,baz=87,slow=6.9,SNR=17						
KAPI				Sn	Sn	13 30 13.5	+1.5
	3.5nm,0.3s,baz=210,slow=18,SNR=1.3						
KAPI	Kappang	4.01	253		Pn	13 29 24.9	-1.3
KMSI	Cibinong	4.39	5	P	Pn	13 29 32.1	+0.7
GTOI	Gorontalo	4.48	352	P	Pn	13 29 34.1	+1.6
MRSI	Marisa	4.59	339	P	Pn	13 29 32.4	-1.7
MMRI	Maumere	4.96	196	P	Pn	13 29 38.6	-0.6
LBMI	Labuha	5.03	51	P	Pn	13 29 39.0	-1.1
	0.1nm19nm,1.4s						
EDFI	Ende, Flores	5.24	201	P	Pn	13 29 40.0	-3.1
	0.0nm9.9nm,0.8s						
MPSI	Mapaga	5.55	318	P	Pn	13 29 45.3	-2.0
	0.1nm33nm,1.0s						
TOLI2	Tolitoli	5.66	330		Pn	13 29 49.2	+0.4
TNTI	Ternate	5.92	40	P	Pn	13 29 52.4	0.0
	0.2nm51nm,0.7s						
TNTI	Ternate	5.92	40	Pn	Pn	13 29 54.0	+1.6
BATI	Baumata	6.33	179	P	Pn	13 29 54.8	-3.3
	0.1nm8.2nm,1.2s						
BKB	Balikpapan	7.17	291	P	Pn	13 30 10.1	+0.6
	0.7nm98nm,1.3s						
SIJI	Sorong	8.21	69	Pn	Pn	13 30 27.8	+4.0
	1.1nm,0.3s,baz=270,slow=9.1,SNR=8.4						
FAKI	Fak Fak	8.68	84	P	Pn	13 30 28.7	-1.6
FAKI	Fak Fak	8.68	84	Pn	Pn	13 30 33.8	+3.4
MTN	Manton Dam	11.64	141	Pn	Pn	13 31 12.5	+1.6
KNRA	Kununurra	12.82	157	Pn	Pn	13 31 28.4	+1.4
FITZ	Fitzroy Crossi	14.32	172	Pn	P	13 31 53.6	-0.5
	0.1nm,0.3s,baz=325,slow=12,SNR=1.5						
PSA00	Pilbara Seismi	18.01	191		Pn	13 32 33.5	-1.2
PSA00				IAmb	IAmb	13 32 36.2	
	comp=Z,17nm,1.2s						
WB0	Warramunga Arr	19.02	147	P	Pn	13 32 47.5	+0.4
WB0				IAmb	IAmb	13 32 58.6	
	comp=Z,3.6nm,0.9s						
WRA	Warramunga Arr	19.13	148	P	Pn	13 32 52.2	+3.7
	comp=Z,0.1nm,0.3s,baz=324,slow=13,SNR=3.8						
WRA	Warramunga Arr	19.13	148	P	Pn	13 32 48.5	0.0
AS31	Alice Springs	22.09	154	P	P	13 33 19.9	+0.5
ASAR	Alice Springs	22.09	154	P	P	13 33 23.9	+4.5
	comp=Z,1.9nm,0.6s,baz=338,slow=12,SNR=7.7						
ASAR	Alice Springs	22.09	154	P	P	13 33 19.9	+0.5
FORT	Forrest	27.13	172	P	P	13 34 05.3	-1.7
BBOO	Buckleboo	31.10	159	P	P	13 34 40.4	-1.9
CAN	Canberra	39.17	146	P	P	13 35 51.0	-0.8
CAN				IAmb	IAmb	13 35 55.2	
	comp=Z,26nm,1.3s						
SONM	Songino Array	53.62	346	P	P	13 37 46.6	+1.5
	comp=Z,0.3nm,0.5s,baz=146,slow=3.3,SNR=2.7						
MKAR	Makanchi Array	62.18	329	P	P	13 38 47.0	+1.9
	comp=Z,0.6nm,0.6s,baz=127,slow=8.2,SNR=7.9						
MKAR	Makanchi Array	62.18	329	P	P	13 38 44.4	-0.6
ZALV	Zalesovo Beam	66.03	336	P	P	13 39 10.8	+0.7
	comp=Z,2.2nm,0.7s,baz=133,slow=6.3,SNR=9.2						
ZALV	Zalesovo Beam	66.03	336		P	13 39 10.0	-0.1
KURBB	Kurchatov Arra	66.57	331	P	P	13 39 14.7	+1.0
	comp=Z,1.9nm,0.8s,baz=137,slow=5.5,SNR=23						
KURK	Kurchatov	66.58	331		P	13 39 13.7	-0.1
KURK				IAmb	IAmb	13 39 16.1	
	comp=Z,4.6nm,0.8s						
BVAR	Borovoye Array	72.06	329	P	P	13 39 48.7	+1.0
	comp=Z,1.1nm,0.8s,baz=96,slow=5.8,SNR=4.8						

*NNC **14** 13:32:54.2±3.5, 39˙.05N×73˙.20E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=28.4km s-min=17.6km az=163.0*

ISC 14 13:32:50.8±3.7, 38˙.6N±0˙.2×73˙.2E±0˙.1, h35km, n10, σ1§69/13, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.56	6	P	Pn	13 33 45.2	+1.2
	SNR=124						
UCH	Uchtor	3.78	15	P	Pn	13 33 48.2	+1.2
	SNR=12						
EKS2	Erkin-Say	4.09	6	P	Pn	13 33 52.4	+1.4
	SNR=35						
AAK	Ala-Archa	4.17	14	P	Pn	13 33 53.7	+1.6
	SNR=7.0						
AAK	Ala-Archa	4.17	14	⇓P	Pn	13 33 53.3	+1.2
	1.7nm,0.3s						
AAK				⇑S	Sn	13 34 39.2	-0.5
	4.2nm,0.3s						
ULHL	Ulahol	4.34	32	P	Pn	13 33 55.9	+1.3
	SNR=9.7						
TKM2	Tokmak 2	4.71	22	⇑P	Pn	13 34 00.7	+1.2
	1.3nm,0.5s						
TKM2				⇑S	Sn	13 34 51.8	-1.1
	2.8nm,0.5s						
USP	Ospenovka	4.78	12	P	Pn	13 34 02.6	+2.2
	SNR=6.4						
KK08	Karatay Array	4.94	337	⇓P	Pn	13 34 04.9	+2.3
	3.8nm,0.3s,baz=135,slow=12						
KK08				⇑S	Sn	13 34 58.7	+0.2
	8.9nm,0.6s,baz=151,slow=23						
AB31	Akbulak array	14.27	323	P	Pn	13 36 08.1	-2.2
	0.2nm,0.5s,baz=128,slow=14,SNR=8.9						

*BJI **14** 13:35:56.5±0.0, 2˙.42N×94˙.08E, h10km, mb4.6/49, mB5.1/18, Ms4.5/7, Ms7 4.4/7*
*IDC **14** 13:35:58.2±0.7, 2˙.63N×94˙.06E, h0km, mb4.4/21, mb1 4.5/24, mb1mx4.2/47, mbtmp4.4/24, ML4.3/3, Error ellipse: s-maj=23.5km s-min=12.2km az=45.0*
*DJA **14** 13:36:01.5±1.3, 3˚N±3˚×9˚4E± ˚, h22km±14km, M4.8/18, mB5.5/2, mb4.9/18, MLv4.8/13, Mw(mB)5.0/2*
*NEIC **14** 13:36:02.8±1.9, 2˙.69N±0˙.09×94˙.1E±0˙.1, h28km±5km, mb4.7/25, Error ellipse: s-maj=15.5km s-min=11.8km az=64.0*

ISC 14 13:36:00.5±0.5, 2˙.60N±0˙.07×94˙.09E±0˙.06, h17km, n138, σ1§20/135, mb4.5/53, 3C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	2.24	95	P	Pn	13 36 36.5	-0.4
SNSI				S	Sn	13 36 45.7	-19
TPTI		3.16	78	P	Pn	13 36 46.9	-2.6
GSI	Gunungsitoli	3.71	110	P	Pn	13 36 57.6	+0.4
GSI				S	Sn	13 37 37.1	-3.5
GSI	Gunungsitoli	3.71	110	Pn	Pn	13 36 57.5	+0.4
KCSI	Kotacane, Aceh	3.79	76	P	Pn	13 36 59.4	+1.2
KCSI				S	Sn	13 37 42.4	-0.1
LHMI	Lhok Sumawe	3.87	47	P	Pn	13 36 59.1	-0.2
LHMI	Lhok Sumawe	3.87	47	Pn	Pn	13 36 58.4	-0.9
TSI	Tuntungan	4.56	79	P	Pn	13 37 08.3	-0.5
PSI	Prapat	4.83	87	Pn	Pn	13 37 13.3	+0.6
	4.0nm,0.3s,baz=293,slow=4.8,SNR=40						
PSI				Sn	Sn	13 38 09.2	+0.9
	5.2nm,0.3s,baz=222,slow=18,SNR=1.8						
MNSI	Mandailing Nat	5.77	108	P	Pn	13 37 26.6	+1.1
	1.2nm4μm291nm,0.7s						
SISI	Saibi	6.34	128	P	Pn	13 37 33.2	-0.1
	0.2nm60nm,0.7s						
KULM	Kulim	7.07	68	Pn	Pn	13 37 43.0	-0.4
IPM	Ipoh	7.17	75	Pn	Pn	13 37 44.3	-0.4
BKNI	Bangkinang	7.30	108	P	Pn	13 37 47.2	+0.6
	0.6nm92nm,0.6s						
PPSI	Pulau Pagai	7.96	132	P	Pn	13 37 55.0	-0.6
	0.3nm65nm,0.8s						
KRJI	Kerinci	8.72	122	P	Pn	13 38 06.7	+0.6
	223nm,1.0s						
MASI	Maura Aman, Be	9.94	125	P	Pn	13 38 24.0	+1.2
	75nm,0.8s						
MNAI	Manna	11.24	128	P	Pn	13 38 39.3	-1.2
	147nm,1.1s						
MNAI	Manna	11.24	128	Pn	Pn	13 38 41.2	+0.7
MDSI	Maura Dua	12.29	125	P	Pn	13 38 53.8	-1.2
	11nm,1.0s						
KASI	Kota Agung	13.16	128	P	Pn	13 39 05.0	-1.8
	35nm,1.5s						
PALK	Pallekele	14.12	290	Pn	Pn	13 39 19.5	-0.4
	0.6nm,0.3s,baz=211,slow=13,SNR=2.2						
PALK				Sn	Sn	13 41 43.7	-13
	2.4nm,0.3s,baz=271,slow=12,SNR=6.4						
CGJI	Cibinong	14.76	128	P	Pn	13 39 30.5	+1.8
	35nm,1.1s						
CNJI	Cibinong	16.32	127	P	P	13 39 52.4	+0.5
	47nm,1.1s						
CMAR	Chiang Mai Arr	16.46	16	Pn	Pn	13 39 50.4	-0.5
	1.8nm,0.3s,baz=212,slow=12,SNR=32						
CMAR	Chiang Mai Arr	16.46	16		P	13 39 52.8	-0.8
CHTO	Chiang Mai	16.80	16		P	13 39 56.5	-0.8
UBPT	Khong Chiam	16.87	41	Pn	Pn	13 39 52.9	-3.2
SKHT	Srikalahasti	18.02	309	eP	P	13 40 11.0	+0.3
CHLP	Challavanipeta	18.62	329	eP	Pn	13 40 18.1	+0.5
ADKI	Addanki	19.15	314	eP	Pn	13 40 24.5	+0.4
BWNR	Bhubaneshwar	19.36	336	eP	Pn	13 40 26.9	+0.3
RAGD	RAYAGADA	19.55	329	eP	Pn	13 40 29.9	+1.1
RCLA	Racherla	19.64	311	eP	P	13 40 28.0	-0.6
NJS	Nagarjunasagar	20.09	315	ePn	Pn	13 40 35.5	+0.1
SRLM	Srisailam	20.10	313	ePn	Pn	13 40 35.5	0.0
BWJI	Bawean	20.36	114	P	Pn	13 40 37.9	-0.6
	185nm,1.0s						
URV	Uravakonda	20.64	307	eP	P	13 40 40.2	+0.7
CUPL	Choutuppal	20.86	315	eP	P	13 40 42.2	+0.2
HYBB	Hyderabad (bro	21.21	315	eP	P	13 40 46.4	+0.8
HYBB				eS	S	13 44 40.8	-0.3
IMP	Imphal	22.11	360	eP	P	13 40 54.2	-1.1
IMP				IAmb	IAmb	13 40 58.2	
	comp=Z,9.9nm,0.8s						
SRSP	Sriramsagar	22.38	318	eP	P	13 40 59.5	+1.3
BLSP	Bilaspur	22.63	330	eP	P	13 41 03.5	+2.6
SHL	Shillong	22.94	355	eP	P	13 41 02.6	-1.6
KOHI	KOHIMA	22.99	0	eP	P	13 41 02.0	-2.7
KOHI				IAmb	IAmb	13 41 06.8	
	comp=Z,28nm,0.6s						
MOKO	MOKOCHONG	23.59	1	eP	P	13 41 09.2	-1.5
MOKO				IAmb	IAmb	13 41 12.2	
	comp=Z,36nm,0.6s						
H08S2	Diego Garcia H	23.83	245	T	T	14 06 20.8	
	baz=64,slow=75						
H08S3	Diego Garcia H	23.83	245	T	T	14 06 38.1	
	baz=64,slow=75						
H08S1	Diego Carcia H	23.84	245	T	T	14 06 23.3	
	baz=64,slow=75						
KMI	Kunming	23.90	20	⇑P	P	13 41 15.8	+2.0
KMI				pP	pwP	13 41 22.1	-1.5
KMI				pmax	pmax		
	comp=Z,16nm,1.0s						
MYLDM	Lahad Datu	24.49	83	P	P	13 41 19.4	+0.3
PZH	PanZhiHua	24.88	16	P	P	13 41 23.1	+0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ALBI	Allahabad	25.49	333	eP	P	13 41 28.8	+0.7
PKI	Pulchoki	26.18	342	eP	P	13 41 34.7	-0.1
PKIN	Phulchoki	26.19	342	eP	P	13 41 34.5	-0.3
DMN	Daman	26.31	342	eP	P	13 41 36.2	+0.4
GUN	Gumba	26.37	343	eP	P	13 41 36.4	0.0
	comp=Z,18nm,0.8s						
KKN	Kakani	26.43	342	eP	P	13 41 37.0	+0.2
GYA	Guiyang	26.62	26	⇑P	P	13 41 42.8	+4.3
GYA				pmax	pmax		
	comp=Z,13nm,1.4s						
GKN	Gorkha	26.83	341	eP	P	13 41 40.1	-0.3
KOLN	Koldanda	26.96	339	eP	P	13 41 42.5	+0.8
	comp=Z,21nm,0.8s						
LSA	Lhasa	27.10	354	P	P	13 41 45.0	+1.9
LSA				pmax	pmax		
	comp=Z,72nm,1.1s						
DANN	Dangsing	27.44	340	eP	P	13 41 46.1	+0.1
	comp=Z,17nm,0.8s						
PYUN	Piuthan	27.49	338	eP	P	13 41 47.0	+0.7
CD2	Chengdu	29.61	17	eP	P	13 42 05.0	0.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GOMU	GeErMu	33.44	1	P	P	13 42 37.6	-1.5
GOMU				pP	pP	13 42 42.3	-0.6
GOMU				sP	sP	13 42 45.0	+0.6
GOMU				S	S	13 48 01.6	+1.4
GOMU				sS	sS	13 48 14.6	+8.2
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GOMU				LR	LR		
	comp=Z,220nm,15.7s						
GOMU				LR	LR		
	comp=Z,300nm,18.3s						
GOMU				LR	LR		
	comp=Z,230nm,18.2s						
XAN	Xi'an	34.21	22	P	P	13 42 45.4	0.0
XAN				pP	pwP	13 42 53.4	-1.9
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN				pmax	pmax		
	comp=Z,200nm,7.5s						
GTA	Gaotai	37.01	7	⇑P	P	13 43 09.5	0.0
GTA				pP	pwP	13 43 18.4	-1.0
GTA				sP	sP	13 43 22.4	+7.6
GTA				pmax	pmax		
	comp=Z,16nm,1.0s						
FITZ	Fitzroy Crossi	37.27	125	P	P	13 43 12.1	+0.3
	comp=Z,1.7nm,0.9s,baz=315,slow=13,SNR=2.2						
NJ2	Nanjing	37.43	36	eP	P	13 43 13.8	+0.8
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FAKI	Fak Fak	38.54	98	P	P	13 43 22.8	+0.1
FAKI				IAmb	IAmb	13 43 32.8	
	comp=Z,16nm,0.7s						
KNRA	Kununurra	38.80	119	P	P	13 43 23.4	-1.4
KNRA				IAmb	IAmb	13 43 29.8	
	comp=Z,15nm,1.2s						
HNS	HongShan	39.48	26	⇓P	P	13 43 31.3	+1.1
HNS				pmax	pmax		
	comp=Z,11nm,1.3s						
KSH	Kashi	40.27	338	P	P	13 43 35.8	-1.1
KSH				sP	pwP	13 43 46.3	-0.7
KSH				PcP	PcP	13 45 39.4	-1.2
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HHC	Hu-ho-hao-te	41.22	20	eP	P	13 43 46.4	+1.7
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.6s						
WMQ	Urumqi	41.44	353	eP	P	13 43 47.6	+1.2
WMQ				pP	pwP	13 43 55.4	-1.0
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
H01W3	Cape Leeuwin H	41.76	155	T	T	14 28 53.6	
	baz=331,slow=76						
H01W2	Cape Leeuwin H	41.78

SONM Songino Array 46.30 11 PcP **PcP 13 46 01.4 +0.7**
comp=Z,1.5nm,0.7s,baz=197,slow=3.4,SNR=3.5
KSRS Korea Array 46.56 38 P **P 13 44 27.7 +0.2**
comp=Z,2.9nm,0.8s,baz=221,slow=9.3,SNR=9.0
AS31 Alice Springs 46.72 126 P **P 13 44 29.0 0.0**
ASAR Alice Springs 46.72 126 P **P 13 44 30.0 +0.9**
comp=Z,2.2nm,0.9s,baz=312,slow=7.2,SNR=15
ASAR PcP **PcP 13 46 03.1 +0.6**
comp=Z,1.3nm,0.6s,baz=306,slow=3.2,SNR=8.6
ASAR Alice Springs 46.72 126 P **P 13 44 30.7 +1.7**
GEYT Alibeck 48.17 321 P **P 13 44 40.0 -0.1**
comp=Z,4.3nm,0.6s,baz=202,slow=7.4,SNR=5.8
GEYT Alibeck 48.17 321 P **P 13 44 38.1 -2.1**
GEYT IAmb IAmb 13 44 42.0
comp=Z,4.9nm,0.8s
GYA0B ALIBECK ARRAY 48.17 321 P **P 13 44 37.7 -2.5**
GYA0B IAmb IAmb 13 44 52.2
comp=Z,8.4nm,0.9s
KURBB Kurchatov Arra 49.63 347 P **P 13 44 52.0 +1.0**
comp=Z,12nm,0.8s,baz=170,slow=6.9,SNR=101
KURK Kurchatov 49.70 347 P **P 13 44 52.6 +1.1**
ZAA0 Zalesovo Array 51.75 353 P **P 13 45 07.7 +0.8**
ZALV Zalesovo Beam 51.75 353 P **P 13 45 07.8 +0.8**
comp=Z,11nm,0.4s,baz=186,slow=6.4,SNR=62
BNX BinXian 51.92 29 ⇓P **P 13 45 08.8 +0.4**
BNX pmax pmax
comp=Z,8.0nm,0.7s
BNX pmax pmax
comp=Z,330nm,11.9s
USRK Ussuriysk Ar. 53.26 33 P **P 13 45 18.5 +0.2**
comp=Z,4.1nm,0.8s,baz=233,slow=6.2,SNR=7.0
USRK Ussuriysk Ar. 53.26 33 P **P 13 45 17.3 -1.0**
BVAR Borovoye Array 53.96 343 P **P 13 45 23.5 +0.2**
comp=Z,5.9nm,0.8s,baz=128,slow=9.7,SNR=28
BRVK Borovoye 54.02 342 P **P 13 45 23.4 -0.4**
BRVK IAmb IAmb 13 45 34.0
comp=Z,6.1nm,0.8s
ABKAR Akbulak array 54.85 333 P **P 13 45 29.2 -0.7**
ABKAR IAmb IAmb 13 45 40.3
comp=Z,7.6nm,0.9s
KLR Kul'dur 56.47 29 P **P 13 45 41.8 +0.3**
comp=Z,6.9nm,0.8s,baz=253,slow=7.3,SNR=20
STKA Stephens Creek 56.60 131 P **P 13 45 43.4 +0.6**
comp=Z,4.5nm,1.0s,baz=298,slow=7.5,SNR=4.4
STKA Stephens Creek 56.60 131 P **P 13 45 42.6 -0.2**
YAK Yakutsk 65.00 18 P **P 13 46 38.6 -0.7**
comp=Z,4.4nm,0.5s,baz=109,slow=1.7,SNR=9.5
BRTR Keskin Array B 65.88 313 P **P 13 46 45.5 -0.2**
comp=Z,1.9nm,0.8s,baz=131,slow=6.6,SNR=10
BRTR Keskin Array B 65.88 313 P **P 13 46 45.0 -0.8**
NRIK Noril'sk 66.78 357 P **P 13 46 49.9 -0.8**
comp=Z,2.8nm,0.8s,baz=179,slow=4.7,SNR=3.9
KLMR Klimovskoe 71.17 335 *eP* **P 13 47 16.7 -1.5**
KLMR AMP 13 47 18.9
comp=Z,8.0nm,1.2s
AKASG Malin Array Be 72.27 323 P **P 13 47 24.3 -0.7**
comp=Z,1.8nm,0.7s,baz=89,slow=4.8,SNR=6.6
TIXI Tiksi 72.39 11 P **P 13 47 24.6 -0.7**
baz=167,slow=3.2
TIXI Tiksi 72.39 11 P **P 13 47 24.4 -0.9**
TIXI IAmb IAmb 13 47 26.1
comp=Z,12nm,1.0s
BOSA Boshof 72.80 239 P **P 13 47 28.5 -0.3**
BOSA IAmb IAmb 13 47 38.7
comp=Z,5.7nm,1.2s
FINES FINESS Array B 77.34 333 P **P 13 47 53.1 -1.0**
comp=Z,3.7nm,1.0s,baz=92,slow=5.7,SNR=7.0
FINES FINESS Array B 77.34 333 P **P 13 47 53.4 -0.7**
VYHS Vyhne 78.30 319 *eP* **P 13 48 03.9 +4.1**
MODS Modra-Piesok 79.31 319 *eP* **P 13 48 07.6 +2.2**
ARCES ARCESS Array B 80.19 341 P **P 13 48 10.2 +0.6**
comp=Z,8.4nm,1.0s,baz=90,slow=5.4,SNR=6.4
ARCES ARCESS Array B 80.19 341 IAmb IAmb 13 48 11.4
comp=Z,22nm,1.2s
GERES GERESS Array B 81.72 319 P **P 13 48 19.5 +1.1**
comp=Z,3.2nm,0.9s,baz=103,slow=6.0,SNR=18
NOA NORSAR Array B 84.28 331 P **P 13 48 31.3 0.0**
comp=Z,2.6nm,0.9s,baz=98,slow=5.8,SNR=4.3
NVAR Mina Array Bea 129.39 33 PKP **PKiKP 13 55 09.7 -0.1**
comp=Z,0.3nm,0.7s,baz=311,slow=2.0,SNR=3.0
TXAR Lajitas Array 143.98 27 PKP PKPbc 13 55 34.8 +1.0
comp=Z,0.5nm,0.5s,baz=14,slow=1.2,SNR=15

*DNK **14** 14:03:57.8±2.6, 52°.87N×8°.01E, h10km±34km, Mc1.9*
*BGR **14** 14:03:59.1±0.3, 53°.01N×8°.18E, h3km, ML2.7/10, Error ellipse: s-maj=4.4km s-min=2.2km az=124.0*
*BUG **14** 14:04:01.2±0.4, 52°.99N×8°.21E, h0km, MD3.9/13, ML3.0/11*
ISC 14 14:03:59.2±0.8,**53°.01N**±0°.03×**8°.22E**±0°.03,**h0**km,**n24,**
σ1§36/39,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RETH	**Rethem/Aller,**	**0.75**	**111**	*e*Pg	**Pb**	**14 04 14.9**	**-0.1**
IBBE	**Ibbenbueren Ea**	**0.76**	**200**	Pg	**Pb**	**14 04 15.7**	**+0.4**
IBBN	**Ibbenburen**	**0.76**	**202**	*i* P	**Pb**	**14 04 14.9**	**-0.4**
IBBN				*i* P	Pn	14 04 25.7	+8.5
IBBN	**Ibbenburen**	**0.76**	**202**	*e*Pg	**Pb**	**14 04 14.8**	**-0.5**
IBBN				*e*Sg	**Sb**	**14 04 26.8**	**+0.7**
IBBS	**Ibbenbueren So**	**0.79**	**202**	Pg	**Pb**	**14 04 15.7**	**0.0**
IBBS				Sg	**Sg**	**14 04 24.0**	**-0.4**
HLG	**Helgoland**	**1.19**	**351**	*i* P	**Pg**	**14 04 22.4**	**+0.4**
HLG				*i* S	**Sb**	**14 04 38.8**	**+0.2**
HLG	**Helgoland**	**1.19**	**351**	*e*Sg	**Sb**	**14 04 38.7**	**+0.2**
NRDL	**Niedersach Rie**	**1.26**	**114**	Pg	**Pn**	**14 04 24.3**	**+0.3**
NRDL				Sg	**Sb**	**14 04 40.6**	**+0.1**
WTSB	**Winterswijk**	**1.36**	**220**	*e*Pg	**Pg**	**14 04 25.0**	**-0.2**
WTSB				*e*Sg	**Sb**	**14 04 43.3**	**-0.1**
HMES	**Hamm, Michael-**	**1.39**	**193**	Pg	**Pb**	**14 04 27.0**	**+1.0**
HMES				Sg	**Sg**	**14 04 43.5**	**-0.3**
BSEG	**Bad Segeberg**	**1.56**	**53**	*i* P	**Pn**	**14 04 25.7**	**-2.4**
BSEG				*i* S	**Sg**	**14 04 51.6**	**+2.4**
BSEG	**Bad Segeberg**	**1.56**	**53**	Pn	**Pn**	**14 04 26.9**	**-1.2**
CLNZ	**Clenze**	**1.66**	**91**	Pn	**Pg**	**14 04 31.6**	**+0.7**
BULI	**Ruhr-Universit**	**1.67**	**201**	Pn	**Pn**	**14 04 29.9**	**+0.3**
BULI				Sn	**Sn**	**14 04 50.7**	**-1.0**
BTEZ	**Ruhr-Universit**	**1.67**	**201**	Pn	**Pn**	**14 04 29.4**	**-0.3**
BUG	**Bochum--Univer**	**1.68**	**201**	Pn	**Pg**	**14 04 34.5**	**+3.1**
BUG				Sn	**Sn**	**14 04 50.2**	**-1.8**
BKLB	**Ruhr-Universit**	**1.68**	**201**	Pn	**Pg**	**14 04 34.8**	**+3.4**
CLZ	**Clausthal**	**1.77**	**131**	*i* P	**Pn**	**14 04 28.3**	**-2.7**
CLZ				*i* P	**Sn**	**14 04 52.9**	**-1.3**
CLZ				*i* S	**Sn**	**14 04 52.9**	**-1.3**
CLZ	**Clausthal**	**1.77**	**131**	*e*Pn	**Pn**	**14 04 29.6**	**-1.4**
CLZ				*e*Sn	**Sn**	**14 04 52.2**	**-2.0**
KASTN	**Kahler Asten**	**1.82**	**176**	Pn	**Pg**	**14 04 34.7**	**+0.7**
KASTN				Sn	**Sb**	**14 04 57.0**	**+0.3**
SKMB	**Sankelmark Bun**	**1.85**	**22**	*i* P	**Pn**	**14 04 32.0**	**-0.2**
HGN	**Heimansgroeve**	**2.66**	**213**	Pn	**Pn**	**14 04 41.6**	**-1.7**
RGN	**Rugen**	**3.40**	**61**	*i* P	**Pn**	**14 04 53.4**	**0.0**
RGN				*i* S	**Sn**	**14 05 33.3**	**-1.0**
CLL	**Collm**	**3.41**	**118**	*e*Pg	**Pb**	**14 05 02.0**	**+1.6**
CLL				*e*Sg	**Sg**	**14 05 48.0**	**-0.6**

*ISK **14** 14:07:53.6, 36°.85N×36°.03E, h16km, ML2.5/11*
*DDA **14** 14:07:54.5±0.0, 36°.78N×35°.98E, h7km±4km, ML2.3*
ISC 14 14:07:54.4±1.0,**36°.84N**±0°.03×**35°.99E**±0°.02,**h17**km±8km,
n21,σ0§58/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.26**	**312**	PG	**Pg**	**14 08 00.2**	**0.0**
CEYT				SG	**Sg**	**14 08 04.6**	**+0.4**
YURE	**YUREGIR**	**0.29**	**268**	P	**Pb**	**14 08 01.1**	**-0.2**
YURE				S	**Sb**	**14 08 05.3**	**-0.5**
TAHT	**Tahtakopru-Hat**	**0.48**	**161**	PG	**Pb**	**14 08 04.4**	**-0.1**
TAHT				SG	**Sb**	**14 08 10.9**	**-0.4**
KAMA	**Osmaniye**	**0.64**	**57**	P	**Pb**	**14 08 07.1**	**-0.2**
KAMA				S	**Sb**	**14 08 16.0**	**0.0**
KOZT	**Kozan**	**0.66**	**348**	PG	**Pg**	**14 08 06.4**	**-1.0**
AKO	**Adana**	**0.76**	**325**	P	**Pn**	**14 08 10.4**	**-0.2**
AKO				S	**Sn**	**14 08 22.0**	**+0.3**
ANDN	**Andirin**	**0.80**	**21**	P	**Pn**	**14 08 11.6**	**+0.6**
ANDN				S	**Sn**	**14 08 23.0**	**+0.4**
ANDN				*i* AML	AML	14 08 26.0	
ANDN	comp=N,97nm,0.4s			*i* AML	AML	14 08 28.0	
YAYL	comp=E,89nm,0.7s **Yayladag**	**0.80**	**173**	PG	**Pb**	**14 08 09.9**	**-0.2**
YAYL				SG	**Sn**	**14 08 21.7**	**-1.1**
KARA	**Karaisali**	**0.86**	**300**	PG	**Pg**	**14 08 10.8**	**-0.4**
KUZU	**Kuzuini**	**0.87**	**94**	P	**Pn**	**14 08 12.1**	**+0.1**
KUZU				S	**Sn**	**14 08 24.7**	**+0.4**
KUZU				*i* AML	AML	14 08 27.0	
KUZU	comp=N,197nm,0.5s			*i* AML	AML	14 08 33.0	
GAZ	**Gaziantep**	**1.03**	**71**	PG	**Pb**	**14 08 13.2**	**-0.7**
KAHM	**Kahramanmaras,**	**1.04**	**49**	P	**Pg**	**14 08 14.5**	**-0.2**
KAHM				S	**Sn**	**14 08 29.2**	**+0.6**
KAHM				*i* AML	AML	14 08 30.0	
KAHM	comp=E,85nm,0.6s			*i* AML	AML	14 08 32.0	
GULE	comp=N,59nm,0.3s **Gulek**	**1.07**	**295**	P	**Pb**	**14 08 13.7**	**-0.9**
GULE				S	**Sn**	**14 08 30.2**	**+0.7**
GULE				*i* AML	AML	14 08 33.0	
GULE	comp=E,77nm,0.5s			*i* AML	AML	14 08 43.0	
CMRD	comp=N,35nm,0.5s **Camardi-Nigde**	**1.15**	**316**	PN	**Pb**	**14 08 15.6**	**-0.4**
MERS	**Mersin**	**1.18**	**272**	PN	**Pb**	**14 08 16.3**	**-0.1**
GZT	**Gaziantep**	**1.36**	**67**	P	**Pg**	**14 08 20.5**	**-0.2**
GZT				S	**Sg**	**14 08 39.5**	**+1.1**
GZT				*i* AML	AML	14 08 40.0	
GZT	comp=E,60nm,0.5s			*i* AML	AML	14 08 48.0	
KERG	comp=N,68nm,0.4s **Konya-Eregli**	**1.60**	**292**	P	**Pn**	**14 08 22.8**	**+0.6**
KERG				S	**Sn**	**14 08 43.3**	**+0.8**
KERG				*i* AML	AML	14 09 23.0	
SARI	comp=N,25nm,1.8s **SarD1z-Kayseri**	**1.60**	**12**	PN	**Pn**	**14 08 21.8**	**-0.4**
KEBE	**Keben-Mersin**	**1.87**	**259**	PN	**Pn**	**14 08 26.2**	**+0.4**
IKL	**Isikli**	**1.95**	**253**	PN	**Pn**	**14 08 27.2**	**+0.4**
BERE	**Bereket-Mersin**	**2.28**	**259**	PN	**Pn**	**14 08 32.2**	**+0.7**

*SJA **14** 14:08:55.1±0.7, 31°.04S×72°.19W, h10km±3km, ML4.0, MW3.7*
*IDC **14** 14:08:56.4±1.7, 31°.01S×71°.82W, h0km, mb4.0/1, mb1 3.8/3, mb1mx3.6/19, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=88.5km s-min=37.3km az=100.0*
*GUC **14** 14:09:00.9±0.8, 31°.07S×71°.78W, h33km±7km, ML4.1*
ISC 14 14:09:00.9±1.3,**31°.08S**±0°.02×**71°.85W**±0°.05,**h25**km±11km,
n49,σ1§92/84,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.44**	**25**	⇓*i*P	**Pb**	**14 09 10.1**	**-0.1**
CO06				IAML		14 09 17.0	
CO03	comp=N,8μm,0.3s **El Pedregal**	**1.03**	**77**	⇓*i*P	**Pn**	**14 09 18.6**	**-1.2**
CO03				*e*S	**Sb**	**14 09 30.9**	**-2.2**
CO05	**La Serena**	**1.27**	**25**	*e*P	**Pn**	**14 09 22.6**	**-0.4**
CO05				*e*S	**Sn**	**14 09 38.6**	**-0.7**
CO05				IAML		14 09 41.7	
GO04	comp=N,3μm,0.4s **Tololo Observa**	**1.28**	**45**	⇓*i*P	**Pn**	**14 09 22.7**	**-0.7**
GO04				*e*S	**Sn**	**14 09 39.3**	**-0.6**
GO04	**Tololo Observa**	**1.28**	**45**	*e*P	**Pn**	**14 09 23.0**	**-0.4**
GO04				*e*P	**Pn**	**14 09 23.1**	**-0.4**
VA06	**Catapilco**	**1.55**	**162**	⇑*i*P	**Pn**	**14 09 27.1**	**+0.2**
VA06				*e*S	**Sn**	**14 09 45.7**	**-0.6**
VA06				IAML		14 09 52.1	
VA03	comp=N,5μm,0.5s **San Esteban**	**2.01**	**147**	*e*P	**Pn**	**14 09 34.4**	**+1.0**
VA03				*e*S	**Sn**	**14 09 59.5**	**+1.7**
VA03				IAML		14 10 03.6	
VA03	comp=E,2μm,0.4s **San Esteban**	**2.01**	**147**	*e*P	**Pn**	**14 09 34.0**	**+0.6**
VA03				*e*S	**Sb**	**14 10 03.1**	**+1.6**
VA03				IAML		14 10 05.5	
ROCH	comp=Z,1μm,0.2s **El Roble**	**2.02**	**160**	⇑*i*P	**Pb**	**14 09 33.9**	**-3.2**
ROCH				⇑*i*P	**Pn**	**14 09 33.0**	**-0.6**
ROCH				*e*S	**Sn**	**14 09 59.4**	**+1.2**
ROCH				*e*S	**Sb**	**14 10 00.8**	**-1.0**
ROCH				IAML		14 10 07.0	
ROCH	comp=N,2μm,0.5s			IAML		14 10 07.7	
ROC1	comp=N,3μm,0.2s **El Roble**	**2.02**	**160**	*e*P	**Pn**	**14 09 33.0**	**-0.7**
ROC1				*e*S	**Sb**	**14 10 02.2**	**+0.3**
AROD	**Rodeo**	**2.24**	**67**	*e*P	**Pb**	**14 09 39.0**	**-1.9**
AROD				*e*S	**Sb**	**14 10 09.2**	**+0.9**
MT02	**Curacav**	**2.26**	**165**	*e*P	**Pn**	**14 09 36.5**	**-0.2**
MT02	**Curacav**	**2.26**	**165**	*e*P	**Pn**	**14 09 37.0**	**+0.3**
MT02				*e*P	**Pn**	**14 09 37.0**	**+0.3**
MT02				*e*S	**Sb**	**14 10 09.9**	**+1.4**
MT02				IAML		14 10 16.8	
LCO	comp=Z,448nm,0.6s **Las Campanas**	**2.29**	**26**	*i* P	**Pn**	**14 09 37.1**	**-0.2**
LCO				*e*S	**Sn**	**14 10 05.6**	**+0.8**
LCO	**Las Campanas**	**2.29**	**26**	*e*P	**Pn**	**14 09 37.0**	**-0.3**
AUSP	**Uspallata**	**2.39**	**119**	*e*P	**Pb**	**14 09 42.0**	**-1.4**
ACCO	**Cerro Coronel**	**2.44**	**79**	*e*P	**Pb**	**14 09 42.0**	**-2.4**
ACCO				*e*S	**Sb**	**14 10 19.7**	**+5.5**
MT05	**Renca**	**2.49**	**158**	*e*P	**Pn**	**14 09 40.7**	**+0.8**
MT05				IAML		14 10 23.4	
MT05	comp=N,2μm,0.3s **Renca**	**2.49**	**158**	*e*P	**Pn**	**14 09 40.8**	**+0.8**
MT05				*e*S	**Sn**	**14 10 11.5**	**+1.9**
MT05				IAML		14 10 21.4	
ACDV	comp=Z,872nm,0.5s **Cuesta del Vie**	**2.52**	**70**	*e*P	**Pb**	**14 09 44.0**	**-1.6**
ACDV				*e*S	**Sb**	**14 10 23.0**	**+6.8**
ACDV				IAML		14 10 25.3	
VA05	comp=Z,407nm,0.6s **Santo Domingo**	**2.58**	**176**	*e*P	**Pn**	**14 09 41.4**	**+0.4**
VA05				IAML		14 10 23.4	
ZON	comp=E,2μm,0.2s **Zonda**	**2.75**	**101**	*e*P	**Pn**	**14 09 42.0**	**-1.6**
ZON				*e*P	**Pb**	**14 09 47.0**	**-2.5**
ZON				*e*S	**Sb**	**14 10 23.5**	**+0.7**
ZON				IAML		14 10 32.4	
MT09	comp=N,336nm,0.9s **Talagante**	**2.79**	**165**	*e*P	**Pn**	**14 09 44.7**	**+0.6**
MT09				IAML		14 10 31.1	
MT01	comp=N,879nm,0.4s **Popeta**	**2.83**	**170**	*e*P	**Pn**	**14 09 44.5**	**0.0**
MT01	**Popeta**	**2.83**	**170**	*e*P	**Pn**	**14 09 44.0**	**-0.5**
MT01				*e*P	Pb	14 09 44.5	-6.1
MT01				*e*S	**Sn**	**14 10 20.5**	**+2.8**
MT01				IAML		14 10 30.2	
RTCV	comp=Z,287nm,0.3s **Cerro Valdivia**	**2.94**	**106**	*e*P	**Pb**	**14 09 50.0**	**-2.5**
RTCV				*e*S	**Sb**	**14 10 30.0**	**+2.0**
AC04	**Llanos de Chal**	**2.94**	**13**	*e*P	**Pn**	**14 09 45.2**	**-0.9**
AC04	**Llanos de Chal**	**2.94**	**13**	*e*P	**Pn**	**14 09 45.0**	**-1.1**
AC04				*e*S	**Sn**	**14 10 23.5**	**+2.9**
AC04				IAML		14 10 36.6	
ASAL	comp=Z,296nm,0.6s **Salagasta**	**2.98**	**121**	*e*P	**Pb**	**14 09 51.0**	**-2.3**
ASAL				*e*S	**Sb**	**14 10 30.0**	**+0.7**
ARCO	**CERRO ARCO**	**3.04**	**126**	*e*P	**Pb**	**14 09 53.0**	**-1.4**
ARCO				*e*S	Sb	14 10 40.1	+8.9
ARCO				IAML		14 10 43.8	
BO04	comp=Z,462nm,0.6s **La Punta**	**3.09**	**160**	*e*P	**Pn**	**14 09 48.8**	**+0.6**
BO04				IAML		14 10 41.0	
LMEL	comp=N,469nm,0.3s **Las Melosas**	**3.09**	**154**	*e*P	**Pn**	**14 09 49.6**	**+1.3**
LMEL				IAML		14 10 37.6	
AAGR	comp=N,617nm,0.3s **Agrelo**	**3.25**	**129**	*e*P	**Pb**	**14 09 54.8**	**-3.3**
AAGR				*e*S	**Sb**	**14 10 37.5**	**+0.2**
BO01	**Tunca**	**3.37**	**169**	*e*P	**Pn**	**14 09 52.2**	**+0.3**
BO01	**Tunca**	**3.37**	**169**	*e*P	**Pn**	**14 09 53.0**	**+1.1**
BO01				*e*S	**Sn**	**14 10 34.5**	**+3.4**
BO01				IAML		14 10 49.8	
GO03	comp=Z,173nm,0.7s **Copiap**	**3.75**	**23**	*e*P	**Pn**	**14 09 56.6**	**-0.6**
GO03	**Copiap**	**3.75**	**23**	*e*P	**Pn**	**14 09 57.2**	**0.0**
GO03				*e*S	**Sn**	**14 10 43.5**	**+2.9**
AVFE	**Valle Fertil**	**3.80**	**85**	*e*P	**Pn**	**14 10 00.0**	**+2.0**
AVFE				*e*S	**Sn**	**14 10 44.5**	**+2.5**
AVFE				IAML		14 10 58.6	
BO02	comp=Z,307nm,0.5s **Sierra Bellavi**	**3.81**	**167**	*e*P	**Pn**	**14 09 58.7**	**+0.6**
BO02	**Sierra Bellavi**	**3.81**	**167**	*e*P	**Pn**	**14 09 59.0**	**+0.9**
BO02				*e*S	**Sn**	**14 10 43.5**	**+1.3**
BO02				*e*S	Sb	14 10 43.9	-9.4
BO02				*e*S		14 10 51.0	
BO02				IAML		14 11 00.6	
GO05	comp=Z,311nm,0.4s **Huala**	**3.92**	**181**	*e*P	**Pn**	**14 09 59.2**	**-0.3**
GO05				*e*P	**Pn**	**14 10 00.0**	**+0.4**
GO05				*e*S	**Sb**	**14 11 01.0**	**+4.6**
ACHE	**Chepes**	**4.45**	**92**	*e*P	**Pn**	**14 10 08.8**	**+1.8**
ACHE				*e*S	**Sb**	**14 11 06.7**	**-5.0**
RFA	**San Rafael**	**4.65**	**143**	*e*P	**Pn**	**14 10 11.5**	**+1.8**
RFA				*e*P	**Pn**	**14 10 12.0**	**+2.3**
RFA				*e*S	**Sb**	**14 11 19.5**	**+2.0**
RFA				*e*S	**Sb**	**14 11 20.5**	**+3.0**
RFA				IAML		14 11 28.9	
AC02	comp=Z,67nm,1.7s **Maricunga**	**4.85**	**30**	*e*P	**Pn**	**14 10 14.0**	**+1.2**
AC02				IAML		14 11 34.0	
PLCA	comp=Z,182nm,1.1s **Paso Flores**	**9.69**	**174**	Pn	**Pn**	**14 11 19.4**	**+0.6**
LPAZ	comp=Z,0.2nm,0.3s,baz=334,slow=12,SNR=5.1 **La Paz**	**15.11**	**14**	Pn	**Pn**	**14 12 32.7**	**-0.7**
TORD	comp=Z,0.2nm,0.3s,baz=250,slow=3.5,SNR=5.3 **Torodi Ar. Bea**	**83.07**	**70**	P	**P**	**14 21 23.6**	**-1.1**
WRA	comp=Z,0.9nm,0.7s,baz=255,slow=5.0,SNR=6.0 **Warramunga Arr**	**123.38**	**210**	PKP	**PKPdf**	**14 27 55.5**	**-1.0**
ZALV	comp=Z,0.3nm,0.8s,baz=156,slow=1.7,SNR=4.5 **Zalesovo Beam**	**151.64**	**30**	PKPbc	**PKPbc**	**14 28 52.2**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=312,slow=3.2,SNR=7.0						

IDC 14 14:23:07.3±1.6,**28°.00N**×**100°.77E,h0km,mb3.1/4,**
mb1 3.4/4,mb1mx3.2/53,mbtmp3.2/4,Error ellipse:
s-maj=83.8km s-min=24.8km az=64.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**20.28**	**11**	P	P	14 27 44.5	-0.1
	0.2nm,0.5s,baz=191,slow=13,SNR=1.9						
MKAR	**Makanchi Array**	**23.72**	**327**	P	P	14 28 20.9	0.0
	0.4nm,0.5s,baz=133,slow=9.8,SNR=9.6						
WRA	**Warramunga Arr**	**57.67**	**142**	P	P	14 32 59.8	+0.1
	0.3nm,0.5s,baz=329,slow=7.8,SNR=4.9						
ASAR	**Alice Springs**	**60.49**	**145**	P	P	14 33 19.1	-0.2
	0.2nm,0.6s,baz=328,slow=6.7,SNR=1.7						

IDC 14 14:25:46.6±3.6,**4°.26N**×**128°.24E,h0km,mb3.3/3,**
mb1 3.5/3,mb1mx3.3/35,mbtmp3.3/3,Error ellipse:
s-maj=303.7km s-min=27.6km az=67.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.79**	**166**	P	P	14 31 09.0	-1.5
	0.5nm,0.7s,baz=345,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**28.30**	**169**	P	P	14 31 43.9	+1.7
	0.1nm,0.6s,baz=345,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**57.99**	**324**	P	P	14 35 41.1	-0.1
	0.2nm,0.4s,baz=119,slow=7.5,SNR=5.3						

*IDC **14** 14:29:24.9±8.4, 26°.15S×29°.07E, h0km, mb1 2.8/1, mb1mx2.5/37, mbtmp2.8/1, ML2.1/1, Error ellipse: s-maj=92.0km s-min=57.5km az=143.0*
*EAF **14** 14:29:27.7±4.8, 26°.38S×29°.35E, h0km±35km, MD3.4*
*BUL **14** 14:29:28.0±2.7, 26°.45S×29°.34E, h0km±21km, MD3.5*
ISC 14 14:29:29.2±1.2,**26°.33S**±0°.05×**29°.35E**±0°.05,**h10**km,**n13,**
σ1§43/18,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.55**	**90**	*i* P	**Pn**	**14 30 11.3**	**+0.7**
CNG				*i* Sg	**Sb**	**14 30 47.2**	**+0.8**
CNG	**Changalane**	**2.55**	**90**	*i* P	**Pn**	**14 30 11.3**	**+0.7**
CNG				*i* Sg	**Sb**	**14 30 47.2**	**+0.8**
MOPA	**Mopani**	**3.36**	**34**	*i* P	**Pn**	**14 30 20.3**	**-1.5**
MOPA				*i* Sg	**Sb**	**14 31 09.7**	**-0.1**
MOPA	**Mopani**	**3.36**	**34**	*i* P	**Pn**	**14 30 20.3**	**-1.5**
MOPA				*i* Sg	**Sb**	**14 31 09.7**	**-0.1**
MSNA	**Messina**	**4.01**	**9**	*i* P	**Pn**	**14 30 32.2**	**+1.5**
MSNA	**Messina**	**4.01**	**9**	*i* P	**Pn**	**14 30 32.2**	**+1.5**
BOSA	**Boshof**	**4.29**	**237**	Pn	Pn	14 30 30.3	-4.4
BOSA	0.1nm,0.3s,baz=71,slow=7.8,SNR=2.5			Pg	Pb	14 30 41.2	-3.7
BOSA	0.5nm,0.3s,baz=61,slow=16,SNR=9.1			Lg	Lg	14 31 38.0	
BOSA	1.3nm,0.3s,baz=345,slow=22,SNR=8.1 **Boshof**	**4.29**	**237**	*e*P	**Pn**	**14 30 34.7**	**0.0**
BOSA				*i* Sg	**Sb**	**14 31 37.0**	**+0.2**
BOSA	**Boshof**	**4.29**	**237**	*e*P	**Pn**	**14 30 34.7**	**0.0**
BOSA				*i* Sg	**Sb**	**14 31 37.0**	**+0.2**
I47ZA	**BOSHOF INFRASO**	**4.31**	**237**	*i*		14 55 35.0	
	baz=54,slow=294,SNR=8.6						
MATP	**Matopo**	**5.92**	**352**	*e*P	**Pn**	**14 30 59.6**	**+2.4**
MATP				*i* S	**Sn**	**14 32 03.2**	**-2.0**
MATP	**Matopo**	**5.92**	**352**	*e*P	**Pn**	**14 30 59.6**	**+2.4**
MATP				*i* S	**Sn**	**14 32 03.2**	**-2.0**
I35NA	**TSUMEB INFRASO**	**12.97**	**301**	*i*		15 51 40.0	
	baz=125,slow=311,SNR=0.6						

*NEIC **14** 14:39:21.9±1.4, 32°.36N±0°.04×115°.35W±0°.03, h15km±5km, Error ellipse: s-maj=5.9km s-min=3.1km az=161.0*
*ECX **14** 14:39:21.9±0.6, 32°.36N×115°.42W, h9km±2km, MD2.8, ML3.0*
*PAS **14** 14:39:23.3±1.4, 32°.36N±0°.03×115°.40W±0°.04, h24km±7km, Error ellipse: s-maj=4.7km s-min=4.3km az=214.0*
*MEX **14** 14:39:24.4±0.8, 32°.49N×115°.28W, h32km±5km, MD3.8*
ISC 14 14:39:22.2±0.9,**32°.37N**±0°.03×**115°.36W**±0°.03,**h23**km±5km,
n40,σ1§00/54,9C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.06**	**43**		**Pb**	**14 39 24.6**	**-1.8**
CPBX	**Cerro Prieto**	**0.06**	**43**	*e*P	**Pb**	**14 39 25.8**	**-0.6**
CPBX				*e*S	**Sb**	**14 39 29.1**	**-0.1**
CPBX				*e*		14 39 30.2	
CPBX				IAML		14 39 30.2	
CPBX	comp=N,16μm,0.2s		

TKX	**Tecate**	**1.08**	**281**		**Pb**	**14 39 42.4**	**+0.2**
TKX				IAML		14 39 58.5	
	comp=N,304nm,0.2s						
TKX				IAML		14 39 58.6	
	comp=E,299nm,0.2s						
TJIG	**Tijuana**	**1.12**	**273**		**Pb**	**14 39 43.0**	**+0.2**
TJIG	**Tijuana**	**1.12**	**273**	*e*P	**Pb**	**14 39 43.0**	**+0.2**
TJIG				*e*S	**Sb**	**14 39 56.9**	**-0.1**
BAR	**Barrett**	**1.15**	**286**		**Pn**	**14 39 43.3**	**+0.3**
BAR				IAML		14 40 01.0	
	comp=E,202nm,0.2s						
BAR	**Barrett**	**1.15**	**286**	⇑*i*P	**Pb**	**14 39 43.8**	**+0.3**
BAR				*e*S	**Sb**	**14 39 58.2**	**+0.2**
BAR				⇓*e*		14 40 00.5	
BAR				IAML		14 40 00.5	
	comp=N,295nm,0.2s						
BAR				IAML		14 40 01.0	
	comp=E,206nm,0.2s						
BAR				⇓*e*		14 40 01.0	
CCX	**Cicese**	**1.22**	**246**		**Pn**	**14 39 44.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.33**	**184**		**Pb**	**14 39 46.3**	**-0.3**
SPIG					**Sb**	**14 40 04.2**	**+0.9**
SPIG	**San Pedro Mart**	**1.33**	**184**	*e*P	**Pb**	**14 39 46.3**	**-0.3**
SPIG				*i* S	**Sb**	**14 40 04.2**	**+0.9**
113A	**Mohawk Valley,**	**1.40**	**73**		**Pn**	**14 39 45.2**	**-1.0**
SFX	**San Felipe**	**1.40**	**162**		**Pn**	**14 39 45.5**	**-0.7**
SFX				IAML		14 40 09.7	
	comp=N,86nm,0.1s						
SFX				IAML		14 40 11.2	
	comp=E,75nm,0.3s						
PFO	**Pinyon Flats O**	**1.54**	**323**		**Pn**	**14 39 48.5**	**+0.1**
PFO				IAML		14 40 11.6	
	comp=E,56nm,0.5s						
109C	**Camp Elliot, M**	**1.56**	**290**		**Pn**	**14 39 48.7**	**+0.2**
109C				IAML		14 40 12.4	
	comp=E,146nm,0.3s						
214A	**Organ Pipe Nat**	**2.20**	**100**		**Pn**	**14 39 57.7**	**+0.4**
214A				IAML		14 40 47.0	
	comp=N,19nm,1.3s						
214A	**Organ Pipe Nat**	**2.20**	**100**	*i* P	**Pn**	**14 39 57.7**	**+0.4**
214A				*i* S	**Sn**	**14 40 21.9**	**-1.9**
X16A	**Lo Mia Camp, P**	**3.86**	**57**	Pn	**Pn**	**14 40 21.2**	**+0.9**
X16A				IAML		14 41 42.2	
	comp=N,6.8nm,1.0s						
X16A				IAML		14 41 53.3	
	comp=E,7.6nm,4.3s						

IDC 14 14:40:19.8±2.5, 7°.58S×130°.77E, h46km±36km, mb3.2/1, mb1 3.3/5, mb1mx3.0/28, mbtmp3.3/5, ML3.2/4, Error ellipse: s-maj=72.7km s-min=25.3km az=90.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.68**	**4**	P	Pn	14 41 55.5	0.0
	0.4nm,0.3s,baz=208,slow=22,SNR=15						
SIJI				S	Sn	14 43 03.8	-6.6
	0.6nm,0.3s,baz=279,slow=24,SNR=6.0						
FITZ	**Fitzroy Crossi**	**11.59**	**205**	P	Pn	14 43 02.6	0.0
	0.1nm,0.3s,baz=43,slow=11,SNR=1.2						
FITZ				S	Sn	14 45 03.3	-7.4
	0.1nm,0.3s,baz=88,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**12.77**	**165**	P	Pn	14 43 18.2	-0.6
	0.1nm,0.3s,baz=348,slow=14,SNR=11						
WRA				S	Sn	14 45 34.1	-5.6
	0.2nm,0.3s,baz=341,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**16.28**	**170**	P	Pn	14 44 06.0	+0.6
	0.1nm,0.3s,baz=354,slow=9.4,SNR=8.9						
MKAR	**Makanchi Array**	**69.12**	**327**	P	P	14 51 21.2	0.0
	0.2nm,0.4s,baz=121,slow=7.5,SNR=8.4						

*IGIL **14** 14:45:54.5, 32°.65N×13°.02W, h22km, ML2.7*
*CNRM **14** 14:45:55.8, 32°.92N×12°.83W, h0km, ml3.2*
*INMG **14** 14:45:58.5±2.1, 32°.66N×12°.98W, h10km, ML2.5, Error ellipse: s-maj=11.0km s-min=4.1km az=121.0*
ISC 14 14:45:57.4±3.6, 33°.09N±0°.09×12°.7W±0°.2, h10km, n24, σ0ˢ.98/32, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**3.02**	**271**	*e*Sn	Sn	14 47 08.6	-13
PMPST				A	A	14 47 18.1	
	18nm,0.9s						
SRHM	**Skhour des Reh**	**4.12**	**97**	P	**Pn**	**14 47 01.6**	**+1.0**
SRHM				S	**Sn**	**14 47 47.9**	**-1.0**
TTIG	**Tnine Tigouga,**	**4.45**	**124**	P	Pn	14 47 00.4	-4.7
AVE	**Averroes**	**4.47**	**86**	P	**Pn**	**14 47 07.1**	**+1.9**
OUK	**Oukaimeden**	**4.54**	**113**	P	**Pn**	**14 47 06.6**	**+0.1**
ZHG	**ZHG**	**5.12**	**84**	P	**Pn**	**14 47 14.9**	**+0.6**
PFVI	**Vila Bisbo**	**5.15**	**37**	*e*Pn	**Pn**	**14 47 15.2**	**+0.5**
PFVI				*e*Sn	**Sn**	**14 48 13.7**	**-0.5**
PFVI				A	A	14 48 22.3	
	4.7nm,0.5s						
PFVI	**Vila Bisbo**	**5.15**	**37**	P	**Pn**	**14 47 15.2**	**+0.5**
MORF	**Marmelete**	**5.38**	**37**	*e*P	**Pn**	**14 47 18.3**	**+0.5**
MORF				*e*S	**Sn**	**14 48 19.3**	**-0.5**
MORF				IAML		14 48 24.3	
	comp=N,7.7nm,0.2s						
MORF	**Marmelete**	**5.38**	**37**	*e*Pn	**Pn**	**14 47 18.3**	**+0.5**
MORF				*e*Sn	**Sn**	**14 48 19.3**	**-0.5**
MORF				A	A	14 48 24.4	
	comp=N,3.8nm,0.2s						
OUZM	**OUZ**	**5.52**	**112**	P	**Pn**	**14 47 19.6**	**-0.2**
PTEO	**Sao Teotonio**	**5.53**	**35**	*e*Sn	**Sn**	**14 48 23.1**	**-0.3**
PBDV	**Barranco-do-Ve**	**5.72**	**42**	*e*Pn	**Pn**	**14 47 23.6**	**+1.2**
PBDV				*e*Sn	**Sn**	**14 48 27.3**	**-0.8**
PBDV				A	A	14 48 33.6	
	comp=N,2.7nm,0.4s						
PCVE	**Castro Verde**	**5.94**	**39**	*e*Pn	**Pn**	**14 47 26.2**	**+0.7**
PCVE				*e*Sn	**Sn**	**14 48 34.2**	**+0.6**
PCVE				A	A	14 48 36.9	
	comp=N,2.6nm,0.4s						
PVAQ	**Vaqueiros**	**5.95**	**42**	*e*Pn	**Pn**	**14 47 26.5**	**+0.9**
PVAQ				*e*Sn	**Sn**	**14 48 33.6**	**-0.2**
PVAQ				A	A	14 48 38.3	
	comp=N,2.4nm,0.3s						
PVAQ	**Vaqueiros**	**5.95**	**42**	P	**Pn**	**14 47 26.5**	**+0.9**
PNCL	**Nicolau / Gran**	**6.07**	**33**	*e*Pn	**Pn**	**14 47 27.8**	**+0.5**
PNCL				*e*Sn	**Sn**	**14 48 35.8**	**-1.0**
PNCL				A	A	14 48 46.9	
	comp=N,2.5nm,0.7s						
PBEJ	**Beja**	**6.33**	**37**	*e*Sn	**Sn**	**14 48 42.9**	**-0.2**
MD31	**MD31**	**6.71**	**90**	P	**Pn**	**14 47 37.1**	**+1.0**
MDT	**Midelt**	**6.84**	**90**	P	**Pn**	**14 47 39.1**	**+1.1**
PMTG	**Montargil**	**7.00**	**30**	*e*Pn	**Pn**	**14 47 40.7**	**+0.7**
PMTG				*e*Sn	**Sn**	**14 48 57.5**	**-2.1**
PMTG				A	A	14 48 59.0	
	comp=N,3.9nm,0.6s						
PESTR	**Estremoz**	**7.12**	**34**	*e*Sn	**Sn**	**14 49 01.7**	**-0.9**
PMRV	**Marv??o**	**7.66**	**33**	*e*Pn	**Pn**	**14 47 50.0**	**+0.9**
PMRV				*e*Sn	**Sn**	**14 49 13.7**	**-2.2**
PMRV				A	A	14 49 15.9	
	comp=N,0.8nm,0.1s						
JBK	**JBK**	**8.57**	**79**	P	**Pn**	**14 48 01.6**	**-0.1**

IDC 14 15:14:18.4±4.2, 6°.14S×130°.74E, h133km±58km, mb3.1/1, mb1 2.9/4, mb1mx2.6/35, mbtmp3.3/4, Error ellipse: s-maj=130.0km s-min=19.6km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.26**	**6**	P	Pn	15 15 36.1	+1.0
	0.5nm,0.3s,baz=243,slow=24,SNR=11						
SIJI				S	Sn	15 16 34.9	0.0
	1.0nm,0.3s,baz=170,slow=23,SNR=12						
WRA	**Warramunga Arr**	**14.16**	**166**	P	Pn	15 17 31.9	-1.2
	0.1nm,0.3s,baz=349,slow=13,SNR=2.5						
WRA				S	Sn	15 19 59.0	-11
	0.2nm,0.3s,baz=328,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**17.69**	**170**	P	P	15 18 16.1	+0.4
	0.1nm,0.3s,baz=342,slow=9.5,SNR=12						
ASAR				S	S	15 21 26.3	-6.5
	0.0nm,0.3s,baz=342,slow=12,SNR=1.0						
MKAR	**Makanchi Array**	**67.92**	**326**	P	P	15 25 02.8	0.0
	0.2nm,0.4s,baz=120,slow=7.3,SNR=9.1						

*NEIC **14** 15:17:51.8±1.3, 37°.24N±0°.02×97°.93W±0°.02, h10km±2km, Error ellipse: s-maj=2.6km s-min=2.1km az=197.0*
NEIC 14 15:17:52.2±1.1, 37°.21N±0°.02×97°.93W±0°.02, h5km±4km, mb_Lg2.6/4, ML2.3/21, Error ellipse: s-maj=2.4km s-min=2.1km az=167.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.04**	**299**		Pg	15 17 53.6	+0.2
KAN08				Sg	Sg	15 17 54.5	+0.2
KAN06	**Argonia West S**	**0.07**	**56**		Pg	15 17 54.1	+0.2
KAN06				Sg	Sg	15 17 55.3	+0.3
KAN12	**Harper NE Stat**	**0.10**	**329**	Pg	Pg	15 17 54.7	+0.3
KAN12				Sg	Sg	15 17 56.4	+0.5
KAN16	**Harper SW Stat**	**0.11**	**279**	Pg	Pg	15 17 54.7	+0.2
KAN16				Sg	Sg	15 17 56.5	+0.5
KAN01	**Argonia South**	**0.15**	**112**		Pg	15 17 55.5	+0.3
KAN01				Sg	Sg	15 17 57.8	+0.6
KAN10	**Anthony SW Sta**	**0.16**	**237**	Pg	Pg	15 17 55.6	+0.3
KAN17	**Caldwell West**	**0.21**	**141**	Pg	Pg	15 17 56.7	+0.3
KAN17				Sg	Sg	15 17 59.8	+0.6
KAN14	**Manchester OK**	**0.25**	**186**	Pg	Pg	15 17 57.4	+0.2
KAN14				Sg	Sg	15 18 00.9	+0.4
GC02	**Grant County #**	**0.36**	**171**	Pg	Pg	15 17 59.4	+0.2
GC02				Sg	Sg	15 18 04.6	+0.6
KAN13	**South Haven SW**	**0.41**	**118**		Pg	15 18 00.3	+0.1
KAN13				Sg	Sg	15 18 06.0	+0.5
OK032	**Salt Plains WL**	**0.46**	**209**	Pg	Pg	15 18 01.3	+0.2
OK032					Sg	15 18 07.8	+0.7
CROK	**Carrier**	**0.70**	**183**		Pg	15 18 05.6	-0.1
CROK				Sg	Sg	15 18 15.3	+0.4
BLOK	**Blackwell**	**0.73**	**128**	Pg	Pg	15 18 05.7	-0.5
BLOK				Sg	Sg	15 18 15.9	+0.2
OK035	**E0210 Rd and N**	**0.80**	**231**	Pg	Pg	15 18 07.1	-0.4
OK035				Sg	Sg	15 18 18.1	+0.1
T35A	**Sooner Cattle**	**1.17**	**104**		Pg	15 18 14.2	-0.5
T35A				Sg	Sg	15 18 29.3	-0.6
U32A	**Winter Ranch,**	**1.19**	**226**	Pg	Pg	15 18 14.4	-0.7
U32A				Sg	Sg	15 18 30.8	+0.2
R32A	**Long Quarter,**	**1.36**	**333**	Pn	Pn	15 18 17.2	-0.8
R32A				Sn	Sb	15 18 34.9	-1.0
QUOK	**Quay**	**1.43**	**136**	Pn	Pn	15 18 18.3	-0.5
QUOK				Sn	Sb	15 18 37.3	-0.5
OK029	**Liberty Lake**	**1.46**	**165**	Pn	Pn	15 18 19.0	-0.3
OK029				Sn	Sg	15 18 39.0	-0.2
OK031	**S. Brethren Rd**	**1.53**	**145**	Pn	Pn	15 18 19.6	-0.6
OK031				Sn	Sn	15 18 40.6	+0.1
OK034	**N. Norfolk Rd.**	**1.55**	**140**	Pn	Pn	15 18 20.2	-0.3
OK034				Sn	Sn	15 18 40.6	-0.2
BCOK	**Bluff Creek, N**	**1.57**	**170**	Pn	Pn	15 18 20.0	-0.8
BCOK				Sn	Sb	15 18 42.2	+0.2
OK030	**Cody Creek RV**	**1.58**	**144**	Pn	Pn	15 18 20.3	-0.6
OK030				Sn	Sn	15 18 40.9	-0.8
OK025	**Westminster Rd**	**1.69**	**163**	Pn	Pn	15 18 22.4	-0.1
FNO	**Franklin**	**2.00**	**167**	Pn	Pn	15 18 26.1	-0.5
CBKS	**Cedar Bluff**	**2.15**	**319**	Pn	Pn	15 18 29.5	+0.8
TUL1	**Leonard**	**2.16**	**126**	Pn	Pn	15 18 29.5	+0.7
KSU1	**Kansas State U**	**2.16**	**28**	Pn	Pn	15 18 29.0	+0.1
WMOK	**Wichita Mounta**	**2.56**	**196**	Pn	Pn	15 18 34.9	+0.5
X34A	**Smith Ranch, M**	**2.60**	**178**	Pn	Pn	15 18 34.1	-0.9
U38A	**Gravette**	**2.95**	**104**	Pn	Pn	15 18 39.0	-0.7
HHAR	**Hobbs**	**3.34**	**105**	Pn	Pn	15 18 43.9	-1.2
S39A	**Bolivar**	**3.70**	**81**	Pn	Pn	15 18 50.4	+0.3
W39A	**Magazine**	**3.91**	**120**	Pn	Pn	15 18 54.8	+1.9
U40A	**Yellville**	**4.16**	**100**	Pn	Pn	15 18 57.2	+0.7
U40A				IAmb_Lg		15 20 03.1	
	comp=Z,11nm,0.9s						
MIAR	**Mount Ida**	**4.42**	**126**	Pn	Pn	15 18 59.4	-0.6
MGMO	**Mountain Grove**	**4.52**	**89**	Pn	Pn	15 18 58.8	-2.6
R40A	**Maddies Statio**	**4.62**	**75**	Pn	Pn	15 19 00.9	-1.7
FCAR	**Ozark Folk Cen**	**4.86**	**104**	Pn	Pn	15 19 03.3	-2.7
L34A	**Svendsen Farm,**	**4.90**	**14**	IAmb_Lg		15 20 32.0	
	comp=Z,13nm,0.7s						
WHAR	**Wooly Hollow**	**4.95**	**111**	Pn	Pn	15 19 03.6	-3.6
X40A	**Basin Creek Fa**	**4.95**	**122**	Pn	Pn	15 19 00.9	-6.3
W41B	**Gary Mavity, V**	**5.03**	**112**	Pn	Pn	15 19 02.3	-5.9
T42A	**Van Buren**	**5.47**	**90**	Pn	Pn	15 19 09.6	-4.7

*IDC **14** 15:39:16.9±1.5, 13°.23N×145°.38E, h65km±9km, mb3.7/14, mb1 3.8/14, mb1mx3.7/46, mbtmp4.0/14, MS3.3/11, Ms1 3.3/11, ms1mx2.9/75, Error ellipse: s-maj=26.9km s-min=14.2km az=92.0*
*NEIC **14** 15:39:17.7±1.5, 13°.23N±0°.08×145°.41E±0°.07, h70km±7km, mb4.4/17, Error ellipse: s-maj=11.9km s-min=9.5km az=184.0*
ISC 14 15:39:14.1±0.6, 13°.20N±0°.09×145°.51E±0°.09, h43km, n58, σ1ˢ.16/42, mb4.2/23, MS3.4/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.73**	**302**	P	Pn	15 39 31.8	+3.7
	405nm,0.3s,baz=19,slow=6.3,SNR=588						
GUMO				S	**Sn**	**15 39 42.3**	**+4.2**
	2μm,0.3s,baz=345,slow=20,SNR=25						
PATS	**Pohnpei**	**14.10**	**115**	Pn	**Pn**	**15 42 32.2**	**+0.8**
JAY	**Jayapura**	**16.32**	**197**	LR	LR	15 48 15.4	
	comp=Z,37nm,20.0s,baz=14,slow=33						
H11S3	**WAKE ISLAND Hy**	**21.04**	**73**	T	T	16 06 49.6	
	baz=256						
H11S1	**WAKE ISLAND Hy**	**21.05**	**73**	T	T	16 06 51.3	
	baz=256						
H11S2	**WAKE ISLAND Hy**	**21.05**	**73**	T	T	16 06 50.6	
	baz=256						
JOW	**Kunigami**	**21.08**	**313**	LR	LR	15 50 30.0	
	comp=Z,56nm,19.5s,baz=138,slow=32						
H11N1	**WAKE ISLAND Hy**	**21.50**	**70**	T	T	16 07 07.9	
	baz=251,slow=75,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**21.50**	**70**	T	T	16 07 07.7	
	baz=251,slow=75,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**21.51**	**70**	T	T	16 07 09.9	
	baz=251,slow=75,SNR=4.7						
JWT	**Wachi**	**23.81**	**339**	P	**P**	**15 44 21.9**	**-1.2**
JNU	**Nakatsue**	**23.91**	**328**	P	**P**	**15 44 23.2**	**-0.9**
JNU				IAmb	IAmb	15 44 28.6	
	comp=Z,18nm,1.1s						
MJAR	**Matsushiro Arr**	**24.15**	**346**	P	**P**	**15 44 26.8**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=172,slow=9.6,SNR=2.2						
MJAR				LR	LR	15 53 04.8	
	comp=Z,40nm,21.0s,baz=151,slow=34						
JSD	**Sado**	**25.56**	**347**	P	**P**	**15 44 38.6**	**-0.4**
HNR	**Honiara**	**26.67**	**147**	LR	LR	15 54 35.9	
	comp=Z,46nm,21.9s,baz=38,slow=34						
KSRS	**Korea Array**	**28.81**	**330**	P	**P**	**15 45 06.8**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=149,slow=9.8,SNR=3.7						
BATI	**Baumata**	**31.80**	**224**	P	**P**	**15 45 35.3**	**+0.4**
	comp=Z,12nm,0.9s,baz=27,slow=6.8,SNR=4.1						
WB2	**Warramunga Arr**	**34.72**	**199**	P	**P**	**15 45 59.8**	**-0.4**
WB2				IAmb	IAmb	15 46 22.0	
	comp=Z,6.0nm,1.0s						
WRA	**Warramunga Arr**	**34.72**	**199**	P	**P**	**15 46 00.2**	**0.0**
	comp=Z,0.6nm,0.8s,baz=20,slow=10,SNR=9.3						
KLR	**Kul'dur**	**37.68**	**345**	LR	LR	16 00 26.4	
	comp=Z,41nm,20.8s,baz=86,slow=34						
AS31	**Alice Springs**	**38.36**	**197**	P	**P**	**15 46 31.9**	**+0.7**
ASAR	**Alice Springs**	**38.36**	**197**	P	**P**	**15 46 31.8**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=47,slow=6.5,SNR=6.7						
DZM	**Mont Dzumac**	**40.63**	**149**	LR	LR	16 04 10.0	
	comp=Z,76nm,18.2s,baz=20,slow=37						
KULM	**Kulim**	**44.91**	**264**	P	**P**	**15 47 24.9**	**-0.2**
KULM				IAmb	IAmb	15 47 42.4	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**44.98**	**185**	P	**P**	**15 47 25.4**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=338,slow=3.4,SNR=3.5						
STKA	**Stephens Creek**	**44.98**	**185**	IAmb	IAmb	15 47 26.8	
	comp=Z,3.5nm,1.4s						
CMAR	**Chiang Mai Arr**	**45.01**	**283**	P	**P**	**15 47 25.5**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=84,slow=6.1,SNR=21						
CMAR				LR	LR	16 04 34.0	
	comp=Z,16nm,21.6s,baz=75,slow=34						
BBOO	**Buckleboo**	**46.63**	**191**	P	**P**	**15 47 38.9**	**+0.6**
ULN	**Ulaanbaatar**	**47.05**	**325**	P	**P**	**15 47 41.3**	**-0.4**
ULN				IAmb	IAmb	15 47 43.1	
	comp=Z,4.6nm,1.2s						
SONM	**Songino Array**	**47.41**	**325**	P	**P**	**15 47 44.9**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=140,slow=5.2,SNR=7.2						
SONM	**Songino Array**	**47.41**	**325**	IAmb	IAmb	15 47 47.6	
	comp=Z,1.8nm,1.0s						
MK31	**Makanchi Array**	**62.20**	**316**	P	**P**	**15 49 30.9**	**-0.5**
MK31				IAmb	IAmb	15 49 32.5	
	comp=Z,2.4nm,1.1s						
MKAR	**Makanchi Array**	**62.20**	**316**	P	**P**	**15 49 30.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=94,slow=8.6,SNR=12						
ZAA0	**Zalesovo Array**	**62.30**	**324**	P	**P**	**15 49 30.6**	**-1.3**
ZAA0				IAmb	IAmb	15 49 32.1	
	comp=Z,4.1nm,1.3s						
ZALV	**Zalesovo Beam**	**62.30**	**324**	P	**P**	**15 49 31.4**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=134,slow=6.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**62.30**	**324**	P	**P**	**15 49 30.8**	**-1.0**
MAKZ	**Makanchi**	**62.41**	**316**	P	**P**	**15 49 32.7**	**-0.2**
MAKZ				IAmb	IAmb	15 49 33.9	
	comp=Z,5.9nm,1.2s						
MYLAV	**Mylavaram**	**62.53**	**282**	*e*P	**P**	**15 49 34.5**	**+0.5**
ADKI	**Addanki**	**63.27**	**281**	*e*pP	pP	15 49 56.8	+6.5
SRLM	**Srisailam**	**64.27**	**282**	*e*P	**P**	**15 49 44.8**	**-0.8**
SRLM				*e*pP	**sP**	**15 50 03.3**	**+1.7**
RCLA	**Racherla**	**64.29**	**281**	*e*P	**P**	**15 49 44.6**	**-1.1**
HYBB	**Hyderabad (bro**	**64.44**	**283**	*e*P	**P**	**15 49 45.8**	**-1.0**
HYBB				*e*S	**S**	**15 58 19.9**	**-3.0**
SRSP	**Sriramsagar**	**64.47**	**285**	*e*P	**P**	**15 49 46.0**	**-0.8**
KURK	**Kurchatov**	**65.28**	**320**	P	**P**	**15 49 50.8**	**-0.7**
IMAR	**Indian Mountai**	**66.31**	**23**	P	**P**	**15 49 57.2**	**-0.7**
IL31		**68.65**	**25**	P	**P**	**15 50 12.8**	**+0.1**
IL31				IAmb	IAmb	15 50 49.7	
	comp=Z,4.8nm,1.4s						
ILAR	**Eielson Array**	**68.65**	**25**	P	**P**	**15 50 12.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=252,slow=5.5,SNR=14						
BMAR	**Burnt Mountain**	**70.22**	**23**	P	**P**	**15 50 24.3**	**+1.9**
BRVK	**Borovoye**	**70.68**	**322**	P	**P**	**15 50 24.8**	**-0.6**
BRVK				IAmb	IAmb	15 50 26.2	
	comp=Z,7.1nm,1.1s						
BBB	**Bella Bella**	**77.49**	**39**	LR	LR	16 20 10.1	
	comp=Z,48nm,19.4s,baz=269,slow=32						
AKTO	**Aktyubinsk**	**78.36**	**319**	LR	LR	16 26 35.6	
	comp=Z,21nm,18.5s,baz=75,slow=36						
KIRV	**Kirov**	**82.00**	**328**	LR	LR	16 28 24.7	
	comp=Z,38nm,19.7s,baz=41,slow=36						
YKA	**Yellowknife Ar**	**82.92**	**27**	P	**P**	**15 51 35.0**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=285,slow=5.2,SNR=7.1						
ARCES	**ARCESS Array B**	**87.64**	**342**	P	**P**	**15 51 58.2**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=79,slow=9.3,SNR=4.5						
ARCES				LR	LR	16 34 51.5	
	comp=Z,20nm,19.6s,baz=146,slow=38						
FINES	**FINESS Array B**	**91.77**	**335**	P	**P**	**15 52 16.2**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=70,slow=6.1,SNR=7.5						
KIC	**Kosan Boka**	**144.63**	**302**	*e*PKP1	**PKPdf**	**15 58 46.3**	**-0.9**
	comp=Z,2.3nm,0.4s						
TIC	**Toumodi**	**144.70**	**302**	*e*PKP1	PKPbc	15 58 46.2	0.0
LIC	**Lamto**	**144.94**	**302**	*e*PKP1	**PKPdf**	**15 58 47.0**	**-0.7**
	comp=Z,35nm,0.9s						

IDC 14 15:44:35.0±25.0, 13°.71S×167°.80E, h429km±318km, mb2.9/4, mb1 3.1/4, mb1mx2.8/41, mbtmp3.6/4, Error ellipse: s-maj=247.3km s-min=76.5km az=159.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.58**	**254**	P	P	15 50 30.0	+0.6
	0.8nm,1.1s,baz=89,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**33.52**	**248**	P	P	15 50 36.7	-0.6
	0.3nm,0.8s,baz=70,slow=9.5,SNR=4.6						
ILAR	**Eielson Array**	**85.40**	**18**	P	P	15 56 25.4	+0.1
	0.6nm,0.6s,baz=227,slow=6.4,SNR=18						
MKAR	**Makanchi Array**	**96.82**	**316**	P	P	15 57 18.1	-0.5
	0.3nm,0.5s,baz=84,slow=6.3,SNR=4.3						

*MAN **14** 15:52:51.0, 9°.99N×126°.12E, h17km, mb4.7, ML3.6, MS3.6*
*IDC **14** 15:52:53.2±2.6, 9°.96N×126°.00E, h75km±25km, mb3.6/16, mb1 3.7/17, mb1mx3.5/47, mbtmp3.9/17, MS3.0/4, Ms1 3.0/4, ms1mx2.5/67, Error ellipse: s-maj=26.4km s-min=13.4km az=76.0*
*NEIC **14** 15:52:57.0±1.6, 9°.91N±0°.08×125°.9E±0°.1, h105km±3km, mb4.3/34, Error ellipse: s-maj=17.6km s-min=11.8km az=78.0*
ISC 14 15:52:52.1±1.0, 10°.01N±0°.04×126°.12E±0°.06, h59km±10km, n78, σ1ˢ.52/84, mb4.3/32, 6C-9D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.66**	**250**	⇑*i*P	**Pn**	**15 53 03.8**	**-2.0**
SCPH				*i* S	**Sn**	**15 53 13.8**	**-2.0**
BUTP	**Butuan**	**1.14**	**205**	⇑*i*P	**Pn**	**15 53 10.9**	**-1.0**
BUTP				*e*S	**Sn**	**15 53 28.1**	**+1.4**
MSLP	**Maasin**	**1.25**	**276**	⇓*e*P	**Pn**	**15 53 13.1**	**-0.2**
MSLP				*i* S	**Sn**	**15 53 31.5**	**+2.2**
BESP	**Borongan**	**1.72**	**337**	⇓*e*P	**Pn**	**15 53 20.9**	**+1.2**
BESP				*i* S	**Sn**	**15 53 43.5**	**+2.8**
OCLP	**Ormoc**	**1.81**	**305**	⇑*i*P	**Pn**	**15 53 21.6**	**+0.6**
OCLP				*e*S	**Sn**	**15 53 44.4**	**+1.5**
LLP	**Lapu-Lapu**	**2.14**	**279**	⇓*e*P	**Pn**	**15

MAKZ	**Makanchi**	**52.34**	**323**	P	**P**	**16 01 57.3**	**-0.7**
ZALV	**Zalesovo Beam**	**54.78**	**331**	P	**P**	**16 02 13.7**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=111,slow=6.6,SNR=4.1						
KURK	**Kurchatov**	**56.20**	**326**	P	**P**	**16 02 25.2**	**-0.8**
KURK				IAmb	IAmb	16 02 27.4	
	comp=Z,2.6nm,1.0s						
TIXI	**Tiksi**	**61.62**	**1**	P	**P**	**16 03 03.1**	**0.0**
	comp=Z,1.0nm,0.3s,baz=160,slow=2.6,SNR=12						
TIXI	**Tiksi**	**61.62**	**1**	P	**P**	**16 03 02.9**	**-0.2**
TIXI				IAmb	IAmb	16 03 04.5	
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**66.98**	**319**	P	**P**	**16 03 36.3**	**-2.3**
IMAR	**Indian Mountai**	**76.91**	**24**	P	**P**	**16 04 38.4**	**+0.7**
KDAK	**Kodiak Island**	**76.97**	**33**	P	**P**	**16 04 39.1**	**+0.9**
KDAK				IAmb	IAmb	16 05 11.7	
	comp=Z,15nm,1.2s						
H21K	**Melozitna Rive**	**77.27**	**25**	P	**P**	**16 04 41.0**	**+1.2**
H21K				IAmb	IAmb	16 05 07.7	
	comp=Z,6.3nm,1.5s						
CAST	**Castle Rocks**	**77.45**	**27**	P	**P**	**16 04 42.4**	**+1.5**
CAST				IAmb	IAmb	16 05 07.5	
	comp=Z,4.7nm,1.4s						
I21K	**Tanana**	**77.58**	**25**	P	**P**	**16 04 42.6**	**+1.1**
I21K				IAmb	IAmb	16 04 45.3	
	comp=Z,6.3nm,1.2s						
CNPM	**China Poot**	**77.72**	**31**	P	**P**	**16 04 43.5**	**+1.1**
COLD	**Coldfoot**	**78.39**	**23**	P	**P**	**16 04 46.2**	**+0.1**
COLD				IAmb	IAmb	16 04 54.1	
	comp=Z,6.6nm,1.4s						
MCK	**McKinley**	**78.86**	**27**	P	**P**	**16 04 48.5**	**-0.2**
MCK				IAmb	IAmb	16 05 13.0	
	comp=Z,11nm,1.5s						
PWL	**Port Wells**	**79.17**	**30**	P	**P**	**16 04 50.8**	**+0.4**
WRH	**Wood River Hil**	**79.23**	**26**	P	**P**	**16 04 51.1**	**+0.5**
WRH				IAmb	IAmb	16 04 58.6	
	comp=Z,12nm,1.6s						
DHY	**Denali Highway**	**79.57**	**28**	P	**P**	**16 04 53.2**	**+0.4**
DHY				IAmb	IAmb	16 05 37.4	
	comp=Z,5.9nm,1.3s						
HDA	**Harding Lake**	**79.73**	**26**	P	**P**	**16 04 52.6**	**-0.8**
IL31		**79.74**	**26**	P	**P**	**16 04 53.5**	**+0.1**
ILAR	**Eielson Array**	**79.74**	**26**	P	**P**	**16 04 52.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=240,slow=4.0,SNR=13						
M24K	**Tolsona, Glenn**	**80.16**	**28**	P	**P**	**16 04 57.3**	**+1.4**
M24K				IAmb	IAmb	16 05 25.9	
	comp=Z,6.5nm,1.1s						
BMAR	**Burnt Mountain**	**80.57**	**23**	P	**P**	**16 04 59.9**	**+1.9**
RIDG	**Independent Ri**	**80.68**	**27**	P	**P**	**16 04 59.0**	**+0.5**
RIDG				IAmb	IAmb	16 04 60.0	
	comp=Z,5.7nm,1.1s						
J26L	**Joseph Creek**	**81.19**	**26**	P	**P**	**16 05 01.4**	**+0.1**
J26L				IAmb	IAmb	16 05 39.1	
	comp=Z,5.9nm,1.6s						
BCAR	**Beaver Creek A**	**82.11**	**27**	P	**P**	**16 05 08.3**	**+2.1**
ARCES	**ARCESS Array B**	**84.39**	**340**	P	**P**	**16 05 16.9**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=95,slow=5.7,SNR=5.6						
M30M	**Minto, Yukon**	**84.45**	**27**	P	**P**	**16 05 19.0**	**+0.7**
M30M				IAmb	IAmb	16 05 21.1	
	comp=Z,2.3nm,0.8s						
INK	**Inuvik**	**84.58**	**22**	P	**P**	**16 05 18.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=217,slow=2.2,SNR=5.3						
INK	**Inuvik**	**84.58**	**22**	IAmb	IAmb	16 05 20.5	
	comp=Z,3.7nm,1.4s						
BRTR	**Keskin Array B**	**85.58**	**309**	P	**P**	**16 05 23.7**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=103,slow=6.5,SNR=3.7						
FINES	**FINESS Array B**	**86.05**	**332**	P	**P**	**16 05 25.3**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=63,slow=4.7,SNR=11						
EIL	**Elat**	**86.12**	**299**	LR	LR	16 48 26.9	
	comp=Z,30nm,18.6s,baz=321,slow=39						
YKA	**Yellowknife Ar**	**94.06**	**24**	P	**P**	**16 06 04.5**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=299,slow=4.6,SNR=12						

*IDC **14** 16:05:48.4±1.1,39°.48N×73°.89E, h0km, mb3.7/10, mb1 3.8/14, mb1mx3.6/59, mbtmp3.7/14, ML3.2/3, Error ellipse: s-maj=22.7km s-min=19.9km az=111.0*
*KRNET **14** 16:05:50.0±0.1,39°.64N×73°.96E, h13km, mb3.8*
*NNC **14** 16:05:53.6±1.4,39°.81N×73°.81E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=11.5km s-min=6.8km az=168.0*

ISC 14 16:05:53.2±1.3, 39°.80N±0°.05×73°.80E±0°.03, h13km±8km, n78, σ2s19/100, mb3.7/10, 32C-25D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.31**	**313**	⇓*eP*	**Pg**	**16 06 00.1**	**+0.3**
	baz=17						
SFK				⇓*eS*	**Sb**	**16 06 07.8**	**+1.9**
	baz=17						
OHH	**Osh**	**1.06**	**313**	⇓*iP*	**Pg**	**16 06 14.0**	**+0.3**
	baz=15						
OHH				⇓*iS*	**Sn**	**16 06 31.5**	**+3.0**
	baz=15						
SALK	**Salom-Alik**	**1.08**	**1**	⇑*eP*	**Pg**	**16 06 13.7**	**-0.4**
	baz=55						
SALK				⇑*eS*	**Sn**	**16 06 30.9**	**+1.8**
	baz=55						
DRK	**Karamyk**	**1.57**	**259**	⇑*iP*	**Pn**	**16 06 21.4**	**+0.3**
	baz=65						
DRK				⇑*iS*	**Sg**	**16 06 44.5**	**+0.5**
	baz=65						
KSH	**Kashi**	**1.70**	**99**	Pg	Pn	16 06 14.3	-8.4
KSH				Sg	Sn	16 06 33.3	-11
KSH				pmax	pmax		
	comp=Z,110nm,0.7s						
KSH				smax	smax		
	comp=N,650nm,0.8s						
KSH				smax	smax		
	comp=E,410nm,0.9s						
ARLS	**Aral**	**2.10**	**11**	⇑*iP*	**Pn**	**16 06 30.1**	**+1.9**
	baz=7.0						
ARLS				⇑*iS*	**Sg**	**16 06 59.7**	**-1.0**
	baz=7.0						
BTK	**Batken**	**2.31**	**277**	⇑*iP*	**Pn**	**16 06 33.6**	**+2.7**
	baz=81						
BTK				⇑*iS*	**Sb**	**16 07 05.1**	**+2.0**
	baz=81						
AML	**Almayashu**	**2.33**	**358**	P	**Pb**	**16 06 35.0**	**-0.4**
	SNR=114						
ARK	**Arkit**	**2.44**	**326**	⇓*iP*	**Pb**	**16 06 36.1**	**-0.8**
	baz=25						
ARK				⇓*iS*	**Sb**	**16 07 09.6**	**+2.7**
	baz=25						
UCH	**Uchtor**	**2.49**	**12**	P	**Pb**	**16 06 37.8**	**-0.2**
	SNR=25						
UCH	**Uchtor**	**2.49**	**12**	⇑*iP*	**Pn**	**16 06 35.8**	**+2.0**
	baz=9.0						
UCH				⇑*iS*	**Sb**	**16 07 09.1**	**+0.4**
	baz=9.0						
TRKS	**Terek-Say**	**2.66**	**311**	⇓*iP*	**Pn**	**16 06 38.3**	**+2.4**
	baz=11						
TRKS				⇓*iS*	**Sb**	**16 07 13.5**	**+0.1**
	baz=11						
EKS2	**Erkin-Say**	**2.86**	**360**	P	**Pb**	**16 06 42.8**	**-1.4**
	SNR=22						
EKS2	**Erkin-Say**	**2.86**	**360**	⇓*iP*	**Pn**	**16 06 41.4**	**+2.8**
	baz=57						
EKS2				⇓*iS*	**Sb**	**16 07 19.0**	**-0.1**
	baz=57						
AAK	**Ala-Archa**	**2.88**	**10**	Pn	**Pb**	**16 06 43.0**	**-1.6**
	comp=E,4.5nm,0.3s,baz=192,slow=11,SNR=66						
AAK				Lg	Lg	16 07 24.5	
	comp=E,18nm,0.3s,baz=348,slow=22,SNR=19						
AAK	**Ala-Archa**	**2.88**	**10**	P	**Pb**	**16 06 43.0**	**-1.6**
	SNR=8.3						
AAK	**Ala-Archa**	**2.88**	**10**	Pn	**Pb**	**16 06 42.9**	**-1.7**
	comp=E,27nm,0.7s						
AAK	**Ala-Archa**	**2.88**	**10**	⇓*iP*	**Pn**	**16 06 41.3**	**+2.3**
	baz=7.0						
AAK				⇓*iS*	**Sb**	**16 07 18.9**	**-0.9**
	baz=7.0						
MRKS	**Merke**	**2.98**	**352**	Pg	**Pb**	**16 06 48.5**	**+2.4**
	comp=E,41nm,0.5s						
MRKS				Lg	Lg	16 07 30.4	
	comp=E,109nm,0.5s						
KBK	**Karagaybulak**	**2.98**	**17**	P	**Pb**	**16 06 46.6**	**+0.3**
	SNR=15						
KBK	**Karagaybulak**	**2.98**	**17**	⇓*iP*	**Pn**	**16 06 42.4**	**+2.0**
	baz=14						
KBK				⇓*iS*	**Sb**	**16 07 20.9**	**-1.8**
	baz=14						
ULHL	**Ulahol**	**3.06**	**36**	P	**Pn**	**16 06 44.7**	**+3.2**
	SNR=7.0						
ULHL	**Ulahol**	**3.06**	**36**	⇓*iP*	**Pn**	**16 06 42.7**	**+1.2**
	baz=33						
ULHL				⇓*iS*	**Sn**	**16 07 21.2**	**+3.1**
	baz=33						
FRU1	**Bishkek**	**3.07**	**11**	⇓*iP*	**Pn**	**16 06 44.2**	**+2.7**
	baz=9.0						
FRU1				⇓*iS*	**Sb**	**16 07 23.6**	**-1.6**
	baz=9.0						
BOOM	**Boomskoye usch**	**3.14**	**30**	⇓*iP*	**Pn**	**16 06 44.2**	**+1.7**
	baz=27						
BOOM				⇓*iS*	**Sn**	**16 07 23.6**	**+3.7**
	baz=27						
CHMS	**Chumysh**	**3.28**	**12**	P	**Pb**	**16 06 49.7**	**-1.5**
	SNR=12						
CHMS	**Chumysh**	**3.28**	**12**	⇑*iP*	**Pn**	**16 06 46.5**	**+2.3**
	baz=10.0						
CHMS				⇑*iS*	**Sb**	**16 07 27.7**	**-3.3**
	baz=10.0						
TKM2	**Tokmak 2**	**3.40**	**23**	P	**Pb**	**16 06 51.7**	**-1.7**
	SNR=6.2						
TKM2	**Tokmak 2**	**3.40**	**23**	⇑Pn	**Pn**	**16 06 49.5**	**+3.4**
	comp=E,6.0nm,0.5s						
TKM2				⇑Lg	Lg	16 07 41.2	
	comp=E,23nm,0.7s						
TKM2	**Tokmak 2**	**3.40**	**23**	⇓*iP*	**Pn**	**16 06 48.1**	**+2.0**
	baz=20						
TKM2				⇓*iS*	**Sn**	**16 07 30.6**	**+4.2**
	baz=20						
KDJ	**Kajisay**	**3.46**	**47**	⇓*iP*	**Pn**	**16 06 47.9**	**+1.0**
	baz=44						
KDJ				⇓*iS*	**Sn**	**16 07 29.5**	**+1.6**
	baz=44						
USP	**Ospenovka**	**3.50**	**8**	P	**Pb**	**16 06 52.7**	**-2.4**
	SNR=7.9						
USP	**Ospenovka**	**3.50**	**8**	⇑*iP*	**Pn**	**16 06 49.8**	**+2.4**
	baz=6.0						
USP				⇑*iS*	**Sn**	**16 07 33.6**	**+4.9**
	baz=6.0						
DZA	**Taraz**	**3.61**	**330**	Pg	**Pb**	**16 06 54.6**	**-2.2**
	comp=E,42nm,0.1s						
DZA				Lg	Lg	16 07 39.9	
	comp=E,59nm,0.2s						
SGDS	**Sogindy**	**3.70**	**9**	Pg	**Pb**	**16 07 00.6**	**+2.1**
	comp=E,26nm,0.4s						
SGDS				Pg	**Pb**	**16 07 00.7**	**+2.1**
	comp=E,26nm,0.3s						
SGDS				Lg	Lg	16 07 50.7	
	comp=E,40nm,0.7s						
DGS	**Degeres**	**3.75**	**23**	Pg	**Pb**	**16 07 01.3**	**+2.1**
	comp=E,26nm,0.3s						
DGS				Lg	Lg	16 07 54.0	
	comp=E,53nm,0.8s						
DGS				Lg	Lg	16 07 54.9	
	comp=E,70nm,0.3s						
CHGR	**Chuyangaron**	**3.78**	**254**	⇑*iP*	**Pn**	**16 06 52.9**	**+1.7**
	baz=57						
CHGR				⇑*iS*	**Sn**	**16 07 38.9**	**+3.3**
	baz=57						
MTBS	**Maitube**	**3.87**	**30**	Pg	**Pb**	**16 07 03.5**	**+2.2**
	comp=E,13nm,0.6s						
MTBS				Lg	Lg	16 07 55.7	
	comp=E,40nm,0.4s						
TNSS	**Tian-Shan**	**4.01**	**35**	Pg	**Pb**	**16 07 06.7**	**+2.8**
	comp=E,18nm,0.5s						
TNSS				Lg	Lg	16 08 01.2	
	comp=E,20nm,0.5s						
TNSS	**Tian-Shan**	**4.01**	**35**	Pg	**Pb**	**16 07 05.1**	**+1.2**
	comp=E,17nm,0.4s						
TNSS				Lg	Lg	16 08 01.1	
	comp=E,63nm,0.5s						
KK02	**Karatay Array**	**4.12**	**324**	⇓Pn	**Pn**	**16 06 59.0**	**+3.1**
	comp=E,1.7nm,0.3s,baz=140,slow=14						
KK02				⇑Pg	**Pg**	**16 07 10.4**	**-1.8**
	comp=E,10.0nm,0.6s,baz=140,slow=13						
KK02				⇑Lg	Lg	16 08 08.6	
	comp=E,23nm,0.6s,baz=120,slow=26						
MDOK	**Medeo**	**4.16**	**35**	⇑Pn	**Pn**	**16 06 57.6**	**+1.2**
	comp=E,4.3nm,0.5s						
MDOK				⇑Pg	**Pb**	**16 07 09.5**	**+3.3**
	comp=E,12nm,0.5s						
MDOK				⇑Lg	Lg	16 08 04.9	
	comp=E,36nm,0.8s						
MDOK	**Medeo**	**4.16**	**35**	Pg	**Pb**	**16 07 09.0**	**+2.7**
	comp=E,16nm,0.4s						
MDOK				Lg	Lg	16 08 04.7	
	comp=E,77nm,0.7s						
KNDC	**Almaty**	**4.16**	**34**	⇑Pg	**Pg**	**16 07 10.7**	**-2.3**
	comp=E,66nm,0.8s,baz=139,slow=14						
KNDC				⇑Lg	Lg	16 08 06.8	
	comp=E,170nm,0.8s,baz=134,slow=28						
ANVS	**Anan'yevo**	**4.17**	**43**	⇑*iP*	**Pn**	**16 06 57.7**	**+1.0**
	baz=40						
ANVS				⇑*iS*	**Sn**	**16 07 47.1**	**+1.8**
	baz=40						
KOTS	**Kotyrbulak**	**4.24**	**35**	Pg	**Pb**	**16 07 09.1**	**+1.4**
	comp=E,26nm,0.3s						
KOTS				Lg	Lg	16 08 08.2	
	comp=E,174nm,0.5s						
PRZ	**Przheval'sk**	**4.39**	**51**	⇑*iP*	**Pn**	**16 07 00.7**	**+1.0**
	baz=48						
PRZ				⇑*iS*	**Sn**	**16 07 52.2**	**+1.5**
	baz=48						
KTBS	**Karatobe**	**4.47**	**28**	Pg	**Pb**	**16 07 12.9**	**+1.4**
	comp=E,9.1nm,0.5s						
KTBS				Lg	Lg	16 08 15.0	
	comp=E,94nm,0.7s						
KUU	**Kurty**	**4.51**	**24**	Pg	**Pb**	**16 07 15.2**	**+3.0**
	comp=E,4.8nm,0.6s						
KUU				Lg	Lg	16 08 15.4	
	comp=E,32nm,0.7s						
SATY	**Saty**	**4.75**	**45**	Pg	**Pb**	**16 07 20.2**	**+3.7**
	comp=E,16nm,0.6s						
SATY				Lg	Lg	16 08 24.3	
	comp=E,42nm,1.1s						
ZHN	**Zhinishke**	**4.84**	**44**	Pg	**Pb**	**16 07 20.7**	**+2.7**
	comp=E,6.7nm,0.4s						
ZHN				Lg	Lg	16 08 25.2	
	comp=E,25nm,0.9s						
KURS	**Kuram**	**4.93**	**40**	Pg	**Pg**	**16 07 24.7**	**-2.9**
	comp=E,10nm,0.6s						
KURS				Lg	Lg	16 08 31.2	
	comp=E,13nm,0.7s						
UZB	**Uzynbulak**	**5.16**	**48**	Pg	**Pb**	**16 07 26.4**	**+3.1**
	comp=E,13nm,0.6s						
UZB				Lg	Lg	16 08 35.0	
	comp=E,18nm,0.7s						
BTLS	**Baital**	**5.24**	**2**	Pg	**Pb**	**16 07 28.3**	**+3.7**
BTLS				Lg	Lg	16 08 40.6	
	comp=E,12nm,0.6s						
ARXS	**Arharly**	**5.33**	**33**	Pg	**Pb**	**16 07 30.1**	**+3.8**
ARXS				Lg	Lg	16 08 41.9	
	comp=E,25nm,0.7s						
SHLS	**Shalkode**	**5.42**	**50**	Pg	**Pg**	**16 07 37.4**	**+0.5**
	comp=E,9.1nm,0.7s						
SHLS				Lg	Lg	16 08 53.8	
	comp=E,21nm,0.7s						
BLB	**Baldybastay**	**5.53**	**38**	Pg	**Pb**	**16 07 33.8**	**+4.1**
	comp=E,18nm,0.6s						
BLB				Lg	Lg	16 08 47.0	
	comp=E,11nm,0.8s						
PDGK	**Podgornoye**	**5.54**	**49**	⇑Pn	**Pn**	**16 07 16.4**	**+1.0**
	comp=E,4.1nm,0.7s						
PDGK				⇑Pg	**Pb**	**16 07 33.6**	**+3.9**
	comp=E,11nm,0.8s						
PDGK				⇑Lg	Lg	16 08 44.6	
	comp=E,32nm,0.9s						
TDK	**Taldyqorghan**	**6.22**	**32**	Pg	Pb	16 07 46.1	+4.8
	comp=E,25nm,0.6s						
TDK				Lg	Lg	16 09 08.8	
	comp=E,28nm,0.7s						
DJR	**Jarkent**	**6.36**	**43**	Pg	Pb	16 07 48.5	+4.8
	comp=E,3.8nm,0.8s						
DJR				Lg	Lg	16 09 12.2	
	comp=E,9.0nm,1.0s						
KAPS	**Kapalarasan**	**6.85**	**35**	Pg	Pb	16 07 58.1	+6.1
	comp=E,4.6nm,0.7s						
KAPS				Lg	Lg	16 09 29.5	
	comp=E,7.4nm,0.9s						
MKAR	**Makanchi Array**	**9.33**	**39**	Pn	**Pn**	**16 08 09.3**	**+1.9**
	comp=E,6.9nm,0.3s,baz=213,slow=16,SNR=2.7						
WMQ	**Urumqi**	**11.12**	**64**	*eP*	**Pn**	**16 08 31.1**	**-0.8**
WMQ				smax	smax		
	comp=N,10.0nm,0.9s						
WMQ				smax	smax		
	comp=E,9.0nm,0.9s						
BVAR	**Borovoye Array**	**13.44**	**351**	Pn	**Pn**	**16 09 02.8**	**-0.6**
	comp=E,0.2nm,0.3s,baz=164,slow=16,SNR=3.4						
AB31	**Akbulak array**	**13.66**	**318**	Pn	**Pn**	**16 09 05.9**	**-0.5**
	comp=E,1.4nm,0.6s,baz=128,slow=10.0,SNR=23						
AKTO	**Aktyubinsk**	**15.37**	**319**	Pn	**P**	**16 09 33.6**	**-0.6**
	comp=E,0.2nm,0.3s,baz=110,slow=14,SNR=4.3						
AKTO				Sn	**Sn**	**16 12 21.7**	**+2.1**
	comp=E,0.1nm,0.3s,baz=203,slow=22,SNR=1.8						
ZALV	**Zalesovo Beam**	**16.00**	**24**	Pn	**Pn**	**16 09 37.5**	**-0.4**
	comp=E,0.2nm,0.3s,baz=218,slow=11,SNR=3.1						
GTA	**Gaotai**	**20.03**	**83**	*eP*	**P**	**16 10 25.0**	**-0.9**
GTA				pP	pP	16 10 30.3	-0.4
GTA				sP	sP	16 10 34.6	+1.8
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	**Songino Array**	**24.71**	**60**	P	**P**	**16 11 12.7**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=271,slow=10,SNR=6.8						
FINES	**FINESS Array B**	**36.08**	**323**	P	**P**	**16 12 54.5**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=106,slow=6.8,SNR=6.2						
ARCES	**ARCESS Array B**	**39.01**	**335**	P	**P**	**16 13 19.6**	**+0.7**
	comp=Z,5.0nm,1.1s,baz=98,slow=8.7,SNR=4.2						
TIXI	**Tiksi**	**41.89**	**23**	P	**P**	**16 13 41.3**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=268,slow=6.5,SNR=9.3						
NOA	**NORSAR Array B**	**43.15**	**321**	P	**P**	**16 13 52.8**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=91,slow=7.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**67.39**	**269**	P	**P**	**16 16 49.9**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=64,slow=5.8,SNR=2.6						
INK	**Inuvik**	**70.28**	**10**	P	**P**	**16 17 05.0**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=356,slow=2.3,SNR=1.8						
ILAR	**Eielson Array**	**71.00**	**17**	P	**P**	**16 17 08.5**	**-1.6**
	comp=Z,0.1nm,0.6s,baz=322,slow=5.3,SNR=3.0						
YKA	**Yellowknife Ar**	**77.83**	**4**	P	**P**	**16 17 48.4**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=349,slow=5.6,SNR=4.8						
ASAR	**Alice Springs**	**84.40**	**127**	P	P	16 18 21.4	-3.9
	comp=Z,0.4nm,0.6s,baz=313,slow=4.9,SNR=7.2						

*GUC **14** 16:14:52.7±0.6,21°.21S×68°.74W, h118km±3km, ML3.7*
*IDC **14** 16:14:56.9±9.0,21°.01S×68°.08W, h135km±73km, mb3.3/1, mb1 3.2/2, mb1mx3.1/17, mbtmp3.6/2, Error ellipse: s-maj=118.4km s-min=78.2km az=87.0*

ISC 14 16:14:52.7±1.2, 21°.19S±0°.03×68°.88W±0°.09, h124km±9km, n18, σ0s72/32, 8C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.58**	**285**	⇑*iP*	**Pn**	**16 15 11.3**	**-0.4**
PB01				*i* S	**Sn**	**16 15 25.7**	**-0.3**
PB01				IAML		16 15 27.2	
	comp=E,3μm,0.2s						
PB09	**IPOC Station P**	**0.69**	**209**	⇑*iP*	**Pn**	**16 15 12.3**	**-0.2**
PB09				*i* S	**Sn**	**16 15 27.6**	**0.0**
PB09				IAML		16 15 29.1	
	comp=N,1μm,0.7s						
PB02	**IPOC Station P**	**0.95**	**262**	⇑*iP*	**Pn**	**16 15 15.1**	**+0.3**
PB02				*i* S	**Sn**	**16 15 31.9**	**+0.5**
PB02				IAML		16 15 34.6	
	comp=E,4μm,0.2s						
PB07	**IPOC Station P**	**1.07**	**240**	⇑*iP*	**Pn**	**16 15 16.2**	**+0.2**
PB07				*i* S	**Sn**	**16 15 33.8**	**+0.2**
PB07				IAML		16 15 36.4	
	comp=N,2μm,0.4s						
PB08	**IPOC Station P**	**1.08**	**346**	⇓*iP*	**Pn**	**16 15 16.1**	**-0.2**
PB08				*i* S	**Sn**	**16 15 33.8**	**-0.2**
PB03	**IPOC Station P**	**1.18**	**223**	⇑*iP*	**Pn**	**16 15 17.1**	**+0.1**
PB03				*i* S	**Sn**	**16 15 35.5**	**+0.1**
PB03				IAML		16 15 37.6	
	comp=N,1μm,0.2s						
TA01	**Diego Aracena**	**1.36**	**297**	⇓*iP*	**Pn**	**16 15 19.0**	**+0.2**
TA01				*i* S	**Sn**	**16 15 39.1**	**+0.4**
TA01				IAML		16 15 39.8	
	comp=E,1μm,0.2s						
LVC	**Limon Verde**	**1.41**	**181**	*eP*	**Pn**	**16 15 19.0**	**-0.8**
LVC				*i* S	**Sn**	**16 15 39.6**	**-0.7**
PB11	**IPOC Station P**	**1.60**	**333**	*eP*	**Pn**	**16 15 21.2**	**-0.5**
PB11				*i* S	**Sn**	**16 15 43.9**	**+0.2**
PB11				IAML		16 15 45.7	
	comp=E,1μm,0.4s						
PB04	**IPOC Station P**	**1.64**	**226**	⇑*iP*	**Pn**	**16 15 22.1**	**0.0**
PB04				*i* S	**Sn**	**16 15 45.0**	**+0.5**
PB04				IAML		16 15 52.7	
	comp=N,665nm,0.2s						
PB06	**IPOC Station P**	**1.64**	**203**	⇑*iP*	**Pn**	**16 15 22.2**	**0.0**
PB06				*i* S	**Sn**	**16 15 44.6**	**+0.1**
PB06				IAML		16 15 45.6	
	comp=E,1μm,0.2s						
PB05	**IPOC Station P**	**2.06**	**216**	⇑*iP*	**Pn**	**16 15 26.9**	**-0.2**
PB05				*i* S	**Sn**	**16 15 52.7**	**-0.9**
PB05				IAML		16 16 06.5	
	comp=E,250nm,0.5s						
PB15	**IPOC Station P**	**2.08**	**195**	*eP*	**Pn**	**16 15 27.4**	**-0.1**
PB15				*i* S	**Sn**	**16 15 53.9**	**-0.3**
PB12	**IPOC Station P**	**2.90**	**332**	*eP*	**Pn**	**16 15 36.5**	**-1.5**
PB12				*i* S	**Sn**	**16 16 10.6**	**-2.2**
PB12				IAML		16 16 14.1	
	comp=E,248nm,0.1s						
PB14	**IPOC Station P**	**3.69**	**202**	*eP*	**Pn**	**16 15 47.6**	**-0.9**
LPAZ	**La Paz**	**4.93**	**8**	P	**Pn**	**16 16 06.7**	**+1.3**
	comp=E,1.0nm,0.3s,baz=179,slow=2.9,SNR=36						
LPAZ				S	**Sn**	**16 17 01.4**	**-0.4**
	comp=E,0.1nm,0.3s,baz=209,slow=14,SNR=1.2						
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P	P	16 26 32.4	-1.3
	comp=E,0.3nm,0.4s,baz=234,slow=5.6,SNR=3.0						
MKAR	**Makanchi Array**	**145.37**	**36**	PKP	**PKPbc**	**16 34 17.1**	**+1.1**
	comp=E,0.5nm,0.7s,baz=329,slow=2.7,SNR=6.4						

*EAF **14** 16:31:40.7±2.3,25°.57S×29°.57E, h0km±29km, MD4.2*

BUL 14 16:31:39.8±2.9, 25°.62S×29°.49E, h0km±37km, MD4.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.52**	**106**	*eP*	Pn	16 32 21.2	-0.9
CNG				*i* Sg	Sb	16 32 56.9	-0.7
CNG	**Changalane**	**2.52**	**106**	*eP*	Pn	16 32 21.2	-0.9
CNG				*i* Sg	Sb	16 32 56.9	-0.7
MOPA	**Mopani**	**2.72**	**40**	*i* Sg	Sb

DPC	**Dobruska-Polom**	1.21 174	*e*Pg	Pn	16 36 28.6	+0.5
	SNR=100					
DPC			*e*Sg	Sg	16 36 43.6	+0.7
	SNR=4.0					
PVCC	**Panska Ves**	1.42 224	*e*PG	Pb	16 36 32.8	+1.6
PVCC			*e*SG	Sn	16 36 51.3	+0.9
	comp=Z,511nm,0.4s					
PVCC	**Panska Ves**	1.42 224	*e*Pg	Pb	16 36 32.9	+1.7
	SNR=75					
BRG	**Berggiesshubel**	1.53 244	Pg	Pg	16 36 35.6	+2.3
BRG			Sg	Sn	16 36 55.6	+2.5
BRG			Amp		16 36 56.9	
	comp=Z,261nm,0.3s					
BRG	**Berggiesshubel**	1.53 244	*e*Pn	Pg	16 36 34.7	+1.5
	SNR=1.4					
BRG			*e*Pg	Pg	16 36 35.5	+2.3
	SNR=36					
BRG			*e*Sg	Sn	16 36 55.8	+2.7
	SNR=10.0					
KRLC	**Kraliky**	1.54 164	*e*PG	Pg	16 36 34.7	+1.3
KRLC			*e*SG	Sg	16 36 52.9	-0.4
	comp=Z,105nm,0.5s					
RUE	**Ruedersdorf**	1.72 304	*e*Sg	Sg	16 37 04.1	+5.0
	SNR=4.8					
FBE	**Freiberg**	1.85 251	*e*Sg	Sg	16 37 05.4	+2.1
	SNR=5.7					
PRU	**Pruhonice**	1.86 213	*e*PG	Pg	16 36 39.5	-0.1
PRU			*e*SG	Sg	16 37 04.3	+0.6
	comp=Z,82nm,0.6s					
PRU	**Pruhonice**	1.86 213	*e*Sg	Sg	16 37 05.1	+1.4
	SNR=3.1					
CLL	**Collm**	1.97 264	*e*Pn	Pb	16 36 41.0	+0.4
CLL			*e*Pg	Pg	16 36 43.0	+1.4
CLL			*i* Sg	Sg	16 37 09.7	+2.6
	comp=Z,71nm,0.5s					
CLL	**Collm**	1.97 264	*e*Pn	Pb	16 36 40.3	-0.2
	SNR=4.3					
CLL			*e*Sg	Sg	16 37 10.1	+3.0
	SNR=3.4					
MORC	**Moravsky Berou**	2.00 153	*e*PN	Pn	16 36 40.1	+1.2
MORC			*e*SG	Sn	16 37 05.4	+0.8
MORC	**Moravsky Berou**	2.00 153	*e*Pn	Pb	16 36 40.5	-0.6
	SNR=12					
OKC	**Ostrava-Krasne**	2.15 142	*e*PG	Pg	16 36 45.4	+0.4
OKC			*e*SG	Sg	16 37 13.4	+0.5
	comp=Z,85nm,0.6s					
VRAC	**Vranov**	2.27 172	Pn	Pb	16 36 44.5	-1.3
	comp=Z,1.2nm,0.3s,baz=350,slow=16,SNR=13					
VRAC			Pg	Pg	16 36 48.4	+1.1
	comp=Z,3.2nm,0.3s,baz=352,slow=16,SNR=7.1					
VRAC			Lg	Lg	16 37 15.7	
	comp=Z,16nm,0.3s,baz=85,slow=22,SNR=19					
VRAC	**Vranov**	2.27 172	*e*PN	Pb	16 36 44.4	-1.3
VRAC			*e*SG	Sg	16 37 17.1	+0.3
VRAC	**Vranov**	2.27 172	*e*Pn	Pb	16 36 45.4	-0.4
	SNR=4.7					
VRAC			*e*Sg	Sg	16 37 16.9	+0.2
	SNR=5.9					
TREC	**Trest**	2.30 190	*e*PG	Pb	16 36 46.4	+0.2
TREC			*e*SG	Sg	16 37 17.6	-0.1
	comp=Z,46nm,0.4s					
TREC	**Trest**	2.30 190	*e*Pn	Pb	16 36 46.2	-0.1
	SNR=4.1					
TREC			*e*Sg	Sg	16 37 17.7	-0.1
	SNR=5.1					
PBCC	**Pribram**	2.31 217	*e*PG	Pg	16 36 48.2	+0.1
PBCC			*e*SG	Sg	16 37 19.4	+1.3
KRUC	**Moravsky**	2.50 176	*e*PN	Pn	16 36 47.6	+1.8
KRUC			*e*SG	Sg	16 37 24.2	0.0
KRUC	**Moravsky**	2.50 176	*e*Pn	Pn	16 36 47.9	+2.1
	SNR=3.1					
KRUC			*e*Sg	Sg	16 37 24.9	+0.7
	SNR=4.3					
TANN	**Tannenbergstha**	2.58 245	*e*Pn	Pb	16 36 49.5	-1.5
	SNR=5.1					
WERD	**Werda**	2.65 247	*e*Pn	Pn	16 36 50.1	+2.2
	SNR=1.6					
GUNZ	**Gunzen**	2.68 245	*e*Pn	Pb	16 36 51.3	-1.4
	SNR=2.6					
GUNZ			*e*Sg	Sg	16 37 31.2	+1.3
	SNR=5.9					
NKC	**Novy Kostel**	2.68 242	*e*PN	Pb	16 36 51.1	-1.6
NKC			*e*SG	Sg	16 37 30.8	+0.9
	comp=Z,101nm,0.2s					
NKC	**Novy Kostel**	2.68 242	*e*Pn	Pb	16 36 50.9	-1.8
	SNR=8.8					
OJC	**Ojcow**	2.69 118	*e*Pn	Pn	16 36 50.4	+2.0
OJC			*e*Pg	Pg	16 36 57.4	+2.1
OJC			*e*Sg	Sg	16 37 32.4	+2.4
PLN	**Plauen**	2.72 248	*e*Sg	Sg	16 37 32.4	+1.0
	SNR=13					
NEUB	**Neuenburg**	2.75 264	*e*Sg	Sg	16 37 35.3	+3.3
	SNR=3.9					
JAVC	**Velka Javorina**	2.88 159	*e*PN	Pn	16 36 51.6	+0.6
KHC	**Kasperske Hory**	2.92 215	*e*PN	Pn	16 36 53.5	+1.8
KHC			*e*PG	Pg	16 36 59.1	-0.8
KHC			*e*SN	Sn	16 37 28.2	+0.7
KHC			*e*SG	Sg	16 37 37.0	-0.8
	comp=Z,51nm,0.5s					
CKRC	**Cesky Krumlov**	2.98 204	*e*PN	Pn	16 36 54.9	+2.5
CKRC			*e*PG	Pb	16 36 59.5	+1.7
CKRC			*e*SG	Sg	16 37 38.7	-0.8
MOX	**Moxa**	2.98 254	*e*Sg	Sg	16 37 42.8	+3.1
	SNR=4.5					
GEC2	**GERESS Array S**	3.13 211	*e*Pn	Pn	16 36 57.6	+3.1
	SNR=5.2					
GEC2			*e*Sg	Sg	16 37 43.5	-0.9
	SNR=2.6					
GERES	**GERESS Array B**	3.13 211	Pn	Pn	16 36 56.9	+2.4
	comp=Z,1.4nm,0.3s,baz=33,slow=12,SNR=27					
GERES			Pg	Pg	16 37 04.2	+0.4
	comp=Z,6.9nm,0.3s,baz=30,slow=17,SNR=36					
GERES			Sn	Sn	16 37 33.3	+0.7
	comp=Z,4.5nm,0.3s,baz=52,slow=22,SNR=1.7					
GERES			Lg	Lg	16 37 43.1	
	comp=Z,12nm,0.3s,baz=34,slow=29,SNR=15					
SMOL	**Smolenice**	3.16 164	*e*PG	Pg	16 37 06.9	+2.5
SMOL			*e*SG	Sg	16 37 46.0	+0.7
WET	**Wettzell**	3.19 222	*e*Pn	Pn	16 36 57.4	+2.2
	SNR=5.2					
WET			*e*Sg	Sg	16 37 46.0	-0.2
	SNR=3.3					
LANS	**Liptovska Anna**	3.22 137	*e*PN	Pb	16 36 59.4	-2.6
LANS			*e*PG	Pg	16 37 07.1	+1.5
LANS			*e*SG	Sg	16 37 47.2	-0.2
MODS	**Modra-Piesok**	3.27 166	*e*PN	Pb	16 37 01.0	-1.8
MODS			*e*PG	Pg	16 37 09.5	+3.0
MODS			*e*SG	Sg	16 37 50.2	+1.3
NIE	**Niedzica**	3.42 127	*e*P	Pg	16 37 10.2	+0.8
NIE			*e*S	Sg	16 37 54.8	+1.1
ZST	**Bratislava**	3.42 169	*e*SG	Sg	16 37 53.7	-0.1
VYHS	**Vyhne**	3.53 149	*e*PN	Pn	16 37 02.5	+2.6
VYHS			*e*PG	Pg	16 37 13.8	+2.3
VYHS			*e*SG	Sg	16 37 57.5	+0.3
CONA	**Conrad Observa**	3.64 183	*e*Pn	Pn	16 37 04.1	+2.6
	comp=Z,0.8nm,0.2s					
CONA			*e*Pg	Pg	16 37 13.8	+0.3
	comp=Z,4.3nm,0.2s					
CONA			*e*Sg	Sg	16 38 00.6	-0.1
	comp=Z,44nm,0.4s					
BSD	**Bornholm Skovb**	3.64 349	*i* P	Pn	16 37 03.9	+2.6
BSD			*i* S	Sn	16 37 44.5	-0.4
BSD			IAML		16 37 47.2	
	comp=Z,1.8nm,0.1s					
MOA	**Molln**	3.90 199	*i* Pn	Pn	16 37 07.4	+2.3
	comp=Z,2.6nm,0.2s					
MOA			*e*Pg	Pg	16 37 20.7	+2.1
	comp=Z,5.6nm,0.3s					
MOA			*e*Sg	Sg	16 38 12.3	+3.2
	comp=Z,16nm,0.4s					
ARSA	**Arzberg**	4.33 185	*e*Pn	Pn	16 37 15.7	+4.8
	comp=Z,1.1nm,0.2s					
ARSA			*e*Sg	Sg	16 38 21.9	-1.0
	comp=Z,26nm,0.5s					
CRVS	**Cervenica-Dubn**	4.34 126	*e*PN	Pn	16 37 15.6	+4.6
CRVS			*e*PG	Pg	16 37 29.3	+2.4
LUNU	**Lund**	4.38 340	P	Pn	16 37 13.3	+1.6
LUNU			*i* P	Pn	16 37 13.6	+1.9
LUNU			*i* S	Sn	16 38 03.8	+0.4
LUNU			S	Sn	16 38 04.6	+1.2
LUNU	**Lund**	4.38 340	P	Pn	16 37 13.3	+1.6
LUNU			S	Sn	16 38 04.6	+1.2
BLEU	**Blekinge**	4.76 358	*i* P	Pn	16 37 19.3	+2.5
BLEU			P	Pb	16 37 19.5	-8.6
BLEU			*i* S	Sn	16 38 11.6	-1.0
BLEU			S	Sn	16 38 12.0	-0.7
BLEU	**Blekinge**	4.76 358	P	Pn	16 37 19.5	+2.7
BLEU			S	Sn	16 38 12.0	-0.7
DEL	**Delary**	5.10 346	*i* P	Pn	16 37 23.0	+1.5
DEL			P	Pn	16 37 23.5	+2.1
DEL			*i* P	Pn	16 37 23.6	+2.1
DEL			*i* S	Sn	16 38 18.7	-2.3
DEL			S	Sn	16 38 20.5	-0.4
DEL	**Delary**	5.10 346	P	Pn	16 37 23.5	+2.1
DEL			S	Sn	16 38 20.5	-0.4
OBKA	**Obir**	5.16 192	*e*Sg	Sg	16 38 51.1	+1.6
	comp=Z,13nm,0.5s					
WATA	**Walderalm**	5.16 217	*e*Sn	Sn	16 38 22.5	-0.2
	comp=Z,3.7nm,0.2s					
MYKA	**Terra Mystica**	5.19 199	*e*Sg	Sg	16 38 51.1	+0.5
	comp=Z,7.3nm,0.5s					
WTTA	**Wattenberg**	5.20 216	*e*Sg	Sg	16 38 54.3	+3.5
	comp=Z,10nm,0.3s					
MOTA	**Moosalm**	5.34 220	*i* Pn	Pn	16 37 27.8	+2.9
	comp=Z,1.3nm,0.2s					
MOTA			*e*Sn	Sn	16 38 27.0	-0.1
	comp=Z,2.9nm,0.2s					
SQTA	**Sankt Quirin**	5.40 218	*e*Pn	Pn	16 37 29.7	+4.0
	comp=Z,2.2nm,0.2s					
VXJU	**Vaexsjoe**	5.42 353	P	Pn	16 37 28.6	+2.7
VXJU			S	Sn	16 38 27.4	-1.5
VXJU	**Vaexsjoe**	5.42 353	P	Pn	16 37 28.6	+2.7
VXJU			S	Sn	16 38 27.4	-1.5
FABU	**Falkenberg**	5.81 341	*i* P	Pn	16 37 33.5	+2.4
FABU			*i* S	Sn	16 38 37.1	-1.4
GNOU	**Gnosjoe**	5.91 347	P	Pn	16 37 34.9	+2.3
GNOU	**Gnosjoe**	5.91 347	P	Pn	16 37 34.9	+2.3
DAVOX	**Davos/Dischmat**	6.29 223	Pn	Pn	16 37 41.4	+3.4
	comp=Z,0.3nm,0.3s,baz=73,slow=14,SNR=1.8					
DAVOX			Sn	Sn	16 38 50.9	+0.2
	comp=Z,0.5nm,0.3s,baz=348,slow=23,SNR=2.1					
DAVOX			Lg	Lg	16 39 24.7	
	comp=Z,0.4nm,0.3s,baz=181,slow=23,SNR=2.0					
ONAU	**Onsala**	6.34 339	*e*P	Pn	16 37 41.4	+2.9
ONAU			*i* S	Sn	16 38 50.1	-1.5
BORU	**Boraas**	6.39 344	*i* P	Pn	16 37 36.8	-2.4
BORU			*i* S	Sn	16 38 50.4	-2.5
CDF	**Champ du Feu**	6.51 245	*e*Pn	Pn	16 37 41.0	0.0
CDF	**Champ du Feu**	6.51 245	*e*Pg	Pg	16 38 07.0	-1.6
CDF			*e*Sg	Sg	16 39 29.1	-3.9
	comp=Z,2.8nm,0.3s					
HINF	**Hinteralfeld**	7.08 242	*e*Pn	Pn	16 37 48.5	-0.3
HINF			*e*Sn	Sn	16 39 04.3	-5.6
HINF			*e*Sg	Sg	16 39 46.5	-4.7
	comp=Z,2.0nm,0.2s					
HAU	**Haudompre**	7.26 245	*e*Pn	Pn	16 37 51.9	+0.8
HAU			*e*Sg	Sg	16 39 51.4	-5.4
	comp=Z,6.0nm,0.4s					
GIVF	**Givet**	7.30 263	*e*P	Pn	16 37 57.0	+5.2
MEZF	**Maizieres J'vi**	7.76 251	*e*Pn	Pn	16 37 57.2	-0.8
MEZF			*e*Sg	Sg	16 40 08.0	-4.8
SFTF	**Sexfontaines**	7.91 249	*e*Sg	Sg	16 40 12.7	-4.9
	comp=Z,3.6nm,0.3s					
AKASG	**Malin Array Be**	8.29 91	Pn	Pn	16 38 05.9	+0.7
	comp=Z,1.1nm,0.3s,baz=279,slow=12,SNR=11					
AKASG			Sn	Sn	16 39 34.4	-5.1
	comp=Z,1.2nm,0.3s,baz=206,slow=26,SNR=4.5					
AKASG			Lg	Lg	16 40 31.9	
	baz=142,slow=34,SNR=1.4					
HFS	**Hagfors**	8.71 352	Pn	Pn	16 38 11.4	+0.4
	comp=Z,0.1nm,0.3s,baz=169,slow=16,SNR=2.8					
HFS			Sn	Sn	16 39 46.2	-3.5
	comp=Z,0.1nm,0.3s,baz=174,slow=17,SNR=1.7					
NOA	**NORSAR Array B**	9.89 346	Pn	Pn	16 38 27.1	0.0
	comp=Z,0.0nm,0.3s,baz=160,slow=20,SNR=1.5					
NOA			Sn	Sn	16 40 11.8	-6.9
	comp=Z,0.0nm,0.3s,baz=117,slow=9.9,SNR=1.7					
FINES	**FINESS Array B**	11.32 25	Pn	Pn	16 38 47.1	+0.4
	comp=Z,0.2nm,0.3s,baz=207,slow=12,SNR=6.8					
FINES			Sn	Sn	16 40 49.1	-4.6
	comp=Z,0.2nm,0.3s,baz=208,slow=20,SNR=1.7					
EKA	**Eskdalemuir Ar**	12.09 296	Pn	Pn	16 38 56.0	-1.3
	baz=98,slow=14,SNR=1.1					
ARCES	**ARCESS Array B**	18.58 10	Pn	P	16 40 20.8	-1.3
	baz=195,slow=8.7,SNR=7.5					
YKA	**Yellowknife Ar**	59.82 336	P	P	16 46 13.4	+3.0
	comp=Z,0.2nm,0.6s,baz=31,slow=6.6,SNR=4.3					

IDC ***14*** *16:40:51.0±0.7,9.°28N×83.°94W,h0km,mb4.0/11, mb1 4.2/13,mb1mx4.1/32,mbtmp4.1/13,ML3.5/2,MS3.9/26, Ms1 3.9/26,ms1mx3.7/64,Error ellipse: s-maj=31.8km s-min=14.6km az=55.0*

NEIC ***14*** *16:40:51.6±2.4,8.°93N±0.°04×84.°29W±0.°03,h9km±3km, mb4.7/45,Mwr4.7/47,Error ellipse: s-maj=6.1km s-min=2.9km az=215.0*

NEIC ***14*** *16:40:51.8,8.°94N×84.°28W,h13km,Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr0.53; Mθθ0.24; Mφφ-0.77; Mrθ0.83; Mφθ0.22; Mφr-0.54; Fault plane solution: M0 1.22000×1016 NP1:φ133.79000°, δ76.02000°,λ63.67000°. NP2:φ17.77000°,δ29.58000°, λ150.70000°. Principal axes: T 1.2623, Plg52.0000°, Azm13.0000°; N -0.0910, Plg25.0000°, Azm141.0000°; P -1.1713, Plg26.0000°, Azm244.0000°;*

UCR ***14*** *16:40:53.1±1.2,8.°94N×84.°24W,h9km,MW5.2, mb4.7(NEIC)*

ISC 14 16:40:52.1±1.2,8.°98N±0.°03×84.°23W±0.°03,h13km±7km, n210,σ1§49/185,mb4.5/23,MS3.9/24,1D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	0.45	53	*e*P	Pb	16 41 02.4	+0.4
EDDO				*e*S	Sb	16 41 10.2	+1.6
PEZE	**Perez Zeledon,**	0.68	53	*e*P	Pb	16 41 06.1	+0.2
PEZE				*e*S	Sb	16 41 16.9	+1.7
PEZE	**Perez Zeledon,**	0.68	53		Pb	16 41 06.1	+0.2
PEZE				Sg	Sb	16 41 16.5	+1.2
CDM	**Cerro de Muert**	0.74	39	*e*P	Pb	16 41 07.2	+0.1
RIOS	**Rincon, Osa**	0.76	111	*e*P	Pb	16 41 07.2	+0.1
RIOS				*e*S	Sb	16 41 18.3	+0.9
RIOS	**Rincon, Osa**	0.76	111		Pb	16 41 07.0	-0.2
RIOS				Sg	Sb	16 41 18.0	+0.6
EDPN	**Palmar Norte**	0.76	91	*e*P	Pb	16 41 07.2	-0.1
EDPN				*e*S	Sn	16 41 19.3	-0.6
LCR2	**La Lucha 2**	0.79	16	*e*P	Pb	16 41 08.3	+0.4
JACO	**JACO, Garabito**	0.80	328	*e*P	Pb	16 41 08.7	+0.7
JACO	**JACO, Garabito**	0.80	328		Pb	16 41 08.4	+0.5
JACO				Sg	Sg	16 41 18.0	-0.3
RIMA	**Rio Macho**	0.86	25	*e*P	Pg	16 41 09.3	+0.3
RIMA	**Rio Macho**	0.86	25		Pg	16 41 09.2	+0.3
SRBA	**San Rafael, Bu**	0.90	73	*e*P	Pb	16 41 09.7	+0.1
SRBA	**San Rafael, Bu**	0.90	73		Pg	16 41 09.3	-0.2
SRBA				Sg	Sn	16 41 23.4	0.0
OCM	**Ochomogo**	0.95	16	*e*P	Pb	16 41 11.0	+0.4
SJS	**Escuela Geolog**	0.97	10	*e*P	Pb	16 41 11.7	+0.8
HDC	**Heredia**	1.03	6	*e*P	Pn	16 41 12.7	+0.3
HDC	**Heredia**	1.03	6		Pb	16 41 12.4	+0.6
HDC				Sg	Sn	16 41 27.5	+0.8
HDC3	**Heredia 3**	1.03	6	*e*P	Pn	16 41 12.7	+0.3
LAFE	**Finca La Fe, P**	1.07	321	*e*P	Pg	16 41 12.6	-0.1
POTG	**Potrero Grande**	1.10	86	*e*P	Pn	16 41 13.4	+0.1
VTRT	**Volcan Turrial**	1.11	23	*e*P	Pb	16 41 14.0	+0.6
VTCV	**VTCV, Calle Va**	1.12	26	*e*P	Pn	16 41 14.2	+0.5
CAO2	**Cobano, Puntar**	1.12	309		Pb	16 41 13.0	-0.4
SRA1	**San Ramn**	1.13	347	*e*P	Pb	16 41 13.7	+0.1
CVTR	**Volcan Turrial**	1.14	24	*e*P	Pn	16 41 14.5	+0.4
CVTR	**Volcan Turrial**	1.14	24		Pn	16 41 14.6	+0.4
VTUN	**Crater Central**	1.14	24	*e*P	Pn	16 41 14.6	+0.5
VTUC	**Crater, Volcan**	1.14	24	*e*P	Pn	16 41 14.6	+0.4
MRVA	**Moravia de Chi**	1.15	43	*e*P	Pb	16 41 14.1	+0.2
CRPO	**Crater poas**	1.21	0	*e*P	Pg	16 41 15.7	+0.1
EDSV	**San Vito**	1.25	97	*e*P	Pg	16 41 15.6	-0.6
RIFO	**Rio Frio, Sara**	1.37	13	*e*P	Pn	16 41 17.7	+0.8
CDITO	**Canoas**	1.40	106		Pn	16 41 17.4	0.0
CDITO					Sg	16 41 36.2	-1.0
JTS	**Las Juntas de**	1.49	331	Pg	Pn	16 41 18.2	-0.5
JTS	**Las Juntas de**	1.49	331	*e*P	Pn	16 41 18.7	+0.1
JTS	**Las Juntas de**	1.49	331	Pn	Pn	16 41 18.5	-0.2
BRU2	**Volcan**	1.53	97	*e*P	Pn	16 41 19.6	+0.3
BRU2	**Volcan**	1.53	97		Pb	16 41 19.9	-0.6
ARE1	**Arenal 1**	1.55	342	*e*P	Pb	16 41 21.0	+0.2
DUNO	**Dulce Nombre,**	1.66	311		Pn	16 41 21.0	+0.1
COVE	**Coope Vega, Sa**	1.74	354	*e*P	Pn	16 41 23.3	+1.3
COVE	**Coope Vega, Sa**	1.74	354		Pn	16 41 23.5	+1.4
ACAL	**Aguas Claras**	1.83	334	*i* P	Pn	16 41 24.5	+1.1
ORTG	**Ortega, Santa**	1.84	319	Pn	Pn	16 41 23.6	+0.1
CUI	**Cuipilapa**	1.91	331	*e*P	Pn	16 41 25.7	+1.3
GUAB	**Guayabo de Bag**	1.98	330	*i* P	Pn	16 41 27.0	+1.5
LAPC	**Finca la Perla**	2.14	326	*e*P	Pn	16 41 28.9	+1.3
GB1A	**Borinquen Arri**	2.16	328	*i* P	Pb	16 41 30.1	-1.2
GBS3	**Finca Las Img**	2.16	326	*i* P	Pn	16 41 29.9	+1.9
HZTE	**Horizontes, Gu**	2.19	322		Pn	16 41 29.4	+1.1
ACON	**Acoyapa**	3.12	343	*e*P	Pn	16 41 43.3	+2.3
ACON	**Acoyapa**	3.12	343		Pn	16 41 42.9	+1.9
ESPN	**Las Esperanzas**	3.20	359		Pn	16 41 43.6	+1.5
BOAB	**BOACO BROADBAN**	3.73	338	Pn	Pn	16 41 50.2	+0.8
CNGN	**Cerro Negro**	4.26	326		Pn	16 41 58.5	+1.7
ZANG	**Zanguenga, Cho**	4.31	90	*e*P	Pn	16 41 59.0	+1.6
BCIP	**Isla Barro Col**	4.34	87	*e*P	Pn	16 41 58.2	+0.4
BCIP	**Isla Barro Col**	4.34	87	Pn	Pn	16 41 58.9	+1.1
CRIN	**San Cristobal**	4.62	323		Pn	16 42 02.6	+0.8
PRVC	**Isla de Provid**	5.20	32	*e*P	Pn	16 42 11.6	+2.0
PRVC	**Isla de Provid**	5.20	32		Pn	16 42 10.8	+1.2
TGUH	**Tegucigalpa,Un**	5.87	330		Pn	16 42 17.8	-1.1
PTAC	**Punta Ardita,**	6.61	105	*e*P	Pn	16 42 31.7	+2.6
MTO3	**Montecristo**	7.37	317		Pn	16 42 40.5	+0.8
DBBC	**Dabeiba**	8.18	103	*e*P	Pn	16 42 54.7	+4.0
UREC	**San Jos de Ur**	8.69	97	*e*P	Pn	16 43 00.4	+2.8
PLMC	**San Jos del P**	8.86	117	*e*P	Pn	16 43 02.3	+2.3
SJCC	**San Jacinto, C**	8.97	83	*e*P	Pn	16 43 05.2	+3.6
SJCC	**San Jacinto, C**	8.97	83		Pn	16 43 02.4	+0.8
HELC	**Santa Helena**	9.06	107	*e*P	Pn	16 43 10.0	+7.0
YOTC	**Yotoco, Valle**	9.27	122	*e*P	Pn	16 43 05.2	-0.5
ZARC	**Zaragoza, Cauc**	9.39	98	*e*P	Pn	16 43 07.1	-0.2
ZARC	**Zaragoza, Cauc**	9.39	98	Pn	Pn	16 43 07.5	+0.2
GUY2C	**Guyana, Caldas**	9.55	112	*e*P	Pn	16 43 10.9	+1.0
PETF	**Flores**	9.62	326	Pn	Pn	16 43 11.4	+1.1
POPC	**Popayan, Colom**	9.86	130	*e*P	Pn	16 43 16.7	+2.7
NORC	**Norcasia**	9.88	109	*e*P	Pn	16 43 20.5	+6.4
SMLC	**San Martn de**	10.04	90	*e*P	Pn	16 43 20.5	+4.4
SMRC	**Santa Marta, M**	10.09	77	*e*P	Pn	16 43 18.6	+1.8
SOTA	**Rioblanco**	10.18	131	*e*P	Pn	16 43 24.3	+5.8
PCON	**Cinco Dias**	10.21	130	*e*P	Pn	16 43 27.2	+8.2
MARP	**Paez Belalcaza**	10.24	126	*e*P	Pn	16 43 20.5	+1.4
ORTC	**Ortega, Tolima**	10.24	119	*e*P	Pn	16 43 20.5	+1.5
OTAV	**Otavalo**	10.41	146	*e*P	Pn	16 43 23.4	+1.7
OTAV	**Otavalo**	10.41	146	Pn	Pn	16 43 22.4	+0.7
CCIG	**Comitan**	10.59	314	Pn	Pn	16 43 23.6	-0.3
PRAC	**Prado**	10.65	119	*e*P	Pn	16 43 31.0	+6.4
ROSC	**El Rosal**	10.66	112	Pn	Pn	16 43 30.8	+5.8
	3.3nm,0.3s,baz=0.3,slow=6.9,SNR=7.7						
ROSC				LR	LR	16 47 02.7	
	comp=Z,491nm,18.7s,baz=318,slow=35						
ROSC	**El Rosal**	10.66	112	Pn	Pn	16 43 24.6	-0.4
CMIG	**Matias Romero**	13.14	309	Pn	Pn	16 44 00.6	+2.0
	0.2nm,0.3s,baz=42,slow=22,SNR=2.7						
SDV	**Santo Domingo**	13.43	89	Pn	P	16 44 07.7	-4.5
	0.6nm,0.3s,baz=326,slow=6.7,SNR=1.8						
SDV				Sn	Sn	16 46 29.8	-2.3
	0.8nm,0.3s,baz=344,slow=11,SNR=1.4						
SDV	**Santo Domingo**	13.43	89	Pn	Pn	16 44 01.6	-1.1
BAUV	**El Baul**	15.99	89	Pn	Pn	16 44 36.5	-0.5
BAUV				IAmb	IAmb	16 44 55.9	
	comp=Z,44nm,1.2s						
SDDR	**Presa de Saban**	16.01	50	Pn	Pn	16 44 37.2	0.0
TLIG	**Tlapa**	16.35	303	Pn	Pn	16 44 40.2	-1.4
ATAH	**Atahualpa**	17.03	160	P	P	16 44 54.0	+1.6
	comp=Z,0.3nm,0.3s,baz=358,slow=9.9,SNR=4.3						
ATAH				LR	LR	16 50 38.9	
	comp=Z,768nm,19.0s,baz=336,slow=34						
BIRV	**Birongo**	17.77	84		Pn	16 44 59.1	-0.3
ICMP	**Isla Caja de M**	19.35	61	P	P	16 45 15.3	-2.1
ICMP				IAmb	IAmb	16 45 28.0	
	comp=Z,40nm,0.8s						
AOPR	**Arecibo Observ**	19.35	59	P	P	16 45 15.7	-1.9
AOPR				IAmb	IAmb	16 45 33.6	
	comp=Z,44nm,1.1s						
CELP	**Cerrillos**	19.38	60	P	P	16 45 16.9	-1.0
CELP				IAmb	IAmb	16 45 28.6	
	comp=Z,27nm,1.0s						
EMPR	**Esperanza - Ma**	19.60	59	P	P	16 45 18.1	-2.1
SJG	**San Juan**	19.77	61	P	P	16 45 18.6	-3.4
SJG				IAmb	IAmb	16 45 34.1	
	comp=Z,40nm,0.9s						
PDPR	**Patillas Dam,**	19.84	61	P	P	16 45 17.9	-5.0

comp=Z,391nm,19.0s,baz=188,slow=38
SALV Santo Antonio 37.54 131 *e*P **P 16 48 08.2 +1.9**
W13A Hualapai Mount 37.56 318 P **P 16 48 05.0 -1.6**
PFO Pinyon Flats O 38.48 314 LR LR 17 03 28.7
comp=Z,53nm,21.2s,baz=149,slow=35
SNDB Serra Nova Dou 38.80 122 *e*P **P 16 48 17.6 +0.7**
TPNV Topopah Spring 40.20 319 P **P 16 48 27.2 -1.4**
ARAG Araguaiana, MT 40.40 127 *e*P **P 16 48 32.6 +2.3**
AGMN Agassiz Nation 40.40 348 P **P 16 48 28.7 -1.2**
AQDB Aquidauana 40.55 136 *e*P **P 16 48 32.7 +1.3**
SMTB Santa Maria do 40.57 115 *e*P **P 16 48 33.1 +1.3**
PEXB Peixe 41.40 123 *e*P **P 16 48 39.0 +0.4**
ULM Lac du Bonnet 42.27 349 P **P 16 48 44.0 -1.2**
comp=Z,1.1nm,0.3s,baz=182,slow=6.3,SNR=3.2
ULM Lac du Bonnet 42.27 349 IAmb IAmb 16 49 00.3
comp=Z,26nm,1.6s
NVAR Mina Array Bea 42.38 319 P **P 16 48 48.5 +1.8**
comp=Z,1.2nm,0.8s,baz=133,slow=7.8,SNR=8.3
NVAR LR LR 17 07 45.4
comp=Z,160nm,18.6s,baz=136,slow=38
RPN Rapa Nui 43.37 213 LR LR 17 02 33.4
comp=Z,169nm,19.6s,baz=170,slow=30
BDFB Brasília 43.41 124 P **P 16 48 57.0 +1.9**
comp=Z,1.9nm,0.6s,baz=40,slow=6.2,SNR=2.3
CPUP Villa Florida 43.76 144 LR LR 17 10 14.4
comp=Z,135nm,19.0s,baz=22,slow=40
SDBA SAO DESIDERIO 44.48 118 *e*P **P 16 49 04.4 +0.8**
YBH Yreka Blue Hor 47.03 320 LR LR 17 10 43.7
comp=Z,120nm,21.0s,baz=147,slow=38
SCHQ Schefferville 47.79 14 LR LR 17 09 57.7
comp=Z,167nm,18.9s,baz=88,slow=37
NEW Newport 47.97 331 LR LR 17 14 16.6
comp=Z,88nm,19.2s,baz=151,slow=42
DIAM Diamantina, MG 48.34 124 *e*P **P 16 49 34.5 +0.5**
LC01 Cunco 48.99 167 P **P 16 49 39.0 +0.4**
CPSB Cacapava Do Su 49.07 144 *e*P **P 16 49 40.1 +0.9**
NBIT Itapeh - BA 50.36 118 *e*P **P 16 49 51.9 +2.6**
SJMB Sao Joao De Ma 50.58 123 *e*P **P 16 49 51.7 +0.7**
PLCA Paso Flores 51.05 167 P **P 16 49 56.2 +2.0**
comp=Z,9.8nm,0.7s,baz=344,slow=8.6,SNR=24
PLCA Paso Flores 51.05 167 *e*P **P 16 49 57.5 +3.3**
PLCA Paso Flores 51.05 167 P **P 16 49 54.9 +0.8**
PLCA IAmb IAmb 16 50 01.8
comp=Z,14nm,0.8s
LL02 Futaleuf 53.13 169 P **P 16 50 09.9 +0.4**
LL02 IAmb IAmb 16 50 17.3
comp=Z,9.4nm,1.1s
FRB Frobisher Bay 55.82 8 LR LR 17 15 00.1
comp=Z,280nm,19.0s,baz=214,slow=37
BBB Bella Bella 55.91 329 LR LR 17 16 27.1
comp=Z,77nm,18.5s,baz=190,slow=38
YKA Yellowknife Ar 57.79 344 P **P 16 50 41.6 -1.3**
comp=Z,0.8nm,0.9s,baz=139,slow=7.9,SNR=8.1
SFJD Kangerlussuaq 62.23 14 LR LR 17 19 00.8
comp=Z,157nm,18.4s,baz=204,slow=37
DY2G Dye2 62.96 16 *e*P **P 16 51 18.0 -0.5**
DY2G IAmb IAmb 16 51 24.1
comp=Z,65nm,1.8s
ICESG Greenland Ices 66.59 16 *i*P **P 16 51 44.0 +1.8**
SUMG Summit 69.18 13 *i*P **P 16 52 01.0 +2.4**
SUMG IAmb IAmb 16 52 05.6
comp=Z,24nm,1.3s
SUMG Summit 69.18 13 P **P 16 51 57.7 -0.8**
ILAR Eielson Array 70.46 336 P **P 16 52 05.7 -0.4**
comp=Z,0.5nm,0.7s,baz=100,slow=4.5,SNR=7.9
ILAR LR LR 17 29 29.3
comp=Z,69nm,18.7s,baz=123,slow=42
NEEM North Greenlan 70.60 7 *e*P **P 16 52 07.2 +0.2**
NEEM IAmb IAmb 16 52 12.0
comp=Z,16nm,1.1s
KDAK Kodiak Island 70.97 328 LR LR 17 27 30.1
comp=Z,59nm,18.1s,baz=125,slow=40
DBG Daneborg 74.52 15 *e*P **P 16 52 30.2 +0.2**
DAG Danmarks Havn 75.82 12 *e*P **P 16 52 36.3 -1.3**
MDT Midelt 76.50 58 P **P 16 52 41.4 -1.0**
comp=Z,1.2nm,0.3s,baz=270,slow=5.7,SNR=2.3
ESDC Sonseca Array 76.85 51 P **P 16 52 43.2 -1.0**
comp=Z,1.2nm,0.7s,baz=277,slow=6.7,SNR=5.7
SPITS Spitsbergen Ar 83.44 12 LR LR 17 32 15.1
comp=Z,184nm,18.6s,baz=15,slow=37
TORD Torodi Ar. Bea 84.06 78 P **P 16 53 22.6 -0.8**
comp=Z,0.8nm,0.8s,baz=270,slow=4.3,SNR=4.4
TORD Torodi Ar. Bea 84.06 78 IAmb IAmb 16 53 30.9
comp=Z,3.5nm,0.8s
NOA NORSAR Array B 84.85 29 LR LR 17 27 30.2
comp=Z,28nm,20.8s,baz=285,slow=33
CLL Collm 87.56 39 *e*P **P 16 53 40.0 0.0**
BILL Bilibino 88.88 339 P **P 16 53 47.0 +1.1**
VRAC Vranov 90.24 40 LR LR 17 34 24.3
comp=Z,73nm,18.0s,baz=270,slow=36
FINES FINESS Array B 91.65 27 LR LR 17 32 10.9
comp=Z,40nm,18.3s,baz=15,slow=34
H11S1 WAKE ISLAND Hyl 04.92 292 T T 18 52 15.2
baz=76,slow=74,SNR=8.6
H11S2 WAKE ISLAND Hyl 04.92 292 T T 18 52 14.8
baz=76,slow=74,SNR=6.3
H11S3 WAKE ISLAND Hyl 04.93 292 T T 18 52 16.4
baz=76,slow=74,SNR=5.9
ASAR Alice Springs 140.75 243 PKP **PKPdf 17 00 22.4 -0.2**
comp=Z,1.1nm,1.0s,baz=112,slow=3.1,SNR=8.2
WRA Warramunga Arr 141.19 249 PKP **PKPdf 17 00 23.8 +0.3**
comp=Z,1.6nm,0.9s,baz=103,slow=2.9,SNR=9.0
WRA Warramunga Arr 141.19 249 **PKPdf 17 00 24.4 +0.9**
PZH PanZhiHua 144.26 351 PKP PKPbc 17 00 27.8 +0.8
CMAR Chiang Mai Arr 152.56 353 PKPbc **PKPbc 17 00 48.8 -0.6**
comp=Z,1.4nm,1.0s,baz=328,slow=1.8,SNR=7.7
CMAR Chiang Mai Arr 152.56 353 **PKPbc 17 00 49.6 +0.2**

*TUL **14** 16:46:42.4±1.2,36°.59N±0°.02×98°.39W±0°.02,h8km±6km, ML2.5,mb_Lg2.4/9(NEIC),Error ellipse: s-maj=2.5km s-min=2.1km az=102.0*
NEIC 14 16:46:42.9±1.4,36°.59N±0°.01×98°.38W±0°.03,h12km±4km, Error ellipse: s-maj=3.3km s-min=1.3km az=69.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.25**	**32**	Pg	Pg	16 46 47.9	-0.3
OK032				Sg	Sg	16 46 51.9	+0.2
OK035	**E0210 Rd and N**	**0.29**	**293**	Pg	Pg	16 46 48.3	-0.6
OK035					Sg	16 46 52.7	-0.3
CROK	**Carrier**	**0.33**	**106**	Pg	Pg	16 46 49.3	-0.3
CROK				Sg	Sg	16 46 54.0	+0.1
GC02	**Grant County #**	**0.49**	**58**	Pg	Pg	16 46 52.3	-0.2
GC02				Sg	Sg	16 46 58.7	-0.3
KAN14	**Manchester OK**	**0.49**	**42**	Pg	Pg	16 46 52.3	-0.2
KAN14				Sg	Sg	16 46 59.3	+0.2
KAN10	**Anthony SW Sta**	**0.57**	**23**	Pg	Pb	16 46 54.7	-0.3
KAN10				Sg	Sg	16 47 02.0	+0.2
KAN17	**Caldwell West**	**0.67**	**47**	Pg	Pg	16 46 55.4	-0.5
KAN17				Sg	Sg	16 47 04.7	+0.1
KAN16	**Harper SW Stat**	**0.68**	**21**	Pg	Pg	16 46 55.7	-0.5
KAN16				Sg	Sg	16 47 05.3	+0.2
KAN08	**Anthony NE Sta**	**0.71**	**27**	Pg	Pg	16 46 56.3	-0.4
KAN08				Sg	Sg	16 47 06.0	-0.1
KAN01	**Argonia South**	**0.75**	**41**	Pg	Pg	16 46 56.9	-0.5
KAN01				Sg	Sg	16 47 06.7	-0.5
BLOK	**Blackwell**	**0.95**	**79**	Pg	Pg	16 47 00.5	-0.7
BLOK				Sg	Sg	16 47 13.5	-0.1
OK029	**Liberty Lake**	**1.09**	**137**	Pg	Pb	16 47 02.4	-1.3
OK029				Sg	Sb	16 47 17.7	-0.2
BCOK	**Bluff Creek, N**	**1.12**	**146**	Pg	Pb	16 47 02.9	-1.3
BCOK				Sg	Sb	16 47 18.5	-0.4
QUOK	**Quay**	**1.41**	**107**		Pn	16 47 08.6	+0.1
QUOK					Sb	16 47 27.2	0.0
OK030	**Cody Creek RV**	**1.45**	**117**	Pn	Pn	16 47 09.4	+0.4
OK030					Sb	16 47 28.6	+0.4
OK034	**N. Norfolk Rd.**	**1.46**	**113**	Pn	Pn	16 47 09.6	+0.4
OK034					Sn	16 47 29.2	+0.5
T35A	**Sooner Cattle**	**1.53**	**77**	Pn	Pb	16 47 10.7	-0.5
T35A					Sg	16 47 31.7	-0.4
FNO	**Franklin**	**1.55**	**149**	Pn	Pn	16 47 10.4	0.0
FNO					Sb	16 47 31.4	+0.2
R32A	**Long Quarter,**	**1.85**	**352**		Pn	16 47 15.5	+1.0
R32A					Sb	16 47 39.4	-0.3
WMOK	**Wichita Mounta**	**1.88**	**190**	Pn	Pn	16 47 15.5	+0.5
WMOK					Sb	16 47 40.5	-0.2
W35A	**Tecumseh**	**1.88**	**139**		Pn	16 47 15.5	+0.6
W35A					Sb	16 47 41.0	+0.2
X34A	**Smith Ranch, M**	**2.04**	**167**	Pn	Pn	16 47 18.1	+1.0
X34A					Sb	16 47 44.3	-0.9
TUL1	**Leonard**	**2.20**	**107**	Pn	Pn	16 47 20.6	+1.4
TUL1					Sb	16 47 49.3	-0.5
CBKS	**Cedar Bluff**	**2.47**	**334**	Pn	Pn	16 47 22.9	-0.2
CBKS				Sn	Sn	16 47 52.5	-0.6
LOOK	**Love County**	**2.77**	**159**	Pn	Pn	16 47 27.8	+0.6
KSU1	**Kansas State U**	**2.87**	**29**	Pn	Pn	16 47 28.1	-0.4
KSU1				Sn	Sn	16 48 05.4	+2.4
KSU1	**Kansas State U**	**2.87**	**29**	IAmb_Lg		16 48 17.7
comp=Z,8.1nm,0.9s							
X37A	**Clayton**	**3.16**	**128**	Pn	Pn	16 47 31.8	-0.8
X37A				IAmb_Lg		16 48 30.8
comp=Z,18nm,0.9s							
U38A	**Gravette**	**3.22**	**92**	Pn	Pn	16 47 32.8	-0.6
HHAR	**Hobbs**	**3.59**	**94**	IAmb_Lg		16 48 35.4
comp=Z,10nm,1.2s							
W39A	**Magazine**	**3.98**	**109**	Pn	Pn	16 47 44.2	+0.5
S39A	**Bolivar**	**4.18**	**73**	Pn	Pn	16 47 47.0	+0.4
Z38A	**Mt. Pleasant**	**4.34**	**139**	Pn	Pn	16 47 49.2	+0.5
MIAR	**Mount Ida**	**4.41**	**116**	Pn	Pn	16 47 49.8	+0.1
U40A	**Yellville**	**4.46**	**91**	IAmb_Lg		16 49 15.2
comp=Z,10nm,1.1s							
T25A	**Trinidad**	**4.87**	**278**	Pn	Pn	16 47 54.7	-1.6
MGMO	**Mountain Grove**	**4.93**	**82**	Pn	Pn	16 47 57.5	+0.6
FCAR	**Ozark Folk Cen**	**5.10**	**96**	Pn	Pn	16 47 55.9	-3.3
WHAR	**Wooly Hollow**	**5.11**	**103**	Pn	Pn	16 47 58.5	-0.8
R40A	**Maddies Statio**	**5.15**	**69**	Pn	Pn	16 47 58.1	-1.7
W41B	**Gary Mavity, V**	**5.17**	**104**	Pn	Pn	16 48 00.1	-0.1
SDCO	**Great Sand Dun**	**5.81**	**284**	Pn	Pn	16 48 09.0	-0.2
435B	**Jarrell**	**5.83**	**173**	Pn	Pn	16 48 08.1	-1.1
T42A	**Van Buren**	**5.86**	**84**	Pn	Pn	16 48 08.8	-0.8
Q24A	**Divide**	**5.86**	**296**	Pn	Pn	16 48 08.2	-1.8
CCM	**Cathedral Cave**	**5.87**	**73**	Pn	Pn	16 48 08.5	-1.3

IDC 14 16:48:32.5±4.8,56°.58S×133°.56W,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.7/14,mbtmp3.6/2,Error ellipse: s-maj=891.9km s-min=100.6km az=170.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**43.26**	**82**	T	T	17 44 18.5	
baz=221							
H03S1	**Juan Fernandez**	**43.27**	**82**	T	T	17 44 18.0	
baz=221							
H03S3	**Juan Fernandez**	**43.28**	**82**	T	T	17 44 16.6	
baz=221							
H03N3	**Juan Fernandez**	**43.55**	**82**	T	T	17 44 39.1	
baz=226,slow=72,SNR=6.4							
H03N2	**Juan Fernandez**	**43.55**	**82**	T	T	17 44 42.0	
baz=226,slow=72,SNR=7.2							
H03N1	**Juan Fernandez**	**43.56**	**82**	T	T	17 44 38.1	
baz=226,slow=72,SNR=6.7							
ASAR	**Alice Springs**	**71.94**	**254**	P	P	16 59 57.8	+0.1
0.4nm,0.8s,baz=133,slow=7.7,SNR=6.6							
WRA	**Warramunga Arr**	**74.73**	**257**	P	P	17 00 14.1	0.0
0.5nm,0.8s,baz=146,slow=5.3,SNR=5.5							
ESDC	**Sonseca Array**	**143.31**	**96**	PKP	PKPdf	17 08 07.1	-0.8
0.2nm,0.5s,baz=205,slow=0.9,SNR=1.5							

*IDC **14** 16:58:13.1±1.4,63°.50S×171°.49E,h0km,mb4.0/5, mb1 4.3/6,mb1mx3.9/18,mbtmp4.1/6,ML4.1/1,MS3.8/18, Ms1 3.8/18,ms1mx3.6/41,Error ellipse: s-maj=52.8km s-min=23.8km az=69.0*
*NEIC **14** 16:58:15.8±1.1,63°.5S±0°.2×171°.5E±0°.8,h16km±8km, mb4.6/6,Error ellipse: s-maj=58.6km s-min=16.3km az=63.0*
ISC 14 16:58:14.4±1.1,63°.5S±0°.1×171°.4E±0°.3,h10km,n43, σ0.977/16,mb4.2/7,MS3.9/18,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.43**	**188**	Pn	**Pn**	**17 01 39.4**	**+1.1**
0.8nm,0.3s,baz=23,slow=14,SNR=62							
VNDA				LR	LR	17 05 59.3	
comp=Z,610nm,19.8s,baz=26,slow=32							
VNDA	**Vanda**	**14.43**	**188**		**Pn**	**17 01 38.7**	**+0.4**
SBA	**Scott Base**	**14.52**	**184**	Pn	**Pn**	**17 01 39.2**	**-0.4**
QSPA	**South Pole Qui**	**26.61**	**180**	P	**P**	**17 03 52.7**	**0.0**
6.0nm,1.0s,baz=31,slow=8.6,SNR=9.7							
QSPA				LR	LR	17 12 31.8	
comp=Z,378nm,19.5s,baz=40,slow=32							
QSPA	**South Pole Qui**	**26.61**	**180**	P	**P**	**17 03 52.4**	**-0.3**
QSPA				IAmb	IAmb	17 03 59.2	
comp=Z,11nm,1.1s							
ARMA	**Armidale**	**35.40**	**330**	P	**P**	**17 05 10.0**	**-0.2**
STKA	**Stephens Creek**	**36.77**	**315**	LR	LR	17 18 07.5	
comp=Z,123nm,18.2s,baz=181,slow=32							
BBOO	**Buckleboo**	**37.79**	**307**	P	**P**	**17 05 30.6**	**+0.1**
MAW	**Mawson**	**39.59**	**215**	P	**P**	**17 05 44.4**	**-0.7**
comp=Z,5.0nm,0.9s,baz=280,slow=5.6,SNR=2.8							
MAW				LR	LR	17 23 17.2	
comp=Z,161nm,18.0s,baz=80,slow=38							
DZM	**Mont Dzumac**	**41.52**	**353**	LR	LR	17 20 57.0	
comp=Z,153nm,20.8s,baz=217,slow=33							
DZM	**Mont Dzumac**	**41.52**	**353**	*e*LR	LR	17 17 09.0	
comp=Z,190nm,21.3s							
H01W1	**Cape Leeuwin H**	**44.89**	**282**	T	T	17 55 12.7	
baz=147,slow=76,SNR=32							
H01W2	**Cape Leeuwin H**	**44.89**	**282**	T	T	17 55 12.7	
baz=147,slow=76,SNR=32							
H01W3	**Cape Leeuwin H**	**44.90**	**282**	T	T	17 55 14.0	
baz=147,slow=76,SNR=28							
MSVF	**Nonsavu**	**45.93**	**9**	LR	LR	17 23 00.5	
comp=Z,111nm,19.7s,baz=195,slow=32							
AS31	**Alice Springs**	**46.90**	**310**	P	**P**	**17 06 45.4**	**+0.6**
ASAR	**Alice Springs**	**46.90**	**310**	P	**P**	**17 06 46.5**	**+1.7**
comp=Z,0.8nm,0.8s,baz=148,slow=7.0,SNR=8.1							
WRA	**Warramunga Arr**	**50.21**	**312**	P	**P**	**17 07 09.7**	**-0.6**
comp=Z,0.9nm,0.9s,baz=165,slow=6.2,SNR=4.2							
WB0	**Warramunga Arr**	**50.35**	**313**	P	**P**	**17 07 11.5**	**+0.2**
WB0				IAmb	IAmb	17 07 28.2	
comp=Z,17nm,1.8s							
PPT2	**Papeete2**	**53.05**	**49**	*e*LR	LR	17 22 30.5	
comp=Z,183nm,25.0s							
PPT	**Papeete**	**53.07**	**49**	LR	LR	17 24 55.1	
comp=Z,86nm,20.2s,baz=245,slow=30							
HNR	**Honiara**	**54.57**	**346**	LR	LR	17 28 58.9	
comp=Z,70nm,18.0s,baz=213,slow=34							
FITZ	**Fitzroy Crossi**	**54.98**	**304**	LR	LR	17 28 15.6	
comp=Z,56nm,19.5s,baz=250,slow=33							
VAH	**Vaihoa**	**55.90**	**50**	*e*T	T	18 07 35.0	
comp=Z,121nm,0.3s							
PMG	**Port Moresby**	**56.70**	**331**	LR	LR	17 27 30.5	
comp=Z,68nm,20.8s,baz=192,slow=31							
MTN	**Manton Dam**	**57.89**	**312**	P	**P**	**17 08 06.9**	**+0.6**
MTN				IAmb	IAmb	17 08 12.1	
comp=Z,14nm,1.5s							
H03S2	**Juan Fernandez**	**68.32**	**122**	T	T	18 23 52.3	
baz=205							
H03S1	**Juan Fernandez**	**68.32**	**123**	T	T	18 23 56.8	
baz=205							
H03S3	**Juan Fernandez**	**68.33**	**123**	T	T	18 23 56.7	
baz=205							
KAPI	**Kappang**	**69.20**	**303**	LR	LR	17 38 56.0	
comp=Z,17nm,18.6s,baz=106,slow=35							
LEM	**Lembang**	**72.39**	**291**	LR	LR	17 37 13.3	
comp=Z,46nm,20.1s,baz=178,slow=32							
SUR	**Sutherland**	**81.65**	**205**	LR	LR	17 45 43.0	
comp=Z,108nm,18.1s,baz=167,slow=35							
BOSA	**Boshof**	**84.38**	**209**	LR	LR	17 46 20.5	
comp=Z,67nm,19.4s,baz=188,slow=34							
H08S2	**Diego Garcia H**	**87.18**	**259**	T	T	18 48 19.2	
baz=153,slow=76,SNR=26							
H08S1	**Diego Garcia H**	**87.19**	**259**	T	T	18 48 17.0	
baz=153,slow=76,SNR=16							
H08S3	**Diego Garcia H**	**87.20**	**259**	T	T	18 48 18.1	
baz=153,slow=76,SNR=32							
LBTB	**Lobatse**	**87.78**	**211**	LR	LR	17 48 21.0	
comp=Z,78nm,18.2s,baz=184,slow=34							
LPAZ	**La Paz**	**88.26**	**124**	P	**P**	**17 11 07.0**	**+0.4**
comp=Z,1.1nm,0.8s,baz=180,slow=3.0,SNR=2.9							
TSUM	**Tsumeb**	**95.09**	**205**	LR	LR	17 51 24.3	
comp=Z,214nm,21.6s,baz=164,slow=34							
LSZ	**Lusaka**	**96.49**	**216**	LR	LR	17 52 50.9	
comp=Z,70nm,18.1s,baz=188,slow=34							
CMAR	**Chiang Mai Arr**	**98.79**	**294**	LR	LR	17 52 22.0	
comp=Z,14nm,21.8s,baz=165,slow=33							
NRIK	**Noril'sk**	**144.91**	**322**	PKP	**PKPab**	**17 17 47.9**	**-1.1**
comp=Z,1.6nm,0.4s,baz=135,slow=5.7,SNR=5.9							
BRTR	**Keskin Array B**	**145.60**	**247**	PKPbc	**PKPbc**	**17 17 52.5**	**+0.2**
comp=Z,1.1nm,1.0s,baz=233,slow=0.6,SNR=4.7							

IDC 14 17:19:50.5±18.0,2°.60N×99°.16E,h176km±159km,mb3.0/4, mb1 3.2/5,mb1mx2.9/30,mbtmp3.6/5,ML4.1/1,Error ellipse: s-maj=185.0km s-min=17.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.76**	**359**	P	P	17 23 24.0	+0.6
0.3nm,0.3s,baz=188,slow=11,SNR=2.9							
WRA	**Warramunga Arr**	**41.16**	**125**	P	P	17 27 17.3	-0.5
0.1nm,0.3s,baz=304,slow=9.1,SNR=7.6							
ASAR	**Alice Springs**	**42.72**	**130**	P	P	17 27 30.9	+0.3
0.1nm,0.4s,baz=305,slow=7.5,SNR=7.1							
MKAR	**Makanchi Array**	**46.40**	**344**	P	P	17 27 59.2	0.0
0.3nm,0.4s,baz=159,slow=8.9,SNR=10.0							
FINES	**FINESS Array B**	**79.68**	**332**	P	P	17 31 37.8	-0.4
1.8nm,0.9s,baz=99,slow=6.4,SNR=1.4							

*GUC **14** 17:21:45.7±0.6,21°.19S×67°.43W,h192km±9km,ML3.6*
*SCB **14** 17:21:46.3±1.9,21°.26S×67°.39W,h154km±19km,ML3.0/3, Error ellipse: s-maj=8.0km s-min=5.0km az=0.0*
ISC 14 17:21:44.1±2.2,21°.21S±0°.06×67°.38W±0°.05, h187km±19km,n26,σ1.932/38,1C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.62**	**92**	P	**Pn**	**17 22 19.2**	**+0.9**
MOCB				S	**Sn**	**17 22 42.1**	**-2.6**
MOCB				IAML		17 22 45.2	
142nm,0.4s							
PB09	**IPOC Station P**	**1.83**	**251**	*e*P	**Pn**	**17 22 21.4**	**+1.3**
PB09				*e*S	**Sn**	**17 22 48.8**	**+0.8**
PB09	**IPOC Station P**	**1.83**	**251**	P	**Pn**	**17 22 21.3**	**+1.2**
PB09				S	**Sn**	**17 22 46.1**	**-1.9**
PB08	**IPOC Station P**	**1.97**	**302**	↑*i*P	**Pn**	**17 22 22.9**	**+1.1**
PB08	**IPOC Station P**	**1.97**	**302**	P	**Pn**	**17 22 23.3**	**+1.5**
PB01	**IPOC Station P**	**1.98**	**274**	*e*P	**Pn**	**17 22 22.2**	**+0.7**
PB01				*e*S	**Sn**	**17 22 50.6**	**+0.1**
PB01	**IPOC Station P**	**1.98**	**274**	P	**Pn**	**17 22 22.5**	**+1.0**
YJA	**Yavi**	**1.98**	**119**	P	**Pn**	**17 22 23.1**	**+1.2**
LVC	**Limon Verde**	**1.99**	**225**	*e*P	**Pn**	**17 22 23.4**	**+1.4**
LVC				*e*S	**Sn**	**17 22 52.2**	**+0.8**
LVC	**Limon Verde**	**1.99**	**225**	P	**Pn**	**17 22 22.5**	**+0.5**
PB02	**IPOC Station P**	**2.35**	**267**	*e*P	**Pn**	**17 22 26.4**	**+0.7**
PB02				*e*S	**Sn**	**17 22 57.3**	**-0.5**
PB02				IAML		17 23 01.1	
comp=E,186nm,0.4s							
PB02	**IPOC Station P**	**2.35**	**267**	P	**Pn**	**17 22 26.8**	**+1.2**
PB02				S	**Sn**	**17 22 56.3**	**-1.6**
PB02				IAML		17 22 59.1	
comp=E,82nm,0.3s							
PB03	**IPOC Station P**	**2.36**	**249**	*e*P	**Pn**	**17 22 26.9**	**+1.1**
PB03				*e*S	**Sn**	**17 22 57.7**	**-0.6**
PB03				IAML		17 22 58.9	
comp=N,156nm,0.1s							
PB03	**IPOC Station P**	**2.36**	**249**	P	**Pn**	**17 22 26.9**	**+1.1**
PB07	**IPOC Station P**	**2.39**	**257**	*e*P	**Pn**	**17 22 26.8**	**+0.6**
PB07				*e*S	**Sn**	**17 22 58.3**	**-0.6**
PB07				IAML		17 22 59.4	
comp=N,196nm,0.3s							
PB07	**IPOC Station P**	**2.39**	**257**	P	**Pn**	**17 22 27.1**	**+0.9**
PB06	**IPOC Station P**	**2.52**	**233**	*e*P	**Pn**	**17 22 28.9**	**+1.2**
PB06				IAML		17 23 03.5	
comp=E,141nm,0.4s							
PB06	**IPOC Station P**	**2.52**	**233**	P	**Pn**	**17 22 28.5**	**+0.9**
PB11	**IPOC Station P**	**2.58**	**304**	*i*P	**Pn**	**17 22 28.5**	**+0.3**
PB11				*e*S	**Sn**	**17 23 01.6**	**-1.0**
PB11				IAML		17 23 04.7	
comp=N,174nm,0.2s							
PB11	**IPOC Station P**	**2.58**	**304**	P	**Pn**	**17 22 28.8**	**+0.5**
TA01	**Diego Aracena**	**2.70**	**283**	*e*P	**Pn**	**17 22 29.4**	**-0.1**
TA01				*e*S	**Sn**	**17 23 02.6**	**-2.2**
PB15	**IPOC Station P**	**2.78**	**224**	P	**Pn**	**17 22 31.9**	**+1.2**
PB04	**IPOC Station P**	**2.81**	**246**	*e*P	**Pn**	**17 22 31.5**	**+0.6**
PB04				IAML		17 23 12.0	
comp=N,112nm,0.2s							
PB04	**IPOC Station P**	**2.81**	**246**	P	**Pn**	**17 22 31.8**	**+0.8**
PB10	**IPOC Station P**	**3.73**	**231**	P	**Pn**	**17 22 42.9**	**+0.8**
PB10				S	**Sn**	**17 23 24.0**	**-3.5**
PB10				IAML		17 23 31.5	
comp=N,9.2nm,0.4s							
LPAZ	**La Paz**	**4.95**	**352**	P	**Pn**	**17 22 59.7**	**+1.5**

*IDC **14** 17:23:28.2±1.3,6°.82N×76°.53W,h0km,mb3.4/1,mb1 3.6/3, mb1mx3.3/31,mbtmp3.5/3,ML2.1/2,Error ellipse: s-maj=44.4km s-min=19.0km az=42.0*
*RSNC **14** 17:23:31.8±1.5,6°.91N×76°.28W,h0km±4km,ML3.0,Mw3.7*
ISC 14 17:23:30.1±0.9,6°.89N±0°.02×76°.28W±0°.02,h11km±6km, n37,σ1.992/68,1C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.15**	**28**	↑*i*P	**Pg**	**17 23 33.9**	**+0.3**
DBBC				*e*S	**Sg**	**17 23 36.3**	**+0.3**
HELC	**Santa Helena**	**1.02**	**133**	↓*e*P	**Pb**	**17 23 49.7**	**-0.3**
HELC				*e*S	**Sn**	**17 24 04.4**	**-0.7**
HELC				*i*		17 24 10.0	
comp=Z,110nm,0.3s							
CBOC	**Ciudad Bolivar**	**1.05**	**165**	↓*e*P	**Pg**	**17 23 51.0**	**+0.6**
CBOC				*e*S	**Sn**	**17 24 06.5**	**+0.8**
CBOC				*i*		17 24 14.2	
comp=Z,400nm,0.5s							
UREC	**San Jos de Ur**	**1.14**	**41**	*e*P	**Pg**	**17 23 52.6**	**+0.6**
UREC				*e*S	**Sn**	**17 24 08.3**	**+0.6**
UREC				*i*		17 24 10.5	
comp=Z,521nm,0.3s							
SOLC	**Bahia Solano**	**1.30**	**240**	*e*P	**Pg**	**17 23 55.2**	**+0.1**
SOLC				*e*S	**Sg**	**17 24 13.7**	**+1.7**
SOLC				*i*		17 24 18.2	
comp=Z,168nm,0.3s		

comp=Z,44nm,0.5s
YOTC Yotoco, Valle 2.88 181 eP **Pn 17 24 17.2 +1.0**
YOTC eS **Sn 17 24 52.8 +1.8**
YOTC i 17 25 11.7
comp=Z,22nm,0.7s
SMLC San Martn de 2.90 49 eP **Pb 17 24 18.8 -3.1**
SMLC eS **Sn 17 24 50.0 -1.2**
SMLC i 17 25 05.1
comp=Z,32nm,0.6s
BARC Barichara 3.09 95 eP **Pb 17 24 23.9 -1.4**
BARC eS **Sb 17 24 59.6 -3.6**
BARC i 17 25 08.7
comp=Z,70nm,0.4s
ORTC Ortega, Tolima 3.13 161 eP **Pb 17 24 24.5 -1.4**
ORTC eS **Sg 17 25 08.6 -2.2**
ORTC i 17 25 20.9
comp=Z,41nm,0.7s
OCAC Ocana 3.23 65 eP **Pb 17 24 23.9 -3.8**
OCAC eS **Sn 17 25 02.2 +2.7**
OCAC i 17 25 17.1
comp=Z,89nm,0.5s
RUSC La Rusia 3.33 107 eP **Pb 17 24 26.9 -2.6**
RUSC eS **Sb 17 25 09.8 -0.4**
RUSC i 17 25 23.7
comp=Z,42nm,0.6s
CHIC Chingaza 3.38 131 eP **Pb 17 24 30.3 -0.1**
CHIC eS **Sb 17 25 10.8 -0.9**
CHIC i 17 25 31.0
comp=Z,27nm,0.6s
PRAC Prado 3.44 156 eP **Pb 17 24 29.5 -1.7**
PRAC eS **Sb 17 25 12.1 -1.1**
PRAC i 17 25 35.0
comp=Z,36nm,0.7s
PAMC Pamplona, Colo 3.58 83 eP **Pn 17 24 29.5 +3.4**
PAMC eS **Sn 17 25 09.8 +1.1**
PAMC i 17 25 30.9
comp=Z,54nm,0.6s
MARP Paez Belalcaza 4.03 175 eP **Pb 17 24 36.9 -4.4**
MARP eS **Sb 17 25 26.7 -3.6**
POPC Popayan, Colom 4.33 185 eP **Pn 17 24 39.7 +3.4**
POPC eS **Sn 17 25 27.8 +0.8**
PCON Cinco Dias 4.53 181 eP Pn 17 24 44.3 +5.1
PCON eS **Sb 17 25 41.3 -3.6**
PCON i 17 25 54.8
comp=Z,10nm,0.5s
SOTA Rioblanco 4.73 184 eP Pn 17 24 46.7 +4.8
SOTA eS **Sb 17 25 44.5 -6.1**
SOTA i 17 25 59.3
comp=Z,13nm,0.6s
SOCV Socops 5.55 75 eP **Pn 17 24 54.8 +2.0**
SOCV eS **Sn 17 25 57.7 +1.0**
SDV Santo Domingo 5.94 70 Pn **Pn 17 25 01.2 +3.0**
comp=Z,0.7nm,0.3s,baz=238,slow=7.0,SNR=1.6
SDV Sn **Sn 17 26 06.8 +0.4**
comp=Z,1.8nm,0.3s,baz=242,slow=19,SNR=3.6
YKA Yellowknife Ar 62.15 341 P **P 17 33 50.7 -0.5**
comp=Z,0.3nm,0.6s,baz=135,slow=6.9,SNR=5.6
ASAR Alice Springs 146.56 237 PKPbc **PKPbc 17 43 11.7 -1.0**
comp=Z,0.6nm,1.0s,baz=104,slow=3.8,SNR=5.1
WRA Warramunga Arr 147.59 243 PKPbc **PKPdf 17 43 13.2 +0.2**
comp=Z,0.4nm,0.9s,baz=103,slow=2.3,SNR=2.4

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*ANF **14** 17:26:37.8±0.1,35°.41N×117°.81W,h13km±1km,ML3.3/29, Error ellipse: s-maj=1.1km s-min=1.0km az=59.0*
*NEIC **14** 17:26:38.0±2.5,35°.41N±0°.02×117°.82W±0°.06,h5km±8km, Error ellipse: s-maj=6.8km s-min=3.4km az=100.0*
*PAS **14** 17:26:38.7±2.3,35°.41N±0°.03×117°.81W±0°.04,h7km±7km, ML3.3/159,ML3.0/80(NEIC),Error ellipse: s-maj=6.4km s-min=2.1km az=223.0*

ISC 14 17:26:38.0±0.8,35°.42N±0°.02×117°.81W±0°.02,h16km±6km, n75,σ1§05/94,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRMC	**Laurel Mtn Rad** baz=234,SNR=1000	**0.12**	**59**	P	**Pg**	**17 26 41.6**	**-0.2**
LRMC				S	**Sg**	**17 26 43.7**	**-0.6**
EDW2	**Edwards Air Fo** baz=16,SNR=218	**0.55**	**196**	P	**Pg**	**17 26 48.8**	**-0.1**
EDW2				S	**Sg**	**17 26 56.1**	**-0.2**
ISA	**Isabella, Lake**	**0.59**	**295**	Pg	**Pb**	**17 26 49.9**	**-0.1**
ISA				Sg	**Sg**	**17 26 57.4**	**-0.2**
ISA	comp=N,779nm,0.4s			IAML		17 26 58.1	
ISA	comp=E,813nm,0.2s			IAML		17 26 58.8	
ISA	**Isabella, Lake** baz=115,SNR=742	**0.59**	**295**	P	**Pb**	**17 26 50.0**	**-0.1**
ISA				S	**Sg**	**17 26 58.0**	**+0.4**
MPMC	**Manual Prospec** baz=202,SNR=505	**0.69**	**22**	P	**Pb**	**17 26 51.8**	**0.0**
MPMC				S	**Sb**	**17 27 01.2**	**0.0**
GSC	**Goldstone, Bar**	**0.83**	**98**	Pg	**Pb**	**17 26 54.0**	**0.0**
GSC	comp=N,580nm,0.5s			IAML		17 27 08.6	
GSC	**Goldstone, Bar** baz=278,SNR=268	**0.83**	**98**	P	**Pb**	**17 26 54.1**	**0.0**
GSC				S	**Sb**	**17 27 05.2**	**+0.1**
RRX	**Edison Barstow** baz=309,SNR=10	**0.86**	**129**	P	**Pb**	**17 26 54.7**	**+0.2**
RRX				S	**Sb**	**17 27 05.9**	**+0.1**
ARVC	**Arvin** baz=71,SNR=13	**0.88**	**251**	P	**Pg**	**17 26 54.8**	**-0.3**
ARVC				S	**Sb**	**17 27 06.7**	**+0.3**
QSM	**Queen of Sheba**	**0.94**	**54**	Pg	**Pg**	**17 26 56.3**	**0.0**
QSM				Sg	**Sb**	**17 27 08.6**	**+0.3**
QSM	comp=N,549nm,0.5s			IAML		17 27 12.8	
CWC	**Cottonwood Cre** baz=168	**1.04**	**348**	P	**Pb**	**17 26 58.0**	**+0.2**
CWC				S	**Sb**	**17 27 11.5**	**+0.2**
OSI	**Osito Audit: C**	**1.09**	**223**		**Pg**	**17 26 59.0**	**-0.1**
OSI	**Osito Audit: C** baz=43	**1.09**	**223**	S	**Sn**	**17 27 13.6**	**+0.1**
VES	**Vestal, Richgr** baz=112,SNR=20	**1.12**	**293**	P	**Pg**	**17 26 59.4**	**-0.2**
VES				S	**Sg**	**17 27 14.2**	**-0.1**
BFSC	**Mount Baldy Ra** baz=354,SNR=77	**1.18**	**174**	P	**Pg**	**17 27 00.2**	**-0.6**
BFSC				S	**Sg**	**17 27 15.4**	**-0.8**
MWC	**Mount Wilson**	**1.21**	**190**		**Pg**	**17 27 00.7**	**-0.6**
MWC	comp=E,427nm,0.4s			IAML		17 27 20.5	
GWY	**Greenwater Val**	**1.21**	**50**	Pg	**Pg**	**17 27 01.3**	**0.0**
GWY	comp=N,327nm,0.5s			IAML		17 27 19.4	
GWY	comp=E,403nm,0.5s			IAML		17 27 21.4	
DECC	**Green Verdugo** baz=20	**1.24**	**200**	P	**Pb**	**17 27 01.1**	**+0.2**
DECC				S	**Sg**	**17 27 17.5**	**-0.5**
PASC	**Pasadena Art C**	**1.28**	**194**	Pn	**Pb**	**17 27 01.8**	**+0.1**
FURC	**Furnace Creek,** baz=216	**1.30**	**36**	Pg	**Pg**	**17 27 03.1**	**0.0**
FURC				Sg	**Sg**	**17 27 21.1**	**+1.1**
SHOC	**Shoshone, Teco** baz=249,SNR=32	**1.34**	**68**	P	**Pn**	**17 27 02.1**	**0.0**
SHOC				Sg	**Sg**	**17 27 22.2**	**+0.9**
HEC	**Hector,Ludlow** baz=296,SNR=139	**1.34**	**115**	P	**Pn**	**17 27 02.3**	**+0.1**
HEC				Sg	**Sg**	**17 27 22.2**	**+0.7**
GR2C	**Griffith Obs.**	**1.35**	**197**		**Pg**	**17 27 03.3**	**-0.7**
BBRC	**Big Bear Solar** baz=328	**1.36**	**147**	Pg	**Pg**	**17 27 04.2**	**0.0**
BBRC				S	**Sg**	**17 27 21.2**	**-0.8**
TUQ	**Turquoise Moun** baz=269,SNR=124	**1.54**	**89**	P	**Pn**	**17 27 04.9**	**0.0**
VOG	**Valley Oaks Go** baz=125	**1.56**	**306**	P	**Pn**	**17 27 05.5**	**+0.4**
HELL	**Mitchell Peak,**	**1.60**	**323**		**Pb**	**17 27 07.7**	**+0.5**
TIN	**Tinemaha, Big** baz=168	**1.67**	**348**	Pg	**Pg**	**17 27 09.9**	**-0.2**
TIN				Sb	**Sg**	**17 27 31.8**	**0.0**
PKM	**Mcpherson Peak** baz=72	**1.72**	**253**	Pg	**Pg**	**17 27 10.6**	**-0.4**
SMMC	**Simmler** baz=86	**1.79**	**267**	P	**Pn**	**17 27 08.7**	**+0.5**
LCH	**Last Change Ra**	**1.82**	**4**	Pn	**Pn**	**17 27 09.8**	**+1.1**
GMRC	**Granite Mounta** baz=290	**1.87**	**109**	P	**Pn**	**17 27 09.0**	**-0.5**
MURC	**Murrieta** baz=344,SNR=15	**1.88**	**164**	P	**Pn**	**17 27 10.2**	**+0.7**
TPNV	**Topopah Spring**	**1.98**	**39**	Pn	**Pn**	**17 27 11.5**	**+0.5**
TPNV	comp=E,73nm,1.0s			IAML		17 27 46.4	
TPNV	**Topopah Spring** baz=220,SNR=79	**1.98**	**39**	P	**Pn**	**17 27 11.9**	**+0.9**
PAGB	**Antelope Grade**	**2.01**	**280**		**Pn**	**17 27 12.3**	**+1.0**
PAGB	comp=N,82nm,0.7s			IAML		17 27 54.0	
MTUM	**Tungsten Hills**	**2.03**	**343**		**Pg**	**17 27 16.3**	**-0.6**
BELC	**Belle Mtn. Jos** baz=314,SNR=33	**2.06**	**133**	P	**Pn**	**17 27 12.0**	**0.0**
CIS	**Catalina Islan** baz=14,SNR=9.0	**2.07**	**194**	P	**Pn**	**17 27 12.3**	**+0.2**
PFO	**Pinyon Flats O**	**2.12**	**148**		**Pn**	**17 27 13.2**	**+0.3**
PFO	comp=N,102nm,0.6s			IAML		17 27 46.7	
PFO	**Pinyon Flats O** baz=329,SNR=12	**2.12**	**148**	P	**Pn**	**17 27 13.1**	**+0.3**
SHPR	**Sheep Range**	**2.41**	**62**		**Pn**	**17 27 17.3**	**+0.4**
IRM	**Iron Mountain** baz=300,SNR=13	**2.53**	**119**	P	**Pn**	**17 27 18.1**	**-0.4**
PMPB	**Monarch Peak**	**2.56**	**289**		**Pn**	**17 27 19.9**	**+1.1**
PMPB	comp=E,90nm,1.6s			IAML		17 28 07.9	
109C	**Camp Elliot, M**	**2.59**	**167**	Pn	**Pn**	**17 27 21.1**	**+1.9**
109C	comp=N,94nm,0.4s			IAML		17 28 00.1	
BC3	**Big Chuckawall** baz=313	**2.62**	**131**	Pg	**Pg**	**17 27 27.8**	**-0.4**
TPH	**Tonopah**	**2.70**	**10**		**Pg**	**17 27 28.5**	**-1.2**
TPH	comp=N,78nm,2.5s			IAML		17 27 40.1	
TPH	comp=E,54nm,4.6s			IAML		17 28 44.4	
S11A	**Rachel**	**2.78**	**36**	Pg	**Pg**	**17 27 29.9**	**-1.4**
S11A	comp=N,52nm,0.9s			IAML		17 28 17.3	
S11A	comp=E,70nm,1.1s			IAML		17 28 25.7	
BBGB	**Big Mountain B**	**2.86**	**295**		**Pn**	**17 27 25.0**	**+1.9**
LHV	**Little Huntoon**	**2.88**	**349**		**Pg**	**17 27 31.9**	**-1.4**
LHV	comp=N,44nm,0.8s			IAML		17 28 19.6	
LHV	comp=E,38nm,1.2s			IAML		17 28 22.0	
BAR	**Barrett**	**2.89**	**161**		**Pn**	**17 27 24.4**	**+1.0**
BAR	comp=N,72nm,0.5s			IAML		17 28 07.9	
PRN	**Pahroc Range**	**2.98**	**47**		**Pn**	**17 27 26.2**	**+1.4**
PRN	comp=N,55nm,0.6s			IAML		17 28 17.3	
PRN	comp=E,60nm,0.7s			IAML		17 28 17.3	
NV11	**Mina Array Sit**	**3.02**	**355**		**Pn**	**17 27 26.2**	**+0.8**
NVAR	**Mina Array Bea**	**3.03**	**353**	Pg	**Pg**	**17 27 35.0**	**-1.1**
W13A	**Hualapai Mount**	**3.23**	**94**	Pn	**Pn**	**17 27 28.6**	**+0.4**
W13A	comp=N,42nm,0.7s			IAML		17 28 24.3	
W13A	comp=E,30nm,0.5s			IAML		17 28 24.4	
SAO	**San Andreas Ge**	**3.24**	**296**	Pn	**Pn**	**17 27 27.3**	**-0.9**
RYN	**Ryan**	**3.26**	**350**		**Pg**	**17 27 39.1**	**-1.2**
CMB	**Columbia Colle**	**3.33**	**322**	Pn	**Pn**	**17 27 28.6**	**-0.9**
CMB	comp=E,36nm,0.8s			IAML		17 28 24.8	
CMB	comp=N,36nm,0.6s			IAML		17 28 25.2	
GLA	**Glamis**	**3.42**	**133**		**Pg**	**17 27 41.7**	**-1.7**
R11A	**Troy Canyon, C**	**3.43**	**31**	Pn	**Pn**	**17 27 31.4**	**+0.4**
R11A					**Pg**	**17 27 41.6**	**-2.1**
KVN	**Kaiserville**	**3.64**	**356**		**Pn**	**17 27 35.5**	**+1.8**
PNTR	**Pine Nut**	**3.93**	**339**	Pg	**Pb**	**17 27 47.1**	**0.0**
PNTR	comp=N,29nm,0.9s			IAML		17 29 12.9	
EMB	**Emerald Bay**	**4.00**	**333**	Pn	**Pn**	**17 27 38.4**	**-0.4**
LCMT	**Little Creek M**	**4.02**	**65**	Pn	**Pn**	**17 27 40.6**	**+1.6**
CCUT	**Cedar City**	**4.17**	**58**		**Pb**	**17 27 51.9**	**+0.8**
CCUT	comp=E,11nm,4.7s			IAML		17 29 52.8	
Y14A	**Wickenburg**	**4.23**	**109**		**Pn**	**17 27 41.8**	**0.0**
Y14A	comp=E,19nm,0.7s			IAML		17 29 00.6	
113A	**Mohawk Valley,**	**4.27**	**127**		**Pn**	**17 27 41.0**	**-1.3**
113A	comp=E,11nm,0.9s			IAML		17 29 03.5	
113A	comp=N,14nm,4.0s			IAML		17 29 10.7	
PAHR	**Pah Rah Range**	**4.46**	**344**		**Pn**	**17 27 45.6**	**+0.5**
PAHR	comp=E,12nm,4.8s			IAML		17 29 18.8	
PAHR	comp=N,11nm,5.0s			IAML		17 29 33.2	
SPR3	**Spring Creek 3**	**4.53**	**37**		**Pb**	**17 28 00.6**	**+3.3**
SPR3	comp=E,11nm,4.0s			IAML		17 29 06.7	
U15A	**North Rim**	**4.59**	**76**		**Pn**	**17 27 48.5**	**+1.4**
U15A	comp=E,15nm,0.8s			IAML		17 29 02.0	
U15A	comp=N,15nm,2.4s			IAML		17 29 12.4	
WUAZ	**Wupatki**	**5.26**	**87**	Pg	**Pb**	**17 28 13.2**	**+3.6**
WUAZ	comp=N,12nm,0.5s			IAML		17 29 27.4	
X16A	**Lo Mia Camp, P**	**5.33**	**99**		**Pn**	**17 27 55.4**	**-1.7**
X16A	comp=E,7.3nm,3.6s			IAML		17 30 12.0	
X16A	comp=N,9.7nm,5.0s			IAML		17 31 06.9	
MVU	**Marysvale**	**5.44**	**54**		**Pn**	**17 27 57.5**	**-1.1**
MSU	**Marysvale**	**5.47**	**54**	Pg	**Pb**	**17 28 12.2**	**-1.1**
ELK	**Elko**	**5.69**	**20**	Pg	**Pg**	**17 28 22.8**	**-4.2**

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*IDC **14** 17:35:10.6±0.5,6°.79N×76°.31W,h0km,mb4.2/22, mb1 4.4/25,mb1mx4.3/42,mbtmp4.2/25,ML3.7/2,MS3.6/12, Ms1 3.6/12,ms1mx3.2/64,Error ellipse: s-maj=18.1km s-min=12.3km az=50.0*
*NEIC **14** 17:35:13.8±1.7,6°.93N±0°.05×76°.24W±0°.05,h8km±2km, mb4.6/57,Error ellipse: s-maj=8.0km s-min=5.8km az=225.0*
*VAO **14** 17:35:14.4±0.7,6°.90N×76°.03W,h10km,mb4.6*
*RSNC **14** 17:35:14.5±1.0,6°.93N×76°.26W,h1km±2km,ML3.9,Mw4.6, Fault plane solution: NP1:φs126.00000°,δ51.00000°, λ-122.00000°.*

ISC 14 17:35:12.9±0.8,6°.92N±0°.02×76°.25W±0°.02,h11km±5km, n225,σ1§81/269,mb4.5/41,MS3.6/9,2C-11D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.11**	**24**	⇑iP	**Pg**	**17 35 16.4**	**+0.6**
DBBC				eS	**Sg**	**17 35 18.6**	**+0.7**
HELC	**Santa Helena**	**1.02**	**135**	⇓iP	**Pg**	**17 35 32.1**	**-0.6**
HELC				eS	**Sb**	**17 35 46.0**	**-0.5**
HELC	comp=Z,1μm,0.5s			i		17 35 49.8	
CBOC	**Ciudad Bolivar**	**1.07**	**167**	⇓iP	**Pb**	**17 35 33.5**	**-0.1**
CBOC				eS	**Sn**	**17 35 49.4**	**+0.3**
CBOC	comp=Z,3μm,0.7s			i		17 35 56.8	
UREC	**San Jos de Ur**	**1.10**	**41**	⇓eP	**Pg**	**17 35 34.5**	**+0.5**
UREC				eS	**Sn**	**17 35 50.6**	**+1.1**
SOLC	**Bahia Solano**	**1.34**	**239**	eP	**Pn**	**17 35 37.7**	**+0.1**
SOLC				eS	**Sg**	**17 35 56.8**	**+0.8**
SOLC	comp=Z,811nm,0.3s			i		17 36 03.3	
ZARC	**Zaragoza, Cauc**	**1.50**	**67**	⇑eP	**Pb**	**17 35 40.8**	**0.0**
ZARC				eS	**Sg**	**17 36 00.9**	**-0.4**
ZARC	comp=Z,3μm,0.4s			i		17 36 04.5	
ZARC	**Zaragoza, Cauc**	**1.50**	**67**	Pn	**Pb**	**17 35 40.9**	**0.0**
PTAC	**Punta Ardita,**	**1.56**	**279**	⇓eP	**Pn**	**17 35 40.5**	**-0.2**
PTAC				eS	**Sn**	**17 36 01.1**	**+0.2**
PTAC	comp=Z,2μm,0.8s			i		17 36 07.5	
PTBC	**PUERTO BERRIO,**	**1.82**	**102**	⇓eP	**Pb**	**17 35 45.7**	**-0.7**
PTBC				eS	**Sb**	**17 36 10.0**	**+0.7**
PTBC	comp=Z,3μm,0.6s			i		17 36 13.9	
GUY2C	**Guyana, Caldas**	**1.90**	**152**	⇓eP	**Pb**	**17 35 46.9**	**-1.0**
GUY2C				eS	**Sg**	**17 36 14.3**	**+0.1**
GUY2C	comp=Z,886nm,0.7s			i		17 36 24.6	
NORC	**Norcasia**	**1.92**	**134**	⇓eP	**Pb**	**17 35 47.8**	**-0.4**
NORC				eS	**Sb**	**17 36 12.6**	**+0.3**
NORC	comp=Z,1μm,0.6s			i		17 36 18.6	
LCBC	**Los crdobas,**	**1.93**	**357**	⇓eP	**Pn**	**17 35 47.2**	**+1.4**
LCBC				eS	**Sn**	**17 36 11.8**	**+1.7**
LCBC	comp=Z,860nm,0.5s			i		17 36 36.0	
MOTC	**Monteria, Cord**	**1.94**	**17**	eP	**Pn**	**17 35 46.6**	**+0.7**
MOTC				eS	**Sn**	**17 36 12.0**	**+1.7**
MOTC	comp=Z,626nm,0.5s			i		17 36 19.7	
MOTC	**Monteria, Cord**	**1.94**	**17**		**Pn**	**17 35 46.5**	**+0.7**
PLMC	**San Jos del P**	**2.00**	**181**	eP	**Pb**	**17 35 48.4**	**-1.0**
PLMC				eS	**Sg**	**17 36 19.6**	**+2.3**
PLMC	comp=Z,1μm,0.6s			i		17 36 23.1	
NIZA	**Niza - Manizal**	**2.00**	**157**	eP	**Pb**	**17 35 50.1**	**+0.5**
NIZA				eS	**Sg**	**17 36 18.1**	**+0.7**
CAPC	**Capurgana**	**2.02**	**328**	eP	**Pn**	**17 35 48.7**	**+1.6**
CAPC				eS	**Sb**	**17 36 15.5**	**+0.5**
CAPC	comp=Z,2μm,0.7s			i		17 36 23.4	
PIZC	**Pizarro, Choco**	**2.23**	**210**	eP	**Pb**	**17 35 53.2**	**-0.1**
PIZC				eS	**Sb**	**17 36 20.5**	**-0.4**
PIZC	comp=Z,320nm,0.6s			i		17 36 50.5	
SPBC	**San Pablo de B**	**2.51**	**120**	eP	**Pb**	**17 35 57.2**	**-0.9**
SPBC				eS	**Sb**	**17 36 30.5**	**+1.4**
SPBC	comp=Z,586nm,0.6s			i		17 36 43.0	
BRRC	**Barranca, Sant**	**2.53**	**86**	eP	**Pb**	**17 35 57.2**	**-1.2**
BRRC				eS	**Sb**	**17 36 31.7**	**+2.1**
ANIL	**Santa Ana**	**2.55**	**161**	eP	**Pb**	**17 35 59.0**	**0.0**
ANIL				eS	**Sg**	**17 36 35.6**	**+0.5**
ANIL	comp=Z,689nm,0.6s			i		17 36 44.2	
ROSC	**El Rosal**	**2.82**	**137**	Pn	**Pb**	**17 36 03.3**	**-0.4**
ROSC	comp=Z,42nm,0.3s,baz=45,slow=3.1,SNR=44			LR	LR	17 36 40.3	
ROSC	comp=Z,828nm,21.2s,baz=57,slow=32			Lg	Lg	17 36 42.4	
ROSC	**El Rosal**	**2.82**	**137**	⇓eP	**Pb**	**17 36 03.3**	**-0.4**
ROSC				eS	**Sg**	**17 36 43.1**	**-0.6**
ROSC	comp=Z,345nm,0.6s			i		17 36 47.8	
ROSC	**El Rosal**	**2.82**	**137**		**Pb**	**17 36 02.6**	**-1.0**
SMLC	**San Martn de**	**2.86**	**49**	eP	**Pn**	**17 36 01.5**	**+2.9**
SMLC				eS	**Sn**	**17 36 35.2**	**+2.1**
SMLC	comp=Z,504nm,0.6s			i		17 36 48.0	
YOTC	**Yotoco, Valle**	**2.92**	**182**	eP	**Pn**	**17 36 00.2**	**+0.8**
YOTC				eS	**Sn**	**17 36 37.3**	**+2.7**
YOTC	comp=Z,209nm,0.6s			i		17 36 50.3	
BARC	**Barichara**	**3.07**	**96**	eP	**Pn**	**17 36 03.8**	**+2.2**
BARC				e		17 36 03.8	
BARC				eS	**Sb**	**17 36 41.9**	**-3.5**
BARC	comp=Z,768nm,0.7s			i		17 36 56.4	
SJCC	**San Jacinto, C**	**3.15**	**20**	eP	**Pn**	**17 36 02.4**	**-0.2**
SJCC				eS	**Sn**	**17 36 38.9**	**-1.3**
SJCC	comp=Z,282nm,0.4s			i		17 36 48.7	
SJCC	**San Jacinto, C**	**3.15**	**20**	Pn	**Pn**	**17 36 02.8**	**+0.2**
ORTC	**Ortega, Tolima**	**3.15**	**161**	⇓eP	**Pb**	**17 36 07.1**	**-2.0**
ORTC				eS	**Sg**	**17 36 52.9**	**-1.4**
ORTC	comp=Z,266nm,0.7s			i		17 37 12.5	
OCAC	**Ocana**	**3.19**	**66**	eP	**Pn**	**17 36 04.8**	**+1.5**
OCAC				eS	**Sn**	**17 36 44.1**	**+2.6**
OCAC	comp=Z,1μm,0.5s			i		17 37 01.9	
OCAC	**Ocana**	**3.19**	**66**		**Pn**	**17 36 04.3**	**+1.0**
RUSC	**La Rusia**	**3.31**	**108**	eP	**Pn**	**17 36 07.7**	**+2.5**
RUSC				eS	**Sn**	**17 36 48.4**	**+3.6**
RUSC	comp=Z,600nm,0.6s			i		17 37 08.7	
CHIC	**Chingaza**	**3.38**	**132**	eP	**Pb**	**17 36 11.4**	**-1.9**
CHIC				eS	**Sb**	**17 36 51.9**	**-2.8**
CHIC	comp=Z,336nm,0.8s			i		17 37 13.5	
PRAC	**Prado**	**3.46**	**157**	eP	**Pb**	**17 36 10.8**	**-3.5**
PRAC				eS	**Sn**	**17 36 49.9**	**+1.9**
PRAC	comp=Z,373nm,0.7s			i		17 37 17.2	
ARGC	**Ariguani, Magd**	**3.53**	**34**	eS	**Sn**	**17 36 50.9**	**+1.2**
ARGC	comp=Z,142nm,0.6s			i		17 37 30.1	
PAMC	**Pamplona, Colo**	**3.55**	**83**	⇓eP	**Pn**	**17 36 12.0**	**+3.4**
PAMC				eS	**Sb**	**17 36 55.9**	**-3.6**
PAMC	comp=Z,651nm,0.6s			i		17 37 07.0	
LL1C	**La Loma 1 Cana**	**3.73**	**46**	eP	**Pb**	**17 36 15.6**	**-3.4**
LL1C				eS	**Sn**	**17 36 56.8**	**+2.2**
VILC	**Villavicencio,**	**3.78**	**137**	eP	**Pb**	**17 36 17.7**	**-2.1**
VILC				eS	**Sn**	**17 36 59.0**	**+3.1**
MARP	**Paez Belalcaza**	**4.06**	**176**	eP	**Pn**	**17 36 19.5**	**+4.2**
MARP				eS	**Sb**	**17 37 10.8**	**-3.1**
LL6C	**La Loma 6 Bece**	**4.07**	**46**	eP	**Pn**	**17 36 17.1**	**+1.8**
LL6C				eS	**Sn**	**17 37 04.4**	**+1.5**
LL6C	comp=Z,131nm,0.6s			i		17 37 28.4	
BCIP	**Isla Barro Col**	**4.19**	**302**	eP	**Pn**	**17 36 17.1**	**+0.1**
BCIP				eS	**Sn**	**17 37 06.8**	**+0.9**
BCIP	comp=Z,81nm,0.6s			i		17 37 23.6	
BCIP	**Isla Barro Col**	**4.19**	**302**	Pn	**Pn**	**17 36 17.4**	**+0.5**
BETC	**Betania**	**4.29**	**169**	eP	**Pn**	**17 36 22.1**	**+3.9**
BETC				eS	**Sb**	**17 37 14.9**	**-5.3**
BETC	comp=Z,123nm,0.6s			i		17 37 44.3	
POPC	**Popayan, Colom**	**4.37**	**186**	eP	**Pn**	**17 36 21.9**	**+2.4**
POPC				eS	**Sn**	**17 37 12.5**	**+1.8**
POPC	comp=Z,70nm,0.7s			i		17 37 28.7	
TAMC	**Tame, Arauca**	**4.46**	**96**	eP	**Pn**	**17 36 24.3**	**+3.6**
TAMC				eS	**Sn**	**17 37 14.4**	**+1.8**
TAMC	comp=Z,148nm,0.6s			i		17 37 58.6	
PCON	**Cinco Dias**	**4.56**	**182**	eP	**Pn**	**17 36 27.2**	**+4.7**
PCON				eS	**Sb**	**17 37 23.5**	**-5.2**
PCON	comp=Z,119nm,0.6s			i		17 37 45.9	
CVALL	**Valledupar, Ce**	**4.64**	**39**	eP	**Pn**	**17 36 26.1**	**+3.1**
CVALL				eS	**Sn**	**17 37 15.7**	**-1.3**
CVALL	comp=Z,165nm,0.8s			i		17 37 17.7	
SMRC	**Santa Marta, M**	**4.67**	**25**	eP	**Pn**	**17 36 25.9**	**+2.4**
SMRC				eS	**Sn**	**17 37 16.7**	**-1.1**
SMRC	comp=Z,71nm,0.4s			i		17 37 24.3	
GARC	**Garzon, Huila**	**4.76**	**171**	eP	**Pn**	**17 36 28.4**	**+3.5**
SOTA	**Rioblanco**	**4.76**	**184**	eP	**Pn**	**17 36 29.2**	**+4.0**
SOTA				eS	**Sn**	**17 37 24.8**	**+4.0**
SOTA	comp=Z,192nm,0.7s			i		17 37 41.3	
PTGC	**Puerto Gaitan,**	**4.91**	**123**	eP	**Pn**	**17 36 29.8**	**+3.0**
PTGC				eS	**Sn**	**17 37 26.6**	**+2.9**
PTGC	comp=Z,141nm,0.5s			i		17 37 33.5	
CRJC	**Cerrejon, Guaj**	**5.26**	**39**	eP	**Pn**	**17 36 34.2**	**+2.4**
CRJC				eS	**Sn**	**17 37 30.2**	**-2.4**
CRJC	comp=Z,133nm,0.3s			i		17 37 35.1	
MACC	**Macarena, Meta**	**5.31**	**153**	eP	**Pn**	**17 36 35.6**	**+3.3**
MACC				eS	**Sb**	**17 37 44.3**	**-5.5**
MACC	comp=Z,89nm,0.6s			i		17 38 14.3	

FLOC Florencia 5.33 174 *eP* **Pn 17 36 35.8 +3.1**
FLOC *eS* **Sn 17 37 36.5 +2.4**
FLOC *i* 17 38 22.5
comp=Z,60nm,0.7s
SOCV Socops 5.52 75 *eP* **Pn 17 36 37.3 +2.1**
SOCV *eS* **Sn 17 37 37.9 -0.9**
GCUF Volcan Galeras 5.76 191 *eP* Pb 17 36 46.6 -7.2
GCUF *eS* **Sb 17 37 56.6 -6.4**
SDV Santo Domingo 5.90 70 Pn **Pn 17 36 42.7 +2.1**
comp=Z,5.4nm,0.3s,baz=250,slow=10.0,SNR=26
SDV Sn **Sn 17 37 49.6 +1.2**
comp=Z,25nm,0.3s,baz=112,slow=21,SNR=4.9
SDV Santo Domingo 5.90 70 *eP* **Pn 17 36 42.7 +2.1**
SDV *eS* **Sn 17 37 49.6 +1.2**
SDV *i* 17 38 22.2
comp=Z,166nm,0.7s
TULM Tulcn-Chalpat 6.35 194 *eP* Pb 17 36 57.2 -6.6
URIC Uribia, Colomb 6.35 41 *eP* **Pn 17 36 47.5 +1.0**
URIC *eS* **Sn 17 37 53.1 -6.1**
URIC *i* 17 38 34.7
comp=Z,41nm,0.7s
URIC Uribia, Colomb 6.35 41 Pn 17 36 47.8 +1.3
ELOV Elorza 6.72 89 *eP* **Pn 17 36 55.3 +3.6**
ELOV *eS* **Sn 17 38 11.8 +3.5**
PTLC Puerto Leguiza 6.86 168 *eP* Pb 17 37 03.4 -8.8
PTLC *i* 17 38 40.5
comp=Z,27nm,0.6s
OTAV Otavalo 6.99 198 *eP* **Pn 17 37 00.5 +4.8**
OTAV *eS* **Sn 17 38 16.8 +1.3**
OTAV Otavalo 6.99 198 Pn **Pn 17 36 55.7 -0.1**
SRBA San Rafael, Bu 7.40 289 Pn 17 37 02.0 +0.9
RIMA Rio Macho 8.04 291 Pn **Pn 17 37 11.9 +1.8**
BAUV El Baul 8.38 76 Pn **Pn 17 37 14.4 -0.1**
COVE Coope Vega, Sa 8.89 296 Pn 17 37 22.4 +0.8
JTS Las Juntas de 9.23 292 Pn **Pn 17 37 26.9 +0.7**
JTS LR LR 17 41 05.3
comp=Z,381nm,19.3s,slow=38
JTS Las Juntas de 9.23 292 Pn **Pn 17 37 27.7 +1.5**
BIRV Birongo 10.48 70 Pn **Pn 17 37 41.9 -1.5**
BOAB BOACO BROADBAND 10.78 301 Pn **Pn 17 37 48.1 +0.7**
PCRV Puerto La Cruz 11.94 73 Pn **Pn 17 38 02.7 -0.5**
comp=Z,1.7nm,0.3s,baz=338,slow=9.7,SNR=2.4
TBTG Tabatinga, AM 12.72 150 *eP* **Pn 17 38 14.7 +0.7**
SDDR Presa de Saban 12.93 21 Pn 17 38 17.5 +0.6
GCPR Guaynabo City 15.05 40 Pn 17 38 44.0 -1.7
GCPR IAmb IAmb 17 38 55.5
comp=Z,38nm,1.1s
HUMP Col San Antoni 15.08 41 Pn **Pn 17 38 42.3 -3.9**
HUMP IAmb IAmb 17 38 50.0
comp=Z,22nm,0.9s
CBYP Canovanas 15.17 41 Pn 17 38 45.0 -2.3
CBYP IAmb IAmb 17 38 57.8
comp=Z,34nm,1.1s
MTP Monte Pirata 15.24 42 Pn 17 38 42.8 -5.5
MTP IAmb IAmb 17 38 59.3
comp=Z,28nm,1.1s
CUPR Culebra, Puert 15.57 42 Pn 17 38 47.8 -4.8
CUPR IAmb IAmb 17 39 01.8
comp=Z,24nm,0.7s
BOAV Boa Vista 16.31 105 *eP* **Pn 17 39 01.0 -1.2**
BOAV Boa Vista 16.31 105 Pn **Pn 17 38 59.5 -2.7**
MACA Manacapuru-AM 18.49 122 *eP* **P 17 39 28.9 -0.4**
NNA Nana 18.79 182 LR LR 17 48 03.7
comp=Z,189nm,20.8s,baz=344,slow=41
ETMB Extrema 19.40 149 *eP* **P 17 39 39.2 -0.1**
ETMB Extrema 19.40 149 P **P 17 39 38.2 -1.1**
CMIG Matias Romero 20.82 301 LR LR 17 48 48.9
comp=Z,166nm,18.8s,baz=132,slow=39
ITTB Itaituba 23.35 118 *eP* **P 17 40 20.3 -1.3**
MDP Montagnes des 23.55 93 P **P 17 40 20.0 -3.7**
comp=Z,18nm,1.0s,baz=120,slow=19,SNR=2.7
MALB Monte Alegre 23.61 111 *eP* **P 17 40 24.1 -0.1**
LPAZ La Paz 24.42 161 P **P 17 40 29.2 -3.2**
comp=Z,7.8nm,1.1s,baz=343,slow=10,SNR=11
LPAZ La Paz 24.42 161 *eP* **P 17 40 32.4 0.0**
LPAZ La Paz 24.42 161 P **P 17 40 30.0 -2.5**
LPAZ IAmb IAmb 17 40 40.1
comp=Z,9.4nm,0.9s
NPGB Novo Progresso 25.04 123 *eP* **P 17 40 36.4 -1.1**
VILB Vilhena 25.38 141 *eP* **P 17 40 41.6 +1.0**
VILB Vilhena 25.38 141 P **P 17 40 41.0 +0.5**
PDRB Porto dos Gac 26.76 133 *eP* **P 17 40 54.3 +1.2**
CLDB Colider 26.96 131 *eP* **P 17 40 55.3 +0.4**
SIV San Ignacio 27.28 147 P **P 17 40 56.1 -1.6**
comp=Z,5.2nm,0.8s,baz=327,slow=9.5,SNR=14
SIV LR LR 17 51 48.5
comp=Z,276nm,18.1s,baz=287,slow=37
PB11 IPOC Station P 27.29 166 P **P 17 40 58.0 +0.1**
PB11 IAmb IAmb 17 41 06.4
comp=Z,11nm,0.8s
PTLB Pontes e Lacer 27.95 143 *eP* **P 17 41 04.4 +0.6**
PTLB Pontes e Lacer 27.95 143 P **P 17 41 04.0 +0.3**
PB01 IPOC Station P 28.57 167 P **P 17 41 08.7 -0.5**
PRPB Parauapebas 29.41 116 *eP* **P 17 41 16.0 -0.8**
TKL Tuckaleechee C 29.43 347 LR LR 17 55 04.7
comp=Z,73nm,18.3s,baz=213,slow=40
LVC Limon Verde 30.21 166 *eP* **P 17 41 25.0 +0.8**
SNDB Serra Nova Dou 31.12 127 *eP* **P 17 41 31.1 -0.8**
PP1B Ponte de Pedra 32.24 139 *eP* **P 17 41 41.1 -0.6**
SMTB Santa Maria do 32.59 118 *eP* **P 17 41 44.7 -0.1**
FVM French Village 33.49 339 P **P 17 41 53.4 +0.9**
FVM IAmb IAmb 17 41 54.2
comp=Z,14nm,1.1s
PEXB Peixe 33.61 124 *eP* **P 17 41 52.8 -0.9**
CCM Cathedral Cave 33.85 338 P **P 17 41 56.1 +0.5**
CCM IAmb IAmb 17 42 06.9
comp=Z,9.9nm,0.8s
AQDB Aquidauana 33.90 144 *eP* **P 17 41 56.5 +0.3**
TXAR Lajitas Array 34.12 314 P **P 17 41 56.0 -2.2**
comp=Z,0.5nm,0.6s,baz=113,slow=9.6,SNR=4.1
TXAR Lajitas Array 34.12 314 P **P 17 41 58.5 +0.4**
AC02 Maricunga 34.26 169 P **P 17 42 00.6 +0.8**
BDFB Brasilia 35.84 129 P **P 17 42 11.9 -1.3**
comp=Z,5.6nm,0.8s,baz=311,slow=7.9,SNR=5.4
BDFB Brasilia 35.84 129 P **P 17 42 12.8 -0.4**
BDFB IAmb IAmb 17 42 14.0
comp=Z,5.8nm,0.8s
NBPS Pedro II - PI 36.52 107 *eP* **P 17 42 18.9 0.0**
SDBA SAO DESIDERIO 36.60 122 *eP* **P 17 42 18.9 -0.7**
MNTX Cornudas Mount 36.70 316 P **P 17 42 20.7 +0.5**
LPIG La Paz 36.84 301 LR LR 17 57 53.0
comp=Z,96nm,19.1s,baz=217,slow=37
NBMO Morrinhos-CE 37.55 105 *eP* **P 17 42 28.0 +0.3**
SADO Sadowa 37.79 357 LR LR 17 58 15.2
comp=Z,58nm,20.8s,baz=265,slow=36
CPUP Villa Florida 37.81 152 LR LR 17 59 39.1
comp=Z,172nm,19.1s,baz=4.0,slow=39
CO03 El Pedregal 37.92 172 P **P 17 42 31.8 +1.2**
CO03 IAmb IAmb 17 42 33.0
comp=Z,11nm,0.9s
JANB Januaria 38.46 125 *eP* **P 17 42 34.1 -1.3**
121A Cookes Peak, D 38.84 315 P **P 17 42 40.6 +2.1**
ZON Zonda 38.92 170 P **P 17 42 40.0 +1.0**
ZON IAmb IAmb 17 42 41.2
comp=Z,18nm,0.9s
ANMO Albuquerque 39.37 319 P **P 17 42 42.7 -0.2**
comp=Z,1.7nm,0.8s,baz=154,slow=16,SNR=3.7
ANMO Albuquerque 39.37 319 P **P 17 42 44.8 +1.9**
VA03 San Esteban 39.83 172 P **P 17 42 47.9 +1.2**
VA03 IAmb IAmb 17 42 49.3
comp=Z,17nm,0.8s
VA01 Torpederas 39.96 174 P **P 17 42 49.4 +1.8**
NBPN Ponto Novo - B 39.99 116 *eP* **P 17 42 47.5 -0.7**
SDCO Great Sand Dun 40.57 323 P **P 17 42 54.2 +1.2**
DIAM Diamantina, MG 40.76 128 *eP* **P 17 42 53.9 -0.7**
MT09 Talagante 40.78 173 P **P 17 42 55.2 +0.7**
MT01 Popeta 40.83 174 P **P 17 42 55.5 +0.7**
MT01 IAmb IAmb 17 43 03.4
comp=Z,17nm,1.2s
VAO Valinhos 41.29 137 *eP* **P 17 42 57.8 -1.0**
S22A 4UR Ranch, Cre 41.36 322 P **P 17 43 00.1 +0.5**
S22A IAmb IAmb 17 43 12.8
comp=Z,13nm,1.4s
BO01 Tunca 41.37 174 P **P 17 43 00.3 +1.1**
BO01 IAmb IAmb 17 43 02.1
comp=Z,20nm,1.1s
F36A Milaca 41.58 342 P **P 17 43 00.0 -0.8**
F36A IAmb IAmb 17 43 09.4
comp=Z,13nm,1.4s
BO02 Sierra Bellavi 41.80 173 P **P 17 43 02.2 -0.6**
X16A Lo Mia Camp, P 42.43 315 P **P 17 43 09.3 +1.1**
NBIT Itapeh - BA 42.47 121 *eP* **P 17 43 09.2 +0.7**
CMC01 Camacan, BA 42.60 122 *eP* **P 17 43 09.9 +0.4**
SJMB Sao Joao De Ma 42.94 127 *eP* **P 17 43 12.1 -0.2**
GUA01 Guaratinga, BA 42.96 123 *eP* **P 17 43 12.9 +0.5**
NBAN Anadia - AL 43.10 112 *eP* **P 17 43 13.1 -0.6**
VAS01 Vassouras-RJ 43.30 133 *eP* **P 17 43 14.7 -0.5**
RIB01 Linhares ES 43.90 127 *eP* **P 17 43 19.2 -0.8**
ALF01 Guarapari-ES 44.36 129 *eP* **P 17 43 22.8 -0.9**
LC01 Cunco 45.76 175 P **P 17 43 35.0 +0.5**
ULM Lac du Bonnet 46.20 343 P **P 17 43 36.5 -1.5**
comp=Z,2.9nm,0.8s,baz=141,slow=7.0,SNR=3.4
ULM LR LR 18 04 13.7
comp=Z,71nm,18.5s,baz=136,slow=38
ULM Lac du Bonnet 46.20 343 P **P 17 43 36.6 -1.3**
ULM IAmb IAmb 17 43 46.4
comp=Z,10nm,1.3s
PD31 Pinedale Array 46.21 326 P **P 17 43 37.6 -0.8**
PDAR Pinedale Array 46.21 326 P **P 17 43 38.0 -0.4**
comp=Z,0.6nm,0.8s,baz=116,slow=10,SNR=5.3
PDAR Pinedale Array 46.21 326 P **P 17 43 38.1 -0.3**
R11A Troy Canyon, C 47.33 317 P **P 17 43 47.9 +0.7**
PLCA Paso Flores 47.70 174 P **P 17 43 49.9 0.0**
comp=Z,5.2nm,0.9s,baz=343,slow=9.6,SNR=7.0
PLCA Paso Flores 47.70 174 *eP* **P 17 43 50.7 +0.9**
PLCA Paso Flores 47.70 174 P **P 17 43 50.0 +0.1**
SCHQ Scheffervill 48.38 7 P **P 17 43 55.9 +1.1**
comp=Z,6.5nm,1.1s,baz=202,slow=10,SNR=5.0
ELK Elko 48.38 320 P **P 17 43 55.6 +0.2**
comp=Z,1.0nm,0.9s,baz=129,slow=6.5,SNR=2.1
NV11 Mina Array Sit 49.12 316 P **P 17 44 02.3 +1.3**
NV11 IAmb IAmb 17 44 03.2
comp=Z,7.5nm,1.3s
BOZ Bozeman (W) 49.19 328 P **P 17 44 01.7 +0.3**
NVAR Mina Array Bea 49.23 316 P **P 17 44 02.9 +1.0**
comp=Z,1.6nm,0.9s,baz=138,slow=6.5,SNR=7.9
NVAR PcP **PcP 17 45 26.2 +1.2**
comp=Z,0.5nm,0.8s,baz=111,slow=4.9,SNR=2.4
NVAR Mina Array Bea 49.23 316 P **P 17 44 02.3 +0.4**
KVN Kaiserville 49.39 317 P **P 17 44 03.8 +0.7**
LL02 Futaleuf 50.03 176 P **P 17 44 07.9 +0.3**
LL02 IAmb IAmb 17 44 09.1
comp=Z,7.5nm,1.1s
WVOR Wild Horse Val 51.44 320 P **P 17 44 18.5 0.0**
WVOR IAmb IAmb 17 44 30.1
comp=Z,5.6nm,1.1s
YKA Yellowknife Ar 62.13 341 P **P 17 45 33.6 -0.2**
comp=Z,7.7nm,0.8s,baz=132,slow=7.0,SNR=105
RES Resolute Bay 68.57 355 P **P 17 46 15.2 -0.1**
comp=Z,2.2nm,0.8s,baz=181,slow=8.9,SNR=8.6
RES Resolute Bay 68.57 355 P **P 17 46 15.3 -0.1**
RES IAmb IAmb 17 46 16.1
comp=Z,2.8nm,0.9s
SUMG Summit 69.49 11 *i* P **P 17 46 22.0 +0.4**
SUMG Summit 69.49 11 P **P 17 46 21.9 +0.2**
TULEG Thule 69.70 2 P **P 17 46 22.7 +0.3**
M30M Minto, Yukon 70.60 335 P **P 17 46 29.0 +0.8**
M30M IAmb IAmb 17 46 30.3
comp=Z,3.8nm,0.8s
DBIC Dimbokro 70.83 85 P **P 17 46 31.0 +0.5**
comp=Z,6.2nm,1.1s,baz=248,slow=5.4,SNR=2.7
A36M Sachs Harbour 71.56 346 P **P 17 46 32.9 -0.9**
NEEM North Greenlan 71.74 6 *i* P **P 17 46 32.5 -2.7**
INK Inuvik 71.90 341 P **P 17 46 35.8 -0.1**
comp=Z,2.0nm,0.6s,baz=104,slow=7.9,SNR=9.9
INK LR LR 18 19 24.1
comp=Z,54nm,18.1s,baz=90,slow=37
INK Inuvik 71.90 341 P **P 17 46 36.5 +0.6**
ESDC Sonseca Array 71.99 51 P **P 17 46 37.8 +0.6**
comp=Z,3.6nm,0.9s,baz=268,slow=5.2,SNR=14
ESDC Sonseca Array 71.99 51 P **P 17 46 37.8 +0.6**
ESDC IAmb IAmb 17 46 39.1
comp=Z,4.4nm,1.1s
BCAR Beaver Creek A 72.92 334 P **P 17 46 42.8 +0.7**
EUNU Eureka 73.28 358 P **P 17 46 44.4 +0.4**
EUNU IAmb IAmb 17 46 46.4
comp=Z,5.5nm,1.2s
DOT Dot Lake 74.07 335 P **P 17 46 49.6 +0.7**
DOT IAmb IAmb 17 46 51.4
comp=Z,4.7nm,0.8s
RIDG Independent Ri 74.43 335 P **P 17 46 52.3 +1.2**
RIDG IAmb IAmb 17 46 53.0
comp=Z,8.2nm,1.1s
SMAI San Martin Ant 75.15 176 P **P 17 46 55.8 +1.0**
PRP Porcupine Dome 75.22 336 P **P 17 46 56.1 +0.4**
PRP IAmb IAmb 17 46 57.6
comp=Z,6.3nm,1.2s
BMAR Burnt Mountain 75.41 338 P **P 17 46 57.1 +0.5**
ILAR Eielson Array 75.57 335 P **P 17 46 57.6 +0.1**
comp=Z,1.4nm,0.8s,baz=113,slow=4.0,SNR=11
TORD Torodi Ar. Bea 76.76 78 P **P 17 47 05.2 -0.1**
comp=Z,0.8nm,0.6s,baz=291,slow=6.6,SNR=5.7
COLD Coldfoot 77.46 337 P **P 17 47 09.6 +1.3**
NB2 NORSAR Subarra 82.77 29 P **P 17 47 38.0 +1.0**
comp=Z,3.1nm,1.1s,baz=273,slow=5.3
NOA NORSAR Array B 82.77 29 P **P 17 47 37.2 +0.1**
comp=Z,2.2nm,0.9s,baz=274,slow=5.3,SNR=5.9
SPITS Spitsbergen Ar 83.82 12 LR LR 18 27 44.3
comp=Z,24nm,18.0s,baz=4.0,slow=38
KHC Kasperske Hory 84.72 41 *eP* **P 17 47 48.6 +1.3**
GERES GERESS Array B 84.82 42 P **P 17 47 48.0 +0.1**
comp=Z,2.4nm,0.8s,baz=264,slow=2.7,SNR=15
GERES GERESS Array B 84.82 42 P **P 17 47 48.4 +0.5**
PRU Pruhonice 85.27 40 *eP* **P 17 47 51.6 +1.6**
UPC Upice 86.16 40 *eP* **P 17 47 56.3 +1.9**
DPC Dobruska-Polom 86.37 40 *eP* **P 17 47 56.2 +0.7**
ARCES ARCESS Array B 87.66 20 P **P 17 48 01.6 +0.2**
comp=Z,3.2nm,0.7s,baz=307,slow=2.4,SNR=10
FINES FINESS Array B 89.83 28 P **P 17 48 12.1 +0.4**
comp=Z,4.7nm,0.9s,baz=287,slow=7.0,SNR=4.7
ZALV Zalesovo Beam 117.30 12 PKP **PKPdf 17 53 57.9 -0.7**
comp=Z,0.4nm,0.6s,baz=326,slow=4.2,SNR=3.7
MKAR Makanchi Array 123.23 17 PKP **PKPdf 17 54 09.2 -1.1**
comp=Z,0.5nm,0.7s,baz=358,slow=2.0,SNR=6.3
MKAR Makanchi Array 123.23 17 PKPdf 17 54 09.7 -0.5
SONM Songino Array 125.44 358 PKP **PKPdf 17 54 14.5 -0.1**
comp=Z,0.8nm,0.9s,baz=5.9,slow=1.2,SNR=5.3
STKA Stephens Creek 136.87 230 PKP **PKPdf 17 54 34.1 -2.4**
comp=Z,2.8nm,1.0s,baz=338,slow=5.4,SNR=2.1
HYBB Hyderabad (bro 145.29 46 *e*PKPdf **PKPbc 17 54 51.6 -0.1**
URV Uravakonda 145.92 50 *e*PKPab **PKPbc 17 54 53.9 +0.2**
NJS Nagarjunasagar 146.41 46 *e*PKPab **PKPbc 17 54 55.5 +0.4**
SRLM Srisailam 146.41 47 *e*PKPab **PKPbc 17 54 55.4 +0.2**
ASAR Alice Springs 146.60 237 PKPbc **PKPdf 17 54 54.4 +0.2**
comp=Z,6.6nm,1.0s,baz=119,slow=3.4,SNR=29
ASAR Alice Springs 146.60 237 PKPdf 17 54 53.5 -0.6
PZH PanZhiHua 146.72 3 PKPbc **PKPbc 17 54 55.4 -0.6**
RCLA Racherla 146.87 48 *e*PKPab **PKPbc 17 54 57.3 +0.8**
MYLAV Mylavaram 147.21 44 *e*PKPbc **PKPbc 17 54 57.1 -0.3**
WRA Warramunga Arr 147.62 243 PKPbc **PKPdf 17 54 56.0 +0.1**
comp=Z,7.8nm,0.9s,baz=107,slow=2.4,SNR=32
CMAR Chiang Mai Arr 154.34 11 PKPbc **PKiKP 17 55 14.8 +0.3**
comp=Z,2.1nm,0.9s,baz=315,slow=2.5,SNR=16
CMAR Chiang Mai Arr 154.34 11 PKPbc 17 55 14.3 -0.2

*ARE **14** 17:43:02.2±2.1, 16°.41S±0°.07×73°.59W±0°.08, h8km±4km, ML5.0, mb4.3/7(NEIC), Error ellipse: s-maj=12.8km s-min=8.6km az=51.0*
*NEIC **14** 17:43:05.8±1.2, 16°.41S±0°.07×73°.62W±0°.10, h35km±2km, Error ellipse: s-maj=16.9km s-min=10.8km az=244.0*
*IDC **14** 17:43:06.7±2.8, 16°.28S×73°.61W, h40km±24km, mb3.7/5, mb1 4.1/9, mb1mx3.8/30, mbtmp4.0/9, ML4.1/4, MS3.8/2, Ms1 3.8/2, ms1mx2.9/54, Error ellipse: s-maj=31.9km s-min=21.3km az=50.0*
ISC 14 17:43:06.1±0.6, 16°.44S±0°.07×73°.56W±0°.09, h39km, n59, σ1§42/52, mb4.0/8, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.62**	**122**	*eP*	**Pn**	**17 44 02.0**	**+2.4**
AP01				*eS*	**Sn**	**17 44 41.6**	**+0.5**
AP01	**Chacalluta**	**3.62**	**122**		**Pn**	**17 44 00.4**	**+0.7**
PB12	**IPOC Station P**	**3.76**	**126**	⇑*iP*	**Pn**	**17 44 01.6**	**-0.2**
PB12	**IPOC Station P**	**3.76**	**126**		**Pn**	**17 44 01.8**	**+0.1**
PB16	**IPOC Station P**	**4.30**	**117**		**Pn**	**17 44 09.8**	**+0.3**
PB11	**IPOC Station P**	**4.96**	**132**	*eP*	**Pn**	**17 44 18.4**	**+0.1**
PB11	**IPOC Station P**	**4.96**	**132**	Pn	**Pn**	**17 44 19.1**	**+0.8**
TA02	**Huaiquique**	**5.01**	**140**		**Pn**	**17 44 18.5**	**-0.2**
TA01	**Diego Aracena**	**5.20**	**143**	*eP*	**Pn**	**17 44 21.4**	**0.0**
TA01	**Diego Aracena**	**5.20**	**143**		**Pn**	**17 44 21.6**	**+0.2**
LPAZ	**La Paz**	**5.21**	**89**	Pn	**Pn**	**17 44 25.5**	**+3.4**
comp=Z,3nm,0.3s,baz=257,slow=7.7,SNR=37
LPAZ	**La Paz**	**5.21**	**89**	*eP*	**Pn**	**17 44 25.6**	**+3.6**
LPAZ	**La Paz**	**5.21**	**89**		**Pn**	**17 44 23.0**	**+0.9**
PATCX	**Punta Patache**	**5.42**	**144**		**Pn**	**17 44 24.2**	**-0.3**
NNA	**Nana**	**5.46**	**324**	Pn	**Pn**	**17 44 23.5**	**-1.5**
14nm,0.3s,baz=141,slow=12,SNR=13
NNA				Sn	**Sn**	**17 45 28.4**	**+1.9**
23nm,0.3s,baz=141,slow=18,SNR=3.7
NNA	**Nana**	**5.46**	**324**		**Pn**	**17 44 23.2**	**-1.8**
PB08	**IPOC Station P**	**5.57**	**132**	*eP*	**Pn**	**17 44 27.9**	**+1.1**
PB08	**IPOC Station P**	**5.57**	**132**		**Pn**	**17 44 27.2**	**+0.4**
PB01	**IPOC Station P**	**5.98**	**141**	Pn	**Pn**	**17 44 31.5**	**-0.7**
PB07	**IPOC Station P**	**6.30**	**147**	Pn	**Pn**	**17 44 36.8**	**+0.1**
PB04	**IPOC Station P**	**6.69**	**152**		**Pn**	**17 44 38.8**	**-3.2**
PB09	**IPOC Station P**	**6.71**	**143**		**Pn**	**17 44 42.8**	**+0.5**
PB06	**IPOC Station P**	**7.28**	**150**	Pn	**Pn**	**17 44 49.9**	**-0.2**
LVC	**Limon Verde**	**7.54**	**145**	Pn	**Pn**	**17 44 55.0**	**+1.2**
7.9nm,0.3s,baz=338,slow=8.1,SNR=8.1
LVC				Sn	**Sn**	**17 46 17.9**	**-0.4**
9.5nm,0.3s,baz=120,slow=20,SNR=9.9
LVC				Lg	Lg	17 47 02.0	
4.9nm,0.3s,baz=254,slow=19,SNR=3.2
LVC	**Limon Verde**	**7.54**	**145**		**Pn**	**17 44 54.2**	**+0.4**
PB10	**IPOC Station P**	**7.58**	**159**	Pn	**Pn**	**17 44 53.4**	**-0.7**
PB15	**IPOC Station P**	**7.75**	**151**	Pn	**Pn**	**17 44 57.0**	**+0.4**
CZSB	**Cruzeiro do Su**	**8.70**	**6**	Pn	**Pn**	**17 45 07.0**	**-2.5**
ETMB	**Extrema**	**9.72**	**48**		**Pn**	**17 45 21.9**	**-1.5**
ATAH	**Atahualpa**	**10.39**	**332**	Pn	**Pn**	**17 45 37.2**	**+4.2**
0.8nm,0.3s,baz=181,slow=5.5,SNR=4.9
ATAH				Sn	**Sn**	**17 47 28.4**	**0.0**
0.4nm,0.3s,baz=278,slow=23,SNR=1.2
AC02	**Maricunga**	**11.13**	**159**	Pn	**Pn**	**17 45 43.6**	**+0.4**
SIV	**San Ignacio**	**12.00**	**90**	Pn	**Pn**	**17 45 55.0**	**+0.3**
0.3nm,0.3s,baz=262,slow=14,SNR=2.5
H03N1	**Juan Fernandez**	**17.60**	**195**	T	T	18 05 26.5	
baz=17,slow=73
H03N2	**Juan Fernandez**	**17.61**	**195**	T	T	18 05 25.6	
baz=17,slow=73
H03N3	**Juan Fernandez**	**17.62**	**195**	T	T	18 05 24.9	
baz=17,slow=73
ZARC	**Zaragoza, Cauc**	**23.82**	**357**	P	**P**	**17 48 14.0**	**-1.6**
PLCA	**Paso Flores**	**24.34**	**174**	P	**P**	**17 48 22.7**	**+2.3**
1.5nm,0.8s,baz=351,slow=16,SNR=3.1
BAUV	**El Baul**	**25.80**	**13**	P	**P**	**17 48 33.4**	**-0.3**
SJCC	**San Jacinto, C**	**26.22**	**356**	P	**P**	**17 48 35.8**	**-1.8**
SJCC				IAmb	IAmb	17 48 48.4	
comp=Z,18nm,1.1s
MDP	**Montagnes des**	**29.77**	**46**	LR	LR	18 00 54.1	
comp=Z,142nm,19.2s,baz=272,slow=36
TXAR	**Lajitas Array**	**54.00**	**327**	P	**P**	**17 52 25.3**	**-1.3**
comp=Z,0.1nm,0.3s,baz=158,slow=9.2,SNR=3.9
SDCO	**Great Sand Dun**	**61.70**	**332**	P	**P**	**17 53 20.4**	**-0.4**
SDCO				IAmb	IAmb	17 53 21.0	
comp=Z,1.0nm,0.8s
F36A	**Milaca**	**64.59**	**345**	P	**P**	**17 53 38.4**	**-1.0**
F36A				IAmb	IAmb	17 53 38.7	
comp=Z,4.2nm,0.9s
TORD	**Torodi Ar. Bea**	**79.95**	**73**	P	**P**	**17 55 11.5**	**-0.3**
comp=Z,2.5nm,0.6s,baz=256,slow=5.5,SNR=15
TORD	**Torodi Ar. Bea**	**79.95**	**73**	P	**P**	**17 55 11.2**	**-0.6**
TORD				IAmb	IAmb	17 55 12.1	
comp=Z,2.1nm,0.8s
YKA	**Yellowknife Ar**	**85.02**	**342**	P	**P**	**17 55 36.1**	**-1.0**
comp=Z,0.8nm,0.7s,baz=136,slow=5.2,SNR=19
YKA	**Yellowknife Ar**	**85.02**	**342**	P	**P**	**17 55 37.1**	**0.0**
ESDC	**Sonseca Array**	**85.45**	**47**	P	**P**	**17 55 40.7**	**+0.8**
comp=Z,0.6nm,0.7s,baz=263,slow=3.9,SNR=4.7
ESDC	**Sonseca Array**	**85.45**	**47**	IAmb	IAmb	17 55 49.4	
comp=Z,2.3nm,1.2s
EKA	**Eskdalemuir Ar**	**92.69**	**33**	LR	LR	18 35 21.7	
comp=Z,57nm,19.7s,baz=180,slow=34
H11N3	**WAKE ISLAND Hyl**	**22.68**	**283**	T	T	20 16 09.8	
baz=99,slow=74,SNR=6.8
H11N2	**WAKE ISLAND Hyl**	**22.70**	**283**	T	T	20 16 10.9	
baz=99,slow=74,SNR=6.2
H11N1	**WAKE ISLAND Hyl**	**22.70**	**283**	T	T	20 16 11.1	
baz=99,slow=74,SNR=6.2
ASAR	**Alice Springs**	**131.95**	**215**	PKP	**PKPdf**	**18 02 16.3**	**+0.1**
comp=Z,0.4nm,0.6s,baz=142,slow=2.0,SNR=6.8
WRA	**Warramunga Arr**	**134.63**	**218**	PKP	**PKiKP**	**18 02 22.0**	**-0.8**
comp=Z,0.3nm,0.6s,baz=135,slow=2.1,SNR=6.9
MKAR	**Makanchi Array**	**143.71**	**28**	PKhKP	PKPpre	18 02 33.7	
comp=Z,0.2nm,0.7s,baz=289,slow=0.9,SNR=2.1
MKAR	**Makanchi Array**	**143.71**	**28**		PKPpre	18 02 33.3	
SONM	**Songino Array**	**148.69**	**0**	PKPbc	**PKPbc**	**18 02 49.5**	**+0.1**
comp=Z,1.1nm,0.6s,baz=337,slow=1.4,SNR=12
KSRS	**Korea Array**	**151.76**	**322**	PKPbc	**PKiKP**	**18 02 57.8**	**+0.5**
comp=Z,1.6nm,0.7s,baz=5.2,slow=4.0,SNR=4.7

*UPP **14** 18:00:48.4±0.1, 67°.04N×20°.93E, h0km, ML2.1, Explosion*
*IDC **14** 18:00:49.0±0.8, 67°.03N×21°.10E, h0km, mb1 3.2/5, mb1mx2.9/46, mbtmp3.2/5, ML1.9/4, Error ellipse: s-maj=16.2km s-min=7.6km az=110.0*
*NAO **14** 18:00:49.3±0.8, 67°.00N×21°.20E, ML2.6*
*HEL **14** 18:00:49.2±0.1, 67°.05N×20°.98E, h0km, ML2.2, ML2.1(UPP), Explosion*
*BER **14** 18:00:51.6±3.2, 67°.00N×21°.01E, h0km, ML2.6(NAO), Suspected explosion*
ISC 14 18:00:47.6±0.7, 67°.02N±0°.02×20°.90E±0°.03, h0km, n59, σ1§23/95, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.61**	**44**	P	**Pg**	**18 00 59.8**	**+0.4**
MASU	**Masugnsbyn**	**0.61**	**44**	*i* P	**Pg**	**18 00 59.8**	**+0.4**
ERTU	**Ertsjaerv**	**0.70**	**132**	P	**Pg**	**18 01 01.5**	**+0.6**
ERTU				S	**Sg**	**18 01 11.0**	**+1.1**
ERTU	**Ertsjaerv**	**0.70**	**132**	*eP*	**Pg**	**18 01 01.3**	**+0.3**
ERTU				*eS*	**Sg**	**18 01 11.0**	**+1.1**
PAJU	**Pajala**	**0.87**	**89**	P	**Pg**	**18 01 04.3**	**0.0**
PAJU				S	**Sg**	**18 01 15.4**	**-0.2**
PAJU	**Pajala**	**0.87**	**89**	*eP*	**Pg**	**18 01 04.0**	**-0.3**
baz=277
PAJU				*eS*	**Sg**	**18 01 14.6**	**-0.9**
KUA	**Kurravaara**	**0.96**	**347**	P	**Pg**	**18 01 05.9**	**-0.1**
KUA	**Kurravaara**	**0.96**	**347**	*eP*	**Pg**	**18 01 05.9**	**-0.1**
SALU	**Saltoluokta**	**1.00**	**292**	P	**Pb**	**18 01 07.5**	**-0.3**
SALU	**Saltoluokta**	**1.00**	**292**	*eP*	**Pb**	**18 01 07.5**	**-0.3**
NIKU	**Nikkaluokta**	**1.11**	**321**	P	**Pg**	**18 01 09.1**	**+0.2**
NIKU	**Nikkaluokta**	**1.11**	**321**	*eP*	**Pg**	**18 01 09.1**	**+0.2**
LANU	**Lannavaara**	**1.11**	**22**	P	**Pg**	**18 01 08.3**	**-0.7**
LANU	**Lannavaara**	**1.11**	**22**	*eP*	**Pg**	**18 01 08.2**	**-0.7**
LANU				*eSB*	**Sb**	**18 01 24.0**	**-0.8**
KOVU	**Salmi**	**1.24**	**347**	P	**Pg**	**18 01 11.1**	**-0.3**
KOVU	**Salmi**	**1.24**	**347**	*eP*	**Pg**	**18 01 11.1**	**-0.3**
KALU	**Kalix**	**1.53**	**139**	P	**Pn**	**18 01 15.9**	**-0.3**
KALU	**Kalix**	**1.53**	**139**	*eP*	**Pn**	**18 01 16.4**	**+0.2**
KALU				*eSB*	**Sn**	**18 01 37.1**	**+0.3**
TOF	**Tornio**	**1.67**	**123**	*eP*	**Pn**	**18 01 18.6**	**+0.5**
TOF				MSG		18 01 38.2	
comp=Z,21nm,0.2s
TOF				*eSN*	**Sn**	**18

baz=216,slow=22
ARA0 ARCESS Array S 3.05 32 Pn **Pn 18 01 38.0 +0.9**
baz=205,slow=16
ARA0 Sn **Sn 18 02 15.6 +1.3**
baz=216,slow=22
ARA0 ARCESS Array S 3.05 32 *e*P **Pn 18 01 38.0 +0.9**
baz=211
ARA0 *e*S **Sn 18 02 16.4 +2.2**
ARCES ARCESS Array B 3.05 32 Pn **Pn 18 01 38.0 +0.9**
baz=211,slow=13,SNR=80
ARCES Sn **Sn 18 02 15.2 +0.9**
baz=218,slow=23,SNR=11
OUF Merijarvi 3.10 147 *e*P **Pn 18 01 39.6 +1.9**
OUF MSG 18 02 20.4
comp=Z,2.6nm,0.2s
VRF Varrio 3.44 74 *e*P **Pn 18 01 43.3 +0.9**
VRF *e*SB **Sb 18 02 31.9 +0.1**
MSF Maaselka 3.45 105 *e*P **Pn 18 01 43.8 +1.2**
KEV Kevo 3.56 37 *e*P **Pn 18 01 45.3 +1.3**
KEV *e*S **Sn 18 02 27.7 +1.1**
KU6 Riekki 3.74 101 *e*P **Pn 18 01 47.5 +1.0**
baz=294
HUSU Husum 3.76 192 *e*S **Sn 18 02 33.0 +1.3**
VAF Ylistaro 4.07 169 *e*P **Pn 18 01 53.2 +2.2**
baz=356
VAF *e*S **Sn 18 02 41.1 +1.9**
APA0 Apatity Array 4.72 77 Pn **Pn 18 01 60.0 0.0**
baz=266,slow=14
APA0 Sn **Sn 18 02 54.5 -0.9**
baz=279,slow=28
APA0 Apatity Array 4.72 77 Pn **Pn 18 01 60.0 0.0**
baz=266,slow=14
APA0 Sn **Sn 18 02 54.5 -0.9**
baz=279,slow=28
FIA0 FINESS Array S 6.04 156 Pn **Pn 18 02 19.8 +1.7**
baz=346,slow=14
FIA0 Sn **Sn 18 03 27.2 -0.6**
baz=342,slow=28
FIA0 FINESS Array S 6.04 156 Pn **Pn 18 02 19.8 +1.7**
baz=346,slow=14
FIA0 Sn **Sn 18 03 27.2 -0.6**
baz=342,slow=28
FINES FINESS Array B 6.04 156 Pn **Pn 18 02 19.8 +1.7**
comp=Z,0.1nm,0.3s,baz=347,slow=14,SNR=10.0
FINES Sn **Sn 18 03 27.1 -0.6**
comp=Z,0.2nm,0.3s,baz=347,slow=22,SNR=9.0
NB2 NORSAR Subarra 7.35 220 Pn **Pn 18 02 36.8 +0.7**
baz=29,slow=14
NB2 Sn **Sn 18 04 01.1 +1.0**
NB2 NORSAR Subarra 7.35 220 Pn **Pn 18 02 36.8 +0.7**
baz=29,slow=14
NB2 Sn **Sn 18 04 01.1 +1.0**
NOA NORSAR Array B 7.35 220 Pn **Pn 18 02 38.2 +2.1**
comp=Z,0.0nm,0.3s,baz=31,slow=14,SNR=1.5
NOA Sn **Sn 18 03 57.5 -2.6**
comp=Z,0.0nm,0.3s,baz=41,slow=24,SNR=1.5
NRA0 NORESS Array S 7.53 218 Pn **Pn 18 02 40.0 +1.5**
baz=31,slow=14
NRA0 Sn **Sn 18 04 01.9 -2.7**
baz=30,slow=28
NRA0 NORESS Array S 7.53 218 Pn **Pn 18 02 40.0 +1.5**
baz=31,slow=14
NRA0 Sn **Sn 18 04 01.9 -2.7**
baz=30,slow=28
HFS Hagfors 7.62 208 Pn **Pn 18 02 40.3 +0.5**
comp=Z,0.2nm,0.3s,baz=35,slow=13,SNR=1.0
HFS Sn **Sn 18 04 03.1 -3.5**
comp=Z,0.1nm,0.3s,baz=25,slow=22,SNR=2.0
HFS Hagfors 7.62 208 Pn **Pn 18 02 40.5 +0.7**
baz=28,slow=11
HFS Sn **Sn 18 04 03.5 -3.2**
baz=25,slow=28
HFS Hagfors 7.62 208 Pn **Pn 18 02 40.5 +0.7**
baz=28,slow=11
HFS Sn **Sn 18 04 03.5 -3.2**
baz=25,slow=28
SPA0 Spitsbergen Ar 11.29 355 Pn **Pn 18 03 30.0 0.0**
baz=159,slow=14
SPA0 Spitsbergen Ar 11.29 355 Pn **Pn 18 03 30.0 0.0**
baz=159,slow=14
SPITS Spitsbergen Ar 11.29 355 Pn **Pn 18 03 28.0 -1.9**
baz=165,slow=13,SNR=1.5

*DJA **14** 18:25:47.5±0.5,5°S±5°×12°6E±°, h309km±6km, M3.7/11, mb3.8/5, mB4.4/1, MLv3.7/11, Mw(mB)3.6/1*
*IDC **14** 18:25:49.5±2.3,4°30S×126°67E, h322km±24km, mb2.9/3, mb1 3.2/6, mb1mx2.6/42, mbtmp3.8/6, Error ellipse: s-maj=35.8km s-min=13.5km az=81.0*
ISC 14 18:25:48.2±0.7,**4°40S**±0°07×**126°58E**±0°08,**h300**km,**n19,** σ1**99/25,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.76**	**67**	P	**Pn**	**18 26 35.5**	**+2.3**
AAI				S	**S**	**18 27 11.9**	**+2.9**
SANI	**Sanana**	**2.40**	**346**	P	**Pn**	**18 26 40.6**	**+2.2**
SANI				S	**S**	**18 27 21.3**	**+2.9**
MSAI	**Masohi**	**2.57**	**66**	P	**Pn**	**18 26 42.1**	**+2.2**
MSAI				S	**S**	**18 27 20.5**	**-0.6**
LBMI	**Labuha**	**3.84**	**14**	P	**Pn**	**18 26 55.2**	**+2.4**
KDI	**Kendari**	**3.97**	**276**	P	**Pn**	**18 26 52.6**	**-1.5**
FAKI	**Fak Fak**	**5.85**	**76**	P	**Pn**	**18 27 16.9**	**+1.1**
0.1nm14nm,1.0s							
SWI	**Sorong**	**5.85**	**53**	P	**Pn**	**18 27 16.4**	**+0.6**
0.1nm28nm,0.9s							
SIJI	**Sorong**	**5.85**	**53**	P	**Pn**	**18 27 16.6**	**+0.8**
2.8nm,0.3s,baz=52,slow=16,SNR=31							
SIJI				S	**S**	**18 28 25.6**	**-0.8**
0.8nm,0.3s,baz=211,slow=23,SNR=1.8							
APSI	**Ampana**	**6.01**	**305**	P	**Pn**	**18 27 16.0**	**-1.8**
0.2nm38nm,0.8s							
MTN	**Manton Dam**	**9.53**	**152**	P	**P**	**18 28 03.0**	**-1.7**
baz=9.6,SNR=7.3							
KDU	**Kakadu**	**10.09**	**145**	P	**P**	**18 28 09.7**	**-1.3**
baz=10,SNR=4.4							
KNRA	**Kununurra**	**11.42**	**169**	P	**P**	**18 28 26.9**	**+1.2**
baz=12,SNR=18							
FITZ	**Fitzroy Crossi**	**13.65**	**184**	P	**Pn**	**18 28 51.5**	**+0.8**
0.2nm,0.3s,baz=5.1,slow=8.7,SNR=10							
WRA	**Warramunga Arr**	**17.21**	**155**	P	**Pn**	**18 29 29.9**	**-2.7**
0.6nm,0.3s,baz=330,slow=11,SNR=44							
WRA				S	**S**	**18 32 34.5**	**+1.4**
0.1nm,0.3s,baz=339,slow=22,SNR=6.3							
ASAR	**Alice Springs**	**20.42**	**160**	P	**P**	**18 30 03.8**	**+0.2**
1.4nm,0.6s,baz=340,slow=8.3,SNR=26							
ASAR				ScP	**ScP**	**18 37 05.5**	**-4.6**
0.2nm,0.9s,baz=337,slow=1.7,SNR=1.8							
QIS	**Mount Isa**	**20.46**	**143**	P	**P**	**18 30 05.1**	**+1.1**
baz=20,SNR=4.4							
WRKA	**Warakurna**	**20.59**	**176**	P	**P**	**18 30 06.0**	**+0.8**
baz=21,SNR=6.5							
KSRS	**Korea Array**	**41.65**	**2**	P	**P**	**18 33 07.3**	**-0.6**
0.4nm,0.4s,baz=182,slow=9.4,SNR=1.9							
MKAR	**Makanchi Array**	**64.21**	**328**	P	**P**	**18 35 50.1**	**-1.4**
0.2nm,0.4s,baz=112,slow=8.4,SNR=6.3							

*IDC **14** 18:29:28.7±1.9,28°28N×142°54E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.4/41, mbtmp3.7/9, MS3.1/4, Ms1 3.1/4, ms1mx2.5/87, Error ellipse: s-maj=65.8km s-min=21.3km az=78.0*
ISC 14 18:29:32.4±1.7,**28°3N**±0°2×**142°6E**±0°3,**h25**km,**n12,** σ1**9°08/10,mb3.7/9,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**12.78**	**267**	LR	LR	18 36 19.4	
comp=Z,31nm,21.8s,baz=132,slow=32							
KSRS	**Korea Array**	**15.33**	**310**	Pn	**P**	**18 33 12.1**	**+0.5**
0.1nm,0.3s,baz=122,slow=11,SNR=4.8							
KSRS				LR	LR	18 39 22.4	
comp=Z,40nm,18.0s,baz=150,slow=39							
KLR	**Kul'dur**	**22.52**	**341**	P	**P**	**18 34 29.3**	**-0.8**
1.6nm,1.0s,baz=161,slow=13,SNR=3.9							
SONM	**Songino Array**	**34.12**	**315**	P	**P**	**18 36 14.4**	**-0.9**
0.2nm,0.4s,baz=106,slow=9.3,SNR=2.4							
SONM				LR	LR	18 50 31.7	
comp=Z,26nm,19.2s,baz=32,slow=37							
CMAR	**Chiang Mai Arr**	**41.05**	**266**	P	**P**	**18 37 14.7**	**+0.7**
0.3nm,0.6s,baz=82,slow=6.6,SNR=2.3							
WRA	**Warramunga Arr**	**48.60**	**190**	P	**P**	**18 38 14.3**	**+0.3**
2.3nm,0.7s,baz=13,slow=8.4,SNR=10							
ZALV	**Zalesovo Beam**	**48.84**	**318**	P	**P**	**18 38 14.8**	**-0.8**
0.3nm,0.4s,baz=95,slow=8.8,SNR=2.5							
MKAR	**Makanchi Array**	**50.00**	**309**	P	**P**	**18 38 23.9**	**-0.7**
0.7nm,0.8s,baz=93,slow=9.4,SNR=6.3							
ASAR	**Alice Springs**	**52.32**	**190**	P	**P**	**18 38 40.9**	**-1.2**
0.2nm,0.4s,baz=12,slow=7.7,SNR=1.6							
FINES	**FINESS Array B**	**77.05**	**334**	P	**P**	**18 41 24.9**	**+1.9**
2.9nm,1.1s,baz=53,slow=9.4,SNR=4.3							
BRTR	**Keskin Array B**	**85.46**	**313**	P	**P**	**18 42 08.5**	**+0.2**
0.7nm,0.8s,baz=66,slow=4.9,SNR=4.1							
EKA	**Eskdalemuir Ar**	**91.70**	**341**	LR	LR	19 28 09.0	
comp=Z,37nm,19.1s,baz=176,slow=38							

IDC 14 18:30:01.7±7.2,**18°08S×177°00W,h0**km,**mb3.9**/3, **mb1 4.2**/3,**mb1mx3.6**/29,**mbtmp3.9**/3,**MS3.2**/2,**Ms1 3.2**/2, **ms1mx2.6**/60,**Error ellipse: s-maj=317.6km s-min=39.4km az=142.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.51**	**51**	LR	LR	18 32 54.7	
comp=Z,184nm,21.6s,baz=182,slow=27							
HNR	**Honiara**	**23.96**	**288**	LR	LR	18 43 11.6	
comp=Z,52nm,18.3s,baz=170,slow=33							
WRA	**Warramunga Arr**	**45.92**	**260**	P	P	18 38 26.4	-0.2
0.6nm,0.7s,baz=94,slow=8.3,SNR=2.6							
ASAR	**Alice Springs**	**46.04**	**254**	P	P	18 38 27.4	-0.1
4.0nm,0.6s,baz=88,slow=8.1,SNR=66							
ILAR	**Eielson Array**	**85.76**	**12**	P	P	18 42 42.4	0.0
0.4nm,0.9s,baz=221,slow=5.4,SNR=4.5							

*ARE **14** 18:30:54±5.0, 15°7S±0°1×72°1W±0°2, h12km±7km, Error ellipse: s-maj=0.0km s-min=0.0km az=167.0*
NEIC 14 18:30:59.6±1.1,**15°9S**±0°1×**72°6W**±0°1,**h79**km±19km, **mb4.6**/1,**ML4.2**(ARE),**Error ellipse: s-maj=19.1km s-min=17.2km az=77.0,Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**3.47**	**142**	Pn	Pn	18 31 51.1	-0.3
PB12				Sn	Sn	18 32 32.1	+0.7
PB16	**IPOC Station P**	**3.82**	**130**	Pn	Pn	18 31 57.2	+0.6
LPAZ	**La Paz**	**4.31**	**96**	Pn	Pn	18 32 02.7	-0.6
PB11	**IPOC Station P**	**4.76**	**144**	Pn	Pn	18 32 08.8	-0.2
PB11				Sn	Sn	18 33 03.9	+0.8
TA01	**Diego Aracena**	**5.19**	**154**	Pn	Pn	18 32 14.0	-0.7
TA01				Sn	Sn	18 33 12.7	-0.5
PB08	**IPOC Station P**	**5.35**	**143**	Pn	Pn	18 32 16.2	-1.1
PB01	**IPOC Station P**	**5.92**	**151**	Pn	Pn	18 32 24.1	-0.6
PB07	**IPOC Station P**	**6.35**	**157**	Pn	Pn	18 32 30.7	0.0
PB07				Sn	Sn	18 33 41.6	-0.3
PB09	**IPOC Station P**	**6.68**	**152**	Pn	Pn	18 32 34.2	-1.0
PB04	**IPOC Station P**	**6.82**	**161**	Pn	Pn	18 32 36.9	-0.2
TKL	**Tuckaleechee C**	**52.34**	**348**	P	P	18 40 03.0	-0.4
TKL				IAmb	IAmb	18 40 04.3	
comp=Z,5.4nm,0.8s							

*KRNET **14** 18:31:14.3±0.1, 39°59N×73°93E, h13km, mb3.5*
*SOME **14** 18:31:14.6, 39°70N×73°92E, h0km*
*NNC **14** 18:31:16.8±1.6, 39°76N×73°83E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=11.7km s-min=8.4km az=168.0*
ISC 14 18:31:16.5±1.0,**39°70N**±0°04×**73°88E**±0°02,**h10**km,**n70,** σ2**°64/111,30C-25D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.42**	**317**	⇓*e*P	**Pg**	**18 31 24.7**	**-0.2**
baz=22							
SFK				⇓*e*S	**Sg**	**18 31 32.6**	**+2.0**
baz=22							
OHH	**Osh**	**1.18**	**315**	⇓*i*P	**Pn**	**18 31 38.4**	**-0.7**
baz=17							
OHH				⇓*i*S	**Sn**	**18 31 56.2**	**+1.0**
baz=17							
SALK	**Salom-Alik**	**1.18**	**358**	⇑*e*P	**Pb**	**18 31 38.9**	**-0.1**
baz=56							
SALK				⇑*e*S	**Sn**	**18 31 56.9**	**+1.5**
baz=56							
DRK	**Karamyk**	**1.62**	**263**	⇑*i*P	**Pb**	**18 31 45.2**	**-1.6**
baz=67							
DRK				⇑*i*S	**Sg**	**18 32 07.6**	**-1.2**
baz=67							
ARLS	**Aral**	**2.18**	**9**	⇓*e*P	**Pb**	**18 31 55.2**	**-1.0**
baz=8.0							
ARLS				⇓*i*S	**Sb**	**18 32 25.1**	**+1.8**
baz=8.0							
BTK	**Batken**	**2.38**	**280**	⇑*i*P	**Pb**	**18 31 57.6**	**-2.0**
baz=82							
BTK				⇑*i*S	**Sb**	**18 32 28.8**	**-0.3**
baz=82							
AML	**Almayashu**	**2.43**	**357**	P	**Pb**	**18 32 00.2**	**-0.3**
SNR=13							
ARK	**Arkit**	**2.55**	**326**	⇓*i*P	**Pb**	**18 32 00.6**	**-1.8**
baz=27							
ARK				⇓*i*S	**Sb**	**18 32 34.2**	**+0.3**
baz=27							
UCH	**Uchtor**	**2.57**	**11**	P	**Pb**	**18 32 02.3**	**-0.6**
SNR=16							
UCH	**Uchtor**	**2.57**	**11**	⇑*i*P	**Pb**	**18 32 00.6**	**-2.3**
baz=9.0							
UCH				⇑*i*S	**Sb**	**18 32 34.4**	**-0.3**
baz=9.0							
TRKS	**Terek-Say**	**2.77**	**312**	⇓*i*P	**Pn**	**18 32 02.6**	**+1.5**
baz=13							
TRKS				⇓*i*S	**Sn**	**18 32 37.9**	**+3.2**
baz=13							
EKS2	**Erkin-Say**	**2.96**	**358**	P	**Pb**	**18 32 07.5**	**-1.8**
SNR=11							
EKS2	**Erkin-Say**	**2.96**	**358**	⇑*i*P	**Pb**	**18 32 06.3**	**-3.0**
baz=58							
EKS2				⇑*i*S	**Sb**	**18 32 44.1**	**-1.5**
baz=58							
AAK	**Ala-Archa**	**2.97**	**9**	P	**Pb**	**18 32 07.4**	**-2.1**
SNR=16							
AAK	**Ala-Archa**	**2.97**	**9**	⇑Pg	**Pb**	**18 32 08.6**	**-0.9**
16nm,0.7s							
AAK				⇑Lg	Lg	18 32 49.2	
49nm,0.9s							
AAK	**Ala-Archa**	**2.97**	**9**	⇑*i*P	**Pb**	**18 32 06.3**	**-3.3**
baz=8.0							
AAK				⇑*i*S	**Sb**	**18 32 44.2**	**-1.7**
baz=8.0							
MNAS	**Manas**	**2.97**	**340**	⇓*i*P	**Pb**	**18 32 06.6**	**-3.0**
baz=40							
MNAS				⇓*i*S	**Sb**	**18 32 44.9**	**-1.1**
baz=40							
KBK	**Karagaybulak**	**3.06**	**15**	P	**Pb**	**18 32 09.9**	**-1.2**
SNR=11							
KBK	**Karagaybulak**	**3.06**	**15**	⇓*i*P	**Pn**	**18 32 07.4**	**+2.3**
baz=14							
KBK				⇓*i*S	**Sb**	**18 32 46.2**	**-2.3**
baz=14							
MRKS	**Merke**	**3.08**	**351**	*e*P	**Pb**	**18 32 11.8**	**+0.3**
16nm,0.3s							
MRKS				*e*S	**Sb**	**18 32 52.7**	**+3.6**
49nm,0.5s							
MRKS	**Merke**	**3.08**	**351**	Pg	**Pb**	**18 32 11.8**	**+0.3**
16nm,0.3s							
MRKS				Lg	Lg	18 32 50.4	
49nm,0.5s							
ULHL	**Ulahol**	**3.10**	**34**	⇓*i*P	**Pn**	**18 32 07.7**	**+2.0**
baz=33							
ULHL				⇓*i*S	**Sb**	**18 32 46.8**	**-3.1**
baz=33							
FRU1	**Bishkek**	**3.15**	**10**	⇓*i*P	**Pb**	**18 32 09.1**	**-3.6**
baz=9.0							
FRU1				⇓*i*S	**Sb**	**18 32 49.0**	**-2.2**
baz=9.0							
BOOM	**Boomskoye usch**	**3.19**	**29**	⇑*i*P	**Pn**	**18 32 09.1**	**+2.2**
baz=27							
BOOM				⇑*i*S	**Sb**	**18 32 48.8**	**-3.5**
baz=27							
CHMS	**Chumysh**	**3.36**	**11**	⇓*e*P	**Pn**	**18 32 11.6**	**+2.6**
baz=10.0							
CHMS				⇓*i*S	**Sn**	**18 32 53.1**	**+4.1**
baz=10.0							
TKM2	**Tokmak 2**	**3.46**	**21**	P	**Pb**	**18 32 14.4**	**-3.6**
SNR=6.2							
TKM2	**Tokmak 2**	**3.46**	**21**	⇓Pg	**Pb**	**18 32 14.4**	**-3.6**
6.2nm,0.8s							
TKM2				⇑Lg	Lg	18 33 06.0	
18nm,0.6s							
TKM2	**Tokmak 2**	**3.46**	**21**	⇑*i*P	**Pn**	**18 32 12.9**	**+2.2**
baz=20							
TKM2				⇑*i*S	**Sn**	**18 32 55.8**	**+3.9**
baz=20							
KDJ	**Kajisay**	**3.48**	**45**	⇑*e*P	**Pn**	**18 32 12.8**	**+1.9**
baz=43							
KDJ				⇑*i*S	**Sn**	**18 32 55.7**	**+3.5**
baz=43							
USP	**Ospenovka**	**3.59**	**7**	P	**Pb**	**18 32 22.1**	**+2.0**
SNR=13							
USP	**Ospenovka**	**3.59**	**7**	⇑*i*P	**Pn**	**18 32 14.8**	**+2.5**
baz=7.0							
USP				⇑*i*S	**Sn**	**18 32 59.1**	**+4.4**
baz=7.0							
KST	**Kastek**	**3.69**	**24**	*e*P	**Pg**	**18 32 24.1**	**-3.0**
11nm,0.4s							
KST				*e*S	**Sg**	**18 33 13.9**	**-0.9**
40nm,0.5s							
KST	**Kastek**	**3.69**	**24**	Pg	**Pg**	**18 32 24.6**	**-2.5**
11nm,0.4s							
KST				Lg	Lg	18 33 13.9	
40nm,0.5s							
SGDS	**Sogindy**	**3.79**	**8**	*e*P	**Pb**	**18 32 25.1**	**+1.7**
9.7nm,0.4s							
SGDS				*e*S	**Sg**	**18 33 16.2**	**-1.9**
22nm,0.6s							
SGDS	**Sogindy**	**3.79**	**8**	Pg	**Pb**	**18 32 25.1**	**+1.7**
9.7nm,0.4s							
SGDS				Lg	Lg	18 33 16.2	
22nm,0.6s							
DGS	**Degeres**	**3.81**	**21**	*e*P	**Pg**	**18 32 26.7**	**-2.8**
14nm,0.6s							
DGS				*e*S	**Sg**	**18 33 18.6**	**-0.2**
27nm,0.8s							
DGS	**Degeres**	**3.81**	**21**	Pg	**Pg**	**18 32 26.7**	**-2.8**
14nm,0.6s							
DGS				Lg	Lg	18 33 18.7	
27nm,0.8s							
CHGR	**Chuyangaron**	**3.82**	**256**	⇓*i*P	**Pn**	**18 32 16.9**	**+1.5**
baz=57							
CHGR				⇓*i*S	**Sn**	**18 33 02.1**	**+1.7**
baz=57							
MTBS	**Maitube**	**3.92**	**28**	*e*P	**Pg**	**18 32 28.2**	**-3.4**
6.6nm,0.5s							
MTBS				*e*S	**Sg**	**18 33 21.2**	**-1.2**
22nm,0.6s							
MTBS	**Maitube**	**3.92**	**28**	Pg	**Pg**	**18 32 28.2**	**-3.4**
6.6nm,0.5s							
MTBS				Lg	Lg	18 33 21.2	
22nm,0.6s							
TNSS	**Tian-Shan**	**4.05**	**34**	*e*P	**Pg**	**18 32 31.2**	**-2.9**
4.5nm,0.4s							
TNSS				*e*S	**Sg**	**18 33 26.1**	**-0.5**
10nm,0.6s							
TNSS	**Tian-Shan**	**4.05**	**34**	Pg	**Pg**	**18 32 31.2**	**-2.9**
4.5nm,0.4s							
TNSS				Lg	Lg	18 33 26.1	
10nm,0.6s							
CHM	**Chimkent**	**4.16**	**310**	*e*P	**Pg**	**18 32 33.7**	**-2.5**
4.4nm,0.3s							
CHM				*e*S	**Sg**	**18 33 30.3**	**+0.2**
89nm,0.5s							
ANVS	**Anan'yevo**	**4.20**	**42**	⇑*e*P	**Pn**	**18 32 22.7**	**+2.0**
baz=40							
ANVS				⇑*i*S	**Sn**	**18 33 12.6**	**+2.7**
baz=40							
MDOK	**Medeo**	**4.20**	**34**	*e*P	**Pb**	**18 32 31.8**	**+1.3**
6.4nm,0.6s							
MDOK				*e*S	**Sg**	**18 33 27.8**	**-3.4**
37nm,0.6s							
MDOK	**Medeo**	**4.20**	**34**	Pg	**Pg**	**18 32 34.3**	**-2.5**
12nm,0.7s							
MDOK				Lg	Lg	18 33 29.1	
26nm,1.0s							
MDOK	**Medeo**	**4.20**	**34**	Pg	**Pb**	**18 32 31.8**	**+1.3**
6.4nm,0.6s							
MDOK				Lg	Lg	18 33 27.8	
37nm,0.6s							
KK08	**Karatay Array**	**4.25**	**324**	⇑Pg	**Pb**	**18 32 33.9**	**+2.6**
5.2nm,0.6s,baz=141,slow=13							
KK08				⇓Lg	Lg	18 33 31.1	
9.4nm,0.6s,baz=143,slow=28							
KOTS	**Kotyrbulak**	**4.28**	**33**	*e*P	**Pg**	**18 32 34.5**	**-4.0**
7.1nm,0.9s							
KOTS				*e*S	**Sg**	**18 33 32.1**	**-1.8**
80nm,0.7s							
KOTS	**Kotyrbulak**	**4.28**	**33**	Pg	**Pg**	**18 32 34.5**	**-4.0**
7.1nm,0.9s							
KOTS				Lg	Lg	18 33 32.1	
80nm,0.7s							
PRZ	**Przheval'sk**	**4.40**	**49**	⇑*i*P	**Pn**	**18 32 25.5**	**+2.0**
baz=48							
PRZ				⇑*i*S	**Sn**	**18 33 17.7**	**+2.8**
baz=48							
BRLS	**Borolday**	**4.51**	**319**	*e*P	**Pb**	**18 32 38.3**	**+2.6**
7.6nm,0.6s							
BRLS				*e*S	**Sg**	**18 33 38.7**	**-2.5**
13nm,0.6s							
KTBS	**Karatobe**	**4.52**	**27**	*e*P	**Pb**	**18 32 38.4**	**+2.4**
3.8nm,0.7s							
KTBS				*e*S	**Sg**	**18 33 39.1**	**-2.5**
14nm,0.6s							
KTBS	**Karatobe**	**4.52**	**27**	Pg	**Pb**	**18 32 38.4**	**+2.4**
3.8nm,0.7s							
KTBS				Lg	Lg	18 33 39.1	
14nm,0.6s							
KUU	**Kurty**	**4.57**	**23**	*e*P	**Pb**	**18 32 39.7**	**+3.0**
4.4nm,0.5s							
KUU				*e*S	**Sg**	**18 33 41.1**	**-2.1**
17nm,0.6s							
KUU	**Kurty**	**4.57**	**23**	Pg	**Pb**	**18 32 39.7**	**+3.0**
4.4nm,0.5s							
KUU				Lg	Lg	18 33 41.1	
17nm,0.6s							
CHKK	**Chushkaly**	**4.75**	**28**	*e*P	**Pb**	**18 32 42.4**	**+2.5**
2.2nm,0.4s							
CHKK				*e*S	**Sg**	**18 33 45.8**	**-3.2**
12nm,0.6s							
CHKK	**Chushkaly**	**4.75**	**28**	Pg	**Pg**	**18 32 43.3**	**-4.2**
2.2nm,0.4s							
CHKK				Lg	Lg	18 33 46.2	
12nm,0.6s							
SATY	**Saty**	**4.78**	**44**	*e*P	**Pg**	**18 32 44.0**	**-4.0**
6.2nm,0.6s							
SATY				*e*S	**Sg**	**18 33 48.6**	**-1.2**
19nm,1.0s							
SATY	**Saty**	**4.78**	**44**	Pg	**Pg**	**18 32 44.0**	**-4.0**
6.2nm,0.6s							
SATY				Lg	Lg	18 33 48.6	
19nm,1.0s							
ZHN	**Zhinishke**	**4.87**	**43**	*e*P	**Pg**	**18 32 45.3**	**-4.4**
3.1nm,0.2s							
ZHN				*e*S	**Sg**	**18 33 50.2**	**-2.5**
15nm,0.8s							
ZHN	**Zhinishke**	**4.87**	**43**	Pg	**Pg**	**18 32 45.6**	**-4.1**
3.1nm,0.2s							
ZHN				Lg	Lg	18 33 50.2	
15nm,0.8s							
KURS	**Kuram**	**4.96**	**39**	*e*P	**Pg**	**18 32 47.2**	**-4.3**
4.0nm,0.5s							
KURS				*e*S	**Sg**	**18 33 53.2**	**-2.5**
7.2nm,0.7s							
KURS	**Kuram**	**4.96**	**39**	Pg	**Pg**	**18 32 47.3**	**-4.3**
4.0nm,0.5s							
KURS				Lg	Lg	18 33 53.2	
7.2nm,0.7s							
BTLS	**Baital**	**5.33**	**1**	*e*P	**Pg**	**18 32 55.8**	**-2.9**
3.0nm,0.4s							
BTLS				*e*S	**Sg**	**18 34 08.2**	**+0.4**
6.5nm,0.7s							
BTLS	**Baital**	**5.33**	**1**	Pg	**Pg**	**18 32 55.8**	**-2.9**
3.0nm,0.4s							
BTLS				Lg	Lg	18 34 08.2	
6.5nm,0.7s							
SHLS	**Shalkode**	**5.43**	**49**	*e*P	**Pg**	**18 33 01.7**	**+1.2**
4.9nm,0.6s							
SHLS				*e*S	**Sg**	**18 34 18.1**	**+7.3**
8.6nm,1.0s							
SHLS	**Shalkode**	**5.43**	**49**	Pg	**Pg**	**18 33 01.7**	**+1.2**
4.9nm,0.6s							
SHLS				Lg	Lg	18 34 18.1

*MOS **14** 18:45:56.8±0.9, 36°.52N×70°.65E, h202km, mb3.9/9, Error ellipse: s-maj=10.2km s-min=4.3km az=78.7*
*NEIC **14** 18:45:57.4±2.2, 36°.48N±0°.05×70°.46E±0°.07, h201km±7km, mb4.0/9, Error ellipse: s-maj=10.1km s-min=4.8km az=48.0*
*NNC **14** 18:46:02.2±3.6, 36°.94N×70°.68E, h222km±58km, mb3.3, mpv4.6, Error ellipse: s-maj=37.7km s-min=21.0km az=7.0*

ISC 14 18:45:57.3±0.5, 36°.48N±0°.05×70°.63E±0°.05, h204km, n131, σ1§67/145, mb3.8/21, 9C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.33**	**214**	PN	**Pn**	**18 46 39.4**	**-0.4**
KBL	**Kabul**	**2.33**	**214**		**Pn**	**18 46 39.4**	**-0.4**
CHGR	**Chuyangaron**	**2.47**	**332**	PN	**Pn**	**18 46 40.2**	**-1.0**
CHGR	**Chuyangaron**	**2.47**	**332**		**Pn**	**18 46 40.2**	**-1.0**
DRK	**Karamyk**	**3.14**	**17**	Pn	**Pn**	**18 46 49.0**	**0.0**
NIL	**Nilore**	**3.55**	**142**	PN	**Pn**	**18 46 55.1**	**+1.3**
NIL	**Nilore**	**3.55**	**142**		**Pn**	**18 46 55.1**	**+1.3**
BTK	**Batken**	**3.58**	**2**	PN	**Pn**	**18 46 54.7**	**+0.6**
BTK	**Batken**	**3.58**	**2**		**Pn**	**18 46 54.7**	**+0.6**
TAS	**Tashkent**	**4.95**	**348**	PN	**Pn**	**18 47 11.2**	**+0.1**
TAS	**Tashkent**	**4.95**	**348**	Pn	**Pn**	**18 47 11.2**	**+0.1**
JMU	**Jammu**	**5.15**	**136**	*e*P	**Pn**	**18 47 13.6**	**-0.1**
JMU				*e*S	**S**	**18 48 12.4**	**-1.1**
KSH	**Kashi**	**5.20**	**53**	Pn	**Pn**	**18 47 10.3**	**-4.1**
KSH				sP		18 47 47.6	
KSH				Sn	S	18 47 58.8	-16
KSH				smax	smax		
	comp=N,160nm,0.4s						
KSH				smax	smax		
	comp=E,140nm,0.7s						
AML	**Almayashu**	**6.13**	**22**	P	**Pn**	**18 47 26.2**	**-0.4**
	SNR=281						
DHRM	**DHARAMSHALA**	**6.31**	**130**	*e*P	**Pn**	**18 47 28.8**	**0.0**
DHRM				*e*S	**S**	**18 48 39.4**	**-1.6**
DHRM				IAML		18 48 40.8	
	comp=E,97nm,0.4s						
DHRM				IAML		18 48 41.1	
	comp=N,108nm,0.2s						
DHRM				IAML		18 48 44.2	
	comp=E,76nm,0.5s						
DHRM				IAML		18 48 44.5	
	comp=N,76nm,0.3s						
DZA	**Taraz**	**6.43**	**5**	*e*PN	**Pn**	**18 47 29.4**	**-0.7**
DZA				pmax	pmax		
	comp=Z,47nm,0.6s						
DZA	**Taraz**	**6.43**	**5**	*e*P	**Pn**	**18 47 29.4**	**-0.7**
	comp=Z,47nm,0.6s,baz=4.0						
UCH	**Uchtor**	**6.48**	**26**	P	**Pn**	**18 47 31.0**	**-0.2**
	SNR=143						
KK02	**Karatay Array**	**6.62**	**359**	⇑P	**Pn**	**18 47 31.6**	**-0.9**
	comp=Z,29nm,0.3s,baz=174,slow=13						
KK02				⇑S	**S**	**18 48 43.1**	**-4.9**
	comp=Z,12nm,0.3s,baz=188,slow=23						
KK31	**Karatay Array**	**6.62**	**359**	PN	**Pn**	**18 47 31.6**	**-0.9**
KKAR	**Karatay Array**	**6.62**	**359**	PN	**Pn**	**18 47 31.8**	**-0.8**
KKAR	**Karatay Array**	**6.62**	**359**	Pn	**Pn**	**18 47 31.8**	**-0.8**
EKS2	**Erkin-Say**	**6.64**	**21**	P	**Pn**	**18 47 32.6**	**-0.3**
	SNR=62						
AAK	**Ala-Archa**	**6.84**	**25**	P	**Pn**	**18 47 35.5**	**-0.1**
	comp=Z,10nm,0.3s,baz=195,slow=6.1,SNR=135						
AAK				S	**S**	**18 48 47.0**	**-6.3**
	comp=Z,1.0nm,0.3s,baz=207,slow=11,SNR=1.2						
AAK	**Ala-Archa**	**6.84**	**25**	P	**Pn**	**18 47 35.6**	**+0.1**
	SNR=36						
AAK	**Ala-Archa**	**6.84**	**25**	⇓P	**Pn**	**18 47 34.7**	**-0.8**
	comp=Z,15nm,0.4s						
AAK				⇓S	**S**	**18 48 50.3**	**-3.0**
	comp=Z,24nm,0.8s						
AAK	**Ala-Archa**	**6.84**	**25**	Pn	**Pn**	**18 47 35.4**	**-0.2**
KBK	**Karagaybulak**	**7.01**	**27**	P	**Pn**	**18 47 38.1**	**+0.2**
	SNR=29						
FRU1	**Bishkek**	**7.04**	**25**	PN	**Pn**	**18 47 38.2**	**+0.2**
FRU1	**Bishkek**	**7.04**	**25**		**Pn**	**18 47 38.2**	**+0.2**
HRA	**Herat**	**7.15**	**256**		**Pn**	**18 47 39.5**	**-0.2**
ULHL	**Ulahol**	**7.22**	**35**	P	**Pn**	**18 47 40.5**	**0.0**
	SNR=14						
CHMS	**Chumysh**	**7.25**	**25**	P	**Pn**	**18 47 40.7**	**0.0**
	SNR=15						
BOOM	**Boomskoye usch**	**7.27**	**33**	PN	**Pn**	**18 47 40.7**	**-0.5**
BOOM	**Boomskoye usch**	**7.27**	**33**	Pn	**Pn**	**18 47 40.7**	**-0.5**
USP	**Ospenovka**	**7.41**	**23**	P	**Pn**	**18 47 42.0**	**-0.7**
	SNR=30						
TKM2	**Tokmak 2**	**7.49**	**29**	P	**Pn**	**18 47 43.9**	**-0.2**
	SNR=106						
TKM2	**Tokmak 2**	**7.49**	**29**	PN	**Pn**	**18 47 43.7**	**-0.3**
TKM2	**Tokmak 2**	**7.49**	**29**	⇑P	**Pn**	**18 47 43.7**	**-0.3**
	comp=Z,45nm,0.5s						
TKM2				⇓S	**S**	**18 49 04.9**	**-3.9**
	comp=Z,6.6nm,0.8s						
KDJ	**Kajisay**	**7.59**	**40**	PN	**Pn**	**18 47 44.9**	**-0.5**
KDJ	**Kajisay**	**7.59**	**40**		**Pn**	**18 47 44.9**	**-0.5**
SMLA	**Simla**	**7.62**	**133**	*e*P	**Pn**	**18 47 45.4**	**-0.2**
SMLA				*e*S	**S**	**18 49 08.8**	**-2.9**
KST	**Kastek**	**7.74**	**30**	*e*P	**Pn**	**18 47 46.5**	**-0.7**
	comp=Z,10nm,1.0s,baz=30						
KST				*e*S	**S**	**18 49 13.5**	**-1.2**
	baz=30						
TNSS	**Tian-Shan**	**8.16**	**35**	*e*P	**Pn**	**18 47 52.2**	**-0.7**
	baz=34						
MDOK	**Medeo**	**8.30**	**35**	PN	**Pn**	**18 47 54.5**	**0.0**
MDOK	**Medeo**	**8.30**	**35**	*e*P	**Pn**	**18 47 53.6**	**-1.0**
	baz=34						
MDOK	**Medeo**	**8.30**	**35**	⇓P	**Pn**	**18 47 54.6**	**0.0**
	comp=Z,17nm,1.0s						
PRZ	**Przheval'sk**	**8.49**	**43**	PN	**Pn**	**18 47 57.6**	**+0.6**
PRZ	**Przheval'sk**	**8.49**	**43**	Pn	**Pn**	**18 47 57.6**	**+0.6**
KUU	**Kurty**	**8.60**	**29**	*i* PN	**Pn**	**18 47 56.4**	**-1.8**
KUU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SATY	**Saty**	**8.89**	**40**	*e*PN	**Pn**	**18 48 01.0**	**-1.1**
SATY	**Saty**	**8.89**	**40**	*e*P	**Pn**	**18 48 01.1**	**-1.1**
	baz=40						
ZHN	**Zhinishke**	**8.98**	**40**	*e*PN	**Pn**	**18 48 02.3**	**-1.0**
ZHN	**Zhinishke**	**8.98**	**40**	*e*P	**Pn**	**18 48 02.3**	**-1.0**
	baz=39						
PDGK	**Podgornoye**	**9.65**	**42**	P	**Pn**	**18 48 11.5**	**-0.4**
PDGK	**Podgornoye**	**9.65**	**42**	⇓P	**Pn**	**18 48 11.6**	**-0.4**
	comp=Z,4.7nm,0.8s						
KUDL	**Kundal**	**9.68**	**148**	*e*P	**Pn**	**18 48 11.7**	**-0.7**
KUDL				*e*S	**S**	**18 49 51.9**	**-8.9**
GEYT	**Alibeck**	**10.08**	**282**	P	**Pn**	**18 48 15.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=168,slow=23,SNR=2.0						
OTUK	**Ortayu**	**11.83**	**6**	P	**Pn**	**18 48 37.0**	**-2.7**
OTUK	**Ortayu**	**11.83**	**6**	⇓P	**Pn**	**18 48 37.0**	**-2.7**
	comp=Z,5.9nm,1.3s						
MAKZ	**Makanchi**	**13.35**	**36**	P	**Pn**	**18 48 58.5**	**-0.4**
MAKZ	**Makanchi**	**13.35**	**36**	Pn	**Pn**	**18 48 58.5**	**-0.4**
PYUN	**Piuthan**	**13.38**	**125**	*e*P	**Pn**	**18 48 58.4**	**-1.2**
	comp=Z,7.0nm,0.3s						
MK31	**Makanchi Array**	**13.49**	**37**	P	**Pn**	**18 49 00.9**	**+0.3**
MK31	**Makanchi Array**	**13.49**	**37**	P	**Pn**	**18 49 00.4**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=222,slow=12,SNR=40						
MK31	**Makanchi Array**	**13.49**	**37**	Pn	**Pn**	**18 49 00.9**	**+0.3**
MKAR	**Makanchi Array**	**13.49**	**37**	P	**Pn**	**18 49 00.4**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=215,slow=13,SNR=32						
MKAR				S	**S**	**18 51 31.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=228,slow=19,SNR=2.6						
BRZS	**Berezniki**	**13.58**	**6**	*e*P	**Pn**	**18 49 01.5**	**-0.2**
BRZS	**Berezniki**	**13.58**	**6**	*e*P	**Pn**	**18 49 01.6**	**-0.2**
	baz=5.4						
DANN	**Dangsing**	**13.73**	**122**	*e*P	**Pn**	**18 49 02.8**	**-1.3**
	comp=Z,3.0nm,0.2s						
KOLN	**Koldanda**	**14.00**	**125**	*e*P	**Pn**	**18 49 06.9**	**-0.4**
	comp=Z,3.4nm,0.3s						
GKN	**Gorkha**	**14.55**	**122**	*e*P	**P**	**18 49 14.3**	**-0.8**
	comp=Z,8.5nm,0.3s						
WMQ	**Urumqi**	**14.96**	**55**	*e*P	**P**	**18 49 19.5**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AB31	**Akbulak array**	**14.96**	**332**	P	**P**	**18 49 20.7**	**+1.4**
AB31				S	**S**	**18 51 58.9**	**-5.5**
AB31	**Akbulak array**	**14.96**	**332**	⇓P	**P**	**18 49 20.7**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=166,slow=11,SNR=5.0						
ABKAR	**Akbulak array**	**14.96**	**332**		**Pn**	**18 49 17.8**	**-0.9**
DMN	**Daman**	**15.12**	**122**	*e*P	**P**	**18 49 21.8**	**+0.2**
	comp=Z,2.5nm,0.3s						
KKN	**Kakani**	**15.12**	**121**	*e*P	**P**	**18 49 21.3**	**-0.3**
KURBB	**Kurchatov Arra**	**15.24**	**19**	P	**Pn**	**18 49 20.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=135,slow=16,SNR=14						
PKIN	**Phulchoki**	**15.34**	**121**	*e*P	**P**	**18 49 24.4**	**+0.4**
	comp=Z,3.7nm,0.4s						
KURK	**Kurchatov**	**15.35**	**20**	*ce*P	**Pn**	**18 49 22.3**	**-1.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KURK	**Kurchatov**	**15.35**	**20**		**Pn**	**18 49 22.5**	**-0.8**
KURK				IAmb	IAmb	18 49 39.6	
	comp=Z,6.4nm,1.4s						
PKI	**Pulchoki**	**15.35**	**121**	*e*P	**P**	**18 49 24.8**	**+0.6**
	comp=Z,3.5nm,0.4s						
GUN	**Gumba**	**15.47**	**119**	*e*P	**P**	**18 49 26.5**	**+1.0**
	comp=Z,1.7nm,0.2s						
SEM	**Semipalatinsk**	**15.56**	**24**	*e*P	**Pn**	**18 49 25.3**	**-0.9**
SEM	**Semipalatinsk**	**15.56**	**24**	*e*P	**Pn**	**18 49 25.3**	**-0.9**
	baz=23						
BVAR	**Borovoye Array**	**16.55**	**359**	P	**Pn**	**18 49 38.0**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=151,slow=8.2,SNR=28						
BRVK	**Borovoye**	**16.58**	**359**	*ce*P	**Pn**	**18 49 37.6**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BRVK	**Borovoye**	**16.58**	**359**	P	**Pn**	**18 49 38.1**	**-0.1**
AKTO	**Aktyubinsk**	**16.65**	**331**	P	**Pn**	**18 49 39.3**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=146,slow=17,SNR=12						
AKTO				S	**S**	**18 52 38.8**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=144,slow=24,SNR=2.1						
DGZ	**Jazzator, Alta**	**17.98**	**37**	*i* P	**Pn**	**18 49 54.9**	**0.0**
ZAA0	**Zalesovo Array**	**20.06**	**25**	P	**P**	**18 50 15.3**	**+0.5**
ZAA0				IAmb	IAmb	18 50 16.5	
	comp=Z,3.9nm,0.7s						
ZALV	**Zalesovo Beam**	**20.06**	**25**	P	**P**	**18 50 15.5**	**+0.7**
	comp=Z,2.9nm,0.3s,baz=212,slow=11,SNR=27						
ZALV	**Zalesovo Beam**	**20.06**	**25**	*i* P	**P**	**18 50 15.8**	**+1.0**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZALV	**Zalesovo Beam**	**20.06**	**25**	P	**P**	**18 50 15.3**	**+0.5**
GNI	**Garni**	**20.61**	**288**	*i* P	**P**	**18 50 21.8**	**+0.7**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SHL	**Shillong**	**21.17**	**115**	P	**P**	**18 50 28.7**	**+1.6**
SHL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SHL	**Shillong**	**21.17**	**115**	P	**P**	**18 50 28.7**	**+1.6**
ARU	**Arti**	**21.56**	**342**	P	**P**	**18 50 31.6**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=153,slow=7.6,SNR=5.7						
ARU	**Arti**	**21.56**	**342**	*c* P	**P**	**18 50 31.8**	**+1.3**
ARU				S	**S**	**18 54 20.0**	**+4.5**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.6s						
BELG	**Belogornoye**	**22.72**	**322**	P	**P**	**18 50 42.5**	**+1.0**
	comp=Z,6.2nm,0.4s,baz=323,slow=2.2,SNR=14						
PZH	**PanZhiHua**	**28.23**	**102**	P	**P**	**18 51 34.5**	**+3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,5.0s						
SONM	**Songino Array**	**28.59**	**55**	P	**P**	**18 51 36.4**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=260,slow=8.2,SNR=2.3						
OBN	**Obninsk**	**29.76**	**320**	*e*P	**P**	**18 51 48.3**	**+3.8**
OBN				*e**SP	**sP**	**18 52 50.2**	**+0.5**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**32.05**	**69**	*e*P	**P**	**18 52 05.9**	**+0.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,97nm,6.0s						
AKASG	**Malin Array Be**	**32.73**	**309**	P	**P**	**18 52 10.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=83,slow=7.8,SNR=3.6						
AKASG				PcP	**PcP**	**18 54 50.2**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=83,slow=1.9,SNR=2.4						
NRIK	**Noril'sk**	**34.20**	**11**	P	**P**	**18 52 25.2**	**+2.1**
	comp=Z,2.3nm,0.5s,baz=174,slow=10,SNR=3.5						
NRIK	**Noril'sk**	**34.20**	**11**	*ce*P	**P**	**18 52 24.1**	**+1.1**
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
NRIK	**Noril'sk**	**34.20**	**11**	P	**P**	**18 52 24.4**	**+1.4**
NRIK				IAmb	IAmb	18 52 26.0	
	comp=Z,6.2nm,1.4s						
XLT	**XiLinHaoTe**	**35.14**	**64**	*e*P	P	18 52 36.9	+5.4
XLT				pP	pP	18 53 19.4	+4.3
XLT				sP	sP	18 53 40.1	+1.0
XLT				pmax	pmax		
	comp=Z,4.0nm,1.3s						
XLT				pmax	pmax		
	comp=Z,180nm,5.2s						
FINES	**FINESS Array B**	**37.33**	**326**	P	**P**	**18 52 51.1**	**+1.4**
	comp=Z,1.9nm,0.4s,baz=122,slow=9.4,SNR=21						
FINES	**FINESS Array B**	**37.33**	**326**	*i* P	**P**	**18 52 51.0**	**+1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**37.33**	**326**	P	**P**	**18 52 47.0**	**-2.7**
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**18 53 22.0**	**+1.7**
	comp=Z,1.0nm,0.4s,baz=110,slow=7.3,SNR=12						
NC300	**NORSAR Array S**	**44.14**	**323**	P	**P**	**18 53 45.7**	**+0.3**
YAK	**Yakutsk**	**44.16**	**35**	*ce*P	**P**	**18 53 46.0**	**+0.6**
YAK				pmax	pmax		
	comp=Z,14nm,2.5s						
YAK	**Yakutsk**	**44.16**	**35**	P	**P**	**18 53 47.0**	**+1.6**
YAK				IAmb	IAmb	18 53 47.7	
	comp=Z,5.3nm,0.6s						
NC303	**NORSAR Array S**	**44.16**	**323**	P	**P**	**18 53 46.2**	**+0.7**
NB201	**NORSAR Array S**	**44.18**	**323**	P	**P**	**18 53 46.5**	**+0.8**
NB2	**NORSAR Subarra**	**44.22**	**323**	P	**P**	**18 53 46.4**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.22**	**323**	P	**P**	**18 53 47.0**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=104,slow=7.3,SNR=8.0						
TIXI	**Tiksi**	**45.91**	**22**	*ce*P	**P**	**18 53 59.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	**Tiksi**	**45.91**	**22**	P	**P**	**18 53 59.9**	**+0.9**
TIXI				IAmb	IAmb	18 54 01.3	
	comp=Z,2.6nm,0.8s						
BILL	**Bilibino**	**58.76**	**26**	*e*P	**P**	**18 55 34.8**	**+1.4**
BILL				*e**SP	**sP**	**18 56 42.8**	**-0.9**
BILL				*e*		18 57 47.1	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.42**	**268**	P	**P**	**18 56 17.1**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=48,slow=6.0,SNR=17						
TORD	**Torodi Ar. Bea**	**65.42**	**268**	IAmb	IAmb	18 56 19.2	
	comp=Z,0.9nm,1.0s						
ILAR	**Eielson Array**	**74.88**	**16**	P	**P**	**18 57 15.8**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=301,slow=4.9,SNR=9.9						
YKA	**Yellowknife Ar**	**81.28**	**2**	P	**P**	**18 57 51.7**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=350,slow=5.5,SNR=13						
WRA	**Warramunga Arr**	**82.23**	**122**	P	**P**	**18 57 55.0**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=324,slow=5.0,SNR=7.8						
WRA	**Warramunga Arr**	**82.23**	**122**	P	**P**	**18 57 55.0**	**-0.9**
ASAR	**Alice Springs**	**84.49**	**125**	P	**P**	**18 58 07.2**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=308,slow=4.9,SNR=7.6						

*DJA **14** 18:51:29.2±1.1, 3°.S±3°.×13°.7E±°, h26km±10km, M4.2/8, mb4.3/7, mB4.7/1, MLv4.2/8, Mw(mB)3.9/1*

ISC 14 18:51:28.5±0.8, 2.93S±0°.07×136°.94E±0°.05, h32km, n19, σ1§39/22, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.27**	**326**	P	**Pb**	**18 51 50.9**	**-0.9**
SRPI				S	**Sb**	**18 52 08.7**	**+0.9**
GENI	**Genyem**	**3.24**	**84**	P	**Pn**	**18 52 17.1**	**0.0**
GENI				S	**Sn**	**18 52 56.0**	**+1.4**
GENI	**Genyem**	**3.24**	**84**	P	**Pn**	**18 52 18.1**	**+1.0**
KMPI	**Kaimana, Papua**	**3.31**	**257**	P	**Pn**	**18 52 19.0**	**+0.9**
JAY	**Jayapura**	**3.78**	**84**	P	**Pn**	**18 52 27.4**	**+2.8**
JAY				S	**Sn**	**18 53 07.4**	**-0.6**
FAKI	**Fak Fak**	**4.69**	**270**	P	**Pn**	**18 52 34.9**	**-2.1**
FAKI				S	**Sn**	**18 53 31.1**	**+0.7**
FAKI	**Fak Fak**	**4.69**	**270**	P	**Pn**	**18 52 37.7**	**+0.7**
SWI	**Sorong**	**6.04**	**290**	P	**Pn**	**18 52 58.3**	**+2.7**
	0.1nm16nm,0.7s						
MMPI	**Merauke**	**6.47**	**148**	P	**Pn**	**18 53 03.1**	**+1.5**
	3.3nm544nm,1.1s						
TNTI	**Ternate**	**10.26**	**291**	P	**Pn**	**18 53 53.7**	**+0.2**
	22nm,0.8s						
KDU	**Kakadu**	**10.65**	**204**	P	**Pn**	**18 53 57.2**	**-1.7**
DRS	**Darwin Rock St**	**11.17**	**212**	P	**Pn**	**18 54 06.6**	**+0.5**
MTN	**Manton Dam**	**11.40**	**210**	P	**Pn**	**18 54 08.5**	**-0.7**
COEN	**Coen**	**12.56**	**151**	P	**Pn**	**18 54 25.1**	**0.0**
	15nm,1.7s						
SGSI	**Sangihe**	**13.17**	**300**	P	Pn	18 54 26.7	-6.7
KNRA	**Kununurra**	**15.01**	**212**	P	**Pn**	**18 54 56.5**	**-1.9**
MTSU	**Mount Surprise**	**16.75**	**155**	P	**Pn**	**18 55 21.2**	**+0.4**
WRAB	**Tennant Creek**	**17.09**	**188**	P	**Pn**	**18 55 25.2**	**+0.2**
KOUNC	**Koumac, New Ca**	**31.89**	**125**	P	**P**	**18 57 50.4**	**-0.7**
	15nm,1.3s						

*IDC **14** 19:04:08.5±1.6, 65°.13N×149°.24W, h0km, mb3.1/3, mb1 3.6/6, mb1mx3.4/48, mbtmp3.3/6, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/31, Error ellipse: s-maj=13.5km s-min=12.3km az=74.0*
*NEIC **14** 19:04:10, 64°.68N×149°.25W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.67; $M_{\theta\theta}$=-5.16; $M_{\phi\phi}$=5.83; $M_{r\theta}$=-0.43; $M_{\theta\phi}$=-3.39; $M_{r\phi}$=0.46; Fault plane solution: M_0=6.51000×10^{14} NP1:φs299.16000°, δ89.12000°, λ174.82000°. NP2:φs29.24000°, δ84.82000°, λ0.88000°. Principal axes: T 6.8347, Plg4.0000°, Azm254.0000°; N -0.6998, Plg85.0000°, Azm110.0000°; P -6.1350, Plg3.0000°, Azm344.0000°;*
*NEIC **14** 19:04:10.2±0.6, 64°.65N±0°.02×149°.27W±0°.05, h19km±5km Error ellipse: s-maj=3.4km s-min=2.1km az=77.0*
*AEIC **14** 19:04:10±0.3, 64°.68N±0°.02×149°.25W±0°.07, h23km±6km, ML4.0/96(NEIC), Mwr3.8/62(NEIC), Error ellipse: s-maj=4.0km s-min=3.4km az=100.0*

ISC 14 19:04:09.1±0.7, 64°.70N±0°.02×149°.27W±0°.03, h10km, n235, σ0§98/211, mb3.2/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEA2	**Nenana**	**0.14**	**140**		**Pg**	**19 04 14.9**	**+2.8**
NEA2	**Nenana**	**0.14**	**140**	IAML		19 04 15.2	
	comp=N,4μm,0.6s						
NEA2				IAML		19 04 15.2	
	comp=E,6μm,0.3s						
NEA2	**Nenana**	**0.14**	**140**	P	**Pg**	**19 04 14.9**	**+2.8**
	baz=309						
I23K	**Minto, Yukon-K**	**0.46**	**355**		**Pb**	**19 04 20.4**	**+1.2**
I23K					**Sb**	**19 04 26.9**	**+0.9**
I23K	**Minto, Yukon-K**	**0.46**	**355**	IAML		19 04 27.5	
	comp=N,13μm,0.7s						
I23K				IAML		19 04 27.8	
	comp=E,7μm,0.5s						
I23K	**Minto, Yukon-K**	**0.46**	**355**	P	**Pb**	**19 04 20.4**	**+1.2**
	baz=177						
I23K				S	**Sb**	**19 04 27.0**	**+0.9**
	baz=177						
MDM	**Murphy Dome**	**0.52**	**59**		**Pb**	**19 04 21.2**	**+0.9**
MDM					**Sb**	**19 04 27.9**	**+0.1**
MDM	**Murphy Dome**	**0.52**	**59**	IAML		19 04 28.9	
	comp=N,9μm,0.6s						
MDM				IAML		19 04 28.9	
	comp=E,5μm,0.5s						
BWN	**Browne**	**0.53**	**189**		**Pb**	**19 04 21.2**	**+0.7**
BWN	**Browne**	**0.53**	**189**	IAML		19 04 28.6	
	comp=E,9μm,1.0s						
BWN				IAML		19 04 28.8	
	comp=N,6μm,0.6s						
WRH	**Wood River Hil**	**0.56**	**113**		**Pb**	**19 04 22.0**	**+1.1**
WRH					**Sb**	**19 04 29.2**	**+0.3**
WRH	**Wood River Hil**	**0.56**	**113**	IAML		19 04 31.2	
	comp=N,13μm,0.3s						
WRH				IAML		19 04 31.4	
	comp=E,8μm,0.2s						
TCOL	**CIGO, UAF Yank**	**0.63**	**73**		**Pb**	**19 04 23.1**	**+0.9**
TCOL	**CIGO, UAF Yank**	**0.63**	**73**	P	**Pb**	**19 04 23.1**	**+0.9**
	baz=253						
CCB	**Clear Creek Bu**	**0.63**	**94**		**Pb**	**19 04 23.2**	**+1.0**
COLA	**College**	**0.63**	**73**		**Pb**	**19 04 23.1**	**+0.9**
PS07	**TAPS Pump Stn7**	**0.75**	**34**		**Pb**	**19 04 25.6**	**+1.4**
PS07					**Sb**	**19 04 36.0**	**+1.6**
POKR	**Poker Plat Res**	**0.89**	**61**		**Pb**	**19 04 27.4**	**+0.8**
POKR					**Sb**	**19 04 39.4**	**+0.9**
POKR	**Poker Plat Res**	**0.89**	**61**	IAML		19 04 40.2	
	comp=E,8μm,0.4s						
POKR				IAML		19 04 40.2	
	comp=N,5μm,0.8s						
POKR	**Poker Plat Res**	**0.89**	**61**	P	**Pb**	**19 04 27.4**	**+0.8**
	baz=242						
POKR				S	**Sb**	**19 04 39.4**	**+0.9**
	baz=242						
BPAW	**Bear Paw Mtn.**	**0.96**	**232**		**Pg**	**19 04 27.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**0.96**	**232**	IAML		19 04 42.5	
	comp=N,4μm,0.6s						
BPAW				IAML		19 04 42.7	
	comp=E,6μm,0.5s						
BPAW	**Bear Paw Mtn.**	**0.96**	**232**	P	**Pg**	**19 04 27.8**	**+0.4**
	baz=51						
MCK	**McKinley**	**0.98**	**171**		**Pg**	**19 04 28.4**	**+0.6**
MCK	**McKinley**	**0.98**	**171**	IAML		19 04 43.2	
	comp=N,3μm,0.8s						
MCK	**McKinley**	**0.98**	**171**	P	**Pg**	**19

PAX	Paxson	2.42 134		Pn	19 04 48.3	-0.4
PAX	Paxson	2.42 134	P	Pn	19 04 48.3	-0.4
	baz=317					
J26L	Joseph Creek	2.47 92		Pn	19 04 49.1	-0.3
J26L	Joseph Creek	2.47 92	IAML		19 05 30.0	
	comp=E,652nm,0.6s					
J26L			IAML		19 05 38.1	
	comp=N,819nm,0.6s					
J26L	Joseph Creek	2.47 92	P	Pn	19 04 49.1	-0.3
	baz=277					
K20K	Telida	2.50 240		Pn	19 04 49.5	-0.3
K20K	Telida	2.50 240	IAML		19 05 31.8	
	comp=N,846nm,0.7s					
K20K			IAML		19 05 32.1	
	comp=E,750nm,0.8s					
K20K	Telida	2.50 240	P	Pn	19 04 49.5	-0.3
	baz=56					
DOT	Dot Lake	2.51 112		Pn	19 04 49.5	-0.4
FYU	Fort Yukon	2.52 40		Pn	19 04 49.9	-0.1
COLD	Coldfoot	2.57 352		Pn	19 04 50.7	0.0
COLD	Coldfoot	2.57 352	P	Pn	19 04 50.7	0.0
	baz=171					
SML	Sawmill	2.93 171		Pn	19 04 55.3	-0.5
SML	Sawmill	2.93 171	IAML		19 05 43.7	
	comp=E,583nm,1.0s					
SML			IAML		19 05 53.2	
	comp=N,349nm,1.0s					
SML	Sawmill	2.93 171	P	Pn	19 04 55.3	-0.5
	baz=352					
GHO	Glory Hole Cre	2.94 177		Pn	19 04 55.4	-0.5
M24K	Tolsona, Glenn	2.95 150		Pn	19 04 55.5	-0.4
M24K	Tolsona, Glenn	2.95 150	IAML		19 05 49.3	
	comp=E,490nm,1.5s					
M24K			IAML		19 06 05.8	
	comp=N,447nm,1.1s					
M24K	Tolsona, Glenn	2.95 150	P	Pn	19 04 55.6	-0.4
	baz=333					
HARP	HAARP	2.95 140		Pn	19 04 55.6	-0.4
HARP	HAARP	2.95 140	P	Pn	19 04 55.6	-0.4
	baz=323					
M22K	Willow	2.98 188		Pn	19 04 56.0	-0.3
M22K	Willow	2.98 188	P	Pn	19 04 56.0	-0.3
	baz=6.8					
SCM	Sheep Creek Mo	3.00 162		Pn	19 04 56.3	-0.4
SCM	Sheep Creek Mo	3.00 162	IAML		19 06 00.3	
	comp=E,454nm,0.8s					
SCM			IAML		19 06 07.7	
	comp=N,443nm,1.4s					
SCM	Sheep Creek Mo	3.00 162	P	Pn	19 04 56.3	-0.4
	baz=344					
MENT	Mentasta	3.03 123		Pn	19 04 56.7	-0.3
L20K	Farewell, AK	3.03 225		Pn	19 04 56.7	-0.4
L20K	Farewell, AK	3.03 225	P	Pn	19 04 56.7	-0.4
	baz=41					
L26K	Log Cabin Wild	3.11 120		Pn	19 04 57.9	-0.3
L26K	Log Cabin Wild	3.11 120	P	Pn	19 04 57.9	-0.3
	baz=305					
PMR	Palmer	3.12 179		Pn	19 04 57.8	-0.4
PMR	Palmer	3.12 179	IAML		19 05 48.5	
	comp=E,311nm,1.7s					
PMR	Palmer	3.12 179	P	Pn	19 04 57.8	-0.4
	baz=359					
PS11	TAPS Pump St11	3.13 145		Pn	19 04 58.1	-0.4
GCSA	Galena City Sc	3.27 274		Pn	19 04 60.0	-0.3
GCSA	Galena City Sc	3.27 274	P	Pn	19 04 60.0	-0.3
	baz=88					
KNK	Knik Glacier	3.32 173		Pn	19 05 00.6	-0.4
KNK	Knik Glacier	3.32 173	P	Pn	19 05 00.6	-0.4
	baz=354					
BM03	Burnt Mountain	3.33 33		Pn	19 05 01.0	-0.2
BMAR	Burnt Mountain	3.34 33		Pn	19 05 01.3	-0.1
BM01	Burnt Mountain	3.37 33		Pn	19 05 01.6	-0.1
STLK	Strandline Lak	3.41 201		Pn	19 05 01.9	-0.5
TTA	Tatalina	3.48 242		Pn	19 05 02.7	-0.5
TTA	Tatalina	3.48 242	IAML		19 06 06.5	
	comp=N,297nm,0.7s					
TTA			IAML		19 06 08.1	
	comp=E,312nm,0.8s					
TTA	Tatalina	3.48 242	P	Pn	19 05 02.7	-0.5
	baz=56					
EGAK	Eagle	3.48 85		Pn	19 05 02.7	-0.5
EGAK	Eagle	3.48 85	P	Pn	19 05 02.7	-0.5
	baz=272					
TT01	Tatalina	3.49 242		Pn	19 05 02.8	-0.5
KLU	Kluting	3.56 153		Pn	19 05 03.7	-0.6
KLU	Kluting	3.56 153	P	Pn	19 05 03.7	-0.6
	baz=336					
FIS	Fire Island	3.59 187		Pn	19 05 04.2	-0.5
RC01	Rabbit Creek A	3.63 184		Pn	19 05 04.8	-0.4
RC01	Rabbit Creek A	3.63 184	P	Pn	19 05 04.8	-0.4
	baz=3.0					
M26K	Nabesna, AK	3.63 127		Pn	19 05 04.9	-0.4
M26K	Nabesna, AK	3.63 127	IAML		19 06 12.4	
	comp=E,304nm,0.7s					
M26K	Nabesna, AK	3.63 127	P	Pn	19 05 04.9	-0.4
	baz=312					
M19K	Big River Lodg	3.63 222		Pn	19 05 04.9	-0.4
M19K	Big River Lodg	3.63 222	IAML		19 06 05.0	
	comp=E,280nm,0.6s					
M19K			IAML		19 06 05.2	
	comp=N,238nm,0.8s					
M19K	Big River Lodg	3.63 222	P	Pn	19 05 04.9	-0.4
	baz=37					
SPCG	Spurr Capps Gl	3.64 201		Pn	19 05 05.1	-0.5
L27K	Beaver Creek,	3.68 113		Pn	19 05 05.6	-0.4
L27K	Beaver Creek,	3.68 113	IAML		19 06 06.8	
	comp=E,322nm,0.8s					
L27K			IAML		19 06 12.3	
	comp=N,301nm,1.0s					
L27K	Beaver Creek,	3.68 113	P	Pn	19 05 05.6	-0.4
	baz=299					
SPCP	Crater Peak Br	3.69 202		Pn	19 05 05.6	-0.6
BC03		3.69 113		Pn	19 05 05.8	-0.3
BCAR	Beaver Creek A	3.69 113		Pn	19 05 06.0	-0.2
PS12	TAPS Pump St12	3.74 148		Pn	19 05 06.3	-0.4
SPU	Mount Spurr	3.75 201		Pn	19 05 06.6	-0.4
N25K	Chitina, Valde	3.76 144		Pn	19 05 06.6	-0.5
N25K	Chitina, Valde	3.76 144	P	Pn	19 05 06.6	-0.5
	baz=327					
JPK	Jack Peak	3.85 160		Pn	19 05 07.9	-0.5
PWL	Port Wells	3.88 173		Pn	19 05 08.3	-0.4
PWL	Port Wells	3.88 173	P	Pn	19 05 08.3	-0.4
	baz=354					
DIV	Divide	3.92 154		Pn	19 05 08.8	-0.5
GLI	Glacier Island	3.96 164		Pn	19 05 09.4	-0.4
GLI	Glacier Island	3.96 164	IAML		19 06 21.1	
	comp=E,182nm,0.7s					
GLI	Glacier Island	3.96 164	P	Pn	19 05 09.4	-0.4
	baz=346					
CAPN	Captain Cook N	4.04 193	Pn	Pn	19 05 10.8	0.0
M27K	Edge Creek, AK	4.06 122		Pn	19 05 10.7	-0.6
M27K	Edge Creek, AK	4.06 122	IAML		19 06 23.3	
	comp=E,297nm,0.8s					
M27K	Edge Creek, AK	4.06 122	P	Pn	19 05 10.7	-0.6
	baz=308					
GLB	Gilahina Butte	4.10 140		Pn	19 05 11.3	-0.5
GLB	Gilahina Butte	4.10 140	IAML		19 06 20.1	
	comp=E,160nm,1.2s					
FID	Port Fidalgo	4.16 161		Pn	19 05 12.3	-0.3
SLKM	Skilak Lake	4.23 186		Pn	19 05 13.0	-0.5
BMRM	Bremner River	4.31 148		Pn	19 05 14.2	-0.4
BMRM	Bremner River	4.31 148	IAML		19 06 34.5	
	comp=E,144nm,0.7s					
BMRM			IAML		19 06 43.5	
	comp=N,180nm,1.1s					
BMRM	Bremner River	4.31 148	P	Pn	19 05 14.2	-0.4
	baz=332					
DAWY	Dawson	4.34 94		Pn	19 05 14.7	-0.4
DAWY	Dawson	4.34 94	P	Pn	19 05 14.7	-0.4
	baz=282					
VRDI	Verde Repeater	4.38 140		Pn	19 05 15.1	-0.6
DFR	Drift River	4.41 202		Pn	19 05 15.5	-0.5
RDJH	Redoubt Jeurge	4.43 203		Pn	19 05 15.9	-0.5
EYAK	Cordova Ski Ar	4.47 157		Pn	19 05 17.1	+0.4
NCT	North Crescent	4.48 204		Pn	19 05 16.5	-0.5
RDWB	Redoubt West	4.53 203		Pn	19 05 17.2	-0.6
RSO	Redoubt South	4.54 202		Pn	19 05 17.8	-0.2
N19K	Bonanza Creek	4.57 214		Pn	19 05 17.8	-0.6
N19K	Bonanza Creek	4.57 214	P	Pn	19 05 17.8	-0.6
	baz=29					
SEW	Seward	4.61 181		Pn	19 05 18.8	+0.1
SEW	Seward	4.61 181	P	Pn	19 05 18.8	+0.1
	baz=0.8					
GOAT	Goat Mountain	4.63 151		Pn	19 05 18.6	-0.5
PTPK	Patty Peak	4.70 135		Pn	19 05 19.5	-0.6
I29M	Ogilvie Camp,	4.70 77		Pn	19 05 19.5	-0.4
BALM	Baldy	4.85 136		Pn	19 05 21.6	-0.5
O20K	Slope Mountain	4.89 200		Pn	19 05 22.1	-0.5
O20K	Slope Mountain	4.89 200	P	Pn	19 05 22.1	-0.5
	baz=17					
KIAG	Kiagna River	4.94 137		Pn	19 05 22.8	-0.6
TGL	Tana Glacier	4.94 140		Pn	19 05 22.9	-0.5
TGL	Tana Glacier	4.94 140	IAML		19 06 46.8	
	comp=E,80nm,1.3s					
TGL			IAML		19 06 51.7	
	comp=N,126nm,1.6s					
YUK3	Moose Creek	4.94 122		Pn	19 05 24.0	+0.5
YUK3	Moose Creek	4.94 122	P	Pn	19 05 24.0	+0.5
	baz=310					
HMT	Hamilton	4.95 150		Pn	19 05 23.8	+0.4
BRLK	Bradley Lake	5.01 189		Pn	19 05 23.9	-0.4
BARN	Barnard Glacie	5.04 133		Pn	19 05 24.3	-0.5
KHIT	Khitrov Hills	5.09 144		Pn	19 05 24.9	-0.5
WAX	Waxell Ridge	5.19 142		Pn	19 05 26.3	-0.5
ISLE	Juniper Island	5.20 139	Pn	Pn	19 05 25.7	-1.3
CTG	Chitna Glacier	5.22 132	P	Pn	19 05 26.6	-0.6
	baz=319					
CTGM	Chitina Glacie	5.22 132		Pn	19 05 26.6	-0.6
CNPM	China Poot	5.27 191		Pn	19 05 27.4	-0.4
CNPM	China Poot	5.27 191	IAML		19 07 01.6	
	comp=E,86nm,1.0s					
KAIM	Kayak Island	5.29 153		Pn	19 05 27.6	-0.5
KAIM	Kayak Island	5.29 153	P	Pn	19 05 27.6	-0.5
	baz=337					
SUCK	Suckling Hills	5.29 149	Pn	Pn	19 05 24.7	-3.5
SNH	Sunshine Point	5.42 144	Pn	Pn	19 05 28.3	-1.7
LOGN	Logan Glacier	5.43 132	Pn	Pn	19 05 28.0	-2.1
EPYK	Eagle Plains	5.48 67		Pn	19 05 30.2	-0.5
EPYK	Eagle Plains	5.48 67	P	Pn	19 05 30.2	-0.5
	baz=258					
YAH	Yahtse	5.57 138	Pn	Pn	19 05 30.6	-1.4
O18K	Koktuh Hills	5.59 212		Pn	19 05 31.7	-0.5
O18K	Koktuh Hills	5.59 212	P	Pn	19 05 31.7	-0.5
	baz=27					
TABL	Table Mountain	5.69 135	Pn	Pn	19 05 32.9	-0.8
M30M	Minto, Yukon	5.95 105	Pn	Pn	19 05 35.6	-1.5
P18K	Big Mountain,	6.01 210	Pn	Pn	19 05 37.3	-0.7
Q19K	Cape Douglas,	6.15 202	Pn	Pn	19 05 38.2	-1.6
PCA	Pinnacle	6.23 134	Pn	Pn	19 05 39.4	-1.6
ANM	Nome	6.92 276		Pn	19 05 50.0	-0.4
ANM	Nome	6.92 276	P	Pn	19 05 50.0	-0.4
	baz=82					
KDAK	Kodiak Island	7.12 194	Pn	Pn	19 05 52.7	-0.5
KDAK	Kodiak Island	7.12 194	P	Pn	19 05 52.6	-0.5
	baz=12					
A21K	Barrow	7.20 341		Pn	19 05 53.9	-0.3
A21K	Barrow	7.20 341	P	Pn	19 05 53.9	-0.3
	baz=154					
INK	Inuvik	7.25 53	Pn	Pn	19 05 53.7	-1.2
	comp=E,0.8nm,0.3s,baz=228,slow=15,SNR=23					
INK			Sn	Sn	19 07 10.9	-6.2
	comp=E,0.7nm,0.3s,baz=260,slow=15,SNR=3.4					
INK			Lg	Lg	19 07 50.5	
	comp=E,1.0nm,0.3s,baz=233,slow=7.0,SNR=3.2					
INK	Inuvik	7.25 53		Pn	19 05 54.6	-0.3
INK	Inuvik	7.25 53	P	Pn	19 05 54.6	-0.3
	baz=247					
OHAK	Old Harbor	7.75 196	Pn	Pn	19 06 00.2	-1.5
WHY	Whitehorse	7.75 115		Pn	19 06 01.2	-0.7
WHY	Whitehorse	7.75 115	P	Pn	19 06 01.2	-0.7
	baz=308					
TNA	Tin City	7.91 285		Pn	19 06 03.4	-0.5
TNA	Tin City	7.91 285	P	Pn	19 06 03.4	-0.5
	baz=88					
P33M	Teslin, Yukon	8.84 113		Pn	19 06 16.1	-0.7
P33M	Teslin, Yukon	8.84 113	P	Pn	19 06 16.1	-0.7
	baz=308					
GAMB	Gambell	9.80 275	Pn	Pn	19 06 29.2	-0.5
C36M	Paulatuk	10.84 53		Pn	19 06 43.4	-0.6
C36M	Paulatuk	10.84 53	P	Pn	19 06 43.4	-0.6
	baz=257					
DLBC	Dease Lake	11.08 116	Pn	Pn	19 06 51.6	+4.2
	comp=E,0.1nm,0.3s,baz=313,slow=19,SNR=1.6					
DLBC			Lg	Lg	19 09 53.0	
	comp=E,0.5nm,0.3s,baz=206,slow=13,SNR=4.9					
YKA	Yellowknife Ar	15.46 82	Pn	Pn	19 07 42.0	-4.8
	comp=E,0.1nm,0.3s,baz=295,slow=13,SNR=8.2					
YKA			LR	LR	19 14 47.3	
	comp=E,69nm,20.0s,baz=262,slow=41					
PDAR	Pinedale Array	31.31 115	P	P	19 10 33.1	+3.7
	comp=E,0.2nm,0.6s,baz=312,slow=6.9,SNR=1.9					
TXAR	Lajitas Array	45.36 119	P	P	19 12 27.8	+0.5
	comp=E,0.1nm,0.4s,baz=338,slow=7.0,SNR=2.0					
MKAR	Makanchi Array	61.80 322	P	P	19 14 26.5	-1.1
	comp=E,0.2nm,0.7s,baz=36,slow=5.4,SNR=1.8					

IDC 14 19:08:56.9±2.0, 31°.51S×179°.26W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/29, mbtmp4.1/3, ML4.2/1, Error ellipse: s-maj=52.6km s-min=26.2km az=135.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.53	28	Pn	Pn	19 09 39.2	-0.1
	53nm,0.3s,baz=233,slow=20,SNR=1.4						
RAO				Sn	Sn	19 10 12.8	+2.0
	40nm,0.3s,baz=294,slow=20,SNR=1.3						
ASAR	Alice Springs	41.98	269	P	P	19 16 50.1	0.0
	1.1nm,0.5s,baz=106,slow=7.5,SNR=20						
WRA	Warramunga Arr	43.08	274	P	P	19 16 58.6	-0.3
	1.5nm,0.6s,baz=110,slow=8.0,SNR=19						
H03S2	Juan Fernandez	80.75	124	T	T	20 49 52.3	
	baz=236						
H03S1	Juan Fernandez	80.76	124	T	T	20 50 04.5	
	baz=236						
H03S3	Juan Fernandez	80.77	124	T	T	20 49 55.1	
	baz=236						
H03N3	Juan Fernandez	80.95	124	T	T	20 50 04.9	
	baz=241,slow=72,SNR=6.1						
H03N2	Juan Fernandez	80.95	124	T	T	20 50 14.1	
	baz=241,slow=72,SNR=4.7						
H03N1	Juan Fernandez	80.97	124	T	T	20 50 10.4	
	baz=241,slow=72,SNR=16						
TORD	Torodi Ar. Bea	161.70	183	PKPab	PKPab	19 29 44.9	-0.5
	0.1nm,0.4s,baz=204,slow=3.2,SNR=2.7						

*MOS **14** 19:28:51.7±1.1, 36°.55N×140°.65E, h49km, mb4.7/22, Error ellipse: s-maj=7.6km s-min=4.9km az=96.4*

*NEIC **14** 19:28:53.9, 36°.47N×140°.65E, h56km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.54; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-1.55; $M_{r\theta}$0.50; $M_{r\phi}$-0.83; $M_{\theta\phi}$1.62; Fault plane solution: $M_0$2.44000×10^{15} NP1:ϕ_s18.34000°, δ67.32000°, λ85.32000°. NP2:ϕ_s210.33000°, δ23.13000°, λ101.06000°. Principal axes: T 2.2388, Plg67.0000°, Azm280.0000°; N 0.3576, Plg4.0000°, Azm20.0000°; P -2.5963, Plg22.0000°, Azm112.0000°;*

*NIED **14** 19:28:54.6, 36°.45N×140°.58E, h56km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.93; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$-1.84; $M_{r\theta}$0.92; $M_{\theta\phi}$-0.21; $M_{r\phi}$2.36; Fault plane solution: $M_0$3.17000×10^{15} NP1:ϕ_s18.00000°, δ72.00000°, λ97.00000°. NP2:ϕ_s177.00000°, δ19.00000°, λ70.00000°.*

*NEIC **14** 19:28:54.4±1.8, 36°.48N±0°.06×140°.61E±0°.08, h54km±5km, mb4.7/60, Mwr4.2/21 Error ellipse: s-maj=10.2km s-min=7.1km az=123.0*

*JMA **14** 19:28:54.5±0.1, 36°.45N×140°.58E, h56km±1km, M4.3 Broadband fault plane solution: P waves. NP1: ϕ_s203.00000°, δ25.00000°, λ98.00000°. NP2:ϕ_s14.00000°, δ65.00000°, λ86.00000°. Principal axes: T Plg70.0000°, Azm277.0000°; N Plg3.0000°, Azm16.0000°; P Plg20.0000°, Azm107.0000°;*

JMA Felt III J1.

*IDC **14** 19:28:56.1±1.3, 36°.42N×140°.53E, h74km±11km, mb4.1/32, mb1 4.2/36, mb1mx4.1/57, mbtmp4.5/36, MS3.3/21, Ms1 3.3/21, ms1mx3.0/93 Error ellipse: s-maj=11.4km s-min=7.7km az=84.0*

ISC 14 19:28:53.5±0.6, 36°.47N±0°.04×140°.75E±0°.04, h57km±4km, **n338,** σ1$38/344, **mb4.6**/93, **MS3.3**/16, **27C-12D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.18	226	⇑P	Pn	19 29 03.2	+0.7
JHYU				S	Sn	19 29 09.4	+0.4
JHO	Hitachi	0.20	314	⇑P	Pn	19 29 03.4	+0.7
JHO				S	Sn	19 29 09.3	0.0
JYT	Yasato	0.51	242	⇑P	Pn	19 29 05.1	-0.2
JYT				S	Sn	19 29 12.3	-1.6
JYT	Yasato	0.51	242		Pn	19 29 05.2	-0.2
JYT				Sn	Sn	19 29 12.3	-1.6
ONAJ	Iwakimizuishiy	0.63	3	⇑P	Pn	19 29 07.7	+0.8
ONAJ				S	Sn	19 29 17.4	+0.9
JFK	Kawauchi	0.90	6	⇑P	Pn	19 29 11.0	+0.8
JAG	Ashikaga	1.05	268	⇓P	Pn	19 29 11.5	-0.6
JAG				S	Sn	19 29 23.3	-2.5
JFT	Otama	1.10	343	⇓P	Pn	19 29 13.6	+0.8
JFT				S	Sn	19 29 27.6	+0.5
JKT	Katashina	1.25	284	⇓P	Pn	19 29 14.4	-0.4
JKT				S	Sn	19 29 28.9	-1.8
JFY	Yanaizu	1.26	318	⇓P	Pn	19 29 15.3	+0.4
JFY				S	Sn	19 29 30.8	0.0
JMM	Marumori	1.39	1		Pn	19 29 17.8	+1.1
MJAR	Matsushiro Arr	2.05	273	P	Pn	19 29 25.5	-0.1
	40nm,0.3s,baz=102,slow=22,SNR=894						
MJAR				S	Sn	19 29 49.2	-0.9
	26nm,0.3s,baz=140,slow=36,SNR=3.7						
MJAR	Matsushiro Arr	2.05	273	P	Pn	19 29 25.5	-0.1
MJAR				S	Sn	19 29 49.2	-0.9
MJAR	Matsushiro Arr	2.05	273	Pn	Pn	19 29 24.8	-0.8
MAJO	Matsushiro	2.05	273	P	Pn	19 29 25.2	-0.4
MAJO	Matsushiro	2.05	273	Pn	Pn	19 29 25.2	-0.4
MAT	Matsushiro	2.05	273	P	Pn	19 29 25.2	-0.5
MAT				S	Sn	19 29 51.8	+1.7
MJB9	Matsu-Tunnel	2.05	273		Pn	19 29 25.2	-0.5
JSD	Sado	2.53	309	Pn	Pn	19 29 32.0	-0.2
JSG	Sagara	2.75	230		Pn	19 29 36.1	+0.9
JGF	Kuroka	2.88	254		Pn	19 29 38.0	+0.9
INU	Inuyama	3.23	251	Pn	Pn	19 29 42.5	+0.7
JHJ	Hachijo jima 2	3.44	194	P	Pn	19 29 45.5	+0.9
	90nm,0.3s,baz=80,slow=21,SNR=40						
JHJ				S	Sn	19 30 24.4	+0.3
	131nm,0.3s,baz=45,slow=22,SNR=8.0						
JHJ2	Mitsune	3.44	193		Pn	19 29 45.5	+1.0
JTM	Tenmabayashi	4.32	3	Pn	Pn	19 29 58.9	+2.2
JWT	Wachi	4.50	256	Pn	Pn	19 29 59.4	+0.2
ERM	Erimo	5.84	18	P	Pn	19 30 18.5	+1.0
ERM	Erimo	5.84	18	Pn	Pn	19 30 18.5	+1.0
JMN	Monobe	6.26	246	Pn	Pn	19 30 23.3	-0.1
JHS	Saijyo	6.38	259	Pn	Pn	19 30 26.5	+1.5
JEW	Eniwo	6.38	5	Pn	Pn	19 30 25.7	+0.8
ASAJ	Asahikawa	7.77	10	P	Pn	19 30 43.7	-0.1
	4.4nm,0.3s,baz=225,slow=9.3,SNR=38						
ASAJ				S	Sn	19 32 11.8	+1.5
	2.9nm,0.3s,baz=146,slow=18,SNR=2.6						
ASAJ				LR	LR	19 34 15.3	
	comp=Z,56nm,20.2s,baz=175,slow=41						
ASAJ	Asahikawa	7.77	10	P	Pn	19 30 43.3	-0.6
JKA	Kamikawa-asahi	7.77	10	Pn	Pn	19 30 43.3	-0.6
NMR	Nemuro--Hokkai	7.88	27	*e*P	Pn	19 30 44.6	-0.8
NMR				*e*S	Sn	19 32 07.5	-5.5
GLVR	Golovnino	8.13	25	*e*P	Pn	19 30 48.5	-0.2
GLVR				*e*S	Sn	19 32 14.7	-4.4
RUSJ	Misakicho	8.36	23	*e*P	Pn	19 30 53.0	+1.0
RUSJ				*e*S	Sn	19 32 22.6	-2.3
GRPR	Tuman	8.44	26	*e*P	Pn	19 30 52.0	-1.0
GRPR				*e*S	Sn	19 32 21.9	-4.8
YUK	Yuzh-Kuril'sk	8.50	26	*e*P	Pn	19 30 54.0	+0.1
YUK				*e*S	Sn	19 32 24.0	-4.4
YUK				pmax	pmax		
	comp=N,39nm,0.3s						
YUK				pmax	pmax		
	comp=E,54nm,0.3s						
YUK				pmax	pmax		
	comp=Z,94nm,0.3s						
SHO	Shikotan	8.73	30	*e*P	Pn	19 30 55.0	-2.0
SHO				*e*S	Sn	19 32 26.4	-7.5
JNU	Nakatsue	8.78	251	P	Pn	19 30 59.1	+1.3
	comp=Z,0.9nm,0.3s,baz=146,slow=6.7,SNR=7.6						
JCJ	Chichijima	9.43	172	Pn	Pn	19 31 03.2	-3.4
USA0B	Ussuriysk Arra	10.21	322	P	Pn	19 31 16.9	-0.4
USA0B	Ussuriysk Arra	10.21	322	Pn	Pn	19 31 16.9	-0.4
USRK	Ussuriysk Ar.	10.21	322	P	Pn	19 31 20.3	+3.0
	baz=137,slow=11,SNR=17						
USRK				LR	LR	19 34 58.1	
	comp=Z,105nm,19.6s,baz=150,slow=36						
USRK	Ussuriysk Ar.	10.21	322	P	Pn	19 31 20.3	+3.0
USRK	Ussuriysk Ar.	10.21	322	Pn	Pn	19 31 17.8	+0.6
KSRS	Korea Array	10.31	279	P	Pn	19 31 21.0	+2.3
	comp=Z,0.8nm,0.3s,baz=92,slow=14,SNR=30						
KSRS				LR	LR	19 35 04.2	
	comp=Z,107nm,20.4s,baz=90,slow=36						
KSRS	Korea Array	10.31	279	P	Pn	19 31 21.0	+2.3
KS19	Wonju Array Si	10.36	280		Pn	19 31 19.5	+0.2
YSS	Yuzh-Sakhalins	10.58	7	*e*P	Pn	19 31 22.2	-0.1
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	Yuzh-Sakhalins	10.58	7		Pn	19 31 21.6	-0.7
MDJ	Mudanjiang	11.75	317	Pn	Pn	19 31 37.7	-0.6
BNX	BinXian	13.66	317	⇓P	P	19 32 17.8	+6.5
BNX				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BNX				pmax	pmax		
	comp=Z,170nm,4.8s						
CN2	Changchun	13.80	307	*e*P	P	19 32 11.9	-1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JOW	Kunigami	14.31	231	P	P	19 32 16.0	-2.7
	comp=Z,1.3nm,0.3s,baz=95,slow=12,SNR=1.7						
JOW				LR	LR	19 37 04.1	
	comp=Z,64nm,21.7s,baz=359,slow=34						
KLR	Kul'dur	14.35	336	P	Pn	19 32 12.7	-0.7
	comp=Z,0.2nm,0.3s,baz=122,slow=11,SNR=3.9						
KLR				LR	LR	19 37 28.8	
	comp=Z,65nm,21.1s,baz=142,slow=36						
KLR	Kul'dur	14.35	336	*ce*P	Pn	19 32 07.2	-6.2
KLR				pmax	pmax		
	comp=Z,16nm,2.0s						
GRNR	Gornyy	14.63	349	⇓*i*P	P	19 32 22.7	+0.6
GRNR				pmax	pmax		
	comp=N,7.0nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,70nm,17.0s						
GRNR				MLR	MLR		
	comp=N,90nm,20.0s						
GRNR				MLR	MLR		
	comp=Z,50nm,13.0s				

comp=Z,0.8nm,0.3s,baz=128,slow=12,SNR=1.2
YAK LR LR 19 44 44.7
comp=Z,38nm,21.4s,baz=197,slow=36
YAK Yakutsk 26.51 348 *ce*P **P 19 34 24.8 -0.5**
YAK pmax pmax
comp=Z,21nm,0.8s
YAK Yakutsk 26.51 348 P **P 19 34 24.8 -0.5**
YAK IAmb IAmb 19 34 27.1
comp=Z,19nm,0.8s
ENH Enshi 26.76 266 P **P 19 34 26.2 -1.8**
ENH IAmb IAmb 19 34 28.1
comp=Z,18nm,0.7s
ULN Ulaanbaatar 27.24 305 *ce*P **P 19 34 31.6 -0.7**
ULN pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 27.24 305 P **P 19 34 31.3 -1.0**
SEY Seymchan 27.45 12 P **P 19 34 35.6 +1.9**
comp=Z,7.5nm,0.8s,baz=213,slow=6.6,SNR=14
SEY Seymchan 27.45 12 P **P 19 34 35.6 +1.9**
SONM Songino Array 27.67 305 P **P 19 34 34.8 -1.2**
comp=Z,4.2nm,0.7s,baz=104,slow=9.1,SNR=36
SONM PcP **PcP 19 37 52.7 +0.9**
comp=Z,0.6nm,0.7s,baz=113,slow=3.1,SNR=3.5
SONM LR LR 19 45 30.4
comp=Z,24nm,21.6s,baz=224,slow=36
SONM Songino Array 27.67 305 P **P 19 34 34.8 -1.2**
SONM 19 37 52.7
SONM Songino Array 27.67 305 P **P 19 34 35.6 -0.4**
BOD Bodaibo 27.73 329 ⇓ *i*P **P 19 34 36.7 +0.4**
BOD pmax pmax
comp=Z,8.0nm,0.9s
H11N2 WAKE ISLAND Hy 28.33 119 T T 20 04 46.6
baz=312,slow=75,SNR=127
H11N1 WAKE ISLAND Hy 28.34 119 T T 20 04 46.7
baz=312,slow=75,SNR=179
H11N3 WAKE ISLAND Hy 28.35 119 T T 20 04 47.5
baz=312,slow=75,SNR=145
SHEM Shemya Is, Ala 28.44 45 LR LR 19 43 50.3
comp=Z,78nm,20.1s,baz=53,slow=31
H11S1 WAKE ISLAND Hy 29.01 121 T T 20 05 34.2
baz=314,slow=76,SNR=468
H11S3 WAKE ISLAND Hy 29.01 121 T T 20 05 43.2
baz=314,slow=76,SNR=288
H11S2 WAKE ISLAND Hy 29.03 121 T T 20 05 36.2
baz=314,slow=76,SNR=248
PZH PanZhiHua 34.52 264 P **P 19 35 35.3 -1.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,4.8s
BILL Bilibino 34.72 17 *e*P **P 19 35 38.8 +1.2**
BILL *e* 19 35 48.6
BILL *e* 19 36 51.3
BILL *e* 19 38 13.6
BILL pmax pmax
comp=Z,22nm,4.1s
TIXI Tiksi 35.79 354 P **P 19 35 46.7 0.0**
comp=Z,8.5nm,0.6s,baz=138,slow=6.4,SNR=87
TIXI Tiksi 35.79 354 *ce*P **P 19 35 46.4 -0.3**
TIXI pmax pmax
comp=Z,7.0nm,0.6s
TIXI Tiksi 35.79 354 P **P 19 35 45.8 -1.0**
TIXI IAmb IAmb 19 35 47.8
comp=Z,8.3nm,0.6s
SIJI Sorong 38.18 195 P **P 19 36 06.6 -1.0**
comp=Z,7.8nm,0.7s,baz=7.0,slow=14,SNR=6.2
DGZ Jazzator, Alta 40.29 306 *i* P **P 19 36 26.0 +0.8**
DGZ pmax pmax
comp=Z,24nm,0.5s
WMQ Urumqi 40.62 297 *e*P **P 19 36 29.1 +1.2**
WMQ pmax pmax
comp=Z,11nm,0.9s
CM31 Chiang Mai Arr 40.84 255 P **P 19 36 28.5 -1.3**
CMAR Chiang Mai Arr 40.84 255 P **P 19 36 29.3 -0.5**
comp=Z,1.8nm,0.8s,baz=48,slow=6.8,SNR=11
CMAR PcP **PcP 19 38 30.5 +0.7**
comp=Z,0.6nm,0.6s,baz=1.1,slow=1.9,SNR=4.8
CMAR LR LR 19 55 46.0
comp=Z,29nm,18.4s,baz=65,slow=40
CMAR Chiang Mai Arr 40.84 255 P **P 19 36 29.3 -0.5**
CMAR 19 38 30.5
ZAA0 Zalesovo Array 41.91 313 P **P 19 36 38.3 +0.1**
ZALV Zalesovo Beam 41.91 313 P **P 19 36 38.3 +0.2**
comp=Z,17nm,0.6s,baz=92,slow=7.0,SNR=72
ZALV PcP **PcP 19 38 33.1 +0.3**
comp=Z,0.7nm,0.5s,baz=99,slow=3.2,SNR=2.6
ZALV LR LR 19 54 30.6
comp=Z,28nm,18.1s,baz=330,slow=37
ZALV Zalesovo Beam 41.91 313 P **P 19 36 38.6 +0.5**
ZALV Zalesovo Beam 41.91 313 P **P 19 36 38.6 +0.5**
NRIK Noril'sk 43.56 336 P **P 19 36 50.9 -0.5**
comp=Z,2.1nm,0.4s,baz=132,slow=6.1,SNR=6.6
NRIK Noril'sk 43.56 336 *ce*P **P 19 36 50.5 -0.8**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
NRIK Noril'sk 43.56 336 P **P 19 36 51.1 -0.2**
MK31 Makanchi Array 43.97 302 P **P 19 36 54.9 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 43.97 302 P **P 19 36 54.9 -0.1**
MKAR Makanchi Array 43.97 302 P **P 19 36 54.9 0.0**
comp=Z,6.1nm,0.8s,baz=91,slow=9.7,SNR=5.2
MKAR PcP **PcP 19 38 39.9 0.0**
comp=Z,0.6nm,0.6s,baz=59,slow=5.6,SNR=2.4
MKAR Makanchi Array 43.97 302 *i* P **P 19 36 55.2 +0.2**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 43.97 302 P **P 19 36 55.0 0.0**
MAKZ Makanchi 44.18 303 P **P 19 36 56.8 +0.2**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
MAKZ Makanchi 44.18 303 P **P 19 36 56.8 +0.2**
KURK Kurchatov 45.86 308 P **P 19 37 09.2 -0.7**
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 45.86 308 P **P 19 37 09.2 -0.7**
KURK IAmb IAmb 19 37 11.7
comp=Z,12nm,0.8s
GUN Gumba 46.68 276 *e*P **P 19 37 17.1 0.0**
comp=Z,33nm,0.6s
K20K Telida 47.09 34 P **P 19 37 22.5 +3.1**
J20K Nowinta River 47.10 33 P **P 19 37 22.6 +3.1**
J20K IAmb IAmb 19 37 25.2
comp=Z,14nm,1.5s
PKI Pulchoki 47.20 276 *e*P **P 19 37 20.6 -0.5**
comp=Z,22nm,0.7s
PKIN Phulchoki 47.21 276 *e*P **P 19 37 20.6 -0.5**
comp=Z,19nm,0.7s
KKN Kakani 47.21 276 *e*P **P 19 37 20.9 -0.2**
comp=Z,24nm,0.7s
IMAR Indian Mountai 47.41 30 P **P 19 37 23.5 +1.8**
DMN Daman 47.43 276 *e*P **P 19 37 22.2 -0.6**
GKN Gorkha 47.64 277 *e*P **P 19 37 24.0 -0.3**
comp=Z,58nm,0.7s
KDAK Kodiak Island 47.87 42 P **P 19 37 27.6 +2.2**
comp=Z,3.3nm,0.5s,baz=300,slow=5.6,SNR=12
KDAK Kodiak Island 47.87 42 P **P 19 37 27.6 +2.2**
KDAK Kodiak Island 47.87 42 P **P 19 37 26.9 +1.4**
PPLA Purkeypile 47.93 35 P **P 19 37 27.6 +1.5**
DANN Dangsing 48.20 277 *e*P **P 19 37 28.9 +0.1**
comp=Z,99nm,0.7s
KOLN Koldanda 48.57 277 *e*P **P 19 37 31.4 -0.1**
comp=Z,4.5nm,0.3s
PYUN Piuthan 48.92 278 *e*P **P 19 37 34.0 -0.2**
comp=Z,32nm,0.6s
HNR Honiara 49.10 155 LR LR 19 57 24.7
comp=Z,32nm,20.0s,baz=244,slow=35
BATI Baumata 49.14 202 P **P 19 37 36.0 +0.3**
comp=Z,28nm,0.6s,baz=323,slow=10,SNR=8.8
SML Sawmill 49.76 36 P **P 19 37 40.9 +1.0**
SML IAmb IAmb 19 38 09.8
comp=Z,7.3nm,1.1s
MTN Manton Dam 49.88 192 P **P 19 37 41.5 +0.3**
MTN IAmb IAmb 19 37 45.3
comp=Z,5.7nm,0.7s
KSH Kashi 50.15 294 P **P 19 37 47.3 +3.9**
KSH sP sP 19 38 09.3 +4.3
KSH PP **PP 19 39 42.8 +4.0**
KSH pmax pmax
comp=Z,8.0nm,1.2s
IL31 50.25 32 P **P 19 37 45.7 +2.1**
IL31 IAmb IAmb 19 37 49.2
comp=Z,5.4nm,1.0s
ILAR Eielson Array 50.25 32 P **P 19 37 45.9 +2.3**
comp=Z,2.3nm,0.8s,baz=272,slow=6.3,SNR=20
ILAR Eielson Array 50.25 32 P **P 19 37 45.9 +2.3**
ILAR Eielson Array 50.25 32 P **P 19 37 45.5 +1.9**
AAK Ala-Archa 50.29 299 LR LR 20 00 16.4
comp=Z,47nm,19.0s,baz=87,slow=38
AAK Ala-Archa 50.29 299 *i* P **P 19 37 44.7 +0.3**
AAK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 50.29 299 P **P 19 37 44.8 +0.3**
AAK IAmb IAmb 19 38 06.7
comp=Z,5.3nm,1.2s
BRVK Borovoye 50.62 313 *ce*P **P 19 37 45.5 -1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BRVK Borovoye 50.62 313 P **P 19 37 46.3 -0.2**
PSI Prapat 51.05 239 LR LR 19 57 49.1
comp=Z,34nm,22.0s,baz=210,slow=34
SCRK Sand Creek 51.57 33 P **P 19 37 56.5 +2.8**
SCRK IAmb IAmb 19 37 57.5
comp=Z,4.1nm,1.0s
BCAR Beaver Creek A 52.66 34 P **P 19 38 04.5 +2.9**
KKAR Karatay Array 52.95 300 P **P 19 38 04.1 +0.1**
KKAR Karatay Array 52.95 300 P **P 19 38 04.1 +0.1**
GSI Gunungsitoli 53.05 239 P **P 19 38 05.1 0.0**
KNRA Kununurra 53.09 194 P **P 19 38 06.0 +0.8**
KNRA IAmb IAmb 19 38 24.3
comp=Z,6.0nm,0.8s
LEM Lembang 53.10 223 P **P 19 38 05.1 -0.5**
comp=Z,23nm,0.9s,baz=54,slow=9.1,SNR=4.7
LEM Lembang 53.10 223 P **P 19 38 05.1 -0.5**
BTK Batken 53.73 297 P **P 19 38 10.2 +0.3**
BTK pmax pmax
comp=Z,4.0nm,1.1s
BTK Batken 53.73 297 P **P 19 38 10.2 +0.3**
EPYK Eagle Plains 54.28 29 P **P 19 38 16.4 +2.9**
NIL Nilore 54.29 288 P **P 19 38 13.5 -0.5**
NIL pmax pmax
comp=Z,6.0nm,0.5s
NIL Nilore 54.29 288 P **P 19 38 13.5 -0.5**
INK Inuvik 55.13 27 P **P 19 38 21.5 +2.0**
comp=Z,3.3nm,0.8s,baz=275,slow=8.3,SNR=13
INK Inuvik 55.13 27 P **P 19 38 21.8 +2.3**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 55.13 27 P **P 19 38 21.8 +2.3**
INK IAmb IAmb 19 38 22.7
comp=Z,4.1nm,0.8s
CHGR Chuyangaron 55.43 296 P **P 19 38 22.3 0.0**
WB0 Warramunga Arr 56.25 187 P **P 19 38 27.9 -0.2**
RPR Rampur 56.30 269 *e*P **P 19 38 28.5 -0.1**
MYLAV Mylavaram 56.34 266 *e*P **P 19 38 29.5 +0.6**
ARU Arti 56.43 319 LR LR 20 03 20.7
comp=Z,34nm,18.1s,baz=53,slow=37
ARU Arti 56.43 319 *d i*P **P 19 38 27.3 -1.7**
ARU S **S 19 46 09.6 -5.9**
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 56.43 319 P **P 19 38 28.6 -0.4**
ARU IAmb IAmb 19 38 29.8
comp=Z,7.3nm,0.8s
WB2 Warramunga Arr 56.43 187 P **P 19 38 28.9 -0.5**
WB2 IAmb IAmb 19 38 30.3
comp=Z,6.2nm,0.7s
WRA Warramunga Arr 56.43 187 P **P 19 38 29.5 +0.1**
comp=Z,4.2nm,0.5s,baz=3.0,slow=7.5,SNR=57
WRA Warramunga Arr 56.43 187 P **P 19 38 29.5 +0.1**
WRA Warramunga Arr 56.43 187 P **P 19 38 29.3 0.0**
A36M Sachs Harbour 56.98 22 P **P 19 38 35.5 +2.9**
A36M IAmb IAmb 19 38 37.1
comp=Z,11nm,0.9s
SRSP Sriramsagar 57.03 270 *e*P **P 19 38 33.5 -0.3**
KBL Kabul 57.12 291 P **P 19 38 33.2 -1.3**
KBL pmax pmax
comp=Z,7.0nm,1.3s
KBL Kabul 57.12 291 P **P 19 38 33.2 -1.3**
KBL IAmb IAmb 19 38 34.9
comp=Z,6.5nm,1.2s
ADKI Addanki 57.37 266 *e*P **P 19 38 35.9 -0.2**
NJS Nagarjunasagar 57.51 267 *e*P **P 19 38 37.2 -0.1**
HYBB Hyderabad (bro 57.66 268 *e*P **P 19 38 38.1 -0.2**
HYBB *es*P **sP 19 38 59.1 -0.9**
HYBB *e*S **S 19 46 33.5 +0.9**
SRLM Srisailam 58.09 267 *e*P **P 19 38 40.7 -0.7**
C36M Paulatuk 58.16 25 P **P 19 38 42.1 +1.1**
C36M IAmb IAmb 19 38 44.0
comp=Z,6.6nm,0.9s
RCLA Racherla 58.39 266 *e*P **P 19 38 43.7 +0.3**
URV Uravakonda 60.04 267 *e*P **P 19 38 54.9 +0.1**
AS31 Alice Springs 60.16 187 P **P 19 38 55.2 -0.2**
ASAR Alice Springs 60.16 187 P **P 19 38 56.0 +0.7**
comp=Z,2.4nm,0.7s,baz=14,slow=5.5,SNR=28
ASAR Alice Springs 60.16 187 P **P 19 38 56.0 +0.7**
ASAR Alice Springs 60.16 187 P **P 19 38 55.6 +0.3**
KIRV Kirov 60.38 323 *ce*P **P 19 38 55.6 -0.8**
SPA0 Spitsbergen Ar 60.97 349 *e*P **P 19 39 00.8 +0.6**
NOR Nord 61.58 356 *i* P **P 19 39 02.4 -1.9**
NOR IAmb IAmb 19 39 05.8
comp=Z,3.1nm,0.6s
HRA Herat 62.26 294 P **P 19 39 10.1 +0.2**
HRA IAmb IAmb 19 39 11.2
comp=Z,5.6nm,0.7s
RES Resolute Bay 63.28 14 P **P 19 39 16.9 +1.2**
comp=Z,4.0nm,0.5s,baz=267,slow=17
RES Resolute Bay 63.28 14 P **P 19 39 16.9 +1.2**
RES Resolute Bay 63.28 14 P **P 19 39 16.9 +1.2**
RES IAmb IAmb 19 39 18.2
comp=Z,5.6nm,0.8s
GEYT Alibeck 63.64 299 P **P 19 39 19.5 +0.7**
comp=Z,2.0nm,0.6s,baz=88,slow=16,SNR=2.8
BELG Belogornoye 63.85 317 *i* P **P 19 39 17.7 -2.1**
BELG pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 63.95 328 *e*P **P 19 39 18.6 -1.7**
KLMR pmax pmax
comp=Z,7.0nm,0.6s
KLMR Klimovskoe 63.95 328 *e*P **P 19 39 18.7 -1.6**
KLMR AMP 19 39 21.1
comp=Z,7.0nm,0.6s
ARA0 ARCESS Array S 64.34 339 *e*P **P 19 39 23.6 +0.9**
ARCES ARCESS Array B 64.34 339 P **P 19 39 22.8 +0.1**
comp=Z,7.1nm,0.9s,baz=63,slow=7.9,SNR=17
ARCES LR LR 20 10 37.9
comp=Z,21nm,18.1s,baz=117,slow=39
ARCES ARCESS Array B 64.34 339 P **P 19 39 22.8 +0.1**
ARCES ARCESS Array B 64.34 339 IAmb IAmb 19 39 34.3
comp=Z,14nm,1.2s
YKA Yellowknife Ar 64.56 30 P **P 19 39 26.3 +2.0**
comp=Z,1.4nm,0.8s,baz=302,slow=6.8,SNR=17
YKA Yellowknife Ar 64.56 30 *i* P **P 19 39 26.2 +1.9**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 64.56 30 P **P 19 39 26.6 +2.3**
KTK1 Kautokeino 65.30 339 *e*P **P 19 39 30.1 +1.1**
NEEM North Greenlan 66.12 3 *i* P **P 19 39 33.7 -0.8**
NEEM IAmb IAmb 19 39 37.3
comp=Z,12nm,0.7s
DAG Danmarks Havn 66.29 355 *i* P **P 19 39 35.0 -0.2**
DAG IAmb IAmb 19 39 36.6
comp=Z,4.9nm,0.6s
VRH Novokhopyorsk 67.64 318 *e*P **P 19 39 43.6 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
STKA Stephens Creek 68.00 179 P **P 19 39 47.1 +0.6**
comp=Z,1.2nm,0.4s,baz=350,slow=4.8,SNR=4.8
STKA Stephens Creek 68.00 179 P **P 19 39 47.1 +0.6**
STEI Steigen 68.22 341 *e*P **P 19 39 48.2 +0.7**
OBN Obninsk 68.23 323 *e*P **P 19 39 46.9 -0.9**
OBN *e* 19 40 17.6
OBN pmax pmax
comp=Z,4.0nm,0.8s
LPSR Galich'ya Gora 68.39 320 *e*P **P 19 39 48.6 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FAUS Fauske 68.60 340 *e*P **P 19 39 50.9 +1.0**
VSR Storozhevoye 69.00 319 *e*P **P 19 39 52.2 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 69.06 332 P **P 19 39 53.2 +0.3**
comp=Z,4.7nm,0.5s,baz=37,slow=8.0,SNR=29
FINES FINESS Array B 69.06 332 P **P 19 39 53.2 +0.3**
FINES FINESS Array B 69.06 332 P **P 19 39 52.9 0.0**
MOR8 Moi Rana 69.71 340 *e*P **P 19 39 56.2 -0.6**
VSU Vasula 70.67 329 *e*P **P 19 40 02.9 +0.1**
KBZ Khabaz 70.86 311 P **P 19 40 04.5 +0.2**
comp=Z,4.1nm,0.7s,baz=23,slow=6.8,SNR=9.4
KBZ Khabaz 70.86 311 *ce*P **P 19 40 03.4 -0.9**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 70.87 311 *e*P **P 19 40 04.8 +0.3**
KIV pmax pmax
comp=Z,13nm,1.0s
NEW Newport 70.90 44 P **P 19 40 07.2 +2.6**
comp=Z,1.1nm,0.5s,baz=235,slow=15,SNR=1.9
NEW LR LR 20 11 35.1
comp=Z,17nm,19.4s,baz=202,slow=36
NEW Newport 70.90 44 P **P 19 40 07.2 +2.6**
NEW Newport 70.90 44 IAmb IAmb 19 40 28.6
comp=Z,7.1nm,1.3s
SUMG Summit 71.25 360 P **P 19 40 07.4 +0.7**
SUMG pmax pmax
comp=Z,14nm,1.2s
SUMG Summit 71.25 360 *i* P **P 19 40 06.4 -0.2**
SUMG IAmb IAmb 19 40 09.6
comp=Z,14nm,1.2s
SUMG Summit 71.25 360 P **P 19 40 07.4 +0.7**
SUMG IAmb IAmb 19 40 10.5
comp=Z,14nm,1.2s
GNI Garni 71.61 307 *i* P **P 19 40 09.2 +0.1**
GNI pmax pmax
comp=Z,7.0nm,1.1s
NSS Namsos 71.62 339 *e*P **P 19 40 09.1 +0.6**
MTSE Matsula 71.68 331 *e*P **P 19 40 09.1 +0.2**
IDID Didziasalis 72.66 327 *e*P **P 19 40 16.0 +1.2**
IIGN Ignalina 72.86 327 *e*P **P 19 40 17.1 +1.1**
NACGM Naroch 72.90 326 *i* P **P 19 40 17.2 +0.9**
UPP Uppsala 73.22 334 *e*P **P 19 40 17.9 -0.2**
PABE Paberze 73.74 328 *e*P **P 19 40 22.1 +0.9**
PABE Paberze 73.74 328 P **P 19 40 21.7 +0.6**
NC405 NORSAR Array S 74.29 337 P **P 19 40 24.0 -0.4**
DOMB Dombas 74.38 339 *e*P **P 19 40 25.6 +0.7**
HFS Hagfors 74.38 335 LR LR 20 14 28.4
comp=Z,31nm,20.3s,baz=69,slow=37
AKASG Malin Array Be 74.42 322 P **P 19 40 25.2 -0.1**
comp=Z,4.3nm,0.5s,baz=47,slow=6.2,SNR=40
AKASG LR LR 20 14 52.7
comp=Z,35nm,19.6s,baz=28,slow=37
AKASG Malin Array Be 74.42 322 P **P 19 40 25.4 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 74.42 322 P **P 19 40 25.4 +0.1**
AKBB Malin Array Si 74.42 322 *ce*P **P 19 40 24.8 -0.5**
AKBB Malin Array Si 74.42 322 P **P 19 40 25.1 -0.2**
AKBB IAmb IAmb 19 40 26.0
comp=Z,8.1nm,0.7s
NC204 NORSAR Array S 74.46 337 P **P 19 40 26.1 +0.6**
NB201 NORSAR Array S 74.47 337 P **P 19 40 25.9 +0.5**
NB2 NORSAR Subarra 74.50 337 P **P 19 40 25.9 +0.3**
comp=Z,2.1nm,0.5s,baz=42,slow=5.9
NB2 NORSAR Subarra 74.50 337 P **P 19 40 25.9 +0.3**
baz=42,slow=5.9
NOA NORSAR Array B 74.50 337 P **P 19 40 25.9 +0.3**
comp=Z,6.5nm,0.8s,baz=39,slow=5.8,SNR=22
NOA NORSAR Array B 74.50 337 P **P 19 40 25.9 +0.3**
NC602 NORSAR Array S 74.63 337 *e*P **P 19 40 26.7 +0.3**
NBO00 NORSAR Array S 74.64 337 P **P 19 40 26.5 +0.1**
SKAR Skarslia 75.68 338 *e*P **P 19 40 33.3 +0.9**
NVAR Mina Array Bea 75.75 53 LR LR 20 05 57.6
comp=Z,28nm,21.1s,baz=92,slow=29
KONO Kongsberg 76.09 337 *e*P **P 19 40 35.8 +1.1**
SORM Soroca 76.49 320 ⇓ P **P 19 40 37.0 -0.1**
GIRR Girov 78.21 320 P **P 19 40 47.5 +0.6**
BURAR Bucovina Array 78.42 321 ⇑ P **P 19 40 48.8 +0.6**
TESR Tescani 78.42 320 ⇑ P **P 19 40 48.2 +0.2**
PDAR Pinedale Array 78.44 45 P **P 19 40 50.2 +1.7**
comp=Z,0.5nm,0.5s,baz=227,slow=1.9,SNR=6.8
PDAR Pinedale Array 78.44 45 P **P 19 40 50.4 +1.8**
TPGR Topolog 78.57 318 ⇑ P **P 19 40 49.5 +0.6**
VRI Vrincioaia 78.81 319 ⇑ P **P 19 40 51.5 +1.3**
VRI ⇑ P **P 19 40 52.1 +1.8**
BR131 Keskin Array S 78.83 311 P **P 19 40 50.7 +0.1**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BR131 Keskin Array S 78.83 311 P **P 19 40 50.7 +0.1**
BR131 IAmb IAmb 19 40 55.1
comp=Z,5.3nm,0.9s
BRTR Keskin Array B 78.83 311 P **P 19 40 51.1 +0.5**
comp=Z,2.0nm,0.8s,baz=117,slow=5.0,SNR=11
BRTR Keskin Array B 78.83 311 *ce*P **P 19 40 51.0 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 78.83 311 P **P 19 40 50.2 -0.4**
PLOR Plostina 78.86 319 ⇑ P **P 19 40 50.9 +0.4**
HARR Harsova 78.94 318 ⇑ P **P 19 40 52.4 +1.5**
TLBR Topalu 78.97 318 ⇑ P **P 19 40 51.6 +0.5**
OZUR 79.15 320 ⇑ P **P 19 40 53.5 +1.4**
OJC Ojcow 79.21 326 P **P 19 40 51.7 -0.6**
OJC pmax pmax
comp=Z,6.0nm,0.7s
OJC Ojcow 79.21 326 P **P 19 40 51.7 -0.6**
OJC IAmb IAmb 19 40 54.0
comp=Z,6.4nm,0.7s
ARCR ARCALIA 79.21 321 P **P 19 40 53.9 +1.5**
CRVS Cervenica-Dubn 79.37 324 *e*P **P 19 40 53.8 +0.6**
CRVS Cervenica-Dubn 79.37 324 *e*P **P 19 40 53.8 +0.6**
ICOR Ion Corvin 79.39 318 P **P 19 40 54.4 +1.1**
DOPR Dopca 79.44 320 ⇓ P **P 19 40 55.5 +1.8**
MLR Muntele Rosu 79.47 320 LR LR 20 19 33.6
comp=Z,35nm,19.0s,baz=116,slow=38
LANS Liptovska Anna 80.12 325 *e*P **P 19 40 58.8 +1.5**
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 80.12 325 *e*P **P 19 40 58.8 +1.5**
SRU San Rafael Swe 80.18 48 P **P 19 40 58.4 +0.4**
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 80.18 48 P **P 19 40 58.4 +0.4**
DRGR 80.23 322 ⇓ P **P 19 40 58.7 +0.7**
ARR Arges 80.23 320 P **P 19 41 00.1 +2.0**
RAYN Ar Rayn 80.38 292 P **P 19 40 58.3 -0.8**
RAYN pmax pmax
comp=Z,3.0nm,0.7s
RAYN Ar Rayn 80.38 292 P **P 19 40 58.3 -0.8**
MORC Moravsky Berou 80.54 327 ⇑ P **P 19 41 00.7 +1.1**
DPC Dobruska-Polom 80.65 328 *e*P **P 19 41 01.3 +1.2**
DPC Dobruska-Polom 80.65 328 *e*P **P 19 41 01.3 +1.2**
KRLC Kraliky 80.65 327 *e*P **P 19 41 01.1 +0.9**
KRLC Kraliky 80.65 327 *e*P **P 19 41 01.1 +0.9**
VYHS Vyhne 80.89 325 *e*P **P 19 41 02.8 +1.4**
VYHS Vyhne 80.89 325 *e*P **P 19 41 02.8 +1.4**
GZR Gura Zlata 81.17 321 ⇑ P **P 19 41 03.5 +0.4**
VRAC Vranov 81.30 327 LR LR 20 22 14.2
comp=Z,33nm,18.0s,baz=34,slow=39
CLL Collm 81.32 330 *i* P **P 19 41 03.9 +0.3**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 81.32 330 *i* P **P 19 41 03.9 +0.3**
comp=Z,10.0nm,0.8s
SMOL Smolenice 81.51 326 *e*P **P 19 41 05.8 +1.1**
SMOL pmax pmax
comp=Z,3.0nm,0.8s
SMOL Smolenice 81.51 326 *e*P **P 19 41 05.8 +1.1**
BZS Buzias 81.60 322 P **P 19 41 05.5 +0.3**
SRO2 Moca 81.62 325 *e*P **P 19 41 05.8 +0.6**
SRO2 Moca 81.62 325 *e*P **P 19 41 05.8 +0.6**
PRU Pruhonice 81.68 328 *e*P **P 19 41 06.4 +0.9**
PRU Pruhonice 81.68 328 *e*P **P 19 41 06.4 +0.9**
MODS Modra-Piesok 81.69 326 *e*P **P 19 41 07.6 +2.0**
MODS Modra-Piesok 81.69 326 *e*P **P 19 41 07.6 +2.0**
CONA Conrad Observa 82.65 326 *e*P **P 19 41 12.2 +1.4**
comp=Z,1.3nm,0.4s
CKRC Cesky Krumlov 82.67 328 *e*P **P 19 41 11.3 +0.6**
KHC Kasperske Hory 82.74 328 *e*P **P 19 41 11.0 -0.2**
KHC Kasperske Hory 82.74 328 *e*P **P 19 41 11.0 -0.2**
VTS Vitosha 82.86 319 ⇓ P **P 19 41 13.7 +1.7**
GERES GERESS Array B 82.91 328 P **P 19 41 12.6 +0.5**
comp=Z,1.8nm,0.5s,baz=40,slow=6.4,SNR=19
GERES GERESS Array B 82.91 328 P **P 19 41 12.6 +0.5**
GERES GERESS Array B 82.91 328 P **P 19 41 12.4 +0.3**
X18A Snowflake 83.45 52 P **P 19 41 15.2 -0.1**
X18A IAmb IAmb 19 41 44.1
comp=Z,5.1nm,0.5s
SOKA Soboth 83.96 326 *e*P **P 19 41 18.3 +0.8**
comp=Z,3.3nm,0.7s
OBKA Obir 84.31 326 *e*P **P 19 41 18.7 -0.7**
comp=Z,2.2nm,0.7s
KBA Koelnbreinsper 84.41 327 *e*P **P 19 41 17.8 -2.2**
comp=Z,2.8nm,0.7s
MYKA Terra Mystica 84.62 326 *e*P **P 19 41 20.8 0.0**
comp=Z,2.5nm,0.4s
ABTA Abfaltersbach 85.03 327 *e*P **P 19 41 23.2 +0.2**

comp=Z,1.0nm,0.3s
FETA Feichten 85.59 328 *eP* **P 19 41 26.0 +0.2**
comp=Z,0.8nm,0.5s
SCHQ Schefferville 86.02 16 P **P 19 41 28.2 +0.6**
comp=Z,3.8nm,0.8s,baz=244,slow=16,SNR=2.5
TXAR Lajitas Array 90.89 52 P **P 19 41 52.9 +1.6**
comp=Z,0.6nm,0.7s,baz=267,slow=1.7,SNR=6.2
TXAR Lajitas Array 90.89 52 P **P 19 41 52.9 +1.6**
TXAR Lajitas Array 90.89 52 P **P 19 41 52.8 +1.4**
TORD Torodi Ar. Bea 117.35 314 PKP **PKPdf 19 47 32.2 -0.9**
comp=Z,0.3nm,0.5s,baz=341,slow=1.1,SNR=2.2
LPAZ La Paz 147.44 60 PKPbc **PKPab 19 48 33.5 -0.7**
comp=Z,1.1nm,0.6s,baz=4.3,slow=8.8,SNR=4.5
LPAZ La Paz 147.44 60 PKP2 **PKPab 19 48 33.6 -0.7**
LPAZ La Paz 147.44 60 **PKPdf 19 48 29.2 -0.5**
H03N2 Juan Fernandez 147.49 97 T T 22 33 45.8
baz=291,slow=76,SNR=53
H03N3 Juan Fernandez 147.50 97 T T 22 33 48.5
baz=291,slow=76,SNR=58
H03N1 Juan Fernandez 147.51 97 T T 22 33 47.5
baz=291,slow=76,SNR=66

*IDC **14** 19:31:05.8±5.5, 5°.24S×151°.68E, h136km±44km, mb3.0/5, mb1 3.3/6, mb1mx2.7/48, mbtmp3.5/6, MS3.0/2, Ms1 3.0/2, ms1mx2.6/17, Error ellipse: s-maj=60.5km s-min=30.5km az=111.0*
ISC 14 19:31:05.1±1.8, **5°.2S**±0°.2×**151°.7E**±0°.3, **h129**km, **n9,** σ1§**36/8, mb3.3/5, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.17**	**227**	P	**Pn**	**19 32 35.5**	**+1.7**
	1.1nm,0.3s,baz=330,slow=20,SNR=3.2						
PMG				S	**Sn**	**19 33 41.6**	**-1.5**
	1.1nm,0.3s,baz=342,slow=19,SNR=5.5						
GUMO	**Guam**	**19.86**	**340**	LR	LR	19 42 58.6	
	comp=Z,14nm,19.4s,baz=38,slow=36						
WRA	**Warramunga Arr**	**22.39**	**228**	P	**P**	**19 35 52.0**	**-1.0**
	0.8nm,0.8s,baz=54,slow=9.9,SNR=5.8						
ASAR	**Alice Springs**	**25.14**	**221**	P	**P**	**19 36 18.4**	**-0.1**
	0.4nm,0.4s,baz=56,slow=9.5,SNR=11						
BATI	**Baumata**	**28.23**	**258**	LR	LR	19 49 23.5	
	comp=Z,84nm,18.4s,baz=238,slow=39						
CMAR	**Chiang Mai Arr**	**57.07**	**296**	P	**P**	**19 40 39.4**	**+1.1**
	0.2nm,0.3s,baz=116,slow=5.4,SNR=2.2						
SONM	**Songino Array**	**66.08**	**328**	P	**P**	**19 41 37.4**	**-1.0**
	0.3nm,0.6s,baz=144,slow=5.5,SNR=2.5						
ILAR	**Eielson Array**	**82.92**	**22**	P	**P**	**19 43 15.4**	**+0.1**
	0.2nm,0.5s,baz=210,slow=7.1,SNR=1.8						
TORD	**Torodi Ar. Bea**	**149.39**	**287**	PKPbc	**PKPbc**	**19 50 39.1**	**-0.9**
	0.1nm,0.3s,baz=104,slow=4.2,SNR=1.7						

*SOME **14** 19:31:44.6, 42°.17N×84°.22E, h10km*
*NNC **14** 19:31:48.5±1.1, 42°.29N×84°.07E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=9.5km s-min=5.7km az=153.0*
ISC 14 19:31:51.0±2.2, **42°.38N**±0°.10×**83°.94E**±0°.08, **h10**km, **n28,** σ2§**13/40, 7C-5D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.84**	**293**	*eP*	**Pb**	**19 32 41.7**	**-0.2**
	4.4nm,0.2s						
KTMS				*eS*	**Sg**	**19 33 23.1**	**+0.9**
	61nm,0.6s						
KTMS	**Ketmen**	**2.84**	**293**	Pg	**Pb**	**19 32 41.7**	**-0.2**
	4.4nm,0.2s						
KTMS				Lg	Lg	19 33 23.1	
	61nm,0.6s						
SHLS	**Shalkode**	**3.38**	**285**	*eP*	**Pb**	**19 32 47.6**	**-3.5**
	5.6nm,0.3s						
SHLS				*eS*	**Sb**	**19 33 33.0**	**+0.6**
	74nm,0.3s						
SHLS	**Shalkode**	**3.38**	**285**	Pg	**Pb**	**19 32 47.6**	**-3.5**
	5.6nm,0.3s						
SHLS				Lg	Lg	19 33 33.0	
	74nm,0.3s						
PDGK	**Podgornoye**	**3.40**	**288**	⇑Pn	**Pn**	**19 32 45.1**	**+0.8**
	0.6nm,0.6s						
PDGK				⇑Pg	**Pg**	**19 32 53.9**	**-2.2**
	3.5nm,0.4s						
PDGK				⇓Lg	Lg	19 33 41.9	
	35nm,0.6s						
DJR	**Jarkent**	**3.60**	**304**	*eP*	**Pb**	**19 32 56.2**	**+1.5**
	4.1nm,0.2s						
DJR				*eS*	**Sg**	**19 33 47.8**	**+1.3**
	21nm,0.4s						
DJR	**Jarkent**	**3.60**	**304**	Pg	**Pb**	**19 32 56.2**	**+1.5**
	4.1nm,0.2s						
DJR				Lg	Lg	19 33 47.8	
	21nm,0.4s						
UZB	**Uzynbulak**	**3.70**	**284**	*eP*	**Pb**	**19 32 56.3**	**-0.1**
UZB				*eS*	**Sg**	**19 33 47.9**	**-1.9**
UZB	**Uzynbulak**	**3.70**	**284**	Pg	**Pb**	**19 32 56.3**	**-0.1**
UZB				Lg	Lg	19 33 47.9	
SATY	**Saty**	**4.13**	**281**	*eP*	**Pb**	**19 33 05.2**	**+1.4**
	3.1nm,0.3s						
SATY				*eS*	**Sg**	**19 34 02.8**	**-0.8**
	16nm,0.5s						
SATY	**Saty**	**4.13**	**281**	Pg	**Pb**	**19 33 05.2**	**+1.4**
	3.1nm,0.3s						
SATY				Lg	Lg	19 34 02.8	
	16nm,0.5s						
BLB	**Baldybastay**	**4.34**	**295**	*eP*	**Pb**	**19 33 10.1**	**+2.7**
	4.9nm,0.2s						
BLB				*eS*	**Sg**	**19 34 12.0**	**+1.7**
	20nm,0.6s						
BLB	**Baldybastay**	**4.34**	**295**	Pg	**Pb**	**19 33 10.1**	**+2.7**
	4.9nm,0.2s						
BLB				Lg	Lg	19 34 12.0	
	20nm,0.6s						
KURS	**Kuram**	**4.38**	**287**	*eP*	**Pb**	**19 33 10.7**	**+2.7**
	4.8nm,0.5s						
KURS				*eS*	**Sg**	**19 34 13.2**	**+1.7**
	8.0nm,0.7s						
KURS	**Kuram**	**4.38**	**287**	Pg	**Pb**	**19 33 10.7**	**+2.7**
	4.8nm,0.5s						
KURS				Lg	Lg	19 34 13.2	
	8.0nm,0.7s						
KAPS	**Kapalarasan**	**4.41**	**313**	*eP*	**Pb**	**19 33 10.0**	**+1.5**
	2.8nm,0.5s						
KAPS				*eS*	**Sg**	**19 34 11.3**	**-1.0**
	14nm,0.5s						
KAPS	**Kapalarasan**	**4.41**	**313**	Pg	**Pb**	**19 33 10.6**	**+2.1**
	2.8nm,0.5s						
KAPS				Lg	Lg	19 34 11.3	
	14nm,0.5s						
MK31	**Makanchi Array**	**4.57**	**346**	Pn	**Pn**	**19 33 00.1**	**0.0**
	0.1nm,0.3s,baz=155,slow=14,SNR=56						
MK31				⇓Pg	**Pb**	**19 33 12.6**	**+1.4**
	6.6nm,0.8s,baz=158,slow=16,SNR=26						
MK31				⇓Lg	Lg	19 34 16.2	
	13nm,0.5s,baz=173,slow=32,SNR=14						
MAKZ	**Makanchi**	**4.64**	**343**	⇑Pn	**Pn**	**19 33 02.2**	**+1.0**
	1.0nm,0.8s						
MAKZ				⇑Pg	**Pg**	**19 33 17.0**	**-2.9**
	4.7nm,0.6s						
MAKZ				⇓Lg	Lg	19 34 20.3	
	14nm,0.7s						
ARXS	**Arharly**	**4.82**	**294**	*eP*	**Pb**	**19 33 19.0**	**+3.4**
	3.1nm,0.4s						
ARXS				*eS*	**Sg**	**19 34 27.0**	**+1.3**
	13nm,0.4s						
ARXS	**Arharly**	**4.82**	**294**	Pg	**Pg**	**19 33 19.4**	**-3.8**
	3.1nm,0.4s						
ARXS				Lg	Lg	19 34 27.0	
	13nm,0.4s						
ZSN	**Zaisan**	**5.11**	**7**	*eP*	**Pb**	**19 33 22.7**	**+2.2**
	3.4nm,0.5s						
ZSN				*eS*	**Sg**	**19 34 32.9**	**-2.2**
	56nm,0.5s						
ZSN	**Zaisan**	**5.11**	**7**	Pg	**Pb**	**19 33 23.1**	**+2.6**
	3.4nm,0.5s						
ZSN				Lg	Lg	19 34 32.9	
	56nm,0.5s						
TNSS	**Tian-Shan**	**5.19**	**280**	*eP*	**Pb**	**19 33 25.2**	**+3.1**
	1.8nm,0.4s						
TNSS				*eS*	**Sg**	**19 34 37.4**	**-0.2**
	3.9nm,0.4s						
TNSS	**Tian-Shan**	**5.19**	**280**	Pg	**Pb**	**19 33 25.6**	**+3.6**
	1.8nm,0.4s						
TNSS				Lg	Lg	19 34 37.4	
	3.9nm,0.4s						
TKM2	**Tokmak 2**	**6.17**	**278**	⇑Pn	**Pn**	**19 33 23.7**	**+1.4**
	1.5nm,0.6s						
TKM2				⇑Lg	Lg	19 35 08.6	
	5.0nm,0.5s						
KURBB	**Kurchatov Arra**	**9.05**	**338**	⇓Lg	Lg	19 36 42.6	
	18nm,0.7s						
KURK	**Kurchatov**	**9.11**	**338**	⇑Lg	Lg	19 36 40.7	
	6.3nm,0.7s						

*NEIC **14** 19:50:19.6±1.7, 19°.8S±0°.3×177°.4W±0°.2, h567km±10km, mb4.3/16, Error ellipse: s-maj=38.1km s-min=20.1km az=163.0*
*IDC **14** 19:50:20.2±2.8, 19°.64S×177°.55W, h580km±21km, mb3.5/7, mb1 3.6/9, mb1mx3.1/30, mbtmp4.4/9, Error ellipse: s-maj=53.5km s-min=21.3km az=143.0*
ISC 14 19:50:21.5±1.0, **19°.4S**±0°.2×**177°.6W**±0°.1, **h600**km, **n32,** σ1§**18/33, mb4.3/14, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.42**	**291**	P	**P**	**19 51 48.3**	**-1.8**
	5.5nm,0.3s,baz=87,slow=18,SNR=29						
MSVF				S	**S**	**19 53 01.5**	**-0.8**
	baz=123,slow=21,SNR=1.1						
MSVF	**Nonsavu**	**4.42**	**291**	P	**P**	**19 51 48.0**	**-2.1**
PINNC	**Pines Island,**	**14.31**	**254**	P	**P**	**19 53 21.4**	**-1.9**
DZM	**Mont Dzumac**	**15.14**	**257**	P	**P**	**19 53 31.7**	**+0.7**
	1.7nm,0.3s,baz=110,slow=21,SNR=17						
DZM	**Mont Dzumac**	**15.14**	**257**	IAmb	IAmb	19 53 32.8	
	comp=Z,11nm,0.7s						
EIDS	**Eidsvold**	**29.50**	**253**	P	**P**	**19 55 39.2**	**+0.2**
EIDS				IAmb	IAmb	19 55 56.2	
	comp=Z,14nm,1.5s						
ARMA	**Armidale**	**29.88**	**242**	P	**P**	**19 55 42.3**	**0.0**
ARMA				IAmb	IAmb	19 55 45.3	
	comp=Z,7.1nm,1.1s						
CTA	**Charters Tower**	**33.97**	**263**	P	**P**	**19 56 16.8**	**-0.1**
	comp=Z,12nm,0.6s,baz=88,slow=9.7,SNR=26						
CTAO	**Charters Tower**	**33.97**	**263**	P	**P**	**19 56 17.0**	**0.0**
COEN	**Coen**	**37.88**	**272**	P	**P**	**19 56 50.1**	**+0.9**
COEN				IAmb	IAmb	19 56 50.8	
	comp=Z,10.0nm,1.0s						
STKA	**Stephens Creek**	**38.60**	**243**	P	**P**	**19 56 54.7**	**0.0**
	comp=Z,3.1nm,0.6s,baz=83,slow=9.8,SNR=8.2						
STKA	**Stephens Creek**	**38.60**	**243**	IAmb	IAmb	19 56 55.2	
	comp=Z,0.9nm,0.8s						
BBOO	**Buckleboo**	**43.36**	**242**	P	**P**	**19 57 32.2**	**-0.2**
JAY	**Jayapura**	**44.04**	**287**	P	**P**	**19 57 38.9**	**+1.0**
	comp=Z,7.1nm,0.6s,baz=132,slow=4.6,SNR=7.1						
WB0	**Warramunga Arr**	**45.09**	**261**	P	**P**	**19 57 45.0**	**-0.8**
WB0				IAmb	IAmb	19 57 46.1	
	comp=Z,5.8nm,0.5s						
WB2	**Warramunga Arr**	**45.10**	**261**	P	**P**	**19 57 45.4**	**-0.5**
WB2				IAmb	IAmb	19 57 46.9	
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**45.12**	**261**	P	**P**	**19 57 45.5**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=95,slow=5.2,SNR=62						
WRA				PcP	**PcP**	**19 59 13.6**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=47,slow=4.5,SNR=1.3						
WRA	**Warramunga Arr**	**45.12**	**261**	P	**P**	**19 57 45.4**	**-0.6**
AS31	**Alice Springs**	**45.12**	**256**	P	**P**	**19 57 46.1**	**0.0**
ASAR	**Alice Springs**	**45.13**	**256**	P	**P**	**19 57 46.0**	**0.0**
	comp=Z,9.6nm,0.7s,baz=88,slow=8.3,SNR=123						
ASAR				PcP	**PcP**	**19 59 14.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=104,slow=4.1,SNR=1.5						
ASAR	**Alice Springs**	**45.13**	**256**	P	**P**	**19 57 45.3**	**-0.8**
MTN	**Manton Dam**	**49.52**	**269**	P	**P**	**19 58 19.0**	**+0.1**
KNRA	**Kununurra**	**51.09**	**265**	P	**P**	**19 58 30.6**	**+0.2**
KNRA				IAmb	IAmb	19 58 31.0	
	comp=Z,5.5nm,0.7s						
SOEI	**Soe**	**56.83**	**271**	P	**P**	**19 59 12.4**	**+1.6**
SOEI				IAmb	IAmb	19 59 14.1	
	comp=Z,22nm,0.9s						
PSA00	**Pilbara Seismi**	**58.27**	**256**	P	**P**	**19 59 20.2**	**-0.1**
NVAR	**Mina Array Bea**	**79.98**	**43**	P	**P**	**20 01 30.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=255,slow=10,SNR=1.4						
N23A	**Red Feather La**	**89.44**	**46**	P	**P**	**20 02 13.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**90.08**	**289**	P	**P**	**20 02 22.1**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=90,slow=1.8,SNR=2.1						
CMAR	**Chiang Mai Arr**	**90.08**	**289**	P	**P**	**20 02 21.4**	**+2.4**
MKAR	**Makanchi Array**	**110.69**	**314**	PKiKP	**PKiKP**	**20 07 47.3**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=76,slow=2.4,SNR=1.3						
BRTR	**Keskin Array B**	**146.35**	**314**	PKPbc	**PKiKP**	**20 08 57.2**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=128,slow=3.8,SNR=2.1						
GERES	**GERESS Array B**	**149.23**	**345**	PKPbc	**PKiKP**	**20 09 04.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=26,slow=3.4,SNR=4.2						

*UCR **14** 19:51:56.2±1.8, 13°.64N×91°.27W, h5km, ML3.8*
*SNET **14** 19:51:56.3±2.2, 13°.66N×91°.33W, h14km±14km, ML3.9*
*GCG **14** 19:51:58.9±0.3, 13°.75N×91°.31W, h13km±9km, MD3.7*
ISC 14 19:51:56.6±3.5, **13°.7N**±0°.1×**91°.3W**±0°.1, **h17**km±12km, **n22,** σ0§**85/33, 2C-9D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.90**	**30**	*eP*	**Pn**	**19 52 14.6**	**0.0**
PCG	**Pacaya**	**0.99**	**43**	*eP*	**Pn**	**19 52 16.6**	**+0.6**
NBG	**Las Nubes**	**1.30**	**46**	*eP*	**Pg**	**19 52 21.8**	**0.0**
NBG				*eS*	**Sg**	**19 52 39.7**	**+0.7**
NUBE	**Las Nubes**	**1.50**	**81**	*eP*	**Pn**	**19 52 22.2**	**-0.7**
NUBE				*eS*	**Sn**	**19 52 41.3**	**-1.0**
NUBE	**Las Nubes**	**1.50**	**81**	*eP*	**Pn**	**19 52 22.2**	**-0.7**
NUBE				*eS*	**Sn**	**19 52 41.3**	**-1.0**
SLOZ	**Alcaldia de Sa**	**1.52**	**76**	*eP*	**Pb**	**19 52 24.3**	**-0.1**
CEVE	**Cerro Verde**	**1.65**	**84**	⇓*eP*	**Pn**	**19 52 24.5**	**-0.4**
CEVE				⇓*eS*	**Sg**	**19 52 50.0**	**+0.2**
CEVE				IAML		19 52 51.3	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**1.65**	**84**	⇓*eP*	**Pn**	**19 52 24.5**	**-0.4**
CEVE				⇓*eS*	**Sg**	**19 52 50.0**	**+0.2**
CEVE				IAML		19 52 51.3	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.65**	**84**	⇓*eP*	**Pn**	**19 52 24.5**	**-0.4**
SBLS				*eS*	**Sb**	**19 52 47.7**	**+0.5**
SBLS	**San Blas**	**1.65**	**84**	⇓*eP*	**Pn**	**19 52 24.5**	**-0.4**
SBLS				*eS*	**Sb**	**19 52 47.7**	**+0.5**
SNJE	**San Jose**	**1.67**	**83**	⇑*iP*	**Pn**	**19 52 25.2**	**0.0**
SNJE	**San Jose**	**1.67**	**83**	⇑*iP*	**Pn**	**19 52 25.2**	**0.0**
MTO3	**Montecristo**	**2.02**	**69**	*eP*	**Pn**	**19 52 30.6**	**+0.4**
MTO3	**Montecristo**	**2.02**	**69**	*eP*	**Pn**	**19 52 30.6**	**+0.4**
ESQI	**Esquipulas**	**2.10**	**65**	⇓*iP*	**Pn**	**19 52 32.4**	**+1.2**
MRL	**Marmol**	**2.11**	**48**	*eP*	**Pb**	**19 52 33.6**	**-0.9**
LFRS	**El Faro**	**2.19**	**91**	*eP*	**Pn**	**19 52 32.6**	**+0.4**
LFRS				⇓*eS*	**Sb**	**19 53 01.1**	**-1.5**
LFRS	**El Faro**	**2.19**	**91**	*eP*	**Pn**	**19 52 32.6**	**+0.4**
LFRS				⇓*eS*	**Sb**	**19 53 01.1**	**-1.5**
COEG	**Centro de Oper**	**2.36**	**91**	*eP*	**Pn**	**19 52 35.4**	**+0.7**
COEG				*eS*	**Sn**	**19 53 05.1**	**+1.8**
COEG	**Centro de Oper**	**2.36**	**91**	*eP*	**Pn**	**19 52 35.4**	**+0.7**
COEG				*eS*	**Sn**	**19 53 05.1**	**+1.8**
SCLA	**Alcaldia de Sa**	**2.51**	**89**	*eP*	**Pn**	**19 52 37.5**	**+0.8**
SCLA	**Alcaldia de Sa**	**2.51**	**89**	*eP*	**Pn**	**19 52 37.5**	**+0.8**

IDC 14 20:11:23.9±2.1, **2°.51N**×**128°.17E, h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.1**/33, **mbtmp3.4**/3, **Error ellipse: s-maj=151.6km s-min=24.5km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.11**	**165**	P	P	20 16 32.5	+0.8
	0.3nm,0.3s,baz=345,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**26.61**	**168**	P	P	20 17 03.5	-0.8
	0.3nm,0.5s,baz=352,slow=7.7,SNR=9.7						
MKAR	**Makanchi Array**	**59.38**	**325**	P	P	20 21 28.2	+0.1
	0.3nm,0.5s,baz=117,slow=8.3,SNR=8.5						

IDC 14 20:46:57.2±3.3, **4°.95S**×**153°.55E, h0**km, **mb3.2**/4, **mb1 3.3**/4, **mb1mx3.3**/21, **mbtmp3.2**/4, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.5**/21, **Error ellipse: s-maj=111.0km s-min=31.9km az=110.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.92**	**230**	P	P	20 52 14.0	+0.9
	0.3nm,0.6s,baz=55,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**26.55**	**224**	P	P	20 52 37.3	+0.2
	0.1nm,0.4s,baz=58,slow=8.5,SNR=1.5						
BATI	**Baumata**	**30.07**	**258**	LR	LR	21 07 06.5	
	comp=Z,66nm,18.5s,baz=159,slow=40						
SONM	**Songino Array**	**66.85**	**328**	P	P	20 57 51.6	+0.4
	0.2nm,0.4s,baz=137,slow=5.3,SNR=2.1						
MKAR	**Makanchi Array**	**80.93**	**319**	P	P	20 59 13.9	+0.3
	0.1nm,0.4s,baz=96,slow=7.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**151.06**	**288**	PKPbc	PKPbc	21 06 52.0	-1.4
	0.7nm,0.5s,baz=82,slow=1.8,SNR=13						

*RSNC **14** 21:00:31.4±1.2, 6°.83N×73°.10W, h150km±4km, ML3.2, Mw3.6*
*IDC **14** 21:00:34.6±7.0, 6°.54N×75°.70W, h142km±72km, mb1 3.0/1, mb1mx2.7/23, mbtmp3.5/1, Error ellipse: s-maj=219.7km s-min=86.7km az=59.0*
ISC 14 21:00:30.4±1.0, **6°.85N**±0°.03×**73°.09W**±0°.03, **h155**km±6km, **n40,** σ1§**55/78, 4C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**199**	⇑*iP*	**Pn**	**21 00 51.9**	**+0.1**
BARC				*eS*	**Sn**	**21 01 06.7**	**-1.4**
BARC				*i*		21 01 08.0	
	comp=Z,482nm,0.2s						
PAMC	**Pamplona, Colo**	**0.62**	**39**	⇑*iP*	**Pn**	**21 00 54.7**	**+1.2**
PAMC				*eS*	**Sn**	**21 01 11.6**	**+0.3**
PAMC				*i*		21 01 14.2	
	comp=Z,531nm,0.7s						
BRRC	**Barranca, Sant**	**0.66**	**292**	⇑*iP*	**Pn**	**21 00 53.8**	**+0.6**
BRRC				*eS*	**Sn**	**21 01 10.5**	**-0.1**
BRRC				*i*		21 01 13.9	
	comp=Z,341nm,0.4s						
RUSC	**La Rusia**	**0.95**	**179**	*eP*	**Pn**	**21 00 55.9**	**0.0**
RUSC				*eS*	**Sn**	**21 01 14.6**	**-0.8**
RUSC				*i*		21 01 16.3	
	comp=Z,121nm,0.3s						
TAMC	**Tame, Arauca**	**1.36**	**108**	⇓*iP*	**Pn**	**21 01 00.1**	**+1.2**
TAMC				*eS*	**Sn**	**21 01 20.9**	**+0.1**
TAMC				*i*		21 01 31.3	
	comp=Z,66nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	*eP*	**Pn**	**21 00 58.6**	**-0.7**
PTBC				*eS*	**Sn**	**21 01 19.4**	**-1.9**
PTBC				*i*		21 01 23.6	
	comp=Z,278nm,0.1s						
OCAC	**Ocana**	**1.40**	**351**	*eP*	**Pn**	**21 01 00.0**	**+0.5**
OCAC				*eS*	**Sn**	**21 01 21.9**	**0.0**
OCAC				*i*		21 01 28.9	
	comp=Z,499nm,0.3s						
SPBC	**San Pablo de B**	**1.54**	**219**	*eP*	**Pn**	**21 01 00.9**	**0.0**
SPBC				*eS*	**Sn**	**21 01 23.2**	**-1.1**
SPBC				*i*		21 01 30.0	
	comp=Z,250nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*eP*	**Pn**	**21 01 05.2**	**+0.9**
ZARC				*eS*	**Sn**	**21 01 30.6**	**+0.3**
ZARC				*i*		21 01 36.7	
	comp=Z,445nm,0.4s						
SMLC	**San Martn de**	**2.17**	**333**	*eP*	**Pn**	**21 01 08.5**	**+0.7**
SMLC				*eS*	**Sn**	**21 01 36.7**	**+0.1**
SMLC				*i*		21 01 47.5	
	comp=Z,123nm,0.1s						
NORC	**Norcasia**	**2.18**	**234**	⇑*eP*	**Pn**	**21 01 08.3**	**+0.3**
NORC				*eS*	**Sn**	**21 01 36.4**	**-0.6**
NORC				*i*		21 01 42.5	
	comp=Z,141nm,0.4s						
CHIC	**Chingaza**	**2.30**	**196**	*eP*	**Pn**	**21 01 10.1**	**+0.3**
CHIC				*eS*	**Sn**	**21 01 39.4**	**-0.7**
CHIC				*i*		21 01 46.2	
	comp=Z,87nm,0.6s						
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**21 01 11.8**	**+1.5**
	comp=Z,11nm,0.3s,baz=317,slow=18,SNR=10						
ROSC				S	**Sn**	**21 01 40.8**	**-0.2**
	comp=Z,31nm,0.3s,baz=107,slow=17,SNR=14						
ROSC	**El Rosal**	**2.34**	**211**	*eP*	**Pn**	**21 01 12.5**	**+2.3**
ROSC				*eS*	**Sn**	**21 01 41.1**	**+0.1**
ROSC				*i*		21 01 47.5	
	comp=Z,148nm,0.3s						
HELC	**Santa Helena**	**2.51**	**255**	*eP*	**Pn**	**21 01 13.2**	**+0.9**
HELC				*eS*	**Sn**	**21 01 44.5**	**0.0**
HELC				*i*		21 01 51.7	
	comp=Z,95nm,0.3s						
SOCV	**Socops**	**2.63**	**57**	*eP*	**Pn**	**21 01 13.6**	**+0.1**
SOCV				*eS*	**Sn**	**21 01 45.2**	**-1.5**
LL1C	**La Loma 1 Cana**	**2.71**	**350**	*eP*	**Pn**	**21 01 16.6**	**+2.2**
LL1C				*eS*	**Sn**	**21 01 50.4**	**+2.0**
LL1C				*i*		21 02 01.6	
	comp=Z,244nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.78**	**235**	*eP*	**Pn**	**21 01 16.2**	**+0.6**
GUY2C				*eS*	**Sn**	**21 01 49.7**	**-0.9**
GUY2C				*i*		21 01 58.5	
	comp=Z,151nm,0.3s						
VILC	**Villavicencio,**	**2.79**	**192**	*eP*	**Pn**	**21 01 15.5**	**0.0**
VILC				*eS*	**Sn**	**21 01 49.7**	**-0.6**
PTGC	**Puerto Gaitan,**	**2.80**	**160**	*eP*	**Pn**	**21 01 15.2**	**-0.3**
PTGC				*eS*	**Sn**	**21 01 47.6**	**-2.8**
PTGC				*i*		21 01 50.8	
	comp=Z,87nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.87**	**357**	*eP*	**Pn**	**21 01 16.6**	**+0.3**
LL6C				*eS*	**Sn**	**21 01 50.6**	**-1.4**
LL6C				*i*		21 01 54.2	
	comp=Z,25nm,0.6s						
CBOC	**Ciudad Bolivar**	**3.06**	**251**	*eP*	**Pn**	**21 01 19.9**	**+1.0**
CBOC				*eS*	**Sn**	**21 01 56.2**	**-0.3**
CBOC				*i*		21 02 08.7	
	comp=Z,46nm,0.6s						
DBBC	**Dabeiba**	**3.10**	**273**	*eP*	**Pn**	**21 01 19.6**	**+0.3**
DBBC				*eS*	**Sn**	**21 01 54.6**	**-2.5**
SDV	**Santo Domingo**	**3.17**	**50**	*eP*	**Pn**	**21 01 21.4**	**+1.2**
SDV				*eS*	**Sn**	**21 01 58.4**	**-0.5**
SDV				*i*		21 02 01.9	
	comp=Z,30nm,0.5s						
MOTC	**Monteria, Cord**	**3.19**	**307**	*eP*	**

FITZ	**Fitzroy Crossi**	**11.31**	**201**	Pn	Pn	21 27 42.8	+0.6
	baz=36,slow=14						
FITZ				Sn	Sn	21 29 44.9	-4.6
	0.2nm,0.3s,baz=88,slow=21,SNR=2.4						
WRA	**Warramunga Arr**	**13.13**	**161**	Pn	Pn	21 28 07.4	+0.2
	0.2nm,0.3s,baz=340,slow=14,SNR=8.1						
WRA				Sn	Sn	21 30 30.7	-3.4
	0.2nm,0.3s,baz=283,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**16.56**	**167**	Pn	Pn	21 28 52.1	-0.8
	0.1nm,0.3s,baz=342,slow=9.6,SNR=8.6						
MKAR	**Makanchi Array**	**68.54**	**327**	P	P	21 36 03.7	0.0
	0.1nm,0.4s,baz=114,slow=7.4,SNR=7.1						

*NEIC **14** 21:36:44.3±1.3,5.84N±0.10×94.40E±0.10,h87km±9km, mb4.0/7,Error ellipse: s-maj=17.0km s-min=10.6km az=221.0*
*IDC **14** 21:36:49.1±3.2,6.29N×95.18E,h123km±32km,mb3.3/7, mb1 3.6/9,mb1mx3.3/38,mbtmp3.8/9,Error ellipse: s-maj=44.0km s-min=17.6km az=49.0*

ISC 14 21:36:44.4±0.7,5.79N±0.09×94.35E±0.10,h100km,n24, σ2=27/22,mb3.8/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.65**	**102**	Pn	**Pn**	**21 37 24.6**	**-0.9**
PSI	**Prapat**	**5.44**	**123**	P	**Pn**	**21 38 04.1**	**+0.8**
	2.0nm,0.3s,baz=320,slow=16,SNR=10						
GSI	**Gunungsitoli**	**5.50**	**144**		**Sn**	**21 39 05.1**	**-0.8**
RPSI	**Rantau Prapat**	**5.50**	**124**		**Pn**	**21 38 04.1**	**+0.1**
PBA	**Port Blair**	**6.04**	**345**	Pn	**Pn**	**21 38 10.6**	**-0.8**
KULM	**Kulim**	**6.29**	**94**	Pn	**Pn**	**21 38 10.1**	**-4.7**
CMAR	**Chiang Mai Arr**	**13.37**	**19**	P	**Pn**	**21 39 51.0**	**+0.8**
	0.1nm,0.3s,baz=213,slow=12,SNR=9.6						
PALK	**Pallekele**	**13.64**	**277**	P	P	21 40 08.6	+9.4
	0.4nm,0.3s,baz=114,slow=15,SNR=1.6						
PALK				S	**S**	**21 42 33.5**	**-6.6**
	0.9nm,0.3s,baz=276,slow=16,SNR=6.4						
TPUB	**Ta-pu**	**30.72**	**53**	P	**P**	**21 42 50.7**	**+0.4**
TPUB				IAmb	IAmb	21 42 56.4	
	comp=Z,42nm,1.2s						
MK31	**Makanchi Array**	**42.16**	**348**	P	**P**	**21 44 27.4**	**+0.3**
MKAR	**Makanchi Array**	**42.16**	**348**	P	**P**	**21 44 26.8**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=166,slow=8.0,SNR=4.5						
MAKZ	**Makanchi**	**42.24**	**347**	P	**P**	**21 44 27.9**	**+0.2**
MAKZ				IAmb	IAmb	21 44 40.8	
	comp=Z,2.6nm,1.5s						
SONM	**Songino Array**	**43.14**	**12**	P	**P**	**21 44 32.7**	**-2.4**
	comp=Z,0.5nm,0.7s,baz=203,slow=8.0,SNR=5.5						
SONM	**Songino Array**	**43.14**	**12**	IAmb	IAmb	21 44 34.0	
	comp=Z,0.7nm,0.9s						
NWAO	**Narrogin (SRO)**	**44.22**	**152**		pP	21 45 05.5	-1.1
WB0	**Warramunga Arr**	**46.87**	**124**	P	**P**	**21 45 04.1**	**-0.9**
WRA	**Warramunga Arr**	**46.91**	**124**	P	**P**	**21 45 04.5**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=308,slow=8.6,SNR=7.9						
WB2	**Warramunga Arr**	**46.92**	**124**	P	**P**	**21 45 05.2**	**-0.2**
WB2				IAmb	IAmb	21 45 17.6	
	comp=Z,4.6nm,1.4s						
ASAR	**Alice Springs**	**48.44**	**129**	P	**P**	**21 45 17.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=305,slow=7.6,SNR=6.1						
FORT	**Forrest**	**48.60**	**140**	P	**P**	**21 45 18.8**	**+0.6**
ABKAR	**Akbulak array**	**52.15**	**332**	P	**P**	**21 45 47.0**	**+2.4**
ABKAR				IAmb	IAmb	21 45 47.5	
	comp=Z,1.7nm,1.2s						
FINES	**FINESS Array B**	**74.64**	**332**	P	**P**	**21 48 14.0**	**+1.3**
	comp=Z,1.1nm,0.4s,baz=102,slow=6.5,SNR=13						
ARCES	**ARCESS Array B**	**77.29**	**340**	P	**P**	**21 48 28.4**	**+0.8**
	comp=Z,3.8nm,1.1s,baz=102,slow=7.5,SNR=1.1						
GERES	**GERESS Array B**	**79.51**	**318**	P	**P**	**21 48 43.9**	**+3.6**
	comp=Z,0.3nm,0.5s,baz=130,slow=4.0,SNR=2.9						

NNC 14 22:08:32.6±7.0,38.85N×73.66E,h0km,mb3.8,mpv3.4, 5C-1D,Error ellipse: s-maj=51.3km s-min=32.5km az=161.0,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.84**	**9**	⇑Pg	Pb	22 09 39.1	-2.2
	9.1nm,0.7s						
AAK				⇑Lg	Lg	22 10 29.4	
	16nm,0.8s						
MRKS	**Merke**	**3.91**	**355**	Pg	Pb	22 09 38.6	-3.9
	3.9nm,0.2s						
MRKS				Lg	Lg	22 10 37.3	
	13nm,0.5s						
TKM2	**Tokmak 2**	**4.33**	**19**	⇑Pg	Pg	22 09 55.0	-0.5
	1.7nm,0.4s						
TKM2				⇑Lg	Lg	22 10 52.3	
	6.9nm,0.8s						
KST	**Kastek**	**4.54**	**22**	Pg	Pb	22 09 54.9	+1.7
	2.3nm,0.3s						
KST				Lg	Lg	22 11 00.9	
	7.5nm,0.6s						
MTBS	**Maitube**	**4.76**	**25**	Pg	Pb	22 10 00.0	+3.0
	1.5nm,0.5s						
MTBS				Lg	Lg	22 11 09.6	
	6.4nm,0.5s						
KK08	**Karatay Array**	**4.89**	**332**	⇓Pn	Pn	22 09 50.1	+2.8
	2.6nm,0.4s,baz=144,slow=13						
KK08				⇑Sn	Sn	22 10 47.0	+2.3
	8.4nm,0.7s,baz=152,slow=24						
KUU	**Kurty**	**5.43**	**21**	Pg	Pb	22 10 10.7	+2.4
	1.5nm,0.4s						
KUU				Lg	Lg	22 11 28.6	
	6.7nm,0.6s						

*TUL **14** 22:41:39.1±1.1,36.77N±0.01×97.77W±0.02,h6km±6km, ML3.4,mb_Lg3.2/62(NEIC),Error ellipse: s-maj=1.9km s-min=1.5km az=112.0*

NEIC 14 22:41:39.3±0.8,36.74N±0.01×97.76W±0.01,h6km±7km, Error ellipse: s-maj=1.7km s-min=1.2km az=188.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.14**	**323**	Pg	Pg	22 41 42.0	-0.1
GC02				Sg	Sg	22 41 43.4	-0.6
KAN14	**Manchester OK**	**0.27**	**322**	Pg	Pg	22 41 44.3	-0.3
KAN14				Sg	Sg	22 41 47.8	-0.3
CROK	**Carrier**	**0.30**	**217**	Pg	Pg	22 41 45.6	+0.5
CROK				Sg	Sg	22 41 50.0	+0.9
KAN17	**Caldwell West**	**0.30**	**359**	Pg	Pg	22 41 45.1	0.0
KAN17				Sg	Sg	22 41 49.1	-0.1
KAN13	**South Haven SW**	**0.35**	**40**	Pg	Pg	22 41 46.2	+0.1
KAN13				Sg	Sg	22 41 51.0	+0.3
OK032	**Salt Plains WL**	**0.37**	**280**	Pg	Pg	22 41 46.3	-0.1
KAN01	**Argonia South**	**0.41**	**360**		Pg	22 41 47.1	-0.1
BLOK	**Blackwell**	**0.44**	**87**	Pg	Pg	22 41 48.0	+0.3
BLOK				Sg	Sg	22 41 53.9	+0.5
KAN10	**Anthony SW Sta**	**0.47**	**325**	Pg	Pg	22 41 48.0	-0.2
KAN06	**Argonia West S**	**0.51**	**351**		Pg	22 41 48.9	-0.2
KAN08	**Anthony NE Sta**	**0.51**	**341**		Pg	22 41 48.9	-0.3
KAN16	**Harper SW Stat**	**0.54**	**333**	Pg	Pg	22 41 49.4	-0.3
KAN12	**Harper NE Stat**	**0.59**	**341**	Pg	Pg	22 41 50.2	-0.4
OK035	**E0210 Rd and N**	**0.77**	**268**	Pg	Pg	22 41 53.6	-0.4
OK029	**Liberty Lake**	**0.97**	**165**		Pg	22 41 58.0	0.0
T35A	**Sooner Cattle**	**1.01**	**80**	Pg	Pg	22 41 58.5	-0.3
QUOK	**Quay**	**1.02**	**124**	Pg	Pg	22 41 58.8	-0.1
U32A	**Winter Ranch,**	**1.06**	**250**	Pg	Pg	22 41 59.1	-0.6
OK031	**S. Brethren Rd**	**1.08**	**136**	Pn	Pg	22 41 59.9	-0.1
BCOK	**Bluff Creek, N**	**1.09**	**174**	Pn	Pg	22 41 59.9	-0.3
OK034	**N. Norfolk Rd.**	**1.12**	**131**	Pn	Pg	22 42 00.4	-0.2
OK025	**Westminster Rd**	**1.21**	**164**		Pg	22 42 02.2	-0.3
OKCFA	**Oklahoma City**	**1.35**	**169**		Pn	22 42 04.6	0.0
OKCSW	**OKLAHOMA CITY**	**1.36**	**169**		Pn	22 42 04.8	0.0
FNO	**Franklin**	**1.51**	**169**		Pn	22 42 07.1	+0.2
TUL1	**Leonard**	**1.79**	**117**		Pb	22 42 11.9	-0.6
R32A	**Long Quarter,**	**1.84**	**336**		Pn	22 42 11.9	+0.4
X34A	**Smith Ranch, M**	**2.14**	**182**		Pn	22 42 16.4	+0.9
WMOK	**Wichita Mounta**	**2.17**	**203**		Pn	22 42 16.8	+0.8
KSU1	**Kansas State U**	**2.52**	**21**		Pn	22 42 21.1	+0.3
CBKS	**Cedar Bluff**	**2.59**	**323**		Pn	22 42 21.9	+0.1
U38A	**Gravette**	**2.73**	**95**		Pn	22 42 23.6	-0.1
LOOK	**Love County**	**2.78**	**170**		Pn	22 42 24.4	0.0
X37A	**Clayton**	**2.90**	**137**		Pn	22 42 26.3	+0.4
HHAR	**Hobbs**	**3.11**	**97**		Pn	22 42 29.9	+1.0
Z35A	**Perchaven, San**	**3.43**	**173**		Pn	22 42 34.4	+1.1
W39A	**Magazine**	**3.57**	**114**		Pn	22 42 35.1	-0.1
AMTX	**Amarillo**	**3.69**	**241**		Pn	22 42 38.1	+1.2
AMTX				IAmb_Lg		22 43 36.5	
	comp=Z,49nm,0.9s						
U40A	**Yellville**	**3.97**	**94**	IAmb_Lg		22 43 44.3	
	comp=Z,81nm,0.7s						
N33A	**J Bar K, Exete**	**4.00**	**3**	IAmb_Lg		22 43 52.6	
	comp=Z,49nm,0.7s						
MIAR	**Mount Ida**	**4.05**	**122**	IAmb_Lg		22 43 55.6	
	comp=Z,40nm,0.8s						
Z38A	**Mt. Pleasant**	**4.15**	**146**	IAmb_Lg		22 43 58.1	
	comp=Z,64nm,0.9s						
ABTX	**Abilene, Hawle**	**4.39**	**201**	IAmb_Lg		22 43 60.0	
	comp=Z,38nm,1.1s						
P38A	**Dawn**	**4.40**	**48**	IAmb_Lg		22 43 59.8	
	comp=Z,67nm,0.7s						
MGMO	**Mountain Grove**	**4.42**	**83**	IAmb_Lg		22 43 59.7	
	comp=Z,39nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.47**	**302**	IAmb_Lg		22 44 11.3	
	comp=Z,66nm,0.9s						
X40A	**Basin Creek Fa**	**4.60**	**118**	IAmb_Lg		22 44 06.8	
	comp=Z,60nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.63**	**99**	IAmb_Lg		22 44 13.8	
	comp=Z,36nm,0.8s						
WHAR	**Wooly Hollow**	**4.66**	**106**	IAmb_Lg		22 44 16.1	
	comp=Z,44nm,1.1s						
BGNE	**Belgrade**	**4.67**	**356**	IAmb_Lg		22 44 12.6	
	comp=Z,67nm,0.8s						
W41B	**Gary Mavity, V**	**4.74**	**108**	IAmb_Lg		22 44 17.1	
	comp=Z,39nm,0.8s						
T25A	**Trinidad**	**5.34**	**276**	IAmb_Lg		22 44 28.2	
	comp=Z,32nm,0.8s						
OGNE	**Ogallala**	**5.36**	**323**	IAmb_Lg		22 44 43.1	
	comp=Z,30nm,0.7s						
PBMO	**Poplar Bluff**	**5.88**	**87**	IAmb_Lg		22 44 47.6	
	comp=Z,36nm,0.8s						
FVM	**French Village**	**5.97**	**76**	IAmb_Lg		22 44 47.3	
	comp=Z,33nm,0.8s						
SCIA	**State Center**	**6.24**	**33**	IAmb_Lg		22 45 11.8	
	comp=Z,43nm,0.7s						
SDCO	**Great Sand Dun**	**6.26**	**282**	IAmb_Lg		22 45 05.5	
	comp=Z,24nm,1.2s						
JCT	**Junction City**	**6.47**	**196**	IAmb_Lg		22 45 09.9	
	comp=Z,30nm,0.8s						
143A	**Socs Landing,**	**6.60**	**126**	IAmb_Lg		22 45 15.4	
	comp=Z,23nm,0.8s						
S44A	**Carbondale**	**6.85**	**79**	IAmb_Lg		22 45 16.1	
	comp=Z,40nm,0.7s						
Q44A	**Meyer Farm, Va**	**7.25**	**70**	IAmb_Lg		22 45 36.5	
	comp=Z,30nm,1.0s						
Y45A	**Yeager Farm, C**	**7.30**	**111**	IAmb_Lg		22 45 43.8	
	comp=Z,32nm,1.0s						
L40A	**Anamosa**	**7.33**	**42**	IAmb_Lg		22 45 30.7	
	comp=Z,34nm,0.9s						
HDIL	**Hopedale**	**7.64**	**58**	IAmb_Lg		22 45 44.4	
	comp=Z,39nm,0.8s						
OLIL	**Olney**	**7.91**	**73**	IAmb_Lg		22 45 55.6	
	comp=Z,33nm,1.0s						
O44A	**Mansfield**	**8.04**	**62**	IAmb_Lg		22 45 54.6	
	comp=Z,26nm,0.7s						
JFWS	**Jewell Farm**	**8.45**	**41**	IAmb_Lg		22 46 16.6	
	comp=Z,24nm,0.8s						
K22A	**Casper**	**8.97**	**314**	IAmb_Lg		22 46 47.2	
	comp=Z,15nm,0.9s						
I40A	**Norwalk**	**8.98**	**35**	IAmb_Lg		22 46 26.5	
	comp=Z,21nm,1.0s						

*IDC **14** 22:45:54.9±4.8,35.77N×71.20E,h72km±33km,mb3.4/8, mb1 3.5/14,mb1mx3.3/43,mbtmp3.7/14,ML3.5/6,Error ellipse: s-maj=51.0km s-min=24.0km az=148.0*
*NEIC **14** 22:46:01.1±1.9,36.24N±0.06×71.10E±0.09,h97km±10km, mb4.1/10,Error ellipse: s-maj=10.8km s-min=9.0km az=73.0*
*NNC **14** 22:46:03.1±7.8,36.89N×70.63E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=68.3km s-min=46.7km az=156.0*

ISC 14 22:45:59.7±0.6,36.15N±0.06×71.22E±0.06,h102km,n59, σ1=89/66,mb3.9/10,6C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.40**	**229**		**Pn**	**22 46 38.8**	**+1.0**
CHGR	**Chuyangaron**	**3.00**	**327**	Pn	**Pn**	**22 46 44.5**	**-1.1**
NIL	**Nilore**	**3.00**	**146**		**Pn**	**22 46 49.2**	**+3.6**
DRK	**Karamyk**	**3.36**	**8**	Pn	**Pn**	**22 46 52.4**	**+1.8**
BTK	**Batken**	**3.92**	**355**	Pn	**Pn**	**22 46 59.1**	**+1.2**
JMU	**Jammu**	**4.58**	**137**	⇑*i*P	**Pn**	**22 47 09.1**	**+2.4**
JMU				*e*S	**Sn**	**22 47 59.3**	**+0.6**
DHRM	**DHARAMSHALA**	**5.73**	**131**	*e*P	**Pn**	**22 47 24.6**	**+2.0**
DHRM				*e*S	**Sn**	**22 48 26.7**	**-0.3**
DHRM				IAML		22 48 31.4	
	comp=E,70nm,0.1s						
DHRM				IAML		22 48 31.5	
	comp=N,100nm,0.3s						
AML	**Almayashu**	**6.28**	**17**	P	**Pn**	**22 47 30.0**	**-0.1**
	SNR=36						
UCH	**Uchtor**	**6.59**	**22**	P	**Pn**	**22 47 34.8**	**+0.4**
	SNR=15						
EKS2	**Erkin-Say**	**6.80**	**16**	P	**Pn**	**22 47 37.4**	**+0.5**
	SNR=9.9						
AAK	**Ala-Archa**	**6.96**	**20**	P	**Pn**	**22 47 39.7**	**+0.6**
	comp=N,2.6nm,0.3s,baz=193,slow=4.7,SNR=52						
AAK				S	**Sn**	**22 48 54.3**	**-2.5**
	comp=N,1.2nm,0.3s,baz=334,slow=20,SNR=13						
AAK	**Ala-Archa**	**6.96**	**20**	P	**Pn**	**22 47 39.7**	**+0.6**
	SNR=12						
AAK	**Ala-Archa**	**6.96**	**20**	⇑P	**Pn**	**22 47 39.5**	**+0.4**
	comp=N,3.2nm,0.4s						
AAK				⇑S	**Sn**	**22 48 53.8**	**-3.0**
	comp=N,22nm,0.9s						
KKAR	**Karatay Array**	**6.97**	**356**	Pn	**Pn**	**22 47 38.3**	**-0.8**
KK08	**Karatay Array**	**6.97**	**356**	⇑P	**Pn**	**22 47 38.5**	**-0.7**
	comp=N,2.4nm,0.3s,baz=182,slow=13						
KK08				⇑S	**Sn**	**22 48 50.5**	**-6.4**
	comp=N,4.7nm,0.5s,baz=186,slow=23						
SMLA	**Simla**	**7.04**	**134**	*e*P	**Pn**	**22 47 40.8**	**+0.6**
SMLA				*e*S	**Sn**	**22 48 56.4**	**-2.3**
SMLA				IAML		22 49 00.2	
	comp=E,37nm,0.1s						
SMLA				IAML		22 49 00.4	
	comp=N,20nm,0.2s						
SMLA				IAML		22 49 03.7	
	comp=E,33nm,0.0s						
SMLA				IAML		22 49 05.8	
	comp=N,28nm,0.2s						
BOOM	**Boomskoye usch**	**7.31**	**29**	Pn	**Pn**	**22 47 44.5**	**+0.5**
CHMS	**Chumysh**	**7.36**	**21**	P	**Pn**	**22 47 44.9**	**+0.4**
	SNR=6.3						
USP	**Ospenovka**	**7.54**	**19**	P	**Pn**	**22 47 47.0**	**0.0**
	SNR=6.7						
KDJ	**Kajisay**	**7.55**	**36**	Pn	**Pn**	**22 47 48.8**	**+1.5**
TKM2	**Tokmak 2**	**7.56**	**25**	P	**Pn**	**22 47 47.7**	**+0.4**
	SNR=9.6						
TKM2	**Tokmak 2**	**7.56**	**25**	⇑P	**Pn**	**22 47 47.8**	**+0.4**
	comp=N,4.1nm,0.5s						
TKM2				⇓S	**Sn**	**22 49 10.5**	**-1.0**
	comp=N,12nm,1.1s						
TARG	**Taragay, Kyrgy**	**7.57**	**41**	Pn	**Pn**	**22 47 49.3**	**+1.6**
KUDL	**Kundal**	**9.14**	**149**	*e*S	**Sn**	**22 49 43.6**	**-6.2**
GEYT	**Alibeck**	**10.63**	**284**	P	Pn	22 48 24.7	-4.2
	comp=N,0.3nm,0.3s,baz=94,slow=16,SNR=1.3						
GEYT				S	Sn	22 50 16.7	-9.2
	comp=N,0.4nm,0.3s,baz=88,slow=39,SNR=1.5						
PYUN	**Piuthan**	**12.79**	**126**	*e*P	**Pn**	**22 48 55.5**	**-2.5**
DANN	**Dangsing**	**13.14**	**123**	*e*P	**Pn**	**22 49 01.2**	**-1.5**
KOLN	**Koldanda**	**13.41**	**125**	*e*P	**Pn**	**22 49 03.4**	**-2.7**
MK31	**Makanchi Array**	**13.47**	**34**		**Pn**	**22 49 07.9**	**+1.3**
MKAR	**Makanchi Array**	**13.47**	**34**	P	**Pn**	**22 49 06.6**	**0.0**
	comp=N,0.0nm,0.3s,baz=229,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**13.47**	**34**		**Pn**	**22 49 06.7**	**0.0**
MKAR				P	**P**	**22 49 14.0**	**+1.7**
GKN	**Gorkha**	**13.96**	**122**	*e*P	**Pn**	**22 49 10.8**	**-2.5**
KKN	**Kakani**	**14.54**	**121**	*e*P	**Pn**	**22 49 18.3**	**-2.4**
PKIN	**Phulchoki**	**14.75**	**121**	*e*P	**Pn**	**22 49 21.7**	**-1.8**
KURBB	**Kurbatov Arra**	**15.40**	**18**	P	**P**	**22 49 33.4**	**-0.1**
	comp=N,0.1nm,0.3s,baz=207,slow=10,SNR=12						
AB31	**Akbulak array**	**15.48**	**331**	P	**Pn**	**22 49 30.6**	**-1.6**
	comp=N,0.8nm,0.4s,baz=152,slow=12,SNR=21						
ABKAR	**Akbulak array**	**15.48**	**331**	P	**Pn**	**22 49 30.3**	**-1.9**
ABKAR	**Akbulak array**	**15.48**	**331**	Pn	**Pn**	**22 49 30.5**	**-1.7**
BVAR	**Borovoye Array**	**16.89**	**358**	P	**P**	**22 49 50.5**	**+0.5**
	comp=N,0.3nm,0.3s,baz=156,slow=11,SNR=10						
BRVK	**Borovoye**	**16.92**	**358**		**Pn**	**22 49 50.5**	**+0.5**
AKTO	**Aktyubinsk**	**17.18**	**330**	P	**Pn**	**22 49 52.9**	**-0.2**
	comp=N,0.2nm,0.3s,baz=154,slow=16,SNR=5.8						
AKTO	**Aktyubinsk**	**17.18**	**330**	⇓P	**Pn**	**22 49 52.8**	**-0.4**
	comp=N,3.3nm,0.9s						
ZAA0	**Zalesovo Array**	**20.16**	**24**	P	**P**	**22 50 26.1**	**+0.4**
ZAA0				IAmb	IAmb	22 50 26.9	
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**20.16**	**24**	P	**P**	**22 50 26.3**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=212,slow=9.7,SNR=12						
ZALV	**Zalesovo Beam**	**20.16**	**24**	P	**P**	**22 50 25.6**	**-0.1**
ARU	**Arti**	**22.02**	**341**	P	**P**	**22 50 48.7**	**+3.1**
	comp=Z,1.1nm,0.5s,baz=146,slow=4.9,SNR=8.0						
ARU	**Arti**	**22.02**	**341**	P	**P**	**22 50 47.7**	**+2.1**
ARU				IAmb	IAmb	22 50 50.0	
	comp=Z,4.1nm,0.7s						
BNN	**Bunyan**	**28.09**	**286**	P	**P**	**22 51 45.5**	**+3.6**
BNN				IAmb	IAmb	22 51 56.4	
	comp=Z,7.8nm,1.0s						
AKASG	**Malin Array Be**	**33.31**	**309**	P	**P**	**22 52 27.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=81,slow=6.7,SNR=2.7						
FINES	**FINESS Array B**	**37.88**	**326**	P	**P**	**22 53 06.3**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=120,slow=8.2,SNR=1.8						
ARCES	**ARCESS Array B**	**41.54**	**338**	P	**P**	**22 53 36.6**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=113,slow=9.2,SNR=1.9						
NACB	**Ninganchiao**	**44.71**	**91**	P	**P**	**22 54 03.0**	**+0.2**
NC303	**NORSAR Array S**	**44.71**	**324**	P	**P**	**22 54 03.6**	**+1.3**
NC303				IAmb	IAmb	22 54 04.9	
	comp=Z,3.1nm,0.8s						
NB2	**NORSAR Subarra**	**44.77**	**323**	P	**P**	**22 54 03.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.77**	**323**	P	**P**	**22 54 03.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=97,slow=7.9,SNR=3.4						
NC204	**NORSAR Array S**	**45.01**	**324**	P	**P**	**22 54 05.2**	**+0.5**
NC204				IAmb	IAmb	22 54 24.2	
	comp=Z,9.1nm,1.1s						
KONO	**Kongsberg**	**45.47**	**321**	P	**P**	**22 54 10.8**	**+2.5**
TORD	**Torodi Ar. Bea**	**65.89**	**269**	P	**P**	**22 56 33.5**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=48,slow=5.8,SNR=8.5						
YKA	**Yellowknife Ar**	**81.59**	**3**	P	**P**	**22 58 06.6**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=345,slow=5.4,SNR=4.7						

*IDC **14** 23:05:05.3±2.2,44.69N×82.79E,h0km,mb1 3.2/5, mb1mx3.1/46,mbtmp3.2/5,ML2.8/5,Error ellipse: s-maj=26.8km s-min=13.3km az=124.0*
*NNC **14** 23:05:10.0±1.8,44.77N×82.67E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=17.7km s-min=7.4km az=123.0*
*SOME **14** 23:05:15.2,44.75N×82.43E,h20km*

ISC 14 23:05:07.5±1.4,44.70N±0.04×82.73E±0.05,h12km±11km, n55,σ2=10/78,10C-6D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.12**	**352**	Pg	**Pb**	**23 05 44.4**	**-1.4**
	5.9nm,0.3s,baz=174,slow=14,SNR=1416						
MK31				⇑Lg	Lg	23 06 14.7	
	14nm,0.2s,baz=167,slow=27,SNR=12						
MKAR	**Makanchi Array**	**2.12**	**352**	Pn	**Pb**	**23 05 44.8**	**-1.0**
	9.7nm,0.3s,baz=173,slow=15,SNR=217						
MKAR				Sn	**Sg**	**23 06 13.3**	**-2.2**
	12nm,0.3s,baz=167,slow=28,SNR=6.2						
KTMS	**Ketmen**	**2.12**	**235**	*e*P	**Pg**	**23 05 49.7**	**+1.5**
	99nm,0.3s						
KTMS				*e*S	**Sg**	**23 06 14.8**	**-1.0**
	880nm,0.4s						
KTMS	**Ketmen**	**2.12**	**235**	P	**Pg**	**23 05 49.7**	**+1.5**
	99nm,0.3s						
KTMS				S	**Sg**	**23 06 14.8**	**-1.0**
	880nm,0.4s						
DJR	**Jarkent**	**2.14**	**261**	*e*P	**Pg**	**23 05 49.4**	**+0.9**
	84nm,0.2s						
DJR				*e*S	**Sg**	**23 06 15.0**	**-1.1**
	92nm,0.2s						
DJR	**Jarkent**	**2.14**	**261**	Pg	**Pg**	**23 05 49.4**	**+0.9**
	84nm,0.2s						
DJR				Lg	Lg	23 06 16.5	
	92nm,0.2s						
MAKZ	**Makanchi**	**2.17**	**346**	⇑Pg	**Pb**	**23 05 45.0**	**-1.8**
	7.9nm,0.3s						
MAKZ				⇑Lg	Lg	23 06 17.6	
	52nm,0.6s						
KAPS	**Kapalarasan**	**2.46**	**285**	*e*P	**Pg**	**23 05 57.6**	**+2.8**
	37nm,0.2s						
KAPS				*e*S	**Sg**	**23 06 28.2**	**+1.5**
	109nm,0.1s						
KAPS	**Kapalarasan**	**2.46**	**285**	Pg	**Pg**	**23 05 57.6**	**+2.8**
	37nm,0.2s						
KAPS				Lg	Lg	23 06 28.2	
	109nm,0.1s						
PDGK	**Podgornoye**	**2.71**	**241**	⇑Pn	**Pn**	**23 05 51.1**	**0.0**
	0.8nm,0.6s						
PDGK				⇓Pg	**Pb**	**23 05 56.7**	**+0.7**
	19nm,0.5s						
PDGK				⇓Lg	Lg	23 06 31.2	
	92nm,0.5s				

CHKK				Lg	Lg	23 07 17.2	
	47nm,0.2s						
KOTS	**Kotyrbulak**	**4.31 252**		Pg	**Pg**	**23 06 30.9**	**+0.7**
KOTS				Lg	Lg	23 07 25.0	
MDOK	**Medeo**	**4.38 251**		*e*P	**Pg**	**23 06 33.1**	**+1.7**
	24nm,0.6s						
MDOK				*e*S	**Sg**	**23 07 28.9**	**+0.6**
	45nm,0.5s						
MDOK	**Medeo**	**4.38 251**	⇑	Pn	**Pb**	**23 06 20.8**	**-3.7**
	1.1nm,0.4s						
MDOK			⇓	Pg	**Pg**	**23 06 28.8**	**-2.7**
	28nm,0.7s						
MDOK			⇑	Lg	Lg	23 07 27.7	
	39nm,0.5s						
MDOK	**Medeo**	**4.38 251**		Pg	**Pg**	**23 06 33.1**	**+1.7**
	24nm,0.6s						
MDOK				Lg	Lg	23 07 28.9	
	45nm,0.5s						
KTBS	**Karatobe**	**4.46 259**		*e*P	**Pg**	**23 06 32.8**	**-0.1**
KTBS				*e*S	**Sg**	**23 07 28.0**	**-2.7**
KTBS	**Karatobe**	**4.46 259**		Pg	**Pg**	**23 06 32.8**	**-0.1**
KTBS				Lg	Lg	23 07 28.0	
TNSS	**Tian-Shan**	**4.50 250**		*e*P	**Pg**	**23 06 35.0**	**+1.3**
	20nm,0.5s						
TNSS				*e*S	**Sg**	**23 07 32.0**	**0.0**
	21nm,0.4s						
TNSS	**Tian-Shan**	**4.50 250**		Pg	**Pg**	**23 06 35.1**	**+1.3**
	20nm,0.5s						
TNSS				Lg	Lg	23 07 32.0	
	21nm,0.4s						
KUU	**Kurty**	**4.66 262**		*e*P	**Pg**	**23 06 35.5**	**-1.3**
	7.9nm,0.3s						
KUU				*e*S	**Sg**	**23 07 33.6**	**-3.5**
	46nm,0.4s						
KUU	**Kurty**	**4.66 262**		Pg	**Pg**	**23 06 35.5**	**-1.3**
	7.9nm,0.3s						
KUU				Lg	Lg	23 07 33.6	
	46nm,0.4s						
MTBS	**Maitube**	**4.82 253**		*e*P	**Pg**	**23 06 38.5**	**-1.2**
	14nm,0.3s						
MTBS				*e*S	**Sg**	**23 07 38.3**	**-3.8**
	53nm,0.2s						
MTBS	**Maitube**	**4.82 253**		Pg	**Pg**	**23 06 38.5**	**-1.2**
	14nm,0.3s						
MTBS				Lg	Lg	23 07 38.3	
	53nm,0.2s						
KST	**Kastek**	**5.17 254**		*e*P	**Pg**	**23 06 46.2**	**-0.2**
	16nm,0.4s						
KST				*e*S	**Sg**	**23 07 52.5**	**-0.8**
	26nm,0.5s						
KST	**Kastek**	**5.17 254**		Pg	**Pg**	**23 06 46.2**	**-0.2**
	16nm,0.4s						
KST				Lg	Lg	23 07 52.5	
	26nm,0.5s						
TKM2	**Tokmak 2**	**5.46 253**	⇑	Pg	**Pg**	**23 06 52.7**	**+0.6**
	15nm,0.7s						
TKM2			⇓	Lg	Lg	23 08 00.1	
	24nm,0.8s						
SEM	**Semipalatinsk**	**5.95 345**		*e*P	**Pg**	**23 07 03.0**	**+1.5**
	3.3nm,0.1s						
SEM				*e*S	**Sg**	**23 08 19.8**	**+1.3**
	42nm,0.5s						
SEM	**Semipalatinsk**	**5.95 345**		Pg	**Pg**	**23 07 03.0**	**+1.5**
	3.3nm,0.1s						
SEM				Lg	Lg	23 08 19.7	
	42nm,0.5s						
AAK	**Ala-Archa**	**6.32 254**		Pn	**Pn**	**23 06 44.7**	**+4.0**
	0.1nm,0.3s,baz=32,slow=18,SNR=1.7						
AAK				Pg	**Pb**	**23 06 58.6**	**+1.0**
	0.5nm,0.3s,baz=98,slow=7.3,SNR=6.7						
AAK				Lg	Lg	23 08 27.9	
	1.2nm,0.3s,baz=284,slow=18,SNR=6.1						
AAK	**Ala-Archa**	**6.32 254**	⇓	Pn	Pn	23 06 48.5	+7.8
	0.6nm,0.6s						
AAK			⇓	Pg	**Pg**	**23 07 04.6**	**-3.9**
	3.4nm,0.5s						
AAK			⇑	Lg	Lg	23 08 28.4	
	12nm,0.8s						
KURBB	**Kurchatov Arra**	**6.57 336**		Pn	**Pn**	**23 06 43.9**	**+0.1**
	0.1nm,0.3s,baz=149,slow=13,SNR=4.3						
KURBB				Lg	Lg	23 08 37.1	
	0.5nm,0.3s,baz=155,slow=28,SNR=6.2						
KURK	**Kurchatov**	**6.62 337**	⇑	Lg	Lg	23 08 39.2	
	30nm,0.9s						
OTUK	**Ortayu**	**8.00 300**	⇑	Lg	Lg	23 09 23.8	
	28nm,1.1s						
ZALV	**Zalesovo Beam**	**9.36 8**		Pn	**Pn**	**23 07 21.1**	**-1.0**
	0.5nm,0.3s,baz=186,slow=12,SNR=9.7						
ZALV				Sn	**Sn**	**23 09 01.2**	**-5.9**
	0.5nm,0.3s,baz=168,slow=25,SNR=6.8						
ZALV				Lg	Lg	23 10 01.6	
	0.1nm,0.3s,baz=176,slow=25,SNR=2.7						
BVAR	**Borovoye Array**	**11.62 320**		Lg	Lg	23 11 15.4	
	0.1nm,0.3s,baz=114,slow=27,SNR=5.3						
SONM	**Songino Array**	**16.64 71**		Pn	**Pn**	**23 09 00.9**	**+0.2**
	0.1nm,0.3s,baz=270,slow=14,SNR=4.0						

IDC 14 23:12:00.6±3.8, 1°.36S×136°.09E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/37, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=167.7km s-min=29.6km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.55**	**185**	P	P	23 16 18.6	-0.5
	0.1nm,0.3s,baz=3.8,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**22.27**	**185**	P	P	23 16 59.5	-0.1
	1.0nm,0.6s,baz=9.1,slow=10,SNR=12						
MKAR	**Makanchi Array**	**67.14**	**323**	P	P	23 22 56.6	+0.2
	0.3nm,0.8s,baz=103,slow=8.2,SNR=3.3						

*IDC **14** 23:12:01.1±13.0, 38°.10N×20°.23E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.3/55, mbtmp3.8/4, Error ellipse: s-maj=231.6km s-min=66.7km az=44.0*
*THE **14** 23:12:07.7, 38°.44N×20°.51E, h0km±1km, ML2.8/23, Error ellipse: s-maj=1.8km s-min=0.7km az=179.0*
*ATH **14** 23:12:07.0, 38°.45N×20°.55E, h8km±1km, ML2.8/12, Error ellipse: s-maj=1.7km s-min=0.6km az=276.0*

ISC 14 23:12:06.6±0.7, 38°.42N±0°.02×20°.50E±0°.03, h11km±3km, n77, σ1s11/117, mb3.6/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.06**	**55**	P	**Pg**	**23 12 08.2**	**-0.7**
FSK				S	**Sg**	**23 12 09.0**	**-1.5**
	85μm,0.3s						
FSK	**Fiskardo**	**0.06**	**55**	P	**Pg**	**23 12 08.2**	**-0.7**
FSK				S	**Sg**	**23 12 09.1**	**-1.5**
FSK				AML	AML	23 12 09.3	
FSK				AML	AML	23 12 09.5	
KEF4	**Livadi, Kephal**	**0.17**	**199**	P	**Pb**	**23 12 11.1**	**-0.8**
KEF4				S	**Sb**	**23 12 15.1**	**+2.0**
KEF4	**Livadi, Kephal**	**0.17**	**199**	P	**Pb**	**23 12 11.0**	**-0.8**
KEF4				S	**Sb**	**23 12 14.7**	**+1.7**
LXRA	**Lixouri, Kepha**	**0.23**	**192**	P	**Pb**	**23 12 12.3**	**-0.4**
LXRA				S	**Sb**	**23 12 16.7**	**+2.2**
EVGI	**Lefkada island**	**0.23**	**32**	P	**Pg**	**23 12 11.0**	**-0.5**
EVGI				S	**Sg**	**23 12 14.6**	**-0.2**
	21μm,0.1s						
EVGI	**Lefkada island**	**0.23**	**32**	P	**Pg**	**23 12 10.9**	**-0.6**
EVGI				S	**Sg**	**23 12 14.1**	**-0.7**
ARGA	**Argostoli. Kep**	**0.25**	**183**	P	**Pb**	**23 12 13.1**	**+0.1**
KEF3	**Kipouria, Keph**	**0.25**	**208**	P	**Pb**	**23 12 11.9**	**-1.2**
KEF3				S	**Sb**	**23 12 16.2**	**+1.0**
	9μm,0.2s						
KEF3	**Kipouria, Keph**	**0.25**	**208**	P	**Pb**	**23 12 11.8**	**-1.2**
KEF3				S	**Sb**	**23 12 16.4**	**+1.3**
VLS	**Valsamata**	**0.26**	**163**	P	**Pb**	**23 12 12.4**	**-0.8**
VLS				S	**Sb**	**23 12 17.2**	**-0.5**
	3μm,0.3s						
VLS	**Valsamata**	**0.26**	**163**	P	**Pb**	**23 12 12.2**	**-1.0**
VLS				S	**Sb**	**23 12 16.8**	**-0.9**
VLS				AML	AML	23 12 17.4	
	comp=E,7090μm,0.3s						
VLS				AML	AML	23 12 17.5	
	comp=N,6229μm,0.3s						
DRAG	**Dragano-Lefkad**	**0.27**	**13**	P	**Pg**	**23 12 11.4**	**-0.7**
DRAG				S	**Sg**	**23 12 16.9**	**+1.1**
	comp=N,15μm,0.2s						
DRAG	**Dragano-Lefkad**	**0.27**	**13**	P	**Pg**	**23 12 11.4**	**-0.7**
DRAG				S	**Sg**	**23 12 15.0**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.32**	**167**	P	**Pb**	**23 12 13.5**	**-0.8**
PSDA				S	**Sb**	**23 12 19.2**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.32**	**167**	P	**Pb**	**23 12 13.5**	**-0.8**
PSDA				S	**Sb**	**23 12 18.8**	**-0.6**
NYDR	**Nydri-Lefkada**	**0.33**	**29**	P	**Pg**	**23 12 12.7**	**-0.5**
NYDR				S	**Sg**	**23 12 17.8**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.33**	**29**	P	**Pg**	**23 12 12.5**	**-0.7**
LKD2	**Lefkada island**	**0.39**	**19**	P	**Pg**	**23 12 14.1**	**-0.2**
LKD2				S	**Sg**	**23 12 19.1**	**-0.3**
	comp=N,2μm,0.3s						
LKD2	**Lefkada island**	**0.39**	**19**	P	**Pg**	**23 12 13.5**	**-0.8**
LKD2				S	**Sg**	**23 12 18.6**	**-0.8**
LKD2				AML	AML	23 12 20.8	
	comp=E,4339μm,0.4s						
LKD2				AML	AML	23 12 21.2	
	comp=N,4287μm,0.2s						
TSLK	**Tsoukalades, L**	**0.42**	**17**	P	**Pg**	**23 12 14.4**	**-0.5**
TSLK				S	**Sg**	**23 12 21.6**	**+1.1**
	comp=N,2μm,0.4s						
TSLK	**Tsoukalades, L**	**0.42**	**17**	P	**Pg**	**23 12 14.2**	**-0.7**
TSLK				S	**Sg**	**23 12 20.1**	**-0.4**
TSLK				AML	AML	23 12 23.6	
	comp=E,3096μm,0.3s						
TSLK				AML	AML	23 12 24.8	
	comp=N,3498μm,0.3s						
VTN	**Vitineika**	**0.74**	**133**	P	**Pn**	**23 12 21.3**	**-1.7**
LTHK	**Lithakia**	**0.76**	**159**	P	**Pb**	**23 12 21.2**	**-0.6**
LTHK	**Lithakia**	**0.76**	**159**	P	**Pb**	**23 12 21.1**	**-0.7**
RLS	**Riolos of Patr**	**0.85**	**115**	P	**Pb**	**23 12 22.9**	**-0.4**
RLS				S	**Sn**	**23 12 37.6**	**+0.8**
	comp=N,200nm,0.4s						
RLS	**Riolos of Patr**	**0.85**	**115**	P	**Pb**	**23 12 22.8**	**-0.5**
RLS				AML	AML	23 12 43.0	
	comp=E,255μm,0.5s						
RLS				AML	AML	23 12 45.5	
	comp=N,653μm,0.5s						
DRO	**Drossia**	**1.07**	**116**	P	**Pn**	**23 12 26.9**	**-0.6**
DRO				S	**Sn**	**23 12 44.4**	**+2.1**
	comp=N,740nm,0.4s						
DRO	**Drossia**	**1.07**	**116**	P	**Pn**	**23 12 26.5**	**-0.9**
DRO				AML	AML	23 12 45.9	
	comp=N,1387μm,0.4s						
DRO				AML	AML	23 12 50.4	
	comp=E,1575μm,0.4s						
EFP	**Efpalio**	**1.11**	**89**	P	**Pb**	**23 12 26.5**	**-1.3**
EFP				AML	AML	23 12 49.9	
	comp=N,1219μm,0.5s						
EFP				AML	AML	23 12 50.6	
	comp=E,1166μm,0.6s						
IGT	**Igoumenitsa**	**1.11**	**353**	P	**Pg**	**23 12 28.4**	**+0.4**
IGT				S	**Sn**	**23 12 45.2**	**+1.7**
	comp=E,490nm,0.6s						
IGT	**Igoumenitsa**	**1.11**	**353**	P	**Pb**	**23 12 27.4**	**-0.5**
ANX	**Ano Chora**	**1.13**	**81**	P	**Pg**	**23 12 28.1**	**-0.2**
ANX				S	**Sn**	**23 12 45.8**	**+1.8**
	comp=E,645nm,0.7s						
ANX	**Ano Chora**	**1.13**	**81**	P	**Pb**	**23 12 27.5**	**-0.7**
ANX				AML	AML	23 12 52.1	
	comp=E,1169μm,0.7s						
ANX				AML	AML	23 12 53.5	
	comp=N,1354μm,0.7s						
EVR	**Evrytania**	**1.14**	**64**	P	**Pb**	**23 12 27.5**	**-0.9**
EVR				S	**Sn**	**23 12 45.7**	**+1.5**
	comp=N,245nm,0.6s						
EVR	**Evrytania**	**1.14**	**64**	P	**Pb**	**23 12 27.1**	**-1.2**
EVR				AML	AML	23 12 53.0	
	comp=E,473μm,0.7s						
EVR				AML	AML	23 12 54.8	
	comp=N,516μm,0.5s						
LAKA	**Lakka**	**1.18**	**98**	P	**Pn**	**23 12 28.2**	**-0.9**
LAKA				S	**Sn**	**23 12 46.8**	**+1.7**
	comp=N,930nm,0.7s						
LAKA	**Lakka**	**1.18**	**98**	P	**Pn**	**23 12 28.1**	**-1.0**
LAKA				AML	AML	23 12 52.4	
	comp=E,2497μm,0.7s						
LAKA				AML	AML	23 12 54.0	
	comp=N,1478μm,0.6s						
SERG	**Sergoula**	**1.23**	**90**	P	**Pn**	**23 12 29.0**	**-0.7**
SERG				S	**Sg**	**23 12 48.5**	**+2.4**
	comp=N,478nm,0.3s						
SERG	**Sergoula**	**1.23**	**90**	P	**Pn**	**23 12 28.8**	**-0.9**
SERG				AML	AML	23 12 55.0	
	comp=N,1376μm,0.3s						
SERG				AML	AML	23 12 55.2	
	comp=E,1064μm,0.4s						
TRIZ	**Trizonia**	**1.24**	**92**	P	**Pn**	**23 12 29.1**	**-0.7**
TRIZ	**Trizonia**	**1.24**	**92**	P	**Pn**	**23 12 29.0**	**-0.8**
JAN	**Janina**	**1.26**	**13**	P	**Pg**	**23 12 30.8**	**-0.1**
JAN				S	**Sg**	**23 12 49.1**	**+1.8**
	comp=E,425nm,0.3s						
JAN	**Janina**	**1.26**	**13**	P	**Pb**	**23 12 30.3**	**-0.1**
ALIK	**Aliki, Aigiali**	**1.28**	**97**	P	**Pg**	**23 12 31.0**	**-0.2**
ALIK				S	**Sg**	**23 12 50.6**	**+2.8**
KLV	**Kalavryta, Ach**	**1.36**	**106**	P	**Pb**	**23 12 31.2**	**-0.8**
KLV				S	**Sg**	**23 12 52.8**	**+2.5**
	comp=E,110nm,0.6s						
KLV	**Kalavryta, Ach**	**1.36**	**106**	P	**Pb**	**23 12 31.0**	**-1.0**
KASA	**Kassiopi**	**1.39**	**342**	P	**Pb**	**23 12 32.3**	**-0.3**
KEK	**Kerkira**	**1.40**	**337**	P	**Pg**	**23 12 34.2**	**+0.8**
KEK				S	**Sg**	**23 12 54.9**	**+3.3**
	comp=E,165nm,0.3s						
KEK	**Kerkira**	**1.40**	**337**	P	**Pb**	**23 12 32.7**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.41**	**65**	P	**Pg**	**23 12 33.9**	**+0.3**
MAKR				S	**Sg**	**23 12 54.4**	**+2.5**
	comp=E,598nm,0.7s						
MAKR	**Makrakomi, Fth**	**1.41**	**65**	P	**Pb**	**23 12 32.3**	**-0.6**
MAKR				AML	AML	23 13 00.6	
	comp=E,563μm,0.9s						
MAKR				AML	AML	23 13 08.7	
	comp=N,414μm,1.3s						
SRN	**Sarande**	**1.50**	**345**	P	**Pb**	**23 12 34.9**	**+0.4**
SRN				S	**Sg**	**23 12 55.9**	**+0.9**
AGG	**Agios Georgios**	**1.55**	**67**	P	**Pb**	**23 12 34.9**	**-0.5**
AGG				S	**Sg**	**23 12 58.3**	**+1.7**
AGG	**Agios Georgios**	**1.55**	**67**	P	**Pb**	**23 12 34.5**	**-0.9**
THL	**Klokotos Trika**	**1.64**	**46**	P	**Pb**	**23 12 37.3**	**+0.4**
THL				S	**Sg**	**23 13 00.4**	**+1.0**
	comp=N,268nm,0.6s						
KPRO	**Kipourio**	**1.67**	**23**	P	**Pg**	**23 12 39.1**	**+0.4**
KPRO				S	**Sg**	**23 13 00.6**	**+0.2**
	comp=N,332nm,0.7s						
ITM	**Ithomi**	**1.68**	**137**	P	**Pg**	**23 12 39.8**	**+1.0**
ITM				S	**Sg**	**23 13 02.3**	**+1.7**
	comp=N,142nm,0.5s						
LSK	**Leskovik**	**1.73**	**3**	P	**Pg**	**23 12 39.8**	**+0.1**
LSK				S	**Sg**	**23 13 01.8**	**-0.3**
PYL	**PYLOS**	**1.82**	**147**	P	**Pb**	**23 12 39.4**	**-0.5**
PYL				S	**Sg**	**23 13 04.4**	**-0.6**
	comp=N,75nm,0.8s						
TYRN	**Tyrnavos**	**1.86**	**46**	P	**Pb**	**23 12 40.3**	**-0.4**
TYRN				S	**Sg**	**23 13 05.6**	**-1.0**
	comp=N,198nm,0.7s						
LTK	**Loutraki**	**1.99**	**101**	P	**Pb**	**23 12 42.8**	**+0.1**
NEST	**Nestorio**	**2.03**	**12**	P	**Pb**	**23 12 43.9**	**+0.3**
OHR	**Ohrid**	**2.69**	**5**	*i* Pn	**Pb**	**23 12 53.0**	**-1.8**
VAY	**Valandovo**	**3.31**	**28**	*i* Pn	**Pn**	**23 12 58.5**	**+0.3**
STIP	**Stip**	**3.52**	**21**	*i* Pn	**Pb**	**23 13 06.1**	**-2.7**
PDG	**Podgorica**	**4.11**	**347**	*e*Pn	**Pn**	**23 13 09.9**	**+0.6**
TREB	**Trebinje**	**4.59**	**340**	*e*Pn	**Pn**	**23 13 15.0**	**-0.9**
VTS	**Vitosha**	**4.68**	**26**	*e*Pn	**Pn**	**23 13 18.0**	**+0.7**
SJES	**Sjenica**	**4.85**	**355**	*e*Pn	**Pn**	**23 13 20.1**	**+0.5**
IVAS	**Ivanjica**	**5.16**	**357**	*e*Pn	**Pn**	**23 13 23.4**	**-0.3**
DIVS	**Divibare**	**5.68**	**356**	*e*Pn	**Pn**	**23 13 30.7**	**-0.3**
TRUS	**Trudelj**	**5.80**	**359**	*e*Pn	**Pn**	**23 13 33.6**	**+1.1**
FINES	**FINESS Array B**	**23.31**	**7**	P	**P**	**23 17 13.8**	**-0.4**
	comp=N,0.8nm,0.6s,baz=160,slow=12,SNR=4.3						
BELG	**Belogornoye**	**23.44**	**45**	P	**P**	**23 17 15.8**	**+0.2**
	comp=N,8.3nm,0.7s,baz=230,slow=7.9,SNR=5.3						
MKAR	**Makanchi Array**	**45.19**	**59**	P	**P**	**23 20 22.5**	**-1.0**
	comp=N,0.2nm,0.4s,baz=274,slow=7.3,SNR=7.5						
ZALV	**Zalesovo Beam**	**45.54**	**48**	P	**P**	**23 20 24.9**	**-1.2**
	comp=N,0.6nm,0.5s,baz=277,slow=7.7,SNR=4.6						

NEIC 14 23:12:45.4±1.2, 36°.47N±0°.02×98°.74W±0°.02, h5km±2km, mb_Lg2.9/23, Error ellipse: s-maj=3.6km s-min=3.1km az=326.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.23**	**247**	Pg	Pg	23 12 50.2	+0.2
U32A				Sg	Sg	23 12 53.7	+0.6
OK035	**E0210 Rd and N**	**0.24**	**5**	Pg	Pg	23 12 50.6	+0.5
OK035				Sg	Sg	23 12 54.2	+0.9
OK032	**Salt Plains WL**	**0.54**	**52**	Pg	Pg	23 12 55.9	+0.1
OK032				Sg	Sg	23 13 03.4	+0.5
CROK	**Carrier**	**0.61**	**87**		Pg	23 12 57.3	+0.1
CROK					Sg	23 13 05.7	+0.7
KAN14	**Manchester OK**	**0.79**	**52**	Pg	Pg	23 13 00.5	-0.1
KAN14				Sg	Sg	23 13 11.4	+0.6
GC02	**Grant County #**	**0.80**	**61**		Pg	23 13 00.7	-0.1
GC02				Sg	Sg	23 13 11.7	+0.4
KAN10	**Anthony SW Sta**	**0.83**	**38**	Pg	Pg	23 13 00.4	-1.0
KAN10				Sg	Sg	23 13 12.2	0.0
KAN16	**Harper SW Stat**	**0.93**	**35**	Pg	Pg	23 13 03.0	-0.3
KAN16				Sg	Sg	23 13 15.5	+0.2
KAN17	**Caldwell West**	**0.97**	**53**	Pg	Pg	23 13 03.7	-0.3
KAN08	**Anthony NE Sta**	**0.97**	**39**		Pg	23 13 03.7	-0.4
KAN12	**Harper NE Stat**	**1.02**	**35**	Pg	Pg	23 13 04.7	-0.3
KAN01	**Argonia South**	**1.04**	**49**		Pg	23 13 05.1	-0.3
KAN06	**Argonia West S**	**1.05**	**42**		Pg	23 13 05.2	-0.3
KAN13	**South Haven SW**	**1.15**	**61**	Pg	Pg	23 13 07.0	-0.5
OK029	**Liberty Lake**	**1.24**	**123**	Pg	Pg	23 13 08.7	-0.5
OK025	**Westminster Rd**	**1.44**	**128**	Pn	Pn	23 13 11.9	-0.3
OKCFA	**Oklahoma City**	**1.48**	**135**	Pn	Pn	23 13 12.0	-0.8
OKCSW	**OKLAHOMA CITY**	**1.50**	**135**	Pn	Pn	23 13 12.3	-0.6
OK031	**S. Brethren Rd**	**1.62**	**108**		Pn	23 13 13.8	-0.9
FNO	**Franklin**	**1.63**	**138**		Pn	23 13 15.1	+0.3
QUOK	**Quay**	**1.67**	**100**		Pn	23 13 15.7	+0.4
OK030	**Cody Creek RV**	**1.67**	**108**		Pn	23 13 15.7	+0.3
OK034	**N. Norfolk Rd.**	**1.70**	**105**		Pn	23 13 16.1	+0.4
WMOK	**Wichita Mounta**	**1.73**	**181**	Pn	Pn	23 13 15.6	-0.6
T35A	**Sooner Cattle**	**1.84**	**75**	Pn	Pn	23 13 18.1	+0.4
R32A	**Long Quarter,**	**1.95**	**1**		Pn	23 13 20.1	+0.8
W35A	**Tecumseh**	**2.00**	**130**		Pn	23 13 19.8	-0.2
X34A	**Smith Ranch, M**	**2.00**	**158**		Pb	23 13 21.3	-1.1
X34A				IAmb_Lg		23 13 54.4	
	comp=Z,64nm,0.9s						
TUL1	**Leonard**	**2.45**	**102**	Pn	Pn	23 13 25.6	-0.4
CBKS	**Cedar Bluff**	**2.47**	**342**	Pn	Pn	23 13 26.6	+0.1
LOOK	**Love County**	**2.78**	**152**	Pn	Pn	23 13 30.0	-0.6
LOOK				IAmb_Lg		23 14 21.3	
	comp=Z,22nm,0.8s						
AMTX	**Amarillo**	**2.87**	**237**	Pn	Pn	23 13 32.1	+0.1
KSU1	**Kansas State U**	**3.12**	**32**	Pn	Pn	23 13 35.2	-0.1
X37A	**Clayton**	**3.33**	**123**	Pn	Pn	23 13 38.2	+0.1
X37A				IAmb_Lg		23 14 38.9	
	comp=Z,58nm,1.2s						
Z35A	**Perchaven, San**	**3.36**	**158**	Pn	Pn	23 13 38.8	+0.2
U38A	**Gravette**	**3.51**	**89**	Pn	Pn	23 13 40.7	+0.1
KSCO	**Kaye Shedlock'**	**3.99**	**311**	IAmb_Lg		23 14 59.5	
	comp=Z,20nm,0.7s						
MSTX	**Muleshoe**	**4.14**	**234**	IAmb_Lg		23 15 03.3	
	comp=Z,17nm,0.8s						
N35A	**Tabor**	**5.01**	**28**	IAmb_Lg		23 15 37.5	
	comp=Z,45nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.38**	**94**	IAmb_Lg		23 15 37.7	
	comp=Z,9.9nm,0.8s						
Q24A	**Divide**	**5.66**	**298**	IAmb_Lg		23 15 51.8	
	comp=Z,11nm,0.8s						
JCT	**Junction City**	**6.04**	**189**	IAmb_Lg		23 16 11.3	
	comp=Z,9.5nm,0.8s						
N38A	**Joes South For**	**6.10**	**43**	IAmb_Lg		23 16 02.6	
	comp=Z,35nm,0.7s						
P40A	**Paris**	**6.10**	**58**	IAmb_Lg		23 15 58.7	
	comp=Z,16nm,0.9s						
CCM	**Cathedral Cave**	**6.18**	**73**	IAmb_Lg		23 16 03.1	
	comp=Z,14nm,1.0s						
I40A	**Norwalk**	**9.67**	**37**	IAmb_Lg		23 17 59.2	
	comp=Z,14nm,0.8s						

*JMA **14** 23:13:44.8±0.1, 24°.05N×121°.68E, h0km, M2.7*
*TAP **14** 23:13:45.2, 24°.07N×121°.64E, h9km, ML2.7, C*

ISC 14 23:13:42.8±1.0, 24°.05N±0°.03×121°.83E±0°.03, h10km±8km, n47, σ0s80/62, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.21**	**278**	P	**Pg**	**23 13 47.5**	**+0.3**
	baz=285						
TWD				S	**Sg**	**23 13 48.8**	**-1.3**
	baz=285						
HWA	**Hwalien**	**0.21**	**250**	P	**Pb**	**23 13 48.3**	**+1.1**
	baz=194						
HWA				S	**Sg**	**23 13 50.6**	**+0.4**
	baz=194						
ETL	**Fush Village**	**0.21**	**301**	P	**Pg**	**23 13 48.2**	**+1.0**
	baz=348						
ETL				S	**Sg**	**23 13 50.1**	**-0.2**
	baz=348						
NACB	**Ninganchiao**	**0.24**	**301**	P	**Pg**	**23 13 48.4**	**+0.7**
	baz=337						
NACB				*e*S	**Sg**	**23 13 50.6**	**-0.5**
	baz=337						
TEYL	**Yanliau Villag**	**0.28**	**229**	*e*P	**Pb**	**23 13 49.9**	**+0.1**
	baz=192						
ETM	**Tongmen**	**0.32**	**255**	*e*P	**Pg**	**23 13 49.2**	**+0.2**
	baz=232						
ETM				*e*S	**Sg**	**23 13 51.8**	**-1.5**
	baz=232						
ETLH	**Xiulin Townshi**	**0.35**	**297**	P	**Pg**	**23 13 50.1**	**+0.3**
	baz=312						
ETLH				*e*S	**Sg**	**23 13 53.4**	**-1.1**
	baz=312						
ENA	**Nanau**	**0.38**	**349**	*e*P	**Pn**	**23 13 53.0**	**-1.4**
	baz=15						
ENA				*e*S	**Sb**	**23 13 58.4**	**+0.7**
	baz=15						
EWUT	**Wuta**	**0.40**	**354**	*e*P	**Pn**	**23 13 53.5**	**-1.1**
	baz=18						
EWUT				*e*S	**Sb**	**23 13 58.9**	**+0.8**
	baz=18						
ESL	**Shilin**	**0.43**	**237**	*e*P	**

baz=264
YULB Yu-li 0.81 217 *e*P **Pn 23 13 59.7 -0.6**
baz=204
DPDB Guoxing 0.82 269 *e*P **Pb 23 13 59.4 +0.2**
baz=266
WHP Taichung City 0.83 286 *e*P **Pb 23 13 59.8 +0.4**
baz=287
WCS Beigang Elemen 0.83 271 *e*P **Pg 23 13 59.3 +0.5**
baz=268
SSLB Suanglung 0.84 252 *e*P **Pg 23 13 59.1 +0.2**
baz=245
TWF1 Yuli 0.85 215 *e*P **Pn 23 14 00.7 -0.1**
baz=203
SMLT Sun Moon Lake 0.86 259 *e*P **Pb 23 13 60.0 +0.1**
baz=254
NFF Wufeng Townshi 0.87 312 *e*P **Pn 23 14 00.8 -0.3**
baz=319
TYC Yuchr 0.90 261 *e*P **Pg 23 14 00.2 +0.2**
baz=256
LIOB Emei 0.95 309 *e*P **Pn 23 14 02.8 +0.6**
baz=315
NSTT Nanjuang 0.95 308 *e*P **Pn 23 14 02.6 +0.5**
baz=313
YOJ Yonaguni jima 1.16 69 P Pg 23 14 09.8 +4.8
JKRS Kuro-shima 2.00 84 *e*S **Sg 23 14 50.1 +2.9**
JIJ Ishigaki jima 2.14 81 P **Pg 23 14 23.0 -0.8**
JIJ *e*S **Sg 23 14 50.9 -0.7**
JISG Ishigakijimahi 2.33 76 P **Pg 23 14 25.9 -1.6**

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*ANF **14** 23:15:31.1±0.3, 36°.94N×97°.75W, h5km, ML4.9/18, Error ellipse: s-maj=4.0km s-min=3.6km az=83.0*
*TUL **14** 23:15:31.9±0.8, 36°.939N±0°.008×97°.80W±0°.01, h2km±4km, ML4.0, mb_Lg4.0/118(NEIC), Mwr3.5/14(SLM), Error ellipse: s-maj=1.4km s-min=0.8km az=47.0*
*IDC **14** 23:15:31.1±0.6, 37°.05N×97°.73W, h0km, mb4.0/9, mb1 4.2/15, mb1mx3.9/56, mbtmp4.0/15, ML4.0/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/80, Error ellipse: s-maj=10.6km s-min=9.1km az=167.0*
*NEIC **14** 23:15:32.8±0.8, 36°.957N±0°.009×97°.82W±0°.01, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.8km az=305.0*
*NEIC **14** 23:15:32.8, 36°.93N×97°.80W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; M_{rr}=1.58; $M_{\theta\theta}$=1.44; $M_{\phi\phi}$=0.14; $M_{r\theta}$=-0.95; $M_{\theta\phi}$=0.86; $M_{r\phi}$=0.34; Fault plane solution: M_0=2.02000×10^14^ NP1:ϕ_s=222.00000°, δ=38.00000°, λ=-126.00000°. NP2:ϕ_s=85.00000°, δ=60.00000°, λ=-65.00000°. Principal axes: T 2.0152, Plg12.0000°, Azm157.0000°; N -0.0002, Plg22.0000°, Azm252.0000°; P -2.0151, Plg65.0000°, Azm41.0000°;*

ISC 14 23:15:31.6±0.7, 36°.95N±0°.02×97°.80W±0°.02, h11km±4km, n156, σ1=33/150, mb4.0/9, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.10**	**15**	Pg	**Pg**	**23 15 34.6**	**+0.1**
KAN17				Sg	**Sg**	**23 15 36.4**	**-0.1**
GC02	**Grant County #**	**0.11**	**208**		**Pg**	**23 15 34.3**	**-0.2**
GC02				Sg	**Sg**	**23 15 36.2**	**-0.3**
KAN14	**Manchester OK**	**0.13**	**274**	Pg	**Pg**	**23 15 34.8**	**-0.1**
KAN14				Sg	**Sg**	**23 15 36.2**	**-0.9**
KAN01	**Argonia South**	**0.21**	**8**		**Pg**	**23 15 36.5**	**+0.4**
KAN01				Sg	**Sg**	**23 15 39.7**	**+0.5**
KAN13	**South Haven SW**	**0.26**	**75**	Pg	**Pg**	**23 15 37.7**	**+0.6**
KAN13				Sg	**Sg**	**23 15 41.5**	**+0.8**
KAN10	**Anthony SW Sta**	**0.30**	**307**	Pg	**Pg**	**23 15 37.9**	**+0.2**
KAN10				Sg	**Sg**	**23 15 41.5**	**-0.2**
KAN06	**Argonia West S**	**0.30**	**351**		**Pg**	**23 15 38.2**	**+0.4**
KAN06				Sg	**Sg**	**23 15 42.7**	**+0.7**
KAN08	**Anthony NE Sta**	**0.31**	**334**		**Pg**	**23 15 38.4**	**+0.4**
KAN08				Sg	**Sg**	**23 15 43.1**	**+0.9**
KAN16	**Harper SW Stat**	**0.35**	**323**	Pg	**Pg**	**23 15 39.0**	**+0.3**
KAN16				Sg	**Sg**	**23 15 43.9**	**+0.5**
OK032	**Salt Plains WL**	**0.36**	**247**	Pg	**Pg**	**23 15 39.1**	**+0.3**
OK032				Sg	**Sg**	**23 15 44.1**	**+0.5**
KAN12	**Harper NE Stat**	**0.39**	**335**	Pg	**Pg**	**23 15 39.6**	**+0.3**
KAN12				Sg	**Sg**	**23 15 45.3**	**+0.9**
CROK	**Carrier**	**0.47**	**199**	Sg	**Sg**	**23 15 47.6**	**+0.6**
OK035	**E0210 Rd and N**	**0.77**	**252**		**Pg**	**23 15 46.5**	**0.0**
OK035				Sg	**Sg**	**23 15 57.1**	**+0.5**
T35A	**Sooner Cattle**	**1.03**	**91**	Pg	**Pb**	**23 15 51.6**	**+0.1**
T35A				Sg	**Sb**	**23 16 05.0**	**0.0**
U32A	**Winter Ranch,**	**1.12**	**240**		**Pb**	**23 15 53.0**	**0.0**
OK029	**Liberty Lake**	**1.18**	**166**		**Pn**	**23 15 54.3**	**+0.2**
OK029					**Sn**	**23 16 11.6**	**+1.5**
OK031	**S. Brethren Rd**	**1.26**	**142**		**Pb**	**23 15 55.6**	**+0.3**
OK034	**N. Norfolk Rd.**	**1.28**	**137**		**Pb**	**23 15 56.0**	**+0.3**
OK030	**Cody Creek RV**	**1.30**	**141**		**Pb**	**23 15 56.4**	**+0.2**
OK005	**Luther M Schoo**	**1.38**	**159**		**Pg**	**23 15 57.9**	**-0.2**
OK009	**Oakdale Elemen**	**1.40**	**167**		**Pg**	**23 15 59.0**	**+0.6**
OK025	**Westminster Rd**	**1.41**	**165**		**Pb**	**23 15 58.2**	**+0.3**
OK001	**Jones High Sch**	**1.44**	**163**		**Pg**	**23 15 59.0**	**-0.3**
OKCFA	**Oklahoma City**	**1.55**	**170**	IAmb_Lg		23 16 24.0	
	comp=Z,1μm,0.8s						
R32A	**Long Quarter,**	**1.64**	**334**		**Pb**	**23 16 02.2**	**+0.3**
TUL1	**Leonard**	**1.92**	**122**	Pn	**Pb**	**23 16 05.8**	**-0.8**
TUL1	**Leonard**	**1.92**	**122**	P	**Pb**	**23 16 05.6**	**-1.0**
	baz=303,SNR=136						
TUL1				S	**Sb**	**23 16 31.3**	**+0.7**
	baz=303						
W35A	**Tecumseh**	**1.94**	**157**	IAmb_Lg		23 16 33.9	
	comp=Z,476nm,0.7s						
X34A	**Smith Ranch, M**	**2.34**	**181**		**Pb**	**23 16 12.2**	**-1.6**
X34A				IAmb_Lg		23 16 50.2	
	comp=Z,577nm,0.7s						
WMOK	**Wichita Mounta**	**2.34**	**200**	Pn	**Pn**	**23 16 11.2**	**+1.1**
WMOK	**Wichita Mounta**	**2.34**	**200**	P	**Pn**	**23 16 11.3**	**+1.2**
	baz=19,SNR=44						
WMOK				S	**Sn**	**23 16 40.6**	**+1.8**
	baz=19						
KSU1	**Kansas State U**	**2.35**	**23**	Pn	**Pn**	**23 16 11.9**	**+1.8**
KSU1	**Kansas State U**	**2.35**	**23**	P	**Pn**	**23 16 11.9**	**+1.8**
	baz=204,SNR=34						
KSU1				S	**Sb**	**23 16 42.0**	**-0.9**
	baz=204						
CBKS	**Cedar Bluff**	**2.42**	**321**	Pn	**Pn**	**23 16 12.7**	**+1.6**
CBKS	**Cedar Bluff**	**2.42**	**321**	P	**Pn**	**23 16 12.7**	**+1.6**
	baz=140,SNR=38						
CBKS				S	**Sb**	**23 16 43.5**	**-1.4**
	baz=140						
U38A	**Gravette**	**2.79**	**99**	Pn	**Pn**	**23 16 17.9**	**+1.8**
U38A				IAmb_Lg		23 17 04.9	
	comp=Z,326nm,0.8s						
LOOK	**Love County**	**2.99**	**170**		**Pn**	**23 16 20.6**	**+1.7**
LOOK				IAmb_Lg		23 17 11.7	
	comp=Z,375nm,0.9s						
X37A	**Clayton**	**3.07**	**139**		**Pn**	**23 16 22.0**	**+2.0**
X37A				IAmb_Lg		23 17 15.5	
	comp=Z,548nm,0.9s						
HHAR	**Hobbs**	**3.17**	**101**		**Pn**	**23 16 23.5**	**+2.0**
HHAR				IAmb_Lg		23 17 19.8	
	comp=Z,389nm,0.7s						
Z35A	**Perchaven, San**	**3.63**	**173**	Pn	**Pn**	**23 16 29.2**	**+1.4**
S39A	**Bolivar**	**3.64**	**77**	Pn	**Pn**	**23 16 29.1**	**+1.1**
S39A				IAmb_Lg		23 17 29.9	
	comp=Z,260nm,0.8s						
W39A	**Magazine**	**3.69**	**117**	Pn	**Pn**	**23 16 30.9**	**+2.3**
W39A	**Magazine**	**3.69**	**117**	P	**Pn**	**23 16 30.0**	**+1.4**
	baz=300,SNR=24						
AMTX	**Amarillo**	**3.76**	**238**	Pn	**Pn**	**23 16 31.8**	**+2.1**
AMTX				IAmb_Lg		23 17 36.0	
	comp=Z,313nm,1.0s						
AMTX	**Amarillo**	**3.76**	**238**	P	**Pn**	**23 16 31.0**	**+1.3**
	baz=55						
N33A	**J Bar K, Exete**	**3.80**	**4**	Pn	**Pn**	**23 16 30.9**	**+0.9**
N33A				IAmb_Lg		23 17 34.8	
	comp=Z,265nm,0.7s						
U40A	**Yellville**	**4.02**	**97**	Pn	**Pn**	**23 16 34.5**	**+1.4**
U40A				IAmb_Lg		23 17 41.5	
	comp=Z,472nm,0.8s						
U40A	**Yellville**	**4.02**	**97**	P	**Pn**	**23 16 34.4**	**+1.3**
	baz=280,SNR=5.3						
U40A				S	**Sn**	**23 17 20.7**	**+0.5**
	baz=280						
MIAR	**Mount Ida**	**4.19**	**124**	IAmb_Lg		23 17 44.6	
	comp=Z,416nm,1.1s						
MIAR	**Mount Ida**	**4.19**	**124**	P	**Pn**	**23 16 36.7**	**+1.3**
	baz=306,SNR=6.5						
N35A	**Tabor**	**4.25**	**23**	Pn	**Pn**	**23 16 38.1**	**+1.7**
P38A	**Dawn**	**4.29**	**50**	Pn	**Pn**	**23 16 38.2**	**+1.4**
P38A				IAmb_Lg		23 17 49.7	
	comp=Z,361nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.34**	**300**	IAmb_Lg		23 18 00.2	
	comp=Z,326nm,1.2s						
KSCO	**Kaye Shedlock'**	**4.34**	**300**	P	**Pn**	**23 16 38.8**	**+1.2**
	baz=117						
KSCO				S	**Sn**	**23 17 28.7**	**+0.6**
	baz=117						
Z38A	**Mt. Pleasant**	**4.34**	**147**		**Pn**	**23 16 38.7**	**+1.2**
Z38A				IAmb_Lg		23 17 57.3	
	comp=Z,459nm,0.8s						
MGMO	**Mountain Grove**	**4.43**	**86**		**Pn**	**23 16 40.2**	**+1.5**
MGMO				IAmb_Lg		23 17 49.8	
	comp=Z,242nm,0.9s						
BGNE	**Belgrade**	**4.46**	**357**		**Pn**	**23 16 40.7**	**+1.5**
BGNE	**Belgrade**	**4.46**	**357**	P	**Pn**	**23 16 40.8**	**+1.5**
	baz=177						
BGNE				S	**Sn**	**23 17 31.7**	**+0.6**
	baz=177						
ABTX	**Abilene, Hawle**	**4.57**	**200**	P	**Pn**	**23 16 42.1**	**+1.4**
	baz=18						
ABTX				S	**Sn**	**23 17 33.5**	**-0.3**
	baz=18						
R40A	**Maddies Statio**	**4.59**	**71**		**Pn**	**23 16 42.0**	**+1.1**
R40A				IAmb_Lg		23 18 05.3	
	comp=Z,236nm,0.9s						
X40A	**Basin Creek Fa**	**4.72**	**120**		**Pn**	**23 16 44.0**	**+1.2**
X40A				IAmb_Lg		23 18 09.2	
	comp=Z,391nm,1.1s						
X40A	**Basin Creek Fa**	**4.72**	**120**	P	**Pn**	**23 16 44.4**	**+1.6**
	baz=303						
W41B	**Gary Mavity, V**	**4.83**	**110**	IAmb_Lg		23 18 02.6	
	comp=Z,302nm,0.8s						
W41B	**Gary Mavity, V**	**4.83**	**110**	P	**Pn**	**23 16 45.7**	**+1.5**
	baz=293						
W41B				S	**Sn**	**23 17 40.0**	**-0.2**
	baz=293						
WHTX	**Lake Whitney,**	**4.95**	**177**		**Pn**	**23 16 46.8**	**+0.9**
WHTX				IAmb_Lg		23 18 17.2	
	comp=Z,185nm,1.0s						
WHTX	**Lake Whitney,**	**4.95**	**177**	P	**Pn**	**23 16 46.9**	**+1.0**
	baz=357,SNR=6.9						
WHTX				S	**Sn**	**23 17 42.1**	**-1.1**
	baz=357						
WLAR	**White Oak Lake**	**5.02**	**129**	IAmb_Lg		23 18 16.9	
	comp=Z,264nm,0.8s						
MSTX	**Muleshoe**	**5.03**	**235**	P	**Pn**	**23 16 48.8**	**+1.7**
	baz=52						
OGNE	**Ogallala**	**5.18**	**322**	IAmb_Lg		23 18 25.6	
	comp=Z,306nm,0.7s						
OGNE	**Ogallala**	**5.18**	**322**	P	**Pn**	**23 16 51.0**	**+1.8**
	baz=139						
237A	**Washetta, Mont**	**5.20**	**161**		**Pn**	**23 16 49.9**	**+0.6**
237A				IAmb_Lg		23 18 30.7	
	comp=Z,232nm,1.0s						
P40A	**Paris**	**5.21**	**59**	IAmb_Lg		23 18 23.1	
	comp=Z,209nm,0.8s						
N38A	**Joes South For**	**5.24**	**41**		**Pn**	**23 16 51.0**	**+1.2**
N38A				IAmb_Lg		23 18 25.8	
	comp=Z,318nm,0.8s						
T25A	**Trinidad**	**5.29**	**274**	P	**Pn**	**23 16 51.8**	**+1.0**
	baz=90						
T25A				S	**Sn**	**23 17 51.1**	**-0.8**
	baz=90						
CCM	**Cathedral Cave**	**5.33**	**76**	IAmb_Lg		23 18 26.2	
	comp=Z,287nm,1.0s						
CCM	**Cathedral Cave**	**5.33**	**76**	P	**Pn**	**23 16 52.0**	**+0.9**
	baz=260						
CCM				S	**Sn**	**23 17 52.2**	**-0.2**
	baz=260						
T42A	**Van Buren**	**5.37**	**87**	IAmb_Lg		23 18 27.1	
	comp=Z,149nm,0.9s						
LCAR	**Lake Charles**	**5.42**	**97**	IAmb_Lg		23 18 26.4	
	comp=Z,231nm,1.1s						
Z41A	**Richland Creek**	**5.50**	**130**	IAmb_Lg		23 18 34.6	
	comp=Z,222nm,0.9s						
Z41A	**Richland Creek**	**5.50**	**130**	S	**Sn**	**23 17 56.0**	**-0.7**
	baz=313						
CCAR	**Cane Creek**	**5.77**	**120**	IAmb_Lg		23 18 44.5	
	comp=Z,287nm,0.9s						
NATX	**Nacogdoches**	**5.79**	**152**	IAmb_Lg		23 18 50.5	
	comp=Z,134nm,0.8s						
NATX	**Nacogdoches**	**5.79**	**152**	P	**Pn**	**23 16 58.5**	**+1.1**
	baz=334						
NATX				S	**Sn**	**23 18 02.1**	**-1.6**
	baz=334						
PBMO	**Poplar Bluff**	**5.91**	**89**	IAmb_Lg		23 18 40.9	
	comp=Z,304nm,0.7s						
SCIA	**State Center**	**6.09**	**34**	IAmb_Lg		23 18 52.1	
	comp=Z,239nm,0.7s						
SCIA	**State Center**	**6.09**	**34**	P	**Pn**	**23 17 02.9**	**+1.3**
	baz=217,SNR=5.2						
SCIA				S	**Sn**	**23 18 10.1**	**-1.1**
	baz=217						
Q24A	**Divide**	**6.15**	**291**	IAmb_Lg		23 18 51.4	
	comp=Z,155nm,1.2s						
Q24A	**Divide**	**6.15**	**291**	P	**Pn**	**23 17 03.5**	**+0.9**
	baz=107						
Q24A				S	**Sn**	**23 18 12.6**	**-0.5**
	baz=107						
SDCO	**Great Sand Dun**	**6.19**	**280**	P	**Pn**	**23 17 04.3**	**+1.1**
	baz=95						
SLM	**Saint Louis**	**6.22**	**72**	IAmb_Lg		23 18 46.8	
	comp=Z,249nm,0.9s						
MET	**Memphis--Engin**	**6.63**	**104**	IAmb_Lg		23 19 16.2	
	comp=Z,260nm,0.8s						
JCT	**Junction City**	**6.66**	**195**	IAmb_Lg		23 19 22.3	
	comp=Z,140nm,0.8s						
JCT	**Junction City**	**6.66**	**195**	P	**Pn**	**23 17 10.5**	**+1.0**
	baz=14						
JCT				S	**Sn**	**23 18 23.4**	**-2.0**
	baz=14						
143A	**Socs Landing,**	**6.75**	**127**	IAmb_Lg		23 19 17.6	
	comp=Z,155nm,0.8s						
ISCO	**Idaho Springs**	**6.77**	**297**	P	**Pn**	**23 17 12.2**	**+1.1**
	baz=112						
ECSD	**EROS Data Cent**	**6.84**	**7**	IAmb_Lg		23 19 17.9	
	comp=Z,130nm,1.1s						
ECSD	**EROS Data Cent**	**6.84**	**7**	P	**Pn**	**23 17 11.9**	**+0.1**
	baz=188						
ECSD				S	**Sn**	**23 18 27.9**	**-1.7**
	baz=188						
S44A	**Carbondale**	**6.85**	**81**		**Pn**	**23 17 13.1**	**+1.2**
S44A				IAmb_Lg		23 19 10.3	
	comp=Z,195nm,0.7s						
W45A	**Hickory Valley**	**7.20**	**102**	IAmb_Lg		23 19 23.8	
	comp=Z,240nm,0.8s						
L40A	**Anamosa**	**7.21**	**43**	IAmb_Lg		23 19 37.1	
	comp=Z,179nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.21**	**72**	IAmb_Lg		23 19 33.3	
	comp=Z,229nm,1.0s						
ANMO	**Albuquerque**	**7.30**	**257**	Pn	**Pn**	**23 17 22.2**	**+3.8**
	comp=Z,0.3nm,0.3s,baz=83,slow=15,SNR=2.1						
ANMO				Pg	**Pb**	**23 17 37.6**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=67,slow=17,SNR=6.7						
ANMO				Lg	Lg	23 19 19.1	
	comp=Z,1.8nm,0.3s,baz=324,slow=19,SNR=7.3						
PHWY	**Pilot Hill**	**7.37**	**308**	IAmb_Lg		23 19 38.3	
	comp=Z,97nm,0.8s						
Y45A	**Yeager Farm, C**	**7.41**	**112**	IAmb_Lg		23 19 43.3	
	comp=Z,130nm,0.8s						
N23A	**Red Feather La**	**7.47**	**304**	IAmb_Lg		23 19 32.5	
	comp=Z,142nm,0.8s						
SUSD	**Miller**	**7.54**	**354**	P	**Pn**	**23 17 21.9**	**+0.5**
	baz=173						
SUSD				S	**Sn**	**23 18 44.9**	**-2.0**
	baz=173						
HDIL	**Hopedale**	**7.56**	**59**	P	**Pn**	**23 17 22.9**	**+1.2**
	baz=244,SNR=6.6						
HDIL				S	**Sn**	**23 18 45.6**	**-1.8**
	baz=244						
I37A	**Lemond, Waseca**	**7.81**	**24**	IAmb_Lg		23 19 37.7	
	comp=Z,136nm,0.9s						
OLIL	**Olney**	**7.88**	**74**	IAmb_Lg		23 19 46.6	
	comp=Z,156nm,1.1s						
Y22D	**IRIS PASSCAL I**	**7.97**	**252**	IAmb_Lg		23 19 53.5	
	comp=Z,192nm,1.1s						
O44A	**Mansfield**	**7.98**	**64**	IAmb_Lg		23 19 46.6	
	comp=Z,162nm,1.0s						
L42A	**Oliver, Polo**	**8.06**	**49**		**Pn**	**23 17 29.4**	**+0.8**
WVT	**Waverly**	**8.06**	**93**	P	**Pn**	**23 17 29.8**	**+1.1**
	baz=279						
735A	**Kenedy**	**8.07**	**180**	IAmb_Lg		23 20 03.8	
	comp=Z,111nm,0.8s						
MNTX	**Cornudas Mount**	**8.17**	**232**	P	**Pn**	**23 17 31.3**	**+1.2**
	baz=48						
JFWS	**Jewell Farm**	**8.31**	**42**	IAmb_Lg		23 19 53.7	
	comp=Z,98nm,0.7s						
JFWS	**Jewell Farm**	**8.31**	**42**	P	**Pn**	**23 17 31.8**	**-0.3**
	baz=227,SNR=12						
RWWY	**Rawlins**	**8.70**	**306**	IAmb_Lg		23 20 13.3	
	comp=Z,141nm,1.2s						
833A	**Chaparral WMA,**	**8.70**	**189**	IAmb_Lg		23 20 19.2	
	comp=Z,86nm,1.0s						
833A	**Chaparral WMA,**	**8.70**	**189**	P	**Pn**	**23 17 39.0**	**+1.6**
	baz=8.3						
M44A	**Midewin, Midew**	**8.78**	**57**		**Pn**	**23 17 39.6**	**+1.2**
K22A	**Casper**	**8.80**	**313**	IAmb_Lg		23 20 35.7	
	comp=Z,181nm,1.0s						
Z47A	**Carrollton**	**8.81**	**112**	IAmb_Lg		23 20 36.1	
	comp=Z,76nm,1.0s						
I40A	**Norwalk**	**8.83**	**36**		**Pn**	**23 17 40.0**	**+0.8**
I40A				IAmb_Lg		23 20 29.7	
	comp=Z,74nm,0.9s						
F33A	**5 Mile Ranch,**	**8.96**	**7**	IAmb_Lg		23 20 11.2	
	comp=Z,122nm,1.1s						
SFIN	**Lafayette**	**9.04**	**64**	P	**Pn**	**23 17 43.4**	**+1.3**
	baz=251						
TXAR	**Lajitas Array**	**9.04**	**215**	Pn	**Pn**	**23 17 42.4**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=46,slow=11,SNR=11						
TXAR				Pg		23 18 11.3	
	comp=Z,0.6nm,0.3s,baz=50,slow=14,SNR=2.1						
TXAR				Lg	Lg	23 20 13.3	
	comp=Z,0.9nm,0.3s,baz=33,slow=28,SNR=4.1						
SPMN	**Marine on St.**	**9.09**	**23**		**Pn**	**23 17 43.7**	**+1.0**
SPMN	**Marine on St.**	**9.09**	**23**	P	**Pn**	**23 17 43.6**	**+0.9**
	baz=206						
WCI	**Wyandotte Cave**	**9.22**	**79**	P	**Pn**	**23 17 44.6**	**+0.1**
	baz=266						
E28A	**Huff**	**9.86**	**348**	IAmb_Lg		23 20 57.0	
	comp=Z,113nm,1.0s						
P49A	**Miami Univ. Ec**	**10.61**	**72**	P	**Pn**	**23 18 02.9**	**-0.6**
	baz=260						
PDAR	**Pinedale Array**	**10.74**	**306**	Pn	**Pn**	**23 18 05.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=116,slow=15,SNR=8.2						
PDAR				Lg	Lg	23 21 06.4	
	comp=Z,0.9nm,0.3s,baz=116,slow=33,SNR=12						
PDAR				LR	LR	23 22 18.9	
	comp=Z,66nm,21.6s,baz=160,slow=38						
TKL	**Tuckaleechee C**	**11.39**	**92**	Pn	**Pn**	**23 18 15.3**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=236,slow=6.5,SNR=16						
TKL				Sn	**Sn**	**23 20 16.5**	**-5.0**
	comp=Z,0.9nm,0.3s,baz=114,slow=17,SNR=2.1						
TKL				Lg	Lg	23 21 18.7	
	comp=Z,2.4nm,0.3s,baz=2.0,slow=8.0,SNR=4.3						
AGMN	**Agassiz Nation**	**11.43**	**7**	P	**Pn**	**23 18 12.7**	**-2.0**
	baz=188						
TZTN	**Tazewell**	**11.44**	**88**	P	**Pn**	**23 18 15.7**	**+0.8**
	baz=276						
LAO	**LASA Array**	**11.58**	**330**	P	**Pn**	**23 18 16.8**	**0.0**
	baz=144						
RLMT	**Red Lodge**	**11.89**	**317**	P	**Pn**	**23 18 21.1**	**-0.2**
	baz=130						
EYMN	**Ely**	**11.93**	**21**	P	**Pn**	**23 18 19.6**	**-2.0**
	baz=205						
P52A	**Corning**	**12.60**	**73**	P	**Pn**	**23 18 29.4**	**-1.3**
	baz=263						
GLMI	**Grayling**	**12.69**	**48**	P	**Pn**	**23 18 29.8**	**-2.1**
	baz=236,SNR=9.5						
ULM	**Lac du Bonnet**	**13.37**	**5**	Pn	Pn	23 18 36.1	-5.1
	comp=Z,0.6nm,0.3s,baz=182,slow=12,SNR=4.4						
ULM				Sn	Sn	23 20 55.6	-14
	comp=Z,0.4nm,0.3s,baz=357,slow=22,SNR=2.0						
ULM				Lg	Lg	23 22 19.9	
	comp=Z,0.8nm,0.3s,baz=264,slow=20,SNR=2.9						
M53A	**WI Miller and**	**14.01**	**66**	P	**Pn**	**23 18 48.4**	**-1.6**
	baz=257						
EGMT	**Eagleton**	**14.13**	**325**	P	**Pn**	**23 18 51.0**	**-0.7**
	baz=137						
SADO	**Sadowa**	**16.11**	**55**	Pn	**Pn**	**23 19 11.9**	**-6.0**
	comp=Z,0.3nm,0.3s,baz=272,slow=15,SNR=2.8						
SADO				Lg	Lg	23 23 43.2	
	comp=Z,0.5nm,0.3s,baz=64,slow=5.3,SNR=3.6						
NVAR	**Mina Array Bea**	**16.30**	**281**	Pn	**P**	**23 19 23.5**	**-0.1**
	baz=81,slow=12,SNR=2.2						
CMIG	**Matias Romero**	**19.95**	**172**	P	**Pn**	**23 20 04.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=12,slow=14,SNR=1.6						
YKA	**Yellowknife Ar**	**27.61**	**343**	P	**P**	**23 21 19.4**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=146,slow=9.0,SNR=16						
ILAR	**Eielson Array**	**40.04**	**330**	P	**P**	**23 23 08.2**	**+1.8**
	comp=Z,4.9nm,0.7s,baz=108,slow=7.2,SNR=54						
ARCES	**ARCESS Array B**	**66.08**	**19**	P	**P**	**23 26 18.5**	**+0.4**
	comp=Z,4.2nm,1.0s,baz=321,slow=3.9,SNR=3.6						
ESDC	**Sonseca Array**	**70.17**	**55**	P	**P**	**23 26 42.6**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=297,slow=8.4,SNR=2.9						
FINES	**FINESS Array B**	**71.92**	**25**	P	**P**	**23 26 55.4**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=353,slow=7.7,SNR=4.3						
GERES	**GERESS Array B**	**75.20**	**39**	P	**P**	**23 27 14.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=319,slow=7.0,SNR=2.6						
AKASG	**Malin Array Be**	**81.08**	**31**	P	**P**	**23 27 47.3**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=317,slow=4.2,SNR=8.5						
ZALV	**Zalesovo Beam**	**89.44**	**358**	P	**P**	**23 28 28.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=2.3,slow=7.2,SNR=2.7						
SONM	**Songino Array**	**92.87**	**344**	P	**P**	**23 28 46.8**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=14,slow=6.4,SNR=3.1						

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*IDC **14** 23:21:40.0±5.0, 35°.98N×70°.67E, h172km±37km, mb3.4/10, mb1 3.4/15, mb1mx3.1/64, mbtmp3.9/15, MS3.3/1, Ms1 3.4/1, ms1mx2.2/59, Error ellipse: s-maj=43.2km s-min=23.5km az=169.0*
*NEIC **14** 23:21:45.9±1.4, 36°.43N±0°.06×70°.62E±0°.07, h212km±3km, mb4.1/19, Error ellipse: s-maj=9.9km s-min=7.1km az=137.0*
*NNC **14** 23:21:49.7±2.9, 36°.79N×70°.76E, h208km±25km, mb3.1, mpv4.5, Error ellipse: s-maj=25.9km s-min=16.8km az=2.0*

ISC 14 23:21:44.6±0.5, 36°.36N±0°.05×70.76E±0°.05, h200km, n85, σ1=83/89, mb4.0/13, 6C-4D, Hindu Kush region

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

SMLA IAML 23 25 00.5
comp=N,23nm,0.5s
SMLA IAML 23 25 01.8
comp=E,35nm,0.7s
USP Ospenovka 7.47 21 P **Pn 23 23 30.3 -0.6**
SNR=34
TKM2 Tokmak 2 7.54 28 P **Pn 23 23 32.4 +0.4**
SNR=57
TKM2 Tokmak 2 7.54 28 ⇑P **Pn 23 23 32.1 +0.1**
comp=E,51nm,0.9s
TKM2 ⇓S **Sn 23 24 54.6 -2.7**
comp=E,9.0nm,1.1s
KDJ Kajisay 7.61 39 Pn **Pn 23 23 33.2 +0.3**
TARG Taragay, Kyrgy 7.66 43 Pn **Pn 23 23 32.6 -1.2**
MDOK Medeo 8.34 34 ⇑P **Pn 23 23 42.9 +0.5**
comp=E,18nm,0.6s
MDOK S Sn 23 25 03.0 -13
comp=E,3.6nm,0.8s
PRZ Przheval'sk 8.50 42 Pn **Pn 23 23 44.6 +0.1**
KUDL Kundal 9.52 148 *e*S **Sn 23 25 37.3 -6.8**
PYUN Piuthan 13.22 125 *e*P **P 23 24 49.7 +1.7**
comp=E,6.7nm,0.4s
MAKZ Makanchi 13.38 35 ⇓P **Pn 23 24 45.6 -1.1**
comp=E,4.9nm,1.1s
MAKZ Makanchi 13.38 35 Pn 23 24 46.5 -0.2
MK31 Makanchi Array 13.52 36 Pn 23 24 48.7 +0.3
MKAR Makanchi Array 13.52 36 P **Pn 23 24 49.0 +0.6**
comp=E,0.2nm,0.3s,baz=219,slow=14,SNR=13
MKAR Makanchi Array 13.52 36 Pn **Pn 23 24 48.8 +0.4**
DANN Dangsing 13.57 122 *e*P **P 23 24 53.2 +1.2**
comp=E,2.8nm,0.2s
KOLN Koldanda 13.84 125 *e*P **P 23 24 58.2 +3.3**
comp=E,2.2nm,0.2s
GKN Gorkha 14.39 121 *e*P **P 23 25 03.3 +2.3**
comp=E,6.0nm,0.3s
WMQ Urumqi 14.93 55 *e*P **P 23 25 08.8 +2.1**
DMN Daman 14.96 122 *e*P **P 23 25 10.9 +3.5**
comp=E,15nm,0.1s
KKN Kakani 14.97 121 *e*P **P 23 25 10.5 +3.1**
comp=E,12nm,0.5s
AB31 Akbulak array 15.12 332 P 23 25 10.0 +1.4
comp=E,0.5nm,0.5s,baz=148,slow=12,SNR=13
ABKAR Akbulak array 15.12 332 P 23 25 09.2 +0.6
ABKAR IAmb IAmb 23 25 33.8
comp=Z,4.2nm,1.4s
ABKAR Akbulak array 15.12 332 Pn 23 25 08.1 0.0
PKIN Phulchoki 15.18 121 *e*P **P 23 25 13.2 +3.4**
comp=Z,5.7nm,0.4s
KURBB Kurchatov Arra 15.32 19 P **P 23 25 11.7 +0.9**
comp=Z,0.2nm,0.3s,baz=210,slow=10.0,SNR=7.0
KURK Kurchatov 15.42 19 P **Pn 23 25 12.0 +0.2**
BVAR Borovoye Array 16.66 359 P **Pn 23 25 27.1 +0.5**
comp=Z,0.4nm,0.3s,baz=145,slow=9.9,SNR=8.6
BRVK Borovoye 16.70 359 P **Pn 23 25 27.5 +0.4**
BRVK IAmb IAmb 23 25 30.0
comp=Z,3.8nm,1.2s
AKTO Aktyubinsk 16.81 331 P **Pn 23 25 28.6 +0.2**
comp=Z,0.2nm,0.3s,baz=134,slow=13,SNR=3.9
AKTO Aktyubinsk 16.81 331 ⇑P **Pn 23 25 28.1 -0.3**
comp=Z,2.7nm,0.9s
UOSS Minazif 16.90 232 P **P 23 25 28.6 +0.1**
UOSS IAmb IAmb 23 25 51.1
comp=Z,9.4nm,1.2s
ZAA0 Zalesovo Array 20.12 25 ⇑P **P 23 26 03.2 +0.2**
comp=Z,0.6nm,0.7s
ZAA0 Zalesovo Array 20.12 25 P **P 23 26 03.2 +0.2**
ZAA0 IAmb IAmb 23 26 06.2
comp=Z,3.6nm,0.7s
ZALV Zalesovo Beam 20.12 25 P **P 23 26 03.5 +0.5**
comp=Z,3.8nm,0.3s,baz=216,slow=11,SNR=31
ZALV Zalesovo Beam 20.12 25 P **P 23 26 03.1 +0.1**
ARU Arti 21.70 341 P **P 23 26 20.6 +1.0**
comp=Z,0.6nm,0.5s,baz=134,slow=6.3,SNR=5.4
ARU Arti 21.70 341 P **P 23 26 20.0 +0.4**
ARU IAmb IAmb 23 26 35.1
comp=Z,7.2nm,1.4s
SONM Songino Array 28.57 55 P **P 23 27 23.2 +1.2**
comp=Z,0.2nm,0.4s,baz=278,slow=10.0,SNR=1.5
HHC Hu-ho-hao-te 31.99 69 *e*P **P 23 27 53.8 +1.7**
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,130nm,4.9s
BALB Balikesir 33.72 289 P **P 23 28 05.0 -1.9**
NRIK Noril'sk 34.30 10 P **P 23 28 12.7 +1.2**
comp=Z,2.8nm,0.5s,baz=213,slow=6.6,SNR=5.3
NRIK Noril'sk 34.30 10 P **P 23 28 12.3 +0.8**
NRIK IAmb IAmb 23 28 14.4
comp=Z,6.7nm,1.4s
KAAM Kaadhehdhoo 35.75 176 P **P 23 28 24.5 0.0**
FINES FINESS Array B 37.49 326 P **P 23 28 39.1 +0.4**
comp=Z,1.7nm,0.9s,baz=147,slow=11,SNR=4.3
FINES FINESS Array B 37.49 326 P **P 23 28 36.6 -2.1**
ARCES ARCESS Array B 41.20 338 P **P 23 29 10.3 +1.1**
comp=Z,8.7nm,1.1s,baz=110,slow=7.8,SNR=2.7
NC303 NORSAR Array S 44.32 323 P **P 23 29 34.2 -0.2**
NC303 IAmb IAmb 23 29 54.5
comp=Z,19nm,1.4s
NB201 NORSAR Array S 44.34 323 P **P 23 29 34.6 0.0**
NB2 NORSAR Subarra 44.38 323 P **P 23 29 34.4 -0.5**
comp=Z,0.2nm,0.3s,baz=98,slow=7.9
NOA NORSAR Array B 44.38 323 P **P 23 29 34.6 -0.3**
comp=Z,0.3nm,0.4s,baz=99,slow=7.7,SNR=2.3
NBO00 NORSAR Array S 44.59 323 P **P 23 29 35.9 -0.6**
NBO00 IAmb IAmb 23 30 00.2
comp=Z,48nm,1.4s
NC204 NORSAR Array S 44.62 323 P **P 23 29 36.1 -0.7**
TIXI Tiksi 45.97 22 P **P 23 29 47.3 +0.1**
JEM Erimo 54.86 60 P P 23 30 46.6 -7.6
ESDC Sonseca Array 57.35 298 LR LR 23 59 49.1
comp=Z,26nm,18.2s,baz=233,slow=40
TOLI2 Tolitoli 58.00 115 P **P 23 31 16.9 +0.2**
TOLI2 IAmb IAmb 23 31 22.6
comp=Z,13nm,0.9s
TORD Torodi Ar. Bea 65.52 269 P **P 23 32 04.5 -2.4**
comp=Z,0.3nm,0.7s,baz=48,slow=6.8,SNR=4.6
INK Inuvik 74.07 9 P **P 23 32 58.7 +0.6**
comp=Z,0.9nm,0.5s,baz=320,slow=6.8,SNR=3.9
INK Inuvik 74.07 9 IAmb IAmb 23 33 00.6
comp=Z,8.3nm,1.4s
YKA Yellowknife Ar 81.39 3 P **P 23 33 39.0 +0.4**
comp=Z,0.4nm,0.5s,baz=350,slow=5.3,SNR=10

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*DJA **14** 23:27:07.8±0.3, 7°S±3°×12°6E±°, h429km±5km, M4.2/17, mbB4.5/3, mb4.0/13, MLv4.4/17, Mw(mB)3.7/3*
*NEIC **14** 23:27:08.5±1.5, 7°3S±0°1×126°26E±0°05, h435km±10km, mb4.0/13, Error ellipse: s-maj=15.5km s-min=7.7km az=187.0*
*IDC **14** 23:27:08.6±1.0, 7°32S×126°09E, h448km±14km, mb3.2/8, mb1 3.4/13, mb1mx3.1/41, mbtmp4.2/13, Error ellipse: s-maj=23.6km s-min=10.5km az=70.0*
ISC 14 23:27:08.2±0.5, **7°29S**±0°06×**126°14E**±0°07, **h450**km, **n71**, σ1§**41**/76, **mb3.6**/12, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.07**	**217**	P	**P**	**23 28 16.2**	**+0.3**
SOEI				S	**S**	**23 29 08.2**	**-2.6**
SOEI	**Soe**	**3.07**	**217**	P	**P**	**23 28 16.2**	**+0.3**
SOEI				S	**S**	**23 29 10.7**	**-0.1**
SOEI	**Soe**	**3.07**	**217**	P	**P**	**23 28 16.4**	**+0.5**
BATI	**Baumata**	**3.79**	**220**	P	**P**	**23 28 22.5**	**+0.9**
148nm,0.3s,baz=42,slow=0.7,SNR=70							
BATI				S	**S**	**23 29 20.6**	**-0.7**
31nm,0.3s,baz=26,slow=22,SNR=13							
BATI	**Baumata**	**3.79**	**220**	P	**P**	**23 28 22.2**	**+0.6**
BATI				S	**S**	**23 29 19.9**	**-1.4**
BBSI	**Bau Bau**	**3.98**	**297**	P	P	23 28 15.2	-8.0
MMRI	**Maumere**	**4.09**	**251**	P	**P**	**23 28 21.2**	**-3.0**
MMRI				S	**S**	**23 29 21.1**	**-4.8**
MMRI	**Maumere**	**4.09**	**251**	P	**P**	**23 28 23.2**	**-1.0**
AAI	**Ambon**	**4.12**	**30**	P	**P**	**23 28 23.9**	**-0.6**
EDFI	**Ende, Flores**	**4.64**	**252**	P	**P**	**23 28 27.5**	**-1.8**
SAUI	**Saumlaki**	**5.16**	**98**	P	**P**	**23 28 30.6**	**-3.5**
1.2nm230nm,0.8s							
SAUI	**Saumlaki**	**5.16**	**98**	P	**P**	**23 28 31.4**	**-2.8**
SANI	**Sanana**	**5.21**	**358**	P	P	23 28 30.2	-4.5
0.1nm823nm12nm,0.6s							
BASI	**Baing, Sumba**	**6.22**	**242**	P	**P**	**23 28 43.7**	**-1.1**
0.4nm73nm,0.9s							
BNSI	**Bone**	**6.66**	**295**	P	**P**	**23 28 48.3**	**-1.0**
0.1nm30nm,1.2s							
KAPI	**Kappang**	**6.74**	**289**	P	**P**	**23 28 49.8**	**-0.4**
0.9nm,0.3s,baz=94,slow=16,SNR=4.8							
KAPI	**Kappang**	**6.74**	**289**	P	**P**	**23 28 49.5**	**-0.8**
LBMI	**Labuha**	**6.75**	**12**	P	**P**	**23 28 50.0**	**-0.3**
0.1nm26nm,0.8s							
LUWI	**Luwuk**	**7.06**	**331**	P	**P**	**23 28 52.0**	**-1.6**
0.3nm44nm,0.5s							
WBSI	**Waikabubak, Su**	**7.07**	**250**	P	**P**	**23 28 50.9**	**-2.9**
0.6nm54nm,1.0s							
MTN	**Manton Dam**	**7.39**	**139**	P	**P**	**23 28 56.5**	**-0.5**
MTN	**Manton Dam**	**7.39**	**139**	P	**P**	**23 28 57.7**	**+0.6**
FAKI	**Fak Fak**	**7.47**	**55**	P	**P**	**23 28 57.2**	**-0.8**
0.4nm893nm53nm,0.7s							
FAKI	**Fak Fak**	**7.47**	**55**	P	**P**	**23 28 56.5**	**-1.5**
FAKI	**Fak Fak**	**7.47**	**55**	P	**P**	**23 28 58.1**	**+0.1**
TTSI	**Tana Toraja**	**7.58**	**304**	P	**P**	**23 28 57.4**	**-1.7**
0.1nm13nm,0.7s							
SIJI	**Sorong**	**8.17**	**39**	P	**P**	**23 29 06.6**	**+1.0**
12nm,0.3s,baz=296,slow=8.4,SNR=20							
SIJI				S	**S**	**23 30 38.6**	**-3.2**
2.3nm,0.3s,baz=99,slow=18,SNR=4.6							
SWI	**Sorong**	**8.17**	**39**	P	**P**	**23 29 05.7**	**+0.1**
70nm,0.6s							
GTOI	**Gorontalo**	**8.47**	**338**	P	**P**	**23 29 07.6**	**-1.2**
8.9nm,0.8s							
KNRA	**Kununurra**	**8.72**	**163**	P	**P**	**23 29 12.2**	**+0.8**
KNRA	**Kununurra**	**8.72**	**163**	P	**P**	**23 29 12.8**	**+1.4**
TOLI2	**Tolitoli**	**9.91**	**327**	P	**P**	**23 29 26.6**	**+2.1**
TOLI2	**Tolitoli**	**9.91**	**327**	P	**P**	**23 29 26.6**	**+2.1**
FITZ	**Fitzroy Crossi**	**10.75**	**183**	P	**P**	**23 29 34.3**	**+0.8**
0.9nm,0.3s,baz=354,slow=7.0,SNR=33							
FITZ				S	**S**	**23 31 30.2**	**-3.0**
0.1nm,0.3s,baz=196,slow=20,SNR=2.2							
WB0	**Warramunga Arr**	**14.76**	**148**	P	**P**	**23 30 16.5**	**-0.3**
WRAB	**Tennant Creek**	**14.88**	**148**	P	**P**	**23 30 18.4**	**+0.3**
WRA	**Warramunga Arr**	**14.88**	**149**	P	**P**	**23 30 18.2**	**+0.1**
2.0nm,0.3s,baz=325,slow=11,SNR=71							
WRA				S	**S**	**23 32 53.5**	**-1.5**
0.2nm,0.3s,baz=323,slow=21,SNR=5.2							
WB2	**Warramunga Arr**	**14.88**	**148**	P	**P**	**23 30 18.4**	**+0.2**
MBWA	**Marble Bar**	**15.12**	**204**	P	**P**	**23 30 21.6**	**+1.0**
PSA00	**Pilbara Seismi**	**15.45**	**203**	P	**P**	**23 30 25.2**	**+1.1**
PSA00				IAmb	IAmb	23 30 26.2	
comp=Z,11nm,1.1s							
WRKA	**Warakurna**	**17.77**	**174**	P	**P**	**23 30 49.2**	**+0.6**
AS31	**Alice Springs**	**17.91**	**156**	P	**P**	**23 30 50.0**	**-0.1**
AS31				IAmb	IAmb	23 30 52.1	
comp=Z,2.5nm,0.3s							
ASAR	**Alice Springs**	**17.91**	**156**	P	**P**	**23 30 50.4**	**+0.3**
comp=Z,1.3nm,0.3s,baz=329,slow=8.5,SNR=82							
ASAR				S	**S**	**23 33 52.6**	**+0.3**
comp=Z,0.1nm,0.3s,baz=336,slow=22,SNR=8.0							
ASAR	**Alice Springs**	**17.91**	**156**	P	**P**	**23 30 51.0**	**+0.9**
COEN	**Coen**	**18.00**	**113**	P	**P**	**23 30 50.6**	**-0.4**
COEN				IAmb	IAmb	23 30 51.2	
comp=Z,6.8nm,0.6s							
COEN	**Coen**	**18.00**	**113**	P	**P**	**23 30 50.6**	**-0.4**
QIS	**Mount Isa**	**18.54**	**137**	P	**P**	**23 30 56.7**	**+0.4**
GIRL	**Giralia**	**19.09**	**216**	P	**P**	**23 31 02.3**	**+1.0**
MEEK	**Meekatharra**	**20.53**	**200**	P	**P**	**23 31 15.3**	**+0.8**
OOD	**Oodnadatta**	**22.31**	**157**	P	**P**	**23 31 31.2**	**+0.7**
FORT	**Forrest**	**23.44**	**176**	P	**P**	**23 31 41.5**	**+0.9**
FORT	**Forrest**	**23.44**	**176**	P	**P**	**23 31 41.7**	**+1.1**
MULG	**Mulgathing**	**24.05**	**163**	P	**P**	**23 31 47.4**	**+1.3**
BBOO	**Buckleboo**	**27.01**	**161**	P	**P**	**23 32 12.8**	**+0.4**
BBOO				IAmb	IAmb	23 32 32.7	
comp=Z,7.1nm,0.8s							
STKA	**Stephens Creek**	**28.39**	**152**	P	**P**	**23 32 25.6**	**+1.0**
comp=Z,1.8nm,0.5s,baz=330,slow=11,SNR=4.6							
STKA	**Stephens Creek**	**28.39**	**152**	IAmb	IAmb	23 32 33.3	
comp=Z,0.6nm,1.0s							
DZM	**Mont Dzumac**	**41.51**	**115**	P	**P**	**23 34 15.5**	**+0.5**
DZM				IAmb	IAmb	23 34 27.4	
comp=Z,7.3nm,1.1s							
JWT	**Wachi**	**43.24**	**11**	P	**P**	**23 34 28.8**	**+0.5**
KSRS	**Korea Array**	**44.54**	**2**	P	**P**	**23 34 38.9**	**+0.5**
comp=Z,1.1nm,0.5s,baz=178,slow=9.0,SNR=4.9							
MJAR	**Matsushiro Arr**	**45.05**	**14**	P	**P**	**23 34 42.1**	**-0.3**
comp=Z,2.5nm,0.7s,baz=191,slow=9.1,SNR=2.4							
USRK	**Ussuriysk Ar.**	**51.52**	**5**	P	**P**	**23 35 31.7**	**+0.9**
comp=Z,1.1nm,0.5s,baz=209,slow=6.4,SNR=4.1							
MLZ	**Mavora Lakes**	**52.46**	**144**	P	**P**	**23 35 37.8**	**+0.1**
WKZ	**Wanaka**	**52.71**	**143**	P	**P**	**23 35 40.4**	**+0.9**
BKZ	**Black Stump Fm**	**55.15**	**133**	P	**P**	**23 35 55.9**	**-1.1**
ULN	**Ulaanbaatar**	**57.45**	**345**	P	**P**	**23 36 13.9**	**+1.0**
ULN				IAmb	IAmb	23 36 14.8	
comp=Z,2.5nm,0.8s							
SONM	**Songino Array**	**57.59**	**344**	P	**P**	**23 36 15.1**	**+1.2**
comp=Z,1.2nm,0.5s,baz=160,slow=6.7,SNR=11							
SONM	**Songino Array**	**57.59**	**344**	IAmb	IAmb	23 36 15.7	
comp=Z,1.4nm,1.0s							
MKAR	**Makanchi Array**	**66.43**	**329**	P	**P**	**23 37 12.1**	**+0.6**
comp=Z,0.4nm,0.7s,baz=121,slow=7.1,SNR=4.9							
ZALV	**Zalesovo Beam**	**70.20**	**335**	P	**P**	**23 37 34.6**	**+0.2**
comp=Z,1.5nm,0.4s,baz=144,slow=5.3,SNR=9.7							
KURBB	**Kurchatov Arra**	**70.80**	**330**	P	**P**	**23 37 38.6**	**+0.6**
comp=Z,0.7nm,0.6s,baz=129,slow=5.0,SNR=8.0							
KURK	**Kurchatov**	**70.82**	**330**	P	**P**	**23 37 39.0**	**+0.9**
KURK				IAmb	IAmb	23 37 47.3	
comp=Z,1.5nm,1.0s							

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*IDC **14** 23:29:04.2±1.1, 27°23N×103°59E, h0km, mb3.4/7, mb1 3.6/7, mb1mx3.4/45, mbtmp3.4/7, MS3.0/1, Ms1 3.0/1, ms1mx2.3/57, Error ellipse: s-maj=40.3km s-min=20.0km az=58.0*
ISC 14 23:29:09.5±1.2, **27°3N**±0°2×**103°7E**±0°2, **h35**km, **n7**, σ0§**93**/7, **mb3.6**/6, **Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**20.62**	**5**	P	**P**	**23 33 45.4**	**-0.5**
0.5nm,0.6s,baz=189,slow=9.1,SNR=5.7							
KSRS	**Korea Array**	**22.79**	**58**	P	**P**	**23 34 09.5**	**+0.5**
0.9nm,0.5s,baz=235,slow=13,SNR=1.7							
KSRS				LR	LR	23 43 04.0	
comp=Z,35nm,18.7s,baz=240,slow=37							
MKAR	**Makanchi Array**	**25.75**	**325**	P	**P**	**23 34 35.8**	**-1.0**
0.4nm,0.5s,baz=131,slow=11,SNR=8.1							
KURBB	**Kurchatov Arra**	**30.15**	**327**	P	**P**	**23 35 15.7**	**-0.3**
0.1nm,0.3s,baz=132,slow=10,SNR=2.8							
WRA	**Warramunga Arr**	**55.56**	**144**	P	**P**	**23 38 40.7**	**-0.9**
0.5nm,0.6s,baz=331,slow=8.2,SNR=7.1							
ASAR	**Alice Springs**	**58.46**	**147**	P	**P**	**23 39 02.5**	**+0.4**
0.5nm,0.8s,baz=325,slow=6.4,SNR=4.6							
AKASG	**Malin Array Be**	**59.76**	**315**	P	**P**	**23 39 11.8**	**+1.0**
0.2nm,0.3s,baz=69,slow=8.2,SNR=3.0							

IDC 14 23:42:12.8±2.3, **5°02S**×**128°49E**, **h0**km, **mb3.2**/1, **mb1 3.3**/3, **mb1mx2.8**/30, **mbtmp3.1**/3, **ML2.9**/2, **Error ellipse: s-maj=171.8km s-min=31.9km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.89**	**160**	Pn	Pn	23 45 57.2	-0.9
0.1nm,0.3s,baz=338,slow=14,SNR=1.9							
ASAR	**Alice Springs**	**19.26**	**165**	P	P	23 46 39.6	+0.4
0.0nm,0.3s,baz=348,slow=9.6,SNR=2.3							
MKAR	**Makanchi Array**	**65.75**	**327**	P	P	23 52 59.7	0.0
0.1nm,0.4s,baz=115,slow=5.7,SNR=4.2							

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*IDC **14** 23:43:11.8±0.6, 52°72N×167°65W, h0km, mb4.0/28, mb1 4.2/29, mb1mx4.1/42, mbtmp4.0/29, ML3.5/1, MS3.6/33, Ms1 3.6/33, ms1mx3.3/92, Error ellipse: s-maj=19.6km s-min=10.9km az=179.0*
*AEIC **14** 23:43:12±2.4, 52°52N±0°07×167°51W±0°08, h2km±5km, Error ellipse: s-maj=10.8km s-min=6.5km az=167.0*
*MOS **14** 23:43:12.6±1.2, 52°65N×167°66W, h20km, mb4.5/19, Error ellipse: s-maj=11.3km s-min=7.2km az=83.4*
*NEIC **14** 23:43:14.3±2.9, 52°50N±0°06×167°55W±0°08, h18km±6km, mb4.3/112, ML3.8/31(AEIC), Error ellipse: s-maj=8.7km s-min=5.9km az=149.0*
ISC 14 23:43:15.7±0.4, **52°62N**±0°05×**167°53W**±0°03, **h28**km, **n421**, σ1§**11**/398, **mb4.3**/88, **MS3.6**/33, **10C, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.83**	**344**		**Pn**	**23 43 31.4**	**0.0**
OKFG					**Sn**	**23 43 45.6**	**+2.9**
NIKH	**Nikolski High**	**0.88**	**294**		**Pn**	**23 43 31.0**	**-1.2**
NIKH	**Nikolski High**	**0.88**	**294**		**Sn**	**23 43 46.0**	**+2.1**
NIKH	**Nikolski High**	**0.88**	**294**	P	**Pn**	**23 43 30.7**	**-1.4**
baz=118,SNR=66							
NIKH				S	**Sb**	**23 43 43.7**	**0.0**
baz=118							
OKCE	**Okmok Cone E**	**0.90**	**335**		**Pn**	**23 43 32.5**	**0.0**
OKNC	**Okmok New Cone**	**0.91**	**337**		**Pn**	**23 43 32.8**	**+0.2**
MAPS	**Pakushin South**	**1.24**	**16**		**Pn**	**23 43 37.2**	**0.0**
MAPS					**Sb**	**23 43 56.0**	**+1.9**
MREP	**Makushin Rep't**	**1.28**	**21**		**Pn**	**23 43 38.0**	**+0.2**
CLCO	**Concord Point,**	**1.34**	**278**		**Pn**	**23 43 38.2**	**-0.3**
MNAT	**Makushin Natee**	**1.37**	**22**		**Pn**	**23 43 39.2**	**+0.3**
MSW	**Makushin Switc**	**1.38**	**19**		**Pn**	**23 43 39.3**	**+0.3**
UNV	**Unalaska Valle**	**1.38**	**26**		**Pn**	**23 43 38.8**	**-0.1**
UNV	**Unalaska Valle**	**1.38**	**26**		**Sb**	**23 44 00.2**	**+2.3**
UNV	**Unalaska Valle**	**1.38**	**26**	P	**Pn**	**23 43 38.5**	**-0.4**
baz=205,SNR=18							
UNV				S	**Sn**	**23 43 54.0**	**-2.2**
baz=205							
MTBL	**Makushin Table**	**1.45**	**20**		**Pb**	**23 43 41.1**	**-0.8**
CLES	**Cleveland East**	**1.45**	**279**		**Pn**	**23 43 39.6**	**-0.4**
AKMO	**Akutan Morgan**	**1.73**	**31**		**Pn**	**23 43 44.7**	**+0.8**
AKRB	**Akutan Reef Bi**	**1.75**	**29**		**Pn**	**23 43 44.7**	**+0.5**
AKLV	**Akutan Long Va**	**1.81**	**31**		**Pn**	**23 43 45.6**	**+0.6**
AKGG	**Akutan Green G**	**1.83**	**30**		**Pn**	**23 43 45.9**	**+0.6**
AKUT	**Akutan**	**1.85**	**34**	Pn	**Pn**	**23 43 45.9**	**+0.4**
WECS	**Westdahl Cape**	**2.52**	**39**		**Pn**	**23 43 56.3**	**+1.5**
WESE	**West Dahl East**	**2.56**	**42**		**Pn**	**23 43 56.6**	**+1.3**
ISLZ	**Isanotski Laza**	**3.10**	**46**		**Pn**	**23 44 04.5**	**+1.7**
FALS	**False Pass**	**3.32**	**46**	Pn	**Pn**	**23 44 06.1**	**+0.5**
FALS	**False Pass**	**3.32**	**46**	S	**Sn**	**23 44 44.8**	**+0.8**
baz=228							
ATKA	**Atka Island**	**4.10**	**267**		**Pn**	**23 44 17.3**	**+0.9**
SPIA	**Saint Paul Isl**	**4.83**	**342**	Pn	**Pn**	**23 44 26.5**	**+0.1**
SDPT	**Sand Point**	**4.98**	**54**		**Pn**	**23 44 29.2**	**+0.8**
SDPT	**Sand Point**	**4.98**	**54**	P	**Pn**	**23 44 29.2**	**+0.8**
baz=238							
SDPT				S	**Sn**	**23 45 24.8**	**-0.3**
baz=238							
CNBA	**Chernabura Isl**	**5.21**	**62**	Pn	**Pn**	**23 44 31.0**	**-0.6**
CHNA	**Chernabura Isl**	**5.21**	**62**	P	**Pn**	**23 44 31.1**	**-0.5**
baz=247							
GSTR	**Great Sitkin T**	**5.25**	**268**	Pn	**Pn**	**23 44 31.5**	**-0.8**
GSTD	**Great Sitkin T**	**5.31**	**267**		**Pn**	**23 44 33.9**	**+0.8**
ADK	**Adak**	**5.67**	**266**	P	**Pn**	**23 44 37.9**	**-0.1**
ADK	**Adak**	**5.67**	**266**		**Pn**	**23 44 37.9**	**-0.1**
KIWB	**Kanaga Island**	**5.96**	**266**		**Pn**	**23 44 41.9**	**-0.1**
KIKV	**Kanaga Island**	**5.97**	**267**		**Pn**	**23 44 42.9**	**+0.9**
KIMD	**Kanaga Island**	**6.03**	**266**		**Pn**	**23 44 43.5**	**+0.7**
TAPA	**Tanaga Point A**	**6.37**	**267**		**Pn**	**23 44 48.2**	**+0.6**
CHIR	**Chirikof Islan**	**7.68**	**61**	Pn	**Pn**	**23 45 04.3**	**-1.2**
OHAK	**Old Harbor**	**9.40**	**55**	Pn	**Pn**	**23 45 29.3**	**+0.2**
OHAK	**Old Harbor**	**9.40**	**55**	P	**Pn**	**23 45 28.7**	**-0.4**
baz=246							
P18K	**Big Mountain,**	**9.66**	**41**	Pn	**Pn**	**23 45 33.2**	**+0.6**
O18K	**Koktuh Hills**	**9.97**	**38**	Pn	**Pn**	**23 45 37.7**	**+0.8**
KDAK	**Kodiak Island**	**9.98**	**53**	Pn	**Pn**	**23 45 35.7**	**-1.3**
1.6nm,0.3s,baz=228,slow=6.2,SNR=42							
KDAK				Sn	**Sn**	**23 47 21.1**	**-6.8**
0.2nm,0.3s,baz=61,slow=10,SNR=1.2							
KDAK	**Kodiak Island**	**9.98**	**53**	P	**Pn**	**23 45 36.3**	**-0.7**
KDAK	**Kodiak Island**	**9.98**	**53**	Pn	**Pn**	**23 45 36.3**	**-0.7**
KDAK	**Kodiak Island**	**9.98**	**53**	P	**Pn**	**23 45 36.7**	**-0.3**
baz=245							
Q19K	**Cape Douglas,**	**10.05**	**46**	Pn	**Pn**	**23 45 38.0**	**+0.1**
N19K	**Bonanza Creek**	**10.88**	**36**	Pn	**Pn**	**23 45 51.1**	**+1.6**
SHEM	**Shemya Is, Ala**	**11.16**	**278**	LR	LR	23 49 58.6	
comp=Z,307nm,18.9s,baz=115,slow=37							
GAMB	**Gambell**	**11.40**	**351**	Pn	**Pn**	**23 45 57.5**	**+1.2**
CNPM	**China Poot**	**11.41**	**46**	Pn	**Pn**	**23 45 56.0**	**-0.6**
M19K	**Big River Lodg**	**11.69**	**32**	Pn	**Pn**	**23 46 03.5**	**+3.1**
BRLK	**Bradley Lake**	**11.69**	**46**	Pn	**Pn**	**23 46 01.1**	**+0.7**
BRSE	**Bradley Lake S**	**11.74**	**46**	P	**Pn**	**23 46 01.4**	**+0.3**
baz=240							
L19K	**White Mountain**	**11.75**	**30**	Pn	**Pn**	**23 46 05.1**	**+3.9**
TTA	**Tatalina**	**12.00**	**26**	P	**Pn**	**23 46 08.1**	**+3.4**
TTA	**Tatalina**	**12.00**	**26**	Pn	**Pn**	**23 46 08.1**	**+3.4**
ANM	**Nome**	**12.03**	**4**	P	**Pn**	**23 46 07.4**	**+2.3**
ANM	**Nome**	**12.03**	**4**		**Pn**	**23 46 07.4**	**+2.3**
SEW	**Seward**	**12.48**	**46**	Pn	**Pn**	**23 46 10.6**	**-0.6**
SEW	**Seward**	**12.48**	**46**	P	**Pn**	**23 46 11.2**	**0.0**
baz=241							
RC01	**Rabbit Creek A**	**12.88**	**42**	Pn	**Pn**	**23 46 17.0**	**+0.4**
RC01	**Rabbit Creek A**	**12.88**	**42**	P	**Pn**	**23 46 16.9**	**+0.3**
baz=236							
K20K	**Telida**	**12.88**	**28**	Pn	**Pn**	**23 46 19.4**	**+2.8**
K20K	**Telida**	**12.88**	**28**	P	**Pn**	**23 46 17.0**	**+0.4**
baz=219							
TNA	**Tin City**	**12.98**	**359**		**Pn**	**23 46 20.4**	**+2.5**
PPLA	**Purkeypile**	**13.12**	**32**	Pn	**Pn**	**23 46 23.1**	**+3.1**
PWL	**Port Wells**	**13.34**	**44**	Pn	**Pn**	**23 46 22.2**	**-0.7**
PWL	**Port Wells**	**13.34**	**44**	P	**Pn**	**23 46 22.7**	**-0.2**
baz=240							
CUT	**Chulitna**	**13.45**	**36**	Pn	**Pn**	**23 46 24.7**	**+0.3**
J20K	**Nowinta River**	**13.51**	**26**	Pn	**Pn**	**23 46 27.2**	**+2.1**
J20K	**Nowinta River**	**13.51**	**26**	P	**

HARP	HAARP	15.42	42	P	Pn	23 46 49.9	-1.0	
	baz=240							
WRH	Wood River Hil	15.53	33	Pn	Pn	23 46 51.3	-1.1	
SNH	Sunshine Point	15.55	51	Pn	Pn	23 46 53.3	+0.6	
GLB	Gilahina Butte	15.56	46	Pn	Pn	23 46 52.0	-0.9	
GLB				IAmb	IAmb	23 47 00.4		
	comp=Z,8.4nm,0.6s							
PAX	Paxson	15.59	40	P	Pn	23 46 52.2	-1.0	
PAX				pmax	pmax			
	comp=Z,3.0nm,0.8s							
PAX	Paxson	15.59	40		Pn	23 46 52.2	-1.0	
PAX	Paxson	15.59	40	P	Pn	23 46 52.3	-1.0	
	baz=238							
I23K	Minto, Yukon-K	15.60	29	P	Pn	23 46 53.8	+0.7	
I23K	Minto, Yukon-K	15.60	29	P	Pn	23 46 52.7	-0.5	
	baz=225							
WAX	Waxell Ridge	15.63	50	P	Pn	23 46 53.5	-0.2	
VRDI	Verde Repeater	15.63	47	IAmb	IAmb	23 47 06.8		
	comp=Z,11nm,1.0s							
CCB	Clear Creek Bu	15.74	32	Pn	Pn	23 46 54.7	-0.4	
TGL	Tana Glacier	15.74	49		Pn	23 46 55.1	-0.2	
MDM	Murphy Dome	15.81	31	P	Pn	23 46 56.0	-0.1	
HDA	Harding Lake	15.87	34		Pn	23 46 56.7	-0.1	
HDA	Harding Lake	15.87	34	P	Pn	23 46 56.2	-0.6	
	baz=231							
COLA	College	15.88	32	*i* P	Pn	23 46 56.2	-0.6	
ISLE	Juniper Island	15.92	50	IAmb	IAmb	23 47 06.1		
	comp=Z,23nm,1.1s							
MESA	MESA	15.97	52	Pn	Pn	23 46 59.7	+1.4	
MESA				IAmb	IAmb	23 47 17.1		
	comp=Z,25nm,0.9s							
IL31		16.12	33		Pn	23 46 59.6	-0.3	
ILAR	Eielson Array	16.12	33	Pn	Pn	23 46 59.3	-0.7	
	comp=Z,0.2nm,0.3s,baz=232,slow=9.6,SNR=13							
ILAR	Eielson Array	16.12	33	P	Pn	23 47 00.8	+0.8	
ILAR	Eielson Array	16.12	33	Pn	Pn	23 47 00.8	+0.8	
YAH	Yahtse	16.13	51		Pn	23 47 00.5	+0.2	
YAH				IAmb	IAmb	23 47 18.1		
	comp=Z,17nm,0.8s							
POKR	Poker Plat Res	16.17	31	Pn	Pn	23 47 01.0	+0.4	
GRNC	Granite Creek	16.23	50	IAmb	IAmb	23 47 07.9		
	comp=Z,16nm,0.6s							
RIDG	Independent Ri	16.23	38		Pn	23 47 02.1	+0.6	
RIDG	Independent Ri	16.23	38	P	Pn	23 47 01.7	+0.3	
	baz=237							
MENT	Mentasta	16.26	41		Pn	23 47 01.8	-0.1	
M26K	Nabesna, AK	16.31	44	P	Pn	23 47 01.3	-1.2	
M26K	Nabesna, AK	16.31	44	P	Pn	23 47 01.8	-0.7	
	baz=244							
BARN	Barnard Glacie	16.39	49		Pn	23 47 04.0	+0.4	
BARN				IAmb	IAmb	23 47 09.2		
	comp=Z,15nm,0.6s							
TABL	Table Mountain	16.43	51		Pn	23 47 04.2	0.0	
TABL				IAmb	IAmb	23 47 14.2		
	comp=Z,12nm,0.8s							
L26K	Log Cabin Wild	16.45	41		Pn	23 47 05.0	+0.7	
L26K				IAmb	IAmb	23 47 07.2		
	comp=Z,8.6nm,0.6s							
L26K	Log Cabin Wild	16.45	41	P	Pn	23 47 04.2	-0.1	
	baz=242							
DOT	Dot Lake	16.48	39		Pn	23 47 04.5	-0.1	
CTG	Chitna Glacier	16.50	49	P	Pn	23 47 05.2	+0.2	
	baz=251,SNR=7.9							
CTGM	Chitina Glacie	16.50	49		Pn	23 47 05.7	+0.7	
CTGM				IAmb	IAmb	23 47 10.3		
	comp=Z,20nm,0.6s							
H24K	Noodor Dome	16.52	29	P	Pn	23 47 05.6	+0.5	
LOGN	Logan Glacier	16.61	50		Pn	23 47 06.9	+0.5	
LOGN				IAmb	IAmb	23 47 11.5		
	comp=Z,12nm,0.6s							
SCRK	Sand Creek	16.68	38	P	Pn	23 47 07.9	+0.7	
SCRK	Sand Creek	16.68	38	P	Pn	23 47 07.4	+0.1	
	baz=238,SNR=10							
PCA	Pinnacle	16.77	53		Pn	23 47 09.2	+1.0	
PCA				IAmb	IAmb	23 47 28.0		
	comp=Z,28nm,0.8s							
M27K	Edge Creek, AK	16.77	44	IAmb	IAmb	23 47 22.9		
	comp=Z,10nm,0.8s							
M27K	Edge Creek, AK	16.77	44	P	Pn	23 47 08.2	-0.2	
	baz=246							
COLD	Coldfoot	16.93	23	P	P	23 47 12.4	+0.5	
COLD	Coldfoot	16.93	23	P	Pn	23 47 09.5	-0.6	
	baz=218,SNR=6.9							
L27K	Beaver Creek,	17.09	42		Pn	23 47 11.5	-0.7	
L27K	Beaver Creek,	17.09	42	P	Pn	23 47 11.5	-0.7	
	baz=244							
PNL	Peninsula	17.09	55	P	Pn	23 47 12.4	+0.2	
	baz=258							
BCAR	Beaver Creek A	17.11	42	Pn	Pn	23 47 11.6	-0.9	
YUK3	Moose Creek	17.17	47	P	Pn	23 47 13.2	-0.3	
	baz=250							
BVCY	Beaver Creek	17.23	45	P	Pn	23 47 13.8	-0.1	
	baz=247							
FYU	Fort Yukon	17.81	30		P	23 47 21.8	+0.2	
EGAK	Eagle	18.15	38	P	Pn	23 47 25.2	0.0	
EGAK	Eagle	18.15	38	P	Pn	23 47 25.1	-0.2	
	baz=240							
DAWY	Dawson	18.50	41	P	P	23 47 29.1	-0.3	
DAWY	Dawson	18.50	41	P	P	23 47 29.3	-0.1	
	baz=245							
BMAR	Burnt Mountain	18.57	28	P	P	23 47 30.3	+0.2	
M30M	Minto, Yukon	19.06	46		Pn	23 47 36.6	+0.3	
M30M	Minto, Yukon	19.06	46	P	P	23 47 35.9	+0.4	
	baz=252,SNR=5.7							
SKAG	Skagway	19.10	56		Pn	23 47 37.0	+0.1	
SKAG				IAmb	IAmb	23 47 51.2		
	comp=Z,19nm,0.7s							
SKAG	Skagway	19.10	56	P	Pn	23 47 36.7	-0.1	
	baz=263							
J29M	Klondike Camp	19.13	40	P	Pn	23 47 37.4	+0.1	
J29M				IAmb	IAmb	23 47 41.7		
	comp=Z,9.6nm,0.6s							
J29M	Klondike Camp	19.13	40	P	Pn	23 47 37.3	+0.1	
	baz=245							
N31M	Braeburn, Yuko	19.23	50		Pn	23 47 39.1	+0.7	
N31M	Braeburn, Yuko	19.23	50	P	Pn	23 47 38.7	+0.2	
	baz=257,SNR=9.8							
BESE	Bessie Mountai	19.26	59	P	Pn	23 47 38.5	-0.3	
BESE				IAmb	IAmb	23 47 52.8		
	comp=Z,15nm,0.9s							
I29M	Ogilvie Camp,	19.49	38	P	P	23 47 39.7	-0.5	
	baz=243							
WHY	Whitehorse	19.50	53		Pn	23 47 42.2	+0.5	
WHY				IAmb	IAmb	23 47 59.1		
	comp=Z,8.8nm,0.8s							
WHY	Whitehorse	19.50	53	P	Pn	23 47 41.2	-0.5	
	baz=260,SNR=6.8							
BILL	Bilibino	19.91	331	*e*P	P	23 47 42.9	-1.8	
BILL				pmax	pmax			
	comp=Z,12nm,1.1s							
BILL				MLR	MLR			
	comp=Z,207nm,16.0s							
M31M	Drury Creek, Y	20.04	48	P	Pn	23 47 48.0	0.0	
M31M	Drury Creek, Y	20.04	48	P	Pn	23 47 48.1	0.0	
	baz=256							
CRAG	Craig	20.28	68	P	Pn	23 47 50.8	-0.1	
CRAG				IAmb	IAmb	23 47 51.9		
	comp=Z,17nm,0.7s							
P33M	Teslin, Yukon	20.45	54		Pn	23 47 52.3	-0.5	
P33M				IAmb	IAmb	23 48 10.9		
	comp=Z,12nm,0.9s							
P33M	Teslin, Yukon	20.45	54	P	Pn	23 47 52.3	-0.6	
	baz=263,SNR=7.1							
FARO	Faro, Yukon	20.52	49	P	Pn	23 47 52.7	-1.0	
	baz=258,SNR=28							
EPYK	Eagle Plains	20.54	36	P	P	23 47 50.5	-1.0	
EPYK	Eagle Plains	20.54	36	P	P	23 47 50.1	-1.4	
	baz=243,SNR=9.3							
PEA0B	Petropavlovsk-	20.88	285	P	P	23 47 56.3	+1.0	
PEA0B				pmax	pmax			
	comp=Z,17nm,1.1s							
PEA0B	Petropavlovsk-	20.88	285	P	P	23 47 56.3	+1.0	
PEA0B				IAmb	IAmb	23 48 07.1		
	comp=Z,18nm,1.1s							
PETK	Petropavlovsk-	20.88	285	P	P	23 47 56.0	+0.7	
	comp=Z,3.8nm,0.5s,baz=82,slow=13,SNR=5.1							
MOBC	Moresby Island	21.34	74	P	P	23 48 00.6	+0.4	
MOBC				IAmb	IAmb	23 48 05.0		
	comp=Z,23nm,1.2s							
DLBC	Dease Lake	21.79	60	P	P	23 48 04.7	-0.5	
	comp=Z,2.4nm,0.8s,baz=266,slow=13,SNR=1.2							
GRNB	Grenville Isla	22.36	72	P	P	23 48 12.0	+0.8	
GRNB				IAmb	IAmb	23 48 14.1		
	comp=Z,5.4nm,0.8s							
INK	Inuvik	22.52	33	P	P	23 48 10.7	-2.0	
	comp=Z,3.6nm,0.7s,baz=256,slow=12,SNR=10							
INK	Inuvik	22.52	33	P	P	23 48 11.2	-1.5	
	baz=243							
SEY	Seymchan	23.33	312	P	P	23 48 18.2	-3.0	
	comp=Z,0.9nm,0.3s,baz=97,slow=8.0,SNR=4.6							
SEY				LR	LR	23 58 16.0		
	comp=Z,126nm,18.0s,baz=4.5,slow=39							
BBB	Bella Bella	23.85	75	LR	LR	23 55 43.3		
	comp=Z,65nm,20.8s,baz=284,slow=31							
C36M	Paulatuk	26.09	34	P	P	23 48 46.6	+0.1	
	baz=252							
A36M	Sachs Harbour	26.67	28	P	P	23 48 51.8	+0.2	
	baz=246							
YKA	Yellowknife Ar	29.23	49	P	P	23 49 16.4	+1.8	
	comp=Z,0.7nm,0.6s,baz=274,slow=8.1,SNR=14							
YKA				PcP	PcP	23 52 21.1	+0.3	
	comp=Z,0.4nm,0.7s,baz=279,slow=2.3,SNR=4.8							
YKA	Yellowknife Ar	29.23	49	*ce*P	P	23 49 16.3	+1.7	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	Yellowknife Ar	29.23	49	P	P	23 49 16.1	+1.5	
H04A	Detroit Lake	30.55	87	P	P	23 49 26.9	+0.3	
DBO	Dodson Butte	30.75	90	P	P	23 49 30.1	+1.8	
L02E	Cave Junction	31.07	92	P	P	23 49 31.6	+0.5	
NEW	Newport	31.86	77	LR	LR	00 02 03.5		
	comp=Z,52nm,18.0s,baz=304,slow=36							
NEW	Newport	31.86	77	P	P	23 49 38.3	+0.3	
NEW				pmax	pmax			
	comp=Z,3.0nm,0.9s							
NEW	Newport	31.86	77	P	P	23 49 38.3	+0.3	
NEW				IAmb	IAmb	23 49 53.9		
	comp=Z,3.1nm,0.8s							
NEW	Newport	31.86	77	P	P	23 49 38.3	+0.3	
	baz=297							
YBH	Yreka Blue Hor	31.86	92	P	P	23 49 40.2	+2.0	
	comp=Z,4.7nm,0.8s,baz=339,slow=6.3,SNR=6.2							
YBH				LR	LR	23 59 59.9		
	comp=Z,90nm,21.2s,baz=296,slow=32							
YBH	Yreka Blue Hor	31.86	92	P	P	23 49 39.1	+0.9	
YBH				pmax	pmax			
	comp=Z,13nm,1.2s							
YBH	Yreka Blue Hor	31.86	92	P	P	23 49 39.1	+0.9	
J05D	Fort Rock, OR	31.88	88	P	P	23 49 39.3	+0.9	
	baz=303							
M02C	Callahan	31.97	92	P	P	23 49 39.6	+0.5	
M02C				IAmb	IAmb	23 49 58.2		
	comp=Z,3.7nm,0.9s							
M02C	Callahan	31.97	92	P	P	23 49 39.4	+0.3	
	baz=306							
EDM	Edmonton	32.02	67	P	P	23 49 40.1	+0.7	
EDM				pmax	pmax			
	comp=Z,8.0nm,0.6s							
EDM	Edmonton	32.02	67	P	P	23 49 40.1	+0.7	
YSS	Yuzh-Sakhalins	32.06	280	*i* P	P	23 49 38.5	-1.2	
YSS				pmax	pmax			
	comp=Z,9.0nm,1.0s							
N02D	Trinity Center	32.31	93	P	P	23 49 43.2	+1.1	
N02D	Trinity Center	32.31	93	P	P	23 49 41.2	-0.9	
	baz=306							
M04C	Macdoel	32.36	91	P	P	23 49 43.5	+0.8	
M04C	Macdoel	32.36	91	P	P	23 49 43.2	+0.6	
	baz=305							
K05A	Summer Lake	32.40	89	P	P	23 49 43.5	+0.5	
I07A	Izee	32.50	86	P	P	23 49 44.4	+0.6	
I07A				IAmb	IAmb	23 49 54.7		
	comp=Z,4.2nm,0.9s							
WDC	Whiskeytown Da	32.64	93	P	P	23 49 45.6	+0.7	
WDC				pmax	pmax			
	comp=Z,7.0nm,1.0s							
WDC	Whiskeytown Da	32.64	93	P	P	23 49 45.6	+0.7	
TIXI	Tiksi	33.10	329	PcP	PcP	23 52 31.7	+0.6	
	comp=Z,2.1nm,0.4s,baz=72,slow=3.2,SNR=2.8							
TIXI				LR	LR	00 05 11.1		
	comp=Z,92nm,19.4s,baz=204,slow=40							
TIXI	Tiksi	33.10	329	*i* P	P	23 49 47.3	-1.3	
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.9s							
MOD	Modoc Plateau	33.23	90	P	P	23 49 52.1	+1.9	
MOD				IAmb	IAmb	23 49 52.4		
	comp=Z,4.0nm,0.8s							
O03E	Paynes Creek	33.27	93	P	P	23 49 50.9	+0.5	
	baz=307							
JTMT	Jette	33.79	76	P	P	23 49 55.1	+0.1	
JTMT				IAmb	IAmb	23 50 01.9		
	comp=Z,6.5nm,1.1s							
YAK	Yakutsk	33.85	311	LR	LR	00 04 08.7		
	comp=Z,130nm,19.1s,baz=80,slow=37							
YAK	Yakutsk	33.85	311	*i* P	P	23 49 54.1	-1.1	
YAK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
MSO	Missoula	34.44	78	P	P	23 50 00.9	+0.2	
	baz=300							
PAHR	Pah Rah Range	35.10	92	P	P	23 50 07.6	+1.2	
PNTR	Pine Nut	35.35	93	P	P	23 50 09.4	+0.8	
RES	Resolute Bay	35.66	26	P	P	23 50 10.7	0.0	
	comp=Z,0.7nm,0.5s,baz=268,slow=6.4,SNR=4.5							
HLID	Hailey	35.87	83	P	P	23 50 13.4	+0.3	
	baz=304							
BCYI	Bear Canyon	36.07	81	P	P	23 50 15.9	+1.1	
MCMT	McKenzie Canyo	36.13	80	P	P	23 50 16.1	+0.8	
KVN	Kaiserville	36.28	92	P	P	23 50 17.7	+1.0	
KVN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KVN	Kaiserville	36.28	92	P	P	23 50 17.7	+1.0	
KVN				IAmb	IAmb	23 50 19.0		
	comp=Z,6.2nm,1.1s							
RYN	Ryan	36.29	93	P	P	23 50 17.9	+1.2	
RYN				IAmb	IAmb	23 50 19.0		
	comp=Z,8.4nm,1.1s							
EGMT	Eagleton	36.32	74	P	P	23 50 16.7	-0.1	
	baz=299							
BOZ	Bozeman (W)	36.45	78	P	P	23 50 18.0	+0.1	
BOZ				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BOZ	Bozeman (W)	36.45	78	P	P	23 50 18.0	+0.1	
BOZ	Bozeman (W)	36.45	78	P	P	23 50 18.1	+0.1	
	baz=302							
PMPB	Monarch Peak	36.47	98	P	P	23 50 18.3	+0.3	
LHV	Little Huntoon	36.54	93	P	P	23 50 20.4	+1.8	
NVAR	Mina Array Bea	36.55	93	P	P	23 50 20.7	+1.7	
	comp=Z,3.9nm,0.6s,baz=298,slow=8.6,SNR=27							
NVAR				PcP	PcP	23 52 42.1	+0.2	
	comp=Z,0.3nm,0.3s,baz=326,slow=4.7,SNR=2.3							
NVAR				LR	LR	00 01 39.4		
	comp=Z,72nm,19.1s,baz=287,slow=30							
NVAR	Mina Array Bea	36.55	93	P	P	23 50 20.5	+1.6	
NV11	Mina Array Sit	36.64	93	P	P	23 50 20.4	+0.8	
NV11				IAmb	IAmb	23 50 21.3		
	comp=Z,3.1nm,0.8s							
ELK	Elko	37.00	87	LR	LR	00 03 21.9		
	comp=Z,98nm,18.4s,baz=291,slow=33							
EUNU	Eureka	37.16	17	P	P	23 50 23.7	+0.1	
YHH	Holmes Hill	37.35	79	P	P	23 50 26.2	+0.4	
YHH				IAmb	IAmb	23 50 27.2		
	comp=Z,6.6nm,1.0s							
KLR	Kul'dur	37.43	290	*i* P	P	23 50 24.8	-1.3	
KLR				pmax	pmax			
	comp=Z,15nm,3.8s							
LCH	Last Change Ra	37.71	94	P	P	23 50 30.3	+1.6	
LCH				IAmb	IAmb	23 50 30.8		
	comp=Z,3.1nm,0.7s							
PKM	Mcpherson Peak	37.95	99	P	P	23 50 31.7	+0.9	
	baz=313							
CWC	Cottonwood Cre	37.97	95	P	P	23 50 31.6	+0.6	
	baz=311							
RLMT	Red Lodge	38.11	77	P	P	23 50 32.6	+0.4	
	baz=303							
ISA	Isabella, Lake	38.24	96	P	P	23 50 33.6	+0.4	
	baz=312							
R11A	Troy Canyon, C	38.26	91	P	P	23 50 34.0	+0.6	
R11A				IAmb	IAmb	23 50 35.4		
	comp=Z,2.9nm,1.1s							
R11A	Troy Canyon, C	38.26	91	P	P	23 50 33.5	+0.1	
	baz=309							
H11N2	WAKE ISLAND Hy	38.36	221	T	T	00 32 04.2		
	baz=24,slow=75,SNR=44							
H11N3	WAKE ISLAND Hy	38.37	221	T	T	00 32 07.4		
	baz=24,slow=75,SNR=49							
H11N1	WAKE ISLAND Hy	38.38	221	T	T	00 32 08.5		
	baz=24,slow=75,SNR=45							
MPMC	Manual Prospec	38.58	95	P	P	23 50 37.1	+1.0	
	baz=311							
FURC	Furnace Creek,	38.69	94	P	P	23 50 38.4	+1.6	
	baz=311							
TPNV	Topopah Spring	38.75	93	P	P	23 50 39.1	+1.6	
TPNV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TPNV	Topopah Spring	38.75	93	P	P	23 50 39.0	+1.6	
TPNV				IAmb	IAmb	23 50 39.7		
	comp=Z,3.2nm,0.8s							
TPNV	Topopah Spring	38.75	93	P	P	23 50 38.7	+1.2	
	baz=310							
DUG	Dugway, Tooele	38.80	86	P	P	23 50 38.3	+0.4	
	baz=307							
GWY	Greenwater Val	38.99	94	P	P	23 50 40.4	+0.9	
GWY				IAmb	IAmb	23 50 41.5		
	comp=Z,5.3nm,0.9s							
QSM	Queen of Sheba	39.02	95	P	P	23 50 39.8	+0.2	
QSM				IAmb	IAmb	23 50 41.6		
	comp=Z,8.0nm,1.1s							
EDW2	Edwards Air Fo	39.06	97	P	P	23 50 40.5	+0.5	
	baz=313							
PRN	Pahroc Range	39.18	91	P	P	23 50 41.6	+0.5	
PRN				IAmb	IAmb	23 50 43.4		
	comp=Z,5.8nm,1.0s							
PSUT	Pine Spring	39.20	89	P	P	23 50 42.2	+0.9	
PSUT				IAmb	IAmb	23 50 44.8		
	comp=Z,4.6nm,0.7s							
BW06	Boulder Array	39.25	81	P	P	23 50 42.0	+0.2	
BW06				IAmb	IAmb	23 50 42.6		
	comp=Z,3.0nm,0.9s							
BW06	Boulder Array	39.25	81	P	P	23 50 42.0	+0.2	
	baz=305							
PD31	Pinedale Array	39.25	81	P	P	23 50 41.8	0.0	
PDAR	Pinedale Array	39.25	81	P	P	23 50 42.4	+0.6	
	comp=Z,1.9nm,0.7s,baz=306,slow=4.5,SNR=19							
PDAR				LR	LR	00 04 54.1		
	comp=Z,59nm,19.6s,baz=313,slow=33							
PDAR	Pinedale Array	39.25	81	P	P	23 50 42.1	+0.3	
SNCC	San Nicolas Is	39.25	100	P	P	23 50 43.6	+2.0	
	baz=314							
GSC	Goldstone, Bar	39.49	95	P	P	23 50 44.3	+0.6	
	baz=312							
H11S1	WAKE ISLAND Hy	39.55	220	T	T	00 33 32.4		
	baz=24,slow=76,SNR=40							
H11S2	WAKE ISLAND Hy	39.56	220	T	T	00 33 23.5		
	baz=24,slow=76,SNR=26							
H11S3	WAKE ISLAND Hy	39.56	220	T	T	00 33 32.8		
	baz=24,slow=76,SNR=27							
BFSC	Mount Baldy Ra	39.70	97	P	P	23 50 45.6	+0.2	
	baz=313							
TUQ	Turquoise Moun	39.94	94	P	P	23 50 47.5	+0.1	
	baz=312							
HEC	Hector,Ludlow	40.10	96	P	P	23 50 48.6	-0.1	
	baz=312							
GMRC	Granite Mounta	40.54	95	P	P	23 50 52.6	+0.2	
	baz=312							
MAJO	Matsushiro	40.83	269	*i* P	P	23 50 54.1	-0.5	
MAJO				pmax	pmax			
	comp=Z,14nm,1.3s							
MJAR	Matsushiro Arr	40.83	269	P	P	23 50 54.4	-0.2	
	comp=Z,2.2nm,0.5s,baz=334,slow=10.0,SNR=4.4							
PFO	Pinyon Flats O	40.85	97	P	P	23 50 55.5	+0.6	
	comp=Z,3.5nm,1.0s,baz=280,slow=7.9,SNR=3.8							
PFO				LR	LR	00 05 15.9		
	comp=Z,87nm,19.8s,baz=234,slow=32							
BELC	Belle Mtn. Jos	40.86	96	P	P	23 50 54.9	-0.1	
	baz=313							
IRM	Iron Mountain	41.27	95	P	P	23 50 58.1	-0.3	
	baz=313							
MONP2	Monument Peak	41.37	98	P	P	23 50 59.6	+0.3	
	baz=314							
O20A	White River Ci	41.62	83	P	P	23 51 01.2	-0.1	
	baz=308,SNR=5.7							
SWSC	Sam W. Stewart	41.71	97	P	P	23 51 01.9	+0.1	
	baz=314							
IKP	In-Ko-Pah, Jac	41.73	98	P	P	23 51 02.9	+0.8	
	baz=314							
PDMCI	Parker Dam,Lak	41.78	94	P	P	23 51 02.2	-0.2	
	baz=313							
PV21	Cone Mtn., Par	42.15	85	P	P	23 51 05.5	-0.2	
PV21				IAmb	IAmb	23 51 06.4		
	comp=Z,2.6nm,0.7s							
PV14	Lion Creek, Pa	42.24	86	P	P	23 51 06.5	+0.1	
MDND	Maddock	42.25	68	P	P	23 51 06.6	+0.4	
	baz=303							
PV17	East Wray Mesa	42.34	86	P	P	23 51 07.2	0.0	
PV17				IAmb	IAmb	23 51 08.3		
	comp=Z,7.2nm,0.7s							
PV11	David Mesa, Pa	42.38	86	P	P	23 51 07.2	-0.3	
PV03	Paradox Valley	42.42	86	P	P	23 51 07.7	-0.1	
PV03				IAmb	IAmb	23 51 08.9		
	comp=Z,5.4nm,0.8s							
PV13	Radium Mtn., P	42.50	86	P	P	23 51 08.4	-0.2	
PV02	Paradox Valley	42.52	86	P	P	23 51 09.1	+0.4	
PV02				IAmb	IAmb	23 51 09.8		
	comp=Z,6.8nm,0.7s							
WUAZ	Wupatki	42.66	91	P	P	23 51 09.4	-0.4	
	baz=312							
PV01	Paradox Valley	42.66	86	P	P	23 51 10.1	+0.2	
PV01				IAmb	IAmb	23 51 11.1		
	comp=Z,7.0nm,0.7s							
ULM	Lac du Bonnet	43.04	63	P	P	23 51 12.0	-0.5	
	comp=Z,1.4nm,0.5s,baz=305,slow=12,SNR=1.9							
S22A	4UR Ranch, Cre	43.97	85	P	P	23 51 20.1	-0.4	
	baz=310							
AGMN	Agassiz Nation	44.10	66	P	P	23 51 20.4	-0.7	
	baz=304							
214A	Organ Pipe Nat	44.21	96	P	P	23 51 22.6	+0.4	
	baz=314							
Q24A	Divide	44.21	82	P	P	23 51 22.3	-0.2	
	baz=309							
SDCO	Great Sand Dun	44.78	84	P	P	23 51 27.5	+0.6	
SDCO				IAmb	IAmb	23 51 28.6		
	comp=Z,4.7nm,1.1s							
SDCO	Great Sand Dun	44.78	84	P	P	23 51 27.1	+0.1	
	baz=310							
TUC	Tucson	45.19	94	P	P	23 51 30.7	+0.7	
	baz=314							
B35A	Bob, Littlefor	45.25	64	P	P	23 51 29.8	-0.4	
B35A				IAmb	IAmb	23 51 43.3		
	comp=Z,5.0nm,1.1s							
T25A	Trinidad	45.83	84	P	P	23 51 35.2	0.0	
	ba

SFJD Kangerlussuaq 51.66 27 LR LR 00 14 57.4
comp=Z,22nm,19.1s,baz=324,slow=37
ULN Ulaanbaatar 51.77 301 *ceP* **P 23 52 20.9 +0.3**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 52.13 302 P **P 23 52 23.0 -0.3**
comp=Z,1.1nm,0.8s,baz=73,slow=5.2,SNR=7.0
SONM LR LR 00 17 01.1
comp=Z,49nm,18.2s,baz=46,slow=39
HHC Hu-ho-hao-te 53.87 292 *eP* **P 23 52 37.5 +1.3**
HHC Hu-ho-hao-te 53.87 292 sP sP 23 52 56.0 +10
HHC pmax pmax
comp=Z,8.0nm,1.2s
HHC pmax pmax
comp=Z,80nm,4.3s
HHC LR LR
comp=N,160nm,14.9s
HHC LR LR
comp=E,93nm,15.7s
HHC LR LR
comp=Z,160nm,17.8s
HNS HongShan 54.39 287 ⇑P **P 23 52 40.1 +0.3**
HNS pmax pmax
comp=Z,19nm,0.9s
SCHQ Schefferville 54.48 44 LR LR 00 16 28.2
comp=Z,102nm,20.1s,baz=172,slow=37
WVT Waverly 56.39 73 P **P 23 52 53.8 -0.4**
baz=314
U49A Red Boiling Sp 57.31 71 P **P 23 52 59.8 -0.9**
U49A IAmb IAmb 23 53 07.4
comp=Z,1.1nm,0.6s
ARCES ARCESS Array B 57.79 355 LR LR 00 19 50.8
comp=Z,28nm,18.3s,baz=341,slow=38
ZALV Zalesovo Beam 57.99 318 P **P 23 53 05.0 -0.3**
comp=Z,0.5nm,0.5s,baz=57,slow=11,SNR=3.8
ZALV LR LR 00 19 09.6
comp=Z,61nm,21.1s,baz=40,slow=37
ZALV Zalesovo Beam 57.99 318 *i P* **P 23 53 05.0 -0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
L56A Greenwood 57.99 61 P **P 23 53 05.4 -0.2**
NCB Newcomb 58.47 58 P **P 23 53 08.2 -0.6**
J59A Piesco 58.68 58 P **P 23 53 09.6 -0.6**
TKL Tuckaleechee C 59.07 71 LR LR 00 17 13.4
comp=Z,54nm,19.8s,baz=6.0,slow=34
DGZ Jazzator, Alta 59.99 314 *i* P **P 23 53 17.1 -2.3**
DGZ pmax pmax
comp=Z,7.0nm,1.9s
PKME Peaks-Kenny Pk 60.03 54 P **P 23 53 19.1 -0.4**
baz=316
F64A Sherman 60.06 53 P **P 23 53 18.6 -1.2**
XAN Xi'an 60.10 288 P **P 23 53 20.0 -0.2**
XAN pP pP 23 53 27.3 -0.3
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN pmax pmax
comp=Z,78nm,6.1s
GTA Gaotai 61.36 298 *eP* **P 23 53 28.4 -0.5**
GTA pP pP 23 53 36.3 0.0
GTA sP sP 23 53 39.8 +0.7
GTA pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 62.93 319 *ceP* **P 23 53 36.9 -2.1**
KURK pmax pmax
comp=Z,5.0nm,1.7s
NHSC New Hope 62.97 70 P **P 23 53 39.0 -0.5**
baz=317
SVE Sverdlovsk 63.99 333 *eP* **P 23 53 46.5 +0.6**
BRVK Borovoye 64.16 325 *i P* **P 23 53 46.3 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
WMQ Urumqi 64.25 309 *eP* **P 23 53 50.9 +2.9**
MKAR Makanchi Array 64.44 314 P **P 23 53 48.4 -0.7**
comp=Z,0.7nm,0.6s,baz=32,slow=5.9,SNR=7.4
MKAR LR LR 00 22 53.2
comp=Z,68nm,18.1s,baz=50,slow=37
ARU Arti 64.90 334 LR LR 00 26 00.6
comp=Z,46nm,18.1s,baz=67,slow=40
ARU Arti 64.90 334 *c i P* **P 23 53 51.0 -0.9**
ARU *PP **sP** 23 54 01.7 -0.9
ARU 23 54 22.8
ARU 23 56 10.5
ARU S **S** 00 02 31.0 -0.1
ARU SS **SS** 00 06 41.3 -0.5
ARU pmax pmax
comp=Z,5.0nm,0.9s
KIRV Kirov 65.17 340 LR LR 00 26 09.3
comp=Z,63nm,18.4s,baz=21,slow=40
KIRV Kirov 65.17 340 *ceP* **P 23 53 52.9 -0.6**
FINES FINESS Array B 65.77 353 P **P 23 53 56.8 -0.7**
comp=Z,3.5nm,0.6s,baz=19,slow=7.4,SNR=16
FINES LR LR 00 24 11.8
comp=Z,25nm,18.2s,baz=38,slow=38
FINES FINESS Array B 65.77 353 *i P* **P 23 53 56.7 -0.7**
FINES pmax pmax
comp=Z,3.0nm,0.6s
GOMU GeErMu 66.40 299 P **P 23 54 01.0 -1.4**
GOMU pP pP 23 54 05.9 -3.9
GOMU sP sP 23 54 08.6 -4.1
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU pmax pmax
comp=Z,99nm,4.7s
NB2 NORSAR Subarra 66.69 1 P **P 23 54 02.9 -0.5**
comp=Z,0.7nm,0.6s,baz=360,slow=6.2
NOA NORSAR Array B 66.69 1 P **P 23 54 02.4 -1.0**
comp=Z,0.6nm,0.6s,baz=1.2,slow=6.2,SNR=4.4
PZH PanZhiHua 69.83 287 P **P 23 54 23.9 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,80nm,4.1s
AKTO Aktyubinsk 70.35 331 LR LR 00 29 42.0
comp=Z,43nm,18.7s,baz=28,slow=40
OBN Obninsk 70.79 346 *eP* **P 23 54 27.9 -1.0**
OBN *e*PP **pP** 23 54 37.3 +0.6
OBN *e* 23 54 48.9
OBN *e* 23 57 06.0
OBN *e*PPP PPP 23 58 47.7
OBN pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 71.10 316 LR LR 00 27 47.7
comp=Z,24nm,18.2s,baz=38,slow=38
AAK Ala-Archa 71.10 316 *ceP* **P 23 54 31.5 +0.2**
AAK pmax pmax
comp=Z,3.0nm,0.9s
KSH Kashi 73.03 314 P **P 23 54 46.5 +3.7**
KSH pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 76.09 349 P **P 23 54 59.5 -0.7**
comp=Z,3.6nm,0.7s,baz=14,slow=5.9,SNR=14
AKASG LR LR 00 35 30.5
comp=Z,35nm,18.1s,baz=47,slow=41
AKBB Malin Array Si 76.09 349 *ceP* **P 23 54 59.3 -0.9**
CMAR Chiang Mai Arr 77.65 284 P **P 23 55 10.2 +0.7**
comp=Z,0.9nm,0.4s,baz=27,slow=6.2,SNR=8.3
CMAR LR LR 00 33 58.9
comp=Z,17nm,18.0s,baz=35,slow=39
GERES GERESS Array B 78.91 359 P **P 23 55 15.1 -1.1**
comp=Z,0.9nm,0.8s,baz=34,slow=5.0,SNR=6.9
GOF Gofitskoye 79.22 338⇑ *eP* **P 23 55 18.9 +1.1**
GOF pmax pmax
comp=Z,19nm,1.0s
CONA Conrad Observa 79.79 358 *eP* **P 23 55 22.2 +1.2**
comp=Z,1.4nm,0.6s
WTTA Wattenberg 80.49 1 *eP* **P 23 55 26.3 +1.4**
comp=Z,1.9nm,0.5s
KBZ Khabaz 80.51 338 P **P 23 55 24.9 +0.2**
comp=Z,0.9nm,0.8s,baz=68,slow=5.4,SNR=1.5
KBZ LR LR 00 35 05.7
comp=Z,29nm,18.7s,baz=30,slow=39
NCK Nalchik 80.57 338 *i P* **P 23 55 25.9 +0.7**
NCK pmax pmax
comp=Z,6.0nm,1.0s
KBA Koelnbreinsper 80.68 359 *eP* **P 23 55 27.7 +1.9**
comp=Z,4.9nm,0.8s
FETA Feichten 80.73 1 *eP* **P 23 55 27.6 +1.5**
comp=Z,2.5nm,0.8s
NEY Neytrino 81.01 338 *i P* **P 23 55 27.3 -0.4**
NEY pmax pmax
comp=Z,2.0nm,1.0s
OBKA Obir 81.23 359 *eP* **P 23 55 30.2 +1.5**
comp=Z,3.3nm,0.8s
GNI Garni 83.46 336 LR LR 00 38 02.2
comp=Z,28nm,19.2s,baz=343,slow=40
BR131 Keskin Array S 86.21 344 *i P* **P 23 55 54.3 -0.1**
BRTR Keskin Array B 86.21 344 P **P 23 55 55.9 +1.4**
comp=Z,2.2nm,0.9s,baz=39,slow=3.0,SNR=9.3
ESDC Sonseca Array 86.98 13 P **P 23 55 59.3 +1.2**
comp=Z,0.6nm,0.7s,baz=344,slow=5.4,SNR=4.1
WRA Warramunga Arr 88.05 233 P **P 23 56 02.4 -0.7**
comp=Z,0.6nm,0.8s,baz=35,slow=6.0,SNR=2.8
WRA LR LR 00 29 31.2
comp=Z,28nm,21.9s,baz=77,slow=32
SRSP Sriramsagar 88.87 300 *eP* **P 23 56 08.0 +0.7**
MYLAV Mylavaram 89.44 297 *eP* **P 23 56 10.6 +0.7**
HYBB Hyderabad (bro 90.01 299 *eP* **P 23 56 13.3 +0.6**
ADKI Addanki 90.54 297 *eP* **P 23 56 15.9 +0.8**
SRLM Srisailam 90.92 298 *eP* **P 23 56 17.9 +0.9**
RCLA Racherla 91.41 298 *eP* **P 23 56 19.6 +0.4**
ASAR Alice Springs 91.42 231 P **P 23 56 18.3 -0.6**
comp=Z,0.3nm,0.7s,baz=25,slow=5.1,SNR=2.9
URV Uravakonda 92.74 299 *eP* **P 23 56 26.0 +0.6**

*IDC **15** 00:08:14.4±0.8, 2°.10N×126°.33E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/41, mbtmp4.0/11, MS3.1/1, Ms1 3.1/1, ms1mx2.3/72, Error ellipse: s-maj=47.4km s-min=15.7km az=78.0*
*DJA **15** 00:08:18.8±1.5, 2°N±3°×12°7E±°, h32km±22km, M3.9/7, mb4.2/1, MLv3.8/7*
*NEIC **15** 00:08:21.8±1.2, 2°.0N±0°.1×126°.6E±0°.1, h60km±9km, mb4.1/6, Error ellipse: s-maj=20.9km s-min=11.3km az=223.0*
ISC 15 00:08:20.6±0.8, 2°.07N±0°.07×126°.7E±0°.1, h47km, n28, σ1§38/25, mb4.0/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.45**	**153**	P	Pn	00 08 40.8	-3.6
TNTI	**Ternate**	**1.45**	**153**	Pn	**Pn**	**00 08 45.5**	**+1.1**
SGSI	**Sangihe**	**1.98**	**324**	P	**Pn**	**00 08 51.3**	**-0.4**
SGSI				S	**Sn**	**00 09 14.5**	**-0.9**
LBMI	**Labuha**	**2.81**	**163**	P	Pn	00 08 46.9	-16
GTOI	**Gorontalo**	**3.96**	**249**	P	**Pn**	**00 09 19.4**	**+0.6**
SIJI	**Sorong**	**5.42**	**123**	LR	LR	00 12 16.0	
	comp=Z,168nm,18.4s,baz=232,slow=42						
TOLI2	**Tolitoli**	**5.99**	**261**	Pn	**Pn**	**00 09 45.9**	**-0.9**
MPSI	**Mapaga**	**7.01**	**256**	P	**Pn**	**00 09 58.0**	**-2.8**
MYLDM	**Lahad Datu**	**8.75**	**291**	Pn	**Pn**	**00 10 27.7**	**+3.1**
FITZ	**Fitzroy Crossi**	**20.07**	**183**	P	**P**	**00 12 51.1**	**+0.9**
	1.0nm,0.4s,baz=16,slow=22,SNR=1.7						
WB0	**Warramunga Arr**	**22.98**	**161**	P	**P**	**00 13 20.5**	**-0.9**
WB0				IAmb	IAmb	00 13 26.1	
	comp=Z,19nm,1.8s						
WRA	**Warramunga Arr**	**23.13**	**161**	P	**P**	**00 13 21.9**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=340,slow=11,SNR=15						
WRA	**Warramunga Arr**	**23.13**	**161**	P	**P**	**00 13 22.6**	**-0.3**
WB2	**Warramunga Arr**	**23.13**	**161**	P	**P**	**00 13 22.4**	**-0.5**
WB2				IAmb	IAmb	00 13 29.9	
	comp=Z,3.9nm,0.9s						
ASAR	**Alice Springs**	**26.53**	**165**	P	**P**	**00 13 56.2**	**+2.2**
	comp=Z,0.6nm,0.4s,baz=344,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**26.53**	**165**	P	**P**	**00 13 55.7**	**+1.7**
KSRS	**Korea Array**	**35.23**	**2**	P	**P**	**00 15 11.1**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=184,slow=10,SNR=5.0						
USRK	**Ussuriysk Ar.**	**42.21**	**6**	P	**P**	**00 16 09.1**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=199,slow=8.5,SNR=3.9						
USRK	**Ussuriysk Ar.**	**42.21**	**6**	P	**P**	**00 16 09.4**	**+0.5**
KLR	**Kul'dur**	**47.18**	**5**	P	**P**	**00 16 48.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=194,slow=4.2,SNR=4.2						
SONM	**Songino Array**	**48.85**	**342**	P	**P**	**00 17 00.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=157,slow=7.8,SNR=6.5						
SONM	**Songino Array**	**48.85**	**342**	IAmb	IAmb	00 17 08.5	
	comp=Z,1.9nm,1.2s						
PETK	**Petropavlovsk-**	**56.97**	**22**	P	**P**	**00 18 02.4**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=262,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**58.90**	**326**	P	**P**	**00 18 13.8**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=120,slow=8.0,SNR=16						
MAKZ	**Makanchi**	**59.08**	**326**	P	**P**	**00 18 15.3**	**-0.8**
MAKZ				IAmb	IAmb	00 18 16.9	
	comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**62.05**	**333**	P	**P**	**00 18 34.2**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=105,slow=7.5,SNR=3.9						
KURBB	**Kurchatov Arra**	**63.11**	**328**	P	**P**	**00 18 42.2**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=130,slow=6.2,SNR=12						
KURK	**Kurchatov**	**63.12**	**328**	P	**P**	**00 18 42.5**	**-0.8**

*IDC **15** 00:10:48.0±5.0, 1°.30N×98°.29E, h66km±35km, mb3.6/8, mb1 3.7/8, mb1mx3.3/45, mbtmp3.9/8, Error ellipse: s-maj=58.6km s-min=28.0km az=50.0*
*NEIC **15** 00:10:50.5±2.5, 1°.45N±0°.07×98°.44E±0°.06, h66km±12km, mb4.1/5, Error ellipse: s-maj=9.9km s-min=8.3km az=152.0*
ISC 15 00:10:49.2±0.7, 1°.47N±0°.06×98°.45E±0°.06, h63km, n25, σ1§48/25, mb4.0/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.89**	**259**	Pn	**Pn**	**00 11 07.2**	**+1.3**
GSI				Sn	**Sn**	**00 11 19.5**	**+1.2**
RPSI	**Rantau Prapat**	**1.30**	**21**		**Pn**	**00 11 13.0**	**+1.7**
PSI	**Prapat**	**1.40**	**20**	P	**Pn**	**00 11 13.0**	**+0.2**
	51nm,0.3s,baz=212,slow=2.7,SNR=86						
PSI				S	**Sn**	**00 11 29.9**	**-0.5**
	14nm,0.3s,baz=152,slow=15,SNR=6.7						
PSI				LR	LR	00 12 05.2	
	comp=Z,100nm,19.4s,baz=247,slow=51						
BKNI	**Bangkinang**	**2.83**	**114**	Pn	**Pn**	**00 11 32.8**	**+0.8**
IPM	**Ipoh**	**3.94**	**41**	Pn	**Pn**	**00 11 49.6**	**+2.4**
LHMI	**Lhok Sumawe**	**4.02**	**338**	Pn	**Pn**	**00 11 49.7**	**+1.4**
KULM	**Kulim**	**4.38**	**30**		**Pn**	**00 11 54.9**	**+1.6**
MNAI	**Manna**	**7.34**	**142**	Pn	**Pn**	**00 12 33.8**	**0.0**
H08S2	**Diego Garcia H**	**27.43**	**250**	T	T	00 44 06.0	
	baz=72,slow=75,SNR=4.2						
H08S3	**Diego Garcia H**	**27.43**	**250**	T	T	00 44 05.6	
	baz=72,slow=75,SNR=7.5						
H08S1	**Diego Garcia H**	**27.45**	**250**	T	T	00 44 07.3	
	baz=72,slow=75,SNR=4.0						
WB0	**Warramunga Arr**	**41.09**	**123**	P	**P**	**00 18 29.7**	**+2.5**
WRA	**Warramunga Arr**	**41.13**	**123**	P	**P**	**00 18 26.3**	**-1.2**
	0.7nm,0.7s,baz=303,slow=9.2,SNR=2.9						
WB2	**Warramunga Arr**	**41.14**	**123**	P	**P**	**00 18 29.2**	**+1.7**
WB2				IAmb	IAmb	00 18 53.8	
	comp=Z,5.2nm,1.4s						
BOOM	**Boomskoye usch**	**45.55**	**337**	P	**P**	**00 19 05.9**	**+3.0**
SONM	**Songino Array**	**46.69**	**7**	P	**P**	**00 19 12.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=195,slow=11,SNR=1.5						
SONM				PcP	**PcP**	**00 20 43.0**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=183,slow=5.9,SNR=1.7						
MK31	**Makanchi Array**	**47.29**	**345**	P	**P**	**00 19 15.9**	**-0.4**
MK31				IAmb	IAmb	00 19 40.8	
	comp=Z,2.6nm,1.4s						
MKAR	**Makanchi Array**	**47.29**	**345**	P	**P**	**00 19 15.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=157,slow=8.2,SNR=8.1						
MKAR	**Makanchi Array**	**47.29**	**345**	P	**P**	**00 19 15.4**	**-1.0**
MAKZ	**Makanchi**	**47.39**	**345**	P	**P**	**00 19 16.3**	**-0.8**
MAKZ				IAmb	IAmb	00 19 22.5	
	comp=Z,3.6nm,1.4s						
ZALV	**Zalesovo Beam**	**53.50**	**350**	P	**P**	**00 20 02.0**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=158,slow=7.2,SNR=6.6						
KLR	**Kul'dur**	**55.46**	**26**	P	**P**	**00 20 16.9**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=212,slow=8.0,SNR=3.6						
BRTR	**Keskin Array B**	**69.86**	**312**	P	**P**	**00 21 52.0**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=126,slow=6.9,SNR=2.6						
FINES	**FINESS Array B**	**80.34**	**332**	P	**P**	**00 22 52.5**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=102,slow=5.7,SNR=10.0						
ARCES	**ARCESS Array B**	**82.70**	**340**	P	**P**	**00 23 04.5**	**-1.2**
	comp=Z,4.0nm,1.0s,baz=101,slow=7.4,SNR=3.9						

*IDC **15** 00:56:51.4±1.3, 62°.39S×155°.49E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/22, mbtmp4.0/5, ML4.4/1, MS4.1/32, Ms1 4.1/32, ms1mx4.0/45, Error ellipse: s-maj=93.2km s-min=23.3km az=70.0*
*GCMT **15** 00:56:59.0±0.2, 62°.32S±0°.01×155°.12E±0°.03, h19km±1km, MW5.1/95, Moment Tensor Solution. s51,c75; s95,c143; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.81±.18; $M_{\theta\theta}$5.15±.17; $M_{\phi\phi}$-4.33±.14; $M_{r\theta}$-1.58±.32; $M_{\theta\phi}$-3.60±.15; $M_{\phi r}$0.94±.34; Best double couple: $M_0$6.18200×10^{16} NP1:ϕ_s243.00000°, δ77.00000°, λ174.00000°. NP2: ϕ_s334.00000°, δ84.00000°, λ13.00000°. Principal axes: T 6.7880, Plg13.0000°, Azm199.0000°; N -1.2050, Plg76.0000°, Azm358.0000°; P -5.5760, Plg5.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 15 00:56:52.7±1.0, 62°.5S±0°.2×155°.3E±0°.5, h10km, n47, σ1§26/7, mb3.9/4, MS4.1/32, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.28**	**175**	Pn	**Pn**	**01 00 26.9**	**-1.2**
	1.6nm,0.3s,baz=349,slow=13,SNR=41						
VNDA				LR	LR	01 05 49.5	
	comp=Z,2μm,19.5s,baz=359,slow=35						
QSPA	**South Pole Qui**	**27.63**	**180**	P	**P**	**01 02 41.4**	**+1.2**
	2.8nm,0.7s,baz=0.5,slow=5.4,SNR=3.7						
QSPA				LR	LR	01 13 52.0	
	comp=Z,484nm,20.9s,baz=16,slow=37						
STKA	**Stephens Creek**	**31.84**	**338**	LR	LR	01 13 01.3	
	comp=Z,334nm,21.4s,baz=154,slow=30						
MAW	**Mawson**	**35.87**	**221**	LR	LR	01 18 48.6	
	comp=Z,1μm,18.6s,baz=118,slow=37						
RAO	**Raoul Island**	**37.54**	**40**	LR	LR	01 17 35.4	
	comp=Z,526nm,22.0s,baz=94,slow=33						
H01W1	**Cape Leeuwin H**	**37.62**	**298**	T	T	01 44 20.6	
	baz=149,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**37.62**	**298**	T	T	01 44 17.2	
	baz=149,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**37.64**	**298**	T	T	01 44 17.0	
	baz=149,slow=75,SNR=23						
DZM	**Mont Dzumac**	**41.08**	**16**	LR	LR	01 18 05.3	
	comp=Z,480nm,20.0s,baz=224,slow=31						
DZM	**Mont Dzumac**	**41.08**	**16**	*e*S	S	01 10 59.2	+10
	173nm,30.1s						
DZM				*e*LR	LR	01 15 57.9	
	comp=Z,995nm,25.8s						
ASAR	**Alice Springs**	**41.38**	**330**	P	**P**	**01 04 39.7**	**+0.8**
	1.3nm,1.0s,baz=150,slow=8.2,SNR=4.4						
ASAR				LR	LR	01 19 19.1	
	comp=Z,272nm,19.1s,baz=166,slow=33						
WRA	**Warramunga Arr**	**44.88**	**332**	P	**P**	**01 05 06.3**	**-0.9**
	1.1nm,1.0s,baz=164,slow=7.0,SNR=4.3						
WRA				LR	LR	01 21 22.9	
	comp=Z,227nm,20.7s,baz=130,slow=33						
MSVF	**Nonsavu**	**47.43**	**30**	LR	LR	01 21 33.6	
	comp=Z,330nm,20.6s,baz=183,slow=31						
FITZ	**Fitzroy Crossi**	**48.88**	**321**	LR	LR	01 25 00.3	
	comp=Z,178nm,18.3s,baz=170,slow=34						
PMSA	**Palmer Station**	**49.77**	**159**	LR	LR	01 27 21.9	
	comp=Z,189nm,18.5s,baz=164,slow=37						
HNR	**Honiara**	**53.04**	**6**	LR	LR	01 23 35.5	
	comp=Z,378nm,21.2s,baz=145,slow=30						
PMG	**Port Moresby**	**53.29**	**350**	LR	LR	01 25 31.6	
	comp=Z,276nm,19.5s,baz=166,slow=32						
AFI	**Afiamalu**	**53.83**	**41**	LR	LR	01 28 53.8	
	comp=Z,66nm,18.6s,baz=163,slow=36						
BATI	**Baumata**	**56.94**	**322**	LR	LR	01 29 07.6	
	comp=Z,252nm,20.1s,baz=201,slow=34						
PPT2	**Papeete2**	**58.72**	**66**	*e*LR	LR	01 23 45.7	
	comp=Z,297nm,30.8s						
JAY	**Jayapura**	**60.79**	**343**	LR	LR	01 31 56.2	
	comp=Z,134nm,18.9s,baz=219,slow=35						
VAH	**Vaihoa**	**61.65**	**67**	*e*T	T	02 13 23.8	
	74nm,0.2s						
KAPI	**Kappang**	**63.01**	**320**	LR	LR	01 32 13.2	
	comp=Z,104nm,20.2s,baz=188,slow=34						
LEM	**Lembang**	**65.45**	**306**	LR	LR	01 31 06.9	
	comp=Z,102nm,22.0s,baz=186,slow=31						
PLCA	**Paso Flores**	**70.77**	**145**	P	**P**	**01 08 09.5**	**+0.6**
	1.3nm,0.9s,baz=200,slow=12,SNR=2.3						
PLCA				LR	LR	01 34 46.8	
	comp=Z,113nm,18.1s,baz=204,slow=32						
H03S2	**Juan Fernandez**	**74.67**	**136**	T	T	02 31 06.2	
	baz=200,SNR=31						
H03S1	**Juan Fernandez**	**74.67**	**136**	T	T	02 31 11.8	
	baz=200,SNR=35						
H03S3	**Juan Fernandez**	**74.69**	**136**	T	T	02 31 12.4	
	baz=200,SNR=24						
GUMO	**Guam**	**76.24**	**350**	LR	LR	01 39 30.6	
	comp=Z,51nm,19.7s,baz=106,slow=34						
PSI	**Prapat**	**77.62**	**302**	LR	LR	01 40 16.6	
	comp=Z,44nm,18.2s,baz=130,slow=34						
SUR	**Sutherland**	**78.67**	**218**	LR	LR	01 41 52.9	
	comp=Z,179nm,19.1s,baz=168,slow=34						
H08S2	**Diego Garcia H**	**79.92**	**273**	T	T	02 37 28.0	
	baz=152,slow=76,SNR=6.8						
H08S1	**Diego Carcia H**	**79.93**	**273**	T	T	02 37 21.3	
	baz=152,slow=76,SNR=5.9						
H08S3	**Diego Garcia H**	**79.94**	**273**	T	T	02 37 25.4	
	baz=152,slow=76,SNR=5.9						
BOSA	**Boshof**	**80.85**	**223**	LR	LR	01 41 25.0	
	comp=Z,126nm,20.6s,baz=166,slow=33						
LBTB	**Lobatse**	**84.08**	**225**	LR	LR	01 43 59.5	
	comp=Z,100nm,19.9s,baz=163,slow=34						
CPUP	**Villa Florida**	**87.75**	**151**	LR	LR	01 47 29.0	
	comp=Z,65nm,18.2s,baz=200,slow=35						
JOW	**Kunigami**	**91.57**	**336**	LR	LR	01 49 11.1	
	comp=Z,57nm,21.0s,baz=146,slow=34						
CMAR	**Chiang Mai Arr**	**91.95**	**308**	LR	LR	01 50 49.6	
	comp=Z,48nm,18.3s,baz=165,slow=35						
TSUM	**Tsumeb**	**92.02**	**220**	LR	LR	01 50 12.3	
	comp=Z,137nm,20.1s,baz=170,slow=35						
LSZ	**Lusaka**	**92.21**	**230**	LR	LR	01 47 42.1	
	comp=Z,107nm,19.4s,baz=154,slow=33						
LPAZ	**La Paz**	**94.45**	**139**	LR	LR	01 43 54.8	
	comp=Z,57nm,22.0s,baz=204,slow=30						
NNA	**Nana**	**95.54**	**129**	LR	LR	01 43 04.1	
	comp=Z,45nm,20.1s,baz=198,slow=29						
MJAR	**Matsushiro Arr**	**99.62**	**346**	LR	LR	01 52 38.9	
	comp=Z,40nm,19.9s,baz=164,slow=34						
H06E1	**SOCORRO T-PHASE**	**108.22**	**84**	T	T	03 12 14.6	
	SNR=6.1						
ILAR	**Eielson Array**	**133.94**	**30**	PKP	**PKPdf**	**01 16 07.1**	**-1.2**
	0.5nm,1.1s,baz=221,slow=3.6,SNR=1.8						
YKA	**Yellowknife Ar**	**141.69**	**49**	PKP	**PKPdf**	**01 16 22.9**	**+0.3**
	0.3nm,0.8s,baz=249,slow=2.1,SNR=3.9						

*THE **15** 01:00:31.4, 40°.31N×19°.22E, h0km±4km, ML2.5/5, Error ellipse: s-maj=5.3km s-min=1.0km az=267.0*
*ATH **15** 01:00:31.4, 40°.20N×19°.21E, h47km±4km, ML2.5/8, Error ellipse: s-maj=4.5km s-min=1.0km az=237.0*
*TIR **15** 01:00:32.7, 40°.32N×19°.32E, h25km±1km, Md3.1, Ml2.7*
ISC 15 01:00:30.2±1.2, 40°.28N±0°.02×19°.22E±0°.02, h8km±9km, n64, σ1§14/90, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.28**	**49**	P	**Pg**	**01 00 35.6**	**-0.2**
VLO				S	**Sg**	**01 00 39.8**	**+0.1**
	22μm,0.2s						
VLO	**Vlora**	**0.28**	**49**	P	**Pb**	**01 00 37.0**	**-0.6**
	baz=42						
VLO				S	**Sb**	**01 00 42.4**	**-0.1**
	baz=42						
VLO	**Vlora**	**0.28**	**49**	P	**Pb**	**01 00 37.0**	**-0.6**
	baz=42						
VLO				S	**Sb**	**01 00 42.4**	**-0.1**
	baz=42						
VLO				AMP			
	comp=E,64nm,0.2s,baz=42						
SCTE	**Santa Cesarea**	**0.61**	**250**	P	**Pn**	**01 00 44.3**	**-0.9**
SCTE				S	**Sb**	**01 00 53.1**	**+1.2**
SCTE				AML	AML	01 00 57.9	
	comp=E,426μm,0.4s						
SCTE				AML	AML	01 00 58.5	
	comp=N,554μm,0.4s						
SCTE	**Santa Cesarea**	**0.61**	**250**	P	**Pn**	**01 00 46.4**	**+1.2**
	baz=250						
SCTE				S	**Sn**	**01 00 57.4**	**+2.1**
	baz=250						
KEK	**Kerkira**	**0.72**	**141**	P	**Pb**	**01 00 45.0**	**-0.1**
KEK				S	**Sn**	**01 00 56.8**	**-1.2**
	comp=N,198nm,0.5s						
KEK	**Kerkira**	**0.72**	**141**	P	**Pb**	**01 00 44.7**	**-0.3**
KEK				AML	AML	01 00 57.5	
	comp=E,311μm,0.4s						
KEK				AML	AML	01 00 58.1	
	comp=N,316μm,0.4s						
SRN	**Sarande**	**0.72**	**123**	P	**Pn**

KASA AML AML 01 01 01.7
comp=N,432μm,0.5s
LSK Leskovik 1.07 97 P **Pg 01 00 50.5 -0.2**
LSK S **Sn 01 01 07.5 +0.8**
comp=N,355nm,0.7s
LSK Leskovik 1.07 97 P **Pn 01 00 51.2 -0.4**
baz=99
LSK S **Sn 01 01 07.0 +0.2**
baz=99
LSK Leskovik 1.07 97 P **Pn 01 00 51.2 -0.4**
baz=99
LSK S **Sn 01 01 07.0 +0.2**
baz=99
LSK AMP
comp=E,1.1nm,0.7s,baz=99
IGT Igoumenitsa 1.14 131 P **Pn 01 00 53.7 +1.2**
IGT S **Sn 01 01 10.5 +2.2**
comp=E,165nm,0.7s
IGT Igoumenitsa 1.14 131 P **Pb 01 00 51.8 -0.3**
IGT S **Sb 01 01 06.7 -0.5**
IGT AML AML 01 01 11.8
comp=N,312μm,0.7s
IGT AML AML 01 01 13.9
comp=E,361μm,0.7s
IGT Igoumenitsa 1.14 131 P **Pn 01 00 53.9 +1.4**
baz=134
IGT S **Sn 01 01 09.7 +1.3**
baz=134
IGT Igoumenitsa 1.14 131 P **Pn 01 00 53.9 +1.4**
baz=134
IGT S **Sn 01 01 09.7 +1.3**
baz=134
TIR Tirane 1.18 25 P **Pn 01 00 53.2 +0.2**
TIR S **Sn 01 01 10.6 +1.4**
comp=E,102nm,0.7s
TIR Tirane 1.18 25 P **Pn 01 00 54.3 +1.3**
TIR Tirane 1.18 25 P **Pn 01 00 53.9 +0.9**
baz=21
TIR S **Sn 01 01 10.0 +0.8**
baz=21
TIR AMP
comp=N,0.3nm,0.4s,baz=21
KBN Korca 1.25 74 P **Pn 01 00 54.4 +0.3**
KBN Korca 1.25 74 P **Pn 01 00 54.9 +0.8**
baz=74
KBN S **Sn 01 01 12.1 +0.9**
baz=74
KBN AMP
comp=E,0.6nm,0.9s,baz=74
JAN Janina 1.40 116 P **Pg 01 00 57.1 0.0**
JAN Janina 1.40 116 P **Pb 01 00 56.3 -0.4**
NEST Nestorio 1.41 84 P **Pg 01 00 57.9 +0.7**
NEST Nestorio 1.41 84 P **Pg 01 00 57.3 +0.1**
NEST AML AML 01 01 18.7
comp=N,235μm,0.6s
NEST AML AML 01 01 19.0
comp=E,174μm,0.6s
OHR Ohrid 1.46 55 *i* Pn **Pg 01 00 58.2 0.0**
OHR *i* Sn **Sg 01 01 17.6 +0.3**
KPRO Kipourio 1.68 100 P **Pg 01 01 02.1 -0.3**
KPRO Kipourio 1.68 100 P **Pb 01 01 01.4 0.0**
KPRO AML AML 01 01 29.9
comp=E,334μm,0.6s
KPRO AML AML 01 01 31.5
comp=N,268μm,0.5s
PHP Peshkopia 1.68 33 P **Pn 01 01 00.5 +0.5**
PHP Peshkopia 1.68 33 P **Pg 01 01 02.2 -0.3**
baz=31
PHP S **Sg 01 01 24.6 +0.4**
baz=31
PHP AMP
comp=N,0.3nm,0.4s,baz=31
NOCI Noci 1.72 288 P **Pb 01 01 02.3 +0.2**
NOCI AML AML 01 01 34.0
comp=E,544μm,0.3s
NOCI AML AML 01 01 37.3
comp=N,700μm,0.6s
FNA Florina 1.72 72 P **Pb 01 01 02.2 0.0**
FNA Florina 1.72 72 P **Pb 01 01 02.5 +0.3**
FNA AML AML 01 01 28.1
comp=E,337μm,0.4s
FNA AML AML 01 01 28.4
comp=N,343μm,0.5s
TSLK Tsoukalades, L 1.83 142 P **Pn 01 01 02.6 +0.6**
LKD2 Lefkada island 1.86 143 P **Pb 01 01 03.6 -0.9**
NYDR Nydri-Lefkada 1.94 143 P **Pb 01 01 04.5 -1.3**
NYDR Nydri-Lefkada 1.94 143 P **Pb 01 01 04.5 -1.3**
KZN Kozani 1.96 88 P **Pb 01 01 06.3 +0.1**
FSK Fiskardo 2.10 150 P **Pb 01 01 06.9 -1.6**
PDG Podgorica 2.15 1 *e*Pn **Pb 01 01 10.5 +1.1**
BCI Bajram Curri 2.18 17 P **Pb 01 01 10.6 +0.6**
baz=15
BCI S **Sn 01 01 35.4 +1.3**
baz=15
TIP Timpagrande 2.19 241 P **Pb 01 01 09.4 -0.7**
KEF3 Kipouria, Keph 2.25 157 P **Pb 01 01 09.8 -1.3**
EVR Evrytania 2.42 123 P **Pb 01 01 12.6 -1.5**
EVR Evrytania 2.42 123 P **Pb 01 01 12.8 -1.4**
TREB Trebinje 2.52 345 *e*Pn **Pg 01 01 20.2 +1.7**
MAKR Makrakomi, Fth 2.58 118 P **Pb 01 01 15.1 -1.7**
STIP Stip 2.66 57 *i* Pn **Pb 01 01 19.0 +1.0**
ANX Ano Chora 2.69 128 P **Pb 01 01 16.5 -2.2**
AGG Agios Georgios 2.71 117 P **Pn 01 01 16.3 +2.1**
STON Ston 2.83 337 *e*Pn **Pn 01 01 14.7 -1.0**
STON Sn **Sn 01 01 47.2 -2.8**
STON Ston 2.83 337 *e*Pn **Pn 01 01 15.0 -0.7**
SJES Sjenica 3.03 11 *e*Pn **Pb 01 01 24.0 -0.5**
LSTV Lastovo 3.04 326 *e*Pn **Pn 01 01 18.6 0.0**
SELS Selova 3.26 25 *e*Pn **Pb 01 01 26.6 -1.8**
BOSS Bosilegrad 3.31 47 *e*Pn **Pn 01 01 22.0 -0.3**
MAKA Makarska 3.42 332 *e*Pn **Pn 01 01 24.2 +0.3**
MAKA Sn **Sn 01 02 02.7 -2.0**
RICI Ricice 3.57 335 *e*Pn **Pn 01 01 25.7 -0.2**
RICI Sn **Sn 01 02 06.2 -2.1**
DIVS Divibare 3.86 8 *e*Pn **Pb 01 01 35.2 -3.4**
KIJV Kijevo 4.27 332 *e*Pn **Pn 01 01 36.5 +1.0**
KIJV Sn **Sn 01 02 23.9 -1.6**
MORI Morici 4.43 325 *e*Pn **Pn 01 01 38.6 +0.8**
MORI Sn **Sn 01 02 28.1 -1.5**
DUGI Dugi Otok 4.83 322 *e*Pn **Pn 01 01 44.2 +1.0**
NVLJ Novalja 5.35 325 *e*Pn **Pn 01 01 51.3 +0.9**

*IDC **15** 01:06:14.0±1.3,29°.47N×88°.27E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.1/49, mbtmp3.3/6, ML2.8/1, Error ellipse: s-maj=44.5km s-min=25.7km az=69.0*
ISC 15 01:06:19.3±1.2,29°.5N±0°.2×88°.3E±0°.3, h35km, n6, σ0.41/6, mb3.4/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.86**	**346**	P	**Pn**	**01 10 24.5**	**-0.4**
	0.0nm,0.3s,baz=156,slow=13,SNR=5.0						
SONM	**Songino Array**	**23.00**	**32**	P	**P**	**01 11 21.5**	**+0.4**
	0.3nm,0.6s,baz=234,slow=14,SNR=2.2						
ZALV	**Zalesovo Beam**	**24.53**	**355**	P	**P**	**01 11 35.3**	**0.0**
	0.2nm,0.3s,baz=166,slow=6.7,SNR=2.1						
WRA	**Warramunga Arr**	**66.25**	**132**	P	**P**	**01 17 03.9**	**-0.2**
	0.4nm,0.7s,baz=326,slow=6.1,SNR=2.7						
ASAR	**Alice Springs**	**68.70**	**135**	P	**P**	**01 17 19.4**	**-0.2**
	0.3nm,0.6s,baz=326,slow=6.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**80.73**	**280**	P	**P**	**01 18 29.8**	**+0.3**
	0.3nm,0.7s,baz=43,slow=3.9,SNR=1.9						

IDC 15 01:15:44.4±1.4,3°.12N×125°.50E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/40, mbtmp3.6/6, Error ellipse: s-maj=97.9km s-min=19.8km az=62.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.50**	**160**	P	P	01 21 05.8	+0.1
	2.6nm,1.1s,baz=343,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**27.85**	**163**	P	P	01 21 36.8	+0.9
	0.1nm,0.3s,baz=344,slow=10.0,SNR=1.5						
CMAR	**Chiang Mai Arr**	**30.14**	**302**	P	P	01 21 55.5	-0.7
	0.5nm,0.3s,baz=102,slow=7.5,SNR=1.6						
STKA	**Stephens Creek**	**38.02**	**157**	P	P	01 23 03.2	-1.1
	1.2nm,0.7s,baz=325,slow=12,SNR=1.6						
SONM	**Songino Array**	**47.50**	**343**	P	P	01 24 20.5	-0.9
	0.1nm,0.3s,baz=167,slow=7.0,SNR=2.0						
MKAR	**Makanchi Array**	**57.37**	**326**	P	P	01 25 35.6	+1.0
	0.3nm,0.5s,baz=124,slow=7.9,SNR=4.7						

NEIC 15 01:54:55.2±1.7,36°.93N±0°.04×104°.77W±0°.07, h8km±8km, mb_Lg2.9/28, ML3.0/63, Error ellipse: s-maj=8.4km s-min=5.7km az=86.0, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.36**	**54**	Pg	Pg	01 55 02.6	+0.3
T25A				Sg	Sg	01 55 07.8	+0.8
T25A				IAML		01 55 08.4	
	comp=N,2μm,0.2s						
T25A				IAML		01 55 08.4	
	comp=E,2μm,0.2s						
SDCO	**Great Sand Dun**	**1.00**	**325**	Pg	Pg	01 55 12.5	-1.9
SDCO				Sg	Sg	01 55 25.2	-2.3
S22A	**4UR Ranch, Cre**	**1.83**	**297**	Pn	Pn	01 55 27.5	+0.2
S22A				IAML		01 55 53.7	
	comp=N,203nm,0.1s						
Q24A	**Divide**	**2.06**	**352**	Pn	Pb	01 55 32.1	-0.9
Q24A				IAML		01 55 59.2	
	comp=E,133nm,0.2s						
Q24A				IAML		01 55 59.6	
	comp=N,90nm,0.2s						
ANMO	**Albuquerque**	**2.41**	**215**	Pn	Pn	01 55 35.4	+0.3
KSCO	**Kaye Shedlock'**	**2.68**	**39**	Pn	Pn	01 55 39.6	+0.8
SMCO	**Snowmass**	**2.84**	**323**	Pn	Pn	01 55 39.5	-1.8
SMCO				IAML		01 56 25.1	
	comp=N,69nm,0.5s						
ISCO	**Idaho Springs**	**2.94**	**347**	Pn	Pn	01 55 43.0	+0.4
MVCO	**Mesa Verde**	**3.00**	**277**	Pn	Pn	01 55 44.3	+1.1
MVCO				IAML		01 56 28.8	
	comp=N,49nm,0.5s						
MVCO				IAML		01 56 28.9	
	comp=N,54nm,0.5s						
BNM	**Barren Site**	**3.16**	**209**	Pn	Pn	01 55 43.5	-2.0
AMTX	**Amarillo**	**3.23**	**128**	Pn	Pn	01 55 45.5	-0.9
AMTX				IAmb_Lg		01 56 43.5	
	comp=Z,17nm,0.8s						
PV15	**Paradox Valley**	**3.27**	**297**	Pn	Pn	01 55 46.8	-0.2
PV15				IAML		01 56 38.4	
	comp=E,37nm,0.6s						
PV15				IAML		01 56 39.2	
	comp=N,39nm,0.9s						
Y22D	**IRIS PASSCAL I**	**3.34**	**212**	Pn	Pn	01 55 48.7	+0.7
MSTX	**Muleshoe**	**3.37**	**150**	Pn	Pn	01 55 47.8	-0.5
PV07	**Paradox Valley**	**3.42**	**297**	Pn	Pn	01 55 48.7	-0.4
N23A	**Red Feather La**	**4.07**	**347**	Pn	Pn	01 55 58.8	+0.9
N23A				IAML		01 57 11.1	
	comp=N,20nm,3.8s						
N23A				IAML		01 57 58.8	
	comp=E,18nm,4.8s						
PHWY	**Pilot Hill**	**4.40**	**353**	Pn	Pn	01 56 02.1	-0.5
PHWY				IAML		01 57 23.5	
	comp=E,13nm,2.8s						
PHWY				IAML		01 57 37.6	
	comp=E,14nm,4.5s						
CBKS	**Cedar Bluff**	**4.41**	**63**	Pn	Pn	01 56 02.8	+0.3
W18A	**Petrified Fore**	**4.41**	**247**	Pn	Pn	01 56 02.8	+0.1
W18A				IAML		01 58 38.2	
	comp=E,17nm,4.6s						
OGNE	**Ogallala**	**4.54**	**27**	Pn	Pn	01 56 05.9	+1.5
OGNE				IAmb_Lg		01 57 22.1	
	comp=Z,28nm,0.9s						
U32A	**Winter Ranch,**	**4.67**	**95**	Pn	Pn	01 56 03.7	-2.4
U32A				IAmb_Lg		01 57 35.9	
	comp=Z,19nm,0.7s						
X18A	**Snowflake**	**4.84**	**242**	Pn	Pn	01 56 07.9	-0.8
X18A				IAML		01 57 30.9	
	comp=N,12nm,0.9s						
OK035	**E0210 Rd and N**	**4.87**	**91**	Pn	Pn	01 56 08.6	-0.2
OK035				IAmb_Lg		01 57 32.8	
	comp=Z,22nm,0.7s						
R32A	**Long Quarter,**	**5.03**	**71**	Pn	Pn	01 56 10.4	-0.7
R32A				IAmb_Lg		01 57 43.6	
	comp=Z,20nm,0.7s						
121A	**Cookes Peak, D**	**5.04**	**210**	Pn	Pn	01 56 10.7	-0.6
121A				IAML		01 59 13.5	
	comp=E,11nm,4.9s						
SRU	**San Rafael Swe**	**5.04**	**297**	Pn	Pn	01 56 11.6	+0.3
P18A	**Preston Nutter**	**5.08**	**304**	Pn	Pn	01 56 10.8	-1.2
P18A				IAML		01 57 11.9	
	comp=E,9.3nm,4.5s						
P18A				IAML		01 57 47.5	
	comp=N,13nm,4.5s						
RWWY	**Rawlins**	**5.12**	**339**	Pn	Pn	01 56 13.8	+1.4
MNTX	**Cornudas Mount**	**5.24**	**186**	Pn	Pn	01 56 12.7	-1.2
MNTX				IAML		01 57 42.8	
	comp=N,9.7nm,2.6s						
MNTX				IAML		01 57 43.4	
	comp=N,8.6nm,1.1s						
OK032	**Salt Plains WL**	**5.26**	**89**	Pn	Pn	01 56 14.0	-0.2
WMOK	**Wichita Mounta**	**5.33**	**112**	Pn	Pn	01 56 16.4	+1.2
P17A	**Butcher Ranch,**	**5.34**	**300**	Pn	Pn	01 56 18.0	+2.5
KAN10	**Anthony SW Sta**	**5.34**	**86**	IAmb_Lg		01 57 52.5	
	comp=Z,22nm,1.2s						
KAN16	**Harper SW Stat**	**5.37**	**85**	Pn	Pn	01 56 15.8	+0.1
KAN12	**Harper NE Stat**	**5.43**	**84**	Pn	Pn	01 56 16.9	+0.4
Q16A	**Castle Valley**	**5.44**	**293**	Pn	Pn	01 56 15.7	-1.1
KAN08	**Anthony NE Sta**	**5.45**	**85**	Pn	Pn	01 56 16.5	-0.2
KAN14	**Manchester OK**	**5.45**	**88**	Pn	Pn	01 56 16.6	-0.2
CROK	**Carrier**	**5.47**	**92**	IAmb_Lg		01 58 00.8	
	comp=Z,14nm,0.9s						
WUAZ	**Wupatki**	**5.52**	**257**	Pn	Pn	01 56 17.2	-0.7
TMUT	**Trail Mountain**	**5.60**	**297**	Pn	Pn	01 56 19.4	+0.3
BCOK	**Bluff Creek, N**	**5.92**	**100**	IAmb_Lg		01 58 17.6	
	comp=Z,22nm,1.3s						
MTPU	**Mount Pierson**	**6.00**	**283**	Pn	Pn	01 56 24.6	0.0
BLOK	**Blackwell**	**6.06**	**89**	IAmb_Lg		01 58 08.5	
	comp=Z,19nm,1.0s						
U15A	**North Rim**	**6.07**	**268**	Pn	Pn	01 56 25.7	+0.2
MSU	**Marysvale**	**6.08**	**287**	Pn	Pn	01 56 26.6	+1.0
MVU	**Marysvale**	**6.11**	**287**	Pn	Pn	01 56 26.2	+0.2
W35A	**Tecumseh**	**6.64**	**103**	IAmb_Lg		01 58 35.6	
	comp=Z,19nm,1.3s						

*TUL **15** 02:06:30.4±1.2,36°.95N±0°.03×97°.81W±0°.05, h5km±5km, ML3.3, mb_Lg3.2/80(NEIC), ML3.0/25(NEIC), Error ellipse: s-maj=6.1km s-min=4.8km az=88.0*
*NEIC **15** 02:06:30.6±1.0,36°.95N±0°.03×97°.81W±0°.04, h6km±5km, Error ellipse: s-maj=5.4km s-min=3.6km az=144.0*
*NEIC **15** 02:06:30.5±1.4,36°.94N±0°.03×97°.82W±0°.04, h3km±6km, Error ellipse: s-maj=5.4km s-min=3.6km az=143.0*
*ANF **15** 02:06:31.6±1.6,36°.90N×97°.83W, h12km±10km, ML4.2/8, Error ellipse: s-maj=5.0km s-min=3.4km az=75.0*
*IDC **15** 02:06:32.1±2.2,37°.07N×98°.22W, h0km, mb3.7/1, mb1 3.5/4, mb1mx3.3/45, mbtmp3.1/4, ML3.7/2, Error ellipse: s-maj=28.9km s-min=15.2km az=90.0*
ISC 15 02:06:30.8±0.9,36°.92N±0°.02×97°.80W±0°.03, h10km±7km, n116, σ1°.01/109, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.08**	**215**	Pg	**Pg**	**02 06 33.0**	**-0.1**
KAN17	**Caldwell West**	**0.13**	**13**	Pg	**Pg**	**02 06 33.1**	**-0.7**
KAN01	**Argonia South**	**0.24**	**8**		**Pg**	**02 06 35.1**	**-0.6**
KAN13	**South Haven SW**	**0.28**	**70**	Pg	**Pg**	**02 06 36.2**	**-0.1**
KAN10	**Anthony SW Sta**	**0.31**	**311**	Pg	**Pg**	**02 06 36.6**	**-0.5**
KAN06	**Argonia West S**	**0.33**	**352**		**Pg**	**02 06 36.8**	**-0.6**
KAN08	**Anthony NE Sta**	**0.34**	**336**		**Pg**	**02 06 36.9**	**-0.5**
OK032	**Salt Plains WL**	**0.35**	**251**	Pg	**Pg**	**02 06 37.7**	**0.0**
KAN16	**Harper SW Stat**	**0.37**	**325**	Pg	**Pg**	**02 06 37.6**	**-0.5**
KAN12	**Harper NE Stat**	**0.41**	**337**	Pg	**Pg**	**02 06 38.3**	**-0.6**
KAN12					**Sg**	**02 06 43.6**	**-0.7**
CROK	**Carrier**	**0.44**	**200**	Pg	**Pg**	**02 06 39.7**	**+0.3**
BLOK	**Blackwell**	**0.50**	**109**	Pg	**Pg**	**02 06 40.5**	**0.0**
OK035	**E0210 Rd and N**	**0.76**	**254**		**Pg**	**02 06 45.6**	**+0.2**
T35A	**Sooner Cattle**	**1.03**	**90**		**Pg**	**02 06 50.1**	**-0.5**
U32A	**Winter Ranch,**	**1.11**	**241**		**Pg**	**02 06 51.5**	**-0.6**
QUOK	**Quay**	**1.15**	**130**		**Pb**	**02 06 52.6**	**-0.3**
OK029	**Liberty Lake**	**1.16**	**166**		**Pb**	**02 06 52.8**	**0.0**
OK031	**S. Brethren Rd**	**1.24**	**141**		**Pn**	**02 06 54.1**	**0.0**
OK034	**N. Norfolk Rd.**	**1.26**	**136**		**Pn**	**02 06 54.5**	**0.0**
BCOK	**Bluff Creek, N**	**1.27**	**173**		**Pn**	**02 06 54.7**	**+0.1**
OK030	**Cody Creek RV**	**1.29**	**140**		**Pn**	**02 06 54.9**	**+0.1**
OK025	**Westminster Rd**	**1.39**	**164**		**Pn**	**02 06 56.9**	**+0.6**
OKCFA	**Oklahoma City**	**1.53**	**169**		**Pn**	**02 06 59.0**	**+0.8**
OKCFA				IAmb_Lg		02 07 22.9	
	comp=Z,224nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**1.54**	**169**		**Pn**	**02 06 59.1**	**+0.8**
R32A	**Long Quarter,**	**1.67**	**335**		**Pb**	**02 07 00.8**	**-0.8**
FNO	**Franklin**	**1.69**	**169**		**Pn**	**02 07 00.8**	**+0.3**
TUL1	**Leonard**	**1.91**	**121**		**Pn**	**02 07 04.5**	**+1.1**
TUL1	**Leonard**	**1.91**	**121**	P	**Pn**	**02 07 04.9**	**+1.5**
	baz=303						
TUL1				S	**Sb**	**02 07 30.4**	**+0.8**
	baz=303						
W35A	**Tecumseh**	**1.92**	**157**		**Pn**	**02 07 04.5**	**+0.9**
X34A	**Smith Ranch, M**	**2.31**	**181**		**Pn**	**02 07 10.1**	**+1.1**
WMOK	**Wichita Mounta**	**2.32**	**200**	Pn	**Pn**	**02 07 10.0**	**+0.9**
WMOK				IAmb_Lg		02 07 47.1	
	comp=Z,74nm,0.8s						
WMOK	**Wichita Mounta**	**2.32**	**200**	P	**Pn**	**02 07 09.9**	**+0.8**
	baz=19						
WMOK				Sb	**Sb**	**02 07 42.6**	**+1.2**
	baz=19						
KSU1	**Kansas State U**	**2.37**	**23**	Pn	**Pn**	**02 07 09.5**	**-0.3**
KSU1	**Kansas State U**	**2.37**	**23**	P	**Pn**	**02 07 10.5**	**+0.7**
	baz=204						
KSU1				S	**Sb**	**02 07 40.9**	**-2.1**
	baz=204						
CBKS	**Cedar Bluff**	**2.43**	**322**		**Pn**	**02 07 10.0**	**-0.7**
CBKS	**Cedar Bluff**	**2.43**	**322**	P	**Pn**	**02 07 11.4**	**+0.7**
	baz=140						
CBKS				S	**Sb**	**02 07 42.3**	**-2.5**
	baz=140						
U38A	**Gravette**	**2.79**	**99**	Pn	**Pn**	**02 07 17.2**	**+1.7**
LOOK	**Love County**	**2.96**	**170**	Pn	**Pn**	**02 07 18.0**	**+0.1**
X37A	**Clayton**	**3.05**	**139**		**Pn**	**02 07 19.9**	**+0.8**
X37A				IAmb_Lg		02 08 16.2	
	comp=Z,64nm,0.9s						
HHAR	**Hobbs**	**3.17**	**100**		**Pn**	**02 07 20.9**	**+0.1**
Z35A	**Perchaven, San**	**3.61**	**173**		**Pn**	**02 07 26.6**	**-0.2**
Z35A					Lg	02 08 28.5	
S39A	**Bolivar**	**3.65**	**76**		**Pn**	**02 07 27.1**	**-0.3**
W39A	**Magazine**	**3.68**	**117**		**Pn**	**02 07 28.5**	**+0.7**
AMTX	**Amarillo**	**3.75**	**238**		**Pn**	**02 07 29.5**	**+0.7**
AMTX				IAmb_Lg		02 08 34.8	
	comp=Z,44nm,0.8s						
AMTX	**Amarillo**	**3.75**	**238**	Sb	**Sg**	**02 08 28.0**	**-3.2**
	baz=56						
N33A	**J Bar K, Exete**	**3.82**	**4**	Pn	**Pn**	**02 07 29.0**	**-0.7**
N33A				IAmb_Lg		02 08 36.2	
	comp=Z,49nm,0.7s						
U40A	**Yellville**	**4.02**	**97**	Pn	**Pn**	**02 07 33.0**	**+0.6**
U40A					**Sn**	**02 08 20.2**	**+0.6**
U40A				IAmb_Lg		02 08 42.9	
	comp=Z,75nm,0.9s						
U40A	**Yellville**	**4.02**	**97**	P	**Pn**	**02 07 33.2**	**+0.7**
	baz=280						
MIAR	**Mount Ida**	**4.17**	**123**		**Pn**	**02 07 35.3**	**+0.8**
MIAR				IAmb_Lg		02 08 46.6	
	comp=Z,43nm,0.8s						
N35A	**Tabor**	**4.28**	**22**	Pn	**Pn**	**02 07 35.6**	**-0.4**
P38A	**Dawn**	**4.31**	**50**	Pn	**Pn**	**02 07 36.3**	**-0.1**
P38A				IAmb_Lg		02 08 47.6	
	comp=Z,42nm,0.7s						
Z38A	**Mt. Pleasant**	**4.32**	**147**	Pn	**Pn**	**02 07 36.9**	**+0.3**
Z38A				IAmb_Lg		02 08 50.1	
	comp=Z,81nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.35**	**300**	Pn	**Pn**	**02 07 37.5**	**+0.4**
MGMO	**Mountain Grove**	**4.43**	**85**		**Pn**	**02 07 39.2**	**+1.1**
BGNE	**Belgrade**	**4.49**	**357**	Pn	**Pn**	**02 07 38.5**	**-0.5**
BGNE				IAmb_Lg		02 08 54.6	
	comp=Z,62nm,0.9s						
BGNE					Lg	02 08 55.2	
BGNE	**Belgrade**	**4.49**	**357**	P	**Pn**	**02 07 39.3**	**+0.4**
	baz=176						
ABTX	**Abilene, Hawle**	**4.55**	**200**	Pn	**Pn**	**02 07 40.3**	**+0.6**
ABTX					LR	02 08 53.6	
R40A	**Maddies Statio**	**4.60**	**71**		**Pn**	**02 07 39.9**	**-0.5**
FCAR	**Ozark Folk Cen**	**4.69**	**101**	Pn	**Pn**	**02 07 43.1**	**+1.5**
FCAR					**Sn**	**02 08 35.5**	**-0.7**
FCAR				IAmb_Lg		02 09 00.3	
	comp=Z,55nm,0.7s						
X40A	**Basin Creek Fa**	**4.71**	**120**		**Pn**	**02 07 42.7**	**+0.7**
X40A				IAmb_Lg		02 09 07.6	
	comp=Z,37nm,0.8s						
WHAR	**Wooly Hollow**	**4.75**	**108**	Pn	**Pn**	**02 07 42.9**	**+0.4**
W41B	**Gary Mavity, V**	**4.83**	**110**	Pn	**Pn**	**02 07 44.5**	**+1.0**
W41B				IAmb_Lg		02 09 10.3	
	comp=Z,43nm,0.8s						
WHTX	**Lake Whitney,**	**4.92**	**177**	Pn	**Pn**	**02 07 45.0**	**+0.1**
WHTX	**Lake Whitney,**	**4.92**	**177**	P	**Pn**	**02 07 45.4**	**+0.6**
	baz=357						
WLAR	**White Oak Lake**	**5.01**	**129**	Pn	**Pn**	**02 07 46.5**	**+0.5**
WLAR					LR	02 09 08.6	
WLAR				IAmb_Lg		02 09 18.4	
	comp=Z,48nm,0.8s						
MSTX	**Muleshoe**	**5.01**	**236**	Pn	**Pn**	**02 07 47.7**	**+1.5**
L34A	**Svendsen Farm,**	**5.16**	**12**	Pn	**Pn**	**02 07 47.9**	**-0.2**
237A	**Washetta, Mont**	**5.17**	**161**	IAmb_Lg		02 09 28.6	
	comp=Z,39nm,1.0s						
OGNE	**Ogallala**	**5.20**	**322**	Pn	**Pn**	**02 07 48.6**	**-0.2**
OGNE				IAmb_Lg		02 09 28.6	
	comp=Z,56nm,0.8s						
P40A	**Paris**	**5.22**	**58**	Pn	**Pn**	**02 07 48.9**	**-0.1**
P40A				IAmb_Lg		02 09 22.8	
	comp=Z,33nm,0.8s						
N38A	**Joes South For**	**5.26**	**41**		**Pn**	**02 07 49.1**	**-0.4**
N38A				IAmb_Lg		02 09 30.7	
	comp=Z,60nm,0.9s						
T25A	**Trinidad**	**5.29**	**274**		**Pn**	**02 07 49.8**	**-0.4**
CCM	**Cathedral Cave**	**5.34**	**76**	Pn	**Pn**	**02 07 51.1**	**+0.5**
CCM				IAmb_Lg		02 09 23.3	
	comp=Z,61nm,1.2s						
LCAR	**Lake Charles**	**5.42**	**97**	Pn	**Pn**	**02 07 51.3**	**-0.4**
LCAR					**Sn**	**02 08 52.8**	**-1.4**
Z41A	**Richland Creek**	**5.49**	**130**	IAmb_Lg		02 09 40.9	
	comp=Z,31nm,0.9s						
Z41A	**Richland Creek**	**5.49**	**130**	S	**Sn**	**02 08 55.0**	**-0.9**
	baz=313						
K31A	**O'Neill**	**5.74**	**353**	Pn	**Pn**	**02 07 56.2**	**+0.1**
PBMO	**Poplar Bluff**	**5.91**	**89**	IAmb_Lg		02 09 43.7	
	comp=Z,44nm,0.7s						
FVM	**French Village**	**5.96**	**78**	Pn	**Pn**	**02 07 58.6**	**-0.5**
SCIA	**State Center**	**6.12**	**34**	Pg	**Pb**	**02 08 21.4**	**+4.0**
SCIA				IAmb_Lg		02 09 53.3	
	comp=Z,47nm,1.0s						
Q24A	**Divide**	**6.16**	**292**	Pn	**Pn**	**02 08 02.1**	**0.0**
SDCO	**Great Sand Dun**	**6.19**	**280**	Pn	**Pn**	**02 08 03.1**	**+0.6**
SLM	**Saint Louis**	**6.23**	**72**	IAmb_Lg		02 09 50.8	
	comp=Z,31nm,0.7s						
JCT	**Junction City**	**6.64**	**195**	Pg	**Pg**	**02 08 34.9**	**-3.0**
JCT					LR	02 10 01.7	
JCT				IAmb_Lg		02 10 15.6	
	comp=Z,24nm,0.8s						
143A	**Socs Landing,**	**6.74**	**127**	IAmb_Lg		02 10 21.8	
	comp=Z,23nm,0.7s						
ISCO	**Idaho Springs**	**6.78**	**297**		**Pn**	**02 08 10.9**	**+0.2**
S44A	**Carbondale**	**6.86**	**81**	Pn	**Pn**	**02 08 12.2**	**+0.8**
S44A				IAmb_Lg		02 10 13.1	
	comp=Z,24nm,0.7s						
ECSD	**EROS Data Cent**	**6.87**	**7**	Pn	**Pn**	**02 08 10.7**	**-0.9**
ECSD				IAmb_Lg		02 10 16.3	
	comp=Z,23nm,1.2s						

comp=Z,21nm,1.0s
L42A Oliver, Polo 8.08 49 Pn Pn 02 08 27.3 -0.9
PLAL Pickwick Lake 8.12 101 Pn Pn 02 08 28.4 -0.4
JFWS Jewell Farm 8.34 42 Pn Pn 02 08 31.9 +0.2
JFWS IAmb_Lg 02 10 52.1
comp=Z,17nm,0.7s
RSSD Black Hills 8.62 329 Pn Pn 02 08 35.4 -0.3
K22A Casper 8.82 313 IAmb_Lg 02 11 34.1
comp=Z,25nm,1.0s
TX32 Lajitas Array 9.02 215 Pn Pn 02 08 41.9 +0.7
TXAR Lajitas Array 9.02 215 Pn Pn 02 08 40.8 -0.4
comp=Z,0.2nm,0.3s,baz=41,slow=11,SNR=10
TXAR Lg Lg 02 11 10.9
comp=Z,0.3nm,0.3s,baz=52,slow=14,SNR=3.1
SFIN Lafayette 9.06 64 Pn Pn 02 08 40.2 -1.4
SFIN LR 02 11 14.9
K43A Burlington 9.29 49 IAmb_Lg 02 11 26.2
comp=Z,30nm,0.9s
PDAR Pinedale Array 10.76 306 Pn Pn 02 09 03.9 -1.2
comp=Z,0.1nm,0.3s,baz=124,slow=14,SNR=2.2
PDAR Lg Lg 02 11 55.4
comp=Z,0.2nm,0.3s,baz=116,slow=26,SNR=2.4
TKL Tuckaleechee C 11.39 92 Lg Lg 02 12 25.1
comp=Z,0.9nm,0.3s,baz=211,slow=12,SNR=6.6
ILAR Eielson Array 40.06 330 P P 02 14 06.7 +0.8
comp=Z,0.8nm,0.7s,baz=110,slow=6.8,SNR=10

*MOS **15** 02:06:36.3±0.0, 42.°93N×45.°77E, h4km, MPVA4.2*
*TIF **15** 02:06:37.4, 42.°94N×45.°75E, h4km±1km*
*DRS **15** 02:06:38.7±0.0, 42.°98N×45.°76E, h14km*
*NORS **15** 02:06:38.9±0.0, 42.°92N×45.°79E, h12km, MPVA4.1*
*MOS **15** 02:06:38.4±0.9, 43.°04N×45.°79E, h11km, mb3.7/1, Error ellipse: s-maj=5.3km s-min=4.1km az=31.5*
*AZER **15** 02:06:41.2±0.1, 42.°73N×45.°88E, h10km, Error ellipse: s-maj=1.8km s-min=1.4km az=349.0, Hypocentre not reviewed by the ISC*

ISC 15 02:06:38.5±0.8, 42.°95N±0.°02×45.°78E±0.°01, h18km±3km, n134, σ1°67/255, 3C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.26**	**3**	⇓*i*PG	**Pg**	**02 06 44.3**	**0.0**
GROC				*e*		02 06 49.4	
GROC				pmax	pmax		
	comp=Z,2μm,0.2s						
GROC				smax	smax		
	comp=N,6μm,0.3s						
GROC				smax	smax		
	comp=N,7μm,0.4s						
GROC				smax	smax		
	comp=E,5μm,0.5s						
GROC	**Groznyy**	**0.26**	**3**	*i* Pg	**Pg**	**02 06 44.4**	**0.0**
GROC				*i* Sg	**Sb**	**02 06 49.1**	**+0.6**
DVE	**Vedeno**	**0.26**	**88**	⇑*i*PG	**Pg**	**02 06 43.9**	**-0.5**
DVE				*e*S	**Sg**	**02 06 48.5**	**+0.1**
DVE	**Vedeno**	**0.26**	**88**	*i* Pg	**Pg**	**02 06 43.8**	**-0.6**
DVE				*i* Sg	**Sb**	**02 06 50.5**	**+1.9**
BTLR	**Botlikh**	**0.43**	**131**	*e*PG	**Pb**	**02 06 48.0**	**+0.3**
BTLR				*e*S	**Sb**	**02 06 54.2**	**+0.2**
BTLR				pmax	pmax		
	comp=Z,246nm,0.2s						
BTLR	**Botlikh**	**0.43**	**131**	*e*Pg	**Pg**	**02 06 47.3**	**-0.1**
BTLR				*i* Sg	**Sb**	**02 06 54.1**	**+0.2**
DLMR	**Dylym**	**0.64**	**79**	*e*PG	**Pg**	**02 06 51.1**	**0.0**
DLMR				*e*S	**Sb**	**02 07 00.6**	**+0.9**
DLMR				pmax	pmax		
	comp=Z,319nm,0.3s						
DLMR	**Dylym**	**0.64**	**79**	*e*Pg	**Pg**	**02 06 51.1**	**0.0**
DLMR				*e*Sg	**Sb**	**02 07 01.6**	**+2.0**
KMGR	**Komgaron**	**0.68**	**280**	*e*PG	**Pb**	**02 06 52.5**	**+0.6**
KMGR				*e*S	**Sn**	**02 07 04.0**	**+0.6**
KMGR	**Komgaron**	**0.68**	**280**	*e*Pg	**Pb**	**02 06 52.5**	**+0.6**
KMGR				*e*Sg	**Sn**	**02 07 03.4**	**-0.1**
DBC	**Dubki**	**0.78**	**84**	*e*PG	**Pb**	**02 06 53.6**	**+0.1**
DBC				*e*S	**Sb**	**02 07 04.7**	**+0.9**
DBC	**Dubki**	**0.78**	**84**	*e*Pg	**Pb**	**02 06 53.2**	**-0.3**
DBC				*e*Sg	**Sn**	**02 07 06.5**	**+0.6**
UNCR	**Uncukul**	**0.78**	**107**	*e*PG	**Pb**	**02 06 53.2**	**-0.4**
UNCR				*e*S	**Sg**	**02 07 04.6**	**+0.3**
UNCR				pmax	pmax		
	comp=Z,171nm,0.2s						
UNCR	**Uncukul**	**0.78**	**107**	*e*Pg	**Pb**	**02 06 53.2**	**-0.4**
UNCR				*e*Sg	**Sn**	**02 07 06.7**	**+0.6**
XNZR	**Khunzakh**	**0.80**	**120**	*e*PG	**Pn**	**02 06 54.9**	**-0.1**
XNZR				*e*S	**Sn**	**02 07 07.3**	**+0.8**
XNZR	**Khunzakh**	**0.80**	**120**	*e*Pg	**Pn**	**02 06 54.9**	**-0.1**
XNZR				*e*Pg	**Pn**	**02 06 54.9**	**-0.1**
XNZR				*e*Sg	**Sn**	**02 07 07.3**	**+0.8**
XNZR				*e*Sg	**Sn**	**02 07 07.4**	**+0.8**
VLKR	**Vladikavkaz**	**0.81**	**277**	*e*PG	**Pn**	**02 06 55.2**	**0.0**
VLKR				*e*S	**Sn**	**02 07 08.2**	**+1.4**
VLKR	**Vladikavkaz**	**0.81**	**277**	*e*Pg	**Pn**	**02 06 55.2**	**0.0**
VLKR				*e*Sg	**Sn**	**02 07 08.2**	**+1.4**
KRNR	**Karanay**	**0.84**	**98**	*i* PG	**Pb**	**02 06 54.8**	**+0.2**
KRNR				*e*S	**Sn**	**02 07 07.3**	**-0.2**
KRNR				pmax	pmax		
	comp=Z,67nm,0.2s						
KRNR	**Karanay**	**0.84**	**98**	*i* Pg	**Pb**	**02 06 54.9**	**+0.2**
KRNR				*e*Sg	**Sn**	**02 07 08.4**	**+0.9**
PNSH	**Pansheti**	**0.91**	**250**	P	**Pb**	**02 06 55.1**	**-0.9**
PNSH				S	**Sg**	**02 07 08.4**	**+0.1**
PNSH	**Pansheti**	**0.91**	**250**	PG	**Pb**	**02 06 55.0**	**-0.9**
PNSH				S	**Sg**	**02 07 08.4**	**+0.1**
ARKR	**Arakani**	**0.96**	**111**	*e*PG	**Pn**	**02 06 58.0**	**+0.9**
ARKR				*e*S	**Sn**	**02 07 12.0**	**+1.6**
ARKR				pmax	pmax		
	comp=Z,115nm,0.4s						
ARKR	**Arakani**	**0.96**	**111**	*e*Pg	**Pn**	**02 06 58.1**	**+0.9**
ARKR				*e*Sg	**Sn**	**02 07 12.1**	**+1.6**
BUJR	**Buynaksk**	**0.99**	**97**	*e*PG	**Pn**	**02 06 58.4**	**+0.9**
BUJR				*e*S	**Sn**	**02 07 13.2**	**+2.3**
BUJR				pmax	pmax		
	comp=Z,115nm,0.3s						
BUJR	**Buynaksk**	**0.99**	**97**	*e*Pg	**Pn**	**02 06 58.4**	**+0.9**
BUJR				*e*Sg	**Sn**	**02 07 13.3**	**+2.3**
BTKR	**Batakoyurt**	**1.00**	**296**	*e*Pg	**Pn**	**02 06 58.3**	**+0.6**
BTKR				*e*Sg	**Sn**	**02 07 14.3**	**+3.0**
GNBR	**Gunib**	**1.04**	**122**	*e*PG	**Pg**	**02 06 58.9**	**+0.2**
GNBR				*e*S	**Sn**	**02 07 13.7**	**+1.4**
GNBR	**Gunib**	**1.04**	**122**	*e*Pg	**Pg**	**02 06 58.8**	**+0.2**
GNBR				*e*Sg	**Sn**	**02 07 14.4**	**+2.0**
GUDG	**Gudauri**	**1.07**	**244**	P	**Pb**	**02 06 58.3**	**-0.4**
GUDG				S	**Sb**	**02 07 11.8**	**-0.7**
GUDG	**Gudauri**	**1.07**	**244**	PG	**Pb**	**02 06 58.3**	**-0.4**
GUDG				S	**Sb**	**02 07 11.8**	**-0.7**
TRKR	**Terskaya**	**1.09**	**316**	*e*PG	**Pg**	**02 06 59.9**	**+0.3**
TRKR				*e*S	**Sg**	**02 07 15.5**	**+1.6**
TRKR	**Terskaya**	**1.09**	**316**	*e*Pg	**Pg**	**02 06 59.9**	**+0.3**
TRKR				*e*Sg	**Sg**	**02 07 16.4**	**+2.5**
LACR	**Lac**	**1.09**	**264**	*i* PG	**Pb**	**02 06 59.0**	**0.0**
LACR				pmax	pmax		
	comp=Z,343nm,0.2s						
LACR	**Lac**	**1.09**	**264**	*i* Pg	**Pb**	**02 06 58.8**	**-0.2**
LACR				*e*Sg	**Sn**	**02 07 16.0**	**+2.2**
ARNR	**Ardon**	**1.12**	**282**	*e*PG	**Pg**	**02 07 00.1**	**-0.2**
ARNR				*e*S	**Sg**	**02 07 17.3**	**+2.4**
ARNR	**Ardon**	**1.12**	**282**	*i* Pg	**Pg**	**02 07 00.0**	**-0.2**
ARNR				*i* Sg	**Sg**	**02 07 17.2**	**+2.4**
LGD	**Lagodekhi**	**1.17**	**163**	P	**Pb**	**02 07 00.5**	**+0.4**
LGD				S	**Sg**	**02 07 16.2**	**-0.1**
LGD	**Lagodekhi**	**1.17**	**163**	PG	**Pb**	**02 07 00.5**	**+0.4**
LGD				S	**Sg**	**02 07 16.2**	**-0.1**
KORR	**Kora**	**1.26**	**277**	*e*PG	**Pb**	**02 07 02.3**	**+0.4**
KORR				*e*S	**Sg**	**02 07 21.1**	**+1.7**
KORR	**Kora**	**1.26**	**277**	*e*Pg	**Pb**	**02 07 02.2**	**+0.4**
KORR				*e*Sg	**Sg**	**02 07 21.0**	**+1.6**
MAK	**Makhachkala**	**1.27**	**89**	⇓*i*PG	**Pg**	**02 07 03.4**	**+0.4**
MAK				*e*		02 07 21.5	
MAK				pmax	pmax		
	comp=Z,94nm,0.3s						
MAK				smax	smax		
	comp=E,752nm,0.4s						
MAK				smax	smax		
	comp=E,847nm,0.3s						
MAK	**Makhachkala**	**1.27**	**89**	*e*Pg	**Pg**	**02 07 03.0**	**0.0**
MAK				*e*Sg	**Sg**	**02 07 22.4**	**+2.8**
KMKR	**Kumukh**	**1.27**	**129**	*e*PG	**Pg**	**02 07 03.0**	**-0.1**
KMKR				*e*S	**Sg**	**02 07 21.4**	**+1.6**
KMKR				pmax	pmax		
	comp=Z,151nm,0.2s						
KMKR	**Kumukh**	**1.27**	**129**	*e*Pg	**Pg**	**02 07 03.1**	**-0.1**
KMKR				*e*Sg	**Sg**	**02 07 21.5**	**+1.6**
KANR	**Karaman**	**1.28**	**78**	*e*PG	**Pg**	**02 07 03.0**	**-0.2**
KANR				*e*S	**Sg**	**02 07 21.8**	**+1.9**
KANR				pmax	pmax		
	comp=Z,196nm,0.2s						
KANR	**Karaman**	**1.28**	**78**	*e*Pg	**Pg**	**02 07 03.1**	**-0.2**
KANR				*e*Sg	**Sg**	**02 07 21.8**	**+1.9**
STDR	**Stavd-Durt**	**1.32**	**289**	*e*PG	**Pg**	**02 07 03.7**	**-0.4**
STDR				*e*S	**Sg**	**02 07 23.7**	**+2.3**
STDR	**Stavd-Durt**	**1.32**	**289**	*i* Pg	**Pg**	**02 07 03.6**	**-0.4**
STDR				*i* Sg	**Sg**	**02 07 23.6**	**+2.3**
PRTR	**Priterechnaya**	**1.35**	**307**	*e*PG	**Pb**	**02 07 04.0**	**+0.6**
PRTR				*e*S	**Sg**	**02 07 24.5**	**+2.1**
PRTR	**Priterechnaya**	**1.35**	**307**	*e*Pg	**Pb**	**02 07 03.8**	**+0.5**
PRTR				*e*Sg	**Sg**	**02 07 24.5**	**+2.1**
BTNK	**Botanikuri**	**1.46**	**210**	P	**Pn**	**02 07 03.4**	**-0.6**
BTNK				S	**Sb**	**02 07 23.8**	**+0.5**
BTNK	**Botanikuri**	**1.46**	**210**	PG	**Pn**	**02 07 03.4**	**-0.6**
LSNR	**Lesken**	**1.47**	**284**	*e*PG	**Pb**	**02 07 05.7**	**+0.4**
LSNR				*e*S	**Sg**	**02 07 26.7**	**+0.8**
LSNR	**Lesken**	**1.47**	**284**	*e*Pg	**Pb**	**02 07 05.5**	**+0.2**
LSNR				*e*Sg	**Sg**	**02 07 27.5**	**+1.6**
SGKR	**Sergokala**	**1.47**	**109**	*e*PG	**Pg**	**02 07 06.8**	**-0.1**
SGKR				*e*S	**Sg**	**02 07 27.1**	**+1.1**
SGKR				pmax	pmax		
	comp=Z,86nm,0.4s						
SGKR	**Sergokala**	**1.47**	**109**	*e*Pg	**Pg**	**02 07 06.8**	**-0.1**
SGKR				*e*Sg	**Sg**	**02 07 27.1**	**+1.1**
DDFL	**Dedoflistskaro**	**1.52**	**170**	P	**Pg**	**02 07 10.4**	**+2.5**
DDFL				S	Sg	02 07 37.1	+9.4
DDFL	**Dedoflistskaro**	**1.52**	**170**	PG	**Pg**	**02 07 10.3**	**+2.5**
DDFL				S	Sg	02 07 37.1	+9.4
URKR	**Urkarakh**	**1.58**	**119**	*e*PN	**Pg**	**02 07 08.4**	**-0.5**
URKR				*e*S	**Sg**	**02 07 31.1**	**+1.6**
URKR				pmax	pmax		
	comp=Z,78nm,0.3s						
URKR	**Urkarakh**	**1.58**	**119**	*e*Pg	**Pg**	**02 07 08.5**	**-0.5**
URKR				*e*Sg	**Sg**	**02 07 31.1**	**+1.6**
DIGR	**Digorskoe uzhe**	**1.61**	**269**	*e*PN	**Pn**	**02 07 06.9**	**+0.6**
DIGR				*e*S	**Sb**	**02 07 28.8**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.61**	**269**	*e*Pg	**Pn**	**02 07 05.8**	**-0.5**
DIGR				*e*Sg	**Sb**	**02 07 28.4**	**+0.4**
NCK	**Nalchik**	**1.69**	**290**	*e*PN	**Pb**	**02 07 09.2**	**+0.2**
NCK				*e*S	**Sg**	**02 07 32.9**	**0.0**
NCK	**Nalchik**	**1.69**	**290**	*e*Pg	**Pb**	**02 07 09.1**	**0.0**
NCK				*e*Sg	**Sg**	**02 07 33.3**	**+0.3**
ONI	**Oni**	**1.75**	**259**	P	**Pb**	**02 07 10.0**	**-0.1**
ONI				S	**Sg**	**02 07 33.9**	**-1.0**
ONI	**Oni**	**1.75**	**259**	PN	**Pb**	**02 07 10.0**	**-0.1**
ONI				S	**Sg**	**02 07 33.9**	**-1.0**
TRLG	**Trialeti**	**1.88**	**222**	P	**Pb**	**02 07 12.5**	**+0.1**
TRLG				S	**Sg**	**02 07 37.9**	**-1.2**
TRLG	**Trialeti**	**1.88**	**222**	PN	**Pb**	**02 07 12.5**	**+0.1**
BRNG	**Burnasheti**	**1.96**	**228**	P	**Pb**	**02 07 13.7**	**-0.1**
BRNG				S	**Sg**	**02 07 40.3**	**-1.4**
DMNI	**Dmanisi**	**2.00**	**217**	P	**Pb**	**02 07 13.9**	**-0.7**
DMNI				S	**Sb**	**02 07 40.7**	**+1.6**
DMNI	**Dmanisi**	**2.00**	**217**	PN	**Pb**	**02 07 13.8**	**-0.7**
DMNI				S	**Sb**	**02 07 40.7**	**+1.6**
SEKA	**Sheki**	**2.03**	**148**	PN	**Pb**	**02 07 15.3**	**+0.3**
AKT	**Akhty**	**2.06**	**135**	*e*PN	**Pn**	**02 07 13.9**	**+1.5**
AKT				*i* S	**Sb**	**02 07 42.3**	**+1.4**
AKT				pmax	pmax		
	comp=Z,45nm,0.4s						
AKT				smax	smax		
	comp=E,189nm,0.3s						
DRN	**Derbent**	**2.10**	**115**	*e*PN	**Pb**	**02 07 15.5**	**-0.5**
DRN				*i* S	**Sg**	**02 07 45.4**	**-0.7**
DRN				pmax	pmax		
	comp=Z,44nm,0.5s						
DRN				smax	smax		
	comp=N,293nm,1.8s						
DRN	**Derbent**	**2.10**	**115**	*e*Pg	**Pb**	**02 07 15.5**	**-0.5**
DRN				*e*Sg	**Sb**	**02 07 43.5**	**+1.7**
TKB	**Tkibuli**	**2.14**	**255**	P	**Pb**	**02 07 17.4**	**+0.6**
TKB				S	**Sg**	**02 07 46.7**	**-0.7**
TKB	**Tkibuli**	**2.14**	**255**	PN	**Pb**	**02 07 17.3**	**+0.6**
TKB				S	**Sg**	**02 07 46.6**	**-0.7**
KBZ	**Khabaz**	**2.24**	**291**	*i* PN	**Pn**	**02 07 14.0**	**-0.7**
KBZ	**Khabaz**	**2.24**	**291**	*e*Pg	**Pn**	**02 07 15.8**	**+1.1**
KBZ				*e*Sg	**Sb**	**02 07 45.2**	**-0.7**
PYA1	**Pyatigorsk**	**2.25**	**301**	*i* PN	**Pn**	**02 07 14.6**	**-0.2**
NEY	**Neytrino**	**2.26**	**279**	*e*PN	**Pn**	**02 07 16.9**	**+1.7**
NEY				*e*S	**Sb**	**02 07 46.3**	**-0.3**
NEY	**Neytrino**	**2.26**	**279**	*e*Pn	**Pn**	**02 07 16.8**	**+1.7**
NEY				*e*Sn	**Sb**	**02 07 46.2**	**-0.3**
AKH	**Akhalkalaki**	**2.29**	**229**	P	**Pb**	**02 07 19.1**	**-0.4**
AKH				S	**Sb**	**02 07 49.3**	**+1.8**
AKH	**Akhalkalaki**	**2.29**	**229**	PN	**Pb**	**02 07 19.0**	**-0.4**
AKH				S	**Sb**	**02 07 49.3**	**+1.8**
GANJ	**Ganja**	**2.34**	**170**	PN	**Pb**	**02 07 19.1**	**-1.0**
BGD	**Bogdanovka**	**2.34**	**225**	P	**Pb**	**02 07 20.6**	**+0.4**
BGD				S	**Sb**	**02 07 51.1**	**+2.3**
BGD	**Bogdanovka**	**2.34**	**225**	PN	**Pb**	**02 07 20.6**	**+0.4**
BGD				S	**Sb**	**02 07 51.1**	**+2.3**
SHA1	**Shidzhatmaz**	**2.41**	**290**	*e*PN	**Pn**	**02 07 18.7**	**+1.4**
SHA1				*e*S	**Sb**	**02 07 51.3**	**+0.4**
SHA1	**Shidzhatmaz**	**2.41**	**290**	*e*Pn	**Pn**	**02 07 18.6**	**+1.4**
KIV	**Kislovodsk**	**2.47**	**295**	*e*Pn	**Pn**	**02 07 19.4**	**+1.5**
KIV				*e*Sn	**Sb**	**02 07 50.9**	**-1.5**
ABS	**Abastumani**	**2.50**	**243**	P	**Pb**	**02 07 22.1**	**-1.0**
ABS				S	**Sb**	**02 07 55.3**	**+1.8**
ABS	**Abastumani**	**2.50**	**243**	PN	**Pb**	**02 07 22.0**	**-1.0**
ABS				S	**Sb**	**02 07 55.3**	**+1.8**
ALER	**Alexandrovskoy**	**2.75**	**312**	*e*Pn	**Pn**	**02 07 22.1**	**+0.3**
ALER				*e*Sn	**Sn**	**02 07 55.9**	**+1.3**
GOF	**Gofitskoye**	**2.89**	**318**	⇑*e*PN	**Pn**	**02 07 24.6**	**+1.0**
GOF				*e*S	**Sn**	**02 07 59.5**	**+1.6**
GOF				pmax	pmax		
	comp=Z,13nm,0.2s						
GOF				smax	smax		
	comp=N,61nm,0.2s						
GOF				smax	smax		
	comp=E,54nm,0.2s						
GOF	**Gofitskoye**	**2.89**	**318**	*e*Pn	**Pn**	**02 07 24.8**	**+1.2**
GOF				*e*Sn	**Sn**	**02 08 00.8**	**+2.9**
GNI	**Garni**	**2.90**	**196**	*i* PN	**Pn**	**02 07 24.2**	**+0.2**
AHMR	**Akhmetovskaya**	**3.65**	**291**	*e*Pn	**Pn**	**02 07 37.6**	**+3.5**
AHMR				*i* Sn	**Sn**	**02 08 20.5**	**+3.8**
NAX	**Nakhchivan**	**3.78**	**183**	PN	**Pn**	**02 07 40.3**	**+4.4**
GUZR	**Guzeripl'**	**4.25**	**286**	*e*Pn	**Pn**	**02 07 43.1**	**+0.7**
SOC	**Sochi**	**4.47**	**280**	*e*PN	**Pn**	**02 07 45.0**	**-0.4**
SOC				*e*PPP	PPP	02 08 00.2	
SOC				*e*		02 08 38.2	
SOC				*e*SS	**Sb**	**02 08 52.3**	**+2.3**
SOC				MLR	MLR		
	comp=Z,6.0nm,6.0s						
BELG	**Belogornoye**	**9.53**	**7**	*i* P	**Pn**	**02 08 54.8**	**+0.1**
AKTO	**Aktyubinsk**	**11.25**	**44**	⇑Pn	**Pn**	**02 09 19.0**	**+0.7**
	comp=Z,1.3nm,0.8s						
AKTO				⇓Sn	**Sn**	**02 11 15.6**	**-7.8**
	comp=Z,2.1nm,0.6s						
AB31	**Akbulak array**	**11.67**	**52**	⇓Pn	**Pn**	**02 09 25.9**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=244,slow=11,SNR=5.2						
AB31				⇓Sn	**Sn**	**02 11 28.7**	**-5.1**
	comp=Z,0.9nm,0.5s,baz=245,slow=21,SNR=4.5						
MNK	**Minsk**	**16.47**	**321**	*i* P	**Pn**	**02 10 26.4**	**-2.0**
	comp=E,2.0nm,1.0s						
MNK				*i* P	**Pn**	**02 10 26.4**	**-2.0**
	comp=N,6.0nm,0.8s						
MNK				*i* P	**Pn**	**02 10 26.4**	**-2.0**
	comp=Z,2.0nm,0.6s,baz=307						
MNK				*i* PP	**pP**	**02 10 35.5**	**-0.8**
MNK				*i* PPP	PPP	02 10 43.2	
MNK				*i* S	**Sn**	**02 13 29.2**	**-1.4**
MNK				*i* SS	**SnSn**	**02 13 43.8**	**+0.3**
MNK				*i* SSS	SSS	02 13 56.5	
MNK				*i* LQ	LQ	02 15 17.1	
MNK				*i* LR	LR	02 16 32.0	
MNK				*i* LRM	MLR	02 17 36.2	
	comp=Z,76nm,17.2s						
MNK				*i* LRM	MLR	02 17 38.9	
	comp=E,12nm,23.1s						
MNK				*i* LRM	MLR	02 18 00.6	
	comp=N,65nm,19.0s						
MNK	**Minsk**	**16.47**	**321**	*i* P	**Pn**	**02 10 26.4**	**-2.0**
MNK				*i* S	**Sn**	**02 13 29.2**	**-1.4**
MNK				pmax	pmax		
	comp=N,6.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MNK				MLR	MLR		
	comp=Z,76nm,17.0s						
MNK				MLR	MLR		
	comp=E,12nm,23.0s						
MNK				MLR	MLR		
	comp=N,65nm,19.0s						
BRVK	**Borovoye**	**19.17**	**50**	*i* P	**Pn**	**02 11 02.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						

*IDC **15** 02:07:56.4±5.2, 7.°42S×127.°94E, h117km±47km, mb3.4/5, mb1 3.7/8, mb1mx3.4/37, mbtmp4.0/8, MS2.8/1, Ms1 3.0/1, ms1mx2.3/26, Error ellipse: s-maj=82.3km s-min=19.4km az=66.0*
*NEIC **15** 02:07:57.1±2.3, 7.°50S±0.°06×127.°65E±0.°09, h114km±9km, mb4.0/5, Error ellipse: s-maj=12.3km s-min=8.1km az=84.0*

ISC 15 02:07:59.4±0.7, 7.°46S±0.°08×127.°91E±0.°07, h142km, n37, σ1°59/37, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.40**	**99**	Pn	**Pn**	**02 08 52.3**	**+0.7**
SOEI	**Soe**	**4.27**	**237**	Pn	Pn	02 08 57.4	-5.7
SOEI	**Soe**	**4.27**	**237**	P	**Pn**	**02 09 05.6**	**+2.5**
BATI	**Baumata**	**5.01**	**237**	P	**Pn**	**02 09 14.9**	**+2.1**
	8.2nm,0.3s,baz=329,slow=2.0,SNR=7.1						
BATI				S	**Sn**	**02 10 09.9**	**-0.2**
	12nm,0.3s,baz=49,slow=19,SNR=7.5						
DRS	**Darwin Rock St**	**5.75**	**149**	P	**Pn**	**02 09 24.1**	**+1.4**
MTN	**Manton Dam**	**6.22**	**150**		**Pn**	**02 09 27.1**	**-1.9**
MTN	**Manton Dam**	**6.22**	**150**	P	**Pn**	**02 09 31.0**	**+2.0**
FAKI	**Fak Fak**	**6.24**	**44**	P	Pn	02 09 32.9	+3.6
KDU	**Kakadu**	**6.87**	**140**	P	**Pn**	**02 09 39.4**	**+1.7**
KNRA	**Kununurra**	**8.21**	**174**		**Pn**	**02 09 54.9**	**-0.8**
KNRA	**Kununurra**	**8.21**	**174**	P	**Pn**	**02 09 55.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.81**	**192**	P	**Pn**	**02 10 27.9**	**-2.3**
	1.6nm,0.3s,baz=31,slow=12,SNR=35						
FITZ				S	Sn	02 12 22.0	-7.7
WB0	**Warramunga Arr**	**13.76**	**153**		**Pn**	**02 11 06.8**	**-1.8**
WRAB	**Tennant Creek**	**13.88**	**154**	P	**Pn**	**02 11 10.0**	**-0.2**
WRA	**Warramunga Arr**	**13.89**	**154**	P	**Pn**	**02 11 08.5**	**-1.8**
	2.7nm,0.3s,baz=326,slow=14,SNR=83						
WRA				S	Sn	02 13 34.8	-9.3
	1.0nm,0.3s,baz=324,slow=24,SNR=8.0						
WB2	**Warramunga Arr**	**13.89**	**154**		**Pn**	**02 11 08.8**	**-1.6**
WR0	**Warramunga Arr**	**13.99**	**153**		**Pn**	**02 11 10.6**	**-1.0**
PSA00	**Pilbara Seismi**	**16.05**	**208**	P	**P**	**02 11 39.3**	**+1.5**
COEN	**Coen**	**16.32**	**115**	Pn	**Pn**	**02 11 39.8**	**-0.8**
COEN				IAmb	IAmb	02 11 45.0	
	comp=Z,5.0nm,0.8s						
COEN	**Coen**	**16.32**	**115**	P	**P**	**02 11 42.4**	**+1.5**
AS31	**Alice Springs**	**17.11**	**161**	P	**Pn**	**02 11 50.4**	**+0.2**
AS31				IAmb	IAmb	02 11 53.8	
	comp=Z,2.8nm,0.5s						
ASAR	**Alice Springs**	**17.11**	**161**	P	**Pn**	**02 11 50.2**	**0.0**
	comp=Z,1.2nm,0.3s,baz=341,slow=13,SNR=48						
ASAR				S	**S**	**02 14 56.8**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=344,slow=22,SNR=5.6						
QIS	**Mount Isa**	**17.25**	**140**	P	**Pn**	**02 11 52.8**	**+0.9**
WRKA	**Warakurna**	**17.49**	**179**	P	**Pn**	**02 11 55.3**	**+0.7**
GIRL	**Giralia**	**20.03**	**220**	P	**P**	**02 12 23.0**	**+1.6**
MEEK	**Meekatharra**	**21.03**	**204**	P	**P**	**02 12 33.9**	**+1.9**
OOD	**Oodnadatta**	**21.53**	**161**	P	**P**	**02 12 38.5**	**+1.2**
MULG	**Mulgathing**	**23.43**	**167**	P	**P**	**02 12 56.8**	**+1.0**
STKA	**Stephens Creek**	**27.44**	**154**	P	**P**	**02 13 30.8**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=318,slow=16,SNR=1.6						
CMAR	**Chiang Mai Arr**	**38.47**	**312**	LR	LR	02 34 31.1	
	comp=Z,11nm,18.1s,baz=185,slow=42						
SONM	**Songino Array**	**58.24**	**343**	P	**P**	**02 17 39.4**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=159,slow=7.5,SNR=2.1						
NIL	**Nilore**	**65.96**	**312**	P	**P**	**02 18 27.7**	**-3.0**
NIL				IAmb	IAmb	02 18 34.4	
	comp=Z,3.8nm,0.8s						
MK31	**Makanchi Array**	**67.49**	**328**	P	**P**	**02 18 39.8**	**-0.3**
MKAR	**Makanchi Array**	**67.49**	**328**	P	**P**	**02 18 39.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=116,slow=8.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**71.09**	**335**	P	**P**	**02 19 01.1**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=132,slow=4.1,SNR=2.2						
VNDA	**Vanda**	**72.25**	**173**	P	**P**	**02 19 09.4**	**+0.8**
	comp=

ASAR Alice Springs 98.56 163 P **P** 03 18 12.2 +0.1
comp=Z,0.6nm,0.8s,baz=179,slow=3.8,SNR=5.1
PDAR Pinedale Array 120.53 302 PKP **PKPdf** 03 23 23.2 -0.5
comp=Z,0.1nm,0.4s,baz=129,slow=3.3,SNR=4.0
FINES FINESS Array B 124.83 28 PKP **PKPdf** 03 23 31.1 +0.1
comp=Z,0.8nm,0.4s,baz=201,slow=1.1,SNR=13
ARCES ARCESS Array B 131.41 22 PKP **PKPdf** 03 23 43.4 0.0
comp=Z,4.9nm,1.0s,baz=202,slow=1.3,SNR=7.0
YKA Yellowknife Ar 136.47 318 PKP **PKPdf** 03 23 53.3 +0.3
comp=Z,0.6nm,0.3s,baz=135,slow=2.2,SNR=11
A36M Sachs Harbour 144.57 328 PKPdf **PKPdf** 03 24 07.3 -0.1
PCA Pinnacle 145.95 304 PKPbc **PKPab** 03 24 12.8 +0.8
INK Inuvik 146.12 320 PKPbc **PKPab** 03 24 11.9 -0.3
comp=Z,4.1nm,0.5s,baz=26,slow=2.6,SNR=29
INK Inuvik 146.12 320 **PKPbc** 03 24 11.8 +0.5
DAWY Dawson 147.05 311 PKPbc **PKPbc** 03 24 14.2 -0.1
BCAR Beaver Creek A 147.73 309 PKPbc **PKPbc** 03 24 17.1 +1.0
BMRM Bremner River 148.27 304 PKPbc **PKPbc** 03 24 17.2 -0.4
J26L Joseph Creek 148.92 311 PKPbc **PKPbc** 03 24 19.9 +0.7
RIDG Independent Ri 149.25 310 PKPbc **PKiKP** 03 24 21.2 +0.1
ILAR Eielson Array 150.37 311 PKPbc **PKPbc** 03 24 23.1 +0.4
comp=Z,3.9nm,0.8s,baz=131,slow=4.4,SNR=27
SONM Songino Array 150.83 87 PKPbc **PKPbc** 03 24 24.3 -0.1
comp=Z,1.2nm,0.5s,baz=224,slow=3.7,SNR=14

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*TUL **15** 03:29:24.3±1.3,36°.95N±0°.04×97°.82W±0°.05, h6km±6km, ML3.1, mb_Lg2.7/22(NEIC), Error ellipse: s-maj=6.6km s-min=4.9km az=215.0*
NEIC 15 03:29:24.6±1.1,36°.92N±0°.04×97°.80W±0°.04, h5km±6km, Error ellipse: s-maj=6.7km s-min=3.0km az=220.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.08**	**217**	Pg	Pg	03 29 26.9	+0.4
KAN17	**Caldwell West**	**0.13**	**11**	Pg	Pg	03 29 27.1	-0.2
KAN14	**Manchester OK**	**0.14**	**286**	Pg	Pg	03 29 27.2	-0.3
KAN01	**Argonia South**	**0.24**	**7**		Pg	03 29 29.0	-0.3
KAN13	**South Haven SW**	**0.27**	**70**	Pg	Pg	03 29 29.9	0.0
KAN10	**Anthony SW Sta**	**0.32**	**311**	Pg	Pg	03 29 30.4	-0.3
KAN06	**Argonia West S**	**0.33**	**351**		Pg	03 29 30.9	-0.2
KAN08	**Anthony NE Sta**	**0.34**	**336**		Pg	03 29 30.9	-0.3
OK032	**Salt Plains WL**	**0.35**	**251**	Pg	Pg	03 29 31.6	+0.2
KAN16	**Harper SW Stat**	**0.37**	**325**	Pg	Pg	03 29 31.5	-0.4
KAN12	**Harper NE Stat**	**0.41**	**337**	Pg	Pg	03 29 32.3	-0.3
CROK	**Carrier**	**0.44**	**200**	Pg	Pg	03 29 33.0	-0.2
BLOK	**Blackwell**	**0.49**	**109**	Pg	Pg	03 29 33.6	-0.5
OK035	**E0210 Rd and N**	**0.76**	**254**	Pg	Pg	03 29 38.5	-0.8
T35A	**Sooner Cattle**	**1.03**	**90**		Pg	03 29 44.3	-0.1
U32A	**Winter Ranch,**	**1.11**	**241**		Pg	03 29 45.4	-0.5
QUOK	**Quay**	**1.15**	**130**		Pg	03 29 46.6	0.0
OK029	**Liberty Lake**	**1.15**	**166**		Pg	03 29 46.8	0.0
OK031	**S. Brethren Rd**	**1.23**	**141**		Pg	03 29 48.1	-0.2
OK034	**N. Norfolk Rd.**	**1.26**	**136**		Pg	03 29 47.6	-1.2
BCOK	**Bluff Creek, N**	**1.27**	**173**		Pg	03 29 47.5	-1.5
OK030	**Cody Creek RV**	**1.28**	**140**		Pn	03 29 48.4	-0.8
OK025	**Westminster Rd**	**1.39**	**164**		Pn	03 29 50.4	-0.2
OKCFA	**Oklahoma City**	**1.53**	**169**		Pn	03 29 52.9	+0.3
OKCFA				IAmb_Lg		03 30 16.5	
	comp=Z,47nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**1.54**	**169**		Pn	03 29 53.0	+0.3
R32A	**Long Quarter,**	**1.67**	**334**	Pn	Pn	03 29 54.6	+0.1
FNO	**Franklin**	**1.69**	**169**		Pn	03 29 55.1	+0.3
TUL1	**Leonard**	**1.90**	**121**		Pn	03 29 58.0	+0.3
W35A	**Tecumseh**	**1.91**	**157**		Pn	03 29 58.3	+0.4
X34A	**Smith Ranch, M**	**2.31**	**181**		Pn	03 30 05.0	+1.6
WMOK	**Wichita Mounta**	**2.32**	**200**	Pn	Pn	03 30 04.2	+0.7
KSU1	**Kansas State U**	**2.37**	**23**	Pn	Pn	03 30 04.6	+0.4
CBKS	**Cedar Bluff**	**2.44**	**322**		Pn	03 30 05.3	+0.2
U38A	**Gravette**	**2.78**	**99**	Pn	Pn	03 30 09.6	-0.3
U38A					Sn	03 30 44.8	+1.0
X37A	**Clayton**	**3.05**	**139**	Pn	Pn	03 30 13.0	-0.5
X37A					LR	03 31 02.6	
HHAR	**Hobbs**	**3.17**	**100**	Pn	Pn	03 30 15.1	0.0
S39A	**Bolivar**	**3.65**	**76**	Pn	Pn	03 30 21.1	-0.7
W39A	**Magazine**	**3.68**	**117**	Pn	Pn	03 30 22.5	+0.4
W39A				IAmb_Lg		03 31 27.2	
	comp=Z,24nm,0.9s						
AMTX	**Amarillo**	**3.75**	**238**	Pn	Pn	03 30 23.7	+0.5
AMTX				IAmb_Lg		03 31 29.8	
	comp=Z,11nm,0.7s						
U40A	**Yellville**	**4.01**	**97**	Pn	Pn	03 30 26.2	-0.5
U40A				IAmb_Lg		03 31 36.9	
	comp=Z,12nm,0.8s						
MIAR	**Mount Ida**	**4.17**	**123**	Pn	Pn	03 30 28.1	-0.8
N35A	**Tabor**	**4.28**	**22**	Pn	Pn	03 30 29.5	-0.9
P38A	**Dawn**	**4.31**	**50**	Pn	Pn	03 30 30.8	0.0
Z38A	**Mt. Pleasant**	**4.32**	**147**	Pn	Pn	03 30 31.1	+0.2
MGMO	**Mountain Grove**	**4.43**	**85**	Pn	Pn	03 30 32.5	0.0
BGNE	**Belgrade**	**4.49**	**357**	IAmb_Lg		03 31 52.4	
	comp=Z,20nm,0.8s						
R40A	**Maddies Statio**	**4.60**	**71**	Pn	Pn	03 30 34.8	0.0
FCAR	**Ozark Folk Cen**	**4.69**	**101**	Pn	Pn	03 30 36.3	+0.3
FCAR				IAmb_Lg		03 31 53.7	
	comp=Z,14nm,0.8s						
X40A	**Basin Creek Fa**	**4.71**	**120**	Pn	Pn	03 30 36.6	+0.3
X40A				IAmb_Lg		03 32 01.6	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**4.75**	**108**	Pn	Pn	03 30 36.4	-0.4
WHAR				IAmb_Lg		03 31 54.2	
	comp=Z,10nm,0.8s						
W41B	**Gary Mavity, V**	**4.82**	**110**	Pn	Pn	03 30 38.5	+0.6
WHTX	**Lake Whitney,**	**4.92**	**177**	Pn	Pn	03 30 37.4	-1.9
L34A	**Svendsen Farm,**	**5.16**	**12**	IAmb_Lg		03 32 14.3	
	comp=Z,18nm,0.7s						
P40A	**Paris**	**5.22**	**58**	IAmb_Lg		03 32 15.7	
	comp=Z,8.9nm,0.7s						
T25A	**Trinidad**	**5.30**	**274**	Pn	Pn	03 30 45.3	+0.7
CCM	**Cathedral Cave**	**5.33**	**76**	Pn	Pn	03 30 45.9	+1.0
LCAR	**Lake Charles**	**5.42**	**97**	Pn	Pn	03 30 46.7	+0.7
PBMO	**Poplar Bluff**	**5.91**	**89**	IAmb_Lg		03 32 36.6	
	comp=Z,11nm,0.8s						
N23A	**Red Feather La**	**7.49**	**304**	IAmb_Lg		03 33 31.5	
	comp=Z,10.0nm,0.9s						

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*DSN **15** 03:37:24.2±4.1,30°.75N×49°.88E, h10km, ML3.8/10, Error ellipse: s-maj=51.3km s-min=12.7km az=167.0*
*IDC **15** 03:37:24.9±1.2,30°.53N×49°.88E, h0km, mb3.9/17, mb1 4.0/22, mb1mx3.8/55, mbtmp3.9/22, ML3.1/4, Error ellipse: s-maj=25.2km s-min=16.3km az=176.0*
*NEIC **15** 03:37:26.8±1.8,30°.50N±0°.07×50°.00E±0°.05, h10km±1km, mb4.1/17, mb_Lg3.9(TEH), Error ellipse: s-maj=12.1km s-min=7.8km az=188.0*
*MOS **15** 03:37:27.1±1.5,30°.51N×49°.91E, h31km, mb4.4/15, Error ellipse: s-maj=10.2km s-min=6.0km az=98.2*
*TEH **15** 03:37:27.0,30°.52N×49°.97E, h13km, ML3.9*
*OMAN **15** 03:37:34.5±0.3,30°.33N×50°.24E, h147km±7km, mb4.9/13, Error ellipse: s-maj=8.1km s-min=6.0km az=11.0*
ISC 15 03:37:28.3±0.4,30°.54N±0°.04×50°.04E±0°.04, h25km, n184, σ1°.77/201, mb4.1/38, 23C-4D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.19**	**71**	*e*Pg	**Pb**	**03 37 32.3**	**-1.6**
ABEH				*e*Sg	**Sb**	**03 37 37.0**	**-0.7**
AMIS	**Naft Sefid**	**1.30**	**330**	*e*Pg	**Pn**	**03 37 50.9**	**0.0**
AMIS				*e*Sg	**Sb**	**03 38 09.7**	**+1.4**
AMIS				*e*		03 38 15.6	
	comp=Z,31μm,0.5s						
KLNJ	**Kolanjah**	**1.41**	**70**	*e*Pg	**Pb**	**03 37 54.0**	**-0.2**
KLNJ				*e*		03 38 19.4	
	comp=Z,24μm,0.6s						
KLNJ	**Kolanjah**	**1.41**	**70**		**Pb**	**03 37 54.0**	**-0.2**
AHWZ	**Ahwaz**	**1.44**	**304**	*e*Pg	**Pb**	**03 37 53.9**	**-0.5**
AHWZ	**Ahwaz**	**1.44**	**304**		**Pb**	**03 37 53.9**	**-0.5**
KAZ1	**Kazerun**	**1.66**	**123**	*e*Pg	**Pb**	**03 37 58.9**	**+0.7**
KAZ1				*e*		03 38 39.9	
	comp=Z,21μm,0.5s						
IBRJ	**Brojen**	**1.72**	**37**	*e*Pn	**Pb**	**03 37 59.3**	**-0.1**
SHK1	**Shahrekord**	**1.92**	**22**	*e*Pn	**Pb**	**03 38 02.1**	**-0.8**
SHK1				*e*		03 38 33.2	
	comp=Z,8μm,0.5s						
IPIR	**Pirpir**	**2.26**	**18**	*e*		03 38 46.7	
	comp=Z,6μm,0.6s						
IPIR				*e*Pn	**Pn**	**03 38 06.8**	**+2.4**
SHI	**Shiraz**	**2.32**	**112**	*e*		03 38 52.3	
	comp=Z,5μm,0.4s						
SHI				*e*Pn	**Pb**	**03 38 07.6**	**-2.0**
IRAM	**Ramesheh**	**2.37**	**57**	*e*		03 38 48.5	
	comp=Z,6μm,0.4s						
IRAM				*e*Pn	**Pb**	**03 38 09.2**	**-1.3**
IGAR	**Gharneh**	**2.52**	**42**	*e*Pn	**Pn**	**03 38 10.8**	**+2.8**
IGAR				*e*		03 38 53.9	
	comp=Z,3μm,0.5s						
IZEF	**Zefreh**	**3.05**	**39**	*e*Pn	**Pn**	**03 38 18.0**	**+2.7**
IKLH	**Kolahrood**	**3.06**	**25**	*e*Pn	**Pn**	**03 38 18.1**	**+2.7**
IKLH				*e*		03 39 07.3	
	comp=Z,2μm,0.5s						
BMDN	**Meydan**	**3.29**	**342**	*e*Pn	**Pn**	**03 38 19.5**	**+1.0**
BMDN				*e*		03 39 16.0	
	comp=Z,2μm,0.5s						
ISAD	**Sadrabad**	**3.41**	**65**	*e*Pn	**Pn**	**03 38 23.0**	**+2.8**
IKFM	**Kafar-mosalman**	**3.51**	**328**	*e*Pn	**Pn**	**03 38 22.1**	**+0.8**
IDOB	**Doab**	**3.60**	**334**	*e*Pn	**Pn**	**03 38 24.1**	**+1.3**
IMEH	**Mehriz**	**4.02**	**77**	*e*Pn	**Pn**	**03 38 31.3**	**+2.8**
ANAR	**Anarak**	**4.10**	**49**	*e*Pn	**Pn**	**03 38 32.1**	**+2.5**
ANAR	**Anarak**	**4.10**	**49**	Pn	**Pn**	**03 38 32.1**	**+2.5**
ICHK	**Chekchek**	**4.10**	**64**	*e*Pn	**Pn**	**03 38 32.1**	**+2.5**
ICHK				*e*		03 39 22.5	
	comp=Z,2μm,0.5s						
ISFB	**Sefidab**	**4.23**	**25**	*e*Pn	**Pn**	**03 38 33.3**	**+2.0**
HAGD	**Aghdareh**	**4.34**	**350**	*e*Pn	**Pn**	**03 38 35.0**	**+2.1**
HAGD				*e*		03 39 56.2	
	comp=Z,886nm,0.6s						
IQOM	**Qom**	**4.38**	**11**	*e*Pn	**Pn**	**03 38 35.1**	**+1.6**
KCHF	**Cheshme Sefid,**	**4.51**	**327**	*e*Pn	**Pn**	**03 38 35.7**	**+0.5**
KCHF				*e*		03 40 04.1	
	comp=Z,1μm,0.5s						
IVRN	**Varamin**	**4.66**	**17**	*e*Pn	**Pn**	**03 38 39.0**	**+1.8**
SHMA	**Al-Shehemyia**	**4.74**	**170**	P	**Pn**	**03 38 40.6**	**+2.5**
SHMA				S	**Sn**	**03 39 33.8**	**+1.6**
IRAZ	**Razeghan**	**4.85**	**359**	*e*Pn	**Pn**	**03 38 41.9**	**+1.9**
KHOR	**Al-Khor Airpor**	**5.07**	**165**	P	**Pn**	**03 38 45.9**	**+3.1**
IMHD	**Mahdasht**	**5.16**	**6**	*e*Pn	**Pn**	**03 38 45.2**	**+1.1**
IDHR	**Dehrash**	**5.17**	**324**	*e*Pn	**Pn**	**03 38 44.3**	**0.0**
IDHR				*e*		03 39 49.5	
	comp=Z,1μm,0.2s						
QABG	**Abgarm-Qazvin**	**5.17**	**356**	*e*Pn	**Pn**	**03 38 44.7**	**+0.4**
QABG	**Abgarm-Qazvin**	**5.17**	**356**	Pn	**Pn**	**03 38 44.7**	**+0.4**
ILAS	**Lasjerd**	**5.42**	**26**	*e*Pn	**Pn**	**03 38 50.1**	**+2.4**
KHGB	**Koh Gabri**	**5.56**	**90**	*e*Pn	**Pn**	**03 38 52.0**	**+2.3**
TVBK	**TV Kerman**	**5.84**	**94**	*e*Pn	**Pn**	**03 38 55.8**	**+2.1**
TVBK	**TV Kerman**	**5.84**	**94**	Pn	**Pn**	**03 38 55.7**	**+2.1**
NGRK	**Negar Kerman**	**5.86**	**97**	*e*Pn	**Pn**	**03 38 57.1**	**+3.1**
TRNA	**Turayna**	**5.87**	**170**	P	**Pn**	**03 38 56.2**	**+2.4**
TRNA				S	**Sn**	**03 40 02.4**	**+2.0**
IANJ	**Anjilo**	**5.89**	**32**	*e*Pn	**Pn**	**03 38 57.0**	**+2.7**
QALM	**Alamut, Qazvin**	**5.90**	**5**	*e*Pn	**Pn**	**03 38 55.8**	**+1.4**
ISHM	**Shahmirzad**	**5.92**	**27**	*e*Pn	**Pn**	**03 38 57.8**	**+3.2**
IPRN	**Peran**	**6.00**	**18**	*e*Pn	**Pn**	**03 38 58.1**	**+2.4**
JIR1	**Jirandeh**	**6.16**	**358**	*e*Pn	**Pn**	**03 38 58.8**	**+1.0**
TPRV	**Parvadeh(Tabas**	**6.18**	**65**	*e*Pn	**Pn**	**03 39 00.3**	**+2.3**
GENO	**Geno**	**6.21**	**119**	*e*Pn	**Pn**	**03 38 59.1**	**+0.4**
GENO	**Geno**	**6.21**	**119**	Pn	**Pn**	**03 38 59.1**	**+0.4**
CHMN	**Cheshme madani**	**6.52**	**94**	*e*Pn	**Pn**	**03 39 05.8**	**+2.7**
TNSJ	**Nastanj**	**6.53**	**57**	*e*Pn	**Pn**	**03 39 04.8**	**+2.0**
SLWR	**Sila**	**6.61**	**167**	P	**Pn**	**03 39 06.3**	**+2.4**
SLWR				S	**Sn**	**03 40 19.5**	**+1.1**
TKDS	**Koohdasht(Taba**	**6.74**	**61**	*e*Pn	**Pn**	**03 39 08.3**	**+2.4**
SHME	**Shamm**	**6.99**	**128**	P	**Pn**	**03 39 10.1**	**+0.9**
BANOM	**Banah**	**7.18**	**128**	*i* P	**Pn**	**03 39 12.3**	**+0.4**
	SNR=53						
AJN	**Ajban**	**7.39**	**142**	P	**Pn**	**03 39 16.9**	**+2.2**
	SNR=5.1						
AJN				S	**Sn**	**03 40 34.9**	**-2.9**
KBAM	**BAM**	**7.44**	**99**	*e*Pn	**Pn**	**03 39 16.9**	**+1.5**
NAZ	**Nazwa, Dubai**	**7.44**	**137**	P	**Pn**	**03 39 17.4**	**+2.1**
	SNR=5.7						
NAZ				S	**Sn**	**03 40 38.1**	**-0.8**
NAZ	**Nazwa, Dubai**	**7.44**	**137**	*i* P	**Pn**	**03 39 18.0**	**+2.7**
	SNR=5.6						
MSFE	**Esma-Masafi**	**7.47**	**132**	P	**Pn**	**03 39 16.6**	**+0.8**
ASUD	**Al Ashush, Dub**	**7.53**	**140**	P	**Pn**	**03 39 18.2**	**+1.7**
	SNR=38						
ASUD				S	**Sn**	**03 40 40.3**	**-0.8**
ASUD	**Al Ashush, Dub**	**7.53**	**140**	*i* P	**Pn**	**03 39 18.2**	**+1.7**
	SNR=38						
FAQ	**Al Faqa, Dubai**	**7.58**	**138**	P	**Pn**	**03 39 18.7**	**+1.4**
	SNR=8.7						
FAQ				S	**Sn**	**03 40 40.9**	**-1.5**
FAQ	**Al Faqa, Dubai**	**7.58**	**138**	*i* P	**Pn**	**03 39 18.9**	**+1.6**
	SNR=8.7						
UOSS	**Minazif**	**7.80**	**134**	P	**Pn**	**03 39 21.7**	**+1.4**
UOSS				S	**Sn**	**03 40 44.8**	**-3.0**
UOSS	**Minazif**	**7.80**	**134**	Pn	**Pn**	**03 39 20.5**	**+0.2**
UOSS	**Minazif**	**7.80**	**134**	P	**Pn**	**03 39 22.3**	**+2.0**
HATD	**Hatta, Dubai**	**7.84**	**135**	P	**Pn**	**03 39 22.3**	**+1.4**
HATD				S	**Sn**	**03 40 45.9**	**-3.0**
HATD	**Hatta, Dubai**	**7.84**	**135**	P	**Pn**	**03 39 22.0**	**+1.1**
ASHO	**Ashiyiah**	**7.90**	**136**	P	**Pn**	**03 39 23.1**	**+1.3**
	SNR=13						
ASHO				S	**Sn**	**03 40 50.1**	**-0.3**
ASHO	**Ashiyiah**	**7.90**	**136**	*i* P	**Pn**	**03 39 22.9**	**+1.2**
	SNR=13						
RAYN	**Ar Rayn**	**8.07**	**211**	P	**Pn**	**03 39 23.9**	**-0.2**
RAYN	**Ar Rayn**	**8.07**	**211**	Pn	**Pn**	**03 39 23.9**	**-0.2**
RAYN	**Ar Rayn**	**8.07**	**211**	*i* P	**Pn**	**03 39 23.4**	**-0.7**
	SNR=36						
SOHO	**SOHO**	**8.60**	**136**	P	**Pn**	**03 39 31.2**	**-0.1**
ARQ	**Araqi**	**9.21**	**140**	P	**Pn**	**03 39 40.2**	**+0.5**
	SNR=13						
ARQ				S	**Sn**	**03 41 19.3**	**-3.3**
ISFR	**Sfrayin**	**9.27**	**43**	*e*Pn	**Pn**	**03 39 43.8**	**+3.1**
SIRT	**Sirnak**	**9.38**	**320**	Pn	**Pn**	**03 39 42.6**	**+0.7**
GEYT	**Alibeck**	**9.95**	**40**	Pn	**Pn**	**03 39 52.2**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=99,slow=17,SNR=1.4						
BSY	**Bisya**	**10.06**	**139**	P	**Pn**	**03 39 52.8**	**+1.5**
	SNR=6.2						
BSY				S	**Sn**	**03 41 38.4**	**-5.0**
SMDO	**Samad**	**10.32**	**134**	P	**Pn**	**03 39 56.0**	**+1.0**
	SNR=21						
WSAR	**Wadi Sarin**	**10.56**	**131**	Pn	**Pn**	**03 39 57.9**	**-0.3**
	comp=Z,3.5nm,0.3s,baz=338,slow=8.4,SNR=33						
WSAR				Sn	**Sn**	**03 41 51.2**	**-4.5**
	comp=Z,0.4nm,0.3s,baz=356,slow=22,SNR=2.8						
JMDO	**Jabal Madar**	**10.87**	**137**	P	**Pn**	**03 40 03.7**	**+1.3**
	SNR=8.0						
WBK	**Wadi Bani Khal**	**11.23**	**133**	P	**Pn**	**03 40 09.2**	**+1.9**
	SNR=34						
ASF	**Jabal al Asfar**	**11.36**	**282**	Pn	**Pn**	**03 40 06.7**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=75,slow=2.5,SNR=8.7						
ASF				Sn	Sn	03 42 04.8	-10
	comp=Z,0.2nm,0.3s,baz=178,slow=23,SNR=1.9						
WHFO	**Wadi Hawf**	**13.01**	**164**	P	**Pn**	**03 40 29.9**	**-1.8**
	SNR=13						
GROC	**Groznyy**	**13.09**	**346**	*e*P	**Pn**	**03 40 31.3**	**-1.3**
GROC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SHAO	**Shalim**	**13.46**	**157**	P	**Pn**	**03 40 37.4**	**-0.4**
	SNR=5.6						
ABTO	**Aybut**	**13.46**	**167**	P	**Pn**	**03 40 37.0**	**-0.8**
	SNR=9.5						
DMTO	**DMTO**	**13.53**	**160**	P	**Pn**	**03 40 37.4**	**-1.3**
	SNR=12						
KBZ	**Khabaz**	**14.34**	**339**	Pn	**P**	**03 40 53.6**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=154,slow=11,SNR=6.0						
KBZ	**Khabaz**	**14.34**	**339**	*ce*P	**Pn**	**03 40 50.9**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,11nm,1.0s						
SHA1	**Shidzhatmaz**	**14.42**	**338**	*i* P	**Pn**	**03 40 52.7**	**+1.7**
KIV	**Kislovodsk**	**14.61**	**338**	*e*P	**P**	**03 40 56.7**	**-2.9**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV	**Kislovodsk**	**14.61**	**338**	Pn	**Pn**	**03 40 54.7**	**+1.2**
BR131	**Keskin Array S**	**16.23**	**309**	*i* P	**Pn**	**03 41 14.9**	**+0.1**
BR131	**Keskin Array S**	**16.23**	**309**	Pn	**Pn**	**03 41 14.4**	**-0.4**
BRTR	**Keskin Array B**	**16.23**	**309**	Pn	**Pn**	**03 41 13.9**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=138,slow=12,SNR=6.1						
CHGR	**Chuyangaron**	**17.68**	**58**	P	**Pn**	**03 41 33.2**	**+0.3**
CHGR	**Chuyangaron**	**17.68**	**58**		**Pn**	**03 41 33.2**	**+0.3**
CHGR				IAmb	IAmb	03 41 37.2	
	comp=Z,9.3nm,0.7s						
MDUB	**Mudurnu**	**18.23**	**308**	P	**P**	**03 41 40.2**	**+0.4**
MDUB				IAmb	IAmb	03 41 42.5	
	comp=Z,37nm,0.8s						
ABKAR	**Akbulak array**	**20.14**	**19**	P	**P**	**03 42 01.5**	**+1.0**
KKAR	**Karatay Array**	**20.57**	**47**	P	**P**	**03 42 05.7**	**+0.5**
KKAR	**Karatay Array**	**20.57**	**47**	P	**P**	**03 42 05.7**	**+0.5**
VRH	**Novokhopyorsk**	**21.55**	**346**	*e*P	**P**	**03 42 14.5**	**-1.2**
VRH				pmax	pmax		
	comp=Z,50nm,0.8s						
IDI	**Anoyia**	**21.62**	**289**	P	**P**	**03 42 17.8**	**+1.1**
	comp=Z,14nm,0.8s,baz=275,slow=18,SNR=7.8						
JURR	**Jurilovca**	**21.88**	**316**	⇑P	**P**	**03 42 20.0**	**+0.8**
BELG	**Belogornoye**	**21.91**	**356**	P	**P**	**03 42 18.7**	**-0.7**
	comp=Z,4.9nm,0.5s,baz=229,slow=4.9,SNR=7.2						
BELG	**Belogornoye**	**21.91**	**356**	*i* P	**P**	**03 42 20.3**	**+0.8**
BELG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VORD	**Divnogorie**	**21.93**	**342**	*e*P	**P**	**03 42 17.3**	**-2.4**
VORD				pmax	pmax		
	comp=Z,20nm,0.8s						
TIRR	**Tirgusor**	**21.99**	**315**	⇑P	**P**	**03 42 22.1**	**+1.7**
TIRR	**Tirgusor**	**21.99**	**315**	P	**P**	**03 42 20.1**	**-0.4**
TIRR				pmax	pmax		
	comp=Z,38nm,1.5s						
TIRR	**Tirgusor**	**21.99**	**315**	P	**P**	**03 42 20.1**	**-0.4**
TLCR		**22.15**	**317**	⇓P	**P**	**03 42 23.8**	**+1.6**
VSR	**Storozhevoye**	**22.19**	**342**	*e*P	**P**	**03 42 20.3**	**-2.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TPGR	**Topolog**	**22.20**	**316**	⇑P	**P**	**03 42 24.4**	**+1.6**
CFR	**Carcaliu**	**22.54**	**317**	⇑P	**P**	**03 42 27.1**	**+0.7**
KSH	**Kashi**	**22.98**	**60**	P	**P**	**03 42 28.9**	**-2.3**
KSH				pP	pP	03 42 37.8	-0.5
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LPSR	**Galich'ya Gora**	**23.50**	**343**	*e*P	**P**	**03 42 32.9**	**-3.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRI	**Vrincioaia**	**23.75**	**317**	⇑P	**P**	**03 42 40.0**	**+1.4**
NEHR	**Nehoiu**	**23.78**	**315**	⇑P	**P**	**03 42 40.7**	**+1.8**
PLOR	**Plostina**	**23.79**	**317**	⇑P	**P**	**03 42 40.1**	**+1.1**
MLR	**Muntele Rosu**	**24.03**	**315**	⇑P	**P**	**03 42 43.4**	**+2.1**
MLR	**Muntele Rosu**	**24.03**	**315**	P	**P**	**03 42 42.4**	**+1.0**
	comp=Z,3.6nm,0.7s,baz=100,slow=4.9,SNR=5.9						
MLR	**Muntele Rosu**	**24.03**	**315**	IAmb	IAmb	03 42 45.8	
	comp=Z,5.6nm,0.9s						
COVR	**Voineasa-Covas**	**24.05**	**316**	⇑P	**P**	**03 42 43.2**	**+1.8**
TESR	**Tescani**	**24.14**	**318**	⇑P	**P**	**03 42 43.3**	**+1.0**
SORM	**Soroca**	**24.16**	**323**	⇓P	**P**	**03 42 41.3**	**-1.1**
OZUR		**24.43**	**316**	⇓P	**P**	**03 42 45.8**	**+0.8**
VOIR		**24.55**	**314**	⇑P	**P**	**03 42 47.8**	**+1.7**
DOPR	**Dopca**	**24.60**	**316**	⇑P	**P**	**03 42 49.0**	**+2.5**
ARR	**Arges**	**24.77**	**314**	⇑P	**P**	**03 42 50.7**	**+2.6**
PRAR	**RASCA**	**24.85**	**319**	⇑P	**P**	**03 42 49.5**	**+0.7**
AKASG	**Malin Array Be**	**25.44**	**328**	P	**P**	**03 42 53.2**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=136,slow=8.4,SNR=21						
AKBB	**Malin Array Si**	**25.44**	**328**	*ce*P	**P**	**03 42 53.1**	**-0.9**
BURAR	**Bucovina Array**	**25.57**	**319**	⇓P	**P**	**03 42 56.2**	**+0.9**
BURAR	**Bucovina Array**	**25.57**	**319**	P	**P**	**03 42 55.2**	**-0.1**
BUR08	**Bucovina Ar. S**	**25.59**	**319**	P	**P**	**03 42 54.6**	**-0.9**
BUR08				IAmb	IAmb	03 42 58.8	
	comp=Z,3.7nm,0.6s						
ARCR	**ARCALIA**	**25.79**	**317**	⇑P	**P**	**03 42 58.8**	**+1.6**
GZR	**Gura Zlata**	**25.95**	**312**	⇑P	**P**	**03 43 02.2**	**+3.4**
OBN	**Obninsk**	**26.38**	**342**	P	**P**	**03 43 03.8**	**+1.4**
	comp=Z,3.7

comp=Z,1.4nm,1.3s
ULN Ulaanbaatar 46.36 51 *c*e P **P 03 45 54.1 +1.6**
ULN pmax pmax
comp=Z,8.0nm,2.5s
TORD Torodi Ar. Bea 47.71 260 P **P 03 46 03.0 -0.4**
comp=Z,1.1nm,0.5s,baz=56,slow=8.5,SNR=13
HHC Hu-ho-hao-te 50.09 60 *e*P **P 03 46 22.3 +0.9**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.7s
KLR Kul'dur 62.39 47 *c*e P **P 03 47 47.8 -1.1**
KLR pmax pmax
comp=Z,2.0nm,1.4s
A36M Sachs Harbour 77.70 359 P **P 03 49 22.2 -0.2**
IMAR Indian Mountai 82.06 10 P **P 03 49 46.6 +0.5**
ILAR Eielson Array 84.08 7 P **P 03 49 56.5 -0.2**
comp=Z,0.2nm,0.8s,baz=352,slow=4.3,SNR=4.1
YKA Yellowknife Ar 86.47 353 P **P 03 50 08.9 +0.3**
comp=Z,0.4nm,0.8s,baz=14,slow=5.1,SNR=5.7

NEIC ***15*** *04:17:00.9±1.3, 32°.19N±0°.04×131°.07E±0°.08, h116km±9km, mb4.0/4, Error ellipse: s-maj=10.6km s-min=5.9km az=73.0*
IDC ***15*** *04:17:00.2±1.4, 32°.16N×131°.00E, h114km±6km, mb3.6/4, mb1 3.4/8, mb1mx3.2/39, mbtmp3.8/8, MS3.3/1, Ms1 3.3/1, ms1mx2.3/79, Error ellipse: s-maj=33.0km s-min=13.9km az=102.0*
JMA ***15*** *04:17:01.7±0.1, 32°.23N×131°.04E, h110km±1km, M3.0*
ISC 15 04:17:00.5±0.8, 32°.17N±0°.06×131°.05E±0°.06, h119km±6km, n26, σ0§80/31, mb4.0/6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTZ	**Takazaki**	**0.27**	**172**	P	**Pn**	**04 17 17.6**	**+0.3**
JTZ				*e*S	**Sn**	04 17 29.7	-0.2
JTSN	**Tsuno**	**0.40**	**79**	P	**Pn**	**04 17 18.1**	**+0.3**
JTSN				*e*S	**Sn**	04 17 30.5	-0.3
JIU3	**Izumi3**	**0.43**	**333**	P	**Pn**	**04 17 18.0**	**0.0**
JIU3				*e*S	**Sn**	04 17 30.0	-1.2
JSU	**Suzuyama**	**0.83**	**217**		**Pn**	**04 17 21.1**	**+0.2**
JNU	**Nakatsue**	**0.96**	**352**	P	**Pn**	**04 17 22.1**	**-0.1**
	44nm,0.3s,baz=129,slow=1.3,SNR=258						
JNU				S	**Sn**	04 17 37.7	-0.9
	87nm,0.3s,baz=89,slow=2.6,SNR=26						
JNU	**Nakatsue**	**0.96**	**352**		**Pn**	**04 17 21.9**	**-0.3**
JSJ	**Shimokoshiki**	**1.23**	**247**	P	**Pn**	**04 17 25.3**	**+0.4**
JSJ				S	**Sn**	04 17 43.5	+0.2
JTU	**Tsushima**	**2.73**	**330**		**Pn**	**04 17 43.2**	**+0.1**
JMN	**Monobe**	**2.85**	**56**		**Pn**	**04 17 44.0**	**-0.7**
JWT	**Wachi**	**4.78**	**48**		**Pn**	**04 18 10.4**	**0.0**
JOW	**Kunigami**	**5.84**	**205**	P	**Pn**	**04 18 25.5**	**+0.7**
	0.5nm,0.3s,baz=38,slow=17,SNR=1.3						
JOW				S	**Sn**	04 19 29.3	-1.2
	1.2nm,0.3s,baz=114,slow=20,SNR=2.3						
KSRS	**Korea Array**	**5.87**	**335**	P	**Pn**	**04 18 26.1**	**+1.1**
	0.6nm,0.3s,baz=152,slow=15,SNR=4.7						
INU	**Inuyama**	**5.90**	**56**		**Pn**	**04 18 26.7**	**+1.2**
MAT	**Matsushiro**	**7.36**	**52**	P	**Pn**	**04 18 46.8**	**+1.6**
MAT				S	**Sn**	04 20 07.0	-0.1
MJAR	**Matsushiro Arr**	**7.36**	**52**	P	**Pn**	**04 18 46.5**	**+1.2**
	0.3nm,0.3s,baz=242,slow=14,SNR=5.9						
JHJ	**Hachijo jima 2**	**7.43**	**80**	LR	LR	04 21 23.4	
	comp=Z,236nm,20.0s,baz=53,slow=35						
KLR	**Kul'dur**	**17.05**	**2**	P	**P**	**04 20 53.2**	**+1.9**
	0.1nm,0.3s,baz=266,slow=13,SNR=4.9						
ULN	**Ulaanbaatar**	**24.01**	**318**	P	**P**	**04 22 04.2**	**-0.1**
ULN				IAmb	IAmb	04 22 19.1	
	comp=Z,2.9nm,0.5s						
SONM	**Songino Array**	**24.38**	**317**	P	**P**	**04 22 08.2**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=136,slow=9.3,SNR=16						
SONM	**Songino Array**	**24.38**	**317**	IAmb	IAmb	04 22 10.1	
	comp=Z,2.3nm,0.9s						
MK31	**Makanchi Array**	**39.72**	**306**	P	**P**	**04 24 21.3**	**+0.1**
MK31				IAmb	IAmb	04 24 22.2	
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**39.72**	**306**	P	**P**	**04 24 21.6**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=91,slow=10,SNR=24						
MAKZ	**Makanchi**	**39.94**	**306**	P	**P**	**04 24 22.2**	**-0.7**
KKAR	**Karatay Array**	**48.22**	**301**	P	**P**	**04 25 28.8**	**-0.2**
FINES	**FINESS Array B**	**68.94**	**330**	P	**P**	**04 27 51.7**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=64,slow=6.3,SNR=14						
AKASG	**Malin Array Be**	**72.64**	**319**	P	**P**	**04 28 14.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=57,slow=6.4,SNR=3.7						

INET ***15*** *04:28:11.0±0.7, 11°.95N×87°.82W, h8km±12km, ML2.3, MW2.7*
SNET ***15*** *04:28:13.7±0.9, 12°.11N×87°.92W, h16km±5km, ML2.4*
ISC 15 04:28:08.0±2.5, 11°.9N±0°.1×87°.91W±0°.07, h10km±13km, n11, σ0§57/22, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.32**	**78**	*e*P	**Pb**	**04 28 33.2**	**+0.3**
COPN				IAML		04 29 20.5	
	comp=Z,41nm,0.5s						
CNCH	**Conchagua**	**1.36**	**3**	*e*P	**Pg**	**04 28 34.2**	**0.0**
CNCH				*e*S	**Sb**	**04 28 50.9**	**-0.2**
LCND	**La Caada**	**1.39**	**1**	*e*P	**Pg**	**04 28 34.7**	**0.0**
LCND				*e*P	**Pb**	**04 28 35.1**	**+1.0**
LCND				*e*S	**Sb**	**04 28 50.8**	**-1.1**
LCND				*e*S	**Sn**	**04 28 51.6**	**-0.3**
LCND				IAML		04 28 57.4	
	comp=Z,217nm,0.2s						
MOMN	**Momotombo**	**1.43**	**70**	*e*P	**Pn**	**04 28 34.3**	**+0.2**
MOMN				*e*S	**Sn**	**04 28 52.2**	**-0.7**
MOMN				IAML		04 28 54.9	
	comp=Z,37nm,0.3s						
ALJI	**Alcalda de J**	**1.55**	**335**	*e*S	**Sb**	**04 28 56.5**	**0.0**
PACA	**Pacayal**	**1.60**	**345**	*e*P	**Pg**	**04 28 38.4**	**-0.3**
PACA				*e*P	**Pg**	**04 28 38.5**	**-0.3**
PACA				*e*S	**Sb**	**04 28 58.1**	**0.0**
PQSS	**Presa 15 de Se**	**1.82**	**340**	*e*P	**Pb**	**04 28 41.7**	**+0.3**
PQSS				*e*S	**Sb**	**04 29 03.5**	**-0.6**
PQSS				IAML		04 29 04.8	
	comp=Z,22nm,0.2s						
TECO	**Alcaldia de Te**	**1.82**	**332**	*e*S	**Sn**	**04 29 03.4**	**+0.7**
COEG	**Centro de Oper**	**1.94**	**331**	*e*S	**Sn**	**04 29 06.1**	**+0.5**
COEG				*e*S	**Sb**	**04 29 07.7**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.95**	**336**	*e*P	**Pb**	**04 28 43.8**	**+0.1**
SCLA				*e*S	**Sb**	**04 29 07.6**	**-0.5**
SJTE	**Alcalda de S**	**2.00**	**328**	*e*P	**Pb**	**04 28 44.6**	**0.0**
SJTE				*e*S	**Sb**	**04 29 08.5**	**-1.1**
SJTE				IAML		04 29 12.2	
	comp=Z,24nm,0.3s						

IDC 15 04:34:28.0±8.3, 19°.06S×175°.99W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/19, mbtmp3.8/2, Error ellipse: s-maj=385.6km s-min=69.3km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.69**	**260**	P	P	04 42 59.3	+0.4
	0.5nm,0.5s,baz=95,slow=8.2,SNR=11						
ASAR	**Alice Springs**	**46.70**	**255**	P	P	04 42 58.4	-0.6
	0.9nm,0.7s,baz=94,slow=8.0,SNR=8.9						
BRTR	**Keskin Array B**	**147.21**	**315**	PKPbc	PKPbc	04 54 12.9	-0.8
	0.3nm,0.6s,baz=104,slow=3.6,SNR=1.7						

IDC ***15*** *04:47:14.2±7.2, 14°.37S×167°.16E, h136km±70km, mb3.6/5, mb1 3.7/6, mb1mx3.2/39, mbtmp3.9/6, Error ellipse: s-maj=62.2km s-min=29.0km az=155.0*
NEIC ***15*** *04:47:15±1.0, 14°.4S±0°.2×167°.2E±0°.2, h144km±8km, mb4.1/5, Error ellipse: s-maj=35.3km s-min=16.1km az=117.0*
ISC 15 04:47:15.1±1.0, 14°.44S±0°.10×167°.2E±0°.2, h150km, n15, σ0§62/16, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.00**	**181**		**Pn**	**04 47 39.6**	**-0.3**
SANVU				Sn	**Sn**	**04 47 57.9**	**-1.1**
DZM	**Mont Dzumac**	**7.63**	**185**	P	**Pn**	**04 49 04.1**	**+0.5**
	0.9nm,0.3s,baz=344,slow=7.4,SNR=11						
DZM				S	**Sn**	**04 50 28.9**	**0.0**
	0.2nm,0.3s,baz=125,slow=23,SNR=1.8						
STKA	**Stephens Creek**	**29.15**	**229**	P	**P**	**04 53 03.1**	**+0.9**
	4.2nm,0.5s,baz=46,slow=6.8,SNR=6.8						
STKA	**Stephens Creek**	**29.15**	**229**	IAmb	IAmb	04 53 04.3	
	comp=Z,1.3nm,0.7s						
WB0	**Warramunga Arr**	**31.79**	**256**	P	**P**	**04 53 25.3**	**-0.3**
WB0				IAmb	IAmb	04 53 41.8	
	comp=Z,4.5nm,1.4s						
WRA	**Warramunga Arr**	**31.85**	**255**	P	**P**	**04 53 26.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=85,slow=8.8,SNR=3.4						
AS31	**Alice Springs**	**32.73**	**249**	P	**P**	**04 53 33.4**	**-0.5**
ASAR	**Alice Springs**	**32.73**	**249**	P	**P**	**04 53 33.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=78,slow=8.8,SNR=15						
BBOO	**Buckleboo**	**33.72**	**232**	P	**P**	**04 53 42.6**	**+0.3**
KNRA	**Kununurra**	**37.12**	**263**	P	**P**	**04 54 10.4**	**-1.1**
KNRA				IAmb	IAmb	04 54 12.2	
	comp=Z,13nm,1.2s						
ILAR	**Eielson Array**	**86.26**	**18**	P	**P**	**04 59 39.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=247,slow=4.9,SNR=5.5						
MKAR	**Makanchi Array**	**96.96**	**316**	P	**P**	**05 00 30.0**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=92,slow=5.0,SNR=2.9						
ARCES	**ARCESS Array B**	**119.96**	**345**	PKP	**PKiKP**	**05 05 47.5**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=76,slow=1.6,SNR=13						
ARCES	**ARCESS Array B**	**119.96**	**345**		**PKPdf**	**05 05 46.5**	**-0.7**
FINES	**FINESS Array B**	**125.43**	**338**	PKP	**PKiKP**	**05 05 58.5**	**+0.2**
	comp=Z,2.2nm,1.0s,baz=100,slow=4.7,SNR=1.5						

IDC ***15*** *05:13:34.5±1.3, 5°.52S×147°.10E, h196km±12km, mb3.4/6, mb1 3.8/11, mb1mx3.5/35, mbtmp4.2/11, MS2.8/1, Ms1 2.8/1, ms1mx2.3/29, Error ellipse: s-maj=23.4km s-min=10.5km az=103.0*
DJA ***15*** *05:13:35.7±0.4, 5°.S±4°×14°.7E±°, h198km±8km, M4.5/12, mB5.0/5, mb4.3/12, MLv4.7/5, Mw(mB)4.3/5*
NEIC ***15*** *05:13:36.3±1.8, 5°.55S±0°.07×147°.05E±0°.07, h195km±8km, mb4.3/11, Error ellipse: s-maj=11.6km s-min=9.2km az=140.0*
ISC 15 05:13:35.1±0.7, 5°.47S±0°.06×147°.00E±0°.08, h195km, n49, σ1§12/48, mb4.4/13, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.42**	**6**	P	**Pn**	**05 14 31.1**	**+1.6**
PMG	**Port Moresby**	**3.92**	**178**	P	**Pn**	**05 14 35.3**	**-0.3**
	51nm,0.3s,baz=13,slow=9.9,SNR=96						
PMG				S	**Sn**	**05 15 20.9**	**-2.3**
	29nm,0.3s,baz=222,slow=20,SNR=7.8						
PMG	**Port Moresby**	**3.92**	**178**	P	**Pn**	**05 14 35.1**	**-0.5**
PMG	**Port Moresby**	**3.92**	**178**	P	**Pn**	**05 14 35.5**	**-0.1**
RABL	**Rabaul**	**5.30**	**76**	Pn	**Pn**	**05 14 54.1**	**+0.8**
RABL	**Rabaul**	**5.30**	**76**	P	**Pn**	**05 14 54.4**	**+1.1**
JAY	**Jayapura**	**6.93**	**295**	P	**Pn**	**05 15 14.9**	**+0.5**
	4.7nm,0.3s,baz=160,slow=3.9,SNR=35						
JAY	**Jayapura**	**6.93**	**295**	P	**Pn**	**05 15 14.9**	**+0.5**
	0.1nm457nm35nm,1.0s						
GENI	**Genyem**	**7.39**	**292**	P	**Pn**	**05 15 19.6**	**-0.8**
	0.6nm4um52nm,0.6s						
GENI	**Genyem**	**7.39**	**292**	P	**Pn**	**05 15 19.8**	**-0.6**
COEN	**Coen**	**9.24**	**204**	Pn	**Pn**	**05 15 46.3**	**+1.7**
MTSU	**Mount Surprise**	**12.86**	**192**	P	**Pn**	**05 16 32.3**	**+1.3**
CTA	**Charters Tower**	**14.55**	**183**	P	**Pn**	**05 16 52.7**	**+0.6**
	0.6nm,0.3s,baz=4.9,slow=14,SNR=6.5						
CTA	**Charters Tower**	**14.55**	**183**	P	**Pn**	**05 16 53.4**	**+1.3**
CTAO	**Charters Tower**	**14.55**	**183**		**Pn**	**05 16 52.6**	**+0.6**
KDU	**Kakadu**	**16.03**	**242**	P	**P**	**05 17 10.1**	**+0.3**
SIJI	**Sorong**	**16.36**	**286**	P	**Pn**	**05 17 14.8**	**+0.7**
	1.8nm,0.3s,baz=100,slow=11,SNR=5.3						
SIJI				LR	LR	05 25 48.9	
	comp=Z,35nm,19.3s,baz=52,slow=45						
SWI	**Sorong**	**16.36**	**286**	P	**P**	**05 17 13.2**	**-0.3**
	2um21nm,0.5s						
QIS	**Mount Isa**	**16.63**	**205**	P	**Pn**	**05 17 18.2**	**+0.9**
MTN	**Manton Dam**	**17.29**	**244**	P	**P**	**05 17 24.4**	**+0.8**
MTN				IAmb	IAmb	05 17 25.5	
	comp=Z,12nm,0.9s						
MTN	**Manton Dam**	**17.29**	**244**	P	**P**	**05 17 24.4**	**+0.8**
DRS	**Darwin Rock St**	**17.34**	**245**	P	**P**	**05 17 25.5**	**+1.4**
WB0	**Warramunga Arr**	**18.78**	**220**	P	**P**	**05 17 40.6**	**+0.9**
WB0				IAmb	IAmb	05 17 41.0	
	comp=Z,8.2nm,1.1s						
WRAB	**Tennant Creek**	**18.93**	**219**	P	**P**	**05 17 42.4**	**+1.0**
WRA	**Warramunga Arr**	**18.94**	**219**	P	**P**	**05 17 42.4**	**+0.8**
	comp=Z,5.2nm,0.3s,baz=38,slow=11,SNR=199						
WRA				S	**S**	**05 21 04.5**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=40,slow=21,SNR=8.8						
WRA	**Warramunga Arr**	**18.94**	**219**	P	**P**	**05 17 41.0**	**-0.5**
EIDS	**Eidsvold**	**20.17**	**169**	P	**P**	**05 17 55.2**	**+0.5**
EIDS				IAmb	IAmb	05 17 58.1	
	comp=Z,4.6nm,0.7s						
KNRA	**Kununurra**	**20.58**	**239**	P	**P**	**05 18 00.7**	**+1.6**
KNRA	**Kununurra**	**20.58**	**239**	P	**P**	**05 18 00.9**	**+1.8**
AS31	**Alice Springs**	**22.06**	**214**	P	**P**	**05 18 14.7**	**+0.3**
AS31				IAmb	IAmb	05 18 20.4	
	comp=Z,5.0nm,0.8s						
ASAR	**Alice Springs**	**22.06**	**214**	P	**P**	**05 18 15.1**	**+0.7**
	comp=Z,6.7nm,0.4s,baz=47,slow=8.4,SNR=89						
ASAR				S	**S**	**05 22 04.8**	**+1.3**
	comp=Z,6.2nm,0.8s,baz=40,slow=22,SNR=16						
ASAR	**Alice Springs**	**22.06**	**214**	P	**P**	**05 18 14.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**24.35**	**237**	P	**P**	**05 18 35.8**	**+0.5**
	comp=Z,6.5nm,0.5s,baz=50,slow=11,SNR=35						
OOD	**Oodnadatta**	**24.67**	**205**	P	**P**	**05 18 40.0**	**+1.9**
DZM	**Mont Dzumac**	**25.02**	**133**	P	**P**	**05 18 39.9**	**-1.5**
DZM				IAmb	IAmb	05 18 56.2	
	comp=Z,11nm,1.1s						
ARMA	**Armidale**	**25.20**	**171**	P	**P**	**05 18 43.4**	**+0.5**
ARMA				IAmb	IAmb	05 19 03.0	
	comp=Z,15nm,1.1s						
EDFI	**Ende, Flores**	**25.32**	**261**	P	**P**	**05 18 42.9**	**-1.4**
STKA	**Stephens Creek**	**26.76**	**190**	P	**P**	**05 18 59.6**	**+2.8**
BBOO	**Buckleboo**	**29.06**	**199**	P	**P**	**05 19 17.1**	**-0.1**
BBOO				IAmb	IAmb	05 19 18.4	
	comp=Z,5.5nm,1.0s						
FORT	**Forrest**	**30.84**	**213**	P	**P**	**05 19 33.0**	**+0.1**
PZH	**PanZhiHua**	**54.13**	**308**	P	P	05 22 45.8	+5.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.6s						
HHC	**Hu-ho-hao-te**	**56.38**	**328**	*e*P	P	05 23 01.8	+5.5
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
SONM	**Songino Array**	**63.94**	**331**	P	**P**	**05 23 47.2**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=134,slow=6.2,SNR=2.6						
WMQ	**Urumqi**	**72.39**	**319**	*e*P	P	05 24 44.5	+4.5
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				LR	LR		
	comp=N,270nm,28.9s						
WMQ				LR	LR		
	comp=E,880nm,28.9s						
WMQ				LR	LR		
	comp=Z,87nm,29.3s						
MKAR	**Makanchi Array**	**77.09**	**320**	P	**P**	**05 25 06.7**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=102,slow=5.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**78.56**	**328**	P	**P**	**05 25 14.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=106,slow=5.0,SNR=2.3						
QSPA	**South Pole Qui**	**84.50**	**180**	P	**P**	**05 25 45.4**	**-0.5**
ILAR	**Eielson Array**	**85.00**	**23**	P	**P**	**05 25 46.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=238,slow=4.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**144.96**	**285**	PKPbc	PKPbc	05 32 48.2	-1.5
	comp=Z,0.4nm,0.9s,baz=74,slow=4.0,SNR=1.8						

IDC ***15*** *05:25:33.9±2.1, 1°.20N×126°.25E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/29, mbtmp3.4/3, Error ellipse: s-maj=200.3km s-min=25.5km az=65.0*
DJA ***15*** *05:25:48.4±0.6, 2°.N±4°×12°.7E±°, h129km±6km, M4.2/9, mB4.7/1, mb4.5/4, MLv4.1/9, Mw(mB)4.0/1*
ISC 15 05:25:48.2±1.3, 1.67N±0°.08×127°.4E±0°.1, h150km, n12, σ1§12/14, mb3.2/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.89**	**180**	P	**Pn**	**05 26 11.5**	**-0.6**
LBMI	**Labuha**	**2.29**	**177**	P	**Pn**	**05 26 27.4**	**+0.6**
SGSI	**Sangihe**	**2.72**	**318**	P	**Pn**	**05 26 31.5**	**-0.5**
SGSI				S	**Sn**	**05 27 04.1**	**-1.8**
KMSI	**Cibinong**	**3.56**	**252**	P	**Pn**	**05 26 42.9**	**+0.2**
KMSI				S	**Sn**	**05 27 24.4**	**-0.5**
SANI	**Sanana**	**3.94**	**201**	P	**Pn**	**05 26 46.0**	**-1.7**
GTOI	**Gorontalo**	**4.48**	**257**	P	**Pn**	**05 26 55.9**	**+1.2**
APSI	**Ampana**	**6.27**	**246**	P	**Pn**	**05 27 18.3**	**-0.2**
	0.3nm29nm,0.7s						
BKSI	**Bulukumba**	**10.03**	**226**	P	**Pn**	**05 28 08.9**	**+0.3**
	461nm31nm,0.6s						
SOEI	**Soe**	**11.76**	**195**	P	**Pn**	**05 28 32.4**	**+0.9**
WRA	**Warramunga Arr**	**22.54**	**163**	P	**P**	**05 30 34.9**	**-0.9**
	0.5nm,0.5s,baz=338,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**25.97**	**166**	P	**P**	**05 31 06.9**	**-0.1**
	0.1nm,0.4s,baz=347,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**59.61**	**326**	P	**P**	**05 35 38.1**	**+1.8**
	0.4nm,0.4s,baz=120,slow=7.6,SNR=9.1						

AZER ***15*** *05:27:46.4±6.7, 35°.68N×45°.21E, h10km, Error ellipse: s-maj=52.3km s-min=25.5km az=50.0, Hypocentre not reviewed by the ISC*
TEH ***15*** *05:27:48.6, 36°.18N×45°.46E, h6km, ML3.0*
ISN ***15*** *05:27:48.4±1.1, 36°.23N×45°.53E, h11km, ML2.9*
ISC 15 05:27:50.0±0.8, 36°.20N±0°.03×45°.54E±0°.05, h10km, n29, σ1§91/36, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.58**	**14**	*e*Pg	**Pg**	**05 28 00.4**	**-0.7**
MAHB				*e*Sg	**Sg**	**05 28 08.7**	**-0.1**
MAHB				*e*		05 28 14.8	
	comp=Z,21µm,0.4s						
IKRK	**Kirkuk**	**1.26**	**231**	*e*Pn	**Pg**	**05 28 13.9**	**-0.1**
IKRK				*e*Sn	**Sn**	**05 28 32.1**	**+1.6**
IKRK				AML	AML	05 28 34.1	
	comp=E,348nm,0.5s						
IKRK				AML	AML	05 28 37.0	
	comp=N,407nm,0.5s						
IAZR	**Azarshahr**	**1.51**	**14**	*e*Pg	**Pg**	**05 28 18.6**	**-0.4**
IAZR				*e*		05 28 42.8	
	comp=Z,5µm,0.8s						
IDHR	**Dehrash**	**1.66**	**155**	*e*Pn	**Pb**	**05 28 18.8**	**-1.8**
IDHR				*e*		05 28 48.6	
	comp=Z,4µm,0.3s						
IBST	**Bostanabad**	**1.85**	**36**	*e*Pn	**Pb**	**05 28 22.9**	**-1.0**
IBST				*e*		05 28 54.5	
	comp=Z,2µm,0.5s						
IGHG	**Ghaleghazi**	**2.06**	**155**	*e*Pn	**Pb**	**05 28 26.4**	**-1.0**
IGHG				*e*		05 29 14.7	
	comp=Z,3µm,1.0s						
ISHB	**Shabestar**	**2.08**	**2**	*e*Pn	**Pb**	**05 28 26.1**	**-1.7**
ISHB				*e*		05 29 05.1	
	comp=Z,940nm,0.4s						
ITBZ	**Tabriz**	**2.08**	**13**	*e*Pn	**Pb**	**05 28 26.2**	**-1.7**
ITBZ				*e*		05 28 59.1	
	comp=Z,966nm,0.6s						
KER	**Kermanshah**	**2.24**	**144**	*e*Pn	**Pb**	**05 28 28.5**	**-2.0**
KCHF	**Cheshme Sefid,**	**2.29**	**147**	*e*Pn	**Pb**	**05 28 30.1**	**-1.3**
KCHF				*e*		05 29 12.6	
	comp=Z,2µm,0.4s						
ISRB	**Sarab**	**2.35**	**46**	*e*Pn	**Pb**	**05 28 31.6**	**-0.9**
ISRB				*e*		05 28 36.3	
	comp=Z,795nm,0.4s						
ZNJK	**Zanjan**	**2.59**	**79**	*e*Pn	**Pb**	**05 28 35.5**	**-1.0**
IBDR	**Badra**	**3.10**	**174**	*e*Pn	**Pn**	**05 28 39.0**	**+0.1**
IBDR				*e*Sn	**Sn**	**05 29 16.0**	**-0.1**
IBDR				AML	AML	05 29 31.3	
	comp=N,28nm,0.7s						
IBDR				AML	AML	05 29 41.6	
	comp=E,38nm,0.5s						
GRMI	**Germi**	**3.21**	**35**	*e*Pn	**Pb**	**05 28 45.3**	**-1.7**
IDOB	**Doab**	**3.25**	**137**	*e*Pn	**Pn**	**05 28 42.3**	**+1.2**
HAGD	**Aghdareh**	**3.25**	**114**	*e*Pn	**Pb**	**05 28 44.0**	**-3.8**
IKFM	**Kafar-mosalman**	**3.28**	**144**	*e*Pn	**Pn**	**05 28 43.3**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.33**	**97**	*e*Pn	**Pn**	**05 28 43.4**	**+1.2**
IRAZ	**Razeghan**	**3.66**	**101**	*e*Pn	**Pn**	**05 28 49.0**	**+2.2**
IRAZ				*e*		05 29 56.0	
	comp=Z,232nm,0.8s						
BMDN	**Meydan**	**3.70**	**132**	*e*Pn	**Pn**	**05 28 49.1**	**+1.8**
BMDN				*e*		05 29 58.6	
	comp=Z,305nm,1.1s						
ASAO	**Ashtian**	**4.03**	**113**	*e*Pn	**Pn**	**05 28 55.2**	**+3.4**
KHMZ	**Khomeyn**	**4.39**	**123**	*e*Pn	**Pn**	**05 28 59.7**	**+2.9**
RAFI	**Al-Rafai**	**4.50**	**174**	*e*Pn	**Pn**	**05 28 59.0**	**+1.0**
RAFI				*e*Sn	**Sn**	**05 29 51.0**	**+0.6**
AMIS	**Naft Sefid**	**5.50**	**144**	*e*Pn	**Pn**	**05 29 13.2**	**+1.3**
IPIR	**Pirpir**	**5.65**	**127**	*e*Pn	**Pn**	**05 29 15.8**	**+1.6**

IDC 15 05:36:34.8±1.6, 3°.65S×130°.68E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.2/45, mbtmp3.6/5, ML3.2/3, Error ellipse: s-maj=71.0km s-min=23.8km az=85.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.82**	**12**	Pn	Pn	05 37 19.7	-1.5
	1.0nm,0.3s,baz=163,slow=19,SNR=1.3						
FITZ	**Fitzroy Crossi**	**15.19**	**199**	Pn	Pn	05 40 10.9	+0.2
	0.2nm,0.3s,baz=18,slow=9.6,SNR=6.8						
WRA	**Warramunga Arr**	**16.58**	**168**	Pn	Pn	05 40 28.0	-1.0
	0.1nm,0.3s,baz=348,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**20.14**	**171**	P	P	05 41 10.8	0.0
	1.3nm,0.5s,baz=346,slow=10,SNR=25						
MKAR	**Makanchi Array**	**65.83**	**326**	P	P	05 47 22.7	+0.6
	0.4nm,0.5s

PNSH			S	Sg	06 01 13.5	-2.1
PNSH	**Pansheti**	**0.91 252**	PG	Pg	06 01 02.1	-1.5
PNSH			S	Sg	06 01 13.4	-2.1
ARKR	**Arakani**	**0.95 110**	*e*PG	Pg	06 01 03.7	-0.5
ARKR			*e*S	Sn	06 01 17.9	+0.1
ARKR			pmax	pmax		
	comp=Z,56nm,0.4s					
ARKR	**Arakani**	**0.95 110**	*e*Pg	Pg	06 01 03.7	-0.5
ARKR			*e*Sg	Sn	06 01 18.0	+0.1
BUJR	**Buynaksk**	**0.98 96**	*e*PG	Pb	06 01 04.5	0.0
BUJR			*e*S	Sn	06 01 19.2	+0.7
BUJR			pmax	pmax		
	comp=Z,70nm,0.4s					
BUJR	**Buynaksk**	**0.98 96**	*e*Pg	Pb	06 01 04.5	0.0
BUJR			*e*Sg	Sn	06 01 19.3	+0.7
BTKR	**Batakoyurt**	**1.01 296**	*e*PG	Pb	06 01 05.3	+0.2
BTKR			*e*Sg	Sn	06 01 20.4	+1.0
GNBR	**Gunib**	**1.02 121**	*e*PG	Pn	06 01 05.8	+0.1
GNBR			pmax	pmax		
	comp=Z,31nm,0.2s					
GNBR	**Gunib**	**1.02 121**	*e*Pg	Pg	06 01 04.7	-0.9
GNBR			*e*Sg	Sn	06 01 20.0	+0.3
GUDG	**Gudauri**	**1.07 245**	P	Pg	06 01 05.3	-1.3
GUDG			S	Sg	06 01 19.1	-1.6
GUDG	**Gudauri**	**1.07 245**	PG	Pg	06 01 05.3	-1.3
GUDG			S	Sg	06 01 19.0	-1.6
LACR	**Lac**	**1.10 265**	⇑*i*PG	Pg	06 01 06.1	-1.0
LACR			*e*S	Sb	06 01 21.1	+0.3
LACR	**Lac**	**1.10 265**	*i*Pg	Pg	06 01 05.9	-1.2
LACR			*e*Sg	Sn	06 01 22.0	+0.3
TRKR	**Terskaya**	**1.11 316**	*e*PG	Pn	06 01 07.2	+0.4
TRKR			*e*S	Sn	06 01 22.4	+0.7
TRKR	**Terskaya**	**1.11 316**	*e*Pg	Pn	06 01 07.2	+0.4
TRKR			*e*Sg	Sn	06 01 22.6	+0.9
ARNR	**Ardon**	**1.13 283**	*e*PG	Pn	06 01 07.3	+0.2
ARNR			*e*S	Sn	06 01 24.2	+1.9
ARNR	**Ardon**	**1.13 283**	*e*Pg	Pb	06 01 07.0	-0.1
ARNR			*e*Sg	Sn	06 01 24.2	+1.9
LGD	**Lagodekhi**	**1.15 163**	P	Pg	06 01 07.5	-0.5
LGD			S	Sn	06 01 23.0	+0.3
LGD	**Lagodekhi**	**1.15 163**	PG	Pg	06 01 07.4	-0.5
LGD			S	Sn	06 01 22.9	+0.3
KMKR	**Kumukh**	**1.26 129**	*e*PG	Pg	06 01 09.9	-0.2
KMKR			*e*S	Sn	06 01 28.1	+2.4
KMKR			pmax	pmax		
	comp=Z,71nm,0.4s					
KMKR	**Kumukh**	**1.26 129**	*e*Pg	Pg	06 01 09.9	-0.2
KMKR			*e*Sg	Sn	06 01 28.2	+2.4
MAK	**Makhachkala**	**1.26 88**	*e*PG	Pn	06 01 07.7	-1.2
MAK			*e*		06 01 28.3	
MAK			pmax	pmax		
	comp=Z,129nm,0.2s					
MAK			smax	smax		
	comp=E,485nm,0.4s					
MAK			smax	smax		
	comp=E,421nm,0.4s					
KORR	**Kora**	**1.27 278**	*e*PG	Pb	06 01 09.4	-0.1
KORR			*e*S	Sn	06 01 27.8	+2.0
KORR	**Kora**	**1.27 278**	*e*Pg	Pb	06 01 09.3	-0.1
KORR			*i*Sg	Sn	06 01 27.8	+2.0
KANR	**Karaman**	**1.28 77**	*e*PG	Pn	06 01 08.2	-0.8
KANR			*e*S	Sb	06 01 25.9	+0.2
KANR			pmax	pmax		
	comp=Z,282nm,0.4s					
STDR	**Stavd-Durt**	**1.34 290**	⇓*i*PG	Pg	06 01 10.8	-0.8
STDR			*e*S	Sg	06 01 30.7	+1.7
STDR	**Stavd-Durt**	**1.34 290**	*e*Pg	Pb	06 01 10.4	-0.1
STDR			*e*Sg	Sg	06 01 30.6	+1.7
PRTR	**Priterechnaya**	**1.37 307**	⇑*i*PG	Pb	06 01 11.2	0.0
PRTR			*e*S	Sg	06 01 31.6	+1.4
PRTR	**Priterechnaya**	**1.37 307**	*i*Pg	Pb	06 01 11.1	0.0
PRTR			*i*Sg	Sg	06 01 31.6	+1.4
BTNK	**Botanikuri**	**1.45 211**	P	Pn	06 01 10.4	-1.0
BTNK			S	Sb	06 01 30.9	+0.2
BTNK	**Botanikuri**	**1.45 211**	PG	Pn	06 01 10.4	-1.0
BTNK			S	Sb	06 01 30.8	+0.2
SGKR	**Sergokala**	**1.46 108**	*e*PG	Pb	06 01 12.7	+0.1
SGKR			*e*S	Sg	06 01 33.9	+1.1
SGKR			pmax	pmax		
	comp=Z,50nm,0.4s					
SGKR	**Sergokala**	**1.46 108**	*e*Pg	Pb	06 01 12.8	+0.1
SGKR			*e*Sg	Sg	06 01 34.0	+1.1
LSNR	**Lesken**	**1.48 284**	*e*PG	Pn	06 01 12.5	+0.6
LSNR			*e*S	Sg	06 01 33.7	+0.2
LSNR	**Lesken**	**1.48 284**	*e*Pg	Pg	06 01 13.4	-0.9
LSNR			*e*Sg	Sg	06 01 34.6	+1.0
DDFL	**Dedoflistskaro**	**1.50 170**	P	Pg	06 01 17.5	+2.7
DDFL	**Dedoflistskaro**	**1.50 170**	PG	Pg	06 01 17.5	+2.7
DGRG	**David-gareji**	**1.51 192**	P	Pg	06 01 15.2	+0.3
DGRG	**David-gareji**	**1.51 192**	PG	Pg	06 01 15.2	+0.3
URKR	**Urkarakh**	**1.56 119**	*e*PG	Pb	06 01 14.9	+0.4
URKR			*i*S	Sg	06 01 38.3	+2.0
URKR			pmax	pmax		
	comp=Z,51nm,0.4s					
URKR			smax	smax		
	comp=N,102nm,0.7s					
DIGR	**Digorskoe uzhe**	**1.62 270**	*e*PN	Pn	06 01 12.8	-1.2
DIGR			*e*S	Sn	06 01 35.6	+0.9
DIGR	**Digorskoe uzhe**	**1.62 270**	*e*Pg	Pn	06 01 12.8	-1.2
DIGR			*e*Sg	Sn	06 01 35.6	+0.9
NCK	**Nalchik**	**1.70 290**	*e*PN	Pb	06 01 16.1	-0.7
NCK			*e*S	Sg	06 01 39.8	-0.8
NCK	**Nalchik**	**1.70 290**	*e*Pg	Pn	06 01 12.9	-2.0
NCK			*e*Sg	Sb	06 01 38.0	+0.1
ONI	**Oni**	**1.75 260**	P	Pb	06 01 16.9	-0.8
ONI			S	Sb	06 01 40.2	+0.7
ONI	**Oni**	**1.75 260**	PN	Pb	06 01 16.9	-0.8
ONI			S	Sb	06 01 40.2	+0.7
KZRT	**Kazreti**	**1.85 214**	P	Pb	06 01 18.9	-0.6
KZRT			S	Sb	06 01 43.4	+1.0
KZRT	**Kazreti**	**1.85 214**	PN	Pb	06 01 18.9	-0.6
TRLG	**Trialeti**	**1.87 223**	P	Pb	06 01 19.5	-0.3
TRLG			S	Sg	06 01 45.0	-1.0
TRLG	**Trialeti**	**1.87 223**	PN	Pb	06 01 19.5	-0.3
TRLG			S	Sg	06 01 45.0	-1.0
BRNG	**Burnasheti**	**1.95 229**	P	Pb	06 01 21.4	+0.2
BRNG			S	Sg	06 01 47.8	-1.0
DMNI	**Dmanisi**	**1.99 217**	P	Pn	06 01 20.5	+1.4
DMNI			S	Sb	06 01 47.6	+1.1
DMNI	**Dmanisi**	**1.99 217**	PN	Pn	06 01 20.4	+1.4
SEKA	**Sheki**	**2.02 148**	PN	Pb	06 01 22.9	+0.7
AKT	**Akhty**	**2.04 134**	*e*PN	Pn	06 01 21.2	+1.4
AKT			*e*S	Sb	06 01 49.2	+1.2
AKT			pmax	pmax		
	comp=Z,27nm,0.2s					
AKT	**Akhty**	**2.04 134**	*e*Pg	Pb	06 01 22.8	+0.1
AKT			*e*Sg	Sg	06 01 50.0	-1.6
DRN	**Derbent**	**2.08 115**	*e*Pg	Pg	06 01 25.2	-0.7
DRN			*i*Sg	Sg	06 01 52.7	-0.2
KSMR	**Kasumkent**	**2.19 127**	*e*PN	Pb	06 01 23.6	-1.5
KSMR			*e*S	Sb	06 01 53.6	+1.7
KSMR			pmax	pmax		
	comp=Z,45nm,0.6s					
KSMR	**Kasumkent**	**2.19 127**	*e*Pg	Pb	06 01 23.6	-1.5
KSMR			*e*Sg	Sb	06 01 53.7	+1.7
KBZ	**Khabaz**	**2.25 292**	*i*PN	Pn	06 01 24.4	+1.9
KBZ	**Khabaz**	**2.25 292**	*e*Pn	Pn	06 01 24.4	+1.9
KBZ			*e*Sn	Sb	06 01 54.7	+0.8
PYA1	**Pyatigorsk**	**2.26 301**	*i*PN	Pn	06 01 23.4	+0.7
NEY	**Neytrino**	**2.27 279**	*i*PN	Pn	06 01 23.8	+0.9
NEY	**Neytrino**	**2.27 279**	*e*Pn	Pn	06 01 23.8	+0.9
NEY			*e*Sn	Sb	06 01 53.5	-1.0
GANJ	**Ganja**	**2.32 170**	PN	Pn	06 01 22.5	-0.9
BGD	**Bogdanovka**	**2.33 225**	P	Pb	06 01 26.9	-0.7
BGD			S	Sb	06 01 58.0	+1.8
BGD	**Bogdanovka**	**2.33 225**	PN	Pb	06 01 26.9	-0.7
BGD			S	Sb	06 01 58.0	+1.8
SHA1	**Shidzhatmaz**	**2.42 291**	*e*PN	Pn	06 01 25.6	+0.5
SHA1			*e*S	Sb	06 01 58.7	-0.3
SHA1	**Shidzhatmaz**	**2.42 291**	*e*Pn	Pn	06 01 26.7	+1.6
SHA1			*e*Sn	Sb	06 01 59.0	0.0
KIV	**Kislovodsk**	**2.48 295**	*e*Pn	Pn	06 01 28.0	+2.2
KIV			*i*Sn	Sb	06 01 59.9	-0.6
ABS	**Abastumani**	**2.50 243**	P	Pn	06 01 28.1	+2.1
ABS			S	Sb	06 02 02.6	+1.6
ABS	**Abastumani**	**2.50 243**	PN	Pn	06 01 28.1	+2.1
ABS			S	Sb	06 02 02.6	+1.6
ALER	**Alexandrovskoy**	**2.77 312**	*e*Pn	Pn	06 01 31.5	+1.9
ALER			*e*Sn	Sb	06 02 06.7	-2.1
GNI	**Garni**	**2.89 196**	*i*PN	Pb	06 01 34.7	-2.4
GOF	**Gofitskoye**	**2.91 318**	⇑*e*PN	Pn	06 01 31.6	+0.1
GOF			*e*S	**Sn**	**06 02 06.1**	**0.0**
GOF			pmax	pmax		
	comp=Z,10.0nm,0.2s					
GOF			smax	smax		
	comp=E,30nm,0.2s					
GOF			smax	smax		
	comp=N,26nm,0.2s					
GOF	**Gofitskoye**	**2.91 318**	*e*Pn	**Pb**	**06 01 37.7**	**+0.3**
GOF			*e*Sn	**Sb**	**06 02 13.9**	**+1.3**
AHMR	**Akhmetovskaya**	**3.66 291**	*e*Pn	**Pb**	**06 01 51.9**	**+1.7**
AHMR			*e*Sn	**Sb**	**06 02 36.3**	**+1.9**
AKTO	**Aktyubinsk**	**11.26 44**	⇓Pn	**Pn**	**06 03 26.6**	**+0.5**
	comp=N,1.1nm,0.8s					
AKTO			⇓Sn	Sn	06 05 22.5	-8.9
	comp=N,1.1nm,0.7s					
AB31	**Akbulak array**	**11.68 52**	⇓Pn	**Pn**	**06 03 33.6**	**+1.8**
	comp=N,0.4nm,0.7s,baz=245,slow=11,SNR=7.6					
AB31			⇑Sn	**Sn**	**06 05 36.7**	**-5.1**
	comp=N,0.7nm,0.7s,baz=240,slow=19,SNR=4.3					
BRVK	**Borovoye**	**19.18 50**	*i*P	**P**	**06 05 07.2**	**-1.5**
BRVK			pmax	pmax		
	comp=Z,5.0nm,2.4s					

CRAAG ***15*** *06:19:58.7, 35°.77N×0°.09W, ml2.6*
CNRM ***15*** *06:19:59.4, 35°.90N×0°.72W, h0km, ml2.5*

ISC 15 06:20:01.1±1.1, 35°.89N±0°.04×0°.42W±0°.06, h27km, n11, σ1§52/16, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.19**	**214**	P	Pn	06 20 15.0	+6.8
ODJA	**Bouhanifia**	**0.60**	**158**	P	**Pb**	**06 20 11.0**	**-2.1**
OJBR	**Djebel Berber**	**0.69**	**116**	P	Pb	06 20 07.0	-7.7
OKGL	**Djebel Kef Gue**	**0.88**	**80**	P	**Pn**	**06 20 19.0**	**+1.3**
CART	**Cartagena**	**1.76**	**345**	P	**Pb**	**06 20 31.7**	**-1.0**
CART				S	**Sn**	**06 20 52.0**	**+0.7**
CART	**Cartagena**	**1.76**	**345**	P	**Pn**	**06 20 30.6**	**+0.8**
CART				S	**Sn**	**06 20 51.0**	**-0.3**
GOG	**Mont Gurugu**	**2.20**	**253**	P	**Pn**	**06 20 37.1**	**+1.1**
GOG				S	**Sn**	**06 21 01.7**	**-0.8**
JBK	**JBK**	**2.34**	**229**	P	**Pn**	**06 20 39.6**	**+1.6**
JBK				S	**Sn**	**06 21 06.1**	**0.0**
TDRA	**Tendrara**	**3.14**	**206**	P	**Pn**	**06 20 50.8**	**+1.8**
TDRA				S	**Sn**	**06 21 28.1**	**+2.5**
MDT	**Midelt**	**4.63**	**230**	P	**Pn**	**06 21 11.1**	**+1.8**
MDT				S	**Sn**	**06 22 00.2**	**-2.1**
MD31	**MD31**	**4.69**	**231**	P	**Pn**	**06 21 10.8**	**+0.7**
MD31				S	**Sn**	**06 22 03.1**	**-0.6**

SSNC 15 06:39:41.6±0.8, 19°.98N×76°.05W, h7km±860km, MD2.0, ML1.1, MW1.9, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.34**	**88**	*e*P	Pg	06 39 47.5	-0.7
RCC				*e*S	Sg	06 39 53.0	+0.4
RCC				IAML		06 39 54.3	
	comp=E,14nm,0.2s						
RCC				IAML		06 39 54.4	
	comp=N,18nm,0.2s						
RCC	**Rio Carpintero**	**0.34**	**88**	*e*P	Pg	06 39 47.7	-0.5
RCC				*e*S	Sg	06 39 52.9	+0.3
RCC				IAML		06 39 54.4	
	comp=E,11nm,0.2s						
RCC				IAML		06 39 54.5	
	comp=N,20nm,0.2s						
RCC	**Rio Carpintero**	**0.34**	**88**	*e*P	Pg	06 39 47.7	-0.5
RCC				*e*S	Sg	06 39 52.6	-0.1
RCC				IAML		06 39 54.3	
	comp=E,11nm,0.2s						
RCC				IAML		06 39 54.4	
	comp=N,19nm,0.2s						
GTMO	**Guantanamo**	**0.86**	**83**	*e*P	Pg	06 39 57.9	-0.4
GTMO	**Guantanamo**	**0.86**	**83**	*e*P	Pg	06 39 58.0	-0.2
GTMO				IAML		06 40 13.2	
	comp=E,254nm,0.3s						
GTMO				IAML		06 40 13.9	
	comp=N,364nm,0.4s						
GTMO	**Guantanamo**	**0.86**	**83**	*e*P	Pg	06 39 58.1	-0.2
GTMO				*e*S	Sg	06 40 09.0	-0.5
GTBY	**Guantanamo Bay**	**0.89**	**93**	*e*P	Pg	06 39 57.0	-1.7
GTBY	**Guantanamo Bay**	**0.89**	**93**	*e*P	Pg	06 39 57.0	-1.7
LMGC	**Las Mercedes**	**0.90**	**275**	*e*P	Pg	06 39 56.2	-2.6
LMGC				*e*S	Sg	06 40 08.2	-2.3
LMGC				IAML		06 40 09.6	
	comp=N,17nm,0.1s						
LMGC				IAML		06 40 09.7	
	comp=E,8.2nm,0.1s						
LMGC	**Las Mercedes**	**0.90**	**275**	*e*P	Pg	06 39 56.5	-2.4
LMGC				*e*S	Sg	06 40 08.7	-1.8
LMGC				IAML		06 40 10.4	
	comp=N,18nm,0.1s						
LMGC				IAML		06 40 12.9	
	comp=E,11nm,0.1s						
LMGC	**Las Mercedes**	**0.90**	**275**	*e*P	Pg	06 39 56.5	-2.3
LMGC				*e*S	Sg	06 40 08.5	-2.1
HLGC	**Holguin**	**0.90**	**360**	*e*P	Pn	06 40 00.4	-0.4
HLGC				IAML		06 40 19.5	
	comp=N,6.7nm,0.3s						
HLGC				IAML		06 40 19.5	
	comp=E,6.4nm,0.3s						

IDC 15 06:49:56.2±2.3, 1°.15S×67°.97E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.2/65, mbtmp3.7/4, ML4.3/1, MS3.3/6, Ms1 3.3/6, ms1mx2.8/53, Error ellipse: s-maj=70.6km s-min=40.4km az=61.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.21**	**56**	Pn	Pn	06 53 33.3	+0.8
	1.4nm,0.3s,baz=287,slow=11,SNR=4.8						
PALK				LR	LR	06 58 18.2	
	comp=Z,72nm,21.2s,baz=339,slow=33						
WSAR	**Wadi Sarin**	**25.90**	**340**	LR	LR	07 03 23.8	
	comp=Z,50nm,20.2s,baz=171,slow=31						
CMAR	**Chiang Mai Arr**	**36.16**	**56**	LR	LR	07 10 30.3	
	comp=Z,22nm,19.4s,baz=225,slow=34						
LSZ	**Lusaka**	**41.69**	**248**	LR	LR	07 11 03.8	
	comp=Z,84nm,20.9s,baz=154,slow=30						
LBTB	**Lobatse**	**47.27**	**236**	LR	LR	07 16 11.1	
	comp=Z,58nm,18.6s,baz=80,slow=33						
BOSA	**Boshof**	**49.05**	**232**	LR	LR	07 15 42.2	
	comp=Z,45nm,20.5s,baz=160,slow=32						
MKAR	**Makanchi Array**	**49.38**	**13**	P	P	06 58 47.2	-0.4
	0.2nm,0.7s,baz=182,slow=8.4,SNR=2.6						
WRA	**Warramunga Arr**	**67.43**	**111**	P	P	07 00 54.3	0.0
	0.6nm,0.9s,baz=286,slow=6.1,SNR=3.4						
ASAR	**Alice Springs**	**67.55**	**115**	P	P	07 00 55.0	-0.1
	0.7nm,1.0s,baz=284,slow=5.6,SNR=3.3						
TXAR	**Lajitas Array**	**150.87**	**345**	PKPbc	PKPbc	07 09 51.7	0.0
	0.4nm,0.9s,baz=48,slow=2.7,SNR=2.7						

IDC 15 07:15:29.2±3.2, 54°.43N×86°.87E, h0km, mb1 3.0/2, mb1mx2.9/58, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=28.1km s-min=16.3km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**249**	*i*		07 22 50.0	
	baz=70,slow=347,SNR=12						
ZALV	**Zalesovo Beam**	**1.29**	**249**	Pg	Pg	07 15 52.7	-1.4
	1.6nm,0.3s,baz=69,slow=17,SNR=15						
ZALV				Lg	Lg	07 16 10.8	
	1.8nm,0.3s,baz=64,slow=26,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.35**	**237**	Pn	Pn	07 17 04.9	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=12						
MKAR	**Makanchi Array**	**8.18**	**203**	Pn	Pn	07 17 29.9	+0.8
	0.1nm,0.3s,baz=25,slow=13,SNR=3.8						
MKAR				Sn	Sn	07 19 02.3	+0.1
	0.1nm,0.3s,baz=16,slow=28,SNR=4.6						
MKAR				Lg	Lg	07 19 49.0	
	0.0nm,0.3s,baz=20,slow=29,SNR=1.4						

JMA 15 07:17:20.2, 38°.47N×141°.85E, h56km±1km, M3.5, 7C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.34**	**242**	⇑P	Pn	07 17 30.2	0.0
JIKH				S	Sn	07 17 37.3	-0.2
JIO	**Ouri**	**0.39**	**268**	⇑P	Pn	07 17 30.8	+0.1
JIO				S	Sn	07 17 38.2	-0.1
JKMT	**Kesennumamotoy**	**0.45**	**319**	⇑P	Pn	07 17 31.5	+0.2
JKMT				*e*S	Sn	07 17 39.3	0.0
OFUJ	**Ofunato**	**0.63**	**347**	⇓P	Pn	07 17 33.3	0.0
JMK	**Ichinoseki**	**0.69**	**314**	⇑P	Pn	07 17 34.4	+0.3
JMK				*e*S	Sn	07 17 44.5	+0.3
JOU	**Okura**	**0.94**	**264**	⇑P	Pn	07 17 37.3	0.0
JOU				*e*S	Sn	07 17 50.0	+0.1
JMM	**Marumori**	**1.03**	**234**	⇑P	Pn	07 17 38.1	-0.3
JMM				*e*S	Sn	07 17 51.3	-0.7
JOM	**Ohasama**	**1.09**	**337**	P	Pn	07 17 39.7	+0.4
JOM				*e*S	Sn	07 17 53.7	+0.2
JYK	**Kaneyama**	**1.25**	**291**	⇑P	Pn	07 17 41.8	+0.4
JYK				S	Sn	07 17 57.9	+0.6
JRG	**Rokugo**	**1.32**	**315**	P	Pn	07 17 42.3	-0.1
JRG				*e*S	Sn	07 17 59.4	+0.3
JFK	**Kawauchi**	**1.34**	**215**	P	Pn	07 17 42.6	-0.1
JYS	**Shiratake**	**1.43**	**261**	P	Pn	07 17 44.2	+0.4
JYS				S	Sn	07 18 02.3	+0.8
JFT	**Otama**	**1.53**	**232**	P	Pn	07 17 45.7	+0.5
JFT				S	Sn	07 18 04.1	+0.1
MAT	**Matsushiro**	**3.48**	**238**	P	Pn	07 18 14.1	+2.3
MAT				*e*S	Sn	07 18 56.7	+4.9

IDC ***15*** *07:21:47.8±5.3, 3°.10N×126°.32E, h308km±56km, mb3.2/10, mb1 3.4/10, mb1mx3.0/57, mbtmp3.9/10, Error ellipse: s-maj=55.8km s-min=12.4km az=73.0*

ISC 15 07:21:47.2±0.8, 3°.1N±0°.2×126°.3E±0°.5, h300km, n10, σ1§36/11, mb3.5/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.10**	**182**	P	**P**	**07 26 09.9**	**+0.7**
	1.1nm,0.6s,baz=14,slow=12,SNR=1.7						
FITZ				PcP	**PcP**	**07 30 00.3**	**-2.4**
	5.2nm,0.9s,baz=341,slow=0.7,SNR=9.6						
WRA	**Warramunga Arr**	**24.25**	**161**	P	**P**	**07 26 36.1**	**-1.7**
	2.8nm,0.8s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**27.65**	**165**	P	**P**	**07 27 08.1**	**0.0**
	0.2nm,0.4s,baz=352,slow=7.0,SNR=4.6						
STKA	**Stephens Creek**	**37.73**	**158**	P	**P**	**07 28 34.9**	**0.0**
	1.5nm,0.6s,baz=347,slow=10.0,SNR=4.1						
KLR	**Kul'dur**	**46.17**	**5**	P	**P**	**07 29 43.7**	**+1.3**
	0.6nm,0.5s,baz=238,slow=3.1,SNR=4.4						
SONM	**Songino Array**	**47.73**	**342**	P	**P**	**07 29 53.1**	**-1.5**
	0.6nm,0.7s,baz=150,slow=8.5,SNR=4.9						
MKAR	**Makanchi Array**	**57.80**	**326**	P	**P**	**07 31 07.6**	**-0.2**
	0.4nm,0.5s,baz=118,slow=8.3,SNR=11						
KURBB	**Kurchatov Arra**	**62.01**	**328**	P	**P**	**07 31 36.7**	**+0.6**
	0.8nm,0.5s,baz=129,slow=6.5,SNR=12						
VNDA	**Vanda**	**82.89**	**173**	P	**P**	**07 33 39.1**	**+1.1**
	1.3nm,0.5s,baz=86,slow=9.5,SNR=5.9						
ARCES	**ARCESS Array B**	**90.86**	**340**	P	**P**	**07 34 17.1**	**+0.4**
	3.1nm,0.8s,baz=76,slow=10,SNR=5.2						

NNC ***15*** *07:23:02.0±2.0, 50°.06N×78°.99E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=36.0km s-min=10.0km az=66.0, Suspected Mining explosion.*
IDC ***15*** *07:23:03.2±1.0, 50°.07N×78°.73E, h0km, mb1 3.0/2, mb1mx2.4/56, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=12.6km s-min=6.2km az=66.0*

ISC 15 07:22:59.8±1.1, 49°.98N±0°.04×78°.10E±0°.07, h0km, n9, σ0§82/13, 3C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.70**	**23**	Pg	**Pb**	**07 23 14.0**	**-1.0**
	2.9nm,0.3s,baz=166,slow=17,SNR=152						
KURBB				Lg	Lg	07 23 22.9	
	3.4nm,0.3s,baz=162,slow=34,SNR=18						
KURBB	**Kurchatov Arra**	**0.70**	**23**	⇓P	**Pb**	**07 23 14.0**	**-1.0**
	25nm,0.3s						
KURBB				⇓S	**Sg**	**07 23 22.9**	**+0.5**
	64nm,0.5s						
KURK	**Kurchatov**	**0.81**	**24**	⇑P	**Pg**	**07 23 15.4**	**+0.1**
	9.2nm,0.4s						
KURK				⇑S	**Sg**	**07 23 26.1**	**+0.2**
	12nm,0.5s						
MAKZ	**Makanchi**	**4.09**	**139**	⇓Pg	**Pb**	**07 24 11.7**	**-0.9**
	1.4nm,0.6s						
MAKZ				⇓Lg	Lg	07 25 02.3	
	8.2nm,0.6s						
OTUK	**Ortayu**	**4.16**	**248**	Pn	**Pb**	**07 24 13.2**	**-0.6**
	1.9nm,0.9s						
OTUK				⇑Lg	Lg	07 25 29.5	
	4.1nm,0.5s						
MK31	**Makanchi Array**	**4.24**	**137**	⇓Pn	**Pn**	**07 24 06.1**	**+0.6**
	0.1nm,0.2s,baz=333,slow=12,SNR=18						
MK31				⇓Pg	**Pb**	**07 24 14.4**	**-0.7**
	1.2nm,0.5s,baz=333,slow=16,SNR=17						
MK31				⇓Lg	Lg	07 25 08.9	
	6.5nm,0.4s,baz=339,slow=28,SNR=21						
MKAR	**Makanchi Array**	**4.24**	**137**	Pn	**Pn**	**07 24 06.1**	**+0.5**
	0.3nm,0.3s,baz=326,slow=10,SNR=14						
MKAR				Pg	**Pb**	**07 24 13.8**	**-1.3**
	1.1nm,0.3s,baz=322,slow=16,SNR=13						
MKAR				Sn	**Sn**	**07 24 56.4**	**+0.7**
	0.7nm,0.3s,baz=320,slow=22,SNR=4.4						
MKAR				Lg	Lg	07 25 07.4	
	3.3nm,0.3s,baz=320,slow=28,SNR=14						
I46RU	**ZALESOVO INFRA**	**5.75**	**44**	*i*		07 55 50.0	
	baz=222,slow=340,SNR=5.0						
ZALV	**Zalesovo Beam**	**5.75**	**44**	Pn	**Pn**	**07 24 26.8**	**+0.5**
	1.1nm,0.3s,baz=233,slow=14,SNR=15					

WTUG	**Tugumak**	2.22	38			**Pn**	07 27 32.7 +0.3
SSLS	**Shishaldin Sou**	2.28	45			**Pn**	07 27 33.9 +0.7
SSLS						**Sn**	07 28 02.7 +2.3
SSLN	**Shishaldin Nor**	2.35	43			**Pn**	07 27 35.5 +1.4
ISLZ	**Isanotski Laza**	2.41	47			**Pn**	07 27 36.1 +1.2
ISNN	**Isanotski Nort**	2.46	45			**Pn**	07 27 36.8 +1.3
FALS	**False Pass**	2.63	48			**Pn**	07 27 39.0 +1.2
FALS	**False Pass**	2.63	48			**Sn**	07 28 11.7 +2.9
SDPT	**Sand Point**	4.31	56	Pn		**Pn**	07 28 02.2 +1.3
SDPT				IAML			07 29 13.2
	comp=N,282nm,2.3s						
SDPT				IAML			07 29 18.0
	comp=E,311nm,2.8s						
SPIA	**Saint Paul Isl**	4.52	335	Pn		**Pn**	07 28 03.8 -0.1
ATKA	**Atka Island**	4.62	261			**Pn**	07 28 06.0 +0.9
ADK	**Adak**	6.18	262	Pn		**Pn**	07 28 27.6 +1.0
KIWB	**Kanaga Island**	6.47	263	Pn		**Pn**	07 28 31.5 +0.9
OHAK	**Old Harbor**	8.73	57	Pn		**Pn**	07 29 01.4 -0.2
KDAK	**Kodiak Island**	9.30	54	Pn		**Pn**	07 29 08.7 -0.8
	comp=E,0.9nm,0.3s,baz=204,slow=5.3,SNR=21						
KDAK				Sn		**Sn**	07 30 46.9 -6.1
	comp=E,0.2nm,0.3s,baz=18,slow=20,SNR=1.0						
KDAK	**Kodiak Island**	9.30	54	Pn		**Pn**	07 29 09.3 -0.1
Q19K	**Cape Douglas,**	9.36	46	Pn		**Pn**	07 29 09.9 -0.3
CNPM	**China Poot**	10.73	47	Pn		**Pn**	07 29 28.6 -0.3
BRLK	**Bradley Lake**	11.00	47	Pn		**Pn**	07 29 31.9 -0.8
TTA	**Tatalina**	11.34	26	Pn		**Pn**	07 29 37.4 0.0
SEW	**Seward**	11.80	47	Pn		**Pn**	07 29 42.7 -0.8
RC01	**Rabbit Creek A**	12.19	42	Pn		**Pn**	07 29 48.6 -0.2
TNA	**Tin City**	12.48	358			**Pn**	07 29 53.0 +0.2
PWL	**Port Wells**	12.65	45			**Pn**	07 29 53.7 -1.5
J20K	**Nowinta River**	12.84	26			**Pn**	07 29 58.9 +1.1
KNK	**Knik Glacier**	12.88	43	Pn		**Pn**	07 29 58.5 +0.2
SML	**Sawmill**	13.14	41	Pn		**Pn**	07 30 03.4 +1.4
GLI	**Glacier Island**	13.19	46	Pn		**Pn**	07 30 01.1 -1.5
SCM	**Sheep Creek Mo**	13.56	42			**Pn**	07 30 06.3 -1.4
EYAK	**Cordova Ski Ar**	13.65	49	Pn		**Pn**	07 30 07.0 -1.7
DIV	**Divide**	13.88	46	Pn		**Pn**	07 30 10.8 -1.2
KLU	**Klutina**	13.98	45			**Pn**	07 30 11.1 -2.3
RAGM	**Ragged Mountai**	14.08	50	Pn		**Pn**	07 30 13.5 -1.2
M24K	**Tolsona, Glenn**	14.17	43			**Pn**	07 30 16.0 0.0
DHY	**Denali Highway**	14.23	38	Pn		**Pn**	07 30 19.7 +2.8
HMT	**Hamilton**	14.25	51	Pn		**Pn**	07 30 15.3 -1.7
BMRM	**Bremner River**	14.33	48	Pn		**Pn**	07 30 16.2 -1.9
IMAR	**Indian Mountai**	14.43	22	Pn		**Pn**	07 30 20.2 +0.7
N25K	**Chitina, Valde**	14.60	46			**Pn**	07 30 19.8 -2.1
GLB	**Gilahina Butte**	14.87	47			**Pn**	07 30 24.0 -1.5
VRDI	**Verde Repeater**	14.95	48			**Pn**	07 30 24.2 -2.5
WAX	**Waxell Ridge**	14.95	51	Pn		**Pn**	07 30 24.7 -1.8
CCB	**Clear Creek Bu**	15.06	33	Pn		**Pn**	07 30 28.6 +0.8
CCB				IAmb	IAmb		07 31 17.1
	comp=Z,11nm,1.6s						
TGL	**Tana Glacier**	15.06	50			**Pn**	07 30 27.0 -1.0
TGL				IAmb	IAmb		07 30 43.3
	comp=Z,8.9nm,0.8s						
ISLE	**Juniper Island**	15.24	51	Pn		**Pn**	07 30 28.6 -1.9
ISLE				IAmb	IAmb		07 30 49.9
	comp=Z,37nm,1.6s						
ILAR	**Eielson Array**	15.44	33	Pn		**Pn**	07 30 33.8 +0.9
	comp=Z,0.1nm,0.3s,baz=229,slow=13,SNR=2.4						
ILAR	**Eielson Array**	15.44	33	Pn		**Pn**	07 30 34.5 +1.6
RIDG	**Independent Ri**	15.55	38	Pn		**Pn**	07 30 35.3 +0.9
RIDG				IAmb	IAmb		07 31 03.1
	comp=Z,33nm,1.8s						
GRNC	**Granite Creek**	15.55	51			**Pn**	07 30 33.6 -1.0
MENT	**Mentasta**	15.57	42			**Pn**	07 30 33.0 -1.7
MENT				IAmb	IAmb		07 30 48.3
	comp=Z,4.1nm,0.5s						
M26K	**Nabesna, AK**	15.62	44			**Pn**	07 30 33.7 -1.7
BARN	**Barnard Glacie**	15.70	50	Pn		**Pn**	07 30 36.8 +0.2
BARN				IAmb	IAmb		07 30 58.7
	comp=Z,24nm,1.6s						
TABL	**Table Mountain**	15.75	52	Pn		**Pn**	07 30 36.7 -0.6
TABL				IAmb	IAmb		07 31 05.9
	comp=Z,12nm,1.0s						
DOT	**Dot Lake**	15.79	39	Pn		**Pn**	07 30 37.7 +0.2
CTGM	**Chitina Glacie**	15.82	50			**Pn**	07 30 38.2 +0.2
CTGM				IAmb	IAmb		07 30 58.4
	comp=Z,49nm,2.0s						
LOGN	**Logan Glacier**	15.93	51	Pn		**Pn**	07 30 39.9 +0.4
LOGN				IAmb	IAmb		07 31 24.9
	comp=Z,22nm,1.6s						
SCRK	**Sand Creek**	15.99	38	Pn		**Pn**	07 30 41.2 +1.0
M27K	**Edge Creek, AK**	16.08	45			**Pn**	07 30 40.9 -0.5
M27K				IAmb	IAmb		07 31 33.8
	comp=Z,26nm,1.9s						
BCPM	**Bancas Point**	16.36	55	Pn		**Pn**	07 30 43.7 -1.0
BCPM				IAmb	IAmb		07 31 22.2
	comp=Z,28nm,1.3s						
BCAR	**Beaver Creek A**	16.42	43			**Pn**	07 30 44.8 -0.7
EGAK	**Eagle**	17.46	38	P		**Pn**	07 30 58.4 -0.2
DAWY	**Dawson**	17.82	41	P		**Pn**	07 31 03.9 +0.9
BMAR	**Burnt Mountain**	17.90	28	P		**Pn**	07 31 04.1 +0.1
M30M	**Minto, Yukon**	18.37	47	P		**P**	07 31 09.6 -0.1
SKAG	**Skagway**	18.43	57	P		**P**	07 31 11.0 +0.7
SKAG				IAmb	IAmb		07 31 15.5
	comp=Z,18nm,1.4s						
M31M	**Drury Creek, Y**	19.35	49	P		**Pn**	07 31 22.8 +1.2
CRAG	**Craig**	19.66	70	P		**Pn**	07 31 26.3 +1.0
P33M	**Teslin, Yukon**	19.77	56	P		**P**	07 31 26.6 +1.5
EPYK	**Eagle Plains**	19.85	36	P		**P**	07 31 24.8 -1.0
EPYK				IAmb	IAmb		07 31 25.6
	comp=Z,6.0nm,0.6s						
DLBC	**Dease Lake**	21.14	61	P		**P**	07 31 41.8 +2.0
	comp=Z,3.6nm,0.8s,baz=295,slow=12,SNR=9.9						
DLBC	**Dease Lake**	21.14	61	IAmb	IAmb		07 31 47.2
	comp=Z,4.2nm,0.8s						
PETK	**Petropavlovsk-**	21.20	284	P		**P**	07 31 39.9 -0.5
	comp=Z,0.8nm,0.4s,baz=94,slow=12,SNR=14						
PETK				LR	LR		07 39 43.0
	comp=Z,29nm,19.9s,baz=72,slow=36						
INK	**Inuvik**	21.84	33	P		**P**	07 31 47.9 +0.7
	comp=Z,4.8nm,0.5s,baz=266,slow=9.2,SNR=27						
INK				LR	LR		07 41 55.6
	comp=Z,52nm,18.4s,baz=190,slow=41						
C36M	**Paulatuk**	25.41	34	P		**P**	07 32 20.9 -1.1
A36M	**Sachs Harbour**	26.00	28	P		**P**	07 32 27.6 +0.3
A36M				IAmb	IAmb		07 32 33.7
	comp=Z,7.0nm,0.8s						
YKA	**Yellowknife Ar**	28.55	50	P		**P**	07 32 50.9 +0.7
	comp=Z,0.7nm,0.4s,baz=274,slow=8.3,SNR=16						
YKA	**Yellowknife Ar**	28.55	50	P		**P**	07 32 50.5 +0.2
NEW	**Newport**	31.30	79	P		**P**	07 33 15.2 +0.4
	comp=Z,1.8nm,0.8s,baz=320,slow=9.1,SNR=4.3						
NEW	**Newport**	31.30	79	IAmb	IAmb		07 33 20.3
	comp=Z,11nm,1.8s						
TIXI	**Tiksi**	32.91	328	LR	LR		07 45 35.7
	comp=Z,36nm,20.7s,baz=270,slow=34						
RES	**Resolute Bay**	35.00	26	P		**P**	07 33 45.3 -1.4
	comp=Z,1.1nm,0.5s,baz=259,slow=7.0,SNR=9.4						
RES				PcP		**PcP**	07 36 18.4 +0.2
	comp=Z,0.8nm,0.8s,baz=278,slow=3.0,SNR=1.8						
NVAR	**Mina Array Bea**	36.12	94	P		**P**	07 33 57.8 +0.8
	comp=Z,0.8nm,0.8s,baz=308,slow=7.3,SNR=4.3						
KLR	**Kul'dur**	37.70	290	LR	LR		07 50 39.3
	comp=Z,30nm,18.3s,baz=92,slow=38						
PDAR	**Pinedale Array**	38.72	82	P		**P**	07 34 19.4 +0.4
	comp=Z,0.5nm,0.7s,baz=295,slow=3.4,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	39.05	222	T		T	08 16 01.3
	baz=25,slow=76,SNR=735						
H11N3	**WAKE ISLAND Hy**	39.06	222	T		T	08 16 00.2
	baz=25,slow=76,SNR=596						
H11N1	**WAKE ISLAND Hy**	39.07	222	T		T	08 16 06.6
	baz=25,slow=76,SNR=432						
FCC	**Fort Churchill**	39.23	52	P		**P**	07 34 22.9 +0.1
H11S1	**WAKE ISLAND Hy**	40.23	221	T		T	08 17 43.3
	baz=24,slow=76,SNR=537						
H11S2	**WAKE ISLAND Hy**	40.25	221	T		T	08 17 34.5
	baz=24,slow=76,SNR=340						
H11S3	**WAKE ISLAND Hy**	40.25	221	T		T	08 17 32.1
	baz=24,slow=76,SNR=264						
TXAR	**Lajitas Array**	51.17	92	P		**P**	07 35 58.4 +0.4
	comp=Z,1.0nm,0.8s,baz=300,slow=5.9,SNR=11						
SONM	**Songino Array**	52.26	302	P		**P**	07 36 04.7 -1.2
	comp=Z,0.4nm,0.8s,baz=60,slow=8.8,SNR=2.6						
SONM				PcP		**PcP**	07 37 17.0 0.0
	comp=Z,0.5nm,0.5s,baz=69,slow=2.4,SNR=5.9						
SONM	**Songino Array**	52.26	302	IAmb	IAmb		07 36 43.8
	comp=Z,2.5nm,1.2s						
HHC	**Hu-ho-hao-te**	54.11	292	*e*P		**P**	07 36 19.4 -0.2
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,6.4s						
JMIC	**Jan Mayen**	55.21	8	LR	LR		08 01 47.8
	comp=Z,24nm,18.5s,baz=237,slow=38						
ARCES	**ARCESS Array B**	57.32	355	P		**P**	07 36 41.7 -0.4
	comp=Z,7.5nm,1.2s,baz=30,slow=7.3,SNR=1.5						
ARCES				PcP		**PcP**	07 37 35.8 -0.1
	comp=Z,9.0nm,1.2s,baz=343,slow=3.8,SNR=4.6						
ARCES				LR	LR		08 03 22.4
	comp=Z,14nm,18.2s,baz=76,slow=38						
ZALV	**Zalesovo Beam**	57.91	319	P		**P**	07 36 45.7 -0.7
	comp=Z,0.4nm,0.4s,baz=56,slow=4.7,SNR=2.2						
BVAR	**Borovoye Array**	63.98	326	P		**P**	07 37 27.4 -0.4
	comp=Z,1.2nm,0.5s,baz=55,slow=5.6,SNR=7.3						
BVAR				PcP		**PcP**	07 38 02.7 -0.3
	comp=Z,1.0nm,0.5s,baz=38,slow=5.6,SNR=4.5						
WMQ	**Urumqi**	64.29	309	*e*P		**P**	07 37 32.8 +2.8
MKAR	**Makanchi Array**	64.41	315	P		**P**	07 37 29.7 -1.0
	comp=Z,0.2nm,0.4s,baz=52,slow=5.7,SNR=6.0						
MKAR				PcP		**PcP**	07 38 04.2 -0.7
	comp=Z,0.2nm,0.6s,baz=45,slow=5.0,SNR=1.6						
HFS	**Hagfors**	67.09	360	LR	LR		08 08 17.5
	comp=Z,14nm,18.4s,baz=248,slow=37						
PZH	**PanZhiHua**	70.11	288	P		**P**	07 38 08.3 +1.1
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,5.6s						
KSH	**Kashi**	73.00	314	P		**P**	07 38 25.5 +1.1
AKASG	**Malin Array Be**	75.67	350	LR	LR		08 18 29.3
	comp=Z,15nm,18.1s,baz=256,slow=41						
CMAR	**Chiang Mai Arr**	77.97	285	P		**P**	07 38 52.8 -0.3
	comp=Z,1.2nm,0.3s,baz=15,slow=6.9,SNR=4.1						
BRTR	**Keskin Array B**	85.84	344	LR	LR		08 23 34.2
	comp=Z,22nm,18.5s,baz=326,slow=40						
ESDC	**Sonseca Array**	86.38	13	P		**P**	07 39 36.2 -0.6
	comp=Z,0.6nm,0.5s,baz=346,slow=4.3,SNR=5.4						
WRA	**Warramunga Arr**	88.72	234	P		**P**	07 39 47.1 -1.0
	comp=Z,0.6nm,1.0s,baz=106,slow=2.5,SNR=2.9						
H03N2	**Juan Fernandez**	114.75	113	T		T	09 50 39.4
	baz=322,slow=77,SNR=105						
H03N1	**Juan Fernandez**	114.77	113	T		T	09 50 44.8
	baz=322,slow=77,SNR=142						
H03N3	**Juan Fernandez**	114.77	113	T		T	09 50 42.6
	baz=322,slow=77,SNR=179						

NNC 15 07:30:39.1±4.9, 53°.43N×90°.31E, h14km±26km, mb3.6, mpv3.3, 5C-9D, Error ellipse: s-maj=29.6km s-min=26.0km az=83.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	3.31	281	⇓Pn	Pn	07 31 31.9	+1.6
	1.9nm,0.9s						
ZAA0				⇓Lg	Lg	07 32 26.0	
	8.3nm,0.8s						
KURK	**Kurchatov**	7.70	254	⇑Pn	Pn	07 32 27.5	-3.1
	1.5nm,0.6s						
KURK				⇓Sn	Sn	07 33 57.6	+0.1
	6.5nm,0.7s						
KURK				⇑Lg	Lg	07 34 41.1	
	8.3nm,0.8s						
KURBB	**Kurchatov Arra**	7.79	254	⇓Pn	Pn	07 32 28.6	-3.3
	3.8nm,0.7s						
KURBB				⇑Sn	Sn	07 33 59.6	-0.2
	17nm,0.8s						
KURBB				⇓Lg	Lg	07 34 44.4	
	29nm,1.0s						
MK31	**Makanchi Array**	8.40	221	⇓Pn	Pn	07 32 39.6	-0.8
	1.9nm,0.8s,baz=35,slow=12,SNR=3.4						
MK31				⇑Sn	Sn	07 34 18.9	+3.9
	1.2nm,0.8s						
MK31				⇓Lg	Lg	07 35 07.1	
	5.8nm,0.9s,baz=40,slow=23,SNR=4.2						
MAKZ	**Makanchi**	8.52	222	⇑Pn	Pn	07 32 42.6	+0.7
	0.5nm,0.5s						
MAKZ				⇓Sn	Sn	07 34 20.1	+2.3
	2.0nm,0.9s						
MAKZ				⇓Lg	Lg	07 35 11.1	
	4.1nm,1.1s						

INET 15 07:46:35.4±0.4, 12°.07N×86°.17W, h2km, MW1.6
UPA 15 07:45:30.1±0.5, 8°.72N×84°.12W, h0km±211km, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	1.42	87	*e*P	Pn	07 45 56.6	-0.7
BRU2				*e*S	Sn	07 46 16.8	0.0
BCO2	**Palmira**	1.57	90	*e*P	Pn	07 45 59.0	-0.5
BCO2				*e*S	Sb	07 46 21.4	+0.6
CNI2	**El Empalme, Bo**	1.78	67	*e*P	Pn	07 46 00.8	-1.2
CNI2				*e*S	Sn	07 46 23.8	-1.6
MASN	**Masaya**	3.82	329	*e*P	Pb	07 46 37.6	-0.8
MGAN	**Managua**	4.00	329	*e*P	Pb	07 46 38.6	-3.0
MGAN				*e*P	Pn	07 46 39.0	+6.3
TISN	**Laguna Tiscapa**	4.01	328	*e*P	Pb	07 46 38.8	-2.9

IDC 15 07:49:17.1±3.0, 53°.50N×87°.82E, h0km, mb1 2.4/2, mb1mx2.4/54, mbtmp2.4/2, ML2.1/2, Error ellipse: s-maj=26.6km s-min=17.5km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	1.84	285	*i*		08 02 10.0	
	baz=104,slow=348,SNR=11						
ZALV	**Zalesovo Beam**	1.84	285	Pn	Pn	07 49 48.8	-1.1
	0.5nm,0.3s,baz=105,slow=12,SNR=15						
ZALV				Lg	Lg	07 50 15.2	
	0.9nm,0.3s,baz=105,slow=25,SNR=19						
KURBB	**Kurchatov Arra**	6.42	247	Pn	Pn	07 50 53.5	+0.8
	0.0nm,0.3s,baz=62,slow=14,SNR=1.7						
KURBB				Lg	Lg	07 52 41.6	
	0.0nm,0.3s,baz=60,slow=28,SNR=2.2						
MKAR	**Makanchi Array**	7.60	210	Pn	Pn	07 51 10.4	+1.4
	0.0nm,0.3s,baz=30,slow=13,SNR=1.6						
MKAR				Lg	Lg	07 53 18.9	
	0.0nm,0.3s,baz=30,slow=35,SNR=1.8						

IDC 15 07:50:38.6±3.5, 53°.77N×88°.21E, h0km, mb1 2.8/3, mb1mx2.8/53, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=34.6km s-min=20.7km az=41.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	2.02	276	*i*		08 04 13.2	
	baz=92,slow=299,SNR=1.7						
ZALV	**Zalesovo Beam**	2.02	276	Pn	Pn	07 51 14.6	+0.7
	1.3nm,0.3s,baz=103,slow=13,SNR=14						
ZALV				Lg	Lg	07 51 42.5	
	1.8nm,0.3s,baz=92,slow=26,SNR=9.9						
KURBB	**Kurchatov Arra**	6.74	246	Pn	Pn	07 52 19.0	+0.4
	0.1nm,0.3s,baz=62,slow=14,SNR=6.5						
KURBB				Lg	Lg	07 54 11.6	
	0.0nm,0.3s,baz=62,slow=35,SNR=1.8						
MKAR	**Makanchi Array**	7.95	211	Pn	Pn	07 52 36.3	+1.0
	0.1nm,0.3s,baz=27,slow=13,SNR=4.3						

IDC 15 07:50:45.0±1.2, 6°.81S×126°.70E, h427km±14km, mb3.2/6, mb1 3.3/10, mb1mx2.9/45, mbtmp4.0/10, Error ellipse: s-maj=22.7km s-min=10.6km az=71.0
DJA 15 07:50:45.6±0.5, 7°.3S×12°.7E±°, h390km±7km, M4.1/13, mB4.5/2, mb4.0/5, MLv4.2/13, Mw(mB)3.7/2
ISC 15 07:50:43.8±0.6, 6°.73S±0°.06×126°.76E±0°.07, h400km, n30, σ1°.43/36, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	3.34	25	P	**Pn**	07 51 52.0	+2.0
SOEI	**Soe**	3.89	219	P	**Pn**	07 51 56.5	+1.4
SOEI				S	**S**	07 52 53.6	+0.9
SOEI	**Soe**	3.89	219	P	**Pn**	07 51 57.6	+2.5
MSAI	**Masohi**	3.99	33	P	**Pn**	07 51 57.1	+1.2
MSAI				S	**S**	07 52 55.4	+1.1
BATI	**Baumata**	4.62	221	P	**Pn**	07 52 04.4	+2.4
	58nm,0.3s,baz=52,slow=1.6,SNR=23						
BATI				S	**S**	07 53 07.5	+2.0
	12nm,0.3s,baz=98,slow=7.9,SNR=6.9						
BATI	**Baumata**	4.62	221	P	**Pn**	07 52 04.1	+2.1
SAUI	**Saumlaki**	4.67	106	P	**Pn**	07 52 03.8	+1.3
SAUI				S	**S**	07 53 07.2	+0.8
EDFI	**Ende, Flores**	5.41	248	P	**Pn**	07 52 10.3	0.0
	0.1nm14nm,1.0s						
FAKI	**Fak Fak**	6.65	56	P	**P**	07 52 26.1	+1.8
	0.1nm21nm,1.4s						
DRS	**Darwin Rock St**	6.98	145	P	**P**	07 52 29.3	+1.4
SIJI	**Sorong**	7.35	38	P	**P**	07 52 33.9	+1.8
	4.2nm,0.3s,baz=256,slow=3.2,SNR=9.9						
SWI	**Sorong**	7.35	38	P	**Pn**	07 52 30.1	-1.5
	0.2nm46nm,0.6s						
MTN	**Manton Dam**	7.45	145	P	**P**	07 52 33.9	+0.8
KDU	**Kakadu**	8.17	137	P	**P**	07 52 41.6	+0.5
KNRA	**Kununurra**	9.11	168	P	**Pn**	07 52 52.4	+0.8
FITZ	**Fitzroy Crossi**	11.36	185	P	**P**	07 53 16.6	+0.1
	1.0nm,0.3s,baz=16,slow=8.1,SNR=22						
WRAB	**Tennant Creek**	15.05	151	P	**P**	07 53 56.7	-0.3
WRA	**Warramunga Arr**	15.06	151	P	**P**	07 53 56.5	-0.5
	0.6nm,0.3s,baz=327,slow=11,SNR=43						
WRA				S	**S**	07 56 33.3	-3.6
	0.2nm,0.3s,baz=309,slow=14,SNR=7.1						
MBWA	**Marble Bar**	15.88	205	P	**P**	07 54 05.9	+0.1
PSA00	**Pilbara Seismi**	16.20	204	P	**P**	07 54 09.1	-0.2
ASAR	**Alice Springs**	18.19	159	P	**P**	07 54 30.1	-0.4
	0.5nm,0.3s,baz=333,slow=10,SNR=30						
ASAR				S	**S**	07 57 36.1	-1.6
	0.2nm,0.3s,baz=347,slow=23,SNR=12						
WRKA	**Warakurna**	18.27	176	P	**P**	07 54 31.1	-0.2
QIS	**Mount Isa**	18.55	139	P	**P**	07 54 34.5	+0.2
MEEK	**Meekatharra**	21.27	200	P	**P**	07 55 00.0	+0.1
SONM	**Songino Array**	57.22	344	P	**P**	07 59 50.8	-0.4
	0.3nm,0.5s,baz=177,slow=5.2,SNR=3.7						
PETK	**Petropavlovsk-**	65.12	20	P	**P**	08 00 43.1	-0.1
	5.3nm,1.2s,baz=210,slow=2.1,SNR=4.9						
MKAR	**Makanchi Array**	66.27	328	P	**P**	08 00 49.6	-1.0
	0.6nm,0.4s,baz=118,slow=8.3,SNR=19						
ZALV	**Zalesovo Beam**	69.95	335	P	**P**	08 01 11.2	-1.8
	1.2nm,0.4s,baz=129,slow=5.7,SNR=6.9						
KURBB	**Kurchatov Arra**	70.63	330	P	**P**	08 01 16.0	-1.1
	0.9nm,0.5s,baz=134,slow=5.0,SNR=11						
BVAR	**Borovoye Array**	76.14	329	P	**P**	08 01 48.0	-1.0
	0.4nm,0.4s,baz=55,slow=8.2,SNR=4.7						

IDC 15 07:54:55.0±3.2, 54°.23N×87°.36E, h0km, mb1 2.8/2, mb1mx2.6/44, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.6km s-min=17.0km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	1.52	260	*i*		08 02 50.0	
	baz=78,slow=349,SNR=12						
ZALV	**Zalesovo Beam**	1.52	260	Pg	Pn	07 55 21.9	-1.6
	1.3nm,0.3s,baz=75,slow=15,SNR=15						
ZALV				Lg	Lg	07 55 44.3	
	0.8nm,0.3s,baz=79,slow=30,SNR=5.9						
KURBB	**Kurchatov Arra**	6.49	240	Pn	Pn	07 56 32.4	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=4.6						
KURBB				Lg	Lg	07 58 20.4	
	0.0nm,0.3s,baz=51,slow=34,SNR=2.9						
MKAR	**Makanchi Array**	8.11	205	Pn	Pn	07 56 55.5	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=5.1						
MKAR				Sn	Sn	07 58 25.2	-1.2
	0.0nm,0.3s,baz=24,slow=27,SNR=4.0						
MKAR				Lg	Lg	07 59 05.8	
	0.0nm,0.3s,baz=21,slow=29,SNR=5.6						

JMA 15 08:03:31.3±0.2, 23°.87N×121°.68E, h50km±3km
TAP 15 08:03:32.6, 23°.92N×121°.64E, h40km, ML2.6, C
ISC 15 08:03:33.4±1.0, 23°.92N±0°.02×121°.65E±0°.03, h34km±2km, n53, σ0°.65/103, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	0.07	225	P	**Pb**	08 03 39.1	-0.1
	baz=240						
TEYL				S	**Sb**	08 03 44.5	+1.4
	baz=240						
HWA	**Hwalien**	0.07	327	P	**Pb**	08 03 39.5	+0.3
	baz=340						
HWA				*e*S	**Sb**	08 03 44.8	+1.5
	baz=340						
TWD	**Chiawan**	0.17	343	P	**Pb**	08 03 40.0	+0.1
	baz=350						
TWD				S	**Sb**	08 03 45.5	+1.1
	baz=350						
ESL	**Shilin**	0.22	243	P	**Pb**	08 03 40.4	0.0
	baz=238						
ESL				S	**Sb**	08 03 45.4	+0.3
	baz=238						
TEGC	**Jichi Village**	0.23	206	*e*P	**Pb**	08 03 41.0	+0.6
	baz=200						
TEGC				*e*S	**Sb**	08 03 48.0	+2.8
	baz=200						
ETL

EYUL	**Yuli**	**0.64**	**208**	*eP*	**Pn**	**08 03 45.6**	**-0.4**
	baz=206						
EYUL				*eS*	**Sb**	**08 03 55.6**	**+0.4**
	baz=206						
SSLB	**Suanglung**	**0.65**	**259**	P	**Pn**	**08 03 45.6**	**-0.5**
	baz=257						
SSLB				*eS*	**Sn**	**08 03 54.6**	**-0.6**
	baz=257						
SMLT	**Sun Moon Lake**	**0.69**	**267**	*eP*	**Pn**	**08 03 46.4**	**-0.3**
	baz=266						
SMLT				*eS*	**Sn**	**08 03 56.5**	**+0.3**
	baz=266						
WCS	**Beigang Elemen**	**0.69**	**282**	*eP*	**Pn**	**08 03 46.5**	**-0.1**
	baz=281						
WCS				*eS*	**Sn**	**08 03 56.6**	**+0.4**
	baz=281						
NDT	**Datong Townshi**	**0.69**	**350**	P	**Pn**	**08 03 46.3**	**-0.5**
	baz=350						
TWC	**Suao**	**0.71**	**15**	*eP*	**Pn**	**08 03 47.1**	**+0.1**
	baz=16						
TWC				*eS*	**Sb**	**08 03 57.6**	**+0.5**
	baz=16						
NDS	**Dongshan**	**0.72**	**5**	*eP*	**Pn**	**08 03 47.4**	**+0.3**
	baz=6.0						
NDS				*eS*	**Sn**	**08 03 56.7**	**-0.2**
	baz=6.0						
ENTT	**Nioudou**	**0.72**	**354**	P	**Pn**	**08 03 46.4**	**-0.8**
	baz=355						
ENTT				*eS*	**Sn**	**08 03 57.3**	**+0.1**
	baz=355						
TYC	**Yuchr**	**0.72**	**269**	*eP*	**Pn**	**08 03 46.9**	**-0.2**
	baz=268						
TYC				*eS*	**Sn**	**08 03 57.2**	**+0.1**
	baz=268						
WHP	**Taichung City**	**0.74**	**299**	*eP*	**Pn**	**08 03 47.3**	**-0.1**
	baz=299						
WHP				*eS*	**Sn**	**08 03 57.8**	**+0.3**
	baz=299						
FULB	**Fuli**	**0.79**	**205**	*eP*	**Pn**	**08 03 47.7**	**-0.3**
	baz=203						
FULB				*eS*	**Sn**	**08 03 59.0**	**+0.4**
	baz=203						
YHNB	**Yeheng**	**0.79**	**342**	P	**Pn**	**08 03 47.7**	**-0.5**
	baz=342						
YHNB				*eS*	**Sn**	**08 03 57.9**	**-0.9**
	baz=342						
NSK	**Sanguang**	**0.80**	**341**	*eP*	**Pn**	**08 03 47.9**	**-0.4**
	baz=341						
NSK				*eS*	**Sn**	**08 03 58.2**	**-0.9**
	baz=341						
WJS	**Zhushan**	**0.85**	**264**	*eP*	**Pn**	**08 03 48.8**	**-0.1**
	baz=263						
WJS				*eS*	**Sn**	**08 04 00.5**	**+0.4**
	baz=263						
CHKT	**Chengkung**	**0.85**	**198**	*eP*	**Pn**	**08 03 48.7**	**-0.2**
	baz=196						
CHKT				*eS*	**Sb**	**08 04 01.7**	**+0.7**
	baz=196						
NFF	**Wufeng Townshi**	**0.86**	**326**	*eP*	**Pn**	**08 03 49.2**	**+0.1**
	baz=326						
NFF				*eS*	**Sn**	**08 04 00.8**	**+0.3**
	baz=326						
NWLT	**Wulai**	**0.87**	**351**	*eP*	**Pn**	**08 03 48.6**	**-0.6**
	baz=351						
NWLT				*eS*	**Sn**	**08 04 01.1**	**+0.5**
	baz=351						
ALS	**Alishan**	**0.87**	**243**	*eP*	**Pn**	**08 03 49.3**	**-0.1**
	baz=241						
ALS				*eS*	**Sn**	**08 04 01.2**	**+0.1**
	baz=241						
WNT	**Mingjian**	**0.88**	**268**	*eP*	**Pn**	**08 03 49.2**	**-0.2**
	baz=267						
WNT				*eS*	**Sb**	**08 04 02.3**	**+0.4**
	baz=267						
WNT1	**Nantou City**	**0.89**	**270**	*eP*	**Pn**	**08 03 49.4**	**0.0**
	baz=269						
WNT1				*eS*	**Sn**	**08 04 00.9**	**-0.2**
	baz=269						
ECS	**Chishang**	**0.91**	**206**	*eP*	**Pn**	**08 03 49.7**	**0.0**
	baz=204						
ECS				*eS*	**Sn**	**08 04 02.1**	**+0.6**
	baz=204						
TWQ1	**Liyutan**	**0.91**	**298**	*eP*	**Pn**	**08 03 49.9**	**+0.2**
	baz=298						
TWQ1				*eS*	**Sb**	**08 04 03.1**	**+0.4**
	baz=298						
NSTT	**Nanjuang**	**0.93**	**320**	*eP*	**Pn**	**08 03 49.8**	**-0.1**
	baz=321						
NSTT				*eS*	**Sn**	**08 04 02.6**	**+0.6**
	baz=321						
ELDTW	**Lidau**	**0.93**	**219**	*eP*	**Pn**	**08 03 49.7**	**-0.4**
	baz=217						
ELDTW				*eS*	**Sn**	**08 04 02.4**	**+0.2**
	baz=217						
LIOB	**Emei**	**0.93**	**322**	*eP*	**Pn**	**08 03 50.6**	**+0.6**
	baz=322						
CHN5	**Tsauling**	**0.94**	**251**	*eP*	**Pn**	**08 03 50.1**	**-0.1**
	baz=249						
CHN5				*eS*	**Sb**	**08 04 03.9**	**+0.2**
	baz=249						
NTC	**Toucheng**	**0.95**	**10**	*eP*	**Pn**	**08 03 50.1**	**-0.1**
	baz=10.0						
EDH	**Donghe**	**0.99**	**199**	*eP*	**Pn**	**08 03 50.8**	**0.0**
	baz=197						
EDH				*eS*	**Sn**	**08 04 04.3**	**+0.6**
	baz=197						
TIPB	**Shuangxi**	**1.06**	**9**	*eP*	**Pn**	**08 03 52.3**	**+0.4**
	baz=9.0						
TIPB				*eS*	**Sb**	**08 04 07.4**	**+0.4**
	baz=9.0						
JISG	**Ishigakijimahi**	**2.52**	**74**	P	**Pn**	**08 04 10.9**	**-1.0**
JISG				*eS*	**Sn**	**08 04 38.9**	**-2.5**

*TUL **15** 08:04:27.1±0.8, 35°.96N±0°.02×96°.91W±0°.02, h4km±6km, ML3.6, mb_Lg3.2/81(NEIC), Error ellipse: s-maj=2.5km s-min=2.0km az=128.0*

NEIC 15 08:04:27.3±0.8, 35°.97N±0°.01×96°.92W±0°.01, h3km±6km, Error ellipse: s-maj=2.2km s-min=0.7km az=212.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.07**	**103**	Pg	Pg	08 04 28.7	0.0
OK031				Sg	Sg	08 04 29.7	+0.1
OK030	**Cody Creek RV**	**0.12**	**110**	Pg	Pg	08 04 29.7	+0.1
OK034	**N. Norfolk Rd.**	**0.17**	**76**	Pg	Pg	08 04 30.8	+0.1
QUOK	**Quay**	**0.26**	**40**		Pg	08 04 32.6	+0.1
QUOK				Sg	Sg	08 04 36.6	+0.7
OK005	**Luther M Schoo**	**0.38**	**215**	Pg	Pg	08 04 34.8	+0.2
OK029	**Liberty Lake**	**0.47**	**249**	Pg	Pg	08 04 36.6	+0.3
OK025	**Westminster Rd**	**0.52**	**222**	Pg	Pg	08 04 37.4	+0.1
OK009	**Oakdale Elemen**	**0.56**	**227**		Pg	08 04 38.0	-0.1
BCOK	**Bluff Creek, N**	**0.64**	**241**	Pg	Pg	08 04 39.7	+0.1
OKCFA	**Oklahoma City**	**0.70**	**218**	Pg	Pg	08 04 40.8	0.0
OKCFA				IAmb_Lg		08 04 50.0	
	comp=Z,243nm,1.0s						
OKCSW	**OKLAHOMA CITY**	**0.70**	**217**		Pg	08 04 40.7	-0.1
FNO	**Franklin**	**0.81**	**209**	Pg	Pg	08 04 42.5	-0.4
FNO				IAmb_Lg		08 04 54.2	
	comp=Z,149nm,0.7s						
W35A	**Tecumseh**	**0.81**	**178**	Pg	Pg	08 04 42.5	-0.4
W35A				IAmb_Lg		08 04 52.1	
	comp=Z,200nm,0.9s						
BLOK	**Blackwell**	**0.83**	**343**	Pg	Pg	08 04 43.1	-0.1
TUL1	**Leonard**	**0.92**	**93**		Pg	08 04 44.3	-0.6
T35A	**Sooner Cattle**	**1.00**	**19**		Pg	08 04 46.1	-0.4
CROK	**Carrier**	**1.01**	**302**	Pg	Pg	08 04 46.7	-0.1
KAN13	**South Haven SW**	**1.14**	**337**	Pg	Pg	08 04 49.0	-0.2
KAN13				Sg	Sg	08 05 04.2	+0.4
GC02	**Grant County #**	**1.16**	**320**	Pg	Pg	08 04 49.2	-0.4
KAN17	**Caldwell West**	**1.27**	**328**		Pg	08 04 51.5	-0.2
KAN14	**Manchester OK**	**1.30**	**320**		Pg	08 04 51.5	-0.7
KAN14				Sg	Sb	08 05 09.7	+0.2
OK032	**Salt Plains WL**	**1.33**	**309**		Pn	08 04 52.3	-0.6
KAN01	**Argonia South**	**1.36**	**330**		Pn	08 04 53.1	-0.2
KAN06	**Argonia West S**	**1.48**	**330**		Pn	08 04 55.3	+0.3
KAN08	**Anthony NE Sta**	**1.52**	**326**		Pb	08 04 55.8	-0.3
X34A	**Smith Ranch, M**	**1.56**	**209**		Pn	08 04 56.0	+0.1
KAN16	**Harper SW Stat**	**1.56**	**324**		Pn	08 04 56.0	+0.1
OK035	**E0210 Rd and N**	**1.62**	**298**		Pn	08 04 57.2	+0.3
U32A	**Winter Ranch,**	**1.73**	**284**		Pn	08 04 57.8	-0.6
U32A				IAmb_Lg		08 05 24.3	
	comp=Z,96nm,0.8s						
X37A	**Clayton**	**1.87**	**137**		Pn	08 04 59.7	-0.5
WMOK	**Wichita Mounta**	**1.96**	**232**	Pn	Pn	08 05 02.1	+0.7
LOOK	**Love County**	**1.98**	**186**	IAmb_Lg		08 05 32.5	
	comp=Z,79nm,0.9s						
W39A	**Magazine**	**2.67**	**106**		Pn	08 05 11.5	+0.3
R32A	**Long Quarter,**	**2.84**	**330**	IAmb_Lg		08 06 03.8	
	comp=Z,45nm,0.8s						
MIAR	**Mount Ida**	**3.08**	**116**		Pn	08 05 17.5	+0.6
KSU1	**Kansas State U**	**3.14**	**4**	IAmb_Lg		08 06 15.1	
	comp=Z,48nm,0.7s						
Z38A	**Mt. Pleasant**	**3.14**	**149**	IAmb_Lg		08 06 06.0	
	comp=Z,43nm,0.9s						
S39A	**Bolivar**	**3.36**	**58**	IAmb_Lg		08 06 14.5	
	comp=Z,46nm,0.8s						
WHAR	**Wooly Hollow**	**3.83**	**99**	IAmb_Lg		08 06 29.4	
	comp=Z,45nm,1.0s						
WLAR	**White Oak Lake**	**3.87**	**125**	IAmb_Lg		08 06 35.1	
	comp=Z,37nm,0.8s						
W41B	**Gary Mavity, V**	**3.89**	**100**		Pn	08 05 27.6	-0.4
W41B				IAmb_Lg		08 06 32.6	
	comp=Z,46nm,1.1s						
FCAR	**Ozark Folk Cen**	**3.89**	**90**	IAmb_Lg		08 06 36.3	
	comp=Z,38nm,0.8s						
MGMO	**Mountain Grove**	**3.92**	**71**	IAmb_Lg		08 06 34.1	
	comp=Z,107nm,0.7s						
AMTX	**Amarillo**	**4.04**	**256**	IAmb_Lg		08 06 44.0	
	comp=Z,46nm,0.8s						
R40A	**Maddies Statio**	**4.38**	**57**	IAmb_Lg		08 06 50.1	
	comp=Z,74nm,1.1s						
LCAR	**Lake Charles**	**4.67**	**87**	IAmb_Lg		08 07 00.9	
	comp=Z,35nm,0.9s						
N33A	**J Bar K, Exete**	**4.78**	**355**	IAmb_Lg		08 07 11.4	
	comp=Z,36nm,0.7s						
N35A	**Tabor**	**4.99**	**11**	IAmb_Lg		08 07 12.1	
	comp=Z,51nm,0.7s						
CCM	**Cathedral Cave**	**5.00**	**64**	IAmb_Lg		08 07 07.5	
	comp=Z,53nm,0.9s						
HBAR	**Harrisburg**	**5.11**	**93**	IAmb_Lg		08 07 19.3	
	comp=Z,84nm,0.9s						
P40A	**Paris**	**5.25**	**46**	IAmb_Lg		08 07 20.4	
	comp=Z,60nm,0.9s						
PBMO	**Poplar Bluff**	**5.30**	**79**	IAmb_Lg		08 07 15.5	
	comp=Z,70nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.46**	**305**	IAmb_Lg		08 07 24.8	
	comp=Z,22nm,0.8s						
BGNE	**Belgrade**	**5.52**	**350**	IAmb_Lg		08 07 35.0	
	comp=Z,63nm,0.9s						
FVM	**French Village**	**5.57**	**67**	IAmb_Lg		08 07 26.2	
	comp=Z,57nm,0.9s						
GNAR	**Gosnell**	**5.60**	**88**	IAmb_Lg		08 07 35.1	
	comp=Z,76nm,0.9s						
143A	**Socs Landing,**	**5.61**	**124**	IAmb_Lg		08 07 32.0	
	comp=Z,20nm,0.8s						
JCT	**Junction City**	**5.98**	**205**	IAmb_Lg		08 07 46.6	
	comp=Z,22nm,0.7s						
T25A	**Trinidad**	**6.14**	**283**	IAmb_Lg		08 07 45.3	
	comp=Z,29nm,1.0s						
HALT	**Halls**	**6.15**	**88**	IAmb_Lg		08 07 49.8	
	comp=Z,50nm,0.7s						
W45A	**Hickory Valley**	**6.35**	**95**	IAmb_Lg		08 07 53.7	
	comp=Z,57nm,0.9s						
SCIA	**State Center**	**6.59**	**25**	IAmb_Lg		08 08 04.9	
	comp=Z,28nm,0.8s						
K31A	**O'Neill**	**6.80**	**348**	IAmb_Lg		08 08 09.4	
	comp=Z,41nm,1.0s						
WVT	**Waverly**	**7.36**	**86**	IAmb_Lg		08 08 30.8	
	comp=Z,14nm,0.9s						
K38A	**Parkersburg**	**7.40**	**24**	IAmb_Lg		08 08 19.5	
	comp=Z,35nm,1.1s						
L40A	**Anamosa**	**7.53**	**34**	IAmb_Lg		08 08 31.2	
	comp=Z,21nm,0.8s						
PHWY	**Pilot Hill**	**8.54**	**311**	IAmb_Lg		08 09 12.1	
	comp=Z,16nm,1.1s						
N23A	**Red Feather La**	**8.62**	**307**	IAmb_Lg		08 09 04.8	
	comp=Z,23nm,1.0s						
JFWS	**Jewell Farm**	**8.64**	**35**	IAmb_Lg		08 09 15.6	
	comp=Z,25nm,0.7s						
SFIN	**Lafayette**	**8.90**	**57**	IAmb_Lg		08 09 07.5	
	comp=Z,38nm,1.0s						

*NNC **15** 08:17:38.4±2.3, 51°.71N×75°.31E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=31.0km s-min=14.3km az=11.0, Suspected Mining explosion.*
*IDC **15** 08:17:39.2±1.1, 51°.86N×75°.69E, h0km, mb1 2.8/3, mb1mx2.4/44, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=25.0km s-min=7.5km az=31.0*

ISC 15 08:17:38.2±0.9, 51°.53N±0°.08×75°.38E±0°.04, h0km, n10, σ1973/13, 8C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.19**	**113**	Pg	**Pb**	**08 18 17.8**	**-0.9**
	0.7nm,0.3s,baz=301,slow=19,SNR=64						
KURBB				Lg	Lg	08 18 48.4	
	0.9nm,0.3s,baz=310,slow=30,SNR=14						
KURBB	**Kurchatov Arra**	**2.19**	**113**	⇑Pn	**Pg**	**08 18 19.5**	**-0.6**
	4.6nm,0.5s,baz=302,slow=18						
KURBB				⇑Sn	**Sg**	**08 18 48.0**	**-0.4**
	26nm,0.5s,baz=307,slow=32						
KURK	**Kurchatov**	**2.20**	**111**	⇑Pn	**Pb**	**08 18 18.3**	**-0.6**
	1.4nm,0.4s						
KURK				⇑Sn	**Sb**	**08 18 46.5**	**-0.2**
	7.8nm,0.6s						
BVAR	**Borovoye Array**	**3.41**	**298**	Pn	**Pn**	**08 18 34.5**	**+1.9**
	0.4nm,0.3s,baz=98,slow=15,SNR=5.6						
BVAR				Sn	**Sn**	**08 19 14.7**	**+0.9**
	0.9nm,0.3s,baz=103,slow=22,SNR=5.3						
BVAR				Lg	Lg	08 19 26.4	
	3.3nm,0.3s,baz=109,slow=30,SNR=12						
BRVK	**Borovoye**	**3.48**	**298**	⇑Pg	**Pb**	**08 18 40.3**	**-0.4**
	2.3nm,0.7s						
BRVK				⇑Lg	Lg	08 19 27.9	
	6.3nm,0.6s						
OTUK	**Ortayu**	**3.83**	**212**	⇑Pn	**Pn**	**08 18 35.9**	**-2.6**
	1.5nm,0.6s						
OTUK				⇓Pg	**Pg**	**08 18 51.1**	**-0.5**
	1.1nm,0.7s						
OTUK				⇑Lg	Lg	08 19 45.7	
	4.1nm,0.7s						
I46RU	**ZALESOVO INFRA**	**6.22**	**63**	*i*		08 55 10.0	
	baz=250,slow=338,SNR=0.7						
ZALV	**Zalesovo Beam**	**6.22**	**63**	Pn	**Pn**	**08 19 09.5**	**-1.8**
	0.6nm,0.3s,baz=253,slow=15,SNR=7.3						
MK31	**Makanchi Array**	**6.56**	**134**	Lg	Lg	08 21 11.1	
	2.1nm,0.6s,baz=322,slow=26,SNR=3.5						
MKAR	**Makanchi Array**	**6.56**	**134**	Pn	**Pn**	**08 19 18.7**	**+2.8**
	0.1nm,0.3s,baz=318,slow=12,SNR=3.4						
MKAR				Sn	**Sn**	**08 20 33.8**	**+2.4**
	0.4nm,0.3s,baz=329,slow=18,SNR=9.1						
MKAR				Lg	Lg	08 21 08.7	
	0.8nm,0.3s,baz=323,slow=26,SNR=5.2						

*NEIC **15** 08:23:34.4±1.9, 17°.3S±0°.1×179°.2W±0°.1, h555km±7km, mb4.5/85, Error ellipse: s-maj=19.0km s-min=14.1km az=129.0*
*IDC **15** 08:23:35.5±0.8, 17°.31S×179°.24W, h568km±7km, mb3.7/16, mb1 3.9/18, mb1mx3.6/36, mbtmp4.5/18, Error ellipse: s-maj=21.6km s-min=11.0km az=144.0*

ISC 15 08:23:33.6±0.4, 17°.35S±0°.08×179°.10W±0°.08, h550km, n193, σ0s94/193, mb4.4/63, 14C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.75**	**262**	P	**P**	**08 24 49.3**	**+2.0**
	115nm,0.3s,baz=84,slow=5.0,SNR=236						
MSVF				S	**S**	**08 25 51.2**	**+4.1**
	baz=160,slow=22,SNR=11						
AFI	**Afiamalu**	**7.84**	**65**	P	**P**	**08 25 30.9**	**+0.9**
	3.2nm,0.3s,baz=172,slow=15,SNR=1.4						
DZM	**Mont Dzumac**	**14.40**	**249**	P	**P**	**08 26 39.3**	**+2.3**
	0.3nm,0.3s,baz=78,slow=20,SNR=1.8						
OUZ	**Omahuta**	**18.95**	**199**	P	**P**	**08 27 22.3**	**+2.3**
OUZ				IAmb	IAmb	08 27 23.3	
	comp=Z,21nm,1.0s						
LTZ	**Lake Taylor**	**26.39**	**194**	P	**P**	**08 28 24.6**	**-1.9**
WKZ	**Wanaka**	**29.15**	**198**	P	**P**	**08 28 48.7**	**-1.8**
ARMA	**Armidale**	**29.66**	**239**	P	**P**	**08 28 56.2**	**+0.9**
CAN	**Canberra**	**33.52**	**231**	P	**P**	**08 29 28.9**	**+0.8**
COEN	**Coen**	**36.45**	**270**	P	**P**	**08 29 51.4**	**-1.2**
COEN				IAmb	IAmb	08 31 31.8	
	comp=Z,9.1nm,1.2s						
TOO	**Toolangi**	**37.02**	**230**	P	**P**	**08 29 57.9**	**+0.8**
TAU	**Tasmania Unive**	**38.22**	**221**	P	**P**	**08 30 07.5**	**+0.9**
STKA	**Stephens Creek**	**38.33**	**240**	P	**P**	**08 30 08.3**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=87,slow=11,SNR=7.3						
STKA	**Stephens Creek**	**38.33**	**240**	P	**P**	**08 30 08.1**	**+0.3**
BBOO	**Buckleboo**	**43.10**	**240**	P	**P**	**08 30 45.7**	**-0.1**
KHLU	**Kahalu`u**	**43.22**	**33**	P	**P**	**08 30 47.7**	**+0.8**
WR0	**Warramunga Arr**	**43.90**	**259**	P	**P**	**08 30 51.3**	**-0.8**
WR0				IAmb	IAmb	08 31 31.9	
	comp=Z,25nm,1.8s						
WB0	**Warramunga Arr**	**44.05**	**259**	P	**P**	**08 30 52.3**	**-1.0**
WB2	**Warramunga Arr**	**44.08**	**259**	P	**P**	**08 30 52.7**	**-0.8**
WB2				IAmb	IAmb	08 30 53.4	
	comp=Z,14nm,1.6s						
WRAB	**Tennant Creek**	**44.08**	**259**	P	**P**	**08 30 52.6**	**-1.0**
WRAB				IAmb	IAmb	08 31 25.7	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**44.09**	**259**	P	**P**	**08 30 52.4**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=94,slow=7.0,SNR=32						
WRA				PcP	**PcP**	**08 32 26.6**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=89,slow=3.9,SNR=7.1						
WRA	**Warramunga Arr**	**44.09**	**259**	P	**P**	**08 30 52.5**	**-1.2**
AS31	**Alice Springs**	**44.31**	**254**	P	**P**	**08 30 54.9**	**-0.4**
AS31				IAmb	IAmb	08 30 55.4	
	comp=Z,4.9nm,0.6s						
ASAR	**Alice Springs**	**44.31**	**254**	P	**P**	**08 30 54.9**	**-0.5**
	comp=Z,11nm,0.5s,baz=89,slow=8.0,SNR=316						
ASAR				PcP	**PcP**	**08 32 27.6**	**0.0**
	comp=Z,2.6nm,0.7s,baz=99,slow=3.9,SNR=9.9						
ASAR				ScP	**ScP**	**08 35 27.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=94,slow=4.7,SNR=5.3						
ASAR				S	**S**	**08 36 46.6**	**-3.2**
	comp=Z,1.2nm,0.9s,baz=84,slow=15,SNR=7.7						
ASAR	**Alice Springs**	**44.31**	**254**	P	**P**	**08 30 55.0**	**-0.3**
MTN	**Manton Dam**	**48.16**	**268**	P	**P**	**08 31 24.1**	**-0.4**
FORT	**Forrest**	**49.65**	**244**	P	**P**	**08 31 34.7**	**-0.7**
FORT				IAmb	IAmb	08 32 17.7	
	comp=Z,32nm,0.9s						
KNRA	**Kununurra**	**49.89**	**264**	P	**P**	**08 31 37.5**	**+0.2**
KNRA				IAmb	IAmb	08 31 37.6	
	comp=Z,9.1nm,0.7s						
PSA00	**Pilbara Seismi**	**57.41**	**255**	P	**P**	**08 32 29.8**	**-0.6**
MORW	**Morawa**	**60.10**	**246**	P	**P**	**08 32 47.6**	**-0.8**
MORW				IAmb	IAmb	08 33 47.6	
	comp=Z,53nm,1.9s						
VNDA	**Vanda**	**60.94**	**185**	P	**P**	**08 32 53.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=1.7,slow=7.2,SNR=1.9						
VNDA	**Vanda**	**60.94**	**185**	P	**P**	**08 32 54.0**	**+1.0**
TOLI2	**Tolitoli**	**61.97**	**281**	P	**P**	**08 33 02.5**	**+1.7**
JAGI	**Jajag, Banyuwa**	**65.40**	**268**	P	**P**	**08 33 21.3**	**-1.4**
JAGI				IAmb	IAmb	08 33 21.6	
	comp=Z,17nm,0.7s						
CASY	**Casey**	**66.36**	**205**	P	**P**	**08 33 28.1**	**+0.3**
MJAR	**Matsushiro Arr**	**67.07**	**324**	P	**P**	**08 33 32.2**	**-0.4**
	comp=Z,5.5nm,0.5s,baz=165,slow=6.1,SNR=9.2						
MJAR	**Matsushiro Arr**	**67.07**	**324**	IAmb	IAmb	08 33 33.1	
	comp=Z,3.3nm,0.6s						
MAJO	**Matsushiro**	**67.07**	**324**	P	**P**	**08 33 32.7**	**0.0**
MAJO				IAmb	IAmb	08 34 05.7	
	comp=Z,69nm,2.0s						
MAT	**Matsushiro**	**67.07**	**324**	P	**P**	**08 33 32.4**	**-0.3**
MJB9	**Matsu-Tunnel**	**67.08**	**324**	P	**P**	**08 33 33.0**	**+0.3**
MJB9				IAmb	IAmb	08 34 14.3	
	comp=Z,56nm,1.9s						
JSD	**Sado**	**68.11**	**325**	P	**P**	**08 33 39.1**	**+0.2**
ADK	**Adak**	**68.97**	**2**	P	**P**	**08 33 43.1**	**-0.7**
JKA	**Kamikawa-asahi**	**70.48**	**332**	P	**P**	**08 33 54.1**	**+1.2**
ASAJ	**Asahikawa**	**70.48**	**332**	P	**P**	**08 33 54.1**	**+1.1**
	comp=Z,5.4nm,0.5s,baz=239,slow=4.1,SNR=7.8						
SSLB	**Suanglung**	**71.38**	**303**	P	**P**	**08 33 58.3**	**-0.5**
QSPA	**South Pole Qui**	**72.70**	**180**	P	**P**	**08 34 06.4**	**+0.6**
QSPA				IAmb	IAmb	08 35 44.4	
	comp=Z,30nm,1.9s						
PETK	**Petropavlovsk-**	**72.98**	**346**	P	**P**	**08 34 07.0**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=155,slow=11,SNR=5.8						
KSRS	**Korea Array**	**73.85**	**319**	P	**P**	**08 34 13.5**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=128,slow=5.3,SNR=2.6						
PMPB	**Monarch Peak**	**76.62**	**45**	P	**P**	**08 34 29.5**	**+1.4**
KMRM	**Mail Ridge**	**77.02**	**40**	P	**P**	**08 34 31.6**	**+1.4**
NJ2	**Nanjing**	**77.08**	**310**	*eP*	**P**	**08 34 32.6**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
MDJ	**Mudanjiang**	**77.36**	**325**	P	**P**	**08 34 32.9**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,280nm,5.3s						
MWC	**Mount Wilson**	**77.46**	**48**	P	**P**	**08 34 33.8**	**+0.9**
MWC				IAmb	IAmb	08 34 34.1	
	comp=Z,7.2nm,0.7s						
CMB	**Columbia Colle**	**77.89**	**44**	P	**P**	**08 34 35.6**	**+0.6**
ISA	**Isabella, Lake**	**77.91**	**47**		**P**	**08 34 36.3**	**+1.0**
KDAK	**Kodiak Island**	**78.03**	**14**	P	**P**	**08 34 35.3**	**+0.1**
L02E	**Cave Junction**	**78.23**	**39**	P	**P**	**08 34 37.8**	**+1.1**
YBH	**Yreka Blue Hor**	**78.52**	**40**	P	**P**	**08 34 39.5**	**+1.2**
YBH				IAmb	IAmb	08 34 40.3	
	comp=Z,58nm,1.9s						
L04D	**Klamath Falls**	**79.04**	**39**	P	**P**	**08 34 41.8**	**+0.5**
L04D				IAmb	IAmb	08 36 34.5	
	comp=Z,78nm,1.7s						
QSM	**Queen of Sheba**	**79.19**	**47**	P	**P**	**08 34 42.8**	**+0.8**
LCH	**Last Change Ra**	**79.30**	**46**	P	**P**	**08 34 43.5**	**+0.8**
PAHR	**Pah Rah Range**	**79.46**	**43**	P	**P**	**08 34 44.1**	**+0.6**
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**08 34 44.4**	**+0.6**
	comp=Z,4.5nm,0.7s,baz=225,slow=8.8,SNR=31						
KVN	**Kaiserville**	**79.95**	**44**	P	**P**	**08 34 46.3**	**+0.2**
MOD	**Modoc Plateau**	**80.09**	**40**		**P**	**08 34 46.6**	**

L26K IAmb IAmb 08 36 28.6
comp=Z,28nm,1.9s
XLT XiLinHaoTe 84.90 319 *eP* **P 08 35 11.4 +0.5**
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,130nm,5.6s
WRH Wood River Hil 84.98 13 P **P 08 35 09.6 -1.1**
WRH IAmb IAmb 08 35 11.2
comp=Z,5.6nm,0.7s
IL31 85.50 13 P **P 08 35 12.2 -0.9**
IL31 IAmb IAmb 08 38 24.9
comp=Z,26nm,1.9s
ILAR Eielson Array 85.50 13 P **P 08 35 11.8 -1.3**
comp=Z,2.1nm,0.4s,baz=223,slow=5.3,SNR=54
ILAR Eielson Array 85.50 13 P **P 08 35 12.4 -0.8**
DLBC Dease Lake 85.59 23 P **P 08 35 14.5 +0.7**
DLBC IAmb IAmb 08 37 14.7
comp=Z,33nm,2.0s
MNTX Cornudas Mount 85.80 55 **P 08 35 16.5 +1.1**
BILL Bilibino 85.82 355 P **P 08 35 14.8 +0.3**
BILL IAmb IAmb 08 35 15.2
comp=Z,6.8nm,0.6s
TXAR Lajitas Array 86.26 58 P **P 08 35 19.1 +1.4**
comp=Z,2.9nm,0.8s,baz=216,slow=5.7,SNR=30
HHC Hu-ho-hao-te 86.42 315 *eP* **P 08 35 19.0 +0.8**
HHC S **S 08 45 10.1 +1.5**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,97nm,6.5s
HHC LR LR
comp=N,620nm,15.2s
HHC LR LR
comp=E,330nm,15.9s
HHC LR LR
comp=Z,550nm,15.9s
PRP Porcupine Dome 86.44 13 P **P 08 35 17.1 -0.7**
PRP IAmb IAmb 08 38 32.5
comp=Z,23nm,2.0s
DAWY Dawson 86.74 16 P **P 08 35 19.1 0.0**
DAWY IAmb IAmb 08 38 44.5
comp=Z,27nm,2.0s
EGAK Eagle 86.85 15 P **P 08 35 18.9 -0.6**
EGAK IAmb IAmb 08 35 19.9
comp=Z,4.3nm,0.6s
YHL Hebgen Lake 87.30 41 P **P 08 35 24.0 +1.5**
YHL IAmb IAmb 08 35 25.2
comp=Z,25nm,1.7s
BW06 Boulder Array 87.41 44 P **P 08 35 22.9 -0.1**
BW06 IAmb IAmb 08 35 23.9
comp=Z,3.8nm,0.7s
PDAR Pinedale Array 87.41 44 P **P 08 35 23.2 +0.2**
comp=Z,2.8nm,0.5s,baz=219,slow=3.5,SNR=39
PDAR Pinedale Array 87.41 44 P **P 08 35 23.3 +0.3**
BMAR Burnt Mountain 88.26 13 P **P 08 35 26.5 +0.3**
LZH Lanzhou 90.03 308 *eP* **P 08 35 32.3 -3.0**
LZH pP PcP 08 35 39.3 +3.2
LZH pmax pmax
comp=Z,26nm,1.4s
INK Inuvik 91.53 15 P **P 08 35 40.6 -0.6**
comp=Z,1.6nm,0.6s,baz=246,slow=3.3,SNR=11
SONM Songino Array 92.70 319 P **P 08 35 46.4 -0.9**
comp=Z,0.4nm,0.4s,baz=127,slow=4.3,SNR=3.9
YKA Yellowknife Ar 94.11 25 P **P 08 35 52.5 -0.6**
comp=Z,2.3nm,0.7s,baz=242,slow=4.5,SNR=48
MKAR Makanchi Array 108.28 314 PKiKP **PKiKP 08 40 58.5 -1.1**
comp=Z,0.7nm,0.5s,baz=139,slow=0.7,SNR=1.4
ARU Arti 122.03 326 PKP **PKiKP 08 41 25.1 -0.6**
comp=Z,2.1nm,0.3s,baz=71,slow=3.8,SNR=9.9
ARCES ARCESS Array B 125.66 350 PKP **PKPdf 08 41 31.4 -0.8**
comp=Z,4.0nm,0.9s,baz=106,slow=1.9,SNR=18
BELG Belogornoye 129.46 325 PKP **PKiKP 08 41 40.0 -0.6**
comp=Z,5.7nm,0.5s,baz=263,slow=4.2,SNR=5.3
FINES FINESS Array B 132.48 344 PKP **PKPdf 08 41 45.0 -0.2**
comp=Z,1.2nm,0.5s,baz=105,slow=3.0,SNR=6.1
AKASG Malin Array Be 139.77 332 PKP **PKiKP 08 42 00.7 -0.9**
comp=Z,0.2nm,0.4s,baz=46,slow=3.1,SNR=5.4
KWP Kalwaria Pacla 143.30 336 *e*PKP **PKPdf 08 42 04.0 -1.5**
KWP Kalwaria Pacla 143.30 336 PKPbc 08 42 04.0 +0.1
LODK Lodwar 143.48 252 PKPdf **PKPdf 08 42 05.8 -1.1**
VLDR Vladesti 143.69 327 ⇓P **PKPdf 08 42 05.0 -1.2**
TLCR 143.75 326 ⇑P PKPab 08 42 04.7 -0.7
BURAR Bucovina Array 143.82 332 ⇑P PKPbc 08 42 04.3 -1.4
BRTR Keskin Array B 143.93 315 PKP **PKPdf 08 42 06.3 -0.7**
comp=Z,3.8nm,0.8s,baz=117,slow=1.7,SNR=18
TESR Tescani 143.95 329 ⇑P **PKPdf 08 42 05.8 -0.9**
CFR Carcaliu 144.11 326 ⇑P **PKPdf 08 42 06.5 -0.5**
FLTG Flechtingen 144.16 349 *e*PKPbc **PKPab 08 42 06.0 -0.7**
baz=18,slow=2.9
TPGR Topolog 144.18 326 ⇑P **PKPdf 08 42 07.6 +0.4**
ASF Jabal al Asfar 144.33 301 PKP **PKPab 08 42 08.1 -0.1**
comp=Z,5.1nm,0.6s,baz=112,slow=2.3,SNR=4.8
VRI Vrincioaia 144.37 329 ⇑P **PKPab 08 42 07.6 -0.1**
CRVS Cervenica-Dubn 144.37 337 *e*PKP **PKPab 08 42 07.7 0.0**
KSP Ksiaz 144.39 343 *e*PKP **PKPab 08 42 07.7 +0.1**
PLOR Plostina 144.41 329 ⇑P **PKPab 08 42 07.9 -0.1**
OZUR 144.66 330 ⇑P **PKPab 08 42 08.6 -0.4**
OSTC Ostas 144.67 343 *e*PKP **PKPab 08 42 08.6 -0.2**
IBBN Ibbenburen 144.71 353 *e*PKPbc **PKPab 08 42 08.1 -0.6**
baz=18,slow=2.9
UPC Upice 144.77 343 *e*PKP **PKPab 08 42 08.8 -0.3**
CLL Collm 144.78 347 ⇓*i*PKPbc **PKPab 08 42 08.3 -0.8**
comp=Z,31nm,1.1s
CLL Collm 144.78 347 *e*PKPbc **PKPab 08 42 08.4 -0.8**
baz=18,slow=2.9
CLZ Clausthal 144.78 350 *e*PKPbc **PKPab 08 42 08.6 -0.6**
baz=18,slow=2.9
DPC Dobruska-Polom 144.83 343 *e*PKP **PKPab 08 42 09.1 -0.3**
LANS Liptovska Anna 144.89 339 *e*PKP **PKPab 08 42 10.1 +0.4**
KRLC Kraliky 144.94 342 *e*PKP **PKPab 08 42 09.3 -0.6**
BRG Berggiesshubel 144.97 346 *i*PKP **PKPab 08 42 09.2 -0.6**
BRG Amp 08 42 10.1
comp=Z,11nm,0.7s
BRG Berggiesshubel 144.97 346 *e*PKPbc **PKPab 08 42 09.2 -0.6**
baz=18,slow=2.9
MORC Moravsky Berou 144.98 341 ⇑P PKPbc 08 42 08.6 -0.5
MORC Moravsky Berou 144.98 341 *e*PKP **PKPab 08 42 09.1 -0.9**
MLR Muntele Rosu 145.02 329 ⇑P **PKPab 08 42 09.5 -0.9**
MLR Muntele Rosu 145.02 329 PKPdf **PKPab 08 42 08.9 -0.6**
FBE Freiberg 145.06 346 *e*PKPbc **PKPab 08 42 09.7 -0.5**
baz=18,slow=2.9
NEUB Neuenburg 145.13 348 *e*PKPbc **PKPab 08 42 09.5 -1.0**
baz=18,slow=2.9
GTTG Gottingen 145.13 350 *e*PKPbc **PKPab 08 42 09.7 -0.8**
baz=18,slow=2.9
PVCC Panska Ves 145.13 345 *e*PKP **PKPab 08 42 10.1 -0.4**
VOIR 145.50 329 ⇑P **PKPab 08 42 11.1 -1.1**
DRGR 145.55 333 ⇑P **PKPbc 08 42 10.8 -0.1**
PRU Pruhonice 145.64 344 *e*PKP **PKPbc 08 42 10.4 -0.6**
VYHS Vyhne 145.67 339 *e*PKP **PKPab 08 42 11.7 -1.0**
VRAC Vranov 145.68 342 *e*PKP **PKPbc 08 42 11.2 +0.1**
TANN Tannenbergstha 145.74 347 *e*PKPbc **PKPbc 08 42 11.4 0.0**
baz=18,slow=2.9
WERD Werda 145.74 347 *e*PKPbc **PKPbc 08 42 11.2 -0.1**
baz=18,slow=2.9
JAVC Velka Javorina 145.74 340 *e*PKP **PKPab 08 42 12.7 -0.3**
ARR Arges 145.75 330 ⇑P **PKPbc 08 42 11.1 -0.5**
GUNZ Gunzen 145.81 347 *e*PKPbc **PKPab 08 42 11.7 -1.6**
baz=18,slow=2.9
KRUC Moravsky 145.96 342 *e*PKP **PKPbc 08 42 11.9 0.0**
MODS Modra-Piesok 146.29 340 *e*PKP **PKPab 08 42 14.0 -1.2**
KHC Kasperske Hory 146.67 345 *e*PKP **PKPbc 08 42 13.2 -0.7**
GRF Grafenberg Arr 146.68 348 *e*L L 09 26 25.9
comp=Z,53nm,18.2s
GEC2 GERESS Array S 146.91 344 *e*PKPbc **PKPbc 08 42 14.6 0.0**
baz=18,slow=2.9
GERES GERESS Array B 146.91 344 PKPbc **PKPbc 08 42 14.7 0.0**
comp=Z,5.6nm,0.5s,baz=27,slow=3.2,SNR=31
BZS Buzias 146.94 333 ⇑P **PKPbc 08 42 12.6 -2.1**
CONA Conrad Observa 147.13 341 *i*P **PKPbc 08 42 15.4 +0.1**
comp=Z,10.0nm,0.6s,SNR=7.5
MOA Molln 147.67 343 *e*P **PKPbc 08 42 16.2 -0.3**
comp=Z,5.2nm,0.8s
ZAGS Zajecar 148.05 330 *e*P **PKPab 08 42 20.8 -1.6**
ZAPS Zavoj 148.26 329 *e*P **PKiKP 08 42 18.4 -1.1**
SOKA Soboth 148.50 341 *e*P **PKPbc 08 42 17.6 -1.1**
comp=Z,3.1nm,0.6s
TRUS Trudelj 148.57 333 *e*P **PKiKP 08 42 18.9 -1.1**
KBA Koelnbreinsper 148.63 344 *e*P **PKPbc 08 42 18.4 -0.8**
comp=Z,6.7nm,0.5s
WATA Walderalm 148.83 346 *i*P **PKPbc 08 42 19.4 -0.3**
comp=Z,5.9nm,0.5s,SNR=4.7
RETA Reutte 148.87 347 *i*P **PKiKP 08 42 19.5 -1.1**
comp=Z,5.2nm,0.4s,SNR=4.1
WTTA Wattenberg 148.89 346 *i*P **PKiKP 08 42 19.8 -1.0**
comp=Z,10nm,0.4s,SNR=9.9
MOTA Moosalm 148.93 347 *i*P **PKPbc 08 42 19.6 -0.3**
comp=Z,7.2nm,0.8s,SNR=5.7
MYKA Terra Mystica 148.96 343 *i*P **PKPbc 08 42 19.1 -0.8**
comp=Z,7.2nm,0.5s,SNR=4.2
SQTA Sankt Quirin 149.03 346 *i*P **PKiKP 08 42 19.9 -1.1**
comp=Z,12nm,0.5s,SNR=6.4
SELS Selova 149.03 331 *e*P **PKPbc 08 42 19.7 -0.4**
ABTA Abfaltersbach 149.15 344 *e*P **PKPbc 08 42 19.8 -0.6**
comp=Z,11nm,0.6s
IVAS Ivanjica 149.19 332 *e*P **PKPbc 08 42 20.2 -0.3**
DAVA Damuels 149.25 348 *e*P **PKiKP 08 42 21.1 -0.4**
comp=Z,6.0nm,0.6s
FETA Feichten 149.32 347 *e*P **PKiKP 08 42 20.9 -0.8**
comp=Z,11nm,1.0s
SJES Sjenica 149.52 332 *e*P **PKiKP 08 42 22.9 +0.8**
ESDC Sonseca Array 157.36 10 PKPab **PKPab 08 43 01.2 -0.8**
comp=Z,0.4nm,0.4s,baz=353,slow=4.7,SNR=4.7
TORD Torodi Ar. Bea 175.75 190 PKP **PKPdf 08 42 40.8 -0.9**
comp=Z,1.0nm,0.7s,baz=323,slow=1.4,SNR=7.1

IDC 15 08:28:06.0±3.4, 53°.77N×88°.23E, h0^{km}, mb1 2.8/3, mb1mx2.4/56, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=34.2km s-min=20.2km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.03**	**277**	*i*		08 39 20.0	
baz=92,slow=345,SNR=14							
ZALV	**Zalesovo Beam**	**2.03**	**277**	Pn	Pn	08 28 42.1	+0.7
1.7nm,0.3s,baz=93,slow=13,SNR=17							
ZALV				Lg	Lg	08 29 10.6	
2.7nm,0.3s,baz=100,slow=27,SNR=17							
KURBB	**Kurchatov Arra**	**6.74**	**246**	Pn	Pn	08 29 46.3	+0.1
0.2nm,0.3s,baz=61,slow=14,SNR=9.1							
KURBB				Lg	Lg	08 31 39.8	
0.1nm,0.3s,baz=60,slow=32,SNR=4.1							
MKAR	**Makanchi Array**	**7.95**	**211**	Pn	Pn	08 30 03.9	+1.2
0.1nm,0.3s,baz=31,slow=14,SNR=5.3							

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*IDC **15** 08:29:28.4±0.7, 54°.63N×86°.35E, h0^{km}, mb1 2.8/2, mb1mx2.2/54, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=10.6km s-min=0.2km az=144.0*
*NNC **15** 08:29:37.6±3.7, 54°.26N×86°.09E, h0^{km}, mb3.4, mpv3.1, Error ellipse: s-maj=36.0km s-min=25.1km az=87.0, Suspected Mining explosion.*
ISC 15 08:29:25.2±2.7, 53°.14N±0°.07×86°.1E±0°.2, h0^{km}, n8, σ2°.96/9, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.13**	**317**	Pg	**Pb**	**08 29 48.9**	**+1.2**
0.3nm,0.3s,baz=50,slow=18,SNR=1.9							
ZALV				Lg	Lg	08 30 04.3	
2.2nm,0.3s,baz=55,slow=27,SNR=6.4							
I46RU	**ZALESOVO INFRA**	**1.13**	**317**	*i*		08 35 55.9	
baz=55,slow=345,SNR=19							
KURK	**Kurchatov**	**5.24**	**245**	⇑Pn	**Pg**	**08 31 06.1**	**+0.4**
0.9nm,0.8s							
KURK				⇑Lg	Lg	08 32 42.5	
4.7nm,0.9s							
KURBB	**Kurchatov Arra**	**5.34**	**245**	Pn	**Pb**	**08 31 01.6**	**+2.3**
0.1nm,0.3s,baz=50,slow=13,SNR=4.6							
KURBB				Lg	Lg	08 32 48.9	
0.0nm,0.3s,baz=52,slow=31,SNR=4.5							
KURBB	**Kurchatov Arra**	**5.34**	**245**	⇑Pn	**Pg**	**08 31 04.2**	**-3.3**
3.2nm,0.8s							
KURBB				⇓Lg	Lg	08 32 43.4	
5.6nm,0.7s							
MK31	**Makanchi Array**	**6.81**	**203**	⇓Pn	**Pg**	**08 31 32.1**	**-3.7**
0.3nm,0.6s,baz=32,slow=15,SNR=4.0							
MK31				Sn	**Sg**	**08 33 04.6**	**+0.7**
2.2nm,1.0s,baz=38,slow=29,SNR=4.6							
MK31				⇓Lg	Lg	08 33 48.3	
4.8nm,1.2s,baz=22,slow=29,SNR=4.6							
MKAR	**Makanchi Array**	**6.81**	**203**	Pn	**Pb**	**08 31 28.2**	**+3.7**
0.1nm,0.3s,baz=20,slow=12,SNR=4.5							
MKAR				Lg	Lg	08 33 51.7	
0.0nm,0.3s,baz=29,slow=33,SNR=4.0							
MAKZ	**Makanchi**	**6.88**	**205**	⇑Pn	**Pg**	**08 31 35.4**	**-1.5**
1.5nm,0.9s							
MAKZ				⇓Sn	**Sg**	**08 33 03.8**	**-2.2**
0.9nm,0.8s							
MAKZ				⇑Lg	Lg	08 33 51.2	
3.9nm,1.1s							

IDC 15 08:29:51.1±0.5, 53°.61N×87°.86E, h0^{km}, mb1 3.2/2, mb1mx2.5/54, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=9.2km s-min=0.4km az=13.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**282**	*i*		08 41 15.9	
baz=93,slow=347,SNR=5.7							
ZALV	**Zalesovo Beam**	**1.83**	**282**	Pg	Pn	08 30 23.1	-0.7
3.0nm,0.3s,baz=98,slow=16,SNR=8.9							
ZALV				Lg	Lg	08 30 51.0	
4.7nm,0.3s,baz=96,slow=25,SNR=10							
KURBB	**Kurchatov Arra**	**6.47**	**246**	Pn	Pn	08 31 26.9	-0.6
0.2nm,0.3s,baz=62,slow=14,SNR=12							
KURBB				Lg	Lg	08 33 19.6	
0.0nm,0.3s,baz=52,slow=30,SNR=2.5							
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	08 31 44.0	-0.3
0.1nm,0.3s,baz=30,slow=14,SNR=5.6							

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*IDC **15** 08:31:21.3±1.0, 2°.74N×95°.28E, h0^{km}, mb4.2/15, mb1 4.3/17, mb1mx4.0/47, mbtmp4.2/17, ML4.7/1, MS3.8/37, Ms1 3.8/37, ms1mx3.6/87, Error ellipse: s-maj=33.7km s-min=15.9km az=51.0*
*NEIC **15** 08:31:27.1±1.0, 2°.81N±0°.08×95°.4E±0°.1, h31^{km}±5^{km}, mb4.7/41, Error ellipse: s-maj=16.4km s-min=8.5km az=59.0*
*DJA **15** 08:31:28.6±0.9, 3°N±4°×9°6E±°, h18^{km}±5^{km}, M4.5/9, mb4.6/2, mB4.8/2, MLv4.4/9, Mw(mB)4.0/2*
ISC 15 08:31:25.0±1.2, 2.74N±0°.05×95°.41E±0°.06, h25^{km}±7^{km}, n138, σ1°67/123, mb4.7/48, MS4.0/49, 3C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.98**	**110**	P	**Pn**	**08 31 42.7**	**-0.5**
SNSI				S	**Sb**	**08 31 52.6**	**-3.2**
TPTI		**1.84**	**74**	P	**Pn**	**08 31 54.5**	**-0.6**
TPTI				S	**Sn**	**08 32 15.1**	**-2.6**
KCSI	**Kotacane, Aceh**	**2.48**	**72**	P	**Pn**	**08 32 05.1**	**+1.1**
KCSI				S	**Sn**	**08 32 32.4**	**-1.2**
GSI	**Gunungsitoli**	**2.59**	**123**	P	**Pn**	**08 32 05.9**	**+0.4**
GSI				S	**Sn**	**08 32 34.5**	**-1.8**
GSI	**Gunungsitoli**	**2.59**	**123**	Pn	**Pn**	**08 32 06.2**	**+0.7**
GSI				Sn	**Sn**	**08 32 35.7**	**-0.6**
LHMI	**Lhok Sumawe**	**2.91**	**32**	P	**Pn**	**08 32 10.9**	**+1.1**
LHMI	**Lhok Sumawe**	**2.91**	**32**		**Pn**	**08 32 10.3**	**+0.5**
TSI	**Tuntungan**	**3.24**	**76**	P	**Pn**	**08 32 15.5**	**+1.1**
PSI	**Prapat**	**3.51**	**89**	Pn	**Pn**	**08 32 19.8**	**+1.6**
baz=296,slow=12							
PSI				Sn	**Sn**	**08 32 56.1**	**-3.0**
5.2nm,0.3s,baz=311,slow=7.6,SNR=4.3							
PSI				LR	LR	08 33 59.6	
comp=Z,935nm,20.3s,slow=44							
RPSI	**Rantau Prapat**	**3.51**	**91**		**Pn**	**08 32 19.8**	**+1.7**
MNSI	**Mandailing Nat**	**4.60**	**115**	P	**Pn**	**08 32 34.4**	**+1.4**
SISI	**Saibi**	**5.47**	**138**	P	**Pn**	**08 32 46.0**	**+1.0**
0.2nm775nm30nm,0.7s							
KULM	**Kulim**	**5.81**	**64**	Pn	**Pn**	**08 32 50.3**	**+0.5**
IPM	**Ipoh**	**5.87**	**73**	Pn	**Pn**	**08 32 51.2**	**+0.7**
BKNI	**Bangkinang**	**6.12**	**113**	Pn	**Pn**	**08 32 55.2**	**+1.2**
SRIT	**Nakonsritamara**	**7.16**	**35**	Pn	**Pn**	**08 33 08.1**	**-0.1**
MYKOM	**Kota Tinggi**	**8.49**	**96**	Pn	**Pn**	**08 33 27.0**	**+0.5**
MNAI	**Manna**	**10.33**	**133**	Pn	**Pn**	**08 33 52.2**	**+0.5**
KSM	**Kuching**	**14.94**	**95**		**Pn**	**08 34 55.6**	**+0.7**
PALK	**Pallekele**	**15.32**	**288**	Sn	Sn	08 37 34.6	-14
0.8nm,0.3s,baz=300,slow=13,SNR=6.2							
PALK				LR	LR	08 40 31.6	
comp=Z,535nm,18.5s,baz=212,slow=36							
LEM	**Lembang**	**15.46**	**128**	LR	LR	08 41 38.0	
comp=Z,404nm,20.6s,baz=266,slow=40							
UBPT	**Khong Chiam**	**15.93**	**38**	Pn	**Pn**	**08 35 07.6**	**-0.1**
CM31	**Chiang Mai Arr**	**16.00**	**12**	Pn	**Pn**	**08 35 08.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.00**	**12**	Pn	**Pn**	**08 35 09.9**	**+1.3**
1.1nm,0.3s,baz=203,slow=11,SNR=66							
CMAR				LR	LR	08 42 16.1	
comp=Z,350nm,18.9s,baz=195,slow=41							
CMAR	**Chiang Mai Arr**	**16.00**	**12**		**Pn**	**08 35 08.3**	**-0.3**
CHTO	**Chiang Mai**	**16.34**	**12**		**Pn**	**08 35 11.1**	**-1.9**
SBUM	**Sibu**	**16.80**	**91**	Pn	**Pn**	**08 35 19.1**	**+0.3**
SLVN	**Son La**	**20.25**	**23**	P	**P**	**08 35 58.0**	**-0.8**
KKM	**Kota Kinabalu**	**21.00**	**80**	P	**P**	**08 36 06.0**	**-1.1**
QIZ	**Qiongzhong**	**21.48**	**40**	P	**P**	**08 36 13.8**	**+1.7**
QIZ				S	**S**	**08 40 11.5**	**+2.1**
QIZ				LR	LR		
comp=N,690nm,14.1s							
QIZ				LR	LR		
comp=E,310nm,13.7s							
QIZ				LR	LR		
comp=Z,520nm,14.4s							
BKB	**Balikpapan**	**21.85**	**100**	P	**P**	**08 36 16.5**	**+0.5**
SHL	**Shillong**	**22.95**	**352**	P	**P**	**08 36 25.5**	**-2.3**
MYLDM	**Lahad Datu**	**23.16**	**83**	P	**P**	**08 36 29.2**	**-0.8**
MYLDM				IAmb	IAmb	08 36 33.2	
comp=Z,35nm,1.0s							
KMI	**Kunming**	**23.35**	**17**	⇑P	**P**	**08 36 35.0**	**+3.0**
KMI				pP	sP	08 36 45.3	+3.4
KMI				sS	Sn	08 41 00.1	-2.7
KMI				pmax	pmax		
comp=Z,13nm,1.1s							
KMI				LR	LR		
comp=Z,890nm,12.5s							
KMI				LR	LR		
comp=Z,430nm,16.0s							
KMI				LR	LR		
comp=Z,990nm,13.2s							
PZH	**PanZhiHua**	**24.40**	**14**	P	**P**	**08 36 44.8**	**+3.0**
PZH				pmax	pmax		
comp=Z,8.0nm,0.9s							
PZH				pmax	pmax		
comp=Z,120nm,5.3s							
H08S2	**Diego Garcia H**	**25.08**	**246**	T	T	09 02 38.6	
baz=67,slow=76,SNR=398							
H08S3	**Diego Garcia H**	**25.08**	**246**	T	T	09 02 38.8	
baz=67,slow=76,SNR=447							
H08S1	**Diego Garcia H**	**25.10**	**246**	T	T	09 02 39.9	
baz=67,slow=76,SNR=102							
TOLI2	**Tolitoli**	**25.41**	**93**	P	**P**	**08 36 51.7**	**+0.7**
KAPI	**Kappang**	**25.51**	**108**	LR	LR	08 47 06.1	
comp=Z,189nm,18.4s,baz=314,slow=37							
GYA	**Guiyang**	**25.94**	**24**	⇑P	**P**	**08 36 57.4**	**+1.6**
GYA				pP	sP	08 37 07.0	+1.0
GYA				S	**S**	**08 41 25.4**	**+0.5**
GYA				ScS	**ScS**	**08 47 50.5**	**-1.8**
GYA				pmax	pmax		
comp=Z,15nm,0.8s							
GYA				pmax	pmax		
comp=Z,130nm,4.4s							
GYA				LR	LR		
comp=Z,330nm,8.3s							
GYA				LR	LR		
comp=Z,300nm,10.5s							
GYA				LR	LR		
comp=Z,210nm,15.1s							
CD2	**Chengdu**	**29.11**	**15**	P	**P**	**08 37 26.3**	**+2.3**
CD2				LR	LR		
comp=Z,50nm,13.7s							
CD2				LR	LR		
comp=Z,320nm,12.9s							
CD2				LR	LR		
comp=Z,620nm,13.5s							
DAV	**Davao City (W)**	**30.36**	**81**	LR	LR	08 51 53.1	
comp=Z,101nm,19.6s,baz=126,slow=40							
BATI	**Baumata**	**30.94**	**115**	LR	LR	08 52 28.0	
comp=Z,388nm,18.1s,baz=253,slow=41							
SOEI	**Soe**	**31.31**	**114**	P	**P**	**08 37 44.8**	**+0.9**
SOEI				IAmb	IAmb	08 38 27.2	
comp=Z,17nm,1.2s							
TWG	**Pinlang**	**31.90**	**49**	P	**P**	**08 37 48.6**	**-0.1**
YHNB	**Yeheng**	**33.20**	**47**	P	**P**	**08 38 00.0**	**-0.2**
GOMU	**GeErMu**	**33.30**	**359**	P	**P**	**08 38 02.0**	**+0.7**
GOMU				S	**S**	**08 43 24.4**	**+3.8**
GOMU				pmax	pmax		
comp=Z,3.0nm,0.7s							
GOMU				pmax	pmax		
comp=Z,86nm,3.8s							
GOMU				LR	LR		
comp=Z,68nm,9.3s							
GOMU				LR	LR		
comp=Z,84nm,15.7s							
GOMU				LR	LR		
comp=Z,89nm,15.0s							
XAN	**Xi'an**	**33.60**	**21**	P	**P**	**08 38 02.6**	**-0.9**
XAN				pP	sP	08 38 13.8	0.0
XAN				pmax	pmax		
comp=Z,17nm,1.1s							
XAN				pmax	pmax		
comp=Z,93nm,3.7s							
XAN				LR	LR		
comp=Z,220nm,15.7s							
XAN				LR	LR		
comp=Z,340nm,16.2s							
XAN				LR	LR		
comp=Z,420nm,16.1s							
PSA00	**Pilbara Seismi**	**34.00**	**136**	P	**P**	**08 38 08.3**	**+1.2**
PSA00				IAmb	IAmb	08 38 09.5	
comp=Z,8.9nm,1.2s							
LZH	**Lanzhou**	**34.09**	**12**	*e*P	P	08 38 20.0	+12
LZH				pP	sP	08 38 26.8	+8.6
LZH				pmax	pmax		
comp=Z,13nm,0.9s							
LZH				LR	LR		
comp=N,320nm,16.3s							
LZH				LR	LR		
comp=E,330nm,14.6s							
LZH				LR	LR		
comp=Z,340nm,16.8s							
LYN	**LuoYang**	**35.41**	**25**	⇓P	**P**	**08 38 19.9**	**+0.7**
LYN				pmax	pmax		
comp=Z,20nm,0.7s							
LYN				LR	LR		
comp=Z,680nm,15.1s							
LYN				LR	LR		
comp=Z,180nm,12.0s							
LYN				LR	LR		
comp=Z,470nm,14.5s							
SIJI	**Sorong**	**36.03**	**95**	LR	LR	08 53 34.1	
comp=Z,79nm,19.2s,baz=258,slow=37							
NJ2	**Nanjing**	**36.56**	**35**	*e*P	**P**	**08 38 29.8**	**+0.8**
NJ2				pP	**pP**	**08 38 37.1**	**+0.8**
NJ2				pmax	pmax		
comp=Z,16nm,0.5s							
NJ2				LR	LR		
comp=Z,310nm,12.7s							
NJ2				LR	LR		
comp=Z,260nm,16.1s							
NJ2				LR	LR		
comp=Z,230nm,14.7s							
GTA	**Gaotai**	**36.72**	**6**	*e*P	**P**	**08 38 30.3**	**-0.2**
GTA				pP	pP	08 38 37.9	+0.1
GTA				sP	sP	08 38 42.3	+1.5
GTA				pmax	pmax		
comp=Z,6.0nm,0.9s							
GTA				pmax	pmax		
comp=Z,81nm,5.5s							
GTA				LR	LR		
comp=Z,150nm,16.7s							
GTA				LR	LR		
comp=Z,130nm,16.4s							
GTA				LR	LR		
comp=Z,190nm,15.3s							
SSE	**Sheshan**	**37.25**	**38**	P	**P**	**08 38 36.4**	**+1.5**
SSE				S	**S**	**08 44 23.9**	**+3.1**
SSE				pmax	pmax		
comp=Z,9.0nm,0.6s							
SSE				pmax	pmax		
comp=Z,52nm,3.8s							
SSE				LR	LR		
comp=Z,170nm,14.5s							
SSE				LR	LR		
comp=Z,150nm,15.2s							
MTN	**Manton Dam**	**38.70**	**114**	P	**P**	**08 38 46.6**	**-0.8**
MTN				IAmb	IAmb	08 38 47.5	
comp=Z,18nm,1.4s							
HNS	**HongShan**	**38.78**	**25**	⇑P	**P**	**08 38 48.4**	**+0.6**
HNS				S	**S**	**08 44 39.8**	**-4.1**
HNS				pmax	pmax		
comp=Z,39nm,0.8s

HNS LR LR
comp=Z,370nm,15.1s
HNS LR LR
comp=Z,380nm,15.9s
HNS LR LR
comp=Z,400nm,15.5s
HHC Hu-ho-hao-te 40.64 19 *e*P **P 08 39 04.4 +1.0**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,80nm,4.0s
HHC LR LR
comp=Z,590nm,14.6s
HHC LR LR
comp=Z,330nm,14.9s
HHC LR LR
comp=Z,550nm,14.9s
KSH Kashi 40.65 337 P **P 08 39 02.8 -0.6**
KSH pmax pmax
comp=Z,4.0nm,0.9s
WSAR Wadi Sarin 41.01 303 LR LR 08 56 34.3
comp=Z,53nm,18.6s,baz=116,slow=37
H01W3 Cape Leeuwin H 41.35 156 T T 09 23 07.5
baz=332,slow=76,SNR=71
H01W2 Cape Leeuwin H 41.37 156 T T 09 23 08.5
baz=332,slow=76,SNR=87
H01W1 Cape Leeuwin H 41.37 156 T T 09 23 08.7
baz=332,slow=76,SNR=68
WMQ Urumqi 41.48 352 *e*P **P 08 39 11.4 +1.3**
WMQ pP sP 08 39 19.1 -1.2
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,100nm,3.8s
BJT Baijiatuau 41.61 24 P **P 08 39 10.9 -0.2**
BJT IAmb IAmb 08 39 13.4
comp=Z,24nm,1.2s
BJI Beijing 41.63 24 P **P 08 39 12.3 +1.0**
BJI pmax pmax
comp=Z,17nm,1.0s
TARG Taragay, Kyrgy 41.91 340 P **P 08 39 12.9 -1.2**
TARG IAmb IAmb 08 39 23.8
comp=Z,28nm,2.0s
DRK Karamyk 42.40 333 P **P 08 39 18.7 +0.7**
DRK IAmb IAmb 08 39 47.1
comp=Z,17nm,0.9s
CHGR Chuyangaron 43.03 330 P **P 08 39 22.0 -0.9**
CHGR IAmb IAmb 08 40 19.0
comp=Z,11nm,1.0s
BTK Batken 43.32 332 P **P 08 39 25.2 0.0**
BTK IAmb IAmb 08 39 36.0
comp=Z,19nm,1.4s
AAK Ala-Archa 43.90 338 P **P 08 39 30.8 +0.9**
comp=Z,0.9nm,0.4s,baz=160,slow=10,SNR=4.0
AAK LR LR 08 58 56.5
comp=Z,108nm,21.8s,baz=152,slow=38
AAK Ala-Archa 43.90 338 P **P 08 39 29.6 -0.3**
WB0 Warramunga Arr 44.34 122 P **P 08 39 33.9 +0.3**
WB0 IAmb IAmb 08 39 34.9
comp=Z,14nm,1.1s
WRA Warramunga Arr 44.37 122 P **P 08 39 34.0 +0.1**
comp=Z,5.5nm,1.0s,baz=300,slow=8.9,SNR=26
WRA LR LR 08 58 45.8
comp=Z,137nm,19.6s,baz=336,slow=37
WRA Warramunga Arr 44.37 122 P **P 08 39 34.3 +0.4**
WRAB Tennant Creek 44.37 122 P **P 08 39 34.0 +0.1**
WB2 Warramunga Arr 44.38 122 P **P 08 39 34.2 +0.3**
WB2 IAmb IAmb 08 39 35.4
comp=Z,17nm,1.2s
WR0 Warramunga Arr 44.55 122 P **P 08 39 35.4 +0.1**
WR0 IAmb IAmb 08 39 36.9
comp=Z,9.7nm,0.9s
XLT XiLinHaoTe 44.90 21 *e*P **P 08 39 34.3 -3.5**
XLT pP pP 08 39 43.8 -1.5
XLT sP sP 08 39 46.0 -2.3
XLT PP **PcP 08 41 19.5 +0.4**
XLT S **S 08 46 21.9 +7.6**
XLT sS sS 08 46 28.3 +1.7
XLT pmax pmax
comp=Z,140nm,4.4s
XLT LR LR
comp=N,350nm,13.0s
XLT LR LR
comp=E,260nm,10.6s
XLT LR LR
comp=Z,530nm,14.3s
MK31 Makanchi Array 45.34 347 P **P 08 39 41.6 +0.4**
MK31 IAmb IAmb 08 39 50.6
comp=Z,12nm,1.1s
MKAR Makanchi Array 45.34 347 P **P 08 39 41.3 +0.1**
comp=Z,3.7nm,0.6s,baz=165,slow=8.3,SNR=45
MKAR Makanchi Array 45.34 347 P **P 08 39 41.4 +0.2**
MAKZ Makanchi 45.42 347 P **P 08 39 42.0 +0.1**
KSAR Wonju Array Be 45.62 37 P **P 08 39 43.5 0.0**
KSRS Korea Array 45.65 37 P **P 08 39 43.5 -0.2**
comp=Z,1.7nm,0.7s,baz=225,slow=8.9,SNR=8.6
KSRS LR LR 09 01 27.6
comp=Z,113nm,18.6s,baz=235,slow=40
ASAR Alice Springs 45.75 127 P **P 08 39 45.8 +0.9**
comp=Z,2.3nm,0.8s,baz=299,slow=7.5,SNR=19
ASAR PcP **PcP 08 41 23.5 +1.1**
comp=Z,0.6nm,0.8s,baz=260,slow=2.7,SNR=3.6
ASAR LR LR 09 02 16.7
comp=Z,62nm,18.2s,baz=314,slow=40
ASAR Alice Springs 45.75 127 P **P 08 39 45.3 +0.5**
KKAR Karatay Array 45.90 335 P **P 08 39 46.2 +0.5**
SONM Songino Array 45.91 10 P **P 08 39 46.1 +0.3**
comp=Z,7.1nm,0.8s,baz=190,slow=8.9,SNR=40
SONM PcP **PcP 08 41 23.2 +0.6**
comp=Z,1.3nm,0.7s,baz=195,slow=3.4,SNR=3.9
SONM LR LR 09 00 54.4
comp=Z,146nm,20.2s,baz=220,slow=39
SONM Songino Array 45.91 10 P **P 08 39 45.9 0.0**
SONM IAmb IAmb 08 39 46.9
comp=Z,6.8nm,0.9s
ULN Ulaanbaatar 46.06 11 P **P 08 39 46.5 -0.5**
ULN IAmb IAmb 08 39 47.9
comp=Z,4.0nm,0.7s
CN2 Changchun 48.79 29 *e*P **P 08 40 07.3 -0.8**
CN2 *e*S **S 08 47 06.4 -3.4**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,200nm,13.0s
KURK Kurchatov 49.86 346 P **P 08 40 16.4 +0.2**
KURK IAmb IAmb 08 40 25.4
comp=Z,8.2nm,1.0s
GUMO Guam 50.03 75 LR LR 09 00 31.1
comp=Z,65nm,21.7s,baz=257,slow=35
ZAA0 Zalesovo Array 51.78 352 P **P 08 40 30.8 +0.3**
ZALV Zalesovo Beam 51.78 352 P **P 08 40 30.7 +0.1**
comp=Z,12nm,0.7s,baz=179,slow=6.1,SNR=37
ZALV LR LR 09 05 58.7
comp=Z,68nm,18.1s,baz=162,slow=40
ZALV Zalesovo Beam 51.78 352 P **P 08 40 31.0 +0.4**
MJAR Matsushiro Arr 51.80 44 LR LR 09 05 28.9
comp=Z,101nm,18.2s,baz=225,slow=40
USRK Ussuriysk Ar. 52.42 33 P **P 08 40 36.4 +0.9**
comp=Z,2.2nm,0.7s,baz=224,slow=5.3,SNR=4.8
USRK Ussuriysk Ar. 52.42 33 P **P 08 40 34.9 -0.6**
ATD Arta Tunnel 52.80 282 LR LR 09 00 07.3
comp=Z,51nm,18.2s,baz=72,slow=33
BRVK Borovoye 54.29 342 P **P 08 40 48.8 -0.3**
BRVK IAmb IAmb 08 40 58.1
comp=Z,5.2nm,1.0s
CTA Charters Tower 54.79 117 LR LR 09 08 27.2
comp=Z,97nm,20.1s,baz=264,slow=40
ABKAR Akbulak array 55.32 332 P **P 08 40 57.1 +0.4**
ABKAR Akbulak array 55.32 332 P **P 08 40 57.2 +0.5**
ABKAR IAmb IAmb 08 41 07.1
comp=Z,35nm,1.7s
STKA Stephens Creek 55.71 132 LR LR 09 07 36.8
comp=Z,68nm,18.8s,baz=239,slow=39
AKTO Aktyubinsk 57.04 332 P **P 08 41 08.2 -0.8**
comp=Z,0.6nm,0.5s,baz=120,slow=8.9,SNR=4.3
ASAJ Asahikawa 58.54 38 LR LR 09 08 36.0
comp=Z,100nm,18.3s,baz=198,slow=38
GNI Garni 58.95 316 LR LR 09 08 35.1
comp=Z,28nm,19.7s,baz=119,slow=38
ARU Arti 61.08 338 P **P 08 41 36.4 -0.5**
comp=Z,0.6nm,0.3s,baz=104,slow=7.2,SNR=4.9
ARU Arti 61.08 338 P **P 08 41 36.2 -0.6**
YAK Yakutsk 64.47 17 LR LR 09 13 04.8
comp=Z,205nm,18.1s,baz=264,slow=39
YAK Yakutsk 64.47 17 P **P 08 41 59.0 -0.2**
MBAR Mbarara 64.73 268 LR LR 09 08 15.7
comp=Z,86nm,18.6s,baz=78,slow=34
HNR Honiara 65.42 102 LR LR 09 14 50.9
comp=Z,32nm,18.6s,baz=161,slow=40
NRIK Noril'sk 66.70 357 P **P 08 42 13.0 -0.5**
comp=Z,0.9nm,0.3s,baz=168,slow=4.5,SNR=5.8
NRIK Noril'sk 66.70 357 P **P 08 42 13.5 0.0**
NRIK IAmb IAmb 08 42 14.8
comp=Z,14nm,1.4s
BRTR Keskin Array B 66.76 312 LR LR 09 14 34.8
comp=Z,40nm,18.3s,baz=114,slow=39
LSZ Lusaka 68.85 253 LR LR 09 09 36.5
comp=Z,54nm,18.6s,baz=144,slow=33
PETK Petropavlovsk- 71.46 34 LR LR 09 18 00.9
comp=Z,120nm,18.1s,baz=222,slow=39
PETK Petropavlovsk- 71.46 34 P **P 08 42 43.6 +0.1**
KLMR Klimovskoe 71.60 335 *e*P **P 08 42 47.9 +3.8**
KLMR AMP 08 42 54.1
comp=Z,16nm,1.2s
TIXI Tiksi 72.00 11 P **P 08 42 45.5 -0.8**
comp=Z,1.3nm,0.6s,baz=202,slow=2.9,SNR=5.6
TIXI LR LR 09 16 41.2
comp=Z,76nm,20.3s,baz=228,slow=38
TIXI Tiksi 72.00 11 P **P 08 42 45.3 -1.0**
TIXI IAmb IAmb 08 42 55.0
comp=Z,12nm,1.4s
IDI Anoyia 72.55 306 LR LR 09 17 59.0
comp=Z,37nm,19.5s,baz=346,slow=39
LBTB Lobatse 72.97 243 LR LR 09 11 07.9
comp=Z,147nm,19.3s,baz=89,slow=33
SEY Seymchan 73.06 24 LR LR 09 19 09.4
comp=Z,67nm,18.7s,baz=360,slow=39
BOSA Boshof 74.00 239 LR LR 09 13 01.0
comp=Z,70nm,18.5s,baz=135,slow=34
MNK Minsk 74.85 326 *i* P P 08 42 57.5 -5.9
comp=E,3.0nm,0.8s
MNK *i* P P 08 42 57.5 -5.9
comp=N,12nm,0.7s
MNK *i* P P 08 42 57.5 -5.9
comp=Z,13nm,0.6s,baz=286
MNK *i* PP **PP 08 45 44.8 -6.2**
MNK *i* PPP PPP 08 47 30.4
MNK *i* S **S 08 52 34.7 -4.3**
MNK *i* SS **SS 08 57 23.4 -3.9**
MNK *i* SSS SSS 09 00 48.8
MNK *i* LR LR 09 16 39.0
MNK *i* LRM MLR 09 18 03.2
comp=Z,234nm,20.4s
MNK *i* LRM MLR 09 18 25.5
comp=N,95nm,24.3s
MNK *i* LRM MLR 09 18 30.6
comp=E,8.0nm,16.6s
FINES FINESS Array B 77.81 333 P **P 08 43 19.8 -0.4**
comp=E,1.1nm,0.4s,baz=94,slow=5.7,SNR=5.0
SUR Sutherland 78.51 236 LR LR 09 14 03.1
comp=E,60nm,19.6s,baz=274,slow=33
ARCES ARCESS Array B 80.49 340 P **P 08 43 34.5 -0.1**
comp=E,3.6nm,1.0s,baz=78,slow=6.7,SNR=4.6
ARCES LR LR 09 22 14.3
comp=E,52nm,18.9s,baz=116,slow=38
GERES GERESS Array B 82.48 319 P **P 08 43 46.0 +0.2**
comp=E,0.3nm,0.5s,baz=155,slow=7.2,SNR=1.7
MDT Midelt 96.93 303 LR LR 09 33 14.6
comp=E,52nm,18.1s,baz=150,slow=38
DBIC Dimbokro 99.86 277 LR LR 09 26 50.6
comp=E,26nm,21.9s,baz=128,slow=33
NVAR Mina Array Bea 128.55 34 PKP **PKiKP 08 50 32.0 +0.7**
comp=E,0.4nm,0.6s,baz=318,slow=2.0,SNR=3.7
TXAR Lajitas Array 143.24 28 PKP PKPbc 08 50 56.2 +1.2
comp=E,0.2nm,0.7s,baz=243,slow=1.1,SNR=3.8

PGC 15 08:35:33.3±0.4, 48°.68N×128°.97W, h10km, MLSn2.9/31, Mw3.5/31, 229km west of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**0.73**	**187**	P	Pg	08 35 46.1	-1.3
NC27	**ODP1027**	**1.22**	**138**	P	Pn	08 35 53.8	-2.3
NC89	**ODP889**	**1.41**	**89**	P	Pn	08 35 56.1	-2.7
NC89				S	Sn	08 36 14.5	-2.9
BPBC	**Brooks Peninsu**	**1.68**	**27**	P	Pn	08 36 00.5	-2.2
EDB	**Eliza Dome**	**1.71**	**45**	P	Pn	08 36 00.9	-2.2
EDB				S	Sn	08 36 20.1	-4.8
ETB	**Estevan Point**	**1.75**	**66**	P	Pn	08 36 02.3	-1.4
PACB	**Port Alice, BC**	**2.01**	**28**	P	Pn	08 36 05.1	-2.1
PACB				S	Sn	08 36 27.3	-5.0
HOLB	**Holberg**	**2.04**	**15**	P	Pn	08 36 06.5	-1.3
HOLB				S	Sn	08 36 28.4	-4.9
TOFB	**Tofino**	**2.08**	**76**	P	Pn	08 36 06.2	-2.0
TOFB				S	Sn	08 36 30.0	-4.1
MAYB	**Maynard**	**2.09**	**34**	P	Pn	08 36 06.6	-1.9
WOSB	**Woss**	**2.16**	**46**	P	Pn	08 36 08.0	-1.4
GDR	**Gold River**	**2.22**	**59**	P	Pn	08 36 08.2	-2.0
PHC	**Port Hardy**	**2.27**	**26**	P	Pn	08 36 06.0	-4.8
PHC				S	Sn	08 36 31.0	-7.7
B012	**Ucluelet**	**2.28**	**82**	P	Pn	08 36 09.1	-1.9
TLCB	**Telegraph Cove**	**2.33**	**36**	P	Pn	08 36 10.6	-1.1
TLCB				S	Sn	08 36 36.9	-3.4
BTB	**Buttle Lake**	**2.41**	**69**	P	Pn	08 36 11.5	-1.3
BTB				S	Sn	08 36 40.0	-2.4
SPLB	**Strathcona Par**	**2.49**	**60**	P	Pn	08 36 12.9	-1.0
SPLB				S	Sn	08 36 41.1	-3.2
BFSB	**Bamfield**	**2.54**	**85**	P	Pn	08 36 12.8	-1.8
BFSB				S	Sn	08 36 41.4	-4.2
B928	**Bamfield**	**2.55**	**85**	P	Pn	08 36 12.9	-1.7
B928				S	Sn	08 36 41.5	-4.0
NCRB	**Newcastle Ridg**	**2.57**	**47**	P	Pn	08 36 14.2	-0.9
NCRB				S	Sn	08 36 44.2	-2.3
MWAB	**Mount Washingt**	**2.63**	**65**	S	Sn	08 36 45.5	-2.5
CBB	**Campbell River**	**2.72**	**59**	P	Pn	08 36 16.4	-0.7
CBB				S	Sn	08 36 47.3	-2.8
B927	**Port Alberni**	**2.80**	**77**	P	Pn	08 36 17.3	-0.7
MGB	**Mount Grey**	**2.85**	**82**	P	Pn	08 36 16.9	-2.0
MGB				S	Sn	08 36 49.5	-3.8
PFB	**Port Renfrew**	**3.01**	**90**	P	Pn	08 36 19.7	-1.4
PFB				S	Sn	08 36 53.2	-4.0
TXB	**Texada**	**3.15**	**69**	P	Pn	08 36 22.5	-0.5
GHNB	**Nanoose**	**3.18**	**77**	P	Pn	08 36 23.1	-0.3
B926	**Mesachie Lake**	**3.21**	**86**	S	Sn	08 36 58.2	-3.8
CLRS	**Cowichan Lake**	**3.21**	**86**	P	Pn	08 36 22.3	-1.5
CLRS				S	Sn	08 36 58.6	-3.3
NLLB	**Nanaimo Lost L**	**3.33**	**79**	P	Pn	08 36 24.4	-1.1
NLLB				S	Sn	08 37 02.4	-2.6
SHB	**Sechelt**	**3.47**	**73**	P	Pn	08 36 26.8	-0.7
SHB				S	Sn	08 37 06.6	-2.1
BBB	**Bella Bella**	**3.56**	**9**	P	Pn	08 36 27.7	-0.7
BBB				S	Sn	08 37 05.6	-4.9
B009	**North Saanich**	**3.66**	**88**	P	Pn	08 36 28.6	-1.4
B009				S	Sn	08 37 10.4	-2.8
B010	**North Saanich**	**3.66**	**88**	P	Pn	08 36 28.9	-1.1
B010				S	Sn	08 37 10.8	-2.4
PGC	**Sidney**	**3.66**	**88**	P	Pn	08 36 29.0	-1.0
PGC				S	Sn	08 37 10.6	-2.6
PA12	**PA12 Sannich**	**3.66**	**88**	P	Pn	08 36 29.1	-0.9
B011	**North Saanich**	**3.66**	**88**	P	Pn	08 36 28.4	-1.6
B011				S	Sn	08 37 09.7	-3.5
PA01	**PA01 North**	**3.66**	**88**	S	Sn	08 37 10.7	-2.5
VGZ	**Gonzales**	**3.76**	**92**	S	Sn	08 37 12.9	-2.7
BIB	**Bowen Island**	**3.80**	**77**	P	Pn	08 36 31.0	-0.8
WPB	**Watts Point**	**3.91**	**73**	P	Pn	08 36 33.3	0.0
WSLR	**Whistler**	**4.21**	**68**	P	Pn	08 36 37.9	+0.3
HNBB	**Haney**	**4.26**	**79**	P	Pn	08 36 37.9	-0.4
GNW	**Green Mountain**	**4.27**	**103**	S	Sn	08 37 24.8	-3.3
BUTB	**Butedale**	**4.40**	**4**	P	Pn	08 36 40.2	0.0
BUTB				S	Sn	08 37 27.6	-4.1
VDB	**Vedder Mountai**	**4.55**	**83**	P	Pn	08 36 42.0	-0.2
CMW	**Cultus Mountai**	**4.56**	**91**	P	Pn	08 36 42.3	-0.1
A05A	**Maple Falls**	**4.56**	**83**	P	Pn	08 36 42.1	-0.2
BNKB	**Banks Island**	**4.70**	**353**	P	Pn	08 36 43.4	-0.8
HWKB	**Hawksbury Isla**	**4.93**	**359**	P	Pn	08 36 47.1	-0.3
HWKB				S	Sn	08 37 40.6	-3.9
RPW	**Rockport**	**4.96**	**90**	P	Pn	08 36 47.9	0.0
B06A	**Marblemount**	**4.97**	**89**	P	Pn	08 36 48.0	+0.1
LLLB	**Lillooet**	**5.00**	**65**	P	Pn	08 36 48.4	0.0
GRNB	**Grenville Isla**	**5.21**	**354**	P	Pn	08 36 51.1	-0.2
FMW	**Mount Fremont**	**5.22**	**107**	P	Pn	08 36 53.6	+2.0
UBRB	**Upper Baezaeko**	**5.24**	**34**	P	Pn	08 36 52.0	+0.3
GPW	**Glacier Peak**	**5.25**	**93**	P	Pn	08 36 53.1	+1.1
KITB	**Kitimat**	**5.41**	**2**	P	Pn	08 36 54.2	+0.2
KITB				S	Sn	08 37 52.9	-3.4
LTY	**Liberty**	**5.75**	**101**	P	Pn	08 37 00.4	+1.5
LTY				S	Sn	08 38 02.7	-2.3
FSJB	**Fort St James**	**6.48**	**25**	P	Pn	08 37 09.4	+0.7
FSB	**Fort Saint Jam**	**6.49**	**25**	P	Pn	08 37 09.4	+0.5
SLEB	**Sale Mountain**	**7.43**	**66**	P	Pn	08 37 23.0	+1.1
MNB	**Mounoet Dainar**	**7.62**	**58**	P	Pn	08 37 25.6	+1.0
NBC5	**NorthernBC 5**	**9.63**	**21**	P	Pn	08 37 53.8	+1.9

NEIC ***15*** *08:57:22.4±2.0, 17°.90N±0°.09×145°.8E±0°.2, h81km±4km, mb4.4/14, Error ellipse: s-maj=29.3km s-min=11.8km az=103.0*
IDC ***15*** *08:57:24.8±3.3, 17°.74N×145°.83E, h114km±32km, mb3.4/11, mb1 3.6/12, mb1mx3.2/66, mbtmp3.8/12, Error ellipse: s-maj=26.9km s-min=17.3km az=97.0*
ISC 15 08:57:23.8±0.6, 17°.80N±0°.07×146°.0E±0°.2, h100km, n35, σ1§28/31, mb3.9/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.33**	**195**	P	**Pn**	**08 58 27.5**	**0.0**
	9.4nm,0.3s,baz=343,slow=6.1,SNR=16						
GUMO				S	**Sn**	**08 59 18.4**	**+1.6**
	12nm,0.3s,baz=154,slow=23,SNR=2.0						
GUMO	**Guam**	**4.33**	**195**	P	**Pn**	**08 58 28.1**	**+0.7**
JOW	**Kunigami**	**18.67**	**302**	P	**Pn**	**09 01 38.6**	**+3.1**
	0.5nm,0.3s,baz=98,slow=14,SNR=2.3						
H11S3	**WAKE ISLAND Hy**	**19.69**	**85**	T	T	09 22 30.2	
	baz=273,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**19.70**	**85**	T	T	09 22 45.6	
	baz=273,slow=74,SNR=15						
H11S2	**WAKE ISLAND Hy**	**19.71**	**85**	T	T	09 22 31.8	
	baz=273,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy**	**19.89**	**81**	T	T	09 22 58.5	
	baz=266,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**19.90**	**81**	T	T	09 22 47.9	
	baz=266,slow=74,SNR=20						
H11N3	**WAKE ISLAND Hy**	**19.91**	**81**	T	T	09 22 50.5	
	baz=266,slow=74,SNR=19						
JMM	**Marumori**	**20.50**	**348**	P	**P**	**09 01 52.0**	**-1.8**
JMM				IAmb	IAmb	09 02 04.0	
	comp=Z,27nm,1.3s						
PETK	**Petropavlovsk-**	**36.40**	**12**	P	**P**	**09 04 18.1**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=189,slow=5.4,SNR=1.3						
WB2	**Warramunga Arr**	**39.21**	**197**	P	**P**	**09 04 41.2**	**-1.2**
WB2				IAmb	IAmb	09 04 52.7	
	comp=Z,7.3nm,1.4s						
WRA	**Warramunga Arr**	**39.21**	**197**	P	**P**	**09 04 40.5**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=13,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	**42.87**	**196**	P	**P**	**09 05 11.3**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=14,slow=6.3,SNR=4.7						
SONM	**Songino Array**	**44.01**	**322**	P	**P**	**09 05 20.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=151,slow=9.9,SNR=2.4						
SEY	**Seymchan**	**45.30**	**4**	P	**P**	**09 05 33.1**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=226,slow=12,SNR=7.7						
TIXI	**Tiksi**	**54.78**	**353**	P	**P**	**09 06 41.9**	**-1.0**
TIXI				IAmb	IAmb	09 06 58.4	
	comp=Z,4.0nm,1.4s						
MORW	**Morawa**	**54.84**	**212**	P	**P**	**09 06 43.1**	**-0.8**
PPLA	**Purkeypile**	**61.56**	**27**	P	**P**	**09 07 31.2**	**+0.8**
CAST	**Castle Rocks**	**61.77**	**27**	P	**P**	**09 07 32.1**	**+0.4**
CAST				IAmb	IAmb	09 07 33.4	
	comp=Z,2.2nm,0.7s						
IMAR	**Indian Mountai**	**61.92**	**24**	P	**P**	**09 07 33.5**	**+0.9**
KURK	**Kurchatov**	**62.12**	**318**	P	**P**	**09 07 33.1**	**-1.0**
KURBB	**Kurchatov Arra**	**62.16**	**318**	P	**P**	**09 07 33.1**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=96,slow=7.3,SNR=10						
H21K	**Melozitna Rive**	**62.18**	**24**	P	**P**	**09 07 34.8**	**+0.4**
H21K				IAmb	IAmb	09 07 44.0	
	comp=Z,6.4nm,1.4s						
I21K	**Tanana**	**62.35**	**25**	P	**P**	**09 07 36.9**	**+1.4**
I21K				IAmb	IAmb	09 08 02.4	
	comp=Z,8.0nm,1.4s						
TRF	**Thorofare Moun**	**62.55**	**27**	P	**P**	**09 07 36.1**	**-0.9**
TRF				IAmb	IAmb	09 07 39.9	
	comp=Z,8.3nm,1.5s						
RND	**Reindeer**	**63.16**	**27**	P	**P**	**09 07 40.4**	**-0.6**
RND				IAmb	IAmb	09 07 50.6	
	comp=Z,4.3nm,1.2s						
SCM	**Sheep Creek Mo**	**63.49**	**29**	P	**P**	**09 07 43.3**	**+0.1**
MDM	**Murphy Dome**	**63.81**	**26**	P	**P**	**09 07 46.6**	**+1.4**
ILAR	**Eielson Array**	**64.33**	**26**	P	**P**	**09 07 47.7**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=250,slow=6.2,SNR=16						
BVAR	**Borovoye Array**	**67.33**	**321**	P	**P**	**09 08 07.3**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=66,slow=8.3,SNR=4.8						
YKA	**Yellowknife Ar**	**78.65**	**28**	P	**P**	**09 09 14.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=286,slow=5.4,SNR=16						
YKA				pP	**pP**	**09 09 42.0**	**+2.6**
	comp=Z,0.6nm,0.6s,baz=288,slow=5.3,SNR=6.8						
NVAR	**Mina Array Bea**	**83.48**	**52**	P	**P**	**09 09 41.6**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=270,slow=6.0,SNR=5.9						
PDAR	**Pinedale Array**	**88.26**	**46**	P	**P**	**09 10 04.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=73,slow=1.2,SNR=6.1						
LPAZ	**La Paz**	**147.38**	**93**	PKPbc	**PKPbc**	**09 16 57.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=5.4,slow=4.9,SNR=4.8						

IDC 15 09:01:15.9±2.5, 54°.28N×86°.43E, h0km, mb1 3.1/2, mb1mx2.4/61, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=20.8km s-min=12.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**252**	*i*		09 06 14.9	
	baz=68,slow=345,SNR=8.2						
ZALV	**Zalesovo Beam**	**1.01**	**252**	Pg	Pg	09 01 34.2	-1.0
	1.7nm,0.3s,baz=71,slow=20,SNR=26						
ZALV				Lg	Lg	09 01 49.6	
	6.1nm,0.3s,baz=74,slow=33,SNR=11						
KURBB	**Kurchatov Arra**	**6.06**	**236**	Pn	Pn	09 02 47.4	+0.7
	0.2nm,0.3s,baz=52,slow=13,SNR=20						
KURBB				Lg	Lg	09 04 30.2	
	0.0nm,0.3s,baz=62,slow=32,SNR=5.8						
MKAR	**Makanchi Array**	**7.94**	**201**	Pn	Pn	09 03 13.4	+0.9
	0.4nm,0.3s,baz=14,slow=20,SNR=18						
MKAR				Lg	Lg	09 05 27.7	
	0.0nm,0.3s,baz=14,slow=31,SNR=2.4						

IDC ***15*** *09:04:19.7±2.0, 17°.45S×178°.76W, h624km±21km, mb3.0/8, mb1 3.4/9, mb1mx3.0/38, mbtmp4.0/9, Error ellipse: s-maj=79.6km s-min=16.3km az=149.0*
ISC 15 09:04:21.5±1.5, 17°.45±0°.6×179°.0W±0°.4, h650km, n9, σ1§49/9, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.86**	**262**	P	**P**	**09 05 41.2**	**-2.9**
	8.9nm,0.3s,baz=118,slow=4.8,SNR=30						
STKA	**Stephens Creek**	**38.42**	**240**	P	**P**	**09 10 50.7**	**+0.3**
	2.3nm,0.6s,baz=88,slow=9.6,SNR=7.6						
WRA	**Warramunga Arr**	**44.20**	**259**	P	**P**	**09 11 37.4**	**+1.5**
	1.1nm,0.4s,baz=95,slow=7.1,SNR=24						
ASAR	**Alice Springs**	**44.42**	**254**	P	**P**	**09 11 38.9**	**+1.4**
	5.5nm,0.5s,baz=86,slow=8.7,SNR=96						
NVAR	**Mina Array Bea**	**79.41**	**44**	P	**P**	**09 15 22.7**	**0.0**
	0.5nm,0.7s,baz=222,slow=9.8,SNR=3.7						
ILAR	**Eielson Array**	**85.48**	**13**	P	**P**	**09 15 52.5**	**+0.5**
	0.4nm,0.5s,baz=224,slow=4.9,SNR=7.1						
TXAR	**Lajitas Array**	**86.17**	**58**	P	**P**	**09 15 56.8**	**+0.5**
	0.9nm,0.7s,baz=214,slow=6.0,SNR=10						
PDAR	**Pinedale Array**	**87.33**	**44**	P	**P**	**09 16 01.5**	**-0.1**
	0.5nm,0.6s,baz=236,slow=2.9,SNR=6.7						
YKA	**Yellowknife Ar**	**94.07**	**25**	P	**P**	**09 16 31.7**	**-0.1**
	0.1nm,0.5s,baz=238,slow=4.6,SNR=4.7						

IDC ***15*** *09:05:46.8±1.0, 6°.76S×106°.78E, h105km±6km, mb3.6/12, mb1 3.8/12, mb1mx3.3/67, mbtmp4.0/12, Error ellipse: s-maj=26.6km s-min=10.2km az=44.0*
DJA ***15*** *09:05:46.6±0.2, 7°.5±2°.×10°.7E±°, h80km±3km, M4.7/27, mb4.9/6, mB5.3/7, MLv4.6/27, Mw(mB)4.7/7*
NEIC ***15*** *09:05:46.7±2.6, 7°.25S±0°.07×106°.68E±0°.06, h98km±7km, mb4.2/9, Error ellipse: s-maj=10.4km s-min=8.9km az=179.0*
ISC 15 09:05:45.9±0.5, 7°.12S±0°.06×106°.66E±0°.06, h100km, n67, σ1§72/73, mb4.0/17, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.15**	**318**	P	**Pn**	**09 06 00.8**	**+0.8**
SKJI				S	**Sn**	**09 06 11.3**	**+0.8**
CNJI	**Cibinong**	**0.50**	**112**	P	**Pn**	**09 06 01.0**	**-0.7**
CNJI				S	**Sn**	**09 06 12.1**	**-1.5**
DBJI	**Dramaga**	**0.57**	**9**	P	**Pn**	**09 06 02.9**	**+0.6**
DBJI				S	**Sn**	**09 06 15.2**	**+0.7**
TNG	**Tangerang**	**0.94**	**359**	P	**Pn**	**09 06 08.1**	**+2.3**
TNG				P	**Pn**	**09 06 06.6**	**+0.8**
LEM	**Lembang**	**0.99**	**73**	P	**Pn**	**09 06 07.3**	**+0.8**
	426nm,0.3s,baz=318,slow=4.7,SNR=185						
LEM				S	**Sn**	**09 06 21.3**	**-0.6**
	620nm,0.3s,baz=292,slow=23,SNR=17						
LEM	**Lembang**	**0.99**	**73**	P	**Pn**	**09 06 07.2**	**+0.8**
CGJI	**Cibinong**	**1.08**	**298**	P	**Pn**	**09 06 09.0**	**+1.7**
SBJI	**Serang**	**1.12**	**332**	P	**Pn**	**09 06 09.1**	**+1.3**
CMJI	**Cimerak**	**1.89**	**111**	P	**Pn**	**09 06 17.0**	**-0.1**
BLSI	**Bandar Lampung**	**2.24**	**321**	P	**Pn**	**09 06 23.8**	**+2.1**
KASI	**Kota Agung**	**2.67**	**306**	P	**Pn**	**09 06 29.8**	**+2.4**
KLI	**Kotabumi**	**2.87**	**321**	P	**Pn**	**09 06 32.5**	**+2.5**
KLSI		**3.08**	**321**	P	**Pn**	**09 06 35.3**	**+2.4**
LWLI	**Liwa**	**3.33**	**309**	P	**Pn**	**09 06 37.8**	**+1.6**
XMIS	**Christmas Isla**	**3.48**	**197**	Pn	**Pn**	**09 06 37.0**	**-1.2**
MDSI	**Maura Dua**	**3.60**	**317**	P	**Pn**	**09 06 42.2**	**+2.5**
YOGI	**Yogyakarta**	**3.67**	**101**	P	**Pn**	**09 06 40.6**	**-0.1**
SMRI	**Semarang**	**3.75**	**89**	P	**Pn**	**09 06 42.8**	**+1.0**
SMRI	**Semarang**	**3.75**	**89**	Pn	**Pn**	**09 06 43.1**	**+1.3**
UGM	**Wanagama**	**3.91**	**102**	P	**Pn**	**09 06 43.9**	**-0.1**
UGM	**Wanagama**	**3.91**	**102**	Pn	**Pn**	**09 06 44.2**	**+0.2**
UWJI	**Ujung Watu**	**4.31**	**81**	P	**Pn**	**09 06 49.1**	**-0.3**
TPI	**Tanjungpandan**	**4.45**	**13**	P	**Pn**	**09 06 51.5**	**+0.3**
LHSI	**Lahat**	**4.52**	**316**	P	**Pn**	**09 06 55.0**	**+2.8**
PMBI	**Palembang**	**4.57**	**336**	P	**Pn**	**09 06 55.6**	**+2.7**
PMBI	**Palembang**	**4.57**	**336**	Pn	**Pn**	**09 06 56.8**	**+3.9**
MNAI	**Manna**	**4.59**	**306**	Pn	**Pn**	**09 06 54.8**	**+1.6**
PCJI	**Pacitan**	**4.60**	**104**	P	**Pn**	**09 06 53.2**	**-0.1**
PPBI	**Pangkal Pinang**	**4.95**	**354**	P	**Pn**	**09 06 59.8**	**+1.7**
MASI	**Maura Aman, Be**	**5.92**	**312**	P	**Pn**	**09 07 12.5**	**+1.3**
	0.6nm175nm,1.0s						
JMBI	**JAMBI**	**6.22**	**331**	P	**Pn**	**09 07 16.5**	**+1.1**
	0.5nm2μm73nm,0.5s						
GMJI	**Gumukmas**	**6.82**	**100**	P	**Pn**	**09 07 24.9**	**+1.5**
	0.4nm2μm67nm,0.7s						
DSRI	**Dabo**	**6.92**	**342**	P	**Pn**	**09 07 27.0**	**+2.2**
	0.1nm1μm24nm,1.2s						
ABJI	**Asem Bagus**	**7.54**	**96**	P	**Pn**	**09 07 36.8**	**+3.6**
JAGI	**Jajag, Banyuwa**	**7.54**	**101**	P	**Pn**	**09 07 34.3**	**+1.0**
	0.8nm5μm123nm,1.0s						
JAGI	**Jajag, Banyuwa**	**7.54**	**101**	Pn	**Pn**	**09 07 34.0**	**+0.7**
SRBI	**Singaraja**	**8.53**	**97**	P	**Pn**	**09 07 48.5**	**+1.8**
BKNI	**Bangkinang**	**9.28**	**323**	P	Pn	09 08 07.9	+11
SISI	**Saibi**	**9.49**	**307**	P	**Pn**	**09 08 00.5**	**+0.7**
EDFI	**Ende, Flores**	**14.97**	**97**	P	**Pn**	**09 09 14.2**	**+1.6**
SOEI	**Soe**	**17.61**	**100**	P	**P**	**09 09 44.9**	**+0.1**
PSA00	**Pilbara Seismi**	**19.20**	**140**	P	**P**	**09 10 01.7**	**-0.4**
PSA00				IAmb	IAmb	09 10 13.2	
	comp=Z,6.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.47**	**122**	P	**P**	**09 10 27.1**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=351,slow=1.6,SNR=6.9						
KNRA	**Kununurra**	**23.25**	**113**	P	**P**	**09 10 44.4**	**-0.5**
KNRA				IAmb	IAmb	09 11 06.0	
	comp=Z,9.0nm,0.9s						
MTN	**Manton Dam**	**24.75**	**105**	P	**P**	**09 10 57.8**	**-0.7**
MTN				IAmb	IAmb	09 11 17.3	
	comp=Z,7.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**26.53**	**343**	P	**P**	**09 11 11.4**	**-3.1**
	comp=Z,1.0nm,0.3s,baz=178,slow=9.7,SNR=1.5						
CMAR				pP	**pP**	**09 11 36.5**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=179,slow=9.4,SNR=1.1						
WRA	**Warramunga Arr**	**29.71**	**118**	P	**P**	**09 11 44.1**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=303,slow=8.9,SNR=14						
WRA				PcP	**PcP**	**09 14 45.6**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=307,slow=1.7,SNR=8.1						
WR0	**Warramunga Arr**	**29.89**	**118**	P	**P**	**09 11 45.5**	**+1.0**
WR0				IAmb	IAmb	09 11 46.3	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	**30.89**	**125**	P	**P**	**09 11 55.0**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=306,slow=8.8,SNR=12						
ASAR				ScP	**ScP**	**09 18 22.4**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=289,slow=3.2,SNR=4.9						
H08S2	**Diego Garcia H**	**33.88**	**267**	T	T	09 48 06.8	
	baz=92,slow=76,SNR=8.3						
H08S3	**Diego Garcia H**	**33.89**	**267**	T	T	09 48 02.0	
	baz=92,slow=76,SNR=8.1						
H08S1	**Diego Garcia H**	**33.90**	**267**	T	T	09 48 04.9	
	baz=92,slow=76,SNR=5.8						
COEN	**Coen**	**36.50**	**104**	P	**P**	**09 12 40.6**	**-1.3**
STKA	**Stephens Creek**	**40.81**	**132**	P	**P**	**09 13 18.4**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=314,slow=9.3,SNR=14						
STKA	**Stephens Creek**	**40.81**	**132**	P	**P**	**09 13 18.9**	**+1.1**
CN2	**Changchun**	**53.46**	**17**	*eP*	**P**	**09 15 00.4**	**+4.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SONM	**Songino Array**	**54.72**	**360**	P	**P**	**09 15 03.6**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=140,slow=9.1,SNR=2.1						
SONM				pP	**pP**	**09 15 30.0**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=163,slow=6.2,SNR=2.9						
MK31	**Makanchi Array**	**57.88**	**340**	P	**P**	**09 15 24.8**	**-2.7**
MKAR	**Makanchi Array**	**57.88**	**340**	P	**P**	**09 15 24.8**	**-2.6**
	comp=Z,0.9nm,0.5s,baz=154,slow=7.9,SNR=17						
MKAR	**Makanchi Array**	**57.88**	**340**	P	**P**	**09 15 24.6**	**-2.8**
KLR	**Kul'dur**	**60.25**	**19**	P	**P**	**09 15 42.0**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=225,slow=2.9,SNR=4.2						
BVAR	**Borovoye Array**	**67.35**	**337**	P	**P**	**09 16 27.5**	**-2.7**
	comp=Z,1.0nm,0.6s,baz=116,slow=10,SNR=3.7						
ABKAR	**Akbulak array**	**69.34**	**329**	P	**P**	**09 16 40.9**	**-1.8**
ABKAR				IAmb	IAmb	09 16 42.7	
	comp=Z,2.6nm,1.0s						
VNDA	**Vanda**	**75.91**	**169**	P	**P**	**09 17 23.8**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=320,slow=6.8,SNR=11						
BRTR	**Keskin Array B**	**81.66**	**312**	P	**P**	**09 17 53.4**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=156,slow=6.7,SNR=2.5						
BRTR				pP	**pP**	**09 18 18.5**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=99,slow=6.9,SNR=3.1						
AKASG	**Malin Array Be**	**87.58**	**322**	P	**P**	**09 18 21.9**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=86,slow=4.6,SNR=2.2						
TXAR	**Lajitas Array**	**143.90**	**48**	PKP	**PKPdf**	**09 25 10.7**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=282,slow=1.8,SNR=1.2						

IDC 15 09:07:28.5±0.6, 53°.44N×87°.12E, h0km, mb1 2.8/2, mb1mx2.2/73, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=9.8km s-min=0.5km az=22.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**291**	*i*		09 16 13.2	
	baz=109,slow=349,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.46**	**291**	Pg	Pn	09 07 54.5	-1.5
	0.8nm,0.3s,baz=105,slow=16,SNR=8.9						
ZALV				Lg	Lg	09 08 16.4	
	1.8nm,0.3s,baz=107,slow=29,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.00**	**245**	Pn	Pn	09 08 58.3	-0.3
	0.1nm,0.3s,baz=61,slow=14,SNR=10.0						
MKAR	**Makanchi Array**	**7.34**	**207**	Pn	Pn	09 09 17.2	+0.3
	0.1nm,0.3s,baz=27,slow=14,SNR=8.0						

IDC 15 09:07:34.2±0.2, 55°.45N×86°.18E, h0km, mb1 2.9/2, mb1mx2.4/73, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=23.0km s-min=0.1km az=118.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.69**	**208**	Pn	Pn	09 08 04.9	-0.1
	2.8nm,0.3s,baz=30,slow=16,SNR=23						
ZALV				Lg	Lg	09 08 29.9	
	2.5nm,0.3s,baz=28,slow=24,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.68**	**227**	Pn	Pn	09 09 14.3	+0.9
	0.0nm,0.3s,baz=44,slow=14,SNR=4.9						
MKAR	**Makanchi Array**	**9.00**	**197**	Pn	Pn	09 09 46.6	+1.3
	0.1nm,0.3s,baz=21,slow=12,SNR=2.0						

IDC 15 09:10:26.1±1.8, 54°.21N×87°.33E, h0km, mb1 2.6/2, mb1mx2.1/68, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=20.3km s-min=13.5km az=30.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**261**	*i*		09 18 00.0	
	baz=81,slow=348,SNR=8.0						
ZALV	**Zalesovo Beam**	**1.50**	**261**	Pg	Pn	09 10 53.5	-0.8
	1.7nm,0.3s,baz=80,slow=15,SNR=15						
ZALV				Lg	Lg	09 11 13.9	
	0.4nm,0.3s,baz=81,slow=28,SNR=2.9						
KURBB	**Kurchatov Arra**	**6.47**	**240**	Pn	Pn	09 12 03.2	+0.8
	0.0nm,0.3s,baz=54,slow=13,SNR=2.1						
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	09 12 24.7	0.0
	0.0nm,0.3s,baz=23,slow=15,SNR=2.3						

IDC 15 09:11:32.7±2.2, 53°.80N×88°.07E, h0km, mb1 2.6/2, mb1mx2.1/66, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=23.9km s-min=9.9km az=29.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.93**	**276**	*i*		09 22 36.3	
	baz=89,slow=347,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.93**	**276**	Pn	Pn	09 12 07.3	+0.5
	0.5nm,0.3s,baz=94,slow=15,SNR=4.1						
ZALV				Lg	Lg	09 12 34.0	
	0.6nm,0.3s,baz=92,slow=25,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.67**	**245**	Pn	Pn	09 13 11.8	-0.1
	0.0nm,0.3s,baz=53,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**7.93**	**210**	Pn	Pn	09 13 28.8	-0.5
	0.1nm,0.3s,baz=25,slow=14,SNR=1.6						

*IDC **15** 09:13:36.0±1.2, 30°.42N×132°.73E, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.3/54, mbtmp3.6/9, ML3.4/4, MS2.8/3, Ms1 2.8/3, ms1mx2.3/85, Error ellipse: s-maj=37.6km s-min=18.7km az=79.0*

*JMA **15** 09:13:40.6±0.1, 30°.53N×132°.59E, h74km±5km, M3.4*

ISC 15 09:13:39.6±1.0, 30°.52N±0°.05×132°.84E±0°.06, h35km, n27, α2°.9 17/37, mb3.5/5, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.61**	**275**	P	**Pn**	**09 14 04.5**	**-1.0**
JTN				*e*S	**Sn**	**09 14 22.4**	**-2.7**
JNAR	**Kushima--Naru**	**1.68**	**307**	P	**Pn**	**09 14 06.3**	**-0.1**
JNAR				*e*S	**Sn**	**09 14 25.6**	**-1.1**
JMTN	**Minamitane**	**1.68**	**266**	P	**Pn**	**09 14 05.6**	**-0.9**
JMTN				*e*S	**Sn**	**09 14 24.0**	**-2.8**
JNKG	**Nichinankitago**	**1.69**	**312**	P	**Pn**	**09 14 06.6**	**-0.1**
JNKG				*e*S	**Sn**	**09 14 25.5**	**-1.6**
JTSR	**Tashiro 2**	**1.77**	**292**	P	**Pn**	**09 14 07.0**	**-0.8**
JTSR				*e*S	**Sn**	**09 14 26.9**	**-2.2**
JTZ	**Takazaki**	**2.04**	**313**	P	**Pn**	**09 14 11.0**	**-0.4**
JTZ				*e*S	**Sn**	**09 14 34.1**	**-1.5**
JYAK	**Yakushimahirau**	**2.04**	**263**	P	**Pn**	**09 14 10.2**	**-1.1**
JYAK				*e*S	**Sn**	**09 14 32.2**	**-3.4**
JTO	**Tosashimizu**	**2.33**	**359**	P	**Pn**	**09 14 13.9**	**-1.5**
JTO				*e*S	**Sn**	**09 14 38.0**	**-4.8**
JNN	**Nakanoshima**	**2.66**	**256**	P	**Pn**	**09 14 19.2**	**-0.7**
JNN				*e*S	**Sn**	**09 14 48.3**	**-2.6**
JSJ	**Shimokoshiki**	**2.92**	**294**	P	**Pn**	**09 14 22.2**	**-1.3**
JSJ				*e*S	**Sn**	**09 14 55.1**	**-2.3**
JNA	**Nagahama**	**3.04**	**354**	P	**Pn**	**09 14 24.8**	**-0.4**
JNA				*e*S	**Sn**	**09 14 56.0**	**-4.4**
JNU	**Nakatsue**	**3.08**	**328**	Pn	**Pn**	**09 14 26.5**	**+0.7**
	4.1nm,0.3s,baz=207,slow=5.8,SNR=43						
JNU				Sn	**Sn**	**09 15 01.3**	**-0.2**
	7.9nm,0.3s,baz=296,slow=22,SNR=12						
JMN	**Monobe**	**3.31**	**15**	P	**Pn**	**09 14 28.2**	**-0.8**
JMN				*e*S	**Sn**	**09 15 02.4**	**-4.8**
JTAJ	**Takarajima**	**3.44**	**248**	P	**Pn**	**09 14 30.6**	**-0.1**
JTAJ				*e*S	**Sn**	**09 15 07.9**	**-2.4**
JOW	**Kunigami**	**5.44**	**229**	Pn	**Pn**	**09 14 56.8**	**-1.4**
	11nm,0.3s,baz=120,slow=18,SNR=38						
JOW				Sn	**Sn**	**09 15 57.4**	**-2.3**
	6.2nm,0.3s,baz=73,slow=29,SNR=8.9						
MJAR	**Matsushiro Arr**	**7.49**	**35**	Pn	**Pn**	**09 15 27.6**	**+1.3**
	0.2nm,0.3s,baz=201,slow=11,SNR=8.3						
KSRS	**Korea Array**	**8.03**	**331**	Pn	**Pn**	**09 15 35.9**	**+2.3**
	0.2nm,0.3s,baz=143,slow=13,SNR=1.5						
KSRS				LR	LR	09 18 39.4	
	comp=Z,16nm,19.1s,baz=250,slow=38						
DAV	**Davao City (W)**	**24.31**	**198**	LR	LR	09 25 59.6	
	comp=Z,10nm,21.3s,baz=324,slow=31						
H11N2	**WAKE ISLAND Hy**	**32.53**	**101**	T	T	09 54 23.1	
	baz=296,slow=74,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**32.54**	**101**	T	T	09 54 23.3	
	baz=296,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**32.55**	**101**	T	T	09 54 24.4	
	baz=296,slow=74,SNR=12						
MKAR	**Makanchi Array**	**41.94**	**307**	P	**P**	**09 21 26.3**	**-0.6**
	0.5nm,0.8s,baz=101,slow=7.5,SNR=2.5						
BVAR	**Borovoye Array**	**49.92**	**316**	P	**P**	**09 22 31.1**	**+1.4**
	0.2nm,0.5s,baz=83,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**50.20**	**178**	P	**P**	**09 22 31.9**	**-0.1**
	0.6nm,0.8s,baz=354,slow=8.6,SNR=5.2						
ASAR	**Alice Springs**	**53.89**	**179**	P	**P**	**09 23 00.9**	**+1.5**
	0.4nm,0.7s,baz=12,slow=14,SNR=9.2						
FINES	**FINESS Array B**	**71.12**	**331**	P	**P**	**09 24 57.4**	**+3.3**
	0.9nm,0.6s,baz=106,slow=4.2,SNR=5.6						
SFJD	**Kangerlussuaq**	**82.75**	**1**	LR	LR	10 04 40.0	
	comp=Z,40nm,18.6s,baz=338,slow=37						

*EAF **15** 09:14:41.0±4.1, 25°.98S×29°.44E, h0km±25km, MD4.1*

BUL 15 09:14:41.3±2.7, 26°.03S×29°.42E, h0km±17km, MD4.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.50**	**97**	*i* P	Pn	09 15 23.5	+0.2
CNG				*i* Sg	Sb	09 15 58.6	+0.1
CNG	**Changalane**	**2.50**	**97**	*i* P	Pn	09 15 23.5	+0.2
CNG				*i* Sg	Sb	09 15 58.6	+0.1
MOPA	**Mopani**	**3.08**	**36**	*i* P	Pn	09 15 30.2	-1.1
MOPA				*i* Sg	Sn	09 16 11.5	+2.7
MOPA	**Mopani**	**3.08**	**36**	*i* P	Pn	09 15 30.2	-1.1
MOPA				*i* Sg	Sn	09 16 11.5	+2.7
LBTB	**Lobatse**	**3.60**	**285**	*i* P	Pn	09 15 38.3	-0.1
LBTB				*i* Sg	Sb	09 16 32.6	+2.4
LBTB	**Lobatse**	**3.60**	**285**	*i* P	Pn	09 15 38.3	-0.1
LBTB				*i* Sg	Sb	09 16 32.6	+2.4
BOSA	**Boshof**	**4.51**	**234**	*i* P	Pn	09 15 52.2	+1.2
BOSA				*i* Sg	Sb	09 16 59.2	+2.7
BOSA	**Boshof**	**4.51**	**234**	*i* P	Pn	09 15 52.2	+1.2
BOSA				*i* Sg	Sb	09 16 59.2	+2.7
MATP	**Matopo**	**5.64**	**351**	*i* P	Pn	09 16 06.4	-0.2
MATP				*i* S	Sn	09 17 07.6	-4.6
MATP	**Matopo**	**5.64**	**351**	*i* P	Pn	09 16 06.4	-0.2
MATP				*i* S	Sn	09 17 07.6	-4.6

*SOME **15** 09:24:29.8, 42°.03N×83°.13E, h10km*

*NNC **15** 09:24:33.8±1.4, 42°.17N×83°.03E, h0km±6km, mb4.0, mpv3.7, Error ellipse: s-maj=10.0km s-min=6.3km az=145.0*

ISC 15 09:24:34.1±1.9, 42°.13N±0°.08×83°.00E±0°.06, h10km, n49, α2°.9 32/74, 12C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.85**	**296**	⇑Pn	**Pn**	**09 25 21.5**	**+1.8**
	24nm,0.7s						
PDGK				⇓Lg	Lg	09 26 00.6	
	100nm,0.6s						
UZB	**Uzynbulak**	**3.10**	**290**	*e*P	**Pb**	**09 25 30.0**	**+0.5**
	16nm,0.5s						
UZB				*e*S	**Sg**	**09 26 13.8**	**0.0**
	78nm,0.8s						
UZB	**Uzynbulak**	**3.10**	**290**	Pg	**Pb**	**09 25 30.0**	**+0.5**
	16nm,0.2s						
UZB				Lg	Lg	09 26 13.8	
	79nm,0.5s						
DJR	**Jarkent**	**3.21**	**314**	*e*P	**Pb**	**09 25 31.3**	**0.0**
	6.9nm,0.1s						
DJR				*e*S	**Sg**	**09 26 15.8**	**-1.5**
	43nm,0.1s						
DJR	**Jarkent**	**3.21**	**314**	Pg	**Pb**	**09 25 31.3**	**0.0**
	12nm,0.2s						
DJR				Lg	Lg	09 26 15.8	
	39nm,0.4s						
SATY	**Saty**	**3.52**	**287**	*e*P	**Pb**	**09 25 37.8**	**+1.3**
	10nm,0.3s						
SATY				*e*S	**Sg**	**09 26 26.9**	**0.0**
	66nm,0.4s						
SATY	**Saty**	**3.52**	**287**	Pg	**Pb**	**09 25 37.8**	**+1.3**
	10nm,0.3s						
SATY				Lg	Lg	09 26 26.9	
	66nm,0.4s						
ZHN	**Zhinishke**	**3.52**	**289**	*e*P	**Pb**	**09 25 37.9**	**+1.3**
	33nm,0.1s						
ZHN				*e*S	**Sg**	**09 26 27.2**	**0.0**
	84nm,0.0s						
ZHN	**Zhinishke**	**3.52**	**289**	Pg	**Pb**	**09 25 37.9**	**+1.3**
	34nm,0.4s						
ZHN				Lg	Lg	09 26 27.2	
	78nm,0.5s						
KNOS	**Konyrlen**	**3.57**	**310**	*e*P	**Pg**	**09 25 39.7**	**-2.8**
	7.1nm,0.2s						
KNOS				*e*S	**Sg**	**09 26 29.6**	**+0.8**
	31nm,0.2s						
KURS	**Kuram**	**3.80**	**292**	*e*P	**Pg**	**09 25 44.4**	**-2.6**
	8.3nm,0.3s						
KURS				*e*S	**Sg**	**09 26 38.3**	**+2.1**
	23nm,0.5s						
KURS	**Kuram**	**3.80**	**292**	Pg	**Pg**	**09 25 44.4**	**-2.6**
	8.3nm,0.3s						
KURS				Lg	Lg	09 26 38.3	
	23nm,0.5s						
BLB	**Baldybastay**	**3.85**	**302**	*e*P	**Pb**	**09 25 44.3**	**+2.1**
	38nm,0.1s						
BLB				*e*S	**Sg**	**09 26 38.0**	**+0.4**
	30nm,0.4s						
BLB	**Baldybastay**	**3.85**	**302**	Pg	**Pb**	**09 25 44.3**	**+2.1**
	42nm,0.4s						
BLB				Lg	Lg	09 26 38.0	
	30nm,0.4s						
KAPS	**Kapalarasan**	**4.11**	**321**	*e*P	**Pb**	**09 25 48.8**	**+2.2**
	8.3nm,0.3s						
KAPS				*e*S	**Sg**	**09 26 45.8**	**-0.3**
	15nm,0.1s						
KAPS	**Kapalarasan**	**4.11**	**321**	Pg	**Pb**	**09 25 48.8**	**+2.2**
	16nm,0.4s						
KAPS				Lg	Lg	09 26 45.8	
	16nm,0.3s						
ARXS	**Arharly**	**4.32**	**301**	*e*P	**Pb**	**09 25 52.0**	**+2.0**
	7.5nm,0.2s						
ARXS				*e*S	**Sg**	**09 26 51.9**	**-0.8**
	52nm,0.1s						
ARXS	**Arharly**	**4.32**	**301**	Pg	**Pb**	**09 25 52.0**	**+2.0**
	7.5nm,0.2s						
ARXS				Lg	Lg	09 26 51.9	
	52nm,0.5s						
TDK	**Taldyqorghan**	**4.40**	**312**	*e*P	**Pg**	**09 25 55.5**	**-2.9**
	41nm,0.1s						
TDK				*e*S	**Sg**	**09 26 57.6**	**+2.2**
	92nm,0.0s						
TDK	**Taldyqorghan**	**4.40**	**312**	Pg	**Pg**	**09 25 55.5**	**-2.9**
	62nm,0.6s						
TDK				Lg	Lg	09 26 57.6	
	87nm,0.9s						
KOTS	**Kotyrbulak**	**4.48**	**286**	*e*P	**Pb**	**09 25 54.8**	**+1.9**
	6.5nm,0.3s						
KOTS				*e*S	**Sg**	**09 26 56.4**	**-1.4**
	41nm,0.1s						
KOTS	**Kotyrbulak**	**4.48**	**286**	Pg	**Pb**	**09 25 54.8**	**+1.9**
	6.5nm,0.3s						
KOTS				Lg	Lg	09 26 56.4	
	45nm,0.7s						
MDOK	**Medeo**	**4.51**	**285**	*e*P	**Pb**	**09 25 55.6**	**+2.2**
	3.1nm,0.2s						
MDOK				*e*S	**Sg**	**09 26 57.8**	**-1.0**
	19nm,0.3s						
MDOK	**Medeo**	**4.51**	**285**	Pn	**Pn**	**09 25 43.5**	**+1.0**
	2.3nm,0.6s						
MDOK				Pg	**Pg**	**09 25 57.0**	**-3.5**
	7.8nm,0.5s						
MDOK				Lg	Lg	09 26 55.2	
	41nm,1.2s						
MDOK	**Medeo**	**4.51**	**285**	Pg	**Pb**	**09 25 55.6**	**+2.2**
	6.2nm,0.4s						
MDOK				Lg	Lg	09 26 57.8	
	26nm,0.6s						
TNSS	**Tian-Shan**	**4.56**	**283**	*e*P	**Pb**	**09 25 54.7**	**+0.3**
	6.0nm,0.1s						
TNSS				*e*S	**Sg**	**09 26 56.4**	**-4.1**
	11nm,0.1s						
TNSS	**Tian-Shan**	**4.56**	**283**	Pg	**Pb**	**09 25 54.7**	**+0.3**
	6.1nm,0.7s						
TNSS				Lg	Lg	09 26 56.4	
	11nm,0.9s						
MK31	**Makanchi Array**	**4.69**	**354**	⇑Pn	**Pn**	**09 25 46.5**	**+1.6**
	0.7nm,0.3s,baz=146,slow=13,SNR=107						
MK31				⇑Pg	**Pb**	**09 25 59.0**	**+2.6**
	7.5nm,0.5s,baz=169,slow=16,SNR=40						
MK31				⇑Lg	Lg	09 26 59.9	
	28nm,0.6s,baz=170,slow=30,SNR=11						
MAKZ	**Makanchi**	**4.73**	**351**	⇑Pn	**Pn**	**09 25 45.5**	**0.0**
	0.5nm,0.3s						
MAKZ				⇓Pg	**Pb**	**09 25 59.7**	**+2.5**
	9.0nm,0.7s						
MAKZ				⇑Lg	Lg	09 27 01.9	
	21nm,0.8s						
CHKK	**Chushkaly**	**4.73**	**293**	*e*P	**Pb**	**09 26 00.4**	**+3.3**
	2.7nm,0.3s						
CHKK				*e*S	**Sg**	**09 27

AAK ⇓Lg Lg 09 27 56.0
6.6nm,0.6s
KURBB Kurchatov Arra 9.03 342 ⇑Pn **Pn 09 26 41.7 -2.8**
2.0nm,0.7s
KURBB ⇑Sn **Sn 09 28 29.8 +3.6**
11nm,0.7s
KURBB ⇑Lg Lg 09 29 15.7
9.8nm,0.8s
KURK Kurchatov 9.10 342 ⇑Pn **Pn 09 26 47.4 +2.0**
1.9nm,0.8s
KURK ⇓Sn **Sn 09 28 27.3 -0.5**
5.1nm,0.8s
KURK ⇓Lg Lg 09 29 21.7
15nm,0.9s

IDC 15 09:31:43.2±969.0, 53°78N×0°19E, h0km, Error ellipse: s-maj=459.9km s-min=180.1km az=100.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.79**	**115**	*i*		10 38 40.0	
	baz=306,slow=325,SNR=2.0						
I43RU	**DUBNA INFRASON**	**21.14**	**67**	*i*		11 38 10.0	
	baz=279,slow=327,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**34.85**	**71**	*i*		13 03 10.0	
	baz=293,slow=315,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**47.00**	**54**	*i*		14 23 10.0	
	baz=303,slow=335,SNR=1.3						

*TUL **15** 09:31:51.4±1.1, 36°59N±0°01×98°14W±0°02, h6km±4km, ML3.0, mb_Lg2.7/31(NEIC), Error ellipse: s-maj=2.1km s-min=1.7km az=84.0*

NEIC 15 09:31:51.7±1.0, 36°573N±0°010×98°12W±0°02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=19.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.13**	**121**		Pg	09 31 54.7	+0.3
CROK				Sg	Sg	09 31 57.3	+1.1
OK032	**Salt Plains WL**	**0.24**	**343**	Pg	Pg	09 31 56.4	-0.1
OK032				Sg	Sg	09 31 59.9	+0.2
GC02	**Grant County #**	**0.35**	**37**	Pg	Pg	09 31 58.6	+0.1
GC02				Sg	Sg	09 32 03.6	+0.5
KAN14	**Manchester OK**	**0.40**	**18**	Pg	Pg	09 31 59.5	-0.1
KAN14				Sg	Sg	09 32 04.9	+0.1
OK035	**E0210 Rd and N**	**0.49**	**286**	Pg	Pg	09 32 00.9	-0.3
OK035				Sg	Sg	09 32 07.8	+0.2
KAN10	**Anthony SW Sta**	**0.55**	**2**	Pg	Pg	09 32 02.0	-0.3
KAN10				Sg	Sg	09 32 09.7	+0.2
KAN17	**Caldwell West**	**0.55**	**31**	Pg	Pg	09 32 02.1	-0.2
KAN17				Sg	Sg	09 32 09.6	+0.1
KAN01	**Argonia South**	**0.65**	**27**		Pg	09 32 03.8	-0.4
KAN01				Sg	Sg	09 32 12.4	-0.2
KAN16	**Harper SW Stat**	**0.65**	**4**	Pg	Pg	09 32 04.0	-0.3
KAN16				Sg	Sg	09 32 12.9	+0.1
KAN08	**Anthony NE Sta**	**0.66**	**10**		Pg	09 32 04.1	-0.4
KAN08					Sg	09 32 13.2	+0.1
KAN13	**South Haven SW**	**0.68**	**49**		Pg	09 32 04.5	-0.3
KAN13				Sg	Sg	09 32 13.8	+0.2
KAN06	**Argonia West S**	**0.71**	**17**		Pg	09 32 04.8	-0.5
KAN06				Sg	Sg	09 32 14.3	-0.2
KAN12	**Harper NE Stat**	**0.73**	**8**	Pg	Pg	09 32 05.4	-0.4
KAN12				Sg	Sg	09 32 15.6	+0.3
U32A	**Winter Ranch,**	**0.73**	**255**	Pg	Pg	09 32 05.4	-0.5
U32A				Sg	Sg	09 32 15.5	+0.1
BLOK	**Blackwell**	**0.75**	**75**	Pg	Pg	09 32 06.1	-0.1
BLOK				Sg	Sg	09 32 16.3	+0.3
OK029	**Liberty Lake**	**0.94**	**145**		Pg	09 32 09.4	-0.4
OK029				Sg	Sg	09 32 22.4	+0.3
BCOK	**Bluff Creek, N**	**1.00**	**155**		Pg	09 32 10.6	-0.4
BCOK					Sg	09 32 24.2	+0.3
OK025	**Westminster Rd**	**1.18**	**147**		Pg	09 32 13.7	-0.6
OK025					Sg	09 32 29.6	+0.1
OK031	**S. Brethren Rd**	**1.21**	**120**		Pg	09 32 14.3	-0.6
OK031				Sg	Sg	09 32 30.5	0.0
QUOK	**Quay**	**1.21**	**109**		Pg	09 32 14.4	-0.5
QUOK				Sg	Sg	09 32 30.6	+0.1
OK030	**Cody Creek RV**	**1.26**	**120**		Pg	09 32 15.1	-0.7
OK030					Sb	09 32 32.6	+0.2
OK034	**N. Norfolk Rd.**	**1.27**	**116**		Pg	09 32 15.2	-0.9
OK034				Sg	Sg	09 32 32.5	0.0
OKCFA	**Oklahoma City**	**1.28**	**155**		Pg	09 32 15.2	-1.0
OKCFA				Sg	Sg	09 32 32.9	+0.1
OKCSW	**OKLAHOMA CITY**	**1.29**	**154**		Pn	09 32 15.5	-0.9
OKCSW					Sb	09 32 33.5	+0.2
T35A	**Sooner Cattle**	**1.34**	**75**	Pn	Pn	09 32 16.6	-0.5
FNO	**Franklin**	**1.44**	**156**	Pn	Pn	09 32 17.9	-0.5
W35A	**Tecumseh**	**1.74**	**144**		Pn	09 32 22.8	+0.2
R32A	**Long Quarter,**	**1.91**	**346**	Pn	Pn	09 32 25.8	+0.9
WMOK	**Wichita Mounta**	**1.91**	**197**		Pn	09 32 25.2	+0.3
X34A	**Smith Ranch, M**	**1.98**	**173**		Pn	09 32 26.7	+0.8
X34A				IAmb_Lg		09 32 58.1	
	comp=Z,50nm,1.1s						
TUL1	**Leonard**	**2.00**	**109**		Pn	09 32 27.2	+1.0
CBKS	**Cedar Bluff**	**2.58**	**331**		Pn	09 32 34.2	0.0
CBKS				IAmb_Lg		09 33 11.1	
	comp=Z,20nm,1.1s						
LOOK	**Love County**	**2.69**	**163**		Pn	09 32 35.6	0.0
KSU1	**Kansas State U**	**2.79**	**25**		Pn	09 32 35.9	-1.2
KSU1				IAmb_Lg		09 33 23.9	
	comp=Z,26nm,0.7s						
X37A	**Clayton**	**2.99**	**131**	Pn	Pn	09 32 40.4	+0.6
U38A	**Gravette**	**3.01**	**91**	Pn	Pn	09 32 40.5	+0.3
Z35A	**Perchaven, San**	**3.31**	**167**	Pn	Pn	09 32 43.6	-0.6
AMTX	**Amarillo**	**3.35**	**241**		Pn	09 32 44.8	0.0
AMTX				IAmb_Lg		09 33 42.2	
	comp=Z,16nm,0.8s						
HHAR	**Hobbs**	**3.38**	**94**		Pn	09 32 45.4	+0.1
W39A	**Magazine**	**3.78**	**110**		Pn	09 32 49.6	-1.0
S39A	**Bolivar**	**3.99**	**72**		Pn	09 32 53.2	-0.4
S39A				IAmb_Lg		09 33 59.5	
	comp=Z,22nm,0.7s						
Z38A	**Mt. Pleasant**	**4.19**	**141**		Pn	09 32 55.3	-1.0
MIAR	**Mount Ida**	**4.22**	**117**	Pn	Pn	09 32 56.1	-0.6
MIAR				IAmb_Lg		09 34 07.9	
	comp=Z,12nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.32**	**306**	Pn	Pn	09 32 57.8	-0.4
KSCO				IAmb_Lg		09 34 16.2	
	comp=Z,19nm,0.9s						
WHTX	**Lake Whitney,**	**4.60**	**173**	Pn	Pn	09 33 01.5	-0.5
MSTX	**Muleshoe**	**4.61**	**237**		Pn	09 33 01.8	-0.3
N35A	**Tabor**	**4.70**	**24**	Pn	Pn	09 33 02.5	-0.8
MGMO	**Mountain Grove**	**4.73**	**81**	Pn	Pn	09 33 04.5	+0.7
MGMO				IAmb_Lg		09 34 27.0	
	comp=Z,11nm,0.7s						
P38A	**Dawn**	**4.73**	**49**	IAmb_Lg		09 34 21.3	
	comp=Z,20nm,0.8s						
X40A	**Basin Creek Fa**	**4.79**	**114**	Pn	Pn	09 33 05.2	+0.6
X40A				IAmb_Lg		09 34 27.0	
	comp=Z,15nm,0.7s						
BGNE	**Belgrade**	**4.83**	**360**	IAmb_Lg		09 34 32.6	
	comp=Z,25nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.90**	**96**	Pn	Pn	09 33 04.9	-1.1
R40A	**Maddies Statio**	**4.96**	**68**		Pn	09 33 06.3	-0.6
R40A				IAmb_Lg		09 34 36.6	
	comp=Z,9.7nm,0.8s						
W41B	**Gary Mavity, V**	**4.97**	**105**	Pn	Pn	09 33 06.8	-0.2
W41B				IAmb_Lg		09 34 34.4	
	comp=Z,11nm,0.9s						
T25A	**Trinidad**	**5.08**	**278**	IAmb_Lg		09 34 33.6	
	comp=Z,13nm,0.8s						
OGNE	**Ogallala**	**5.33**	**326**	IAmb_Lg		09 34 54.0	
	comp=Z,17nm,0.8s						
Q24A	**Divide**	**6.06**	**295**	IAmb_Lg		09 35 09.2	
	comp=Z,16nm,0.9s						
N23A	**Red Feather La**	**7.48**	**308**	IAmb_Lg		09 35 56.1	
	comp=Z,8.7nm,0.8s						

IDC 15 09:36:07.7±3.2, 54°30N×87°28E, h0km, mb1 2.7/2, mb1mx2.7/77, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=28.6km s-min=18.3km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**257**	*i*		09 43 50.0	
	baz=78,slow=346,SNR=15						
ZALV	**Zalesovo Beam**	**1.49**	**257**	Pg	Pn	09 36 33.7	-2.0
	1.0nm,0.3s,baz=75,slow=17,SNR=12						
ZALV				Lg	Lg	09 36 55.3	
	2.6nm,0.3s,baz=77,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.49**	**239**	Pn	Pn	09 37 45.0	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**8.16**	**205**	Pn	Pn	09 38 08.5	+1.2
	0.1nm,0.3s,baz=28,slow=13,SNR=5.3						
MKAR				Lg	Lg	09 40 30.5	
	0.0nm,0.3s,baz=17,slow=26,SNR=3.6						

IDC 15 09:52:27.9±1.9, 3°96N×128°35E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/32, mbtmp3.7/5, Error ellipse: s-maj=93.7km s-min=26.8km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.08**	**187**	P	P	09 57 24.7	0.0
	1.0nm,0.5s,baz=22,slow=5.9,SNR=6.4						
WRA	**Warramunga Arr**	**24.47**	**166**	P	P	09 57 48.5	-0.3
	1.1nm,0.4s,baz=347,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**27.99**	**169**	P	P	09 58 20.4	-0.2
	0.8nm,0.5s,baz=353,slow=7.5,SNR=43						
STKA	**Stephens Creek**	**37.80**	**161**	P	P	09 59 46.5	+0.4
	1.0nm,0.4s,baz=343,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**58.30**	**324**	P	P	10 02 24.5	-0.1
	0.1nm,0.4s,baz=110,slow=8.3,SNR=2.0						

*TIR **15** 09:58:29.9, 40°23N×20°70E, h2km, Md2.5, Ml2.4*
*ATH **15** 09:58:30.8, 40°18N×20°74E, h14km±2km, ML2.4/7, Error ellipse: s-maj=2.7km s-min=0.8km az=13.0*
*THE **15** 09:58:30.7, 40°19N×20°74E, h8km±1km, ML2.3/12, Error ellipse: s-maj=1.8km s-min=0.6km az=307.0*

ISC 15 09:58:30.0±0.9, 40°22N±0°02×20°75E±0°02, h9km±7km, n33, σ0°61/61, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.13**	**239**	P	**Pg**	**09 58 33.1**	**+0.1**
LSK				S	**Sg**	**09 58 35.6**	**+0.4**
	10μm,0.2s						
LSK	**Leskovik**	**0.13**	**239**	P	**Pg**	**09 58 33.1**	**+0.1**
	baz=224						
LSK				S	**Sg**	**09 58 35.1**	**-0.1**
	baz=224						
LSK				AMP			
	comp=N,59nm,0.2s,baz=224						
NEST	**Nestorio**	**0.30**	**50**	P	**Pb**	**09 58 37.1**	**-0.6**
NEST				S	**Sb**	**09 58 42.5**	**-0.3**
	comp=N,915nm,0.3s						
NEST	**Nestorio**	**0.30**	**50**	P	**Pb**	**09 58 37.1**	**-0.6**
NEST				S	**Sb**	**09 58 42.5**	**-0.3**
NEST				AML	AML	09 58 44.1	
	comp=E,2617μm,0.4s						
NEST				AML	AML	09 58 44.7	
	comp=N,2201μm,0.2s						
KBN	**Korca**	**0.41**	**4**	P	**Pb**	**09 58 38.6**	**-0.8**
KBN				S	**Sb**	**09 58 45.7**	**0.0**
	comp=N,388nm,0.5s						
KBN	**Korca**	**0.41**	**4**	P	**Pb**	**09 58 38.6**	**-0.8**
	baz=9.0						
KBN				S	**Sb**	**09 58 45.0**	**-0.7**
	baz=9.0						
KBN				AMP			
	comp=N,1.5nm,0.4s,baz=9.0						
KPRO	**Kipourio**	**0.54**	**119**	P	**Pb**	**09 58 40.8**	**-0.9**
KPRO				S	**Sb**	**09 58 49.2**	**-0.4**
	comp=N,588nm,0.3s						
KPRO	**Kipourio**	**0.54**	**119**	P	**Pb**	**09 58 40.9**	**-0.9**
KPRO				S	**Sb**	**09 58 48.6**	**-1.0**
KPRO				AML	AML	09 58 51.4	
	comp=N,882μm,0.2s						
KPRO				AML	AML	09 58 52.0	
	comp=E,1360μm,0.4s						
JAN	**Janina**	**0.57**	**172**	P	**Pg**	**09 58 39.6**	**-1.4**
JAN				S	**Sg**	**09 58 48.7**	**+0.3**
	comp=E,818nm,0.2s						
JAN	**Janina**	**0.57**	**172**	P	**Pg**	**09 58 40.8**	**-0.2**
JAN				S	**Sg**	**09 58 48.1**	**-0.3**
JAN				AML	AML	09 58 53.4	
	comp=N,1898μm,0.2s						
JAN				AML	AML	09 58 54.3	
	comp=E,1374μm,0.3s						
SRN	**Sarande**	**0.67**	**240**	P	**Pg**	**09 58 42.8**	**0.0**
SRN				S	**Sb**	**09 58 52.4**	**-0.6**
	comp=E,242nm,0.4s						
SRN	**Sarande**	**0.67**	**240**	P	**Pb**	**09 58 43.1**	**-0.6**
	baz=238						
SRN				S	**Sb**	**09 58 52.5**	**-0.5**
	baz=238						
SRN				AMP			
	comp=E,0.9nm,0.5s,baz=238						
FNA	**Florina**	**0.74**	**40**	P	**Pg**	**09 58 44.3**	**0.0**
FNA				S	**Sb**	**09 58 55.7**	**+0.3**
	comp=E,275nm,0.3s						
FNA	**Florina**	**0.74**	**40**	P	**Pb**	**09 58 45.0**	**-0.2**
FNA				S	**Sb**	**09 58 56.1**	**+0.7**
FNA				AML	AML	09 58 59.8	
	comp=E,537μm,0.3s						
FNA				AML	AML	09 59 00.0	
	comp=N,576μm,0.3s						
FNA	**Florina**	**0.74**	**40**	P	**Pb**	**09 58 44.8**	**-0.3**
	baz=43						
FNA				S	**Sb**	**09 58 56.5**	**+1.1**
	baz=43						
IGT	**Igoumenitsa**	**0.76**	**205**	P	**Pb**	**09 58 45.1**	**-0.2**
IGT				S	**Sg**	**09 58 54.5**	**+0.1**
	comp=N,140nm,0.5s						
IGT	**Igoumenitsa**	**0.76**	**205**	P	**Pg**	**09 58 44.6**	**+0.1**
IGT				S	**Sb**	**09 58 54.9**	**-0.8**
IGT				AML	AML	09 58 59.4	
	comp=N,294μm,0.5s						
IGT				AML	AML	09 59 00.1	
	comp=E,231μm,0.5s						
IGT	**Igoumenitsa**	**0.76**	**205**	P	**Pb**	**09 58 45.2**	**-0.2**
	baz=203						
IGT				S	**Sb**	**09 58 55.8**	**+0.1**
	baz=203						
KASA	**Kassiopi**	**0.78**	**233**	P	**Pb**	**09 58 45.5**	**-0.2**
KASA				S	**Sg**	**09 58 55.3**	**+0.1**
KZN	**Kozani**	**0.79**	**83**	P	**Pb**	**09 58 46.1**	**+0.2**
KZN				S	**Sb**	**09 58 57.5**	**+0.8**
	comp=E,292nm,0.3s						
KZN	**Kozani**	**0.79**	**83**	P	**Pb**	**09 58 46.2**	**+0.3**
KZN				S	**Sb**	**09 58 57.3**	**+0.5**
KZN				AML	AML	09 59 01.5	
	comp=E,575μm,0.3s						
KZN				AML	AML	09 59 02.5	
	comp=N,594μm,0.3s						
KEK	**Kerkira**	**0.89**	**236**	P	**Pg**	**09 58 47.0**	**0.0**
KEK				S	**Sb**	**09 59 00.3**	**+0.9**
	comp=N,152nm,0.5s						
KEK	**Kerkira**	**0.89**	**236**	P	**Pb**	**09 58 47.2**	**-0.3**
THL	**Klokotos Trika**	**1.17**	**123**	P	**Pg**	**09 58 52.1**	**-0.4**
THL				S	**Sn**	**09 59 10.2**	**+1.5**
	comp=N,105nm,0.3s						
THL	**Klokotos Trika**	**1.17**	**123**	P	**Pg**	**09 58 51.7**	**-0.8**
THL				AML	AML	09 59 13.5	
	comp=N,273μm,0.5s						
THL				AML	AML	09 59 14.6	
	comp=E,171μm,0.2s						
TYRN	**Tyrnavos**	**1.25**	**113**	P	**Pg**	**09 58 53.5**	**-0.5**
TYRN				S	**Sn**	**09 59 11.5**	**+1.0**
	comp=E,172nm,0.5s						
TYRN	**Tyrnavos**	**1.25**	**113**	P	**Pg**	**09 58 53.4**	**-0.5**
LKD2	**Lefkada island**	**1.43**	**183**	P	**Pg**	**09 58 58.3**	**+0.9**
	baz=182						
EVR	**Evrytania**	**1.54**	**147**	P	**Pn**	**09 58 57.8**	**+0.1**
STON	**Ston**	**3.50**	**320**	*e*Pn	**Pn**	**09 59 24.9**	**+0.4**
STON				Sn	**Sn**	**10 00 05.3**	**-0.8**
RICI	**Ricice**	**4.24**	**322**	*e*Pn	**Pn**	**09 59 35.8**	**+1.0**
RICI				Sn	**Sn**	**10 00 24.8**	**+0.4**
KIJV	**Kijevo**	**4.97**	**321**	*e*Pn	**Pn**	**09 59 45.0**	**+0.2**
KIJV				Sn	**Sn**	**10 00 42.5**	**+0.1**
MORI	**Morici**	**5.23**	**316**	*e*Pn	**Pn**	**09 59 48.1**	**-0.2**
MORI				Sn	**Sn**	**10 00 48.1**	**-0.6**

*IDC **15** 10:06:35.4±1.6, 22°95N×11°65W, h0km, mb3.9/3, mb1 3.8/4, mb1mx3.4/49, mbtmp3.8/4, ML3.3/1, MS3.5/1, Ms1 3.4/1, ms1mx2.4/87, Error ellipse: s-maj=46.5km s-min=14.3km az=69.0*

ISC 15 10:06:36.1±3.7, 22°9N±0°4×11°8W±0°6, h10km, n7, σ0°74/6, mb3.9/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.04**	**125**	Pn	**Pn**	**10 10 21.6**	**-0.3**
	0.1nm,0.3s,baz=314,slow=12,SNR=3.8						
HFS	**Hagfors**	**41.32**	**19**	P	**P**	**10 14 20.7**	**-1.0**
	1.2nm,0.5s,baz=192,slow=11,SNR=7.0						
FINES	**FINESS Array B**	**46.48**	**24**	P	**P**	**10 15 03.5**	**+0.3**
	1.1nm,0.7s,baz=217,slow=6.8,SNR=5.0						
SCHQ	**Schefferville**	**51.63**	**323**	LR	LR	10 33 06.5	
	comp=Z,49nm,20.9s,baz=96,slow=31						
MKAR	**Makanchi Array**	**76.38**	**45**	P	**P**	**10 18 26.4**	**+0.7**
	0.4nm,0.5s,baz=291,slow=5.2,SNR=4.9						
WRA	**Warramunga Arr**	**148.37**	**91**	PKPbc	**PKPbc**	**10 26 23.3**	**-0.2**
	0.6nm,0.7s,baz=288,slow=2.6,SNR=2.8						
ASAR	**Alice Springs**	**148.51**	**98**	PKPbc	**PKPbc**	**10 26 23.9**	**+0.1**
	0.6nm,0.7s,baz=294,slow=2.9,SNR=6.7						

SSNC 15 10:11:01.2±1.6, 19°79N×75°53W, h13km±13km, MD2.1, ML0.6, MW1.8, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.26**	**322**	*e*P	Pg	10 11 06.1	-0.6
RCC				*e*S	Sg	10 11 10.3	-0.1
RCC				IAML		10 11 10.8	
	comp=E,4.0nm,0.1s						
RCC				IAML		10 11 10.8	
	comp=N,15nm,0.1s						
RCC	**Rio Carpintero**	**0.26**	**322**	*e*P	Pg	10 11 06.1	-0.6
RCC				*e*S	Sg	10 11 10.3	0.0
RCC				IAML		10 11 10.8	
	comp=N,14nm,0.1s						
RCC				IAML		10 11 11.0	
	comp=E,4.3nm,0.1s						
GTMO	**Guantanamo**	**0.46**	**52**	*e*P	Pg	10 11 09.6	-0.8
GTMO				*e*S	Sg	10 11 15.8	-0.9
GTMO				IAML		10 11 17.8	
	comp=N,160nm,0.1s						
GTMO				IAML		10 11 17.8	
	comp=E,65nm,0.1s						
GTMO	**Guantanamo**	**0.46**	**52**	*e*P	Pg	10 11 09.5	-0.9
GTMO				*e*S	Sg	10 11 16.6	-0.1
LMGC	**Las Mercedes**	**1.42**	**281**	*e*P	Pn	10 11 22.6	-4.1
LMGC				*e*S	Sn	10 11 40.8	-4.4
LMGC				IAML		10 11 42.2	
	comp=E,3.2nm,0.1s						
LMGC				IAML		10 11 42.4	
	comp=N,3.2nm,0.1s						
LMGC	**Las Mercedes**	**1.42**	**281**	*e*P	Pn	10 11 23.3	-3.3
LMGC				*e*S	Sn	10 11 40.1	-5.0

*IDC **15** 10:19:42.4±0.8, 5°57N×124°47E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.3/49, mbtmp3.7/3, MS2.9/2, Ms1 2.9/2, ms1mx2.3/81, Error ellipse: s-maj=19.4km s-min=2.8km az=110.0*
*MAN **15** 10:19:47.4, 5°76N×124°67E, h14km, mb4.8, ML3.6, MS3.6*
MAN INTENSITY II - KIAMBA, SARANGANI.

ISC 15 10:19:46.4±2.1, 5°64N±0°08×124°56E±0°06, h26km±15km, n12, σ0°90/17, mb3.6/3, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.59**	**41**	⇓*e*P	**Pb**	**10 19 58.5**	**+0.1**
GSPH				*i* S	**Sn**	**10 20 08.0**	**-0.1**
DDMP	**Don Marcelino,**	**1.24**	**68**	⇑*e*P	**Pn**	**10 20 07.7**	**-0.3**
DDMP				*e*S	**Sn**	**10 20 23.4**	**-0.6**
CTBH	**Cotabato--PC H**	**1.60**	**349**	⇑*e*P	**Pn**	**10 20 12.8**	**-0.2**
CTBH				*i* S	**Sn**	**10 20 32.4**	**-0.5**
DAV	**Davao City (W)**	**1.75**	**36**	Pn	**Pn**	**10 20 14.9**	**-0.2**
	167nm,0.3s,baz=138,slow=1.1,SNR=10						
DAV				Sn	**Sb**	**10 20 41.0**	**+1.6**
	156nm,0.3s,baz=79,slow=21,SNR=10						
DAV				LR	LR	10 21 19.4	
	comp=Z,281nm,19.3s,baz=168,slow=52						
MATI	**Mati**	**2.13**	**52**	⇓*e*P	**Pn**	**10 20 20.1**	**-0.2**
MATI				*e*S	**Sn**	**10 20 45.5**	**-0.5**
BUKP	**Musuan**	**2.28**	**13**	⇓*e*P	**Pn**	**10 20 22.4**	**0.0**
BUKP				*e*S	**Sn**	**10 20 49.5**	**-0.2**
PAGZ	**Pagadian**	**2.49**	**332**	⇓*e*P	**Pn**	**10 20 26.6**	**+1.4**
PAGZ				*e*S	**Sb**	**10 20 58.5**	**-2.1**
GUMO	**Guam**	**21.51**	**67**	LR	LR	10 31 09.3	
	comp=Z,11nm,21.6s,baz=117,slow=32						
WRA	**Warramunga Arr**	**27.18**	**160**	P	**P**	**10 25 27.5**	**-0.5**
	0.7nm,0.3s,baz=334,slow=11,SNR=33						
ASAR	**Alice Springs**	**30.52**	**163**	P	**P**	**10 25 57.8**	**0.0**
	0.6nm,0.6s,baz=343,slow=6.1,SNR=14						
MKAR	**Makanchi Array**	**54.76**	**326**	P	**P**	**10 29 14.5**	**+0.6**
	0.2nm,0.6s,baz=116,slow=9.8,SNR=2.0						
AKTO	**Aktyubinsk**	**70.83**	**322**	LR	LR	11 03 49.4	
	comp=Z,21nm,19.4s,baz=233,slow=37						

*RHSSO **15** 10:38:03.8±0.2, 44°22N×17°96E, h4km±2km, ML2.6/13*
*BEO **15** 10:38:04.3±0.4, 44°23N×17°91E, h0km, ML2.3/11, Mining explosion.*

ISC 15 10:38:02.8±0.7, 44°23N±0°02×17°96E±0°02, h0km, n42, σ0°86/80, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOB	**Doboj**	**0.52**	**11**	*e*Pg	**Pg**	**10 38 12.8**	**+0.1**
DOB				*e*Sg	**Sg**	**10 38 20.9**	**+1.5**
MGRS	**Mrkonjic Grad**	**0.66**	**287**	⇑*i*Pg	**Pg**	**10 38 15.4**	**0.0**
MGRS				*e*Sg	**Sg**	**10 38 25.0**	**+1.0**
BLY	**Banja Luka**	**0.77**	**313**	⇑*i*Pg	**Pg**	**10 38 17.8**	**+0.3**
BLY				*e*Sg	**Sg**	**10 38 28.3**	**+0.9**
BLY	**Banja Luka**	**0.77**	**313**	*e*Pg	**Pg**	**10 38 17.9**	**+0.4**
BLY				*e*Sg	**Sg**	**10 38 28.6**	**+1.2**
RICI	**Ricice**	**0.94**	**220**	*e*Pg	**Pg**	**10 38 20.7**	**-0.2**
RICI				Sg	**Sg**	**10 38 33.4**	**+0.2**
BLJ	**Bijeljina**	**1.09**	**59**	*e*Pg	**Pg**	**10 38 21.7**	**-1.9**
BLJ				*e*Sg	**Sg**	**10 38 36.1**	**-1.6**
MRAK	**Mrakovica**	**1.09**	**316**	*e*Pg	**Pg**	**10 38 23.6**	**-0.2**
MRAK				*e*Sg	**Sb**	**10 38 39.0**	**-0.5**
BBLS	**Lazići**	**1.10**	**109**	*e*Pg	**Pg**	**10 38 23.5**	**-0.4**
BBLS				*e*Sg	**Sb**	**10 38 39.2**	**-0.5**
BBLS	**Lazići**	**1.10**	**109**	*e*Pg	**Pb**	**10 38 24.3**	**-0.4**
BBLS				*e*Sg	**Sn**	**10 38 41.1**	**-0.4**
KIJV	**Kijevo**	**1.14**	**259**	*e*Pg	**Pg**	**10 38 24.5**	**-0.2**
KIJV				Sg	**Sg**	**10 38 39.5**	**0.0**
MAKA	**Makarska**	**1.16**	**216**	*e*Pg	**Pg**	**10 38 24.1**	**-0.9**
MAKA				Sg	**Sg**	**10 38 40.2**	**+0.2**
RUDO	**Rudo**	**1.18**	**120**	*e*Pg	**Pg**	**10 38 25.2**	**-0.3**

PDG	**Podgorica**	**2.03 152**	*e*Sg	**Sg**	**10 39 08.5**	**+0.6**		
MORH	**Mrgy, Hungar**	**2.05 13**	*e*Pn	**Pn**	**10 38 39.0**	**+0.5**		
MORH			*e*Sn	**Sn**	**10 39 04.8**	**+0.1**		
MORH	**Mrgy, Hungar**	**2.05 13**	PN	**Pn**	**10 38 37.6**	**-0.8**		
DUGI	**Dugi Otok**	**2.10 265**	*e*Pn	**Pn**	**10 38 39.6**	**+0.3**		
DUGI			Sn	**Sn**	**10 39 06.9**	**+0.7**		
KALN	**Kalnik**	**2.18 331**	*e*Pn	**Pn**	**10 38 40.1**	**-0.3**		
KALN			Sn	**Sb**	**10 39 09.7**	**-1.1**		
PTJ	**Puntijarka**	**2.20 321**	*e*Pn	**Pn**	**10 38 40.7**	**+0.1**		
PTJ			Sn	**Sb**	**10 39 10.8**	**-0.5**		
DRME	**Dracevica, Mon**	**2.22 156**	*e*Pn	**Pn**	**10 38 41.1**	**+0.2**		
DRME			*e*Sn	**Sn**	**10 39 09.2**	**+0.1**		
NVLJ	**Novalja**	**2.24 280**	*e*Pn	**Pn**	**10 38 41.5**	**+0.3**		
NVLJ			Sn	**Sb**	**10 39 11.1**	**-1.3**		
OZLJ	**Ozalj**	**2.25 309**	*e*Pn	**Pn**	**10 38 41.8**	**+0.5**		
OZLJ			Sn	**Sn**	**10 39 10.9**	**+1.1**		
CRES	**Cresnjev**	**2.39 313**	*e*Pn	**Pn**	**10 38 43.3**	**+0.1**		
CRES			*e*Sn	**Sn**	**10 39 13.2**	**-0.1**		
TIH	**Tihany**	**2.68 359**	PN	**Pn**	**10 38 44.7**	**-2.4**		
SMRN	**Sveta Marina**	**2.84 288**	*e*Pn	**Pn**	**10 38 48.6**	**-0.8**		
SMRN			Sn	**Sn**	**10 39 24.9**	**+0.8**		
MPLH	**Magyarpolny**	**2.96 354**	PN	**Pn**	**10 38 51.5**	**+0.4**		

IDC 15 10:46:39.5±1.1, 11°.02S×118°.51E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.2/39, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=33.4km s-min=9.9km az=57.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.86**	**136**	Pn	Pn	10 49 02.4	-0.1
	1.1nm,0.3s,baz=314,slow=11,SNR=24						
WRA	**Warramunga Arr**	**17.63**	**122**	P	Pn	10 50 46.6	-0.2
	0.2nm,0.3s,baz=292,slow=14,SNR=11						
WRA				S	Sn	10 53 53.4	-11
	0.2nm,0.3s,baz=293,slow=25,SNR=6.3						
ASAR	**Alice Springs**	**19.32**	**133**	P	P	10 51 06.7	+0.2
	0.3nm,0.3s,baz=308,slow=12,SNR=29						
ASAR				S	Sn	10 54 32.0	-13
	0.2nm,0.3s,baz=318,slow=26,SNR=7.5						
MKAR	**Makanchi Array**	**66.03**	**334**	P	P	10 57 26.2	-1.9
	0.2nm,0.3s,baz=140,slow=7.0,SNR=2.8						

*EAF **15** 10:49:16.8±0.9, 25°.74S×29°.93E, h13km±7km, MD3.6*
*BUL **15** 10:49:16.7±1.0, 25°.76S×29°.91E, h10km±8km, MD3.7*
ISC 15 10:49:16.0±1.4, 25°.65S±0°.06×29°.91E±0°.06, h10km, n10, σ1°.07/14, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.15**	**108**	*i* P	**Pn**	**10 49 52.0**	**+0.1**
CNG				*i* Sg	**Sb**	**10 50 22.2**	**+0.4**
CNG	**Changalane**	**2.15**	**108**	*i* P	**Pn**	**10 49 52.0**	**+0.1**
CNG				*i* Sg	**Sb**	**10 50 22.2**	**+0.4**
MOPA	**Mopani**	**2.52**	**33**	*i* P	**Pn**	**10 49 57.4**	**+0.3**
MOPA	**Mopani**	**2.52**	**33**	*i* P	**Pn**	**10 49 57.4**	**+0.3**
MSNA	**Messina**	**3.29**	**2**	*i* P	**Pn**	**10 50 08.9**	**+1.2**
MSNA				*i* Sg	**Sg**	**10 51 02.3**	**+0.5**
MSNA	**Messina**	**3.29**	**2**	*i* P	**Pn**	**10 50 08.9**	**+1.2**
MSNA				*i* Sg	**Sg**	**10 51 02.3**	**+0.5**
LBTB	**Lobatse**	**3.95**	**278**	*i* P	**Pn**	**10 50 17.3**	**+0.5**
LBTB	**Lobatse**	**3.95**	**278**	*i* P	**Pn**	**10 50 17.3**	**+0.5**
MATP	**Matopo**	**5.36**	**346**	*i* S	**Sn**	**10 51 36.0**	**-2.0**
MATP	**Matopo**	**5.36**	**346**	*i* S	**Sn**	**10 51 36.0**	**-2.0**

JMA 15 11:05:11.0, 35°.16N×137°.06E, h14km, M3.1, 3C-1D Broadband fault plane solution: P waves. NP1: ϕ_s228.00000°, δ79.00000°, λ176.00000°. NP2: ϕ_s319.00000°, δ86.00000°, λ11.00000°. Principal axes: T Plg11.0000°, Azm184.0000°; N Plg78.0000°, Azm339.0000°; P Plg5.0000°, Azm93.0000°; Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.19**	**57**	⇓P	Pg	11 05 15.5	0.0
JAO				*e*S	Sg	11 05 18.6	0.0
JICN	**Ichinomiyachia**	**0.23**	**309**	P	Pg	11 05 16.1	+0.1
JICN				*e*S	Sg	11 05 19.7	+0.3
JYTA	**Yamagatataniai**	**0.51**	**329**	⇑P	Pg	11 05 21.0	0.0
JYTA				*e*S	Sg	11 05 27.4	-0.4
JAA	**Atsumi**	**0.53**	**173**	⇑P	Pg	11 05 20.9	-0.6
JAA				*e*S	Sg	11 05 28.3	-0.2
TSUJ	**Tsu 2**	**0.69**	**230**	P	Pg	11 05 24.2	-0.3
TSUJ				*e*S	Sg	11 05 33.3	-0.3
JIE	**Ise**	**0.82**	**201**	⇑P	Pg	11 05 26.0	-0.9
MAT	**Matsushiro**	**1.67**	**34**	P	Pn	11 05 40.4	+0.6
MAT				S	Sb	11 06 01.7	-0.6

*IDC **15** 11:22:43.0±1.0, 17°.77S×167°.31E, h0km, mb4.2/11, mb1 4.5/13, mb1mx4.3/29, mbtmp4.3/13, ML4.7/2, MS3.3/14, Ms1 3.3/14, ms1mx3.0/59 Error ellipse: s-maj=31.5km s-min=18.9km az=134.0*
*NEIC **15** 11:22:44.3±1.6, 17°.74S±0°.04×167°.43E±0°.10, h10km±1km, mb4.5/13, Error ellipse: s-maj=15.8km s-min=6.7km az=91.0*
*NOU **15** 11:22:46.1, 17°.68S×167°.31E, h23km, MLv4.9/15, Vanuatu Islands*
ISC 15 11:22:45.6±0.5, 17°.74S±0°.04×167°.35E±0°.05, h19km, n75, σ1°.20/64, mb4.5/21, MS3.4/13, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.80**	**89**	P	**Pn**	**11 23 02.4**	**+0.5**
RTV	**Rentapao**	**1.03**	**93**	P	**Pg**	**11 23 05.7**	**+0.1**
SANVU	**Saraoutou**	**2.28**	**357**	Pn	**Pn**	**11 23 20.9**	**-1.4**
SANVU	**Saraoutou**	**2.28**	**357**	P	**Pn**	**11 23 21.2**	**-1.1**
LIFNC	**LIFOU**	**3.02**	**182**	Pn	**Pn**	**11 23 31.4**	**-1.1**
MARNC	**Mare, Loyalty**	**3.78**	**170**		**Pn**	**11 23 42.3**	**-0.5**
MARNC	**Mare, Loyalty**	**3.78**	**170**	P	**Pn**	**11 23 43.7**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.02**	**225**	P	**Pn**	**11 23 46.5**	**+0.3**
DZM	**Mont Dzumac**	**4.39**	**191**	Pn	**Pn**	**11 23 51.1**	**-0.3**
	26nm,0.3s,baz=73,slow=8.2,SNR=262						
DZM				Sn	**Sn**	**11 24 39.0**	**-3.1**
	11nm,0.3s,baz=22,slow=10,SNR=3.1						
DZM				LR	LR	11 25 07.3	
	comp=Z,92nm,18.6s,baz=18,slow=33						
DZM	**Mont Dzumac**	**4.39**	**191**	*e*Pn	**Pn**	**11 23 51.1**	**-0.3**
	84nm,0.3s						
DZM				*e*Sn	**Sn**	**11 24 39.8**	**-2.3**
	94nm,0.3s						
DZM				*e*LR	LR	11 24 50.8	
	comp=Z,273nm,26.1s						
DZM	**Mont Dzumac**	**4.39**	**191**	P	**Pn**	**11 23 51.9**	**+0.5**
NOUC	**Port Laguerre**	**4.45**	**193**	P	**Pn**	**11 23 52.6**	**+0.5**
ONTNC	**Ouen Toro**	**4.62**	**190**	Pn	**Pn**	**11 23 54.8**	**+0.4**
ONTNC	**Ouen Toro**	**4.62**	**190**	P	**Pn**	**11 23 55.3**	**+0.8**
OUENC	**Ouen Island, N**	**4.68**	**186**	Pn	**Pn**	**11 23 55.0**	**-0.3**
OUENC	**Ouen Island, N**	**4.68**	**186**	P	**Pn**	**11 23 56.3**	**+1.0**
PINNC	**Pines Island,**	**4.85**	**179**		**Pn**	**11 23 57.6**	**+0.1**
PINNC	**Pines Island,**	**4.85**	**179**	P	**Pn**	**11 23 58.5**	**+0.9**
MSVF	**Nonsavu**	**10.20**	**92**	LR	LR	11 28 56.6	
	comp=Z,211nm,19.7s,baz=273,slow=36						
MSVF	**Nonsavu**	**10.20**	**92**	Pn	**Pn**	**11 25 09.0**	**-2.1**
HNR	**Honiara**	**10.95**	**318**	Pn	**Pn**	**11 25 21.0**	**-0.3**
	10nm,0.3s,baz=264,slow=3.4,SNR=5.0						
HNR				LR	LR	11 28 41.0	
	comp=Z,147nm,21.2s,baz=140,slow=33						
HNR	**Honiara**	**10.95**	**318**		**Pn**	**11 25 20.1**	**-1.3**
CTA	**Charters Tower**	**20.09**	**260**	P	Pn	11 27 19.5	-0.7
	4.4nm,0.7s,baz=91,slow=10,SNR=8.8						
CTA				LR	LR	11 33 55.5	
	comp=Z,107nm,19.2s,baz=79,slow=34						
CTAO	**Charters Tower**	**20.09**	**260**	P	Pn	11 27 19.2	-0.9
CTAO				IAmb	IAmb	11 27 31.1	
	comp=Z,16nm,1.0s						
PMG	**Port Moresby**	**21.28**	**290**	LR	LR	11 33 26.6	
	comp=Z,107nm,21.6s,baz=144,slow=30						
STKA	**Stephens Creek**	**27.20**	**234**	P	**P**	**11 28 29.5**	**+1.2**
	comp=Z,8.7nm,0.6s,baz=71,slow=13,SNR=27						
STKA				LR	LR	11 37 39.7	
	comp=Z,58nm,18.3s,baz=123,slow=33						
STKA	**Stephens Creek**	**27.20**	**234**	P	**P**	**11 28 29.5**	**+1.2**
JAY	**Jayapura**	**30.20**	**297**	LR	LR	11 41 28.8	
	comp=Z,88nm,18.1s,baz=180,slow=37						
RAR	**Rarotonga**	**31.16**	**102**	LR	LR	11 41 12.5	
	comp=Z,74nm,18.1s,baz=237,slow=36						
WB0	**Warramunga Arr**	**31.24**	**261**	P	**P**	**11 29 03.5**	**-0.8**
WB2	**Warramunga Arr**	**31.28**	**261**	P	**P**	**11 29 03.4**	**-1.2**
WB2				IAmb	IAmb	11 29 04.6	
	comp=Z,3.3nm,0.9s						
WRA	**Warramunga Arr**	**31.29**	**261**	P	**P**	**11 29 03.0**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=83,slow=8.7,SNR=11						
WRA				LR	LR	11 39 23.7	
	comp=Z,69nm,21.1s,baz=46,slow=32						
WRA	**Warramunga Arr**	**31.29**	**261**	P	**P**	**11 29 03.8**	**-1.0**
AS31	**Alice Springs**	**31.78**	**254**	P	**P**	**11 29 08.5**	**-0.6**
AS31				IAmb	IAmb	11 29 12.2	
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**31.79**	**254**	P	**P**	**11 29 07.5**	**-1.6**
	comp=Z,3.8nm,0.6s,baz=79,slow=8.5,SNR=51						
ASAR				LR	LR	11 40 58.5	
	comp=Z,101nm,19.4s,baz=92,slow=34						
ASAR	**Alice Springs**	**31.79**	**254**	P	**P**	**11 29 08.7**	**-0.4**
BBOO	**Buckleboo**	**31.88**	**236**	P	**P**	**11 29 10.6**	**+0.8**
KNRA	**Kununurra**	**36.97**	**267**	P	**P**	**11 29 52.5**	**-1.6**
KNRA				IAmb	IAmb	11 29 53.6	
	comp=Z,6.0nm,0.6s						
FAKI	**Fak Fak**	**37.43**	**289**	P	**P**	**11 29 57.5**	**-0.5**
FAKI				IAmb	IAmb	11 30 12.2	
	comp=Z,22nm,1.0s						
FORT	**Forrest**	**37.90**	**243**	P	**P**	**11 30 02.2**	**+0.4**
SIJI	**Sorong**	**39.22**	**291**	LR	LR	11 46 39.2	
	comp=Z,60nm,18.1s,baz=168,slow=37						
PPT2	**Papeete2**	**40.98**	**97**	*e*LR	LR	11 41 43.0	
	comp=Z,161nm,28.5s						
BATI	**Baumata**	**42.97**	**274**	LR	LR	11 47 46.0	
	comp=Z,56nm,20.1s,baz=102,slow=35						
MORW	**Morawa**	**48.09**	**247**	P	**P**	**11 31 24.2**	**-0.2**
KAPI	**Kappang**	**48.20**	**279**	LR	LR	11 51 11.4	
	comp=Z,25nm,19.3s,baz=90,slow=36						
MPSI	**Mapaga**	**50.01**	**286**	P	**P**	**11 31 39.8**	**+0.6**
TAOE	**Nuku Hiva Isla**	**51.71**	**87**	*e*LR	LR	11 46 43.5	
	comp=Z,101nm,23.4s						
JOW	**Kunigami**	**58.32**	**319**	LR	LR	11 57 41.1	
	comp=Z,20nm,19.0s,baz=115,slow=36						
KSRS	**Korea Array**	**66.27**	**326**	P	**P**	**11 33 33.2**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=152,slow=5.7,SNR=4.3						
PETK	**Petropavlovsk-**	**71.04**	**354**	P	**P**	**11 34 03.6**	**+1.5**
	comp=Z,5.1nm,1.0s,baz=145,slow=5.3,SNR=4.6						
PETK	**Petropavlovsk-**	**71.04**	**354**	P	**P**	**11 34 01.8**	**-0.3**
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	**11 34 10.0**	**+0.2**
QSPA				IAmb	IAmb	11 34 28.0	
	comp=Z,4.9nm,0.9s						
KMI	**Kunming**	**75.96**	**302**	⇑P	**P**	**11 34 33.8**	**+1.9**
KMI				pmax	pmax		
	comp=Z,15nm,1.0s						
CMAR	**Chiang Mai Arr**	**76.25**	**295**	P	**P**	**11 34 34.9**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=131,slow=4.2,SNR=20						
CMAR	**Chiang Mai Arr**	**76.25**	**295**	P	**P**	**11 34 32.9**	**-0.5**
XLT	**XiLinHaoTe**	**77.19**	**325**	*e*P	**P**	**11 34 39.3**	**+1.0**
XLT				pP	sP	11 34 42.8	-1.4
XLT				sP	PcP	11 34 45.1	-3.9
XLT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,63nm,4.6s						
PZH	**PanZhiHua**	**77.39**	**303**	P	**P**	**11 34 41.3**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	**Hu-ho-hao-te**	**77.92**	**320**	*e*P	**P**	**11 34 43.4**	**+0.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,5.7s						
LZH	**Lanzhou**	**80.40**	**313**	*e*P	P	11 35 08.3	+12
LZH				pP	pwP	11 35 11.8	+3.5
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
GTA	**Gaotai**	**84.80**	**314**	*e*P	**P**	**11 35 20.6**	**+1.5**
GTA				pP	pwP	11 35 31.3	+0.2
GTA				sP	sP	11 35 35.3	+10
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**84.95**	**324**	P	**P**	**11 35 20.3**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=151,slow=4.8,SNR=4.9						
IMAR	**Indian Mountai**	**88.44**	**15**		**P**	**11 35 36.2**	**+0.1**
NVAR	**Mina Array Bea**	**89.17**	**49**	P	**P**	**11 35 41.6**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=225,slow=8.1,SNR=5.5						
IL31		**89.35**	**18**	P	**P**	**11 35 40.2**	**-0.1**
IL31				IAmb	IAmb	11 35 41.9	
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**89.35**	**18**	P	**P**	**11 35 40.3**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=237,slow=5.1,SNR=28						
ILAR	**Eielson Array**	**89.35**	**18**		**P**	**11 35 39.6**	**-0.8**
MKAR	**Makanchi Array**	**99.42**	**316**	P	**Pdif**	**11 36 27.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=81,slow=8.9,SNR=2.6						
YKA	**Yellowknife Ar**	**100.17**	**27**	P	**Pdif**	**11 36 30.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=256,slow=4.5,SNR=5.3						
ARCES	**ARCESS Array B**	**123.17**	**345**	PKP	**PKiKP**	**11 41 40.4**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=90,slow=2.4,SNR=5.3						
ABTA	**Abfaltersbach**	**144.39**	**330**	*e*P	**PKiKP**	**11 42 27.8**	**+3.4**
	comp=Z,9.1nm,1.3s						
RETA	**Reutte**	**144.66**	**332**	*e*P	**PKPdf**	**11 42 20.1**	**-1.1**
	comp=Z,8.9nm,1.4s						
SQTA	**Sankt Quirin**	**144.66**	**332**	*e*P	**PKPdf**	**11 42 21.3**	**0.0**
	comp=Z,3.1nm,0.7s						
FETA	**Feichten**	**145.02**	**332**	*e*P	**PKiKP**	**11 42 22.9**	**-2.9**
	comp=Z,10nm,1.3s						
DAVA	**Damuels**	**145.20**	**333**	*e*P	**PKPdf**	**11 42 22.5**	**+0.3**
	comp=Z,8.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**165.44**	**254**	PKP	**PKPdf**	**11 42 48.3**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=8.9,slow=2.1,SNR=4.0						

IDC 15 11:30:26.1±1.8, 3°.94N×127°.46E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, Error ellipse: s-maj=159.9km s-min=14.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.68**	**164**	P	P	11 35 48.8	-0.3
	1.4nm,0.8s,baz=344,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**28.15**	**167**	P	P	11 36 21.7	+1.4
	0.2nm,0.5s,baz=345,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**57.80**	**325**	P	P	11 40 19.3	-0.1
	0.2nm,0.5s,baz=121,slow=8.8,SNR=4.2						

*MIRAS **15** 11:31:21.2±0.0, 56°.86N×61°.44E, h0km, ML2.8/2*
*NNC **15** 11:31:26.8±4.2, 56°.24N×62°.40E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=38.1km s-min=13.6km az=159.0, Suspected Mining explosion.*
ISC 15 11:31:12.7±1.2, 57°.02N±0°.05×62°.06E±0°.06, h0km, n7, σ0°.97/25, 3C-5D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAUR	**Kamensk Uralsk**	**0.67**	**208**	*e*P	**Pn**	**11 31 29.2**	**-0.2**
	baz=176						
KAUR				*e*P	**Pn**	**11 31 29.2**	**-0.2**
	baz=176						
KAUR				*e*P	**Pn**	**11 31 29.2**	**-0.2**
	baz=176						
KAUR				*e*S	**Sb**	**11 31 36.3**	**-0.6**
	baz=176						
KAUR				*e*S	**Sb**	**11 31 36.3**	**-0.6**
	baz=176						
KAUR				*e*S	**Sb**	**11 31 36.3**	**-0.6**
	baz=176						
KAUR				*i* AML	AML	11 31 37.1	
	705nm,0.3s						
ARU	**Arti**	**2.02**	**254**	*e*P	**Pg**	**11 31 50.9**	**-0.4**
	baz=256						
ARU				*e*P	**Pg**	**11 31 50.9**	**-0.4**
	baz=256						
ARU				*e*P	**Pg**	**11 31 50.9**	**-0.4**
	baz=256						
ARU				*e*S	**Sn**	**11 32 14.1**	**+0.3**
	baz=256						
ARU				*e*S	**Sn**	**11 32 14.1**	**+0.3**
	baz=256						
ARU				*e*S	**Sn**	**11 32 14.1**	**+0.3**
	baz=256						
ARU				*i* AML	AML	11 32 16.1	
	110nm,0.4s						
PR3R	**Kungur**	**2.78**	**281**	*e*P	**Pb**	**11 32 03.2**	**+0.1**
	baz=285						
PR3R				*e*P	**Pb**	**11 32 03.2**	**+0.1**
	baz=285						
PR3R				*e*P	**Pb**	**11 32 03.2**	**+0.1**
	baz=285						
PR3R				*e*S	**Sn**	**11 32 33.2**	**+0.6**
	baz=285						
PR3R				*e*S	**Sn**	**11 32 33.2**	**+0.6**
	baz=285						
PR3R				*e*S	**Sn**	**11 32 33.2**	**+0.6**
	baz=285						
SVUR	**Severouralsk**	**3.37**	**342**	*e*S	**Sg**	**11 32 59.9**	**-0.8**
	baz=348						
SVUR				*e*S	**Sg**	**11 32 59.9**	**-0.8**
	baz=348						
SVUR				*e*S	**Sg**	**11 32 59.9**	**-0.8**
	baz=348						
BRVK	**Borovoye**	**6.17**	**127**	⇓Pn	Pb	11 32 52.4	-8.6
	0.5nm,0.5s						
BRVK				⇓Sn	**Sn**	**11 33 56.0**	**-0.2**
	1.2nm,0.8s						
AKTO	**Aktyubinsk**	**7.02**	**202**	⇑Pn	Pn	11 33 01.4	+4.7
	0.7nm,0.7s						
AKTO				⇓Sn	**Sn**	**11 34 16.8**	**-0.3**
	0.6nm,0.5s						
AKTO				⇓Lg	Lg	11 34 49.5	
	2.6nm,1.1s						
AB31	**Akbulak array**	**7.88**	**190**	⇑Pn	**Pn**	**11 33 12.0**	**+3.5**
	0.1nm,0.3s,baz=358,slow=12,SNR=19						
AB31				⇓Sn	**Sn**	**11 34 36.5**	**-1.8**
	0.3nm,0.5s						
AB31				⇑Lg	Lg	11 35 15.3	
	0.7nm,0.4s,baz=356,slow=29,SNR=5.6						

*INET **15** 11:34:52.0±0.9, 13°.38N×88°.12W, h143km±16km, ML2.4*
*SNET **15** 11:34:53.9±1.1, 13°.07N×87°.87W, h161km±7km, ML2.8*
ISC 15 11:34:54.6±3.0, 13°.1N±0°.4×87°.9W±0°.2, h161km±21km, n12, σ0°.59/16, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.21**	**348**	*i* P	**Pn**	**11 35 15.5**	**-0.8**
LCND				IAML		11 35 43.2	
	comp=Z,176nm,0.2s						
ALJI	**Alcalda de J**	**0.74**	**288**	*e*P	**Pn**	**11 35 18.1**	**-0.5**
ALJI				*e*S	**Sn**	**11 35 36.8**	**-0.1**
COEB	**Comit de Eme**	**0.78**	**301**	*e*P	**Pn**	**11 35 19.4**	**+0.4**
CRIN	**San Cristobal**	**0.87**	**117**	*e*P	**Pn**	**11 35 19.5**	**-0.1**
CRIN				*e*S	**Sn**	**11 35 39.5**	**+0.8**
PQSS	**Presa 15 de Se**	**0.87**	**307**	*e*P	**Pn**	**11 35 19.0**	**-0.5**
TECO	**Alcaldia de Te**	**1.01**	**296**	*e*P	**Pn**	**11 35 20.2**	**-0.4**
TECO				*e*S	**Sn**	**11 35 40.7**	**+0.2**
TECO				IAML		11 35 44.5	
	comp=Z,67nm,0.1s						
SCLA	**Alcaldia de Sa**	**1.05**	**305**	*e*P	**Pn**	**11 35 20.8**	**-0.1**
SCLA				*e*S	**Sn**	**11 35 42.0**	**+0.9**
SJTE	**Alcalda de S**	**1.24**	**295**	*e*S	**Sn**	**11 35 43.8**	**-0.4**
MOMN	**Momotombo**	**1.45**	**118**	*e*P	**Pn**	**11 35 24.2**	**-0.4**
MOMN				IAML		11 36 08.6	
	comp=Z,16nm,0.6s						
PMON	**Piamonte**	**1.56**	**293**	*e*P	Pn	11 35 16.1	-10
PMON				IAML		11 35 58.1	
	comp=Z,26nm,0.6s						
CEVE	**Cerro Verde**	**1.88**	**293**	*e*P	**Pn**	**11 35 29.3**	**0.0**
NUBE	**Las Nubes**	**2.04**	**293**	*e*P	**Pn**	**11 35 30.7**	**-0.4**
NUBE				*e*S	**Sn**	**11 36 00.1**	**+0.8**
NUBE				IAML		11 36 06.0	
	comp=Z,52nm,0.1s						

IDC 15 12:09:27.8±5.7, 8°.18S×156°.10E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.3/38, mbtmp3.6/3, MS3.7/4, Ms1 3.7/4, ms1mx2.8/40, Error ellipse: s-maj=126.5km s-min=47.3km az=105.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**239**	P	P	12 14 45.3	-0.1
	2.0nm,1.0s,baz=62,slow=9.2,SNR=8.5						
ASAR	**Alice Springs**	**26.25**	**232**	P	P	12 15 04.6	-0.4
	0.2nm,0.4s,baz=58,slow=10,SNR=8.0						
STKA	**Stephens Creek**	**27.17**	**208**	LR	LR	12 25 37.0	
	comp=Z,65nm,19.7s,baz=50,slow=36						
CMAR	**Chiang Mai Arr**	**62.28**	**296**	P	P	12 19 52.7	+0.4
	0.4nm,0.3s,baz=122,slow=4.8,SNR=5.0						
SHEM	**Shemya Is, Ala**	**62.59**	**12**	LR	LR	12 41 58.9	
	comp=Z,51nm,21.6s,baz=118,slow=31						
KDAK	**Kodiak Island**	**77.76**	**25**	LR	LR	12 50 36.8	
	comp=Z,85nm,20.4s,baz=226,slow=32						
ILAR	**Eielson Array**	**84.07**	**21**	LR	LR	12 53 02.0	
	comp=Z,51nm,21.6s,baz=234,slow=31						

IDC 15 12:18:05.6±5.0, 21°.13N×122°.67E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/42, mbtmp3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/42, Error ellipse: s-maj=338.6km s-min=35.6km az=89.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**22.45**	**106**	LR	LR	12 31 14.0	
	comp=Z,43nm,20.5s,baz=148,slow=35						
WRA	**Warramunga Arr**	**42.38**	**164**	P	P	12 26 01.4	-0.5
	0.5nm,0.6s,baz=344,slow=9.3,SNR=7.2						
ASAR	**Alice Springs**	**45.84**	**166**	P	P	12 26 30.2	+0.5
	0.2nm,0.8s,baz=340,slow=7.2,SNR=1.8						
YKA	**Yellowknife Ar**	**85.24**	**23**	P	P	12 30 43.7	-0.1
	0.2nm,0.8s,baz=309,slow=4.3,SNR=4.7						

*NEIC **15** 12:23:58.5±1.4, 24°.3S±0°.1×180°.0W±0°.2, h535km±12km, mb4.2/13, Error ellipse: s-maj=23.3km s-min=16.5km az=63.0*
*IDC **15** 12:24:00.

*IDC **15** 13:02:08.3±1.2, 18°.15S×172°.82E, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.0/47, mbtmp4.2/9, ML4.9/1, MS3.9/42, Ms1 3.9/42, ms1mx3.9/51, Error ellipse: s-maj=70.9km s-min=19.3km az=160.0*

*NEIC **15** 13:02:12.2±1.1, 18°.15±0°.2×172°.8E±0°.1, h15km±6km, mb4.5/10, Error ellipse: s-maj=36.9km s-min=5.6km az=158.0*

*GCMT **15** 13:02:14.2±0.3, 17°.93S±0°.01×172°.82E±0°.02, h12km, MW4.8/81, Moment Tensor Solution. s17,c21; s81,c114; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.79±.08; Mθθ=2.72±.07; Mφφ=-1.93±.06; Mrθ=0.37±.23; Mθφ=0.11±.07; Mφr=0.28±.22; Best double couple: M0=2.37800×10^16 NP1:ϕs=133.00000°, δ77.00000°, λ=-5.00000°. NP2: ϕs=225.00000°, δ85.00000°, λ=-167.00000°. Principal axes: T 2.7620, Plg6.0000°, Azm358.0000°; N -0.7660, Plg76.0000°, Azm243.0000°; P -1.9930, Plg13.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 13:02:14.0±0.7, 18°.0S±0°.2×172°.79E±0°.09, h35km, n62, σ1§14/25, mb4.4/13, MS4.0/39, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.02**	**87**	Pn	**Pn**	**13 03 24.8**	**-2.1**
	1.8nm,0.3s,baz=249,slow=10,SNR=31						
MSVF				LR	LR	13 04 53.6	
	comp=Z,2μm,19.1s,baz=286,slow=33						
MSVF	**Nonsavu**	**5.02**	**87**		**Pn**	**13 03 25.9**	**-1.0**
PINNC	**Pines Island,**	**6.78**	**227**	Pn	**Pn**	**13 03 50.5**	**-0.4**
DZM	**Mont Dzumac**	**7.19**	**235**	LR	LR	13 06 18.4	
	comp=Z,405nm,18.7s,baz=88,slow=35						
DZM	**Mont Dzumac**	**7.19**	**235**	*e*Pn	**Pn**	**13 03 57.2**	**+0.4**
	9.3nm,0.7s						
DZM				*e*LR	LR	13 05 34.8	
	comp=Z,541nm,24.1s						
DZM	**Mont Dzumac**	**7.19**	**235**	Pn	**Pn**	**13 03 57.2**	**+0.4**
RAO	**Raoul Island**	**14.04**	**144**	LR	LR	13 09 33.0	
	comp=Z,1μm,21.7s,baz=118,slow=32						
HNR	**Honiara**	**15.11**	**303**	LR	LR	13 10 47.0	
	comp=Z,131nm,18.8s,baz=156,slow=34						
AFI	**Afiamalu**	**15.40**	**77**	LR	LR	13 11 26.2	
	comp=Z,200nm,20.0s,baz=182,slow=36						
ARMA	**Armidale**	**22.85**	**233**	P	**P**	**13 07 14.7**	**+0.2**
CTA	**Charters Tower**	**25.15**	**261**	P	**P**	**13 07 36.9**	**+0.7**
	7.5nm,0.8s,baz=101,slow=9.8,SNR=9.0						
CTA				LR	LR	13 16 50.1	
	comp=Z,428nm,18.3s,baz=77,slow=35						
CTAO	**Charters Tower**	**25.15**	**261**	P	**P**	**13 07 37.1**	**+0.9**
CTAO				IAmb	IAmb	13 07 38.7	
	comp=Z,12nm,1.1s						
RAR	**Rarotonga**	**26.03**	**102**	LR	LR	13 15 44.9	
	comp=Z,161nm,21.1s,baz=239,slow=31						
PMG	**Port Moresby**	**26.30**	**286**	LR	LR	13 17 23.1	
	comp=Z,444nm,18.1s,baz=143,slow=35						
STKA	**Stephens Creek**	**31.33**	**238**	P	**P**	**13 08 30.0**	**-1.3**
	comp=Z,4.1nm,0.9s,baz=45,slow=5.7,SNR=4.9						
STKA	**Stephens Creek**	**31.33**	**238**	P	**P**	**13 08 31.6**	**+0.3**
PPT2	**Papeete2**	**35.80**	**95**	*e*S	**S**	**13 14 49.5**	**+3.8**
	comp=Z,87nm,24.8s						
PPT2				*e*LR	LR	13 18 44.4	
	comp=Z,752nm,27.2s						
PPT	**Papeete**	**35.80**	**95**	LR	LR	13 20 18.3	
	comp=Z,152nm,20.5s,baz=232,slow=30						
WR0	**Warramunga Arr**	**36.16**	**261**	P	**P**	**13 09 14.5**	**+1.0**
WR0				IAmb	IAmb	13 09 21.9	
	comp=Z,9.7nm,1.2s						
WB0	**Warramunga Arr**	**36.31**	**261**	P	**P**	**13 09 14.5**	**-0.2**
WB0				IAmb	IAmb	13 09 15.0	
	comp=Z,9.6nm,1.1s						
WB2	**Warramunga Arr**	**36.34**	**261**	P	**P**	**13 09 15.1**	**+0.1**
WB2				IAmb	IAmb	13 09 20.5	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**36.35**	**261**	P	**P**	**13 09 14.2**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=90,slow=8.0,SNR=18						
WRA				LR	LR	13 22 51.4	
	comp=Z,245nm,20.7s,baz=50,slow=34						
WRA	**Warramunga Arr**	**36.35**	**261**	P	**P**	**13 09 14.8**	**-0.2**
AS31	**Alice Springs**	**36.69**	**254**	P	**P**	**13 09 18.2**	**+0.3**
AS31				IAmb	IAmb	13 09 19.2	
	comp=Z,2.1nm,0.7s						
ASAR	**Alice Springs**	**36.69**	**254**	P	**P**	**13 09 17.1**	**-0.7**
	comp=Z,5.7nm,0.7s,baz=84,slow=9.1,SNR=68						
ASAR				LR	LR	13 23 43.3	
	comp=Z,452nm,19.4s,baz=96,slow=35						
ASAR	**Alice Springs**	**36.69**	**254**	P	**P**	**13 09 18.0**	**+0.1**
GUMO	**Guam**	**41.78**	**317**	LR	LR	13 24 01.9	
	comp=Z,95nm,22.0s,baz=337,slow=31						
KNRA	**Kununurra**	**42.13**	**266**	P	**P**	**13 10 02.6**	**-0.7**
KNRA				IAmb	IAmb	13 10 08.4	
	comp=Z,16nm,1.2s						
SIJI	**Sorong**	**44.20**	**288**	LR	LR	13 29 30.3	
	comp=Z,144nm,18.4s,baz=168,slow=37						
FITZ	**Fitzroy Crossi**	**44.72**	**262**	P	**P**	**13 10 22.9**	**-1.3**
	comp=Z,7.4nm,1.0s,baz=116,slow=7.7,SNR=9.3						
FITZ				LR	LR	13 28 20.6	
	comp=Z,333nm,19.8s,baz=98,slow=35						
TAOE	**Nuku Hiva Isla**	**46.56**	**85**	*e*LR	LR	13 23 46.4	
	comp=Z,299nm,28.2s						
BATI	**Baumata**	**48.15**	**272**	LR	LR	13 30 02.5	
	comp=Z,137nm,21.6s,baz=114,slow=35						
DAV	**Davao City (W)**	**52.85**	**294**	LR	LR	13 33 24.2	
	comp=Z,34nm,18.6s,baz=32,slow=35						
KAPI	**Kappang**	**53.36**	**277**	LR	LR	13 34 00.6	
	comp=Z,35nm,21.2s,baz=102,slow=36						
JOW	**Kunigami**	**62.08**	**315**	LR	LR	13 35 28.1	
	comp=Z,100nm,21.9s,baz=52,slow=32						
MJAR	**Matsushiro Arr**	**63.35**	**329**	LR	LR	13 35 54.2	
	comp=Z,99nm,21.8s,baz=149,slow=32						
JNU	**Nakatsue**	**64.72**	**322**	LR	LR	13 35 25.2	
	comp=Z,40nm,19.5s,baz=100,slow=31						
ASAJ	**Asahikawa**	**67.73**	**337**	LR	LR	13 37 01.9	
	comp=Z,157nm,20.6s,baz=164,slow=31						
SHEM	**Shemya Is, Ala**	**70.47**	**1**	LR	LR	13 38 20.3	
	comp=Z,99nm,21.4s,baz=46,slow=31						
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**13 13 33.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**72.28**	**330**	LR	LR	13 41 33.8	
	comp=Z,85nm,20.5s,baz=118,slow=33						
PSI	**Prapat**	**75.57**	**278**	LR	LR	13 49 00.6	
	comp=Z,73nm,18.7s,baz=130,slow=37						
KLR	**Kul'dur**	**76.22**	**334**	LR	LR	13 42 08.9	
	comp=Z,93nm,21.9s,baz=142,slow=31						
KDAK	**Kodiak Island**	**80.81**	**18**	LR	LR	13 43 41.9	
	comp=Z,210nm,20.4s,baz=224,slow=31						
CMAR	**Chiang Mai Arr**	**81.11**	**293**	LR	LR	13 50 49.9	
	comp=Z,15nm,19.8s,baz=130,slow=36						
SEY	**Seymchan**	**82.27**	**351**	LR	LR	13 44 57.5	
	comp=Z,240nm,21.6s,baz=174,slow=31						
YBH	**Yreka Blue Hor**	**84.11**	**43**	LR	LR	13 43 41.0	
	comp=Z,83nm,21.9s,baz=256,slow=30						
PFO	**Pinyon Flats O**	**84.71**	**52**	LR	LR	13 44 32.4	
	comp=Z,60nm,20.8s,baz=248,slow=30						
NVAR	**Mina Array Bea**	**85.50**	**47**	LR	LR	13 47 22.5	
	comp=Z,80nm,19.4s,baz=269,slow=32						
LPIG	**La Paz**	**85.87**	**63**	LR	LR	13 46 31.3	
	comp=Z,60nm,18.2s,baz=306,slow=31						
YAK	**Yakutsk**	**86.78**	**341**	LR	LR	13 46 57.7	
	comp=Z,126nm,22.0s,baz=88,slow=31						
ILAR	**Eielson Array**	**88.11**	**16**	P	**P**	**13 15 00.5**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=231,slow=6.9,SNR=2.7						
ELK	**Elko**	**88.64**	**46**	LR	LR	13 47 03.8	
	comp=Z,71nm,19.7s,baz=288,slow=30						
NEW	**Newport**	**90.71**	**39**	LR	LR	13 47 18.5	
	comp=Z,94nm,21.4s,baz=262,slow=30						
ANMO	**Albuquerque**	**92.86**	**54**	LR	LR	13 50 46.8	
	comp=Z,41nm,18.6s,baz=242,slow=31						
TXAR	**Lajitas Array**	**93.24**	**60**	P	**P**	**13 15 25.5**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=238,slow=7.1,SNR=5.2						
TXAR				LR	LR	13 48 51.9	
	comp=Z,56nm,20.9s,baz=248,slow=30						
PDAR	**Pinedale Array**	**93.34**	**46**	LR	LR	13 56 38.7	
	comp=Z,40nm,18.6s,baz=267,slow=35						
PALK	**Pallekele**	**94.19**	**276**	LR	LR	13 58 25.0	
	comp=Z,31nm,20.5s,baz=213,slow=36						
TIXI	**Tiksi**	**94.28**	**347**	LR	LR	13 54 49.2	
	comp=Z,81nm,19.4s,baz=187,slow=34						
INK	**Inuvik**	**94.36**	**17**	LR	LR	13 52 49.2	
	comp=Z,110nm,18.8s,baz=198,slow=32						
CMIG	**Matias Romero**	**97.29**	**74**	LR	LR	13 48 49.9	
	comp=Z,44nm,22.0s,baz=209,slow=29						
YKA	**Yellowknife Ar**	**98.07**	**27**	P	**P**	**13 15 46.6**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=251,slow=4.6,SNR=4.2						

MAN 15 13:04:43.2, 13°.77N×120°.81E, h6km, mb4.3, ML3.1, MS2.8, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.30**	**152**	⇑*e*P	Pn	13 04 56.2	+2.1
PGP				*e*S	Sb	13 05 10.7	+15
MACP	**Maragondon, Ca**	**0.50**	**350**	⇓*e*P	Pg	13 04 53.3	+0.4
MACP				*e*S	Sn	13 05 06.2	+0.3
LUBP	**Lubang**	**0.55**	**267**	⇑*i*P	Pg	13 04 54.2	+0.5
LUBP				*i*S	Sn	13 05 07.7	+0.7
SJMP	**San Jose**	**1.33**	**167**	⇓*e*P	Pn	13 05 06.6	-1.7
SJMP				*i*S	Sn	13 05 27.6	+1.2

*IDC **15** 13:05:21.9±3.3, 38°.54N×123°.27W, h0km, mb1 3.6/4, mb1mx3.3/52, mbtmp3.2/4, ML3.0/5, Error ellipse: s-maj=38.1km s-min=10.7km az=46.0*

*NCEDC **15** 13:05:24.7±1.6, 38°.82N±0°.02×122°.85W±0°.04, h2km±7km, Mwr3.4/4, ML3.0/88(NEIC), Error ellipse: s-maj=4.8km s-min=2.3km az=75.0*

*NEIC **15** 13:05:24.8, 38°.83N×122°.85W, h2km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=0.72; Mθθ=0.84; Mφφ 1.56; Mrθ=0.65; Mθφ 0.73; Mφr=0.09; Fault plane solution: M0=1.67000×10^14 NP1:ϕs=53.40000°, δ69.05000°, λ=-33.29000°. NP2:ϕs=156.61000°, δ59.17000°, λ-155.40000°. Principal axes: T 1.7919, Plg6.0000°, Azm107.0000°; N -0.2753, Plg51.0000°, Azm205.0000°; P -1.5166, Plg38.0000°, Azm12.0000°;*

*NEIC **15** 13:05:25.3±1.6, 38°.82N±0°.02×122°.84W±0°.03, h1km±7km Error ellipse: s-maj=3.3km s-min=2.2km az=65.0*

ISC 15 13:05:24.9±1.0, 38°.80N±0°.02×122°.85W±0°.03, h3km±9km, n64, σ0§97/69, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.04**	**84**	Pg	**Pg**	**13 05 25.9**	**0.0**
GDXM				Sg	**Sg**	**13 05 27.0**	**+0.3**
GCRM	**Castle Rock Sp**	**0.11**	**106**		**Pg**	**13 05 27.2**	**+0.1**
GSGM	**Seigler Mounta**	**0.13**	**60**		**Pg**	**13 05 27.6**	**+0.2**
HOPS	**Hopland Field**	**0.26**	**318**	Pg	**Pg**	**13 05 30.1**	**+0.1**
HOPS				Sg	**Sg**	**13 05 33.7**	**+0.4**
CVS	**Carmenet Viney**	**0.55**	**146**		**Pg**	**13 05 35.9**	**+0.4**
MCCM	**Marconi Confer**	**0.66**	**182**	Pg	**Pb**	**13 05 38.4**	**-0.6**
MCCM				Sg	**Sg**	**13 05 46.1**	**+0.1**
MCCM				IAML		13 05 53.4	
	comp=E,930nm,0.8s						
MCCM				IAML		13 05 57.1	
	comp=N,828nm,1.0s						
GNAM	**Navarro Ridge**	**0.72**	**303**		**Pg**	**13 05 39.3**	**+0.4**
GASB	**Alder Springs**	**0.86**	**7**		**Pb**	**13 05 42.1**	**-0.5**
HERB	**Hercules**	**0.91**	**150**		**Pb**	**13 05 43.2**	**-0.2**
SUTB	**Sutter Butte**	**0.93**	**62**		**Pg**	**13 05 42.2**	**-0.6**
BRK	**Berkeley--Havi**	**1.04**	**153**		**Pg**	**13 05 45.0**	**+0.1**
BL67	**Building 67, L**	**1.04**	**153**		**Pn**	**13 05 45.4**	**-1.1**
VAK	**Adit at Lawren**	**1.04**	**153**		**Pb**	**13 05 45.1**	**-0.4**
BKS	**Berkeley--Byer**	**1.04**	**152**		**Pg**	**13 05 44.6**	**-0.4**
KCPM	**Cahto Peak**	**1.05**	**327**		**Pg**	**13 05 45.2**	**+0.1**
KCPM				Sg	**Sg**	**13 05 58.0**	**-0.7**
BDM	**Black Diamond**	**1.15**	**137**		**Pb**	**13 05 46.8**	**-0.6**
ORV	**Oroville**	**1.29**	**54**		**Pn**	**13 05 47.5**	**-2.4**
ORV	**Oroville**	**1.29**	**54**	Sg	**Sb**	**13 06 05.9**	**-1.0**
O02D	**Mt. Diablo Mer**	**1.37**	**2**		**Pg**	**13 05 51.2**	**0.0**
O02D				IAML		13 05 56.7	
	comp=N,199nm,0.9s						
KMRM	**Mail Ridge**	**1.56**	**335**		**Pn**	**13 05 53.2**	**-0.5**
O03E	**Paynes Creek**	**1.70**	**28**		**Pn**	**13 05 54.5**	**-1.0**
WDC	**Whiskeytown Da**	**1.79**	**8**		**Pg**	**13 05 59.9**	**+0.6**
KMPM	**Mount Pierce**	**1.89**	**329**		**Pg**	**13 06 04.2**	**+3.0**
KMPM				IAML		13 07 06.1	
	comp=N,156nm,4.3s						
CMB	**Columbia Colle**	**2.08**	**111**		**Pn**	**13 06 00.1**	**-0.7**
RUBR	**Rubicon Trail**	**2.12**	**82**		**Pn**	**13 06 01.4**	**-0.1**
HFEM	**San Felipe**	**2.15**	**147**		**Pn**	**13 06 00.9**	**-0.7**
EMB	**Emerald Bay**	**2.15**	**85**		**Pn**	**13 06 02.5**	**+0.5**
EMB				IAML		13 06 13.6	
	comp=E,118nm,0.9s						
EMB				IAML		13 06 43.8	
	comp=N,130nm,1.0s						
N02D	**Trinity Center**	**2.17**	**3**		**Pb**	**13 06 03.1**	**-1.9**
KHMM	**Horse Mountain**	**2.18**	**342**		**Pn**	**13 06 01.3**	**-1.0**
KHMM				IAML		13 07 01.0	
	comp=N,124nm,3.5s						
KHMM				IAML		13 07 02.1	
	comp=E,78nm,2.9s						
MPK	**Martis Peak**	**2.25**	**76**		**Pn**	**13 06 04.2**	**+0.8**
SAO	**San Andreas Ge**	**2.32**	**151**		**Pb**	**13 06 05.1**	**-2.3**
VCNR	**Virginia City**	**2.54**	**78**		**Pn**	**13 06 07.3**	**+0.1**
VCNR				IAML		13 06 22.6	
	comp=E,70nm,0.8s						
VCNR				IAML		13 06 35.6	
	comp=N,52nm,1.0s						
PNTR	**Pine Nut**	**2.55**	**83**		**Pn**	**13 06 08.3**	**+0.9**
M02C	**Callahan**	**2.59**	**360**		**Pn**	**13 06 07.1**	**-0.7**
BBGB	**Big Mountain B**	**2.64**	**147**		**Pn**	**13 06 09.3**	**+0.7**
BBGB				IAML		13 07 26.9	
	comp=E,96nm,1.6s						
YERR	**Yerington**	**2.82**	**85**		**Pn**	**13 06 11.3**	**+0.1**
YERR				IAML		13 07 01.8	
	comp=E,77nm,1.1s						
YERR				IAML		13 07 09.8	
	comp=N,60nm,1.2s						
PAHR	**Pah Rah Range**	**2.84**	**70**		**Pn**	**13 06 11.8**	**+0.5**
PAHR				IAML		13 07 19.0	
	comp=N,40nm,1.9s						
YBH	**Yreka Blue Hor**	**2.93**	**2**	Pn	**Pn**	**13 06 14.2**	**+1.7**
	comp=N,0.8nm,0.3s,baz=191,slow=10,SNR=14						
YBH				Pg	**Pg**	**13 06 20.2**	**-0.9**
	comp=N,1.3nm,0.3s,baz=193,slow=11,SNR=9.3						
YBH	**Yreka Blue Hor**	**2.93**	**2**		**Pn**	**13 06 13.5**	**+1.0**
PMPB	**Monarch Peak**	**3.05**	**147**	Pn	**Pn**	**13 06 14.1**	**-0.1**
PMPB				IAML		13 06 39.3	
	comp=N,56nm,3.2s						
PMPB				IAML		13 07 50.4	
	comp=E,62nm,4.8s						
M04C	**Macdoel**	**3.08**	**14**		**Pn**	**13 06 13.8**	**-0.7**
M04C				IAML		13 06 37.4	
	comp=E,46nm,4.5s						
M04C				IAML		13 07 54.9	
	comp=N,64nm,5.0s						
KSXB	**Camp Six Broad**	**3.12**	**346**	Pn	**Pn**	**13 06 14.7**	**-0.5**
KSXB				IAML		13 07 05.8	
	comp=E,49nm,4.8s						
KSXB				IAML		13 07 43.6	
	comp=N,57nm,4.9s						
RYN	**Ryan**	**3.39**	**92**		**Pn**	**13 06 19.8**	**+0.8**
RYN				IAML		13 07 17.2	
	comp=N,26nm,0.9s						
RYN				IAML		13 07 28.5	
	comp=E,30nm,1.4s						
L02E	**Cave Junction**	**3.40**	**351**	Pn	**Pn**	**13 06 17.6**	**-1.3**
L02E				IAML		13 06 47.2	
	comp=N,35nm,3.8s						
L02E				IAML		13 07 40.2	
	comp=E,47nm,3.2s						
L04D	**Klamath Falls**	**3.44**	**7**	Pn	**Pn**	**13 06 20.5**	**+1.0**
L04D				IAML		13 07 36.7	
	comp=N,51nm,4.8s						
LHV	**Little Huntoon**	**3.45**	**98**		**Pn**	**13 06 20.0**	**+0.4**
LHV				IAML		13 06 51.2	
	comp=N,42nm,1.2s						
LHV				IAML		13 07 30.4	
	comp=E,50nm,1.0s						
NVAR	**Mina Array Bea**	**3.58**	**95**	Pn	**Pn**	**13 06 22.4**	**+0.8**
	comp=E,0.8nm,0.3s,baz=269,slow=16,SNR=7.1						
NVAR				Pg	**Pb**	**13 06 30.4**	**+1.4**
	comp=E,1.8nm,0.3s,baz=263,slow=16,SNR=18						
NVAR				Lg	Lg	13 07 24.6	
	comp=E,1.0nm,0.3s,baz=265,slow=25,SNR=3.9						
MOD	**Modoc Plateau**	**3.66**	**31**		**Pn**	**13 06 22.7**	**+0.1**
NV11	**Mina Array Sit**	**3.69**	**94**		**Pn**	**13 06 23.6**	**+0.5**
NV11				IAML		13 07 35.1	
	comp=E,31nm,1.7s						
NV11				IAML		13 07 39.7	
	comp=N,25nm,1.5s						
PAGB	**Antelope Grade**	**3.70**	**145**	Pn	**Pn**	**13 06 23.6**	**+0.6**
PAGB				IAML		13 08 24.1	
	comp=E,29nm,4.7s						
PAGB				IAML		13 08 25.8	
	comp=N,30nm,3.2s						
KVN	**Kaiserville**	**3.71**	**85**		**Pn**	**13 06 22.6**	**-0.7**
HUMO	**Hull Mountain**	**3.80**	**359**		**Pn**	**13 06 25.5**	**+1.1**
HUMO				IAML		13 07 19.0	
	comp=N,18nm,4.5s						
HUMO				IAML		13 08 29.8	
	comp=E,22nm,5.0s						
LCH	**Last Change Ra**	**4.40**	**109**	Pn	**Pn**	**13 06 34.1**	**+1.4**
LCH				IAML		13 07 57.8	
	comp=E,12nm,2.2s						
Q09A	**Carvers**	**4.43**	**88**		**Pn**	**13 06 33.8**	**+0.6**
TPH	**Tonopah**	**4.48**	**98**		**Pn**	**13 06 33.7**	**-0.2**
ISA	**Isabella, Lake**	**4.69**	**131**		**Pn**	**13 06 37.0**	**+0.2**
ISA				IAML		13 08 07.2	
	comp=N,9.4nm,4.7s						
ISA				IAML		13 08 09.2	
	comp=E,12nm,4.9s						
WVOR	**Wild Horse Val**	**4.84**	**40**		**Pn**	**13 06 40.3**	**+1.5**
WVOR				IAML		13 07 58.5	
	comp=E,12nm,2.9s						
WVOR				IAML		13 08 43.1	
	comp=E,9.5nm,2.9s						
TPNV	**Topopah Spring**	**5.54**	**107**		**Pn**	**13 06 47.5**	**-1.0**
QSM	**Queen of Sheba**	**5.54**	**119**		**Pn**	**13 06 49.5**	**+1.1**
ELK	**Elko**	**6.17**	**69**	Pn	**Pn**	**13 06 59.2**	**+1.9**
	comp=E,0.1nm,0.3s,baz=256,slow=12,SNR=4.9						
ELK	**Elko**	**6.17**	**69**		**Pn**	**13 06 56.8**	**-0.4**
SPR3	**Spring Creek 3**	**6.65**	**86**		**Pn**	**13 07 04.7**	**+0.9**
PDAR	**Pinedale Array**	**10.83**	**64**	Pn	Pn	13 08 06.1	+5.1
	comp=E,0.0nm,0.3s,baz=242,slow=12,SNR=5.9						
TXAR	**Lajitas Array**	**18.46**	**115**	P	**Pn**	**13 09 43.1**	**+1.2**
	comp=E,0.0nm,0.3s,baz=306,slow=7.7,SNR=4.4						

*IDC **15** 13:05:21.1±2.0, 42°.15N×84°.45E, h0km, mb3.6/3, mb1 3.4/7, mb1mx3.3/62, mbtmp3.3/7, ML2.6/4, Error ellipse: s-maj=33.3km s-min=22.0km az=78.0*

*SOME **15** 13:05:25.9, 42°.28N×83°.97E, h5km*

*NNC **15** 13:05:28.5±1.3, 42°.35N×83°.97E, h4km±6km, mb3.8, mpv3.5, Error ellipse: s-maj=9.8km s-min=5.9km az=149.0*

ISC 15 13:05:27.8±1.7, 42°.35N±0°.08×83°.98E±0°.07, h10km, n52, σ2§73/66, mb3.5/3, 9C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.44**	**288**	⇓Pg	**Pg**	**13 06 32.9**	**-0.9**
	6.3nm,0.5s						
PDGK				⇑Lg	Lg	13 07 18.5	
	23nm,0.3s						
DJR	**Jarkent**	**3.64**	**304**	*e*P	**Pb**	**13 06 34.8**	**+2.6**
	5.0nm,0.2s						
DJR				*e*S	**Sg**	**13 07 24.7**	**0.0**
	35nm,0.1s						
DJR	**Jarkent**	**3.64**	**304**	Pg	**Pb**	**13 06 34.8**	**+2.6**
	6.0nm,0.4s						
DJR				Lg	Lg	13 07 24.7	
	35nm,0.4s						
UZB	**Uzynbulak**	**3.74**	**284**	*e*P	**Pb**	**13 06 34.9**	**+0.9**
	3.7nm,0.3s						
UZB				*e*S	**Sg**	**13 07 24.7**	**-3.1**
	26nm,0.3s						
UZB	**Uzynbulak**	**3.74**	**284**	Pg	**Pb**	**13 06 34.9**	**+0.9**
	3.7nm,0.3s						
UZB				Lg	Lg	13 07 24.7	
	26nm,0.3s						
ZHN	**Zhinishke**	**4.16**	**283**	*e*P	**Pb**	**13 06 44.2**	**+3.0**
	14nm,0.1s						
ZHN				*e*S	**Sg**	**13 07 41.0**	**-0.5**
	27nm,0.2s						
ZHN	**Zhinishke**	**4.16**	**283**	Pg	**Pb**	**13 06 44.2**	**+3.0**
	14nm,0.1s						
ZHN				Lg	Lg	13 07 41.0	
	16nm,0.5s						
SATY	**Saty**	**4.17**	**282**	*e*P	**Pb**	**13 06 43.8**	**+2.5**
	2.5nm,0.1s						
SATY				*e*S	**Sg**	**13 07 40.3**	**-1.3**
	15nm,0.1s						
SATY	**Saty**	**4.17**	**282**	Pg	**Pb**	**13 06 43.8**	**+2.5**
	6.8nm,0.3s						
SATY				Lg	Lg	13 07 40.3	
	15nm,0.3s						
BLB	**Baldybastay**	**4.38**	**295**	*e*P	**Pb**	**13 06 47.9**	**+2.9**
	7.0nm,0.1s						
BLB				*e*S	**Sg**	**13 07 47.0**	**-1.5**
	31nm,0.1s						
BLB	**Baldybastay**	**4.38**	**295**	Pg	**Pb**	**13 06 47.9**	**+2.9**
	14nm,0.4s						
BLB				Lg	Lg	13 07 47.0	
	20nm,0.3s						
KURS	**Kuram**	**4.42**	**287**	*e*P	**Pg**	**13 06 50.3**	**-2.0**
	3.0nm,0.3s						
KURS				*e*S	**Sg**	**13 07 51.3**	**+1.8**
	14nm,0.1s						
KURS	**Kuram**	**4.42**	**287**	Pg	**Pg**	**13 06 50.3**	**-2.0**
	3.0nm,0.3s						
KURS				Lg	Lg	13 07 51.3	
	14nm,0.7s						
KAPS	**Kapalarasan**	**4.45**	**313**	*e*P	**Pb**	**13 06 49.7**	**+3.7**
	4.0nm,0.1s						
KAPS				*e*S	**Sg**	**13 07 49.5**	**-1.0**
	20nm,0.1s						
KAPS	**Kapalarasan**	**4.45**	**313**	Pg	**Pb**	**13 06 49.7**	**+3.7**
	4.0nm,0.5s						
KAPS				Lg	Lg	13 07 49.5	
	20nm,0.7s						
MK31	**Makanchi Array**	**4.60**	**345**	⇑Pg	**Pg**	**13 06 53.6**	**-2.3**
	1.6nm,0.3s,baz=160,slow=16,SNR=11						
MK31				⇓Lg	Lg	13 07 54.6	
	25nm,0.5s,baz=159,slow=27,SNR=12						
MKAR	**Makanchi Array**	**4.60**	**345**	Pn	**Pn**	**13 06 38.5**	**+1.1**
	0.3nm,0.3s,baz=164,slow=14,SNR=17						
MKAR				Pg	**Pb**	**13 06 51.2**	**+2.7**
	2.7nm,0.3s,baz=159,slow=17,SNR=31						
MKAR				Lg

ms1mx2.5/51, Error ellipse: s-maj=168.8km s-min=25.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.51**	**163**	P	P	13 13 37.2	-1.1
	0.9nm,0.8s,baz=342,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**27.94**	**166**	P	P	13 14 10.2	+0.9
	0.1nm,0.5s,baz=342,slow=12,SNR=1.9						
STKA	**Stephens Creek**	**37.96**	**159**	P	P	13 15 36.7	+0.2
	1.1nm,0.5s,baz=333,slow=6.7,SNR=3.3						
PETK	**Petropavlovsk-**	**55.59**	**22**	LR	LR	13 41 37.4	
	comp=Z,164nm,19.6s,baz=150,slow=36						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	13 18 09.4	-0.1
	0.5nm,0.6s,baz=124,slow=7.3,SNR=6.4						

DNK 15 13:16:35.7±0.5, 56°.18N×13°.71E, h0km, ML1.1 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEL	**Delary**	**0.31**	**17**	P	Pg	13 16 41.3	-0.3
DEL				*i* P	Pb	13 16 41.4	-2.7
DEL				S	Sg	13 16 45.4	-0.2
DEL				*e*S	Sb	13 16 45.8	-3.9
LUNU	**Lund**	**0.56**	**195**	*e*P	Pn	13 16 53.4	+2.4
FABU	**Falkenberg**	**0.99**	**327**	P	Pg	13 16 53.6	-1.0
FABU				S	Sg	13 17 07.0	-0.5
VXJU	**Vaexsjoe**	**1.01**	**42**	P	Pg	13 16 54.4	-0.7
VXJU				S	Sg	13 17 07.8	-0.5
BLEU	**Blekinge**	**1.19**	**83**	*e*P	Pg	13 16 58.4	0.0
BORU	**Boraas**	**1.55**	**341**	*e*P	Pn	13 17 03.1	-1.4
BORU				P	Pb	13 17 03.3	-2.0
ONAU	**Onsala**	**1.57**	**322**	P	Pn	13 17 04.1	-0.6
ONAU				S	Sn	13 17 24.9	-0.9

*BER **15** 13:37:47.2±1.4, 57°.98N×7°.68E, h0km, ML1.6, Suspected explosion*

DNK 15 13:37:46.0±1.6, 58°.02N×7°.68E, h0km, ML2.1, ML1.6 (BER), Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	**Snartemo**	**0.41**	**322**	*i* P	Pg	13 37 54.4	+0.6
SNART				*e*P	Pb	13 37 54.4	-1.7
SNART				*e*S	Sg	13 37 59.6	+0.5
SNART				*e*S	Sb	13 38 00.1	-2.8
SNART				IAML		13 38 03.0	
	comp=Z,149nm,0.6s						
SNART	**Snartemo**	**0.41**	**322**	*e*P	Pg	13 37 54.4	+0.6
SNART				*e*S	Sg	13 37 59.6	+0.5
SNART				IAML		13 38 03.0	
	comp=Z,149nm,0.6s						
HOMB	**Homborsund**	**0.50**	**60**	*i* P	Pg	13 37 56.3	+0.6
HOMB				*e*P	Pb	13 37 56.3	-1.4
HOMB				*e*S	Sg	13 38 02.6	+0.4
HOMB				*e*S	Sb	13 38 02.8	-2.7
HOMB				IAML		13 38 06.9	
	comp=Z,31nm,0.6s						
HOMB	**Homborsund**	**0.50**	**60**	*e*P	Pg	13 37 56.3	+0.7
HOMB				*e*S	Sg	13 38 02.8	+0.7
HOMB				IAML		13 38 06.9	
	comp=Z,31nm,0.6s						
BLS5	**Blasjo**	**1.55**	**336**	*e*P	Pn	13 38 14.3	-0.5
BLS5				*e*S	Sn	13 38 34.5	-1.1
BLS5				IAML		13 38 35.9	
	comp=Z,6.9nm,0.6s						
BLS5	**Blasjo**	**1.55**	**336**	*e*P	Pn	13 38 14.3	-0.5
BLS5				*e*S	Sn	13 38 34.5	-1.1
BLS5				IAML		13 38 35.9	
	comp=Z,6.9nm,0.6s						
KMY	**Karmoy**	**1.75**	**314**	*e*S	Sn	13 38 39.9	-0.6
KMY				IAML		13 38 40.9	
	comp=Z,6.0nm,0.7s						
KMY	**Karmoy**	**1.75**	**314**	*e*S	Sn	13 38 39.9	-0.6
KMY				IAML		13 38 40.9	
	comp=Z,6.0nm,0.7s						
ODD1	**Odda**	**1.98**	**344**	*e*P	Pn	13 38 20.8	+0.1
ODD1				*e*S	Sn	13 38 45.3	-0.9
ODD1				IAML		13 38 48.7	
	comp=Z,10nm,0.5s						
ODD1	**Odda**	**1.98**	**344**	*e*P	Pn	13 38 20.8	+0.1
ODD1				*e*S	Sn	13 38 45.3	-0.9
ODD1				IAML		13 38 48.7	
	comp=Z,10nm,0.5s						
STRU	**Stroemstad**	**2.10**	**59**	*e*P	Pn	13 38 21.8	-0.6
STRU				*e*P	Pb	13 38 22.7	-2.2
STRU				*e*S	Sn	13 38 47.7	-1.4
STRU				*e*S	Sb	13 38 47.8	-3.7
STRU	**Stroemstad**	**2.10**	**59**	*e*P	Pn	13 38 21.8	-0.6
STRU				*e*S	Sn	13 38 47.8	-1.4
SKAR	**Skarslia**	**2.69**	**7**	*e*P	Pn	13 38 30.8	+0.2
SKAR				*e*S	Sn	13 39 03.5	-0.3
SKAR				IAML		13 39 15.7	
	comp=Z,4.3nm,0.4s						
SKAR	**Skarslia**	**2.69**	**7**	*e*P	Pn	13 38 30.8	+0.2
SKAR				*e*S	Sn	13 39 03.5	-0.3
SKAR				IAML		13 39 15.7	
	comp=Z,4.3nm,0.4s						

*NEIC **15** 13:40:36.8±0.6, 4°.6S±0°.1×155°.3E±0°.1, h28km±6km, mb4.3/12, Error ellipse: s-maj=17.5km s-min=15.1km az=111.0*

*IDC **15** 13:40:54.0±0.9, 4°.65S×153°.79E, h109km±6km, mb3.4/6, mb1 3.7/7, mb1mx3.3/38, mbtmp3.9/7, MS2.8/1, Ms1 2.8/1, ms1mx2.2/29, Error ellipse: s-maj=18.2km s-min=11.9km az=175.0*

ISC 15 13:40:53.2±0.9, 4°.7S±0°.1×153°.9E±0°.1, h100km, n27, σ1§44/29, mb3.9/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.77**	**285**	Pn	Pn	13 41 23.7	+0.9
KRVT	**Keravat (AS076**	**1.88**	**281**	P	Pn	13 41 25.4	+1.3
KRVT				S	Sn	13 41 47.3	-0.6
PMG	**Port Moresby**	**8.17**	**234**	P	Pn	13 42 50.1	+1.2
	7.9nm,0.3s,baz=47,slow=7.0,SNR=17						
PMG				S	Sn	13 44 20.3	+0.6
	3.4nm,0.3s,baz=11,slow=20,SNR=5.5						
PMG	**Port Moresby**	**8.17**	**234**		Pn	13 42 50.6	+1.7
COEN	**Coen**	**14.02**	**228**	Pn	Pn	13 44 07.4	-0.1
GUMO	**Guam**	**20.22**	**334**	LR	LR	13 53 33.4	
	comp=Z,23nm,18.9s,baz=118,slow=38						
WB0	**Warramunga Arr**	**24.20**	**230**	P	P	13 45 60.0	-0.7
WB0				IAmb	IAmb	13 46 01.4	
	comp=Z,4.6nm,0.8s						
WR0	**Warramunga Arr**	**24.20**	**229**	P	P	13 46 00.4	-0.2
WR0				IAmb	IAmb	13 46 29.0	
	comp=Z,6.7nm,0.9s						
WB2	**Warramunga Arr**	**24.34**	**230**	P	P	13 46 01.9	0.0
WB2				IAmb	IAmb	13 46 04.1	
	comp=Z,4.7nm,0.9s						
WRA	**Warramunga Arr**	**24.35**	**230**	P	P	13 46 01.1	-0.9
	comp=Z,3.7nm,0.7s,baz=53,slow=9.6,SNR=38						
WRA	**Warramunga Arr**	**24.35**	**230**	P	P	13 46 01.8	-0.2
AS31	**Alice Springs**	**26.98**	**224**	P	P	13 46 24.9	-0.9
ASAR	**Alice Springs**	**26.98**	**224**	P	P	13 46 24.5	-1.3
	comp=Z,1.6nm,0.9s,baz=54,slow=9.0,SNR=29						
ASAR				pP	pwP	13 46 49.8	-1.7
	comp=Z,0.9nm,0.8s,baz=58,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**26.98**	**224**	P	P	13 46 24.7	-1.1
KNRA	**Kununurra**	**27.00**	**244**	P	P	13 46 28.3	+2.3
KNRA				IAmb	IAmb	13 46 57.2	
	comp=Z,8.1nm,0.9s						
FORT	**Forrest**	**35.58**	**220**	P	P	13 47 41.0	-0.1
NIUE	**Niue**	**38.10**	**115**	P	P	13 47 42.6	-20
MORW	**Morawa**	**43.27**	**232**	P	P	13 48 44.5	-0.6
MORW				IAmb	IAmb	13 49 11.2	
	comp=Z,13nm,1.4s						
USA0B	**Ussuriysk Arra**	**52.47**	**340**	P	P	13 49 49.2	-6.6
CMAR	**Chiang Mai Arr**	**58.79**	**295**	P	P	13 50 42.3	+0.8
	comp=Z,0.3nm,0.4s,baz=99,slow=4.8,SNR=1.7						
CMAR	**Chiang Mai Arr**	**58.79**	**295**	P	P	13 50 42.7	+1.2
VNDA	**Vanda**	**72.93**	**178**	P	P	13 52 03.2	-7.9
VNDA				IAmb	IAmb	13 52 29.8	
	comp=Z,7.6nm,1.4s						
MKAR	**Makanchi Array**	**80.93**	**319**	P	P	13 52 55.7	-0.9
	comp=Z,0.5nm,0.9s,baz=110,slow=5.9,SNR=5.3						
MKAR				pP	pP	13 53 22.0	+0.8
	comp=Z,0.5nm,0.9s,baz=95,slow=7.4,SNR=3.0						
MKAR	**Makanchi Array**	**80.93**	**319**	P	P	13 52 52.7	-3.9
ILAR	**Eielson Array**	**81.63**	**22**	P	P	13 53 00.3	+0.4
	comp=Z,0.3nm,0.8s,baz=280,slow=5.4,SNR=2.4						
ILAR				pP	pwP	13 53 28.7	+3.1
	comp=Z,1.2nm,1.1s,baz=221,slow=4.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	P	13 52 58.6	-1.5
	comp=Z,0.3nm,0.3s,baz=131,slow=4.4,SNR=1.8						
TORD	**Torodi Ar. Bea**	**151.28**	**289**	PKPbc	PKPbc	14 00 35.7	-0.4
	comp=Z,0.3nm,0.4s,baz=60,slow=3.1,SNR=3.6						
TORD				pPKPbc	sPKPdf	14 01 04.7	-1.4
	comp=Z,1.0nm,0.8s,baz=57,slow=1.7,SNR=4.1						

*IDC **15** 13:45:40.9±0.8, 64°.54S×175°.36E, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.1/23, mbtmp4.3/6, ML4.3/1, MS4.2/37, Ms1 4.2/37, ms1mx4.2/46, Error ellipse: s-maj=40.1km s-min=21.2km az=57.0*

*NEIC **15** 13:45:43.4±2.0, 64°.62S±0°.06×175°.2E±0°.4, h9km±3km, mb4.6/11, Error ellipse: s-maj=26.6km s-min=8.3km az=80.0*

*GCMT **15** 13:45:44.4±0.2, 64°.33S±0°.01×175°.77E±0°.03, h12km, MW5.2/106, Moment Tensor Solution. s45,c60; s106,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.30±.13; $M_{\theta\theta}$5.90±.11; $M_{\phi\phi}$-4.60±.12; $M_{r\theta}$-4.54±.33; $M_{\theta\phi}$-1.28±.11; $M_{\phi r}$1.03±.33; Best double couple: $M_0$6.59400×10^{16} NP1:ϕ_s227.00000°, δ60.00000°, λ173.00000°. NP2:ϕ_s320.00000°, δ84.00000°, λ31.00000°. Principal axes: T 8.2930, Plg26.0000°, Azm188.0000°; N -3.3980, Plg59.0000°, Azm331.0000°; P -4.8950, Plg16.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 13:45:42.9±0.6, 64°.61S±0°.09×175°.6E±0°.1, h10km, n74, σ1§10/34, mb4.5/10, MS4.3/38, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.57**	**188**		Pn	13 48 55.3	+0.2
VNDA	**Vanda**	**13.64**	**193**	Pn	Pn	13 48 55.8	-0.1
	1.5nm,0.3s,baz=39,slow=17,SNR=55						
VNDA				LR	LR	13 53 05.7	
	comp=Z,2μm,18.4s,baz=16,slow=32						
QSPA	**South Pole Qui**	**25.48**	**180**	P	P	13 51 11.5	+0.7
	28nm,0.8s,baz=37,slow=4.7,SNR=62						
QSPA				LR	LR	14 00 00.4	
	comp=Z,1μm,18.6s,baz=34,slow=34						
QSPA	**South Pole Qui**	**25.48**	**180**	P	P	13 51 12.2	+1.3
RAO	**Raoul Island**	**35.61**	**10**	LR	LR	14 04 58.5	
	comp=Z,455nm,21.2s,baz=138,slow=33						
STKA	**Stephens Creek**	**38.89**	**311**	LR	LR	14 07 03.8	
	comp=Z,200nm,18.2s,baz=159,slow=33						
STKA	**Stephens Creek**	**38.89**	**311**	P	P	13 53 09.5	+1.3
MAW	**Mawson**	**39.67**	**214**	LR	LR	14 09 35.6	
	comp=Z,563nm,20.7s,baz=131,slow=36						
DZM	**Mont Dzumac**	**42.95**	**348**	LR		14 10 34.1	
	comp=Z,504nm,18.2s,baz=209,slow=35						
DZM	**Mont Dzumac**	**42.95**	**348**	*e*S	S	14 00 06.5	-0.3
	103nm,23.5s						
DZM				*e*LR	LR	14 05 30.8	
	comp=Z,1μm,26.4s						
PMSA	**Palmer Station**	**43.80**	**148**	LR	LR	14 09 21.6	
	comp=Z,250nm,18.4s,baz=180,slow=32						
SNAA	**Sanae**	**43.98**	**181**	LR	LR	14 11 28.9	
	comp=Z,502nm,18.6s,baz=125,slow=35						
RAR	**Rarotonga**	**46.36**	**33**	LR	LR	14 08 10.0	
	comp=Z,572nm,20.9s,baz=194,slow=29						
MSVF	**Nonsavu**	**46.87**	**3**	LR	LR	14 09 47.6	
	comp=Z,314nm,20.9s,baz=183,slow=31						
H01W1	**Cape Leeuwin H**	**46.89**	**279**	T	T	14 44 53.0	
	baz=148,slow=76,SNR=32						
H01W2	**Cape Leeuwin H**	**46.89**	**279**	T	T	14 44 53.3	
	baz=148,slow=76,SNR=39						
H01W3	**Cape Leeuwin H**	**46.91**	**279**	T	T	14 44 54.2	
	baz=148,slow=76,SNR=32						
CTA	**Charters Tower**	**48.59**	**322**	LR	LR	14 11 52.3	
	comp=Z,253nm,20.4s,baz=152,slow=32						
CTAO	**Charters Tower**	**48.59**	**322**	P	P	13 54 26.7	+0.4
ASAR	**Alice Springs**	**49.05**	**306**	P	P	13 54 28.9	-1.0
	2.8nm,0.9s,baz=156,slow=8.2,SNR=15						
ASAR				LR	LR	14 13 19.1	
	comp=Z,220nm,18.1s,baz=152,slow=34						
ASAR	**Alice Springs**	**49.05**	**306**	P	P	13 54 29.1	-0.7
AS31	**Alice Springs**	**49.05**	**306**	P	P	13 54 29.0	-0.8
AS31				IAmb	IAmb	13 54 30.9	
	comp=Z,1.3nm,1.0s						
AFI	**Afiamalu**	**51.39**	**16**	LR	LR	14 14 06.6	
	comp=Z,134nm,20.2s,baz=190,slow=33						
WR0	**Warramunga Arr**	**52.26**	**309**	P	P	13 54 53.8	-0.2
WR0				IAmb	IAmb	13 55 07.3	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**52.34**	**308**	P	P	13 54 53.8	-0.9
WB2				IAmb	IAmb	13 55 07.1	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**52.34**	**308**	P	P	13 54 52.7	-2.0
	comp=Z,3.3nm,0.9s,baz=158,slow=6.6,SNR=17						
WRA				LR	LR	14 14 20.2	
	comp=Z,408nm,20.3s,baz=190,slow=33						
WRA	**Warramunga Arr**	**52.34**	**308**	P	P	13 54 54.9	+0.2
WB0	**Warramunga Arr**	**52.48**	**309**	P	P	13 54 54.3	-1.4
WB0				IAmb	IAmb	13 55 00.2	
	comp=Z,5.4nm,0.9s						
PPT2	**Papeete2**	**52.52**	**43**	*e*S	S	14 02 23.6	+1.0
	comp=Z,160nm,26.0s						
PPT2				*e*LQ	LQ	14 07 16.2	
	comp=Z,698nm,24.0s						
PPT2				*e*LR	LR	14 09 33.7	
	comp=Z,945nm,28.5s,baz=196						
PPT2	**Papeete2**	**52.52**	**43**	*e*T	T	14 50 56.2	
	comp=Z,4.2nm,0.3s						
PPT	**Papeete**	**52.54**	**43**	LR	LR	14 10 41.5	
	comp=Z,203nm,20.7s,baz=194,slow=29						
VAH	**Vaihoa**	**55.33**	**45**	*e*T	T	14 54 26.9	
	comp=Z,107nm,0.2s						
HNR	**Honiara**	**56.18**	**341**	LR	LR	14 15 10.6	
	comp=Z,490nm,21.3s,baz=176,slow=32						
FITZ	**Fitzroy Crossi**	**57.14**	**300**	LR	LR	14 17 12.9	
	comp=Z,130nm,20.6s,baz=154,slow=33						
KNRA	**Kununurra**	**58.23**	**304**	P	P	13 55 35.9	-1.2
KNRA				IAmb	IAmb	13 55 50.8	
	comp=Z,11nm,1.1s						
PMG	**Port Moresby**	**58.62**	**327**	LR	LR	14 15 43.5	
	comp=Z,184nm,21.6s,baz=152,slow=31						
RPN	**Rapa Nui**	**59.47**	**89**	LR	LR	14 15 36.3	
	comp=Z,316nm,20.2s,baz=229,slow=30						
PLCA	**Paso Flores**	**63.01**	**129**	P	P	13 56 09.9	+0.3
	comp=Z,1.8nm,0.9s,baz=207,slow=5.8,SNR=3.0						
PLCA				LR	LR	14 15 45.4	
	comp=Z,48nm,19.8s,baz=206,slow=29						
PLCA	**Paso Flores**	**63.01**	**129**	P	P	13 56 10.9	+1.3
PLCA				IAmb	IAmb	13 56 34.6	
	comp=Z,5.7nm,1.1s						
TAOE	**Nuku Hiva Isla**	**63.71**	**50**	*e*LR	LR	14 14 51.5	
	comp=Z,498nm,28.3s						
BATI	**Baumata**	**65.12**	**301**	LR	LR	14 21 28.2	
	comp=Z,231nm,20.9s,baz=190,slow=33						
H03S2	**Juan Fernandez**	**66.16**	**119**	T	T	15 09 15.2	
	baz=210,SNR=13						
H03S1	**Juan Fernandez**	**66.16**	**119**	T	T	15 08 59.8	
	baz=210,SNR=14						
H03S3	**Juan Fernandez**	**66.18**	**119**	T	T	15 09 16.9	
	baz=210,SNR=14						
SIJI	**Sorong**	**71.21**	**312**	LR	LR	14 27 52.2	
	comp=Z,122nm,18.6s,baz=120,slow=36						
KAPI	**Kappang**	**71.36**	**300**	LR	LR	14 27 35.2	
	comp=Z,55nm,18.2s,baz=185,slow=35						
LEM	**Lembang**	**74.50**	**287**	LR	LR	14 24 58.8	
	comp=Z,181nm,21.6s,baz=182,slow=32						
LVC	**Limon Verde**	**80.02**	**122**	LR	LR	14 26 33.9	
	comp=Z,61nm,18.2s,baz=200,slow=31						
DAV	**Davao City (W)**	**80.52**	**310**	LR	LR	14 32 43.0	
	comp=Z,37nm,19.8s,baz=275,slow=35						
SUR	**Sutherland**	**81.32**	**201**	LR	LR	14 33 14.4	
	comp=Z,454nm,18.1s,baz=171,slow=35						
BOSA	**Boshof**	**84.23**	**206**	LR	LR	14 32 31.0	
	comp=Z,439nm,21.1s,baz=174,slow=33						
LPAZ	**La Paz**	**86.10**	**120**	P	P	13 58 23.9	-0.7
	comp=Z,1.1nm,0.8s,baz=180,slow=6.5,SNR=3.7						
LPAZ				LR	LR	14 27 34.8	
	comp=Z,65nm,21.9s,baz=227,slow=29						
LPAZ	**La Paz**	**86.10**	**120**	P	P	13 58 21.1	-3.4
LPAZ				IAmb	IAmb	13 58 32.6	
	comp=Z,3.7nm,1.0s						
NNA	**Nana**	**86.64**	**111**	LR	LR	14 29 10.8	
	comp=Z,65nm,19.0s,baz=184,slow=30						
PSI	**Prapat**	**86.81**	**283**	LR	LR	14 33 36.9	
	comp=Z,85nm,18.9s,baz=133,slow=33						

TAP 15 13:06:32.6, 24°.43N×121°.93E, h24km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.14**	**278**	*e*S	Sb	13 06 41.6	+0.9
	baz=277						
ENA	**Nanau**	**0.18**	**271**	*e*S	Sb	13 06 42.1	+0.7
	baz=270						
TWC	**Suao**	**0.20**	**337**	*e*P	Pb	13 06 38.5	+0.4
	baz=339						
TWC				S	Sb	13 06 42.7	+0.9
	baz=339						
EHP	**Heping Village**	**0.21**	**237**	*e*S	Sb	13 06 43.4	+1.3
	baz=234						
NDS	**Dongshan**	**0.29**	**316**	*e*S	Sb	13 06 45.1	+1.2
	baz=316						
ILA	**Ilan**	**0.38**	**333**	*e*S	Sb	13 06 47.4	+1.1
	baz=334						
TWE	**Neicheng**	**0.38**	**320**	*e*P	Pb	13 06 40.7	-0.1
	baz=321						
TWE				*e*S	Sb	13 06 47.3	+1.0
	baz=321						
LATG	**Datong**	**0.39**	**286**	*e*P	Pb	13 06 41.0	+0.1
	baz=286						
LATG				*e*S	Sn	13 06 48.2	-1.3
	baz=286						
ENTT	**Nioudou**	**0.40**	**303**	*e*P	Pb	13 06 41.8	+0.8
	baz=302						
ENTT				*e*S	Sb	13 06 47.9	+1.1
	baz=302						
NACB	**Ninganchiao**	**0.40**	**231**	*e*P	Pb	13 06 41.0	0.0
	baz=230						
NACB				S	Sn	13 06 48.4	-1.3
	baz=230						
FUSB	**Fushanzhiwuyua**	**0.46**	**317**	*e*S	Sn	13 06 50.3	-0.9
	baz=316						
ETLH	**Xiulin Townshi**	**0.47**	**242**	*e*P	Pb	13 06 42.6	+0.4
	baz=242						
ETLH				*e*S	Sb	13 06 50.1	+1.3
	baz=242						
NWLT	**Wulai**	**0.53**	**312**	*e*S	Sn	13 06 51.9	-0.9
	baz=311						
YHNB	**Yeheng**	**0.56**	**296**	*e*S	Sn	13 06 52.9	-1.0
	baz=295						
NSK	**Sanguang**	**0.58**	**296**	*e*S	Sb	13 06 53.0	+1.0
	baz=295						
WHF	**Hehuan Shan**	**0.67**	**246**	P	Pb	13 06 46.4	+0.5
	baz=244						
WHF				*e*S	Sn	13 06 56.0	-0.9
	baz=244						
TWT	**Tachien**	**0.71**	**256**	*e*S	Sn	13 06 57.2	-0.4
	baz=255						
TDCB	**Techi**	**0.73**	**256**	*e*S	Sb	13 06 57.0	+0.7
	baz=256						
OWD	**Renai**	**0.84**	**236**	*e*S	Sb	13 07 00.0	+0.6
	baz=235						
WUSB	**Renai**	**0.86**	**240**	*e*P	Pn	13 06 49.7	+0.4
	baz=239						
WUSB				*e*S	Sn	13 07 00.8	-0.4
	baz=239						

JMA 15 13:07:04.3±0.3, 24°.93N×124°.06E, h0km, M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.41**	**146**	P	Pg	13 07 12.9	+0.7
JISG				*e*S	Sg	13 07 19.2	+1.7
JIJ	**Ishigaki jima**	**0.57**	**172**	P	Pg	13 07 15.5	+0.3
JIJ				S	Sg	13 07 23.3	+0.7
JTJ	**Tarama**	**0.65**	**116**	*e*S	Sb	13 07 27.1	-1.0
IRIF	**Iriomote-Funau**	**0.66**	**207**	P	Pb	13 07 18.0	-0.8
IRIF				*e*S	Sg	13 07 27.0	+1.3
JKRS	**Kuro-shima**	**0.69**	**184**	P	Pg	13 07 17.8	+0.2
JKRS				S	Sb	13 07 28.0	-1.3
HATJ	**Hateruma jima**	**0.90**	**195**	*e*S	Sb	13 07 34.3	-1.0

IDC 15 13:08:16.9±2.0, 3°.55N×126°.74E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/49, mbtmp3.6/4, MS4.1/1, Ms1 4.1/1,

LBTB Lobatse 87.66 207 LR LR 14 35 49.0
comp=Z,407nm,18.1s,baz=172,slow=34
H08S2 Diego Garcia H 88.70 255 T T 15 37 25.8
baz=154,slow=76,SNR=7.4
H08S1 Diego Garcia H 88.71 255 T T 15 37 25.6
baz=154,slow=76,SNR=3.0
H08S3 Diego Garcia H 88.72 255 T T 15 37 27.5
baz=154,slow=76,SNR=6.8
ATAH Atahualpa 90.39 107 LR LR 14 30 29.5
comp=Z,106nm,19.1s,baz=246,slow=30
TSUM Tsumeb 94.75 201 LR LR 14 38 46.5
comp=Z,560nm,21.4s,baz=154,slow=34
LSZ Lusaka 96.56 212 LR LR 14 41 14.7
comp=Z,156nm,18.8s,baz=178,slow=34
JOW Kunigami 98.27 318 LR LR 14 43 06.4
comp=Z,58nm,18.7s,baz=169,slow=35
PALK Pallekele 98.61 269 LR LR 14 37 30.7
comp=Z,103nm,18.2s,baz=247,slow=32
ILAR Eielson Array 131.97 21 PKP **PKiKP 14 04 56.0 +0.3**
comp=Z,1.5nm,0.9s,baz=218,slow=4.1,SNR=5.0
ILAR Eielson Array 131.97 21 PKiKP 14 04 56.6 +0.9
YKA Yellowknife Ar 136.90 40 PKP **PKPdf 14 05 01.7 -2.2**
comp=Z,0.2nm,0.7s,baz=251,slow=1.9,SNR=1.8
YKA Yellowknife Ar 136.90 40 PKPdf 14 05 04.5 +0.6
BRTR Keskin Array B 146.73 240 PKPbc **PKPdf 14 05 22.6 +0.1**
comp=Z,4.0nm,0.8s,baz=165,slow=5.1,SNR=7.5
BRTR Keskin Array B 146.73 240 PKPbc 14 05 23.8 -0.4
NRIK Noril'sk 146.96 319 PKPbc **PKPdf 14 05 22.2 +0.6**
comp=Z,0.8nm,0.3s,baz=76,slow=4.2,SNR=2.0
NRIK Noril'sk 146.96 319 PKPdf 14 05 20.7 -1.0
NRIK PKPbc **PKPab 14 05 25.6 +0.4**
RES Resolute Bay 150.33 32 PKPbc **PKPbc 14 05 32.1 -0.1**
comp=Z,2.4nm,1.0s,baz=180,slow=4.0,SNR=4.2
RES Resolute Bay 150.33 32 PKPdf 14 05 26.9 -0.1
RES PKPbc **PKiKP 14 05 33.3 +0.3**
RES PKPab **sPKPab 14 05 42.6 +0.7**

*BUL **15** 13:48:56.8±1.8,26°.03S×28°.63E,h10km,MD3.6*
*EAF **15** 13:48:56.8±2.2,26°.02S×28°.66E,h10km,MD3.5*
ISC 15 13:48:50.6±1.8,26°.01S±0°.08×28°.65E±0°.05,h9km,n12,σ1§55/14,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.93**	**289**	*i* P	**Pb**	**13 49 42.2**	**-0.9**
LBTB	**Lobatse**	**2.93**	**289**	*i* P	**Pb**	**13 49 42.2**	**-0.9**
CNG	**Changalane**	**3.20**	**96**	*i* P	**Pb**	**13 49 47.0**	**-0.5**
CNG	**Changalane**	**3.20**	**96**	*i* P	**Pb**	**13 49 47.0**	**-0.5**
MOPA	**Mopani**	**3.52**	**46**	*i* P	**Pb**	**13 49 51.1**	**-2.1**
MOPA				*i* S	**Sn**	**13 50 29.3**	**+1.9**
MOPA	**Mopani**	**3.52**	**46**	*i* P	**Pb**	**13 49 51.1**	**-2.1**
MOPA				*i* S	**Sn**	**13 50 29.3**	**+1.9**
MSNA	**Messina**	**3.86**	**19**	*i* P	**Pb**	**13 49 58.2**	**-0.8**
MSNA	**Messina**	**3.86**	**19**	*i* P	**Pb**	**13 49 58.2**	**-0.8**
MATP	**Matopo**	**5.56**	**359**	*i* S	**Sn**	**13 51 19.8**	**+1.9**
MATP	**Matopo**	**5.56**	**359**	*i* S	**Sn**	**13 51 19.8**	**+1.9**
BLWY	**Bulawayo**	**5.85**	**360**	*i* S	**Sn**	**13 51 25.3**	**+0.4**
BLWY	**Bulawayo**	**5.85**	**360**	*i* S	**Sn**	**13 51 25.3**	**+0.4**

IDC 15 14:03:54.2±28.0,18°.04S×179°.42E,h551km±149km, mb3.0/3,mb1 3.2/3,mb1mx2.8/24,mbtmp4.0/3,Error ellipse: s-maj=659.7km s-min=115.8km az=84.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.34**	**283**	P	P	14 05 01.6	0.0
1.7nm,0.3s,baz=114,slow=10.0,SNR=9.3							
STKA	**Stephens Creek**	**36.76**	**241**	P	P	14 10 15.7	+0.2
2.6nm,1.0s,baz=90,slow=16,SNR=2.8							
WRA	**Warramunga Arr**	**42.58**	**260**	P	P	14 11 02.0	-0.3
0.4nm,0.5s,baz=96,slow=7.3,SNR=15							
ASAR	**Alice Springs**	**42.77**	**254**	P	P	14 11 03.6	-0.2
3.8nm,0.6s,baz=88,slow=8.3,SNR=105							

IDC 15 14:06:38.2±770.0,52°.63N×34°.22E,h0km,Error ellipse: s-maj=315.8km s-min=104.6km az=28.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.45**	**22**	*i*		14 33 30.0	
baz=204,slow=325,SNR=3.5							
I31KZ	**AKTYUBINSK INF**	**14.98**	**89**	*i*		15 37 10.0	
baz=290,slow=311,SNR=0.9							
I46RU	**ZALESOVO INFRA**	**29.76**	**67**	*i*		17 10 58.0	
baz=283,slow=339,SNR=2.9							

IDC 15 14:30:55.2±2.7,6°.60S×129°.48E,h135km±36km,mb3.1/1, mb1 3.1/5,mb1mx2.8/39,mbtmp3.5/5,Error ellipse: s-maj=59.9km s-min=19.4km az=94.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.96**	**18**	P	Pn	14 32 21.2	-0.1
0.4nm,0.3s,baz=281,slow=23,SNR=10							
SIJI				S	Sn	14 33 22.7	-5.9
0.8nm,0.3s,baz=321,slow=24,SNR=9.7							
FITZ	**Fitzroy Crossi**	**12.03**	**198**	P	Pn	14 33 43.6	+1.3
0.1nm,0.3s,baz=18,slow=9.9,SNR=1.8							
FITZ				S	Sn	14 35 52.4	-2.6
0.1nm,0.3s,baz=144,slow=14,SNR=1.5							
WRA	**Warramunga Arr**	**14.08**	**161**	P	Pn	14 34 09.1	+0.2
0.2nm,0.3s,baz=345,slow=12,SNR=18							
WRA				S	Sn	14 36 35.8	-8.8
0.2nm,0.3s,baz=344,slow=22,SNR=6.4							
ASAR	**Alice Springs**	**17.50**	**166**	P	P	14 34 50.3	+0.1
0.2nm,0.3s,baz=344,slow=10,SNR=21							
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	14 41 37.4	0.0
0.2nm,0.5s,baz=111,slow=6.3,SNR=4.0							

*IDC **15** 15:15:51.9±1.2,31°.95S×70°.30W,h0km,mb4.1/2, mb1 3.8/3,mb1mx3.6/34,mbtmp3.8/3,ML3.7/1,Error ellipse: s-maj=73.0km s-min=36.1km az=120.0*
*GUC **15** 15:16:07.2±1.2,32°.44S×70°.00W,h126km±8km,ML4.0*
ISC 15 15:16:07.0±1.0,32°.42S±0°.05×69°.9W±0°.1,h116km±9km, n23,σ0§57/31,2C-1D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.62**	**236**	⇓*i*P	**Pn**	**15 16 25.3**	**-0.2**
VA03				*i* S	**Sn**	**15 16 39.5**	**+0.1**
VA03				IAML		15 16 40.8	
comp=E,7μm,0.3s							
PEL	**Peldehue**	**0.96**	**221**	*e*P	**Pn**	**15 16 28.0**	**-0.4**
PEL				*i* S	**Sn**	**15 16 44.7**	**+0.2**
PEL				IAML		15 16 45.4	
comp=N,4μm,0.4s							
ROCH	**El Roble**	**1.06**	**238**	*e*P	**Pn**	**15 16 29.5**	**0.0**
ROCH				*i* S	**Sn**	**15 16 46.7**	**+0.1**
ROCH				IAML		15 16 48.6	
comp=E,5μm,0.2s							
VA06	**Catapilco**	**1.16**	**263**	*e*P	**Pn**	**15 16 30.0**	**-0.2**
VA06				*i* S	**Sn**	**15 16 47.1**	**-0.8**
VA06				IAML		15 16 53.1	
comp=E,3μm,0.3s							
MT05	**Renca**	**1.18**	**215**	*e*P	**Pn**	**15 16 30.1**	**-0.5**
MT05				*i* S	**Sn**	**15 16 49.0**	**+0.5**
MT05				IAML		15 16 50.8	
comp=E,5μm,0.3s							
MT02	**Curacav**	**1.31**	**230**	*e*P	**Pn**	**15 16 31.9**	**-0.1**
MT02				*i* S	**Sn**	**15 16 50.7**	**-0.3**
VA01	**Torpederas**	**1.56**	**247**	*e*P	**Pn**	**15 16 35.0**	**+0.1**
VA01				*i* S	**Sn**	**15 16 56.5**	**+0.5**
VA01				IAML		15 17 04.2	
comp=E,1μm,0.4s							
MT09	**Talagante**	**1.61**	**213**	*e*P	**Pn**	**15 16 35.2**	**-0.4**
MT09				*i* S	**Sn**	**15 16 57.7**	**+0.2**
MT09				IAML		15 16 59.1	
comp=E,4μm,0.3s							
BO04	**La Punta**	**1.66**	**200**	*e*P	**Pn**	**15 16 36.3**	**+0.1**
BO04				*i* S	**Sn**	**15 16 59.0**	**+0.6**
BO04				IAML		15 17 01.0	
comp=N,1μm,0.4s							
CO03	**El Pedregal**	**1.70**	**338**	⇑*i*P	**Pn**	**15 16 37.1**	**+0.4**
CO03				*i* S	**Sn**	**15 17 00.8**	**+1.4**
CO03				IAML		15 17 04.2	
comp=E,2μm,0.2s							
MT01	**Popeta**	**1.81**	**217**	*i* S	**Sn**	**15 17 01.0**	**-0.5**
MT01				IAML		15 17 01.7	
comp=N,725nm,0.2s
VA05 Santo Domingo 1.87 228 *e*P **Pn 15 16 38.5 -0.1**
VA05 IAML 15 17 10.7
comp=N,1μm,0.6s
LCO Las Campanas 3.46 349 ⇑*i*P **Pn 15 16 59.0 -0.6**
LCO *i* S **Sn 15 17 39.0 -1.1**
PLCA Paso Flores 8.31 183 Pn Pn 15 18 02.2 -2.4
comp=N,0.2nm,0.3s,baz=356,slow=15,SNR=5.1
DBIC Dimbokro 73.00 70 P **P 15 27 23.9 -0.4**
comp=N,1.4nm,0.7s,baz=270,slow=4.0,SNR=1.6
TORD Torodi Ar. Bea 82.01 69 P **P 15 28 14.2 -0.2**
comp=N,0.3nm,0.4s,baz=258,slow=3.3,SNR=5.4
ASAR Alice Springs 119.76 205 PKP **PKPdf 15 34 43.5 -0.5**
comp=N,0.8nm,1.0s,baz=128,slow=1.3,SNR=3.4
WRA Warramunga Arr 122.98 207 PKP **PKPdf 15 34 50.3 +0.1**
comp=N,0.4nm,0.5s,baz=157,slow=1.7,SNR=10
H11S2 WAKE ISLAND Hyl27.55 269 T T 17 52 27.5
baz=114,slow=75,SNR=20
H11S1 WAKE ISLAND Hyl27.57 269 T T 17 52 27.8
baz=114,slow=75,SNR=38
H11S3 WAKE ISLAND Hyl27.57 269 T T 17 52 26.3
baz=114,slow=75,SNR=25
ZALV Zalesovo Beam 151.95 32 PKPbc **PKiKP 15 35 48.7 +0.6**
comp=N,4.8nm,0.4s,baz=315,slow=2.8,SNR=26
MKAR Makanchi Array 154.40 48 PKPbc **PKiKP 15 35 54.6 +1.2**
comp=N,0.1nm,0.3s,baz=15,slow=1.6,SNR=2.1
MKAR PKPab **PKPab 15 36 08.4 +0.3**
comp=N,0.5nm,0.5s,baz=280,slow=3.6,SNR=7.8

*IDC **15** 15:29:38.7±1.4,24°.55S×179°.55W,h471km±12km, mb3.7/14,mb1 3.9/17,mb1mx3.7/34,mbtmp4.5/17,Error ellipse: s-maj=17.1km s-min=13.4km az=130.0*
*NOU **15** 15:29:38.9,24°.50S×179°.21W,h511km,mb4.5/49,South of Fiji Islands*
*NEIC **15** 15:29:41.7±2.1,24°.8S±0°.1×179°.83W±0°.10,h484km±10km, mb4.7/24,Error ellipse: s-maj=19.2km s-min=11.3km az=158.0*
ISC 15 15:29:39.5±0.4,24°.67S±0°.06×179°.47W±0°.07,h490km, n186,σ1§51/201,mb4.4/37,9C-11D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.78**	**164**	P	**P**	**15 31 03.8**	**-0.1**
GLKZ				S	**S**	**15 32 05.9**	**-6.9**
MSVF	**Nonsavu**	**7.28**	**341**	P	**P**	**15 31 26.8**	**-1.6**
18nm,0.3s,baz=214,slow=8.2,SNR=78							
MSVF	**Nonsavu**	**7.28**	**341**	P	**P**	**15 31 26.9**	**-1.5**
TAVE	**Taveuni**	**7.93**	**357**	P	**P**	**15 31 34.9**	**-0.2**
DGTI	**Dogotuki**	**8.36**	**355**	P	**P**	**15 31 38.9**	**-0.7**
MARNC	**Mare, Loyalty**	**11.94**	**283**	P	**P**	**15 32 17.6**	**+0.1**
OUZ	**Omahuta**	**12.11**	**208**	P	**P**	**15 32 21.1**	**+2.0**
OUZ	**Omahuta**	**12.11**	**208**	P	**P**	**15 32 21.9**	**+2.8**
OUZ	**Omahuta**	**12.11**	**208**	P	**P**	**15 32 21.9**	**+2.8**
PINNC	**Pines Island,**	**12.17**	**277**	P	**P**	**15 32 20.7**	**+0.8**
PINNC	**Pines Island,**	**12.17**	**277**	P	**P**	**15 32 21.8**	**+1.8**
WCZ	**Waipu Caves**	**12.44**	**204**	P	**P**	**15 32 24.9**	**+2.3**
KUZ	**Kuaotunu**	**12.73**	**198**	P	**P**	**15 32 26.6**	**+0.9**
AFI	**Afiamalu**	**12.93**	**36**	P	**P**	**15 32 26.9**	**-1.2**
5.6nm,0.3s,baz=70,slow=16,SNR=5.3							
AFI				S	**S**	**15 34 43.0**	**-4.3**
10.0nm,0.3s,baz=111,slow=23,SNR=10							
MXZ	**Matakaoa Point**	**12.99**	**188**	P	**P**	**15 32 28.3**	**-0.2**
DZM	**Mont Dzumac**	**13.20**	**278**	P	**P**	**15 32 31.0**	**0.0**
1.2nm,0.3s,baz=67,slow=19,SNR=12							
DZM	**Mont Dzumac**	**13.20**	**278**	P	**P**	**15 32 31.9**	**+0.9**
HAZ	**Te Kaha**	**13.26**	**190**	P	**P**	**15 32 30.8**	**-0.5**
NOUC	**Port Laguerre**	**13.31**	**278**	P	**P**	**15 32 33.2**	**+1.0**
PKGZ	**Pakihiroa**	**13.35**	**188**	P	**P**	**15 32 34.2**	**+1.9**
PUZ	**Puketiti**	**13.50**	**188**	P	**P**	**15 32 33.4**	**-0.6**
URZ	**Urewera**	**13.86**	**191**	P	**P**	**15 32 36.3**	**-1.3**
URZ	**Urewera**	**13.86**	**191**	P	**P**	**15 32 37.0**	**-0.6**
URZ	**Urewera**	**13.86**	**191**	P	**P**	**15 32 37.1**	**-0.6**
HIZ	**Hauiti**	**14.62**	**198**	P	P	15 32 50.7	+5.0
HIZ	**Hauiti**	**14.62**	**198**	P	**P**	**15 32 47.9**	**+2.2**
BKZ	**Black Stump Fm**	**14.85**	**192**	P	**P**	**15 32 48.6**	**+0.3**
BKZ	**Black Stump Fm**	**14.85**	**192**	P	**P**	**15 32 50.5**	**+2.3**
VRZ	**Vera Road**	**15.22**	**197**	P	**P**	**15 32 56.2**	**+4.2**
BFZ	**Birch Farm**	**16.37**	**192**	P	**P**	**15 33 04.0**	**-0.1**
SNZO	**South Karori**	**17.30**	**195**	P	**P**	**15 33 13.0**	**-0.5**
QRZ	**Quartz Range**	**17.45**	**201**	P	**P**	**15 33 15.9**	**+0.9**
NNZ	**Nelson**	**17.55**	**198**	P	**P**	**15 33 15.3**	**-0.7**
NNZ				S	**S**	**15 36 12.4**	**-0.6**
BSWZ	**Blackbirch Sta**	**17.88**	**196**	P	**P**	**15 33 20.1**	**+1.0**
BSWZ				S	**S**	**15 36 19.2**	**+0.8**
BSWZ	**Blackbirch Sta**	**17.88**	**196**	P	**P**	**15 33 19.6**	**+0.5**
THZ	**Tophouse**	**18.19**	**199**	P	**P**	**15 33 21.9**	**-0.1**
THZ				S	**S**	**15 36 21.9**	**-1.7**
THZ	**Tophouse**	**18.19**	**199**	P	**P**	**15 33 22.1**	**0.0**
DSZ	**Denniston Nort**	**18.51**	**201**	P	**P**	**15 33 25.4**	**+0.4**
KHZ	**Kahutara**	**18.62**	**196**	P	**P**	**15 33 25.7**	**-0.2**
KHZ				S	**S**	**15 36 29.0**	**-1.5**
KHZ	**Kahutara**	**18.62**	**196**	P	**P**	**15 33 26.0**	**+0.1**
GVZ	**Greta Valley S**	**19.27**	**197**	P	**P**	**15 33 31.1**	**-0.8**
LTZ	**Lake Taylor**	**19.31**	**199**	P	**P**	**15 33 31.3**	**-0.9**
LTZ				S	**S**	**15 36 36.8**	**-5.1**
LTZ	**Lake Taylor**	**19.31**	**199**	P	**P**	**15 33 31.8**	**-0.5**
INZ	**Inchbonnie**	**19.51**	**200**	P	**P**	**15 33 33.9**	**-0.1**
AMCZ	**Amberley**	**19.57**	**197**	P	**P**	**15 33 34.6**	**+0.1**
OXZ	**Oxford**	**19.88**	**198**	P	**P**	**15 33 36.7**	**-0.7**
OKCZ	**Okains Bay**	**19.97**	**196**	P	**P**	**15 33 38.9**	**+0.6**
MQZ	**McQueen's Vall**	**20.06**	**197**	P	**P**	**15 33 38.9**	**-0.1**
MHCZ	**Mount Hutt**	**20.20**	**199**	P	**P**	**15 33 40.1**	**-0.3**
WACZ	**Wakanui South**	**20.50**	**198**	P	**P**	**15 33 43.3**	**+0.3**
RPZ	**Rata Peaks**	**20.53**	**200**	P	**P**	**15 33 42.4**	**-0.9**
ODZ	**Otahua Downs**	**21.86**	**199**	P	**P**	**15 33 57.0**	**+1.7**
ARMA	**Armidale**	**26.22**	**251**	P	**P**	**15 34 32.8**	**-1.8**
EIDS	**Eidsvold**	**26.68**	**262**	P	**P**	**15 34 36.8**	**-1.7**
EIDS				IAmb	IAmb	15 35 05.5	
comp=Z,72nm,1.9s							
MGCD	**Mangrove Creek**	**27.05**	**245**	P	**P**	**15 34 43.6**	**+1.9**
RMQ	**Roma**	**28.68**	**260**	P	**P**	**15 34 57.2**	**+1.1**
CMSA	**Cobar Meteorol**	**31.39**	**249**	P	**P**	**15 35 19.8**	**+0.3**
CTA	**Charters Tower**	**31.97**	**271**	P	**P**	**15 35 24.6**	**0.0**
comp=Z,13nm,0.4s,baz=95,slow=10,SNR=68							
CTA	**Charters Tower**	**31.97**	**271**	P	**P**	**15 35 24.8**	**+0.2**
CTAO	**Charters Tower**	**31.97**	**271**	P	**P**	**15 35 24.6**	**0.0**
CTAO				IAmb	IAmb	15 35 25.6	
comp=Z,26nm,0.8s							
CTAO	**Charters Tower**	**31.97**	**271**	P	**P**	**15 35 24.9**	**+0.3**
TOO	**Toolangi**	**32.45**	**238**	P	**P**	**15 35 29.3**	**+0.8**
TOO				IAmb	IAmb	15 35 47.8	
comp=Z,37nm,1.6s							
TOO	**Toolangi**	**32.45**	**238**	P	**P**	**15 35 29.7**	**+1.2**
comp=Z,8.9nm,1.1s							
QLP	**Quilpie**	**32.72**	**259**	P	**P**	**15 35 31.0**	**+0.1**
TAU	**Tasmania Unive**	**32.78**	**228**	P	**P**	**15 35 30.1**	**-1.0**
TAU	**Tasmania Unive**	**32.78**	**228**	P	**P**	**15 35 32.4**	**+1.3**
MTSU	**Mount Surprise**	**34.27**	**274**	P	**P**	**15 35 44.4**	**+0.2**
STKA	**Stephens Creek**	**34.90**	**249**	P	**P**	**15 35 49.5**	**+0.2**
comp=Z,2.5nm,0.3s,baz=93,slow=9.8,SNR=31							
STKA	**Stephens Creek**	**34.90**	**249**	P	**P**	**15 35 49.4**	**+0.2**
STKA	**Stephens Creek**	**34.90**	**249**	P	**P**	**15 35 49.6**	**+0.4**
PMG	**Port Moresby**	**35.21**	**290**	P	**P**	**15 35 50.9**	**-1.1**
comp=Z,21nm,0.9s,baz=168,slow=8.0,SNR=4.0							
COEN	**Coen**	**36.72**	**280**	P	**P**	**15 36 04.7**	**+0.1**
COEN				IAmb	IAmb	15 36 06.1	
comp=Z,26nm,1.1s							
COEN	**Coen**	**36.72**	**280**	P	**P**	**15 36 04.7**	**+0.1**
HTT	**Hallett**	**37.21**	**247**	P	**P**	**15 36 08.4**	**-0.1**
LCRK	**Leigh Creek**	**37.79**	**252**	P	**P**	**15 36 13.2**	**0.0**
QIS	**Mount Isa**	**37.91**	**268**	P	**P**	**15 36 14.6**	**+0.3**
BBOO	**Buckleboo**	**39.60**	**248**	P	**P**	**15 36 27.1**	**-0.8**
BBOO				IAmb	IAmb	15 38 10.5	
comp=Z,46nm,1.4s							
BBOO	**Buckleboo**	**39.60**	**248**	P	**P**	**15 36 27.2**	**-0.8**
OOD	**Oodnadatta**	**40.18**	**256**	P	**P**	**15 36 33.3**	**+0.6**
MULG	**Mulgathing**	**41.39**	**252**	P	**P**	**15 36 41.9**	**-0.4**
AS31	**Alice Springs**	**42.39**	**261**	P	**P**	**15 36 49.7**	**-0.7**
ASAR	**Alice Springs**	**42.40**	**261**	P	**P**	**15 36 49.8**	**-0.7**
comp=Z,13nm,0.9s,baz=85,slow=6.3,SNR=96							
ASAR				PcP	**PcP**	**15 38 33.2**	**+0.6**
comp=Z,1.4nm,0.8s,baz=102,slow=5.1,SNR=5.0							
ASAR				S	**S**	**15 42 33.0**	**-3.0**
comp=Z,0.7nm,1.1s,baz=98,slow=18,SNR=4.7							
ASAR	**Alice Springs**	**42.40**	**261**	P	**P**	**15 36 48.7**	**-1.7**
WR0	**Warramunga Arr**	**42.66**	**267**	P	**P**	**15 36 50.8**	**-1.7**
WR0				IAmb	IAmb	15 36 52.4	
comp=Z,12nm,0.8s							
WB2	**Warramunga Arr**	**42.83**	**267**	P	**P**	**15 36 52.7**	**-1.2**
WB2				IAmb	IAmb	15 36 53.8	
comp=Z,20nm,0.8s
WRAB Tennant Creek 42.84 267 P **P 15 36 52.0 -1.9**
WRAB IAmb IAmb 15 36 53.8
comp=Z,17nm,0.8s
WRAB Tennant Creek 42.84 267 P **P 15 36 53.0 -0.9**
WB0 Warramunga Arr 42.84 267 P **P 15 36 52.7 -1.2**
WB0 IAmb IAmb 15 36 53.8
comp=Z,32nm,1.1s
WRA Warramunga Arr 42.84 267 P **P 15 36 52.9 -1.1**
comp=Z,10nm,0.6s,baz=101,slow=8.3,SNR=214
WRA PcP **PcP 15 38 34.7 +0.5**
comp=Z,2.7nm,0.9s,baz=97,slow=3.7,SNR=6.3
WRA ScP **ScP 15 41 41.8 +3.5**
comp=Z,3.4nm,0.9s,baz=101,slow=4.3,SNR=14
WRA Warramunga Arr 42.84 267 P **P 15 36 51.5 -2.4**
JAY Jayapura 44.26 294 P **P 15 37 03.7 -1.4**
comp=Z,8.3nm,1.2s
GENI Genyem 44.67 293 P **P 15 37 08.3 +0.1**
FORT Forrest 46.51 250 P **P 15 37 21.0 -1.1**
FORT Forrest 46.51 250 P **P 15 37 21.1 -1.0**
KDU Kakadu 46.84 276 P **P 15 37 23.6 -1.2**
WRKA Warakurna 47.15 258 P **P 15 37 26.5 -0.6**
MTN Manton Dam 48.00 275 P **P 15 37 32.3 -1.3**
MTN Manton Dam 48.00 275 P **P 15 37 32.5 -1.0**
DRS Darwin Rock St 48.36 275 P **P 15 37 35.1 -1.2**
BAKI Biak 48.84 292 P **P 15 37 39.0 -0.8**
KNRA Kununurra 49.17 270 P **P 15 37 41.8 -0.5**
KNRA Kununurra 49.17 270 P **P 15 37 42.0 -0.3**
FAKI Fak Fak 51.27 287 P **P 15 37 56.4 -1.3**
comp=Z,15nm,1.0s
FAKI Fak Fak 51.27 287 P **P 15 37 56.3 -1.4**
SWI Sorong 53.15 289 P **P 15 38 10.6 -0.6**
comp=Z,66nm,0.9s
VNDA Vanda 53.66 185 P **P 15 38 15.8 +1.9**
comp=Z,1.7nm,0.7s,baz=9.7,slow=6.8,SNR=9.4
VNDA Vanda 53.66 185 P **P 15 38 15.7 +1.9**
MEEK Meekatharra 55.36 254 P **P 15 38 25.9 -0.9**
PSA00 Pilbara Seismi 55.51 260 P **P 15 38 25.6 -2.2**
MBWA Marble Bar 55.72 260 P **P 15 38 28.6 -0.7**
BATI Baumata 55.77 274 P **P 15 38 29.7 -0.1**
comp=Z,14nm,1.2s
BLDU Ballidu 56.20 249 P **P 15 38 31.9 -0.6**
LBMI Labuha 56.52 287 P **P 15 38 34.7 -0.2**
comp=Z,17nm,1.1s
MORW Morawa 57.07 250 P **P 15 38 37.1 -1.4**
MORW IAmb IAmb 15 39 35.3
comp=Z,46nm,1.8s
MORW Morawa 57.07 250 P **P 15 38 38.2 -0.4**
SANI Sanana 57.17 284 P **P 15 38 38.5 -0.9**
comp=Z,22nm,0.8s
TNTI Ternate 57.33 288 P **P 15 38 41.5 +1.0**
comp=Z,28nm,1.1s
MMRI Maumere 57.68 275 P **P 15 38 41.5 -1.4**
comp=Z,25nm,1.2s
EDFI Ende, Flores 58.13 275 P **P 15 38 45.7 -0.4**
comp=Z,16nm,1.1s
BKSI Bulukumba 60.95 278 P **P 15 39 04.4 -0.5**
comp=Z,27nm,0.9s
GTOI Gorontalo 61.06 285 P **P 15 39 07.1 +1.5**
QSPA South Pole Qui 65.42 180 P **P 15 39 35.5 +2.6**
QSPA IAmb IAmb 15 39 36.3
comp=Z,10.0nm,0.8s
KSM Kuching 72.72 280 P **P 15 40 16.1 -1.6**
KSM IAmb IAmb 15 40 18.4
comp=Z,24nm,0.8s
MJAR Matsushiro Arr 72.80 325 P **P 15 40 17.1 -0.6**
comp=Z,3.6nm,0.8s,baz=161,slow=5.9,SNR=7.0
KSRS Korea Array 79.14 320 P **P 15 40 53.2 +0.4**
comp=Z,2.9nm,0.7s,baz=132,slow=5.3,SNR=14
PETK Petropavlovsk- 79.96 346 P **P 15 40 56.5 -0.2**
comp=Z,5.8nm,1.0s,baz=124,slow=3.5,SNR=7.5
USRK Ussuriysk Ar. 81.67 327 P **P 15 41 06.3 +0.6**
comp=Z,3.4nm,0.8s,baz=143,slow=6.7,SNR=4.3
CN2 Changchun 84.79 323 *e*P **P 15 41 21.9 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
XAN Xi'an 89.59 308 P **P 15 41 45.8 +1.3**
XAN pP PcP 15 41 59.8 +14
XAN pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 90.25 290 P **P 15 41 49.6 +1.8**
comp=Z,3.6nm,1.0s,baz=134,slow=3.5,SNR=22
TXAR Lajitas Array 90.42 58 P **P 15 41 50.8 +2.3**
comp=Z,0.9nm,0.8s,baz=216,slow=7.0,SNR=11
ILAR Eielson Array 92.66 13 P **P 15 41 57.5 -0.3**
comp=Z,0.6nm,0.8s,baz=222,slow=5.3,SNR=5.5
PDAR Pinedale Array 92.90 44 P **P 15 42 00.3 +0.5**
comp=Z,0.2nm,0.5s,baz=266,slow=5.0,SNR=2.5
MKAR Makanchi Array 113.03 312 PKiKP **PKiKP 15 47 19.7 -0.7**
comp=Z,0.6nm,0.8s,baz=93,slow=1.5,SNR=6.5
MKAR PKKPbc **PKKPbc 15 58 11.1 +1.9**
comp=Z,0.1nm,0.3s,baz=310,slow=1.9,SNR=4.0
KURBB Kurchatov Arra 116.13 316 PKP **PKPdf 15 47 25.4 -0.8**
comp=Z,1.0nm,0.7s,baz=91,slow=2.0,SNR=12
BVAR Borovoye Array 121.33 318 PKP **PKPdf 15 47 35.9 -0.2**
comp=Z,1.5nm,0.5s,baz=114,slow=3.7,SNR=10
MATP Matopo 127.56 214 PKP **PKPdf 15 47 48.2 -1.1**
comp=Z,3.7nm,0.5s,baz=44,slow=0.1,SNR=4.9
ARU Arti 127.79 323 PKP **PKiKP 15 47 49.1 +0.1**
comp=Z,1.0nm,0.5s,baz=251,slow=24,SNR=5.6
AKTO Aktyubinsk 129.19 316 PKP **PKPdf 15 47 51.1 -0.2**
comp=Z,1.3nm,0.7s,baz=16,slow=3.0,SNR=3.9
ARCES ARCESS Array B 132.73 348 PKP **PKPdf 15 47 57.8 +0.3**
comp=Z,3.7nm,0.8s,baz=64,slow=2.8,SNR=5.4
ARCES SKPbc **SKPab 15 50 40.4 -0.4**
comp=Z,1.8nm,0.8s,baz=46,slow=5.2,SNR=4.3
BELG Belogornoye 135.04 321 PKP **PKiKP 15 48 04.1 +0.4**
comp=Z,13nm,1.0s,baz=58,slow=5.9,SNR=4.4
FINES FINESS Array B 139.32 341 PKP **PKPdf 15 48 07.7 -2.1**
comp=Z,1.2nm,0.6s,baz=41,slow=2.8,SNR=2.1
FINES SKPbc **SKiKP 15 51 00.4 -1.1**
comp=Z,2.7nm,0.8s,baz=35,slow=4.7,SNR=8.1
NB2 NORSAR Subarra142.91 351 PKP **PKPdf 15 48 13.7 -2.6**
comp=Z,1.6nm,0.8s,baz=13,slow=3.6
NOA NORSAR Array B 142.91 351 PKhKP PKPpre 15 48 13.4
comp=Z,3.2nm

KRLC	**Kraliky**	**151.66 338**	*e*PKPAB	**PKiKP**	**15 48 38.5**	**+0.4**
DRGR		**151.69 327**	‖P	**PKiKP**	**15 48 38.1**	**-0.2**
CLL	**Collm**	**151.73 343**	‖*i*PKPbc	**PKiKP**	**15 48 38.1**	**0.0**
	comp=Z,11nm,0.7s					
BRG	**Berggiesshubel**	**151.86 342**	*e*PKP	**PKiKP**	**15 48 38.4**	**0.0**
BRG			Amp		15 48 39.6	
	comp=Z,4.7nm,0.7s					
BRG			*ex*	x	15 48 49.7	
BRG			Amp		15 48 51.8	
	comp=Z,8.7nm,1.5s					
VRAC	**Vranov**	**152.38 337**	⇑P	**PKiKP**	**15 48 40.2**	**+0.7**
GZR	**Gura Zlata**	**152.61 325**	‖P	**PKPbc**	**15 48 39.8**	**-0.2**
BZS	**Buzias**	**153.05 326**	‖P	**PKiKP**	**15 48 40.9**	**-0.1**
HERR	**Herculane**	**153.14 324**	‖P	**PKPbc**	**15 48 40.1**	**-1.1**
KHC	**Kasperske Hory**	**153.52 341**	*e*PKPAB	**PKiKP**	**15 48 42.2**	**+0.2**
KHC			*ex*	x	15 48 57.4	
GERES	**GERESS Array B**	**153.74 340**	PKPbc	**PKPbc**	**15 48 42.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=72,slow=4.3,SNR=3.8					
VTS	**Vitosha**	**154.10 319**	‖P	**PKPab**	**15 49 00.7**	**+1.1**
VTS	**Vitosha**	**154.10 319**		**PKPab**	**15 49 00.9**	**+1.3**
DAVOX	**Davos/Dischmat**	**156.70 344**	PKPab	**PKPab**	**15 49 10.1**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=327,slow=10,SNR=5.2					
TORD	**Torodi Ar. Bea**	**168.49 186**	PKP	**PKPdf**	**15 48 49.9**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=252,slow=2.9,SNR=5.9					
TORD			PKPab	**PKPab**	**15 50 03.3**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=167,slow=3.5,SNR=4.8					

*NEIC **15** 15:30:10.6±1.3, 41°.72N×0°.02×110°.61W±0°.02, h0km±2km, ML2.6/32, Error ellipse: s-maj=4.3km s-min=3.0km az=200.0*
*IDC **15** 15:30:11.9±1.3, 41°.85N×110°.72W, h0km, mb2.7/1, mb1 3.1/3, mb1mx3.0/60, mbtmp2.7/3, ML2.0/2, Error ellipse: s-maj=31.1km s-min=5.6km az=146.0*

ISC 15 15:30:10.2±0.9, 41°.71N±0°.03×110°.54W±0°.05, h0km, n24, σ1°.01/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**1.13**	**339**		**Pg**	**15 30 31.8**	**-0.1**
AHID				IAML		15 30 53.2	
	146nm,0.6s						
AHID				IAML		15 30 54.3	
	153nm,0.5s						
BW06	**Boulder Array**	**1.28**	**34**		**Pn**	**15 30 35.7**	**+0.2**
PD31	**Pinedale Array**	**1.28**	**34**		**Pn**	**15 30 35.7**	**+0.1**
PDAR	**Pinedale Array**	**1.28**	**34**	Pg	**Pn**	**15 30 35.8**	**+0.1**
	2.7nm,0.3s,baz=215,slow=16,SNR=144						
PDAR				Lg	Lg	15 30 53.0	
	4.8nm,0.3s,baz=215,slow=25,SNR=8.5						
PDAR	**Pinedale Array**	**1.28**	**34**		**Pb**	**15 30 35.5**	**+0.2**
JLU	**Jordanelle**	**1.31**	**212**		**Pg**	**15 30 34.5**	**-0.7**
JLU				IAML		15 30 58.0	
	comp=E,117nm,0.8s						
JLU				IAML		15 31 00.4	
	comp=N,85nm,0.6s						
RDMU	**Red Mountain**	**1.35**	**147**	Pn	**Pb**	**15 30 36.9**	**+0.3**
RDMU				IAML		15 31 00.9	
	comp=E,80nm,0.7s						
CTU	**Camp Tracy**	**1.37**	**222**		**Pg**	**15 30 35.8**	**-0.6**
CTU				IAML		15 31 02.9	
	comp=N,96nm,0.8s						
CTU				IAML		15 31 03.8	
	comp=E,94nm,0.7s						
ECR	**Eagle Creek**	**1.48**	**336**		**Pg**	**15 30 38.4**	**-0.1**
REDW	**Red Top Meadow**	**1.67**	**352**		**Pb**	**15 30 41.5**	**-0.4**
REDW				IAML		15 31 16.0	
	comp=E,93nm,1.3s						
HVU	**Hansel Valley**	**1.68**	**273**		**Pn**	**15 30 40.3**	**-0.6**
LOHW	**Long Hollow**	**1.90**	**359**		**Pn**	**15 30 43.9**	**-0.2**
LOHW				IAML		15 31 18.4	
	comp=E,45nm,0.8s						
BGU	**Big Grassy Mou**	**2.04**	**248**		**Pn**	**15 30 45.4**	**-0.5**
MOOW	**Moose Ponds**	**2.04**	**356**	Pn	**Pn**	**15 30 46.8**	**+0.8**
P18A	**Preston Nutter**	**2.09**	**174**		**Pb**	**15 30 49.3**	**+0.1**
P18A				IAML		15 31 27.7	
	comp=E,30nm,0.7s						
P18A				IAML		15 31 34.6	
	comp=N,31nm,1.4s						
P17A	**Butcher Ranch,**	**2.24**	**184**		**Pn**	**15 30 49.3**	**+0.6**
P17A				IAML		15 31 28.4	
	comp=E,38nm,0.8s						
DUG	**Dugway, Tooele**	**2.29**	**229**		**Pn**	**15 30 49.5**	**+0.1**
DUG				IAML		15 31 28.9	
	comp=E,27nm,0.6s						
DUG				IAML		15 31 31.1	
	comp=E,29nm,0.8s						
O20A	**White River Ci**	**2.35**	**131**		**Pb**	**15 30 52.5**	**-1.0**
TMUT	**Trail Mountain**	**2.47**	**192**		**Pn**	**15 30 53.1**	**+1.1**
TMUT				IAML		15 31 32.5	
	comp=E,44nm,0.7s						
TMUT				IAML		15 31 37.4	
	comp=N,39nm,0.6s						
RWWY	**Rawlins**	**2.49**	**89**		**Pn**	**15 30 52.9**	**+0.6**
MSU	**Marysvale**	**3.44**	**202**	Pn	**Pn**	**15 31 05.5**	**+0.3**
ELK	**Elko**	**3.67**	**256**	Pn	**Pn**	**15 31 09.8**	**+1.3**
	comp=N,0.1nm,0.3s,baz=65,slow=14,SNR=1.8						
ELK				Pg	**Pb**	**15 31 15.3**	**-0.8**
	comp=N,0.2nm,0.3s,baz=56,slow=11,SNR=13						
ELK				Lg	Lg	15 32 05.0	
	comp=N,0.4nm,0.3s,baz=196,slow=23,SNR=6.2						
NVAR	**Mina Array Bea**	**6.80**	**244**	Pn	**Pn**	**15 31 55.2**	**+3.8**
	comp=N,0.1nm,0.3s,baz=60,slow=15,SNR=5.3						
YKA	**Yellowknife Ar**	**20.95**	**355**	P	**P**	**15 34 54.4**	**0.0**
	comp=N,0.3nm,0.7s,baz=172,slow=11,SNR=3.9						

IDC 15 15:39:30.7±39.0, 24°.71S×179°.84W, h520km±161km, mb2.9/5, mb1 3.1/6, mb1mx2.7/35, mbtmp3.9/6, Error ellipse: s-maj=487.3km s-min=107.0km az=84.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.87**	**279**	P	P	15 42 17.8	-0.7
	0.4nm,0.3s,baz=118,slow=16,SNR=2.3						
CTA	**Charters Tower**	**31.63**	**272**	P	P	15 45 11.7	+0.7
	3.0nm,0.4s,baz=88,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**34.56**	**249**	P	P	15 45 36.0	+0.3
	1.8nm,0.8s,baz=90,slow=10,SNR=2.2						
ASAR	**Alice Springs**	**42.05**	**261**	P	P	15 46 37.0	+0.3
	0.3nm,0.5s,baz=95,slow=7.9,SNR=16						
WRA	**Warramunga Arr**	**42.50**	**267**	P	P	15 46 39.8	-0.6
	0.3nm,0.3s,baz=106,slow=8.5,SNR=22						
FITZ	**Fitzroy Crossi**	**50.92**	**266**	P	P	15 47 42.6	-1.3
	0.4nm,0.4s,baz=113,slow=7.7,SNR=1.2						

*IDC **15** 15:43:09.8±3.3, 13°.20N×124°.52E, h0km, mb3.3/3, mb1 3.5/3, mb1mx2.8/66, mbtmp3.3/3, Error ellipse: s-maj=262.0km s-min=29.2km az=64.0*
*MAN **15** 15:43:22.0, 13°.15N×124°.06E, h108km, mb4.6, ML3.5, MS3.4*

ISC 15 15:43:21.8±1.2, 13°.22N±0°.08×124°.2E±0°.1, h100km, n15, σ1°.28/19, mb3.4/3, 8C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCNP	**Jose Panganiba**	**1.77**	**307**	⇑*i*P	**Pn**	**15 43 52.4**	**+1.0**
JCNP				*i* S	**Sn**	**15 44 14.4**	**+0.5**
GQP	**Guinayangan**	**1.79**	**293**	⇑*i*P	**Pn**	**15 43 52.2**	**+0.4**
GQP				*i* S	**Sn**	**15 44 15.4**	**+0.9**
RCP	**Roxas**	**2.15**	**220**	‖*e*P	**Pn**	**15 43 55.5**	**-0.8**
OCLP	**Ormoc**	**2.20**	**168**	‖*e*P	**Pn**	**15 43 58.3**	**+1.3**
BOAC	**Boac**	**2.26**	**276**	⇑*e*P	**Pn**	**15 43 58.2**	**+0.4**
BOAC				*e*S	Sn	15 44 11.9	-13
LQP	**Lukban**	**2.69**	**290**	⇑*e*P	**Pn**	**15 44 04.0**	**+0.4**
SJMP	**San Jose**	**3.05**	**256**	‖*e*P	**Pn**	**15 44 09.8**	**+1.6**
PGP	**Puerto Galera**	**3.13**	**276**	⇑*e*P	**Pn**	**15 44 09.2**	**-0.1**
MSLP	**Maasin**	**3.14**	**167**	⇑*e*P	**Pn**	**15 44 11.0**	**+1.5**
MSLP				*e*S	**Sn**	**15 44 47.4**	**+1.1**
CNOP	**Candoni, Negro**	**3.68**	**204**	⇑*e*P	**Pn**	**15 44 16.5**	**-0.2**
PCPH	**Palayan**	**3.77**	**309**	‖*e*P	**Pn**	**15 44 17.6**	**-0.3**
PCPH				*e*S	**Sn**	**15 44 59.2**	**-2.1**
BUTP	**Butuan**	**4.46**	**161**	⇑*e*P	**Pn**	**15 44 26.2**	**-1.1**
WRA	**Warramunga Arr**	**34.44**	**163**	P	**P**	**15 49 57.5**	**-2.5**
	0.2nm,0.4s,baz=345,slow=9.1,SNR=7.0						
ASAR	**Alice Springs**	**37.88**	**165**	P	**P**	**15 50 28.4**	**-0.9**
	0.4nm,0.4s,baz=342,slow=6.7,SNR=17						
MKAR	**Makanchi Array**	**48.44**	**322**	P	**P**	**15 51 55.7**	**+1.6**
	0.2nm,0.6s,baz=125,slow=7.2,SNR=2.7						

IDC 15 15:44:39.6±3.2, 2°.02S×12°.97W, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.6/61, mbtmp4.1/6, ML3.4/1, Error ellipse: s-maj=103.0km s-min=56.1km az=137.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**5.97**	**195**	T	T	15 53 27.5	
	baz=9.5,slow=74,SNR=129						
H10N1	**ASCENSION HYDR**	**5.98**	**194**	T	T	15 53 26.0	
	baz=9.5,slow=74,SNR=278						
H10N3	**ASCENSION HYDR**	**5.98**	**195**	T	T	15 53 26.3	
	baz=9.5,slow=74,SNR=145						
H10S3	**ASCENSION HYDR**	**7.09**	**194**	T	T	15 54 50.6	
	SNR=9.1						
H10S2	**ASCENSION HYDR**	**7.09**	**194**	T	T	15 54 48.7	
DBIC	**Dimbokro**	**11.84**	**43**	Pn	Pn	15 47 28.4	-1.3
	0.2nm,0.3s,baz=228,slow=11,SNR=1.9						
DBIC				Sn	Sn	15 49 29.4	-13
	0.8nm,0.3s,baz=152,slow=20,SNR=4.6						
TORD	**Torodi Ar. Bea**	**20.95**	**44**	P	P	15 49 24.9	+0.6
	4.3nm,0.5s,baz=232,slow=11,SNR=29						
DAVOX	**Davos/Dischmat**	**52.59**	**20**	P	P	15 53 55.5	+0.1
	1.8nm,0.6s,baz=198,slow=9.0,SNR=3.9						
GERES	**GERESS Array B**	**55.69**	**21**	P	P	15 54 17.6	-0.2
	1.1nm,0.7s,baz=205,slow=5.9,SNR=5.6						
HFS	**Hagfors**	**65.37**	**14**	P	P	15 55 23.4	-0.2
	1.1nm,0.6s,baz=165,slow=6.2,SNR=5.2						
FINES	**FINESS Array B**	**69.98**	**19**	P	P	15 55 52.8	+0.1
	1.7nm,0.9s,baz=213,slow=6.6,SNR=5.3						
ASAR	**Alice Springs**	**138.89**	**130**	PKP	PKPdf	16 04 06.8	-2.1
	0.3nm,0.9s,baz=228,slow=2.4,SNR=4.6						
WRA	**Warramunga Arr**	**141.21**	**126**	PKP	PKPdf	16 04 14.4	+1.1
	0.3nm,0.7s,baz=241,slow=2.8,SNR=2.1						

IDC 15 15:57:12.4±799.0, 52°.57N×34°.11E, h0km, Error ellipse: s-maj=331.4km s-min=100.8km az=27.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.53**	**22**	*i*		16 24 50.0	
	baz=205,slow=329,SNR=1.5						
I31KZ	**AKTYUBINSK INF**	**15.04**	**89**	*i*		17 24 40.0	
	baz=292,slow=309,SNR=10						
I46RU	**ZALESOVO INFRA**	**29.84**	**67**	*i*		19 02 37.6	
	baz=282,slow=340						

*JMA **15** 16:08:29.7, 23°.83N×121°.75E, h52km±1km, M2.7*
*TAP **15** 16:08:30.5, 23°.86N×121°.79E, h44km, ML3.3, B*

ISC 15 16:08:30.7±1.2, 23°.86N±0°.02×121°.79E±0°.02, h44km±5km, n126, σ0°.91/236, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.18**	**272**	P	**Pn**	**16 08 38.4**	**+0.2**
	baz=283						
TEYL				*e*S	**Sn**	**16 08 44.2**	**+0.8**
	baz=283						
HWA	**Hwalien**	**0.20**	**304**	P	**Pn**	**16 08 38.8**	**+0.4**
	baz=305						
HWA				*e*S	**Sn**	**16 08 45.4**	**+1.5**
	baz=305						
TWD	**Chiawan**	**0.28**	**321**	P	**Pn**	**16 08 39.1**	**0.0**
	baz=322						
TWD				S	**Sn**	**16 08 45.4**	**+0.4**
	baz=322						
ESL	**Shilin**	**0.33**	**262**	P	**Pn**	**16 08 39.5**	**-0.2**
	baz=260						
ESL				*e*S	**Sn**	**16 08 45.2**	**-0.7**
	baz=260						
ETL	**Fush Village**	**0.33**	**333**	*e*P	**Pn**	**16 08 39.8**	**+0.1**
	baz=333						
ETL				*e*S	**Sn**	**16 08 46.5**	**+0.6**
	baz=333						
NACB	**Ninganchiao**	**0.36**	**330**	P	**Pn**	**16 08 39.8**	**-0.1**
	baz=330						
NACB				*e*S	**Sn**	**16 08 47.4**	**+1.0**
	baz=330						
EGFH	**Guangfu**	**0.38**	**240**	*e*P	**Pn**	**16 08 40.1**	**-0.1**
	baz=239						
EGFH				*e*S	**Sn**	**16 08 47.2**	**+0.3**
	baz=239						
ETLH	**Xiulin Townshi**	**0.44**	**321**	P	**Pn**	**16 08 40.9**	**-0.1**
	baz=320						
ETLH				*e*S	**Sn**	**16 08 48.5**	**+0.2**
	baz=320						
EHP	**Heping Village**	**0.45**	**354**	*e*P	**Pn**	**16 08 41.2**	**+0.2**
	baz=355						
EHP				*e*S	**Sn**	**16 08 49.1**	**+0.9**
	baz=355						
HGSD	**Ruisui**	**0.50**	**222**	*e*P	**Pn**	**16 08 41.8**	**+0.2**
	baz=221						
HGSD				*e*S	**Sn**	**16 08 50.3**	**+1.0**
	baz=221						
WHF	**Hehuan Shan**	**0.56**	**300**	P	**Pn**	**16 08 42.5**	**-0.3**
	baz=300						
WHF				*e*S	**Sn**	**16 08 51.2**	**-0.1**
	baz=300						
EHY	**Hungye**	**0.56**	**230**	P	**Pn**	**16 08 41.7**	**-0.7**
	baz=229						
EHY				*e*S	**Sn**	**16 08 49.8**	**-0.8**
	baz=229						
ENA	**Nanau**	**0.56**	**355**	P	**Pn**	**16 08 42.5**	**+0.1**
	baz=356						
ENA				*e*S	**Sn**	**16 08 51.6**	**+0.8**
	baz=356						
OWD	**Renai**	**0.57**	**279**	P	**Pn**	**16 08 42.8**	**+0.1**
	baz=279						
OWD				*e*S	**Sn**	**16 08 51.2**	**+0.1**
	baz=279						
EWUT	**Wuta**	**0.58**	**359**	*e*P	**Pn**	**16 08 42.7**	**0.0**
	baz=359						
EWUT				*e*S	**Sn**	**16 08 51.4**	**+0.2**
	baz=359						
CHGB	**Renai**	**0.60**	**289**	P	**Pn**	**16 08 43.3**	**+0.2**
	baz=289						
CHGB				*e*S	**Sn**	**16 08 52.5**	**+0.6**
	baz=289						
VWDT	**VWDT**	**0.60**	**260**	P	**Pn**	**16 08 43.2**	**+0.2**
	baz=259						
VWDT				*e*S	**Sn**	**16 08 51.9**	**+0.2**
	baz=259						
FUSS	**Fushou**	**0.63**	**308**	P	**Pn**	**16 08 43.7**	**+0.1**
	baz=307						
FUSS				*e*S	**Sn**	**16 08 53.0**	**+0.3**
	baz=307						
YULB	**Yu-li**	**0.65**	**224**	*e*P	**Pn**	**16 08 42.8**	**-0.8**
	baz=223						
YULB				*e*S	**Sn**	**16 08 52.0**	**-0.8**
	baz=223						
EYUL	**Yuli**	**0.67**	**220**	*e*P	**Pn**	**16 08 44.2**	**+0.4**
	baz=219						
EYUL				*e*S	**Sn**	**16 08 53.9**	**+0.6**
	baz=219						
NNS	**Nan Shan**	**0.69**	**327**	P	**Pn**	**16 08 44.3**	**+0.1**
	baz=327						
NNS				S	**Sn**	**16 08 54.3**	**+0.3**
	baz=327						
TDCB	**Techi**	**0.70**	**304**	P	**Pn**	**16 08 44.7**	**+0.3**
	baz=304						
TDCB				*e*S	**Sn**	**16 08 54.6**	**+0.5**
	baz=304						
SSLB	**Suanglung**	**0.77**	**265**	P	**Pn**	**16 08 45.0**	**-0.2**
	baz=264						
SSLB				*e*S	**Sn**	**16 08 55.7**	**0.0**
	baz=264						
NDS	**Dongshan**	**0.77**	**355**	P	**Pn**	**16 08 45.8**	**+0.5**
	baz=355						
NDS				*e*S	**Sn**	**16 08 56.4**	**+0.7**
	baz=355						
NDT	**Datong Townshi**	**0.78**	**341**	P	**Pn**	**16 08 45.7**	**+0.4**
	baz=341						
NDT				*e*S	**Sn**	**16 08 56.7**	**+0.7**
	baz=341						
ENTT	**Nioudou**	**0.80**	**345**	P	**Pn**	**16 08 46.0**	**+0.3**
	baz=345						
ENTT				*e*S	**Sn**	**16 08 56.9**	**+0.5**
	baz=345						
FULB	**Fuli**	**0.80**	**215**	*e*P	**Pn**	**16 08 46.0**	**+0.3**
	baz=214						
FULB				*e*S	**Sn**	**16 08 57.4**	**+0.8**
	baz=214						
SMLT	**Sun Moon Lake**	**0.81**	**272**	P	**Pn**	**16 08 46.3**	**+0.4**
	baz=271						
SMLT				*e*S	**Sn**	**16 08 58.1**	**+1.1**
	baz=271						
WCS	**Beigang Elemen**	**0.83**	**284**	*e*P	**Pn**	**16 08 45.9**	**-0.1**
	baz=283						
CHKT	**Chengkung**	**0.85**	**207**	*e*P	**Pn**	**16 08 46.8**	**+0.4**
	baz=206						
TYC	**Yuchr**	**0.85**	**273**	P	**Pn**	**16 08 46.6**	**+0.2**
	baz=272						
TYC				*e*S	**Sn**	**16 08 58.8**	**+1.1**
	baz=272						
TWE	**Neicheng**	**0.86**	**353**	P	**Pn**	**16 08 46.9**	**+0.4**
	baz=353						
TWE				*e*S	**Sn**	**16 08 57.9**	**0.0**
	baz=353						
WHP	**Taichung City**	**0.88**	**298**	P	**Pn**	**16 08 47.5**	**+0.8**
	baz=298						
WHP				*e*S	**Sn**	**16 09 00.4**	**+2.0**
	baz=298						
YHNB	**Yeheng**	**0.89**	**335**	P	**Pn**	**16 08 47.3**	**+0.4**
	baz=335						
YHNB				*e*S	**Sn**	**16 08 58.9**	**+0.3**
	baz=335						
ILA	**Ilan**	**0.90**	**358**	*e*P	**Pn**	**16 08 47.4**	**+0.5**
	baz=358						
ILA				*e*S	**Sn**	**16 08 60.0**	**+1.2**
	baz=358						
NSK	**Sanguang**	**0.90**	**334**	*e*P	**Pn**	**16 08 47.3**	**+0.3**
	baz=334						
NSK				*e*S	**Sn**	**16 08 59.1**	**+0.2**
	baz=334						
NWLT	**Wulai**	**0.95**	**344**	P	**Pn**	**16 08 47.8**	**+0.1**
	baz=344						
NWLT				*e*S	**Sn**	**16 09 00.2**	**+0.2**
	baz=344						
ALS	**Alishan**	**0.97**	**249**	P	**Pn**	**16 08 48.5**	**+0.3**
	baz=248						
ALS				*e*S	**Sn**	**16 09 01.8**	**+0.9**
	baz=248						
WJS	**Zhushan**	**0.97**	**268**	*e*P	**Pn**	**16 08 49.0**	**+1.0**
	baz=267						
WJS				*e*S	**Sn**	**16 09 02.5**	**+1.9**
	baz=267						
ELDTW	**Lidau**	**0.98**	**227**	*e*P	**Pn**	**16 08 47.8**	**-0.4**
	baz=226						
NFF	**Wufeng Townshi**	**0.98**	**321**	P	**Pn**	**16 08 48.8**	**+0.7**
	baz=321						
NFF				*e*S	**Sn**	**16 09 01.9**	**+1.0**
	baz=321						
EGS		**0.99**	**8**	*e*P	**Pn**	**16 08 49.0**	**+0.9**
	baz=8.0						
EGS				*e*S	**Sn**	**16 09 02.3**	**+1.4**
	baz=8.0						
NTC	**Toucheng**	**0.99**	**2**	P	**Pn**	**16 08 48.7**	**+0.5**
	baz=2.0						
NTC				*e*S	**Sn**	**16 09 01.9**	**+0.9**
	baz=2.0						
EDH	**Donghe**	**0.99**	**207**	*e*P	**Pn**	**16 08 48.7**	**+0.5**
	baz=206						
EDH				*e*S	**Sn**	**16 08 60.0**	**-1.1**
	baz=206						
WNT	**Mingjian**	**1.01**	**271**	*e*P	**Pn**	**16 08 49.6**	**+1.1**
	baz=270						
WNT				*e*S	**Sn**	**16 09 02.7**	**+1.1**
	baz=270						
TWQ1	**Liyutan**	**1.05**	**298**	*e*P	**Pn**	**16 08 49.6**	**+0.6**
	baz=297						
TWQ1				*e*S	**Sn**	**16 09 04.1**	**+1.7**
	baz=297						
NSTT	**Nanjuang**	**1.05**	**317**	*e*P	**Pn**	**16 08 50.4**	**+1.3**
	baz=317						
NSTT				*e*S	**Sn**	**16 09 03.2**	**+0.7**
	baz=317						
LIOB	**Emei**	**1.05**	**318**	*e*P	**Pn**	**16 08 50.4**	**+1.3**
	baz=318						
LIOB				*e*S	**Sn**	**16 09 03.7**	**+1.1**
	baz=318						
CHN5	**Tsauling**	**1.05**	**256**	P	**Pn**	**16 08 49.7**	**+0.6**
	baz=255						
CHN5				*e*S	**Sn**	**16 09 03.6**	**+0.9**
	baz=255						
TCU	**Taichung**	**1.06**	**286**	*e*P	**Pn**	**16 08 49.5**	**+0.4**
	baz=285						
TCU				*e*S	**Sn**	**16 09 03.5**	**+0.9**
	baz=285						
TIPB	**Shuangxi**	**1.10**	**2**	*e*P	**Pn**	**16 08 50.9**	**+1.1**
	baz=1.0						
TIPB				*e*S	**Sn**	**16 09 04.8**	**+0.9**
	baz=1.0						
NHDH	**Xindian Distri**	**1.12**	**348**	*e*P	**Pn**	**16 08 50.5**	**+0.5**
	baz=347						
NHDH				*e*S	**Sn**	**16 09 05.2**	**+0.9**
	baz=347						
TWA	**Mucha**	**1.13**	**350**	P	**Pn**	**16 08 50.7**	**+0.6**
	baz=350						
TWA				*e*S	**Sn**	**16 09 05.6**	**+1.1**
	baz=350						
LONT	**Longtian**	**1.13**	**213**	*e*P	**Pn**	**16 08 50.5**	**+0.4**
	baz=212						
LONT				*e*S	**Sn**	**16 09 04.6**	**+0.2**
	baz=212						
NMLH	**Miaoli**	**1.13**	**307**	*e*P	**Pn**	**16 08 50.6**	**+0.5**
	baz=306						
NMLH				*e*S	**Sn**	**16 09 05.5**	**+1.0**
	baz=306						
WCHH	**Zhanghua**	**1.15**	**281**	*e*P	**Pn**	**16 08 51.3**	**+0.9**
	baz=280						
WCHH				*e*S	**Sn**	**16 09 06.5**	**+1.6**
	baz=280						
TWB1	**Santiao Chiao**	**1.15**	**9**	P	**Pn**	**16 08 51.1**	**+0.7**
	baz=9.0						
TWB1				*e*S	**Sn**	**16 09 05.8**	**+0.8**
	baz=9.0						
WDJ	**Dajia District**	**1.16**	**295**	*e*P	**Pn**	**16 08 50.9**	**+0.4**
	baz=294						
WDJ				*e*S	**Sn**	**16 09 06.7**	**+1.6**
	baz=294						
STYH	**Taoyuan**	**1.16**	**234**	*e*P	**Pn**	**16 08 50.9**	**+0.4**
	baz=233						
STYH				*e*S	**Sn**	**16 09 05.7**	**+0.6**
	baz=233						
WDLH	**Douliu**	**1.16**	**262**	*e*P	**Pn**	**16 08 51.1**	**+0.6**
	baz=261						
WDLH				*e*S	**Sn**	**16 09 06.5**	**+1.3**
	baz=261						
HSN	**Hsinchu**	**1.20**	**321**	*e*P	**Pn**	**16 08 51.6**	**+0.6**
	baz=323						
HSN				*e*S	**Sn**	**16 09 07.1**	**+1.0**
	baz=323						
NWF	**Wu-fen Shan**	**1.20**	**360**	*e*P	**Pn**	**16 08 52.1**	**+0.9**
	baz=359						
NWF				*e*S	**Sn**	**16 09 07.3**	**+0.9**
	baz=359						
TPUB	**Ta-pu**	**1.20**	**242**	*e*P	**Pn**	**16 08 52.1**	**+1.0**
	baz=242						
TPUB				*e*S	**Sn**	**16 09 07.3**	**+1.0**
	baz=242						
JYNG	**Yonagunijimaku**	**1.21**	**61**	S	**Sn**	**16 09 06.8**	**+0.5**
TWGBT	**Beinan**	**1.23**	**212**	*e*P	**Pn**	**16 08 51.1**	**-0.4**
	baz=211						
TWGBT				*e*S	**Sn**	**16 09 06.0**	**-0.9**
	baz=211						
NCUH	**Zhongli**	**1.23**	**333**	*e*P	**Pn**	**16 08 52.3**	**+0.8**
	baz=333						
NCUH				*e*S	**Sn**	**16 09 08.0**	**+1.0**
	baz=333						
TWG	**Pinlang**	**1.23**	**213**	*e*P	**Pn**	**16 08 50.9**	**-0.6**
	baz=211						
TWG				*e*S	**Sn**	**16 09 06.9**	**0.0**
	baz=211						
NCU	**National Centr**	**1.23**	**334**	*e*

YOJ				*e*S	Sn	16 09 08.1	+0.3
	baz=61						
TWS1	**Kuangyinshan**	**1.28**	**345**	*e*P	Pn	16 08 52.8	+0.6
	baz=345						
TWS1				*e*S	Sn	16 09 08.9	+0.9
	baz=345						
YM01	**YM01**	**1.29**	**351**	*e*P	Pn	16 08 52.9	+0.5
	baz=351						
YM01				*e*S	Sn	16 09 09.3	+0.8
	baz=351						
WRL	**Guolierlin Hig**	**1.29**	**272**	*e*P	Pn	16 08 52.9	+0.6
	baz=271						
WRL				*e*S	Sn	16 09 09.3	+0.8
	baz=271						
WTK	**Tuku**	**1.30**	**263**	*e*P	Pn	16 08 53.2	+0.9
	baz=262						
WTK				*e*S	Sn	16 09 09.9	+1.4
	baz=262						
CHY	**Chiayi**	**1.30**	**254**	*e*P	Pn	16 08 53.0	+0.6
	baz=253						
CHY				*e*S	Sn	16 09 09.6	+0.9
	baz=253						
NTST	**Danshui**	**1.33**	**347**	*e*P	Pn	16 08 53.2	+0.4
	baz=346						
NTST				*e*S	Sn	16 09 10.5	+1.1
	baz=346						
TWK	**Hsinying**	**1.33**	**244**	*e*P	Pn	16 08 53.9	+0.9
	baz=243						
TWK				*e*S	Sn	16 09 11.0	+1.4
	baz=243						
ANP	**Anpu**	**1.34**	**349**	*e*P	Pn	16 08 53.7	+0.6
	baz=349						
ANP				*e*S	Sn	16 09 10.4	+0.6
	baz=349						
CHN1	**Nanshi**	**1.34**	**240**	*e*P	Pn	16 08 53.8	+0.7
	baz=239						
CHN1				*e*S	Sn	16 09 10.6	+1.0
	baz=239						
SNST	**Tainan City**	**1.35**	**242**	*e*P	Pn	16 08 54.0	+0.9
	baz=241						
SNST				*e*S	Sn	16 09 11.2	+1.4
	baz=241						
SGST	**Jiashian**	**1.35**	**235**	*e*P	Pn	16 08 53.5	+0.3
	baz=234						
SGST				*e*S	Sn	16 09 10.8	+0.8
	baz=234						
SLGT	**Liugui**	**1.36**	**231**	*e*P	Pn	16 08 54.1	+0.8
	baz=230						
SLGT				*e*S	Sn	16 09 10.8	+0.6
	baz=230						
WTCT	**Ta-ch'eng**	**1.38**	**270**	*e*P	Pn	16 08 54.0	+0.5
	baz=269						
WTCT				*e*S	Sn	16 09 12.4	+1.8
	baz=269						
TWY	**Chenhua**	**1.42**	**353**	*e*P	Pn	16 08 54.5	+0.4
	baz=353						
WSF	**Szhu**	**1.45**	**261**	*e*P	Pn	16 08 55.3	+0.8
	baz=261						
WSF				*e*S	Sn	16 09 14.0	+1.6
	baz=261						
WSL	**Shuilin Townsh**	**1.47**	**257**	*e*P	Pn	16 08 55.4	+0.6
	baz=256						
WSL				*e*S	Sn	16 09 14.1	+1.3
	baz=256						
ICHU	**Yijhu**	**1.47**	**250**	*e*P	Pn	16 08 55.7	+0.9
	baz=250						
ICHU				*e*S	Sn	16 09 13.9	+1.0
	baz=250						
ECL	**Taimali**	**1.48**	**212**	*e*P	Pn	16 08 55.6	+0.8
	baz=211						
SSD	**Sandimen**	**1.54**	**224**	*e*P	Pn	16 08 56.6	+0.9
	baz=223						
SSD				*e*S	Sn	16 09 15.2	+0.7
	baz=223						
TSMG	**Majia**	**1.56**	**223**	*e*P	Pn	16 08 57.3	+1.3
	baz=222						
TSMG				*e*S	Sn	16 09 16.5	+1.5
	baz=222						
SHHT	**Tainan City**	**1.57**	**238**	*e*P	Pn	16 08 57.6	+1.5
	baz=237						
MASBT	**Mashibuluo**	**1.64**	**221**	*e*P	Pn	16 08 57.8	+0.7
	baz=220						
MASBT				*e*S	Sn	16 09 18.1	+1.1
	baz=220						
SGLT	**Jiouru**	**1.65**	**227**	*e*P	Pn	16 08 57.9	+0.7
	baz=226						
EAST	**Anshuo**	**1.71**	**211**	*e*P	Pn	16 08 59.7	+1.6
	baz=210						
TAW	**Tawu**	**1.71**	**209**	*e*P	Pn	16 08 58.2	+0.2
	baz=208						
TAW				*e*S	Sn	16 09 18.1	-0.6
	baz=208						
TAWH	**Dawu Township**	**1.73**	**209**	*e*P	Pn	16 08 58.6	+0.3
	baz=208						
SSPT	**Xinbi**	**1.77**	**220**	*e*P	Pn	16 08 59.8	+0.9
	baz=219						
LAY	**Lan-yu**	**1.83**	**187**	*e*P	Pn	16 09 00.2	+0.4
	baz=186						
IRIF	**Iriomote-Funau**	**1.83**	**75**	P	Pn	16 09 00.7	+1.0
IRIF				S	Sn	16 09 22.4	+0.7
SCZT	**Fangliau**	**1.83**	**216**	*e*P	Pn	16 09 00.6	+0.8
	baz=215						
HATJ	**Hateruma jima**	**1.85**	**84**	P	Pn	16 09 00.2	+0.2
HATJ				S	Sn	16 09 22.2	0.0
LYUB	**Lan-yu**	**1.86**	**186**	*e*P	Pn	16 09 00.8	+0.6
	baz=185						
SLIU	**Shizi**	**1.88**	**209**	*e*P	Pn	16 09 01.2	+0.8
	baz=209						
SLIU				*e*S	Sn	16 09 23.8	+0.9
	baz=209						
SMST	**Manzhou Townsh**	**2.03**	**206**	*e*P	Pn	16 09 03.5	+1.0
	baz=205						
SMST				*e*S	Sn	16 09 26.9	+0.3
	baz=205						
WDGT	**Dungji**	**2.04**	**253**	*e*P	Pn	16 09 03.0	+0.4
	baz=252						
WDGT				*e*S	Sn	16 09 26.6	-0.3
	baz=252						
JKRS	**Kuro-shima**	**2.06**	**79**	P	Pn	16 09 03.4	+0.5
JKRS				S	Sn	16 09 27.4	0.0
PHUB	**P'eng-hu**	**2.06**	**261**	*e*P	Pn	16 09 03.0	+0.1
	baz=260						
PHUB				*e*S	Sn	16 09 27.4	+0.1
	baz=260						
PNG	**Penghu**	**2.07**	**262**	*e*P	Pn	16 09 03.3	+0.4
	baz=261						
PNG				*e*S	Sn	16 09 27.4	-0.1
	baz=261						
TWKBT	**Hengchun**	**2.12**	**205**	*e*P	Pn	16 09 04.5	+0.9
	baz=205						
TWKBT				*e*S	Sn	16 09 28.9	+0.2
	baz=205						
TWK1	**Hengchun**	**2.12**	**206**	*e*S	Sn	16 09 28.8	+0.1
	baz=205						
JIJ	**Ishigaki jima**	**2.21**	**76**	P	Pn	16 09 04.8	-0.1
JIJ				S	Sn	16 09 29.3	-1.6
VCHM	**Qimei**	**2.26**	**254**	*e*P	Pn	16 09 05.4	-0.2
	baz=253						
VCHM				*e*S	Sn	16 09 33.1	+0.8
	baz=253						
JISG	**Ishigakijimahi**	**2.41**	**72**	P	Pn	16 09 07.5	-0.2
JISG				S	Sn	16 09 34.7	-1.3
PTMZ	**Houxiangcun**	**2.70**	**296**	*e*P	Pn	16 09 11.0	-0.7
	baz=295						
PTMZ				*e*S	Sn	16 09 41.0	-2.1
	baz=295						
JTJ	**Tarama**	**2.77**	**73**	P	Pn	16 09 12.7	+0.1
JTJ				S	Sn	16 09 44.3	-0.5
MATB	**Ma-tsu**	**2.83**	**324**	*e*P	Pn	16 09 12.3	-1.1
	baz=323						
MATB				*e*S	Sn	16 09 45.6	-0.7
	baz=323						
KNM	**Kinmen**	**3.12**	**281**	*e*P	Pn	16 09 18.6	+1.2
	baz=279						
KNM				*e*S	Sn	16 09 53.8	+0.5
	baz=279						
KNMB	**Chin-men Tao**	**3.16**	**282**	*e*P	Pn	16 09 17.6	-0.4
	baz=280						
KNMB				*e*S	Sn	16 09 52.0	-2.5
	baz=280						
LYJJ	**Jianjiangzhen**	**3.25**	**326**	*e*P	Pn	16 09 19.3	+0.2
	baz=325						
LYJJ				*e*S	Sn	16 09 55.6	-0.9
	baz=325						
XPSS	**Dashiqiu**	**3.38**	**335**	*e*P	Pn	16 09 19.5	-1.5
	baz=334						
AXDP	**Jialang**	**3.63**	**287**	*e*P	Pn	16 09 23.4	-1.0
	baz=286						
AXDP				*e*S	Sn	16 10 03.8	-2.3
	baz=286						
ZPLA	**Ao Xicun**	**3.70**	**272**	*e*P	Pn	16 09 24.2	-1.1
	baz=271						
ZPLA				*e*S	Sn	16 10 04.8	-2.9
	baz=271						
SXFK	**Yanhouchang**	**4.53**	**305**	*e*P	Pn	16 09 35.2	-1.5
	baz=303						
SXFK				*e*S	Sn	16 10 24.0	-4.1
	baz=303						

*IDC **15** 16:15:15.4±1.2,3.'30N×126.°54E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.3/42,mbtmp3.5/5,MS2.4/1,Ms1 2.4/1, ms1mx2.0/45,Error ellipse: s-maj=63.6km s-min=20.7km az=82.0*

*DJA **15** 16:15:21.3±0.6,3.°N±5.°×.12.°7E±.°,h43km±16km,M4.0/13, mb4.1/7,mB4.7/3,MLv3.9/13,Mw(mB)4.0/3*

ISC 15 16:15:22.2±1.0,**3.°35N**±0.'08×**126.°59E**±0.'07,**h53**km,**n16,** σ1°**03/18,mb3.4/5,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.11**	**288**	P	**Pn**	**16 15 40.7**	**-0.8**
SGSI				S	**Sn**	**16 15 55.1**	**-0.7**
TNTI	**Ternate**	**2.67**	**163**	P	**Pn**	**16 16 03.4**	**+0.6**
TNTI				S	**Sn**	**16 16 34.4**	**+0.4**
KMSI	**Cibinong**	**3.79**	**223**	P	**Pn**	**16 16 19.1**	**+1.0**
DAV	**Davao City (W)**	**3.83**	**345**	LR	LR	16 17 19.6	
	comp=Z,48nm,18.8s,baz=336,slow=32						
LBMI	**Labuha**	**4.06**	**167**	P	**Pn**	**16 16 21.0**	**-0.9**
GTOI	**Gorontalo**	**4.47**	**233**	P	**Pn**	**16 16 27.8**	**+0.3**
SANI	**Sanana**	**5.39**	**186**	P	**Pn**	**16 16 38.9**	**-1.2**
	0.1nm5.5nm,0.9s						
MRSI	**Marisa**	**5.45**	**239**	P	**Pn**	**16 16 41.4**	**+0.5**
	0.2nm546nm46nm,0.7s						
MRSI				S	**Sn**	**16 17 42.0**	**-0.3**
	0.2nm546nm46nm,0.7s						
LUWI	**Luwuk**	**5.79**	**221**	P	**Pn**	**16 16 44.5**	**-1.1**
	0.2nm1μm41nm,1.1s						
SWI	**Sorong**	**6.27**	**132**	P	**Pn**	**16 16 52.3**	**+0.1**
	0.1nm7.6nm,0.7s						
APSI	**Ampana**	**6.50**	**229**	P	**Pn**	**16 16 57.5**	**+2.2**
FITZ	**Fitzroy Crossi**	**21.33**	**182**	P	**P**	**16 20 04.8**	**-0.1**
	0.7nm,0.5s,baz=10,slow=9.7,SNR=1.3						
WRA	**Warramunga Arr**	**24.36**	**162**	P	**P**	**16 20 34.2**	**-1.3**
	0.7nm,0.4s,baz=345,slow=9.6,SNR=24						
ASAR	**Alice Springs**	**27.78**	**165**	P	**P**	**16 21 05.8**	**-0.5**
	0.2nm,0.3s,baz=346,slow=7.3,SNR=11						
PETK	**Petropavlovsk-**	**55.84**	**22**	P	**P**	**16 24 55.8**	**+1.7**
	0.9nm,0.5s,baz=197,slow=4.4,SNR=7.2						
MKAR	**Makanchi Array**	**57.79**	**325**	P	**P**	**16 25 07.8**	**-0.3**
	0.2nm,0.6s,baz=123,slow=8.6,SNR=3.0						

*IDC **15** 16:27:16.7±1.3,24.°94N×121.°80E,h0km,mb3.2/4, mb1 3.5/5,mb1mx3.2/37,mbtmp3.3/5,ML2.8/1,Error ellipse: s-maj=41.0km s-min=29.0km az=70.0*

*JMA **15** 16:27:19.8±0.1,24.°44N×121.°71E,h58km±1km,M3.3*

*TAP **15** 16:27:20.9,24.°49N×121.°76E,h43km,ML3.9,B*

ISC 15 16:27:21.5±0.9,**24.°49N**±0.'02×**121.°78E**±0.'02,**h41**km±4km, **n168,** σ0°**84**/273,**mb3.2**/4,**7C-31D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.05**	**182**	⇑*iP*	**Pn**	**16 27 28.0**	**-0.1**
	baz=161						
EWUT				*i* S	**Sn**	**16 27 33.1**	**+0.6**
	baz=161						
ENA	**Nanau**	**0.07**	**209**	⇑*iP*	**Pn**	**16 27 28.1**	**-0.1**
	baz=191						
ENA				*i* S	**Sn**	**16 27 33.2**	**+0.5**
	baz=191						
TWC	**Suao**	**0.13**	**28**	⇑*iP*	**Pn**	**16 27 28.4**	**0.0**
	baz=37						
TWC				*i* S	**Sn**	**16 27 33.8**	**+0.6**
	baz=37						
NDS	**Dongshan**	**0.15**	**337**	⇓*iP*	**Pn**	**16 27 28.6**	**0.0**
	baz=344						
NDS				*i* S	**Sn**	**16 27 33.7**	**+0.2**
	baz=344						
EHP	**Heping Village**	**0.18**	**191**	P	**Pn**	**16 27 28.8**	**0.0**
	baz=184						
EHP				S	**Sn**	**16 27 34.6**	**+0.7**
	baz=184						
ENTT	**Nioudou**	**0.24**	**307**	⇓*iP*	**Pn**	**16 27 29.2**	**-0.1**
	baz=305						
ENTT				*i* S	**Sn**	**16 27 34.8**	**+0.1**
	baz=305						
TWE	**Neicheng**	**0.25**	**336**	⇓P	**Pn**	**16 27 29.4**	**+0.1**
	baz=342						
TWE				S	**Sn**	**16 27 35.4**	**+0.6**
	baz=342						
NDT	**Datong Townshi**	**0.27**	**294**	⇓*iP*	**Pn**	**16 27 29.5**	**-0.1**
	baz=296						
NDT				S	**Sn**	**16 27 35.5**	**+0.4**
	baz=296						
ILA	**Ilan**	**0.27**	**354**	⇓P	**Pn**	**16 27 30.0**	**+0.4**
	baz=358						
ILA				S	**Sn**	**16 27 36.0**	**+0.8**
	baz=358						
NACB	**Ninganchiao**	**0.36**	**208**	P	**Pn**	**16 27 29.6**	**-0.9**
	baz=213						
NACB				S	**Sn**	**16 27 36.5**	**-0.3**
	baz=213						
ETL	**Fush Village**	**0.36**	**203**	*e*P	**Pn**	**16 27 29.8**	**-0.8**
	baz=209						
ETL				S	**Sn**	**16 27 37.1**	**+0.1**
	baz=209						
NTC	**Toucheng**	**0.36**	**7**	P	**Pn**	**16 27 30.9**	**+0.3**
	baz=9.0						
NTC				*e*S	**Sn**	**16 27 37.3**	**+0.4**
	baz=9.0						
NNS	**Nan Shan**	**0.38**	**262**	⇓*iP*	**Pn**	**16 27 30.6**	**-0.3**
	baz=258						
NNS				S	**Sn**	**16 27 36.8**	**-0.5**
	baz=258						
EGS		**0.38**	**21**	*e*P	**Pn**	**16 27 31.2**	**+0.5**
	baz=31						
EGS				*e*S	**Sn**	**16 27 37.9**	**+0.7**
	baz=31						
NWLT	**Wulai**	**0.38**	**318**	⇓*iP*	**Pn**	**16 27 30.7**	**-0.2**
	baz=313						
NWLT				*i* S	**Sn**	**16 27 37.5**	**+0.2**
	baz=313						
ETLH	**Xiulin Townshi**	**0.39**	**224**	P	**Pn**	**16 27 30.4**	**-0.6**
	baz=229						
ETLH				*i* S	**Sn**	**16 27 37.4**	**-0.3**
	baz=229						
YHNB	**Yeheng**	**0.41**	**296**	⇓*iP*	**Pn**	**16 27 30.9**	**-0.3**
	baz=296						
YHNB				S	**Sn**	**16 27 37.9**	**-0.1**
	baz=296						
NSK	**Sanguang**	**0.43**	**296**	⇓*iP*	**Pn**	**16 27 31.0**	**-0.4**
	baz=297						
NSK				*i* S	**Sn**	**16 27 38.3**	**0.0**
	baz=297						
TWD	**Chiawan**	**0.44**	**202**	P	**Pn**	**16 27 30.9**	**-0.6**
	baz=208						
TWD				S	**Sn**	**16 27 38.1**	**-0.5**
	baz=208						
TIPB	**Shuangxi**	**0.48**	**5**	⇓P	**Pn**	**16 27 32.3**	**+0.3**
	baz=1.0						
TIPB				S	**Sn**	**16 27 40.3**	**+0.8**
	baz=1.0						
TWA	**Mucha**	**0.52**	**340**	⇓*iP*	**Pn**	**16 27 32.5**	**-0.1**
	baz=342						
TWA				*i* S	**Sn**	**16 27 40.8**	**+0.5**
	baz=342						
NHDH	**Xindian Distri**	**0.52**	**334**	P	**Pn**	**16 27 32.6**	**-0.1**
	baz=327						
NHDH				S	**Sn**	**16 27 40.9**	**+0.5**
	baz=327						
HWA	**Hwalien**	**0.54**	**197**	*e*P	**Pn**	**16 27 32.5**	**-0.3**
	baz=202						
FUSS	**Fushou**	**0.55**	**244**	⇓*iP*	**Pn**	**16 27 32.8**	**-0.3**
	baz=238						
FUSS				S	**Sn**	**16 27 41.0**	**-0.3**
	baz=238						
TWB1	**Santiao Chiao**	**0.55**	**20**	⇓*iP*	**Pn**	**16 27 33.2**	**+0.2**
	baz=27						
TWB1				*i* S	**Sn**	**16 27 42.0**	**+1.0**
	baz=27						
TATO	**Taipei**	**0.55**	**331**	⇓P	**Pn**	**16 27 32.6**	**-0.4**
	baz=325						
TATO				S	**Sn**	**16 27 41.2**	**+0.1**
	baz=325						
NWF	**Wu-fen Shan**	**0.58**	**0**	⇑*iP*	**Pn**	**16 27 33.6**	**+0.2**
	baz=1.0						
NWF				*i* S	**Sn**	**16 27 42.6**	**+0.8**
	baz=1.0						
WFSB	**Wu-fen Shan**	**0.58**	**0**	⇑*iP*	**Pn**	**16 27 33.7**	**+0.3**
	baz=1.0						
WFSB				*i* S	**Sn**	**16 27 42.7**	**+1.0**
	baz=1.0						
NHY	**Taipei**	**0.58**	**341**	P	**Pn**	**16 27 33.3**	**0.0**
	baz=333						
NHY				S	**Sn**	**16 27 42.4**	**+0.7**
	baz=333						
WHF	**Hehuan Shan**	**0.58**	**234**	⇓*iP*	**Pn**	**16 27 33.2**	**-0.6**
	baz=227						
WHF				S	**Sn**	**16 27 42.2**	**-0.3**
	baz=227						
ETM	**Tongmen**	**0.59**	**207**	⇓*e*P	**Pn**	**16 27 32.4**	**-1.1**
	baz=205						
BACT	**New Taipei Cit**	**0.59**	**329**	*e*P	**Pn**	**16 27 33.2**	**-0.3**
	baz=330						
BACT				*e*S	**Sn**	**16 27 42.6**	**+0.6**
	baz=330						
TAP1	**Taipei**	**0.59**	**337**	*e*P	**Pn**	**16 27 34.0**	**+0.5**
	baz=328						
TAP1				S	**Sn**	**16 27 42.4**	**+0.4**
	baz=328						
TAP	**Taipei**	**0.60**	**335**	*e*P	**Pn**	**16 27 33.4**	**-0.2**
	baz=328						
TAP				S	**Sn**	**16 27 42.6**	**+0.4**
	baz=328						
TWT	**Tachien**	**0.60**	**247**	⇓P	**Pn**	**16 27 33.9**	**+0.1**
	baz=244						
TWT				S	**Sn**	**16 27 42.8**	**+0.3**
	baz=244						
TDCB	**Techi**	**0.61**	**247**	⇓*iP*	**Pn**	**16 27 34.0**	**0.0**
	baz=245						
TDCB				S	**Sn**	**16 27 42.5**	**-0.4**
	baz=245						
NFF	**Wufeng Townshi**	**0.62**	**283**	⇓*iP*	**Pn**	**16 27 33.8**	**-0.1**
	baz=284						
NFF				*e*S	**Sn**	**16 27 43.0**	**+0.1**
	baz=284						
TEYL	**Yanliau Villag**	**0.64**	**195**	*e*P	**Pn**	**16 27 33.6**	**-0.6**
	baz=206						
TEYL				*e*S	**Sn**	**16 27 43.2**	**-0.1**
	baz=206						
TNOU	**National Taiwa**	**0.66**	**359**	⇑P	**Pn**	**16 27 34.2**	**-0.2**
TNOU				S	**Sn**	**16 27 44.0**	**+0.4**
NTY	**Taoyuan**	**0.67**	**319**	*e*P	**Pn**	**16 27 34.4**	**-0.2**
	baz=324						
NTY				S	**Sn**	**16 27 44.6**	**+0.7**
	baz=324						
NJD	**Zhudong**	**0.68**	**291**	*e*P	**Pn**	**16 27 34.9**	**+0.3**
	baz=287						
NJD				*e*S	**Sn**	**16 27 45.7**	**+1.7**
	baz=287						
YM01	**YM01**	**0.68**	**344**	P	**Pn**	**16 27 34.3**	**-0.5**
	baz=333						
YM01				S	**Sn**	**16 27 43.9**	**-0.4**
	baz=333						
TWS1	**Kuangyinshan**	**0.69**	**332**	P	**Pn**	**16 27 34.7**	**-0.2**
	baz=332						
TWS1				*i* S	**Sn**	**16 27 45.0**	**+0.6**
	baz=332						
CHGB	**Renai**	**0.70**	**232**	⇓*iP*	**Pn**	**16 27 35.0**	**-0.2**
	baz=230						
CHGB				S	**Sn**	**16 27 44.6**	**-0.4**
	baz=230						
LIOB	**Emei**	**0.71**	**283**	⇓*iP*	**Pn**	**16 27 35.5**	**+0.3**
	baz=283						
LIOB				*e*S	**Sn**	**16 27 46.4**	**+1.4**
	baz=283						
YM08	**YM08**	**0.71**	**346**	⇑P	**Pn**	**16 27 34.5**	**-0.8**
	baz=336						
YM08				S	**Sn**	**16 27 44.1**	**-0.9**
	baz=336						
NWRT	**Kuosheng**	**0.72**	**351**	*e*P	**Pn**	**16 27 35.1**	**-0.1**
	baz=352						
NWRT				*e*S	**Sn**	**16 27 44.9**	**-0.1**
	baz=352						
NCU	**National Centr**	**0.72**	**312**	P	**Pn**	**16 27 34.9**	**-0.3**
	baz=312						
NCU				S	**Sn**	**16 27 45.3**	**+0.1**
	baz=312						
NCUH	**Zhongli**	**0.72**	**311**	*e*P	**Pn**	**16 27 35.1**	**-0.2**
	baz=311						
NCUH				S	**Sn**	**16 27 45.9**	**+0.7**
	baz=311						
NSTT	**Nanjuang**	**0.72**	**281**	⇓*iP*	**Pn**	**16 27 35.4**	**+0.1**
	baz=281						
NSTT				*i* S	**Sn**	**16 27 46.1**	**+0.9**
	baz=281						
ANP	**Anpu**	**0.73**	**341**	*e*P	**Pn**	**16 27 34.7**	**-0.8**
	baz=342						
ANP				*e*S	**Sn**	**16 27 45.0**	**-0.6**
	baz=342						
NTST	**Danshui**	**0.73**	**336**	P	**Pn**	**16 27 35.4**	**-0.1**
	baz=336						
NTST				S	**Sn**	**16 27 46.0**	**+0.6**
	baz=336						
ESL	**Shilin**	**0.75**	**205**	⇓P	**Pn**	**16 27 34.0**	**-1.6**
	baz=203						
HSN1	**Hsinchu**	**0.75**	**292**	P	**Pn**	**16 27 36.0**	**+0.3**
	baz=306						
HSN1				S	**Sn**	**16 27 47.0**	**+1.1**
	baz=306						
OWD	**Renai**	**0.77**	**226**	⇓*iP*	**Pn**	**16 27 35.8**	**-0.3**
	baz=222						
OWD				S	**Sn**	**16 27 45.9**	**-0.7**
	baz=222						
SBCB	**Hsinchu**	**0.78**	**293**	P	**Pn**	**16 27 36.3**	**+0.2**
	baz=305						
SBCB				S	**Sn**	**16 27 47.1**	**+0.5**
	baz=305						
WHP	**Taichung City**	**0.79**	**254**	⇓*iP*	**Pn**	**16 27 37.1**	**+0.8**
	baz=253						
WHP				S	**Sn**	**16 27 47.7**	**+0.7**
	baz=253						
TWY	**Chenhua**	**0.80**	**348**	⇓P	**Pn**	**16 27 36.4**	**+0.1**
	baz=349						
TWY				S	**Sn**	**16 27 47.2**	**+0.2**
	baz=349						
HSN	**Hsinchu**	**0.80**	**293**	P	**Pn**	**16 27 36.3**	**0.0**
	baz=308						
HSN				S	**Sn**	**16 27 46.8**	**-0.3**
	baz=308						
TEGC	**Jichi Village**	**0.81**	**196**	*e*P	**Pn**	**16 27 36.5**	**0.0**
	baz=183						
NSM	**Shimen**	**0.81**	**348**	*e*P	**Pn**	**16 27 36.7**	**+0.2**
	baz=338						
NJN	**Zhunan**	**0.85**	**283**	*e*P	**Pn**	**16 27 37.0**	**0.0**
	baz=283						
NJN				*e*S	**Sn**	**16 27 49.2**	**+0.9**
	baz=283						
EGFH	**Guangfu**	**0.88**	**202**	*e*P	**Pn**	**16 27 35.8**	**-1.7**
	baz=209						
WPL	**Puli Township**	**0.89**	**238**	*e*P	**Pn**	**16 27 37.9**	**+0.3**
	baz=234						
WPL				*e*S	**Sn**	**16 27 49.9**	**+0.5**
	baz=234						
NMLH	**Miaoli**	**0.90**	**273**	*e*P	**Pn**	**16 27 38.2**	**+0.4**
	baz=273						
NMLH				*e*S	**Sn**	**16 27 51.0**	**+1.4**
	baz=273						
DPDB	**Guoxing**	**0.90**	**240**	⇓P	**Pn**	**16 27 38.2**	**+0.4**
	baz=240						
WCS	**Beigang Elemen**	**0.90**	**242**	*e*P	**Pn**	**16 27 38.1**	**+0.4**
	baz=238						
WCS				*e*S	**Sn**	**16 27 49.6**	**0.0**
	baz=238						
TWQ1	**Liyutan**	**0.93**	**261**	⇓*iP*	**Pn**	**16 27 38.6**	**+0.4**
	baz=261						
TWQ1				S	**Sn**	**16 27 50.2**	**-0.1**
	baz=261						
NSY	**Sanyi**	**0.93**	**266**	*e*P	**Pn**	**16 27 38.8**	**+0.6**
	baz=266						
NSY				*e*S	**Sn**	**16 27 51.3**	**+1.0**
	baz=266						
VWDT	**VWDT**	**0.94**	**219**	*e*P	**Pn**	**16 27 38.1**	**-0.1**
	baz=211						
VWDT				*e*S	**Sn**	**16 27 50.2**	**-0.2**
	baz=211						
SMLT	**Sun Moon Lake**	**1.01**	**233**	*e*P	**Pn**	**16 27 39.6**	**+0.3**
	baz=233						
SMLT				*e*S	**Sn**	**16 27 53.2**	**+0.9**
	baz=233						
TYC	**Yuchr**	**1.03**	**235**	⇓*iP*	**Pn**	**16 27 39.9**	**+0.4**

	baz=235							
TYC				*e*S		**Sn**	**16 27 52.7**	**0.0**
	baz=235							
SSLB	**Suanglung**	**1.03 227**		P		**Pn**	**16 27 39.4**	**-0.1**
	baz=231							
SSLB				*e*S		**Sn**	**16 27 53.5**	**+0.7**
	baz=231							
HGSD	**Ruisui**	**1.05 198**		*e*P		**Pn**	**16 27 38.6**	**-1.2**
	baz=206							
HGSD				*e*S		**Sn**	**16 27 54.0**	**+0.8**
	baz=206							
WDJ	**Dajia District**	**1.05 262**		*e*P		**Pn**	**16 27 40.2**	**+0.5**
	baz=262							
WDJ				*e*S		**Sn**	**16 27 54.0**	**+0.8**
	baz=262							
JYNG	**Yonaguni jima**	**1.06**	**92**	P		**Pn**	**16 27 39.8**	**-0.1**
JYNG				S		**Sn**	**16 27 54.3**	**+0.8**
TCU	**Taichung**	**1.06 251**		*e*P		**Pn**	**16 27 40.5**	**+0.5**
	baz=251							
EHY	**Hungye**	**1.07 203**		*e*P		**Pn**	**16 27 37.9**	**-2.2**
	baz=202							
WWF	**Wufeng**	**1.08 246**		*e*P		**Pn**	**16 27 40.8**	**+0.6**
	baz=259							
WWF				*e*S		**Sn**	**16 27 55.6**	**+1.6**
	baz=259							
YOJ	**Yonaguni jima**	**1.12**	**91**	P		**Pn**	**16 27 40.5**	**-0.2**
YOJ				*e*S		**Sn**	**16 27 54.3**	**-0.7**
YOJ	**Yonaguni jima**	**1.12**	**91**	⇓P		**Pn**	**16 27 40.6**	**-0.1**
	baz=80							
YOJ				S		**Sn**	**16 27 55.7**	**+0.7**
	baz=80							
PCYT	**Pengchaiyu**	**1.16**	**13**	*e*P		**Pn**	**16 27 41.3**	**0.0**
	baz=14							
PCYT				*e*S		**Sn**	**16 27 56.9**	**+0.9**
	baz=14							
WNT1	**Nantou City**	**1.16 240**		*e*P		**Pn**	**16 27 41.8**	**+0.5**
	baz=241							
WNT1				*e*S		**Sn**	**16 27 58.2**	**+2.2**
	baz=241							
WJS	**Zhushan**	**1.17 235**		*e*P		**Pn**	**16 27 42.2**	**+0.7**
	baz=236							
WJS				*e*S		**Sn**	**16 27 57.4**	**+1.2**
	baz=236							
WNT	**Mingjian**	**1.17 239**		*e*P		**Pn**	**16 27 42.3**	**+0.8**
	baz=239							
YULB	**Yu-li**	**1.18 202**		*e*P		**Pn**	**16 27 39.3**	**-2.3**
	baz=202							
WCHH	**Zhanghua**	**1.19 250**		*e*P		**Pn**	**16 27 41.9**	**+0.2**
	baz=250							
WCHH				*e*S		**Sn**	**16 27 58.0**	**+1.3**
	baz=250							
ECBN	**Changbin**	**1.21 194**		*e*P		**Pn**	**16 27 41.9**	**-0.1**
	baz=206							
ECBN				*e*S		**Sn**	**16 27 56.9**	**-0.2**
	baz=206							
EYUL	**Yuli**	**1.22 200**		*e*P		**Pn**	**16 27 42.5**	**+0.4**
	baz=209							
EYUL				*e*S		**Sn**	**16 27 56.7**	**-0.6**
	baz=209							
WYL	**Yuanlin Townsh**	**1.22 244**		*e*P		**Pn**	**16 27 42.7**	**+0.7**
	baz=245							
TWF1	**Yuli**	**1.22 201**		*e*P		**Pn**	**16 27 41.5**	**-0.6**
	baz=201							
YUS	**Yu-Shan**	**1.25 217**		*e*P		**Pn**	**16 27 42.4**	**-0.7**
	baz=208							
ALS	**Alishan**	**1.32 223**		*e*P		**Pn**	**16 27 44.5**	**+0.7**
	baz=211							
ALS				*e*S		**Sn**	**16 28 02.6**	**+2.2**
	baz=211							
CHN5	**Tsauling**	**1.34 229**		⇓*i*P		**Pn**	**16 27 44.9**	**+0.9**
	baz=230							
CHN5				*e*S		**Sn**	**16 28 02.4**	**+1.7**
	baz=230							
FULB	**Fuli**	**1.36 199**		*e*P		**Pn**	**16 27 43.9**	**-0.3**
	baz=207							
FULB				*e*S		**Sn**	**16 28 01.4**	**+0.5**
	baz=207							
WGK	**Gukeng**	**1.37 234**		*e*P		**Pn**	**16 27 45.0**	**+0.8**
	baz=247							
WGK				*e*S		**Sn**	**16 28 03.1**	**+1.9**
	baz=247							
WDLH	**Douliu**	**1.39 235**		*e*P		**Pn**	**16 27 45.3**	**+0.9**
	baz=249							
WDLH				*e*S		**Sn**	**16 28 03.3**	**+1.7**
	baz=249							
WRL	**Guolierlin Hig**	**1.41 246**		*e*P		**Pn**	**16 27 44.7**	**0.0**
	baz=246							
CHKT	**Chengkung**	**1.44 195**		*e*P		**Pn**	**16 27 45.3**	**+0.2**
	baz=205							
CHKT				*e*S		**Sn**	**16 28 02.4**	**-0.3**
	baz=205							
ELDTW	**Lidau**	**1.47 208**		*e*P		**Pn**	**16 27 45.4**	**-0.3**
	baz=202							
ELDTW				*e*S		**Sn**	**16 28 04.5**	**+0.6**
	baz=202							
ECS	**Chishang**	**1.48 200**		*e*P		**Pn**	**16 27 45.6**	**-0.1**
	baz=200							
WTK	**Tuku**	**1.50 238**		*e*P		**Pn**	**16 27 46.5**	**+0.5**
	baz=239							
WTCT	**Ta-ch'eng**	**1.50 246**		*e*P		**Pn**	**16 27 46.1**	**+0.1**
	baz=258							
WTCT				*e*S		**Sn**	**16 28 05.0**	**+0.6**
	baz=258							
CHN2	**Minshiung**	**1.53 232**		*e*P		**Pn**	**16 27 47.5**	**+1.2**
	baz=245							
EDH	**Donghe**	**1.57 196**		*e*P		**Pn**	**16 27 46.8**	**-0.2**
	baz=196							
EDH				*e*S		**Sn**	**16 28 05.8**	**-0.4**
	baz=196							
TPUB	**Ta-pu**	**1.59 222**		*e*P		**Pn**	**16 27 48.3**	**+1.1**
	baz=211							
TPUB				*e*S		**Sn**	**16 28 08.8**	**+2.3**
	baz=211							
CHY	**Chiayi**	**1.59 232**		*e*P		**Pn**	**16 27 48.0**	**+0.8**
	baz=245							
STYH	**Taoyuan**	**1.61 215**		*e*P		**Pn**	**16 27 48.7**	**+1.3**
	baz=207							
STYT	**Tauyuan**	**1.62 216**		*e*P		**Pn**	**16 27 48.9**	**+1.2**
	baz=206							
WTP	**Ta-pu**	**1.64 221**		*e*P		**Pn**	**16 27 48.7**	**+0.8**
	baz=210							
WTP				*e*S		**Sn**	**16 28 09.1**	**+1.4**
	baz=210							
WSF	**Szhu**	**1.66 239**		*e*P		**Pn**	**16 27 48.4**	**+0.3**
	baz=241							
WSF				*e*S		**Sn**	**16 28 09.1**	**+0.9**
	baz=241							
LONT	**Longtian**	**1.69 201**		*e*P		**Pn**	**16 27 48.9**	**+0.3**
	baz=190							
TWK	**Hsinying**	**1.70 224**		*e*P		**Pn**	**16 27 49.9**	**+1.2**
	baz=226							
WSL	**Shuilin Townsh**	**1.72 236**		*e*P		**Pn**	**16 27 49.4**	**+0.5**
	baz=249							
SNST	**Tainan City**	**1.73 223**		*e*P		**Pn**	**16 27 50.1**	**+1.0**
	baz=225							
CHN1	**Nanshi**	**1.73 222**		*e*P		**Pn**	**16 27 50.0**	**+0.7**
	baz=236							
ICHU	**Yijhu**	**1.78 231**		*e*P		**Pn**	**16 27 50.5**	**+0.7**
	baz=232							
SGST	**Jiashian**	**1.78 218**		*e*P		**Pn**	**16 27 50.0**	**+0.1**
	baz=233							
IRIF	**Iriomote-Funau**	**1.78**	**95**	P		**Pn**	**16 27 49.1**	**-0.7**
IRIF				S		**Sn**	**16 28 11.9**	**+0.6**
TWG	**Pinlang**	**1.79 201**		*e*P		**Pn**	**16 27 49.3**	**-0.6**
	baz=191							
TWGBT	**Beinan**	**1.79 201**		*e*P		**Pn**	**16 27 49.4**	**-0.5**
	baz=191							
SLGT	**Liugui**	**1.82 215**		*e*P		**Pn**	**16 27 52.0**	**+1.7**
	baz=216							
LDUT	**Ludao**	**1.83 189**		*e*P		**Pn**	**16 27 49.5**	**-1.1**
	baz=180							
CHN8	**Yiju**	**1.83 232**		*e*P		**Pn**	**16 27 51.1**	**+0.6**
	baz=233							
HATJ	**Hateruma jima**	**1.90 103**		P		**Pn**	**16 27 51.7**	**+0.3**
HATJ				*e*S		**Sn**	**16 28 14.6**	**+0.5**
SCLT	**Jiali**	**1.96 228**		*e*P		**Pn**	**16 27 53.0**	**+0.8**
	baz=231							
SCLT				*e*S		**Sn**	**16 28 16.6**	**+1.1**
	baz=231							
SHHT	**Tainan City**	**1.97 222**		*e*P		**Pn**	**16 27 53.5**	**+1.1**
	baz=224							
ECL	**Taimali**	**2.03 202**		*e*P		**Pn**	**16 27 53.9**	**+0.6**
	baz=193							
SSD	**Sandimen**	**2.03 211**		*e*P		**Pn**	**16 27 54.1**	**+0.8**
	baz=201							
SSD				*e*S		**Sn**	**16 28 19.6**	**+2.1**
	baz=201							
JKRS	**Kuro-shima**	**2.05**	**97**	P		**Pn**	**16 27 53.3**	**-0.2**
JKRS				S		**Sn**	**16 28 18.8**	**+1.0**
TSMG	**Majia**	**2.06 211**		*e*P		**Pn**	**16 27 54.5**	**+0.8**
	baz=211							
TWM1	**Shoushan**	**2.08 217**		*e*P		**Pn**	**16 27 55.5**	**+1.6**
	baz=216							
MASBT	**Mashibuluo**	**2.15 210**		*e*P		**Pn**	**16 27 55.8**	**+1.0**
	baz=211							
MASBT				*e*S		**Sn**	**16 28 21.8**	**+1.5**
	baz=211							
JIJ	**Ishigaki jima**	**2.16**	**93**	P		**Pn**	**16 27 54.1**	**-0.9**
JIJ				S		**Sn**	**16 28 19.6**	**-0.9**
PNG	**Penghu**	**2.23 246**		*e*P		**Pn**	**16 27 55.2**	**-0.9**
	baz=248							
PNG				*e*S		**Sn**	**16 28 21.8**	**-0.6**
	baz=248							
PHUB	**P'eng-hu**	**2.24 245**		*e*P		**Pn**	**16 27 54.9**	**-1.2**
	baz=247							
PHUB				*e*S		**Sn**	**16 28 21.0**	**-1.6**
	baz=247							
EAST	**Anshuo**	**2.27 202**		*e*P		**Pn**	**16 27 57.4**	**+0.8**
	baz=193							
TAW	**Tawu**	**2.27 201**		*e*P		**Pn**	**16 27 57.6**	**+1.0**
	baz=192							
SSPT	**Xinbi**	**2.29 209**		*e*P		**Pn**	**16 27 58.1**	**+1.3**
	baz=199							
TAWH	**Dawu Township**	**2.29 201**		*e*P		**Pn**	**16 27 57.7**	**+0.8**
	baz=193							
WDGT	**Dungji**	**2.30 238**		*e*P		**Pn**	**16 27 56.6**	**-0.3**
	baz=241							
WDGT				*e*S		**Sn**	**16 28 23.1**	**-0.8**
	baz=241							
JISG	**Ishigakijimahi**	**2.31**	**87**	P		**Pn**	**16 27 56.2**	**-0.8**
JISG				S		**Sn**	**16 28 24.0**	**-0.2**
MATB	**Ma-tsu**	**2.34 315**		*e*P		**Pn**	**16 27 56.3**	**-1.2**
	baz=311							
SCZT	**Fangliau**	**2.36 207**		*e*P		**Pn**	**16 27 58.8**	**+1.0**
	baz=208							
SCZT				*e*S		**Sn**	**16 28 26.3**	**+0.7**
	baz=208							
MSUT	**Lienchiang**	**2.37 315**		*e*P		**Pn**	**16 27 56.0**	**-1.9**
	baz=312							
SLIU	**Shizi**	**2.44 202**		*e*P		**Pn**	**16 27 59.7**	**+0.8**
	baz=194							
LAY	**Lan-yu**	**2.45 185**		*e*P		**Pn**	**16 27 58.4**	**-0.7**
	baz=186							
PTMZ	**Houxiangcun**	**2.48 283**		*e*P		**Pn**	**16 27 58.3**	**-1.1**
	baz=281							
LYUB	**Lan-yu**	**2.49 184**		*e*P		**Pn**	**16 27 57.5**	**-2.0**
	baz=185							
VCHM	**Qimei**	**2.50 240**		*e*P		**Pn**	**16 27 59.3**	**-0.4**
	baz=243							
VCHM				*e*S		**Sn**	**16 28 27.9**	**-1.1**
	baz=243							
JTJ	**Tarama**	**2.66**	**86**	P		**Pn**	**16 28 02.1**	**+0.2**
JTJ				S		**Sn**	**16 28 34.1**	**+1.1**
TWK1	**Hengchun**	**2.69 200**		*e*P		**Pn**	**16 28 03.3**	**+1.0**
	baz=193							
TWKBT	**Hengchun**	**2.69 200**		*e*P		**Pn**	**16 28 02.5**	**+0.2**
	baz=192							
LYJJ	**Jianjiangzhen**	**2.74 319**		*e*P		**Pn**	**16 28 01.9**	**-1.1**
	baz=315							
XPSS	**Dashiqiu**	**2.82 330**		*e*P		**Pn**	**16 28 02.9**	**-1.2**
	baz=325							
KNM	**Kinmen**	**3.05 269**		*e*P		**Pn**	**16 28 07.8**	**+0.6**
	baz=269							
KNMB	**Chin-men Tao**	**3.09 270**		*e*P		**Pn**	**16 28 06.5**	**-1.3**
	baz=270							
JIRB	**Irabujima**	**3.10**	**83**	P		**Pn**	**16 28 08.2**	**+0.2**
JIRB				*e*S		**Sn**	**16 28 44.6**	**+0.7**
JIKM	**Ikemajima**	**3.18**	**82**	P		**Pn**	**16 28 09.7**	**+0.6**
JMJ2	**Miyako jima3**	**3.24**	**85**	P		**Pn**	**16 28 10.7**	**+0.9**
JMJ2				S		**Sn**	**16 28 48.6**	**+1.4**
AXDP	**Jialang**	**3.49 277**		*e*P		**Pn**	**16 28 12.4**	**-0.8**
	baz=276							
ZPLA	**Ao Xicun**	**3.72 262**		*e*P		**Pn**	**16 28 15.6**	**-0.9**
	baz=263							
SXFK	**Yanhouchang**	**4.19 298**		*e*P		**Pn**	**16 28 22.9**	**-0.1**
	baz=294							
JOW	**Kunigami**	**6.31**	**67**	Pn		**Pn**	**16 28 50.5**	**-1.5**
	0.5nm,0.3s,baz=267,slow=18,SNR=6.5							
MKAR	**Makanchi Array**	**38.50 315**		P		**P**	**16 34 38.9**	**-1.0**
	0.2nm,0.7s,baz=103,slow=8.8,SNR=2.5							
WRA	**Warramunga Arr**	**45.83 163**		P		**P**	**16 35 42.8**	**+3.1**
	0.6nm,1.1s,baz=346,slow=8.6,SNR=1.9							
ASAR	**Alice Springs**	**49.30 165**		P		P	16 36 11.9	+5.3
	0.3nm,0.9s,baz=352,slow=7.5,SNR=2.1							
YKA	**Yellowknife Ar**	**82.47**	**23**	P		**P**	**16 39 37.0**	**-2.4**
	0.1nm,0.5s,baz=315,slow=4.6,SNR=2.3							

*NEIC **15** 16:37:26*$_{\pm}$*1.7, 13°.5N*$_{\pm}$*0°.1×143°.5E*$_{\pm}$*0°.2, h77*$^{km}_{\pm}$*15*^{km}*, mb4.3/10, Error ellipse: s-maj=22.8km s-min=17.6km az=93.0*

*IDC **15** 16:37:28.5*$_{\pm}$*1.0, 13°.68N×144°.44E, h132*$^{km}_{\pm}$*66*^{km}*, mb3.0/3, mb1 3.2/3, mb1mx2.9/35, mbtmp3.4/3, Error ellipse: s-maj=245.8km s-min=26.4km az=81.0*

ISC 15 16:37:26.3$_{\pm}$**0.8, 13°.6N**$_{\pm}$**0°.1×143°.73E**$_{\pm}$**0°.10, h100**^{km}**, n15, σ1§21/16, mb4.0/9, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.11**	**90**	P	**Pn**	**16 37 48.7**	**+0.7**
	127nm,0.3s,baz=346,slow=4.2,SNR=172						
GUMO				S	**Sn**	**16 38 02.7**	**-1.5**
	50nm,0.3s,baz=18,slow=20,SNR=5.8						
JWT	**Wachi**	**22.88 342**		P	**P**	**16 42 20.1**	**-1.3**
JWT				IAmb	IAmb	16 42 32.0	
	comp=Z,18nm,1.1s						
TWG	**Pinlang**	**23.37 296**		P	**P**	**16 42 25.6**	**-0.7**
TWG				IAmb	IAmb	16 42 25.9	
	comp=Z,20nm,1.1s						
JSD	**Sado**	**24.84 350**		P	**P**	**16 42 40.5**	**+1.1**
LUWI	**Luwuk**	**25.35 237**		P	**P**	**16 42 44.2**	**-0.1**
LUWI				IAmb	IAmb	16 42 54.1	
	comp=Z,21nm,0.9s						
MYLDM	**Lahad Datu**	**26.23 254**		P	**P**	**16 42 50.3**	**-1.9**
MYLDM				IAmb	IAmb	16 42 57.8	
	comp=Z,7.0nm,1.1s						
WB0	**Warramunga Arr**	**34.39 196**		P	**P**	**16 44 04.4**	**+0.3**
WB0				IAmb	IAmb	16 44 22.8	
	comp=Z,2.7nm,1.1s						
WRAB	**Tennant Creek**	**34.56 196**		P	**P**	**16 44 04.3**	**-1.3**
WB2	**Warramunga Arr**	**34.57 196**		P	**P**	**16 44 07.1**	**+1.4**
WB2				IAmb	IAmb	16 44 14.4	
	comp=Z,2.5nm,1.1s						
WRA	**Warramunga Arr**	**34.57 196**		P	**P**	**16 44 07.1**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=23,slow=9.9,SNR=7.7						
WRA	**Warramunga Arr**	**34.57 196**		P	**P**	**16 44 05.1**	**-0.6**
AS31	**Alice Springs**	**38.24 195**		P	**P**	**16 44 36.9**	**0.0**
ASAR	**Alice Springs**	**38.25 195**		P	**P**	**16 44 38.1**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=15,slow=14,SNR=15						
ASAR	**Alice Springs**	**38.25 195**		P	**P**	**16 44 36.9**	**0.0**
MKAR	**Makanchi Array**	**60.73 316**		P	**P**	**16 47 28.6**	**+1.1**
	comp=Z,0.1nm,0.6s,baz=94,slow=8.1,SNR=4.0						

*IDC **15** 16:48:29.4*$_{\pm}$*1.1, 2°.73S×139°.49E, h0*^{km}*, mb3.4/4, mb1 3.7/5, mb1mx3.3/40, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=26.5km s-min=13.4km az=162.0*

ISC 15 16:48:33.8$_{\pm}$**1.1, 3°.0S**$_{\pm}$**0°.1×139°.6E**$_{\pm}$**0°.2, h35**^{km}**, n6, σ3§43/7, mb3.6/3, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.19**	**67**	Pg	**Pn**	**16 48 53.8**	**-0.3**
	baz=226,slow=11						
JAY				Lg	Lg	16 49 09.3	
	baz=0.0,slow=20						
WRA	**Warramunga Arr**	**17.63 197**		P	**Pn**	**16 52 38.0**	**+1.1**
	0.3nm,0.3s,baz=18,slow=13,SNR=15						
WRA				S	**Sn**	**16 55 46.6**	**-5.7**
	0.0nm,0.3s,baz=18,slow=24,SNR=2.3						
FITZ	**Fitzroy Crossi**	**20.33 221**		P	Pn	16 53 09.9	+0.5
	1.6nm,1.0s,baz=48,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**21.29 195**		P	**P**	**16 53 19.9**	**+2.3**
	0.4nm,0.4s,baz=21,slow=9.3,SNR=20						
ASAR				S	**S**	**16 57 15.3**	**+2.8**
	0.3nm,0.9s,baz=16,slow=25,SNR=1.8						
MKAR	**Makanchi Array**	**70.55 322**		P	**P**	**16 59 45.0**	**-0.3**
	0.3nm,0.5s,baz=110,slow=7.3,SNR=7.1						
ILAR	**Eielson Array**	**85.71**	**24**	P	**P**	**17 01 08.3**	**-0.6**
	0.5nm,0.7s,baz=258,slow=4.5,SNR=4.0						

*NIED **15** 16:54:43.1, 40°.17N×139°.30E, h22*^{km}*, MW3.3, Moment Tensor Solution. s2 Moment tensor: Scale 10*^{13}*Nm; M*$_{rr}$*6.39; M*$_{\theta\theta}$*1.48; M*$_{\phi\phi}$*-7.86; M*$_{r\theta}$*2.46; M*$_{r\phi}$*-3.10; M*$_{\theta r}$*-1.89; Fault plane solution: M*$_0$*8.43000×10*^{13} *NP1: φ*$_s$*172.00000°, δ55.00000°, λ56.00000°. NP2: φ*$_s$*42.00000°, δ47.00000°, λ129.00000°.*

JMA 15 16:54:43.0$_{\pm}$**0.1, 40°.17N×139°.30E, h22**$^{km}_{\pm}$**1**^{km}**, M3.7, 1C-3D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOG3	**Oga3**	**0.30 214**		⇓P	Pn	16 54 52.5	+0.4
JOG3				S	Sn	16 54 59.1	+1.3
JNTW	**Noshirotokiwa**	**0.67**	**81**	⇓P	Pb	16 54 56.1	+0.1
JNTW				S	Sb	16 55 05.3	+0.5
JIW	**Iwasaki**	**0.69**	**52**	⇓P	Pb	16 54 56.0	-0.3
JIW				S	Sb	16 55 05.1	-0.3
JAH	**Hinai**	**1.02**	**89**	⇑P	Pb	16 55 01.5	-0.5
JAH				S	Sb	16 55 14.8	-0.2
JRG	**Rokugo**	**1.29 127**		P	Pn	16 55 05.3	-0.3
JOMM	**Oshimamatsumae**	**1.46**	**21**	P	Pn	16 55 07.2	-0.8
JOMM				S	Sn	16 55 24.3	-2.1
JTM	**Tenmabayashi**	**1.48**	**65**	P	Pn	16 55 08.9	+0.6

*UPA **15** 16:57:30.9*$_{\pm}$*2.1, 8°.94N×84°.21W, h7*$^{km}_{\pm}$*11*^{km}*, MW4.4*

*UCR **15** 16:57:31.4*$_{\pm}$*1.4, 8°.95N×84°.19W, h10*^{km}*, MW4.2*

ISC 15 16:57:30.3$_{\pm}$**1.5, 8°.92N**$_{\pm}$**0°.05×84°.21W**$_{\pm}$**0°.04, h9**$^{km}_{\pm}$**10**^{km}**, n36, σ0§65/49, 2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.47**	**46**	*e*P	**Pg**	**16 57 39.9**	**+0.3**
EDDO				*e*S	**Sb**	**16 57 47.6**	**-0.3**
PEZE	**Perez Zeledon,**	**0.70**	**49**	*e*P	**Pg**	**16 57 43.6**	**-0.2**
PEZE				*e*S	**Sg**	**16 57 53.8**	**+0.9**
RIOS	**Rincon, Osa**	**0.72 108**		*e*P	**Pg**	**16 57 44.8**	**+0.5**
EDPN	**Palmar Norte**	**0.75**	**87**	*e*P	**Pg**	**16 57 44.7**	**0.0**
CDM	**Cerro de Muert**	**0.77**	**35**	*e*P	**Pg**	**16 57 45.0**	**-0.2**
LCR2	**La Lucha 2**	**0.84**	**14**	*e*P	**Pg**	**16 57 46.1**	**-0.4**
LCR2				*e*S	**Sb**	**16 57 58.6**	**0.0**
JACO	**JACO, Garabito**	**0.86 329**		*e*P	**Pg**	**16 57 46.8**	**0.0**
SRBA	**San Rafael, Bu**	**0.90**	**70**	*e*P	**Pg**	**16 57 47.4**	**-0.2**
SRBA				*e*S	**Sb**	**16 58 00.2**	**0.0**
RIMA	**Rio Macho**	**0.91**	**22**	*e*P	**Pg**	**16 57 47.2**	**-0.6**
RIMA				*e*S	**Sg**	**16 58 00.2**	**+0.5**
OCM	**Ochomogo**	**1.00**	**14**	*e*P	**Pg**	**16 57 48.8**	**-0.7**
HDC	**Heredia**	**1.08**	**5**	*e*P	**Pg**	**16 57 50.6**	**-0.4**
HDC	**Heredia**	**1.08**	**5**	*e*P	**Pg**	**16 57 50.8**	**-0.2**
HDC				*e*S	**Sb**	**16 58 05.4**	**+0.1**
HDC3	**Heredia 3**	**1.08**	**5**	*e*P	**Pg**	**16 57 50.6**	**-0.5**
POTG	**Potrero Grande**	**1.09**	**83**	*e*P	**Pg**	**16 57 51.0**	**-0.3**
LAFE	**Finca La Fe, P**	**1.12 322**		*e*P	**Pg**	**16 57 50.7**	**-1.0**
VTRT	**Volcan Turrial**	**1.15**	**21**	*e*P	**Pg**	**16 57 51.7**	**-0.7**
VTCV	**VTCV, Calle Va**	**1.16**	**24**	*e*P	**Pg**	**16 57 51.9**	**-0.7**
CVTR	**Volcan Turrial**	**1.18**	**22**	*e*P	**Pg**	**16 57 52.4**	**-0.6**
VTUN	**Crater Central**	**1.18**	**22**	*e*P	**Pg**	**16 57 52.3**	**-0.7**
VTUC	**Crater, Volcan**	**1.18**	**22**	*e*P	**Pg**	**16 57 52.4**	**-0.7**
CRPO	**Crater poas**	**1.26 359**		*e*P	**Pb**	**16 57 53.9**	**-0.6**
CCOL	**Caracol de Cor**	**1.33 113**		*e*P	**Pn**	**16 57 54.6**	**-0.7**
CDITO	**Canoas**	**1.37 105**		⇓*i*P	**Pn**	**16 57 55.3**	**-0.2**
CDITO				*e*S	**Sb**	**16 58 14.3**	**+0.7**
RIFO	**Rio Frio, Sara**	**1.41**	**12**	*e*P	**Pn**	**16 57 56.2**	**0.0**
PTPM	**Petroterminale**	**1.50 118**		*e*P	**Pn**	**16 57 57.4**	**0.0**
PTPM				*e*S	**Sn**	**16 58 16.0**	**-1.0**
BRU2	**Volcan**	**1.51**	**95**	*e*P	**Pn**	**16 57 57.1**	**-0.5**
BRU2	**Volcan**	**1.51**	**95**	*e*P	**Pn**	**16 57 57.5**	**-0.1**
BRU2				*e*S	**Sn**	**16 58 17.1**	**-0.3**
JTS	**Las Juntas de**	**1.54 332**		*e*P	**Pn**	**16 57 57.2**	**-0.8**
JTS	**Las Juntas de**	**1.54 332**		*e*P	**Pn**	**16 57 57.3**	**-0.7**
JTS				*e*S	**Sn**	**16 58 19.0**	**+0.8**
ARE1	**Arenal 1**	**1.61 342**		*e*P	**Pb**	**16 58 00.6**	**+0.5**
BCO2	**Palmira**	**1.68**	**97**	*e*S	**Sn**	**16 58 22.1**	**+0.5**
CNI2	**El Empalme, Bo**	**1.79**	**74**	⇓*i*P	**Pn**	**16 58 01.8**	**+0.4**
CNI2				*e*S	**Sn**	**16 58 24.0**	**-0.2**
COVE	**Coope Vega, Sa**	**1.79 354**		*e*P	**Pn**	**16 58 01.8**	**+0.4**
PLVR	**Palo Verde**	**1.81 322**		*e*P	**Pn**	**16 58 03.4**	**+1.6**
CHIR3	**Chiriqui UPA,**	**1.93 106**		*e*P	**Pn**	**16 58 03.8**	**+0.5**
CHIR3				*e*S	**Sn**	**16 58 28.7**	**+0.9**
GMAL	**Guarumal, Vera**	**3.17 111**		*e*P	**Pb**	**16 58 25.4**	**-1.3**
GMAL				*e*S	**Sn**	**16 58 59.6**	**+1.4**

IDC 15 17:06:00.4$_{\pm}$**762.0, 28°.73N×103°.43E, h0**^{km}**, Error ellipse: s-maj=362.1km s-min=154.8km az=61.0, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**19.18**	**6**	*i*		19 04 50.0	
	baz=189,slow=342,SNR=1.2						
I45RU	**USSURIYSK INFR**	**27.49**	**48**	*i*		19 53 50.0	
	baz=237,slow=329,SNR=3.0						
I39PW	**PALAU INFRASON**	**36.12**	**120**	*i*		20 48 20.0	
	baz=309,slow=319,SNR=1.4						
I44RU	**PETROPAVLOVSK**	**46.32**

JFT	Otama	2.61	259	P	Pn	17 33 26.3	+1.3
JFT				eS	Sn	17 33 56.7	+0.6
JYK	Kaneyama	2.65	290	P	Pn	17 33 27.0	+1.5
JANG	Nango	2.80	326	S	Sn	17 33 59.5	-1.3
JAW	Awa shima	3.42	278	P	Pn	17 33 38.0	+2.0
JAG	Ashikaga	3.66	245	S	Sn	17 34 20.9	-1.2
BSO1	Boso 1	3.99	212	P	Pn	17 33 43.1	-0.3
BSO1				eS	Sn	17 34 28.1	-1.3
JRY	Ryogami san	4.25	243	P	Pn	17 33 48.7	+1.2
JRY				eS	Sn	17 34 33.9	-2.7
JNBK	Urakawa-nobuka	4.26	352	P	Pn	17 33 48.5	+0.9
JNBK				S	Sn	17 34 35.4	-1.3
JKB	Kayabe	4.28	334	S	Sn	17 34 35.1	-2.3
MJAR	Matsushiro Arr	4.53	252	Pn	Pn	17 33 54.0	+2.7
	0.1nm,0.3s,baz=63,slow=10,SNR=2.5						
MJAR				Sn	Sn	17 34 44.1	+0.6
	0.1nm,0.3s,baz=80,slow=25,SNR=1.7						
JCH	Churui	4.55	358	P	Pn	17 33 51.4	-0.2
JCH				eS	Sn	17 34 40.4	-3.5
JHJ	Hachijo jima 2	5.81	213	Pn	Pn	17 34 09.1	+0.1
	5.5nm,0.3s,baz=303,slow=8.1,SNR=1.3						
JHJ				Sn	Sn	17 35 08.2	-6.9
	8.1nm,0.3s,baz=248,slow=22,SNR=1.9						
ASAJ	Asahikawa	6.09	353	Pn	Pn	17 34 14.2	+1.4
	0.9nm,0.3s,baz=211,slow=9.5,SNR=4.6						
ASAJ				Sn	Sn	17 35 20.3	-1.6
	0.7nm,0.3s,baz=83,slow=33,SNR=1.6						
WRA	Warramunga Arr	58.34	190	P	P	17 42 37.6	-0.1
	0.9nm,0.8s,baz=7.9,slow=7.0,SNR=8.4						
ASAR	Alice Springs	62.07	190	P	P	17 43 03.8	+0.6
	0.4nm,0.8s,baz=358,slow=6.5,SNR=5.7						

*IDC **15** 17:51:42.0±2.9, 53°.72N×161°.13E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/42, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=67.1km s-min=43.7km az=40.0*
*KRSC **15** 17:51:49.1±1.2, 53°.32N×160°.68E, h42km±13km, ML3.9*
ISC 15 17:51:46.8±1.5,**53°.27N**±0°.05×**160°.89E**±0°.06,**h19**km±4km, **n40**,σ1§28/48,**mb3.3**/3,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.55	252	eP	Pn	17 52 00.9	+1.3
SPN				eS	Sn	17 52 07.9	-0.4
NLC	Nalytchevo	0.94	264	eP	Pg	17 52 05.4	+0.4
NLC				eS	Sb	17 52 16.1	-0.3
SDLR	Sedlovina	1.21	271	eP	Pb	17 52 09.2	+0.1
UGLR	Uglovaya	1.25	268	eP	Pb	17 52 10.0	+0.3
SMAR	Somma	1.26	270	eP	Pb	17 52 09.9	-0.1
KRER	Koryakskii	1.29	272	eP	Pb	17 52 10.6	+0.1
AVH	Avacha	1.29	270	eP	Pb	17 52 10.7	+0.2
AVH				eS	Sg	17 52 27.9	-0.8
DALK	Dalny	1.31	260	eP	Pb	17 52 10.6	-0.1
DALK				eS	Sn	17 52 25.1	-1.9
KOK	Koryaka	1.35	272	eP	Pb	17 52 11.2	-0.4
PET	Petropavlovsk	1.37	260	eP	Pb	17 52 11.6	-0.2
PET				eS	Sn	17 52 26.8	-1.7
MKZ	Mys Kozlova	1.38	21	eP	Pg	17 52 13.2	-0.1
MKZ				eS	Sb	17 52 29.4	+0.3
RUS	Russkaya	1.67	241	eP	Pb	17 52 16.2	-0.7
RUS				eS	Sn	17 52 34.6	-1.3
KRMR	Karymshinskiy	1.73	256	eP	Pb	17 52 16.8	-1.0
KRMR				eS	Sn	17 52 35.8	-1.4
GNL	Ganaly	1.81	285	eP	Pn	17 52 17.7	+0.6
MTVR	Mutnovka	1.82	245	eP	Pb	17 52 18.7	-0.9
MTVR				eS	Sn	17 52 38.8	-1.1
GRL	Gorelyy	1.85	248	eP	Pb	17 52 19.4	-0.7
PETK	Petropavlovsk-	1.93	266	Pn	Pn	17 52 19.0	+0.4
	19nm,0.3s,baz=71,slow=14,SNR=6.1						
PETK				Sn	Sn	17 52 42.6	+0.3
	9.8nm,0.3s,baz=50,slow=24,SNR=4.6						
TUMD	Tumrok D	1.95	352	eP	Pb	17 52 20.7	-1.1
TUMD				eS	Sn	17 52 42.6	-0.3
TUMR	Tumrok	2.06	348	eP	Pb	17 52 22.9	-0.7
KDTR	Khodutka, Kamc	2.26	231	eP	Pb	17 52 25.4	-1.5
KDTR				eS	Sn	17 52 50.8	+0.4
APC	Apacha	2.28	263	eP	Pb	17 52 25.3	-1.9
APC				eS	Sn	17 52 51.6	+0.8
KMNR	Kamenistaya	2.52	352	eP	Pb	17 52 30.1	-1.3
KIRR	Kirishev	2.70	353	eP	Pb	17 52 33.6	-1.0
BZWR	Bezymyannyi-We	2.71	355	eP	Pb	17 52 33.8	-0.8
KPT	Kopyto	2.73	352	eP	Pb	17 52 34.0	-0.9
ZLN	Zelenaya	2.75	359	eP	Pb	17 52 34.6	-0.7
ESO	Esso	2.95	335	eP	Pn	17 52 34.3	+1.8
KLY	Klyuchi	3.05	357	eP	Pb	17 52 37.8	-2.6
KLY				eS	Sn	17 53 12.2	+2.4
PAU	Pauzhetka	3.09	236	eP	Pb	17 52 39.1	-1.9
KBTR	Krutoberegovo	3.15	20	eP	Pb	17 52 39.2	-2.8
KBG	Krutoberegovo	3.17	19	eP	Pb	17 52 40.0	-2.4
H11N2	WAKE ISLAND Hy	33.80	170	T	T	18 34 47.5	
	baz=353,slow=76,SNR=18						
H11N3	WAKE ISLAND Hy	33.82	170	T	T	18 34 58.6	
	baz=353,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	33.82	170	T	T	18 34 58.9	
	baz=353,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	34.99	170	T	T	18 36 20.4	
	baz=352						
H11S3	WAKE ISLAND Hy	35.00	170	T	T	18 36 20.6	
	baz=352						
H11S2	WAKE ISLAND Hy	35.01	170	T	T	18 36 19.8	
	baz=352						
MKAR	Makanchi Array	48.51	296	P	P	18 00 25.7	-2.5
	0.1nm,0.3s,baz=69,slow=7.2,SNR=2.1						
WRA	Warramunga Arr	76.45	206	P	P	18 03 35.4	+0.5
	0.2nm,0.8s,baz=25,slow=6.3,SNR=1.3						
ASAR	Alice Springs	80.12	205	P	P	18 03 56.8	+1.5
	0.3nm,0.8s,baz=18,slow=4.9,SNR=4.1						

*IDC **15** 17:52:22.2±2.2, 17°.33S×179°.04W, h566km±20km, mb2.9/6, mb1 3.2/7, mb1mx3.0/28, mbtmp3.7/7, Error ellipse: s-maj=93.1km s-min=20.2km az=149.0*
ISC 15 17:52:19.7±1.5,**17°.4S**±0°.6×**178°.8W**±0°.3,**h539**km,**n10**, σ1§74/10,**mb3.2**/6,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.03	264	P	P	17 53 37.7	+3.6
	0.5nm,0.3s,baz=54,slow=19,SNR=4.7						
STKA	Stephens Creek	38.55	241	P	P	17 58 55.5	-0.9
	1.2nm,0.5s,baz=90,slow=13,SNR=4.6						
WRA	Warramunga Arr	44.36	259	P	P	17 59 41.4	-1.1
	0.4nm,0.5s,baz=96,slow=7.0,SNR=12						
ASAR	Alice Springs	44.57	254	P	P	17 59 43.3	-0.9
	4.5nm,0.5s,baz=89,slow=8.0,SNR=162						
ILAR	Eielson Array	85.49	13	P	P	18 03 59.4	-0.8
	0.5nm,1.0s,baz=230,slow=5.4,SNR=1.6						
TXAR	Lajitas Array	86.04	58	P	P	18 04 05.0	+1.2
	0.3nm,0.7s,baz=224,slow=6.3,SNR=3.1						
PDAR	Pinedale Array	87.25	44	P	P	18 04 09.3	0.0
	0.3nm,0.6s,baz=227,slow=2.0,SNR=3.0						
MKAR	Makanchi Array	108.53	314	PKiKP	PKiKP	18 09 45.4	-1.8
	0.1nm,0.4s,baz=114,slow=0.8,SNR=1.5						
BRTR	Keskin Array B	144.18	315	PKP	PKPdf	18 10 54.3	-0.4
	0.3nm,0.7s,baz=88,slow=3.3,SNR=1.7						
GERES	GERESS Array B	147.04	345	PKPbc	PKPbc	18 11 01.9	-0.2
	0.4nm,0.7s,baz=28,slow=4.4,SNR=3.6						

*IDC **15** 18:10:32.2±5.2, 36°.90N×72°.64E, h83km±42km, mb3.1/4, mb1 3.2/10, mb1mx3.0/39, mbtmp3.3/10, Error ellipse: s-maj=42.1km s-min=34.5km az=177.0*
ISC 15 18:10:34.8±1.2,**37°.2N**±0°.1×**72°.7E**±0°.2,**h100**km,**n10**, σ1§87/11,**mb3.2**/4,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.64	13	P	Pn	18 11 58.4	+2.2
	0.4nm,0.3s,baz=110,slow=6.3,SNR=9.0						
AAK				S	Sn	18 12 56.5	-3.3
	0.8nm,0.3s,baz=53,slow=18,SNR=10.0						
MKAR	Makanchi Array	11.97	33	P	Pn	18 13 22.2	+0.3
	0.0nm,0.3s,baz=202,slow=13,SNR=5.0						
KURBB	Kurchatov Arra	14.09	15	P	Pn	18 13 49.6	-0.1
	0.0nm,0.3s,baz=133,slow=26,SNR=2.3						
BVAR	Borovoye Array	15.95	355	P	P	18 14 15.7	+0.9
	0.1nm,0.3s,baz=0.6,slow=30,SNR=3.2						
AKTO	Aktyubinsk	16.95	326	P	P	18 14 26.3	+0.4
	0.2nm,0.3s,baz=123,slow=11,SNR=10						
ZALV	Zalesovo Beam	18.76	23	P	P	18 14 46.2	+0.5
	0.1nm,0.3s,baz=196,slow=10,SNR=5.6						
TORD	Torodi Ar. Bea	67.11	269	P	P	18 21 16.1	-1.8
	0.1nm,0.3s,baz=48,slow=4.9,SNR=1.6						
ILAR	Eielson Array	73.77	17	P	P	18 21 56.9	-0.7
	0.3nm,0.8s,baz=350,slow=4.8,SNR=2.2						
YKA	Yellowknife Ar	80.52	3	P	P	18 22 38.0	+2.6
	0.4nm,0.8s,baz=351,slow=5.2,SNR=4.7						
WRA	Warramunga Arr	81.18	123	P	P	18 22 38.9	-0.7
	0.2nm,0.6s,baz=324,slow=4.7,SNR=1.4						

*RSPR **15** 18:38:05.2, 17°.76N×68°.83W, h81km±5km, MD3.5/8*
*NEIC **15** 18:38:06.1±2.3, 17°.95N±0°.04×68°.47W±0°.06, h10km±4km, ML2.7/27, Md3.6/18(RSPR), Error ellipse: s-maj=7.9km s-min=5.0km az=109.0*
ISC 15 18:38:04.9±1.5,**17°.98N**±0°.07×**68°.61W**±0°.05,**h15**km±10km, **n38**,σ1§47/46,**8C-1D**,**Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.57	22		Pb	18 38 17.0	+0.4
PCDR					Sb	18 38 25.4	+0.8
CRPR	Cabo Rojo, PR	1.43	89⇑	eP	Pg	18 38 32.0	-0.4
CRPR	Cabo Rojo, PR	1.43	89	eS	Sg	18 38 53.3	+2.3
CRPR	Cabo Rojo, PR	1.43	89		Pn	18 38 29.5	-0.8
CRPR					Sn	18 38 47.9	-1.0
LSP	Las Mesas	1.46	82⇑	eP	Pg	18 38 32.5	-0.6
MLPR	Magueyes Islan	1.49	90⇑	eP	Pg	18 38 32.4	-1.3
MLPR	Magueyes Islan	1.49	90	eS	Sg	18 38 54.0	+1.0
MLPR	Magueyes Islan	1.49	90		Pn	18 38 30.2	-1.0
MLPR					Sn	18 38 50.2	-0.2
AGPR	Aguadilla, PR	1.50	71⇑	eP	Pg	18 38 33.6	-0.3
AGPR	Aguadilla, PR	1.50	71	eS	Sg	18 38 55.8	+2.3
AGPR	Aguadilla, PR	1.50	71		Pg	18 38 32.7	-1.2
AGPR				IAML		18 38 40.1	
	comp=E,90nm,1.9s						
AGPR					Sb	18 38 51.5	0.0
AGPR				IAML		18 38 56.8	
	comp=N,94nm,0.4s						
AOPR	Arecibo Observ	1.80	78⇑	eP	Pb	18 38 37.0	-0.7
AOPR	Arecibo Observ	1.80	78	eS	Sg	18 39 02.8	-0.2
AOPR	Arecibo Observ	1.80	78		Pn	18 38 35.9	+0.4
AOPR					Sn	18 38 57.9	-0.2
AOPR				IAML		18 39 07.1	
	comp=N,168nm,0.2s						
UUPR	Utuado, UPR, P	1.82	81	eS	Sg	18 39 02.8	-0.7
UUPR	Utuado, UPR, P	1.82	81		Sg	18 39 02.8	-0.7
OBIP	Obispado Ponce	1.91	88	Pn	Pn	18 38 36.8	-0.1
CELP	Cerrillos	1.94	87	Pn	Pn	18 38 37.4	0.0
CELP				IAML		18 39 08.2	
	comp=E,37nm,0.3s						
ICMP	Isla Caja de M	1.99	92	Pn	Pn	18 38 37.8	-0.2
ICMP				IAML		18 38 57.6	
	comp=N,51nm,0.1s						
ICMP				IAML		18 38 57.8	
	comp=E,50nm,0.1s						
EMPR	Esperanza - Ma	2.04	76⇑	eP	Pb	18 38 41.1	-0.5
EMPR	Esperanza - Ma	2.04	76	eS	Sb	18 39 07.9	+1.1
EMPR	Esperanza - Ma	2.04	76		Pn	18 38 37.9	-0.8
EMPR					Sn	18 39 01.3	-2.6
GCPR	Guaynabo City	2.42	82	Pn	Pn	18 38 42.8	-1.2
PDPR	Patillas Dam,	2.46	89	Pn	Pn	18 38 43.3	-1.3
PDPR				IAML		18 39 04.4	
	comp=E,39nm,2.0s						
HUMP	Col San Antoni	2.63	86	Pn	Pn	18 38 46.3	-0.5
HUMP				IAML		18 39 24.2	
	comp=N,52nm,0.2s						
CBYP	Canovanas	2.63	83⇑	eP	Pn	18 38 48.3	+1.3
CBYP	Canovanas	2.63	83	eS	Sb	18 39 22.6	-1.5
CBYP	Canovanas	2.63	83		Pn	18 38 48.3	+1.3
SDDR	Presa de Saban	2.73	292		Pb	18 38 52.4	-1.1
SDDR				IAML		18 39 29.5	
	comp=N,39nm,0.7s						
SDDR				IAML		18 39 34.8	
	comp=N,47nm,0.5s						
MTP	Monte Pirata	2.91	87⇑	eP	Pn	18 38 52.7	+2.0
MTP	Monte Pirata	2.91	87	eS	Sn	18 39 28.4	+2.9
MTP	Monte Pirata	2.91	87		Pn	18 38 51.8	+1.1
MTP					Sn	18 39 23.4	-2.1
MTP				IAML		18 39 31.8	
	comp=N,21nm,1.2s						
MTP				IAML		18 39 32.8	
	comp=E,21nm,0.2s						
CUPR	Culebra, Puert	3.18	84⇑	eP	Pn	18 38 56.3	+1.8
CUPR	Culebra, Puert	3.18	84	eS	Sn	18 39 35.7	+3.6
CUPR	Culebra, Puert	3.18	84		Pn	18 38 54.2	-0.2
CUPR					Sn	18 39 28.5	-3.6
CUPR				IAML		18 39 35.6	
	comp=E,12nm,1.1s						
STVI	Saint Thomas	3.50	83	Pn	Pn	18 38 58.6	-0.2
BIRV	Birongo	7.80	163	Pn	Pn	18 39 59.4	+1.4
BAUV	El Baul	9.00	176	Pn	Pn	18 40 15.8	+1.4

*NEIC **15** 18:50:09.2±1.7, 25°.26S±0°.06×175°.3W±0°.1, h10km±2km, mb4.5/7, Error ellipse: s-maj=19.6km s-min=8.7km az=71.0*
*IDC **15** 18:50:12.7±2.0, 25°.33S×176°.08W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/33, mbtmp3.8/5, ML5.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/54, Error ellipse: s-maj=64.1km s-min=33.4km az=158.0*
ISC 15 18:50:10.3±0.8,**25°.4S**±0°.1×**175°.3W**±0°.1,**h23**km,**n18**, σ1§00/15,**mb3.9**/5,**South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.98	40	Pn	Pn	18 52 03.7	-1.2
MSVF	Nonsavu	9.78	319	Pn	Pn	18 52 30.3	+0.6
	0.7nm,0.3s,baz=138,slow=18,SNR=2.7						
MSVF	Nonsavu	9.78	319		Pn	18 52 29.7	-0.1
URZ	Urewera	14.39	205		P	18 53 38.3	-1.1
RAR	Rarotonga	14.84	77		P	18 53 45.3	+0.8
KHZ	Kahutara	19.36	206	P	Pn	18 54 35.1	-0.3
KHZ				IAmb	IAmb	18 55 11.4	
	comp=Z,59nm,1.6s						
PPT	Papeete	25.13	77	LR	LR	19 06 18.4	
	comp=Z,34nm,18.1s,baz=125,slow=37						
CTA	Charters Tower	35.77	270	P	P	18 57 07.4	-0.4
	comp=Z,1.6nm,0.7s,baz=94,slow=12,SNR=5.9						
CTAO	Charters Tower	35.77	270	P	P	18 57 07.2	-0.7
CTAO				IAmb	IAmb	18 57 21.3	
	comp=Z,4.2nm,0.9s						
COEN	Coen	40.56	278	P	P	18 57 46.9	-1.4
COEN				IAmb	IAmb	18 57 52.0	
	comp=Z,23nm,1.5s						
PATS	Pohnpei	41.02	318	P	P	18 57 53.1	+1.2
ASAR	Alice Springs	46.03	261	P	P	18 58 33.5	+1.1
	comp=Z,0.8nm,0.8s,baz=93,slow=7.1,SNR=11						
WRA	Warramunga Arr	46.58	266	P	P	18 58 36.0	-0.8
	comp=Z,1.2nm,0.8s,baz=102,slow=7.4,SNR=5.4						
WRA	Warramunga Arr	46.58	266	IAmb	IAmb	18 58 41.1	
	comp=Z,0.3nm,1.1s						
KNRA	Kununurra	52.95	269	P	P	18 59 25.4	+0.1
CASY	Casey	60.71	207	P	P	19 00 21.2	+1.6
PDAR	Pinedale Array	90.82	42	P	P	19 03 21.1	+9.1
	comp=Z,0.2nm,0.5s,baz=233,slow=4.4,SNR=4.1						
AKASG	Malin Array Be	148.44	330	PKPbc	PKPab	19 09 58.0	-0.1
	comp=Z,0.2nm,0.3s,baz=51,slow=3.2,SNR=3.5						

*NEIC **15** 18:53:18.5±1.3, 3°.37S±0°.08×149°.40E±0°.07, h8km±5km, mb4.2/10, Error ellipse: s-maj=13.8km s-min=7.1km az=212.0*
*IDC **15** 18:53:28.2±4.7, 3°.58S×149°.34E, h88km±47km, mb3.5/8, mb1 3.7/10, mb1mx3.5/35, mbtmp3.9/10, MS3.9/10, Ms1 3.9/10, ms1mx3.6/24, Error ellipse: s-maj=49.0km s-min=25.3km az=115.0*
ISC 15 18:53:19.6±0.7,**3°.33S**±0°.07×**149°.45E**±0°.08,**h20**km,**n40**, σ1§32/27,**mb4.0**/13,**MS4.0**/5,**Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	2.45	301		Pn	18 53 55.9	-2.5
RABL	Rabaul	2.84	108		Pn	18 54 01.6	-2.3
PMG	Port Moresby	6.45	201	P	Pn	18 54 58.8	+5.3
	0.5nm,0.3s,baz=286,slow=20,SNR=2.5						
PMG				S	Sn	18 56 05.4	-1.2
	0.2nm,0.3s,baz=11,slow=16,SNR=1.6						
PMG				LR	LR	18 57 23.1	
	comp=Z,714nm,21.2s,baz=12,slow=38						
PMG	Port Moresby	6.45	201		Pn	18 54 54.5	+0.9
JAY	Jayapura	8.78	275	LR	LR	18 58 24.8	
	comp=Z,518nm,19.5s,baz=71,slow=34						
HNR	Honiara	12.06	121	LR	LR	19 01 21.6	
	comp=Z,576nm,18.9s,baz=300,slow=39						
CTA	Charters Tower	16.95	190	P	P	18 57 18.6	+1.0
	0.1nm,0.3s,baz=114,slow=11,SNR=3.5						
CTA				LR	LR	19 03 53.2	
	comp=Z,288nm,20.0s,baz=12,slow=38						
GUMO	Guam	17.41	345	LR	LR	19 05 01.9	
	comp=Z,409nm,18.5s,baz=174,slow=39						
EIDS	Eidsvold	21.97	176	P	P	18 58 11.9	-0.4
WB0	Warramunga Arr	21.98	221	P	P	18 58 11.3	-1.2
WB0				IAmb	IAmb	18 58 18.8	
	comp=Z,6.1nm,0.9s						
WR0	Warramunga Arr	22.02	220	P	P	18 58 12.4	-0.6
WR0				IAmb	IAmb	18 58 15.3	
	comp=Z,6.0nm,0.8s						
WRAB	Tennant Creek	22.12	221	P	P	18 58 13.3	-0.8
WRAB				IAmb	IAmb	18 58 17.5	
	comp=Z,13nm,0.9s						
WB2	Warramunga Arr	22.13	221	P	P	18 58 13.3	-0.9
WB2				IAmb	IAmb	18 58 17.6	
	comp=Z,10nm,0.9s						
WRA	Warramunga Arr	22.14	221	P	P	18 58 13.2	-1.1
	comp=Z,7.2nm,0.8s,baz=42,slow=11,SNR=19						
WRA				LR	LR	19 07 17.0	
	comp=Z,253nm,19.0s,baz=30,slow=38						
WRA	Warramunga Arr	22.14	221	P	P	18 58 13.4	-0.9
KNRA	Kununurra	23.77	238	P	P	18 58 29.0	-2.1
KNRA				IAmb	IAmb	18 58 44.8	
	comp=Z,8.2nm,0.9s						
DZM	Mont Dzumac	24.88	140	LR	LR	19 07 10.4	
	comp=Z,568nm,19.7s,baz=289,slow=33						
ONTNC	Quen Toro	25.06	140	P	P	18 58 43.5	+0.7
AS31	Alice Springs	25.19	215	P	P	18 58 43.1	-1.0
ASAR	Alice Springs	25.19	215	P	P	18 58 42.6	-1.4
	comp=Z,1.2nm,0.7s,baz=46,slow=7.9,SNR=9.3						
ASAR	Alice Springs	25.19	215	P	P	18 58 43.5	-0.6
ARMA	Armidale	27.02	176	P	P	18 58 58.7	-2.0
H11S3	WAKE ISLAND Hy	27.54	37	T	T	19 27 56.0	
	baz=227,slow=76,SNR=3.7						
H11S2	WAKE ISLAND Hy	27.55	37	T	T	19 28 01.7	
	SNR=2.5						
FITZ	Fitzroy Crossi	27.56	236	P	P	18 59 05.9	+0.4
	comp=Z,8.0nm,0.8s,baz=75,slow=8.2,SNR=16						
H11S1	WAKE ISLAND Hy	27.56	37	T	T	19 27 58.8	
	baz=219,slow=76,SNR=3.7						
H11N1	WAKE ISLAND Hy	28.60	36	T	T	19 29 10.7	
	baz=218,slow=76,SNR=3.3						
H11N3	WAKE ISLAND Hy	28.62	36	T	T	19 29 14.2	
	baz=218,slow=76,SNR=3.2						
H11N2	WAKE ISLAND Hy	28.62	36	T	T	19 29 16.1	
	baz=218,slow=76,SNR=4.5						
JOW	Kunigami	36.30	327	LR	LR	19 12 50.0	
	comp=Z,264nm,21.7s,baz=132,slow=32						
MJAR	Matsushiro Arr	41.03	346	LR	LR	19 16 55.2	
	comp=Z,139nm,18.9s,baz=178,slow=34						
CMAR	Chiang Mai Arr	54.23	295	P	P	19 02 45.5	+0.9
	comp=Z,0.7nm,0.7s,baz=104,slow=5.5,SNR=7.4						
CMAR	Chiang Mai Arr	54.23	295	P	P	19 02 44.0	-0.6
KLR	Kul'dur	54.56	346	P	P	19 02 48.1	+1.8
	comp=Z,0.8nm,0.7s,baz=164,slow=7.4,SNR=3.7						
SONM	Songino Array	63.33	329	LR	LR	19 34 02.8	
	comp=Z,101nm,18.1s,baz=172,slow=38						
MKAR	Makanchi Array	77.04	319	P	P	19 05 12.8	+1.4
	comp=Z,0.2nm,0.7s,baz=107,slow=5.0,SNR=2.2						
MKAR	Makanchi Array	77.04	319	P	P	19 05 12.1	+0.7
ZALV	Zalesovo Beam	78.10	327	P	P	19 05 17.3	+0.2
	comp=Z,0.2nm,0.2s,baz=169,slow=1.5,SNR=3.6						
ILAR	Eielson Array	82.09	23	P	P	19 05 40.0	+1.5
	comp=Z,0.6nm,0.8s,baz=246,slow=6.7,SNR=3.5						
TORD	Torodi Ar. Bea	146.68	289	PKPbc	PKPbc	19 13 01.4	+0.3
	comp=Z,0.5nm,0.7s,baz=36,slow=3.7,SNR=2.7						

NNC 15 18:53:21.9±8.9,**36°.76N**×**70°.60E**,**h131**km±206km,**mb3.1**, **mpv3.8**,**5C-3D**,**Error ellipse: s-maj=74.0km s-min=53.8km az=14.0**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	6.34	359	⇓P	Pn	18 54 54.7	+1.8
	8.5nm,0.3s,baz=179,slow=13						
KK02				⇑S	Sn	18 56 06.1	+2.1
	5.4nm,0.6s,baz=186,slow=22						
AAK	Ala-Archa	6.59	26	⇑P	Pn	18 54 55.5	-0.9
	1.7nm,0.5s						
AAK				⇑S	Sn	18 56 09.1	-1.3
	4.6nm,0.6s						
TKM2	Tokmak 2	7.25	30	⇓P	Pn	18 55 04.9	-0.5
	3.1nm,0.6s						
TKM2				⇑S	Sn	18 56 26.7	+0.3
	1.3nm,0.8s						
AB31	Akbulak array	14.70	331	⇓P	Pn	18 56 44.0	+0.7
	0.3nm,0.3s,baz=262,slow=35,SNR=24						
AB31				⇑S	Sn	18 59 25.1	-0.8
	0.2nm,0.3s,baz=150,slow=22,SNR=4.3						

IDC 15 18:54:44.8±2.1,**3°.56S**×**148°.84E**,**h0**km,**mb3.8**/5, **mb1 4.0**/5,**mb1mx3.7**/33,**mbtmp3.8**/5,**MS3.9**/13, **Ms1 3.9**/13,**ms1mx3.6**/43,**Error ellipse: s-maj=82.2km s-min=28.4km az=118.0**,**Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.57	220	P	P	18 59 35.2	-0.9
	4.1n

comp=Z,20nm,18.2s,baz=102,slow=38
STKA Stephens Creek 36.65 158 P **P 19 28 08.4 -0.3**
0.3nm,0.3s,baz=319,slow=20,SNR=1.2
MKAR Makanchi Array 58.84 326 P **P 19 31 00.9 +0.3**
0.1nm,0.5s,baz=116,slow=6.6,SNR=1.8

*NDI **15** 19:24:50.3±3.2, 11°.52N×92°.79E, h59km±17km, mb4.1, ML4.5, mb4.3(NEIC)*
*NEIC **15** 19:24:52.5±2.5, 11°.76N±0°.08×92°.86E±0°.07, h50km±4km, mb4.3/22, Error ellipse: s-maj=11.5km s-min=8.6km az=206.0*
*IDC **15** 19:24:58.5±3.5, 11°.88N×93°.22E, h109km±32km, mb3.5/8, mb1 3.6/10, mb1mx3.4/44, mbtmp3.9/10, MS3.0/3, Ms1 3.0/3, ms1mx2.6/70, Error ellipse: s-maj=23.4km s-min=16.0km az=58.0*
ISC 15 19:24:51.6±0.6, 11°.66N±0°.05×92°.86E±0°.05, h50km±6km, n63, σ1°.42/64, mb4.1/16, MS3.0/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.12**	**266**	*eP*	**Pn**	**19 24 59.6**	**+0.1**
PBA				*eS*	**Sn**	**19 25 05.9**	**+0.8**
PBA				IAML		19 25 07.6	
	comp=E,49μm,0.7s						
PBA				IAML		19 25 07.8	
	comp=N,91μm,0.7s						
PBA	**Port Blair**	**0.12**	**266**		**Pn**	**19 24 59.6**	**+0.1**
PBA				Sn	**Sn**	**19 25 06.0**	**+0.8**
DGPR	**DIGLIPUR**	**1.51**	**3**	*eP*	**Pn**	**19 25 16.3**	**+0.1**
DGPR				*eS*	**Sn**	**19 25 37.6**	**+3.0**
DGPR				IAML		19 25 48.3	
	comp=E,3μm,0.2s						
DGPR				IAML		19 25 48.4	
	comp=N,3μm,0.3s						
SRIT	**Nakonsritamara**	**7.30**	**114**		**Pn**	**19 26 38.3**	**+2.6**
LHMI	**Lhok Sumawe**	**7.56**	**147**	Pn	**Pn**	**19 26 37.6**	**-1.7**
CM31	**Chiang Mai Arr**	**8.95**	**40**		**Pn**	**19 26 58.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**8.95**	**40**	P	**Pn**	**19 26 59.6**	**+1.3**
	comp=N,0.7nm,0.3s,baz=230,slow=14,SNR=41						
CMAR				S	**Sn**	**19 28 35.5**	**-2.3**
	baz=237,slow=25,SNR=1.6						
CMAR	**Chiang Mai Arr**	**8.95**	**40**		**Pn**	**19 26 59.4**	**+1.2**
CHTO	**Chiang Mai**	**9.22**	**39**		**Pn**	**19 27 01.8**	**-0.1**
KULM	**Kulim**	**9.97**	**129**	Pn	**Pn**	**19 27 15.1**	**+2.9**
VIS	**Vishakhapatnam**	**11.01**	**304**	*eP*	**Pn**	**19 27 25.9**	**-0.6**
VIS				*eS*	Sn	19 29 15.9	-12
RAGD	**RAYAGADA**	**11.79**	**311**	*ex*	**Pn**	**19 27 36.8**	**-0.3**
PALK	**Pallekele**	**12.76**	**251**	P	**P**	**19 28 01.1**	**+0.9**
	comp=N,0.5nm,0.3s,baz=117,slow=4.0,SNR=1.2						
PALK	**Pallekele**	**12.76**	**251**	Pn	**P**	**19 27 57.4**	**-2.8**
UBPT	**Khong Chiam**	**12.78**	**72**	Pn	**Pn**	**19 27 53.4**	**+2.8**
MYLAV	**Mylavaram**	**12.89**	**295**	*ePn*	**Pn**	**19 27 52.9**	**+0.7**
MYLAV				*eSn*	**Sn**	**19 30 14.6**	**+0.5**
IMP	**Imphal**	**13.14**	**4**	*eP*	**Pn**	**19 27 53.2**	**-2.3**
SHL	**Shillong**	**13.86**	**356**	*eP*	**Pn**	**19 28 06.7**	**+1.1**
SHL				IAmb	IAmb	19 28 11.0	
	comp=Z,3.6nm,0.6s						
SHL	**Shillong**	**13.86**	**356**	Pn	**Pn**	**19 28 04.6**	**-1.0**
KOHI	**KOHIMA**	**14.03**	**5**	*eP*	**Pn**	**19 28 05.1**	**-2.7**
RCLA	**Racherla**	**14.04**	**287**	*ePn*	**Pn**	**19 28 08.4**	**+0.6**
SRLM	**Srisailam**	**14.26**	**290**	*ePn*	**Pn**	**19 28 11.1**	**+0.2**
MOKO	**MOKOCHONG**	**14.66**	**6**	*eP*	**Pn**	**19 28 16.1**	**-0.1**
HYBB	**Hyderabad (bro**	**14.98**	**294**	*ePn*	**Pn**	**19 28 20.3**	**0.0**
HYBB				*eSn*	**Sn**	**19 31 06.1**	**+0.8**
URV	**Uravakonda**	**15.53**	**284**	*ePn*	**Pn**	**19 28 28.0**	**+0.6**
URV				*eSn*	**Sn**	**19 31 19.7**	**+1.1**
MNAI	**Manna**	**18.82**	**147**	P	**P**	**19 29 07.5**	**+0.2**
ENH	**Enshi**	**24.10**	**37**	P	**P**	**19 30 01.4**	**-1.3**
ENH				IAmb	IAmb	19 30 03.4	
	comp=Z,11nm,1.0s						
SMLA	**Simla**	**24.21**	**326**	*eP*	**P**	**19 30 06.5**	**+3.0**
KNMB	**Chin-men Tao**	**27.34**	**59**	P	**P**	**19 30 30.8**	**-1.2**
H08S3	**Diego Garcia H**	**27.90**	**228**	T	T	19 59 05.8	
	baz=47,slow=75,SNR=4.8						
H08S2	**Diego Garcia H**	**27.90**	**228**	T	T	19 59 05.5	
	baz=47,slow=75,SNR=6.6						
H08S1	**Diego Carcia H**	**27.91**	**228**	T	T	19 59 05.0	
	baz=47,slow=75,SNR=3.9						
TARG	**Taragay, Kyrgy**	**32.73**	**339**	P	**P**	**19 31 17.8**	**-2.2**
TARG				IAmb	IAmb	19 31 35.4	
	comp=Z,4.8nm,1.5s						
TNTI	**Ternate**	**35.91**	**105**	P	**P**	**19 31 48.8**	**+1.4**
MK31	**Makanchi Array**	**36.14**	**348**	P	**P**	**19 31 48.5**	**-0.4**
MKAR	**Makanchi Array**	**36.14**	**348**	P	**P**	**19 31 49.3**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=169,slow=8.5,SNR=15						
MKAR	**Makanchi Array**	**36.14**	**348**	P	**P**	**19 31 49.0**	**0.0**
MAKZ	**Makanchi**	**36.22**	**347**	P	**P**	**19 31 49.4**	**-0.2**
MAKZ				IAmb	IAmb	19 31 50.7	
	comp=Z,1.5nm,0.7s						
JOW	**Kunigami**	**36.53**	**60**	LR	LR	19 47 28.7	
	comp=Z,23nm,18.2s,baz=92,slow=37						
KKAR	**Karatay Array**	**36.84**	**332**	P	**P**	**19 31 55.9**	**+0.9**
SONM	**Songino Array**	**37.80**	**15**	P	**P**	**19 32 01.3**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=262,slow=31,SNR=2.9						
SONM	**Songino Array**	**37.80**	**15**	IAmb	IAmb	19 32 05.8	
	comp=Z,5.9nm,1.6s						
ULN	**Ulaanbaatar**	**38.00**	**16**	P	**P**	**19 32 04.5**	**-0.4**
KSRS	**Korea Array**	**40.56**	**45**	P	**P**	**19 32 23.0**	**-3.1**
	comp=Z,0.7nm,0.6s,baz=236,slow=8.4,SNR=5.0						
KSRS				LR	LR	19 49 35.3	
	comp=Z,19nm,19.8s,baz=220,slow=37						
PSA00	**Pilbara Seismi**	**42.34**	**141**	P	**P**	**19 32 40.8**	**-0.1**
PSA00				IAmb	IAmb	19 32 43.5	
	comp=Z,5.4nm,1.3s						
PSA00	**Pilbara Seismi**	**42.34**	**141**	P	**P**	**19 32 40.9**	**-0.1**
PSA00				IAmb	IAmb	19 33 03.7	
	comp=Z,16nm,1.4s						
ZALV	**Zalesovo Beam**	**42.66**	**353**	P	**P**	**19 32 43.0**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=171,slow=6.7,SNR=7.0						
KNRA	**Kununurra**	**44.73**	**127**	P	**P**	**19 33 00.7**	**+0.5**
KNRA				IAmb	IAmb	19 33 13.6	
	comp=Z,9.6nm,1.2s						
MTN	**Manton Dam**	**45.11**	**122**	P	**P**	**19 33 05.0**	**+1.7**
ABKAR	**Akbulak array**	**46.33**	**331**	P	**P**	**19 33 12.1**	**-0.4**
INU	**Inuyama**	**46.35**	**52**	P	**P**	**19 33 12.5**	**-0.4**
JSD	**Sado**	**48.21**	**49**	P	**P**	**19 33 25.4**	**-1.9**
GUMO	**Guam**	**50.71**	**82**	LR	LR	19 55 21.0	
	comp=Z,13nm,18.2s,baz=51,slow=36						
WB0	**Warramunga Arr**	**51.45**	**127**	P	**P**	**19 33 52.7**	**+0.5**
WB0				IAmb	IAmb	19 33 57.9	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**51.51**	**127**	P	**P**	**19 33 52.0**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=309,slow=7.8,SNR=34						
WRA	**Warramunga Arr**	**51.51**	**127**	P	**P**	**19 33 52.3**	**-0.3**
WB2	**Warramunga Arr**	**51.52**	**127**	P	**P**	**19 33 53.2**	**+0.5**
WB2				IAmb	IAmb	19 34 19.2	
	comp=Z,4.6nm,1.1s						
WR0	**Warramunga Arr**	**51.68**	**127**	P	**P**	**19 33 51.7**	**-2.2**
WR0				IAmb	IAmb	19 34 18.2	
	comp=Z,6.1nm,1.4s						
ASAR	**Alice Springs**	**53.33**	**131**	P	**P**	**19 34 06.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=308,slow=6.3,SNR=14						
BRTR	**Keskin Array B**	**59.04**	**309**	P	**P**	**19 34 47.6**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=272,slow=32,SNR=2.4						
BBOO	**Buckleboo**	**60.46**	**139**	P	**P**	**19 34 57.5**	**+1.1**
TIXI	**Tiksi**	**63.80**	**12**	P	**P**	**19 35 17.3**	**-0.8**
FINES	**FINESS Array B**	**68.80**	**332**	P	**P**	**19 35 50.7**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=92,slow=8.6,SNR=3.9						

*NEIC **15** 19:29:40.3±2.1, 19°.59N±0°.05×64°.43W±0°.05, h8km±4km, mb4.6/39, ML4.1/18, ML4.0/18(RSPR), Error ellipse: s-maj=8.0km s-min=6.9km az=208.0*
*RSPR **15** 19:29:45.1, 19°.59N×64°.41W, h25km±22km, MD3.9/18*
*OSPL **15** 19:29:46.6±0.6, 19°.20N×64°.43W, h17km±98km, ML4.0*
*IDC **15** 19:29:49.3±3.4, 19°.47N×64°.48W, h67km±33km, mb3.8/17, mb1 4.0/20, mb1mx3.8/48, mbtmp4.2/20, ML3.6/3, MS3.4/5, Ms1 3.5/5, ms1mx2.8/83, Error ellipse: s-maj=17.4km s-min=13.1km az=58.0*
ISC 15 19:29:40.8±1.1, 19°.56N±0°.04×64°.47W±0°.03, h10km±6km, n277, σ1°.80/288, mb4.5/38, 14C-11D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.15**	**187**	*eP*	**Pn**	**19 30 03.7**	**+0.8**
TBVI	**Tortola**	**1.15**	**187**	*eS*	**Sg**	**19 30 18.4**	**+0.7**
STVI	**Saint Thomas**	**1.29**	**201**	*eP*	**Pb**	**19 30 05.5**	**+0.5**
STVI	**Saint Thomas**	**1.29**	**201**	*eS*	**Sb**	**19 30 22.1**	**+0.5**
STVI	**Saint Thomas**	**1.29**	**201**	Pn	**Pn**	**19 30 05.1**	**+0.3**
STVI				Sn	**Sb**	**19 30 22.5**	**+0.9**
STVI				IAML		19 30 26.7	
	comp=N,3μm,0.8s						
CUPR	**Culebra, Puert**	**1.46**	**212**	*eP*	**Pb**	**19 30 08.6**	**+0.5**
CUPR	**Culebra, Puert**	**1.46**	**212**	*eS*	**Sn**	**19 30 27.1**	**+0.7**
CUPR	**Culebra, Puert**	**1.46**	**212**	Pn	**Pb**	**19 30 08.4**	**+0.4**
CUPR				Sn	**Sn**	**19 30 26.7**	**+0.2**
MTP	**Monte Pirata**	**1.78**	**215**	*eP*	**Pb**	**19 30 13.4**	**0.0**
MTP	**Monte Pirata**	**1.78**	**215**	*eS*	**Sn**	**19 30 35.1**	**+0.9**
MTP	**Monte Pirata**	**1.78**	**215**		**Pn**	**19 30 12.7**	**+1.1**
MTP	**Monte Pirata**	**1.78**	**215**		**Sn**	**19 30 35.1**	**+0.9**
CDVI	**St. Croix**	**1.82**	**189**	*eP*	**Pb**	**19 30 14.0**	**-0.2**
CDVI	**St. Croix**	**1.82**	**189**		**Pn**	**19 30 13.4**	**+1.2**
CDVI				Sn	**Sn**	**19 30 36.5**	**+1.2**
CBYP	**Canovanas**	**1.83**	**226**	*eP*	**Pn**	**19 30 13.8**	**+1.4**
CBYP	**Canovanas**	**1.83**	**226**	*eS*	**Sn**	**19 30 36.2**	**+0.5**
CBYP	**Canovanas**	**1.83**	**226**		**Pn**	**19 30 13.4**	**+1.0**
CBYP				Sn	**Sn**	**19 30 35.2**	**-0.4**
HUMP	**Col San Antoni**	**1.92**	**223**	*eP*	**Pn**	**19 30 15.0**	**+1.4**
HUMP	**Col San Antoni**	**1.92**	**223**	*eS*	**Sn**	**19 30 38.5**	**+0.7**
HUMP	**Col San Antoni**	**1.92**	**223**		**Pn**	**19 30 14.9**	**+1.4**
HUMP	**Col San Antoni**	**1.92**	**223**		**Sn**	**19 30 38.5**	**+0.7**
GCPR	**Guaynabo City**	**1.97**	**231**	*eP*	**Pn**	**19 30 15.4**	**+1.3**
GCPR	**Guaynabo City**	**1.97**	**231**	*eS*	**Sn**	**19 30 40.2**	**+1.3**
GCPR	**Guaynabo City**	**1.97**	**231**		**Pn**	**19 30 15.3**	**+1.1**
GCPR	**Guaynabo City**	**1.97**	**231**		**Sn**	**19 30 40.2**	**+1.3**
SMRT	**St. Maarten**	**2.00**	**138**	*eP*	**Pb**	**19 30 16.5**	**-0.9**
SMRT				*eS*	**Sn**	**19 30 40.3**	**+0.5**
SMRT	**St. Maarten**	**2.00**	**138**	Pn	**Pn**	**19 30 14.8**	**+0.1**
SMRT				IAML		19 30 54.8	
	comp=N,1μm,0.7s						
SMRT				IAML		19 30 58.1	
	comp=E,2μm,0.5s						
PDPR	**Patillas Dam,**	**2.12**	**224**	*eP*	**Pn**	**19 30 18.1**	**+1.8**
PDPR	**Patillas Dam,**	**2.12**	**224**	*eS*	**Sn**	**19 30 43.4**	**+0.7**
PDPR	**Patillas Dam,**	**2.12**	**224**		**Pn**	**19 30 17.5**	**+1.2**
SJG	**San Juan**	**2.14**	**228**	*i P*	**Pn**	**19 30 18.2**	**+1.6**
SJG				*eS*	**Sn**	**19 30 40.3**	**-3.0**
SJG	**San Juan**	**2.14**	**228**		**Pn**	**19 30 18.0**	**+1.4**
SJG				IAML		19 30 44.6	
	comp=E,726nm,0.5s						
SJG				IAML		19 30 53.0	
	comp=E,950nm,0.6s						
IGPR	**InterUniversit**	**2.22**	**225**	*eP*	**Pn**	**19 30 19.3**	**+1.7**
IGPR	**InterUniversit**	**2.22**	**225**	*eS*	**Sn**	**19 30 45.4**	**+0.4**
EMPR	**Esperanza - Ma**	**2.22**	**241**	*eP*	**Pn**	**19 30 19.7**	**+2.0**
EMPR	**Esperanza - Ma**	**2.22**	**241**	*eS*	**Sn**	**19 30 46.1**	**+0.9**
EMPR	**Esperanza - Ma**	**2.22**	**241**		**Pn**	**19 30 19.4**	**+1.7**
AOPR	**Arecibo Observ**	**2.47**	**241**	*eP*	**Pn**	**19 30 22.9**	**+1.8**
AOPR	**Arecibo Observ**	**2.47**	**241**	*eS*	**Sn**	**19 30 52.3**	**+0.9**
AOPR	**Arecibo Observ**	**2.47**	**241**	*eP*	**Pn**	**19 30 22.1**	**+1.0**
AOPR	**Arecibo Observ**	**2.47**	**241**		**Pn**	**19 30 22.5**	**+1.4**
AOPR				IAML		19 31 07.0	
	comp=N,2μm,0.5s						
CELP	**Cerrillos**	**2.48**	**234**	*eP*	**Pn**	**19 30 23.0**	**+1.8**
CELP	**Cerrillos**	**2.48**	**234**	*eS*	**Sn**	**19 30 52.9**	**+1.2**
CELP	**Cerrillos**	**2.48**	**234**	Pn	**Pn**	**19 30 22.8**	**+1.5**
CELP				IAML		19 31 01.8	
	comp=N,566nm,0.6s						
UUPR	**Utuado, UPR, P**	**2.49**	**239**	*eP*	**Pn**	**19 30 23.4**	**+2.0**
UUPR	**Utuado, UPR, P**	**2.49**	**239**	*eS*	**Sn**	**19 30 53.5**	**+1.6**
UUPR	**Utuado, UPR, P**	**2.49**	**239**		**Pn**	**19 30 23.4**	**+2.0**
UUPR					**Sn**	**19 30 53.5**	**+1.6**
OBIP	**Obispado Ponce**	**2.52**	**234**	*eP*	**Pn**	**19 30 23.6**	**+1.8**
OBIP	**Obispado Ponce**	**2.52**	**234**	*eS*	**Sn**	**19 30 54.1**	**+1.5**
OBIP	**Obispado Ponce**	**2.52**	**234**		**Pn**	**19 30 23.3**	**+1.5**
OBIP				IAML		19 31 15.1	
	comp=N,575nm,1.0s						
ICMP	**Isla Caja de M**	**2.56**	**230**	*eP*	**Pn**	**19 30 24.8**	**+2.5**
ICMP	**Isla Caja de M**	**2.56**	**230**	Pn	**Pn**	**19 30 24.3**	**+1.9**
ICMP				IAML		19 31 00.6	
	comp=N,746nm,0.7s						
AGPR	**Aguadilla, PR**	**2.72**	**247**	*eP*	**Pn**	**19 30 26.7**	**+2.2**
AGPR	**Aguadilla, PR**	**2.72**	**247**	*eS*	**Sn**	**19 30 58.2**	**+0.7**
AGPR	**Aguadilla, PR**	**2.72**	**247**		**Pn**	**19 30 25.2**	**+0.7**
AGPR	**Aguadilla, PR**	**2.72**	**247**	*i P*	**Pn**	**19 30 26.9**	**+2.3**
AGPR				IAML		19 31 18.8	
	comp=Z,295nm,1.1s						
SKI	**Saint Kitts**	**2.76**	**143**	*eP*	**Pn**	**19 30 26.4**	**+1.3**
SKI				*eS*	**Sn**	**19 30 54.6**	**-3.9**
SKI	**Saint Kitts**	**2.76**	**143**	Pn	**Pn**	**19 30 25.7**	**+0.6**
GBPR	**Guanica, Bosqu**	**2.77**	**236**	*eP*	**Pn**	**19 30 27.6**	**+2.3**
GBPR	**Guanica, Bosqu**	**2.77**	**236**	*eS*	**Sn**	**19 30 59.9**	**+1.2**
LSP	**Las Mesas**	**2.83**	**241**	*eP*	**Pn**	**19 30 28.2**	**+2.1**
LSP	**Las Mesas**	**2.83**	**241**	*eS*	**Sn**	**19 31 01.7**	**+1.4**
PRSN	**Puerto Rico Se**	**2.86**	**243**		**Pn**	**19 30 27.1**	**+0.7**
MLPR	**Magueyes Islan**	**2.90**	**237**	*eP*	**Pn**	**19 30 28.0**	**+1.0**
MLPR	**Magueyes Islan**	**2.90**	**237**	*eS*	**Sn**	**19 31 03.7**	**+1.6**
MLPR	**Magueyes Islan**	**2.90**	**237**	Pn	**Pn**	**19 30 27.8**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.94**	**239**	*eP*	**Pn**	**19 30 29.5**	**+1.9**
CRPR	**Cabo Rojo, PR**	**2.94**	**239**	*eS*	**Sn**	**19 31 04.2**	**+1.4**
CRPR	**Cabo Rojo, PR**	**2.94**	**239**	Pn	**Pn**	**19 30 28.2**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.94**	**239**	*i P*	**Pn**	**19 30 29.4**	**+1.9**
CRPR				*eS*	**Sn**	**19 31 00.4**	**-2.4**
CRPR				IAML		19 31 15.5	
	comp=Z,507nm,0.5s						
IDE	**Isla Desecheo**	**3.07**	**248**	*eP*	**Pn**	**19 30 31.4**	**+2.0**
IDE	**Isla Desecheo**	**3.07**	**248**	*eS*	**Sn**	**19 31 07.4**	**+1.2**
ANWB	**Willy Bob**	**3.17**	**126**	*eP*	**Pn**	**19 30 29.6**	**-1.2**
ANWB				*eS*	**Sn**	**19 31 05.7**	**-2.9**
ANWB	**Willy Bob**	**3.17**	**126**	Pn	**Pn**	**19 30 29.4**	**-1.4**
ANBD	**Bethesda, Anti**	**3.59**	**134**	*eP*	**Pn**	**19 30 36.1**	**-0.4**
ANBD				*eS*	**Sn**	**19 31 15.6**	**-3.3**
PCDR	**Punta Cana, DR**	**3.84**	**255**	*eP*	**Pn**	**19 30 41.9**	**+2.0**
PCDR	**Punta Cana, DR**	**3.84**	**255**	Pn	**Pn**	**19 30 40.9**	**+0.9**
CBE	**Ff, Capester**	**4.42**	**141**	*eP*	**Pn**	**19 30 48.7**	**+0.8**
CBE	**Ff, Capester**	**4.42**	**141**	*eS*	**Sn**	**19 31 40.6**	**+1.2**
TBG	**Guadaloupe-3**	**4.57**	**143**	*eP*	**Pn**	**19 30 51.5**	**+1.6**
TDBA	**Terre de Bas,**	**4.58**	**143**	*eP*	**Pn**	**19 30 51.1**	**+1.0**
MAGL	**Barre de l'ile**	**4.71**	**139**	*eP*	**Pn**	**19 30 53.2**	**+1.3**
MAGL	**Barre de l'ile**	**4.71**	**139**	*eS*	**Sn**	**19 31 43.5**	**-3.0**
MDCT	**Cottage Hill,**	**4.86**	**143**	*eP*	**Pn**	**19 30 55.9**	**+1.9**
DSLB	**Salisbury**	**5.03**	**144**	*eP*	**Pn**	**19 30 56.9**	**+0.6**
SDD	**Santo Domingo**	**5.26**	**259**	Pn	**Pn**	**19 31 03.0**	**+3.5**
SDD				IAML		19 32 09.3	
	comp=N,270nm,0.8s						
SVN	**Savane Anatole**	**5.66**	**146**	Pn	**Pn**	**19 31 05.8**	**+0.9**
FDF	**Fort de France**	**5.76**	**146**	Pn	**Pn**	**19 31 07.1**	**+0.8**
SC01	**Santiago de lo**	**5.90**	**270**		**Pn**	**19 31 08.6**	**+0.3**
BIM	**Bigot**	**5.98**	**146**	*eP*	**Pn**	**19 31 08.2**	**-1.2**
MPOM	**Morne Pois Mar**	**6.15**	**145**	*eP*	**Pn**	**19 31 14.7**	**+2.9**
MPOM	**Morne Pois Mar**	**6.15**	**145**	*eS*	**Sn**	**19 32 21.4**	**-0.8**
SDDR	**Presa de Saban**	**6.46**	**266**	*eP*	**Pn**	**19 31 18.7**	**+2.7**
SDDR	**Presa de Saban**	**6.46**	**266**	*eS*	**Sn**	**19 32 29.5**	**-0.4**
SDDR	**Presa de Saban**	**6.46**	**266**		**Pn**	**19 31 17.9**	**+1.8**
SDDR	**Presa de Saban**	**6.46**	**266**	*i P*	**Pn**	**19 31 18.7**	**+2.7**
SDDR				*eS*	**Sn**	**19 32 27.6**	**-2.4**
SDDR				IAML		19 32 36.9	
	comp=Z,180nm,0.5s						
GRTK	**Grand Turk**	**6.54**	**288**	Pn	**Pn**	**19 31 16.5**	**-0.5**
JAKH	**Jacmel**	**7.73**	**262**		**Pn**	**19 31 34.2**	**+0.8**
LGNH	**Logne**	**7.76**	**264**	Pn	**Pn**	**19 31 34.0**	**+0.1**
BBGH	**Gun Hill**	**7.94**	**143**	Pn	**Pn**	**19 31 35.5**	**-0.7**
AUA1	**Aruba**	**8.80**	**218**	Pn	**Pn**	**19 31 48.2**	**+0.1**
TOSP	**Speyside**	**9.05**	**155**	Pn	**Pn**	**19 31 53.1**	**+1.6**
BIRV	**Birongo**	**9.20**	**191**	Pn	**Pn**	**19 31 53.1**	**-0.5**
MASC	**Masc**	**9.20**	**275**	*eP*	**Pn**	**19 31 52.2**	**-1.4**
MASC				*eS*	Sn	19 33 28.5	-8.8
MASC				IAML		19 33 35.7	
	comp=E,24nm,0.3s						
MASC				IAML		19 33 37.7	
	comp=N,43nm,0.6s						
PCRV	**Puerto La Cruz**	**9.33**	**181**	P	**Pn**	**19 31 60.0**	**+4.5**
	comp=N,1.4nm,0.3s,baz=294,slow=6.1,SNR=1.7						
PLCV	**Puerto La Cruz**	**9.34**	**181**		**Pn**	**19 31 60.0**	**+4.4**
MOAC	**Moa**	**9.91**	**278**	*eP*	**Pn**	**19 32 01.2**	**-2.1**
MOAC				*eS*	Sn	19 33 44.8	-10
MOAC				IAML		19 33 52.6	
	comp=N,37nm,0.6s						
MOAC				IAML		19 33 55.2	
	comp=E,38nm,0.8s						
GTBY	**Guantanamo Bay**	**10.02**	**274**	Pn	**Pn**	**19 32 03.3**	**-1.6**
GTBY	**Guantanamo Bay**	**10.02**	**274**	*eP*	**Pn**	**19 32 04.0**	**-0.8**
GTBY				*eS*	**Sn**	**19 33 49.6**	**-7.9**
GTMO	**Guantanamo**	**10.05**	**275**	*eP*	**Pn**	**19 32 03.9**	**-1.4**
GTMO				*eS*	Sn	19 33 49.0	-9.2
GTMO				IAML		19 33 60.0	
	comp=N,791nm,0.3s						
GTMO				IAML		19 34 08.2	
	comp=E,612nm,0.6s						
RCC	**Rio Carpintero**	**10.57**	**274**	*eP*	**Pn**	**19 32 12.2**	**-0.3**
RCC				*eS*	**Sn**	**19 34 03.8**	**-7.2**
RCC				IAML		19 34 06.2	
	comp=N,14nm,0.3s						
RCC				IAML		19 34 06.5	
	comp=E,18nm,0.5s						
URIC	**Uribia, Colomb**	**10.65**	**224**	Pn	**Pn**	**19 32 13.5**	**0.0**
HLGC	**Holguin**	**10.96**	**279**	*eP*	**Pn**	**19 32 18.2**	**+0.5**
HLGC				*eS*	**Sn**	**19 34 14.6**	**-5.9**
HLGC				IAML		19 34 21.3	
	comp=E,26nm,0.4s						
HLGC				IAML		19 34 25.6	
	comp=N,20nm,0.6s						
BAUV	**El Baul**	**11.11**	**199**	*eP*	**Pn**	**19 32 24.3**	**+4.6**
BAUV	**El Baul**	**11.11**	**199**		**Pn**	**19 32 18.2**	**-1.6**
LMGC	**Las Mercedes**	**11.81**	**275**	*eP*	**Pn**	**19 32 25.6**	**-3.7**
LMGC				*eS*	Sn	19 34 28.1	-13
LMGC				IAML		19 34 35.3	
	comp=E,22nm,0.5s						
LMGC				IAML		19 34 36.0	
	comp=N,13nm,0.8s						
SDV	**Santo Domingo**	**12.17**	**210**	P	Pn	19 32 40.3	+5.7
	comp=N,1.6nm,0.3s,baz=22,slow=3.1,SNR=9.3						
SDV				S	**Sn**	**19 34 45.0**	**-5.5**
	comp=N,0.4nm,0.3s,baz=346,slow=16,SNR=1.3						
SDV				LR	LR	19 38 15.2	
	comp=N,192nm,18.2s,baz=56,slow=42						
SDV	**Santo Domingo**	**12.17**	**210**	*eP*	**Pn**	**19 32 39.1**	**+4.5**
SDV	**Santo Domingo**	**12.17**	**210**		**Pn**	**19 32 32.6**	**-2.0**
CCCC	**Cccc**	**12.57**	**280**	*eP*	Pn	19 32 31.8	-7.9
CCCC				*eS*	Sn	19 34 39.8	-20
CCCC				IAML		19 34 49.4	
	comp=N,7.8nm,0.8s						
CCCC				IAML		19 34 54.4	
	comp=E,6.2nm,0.9s						
BBSR	**BB Station**	**12.76**	**359**		**Pn**	**19 32 40.2**	**-2.1**
SOCV	**Socops**	**12.80**	**210**	*eP*	**Pn**	**19 32 45.8**	**+2.8**
SJCC	**San Jacinto, C**	**14.12**	**229**	*eP*	**P**	**19 33 08.8**	**+0.1**
SJCC	**San Jacinto, C**	**14.12**	**229**		**Pn**	**19 32 59.2**	**-1.8**
PAMC	**Pamplona, Colo**	**14.54**	**214**	*eP*	**P**	**19 33 12.9**	**-0.9**
MOTC	**Monteria, Cord**	**15.24**	**227**		**Pn**	**19 33 15.4**	**-0.7**
ZARC	**Zaragoza, Cauc**	**15.67**	**221**	*eP*	**Pn**	**19 33 23.7**	**+1.9**
ZARC	**Zaragoza, Cauc**	**15.67**	**221**		**Pn**	**19 33 19.9**	**-1.9**
UREC	**San Jos de Ur**	**15.90**	**224**	*eP*	**Pn**	**19 33 25.1**	**+0.2**
RUSC	**La Rusia**	**15.96**	**213**	*eP*	**P**	**19 33 29.1**	**-0.5**
PTBC	**PUERTO BERRIO,**	**16.18**	**218**	*eP*	**Pn**	**19 33 27.8**	**-0.6**
060A	**Indiantown**	**16.37**	**300**	Pn	**Pn**	**19 33 30.9**	**+0.1**
061Z	**Ochoppi**	**16.40**	**295**	Pn	**Pn**	**19 33 31.6**	**+0.5**
SPBC	**San Pablo de B**	**16.69**	**215**	*eP*	**Pn**	**19 33 35.9**	**+0.9**
DBBC	**Dabeiba**	**16.89**	**224**	*eP*	**P**	**19

PB08	IPOC Station P	39.72 187	P	P	19 37 12.3	-1.7
SDCO	Great Sand Dun	39.93 306	P	P	19 37 14.3	-1.3
BNM	Barren Site	40.03 300	P	P	19 37 15.3	-1.1
ANMO	Albuquerque	40.04 301	P	P	19 37 15.4	-1.1
N23A	Red Feather La	41.17 310	P	P	19 37 25.6	-0.3
N23A			IAmb	IAmb	19 37 32.2	
	comp=Z,6.2nm,0.7s					
PV13	Radium Mtn., P	42.58 305	P	P	19 37 37.6	+0.3
PDAR	Pinedale Array	44.32 312	P	P	19 37 52.9	+1.6
	comp=Z,1.4nm,0.8s,baz=116,slow=6.8,SNR=5.9					
CPUP	Villa Florida	46.14 171	P	P	19 38 04.8	-0.7
	comp=Z,4.0nm,0.7s,baz=350,slow=3.5,SNR=5.6					
CPUP	Villa Florida	46.14 171	IAmb	IAmb	19 38 07.9	
	comp=Z,6.0nm,0.8s					
BGU	Big Grassy Mou	46.36 308	P	P	19 38 07.3	-0.1
BGU			IAmb	IAmb	19 38 09.9	
	comp=Z,5.4nm,1.4s					
NV11	Mina Array Sit	49.86 304	P	P	19 38 33.2	-1.4
NV11			IAmb	IAmb	19 38 41.0	
	comp=Z,4.9nm,1.0s					
NVAR	Mina Array Bea	49.98 304	P	P	19 38 38.0	+2.4
	comp=Z,0.8nm,0.6s,baz=85,slow=7.4,SNR=8.1					
NEW	Newport	50.96 317	P	P	19 38 41.8	-0.8
NEW			IAmb	IAmb	19 38 46.1	
	comp=Z,3.5nm,0.7s					
YKA	Yellowknife Ar	54.87 334	P	P	19 39 12.2	+1.1
	comp=Z,2.0nm,0.7s,baz=109,slow=7.5,SNR=26					
SUMG	Summit	55.06 9	*i* P	P	19 39 15.0	+2.1
SUMG	Summit	55.06 9	P	P	19 39 12.9	0.0
TIC	Toumodi	59.05 94	*e*P	P	19 39 44.0	+2.5
LIC	Lamto	59.17 94	*e*P	P	19 39 43.8	+1.4
	comp=Z,43nm,1.4s					
DBIC	Dimbokro	59.19 94	P	P	19 39 43.6	+1.1
	comp=Z,3.8nm,0.8s,baz=310,slow=6.2,SNR=5.1					
KIC	Kosan Boka	59.40 94	*e*P	P	19 39 45.3	+1.3
	comp=Z,3.9nm,0.5s					
PLCA	Paso Flores	60.25 185	P	P	19 39 50.1	+0.8
	comp=Z,1.7nm,0.8s,baz=36,slow=18,SNR=3.0					
TORD	Torodi Ar. Bea	63.49 85	P	P	19 40 12.9	+1.3
	comp=Z,1.8nm,0.7s,baz=291,slow=6.7,SNR=11					
TORD	Torodi Ar. Bea	63.49 85	P	P	19 40 11.2	-0.5
NOA	NORSAR Array B	66.16 31	P	P	19 40 30.4	+2.1
	comp=Z,0.7nm,1.0s,baz=213,slow=20,SNR=2.8					
NOA			LR	LR	20 04 00.3	
	comp=Z,26nm,21.6s,baz=70,slow=31					
GERES	GERESS Array B	67.82 44	P	P	19 40 40.4	+1.2
	comp=Z,0.2nm,0.3s,baz=278,slow=6.7,SNR=2.0					
GERES			LR	LR	20 05 44.3	
	comp=Z,94nm,21.1s,baz=86,slow=32					
SCRK	Sand Creek	68.01 332	P	P	19 40 39.3	-0.9
SCRK			IAmb	IAmb	19 40 43.4	
	comp=Z,12nm,1.5s					
DOT	Dot Lake	68.04 332	P	P	19 40 40.0	-0.3
DOT			IAmb	IAmb	19 40 43.7	
	comp=Z,10nm,1.4s					
KAIM	Kayak Island	68.26 328	P	P	19 40 40.2	-1.4
BMAR	Burnt Mountain	68.31 336	P	P	19 40 41.4	-0.4
IL31		69.26 333	P	P	19 40 46.5	-1.2
IL31			IAmb	IAmb	19 40 50.1	
	comp=Z,12nm,1.6s					
ILAR	Eielson Array	69.26 333	P	P	19 40 48.9	+1.1
	comp=Z,1.2nm,0.7s,baz=100,slow=4.2,SNR=16					
ILAR	Eielson Array	69.26 333	P	P	19 40 46.1	-1.7
H24K	Noodor Dome	69.64 334	P	P	19 40 50.4	+0.2
H24K			IAmb	IAmb	19 40 53.5	
	comp=Z,6.9nm,1.2s					
CCB	Clear Creek Bu	69.66 333	P	P	19 40 49.9	-0.4
CCB			IAmb	IAmb	19 40 52.1	
	comp=Z,14nm,1.5s					
MDM	Murphy Dome	69.83 333	P	P	19 40 50.6	-0.8
MDM			IAmb	IAmb	19 40 54.2	
	comp=Z,9.6nm,1.3s					
TRF	Thorofare Moun	70.84 332	P	P	19 40 57.8	0.0
KTH	Kantishna Hill	71.11 332	P	P	19 40 58.6	-0.7
KTH			IAmb	IAmb	19 41 01.3	
	comp=Z,6.2nm,1.0s					
H21K	Melozitna Rive	71.68 334	P	P	19 41 02.6	0.0
H21K			IAmb	IAmb	19 41 08.1	
	comp=Z,4.7nm,1.2s					
PPLA	Purkeypile	71.76 331	P	P	19 41 03.0	-0.2
ARCES	ARCESS Array B	71.84 22	P	P	19 41 06.2	+2.7
	comp=Z,1.8nm,0.7s,baz=266,slow=4.9,SNR=6.6					
IMAR	Indian Mountai	72.03 335	P	P	19 41 05.7	+1.0
J20K	Nowinta River	72.45 333	P	P	19 41 06.6	-0.6
J20K			IAmb	IAmb	19 41 21.6	
	comp=Z,7.9nm,1.4s					
FINES	FINESS Array B	73.29 30	P	P	19 41 13.7	+1.5
	comp=Z,1.6nm,0.8s,baz=207,slow=7.7,SNR=4.4					
FINES	FINESS Array B	73.29 30	P	P	19 41 12.8	+0.7
SVW2	Sparrevohn	73.62 330	P	P	19 41 14.2	+0.1
SVW2			IAmb	IAmb	19 41 24.9	
	comp=Z,14nm,1.4s					
PZH	PanZhiHua	132.30 17	PKP	PKPdf	19 48 56.3	+0.3
WRA	Warramunga Arr	162.28 266	PKP	PKPdf	19 49 44.1	+0.6
	comp=Z,0.8nm,0.9s,baz=42,slow=0.8,SNR=5.8					
WRA			PKPab	sPKPab	19 50 31.7	-0.9
	comp=Z,0.7nm,0.8s,baz=85,slow=3.9,SNR=10.0					
ASAR	Alice Springs	162.43 253	PKPab	PKPab	19 50 32.5	+1.2
	comp=Z,1.1nm,0.8s,baz=106,slow=4.9,SNR=8.5					

DJA 15 19:32:51.1±0.5, 0°S±4°×12°3E±°, h137km±6km, M3.1/8, MLv3.1/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.69	347	P	Pn	19 33 13.9	+1.7
GTOI				S	Sn	19 33 31.8	+3.6
KMSI	Cibinong	1.01	53	P	Pn	19 33 15.0	+0.2
LUWI	Luwuk	1.07	202	P	Pn	19 33 15.2	-0.1
LUWI				S	Sn	19 33 33.2	-0.6
MRSI	Marisa	1.33	293	P	Pn	19 33 18.1	+0.2
MRSI				S	Sn	19 33 39.6	+1.3
APSI	Ampana	1.75	240	P	Pn	19 33 23.5	+1.0
APSI				S	Sn	19 33 48.1	+1.6
MPSI	Mapaga	3.29	277	P	Pn	19 33 41.3	-0.5

*IDC **15** 19:33:30.3±1.3, 1°.44N×126°.65E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/43, mbtmp3.7/8, ML3.1/1, MS2.6/1, Ms1 2.8/1, ms1mx2.1/75, Error ellipse: s-maj=105.7km s-min=16.9km az=68.0*

*NEIC **15** 19:33:32.7±1.1, 1°.4N±0°.1×126°.4E±0°.1, h17km±6km, mb4.1/13, Error ellipse: s-maj=24.7km s-min=13.3km az=50.0*

ISC 15 19:33:31.6±0.7, 1°.4N±0°.1×126°.3E±0°.1, h10km, n26, σ0s97/22, mb4.0/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.20	120	P	Pb	19 33 54.9	+0.4
TNTI	Ternate	1.20	120		Pb	19 33 54.8	+0.3
LBMI	Labuha	2.32	150	P	Pn	19 34 05.4	-4.5
KNRA	Kununurra	17.11	172		Pn	19 37 31.3	+0.2
KNRA				IAmb	IAmb	19 38 04.8	
	comp=Z,18nm,1.5s						
FITZ	Fitzroy Crossi	19.36	182	P	P	19 37 57.4	-0.2
	comp=Z,0.1nm,0.3s,baz=8.1,slow=14,SNR=1.1						
WB0	Warramunga Arr	22.45	160	P	P	19 38 30.2	-0.8
WB0				IAmb	IAmb	19 38 34.4	
	comp=Z,6.3nm,1.0s						
WRA	Warramunga Arr	22.60	160	P	P	19 38 31.7	-0.9
	comp=Z,4.3nm,0.9s,baz=340,slow=11,SNR=26						
WRA	Warramunga Arr	22.60	160	IAmb	IAmb	19 38 35.4	
	comp=Z,0.3nm,1.2s						
WB2	Warramunga Arr	22.60	160	P	P	19 38 31.5	-1.1
WB2				IAmb	IAmb	19 38 36.9	
	comp=Z,8.4nm,1.1s						
WR0	Warramunga Arr	22.68	160	P	P	19 38 32.7	-0.8
WR0				IAmb	IAmb	19 38 38.1	
	comp=Z,4.3nm,1.1s						
XMIS	Christmas Isla	23.71	240	P	P	19 38 43.3	-0.7
HKPS	Hong Kong Po S	23.92	331	P	P	19 38 45.8	-0.1
ASAR	Alice Springs	25.96	164	P	P	19 39 04.4	-0.1
	comp=Z,0.5nm,0.5s,baz=347,slow=7.6,SNR=11						
CMAR	Chiang Mai Arr	31.78	304	LR	LR	19 52 38.3	
	comp=Z,11nm,21.1s,baz=110,slow=36						
BBOO	Buckleboo	35.23	166	P	P	19 40 25.2	-1.0
STKA	Stephens Creek	36.10	158	P	P	19 40 33.8	0.0
	comp=Z,1.3nm,0.6s,baz=322,slow=12,SNR=4.3						
STKA	Stephens Creek	36.10	158	P	P	19 40 33.0	-0.9
USA0B	Ussuriysk Arra	42.94	6	P	P	19 41 29.1	-1.5
USA0B				IAmb	IAmb	19 41 30.7	
	comp=Z,5.3nm,0.7s						
USRK	Ussuriysk Ar.	42.94	6	P	P	19 41 29.9	-0.7
MKAR	Makanchi Array	59.26	326	P	P	19 43 34.2	+0.8
	comp=Z,0.3nm,0.4s,baz=117,slow=8.1,SNR=8.2						
MAKZ	Makanchi	59.44	326	P	P	19 43 33.7	-1.0
MAKZ				IAmb	IAmb	19 43 38.2	
	comp=Z,2.3nm,1.2s						
KURBB	Kurchatov Arra	63.50	328	P	P	19 44 02.8	+0.8
	comp=Z,0.5nm,0.6s,baz=127,slow=6.0,SNR=6.9						
KURK	Kurchatov	63.51	328	P	P	19 44 02.8	+0.8
KURK	Kurchatov	63.51	328	IAmb	IAmb	19 44 18.8	
	comp=Z,2.1nm,0.8s						
BVAR	Borovoye Array	69.07	328	P	P	19 44 39.6	+2.0
	comp=Z,0.2nm,0.4s,baz=124,slow=7.4,SNR=2.2						
VNDA	Vanda	81.16	173	P	P	19 45 48.5	+1.6
	comp=Z,2.1nm,1.1s,baz=336,slow=10.0,SNR=2.5						

*NEIC **15** 19:52:53.2±2.2, 3°.76N±0°.09×127°.05E±0°.09, h10km±1km, mb4.4/17, Error ellipse: s-maj=19.5km s-min=10.4km az=47.0*

*IDC **15** 19:53:00.7±4.8, 3°.83N×127°.38E, h75km±50km, mb3.4/6, mb1 3.6/7, mb1mx3.3/41, mbtmp3.8/7, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.3/36, Error ellipse: s-maj=66.2km s-min=18.6km az=72.0*

ISC 15 19:52:56.3±0.6, 3°.75N±0°.08×127°.1E±0°.1, h36km, n31, σ1s42/32, mb4.1/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.98	174	Pn	Pn	19 53 40.0	-1.1
SIJI	Sorong	6.23	137	P	Pn	19 54 27.8	+2.1
	1.2nm,0.3s,baz=338,slow=21,SNR=11						
SIJI				S	Sn	19 55 36.9	+1.2
	0.2nm,0.3s,baz=309,slow=23,SNR=1.7						
TOLI2	Tolitoli	6.79	247	Pn	Pn	19 54 34.7	+1.2
FAKI	Fak Fak	8.42	142	Pn	Pn	19 54 57.3	+1.4
MYLDM	Lahad Datu	8.64	280	Pn	Pn	19 54 58.6	-0.3
MTN	Manton Dam	16.98	166	Pn	Pn	19 56 49.7	-1.4
KNRA	Kununurra	19.38	175	P	P	19 57 18.4	-0.8
YULB	Yu-li	20.30	345	P	P	19 57 25.5	-3.7
YULB				IAmb	IAmb	19 57 27.7	
	comp=Z,26nm,1.2s						
TPUB	Ta-pu	20.40	343	P	P	19 57 28.8	-1.5
TPUB				IAmb	IAmb	19 58 07.1	
	comp=Z,51nm,1.4s						
YHNB	Yeheng	21.50	346	P	P	19 57 42.6	+0.4
FITZ	Fitzroy Crossi	21.76	184	P	P	19 57 48.0	+3.1
	comp=Z,0.5nm,0.4s,baz=14,slow=12,SNR=1.3						
COEN	Coen	23.78	138	P	P	19 58 05.4	-0.4
COEN				IAmb	IAmb	19 58 22.1	
	comp=Z,31nm,1.6s						
UBPT	Khong Chiam	24.14	300	P	P	19 58 08.7	-0.4
UBPT				IAmb	IAmb	19 58 12.8	
	comp=Z,18nm,1.4s						
WB0	Warramunga Arr	24.46	163	P	P	19 58 11.1	-1.0
WB0				IAmb	IAmb	19 58 19.3	
	comp=Z,7.3nm,0.8s						
WRAB	Tennant Creek	24.61	163	P	P	19 58 12.2	-1.2
WRA	Warramunga Arr	24.61	163	P	P	19 58 13.4	0.0
	comp=Z,2.8nm,0.6s,baz=344,slow=11,SNR=26						
WRA	Warramunga Arr	24.61	163	P	P	19 58 11.5	-1.9
WB2	Warramunga Arr	24.62	163	P	P	19 58 12.1	-1.4
WB2				IAmb	IAmb	19 58 21.0	
	comp=Z,7.3nm,0.7s						
WR0	Warramunga Arr	24.69	163	P	P	19 58 13.0	-1.1
WR0				IAmb	IAmb	19 58 21.7	
	comp=Z,6.3nm,0.8s						
JSU	Suzuyama	27.79	6	P	P	19 58 43.5	+1.5
ASAR	Alice Springs	28.06	167	P	P	19 58 45.4	+0.9
	comp=Z,0.4nm,0.5s,baz=340,slow=11,SNR=10						
ASAR	Alice Springs	28.06	167	P	P	19 58 44.3	-0.2
JHJ	Hachijo jima 2	31.55	21	LR	LR	20 11 46.5	
	comp=Z,62nm,19.9s,baz=350,slow=36						
JHS	Saijyo	31.59	10	P	P	19 59 17.2	+1.5
STKA	Stephens Creek	38.04	160	P	P	20 00 11.3	0.0
	comp=Z,1.8nm,0.8s,baz=324,slow=9.5,SNR=4.4						
STKA	Stephens Creek	38.04	160	P	P	20 00 10.8	-0.5
SONM	Songino Array	47.38	341	P	P	20 01 28.5	+1.5
	comp=Z,0.7nm,0.5s,baz=157,slow=7.8,SNR=2.1						
PEA0B	Petropavlovsk-	55.29	22	P	P	20 02 24.5	-1.5
MK31	Makanchi Array	57.72	325	P	P	20 02 44.1	+0.6
MK31				IAmb	IAmb	20 03 03.9	
	comp=Z,3.6nm,1.6s						
MKAR	Makanchi Array	57.72	325	P	P	20 02 43.9	+0.3
	comp=Z,0.6nm,0.5s,baz=121,slow=8.0,SNR=17						
MKAR				PcP	PcP	20 03 36.9	+0.7
	comp=Z,0.2nm,0.7s,baz=124,slow=6.0,SNR=1.4						
ABKAR	Akbulak array	72.34	321	P	P	20 04 18.2	-0.2

*TUL **15** 19:53:00.6±1.5, 35°.96N±0°.01×96°.89W±0°.01, h5km±4km, ML2.8, mb_Lg2.4/13(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=125.0*

NEIC 15 19:53:00.4±0.9, 35°.97N±0°.01×96°.89W±0°.02, h11km±1km, Error ellipse: s-maj=2.1km s-min=1.6km az=139.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.04	107	Pg	Pg	19 53 02.3	-0.2
OK031				Sg	Sg	19 53 03.5	-0.5
OK033	Mehan	0.09	333	Pg	Pg	19 53 02.7	-0.3
OK033				Sg	Sg	19 53 04.3	-0.6
OK030	Cody Creek RV	0.09	114	Pg	Pg	19 53 03.2	+0.2
OK030				Sg	Sg	19 53 05.0	+0.1
OK034	N. Norfolk Rd.	0.15	73	Pg	Pg	19 53 04.2	+0.4
OK034				Sg	Sg	19 53 06.7	+0.5
QUOK	Quay	0.25	35		Pg	19 53 06.0	+0.4
QUOK				Sg	Sg	19 53 09.7	+0.6
OK029	Liberty Lake	0.49	250	Pg	Pg	19 53 10.0	0.0
OK029				Sg	Sg	19 53 16.6	+0.1
OK025	Westminster Rd	0.53	224	Pg	Pg	19 53 10.8	0.0
OK025				Sg	Sg	19 53 18.2	+0.4
BCOK	Bluff Creek, N	0.66	242	Pg	Pg	19 53 13.0	-0.3
BCOK				Sg	Sg	19 53 22.3	+0.3
OKCFA	Oklahoma City	0.71	220	Pg	Pg	19 53 13.8	-0.5
OKCFA				Sg	Sg	19 53 23.9	+0.3
OKCSW	OKLAHOMA CITY	0.72	219	Pg	Pg	19 53 13.8	-0.5
OKCSW				Sg	Sg	19 53 24.1	+0.4
W35A	Tecumseh	0.81	179	Pg	Pg	19 53 15.7	-0.4
W35A				IAmb_Lg		19 53 26.7	
	comp=Z,25nm,0.9s						
W35A				Sg	Sg	19 53 27.1	+0.4
FNO	Franklin	0.82	211		Pg	19 53 15.8	-0.5
FNO				Sg	Sg	19 53 26.8	-0.2
BLOK	Blackwell	0.84	342	Pg	Pg	19 53 16.3	-0.3
BLOK				Sg	Sg	19 53 27.6	+0.1
TUL1	Leonard	0.89	93		Pg	19 53 17.5	-0.1
TUL1				Sg	Sg	19 53 29.3	+0.1
T35A	Sooner Cattle	1.00	18		Pg	19 53 19.5	-0.2
T35A				Sg	Sg	19 53 32.6	0.0
CROK	Carrier	1.04	302		Pg	19 53 20.0	-0.4
CROK				Sg	Sg	19 53 33.5	-0.4
KAN13	South Haven SW	1.15	336	Pg	Pb	19 53 21.8	-0.6
KAN13				Sg	Sb	19 53 37.2	-0.1
GC02	Grant County #	1.18	319	Pg	Pb	19 53 22.6	-0.4
GC02				Sg	Sb	19 53 37.8	-0.5
KAN17	Caldwell West	1.29	327	Pn	Pn	19 53 24.6	+0.1
KAN17				Sn	Sb	19 53 41.5	+0.1
KAN14	Manchester OK	1.31	319	Pn	Pn	19 53 24.7	-0.1
KAN14				Sn	Sn	19 53 42.5	0.0
OK032	Salt Plains WL	1.36	308		Pn	19 53 25.6	+0.2
OK032				Sn	Sb	19 53 42.9	-0.4
KAN01	Argonia South	1.38	330	Pn	Pb	19 53 26.4	+0.1
KAN01				Sn	Sg	19 53 44.7	-0.1
KAN06	Argonia West S	1.50	329	Pn	Pb	19 53 28.0	-0.4
KAN10	Anthony SW Sta	1.51	320	Pn	Pn	19 53 27.4	-0.1
KAN08	Anthony NE Sta	1.53	326	Pn	Pn	19 53 27.5	-0.3
X34A	Smith Ranch, M	1.57	210		Pn	19 53 28.3	0.0
KAN16	Harper SW Stat	1.57	323	Pn	Pn	19 53 28.1	-0.3
KAN12	Harper NE Stat	1.60	326	Pn	Pn	19 53 28.9	+0.2
OK035	E0210 Rd and N	1.65	297		Pn	19 53 29.1	-0.4
U32A	Winter Ranch,	1.76	284	Pn	Pn	19 53 30.7	-0.2
X37A	Clayton	1.85	137		Pn	19 53 32.3	+0.1
X37A				IAmb_Lg		19 54 02.4	
	comp=Z,25nm,0.8s						
WMOK	Wichita Mounta	1.97	232		Pn	19 53 35.0	+1.1
LOOK	Love County	1.98	187		Pn	19 53 33.9	-0.1
U38A	Gravette	2.08	76	Pn	Pn	19 53 35.7	+0.3
HHAR	Hobbs	2.41	82	Pn	Pn	19 53 40.1	+0.3
W39A	Magazine	2.64	106		Pn	19 53 42.0	-1.1
MIAR	Mount Ida	3.06	117	Pn	Pn	19 53 49.0	+0.2
U40A	Yellville	3.29	82	Pn	Pn	19 53 52.0	0.0
S39A	Bolivar	3.34	58	Pn	Pn	19 53 52.9	+0.2
S39A				IAmb_Lg		19 54 52.3	
	comp=Z,10nm,0.8s						
X40A	Basin Creek Fa	3.63	113	Pn	Pn	19 53 56.7	0.0
CBKS	Cedar Bluff	3.64	322	Pn	Pn	19 53 57.6	+0.8
WHAR	Wooly Hollow	3.81	99	Pn	Pn	19 53 59.5	+0.5
W41B	Gary Mavity, V	3.86	100	Pn	Pn	19 53 59.7	-0.2
FCAR	Ozark Folk Cen	3.87	90	Pn	Pn	19 54 00.2	+0.3
FCAR				IAmb_Lg		19 55 07.1	
	comp=Z,10nm,0.7s						
AMTX	Amarillo	4.06	256	Pn	Pn	19 54 04.3	+1.7
AMTX				IAmb_Lg		19 55 15.6	
	comp=Z,6.9nm,0.7s						
R40A	Maddies Statio	4.36	56	Pn	Pn	19 54 05.8	-0.9
LCAR	Lake Charles	4.65	87	Pn	Pn	19 54 10.1	-0.6
LCAR				IAmb_Lg		19 55 40.0	
	comp=Z,5.5nm,0.9s						
N33A	J Bar K, Exete	4.79	355	Pn	Pn	19 54 11.6	-1.0
CCM	Cathedral Cave	4.97	64	Pn	Pn	19 54 14.3	-0.8
P40A	Paris	5.23	46	Pn	Pn	19 54 17.6	-1.0
KSCO	Kaye Shedlock'	5.48	305	IAmb_Lg		19 56 03.0	
	comp=Z,6.0nm,0.7s						
FVM	French Village	5.55	67	Pn	Pn	19 54 22.1	-1.0

*NNC **15** 20:00:30.1±11.0, 36°.61N×70°.40E, h184km±202km, mb2.7, mpv3.5, Error ellipse: s-maj=107.5km s-min=63.9km az=20.0*

ISC 15 20:00:32.3±3.3, 36°.7N±0°.2×70°.5E±0°.1, h204km, n9, σ1s35/13, 1C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.93	23	P	Pn	20 01 58.3	-0.7
	SNR=44						
KK02	Karatay Array	6.38	360	P	Pn	20 02 03.8	-0.6
	2.1nm,0.3s,baz=177,slow=13						
KK02				S	S	20 03 19.3	+1.9
	0.5nm,0.3s,baz=187,slow=24						
EKS2	Erkin-Say	6.44	22	P	Pn	20 02 05.7	+0.3
	SNR=7.8						
AAK	Ala-Archa	6.65	26	P	Pn	20 02 07.2	-0.9
	2.0nm,0.7s						
AAK				S	S	20 03 26.0	+2.0
	1.9nm,0.7s						
CHMS	Chumysh	7.06	26	P	Pn	20 02 13.3	+0.1
	SNR=5.2						
USP	Ospenovka	7.21	24	P	Pn	20 02 15.4	+0.1
	SNR=6.4						
TKM2	Tokmak 2	7.32	31	P	Pn	20 02 16.9	+0.2
	SNR=6.1						
TKM2	Tokmak 2	7.32	31	P	Pn	20 02 16.0	-0.8
	1.6nm,0.6s						
TKM2				S	S	20 03 37.9	-1.8
	1.2nm,0.5s						
AB31	Akbulak array	14.72	332	P	P	20 03 52.5	+0.9
	1.1nm,0.5s,baz=154,slow=13,SNR=29						
AB31				⇑S	S	20 06 31.9	-2.0
	0.3nm,0.6s						

*IDC **15** 20:18:33.7±10.0, 0°.51S×13°.05W, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/35, mbtmp3.8/4, ML3.7/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/78, Error ellipse: s-maj=298.1km s-min=53.8km az=157.0*

ISC 15 20:18:34.4±4.5, 0°.6S±0°.9×13°.1W±0°.5, h10km, n14, σ0s84/7, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	7.30	191	T	T	20 26 49.1	
	baz=4.4,slow=73,SNR=18						
H10N3	ASCENSION HYDR	7.32	191	T	T	20 27 05.1	
	baz=4.4,slow=73,SNR=36						
H10N1	ASCENSION HYDR	7.32	191	T	T	20 27 04.3	
	baz=4.4,slow=73,SNR=25						
H10S3	ASCENSION HYDR	8.43	191	T	T	20 28 30.4	
	baz=217,slow=74,SNR=8.7						
H10S2	ASCENSION HYDR	8.44	190	T	T	20 28 26.2	
	baz=3.0,slow=74,SNR=2.4						
LIC	Lamto	10.54	50	*e*PKP1	Pn	20 21 10.9	+5.3
	43nm,1.4s						
TIC	Toumodi	10.81	48	*e*PKP1	Pn	20 21 09.6	+0.1
KIC	Kosan Boka	10.84	50	*e*PKP1	Pn	20 21 10.6	+0.8
	2.5nm,0.4s						
DBIC	Dimbokro	10.95	49	Pn	Pn	20 21 11.4	+0.1
	1.0nm,0.3s,baz=235,slow=12,SNR=12						
DBIC				Sn	Sn	20 23 14.1	+0.1
	0.3nm,0.3s,baz=337,slow=14,SNR=1.6						
DBIC				LR	LR	20 24 33.0	
	comp=Z,84nm,21.2s,baz=210,slow=33						
TORD	Torodi Ar. Bea	20.05	47	P	P	20 23 06.8	-1.2
	0.1nm,0.3s,baz=230,slow=10,SNR=11						
MDT	Midelt	34.20	13	LR	LR	20 38 40.1	
	comp=Z,46nm,18.1s,baz=27,slow=35						
MBAR	Mbarara	43.83	90	LR	LR	20 43 34.8	
	comp=Z,77nm,19.0s,baz=237,slow=34						
GERES	GERESS Array B	54.43	21	P	P	20 28 01.5	-0.4
	0.3nm,0.6s,baz=235,slow=3.5,SNR=4.0						
FINES	FINESS Array B	68.70	19	P	P	20 29 38.7	+0.7
	1.2nm,0.8s,baz=266,slow=28,SNR=1.3						

*IDC **15** 20:32:50.9±0.5, 28°.56S×67°.98W, h0km, mb4.8/18, mb1 4.9/23, mb1mx4.9/28, mbtmp4.7/23, ML4.5/5, MS4.0/29, Ms1 4.0/29, ms1mx3.8/49, Error ellipse: s-maj=18.2km s-min=13.7km az=73.0*

*VAO **15** 20:32:52.5±0.5, 28°.52S×67°.97W, h10km, mb5.0*

*MOS **15** 20:32:54.2±1.6, 28°.37S×67°.94W, h27km, mb5.5/13, Error ellipse: s-maj=14.0km s-min=7.5km az=92.4*

*GU

LCO Sn **Sn** **20 34 06.0 +2.3**
LCO Las Campanas 2.47 257 *e*P **Pb** **20 33 37.8 +0.3**
AC04 Llanos de Chal 2.76 275 ⇑*i*P **Pn** **20 33 38.7 +1.5**
AC04 *i* S **Sn** **20 34 11.3 +0.9**
AC04 Llanos de Chal 2.76 275 ⇑*i*P **Pn** **20 33 38.6 +1.5**
AC04 *e*S **Sn** **20 34 12.3 +1.9**
AC04 IAML 20 34 19.1
comp=N,3μm,0.5s
AC04 Llanos de Chal 2.76 275 Pn **Pn** **20 33 38.3 +1.3**
AC04 Sn **Sn** **20 34 09.7 -0.8**
AC04 Llanos de Chal 2.76 275 *e*P **Pn** **20 33 39.2 +2.1**
AC04 *e*S **Sn** **20 34 11.1 +0.7**
AHML Horco Molle 2.86 55 ⇑*i*P **Pb** **20 33 41.7 -2.3**
AHML *i* S **Sb** **20 34 16.7 -2.4**
AHML Horco Molle 2.86 55 *i* P **Pb** **20 33 41.2 -2.8**
AHML *e*S **Sb** **20 34 18.6 -0.5**
AHML Horco Molle 2.86 55 *e*P **Pb** **20 33 41.7 -2.3**
AHML *e*S **Sn** **20 34 11.1 -1.9**
AHML *e*S **Sb** **20 34 15.6 -3.5**
AHML IAML 20 34 34.6
comp=Z,7μm,0.7s
RTLL Cerro Villicun 2.89 189 *e*P **Pn** **20 33 40.6 +1.8**
RTLL *e*S **Sn** **20 34 13.2 -0.4**
ACHE Chepes 2.91 158 *e*P **Pn** **20 33 41.5 +2.3**
FSA Cafayete 2.93 37 *e*P **Pb** **20 33 44.5 -0.7**
FSA *e*S **Sg** **20 34 27.0 -0.1**
GO04 Tololo Observa 3.01 235 *e*P **Pn** **20 33 43.0 +2.3**
GO04 *i* S **Sb** **20 34 20.7 -2.8**
GO04 Tololo Observa 3.01 235 *i* P **Pn** **20 33 43.0 +2.3**
GO04 *e*S **Sb** **20 34 21.6 -1.9**
GO04 Tololo Observa 3.01 235 **Pn** **20 33 42.2 +1.5**
GO04 Tololo Observa 3.01 235 *e*P **Pn** **20 33 43.2 +2.5**
GO04 *e*S **Sb** **20 34 24.5 +1.0**
GO04 *e*S **Sg** **20 34 27.0 -2.6**
ZON Zonda 3.13 191 P **Pn** **20 33 43.2 +1.0**
ZON Zonda 3.13 191 Pn **Pn** **20 33 43.2 +1.0**
ZON Zonda 3.13 191 *e*P **Pn** **20 33 43.5 +1.3**
ZON *e*S **Sb** **20 34 26.6 -0.2**
CO05 La Serena 3.22 242 *e*P **Pn** **20 33 44.9 +1.6**
CO05 La Serena 3.22 242 *e*P **Pn** **20 33 44.9 +1.6**
CO05 *e*S **Sn** **20 34 24.9 +3.3**
CO05 IAML 20 34 37.7
comp=N,5μm,0.4s
CO05 La Serena 3.22 242 **Pn** **20 33 44.4 +1.2**
CO03 El Pedregal 3.36 225 *e*P **Pn** **20 33 47.6 +2.3**
CO03 *i* S **Sn** **20 34 28.0 +2.8**
CO03 El Pedregal 3.36 225 *e*P **Pn** **20 33 47.8 +2.5**
CO03 *e*S **Sn** **20 34 27.3 +2.1**
CO03 El Pedregal 3.36 225 **Pn** **20 33 47.6 +2.3**
CO03 El Pedregal 3.36 225 *e*P **Pn** **20 33 48.6 +3.3**
CO03 *e*S **Sb** **20 34 36.9 +3.6**
CO03 IAML 20 34 45.3
comp=Z,4μm,0.9s
RTCV Cerro Valdivia 3.42 188 *e*P **Pn** **20 33 47.8 +1.6**
RTCV *e*S **Sb** **20 34 35.1 0.0**
RTLS Leoncito 3.52 199 *e*P **Pn** **20 33 50.5 +2.8**
RTLS *e*S **Sb** **20 34 38.9 +0.8**
RTLS IAML 20 34 54.7
comp=Z,3μm,1.7s
CO06 Fray Jorge 3.89 235 *e*P **Pn** **20 33 53.2 +0.6**
CO06 *i* S **Sn** **20 34 39.5 +1.3**
CO06 Fray Jorge 3.89 235 *e*P **Pn** **20 33 53.4 +0.8**
CO06 *e*S **Sn** **20 34 40.3 +2.1**
CO06 Fray Jorge 3.89 235 **Pn** **20 33 53.3 +0.8**
AUSP Uspallata 3.94 198 *e*P **Pn** **20 33 55.6 +2.0**
AUSP *e*S **Sb** **20 34 52.2 +1.8**
TCA Tanti 4.08 135 *e*P **Pn** **20 33 57.1 +1.8**
TCA *e*S **Sb** **20 34 55.1 +0.9**
ASAL Salagasta 4.18 190 *e*P **Pn** **20 33 58.2 +1.6**
ASAL *e*S **Sg** **20 35 04.2 -2.9**
SLA San Lorenzo 4.33 31 *e*P **Pn** **20 34 00.1 +1.4**
SLA IAML 20 35 17.8
comp=Z,2μm,0.9s
PB14 IPOC Station P 4.41 330 Pn **Pn** **20 34 01.7 +1.7**
PB14 IPOC Station P 4.41 330 *e*P **Pn** **20 34 03.0 +3.0**
PB14 *e*S **Sb** **20 35 03.1 -0.8**
AAGR Agrelo 4.67 189 *e*P **Pn** **20 34 04.9 +1.6**
VA03 San Esteban 4.83 207 *e*P **Pn** **20 34 07.4 +1.8**
VA03 San Esteban 4.83 207 *i* P **Pn** **20 34 07.4 +1.8**
VA03 *i* S **Sn** **20 35 02.9 +1.3**
VA03 San Esteban 4.83 207 **Pn** **20 34 07.3 +1.8**
VA03 San Esteban 4.83 207 *e*P **Pn** **20 34 07.4 +1.8**
VA06 Catapilco 5.00 214 *e*P **Pn** **20 34 08.0 +0.3**
VA06 Catapilco 5.00 214 *e*P **Pn** **20 34 08.9 +1.2**
VA06 *e*S **Sn** **20 35 07.1 +1.6**
ROCH El Roble 5.21 210 ⇓*i*P **Pn** **20 34 10.8 -0.1**
ROCH *e*P **Pn** **20 34 10.8 -0.1**
ROCH *i* S **Sn** **20 35 17.1 +6.2**
ROCH El Roble 5.21 210 *e*P **Pn** **20 34 10.7 -0.1**
ROC1 El Roble 5.21 210 *e*P **Pn** **20 34 11.1 +0.2**
ROC1 *e*S **Sn** **20 35 16.3 +5.1**
PEL Peldehue 5.22 206 P **Pn** **20 34 11.6 +0.7**
PEL Peldehue 5.22 206 **Pn** **20 34 11.6 +0.7**
PEL Peldehue 5.22 206 *e*P **Pn** **20 34 11.7 +0.8**
PB15 IPOC Station P 5.41 345 **Pn** **20 34 14.7 +1.0**
PB15 IPOC Station P 5.41 345 *e*P **Pn** **20 34 17.3 +3.6**
PB10 IPOC Station P 5.46 334 Pn **Pn** **20 34 15.3 +1.2**
PB10 IPOC Station P 5.46 334 *e*P **Pn** **20 34 11.1 -3.1**
PB10 *e*P Pb 20 34 16.0 -12
MT05 Renca 5.46 205 **Pn** **20 34 14.6 +0.4**
MT05 Renca 5.46 205 *e*P **Pn** **20 34 15.2 +1.0**
MT05 *e*S **Sb** **20 35 26.1 -7.7**
MT02 Curacav 5.50 209 **Pn** **20 34 15.2 +0.4**
VA01 Torpederas 5.54 214 Pn **Pn** **20 34 15.5 +0.2**
HJA Humahuaca 5.72 24 *e*P **Pn** **20 34 19.1 +1.1**
LVC Limon Verde 5.90 351 Pn **Pn** **20 34 23.2 +2.7**
comp=Z,22nm,0.3s,baz=164,slow=7.7,SNR=69
LVC Sn **Sn** **20 35 35.8 +7.5**
comp=Z,5.0nm,0.3s,baz=94,slow=20,SNR=1.2
LVC Lg Lg 20 36 07.6
comp=Z,23nm,0.3s,baz=130,slow=21,SNR=5.6
LVC Limon Verde 5.90 351 P **Pn** **20 34 22.7 +2.2**
LVC 20 35 35.8
LVC Limon Verde 5.90 351 Pn **Pn** **20 34 22.7 +2.2**
LVC Limon Verde 5.90 351 *e*P **Pn** **20 34 19.1 -1.4**
LVC *e*P Pb 20 34 24.0 -12
MT09 Talagante 5.90 205 **Pn** **20 34 20.0 -0.2**
PB06 IPOC Station P 5.92 345 **Pn** **20 34 23.4 +2.7**
VA05 Santo Domingo 6.05 210 Pn **Pn** **20 34 21.6 -0.7**
MT01 Popeta 6.08 207 **Pn** **20 34 21.7 -0.9**
RFA San Rafael 6.30 184 *e*P **Pn** **20 34 26.4 +0.6**
PB04 IPOC Station P 6.42 341 **Pn** **20 34 28.4 +0.8**
PB04 IPOC Station P 6.42 341 *e*P **Pn** **20 34 28.7 +1.2**
BO01 Tunca 6.48 204 **Pn** **20 34 27.2 -0.9**
PB09 IPOC Station P 6.74 350 **Pn** **20 34 34.6 +2.7**
PB09 IPOC Station P 6.74 350 *e*P **Pn** **20 34 35.0 +3.1**
BO02 Sierra Bellavi 6.75 200 **Pn** **20 34 32.0 +0.1**
PB07 IPOC Station P 6.94 345 **Pn** **20 34 34.9 +0.3**
GO05 Huala 7.35 206 Pn **Pn** **20 34 39.9 -0.2**
PB01 IPOC Station P 7.52 349 **Pn** **20 34 43.2 +0.6**
PB01 IPOC Station P 7.52 349 *e*P **Pn** **20 34 45.0 +2.4**
ML02 Panimavida 7.84 201 **Pn** **20 34 46.7 -0.2**
PATCX Punta Patache 7.87 345 **Pn** **20 34 47.0 -0.4**
TA01 Diego Aracena 8.12 345 Pn **Pn** **20 34 50.4 -0.3**
PB08 IPOC Station P 8.36 352 **Pn** **20 34 54.8 +0.5**
TA02 Huaiquique 8.40 346 **Pn** **20 34 55.2 +0.7**
PB11 IPOC Station P 8.81 349 Pn **Pn** **20 34 59.7 -0.6**
CPUP Villa Florida 9.68 80 Pn **Pn** **20 35 13.0 +1.0**
comp=Z,3.2nm,0.3s,baz=254,slow=12,SNR=9.0
CPUP Sn **Sn** **20 37 07.5 +6.7**
comp=Z,3.0nm,0.3s,baz=291,slow=15,SNR=1.8
CPUP Lg Lg 20 38 04.1
comp=Z,8.6nm,0.3s,baz=175,slow=16,SNR=4.9
CPUP LR LR 20 38 58.3
comp=Z,781nm,18.8s,baz=260,slow=38
CPUP Villa Florida 9.68 80 P **Pn** **20 35 11.9 -0.2**
CPUP Villa Florida 9.68 80 Pn **Pn** **20 35 11.9 -0.2**
ITQB Itaqui 9.98 100 *e*P **Pn** **20 35 17.1 +0.9**
ITQB Itaqui 9.98 100 Pn **Pn** **20 35 16.4 +0.2**
PB12 IPOC Station P 10.05 347 Pn **Pn** **20 35 16.4 -0.8**
PB16 IPOC Station P 10.19 352 **Pn** **20 35 18.2 -1.3**
PB16 IPOC Station P 10.19 352 *e*P **Pn** **20 35 15.6 -4.0**
AP01 Chacalluta 10.29 347 Pn **Pn** **20 35 19.9 -0.5**
LPA La Plata 10.68 129 *e*P **Pn** **20 35 22.7 -3.0**
LPA PPP PPP 20 35 40.3
LPA pPP 20 36 03.2
LPA S **Sn** **20 37 26.9 +1.7**
LPA SS **SnSn** **20 37 43.7 +6.6**
LPA SSS SSS 20 37 54.6
LPA PCP **PcP** **20 41 28.5 +0.3**
LPA SCS **ScS** **20 48 27.8 -7.8**

LPA PKIKP **PKiKP** **20 49 24.2 -3.0**
LPA SKIKP 20 52 50.3
LPA PKIKS 20 52 54.8
LPA SKIKS 20 56 24.9
LC01 Cunco 10.90 196 Pn **Pn** **20 35 26.6 -2.2**
LPAZ La Paz 12.12 359 Pn **Pn** **20 35 48.5 +2.4**
comp=Z,1.7nm,0.3s,baz=148,slow=8.5,SNR=20
LPAZ LR LR 20 41 00.9
comp=Z,2μm,18.1s,baz=186,slow=40
LPAZ La Paz 12.12 359 P **Pn** **20 35 45.5 -0.6**
LPAZ La Paz 12.12 359 Pn **Pn** **20 35 45.5 -0.6**
PLCA Paso Flores 12.42 189 Pn **Pn** **20 35 48.4 -1.2**
comp=Z,0.3nm,0.3s,baz=19,slow=13,SNR=6.2
PLCA Sn **Sn** **20 38 06.4 -1.7**
comp=Z,0.3nm,0.3s,baz=45,slow=5.7,SNR=1.4
PLCA Lg Lg 20 39 24.4
comp=Z,0.7nm,0.3s,baz=133,slow=13,SNR=2.0
PLCA Paso Flores 12.42 189 P **Pn** **20 35 47.6 -2.0**
PLCA 20 38 06.4
PLCA Paso Flores 12.42 189 Pn **Pn** **20 35 47.6 -2.0**
CPSB Cacapava Do Su 12.80 102 *e*P **Pn** **20 35 53.8 -1.0**
PLTB Pedras Altas 12.85 108 *e*P **Pn** **20 35 54.6 -0.8**
PLTB Pedras Altas 12.85 108 Pn **Pn** **20 35 53.8 -1.6**
LL04 Puerto Octay 12.94 195 **Pn** **20 35 52.6 -4.1**
LL03 Petrohue 13.16 195 Pn **Pn** **20 36 00.9 +1.3**
LL05 Los Muermos 13.67 198 Pn **Pn** **20 36 07.4 +0.8**
AQDB Aquidauana 13.70 57 *e*P **Pn** **20 36 08.1 +1.1**
AQDB Aquidauana 13.70 57 Pn **Pn** **20 36 06.2 -0.9**
SIV San Ignacio 13.95 29 Pn **Pn** **20 36 11.7 +1.1**
comp=Z,0.4nm,0.3s,baz=218,slow=12,SNR=20
SIV LR LR 20 42 39.7
comp=Z,964nm,18.5s,baz=217,slow=42
ITAB Concordia 14.05 89 *e*P **Pn** **20 36 13.3 +1.4**
ITAB Concordia 14.05 89 Pn **Pn** **20 36 12.2 +0.3**
PTGB Pitanga 14.70 79 *e*P **Pn** **20 36 22.2 +1.4**
PTLB Pontes e Lacer 15.31 34 *e*P **Pn** **20 36 30.0 +1.0**
PTLB Pontes e Lacer 15.31 34 **Pn** **20 36 29.6 +0.7**
GO07 Milladeo Hill, 15.33 196 P **Pn** **20 36 30.7 +1.7**
GO07 IAmb IAmb 20 36 36.6
comp=Z,137nm,0.6s
PP1B Ponte de Pedra 16.16 51 *e*P **Pn** **20 36 40.2 +0.1**
PCMB Pacaembu 16.59 69 *e*P **P** **20 36 47.9 0.0**
SALV Santo Antonio 16.87 45 *e*P **Pn** **20 36 49.9 +0.9**
VILB Vilhena 17.04 27 *e*P **Pn** **20 36 51.3 +0.1**
VILB Vilhena 17.04 27 **Pn** **20 36 51.6 +0.3**
TIJ01 Guaruva-PR 17.19 84 *e*P **Pn** **20 36 52.9 -0.2**
COYC Coyhaique 17.38 190 P **Pn** **20 36 56.1 +0.8**
ITRB Iturama 18.26 65 *e*P **P** **20 37 07.6 +1.1**
ETMB Extrema 18.63 5 *e*P **Pn** **20 37 11.6 +0.9**
ETMB Extrema 18.63 5 **Pn** **20 37 10.8 0.0**
ETMB IAmb IAmb 20 37 20.7
comp=Z,198nm,1.1s
PET01 Itanhaem-SP 18.98 82 *e*P **P** **20 37 14.6 +0.2**
BB19B Bebedouro 19.10 72 *e*P **P** **20 37 15.8 0.0**
RCLB Rio Claro- Sao 19.39 77 *e*P **Pn** **20 37 19.6 -0.5**
ARAG Araguaiana, MT 19.59 53 *e*P **P** **20 37 21.4 +0.3**
VAO Valinhos 19.66 79 *e*P **P** **20 37 22.2 +0.2**
PDRB Porto dos Gac 19.78 34 *e*P **P** **20 37 22.2 -1.0**
PARB Paraibuna 20.72 81 *e*P **P** **20 37 32.5 -0.9**
CLDB Colider 20.88 35 *e*P **P** **20 37 34.4 -0.8**
IPMB Ipameri, GO 20.90 64 *e*P **P** **20 37 34.9 -0.5**
CZSB Cruzeiro do Su 21.11 347 *e*P **P** **20 37 38.9 +1.3**
CZSB Cruzeiro do Su 21.11 347 P **P** **20 37 37.3 -0.2**
BSCB Bom Sucesso 22.30 76 *e*P **P** **20 37 50.7 +0.2**
MAN01 Angra dos Reis 22.31 81 *e*P **P** **20 37 50.5 -0.1**
BDFB Brasilia 22.41 59 P **P** **20 37 51.0 -0.7**
comp=Z,33nm,0.9s,baz=241,slow=8.6,SNR=18
BDFB Brasilia 22.41 59 P **P** **20 37 50.0 -1.7**
BDFB pmax pmax
comp=Z,58nm,1.1s
BDFB Brasilia 22.41 59 P **P** **20 37 50.0 -1.7**
SNDB Serra Nova Dou 22.61 47 *e*P **P** **20 37 52.9 -0.9**
VAS01 Vassouras-RJ 22.96 80 *e*P **P** **20 37 57.6 +0.2**
ATAH Atahualpa 23.40 333 P **P** **20 38 03.0 +0.7**
comp=Z,7.2nm,0.8s,baz=171,slow=7.4,SNR=11
MG05 Puerto Natales 23.43 187 P **P** **20 38 00.1 -1.8**
DUB01 Friburgo-RJ 23.96 80 *e*P **P** **20 38 08.4 +1.0**
TBTG Tabatinga, AM 24.22 355 *e*P **P** **20 38 11.2 +1.5**
TBTG Tabatinga, AM 24.22 355 P **P** **20 38 10.7 +1.0**
EFI East Falkland 24.34 165 *e*P **P** **20 38 13.8 +3.3**
EFI pmax pmax
comp=Z,223nm,1.7s
EFI East Falkland 24.34 165 P **P** **20 38 09.7 -0.8**
DIAM Diamantina, MG 24.43 71 *e*P **P** **20 38 12.0 +0.1**
PEXB Peixe 24.53 52 *e*P **P** **20 38 11.8 -0.8**
GO10 Punta Arenas 24.77 184 P **P** **20 38 13.7 -0.7**
DSPA Despedida 25.46 180 P **P** **20 38 20.5 -0.2**
JANB Januaria 25.63 64 *e*P **P** **20 38 21.1 -1.5**
ALF01 Guarapari-ES 25.93 79 *e*P **P** **20 38 24.6 -0.6**
MACA Manacapuru-AM 26.10 17 *e*P **P** **20 38 27.6 +0.8**
MACA Manacapuru-AM 26.10 17 P **P** **20 38 26.8 0.0**
SJMB Sao Joao De Ma 26.33 74 *e*P **P** **20 38 29.2 +0.3**
USHA Ushuaia 26.35 181 P **P** **20 38 27.6 -1.0**
comp=Z,8.6nm,0.8s,baz=331,slow=8.8,SNR=1.9
USHA LR LR 20 50 42.9
comp=Z,502nm,18.4s,baz=44,slow=41
ITTB Itaituba 26.63 28 *e*P **P** **20 38 31.2 -0.4**
RIB01 Linhares ES 26.74 76 *e*P **P** **20 38 32.2 -0.4**
SDBA SAO DESIDERIO 26.79 58 *e*P **P** **20 38 32.6 -0.5**
SMTB Santa Maria do 27.35 48 *e*P **P** **20 38 34.4 +0.3**
PRPB Paraiapebas 28.05 41 *e*P **P** **20 38 43.5 -0.8**
CMC01 Camacan, BA 29.34 70 *e*P **P** **20 38 56.3 +0.5**
MALB Monte Alegre 29.52 29 *e*P **P** **20 38 58.3 +0.9**
NBIT Itapeh - BA 29.63 69 *e*P **P** **20 38 58.3 -0.1**
GDU01 Guandu, BA 30.17 67 *e*P **P** **20 39 02.2 -0.9**
OTAV Otavalo 30.26 339 P **P** **20 39 03.5 -1.0**
OTAV pmax pmax
comp=Z,18nm,1.4s
OTAV Otavalo 30.26 339 *e*P **P** **20 39 05.0 +0.6**
OTAV Otavalo 30.26 339 P **P** **20 39 03.5 -1.0**
FLOC Florencia 30.78 345 *e*P **P** **20 39 10.8 +2.3**
NBPN Ponto Novo - B 31.34 62 *e*P **P** **20 39 12.0 -1.6**
BOAV Boa Vista 31.50 14 *e*P **P** **20 39 15.4 +0.5**
BOAV Boa Vista 31.50 14 P **P** **20 39 14.7 -0.2**
BOAV IAmb IAmb 20 39 16.5
comp=Z,34nm,0.9s
SOTA Rioblanco 31.54 343 *e*P **P** **20 39 17.0 +1.2**
PCON Cinco Dias 31.68 344 *e*P **P** **20 39 20.2 +3.2**
MCPB Macapa, AP 31.82 31 *e*P **P** **20 39 17.2 -0.5**
POPC Popayan, Colom 31.95 343 *e*P **P** **20 39 21.2 +2.1**
TMAB Tom-Au,PA,Br 32.13 40 *e*P **P** **20 39 20.2 -0.2**
ORTC Ortega, Tolima 32.95 347 *e*P **P** **20 39 29.4 +1.8**
NBLA Lagarto - SE 33.15 64 *e*P **P** **20 39 27.8 -1.6**
YOTC Yotoco, Valle 33.26 345 *e*P **P** **20 39 32.0 +1.6**
CHIC Chingaza 33.37 349 *e*P **P** **20 39 32.4 +0.7**
ROSC El Rosal 33.68 349 LR LR 20 55 48.6
comp=Z,246nm,21.6s,baz=187,slow=41
PLMC San Jos del P 34.13 345 *e*P **P** **20 39 39.1 +1.1**
GUY2C Guyana, Caldas 34.25 347 *e*P **P** **20 39 40.7 +1.3**
NORC Norcasia 34.48 348 *e*P **P** **20 39 41.0 0.0**
RUSC La Rusia 34.52 351 *e*P **P** **20 39 42.5 +0.8**
NBMA Muriti-CE 34.64 58 *e*P **P** **20 39 41.3 -1.1**
NBPS Pedro II - PI 34.75 51 *e*P **P** **20 39 43.1 -0.3**
CBOC Ciudad Bolivar 35.01 346 *e*P **P** **20 39 47.0 +1.4**
NBAN Anadia - AL 35.13 64 *e*P **P** **20 39 47.6 +1.0**
BARC Barichara 35.22 351 *e*P **P** **20 39 48.5 +1.0**
HELC Santa Helena 35.22 347 *e*P **P** **20 39 47.6 -0.2**
NBPB Pedra_Branca-C 35.25 55 *e*P **P** **20 39 47.5 -0.2**
PTBC PUERTO BERRIO, 35.36 349 *e*P **P** **20 39 46.9 -1.7**
ESPZ Base Esperanza 35.65 172 P **P** **20 39 51.1 +0.5**
DBBC Dabeiba 36.17 346 *e*P **P** **20 39 57.9 +2.4**
ZARC Zaragoza, Cauc 36.37 348 *e*P **P** **20 39 55.9 -1.2**
ZARC Zaragoza, Cauc 36.37 348 P **P** **20 39 55.3 -1.8**
MDP Montagnes des 36.49 26 LR LR 20 56 19.8
comp=Z,296nm,20.6s,baz=186,slow=38
RPN Rapa Nui 36.50 262 LR LR 20 51 07.2
comp=Z,276nm,19.1s,baz=92,slow=30
SOCV Socops 36.64 355 *e*P **P** **20 39 57.8 -1.7**
UREC San Jos de Ur 36.74 347 *e*P **P** **20 40 00.2 -0.2**
BAUV El Baul 37.19 360 P **P** **20 40 02.7 -1.4**
SDV Santo Domingo 37.22 356 LR LR 20 56 24.4
comp=Z,247nm,19.1s,baz=177,slow=38
SDV Santo Domingo 37.22 356 *e*P **P** **20 40 04.5 -0.2**
SDV Santo Domingo 37.22 356 *e*P **P** **20 40 03.8 -0.9**
SDV Santo Domingo 37.22 356 P **P** **20 40 03.6 -1.1**
SDV IAmb IAmb 20 40 05.4
comp=Z,34nm,0.9s
SMLC San Martn de 37.52 350 *e*P **P** **20 40 04.7 -2.2**
BIRV Birongo 38.75 3 P **P** **20 40 16.4 -0.8**
BIRV IAmb IAmb 20 40 18.6
comp=Z,69nm,0.9s
SJCC San Jacinto, C 38.77 349 *e*P **P** **20 40 17.6 0.0**

SJCC San Jacinto, C 38.77 349 P **P** **20 40 16.7 -0.9**
DABV Dabajuro 39.24 356 *e*P **P** **20 40 20.8 -0.7**
URIC Uribia, Colomb 40.12 354 *e*P **P** **20 40 26.0 -2.8**
URIC Uribia, Colomb 40.12 354 P **P** **20 40 25.1 -3.6**
SRBA San Rafael, Bu 40.33 336 P **P** **20 40 30.2 -0.4**
ORTG Ortega, Santa 42.15 334 P **P** **20 40 45.2 -0.4**
ORTG IAmb IAmb 20 40 48.7
comp=Z,42nm,1.3s
BIM Bigot 43.25 10 P **P** **20 40 53.5 -0.9**
FDF Fort de France 43.45 10 P **P** **20 40 54.7 -1.3**
FDF pmax pmax
comp=Z,128nm,0.8s
FDF Fort de France 43.45 10 P **P** **20 40 54.7 -1.3**
CELP Cerrillos 46.29 2 P **P** **20 41 16.6 -1.9**
MTO3 Montecristo 47.38 331 P **P** **20 41 26.9 -0.5**
MTO3 IAmb IAmb 20 41 33.3
comp=Z,17nm,1.0s
PETF Flores 49.85 332 P **P** **20 41 45.3 -0.8**
CMIG Matias Romero 52.25 327 P **P** **20 42 03.8 -0.4**
comp=Z,3.8nm,0.8s,baz=102,slow=5.8,SNR=8.2
VNA3 Neumayer Olymp 53.24 160 P **P** **20 42 11.6 +0.6**
VNA3 Neumayer Olymp 53.24 160 PcP **PcP** **20 43 21.6 +2.9**
VNA3 Neumayer Olymp 53.24 160 pP pP 20 42 15.1 -0.2
VNA1 Neumayer--Stat 53.48 159 P **P** **20 42 13.7 +1.1**
VNA1 Neumayer--Stat 53.48 159 pP pP 20 42 17.1 +0.1
VNA2 Neumayer--Watz 53.84 159 P **P** **20 42 15.9 +0.6**
baz=287,slow=8.5
VNA2 Neumayer--Watz 53.84 159 PcP **PcP** **20 43 20.2 -0.7**
baz=291,slow=7.1
VNA2 Neumayer--Watz 53.84 159 pP pP 20 42 19.5 -0.2
baz=291,slow=8.5
TLIG Tlapa 54.51 323 P **P** **20 42 21.2 +0.3**
SNAA Sanae 55.46 160 P **P** **20 42 27.5 +0.4**
SNAA Sanae 55.46 160 pP pP 20 42 31.0 -0.4
SNAA Sanae 55.46 160 LR LR 21 05 47.9
comp=Z,74nm,18.9s,baz=305,slow=36
SNAA Sanae 55.46 160 *c*P **P** **20 42 27.8 +0.7**
SNAA pmax pmax
comp=Z,4μm,1.3s
SNAA Sanae 55.46 160 P **P** **20 42 26.6 -0.5**
NVL N'lazarevskaya 60.06 158 *e*P **P** **20 43 03.5 +4.1**
NVL pmax pmax
comp=Z,31nm,1.1s
ZAIG Zacatecas 60.90 323 P **P** **20 43 05.4 -0.7**
ZAIG IAmb IAmb 20 43 13.1
comp=Z,15nm,1.2s
QSPA South Pole Qui 61.76 180 LR LR 21 09 05.2
comp=Z,130nm,20.6s,baz=168,slow=35
833A Chaparral WMA, 64.00 329 P **P** **20 43 24.7 -1.7**
833A Chaparral WMA, 64.00 329 P **P** **20 43 27.2 +0.9**
baz=149
W50A Signal Mountai 65.41 344 P **P** **20 43 34.3 -1.2**
W50A IAmb IAmb 20 43 36.5
comp=Z,44nm,1.4s
TKL Tuckaleechee C 65.50 346 P **P** **20 43 36.2 +0.2**
comp=Z,10nm,0.9s,baz=166,slow=12,SNR=3.8
TKL LR LR 21 15 09.2
comp=Z,58nm,18.8s,baz=162,slow=39
TKL Tuckaleechee C 65.50 346 IAmb IAmb 20 43 36.6
comp=Z,47nm,1.5s
SWET Sewanee 65.58 344 P **P** **20 43 35.1 -1.5**
T59A Double "B" Far 65.72 352 P **P** **20 43 36.3 -1.0**
T59A IAmb IAmb 20 43 41.4
comp=Z,26nm,1.1s
HPIG 65.91 323 P **P** **20 43 39.4 +0.3**
HPIG IAmb IAmb 20 43 41.1
comp=Z,15nm,0.9s
JCT Junction City 66.03 330 P **P** **20 43 39.7 +0.1**
JCT pmax pmax
comp=Z,21nm,0.8s
JCT Junction City 66.03 330 P **P** **20 43 39.7 +0.1**
JCT IAmb IAmb 20 43 42.2
comp=Z,21nm,0.8s
JCT Junction City 66.03 330 P **P** **20 43 40.2 +0.7**
baz=150
V48A Smith Brothers 66.30 343 P **P** **20 43 40.2 -1.0**
CLTN Cedars of Leba 66.51 344 P **P** **20 43 41.2 -1.2**
R58B Mineral 66.73 351 P **P** **20 43 43.0 -0.9**
TXAR Lajitas Array 66.85 326 P **P** **20 43 45.6 +0.7**
comp=Z,3.3nm,0.8s,baz=153,slow=7.7,SNR=29
TXAR Lajitas Array 66.85 326 P **P** **20 43 44.6 -0.4**
TXAR Lajitas Array 66.85 326 P **P** **20 43 44.6 -0.4**
TX31 Lajitas Ar. Si 66.86 326 P **P** **20 43 45.5 +0.5**
TX31 IAmb IAmb 20 43 50.1
comp=Z,49nm,1.6s
TX32 Lajitas Array 66.86 326 P **P** **20 43 44.6 -0.4**
WVT Waverly 66.92 343 P **P** **20 43 43.9 -1.2**
WVT pmax pmax
comp=Z,22nm,0.8s
WVT Waverly 66.92 343 P **P** **20 43 43.9 -1.2**
WVT IAmb IAmb 20 43 46.3
comp=Z,22nm,0.8s
WVT Waverly 66.92 343 P **P** **20 43 44.8 -0.3**
baz=161
MIAR Mount Ida 67.19 337 P **P** **20 43 46.1 -0.8**
MIAR pmax pmax
comp=Z,22nm,1.4s
MIAR Mount Ida 67.19 337 P **P** **20 43 46.1 -0.8**
MIAR IAmb IAmb 20 43 51.2
comp=Z,22nm,1.4s
T47A Sharon Grove 67.55 343 P **P** **20 43 47.7 -1.3**
T47A IAmb IAmb 20 43 55.3
comp=Z,22nm,1.0s
ABTX Abilene, Hawle 67.81 331 P **P** **20 43 49.8 -1.0**
ABTX IAmb IAmb 20 43 52.2
comp=Z,37nm,1.4s
ABTX Abilene, Hawle 67.81 331 P **P** **20 43 51.3 +0.5**
baz=150
LCAR Lake Charles 67.81 340 P **P** **20 43 49.8 -0.9**
W39A Magazine 67.86 337 P **P** **20 43 50.7 -0.4**
W39A Magazine 67.86 337 P **P** **20 43 51.5 +0.4**
baz=156
X37A Clayton 67.86 336 P **P** **20 43 50.1 -1.0**
X37A IAmb IAmb 20 43 58.5
comp=Z,19nm,1.1s
PARMO Parma 67.95 341 P **P** **20 43 50.8 -0.8**
P57A Homestead Farm 68.25 352 P **P** **20 43 54.0 +0.5**
PBMO Poplar Bluff 68.25 341 P **P** **20 43 53.2 -0.3**
PBMO IAmb IAmb 20 43 53.7
comp=Z,16nm,0.8s
WUPA West Chester U 68.42 354 P **P** **20 43 54.2 -0.3**
WUPA IAmb IAmb 20 43 57.1
comp=Z,27nm,1.4s
MVL Millersville 68.56 353 P **P** **20 43 55.4 0.0**
MVL IAmb IAmb 20 44 01.7
comp=Z,21nm,0.9s
MCWV Mont Chateau 68.67 350 P **P** **20 43 54.6 -1.4**
MCWV IAmb IAmb 20 44 02.1
comp=Z,28nm,1.0s
S44A Carbondale 68.78 342 P **P** **20 43 55.0 -1.7**
S44A IAmb IAmb 20 44 01.8
comp=Z,13nm,0.8s
X34A Smith Ranch, M 68.80 334 P **P** **20 43 56.6 -0.4**
X34A IAmb IAmb 20 43 59.8
comp=Z,27nm,1.2s
PAGS Pennsylvania G 68.83 353 P **P** **20 43 57.0 0.0**
PAGS IAmb IAmb 20 44 03.6
comp=Z,20nm,1.0s
HHAR Hobbs 68.89 338 P **P** **20 43 57.3 -0.3**
HHAR IAmb IAmb 20 43 58.8
comp=Z,64nm,2.0s
P52A Corning 69.03 348 P **P** **20 43 57.7 -0.6**
P52A IAmb IAmb 20 44 03.3
comp=Z,34nm,1.1s
P52A Corning 69.03 348 P **P** **20 43 58.5 +0.2**
baz=167
LUPA Lehigh Univers 69.06 354 P **P** **20 43 58.4 0.0**
LUPA IAmb IAmb 20 44 00.4
comp=Z,30nm,1.2s
O56A Blue Knob Stat 69.09 351 P **P** **20 43 58.5 -0.2**
O56A IAmb IAmb 20 44 05.1
comp=Z,33nm,1.1s
MGMO Mountain Grove 69.15 339 P **P** **20 43 58.8 -0.4**
MGMO IAmb IAmb 20 44 00.6
comp=Z,24nm,1.3s
TUL1 Leonard 69.20 336 P **P** **20 43 57.9 -1.5**
TUL1 IAmb IAmb 20 44 06.4
comp=Z,23nm,0.9s
SSPA Standing Stone 69.37 352 P **P** **20 44 00.1 -0.3**
SSPA IAmb IAmb 20 44 02.1
comp=Z,33nm,1.3s
FVM French Village 69.38 341 P **P** **20 43 59.3 -1.2**
FVM pmax pmax
comp=Z,86nm,1.4s
FVM French Village 69.38 341 P **P** **20 43 59.3 -1.2**

N59A State Game Lan 69.41 354 P **P** **20 44 00.9 +0.2**
N59A State Game Lan 69.41 354 P **P** **20 44 02.3 +1.6**
baz=173
N58A Sunbury 69.43 353 P **P** **20 44 00.5 -0.3**
OK030 Cody Creek RV 69.57 335 P **P** **20 44 01.1 -0.7**
OK031 S. Brethren Rd 69.62 335 P **P** **20 44 01.6 -0.4**
OK034 N. Norfolk Rd. 69.62 335 P **P** **20 44 02.2 +0.2**
OK034 IAmb IAmb 20 44 09.0
comp=Z,29nm,0.9s
MNTX Cornudas Mount 69.64 326 P **P** **20 44 01.8 -0.5**
MNTX Cornudas Mount 69.64 326 P **P** **20 44 02.2 -0.1**
baz=145
LIC Lamto 69.68 71 *e*PKIKP **P** **20 44 04.5 +1.6**
comp=Z,56nm,1.0s
CCM Cathedral Cave 69.68 341 P **P** **20 44 02.2 -0.1**
CCM pmax pmax
comp=Z,145nm,1.8s
CCM Cathedral Cave 69.68 341 P **P** **20 44 02.2 -0.1**
CCM Cathedral Cave 69.68 341 P **P** **20 44 02.5 +0.1**
baz=158
TIC Toumodi 69.91 70 *e*PKIKP **P** **20 44 04.7 +0.3**
S39A Bolivar 69.98 339 P **P** **20 44 03.9 -0.3**
KIC Kosan Boka 69.99 71 *e*PKIKP **P** **20 44 05.1 +0.3**
comp=Z,23nm,0.6s
DBIC Dimbokro 70.06 70 P **P** **20 44 05.1 -0.1**
comp=Z,20nm,0.7s,baz=229,slow=5.8,SNR=18
DBIC LR LR 21 11 32.1
comp=Z,78nm,20.3s,baz=234,slow=33
DBIC Dimbokro 70.06 70 P **P** **20 44 04.1 -1.2**
DBIC pmax pmax
comp=Z,24nm,0.8s
DBIC Dimbokro 70.06 70 P **P** **20 44 04.0 -1.2**
DBIC IAmb IAmb 20 44 09.9
comp=Z,24nm,0.8s
P46A Rosedale 70.07 344 IAmb IAmb 20 44 10.9
comp=Z,24nm,0.8s
VNDA Vanda 70.17 190 P **P** **20 44 05.0 0.0**
comp=Z,8.4nm,0.9s,baz=44,slow=3.0,SNR=4.2
VNDA LR LR 21 12 57.8
comp=Z,87nm,19.8s,baz=154,slow=34
VNDA Vanda 70.17 190 P **P** **20 44 05.0 0.0**
R40A Maddies Statio 70.20 340 P **P** **20 44 05.3 -0.3**
M55A Ridgway 70.30 351 P **P** **20 44 06.5 +0.4**
MSTX Muleshoe 70.31 330 IAmb IAmb 20 44 07.5
comp=Z,16nm,0.8s
MSTX Muleshoe 70.31 330 P **P** **20 44 06.8 +0.3**
baz=148
BLOK Blackwell 70.47 335 IAmb IAmb 20 44 15.1
comp=Z,20nm,1.0s
BINY Binghamton 70.70 354 P **P** **20 44 09.5 +0.9**
baz=172
N47A Urbana 70.93 346 P **P** **20 44 08.7 -1.3**
ERPA Erie 71.11 351 P **P** **20 44 11.8 +0.8**
baz=169
P40A Paris 71.28 341 IAmb IAmb 20 44 17.6
comp=Z,21nm,0.8s
319A Douglas 71.35 323 P **P** **20 44 13.2 +0.3**
319A IAmb IAmb 20 44 15.2
comp=Z,21nm,0.8s
MMNY Mt. Morris Dam 71.44 352 IAmb IAmb 20 44 14.4
comp=Z,40nm,1.2s
121A Cookes Peak, D 71.50 325 IAmb IAmb 20 44 16.3
comp=Z,16nm,0.8s
121A Cookes Peak, D 71.50 325 P **P** **20 44 15.5 +1.7**
baz=144
P38A Dawn 71.81 339 IAmb IAmb 20 44 16.3
comp=Z,41nm,1.5s
J59A Piesco 71.83 355 IAmb IAmb 20 44 17.2
comp=Z,24nm,1.1s
N41A Harden Midland 72.03 342 P **P** **20 44 15.4 -1.2**
N41A IAmb IAmb 20 44 22.1
comp=Z,27nm,0.9s
ANMO Albuquerque 72.81 328 *ce*P **P** **20 44 22.9 +1.3**
ANMO pmax pmax
comp=Z,23nm,2.5s
ANMO Albuquerque 72.81 328 P **P** **20 44 22.3 +0.7**
ANMO Albuquerque 72.81 328 P **P** **20 44 23.1 +1.4**
baz=145
TUC Tucson 72.87 323 P **P** **20 44 21.8 -0.2**
TUC pmax pmax
comp=Z,18nm,1.7s
TUC Tucson 72.87 323 P **P** **20 44 21.8 -0.2**
FRNY Flat Rock 73.13 356 IAmb IAmb 20 44 55.8
comp=Z,59nm,1.7s
G62A West of Eustis 73.37 358 IAmb IAmb 20 44 26.5
comp=Z,37nm,1.1s
SADO Sadowa 73.60 352 LR LR 21 18 53.4
comp=Z,54nm,20.5s,baz=168,slow=38
T25A Trinidad 73.69 330 P **P** **20 44 27.4 +0.6**
T25A IAmb IAmb 20 44 29.4
comp=Z,72nm,1.9s
T25A Trinidad 73.69 330 P **P** **20 44 27.8 +0.9**
baz=147
214A Organ Pipe Nat 73.69 321 IAmb IAmb 20 44 29.2
comp=Z,26nm,1.2s
214A Organ Pipe Nat 73.69 321 P **P** **20 44 27.9 +1.2**
baz=140
F64A Sherman 73.98 360 IAmb IAmb 20 44 29.4
comp=Z,41nm,1.3s
SUR Sutherland 74.41 119 LR LR 21 11 27.9
comp=Z,99nm,19.1s,baz=222,slow=31
KSCO Kaye Shedlock' 74.52 333 P **P** **20 44 32.0 +0.4**
KSCO IAmb IAmb 20 44 38.3
comp=Z,61nm,1.5s
TRQ Mont Tremblant 74.58 355 IAmb IAmb 20 44 36.6
comp=Z,26nm,1.1s
SDCO Great Sand Dun 74.67 330 P **P** **20 44 33.9 +1.3**
baz=146
E62A Clayton Lake 74.75 359 IAmb IAmb 20 44 39.0
comp=Z,19nm,0.9s
BGNE Belgrade 74.93 337 P **P** **20 44 33.7 0.0**
BGNE Belgrade 74.93 337 P **P** **20 44 34.6 +0.9**
baz=153
D62A Allapoint, All 75.20 359 IAmb IAmb 20 44 42.2
comp=Z,32nm,0.9s
S22A 4UR Ranch, Cre 75.27 329 P **P** **20 44 37.0 +0.9**
baz=145
WIN Windhoek 75.46 108 P **P** **20 44 37.0 -0.6**
WIN pmax pmax
comp=Z,15nm,0.8s
WIN Windhoek 75.46 108 P **P** **20 44 37.0 -0.6**
WIN IAmb IAmb 20 44 43.2
comp=Z,15nm,0.8s
Q24A Divide 75.54 331 IAmb IAmb 20 44 39.6
comp=Z,12nm,0.8s
Q24A Divide 75.54 331 P **P** **20 44 38.7 +1.1**
baz=147
WUAZ Wupatki 75.67 325 IAmb IAmb 20 44 44.7
comp=Z,16nm,1.1s
WUAZ Wupatki 75.67 325 P **P** **20 44 40.1 +1.7**
baz=141
LMQ La Malbaie 75.69 358 IAmb IAmb 20 44 44.0
comp=Z,18nm,1.0s
K31A O'Neill 76.22 337 P **P** **20 44 41.5 +0.5**
ISCO Idaho Springs 76.43 331 P **P** **20 44 43.7 +1.0**
baz=146
ECSD EROS Data Cent 76.51 339 IAmb IAmb 20 44 44.5
comp=Z,29nm,1.1s
ECSD EROS Data Cent 76.51 339 P **P** **20 44 42.8 +0.1**
baz=154
SMCO Snowmass 76.51 330 IAmb IAmb 20 44 46.2
comp=Z,63nm,2.0s
W13A Hualapai Mount 76.66 323 P **P** **20 44 43.0 -1.0**
U15A North Rim 76.85 325 IAmb IAmb 20 45 53.5
comp=Z,12nm,0.5s
MAW Mawson 77.44 163 P **P** **20 44 47.4 -0.3**
comp=Z,22nm,1.0s,baz=189,slow=13,SNR=2.6
MAW LR LR 21 19 13.8
comp=Z,152nm,18.0s,baz=238,slow=36
MAW Mawson 77.44 163 IAmb IAmb 20 45 33.8
comp=Z,43nm,2.0s
F36A Milaca 77.54 342 IAmb IAmb 20 44 53.9
comp=Z,15nm,0.8s
KNB Kanab 77.58 325 IAmb IAmb 20 44 51.7
comp=Z,26nm,1.1s
LCMT Little Creek M 77.79 324 P **P** **20 44 50.3 +0.1**
O20A White River Ci 77.85 330 IAmb IAmb 20 44 52.7
comp=Z,16nm,1.0s
Q16A Castle Valley 78.24 327 IAmb IAmb 20 46 12.0
comp=Z,14nm,0.5s
CCUT Cedar City 78.26 325 P **P** **20 44 53.6 +0.7**
RWWY Rawlins 78.67 331 IAmb IAmb 20 45 01.0
comp=Z,17nm,0.8s
TORD Torodi Ar. Bea 78.98 69 P **P** **20 44 57.3 +0.2**
comp=Z,64nm,0.8s,baz=259,slow=5.5,SNR=177
TORD Torodi Ar. Bea 78.98 69 P **P** **20 44 56.9 -0.3**
K22A Casper 79.18 332 IAmb IAmb 20 45 00.9
comp=Z,16nm,1.1s
K22A Casper 79.18 332 P **P** **20 44 59.4 +1.6**
baz=146
TPNV Topopah Spring 79.31 323 P **P** **20 45 00.1 +1.4**
baz=138
RSSD Black Hills 79.43 334 P **P** **20 44 59.0 -0.2**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD Black Hills 79.43 334 P **P** **20 44 59.0 -0.2**
RSSD Black Hills 79.43 334 P **P** **20 44 59.9 +0.8**
baz=148
BOSA Boshof 79.48 117 P **P** **20 44 59.7 -0.2**
comp=Z,15nm,0.7s,baz=244,slow=5.2,SNR=16
BOSA LR LR 21 15 50.0
comp=Z,76nm,20.6s,baz=194,slow=32
BOSA Boshof 79.48 117 P **P** **20 44 59.6 -0.3**
BOSA pmax pmax
comp=Z,19nm,0.8s
BOSA Boshof 79.48 117 P **P** **20 44 59.6 -0.3**
BOSA IAmb IAmb 20 45 04.7
comp=Z,18nm,0.8s
B35A Bob, Littlefor 79.89 343 IAmb IAmb 20 45 06.7
comp=Z,26nm,1.0s
R11A Troy Canyon, C 80.01 324 P **P** **20 45 02.9 +0.5**
R11A Troy Canyon, C 80.01 324 P **P** **20 45 03.4 +1.0**
baz=139
DUG Dugway, Tooele 80.03 327 P **P** **20 45 03.2 +0.8**
baz=141
LCH Last Change Ra 80.28 322 IAmb IAmb 20 46 36.1
comp=Z,15nm,0.5s
AGMN Agassiz Nation 80.41 342 IAmb IAmb 20 45 10.9
comp=Z,14nm,0.8s
AGMN Agassiz Nation 80.41 342 P **P** **20 45 04.1 0.0**
baz=155
BW06 Boulder Array 80.56 330 P **P** **20 45 06.1 +0.7**
baz=144
PDAR Pinedale Array 80.56 330 P **P** **20 45 05.7 +0.3**
comp=Z,3.7nm,0.8s,baz=122,slow=5.4,SNR=10.0
TPH Tonopah 80.67 323 IAmb IAmb 20 45 07.8
comp=Z,35nm,1.1s
MDND Maddock 81.12 339 P **P** **20 45 08.1 +0.1**
MDND Maddock 81.12 339 P **P** **20 45 08.4 +0.5**
baz=152
AHID Auburn Hatcher 81.24 329 IAmb IAmb 20 45 10.4
comp=Z,24nm,1.2s
LBTB Lobatse 81.38 114 P **P** **20 45 09.3 -0.8**
LBTB pmax pmax
comp=Z,23nm,0.8s
LBTB Lobatse 81.38 114 P **P** **20 45 09.3 -0.8**
LBTB IAmb IAmb 20 45 15.1
comp=Z,23nm,0.8s
NVAR Mina Array Bea 81.51 322 P **P** **20 45 10.8 +0.3**
comp=Z,2.2nm,0.8s,baz=160,slow=6.3,SNR=5.3
RAR Rarotonga 81.69 250 LR LR 21 13 37.7
comp=Z,110nm,21.3s,baz=326,slow=30
LOHW Long Hollow 81.70 330 IAmb IAmb 20 45 16.9
comp=Z,41nm,1.9s
FLWY Flagg Ranch 82.11 330 IAmb IAmb 20 45 21.9
comp=Z,12nm,0.8s
ULM Lac du Bonnet 82.19 342 P **P** **20 45 12.9 -0.5**
comp=Z,16nm,1.0s,baz=193,slow=4.5,SNR=7.3
ULM LR LR 21 27 51.6
comp=Z,36nm,19.1s,baz=118,slow=40
ULM Lac du Bonnet 82.19 342 P **P** **20 45 12.7 -0.8**
ULM pmax pmax
comp=Z,36nm,1.3s
ULM Lac du Bonnet 82.19 342 P **P** **20 45 12.7 -0.8**
ULM IAmb IAmb 20 45 14.2
comp=Z,36nm,1.2s
RLMT Red Lodge 82.34 332 P **P** **20 45 15.0 +0.3**
baz=144
LKWY Lake 82.37 331 IAmb IAmb 20 45 18.7
comp=Z,54nm,1.9s
YERR Yerington 82.41 322 IAmb IAmb 20 45 21.9
comp=Z,24nm,1.8s
LAO LASA Array 82.42 335 IAmb IAmb 20 45 22.2
comp=Z,13nm,0.9s
LAO LASA Array 82.42 335 P **P** **20 45 15.0 +0.1**
baz=147
PNTR Pine Nut 82.68 322 P **P** **20 45 16.9 +0.3**
YMR Madison River 82.70 331 IAmb IAmb 20 45 18.8
comp=Z,23nm,0.9s
SCHQ Schefferville 82.96 1 P **P** **20 45 17.0 -0.4**
comp=Z,10nm,1.1s,baz=257,slow=3.3,SNR=3.7
SCHQ LR LR 21 25 19.8
comp=Z,32nm,18.8s,baz=98,slow=38
PAHR Pah Rah Range 83.01 323 IAmb IAmb 20 45 24.1
comp=Z,15nm,1.2s
GCMT Greycliff 83.05 332 P **P** **20 45 18.1 -0.2**
DGMT Dagmar 83.19 337 P **P** **20 45 19.3 +0.5**
baz=148
HLID Hailey 83.38 328 P **P** **20 45 21.1 +1.0**
baz=140
BOZ Bozeman (W) 83.72 331 P **P** **20 45 21.8 +0.1**
BOZ pmax pmax
comp=Z,12nm,1.4s
BOZ Bozeman (W) 83.72 331 P **P** **20 45 21.8 +0.1**
BOZ Bozeman (W) 83.72 331 P **P** **20 45 22.2 +0.5**
baz=142
MFID Camas Ranch 83.94 327 IAmb IAmb 20 45 24.8
comp=Z,36nm,1.9s
DLMT Dillon 83.95 330 IAmb IAmb 20 45 24.7
comp=Z,11nm,1.1s
ORV Oroville 84.05 321 IAmb IAmb 20 45 25.3
comp=Z,29nm,1.6s
HRY Holter Researc 84.69 331 P **P** **20 45 26.7 +0.1**
EGMT Eagleton 84.89 333 IAmb IAmb 20 45 33.2
comp=Z,9.8nm,0.9s
J08A Circle Bar Ran 85.19 326 IAmb IAmb 20 45 30.8
comp=Z,25nm,1.2s
PLID Pearl Lake 85.28 328 IAmb IAmb 20 45 31.1
comp=Z,13nm,0.9s
MDT Midelt 85.59 49 P **P** **20 45 32.2 +0.8**
comp=Z,10.0nm,1.0s,baz=232,slow=2.8,SNR=6.5
MDT LR LR 21 21 46.1
comp=Z,40nm,20.8s,baz=170,slow=34
MSO Missoula 85.68 330 P **P** **20 45 30.4 -1.1**
MSO IAmb IAmb 20 45 37.7
comp=Z,23nm,1.7s
MORF Marmelete 85.86 43 *e*P **P** **20 45 34.4 +1.8**
comp=Z,76nm,1.4s
K05A Summer Lake 85.96 324 IAmb IAmb 20 45 51.6
comp=Z,24nm,1.1s
PTEO Sao Teotonio 85.97 43 *e*P **P** **20 45 35.3 +2.2**
I07A Izee 86.23 326 IAmb IAmb 20 45 39.3
comp=Z,11nm,1.1s
PBDV Barranco-do-Ve 86.25 44 *e*P **P** **20 45 36.6 +2.1**
comp=Z,82nm,1.5s
PCVE Castro Verde 86.44 43 *e*P **P** **20 45 37.2 +1.8**
comp=Z,46nm,1.2s
PNCL Nicolau / Gran 86.45 43 *e*P **P** **20 45 37.2 +1.8**
comp=Z,48nm,1.4s
PVAQ Vaqueiros 86.49 44 *e*P **P** **20 45 37.4 +1.8**
comp=Z,44nm,1.7s
F10A Beach Ranch, E 86.52 328 IAmb IAmb 20 45 40.9
comp=Z,10nm,1.1s
JTMT Jette 86.54 331 P **P** **20 45 35.4 -0.4**
JTMT IAmb IAmb 20 45 36.6
comp=Z,11nm,1.0s
PINE Pine Mountain 86.74 325 IAmb IAmb 20 45 46.3
comp=Z,15nm,0.8s
PBEJ Beja 86.80 43 *e*P **P** **20 45 38.1 +0.9**
comp=Z,42nm,1.3s
EVO Evora 87.04 43 *e*P **P** **20 45 43.0 +4.7**
PSBE So Bento 87.21 42 *e*P **P** **20 45 41.0 +1.8**
comp=Z,105nm,1.6s
PMTG Montargil 87.26 42 *e*P **P** **20 45 40.8 +1.5**
comp=Z,42nm,1.5s
WALA Waterton Lakes 87.39 332 IAmb IAmb 20 45 40.6
comp=Z,13nm,0.9s
LSZ Lusaka 88.09 106 LR LR 21 23 55.7
comp=Z,135nm,18.1s,baz=238,slow=35
C09A Chrisman Ranch 88.35 329 IAmb IAmb 20 45 45.5
comp=Z,14nm,1.1s
PVRL Vila Real 88.98 41 *e*P **P** **20 45 49.6 +2.0**
LTZ Lake Taylor 90.06 220 P **P** **20 45 53.4 +0.5**
ESDC Sonseca Array 90.20 44 P **P** **20 45 54.3 +1.0**
comp=Z,3.1nm,1.0s,baz=250,slow=3.3,SNR=6.8
ESDC LR LR 21 26 43.8
comp=Z,103nm,18.3s,baz=224,slow=36
ESDC Sonseca Array 90.20 44 P **P** **20 45 52.5 -0.8**
FRB Frobisher Bay 91.90 360 LR LR 21 30 39.6
comp=Z,34nm,19.7s,baz=197,slow=38
SFJD Kangerlussuaq 96.07 7 LR LR 21 32 13.8
comp=Z,42nm,18.7s,baz=318,slow=37
KEST Kesra 96.79 53 LR LR 21 32 49.1
comp=Z,143nm,18.3s,baz=290,slow=37

MBAR Mbarara 97.36 95 LR LR 21 28 46.0
comp=Z,74nm,18.2s,baz=217,slow=34
YKA Yellowknife Ar 98.01 340 P **P** **20 46 27.2 -1.3**
comp=Z,2.8nm,0.8s,baz=138,slow=4.4,SNR=43
YKA LR LR 21 36 13.0
comp=Z,53nm,18.4s,baz=274,slow=39
BORG Borgarnes 99.73 18 LR LR 21 28 50.2
comp=Z,43nm,18.0s,baz=189,slow=34
AKASG Malin Array Be 115.84 45 PKP **PKPdf** **20 51 34.0 -1.2**
comp=Z,0.3nm,0.3s,baz=34,slow=31,SNR=3.1
AKASG Malin Array Be 115.84 45 PKIKP **PKPdf** **20 51 33.0 -2.1**
AKASG Malin Array Be 115.84 45 **PKPdf** **20 51 33.0 -2.1**
MNK Minsk 115.94 40 *i* PKIKP **PKiKP** **20 51 39.7 +4.5**
MNK *i* 20 52 44.1
MNK *i* PPP PPP 20 55 09.7
MNK *i* PS **PS** **21 02 24.5 +3.7**
MNK *i* SS SS 21 08 45.9 +4.6
MNK *i* SSS SSS 21 13 03.4
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=E,2.0nm,1.2s
MNK MLR MLR
comp=E,9.0nm,20.0s
MNK MLR MLR
comp=Z,29nm,17.0s
MNK MLR MLR
comp=N,115nm,24.0s
MNK Minsk 115.94 40 *i* PKP **PKiKP** **20 51 39.7 +4.5**
comp=E,2.0nm,1.2s
MNK *i* PKP **PKiKP** **20 51 39.7 +4.5**
comp=N,11nm,0.8s
MNK *i* PKP **PKiKP** **20 51 39.7 +4.5**
comp=Z,10.0nm,0.9s,baz=258
MNK *i* PP **PP** **20 52 44.1 +4.4**
MNK *i* PPP PPP 20 55 09.8
MNK *i* SKS **SKSdf** **20 58 51.9 +4.9**
MNK *i* PS **PS** **21 02 24.5 +3.7**
MNK *i* SS **SS** **21 08 45.9 +4.7**
MNK *i* SSS SSS 21 13 03.5
MNK *i* LQ LQ 21 32 18.3
MNK *i* LR LR 21 39 04.0
MNK *i* LRM MLR 21 40 40.2
comp=E,9.0nm,20.3s
MNK *i* LRM MLR 21 40 45.3
comp=Z,29nm,16.6s
MNK *i* LRM MLR 21 41 00.5
comp=N,115nm,23.9s
BRTR Keskin Array B 115.99 57 PKP **PKPdf** **20 51 35.8 -0.2**
comp=N,1.8nm,0.8s,baz=146,slow=2.4,SNR=6.6
BRTR PKKPab **PKKPab** **21 02 10.4 +0.3**
comp=N,0.5nm,0.5s,baz=72,slow=7.9,SNR=3.6
BRTR Keskin Array B 115.99 57 PKIKP **PKPdf** **20 51 33.4 -2.6**
BRTR Keskin Array B 115.99 57 **PKPdf** **20 51 33.4 -2.6**
APA Apatity 120.29 26 ⇓ *i* PKIKP **PKiKP** **20 51 45.4 +2.1**
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,300nm,21.0s
OBN Obninsk 120.99 40 ⇓ *i* PKIKP **PKPdf** **20 51 43.4 -1.5**
OBN *e* 20 53 19.2
OBN *e* 20 58 45.8
OBN *e*SS SS 21 09 51.1 +4.5
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,60nm,18.0s
LPSR Galich'ya Gora 122.12 44 *e*PKIKP **PKiKP** **20 51 47.4 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 122.88 34 *e*PKIKP **PKPdf** **20 51 47.4 -0.9**
KLMR pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 122.88 34 *e*PKPdf **PKPdf** **20 51 47.4 -0.9**
KLMR AMP 20 51 53.6
comp=Z,12nm,0.9s
KIV Kislovodsk 123.51 54 *i* PKIKP **PKiKP** **20 51 52.1 +1.6**
KIV pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 123.63 54 PKP **PKPdf** **20 51 50.1 -0.2**
comp=Z,5.3nm,0.9s,baz=274,slow=4.6,SNR=6.9
VRH Novokhopyorsk 123.72 45 *e*PKIKP **PKPdf** **20 51 48.0 -2.2**
VRH pmax pmax
comp=Z,10.0nm,0.5s
AS31 Alice Springs 124.05 204 PKPdf **PKPdf** **20 51 49.6 -2.4**
ASAR Alice Springs 124.05 204 PKP **PKPdf** **20 51 50.6 -1.4**
comp=Z,6.9nm,0.9s,baz=150,slow=2.2,SNR=34
ASAR PKKPab **PKKPab** **21 01 44.6 +5.4**
comp=Z,0.3nm,0.7s,baz=318,slow=1.7,SNR=4.3
ASAR Alice Springs 124.05 204 PKIKP **PKPdf** **20 51 49.6 -2.4**
ASAR Alice Springs 124.05 204 PKPdf **PKPdf** **20 51 49.6 -2.4**
PRGR Permogore 125.79 33 *e*PKIKP **PKiKP** **20 51 54.3 0.0**
PRGR pmax pmax
comp=Z,15nm,1.0s
WB2 Warramunga Arr 127.27 207 PKPdf **PKPdf** **20 51 56.7 -1.4**
WRA Warramunga Arr 127.27 207 PKP **PKPdf** **20 51 57.3 -0.9**
comp=Z,15nm,0.9s,baz=168,slow=1.5,SNR=39
WRA Warramunga Arr 127.27 207 PKIKP **PKPdf** **20 51 56.5 -1.7**
WRA Warramunga Arr 127.27 207 PKPdf **PKPdf** **20 51 56.5 -1.7**
WRAB Tennant Creek 127.28 207 *c* PKIKP **PKPdf** **20 51 57.4 -0.8**
WRAB pmax pmax
comp=Z,35nm,1.7s
BELG Belogornoye 127.42 44 PKP **PKPdf** **20 51 56.8 -0.4**
comp=Z,14nm,0.8s,baz=10,slow=15,SNR=3.7
KIRV Kirov 128.02 36 *c* PKIKP **PKiKP** **20 52 00.0 +1.2**
PSA00 Pilbara Seismi 129.69 189 PKPpre PKPpre 20 51 45.0
PSA00 **PKPdf** **20 52 01.3 -1.4**
FITZ Fitzroy Crossi 131.88 197 PKP **PKPdf** **20 52 07.1 +0.2**
comp=Z,3.7nm,0.8s,baz=206,slow=6.7,SNR=5.4
ARU Arti 133.26 38 *i* PKIKP **PKiKP** **20 52 10.4 +0.9**
ARU 20 54 37.6
ARU SS SS 21 12 23.8 +4.6
ARU Arti 133.26 38 **PKPdf** **20 52 07.7 -0.6**
ABKAR Akbulak array 135.44 47 PKPpre PKPpre 20 51 55.0
ABKAR PKPdf **PKPdf** **20 52 12.0 -0.5**
TIXI Tiksi 135.78 352 PKIKP **PKPdf** **20 52 05.3 -7.3**
TIXI Tiksi 135.78 352 PKPpre 20 52 05.3
HRA Herat 137.44 69 PKPpre 20 52 09.3
HRA PKPdf **PKPdf** **20 52 17.3 +0.2**
BRVK Borovoye 140.75 39 *c* PKIKP **PKiKP** **20 52 23.9 -1.0**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
KBL Kabul 143.05 69 PKHKP PKPpre 20 52 19.9
KBL Kabul 143.05 69 PKPpre 20 52 19.9
CHGR Chuyangaron 143.13 63 PKPpre 20 52 21.9
CHGR PKPdf **PKPdf** **20 52 27.3 +0.2**
KKAR Karatay Array 143.66 55 PKIKP PKPab 20 52 24.4 -0.1
KKAR Karatay Array 143.66 55 PKPdf PKPab 20 52 24.4 0.0
BTK Batken 144.31 60 PKIKP **PKPab** **20 52 26.7 -0.4**
BTK Batken 144.31 60 PKPdf **PKPab** **20 52 26.7 -0.4**
YAK Yakutsk 144.46 346 *c* PKIKP **PKPab** **20 52 26.6 -0.2**
YAK pmax pmax
comp=Z,57nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK Yakutsk 144.46 346 PKPdf **PKPab** **20 52 26.5 -0.2**
URV Uravakonda 145.13 105 *e*PKPab **PKPbc** **20 52 24.1 -6.5**
SIJI Sorong 145.50 216 PKPbc **PKPdf** **20 52 30.8 -1.1**
comp=E,16nm,1.0s,baz=97,slow=3.0,SNR=7.5
EKS2 Erkin-Say 146.10 55 P **PKPbc** **20 52 33.3 +0.2**
SNR=27
AML Almayashu 146.15 56 P **PKPab** **20 52 34.9 +0.7**
SNR=18
KURK Kurchatov 146.42 39 *c* PKP2 **PKPbc** **20 52 33.6 0.0**
KURK pmax pmax
comp=Z,52nm,1.7s
USP Ospenovka 146.48 54 P **PKPbc** **20 52 34.1 0.0**
SNR=17
AAK Ala-Archa 146.62 55 P **PKPbc** **20 52 34.8 +0.1**
SNR=36
AAK Ala-Archa 146.62 55 *c* PKP2 **PKPbc** **20 52 34.6 -0.1**
AAK pmax pmax
comp=Z,57nm,1.7s
AAK Ala-Archa 146.62 55 **PKPbc** **20 52 34.1 -0.6**
CHMS Chumysh 146.73 54 P **PKPab** **20 52 35.9 -0.1**
SNR=18
UCH Uchtor 146.73 56 P **PKPbc** **20 52 35.6 +0.2**
SNR=36
RCLA Racherla 146.81 106 *e*PKiKP **PKPbc** **20 52 34.9 -0.8**
RCLA *e*SKSdf SKSdf 20 59 30.2 -13
KBK Karagaybulak 146.95 55 P **PKPbc** **20 52 34.9 -0.7**

SNR=21
SRLM Srisailam 147.06 105 *e*PKiKP **PKPbc 20 52 35.6 -0.8**
TKM2 Tokmak 2 147.35 54 P **PKPdf 20 52 35.5 +1.2**
SNR=19
HYBB Hyderabad (bro 147.36 102 *e*PKiKP **PKPdf 20 52 35.6 +0.8**
HYBB *es*PKPdf **sPKPab 20 52 54.1 +8.7**
HYBB *e*SKSdf SKSdf 20 59 31.1 -13
SEM Semipalatinsk 147.48 39 *e*PKIKP **PKPdf 20 52 34.5 +0.2**
SEM Semipalatinsk 147.48 39 *e*PKP **PKPdf 20 52 34.6 +0.2**
baz=39
KST Kastek 147.58 54 *e*PKP **PKPdf 20 52 34.8 +0.2**
baz=54
KUU Kurty 147.61 52 *e*PKIKP **PKPdf 20 52 34.8 +0.3**
KUU Kurty 147.61 52 *e*PKP **PKPdf 20 52 34.8 +0.3**
baz=52
CUPL Choutuppal 147.62 103 *e*PKiKP **PKPbc 20 52 36.8 -1.2**
NJS Nagarjunasagar 147.62 104 *e*PKiKP **PKPdf 20 52 36.4 +1.1**
ZAA0 Zalesovo Array 147.70 30 PKPdf **PKPdf 20 52 33.9 -0.4**
ZAA0 PKPbc **PKPbc 20 52 37.5 +0.4**
ZALV Zalesovo Beam 147.70 30 PKP **PKPdf 20 52 34.5 +0.3**
comp=Z,33nm,0.8s,baz=298,slow=3.2,SNR=54
ZALV PKPbc **PKPbc 20 52 37.8 +0.7**
comp=Z,56nm,0.9s,baz=310,slow=3.2,SNR=67
ZALV Zalesovo Beam 147.70 30 PKIKP **PKPdf 20 52 33.8 -0.5**
ZALV 20 52 37.5
ZALV Zalesovo Beam 147.70 30 PKPdf **PKPdf 20 52 33.8 -0.5**
ZALV PKPbc **PKPbc 20 52 37.5 +0.4**
BOOM Boomskoye usch 147.70 55 PKP2 **PKPbc 20 52 36.4 -1.3**
BOOM Boomskoye usch 147.70 55 **PKPbc 20 52 36.4 -1.3**
SRSP Sriramsagar 147.80 100 *e*PKPab **PKPbc 20 52 37.1 -1.4**
ADKI Addanki 147.85 106 *e*PKPab **PKPdf 20 52 35.8 +0.2**
CHKK Chushkaly 148.07 52 *e*PKP **PKPdf 20 52 35.5 +0.2**
baz=52
TNSS Tian-Shan 148.28 53 *e*PKP **PKPdf 20 52 36.9 +0.8**
baz=53
MDOK Medeo 148.31 53 *e*PKIKP **PKPdf 20 52 35.8 0.0**
MDOK Medeo 148.31 53 *e*PKP **PKPdf 20 52 35.9 0.0**
baz=53
KSH Kashi 148.32 60 PKPbc **PKPdf 20 52 36.5 +0.5**
KSH PP **PP 20 56 06.4 -2.1**
KSH LR LR
comp=Z,360nm,13.6s
KSH LR LR
comp=Z,280nm,13.7s
KSH LR LR
comp=Z,120nm,10.1s
RPR Rampur 148.60 100 *e*PKPab **PKPbc 20 52 40.5 0.0**
TDK Taldyqorghan 148.67 49 *e*PKIKP **PKPdf 20 52 36.5 +0.3**
TDK Taldyqorghan 148.67 49 *e*PKP **PKPdf 20 52 36.5 +0.3**
baz=49
KDJ Kajisay 148.68 55 PKHKP PKPpre 20 52 33.7
KDJ 20 52 40.0
KDJ Kajisay 148.68 55 PKPdf **PKPdf 20 52 33.7 -2.9**
KDJ **PKPbc 20 52 40.0 -0.3**
KDJ PKPab **PKPab 20 52 44.3 +0.3**
MYLAV Mylavaram 148.84 105 *e*PKPab **PKiKP 20 52 42.5 0.0**
UZB Uzynbulak 149.70 52 *e*PKHKP PKPpre 20 52 38.5
UZB Uzynbulak 149.70 52 *e*PKP **PKPdf 20 52 38.5 +0.4**
baz=52
MAKZ Makanchi 150.22 44 PKIKP **PKPdf 20 52 37.7 -1.0**
MAKZ 20 52 43.1
MAKZ 20 52 47.3
MAKZ Makanchi 150.22 44 PKPdf **PKPdf 20 52 37.7 -1.0**
MAKZ PKPbc **pPKPdf 20 52 43.1 -0.3**
MAKZ PKPab **pPKPbc 20 52 47.3 -1.1**
MK31 Makanchi Array 150.42 44 PKIKP **PKPdf 20 52 37.6 -1.4**
MK31 20 52 43.7
MK31 20 52 48.1
MK31 Makanchi Array 150.42 44 **PKPdf 20 52 37.6 -1.4**
MK31 PKPbc **pPKPdf 20 52 43.7 0.0**
MK31 PKPab **pPKPbc 20 52 48.1 -0.9**
MKAR Makanchi Array 150.42 44 PKP **PKPdf 20 52 38.9 -0.1**
comp=Z,4.8nm,1.2s,baz=29,slow=2.8,SNR=6.7
MKAR PKPbc **PKPbc 20 52 44.3 +0.1**
comp=Z,26nm,0.8s,baz=308,slow=1.4,SNR=173
BOD Bodaibo 150.63 358 ⇓*i*PKIKP **PKPbc 20 52 42.9 -1.4**
BOD pmax pmax
comp=Z,21nm,1.8s
TOLI2 Tolitoli 151.54 199 PKPdf **PKPdf 20 52 37.5 -4.1**
TOLI2 **pPKPdf 20 52 44.5 -2.0**
TOLI2 PKPab **PKiKP 20 52 50.2 +1.9**
ZSN Zaisan 151.62 41 *e*PKIKP **PKPdf 20 52 41.8 +1.1**
ZSN Zaisan 151.62 41 *e*PKP **PKPdf 20 52 41.9 +1.1**
baz=41
MYKOM Kota Tinggi 152.34 162 **PKPdf 20 52 44.6 +1.8**
MYKOM PKPab **pPKPbc 20 52 52.6 -1.8**
ZEA Zeya 152.40 340 *e*PKIKP **PKPbc 20 52 47.9 -0.6**
ZEA pmax pmax
comp=Z,10.0nm,1.8s
LHMI Lhok Sumawe 152.81 145 PKPdf **PKPdf 20 52 39.5 -4.1**
LHMI **pPKPdf 20 52 46.9 -1.4**
PYUN Piuthan 154.43 84 *e*P **PKPdf 20 52 49.0 +3.3**
comp=Z,29nm,1.1s
KOLN Koldanda 154.92 85 *e*P **PKPdf 20 52 50.7 +4.3**
DANN Dangsing 155.14 83 *e*P **PKPdf 20 52 46.9 +0.1**
comp=Z,57nm,1.0s
WMQ Urumqi 155.20 45 *e*PKP **PKPdf 20 52 46.3 +0.2**
MOY Mondy 155.39 17 *e*PKP2 **PKPab 20 53 12.3 +0.8**
MOY pmax pmax
comp=Z,28nm,1.9s
GKN Gorkha 155.86 85 *e*P **PKPdf 20 52 49.6 +2.0**
comp=Z,40nm,1.2s
DMN Daman 156.22 86 *e*P **PKPdf 20 52 52.5 +4.3**
comp=Z,37nm,0.9s
KKN Kakani 156.40 85 *e*P **PKPdf 20 52 51.0 +2.6**
comp=Z,35nm,0.9s
PKIN Phulchoki 156.47 86 *e*P **PKPdf 20 52 52.3 +3.7**
comp=Z,58nm,1.0s
PKI Pulchoki 156.48 86 *e*P **PKPdf 20 52 52.4 +3.7**
comp=Z,34nm,1.1s
GUN Gumba 156.94 85 *e*P **PKPdf 20 52 50.0 +0.7**
comp=Z,27nm,0.9s
ZAK Zakamensk 157.12 15 *e*PKIKP **PKPdf 20 52 48.3 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.6s
BNX BinXian 158.92 329 ⇑P **PKPab 20 53 26.6 -0.2**
BNX pmax pmax
comp=Z,5.0nm,0.9s
BNX pmax pmax
comp=Z,54nm,4.7s
SONM Songino Array 160.17 11 PKP **PKPdf 20 52 52.8 +0.6**
comp=Z,2.8nm,1.0s,baz=318,slow=2.0,SNR=8.1
SONM PKPab **PKPab 20 53 33.0 +0.7**
comp=Z,3.7nm,0.6s,baz=335,slow=4.8,SNR=9.9
SONM Songino Array 160.17 11 PKIKP **PKPdf 20 52 51.1 -1.1**
SONM 20 53 32.5
SONM Songino Array 160.17 11 PKPdf **PKPdf 20 52 51.1 -1.1**
SONM PKPab **PKPab 20 53 32.5 +0.2**
GOMU GeErMu 163.53 58 PKP **PKPdf 20 52 57.3 +0.9**
GOMU AMB AMB
comp=Z,86nm,4.8s
KSRS Korea Array 163.96 308 PKP **PKPdf 20 52 56.0 -0.2**
comp=Z,0.7nm,0.8s,baz=116,slow=2.8,SNR=4.9
KSRS Korea Array 163.96 308 PKIKP **PKPdf 20 52 56.0 -0.2**
KSAR Wonju Array Be 163.99 308 PKIKP **PKPdf 20 52 54.6 -1.7**
KSAR 20 53 48.2
KSAR Wonju Array Be 163.99 308 **PKPdf 20 52 54.6 -1.7**
KSAR **PKPab 20 53 48.2 -1.1**
XLT XiLinHaoTe 164.26 349 *e*PKP **PKPdf 20 52 56.3 -0.1**
XLT PP **PP 20 57 36.9 +1.5**
XLT AMB AMB
comp=Z,220nm,4.2s
CMAR Chiang Mai Arr 164.40 127 PKP **PKPdf 20 52 57.6 +0.4**
comp=Z,3.6nm,0.9s,baz=257,slow=1.9,SNR=11
CMAR PKPab **PKPab 20 53 51.1 -0.4**
comp=Z,0.2nm,0.3s,baz=290,slow=17,SNR=1.9
CMAR Chiang Mai Arr 164.40 127 PKIKP **PKPdf 20 52 54.6 -2.6**
CMAR 20 53 50.5
CMAR Chiang Mai Arr 164.40 127 **PKPdf 20 52 54.6 -2.6**
CMAR PKPab **PKPab 20 53 50.5 -1.0**
GTA Gaotai 165.11 40 ⇑PKP **PKPdf 20 52 57.5 +0.1**
GTA pPKP pPKPdf 20 53 02.1 0.0
GTA sPKP 20 53 05.0
GTA PKPab **PKPab 20 53 55.3 +1.0**
HHC Hu-ho-hao-te 167.64 2 *e*PKP **PKPdf 20 52 54.0 -5.3**
LZH Lanzhou 169.71 40 *e*PKP **PKPdf 20 53 06.0 +5.2**
PZH PanZhiHua 170.64 100 PKP **PKPdf 20 52 59.5 -2.1**
PZH PKPab **PKPab 20 54 19.4 +0.1**
PZH PP **PP 20 58 10.4 +0.3**
PZH AMB AMB
comp=Z,180nm,6.7s
NJ2 Nanjing 173.11 303 *e*PKP **PKPdf 20 53 02.0 -0.4**
XAN Xi'an 173.83 25 PKP **PKPdf 20 53 02.4 -0.3**
GYA Guiyang 174.81 111 ⇑PKP **PKPdf 20 53 03.4 +0.1**

SOME ***15*** *20:36:04.3, 42°.50N×79°.63E, h10km*
KRNET ***15*** *20:36:05.3±0.1, 42°.56N×79°.63E, h18km, mb2.4*
NNC ***15*** *20:36:05.4±0.9, 42°.58N×79°.62E, h0km, mb2.7, mpv2.6,*
Error ellipse: s-maj=6.1km s-min=3.0km az=130.0
ISC 15 20:36:04.3±1.8,**42°.53N**±0°.05×**79°.64E**±0°.06,**h14**km±11km,
n47,σ1§**00**/83,**8C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak** 5.1nm,0.1s	**0.77**	**324**	*e*P	**Pb**	**20 36 19.5**	**0.0**
UZB 13nm,0.2s				*e*S	**Sg**	**20 36 29.9**	**+0.4**
UZB	**Uzynbulak** 5.1nm,0.1s	**0.77**	**324**	P	**Pb**	**20 36 19.5**	**0.0**
UZB 13nm,0.2s				S	**Sg**	**20 36 29.9**	**+0.4**
UZB	**Uzynbulak** baz=23	**0.77**	**324**	*e*P	**Pb**	**20 36 19.5**	**0.0**
UZB baz=23				*e*S	**Sg**	**20 36 29.9**	**+0.4**
PDGK	**Podgornoye** 1.6nm,0.4s	**0.81**	**352**	⇑P	**Pb**	**20 36 19.8**	**-0.4**
PDGK 1.6nm,0.7s				⇓S	**Sb**	**20 36 30.5**	**-0.5**
PRZ	**Przheval'sk** baz=67	**0.92**	**268**	⇑*i*P	**Pb**	**20 36 22.4**	**+0.3**
PRZ baz=67				⇑*i*S	**Sg**	**20 36 35.0**	**+0.8**
SATY	**Saty** 0.8nm,0.1s	**1.05**	**301**	*e*P	**Pb**	**20 36 24.3**	**-0.1**
SATY 9.2nm,0.1s				*e*S	**Sg**	**20 36 38.5**	**+0.1**
SATY	**Saty** 0.8nm,0.1s	**1.05**	**301**	P	**Pb**	**20 36 24.3**	**-0.1**
SATY 9.2nm,0.1s				S	**Sg**	**20 36 38.5**	**+0.1**
SATY	**Saty** baz=0.0	**1.05**	**301**	*e*P	**Pb**	**20 36 24.3**	**-0.1**
SATY baz=0.0				*e*S	**Sg**	**20 36 38.6**	**+0.1**
ZHN	**Zhinishke** 2.0nm,0.2s	**1.09**	**306**	*e*P	**Pb**	**20 36 24.9**	**-0.2**
ZHN 29nm,0.2s				*e*S	**Sn**	**20 36 39.5**	**-0.7**
ZHN	**Zhinishke** 2.0nm,0.2s	**1.09**	**306**	P	**Pb**	**20 36 24.9**	**-0.2**
ZHN 29nm,0.2s				S	**Sn**	**20 36 39.5**	**-0.7**
ZHN	**Zhinishke** baz=5.0	**1.09**	**306**	*e*P	**Pb**	**20 36 24.9**	**-0.2**
ZHN baz=5.0				*e*S	**Sn**	**20 36 39.6**	**-0.7**
KURS	**Kuram** 3.9nm,0.0s	**1.45**	**312**	*e*P	**Pb**	**20 36 31.6**	**+0.6**
KURS 4.5nm,0.4s				*e*S	**Sg**	**20 36 51.0**	**+0.1**
KURS	**Kuram** 4.2nm,0.5s	**1.45**	**312**	P	**Pb**	**20 36 31.6**	**+0.6**
KURS 4.5nm,0.4s				S	**Sg**	**20 36 51.0**	**+0.1**
KURS	**Kuram** baz=12	**1.45**	**312**	*e*P	**Pb**	**20 36 31.6**	**+0.6**
KURS baz=12				*e*S	**Sg**	**20 36 51.0**	**+0.1**
ANVS	**Anan'yevo** baz=80	**1.48**	**281**	⇑*i*P	**Pb**	**20 36 32.6**	**+0.9**
ANVS baz=80				⇑*i*S	**Sg**	**20 36 52.1**	**+0.1**
TARG	**Taragay, Kyrgy** baz=39	**1.58**	**240**	⇑*i*P	**Pb**	**20 36 34.4**	**+0.8**
TARG baz=39				⇑*i*S	**Sg**	**20 36 56.2**	**+0.8**
BLB	**Baldybastay** 5.3nm,0.1s	**1.78**	**332**	*e*P	**Pb**	**20 36 37.2**	**+0.4**
BLB 8.0nm,0.3s				*e*S	**Sg**	**20 37 01.3**	**-0.4**
BLB	**Baldybastay** 6.6nm,0.2s	**1.78**	**332**	P	**Pb**	**20 36 37.2**	**+0.4**
BLB 8.0nm,0.3s				S	**Sg**	**20 37 01.3**	**-0.4**
DJR	**Jarkent** 1.4nm,0.1s	**1.81**	**3**	*e*P	**Pb**	**20 36 38.0**	**+0.8**
DJR 4.3nm,0.3s				*e*S	**Sg**	**20 37 02.1**	**-0.4**
DJR	**Jarkent** 2.2nm,0.2s	**1.81**	**3**	P	**Pb**	**20 36 37.8**	**+0.6**
DJR 4.3nm,0.3s				S	**Sg**	**20 37 02.1**	**-0.4**
KNOS	**Konyrlen** 1.4nm,0.1s	**1.86**	**350**	*e*P	**Pb**	**20 36 39.3**	**+1.2**
KNOS 4.1nm,0.0s				*e*S	**Sg**	**20 37 04.2**	**0.0**
KDJ	**Kajisay** baz=57	**1.87**	**259**	⇓*i*P	**Pb**	**20 36 39.1**	**+0.8**
KDJ baz=57				⇓*i*S	**Sg**	**20 37 03.7**	**-0.8**
KOTS	**Kotyrbulak** 1.5nm,0.3s	**1.99**	**292**	*e*P	**Pb**	**20 36 41.9**	**+1.5**
KOTS 19nm,0.3s				*e*S	**Sg**	**20 37 09.4**	**+1.1**
KOTS	**Kotyrbulak** 2.8nm,0.2s	**1.99**	**292**	Pg	**Pb**	**20 36 41.8**	**+1.5**
KOTS 19nm,0.3s				Lg	Lg	20 37 09.4	
MDOK	**Medeo** 0.9nm,0.3s	**2.01**	**289**	*e*P	**Pb**	**20 36 41.5**	**+0.8**
MDOK 5.7nm,0.5s				*e*S	**Sg**	**20 37 08.2**	**-0.8**
MDOK	**Medeo** 0.9nm,0.5s	**2.01**	**289**	⇓Pn	**Pb**	**20 36 41.1**	**+0.4**
MDOK 5.3nm,0.6s				Sn	**Sg**	**20 37 07.9**	**-1.1**
MDOK	**Medeo** 0.9nm,0.3s	**2.01**	**289**	Pg	**Pb**	**20 36 41.5**	**+0.8**
MDOK 5.7nm,0.5s				Lg	Lg	20 37 08.2	
TNSS	**Tian-Shan** 1.8nm,0.2s	**2.05**	**285**	*e*P	**Pb**	**20 36 41.9**	**+0.4**
TNSS 1.9nm,0.3s				*e*S	**Sb**	**20 37 08.7**	**+1.7**
TNSS	**Tian-Shan** 1.8nm,0.2s	**2.05**	**285**	Pg	**Pb**	**20 36 41.8**	**+0.4**
TNSS 1.9nm,0.3s				Lg	Lg	20 37 08.7	
TNSS	**Tian-Shan** baz=85	**2.05**	**285**	*e*P	**Pb**	**20 36 41.9**	**+0.4**
TNSS baz=85				*e*S	**Sb**	**20 37 08.7**	**+1.7**
ARXS	**Arharly** 0.6nm,0.2s	**2.14**	**322**	*e*P	**Pg**	**20 36 44.8**	**-0.6**
ARXS 3.8nm,0.0s				*e*S	**Sg**	**20 37 13.7**	**+0.5**
CHKK	**Chushkaly** 0.4nm,0.0s	**2.35**	**305**	*e*P	**Pb**	**20 36 47.6**	**+1.2**
CHKK 6.4nm,0.1s				*e*S	**Sg**	**20 37 19.1**	**-0.8**
CHKK	**Chushkaly** 0.7nm,0.1s	**2.35**	**305**	Pg	**Pb**	**20 36 47.6**	**+1.2**
CHKK 6.7nm,0.2s				Lg	Lg	20 37 19.1	
MTBS	**Maitube** 1.6nm,0.1s	**2.44**	**285**	*e*P	**Pb**	**20 36 48.6**	**+0.6**
MTBS 5.9nm,0.0s				*e*S	**Sb**	**20 37 20.3**	**+2.4**
MTBS	**Maitube** 1.6nm,0.1s	**2.44**	**285**	Pg	**Pb**	**20 36 48.6**	**+0.6**
MTBS 4.1nm,0.3s				Lg	Lg	20 37 20.3	
KTBS	**Karatobe** 0.5nm,0.3s	**2.47**	**300**	*e*P	**Pb**	**20 36 49.2**	**+0.8**
KTBS 14nm,0.5s				*e*S	**Sg**	**20 37 21.5**	**-2.2**
KTBS	**Karatobe** 0.6nm,0.2s	**2.47**	**300**	Pg	**Pb**	**20 36 49.2**	**+0.8**
KTBS 14nm,0.5s				Lg	Lg	20 37 21.5	
BOOM	**Boomskoye usch** baz=70	**2.74**	**270**	⇓*i*P	**Pb**	**20 36 51.4**	**-1.7**
BOOM baz=70				⇓*i*S	**Sb**	**20 37 24.4**	**-2.2**
KST	**Kastek** 1.4nm,0.3s	**2.76**	**282**	*e*P	**Pb**	**20 36 54.4**	**+0.9**
KST 2.2nm,0.2s				*e*S	**Sg**	**20 37 30.3**	**-2.6**
KST	**Kastek** 1.4nm,0.3s	**2.76**	**282**	Pg	**Pb**	**20 36 54.4**	**+0.9**
KST 2.4nm,0.4s				Lg	Lg	20 37 30.3	
KUU	**Kurty** 0.4nm,0.0s	**2.77**	**301**	*e*P	**Pg**	**20 36 56.8**	**-0.7**
KUU 3.5nm,0.0s				*e*S	**Sg**	**20 37 34.4**	**+0.9**
KUU	**Kurty** 0.3nm,0.1s	**2.77**	**301**	Pg	**Pg**	**20 36 56.8**	**-0.7**
KUU 3.5nm,0.2s				Lg	Lg	20 37 34.4	
DGS	**Degeres** 0.9nm,0.6s	**2.93**	**285**	*e*P	**Pb**	**20 36 57.8**	**+1.4**
DGS 4.3nm,0.2s				*e*S	**Sg**	**20 37 36.2**	**-2.3**
DGS	**Degeres** 0.9nm,0.6s	**2.93**	**285**	Pg	**Pb**	**20 36 57.8**	**+1.4**
DGS 4.3nm,0.6s				Lg	Lg	20 37 36.2	
TKM2	**Tokmak 2** 0.2nm,0.5s	**3.01**	**279**	⇑Pg	**Pb**	**20 36 57.3**	**-0.5**
TKM2 1.4nm,0.5s				⇓Lg	Lg	20 37 38.1	
KRBS	**Karabastau** 0.4nm,0.2s	**3.13**	**293**	*e*P	**Pb**	**20 37 00.3**	**+0.6**
KRBS 2.7nm,0.4s				*e*S	**Sb**	**20 37 40.6**	**+2.8**
KRBS	**Karabastau** 0.4nm,0.2s	**3.13**	**293**	Pg	**Pb**	**20 37 00.3**	**+0.6**
KRBS 2.7nm,0.4s				Lg	Lg	20 37 40.6	

ATH ***15*** *20:39:07.7, 40°.27N×19°.27E, h60km±3km, ML3.3/9, Error ellipse: s-maj=3.1km s-min=1.1km az=210.0*
THE ***15*** *20:39:08.8, 40°.33N×19°.31E, h5km±1km, ML3.2/5, Error ellipse: s-maj=2.8km s-min=0.9km az=261.0*
BEO ***15*** *20:39:09.1±0.7, 40°.45N×19°.09E, h8km±3km, ML3.0/8*
TIR ***15*** *20:39:09.1, 40°.30N×19°.37E, h26km±1km, Md3.5, Ml3.5*
ISC 15 20:39:08.2±1.0,**40°.32N**±0°.02×**19°.25E**±0°.02,**h14**km±8km,
n120,σ1§**54**/180,**17C-2D, Albania**

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.24**	**52**	P	**Pg**	**20 39 12.6**	**-0.8**
VLO	**Vlora** baz=29	**0.24**	**52**	P	**Pg**	**20 39 12.6**	**-0.8**
VLO baz=29				S	**Sb**	**20 39 18.2**	**-0.3**
VLO comp=E,353nm,0.2s,baz=29				AMP			
FIER	**Fieri** baz=19	**0.47**	**32**	P	**Pb**	**20 39 18.9**	**+0.7**
TPE	**Tepelena** baz=90	**0.58**	**92**	P	**Pg**	**20 39 19.4**	**-0.2**
SCTE	**Santa Cesarea**	**0.65**	**248**	P	**Pn**	**20 39 22.4**	**-0.6**
SCTE				S	**Sn**	**20 39 32.8**	**-0.3**
SCTE				AML	AML	20 39 35.4	
SCTE comp=E,2253μm,0.5s				AML	AML	20 39 36.0	
SCTE	**Santa Cesarea** baz=253	**0.65**	**248**	P	**Pn**	**20 39 23.8**	**+0.8**
SCTE baz=253				S	**Sn**	**20 39 34.5**	**+1.4**
SRN	**Sarande**	**0.73**	**127**	P	**Pg**	**20 39 20.9**	**-1.4**
SRN comp=N,1μm,0.4s				S	**Sg**	**20 39 31.7**	**-0.2**
SRN	**Sarande** baz=131	**0.73**	**127**	P	**Pg**	**20 39 21.7**	**-0.6**
SRN baz=131				S	**Sg**	**20 39 32.1**	**+0.2**
SRN comp=E,4.3nm,0.5s,baz=131				AMP			
KEK	**Kerkira**	**0.74**	**145**	P	**Pg**	**20 39 22.4**	**-0.2**
KEK	**Kerkira**	**0.74**	**145**	P	**Pg**	**20 39 22.2**	**-0.4**
KEK				S	**Sn**	**20 39 34.9**	**-0.5**
KEK				AML	AML	20 39 39.0	
KEK comp=E,2931μm,0.3s				AML	AML	20 39 40.4	
KEK comp=N,2766μm,0.5s				AML	AML	20 39 40.4	
KASA	**Kassiopi**	**0.78**	**137**	P	**Pg**	**20 39 23.6**	**+0.2**
KASA				S	**Sb**	**20 39 34.7**	**+0.7**
KASA				AML	AML	20 39 38.0	
KASA comp=E,3174μm,0.4s				AML	AML	20 39 38.5	
KASA comp=N,2932μm,0.3s				AML	AML	20 39 38.5	
LSK	**Leskovik** baz=98	**1.05**	**99**	P	**Pb**	**20 39 27.4**	**-0.8**
LSK baz=98				S	**Sb**	**20 39 41.9**	**0.0**
LSK comp=E,6.1nm,0.4s,baz=98				AMP			
TIR	**Tirane**	**1.13**	**24**	⇑P	**Pg**	**20 39 31.1**	**+1.1**
TIR				⇑S	**Sn**	**20 39 47.0**	**+2.1**
TIR	**Tirane**	**1.13**	**24**	P	**Pb**	**20 39 29.3**	**-0.2**
TIR				S	**Sn**	**20 39 45.2**	**+0.2**
TIR comp=E,520nm,0.6s							
TIR	**Tirane**	**1.13**	**24**	P	**Pb**	**20 39 29.5**	**0.0**
TIR				S	**Sn**	**20 39 46.5**	**+1.5**
TIR				AML	AML	20 39 49.0	
TIR comp=N,2410μm,0.6s				AML	AML	20 39 49.9	
TIR comp=E,2857μm,0.6s							
TIR	**Tirane** baz=19	**1.13**	**24**	P	**Pg**	**20 39 30.5**	**+0.5**
TIR baz=19				S	**Sn**	**20 39 46.5**	**+1.5**
TIR comp=E,2.2nm,0.6s,baz=19				AMP			
TIR	**Tirane**	**1.13**	**24**	*e*Pg	**Pn**	**20 39 29.9**	**+0.3**
TIR				*e*Sg	**Sb**	**20 39 44.2**	**+0.1**
IGT	**Igoumenitsa**	**1.15**	**133**	P	**Pn**	**20 39 30.1**	**+0.2**
IGT				S	**Sg**	**20 39 46.2**	**+0.9**
IGT comp=E,1μm,0.7s							
IGT	**Igoumenitsa**	**1.15**	**133**	P	**Pn**	**20 39 28.9**	**-1.0**
IGT				S	**Sb**	**20 39 43.8**	**-0.9**
IGT				AML	AML	20 39 49.1	
IGT comp=E,1871μm,0.7s				AML	AML	20 39 49.8	
IGT comp=N,2481μm,0.4s							
IGT	**Igoumenitsa** baz=135	**1.15**	**133**	P	**Pn**	**20 39 30.1**	**+0.2**
IGT baz=135				S	**Sb**	**20 39 44.9**	**+0.3**
KBN	**Korca**	**1.21**	**75**	P	**Pn**	**20 39 31.3**	**+0.4**
KBN	**Korca** baz=73	**1.21**	**75**	P	**Pn**	**20 39 30.7**	**-0.2**
KBN baz=73				S	**Sb**	**20 39 46.6**	**0.0**
KBN comp=N,3.8nm,0.7s,baz=73				AMP			
NEST	**Nestorio**	**1.38**	**86**	P	**Pn**	**20 39 33.8**	**+0.6**
NEST				AML	AML	20 39 58.5	
NEST comp=E,850μm,0.3s				AML	AML	20 39 58.8	
NEST comp=N,1129μm,0.4s							
JAN	**Janina**	**1.40**	**118**	P	**Pn**	**20 39 33.3**	**-0.1**
JAN				S	**Sn**	**20 39 52.2**	**+0.5**
JAN comp=N,2μm,0.4s							
JAN	**Janina**	**1.40**	**118**	P	**Pn**	**20 39 33.6**	**+0.2**
JAN				S	**Sn**	**20 39 51.6**	**-0.1**
JAN				AML	AML	20 39 57.2	
JAN comp=N,3938μm,0.5s				AML	AML	20 39 57.5	
JAN comp=E,4391μm,0.4s							
OHR	**Ohrid**	**1.42**	**56**	*i*Pn	**Pg**	**20 39 35.5**	**0.0**
PHP	**Peshkopia** baz=30	**1.63**	**33**	P	**Pb**	**20 39 38.4**	**+0.1**
PHP baz=30				S	**Sg**	**20 40 00.9**	**0.0**
PHP comp=N,1.7nm,0.6s,baz=30				AMP			
KPRO	**Kipourio**	**1.66**	**102**	P	**Pn**	**20 39 37.8**	**+0.7**
FNA	**Florina**	**1.69**	**73**	P	**Pn**	**20 39 37.9**	**+0.5**
FNA				S	**Sb**	**20 40 00.2**	**0.0**
FNA comp=N,868nm,0.7s							
FNA	**Florina**	**1.69**	**73**	P	**Pn**	**20 39 38.6**	**+1.2**
FNA				S	**Sb**	**20 40 00.4**	**+0.2**
FNA				AML	AML	20 40 05.7	
FNA comp=N,1404μm,0.6s				AML	AML	20 40 11.4	
FNA comp=E,1278μm,0.5s							
FNA	**Florina** baz=72	**1.69**	**73**	P	**Pb**	**20 39 39.0**	**-0.1**
FNA baz=72				S	**Sb**	**20 40 01.4**	**+1.1**

NOCI	**Noci**	**1.73 286**	P	**Pb**	**20 39 39.3**	**-0.5**
NOCI			AML	AML	20 40 14.7	
	comp=N,3287µm,0.7s					
NOCI			AML	AML	20 40 15.3	
	comp=E,3517µm,0.4s					
NOCI	**Noci**	**1.73 286**	P	**Pg**	**20 39 42.3**	**+0.9**
	baz=287					
TSLK	**Tsoukalades, L**	**1.85 143**	P	**Pn**	**20 39 40.7**	**+1.2**
DRME	**Dracevica, Mon**	**1.86 359**	*e*Pn	**Pn**	**20 39 40.4**	**+0.6**
LKD2	**Lefkada island**	**1.88 144**	P	**Pn**	**20 39 41.0**	**+1.0**
LKD2	**Lefkada island**	**1.88 144**	P	**Pn**	**20 39 40.9**	**+1.0**
KZN	**Kozani**	**1.93 90**	P	**Pb**	**20 39 42.6**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.93 147**	P	**Pn**	**20 39 41.0**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.96 145**	P	**Pn**	**20 39 41.7**	**+0.6**
MATE	**Matera**	**1.97 280**	⇑P	**Pg**	**20 39 46.7**	**+0.8**
MATE			⇓S	**Sg**	**20 40 15.1**	**+3.6**
EVGI	**Lefkada island**	**2.02 147**	P	**Pn**	**20 39 42.3**	**+0.5**
PDG	**Podgorica**	**2.11 0**	⇑P	**Pn**	**20 39 43.5**	**+0.4**
PDG			⇑S	**Sn**	**20 40 10.5**	**+1.4**
PDG	**Podgorica**	**2.11 0**	*e*Pn	**Pn**	**20 39 43.4**	**+0.3**
PDG	**Podgorica**	**2.11 0**	*e*Pg	**Pn**	**20 39 43.7**	**+0.6**
PDG			*e*Sg	**Sn**	**20 40 10.3**	**+1.2**
BCI	**Bajram Curri**	**2.13 17**	P	**Pb**	**20 39 46.9**	**+0.1**
	baz=14					
BCI			S	**Sb**	**20 40 14.1**	**+1.0**
	baz=14					
BCI			AMP			
	comp=E,1.3nm,0.5s,baz=14					
HCY	**Herceg Novi**	**2.20 345**	*e*Pn	**Pn**	**20 39 43.9**	**-0.5**
TIP	**Timpagrande**	**2.23 240**	⇑P	**Pn**	**20 39 46.9**	**+2.0**
TIP			⇑S	**Sb**	**20 40 17.1**	**+1.1**
TIP	**Timpagrande**	**2.23 240**	P	**Pn**	**20 39 46.8**	**+1.9**
THL	**Klokotos Trika**	**2.26 109**	P	**Pn**	**20 39 47.0**	**+1.9**
SKO	**Skopje**	**2.34 44**	*i* Pn	**Pn**	**20 39 48.2**	**+1.9**
EVR	**Evrytania**	**2.42 125**	P	**Pn**	**20 39 49.9**	**+2.4**
TREB	**Trebinje**	**2.49 345**	*e*Pn	**Pn**	**20 39 48.3**	**0.0**
TREB	**Trebinje**	**2.49 345**	*e*Pn	**Pn**	**20 39 48.7**	**+0.4**
TREB			*e*Sn	**Sn**	**20 40 17.3**	**-1.2**
MAKR	**Makrakomi, Fth**	**2.58 119**	P	**Pn**	**20 39 52.3**	**+2.6**
BRY	**Bratogost**	**2.63 349**	*e*Pn	**Pn**	**20 39 50.8**	**+0.3**
VAY	**Valandovo**	**2.71 67**	*e*Pn	**Pn**	**20 39 53.0**	**+1.6**
STON	**Ston**	**2.80 336**	*e*Pn	**Pn**	**20 39 52.3**	**-0.3**
STON			Sn	**Sn**	**20 40 23.2**	**-2.9**
UPM	**Unac-Piva**	**2.89 355**	*e*Pn	**Pn**	**20 39 53.3**	**-0.8**
SJES	**Sjenica**	**2.99 10**	*e*Pn	**Pn**	**20 39 55.7**	**+0.4**
LSTV	**Lastovo**	**3.02 325**	*e*Pn	**Pn**	**20 39 55.9**	**+0.2**
LSTV			Sn	**Sn**	**20 40 29.7**	**-1.9**
BARS	**Barje**	**3.15 37**	*e*Pn	**Pn**	**20 39 58.6**	**+1.1**
BARS	**Barje**	**3.15 37**	*e*Pn	**Pg**	**20 40 13.2**	**+4.6**
BARS			*e*Sn	**Sn**	**20 40 35.3**	**+0.4**
SELS	**Selova**	**3.22 25**	*e*Pn	**Pn**	**20 39 58.4**	**0.0**
BOSS	**Bosilegrad**	**3.26 47**	*e*Pn	**Pn**	**20 39 59.7**	**+0.7**
RUDO	**Rudo**	**3.30 2**	*e*Pn	**Pb**	**20 40 03.4**	**-3.1**
IVAS	**Ivanjica**	**3.32 11**	*e*Pn	**Pn**	**20 39 59.7**	**-0.2**
MAKA	**Makarska**	**3.40 331**	*e*Pn	**Pn**	**20 40 01.1**	**+0.3**
MAKA			Sn	**Sn**	**20 40 38.8**	**-2.2**
HVAR	**Hvar**	**3.54 325**	*e*Pn	**Pn**	**20 40 02.2**	**+0.4**
HVAR			Sn	**Sn**	**20 40 43.3**	**-1.2**
RICI	**Ricice**	**3.54 334**	*e*Pn	**Pn**	**20 40 03.5**	**+0.6**
RICI			Sn	**Sn**	**20 40 42.9**	**-1.6**
BBLS	**Lazići**	**3.54 2**	*e*Pn	**Pb**	**20 40 10.1**	**-0.7**
BBLS	**Lazići**	**3.54 2**	*e*Pn	**Pn**	**20 40 03.5**	**+0.6**
GRUS	**Gruza**	**3.73 17**	*e*Pn	**Pn**	**20 40 05.7**	**+0.3**
VTS	**Vitosha**	**3.77 51**	⇑P	**Pn**	**20 40 06.8**	**+0.7**
VTS			⇑S	**Sn**	**20 40 48.3**	**-2.2**
VTS	**Vitosha**	**3.77 51**	*e*Pn	**Pn**	**20 40 07.0**	**+0.8**
VTS			*e*Sn	**Sn**	**20 40 51.8**	**+1.3**
DIVS	**Divibare**	**3.81 8**	*e*Pn	**Pn**	**20 40 07.6**	**+0.9**
DIVS	**Divibare**	**3.81 8**	*e*Pn	**Pn**	**20 40 06.4**	**-0.3**
DIVS			*e*Sn	**Sn**	**20 40 49.4**	**-2.0**
ZAPS	**Zavoj**	**3.89 40**	*e*Pn	**Pn**	**20 40 09.4**	**+1.8**
BLKB	**Belogradchik**	**4.17 37**	⇓S	**Sn**	**20 40 58.8**	**-1.3**
KIJV	**Kijevo**	**4.24 331**	*e*Pn	**Pn**	**20 40 13.6**	**+1.1**
KIJV			Sn	**Sn**	**20 40 59.7**	**-2.1**
ZIRJ	**Zirje**	**4.28 322**	*e*Pn	**Pn**	**20 40 13.7**	**+0.8**
ZIRJ			Sn	**Sn**	**20 41 01.2**	**-1.5**
MGRS	**Mrkonjic Grad**	**4.39 339**	*e*Pn	**Pn**	**20 40 16.8**	**+2.2**
MORI	**Morici**	**4.41 325**	*e*Pn	**Pn**	**20 40 16.0**	**+1.2**
MORI			Sn	**Sn**	**20 41 05.2**	**-0.7**
BLY	**Banja Luka**	**4.68 342**	*e*Pn	**Pn**	**20 40 20.0**	**+1.5**
DUGI	**Dugi Otok**	**4.81 321**	*e*Pn	**Pn**	**20 40 21.2**	**+1.0**
DUGI			Sn	**Sn**	**20 41 14.5**	**-1.3**
MDVR	**Moldovita**	**4.81 21**	⇑P	**Pg**	**20 40 40.5**	**+0.1**
AQU	**L'Aquila**	**4.85 297**	*e*Pn	**Pn**	**20 40 22.4**	**+1.6**
FRGS	**Fruska Gora**	**4.85 5**	⇑P	**Pb**	**20 40 28.7**	**-4.3**
FRGS	**Fruska Gora**	**4.85 5**	*e*Pn	**Pn**	**20 40 23.3**	**+2.5**
UDBI	**Udbina**	**4.93 330**	*e*Pn	**Pn**	**20 40 23.1**	**+1.2**
UDBI			Sn	**Sn**	**20 41 16.2**	**-2.6**
MRAK	**Mrakovica**	**5.00 341**	*e*Pn	**Pn**	**20 40 23.0**	**+0.1**
HERR	**Herculane**	**5.12 26**	⇑P	**Pn**	**20 40 26.3**	**+1.8**
PLIT	**Plitvice**	**5.28 331**	*e*Pn	**Pn**	**20 40 27.9**	**+1.1**
PLIT			Sn	**Sn**	**20 41 25.7**	**-1.7**
NVLJ	**Novalja**	**5.33 324**	*e*Pn	**Pn**	**20 40 28.3**	**+0.9**
NVLJ			Sn	**Sn**	**20 41 26.8**	**-1.8**
RABC	**Rab**	**5.52 325**	*e*Pn	**Pn**	**20 40 30.5**	**+0.5**
RABC			Sn	**Sn**	**20 41 32.0**	**-1.2**
BZS	**Buzias**	**5.57 17**	⇑P	**Pn**	**20 40 29.1**	**-1.6**
BZS			⇑S	**Sn**	**20 41 30.5**	**-4.0**
BZS	**Buzias**	**5.57 17**	*e*Pn	**Pn**	**20 40 30.2**	**-0.5**
BZS			*e*Sn	**Sn**	**20 41 31.3**	**-3.2**
MOSL	**Moslavina**	**5.60 342**	*e*Pn	**Pn**	**20 40 30.6**	**-0.4**
MOSL			Sn	**Sn**	**20 41 31.3**	**-3.9**
GZR	**Gura Zlata**	**5.69 26**	⇑P	**Pn**	**20 40 36.1**	**+3.6**
MORH	**Mrgy, Hungar**	**5.91 356**	⇑P	Pb	20 40 43.8	-7.2
MORH			⇑S	**Sn**	**20 41 38.2**	**-4.6**
MORH	**Mrgy, Hungar**	**5.91 356**	*e*Pn	**Pn**	**20 40 35.0**	**-0.3**
OZLJ	**Ozalj**	**5.97 334**	*e*Pn	**Pn**	**20 40 36.9**	**+0.7**
OZLJ			Sn	**Sn**	**20 41 41.2**	**-3.2**
SMRN	**Sveta Marina**	**6.02 323**	*e*Pn	**Pn**	**20 40 37.5**	**+0.6**
SMRN			Sn	**Sn**	**20 41 43.1**	**-2.5**
PTJ	**Puntijarka**	**6.08 338**	*e*Pn	**Pn**	**20 40 37.5**	**-0.2**
PTJ			Sn	**Sn**	**20 41 43.0**	**-4.1**
RIY	**Rijeka**	**6.11 327**	*e*Pn	**Pn**	**20 40 38.9**	**+0.9**
RIY			Sn	**Sn**	**20 41 45.1**	**-2.5**
BRJN	**Brijuni**	**6.12 320**	*e*Pn	**Pn**	**20 40 39.1**	**+0.9**
BRJN			Sn	**Sn**	**20 41 45.7**	**-2.2**
KALN	**Kalnik**	**6.15 342**	*e*Pn	**Pn**	**20 40 38.4**	**-0.3**
KALN			Sn	**Sn**	**20 41 44.9**	**-4.1**
CRES	**Cresnjev**	**6.16 334**	*e*Pn	**Pn**	**20 40 38.8**	**0.0**
LOBO	**Lobor**	**6.28 339**	*e*Pn	**Pn**	**20 40 40.5**	**+0.1**
LOBO			Sn	**Sn**	**20 41 47.6**	**-4.3**
CEY	**Cerknica**	**6.46 328**	*e*Pn	**Pn**	**20 40 43.6**	**+0.6**
LJU	**Ljubljana**	**6.68 330**	*e*Pn	**Pn**	**20 40 45.5**	**-0.4**
SOKA	**Soboth**	**7.05 336**	*i* Pn	**Pn**	**20 40 51.7**	**+0.6**
	comp=E,1.2nm,0.2s					
SOKA			*e*Sn	**Sn**	**20 42 08.5**	**-2.6**
	comp=E,3.2nm,0.6s					
OBKA	**Obir**	**7.07 333**	*e*Pn	**Pn**	**20 40 52.6**	**+1.3**
	comp=E,3.5nm,0.4s					
OBKA			*i* Sn	**Sn**	**20 42 11.2**	**-0.3**
	comp=E,3.4nm,0.3s					
ABTA	**Abfaltersbach**	**8.07 325**	*e*Pn	**Pn**	**20 41 06.0**	**+0.9**
	comp=E,1.3nm,0.4s					
ABTA			*i* Sn	**Sn**	**20 42 34.5**	**-1.7**
	comp=E,3.3nm,0.7s					
MOA	**Molln**	**8.33 336**	*e*Pn	**Pn**	**20 41 09.7**	**+1.0**
	comp=E,2.6nm,0.4s					
MOA			*i* Sn	**Sn**	**20 42 41.2**	**-1.4**
	comp=E,1.0nm,0.3s					
WTTA	**Wattenberg**	**8.85 324**	*e*Pn	**Pn**	**20 41 17.8**	**+1.9**
	comp=E,1.1nm,0.2s					
WTTA			*e*Sn	**Sn**	**20 42 53.3**	**-2.3**
	comp=E,2.3nm,0.4s					
WATA	**Walderalm**	**8.94 324**	*i* Pn	**Pn**	**20 41 18.6**	**+1.6**
	comp=E,1.9nm,0.3s					
SQTA	**Sankt Quirin**	**9.02 323**	*e*Pn	**Pn**	**20 41 19.5**	**+1.4**
	comp=E,1.2nm,0.4s					
FETA	**Feichten**	**9.10 320**	*i* Pn	Pn	20 41 25.9	+6.5
	comp=E,0.6nm,0.4s					
MOTA	**Moosalm**	**9.16 323**	*e*Pn	**Pn**	**20 41 21.6**	**+1.5**
	comp=E,4.4nm,0.6s					

NEIC ***15*** *20:41:03.7±1.4, 4°.68S±0°.06×151°.4E±0°.1, h148km±7km, mb4.3/14, Error ellipse: s-maj=15.1km s-min=8.3km az=108.0*

IDC ***15*** *20:41:04.7±4.1, 4°.85S×151°.45E, h152km±38km, mb3.3/6, mb1 3.5/8, mb1mx3.3/29, mbtmp3.8/8, Error ellipse: s-maj=28.6km s-min=26.3km az=145.0*

ISC 15 20:41:02.6±0.6,**4°.76S**±0°.07×**151°.35E**±0°.07,**h129**km,**n24,**

σ1§**65**/26,**mb3.9**/12,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.99**	**55**		**Pn**	**20 41 26.9**	**+1.6**
RABL				Sn	**Sn**	**20 41 46.6**	**+4.0**
MANU	**Manus Island**	**4.81**	**304**		**Pn**	**20 42 14.7**	**+1.5**
PMG	**Port Moresby**	**6.21**	**222**	P	**Pn**	**20 42 35.1**	**+3.1**
	2.3nm,0.3s,baz=325,slow=8.0,SNR=3.3						
PMG				S	**Sn**	**20 43 44.0**	**+2.1**
	5.3nm,0.3s,baz=13,slow=20,SNR=8.9						
CTA	**Charters Tower**	**16.02**	**198**	P	**P**	**20 44 43.0**	**+1.3**
	0.2nm,0.3s,baz=20,slow=15,SNR=2.7						
EIDS	**Eidsvold**	**20.49**	**181**	P	**P**	**20 45 29.6**	**-0.8**
EIDS				IAmb	IAmb	20 46 08.0	
	comp=Z,22nm,1.2s						
MTN	**Manton Dam**	**21.52**	**247**	P	**P**	**20 45 40.2**	**-1.5**
MTN				IAmb	IAmb	20 46 04.1	
	comp=Z,10nm,1.2s						
WB0	**Warramunga Arr**	**22.26**	**226**	P	**P**	**20 45 49.0**	**-0.3**
WB2	**Warramunga Arr**	**22.40**	**226**	P	**P**	**20 45 50.3**	**-0.4**
WB2				IAmb	IAmb	20 46 19.2	
	comp=Z,6.4nm,1.3s						
WRA	**Warramunga Arr**	**22.41**	**226**	P	**P**	**20 45 50.5**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=52,slow=10,SNR=6.8						
DZM	**Mont Dzumac**	**22.58**	**141**	P	**P**	**20 45 51.4**	**-1.1**
	comp=Z,4.2nm,0.6s,baz=295,slow=23,SNR=7.3						
DZM	**Mont Dzumac**	**22.58**	**141**	P	**P**	**20 45 51.0**	**-1.5**
DZM				IAmb	IAmb	20 46 09.1	
	comp=Z,12nm,1.2s						
TNTI	**Ternate**	**24.59**	**282**	P	**P**	**20 46 11.8**	**+0.9**
TNTI				IAmb	IAmb	20 46 38.2	
	comp=Z,21nm,1.0s						
KNRA	**Kununurra**	**24.70**	**242**	P	**P**	**20 46 13.8**	**+1.8**
KNRA				IAmb	IAmb	20 46 16.8	
	comp=Z,6.7nm,1.1s						
AS31	**Alice Springs**	**25.22**	**220**	P	**P**	**20 46 16.4**	**-0.3**
ASAR	**Alice Springs**	**25.23**	**220**	P	**P**	**20 46 16.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=55,slow=9.0,SNR=18						
TOLI2	**Tolitoli**	**31.09**	**280**	P	**P**	**20 47 06.1**	**-3.0**
TOLI2				IAmb	IAmb	20 47 25.5	
	comp=Z,5.2nm,0.9s						
BBOO	**Buckleboo**	**31.35**	**205**	P	**P**	**20 47 10.0**	**-1.0**
OUZ	**Omahuta**	**36.62**	**149**	P	**P**	**20 47 56.1**	**-0.4**
OUZ				IAmb	IAmb	20 48 04.8	
	comp=Z,36nm,1.5s						
YHNB	**Yeheng**	**41.31**	**316**	P	**P**	**20 48 35.7**	**-0.2**
SONM	**Songino Array**	**65.53**	**328**	P	**P**	**20 51 33.6**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=142,slow=5.4,SNR=2.3						
CASY	**Casey**	**67.63**	**197**	P	**P**	**20 51 44.7**	**-0.5**
ILAR	**Eielson Array**	**82.67**	**22**	P	**P**	**20 53 09.8**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=246,slow=5.2,SNR=7.4						
YKA	**Yellowknife Ar**	**96.07**	**28**	P	**P**	**20 54 15.9**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=253,slow=4.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**148.92**	**288**	PKPbc	**PKPbc**	**21 00 35.6**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=110,slow=2.3,SNR=5.1						

LDG ***15*** *20:43:06.9±0.3, 47°.29N×11°.47E, h2km, Ml2.9/28, Error ellipse: s-maj=6.2km s-min=4.1km az=47.0*

VIE ***15*** *20:43:06.9±0.1, 47°.18N×11°.35E, h7km±1km, mb2.2/19, ml3.0/21, Error ellipse: s-maj=0.9km s-min=0.8km az=7.0 felt 4-5 ems98 at Fulpmes / Tyrol 3 km N of Fulpmes*

PRU ***15*** *20:43:07.6±0.0, 47°.22N×11°.36E, h0km, Fulpmes*

ROM ***15*** *20:43:07.2±0.2, 47°.16N±0°.01×11°.38E±0°.01, h6km±1km, ML2.6/29, Error ellipse: s-maj=0.9km s-min=0.9km az=357.0*

ZUR ***15*** *20:43:07.3, 47°.17N×11°.40E, h12km±3km, MLh2.8/60, Error ellipse: s-maj=6.7km s-min=1.4km az=28.0*

BGR ***15*** *20:43:08.2±0.3, 47°.17N×11°.39E, h10km, ML2.9/15, Error ellipse: s-maj=4.4km s-min=2.2km az=175.0*

STR ***15*** *20:43:14.3±3.2, 47°.N±8°.×1°.1E±2°.7, h10km, MLv3.0/12*

ISC 15 20:43:07.3±0.8,**47°.20N**±0°.01×**11°.36E**±0°.01,**h12**km±5km, **n167,**σ1§**72**/298,**12C-11D,Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQTA	**Sankt Quirin**	**0.10**	**284**	*i* Pg	**Pg**	**20 43 09.7**	**-0.5**
	332nm,0.1s,SNR=3958						
SQTA				*i* Sg	**Sg**	**20 43 11.3**	**-1.1**
	3µm,0.2s						
WTTA	**Wattenberg**	**0.20**	**70**	⇑Pg	**Pg**	**20 43 11.5**	**-0.3**
WTTA				⇑Pg	**Pg**	**20 43 11.5**	**-0.3**
	4.4nm,SNR=98						
WTTA	**Wattenberg**	**0.20**	**70**	*e*Pg	**Pg**	**20 43 11.5**	**-0.3**
	280nm,0.1s,SNR=541						
WTTA				*e*Sg	**Sg**	**20 43 14.4**	**-0.5**
	665nm,0.2s						
WTTA	**Wattenberg**	**0.20**	**70**	⇑P	**Pg**	**20 43 11.5**	**-0.3**
WTTA				S	**Sg**	**20 43 14.7**	**-0.2**
WTTA				AML	AML		
	comp=N,2525µm,0.8s						
WTTA				AML	AML		
	comp=E,2020µm,0.4s						
WTTA	**Wattenberg**	**0.20**	**70**	*e*Pg	**Pg**	**20 43 11.5**	**-0.3**
	SNR=482						
WTTA				*e*Sg	**Sg**	**20 43 14.6**	**-0.4**
	SNR=3.0						
WATA	**Walderalm**	**0.20**	**47**	*i* Pg	**Pg**	**20 43 11.6**	**-0.2**
	comp=E,399nm,0.1s,SNR=602						
WATA				*i* Sg	**Sg**	**20 43 14.7**	**-0.3**
	comp=E,1µm,0.2s						
MOTA	**Moosalm**	**0.23**	**311**	*e*Pg	**Pg**	**20 43 11.9**	**-0.3**
	comp=E,77nm,0.1s,SNR=192						
MOTA				*e*Sg	**Sg**	**20 43 15.5**	**0.0**
	comp=E,172nm,0.2s						
ROSI	**Rosskopf**	**0.27**	**172**	⇓Pg	**Pg**	**20 43 12.6**	**-0.4**
	comp=E,3.6nm,SNR=90						
ROSI				⇓Pg	**Pg**	**20 43 12.6**	**-0.4**
ROSI	**Rosskopf**	**0.27**	**172**	⇓P	**Pg**	**20 43 12.6**	**-0.4**
ROSI				S	**Sg**	**20 43 16.3**	**-0.5**
ROSI				AML	AML		
	comp=E,2180µm,0.2s						
ROSI				AML	AML		
	comp=N,2765µm,0.2s						
FETA	**Feichten**	**0.46**	**248**	⇑Pg	**Pg**	**20 43 16.0**	**-0.4**
	comp=N,0.5nm,SNR=15						
FETA				⇑Pg	**Pg**	**20 43 16.0**	**-0.4**
FETA	**Feichten**	**0.46**	**248**	*i* Pg	**Pg**	**20 43 16.0**	**-0.4**
	comp=N,81nm,0.2s,SNR=140						
FETA				*i* Sg	**Sg**	**20 43 21.9**	**-0.7**
	comp=N,66nm,0.1s						
ABSI	**Aberstueckl**	**0.47**	**183**	⇓Pg	**Pg**	**20 43 16.2**	**-0.3**
ABSI				⇓Pg	**Pg**	**20 43 16.2**	**-0.3**
	comp=N,1.8nm,SNR=41						
ABSI	**Aberstueckl**	**0.47**	**183**	⇓P	**Pg**	**20 43 16.2**	**-0.3**
ABSI				S	**Sg**	**20 43 22.7**	**-0.1**
ABSI				AML	AML		
	comp=E,1242µm,0.4s						
ABSI				AML	AML		
	comp=N,1695µm,0.9s						
RETA	**Reutte**	**0.50**	**306**	*e*Pg	**Pg**	**20 43 16.4**	**-0.6**
	comp=N,3.2nm,0.1s,SNR=11						
RETA				*e*Sg	**Sg**	**20 43 23.6**	**-0.1**
	comp=N,55nm,0.1s						
RISI	**Rein**	**0.55**	**116**	⇑Pg	**Pg**	**20 43 17.6**	**-0.5**
RISI				⇑Pg	**Pg**	**20 43 17.6**	**-0.5**
	comp=N,1.8nm,SNR=55						
RISI				Sg	**Sg**	**20 43 24.8**	**-0.6**
RISI	**Rein**	**0.55**	**116**	P	**Pg**	**20 43 17.6**	**-0.5**
RISI				S	**Sg**	**20 43 24.9**	**-0.6**
RISI				AML	AML		
	comp=N,2975µm,0.5s						
RISI				AML	AML		
	comp=E,1205µm,0.6s						
RISI				AML	AML		
	comp=N,2980µm,0.5s						
BRES	**Bressanone**	**0.56**	**152**	⇓P	**Pg**	**20 43 18.1**	**-0.2**
BRES				S	**Sg**	**20 43 25.7**	**0.0**
BRES				AML	AML		
	comp=E,523µm,0.3s						
BRES				AML	AML		
	comp=N,1037µm,0.3s						
BRES				AML	AML		
	comp=N,1038µm,0.3s						
BOSI	**Bolzano**	**0.70**	**182**	AML	AML		
	comp=N,569µm,1.0s						
BOSI				AML	AML		
	comp=E,618µm,0.5s						
BOSI				AML	AML		
	comp=E,618µm,0.5s						
APPI	**Appiano**	**0.72**	**187**	⇓P	**Pg**	**20 43 20.9**	**-0.3**
APPI				S	**Sg**	**20 43 30.2**	**-0.6**
APPI				AML	AML		
	comp=N,319µm,1.5s						
APPI				AML	AML		
	comp=N,320µm,1.5s						
APPI				AML	AML		
	comp=E,350µm,1.3s						
KOSI	**Kohlern**	**0.73**	**179**	⇓Pg	**Pg**	**20 43 21.2**	**-0.3**
KOSI				⇓Pg	**Pg**	**20 43 21.2**	**-0.3**
	comp=E,0.3nm,SNR=7.5						
KOSI	**Kohlern**	**0.73**	**179**	⇓P	**Pg**	**20 43 21.1**	**-0.3**
KOSI				S	**Sb**	**20 43 31.6**	**-0.5**
KOSI				AML	AML		
	comp=E,202µm,1.0s						
KOSI				AML	AML		
	comp=N,208µm,1.5s						
MOSI	**Grossmontoni**	**0.80**	**224**	⇑Pg	**Pg**	**20 43 22.3**	**-0.5**
MOSI				⇑Pg	**Pg**	**20 43 22.3**	**-0.5**
	comp=N,1.3nm,SNR=28						
MOSI	**Grossmontoni**	**0.80**	**224**	P	**Pg**	**20 43 22.3**	**-0.5**
MOSI				S	**Sg**	**20 43 32.4**	**-0.9**
MOSI				AML	AML		
	comp=N,1001µm,0.4s						
MOSI				AML	AML		
	comp=E,832µm,1.4s						
MOSI				AML	AML		
	comp=N,1000µm,0.4s						
OZOL	**Ozolo**	**0.82**	**195**	*e*Pg	**Pg**	**20 43 22.8**	**-0.3**
AFL	**Alpe Faloria**	**0.87**	**139**	*e*Pg	**Pg**	**20 43 24.1**	**-0.1**
AFL				*e*Sg	**Sb**	**20 43 36.3**	**0.0**
CARE	**Lago del Cares**	**0.90**	**211**	*e*Pg	**Pg**	**20 43 23.9**	**-0.7**
ABTA	**Abfaltersbach**	**0.91**	**119**	*e*Pg	**Pg**	**20 43 24.2**	**-0.6**
	comp=N,12nm,0.1s,SNR=33						
ABTA				*e*Sg	**Sg**	**20 43 35.9**	**-0.8**
	comp=N,86nm,0.2s						
FUR	**Furstenfeldbru**	**0.97**	**357**	*e*Pg	**Pg**	**20 43 26.6**	**+0.6**
	SNR=4.2						
UBR	**Ueberruh**	**0.98**	**300**	*e*Pg	**Pb**	**20 43 26.7**	**+0.6**
	SNR=4.1						
UBR				*e*Sg	**Sb**	**20 43 40.9**	**+1.8**
	SNR=4.2						
BRMO	**Bormio**	**0.99**	**223**	P	**Pg**	**20 43 25.3**	**-1.0**
BRMO				AML	AML		
	comp=E,192µm,0.9s						
BRMO				AML	AML		
	comp=N,110µm,0.2s						
DAVA	**Damuels**	**1.01**	**276**	Pn	**Pg**	**20 43 26.1**	**-0.6**
	comp=N,1.9nm,SNR=46						
DAVA				Pn	**Pg**	**20 43 26.1**	**-0.6**
DAVA	**Damuels**	**1.01**	**276**	*e*Pg	**Pg**	**20 43 26.1**	**-0.6**
	comp=N,4.3nm,0.2s,SNR=11						
DAVA				*e*Sg	**Sg**	**20 43 40.0**	**+0.1**
	comp=N,65nm,0.3s						
DAVA	**Damuels**	**1.01**	**276**	*e*Pg	**Pg**	**20 43 26.2**	**-0.6**
	SNR=8.7						
AGOR	**Agordo**	**1.03**	**152**	Pn	**Pg**	**20 43 26.5**	**-0.5**
	comp=N,0.6nm,SNR=23						
AGOR				Pn	**Pg**	**20 43 26.5**	**-0.5**
AGOR	**Agordo**	**1.03**	**152**	*e*Pg	**Pg**	**20 43 26.6**	**-0.5**
AGOR	**Agordo**	**1.03**	**152**	P	**Pg**	**20 43 26.6**	**-0.5**
AGOR				AML	AML		
	comp=E,276µm,0.2s						
AGOR				AML	AML		
	comp=N,291µm,0.2s						
AGOR				AML	AML		
	comp=N,290µm,0.2s						
DAVOX	**Davos/Dischmat**	**1.09**	**248**	⇑Pn	**Pg**	**20 43 27.3**	**-1.0**
DAVOX				⇑Pn	**Pg**	**20 43 27.3**	**-1.0**
	comp=N,0.3nm,SNR=9.8						
DAVOX	**Davos/Dischmat**	**1.09**	**248**	P	**Pg**	**20 43 27.4**	**-1.0**
DAVOX				S	**Sg**	**20 43 42.9**	**+0.3**
DAVOX				AML	AML		
	comp=E,320µm,0.5s						
DAVOX				AML	AML		
	comp=N,167µm,0.4s						
CSMI	**Casera Mimoias**	**1.12**	**127**	*e*Pg	**Pg**	**20 43 28.3**	**-0.6**
FVI	**Forni Avoltri**	**1.15**	**121**	P	**Pg**	**20 43 28.6**	**-0.7**
FVI				S	**Sg**	**20 43 43.5**	**-0.7**
FVI				AML	AML		
	comp=E,296µm,0.5s						
FVI				AML	AML		
	comp=N,184µm,0.6s						
GAGG	**Gaggia**	**1.15**	**194**	P	**Pg**	**20 43 28.9**	**-0.4**
GAGG				S	**Sb**	**20 43 44.0**	**0.0**
GAGG				AML	AML		
	comp=E,213µm,0.3s						
GAGG				AML	AML		
	comp=N,186µm,1.6s						
CIMO	**Cimolais**	**1.16**	**140**	P	**Pn**	**20 43 29.6**	**+0.2**
CIMO				AML	AML		
	comp=N,110µm,0.2s						
CIMO				AML	AML		
	comp=E,90µm,0.6s						
CTI	**Castel Tesino**	**1.17**	**170**	P	**Pg**	**20 43 28.9**	**-0.8**
CTI				S

SGT00	**Sennhlsen**	**1.41 280**	Pn	**Pg**	**20 43 34.5**	**+0.1**
SGT00			Pn	**Pg**	**20 43 34.5**	**+0.1**
	comp=N,0.7nm,SNR=3.8					
MPRI	**Monte Prat**	**1.47 130**	P	**Pg**	**20 43 35.4**	**-0.2**
MPRI			AML	AML		
	comp=E,200μm,1.0s					
MPRI			AML	AML		
	comp=E,200μm,1.0s					
MPRI			AML	AML		
	comp=N,283μm,1.3s					
MAGA	**Magasa**	**1.51 200**	P	**Pb**	**20 43 35.4**	**+0.1**
MAGA			AML	AML		
	comp=N,273μm,0.6s					
MAGA			AML	AML		
	comp=E,350μm,0.4s					
TUE	**Stuetta**	**1.56 243**	P	**Pn**	**20 43 35.7**	**+0.7**
TUE			AML	AML		
	comp=E,88μm,0.3s					
TUE			AML	AML		
	comp=N,78μm,0.4s					
TUE			AML	AML		
	comp=E,88μm,0.3s					
ROVR	**Rover Verones**	**1.56 187**	P	**Pb**	**20 43 36.2**	**0.0**
ROVR			AML	AML		
	comp=E,120μm,1.3s					
ROVR			AML	AML		
	comp=N,668μm,0.9s					
ROVR			AML	AML		
	comp=E,778μm,1.6s					
ROVR			AML	AML		
	comp=E,120μm,1.3s					
ROVR			AML	AML		
	comp=N,246μm,0.9s					
PTCC	**Patocco-Chiusa**	**1.58 119**	P	**Pb**	**20 43 36.8**	**+0.3**
PTCC			AML	AML		
	comp=N,95μm,0.6s					
PTCC			AML	AML		
	comp=E,124μm,1.6s					
PTCC			AML	AML		
	comp=N,95μm,0.6s					
ACOM	**Acomizza, Ital**	**1.62 113**	AML	AML		
	comp=E,250μm,1.3s					
ACOM			AML	AML		
	comp=N,268μm,0.3s					
ACOM			AML	AML		
	comp=N,268μm,0.3s					
MYKA	**Terra Mystica**	**1.67 109**	*e*Pn	**Pb**	**20 43 37.5**	**-0.4**
	comp=N,5.1nm,0.2s,SNR=16					
MYKA			*e*Sn	**Sb**	**20 43 59.5**	**+0.6**
	comp=N,4.5nm,0.1s					
WILA	**Wila**	**1.68 278**	*e*Pg	**Pg**	**20 43 39.5**	**0.0**
	SNR=12					
WILA			*e*Sg	**Sg**	**20 44 02.9**	**+1.5**
	SNR=9.5					
GUT	**Gutenstein**	**1.75 301**	P	**Pb**	**20 43 39.7**	**+0.4**
TEOL	**Teolo**	**1.85 173**	P	**Pb**	**20 43 41.3**	**+0.2**
FUSIO	**Fusio**	**1.99 249**	P	**Pb**	**20 43 44.6**	**+1.1**
FUSIO			AML	AML		
	comp=N,152μm,0.4s					
FUSIO			AML	AML		
	comp=E,100μm,0.5s					
SLE	**Schleitheim**	**2.02 287**	P	**Pb**	**20 43 44.0**	**0.0**
SLE	**Schleitheim**	**2.02 287**	*e*Pn	**Pn**	**20 43 43.1**	**+1.8**
	SNR=1.2					
SLE			*e*Sg	**Sg**	**20 44 12.0**	**-0.3**
	SNR=12					
BNALP	**Bannalp**	**2.03 262**	P	**Pb**	**20 43 45.5**	**+1.3**
BNALP			AML	AML		
	comp=E,74μm,0.8s					
BNALP			AML	AML		
	comp=N,113μm,0.8s					
MOA	**Molln**	**2.08 71**	*e*Pn	**Pb**	**20 43 45.4**	**+0.5**
	comp=N,17nm,0.4s					
MOA			*e*Sg	**Sg**	**20 44 14.0**	**0.0**
	comp=N,10nm,0.2s					
MOA	**Molln**	**2.08 71**	*e*Pg	**Pb**	**20 43 45.9**	**+1.0**
	SNR=25					
WET	**Wettzell**	**2.20 27**	*e*Pn	**Pn**	**20 43 44.7**	**+1.0**
	SNR=17					
SULZ	**Cheisacher**	**2.23 280**	P	**Pb**	**20 43 47.2**	**-0.4**
SULZ	**Cheisacher**	**2.23 280**	*e*Sg	**Sg**	**20 44 19.3**	**+0.4**
	SNR=4.3					
GEC2	**GERESS Array S**	**2.28 43**	*e*Pn	**Pn**	**20 43 45.9**	**+1.0**
	SNR=5.5					
OBKA	**Obir**	**2.30 106**	*e*Pg	**Pb**	**20 43 48.5**	**-0.2**
	comp=N,2.3nm,0.1s,SNR=10					
OBKA			*e*Sn	**Sg**	**20 44 19.0**	**-2.1**
	comp=N,16nm,0.4s					
BFO	**Black Forest**	**2.34 300**	*e*Pn	**Pn**	**20 43 47.4**	**+1.9**
	SNR=3.7					
BFO			*e*Sn	**Sn**	**20 44 14.1**	**-0.1**
	SNR=4.4					
BFO			*e*Sg	**Sg**	**20 44 22.8**	**+0.5**
	SNR=2.1					
FELD	**Feldberg im Sc**	**2.37 288**	P	**Pn**	**20 43 48.7**	**+2.6**
KHC	**Kasperske Hory**	**2.44 37**	*e*PN	**Pn**	**20 43 48.8**	**+1.8**
KHC			*e*PG	**Pg**	**20 43 53.0**	**-1.1**
KHC			*e*SN	**Sn**	**20 44 18.2**	**+1.4**
KHC			*e*SG	**Sg**	**20 44 24.9**	**-0.8**
	comp=N,20nm,0.3s					
KIZ	**Kirchzarten**	**2.45 289**	P	**Pn**	**20 43 49.7**	**+2.6**
BALST	**Balsthal**	**2.50 275**	P	**Pn**	**20 43 50.4**	**+2.7**
BALST	**Balsthal**	**2.50 275**	*e*Sg	**Sg**	**20 44 27.1**	**-0.3**
	SNR=3.9					
GRF	**Grafenberg Arr**	**2.50 358**	*e*Sg	**Sg**	**20 44 26.9**	**-0.6**
	SNR=3.3					
OPP	**Oppenau**	**2.50 303**	P	**Pn**	**20 43 50.0**	**+2.2**
CKRC	**Cesky Krumlov**	**2.56 50**	*e*PN	**Pn**	**20 43 49.3**	**+0.6**
CKRC			*e*SN	**Sn**	**20 44 20.9**	**+1.1**
CKRC			*e*SG	**Sg**	**20 44 28.2**	**-1.4**
	comp=N,17nm,0.4s					
SOKA	**Soboth**	**2.57 100**	*i* Pn	**Pb**	**20 43 51.6**	**-1.8**
	comp=N,1.1nm,0.2s					
SOKA			*e*Sn	**Sn**	**20 44 21.8**	**+1.7**
	comp=N,4.7nm,0.3s					
BOURR	**Bourrignon**	**2.81 276**	P	**Pn**	**20 43 55.4**	**+3.3**
BRJN	**Brijuni**	**2.83 143**	*e*Pn	**Pn**	**20 43 54.7**	**+2.4**
BRJN			Sn	**Sn**	**20 44 29.1**	**+2.8**
ARSA	**Arzberg**	**2.84 87**	*e*Pn	**Pb**	**20 43 55.8**	**-2.2**
	comp=N,1.3nm,0.3s					
ARSA			*e*Pg	**Pg**	**20 43 59.5**	**-2.2**
	comp=N,2.5nm,0.2s					
ARSA			*e*Sn	**Sb**	**20 44 34.8**	**+2.1**
	comp=N,2.7nm,0.3s					
RIY	**Rijeka**	**2.87 130**	*e*Pn	**Pb**	**20 43 56.1**	**-2.2**
RIY			Sn	**Sn**	**20 44 29.4**	**+2.3**
SMRN	**Sveta Marina**	**2.91 137**	*e*Pn	**Pn**	**20 43 56.1**	**+2.7**
SMRN			Sn	**Sn**	**20 44 31.0**	**+2.8**
CDF	**Champ du Feu**	**3.01 295**	*e*P	**Pn**	**20 43 56.9**	**+2.1**
CDF	**Champ du Feu**	**3.01 295**	*e*Pg	**Pb**	**20 44 03.4**	**+2.6**
CDF			*e*Sn	**Sn**	**20 44 31.0**	**+0.2**
	comp=N,16nm,0.4s					
CDF			*e*Sg	**Sg**	**20 44 43.0**	**-0.8**
	comp=N,17nm,0.4s					
ECH	**Echery**	**3.01 291**	P	**Pn**	**20 43 57.0**	**+2.1**
HINF	**Hinteralfeld**	**3.12 283**	*e*Pn	**Pn**	**20 43 58.9**	**+2.6**
HINF	**Hinteralfeld**	**3.12 283**	*e*Pg	**Pg**	**20 44 05.4**	**-1.5**
HINF			*e*Sn	**Sn**	**20 44 33.0**	**-0.4**
HINF			*e*Sg	**Sg**	**20 44 47.0**	**-0.3**
	comp=N,15nm,0.3s					
CONA	**Conrad Observa**	**3.14 75**	*i* Pn	**Pn**	**20 43 59.1**	**+2.5**
	comp=N,0.4nm,0.1s					
CONA			*i* Sn	**Sn**	**20 44 36.0**	**+1.9**
	comp=N,1.3nm,0.2s					
CHMF	**Charmoille**	**3.21 273**	P	**Pn**	**20 43 59.9**	**+2.4**
GUNZ	**Gunzen**	**3.23 11**	*e*Pg	**Pg**	**20 44 08.3**	**-0.9**
	SNR=3.6					
GUNZ			*e*Sn	**Sn**	**20 44 36.0**	**-0.4**
	SNR=5.9					
GUNZ			*e*Sg	**Sg**	**20 44 51.4**	**+0.3**
	SNR=2.0					
OZLJ	**Ozalj**	**3.25 118**	*e*Pn	**Pn**	**20 44 00.0**	**+1.9**
OZLJ			Sn	**Sn**	**20 44 38.5**	**+1.7**
TANN	**Tannenbergstha**	**3.30 12**	*e*Pn	**Pn**	**20 43 58.6**	**-0.3**
	SNR=2.3					
TANN			*e*Pg	**Pg**	**20 44 09.4**	**-1.1**
	SNR=3.0					
WERD	**Werda**	**3.31 11**	*e*Pg	**Pg**	**20 44 10.1**	**-0.7**
	SNR=1.8					
BRANT	**Les Verrieres**	**3.35 267**	P	**Pn**	**20 44 02.0**	**+2.5**
LOBO	**Lobor**	**3.41 106**	*e*Pn	**Pn**	**20 44 02.1**	**+1.9**
LOBO			Sn	**Sn**	**20 44 42.2**	**+1.6**
RABC	**Rab**	**3.42 134**	*e*Pn	**Pn**	**20 44 03.1**	**+2.8**
RABC			Sn	**Sn**	**20 44 43.1**	**+2.3**
PTJ	**Puntijarka**	**3.43 110**	*e*Pn	**Pn**	**20 44 03.5**	**+2.8**
PTJ			Sn	**Sn**	**20 44 43.0**	**+1.7**
KOGS	**Kog**	**3.44 101**	P	**Pn**	**20 44 04.4**	**+3.7**
MOX	**Moxa**	**3.46 3**	*e*Pn	**Pn**	**20 44 01.1**	**+0.2**
	SNR=2.5					
MOX			*e*Sn	**Sn**	**20 44 41.6**	**-0.2**
	SNR=3.8					
MOX			*e*Sg	**Sg**	**20 44 58.1**	**-0.1**
	SNR=1.1					
TREC	**Trest**	**3.47 51**	*e*SG	**Sg**	**20 44 56.6**	**-2.0**
	comp=N,11nm,0.3s					
HAU	**Haudompre**	**3.48 285**	*e*P	**Pn**	**20 44 03.7**	**+2.4**
HAU			*e*Sn	**Sn**	**20 44 41.4**	**-1.1**
	comp=N,22nm,0.4s					
HAU			*e*Sg	**Sg**	**20 44 58.3**	**-0.8**
	comp=N,27nm,0.4s					
PRU	**Pruhonice**	**3.50 36**	*e*PN	**Pn**	**20 44 02.0**	**+0.4**
PRU			*e*SN	**Sn**	**20 44 43.4**	**+0.5**
PRU			*e*SG	**Sg**	**20 44 57.3**	**-2.4**
	comp=N,8.6nm,0.6s					
GIMEL	**St. Georges /**	**3.55 261**	P	**Pn**	**20 44 05.9**	**+3.6**
TNS	**Taunus Mts**	**3.59 329**	*e*Pn	**Pn**	**20 44 04.4**	**+1.6**
	SNR=6.5					
PE3	**Peglio**	**3.59 167**	S	**Sn**	**20 44 45.0**	**-0.1**
NVLJ	**Novalja**	**3.60 136**	*e*Pn	**Pn**	**20 44 05.4**	**+2.6**
NVLJ			Sn	**Sn**	**20 44 47.4**	**+2.1**
LPG	**La Plagne**	**3.61 244**	*e*P	**Pn**	**20 44 07.0**	**+3.7**
LPG	**La Plagne**	**3.61 244**	*e*Pg	**Pg**	**20 44 14.9**	**-1.6**
LPG			*e*Sn	**Sn**	**20 44 45.3**	**-0.7**
	comp=N,1.0nm,0.2s					
LPL	**La Plagne**	**3.62 244**	*e*P	**Pn**	**20 44 07.2**	**+3.9**
LPL			*e*Sn	**Sn**	**20 44 43.8**	**-2.2**
LPL			*e*Sg	**Sg**	**20 45 03.4**	**+0.1**
	comp=N,2.1nm,0.3s					
CABF	**La Chapelle**	**3.66 263**	*e*Pg	**Pg**	**20 44 16.2**	**-1.1**
CABF			*e*Sn	**Sn**	**20 44 46.1**	**-0.8**
CABF			*e*Sg	**Sg**	**20 45 04.6**	**-0.1**
	comp=N,5.3nm,0.4s					
KALN	**Kalnik**	**3.67 105**	*e*Pn	**Pn**	**20 44 06.7**	**+2.8**
KALN			Sn	**Sn**	**20 44 49.2**	**+2.1**
ABH	**Alteburg**	**3.69 318**	P	**Pn**	**20 44 06.0**	**+1.8**
PLIT	**Plitvice**	**3.77 126**	*e*Pn	**Pn**	**20 44 07.3**	**+2.1**
PLIT			Sn	**Sn**	**20 44 51.8**	**+2.3**
KRUC	**Moravsky**	**3.86 59**	*e*PN	**Pn**	**20 44 06.9**	**+0.5**
KRUC			*e*SN	**Sn**	**20 44 52.3**	**+0.7**
KRUC			*e*SG	**Sg**	**20 45 09.6**	**-1.5**
PAGF	**Fort de Pagny**	**4.03 292**	*e*P	**Pn**	**20 44 11.6**	**+2.9**
PAGF	**Fort de Pagny**	**4.03 292**	*e*Pg	**Pg**	**20 44 22.0**	**-2.4**
PAGF			*e*Sn	**Sn**	**20 44 54.4**	**-1.4**
PAGF			*e*Sg	**Sg**	**20 45 15.2**	**-1.3**
	comp=N,7.9nm,0.3s					
MBDF	**Montbardon**	**4.04 234**	*e*Pn	**Pn**	**20 44 09.5**	**+0.4**
MBDF	**Montbardon**	**4.04 234**	*e*P	**Pn**	**20 44 13.2**	**+4.1**
MBDF			*e*Sn	**Sn**	**20 44 54.7**	**-1.7**
	comp=N,2.5nm,0.5s					
BRG	**Berggiesshubel**	**4.05 24**	Pg	**Pg**	**20 44 23.7**	**-1.2**
BRG			Sn	**Sn**	**20 44 56.5**	**0.0**
BRG			Sg	**Sg**	**20 45 16.2**	**-1.2**
BRG			Amp		20 45 25.1	
	comp=Z,8.9nm,0.5s					
MOSL	**Moslavina**	**4.06 111**	*e*Pn	**Pn**	**20 44 11.1**	**+1.9**
MOSL			Sn	**Sn**	**20 44 57.9**	**+1.3**
UDBI	**Udbina**	**4.08 129**	*e*Pn	**Pn**	**20 44 12.9**	**+3.4**
UDBI			Sn	**Sn**	**20 45 00.3**	**+3.2**
VRAC	**Vranov**	**4.09 57**	*e*PN	**Pn**	**20 44 10.3**	**+0.7**
VRAC			*e*SN	**Sn**	**20 44 57.9**	**+0.5**
VRAC			*e*SG	**Sg**	**20 45 16.0**	**-2.5**
DUGI	**Dugi Otok**	**4.12 140**	*e*Pn	**Pn**	**20 44 12.6**	**+2.5**
DUGI			Sn	**Sn**	**20 44 59.8**	**+1.6**
MODS	**Modra-Piesok**	**4.16 71**	*e*PN	**Pn**	**20 44 13.6**	**+3.0**
MODS			*e*SG	**Sg**	**20 45 23.9**	**+3.0**
CLL	**Collm**	**4.25 14**	*e*Pn	**Pn**	**20 44 11.0**	**-0.9**
CLL			*ex*	x	20 44 15.0	
CLL			*ex*	x	20 45 01.0	
CLL			*i* Sg	**Sg**	**20 45 23.2**	**-0.6**
	comp=Z,11nm,0.6s					
CLL			Lm	MLR	21 36 00.0	
	comp=Z,100nm,18.6s					
SBF	**Sospel**	**4.32 221**	*e*P	**Pn**	**20 44 17.0**	**+4.1**
SBF			*e*Sn	**Sn**	**20 45 01.8**	**-1.5**
	comp=Z,3.2nm,0.4s					
SFTF	**Sexfontaines**	**4.38 286**	*e*P	**Pn**	**20 44 16.3**	**+2.6**
SFTF	**Sexfontaines**	**4.38 286**	*e*Pg	**Pg**	**20 44 29.5**	**-1.7**
	baz=107					
SFTF			*e*Sn	**Sn**	**20 45 04.0**	**-0.6**
SFTF			*e*Sg	**Sg**	**20 45 26.4**	**-1.5**
	comp=Z,3.9nm,0.2s					
SAVF	**Savonnieres en**	**4.42 291**	*e*P	**Pn**	**20 44 17.1**	**+2.9**
SAVF			*e*Sg	**Sg**	**20 45 27.7**	**-1.6**
	comp=Z,7.5nm,0.3s					
ORIF	**Oris-en-Rattie**	**4.44 241**	*e*P	**Pn**	**20 44 18.4**	**+3.9**
ORIF	**Oris-en-Rattie**	**4.44 241**	*e*Pn	**Pn**	**20 44 18.8**	**+4.3**
ORIF			*e*Sn	**Sn**	**20 45 03.8**	**-2.4**
	comp=Z,1.3nm,0.4s					
ORIF	**Oris-en-Rattie**	**4.44 241**	P	**Pn**	**20 44 18.9**	**+4.3**
MEZF	**Maizieres J'vi**	**4.44 289**	*e*Pn	**Pn**	**20 44 13.2**	**-1.2**
MEZF			*e*Sg	**Sg**	**20 45 26.6**	**-3.2**
	comp=Z,17nm,0.3s					
MORI	**Morici**	**4.52 136**	*e*Pn	**Pn**	**20 44 18.6**	**+3.0**
MORI			Sn	**Sn**	**20 45 09.5**	**+1.6**
ZIRJ	**Zirje**	**4.65 138**	*e*Pn	**Pn**	**20 44 19.9**	**+2.6**
ZIRJ			Sn	**Sn**	**20 45 12.9**	**+1.6**
KIJV	**Kijevo**	**4.77 130**	*e*Pn	**Pn**	**20 44 21.4**	**+2.5**
KIJV			Sn	**Sn**	**20 45 16.9**	**+2.8**
MORC	**Moravsky Berou**	**4.86 56**	*e*PN	**Pn**	**20 44 20.6**	**+0.4**
MORC			*e*SN	**Sn**	**20 45 16.4**	**0.0**
AQU	**L'Aquila**	**5.06 163**	⇑P	**Pb**	**20 44 32.8**	**-2.9**
LOR	**Lormes**	**5.11 274**	*e*P	**Pn**	**20 44 28.3**	**+4.7**
	baz=92					
LOR			*e*Sn	**Sn**	**20 45 21.4**	**-1.1**
LOR			*e*Sg	**Sg**	**20 45 49.3**	**-1.9**
	comp=Z,3.3nm,0.3s					
LMR	**La Mourre**	**5.16 223**	*e*P	**Pn**	**20 44 28.6**	**+4.3**
LMR			*e*Sn	**Sn**	**20 45 19.1**	**-4.6**
SMF	**Signal de Mont**	**5.18 267**	*e*Pn	**Pn**	**20 44 25.8**	**+1.2**
SMF			*e*Sn	**Sn**	**20 45 21.5**	**-2.7**
SMF			*e*Sg	**Sg**	**20 45 51.9**	**-1.5**
	comp=Z,1.4nm,0.2s					
SMRF	**Simiane la Rot**	**5.18 234**	*e*P	**Pn**	**20 44 29.0**	**+4.4**
SMRF	**Simiane la Rot**	**5.18 234**	*e*Pg	**Pg**	**20 44 44.0**	**-2.4**
VIVF	**Saint-Julien-l**	**5.21 246**	*e*Pn	**Pn**	**20 44 26.0**	**+1.0**
VIVF			*e*Sn	**Sn**	**20 45 22.5**	**-2.5**
	comp=Z,1.0nm,0.2s					
GIVF	**Givet**	**5.21 306**	*e*Pn	**Pn**	**20 44 28.0**	**+2.9**
GIVF			*e*Sn	**Sn**	**20 45 22.7**	**-2.4**
GIVF			*e*Sg	**Sg**	**20 45 52.5**	**-2.1**
	comp=Z,2.6nm,0.2s					
SSF	**Saint Saulge**	**5.36 271**	*e*Pn	**Pn**	**20 44 26.6**	**-0.5**
SSF			*e*Sn	**Sn**	**20 45 25.9**	**-2.8**
	comp=Z,6.8nm,1.0s					
SSF			*e*Sg	**Sg**	**20 45 57.9**	**-1.3**
	comp=Z,1.4nm,0.3s					
AVF	**Avril sur Loir**	**5.49 269**	*e*Pn	**Pn**	**20 44 29.3**	**+0.5**
AVF			*e*Sn	**Sn**	**20 45 29.1**	**-2.8**
AVF			*e*Sg	**Sg**	**20 46 00.4**	**-3.0**
	comp=Z,5.8nm,0.8s					
RICI	**Ricice**	**5.50 130**	*e*Pn	**Pn**	**20 44 31.6**	**+2.6**
RICI			Sn	**Sn**	**20 45 34.4**	**+2.2**
BAIF	**Baives**	**5.54 304**	*e*P	**Pn**	**20 44 32.6**	**+3.1**
BAIF			*e*Sn	**Sn**	**20 45 30.7**	**-2.3**
BAIF			*e*Sg	**Sg**	**20 46 02.2**	**-2.7**
	comp=Z,2.3nm,0.5s					
BGF	**Bois d'Agland**	**5.87 267**	*e*Pn	**Pn**	**20 44 34.8**	**+0.7**
BGF			*e*Sn	**Sn**	**20 45 40.2**	**-1.0**
BGF			*e*Sg	**Sg**	**20 46 13.8**	**-1.8**
	comp=Z,5.5nm,0.5s					
LIK	**San Giovanni I**	**5.91 164**	P	**Pn**	**20 44 38.4**	**+3.9**
LASF	**Ste Croix**	**6.11 242**	*e*Pn	**Pn**	**20 44 37.6**	**+0.2**
LASF			*e*Sn	**Sn**	**20 45 44.4**	**-2.9**
TCF	**Toulx Ste Croi**	**6.35 265**	*e*Pn	**Pn**	**20 44 41.2**	**+0.5**
TCF			*e*Sn	**Sn**	**20 45 50.9**	**-2.2**
	comp=Z,2.9nm,0.4s					
CAF	**Calviac**	**6.85 254**	*e*Pn	**Pn**	**20 44 48.7**	**+1.1**
CAF			*e*Sn	**Sn**	**20 46 02.4**	**-3.1**
	comp=Z,0.9nm,0.2s					
LDF	**La Druitiere**	**7.84 284**	*e*Pn	**Pn**	**20 45 00.3**	**-0.8**
MFF	**Saint Martin d**	**7.90 270**	*e*Pn	**Pn**	**20 45 02.8**	**+0.9**

*IDC **15** 20:54:38.1±3.1, 42°.92N×105°.07W, h0km, mb2.6/1, mb1 3.4/3, mb1mx3.2/33, mbtmp3.2/3, ML3.3/2, MS2.4/1, Ms1 2.3/1, ms1mx2.2/10, Error ellipse: s-maj=55.7km s-min=11.5km az=156.0*
*NEIC **15** 20:54:41.8±2.7, 43°.55N±0°.06×105°.3W±0°.1, h0km±2km, ML3.3/60, Error ellipse: s-maj=13.3km s-min=9.4km az=65.0*

ISC 15 20:54:41.4±0.9, 43°.48N±0°.05×105°.31W±0°.05, h0km, n49, σ1§56/48, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.12**	**55**		**Pg**	**20 55 02.4**	**-0.5**
K22A	**Casper**	**1.22**	**227**		**Pg**	**20 55 04.9**	**+0.1**
PHWY	**Pilot Hill**	**2.18**	**183**	Pn	**Pn**	**20 55 19.2**	**-0.1**
RWWY	**Rawlins**	**2.28**	**219**		**Pb**	**20 55 23.3**	**-0.2**
RWWY				IAML		20 56 01.6	
	210nm,0.7s						
RWWY				IAML		20 56 07.6	
	165nm,1.0s						
N23A	**Red Feather La**	**2.63**	**191**	Pn	**Pn**	**20 55 27.7**	**+2.3**
N23A				IAML		20 56 06.9	
	comp=N,117nm,0.5s						
N23A				IAML		20 56 17.6	
	comp=E,90nm,1.2s						
BW06	**Boulder Array**	**3.19**	**258**		**Pn**	**20 55 34.5**	**+1.4**
PD31	**Pinedale Array**	**3.19**	**258**		**Pn**	**20 55 34.5**	**+1.4**
PDAR	**Pinedale Array**	**3.19**	**258**	Pn	**Pn**	**20 55 34.8**	**+1.7**
	comp=E,2.9nm,0.3s,baz=82,slow=13,SNR=32						
PDAR				Lg	Lg	20 56 20.8	
	comp=E,7.3nm,0.3s,baz=71,slow=38,SNR=2.0						
PDAR				LR	LR	20 56 30.4	
	comp=E,55nm,21.6s,baz=84,slow=34						
PDAR	**Pinedale Array**	**3.19**	**258**		**Pn**	**20 55 34.6**	**+1.5**
LAO	**LASA Array**	**3.27**	**349**		**Pn**	**20 55 33.5**	**-0.5**
RLMT	**Red Lodge**	**3.28**	**301**		**Pn**	**20 55 35.1**	**+0.9**
RLMT				IAML		20 56 50.0	
	comp=E,66nm,1.9s						
RLMT				IAML		20 56 59.9	
	comp=E,60nm,1.8s						
OGNE	**Ogallala**	**3.52**	**135**	Pn	**Pn**	**20 55 39.5**	**+2.1**
ISCO	**Idaho Springs**	**3.69**	**184**	Pn	**Pn**	**20 55 43.4**	**+3.4**
ISCO				IAML		20 56 53.9	
	comp=E,34nm,1.1s						
YMP	**Mirror Lake Pl**	**3.71**	**291**		**Pn**	**20 55 42.5**	**+2.3**
LKWY	**Lake**	**3.83**	**288**		**Pn**	**20 55 44.5**	**+2.6**
LKWY				IAML		20 56 50.7	
	comp=E,56nm,1.6s						
LKWY				IAML		20 57 00.9	
	comp=E,36nm,1.0s						
LOHW	**Long Hollow**	**3.85**	**274**		**Pn**	**20 55 41.8**	**-0.3**
LOHW				IAML		20 56 55.9	
	comp=E,34nm,3.9s						
GCMT	**Greycliff**	**3.87**	**308**		**Pn**	**20 55 44.5**	**+2.1**
H17A	**Grant Village**	**3.91**	**285**		**Pn**	**20 55 42.7**	**-0.3**
H17A				IAML		20 56 50.7	
	comp=N,49nm,1.9s						
FLWY	**Flagg Ranch**	**3.95**	**281**		**Pn**	**20 55 43.0**	**-0.5**
FLWY				IAML		20 57 08.8	
	comp=N,64nm,2.4s						
MOOW	**Moose Ponds**	**3.96**	**276**		**Pn**	**20 55 45.3**	**+1.7**
SNOW	**Snow King Moun**	**3.96**	**272**		**Pn**	**20 55 43.2**	**-0.5**
SNOW				IAML		20 57 05.1	
	comp=N,66nm,1.6s						
SNOW				IAML		20 57 28.8	
	comp=N,58nm,2.2s						
O20A	**White River Ci**	**4.00**	**214**	Pn	**Pn**	**20 55 42.4**	**-1.7**
O20A				IAML		20 57 22.7	
	comp=N,61nm,4.1s						
REDW	**Red Top Meadow**	**4.04**	**270**		**Pn**	**20 55 47.4**	**+2.7**
YNR	**Norris Junctio**	**4.06**	**290**		**Pn**	**20 55 48.8**	**+3.8**
YNR				IAML		20 57 03.5	
	comp=E,33nm,2.6s						
TPAW	**Teton Pass**	**4.11**	**272**		**Pn**	**20 55 46.9**	**+1.2**
TPAW				IAML		20 57 03.1	
	comp=E,55nm,1.1s						
TPAW				IAML		20 57 06.2	
	comp=E,31nm,1.3s						
YFT	**Old Faithful**	**4.11**	**286**		**Pn**	**20 55 45.8**	**+0.2**
YFT				IAML		20 56 17.0	
	comp=E,29nm,2.1s						
YFT				IAML		20 57 04.0	
	comp=N,26nm,2.2s						
YMR	**Madison River**	**4.24**	**288**		**Pn**	**20 55 46.2**	**-1.3**
YMR				IAML		20 57 23.2	
	comp=E,56nm,1.0s						
AHID	**Auburn Hatcher**	**4.30**	**262**		**Pn**	**20 55 48.9**	**+0.6**
AHID				IAML		20 57 09.8	
	comp=E,28nm,1.6s						
AHID				IAML		20 57 11.5	
	comp=E,34nm,1.1s						
RDMU	**Red Mountain**	**4.30**	**229**		**Pn**	**20 55 48.9**	**+0.5**
RDMU				IAML		20 57 09.1	
	comp=N,29nm,2.0s						
RDMU				IAML		20 57 40.7	
	comp=E,29nm,1.4s						
ECR	**Eagle Creek**	**4.45**	**267**		**Pn**	**20 55 50.3**	**0.0**
SMCO	**Snowmass**	**4.48**	**197**		**Pn**	**20 55 51.9**	**+0.9**
SMCO				IAML		20 57 16.0	
	comp=E,30nm,2.2s						
SMCO				IAML		20 58 25.4	
	comp=E,26nm,5.0s						
Q24A	**Divide**	**4.52**	**178**		**Pn**	**20 55 52.8**	**+1.4**
Q24A				IAML		20 57 16.7	
	comp=E,28nm,1.1s						
QLMT	**Earthquake Lak**	**4.61**	**289**		**Pn**	**20 55 51.7**	**-0.8**
KSCO	**Kaye Shedlock'**	**4.90**	**155**		**Pn**	**20 55 57.8**	**+1.3**
BOZ	**Bozeman (W)**	**4.99**	**297**		**Pn**	**20 55 56.6**	**-1.1**
BOZ				IAML		20 57 22.3	
	comp=E,24nm,1.7s						
BOZ				IAML		20 57 31.9	
	comp=E,18nm,1.8s						
P18A	**Preston Nutter**	**5.34**	**226**		**Pn**	**20 56 04.1**	**+1.4**
JLU	**Jordanelle**	**5.40**	**240**	Pn	**Pn**	**20 56 02.6**	**-0.9**
DLMT	**Dillon**	**5.55**	**292**		**Pn**	**20 56 01.5**	**-3.8**
P17A	**Butcher Ranch,**	**5.72**	**227**		**Pn**	**20 56 08.5**	**+0.7**
PV23	**Carpenter Ridg**	**5.75**	**210**		**Pn**	**20 56 08.8**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**0.78**	**259**	Pg	**Pn**	**21 05 27.2**	**-0.1**
	138nm,0.3s,baz=60,slow=8.8,SNR=172						
PMG				Lg	Lg	21 05 41.0	
	702nm,0.3s,baz=216,slow=11,SNR=28						
WRA	**Warramunga Arr**	**16.90**	**230**	P	**Pn**	**21 09 06.1**	**-0.6**
	0.1nm,0.3s,baz=50,slow=14,SNR=7.9						
SIJI	**Sorong**	**18.57**	**296**	P	**Pn**	**21 09 27.7**	**+0.4**
	0.5nm,0.3s,baz=135,slow=19,SNR=8.9						
ASAR	**Alice Springs**	**19.63**	**221**	P	**P**	**21 09 39.3**	**+0.8**
	0.1nm,0.3s,baz=57,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**80.58**	**321**	P	**P**	**21 17 21.4**	**-0.4**
	0.1nm,0.6s,baz=101,slow=7.5,SNR=1.4						
ZALV	**Zalesovo Beam**	**82.24**	**328**	P	**P**	**21 17 30.3**	**0.0**
	0.3nm,0.6s,baz=130,slow=4.5,SNR=1.6						

*IDC **15** 21:25:01.2±2.3, 7°.34S×129°.32E, h146km±29km, mb2.8/1, mb1 3.2/6, mb1mx2.9/40, mbtmp3.7/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/11, Error ellipse: s-maj=38.0km s-min=21.6km az=92.0*

ISC 15 21:25:00.7±0.9, 7°.35S±0°.06×129°.33E±0°.08, h150km, n15, σ3°78/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**5.28**	**163**	P	**Pn**	**21 26 21.7**	**+3.8**
SOEI	**Soe**	**5.55**	**244**	P	**Pn**	**21 26 23.4**	**+1.9**
MTN	**Manton Dam**	**5.74**	**162**	P	**Pn**	**21 26 27.4**	**+3.4**
KDU	**Kakadu**	**6.14**	**150**	P	**Pn**	**21 26 32.6**	**+3.3**
SANI	**Sanana**	**6.23**	**328**	P	Pn	21 26 40.9	+10
BATI	**Baumata**	**6.28**	**243**	P	**Pn**	**21 26 32.1**	**+0.9**
	4.0nm,0.3s,baz=73,slow=6.0,SNR=1.8						
BATI				S	**Sn**	**21 27 40.4**	**-1.7**
	2.5nm,0.3s,baz=334,slow=22,SNR=2.6						
SIJI	**Sorong**	**6.72**	**17**	P	**Pn**	**21 26 37.5**	**+0.4**
	0.3nm,0.3s,baz=247,slow=22,SNR=1.6						
SIJI				S	**Sn**	**21 27 46.7**	**-6.0**
	0.2nm,0.3s,baz=251,slow=23,SNR=1.7						
KNRA	**Kununurra**	**8.29**	**184**	P	**Pn**	**21 26 59.7**	**+1.6**
FITZ	**Fitzroy Crossi**	**11.27**	**198**	P	**Pn**	**21 27 37.5**	**0.0**
	0.4nm,0.3s,baz=18,slow=11,SNR=15						
FITZ				S	**Sn**	**21 29 35.6**	**-6.5**
	0.3nm,0.3s,baz=85,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**13.43**	**159**	P	**Pn**	**21 28 05.4**	**0.0**
	0.6nm,0.3s,baz=333,slow=13,SNR=28						
WRA				S	**Sn**	**21 30 30.1**	**-4.1**
	0.8nm,0.3s,baz=328,slow=24,SNR=11						
ASAR	**Alice Springs**	**16.81**	**165**	P	**Pn**	**21 28 49.0**	**+1.7**
	0.3nm,0.3s,baz=340,slow=9.7,SNR=26						
ASAR				S	**S**	**21 31 48.9**	**-5.4**
	0.1nm,0.3s,baz=206,slow=18,SNR=3.1						
WRKA	**Warakurna**	**17.61**	**183**	P	**Pn**	**21 29 00.4**	**+3.4**
PMG	**Port Moresby**	**17.76**	**98**	LR	LR	21 37 21.3	
	comp=Z,56nm,19.1s,baz=77,slow=42						
OOD	**Oodnadatta**	**21.21**	**164**	P	**P**	**21 29 39.8**	**+5.2**
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**21 35 45.5**	**+0.8**
	0.1nm,0.5s,baz=130,slow=8.6,SNR=4.3						

*IDC **15** 21:45:58.5±1.1, 30°.25N×138°.47E, h435km±14km, mb2.8/9, mb1 2.9/11, mb1mx2.6/54, mbtmp3.6/11, Error ellipse: s-maj=28.3km s-min=15.2km az=80.0*

ISC 15 21:45:59.4±1.0, 30°.3N±0°.1×138°.5E±0°.2, h450km, n11, σ0°98/12, mb3.0/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.99**	**21**	P	**P**	**21 47 06.1**	**-0.1**
	11nm,0.3s,baz=284,slow=12,SNR=1.4						
JHJ				S	**S**	**21 47 58.8**	**-1.8**
	16nm,0.3s,baz=72,slow=18,SNR=1.1						
MJAR	**Matsushiro Arr**	**6.21**	**358**	P	**P**	**21 47 34.9**	**-0.8**
	0.1nm,0.3s,baz=180,slow=11,SNR=2.1						
CMAR	**Chiang Mai Arr**	**37.75**	**261**	P	**P**	**21 52 34.7**	**-0.9**
	0.3nm,0.5s,baz=58,slow=8.6,SNR=2.0						
MKAR	**Makanchi Array**	**45.95**	**307**	P	**P**	**21 53 41.5**	**+1.1**
	0.5nm,0.8s,baz=87,slow=9.0,SNR=5.6						
KURBB	**Kurchatov Arra**	**48.49**	**313**	P	**P**	**21 53 59.6**	**+0.1**
	0.4nm,0.6s,baz=90,slow=7.8,SNR=7.0						
WRA	**Warramunga Arr**	**50.14**	**185**	P	**P**	**21 54 11.5**	**-0.6**
	0.2nm,0.4s,baz=1.3,slow=7.8,SNR=7.8						
BVAR	**Borovoye Array**	**53.49**	**316**	P	**P**	**21 54 36.6**	**+0.5**
	0.5nm,0.5s,baz=93,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**53.87**	**185**	P	**P**	**21 54 39.1**	**+0.1**
	0.3nm,0.6s,baz=20,slow=12,SNR=4.9						
ILAR	**Eielson Array**	**56.47**	**30**	P	**P**	**21 54 57.7**	**+0.8**
	0.3nm,0.9s,baz=283,slow=5.5,SNR=1.5						
ARCES	**ARCESS Array B**	**69.43**	**340**	P	**P**	**21 56 21.7**	**+1.1**
	1.8nm,0.9s,baz=57,slow=9.9,SNR=1.4						
FINES	**FINESS Array B**	**73.62**	**332**	P	**P**	**21 56 45.9**	**+0.6**
	1.5nm,0.9s,baz=44,slow=4.2,SNR=3.7						

*TAP **15** 22:09:53.3, 24°.43N×122°.77E, h85km±1km, ML2.5, C*
*JMA **15** 22:09:53.1±0.1, 24°.42N×122°.78E, h96km±1km, M2.0*

ISC 15 22:09:53.5±1.5, 24°.44N±0°.06×122°.78E±0°.03, h90km±9km, n42, σ0°61/80, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.15**	**86**	P	**Pn**	**22 10 06.8**	**+0.5**
JYNG				S	**Sn**	**22 10 16.7**	**+0.8**
YOJ	**Yonaguni jima**	**0.22**	**85**	P	**Pn**	**22 10 07.0**	**+0.5**
YOJ				S	**Sn**	**22 10 17.2**	**+0.9**
YOJ	**Yonaguni jima**	**0.22**	**85**	*eP*	**Pn**	**22 10 05.5**	**-1.0**
	baz=78						
YOJ				*eS*	**Sn**	**22 10 15.6**	**-0.7**
	baz=78						
TWC	**Suao**	**0.86**	**281**	*eP*	**Pn**	**22 10 11.6**	**-0.1**
	baz=282						
IRIF	**Iriomote-Funau**	**0.88**	**97**	P	**Pn**	**22 10 12.1**	**+0.3**
IRIF				*eS*	**Sn**	**22 10 26.0**	**+0.4**
EWUT	**Wuta**	**0.91**	**270**	*eP*	**Pn**	**22 10 12.2**	**+0.1**
	baz=271						
EWUT				*eS*	**Sn**	**22 10 26.0**	**-0.2**
	baz=271						
ENA	**Nanau**	**0.94**	**269**	*eP*	**Pn**	**22 10 12.9**	**+0.4**
	baz=270						
ENA				*eS*	**Sn**	**22 10 26.7**	**-0.1**
	baz=270						
NDS	**Dongshan**	**0.98**	**281**	*eP*	**Pn**	**22 10 13.2**	**+0.2**
	baz=282						
NDS				*eS*	**Sn**	**22 10 27.4**	**-0.2**
	baz=282						
TIPB	**Shuangxi**	**1.01**	**302**	*eP*	**Pn**	**22 10 13.0**	**-0.4**
	baz=302						
TIPB				*eS*	**Sn**	**22 10 27.8**	**-0.5**
	baz=302						
HATJ	**Hateruma jima**	**1.01**	**112**	*eS*	**Sn**	**22 10 28.0**	**-0.3**
SXI1	**Grass Mountain**	**1.04**	**309**	*eP*	**Pn**	**22 10 13.2**	**-0.6**
	baz=309						
TWE	**Neicheng**	**1.05**	**286**	*eP*	**Pn**	**22 10 13.9**	**+0.2**
	baz=286						
TWE				*eS*	**Sn**	**22 10 29.2**	**+0.3**
	baz=286						
NACB	**Ninganchiao**	**1.11**	**256**	P	**Pn**	**22 10 14.4**	**0.0**
	baz=256						
NACB				*eS*	**Sn**	**22 10 30.5**	**+0.3**
	baz=256						
ENTT	**Nioudou**	**1.12**	**280**	*eP*	**Pn**	**22 10 15.1**	**+0.5**
	baz=280						
ENTT				*eS*	**Sn**	**22 10 29.9**	**-0.5**
	baz=280						
JKRS	**Kuro-shima**	**1.14**	**100**	P	**Pn**	**22 10 15.2**	**+0.3**
JKRS				S	**Sn**	**22 10 31.8**	**+0.9**
ETLH	**Xiulin Townshi**	**1.20**	**259**	*eP*	**Pn**	**22 10 15.7**	**0.0**
	baz=259						
ETLH				*eS*	**Sn**	**22 10 32.3**	**-0.1**
	baz=259						
NWLT	**Wulai**	**1.21**	**286**	*eP*	**Pn**	**22 10 15.6**	**0.0**
	baz=286						
NWLT				*eS*	**Sn**	**22 10 31.7**	**-0.6**
	baz=286						
JIJ	**Ishigaki jima**	**1.25**	**93**	P	**Pn**	**22 10 16.2**	**+0.1**
JIJ				S	**Sn**	**22 10 32.4**	**-0.8**
YHNB	**Yeheng**	**1.29**	**280**	*eP*	**Pn**	**22 10 17.1**	**+0.3**
	baz=280						
YHNB				*eS*	**Sn**	**22 10 34.1**	**-0.3**
	baz=280						
NSK	**Sanguang**	**1.31**	**281**	*eP*	**Pn**	**22 10 17.4**	**+0.4**
	baz=280						
NSK				*eS*	**Sn**	**22 10 33.8**	**-0.9**
	baz=280						
ESL	**Shilin**	**1.38**	**243**	*eP*	**Pn**	**22 10 17.8**	**+0.1**

	baz=243						
ESL				*eS*	**Sn**	**22 10 35.3**	**-0.7**
	baz=243						
JISG	**Ishigakijimahi**	**1.41**	**84**	P	**Pn**	**22 10 17.9**	**-0.2**
JISG				S	**Sn**	**22 10 35.8**	**-0.8**
WHF	**Hehuan Shan**	**1.41**	**258**	*eP*	**Pn**	**22 10 18.8**	**+0.3**
	baz=258						
FUSS	**Fushou**	**1.41**	**262**	*eP*	**Pn**	**22 10 18.8**	**+0.4**
	baz=262						
FUSS				*eS*	**Sn**	**22 10 35.7**	**-1.5**
	baz=262						
EGFH	**Guangfu**	**1.45**	**238**	*eP*	**Pn**	**22 10 18.6**	**-0.1**
	baz=238						
EGFH				*eS*	**Sn**	**22 10 37.1**	**-0.6**
	baz=238						
TWT	**Tachien**	**1.47**	**263**	*eP*	**Pn**	**22 10 19.7**	**+0.6**
	baz=263						
TWT				*eS*	**Sn**	**22 10 39.1**	**+0.7**
	baz=263						
CHGB	**Renai**	**1.51**	**256**	*eP*	**Pn**	**22 10 20.1**	**+0.6**
	baz=256						
CHGB				*eS*	**Sn**	**22 10 39.1**	**-0.3**
	baz=256						
NFF	**Wufeng Townshi**	**1.52**	**278**	*eP*	**Pn**	**22 10 19.8**	**+0.2**
	baz=277						
NFF				*eS*	**Sn**	**22 10 38.7**	**-0.6**
	baz=277						
OWD	**Renai**	**1.54**	**252**	*eP*	**Pn**	**22 10 20.1**	**+0.2**
	baz=252						
OWD				*eS*	**Sn**	**22 10 39.4**	**-0.5**
	baz=252						
HGSD	**Ruisui**	**1.56**	**233**	*eP*	**Pn**	**22 10 19.4**	**-0.6**
	baz=233						
HGSD				*eS*	**Sn**	**22 10 39.7**	**-0.3**
	baz=233						
LIOB	**Emei**	**1.61**	**278**	*eP*	**Pn**	**22 10 21.4**	**+0.6**
	baz=277						
LIOB				*eS*	**Sn**	**22 10 41.5**	**+0.1**
	baz=277						
NSTT	**Nanjuang**	**1.63**	**277**	*eP*	**Pn**	**22 10 21.4**	**+0.6**
	baz=277						
NSTT				*eS*	**Sn**	**22 10 40.5**	**-1.2**
	baz=277						
VWDT	**VWDT**	**1.64**	**246**	*eP*	**Pn**	**22 10 21.8**	**+0.8**
	baz=245						
VWDT				*eS*	**Sn**	**22 10 41.6**	**-0.3**
	baz=245						
WHP	**Taichung City**	**1.68**	**265**	*eP*	**Pn**	**22 10 23.0**	**+1.4**
	baz=264						
WHP				*eS*	**Sn**	**22 10 43.2**	**+0.3**
	baz=264						
YULB	**Yu-li**	**1.71**	**233**	*eP*	**Pn**	**22 10 21.9**	**-0.1**
	baz=232						
YULB				*eS*	**Sn**	**22 10 42.4**	**-1.1**
	baz=232						
WCS	**Beigang Elemen**	**1.74**	**258**	*eP*	**Pn**	**22 10 22.4**	**0.0**
	baz=257						
WCS				*eS*	**Sn**	**22 10 46.0**	**+1.7**
	baz=257						
JTJ	**Tarama**	**1.77**	**83**	P	**Pn**	**22 10 22.8**	**+0.2**
JTJ				*eS*	**Sn**	**22 10 44.7**	**-0.1**
SSLB	**Suanglung**	**1.79**	**249**	*eP*	**Pn**	**22 10 23.6**	**+0.6**
	baz=249						
SSLB				*eS*	**Sn**	**22 10 45.8**	**+0.4**
	baz=249						
SMLT	**Sun Moon Lake**	**1.80**	**252**	*eP*	**Pn**	**22 10 24.1**	**+0.8**
	baz=252						
SMLT				*eS*	**Sn**	**22 10 47.1**	**+1.3**
	baz=252						
EDH	**Donghe**	**1.99**	**223**	*eP*	**Pn**	**22 10 25.2**	**-0.4**
	baz=222						
EDH				*eS*	**Sn**	**22 10 49.4**	**-0.6**
	baz=222						
ELDTW	**Lidau**	**2.04**	**233**	*eP*	**Pn**	**22 10 26.3**	**0.0**
	baz=232						
ELDTW				*eS*	**Sn**	**22 10 50.6**	**-0.7**
	baz=232						
CHN5	**Tsauling**	**2.09**	**247**	*eP*	**Pn**	**22 10 27.7**	**+0.7**
	baz=246						
CHN5				*eS*	**Sn**	**22 10 53.0**	**+0.4**
	baz=246						

*IDC **15** 22:17:52.4±7.8, 14°.71S×167°.16E, h100km±80km, mb3.4/5, mb1 3.6/6, mb1mx3.4/42, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=64.9km s-min=34.7km az=147.0*
*NEIC **15** 22:17:52.1±2.4, 14°.6S±0°.1×167°.4E±0°.2, h105km±9km, mb4.3/9, Error ellipse: s-maj=24.1km s-min=14.2km az=108.0*

ISC 15 22:17:52.3±1.2, 14°.64S±0°.09×167°.2E±0°.2, h100km, n22, σ1°44/27, mb4.1/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.80**	**179**		**Pn**	**22 18 11.6**	**+0.9**
SANVU				Sn	**Sn**	**22 18 25.2**	**+0.7**
LIFNC	**LIFOU**	**6.11**	**180**	Pn	**Pn**	**22 19 21.1**	**+1.0**
DZM	**Mont Dzumac**	**7.42**	**185**	P	**Pn**	**22 19 38.6**	**+0.5**
	1.9nm,0.3s,baz=347,slow=14,SNR=14						
DZM				S	**Sn**	**22 20 57.8**	**-3.1**
	2.7nm,0.3s,baz=159,slow=22,SNR=7.1						
DZM	**Mont Dzumac**	**7.42**	**185**		**Pn**	**22 19 38.6**	**+0.5**
DZM				Sn	**Sn**	**22 21 01.2**	**+0.3**
ONTNC	**Ouen Toro**	**7.66**	**185**	Pn	**Pn**	**22 19 42.6**	**+1.4**
ONTNC				Sn	**Sn**	**22 21 04.5**	**-1.9**
OUENC	**Ouen Island, N**	**7.74**	**182**	Pn	**Pn**	**22 19 43.2**	**+0.8**
OUENC				Sn	**Sn**	**22 21 08.2**	**-0.3**
PINNC	**Pines Island,**	**7.94**	**178**	Pn	**Pn**	**22 19 47.4**	**+2.4**
EIDS	**Eidsvold**	**18.50**	**232**		**P**	**22 22 03.1**	**+2.3**
EIDS				IAmb	IAmb	22 22 14.7	
	comp=Z,11nm,1.1s						
ARMA	**Armidale**	**21.25**	**220**	P	**P**	**22 22 33.5**	**+2.9**
ARMA				IAmb	IAmb	22 22 33.6	
	comp=Z,12nm,1.1s						
MXZ	**Matakaoa Point**	**24.88**	**159**	P	**P**	**22 23 03.8**	**-2.0**
PLWZ	**Palliser**	**27.73**	**167**	P	**P**	**22 23 30.1**	**-1.3**
LTZ	**Lake Taylor**	**28.38**	**172**	P	**P**	**22 23 37.4**	**+0.2**
LTZ				IAmb	IAmb	22 23 42.9	
	comp=Z,15nm,1.2s						
OXZ	**Oxford**	**28.89**	**173**	P	**P**	**22 23 40.7**	**-0.9**
OXZ				IAmb	IAmb	22 23 48.8	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**28.99**	**229**	P	**P**	**22 23 43.2**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=48,slow=9.5,SNR=14						
STKA	**Stephens Creek**	**28.99**	**229**	P	**P**	**22 23 43.7**	**+1.0**
WB0	**Warramunga Arr**	**31.71**	**256**	P	**P**	**22 24 06.0**	**0.8**
WRA	**Warramunga Arr**	**31.77**	**256**	P	**P**	**22 24 06.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=87,slow=9.4,SNR=1.6						
ASAR	**Alice Springs**	**32.63**	**249**	P	**P**	**22 24 14.3**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=78,slow=9.0,SNR=15						
BBOO	**Buckleboo**	**33.57**	**232**	P	**P**	**22 24 22.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**39.95**	**259**	P	**P**	**22 25 16.4**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=79,slow=10,SNR=1.8						
MORW	**Morawa**	**49.23**	**244**	P	**P**	**22 26 30.4**	**-0.6**
MORW				IAmb	IAmb	22 26 37.4	
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**86.47**	**18**	P	**P**	**22 30 23.5**	**0.0**
	comp=Z,0.3nm,0.8s,baz=243,slow=4.0,SNR=2.1						

IDC 15 22:25:33.3±2.0, 3°.75N×126°.89E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/35, mbtmp3.4/4, Error ellipse: s-maj=115.9km s-min=25.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.74**	**183**	P	P	22 30 26.1	-0.4
	1.3nm,0.9s,baz=4.4,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**24.66**	**163**	P	P	22 30 54.9	-1.1
	1.7nm,0.7s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.09**	**166**	P	P	22 31 28.8	+1.9
	0.3nm,0.6s,baz=346,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**57.63**	**325**	P	P	22 35 25.2	-0.1
	0.1nm,0.4s,baz=127,slow=7.2,SNR=5.3						

*NNC **15** 22:35:58.4±6.6, 37°.06N×71°.06E, h195km±107km, mb2.2, mpv3.1, Error ellipse: s-maj=63.2km s-min=36.3km az=16.0*

ISC 15 22:35:45.5±1.4, 36°.32N±0°.09×71°.1E±0°.1, h150km, n13, σ2°55/16, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.79**	**356**	⇓P	**Pn**	**22 37 25.4**	**+2.7**
	1.0nm,0.4s,baz=170,slow=12						

KK02				⇓S	**Sn**	**22 38 37.3**	**-1.6**
	1.6nm,0.6s,baz=179,slow=23						
AAK	**Ala-Archa**	**6.84**	**22**	⇓P	**Pn**	**22 37 27.5**	**+4.0**
	0.8nm,0.4s						
AAK				⇓S	**Sn**	**22 38 38.2**	**-2.0**
	2.5nm,1.1s						
TKM2	**Tokmak 2**	**7.46**	**26**	⇓P	Pn	22 37 37.1	+5.4
	1.2nm,0.9s						
TKM2				⇑S	**Sn**	**22 38 53.7**	**-1.4**
	1.5nm,0.9s						
PYUN	**Piuthan**	**12.98**	**126**	*eP*	**Pn**	**22 38 44.8**	**+0.1**
	11nm,0.4s						
DANN	**Dangsing**	**13.33**	**123**	*eP*	**Pn**	**22 38 49.4**	**+0.1**
	3.5nm,0.2s						
KOLN	**Koldanda**	**13.61**	**125**	*eP*	**Pn**	**22 38 52.6**	**0.0**
	3.1nm,0.3s						
GKN	**Gorkha**	**14.15**	**122**	*eP*	**Pn**	**22 38 59.2**	**-0.3**
	4.7nm,0.3s						
DMN	**Daman**	**14.72**	**122**	*eP*	**P**	**22 39 07.0**	**-1.9**
	2.7nm,0.3s						
KKN	**Kakani**	**14.73**	**121**	*eP*	**Pn**	**22 39 06.5**	**-0.3**
	4.6nm,0.5s						
PKIN	**Phulchoki**	**14.94**	**122**	*eP*	**P**	**22 39 10.0**	**-1.4**
	1.8nm,0.2s						
PKI	**Pulchoki**	**14.95**	**122**	*eP*	**P**	**22 39 10.3**	**-1.3**
	2.6nm,0.2s						
GUN	**Gumba**	**15.07**	**120**	*eP*	**P**	**22 39 10.9**	**-2.0**
	3.7nm,0.3s						
AB31	**Akbulak array**	**15.27**	**331**	⇑P	**P**	**22 39 17.4**	**+2.9**
	0.4nm,0.5s,baz=144,slow=13,SNR=16						
AB31				⇑S	**Sn**	**22 41 57.0**	**-5.8**
	1.0nm,0.7s						

*NEIC **15** 22:37:26.5, 37°.51N×113°.92W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.07; $M_{\theta\theta}$=0.71; $M_{\phi\phi}$=-0.63; $M_{r\theta}$=0.60; $M_{\theta\phi}$=3.57; $M_{\phi r}$=1.27; Fault plane solution: M_0=3.89000×10^{15} NP1:ϕ_s=4.66000°, δ84.97000°, λ160.60000°. NP2:ϕ_s=96.43000°, δ70.68000°, λ5.34000°. Principal axes: T 4.0588, Plg17.0000°, Azm319.0000°; N -0.3634, Plg70.0000°, Azm171.0000°; P -3.6954, Plg10.0000°, Azm52.0000°;*
*UUSS **15** 22:37:26.5±1.7, 37°.51N±0°.02×113°.92W±0°.04, h1km±7km Error ellipse: s-maj=4.9km s-min=3.2km az=83.0*
*NEIC **15** 22:37:27.1±1.7, 37°.52N±0°.03×113°.97W±0°.04, h2km±5km, ML4.4/132, Mwr4.3/142, ML4.0/8(REN), ML4.3/12(UUSS), Error ellipse: s-maj=5.0km s-min=3.4km az=57.0*
*IDC **15** 22:37:27.6±0.6, 37°.49N×114°.09W, h0km, mb4.0/7, mb1 4.1/15, mb1mx3.9/40, mbtmp3.9/15, ML3.8/8, MS3.7/47, Ms1 3.7/47, ms1mx3.6/87, Error ellipse: s-maj=7.4km s-min=6.2km az=53.0*
*ANF **15** 22:37:27.6±0.2, 37°.42N×113°.93W, h5km, ML4.8/10, Error ellipse: s-maj=3.8km s-min=1.8km az=168.0*

ISC 15 22:37:28.3±1.1, 37°.51N±0°.02×113°.97W±0°.02, h0km±8km, n196, σ2°06/186, mb4.1/8, MS3.8/39, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.36**	**174**		**Pg**	**22 37 34.0**	**-1.2**
ICU					**Sg**	**22 37 39.4**	**-0.5**
CCUT	**Cedar City**	**0.48**	**85**		**Pg**	**22 37 35.4**	**-2.2**
ARUT	**Antelope Range**	**0.50**	**56**		**Pg**	**22 37 36.2**	**-1.8**
ZNPU	**Zion National**	**0.69**	**102**		**Pg**	**22 37 39.4**	**-2.1**
SZCU	**Shurtz Canyon**	**0.70**	**82**		**Pg**	**22 37 39.3**	**-2.6**
LCMT	**Little Creek M**	**0.76**	**130**		**Pg**	**22 37 40.6**	**-2.3**
PRN	**Pahroc Range**	**0.87**	**264**	Pg	**Pg**	**22 37 44.0**	**-1.0**
BHU	**Blowhard Mount**	**0.89**	**84**		**Pg**	**22 37 43.4**	**-2.0**
DWU	**Dry Willow Pea**	**0.97**	**52**		**Pg**	**22 37 44.5**	**-2.5**
PSUT	**Pine Spring**	**1.03**	**5**		**Pg**	**22 37 46.0**	**-2.1**
PSUT					**Sg**	**22 38 00.2**	**-1.2**
PSUT				IAML		22 38 04.5	
	comp=N,14μm,0.9s						
PSUT				IAML		22 38 04.6	
	comp=E,13μm,0.7s						
KNB	**Kanab**	**1.04**	**118**	Pg	**Pg**	**22 37 45.7**	**-2.5**
EKU	**East Kanab**	**1.25**	**110**		**Pg**	**22 37 49.9**	**-2.4**
IMU	**Iron Mountain**	**1.29**	**29**		**Pg**	**22 37 50.7**	**-2.5**
PKCU	**Pink Cliffs**	**1.32**	**92**		**Pg**	**22 37 51.6**	**-2.0**
PKCU				IAML		22 38 15.8	
	comp=N,5μm,0.9s						
NMUT	**North Mineral**	**1.34**	**41**		**Pg**	**22 37 51.2**	**-2.8**
SHPR	**Sheep Range**	**1.38**	**224**	Pn	**Pn**	**22 37 52.7**	**-2.3**
SHPR				IAML		22 38 13.9	
	comp=E,5μm,0.7s						
S11A	**Rachel**	**1.42**	**276**		**Pn**	**22 37 53.6**	**-1.9**
MTPU	**Mount Pierson**	**1.51**	**69**		**Pn**	**22 37 54.6**	**-2.4**
SPR3	**Spring Creek 3**	**1.52**	**349**	Pn	**Pn**	**22 37 53.5**	**-3.5**
SPR3				IAML		22 38 19.1	
	comp=N,6μm,0.7s						
SPR3				IAML		22 38 21.4	
	comp=E,6μm,0.8s						
R11A	**Troy Canyon, C**	**1.53**	**304**		**Pn**	**22 37 54.7**	**-2.4**
R11A				IAML		22 38 19.9	
	comp=N,10μm,0.8s						
R11A				IAML		22 38 19.9	
	comp=E,7μm,0.7s						
R11A	**Troy Canyon, C**	**1.53**	**304**	P	**Pn**	**22 37 54.7**	**-2.4**
	baz=122,SNR=1000						
R11A				S	**Sn**	**22 38 16.8**	**-1.0**
	baz=122						
TCRU	**Three Creeks R**	**1.63**	**47**		**Pn**	**22 37 56.3**	**-2.2**
TCRU				IAML		22 38 26.7	
	comp=N,4μm,0.8s						
TCRU				IAML		22 38 39.0	
	comp=E,3μm,0.9s						
BTU	**Barney Top**	**1.68**	**81**		**Pn**	**22 37 58.2**	**-1.0**
MVU	**Marysvale**	**1.71**	**54**		**Pn**	**22 37 57.7**	**-1.9**
U15A	**North Rim**	**1.72**	**128**		**Pn**	**22 37 58.1**	**-1.6**
U15A				IAML		22 38 28.3	
	comp=E,3μm,0.9s						
U15A				IAML		22 38 29.7	
	comp=N,3μm,0.9s						
MSU

GSC IAML 22 39 20.2
comp=N,903nm,1.1s
P17A Butcher Ranch, 3.20 51 Pn Pn 22 38 18.7 -1.3
ELK Elko 3.38 343 Pn **Pn 22 38 20.4 -2.2**
comp=N,9.3nm,0.3s,baz=170,slow=11,SNR=146
ELK Pg **Pb 22 38 28.8 -0.5**
comp=N,39nm,0.3s,baz=181,slow=12,SNR=37
ELK Sn **Sn 22 39 01.7 -1.8**
comp=N,20nm,0.3s,baz=184,slow=12,SNR=4.9
ELK Lg Lg 22 39 13.5
comp=N,46nm,0.3s,baz=220,slow=22,SNR=12
ELK Elko 3.38 343 Pn **Pn 22 38 20.4 -2.2**
NV11 Mina Array Sit 3.44 287 Pn 22 38 21.0 -2.2
NV11 IAML 22 39 20.8
comp=E,800nm,1.5s
NV11 IAML 22 39 23.9
comp=N,832nm,1.3s
NVAR Mina Array Bea 3.55 286 Pn **Pn 22 38 21.5 -3.4**
comp=N,16nm,0.3s,baz=106,slow=12,SNR=205
NVAR Pg **Pb 22 38 30.6 -1.5**
comp=N,137nm,0.3s,baz=105,slow=14,SNR=53
NVAR Sn **Sn 22 39 02.5 -5.1**
baz=101,slow=12,SNR=1.8
NVAR Lg Lg 22 39 15.9
baz=116,slow=23,SNR=1.1
NVAR Mina Array Bea 3.55 286 Pn 22 38 22.3 -2.5
KVN Kaiserville 3.60 297 Pn 22 38 23.9 -1.6
KVN IAML 22 39 27.7
comp=N,764nm,0.8s
KVN IAML 22 39 30.8
comp=E,740nm,1.1s
CTU Camp Tracy 3.62 28 Pn **Pn 22 38 24.8 -0.9**
CTU IAML 22 39 26.4
comp=E,528nm,1.0s
CTU IAML 22 39 26.8
comp=N,528nm,0.9s
Y14A Wickenburg 3.65 167 Pn 22 38 24.7 -1.4
Y14A IAML 22 39 29.2
comp=N,949nm,1.0s
Y14A IAML 22 39 32.4
comp=E,829nm,1.3s
JLU Jordanelle 3.66 32 Pn **Pn 22 38 25.2 -1.2**
LHV Little Huntoon 3.67 283 Pn 22 38 24.6 -1.6
X16A Lo Mia Camp, P 3.70 146 Pn **Pn 22 38 26.3 -0.6**
X16A IAML 22 39 35.1
comp=E,646nm,1.2s
X16A IAML 22 39 35.5
comp=N,511nm,1.3s
RYN Ryan 3.77 289 Pn 22 38 25.8 -2.0
RYN IAML 22 39 34.5
comp=E,733nm,1.1s
RYN IAML 22 39 36.0
comp=N,781nm,1.6s
BMN Battle Mountai 3.87 320 Pn 22 38 27.4 -1.8
BMN IAML 22 39 34.9
comp=N,962nm,0.7s
BMN IAML 22 39 38.6
comp=E,678nm,0.8s
PV10 Paradox Valley 3.99 76 Pn 22 38 29.9 -1.0
PV10 IAML 22 39 45.0
comp=E,913nm,1.0s
PV23 Carpenter Ridg 4.03 75 Pn **Pn 22 38 30.5 -1.0**
ISA Isabella, Lake 4.07 244 Pn **Pn 22 38 30.4 -1.4**
PV11 David Mesa, Pa 4.11 77 Pn **Pn 22 38 31.5 -1.0**
PV13 Radium Mtn., P 4.13 79 Pn **Pn 22 38 31.6 -1.2**
PV13 IAML 22 39 40.7
comp=E,740nm,1.0s
PV13 IAML 22 39 55.2
comp=N,587nm,1.3s
W18A Petrified Fore 4.17 124 Pn **Pn 22 38 33.0 -0.3**
W18A Petrified Fore 4.17 124 P **Pn 22 38 30.9 -2.4**
baz=307,SNR=14
W18A Sb **Sb 22 39 35.3 +1.8**
baz=307
KCC Kaiser Creek 4.26 269 Pn 22 38 33.6 -0.9
PV07 Paradox Valley 4.30 76 Pn **Pn 22 38 34.4 -0.9**
PV07 IAML 22 39 51.4
comp=N,587nm,1.5s
HVU Hansel Valley 4.37 12 Pn 22 38 34.2 -1.8
HVU IAML 22 39 54.1
comp=N,744nm,0.9s
MVCO Mesa Verde 4.37 92 Pn **Pn 22 38 34.5 -1.6**
MVCO Mesa Verde 4.37 92 P **Pn 22 38 33.5 -2.6**
baz=276,SNR=16
MVCO Sb **Sb 22 39 42.1 +2.7**
baz=276
PFO Pinyon Flats O 4.38 208 Pn **Pn 22 38 34.4 -1.9**
comp=N,6.9nm,0.3s,baz=31,slow=11,SNR=46
PFO Pg **Pg 22 38 48.7 -3.7**
comp=N,22nm,0.3s,baz=25,slow=14,SNR=20
PFO Lg Lg 22 39 45.0
comp=N,12nm,0.3s,baz=241,slow=9.1,SNR=11
PFO Pinyon Flats O 4.38 208 Pn **Pn 22 38 34.6 -1.6**
PFO Pinyon Flats O 4.38 208 P **Pn 22 38 34.6 -1.6**
baz=27,SNR=25
PFO Sb **Sb 22 39 42.7 +2.9**
baz=27
YERR Yerington 4.41 291 Pn 22 38 34.9 -1.7
YERR IAML 22 39 56.5
comp=N,583nm,1.2s
PV15 Paradox Valley 4.42 77 Pn **Pn 22 38 36.0 -0.8**
GLA Glamis 4.50 189 Pn 22 38 36.8 -1.0
GLA IAML 22 39 57.4
comp=N,604nm,1.2s
MWC Mount Wilson 4.67 227 Pn 22 38 39.2 -1.0
MWC IAML 22 39 59.8
comp=N,265nm,1.3s
MWC IAML 22 40 10.5
comp=E,416nm,1.2s
PNTR Pine Nut 4.70 291 Pn **Pn 22 38 39.3 -1.5**
113A Mohawk Valley, 4.73 178 Pn **Pn 22 38 39.8 -1.1**
113A IAML 22 40 02.4
comp=N,351nm,1.0s
113A IAML 22 40 06.1
comp=E,350nm,1.1s
PASC Pasadena Art C 4.78 227 Pn 22 38 40.6 -0.9
PASC IAML 22 40 08.7
comp=N,191nm,1.3s
PASC IAML 22 40 14.6
comp=E,226nm,1.6s
PAHR Pah Rah Range 4.78 299 Pn **Pn 22 38 40.1 -1.5**
PAHR IAML 22 40 07.7
comp=E,326nm,1.8s
PAHR IAML 22 40 16.2
comp=N,262nm,1.8s
VCNR Virginia City 4.81 294 Pn 22 38 40.4 -1.8
VCNR IAML 22 40 04.5
comp=E,533nm,1.0s
VCNR IAML 22 40 17.0
comp=N,540nm,1.1s
MONP2 Monument Peak 5.02 204 P **Pn 22 38 43.2 -1.9**
baz=23,SNR=7.2
MONP2 Sb **Sb 22 40 01.6 +3.4**
baz=23
EMB Emerald Bay 5.05 289 Pn **Pn 22 38 44.0 -1.4**
EMB IAML 22 40 17.6
comp=N,216nm,1.9s
EMB IAML 22 40 21.2
comp=E,234nm,1.6s
MPK Martis Peak 5.09 292 Pn **Pn 22 38 45.2 -0.8**
MPK IAML 22 40 15.1
comp=E,382nm,1.2s
MPK IAML 22 40 24.3
comp=N,404nm,1.1s
RUBR Rubicon Trail 5.11 289 Pn **Pn 22 38 45.5 -0.8**
RUBR IAML 22 40 20.9
comp=N,304nm,1.4s
RUBR IAML 22 41 14.3
comp=E,229nm,1.7s
CMB Columbia Colle 5.11 278 Pn **Pn 22 38 44.7 -1.5**
CMB IAML 22 40 13.8
comp=N,162nm,1.1s
O20A White River Ci 5.18 58 Pn **Pn 22 38 46.3 -1.0**
O20A White River Ci 5.18 58 P **Pn 22 38 46.6 -0.7**
baz=241,SNR=13
O20A Sb **Sb 22 40 06.4 +3.6**
baz=241
109C Camp Elliot, M 5.28 210 P **Pn 22 38 46.9 -1.4**
baz=28
109C Sb **Sb 22 40 10.6 +5.4**
baz=28
BAR Barrett 5.30 206 Pn 22 38 47.3 -1.4
BAR IAML 22 40 21.6
comp=E,182nm,1.5s
214A Organ Pipe Nat 5.62 170 Pn **Pn 22 38 53.0 -0.1**
214A Organ Pipe Nat 5.62 170 P **Pn 22 38 52.2 -1.0**
baz=351
214A Sb **Sb 22 40 20.2 +5.0**
baz=351
PMPB Monarch Peak 5.63 259 Pn **Pn 22 38 53.9 +0.6**
S22A 4UR Ranch, Cre 5.67 85 Pn **Pn 22 38 53.6 -0.5**
S22A 4UR Ranch, Cre 5.67 85 P **Pn 22 38 52.4 -1.7**
baz=270,SNR=12
S22A Sb **Sb 22 40 20.1 +3.2**
baz=270
BBGB Big Mountain B 5.73 263 Pn **Pn 22 38 54.5 -0.2**
TUC Tucson 5.81 152 Pn **Pn 22 38 54.4 -1.4**
TUC Tucson 5.81 152 P **Pn 22 38 54.7 -1.0**
baz=335
TUC Sb **Sb 22 40 26.4 +5.8**
baz=335
SAO San Andreas Ge 6.02 265 Pn **Pn 22 38 59.1 +0.4**
HLID Hailey 6.06 357 P **Pn 22 38 57.2 -2.1**
baz=176
HLID Sb **Sb 22 40 33.4 +5.5**
baz=176
WVOR Wild Horse Val 6.09 325 Pn **Pn 22 39 00.2 +0.6**
BW06 Boulder Array 6.25 31 P **Pn 22 38 59.8 -2.1**
baz=214,SNR=21
BW06 Sb **Sb 22 40 36.8 +3.5**
baz=214
PD31 Pinedale Array 6.25 31 Pn **Pn 22 39 01.7 -0.2**
PDAR Pinedale Array 6.25 31 Pn **Pn 22 39 02.8 +0.9**
comp=E,0.7nm,0.3s,baz=211,slow=14,SNR=63
PDAR Lg Lg 22 40 44.6
comp=E,2.2nm,0.3s,baz=195,slow=21,SNR=2.1
PDAR LR LR 22 41 23.0
comp=E,258nm,22.0s,baz=220,slow=37
ORV Oroville 6.25 291 Pn 22 39 00.2 -1.5
ANMO Albuquerque 6.58 111 Pn **Pn 22 39 07.4 +0.8**
comp=E,0.5nm,0.3s,baz=296,slow=10,SNR=8.7
ANMO Pg Pb 22 39 28.1 +4.3
comp=E,1.2nm,0.3s,baz=300,slow=12,SNR=22
ANMO Lg Lg 22 40 57.5
comp=E,1.1nm,0.3s,baz=27,slow=22,SNR=6.1
ANMO LR LR 22 42 11.6
comp=E,306nm,19.5s,baz=292,slow=43
ANMO Albuquerque 6.58 111 P **Pn 22 39 04.7 -1.9**
baz=295
ANMO Sb **Sb 22 40 46.9 +3.8**
baz=295
LOHW Long Hollow 6.61 22 Pn **Pn 22 39 07.2 +0.3**
Y22D IRIS PASSCAL I 6.67 119 Sg **Sg 22 41 03.2 +0.6**
baz=303
RWWY Rawlins 6.68 49 Pn **Pn 22 39 07.9 -0.1**
O03E Paynes Creek 6.71 297 Pn **Pn 22 39 07.0 -1.2**
O03E Paynes Creek 6.71 297 P **Pn 22 39 05.5 -2.7**
baz=112
O03E Sb **Sb 22 40 50.9 +4.2**
baz=112
SDCO Great Sand Dun 6.72 85 Pn **Pn 22 39 07.8 -0.7**
SDCO Great Sand Dun 6.72 85 P **Pn 22 39 06.7 -1.9**
baz=271
SDCO Sg **Sg 22 41 04.7 +0.3**
baz=271
J08A Circle Bar Ran 6.78 331 Pn **Pn 22 39 08.7 -0.4**
BCYI Bear Canyon 6.81 3 Pn **Pn 22 39 09.9 +0.2**
BNM Barren Site 6.84 117 Pn **Pn 22 39 09.3 -0.7**
ISCO Idaho Springs 6.93 68 Pn **Pn 22 39 09.6 -1.8**
ISCO Idaho Springs 6.93 68 P **Pn 22 39 09.9 -1.4**
baz=253
ISCO Sg **Sg 22 41 09.8 -1.0**
baz=253
N23A Red Feather La 7.09 59 Pn **Pn 22 39 11.8 -1.7**
N23A Red Feather La 7.09 59 P **Pn 22 39 12.4 -1.1**
baz=244
N23A Sb **Sb 22 41 00.4 +2.7**
baz=244
Q24A Divide 7.09 75 Sb **Sb 22 41 00.4 +2.6**
baz=261
121A Cookes Peak, D 7.09 133 Sb **Sb 22 41 03.9 +6.2**
baz=316
YPP Pitchstone Pla 7.17 19 Pn **Pn 22 39 11.0 -3.6**
319A Douglas 7.24 146 Pn **Pn 22 39 13.8 -1.6**
H17A Grant Village 7.34 19 Sg **Sg 22 41 27.8 +3.7**
baz=201
O02D Mt. Diablo Mer 7.38 294 Sg **Sg 22 41 30.6 +5.2**
baz=108
M04C Macdoel 7.42 308 Pn **Pn 22 39 16.4 -1.6**
M04C Macdoel 7.42 308 P **Pn 22 39 17.7 -0.3**
baz=122
M04C Sg **Sg 22 41 29.8 +3.1**
baz=122
N02D Trinity Center 7.61 300 Pn **Pn 22 39 19.9 -0.7**
N02D Trinity Center 7.61 300 P **Pn 22 39 19.7 -0.8**
baz=114
T25A Trinidad 7.62 90 Sb **Sb 22 41 16.0 +3.0**
baz=276
K22A Casper 7.68 46 Pn **Pn 22 39 21.0 -0.5**
K22A Casper 7.68 46 P **Pn 22 39 20.7 -0.8**
baz=230,SNR=18
BMO Blue Mountains 7.76 342 Pn **Pn 22 39 23.0 +0.5**
M02C Callahan 7.89 302 P **Pn 22 39 24.8 +0.5**
baz=116
L04D Klamath Falls 7.95 309 P **Pn 22 39 25.5 +0.3**
baz=123
YBH Yreka Blue Hor 7.96 305 Pn **Pn 22 39 26.0 +0.7**
comp=E,0.4nm,0.3s,baz=113,slow=10,SNR=6.0
YBH Lg Lg 22 41 34.2
comp=E,0.2nm,0.3s,baz=256,slow=2.5,SNR=2.7
YBH LR LR 22 43 00.5
comp=E,688nm,18.9s,baz=130,slow=42
YBH Yreka Blue Hor 7.96 305 Pn **Pn 22 39 24.9 -0.3**
J05D Fort Rock, OR 8.00 318 P **Pn 22 39 25.3 -0.7**
baz=134,SNR=13
RLMT Red Lodge 8.39 23 P **Pn 22 39 31.3 0.0**
baz=206,SNR=24
J04D Umpqua Nationa 8.45 315 P **Pn 22 39 32.8 +0.7**
baz=130
L02E Cave Junction 8.75 305 P **Pn 22 39 36.4 +0.4**
baz=119
K02D Willamette Mer 9.06 308 P **Pn 22 39 42.7 +2.4**
baz=122
RSSD Black Hills 10.01 46 P **Pn 22 39 51.6 -2.0**
baz=232
LAO LASA Array 10.82 30 P **Pn 22 40 03.1 -1.4**
baz=215,SNR=5.2
NEW Newport 11.00 349 Pn **Pn 22 40 08.1 +1.3**
comp=E,0.1nm,0.3s,baz=180,slow=13,SNR=2.8
NEW Lg Lg 22 43 11.6
comp=E,0.2nm,0.3s,baz=59,slow=17,SNR=5.5
NEW LR LR 22 44 58.1
comp=E,145nm,21.8s,baz=171,slow=41
NEW Newport 11.00 349 Pn 22 40 04.8 -2.1
TXAR Lajitas Array 11.85 130 Pn Pn 22 40 24.0 +5.4
comp=E,0.0nm,0.3s,baz=316,slow=10,SNR=16
TXAR Lg Lg 22 43 39.6
comp=E,0.1nm,0.3s,baz=308,slow=32,SNR=4.4
TXAR LR LR 22 45 21.6
comp=E,539nm,18.4s,baz=294,slow=40
LPIG La Paz 13.72 166 LR LR 22 46 17.4
comp=E,190nm,18.0s,baz=350,slow=39
MIAR Mount Ida 16.76 94 P **Pn 22 41 22.7 -1.7**
baz=286,SNR=11
BBB Bella Bella 17.73 330 LR LR 22 47 40.3
comp=E,70nm,18.4s,baz=160,slow=35
ULM Lac du Bonnet 18.17 40 LR LR 22 49 03.6
comp=E,544nm,18.2s,baz=247,slow=38
DLBC Dease Lake 23.42 339 LR LR 22 52 50.2
comp=E,289nm,18.9s,baz=318,slow=39
TKL Tuckaleechee C 24.27 85 P **P 22 42 47.2 +0.1**
comp=E,7.4nm,0.9s,baz=304,slow=10,SNR=3.8
TKL LR LR 22 51 48.1
comp=E,66nm,20.7s,baz=286,slow=35
YKA Yellowknife Ar 25.02 359 P **P 22 42 52.9 -0.7**
comp=E,1.0nm,0.5s,baz=179,slow=9.0,SNR=19
CMIG Matias Romero 26.38 135 LR LR 22 55 18.1
comp=E,113nm,21.3s,baz=304,slow=40
SADO Sadowa 27.06 63 LR LR 22 54 24.2
comp=E,410nm,18.3s,baz=322,slow=37
INK Inuvik 32.71 347 LR LR 22 58 50.1
comp=E,156nm,19.0s,baz=137,slow=39
ILAR Eielson Array 33.50 335 P **P 22 44 09.7 +0.6**
comp=E,1.4nm,0.8s,baz=142,slow=7.9,SNR=11
ILAR LR LR 22 59 07.2
comp=E,228nm,18.4s,baz=126,slow=39
SCHQ Schefferville 36.15 46 LR LR 22 59 42.8
comp=E,514nm,18.4s,baz=271,slow=37
FRB Frobisher Bay 37.70 31 LR LR 23 00 50.8
comp=E,159nm,20.0s,baz=198,slow=37
SFJD Kangerlussuaq 45.76 29 LR LR 23 05 54.3
comp=E,130nm,19.6s,baz=250,slow=37
ROSC El Rosal 48.62 122 LR LR 23 11 58.3
comp=E,42nm,18.8s,baz=201,slow=42
ATAH Atahualpa 55.45 136 LR LR 23 09 47.2
comp=E,112nm,18.2s,baz=332,slow=35
SEY Seymchan 58.94 328 LR LR 23 13 49.0
comp=E,69nm,18.3s,baz=332,slow=37
JMIC Jan Mayen 59.78 21 LR LR 23 13 34.1
comp=E,70nm,18.4s,baz=110,slow=36
PETK Petropavlovsk- 60.16 316 P **P 22 47 37.4 0.0**
comp=E,1.4nm,0.7s,baz=81,slow=11,SNR=2.3
PETK LR LR 23 10 40.7
comp=E,45nm,21.1s,baz=70,slow=33
NNA Nana 60.31 137 LR LR 23 11 29.0
comp=E,90nm,19.4s,baz=318,slow=34
PPT Papeete 64.22 218 LR LR 23 10 32.5
comp=E,68nm,19.2s,baz=22,slow=31
YAK Yakutsk 68.39 333 LR LR 23 19 50.7
comp=E,64nm,18.4s,baz=88,slow=37
ARCES ARCESS Array B 69.21 14 LR LR 23 19 19.0
comp=E,17nm,19.0s,baz=298,slow=36
EKA Eskdalemuir Ar 70.36 35 LR LR 23 18 35.9
comp=E,127nm,18.2s,baz=326,slow=35
NOA NORSAR Array B 72.14 25 LR LR 23 21 31.0
comp=E,22nm,18.3s,baz=280,slow=37
NRIK Noril'sk 72.29 352 LR LR 23 21 45.5
comp=E,35nm,21.3s,baz=360,slow=37
LVC Limon Verde 73.30 137 LR LR 23 20 13.9
comp=E,45nm,19.0s,baz=247,slow=35
HFS Hagfors 73.64 24 LR LR 23 21 49.9
comp=E,34nm,18.4s,baz=288,slow=36
KLR Kul'dur 75.91 322 LR LR 23 22 59.9
comp=E,24nm,19.7s,baz=36,slow=36
FINES FINESS Array B 76.19 19 LR LR 23 25 01.5
comp=E,38nm,18.1s,baz=0.0,slow=37
MJAR Matsushiro Arr 80.60 309 LR LR 23 23 21.3
comp=E,14nm,20.3s,baz=154,slow=34
DAVOX Davos/Dischmat 82.18 35 LR LR 23 25 42.5
comp=E,65nm,20.1s,baz=311,slow=35
GERES GERESS Array B 82.29 32 LR LR 23 26 48.7
comp=E,120nm,18.3s,baz=322,slow=36
VRAC Vranov 83.11 30 LR LR 23 28 21.8
comp=E,46nm,19.4s,baz=312,slow=37
MDT Midelt 83.97 53 LR LR 23 26 14.9
comp=E,54nm,18.8s,baz=340,slow=35
ARU Arti 86.21 4 LR LR 23 34 05.4
comp=E,27nm,18.4s,baz=18,slow=39
AKASG Malin Array Be 86.39 22 LR LR 23 29 21.9
comp=E,38nm,19.1s,baz=260,slow=36
ZALV Zalesovo Beam 87.48 349 P **P 22 50 17.2 -0.3**
comp=E,0.7nm,0.7s,baz=357,slow=7.4,SNR=4.8
ZALV LR LR 23 34 20.9
comp=E,28nm,19.3s,baz=36,slow=39
SONM Songino Array 87.72 334 P **P 22 50 18.4 -0.6**
comp=E,0.4nm,0.6s,baz=34,slow=5.4,SNR=2.1
SONM LR LR 23 31 17.7
comp=E,63nm,18.7s,baz=92,slow=37
HHC Hu-ho-hao-te 91.58 327 *e*P P 22 50 31.6 -5.6
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,84nm,5.3s
AKTO Aktyubinsk 92.15 5 LR LR 23 35 15.3
comp=Z,25nm,19.1s,baz=351,slow=38
MKAR Makanchi Array 94.82 349 P **P 22 50 50.9 -1.0**
comp=Z,0.9nm,1.1s,baz=15,slow=5.0,SNR=4.7
MKAR LR LR 23 38 30.5
comp=Z,40nm,20.2s,baz=29,slow=39
BRTR Keskin Array B 97.58 25 LR LR 23 37 38.1
comp=Z,47nm,18.6s,baz=352,slow=37
IDI Anoyia 98.12 33 LR LR 23 37 32.4
comp=Z,44nm,18.5s,baz=246,slow=37
AAK Ala-Archa 99.86 354 LR LR 23 39 56.3
comp=Z,24nm,19.8s,baz=26,slow=38
WRA Warramunga Arr 118.82 266 PKP **PKPdf 22 56 16.4 -2.5**
comp=Z,0.4nm,0.9s,baz=55,slow=2.5,SNR=2.3
ASAR Alice Springs 121.11 263 PKP **PKPdf 22 56 21.6 -1.7**
comp=Z,0.3nm,0.7s,baz=64,slow=2.6,SNR=2.2

EAF ***15*** *23:10:18.6±9.9,21°.15S×32°.54E,h10km,MD3.8*
BUL 15 23:10:16.5±10.0**,21°.32S×32°.66E,h10**km**,MD4.0,**
Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.48**	**208**	*i* P	Pn	23 10 58.8	+1.8
MOPA				*i* Sg	Sg	23 11 37.2	+1.0
MOPA	**Mopani**	**2.48**	**208**	*i* P	Pn	23 10 58.8	+1.8
MOPA				*i* Sg	Sg	23 11 37.2	+1.0
MSNA	**Messina**	**2.66**	**247**	*i* P	Pb	23 11 02.2	-2.1
MSNA				*i* Sg	Sg	23 11 42.4	+0.4
MSNA	**Messina**	**2.66**	**247**	*i* P	Pb	23 11 02.2	-2.1
MSNA				*i* Sg	Sg	23 11 42.4	+0.4
BLWY	**Bulawayo**	**3.97**	**286**	*i* S	Sn	23 11 48.7	-16
BLWY	**Bulawayo**	**3.97**	**286**	*i* S	Sn	23 11 48.7	-16
MATP	**Matopo**	**4.00**	**282**	*i* P	Pn	23 11 22.3	+4.4
MATP				*i* S	Sn	23 12 07.1	+2.2
MATP	**Matopo**	**4.00**	**282**	*i* P	Pn	23 11 22.3	+4.4
MATP				*i* S	Sn	23 12 07.1	+2.2

ANF ***15*** *23:12:30.4±0.2,61°.11N×146°.94W,h21km±2km,ML4.1/59, Error ellipse: s-maj=1.4km s-min=1.3km az=1.0*
IDC ***15*** *23:12:31.9±2.2,61°.12N×147°.00W,h42km±22km,mb3.8/9, mb1 3.9/14,mb1mx3.5/48,mbtmp3.9/14,ML3.5/5,MS3.7/3, Ms1 3.7/3,ms1mx2.7/93,Error ellipse: s-maj=29.4km s-min=21.8km az=161.0*
AEIC ***15*** *23:12:31±1.6,61°.11N±0°.02×146°.88W±0°.04,h18km±4km, ML3.7,ML3.9/174(NEIC),Mwr3.8/86(NEIC),Error ellipse: s-maj=3.4km s-min=1.2km az=130.0*
NEIC ***15*** *23:12:31.4±2.0,61°.12N±0°.02×146°.910W±0°.009, h30km±5km,Error ellipse: s-maj=3.5km s-min=0.6km az=178.0*
NEIC ***15*** *23:12:31,61°.11N×146°.94W,h33km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-4.74; $M_{\theta\theta}$1.69; $M_{\phi\phi}$3.06; $M_{r\theta}$0.12; $M_{\theta\phi}$3.28; $M_{\phi r}$-1.11; Fault plane solution: $M_0$5.42000×10^{14} NP1:ϕ_s28.33000°, δ50.32000°,λ-104.55000°. NP2:ϕ_s230.45000°, δ41.84000°,λ-73.16000°. Principal axes: T 5.7835, Plg4.0000°, Azm129.0000°; N -0.8238, Plg11.0000°, Azm38.0000°; P -4.9597, Plg78.0000°, Azm239.0000°;*
ISC 15 23:12:30.6±0.7**,61°.10N**±0°.02×**146°.91W**±0°.02**,h30**km±5km**,**
n244,σ1§**04**/254**,mb4.0**/9**,MS3.9**/3**,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JPK	**Jack Peak**	**0.16**	**106**		**Pb**	**23 12 36.3**	**-0.1**
GLI	**Glacier Island**	**0.24**	**202**		**Pb**	**23 12 36.9**	**-0.4**
GLI					**Sb**	**23 12 41.8**	**0.0**
GLI	**Glacier Island**	**0.24**	**202**	P	**Pb**	**23 12 36.8**	**-0.4**
baz=24,SNR=378							
GLI				S	**Sb**	**23 12 41.8**	**0.0**
baz=24							
VMT	**TAPS TI Valdez**	**0.27**	**93**		**Pb**	**23 12 37.4**	**-0.1**
VMT					**Sb**	**23 12 42.4**	**+0.1**
FID	**Port Fidalgo**	**0.41**	**149**		**Pb**	**23 12 39.2**	**-0.4**
FID					**Sb**	**23 12 45.8**	**0.0**
FID				IAML		23 12 47.5	
comp=E,15μm,0.4s							
DIV	**Divide**	**0.55**	**86**		**Pb**	**23 12 40.8**	**-1.1**
DIV					**Sb**	**23 12 48.8**	**-0.9**
KLU	**Klutina**	**0.62**	**50**		**Pb**	**23 12 42.3**	**-0.7**
KLU					**Sb**	**23 12 51.2**	**-0.3**
KLU	**Klutina**	**0.62**	**50**	IAML		23 12 51.5	
comp=N,6μm,0.4s							
KLU				IAML		23 12 51.6	
comp=E,5μm,0.4s							
KLU	**Klutina**	**0.62**	**50**	P	**Pb**	**23 12 42.2**	**-0.7**
baz=231,SNR=318							
KLU				S	**Sb**	**23 12 51.2**	**-0.3**
baz=231							
PWL	**Port Wells**	**0.73**	**251**		**Pn**	**23 12 44.1**	**-0.8**
PWL					**Sb**	**23 12 54.3**	**-0.3**
PWL	**Port Wells**	**0.73**	**251**	IAML		23 12 56.0	
comp=N,4μm,0.6s							
PWL	**Port Wells**	**0.73**	**251**	P	**Pn**	**23 12 43.9**	**-0.9**
baz=70,SNR=110							
PWL				S	**Sb**	**23 12 54.1**	**-0.5**
baz=70							
SCM	**Sheep Creek Mo**	**0.76**	**345**		**Pn**	**23 12 44.5**	**-0.9**
SCM					**Sb**	**23 12 55.0**	**-0.4**
SCM	**Sheep Creek Mo**	**0.76**	**345**	P	**Pn**	**23 12 44.5**	**-0.9**
baz=163,SNR=271							
SCM				S	**Sb**	**23 12 54.9**	**-0.6**

baz=163
EYAK Cordova Ski Ar 0.79 134 Pn 23 12 45.5 -0.1
EYAK Cordova Ski Ar 0.79 134 P **Pn 23 12 45.6 0.0**
baz=316,SNR=276
EYAK Sn **Sn 23 12 58.3 +1.9**
baz=316
KNK Knik Glacier 0.81 293 Pn 23 12 45.6 -0.4
KNK Knik Glacier 0.81 293 Sb 23 12 56.8 0.0
KNK IAML 23 12 57.2
comp=N,4µm,0.7s
KNK IAML 23 12 57.5
comp=E,5µm,0.4s
KNK Knik Glacier 0.81 293 P **Pn 23 12 45.5 -0.4**
baz=111,SNR=550
KNK S **Sb 23 12 56.6 -0.2**
baz=111
PS12 TAPS Pump St12 0.93 65 Pn 23 12 47.0 -0.6
PS12 **Sn 23 12 59.3 -0.6**
SML Sawmill 0.98 317 Pn **Pn 23 12 48.1 -0.3**
SML Sg **Sn 23 13 01.4 +0.1**
SML IAML 23 13 01.8
comp=N,3µm,0.5s
SML Sawmill 0.98 317 P **Pn 23 12 48.1 -0.3**
baz=134,SNR=565
SML S **Sn 23 13 01.7 +0.4**
baz=134
M24K Tolsona, Glenn 1.07 19 Pn **Pn 23 12 49.6 +0.1**
M24K Tolsona, Glenn 1.07 19 P **Pn 23 12 49.8 +0.3**
baz=199,SNR=154
M24K S **Sb 23 13 04.4 +0.3**
baz=199
BMRM Bremner River 1.13 96 Pn 23 12 50.4 0.0
BMRM IAML 23 13 07.1
comp=E,3µm,0.7s
BMRM IAML 23 13 13.4
comp=N,2µm,0.5s
BMRM Bremner River 1.13 96 P **Pn 23 12 50.2 -0.1**
baz=278,SNR=233
BMRM S **Sn 23 13 06.2 +1.3**
baz=278
PMR Palmer 1.18 296 Pn 23 12 50.9 0.0
PMR IAML 23 13 07.0
comp=N,2µm,0.7s
PMR Palmer 1.18 296 P **Pn 23 12 50.9 0.0**
baz=113,SNR=233
PMR S **Sn 23 13 06.6 +0.6**
baz=113
GHO Glory Hole Cre 1.18 306 Pn 23 12 51.1 +0.1
GHO IAML 23 13 07.6
comp=N,2µm,0.3s
GHO IAML 23 13 10.3
comp=E,3µm,0.6s
GOAT Goat Mountain 1.19 115 Pn 23 12 51.8 +0.6
PS11 TAPS Pump St11 1.20 34 Pn 23 12 52.1 +0.9
N25K Chitina, Valde 1.23 64 Pn 23 12 51.5 -0.2
N25K IAML 23 13 11.4
comp=N,3µm,0.4s
N25K IAML 23 13 11.0
comp=E,2µm,0.4s
N25K Chitina, Valde 1.23 64 P **Pn 23 12 51.5 -0.2**
baz=247,SNR=110
N25K S **Sn 23 13 07.9 +0.6**
baz=247
RAGM Ragged Mountai 1.31 122 Pn 23 12 53.5 +0.7
RC01 Rabbit Creek A 1.37 271 Pn 23 12 54.4 +0.7
RC01 IAML 23 13 14.3
comp=E,2µm,0.4s
RC01 Rabbit Creek A 1.37 271 P **Pn 23 12 54.3 +0.7**
baz=88,SNR=126
RC01 Sb **Sb 23 13 13.2 +0.5**
baz=88
HMT Hamilton 1.51 119 Pn 23 12 56.0 +0.4
GLB Gilahina Butte 1.54 76 Pn 23 12 56.6 +0.7
GLB IAML 23 13 18.0
comp=E,2µm,0.5s
GLB IAML 23 13 21.6
comp=N,2µm,0.5s
WAT6 Susitna Watana 1.54 346 Pn 23 12 55.9 -0.2
WAT6 Susitna Watana 1.54 346 P **Pn 23 12 55.9 -0.2**
baz=164,SNR=80
WAT6 S **Sn 23 13 15.8 +0.7**
baz=164
HARP HAARP 1.55 32 Pn 23 12 57.4 +1.3
HARP **Sn 23 13 16.3 +1.2**
HARP HAARP 1.55 32 P **Pn 23 12 57.5 +1.5**
baz=213,SNR=123
HARP Sb **Sb 23 13 18.7 +0.9**
baz=213
SEW Seward 1.60 233 Pn 23 12 57.3 +0.6
SEW Seward 1.60 233 P **Pn 23 12 57.3 +0.6**
baz=50,SNR=14
SEW S **Sn 23 13 17.6 +1.2**
baz=50
FIS Fire Island 1.61 273 Pn 23 12 58.5 +1.7
M22K Willow 1.68 294 Pn 23 12 59.2 +1.5
VRDI Verde Repeater 1.68 84 Pn 23 12 58.7 +0.7
VRDI Verde Repeater 1.68 84 Sn **Sn 23 13 19.9 +1.2**
VRDI IAML 23 13 22.2
comp=E,1µm,0.5s
VRDI IAML 23 13 22.2
comp=N,1µm,0.5s
NICHA Nichawak Mount 1.69 120 Pn 23 12 58.6 +0.6
Q23K Middleton Isla 1.70 170 Pn **Pn 23 12 59.3 +1.2**
Q23K Sn **Sb 23 13 21.9 -0.1**
Q23K IAML 23 13 25.2
comp=E,1µm,0.6s
Q23K IAML 23 13 32.3
comp=N,871nm,0.5s
Q23K Middleton Isla 1.70 170 P **Pn 23 12 59.3 +1.2**
baz=351
Q23K Sb **Sb 23 13 23.9 +1.9**
baz=351
MID Middleton Isla 1.70 170 Pn **Pn 23 12 59.6 +1.5**
MID IAML 23 13 25.9
comp=E,1µm,0.6s
MID IAML 23 13 32.3
comp=N,990nm,0.5s
KAIM Kayak Island 1.71 133 Pn 23 12 58.6 +0.4
KAIM Kayak Island 1.71 133 P **Pn 23 12 58.6 +0.4**
baz=315
SLKM Skilak Lake 1.73 251 Pn 23 12 59.5 +0.9
BERG Berg Lake 1.73 113 Pn **Pn 23 12 58.8 +0.3**
SUCK Suckling Hills 1.86 122 Pn 23 13 00.7 +0.4
SUCK IAML 23 13 38.2
comp=N,1µm,0.5s
KHIT Khitrov Hills 1.91 109 Pn 23 13 01.6 +0.4
GRIN Grindle Hills 1.95 113 Pn 23 13 02.0 +0.5
WAT7 Susitna Watana 1.96 333 Pn 23 13 02.7 +0.8
DHY Denali Highway 2.00 354 Pn 23 13 03.1 +0.8
DHY IAML 23 13 30.4
comp=N,1µm,1.0s
DHY IAML 23 13 31.6
comp=E,1µm,0.6s
DHY Denali Highway 2.00 354 P **Pn 23 13 03.3 +1.0**
baz=173,SNR=103
PAX Paxson 2.00 19 Pn 23 13 03.7 +1.4
PAX Paxson 2.00 19 P **Pn 23 13 03.6 +1.4**
baz=200,SNR=96
TGL Tana Glacier 2.02 98 Pn **Pn 23 13 03.6 +0.9**
TGL IAML 23 13 34.9
comp=N,1µm,0.6s
TGL IAML 23 13 37.1
comp=E,1µm,0.6s
BGLC Bering Glacier 2.04 117 P **Pn 23 13 03.9 +1.1**
baz=301
CUT Chulitna 2.06 311 Pn 23 13 04.4 +1.3
CUT Chulitna 2.06 311 P **Pn 23 13 04.6 +1.5**
baz=128,SNR=70
WAX Waxell Ridge 2.10 106 Pn 23 13 03.2 -0.4
CAPN Captain Cook N 2.10 263 Pn 23 13 04.4 +0.9
CAPN Captain Cook N 2.10 263 Pb **Pn 23 13 06.4 +2.9**
baz=79
CAPN Sb **Sb 23 13 34.0 +0.5**
baz=79
PTPK Patty Peak 2.16 86 Pn 23 13 05.6 +1.0
SNH Sunshine Point 2.21 113 Pn 23 13 05.7 +0.6
SNH IAML 23 13 49.2
comp=E,491nm,0.7s
BALM Baldy 2.22 90 Pn 23 13 06.3 +0.9
KIAG Kiagna River 2.23 93 Pn 23 13 06.3 +0.8
M26K Nabesna, AK 2.27 53 Pn 23 13 07.9 +1.8
M26K Nabesna, AK 2.27 53 IAML 23 13 39.6
comp=N,511nm,0.6s
M26K Nabesna, AK 2.27 53 P **Pn 23 13 07.9 +1.8**
baz=237,SNR=51
ISLE Juniper Island 2.29 101 Pn 23 13 06.8 +0.4
ISLE Juniper Island 2.29 101 IAML 23 13 43.8
comp=N,970nm,0.8s
BRSE Bradley Lake S 2.34 236 Pn 23 13 07.8 +0.9
BRSE Bradley Lake S 2.34 236 P **Pn 23 13 07.8 +0.9**
baz=53,SNR=13
BRSE S **Sn 23 13 35.5 +0.9**
baz=53
MENT Mentasta 2.38 38 Pn 23 13 08.5 +1.0
MENT IAML 23 13 44.9
comp=N,544nm,0.5s
MENT IAML 23 13 49.5
comp=E,771nm,0.7s
BRLK Bradley Lake 2.38 238 Pn 23 13 08.5 +1.0
BRLK Bradley Lake 2.38 238 IAML 23 13 44.6
comp=E,452nm,0.5s
PS10 TAPS Pump St10 2.39 12 Pn 23 13 09.7 +2.0
CYK Cape Yakataga 2.41 113 Pn 23 13 08.6 +0.8
BAGL Bagley Icefiel 2.44 102 Pn 23 13 09.1 +0.8
SPCG Spurr Capps Gl 2.48 277 Pn 23 13 10.4 +1.4
RND Reindeer 2.49 339 Pn 23 13 09.9 +0.9
RND IAML 23 13 44.4
comp=N,682nm,0.6s
RND IAML 23 13 45.7
comp=E,520nm,0.5s
SPU Mount Spurr 2.50 274 Pn 23 13 10.2 +1.1
GRNC Granite Creek 2.55 96 Pn 23 13 10.7 +0.8
GRNC Granite Creek 2.55 96 IAML 23 13 48.4
comp=N,531nm,0.6s
GRNC IAML 23 13 51.7
comp=E,352nm,0.6s
BARN Barnard Glacie 2.55 89 Pn 23 13 11.1 +1.0
BARN Barnard Glacie 2.55 89 IAML 23 13 48.7
comp=E,422nm,0.7s
BARN IAML 23 13 52.0
comp=N,525nm,0.5s
L26K Log Cabin Wild 2.56 39 Pn 23 13 11.5 +1.5
MESA MESA 2.61 109 Pn 23 13 11.4 +0.6
MESA MESA 2.61 109 P **Pn 23 13 11.3 +0.4**
baz=293,SNR=28
YAH Yahtse 2.64 104 Pn 23 13 11.9 +0.6
YAH Yahtse 2.64 104 IAML 23 14 00.4
comp=E,364nm,0.9s
YAH IAML 23 14 03.3
comp=N,432nm,0.7s
CNPM China Poot 2.67 236 Pn 23 13 12.2 +0.8
M27K Edge Creek, AK 2.71 60 Pn **Pn 23 13 14.1 +2.0**
CTG Chitna Glacier 2.71 90 P **Pn 23 13 13.4 +1.2**
baz=276,SNR=72
CTGM Chitina Glacie 2.72 90 Pn 23 13 13.0 +0.8
CTGM IAML 23 13 57.2
comp=N,383nm,0.6s
HOM Homer 2.76 240 Pn **Pn 23 13 13.2 +0.6**
HOM Homer 2.76 240 P **Pn 23 13 13.0 +0.4**
baz=56
MCK McKinley 2.81 341 Pn 23 13 15.5 +2.2
MCK McKinley 2.81 341 P **Pn 23 13 15.2 +1.9**
baz=159,SNR=175
RIDG Independent Ri 2.82 19 Pn 23 13 15.4 +1.9
RIDG IAML 23 14 05.6
comp=E,365nm,0.8s
RIDG Independent Ri 2.82 19 P **Pn 23 13 15.3 +1.8**
baz=201,SNR=36
TRF Thorofare Moun 2.84 328 Pn 23 13 15.6 +1.6
TRF Thorofare Moun 2.84 328 IAML 23 14 03.5
comp=N,352nm,0.6s
TRF IAML 23 14 08.0
comp=E,394nm,0.6s
TRF Thorofare Moun 2.84 328 P **Pn 23 13 15.5 +1.6**
baz=144,SNR=76
DFR Drift River 2.87 262 Pn 23 13 15.1 +0.8
DOT Dot Lake 2.88 26 Pn 23 13 15.9 +1.5
LOGN Logan Glacier 2.90 93 Pn 23 13 15.5 +0.8
LOGN IAML 23 14 01.0
comp=E,297nm,0.8s
LOGN IAML 23 14 04.4
comp=N,300nm,0.5s
TABL Table Mountain 2.91 101 Pn 23 13 15.1 +0.2
TABL IAML 23 14 08.5
comp=N,336nm,0.7s
TABL IAML 23 14 11.4
comp=E,290nm,1.0s
RSO Redoubt South 2.94 260 Pn 23 13 16.2 +0.9
RED Redoubt Volcan 2.96 259 Pn 23 13 16.2 +0.8
RDWB Redoubt West 2.97 261 Pn 23 13 16.2 +0.5
NCT North Crescent 3.00 262 Pn 23 13 17.0 +1.0
YUK2 White River 3.00 74 Pn 23 13 17.6 +1.6
O20K Slope Mountain 3.00 253 Pn 23 13 17.0 +0.9
O20K Slope Mountain 3.00 253 P **Pn 23 13 16.7 +0.7**
baz=68
CHX Chaix Hills 3.04 107 Pn 23 13 17.4 +0.8
PPLA Purkeypile 3.07 308 Pn 23 13 18.5 +1.4
PPLA Purkeypile 3.07 308 P **Pn 23 13 18.4 +1.2**
baz=123,SNR=62
KTH Kantishna Hill 3.09 325 Pn 23 13 18.8 +1.5
KTH IAML 23 14 09.5
comp=N,342nm,0.8s
KTH IAML 23 14 14.0
comp=E,339nm,0.8s
L27K Beaver Creek, 3.10 48 Pn **Pn 23 13 18.6 +1.3**
BC03 3.12 48 Pn 23 13 19.2 +1.7
BCAR Beaver Creek A 3.12 48 Pn **Pn 23 13 19.3 +1.7**
BVCY Beaver Creek 3.17 63 Pn 23 13 20.4 +2.1
BVCY Beaver Creek 3.17 63 P **Pn 23 13 20.0 +1.7**
baz=248,SNR=8.2
YUK3 Moose Creek 3.17 75 Pn 23 13 20.1 +1.5
YUK3 Moose Creek 3.17 75 P **Pn 23 13 20.0 +1.5**
baz=261,SNR=28
SAMH Samovar Hills 3.17 105 Pn 23 13 19.7 +1.2
SCRK Sand Creek 3.19 24 Pn 23 13 20.2 +1.5
SCRK Sand Creek 3.19 24 P **Pn 23 13 19.9 +1.1**
baz=206,SNR=10
BWN Browne 3.30 340 Pn 23 13 21.3 +1.2
HDA Harding Lake 3.32 360 Pn 23 13 22.5 +2.1
HDA IAML 23 14 08.8
comp=N,361nm,0.4s
HDA IAML 23 14 09.1
comp=E,335nm,0.5s
HDA Harding Lake 3.32 360 P **Pn 23 13 21.4 +1.0**
baz=179,SNR=149
CAST Castle Rocks 3.36 316 IAML 23 14 16.4
comp=N,218nm,0.9s
CAST IAML 23 14 17.0
comp=E,218nm,0.8s
CAST Castle Rocks 3.36 316 P **Pn 23 13 22.3 +1.4**
baz=131,SNR=60
WRH Wood River Hil 3.43 351 Pn 23 13 23.2 +1.3
WRH Wood River Hil 3.43 351 IAML 23 14 19.0
comp=E,280nm,0.7s
WRH IAML 23 14 21.6
comp=N,241nm,0.9s
PCA Pinnacle 3.43 104 Pn 23 13 22.5 +0.5
PINM Pinnacle 3.44 104 P **Pn 23 13 22.3 +0.3**
baz=290,SNR=25
PS08 TAPS Pump Stn8 3.46 1 Pn 23 13 23.2 +0.9
BPAW Bear Paw Mtn. 3.55 330 Pn 23 13 24.8 +1.2
BPAW Bear Paw Mtn. 3.55 330 IAML 23 14 21.1
comp=E,228nm,1.3s
BPAW Bear Paw Mtn. 3.55 330 P **Pn 23 13 24.8 +1.2**
baz=146,SNR=24
CCB Clear Creek Bu 3.58 354 Pn 23 13 25.1 +1.1
CCB Clear Creek Bu 3.58 354 IAML 23 14 15.6
comp=E,234nm,0.5s
CCB IAML 23 14 15.9
comp=N,198nm,0.6s
J25K Salcha River, 3.60 11 Pn 23 13 25.0 +0.8
J25K Salcha River, 3.60 11 P **Pn 23 13 25.1 +0.8**
baz=192,SNR=11
NEA2 Nenana 3.64 345 Pn 23 13 25.9 +1.0
NEA2 Nenana 3.64 345 IAML 23 14 24.0
comp=N,223nm,1.1s
NEA2 IAML 23 14 26.4
comp=E,185nm,1.3s
NEA2 Nenana 3.64 345 P **Pn 23 13 25.8 +1.0**
baz=163,SNR=27
NEA2 S **Sn 23 14 08.2 +1.5**
baz=163
M19K Big River Lodg 3.67 286 Pn **Pn 23 13 25.5 +0.2**
M19K IAML 23 14 32.0
comp=E,134nm,0.9s
M19K IAML 23 14 34.3
comp=N,148nm,0.5s
IL31 3.69 0 Pn 23 13 25.9 +0.6
ILAR Eielson Array 3.69 0 P **Pn 23 13 26.2 +0.8**
comp=N,12nm,0.3s,baz=185,slow=12,SNR=161
ILAR S **Sn 23 14 06.5 -1.3**
comp=N,6.0nm,0.3s,baz=204,slow=15,SNR=2.9
N19K Bonanza Creek 3.70 269 Pn 23 13 27.3 +1.6
N19K Bonanza Creek 3.70 269 P **Pn 23 13 25.8 +0.1**
baz=82
J26L Joseph Creek 3.74 23 Pn **Pn 23 13 27.8 +1.5**
CHUM Lake Minchumin 3.75 320 Pn 23 13 27.7 +1.4
CHUM Lake Minchumin 3.75 320 P **Pn 23 13 27.4 +1.2**
baz=135,SNR=45
O19K Port Alsworth 3.76 259 Pn 23 13 27.3 +0.9
O19K Port Alsworth 3.76 259 P **Pn 23 13 26.3 -0.1**
baz=73
O19K S **Sn 23 14 10.9 +1.4**
baz=73
BCPM Bancas Point 3.78 105 Pn 23 13 26.9 +0.2
BCPM Bancas Point 3.78 105 IAML 23 14 29.4
comp=N,230nm,1.0s
BCPM IAML 23 14 36.3
comp=E,217nm,1.1s
COLA College 3.81 354 Pn 23 13 28.1 +1.0
COLA College 3.81 354 Pn 23 13 28.4 +1.2
COLA IAML 23 14 28.6
comp=E,785nm,0.6s
COLA IAML 23 14 28.7
comp=E,796nm,0.6s
COLA College 3.81 354 P **Pn 23 13 28.3 +1.2**
baz=173
TCOL CIGO, UAF Yank 3.81 354 Pn 23 13 28.1 +1.0
TCOL CIGO, UAF Yank 3.81 354 P **Pn 23 13 28.4 +1.2**
baz=173,SNR=26
MDM Murphy Dome 3.92 352 Pn 23 13 29.8 +1.1
MDM Murphy Dome 3.92 352 IAML 23 14 31.9
comp=N,150nm,1.0s
MDM IAML 23 14 33.4
comp=E,185nm,1.0s
L19K White Mountain 3.94 289 Pn 23 13 29.6 +0.6
L19K White Mountain 3.94 289 IAML 23 14 47.0
comp=N,130nm,0.9s
L19K IAML 23 14 48.7
comp=E,118nm,1.3s
L19K White Mountain 3.94 289 P **Pn 23 13 29.3 +0.3**
baz=102,SNR=26
PNL Peninsula 4.00 108 Pn 23 13 30.3 +0.6
PNL Peninsula 4.00 108 P **Pn 23 13 30.0 +0.4**
baz=295
Q19K Cape Douglas, 4.02 240 Pn **Pn 23 13 31.7 +1.7**
Q19K Cape Douglas, 4.02 240 P **Pn 23 13 30.6 +0.5**
baz=54
POKR Poker Plat Res 4.04 357 Pn 23 13 30.9 +0.7
POKR Poker Plat Res 4.04 357 IAML 23 14 25.4
comp=N,108nm,0.5s
POKR IAML 23 14 38.7
comp=E,121nm,0.9s
POKR Poker Plat Res 4.04 357 P **Pn 23 13 30.9 +0.7**
baz=176
K20K Telida 4.04 307 Pn **Pn 23 13 31.4 +1.1**
K20K IAML 23 14 41.8
comp=E,148nm,1.3s
SVW2 Sparrevohn 4.21 274 Pn 23 13 32.5 -0.1
I23K Minto, Yukon-K 4.21 346 Pn 23 13 33.5 +0.9
I23K IAML 23 14 46.4
comp=E,134nm,1.1s
I23K Minto, Yukon-K 4.21 346 P **Pn 23 13 33.7 +1.1**
baz=163,SNR=20
MLY Manley 4.31 338 Pn 23 13 34.9 +0.8
MLY IAML 23 14 28.4
comp=E,144nm,0.5s
MLY Manley 4.31 338 P **Pn 23 13 35.1 +1.0**
baz=154,SNR=45
KDAK Kodiak Island 4.41 224 P **Pn 23 13 35.9 +0.6**
comp=E,14nm,0.3s,baz=54,slow=9.1,SNR=87
KDAK S **Sn 23 14 22.6 -2.9**
comp=E,7.2nm,0.3s,baz=287,slow=21,SNR=14
KDAK Kodiak Island 4.41 224 Pn **Pn 23 13 35.7 +0.3**
KDAK IAML 23 14 26.3
comp=E,95nm,1.5s
KDAK IAML 23 14 49.2
comp=E,104nm,4.9s
KDAK Kodiak Island 4.41 224 P **Pn 23 13 35.6 +0.3**
baz=39
PRP Porcupine Dome 4.48 7 Pn 23 13 37.0 +0.6
PRP IAML 23 14 37.8
comp=E,118nm,0.6s
PRP IAML 23 14 51.0
comp=N,107nm,0.7s
PRP Porcupine Dome 4.48 7 P **Pn 23 13 36.9 +0.5**
baz=188
P18K Big Mountain, 4.49 251 Pn **Pn 23 13 37.7 +1.3**
P18K Big Mountain, 4.49 251 P **Pn 23 13 36.4 0.0**
baz=64
EGAK Eagle 4.53 33 Pn 23 13 38.5 +1.5
EGAK IAML 23 15 12.1
comp=N,80nm,1.1s
EGAK Eagle 4.53 33 P **Pn 23 13 38.7 +1.7**
baz=218,SNR=16
J20K Nowinta River 4.55 316 Pn 23 13 38.3 +1.1
J20K Nowinta River 4.55 316 P **Pn 23 13 38.3 +1.1**
baz=129
DAWY Dawson 4.58 46 Pn **Pn 23 13 39.0 +1.3**
DAWY Dawson 4.58 46 P **Pn 23 13 39.0 +1.3**
baz=233,SNR=11
TTA Tatalina 4.66 297 Pn **Pn 23 13 39.3 +0.4**
TTA IAML 23 15 07.0
comp=E,76nm,1.3s
TTA Tatalina 4.66 297 P **Pn 23 13 38.6 -0.3**
baz=109,SNR=6.9
I21K Tanana 4.70 333 IAML 23 14 57.5
comp=E,67nm,0.8s
I21K IAML 23 15 01.6
comp=N,84nm,0.9s
I21K Tanana 4.70 333 P **Pn 23 13 40.3 +1.1**
baz=148,SNR=26
H24K Noodor Dome 4.78 355 IAML 23 15 06.9
comp=E,86nm,1.3s
H24K IAML 23 15 12.4
comp=N,66nm,0.9s
H24K Noodor Dome 4.78 355 P **Pn 23 13 41.1 +0.7**
baz=174
M30M Minto, Yukon 5.02 68 Pn **Pn 23 13 45.0 +1.3**
M30M Minto, Yukon 5.02 68 P **Pn 23 13 44.4 +0.6**
baz=257
OHAK Old Harbor 5.09 223 P **Pn 23 13 44.4 -0.2**
baz=38
J29M Klondike Camp 5.22 46 Pn **Pn 23 13 48.5 +1.9**
H21K Melozitna Rive 5.29 332 Pn **Pn 23 13 48.0 +0.7**
H21K IAML 23 15 21.5
comp=N,52nm,1.9s
H21K IAML 23 15 22.6
comp=E,48nm,1.3s
FYU Fort Yukon 5.54 7 Pn **Pn 23 13 52.0 +1.2**
I29M Ogilvie Camp, 5.78 39 Pn **Pn 23 13 55.9 +1.7**
WHY Whitehorse 5.89 89 Pn **Pn 23 13 56.5 +0.7**
WHY Whitehorse 5.89 89 P **Pn 23 13 56.0 +0.2**
baz=280,SNR=5.5
SKAG Skagway 5.99 101 Pn 23 13 58.3 +1.2
SKAG Skagway 5.99 101 P **Pn 23 13 58.4 +1.4**
baz=291,SNR=6.9
COLD Coldfoot 6.32 348 Pn **Pn 23 14 03.6 +2.1**
BMAR Burnt Mountain 6.44 8 Pn **Pn 23 14 05.3 +2.1**
BESE Bessie Mountai 6.58 107 Pn **Pn 23 14 05.7 +0.5**
P33M Teslin, Yukon 6.99 91 P **Pn 23 14 11.6 +0.8**
baz=284
SIT Sitka 7.21 119 Pn **Pn 23 14 14.0 +0.2**
SIT Sitka 7.21 119 P **Pn 23 14 13.7 -0.1**
baz=309
DLBC Dease Lake 8.92 100 P **Pn 23 14 38.3 +1.0**
comp=E,0.4nm,0.3s,baz=265,slow=15,SNR=5.4
INK Inuvik 9.20 33 P **Pn 23 14 42.6 +1.7**
comp=E,0.2nm,0.3s,baz=221,slow=10,SNR=5.2
YKA Yellowknife Ar 15.25 71 P **Pn 23 16 02.9 -0.5**
comp=E,0.1nm,0.3s,baz=275,slow=10.0,SNR=4.2
SCHQ Schefferville 40.42 62 P **P 23 20 05.9 +0.4**
comp=E,6.5nm,1.1s,baz=340,slow=8.6,SNR=2.3
NRIK Noril'sk 44.19 336 P **P 23 20 35.7 -0.3**
comp=E,0.9nm,0.3s,baz=46,slow=8.4,SNR=3.9
TKL Tuckaleechee C 46.68 93 LR LR 23 42 51.5
comp=E,40nm,18.6s,baz=7.0,slow=39
ARCES ARCESS Array B 49.54 3 P **P 23 21 17.0 -0.8**
comp=E,2.8nm,0.8s,baz=2.1,slow=7.2,SNR=7.2
SONM Songino Array 56.50 309 P **P 23 22 09.8 +0.3**
comp=E,0.5nm,0.5s,baz=29,slow=9.9,SNR=4.3
NOA NORSAR Array B 57.03 12 P **P 23 22 12.7 -0.3**
comp=E,0.3nm,0.7s,baz=336,slow=6.8,SNR=1.5
FINES FINESS Array B 57.66 4 P **P 23 22 17.2 -0.1**
comp=E,1.5nm,0.5s,baz=2.8,slow=8.4,SNR=17
MKAR Makanchi Array 65.35 325 P **P 23 23 08.7 -0.8**
comp=E,0.4nm,0.5s,baz=31,slow=4.6,SNR=8.1

AKASG	**Malin Array Be**	68.51	3	P	P	23 23 28.6	-0.8
	comp=E,0.7nm,0.5s,baz=2.2,slow=7.0,SNR=6.6						
ESDC	**Sonseca Array**	75.13	29	P	P	23 24 10.2	+0.8
	comp=E,1.2nm,0.7s,baz=343,slow=5.9,SNR=11						
CTA	**Charters Tower**	96.82	240	LR	LR	00 03 37.4	
	comp=E,45nm,20.9s,baz=83,slow=32						
BATI	**Baumata**	98.57	265	LR	LR	00 07 03.0	
	comp=E,44nm,20.1s,baz=146,slow=33						

IDC 15 23:32:52.4±3.0, 9°.01S×111°.09E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=146.4km s-min=24.6km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.96	118	P	P	23 38 17.2	-0.6
	0.4nm,0.8s,baz=292,slow=11,SNR=2.8						
ASAR	**Alice Springs**	26.24	126	P	P	23 38 29.9	+0.5
	0.2nm,0.5s,baz=300,slow=8.7,SNR=4.2						
SONM	**Songino Array**	56.75	356	P	P	23 42 38.5	+0.3
	0.3nm,0.6s,baz=170,slow=8.8,SNR=2.2						
MKAR	**Makanchi Array**	61.20	338	P	P	23 43 08.9	-0.2
	0.6nm,0.4s,baz=150,slow=7.7,SNR=17						

IDC 15 23:43:10.7±0.7, 7°.14S×89°.08E, h0km, mb4.1/16, mb1 4.2/19, mb1mx4.0/40, mbtmp4.2/19, ML4.5/3, MS3.4/15, Ms1 3.5/15, ms1mx3.1/82, Error ellipse: s-maj=20.8km s-min=15.7km az=38.0
NEIC 15 23:43:13.4±0.9, 7°.08S±0°.07×89°.19E±0°.06, h10km±1km, mb4.4/28, Error ellipse: s-maj=13.8km s-min=7.6km az=147.0
ISC 15 23:43:12.3±0.5, 7°.11S±0°.09×89°.09E±0°.07, h10km, n75, σ1§16/60, mb4.4/28, MS3.4/12, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	9.15	124	Pn	Pn	23 45 23.7	-0.8
SISI	**Saibi**	11.50	60	P	Pn	23 45 58.0	+1.2
	840nm60nm,0.5s						
GSI	**Gunungsitoli**	11.89	46	P	Pn	23 46 01.0	-1.1
	84nm,0.7s						
GSI	**Gunungsitoli**	11.89	46	Pn	Pn	23 46 01.9	-0.2
PPI	**Padang Panjang**	13.07	60	P	Pn	23 46 18.8	+0.6
MNSI	**Mandailing Nat**	13.08	54	P	Pn	23 46 19.2	+0.8
	23nm,1.2s						
TPTI		13.09	38	P	Pn	23 46 14.9	-3.5
	6.5nm,1.3s						
RPSI	**Rantau Prapat**	13.82	46		Pn	23 46 26.9	-1.7
PSI	**Prapat**	13.90	45	Pn	Pn	23 46 26.9	-2.8
	1.1nm,0.3s,baz=226,slow=6.0,SNR=6.4						
PSI				LR	LR	23 51 08.6	
	comp=Z,148nm,19.0s,baz=237,slow=34						
BKNI	**Bangkinang**	14.02	59	P	Pn	23 46 31.0	-0.2
	3μm43nm,0.8s						
MDSI	**Maura Dua**	15.23	81	P	Pn	23 46 49.1	+1.4
	7.2nm,1.0s						
H08S2	**Diego Garcia H**	16.47	267	T	T	00 04 01.3	
	baz=90,slow=74,SNR=85						
H08S3	**Diego Garcia H**	16.48	267	T	T	00 04 07.0	
	baz=90,slow=74,SNR=77						
CGJI	**Cibinong**	16.49	89	P	P	23 47 06.1	-0.5
	17nm,0.8s						
H08S1	**Diego Garcia H**	16.49	267	T	T	00 04 08.0	
	baz=90,slow=74,SNR=30						
PALK	**Pallekele**	16.56	329	Pn	Pn	23 47 03.2	-1.6
	2.7nm,0.3s,baz=256,slow=12,SNR=11						
PALK				Sn	Sn	23 49 50.4	-18
	0.9nm,0.3s,baz=169,slow=6.6,SNR=2.2						
PALK				LR	LR	23 53 17.3	
	comp=Z,105nm,18.1s,baz=244,slow=37						
PALK	**Pallekele**	16.56	329		Pn	23 47 03.8	-1.0
PALK				IAmb	IAmb	23 47 10.5	
	comp=Z,14nm,0.7s						
IPM	**Ipoh**	16.56	46		Pn	23 47 05.9	+1.0
KULM	**Kulim**	16.87	43		Pn	23 47 09.2	+0.4
KULM				IAmb	IAmb	23 47 24.4	
	comp=Z,33nm,0.9s						
DBJI	**Dramaga**	17.54	89	P	P	23 47 22.4	+4.1
	comp=Z,966μmcomp=Z,15μmcomp=Z,46nm,0.5s						
KAAM	**Kaadhehdhoo**	17.75	295		P	23 47 21.3	+0.8
LEM	**Lembang**	18.39	90	P	Pn	23 47 27.0	-0.8
	comp=Z,2.4nm,0.3s,baz=101,slow=23,SNR=1.1						
LEM				LR	LR	23 53 36.4	
	comp=Z,115nm,18.8s,baz=213,slow=34						
CMAR	**Chiang Mai Arr**	27.20	21	P	P	23 49 04.0	+7.6
	comp=Z,0.8nm,0.3s,baz=206,slow=8.0,SNR=9.1						
CMAR				LR	LR	00 00 19.4	
	comp=Z,67nm,19.4s,baz=205,slow=38						
KAPI	**Kappang**	30.55	88	LR	LR	00 01 32.3	
	comp=Z,56nm,20.8s,baz=278,slow=36						
H01W3	**Cape Leeuwin H**	35.98	144	T	T	00 28 06.9	
	baz=317,slow=73,SNR=40						
H01W2	**Cape Leeuwin H**	35.99	144	T	T	00 28 06.9	
	baz=317,slow=73,SNR=29						
H01W1	**Cape Leeuwin H**	36.00	144	T	T	00 28 06.3	
	baz=317,slow=73,SNR=41						
FITZ	**Fitzroy Crossi**	37.22	111	LR	LR	00 03 34.6	
	comp=Z,20nm,20.5s,baz=246,slow=33						
OPO	**Ambohidratompo**	42.31	250	P	P	23 51 06.9	0.0
	comp=Z,4.6nm,0.7s,baz=86,slow=6.9,SNR=5.2						
NIL	**Nilore**	43.23	341	P	P	23 51 14.4	+0.5
NIL				IAmb	IAmb	23 51 15.4	
	comp=Z,5.7nm,0.8s						
FORT	**Forrest**	43.39	128	P	P	23 51 15.2	-0.1
KBL	**Kabul**	45.56	337	P	P	23 51 32.9	+0.1
WRA	**Warramunga Arr**	45.65	111	P	P	23 51 33.5	0.0
	comp=Z,4.1nm,0.8s,baz=282,slow=9.2,SNR=21						
WRA	**Warramunga Arr**	45.65	111	P	P	23 51 33.0	-0.5
WB2	**Warramunga Arr**	45.66	111	P	P	23 51 33.7	0.0
WB2				IAmb	IAmb	23 51 34.8	
	comp=Z,4.3nm,0.8s						
WB0	**Warramunga Arr**	45.67	111	P	P	23 51 33.3	-0.4
WB0				IAmb	IAmb	23 51 34.5	
	comp=Z,4.5nm,0.9s						
WR0	**Warramunga Arr**	45.84	111	P	P	23 51 34.7	-0.4
WR0				IAmb	IAmb	23 51 36.5	
	comp=Z,6.6nm,0.9s						
ASAR	**Alice Springs**	46.00	116	P	P	23 51 36.6	+0.3
	comp=Z,2.2nm,0.8s,baz=297,slow=7.5,SNR=23						
ASAR				LR	LR	00 10 07.9	
	comp=Z,38nm,18.5s,baz=120,slow=35						
ASAR	**Alice Springs**	46.00	116	P	P	23 51 36.3	-0.1
HRA	**Herat**	48.46	330	P	P	23 51 55.9	+0.5
HRA				IAmb	IAmb	23 51 56.3	
	comp=Z,1.6nm,0.7s						
CHGR	**Chuyangaron**	49.16	339	P	P	23 52 00.6	0.0
BTK	**Batken**	49.87	342	P	P	23 52 06.8	+0.8
BTK				IAmb	IAmb	23 52 07.8	
	comp=Z,8.5nm,1.3s						
KKAR	**Karatay Array**	52.75	343	P	P	23 52 28.3	+0.8
GEYT	**Alibeck**	53.30	329	P	P	23 52 32.8	+1.1
	comp=Z,5.1nm,0.6s,baz=181,slow=12,SNR=9.6						
GEYT	**Alibeck**	53.30	329	P	P	23 52 32.4	+0.7
GEYT				IAmb	IAmb	23 52 33.4	
	comp=Z,5.7nm,0.7s						
GYA0B	**ALIBECK ARRAY**	53.30	329	P	P	23 52 32.2	+0.5
MK31	**Makanchi Array**	54.00	354	P	P	23 52 37.1	+0.5
MKAR	**Makanchi Array**	54.00	354	P	P	23 52 36.1	-0.6
	comp=Z,0.3nm,0.6s,baz=167,slow=5.7,SNR=4.3						
MAKZ	**Makanchi**	54.05	354	P	P	23 52 37.5	+0.5
LODK	**Lodwar**	54.64	279	P	P	23 52 42.5	+0.6
LODK				IAmb	IAmb	23 52 44.3	
	comp=Z,3.6nm,0.9s						
STKA	**Stephens Creek**	54.65	124	P	P	23 52 41.5	-0.2
	comp=Z,2.4nm,0.5s,baz=274,slow=4.7,SNR=9.9						
STKA	**Stephens Creek**	54.65	124	P	P	23 52 40.8	-0.9
CTAO	**Charters Tower**	56.78	109	P	P	23 52 56.3	-0.9
CTAO				IAmb	IAmb	23 52 58.8	
	comp=Z,7.4nm,1.1s						
SONM	**Songino Array**	56.80	14	P	P	23 52 56.8	-0.1
	comp=Z,0.3nm,0.5s,baz=209,slow=12,SNR=1.7						
KSRS	**Korea Array**	57.26	36	P	P	23 52 59.2	-1.0
	comp=Z,0.6nm,0.4s,baz=229,slow=6.7,SNR=1.6						
KSRS				LR	LR	00 18 08.9	
	comp=Z,34nm,20.0s,baz=220,slow=37						
KURK	**Kurchatov**	58.30	352	P	P	23 53 07.7	+0.5
KURK				IAmb	IAmb	23 53 21.1	
	comp=Z,2.1nm,0.8s						
MBAR	**Mbarara**	58.54	274	LR	LR	00 14 44.1	
	comp=Z,25nm,18.2s,baz=141,slow=32						
ZAA0	**Zalesovo Array**	60.93	357	P	P	23 53 25.9	+0.6
ZALV	**Zalesovo Beam**	60.93	357	P	P	23 53 25.3	0.0
	comp=Z,1.0nm,0.6s,baz=191,slow=4.5,SNR=7.0						
ABKAR	**Akbulak array**	61.64	339	P	P	23 53 30.6	+0.4
ABKAR				IAmb	IAmb	23 53 45.6	
	comp=Z,3.1nm,0.9s						
ABKAR	**Akbulak array**	61.64	339	P	P	23 53 30.7	+0.5
GNI	**Garni**	62.29	323	LR	LR	00 19 18.1	
	comp=Z,14nm,19.7s,baz=64,slow=35						
GURO	**Guroymak-BITLI**	63.01	320	P	P	23 53 40.8	+1.0
GURO				IAmb	IAmb	23 53 53.1	
	comp=Z,3.3nm,0.9s						
LBTB	**Lobatse**	63.03	246	LR	LR	00 17 49.7	
	comp=Z,47nm,18.2s,baz=93,slow=33						
BOSA	**Boshof**	63.69	242	P	P	23 53 42.9	-1.7
	comp=Z,2.7nm,0.8s,baz=58,slow=9.5,SNR=3.8						
BOSA				LR	LR	00 15 20.4	
	comp=Z,50nm,20.5s,baz=126,slow=30						
KBZ	**Khabaz**	65.59	325	P	P	23 53 58.2	+1.8
	comp=Z,2.0nm,1.0s,baz=170,slow=6.1,SNR=3.0						
KLR	**Kul'dur**	67.32	29	P	P	23 54 07.8	+0.4
	comp=Z,0.2nm,0.3s,baz=255,slow=8.5,SNR=1.6						
SUR	**Sutherland**	67.90	238	LR	LR	00 18 52.3	
	comp=Z,49nm,18.4s,baz=172,slow=32						
BRTR	**Keskin Array B**	69.16	317	P	P	23 54 18.6	-0.8
	comp=Z,0.2nm,0.3s,baz=113,slow=31,SNR=2.8						
NRIK	**Noril'sk**	76.28	359	P	P	23 55 03.0	+2.1
	comp=Z,0.7nm,0.3s,baz=158,slow=5.6,SNR=1.4						
VNDA	**Vanda**	79.40	168	LR	LR	00 23 59.2	
	comp=Z,54nm,20.0s,baz=252,slow=31						
FINES	**FINESS Array B**	83.77	334	P	P	23 55 40.2	-1.2
	comp=Z,2.2nm,0.9s,baz=284,slow=9.6,SNR=2.0						
MSVF	**Nonsavu**	86.88	107	LR	LR	00 30 04.2	
	comp=Z,91nm,21.2s,baz=189,slow=32						
ARCES	**ARCESS Array B**	87.70	342	P	P	23 56 01.1	+0.2
	comp=Z,3.1nm,1.0s,baz=114,slow=2.3,SNR=1.5						
LPAZ	**La Paz**	147.62	224	PKPbc	PKPbc	00 02 58.2	-0.6
	comp=Z,2.0nm,0.8s,baz=131,slow=2.0,SNR=5.8						

ISK 15 23:58:32.5, 39°.93N×24°.21E, h5km, ML2.7/18
ATH 15 23:58:34.6, 40°.03N×24°.25E, h9km±3km, ML2.6/7, Error ellipse: s-maj=3.5km s-min=0.9km az=344.0
THE 15 23:58:34.1, 40°.03N×24°.24E, h16km±1km, ML2.6/12, Error ellipse: s-maj=1.5km s-min=0.7km az=248.0
DDA 15 23:58:35.2±0.0, 39°.88N×24°.43E, h7km±2km, ML2.6
ISC 15 23:58:33.7±1.1, 40°.03N±0°.03×24°.22E±0°.02, h11km±10km, n54, σ0§89/78, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	0.36	329	P	Pb	23 58 41.8	-0.3
OUR				S	Sb	23 58 47.0	-0.8
	1μm,0.3s						
OUR	**Ouranopolis**	0.36	329	P	Pb	23 58 41.9	-0.3
OUR				S	Sb	23 58 47.1	-0.8
OUR				AML	AML	23 58 48.0	
	comp=E,1336μm,0.4s						
OUR				AML	AML	23 58 49.9	
	comp=N,2734μm,0.2s						
OUR	**Ouranopolis**	0.36	329	PG	Pb	23 58 41.9	-0.3
OUR				SG	Sb	23 58 49.3	+1.4
PAIG	**Paliouri**	0.43	257	P	Pb	23 58 43.0	-0.4
PAIG				S	Sb	23 58 49.0	-0.8
	comp=N,455nm,0.2s						
PAIG	**Paliouri**	0.43	257	P	Pb	23 58 42.9	-0.4
PAIG				S	Sb	23 58 49.8	0.0
PAIG				AML	AML	23 58 51.4	
	comp=N,976μm,0.2s						
PAIG				AML	AML	23 58 52.0	
	comp=E,833μm,0.2s						
PLG	**Polygyros**	0.69	301	P	Pb	23 58 47.7	-0.1
PLG				S	Sb	23 58 57.4	0.0
	comp=E,275nm,0.4s						
PLG	**Polygyros**	0.69	301	P	Pb	23 58 47.7	-0.1
PLG				S	Sb	23 58 57.5	0.0
PLG				AML	AML	23 58 58.6	
	comp=N,634μm,0.4s						
PLG				AML	AML	23 58 59.5	
	comp=E,485μm,0.2s						
THAS	**Thassos island**	0.69	33	P	Pb	23 58 48.0	+0.1
THAS				S	Sb	23 58 57.3	-0.1
	comp=E,1μm,0.3s						
THAS	**Thassos island**	0.69	33	P	Pb	23 58 47.9	+0.1
THAS				S	Sb	23 58 56.9	-0.5
THAS				AML	AML	23 58 57.9	
	comp=N,1335μm,0.3s						
THAS				AML	AML	23 58 58.0	
	comp=E,2928μm,0.4s						
LIA	**Limnos Island**	0.75	99	P	Pg	23 58 47.8	-0.4
LIA				S	Sg	23 58 58.2	+0.3
	comp=E,1μm,0.4s						
LIA	**Limnos Island**	0.75	99	P	Pg	23 58 48.0	-0.2
LIA				S	Sg	23 58 58.0	0.0
LIA				AML	AML	23 58 59.3	
	comp=E,2154μm,0.5s						
LIA				AML	AML	23 58 59.6	
	comp=N,2136μm,0.4s						
KOKK	**Kokkinochori,**	0.81	348	P	Pb	23 58 49.5	-0.4
KOKK				S	Sb	23 59 00.2	-0.6
	comp=N,720nm,0.2s						
KOKK	**Kokkinochori,**	0.81	348	P	Pb	23 58 50.0	+0.1
KOKK				S	Sb	23 59 00.3	-0.6
KVLA	**Kavala**	0.92	8	P	Pb	23 58 52.0	+0.3
KAVA	**Kavala**	1.00	13	P	Pg	23 58 52.1	-0.8
KAVA				S	Sb	23 59 05.7	-0.5
	comp=N,280nm,0.2s						
KAVA	**Kavala**	1.00	13	P	Pb	23 58 53.1	+0.1
KAVA				S	Sb	23 59 06.6	+0.4
KAVA				AML	AML	23 59 07.3	
	comp=N,575μm,0.3s						
KAVA				AML	AML	23 59 08.2	
	comp=E,692μm,0.2s						
HORT	**Hortiatis**	1.03	304	PG	Pb	23 58 53.9	+0.2
XOR	**Xorichti**	1.03	231	P	Pn	23 58 54.7	+0.5
SOH	**Sokhos**	1.04	320	P	Pn	23 58 54.4	+0.1
SOH				S	Sn	23 59 08.6	-0.3
	comp=E,385nm,0.4s						
SOH	**Sokhos**	1.04	320	P	Pn	23 58 54.4	+0.1
SOH				S	Sn	23 59 08.4	-0.4
SOH				AML	AML	23 59 09.7	
	comp=E,778μm,0.3s						
SOH				AML	AML	23 59 12.2	
	comp=N,1172μm,0.5s						
NEO	**Neokhori**	1.05	227	P	Pg	23 58 54.4	+0.4
NEO				S	Sb	23 59 08.4	+0.6
	comp=N,258nm,0.3s						
SMTH	**Samothraki Isl**	1.09	66	P	Pg	23 58 52.9	-1.9
SMTH				S	Sg	23 59 09.1	+0.1
	comp=N,202nm,0.3s						
THE	**Thessaloniki**	1.14	303	P	Pn	23 58 56.5	+0.9
SRS	**Serrai**	1.19	336	P	Pg	23 58 56.1	-0.5
SRS	**Serrai**	1.19	336	P	Pg	23 58 56.2	-0.5
GADA	**Gvkgeada**	1.29	82	P	Pn	23 58 56.0	-1.8
GADA				S	Sb	23 59 14.6	-0.1
	comp=N,412nm,0.4s						
GADA	**Gvkgeada**	1.29	82	PN	Pn	23 58 58.1	+0.3
GOKA	**anakkale-Gk**	1.30	82	P	Pn	23 58 56.6	-1.3
GOKA				S	Sb	23 59 15.1	+0.1
NVR	**Nevrokopi**	1.35	348	P	Pn	23 58 58.3	-0.3
BOZC	**Bozcaada**	1.42	97	PN	Pn	23 59 00.1	+0.6
BOZC	**Bozcaada**	1.42	97	P	Pn	23 58 59.9	+0.4
BOZC				*i* AML	AML	23 59 19.0	
	comp=N,74nm,0.4s						
SIGR	**SIGRI**	1.50	122	PN	Pn	23 59 01.1	+0.5
RDO	**Rodhopi**	1.50	41	PN	Pg	23 59 02.9	+0.4
KNT	**Kendrikon**	1.52	319	P	Pg	23 59 02.8	0.0
KNT	**Kendrikon**	1.52	319	PN	Pg	23 59 02.9	0.0
KOCA	**Canakkale, Ayv**	1.56	109	P	Pn	23 59 01.6	+0.1
KOCA				*i* AML	AML	23 59 30.0	
	comp=N,115nm,1.4s						
CAVK	**Edirne/Enez-Ca**	1.63	65	P	Pn	23 59 03.3	+0.9
CAVK				S	Sn	23 59 24.5	+1.2
CAVK				*i* AML	AML	23 59 28.0	
	comp=N,82nm,0.5s						
CAVK				*i* AML	AML	23 59 29.0	
	comp=N,113nm,0.7s						
EZN	**Ezine**	1.63	96	P	Pn	23 59 00.8	-1.5
EZN				S	Sn	23 59 21.9	-1.4
	comp=N,142nm,0.3s						
EZN	**Ezine**	1.63	96	PN	Pn	23 59 03.7	+1.4
ENEZ	**Enez**	1.64	64	PN	Pb	23 59 04.3	+0.4
ALN	**Alexandroupoli**	1.64	57	PN	Pb	23 59 04.7	+0.7
GRG	**Griva**	1.67	304	PN	Pg	23 59 05.4	-0.4
GELI	**Tayfur-Gelibol**	1.76	77	PN	Pb	23 59 05.8	-0.3
AGG	**Agios Georgios**	1.77	236	PN	Pn	23 59 04.5	+0.1
VAY	**Valandovo**	1.81	316	*i* Pn	Pg	23 59 09.3	+0.9
BAYC	**CANAKKALE_Bayr**	1.81	98	P	Pn	23 59 03.8	-1.0
BAYC				S	Sn	23 59 25.5	-2.4
ERIK	**Erikli-Kesan**	1.86	69	PN	Pb	23 59 07.4	-0.4
LPK	**Lapseki**	1.97	79	PN	Pn	23 59 08.4	+1.3
PLD	**Plovdiv**	2.11	10	PN	Pb	23 59 11.9	-0.1
BUHA	**Balikesir, Bur**	2.26	102	P	Pb	23 59 15.7	+1.2
KRBG	**Karabiga-Canak**	2.38	80	PN	Pn	23 59 14.5	+1.8
MAR3	**Marsite Statio**	2.45	72	PN	Pn	23 59 15.8	+2.1
GZKV	**Gazikoy-Tekird**	2.48	72	PN	Pn	23 59 16.2	+2.2
EDRB	**Edirne**	2.64	46	PN	Pn	23 59 18.9	+2.7

IDC 16 00:04:55.3±10.0, 59°.17S×25°.96W, h65km±102km, mb3.8/4, mb1 4.1/5, mb1mx3.6/29, mbtmp4.3/5, ML4.8/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/38, Error ellipse: s-maj=38.1km s-min=27.5km az=0.0
NEIC 16 00:05:04.1±0.9, 59°.85S±0°.1×26°.2W±0°.1, h157km±11km, mb4.2/23, Error ellipse: s-maj=22.1km s-min=3.1km az=207.0
ISC 16 00:05:03.3±0.7, 59°.67S±0°.09×26°.03W±0°.10, h150km, n40, σ1§18/35, mb4.2/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	7.86	309	Pn	Pn	00 06 55.1	+0.5
ORCD	**Orcadas**	9.37	255	Pn	Pn	00 07 14.2	-0.5
VNA1	**Neumayer--Stat**	13.23	154	P	Pn	00 08 03.6	-1.4
VNA1				S	Sn	00 10 15.7	-15
VNA3	**Neumayer Olymp**	13.38	157	P	Pn	00 08 05.5	-1.5
VNA3				S	Sn	00 10 18.9	-16
VNA2	**Neumayer--Watz**	13.63	154	P	Pn	00 08 08.7	-1.4
	baz=322,slow=15						
VNA2				S	Sn	00 10 24.3	-16
	baz=321,slow=21						
SNAA	**Sanae**	15.21	152	P	Pn	00 08 29.9	0.0
SNAA				S	Sn	00 11 03.7	-15
SNAA	**Sanae**	15.21	152	P	Pn	00 08 30.1	+0.2
	3.8nm,0.3s,baz=333,slow=14,SNR=30						
SNAA				S	Sn	00 11 06.0	-13
	0.6nm,0.3s,baz=44,slow=21,SNR=2.6						
SNAA	**Sanae**	15.21	152	P	P	00 08 30.3	-1.1
EFI	**East Falkland**	19.59	280	P	P	00 09 19.2	-0.3
MG02	**Cerro Sombrero**	24.61	267	P	P	00 10 08.0	-1.2
QSPA	**South Pole Qui**	30.57	180	P	P	00 11 06.6	+4.1
	0.6nm,0.4s,baz=229,slow=1.8,SNR=5.3						
PLCA	**Paso Flores**	33.38	284	P	Pn	00 11 27.0	-0.1
	1.4nm,0.5s,baz=161,slow=6.8,SNR=7.9						
PLCA	**Paso Flores**	33.38	284	P	P	00 11 27.1	-0.1
PLTB	**Pedras Altas**	33.43	314	P	P	00 11 28.0	+0.4
LC01	**Cunco**	35.44	285	P	P	00 11 44.4	-0.4
LC01				IAmb	IAmb	00 11 48.8	
	comp=Z,3.3nm,0.9s						
MAW	**Mawson**	36.91	140	LR	LR	00 25 54.0	
	comp=Z,108nm,18.0s,baz=164,slow=34						
GO05	**Huala**	38.55	289	P	P	00 12 10.4	-0.7
GO05				IAmb	IAmb	00 12 16.5	
	comp=Z,3.6nm,0.8s						
MT09	**Talagante**	39.11	291	P	P	00 12 15.6	-0.3
MT09				IAmb	IAmb	00 12 34.9	
	comp=Z,10nm,1.1s						
MT01	**Popeta**	39.16	291	P	P	00 12 15.7	-0.4
MT01				IAmb	IAmb	00 12 17.3	
	comp=Z,9.7nm,1.1s						
PEL	**Peldehue**	39.49	292	P	P	00 12 17.6	-1.4
MT02	**Curacav**	39.61	291	P	P	00 12 19.8	-0.1
MT02				IAmb	IAmb	00 12 30.8	
	comp=Z,11nm,1.1s						
CO03	**El Pedregal**	41.41	294	P	P	00 12 35.0	+0.2
CO03				IAmb	IAmb	00 12 48.3	
	comp=Z,5.2nm,1.1s						
VNDA	**Vanda**	42.98	183	P	P	00 12 46.1	-0.7
BOSA	**Boshof**	46.40	71	P	P	00 13 15.4	+0.8
	comp=Z,10nm,1.2s,baz=211,slow=9.5,SNR=5.3						
BOSA	**Boshof**	46.40	71	P	P	00 13 15.5	+0.8
BOSA				IAmb	IAmb	00 13 16.2	
	comp=Z,6.1nm,1.0s						
LVC	**Limon Verde**	47.70	302	LR	LR	00 32 57.1	
	comp=Z,17nm,20.2s,baz=234,slow=35						
LVC	**Limon Verde**	47.70	302	P	P	00 13 26.1	+1.1
LVC				IAmb	IAmb	00 13 32.9	
	comp=Z,4.6nm,0.9s						
PB07	**IPOC Station P**	48.90	301	P	P	00 13 33.8	-0.2
PB07				IAmb	IAmb	00 13 34.9	
	comp=Z,11nm,1.1s						
PB01	**IPOC Station P**	49.33	302	P	P	00 13 37.0	-0.1
PB01				IAmb	IAmb	00 13 43.2	
	comp=Z,2.5nm,0.7s						
LBTB	**Lobatse**	49.59	69	P	P	00 13 39.6	+0.5
PB08	**IPOC Station P**	49.99	303	P	P	00 13 41.3	-1.1
PB08				IAmb	IAmb	00 13 42.1	
	comp=Z,5.0nm,0.8s						
TA01	**Diego Aracena**	50.05	302	P	P	00 13 41.9	-0.6
PB11	**IPOC Station P**	50.54	303	P	P	00 13 45.5	-0.8
PB11				IAmb	IAmb	00 13 56.5	
	comp=Z,4.6nm,0.9s						
PB16	**IPOC Station P**	51.74	304	P	P	00 13 55.7	-0.1
PB16				IAmb	IAmb	00 14 01.8	
	comp=Z,2.8nm,1.0s						
H10N1	**ASCENSION HYDR**	52.45	14	T	T	01 09 57.6	
	baz=186						
H10N3	**ASCENSION HYDR**	52.45	14	T	T	01 09 58.9	
	baz=186,slow=74						
H10N2	**ASCENSION HYDR**	52.46	14	T	T	01 09 59.4	
	baz=186,slow=74						
LPAZ	**La Paz**	53.00	306	P	P	00 14 05.1	-0.1
TORD	**Torodi Ar. Bea**	75.94	28	P	P	00 16 31.1	-2.2
	comp=Z,0.6nm,0.5s,baz=201,sl

	comp=Z,37nm,0.7s						
X34A	Smith Ranch, M	2.33 181		Pb		00 10 32.1	-1.6
WMOK	Wichita Mounta	2.33 200	Pn	Pn		00 10 30.4	+0.2
KSU1	Kansas State U	2.36 23		Pn		00 10 30.1	-0.5
CBKS	Cedar Bluff	2.42 321		Pn		00 10 32.0	+0.5
U38A	Gravette	2.79 99	Pn	Pn		00 10 36.8	+0.3
LOOK	Love County	2.98 170		Pn		00 10 39.0	-0.1
LOOK			IAmb_Lg			00 11 31.4	
	comp=Z,21nm,0.8s						
X37A	Clayton	3.06 139		Pn		00 10 40.8	+0.6
X37A			IAmb_Lg			00 11 34.4	
	comp=Z,36nm,0.9s						
HHAR	Hobbs	3.17 101		Pn		00 10 41.7	-0.1
HHAR			IAmb_Lg			00 11 36.3	
	comp=Z,43nm,1.3s						
Z35A	Perchaven, San	3.62 173	Pn	Pn		00 10 47.8	-0.2
W39A	Magazine	3.69 117		Pn		00 10 49.1	+0.3
W39A			IAmb_Lg			00 11 53.3	
	comp=Z,33nm,0.7s						
AMTX	Amarillo	3.75 238	Pn	Pn		00 10 49.8	0.0
AMTX			IAmb_Lg			00 11 58.3	
	comp=Z,21nm,0.8s						
N33A	J Bar K, Exete	3.81 4	Pn	Pn		00 10 49.7	-0.8
N33A			IAmb_Lg			00 11 58.7	
	comp=Z,31nm,0.9s						
U40A	Yellville	4.02 97	Pn	Pn		00 10 52.9	-0.6
U40A			IAmb_Lg			00 12 00.8	
	comp=Z,27nm,0.8s						
MIAR	Mount Ida	4.18 123	Pn	Pn		00 10 56.4	+0.8
Z38A	Mt. Pleasant	4.33 147	Pn	Pn		00 10 58.0	+0.3
Z38A			IAmb_Lg			00 12 15.9	
	comp=Z,29nm,0.7s						
KSCO	Kaye Shedlock'	4.34 300	Pn	Pn		00 10 57.3	-0.7
MGMO	Mountain Grove	4.43 85	Pn	Pn		00 10 59.9	+0.8
MGMO			IAmb_Lg			00 12 19.3	
	comp=Z,14nm,1.0s						
BGNE	Belgrade	4.48 357	Pn	Pn		00 10 59.6	-0.2
BGNE			IAmb_Lg			00 12 24.9	
	comp=Z,28nm,0.8s						
FCAR	Ozark Folk Cen	4.70 101	IAmb_Lg			00 12 18.6	
	comp=Z,22nm,0.9s						
X40A	Basin Creek Fa	4.72 120	IAmb_Lg			00 12 19.2	
	comp=Z,20nm,1.0s						
W41B	Gary Mavity, V	4.83 110	IAmb_Lg			00 12 24.9	
	comp=Z,22nm,1.0s						
WHTX	Lake Whitney,	4.94 177	IAmb_Lg			00 12 39.9	
	comp=Z,17nm,1.1s						
WLAR	White Oak Lake	5.02 129	IAmb_Lg			00 12 44.0	
	comp=Z,15nm,0.9s						
OGNE	Ogallala	5.19 322	IAmb_Lg			00 12 45.1	
	comp=Z,23nm,0.8s						
N38A	Joes South For	5.25 41	IAmb_Lg			00 12 44.6	
	comp=Z,21nm,0.8s						
PBMO	Poplar Bluff	5.91 89	IAmb_Lg			00 13 04.3	
	comp=Z,16nm,0.8s						
JCT	Junction City	6.65 195	IAmb_Lg			00 13 37.1	
	comp=Z,13nm,1.0s						
N23A	Red Feather La	7.48 304	IAmb_Lg			00 13 53.4	
	comp=Z,12nm,0.8s						
SUSD	Miller	7.55 354	IAmb_Lg			00 14 01.6	
	comp=Z,15nm,1.0s						
833A	Chaparral WMA,	8.69 189	IAmb_Lg			00 14 41.0	
	comp=Z,9.9nm,1.3s						

WEL 16 00:12:40.0±0.4, 39°S±4°×17°7E±°, h30km±5km, M3.2/17, ML3.6/17, MLv3.2/17, Error ellipse: s-maj=0.0km s-min=0.0km az=148.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	Kokohu	0.29	47	P	Pb	00 12 47.6	+0.2
ARHZ	Aropaoanui	0.32	262	P	Pn	00 12 48.7	0.0
ARHZ				S	Sn	00 12 55.9	+1.7
RAHZ	Arahi	0.39	321	P	Pn	00 12 49.4	-0.3
MHGZ	Mahia Peninsul	0.40	80	P	Pn	00 12 49.5	-0.3
MHGZ				S	Sn	00 12 58.4	+2.0
NMHZ	Naumai	0.48	285	P	Pn	00 12 51.1	+0.2
NMHZ				S	Sn	00 13 00.2	+1.8
PRGZ	Paritu Road	0.48	52	P	Pn	00 12 50.7	-0.2
PRGZ				S	Sn	00 13 00.5	+2.1
CKHZ	Cape Kidnapper	0.50	210	P	Pn	00 12 51.4	+0.2
CKHZ				S	Sn	00 13 00.8	+2.0
MTHZ	Maungataniwha	0.57	310	P	Pn	00 12 52.0	-0.2
MTHZ				S	Sn	00 13 01.7	+1.1
MCHZ	McNeill Hill	0.59	248	P	Pn	00 12 52.9	+0.5
RIGZ	Rimuhau	0.59	29	P	Pn	00 12 52.4	-0.1
RIGZ				S	Sn	00 13 02.7	+1.7
RTZ	Ruatahuna	0.69	332	P	Pn	00 12 53.8	0.0
RTZ				S	Sn	00 13 04.5	+0.9
KAHZ	Kahuranaki	0.70	215	P	Pn	00 12 54.2	+0.2
BKZ	Black Stump Fm	0.71	274	P	Pn	00 12 54.1	0.0
RAGZ	Rawiri	0.73	1	P	Pn	00 12 54.6	+0.3
KWHZ	Kaweka Forest	0.78	255	P	Pb	00 12 55.5	+0.3
MRHZ	Matea Rd	0.86	297	P	Pb	00 12 56.7	+0.2
MUGZ	Murupara	0.89	326	P	Pb	00 12 57.0	0.0
MWZ	Matawai	0.89	7	P	Pn	00 12 56.2	-0.4
KRHZ	Kereru	0.90	242	P	Pn	00 12 56.7	0.0
PXZ	Pawanui	0.91	207	P	Pn	00 12 56.2	-0.5
CNGZ	Carnagh Statio	0.97	41	P	Pn	00 12 57.7	+0.1
URZ	Urewera	0.99	347	P	Pn	00 12 57.9	0.0
ALRZ	Allen Road	1.05	308	P	Pb	00 12 59.5	-0.3
PRRZ	Plateau Road	1.07	312	P	Pb	00 13 00.3	+0.4
BHHZ	Black Hill Sta	1.07	255	P	Pn	00 12 59.3	+0.3
WPHZ	Waipukurau	1.12	221	P	Pn	00 12 59.5	-0.2
RRRZ	Republican Roa	1.12	322	P	Pb	00 13 01.0	+0.1
TWGZ	Tauwhareparae	1.14	24	P	Pn	00 13 01.5	+0.4
PNHZ	Pukenui	1.16	233	P	Pn	00 12 59.9	-0.4
PRHZ	Porangahau	1.20	209	P	Pn	00 13 00.1	-0.7
HRRZ	Handcock Road	1.20	313	P	Pb	00 13 03.4	+1.1
TARZ	Mount Tarawera	1.21	324	P	Pn	00 13 01.6	+0.6
RITZ	Rihia Road	1.22	281	P	Pb	00 13 03.9	+1.3
EDRZ	Edgecumbe	1.23	335	P	Pn	00 13 01.4	+0.2
WHTZ	Whakaora	1.25	296	P	Pb	00 13 03.7	+0.6
HLRZ	Highlands Stat	1.27	319	P	Pb	00 13 04.3	+0.9
RUGZ	Raukumara Rang	1.27	10	P	Pn	00 13 01.9	-0.1
HSRZ	Hossack Road	1.28	315	P	Pb	00 13 04.5	+0.9
MOVZ	Moawhango	1.29	261	P	Pb	00 13 03.2	-0.5
MKRZ	Makatiti	1.30	326	P	Pb	00 13 04.7	+0.7
ETVZ	East Tongariro	1.31	273	P	Pb	00 13 03.8	-0.4
RATZ	Rangitukua	1.32	285	P	Pb	00 13 05.2	+1.1
TMVZ	Te Maari	1.32	274	P	Pb	00 13 03.5	-0.8
PUZ	Puketiti	1.33	31	P	Pn	00 13 02.1	-0.5
GRRZ	Galatos Road	1.33	310	P	Pb	00 13 06.5	+2.1
NTVZ	North Tongarir	1.34	275	P	Pb	00 13 04.2	-0.5
KATZ	Kakaramea	1.35	280	P	Pb	00 13 04.6	-0.2
OTVZ	Oturere	1.35	272	P	Pb	00 13 04.1	-0.7
TUVZ	Tukino	1.36	268	P	Pb	00 13 04.3	-0.5
MARZ	Manawahe	1.36	335	P	Pb	00 13 06.1	+1.2
SNVZ	South Ngauruho	1.37	271	P	Pb	00 13 04.5	-0.6
OMRZ	Omania	1.37	324	P	Pb	00 13 05.6	+0.5
NNVZ	North Ngauruho	1.39	273	P	Pb	00 13 05.6	+0.1
WATZ	Wairara	1.40	291	P	Pb	00 13 08.3	+2.8
NGZ	Ngauruhoe	1.40	271	P	Pb	00 13 05.5	-0.1
WNVZ	Wahianoa	1.40	265	P	Pb	00 13 04.8	-0.9
WHRZ	Whale Island	1.41	346	P	Pb	00 13 05.7	+0.1
WHVZ	Whangaehu Hut	1.41	267	P	Pb	00 13 06.8	+1.0
WTVZ	West Tongariro	1.41	274	P	Pb	00 13 05.9	+0.1
ANWZ	Angora Road	1.43	210	P	Pn	00 13 03.3	-0.6
FWVZ	Far West T-bar	1.43	268	P	Pb	00 13 05.8	-0.4
PKGZ	Pakihiroa	1.43	22	P	Pn	00 13 04.6	+0.5
DVHZ	Dannevirke	1.44	221	P	Pn	00 13 03.8	-0.8
TRVZ	Turoa	1.44	266	P	Pb	00 13 06.7	+0.3
HAZ	Te Kaha	1.50	12	P	Pn	00 13 05.4	+0.6
OPRZ	Ohinepanea	1.53	334	P	Pn	00 13 04.7	-0.6
TWVZ	Taurewa	1.53	275	P	Pb	00 13 09.1	+1.3
PKVZ	Pokaka	1.59	267	P	Pb	00 13 08.3	-0.6
WMGZ	Waiomatatini S	1.61	30	P	Pn	00 13 06.0	-0.4
BFZ	Birch Farm	1.71	211	P	Pn	00 13 06.5	-1.3
POWZ	Post Office Ro	1.71	227	P	Pn	00 13 07.7	-0.2
PRWZ	Pori Road	1.73	219	P	Pn	00 13 07.4	-0.7
MRZ	Mangatainoka R	2.00	224	P	Pn	00 13 10.6	-1.2
VRZ	Vera Road	2.06	272	P	Pb	00 13 18.2	+1.6
HIZ	Hauiti	2.11	289	P	Pb	00 13 20.6	+3.0
TMWZ	Te Maipa	2.21	211	P	Pn	00 13 12.9	-1.8
HOWZ	Holdsworth Sta	2.21	220	P	Pn	00 13 13.0	-1.7
OGWZ	Otaki Gorge	2.34	226	P	Pn	00 13 15.2	-1.2
MTW	Mount Morrison	2.42	216	P	Pn	00 13 15.9	-1.7
NEZ	North Egmont	2.56	268	P	Pb	00 13 22.9	-2.5
CAW	Cannon Point	2.60	223	P	Pn	00 13 18.1	-1.9
PKE	Pukeiti	2.65	270	P	Pn	00 13 23.0	+2.2
PLWZ	Palliser	2.86	214	P	Pn	00 13 21.1	-2.6
DUWZ	D'Urville Isla	3.10	238	P	Pn	00 13 25.5	-1.4
QRZ	Quartz Range	4.07	245	P	Pn	00 13 38.1	-2.1
THZ	Tophouse	4.26	232	P	Pn	00 13 40.8	-2.1
OKCZ	Okains Bay	5.55	215	P	Pn	00 13 56.9	-3.7
CTZ	Chatham Island	6.37	137	P	Pn	00 14 10.6	-1.2

*IDC **16** 00:25:28.4±19.0, 38°.75N×142°.09E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.4/48, mbtmp3.9/3, Error ellipse: s-maj=439.3km s-min=105.6km az=163.0*
*NEIC **16** 00:25:42.2±0.8, 39°.24N±0°.05×141°.6E±0°.1, h72km±6km, mb4.1/3, Error ellipse: s-maj=13.2km s-min=6.8km az=96.0*
*JMA **16** 00:25:42.7, 39°.22N×141°.55E, h74km±1km, M3.5*
JMA Felt II J1.

ISC 16 00:25:42.1±0.8, 39°.22N±0°.04×141°.63E±0°.06, h76km±5km, n35, σ0§67/40, mb4.0/6, 5C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.14	168	⇑P	Pn	00 25 53.7	+0.5
OFUJ				S	Sn	00 26 01.6	+0.2
JOM	Ohasama	0.36	314	⇓P	Pn	00 25 54.4	0.0
JOM				S	Sn	00 26 03.0	-0.5
JMK	Ichinoseki	0.42	230	⇑P	Pn	00 25 54.5	-0.2
JMK				S	Sn	00 26 03.4	-0.7
JKMT	Kesennumamotoy	0.43	197	⇑P	Pn	00 25 55.3	+0.5
JKMT				S	Sn	00 26 04.3	+0.1
JRG	Rokugo	0.79	283	⇓P	Pn	00 25 58.3	-0.2
JRG				S	Sn	00 26 10.4	-0.2
JIO	Ouri	0.80	196	⇑P	Pn	00 25 58.6	+0.1
JIO				S	Sn	00 26 10.1	-0.5
JYK	Kaneyama	1.03	254	⇓P	Pn	00 26 01.4	+0.1
JYK				S	Sn	00 26 15.4	-0.3
JOU	Okura	1.14	222	P	Pn	00 26 03.0	+0.4
JOU				S	Sn	00 26 18.0	0.0
JANG	Nango	1.16	356	P	Pn	00 26 03.3	+0.5
JAH	Hinai	1.24	322	⇓P	Pn	00 26 04.4	+0.6
JMM	Marumori	1.50	206	⇑P	Pn	00 26 07.5	+0.2
JMM				S	Sn	00 26 25.6	-0.7
JMM	Marumori	1.50	206	Pn	Pn	00 26 07.3	0.0
JMM				Sn	Sn	00 26 25.8	-0.5
JYS	Shirataka	1.58	231	P	Pn	00 26 09.0	+0.7
JYS				S	Sn	00 26 28.8	+0.7
JYA	Atsumi	1.62	248	P	Pn	00 26 09.0	+0.2
JTM	Tenmabayashi	1.62	345	Pn	Pn	00 26 10.1	+1.2
JTM				Sn	Sn	00 26 26.4	-2.7
JSD	Sado	2.89	247	Pn	Pn	00 26 26.5	+0.7
ERM	Erimo	3.02	22	Pn	Pn	00 26 28.1	+0.5
JYT	Yasato	3.20	201	Pn	Pn	00 26 29.9	-0.1
H11N2	WAKE ISLAND Hy	29.18	124	T	T	01 02 08.4	
	baz=317,slow=76,SNR=62						
H11N1	WAKE ISLAND Hy	29.19	124	T	T	01 02 09.8	
	baz=317,slow=76,SNR=100						
H11N3	WAKE ISLAND Hy	29.20	124	T	T	01 02 10.6	
	baz=317,slow=76,SNR=54						
H11S1	WAKE ISLAND Hy	29.96	126	T	T	01 03 07.6	
	baz=318,slow=76,SNR=29						
H11S3	WAKE ISLAND Hy	29.96	126	T	T	01 03 07.9	
	baz=318,slow=76,SNR=38						
H11S2	WAKE ISLAND Hy	29.98	126	T	T	01 03 09.1	
	baz=318,slow=76,SNR=31						
ZALV	Zalesovo Beam	40.60	311	P	P	00 33 14.2	+0.2
	1.2nm,0.5s,baz=91,slow=8.9,SNR=8.9						
ZALV	Zalesovo Beam	40.60	311	P	P	00 33 14.0	0.0
MK31	Makanchi Array	43.14	300	P	P	00 33 34.5	-0.3
MK31				IAmb	IAmb	00 33 36.1	
	comp=Z,1.4nm,1.1s						
MKAR	Makanchi Array	43.14	300	P	P	00 33 34.8	0.0
	comp=Z,0.6nm,0.7s,baz=87,slow=9.3,SNR=8.9						
RABL	Rabaul	44.28	165		S	00 40 11.2	-1.3
BRVK	Borovoye	49.30	311	P	P	00 34 23.7	+0.6
BRVK				IAmb	IAmb	00 34 48.9	
	comp=Z,2.7nm,1.4s						
LOGN	Logan Glacier	50.79	38	P	P	00 34 34.6	+0.2
LOGN				IAmb	IAmb	00 34 53.4	
	comp=Z,12nm,1.2s						
ABKAR	Akbulak array	56.68	309	P	P	00 35 17.5	+0.2
FINES	FINESS Array B	66.97	332	P	P	00 36 26.1	0.0
	comp=Z,1.7nm,0.9s,baz=40,slow=9.5,SNR=4.8						
FINES	FINESS Array B	66.97	332	P	P	00 36 26.6	+0.5
CLL	Collm	79.29	330	*e*pP	pP	00 38 01.0	+1.4

*TUL **16** 00:36:51.2±1.3, 36°.45N±0°.01×98°.37W±0°.02, h6km±7km, ML3.0, mb_Lg2.8/39(NEIC), Error ellipse: s-maj=2.1km s-min=1.8km az=202.0*

NEIC 16 00:36:51.4±1.1, 36°.44N±0°.01×98°.34W±0°.02, h6km±7km, Error ellipse: s-maj=2.1km s-min=2.0km az=196.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.30	78	Pg	Pg	00 36 57.6	+0.4
CROK				Sg	Sg	00 37 02.3	+1.1
OK032	Salt Plains WL	0.38	16	Pg	Pg	00 36 58.9	+0.1
OK032				Sg	Sg	00 37 04.3	+0.6
OK035	E0210 Rd and N	0.40	312		Pg	00 36 58.6	-0.5
OK035				Sg	Sg	00 37 04.4	+0.1
U32A	Winter Ranch,	0.54	263	Pg	Pg	00 37 00.8	-0.9
U32A				Sg	Sg	00 37 09.1	+0.4
GC02	Grant County #	0.56	43	Pg	Pg	00 37 02.3	+0.1
GC02				Sg	Sg	00 37 10.4	+0.8
KAN14	Manchester OK	0.60	31	Pg	Pg	00 37 02.9	0.0
KAN14				Sg	Sg	00 37 11.3	+0.6
KAN10	Anthony SW Sta	0.71	16	Pg	Pg	00 37 04.9	-0.1
KAN17	Caldwell West	0.76	38		Pg	00 37 06.1	+0.1
KAN16	Harper SW Stat	0.81	16	Pg	Pg	00 37 06.8	-0.2
KAN08	Anthony NE Sta	0.84	21		Pg	00 37 07.4	-0.1
KAN01	Argonia South	0.85	33		Pg	00 37 07.6	-0.2
KAN06	Argonia West S	0.89	26		Pg	00 37 08.4	-0.2
KAN12	Harper NE Stat	0.90	18	Pg	Pg	00 37 08.3	-0.4
KAN13	South Haven SW	0.90	50		Pg	00 37 08.6	-0.1
BLOK	Blackwell	0.96	70	Pg	Pg	00 37 09.7	-0.2
OK029	Liberty Lake	0.97	132	Pg	Pg	00 37 09.9	0.0
BCOK	Bluff Creek, N	0.98	143		Pg	00 37 10.0	-0.3
OK009	Oakdale Elemen	1.14	139	Pg	Pg	00 37 12.4	-0.8
OK025	Westminster Rd	1.18	136		Pg	00 37 13.1	-1.0
OKCFA	Oklahoma City	1.25	144	Pn	Pg	00 37 14.5	-1.0
OK031	S. Brethren Rd	1.31	111		Pn	00 37 15.5	-0.7
QUOK	Quay	1.35	101		Pn	00 37 16.6	-1.0
OK030	Cody Creek RV	1.36	112		Pn	00 37 16.5	-0.4
OK034	N. Norfolk Rd.	1.39	108		Pn	00 37 17.0	-0.2
FNO	Franklin	1.41	147		Pn	00 37 17.4	-0.2
T35A	Sooner Cattle	1.55	72		Pn	00 37 19.9	+0.4
WMOK	Wichita Mounta	1.74	192		Pn	00 37 22.2	+0.1
W35A	Tecumseh	1.75	137		Pn	00 37 22.9	+0.5
X34A	Smith Ranch, M	1.88	167		Pn	00 37 25.1	+1.0
R32A	Long Quarter,	2.00	352		Pn	00 37 26.7	+1.0
TUL1	Leonard	2.13	104		Pn	00 37 26.9	-0.6
TUL1				IAmb_Lg		00 38 02.5	
	comp=Z,52nm,1.0s						
CBKS	Cedar Bluff	2.61	335	Pn	Pn	00 37 33.9	-0.3
LOOK	Love County	2.62	158		Pn	00 37 34.8	+0.5
LOOK				IAmb_Lg		00 38 22.0	
	comp=Z,25nm,0.9s						
KSU1	Kansas State U	2.99	27		Pg	00 37 47.5	-1.2
X37A	Clayton	3.05	126	Pn	Pn	00 37 40.7	+0.6
X37A				IAmb_Lg		00 38 32.5	
	comp=Z,24nm,1.0s						
AMTX	Amarillo	3.13	241		Pn	00 37 41.5	+0.2
U38A	Gravette	3.19	89		Pn	00 37 42.3	+0.2
Z35A	Perchaven, San	3.23	164	Pn	Pn	00 37 43.0	+0.4
HHAR	Hobbs	3.56	91		Pn	00 37 47.0	-0.2
W39A	Magazine	3.91	107		Pn	00 37 51.6	-0.3
W39A				IAmb_Lg		00 38 58.9	
	comp=Z,29nm,0.8s						
ABTX	Abilene, Hawle	3.96	196		Pn	00 37 53.5	+0.8
S39A	Bolivar	4.20	71	IAmb_Lg		00 39 04.7	
	comp=Z,18nm,0.7s						
Z38A	Mt. Pleasant	4.21	138	IAmb_Lg		00 39 16.0	
	comp=Z,19nm,0.8s						
KSCO	Kaye Shedlock'	4.26	308	IAmb_Lg		00 39 17.3	
	comp=Z,16nm,0.8s						
U40A	Yellville	4.43	89	Pn	Pn	00 37 60.0	+0.8
U40A				IAmb_Lg		00 39 09.5	
	comp=Z,15nm,0.7s						
WHTX	Lake Whitney,	4.50	170	Pn	Pn	00 37 60.0	-0.1
X40A	Basin Creek Fa	4.90	112	IAmb_Lg		00 39 36.8	
	comp=Z,14nm,0.8s						
T25A	Trinidad	4.92	280	IAmb_Lg		00 39 28.9	
	comp=Z,21nm,0.9s						
P38A	Dawn	4.95	49	IAmb_Lg		00 39 33.5	
	comp=Z,15nm,0.8s						
BGNE	Belgrade	4.96	2	IAmb_Lg		00 39 39.1	
	comp=Z,23nm,0.7s						
WLAR	White Oak Lake	5.09	121	IAmb_Lg		00 39 47.7	
	comp=Z,14nm,0.9s						
W41B	Gary Mavity, V	5.11	103	IAmb_Lg		00 39 42.1	
	comp=Z,12nm,0.8s						
R40A	Maddies Statio	5.18	67	IAmb_Lg		00 39 43.5	
	comp=Z,22nm,0.9s						
CCM	Cathedral Cave	5.89	72	IAmb_Lg		00 39 59.0	
	comp=Z,19nm,0.9s						
K31A	O'Neill	6.18	357	IAmb_Lg		00 40 11.4	
	comp=Z,15nm,0.8s						
PBMO	Poplar Bluff	6.37	85	IAmb_Lg		00 40 19.9	
	comp=Z,11nm,0.7s						
FVM	French Village	6.50	74	IAmb_Lg		00 40 20.8	
	comp=Z,9.9nm,0.9s						
S44A	Carbondale	7.37	78	IAmb_Lg		00 41 03.8	
	comp=Z,12nm,0.9s						
N23A	Red Feather La	7.42	309	IAmb_Lg		00 40 56.5	
	comp=Z,11nm,0.7s						

GUC 16 00:37:25.2±0.5, 36°.71S×72°.56W, h67km±6km, ML4.0, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	Punta Hualpn	0.51	266	*e*P	Pn	00 37 37.5	-0.3
BI05				*i* S	Sn	00 37 46.7	-0.3
BI05				IAML		00 37 47.5	
	comp=E,25μm,0.2s						
ML02	Panimavida	1.32	45	⇓*i*P	Pn	00 37 48.0	+0.2
ML02				*i* S	Sn	00 38 04.4	-0.3
ML02				IAML		00 38 10.5	
	comp=E,2μm,0.3s						
GO05	Huala	1.77	17	⇓*i*P	Pn	00 37 53.9	+0.1
GO05				*i* S	Sn	00 38 15.5	+0.1
GO05				IAML		00 38 24.1	
	comp=E,1μm,0.3s						
LC01	Cunco	2.25	166	⇑*i*P	Pn	00 38 00.5	+0.3
LC01				*i* S	Sn	00 38 26.4	-0.5
LC01				IAML		00 38 30.3	
	comp=N,382nm,0.2s						
BO02	Sierra Bellavi	2.40	38	⇓*i*P	Pn	00 38 02.6	+0.3
BO02				*i* S	Sn	00 38 30.6	-0.1
BO02				IAML		00 38 31.9	
	comp=N,1μm,0.4s						
BO01	Tunca	2.61	28	⇓*i*P	Pn	00 38 04.8	-0.3
BO01				*i* S	Sn	00 38 35.3	-0.4
BO01				IAML		00 38 41.5	
	comp=N,200nm,0.4s						
LR03	Panguipulli	2.92	177	*e*P	Pn	00 38 10.5	+1.2
LR03				IAML		00 38 46.6	
	comp=E,836nm,0.3s						
MT01	Popeta	3.04	21	⇓*i*P	Pn	00 38 10.6	-0.3
MT01				*i* S	Sn	00 38 45.4	-0.7
MT01				IAML		00 38 48.4	
	comp=E,476nm,0.1s						
VA05	Santo Domingo	3.15	15	⇑*i*P	Pn	00 38 11.1	-1.2
VA05				*i* S	Sn	00 38 45.8	-2.9
BO04	La Punta	3.15	31	*e*P	Pn	00 38 12.4	-0.1
BO04				*i* S	Sn	00 38 48.3	-0.6
BO04				IAML		00 38 54.9	
	comp=E,215nm,0.2s						
MT09	Talagante	3.20	24	⇓*i*P	Pn	00 38 13.1	-0.1
MT09				*i* S	Sn	00 38 49.8	-0.4
MT09				IAML		00 38 52.1	
	comp=N,528nm,0.1s						
LR04	Corral	3.24	192	IAML		00 38 51.8	
	comp=N,885nm,0.4s						
LMEL	Las Melosas	3.45	35	*e*Pn	Pn	00 38 17.6	+1.0
LMEL				IAML		00 39 13.9	
	comp=N,335nm,0.7s						
MT05	Renca	3.63	25	*e*P	Pn	00 38 19.0	-0.1
MT02	Curacav	3.64	19	⇓*i*P	Pn	00 38 18.3	-0.8
VA01	Torpederas	3.76	12	*e*P	Pn	00 38 19.5	-1.2
PEL	Peldehue	3.88	24	*e*P	Pn	00 38 22.0	-0.5
PEL				*i* S	Sn	00 39 05.9	-0.8
ROCH	El Roble	3.94	19	⇓*i*P		00 38 22.9	
ROCH				⇑*i*P	Pn	00 38 22.3	-1.1
ROCH				*i* S	Sn	00 39 06.5	-2.1
ROCH				*i* S		00 39 07.3	
VA03	San Esteban	4.27	23	⇑*i*P	Pn	00 38 27.6	-0.3
VA03				*i* S	Sn	00 39 15.2	-1.3

IDC 16 00:58:15.0±7.1, 8°.20S×119°.53E, h165km±77km, mb3.2/3, mb1 3.2/5, mb1mx2.9/37, mbtmp3.6/5, Error ellipse: s-maj=159.5km s-min=30.1km az=52.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.49	149	P	Pn	01 00 54.6	+0.3
	0.2nm,0.3s,baz=340,slow=12,SNR=11						
FITZ				S	Sn	01 02 55.2	-6.5
	0.2nm,0.3s,baz=194,slow=18,SNR=7

comp=Z,10nm,0.6s
PPT Papeete 24.27 89 LR LR 01 21 21.9
comp=Z,63nm,18.2s,baz=300,slow=33
OXZ Oxford 25.98 202 P **P** **01 13 06.5 +0.3**
LBZ Lake Benmore 27.57 203 P **P** **01 13 18.2 -2.2**
CTA Charters Tower 36.30 263 P **P** **01 14 36.7 -0.2**
comp=Z,9.4nm,0.6s,baz=93,slow=10,SNR=28
CTA LR LR 01 26 57.4
comp=Z,45nm,21.3s,baz=84,slow=32
CTAO Charters Tower 36.30 263 P **P** **01 14 35.2 -1.7**
CTAO IAmb IAmb 01 14 41.1
comp=Z,10nm,0.6s
COEN Coen 40.27 271 P **P** **01 15 09.1 -1.0**
COEN IAmb IAmb 01 15 12.3
comp=Z,11nm,0.8s
STKA Stephens Creek 40.62 244 P **P** **01 15 11.9 -0.9**
comp=Z,1.1nm,0.5s,baz=53,slow=10,SNR=4.4
STKA Stephens Creek 40.62 244 IAmb IAmb 01 15 12.6
comp=Z,0.9nm,1.0s
AS31 Alice Springs 47.37 256 P **P** **01 16 05.3 -1.5**
ASAR Alice Springs 47.37 256 P **P** **01 16 06.2 -0.7**
comp=Z,5.8nm,0.6s,baz=93,slow=8.5,SNR=45
ASAR PcP **PcP** **01 17 36.0 +0.8**
comp=Z,2.0nm,0.8s,baz=103,slow=3.7,SNR=7.9
WB0 Warramunga Arr 47.40 261 P **P** **01 16 06.1 -1.0**
WB0 IAmb IAmb 01 16 06.8
comp=Z,5.9nm,0.6s
WRA Warramunga Arr 47.42 261 P **P** **01 16 05.7 -1.6**
comp=Z,2.3nm,0.6s,baz=97,slow=8.9,SNR=18
WRA PcP **PcP** **01 17 36.1 +0.6**
comp=Z,1.0nm,0.8s,baz=92,slow=4.0,SNR=3.8
WRA LR LR 01 34 10.4
comp=Z,50nm,21.9s,baz=52,slow=33
WRA Warramunga Arr 47.42 261 P **P** **01 16 05.8 -1.4**
MTN Manton Dam 51.89 269 P **P** **01 16 39.8 -1.3**
MTN IAmb IAmb 01 16 41.3
comp=Z,9.8nm,0.7s
KNRA Kununurra 53.44 265 P **P** **01 16 51.4 -1.0**
FITZ Fitzroy Crossi 55.85 261 P **P** **01 17 08.9 -0.8**
comp=Z,1.7nm,0.6s,baz=126,slow=5.0,SNR=9.3
VNDA Vanda 59.03 186 P **P** **01 17 33.1 +2.0**
comp=Z,4.1nm,1.0s,baz=1.5,slow=5.4,SNR=4.2
VNDA LR LR 01 41 57.7
comp=Z,46nm,18.2s,baz=282,slow=35
VNDA Vanda 59.03 186 IAmb IAmb 01 17 33.9
comp=Z,6.6nm,1.1s
QSPA South Pole Qui 70.43 180 P **P** **01 18 46.4 +1.1**
QSPA IAmb IAmb 01 18 48.5
comp=Z,4.1nm,0.7s
KSRS Korea Array 78.08 317 P **P** **01 19 30.9 +1.1**
comp=Z,1.8nm,0.8s,baz=132,slow=6.5,SNR=5.5
KSAR Wonju Array Be 78.10 317 P **P** **01 19 29.1 -0.8**
NVAR Mina Array Bea 78.54 42 P **P** **01 19 32.8 +0.2**
comp=Z,0.4nm,0.6s,baz=220,slow=7.7,SNR=6.0
TXAR Lajitas Array 84.30 56 P **P** **01 20 03.1 +0.2**
comp=Z,0.4nm,0.7s,baz=218,slow=7.4,SNR=4.1
H03N2 Juan Fernandez 84.35 123 T T 02 52 38.8
baz=257,slow=72,SNR=60
H03N3 Juan Fernandez 84.35 123 T T 02 52 32.3
baz=257,slow=72,SNR=39
H03N1 Juan Fernandez 84.36 123 T T 02 52 32.6
baz=257,slow=72,SNR=46
ANMO Albuquerque 84.75 50 P **P** **01 20 05.0 -0.2**
PDAR Pinedale Array 86.48 42 P **P** **01 20 13.6 -0.1**
comp=Z,0.2nm,0.4s,baz=224,slow=3.8,SNR=3.9
CCB Clear Creek Bu 86.61 11 P **P** **01 20 12.6 -0.9**
CCB IAmb IAmb 01 20 13.9
comp=Z,9.9nm,1.3s
IL31 86.89 12 P **P** **01 20 13.7 -1.1**
IL31 IAmb IAmb 01 20 20.4
comp=Z,4.9nm,1.2s
ILAR Eielson Array 86.89 12 P **P** **01 20 13.6 -1.2**
comp=Z,1.2nm,1.0s,baz=218,slow=5.5,SNR=5.6
YKA Yellowknife Ar 94.60 24 P **P** **01 20 50.2 -0.6**
comp=Z,0.6nm,0.9s,baz=238,slow=4.7,SNR=5.2
ARCES ARCESS Array B 128.53 351 PKP **PKPdf** **01 26 34.3 -1.6**
comp=Z,0.9nm,0.4s,baz=7.4,slow=2.8,SNR=17
FINES FINESS Array B 135.66 346 PKP **PKPdf** **01 26 50.5 +1.0**
comp=Z,1.6nm,0.8s,baz=2.6,slow=3.1,SNR=8.5
NAO01 NORSAR Array S 138.61 356 PKPdf **PKPdf** **01 26 53.5 -1.6**
AKASG Malin Array Be 143.51 334 PKP PKPab 01 27 01.0 +0.2
comp=Z,0.3nm,0.4s,baz=37,slow=3.8,SNR=5.0
AKASG Malin Array Be 143.51 334 PKPdf PKPbc 01 27 02.2 +0.4
LODK Lodwar 146.19 245 PKPbc **PKPbc** **01 27 12.2 +0.9**
OJC Ojcow 147.26 342 PKPbc **PKPdf** **01 27 12.4 +1.8**
MBAR Mbarara 147.65 235 PKPbc **PKPbc** **01 27 15.7 +0.2**
CLL Collm 147.75 350 ||*i* PKPbc **PKPbc** **01 27 14.9 +0.5**
comp=Z,8.0nm,0.6s
CLL *i* PKPab **PKiKP** **01 27 16.8 +0.5**
comp=Z,5.0nm,1.0s
OSTC Ostas 147.86 346 *e*PKP **PKPbc** **01 27 15.4 +0.6**
DPC Dobruska-Polom 148.03 346 *e*PKP **PKPbc** **01 27 16.1 +0.8**
KRLC Kraliky 148.18 345 *e*PKP **PKPbc** **01 27 16.2 +0.5**
BRTR Keskin Array B 148.21 315 PKPbc **PKPbc** **01 27 16.3 +0.1**
comp=Z,1.7nm,0.7s,baz=132,slow=4.3,SNR=11
KHC Kasperske Hory 149.75 349 *e*PKP **PKPbc** **01 27 20.1 +0.5**
CKRC Cesky Krumlov 149.91 348 *e*PKP **PKPbc** **01 27 20.6 +0.6**
GERES GERESS Array B 150.00 348 PKPbc **PKPbc** **01 27 20.6 +0.3**
comp=Z,1.1nm,0.6s,baz=72,slow=3.2,SNR=10.0
CONA Conrad Observa 150.40 345 *e*P **PKPbc** **01 27 22.3 +1.0**
comp=Z,6.2nm,1.2s
MOA Molln 150.84 347 *i* P **PKPbc** **01 27 22.8 +0.6**
comp=Z,2.1nm,0.6s
WATA Walderalm 151.83 350 *i* P **PKPbc** **01 27 25.0 +0.3**
comp=Z,2.1nm,0.5s
WTTA Wattenberg 151.89 350 *i* P **PKPbc** **01 27 25.4 +0.5**
comp=Z,4.4nm,0.4s
ABTA Abfaltersbach 152.24 349 *i* P **PKPbc** **01 27 25.5 -0.1**
comp=Z,3.6nm,0.5s
FETA Feichten 152.27 351 *e*P **PKPbc** **01 27 26.3 +0.6**
comp=Z,9.7nm,1.9s

*IDC **16** 01:10:31.0±1.2, 0.°66N×125.°45E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/37, mbtmp3.7/6, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.2/71, Error ellipse: s-maj=109.8km s-min=19.3km az=70.0*
*DJA **16** 01:10:35.2±0.2, 1.°N±3.°×12.°6E±.°, h10km, M3.9/13, mb3.8/2, mbB4.5/2, MLv3.9/13, Mw(mB)3.7/2*
ISC 16 01:10:36.9±0.9, 1.°14N±0.°07×126.°42E±0.°05, h50km, n17, σ1§81/18, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**111**	P	**Pn**	**01 10 55.6**	**+0.8**
TNTI				S	**Sn**	**01 11 08.4**	**+0.4**
LBMI	**Labuha**	**2.07**	**149**	P	**Pn**	**01 11 10.9**	**+1.6**
KMSI	**Cibinong**	**2.51**	**257**	P	**Pn**	**01 11 15.1**	**-0.1**
KMSI				S	**Sn**	**01 11 44.6**	**0.0**
SGSI	**Sangihe**	**2.68**	**341**	P	**Pn**	**01 11 16.5**	**-1.1**
SANI	**Sanana**	**3.20**	**188**	P	**Pn**	**01 11 24.5**	**-0.3**
GTOI	**Gorontalo**	**3.45**	**262**	P	**Pn**	**01 11 30.6**	**+2.5**
LUWI	**Luwuk**	**4.25**	**239**	P	**Pn**	**01 11 39.0**	**-0.1**
MRSI	**Marisa**	**4.53**	**262**	P	**Pn**	**01 11 42.1**	**-0.9**
APSI	**Ampana**	**5.19**	**247**	P	**Pn**	**01 11 54.8**	**+2.7**
MPSI	**Mapaga**	**6.57**	**263**	P	**Pn**	**01 12 11.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.14**	**182**	P	**P**	**01 14 51.9**	**-4.2**
	0.1nm,0.3s,baz=11,slow=10,SNR=1.8						
WRA	**Warramunga Arr**	**22.35**	**160**	P	**P**	**01 15 29.9**	**-1.0**
	2.3nm,0.4s,baz=334,slow=11,SNR=40						
PMG	**Port Moresby**	**23.16**	**117**	LR	LR	01 29 25.8	
	comp=Z,56nm,18.5s,baz=148,slow=48						
ASAR	**Alice Springs**	**25.71**	**164**	P	**P**	**01 16 00.7**	**-2.0**
	0.5nm,0.4s,baz=345,slow=12,SNR=3.3						
SONM	**Songino Array**	**49.65**	**342**	P	**P**	**01 19 26.2**	**+2.6**
	0.3nm,0.5s,baz=164,slow=7.5,SNR=2.4						
MKAR	**Makanchi Array**	**59.51**	**326**	P	**P**	**01 20 35.7**	**+0.7**
	0.7nm,0.5s,baz=125,slow=8.6,SNR=12						
ZALV	**Zalesovo Beam**	**62.75**	**334**	P	**P**	**01 20 56.5**	**-0.3**
	0.4nm,0.4s,baz=137,slow=4.9,SNR=2.7						

IDC 16 01:22:35.4±7.2, 19.°38S×177.°69W, h576km±62km, mb2.8/3, mb1 3.1/4, mb1mx2.8/23, mbtmp3.7/4, Error ellipse: s-maj=268.7km s-min=28.4km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.36**	**291**	P	P	01 24 01.8	0.0
	2.7nm,0.3s,baz=137,slow=14,SNR=16						
WRA	**Warramunga Arr**	**45.05**	**261**	P	P	01 30 00.4	-0.6
	0.4nm,0.4s,baz=98,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**45.06**	**256**	P	P	01 30 01.4	+0.3
	0.9nm,0.5s,baz=93,slow=7.9,SNR=16						
TXAR	**Lajitas Array**	**86.21**	**57**	P	P	01 34 16.8	-0.1
	0.4nm,0.8s,baz=230,slow=8.1,SNR=4.3						

*IDC **16** 01:39:44.7±1.2, 14.°29S×167.°11E, h148km±9km, mb4.2/23, mb1 4.3/24, mb1mx4.3/36, mbtmp4.5/24, MS3.3/3, Ms1 3.3/3, ms1mx2.7/56, Error ellipse: s-maj=13.7km s-min=9.9km az=142.0*
*NEIC **16** 01:39:44.4±1.6, 14.°10S±0.°09×167.°3E±0.°1, h148km±5km, mb4.6/48, Error ellipse: s-maj=15.0km s-min=13.6km az=98.0*
*GCMT **16** 01:39:45.4±0.3, 14.°40S±0.°02×166.°92E±0.°03, h167km±3km, MW5.0/71, Moment Tensor Solution. s23,c23; s71,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.24±.11; $M_{\theta\theta}$0.04±.18; $M_{\phi\phi}$-2.28±.15; $M_{r\theta}$-1.66±.12; $M_{\theta\phi}$1.98±.14; $M_{r\phi}$-0.10±.12; Best double couple: $M_0$3.43100×10^{16} NP1:ϕ_s180.00000°, δ47.00000°, λ139.00000°. NP2: ϕ_s301.00000°, δ61.00000°, λ51.00000°. Principal axes: T 3.3440, Plg55.0000°, Azm159.0000°; N 0.1730, Plg34.0000°, Azm322.0000°; P -3.5180, Plg8.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **16** 01:39:47.5, 14.°23S×166.°95E, h137km, mb4.7/33, Vanuatu Islands*
ISC 16 01:39:44.5±0.3, 14.°20S±0.°05×167.°24E±0.°05, h150km, n194, σ1§47/205, mb4.5/54, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.24**	**182**		**Pn**	**01 40 13.8**	**+2.4**
SANVU	**Saraoutou**	**1.24**	**182**	P	**Pn**	**01 40 13.9**	**+2.4**
DVP	**Devils Point**	**3.62**	**166**	P	**Pn**	**01 40 41.7**	**+1.9**
LIFNC	**LIFOU**	**6.54**	**180**	Pn	**Pn**	**01 41 18.6**	**+0.1**
KOUNC	**Koumac, New Ca**	**6.92**	**204**	P	**Pn**	**01 41 25.6**	**+2.1**
MARNC	**Mare, Loyalty**	**7.28**	**174**		**Pn**	**01 41 28.6**	**+0.3**
MARNC	**Mare, Loyalty**	**7.28**	**174**	P	**Pn**	**01 41 30.3**	**+2.0**
DZM	**Mont Dzumac**	**7.87**	**185**	P	**Pn**	**01 41 37.5**	**+1.3**
	3.7nm,0.3s,baz=94,slow=15,SNR=43						
DZM				S	**Sn**	**01 43 03.8**	**-0.3**
	2.1nm,0.3s,baz=302,slow=23,SNR=1.8						
DZM				LR	LR	01 44 18.6	
	comp=Z,164nm,21.5s,baz=335,slow=35						
DZM	**Mont Dzumac**	**7.87**	**185**	*e*Pn	**Pn**	**01 41 37.8**	**+1.6**
	23nm,0.2s						
DZM				*e*Sn	**Sn**	**01 43 00.6**	**-3.4**
	22nm,0.3s						
DZM	**Mont Dzumac**	**7.87**	**185**	Pn	**Pn**	**01 41 36.8**	**+0.6**
DZM	**Mont Dzumac**	**7.87**	**185**	P	**Pn**	**01 41 38.1**	**+1.9**
NOUC	**Port Laguerre**	**7.91**	**186**	P	**Pn**	**01 41 38.6**	**+1.9**
ONTNC	**Ouen Toro**	**8.10**	**185**	Pn	**Pn**	**01 41 39.9**	**+0.7**
ONTNC	**Ouen Toro**	**8.10**	**185**	P	**Pn**	**01 41 41.5**	**+2.3**
OUENC	**Ouen Island, N**	**8.18**	**183**		**Pn**	**01 41 42.2**	**+1.8**
OUENC	**Ouen Island, N**	**8.18**	**183**	P	**Pn**	**01 41 44.4**	**+4.0**
PINNC	**Pines Island,**	**8.37**	**179**	Pn	**Pn**	**01 41 43.5**	**+0.7**
PINNC	**Pines Island,**	**8.37**	**179**	P	**Pn**	**01 41 46.2**	**+3.4**
HNR	**Honiara**	**8.57**	**303**	P	**Pn**	**01 41 46.2**	**+0.6**
	11nm,0.3s,baz=180,slow=5.1,SNR=1.9						
HNR				S	**Sn**	**01 43 25.6**	**+4.7**
	5.1nm,0.3s,baz=66,slow=22,SNR=1.1						
HNR	**Honiara**	**8.57**	**303**	Pn	**Pn**	**01 41 44.6**	**-1.0**
MSVF	**Nonsavu**	**10.97**	**110**	P	**Pn**	**01 42 22.0**	**+4.5**
	0.1nm,0.3s,baz=321,slow=3.1,SNR=5.1						
MSVF	**Nonsavu**	**10.97**	**110**	Pn	**Pn**	**01 42 16.0**	**-1.5**
MSVF	**Nonsavu**	**10.97**	**110**	Pn	Pn	01 42 23.5	+6.0
DGTI	**Dogotuki**	**12.23**	**101**	P	**P**	**01 42 41.0**	**+0.9**
TAVE	**Taveuni**	**12.64**	**103**	P	**P**	**01 42 46.5**	**+1.9**
EIDS	**Eidsvold**	**18.81**	**231**	P	**Pn**	**01 43 53.9**	**-1.1**
EIDS	**Eidsvold**	**18.81**	**231**	P	**Pn**	**01 43 55.4**	**+0.5**
PMG	**Port Moresby**	**20.22**	**281**	P	Pn	01 44 10.4	-1.2
	33nm,0.8s,baz=90,slow=4.0,SNR=7.7						
PMG	**Port Moresby**	**20.22**	**281**		**P**	**01 44 08.8**	**+0.8**
PMG	**Port Moresby**	**20.22**	**281**	P	**P**	**01 44 09.5**	**+1.5**
AFI	**Afiamalu**	**20.36**	**92**	P	Pn	01 44 13.9	+0.7
	52nm,0.8s,baz=244,slow=6.0,SNR=4.0						
CTA	**Charters Tower**	**20.89**	**251**	P	**P**	**01 44 15.6**	**+0.5**
	7.2nm,0.7s,baz=74,slow=12,SNR=12						
CTA	**Charters Tower**	**20.89**	**251**	P	**P**	**01 44 16.4**	**+1.3**
CTAO	**Charters Tower**	**20.89**	**251**	P	**P**	**01 44 14.3**	**-0.8**
CTAO	**Charters Tower**	**20.89**	**251**	P	**P**	**01 44 16.4**	**+1.3**
RMQ	**Roma**	**21.18**	**232**	P	**P**	**01 44 19.4**	**+1.3**
MTSU	**Mount Surprise**	**22.36**	**257**	P	**P**	**01 44 31.5**	**+1.0**
	12nm,0.8s						
COEN	**Coen**	**23.35**	**268**	P	**P**	**01 44 39.3**	**-0.3**
COEN	**Coen**	**23.35**	**268**	P	**P**	**01 44 40.1**	**+0.4**
QLP	**Quilpie**	**24.79**	**237**	P	**P**	**01 44 55.9**	**+3.3**
CMSA	**Cobar Meteorol**	**26.22**	**225**	P	**P**	**01 45 07.7**	**+2.2**
INKA	**Innaminka**	**28.09**	**237**	P	**P**	**01 45 24.2**	**+1.9**
STKA	**Stephens Creek**	**29.32**	**229**	P	**P**	**01 45 34.0**	**+0.9**
	11nm,0.5s,baz=56,slow=8.9,SNR=40						
STKA				PcP	**PcP**	**01 48 35.7**	**-0.3**
	2.1nm,0.7s,baz=349,slow=5.2,SNR=3.1						
STKA	**Stephens Creek**	**29.32**	**229**	P	**P**	**01 45 33.3**	**+0.2**
STKA	**Stephens Creek**	**29.32**	**229**	P	**P**	**01 45 34.6**	**+1.5**
TOO	**Toolangi**	**30.26**	**216**	P	**P**	**01 45 42.5**	**+1.1**
TOO				IAmb	IAmb	01 45 52.9	
	comp=Z,18nm,1.4s						
LCRK	**Leigh Creek**	**31.21**	**234**	P	**P**	**01 45 50.8**	**+1.0**
WB0	**Warramunga Arr**	**31.87**	**255**	P	**P**	**01 45 55.0**	**-0.8**
WB2	**Warramunga Arr**	**31.92**	**255**	P	**P**	**01 45 55.7**	**-0.5**
WB2				IAmb	IAmb	01 45 59.6	
	comp=Z,9.1nm,1.2s						
WRA	**Warramunga Arr**	**31.93**	**255**	P	**P**	**01 45 55.0**	**-1.3**
	comp=Z,2.7nm,0.5s,baz=86,slow=9.5,SNR=30						
WRA				S	**S**	**01 50 49.9**	**-6.7**
	comp=Z,1.5nm,1.0s,baz=90,slow=13,SNR=4.5						
WRA				ScP	**ScP**	**01 52 13.8**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=75,slow=3.3,SNR=3.6						
WRA				LR	LR	01 58 41.6	
	comp=Z,115nm,19.0s,baz=38,slow=36						
HTT	**Hallett**	**32.05**	**228**	P	**P**	**01 45 58.9**	**+1.7**
AS31	**Alice Springs**	**32.84**	**248**	P	**P**	**01 46 03.5**	**-0.7**
ASAR	**Alice Springs**	**32.84**	**248**	P	**P**	**01 46 03.1**	**-1.1**
	comp=Z,4.3nm,0.4s,baz=77,slow=9.3,SNR=37						
ASAR				PcP	**PcP**	**01 48 45.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=72,slow=1.5,SNR=5.6						
ASAR				S	**S**	**01 51 06.5**	**-4.2**
	comp=Z,1.8nm,0.8s,baz=81,slow=15,SNR=10.0						
ASAR	**Alice Springs**	**32.84**	**248**	P	**P**	**01 46 04.0**	**-0.2**
ASAR				PcP	**PcP**	**01 48 45.5**	**-0.2**
BBOO	**Buckleboo**	**33.88**	**231**	P	**P**	**01 46 13.9**	**+0.8**
BBOO				IAmb	IAmb	01 46 20.3	
	comp=Z,12nm,0.8s						
MTN	**Manton Dam**	**35.12**	**268**	P	**P**	**01 46 23.7**	**-0.2**
GUMO	**Guam**	**35.40**	**320**	LR	LR	01 59 34.7	
	comp=Z,30nm,20.0s,baz=114,slow=34						
KNRA	**Kununurra**	**37.18**	**263**	P	**P**	**01 46 41.4**	**0.0**
KNRA	**Kununurra**	**37.18**	**263**	P	**P**	**01 46 42.0**	**+0.6**
	comp=Z,26nm,0.9s						
WRKA	**Warakurna**	**38.11**	**247**	P	**P**	**01 46 50.3**	**+1.1**
FORT	**Forrest**	**39.55**	**239**	P	**P**	**01 47 01.3**	**+0.3**
MPSI	**Mapaga**	**49.03**	**283**	P	**P**	**01 48 17.4**	**+0.8**
	comp=Z,13nm,0.8s						
KHLU	**Kahalu`u**	**49.44**	**48**	P	**P**	**01 48 17.8**	**-1.9**
MORW	**Morawa**	**49.48**	**244**	P	**P**	**01 48 19.0**	**-0.9**
MORW				IAmb	IAmb	01 48 22.9	
	comp=Z,17nm,1.0s						
AIN	**Ainahou**	**49.61**	**49**	P	**P**	**01 48 20.6**	**-0.5**
HLP	**Hilina Pali**	**49.67**	**49**	P	**P**	**01 48 20.8**	**-0.7**
MJAR	**Matsushiro Arr**	**57.43**	**332**	P	**P**	**01 49 17.4**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=173,slow=8.9,SNR=5.0						
CGJI	**Cibinong**	**60.87**	**270**	P	**P**	**01 49 41.5**	**-0.2**
	comp=Z,29nm,1.0s						
KSRS	**Korea Array**	**63.29**	**326**	P	**P**	**01 49 58.2**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=136,slow=7.2,SNR=9.8						
VNDA	**Vanda**	**63.39**	**181**	P	**P**	**01 49 59.0**	**+1.5**
	comp=Z,3.7nm,0.9s,baz=18,slow=4.2,SNR=6.1						
VNDA	**Vanda**	**63.39**	**181**	IAmb	IAmb	01 49 59.5	
	comp=Z,6.7nm,1.1s						
NJ2	**Nanjing**	**65.28**	**316**	*e*P	**P**	**01 50 11.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**66.41**	**333**	P	**P**	**01 50 18.8**	**+1.4**
	comp=Z,6.2nm,0.9s,baz=178,slow=6.8,SNR=4.0						
USRK	**Ussuriysk Ar.**	**66.41**	**333**	P	**P**	**01 50 17.1**	**-0.3**
PETK	**Petropavlovsk-**	**67.53**	**354**	P	**P**	**01 50 25.4**	**+1.0**
	comp=Z,12nm,0.9s,baz=138,slow=6.7,SNR=15						
MDJ	**Mudanjiang**	**67.81**	**332**	P	**P**	**01 50 27.9**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,15nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,84nm,3.9s						
CN2	**Changchun**	**69.18**	**329**	*e*P	**P**	**01 50 34.5**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ENH	**Enshi**	**71.01**	**309**	P	**P**	**01 50 45.9**	**-0.4**
HNS	**HongShan**	**71.19**	**318**	⇑P	**P**	**01 50 48.1**	**+0.9**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KMI	**Kunming**	**74.01**	**302**	⇓P	**P**	**01 51 06.1**	**+1.7**
KMI				PcP	**PcP**	**01 51 18.0**	**-0.9**
KMI				pmax	pmax		
	comp=Z,13nm,0.9s						
XLT	**XiLinHaoTe**	**74.26**	**324**	*e*P	**P**	**01 51 06.4**	**+1.1**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,75nm,4.4s						
CMAR	**Chiang Mai Arr**	**74.71**	**294**	P	**P**	**01 51 09.7**	**+1.4**
	comp=Z,2.6nm,0.4s,baz=128,slow=4.3,SNR=20						
CMAR	**Chiang Mai Arr**	**74.71**	**294**	P	**P**	**01 51 08.5**	**+0.2**
CHTO	**Chiang Mai**	**74.84**	**294**	P	**P**	**01 51 07.9**	**-1.1**
HHC	**Hu-ho-hao-te**	**75.17**	**320**	*e*P	**P**	**01 51 11.3**	**+0.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,6.5s						
PZH	**PanZhiHua**	**75.39**	**303**	P	**P**	**01 51 13.6**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
QSPA	**South Pole Qui**	**75.82**	**180**	P	**P**	**01 51 13.8**	**-0.2**
	comp=Z,7.7nm,0.7s,baz=308,slow=0.9,SNR=30						
QSPA	**South Pole Qui**	**75.82**	**180**	P	**P**	**01 51 14.0**	**0.0**
QSPA				IAmb	IAmb	01 51 18.1	
	comp=Z,10nm,0.8s						
YAK	**Yakutsk**	**81.52**	**343**	P	**P**	**01 51 43.7**	**-1.1**
ULN	**Ulaanbaatar**	**81.70**	**324**	P	**P**	**01 51 45.1**	**-1.2**
BILL	**Bilibino**	**82.02**	**360**	P	**P**	**01 51 47.3**	**0.0**
BILL				IAmb	IAmb	01 51 48.9	
	comp=Z,14nm,0.8s						
SONM	**Songino Array**	**82.06**	**324**	P	**P**	**01 51 48.8**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=140,slow=4.9,SNR=10						
SONM	**Songino Array**	**82.06**	**324**	P	**P**	**01 51 48.4**	**+0.2**
GTA	**Gaotai**	**82.28**	**314**	⇑P	**P**	**01 51 50.6**	**+1.0**
GTA				pP	pwP	01 52 29.9	+1.0
GTA				sP	sP	01 52 54.4	+12
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SHL	**Shillong**	**83.30**	**298**	P	**P**	**01 51 53.9**	**-1.2**
SHL				IAmb	IAmb	01 51 56.4	
	comp=Z,12nm,1.1s						
CAST	**Castle Rocks**	**83.50**	**17**	P	**P**	**01 51 54.2**	**-0.9**
RND	**Reindeer**	**84.44**	**18**	P	**P**	**01 51 59.5**	**-0.5**
RND				IAmb	IAmb	01 52 02.1	
	comp=Z,10nm,1.1s						
I21K	**Tanana**	**84.89**	**16**	IAmb	IAmb	01 52 04.2	
	comp=Z,7.3nm,0.8s						
CMB	**Columbia Colle**	**85.27**	**49**	P	**P**	**01 52 03.6**	**-1.1**
HDA	**Harding Lake**	**85.75**	**18**	P	**P**	**01 52 06.0**	**-0.3**
HDA				IAmb	IAmb	01 52 07.6	
	comp=Z,5.5nm,0.6s						
IL31		**86.03**	**18**	IAmb	IAmb	01 52 14.5	
	comp=Z,14nm,1.5s						
ILAR	**Eielson Array**	**86.03**	**18**	P	**P**	**01 52 07.1**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=237,slow=5.3,SNR=43						
ILAR	**Eielson Array**	**86.03**	**18**	P	**P**	**01 52 06.9**	**-0.9**
K05A	**Summer Lake**	**86.69**	**45**	IAmb	IAmb	01 52 28.2	
	comp=Z,7.7nm,1.3s						
PFO	**Pinyon Flats O**	**86.71**	**54**	P	**P**	**01 52 12.2**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=270,slow=1.0,SNR=2.7						
PFO	**Pinyon Flats O**	**86.71**	**54**	IAmb	IAmb	01 52 30.5	
	comp=Z,6.7nm,1.3s						
NVAR	**Mina Array Bea**	**86.95**	**49**	P	**P**	**01 52 13.5**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=226,slow=7.1,SNR=11						
NVAR	**Mina Array Bea**	**86.95**	**49**	P	**P**	**01 52 12.6**	**-0.5**
J08A	**Circle Bar Ran**	**88.58**	**45**	IAmb	IAmb	01 52 23.0	
	comp=Z,5.6nm,1.0s						
G08A	**Pilot Rock**	**88.95**	**43**	IAmb	IAmb	01 52 23.9	
	comp=Z,4.3nm,0.9s						
PRN	**Pahroc Range**	**89.03**	**51**	P	**P**	**01 52 21.7**	**-1.2**
PRN				IAmb	IAmb	01 52 25.1	
	comp=Z,4.2nm,0.8s						
SLBS	**Sierra La Lagu**	**89.20**	**65**	P	**P**	**01 52 20.2**	**-3.7**
TIXI	**Tiksi**	**89.45**	**349**	P	**P**	**01 52 23.0**	**-0.9**
TIXI				IAmb	IAmb	01 52 26.1	
	comp=Z,5.4nm,1.0s						
ELK	**Elko**	**89.95**	**48**	P	**P**	**01 52 27.8**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=252,slow=6.4,SNR=7.0						
SPR3	**Spring Creek 3**	**90.06**	**50**	P	**P**	**01 52 27.3**	**-0.6**
SPR3				IAmb	IAmb	01 52 29.5	
	comp=Z,3.2nm,0.8s						
LCMT	**Little Creek M**	**90.28**	**52**	IAmb	IAmb	01 52 30.7	
	comp=Z,3.6nm,0.8s						
F10A	**Beach Ranch, E**	**90.33**	**42**	IAmb	IAmb	01 52 29.7	
	comp=Z,4.7nm,0.8s						
**W

comp=Z,0.7nm,0.4s,baz=44,slow=1.8,SNR=5.4
BRTR Keskin Array B 132.15 311 PKP **PKPdf 01 58 40.1 -0.9**
comp=Z,0.6nm,0.5s,baz=56,slow=5.4,SNR=5.2
BRTR SKPbc **SKPab 02 01 56.0 +1.2**
comp=Z,1.0nm,1.0s,baz=101,slow=3.9,SNR=3.8
MMAI Mount Meron Ar 132.51 302 PKP **PKPdf 01 58 41.9 +0.1**
comp=Z,0.8nm,0.6s,baz=81,slow=4.5,SNR=4.8
MMAI SKPbc **SKPab 02 01 55.9 -0.5**
comp=Z,3.7nm,1.0s,baz=66,slow=2.8,SNR=5.2
CRVS Cervenica-Dubn 135.43 328 *e*PKP **PKiKP 01 58 48.2 -0.1**
MORC Moravsky Berou 136.76 331 *e*PKP **PKPdf 01 58 49.8 +0.6**
MORC *e* 02 02 11.2
OSTC Ostas 136.80 333 *e*PKPDF **PKiKP 01 58 52.4 +1.4**
KRLC Kraliky 136.89 332 *e*PKPDF **PKiKP 01 58 51.9 +0.6**
DPC Dobruska-Polom 136.90 333 *e*PKPDF **PKiKP 01 58 51.0 -0.3**
DPC *e*SKP 02 02 10.4
JAVC Velka Javorina 137.33 330 *e*PKP **PKiKP 01 58 52.3 +0.1**
JAVC *e* 02 02 12.6
BRG Berggiesshubel 137.52 335 *i* PKP **PKiKP 01 58 53.0 +0.6**
BRG Amp 01 58 54.2
comp=Z,3.3nm,0.8s
BRG SKP 02 02 10.8
BRG Amp 02 02 12.6
comp=Z,11nm,1.4s
VRAC Vranov 137.53 332 *e*PKP **PKPdf 01 58 51.3 +0.7**
VRAC *e* 02 02 13.0
CLL Collm 137.56 336 *e*PKPdf **PKPdf 01 58 51.0 +0.5**
comp=Z,7.0nm,1.2s
CLL *e*SKPdf **SKPdf 02 02 11.0 -0.6**
KRUC Moravsky 137.79 332 *e*PKP **PKPdf 01 58 51.4 +0.3**
KRUC *e* 02 02 13.1
PRU Pruhonice 137.94 334 *e*PKPDF **PKiKP 01 58 53.5 +0.2**
EKA Eskdalemuir Ar 138.28 352 PKP **PKiKP 01 58 53.2 -0.6**
comp=Z,3.5nm,1.0s,baz=7.9,slow=3.1,SNR=4.4
CONA Conrad Observa 138.85 331 *i* P **PKiKP 01 58 54.5 -0.9**
comp=Z,3.6nm,0.6s
CONA *e*S **SKPbc 02 02 12.9 -1.3**
comp=Z,9.5nm,1.8s
CKRC Cesky Krumlov 138.91 333 *e*PKPDF **PKiKP 01 58 55.9 +0.5**
CKRC *e*SKP 02 02 16.0
KHC Kasperske Hory 139.00 334 *e*PKPDF **PKPdf 01 58 53.5 +0.2**
KHC *e*SKP 02 02 15.9
GERES GERESS Array B 139.16 333 PKP **PKPdf 01 58 54.3 +0.6**
comp=Z,1.0nm,0.6s,baz=62,slow=2.3,SNR=10
GERES SKP 02 02 15.7
comp=Z,2.8nm,0.9s,baz=45,slow=2.3,SNR=12
GERES GERESS Array B 139.16 333 PKPdf 01 58 52.2 -1.5
DIVS Divibare 139.18 323 PKPdf **PKPdf 01 58 53.5 -0.4**
ARSA Arzberg 139.49 330 *i* P **PKiKP 01 58 56.4 -0.2**
comp=Z,5.7nm,1.1s
ARSA *e*S **SKPbc 02 02 15.3 -0.6**
comp=Z,4.3nm,1.0s
MOA Molln 139.65 332 *i* P **PKiKP 01 58 55.8 -1.1**
comp=Z,1.1nm,0.4s
SOKA Soboth 140.13 330 *e*S **SKPbc 02 02 13.9 -3.8**
comp=Z,4.5nm,1.4s
WATA Walderalm 141.24 333 *i* S **SKPbc 02 02 16.6 -4.0**
comp=Z,3.4nm,0.9s
WTTA Wattenberg 141.27 333 *e*P **PKPdf 01 58 57.6 -0.1**
comp=Z,8.9nm,1.2s
WTTA *e*S **SKPbc 02 02 18.5 -2.3**
comp=Z,14nm,1.6s
ABTA Abfaltersbach 141.27 332 *i* P **PKPdf 01 58 56.8 -0.8**
comp=Z,6.5nm,1.1s
MOTA Moosalm 141.43 334 *i* P **PKPdf 01 58 56.7 -1.2**
comp=Z,9.3nm,1.2s
SQTA Sankt Quirin 141.49 334 *e*P **PKPdf 01 58 56.0 -2.0**
comp=Z,7.7nm,1.3s
SQTA *i* S **SKPbc 02 02 20.7 -0.5**
comp=Z,7.5nm,1.1s
FETA Feichten 141.85 334 *i* P **PKPdf 01 58 57.2 -1.5**
comp=Z,8.5nm,1.3s
FETA *e*S **SKPbc 02 02 18.8 -3.5**
comp=Z,11nm,1.6s
DAVA Damuels 141.99 335 *i* P **PKPdf 01 58 56.8 -2.2**
comp=Z,9.8nm,1.3s
DAVA *e*S **SKPbc 02 02 18.6 -4.0**
comp=Z,12nm,1.6s
NRCA Norcia 143.81 327 PKPdf PKPbc 01 59 00.4 +0.2
BNI Bardonecchia 145.11 336 PKPbc **PKPbc 01 59 03.2 -1.1**
SSB Saint Sauveur 145.73 338 PKPbc **PKPbc 01 59 05.7 -0.3**
KEST Kesra 150.79 321 PKPbc **PKiKP 01 59 20.2 -0.1**
comp=Z,15nm,0.8s,baz=125,slow=3.8,SNR=12
POLO Lamas de Olo 152.58 352 *e*PKPbc **PKiKP 01 59 24.5 +0.7**
POLO Lamas de Olo 152.58 352 *e*PKPab **PKPab 01 59 33.1 -1.4**
PVRL Vila Real 152.67 352 *e*PKPab **PKPab 01 59 36.5 +1.7**
MVO Moncorvo 152.68 351 *e*PKPbc **PKiKP 01 59 24.5 +0.5**
PVIS Viseu 153.24 352 *e*PKPab **PKPab 01 59 38.9 +1.6**
ESDC Sonseca Array 153.47 345 PKPbc **PKiKP 01 59 25.9 +0.2**
comp=Z,1.6nm,0.8s,baz=2.5,slow=2.1,SNR=8.1
PCAS Casmilo, Conde 153.97 353 *e*PKPbc **PKiKP 01 59 26.7 +0.1**
PCBR Castelo Branco 154.04 351 *e*PKPab **PKPab 01 59 42.1 +1.5**
PMRV Marv??o 154.43 350 *e*PKPbc **PKiKP 01 59 28.8 +1.2**
PESTR Estremoz 155.01 350 *e*PKPab **PKPab 01 59 46.4 +1.6**
PCVE Castro Verde 156.29 351 *e*PKPab **PKPab 01 59 51.8 +1.5**
TORD Torodi Ar. Bea 165.92 267 PKP **PKPdf 01 59 32.2 -0.2**
comp=Z,0.6nm,0.6s,baz=46,slow=1.3,SNR=5.5
TORD PKPab **PKPab 02 00 33.1 -0.1**
comp=Z,1.4nm,1.0s,baz=107,slow=4.7,SNR=4.0

*NEIC **16** 01:50:19.4±2.3, 16°.57N×0°.04×98°.70W×0°.02, h3km±7km, mb4.3/46, Md4.3/42(MEX), Error ellipse: s-maj=6.4km s-min=3.0km az=188.0*
*MEX **16** 01:50:21.5±1.2, 16°.52N×98°.66W, h16km±999km, MD4.3*
*IDC **16** 01:50:26.1±2.3, 17°.27N×98°.26W, h30km±6km, mb3.5/5, mb1 3.8/8, mb1mx3.6/39, mbtmp3.6/8, ML3.3/3, MS3.6/4, Ms1 3.6/4, ms1mx3.0/45, Error ellipse: s-maj=50.7km s-min=15.3km az=22.0*

ISC 16 01:50:20.0±0.6, 16°.59N±0°.03×98°.67W±0°.02, h17km±3km, n96, σ1°.45/125, mb4.2/20, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.47**	**288**		**Pb**	**01 50 29.1**	**-0.7**
CRIG					**Sb**	**01 50 35.9**	**-0.6**
CRIG	**Cruz Grande**	**0.47**	**288**	*e*P	**Pb**	**01 50 29.1**	**-0.7**
CRIG				*e*S	**Sb**	**01 50 35.9**	**-0.6**
PNIG	**Pinotepa**	**0.55**	**111**		**Pb**	**01 50 30.1**	**-1.2**
PNIG					**Sg**	**01 50 37.2**	**-1.3**
PNIG	**Pinotepa**	**0.55**	**111**	*e*P	**Pb**	**01 50 30.1**	**-1.2**
PNIG				*e*S	**Sg**	**01 50 37.2**	**-1.3**
TLIG	**Tlapa**	**0.97**	**6**		**Pg**	**01 50 37.1**	**-1.7**
TLIG				Sg	**Sg**	**01 50 50.2**	**-1.5**
TLIG	**Tlapa**	**0.97**	**6**	*e*P	**Pg**	**01 50 37.1**	**-1.7**
TLIG				*i* S	**Sg**	**01 50 49.8**	**-1.9**
DAIG	**Los Arroyos**	**1.03**	**295**		**Pg**	**01 50 38.0**	**-2.0**
DAIG					**Sg**	**01 50 50.9**	**-2.7**
DAIG	**Los Arroyos**	**1.03**	**295**	*e*P	**Pg**	**01 50 38.0**	**-2.0**
DAIG				*e*S	**Sg**	**01 50 50.9**	**-2.7**
TXIG	**Tlaxiaco**	**1.08**	**52**	*e*P	**Pg**	**01 50 38.8**	**-2.3**
TXIG				*e*S	**Sg**	**01 50 53.4**	**-1.9**
YOIG	**Yosondua**	**1.11**	**76**	*e*P	**Pg**	**01 50 39.1**	**-2.3**
YOIG				*e*S	**Sg**	**01 50 52.8**	**-3.2**
ACP2	**Acapulco**	**1.20**	**284**		**Pb**	**01 50 41.5**	**-0.9**
ACP2					**Sb**	**01 50 57.0**	**-0.6**
ACP2	**Acapulco**	**1.20**	**284**	*i* P	**Pb**	**01 50 41.5**	**-0.9**
ACP2				*i* S	**Sb**	**01 50 57.0**	**-0.6**
FTIG	**Fresnillo de T**	**1.41**	**21**	*e*P	**Pn**	**01 50 44.0**	**-1.0**
FTIG				*i* S	**Sn**	**01 51 02.6**	**-0.7**
HLIG	**Huajuapan de L**	**1.48**	**34**	*e*P	**Pn**	**01 50 45.0**	**-1.1**
HLIG				*i* S	**Sn**	**01 51 04.4**	**-0.9**
PEIG	**Puerto Escondi**	**1.57**	**112**	*e*P	**Pn**	**01 50 44.9**	**-2.3**
PEIG				*i* S	**Sb**	**01 51 08.2**	**-0.2**
CAIG	**El Cayaco**	**1.60**	**287**		**Pn**	**01 50 45.8**	**-1.8**
CAIG					**Sb**	**01 51 09.2**	**+0.1**
CAIG	**El Cayaco**	**1.60**	**287**	*e*P	**Pn**	**01 50 45.8**	**-1.8**
CAIG				*e*S	**Sb**	**01 51 09.2**	**+0.1**
MEIG	**Mezcala**	**1.61**	**326**		**Pn**	**01 50 47.2**	**-0.5**
MEIG					**Sg**	**01 51 10.3**	**-1.7**
MEIG	**Mezcala**	**1.61**	**326**	*e*P	**Pn**	**01 50 47.2**	**-0.5**
MEIG				*e*S	**Sg**	**01 51 10.3**	**-1.7**
VHO	**Vista Hermosa**	**1.91**	**75**	*e*P	**Pn**	**01 50 50.8**	**-1.2**
VHO				*i* S	**Sb**	**01 51 18.4**	**+0.1**
OXBJ	**Oaxaca**	**1.92**	**75**		**Pb**	**01 50 54.2**	**-0.5**
OXBJ					**Sb**	**01 51 18.9**	**+0.4**
OXBJ	**Oaxaca**	**1.92**	**75**	*i* P	**Pb**	**01 50 54.2**	**-0.5**
OXBJ				*i* S	**Sb**	**01 51 18.9**	**+0.4**
OXLC	**Oaxaca**	**1.94**	**76**	*i* P	**Pb**	**01 50 53.7**	**-1.3**
OXLC				*i* S	**Sg**	**01 51 20.4**	**-2.1**
PLIG	**Platanillo**	**1.96**	**336**		**Pn**	**01 50 52.5**	**-0.1**
PLIG					**Sb**	**01 51 20.5**	**+0.9**
PLIG	**Platanillo**	**1.96**	**336**	*e*P	**Pn**	**01 50 52.5**	**-0.1**
PLIG				*e*S	**Sb**	**01 51 20.5**	**+0.9**
TOIG	**Toxpalan**	**2.14**	**45**	*e*P	**Pn**	**01 50 53.9**	**-1.2**
TOIG				*i* S	**Sb**	**01 51 24.6**	**-0.2**
YAIG	**Yautepec**	**2.29**	**350**		**Pb**	**01 50 59.1**	**-2.0**
YAIG					**Sb**	**01 51 30.5**	**+1.3**
YAIG	**Yautepec**	**2.29**	**350**	*e*P	**Pb**	**01 50 59.1**	**-2.0**
YAIG				*i* S	**Sb**	**01 51 30.5**	**+1.3**
ARIG	**Puente Sto Nin**	**2.32**	**317**		**Pn**	**01 50 58.1**	**+0.6**
ARIG					**Sb**	**01 51 30.5**	**+0.5**
ARIG	**Puente Sto Nin**	**2.32**	**317**	*e*P	**Pn**	**01 50 58.1**	**+0.6**
ARIG				*e*S	**Sb**	**01 51 30.5**	**+0.5**
HUIG	**Huatulco**	**2.59**	**108**		**Pn**	**01 50 59.8**	**-1.4**
HUIG					**Sb**	**01 51 38.2**	**+0.5**
HUIG	**Huatulco**	**2.59**	**108**	*e*P	**Pn**	**01 50 59.8**	**-1.4**
HUIG				*i* S	**Sb**	**01 51 38.2**	**+0.5**
UNM	**Universidad Na**	**2.77**	**350**		**Pn**	**01 51 03.5**	**-0.4**
ZIIG	**Zihuatanejo**	**2.86**	**291**		**Pb**	**01 51 08.5**	**-2.1**
ZIIG					**Sn**	**01 51 41.2**	**+2.2**
ZIIG	**Zihuatanejo**	**2.86**	**291**	*e*P	**Pb**	**01 51 08.5**	**-2.1**
ZIIG				*e*S	**Sn**	**01 51 41.2**	**+2.2**
CMIG	**Matias Romero**	**3.66**	**82**	Pn	**Pn**	**01 51 14.0**	**-1.9**
6.7nm,0.3s,baz=267,slow=13,SNR=56							
CMIG				Pg	**Pb**	**01 51 23.7**	**-0.5**
30nm,0.3s,baz=270,slow=16,SNR=23							
CMIG				Lg	Lg	01 52 11.3	
31nm,0.3s,baz=202,slow=20,SNR=6.0							
MOIG	**Morelia**	**3.90**	**322**	Pn	**Pn**	**01 51 20.0**	**+0.6**
CCIG	**Comitan**	**6.27**	**92**		**Pn**	**01 51 53.9**	**+1.8**
HUEH	**Huehuetenango**	**7.01**	**99**	Pn	**Pn**	**01 52 02.4**	**+0.2**
ZAIG	**Zacatecas**	**7.16**	**330**	Pn	**Pn**	**01 52 05.0**	**+0.7**
PETF	**Flores**	**8.44**	**87**	Pn	**Pn**	**01 52 22.4**	**+0.8**
ESQI	**Esquipulas**	**9.21**	**101**	Pn	**Pn**	**01 52 32.8**	**+0.5**
TXAR	**Lajitas Array**	**13.49**	**341**	Pn	**Pn**	**01 53 30.1**	**-0.8**
0.0nm,0.3s,baz=157,slow=12,SNR=1.9							
TXAR				LR	LR	01 59 19.7	
comp=Z,132nm,18.8s,baz=146,slow=41							
JCT	**Junction City**	**13.87**	**356**	Pn	**Pn**	**01 53 36.8**	**+0.9**
WHTX	**Lake Whitney,**	**15.37**	**4**	Pn	**Pn**	**01 53 57.4**	**+1.2**
WHTX				IAmb	IAmb	01 54 10.0	
comp=Z,11nm,0.8s							
RIMA	**Rio Macho**	**15.92**	**113**	Pn	**Pn**	**01 54 03.6**	**-0.1**
ABTX	**Abilene, Hawle**	**15.99**	**357**	Pn	**Pn**	**01 54 03.6**	**-0.7**
MNTX	**Cornudas Mount**	**16.23**	**339**	Pn	**Pn**	**01 54 07.2**	**-0.2**
SRBA	**San Rafael, Bu**	**16.61**	**114**	Pn	**Pn**	**01 54 11.9**	**-0.5**
Z38A	**Mt. Pleasant**	**16.93**	**11**	Pn	**Pn**	**01 54 16.7**	**+0.6**
Z38A				IAmb	IAmb	01 54 26.9	
comp=Z,38nm,1.4s							
143A	**Socs Landing,**	**17.34**	**21**	Pn	**P**	**01 54 22.1**	**-0.5**
Z41A	**Richland Creek**	**17.42**	**17**	Pn	**P**	**01 54 22.6**	**-0.9**
Z41A				IAmb	IAmb	01 54 32.2	
comp=Z,41nm,1.1s							
BNM	**Barren Site**	**18.89**	**339**		**P**	**01 54 37.9**	**-2.1**
BCOK	**Bluff Creek, N**	**19.01**	**3**	P	**P**	**01 54 39.2**	**-1.9**
BCOK				IAmb	IAmb	01 54 51.4	
comp=Z,17nm,0.7s							
OK030	**Cody Creek RV**	**19.33**	**5**	P	**Pn**	**01 54 47.8**	**+2.1**
OK030				IAmb	IAmb	01 54 53.0	
comp=Z,10nm,0.8s							
TUL1	**Leonard**	**19.41**	**7**	P	**Pn**	**01 54 47.1**	**+0.4**
TUL1				IAmb	IAmb	01 54 55.9	
comp=Z,26nm,1.3s							
ANMO	**Albuquerque**	**19.57**	**341**	P	**Pn**	**01 54 48.0**	**-0.7**
comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=8.5							
ANMO				pP	**sP**	**01 54 55.4**	**+1.2**
comp=Z,0.2nm,0.3s,baz=152,slow=10,SNR=6.1							
ANMO				LR	LR	02 02 55.1	
comp=Z,212nm,20.1s,baz=151,slow=39							
ANMO	**Albuquerque**	**19.57**	**341**	P	**Pn**	**01 54 48.4**	**-0.3**
214A	**Organ Pipe Nat**	**19.97**	**323**	P	**P**	**01 54 51.5**	**-0.2**
FCAR	**Ozark Folk Cen**	**20.09**	**16**	P	Pn	01 54 55.5	+0.9
FCAR				IAmb	IAmb	01 55 01.0	
comp=Z,17nm,1.2s							
T35A	**Sooner Cattle**	**20.34**	**5**	P	Pn	01 54 57.0	-0.5
T35A				IAmb	IAmb	01 55 03.2	
comp=Z,17nm,1.0s							
KAN13	**South Haven SW**	**20.37**	**3**	P	Pn	01 54 57.8	-0.2
KAN13				IAmb	IAmb	01 55 06.0	
comp=Z,18nm,0.9s							
PLAL	**Pickwick Lake**	**20.62**	**25**	P	Pn	01 55 01.7	+0.8
T25A	**Trinidad**	**21.09**	**347**	P	**P**	**01 55 05.4**	**+1.5**
X16A	**Lo Mia Camp, P**	**21.13**	**330**	P	**P**	**01 55 04.3**	**-0.1**
PBMO	**Poplar Bluff**	**21.39**	**18**	P	**P**	**01 55 09.5**	**+2.6**
PBMO				IAmb	IAmb	01 55 19.0	
comp=Z,13nm,0.9s							
Y52A	**Lilburn**	**21.64**	**35**	P	**P**	**01 55 11.1**	**+1.4**
Y52A				IAmb	IAmb	01 55 17.3	
comp=Z,18nm,0.8s							
SDCO	**Great Sand Dun**	**21.92**	**345**	P	**P**	**01 55 14.5**	**+1.6**
WUAZ	**Wupatki**	**22.00**	**331**	P	**P**	**01 55 14.8**	**+1.2**
WUAZ				IAmb	IAmb	01 55 27.2	
comp=Z,10.0nm,0.9s							
W50A	**Signal Mountai**	**22.04**	**30**	P	**P**	**01 55 16.2**	**+2.2**
W50A				IAmb	IAmb	01 55 17.1	
comp=Z,11nm,0.6s							
CBKS	**Cedar Bluff**	**22.16**	**358**	P	**P**	**01 55 18.5**	**+3.3**
CBKS				IAmb	IAmb	01 55 28.7	
comp=Z,12nm,0.8s							
MVCO	**Mesa Verde**	**22.30**	**339**	P	**P**	**01 55 18.7**	**+1.7**
MVCO				IAmb	IAmb	01 55 20.1	
comp=Z,11nm,1.3s							
R40A	**Maddies Statio**	**22.34**	**13**	IAmb	IAmb	01 55 26.9	
comp=Z,21nm,1.4s							
T47A	**Sharon Grove**	**22.75**	**25**	P	**P**	**01 55 21.2**	**-0.3**
U15A	**North Rim**	**23.17**	**331**	IAmb	IAmb	01 55 38.0	
comp=Z,6.9nm,1.2s							
TKL	**Tuckaleechee C**	**23.17**	**32**	P	**P**	**01 55 25.0**	**-0.8**
comp=Z,12nm,1.1s,baz=221,slow=7.2,SNR=4.5							
PV04	**Paradox Valley**	**23.51**	**340**	P	**P**	**01 55 30.2**	**+0.8**
PV04				IAmb	IAmb	01 55 40.6	
comp=Z,8.0nm,1.2s							
P40A	**Paris**	**23.57**	**13**	P	**P**	**01 55 30.0**	**+0.2**
ISCO	**Idaho Springs**	**23.91**	**347**	P	**P**	**01 55 34.2**	**+0.9**
MTPU	**Mount Pierson**	**24.46**	**334**	P	**P**	**01 55 40.1**	**+1.5**
MTPU				IAmb	IAmb	01 55 41.7	
comp=Z,9.0nm,0.8s							
SRU	**San Rafael Swe**	**24.72**	**338**	P	**P**	**01 55 41.7**	**+1.0**
SRU				IAmb	IAmb	01 55 51.5	
comp=Z,5.9nm,1.0s							
Q16A	**Castle Valley**	**24.79**	**336**	P	**P**	**01 55 42.9**	**+1.5**
Q16A				IAmb	IAmb	01 55 52.8	
comp=Z,7.4nm,0.9s							
P18A	**Preston Nutter**	**25.08**	**339**	IAmb	IAmb	01 55 55.6	
comp=Z,7.9nm,1.1s							
P49A	**Miami Univ. Ec**	**25.90**	**25**	P	**P**	**01 55 51.4**	**+0.3**
BW06	**Boulder Array**	**27.70**	**343**	IAmb	IAmb	01 56 29.3	
comp=Z,6.6nm,1.4s							
PD31	**Pinedale Array**	**27.70**	**343**	IAmb	IAmb	01 56 29.2	
comp=Z,5.5nm,1.4s							
PDAR	**Pinedale Array**	**27.70**	**343**	P	**P**	**01 56 08.1**	**+0.4**
comp=Z,0.7nm,0.6s,baz=135,slow=11,SNR=9.2							
PDAR				pP	**sP**	**01 56 16.1**	**+1.3**
comp=Z,1.2nm,0.6s,baz=138,slow=10,SNR=8.2							
PDAR				LR	LR	02 08 13.2	
comp=Z,99nm,19.1s,baz=172,slow=39							
PDAR	**Pinedale Array**	**27.70**	**343**	P	**P**	**01 56 07.2**	**-0.5**
NVAR	**Mina Array Bea**	**27.75**	**325**	P	**P**	**01 56 09.4**	**+1.2**
comp=Z,1.1nm,0.9s,baz=146,slow=8.8,SNR=7.0							
NVAR	**Mina Array Bea**	**27.75**	**325**	P	**P**	**01 56 10.1**	**+1.9**
ELK	**Elko**	**28.02**	**333**	LR	LR	02 08 45.4	
comp=Z,206nm,19.0s,baz=150,slow=40							
YKA	**Yellowknife Ar**	**47.20**	**350**	P	**P**	**01 58 50.4**	**-1.2**
comp=Z,0.8nm,0.7s,baz=157,slow=7.2,SNR=10							
YKA				pP	**sP**	**01 58 60.0**	**+1.0**
comp=Z,2.0nm,0.8s,baz=157,slow=7.2,SNR=15							
INK	**Inuvik**	**56.22**	**345**	P	**P**	**01 59 58.4**	**-0.5**
comp=Z,1.2nm,0.8s,baz=119,slow=8.4,SNR=5.2							
ILAR	**Eielson Array**	**57.98**	**338**	P	**P**	**02 00 11.2**	**-0.2**
comp=Z,0.8nm,1.0s,baz=146,slow=5.0,SNR=4.3							
ILAR				pP	**sP**	**02 00 21.0**	**+2.2**
comp=Z,1.0nm,1.1s,baz=162,slow=9.1,SNR=3.3							
WRA	**Warramunga Arr**	**129.72**	**258**	PKP	**PKiKP**	**02 09 35.2**	**+5.2**
comp=Z,0.6nm,1.0s,baz=75,slow=2.7,SNR=2.9							
PZH	**PanZhiHua**	**132.79**	**335**	PKP	**PKiKP**	**02 09 38.0**	**+1.7**

IDC 16 02:13:43.3±9.1, 7°.10S×128°.86E, h289km±107km, mb2.7/1, mb1 2.7/4, mb1mx2.6/33, mbtmp3.3/4, Error ellipse: s-maj=66.9km s-min=39.8km az=43.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.37**	**196**	P	Pn	02 16 17.2	-1.2
0.0nm,0.3s,baz=15,slow=18,SNR=1.3							
FITZ				S	S	02 18 28.0	+2.5
0.1nm,0.3s,baz=165,slow=18,SNR=1.5							
WRA	**Warramunga Arr**	**13.83**	**158**	P	P	02 16 46.4	-1.8
0.1nm,0.3s,baz=336,slow=12,SNR=10.0							
WRA				S	S	02 19 16.0	-4.9
0.0nm,0.3s,baz=337,slow=23,SNR=1.0							
ASAR	**Alice Springs**	**17.17**	**164**	P	Pn	02 17 26.3	-1.4
0.1nm,0.3s,baz=345,slow=10,SNR=11							
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	02 24 09.6	-0.2
0.3nm,0.9s,baz=110,slow=6.3,SNR=2.2							

SSNC 16 02:20:41.7±1.3, 19°.65N×75°.59W, h14km±6km, MD2.4, ML2.1, MW2.4, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.35**	**344**	*e*P	Pg	02 20 47.7	-1.2
RCC				*e*S	Sg	02 20 52.6	-1.1
RCC				IAML		02 20 52.9	
comp=N,355nm,0.2s							
RCC				IAML		02 20 52.9	
comp=E,116nm,0.2s							
RCC	**Rio Carpintero**	**0.35**	**344**	*e*P	Pg	02 20 47.8	-1.1
RCC				*e*S	Sg	02 20 52.6	-1.2
RCC				IAML		02 20 52.9	
comp=E,115nm,0.2s							
RCC				IAML		02 20 52.9	
comp=N,365nm,0.2s							
GTBY	**Guantanamo Bay**	**0.53**	**59**	*e*P	Pg	02 20 51.1	-1.0
GTBY				*e*S	Sg	02 20 58.6	-0.6
GTBY	**Guantanamo Bay**	**0.53**	**59**	*e*P	Pg	02 20 51.1	-1.0
GTBY				*e*S	Sg	02 20 58.9	-0.3
GTMO	**Guantanamo**	**0.60**	**45**	*e*P	Pg	02 20 52.2	-1.3
GTMO				*e*S	Sg	02 21 00.9	-0.5
GTMO				IAML		02 21 01.5	
comp=N,2μm,0.2s							
GTMO				IAML		02 21 01.5	
comp=E,2μm,0.2s							
GTMO	**Guantanamo**	**0.60**	**45**	*e*P	Pg	02 20 52.4	-1.1
GTMO				*e*S	Sg	02 21 01.3	-0.2
GTMO				IAML		02 21 01.5	
comp=N,2μm,0.2s							
GTMO				IAML		02 21 01.5	
comp=E,2μm,0.2s							
MOAC	**Moa**	**1.17**	**31**	*e*P	Pn	02 21 00.7	-2.9
MOAC				*e*S	Sb	02 21 15.4	-3.2
MOAC				IAML		02 21 17.2	
comp=N,15nm,0.3s							
MOAC				IAML		02 21 18.2	
comp=E,19nm,0.2s							
HLGC	**Holguin**	**1.31**	**340**	*e*P	Pn	02 21 05.8	+0.2
HLGC				*e*S	Sg	02 21 25.2	+1.3
HLGC				IAML		02 21 26.6	
comp=E,37nm,0.6s							
HLGC				IAML		02 21 28.2	
comp=N,19nm,0.4s							
MASC	**Masc**	**1.38**	**68**	*e*P	Pn	02 21 03.3	-3.3
MASC				*e*S	Sn	02 21 20.5	-4.2
MASC				IAML		02 21 23.9	
comp=E,12nm,0.3s							
MASC				IAML		02 21 25.5	
comp=N,13nm,0.2s							
LMGC	**Las Mercedes**	**1.39**	**287**	*e*P	Pn	02 21 03.8	-2.9
LMGC				*e*S	Sn	02 21 20.9	-4.0
LMGC				IAML		02 21 21.4	
comp=E,34nm,0.0s							
LMGC				IAML		02 21 22.9	
comp=N,43nm,0.1s							
CCCC	**Cccc**	**2.56**	**307**	*e*P	Pn	02 21 19.0	-3.7
CCCC				*e*S	Sn	02 21 47.7	-5.9
CCCC				IAML		02 21 53.4	
comp=E,2.4nm,0.4s							
CCCC				IAML		02 21 53.6	
comp=N,2.8nm,0.5s							

*INET **16** 02:25:46.5±0.9, 14°.07N×92°.25W, h15km±25km, ML3.9*
*NEIC **16** 02:25:51.4±2.4, 14°.29N±0°.09×91°.81W±0°.09, h77km±6km, mb4.3/15, Error ellipse: s-maj=17.3km s-min=5.2km az=220.0*
*UCR **16** 02:25:51.4±1.6, 14°.18N×91°.87W, h58km±115km, ML3.6, mb4.3(NEIC)*
*SNET **16** 02:25:51.4±1.6, 14°.17N×91°.87W, h58km±115km, ML3.7*
*IDC **16** 02:25:52.2±3.0, 14°.51N×91°.46W, h84km±26km, mb3.6/10, mb1 3.8/12, mb1mx3.5/42, mbtmp3.9/12, MS3.1/5, Ms1 3.1/5, ms1mx2.7/56, Error ellipse: s-maj=39.3km s-min=14.2km az=48.0*

ISC 16 02:25:51.0±1.1, 14°.31N±0°.09×91°.82W±0°.07, h80km±9km, n68, σ1°.15/77, mb4.2/17, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.25**	**29**		**Pn**	**02 26 02.1**	**-1.0**
HUEH	**Huehuetenango**	**1.05**	**17**		Pn	02 26 11.8	+0.9
HUEH	**Huehuetenango**	**1.05**	**17**	*e*P	Pn	02 26 11.7	+0.7
CCIG	**Comitan**	**1.99**	**351**		Pn	02 26 24.2	+1.3
SLOZ	**Alcaldia de Sa**	**2.00**	**98**	*e*P	**Pn**	**02 26 23.7**	**+0.8**
SLOZ				*e*S	**Sn**	**02 26 49.5**	**+2.2**
SLOZ				IAML		02 26 53.3	
comp=Z,287nm,0.5s							
NUBE	**Las Nubes**	**2.02**	**101**	*e*P	**Pn

ORTG	Ortega, Santa	7.35	122		Pn	02 27 34.4	-1.4
RIMA	Rio Macho	8.99	119		Pn	02 27 59.6	+1.2
SRBA	San Rafael, Bu	9.70	120		Pn	02 28 08.4	+0.5
TXAR	Lajitas Array	18.54	326	P	Pn	02 30 04.3	+1.8
	comp=Z,0.1nm,0.3s,baz=155,slow=11,SNR=21						
TX31	Lajitas Ar. Si	18.54	326	P	Pn	02 30 03.4	+0.8
TX32	Lajitas Array	18.54	326	P	Pn	02 30 02.0	-0.5
MNTX	Cornudas Mount	21.30	327	P	P	02 30 31.3	0.0
SDV	Santo Domingo	21.43	102	P	P	02 30 31.7	-1.3
	comp=Z,1.7nm,0.3s,baz=296,slow=6.5,SNR=3.5						
AMTX	Amarillo	22.34	338	P	P	02 30 41.6	-0.7
AMTX				IAmb	IAmb	02 30 43.6	
	comp=Z,7.9nm,0.5s						
TKL	Tuckaleechee C	22.46	17	P	P	02 30 42.4	-1.2
	comp=Z,6.5nm,1.0s,baz=196,slow=0.8,SNR=2.5						
TKL				LR	LR	02 39 52.4	
	comp=Z,70nm,18.8s,baz=255,slow=38						
TKL	Tuckaleechee C	22.46	17	IAmb	IAmb	02 30 47.3	
	comp=Z,18nm,1.2s						
121A	Cookes Peak, D	23.26	324	P	P	02 30 52.1	+0.2
121A				IAmb	IAmb	02 30 55.5	
	comp=Z,6.2nm,0.9s						
S44A	Carbondale	23.40	5	P	P	02 30 51.0	-1.9
WCI	Wyandotte Cave	24.32	11	P	P	02 31 00.3	-0.9
WCI				IAmb	IAmb	02 31 02.7	
	comp=Z,10.0nm,0.8s						
ANMO	Albuquerque	24.42	330	P	P	02 31 03.7	+1.3
	comp=Z,1.0nm,0.6s,baz=157,slow=11,SNR=4.0						
PDAR	Pinedale Array	32.22	335	P	P	02 32 11.8	-0.1
	comp=Z,0.2nm,0.7s,baz=150,slow=11,SNR=2.8						
PDAR				PcP	PcP	02 34 58.3	-0.5
	comp=Z,0.4nm,0.7s,baz=154,slow=2.7,SNR=3.1						
SADO	Sadowa	32.22	17	LR	LR	02 44 56.7	
	comp=Z,31nm,20.4s,baz=148,slow=36						
NV11	Mina Array Sit	33.45	321	P	P	02 32 23.1	+0.4
NV11				IAmb	IAmb	02 32 26.3	
	comp=Z,3.0nm,0.8s						
NVAR	Mina Array Bea	33.54	321	P	P	02 32 26.3	+2.8
	comp=Z,3.6nm,0.8s,baz=134,slow=9.2,SNR=34						
NVAR				PcP	PcP	02 35 03.8	+1.3
	comp=Z,0.9nm,0.7s,baz=141,slow=3.9,SNR=9.1						
NVAR	Mina Array Bea	33.54	321	P	P	02 32 23.8	+0.3
NVAR				PcP	PcP	02 35 03.9	+1.4
ETMB	Extrema	34.92	132	P	P	02 32 34.9	-0.5
ETMB				IAmb	IAmb	02 32 36.4	
	comp=Z,3.6nm,0.9s						
J08A	Circle Bar Ran	36.88	327	IAmb	IAmb	02 32 54.4	
	comp=Z,6.8nm,0.9s						
PLID	Pearl Lake	36.89	331	IAmb	IAmb	02 33 16.0	
	comp=Z,4.0nm,1.3s						
SIV	San Ignacio	42.77	134	P	P	02 33 40.9	-0.1
	comp=Z,1.7nm,0.8s,baz=297,slow=8.9,SNR=11						
SIV				PcP	PcP	02 35 31.4	+0.2
	comp=Z,0.3nm,0.5s,baz=271,slow=3.5,SNR=4.9						
SCHQ	Schefferville	44.88	20	LR	LR	02 52 48.1	
	comp=Z,45nm,18.0s,baz=84,slow=36						
YKA	Yellowknife Ar	50.77	347	P	P	02 34 41.6	-1.1
	comp=Z,1.2nm,0.6s,baz=148,slow=7.6,SNR=27						
YKA				PcP	PcP	02 35 58.2	-0.4
	comp=Z,0.5nm,0.6s,baz=144,slow=4.3,SNR=8.4						
BDFB	Brasilia	52.54	123	P	P	02 34 55.3	-1.4
	comp=Z,1.4nm,0.6s,baz=315,slow=8.6,SNR=3.1						
BDFB	Brasilia	52.54	123	IAmb	IAmb	02 34 56.8	
	comp=Z,6.5nm,1.3s						
M26K	Nabesna, AK	59.98	335	P	P	02 35 48.8	-0.2
INK	Inuvik	60.20	343	P	P	02 35 49.2	-1.0
	comp=Z,0.9nm,0.7s,baz=118,slow=6.2,SNR=5.0						
RES	Resolute Bay	60.40	359	LR	LR	03 02 46.7	
	comp=Z,39nm,19.3s,baz=115,slow=37						
ILAR	Eielson Array	62.63	337	P	P	02 36 07.0	+0.3
	comp=Z,0.9nm,0.7s,baz=121,slow=5.0,SNR=9.1						
MKAR	Makanchi Array	118.95	5	PKP	PKPdf	02 44 29.6	-1.0
	comp=Z,0.4nm,0.5s,baz=355,slow=1.5,SNR=4.8						
WB0	Warramunga Arr	135.59	256	PKPdf	PKPdf	02 45 02.7	-0.2
WRA	Warramunga Arr	135.64	256	PKP	PKPdf	02 45 04.8	+1.8
	comp=Z,0.4nm,1.0s,baz=343,slow=0.4,SNR=4.7						
CMAR	Chiang Mai Arr	145.76	342	PKPbc	PKPdf	02 45 22.0	+0.7
	comp=Z,4.5nm,0.8s,baz=332,slow=3.4,SNR=16						
CMAR	Chiang Mai Arr	145.76	342		PKPdf	02 45 21.2	-0.1

*JMA **16** 03:03:04.8±0.2, 24°.01N×122°.44E, h23km±4km, M2.3*
*TAP **16** 03:03:05.3, 24°.06N×122°.42E, h26km, ML2.6, D*
ISC 16 03:03:04.1±1.1, 24°.04N±0°.04×122°.41E±0°.02, h14km±9km, n41, σ0°60/59, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.64	50	P	Pg	03 03 17.1	+0.5
JYNG				S	Sg	03 03 25.8	+0.7
YOJ	Yonaguni jima	0.69	52	P	Pg	03 03 18.0	+0.4
YOJ				eS	Sg	03 03 26.6	-0.2
YOJ	Yonaguni jima	0.69	52	i P	Pg	03 03 18.1	+0.5
	baz=52						
YOJ				S	Sg	03 03 27.6	+0.7
	baz=52						
EWUT	Wuta	0.70	305	eP	Pb	03 03 18.6	+0.4
	baz=303						
EWUT				eS	Sb	03 03 27.9	+0.2
	baz=303						
ENA	Nanau	0.72	303	eS	Sb	03 03 28.9	+0.7
	baz=300						
ETL	Fush Village	0.73	280	eS	Sn	03 03 29.9	-1.1
	baz=277						
NACB	Ninganchiao	0.76	281	eP	Pb	03 03 19.4	+0.4
	baz=278						
NACB				eS	Sb	03 03 29.9	+0.7
	baz=278						
TWC	Suao	0.77	318	P	Pg	03 03 18.9	-0.1
	baz=317						
TWC				eS	Sg	03 03 28.4	-0.6
	baz=317						
ETLH	Xiulin Townshi	0.86	282	eP	Pb	03 03 21.2	+0.3
	baz=279						
ETLH				eS	Sb	03 03 33.3	+0.9
	baz=279						
NDS	Dongshan	0.87	313	eP	Pb	03 03 21.1	+0.1
	baz=311						
NDS				eS	Sg	03 03 32.4	+0.1
	baz=311						
LATG	Datong	0.95	302	eP	Pb	03 03 22.7	+0.3
	baz=300						
TWE	Neicheng	0.96	315	eP	Pb	03 03 22.8	+0.3
	baz=314						
ENTT	Nioudou	0.97	308	eP	Pg	03 03 22.6	-0.3
	baz=306						
NDT	Datong Townshi	0.99	305	eS	Sb	03 03 36.2	+0.2
	baz=303						
FUSB	Fushanzhiwuyua	1.04	314	eP	Pn	03 03 24.6	+0.3
	baz=312						
TWB1	Santiao Chiao	1.04	339	eS	Sg	03 03 37.2	-0.6
	baz=337						
WHF	Hehuan Shan	1.05	276	eP	Pg	03 03 23.8	-0.6
	baz=274						
WHF				eS	Sb	03 03 38.6	+0.4
	baz=274						
HGSD	Ruisui	1.05	239	eP	Pn	03 03 25.0	+0.6
	baz=238						
TIPB	Shuangxi	1.07	330	eP	Pg	03 03 24.8	0.0
	baz=329						
TIPB				eS	Sg	03 03 37.8	-1.0
	baz=329						
CHGB	Renai	1.13	271	eP	Pg	03 03 25.6	-0.3
	baz=270						
CHGB				eS	Sb	03 03 40.5	+0.3
	baz=270						
YHNB	Yeheng	1.13	304	eP	Pb	03 03 25.8	+0.2
	baz=302						
YHNB				eS	Sb	03 03 40.0	-0.2
	baz=302						
NSK	Sanguang	1.15	304	eP	Pb	03 03 25.6	-0.2
	baz=302						
SXI1	Grass Mountain	1.16	335	eP	Pb	03 03 25.3	-0.7
	baz=334						
NWF	Wu-fen Shan	1.18	331	eP	Pb	03 03 25.8	-0.5
	baz=330						
WUSB	Renai	1.18	268	eP	Pg	03 03 27.0	+0.1
	baz=266						
WUSB				eS	Sg	03 03 41.8	-0.5
	baz=266						
VWDT	VWDT	1.19	257	eP	Pg	03 03 26.9	-0.2
	baz=255						
VWDT				eS	Sb	03 03 41.9	+0.1
	baz=255						
YULB	Yu-li	1.20	238	P	Pb	03 03 26.0	-0.7
	baz=237						
YULB				i S	Sb	03 03 41.3	-0.8
	baz=237						
IRIF	Iriomote-Funau	1.24	76	P	Pn	03 03 26.8	-0.3
IRIF				S	Sb	03 03 43.2	-0.1
HATJ	Hateruma jima	1.28	89	eS	Sb	03 03 44.2	0.0
FULB	Fuli	1.32	231	eS	Sb	03 03 45.0	-0.5
	baz=230						
SSLB	Suanglung	1.35	260	eP	Pn	03 03 29.0	+0.4
	baz=258						
WHP	Taichung City	1.36	281	eS	Sg	03 03 47.6	-0.3
	baz=279						
SMLT	Sun Moon Lake	1.39	264	eS	Sb	03 03 47.1	-0.4
	baz=262						
TYC	Yuchr	1.43	265	eS	Sn	03 03 48.1	0.0
	baz=263						
JKRS	Kuro-shima	1.48	82	P	Pn	03 03 30.9	+0.6
JIJ	Ishigaki jima	1.62	78	P	Pn	03 03 32.1	-0.1
JIJ				eS	Sn	03 03 51.3	-1.6
TPUB	Ta-pu	1.79	246	eS	Sn	03 03 57.9	+0.8
	baz=245						
JISG	Ishigakijimahi	1.82	72	P	Pn	03 03 35.4	+0.4
JISG				S	Sn	03 03 56.5	-1.4
TWK	Hsinying	1.92	247	eS	Sn	03 04 01.4	+1.0
	baz=245						
CHN1	Nanshi	1.92	244	eS	Sn	03 04 01.5	+1.1
	baz=243						
JTJ	Tarama	2.18	73	P	Pn	03 03 40.7	+0.8

*IDC **16** 03:17:20.3±0.6, 28°.42N×142°.72E, h0km, mb4.0/22, mb1 4.2/25, mb1mx4.1/51, mbtmp4.0/25, ML3.2/3, MS3.0/6, Ms1 3.0/6, ms1mx2.6/91, Error ellipse: s-maj=20.8km s-min=13.3km az=87.0*
*JMA **16** 03:17:22.5, 28°.44N×142°.81E, h58km, M4.0*
*NIED **16** 03:17:22.6, 28°.44N×142°.81E, h58km, MW4.2, Moment Tensor Solution. s1 Moment tensor: Scale 10^{15}Nm; M_{rr}0.88; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-0.93; $M_{r\theta}$0.52; $M_{\phi\phi}$-0.08; $M_{\phi r}$1.87; Fault plane solution: $M_0$2.15000×10^{15} NP1:ϕ_s15.00000°, δ78.00000°, λ94.00000°. NP2:ϕ_s174.00000°, δ13.00000°, λ70.00000°.*
*NEIC **16** 03:17:23.6±1.2, 28°.41N±0°.06×142°.7E±0°.2, h19km±5km, mb4.4/14 Error ellipse: s-maj=22.7km s-min=8.8km az=91.0*
ISC 16 03:17:24.1±0.6, 28°.43N±0°.05×142°.6E±0°.1, h25km, n65, σ0°78/65, mb4.1/30, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.39	197	P	Pn	03 17 47.0	-0.9
CBIJ				eS	Sn	03 18 05.1	-0.4
JCJ	Chichijima	1.39	197		Pn	03 17 47.2	-0.7
JHH2	Haha-jima-NKT2	1.84	193	eS	Sn	03 18 15.9	-0.6
BSO1	Boso 1	6.37	348	P	Pn	03 18 56.7	+0.8
BSO3	Boso 3	6.61	345	P	Pn	03 18 59.7	+0.3
BSO3				eS	Sn	03 20 14.3	+0.5
BSO4	Boso 4	6.83	344	P	Pn	03 19 03.0	+0.4
JOD2	Odawara 2	7.45	337	P	Pn	03 19 12.3	+1.0
JHU	Hanno	7.93	340	P	Pn	03 19 17.7	-0.1
JRY	Ryogami san	8.20	338	P	Pn	03 19 21.9	+0.3
JRY				eS	Sn	03 20 53.6	+0.1
JAG	Ashikaga	8.42	342	P	Pn	03 19 23.9	-0.6
MJAR	Matsushiro Arr	8.91	336	Pn	Pn	03 19 31.5	+0.1
	0.4nm,0.3s,baz=154,slow=11,SNR=14						
MJAR				LR	LR	03 22 30.3	
	comp=Z,53nm,20.9s,baz=94,slow=35						
MJAR	Matsushiro Arr	8.91	336		Pn	03 19 32.8	+1.5
MAJO	Matsushiro	8.91	336	Pn	Pn	03 19 31.8	+0.5
MAT	Matsushiro	8.91	336	P	Pn	03 19 31.6	+0.2
MAT				eS	Sn	03 21 09.0	-2.0
MJB9	Matsu-Tunnel	8.92	336	Pn	Pn	03 19 31.0	-0.4
JMM	Marumori	9.54	351	Pn	Pn	03 19 37.6	-2.2
JNU	Nakatsue	11.14	298	LR	LR	03 23 50.7	
	comp=Z,101nm,18.2s,baz=64,slow=35						
JOW	Kunigami	12.84	266	LR	LR	03 24 44.2	
	comp=Z,53nm,20.5s,baz=102,slow=34						
KSRS	Korea Array	15.27	310	Pn	Pn	03 20 58.2	+0.1
	0.2nm,0.3s,baz=127,slow=10,SNR=2.7						
KSRS				LR	LR	03 26 48.4	
	comp=Z,55nm,18.5s,baz=115,slow=37						
USRK	Ussuriysk Ar.	17.90	334	P	Pn	03 21 30.7	-0.6
	baz=151,slow=10,SNR=3.5						
USA0B	Ussuriysk Arra	17.90	334	Pn	Pn	03 21 30.2	-1.2
KLR	Kul'dur	22.39	341	P	P	03 22 20.6	+0.1
	3.1nm,1.0s,baz=141,slow=10,SNR=5.8						
H11N2	WAKE ISLAND Hy	23.74	106	T	T	03 47 03.6	
	baz=297,slow=75						
H11N1	WAKE ISLAND Hy	23.74	106	T	T	03 47 09.7	
	baz=297,slow=75						
H11N3	WAKE ISLAND Hy	23.76	106	T	T	03 47 11.7	
	baz=297,slow=75						
ULN	Ulaanbaatar	33.65	315	P	P	03 24 03.6	+0.6
ULN				IAmb	IAmb	03 24 04.9	
	comp=Z,4.5nm,1.2s						
SONM	Songino Array	34.05	315	P	P	03 24 06.7	+0.2
	comp=Z,0.6nm,0.4s,baz=129,slow=10,SNR=7.6						
SONM	Songino Array	34.05	315	IAmb	IAmb	03 24 15.7	
	comp=Z,1.2nm,0.9s						
SEY	Seymchan	35.09	8	P	P	03 24 14.7	-0.3
	comp=Z,1.0nm,0.7s,baz=132,slow=6.6,SNR=3.5						
CM31	Chiang Mai Arr	41.11	266	P	P	03 25 06.6	+0.3
CMAR	Chiang Mai Arr	41.11	266	LR	LR	03 42 51.6	
	comp=Z,11nm,18.6s,baz=55,slow=37						
CMAR	Chiang Mai Arr	41.11	266	P	P	03 25 05.8	-0.5
BATI	Baumata	42.57	208	P	P	03 25 19.9	+1.7
	comp=Z,21nm,0.5s,baz=11,slow=5.2,SNR=4.9						
WB0	Warramunga Arr	48.57	190	P	P	03 26 04.2	-1.4
WB0				IAmb	IAmb	03 26 08.0	
	comp=Z,6.3nm,0.8s						
WB2	Warramunga Arr	48.75	190	P	P	03 26 05.8	-1.1
WRA	Warramunga Arr	48.75	190	P	P	03 26 06.2	-0.7
	comp=Z,5.5nm,0.7s,baz=12,slow=8.2,SNR=38						
WRA				PcP	PcP	03 27 32.0	+0.2
	comp=Z,0.4nm,0.4s,baz=4.6,slow=3.8,SNR=1.1						
WRA	Warramunga Arr	48.75	190	P	P	03 26 06.3	-0.7
ZAA0	Zalesovo Array	48.76	318	P	P	03 26 06.7	0.0
ZAA0				IAmb	IAmb	03 26 17.6	
	comp=Z,2.1nm,1.1s						
ZALV	Zalesovo Beam	48.76	318	P	P	03 26 06.9	+0.2
	comp=Z,0.9nm,0.4s,baz=102,slow=7.8,SNR=7.4						
ZALV				PcP	PcP	03 27 31.6	+0.3
	comp=Z,1.1nm,0.5s,baz=106,slow=4.8,SNR=4.5						
ZALV	Zalesovo Beam	48.76	318	PcP	PcP	03 27 29.8	-1.5
FITZ	Fitzroy Crossi	49.09	202	P	P	03 26 09.2	-0.3
	comp=Z,1.1nm,0.5s,baz=30,slow=9.5,SNR=8.9						
MK31	Makanchi Array	49.95	309	P	P	03 26 15.9	-0.1
MK31				IAmb	IAmb	03 26 17.4	
	comp=Z,1.1nm,0.7s						
MKAR	Makanchi Array	49.95	309	P	P	03 26 16.2	+0.2
	comp=Z,1.1nm,0.6s,baz=94,slow=9.0,SNR=16						
MKAR				PcP	PcP	03 27 36.5	+0.5
	comp=Z,0.2nm,0.4s,baz=90,slow=7.8,SNR=4.7						
MKAR				LR	LR	03 48 01.3	
	comp=Z,35nm,18.9s,baz=29,slow=37						
KURK	Kurchatov	52.35	314	P	P	03 26 34.7	+0.8
KURK				IAmb	IAmb	03 26 35.4	
	comp=Z,10.0nm,0.9s						
KURBB	Kurchatov Arra	52.41	314	P	P	03 26 34.6	+0.3
	comp=Z,5.4nm,0.9s,baz=90,slow=6.9,SNR=43						
ASAR	Alice Springs	52.47	190	P	P	03 26 34.0	-1.0
	comp=Z,0.3nm,0.5s,baz=15,slow=9.4,SNR=7.5						
ILAR	Eielson Array	56.35	29	P	P	03 27 02.6	-0.2
	comp=Z,0.7nm,1.0s,baz=260,slow=5.3,SNR=3.2						
BVAR	Borovoye Array	57.34	317	P	P	03 27 10.9	+0.9
	comp=Z,3.2nm,0.5s,baz=81,slow=9.8,SNR=26						
BRVK	Borovoye	57.41	317	P	P	03 27 10.7	+0.2
BRVK				IAmb	IAmb	03 27 21.9	
	comp=Z,3.2nm,0.9s						
KKAR	Karatay Array	58.64	305	P	P	03 27 19.1	-0.2
INK	Inuvik	61.65	25	P	P	03 27 38.6	-0.8
	comp=Z,1.0nm,0.6s,baz=9.9,slow=6.7,SNR=7.2						
ABKAR	Abkulak array	64.46	314	P	P	03 27 58.6	+0.1
ABKAR				IAmb	IAmb	03 28 00.7	
	comp=Z,4.3nm,1.2s						
AKTO	Aktyubinsk	65.36	316	P	P	03 28 05.5	+1.2
	comp=Z,1.2nm,0.5s,baz=72,slow=9.6,SNR=8.0						
YKA	Yellowknife Ar	70.78	29	P	P	03 28 38.0	0.0
	comp=Z,0.5nm,0.6s,baz=294,slow=6.3,SNR=7.0						
ARCES	ARCESS Array B	72.42	341	P	P	03 28 47.5	-0.3
	comp=Z,2.5nm,0.8s,baz=39,slow=5.8,SNR=2.0						
FINES	FINESS Array B	76.94	334	P	P	03 29 14.5	+0.4
	comp=Z,1.4nm,0.7s,baz=46,slow=5.5,SNR=6.4						
KBZ	Khabaz	77.40	313	P	P	03 29 17.3	+0.2
	comp=Z,3.8nm,0.8s,baz=99,slow=6.9,SNR=7.7						
NVAR	Mina Array Bea	79.38	52	P	P	03 29 29.0	+0.6
	comp=Z,0.4nm,0.6s,baz=289,slow=4.5,SNR=4.4						
AKASG	Malin Array Be	81.78	324	P	P	03 29 40.5	-0.2
	comp=Z,0.7nm,0.6s,baz=53,slow=5.2,SNR=3.2						
NOA	NORSAR Array B	82.53	338	P	P	03 29 44.2	-0.4
	comp=Z,0.5nm,0.7s,baz=27,slow=4.0,SNR=1.6						
RAYN	Ar Rayn	84.98	294	P	P	03 29 57.6	-0.2
BR131	Keskin Array S	85.40	313	P	P	03 30 00.1	+0.4
BR131				IAmb	IAmb	03 30 01.8	
	comp=Z,3.4nm,0.8s						
BRTR	Keskin Array B	85.40	313	P	P	03 30 00.5	+0.7
	comp=Z,1.7nm,0.7s,baz=96,slow=4.1,SNR=12						
BRTR	Keskin Array B	85.40	313	P	P	03 30 00.7	+0.9
TXAR	Lajitas Array	94.48	53	P	P	03 30 44.2	+1.4
	comp=Z,0.3nm,0.6s,baz=276,slow=2.4,SNR=4.8						

*MAN **16** 03:23:22.4, 10°.05N×126°.05E, h6km, mb4.4, ML3.2, MS3.0*
*IDC **16** 03:23:27.2±18.0, 9°.94N×125°.75E, h100km±177km, mb3.2/4, mb1 3.3/4, mb1mx3.1/34, mbtmp3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/23, Error ellipse: s-maj=211.8km s-min=28.7km az=70.0*
ISC 16 03:23:21.6±1.2, 9°.9N±0°.1×126°.2E±0°.1, h54km, n11, σ1°85/9, mb3.4/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.70	257	⇓i P	Pn	03 23 34.5	-1.1
SCPH				i S	Sn	03 23 43.6	-2.2
TBP	Tagbilaran	2.30	264	eP	Pn	03 23 57.4	+0.3
TBP				eS	Sn	03 24 26.7	+2.3
RCP	Roxas	3.74	296	⇑eP	Pn	03 24 18.6	+1.7
PSI	Prapat	27.99	257	LR	LR	03 43 27.6	
	comp=Z,15nm,20.0s,baz=246,slow=44						
ASAR	Alice Springs	34.24	167	P	P	03 30 04.4	+1.9
	0.2nm,0.6s,baz=348,slow=7.1,SNR=4.4						
H11N1	WAKE ISLAND Hy	40.44	71	T	T	04 14 18.1	
	baz=265,slow=74,SNR=13						
H11N2	WAKE ISLAND Hy	40.45	71	T	T	04 14 18.8	
	baz=265,slow=74,SNR=7.0						
H11N3	WAKE ISLAND Hy	40.46	71	T	T	04 14 19.9	
	baz=265,slow=74,SNR=10						
SONM	Songino Array	41.30	340	P	P	03 31 01.6	-0.2
	0.1nm,0.5s,baz=158,slow=8.1,SNR=1.5						
MKAR	Makanchi Array	52.24	323	P	P	03 32 25.9	-1.4
	0.3nm,0.7s,baz=110,slow=8.4,SNR=3.5						
FINES	FINESS Array B	86.14	332	P	P	03 35 55.9	-0.8
	2.4nm,1.0s,baz=72,slow=6.0,SNR=4.3						

IDC 16 03:35:20.3±4.8, 60°.62N×28°.22W, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.3/33, mbtmp3.4/4, MS3.0/7, Ms1 3.0/7, ms1mx2.6/67, Error ellipse: s-maj=147.1km s-min=29.9km az=175.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	14.26	101	LR	LR	03 43 08.9	
	comp=Z,87nm,18.6s,baz=352,slow=33						
NOA	NORSAR Array B	19.03	71	LR	LR	03 46 02.7	
	comp=Z,33nm,18.7s,baz=270,slow=34						
HFS	Hagfors	20.47	73	LR	LR	03 46 36.2	
	comp=Z,46nm,21.3s,baz=262,slow=33						
ARCES	ARCESS Array B	23.51	45	LR	LR	03 47 22.1	
	comp=Z,30nm,20.1s,baz=352,slow=31						
GERES	GERESS Array B	26.43	97	LR	LR	03 50 24.9	
	comp=Z,33nm,18.2s,baz=306,slow=34						
RES	Resolute Bay	27.05	328	LR	LR	03 51 29.9	
	comp=Z,36nm,18.4s,baz=281,slow=36						
VRAC	Vranov	27.54	94	LR	LR	03 51 23.6	
	comp=Z,36nm,19.6s,baz=322,slow=35						
YKA	Yellowknife Ar	38.28	312	P	P	03 42 41.7	-0.1
	0.3nm,0.6s,baz=52,slow=9.0,SNR=8.8						
PDAR	Pinedale Array	49.97	288	P	P	03 44 15.8	-0.1
	0.4nm,0.6s,baz=54,slow=6.6,SNR=5.0						
MKAR	Makanchi Array	59.11	49	P	P	03 45 21.9	-0.1
	0.6nm,0.6s,baz=329,slow=6.6,SNR=8.5						
SONM	Songino Array	65.82	32	P	P	03 46 07.2	+0.1
	0.2nm,0.7s,baz=328,slow=5.1,SNR=2.0						

*IDC **16** 03:37:12.4±2.4, 28°.35S×67°.53W, h111km±19km, mb3.9/8, mb1 3.9/14, mb1mx3.8/27, mbtmp4.1/14, MS2.7/2, Ms1 2.7/2, ms1mx2.5/50, Error ellipse: s-maj=22.3km s-min=15.3km az=40.0*
*VAO **16** 03:37:13.5±0.9, 28°.41S×67°.50W, h131km, mb4.3*
*NEIC **16** 03:37:13.6±2.3, 28°.33S±0°.07×67°.50W±0°.05, h130km±8km, mb4.6/23, Md4.1(SJA), Error ellipse: s-maj=11.1km s-min=6.1km az=198.0*
*SJA **16** 03:37:14.0±0.8, 28°.29S×67°.57W, h125km, ML4.0, MW4.1*
ISC 16 03:37:13.9±0.7, 28°.33S±0°.04×67°.56W±0°.05, h137km±6km, n120, σ1°25/123, mb4.5/15, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	Vinchina	0.70	234	eP	Pn	03 37 36.5	+1.3
VCA				eS	Sn	03 37 52.4	+1.0
VCA				IAML		03 37 57.1	
	comp=Z,9μm,0.4s						
AC02	Maricunga	2.04	316		Pn	03 37 51.0	+1.7
AVFE	Valle Fertil	2.33	178	eP	Pn	03 37 53.5	+1.1
AVFE				eS	Sn	03 38 23.0	+1.2
AVFE				IAML		03 38 25.7	
	comp=Z,586nm,0.4s						
GO03	Copiap	2.48	287		Pn	03 37 54.9	+0.6
GO03	Copiap	2.48	287	eP	Pn	03 37 54.8	+0.6
GO03				eS	Sn	03 38 24.7	-0.5
AHML	Horco Molle	2.50	53	eP	Pn	03 37 55.2	+0.7
AHML				eS	Sn	03 38 25.3	-0.4
AHML				IAML		03 38 26.9

CPSB	Cacapava Do Su	12.49	103	eP		Pn	03 40 06.0 -0.9
PLTB	Pedras Altas	12.56	109	eP		Pn	03 40 07.0 -0.9
PLTB	Pedras Altas	12.56	109	Pn		Pn	03 40 07.7 -0.2
PLCA	Paso Flores	12.62	190	P		Pn	03 40 07.8 -0.8
	comp=Z,0.1nm,0.3s,baz=356,slow=16,SNR=2.0						
AQDB	Aquidauana	13.33	57	eP		Pn	03 40 18.1 +0.2
AQDB	Aquidauana	13.33	57			Pn	03 40 16.8 -1.1
SIV	San Ignacio	13.66	27	P		Pn	03 40 21.5 -0.7
	comp=Z,0.2nm,0.3s,baz=230,slow=9.9,SNR=3.2						
ITAB	Concordia	13.70	89	eP		Pn	03 40 21.3 -1.3
ITAB	Concordia	13.70	89	Pn		Pn	03 40 23.1 +0.5
PTGB	Pitanga	14.33	79	eP		Pn	03 40 31.2 +0.5
PCMB	Pacaembu	16.21	69	eP		P	03 40 54.6 +0.1
TER01	Tubaro-SC	16.21	95	eP		Pn	03 40 52.3 -1.7
SALV	Santo Antonio	16.53	44	eP		P	03 40 59.6 +1.5
VILB	Vilhena	16.77	26	eP		Pn	03 40 60.0 -0.8
TIJ01	Guaruva-PR	16.83	84	eP		Pn	03 41 00.1 -1.4
ITRB	Iturama	17.89	65	eP		Pn	03 41 13.7 -0.5
NNA	Nana	18.43	330	P		Pn	03 41 20.2 -0.5
	baz=177,slow=7.6,SNR=2.0						
NNA	Nana	18.43	330	IAmb		IAmb	03 41 38.4
	comp=Z,34nm,1.4s						
ETMB	Extrema	18.46	4	eP		Pn	03 41 20.5 -0.5
ETMB	Extrema	18.46	4	P		Pn	03 41 20.3 -0.7
PET01	Itanhaem-SP	18.62	82	eP		P	03 41 20.7 -0.2
BB19B	Bebedouro	18.73	72	eP		P	03 41 22.3 +0.1
RCLB	Rio Claro- Sao	19.02	76	eP		P	03 41 25.3 -0.1
ARAG	Araguaiana, MT	19.23	53	eP		P	03 41 27.3 -0.3
VAO	Valinhos	19.30	79	eP		P	03 41 28.6 +0.2
PDRB	Porto dos Gac	19.47	34	eP		P	03 41 29.8 -0.5
PARB	Paraibuna	20.35	81	eP		P	03 41 39.2 -0.5
IPMB	Ipameri, GO	20.52	64	eP		P	03 41 40.7 -0.9
CZSB	Cruzeiro do Su	21.06	346	eP		P	03 41 48.6 +1.4
CZSB	Cruzeiro do Su	21.06	346	P		P	03 41 46.8 -0.5
MAN01	Angra dos Reis	21.95	81	eP		P	03 41 57.3 +0.5
BDFB	Brasilia	22.05	59	P		P	03 41 56.6 -1.2
	comp=Z,1.8nm,0.4s,baz=204,slow=9.8,SNR=7.3						
BDFB	Brasilia	22.05	59	IAmb		IAmb	03 41 57.3
	comp=Z,10nm,1.3s						
DIAM	Diamantina, MG	24.06	71	eP		P	03 42 16.9 +0.1
NPGB	Novo Progresso	24.11	31	eP		P	03 42 16.3 -0.8
TBTG	Tabatinga, AM	24.11	354	eP		P	03 42 18.1 +1.0
TBTG	Tabatinga, AM	24.11	354	IAmb		IAmb	03 42 20.4
	comp=Z,28nm,0.8s						
PEXB	Peixe	24.17	52	eP		P	03 42 17.5 -0.1
JANB	Januaria	25.25	63	eP		P	03 42 26.4 -1.2
MACA	Manacapuru-AM	25.87	16	eP		P	03 42 33.9 +0.9
MACA	Manacapuru-AM	25.87	16	P		P	03 42 31.4 -1.6
MACA				IAmb		IAmb	03 42 34.5
	comp=Z,16nm,0.5s						
SJMB	Sao Joao De Ma	25.96	74	eP		P	03 42 34.5 +0.7
ITTB	Itaituba	26.35	27	eP		P	03 42 37.7 +0.4
NBPN	Ponto Novo - B	30.97	61	eP		P	03 43 17.5 -0.9
BOAV	Boa Vista	31.29	14	eP		P	03 43 22.2 +1.1
NBLA	Lagarto - SE	32.77	64	eP		P	03 43 33.8 -0.4
NBMA	Muriti-CE	34.27	58	eP		P	03 43 46.2 -1.0
NBPS	Pedro II - PI	34.39	51	eP		P	03 43 49.2 +1.0
NBAN	Anadia - AL	34.75	64	eP		P	03 43 50.9 -0.4
ZARC	Zaragoza, Cauc	36.30	348	P		P	03 44 02.7 -1.8
ZARC				IAmb		IAmb	03 44 05.2
	comp=Z,5.5nm,0.7s						
SDV	Santo Domingo	37.11	355	eP		P	03 44 11.2 -0.3
SDV	Santo Domingo	37.11	355	P		P	03 44 10.6 -1.0
SDV				IAmb		IAmb	03 44 12.6
	comp=Z,10.0nm,1.0s						
VNA1	Neumayer--Stat	53.48	159	P		P	03 46 18.6 -1.0
VNA1	Neumayer--Stat	53.48	159	PcP		PcP	03 47 20.6 -4.1
VNA2	Neumayer--Watz	53.84	159	P		P	03 46 21.1 -1.2
SNAA	Sanae	55.47	160	P		P	03 46 32.1 -1.9
SNAA	Sanae	55.47	160	PcP		PcP	03 47 32.2 -0.3
833A	Chaparral WMA,	64.06	329	IAmb		IAmb	03 47 36.1
	comp=Z,12nm,0.8s						
TXAR	Lajitas Array	66.93	326	P		P	03 47 53.1 +1.3
	comp=Z,0.7nm,0.6s,baz=151,slow=8.8,SNR=9.8						
CCM	Cathedral Cave	69.66	340	P		P	03 48 08.8 +0.3
DBIC	Dimbokro	69.69	70	P		P	03 48 10.3 +1.1
	comp=Z,1.5nm,0.3s,baz=231,slow=3.9,SNR=11						
DBIC	Dimbokro	69.69	70	IAmb		IAmb	03 48 19.6
	comp=Z,12nm,1.4s						
R40A	Maddies Statio	70.19	340	IAmb		IAmb	03 48 13.5
	comp=Z,11nm,0.7s						
MSTX	Muleshoe	70.36	329	IAmb		IAmb	03 48 14.7
	comp=Z,6.0nm,0.8s						
ANMO	Albuquerque	72.88	327	P		P	03 48 29.6 +1.5
TORD	Torodi Ar. Bea	78.61	68	P		P	03 49 02.8 +1.8
	comp=Z,4.0nm,0.6s,baz=270,slow=5.8,SNR=48						
BOSA	Boshof	79.23	117	P		P	03 49 06.2 +1.9
	comp=Z,2.3nm,1.0s,baz=222,slow=3.5,SNR=1.7						
PD31	Pinedale Array	80.61	330	P		P	03 49 11.4 -0.1
PD31				IAmb		IAmb	03 49 23.8
	comp=Z,7.0nm,1.4s						
PDAR	Pinedale Array	80.61	330	P		P	03 49 12.8 +1.3
	comp=Z,1.5nm,0.6s,baz=129,slow=8.3,SNR=23						
NVAR	Mina Array Bea	81.61	322	P		P	03 49 18.6 +1.8
	comp=Z,1.2nm,0.9s,baz=163,slow=6.6,SNR=7.4						
PINE	Pine Mountain	86.83	324	P		P	03 49 43.5 +0.5
PINE				IAmb		IAmb	03 49 46.2
	comp=Z,11nm,0.8s						
YKA	Yellowknife Ar	98.00	340	P		Pdif	03 50 34.9 +0.9
	comp=Z,0.7nm,0.7s,baz=138,slow=4.6,SNR=16						
ASAR	Alice Springs	124.32	204	PKP		PKPdf	03 55 57.8 +0.5
	comp=Z,1.8nm,0.6s,baz=131,slow=1.8,SNR=32						
ASAR	Alice Springs	124.32	204			PKPdf	03 55 56.5 -0.7
WRA	Warramunga Arr	127.55	206	PKP		PKiKP	03 56 04.3 +0.3
	comp=Z,1.9nm,0.5s,baz=170,slow=1.7,SNR=33						
FITZ	Fitzroy Crossi	132.11	197	PKP		PKiKP	03 56 13.2 0.0
	comp=Z,1.0nm,0.7s,baz=238,slow=3.2						
ZALV	Zalesovo Beam	147.40	31	PKPbc		PKiKP	03 56 42.8 -0.5
	comp=Z,8.1nm,0.4s,baz=263,slow=3.6,SNR=42						
KSH	Kashi	147.95	60	PKPbc		PKPbc	03 56 42.3 -1.0
MKAR	Makanchi Array	150.08	44	PKPbc		PKiKP	03 56 49.8 +0.7
	comp=Z,6.8nm,0.8s,baz=308,slow=2.4,SNR=67						
MKAR	Makanchi Array	150.08	44			PKiKP	03 56 49.7 +0.6
SONM	Songino Array	159.96	12	PKP		PKPdf	03 56 58.8 +2.1
	comp=Z,0.4nm,0.8s,baz=78,slow=2.1,SNR=3.5						
SONM				PKPab		PKPab	03 57 38.7 +1.9
	comp=Z,0.8nm,0.7s,baz=322,slow=4.1,SNR=6.6						
PZH	PanZhiHua	170.32	98	PKP		PKPdf	03 57 04.3 -1.8

MAN 16 03:53:37.4, 16°.78N×121°.17E, h33km, mb4.3, ML3.2, MS2.9, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	San Manuel, Pa	0.78	217	eP	Pn	03 53 52.2	+0.1
APYP	Conner	1.08	4	eP	Pn	03 53 56.1	-0.1

*IDC **16** 04:01:14.3±2.8, 59°.70N×153°.37W, h98km±24km, mb2.9/2, mb1 3.4/6, mb1mx2.9/50, mbtmp3.5/6, Error ellipse: s-maj=51.2km s-min=22.0km az=94.0*

*NEIC **16** 04:01:15.9±0.9, 59°.66N±0°.04×152°.81W±0°.02, h111km±4km, Error ellipse: s-maj=5.3km s-min=1.5km az=182.0*

*AEIC **16** 04:01:17±1.0, 59°.64N±0°.04×152°.80W±0°.03, h105km±4km, ML3.3, ML3.6/108(NEIC), Error ellipse: s-maj=5.3km s-min=1.4km az=162.0*

ISC 16 04:01:16.1±0.9, 59°.65N±0°.04×152°.76W±0°.04, h109km±6km, n266, σ0°65/257, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.24	271		Pn	04 01 31.3	-0.2
OPT	Oil Point	0.24	271	P	Pn	04 01 31.3	-0.2
	baz=93						
AU22	Augustine Moun	0.42	228		Pn	04 01 32.2	0.0
AU22					Sn	04 01 44.3	-0.1
O20K	Slope Mountain	0.44	9		Pn	04 01 32.6	+0.1
O20K					Sn	04 01 44.7	-0.1
O20K	Slope Mountain	0.44	9	P	Pn	04 01 32.6	+0.1
	baz=192						
O20K				S	Sn	04 01 44.7	-0.1
	baz=192						
AUL	Augustine Lava	0.44	232		Pn	04 01 32.3	-0.1
AUL					Sn	04 01 44.4	-0.2
AUQ	Augustine Qik'	0.45	229		Pn	04 01 32.6	+0.1
AUQ					Sn	04 01 44.8	-0.1
AUW	Augustine West	0.46	233		Pn	04 01 32.6	+0.1
HOM	Homer	0.56	89		Pn	04 01 33.4	+0.2
HOM					Sn	04 01 46.9	+0.8
HOM	Homer	0.56	89	IAML		04 01 48.0	
	comp=N,4μm,0.3s						
HOM	Homer	0.56	89	P	Pn	04 01 33.4	+0.2
	baz=269						
HOM				S	Sn	04 01 46.9	+0.8
	baz=269						
RED	Redoubt Volcan	0.77	359		Pn	04 01 34.8	-0.2
RED					Sn	04 01 48.5	-0.8
CNPM	China Poot	0.78	99		Pn	04 01 35.0	0.0
CNPM					Sn	04 01 48.9	-0.5
CNPM	China Poot	0.78	99	IAML		04 01 50.9	
	comp=N,2μm,0.4s						
RSO	Redoubt South	0.81	0		Pn	04 01 35.5	0.0
RDWB	Redoubt West	0.84	357		Pn	04 01 35.6	-0.2
RDWB					Sn	04 01 49.9	-0.7
REF	Redoubt East F	0.84	2		Pn	04 01 35.9	+0.1
Q19K	Cape Douglas,	0.86	213		Pn	04 01 35.6	-0.2
Q19K					Sn	04 01 50.1	-0.5
Q19K	Cape Douglas,	0.86	213	IAML		04 01 54.7	
	comp=E,1μm,0.8s						
Q19K				IAML		04 01 59.3	
	comp=N,1μm,0.9s						
Q19K	Cape Douglas,	0.86	213	P	Pn	04 01 35.6	-0.2
	baz=31						
Q19K				S	Sn	04 01 50.1	-0.5
	baz=31						
NCT	North Crescent	0.92	355		Pn	04 01 36.4	-0.1
RDJH	Redoubt Jeurge	0.94	359		Pn	04 01 36.8	0.0
DFR	Drift River	0.94	2		Pn	04 01 36.7	+0.1
BRLK	Bradley Lake	0.95	82		Pn	04 01 36.5	-0.2
BRLK	Bradley Lake	0.95	82	IAML		04 01 55.2	
	comp=N,2μm,0.1s						
BRLK				IAML		04 01 55.4	
	comp=E,1μm,0.1s						
Q19K	Port Alsworth	0.96	305		Pn	04 01 36.5	-0.1
Q19K					Sn	04 01 51.7	-0.5
Q19K	Port Alsworth	0.96	305	IAML		04 01 52.5	
	comp=N,1μm,0.4s						
Q19K				IAML		04 01 53.5	
	comp=E,2μm,0.5s						
Q19K	Port Alsworth	0.96	305	P	Pn	04 01 36.5	-0.1
	baz=125						
Q19K				S	Sn	04 01 51.7	-0.5
	baz=125						
BRSE	Bradley Lake S	1.03	84		Pn	04 01 37.3	-0.1
BRSE	Bradley Lake S	1.03	84	P	Pn	04 01 37.3	-0.1
	baz=265						
O18K	Koktuh Hills	1.26	280		Pn	04 01 39.6	-0.3
O18K					Sn	04 01 57.3	-0.8
O18K	Koktuh Hills	1.26	280	P	Pn	04 01 39.6	-0.3
	baz=99						
O18K				S	Sn	04 01 57.3	-0.8
	baz=99						
P18K	Big Mountain,	1.29	259		Pn	04 01 39.8	-0.6
P18K	Big Mountain,	1.29	259		Sn	04 01 57.4	-1.3
P18K	Big Mountain,	1.29	259	IAML		04 01 56.8	
	comp=E,89nm,3.0s						
P18K	Big Mountain,	1.29	259	P	Pn	04 01 39.8	-0.6
	baz=78						
P18K				S	Sn	04 01 57.4	-1.3
	baz=78						
CAPN	Captain Cook N	1.38	35		Pn	04 01 43.4	+2.2
CAPN	Captain Cook N	1.38	35	P	Pn	04 01 43.4	+2.2
	baz=217						
N19K	Bonanza Creek	1.45	324		Pn	04 01 42.3	0.0
N19K	Bonanza Creek	1.45	324	P	Pn	04 01 42.3	0.0
	baz=144						
SLKM	Skilak Lake	1.53	55		Pn	04 01 43.0	-0.2
SLKM					Sn	04 02 02.9	-0.9
SPU	Mount Spurr	1.57	12		Pn	04 01 43.9	+0.2
SPCG	Spurr Capps Gl	1.69	12		Pn	04 01 45.6	+0.4
SEW	Seward	1.73	73		Pn	04 01 45.5	0.0
SEW	Seward	1.73	73	P	Pn	04 01 45.5	0.0
	baz=256						
KCG	Knife Ck. Glac	1.82	223		Pn	04 01 46.8	+0.1
KDAK	Kodiak Island	1.88	177	P	Pn	04 01 46.3	-1.0
	comp=E,17nm,0.3s,baz=7.5,slow=13,SNR=138						
KDAK				S	Sn	04 02 09.8	-1.4
	comp=E,23nm,0.3s,baz=306,slow=22,SNR=23						
KABU	Katmai Buttres	1.91	224		Pn	04 01 47.8	0.0
STLK	Strandline Lak	1.91	13		Pn	04 01 48.6	+0.7
FIS	Fire Island	1.96	39	Pn	Pn	04 01 48.8	+0.4
FIS				IAML		04 02 19.5	
	comp=N,472nm,0.3s						
FIS				IAML		04 02 21.2	
	comp=E,494nm,0.4s						
SVW2	Sparrevohn	2.02	317		Pn	04 01 49.0	-0.2
RC01	Rabbit Creek A	2.08	45		Pn	04 01 50.2	+0.3
RC01	Rabbit Creek A	2.08	45	P	Pn	04 01 50.2	+0.3
	baz=228						
M19K	Big River Lodg	2.40	341		Pn	04 01 54.2	+0.1
M19K	Big River Lodg	2.40	341	P	Pn	04 01 54.2	+0.1
	baz=160						
OHAK	Old Harbor	2.45	187		Pn	04 01 53.5	-1.3
OHAK	Old Harbor	2.45	187	P	Pn	04 01 53.5	-1.3
	baz=5.8						
M22K	Willow	2.48	30		Pn	04 01 55.6	+0.6
M22K	Willow	2.48	30	P	Pn	04 01 55.6	+0.6
	baz=213						
PWL	Port Wells	2.52	59		Pn	04 01 55.3	-0.3
PWL	Port Wells	2.52	59	IAML		04 02 25.3	
	comp=E,300nm,0.1s						
PWL	Port Wells	2.52	59	P	Pn	04 01 55.3	-0.3
	baz=243						
PMR	Palmer	2.64	41		Pn	04 01 56.9	-0.3
PMR	Palmer	2.64	41	IAML		04 02 28.6	
	comp=N,145nm,0.2s						
PMR				IAML		04 02 31.6	
	comp=E,148nm,0.4s						
PMR	Palmer	2.64	41	P	Pn	04 01 56.9	-0.3
	baz=224						
L19K	White Mountain	2.74	339		Pn	04 01 58.5	0.0
L19K	White Mountain	2.74	339	P	Pn	04 01 58.5	0.0
	baz=158						
KNK	Knik Glacier	2.76	48		Pn	04 01 59.1	+0.3
KNK	Knik Glacier	2.76	48	IAML		04 02 31.9	
	comp=E,256nm,0.2s						
KNK	Knik Glacier	2.76	48	P	Pn	04 01 59.1	+0.3
	baz=232						
GHO	Glory Hole Cre	2.84	40		Pn	04 01 59.6	-0.3
GHO	Glory Hole Cre	2.84	40	IAML		04 02 33.1	
	comp=E,199nm,0.5s						
GHO				IAML		04 02 33.3	
	comp=N,204nm,0.4s						
L20K	Farewell, AK	2.89	350		Pn	04 02 00.9	+0.4
L20K	Farewell, AK	2.89	350	P	Pn	04 02 00.9	+0.4
	baz=169						
CUT	Chulitna	3.02	23		Pn	04 02 02.2	+0.1
CUT	Chulitna	3.02	23	IAML		04 02 42.4	
	comp=N,209nm,0.4s						
CUT				IAML		04 02 42.7	
	comp=E,239nm,0.5s						
CUT	Chulitna	3.02	23	P	Pn	04 02 02.2	+0.1
	baz=205						
SML	Sawmill	3.07	43		Pn	04 02 02.7	-0.1
SML	Sawmill	3.07	43	IAML		04 02 38.8	
	comp=N,115nm,0.9s						
SML				IAML		04 02 39.0	
	comp=E,137nm,0.4s						
SML	Sawmill	3.07	43	P	Pn	04 02 02.7	-0.1
	baz=227						
GLI	Glacier Island	3.08	64		Pn	04 02 02.0	-0.9
GLI	Glacier Island	3.08	64	IAML		04 02 40.1	
	comp=E,175nm,0.4s						
GLI				IAML		04 02 40.9	
	comp=N,132nm,0.2s						
GLI	Glacier Island	3.08	64	P	Pn	04 02 02.0	-0.9
	baz=249						
PPLA	Purkeypile	3.27	5		Pn	04 02 06.5	+0.9
PPLA	Purkeypile	3.27	5	P	Pn	04 02 06.5	+0.9
	baz=185						
Q23K	Middleton Isla	3.27	91		Pn	04 02 05.5	0.0
Q23K	Middleton Isla	3.27	91	P	Pn	04 02 05.5	0.0
	baz=276						
MID	Middleton Isla	3.28	91		Pn	04 02 05.4	-0.2
JPK	Jack Peak	3.37	63		Pn	04 02 06.6	-0.3
SCM	Sheep Creek Mo	3.45	48		Pn	04 02 08.1	+0.2
SCM	Sheep Creek Mo	3.45	48	IAML		04 02 50.5	
	comp=N,121nm,0.4s						
SCM				IAML		04 02 52.3	
	comp=E,177nm,0.4s						
SCM	Sheep Creek Mo	3.45	48	P	Pn	04 02 08.1	+0.2
	baz=233						
EYAK	Cordova Ski Ar	3.62	73		Pn	04 02 10.1	-0.1
EYAK	Cordova Ski Ar	3.62	73	P	Pn	04 02 10.1	-0.1
	baz=259						
TT01	Tatalina	3.63	336		Pn	04 02 10.0	-0.3
TTA	Tatalina	3.65	336		Pn	04 02 10.2	-0.4
TTA	Tatalina	3.65	336	P	Pn	04 02 10.2	-0.4
	baz=154						
WAT7	Susitna Watana	3.71	29		Pn	04 02 11.6	+0.1
DIV	Divide	3.77	64		Pn	04 02 11.9	-0.3
K20K	Telida	3.77	351		Pn	04 02 12.5	+0.2
K20K	Telida	3.77	351	P	Pn	04 02 12.5	+0.2
	baz=170						
WAT1	Susitna Watana	3.78	31		Pn	04 02 12.4	+0.1
WAT1	Susitna Watana	3.78	31	P	Pn	04 02 12.4	+0.1
	baz=215						
CAST	Castle Rocks	3.79	5	Pn	Pn	04 02 12.4	-0.1
CAST	Castle Rocks	3.79	5	P	Pn	04 02 12.5	-0.1
	baz=186						
WAT6	Susitna Watana	3.82	37		Pn	04 02 12.8	-0.2
WAT6	Susitna Watana	3.82	37	P	Pn	04 02 12.8	-0.2
	baz=222						
KLU	Klutina	3.84	58		Pn	04 02 13.2	-0.1
KLU	Klutina	3.84	58	P	Pn	04 02 13.1	-0.1
	baz=244						
TRF	Thorofare Moun	3.99	16		Pn	04 02 15.5	+0.2
TRF	Thorofare Moun	3.99	16	IAML		04 03 03.4	
	comp=N,66nm,0.3s						
TRF				IAML		04 03 04.9	
	comp=E,59nm,0.4s						
TRF	Thorofare Moun	3.99	16	P	Pn	04 02 15.5	+0.2
	baz=199						
KTH	Kantishna Hill	4.01	12		Pn	04 02 15.2	-0.3
KTH	Kantishna Hill	4.01	12	IAML		04 03 05.4	
	comp=N,40nm,0.6s						
M24K	Tolsona, Glenn	4.05	50		Pn	04 02 16.4	+0.3
M24K	Tolsona, Glenn	4.05	50	IAML		04 03 11.4	
	comp=E,114nm,0.7s						
M24K	Tolsona, Glenn	4.05	50	P	Pn	04 02 16.4	+0.3
	baz=236						
RAGM	Ragged Mountai	4.12	76		Pn	04 02 16.8	-0.1
GOAT	Goat Mountain	4.12	73		Pn	04 02 16.8	-0.2
PS12	TAPS Pump St12	4.18	61		Pn	04 02 17.8	+0.1
RND	Reindeer	4.21	25		Pn	04 02 18.1	0.0
RND	Reindeer	4.21	25	IAML		04 03 06.8	
	comp=N,47nm,0.9s						
RND				IAML		04 03 07.7	
	comp=E,35nm,0.4s						
KAIM	Kayak Island	4.22	83		Pn	04 02 18.1	-0.1
KAIM	Kayak Island	4.22	83	P	Pn	04 02 18.1	-0.1
	baz=270						
CHUM	Lake Minchumin	4.25	3		Pn	04 02 18.6	0.0
CHUM	Lake Minchumin	4.25	3	P	Pn	04 02 18.6	0.0
	baz=183						
BMRM	Bremner River	4.26	68		Pn	04 02 18.9	0.0
BMRM	Bremner River	4.26	68	IAML		04 03 08.5	
	comp=N,89nm,0.4s						
BMRM	Bremner River	4.26	68	P	Pn	04 02 18.9	0.0
	baz=256						
DHY	Denali Highway	4.30	35		Pn	04 02 19.5	0.0
DHY	Denali Highway	4.30	35	IAML		04 03 09.5	
	comp=N,75nm,0.3s						
DHY				IAML		04 03 10.1	
	comp=E,76nm,0.3s						
DHY	Denali Highway	4.30	35	P	Pn	04 02 19.5	0.0
	baz=220						
PS11	TAPS Pump St11	4.31	52		Pn	04 02 19.7	+0.3
HMT	Hamilton	4.32	77		Pn	04 02 19.9	+0.3
NICHA	Nichawak Mount	4.46	79		Pn	04 02 21.6	+0.2
N25K	Chitina, Valde	4.47	60		Pn	04 02 21.6	-0.1
N25K	Chitina, Valde	4.47	60	IAML		04 03 13.2	
	comp=E,62nm,0.3s						
N25K				IAML		04 03 13.7	
	comp=N,65nm,0.7s						
N25K	Chitina, Valde	4.47	60	P	Pn	04 02 21.6	-0.1
	baz=248						
MCK	McKinley	4.48	22		Pn	04 02 22.2	+0.4
MCK	McKinley	4.48	22	IAML		04 03 14.6	
	comp=E,51nm,0.4s						
MCK				IAML		04 03 15.1	
	comp=N,66nm,0.5s						
MCK	McKinley	4.48	22	P	Pn	04 02 22.2	+0.4
	baz=206						
BPAW	Bear Paw Mtn.	4.54	10		Pn	04 02 23.0	+0.4
BPAW	Bear Paw Mtn.	4.54	10	P	Pn	04 02 23.0	+0.4
	baz=192						
SUCK	Suckling Hills	4.55	81		Pn	04 02 23.1	+0.5
J20K	Nowinta River	4.59	352		Pn	04 02 23.5	+0.3
J20K	Nowinta River	4.59	352	P	Pn	04 02 23.5	+0.3
	baz=172						
BERG	Berg Lake	4.60	77		Pn	04 02 23.6	+0.1
BERG	Berg Lake	4.60	77	IAML		04 03 15.9	
	comp=N,76nm,0.3s						
HARP	HAARP	4.61	50		Pn	04 02 24.2	+0.7
HARP	HAARP	4.61	50	P	Pn	04 02 24.2	+0.7
	baz=237						
GLB	Gilahina Butte	4.77	64		Pn	04 02 25.5	-0.1
GLB	Gilahina Butte	4.77	64	IAML		04 03 18.7	
	comp=E,56nm,0.5s						
GLB				IAML		04 03 19.1	
	comp=N,57nm,0.7s						
GRIN	Grindle Hills	4.79	78		Pn	04 02 26.3	+0.4
BWN	Browne	4.80	18		Pn	04 02 26.5	+0.5
BWN	Browne	4.80	18	IAML		04 03 27.2	
	comp=N,61nm,3.5s						
BWN				IAML		04 03 41.5	
	comp=E,44nm,2.9s						
KHIT	Khitrov Hills	4.83	76		Pn	04 02 26.5	-0.1
PAX	Paxson	4.84	43		Pn	04 02 26.7	0.0
PAX	Paxson	4.84	43	P	Pn	04 02 26.7	0.0
	baz=230						
VRDI	Verde Repeater	4.87	67		Pn	04 02 27.5	+0.3
VRDI	Verde Repeater	4.87	67	IAML		04 03 20.9	
	comp=E,23nm,0.5s						
VRDI				IAML		04 03 25.2	
	comp=N,44nm,0.7s						
SNH	Sunshine Point	5.02	80		Pn	04 02 29.5	+0.5
WAX	Waxell Ridge	5.03	77		Pn	04 02 29.2	+0.1
TGL	Tana Glacier	5.07	73		Pn	04 02 30.0	+0.

TCOL	CIGO, UAF Yank	5.72	21			Pn	04 02 38.4	0.0
TCOL	CIGO, UAF Yank	5.72	21	P		Pn	04 02 38.4	0.0
	baz=206							
COLA	College	5.72	21			Pn	04 02 38.0	-0.4
MDM	Murphy Dome	5.73	20			Pn	04 02 38.2	-0.4
I23K	Minto, Yukon-K	5.74	14			Pn	04 02 38.5	-0.2
I23K	Minto, Yukon-K	5.74	14	P		Pn	04 02 38.5	-0.2
	baz=198							
DOT	Dot Lake	5.76	42	Pn		Pn	04 02 39.6	+0.6
IL31		5.82	26			Pn	04 02 39.4	-0.4
ILAR	Eielson Array	5.82	26	P		Pn	04 02 39.1	-0.8
	comp=N,1.8nm,0.3s,baz=216,slow=14,SNR=93							
ILAR				S		Sn	04 03 40.9	-4.3
	comp=N,3.4nm,0.3s,baz=347,slow=12,SNR=10							
ILAR	Eielson Array	5.82	26	Pn		Pn	04 02 39.4	-0.4
CTG	Chitna Glacier	5.83	72	P		Pn	04 02 40.8	+0.7
	baz=262							
CTGM	Chitina Glacie	5.83	72			Pn	04 02 40.8	+0.7
TABL	Table Mountain	5.87	77			Pn	04 02 39.5	-1.3
M27K	Edge Creek, AK	5.95	58			Pn	04 02 42.1	+0.5
M27K	Edge Creek, AK	5.95	58	P		Pn	04 02 42.1	+0.5
	baz=248							
LOGN	Logan Glacier	5.97	74			Pn	04 02 42.6	+0.6
SCRK	Sand Creek	6.01	40			Pn	04 02 42.0	-0.4
SCRK	Sand Creek	6.01	40	P		Pn	04 02 42.0	-0.4
	baz=228							
POKR	Poker Plat Res	6.02	22			Pn	04 02 42.3	-0.2
POKR	Poker Plat Res	6.02	22	P		Pn	04 02 42.3	-0.2
	baz=207							
H21K	Melozitna Rive	6.03	360			Pn	04 02 42.1	-0.5
H21K	Melozitna Rive	6.03	360	P		Pn	04 02 42.1	-0.5
	baz=180							
YUK2	White River	6.22	65			Pn	04 02 45.9	+0.5
L27K	Beaver Creek,	6.27	52			Pn	04 02 46.5	+0.6
L27K	Beaver Creek,	6.27	52	P		Pn	04 02 46.5	+0.6
	baz=242							
BC03		6.29	52			Pn	04 02 47.4	+1.3
BCAR	Beaver Creek A	6.29	52	Pn		Pn	04 02 46.8	+0.6
PCA	Pinnacle	6.31	81			Pn	04 02 47.0	+0.5
PINM	Pinnacle	6.31	81	P		Pn	04 02 47.0	+0.4
	baz=271							
IM03		6.37	356			Pn	04 02 47.2	0.0
IMAR	Indian Mountai	6.37	356			Pn	04 02 48.0	+0.7
PS06	TAPS Pump Stn6	6.38	11			Pn	04 02 47.5	+0.1
YUK3	Moose Creek	6.40	65			Pn	04 02 48.6	+0.7
YUK3	Moose Creek	6.40	65	P		Pn	04 02 48.6	+0.7
	baz=256							
BVCY	Beaver Creek	6.41	59			Pn	04 02 48.1	+0.3
BVCY	Beaver Creek	6.41	59	P		Pn	04 02 48.1	+0.3
	baz=250							
J26L	Joseph Creek	6.50	38			Pn	04 02 49.1	0.0
J26L	Joseph Creek	6.50	38	P		Pn	04 02 49.1	0.0
	baz=226							
H24K	Noodor Dome	6.60	18			Pn	04 02 50.0	-0.4
H24K	Noodor Dome	6.60	18	P		Pn	04 02 50.0	-0.4
	baz=202							
PRP	Porcupine Dome	6.76	26			Pn	04 02 52.9	+0.2
PRP	Porcupine Dome	6.76	26	P		Pn	04 02 52.9	+0.2
	baz=213							
PNL	Peninsula	6.77	84			Pn	04 02 52.7	0.0
PNL	Peninsula	6.77	84	P		Pn	04 02 52.7	0.0
	baz=276							
PS05	TAPS Pump Stn5	7.25	7			Pn	04 02 59.5	+0.4
EGAK	Eagle	7.46	42			Pn	04 03 01.8	-0.2
EGAK	Eagle	7.46	42	P		Pn	04 03 01.8	-0.2
	baz=232							
COLD	Coldfoot	7.69	7			Pn	04 03 05.1	-0.1
COLD	Coldfoot	7.69	7	P		Pn	04 03 05.1	-0.1
	baz=190							
DAWY	Dawson	7.71	49			Pn	04 03 05.5	0.0
DAWY	Dawson	7.71	49	P		Pn	04 03 05.5	0.0
	baz=241							
FYU	Fort Yukon	7.73	23			Pn	04 03 05.6	0.0
M30M	Minto, Yukon	8.26	62			Pn	04 03 11.8	-1.1
M30M	Minto, Yukon	8.26	62	P		Pn	04 03 11.8	-1.1
	baz=256							
N31M	Braeburn, Yuko	8.56	70	Pn		Pn	04 03 16.9	-0.1
BM03	Burnt Mountain	8.60	21			Pn	04 03 16.1	-1.3
BMAR	Burnt Mountain	8.61	22	Pn		Pn	04 03 16.4	-1.2
SKAG	Skagway	8.85	84	Pn		Pn	04 03 22.4	+1.6
WHY	Whitehorse	8.97	76			Pn	04 03 22.3	-0.3
WHY	Whitehorse	8.97	76	P		Pn	04 03 22.3	-0.3
	baz=271							
BESE	Bessie Mountai	9.27	89	Pn		Pn	04 03 28.6	+2.0
M31M	Drury Creek, Y	9.29	66	Pn		Pn	04 03 28.7	+1.9
JIS	Juneau Island	9.59	90	Pn		Pn	04 03 31.9	+1.1
P33M	Teslin, Yukon	10.02	78			Pn	04 03 36.8	0.0
P33M	Teslin, Yukon	10.02	78	P		Pn	04 03 36.8	0.0
	baz=275							
DLBC	Dease Lake	11.75	86	P		Pn	04 04 03.0	+2.9
	comp=N,1.2nm,0.3s,baz=264,slow=15,SNR=30							
DLBC				S		Sn	04 06 07.3	-1.8
	comp=N,0.1nm,0.3s,baz=146,slow=15,SNR=1.6							
INK	Inuvik	12.04	36	P		Pn	04 04 04.2	+0.4
	comp=N,0.1nm,0.3s,baz=238,slow=14,SNR=8.3							
INK	Inuvik	12.04	36	Pn		Pn	04 04 04.7	+1.0
A36M	Sachs Harbour	16.50	30	Pn		Pn	04 05 00.8	+0.3
YKA	Yellowknife Ar	18.49	65	P		Pn	04 05 24.4	-0.2
	comp=N,0.1nm,0.3s,baz=276,slow=9.9,SNR=6.2							
RES	Resolute Bay	25.54	31	P		P	04 06 34.5	+0.6
	comp=N,1.2nm,1.0s,baz=241,slow=7.8,SNR=5.4							
TXAR	Lajitas Array	44.74	110	P		P	04 09 20.1	+1.7
	comp=N,0.2nm,0.8s,baz=302,slow=5.2,SNR=1.9							

*IDC **16** 04:12:35.9±1.4,5°.55S×147°.11E,h158km±13km,mb3.7/11, mb1 3.8/14,mb1mx3.5/45,mbtmp4.2/14,Error ellipse: s-maj=18.1km s-min=9.2km az=114.0*
*NEIC **16** 04:12:36.8±1.4,5°.48S±0°.10×147°.1E±0°.1,h171km±10km, mb4.3/14,Error ellipse: s-maj=17.3km s-min=12.3km az=128.0*

ISC 16 04:12:35.0±0.6,5°.58S±0°.06×147°.12E±0°.08,h150km,n45, σ1.9 18/48,mb4.2/15,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.80	179	P	Pn	04 13 33.0	+0.4
	10.0nm,0.3s,baz=30,slow=10,SNR=12						
PMG				S	Sn	04 14 14.9	-2.6
	14nm,0.3s,baz=42,slow=9.0,SNR=5.0						
PMG	Port Moresby	3.80	179	Pn	Pn	04 13 39.3	+6.6
PMG	Port Moresby	3.80	179	P	Pn	04 13 33.1	+0.4
PMG	Port Moresby	3.80	179	P	Pn	04 13 33.2	+0.5
KRVT	Keravat (AS076	5.05	76	P	Pn	04 13 49.5	+0.4
	baz=270,slow=20						
RABL	Rabaul	5.21	75	Pn	Pn	04 13 52.8	+1.6
RABL	Rabaul	5.21	75	P	Pn	04 13 53.2	+2.0
	364nm,0.8s						
JAY	Jayapura	7.09	295	P	Pn	04 14 17.6	+1.3
	0.9nm,0.3s,baz=114,slow=18,SNR=2.5						
JAY				S	Sn	04 15 35.0	-0.7
	1.3nm,0.3s,baz=2.9,slow=13,SNR=1.6						
COEN	Coen	9.19	205	Pn	Pn	04 14 46.7	+2.5
KDU	Kakadu	16.09	243	P	Pn	04 16 13.7	+0.8
MTN	Manton Dam	17.34	244	P	P	04 16 25.8	-1.4
MTN				IAmb	IAmb	04 16 30.4	
	comp=Z,12nm,0.8s						
WB0	Warramunga Arr	18.77	220	P	P	04 16 43.0	+0.2
WB0				IAmb	IAmb	04 16 45.4	
	comp=Z,9.0nm,0.7s						
WRAB	Tennant Creek	18.92	220	P	P	04 16 44.5	+0.2
WRAB	Tennant Creek	18.92	220	P	P	04 16 46.1	+1.7
WB2	Warramunga Arr	18.92	220	P	P	04 16 45.1	+0.7
WRA	Warramunga Arr	18.93	220	P	P	04 16 46.2	+1.7
	comp=Z,3.4nm,0.3s,baz=39,slow=11,SNR=244						
WRA				S	S	04 20 11.9	+0.1
	comp=Z,0.1nm,0.3s,baz=38,slow=20,SNR=7.7						
WRA	Warramunga Arr	18.93	220	P	P	04 16 44.2	-0.3
KNRA	Kununurra	20.62	239	P	P	04 17 02.5	-0.3
KNRA	Kununurra	20.62	239	P	P	04 17 03.4	+0.7
AS31	Alice Springs	22.03	214	P	P	04 17 18.2	+0.6
AS31				IAmb	IAmb	04 17 20.1	
	comp=Z,5.0nm,0.3s						
ASAR	Alice Springs	22.03	214	P	P	04 17 19.2	+1.6
	comp=Z,4.4nm,0.4s,baz=48,slow=8.0,SNR=114						
ASAR				S	S	04 21 10.6	+0.3
	comp=Z,3.1nm,0.8s,baz=30,slow=23,SNR=18						
ASAR	Alice Springs	22.03	214	P	P	04 17 19.0	+1.3
FITZ	Fitzroy Crossi	24.39	238	P	P	04 17 40.5	+1.0
	comp=Z,24nm,0.6s,baz=59,slow=9.2,SNR=79						
OOD	Oodnadatta	24.62	205	P	P	04 17 43.4	+1.9
WRKA	Warakurna	26.46	221	P	P	04 17 59.7	+1.4
FORT	Forrest	30.81	213	P	P	04 18 35.9	-0.9
PSA00	Pilbara Seismi	30.82	236	P	P	04 18 36.1	-0.8
PSA00				IAmb	IAmb	04 18 38.5	
	comp=Z,4.1nm,0.8s						
MEEK	Meekatharra	34.32	229	P	P	04 19 08.8	+1.4
MORW	Morawa	37.54	228	P	P	04 19 34.9	+0.1
KSRS	Korea Array	46.40	339	P	P	04 20 46.4	-0.1
	comp=Z,0.9nm,0.4s,baz=164,slow=9.1,SNR=4.0						
PETK	Petropavlovsk-	59.15	7	P	P	04 22 20.7	+1.0
	comp=Z,1.2nm,0.9s,baz=167,slow=7.1,SNR=1.5						
SONM	Songino Array	64.10	331	P	P	04 22 53.9	+0.7
	comp=Z,1.6nm,0.5s,baz=150,slow=5.8,SNR=9.3						
SONM	Songino Array	64.10	331	P	P	04 22 53.0	-0.2
MK31	Makanchi Array	77.25	320	P	P	04 24 10.5	-2.2
MKAR	Makanchi Array	77.25	320	P	P	04 24 12.5	-0.2
	comp=Z,0.6nm,0.5s,baz=98,slow=8.4,SNR=17						
MKAR	Makanchi Array	77.25	320	P	P	04 24 11.1	-1.6
TIXI	Tiksi	78.01	354	P	P	04 24 16.0	-0.3
	comp=Z,1.2nm,0.3s,baz=177,slow=2.1,SNR=3.9						
ZAA0	Zalesovo Array	78.72	328	P	P	04 24 19.0	-1.6
ZAA0				IAmb	IAmb	04 24 20.3	
	comp=Z,2.0nm,0.5s						
ZALV	Zalesovo Beam	78.72	328	P	P	04 24 19.9	-0.7
	comp=Z,2.3nm,0.4s,baz=114,slow=6.6,SNR=17						
KURBB	Kurchatov Arra	80.97	323	P	P	04 24 32.0	-0.7
	comp=Z,0.3nm,0.5s,baz=125,slow=3.9,SNR=5.8						
IL31		85.05	23	P	P	04 24 52.8	-0.6
IL31				IAmb	IAmb	04 25 08.5	
	comp=Z,6.1nm,1.5s						
ILAR	Eielson Array	85.05	23	P	P	04 24 53.0	-0.4
	comp=Z,0.3nm,0.6s,baz=260,slow=4.7,SNR=4.9						
BVAR	Borovoye Array	86.50	324	P	P	04 24 59.0	-1.8
	comp=Z,0.7nm,0.5s,baz=88,slow=9.0,SNR=5.6						
GERES	GERESS Array B	121.63	326	PKP	PKPdf	04 31 10.8	-0.4
	comp=Z,0.4nm,0.5s,baz=48,slow=2.0,SNR=4.0						
TORD	Torodi Ar. Bea	145.10	285	PKPbc	PKPbc	04 31 54.9	-0.5
	comp=Z,0.8nm,0.5s,baz=70,slow=4.0,SNR=14						

NEIC 16 04:15:48.3±1.0,35°.68N±0°.01×97°.41W±0°.02,h5km±1km, ML2.3/34,Error ellipse: s-maj=2.9km s-min=2.4km az=241.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.10	186	Pg	Pg	04 15 50.2	-0.2
OK009				Sg	Sg	04 15 51.9	+0.1
OK025	Westminster Rd	0.12	149	Pg	Pg	04 15 50.5	-0.2
OK025				Sg	Sg	04 15 52.4	+0.1
OK025				IAML		04 15 52.5	
	2μm,0.3s						
OK029	Liberty Lake	0.12	343	Pg	Pg	04 15 51.4	+0.6
OK029				Sg	Sg	04 15 53.9	+1.3
BCOK	Bluff Creek, N	0.16	262	Pg	Pg	04 15 51.8	+0.2
BCOK				Sg	Sg	04 15 54.7	+1.0
BCOK				IAML		04 15 54.9	
	comp=E,762nm,0.2s						
OKCFA	Oklahoma City	0.27	187	Pg	Pg	04 15 53.2	-0.3
OKCFA				Sg	Sg	04 15 57.2	+0.2
OKCSW	OKLAHOMA CITY	0.28	185	Pg	Pg	04 15 53.4	-0.3
OKCSW				Sg	Sg	04 15 57.5	+0.2
FNO	Franklin	0.42	179	Pg	Pg	04 15 56.1	-0.3
FNO				Sg	Sg	04 16 02.2	+0.2
FNO				IAML		04 16 02.4	
	comp=N,224nm,0.2s						
FNO				IAML		04 16 02.5	
	comp=E,257nm,0.2s						
OK031	S. Brethren Rd	0.54	59	Pg	Pg	04 15 58.4	-0.2
OK031				Sg	Sg	04 16 06.0	+0.3
OK031				IAML		04 16 06.4	
	comp=E,254nm,0.2s						
OK030	Cody Creek RV	0.57	64	Pg	Pg	04 15 58.7	-0.5
OK030				Sg	Sg	04 16 06.5	0.0
OK030				IAML		04 16 07.2	
	comp=E,228nm,0.3s						
OK030				IAML		04 16 07.3	
	comp=E,171nm,0.2s						
OK034	N. Norfolk Rd.	0.66	60	Pg	Pg	04 16 00.6	-0.3
OK034				Sg	Sg	04 16 09.4	0.0
OK034				IAML		04 16 10.1	
	comp=E,198nm,0.1s						
W35A	Tecumseh	0.69	140	Pg	Pg	04 16 00.7	-0.7
W35A				Sg	Sg	04 16 10.0	-0.4
W35A				IAML		04 16 10.3	
	comp=N,103nm,0.3s						
QUOK	Quay	0.75	49	Pg	Pg	04 16 02.7	0.0
QUOK				Sg	Sg	04 16 12.6	+0.1
QUOK				IAML		04 16 13.1	
	comp=N,106nm,0.3s						
QUOK				IAML		04 16 13.3	
	comp=E,169nm,0.2s						
CROK	Carrier	0.94	331	Pg	Pg	04 16 06.2	-0.2
CROK				Sg	Sb	04 16 19.5	-0.5
CROK				IAML		04 16 26.1	
	comp=N,118nm,0.3s						
CROK				IAML		04 16 30.5	
	comp=E,102nm,0.3s						
BLOK	Blackwell	1.09	8	Pg	Pg	04 16 08.7	-0.5
BLOK				IAML		04 16 27.9	
	comp=E,90nm,0.2s						
X34A	Smith Ranch, M	1.13	198	Pg	Pg	04 16 09.3	-0.7
X34A				IAML		04 16 26.2	
	comp=N,72nm,0.2s						
GC02	Grant County #	1.22	343	Pg	Pg	04 16 11.1	-0.6
OK032	Salt Plains WL	1.29	330	Pn	Pn	04 16 12.1	-1.0
KAN13	South Haven SW	1.33	358	Pn	Pn	04 16 12.4	-1.2
TUL1	Leonard	1.34	80	Pn	Pn	04 16 12.0	-1.6
TUL1				IAML		04 16 33.7	
	comp=E,58nm,0.4s						
TUL1				IAML		04 16 34.7	
	comp=N,45nm,0.2s						
KAN14	Manchester OK	1.35	341	Pn	Pn	04 16 13.1	-0.7
KAN17	Caldwell West	1.39	348	Pn	Pn	04 16 13.9	-0.5
T35A	Sooner Cattle	1.43	30	Pn	Pn	04 16 14.1	-0.8
WMOK	Wichita Mounta	1.46	230	Pn	Pn	04 16 14.6	-0.9
KAN01	Argonia South	1.50	349	Pn	Pn	04 16 15.8	-0.1
KAN06	Argonia West S	1.60	347	Pn	Pn	04 16 17.4	0.0
KAN08	Anthony NE Sta	1.61	344	Pn	Pn	04 16 17.5	+0.1
KAN12	Harper NE Stat	1.68	344	Pn	Pn	04 16 18.7	+0.3
LOOK	Love County	1.69	174	Pn	Pn	04 16 18.5	-0.1
X37A	Clayton	2.00	122	Pn	Pn	04 16 23.2	+0.6
Z35A	Perchaven, San	2.35	177	Pn	Pn	04 16 27.3	-0.3
W39A	Magazine	3.00	98	Pn	Pn	04 16 37.9	+1.4
S39A	Bolivar	3.85	57	Pn	Pn	04 16 48.6	+0.4
WHAR	Wooly Hollow	4.20	94	Pn	Pn	04 16 54.3	+1.3
W41B	Gary Mavity, V	4.25	95	Pn	Pn	04 16 54.5	+0.8

*IDC **16** 04:17:55.3±0.8,61°.09N×28°.19W,h0km,mb3.7/18, mb1 3.9/20,mb1mx3.6/64,mbtmp3.7/20,ML3.4/2,MS3.4/7, Ms1 3.4/7,ms1mx2.9/95,Error ellipse: s-maj=21.0km s-min=15.3km az=6.0*

ISC 16 04:17:56.9±0.7,61°.11N±0°.09×28°.12W±0°.09,h10km,n27, σ0.9 95/22,mb3.7/18,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	4.79	37	Pn	Pn	04 19 07.7	-1.2
	2.3nm,0.3s,baz=263,slow=6.0,SNR=48						
BORG				LR	LR	04 20 02.8	
	comp=Z,40nm,21.1s,baz=238,slow=26						
BORG				Sn	Sn	04 20 03.9	-0.6
	0.8nm,0.3s,baz=356,slow=22,SNR=6.7						
SFJD	Kangerlussuaq	11.44	311	LR	LR	04 24 19.3	
	comp=Z,304nm,20.2s,baz=119,slow=34						
SUMG	Summit	12.19	345	*i* P	Pn	04 20 51.0	+0.5
JMIC	Jan Mayen	12.63	30	LR	LR	04 24 44.5	
	comp=Z,84nm,18.1s,baz=238,slow=32						
EKA	Eskdalemuir Ar	14.31	103	Pn	Pn	04 21 19.4	+0.1
	baz=300,slow=11,SNR=2.8						
EKA				LR	LR	04 25 42.6	
	comp=Z,202nm,19.1s,baz=325,slow=33						
FRB	Frobisher Bay	18.67	296	LR	LR	04 28 12.8	
	comp=Z,171nm,19.6s,baz=23,slow=33						
NOA	NORSAR Array B	18.84	73	LR	LR	04 28 56.1	
	comp=Z,68nm,18.1s,baz=290,slow=35						
HFS	Hagfors	20.29	74	LR	LR	04 29 31.4	
	comp=Z,79nm,19.8s,baz=268,slow=34						
SCHQ	Schefferville	21.21	270	LR	LR	04 29 03.5	
	comp=Z,103nm,21.7s,baz=33,slow=32						
ARCES	ARCESS Array B	23.13	46	P	P	04 23 02.2	-0.5
	2.7nm,0.8s,baz=269,slow=11,SNR=4.7						
FINES	FINESS Array B	25.43	65	P	P	04 23 25.3	+1.1
	3.0nm,0.9s,baz=282,slow=9.2,SNR=4.6						
ESDC	Sonseca Array	26.12	134	P	P	04 23 31.5	+0.8
	1.4nm,1.1s,baz=325,slow=9.9,SNR=3.4						
GERES	GERESS Array B	26.45	98	P	P	04 23 33.8	+0.1
	0.2nm,0.4s,baz=295,slow=12,SNR=2.1						
AKASG	Malin Array Be	32.73	82	P	P	04 24 28.1	-1.1
	0.6nm,0.6s,baz=315,slow=8.5,SNR=5.1						
BRTR	Keskin Array B	42.80	91	P	P	04 25 55.0	+0.4
	0.5nm,0.8s,baz=325,slow=7.4,SNR=2.9						
KBZ	Khabaz	44.22	79	P	P	04 26 07.1	+1.3
	2.3nm,0.9s,baz=321,slow=5.3,SNR=3.8						
ILAR	Eielson Array	46.40	329	P	P	04 26 23.2	+0.4
	0.4nm,0.8s,baz=28,slow=7.6,SNR=5.0						
TIXI	Tiksi	46.56	10	P	P	04 26 24.9	+0.9
	1.3nm,0.7s,baz=334,slow=5.9,SNR=5.1						
BVAR	Borovoye Array	49.21	52	P	P	04 26 45.6	+0.8
	1.2nm,0.8s,baz=344,slow=4.9,SNR=6.6						
PDAR	Pinedale Array	49.86	288	P	P	04 26 48.1	-2.0
	0.6nm,0.6s,baz=56,slow=6.4,SNR=6.1						
TORD	Torodi Ar. Bea	52.55	142	P	P	04 27 09.3	-0.9
	0.8nm,0.8s,baz=340,slow=7.6,SNR=4.8						
KURBB	Kurchatov Arra	54.18	49	P	P	04 27 21.9	+0.1
	1.7nm,0.8s,baz=320,slow=7.5,SNR=13						
NVAR	Mina Array Bea	57.33	291	P	P	04 27 46.4	+1.5
	0.3nm,0.7s,baz=52,slow=3.8,SNR=2.8						
TXAR	Lajitas Array	57.87	273	P	P	04 27 48.0	-0.6
	0.5nm,1.0s,baz=64,slow=6.1,SNR=2.6						
MKAR	Makanchi Array	58.75	49	P	P	04 27 54.6	+0.1
	1.4nm,0.7s,baz=331,slow=6.1,SNR=19						
AAK	Ala-Archa	59.22	57	P	P	04 27 58.5	+0.4
	1.1nm,0.7s,baz=196,slow=2.9,SNR=3.7						
SONM	Songino Array	65.38	32	P	P	04 28 39.1	0.0
	0.2nm,0.4s,baz=325,slow=13,SNR=3.6						

*IDC **16** 04:29:20.6±1.2,61°.14N×28°.11W,h0km,mb3.7/15, mb1 3.9/17,mb1mx3.7/55,mbtmp3.8/17,ML3.6/2,MS3.7/10, Ms1 3.7/10,ms1mx3.2/87,Error ellipse: s-maj=33.7km s-min=13.9km az=179.0*
*NEIC **16** 04:29:22.6±1.6,61°.3N±0°.1×28°.14W±0°.09,h10km±2km, mb4.4/18,Error ellipse: s-maj=22.0km s-min=5.6km az=191.0*

ISC 16 04:29:22.1±0.8,61°.2N±0°.1×28°.11W±0°.07,h10km,n49, σ0.8 86/40,mb4.1/24,MS3.7/7,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	4.75	38	Pn	Pn	04 30 32.9	-0.7
	7.4nm,0.3s,baz=256,slow=3.6,SNR=52						
BORG				Sn	Sn	04 31 29.4	+0.7
	3.6nm,0.3s,baz=352,slow=22,SNR=13						
BORG				LR	LR	04 32 08.0	
	comp=Z,527nm,18.4s,baz=227,slow=35						
BORG	Borgarnes	4.75	38		Pn	04 30 32.4	-1.3
SUMG	Summit	12.14	345	*i* P	Pn	04 32 16.0	+0.9
SUMG	Summit	12.14	345		Pn	04 32 15.1	0.0
ILULI	Ilulissat	12.50	320	Pn	Pn	04 32 18.3	-1.4
JMIC	Jan Mayen	12.59	30	LR	LR	04 35 45.7	
	comp=Z,66nm,19.9s,baz=276,slow=31						
FRB	Frobisher Bay	18.66	296	P	Pn	04 33 40.4	+0.4
	0.1nm,0.3s,baz=86,slow=13,SNR=1.8						
NAO01	NORSAR Array S	18.73	74	P	P	04 33 38.3	-2.2
NOA	NORSAR Array B	18.82	73	LR	LR	04 40 11.4	
	comp=Z,128nm,19.4s,baz=290,slow=35						
HFS	Hagfors	20.27	74	LR	LR	04 41 15.5	
	comp=Z,154nm,18.3s,baz=277,slow=35						
TULEG	Thule	20.55	334	P	P	04 33 58.4	-1.9
SCHQ	Schefferville	21.22	270	P	P	04 34 08.8	+1.1
	6.2nm,1.0s,baz=60,slow=8.1,SNR=2.3						
ARCES	ARCESS Array B	23.10	46	P	P	04 34 28.4	+0.8
	6.7nm,0.9s,baz=277,slow=7.2,SNR=6.3						
ARCES	ARCESS Array B	23.10	46	IAmb	IAmb	04 34 37.9	
	comp=Z,23nm,1.4s						
FINES	FINESS Array B	25.40	65	P	P	04 34 49.5	+0.3
	comp=Z,1.8nm,0.8s,baz=284,slow=9.6,SNR=3.8						
AKASG	Malin Array Be	32.71	82	P	P	04 35 53.0	-1.3
	comp=Z,0.3nm,0.4s,baz=313,slow=8.5,SNR=4.1						
AKASG				LR	LR	04 49 10.1	
	comp=Z,72nm,18.8s,baz=274,slow=36						
A36M	Sachs Harbour	35.67	328	P	P	04 36 20.9	+1.3
A36M				IAmb	IAmb	04 36 21.2	
	comp=Z,9.6nm,1.4s						
YKA	Yellowknife Ar	37.97	311	P	P	04 36 39.6	+0.2
	comp=Z,0.6nm,0.7s,baz=50,slow=9.0,SNR=11						
INK	Inuvik	40.19	326	P	P	04 36 57.5	-0.3
	comp=Z,1.2nm,0.9s,baz=46,slow=10.0,SNR=3.8						
INK	Inuvik	40.19	326	IAmb	IAmb	04 37 00.3	
	comp=Z,3.8nm,1.2s						
NRIK	Noril'sk	42.01	29	P	P	04 37 13.1	+0.3
	comp=Z,0.7nm,0.3s,baz=305,slow=6.5,SNR=3.7						
NRIK	Noril'sk	42.01	29	IAmb	IAmb	04 37 15.1	
	comp=Z,5.2nm,1.1s						
IDI	Anoyia	42.12	103	LR	LR	04 56 14.6	
	comp=Z,64nm,18.7s,baz=306,slow=

BJI ***16*** *04:35:50.2±0.0, 10.°69S×124.°23E, h30km, mb4.9/59, mB5.0/33, Ms4.5/27, Ms7 4.2/28*
IDC ***16*** *04:35:54.5±0.4, 9.°89S×123.°77E, h0km, mb4.6/22, mb1 4.6/26, mb1mx4.5/42, mbtmp4.6/26, ML4.5/4, MS4.1/41, Ms1 4.1/41, ms1mx4.0/64, Error ellipse: s-maj=13.7km s-min=5.3km az=102.0*
MOS ***16*** *04:35:55.3±1.1, 9.°80S×123.°66E, h16km, mb5.1/43, Error ellipse: s-maj=10.4km s-min=6.0km az=119.5*
DJA ***16*** *04:35:56.1±0.2, 10.°S±2.°×12.°4E±.°, h10km, M4.9/32, mB5.4/23, mb5.2/32, MLv5.1/14, Mw(mB)4.8/23, MwMwp4.8/6, Mwp5.1/6*
NEIC ***16*** *04:35:56.9±2.1, 10.°01S±0.°06×123.°59E±0.°05, h14km±3km, mb5.0/53, Error ellipse: s-maj=9.2km s-min=6.4km az=198.0*
GCMT ***16*** *04:35:57.9±0.2, 10.°07S±0.°01×123.°54E±0.°01, h22km±1km, MW5.0/103, Moment Tensor Solution. s61,c69; s103,c155; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.39±.13; Mθθ-3.73±.11; Mφφ5.12±.14; Mrθ0.82±.20; Mφθ0.97±.12; Mφr-0.67±.20; Best double couple: M=4.70300×10^16^ NP1:φs230.00000°, δ74.00000°, λ-10.00000°. NP2:φs323.00000°, δ81.00000°, λ-163.00000°. Principal axes: T 5.2770, Plg5.0000°, Azm96.0000°; N -1.1470, Plg71.0000°, Azm351.0000°; P -4.1290, Plg18.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 04:35:57.3±0.8, 10.°15S±0.°04×123.°63E±0.°04, h23km±5km, n318, σ1§78/292, mb4.9/83, MS4.2/49, 17C, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.06**	**151**	Pg		**Pb**	**Pb**	**04 36 01.0**	**-0.5**
	41μm,0.3s,baz=352,slow=2.4,SNR=79								
BATI				Lg			Lg	04 36 05.7	
	baz=12,slow=14								
BATI	**Baumata**	**0.06**	**151**	P		**Pb**	**Pb**	**04 36 01.2**	**-0.3**
SOEI	**Soe**	**0.74**	**58**	P		**Pb**	**Pb**	**04 36 11.2**	**-0.3**
SOEI	**Soe**	**0.74**	**58**	Pg		**Pb**	**Pb**	**04 36 11.8**	**+0.3**
SOEI	**Soe**	**0.74**	**58**	P		**Pn**	**Pn**	**04 36 12.1**	**-0.3**
MMRI	**Maumere**	**2.04**	**317**	P		**Pn**	**Pn**	**04 36 30.3**	**+0.1**
MMRI				S			**Sb**	**04 36 59.6**	**+0.9**
MMRI	**Maumere**	**2.04**	**317**	Pn		**Pn**	**Pn**	**04 36 29.2**	**-1.0**
EDFI	**Ende, Flores**	**2.37**	**306**	P		**Pn**	**Pn**	**04 36 31.5**	**-3.3**
BASI	**Baing, Sumba**	**3.01**	**268**	P		**Pn**	**Pn**	**04 36 45.3**	**+1.8**
WBSI	**Waikabubak, Su**	**4.21**	**277**	P		**Pn**	**Pn**	**04 37 00.8**	**+0.7**
BBSI	**Bau Bau**	**4.75**	**347**	P		**Pn**	**Pn**	**04 37 10.7**	**+3.2**
BSSI	**Bau Bau, Buton**	**5.05**	**322**	P		**Pn**	**Pn**	**04 37 14.8**	**+3.1**
	1.0nm2μm285nm,0.8s								
BKSI	**Bulukumba**	**5.93**	**324**	P		**Pn**	**Pn**	**04 37 24.3**	**+0.6**
	1.1nm3μm403nm,0.9s								
KAPI	**Kappang**	**6.39**	**323**	Pn		**Pn**	**Pn**	**04 37 29.5**	**-0.5**
	1.7nm,0.3s,baz=200,slow=15,SNR=7.8								
KAPI				LR			LR	04 40 10.4	
	comp=Z,2μm,18.2s,baz=164,slow=41								
KAPI	**Kappang**	**6.39**	**323**	P		**Pn**	**Pn**	**04 37 30.2**	**+0.1**
KAPI	**Kappang**	**6.39**	**323**	Pn		**Pn**	**Pn**	**04 37 30.2**	**+0.1**
BNSI	**Bone**	**6.70**	**328**	P		**Pn**	**Pn**	**04 37 36.1**	**+1.8**
	0.9nm3μm268nm,1.3s								
SPSI	**Sidrap Palu**	**7.25**	**328**	P		**Pn**	**Pn**	**04 37 40.2**	**-1.6**
	0.2nm2μm61nm,0.9s								
KNRA	**Kununurra**	**7.43**	**138**	Pn		**Pn**	**Pn**	**04 37 44.4**	**+0.1**
KNRA	**Kununurra**	**7.43**	**138**	P		**Pn**	**Pn**	**04 37 44.9**	**+0.6**
DRS	**Darwin Rock St**	**7.48**	**108**	P		**Pn**	**Pn**	**04 37 44.9**	**-0.1**
MTN	**Manton Dam**	**7.82**	**111**	Pn		**Pn**	**Pn**	**04 37 48.6**	**-1.1**
MTN	**Manton Dam**	**7.82**	**111**	P		**Pn**	**Pn**	**04 37 49.7**	**0.0**
SAUI	**Saumlaki**	**7.87**	**75**	P		**Pn**	**Pn**	**04 37 50.3**	**-0.1**
	1.3nm19μm390nm,0.7s								
SAUI	**Saumlaki**	**7.87**	**75**	Pn		**Pn**	**Pn**	**04 37 50.3**	**-0.1**
TTSI	**Tana Toraja**	**8.01**	**332**	P		**Pn**	Pn	04 37 59.7	+7.4
FITZ	**Fitzroy Crossi**	**8.13**	**166**	Pn		**Pn**	**Pn**	**04 37 55.1**	**+1.1**
	4.1nm,0.3s,baz=6.9,slow=10,SNR=68								
FITZ				Sn			**Sn**	**04 39 23.9**	**-1.4**
	29nm,0.3s,baz=116,slow=6.8,SNR=15								
FITZ				LR			LR	04 42 03.2	
	comp=Z,3μm,18.5s,baz=345,slow=44								
SANI	**Sanana**	**8.38**	**16**	P		**Pn**	**Pn**	**04 37 59.6**	**+2.2**
	2μm3μm254nm,1.1s								
SANI	**Sanana**	**8.38**	**16**	P			Pn	04 38 02.6	+5.2
IGBI	**Denpasar**	**8.48**	**278**	P		**Pn**	**Pn**	**04 37 59.7**	**+1.0**
	0.4nm2μm148nm,0.8s								
SRBI	**Singaraja**	**8.56**	**283**	P		**Pn**	**Pn**	**04 38 00.6**	**+0.7**
	4μm97nm,1.0s								
KDU	**Kakadu**	**9.02**	**107**	P		**Pn**	**Pn**	**04 38 07.3**	**+1.1**
LUWI	**Luwuk**	**9.09**	**355**	P		**Pn**	**Pn**	**04 38 09.8**	**+2.7**
	11μm209nm,1.2s								
LUWI	**Luwuk**	**9.09**	**355**			**Pn**	**Pn**	**04 38 06.0**	**-1.1**
APSI	**Ampana**	**9.39**	**348**	P		**Pn**	**Pn**	**04 38 13.3**	**+2.1**
	1μm80nm,1.0s								
JAGI	**Jajag, Banyuwa**	**9.51**	**279**	P		**Pn**	**Pn**	**04 38 12.5**	**-0.3**
	91nm,0.8s								
JAGI	**Jajag, Banyuwa**	**9.51**	**279**	P			Pn	04 38 18.2	+5.4
KMMI	**Kalianget**	**10.04**	**287**	P		**Pn**	**Pn**	**04 38 19.2**	**-1.0**
	3μm54nm,0.9s								
BLJI	**Banyuglugur**	**10.20**	**283**	P		**Pn**	**Pn**	**04 38 20.7**	**-1.7**
GMJI	**Gumukmas**	**10.23**	**280**	P		**Pn**	**Pn**	**04 38 24.4**	**+1.6**
	55nm,0.8s								
BBKI	**Banjar Baru**	**10.97**	**307**	P			Pn	04 38 38.0	+5.1
MPSI	**Mapaga**	**11.06**	**340**	P		**Pn**	**Pn**	**04 38 36.7**	**+2.5**
	24nm,1.5s								
FAKI	**Fak Fak**	**11.17**	**51**	Pn		**Pn**	**Pn**	**04 38 35.0**	**-0.7**
FAKI	**Fak Fak**	**11.17**	**51**	P		**Pn**	**Pn**	**04 38 38.3**	**+2.6**
TNTI	**Ternate**	**11.47**	**19**	Pn		**Pn**	**Pn**	**04 38 39.9**	**+0.1**
TOLI2	**Tolitoli**	**11.54**	**346**	P		Pn	04 38 45.9	+5.1
MBWA	**Marble Bar**	**11.57**	**198**	P		**Pn**	**Pn**	**04 38 44.2**	**+3.1**
PSA00	**Pilbara Seismi**	**11.92**	**197**	Pn		**Pn**	**Pn**	**04 38 47.0**	**+1.0**
PSA00	**Pilbara Seismi**	**11.92**	**197**			**Pn**	**Pn**	**04 38 46.4**	**+0.5**
PSA00	**Pilbara Seismi**	**11.92**	**197**	P		**Pn**	**Pn**	**04 38 48.9**	**+3.0**
PCJI	**Pacitan**	**12.45**	**278**	P		**Pn**	**Pn**	**04 38 52.2**	**-1.0**
	92nm,0.9s								
UGM	**Wanagama**	**13.14**	**279**			**Pn**	**Pn**	**04 39 03.2**	**+0.6**
UGM	**Wanagama**	**13.14**	**279**	P		**P**	**P**	**04 39 08.1**	**-4.4**
SMRI	**Semarang**	**13.40**	**282**	Pn		**Pn**	**Pn**	**04 39 07.2**	**+1.0**
WB0	**Warramunga Arr**	**14.11**	**134**			**Pn**	**Pn**	**04 39 14.5**	**-1.4**
WRA	**Warramunga Arr**	**14.19**	**135**	Pn		**Pn**	**Pn**	**04 39 13.1**	**-3.9**
	2.5nm,0.3s,baz=307,slow=14,SNR=68								
WRA				Sn			Sn	04 41 44.7	-9.1
	3.3nm,0.3s,baz=304,slow=24,SNR=11								
WRA				LR			LR	04 46 15.8	
	comp=Z,2μm,18.4s,baz=308,slow=44								
WRA	**Warramunga Arr**	**14.19**	**135**	P		**Pn**	**Pn**	**04 39 14.3**	**-2.6**
WRA	**Warramunga Arr**	**14.19**	**135**			**Pn**	**Pn**	**04 39 14.3**	**-2.6**
WRAB	**Tennant Creek**	**14.19**	**134**	*i* P		**Pn**	**Pn**	**04 39 13.8**	**-3.2**
WRAB	**Tennant Creek**	**14.19**	**134**			**Pn**	**Pn**	**04 39 14.3**	**-2.6**
WB2	**Warramunga Arr**	**14.20**	**135**	Pn		**Pn**	**Pn**	**04 39 13.1**	**-4.0**
WR0	**Warramunga Arr**	**14.35**	**134**			**Pn**	**Pn**	**04 39 16.0**	**-3.0**
CMJI	**Cimerak**	**15.18**	**278**	P		**Pn**	**Pn**	**04 39 32.2**	**+1.8**
	1μm152nm,0.9s								
GIRL	**Giralia**	**15.34**	**215**	Pn		**Pn**	**Pn**	**04 39 31.8**	**-0.6**
GIRL	**Giralia**	**15.34**	**215**	P		**Pn**	**Pn**	**04 39 34.4**	**+2.0**
WRKA	**Warakurna**	**15.45**	**164**	P		**Pn**	**Pn**	**04 39 34.7**	**+0.8**
LEM	**Lembang**	**16.18**	**281**	Pn		**P**	**P**	**04 39 45.0**	**-1.5**
	7.5nm,0.3s,baz=173,slow=21,SNR=2.3								
LEM	**Lembang**	**16.18**	**281**	P		**P**	**P**	**04 39 45.0**	**-1.5**
LEM	**Lembang**	**16.18**	**281**	P		**P**	**P**	**04 39 50.0**	**+3.5**
WAMI	**Wamena**	**16.20**	**68**	P		**P**	**P**	**04 39 51.0**	**+4.4**
CNJI	**Cibinong**	**16.55**	**279**	P		**P**	**P**	**04 39 50.5**	**0.0**
	4μm430nm,1.1s								
AS31	**Alice Springs**	**16.63**	**145**			**Pn**	**Pn**	**04 39 48.0**	**-1.1**
ASAR	**Alice Springs**	**16.63**	**145**	Pn		**Pn**	**Pn**	**04 39 48.4**	**-0.7**
	1.5nm,0.3s,baz=318,slow=12,SNR=108								
ASAR				Sn			**Sn**	**04 42 45.1**	**-8.1**
	0.7nm,0.3s,baz=320,slow=22,SNR=10								
ASAR				LR			LR	04 47 09.3	
	comp=Z,2μm,18.2s,baz=322,slow=40								
ASAR	**Alice Springs**	**16.63**	**145**	P		**Pn**	**Pn**	**04 39 48.7**	**-0.4**
ASAR	**Alice Springs**	**16.63**	**145**			**Pn**	**Pn**	**04 39 48.7**	**-0.4**
MEEK	**Meekatharra**	**17.07**	**195**	P		**P**	**P**	**04 39 57.6**	**+1.4**
DBJI	**Dramaga**	**17.08**	**281**	P		**Pn**	**Pn**	**04 39 53.9**	**-0.8**
	57nm,0.8s								
DAV	**Davao City (W)**	**17.22**	**7**	LR			LR	04 47 10.2	
	comp=Z,1μm,21.6s,baz=190,slow=40								
XMIS	**Christmas Isla**	**17.70**	**267**				**P**	**04 40 03.0**	**-0.1**
XMIS						IAmb	IAmb	04 40 09.0	
	comp=Z,85nm,0.9s								
KKM	**Kota Kinabalu**	**17.70**	**335**	Pn		**Pn**	**Pn**	**04 40 00.3**	**-2.2**
KKM	**Kota Kinabalu**	**17.70**	**335**	P		**P**	**P**	**04 40 06.4**	**+3.1**
GENI	**Genyem**	**18.06**	**67**	P		**P**	**P**	**04 40 07.5**	**+0.4**
	comp=Z,4μmcomp=Z,102nm,0.7s								
CGJI	**Cibinong**	**18.09**	**280**	P		**P**	**P**	**04 40 08.3**	**+0.8**
	comp=Z,128nm,0.9s								
QIS	**Mount Isa**	**18.54**	**126**	P		**Pn**	**Pn**	**04 40 12.6**	**-0.1**
JAY	**Jayapura**	**18.57**	**67**	P		**P**	**P**	**04 40 11.6**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=189,slow=13,SNR=7.0								
COEN	**Coen**	**19.48**	**103**	P		**Pn**	**Pn**	**04 40 23.6**	**-0.5**
COEN	**Coen**	**19.48**	**103**	P		**Pn**	**Pn**	**04 40 24.7**	**+0.6**
KASI	**Kota Agung**	**19.50**	**282**	P		**Pn**	**Pn**	**04 40 24.4**	**+0.1**
	comp=Z,2μmcomp=Z,234nm,0.9s								
KLSI		**19.51**	**285**	P		**Pn**	**Pn**	**04 40 27.5**	**+3.1**
MDSI	**Maura Dua**	**20.09**	**285**	P		**P**	**P**	**04 40 27.8**	**-1.7**
	comp=Z,524nmcomp=Z,17nm,1.0s								
MORW	**Morawa**	**20.12**	**200**	P			Pn	04 40 31.8	+0.2
MORW	**Morawa**	**20.12**	**200**	P			Pn	04 40 32.7	+1.2
OOD	**Oodnadatta**	**20.90**	**149**	P			Pn	04 40 40.3	-0.3
FORT	**Forrest**	**20.93**	**169**	P			**P**	**04 40 39.5**	**+1.1**
FORT	**Forrest**	**20.93**	**169**	P			Pn	04 40 40.6	-0.4
MNAI	**Manna**	**21.30**	**284**	P			**P**	**04 40 40.7**	**-1.8**
MNAI	**Manna**	**21.30**	**284**	P			**P**	**04 40 49.0**	**+6.5**
	comp=Z,265nm,1.7s								
BLDU	**Ballidu**	**21.36**	**197**	P			**P**	**04 40 45.9**	**+2.9**
MTSU	**Mount Surprise**	**21.55**	**114**	P			**P**	**04 40 48.6**	**+3.4**
MULG	**Mulgathing**	**22.26**	**156**	P			**P**	**04 40 55.7**	**+3.0**
MUN	**Mundaring**	**22.78**	**196**	P			**P**	**04 41 02.7**	**+4.5**
PMG	**Port Moresby**	**23.20**	**90**	P			**P**	**04 41 01.2**	**-1.5**
	comp=Z,8.8nm,0.4s,baz=265,slow=6.3,SNR=2.3								
PMG				LR			LR	04 52 55.0	
	comp=Z,755nm,19.3s,baz=275,slow=44								
PMG	**Port Moresby**	**23.20**	**90**	*ce*P			**P**	**04 41 01.9**	**-0.8**
PMG						pmax	pmax		
	comp=Z,130nm,1.7s								
PMG	**Port Moresby**	**23.20**	**90**	P			**P**	**04 41 03.2**	**+0.5**
CTA	**Charters Tower**	**23.94**	**117**	P			**P**	**04 41 10.0**	**+0.1**
	comp=Z,34nm,1.0s,baz=283,slow=11,SNR=25								
CTA				LR			LR	04 51 11.4	
	comp=Z,678nm,19.0s,baz=288,slow=38								
CTAO	**Charters Tower**	**23.94**	**117**	P			**P**	**04 41 11.7**	**+1.8**
CTAO						pmax	pmax		
	comp=Z,68nm,1.2s								
CTAO	**Charters Tower**	**23.94**	**117**	P			**P**	**04 41 11.7**	**+1.8**
CTAO						IAmb	IAmb	04 41 13.9	
	comp=Z,68nm,1.1s								
TGY	**Tagaytay City**	**24.25**	**354**	P			**P**	**04 41 12.2**	**-0.5**
	comp=Z,272nm,0.4s,baz=177,slow=6.7,SNR=13								
BKNI	**Bangkinang**	**24.77**	**294**	P			**P**	**04 41 18.2**	**+0.7**
BBOO	**Buckleboo**	**25.29**	**155**	P			**P**	**04 41 24.1**	**+2.1**
BBOO						IAmb	IAmb	04 41 31.1	
	comp=Z,24nm,0.9s								
BBOO	**Buckleboo**	**25.29**	**155**	P			**P**	**04 41 24.2**	**+2.1**
STKA	**Stephens Creek**	**27.27**	**145**	P			**P**	**04 41 40.1**	**+0.1**
	comp=Z,4.6nm,0.9s,baz=312,slow=12,SNR=8.0								
STKA				LR			LR	04 53 56.5	
	comp=Z,1μm,18.5s,baz=318,slow=40								
STKA	**Stephens Creek**	**27.27**	**145**	P			**P**	**04 41 40.5**	**+0.5**
STKA						pmax	pmax		
	comp=Z,4.0nm,0.9s								
STKA	**Stephens Creek**	**27.27**	**145**	P			**P**	**04 41 40.5**	**+0.5**
PSI	**Prapat**	**27.77**	**296**	P			**P**	**04 41 44.2**	**-0.6**
	comp=Z,2.5nm,0.5s,baz=90,slow=14,SNR=1.7								
GUMO	**Guam**	**31.63**	**42**	LR			LR	04 54 07.0	
	comp=Z,115nm,21.9s,baz=174,slow=35								
QIZ	**Qiongzhong**	**32.03**	**335**	P			**P**	**04 42 24.5**	**+2.3**
QIZ				S			**S**	**04 47 36.3**	**+3.4**
QIZ				LR			LR		
	comp=Z,380nm,14.1s								
QIZ				LR			LR		
	comp=Z,300nm,19.4s								
QIZ				LR			LR		
	comp=Z,360nm,17.8s								
HNR	**Honiara**	**35.78**	**92**	LR			LR	04 58 24.4	
	comp=Z,367nm,21.7s,baz=272,slow=38								
JOW	**Kunigami**	**37.04**	**7**	LR			LR	04 59 20.5	
	comp=Z,169nm,21.2s,baz=78,slow=38								
CMAR	**Chiang Mai Arr**	**37.44**	**319**	P			**P**	**04 43 09.3**	**+0.2**
	comp=Z,7.7nm,0.9s,baz=143,slow=6.7,SNR=32								
CMAR						PcP	**PcP**	**04 45 29.6**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=165,slow=2.5,SNR=4.8								
CMAR				LR			LR	05 00 36.2	
	comp=Z,464nm,19.0s,baz=145,slow=40								
CMAR	**Chiang Mai Arr**	**37.44**	**319**	*i* P			**P**	**04 43 09.8**	**+0.7**
CMAR						pmax	pmax		
	comp=Z,10.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**37.44**	**319**	P			**P**	**04 43 08.1**	**-1.0**
GYA	**Guiyang**	**39.95**	**336**	⇑P			**P**	**04 43 29.3**	**-0.9**
GYA						pP	sP	04 43 39.9	-0.3
GYA						pmax	pmax		
	comp=Z,13nm,1.2s								
KMI	**Kunming**	**40.55**	**330**	⇑P			**P**	**04 43 36.8**	**+1.5**
KMI						pP	pP	04 43 43.9	+1.6
KMI						pmax	pmax		
	comp=Z,26nm,0.9s								
KMI				LR			LR		
	comp=Z,410nm,23.5s								
KMI				LR			LR		
	comp=Z,470nm,23.5s								
KMI				LR			LR		
	comp=Z,340nm,23.5s								
WHN	**Wuhan**	**41.43**	**348**	⇑P			**P**	**04 43 41.5**	**-0.7**
PZH	**PanZhiHua**	**42.19**	**330**	P			**P**	**04 43 51.1**	**+2.5**
PZH						pmax	pmax		
	comp=Z,8.0nm,0.7s								
PZH						pmax	pmax		
	comp=Z,90nm,4.2s								
NJ2	**Nanjing**	**42.21**	**354**	*e*P			**P**	**04 43 50.8**	**+2.3**
NJ2						pmax	pmax		
	comp=Z,21nm,0.6s								
DZM	**Mont Dzumac**	**42.66**	**112**	P			**P**	**04 43 52.4**	**-0.2**
	comp=Z,12nm,0.9s,baz=280,slow=7.4,SNR=6.6								
DZM				LR			LR	05 03 49.7	
	comp=Z,404nm,18.7s,baz=268,slow=39								
DZM	**Mont Dzumac**	**42.66**	**112**	*e*P			**P**	**04 43 54.2**	**+1.7**
	comp=Z,39nm,1.1s								
DZM					*e*S		**S**	**04 50 14.5**	**-0.3**
	comp=Z,225nm,32.3s								
DZM					*e*LR		LR	04 55 49.0	
	comp=Z,722nm,25.3s								
DZM	**Mont Dzumac**	**42.66**	**112**	P			**P**	**04 43 53.6**	**+1.0**
JNU	**Nakatsue**	**43.58**	**9**	LR			LR	05 04 32.7	
	comp=Z,83nm,18.7s,baz=183,slow=40								
JMN	**Monobe**	**44.71**	**12**	P			**P**	**04 44 07.9**	**-0.8**
CD2	**Chengdu**	**45.07**	**336**	P			**P**	**04 44 10.5**	**-1.1**
CD2						pmax	pmax		
	comp=Z,40nm,1.1s								
CD2				LR			LR		
	comp=Z,30nm,17.9s								
CD2				LR			LR		
	comp=Z,280nm,22.1s								
CD2				LR			LR		
	comp=Z,320nm,20.0s								
JHS	**Saijyo**	**45.79**	**11**	P			**P**	**04 44 16.1**	**-1.2**
XAN	**Xi'an**	**46.12**	**343**	P			**P**	**04 44 17.9**	**-2.0**
XAN						pmax	pmax		
	comp=Z,26nm,0.8s								
XAN				LR			LR		
	comp=Z,240nm,16.5s								
XAN				LR			LR		
	comp=Z,370nm,12.7s								
PALK	**Pallekele**	**46.12**	**290**	LR			LR	05 03 40.2	
	comp=Z,553nm,21.8s,baz=220,slow=36								
SHL	**Shillong**	**47.08**	**320**	P			**P**	**04 44 26.1**	**-1.6**
SHL						pmax	pmax		
	comp=Z,12nm,1.0s								
SHL	**Shillong**	**47.08**	**320**	P			**P**	**04 44 26.1**	**-1.6**
SHL						IAmb	IAmb	04 44 27.8	
	comp=Z,12nm,1.0s								
KSAR	**Wonju Array Be**	**47.51**	**5**	P			**P**	**04 44 29.5**	**-1.1**
KSAR	**Wonju Array Be**	**47.51**	**5**	P			**P**	**04 44 29.5**	**-1.1**
KSRS	**Korea Array**	**47.52**	**5**	P			**P**	**04 44 28.9**	**-1.7**
	comp=Z,2.4nm,0.6s,baz=182,slow=10,SNR=9.0								
KSRS						PcP	**PcP**	**04 45 59.0**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=180,slow=3.4,SNR=2.7								
KSRS				LR			LR	05 05 06.6	
	comp=Z,67nm,20.8s,baz=190,slow=37								
KSRS	**Korea Array**	**47.52**	**5**	P			**P**	**04 44 29.0**	**-1.7**
KSRS								04 45 59.0	
HNS	**HongShan**	**48.03**	**350**	⇑P			**P**	**04 44 33.3**	**-1.4**
HNS						pmax	pmax		
	comp=Z,19nm,1.2s								
MJAR	**Matsushiro Arr**	**48.43**	**16**	P			**P**	**04 44 35.9**	**-1.9**
	comp=Z,7.9nm,0.7s,baz=195,slow=8.7,SNR=11								
MAJO	**Matsushiro**	**48.43**	**16**	*i* P			**P**	**04 44 36.9**	**-0.9**
MAJO						pmax	pmax		
	comp=Z,13nm,0.9s								
MAT	**Matsushiro**	**48.43**	**16**	P			**P**	**04 44 37.0**	**-0.8**
MAT					*e*S		**S**	**04 51 40.0**	**+2.7**
LZH	**Lanzhou**	**49.63**	**339**	*e*P			**P**	**04 44 47.0**	**-0.2**
LZH						pP	pP	04 44 54.3	-0.2
LZH						sP	sP	04 44 57.8	+0.5
LZH						pmax	pmax		
	comp=Z,24nm,1.0s								
LZH						LR	LR		
	comp=Z,280nm,16.3s								
LZH						LR	LR		
	comp=Z,320nm,15.7s								
LZH						LR	LR		
	comp=Z,340nm,16.8s								
BJT	**Baijiatuau**	**50.39**	**353**	P			**P**	**04 44 51.3**	**-1.4**
BJT						pmax	pmax		
	comp=Z,11nm,0.9s								
BJT	**Baijiatuau**	**50.39**	**353**	P			**P**	**04 44 51.3**	**-1.4**
BJT						IAmb	IAmb	04 44 51.9	
	comp=Z,11nm,0.9s								
LSA	**Lhasa**	**50.49**	**323**	P			**P**	**04 44 53.8**	**-0.4**
LSA						pmax	pmax		
	comp=Z,77nm,0.8s								
HHC	**Hu-ho-hao-te**	**51.96**	**348**	*e*P			**P**	**04 45 06.9**	**+2.3**
HHC				S			**S**	**04 52 31.5**	**+5.0**
HHC				sS			sS	04 52 41.6	+3.1
HHC				SS			**SS**	**04 56 04.1**	**+0.1**
HHC						pmax	pmax		
	comp=Z,12nm,0.8s								
HHC						pmax	pmax		
	comp=Z,84nm,4.0s								
HHC				LR			LR		
	comp=Z,250nm,19.0s								
HHC				LR			LR		
	comp=Z,290nm,19.3s								
MSHR	**Mys Shultsa**	**52.92**	**7**	*ce*P			**P**	**04 45 10.3**	**-1.3**
MSHR						pmax	pmax		
	comp=Z,27nm,1.3s								
MSVF	**Nonsavu**	**53.20**	**105**	LR			LR	05 08 48.3	
	comp=Z,116nm,18.1s,baz=322,slow=37								
GOMU	**GeErMu**	**53.50**	**331**	P			**P**	**04 45 17.3**	**+0.8**
GOMU						pP	pP	04 45 22.1	-1.7
GOMU						sP	sP	04 45 24.8	-1.8
GOMU						PcP	**PcP**	**04 46 16.3**	**-6.9**
GOMU						pmax	pmax		
	comp=Z,4.0nm,0.8s								
GOMU						pmax	pmax		
	comp=Z,140nm,5.7s								
GOMU						LR	LR		
	comp=Z,140nm,18.8s								
GOMU						LR	LR		
	comp=Z,150nm,19.1s								
GOMU						LR	LR		
	comp=Z,140nm,17.2s								
GTA	**Gaotai**	**54.05**	**337**	⇑P			**P**	**04 45 19.8**	**-0.3**
GTA						pP	pP	04 45 26.8	-0.6
GTA						sP	sP	04 45 30.4	+0.1
GTA						pmax	pmax		
	comp=Z,13nm,1.0s								
GTA						pmax	pmax		
	comp=Z,140nm,5.3s								
GTA						LR	LR		
	comp=Z,190nm,18.9s								
GTA						LR	LR		
	comp=Z,390nm,20.4s								
GTA						LR	LR		
	comp=Z,230nm,20.4s								
XLT	**XiLinHaoTe**	**54.23**	**353**	*e*P			**P**	**04 45 19.8**	**-1.5**
XLT						pmax	pmax		
	comp=Z,17nm,1.1s								
XLT						pmax	pmax		
	comp=Z,180nm,5.0s								
USA0B	**Ussuriysk Arra**	**54.62**	**7**	P			**P**	**04 45 22.2**	**-1.8**
USA0B						pmax	pmax		
	comp=Z,24nm,0.8s								
USA0B	**Ussuriysk Arra**	**54.62**	**7**	P			**P**	**04 45 22.2**	**-1.8**
USRK	**Ussuriysk Ar.**	**54.62**	**7**	P			**P**	**04 45 23.1**	**-0.9**
	comp=Z,21nm,0.7s,

MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 67.79 330 P P 04 46 52.6 -0.7
MAKZ IAmb IAmb 04 46 56.0
comp=Z,8.0nm,0.9s
MDOK Medeo 67.93 325 *e*P **P 04 46 52.9 -1.5**
MDOK Medeo 67.93 325 *e*P **P 04 46 52.9 -1.5**
baz=325
BOOM Boomskoye usch 68.14 324 P **P 04 46 55.6 -0.2**
BOOM pmax pmax
comp=Z,7.0nm,0.8s
BOOM Boomskoye usch 68.14 324 P **P 04 46 55.5 -0.2**
BOOM IAmb IAmb 04 47 05.8
comp=Z,7.1nm,0.8s
KBL Kabul 68.16 314 P **P 04 46 54.7 -1.4**
KBL pmax pmax
comp=Z,10.0nm,0.7s
KBL Kabul 68.16 314 P **P 04 46 54.6 -1.4**
KBL IAmb IAmb 04 47 03.7
comp=Z,9.9nm,0.7s
BOD Bodaibo 68.19 354 *e*P **P 04 46 55.9 +0.4**
BOD pmax pmax
comp=Z,12nm,1.1s
CHKK Chushkaly 68.40 326 *e*P **P 04 46 56.0 -1.2**
baz=326
KST Kastek 68.47 324 *e*P **P 04 46 56.6 -1.1**
comp=Z,8.1nm,1.1s,baz=324
KUU Kurty 68.79 325 *e*P **P 04 46 58.2 -1.4**
KUU pmax pmax
comp=Z,12nm,1.0s
KUU Kurty 68.79 325 *e*P **P 04 46 58.3 -1.4**
comp=Z,12nm,1.0s,baz=325
DRK Karamyk 68.90 319 P **P 04 47 01.4 +0.6**
DRK IAmb IAmb 04 47 09.7
comp=Z,12nm,0.8s
AAK Ala-Archa 69.08 323*ce*P **P 04 47 01.8 +0.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 69.08 323 P **P 04 47 01.6 0.0**
PETK Petropavlovsk- 69.39 21 P **P 04 47 02.9 -0.2**
comp=Z,2.1nm,0.7s,baz=211,slow=4.1,SNR=6.5
SGDS Sogindy 69.49 324 *e*P **P 04 47 02.7 -1.3**
baz=324
MAW Mawson 69.76 201 LR LR 05 16 00.9
comp=Z,231nm,18.6s,baz=60,slow=34
BTK Batken 69.85 319 P **P 04 47 05.9 -0.4**
BTK pmax pmax
comp=Z,12nm,1.4s
BTK Batken 69.85 319 P **P 04 47 05.9 -0.4**
BTK IAmb IAmb 04 47 09.1
comp=Z,12nm,1.4s
VNDA Vanda 70.17 172 LR LR 05 17 42.5
comp=Z,397nm,19.3s,baz=336,slow=36
BTLS Baital 70.79 325 *e*P **P 04 47 10.6 -1.2**
BTLS Baital 70.79 325 *e*P **P 04 47 10.7 -1.2**
baz=325
SEM Semipalatinsk 71.14 332 *e*P **P 04 47 12.2 -1.9**
SEM Semipalatinsk 71.14 332 *e*P **P 04 47 12.3 -1.9**
baz=332
IUG Iuzhnay 71.50 321 *e*P **P 04 47 15.0 -1.3**
IUG Iuzhnay 71.50 321 *e*P **P 04 47 15.1 -1.3**
baz=321
ZAA0 Zalesovo Array 71.81 337 P **P 04 47 16.4 -1.4**
ZAA0 IAmb IAmb 04 47 18.2
comp=Z,9.3nm,0.8s
ZALV Zalesovo Beam 71.81 337 P **P 04 47 16.3 -1.5**
comp=Z,7.9nm,0.6s,baz=136,slow=4.7,SNR=38
ZALV LR LR 05 21 30.9
comp=Z,81nm,21.3s,baz=154,slow=38
ZALV Zalesovo Beam 71.81 337 *i* P **P 04 47 16.0 -1.8**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
KURBB Kurchatov Arra 72.08 332 LR LR 05 23 51.0
comp=Z,181nm,18.6s,baz=120,slow=40
BRLS Borolday 72.10 322 *e*P **P 04 47 18.5 -1.3**
BRLS Borolday 72.10 322 *e*P **P 04 47 18.6 -1.3**
baz=321
KURK Kurchatov 72.10 332*ce*P **P 04 47 19.3 -0.3**
KURK pmax pmax
comp=Z,19nm,1.3s
KURK Kurchatov 72.10 332 P **P 04 47 18.8 -0.9**
KURK IAmb IAmb 04 47 22.3
comp=Z,12nm,0.9s
YAK Yakutsk 72.11 3 *e*P **P 04 47 18.8 -0.6**
YAK pmax pmax
comp=Z,29nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 72.11 3 P **P 04 47 19.6 +0.1**
MA2 Magadan 72.83 14 *i* P **P 04 47 24.0 +0.2**
MA2 pmax pmax
comp=Z,8.0nm,1.1s
MA2 Magadan 72.83 14 P **P 04 47 24.7 +0.9**
MA2 IAmb IAmb 04 47 30.3
comp=Z,21nm,1.3s
RAR Rarotonga 73.98 109 LR LR 05 21 52.1
comp=Z,40nm,18.4s,baz=353,slow=37
OPO Ambohidratompo 74.08 254 P **P 04 47 33.6 +1.3**
comp=Z,4.0nm,0.7s,baz=81,slow=9.5,SNR=5.2
BRZS Berezniki 74.54 329 *e*P **P 04 47 32.8 -1.2**
BRZS Berezniki 74.54 329 *e*P **P 04 47 32.9 -1.2**
baz=329
SEY Seymchan 76.16 13 LR LR 05 20 16.3
comp=Z,59nm,21.9s,baz=282,slow=35
GEYT Alibeck 77.56 313 LR LR 05 25 31.1
comp=Z,110nm,21.9s,baz=149,slow=38
BRVK Borovoye 77.58 330*ce*P **P 04 47 50.8 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 77.58 330 P **P 04 47 51.0 -0.3**
QSPA South Pole Qui 79.85 180 LR LR 05 22 12.2
comp=Z,414nm,21.0s,baz=328,slow=35
QSPA South Pole Qui 79.85 180 P **P 04 48 04.6 +0.8**
QSPA IAmb IAmb 04 48 10.7
comp=Z,13nm,1.1s
ABKAR Akbulak array 81.16 324 P **P 04 48 10.8 -0.2**
TIXI Tiksi 81.69 2 LR LR 05 27 12.1
comp=Z,95nm,20.9s,baz=214,slow=38
TIXI Tiksi 81.69 2*ce*P **P 04 48 12.6 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,1.3s
TIXI Tiksi 81.69 2 P **P 04 48 12.4 -0.8**
AKTO Aktyubinsk 82.80 324 P **P 04 48 19.2 -0.3**
comp=Z,4.7nm,0.7s,baz=113,slow=5.7,SNR=14
AKTO LR LR 05 29 51.3
comp=Z,108nm,21.6s,baz=123,slow=39
NRIK Noril'sk 83.18 348 P **P 04 48 20.2 -0.9**
comp=Z,2.7nm,0.6s,baz=150,slow=4.2,SNR=5.6
NRIK Noril'sk 83.18 348*ce*P **P 04 48 21.4 +0.3**
NRIK pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn 83.32 295 P **P 04 48 22.8 -0.1**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 83.32 295 P **P 04 48 22.8 -0.1**
RAYN IAmb IAmb 04 48 34.8
comp=Z,8.1nm,0.9s
BILL Bilibino 83.67 15 *e*P **P 04 48 25.0 +1.4**
BILL pmax pmax
comp=Z,2.0nm,1.0s
PPT2 Papeete2 83.96 107 *e*LR LR 05 14 59.3
comp=Z,305nm,30.5s
PPT Papeete 83.97 107 LR LR 05 25 21.4
comp=Z,41nm,18.9s,baz=295,slow=35
SVE Sverdlovsk 84.29 331 *e*P **P 04 48 27.3 +0.3**
SVE pmax pmax
comp=Z,25nm,1.1s
ARU Arti 85.13 330 P **P 04 48 30.6 -0.7**
comp=Z,1.8nm,0.7s,baz=150,slow=7.0,SNR=6.0
ARU LR LR 05 31 39.8
comp=Z,109nm,19.7s,baz=130,slow=39
ARU Arti 85.13 330*c i*P **P 04 48 30.1 -1.1**
ARU 04 51 41.2
ARU S **SKSac 04 58 51.6 -2.8**
ARU SS **SS 05 04 25.6 -8.1**
ARU pmax pmax
comp=Z,14nm,1.5s
ARU Arti 85.13 330 P **P 04 48 30.5 -0.8**
ARU IAmb IAmb 04 48 33.4
comp=Z,21nm,1.5s
KMBO Kilima Mbogo 86.24 270 P **P 04 48 37.5 -0.6**
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 86.24 270 P **P 04 48 37.5 -0.6**

GNI Garni 88.11 311 P **P 04 48 45.8 -0.7**
comp=Z,3.8nm,0.7s,baz=152,slow=18,SNR=2.4
GNI Garni 88.11 311*ce*P **P 04 48 46.2 -0.3**
GNI pmax pmax
comp=Z,9.0nm,1.3s
GROC Groznyy 88.15 314 *e*P **P 04 48 47.0 +0.6**
GROC pmax pmax
comp=Z,14nm,0.8s
LODK Lodwar 88.90 274 P **P 04 48 50.2 -0.4**
LODK IAmb IAmb 04 48 59.5
comp=Z,8.1nm,1.5s
BELG Belogornoye 89.57 324 P **P 04 48 52.0 -0.8**
comp=Z,7.5nm,0.9s,baz=226,slow=5.2,SNR=5.7
BELG Belogornoye 89.57 324 *i* P **P 04 48 52.9 +0.1**
BELG pmax pmax
comp=Z,2.0nm,1.0s
GURO Guroymak-BITLI 89.77 309 IAmb IAmb 04 49 04.7
comp=Z,5.6nm,0.8s
KBZ Khabaz 90.33 314 LR LR 05 35 32.2
comp=Z,75nm,22.0s,baz=106,slow=40
KBZ Khabaz 90.33 314 *i* P **P 04 48 56.4 -0.1**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KIRV Kirov 90.51 330 LR LR 05 34 55.9
comp=Z,131nm,20.0s,baz=121,slow=39
SNAA Sanae 91.09 195 LR LR 05 26 46.8
comp=Z,455nm,21.9s,baz=126,slow=33
BOSA Boshof 92.45 241 P **P 04 49 08.8 +1.9**
comp=Z,3.1nm,0.7s,baz=62,slow=2.0,SNR=5.3
BOSA Boshof 92.45 241 IAmb IAmb 04 49 18.0
comp=Z,8.8nm,1.2s
LSZ Lusaka 92.54 254 LR LR 05 27 26.9
comp=Z,86nm,18.9s,baz=104,slow=33
LSZ Lusaka 92.54 254 P **P 04 49 08.4 +0.8**
LSZ pmax pmax
comp=Z,5.0nm,0.8s
LSZ Lusaka 92.54 254 P **P 04 49 08.4 +0.8**
LSZ IAmb IAmb 04 49 10.7
comp=Z,5.2nm,0.8s
VNA2 Neumayer--Watz 92.70 194 P **P 04 49 04.9 -2.2**
baz=24,slow=21
MBAR Mbarara 92.75 269 P **P 04 49 09.2 +0.5**
MBAR pmax pmax
comp=Z,5.0nm,0.8s
MBAR Mbarara 92.75 269 P **P 04 49 09.2 +0.5**
MBAR IAmb IAmb 04 49 22.7
comp=Z,4.8nm,0.8s
EIL Elat 93.81 299 LR LR 05 33 51.2
comp=Z,97nm,21.9s,baz=96,slow=37
MMAI Mount Meron Ar 93.98 303 P **P 04 49 14.6 +0.8**
comp=Z,0.7nm,0.6s,baz=72,slow=11,SNR=2.6
MMAI LR LR 05 35 57.0
comp=Z,204nm,21.2s,baz=236,slow=38
TAOE Nuku Hiva Isla 94.51 100 *e*LR LR 05 19 49.0
comp=Z,126nm,27.7s
SUR Sutherland 95.25 236 LR LR 05 27 43.3
comp=Z,131nm,18.9s,baz=110,slow=32
KLMR Klimovskoe 95.93 331 *e*P **P 04 49 19.4 -2.5**
KLMR pmax pmax
comp=Z,11nm,1.3s
KLMR Klimovskoe 95.93 331 *e*P **P 04 49 19.5 -2.5**
KLMR AMP 04 49 21.3
comp=Z,11nm,1.3s
BRTR Keskin Array B 96.40 309 P **P 04 49 26.8 +2.0**
comp=Z,2.9nm,1.1s,baz=90,slow=4.3,SNR=5.0
BRTR LR LR 05 36 06.8
comp=Z,90nm,21.9s,baz=120,slow=38
OBN Obninsk 96.57 325 LR LR 05 39 35.3
comp=Z,23nm,19.6s,baz=149,slow=40
OBN Obninsk 96.57 325 *e*P **P 04 49 22.4 -2.6**
OBN *e* 04 53 15.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,159nm,22.0s
FINES FINESS Array B 102.46 331 PKiKP **PKiKP 04 54 15.0 +2.5**
comp=Z,1.8nm,1.0s,baz=0.0,slow=0.6,SNR=4.1
GERES GERESS Array B 110.68 318 PKiKP **PKiKP 04 54 29.7 +1.4**
comp=Z,0.4nm,0.7s,baz=108,slow=3.2,SNR=3.1
YKA Yellowknife Ar 113.31 25 PKiKP **PKiKP 04 54 34.6 +1.9**
comp=Z,1.0nm,0.8s,baz=298,slow=2.0,SNR=11
NVAR Mina Array Bea 118.17 52 PKP **PKiKP 04 54 45.4 +2.2**
comp=Z,1.2nm,0.8s,baz=245,slow=1.3,SNR=8.7
NVAR Mina Array Bea 118.17 52 **PKiKP 04 54 43.7 +0.5**
HLID Hailey 119.94 45 PKPdf **PKiKP 04 54 46.5 +0.1**
LOHW Long Hollow 122.57 44 PKPdf **PKiKP 04 54 52.1 +0.5**
TORD Torodi Ar. Bea 123.16 279 PKP **PKiKP 04 54 54.7 +1.4**
comp=Z,3.5nm,0.7s,baz=58,slow=1.8,SNR=22
PDAR Pinedale Array 123.56 45 PKP **PKiKP 04 54 55.0 +1.3**
comp=Z,0.4nm,0.5s,baz=179,slow=1.0,SNR=5.7
PDAR Pinedale Array 123.56 45 **PKPdf 04 54 53.2 -0.2**
ESDC Sonseca Array 125.10 312 PKP **PKiKP 04 54 57.8 +1.3**
comp=Z,1.3nm,0.9s,baz=55,slow=5.6,SNR=4.5
ESDC Sonseca Array 125.10 312 **PKPdf 04 54 56.1 -0.1**
PLCA Paso Flores 127.70 166 PKP **PKiKP 04 55 02.5 +0.6**
comp=Z,1.6nm,1.0s,baz=270,slow=2.0,SNR=2.0
ULM Lac du Bonnet 128.46 31 PKP **PKiKP 04 55 03.0 +0.2**
comp=Z,2.7nm,0.6s,baz=353,slow=3.8,SNR=1.7
DBIC Dimbokro 128.97 270 PKP **PKiKP 04 55 05.5 +0.6**
comp=Z,2.7nm,0.6s,baz=300,slow=2.6,SNR=4.8
TXAR Lajitas Array 131.94 60 PKP **PKiKP 04 55 11.0 +0.3**
comp=Z,0.4nm,0.7s,baz=248,slow=1.6,SNR=4.7
TXAR Lajitas Array 131.94 60 PKIKP **PKiKP 04 55 11.0 +0.3**
SCHQ Schefferville 134.67 8 PKP **PKiKP 04 55 16.0 +0.7**
comp=Z,1.3nm,0.4s,baz=11,slow=2.3,SNR=9.3
SCHQ Schefferville 134.67 8 **PKPdf 04 55 12.3 -1.5**
250A Grady 144.85 47 **PKPdf 04 55 32.7 -0.3**
Z51A Franklin 144.90 45 PKPdf PKPbc 04 55 32.2 0.0
V53A Saluda 145.03 39 PKPdf **PKPbc 04 55 31.9 -0.7**
LVC Limon Verde 145.20 159 PKP2 **PKPbc 04 55 33.3 -0.6**
LVC Limon Verde 145.20 159 PKPbc **PKPbc 04 55 33.3 -0.6**
BG3 Lake Jocassee 145.38 40 PKPbc **PKPbc 04 55 32.0 -1.7**
GOGA Godfrey 146.00 43 PKIKP **PKPdf 04 55 33.3 -1.6**
GOGA Godfrey 146.00 43 **PKPdf 04 55 33.3 -1.6**
HODGE Hodges 146.29 41 PKPbc **PKPbc 04 55 36.7 +0.2**
JSRW J. Sargeant Re 146.43 32 PKPbc **PKPab 04 55 37.7 0.0**
T59A Double "B" Far 147.15 32 PKPbc **PKPbc 04 55 37.8 -1.0**
PB08 IPOC Station P 147.37 157 PKPbc **PKPbc 04 55 40.1 -0.4**
PB16 IPOC Station P 148.86 155 PKPbc **PKPbc 04 55 43.3 -1.4**
PB16 PKPab **PKPab 04 55 48.4 -0.1**
AQDB Aquidauana 149.56 181 PKPbc **PKPbc 04 55 44.1 -1.5**
CRIN San Cristobal 149.83 82 PKPbc **PKPbc 04 55 45.9 -0.7**
LPAZ La Paz 151.26 156 PKPbc **PKiKP 04 55 52.6 +1.4**
comp=Z,5.4nm,0.9s,baz=232,slow=0.6,SNR=17

IDC ***16*** *04:37:30.7±0.7, 61°.03N×27°.92W, h0km, mb3.9/21, mb1 4.1/23, mb1mx3.9/58, mbtmp3.9/23, ML3.8/2, MS3.7/18, Ms1 3.7/18, ms1mx3.3/86, Error ellipse: s-maj=20.5km s-min=12.3km az=7.0*
REY ***16*** *04:37:30.6, 60°.66N×26°.64W, h10km*
NEIC ***16*** *04:37:32.8±1.0, 61°.06N±0°.07×27°.9W±0°.2, h10km±1km, mb4.4/22, Error ellipse: s-maj=15.1km s-min=12.6km az=271.0*
ISC 16 04:37:32.4±0.5,**61°.04N**±0°.07×**27°.76W**±0°.06,**h10**km,**n88**, σ1§**17**/81,**mb4.1**/29,**MS3.6**/14,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**3.65**	**38**	P	**Pn**	**04 38 27.7**	**-1.1**
baz=28							
IGRV	**Grindav??k**	**3.75**	**39**	P	**Pn**	**04 38 29.1**	**-1.1**
baz=30							
INYL	**Nylenda**	**3.75**	**36**	P	**Pn**	**04 38 30.1**	**-0.2**
baz=27							
INYL				S	**Sn**	**04 39 15.8**	**+1.3**
baz=27							
IVOG	**Vogar**	**3.85**	**38**	P	**Pn**	**04 38 30.1**	**-1.5**
baz=29							
IKRI	**Krysuvik**	**3.88**	**40**	P	**Pn**	**04 38 30.9**	**-1.1**
baz=32							
IVOS	**Vogsosar**	**3.99**	**42**	P	**Pn**	**04 38 31.8**	**-1.7**
baz=34							
IVOS				S	**Sn**	**04 39 19.5**	**-0.7**
baz=34							
IKAS	**Kald??rsel**	**4.06**	**40**	P	**Pn**	**04 38 33.4**	**-1.0**
baz=31							
ISAN	**Sandskeio**	**4.17**	**41**	P	**Pn**	**04 38 35.1**	**-0.9**
baz=33							
ISAN				S	**Sn**	**04 39 25.1**	**+0.5**
baz=33							
IBJA	**Bjarnastaoir**	**4.18**	**43**	P	**Pn**	**04 38 34.2**	**-1.9**
baz=35							
IBJA				S	**Sn**	**04 39 24.2**	**-0.7**
baz=35							

ISOL Solvholt 4.29 44 P **Pn 04 38 35.8 -1.8**
baz=37
ISOL S **Sn 04 39 26.5 -1.2**
baz=37
IKRO Krokur 4.34 42 P **Pn 04 38 37.0 -1.4**
baz=34
IKRO S **Sn 04 39 28.4 -0.6**
baz=34
IASM Asmuli 4.34 47 P **Pn 04 38 35.9 -2.5**
baz=39
IASM S **Sn 04 39 27.5 -1.5**
baz=39
IHEI Heioarbar 4.37 41 P **Pn 04 38 37.6 -1.2**
baz=33
IHEI S **Sn 04 39 30.6 +0.8**
baz=33
ISAU Saurbar 4.51 46 P **Pn 04 38 38.7 -1.9**
baz=38
ISAU S **Sn 04 39 31.9 -1.2**
baz=38
IHAU Haukadalur 4.66 47 S **Sn 04 39 35.2 -1.5**
baz=40
BORG Borgarnes 4.74 36 Pn **Pn 04 38 42.9 -1.0**
8.3nm,0.3s,baz=253,slow=6.0,SNR=49
BORG Sn **Sn 04 39 39.9 +1.1**
5.4nm,0.3s,baz=209,slow=20,SNR=14
BORG Borgarnes 4.74 36 **Pn 04 38 43.8 -0.1**
IASB `sbjarnarst 4.75 36 P **Pn 04 38 43.1 -0.7**
baz=28
IASB S **Sn 04 39 40.4 +1.6**
baz=28
IGYG Gygjarholskot 4.76 44 P **Pn 04 38 42.9 -1.2**
baz=37
IGYG S **Sn 04 39 39.5 +0.2**
baz=37
IVAT Vatnsfell 5.16 48 P **Pn 04 38 49.1 -0.6**
baz=42
ISTE Stelbrattur 5.33 41 P **Pn 04 38 52.1 +0.1**
baz=34
IIEY Innrieyrar 5.41 51 P Pn 04 38 49.9 -3.1
baz=45
IJOK Jokulheimar 5.48 49 P **Pn 04 38 51.6 -2.5**
baz=43
IKAL Kalfafell 5.50 54 P **Pn 04 38 51.7 -2.6**
baz=48
ISKR Skrokkalda 5.56 47 P **Pn 04 38 53.0 -2.2**
baz=41
IHUS Husbondi 5.69 51 P **Pn 04 38 54.4 -2.5**
baz=45
SFJD Kangerlussuaq 11.62 311 LR LR 04 44 05.1
comp=Z,722nm,18.6s,baz=134,slow=34
SUMG Summit 12.30 345 *i* P **Pn 04 40 28.0 +0.3**
SUMG Summit 12.30 345 Pn **Pn 04 40 26.3 -1.3**
JMIC Jan Mayen 12.60 30 LR LR 04 44 09.9
comp=Z,87nm,19.6s,baz=114,slow=32
EKA Eskdalemuir Ar 14.12 103 Pn **Pn 04 40 53.2 +1.0**
baz=308,slow=11,SNR=1.8
NOA NORSAR Array B 18.69 73 LR LR 04 48 49.9
comp=Z,136nm,19.6s,baz=285,slow=36
FRB Frobisher Bay 18.86 296 LR LR 04 48 19.0
comp=Z,368nm,18.0s,baz=92,slow=34
HFS Hagfors 20.14 74 LR LR 04 49 45.0
comp=Z,155nm,18.9s,baz=270,slow=36
TULEG Thule 20.74 334 P **P 04 42 12.1 -0.6**
TULEG IAmb IAmb 04 42 27.6
comp=Z,12nm,1.2s
SCHQ Schefferville 21.39 271 P **P 04 42 19.4 -0.4**
comp=Z,5.5nm,0.8s,baz=92,slow=5.8,SNR=6.8
SCHQ Schefferville 21.39 271 IAmb IAmb 04 42 23.2
comp=Z,7.8nm,0.9s
ARCES ARCESS Array B 23.05 46 P **P 04 42 37.8 +0.3**
comp=Z,10nm,1.0s,baz=270,slow=6.1,SNR=8.8
ARCES ARCESS Array B 23.05 46 IAmb IAmb 04 42 38.8
comp=Z,22nm,1.3s
FINES FINESS Array B 25.30 65 P **P 04 42 59.3 +0.8**
comp=Z,4.9nm,1.0s,baz=290,slow=8.7,SNR=4.2
PESTR Estremoz 25.50 141 P **P 04 43 01.1 +0.5**
PESTR IAmb IAmb 04 43 04.4
comp=Z,14nm,1.4s
TUE Stuetta 25.89 107 P **P 04 43 04.9 +0.5**
TUE IAmb IAmb 04 43 13.4
comp=Z,13nm,1.2s
DAVOX Davos/Dischmat 25.91 106 LR LR 04 53 04.2
comp=Z,91nm,19.7s,baz=265,slow=36
ESDC Sonseca Array 25.95 135 P **P 04 43 05.2 +0.5**
comp=Z,0.9nm,0.9s,baz=333,slow=8.4,SNR=2.5
ESDC LR LR 04 51 27.5
comp=Z,123nm,20.9s,baz=309,slow=32
GERES GERESS Array B 26.26 99 LR LR 04 53 49.1
comp=Z,194nm,19.4s,baz=300,slow=37
RES Resolute Bay 26.83 327 P **P 04 43 12.7 +0.4**
comp=Z,1.4nm,0.9s,baz=96,slow=9.6,SNR=4.7
RES LR LR 04 53 36.4
comp=Z,179nm,19.2s,baz=91,slow=36
RES Resolute Bay 26.83 327 IAmb IAmb 04 43 14.0
comp=Z,2.7nm,1.1s
VRAC Vranov 27.34 95 LR LR 04 54 34.6
comp=Z,158nm,19.9s,baz=294,slow=37
AKASG Malin Array Be 32.56 82 P **P 04 44 01.9 -1.4**
comp=Z,0.6nm,0.5s,baz=314,slow=8.3,SNR=3.5
AKASG LR LR 04 57 38.3
comp=Z,93nm,18.1s,baz=260,slow=37
KEST Kesra 34.54 120 LR LR 04 58 13.7
comp=Z,154nm,18.3s,baz=265,slow=36
MLR Muntele Rosu 34.55 92 LR LR 04 59 36.6
comp=Z,90nm,19.8s,baz=334,slow=38
VAE Valguarnera 35.29 112 LR LR 04 59 29.8
comp=Z,114nm,18.6s,baz=2.5,slow=37
A36M Sachs Harbour 35.86 328 P **P 04 44 31.5 -0.2**
A36M IAmb IAmb 04 44 38.4
comp=Z,5.5nm,1.1s
ULM Lac du Bonnet 38.17 285 LR LR 04 59 36.2
comp=Z,362nm,18.0s,baz=18,slow=35
ULM Lac du Bonnet 38.17 285 P **P 04 44 52.9 +1.4**
YKA Yellowknife Ar 38.18 311 P **P 04 44 51.0 -0.4**
comp=Z,1.0nm,0.7s,baz=52,slow=9.1,SNR=19
YKA LR LR 05 00 33.5
comp=Z,176nm,19.7s,baz=66,slow=36
INK Inuvik 40.38 326 P **P 04 45 07.9 -1.9**
comp=Z,2.1nm,0.9s,baz=21,slow=8.1,SNR=6.5
INK LR LR 05 01 53.4
comp=Z,101nm,19.3s,baz=198,slow=36
ARU Arti 41.95 56 P **P 04 45 24.0 +1.2**
comp=Z,0.4nm,0.3s,baz=322,slow=8.6,SNR=4.8
ARU Arti 41.95 56 IAmb IAmb 04 45 24.4
comp=Z,12nm,1.4s
NRIK Noril'sk 42.03 29 P **P 04 45 23.9 +0.6**
comp=Z,0.7nm,0.3s,baz=318,slow=13,SNR=3.5
NRIK Noril'sk 42.03 29 IAmb IAmb 04 45 25.8
comp=Z,3.4nm,1.1s
BR131 Keskin Array S 42.62 91 P **P 04 45 30.4 +1.7**
BR131 IAmb IAmb 04 45 36.5
comp=Z,4.9nm,1.1s
BRTR Keskin Array B 42.63 91 P **P 04 45 28.4 -0.3**
comp=Z,0.7nm,0.9s,baz=321,slow=7.2,SNR=2.8
BRTR Keskin Array B 42.63 91 P **P 04 45 29.4 +0.7**
TKL Tuckaleechee C 43.24 260 LR LR 05 01 45.0
comp=Z,155nm,18.6s,baz=12,slow=34
KBZ Khabaz 44.06 80 P **P 04 45 41.8 +1.7**
comp=Z,2.6nm,0.9s,baz=326,slow=10.0,SNR=3.8
DAWY Dawson 45.12 325 P **P 04 45 48.8 +0.5**
DAWY IAmb IAmb 04 45 50.7
comp=Z,5.1nm,1.0s
COLD Coldfoot 45.33 332 P **P 04 45 51.4 +1.4**
AKTO Aktyubinsk 46.01 62 P **P 04 45 56.9 +1.4**
comp=Z,2.5nm,0.9s,baz=304,slow=8.5,SNR=6.2
ILAR Eielson Array 46.55 329 P **P 04 45 58.6 -0.9**
comp=Z,1.1nm,0.9s,baz=32,slow=7.3,SNR=7.6
TIXI Tiksi 46.60 10 P **P 04 46 00.8 +0.9**
TIXI IAmb IAmb 04 46 01.5
comp=Z,5.0nm,1.1s
ABKAR Akbulak array 47.72 62 P **P 04 46 09.1 +0.3**
BRVK Borovoye 49.05 52 P **P 04 46 19.6 +0.6**
BRVK IAmb IAmb 04 46 21.4
comp=Z,3.6nm,1.0s
PD31 Pinedale Array 50.05 288 P **P 04 46 26.6 -0.5**
PD31 IAmb IAmb 04 46 32.2
comp=Z,3.7nm,1.1s
PDAR Pinedale Array 50.05 288 P **P 04 46 26.1 -1.1**
comp=Z,1.4nm,0.7s,baz=62,slow=6.1,SNR=12
TORD Torodi Ar. Bea 52.39 143 P **P 04 46 44.2 -0.4**
comp=Z,0.7nm,0.9s,baz=322,slow=6.2,SNR=4.1
S22A 4UR Ranch, Cre 52.73 282 P **P 04 46 47.2 -0.1**
HKT Hockley 53.73 267 P **P 04 46 53.1 -1.2**
KURK Kurchatov 54.05 49 P **P 04 46 56.2 -0.2**
ELK Elko 54.25 291 P **P 04 46 58.2 -0.2**
JCT Junction City 55.22 271 P **P 04 47 05.0 -0.3**

JCT			IAmb	IAmb	04 47 07.6	
	comp=Z,5.3nm,1.1s					
KVN	**Kaiserville**	56.92 292	P	P	04 47 18.0	+0.4
KVN			IAmb	IAmb	04 47 19.0	
	comp=Z,6.8nm,1.3s					
KKAR	**Karatay Array**	57.08 60	P	P	04 47 19.3	+0.9
NVAR	**Mina Array Bea**	57.52 291	P	P	04 47 21.3	-0.5
	comp=Z,0.5nm,0.8s,baz=59,slow=6.3,SNR=5.1					
TXAR	**Lajitas Array**	58.05 273	P	P	04 47 24.6	-0.9
	comp=Z,0.6nm,0.9s,baz=73,slow=5.5,SNR=3.7					
SONM	**Songino Array**	65.35 32	P	P	04 48 15.0	+0.5
	comp=Z,1.3nm,0.9s,baz=316,slow=4.1,SNR=3.6					
KSRS	**Korea Array**	79.86 19	P	P	04 49 40.1	-0.7
	comp=Z,0.5nm,0.3s,baz=344,slow=4.2,SNR=2.2					
CMAR	**Chiang Mai Arr**	90.07 50	P	P	04 50 32.1	-0.2
	comp=Z,1.2nm,0.3s,baz=316,slow=6.1,SNR=5.6					

*PRU **16** 04:37:51.4±0.0, 51.°47N×16.°18E, h0km*
*IPEC **16** 04:37:51.4±0.3, 51.°44N×16.°21E, h1km, ML2.0/3, Error ellipse: s-maj=3.1km s-min=1.7km az=63.0*
*VIE **16** 04:37:52.9±0.6, 51.°33N×16.°16E, h0km, mb1.9/1, ml2.5/3, Error ellipse: s-maj=5.5km s-min=3.9km az=97.0 65 km WNW of Wroclaw Suspected Mining induced.*
*IDC **16** 04:37:54.1±1.1, 51.°29N×16.°11E, h0km, mb1 3.1/5, mb1mx3.0/49, mbtmp3.0/5, ML2.2/4, Error ellipse: s-maj=17.0km s-min=9.3km az=93.0*

ISC 16 04:37:51.3±1.0, 51.°47N±0.°05×16.°19E±0.°04, h0km, n28, σ0.°65/52, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.63	174	*e*PG	Pg	04 38 03.3	0.0
KSP				*e*Sg	Sg	04 38 11.6	+0.1
CHVC	**Chvalec**	0.88	186	*e*PG	Pg	04 38 08.1	-0.1
CHVC				*e*SG	Sg	04 38 20.2	+0.6
	comp=Z,26nm,0.4s						
OSTC	**Ostas**	0.91	179	*e*PG	Pg	04 38 08.9	+0.2
OSTC				*e*SG	Sg	04 38 20.8	+0.3
	comp=Z,27nm,0.4s						
UPC	**Upice**	0.97	187	*e*PG	Pg	04 38 09.5	-0.3
UPC				*e*SG	Sg	04 38 22.8	+0.5
	comp=Z,59nm,0.4s						
DPC	**Dobruska-Polom**	1.12	176	*e*PG	Pg	04 38 12.1	-0.6
DPC				*e*SG	Sg	04 38 26.9	-0.3
	comp=Z,18nm,0.5s						
PVCC	**Panska Ves**	1.39	228	*e*PG	Pn	04 38 17.5	-0.4
PVCC				*e*SG	Sb	04 38 36.5	+0.1
	comp=Z,72nm,0.3s						
KRLC	**Kraliky**	1.44	165	*e*PG	Pn	04 38 18.2	-0.5
KRLC				*e*SG	Sg	04 38 36.7	-0.9
	comp=Z,14nm,0.4s						
BRG	**Berggiesshubel**	1.53	248	Pg	Pg	04 38 20.5	-0.1
BRG				Sg	Sn	04 38 40.5	0.0
BRG				Amp		04 38 42.5	
	comp=Z,24nm,0.3s						
PRU	**Pruhonice**	1.81	216	*e*PG	Pb	04 38 24.4	-0.9
PRU				*e*SG	Sn	04 38 48.0	+0.6
	comp=Z,15nm,0.6s						
MORC	**Moravsky Berou**	1.90	152	*e*Pn	Pn	04 38 24.2	-0.7
	baz=333						
MORC				*e*Sg	Sn	04 38 49.8	+0.2
	comp=Z,12nm,0.5s,baz=333						
MORC	**Moravsky Berou**	1.90	152	*e*PN	Pn	04 38 24.3	-0.7
MORC				*e*SG	Sn	04 38 49.9	+0.3
CLL	**Collm**	2.00	267	*e*Pg	Pb	04 38 28.0	-0.5
CLL				*e*Sg	Sb	04 38 54.0	0.0
	comp=Z,15nm,0.5s						
CLL				Lm	MLR	04 44 00.0	
	comp=N,100nm,18.5s						
CLL				Lm	MLR	04 44 00.0	
	comp=E,100nm,18.5s						
CLL				Lm	MLR	04 44 00.0	
	comp=Z,100nm,20.7s						
CLL				Lm	MLR	04 52 00.0	
	comp=Z,100nm,20.6s						
OKC	**Ostrava-Krasne**	2.05	142	*e*SG	Sb	04 38 55.1	-0.3
	comp=Z,17nm,0.5s						
VRAC	**Vranov**	2.18	173	Pn	Pn	04 38 29.2	+0.5
	comp=Z,0.7nm,0.3s,baz=346,slow=16,SNR=9.2						
VRAC				Lg	Lg	04 38 59.3	
	comp=Z,3.2nm,0.3s,baz=77,slow=21,SNR=12						
VRAC	**Vranov**	2.18	173	*e*Pn	Pn	04 38 28.6	-0.1
	baz=354						
VRAC				*e*Sg	Sb	04 38 58.2	-0.8
	comp=Z,9.0nm,0.4s,baz=354						
KRUC	**Moravsky**	2.41	177	*e*Pn	Pn	04 38 31.3	-0.6
	baz=357						
KRUC				*e*Sg	Sb	04 39 05.8	0.0
	comp=Z,6.1nm,0.5s,baz=357						
KRUC	**Moravsky**	2.41	177	*e*PN	Pn	04 38 31.4	-0.5
KRUC				*e*SG	Sb	04 39 05.9	+0.1
NKC	**Novy Kostel**	2.67	244	*e*PN	Pn	04 38 35.1	-0.5
NKC				*e*PG	Pg	04 38 42.0	-0.5
NKC				*e*SG	Sg	04 39 17.4	+0.3
	comp=Z,12nm,0.4s						
KHC	**Kasperske Hory**	2.88	217	*e*PN	Pn	04 38 37.7	-0.7
KHC				*e*PG	Pb	04 38 43.3	-0.1
KHC				*e*SN	Sn	04 39 12.6	-1.1
KHC				*e*SG	Sg	04 39 22.7	-0.9
	comp=Z,5.7nm,0.5s						
CKRC	**Cesky Krumlov**	2.91	205	*e*PN	Pn	04 38 38.9	0.0
CKRC				*e*PG	Pb	04 38 44.8	+0.7
CKRC				*e*SG	Sb	04 39 22.5	+2.3
	comp=Z,6.6nm,0.5s						
GERES	**GERESS Array B**	3.07	212	Pn	Pn	04 38 41.3	+0.1
	comp=Z,0.3nm,0.3s,baz=27,slow=14,SNR=8.3						
GERES				Pg	Pb	04 38 47.0	+0.2
	comp=Z,1.6nm,0.3s,baz=33,slow=17,SNR=24						
GERES				Lg	Lg	04 39 25.3	
	comp=Z,0.8nm,0.3s,baz=33,slow=27,SNR=5.5						
MODS	**Modra-Piesok**	3.18	167	*e*SG	Sg	04 39 34.5	+1.3
CONA	**Conrad Observa**	3.55	184	*i* Pn	Pn	04 38 47.8	+0.1
	comp=Z,0.2nm,0.1s						
CONA				Sg	Sg	04 39 45.0	-0.2
	comp=Z,4.6nm,0.4s						
MOA	**Molln**	3.83	200	*i* Pn	Pn	04 38 51.0	-0.4
	comp=Z,0.5nm,0.2s						
MOA				*e*Sg	Sg	04 39 54.9	+0.7
	comp=Z,4.2nm,0.4s						
ARSA	**Arzberg**	4.24	186	*e*Sg	Sg	04 40 06.5	-1.0
	comp=Z,2.1nm,0.4s						
HFS	**Hagfors**	8.80	352	Pn	Pn	04 40 00.7	+1.1
	baz=173,slow=13,SNR=2.2						
NOA	**NORSAR Array B**	9.98	346	Pn	Pn	04 40 20.4	+4.6
	comp=Z,0.0nm,0.3s,baz=160,slow=16,SNR=2.4						
BRTR	**Keskin Array B**	16.89	127	Pn	P	04 41 50.8	-0.4
	comp=Z,0.0nm,0.3s,baz=325,slow=12,SNR=1.4						

*IDC **16** 04:38:55.7±0.9, 61.°07N×28.°14W, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.8/58, mbtmp3.9/15, ML3.5/2, MS3.8/3, Ms1 3.8/3, ms1mx3.0/88, Error ellipse: s-maj=23.6km s-min=15.7km az=9.0*
*NEIC **16** 04:38:56.7±1.0, 61.°2N±0.°2×28.°4W±0.°2, h10km±2km, mb4.2/5, Error ellipse: s-maj=28.2km s-min=17.6km az=170.0*
*REY **16** 04:38:56.5, 60.°66N×26.°46W, h10km*

ISC 16 04:38:56.9±0.7, 61.°14N±0.°08×28.°05W±0.°07, h10km, n46, σ1.°59/54, mb3.9/14, MS3.9/3, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INYL	**Nylenda**	3.76	38	P	Pn	04 39 55.5	+0.6
	baz=26						
INYL				S	Sn	04 40 41.0	+1.9
	baz=26						
IGRV	**Grindav??k**	3.77	41	P	Pn	04 39 54.3	-0.6
	baz=28						
IVOG	**Vogar**	3.87	40	P	Pn	04 39 56.1	-0.1
	baz=28						
IKRI	**Krysuvik**	3.90	43	P	Pn	04 39 55.4	-1.4
	baz=30						
IKRI				S	Sn	04 40 41.9	-0.7
	baz=30						
IVOS	**Vogsosar**	4.01	44	P	Pn	04 39 57.0	-1.3
	baz=33						
IVOS				S	Sn	04 40 44.6	-0.6
	baz=33						
ISAN	**Sandskeio**	4.19	43	P	Pn	04 40 00.1	-0.6
	baz=32						
ISAN				S	Sn	04 40 49.6	-0.1
	baz=32						
IBJA	**Bjarnastaoir**	4.21	45	P	Pn	04 39 59.4	-1.5
	baz=34						
IBJA				S	Sn	04 40 48.7	-1.4
	baz=34						
ISOL	**Solvholt**	4.32	46	P	Pn	04 40 01.0	-1.6
	baz=36						
ISOL				S	Sn	04 40 50.6	-2.3
	baz=36						
IKRO	**Krokur**	4.37	44	P	Pn	04 40 02.4	-0.7
	baz=34						
IKRO				S	Sn	04 40 53.5	-0.5
	baz=34						
IASM	**Asmuli**	4.38	49	P	Pn	04 40 01.4	-1.9
	baz=38						
IASM				S	Sn	04 40 51.5	-2.9
	baz=38						
IHEI	**Heioarbar**	4.39	43	P	Pn	04 40 03.0	-0.5
	baz=32						
ISAU	**Saurbar**	4.55	48	P	Pn	04 40 04.5	-1.1
	baz=38						
ISAU				S	Sn	04 40 56.6	-1.8
	baz=38						
BORG	**Borgarnes**	4.75	37	Pn	Pn	04 40 09.0	+0.6
	4.3nm,0.3s,baz=204,slow=11,SNR=2.1						
BORG				Sn	Sn	04 41 05.6	+2.2
	3.2nm,0.3s,baz=84,slow=22,SNR=1.3						
BORG	**Borgarnes**	4.75	37	Pn	Pn	04 40 09.0	+0.6
IASB	**`sbjarnarst**	4.75	37	P	Pn	04 40 08.6	+0.2
	baz=28						
IASB				S	Sn	04 41 06.0	+2.6
	baz=28						
IGYG	**Gygjarholskot**	4.79	45	P	Pn	04 40 07.7	-1.3
	baz=36						
IGYG				S	Sn	04 41 04.3	-0.1
	baz=36						
IHVO	**Lagu-Hvolar**	4.91	57	P	Pn	04 40 06.4	-4.3
	baz=48						
IIEY	**Innrieyrar**	5.46	53	P	Pn	04 40 15.3	-2.9
	baz=45						
IKAL	**Kalfafell**	5.56	55	P	Pn	04 40 17.1	-2.4
	baz=47						
ISKR	**Skrokkalda**	5.60	48	P	Pn	04 40 18.7	-1.5
	baz=40						
IHUS	**Husbondi**	5.73	52	P	Pn	04 40 19.6	-2.4
	baz=44						
IHAE	**Haedir**	5.87	56	P	Pn	04 40 21.1	-2.7
	baz=48						
SUMG	**Summit**	12.17	345	Pn	Pn	04 41 46.6	-3.7
EKA	**Eskdalemuir Ar**	14.28	103	Pn	Pn	04 42 19.6	+0.7
	baz=310,slow=10.0,SNR=2.6						
KONO	**Kongsberg**	18.49	78	P	P	04 43 14.1	+1.3
KONO				IAmb	IAmb	04 43 37.4	
	comp=Z,17nm,1.1s						
SCHQ	**Schefferville**	21.25	270	P	P	04 43 42.0	-0.8
	comp=Z,3.9nm,0.9s,baz=52,slow=5.5,SNR=4.5						
SCHQ	**Schefferville**	21.25	270	P	P	04 43 40.4	-2.5
SCHQ				IAmb	IAmb	04 43 43.5	
	comp=Z,18nm,1.1s						
ARCES	**ARCESS Array B**	23.09	46	P	P	04 44 03.1	+0.8
	comp=Z,7.9nm,1.0s,baz=275,slow=9.7,SNR=5.5						
ARCES	**ARCESS Array B**	23.09	46	P	P	04 44 03.6	+1.4
FINES	**FINESS Array B**	25.38	65	P	P	04 44 25.0	+1.2
	comp=Z,2.2nm,0.8s,baz=290,slow=5.7,SNR=4.1						
FINES	**FINESS Array B**	25.38	65	P	P	04 44 24.6	+0.8
FIA1	**FINESS Array S**	25.38	65	P	P	04 44 24.9	+1.1
FIA1				IAmb	IAmb	04 44 53.0	
	comp=Z,5.3nm,1.1s						
ESDC	**Sonseca Array**	26.12	134	P	P	04 44 32.5	+1.7
	comp=Z,1.4nm,1.0s,baz=335,slow=10,SNR=3.3						
AKASG	**Malin Array Be**	32.69	82	P	P	04 45 28.6	-0.3
	comp=Z,0.3nm,0.5s,baz=301,slow=8.5,SNR=2.0						
YKA	**Yellowknife Ar**	38.01	311	P	P	04 46 15.4	+0.9
	comp=Z,0.9nm,0.7s,baz=51,slow=9.1,SNR=7.8						
INK	**Inuvik**	40.22	326	P	P	04 46 32.1	-0.8
	comp=Z,0.8nm,0.8s,baz=54,slow=8.7,SNR=2.0						
KBZ	**Khabaz**	44.18	79	LR	LR	05 04 49.4	
	comp=Z,86nm,19.1s,baz=344,slow=35						
AKTO	**Aktyubinsk**	46.09	62	P	P	04 47 22.0	+1.4
	comp=Z,2.0nm,0.9s,baz=316,slow=12,SNR=4.8						
ILAR	**Eielson Array**	46.39	329	P	P	04 47 24.9	+2.1
	comp=Z,0.6nm,0.8s,baz=32,slow=5.3,SNR=4.1						
IMAR	**Indian Mountai**	47.01	333	P	P	04 47 29.4	+1.8
NEW	**Newport**	49.02	298	LR	LR	05 06 39.2	
	comp=Z,134nm,19.5s,baz=332,slow=34						
PDAR	**Pinedale Array**	49.89	288	P	P	04 47 49.9	-0.5
	comp=Z,1.3nm,0.9s,baz=62,slow=6.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	52.55	143	P	P	04 48 09.3	-1.0
	comp=Z,0.8nm,0.9s,baz=330,slow=6.3,SNR=2.8						
ANMO	**Albuquerque**	54.64	279	LR	LR	05 09 11.6	
	comp=Z,104nm,18.4s,baz=22,slow=33						
MKAR	**Makanchi Array**	58.70	49	P	P	04 48 55.3	+1.0
	comp=Z,1.8nm,0.7s,baz=330,slow=5.5,SNR=4.1						
SONM	**Songino Array**	65.34	32	P	P	04 49 39.6	+0.7
	comp=Z,0.7nm,0.8s,baz=328,slow=5.1,SNR=3.5						

IDC 16 04:42:28.0±3.4, 61.°14N×28.°19W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.2/57, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=85.0km s-min=27.9km az=160.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	4.79	38	Pn	Pn	04 43 40.9	-0.4
	2.2nm,0.3s,baz=274,slow=5.2,SNR=14						
BORG				Sn	Sn	04 44 37.5	+0.2
	0.7nm,0.3s,baz=276,slow=17,SNR=1.0						
YKA	**Yellowknife Ar**	37.95	311	P	P	04 49 47.1	+0.4
	0.1nm,0.4s,baz=54,slow=8.7,SNR=5.1						
PDAR	**Pinedale Array**	49.82	288	P	P	04 51 21.9	-0.7
	0.3nm,0.6s,baz=64,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	58.75	49	P	P	04 52 27.5	+0.2
	0.3nm,0.6s,baz=332,slow=5.5,SNR=3.0						

IDC 16 04:44:59.5±3.3, 61.°15N×28.°20W, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.0/56, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=83.1km s-min=28.3km az=162.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	4.78	38	Pn	Pn	04 46 12.1	-0.6
	1.2nm,0.3s,baz=226,slow=9.5,SNR=2.0						
BORG				Sn	Sn	04 47 09.2	+0.5
	1.0nm,0.3s,baz=138,slow=20,SNR=11						
YKA	**Yellowknife Ar**	37.94	311	P	P	04 52 18.5	+0.4
	0.3nm,0.7s,baz=53,slow=9.0,SNR=5.2						
PDAR	**Pinedale Array**	49.81	288	P	P	04 53 53.1	-0.8
	0.2nm,0.7s,baz=46,slow=6.4,SNR=1.8						
MKAR	**Makanchi Array**	58.75	49	P	P	04 54 59.0	+0.2
	0.4nm,0.7s,baz=335,slow=5.5,SNR=4.1						

*IDC **16** 04:51:07.2±1.9, 13.°19N×145.°81E, h60km±15km, mb3.9/18, mb1 4.1/18, mb1mx3.7/43, mbtmp4.2/18, Error ellipse: s-maj=20.5km s-min=19.1km az=124.0*
*NEIC **16** 04:51:07.1±2.0, 13.°18N±0.°09×145.°82E±0.°07, h56km±7km, mb4.3/13, Error ellipse: s-maj=13.0km s-min=9.9km az=185.0*

ISC 16 04:51:05.6±0.6, 13.°2N±0.°1×145.°90E±0.°08, h50km, n38, σ0.°90/36, mb4.2/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	1.07	291	P	Pn	04 51 24.6	+0.4
	502nm,0.3s,baz=115,slow=5.8,SNR=150						
GUMO				S	Sn	04 51 39.1	+1.0
	1μm,0.3s,baz=31,slow=23,SNR=21						
GUMO	**Guam**	1.07	291		Pn	04 51 25.1	+0.9
PATS	**Pohnpei**	13.77	116	Pn	Pn	04 54 17.6	-0.7
JCJ	**Chichijima**	14.24	346	Pn	Pn	04 54 22.7	-1.9
SIJI	**Sorong**	20.15	227	P	P	04 55 36.1	+0.2
	5.8nm,0.5s,baz=190,slow=23,SNR=1.5						
JOW	**Kunigami**	21.36	312	P	P	04 55 47.6	-1.1
	9.8nm,0.7s,baz=118,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	34.85	199	P	P	04 57 50.9	-1.3
	1.1nm,0.8s,baz=21,slow=9.7,SNR=5.6						
KLR	**Kul'dur**	37.76	345	P	P	04 58 16.9	+0.1
	1.1nm,0.7s,baz=186,slow=18,SNR=4.0						
CM31	**Chiang Mai Arr**	45.38	283	P	P	04 59 18.9	-0.6
CMAR	**Chiang Mai Arr**	45.38	283	P	P	04 59 19.6	+0.1
	3.0nm,0.7s,baz=85,slow=6.3,SNR=14						
ULN	**Ulaanbaatar**	47.26	325	P	P	04 59 33.8	-0.3
SONM	**Songino Array**	47.62	325	P	P	04 59 37.4	+0.6
	0.7nm,0.6s,baz=134,slow=5.9,SNR=6.6						
SONM				PcP	PcP	05 01 06.5	+0.7
	0.4nm,0.6s,baz=125,slow=4.2,SNR=2.4						
SONM	**Songino Array**	47.62	325	IAmb	IAmb	04 59 40.0	
	comp=Z,1.5nm,1.3s						
MK31	**Makanchi Array**	62.45	316	P	P	05 01 24.0	+0.2
MK31				IAmb	IAmb	05 01 28.9	
	comp=Z,3.2nm,1.5s						
MKAR	**Makanchi Array**	62.45	316	P	P	05 01 24.7	+0.9
	comp=Z,0.8nm,0.4s,baz=92,slow=8.7,SNR=23						
ZAA0	**Zalesovo Array**	62.51	324	P	P	05 01 24.4	+0.5
ZAA0				IAmb	IAmb	05 01 39.1	
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	62.51	324	P	P	05 01 24.2	+0.3
	comp=Z,0.4nm,0.3s,baz=106,slow=7.9,SNR=3.1						
MAKZ	**Makanchi**	62.67	316	P	P	05 01 24.9	-0.4
MAKZ				IAmb	IAmb	05 01 26.9	
	comp=Z,1.9nm,0.8s						
KURK	**Kurchatov**	65.51	320	P	P	05 01 43.3	-0.4
KURK				IAmb	IAmb	05 01 45.5	
	comp=Z,4.1nm,0.8s						
NRIK	**Noril'sk**	66.81	341	P	P	05 01 51.0	-0.8
	comp=Z,2.2nm,0.5s,baz=111,slow=9.6,SNR=4.3						
NRIK	**Noril'sk**	66.81	341	IAmb	IAmb	05 01 53.0	
	comp=Z,2.6nm,0.6s						
ILAR	**Eielson Array**	68.48	25	P	P	05 02 02.8	+0.4
	comp=Z,0.9nm,0.4s,baz=255,slow=5.2,SNR=18						
BRVK	**Borovoye**	70.91	322	P	P	05 02 17.1	-0.4
BRVK				IAmb	IAmb	05 02 19.0	
	comp=Z,2.7nm,0.6s						
INK	**Inuvik**	74.33	22	P	P	05 02 37.0	-0.5
	comp=Z,2.2nm,0.8s,baz=274,slow=8.1,SNR=5.0						
DLBC	**Dease Lake**	75.76	33	P	P	05 02 45.5	-0.6
	comp=Z,4.7nm,0.9s,baz=228,slow=4.3,SNR=5.9						
DLBC	**Dease Lake**	75.76	33	IAmb	IAmb	05 02 49.9	
	comp=Z,9.2nm,1.1s						
A36M	**Sachs Harbour**	77.18	19	P	P	05 02 54.4	+0.7
ABKAR	**Akbulak array**	77.49	318	P	P	05 02 55.9	-0.1
YBH	**Yreka Blue Hor**	82.37	49	P	P	05 03 24.0	+1.4
	baz=306,slow=1.5						
YKA	**Yellowknife Ar**	82.73	27	P	P	05 03 25.2	+1.3
	comp=Z,1.7nm,0.6s,baz=286,slow=5.2,SNR=36						
NEW	**Newport**	84.85	42	P	P	05 03 36.9	+1.8
	comp=Z,1.8nm,0.7s,baz=286,slow=7.4,SNR=4.0						
NVAR	**Mina Array Bea**	86.37	52	P	P	05 03 45.0	+1.9
	comp=Z,0.9nm,0.5s,baz=264,slow=5.6,SNR=13						
ARCES	**ARCESS Array B**	87.75	342	P	P	05 03 48.8	0.0
	comp=Z,4.6nm,1.0s,baz=24,slow=5.2,SNR=2.1						
ELK	**Elko**	88.08	49	P	P	05 03 52.0	+0.7
ELK				IAmb	IAmb	05 03 54.7	
	comp=Z,3.1nm,0.9s						
PDAR	**Pinedale Array**	91.52	45	P	P	05 04 07.5	+0.1
	comp=Z,0.2nm,0.6s,baz=230,slow=2.2,SNR=2.3						
FINES	**FINESS Array B**	91.92	335	P	P	05 04 07.6	-0.8
	comp=Z,0.8nm,0.5s,baz=62,slow=4.9,SNR=14						
DBIC	**Dimbokro**	144.87	302	PKP	PKPbc	05 10 38.0	+0.6
	comp=Z,4.8nm,0.9s,baz=81,slow=2.7,SNR=5.0						
LPAZ	**La Paz**	146.98	100	PKPbc	PKPbc	05 10 45.5	+1.1
	comp=Z,1.0nm,0.5s,baz=273,slow=3.7,SNR=6.7						

DJA 16 04:51:23.5±0.9, 10.°S±11.°×12.°3E±.°, h10km, M3.7/7, mb4.0/1, mB4.7/1, MLv3.5/7, Mw(mB)3.9/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	0.39	70	P	Pb	04 51 32.8	+0.2
BATI				S	Sg	04 51 37.3	+0.9
SOEI	**Soe**	1.12	59	P	Pb	04 51 44.2	-0.9
SOEI				S	Sb	04 52 00.0	+0.1
EDFI	**Ende, Flores**	2.23	315	P	Pn	04 52 00.5	-0.2
BASI	**Baing, Sumba**	2.67	272	P	Pn	04 52 06.8	+0.2
BSSI	**Bau Bau, Buton**	5.01	326	P	Pn	04 52 37.9	-0.9
LUWI	**Luwuk**	9.25	357	P	Pn	04 53 44.0	+6.9
PPBI	**Pangkal Pinang**	18.88	294	P	P	04 55 33.4	-11

*SOME **16** 05:00:52.1, 41.°83N×83.°82E, h5km*
*NNC **16** 05:00:55.1±1.2, 41.°93N×83.°68E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=9.9km s-min=5.8km az=153.0*

ISC 16 05:00:56.5±2.2, 42.°0N±0.°1×83.°65E±0.°07, h15km, n31, σ2.°71/47, 2C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	3.36	295	⇓Pn	Pn	05 01 49.9	+1.3
	0.8nm,0.4s						
PDGK				⇓Pg	Pb	05 01 57.1	+1.3
	2.8nm,0.7s						
PDGK				⇑Lg	Lg	05 02 42.8	
	27nm,0.8s						
UZB	**Uzynbulak**	3.62	291	*e*P	Pb	05 02 01.1	+0.8
	4.6nm,0.3s						
UZB				*e*S	Sg	05 02 50.6	-2.1
	21nm,0.5s						
UZB	**Uzynbulak**	3.62	291	Pg	Pb	05 02 00.9	+0.7
	4.6nm,0.3s						
UZB				Lg	Lg	05 02 50.8	
	21nm,0.5s						
DJR	**Jarkent**	3.68	311	*e*P	Pb	05 02 03.2	+1.8
	5.5nm,0.4s						
DJR				*e*S	Sg	05 02 54.4	-0.4
	11nm,0.4s						
DJR	**Jarkent**	3.68	311	Pg	Pb	05 02 03.2	+1.8
	5.5nm,0.4s						
DJR				Lg	Lg	05 02 54.4	
	11nm,0.4s						
SATY	**Saty**	4.03	287	*e*P	Pb	05 02 09.4	+2.1
	4.3nm,0.0s						
SATY				*e*S	Sg	05 03 04.6	-1.3
	17nm,0.4s						
SATY	**Saty**	4.03	287	Pg	Pb	05 02 08.7	+1.4
	4.2nm,0.6s						
SATY				Lg	Lg	05 03 04.6	
	17nm,0.4s						
KNOS	**Konyrlen**	4.05	308	*e*P	Pg	05 02 11.5	-2.6
	2.5nm,0.4s						
KNOS				*e*S	Sg	05 03 08.8	+2.2
	13nm,0.4s						
KURS	**Kuram**	4.32	292	*e*P	Pb	05 02 15.4	+3.3
	7.3nm,1.5s						
KURS				*e*S	Sg	05 03 15.8	+0.8
	10.0nm,0.6s						
KURS	**Kuram**	4.32	292	Pg	Pb	05 02 15.4	+3.3
	7.3n

KTBS Lg Lg 05 03 46.6
18nm,0.5s
MTBS Maitube 5.46 285 *e*P **Pb 05 02 34.8 +3.1**
1.4nm,0.2s
MTBS *e*S **Sg 05 03 48.2 -3.5**
8.2nm,0.5s
MTBS Maitube 5.46 285 Pg **Pb 05 02 34.7 +3.1**
1.4nm,0.2s
MTBS Lg Lg 05 03 48.2
8.2nm,0.5s
ZSN Zaisan 5.55 9 *e*P **Pg 05 02 38.8 -4.0**
3.7nm,0.3s
ZSN *e*S **Sg 05 03 55.6 +1.0**
10nm,0.4s
ZSN Zaisan 5.55 9 Pg **Pg 05 02 38.8 -4.0**
3.7nm,0.3s
ZSN Lg Lg 05 03 55.6
10nm,0.4s
KST Kastek 5.78 283 *e*P **Pb 05 02 41.0 +3.9**
3.1nm,0.2s
KST *e*S **Sg 05 03 59.9 -2.2**
5.2nm,0.6s
KST Kastek 5.78 283 Pg **Pb 05 02 41.0 +3.9**
3.1nm,0.2s
KST Lg Lg 05 03 59.9
5.2nm,0.6s
DGS Degeres 5.95 285 *e*P **Pb 05 02 43.1 +3.1**
1.9nm,0.7s
DGS *e*S **Sg 05 04 02.9 -4.6**
4.6nm,0.6s
DGS Degeres 5.95 285 Pg **Pb 05 02 43.1 +3.1**
1.9nm,0.7s
DGS Lg Lg 05 04 02.9
4.6nm,0.6s
TKM2 Tokmak 2 6.04 282 ⇓Pn **Pn 05 02 25.8 +0.4**
1.1nm,0.3s
TKM2 ⇑Sn **Sn 05 03 37.5 +3.2**
2.3nm,0.6s
TKM2 ⇓Lg Lg 05 04 08.1
3.9nm,0.6s
KURK Kurchatov 9.41 340 ⇓Lg Lg 05 05 52.8
2.2nm,0.9s

DNK ***16*** *05:09:35.0±1.8, 50°.61N×13°.63E, h0km, ML1.9(UPP), Suspected explosion*
VIE ***16*** *05:09:45.6±0.9, 51°.42N×16°.23E, h0km, mb2.6/7, ml2.7/7, Error ellipse: s-maj=10.5km s-min=3.3km az=49.0 66 km NW of Wroclaw Suspected Mining induced.*
IDC ***16*** *05:09:45.7±0.7, 51°.53N×15°.89E, h0km, mb3.1/1, mb1 3.3/10, mb1mx3.0/59, mbtmp3.2/10, ML2.9/9, Error ellipse: s-maj=11.8km s-min=6.8km az=110.0*
PRU ***16*** *05:09:46.1±0.0, 51°.46N×16°.11E, h0km*
UPP ***16*** *05:09:46.0±3.3, 51°.43N×15°.14E, h0km, ML1.9, Suspected explosion*

ISC 16 05:09:43.8±0.6, 51°.55N±0°.03×16°.13E±0°.02, h0km, n49, σ0§99/89, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**05 09 57.9**	**+0.5**
KSP				*e*Sg	**Sg**	**05 10 06.5**	**-0.3**
CHVC	**Chvalec**	**0.97**	**183**	*e*PG	**Pg**	**05 10 02.7**	**+0.4**
CHVC				*e*SG	**Sg**	**05 10 14.4**	**-0.4**
comp=Z,58nm,0.4s							
OSTC	**Ostas**	**1.00**	**177**	*e*PG	**Pg**	**05 10 03.4**	**+0.5**
OSTC				*e*SG	**Sg**	**05 10 15.4**	**-0.4**
comp=Z,46nm,0.4s							
UPC	**Upice**	**1.05**	**184**	*e*PG	**Pg**	**05 10 03.9**	**+0.1**
UPC				*e*SG	**Sg**	**05 10 16.8**	**-0.6**
comp=Z,138nm,0.4s							
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG	**Pg**	**05 10 06.6**	**-0.3**
DPC				*e*SG	**Sg**	**05 10 21.0**	**-1.6**
comp=Z,41nm,0.4s							
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pn**	**05 10 11.1**	**+0.3**
PVCC				*e*SG	**Sg**	**05 10 29.8**	**+0.4**
comp=Z,167nm,0.3s							
BRG	**Berggiesshubel**	**1.54**	**245**	Pg	**Pg**	**05 10 13.7**	**+0.5**
BRG				Sg	**Sn**	**05 10 33.6**	**+0.6**
BRG				Amp		05 10 34.5	
comp=Z,42nm,0.4s							
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**05 10 12.4**	**0.0**
KRLC				*e*SG	**Sg**	**05 10 31.4**	**-1.6**
comp=Z,98nm,1.0s							
PRU	**Pruhonice**	**1.86**	**213**	*e*PN	**Pn**	**05 10 16.9**	**0.0**
PRU				*e*PG	**Pb**	**05 10 18.3**	**-0.3**
PRU				*e*SG	**Sb**	**05 10 42.2**	**-0.3**
comp=Z,35nm,0.5s							
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**05 10 19.0**	**+0.6**
CLL				*e*Pg	**Pb**	**05 10 21.0**	**+0.5**
CLL				*i* x	x	05 10 24.7	
CLL				*e*x	x	05 10 36.0	
CLL				*e*Sg	**Sg**	**05 10 47.0**	**-0.1**
comp=Z,22nm,0.4s							
MORC	**Moravsky Berou**	**1.99**	**153**	*e*PN	**Pn**	**05 10 18.8**	**+0.1**
MORC				*e*SG	**Sn**	**05 10 45.2**	**+0.8**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PG	**Pb**	**05 10 24.2**	**+0.8**
OKC				*e*SG	**Sb**	**05 10 50.9**	**+0.4**
comp=Z,53nm,0.7s							
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**05 10 23.0**	**+0.5**
comp=Z,1.9nm,0.3s,baz=336,slow=13,SNR=10							
VRAC				Sn	**Sb**	**05 10 54.3**	**+0.2**
comp=Z,3.3nm,0.3s,baz=270,slow=22,SNR=10							
VRAC	**Vranov**	**2.27**	**172**	*e*PN	**Pn**	**05 10 23.6**	**+1.1**
VRAC				*e*SG	**Sb**	**05 10 54.2**	**+0.1**
TREC	**Trest**	**2.30**	**191**	*e*SG	**Sb**	**05 10 56.2**	**+1.2**
KRUC	**Moravsky**	**2.50**	**176**	*e*PN	**Pn**	**05 10 26.5**	**+0.9**
KRUC				*e*SG	**Sb**	**05 11 00.9**	**+0.1**
OJC	**Ojcow**	**2.68**	**118**	*e*Pn	**Pn**	**05 10 28.8**	**+0.7**
OJC				*e*Pg	**Pg**	**05 10 36.4**	**+1.4**
OJC				*e*Sg	**Sg**	**05 11 11.6**	**+1.9**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**05 10 28.9**	**+0.7**
NKC				*e*PG	**Pg**	**05 10 35.2**	**+0.1**
NKC				*e*SG	**Sg**	**05 11 10.4**	**+0.6**
comp=Z,38nm,0.3s							
JAVC	**Velka Javorina**	**2.87**	**159**	*e*PN	**Pn**	**05 10 32.5**	**+1.7**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**05 10 31.9**	**+0.4**
KHC				*e*PG	**Pb**	**05 10 37.8**	**+1.0**
KHC				*e*SN	**Sn**	**05 11 06.5**	**-0.9**
KHC				*e*SG	**Sg**	**05 11 17.2**	**-0.4**
comp=Z,16nm,0.5s							
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN	**Pn**	**05 10 32.9**	**+0.7**
CKRC				*e*PG	**Pb**	**05 10 38.8**	**+1.2**
CKRC				*e*SG	**Sb**	**05 11 15.8**	**+1.3**
comp=Z,12nm,0.4s							
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**05 10 35.1**	**+0.8**
comp=Z,1.0nm,0.3s,baz=30,slow=12,SNR=27							
GERES				Pg	**Pb**	**05 10 41.2**	**+0.9**
comp=Z,3.6nm,0.3s,baz=31,slow=17,SNR=53							
GERES				Sn	**Sn**	**05 11 11.6**	**-0.9**
comp=Z,1.8nm,0.3s,baz=35,slow=28,SNR=4.2							
GERES				Lg	Lg	05 11 21.3	
comp=Z,3.4nm,0.3s,baz=28,slow=26,SNR=2.1							
LANS	**Liptovska Anna**	**3.22**	**137**	*e*PG	**Pg**	**05 10 46.2**	**+0.8**
LANS				*e*SG	**Sg**	**05 11 27.7**	**+0.7**
MODS	**Modra-Piesok**	**3.27**	**166**	*e*PG	**Pg**	**05 10 46.4**	**+0.1**
MODS				*e*SG	**Sg**	**05 11 27.8**	**-0.8**
ZST	**Bratislava**	**3.42**	**169**	*e*PG	**Pg**	**05 10 48.2**	**-1.0**
VYHS	**Vyhne**	**3.52**	**149**	*e*PG	**Pg**	**05 10 51.3**	**+0.1**
VYHS				*e*SG	**Sg**	**05 11 36.2**	**-0.7**
CONA	**Conrad Observa**	**3.63**	**183**	*e*Pn	**Pn**	**05 10 42.3**	**+1.0**
comp=Z,1.3nm,0.2s,SNR=5.0							
CONA				*e*Sg	**Sg**	**05 11 38.7**	**-1.7**
comp=Z,13nm,0.4s							
MOA	**Molln**	**3.90**	**199**	*i* Pn	**Pn**	**05 10 45.4**	**+0.4**
comp=Z,0.9nm,0.2s							
MOA				*e*Sg	**Sg**	**05 11 47.5**	**-1.4**
comp=Z,10nm,0.6s							
ARSA	**Arzberg**	**4.32**	**186**	*e*Pn	**Pn**	**05 10 51.6**	**+0.8**
comp=Z,1.6nm,0.3s							
ARSA				Sg	**Sg**	**05 12 01.7**	**-0.9**
comp=Z,2.9nm,0.4s							
LUNU	**Lund**	**4.39**	**340**	P	**Pn**	**05 10 52.0**	**+0.4**
LUNU				S	**Sn**	**05 11 43.0**	**-0.4**
LUNU	**Lund**	**4.39**	**340**	P	**Pn**	**05 10 52.0**	**+0.4**
LUNU				S	**Sn**	**05 11 43.0**	**-0.4**
DEL	**Delary**	**5.11**	**346**	P	**Pn**	**05 11 02.1**	**+0.7**
DEL	**Delary**	**5.11**	**346**	P	**Pn**	**05 11 02.1**	**+0.7**
WTTA	**Wattenberg**	**5.20**	**216**	*i* Pn	**Pn**	**05 11 04.7**	**+1.8**
comp=Z,1.4nm,0.4s							
WTTA				Sg	**Sg**	**05 12 31.3**	**+0.6**
comp=Z,3.5nm,0.4s							
ABTA	**Abfaltersbach**	**5.36**	**208**	*e*Pn	**Pn**	**05 11 07.1**	**+2.0**
comp=Z,1.2nm,0.5s							
ABTA				Sg	**Sg**	**05 12 35.5**	**-0.4**
comp=Z,13nm,0.9s							
RETA	**Reutte**	**5.36**	**223**	*i* Pn	**Pn**	**05 11 05.3**	**+0.3**
comp=Z,0.7nm,0.2s							
SQTA	**Sankt Quirin**	**5.40**	**218**	*i* Pn	**Pn**	**05 11 06.8**	**+1.3**
comp=Z,1.3nm,0.3s							
SQTA				*e*Sg	**Sg**	**05 12 39.6**	**+2.5**
comp=Z,5.4nm,0.7s							
FABU	**Falkenberg**	**5.81**	**341**	P	**Pn**	**05 11 12.0**	**+0.9**
FABU	**Falkenberg**	**5.81**	**341**	P	**Pn**	**05 11 12.0**	**+0.9**
GNOU	**Gnosjoe**	**5.92**	**347**	P	**Pn**	**05 11 13.8**	**+1.3**
GNOU	**Gnosjoe**	**5.92**	**347**	P	**Pn**	**05 11 13.8**	**+1.3**
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**05 11 18.1**	**+0.2**
comp=Z,0.2nm,0.3s,baz=41,slow=19,SNR=2.0							
DAVOX				Lg	Lg	05 13 00.3	
baz=312,slow=19							
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**05 11 45.4**	**+0.4**
comp=Z,0.5nm,0.3s,baz=277,slow=12,SNR=4.1							
AKASG				Sn	**Sn**	**05 13 17.0**	**-2.2**
comp=Z,0.4nm,0.3s,baz=261,slow=23,SNR=1.5							
HFS	**Hagfors**	**8.71**	**352**	Pn	**Pn**	**05 11 49.2**	**-1.7**
comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=2.0							
NOA	**NORSAR Array B**	**9.89**	**346**	Pn	**Pn**	**05 12 07.4**	**+0.3**
comp=Z,0.0nm,0.3s,baz=162,slow=11,SNR=1.5							
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**05 12 25.7**	**-0.9**
comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=8.0							
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn	**Pn**	**05 12 35.7**	**-1.5**
baz=97,slow=16,SNR=1.6							
ARCES	**ARCESS Array B**	**18.58**	**10**	Pn	**P**	**05 13 59.9**	**-2.1**
baz=191,slow=14,SNR=7.3							
YKA	**Yellowknife Ar**	**59.82**	**336**	P	**P**	**05 19 52.1**	**+1.8**
comp=Z,0.1nm,0.5s,baz=28,slow=6.7,SNR=4.9							

JMA ***16*** *05:11:42.5±0.3, 43°.95N×148°.14E, h9km, M3.5*
SKHL ***16*** *05:11:44.2±0.2, 44°.40N×148°.20E, h43km±5km, mb4.2/3*

ISC 16 05:11:39.6±3.1, 44°.29N±0°.09×148°.3E±0°.2, h7km±12km, n12, σ1§42/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.99**	**343**	*i* P	**Pg**	**05 11 58.8**	**+0.2**
KUR				AMB	AMB	05 11 59.6	
260nm,0.3s							
KUR				*e*S	**Sg**	**05 12 09.9**	**-1.5**
KUR				A	A	05 12 12.7	
300nm,0.5s							
KUR				A	A	05 12 12.7	
860nm,0.5s							
SHO	**Shikotan**	**1.13**	**249**	*e*P	**Pg**	**05 12 01.9**	**+0.6**
SHO				AMB	AMB	05 12 02.3	
50nm,0.3s							
SHO				*e*S	**Sg**	**05 12 15.0**	**-0.9**
SHO				A	A	05 12 20.1	
500nm,0.4s							
SHO				A	A	05 12 20.1	
440nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.76**	**262**	*e*P	**Pn**	**05 12 11.1**	**+0.5**
YUK				AMB	AMB	05 12 12.1	
50nm,0.3s							
YUK				*e*S	**Sn**	**05 12 31.6**	**-1.7**
YUK				A	A	05 12 35.3	
350nm,0.5s							
YUK				A	A	05 12 35.3	
310nm,0.5s							
GRPR	**Tuman**	**1.83**	**262**	*e*Pn	**Pn**	**05 12 12.2**	**+0.6**
GRPR				*e*S	**Sn**	**05 12 35.1**	**+0.1**
GRPR				A	A	05 12 40.0	
390nm,0.5s							
GRPR				A	A	05 12 40.0	
260nm,0.5s							
NEM2	**Nemuro 2**	**2.06**	**244**	P	**Pn**	**05 12 14.7**	**0.0**
NEM2				*e*S	**Sn**	**05 12 38.7**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.07**	**244**	*e*P	**Pn**	**05 12 14.7**	**-0.1**
NMR				*e*S	**Sn**	**05 12 38.8**	**-2.0**
GLVR	**Golovnino**	**2.07**	**255**	*e*P	**Pn**	**05 12 15.9**	**+1.1**
GLVR				*e*S	**Sn**	**05 12 41.6**	**+0.7**
GLVR				A	A	05 12 46.7	
300nm,0.4s							
GLVR				A	A	05 12 46.7	
390nm,0.4s							
JRA	**Rausu**	**2.31**	**262**	P	**Pn**	**05 12 19.8**	**+1.8**
JKHN	**Kushirohamanak**	**2.57**	**243**	P	**Pn**	**05 12 22.1**	**+0.5**
JNK	**Nakash**	**2.67**	**256**	P	**Pn**	**05 12 24.2**	**+1.1**
JNK				*e*S	**Sn**	**05 12 54.9**	**-0.8**
JAK	**Akkeshi**	**2.91**	**245**	P	**Pn**	**05 12 26.9**	**+0.6**
JAK				*e*S	**Sn**	**05 12 59.1**	**-2.4**
JAR	**Ashorobuto**	**3.42**	**255**	P	**Pn**	**05 12 35.7**	**+2.4**
JAR				*e*S	**Sn**	**05 13 15.8**	**+1.7**

TEH ***16*** *05:31:14.2, 36°.23N×54°.46E, h8km, ML4.1*
NNC ***16*** *05:31:18.5±1.7, 36°.82N×54°.23E, h9km±5km, mb4.2, Error ellipse: s-maj=16.2km s-min=8.0km az=15.0*
IDC ***16*** *05:31:19.3±2.1, 36°.67N×54°.77E, h0km, mb3.7/5, mb1 4.1/13, mb1mx3.7/47, mbtmp4.0/13, ML3.9/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/88, Error ellipse: s-maj=32.5km s-min=13.7km az=179.0*
AZER ***16*** *05:31:21.1±0.9, 36°.44N×54°.07E, h11km, Error ellipse: s-maj=11.1km s-min=9.0km az=59.0, Hypocentre not reviewed by the ISC*

ISC 16 05:31:14.6±0.6, 36°.30N±0°.04×54°.47E±0°.03, h10km, n98, σ2§14/125, mb3.9/5, 4C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.62**	**296**	*e*Pg	**Pg**	**05 31 26.0**	**-3.1**
IANJ	**Anjilo**	**0.91**	**213**	*e*Pg	**Pg**	**05 31 32.4**	**-2.1**
IANJ				*e*		05 31 51.2	
comp=Z,49μm,0.2s							
ISHM	**Shahmirzad**	**1.08**	**247**	*e*Pg	**Pg**	**05 31 34.8**	**-3.0**
ISHM				*e*Sg	**Sg**	**05 31 50.0**	**-1.9**
ISHM				*e*		05 31 55.3	
comp=Z,53μm,0.4s							
IMND	**Minoodasht**	**1.25**	**34**	*e*Pg	**Pn**	**05 31 37.1**	**-3.4**
ILAS	**Lasjerd**	**1.53**	**237**	*e*Pg	**Pn**	**05 31 42.8**	**-1.7**
ILAS				*e*Sg	**Sb**	**05 32 03.9**	**-1.1**
ILAS				*e*		05 32 09.4	
comp=Z,26μm,0.4s							
IPRN	**Peran**	**1.77**	**271**	*e*Pn	**Pn**	**05 31 46.2**	**-1.5**
IPRN				*e*		05 31 48.0	
comp=Z,34μm,0.4s							
SBZV	**Sabzevar**	**2.50**	**85**	*e*Pn	**Pn**	**05 31 58.0**	**+0.1**
TEHA	**Amirabad Tehra**	**2.59**	**260**	*e*Pn	**Pn**	**05 31 57.9**	**-1.1**
TEHA				*e*		05 32 46.1	
comp=Z,8μm,0.6s							
IVRN	**Varamin**	**2.59**	**242**	*e*Pn	**Pn**	**05 31 57.7**	**-1.3**
IVRN				*e*		05 32 38.1	
comp=Z,12μm,0.5s							
TEH	**Tehran**	**2.59**	**260**	*e*	**Sg**	**05 32 46.8**	**+6.5**
comp=Z,11μm,0.7s							
ISFB	**Sefidab**	**2.64**	**226**	*e*Pn	**Pn**	**05 31 58.2**	**-1.6**
ISFB				*e*		05 32 45.7	
comp=Z,6μm,0.4s							
IHSB	**Hasanabad**	**2.75**	**254**	*e*Pn	**Pn**	**05 32 01.1**	**-0.2**
IHSB				*e*		05 32 45.6	
comp=Z,4μm,1.0s							
TNSJ	**Nastanj**	**2.83**	**142**	*e*Pn	**Pn**	**05 32 02.0**	**-0.4**
ISFR	**Sfrayin**	**2.92**	**73**	*e*Pn	**Pn**	**05 32 03.9**	**+0.2**
ISFR				*e*		05 32 55.1	
comp=Z,8μm,0.4s							
KRSH	**Karshahi**	**2.98**	**222**	*e*Pn	**Pn**	**05 32 02.9**	**-1.6**
ANAR	**Anarak**	**3.10**	**192**	*e*Pn	**Pn**	**05 32 05.0**	**-1.1**
QALM	**Alamut, Qazvin**	**3.14**	**275**	*e*		05 32 58.7	
comp=Z,8μm,0.6s							
QALM				*e*Pn	**Pn**	**05 32 06.0**	**-0.7**
IQOM	**Qom**	**3.14**	**245**	*e*Pn	**Pn**	**05 32 05.4**	**-1.3**
IQOM				*e*		05 32 57.1	
comp=Z,6μm,0.5s							
IMHD	**Mahdasht**	**3.17**	**261**	*e*Pn	**Pn**	**05 32 07.0**	**-0.1**
GEYT	**Alibeck**	**3.34**	**58**	Pn	**Pn**	**05 32 09.2**	**-0.1**
comp=Z,12nm,0.3s,baz=245,slow=17,SNR=59							
GEYT				Lg	Lg	05 32 51.6	
comp=Z,15nm,0.3s,baz=256,slow=40,SNR=4.0							
GYA0B	**ALIBECK ARRAY**	**3.34**	**58**	⇓Pn	**Pn**	**05 32 10.2**	**+0.9**
GYA0B				⇑Pg	**Pb**	**05 32 18.3**	**+2.1**
GYA0B				⇓Sn	**Sn**	**05 32 50.4**	**+1.4**
GYA0B				⇓Lg	Lg	05 33 03.4	
TKDS	**Koohdasht(Taba**	**3.37**	**140**	*e*Pn	**Pn**	**05 32 09.7**	**-0.1**
TKDS				*e*		05 33 18.2	
comp=Z,5μm,0.8s							
IAKL	**Akhelmad**	**3.44**	**83**	*e*Pn	**Pn**	**05 32 10.9**	**+0.1**
IAKL				*e*		05 33 12.5	
comp=Z,2μm,0.6s							
IGZV	**Ghazvin**	**3.48**	**274**	*e*Pn	**Pn**	**05 32 11.8**	**+0.4**
IEMG	**Emamgholi**	**3.52**	**69**	*e*Pn	**Pn**	**05 32 12.3**	**+0.3**
QAMS	**Qamsar**	**3.57**	**227**	*e*Pn	**Pn**	**05 32 11.4**	**-1.3**
IPAY	**Payeh**	**3.62**	**85**	*e*Pn	**Pn**	**05 32 13.8**	**+0.5**
IPAY				*e*		05 33 19.9	
comp=Z,2μm,0.4s							
TPRV	**Parvadeh(Tabas**	**3.66**	**150**	*e*Pn	**Pn**	**05 32 13.4**	**-0.3**
TPRV				*e*		05 33 19.3	
comp=Z,6μm,0.8s							
IKLH	**Kolahrood**	**3.78**	**221**	*e*Pn	**Pn**	**05 32 14.1**	**-1.5**
IKLH				*e*		05 33 14.7	
comp=Z,3μm,0.6s							
IZEF	**Zefreh**	**3.79**	**209**	*e*Pn	**Pn**	**05 32 14.4**	**-1.2**
IZEF				*e*		05 33 25.5	
comp=Z,2μm,0.4s							
IRAZ	**Razeghan**	**3.82**	**259**	*e*Pn	**Pn**	**05 32 15.9**	**-0.2**
IRAZ				*e*		05 33 32.4	
comp=Z,3μm,0.9s							
JIR1	**Jirandeh**	**3.83**	**279**	*e*Pn	**Pn**	**05 32 15.8**	**-0.4**
IMOG	**Moghan**	**3.90**	**90**	*e*Pn	**Pn**	**05 32 17.7**	**+0.5**
ICHK	**Chekchek**	**3.98**	**181**	*e*Pn	**Pn**	**05 32 17.4**	**-0.8**
QABG	**Abgarm-Qazvin**	**4.04**	**264**	*e*Pn	**Pn**	**05 32 18.0**	**-1.1**
QABG				*e*		05 33 36.3	
comp=Z,1μm,0.5s							
IKRD	**Kardeh**	**4.06**	**81**	*e*Pn	**Pn**	**05 32 20.1**	**+0.7**
IKRD				*e*		05 33 36.2	
comp=Z,1μm,0.7s							
IGAR	**Gharneh**	**4.33**	**209**	*e*Pn	**Pn**	**05 32 23.2**	**+0.1**
ISAD	**Sadrabad**	**4.36**	**189**	*e*Pn	**Pn**	**05 32 23.4**	**-0.1**
IMYA	**Miami**	**4.51**	**87**	*e*Pn	**Pn**	**05 32 25.6**	**+0.1**
HAGD	**Aghdareh**	**4.61**	**254**	*e*Pn	**Pn**	**05 32 27.4**	**+0.5**
AFRZ	**Afriz**	**4.63**	**126**	*e*Pn	**Pn**	**05 32 27.5**	**+0.3**
IPIR	**Pirpir**	**4.64**	**221**	*e*Pn	**Pn**	**05 32 28.0**	**+0.6**
IPIR				*e*		05 33 52.9	
comp=Z,965nm,0.7s							
JRKH	**Jarkhoshk**	**4.73**	**92**	*e*Pn	**Pn**	**05 32 28.7**	**+0.2**
IRAM	**Ramesheh**	**4.75**	**203**	*e*Pn	**Pn**	**05 32 28.8**	**-0.1**
ITEG	**Tejag**	**4.82**	**132**	*e*Pn	**Pn**	**05 32 29.7**	**0.0**
TBJM	**Torbat-e-JAM**	**4.82**	**100**	*e*Pn	**Pn**	**05 32 29.9**	**+0.1**
IMEH	**Mehriz**	**4.83**	**179**	*e*Pn	**Pn**	**05 32 29.8**	**-0.1**
IMON	**Monand**	**5.21**	**124**	*e*Pn	**Pn**	**05 32 35.5**	**+0.3**
IKOO	**Kooshah**	**5.31**	**134**	*e*Pn	**Pn**	**05 32 36.4**	**-0.1**
ISRB	**Sarab**	**5.71**	**288**	*e*Pn	**Pn**	**05 32 41.5**	**-0.5**
KLNJ	**Kolanjah**	**5.75**	**206**	*e*Pn	**Pn**	**05 32 42.8**	**+0.1**
KHGB	**Koh Gabri**	**6.06**	**164**	*e*Pn	**Pn**	**05 32 46.8**	**-0.1**
IBST	**Bostanabad**	**6.28**	**286**	*e*Pn	**Pn**	**05 32 48.5**	**-1.4**
IHRS	**Heris**	**6.32**	**291**	*e*Pn	**Pn**	**05 32 49.2**	**-1.2**
NHDN	**Nehbandan**	**6.67**	**135**	*e*Pn	**Pn**	**05 32 55.4**	**+0.3**
ISHB	**Shabestar**	**7.39**	**289**	*e*Pn	**Pn**	**05 33 04.6**	**-0.5**
IMRD	**Marand**	**7.44**	**292**	*e*Pn	**Pn**	**05 33 05.3**	**-0.4**
GNI	**Garni**	**8.64**	**300**	Pn	Pn	05 33 27.7	+5.6
comp=Z,1.1nm,0.3s,baz=11,slow=9.5,SNR=6.5							
GNI				Sn	**Sn**	**05 35 05.4**	**+5.7**
comp=Z,0.7nm,0.3s,baz=43,slow=18,SNR=2.3							
KVAR	**Kislovodsk Arr**	**11.89**	**314**	Pn	**Pn**	**05 34 09.8**	**+3.2**
baz=167,slow=20,SNR=2.0							
KVAR				Sn	**Sn**	**05 36 15.6**	**-3.8**
baz=27,slow=16,SNR=2.8							
AB31	**Akbulak array**	**13.61**	**15**	Pn	Pn	05 34 24.4	-5.6
comp=Z,1.4nm,0.5s,baz=203,slow=13,SNR=27							
AB31				⇑Sn	Sn	05 36 51.1	-10
comp=Z,0.6nm,0.3s,baz=207,slow=26,SNR=4.6							
AKTO	**Aktyubinsk**	**14.42**	**9**	Pn	Pn	05 34 35.5	-5.6
comp=Z,1.4nm,0.3s,baz=182,slow=13,SNR=25							
AKTO				Sn	Sn	05 37 07.2	-14
comp=Z,0.2nm,0.3s,baz=197,slow=19,SNR=1.5							
AKTO	**Aktyubinsk**	**14.42**	**9**	⇑Pn	Pn	05 34 36.4	-4.7
comp=Z,5.0nm,0.6s							
AKTO				⇑Sn	Sn	05 37 10.4	-11
comp=Z,5.4nm,0.9s							
AAK	**Ala-Archa**	**16.69**	**61**	Pn	**Pn**	**05 35 07.7**	**-3.3**
comp=Z,0.2nm,0.3s,baz=253,slow=10,SNR=6.2							
BELG	**Belogornoye**	**16.88**	**345**	Pn	**Pn**	**05 35 11.3**	**-1.9**
comp=Z,1.0nm,0.3s,baz=211,slow=14,SNR=5.1							
BELG				Sn	Sn	05 38 04.4	-16
comp=Z,0.4nm,0.3s,baz=223,slow=19,SNR=2.3							
BVAR	**Borovoye Array**	**20.16**	**29**	P	**P**	**05 35 49.1**	**-2.2**
comp=Z,0.4nm,0.3s,baz=203,slow=9.4,SNR=10							
ARU	**Arti**	**20.39**	**6**	P	**P**	**05 35 51.8**	**-2.0**
comp=Z,0.0nm,0.3s,baz=201,slow=12,SNR=5.2							
KURBB	**Kurchatov Arra**	**22.47**	**43**	P	**P**	**05 36 16.3**	**+0.1**
comp=Z,1.5nm,0.2s,baz=246,slow=11,SNR=2.1							
MKAR	**Makanchi Array**	**23.20**	**54**	P	**P**	**05 36 23.0**	**-1.0**
comp=Z,0.8nm,0.7s,baz=246,slow=9.4,SNR=9.5							
AKASG	**Malin Array Be**	**23.22**	**316**	P	**P**	**05 36 26.4**	**+2.4**
comp=Z,0.6nm,0.6s,baz=118,slow=11,SNR=3.9							
MLR	**Muntele Rosu**	**23.41**	**302**	P	**P**	**05 36 29.4**	**+3.3**
comp=Z,5.2nm,0.9s,baz=138,slow=19,SNR=2.4							
FINES	**FINESS Array B**	**30.95**	**334**	P	**P**	**05 37 33.0**	**-0.8**
comp=Z,1.6nm,0.9s,baz=136,slow=12,SNR=2.2							
PALK	**Pallekele**	**37.45**	**134**	LR	LR	05 55 04.4	
comp=Z,26nm,18.2s,baz=91,slow=38							

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ISAU S **Sn** **05 53 43.7 -3.7**
baz=36
IMID Miomork 4.59 52 P Pn 05 52 49.7 -4.6
baz=41
IESK Eystri-Skogar 4.69 54 P Pn 05 52 50.5 -5.2
baz=44
IALF Alftagrof 4.78 55 P Pn 05 52 51.8 -5.2
baz=45
BORG Borgarnes 4.80 36 Pn **Pn** **05 52 56.2 -1.0**
9.8nm,0.3s,baz=258,slow=6.0,SNR=137
BORG Sn **Sn** **05 53 53.0 +0.1**
3.4nm,0.3s,baz=190,slow=20,SNR=14
BORG Borgarnes 4.80 36 Pn **Pn** **05 52 56.6 -0.7**
BORG Sn **Sn** **05 53 53.3 +0.4**
IASB `sbjarnarst 4.80 36 P **Pn** **05 52 56.1 -1.2**
baz=26
IASB S **Sn** **05 53 52.6 -0.3**
baz=26
IGOD Go??abunga 4.81 53 P Pn 05 52 52.6 -4.9
baz=43
IMJO Mjoaskard 4.82 49 P **Pn** **05 52 53.5 -4.0**
baz=39
IGYG Gygjarholskot 4.83 44 P **Pn** **05 52 54.9 -2.8**
baz=34
IGYG S **Sn** **05 53 51.4 -2.2**
baz=34
IRJU Rjupnafell 5.04 55 P Pn 05 52 55.7 -4.9
baz=46
IVAT Vatnsfell 5.24 49 P **Pn** **05 52 59.2 -4.1**
baz=40
ISTE Stelbrattur 5.40 41 P **Pn** **05 53 04.9 -0.6**
baz=32
IIEY Innrieyrar 5.49 52 P **Pn** **05 53 02.9 -3.8**
baz=43
IJOK Jokulheimar 5.56 50 P **Pn** **05 53 04.6 -3.2**
baz=41
IKAL Kalfafell 5.58 54 P **Pn** **05 53 04.4 -3.6**
baz=46
ISKR Skrokkalda 5.64 47 P **Pn** **05 53 06.2 -2.6**
baz=39
IHUS Husbondi 5.76 51 P **Pn** **05 53 07.5 -3.0**
baz=43
IHAE Haedir 5.90 55 P **Pn** **05 53 07.7 -4.6**
baz=47
IVON Vonarskard 5.92 48 P **Pn** **05 53 09.2 -3.6**
baz=40
IVOT Vottur 5.93 52 P **Pn** **05 53 09.7 -3.2**
baz=45
ANGG Ammassalik, Gr 6.33 321 Pn **Pn** **05 53 17.5 -0.7**
NRS Narsarsuaq 8.46 278 Pn **Pn** **05 53 46.3 -1.1**
SCO Scoresbysund 9.80 12 Pn **Pn** **05 54 06.5 +0.8**
SFJD Kangerlussuaq 11.54 311 Pn Pn 05 54 20.9 -8.6
0.7nm,0.3s,baz=115,slow=10.0,SNR=5.2
SFJD LR LR 05 58 18.4
comp=Z,2μm,18.0s,baz=84,slow=34
SUMG Summit 12.27 345 *i* P **Pn** **05 54 40.0 +0.1**
SUMG IAmb IAmb 05 54 44.6
comp=Z,25nm,1.2s
SUMG Summit 12.27 345 Pn **Pn** **05 54 39.9 0.0**
EKA Eskdalemuir Ar 14.22 103 Pn **Pn** **05 55 05.8 -0.3**
baz=305,slow=8.6,SNR=2.6
EKA LR LR 05 59 49.8
comp=Z,868nm,18.3s,baz=308,slow=34
NC204 NORSAR Array S 18.50 72 P **Pn** **05 56 02.2 +1.0**
FRB Frobisher Bay 18.77 296 P **P** **05 56 03.0 -0.9**
comp=Z,0.1nm,0.3s,baz=79,slow=9.2,SNR=5.2
FRB LR LR 06 02 22.9
comp=Z,916nm,19.5s,baz=118,slow=34
NOA NORSAR Array B 18.78 73 P **Pn** **05 56 05.2 +0.7**
comp=Z,0.0nm,0.3s,baz=283,slow=11,SNR=3.5
NOA LR LR 06 02 53.7
comp=Z,221nm,18.2s,baz=285,slow=36
HFS Hagfors 20.24 74 P Pn 05 56 21.1 -0.7
comp=Z,5.7nm,1.0s,baz=319,slow=10,SNR=4.2
HFS LR LR 06 03 29.7
comp=Z,272nm,19.5s,baz=292,slow=35
BMRD Maredsous 21.11 106 P **P** **05 56 29.5 0.0**
BMRD Pn **sP** **05 56 33.0 -0.3**
DOU Dourbes 21.18 106 Pn **P** **05 56 33.8 +3.7**
BGES Gesves 21.21 105 P **P** **05 56 30.6 +0.2**
BCLA Clavier 21.29 105 Pn **P** **05 56 34.8 +3.5**
BCLA PnPn **PnPn** **05 56 52.9 +2.2**
SCHQ Schefferville 21.29 271 P **P** **05 56 29.6 -1.8**
comp=Z,13nm,1.0s,baz=53,slow=8.5,SNR=7.2
SCHQ LR LR 06 03 15.4
comp=Z,255nm,20.5s,baz=70,slow=33
SCHQ Schefferville 21.29 271 P **P** **05 56 30.5 -0.8**
SCHQ IAmb IAmb 05 56 34.3
comp=Z,35nm,1.2s
RCHB Rochefort 21.43 105 P **P** **05 56 32.4 -0.5**
MEM Membach 21.49 104 P **P** **05 56 33.1 -0.4**
comp=Z,12nm,1.0s
MEM Pn **sP** **05 56 37.1 -0.2**
BSEG Bad Segeberg 21.50 92 *eP* **P** **05 56 33.8 +0.3**
comp=Z,11nm,0.9s,baz=312,slow=9.5
BSEG *eL* L 06 04 51.3
comp=Z,330nm,19.1s
BUG Bochum--Univer 21.54 101 *eP* **P** **05 56 34.8 +0.8**
comp=Z,10.0nm,0.6s,baz=312,slow=9.5
BTNL Ternell 21.56 104 P **P** **05 56 34.4 +0.1**
comp=Z,16nm,1.0s
BHOU Houvegnez 21.66 104 P **P** **05 56 35.9 +0.6**
RETH Rethem/Aller, 21.74 96 *eL* L 06 04 10.2
comp=Z,390nm,19.9s
NRDL Niedersach Rie 22.25 95 *eP* **P** **05 56 42.0 +0.4**
comp=Z,7.3nm,0.9s,baz=312,slow=9.5
ASSE Asse, Remlinge 22.75 96 *eP* **P** **05 56 48.0 +1.1**
comp=Z,8.4nm,1.1s,baz=312,slow=9.5
GTTG Gottingen 22.77 97 *eP* **P** **05 56 48.0 +0.8**
comp=Z,17nm,1.0s,baz=312,slow=9.5
CLZ Clausthal 22.78 96 *eP* **P** **05 56 47.9 +0.5**
comp=Z,6.3nm,0.9s,baz=312,slow=9.5
FLTG Flechtingen 22.90 95 *eP* **P** **05 56 48.4 -0.1**
comp=Z,7.8nm,0.9s,baz=312,slow=9.5
TNS Taunus Mts 22.91 102 *eL* L 06 04 42.9
comp=Z,505nm,21.1s
ARCES ARCESS Array B 23.13 46 P **P** **05 56 51.4 +0.6**
comp=Z,13nm,0.9s,baz=277,slow=9.7,SNR=13
ARCES LR LR 06 03 52.6
comp=Z,131nm,20.4s,baz=324,slow=31
ARCES ARCESS Array B 23.13 46 P **P** **05 56 52.4 +1.7**
ARCES IAmb IAmb 05 56 52.6
comp=Z,26nm,1.2s
KEV Kevo 23.63 45 P **P** **05 56 56.4 +0.7**
MOX Moxa 24.15 97 *eP* **P** **05 57 01.4 +0.5**
comp=Z,2.5nm,0.9s,baz=312,slow=9.5
MOX *eL* L 06 05 22.3
comp=Z,270nm,22.0s
BFO Black Forest 24.16 105 *eL* L 06 05 57.4
comp=Z,261nm,18.1s
CLL Collm 24.39 95 *eP* **P** **05 57 03.0 -0.1**
comp=Z,69nm,2.7s
CLL *e*PP **PnPn** **05 57 39.0 +5.8**
CLL *e*S **S** **06 01 23.0 +0.6**
CLL Lm MLR 06 06 00.0
comp=Z,200nm,21.5s
CLL LmV 09 43 00.0
comp=Z,100nm,21.3s
CLL Collm 24.39 95 *eL* L 06 06 02.6
comp=Z,244nm,21.5s
GRF Grafenberg Arr 24.59 100 *eL* L 06 06 46.5
comp=Z,537nm,18.8s
GUNZ Gunzen 24.68 97 *eP* **P** **05 57 06.8 +1.0**
comp=Z,4.0nm,1.1s,baz=312,slow=9.5
TANN Tannenbergstha 24.71 97 *eP* **P** **05 57 06.7 +0.6**
comp=Z,2.7nm,0.9s,baz=312,slow=9.5
WERN Wernitzgruen 24.75 97 *eP* **P** **05 57 08.0 +1.6**
comp=Z,3.6nm,1.0s,baz=312,slow=9.5
MANZ Manzenberg 24.82 98 *eP* **P** **05 57 07.4 +0.4**
comp=Z,1.3nm,1.1s,baz=312,slow=9.5
BRG Berggiesshubel 25.13 95 *eP* **P** **05 57 10.3 +0.5**
BRG Amp 05 57 11.4
comp=Z,6.1nm,1.1s
BRG Berggiesshubel 25.13 95 *eP* **P** **05 57 09.5 -0.2**
comp=Z,2.9nm,0.9s,baz=312,slow=9.5
EUNU Eureka 25.24 340 P **P** **05 57 10.8 +0.2**
FINES FINESS Array B 25.39 65 P **P** **05 57 11.9 -0.1**
comp=Z,6.4nm,1.0s,baz=282,slow=9.5,SNR=5.9
FINES LR LR 06 06 49.2
comp=Z,114nm,18.7s,baz=268,slow=36
FINES FINESS Array B 25.39 65 P **P** **05 57 12.8 +0.9**
FIA1 FINESS Array S 25.39 65 P **P** **05 57 13.4 +1.4**
FIA1 IAmb IAmb 05 57 30.4
comp=Z,43nm,1.8s
PVCC Panska Ves 25.65 95 AMS AMS 06 08 10.0
comp=Z,500nm,15.2s
FUR Furstenfeldbru 25.67 102 *eL* L 06 06 15.6
comp=Z,398nm,21.5s
WET Wettzell 25.76 99 *eL* L 06 07 32.5
comp=Z,497nm,18.0s
TUE Stuetta 25.98 107 P **P** **05 57 19.5 +1.7**
TUE IAmb IAmb 05 57 29.6
comp=Z,40nm,1.5s
PRU Pruhonice 26.00 96 AMS AMS 06 08 40.0
comp=Z,500nm,15.3s
DAVOX Davos/Dischmat 26.01 106 LR LR 06 06 58.2
comp=Z,172nm,18.4s,baz=265,slow=35
ESDC Sonseca Array 26.02 134 P **P** **05 57 17.7 -0.3**
comp=Z,2.4nm,1.1s,baz=339,slow=9.3,SNR=4.8
ESDC LR LR 06 05 50.0
comp=Z,245nm,20.2s,baz=329,slow=33
ESDC Sonseca Array 26.02 134 IAmb IAmb 05 57 19.0
comp=Z,13nm,1.6s
KHC Kasperske Hory 26.11 98 *eP* **P** **05 57 24.1 +5.4**
KHC AMS AMS 06 07 50.0
comp=Z,600nm,16.3s
KHC Kasperske Hory 26.11 98 P **P** **05 57 21.0 +2.3**
KHC IAmb IAmb 05 57 25.9
comp=Z,25nm,2.0s
GEC2 GERESS Array S 26.36 99 *eL* L 06 07 51.3
comp=Z,376nm,18.5s
GERES GERESS Array B 26.36 99 P **P** **05 57 22.8 +1.7**
comp=Z,0.1nm,0.3s,baz=249,slow=10,SNR=2.6
GERES GERESS Array B 26.36 99 P **P** **05 57 21.6 +0.6**
OSTC Ostas 26.43 93 *eP* **P** **05 57 23.6 +2.0**
DPC Dobruska-Polom 26.62 93 *eP* **P** **05 57 24.1 +0.8**
DPC AMS AMS 06 09 20.0
comp=Z,300nm,19.7s
CKRC Cesky Krumlov 26.67 98 AMS AMS 06 08 30.0
comp=Z,700nm,19.3s
RES Resolute Bay 26.77 327 P **P** **05 57 23.9 -0.6**
comp=Z,3.3nm,1.0s,baz=94,slow=9.7,SNR=6.8
RES LR LR 06 07 30.5
comp=Z,421nm,18.7s,baz=84,slow=35
RES Resolute Bay 26.77 327 P **P** **05 57 24.4 0.0**
KRLC Kraliky 27.02 93 *eP* **P** **05 57 28.4 +1.4**
KRLC AMS AMS 06 09 40.0
comp=Z,300nm,14.3s
VRAC Vranov 27.44 95 *eP* **P** **05 57 30.2 -0.5**
KRUC Moravsky 27.51 95 *eP* **P** **05 57 30.6 -0.7**
MORC Moravsky Berou 27.59 93 *eP* **P** **05 57 32.7 +0.6**
MORC Moravsky Berou 27.59 93 P **P** **05 57 33.9 +1.9**
MORC IAmb IAmb 05 57 38.7
comp=Z,23nm,2.0s
SUW Suwalki 27.70 81 P **P** **05 57 34.6 +1.8**
SUW IAmb IAmb 05 57 36.0
comp=Z,13nm,1.0s
MODS Modra-Piesok 28.41 96 *eP* **P** **05 57 39.0 -0.4**
ZST Bratislava 28.45 96 *eP* **P** **05 57 39.5 -0.1**
NACGM Naroch 28.91 77 *i* P **P** **05 57 41.3 -2.4**
KLMR Klimovskoe 31.46 60 *eP* **P** **05 58 04.6 -1.6**
KLMR AMP 05 58 07.7
comp=Z,28nm,1.4s
FCC Fort Churchill 31.98 296 P **P** **05 58 10.4 -0.3**
AKASG Malin Array Be 32.66 82 P **P** **05 58 15.7 -1.1**
comp=Z,1.3nm,0.7s,baz=310,slow=8.5,SNR=8.1
AKASG PcP **PcP** **06 01 01.2 -1.1**
comp=Z,0.1nm,0.3s,baz=281,slow=3.8,SNR=4.3
BURAR Bucovina Array 32.79 90 P **P** **05 58 18.1 0.0**
OBN Obninsk 33.36 71 LR LR 06 11 08.2
comp=Z,47nm,20.9s,baz=1.0,slow=35
OBN Obninsk 33.36 71 P **P** **05 58 24.1 +1.3**
PDG Podgorica 33.70 102 P **P** **05 58 27.2 +1.3**
SADO Sadowa 33.85 265 LR LR 06 10 28.1
comp=Z,399nm,19.9s,baz=20,slow=33
SADO Sadowa 33.85 265 P **P** **05 58 26.8 -0.5**
KEST Kesra 34.62 120 LR LR 06 12 35.0
comp=Z,372nm,18.5s,baz=234,slow=36
MLR Muntele Rosu 34.65 92 LR LR 06 12 46.7
comp=Z,167nm,21.1s,baz=344,slow=36
VAE Valguarnera 35.38 112 LR LR 06 12 18.6
comp=Z,243nm,18.5s,baz=1.5,slow=35
A36M Sachs Harbour 35.81 328 P **P** **05 58 44.5 +0.6**
A36M IAmb IAmb 05 58 46.3
comp=Z,8.3nm,0.9s
D41A Chassel 36.79 276 P **P** **05 58 52.9 +0.4**
KIRV Kirov 36.88 58 LR LR 06 13 15.3
comp=Z,160nm,18.2s,baz=317,slow=35
EYMN Ely 37.58 279 P **P** **05 58 58.4 -0.8**
ULM Lac du Bonnet 38.07 285 P **P** **05 59 01.9 -1.4**
comp=Z,6.1nm,0.8s,baz=64,slow=8.6,SNR=5.3
ULM LR LR 06 13 40.2
comp=Z,624nm,18.6s,baz=34,slow=35
ULM Lac du Bonnet 38.07 285 P **P** **05 59 02.1 -1.2**
ULM IAmb IAmb 05 59 04.6
comp=Z,33nm,1.8s
YKA Yellowknife Ar 38.10 311 P **P** **05 59 02.4 -1.0**
comp=Z,3.1nm,0.8s,baz=51,slow=9.0,SNR=47
YKA PcP **PcP** **06 01 18.3 +0.3**
comp=Z,0.1nm,0.6s,baz=45,slow=2.9,SNR=1.1
YKA LR LR 06 13 52.1
comp=Z,509nm,18.6s,baz=32,slow=35
YKA Yellowknife Ar 38.10 311 P **P** **05 59 03.8 +0.4**
B35A Bob, Littlefor 38.36 281 P **P** **05 59 05.1 -0.7**
B35A IAmb IAmb 06 00 19.1
comp=Z,32nm,1.4s
F36A Milaca 40.04 279 P **P** **05 59 20.3 +0.4**
BELG Belogornoye 40.13 67 LR LR 06 15 32.3
comp=Z,83nm,19.7s,baz=253,slow=36
SPMN Marine on St. 40.16 277 P **P** **05 59 21.4 +0.6**
INK Inuvik 40.33 326 LR LR 06 15 23.3
comp=Z,267nm,18.0s,baz=27,slow=35
INK Inuvik 40.33 326 P **P** **05 59 22.3 +0.4**
F33A 5 Mile Ranch, 41.39 281 P **P** **05 59 30.8 -0.1**
F33A IAmb IAmb 05 59 33.0
comp=Z,40nm,1.6s
IDI Anoyia 42.02 103 LR LR 06 18 38.4
comp=Z,126nm,18.6s,baz=276,slow=38
ARU Arti 42.03 56 LR LR 06 18 03.3
comp=Z,84nm,19.2s,baz=314,slow=38
ARU Arti 42.03 56 P **P** **05 59 37.2 +1.1**
NRIK Noril'sk 42.08 29 P **P** **05 59 37.2 +0.9**
comp=Z,1.2nm,0.4s,baz=333,slow=6.9,SNR=6.5
NRIK Noril'sk 42.08 29 P **P** **05 59 36.9 +0.6**
BRTR Keskin Array B 42.73 91 P **P** **05 59 42.4 +0.3**
comp=Z,1.2nm,0.8s,baz=329,slow=6.4,SNR=6.2
BRTR Keskin Array B 42.73 91 P **P** **05 59 43.3 +1.1**
JSC Jenkinsville 43.06 257 P **P** **05 59 45.3 +0.7**
ECSD EROS Data Cent 43.10 279 P **P** **05 59 44.9 0.0**
Q44A Meyer Farm, Va 43.10 268 P **P** **05 59 45.2 +0.2**
Q44A IAmb IAmb 05 59 46.3
comp=Z,20nm,1.1s
TKL Tuckaleechee C 43.14 260 LR LR 06 16 07.9
comp=Z,263nm,19.4s,baz=26,slow=34
I29M Ogilvie Camp, 43.77 325 P **P** **05 59 50.6 +0.4**
KBZ Khabaz 44.16 79 P **P** **05 59 54.4 +1.0**
comp=Z,1.6nm,0.3s,baz=332,slow=11,SNR=6.6
KBZ LR LR 06 18 41.6
comp=Z,139nm,19.8s,baz=332,slow=37
J29M Klondike Camp 44.43 324 P **P** **05 59 56.1 +0.7**
J29M IAmb IAmb 06 00 04.8
comp=Z,6.5nm,0.8s
CCM Cathedral Cave 44.85 269 P **P** **05 59 58.2 -0.8**
CCM IAmb IAmb 06 00 18.1
comp=Z,35nm,1.8s
K31A O'Neill 44.96 279 P **P** **05 59 59.4 -0.6**
K31A IAmb IAmb 06 00 01.4
comp=Z,16nm,0.9s
EGAK Eagle 45.00 326 P **P** **06 00 00.5 +0.6**
EGAK IAmb IAmb 06 00 02.4
comp=Z,11nm,1.2s
DAWY Dawson 45.06 325 P **P** **06 00 01.0 +0.6**
DAWY IAmb IAmb 06 00 08.3
comp=Z,8.1nm,1.0s
COLD Coldfoot 45.29 332 P **P** **06 00 03.0 +0.8**
LAO LASA Array 45.43 289 P **P** **06 00 03.6 -0.1**
LAO IAmb IAmb 06 00 06.2
comp=Z,16nm,1.1s
PBMO Poplar Bluff 45.46 267 P **P** **06 00 02.9 -1.0**
PBMO IAmb IAmb 06 00 04.6
comp=Z,12nm,0.8s
N33A J Bar K, Exete 45.78 277 P **P** **06 00 05.6 -0.8**
J26L Joseph Creek 45.86 327 P **P** **06 00 07.1 +0.2**
J26L IAmb IAmb 06 00 09.2
comp=Z,7.3nm,1.0s
H24K Noodor Dome 45.88 330 P **P** **06 00 07.7 +0.7**
GNAR Gosnell 45.91 266 P **P** **06 00 07.4 -0.1**
EGMT Eagleton 46.05 293 P **P** **06 00 08.4 -0.1**
EGMT IAmb IAmb 06 00 10.4
comp=Z,8.6nm,0.9s
AKTO Aktyubinsk 46.10 62 LR LR 06 19 12.0
comp=Z,72nm,21.8s,baz=328,slow=36
S39A Bolivar 46.15 271 P **P** **06 00 08.0 -1.3**
S39A IAmb IAmb 06 00 10.2
comp=Z,9.4nm,0.9s
LCAR Lake Charles 46.38 267 P **P** **06 00 10.4 -0.8**
DLBC Dease Lake 46.42 315 LR LR 06 20 03.5
comp=Z,331nm,18.2s,baz=325,slow=37
IL31 46.50 329 P **P** **06 00 12.0 +0.3**
IL31 IAmb IAmb 06 01 12.8
comp=Z,27nm,1.9s
ILAR Eielson Array 46.50 329 P **P** **06 00 12.3 +0.6**
comp=Z,1.8nm,0.8s,baz=32,slow=6.6,SNR=15
ILAR PcP **PcP** **06 01 45.0 -1.0**
comp=Z,1.1nm,0.8s,baz=359,slow=3.5,SNR=5.6
ILAR LR LR 06 22 05.7
comp=Z,136nm,19.3s,baz=2.0,slow=39
ILAR Eielson Array 46.50 329 P **P** **06 00 12.7 +0.9**
BCAR Beaver Creek A 46.52 325 P **P** **06 00 11.8 -0.2**
TIXI Tiksi 46.62 10 P **P** **06 00 14.0 +1.5**
KSU1 Kansas State U 46.64 275 P **P** **06 00 12.0 -1.2**
U40A Yellville 46.98 269 P **P** **06 00 15.3 -0.5**
U40A IAmb IAmb 06 00 16.9
comp=Z,9.6nm,0.8s
WALA Waterton Lakes 47.11 296 P **P** **06 00 15.4 -1.5**
WALA IAmb IAmb 06 00 18.4
comp=Z,7.7nm,0.9s
IMAR Indian Mountai 47.12 333 P **P** **06 00 17.1 +0.6**
WHAR Wooly Hollow 47.55 268 P **P** **06 00 19.8 -0.5**
PAX Paxson 47.60 327 P **P** **06 00 20.3 -0.1**
PAX IAmb IAmb 06 00 28.1
comp=Z,8.5nm,1.1s
W41B Gary Mavity, V 47.63 268 P **P** **06 00 20.5 -0.3**
GNI Garni 47.78 81 P **P** **06 00 21.8 -0.5**
comp=Z,2.4nm,0.5s,baz=341,slow=18,SNR=3.8
GNI Garni 47.78 81 IAmb IAmb 06 00 25.1
comp=Z,27nm,1.7s
ABKAR Akbulak array 47.81 62 P **P** **06 00 23.1 +0.9**
ABKAR IAmb IAmb 06 00 24.3
comp=Z,9.4nm,1.1s
HRY Holter Researc 47.96 293 P **P** **06 00 23.7 +0.2**
X40A Basin Creek Fa 48.47 268 P **P** **06 00 26.6 -0.8**
X40A IAmb IAmb 06 00 27.9
comp=Z,15nm,1.1s
BOZ Bozeman (W) 48.72 292 P **P** **06 00 29.0 -0.4**
MSO Missoula 48.81 294 P **P** **06 00 28.9 -1.2**
KAN14 Manchester OK 48.98 274 **P** **06 00 30.8 -0.5**
NEW Newport 49.11 298 LR LR 06 20 44.1
comp=Z,398nm,21.7s,baz=60,slow=36
BRVK Borovoye 49.13 52 P **P** **06 00 33.0 +0.7**
BRVK IAmb IAmb 06 00 34.5
comp=Z,8.6nm,1.2s
K20K Telida 49.43 331 P **P** **06 00 34.7 +0.2**
N23A Red Feather La 49.72 284 P **P** **06 00 37.4 +0.1**
N23A IAmb IAmb 06 00 40.5
comp=Z,16nm,1.1s
W35A Tecumseh 49.90 272 **P** **06 00 37.0 -1.4**
U32A Winter Ranch, 49.95 274 **P** **06 00 37.8 -1.0**
PD31 Pinedale Array 49.96 288 P **P** **06 00 37.1 -1.9**
PDAR Pinedale Array 49.96 288 P **P** **06 00 37.4 -1.6**
comp=Z,4.1nm,0.8s,baz=61,slow=6.5,SNR=32
PDAR LR LR 06 20 55.9
comp=Z,354nm,20.6s,baz=36,slow=35
PDAR Pinedale Array 49.96 288 P **P** **06 00 37.6 -1.4**
BW06 Boulder Array 49.96 288 P **P** **06 00 37.5 -1.5**
C09A Chrisman Ranch 49.96 298 P **P** **06 00 38.0 -0.6**
C09A IAmb IAmb 06 00 40.8
comp=Z,9.2nm,1.1s
ISCO Idaho Springs 50.42 282 P **P** **06 00 42.9 +0.2**
ISCO IAmb IAmb 06 01 15.4
comp=Z,11nm,1.6s
BCYI Bear Canyon 50.52 292 P **P** **06 00 42.8 -0.4**
BBB Bella Bella 50.54 308 LR LR 06 21 56.4
comp=Z,384nm,19.7s,baz=51,slow=36
X34A Smith Ranch, M 50.80 272 **P** **06 00 45.0 -0.3**
Q24A Divide 50.86 281 P **P** **06 00 46.6 +0.6**
Q24A IAmb IAmb 06 00 48.5
comp=Z,19nm,1.8s
PLID Pearl Lake 51.07 294 P **P** **06 00 46.1 -1.3**
PLID IAmb IAmb 06 00 49.8
comp=Z,10nm,1.2s
WMOK Wichita Mounta 51.16 273 **P** **06 00 46.8 -1.1**
WMOK IAmb IAmb 06 01 39.6
comp=Z,13nm,1.0s
EIL Elat 51.46 98 LR LR 06 25 40.3
comp=Z,28nm,19.0s,baz=284,slow=40
RDMU Red Mountain 51.68 286 P **P** **06 00 51.1 -0.9**
RDMU IAmb IAmb 06 00 54.2
comp=Z,12nm,1.2s
T25A Trinidad 51.95 279 P **P** **06 00 53.7 -0.4**
T25A IAmb IAmb 06 00 56.1
comp=Z,9.9nm,1.0s
AMTX Amarillo 52.45 275 P **P** **06 00 58.6 +1.0**
TORD Torodi Ar. Bea 52.45 143 P **P** **06 00 55.8 -1.8**
comp=Z,1.1nm,0.8s,baz=335,slow=7.5,SNR=5.5
S22A 4UR Ranch, Cre 52.63 282 P **P** **06 00 59.5 +0.3**
S22A IAmb IAmb 06 01 01.4
comp=Z,7.6nm,1.0s
ABTX Abilene, Hawle 53.29 272 P **P** **06 01 02.9 -0.9**
J08A Circle Bar Ran 53.53 295 P **P** **06 01 05.7 +0.2**
ZAA0 Zalesovo Array 53.62 43 P **P** **06 01 06.0 +0.1**
ZALV Zalesovo Beam 53.62 43 P **P** **06 01 06.2 +0.4**
comp=Z,1.1nm,0.7s,baz=325,slow=7.6,SNR=4.8
ZALV LR LR 06 25 08.2
comp=Z,32nm,18.2s,baz=358,slow=37
ZALV Zalesovo Beam 53.62 43 P **P** **06 01 06.0 +0.1**
HKT Hockley 53.63 267 P **P** **06 01 06.1 -0.1**
HKT IAmb IAmb 06 01 08.3
comp=Z,13nm,1.2s
MSTX Muleshoe 53.71 276 P **P** **06 01 06.3 -0.7**
MSTX IAmb IAmb 06 02 48.2
comp=Z,16nm,1.4s
KDAK Kodiak Island 53.88 327 LR LR 06 25 30.6
comp=Z,316nm,18.8s,baz=48,slow=38
KURK Kurchatov 54.13 49 P **P** **06 01 09.8 +0.2**
KURK IAmb IAmb 06 01 11.1
comp=Z,7.8nm,0.9s
ELK Elko 54.16 291 LR LR 06 22 54.1
comp=Z,222nm,21.4s,baz=357,slow=35
ELK Elko 54.16 291 P **P** **06 01 10.1 -0.3**
ANMO Albuquerque 54.70 279 LR LR 06 23 25.4
comp=Z,287nm,20.3s,baz=38,slow=35
ANMO Albuquerque 54.70 279 P **P** **06 01 13.9 -0.4**
JCT Junction City 55.12 271 P **P** **06 01 16.5 -0.7**
JCT IAmb IAmb 06 01 18.2
comp=Z,9.9nm,0.9s
MOD Modoc Plateau 55.50 295 P **P** **06 01 19.9 0.0**
GEYT Alibeck 55.87 72 LR LR 06 26 46.8
comp=Z,86nm,18.9s,baz=328,slow=38
YAK Yakutsk 56.07 12 LR LR 06 26 26.4
comp=Z,30nm,18.7s,baz=71,slow=37
WUAZ Wupatki 56.58 284 P **P** **06 01 26.9 -0.8**
WUAZ IAmb IAmb 06 01 30.1
comp=Z,6.9nm,1.1s
YBH Yreka Blue Hor 56.69 297 LR LR 06 25 28.4
comp=Z,370nm,20.6s,baz=4.0,slow=36
KVN Kaiserville 56.83 292 P **P** **06 01 28.6 -0.9**
KVN IAmb IAmb 06 01 31.2
comp=Z,6.6nm,0.9s
PAHR Pah Rah Range 56.87 293 P **P** **06 01 29.8 +0.1**
PAHR IAmb IAmb 06 01 32.5
comp=Z,9.9nm,1.3s
DBIC Dimbokro 56.94 152 LR LR 06 23 09.6
comp=Z,157nm,19.2s,baz=1.5,slow=33
KKAR Karatay Array 57.16 60 P **P** **06 01 32.9 +1.3**
YERR Yerington 57.40 292 P **P** **06 01 33.3 -0.2**
YERR IAmb IAmb 06 01 35.5
comp=Z,9.2nm,1.2s
NVAR Mina Array Bea 57.42 291 P **P** **06 01 32.3 -1.4**
comp=Z,1.1nm,0.8s,baz=48,slow=4.8,SNR=9.2
NVAR LR LR 06 25 07.3
comp=Z,244nm,20.3s,baz=30,slow=35
MPK Martis Peak 57.50 293 P **P** **06 01 34.3 0.0**
MPK IAmb IAmb 06 01 37.1
comp=Z,10nm,1.1s
X16A Lo Mia Camp, P 57.51 283 P **P** **06 01 34.9 +0.6**
TX31 Lajitas Ar. Si 57.95 273 P **P** **06 01 37.3 -0.1**
TX31 IAmb IAmb 06 01 39.3
comp=Z,18nm,1.2s
TX32 Lajitas Array 57.95 273 P **P** **06 01 37.4 0.0**
TXAR Lajitas Array 57.95 273 P **P** **06 01 36.0 -1.4**
comp=Z,2.1nm,1.0s,baz=61,slow=5.8,SNR=10.0
TXAR LR LR 06 25 55.9
comp=Z,172nm,19.6s,baz=16,slow=36
GWY Greenwater Val 58.51 288 P **P** **06 01 41.0 -0.3**
MAKZ Makanchi 58.61 49 P **P** **06 01 42.0 +0.3**
MAKZ IAmb IAmb 06 01 43.2

comp=Z,5.2nm,1.0s
MK31 Makanchi Array 58.74 49 P **P 06 01 43.3 +0.7**
MK31 IAmb IAmb 06 01 44.0
comp=Z,4.4nm,0.8s
MKAR Makanchi Array 58.74 49 P **P 06 01 43.0 +0.4**
comp=Z,4.9nm,0.7s,baz=332,slow=6.4,SNR=19
MKAR LR LR 06 25 48.2
comp=Z,38nm,18.8s,baz=334,slow=35
MKAR Makanchi Array 58.74 49 P **P 06 01 43.1 +0.6**
TUC Tucson 58.93 281 P **P 06 01 43.7 -0.4**
TUC IAmb IAmb 06 01 47.0
comp=Z,5.4nm,1.1s
AAK Ala-Archa 59.20 57 P **P 06 01 47.4 +1.4**
AAK IAmb IAmb 06 01 48.8
comp=Z,3.7nm,0.8s
BTK Batken 59.80 61 P **P 06 01 51.2 +1.1**
CHGR Chuyangaron 60.25 63 P **P 06 01 54.5 +1.2**
PFO Pinyon Flats O 60.53 287 LR LR 06 27 46.9
comp=Z,334nm,18.2s,baz=30,slow=36
DRK Karamyk 60.70 61 P **P 06 01 58.2 +1.6**
DRK IAmb IAmb 06 01 59.5
comp=Z,14nm,1.1s
TARG Taragay, Kyrgy 61.30 55 P **P 06 02 00.8 +0.1**
TARG IAmb IAmb 06 02 04.1
comp=Z,8.7nm,0.9s
WMQ Urumqi 63.24 47 *e*P **P 06 02 16.1 +2.8**
WMQ sP sP 06 02 24.9 +7.6
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.1s
SONM Songino Array 65.40 32 P **P 06 02 27.6 +0.2**
comp=Z,1.6nm,0.8s,baz=326,slow=7.1,SNR=12
SONM Songino Array 65.40 32 P **P 06 02 27.6 +0.2**
ULN Ulaanbaatar 65.54 32 P **P 06 02 29.2 +0.9**
ULN IAmb IAmb 06 02 30.5
comp=Z,9.7nm,1.4s
LPIG La Paz 65.55 276 LR LR 06 30 29.0
comp=Z,154nm,18.0s,baz=358,slow=36
WSAR Wadi Sarin 68.33 81 LR LR 06 36 54.0
comp=Z,44nm,19.1s,baz=344,slow=40
ATD Arta Tunnel 70.71 101 LR LR 06 37 07.8
comp=Z,29nm,18.1s,baz=66,slow=38
GTA Gaotai 71.25 40 *e*P **P 06 03 05.1 +0.9**
GTA pP sP 06 03 09.4 +1.1
GTA sP pP 06 03 11.9 +4.7
GTA pmax pmax
comp=Z,4.0nm,1.7s
OTAV Otavalo 71.74 234 P **P 06 03 07.8 +0.1**
OTAV IAmb IAmb 06 03 17.3
comp=Z,15nm,1.6s
GOMU GeErMu 72.51 45 P **P 06 03 13.5 +1.4**
GOMU pP sP 06 03 17.9 +1.7
GOMU sP pP 06 03 20.1 +5.0
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,68nm,5.7s
MDJ Mudanjiang 73.13 17 P **P 06 03 14.8 -0.4**
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,150nm,3.5s
HHC Hu-ho-hao-te 73.25 31 *e*P **P 06 03 15.8 -0.3**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,120nm,4.5s
LZH Lanzhou 75.56 39 *e*P P 06 03 18.0 -12
LZH pP pP 06 03 31.0 -1.6
LZH pmax pmax
comp=Z,20nm,1.3s
MBAR Mbarara 75.89 118 LR LR 06 38 37.4
comp=Z,84nm,19.0s,baz=312,slow=37
KSRS Korea Array 79.90 19 P **P 06 03 53.2 -0.4**
comp=Z,1.0nm,0.6s,baz=350,slow=5.0,SNR=4.6
NJ2 Nanjing 83.37 28 *e*P **P 06 04 11.1 -0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PZH PanZhiHua 83.74 44 P **P 06 04 14.3 +0.1**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
AQDB Aquidauana 84.25 206 P **P 06 04 17.4 +1.0**
LSZ Lusaka 88.11 127 LR LR 06 47 04.7
comp=Z,185nm,18.2s,baz=334,slow=38
CHTO Chiang Mai 89.82 49 P **P 06 04 43.9 +0.1**
CHTO IAmb IAmb 06 04 44.9
comp=Z,6.3nm,1.1s
CMAR Chiang Mai Arr 90.14 49 P **P 06 04 45.3 0.0**
comp=Z,2.2nm,0.7s,baz=326,slow=5.9,SNR=11
CMAR LR LR 06 48 00.3
comp=Z,14nm,18.9s,baz=310,slow=37
MATP Matopo 92.91 128 LR LR 06 49 09.2
comp=Z,75nm,18.2s,baz=346,slow=37
LBTB Lobatse 96.03 133 LR LR 06 48 13.5
comp=Z,90nm,19.7s,baz=354,slow=35
BOSA Boshof 99.20 134 LR LR 06 50 20.0
comp=Z,66nm,21.1s,baz=3.5,slow=36
ASAR Alice Springs 140.61 27 PKhKP PKPpre 06 11 08.5
comp=Z,0.4nm,0.7s,baz=344,slow=2.5,SNR=4.7

*TEH **16** 06:23:57.6, 36°.24N×54°.48E, h6km, ML3.6*
*NNC **16** 06:24:02.7±3.0, 36°.83N×54°.21E, h5km±11km, mb3.7, Error ellipse: s-maj=30.3km s-min=15.9km az=16.0*
*AZER **16** 06:24:05.9±1.8, 36°.35N×54°.01E, h12km, Error ellipse: s-maj=25.5km s-min=15.3km az=64.0, Hypocentre not reviewed by the ISC*
ISC 16 06:23:57.6±0.7, 36°.26N±0°.03×54°.50E±0°.02, h10km, n63, σ2$69/81, 5C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.57**	**294**	*e*Pg	**Pb**	**06 24 10.4**	**+0.5**
IANJ	**Anjilo**	**0.93**	**210**	*e*Pg	**Pn**	**06 24 16.8**	**-0.1**
IANJ				*e*Sg	**Sn**	**06 24 29.4**	**-1.0**
ISHM	**Shahmirzad**	**1.07**	**245**	*e*Pg	**Pn**	**06 24 19.4**	**+0.5**
ISHM				*e*Sg	**Sn**	**06 24 34.1**	**+0.1**
ISHM				*e*		06 24 38.2	
comp=Z,23μm,0.3s							
IMND	**Minoodasht**	**1.23**	**37**	*e*Pg	**Pb**	**06 24 21.6**	**+0.7**
SHRO	**Shahrood**	**1.27**	**102**	*e*Pn	**Pg**	**06 24 22.9**	**+1.0**
ILAS	**Lasjerd**	**1.52**	**235**	*e*Pg	**Pg**	**06 24 27.6**	**+0.7**
ILAS				*e*Sg	**Sg**	**06 24 49.6**	**+2.9**
ILAS				*e*		06 24 53.9	
comp=Z,8μm,0.3s							
IPRN	**Peran**	**1.73**	**270**	*e*Pn	**Pg**	**06 24 30.8**	**-0.1**
IPRN				*e*		06 24 32.4	
comp=Z,11μm,0.4s							
MRVT	**Maraveh tapeh**	**1.89**	**42**	*e*Pn	**Pg**	**06 24 33.6**	**-0.2**
DAMV	**Damavand**	**2.14**	**253**	*e*Pn	**Pg**	**06 24 38.0**	**-0.6**
SBZV	**Sabzevar**	**2.53**	**86**	*e*Pn	**Pb**	**06 24 42.4**	**-0.8**
IVRN	**Varamin**	**2.58**	**241**	*e*Pn	**Pb**	**06 24 42.3**	**-1.7**
IVRN				*e*		06 25 23.4	
comp=Z,4μm,0.3s							
ISFB	**Sefidab**	**2.65**	**224**	*e*Pn	**Pb**	**06 24 42.6**	**-2.6**
ISFB				*e*		06 25 26.0	
comp=Z,2μm,0.6s							
IHSB	**Hasanabad**	**2.74**	**253**	*e*Pn	**Pb**	**06 24 45.9**	**-0.8**
IHSB				*e*		06 24 51.3	
comp=Z,1μm,0.3s							
BJRD	**Bojnurd**	**2.74**	**58**	*e*Pn	**Pb**	**06 24 45.5**	**-1.2**
CHTH	**Charan**	**2.74**	**263**	*e*Pn	**Pb**	**06 24 47.3**	**+0.4**
TNSJ	**Nastanj**	**2.89**	**142**	*e*Pn	**Pb**	**06 24 46.5**	**-2.8**
ISFR	**Sfrayin**	**2.93**	**74**	*e*Pn	**Pb**	**06 24 48.5**	**-1.6**
ISFR				*e*		06 25 39.6	
comp=Z,2μm,0.4s							
THKV	**Tehran--Karaj**	**2.94**	**264**	*e*Pn	**Pb**	**06 24 49.5**	**-0.7**
KRSH	**Karshahi**	**3.00**	**221**	*e*Pn	**Pn**	**06 24 47.7**	**+2.4**
KRSH				*e*		06 25 41.8	
comp=Z,3μm,0.6s							
QALM	**Alamut, Qazvin**	**3.10**	**274**	*e*Pn	**Pb**	**06 24 50.6**	**-2.4**
IQOM	**Qom**	**3.13**	**244**	*e*Pn	**Pb**	**06 24 50.4**	**-3.0**
ANAR	**Anarak**	**3.14**	**192**	*e*Pn	**Pn**	**06 24 49.5**	**+2.3**
IMHD	**Mahdasht**	**3.15**	**260**	*e*Pn	**Pb**	**06 24 51.7**	**-2.0**
IMHD				*e*		06 24 57.6	
comp=Z,710nm,0.5s							
GHVR	**GHOM**	**3.16**	**236**	*e*Pn	**Pb**	**06 24 52.6**	**-1.3**
GYA0B	**ALIBECK ARRAY**	**3.34**	**59**	⇑Pn	**Pb**	**06 24 55.1**	**-1.8**
GYA0B				⇑Pg	**Pg**	**06 25 02.2**	**+0.6**
GYA0B				⇑Sn	**Sb**	**06 25 35.7**	**-2.0**
GYA0B				⇑Lg	Lg	06 25 49.3	
TKDS	**Koohdasht(Taba**	**3.43**	**140**	*e*Pn	**Pn**	**06 24 53.4**	**+2.2**
TKDS				*e*		06 26 05.1	
comp=Z,1μm,0.7s							
IAKL	**Akhelmad**	**3.46**	**83**	*e*Pn	**Pn**	**06 24 55.2**	**+3.4**
QAMS	**Qamsar**	**3.58**	**226**	*e*Pn	**Pn**	**06 24 56.5**	**+3.1**
TPRV	**Parvadeh(Tabas**	**3.71**	**150**	*e*Pn	**Pn**	**06 24 58.7**	**+3.6**
TPRV				*e*		06 26 04.5	
comp=Z,1μm,0.4s							
NASN	**Na'in**	**3.73**	**202**	*e*Pn	**Pn**	**06 24 58.9**	**+3.3**
IKLH	**Kolahrood**	**3.79**	**220**	*e*Pn	**Pn**	**06 24 59.0**	**+2.6**
IKLH				*e*		06 25 59.2	
comp=Z,669nm,0.4s							
JIR1	**Jirandeh**	**3.80**	**278**	*e*Pn	**Pn**	**06 25 00.5**	**+4.2**
IRAZ	**Razeghan**	**3.80**	**258**	*e*Pn	**Pn**	**06 25 00.0**	**+3.6**
IZEF	**Zefreh**	**3.81**	**208**	*e*Pn	**Pn**	**06 24 59.7**	**+3.1**
YZKH	**Yazd**	**3.88**	**179**	*e*Pn	**Pn**	**06 25 00.2**	**+2.9**
IMOG	**Moghan**	**3.93**	**91**	*e*Pn	**Pn**	**06 25 02.3**	**+4.0**
QABG	**Abgarm-Qazvin**	**4.01**	**263**	*e*Pn	**Pn**	**06 25 02.8**	**+3.5**
ASAO	**Ashtian**	**4.03**	**246**	*e*Pn	**Pn**	**06 25 03.6**	**+4.0**
IKRD	**Kardeh**	**4.08**	**81**	*e*Pn	**Pn**	**06 25 04.4**	**+4.1**
IMYA	**Miami**	**4.54**	**87**	*e*Pn	**Pn**	**06 25 10.0**	**+3.5**
HAGD	**Aghdareh**	**4.59**	**253**	*e*Pn	**Pn**	**06 25 11.3**	**+4.0**
IPIR	**Pirpir**	**4.65**	**221**	*e*Pn	**Pn**	**06 25 11.7**	**+3.5**
AFRZ	**Afriz**	**4.69**	**126**	*e*Pn	**Pn**	**06 25 12.2**	**+3.7**
ZNJK	**Zanjan**	**4.69**	**277**	*e*Pn	Pb	06 25 14.5	-5.6
TBJM	**Torbat-e-JAM**	**4.86**	**100**	*e*Pn	**Pn**	**06 25 14.6**	**+3.7**
ITEG	**Tejag**	**4.87**	**133**	*e*Pn	**Pn**	**06 25 14.7**	**+3.6**
IMON	**Monand**	**5.26**	**124**	*e*Pn	**Pn**	**06 25 20.3**	**+3.8**
SHRT	**Shahrakht**	**5.44**	**117**	*e*Pn	**Pn**	**06 25 22.0**	**+3.2**
ISRB	**Sarab**	**5.67**	**288**	*e*Pn	**Pn**	**06 25 26.6**	**+4.5**
AB31	**Akbulak array**	**13.57**	**15**	Pn	**Pn**	**06 27 10.4**	**+0.3**
comp=Z,1.0nm,0.9s,baz=207,slow=14,SNR=7.7							
AB31				⇓Sn	**Sn**	**06 29 34.6**	**-6.3**
comp=Z,0.3nm,0.5s,baz=191,slow=24,SNR=6.4							
AKTO	**Aktyubinsk**	**14.38**	**9**	⇓Pn	**Pn**	**06 27 21.0**	**-0.2**
comp=Z,1.3nm,0.7s							
AKTO				⇑Sn	**Sn**	**06 29 55.8**	**-4.8**
comp=Z,2.4nm,1.1s							

*IDC **16** 06:45:40.2±1.8, 8°.47S×124°.86E, h0km, mb3.6/1, mb1 3.9/5, mb1mx3.7/28, mbtmp3.7/5, ML3.8/4, MS3.1/2, Ms1 3.1/2, ms1mx2.4/49, Error ellipse: s-maj=48.5km s-min=25.1km az=77.0*
*DJA **16** 06:45:51.5±0.5, 9°.5S±4°.×12°.4E±°, h82km±7km, M4.1/10, mb4.4/2, mB4.6/1, MLv3.9/10, Mw(mB)3.8/1*
ISC 16 06:45:49.3±1.1, 8°.92S±0°.07×124°.44E±0°.09, h50km, n22, σ3$30/22, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.84**	**192**	P	**Pn**	**06 46 09.6**	**+4.5**
SOEI				S	**Sn**	**06 46 22.9**	**+6.3**
SOEI	**Soe**	**0.84**	**192**	P	Pn	06 46 10.5	+5.4
BATI	**Baumata**	**1.49**	**211**	Pn	**Pn**	**06 46 17.0**	**+3.3**
112nm,0.3s,baz=33,slow=17,SNR=35							
BATI				Sn	**Sn**	**06 46 36.5**	**+4.5**
57nm,0.3s,baz=352,slow=24,SNR=13							
BATI	**Baumata**	**1.49**	**211**	P	**Pn**	**06 46 16.5**	**+2.8**
MMRI	**Maumere**	**2.19**	**277**	P	**Pn**	**06 46 23.4**	**+0.1**
EDFI	**Ende, Flores**	**2.72**	**273**	P	**Pn**	**06 46 30.7**	**+0.1**
BASI	**Baing, Sumba**	**4.02**	**251**	P	**Pn**	**06 46 48.0**	**-0.4**
BSSI	**Bau Bau, Buton**	**4.79**	**305**	P	**Pn**	**06 47 00.1**	**+1.1**
WBSI	**Waikabubak, Su**	**5.03**	**261**	P	**Pn**	**06 47 01.4**	**-0.9**
KAPI	**Kappang**	**6.06**	**310**	LR	LR	06 49 47.5	
comp=Z,27nm,18.0s,baz=72,slow=40							
BNSI	**Bone**	**6.22**	**316**	P	**Pn**	**06 47 21.6**	**+3.0**
0.1nm16nm,0.6s							
DRS	**Darwin Rock St**	**7.24**	**119**	P	**Pn**	**06 47 36.0**	**+3.4**
MTN	**Manton Dam**	**7.64**	**121**	P	**Pn**	**06 47 41.6**	**+3.5**
KNRA	**Kununurra**	**7.93**	**148**	P	**Pn**	**06 47 43.5**	**+1.5**
KDU	**Kakadu**	**8.73**	**116**	P	**Pn**	**06 47 55.6**	**+2.6**
FITZ	**Fitzroy Crossi**	**9.19**	**173**	Pn	**Pn**	**06 47 58.0**	**-1.3**
1.2nm,0.3s,baz=360,slow=19,SNR=12							
FITZ				Sn	**Sn**	**06 49 35.0**	**-6.5**
1.5nm,0.3s,baz=194,slow=17,SNR=12							
WRA	**Warramunga Arr**	**14.55**	**140**	Pn	**Pn**	**06 49 10.6**	**-1.7**
0.3nm,0.3s,baz=321,slow=13,SNR=12							
WRA				Sn	Sn	06 51 43.3	-9.1
0.9nm,0.3s,baz=320,slow=27,SNR=12							
WRAB	**Tennant Creek**	**14.55**	**140**	P	**Pn**	**06 49 11.7**	**-0.6**
WRKA	**Warakurna**	**16.44**	**168**	P	**Pn**	**06 49 35.4**	**-1.3**
ASAR	**Alice Springs**	**17.23**	**149**	P	**Pn**	**06 49 45.0**	**-1.5**
0.1nm,0.3s,baz=322,slow=12,SNR=23							
ASAR				S	Sn	06 52 45.4	-12
0.1nm,0.3s,baz=331,slow=13,SNR=1.9							
MKAR	**Makanchi Array**	**66.96**	**330**	P	**P**	**06 56 33.5**	**-3.2**
0.3nm,0.5s,baz=132,slow=7.3,SNR=6.3							
QSPA	**South Pole Qui**	**81.07**	**180**	LR	LR	07 32 10.1	
comp=Z,55nm,21.0s,baz=242,slow=34							

*IDC **16** 07:24:59.0±1.8, 19°.54S×178°.40W, h580km±19km, mb2.8/4, mb1 3.1/5, mb1mx2.9/21, mbtmp3.7/5, Error ellipse: s-maj=39.1km s-min=23.9km az=154.0*
ISC 16 07:24:59.7±1.0, 19°.65±0°.2×178°.5W±0°.2, h600km, n7, σ1$57/8, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.75**	**299**	P	**P**	**07 26 21.7**	**-2.0**
1.1nm,0.3s,baz=162,slow=23,SNR=7.4							
RAO	**Raoul Island**	**9.63**	**177**	P	**P**	**07 27 14.2**	**-0.5**
82nm,0.3s,baz=87,slow=22,SNR=2.2							
WRA	**Warramunga Arr**	**44.26**	**261**	P	**P**	**07 32 19.0**	**+1.2**
0.6nm,0.3s,baz=96,slow=7.6,SNR=24							
ASAR	**Alice Springs**	**44.27**	**256**	P	**P**	**07 32 19.1**	**+1.4**
1.9nm,0.7s,baz=96,slow=7.6,SNR=26							
ASAR				PcP	**PcP**	**07 33 49.5**	**+0.7**
0.2nm,0.6s,baz=97,slow=3.7,SNR=1.8							
TXAR	**Lajitas Array**	**86.97**	**58**	P	**P**	**07 36 43.0**	**+0.3**
0.2nm,0.6s,baz=223,slow=4.6,SNR=2.7							
ILAR	**Eielson Array**	**87.54**	**13**	P	**P**	**07 36 45.5**	**+1.2**
0.2nm,0.5s,baz=216,slow=5.8,SNR=4.7							
AKASG	**Malin Array Be**	**141.99**	**331**	PKP	**PKPdf**	**07 43 22.5**	**-1.7**
0.6nm,0.4s,baz=44,slow=3.9,SNR=6.4							

IDC 16 07:37:50.3±4.6, 17°.62S×178°.44W, h538km±22km, mb2.9/3, mb1 3.1/4, mb1mx2.5/33, mbtmp3.8/4, Error ellipse: s-maj=129.4km s-min=72.3km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.35**	**268**	P	P	07 39 06.6	0.0
1.0nm,0.3s,baz=125,slow=13,SNR=13							
STKA	**Stephens Creek**	**38.74**	**241**	P	P	07 44 28.8	+0.2
0.6nm,0.4s,baz=60,slow=8.1,SNR=4.4							
WRA	**Warramunga Arr**	**44.66**	**259**	P	P	07 45 14.9	-0.6
0.3nm,0.7s,baz=97,slow=6.9,SNR=7.9							
ASAR	**Alice Springs**	**44.84**	**254**	P	P	07 45 16.8	-0.1
3.7nm,0.5s,baz=89,slow=8.2,SNR=91							
ASAR				PcP	PcP	07 46 47.0	-0.2
0.4nm,0.6s,baz=104,slow=4.0,SNR=7.0							

*DDA **16** 08:12:11.6±0.0, 37°.96N×43°.00E, h7km±2km, ML2.4*
*ISK **16** 08:12:11.7, 37°.97N×42°.97E, h1km, ML2.7/8*
ISC 16 08:12:12.7±1.1, 37°.99N±0°.03×43°.02E±0°.03, h8km±10km, n17, σ0$98/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.33**	**5**	P	**Pg**	**08 12 18.5**	**-0.7**
GEVA				S	**Sg**	**08 12 23.9**	**+0.3**
GEVA				*i* AML	AML	08 12 24.0	
comp=E,801nm,0.4s							
GEVA				*i* AML	AML	08 12 25.0	
comp=N,504nm,0.3s							
PERV	**Siirt/Pervari-**	**0.38**	**264**	P	**Pg**	**08 12 19.4**	**-0.8**
PERV				S	**Sg**	**08 12 24.7**	**-0.5**
TVAN	**Van**	**0.62**	**29**	P	**Pg**	**08 12 24.1**	**-0.6**
TVAN				S	**Sg**	**08 12 33.8**	**+0.9**
TVAN				*i* AML	AML	08 12 41.0	
comp=E,231nm,0.6s							
TVAN				*i* AML	AML	08 12 42.0	
comp=N,248nm,0.5s							
SIRT	**Sirnak**	**0.67**	**224**	PG	**Pg**	**08 12 24.8**	**-0.8**
SIRT				SG	**Sg**	**08 12 35.2**	**+0.9**
VANB	**Van**	**0.67**	**25**	PG	**Pg**	**08 12 24.9**	**-0.8**
HAKT	**HAKKARI**	**0.69**	**128**	P	**Pg**	**08 12 25.2**	**-0.8**
HAKT				*i* AML	AML	08 12 39.0	
comp=E,146nm,0.3s							
HAKT				*i* AML	AML	08 12 39.0	
comp=N,210nm,0.4s							
HAKT				S	**Sn**	**08 12 39.1**	**-0.8**
BLIS	**Bitlis-Merkez**	**0.83**	**301**	P	**Pg**	**08 12 27.5**	**-1.2**
BLIS				S	**Sb**	**08 12 40.9**	**-0.1**
BLIS				*i* AML	AML	08 12 42.0	
comp=E,117nm,0.7s							
BLIS				*i* AML	AML	08 12 45.0	
comp=N,128nm,0.4s							
ADCV	**BITLIS_Adilcev**	**0.85**	**344**	P	**Pg**	**08 12 28.7**	**-0.5**
ADCV				S	**Sb**	**08 12 41.5**	**-0.1**
ADCV				*i* AML	AML	08 12 45.0	
comp=N,114nm,0.5s							
ADCV				*i* AML	AML	08 12 47.0	
comp=E,90nm,0.6s							
CUKT	**Cukurca**	**0.87**	**148**	PG	**Pg**	**08 12 29.1**	**-0.3**
GURO	**Guroymak-BITLI**	**0.96**	**306**	PG	**Pg**	**08 12 29.5**	**-1.7**
GURO				SG	**Sb**	**08 12 44.6**	**0.0**
BTMN	**Batman**	**1.39**	**267**	P	**Pb**	**08 12 38.8**	**-0.1**
BTMN				S	**Sg**	**08 12 59.3**	**+2.0**
MUSM	**Mu-Merkez**	**1.40**	**302**	P	**Pn**	**08 12 37.6**	**-0.9**
MUSM				S	**Sg**	**08 12 59.8**	**+2.2**
MUSM				*i* AML	AML	08 13 01.0	
comp=N,50nm,0.5s							
MUSM				*i* AML	AML	08 13 02.0	
comp=E,58nm,0.6s							
SVAN	**Silvan-Diyarba**	**1.45**	**277**	PN	**Pn**	**08 12 39.2**	**0.0**
SVAN	**Silvan-Diyarba**	**1.45**	**277**	P	**Pb**	**08 12 40.0**	**+0.1**
SVAN				S	**Sg**	**08 13 00.4**	**+1.1**
SVAN				*i* AML	AML	08 13 01.0	
comp=N,101nm,0.5s							
SVAN				*i* AML	AML	08 13 02.0	
comp=E,44nm,0.6s							
AGRB	**Hanur-Agry**	**1.59**	**359**	PN	**Pb**	**08 12 42.6**	**+0.2**
BNGB	**Bingl**	**2.10**	**299**	PN	**Pn**	**08 12 49.0**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.96**	**279**	PN	**Pn**	**08 13 00.9**	**+0.9**

WEL 16 08:26:43.4±1.2, 47°S±7°.×17°0E±°, h12km, M3.5/6, ML3.6/10, MLv3.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=146.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYZ	**Scrubby Hill**	**0.68**	**300**	P	Pb	08 26 57.5	+0.3
SYZ				S	Sb	08 27 07.3	+0.8
TUZ	**Tuapeka**	**0.96**	**345**	P	Pg	08 27 01.9	0.0
TUZ				S	Sb	08 27 15.2	+0.6
HHSZ	**Highcliff Hill**	**1.08**	**23**	P	Pg	08 27 04.2	0.0
HHSZ				S	Sg	08 27 18.7	+0.3
APZ	**The Paps**	**1.37**	**271**	P	Pn	08 27 06.7	-1.7
APZ				S	Sn	08 27 26.4	-0.1
EAZ	**Earnscleugh**	**1.72**	**344**	P	Pn	08 27 13.3	+0.1
WHZ	**Wether Hill Ro**	**1.73**	**304**	P	Pn	08 27 12.8	-0.4
ODZ	**Otahua Downs**	**1.90**	**14**	P	Pn	08 27 15.1	-0.5
MLZ	**Mavora Lakes**	**2.00**	**319**	P	Pn	08 27 17.1	+0.1
WKZ	**Wanaka**	**2.17**	**341**	P	Pn	08 27 20.8	+1.5
PYZ	**Puysegur Point**	**2.39**	**286**	P	Pn	08 27 21.8	-0.6
DCZ	**Deep Cove**	**2.43**	**305**	P	Pn	08 27 23.1	+0.3
LBZ	**Lake Benmore**	**2.50**	**3**	P	Pn	08 27 24.3	+0.4
LBZ				S	Sn	08 27 53.4	-0.9
TMZ	**Timaru**	**2.60**	**16**	P	Pn	08 27 25.6	+0.3
MSZ	**Milford Sound**	**2.64**	**326**	P	Pb	08 27 28.2	-2.3
JCZ	**Jackson Bay**	**2.93**	**343**	P	Pn	08 27 31.5	+1.6
ARCZ	**Arundel**	**3.05**	**16**	P	Pn	08 27 31.4	-0.1
WACZ	**Wakanui South**	**3.22**	**25**	P	Pn	08 27 33.5	-0.2
RPZ	**Rata Peaks**	**3.26**	**14**	P	Pn	08 27 34.7	+0.4
RACZ	**Rakaia**	**3.50**	**26**	P	Pn	08 27 36.9	-0.7
MHCZ	**Mount Hutt**	**3.53**	**19**	P	Pn	08 27 37.5	-0.6
MQZ	**McQueen's Vall**	**3.69**	**32**	P	Pn	08 27 39.5	-0.7
OKCZ	**Okains Bay**	**3.83**	**36**	P	Pn	08 27 41.8	-0.4
OXZ	**Oxford**	**3.84**	**23**	P	Pn	08 27 42.0	-0.3
INZ	**Inchbonnie**	**4.28**	**15**	P	Pn	08 27 48.9	+0.5
LTZ	**Lake Taylor**	**4.41**	**22**	P	Pn	08 27 50.0	-0.2
KHZ	**Kahutara**	**5.13**	**31**	P	Pn	08 27 59.7	-0.3
THZ	**Tophouse**	**5.53**	**23**	P	Pn	08 28 05.5	-0.1
CAW	**Cannon Point**	**6.83**	**34**	P	Pn	08 28 22.5	-0.9
TIWZ	**Tintock**	**7.44**	**37**	P	Pn	08 28 35.1	+3.3

*IDC **16** 08:30:46.2±2.1, 8°.10S×128°.30E, h0km, mb3.3/1, mb1 3.8/5, mb1mx3.4/34, mbtmp3.6/5, ML3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/28, Error ellipse: s-maj=39.8km s-min=29.9km az=75.0*
ISC 16 08:30:51.7±1.6, 8°.2S±0°.1×128°.3E±0°.1, h44km, n5, σ1$24/9, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.00**	**246**	Pn	**Pn**	**08 32 03.4**	**-0.9**
5.7nm,0.3s,baz=98,slow=15,SNR=3.8							
BATI				Sn	**Sn**	**08 33 02.2**	**+1.3**
5.3nm,0.3s,baz=271,slow=23,SNR=2.0							
FITZ	**Fitzroy Crossi**	**10.20**	**194**	Pn	**Pn**	**08 33 15.2**	**-0.4**
baz=14,slow=14							
FITZ				Sn	**Sn**	**08 35 07.5**	**-1.1**
0.5nm,0.3s,baz=17,slow=20,SNR=2.7							
WRA	**Warramunga Arr**	**13.08**	**154**	Pn	**Pn**	**08 33 53.6**	**-1.4**
0.3nm,0.3s,baz=334,slow=13,SNR=18							
WRA				Sn	**Sn**	**08 36 20.8**	**+1.7**
0.6nm,0.3s,baz=333,slow=22,SNR=8.9							
ASAR	**Alice Springs**	**16.31**	**161**	Pn	**Pn**	**08 34 38.3**	**+0.5**
0.1nm,0.3s,baz=337,slow=9.7,SNR=11							
ASAR				Sn	**Sn**	**08 37 38.4**	**+0.5**
0.1nm,0.3s,baz=343,slow=25,SNR=4.5							
ASAR				LR	LR	08 41 43.1	
comp=Z,53nm,20.3s,baz=2.5,slow=40							
MKAR	**Makanchi Array**	**68.30**	**328**	P	**P**	**08 41 48.8**	**+0.5**
0.2nm,0.7s,baz=141,slow=4.8,SNR=3.0							

*CNRM **16** 08:33:33.0, 36°.04N×7°.97W, h56km, ml3.0*
*IGIL **16** 08:33:35.8, 36°.09N×7°.99W, h30km, ML2.2*
*INMG **16** 08:33:35.8±1.4, 36°.14N×7°.96W, h24km±8km, ML2.3, Error ellipse: s-maj=7.5km s-min=3.0km az=38.0*
ISC 16 08:33:33.1±2.3, 36°.08N±0°.04×7°.91W±0°.05, h31km±20km, n33, σ1$05/61, 9D, Strait of Gibraltar

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

PNCL	**Nicolau / Gran**	**2.09 346**	*e*Pn	**Pn**	**08 34 06.7**	**+0.7**
PNCL			*e*Sn	**Sn**	**08 34 30.0**	**-1.0**
PNCL			A	A	08 34 41.4	
	comp=N,8.8nm,0.5s					
SMIR	**Smir Dam**	**2.09 100**	P	**Pn**	**08 34 07.9**	**+1.9**
SMIR			S	**Sn**	**08 34 32.3**	**+1.3**
PBAR	**Barrancos**	**2.21 18**	*e*Pn	**Pn**	**08 34 08.7**	**+1.1**
PBAR			*e*Sn	**Sn**	**08 34 33.4**	**-0.4**
PBAR			A	A	08 34 49.1	
	comp=N,18nm,0.6s					
EVO	**Evora**	**2.45 358**	*e*Pn	**Pn**	**08 34 11.9**	**+0.9**
EVO			*e*Sn	**Sn**	**08 34 39.1**	**-0.8**
EVO			A	A	08 34 43.0	
	comp=N,12nm,0.1s					
PESTR	**Estremoz**	**2.79 5**	*e*Pn	**Pn**	**08 34 16.9**	**+1.2**
PESTR			*e*Sn	**Sn**	**08 34 48.3**	**-0.1**
PESTR			A	A	08 35 09.1	
	comp=N,4.7nm,0.5s					
PESTR	**Estremoz**	**2.79 5**	P	**Pn**	**08 34 15.4**	**-0.4**
PESTR			S	**Sn**	**08 34 49.3**	**+0.8**
ZHG	**ZHG**	**2.83 158**	P	**Pn**	**08 34 18.2**	**+2.0**
PMTG	**Montargil**	**3.00 355**	*e*Pn	**Pn**	**08 34 19.3**	**+0.8**
PMTG			*e*Sn	**Sn**	**08 34 51.8**	**-1.5**
PMTG			A	A	08 34 54.2	
	comp=N,6.2nm,0.1s					
PMAFR	**Mafra**	**3.07 340**	*e*Pn	**Pn**	**08 34 20.9**	**+1.4**
PMAFR			*e*Sn	**Sn**	**08 34 55.3**	**+0.1**
PMRV	**Marv??o**	**3.37 7**	*e*Pn	**Pn**	**08 34 24.6**	**+1.0**
PMRV			*e*Sn	**Sn**	**08 35 00.8**	**-1.8**
PMRV			A	A	08 35 03.0	
	comp=N,3.7nm,0.2s					
PSBE	**So Bento**	**3.50 349**	*e*Pn	**Pn**	**08 34 26.6**	**+1.1**
PSBE			*e*Sn	**Sn**	**08 35 04.2**	**-1.6**
PSBE			A	A	08 35 07.5	
	comp=N,5.7nm,0.5s					
PCAS	**Casmilo, Conde**	**4.00 353**	*e*Pn	**Pn**	**08 34 32.6**	**+0.4**
MD31	**MD31**	**4.13 140**	P	**Pn**	**08 34 35.6**	**+1.4**
MD31			S	**Sn**	**08 35 19.2**	**-2.2**
MDT	**Midelt**	**4.25 139**	P	**Pn**	**08 34 36.3**	**+0.5**
MDT			S	**Sn**	**08 35 22.7**	**-1.7**
MTE	**Manteigas**	**4.32 4**	*e*Sn	**Sn**	**08 35 24.9**	**-1.3**
JBK	**JBK**	**4.71 110**	P	**Pn**	**08 34 42.1**	**-0.1**
JBK			S	**Sn**	**08 35 33.6**	**-2.3**
OUK	**Oukaimeden**	**4.86 180**	P	**Pn**	**08 34 44.5**	**+0.1**
OUK			S	**Sn**	**08 35 39.4**	**-0.4**
OUZM	**OUZ**	**5.25 169**	P	**Pn**	**08 34 50.0**	**+0.5**
OUZM			S	**Sn**	**08 35 48.7**	**-0.3**
POLO	**Lamas de Olo**	**5.29 1**	*e*Pn	**Pn**	**08 34 50.9**	**+0.8**
POLO			*e*Sn	**Sn**	**08 35 48.8**	**-1.2**
POLO			A	A	08 35 50.4	
	comp=N,0.7nm,0.2s					
PBRG	**Braganca**	**5.79 9**	*e*Pn	**Pn**	**08 34 57.7**	**+0.8**
PGAV	**Gavieira, Arco**	**5.88 357**	*e*Pn	**Pn**	**08 34 59.3**	**+1.0**

TEH 16 08:54:14.5, 35°.49N×57°.30E, h9km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBZV	**Sabzevar**	**0.94**	**15**	*e*Pg	Pn	08 54 33.9	-0.1
SHRO	**Shahrood**	**1.17**	**296**	*e*Pg	Pn	08 54 37.8	+0.7
IAKL	**Akhelmad**	**1.62**	**46**	*e*Pn	Pg	08 54 45.3	-0.3
IAKL				*e*		08 54 48.5	
	comp=Z,3μm,0.2s						
TNSJ	**Nastanj**	**1.62**	**201**	*e*Pg	Pg	08 54 45.8	+0.2
ISFR	**Sfrayin**	**1.66**	**20**	*e*Pg	Pg	08 54 46.6	+0.2
ISFR				*e*		08 54 49.0	
	comp=Z,6μm,0.2s						
IPAY	**Payeh**	**1.68**	**54**	*e*Pg	Pg	08 54 47.0	+0.3
IPAY				*e*		08 54 49.9	
	comp=Z,4μm,0.1s						
IMOG	**Moghan**	**1.77**	**69**	*e*Pn	Pg	08 54 48.0	-0.4
IMOG				*e*		08 54 50.4	
	comp=Z,3μm,0.4s						
TABS	**Tabas**	**1.84**	**185**	*e*Pn	Pg	08 54 49.3	-0.5
TKDS	**Koohdasht(Taba**	**1.87**	**185**	*e*Pn	Pb	08 54 49.4	+0.5
TKDS				*e*		08 55 25.8	
	comp=Z,3μm,0.5s						
IKRD	**Kardeh**	**2.21**	**54**	*e*Pn	Pb	08 54 55.0	+0.3
IKRD				*e*		08 55 03.7	
	comp=Z,2μm,0.3s						
IEMG	**Emamgholi**	**2.21**	**29**	*e*Pn	Pb	08 54 55.1	+0.3
IMND	**Minoodasht**	**2.34**	**320**	*e*Pn	Pb	08 54 55.3	-1.5
MRVT	**Maraveh tapeh**	**2.38**	**336**	*e*Pn	Pb	08 54 56.3	-1.3
IMYA	**Miami**	**2.43**	**69**	*e*Pn	Pb	08 54 57.7	-0.7
TBJM	**Torbat-e-JAM**	**2.48**	**94**	*e*Pn	Pb	08 54 58.2	-1.2
TBJM				*e*		08 55 06.3	
	comp=Z,2μm,0.3s						
AFRZ	**Afriz**	**2.49**	**145**	*e*Pn	Pb	08 54 58.4	-1.1
TPRV	**Parvadeh(Tabas**	**2.50**	**192**	*e*Pn	Pb	08 54 58.2	-1.5
TPRV				*e*		08 55 43.5	
	comp=Z,4μm,0.4s						
JRKH	**Jarkhoshk**	**2.51**	**79**	*e*Pn	Pb	08 54 59.6	-0.3
IANJ	**Anjilo**	**2.77**	**271**	*e*		08 55 12.0	
	comp=Z,1μm,0.2s						
IANJ				*e*Pn	Pb	08 55 02.8	-1.4
ITEG	**Tejag**	**2.85**	**155**	*e*Pn	Pb	08 55 03.5	-2.1
ITEG				*e*		08 55 54.3	
	comp=Z,2μm,0.7s						
IGLO	**Ghaloghah**	**2.99**	**291**	*e*Pn	Pb	08 55 06.4	-1.7
IGLO				*e*		08 56 08.5	
	comp=Z,942nm,0.8s						
IMON	**Monand**	**3.01**	**139**	*e*		08 55 15.6	
	comp=Z,1μm,0.2s						
IMON				*e*Pn	Pb	08 55 05.8	-2.6
SHRT	**Shahrakht**	**3.07**	**126**	*e*Pn	Pn	08 55 06.3	+3.0
ISHM	**Shahmirzad**	**3.28**	**277**	*e*Pn	Pb	08 55 09.9	-3.2
ISHM				*e*		08 56 11.7	
	comp=Z,1μm,0.4s						
IKOO	**Kooshah**	**3.36**	**155**	*e*Pn	Pb	08 55 11.0	-3.4
IKOO				*e*		08 56 13.5	
	comp=N,902nm,0.4s						
IDAH	**Dahanechah**	**3.47**	**141**	*e*Pn	Pb	08 55 12.8	-3.4
ILAS	**Lasjerd**	**3.55**	**270**	*e*Pn	Pn	08 55 13.5	+3.5
ILAS				*e*		08 55 27.3	
	comp=Z,778nm,0.3s						
ANAR	**Anarak**	**3.74**	**233**	*e*Pn	Pn	08 55 14.3	+1.8
YZKH	**Yazd**	**3.82**	**217**	*e*Pn	Pn	08 55 16.6	+3.0
BSRN	**Basiran**	**3.83**	**156**	*e*Pn	Pn	08 55 16.7	+3.0
ICHK	**Chekchek**	**4.03**	**218**	*e*Pn	Pn	08 55 20.0	+3.4
IPRN	**Peran**	**4.10**	**282**	*e*Pn	Pn	08 55 21.1	+3.6
ISFB	**Sefidab**	**4.31**	**256**	*e*Pn	Pn	08 55 22.6	+2.3
ISFB				*e*		08 56 52.4	
	comp=Z,268nm,0.6s						
DAMV	**Damavand**	**4.35**	**273**	*e*Pn	Pn	08 55 23.7	+2.7
KRSH	**Karshahi**	**4.52**	**252**	*e*Pn	Pn	08 55 25.4	+2.2
IVRN	**Varamin**	**4.59**	**265**	*e*Pn	Pn	08 55 26.7	+2.6
IVRN				*e*		08 55 46.4	
	comp=Z,234nm,0.5s						
NASN	**Na'in**	**4.59**	**236**	*e*Pn	Pn	08 55 27.1	+2.7
GHVR	**GHOM**	**5.03**	**260**	*e*Pn	Pn	08 55 33.6	+3.4
IKLH	**Kolahrood**	**5.20**	**247**	*e*Pn	Pn	08 55 35.5	+2.8
ASAO	**Ashtian**	**6.05**	**263**	*e*Pn	Pn	08 55 47.1	+2.8
KHMZ	**Khomeyn**	**6.30**	**256**	*e*Pn	Pn	08 55 51.8	+4.0

NNC 16 08:58:44.0±10.0, 37°.00N×70°.82E, h0km, mb3.5, mpv3.2, 2C-2D, Error ellipse: s-maj=98.2km s-min=80.6km az=136.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.11**	**358**	⇑P	Pn	09 00 15.3	-0.3
	1.0nm,0.3s						
KK02				⇓S	Sn	09 01 26.7	+0.6
	0.8nm,0.6s						
AAK	**Ala-Archa**	**6.31**	**26**	⇑P	Pn	09 00 17.5	-0.9
	1.2nm,0.7s						
AAK				⇓S	Sn	09 01 33.3	+2.0
	1.7nm,0.6s						
AB31	**Akbulak array**	**14.58**	**331**	P	Pn	09 02 14.0	+2.5
	0.8nm,0.9s,baz=69,slow=0.9,SNR=3.6						

IDC 16 09:04:14.3±5.5, 61°.11N×28°.31W, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/33, mbtmp3.2/3, Error ellipse: s-maj=177.6km s-min=36.9km az=176.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**37.93**	**311**	P	P	09 11 32.7	-0.1
	0.2nm,0.7s,baz=50,slow=9.2,SNR=2.1						
PDAR	**Pinedale Array**	**49.77**	**288**	P	P	09 13 08.4	-0.1
	0.3nm,0.8s,baz=59,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**58.81**	**49**	P	P	09 14 13.9	-0.1
	0.4nm,0.7s,baz=325,slow=5.9,SNR=4.6						

*NEIC **16** 09:05:57.0±2.1, 31°.49S±0°.10×179°.9E±0°.2, h414km±7km, mb4.3/29, Error ellipse: s-maj=21.3km s-min=13.8km az=94.0*
*IDC **16** 09:05:57.6±0.8, 31°.35S×179°.76E, h428km±8km, mb3.6/7, mb1 3.7/9, mb1mx3.3/27, mbtmp4.4/9, Error ellipse: s-maj=16.1km s-min=14.7km az=117.0*
*WEL **16** 09:06:02.1±0.7, 32°.S±8°.×17°.9W±1°.9, h363km±10km, M4.6/31, mB5.1/26, MLv5.4/31, Mw(mB)4.5/26, Error ellipse: s-maj=0.0km s-min=0.0km az=110.9*

ISC 16 09:05:55.3±0.5, 31°.48S±0°.05×179°.80E±0°.09, h400km, n150, σ2°.24/176, mb4.2/19, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.96**	**42**	P	**Pn**	**09 07 00.5**	**+2.2**
GLKZ				S	**S**	**09 07 52.4**	**+3.3**
RIZ	**Raoul Island**	**2.97**	**42**	P	**Pn**	**09 07 01.5**	**+3.2**
RIZ				S	**S**	**09 07 49.9**	**+0.6**
RAO	**Raoul Island**	**2.97**	**42**	P	**Pn**	**09 07 01.8**	**+3.4**
	208nm,0.3s,baz=262,slow=21,SNR=4.8						
RAO				S	**S**	**09 07 54.6**	**+5.3**
	177nm,0.3s,baz=82,slow=22,SNR=6.4						
RAO	**Raoul Island**	**2.97**	**42**	P	**Pn**	**09 07 00.6**	**+2.3**
RAO				S	**S**	**09 07 51.6**	**+2.4**
GRZ	**Great Barrier**	**5.97**	**216**	P	Pn	09 07 32.8	+5.3
MXZ	**Matakaoa Point**	**6.20**	**191**	P	**Pn**	**09 07 32.9**	**+3.0**
MXZ				S	**S**	**09 08 47.0**	**-0.1**
MXZ	**Matakaoa Point**	**6.20**	**191**		**Pn**	**09 07 31.9**	**+2.0**
MXZ				S	**S**	**09 08 48.9**	**+1.8**
KUZ	**Kuaotunu**	**6.25**	**212**	P	Pn	09 07 36.2	+5.7
OUZ	**Omahuta**	**6.39**	**233**		Pn	09 07 37.9	+5.8
WIZ	**White Island**	**6.41**	**199**	P	Pn	09 07 37.5	+5.3
WIZ				S	**S**	**09 08 55.6**	**+4.2**
WMGZ	**Waiomatatini S**	**6.43**	**190**	P	**Pn**	**09 07 36.8**	**+4.3**
WMGZ				S	**S**	**09 08 51.8**	**0.0**
HAZ	**Te Kaha**	**6.48**	**194**	P	**Pn**	**09 07 36.0**	**+3.0**
HAZ				S	**S**	**09 08 52.4**	**-0.5**
PKGZ	**Pakihiroa**	**6.55**	**192**	P	**P**	**09 07 37.7**	**+3.2**
PKGZ				S	**S**	**09 08 52.7**	**-1.7**
PUZ	**Puketiti**	**6.70**	**190**	P	**P**	**09 07 38.9**	**+2.8**
PUZ				S	**S**	**09 08 56.6**	**-0.8**
RUGZ	**Raukumara Rang**	**6.71**	**194**	P	**P**	**09 07 38.6**	**+2.3**
RUGZ				S	**S**	**09 08 58.5**	**+0.9**
WHRZ	**Whale Island**	**6.78**	**199**	P	P	09 07 43.0	+6.1
WHRZ				S	**S**	**09 08 57.2**	**-1.7**
TWGZ	**Tauwhareparae**	**6.85**	**192**	P	**P**	**09 07 40.4**	**+2.6**
TWGZ				S	**S**	**09 09 02.0**	**+1.6**
OPRZ	**Ohinepanea**	**6.89**	**202**	P	**P**	**09 07 43.0**	**+4.8**
OPRZ				S	**S**	**09 09 05.5**	**+4.3**
EDRZ	**Edgecumbe**	**7.08**	**200**	P	**P**	**09 07 44.8**	**+4.5**
MWZ	**Matawai**	**7.09**	**195**	P	**P**	**09 07 42.0**	**+1.5**
KMRZ	**Kaimai**	**7.10**	**205**	P	P	09 07 46.3	+5.7
CNGZ	**Carnagh Statio**	**7.11**	**190**	P	**P**	**09 07 43.0**	**+2.3**
URZ	**Urewera**	**7.12**	**197**	P	**P**	**09 07 41.2**	**+0.5**
TKGZ	**Te Karaka**	**7.13**	**192**	P	**P**	**09 07 43.6**	**+2.8**
KARZ	**Kaharoa**	**7.15**	**203**	P	P	09 07 46.2	+5.1
MKRZ	**Makatiti**	**7.19**	**201**	P	P	09 07 47.0	+5.3
OMRZ	**Omania**	**7.19**	**202**	P	P	09 07 47.0	+5.4
TARZ	**Mount Tarawera**	**7.27**	**201**	P	**P**	**09 07 46.9**	**+4.4**
RAGZ	**Rawiri**	**7.27**	**195**	P	**P**	**09 07 45.3**	**+2.8**
UTU	**Utuhina**	**7.31**	**203**	P	P	09 07 48.9	+6.0
RRRZ	**Republican Roa**	**7.36**	**201**	P	**P**	**09 07 48.1**	**+4.7**
RIGZ	**Rimuhau**	**7.40**	**192**	P	**P**	**09 07 46.5**	**+2.5**
MUGZ	**Murupara**	**7.41**	**199**	P	**P**	**09 07 45.5**	**+1.5**
HSRZ	**Hossack Road**	**7.42**	**202**	P	P	09 07 49.3	+5.3
HRRZ	**Handcock Road**	**7.48**	**202**	P	**P**	**09 07 48.9**	**+4.1**
GRRZ	**Galatos Road**	**7.50**	**203**	P	P	09 07 49.9	+4.9
PRRZ	**Plateau Road**	**7.54**	**201**	P	**P**	**09 07 48.7**	**+3.3**
ALRZ	**Allen Road**	**7.62**	**201**	P	**P**	**09 07 49.4**	**+3.1**
WPRZ	**Whakapapatarin**	**7.63**	**202**	P	**P**	**09 07 50.4**	**+3.9**
TLZ	**Tolley Road**	**7.68**	**206**	P	**P**	**09 07 50.5**	**+3.5**
MTHZ	**Maungataniwha**	**7.75**	**197**	P	**P**	**09 07 50.3**	**+2.5**
RAHZ	**Arahi**	**7.75**	**196**	P	**P**	**09 07 50.1**	**+2.4**
MRHZ	**Matea Rd**	**7.84**	**200**	P	**P**	**09 07 50.8**	**+1.9**
MRHZ				S	**S**	**09 09 20.2**	**-0.9**
RATZ	**Rangitukua**	**8.07**	**203**	P	**P**	**09 07 54.7**	**+3.3**
HIZ	**Hauiti**	**8.11**	**209**	P	**P**	**09 07 55.9**	**+4.2**
RITZ	**Rihia Road**	**8.15**	**202**	P	**P**	**09 07 55.3**	**+3.1**
RITZ				S	**S**	**09 09 28.5**	**+1.1**
KATZ	**Kakaramea**	**8.20**	**203**	P	**P**	**09 07 55.9**	**+3.0**
NTVZ	**North Tongarir**	**8.32**	**203**	P	**P**	**09 07 56.6**	**+2.4**
TMVZ	**Te Maari**	**8.32**	**203**	P	**P**	**09 07 56.1**	**+1.8**
KRVZ	**Karewarewa**	**8.32**	**203**	P	**P**	**09 07 57.0**	**+2.7**
ETVZ	**East Tongariro**	**8.34**	**202**	P	**P**	**09 07 55.2**	**+0.7**
MCHZ	**McNeill Hill**	**8.34**	**197**	P	**P**	**09 07 54.5**	**+0.2**
MCHZ				S	**S**	**09 09 31.9**	**+0.5**
WTVZ	**West Tongariro**	**8.36**	**203**	P	**P**	**09 07 57.2**	**+2.5**
WTVZ				S	**S**	**09 09 32.6**	**+0.6**
NNVZ	**North Ngauruho**	**8.37**	**203**	P	**P**	**09 07 57.0**	**+2.3**
TWVZ	**Taurewa**	**8.37**	**204**	P	**P**	**09 07 56.9**	**+2.2**
KWHZ	**Kaweka Forest**	**8.39**	**198**	P	**P**	**09 07 55.0**	**0.0**
KWHZ				S	**S**	**09 09 30.2**	**-2.5**
NGZ	**Ngauruhoe**	**8.41**	**203**	P	**P**	**09 07 57.6**	**+2.3**
NGZ				S	**S**	**09 09 34.3**	**+1.2**
TUVZ	**Tukino**	**8.48**	**202**	P	**P**	**09 07 58.2**	**+2.2**
TUVZ				S	**S**	**09 09 30.1**	**-4.5**
FWVZ	**Far West T-bar**	**8.50**	**203**	P	**P**	**09 07 58.8**	**+2.4**
FWVZ				S	**S**	**09 09 32.4**	**-2.8**
WHVZ	**Whangaehu Hut**	**8.51**	**203**	P	**P**	**09 07 59.4**	**+2.5**
WHVZ				S	**S**	**09 09 36.7**	**+1.2**
TRVZ	**Turoa**	**8.54**	**203**	P	**P**	**09 07 59.4**	**+2.6**
TRVZ				S	**S**	**09 09 33.0**	**-3.0**
WNVZ	**Wahianoa**	**8.55**	**202**	P	**P**	**09 07 56.9**	**+0.1**
WNVZ				S	**S**	**09 09 33.7**	**-2.4**
BHHZ	**Black Hill Sta**	**8.55**	**200**	P	**Pn**	**09 07 55.9**	**-0.6**
BHHZ				S	**S**	**09 09 29.6**	**-6.5**
MOVZ	**Moawhango**	**8.57**	**201**	P	**P**	**09 07 58.6**	**+1.7**
MOVZ				S	**S**	**09 09 31.4**	**-5.1**
PKVZ	**Pokaka**	**8.60**	**204**	P	**P**	**09 07 58.2**	**+0.9**
PKVZ				S	**S**	**09 09 37.1**	**+0.1**
KRHZ	**Kereru**	**8.61**	**198**	P	**Pn**	**09 07 56.6**	**-0.6**
KRHZ				S	**S**	**09 09 30.7**	**-6.6**
KAHZ	**Kahuranaki**	**8.63**	**195**	P	**P**	**09 07 59.1**	**+1.5**
KAHZ				S	**S**	**09 09 36.7**	**-0.9**
MTVZ	**Mangateitei**	**8.64**	**203**	P	**P**	**09 08 00.0**	**+2.3**
PXZ	**Pawanui**	**8.86**	**195**	P	**P**	**09 08 01.7**	**+1.6**
PXZ				S	**S**	**09 09 39.4**	**-3.1**
PNHZ	**Pukenui**	**8.91**	**198**	P	**Pn**	**09 07 59.4**	**-1.2**
WPHZ	**Waipukurau**	**8.99**	**197**	P	**P**	**09 08 03.8**	**+2.2**
PKE	**Pukeiti**	**9.04**	**210**	P	P	09 08 07.1	+5.0
NEZ	**North Egmont**	**9.06**	**209**	P	**P**	**09 08 07.2**	**+4.8**
LREZ	**Lake Rotokare**	**9.10**	**207**	P	**Pn**	**09 08 06.7**	**+4.0**
TSZ	**Takapari Road**	**9.11**	**199**	P	**P**	**09 08 01.9**	**-1.0**
PRHZ	**Porangahau**	**9.14**	**195**	P	**Pn**	**09 08 04.7**	**+1.5**
WAZ	**Wanganui**	**9.14**	**204**	P	**Pn**	**09 08 04.9**	**+1.7**
NBEZ	**Newall Road No**	**9.16**	**210**	P	Pn	09 08 08.5	+5.1
DVHZ	**Dannevirke**	**9.28**	**197**	P	**Pn**	**09 08 05.7**	**+0.8**
ANWZ	**Angora Road**	**9.36**	**196**	P	**Pn**	**09 08 07.5**	**+1.8**
POWZ	**Post Office Ro**	**9.48**	**199**	P	**Pn**	**09 08 08.2**	**+1.1**
PRWZ	**Pori Road**	**9.57**	**198**	P	**Pn**	**09 08 09.8**	**+1.6**
BFZ	**Birch Farm**	**9.62**	**196**	P	**P**	**09 08 07.6**	**-1.0**
OGWZ	**Otaki Gorge**	**10.04**	**201**	P	**P**	**09 08 12.7**	**-0.4**
PLWZ	**Palliser**	**10.71**	**199**	P	**Pn**	**09 08 23.0**	**+1.5**
KHTZ	**Kahutara**	**12.01**	**203**	P	**Pn**	**09 08 36.1**	**-0.2**
MSVF	**Nonsavu**	**13.77**	**353**	P	**Pn**	**09 08 56.4**	**-0.9**
	0.6nm,0.3s,baz=251,slow=19,SNR=4.9						
DZM	**Mont Dzumac**	**15.15**	**305**	P	**P**	**09 09 11.8**	**+2.2**
	0.6nm,0.3s,baz=196,slow=20,SNR=8.6						
DZM	**Mont Dzumac**	**15.15**	**305**	P	**P**	**09 09 12.7**	**+3.1**
DZM				IAmb	IAmb	09 09 16.7	
	comp=Z,9.1nm,0.8s						
ODZ	**Otahua Downs**	**15.32**	**205**	P	**P**	**09 09 12.2**	**+1.2**
ODZ				IAmb	IAmb	09 09 36.7	
	comp=Z,10nm,1.2s						
SANVU	**Saraoutou**	**19.67**	**321**	P	**P**	**09 09 58.2**	**+1.4**
ARMA	**Armidale**	**24.16**	**265**	P	**P**	**09 10 40.0**	**+2.4**
EIDS	**Eidsvold**	**25.93**	**276**	P	**P**	**09 10 54.7**	**+1.4**
EIDS				IAmb	IAmb	09 11 10.5	
	comp=Z,19nm,1.1s						
CAN	**Canberra**	**25.94**	**253**	P	**P**	**09 10 55.7**	**+2.3**
CAN				IAmb	IAmb	09 10 55.8	
	comp=Z,20nm,1.3s						
TOO	**Toolangi**	**28.80**	**248**	P	**P**	**09 11 19.6**	**+1.1**
CTAO	**Charters Tower**	**32.14**	**283**	P	**P**	**09 11 48.8**	**+1.0**
STKA	**Stephens Creek**	**32.40**	**259**	P	**P**	**09 11 51.1**	**+1.2**
	comp=Z,3.4nm,0.4s,baz=95,slow=11,SNR=12						
STKA	**Stephens Creek**	**32.40**	**259**	P	**P**	**09 11 51.0**	**+1.2**
BBOO	**Buckleboo**	**36.86**	**256**	P	**P**	**09 12 27.5**	**0.0**
BBOO				IAmb	IAmb	09 12 28.6	
	comp=Z,9.5nm,0.9s						
AS31	**Alice Springs**	**41.18**	**269**	P	**P**	**09 13 02.3**	**-0.8**
ASAR	**Alice Springs**	**41.18**	**269**	P	**P**	**09 13 02.4**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=108,slow=7.2,SNR=50						
ASAR				PcP	**PcP**	**09 14 52.0**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=121,slow=3.6,SNR=12						
ASAR				ScP	**ScP**	**09 18 00.7**	**-3.7**
	comp=Z,1.4nm,0.8s,baz=114,slow=4.2,SNR=10						
ASAR	**Alice Springs**	**41.18**	**269**	P	**P**	**09 13 01.8**	**-1.2**
WR0	**Warramunga Arr**	**42.09**	**275**	P	**P**	**09 13 09.5**	**-0.8**
WR0				IAmb	IAmb	09 13 10.9	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**42.26**	**275**	P	**P**	**09 13 10.8**	**-0.8**
WB2				IAmb	IAmb	09 13 12.3	
	comp=Z,8.9nm,0.7s						
WRA	**Warramunga Arr**	**42.27**	**275**	P	**P**	**09 13 10.9**	**-0.8**
	comp=Z,12nm,0.9s,baz=113,slow=7.5,SNR=119						
WRA				PcP	**PcP**	**09 14 55.5**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=116,slow=3.5,SNR=8.8						
WRA				ScP	**ScP**	**09 18 06.0**	**-2.8**
	comp=Z,1.2nm,0.8s,baz=119,slow=4.2,SNR=8.1						
WRA	**Warramunga Arr**	**42.27**	**275**	P	**P**	**09 13 10.9**	**-0.8**
WB0	**Warramunga Arr**	**42.30**	**275**	P	**P**	**09 13 11.1**	**-0.8**
WB0				IAmb	IAmb	09 13 12.6	
	comp=Z,9.1nm,0.7s						
FORT	**Forrest**	**43.95**	**257**	P	**P**	**09 13 24.5**	**-0.3**
SBA	**Scott Base**	**46.84**	**184**	P	**P**	**09 13 45.8**	**-0.6**
SBA				IAmb	IAmb	09 13 49.2	
	comp=Z,30nm,1.4s						
VNDA	**Vanda**	**46.85**	**185**	P	**P**	**09 13 47.8**	**+1.3**
	comp=Z,1.3nm,1.0s,baz=11,slow=7.9,SNR=1.8						
VNDA	**Vanda**	**46.85**	**185**	P	**P**	**09 13 45.8**	**-0.8**
MTN	**Manton Dam**	**48.30**	**281**	P	**P**	**09 13 57.5**	**-1.0**
MTN				PcP	**pP**	**09 15 16.9**	**-0.1**
KNRA	**Kununurra**	**48.92**	**276**	P	**P**	**09 14 02.3**	**-0.7**
KNRA				IAmb	IAmb	09 14 02.9	
	comp=Z,8.3nm,0.9s						
KNRA				PcP	**PcP**	**09 15 20.2**	**-0.2**
FAKI	**Fak Fak**	**52.97**	**293**	P	**P**	**09 14 32.3**	**-0.6**
CASY	**Casey**	**53.30**	**208**	P	**P**	**09 14 34.1**	**-0.4**
CASY				IAmb	IAmb	09 14 34.9	
	comp=Z,9.6nm,0.8s						
PSA00	**Pilbara Seismi**	**53.97**	**265**	P	**P**	**09 14 38.6**	**-1.4**
PSA00				IAmb	IAmb	09 14 44.8	
	comp=Z,21nm,1.5s						
GIRL	**Giralia**	**58.30**	**261**	P	**P**	**09 15 10.5**	**+0.3**
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**09 15 13.5**	**+1.5**
	comp=Z,12nm,0.7s,baz=324,slow=0.3,SNR=74						
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**09 15 13.3**	**+1.4**
QSPA				IAmb	IAmb	09 15 14.3	
	comp=Z,16nm,0.9s						
SNAA	**Sanae**	**77.12**	**179**	P	**P**	**09 17 05.4**	**-0.1**
SNAA				IAmb	IAmb	09 17 33.8	
	comp=Z,13nm,1.2s						
JNU	**Nakatsue**	**79.13**	**320**	P	**P**	**09 17 16.4**	**-0.4**
JNU				IAmb	IAmb	09 17 16.8	
	comp=Z,10nm,0.9s						
KSRS	**Korea Array**	**83.96**	**321**	P	**P**	**09 17 42.0**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=144,slow=5.9,SNR=12						
YSS	**Yuzh-Sakhalins**	**84.91**	**336**	P	**P**	**09 17 47.2**	**+1.0**
PEA0B	**Petropavlovsk-**	**86.40**	**347**	P	**P**	**09 17 53.4**	**+0.2**
PETK	**Petropavlovsk-**	**86.40**	**347**	P	**P**	**09 17 53.2**	**0.0**
	comp=Z,1.4nm,0.6s,baz=105,slow=7.8,SNR=9.0						
PETK	**Petropavlovsk-**	**86.40**	**347**	P	**P**	**09 17

BATI Sn **Sn** **09 28 41.2 +1.6**
5.0nm,0.3s,baz=254,slow=22,SNR=1.9
FITZ Fitzroy Crossi 11.46 141 Pn **Pn** **09 28 56.0 -2.8**
0.1nm,0.3s,baz=313,slow=13,SNR=1.7
FITZ Sn Sn 09 30 54.0 -12
0.3nm,0.3s,baz=200,slow=18,SNR=6.2
WRA Warramunga Arr 18.94 126 P **P** **09 30 34.2 -1.6**
0.0nm,0.3s,baz=301,slow=13,SNR=2.5
ASAR Alice Springs 20.83 136 P **P** **09 30 54.4 -2.0**
0.2nm,0.6s,baz=315,slow=9.1,SNR=4.2
MKAR Makanchi Array 64.25 333 P P 09 36 40.8 -8.4
0.1nm,0.3s,baz=151,slow=5.6,SNR=1.9

IDC 16 09:28:45.2±4.5,30°.60N×141°.27E,h0km,mb3.2/2, mb1 3.5/3,mb1mx2.8/46,mbtmp3.2/3,ML2.8/1,Error ellipse: s-maj=175.5km s-min=30.5km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.45**	**337**	Pn	Pn	09 30 20.1	-1.3
	0.2nm,0.3s,baz=161,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**47.67**	**307**	P	P	09 37 23.9	+0.5
	0.2nm,0.6s,baz=78,slow=9.5,SNR=2.0						
WRA	**Warramunga Arr**	**50.69**	**188**	P	P	09 37 46.3	-0.3
	0.1nm,0.3s,baz=5.1,slow=7.4,SNR=6.5						

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*IDC **16** 09:29:21.6±1.1,61°.09N×28°.03W,h0km,mb3.6/7, mb1 3.9/8,mb1mx3.6/41,mbtmp3.7/8,ML3.8/1,MS3.6/38, Ms1 3.6/38,ms1mx3.3/89,Error ellipse: s-maj=30.1km s-min=19.4km az=0.0*

*NEIC **16** 09:29:24.0±1.1,61°.1N±0°.1×28°.2W±0°.2,h10km±1km, mb4.0/3,Error ellipse: s-maj=23.0km s-min=13.6km az=154.0*

ISC 16 09:29:23.2±0.9,61°.1N±0°.1×28°.10W±0°.07,h10km,n57, σ0.984/24,mb3.8/8,MS3.5/34,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.81**	**37**	Pn	**Pn**	**09 30 34.4**	**-1.1**
	3.9nm,0.3s,baz=224,slow=3.2,SNR=23						
BORG				Sn	**Sn**	**09 31 30.7**	**-0.5**
	4.7nm,0.3s,baz=97,slow=23,SNR=17						
BORG	**Borgarnes**	**4.81**	**37**		**Pn**	**09 30 34.5**	**-1.0**
BORG				Sn	**Sn**	**09 31 33.2**	**+2.0**
ANGG	**Ammassalik, Gr**	**6.25**	**321**	Pn	**Pn**	**09 30 54.0**	**-1.3**
NRS	**Narsarsuaq**	**8.38**	**278**	Pn	**Pn**	**09 31 24.6**	**0.0**
SFJD	**Kangerlussuaq**	**11.46**	**311**	LR	LR	09 35 56.3	
	comp=Z,557nm,18.7s,baz=80,slow=34						
SFJD	**Kangerlussuaq**	**11.46**	**311**	Pn	**Pn**	**09 32 07.0**	**+0.4**
SUMG	**Summit**	**12.21**	**345**	*i* P	**Pn**	**09 32 17.0**	**-0.2**
SUMG	**Summit**	**12.21**	**345**		**Pn**	**09 32 17.2**	**-0.1**
EKA	**Eskdalemuir Ar**	**14.29**	**103**	LR	LR	09 37 09.5	
	comp=Z,309nm,19.6s,baz=316,slow=33						
FRB	**Frobisher Bay**	**18.69**	**296**	LR	LR	09 40 18.3	
	comp=Z,190nm,19.1s,baz=58,slow=35						
NOA	**NORSAR Array B**	**18.84**	**73**	LR	LR	09 40 03.2	
	comp=Z,107nm,20.4s,baz=290,slow=34						
HFS	**Hagfors**	**20.29**	**74**	LR	LR	09 41 08.3	
	comp=Z,139nm,19.9s,baz=274,slow=35						
TULEG	**Thule**	**20.63**	**334**	P	**P**	**09 34 01.7**	**-0.4**
TULEG				IAmb	IAmb	09 34 21.4	
	comp=Z,9.6nm,1.2s						
SCHQ	**Schefferville**	**21.22**	**270**	P	**P**	**09 34 10.1**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=67,slow=7.7,SNR=6.1						
SCHQ				LR	LR	09 41 11.2	
	comp=Z,85nm,18.1s,baz=300,slow=33						
SCHQ	**Schefferville**	**21.22**	**270**	P	**P**	**09 34 09.1**	**+0.3**
SCHQ				IAmb	IAmb	09 34 12.0	
	comp=Z,6.0nm,0.9s						
ARCES	**ARCESS Array B**	**23.15**	**46**	LR	LR	09 42 03.3	
	comp=Z,69nm,18.2s,baz=296,slow=33						
FINES	**FINESS Array B**	**25.43**	**65**	LR	LR	09 44 55.4	
	comp=Z,66nm,18.5s,baz=314,slow=37						
DAVOX	**Davos/Dischmat**	**26.09**	**106**	LR	LR	09 44 05.7	
	comp=Z,106nm,19.9s,baz=272,slow=34						
ESDC	**Sonseca Array**	**26.10**	**134**	LR	LR	09 43 38.4	
	comp=Z,66nm,20.4s,baz=316,slow=33						
GERES	**GERESS Array B**	**26.43**	**98**	LR	LR	09 45 48.5	
	comp=Z,154nm,18.4s,baz=306,slow=37						
RES	**Resolute Bay**	**26.70**	**327**	LR	LR	09 46 01.7	
	comp=Z,110nm,18.9s,baz=86,slow=37						
VRAC	**Vranov**	**27.52**	**95**	LR	LR	09 46 53.9	
	comp=Z,114nm,18.9s,baz=320,slow=38						
MDT	**Midelt**	**32.14**	**141**	LR	LR	09 48 02.5	
	comp=Z,51nm,18.6s,baz=349,slow=35						
AKASG	**Malin Array Be**	**32.72**	**82**	P	**P**	**09 35 55.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=302,slow=8.7,SNR=1.9						
AKASG				LR	LR	09 48 53.7	
	comp=Z,53nm,20.7s,baz=300,slow=36						
OBN	**Obninsk**	**33.41**	**71**	LR	LR	09 48 48.2	
	comp=Z,21nm,20.3s,baz=214,slow=35						
SADO	**Sadowa**	**33.79**	**265**	LR	LR	09 48 15.2	
	comp=Z,205nm,19.4s,baz=7.0,slow=34						
KEST	**Kesra**	**34.71**	**120**	LR	LR	09 48 55.0	
	comp=Z,98nm,18.4s,baz=352,slow=34						
MLR	**Muntele Rosu**	**34.73**	**92**	LR	LR	09 50 57.5	
	comp=Z,83nm,18.2s,baz=344,slow=37						
VAE	**Valguarnera**	**35.46**	**112**	LR	LR	09 49 09.6	
	comp=Z,84nm,21.0s,baz=338,slow=34						
ULM	**Lac du Bonnet**	**37.99**	**285**	LR	LR	09 51 07.3	
	comp=Z,228nm,18.8s,baz=316,slow=34						
YKA	**Yellowknife Ar**	**38.02**	**311**	P	**P**	**09 36 41.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=50,slow=9.1,SNR=18						
YKA	**Yellowknife Ar**	**38.02**	**311**	P	**P**	**09 36 41.0**	**+0.1**
BELG	**Belogornoye**	**40.18**	**67**	LR	LR	09 53 09.4	
	comp=Z,42nm,18.4s,baz=103,slow=36						
INK	**Inuvik**	**40.25**	**326**	LR	LR	09 53 20.9	
	comp=Z,105nm,19.5s,baz=182,slow=36						
ARU	**Arti**	**42.07**	**56**	LR	LR	09 54 47.3	
	comp=Z,40nm,20.3s,baz=0.5,slow=36						
IDI	**Anoyia**	**42.10**	**103**	LR	LR	09 57 57.1	
	comp=Z,49nm,18.2s,baz=82,slow=41						
BRTR	**Keskin Array B**	**42.80**	**91**	LR	LR	09 57 27.4	
	comp=Z,52nm,21.1s,baz=315,slow=39						
TKL	**Tuckaleechee C**	**43.08**	**260**	LR	LR	09 53 26.9	
	comp=Z,136nm,20.8s,baz=323,slow=34						
KBZ	**Khabaz**	**44.22**	**79**	LR	LR	09 56 09.2	
	comp=Z,55nm,18.3s,baz=340,slow=36						
AKTO	**Aktyubinsk**	**46.14**	**62**	LR	LR	09 56 51.0	
	comp=Z,32nm,20.6s,baz=1.2,slow=36						
ILAR	**Eielson Array**	**46.43**	**329**	P	**P**	**09 37 50.0**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=29,slow=7.1,SNR=4.7						
ILAR	**Eielson Array**	**46.43**	**329**	P	**P**	**09 37 50.5**	**+1.2**
BCAR	**Beaver Creek A**	**46.44**	**325**	P	**P**	**09 37 50.5**	**+1.0**
GNI	**Garni**	**47.84**	**81**	LR	LR	10 00 02.2	
	comp=Z,24nm,19.3s,baz=356,slow=38						
PDAR	**Pinedale Array**	**49.88**	**288**	P	**P**	**09 38 15.4**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=65,slow=6.3,SNR=8.6						
PDAR				LR	LR	09 58 21.9	
	comp=Z,116nm,18.8s,baz=327,slow=35						
PDAR	**Pinedale Array**	**49.88**	**288**	P	**P**	**09 38 16.4**	**-0.2**
BBB	**Bella Bella**	**50.46**	**308**	LR	LR	09 59 13.7	
	comp=Z,244nm,19.8s,baz=338,slow=36						
EIL	**Elat**	**51.53**	**98**	LR	LR	10 02 43.7	
	comp=Z,19nm,18.1s,baz=80,slow=39						
TORD	**Torodi Ar. Bea**	**52.52**	**142**	P	**P**	**09 38 36.1**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=333,slow=5.4,SNR=1.9						
ELK	**Elko**	**54.08**	**290**	LR	LR	10 00 42.3	
	comp=Z,116nm,20.9s,baz=326,slow=35						
ANMO	**Albuquerque**	**54.62**	**279**	LR	LR	10 01 01.4	
	comp=Z,86nm,18.4s,baz=335,slow=35						
YBH	**Yreka Blue Hor**	**56.61**	**297**	LR	LR	10 02 54.0	
	comp=Z,101nm,20.4s,baz=338,slow=36						
NVAR	**Mina Array Bea**	**57.34**	**291**	LR	LR	10 06 09.9	
	comp=Z,51nm,18.9s,baz=330,slow=38						
MK31	**Makanchi Array**	**58.76**	**49**	P	**P**	**09 39 21.6**	**+0.6**
MK31				IAmb	IAmb	09 39 24.8	
	comp=Z,1.1nm,1.0s						
MKAR	**Makanchi Array**	**58.76**	**49**	P	**P**	**09 39 20.7**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=338,slow=5.1,SNR=7.8						
MKAR	**Makanchi Array**	**58.76**	**49**	P	**P**	**09 39 21.3**	**+0.4**
PFO	**Pinyon Flats O**	**60.45**	**286**	LR	LR	10 05 33.0	
	comp=Z,92nm,18.4s,baz=339,slow=36						

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*IDC **16** 09:42:32.0±0.5,38°.08S×75°.28W,h0km,mb4.7/13, mb1 4.7/17,mb1mx4.7/26,mbtmp4.6/17,ML4.0/4,MS3.7/17, Ms1 3.7/17,ms1mx3.5/41,Error ellipse: s-maj=19.1km s-min=15.6km az=88.0*

*BJI **16** 09:42:31.7±0.0,37°.65S×75°.67W,h10km,Ms5.3/2, Ms7 4.9/2*

*GCMT **16** 09:42:32.4±0.4,38°.11S±0°.04×75°.62W±0°.02,h18km±1km,*

2016 JAN

MW4.8/63,Moment Tensor Solution. s20,c20; s63,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.07±.17; $M_{\theta\theta}$0.10±.08; $M_{\phi\phi}$1.97±.11; $M_{r\theta}$-0.15±.21; $M_{\theta\phi}$-0.02±.06; $M_{\phi r}$-0.04±.16; Best double couple: M_o2.02500×10^{16} NP1:ϕ_s176.00000°,δ45.00000°,λ-95.00000°. NP2: ϕ_s3.00000°,δ46.00000°,λ-85.00000°. Principal axes: T 1.9700, Plg1.0000°, Azm90.0000°; N 0.1040, Plg4.0000°, Azm180.0000°; P -2.0800, Plg86.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*SJA **16** 09:42:32.0,37°.90S×75°.48W,h10km,ML4.6*

*MOS **16** 09:42:32.5±1.4,37°.94S×75°.05W,h10km,mb5.2/14,Error ellipse: s-maj=15.8km s-min=8.7km az=84.1*

*VAO **16** 09:42:33.3±0.7,38°.05S×75°.41W,h10km,mb4.8*

*NEIC **16** 09:42:33.4,37°.96S×75°.26W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-6.40; $M_{\theta\theta}$1.02; $M_{\phi\phi}$5.38; $M_{r\theta}$1.97; $M_{\theta\phi}$-0.19; $M_{\phi r}$-0.85; Fault plane solution: M_o6.33000×10^{15} NP1:ϕ_s189.69000°, δ41.84000°,λ-69.70000°. NP2:ϕ_s343.29000°,δ51.27000°, λ-107.25000°. Principal axes: T 5.4668, Plg5.0000°, Azm85.0000°; N 1.4684, Plg13.0000°, Azm354.0000°; P -6.9353, Plg76.0000°, Azm195.0000°;*

*NEIC **16** 09:42:33.4±1.0,37°.95S±0°.05×75°.3W±0°.1,h10km±1km, mb5.1/110,Mwr4.5/21,ML4.8(GUC) Error ellipse: s-maj=14.0km s-min=9.1km az=271.0*

*GUC **16** 09:42:36.3±0.6,38°.06S×74°.82W,h16km±5km,ML4.7*

ISC 16 09:42:33.7±1.3,37°.99S±0°.04×75°.29W±0°.05,h14km±7km, n426,σ1°.33/431,mb5.1/67,MS3.9/15,12C-10D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**2.08**	**54**	*e*P	**Pn**	**09 43 06.3**	**-1.8**
BI05				*e*S	**Sn**	**09 43 30.0**	**-3.8**
LR04	**Corral**	**2.38**	**143**	⇓*i*P	**Pn**	**09 43 11.4**	**-0.9**
LR04				*e*S	**Sn**	**09 43 36.5**	**-4.8**
LR04				IAML		09 43 38.7	
	comp=N,9μm,0.3s						
LR02	**Universidad Au**	**2.41**	**139**	*e*P	**Pn**	**09 43 12.2**	**-0.4**
LR02				*i* S	**Sn**	**09 43 37.9**	**-4.1**
LR02				IAML		09 43 42.5	
	comp=N,11μm,0.3s						
LR03	**Panguipulli**	**2.82**	**126**	⇑*i*P	**Pn**	**09 43 19.2**	**+0.9**
LR03				*e*S	**Sn**	**09 43 47.1**	**-5.0**
LR03				IAML		09 43 54.4	
	comp=N,4μm,0.1s						
LR03	**Panguipulli**	**2.82**	**126**		**Pn**	**09 43 19.1**	**+0.7**
LR03				Sn	**Sn**	**09 43 51.4**	**-0.7**
LC01	**Cunco**	**2.83**	**110**	Pn	**Pn**	**09 43 19.0**	**+0.6**
CANA	**Caviahue**	**3.34**	**90**	*i* P	**Pn**	**09 43 27.0**	**+1.4**
LL04	**Puerto Octay**	**3.67**	**144**	⇓*i*P	**Pn**	**09 43 29.6**	**-0.4**
LL04				*i* S	**Sn**	**09 44 09.3**	**-3.7**
LL04				IAML		09 44 12.9	
	comp=N,2μm,0.2s						
LL04	**Puerto Octay**	**3.67**	**144**		**Pn**	**09 43 29.5**	**-0.4**
LL05	**Los Muermos**	**3.69**	**158**	⇓*i*P	**Pn**	**09 43 29.7**	**-0.5**
LL05				*i* S	**Sn**	**09 44 10.7**	**-2.7**
LL05				IAML		09 44 16.1	
	comp=N,558nm,0.5s						
LL05	**Los Muermos**	**3.69**	**158**		**Pn**	**09 43 29.5**	**-0.7**
ML02	**Panimavida**	**3.82**	**56**		**Pn**	**09 43 31.4**	**-0.5**
LL03	**Petrohue**	**3.85**	**146**	*e*P	**Pn**	**09 43 31.8**	**-0.8**
LL03				*i* S	**Sn**	**09 44 13.3**	**-4.3**
LL03	**Petrohue**	**3.85**	**146**		**Pn**	**09 43 31.6**	**-0.9**
GO05	**Huala**	**4.02**	**43**	⇑*i*P	**Pn**	**09 43 33.2**	**-1.6**
GO05				*i* S	**Sn**	**09 44 18.2**	**-3.5**
GO05	**Huala**	**4.02**	**43**		**Pn**	**09 43 33.9**	**-0.9**
GO05	**Huala**	**4.02**	**43**	*i* P	**Pn**	**09 43 34.0**	**-0.9**
PLCA	**Paso Flores**	**4.58**	**128**	Pn	**Pn**	**09 43 43.0**	**+0.5**
	comp=N,2.6nm,0.3s,baz=302,slow=9.4,SNR=72						
PLCA				Sn	**Sn**	**09 44 40.5**	**+4.9**
	comp=N,16nm,0.3s,baz=287,slow=10,SNR=4.9						
PLCA				LR	LR	09 45 31.7	
	comp=N,1μm,21.1s,baz=316,slow=40						
PLCA	**Paso Flores**	**4.58**	**128**	*e*P	**Pn**	**09 43 43.3**	**+0.7**
PLCA	**Paso Flores**	**4.58**	**128**		**Pn**	**09 43 43.6**	**+1.0**
PLCA	**Paso Flores**	**4.58**	**128**	*i* P	**Pn**	**09 43 43.0**	**+0.5**
BO02	**Sierra Bellavi**	**4.84**	**50**	*e*P	**Pn**	**09 43 45.2**	**-0.9**
BO02				*i* S	**Sn**	**09 44 39.7**	**-2.3**
BO02	**Sierra Bellavi**	**4.84**	**50**		**Pn**	**09 43 46.0**	**-0.1**
LL01	**San Ignacio de**	**4.91**	**154**	Pn	**Pn**	**09 43 47.0**	**+0.1**
LL01	**San Ignacio de**	**4.91**	**154**	*i* P	**Pn**	**09 43 47.0**	**+0.1**
BO01	**Tunca**	**4.94**	**45**		**Pn**	**09 43 47.1**	**-0.4**
LL07	**Hotel Espejo d**	**5.03**	**165**	Pn	**Pn**	**09 43 48.0**	**-0.7**
H03S1	**Juan Fernandez**	**5.07**	**324**	Pn	**Pn**	**09 43 47.2**	**-1.9**
H03S1				T	T	09 49 14.8	
	baz=152						
H03S2	**Juan Fernandez**	**5.09**	**323**	Pn	**Pn**	**09 43 47.3**	**-1.9**
H03S2				T	T	09 49 02.2	
	baz=152						
H03S3	**Juan Fernandez**	**5.09**	**324**	Pn	**Pn**	**09 43 47.0**	**-2.3**
	SNR=77						
H03S3				T	T	09 48 57.9	
	baz=152						
VA05	**Santo Domingo**	**5.25**	**36**		**Pn**	**09 43 50.4**	**-1.3**
MT01	**Popeta**	**5.26**	**40**		**Pn**	**09 43 50.6**	**-1.3**
GO07	**Milladeo Hill,**	**5.27**	**167**		**Pn**	**09 43 51.5**	**-0.4**
H03N3	**Juan Fernandez**	**5.41**	**326**	Pn	**Pn**	**09 43 52.4**	**-1.3**
	SNR=333						
H03N1	**Juan Fernandez**	**5.41**	**326**	Pn	**Pn**	**09 43 52.1**	**-1.6**
	SNR=393						
H03N2	**Juan Fernandez**	**5.42**	**326**	Pn	**Pn**	**09 43 52.4**	**-1.4**
	SNR=195						
MT09	**Talagante**	**5.46**	**41**	⇑*i*P	**Pn**	**09 43 53.5**	**-1.3**
MT09	**Talagante**	**5.46**	**41**		**Pn**	**09 43 54.2**	**-0.6**
VA01	**Torpederas**	**5.78**	**32**		**Pn**	**09 43 57.3**	**-1.7**
MT02	**Curacav**	**5.80**	**37**		**Pn**	**09 43 58.0**	**-1.4**
MT02	**Curacav**	**5.80**	**37**	*i* P	**Pn**	**09 43 57.0**	**-2.3**
LL02	**Futaleuf**	**5.82**	**154**		**Pn**	**09 43 59.9**	**+0.5**
MT05	**Renca**	**5.89**	**40**		**Pn**	**09 44 00.4**	**-0.2**
MT05	**Renca**	**5.89**	**40**	*i* P	**Pn**	**09 44 00.0**	**-0.6**
ROC1	**El Roble**	**6.10**	**36**	*i* P	**Pn**	**09 44 02.0**	**-1.6**
PEL	**Peldehue**	**6.12**	**39**	P	**Pn**	**09 44 02.7**	**-1.0**
PEL	**Peldehue**	**6.12**	**39**		**Pn**	**09 44 02.7**	**-1.0**
PEL	**Peldehue**	**6.12**	**39**	*i* P	**Pn**	**09 44 03.0**	**-0.7**
RFA	**San Rafael**	**6.37**	**62**	*i* P	**Pn**	**09 44 08.0**	**+0.8**
VA03	**San Esteban**	**6.49**	**38**		**Pn**	**09 44 08.1**	**-0.8**
VA03	**San Esteban**	**6.49**	**38**	*i* P	**Pn**	**09 44 08.0**	**-0.8**
AAGR	**Agrelo**	**7.19**	**49**	*i* P	**Pn**	**09 44 20.0**	**+1.6**
ARCO	**CERRO ARCO**	**7.30**	**47**	*i* P	**Pn**	**09 44 21.0**	**+1.0**
AUSP	**Uspallata**	**7.51**	**42**	*i* P	**Pn**	**09 44 23.0**	**-0.1**
ASAL	**Salagasta**	**7.54**	**46**	*i* P	**Pn**	**09 44 25.0**	**+1.8**
RTLS	**Leoncito**	**7.89**	**40**	*i* P	**Pn**	**09 44 29.0**	**+0.7**
CO06	**Fray Jorge**	**7.90**	**24**		**Pn**	**09 44 25.1**	**-3.0**
COYC	**Coyhaique**	**7.95**	**163**	Pn	**Pn**	**09 44 30.0**	**+1.3**
COYC	**Coyhaique**	**7.95**	**163**	*i* P	**Pn**	**09 44 30.0**	**+1.3**
CO03	**El Pedregal**	**8.08**	**29**		**Pn**	**09 44 29.4**	**-1.3**
CO03	**El Pedregal**	**8.08**	**29**	*i* P	**Pn**	**09 44 29.0**	**-1.7**
RTCV	**Cerro Valdivia**	**8.25**	**44**	*i* P	**Pn**	**09 44 33.0**	**+0.1**
ZON	**Zonda**	**8.42**	**42**	P	**Pn**	**09 44 35.0**	**-0.3**
ZON	**Zonda**	**8.42**	**42**	Pn	**Pn**	**09 44 35.0**	**-0.3**
GO04	**Tololo Observa**	**8.64**	**27**		**Pn**	**09 44 36.3**	**-2.2**
GO04	**Tololo Observa**	**8.64**	**27**	*i* P	**Pn**	**09 44 38.0**	**-0.5**
CO05	**La Serena**	**8.72**	**24**	Pn	**Pn**	**09 44 37.9**	**-1.5**
LCO	**Las Campanas**	**9.74**	**24**	*i* P	**Pn**	**09 44 51.0**	**-2.6**
AVFE	**Valle Fertil**	**9.76**	**44**	*i* P	**Pn**	**09 44 52.0**	**-1.7**
AC04	**Llanos de Chal**	**10.38**	**21**	*i* P	**Pn**	**09 45 00.0**	**-2.1**
GO08	**Villa O'Higgin**	**10.66**	**170**	*i* P	**Pn**	**09 45 08.0**	**+2.2**
VCA	**Vinchina**	**10.96**	**35**	*i* P	**Pn**	**09 45 11.0**	**+0.8**
TCA	**Tanti**	**11.02**	**56**	*i* P	**Pn**	**09 45 10.0**	**-1.0**
GO03	**Copiap**	**11.20**	**24**	Pn	**Pn**	**09 45 11.6**	**-1.9**
AC02	**Maricunga**	**12.27**	**27**		**Pn**	**09 45 26.0**	**-2.5**
AC02	**Maricunga**	**12.27**	**27**	*i* P	**Pn**	**09 45 27.0**	**-1.5**
PB14	**IPOC Station P**	**13.96**	**19**		**Pn**	**09 45 49.3**	**-2.0**
LPA	**La Plata**	**14.30**	**83**	*e*P	**Pn**	**09 45 53.6**	**-2.1**
LPA	**La Plata**	**14.30**	**83**	PN	**Pn**	**09 45 58.1**	**+2.4**
LPA				PP	**PnPn**	**09 46 03.2**	**-0.3**
LPA				sP	P	09 46 09.2	+6.3
LPA				pPP		09 46 41.9	
LPA				PPP	PPP	09 47 08.2	
LPA				S	**Sn**	**09 48 36.6**	**+2.5**
LPA				SSS	SSS	09 49 52.0	
LPA				SS	SgSg	09 50 30.7	+18
LPA				PCP	**PcP**	**09 51 09.3**	**-3.3**
LPA				SCS	**ScS**	**09 58 20.9**	**-2.3**
LPA				PKIKP	**PKiKP**	**09 59 05.9**	**-2.4**
LPA				SKIKP		10 02 42.0	
LPA				PKIKS		10 02 47.3	
LPA				SKIKS		10 06 10.1	
PB15	**IPOC Station P**	**15.55**	**20**		**Pn**	**09 46 11.9**	**-0.9**
PB15				IAmb	IAmb	09 46 22.2	
	comp=Z,64nm,0.7s						
PB06	**IPOC Station P**	**16.01**	**19**		**Pn**	**09 46 17.0**	**-1.5**
PB04	**IPOC Station P**	**16.22**	**17**		**Pn**	**09 46 19.6**	**-1.7**
LVC	**Limon Verde**	**16.28**	**21**	Pn	**P**	**09 46 22.9**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=185,slow=12,SNR=8.5						
LVC				LR	LR	09 52 33.3	
	comp=Z,109nm,19.2s,baz=218,slow=37						
LVC	**Limon Verde**	**16.28**	**21**	*e*P	**Pn**	**09 46 21.3**	**-1.0**
LVC	**Limon Verde**	**16.28**	**21**	*e*P	**Pn**	**09 46 22.7**	**+0.4**
LVC	**Limon Verde**	**16.28**	**21**	Pn	**Pn**	**09 46 21.3**	**-1.0**
PB09	**IPOC Station P**	**16.96**	**20**		**Pn**	**09 46 29.8**	**-0.9**
USHA	**Ushuaia**	**17.48**	**167**	P	**Pn**	**09 46 36.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=336,slow=9.4,SNR=3.9						
USHA				LR	LR	09 53 38.3	
	comp=Z,332nm,18.4s,baz=12,slow=38						
ITQB	**Itaqui**	**17.57**	**67**	*e*P	**P**	**09 46 39.0**	**-0.1**
ITQB	**Itaqui**	**17.57**	**67**	P	**Pn**	**09 46 37.7**	**-0.4**
PB01	**IPOC Station P**	**17.62**	**18**	P	**Pn**	**09 46 37.6**	**-1.2**
TA02	**Huaiquique**	**18.22**	**16**	P	**Pn**	**09 46 44.1**	**-2.0**
EFI	**East Falkland**	**18.28**	**144**	⇓*e*P	**Pn**	**09 46 45.2**	**-1.4**
EFI				pmax	pmax		
	comp=Z,51nm,1.3s						
PLTB	**Pedras Altas**	**18.82**	**77**		**P**	**09 46 51.5**	**-1.4**
CPUP	**Villa Florida**	**19.10**	**58**	P	**Pn**	**09 46 57.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=240,slow=9.1,SNR=6.6						
CPUP				LR	LR	09 54 25.7	
	comp=Z,433nm,20.4s,baz=235,slow=37						
CPUP	**Villa Florida**	**19.10**	**58**	P	**P**	**09 46 55.1**	**-0.9**
CPUP				pmax	pmax		
	comp=Z,13nm,1.1s						
CPUP	**Villa Florida**	**19.10**	**58**	*e*P	**Pn**	**09 46 58.0**	**+1.2**
CPUP	**Villa Florida**	**19.10**	**58**		**P**	**09 46 55.1**	**-0.9**
CPSB	**Cacapava Do Su**	**19.56**	**74**	*e*P	**Pn**	**09 47 02.6**	**+0.2**
PB12	**IPOC Station P**	**19.79**	**14**	P	**P**	**09 47 03.0**	**-0.6**
PB16	**IPOC Station P**	**20.23**	**16**	P	**P**	**09 47 07.9**	**-1.0**
ITAB	**Concordia**	**22.20**	**68**	*e*P	**P**	**09 47 30.8**	**+1.1**
ITAB	**Concordia**	**22.20**	**68**	P	**P**	**09 47 28.0**	**-1.6**
ITAB				IAmb	IAmb	09 47 31.7	
	comp=Z,95nm,1.3s						
LPAZ	**La Paz**	**22.52**	**18**	P	**P**	**09 47 36.6**	**+2.9**
	comp=Z,32nm,1.1s,baz=166,slow=8.0,SNR=36						
LPAZ	**La Paz**	**22.52**	**18**	*e*P	**P**	**09 47 33.1**	**-0.6**
LPAZ	**La Paz**	**22.52**	**18**	*e*P	**P**	**09 47 34.8**	**+1.1**
LPAZ	**La Paz**	**22.52**	**18**	P	**P**	**09 47 33.1**	**-0.6**
TER01	**Tubaro-SC**	**23.75**	**74**	*e*P	**P**	**09 47 46.3**	**+0.7**
PTGB	**Pitanga**	**23.76**	**63**	*e*P	**P**	**09 47 48.6**	**+2.8**
AQDB	**Aquidauana**	**24.34**	**50**	*e*P	**P**	**09 47 51.6**	**+0.5**
AQDB	**Aquidauana**	**24.34**	**50**	P	**P**	**09 47 50.2**	**-0.9**
AQDB				IAmb	IAmb	09 47 59.6	
	comp=Z,72nm,1.3s						
SIV	**San Ignacio**	**25.25**	**34**	P	**P**	**09 48 00.8**	**+1.4**
	comp=Z,9.3nm,0.8s,baz=206,slow=7.3,SNR=40						
SIV				LR	LR	09 58 33.7	
	comp=Z,86nm,20.5s,baz=185,slow=38						
TIJ01	**Guaruva-PR**	**25.59**	**68**	*e*P	**P**	**09 48 02.3**	**-0.3**
NNA	**Nana**	**25.93**	**357**	P	**P**	**09 48 08.3**	**+2.7**
	comp=Z,7.8nm,0.5s,baz=188,slow=11,SNR=3.9						
NNA				LR	LR	09 55 57.7	
	comp=Z,124nm,19.0s,baz=164,slow=31						
PCMB	**Pacaembu**	**26.37**	**59**	*e*P	**P**	**09 48 11.2**	**+1.7**
PTLB	**Pontes e Lacer**	**26.60**	**37**	*e*P	**P**	**09 48 12.4**	**+0.8**
PTLB	**Pontes e Lacer**	**26.60**	**37**	P	**P**	**09 48 11.8**	**+0.1**
**PP

CELP Cerrillos 56.36 10 P P 09 52 14.7 +0.3
CELP IAmb IAmb 09 52 29.3
comp=Z,33nm,1.2s
TLIG Tlapa 59.43 334 P P 09 52 35.3 -0.8
VNDA Vanda 59.67 192 P P 09 52 38.5 +1.6
comp=Z,7.3nm,1.2s,baz=129,slow=2.7,SNR=6.6
VNDA Vanda 59.67 192 P P 09 52 37.5 +0.6
VNDA pmax pmax
comp=Z,15nm,1.3s
VNDA Vanda 59.67 192 P P 09 52 37.5 +0.6
VNDA IAmb IAmb 09 52 40.0
comp=Z,15nm,1.3s
061Z Ochoppi 63.74 354 P P 09 53 04.5 -0.3
TAOE Nuku Hiva Isla 64.82 279 *e*LR LR 10 12 43.5
comp=Z,250nm,25.4s
ZAIG Zacatecas 65.65 332 P P 09 53 17.6 -0.2
PPT2 Papeete2 67.16 265 *e*LR LR 10 13 41.0
comp=Z,241nm,26.8s
833A Chaparral WMA, 69.73 337 P P 09 53 42.7 -0.3
833A IAmb IAmb 09 53 47.0
comp=Z,29nm,1.1s
833A Chaparral WMA, 69.73 337 P P 09 53 44.3 +1.3
baz=160
735A Kenedy 69.76 339 P P 09 53 42.5 -0.7
735A IAmb IAmb 09 53 47.6
comp=Z,23nm,1.0s
HPIG 70.59 331 P P 09 53 48.3 -0.3
HPIG IAmb IAmb 09 53 52.7
comp=Z,15nm,0.8s
342A Flagon Creek P 70.82 345 P P 09 53 49.9 +0.3
NATX Nacogdoches 71.71 343 P P 09 53 55.0 +0.1
NATX IAmb IAmb 09 53 59.1
comp=Z,24nm,1.0s
NATX Nacogdoches 71.71 343 P P 09 53 56.5 +1.5
baz=164
Z47A Carrollton 71.82 349 P P 09 53 55.5 -0.1
JCT Junction City 71.86 338 P P 09 53 55.3 -0.8
JCT pmax pmax
comp=Z,16nm,1.1s
JCT Junction City 71.86 338 P P 09 53 55.3 -0.8
JCT IAmb IAmb 09 53 58.1
comp=Z,16nm,1.1s
JCT Junction City 71.86 338 P P 09 53 56.8 +0.8
baz=160
143A Socs Landing, 71.92 346 P P 09 53 56.2 0.0
TX31 Lajitas Ar. Si 72.05 334 P P 09 53 57.8 +0.5
TX31 IAmb IAmb 09 54 01.1
comp=Z,25nm,0.9s
TX32 Lajitas Array 72.05 334 P P 09 53 57.8 +0.5
TXAR Lajitas Array 72.05 334 P P 09 53 58.4 +1.1
comp=Z,6.0nm,0.8s,baz=156,slow=8.3,SNR=38
TXAR Lajitas Array 72.05 334 P P 09 53 57.1 -0.1
TXAR Lajitas Array 72.05 334 P P 09 53 57.1 -0.1
JSC Jenkinsville 72.12 355 P P 09 53 57.7 +0.3
JSC pmax pmax
comp=Z,36nm,1.3s
JSC Jenkinsville 72.12 355 P P 09 53 57.7 +0.3
WHTX Lake Whitney, 72.63 340 P P 09 54 00.0 -0.5
WHTX IAmb IAmb 09 54 04.0
comp=Z,15nm,0.9s
WHTX Lake Whitney, 72.63 340 P P 09 54 01.1 +0.6
baz=162
Z41A Richland Creek 72.74 345 P P 09 54 02.3 +1.2
baz=166
X48A Hartselle 72.90 350 P P 09 54 02.4 +0.3
X48A IAmb IAmb 09 54 05.5
comp=Z,24nm,1.0s
W57A Gilead 72.91 356 P P 09 54 02.3 +0.2
W57A IAmb IAmb 09 54 10.1
comp=Z,13nm,1.0s
BG3 Lake Jocassee 72.96 353 P P 09 54 02.8 +0.3
BG3 IAmb IAmb 09 54 04.0
comp=Z,34nm,1.3s
KMSC Kings Mountain 72.98 355 P P 09 54 03.1 +0.6
baz=175
CCAR Cane Creek 73.17 346 P P 09 54 03.1 -0.6
WLAR White Oak Lake 73.22 345 P P 09 54 03.6 -0.4
Z38A Mt. Pleasant 73.22 343 P P 09 54 03.8 -0.2
Z38A IAmb IAmb 09 54 07.9
comp=Z,25nm,1.1s
W50A Signal Mountai 73.41 351 P P 09 54 05.5 +0.4
SWET Sewanee 73.50 351 P P 09 54 05.7 0.0
CPCT Cooper Cave 73.57 352 IAmb IAmb 09 54 07.4
comp=Z,20nm,0.8s
V55A Taylorsville 73.68 355 P P 09 54 06.7 0.0
ABTX Abilene, Hawle 73.83 339 P P 09 54 07.7 +0.1
ABTX IAmb IAmb 09 54 09.4
comp=Z,19nm,1.1s
ABTX Abilene, Hawle 73.83 339 P P 09 54 08.4 +0.8
baz=160
Z35A Perchaven, San 73.84 341 P P 09 54 07.6 -0.1
Z35A IAmb IAmb 09 54 11.8
comp=Z,22nm,0.9s
V52A Sevierville 73.86 353 P P 09 54 07.7 -0.1
V52A IAmb IAmb 09 54 10.3
comp=Z,16nm,0.9s
V51A Loudon 73.90 352 P P 09 54 08.1 +0.1
W45A Hickory Valley 73.91 348 P P 09 54 08.4 +0.4
V48A Smith Brothers 74.14 350 P P 09 54 09.4 +0.1
MIAR Mount Ida 74.14 344 P P 09 54 10.1 +0.7
baz=165
CLTN Cedars of Leba 74.42 351 P P 09 54 11.1 +0.1
CLTN IAmb IAmb 09 54 14.1
comp=Z,28nm,1.0s
W41B Gary Mavity, V 74.48 346 P P 09 54 11.2 -0.1
W41B IAmb IAmb 09 54 15.0
comp=Z,18nm,0.9s
W41B Gary Mavity, V 74.48 346 P P 09 54 12.0 +0.7
baz=166
TZTN Tazewell 74.56 353 P P 09 54 12.1 +0.4
TZTN IAmb IAmb 09 54 14.9
comp=Z,48nm,1.5s
WHAR Wooly Hollow 74.60 346 P P 09 54 12.1 +0.1
WHAR IAmb IAmb 09 54 15.3
comp=Z,28nm,1.0s
WVT Waverly 74.66 349 P P 09 54 11.8 -0.5
WVT pmax pmax
comp=Z,29nm,1.2s
WVT Waverly 74.66 349 P P 09 54 11.8 -0.5
WVT IAmb IAmb 09 54 15.2
comp=Z,29nm,1.1s
WVT Waverly 74.66 349 P P 09 54 12.5 +0.2
baz=170
MNTX Cornudas Mount 74.80 334 P P 09 54 12.7 -0.6
MNTX Cornudas Mount 74.80 334 P P 09 54 13.4 +0.1
baz=156
W39A Magazine 74.81 344 P P 09 54 14.6 +1.3
baz=165,SNR=5.9
LCAR Lake Charles 75.14 347 P P 09 54 15.4 +0.3
LCAR IAmb IAmb 09 54 17.9
comp=Z,19nm,0.9s
FCAR Ozark Folk Cen 75.15 346 P P 09 54 15.3 +0.1
FCAR IAmb IAmb 09 54 18.5
comp=Z,13nm,0.8s
SUR Sutherland 75.19 120 LR LR 10 22 18.1
comp=Z,59nm,20.7s,baz=225,slow=32
X34A Smith Ranch, M 75.20 341 IAmb IAmb 09 54 19.1
comp=Z,33nm,1.2s
T47A Sharon Grove 75.40 350 IAmb IAmb 09 54 19.2
comp=Z,24nm,1.0s
WMOK Wichita Mounta 75.58 340 P P 09 54 18.2 +0.5
baz=161,SNR=6.7
PBMO Poplar Bluff 75.70 348 P P 09 54 17.8 -0.5
PBMO IAmb IAmb 09 54 21.7
comp=Z,15nm,0.8s
U40A Yellville 75.74 345 P P 09 54 18.3 -0.3
U40A IAmb IAmb 09 54 19.9
comp=Z,13nm,0.7s
U40A Yellville 75.74 345 P P 09 54 19.6 +1.0
baz=166
HHAR Hobbs 75.89 345 P P 09 54 19.4 0.0
HHAR IAmb IAmb 09 54 22.5
comp=Z,16nm,1.1s
TUL1 Leonard 75.94 343 P P 09 54 19.6 -0.1
TUL1 Leonard 75.94 343 P P 09 54 20.3 +0.6
baz=164,SNR=11
CASY Casey 75.96 182 P P 09 54 20.3 +0.7
CASY IAmb IAmb 09 54 21.8
comp=Z,24nm,1.1s
OK025 Westminster Rd 76.00 342 P 09 54 20.4 +0.3
OK025 IAmb IAmb 09 54 23.0
comp=Z,33nm,1.2s
MSTX Muleshoe 76.02 337 P P 09 54 22.1 +1.7
baz=158
MGMO Mountain Grove 76.40 346 P P 09 54 23.0 +0.7
MGMO IAmb IAmb 09 54 25.9
comp=Z,28nm,1.3s
S44A Carbondale 76.41 349 P P 09 54 22.8 +0.4
S44A IAmb IAmb 09 54 23.4
comp=Z,16nm,0.9s
AMTX Amarillo 76.53 338 P P 09 54 23.7 +0.4
AMTX IAmb IAmb 09 54 25.2
comp=Z,19nm,1.0s
AMTX Amarillo 76.53 338 P P 09 54 24.3 +1.0
baz=159
CCM Cathedral Cave 77.09 347 P P 09 54 26.9 +0.7
CCM pmax pmax
comp=Z,26nm,0.8s
CCM Cathedral Cave 77.09 347 P P 09 54 26.9 +0.7
CCM Cathedral Cave 77.09 347 P P 09 54 26.8 +0.6
baz=167
S39A Bolivar 77.12 345 P P 09 54 26.4 0.0
S39A IAmb IAmb 09 54 29.5
comp=Z,12nm,0.9s
TUC Tucson 77.37 330 P P 09 54 29.9 +1.9
baz=152
MCWV Mont Chateau 77.39 356 P P 09 54 28.4 +0.6
baz=176
P52A Corning 77.50 355 P P 09 54 28.7 +0.2
baz=174
P49A Miami Univ. Ec 77.63 353 P P 09 54 29.2 0.0
baz=172
214A Organ Pipe Nat 77.89 328 P P 09 54 32.8 +1.9
baz=151
O53A New Philadelph 78.05 355 P P 09 54 32.0 +0.4
baz=175
ANMO Albuquerque 78.12 334 *ce*P **P 09 54 34.2 +1.9**
ANMO pmax pmax
comp=Z,19nm,1.3s
ANMO Albuquerque 78.12 334 P P 09 54 33.8 +1.6
baz=155
ACSO Alum Creek Sta 78.17 354 P P 09 54 31.9 -0.2
ACSO Alum Creek Sta 78.17 354 P P 09 54 32.1 0.0
baz=174
LIC Lamto 78.50 73 *e*P **P 09 54 35.8 +1.1**
comp=Z,101nm,1.6s
P40A Paris 78.67 347 P P 09 54 34.9 -0.1
TIC Toumodi 78.78 72 *e*P **P 09 54 36.9 +0.7**
KIC Kosan Boka 78.81 73 *e*P **P 09 54 37.5 +1.1**
comp=Z,15nm,0.7s
DBIC Dimbokro 78.92 72 P P 09 54 37.8 +0.9
comp=Z,7.2nm,0.7s,baz=208,slow=4.1,SNR=7.2
DBIC LR LR 10 26 50.6
comp=Z,34nm,19.6s,baz=308,slow=34
N47A Urbana 79.07 352 P P 09 54 36.5 -0.6
N47A IAmb IAmb 09 54 39.2
comp=Z,25nm,0.8s
KSU1 Kansas State U 79.18 343 P P 09 54 38.6 +0.8
baz=163
HDIL Hopedale 79.22 349 P P 09 54 38.5 +0.6
baz=169
T25A Trinidad 79.45 337 P P 09 54 41.4 +1.8
baz=157,SNR=18
CBKS Cedar Bluff 79.67 341 P P 09 54 41.8 +1.3
baz=161
SDCO Great Sand Dun 80.35 336 P P 09 54 45.9 +1.4
baz=156,SNR=7.4
WUAZ Wupatki 80.42 331 P P 09 54 46.9 +2.0
baz=152,SNR=6.6
BC3 Big Chuckawall 80.47 327 P P 09 54 47.4 +2.3
baz=149
BOSA Boshof 80.51 119 P P 09 54 46.0 +0.3
comp=Z,8.1nm,0.9s,baz=253,slow=3.2,SNR=8.3
BOSA LR LR 10 30 47.0
comp=Z,26nm,18.3s,baz=248,slow=36
BOSA Boshof 80.51 119 P P 09 54 45.3 -0.4
BOSA pmax pmax
comp=Z,10.0nm,1.0s
BOSA Boshof 80.51 119 P P 09 54 45.3 -0.4
KSCO Kaye Shedlock' 80.65 339 P P 09 54 47.5 +1.7
baz=158
IRM Iron Mountain 80.77 327 P P 09 54 48.4 +1.8
baz=149,SNR=5.6
S22A 4UR Ranch, Cre 80.78 335 P P 09 54 48.5 +1.6
baz=155,SNR=6.7
MVCO Mesa Verde 80.87 334 P P 09 54 49.1 +1.8
baz=154
PFO Pinyon Flats O 80.88 326 LR LR 10 23 01.6
comp=Z,72nm,18.5s,baz=331,slow=30
PFO Pinyon Flats O 80.88 326 *ce*P **P 09 54 49.9 +2.7**
PFO Pinyon Flats O 80.88 326 P P 09 54 49.6 +2.3
baz=148,SNR=9.2
L40A Anamosa 80.99 348 P P 09 54 47.5 0.0
L40A IAmb IAmb 09 54 50.0
comp=Z,16nm,0.8s
BELC Belle Mtn. Jos 81.00 327 P P 09 54 50.1 +2.2
baz=149
MURC Murrieta 81.19 326 P P 09 54 51.2 +2.4
baz=148,SNR=5.2
Q24A Divide 81.36 337 P P 09 54 51.7 +1.8
baz=157,SNR=6.1
GMRC Granite Mounta 81.53 327 P P 09 54 52.8 +2.1
baz=149
NCB Newcomb 81.59 1 P P 09 54 51.2 +0.6
NCB IAmb IAmb 09 55 04.3
comp=Z,15nm,1.1s
JFWS Jewell Farm 81.67 349 P P 09 54 51.9 +0.8
baz=168
BGNE Belgrade 81.73 343 P P 09 54 51.4 -0.1
BGNE Belgrade 81.73 343 P P 09 54 52.7 +1.2
baz=162
HEC Hector,Ludlow 81.85 327 P P 09 54 54.9 +2.6
baz=148,SNR=6.0
BFSC Mount Baldy Ra 81.94 326 P P 09 54 55.0 +2.1
baz=148,SNR=6.7
TUQ Turquoise Moun 82.19 328 P P 09 54 56.7 +2.5
baz=149,SNR=6.2
LONY Lake Ozonia 82.23 1 P P 09 54 55.2 +1.2
baz=181
ISCO Idaho Springs 82.26 337 P P 09 54 56.3 +1.7
baz=156,SNR=8.2
GSC Goldstone, Bar 82.46 327 P P 09 54 57.8 +2.2
baz=148
EDW2 Edwards Air Fo 82.62 326 P P 09 54 58.0 +1.7
baz=147
LBTB Lobatse 82.97 116 LR LR 10 25 29.3
comp=Z,45nm,21.7s,baz=252,slow=31
LRMC Laurel Mtn Rad 82.99 326 P P 09 55 00.2 +1.8
baz=148,SNR=6.6
N23A Red Feather La 83.37 337 P P 09 55 01.8 +1.5
baz=156
MPMC Manual Prospec 83.39 327 P P 09 55 02.1 +1.6
baz=148,SNR=5.0
O20A White River Ci 83.41 335 P P 09 55 02.0 +1.5
baz=154,SNR=5.3
PKM Mcpherson Peak 83.45 325 P P 09 55 02.9 +2.1
baz=146,SNR=5.9
FURC Furnace Creek, 83.47 327 P P 09 55 02.6 +2.1
baz=148
ISA Isabella, Lake 83.49 326 P P 09 55 03.2 +2.4
baz=147,SNR=13
ECSD EROS Data Cent 83.61 345 P P 09 55 01.3 +0.2
ECSD EROS Data Cent 83.61 345 P P 09 55 01.9 +0.7
baz=163
TPNV Topopah Spring 83.62 328 P P 09 55 03.7 +2.1
baz=149
SMMC Simmler 83.89 325 P P 09 55 05.5 +2.6
baz=146
VES Vestal, Richgr 83.91 326 P P 09 55 05.2 +2.3
baz=147,SNR=5.0
CWC Cottonwood Cre 83.97 327 P P 09 55 05.3 +1.9
baz=147
SPMN Marine on St. 84.33 348 P P 09 55 04.8 +0.1
baz=166
E46A Sault Ste Mari 84.37 354 P P 09 55 05.0 +0.1
R11A Troy Canyon, C 84.54 329 P P 09 55 08.4 +2.1
baz=149,SNR=11
TIN Tinemaha, Big 84.55 327 P P 09 55 08.6 +2.4
baz=147
DUG Duway, Tooele 85.07 332 P P 09 55 10.5 +1.6
baz=151
K22A Casper 85.14 337 P P 09 55 10.6 +1.5
baz=156
LMQ La Malbaie 85.28 3 P P 09 55 10.0 +0.6
BATG Bathurst New B 85.29 6 P P 09 55 10.5 +1.0
NVAR Mina Array Bea 85.74 328 P P 09 55 14.1 +1.8
comp=Z,2.2nm,0.7s,baz=157,slow=6.3,SNR=20
RSSD Black Hills 85.78 340 P P 09 55 13.3 +0.9
baz=158
BW06 Boulder Array 86.21 335 P P 09 55 15.5 +1.0
baz=154
PD31 Pinedale Array 86.21 335 P P 09 55 14.4 -0.1
PD31 IAmb IAmb 09 55 17.6
comp=Z,9.7nm,1.1s
PDAR Pinedale Array 86.21 335 P P 09 55 15.2 +0.7
comp=Z,7.0nm,0.9s,baz=145,slow=5.4,SNR=26
PDAR Pinedale Array 86.21 335 P P 09 55 15.0 +0.4
MOOW Moose Ponds 87.48 335 P P 09 55 20.6 -0.1
AGMN Agassiz Nation 87.84 346 P P 09 55 22.6 +0.6
H17A Grant Village 88.00 336 P P 09 55 25.0 +1.8
baz=153
TORD Torodi Ar. Bea 88.00 72 P P 09 55 24.3 +0.7
comp=Z,3.3nm,0.7s,baz=244,slow=3.7,SNR=15
RLMT Red Lodge 88.23 337 P P 09 55 24.7 +0.5
RLMT IAmb IAmb 09 55 27.9
comp=Z,14nm,1.1s
RLMT Red Lodge 88.23 337 P P 09 55 25.5 +1.3
baz=154
HLID Hailey 88.59 333 P P 09 55 28.1 +2.1
baz=150
BOZ Bozeman (W) 89.41 335 P P 09 55 30.9 +1.2
baz=152
DLMT Dillon 89.52 335 P P 09 55 30.1 -0.1
DLMT IAmb IAmb 09 55 35.5
comp=Z,19nm,1.4s
ULM Lac du Bonnet 89.72 347 P P 09 55 31.4 +0.5
comp=Z,8.3nm,0.7s,baz=180,slow=4.5,SNR=8.4
ULM Lac du Bonnet 89.72 347 P P 09 55 31.1 +0.3
ULM pmax pmax
comp=Z,14nm,0.9s
ULM Lac du Bonnet 89.72 347 P P 09 55 31.1 +0.3
ULM IAmb IAmb 09 55 33.7
comp=Z,14nm,0.9s
DGMT Dagmar 89.84 341 P P 09 55 32.5 +1.0
baz=158
LRM Limekiln Ridge 89.88 335 P P 09 55 33.2 +1.2
J05D Fort Rock, OR 91.01 328 P P 09 55 38.9 +1.7
baz=146
MSO Missoula 91.26 335 P P 09 55 40.1 +1.9
baz=150
MSVF Nonsavu 91.74 246 LR LR 10 27 08.2
comp=Z,43nm,20.3s,baz=21,slow=29
NEW Newport 93.59 333 P P 09 55 49.4 +0.5
baz=148
MDT Midelt 96.34 53 LR LR 10 39 18.4
comp=Z,61nm,19.5s,baz=207,slow=35
DZM Mont Dzumac 96.78 235 LR LR 10 32 34.5
comp=Z,32nm,18.3s,baz=40,slow=31
DZM Mont Dzumac 96.78 235 *e*LR LR 10 27 32.8
comp=Z,115nm,28.0s
YKA Yellowknife Ar 105.02 342 Pdiff **Pdif 09 56 39.7 -0.1**
comp=Z,0.7nm,0.8s,baz=143,slow=4.4,SNR=11
ILAR Eielson Array 116.55 333 PKP **PKiKP 10 01 16.2 +0.1**
comp=Z,0.7nm,0.8s,baz=184,slow=2.6,SNR=5.0
GERES GERESS Array B 116.80 48 PKP **PKiKP 10 01 16.9 -0.3**
comp=Z,0.5nm,0.7s,baz=195,slow=2.1,SNR=5.4
KONO Kongsberg 119.49 36 ⇑ *i*PKIKP **PKPdf 10 01 19.7 -2.2**
NOA NORSAR Array B 120.80 34 PKP **PKiKP 10 01 24.6 +0.1**
comp=Z,1.0nm,0.8s,baz=256,slow=2.1,SNR=3.8
BRTR Keskin Array B 126.00 64 PKP **PKPdf 10 01 35.0 -0.3**
comp=Z,1.5nm,0.8s,baz=172,slow=2.9,SNR=6.3
BRTR Keskin Array B 126.00 64 PKIKP **PKiKP 10 01 35.6 -0.1**
BRTR Keskin Array B 126.00 64 PKiKP 10 01 35.6 -0.1
BR131 Keskin Array S 126.00 64 ⇓ *i*PKIKP **PKiKP 10 01 36.1 +0.4**
AKASG Malin Array Be 126.79 50 PKP **PKiKP 10 01 36.0 -0.7**
comp=Z,0.1nm,0.2s,baz=278,slow=2.7,SNR=4.5
AKBB Malin Array Si 126.79 50 ⇑ *i*PKIKP **PKPdf 10 01 35.3 -0.9**
OBN Obninsk 132.12 46 *e*PKIKP **PKiKP 10 01 46.8 -0.4**
OBN pmax pmax
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 134.17 38 *e*PKIKP **PKPdf 10 01 49.0 -0.8**
KLMR pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 134.17 38 *e*PKPdf **PKPdf 10 01 49.0 -0.8**
KLMR AMP 10 01 53.3
comp=Z,7.0nm,1.0s
BILL Bilibino 135.19 332 ⇑ *i*PKIKP **PKiKP 10 01 54.3 +1.2**
BILL pmax pmax
comp=Z,14nm,2.4s
BELG Belogornoye 138.37 51 ⇓ *i*PKIKP **PKiKP 10 01 59.6 -0.4**
GEYT Alibeck 143.56 75 PKP PKPbc 10 02 05.9 +0.7
comp=Z,3.1nm,0.5s,baz=281,slow=8.9,SNR=3.6
MA2 Magadan 143.77 322 ⇑ *e*PKIKP **PKPdf 10 02 07.5 0.0**
TIXI Tiksi 144.07 347 PKP PKPbc 10 02 05.4 -0.2
comp=Z,12nm,0.8s,baz=26,slow=2.9,SNR=36
TIXI Tiksi 144.07 347 *ce*PKIKP PKPbc 10 02 05.0 -0.6
TIXI Tiksi 144.07 347 PKPdf PKPbc 10 02 05.2 -0.4
ARU Arti 144.46 44 *i* PKIKP **PKPdf 10 02 07.9 -0.8**
PSI Prapat 144.58 170 PKP PKPbc 10 02 08.9 -0.2
comp=Z,17nm,0.8s,baz=166,slow=3.5,SNR=23
SVE Sverdlovsk 145.49 42 *e*PKIKP **PKPab 10 02 11.7 +0.8**
SVE pmax pmax
comp=Z,26nm,1.5s
URV Uravakonda 146.60 126 *e*PKiKP **PKPab 10 02 15.8 -0.5**
SKHT Srikalahasti 147.19 131 *e*PKiKP **PKPab 10 02 17.6 -0.9**
NRIK Noril'sk 147.25 11 PKPbc **PKPab 10 02 16.0 -1.3**
comp=Z,9.9nm,0.9s,baz=18,slow=1.0,SNR=11
NRIK Noril'sk 147.25 11 *de*PKP2 **PKPbc 10 02 15.7 +0.3**
RCLA Racherla 148.05 128 *e*PKiKP **PKPbc 10 02 19.5 +0.2**
SRLM Srisailam 148.50 127 *e*PKPab **PKiKP 10 02 21.0 -1.0**
ADKI Addanki 148.98 129 *e*PKPab **PKiKP 10 02 23.1 +0.2**
NJS Nagarjunasagar 149.10 127 *e*PKiKP **PKPbc 10 02 21.9 0.0**
HYBB Hyderabad (bro 149.25 125 *e*PKiKP **PKPbc 10 02 21.8 -0.5**
MYLAV Mylavaram 150.08 128 *e*PKiKP **PKPbc 10 02 23.7 -0.6**
SRSP Sriramsagar 150.20 122 *e*PKiKP **PKPbc 10 02 24.5 0.0**
RPR Rampur 150.78 124 *e*PKiKP **PKPbc 10 02 25.0 -1.0**
YSS Yuzh-Sakhalins 150.79 300 *e*PKiKP **PKPbc 10 02 24.6 -0.5**
YSS *e* 10 02 33.5
YSS pmax pmax
comp=Z,20nm,0.8s
ASAJ Asahikawa 150.97 294 PKPbc **PKiKP 10 02 26.1 -0.1**
comp=Z,19nm,0.8s,baz=81,slow=8.7,SNR=10.0
YAK Yakutsk 151.43 335 PKPbc **PKiKP 10 02 26.3 -0.2**
comp=Z,34nm,0.7s,baz=44,slow=0.3,SNR=25
YAK Yakutsk 151.43 335 *d* *i*PKIKP **PKiKP 10 02 26.2 -0.4**
YAK pmax pmax
comp=Z,54nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 151.43 335 PKiKP 10 02 26.4 -0.2
YAK PKPab **PKPab 10 02 34.3 -0.1**
BRVK Borovoye 151.89 46 *c* *i*PKIKP **PKiKP 10 02 28.5 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
MJAR Matsushiro Arr 153.38 277 PKPab **PKPab 10 02 43.6 0.0**
comp=Z,1.3nm,0.7s,baz=166,slow=3.3,SNR=6.0
KSH Kashi 157.57 77 PKP **PKPdf 10 02 30.4 +0.9**
ZALV Zalesovo Beam 159.00 34 PKP **PKPdf 10 02 30.2 -0.3**
comp=Z,1.7nm,0.8s,baz=263,slow=2.5,SNR=9.2
ZALV PKPab **pPKPab 10 03 08.2 -2.1**
comp=Z,8.6nm,1.0s,baz=306,slow=4.9,SNR=15
ZALV Zalesovo Beam 159.00 34 PKIKP **PKPdf 10 02 30.0 -0.5**
BOD Bodaibo 159.24 346 *e*PKP2 **PKPab 10 03 07.6 -0.3**
BOD pmax pmax
comp=Z,7.0nm,1.1s
CMAR Chiang Mai Arr 159.90 164 PKP **PKPdf 10 02 33.4 +0.8**
comp=Z,0.4nm,0.3s,baz=207,slow=3.7,SNR=1.3
CMAR PKPab **PKPab 10 03 12.1 +0.4**
comp=Z,0.7nm,0.3s,baz=215,slow=4.5,SNR=7.2
CMAR Chiang Mai Arr 159.90 164 PKP2 **PKPab 10 03 11.7 0.0**
CMAR Chiang Mai Arr 159.90 164 PKPab **PKPab 10 03 11.7 0.0**
MKAR Makanchi Array 161.30 55 PKP **PKPdf 10 02 33.9 +0.5**
comp=Z,2.7nm,1.1s,baz=306,slow=1.0,SNR=11
MKAR PKPab **PKPab 10 03 16.9 -0.5**
comp=Z,1.3nm,0.9s,baz=305,slow=4.3,SNR=6.1
KSRS Korea Array 161.63 275 PKPab **PKPab 10 03 20.2 +1.1**
comp=Z,2.1nm,0.7s,baz=116,slow=4.3,SNR=8.9
CN2 Changchun 163.30 297 *e*PKP **PKPdf 10 02 34.9 -0.5**
CN2 *e*PP **PP 10 07 14.1 +2.3**
CN2 SKS **SKSdf 10 09 38.1 -1.4**
WMQ Urumqi 165.88 60 *e*PKP **PKPdf 10 02 37.9 +0.1**
NJ2 Nanjing 166.99 247 *e*PKP **PKPdf 10 02 39.3 +0.4**
PZH PanZhiHua 168.28 167 PKP **PKPdf 10 02 39.8 -0.4**
SONM Songino Array 170.08 353 PKPab **PKPab 10 03 55.7 -0.3**
comp=Z,2.4nm,1.1s,baz=341,slow=2.8,SNR=7.9
SONM Songino Array 170.08 353 PKIKP **PKPdf 10 02 40.4 -0.3**
SONM 10 03 55.8
SONM Songino Array 170.08 353 PKPdf **PKPdf 10 02 40.4 -0.3**
SONM **PKPab 10 03 55.8 -0.3**
CD2 Chengdu 172.89 173 PKP **PKPdf 10 02 42.0 -0.5**
HHC Hu-ho-hao-te 173.98 300 *e*PKP **PKPdf 10 02 38.3 -4.4**
GTA Gaotai 175.91 68 PKP **PKPdf 10 02 44.0 +0.7**
GTA pPKP sPKPdf 10 02 50.8 +3.0

IDC 16 09:52:05.1±5.5, 61°.45N×28°.28W, h0km, mb3.3/3, mb1 3.5/3, mb1mx2.9/44, mbtmp3.3/3, MS2.8/3, Ms1 2.8/3, ms1mx2.5/47, Error ellipse: s-maj=177.1km s-min=36.3km az=176.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**18.81**	**74**	LR	LR	10 02 55.2	
	comp=Z,27nm,19.4s,baz=330,slow=35						
HFS	**Hagfors**	**20.27**	**75**	LR	LR	10 04 15.5	
	comp=Z,30nm,21.9s,baz=334,slow=36						
GERES	**GERESS Array B**	**26.58**	**99**	LR	LR	10 07 30.6	
	comp=Z,19nm,19.0s,baz=346,slow=35						
YKA	**Yellowknife Ar**	**37.71**	**311**	P	P	09 59 21.7	-0.1
	0.2nm,0.7s,baz=50,slow=9.7,SNR=3.0						
PDAR	**Pinedale Array**	**49.68**	**287**	P	P	10 00 58.5	-0.1
	0.2nm,0.6s,baz=58,slow=7.5,SNR=2.0						
MKAR	**Makanchi Array**	**58.58**	**49**	P	P	10 02 03.1	-0.1
	0.3nm,0.5s,baz=328,slow=5.1,SNR=5.1						

*IDC **16** 09:57:31.2±2.7, 5°.74S×130°.76E, h94km±28km, mb3.8/6, mb1 3.9/10, mb1mx3.5/42, mbtmp4.1/10, MS3.1/2, Ms1 3.1/2, ms1mx2.3/66, Error ellipse: s-maj=40.9km s-min=17.3km az=73.0*

*NEIC **16** 09:57:33.5±2.1, 5°.67S±0°.05×130°.9E±0°.1, h113km±8km, mb4.3/14, Error ellipse: s-maj=16.4km s-min=6.5km az=93.0*

*DJA **16** 09:57:33.2±0.4, 6°.5±2°.×13°.1E±°, h110km±12km, M4.4/12, mb4.5/7, mB4.8/5, MLv4.6/12, Mw(mB)4.0/5*

ISC 16 09:57:32.0±0.5, 5°.66S±0°.04×130°.92E±0°.07, h100km, n65, σ1°50/65, mb4.3/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.52**	**318**	P	**Pn**	**09 58 02.7**	**+4.2**
SAUI	**Saumlaki**	**2.34**	**171**	P	**Pn**	**09 58 11.9**	**+2.9**
SAUI				S	**Sn**	**09 58 37.4**	**0.0**
SAUI	**Saumlaki**	**2.34**	**171**	Pn	**Pn**	**09 58 10.7**	**+1.7**
FAKI	**Fak Fak**	**3.03**	**26**	P	**Pn**	**09 58 19.6**	**+1.4**
FAKI				S	**Sn**	**09 58 54.4**	**+0.6**
FAKI	**Fak Fak**	**3.03**	**26**	Pn	**Pn**	**09 58 20.1**	**+1.9**
FAKI				Sn	**Sn**	**09 58 55.3**	**+1.5**
FAKI	**Fak Fak**	**3.03**	**26**	P	**Pn**	**09 58 20.7**	**+2.5**
MSAI	**Masohi**	**3.04**	**319**	P	Pn	09 58 23.4	+5.1
AAI	**Ambon**	**3.35**	**306**	P	**Pn**	**09 58 26.2**	**+3.7**
SIJI	**Sorong**	**4.77**	**4**	P	**Pn**	**09 58 42.3**	**+0.6**
	5.0nm,0.3s,baz=220,slow=23,SNR=17						
SIJI				S	**Sn**	**09 59 33.1**	**-2.8**
	14nm,0.3s,baz=237,slow=23,SNR=21						
SWI	**Sorong**	**4.78**	**4**	P	**Pn**	**09 58 43.2**	**+1.4**
LBMI	**Labuha**	**6.05**	**325**	P	**Pn**	**09 59 01.3**	**+2.3**
	0.5nm805nm67nm,0.5s						
SANI	**Sanana**	**6.09**	**306**	P	**Pn**	**09 59 00.0**	**+0.4**
	0.3nm993nm82nm,0.6s						
SANI	**Sanana**	**6.09**	**306**	P	**Pn**	**09 59 01.7**	**+2.1**
DRS	**Darwin Rock St**	**6.73**	**180**	P	**Pn**	**09 59 09.7**	**+1.4**
BAKI	**Biak**	**6.82**	**50**	P	**Pn**	**09 59 09.7**	**+0.2**
MTN	**Manton Dam**	**7.14**	**178**		**Pn**	**09 59 15.2**	**+1.3**
MTN	**Manton Dam**	**7.14**	**178**	P	**Pn**	**09 59 15.3**	**+1.4**
KDU	**Kakadu**	**7.15**	**168**	P	**Pn**	**09 59 13.9**	**-0.1**
SOEI	**Soe**	**7.75**	**238**	P	**Pn**	**09 59 25.0**	**+2.7**
	0.3nm25nm,0.7s						
KNRA	**Kununurra**	**10.18**	**192**		**Pn**	**09 59 53.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**13.39**	**202**	P	Pn	10 00 34.4	-3.8
	1.4nm,0.3s,baz=34,slow=9.6,SNR=32						
FITZ				S	Sn	10 02 51.3	-14
	6.1nm,0.3s,baz=232,slow=0.9,SNR=34						
WB0	**Warramunga Arr**	**14.42**	**167**		**Pn**	**10 00 49.9**	**-1.6**
WRAB	**Tennant Creek**	**14.57**	**167**		**Pn**	**10 00 51.8**	**-1.7**
WRA	**Warramunga Arr**	**14.58**	**167**	P	**Pn**	**10 00 50.5**	**-3.0**
	0.4nm,0.3s,baz=349,slow=13,SNR=21						
WRA				S	Sn	10 03 21.9	-12
	1.4nm,0.3s,baz=353,slow=23,SNR=8.4						
WB2	**Warramunga Arr**	**14.58**	**167**		**Pn**	**10 00 51.8**	**-1.7**
COEN	**Coen**	**14.61**	**125**	Pn	**Pn**	**10 00 54.5**	**+0.5**
COEN	**Coen**	**14.61**	**125**	P	**Pn**	**10 00 55.4**	**+1.4**
WR0	**Warramunga Arr**	**14.64**	**166**	Pn	**Pn**	**10 00 53.0**	**-1.3**
PMG	**Port Moresby**	**16.52**	**104**	LR	LR	10 08 28.1	
	comp=Z,81nm,18.1s,baz=104,slow=39						
QIS	**Mount Isa**	**17.04**	**151**	P	**Pn**	**10 01 25.4**	**+1.1**
AS31	**Alice Springs**	**18.13**	**171**	P	**P**	**10 01 37.9**	**+1.4**
ASAR	**Alice Springs**	**18.13**	**171**	P	**P**	**10 01 37.2**	**+0.7**
	0.5nm,0.3s,baz=350,slow=8.9,SNR=48						
ASAR				S	S	10 04 46.7	-12
	0.3nm,0.3s,baz=354,slow=28,SNR=6.1						
ASAR	**Alice Springs**	**18.13**	**171**	P	**P**	**10 01 37.7**	**+1.2**
KKM	**Kota Kinabalu**	**18.73**	**308**	P	**P**	**10 01 43.5**	**+0.3**
KKM				IAmb	IAmb	10 01 46.6	
	comp=Z,18nm,0.9s						
KKM	**Kota Kinabalu**	**18.73**	**308**	P	**P**	**10 01 44.8**	**+1.6**
MBWA	**Marble Bar**	**18.84**	**214**	P	**P**	**10 01 44.2**	**-0.1**
	comp=Z,13nm,1.6s						
PSA00	**Pilbara Seismi**	**19.11**	**213**	P	**P**	**10 01 47.4**	**+0.3**
PSA00				IAmb	IAmb	10 01 47.9	
	comp=Z,8.9nm,0.5s						
PSA00	**Pilbara Seismi**	**19.11**	**213**	P	**P**	**10 01 47.5**	**+0.3**
WRKA	**Warakurna**	**19.43**	**187**	P	**P**	**10 01 51.6**	**+0.9**
CTA	**Charters Tower**	**20.68**	**135**	P	**P**	**10 02 05.0**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=321,slow=14,SNR=4.4						
OOD	**Oodnadatta**	**22.47**	**169**	P	**P**	**10 02 22.9**	**-0.2**
MEEK	**Meekatharra**	**23.94**	**208**	P	**P**	**10 02 37.0**	**-0.1**
MULG	**Mulgathing**	**24.67**	**173**	P	**P**	**10 02 45.0**	**+1.4**
MORW	**Morawa**	**27.21**	**209**	P	**P**	**10 03 05.9**	**-0.7**
BLDU	**Ballidu**	**28.20**	**207**	P	**P**	**10 03 14.6**	**-0.7**
UBPT	**Khong Chiam**	**32.69**	**310**	P	**P**	**10 03 55.3**	**+0.1**
UBPT				IAmb	IAmb	10 03 55.5	
	comp=Z,4.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.61**	**308**	P	**P**	**10 04 53.9**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=141,slow=7.9,SNR=14						
CMAR	**Chiang Mai Arr**	**39.61**	**308**	P	**P**	**10 04 53.7**	**-0.4**
QRZ	**Quartz Range**	**51.06**	**140**	P	**P**	**10 06 24.2**	**-0.1**
SONM	**Songino Array**	**57.48**	**341**	P	**P**	**10 07 10.7**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=169,slow=7.8,SNR=4.9						
SONM	**Songino Array**	**57.48**	**341**	P	**P**	**10 07 11.2**	**+0.4**
KAAM	**Kaadhehdhoo**	**58.16**	**274**	P	**P**	**10 07 13.3**	**-2.7**
MK31	**Makanchi Array**	**67.62**	**326**	P	**P**	**10 08 18.4**	**+0.2**
MK31				IAmb	IAmb	10 08 19.1	
	comp=Z,3.3nm,0.8s						
MKAR	**Makanchi Array**	**67.62**	**326**	P	**P**	**10 08 18.3**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=122,slow=8.0,SNR=46						
MKAR	**Makanchi Array**	**67.62**	**326**	P	**P**	**10 08 18.4**	**+0.2**
MAKZ	**Makanchi**	**67.81**	**326**	P	**P**	**10 08 19.4**	**+0.1**
MAKZ				IAmb	IAmb	10 08 20.1	
	comp=Z,4.9nm,1.0s						
BOOM	**Boomskoye usch**	**69.12**	**320**	P	**P**	**10 08 28.2**	**+0.4**
BOOM				IAmb	IAmb	10 08 28.9	
	comp=Z,2.7nm,0.9s						
ZAA0	**Zalesovo Array**	**70.80**	**333**	P	**P**	**10 08 36.7**	**-0.9**
ZALV	**Zalesovo Beam**	**70.80**	**333**	P	**P**	**10 08 36.2**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=130,slow=4.3,SNR=6.2						
ZALV	**Zalesovo Beam**	**70.80**	**333**	P	**P**	**10 08 36.7**	**-0.9**
KURBB	**Kurchatov Arra**	**71.86**	**328**	P	**P**	**10 08 43.7**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=127,slow=5.4,SNR=12						
KKAR	**Karatay Array**	**72.95**	**318**	P	**P**	**10 08 50.3**	**-0.5**
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**10 09 51.8**	**-1.0**
QSPA				IAmb	IAmb	10 10 08.1	
	comp=Z,4.4nm,1.3s						
GNI	**Garni**	**90.69**	**310**	LR	LR	10 59 00.3	
	comp=Z,7.1nm,18.1s,baz=342,slow=41						
TORD	**Torodi Ar. Bea**	**129.44**	**282**	PKP	**PKPdf**	**10 16 29.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=81,slow=1.6,SNR=4.4						

*IDC **16** 10:19:16.1±2.9, 5°.28S×145°.34E, h54km±27km, mb3.3/4, mb1 3.6/8, mb1mx3.2/54, mbtmp3.7/8, ML3.4/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/29, Error ellipse: s-maj=35.1km s-min=15.9km az=53.0*

ISC 16 10:19:17.7±1.4, 5°.3S±0°.1×145°.4E±0°.2, h86km, n10, σ1°38/11, mb3.3/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.44**	**157**	P	**Pn**	**10 20 22.1**	**-0.7**
	3.0nm,0.3s,baz=305,slow=8.6,SNR=6.6						
PMG				S	**Sn**	**10 21 12.7**	**-0.5**
	9.3nm,0.3s,baz=132,slow=20,SNR=13						
PMG				LR	LR	10 22 06.1	
	comp=Z,62nm,19.2s,baz=310,slow=38						
JAY	**Jayapura**	**5.42**	**301**	P	**Pn**	**10 20 34.7**	**-1.4**
	2.2nm,0.3s,baz=168,slow=6.9,SNR=11						
JAY				S	**Sn**	**10 21 37.5**	**+0.3**
	0.4nm,0.3s,baz=247,slow=16,SNR=1.6						
SIJI	**Sorong**	**14.76**	**287**	P	**Pn**	**10 22 40.6**	**-1.5**
	0.8nm,0.3s,baz=234,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**18.08**	**215**	P	**P**	**10 23 22.6**	**0.0**
	0.1nm,0.3s,baz=41,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**21.34**	**210**	P	**P**	**10 23 58.2**	**+0.2**
	1.3nm,0.9s,baz=37,slow=12,SNR=7.5						
BATI	**Baumata**	**22.05**	**256**	LR	LR	10 35 14.1	
	comp=Z,47nm,18.7s,baz=17,slow=44						
FITZ	**Fitzroy Crossi**	**23.09**	**235**	P	**P**	**10 24 18.9**	**+2.5**
	0.7nm,0.5s,baz=55,slow=9.8,SNR=1.5						
CMAR	**Chiang Mai Arr**	**51.50**	**299**	P	**P**	**10 28 16.9**	**+2.0**
	1.1nm,0.4s,baz=120,slow=5.9,SNR=8.2						
MKAR	**Makanchi Array**	**75.94**	**321**	P	**P**	**10 30 55.2**	**0.0**
	0.2nm,0.6s,baz=104,slow=6.1,SNR=4.4						
SIV	**San Ignacio**	**146.34**	**129**	PKPbc	**PKiKP**	**10 38 53.0**	**+0.3**
	1.8nm,0.6s,baz=26,slow=15,SNR=2.7						

*KNET **16** 10:23:31.2±0.5, 42°.28N×74°.78E, h17km±3km, ml1.0, Error ellipse: s-maj=4.1km s-min=3.0km az=116.0*

*SOME **16** 10:23:31.9, 42°.32N×74°.80E, h5km*

*NNC **16** 10:23:32.2±1.1, 42°.36N×74°.87E, h4km±8km, mb2.8, mpv2.4, Error ellipse: s-maj=12.2km s-min=3.0km az=168.0*

ISC 16 10:23:32.0±1.1, 42°.32N±0°.05×74°.81E±0°.03, h8km±10km, n21, σ0°68/39, 8C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.24**	**247**	⇑P	**Pg**	**10 23 36.7**	**-0.2**
	6.8nm,0.1s,SNR=18						
UCH				⇑S	**Sg**	**10 23 40.4**	**+0.2**
	22nm,0.2s						
KBK	**Karagaybulak**	**0.35**	**17**	⇓P	**Pg**	**10 23 39.8**	**+0.9**
	124nm,0.1s,SNR=14						
KBK				⇑S	**Sb**	**10 23 45.4**	**-0.9**
	50nm,0.1s						
AAK	**Ala-Archa**	**0.39**	**324**	⇓P	**Pb**	**10 23 40.5**	**-0.8**
	4.8nm,0.2s,SNR=8.0						
AAK				⇓S	**Sb**	**10 23 46.6**	**-1.0**
	16nm,0.2s						
AAK	**Ala-Archa**	**0.39**	**324**	⇑P	**Pg**	**10 23 40.2**	**+0.5**
	2.6nm,0.3s						
AAK				⇑S	**Sb**	**10 23 46.5**	**-1.1**
	7.2nm,0.2s						
CHMS	**Chumysh**	**0.68**	**356**	⇓P	**Pg**	**10 23 45.5**	**+0.5**
	5.1nm,0.1s,SNR=8.6						
CHMS				⇓S	**Sb**	**10 23 55.4**	**-0.2**
	2.7nm,0.1s						
TKM2	**Tokmak 2**	**0.83**	**44**	⇓P	**Pg**	**10 23 47.6**	**-0.4**
	3.1nm,0.1s,SNR=6.6						
TKM2	**Tokmak 2**	**0.83**	**44**	⇑P	**Pg**	**10 23 47.5**	**-0.5**
	0.9nm,0.2s						
TKM2				⇑S	**Sg**	**10 23 58.5**	**-0.4**
	2.8nm,0.5s						
USP	**Ospenovka**	**0.97**	**346**	⇓P	**Pg**	**10 23 50.8**	**+0.2**
	2.7nm,0.1s,SNR=11						
USP				⇑S	**Sb**	**10 24 04.6**	**+0.5**
	4.5nm,0.1s						
KST	**Kastek**	**1.11**	**49**	*e*P	**Pg**	**10 23 52.8**	**-0.6**
	3.3nm,0.3s						
KST				*e*S	**Sg**	**10 24 07.2**	**-0.7**
	3.0nm,0.3s						
KST	**Kastek**	**1.11**	**49**	P	**Pg**	**10 23 52.8**	**-0.6**
	2.8nm,0.2s						
KST				S	**Sg**	**10 24 07.2**	**-0.7**
	3.3nm,0.3s						
SGDS	**Sogindy**	**1.14**	**353**	*e*P	**Pg**	**10 23 53.8**	**0.0**
	1.0nm,0.1s						
SGDS				*e*S	**Sb**	**10 24 09.0**	**+0.1**
	2.7nm,0.2s						
DGS	**Degeres**	**1.16**	**37**	*e*P	**Pg**	**10 23 54.0**	**-0.2**
	1.2nm,0.2s						
DGS				*e*S	**Sg**	**10 24 09.6**	**+0.3**
	2.6nm,0.1s						
DGS	**Degeres**	**1.16**	**37**	P	**Pg**	**10 23 54.0**	**-0.2**
	1.7nm,0.3s						
DGS				S	**Sg**	**10 24 09.1**	**-0.3**
	2.6nm,0.1s						
MRKS	**Merke**	**1.25**	**290**	*e*P	**Pn**	**10 23 56.1**	**+0.3**
	0.5nm,0.1s						
MRKS				*e*S	**Sn**	**10 24 12.8**	**0.0**
	4.2nm,0.3s						
MRKS	**Merke**	**1.25**	**290**	P	**Pn**	**10 23 56.1**	**+0.3**
	0.9nm,0.3s						
MRKS				S	**Sn**	**10 24 12.8**	**0.0**
	4.2nm,0.3s						
TNSS	**Tian-Shan**	**1.73**	**65**	*e*P	**Pb**	**10 24 04.1**	**-0.1**
	0.6nm,0.2s						
TNSS				*e*S	**Sb**	**10 24 26.6**	**+0.4**
	1.6nm,0.3s						
KOTS	**Kotyrbulak**	**1.92**	**61**	*e*P	**Pb**	**10 24 07.5**	**+0.2**
	1.6nm,0.4s						
KOTS				*e*S	**Sb**	**10 24 32.9**	**+1.3**
	7.6nm,0.2s						
KOTS	**Kotyrbulak**	**1.92**	**61**	Pg	**Pg**	**10 24 08.6**	**-0.3**
	2.3nm,0.4s						
KOTS				Lg	Lg	10 24 34.5	
	7.6nm,0.2s						
KTBS	**Karatobe**	**1.95**	**44**	*e*P	**Pb**	**10 24 07.8**	**0.0**
	1.0nm,0.3s						
KTBS				*e*S	**Sb**	**10 24 33.2**	**+0.9**
	12nm,0.6s						
KTBS	**Karatobe**	**1.95**	**44**	Pg	**Pb**	**10 24 07.8**	**0.0**
	1.0nm,0.3s						
KTBS				Lg	Lg	10 24 33.2	
	12nm,0.6s						
BTLS	**Baital**	**2.77**	**349**	*e*P	**Pb**	**10 24 23.3**	**+1.5**
	1.1nm,0.2s						
BTLS				*e*S	**Sg**	**10 24 59.3**	**-1.7**
	2.1nm,0.0s						

*IDC **16** 10:28:10.6±1.6, 10°.64S×74°.20W, h141km±23km, mb3.3/2, mb1 3.5/7, mb1mx3.3/37, mbtmp4.0/7, Error ellipse: s-maj=22.9km s-min=15.8km az=52.0*

*NEIC **16** 10:28:10.2±1.9, 10°.61S±0°.09×74°.2W±0°.1, h135km±14km, mb4.3/11, Error ellipse: s-maj=18.1km s-min=10.9km az=123.0*

*VAO **16** 10:28:12.4±1.0, 10°.44S×73°.95W, h146km±10km, mb4.0*

ISC 16 10:28:10.4±0.7, 10°.63S±0°.06×74°.16W±0°.07, h150km, n33, σ1°27/36, mb3.5/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.96**	**243**	P	**Pn**	**10 28 56.3**	**-1.1**
	52nm,0.3s,baz=74,slow=10.0,SNR=50						
NNA				S	**Sn**	**10 29 32.7**	**-0.9**
	159nm,0.3s,baz=157,slow=23,SNR=28						
NNA	**Nana**	**2.96**	**243**	Pn	**Pn**	**10 28 56.0**	**-1.3**
CZSB	**Cruzeiro do Su**	**3.21**	**27**	*e*P	**Pn**	**10 28 58.9**	**-1.6**
CZSB	**Cruzeiro do Su**	**3.21**	**27**		**Pn**	**10 28 59.3**	**-1.2**
CZSB				Sn	**Sn**	**10 29 38.0**	**-1.4**
ATAH	**Atahualpa**	**5.43**	**309**	P	**Pn**	**10 29 28.6**	**-1.4**
	3.2nm,0.3s,baz=82,slow=5.9,SNR=21						
ATAH				S	**Sn**	**10 30 32.9**	**+0.8**
	5.5nm,0.3s,baz=104,slow=17,SNR=4.0						
TBTG	**Tabatinga, AM**	**7.66**	**34**	*e*P	**Pn**	**10 29 57.9**	**-1.4**
TBTG	**Tabatinga, AM**	**7.66**	**34**		**Pn**	**10 29 58.2**	**-1.2**
ETMB	**Extrema**	**7.86**	**85**	Pn	**Pn**	**10 30 01.8**	**-0.3**
LPAZ	**La Paz**	**8.13**	**134**	P	**Pn**	**10 30 07.5**	**+1.4**
	0.4nm,0.3s,baz=320,slow=12,SNR=15						
LPAZ	**La Paz**	**8.13**	**134**	*e*P	**Pn**	**10 30 07.9**	**+1.8**
LPAZ	**La Paz**	**8.13**	**134**	Pn	**Pn**	**10 30 07.1**	**+1.0**
PB16	**IPOC Station P**	**8.89**	**150**	Pn	**Pn**	**10 30 18.8**	**+2.6**
PB11	**IPOC Station P**	**10.07**	**155**	Pn	**Pn**	**10 30 29.0**	**-2.5**
PB08	**IPOC Station P**	**10.62**	**154**	Pn	**Pn**	**10 30 37.0**	**-1.9**
OTAV	**Otavalo**	**11.61**	**338**	*e*P	**Pn**	**10 30 52.0**	**0.0**
SIV	**San Ignacio**	**13.80**	**114**	P	**Pn**	**10 31 21.1**	**+1.1**
	0.6nm,0.3s,baz=286,slow=10,SNR=8.1						
PTLB	**Pontes e Lacer**	**15.40**	**110**	*e*P	**Pn**	**10 31 39.6**	**-0.2**
PTLB	**Pontes e Lacer**	**15.40**	**110**		**Pn**	**10 31 41.0**	**+1.1**
PDRB	**Porto dos Gac**	**17.13**	**95**	*e*P	**P**	**10 32 00.5**	**+0.2**
ZARC	**Zaragoza, Cauc**	**18.01**	**358**	P	**Pn**	**10 32 10.7**	**-0.8**
ZARC				IAmb	IAmb	10 32 12.1	
	comp=Z,4.5nm,0.5s						
BOAV	**Boa Vista**	**18.75**	**47**		**Pn**	**10 32 19.4**	**-0.8**
BOAV				IAmb	IAmb	10 32 20.2	
	comp=Z,10nm,0.9s						
SDV	**Santo Domingo**	**19.70**	**10**	P	**P**	**10 32 29.6**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=179,slow=7.7,SNR=8.6						
SDV	**Santo Domingo**	**19.70**	**10**	*e*P	**P**	**10 32 28.6**	**+0.2**
SDV	**Santo Domingo**	**19.70**	**10**	P	**P**	**10 32 29.6**	**+1.2**
SDV				IAmb	IAmb	10 32 31.5	
	comp=Z,13nm,1.0s						
BAUV	**El Baul**	**20.37**	**18**	P	**P**	**10 32 36.0**	**+0.6**
BAUV				IAmb	IAmb	10 32 39.1	
	comp=Z,20nm,0.9s						
CO03	**El Pedregal**	**20.37**	**171**	P	**P**	**10 32 34.8**	**-0.7**
CO03				IAmb	IAmb	10 32 49.4	
	comp=Z,9.1nm,1.1s						
SJCC	**San Jacinto, C**	**20.41**	**357**	P	**P**	**10 32 37.2**	**+1.3**
SJCC				IAmb	IAmb	10 32 41.3	
	comp=Z,14nm,0.7s						
URIC	**Uribia, Colomb**	**22.29**	**6**	P	**P**	**10 32 55.5**	**-0.1**
BIRV	**Birongo**	**22.38**	**21**	P	**P**	**10 32 57.3**	**+0.7**
BIRV				IAmb	IAmb	10 33 23.6	
	comp=Z,20nm,1.1s						
MT01	**Popeta**	**23.28**	**174**	P	**P**	**10 33 05.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**78.89**	**74**	P	**P**	**10 39 58.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=275,slow=5.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**78.89**	**74**	P	**P**	**10 39 58.0**	**+0.3**
YKA	**Yellowknife Ar**	**79.33**	**342**	P	**P**	**10 40 00.9**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=142,slow=6.3,SNR=4.3						

IDC 16 10:31:35.0±6.3, 5°.45S×147°.02E, h130km±85km, mb3.1/3, mb1 3.3/5, mb1mx2.9/32, mbtmp3.5/5, Error ellipse: s-maj=107.0km s-min=39.1km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.93**	**178**	P	Pn	10 32 33.2	-0.6
	1.2nm,0.3s,baz=144,slow=23,SNR=1.8						
PMG				S	Sn	10 33 20.4	+0.9
	2.8nm,0.3s,baz=213,slow=20,SNR=6.9						
WRA	**Warramunga Arr**	**18.96**	**219**	P	P	10 35 46.9	+0.5
	0.5nm,0.3s,baz=44,slow=11,SNR=38						
ASAR	**Alice Springs**	**22.08**	**214**	P	P	10 36 19.2	-0.5
	1.2nm,0.5s,baz=47,slow=8.9,SNR=27						
FITZ	**Fitzroy Crossi**	**24.37**	**237**	P	P	10 36 41.1	-0.1
	1.3nm,0.5s,baz=90,slow=8.6						
MKAR	**Makanchi Array**	**77.09**	**320**	P	P	10 43 14.3	+0.3
	0.1nm,0.7s,baz=99,slow=7.4,SNR=1.4						

*TUL **16** 10:41:23.5±1.0, 36°.25N±0°.02×98°.43W±0°.02, h7km±7km, ML2.5, mb_Lg2.0/5(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=200.0*

NEIC 16 10:41:23.6±1.2, 36°.25N±0°.02×98°.42W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.6km az=358.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**54**		Pg	10 41 32.3	+0.4
CROK				Sg	Sg	10 41 38.6	+1.1
U32A	**Winter Ranch,**	**0.49**	**285**	Pg	Pg	10 41 33.1	+0.1
U32A				Sg	Sg	10 41 40.0	+0.6
OK035	**E0210 Rd and N**	**0.51**	**333**	Pg	Pg	10 41 33.5	+0.1
OK035				Sg	Sg	10 41 40.8	+0.7
OK032	**Salt Plains WL**	**0.57**	**17**		Pg	10 41 34.7	+0.1
GC02	**Grant County #**	**0.75**	**37**		Pg	10 41 38.0	0.0
GC02				Sg	Sg	10 41 48.2	+0.6
KAN14	**Manchester OK**	**0.79**	**27**		Pg	10 41 38.8	0.0
KAN14				Sg	Sg	10 41 49.6	+0.5
BCOK	**Bluff Creek, N**	**0.89**	**132**	Pg	Pg	10 41 40.8	+0.3
BCOK				Sg	Sg	10 41 52.5	+0.5
OK029	**Liberty Lake**	**0.90**	**120**	Pg	Pg	10 41 40.7	-0.1
KAN10	**Anthony SW Sta**	**0.91**	**16**	Pg	Pg	10 41 40.8	-0.1
KAN17	**Caldwell West**	**0.95**	**33**		Pg	10 41 41.4	-0.3
KAN13	**South Haven SW**	**1.07**	**45**	Pg	Pg	10 41 43.7	-0.4
KAN06	**Argonia West S**	**1.09**	**24**	Pg	Pg	10 41 44.0	-0.4
BLOK	**Blackwell**	**1.09**	**62**	Pg	Pg	10 41 44.2	-0.4
KAN12	**Harper NE Stat**	**1.10**	**18**	Pg	Pg	10 41 44.2	-0.4
OK025	**Westminster Rd**	**1.10**	**127**	Pg	Pg	10 41 44.3	-0.4
OKCFA	**Oklahoma City**	**1.15**	**137**	Pg	Pg	10 41 45.0	-0.6
OKCSW	**OKLAHOMA CITY**	**1.16**	**136**	Pg	Pg	10 41 45.7	-0.1
FNO	**Franklin**	**1.29**	**140**	Pn	Pn	10 41 47.6	-0.7
OK031	**S. Brethren Rd**	**1.31**	**103**		Pn	10 41 48.7	-0.7
OK030	**Cody Creek RV**	**1.36**	**103**	Pn	Pn	10 41 48.7	-0.5
QUOK	**Quay**	**1.39**	**93**		Pn	10 41 49.1	-0.5
OK034	**N. Norfolk Rd.**	**1.40**	**99**	Pn	Pn	10 41 49.1	-0.6
WMOK	**Wichita Mounta**	**1.54**	**191**	Pn	Pn	10 41 51.1	-0.6
T35A	**Sooner Cattle**	**1.67**	**66**	Pn	Pn	10 41 53.5	0.0
X34A	**Smith Ranch, M**	**1.71**	**164**	Pn	Pn	10 41 54.

*IDC **16** 12:49:26.0±1.9, 37°08N×141°33E, h56km±17km, mb3.5/8, mb1 3.6/13, mb1mx3.3/40, mbtmp3.8/13, ML3.3/5, MS2.4/1, Ms1 2.4/1, ms1mx2.0/65, Error ellipse: s-maj=16.9km s-min=11.1km az=90.0*

*NIED **16** 12:49:27.6, 37°08N×141°15E, h60km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr0.23; Mθθ0.91; Mφφ-1.14; Mrθ-2.85; Mθφ0.22; Mφr-3.62; Fault plane solution: M0 4.73000×10^14 NP1: φs218.00000°, δ89.00000°, λ103.00000°. NP2: φs313.00000°, δ13.00000°, λ6.00000°.*

*JMA **16** 12:49:27.5±0.1, 37°08N×141°15E, h60km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs245.00000°, δ3.00000°, λ-45.00000°. NP2:φs20.00000°, δ88.00000°, λ-92.00000°. Principal axes: T Plg43.0000°, Azm112.0000°; N Plg2.0000°, Azm20.0000°; P Plg47.0000°, Azm288.0000°;*

JMA Felt II J1.

*NEIC **16** 12:49:28.5±1.3, 37°09N±0°05×141°2E±0°1, h67km±4km, mb4.0/8 Error ellipse: s-maj=13.5km s-min=7.4km az=104.0*

ISC 16 12:49:26.8±1.0, 37°07N±0°04×141°22E±0°07, h55km±7km, n64, σ1 15/70, mb3.7/12, 10C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.34**	**276**	⇑P	**Pn**	**12 49 37.5**	**+0.6**
ONAJ				S	**Sn**	**12 49 44.5**	**+0.4**
JFK	**Kawauchi**	**0.41**	**318**	⇑P	**Pn**	**12 49 38.1**	**+0.6**
JFK				S	**Sn**	**12 49 45.7**	**+0.5**
JFFD	**Fukushimafurud**	**0.53**	**273**	⇑P	**Pn**	**12 49 39.2**	**+0.4**
JFFD				S	**Sn**	**12 49 47.6**	**+0.2**
JHO	**Hitachi**	**0.69**	**229**	⇑P	**Pn**	**12 49 41.0**	**+0.3**
JHO				S	**Sn**	**12 49 50.8**	**0.0**
JFT	**Otama**	**0.84**	**303**	⇑P	**Pn**	**12 49 43.4**	**+0.8**
JFT				S	**Sn**	**12 49 54.8**	**+0.6**
JMM	**Marumori**	**0.87**	**337**	⇑P	**Pn**	**12 49 43.5**	**+0.5**
JMM				S	**Sn**	**12 49 55.3**	**+0.5**
JMM	**Marumori**	**0.87**	**337**		**Pn**	**12 49 43.3**	**+0.3**
JYT	**Yasato**	**1.17**	**225**		**Pn**	**12 49 47.2**	**+0.2**
JFY	**Yanaizu**	**1.26**	**286**	⇑P	**Pn**	**12 49 48.5**	**+0.3**
JFY				S	**Sn**	**12 50 03.8**	**-0.3**
JOU	**Okura**	**1.37**	**341**	⇑P	**Pn**	**12 49 50.3**	**+0.6**
JOU				S	**Sn**	**12 50 08.4**	**+1.6**
JIO	**Ouri**	**1.39**	**4**	⇑P	**Pn**	**12 49 50.6**	**+0.7**
JIO				S	**Sn**	**12 50 08.0**	**+0.7**
JYS	**Shiratake**	**1.47**	**322**	P	**Pn**	**12 49 52.0**	**+0.9**
JYS				S	**Sn**	**12 50 10.3**	**+1.0**
JAG	**Ashikaga**	**1.56**	**246**	⇑P	**Pn**	**12 49 52.5**	**+0.3**
JAG				S	**Sn**	**12 50 11.0**	**-0.3**
JKT	**Katashina**	**1.61**	**260**	P	**Pn**	**12 49 54.3**	**+1.3**
JKT				S	**Sn**	**12 50 13.5**	**+0.8**
MJAR	**Matsushiro Arr**	**2.47**	**259**	P	**Pn**	**12 50 05.8**	**+1.1**
	1.8nm,0.3s,baz=85,slow=15,SNR=61						
MJAR				S	**Sn**	**12 50 35.6**	**+1.9**
	4.9nm,0.3s,baz=71,slow=25,SNR=6.3						
MJAR				LR	LR	12 51 13.5	
	comp=Z,77nm,19.9s,baz=40,slow=42						
MJAR	**Matsushiro Arr**	**2.47**	**259**		**Pn**	**12 50 06.1**	**+1.4**
MAJO	**Matsushiro**	**2.47**	**259**		**Pn**	**12 50 06.5**	**+1.8**
MAT	**Matsushiro**	**2.47**	**259**	P	**Pn**	**12 50 06.2**	**+1.5**
MAT				S	**Sn**	**12 50 35.8**	**+2.1**
MJB9	**Matsu-Tunnel**	**2.48**	**259**	Pn	**Pn**	**12 50 06.8**	**+2.0**
JSD	**Sado**	**2.54**	**293**		**Pn**	**12 50 05.7**	**0.0**
JSG	**Sagara**	**3.43**	**227**	Pn	**Pn**	**12 50 20.4**	**+2.6**
JGF	**Kuroka**	**3.44**	**246**		**Pn**	**12 50 19.8**	**+1.8**
JTM	**Tenmabayashi**	**3.72**	**358**	Pn	**Pn**	**12 50 24.4**	**+2.6**
INU	**Inuyama**	**3.81**	**245**	Pn	**Pn**	**12 50 25.5**	**+2.6**
JHJ2	**Mitsune**	**4.11**	**197**	Pn	**Pn**	**12 50 28.7**	**+1.6**
JHJ	**Hachijo jima 2**	**4.11**	**197**	P	**Pn**	**12 50 27.6**	**+0.5**
	24nm,0.3s,baz=341,slow=22,SNR=18						
JHJ				S	**Sn**	**12 51 13.2**	**-0.7**
	30nm,0.3s,baz=255,slow=23,SNR=7.5						
ERM	**Erimo**	**5.17**	**16**	Pn	**Pn**	**12 50 43.3**	**+1.8**
JEW	**Eniwo**	**5.77**	**2**	Pn	**Pn**	**12 50 52.7**	**+2.9**
ASAJ	**Asahikawa**	**7.12**	**8**	P	**Pn**	**12 51 07.4**	**-0.9**
	0.9nm,0.3s,baz=217,slow=12,SNR=14						
ASAJ				S	**Sn**	**12 52 26.0**	**-1.9**
	0.4nm,0.3s,baz=61,slow=10,SNR=1.2						
JKA	**Kamikawa-asahi**	**7.12**	**8**		**Pn**	**12 51 09.1**	**+0.8**
JNU	**Nakatsue**	**9.34**	**248**	P	**Pn**	**12 51 38.6**	**-0.2**
	0.1nm,0.3s,baz=45,slow=4.3,SNR=2.5						
USRK	**Ussuriysk Ar.**	**9.99**	**318**	P	Pn	12 51 52.7	+5.1
	baz=132,slow=17,SNR=4.2						
KSRS	**Korea Array**	**10.61**	**276**	P	**Pn**	**12 51 57.2**	**+1.2**
	0.2nm,0.3s,baz=90,slow=14,SNR=6.5						
SONM	**Songino Array**	**27.64**	**304**	P	**P**	**12 55 07.3**	**-2.0**
	0.7nm,0.7s,baz=105,slow=8.1,SNR=6.6						
SONM	**Songino Array**	**27.64**	**304**	P	**P**	**12 55 08.6**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	13 24 53.0	
	baz=313,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	13 25 16.0	
	baz=313,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	13 25 01.3	
	baz=313,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	13 26 01.6	
	baz=314,slow=75						
H11S3	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	13 25 47.8	
	baz=314,slow=75						
H11S2	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	13 25 52.2	
	baz=314,slow=75						
ZALV	**Zalesovo Beam**	**41.78**	**312**	P	**P**	**12 57 09.6**	**-1.0**
	1.6nm,0.4s,baz=94,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	**41.78**	**312**	P	**P**	**12 57 10.6**	**0.0**
MK31	**Makanchi Array**	**43.97**	**302**	P	**P**	**12 57 28.1**	**-0.4**
MK31				IAmb	IAmb	12 57 28.9	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**43.97**	**302**	P	**P**	**12 57 28.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=85,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**43.97**	**302**	P	**P**	**12 57 27.9**	**-0.6**
MAKZ	**Makanchi**	**44.18**	**302**	P	**P**	**12 57 30.4**	**+0.2**
MAKZ				IAmb	IAmb	12 57 41.3	
	comp=Z,1.1nm,0.9s						
KURK	**Kurchatov**	**45.79**	**308**	P	**P**	**12 57 42.6**	**-0.2**
KURK				IAmb	IAmb	12 57 43.3	
	comp=Z,2.4nm,0.8s						
KNRA	**Kununurra**	**53.76**	**195**	P	**P**	**12 58 44.3**	**+0.7**
WB0	**Warramunga Arr**	**56.89**	**188**	P	**P**	**12 59 06.0**	**-0.1**
WR0	**Warramunga Arr**	**57.06**	**187**	P	**P**	**12 59 06.8**	**-0.5**
WR0				IAmb	IAmb	12 59 10.8	
	comp=Z,4.2nm,1.3s						
WRA	**Warramunga Arr**	**57.07**	**188**	P	**P**	**12 59 06.5**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=5.8,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	**57.07**	**188**	P	**P**	**12 59 07.1**	**-0.3**
ABKAR	**Akbulak array**	**57.80**	**310**	P	**P**	**12 59 12.0**	**-0.3**
ASAR	**Alice Springs**	**60.80**	**188**	P	**P**	**12 59 33.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=1.2,slow=6.3,SNR=6.8						
ASAR	**Alice Springs**	**60.80**	**188**	P	**P**	**12 59 34.2**	**+1.0**
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**13 00 23.8**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=29,slow=8.8,SNR=3.6						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**13 00 24.2**	**0.0**
AKASG	**Malin Array Be**	**74.18**	**322**	P	**P**	**13 00 56.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=45,slow=6.3,SNR=3.1						
PDAR	**Pinedale Array**	**77.75**	**45**	P	**P**	**13 01 18.2**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=283,slow=4.4,SNR=2.5						
PDAR	**Pinedale Array**	**77.75**	**45**	P	**P**	**13 01 19.2**	**+1.0**
H03N2	**Juan Fernandez**	**147.18**	**96**	T	T	15 54 02.6	
	baz=291,slow=76						
H03N3	**Juan Fernandez**	**147.19**	**96**	T	T	15 54 04.3	
	baz=291,slow=76						
H03N1	**Juan Fernandez**	**147.20**	**96**	T	T	15 54 03.3	
	baz=291,slow=76						

IDC 16 13:00:40.4±2.0, 0°77N×126°38E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/35, mbtmp3.4/3, Error ellipse: s-maj=178.8km s-min=25.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.02**	**160**	P	P	13 05 35.4	-1.2
	1.6nm,1.1s,baz=338,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.37**	**164**	P	P	13 06 10.3	+0.8
	0.3nm,0.4s,baz=344,slow=12,SNR=11						
MKAR	**Makanchi Array**	**59.79**	**326**	P	P	13 10 47.4	-0.1
	0.3nm,0.7s,baz=118,slow=8.0,SNR=6.6						

*NEIC **16** 13:06:37.3±2.6, 60°71N±0°09×28°0W±0°1, h10km±1km, mb4.5/31, Error ellipse: s-maj=16.9km s-min=9.9km az=153.0*

*IDC **16** 13:06:38.8±0.7, 61°10N×28°15W, h0km, mb4.0/21, mb1 4.2/25, mb1mx4.0/51, mbtmp4.0/25, ML3.1/3, MS3.8/55, Ms1 3.8/55, ms1mx3.7/93, Error ellipse: s-maj=21.8km s-min=10.9km az=5.0*

*REY **16** 13:06:38.9, 60°68N×26°69W, h10km*

ISC 16 13:06:38.7±0.5, 60°93N±0°07×27°96W±0°05, h10km, n156, σ2 9 07/133, mb4.4/43, MS3.8/54, 1C-1D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRV	**Grindav??k**	**3.90**	**39**	P	**Pn**	**13 07 37.6**	**-0.9**
	baz=30						
INYL	**Nylenda**	**3.90**	**36**	S	**Sn**	**13 08 23.8**	**-0.5**
	baz=27						
IVOG	**Vogar**	**4.00**	**38**	P	**Pn**	**13 07 39.2**	**-0.7**
	baz=29						
IVOG				S	**Sn**	**13 08 26.2**	**-0.6**
	baz=29						
IKRI	**Krysuvik**	**4.03**	**40**	P	**Pn**	**13 07 38.9**	**-1.5**
	baz=32						
IVOS	**Vogsosar**	**4.13**	**42**	P	**Pn**	**13 07 40.4**	**-1.4**
	baz=34						
IVOS				S	**Sn**	**13 08 27.8**	**-2.3**
	baz=34						
IKAS	**Kald??rsel**	**4.20**	**40**	P	**Pn**	**13 07 41.1**	**-1.6**
	baz=32						
IKAS				S	**Sn**	**13 08 31.4**	**-0.5**
	baz=32						
ISAN	**Sandskeio**	**4.32**	**41**	P	**Pn**	**13 07 43.3**	**-1.0**
	baz=33						
ISAN				S	**Sn**	**13 08 33.2**	**-1.3**
	baz=33						
IBJA	**Bjarnastaoir**	**4.33**	**43**	P	**Pn**	**13 07 42.8**	**-1.7**
	baz=35						
IBJA				S	**Sn**	**13 08 32.6**	**-2.2**
	baz=35						
ISOL	**Solvholt**	**4.44**	**44**	P	**Pn**	**13 07 44.4**	**-1.5**
	baz=37						
ISOL				S	**Sn**	**13 08 34.7**	**-2.8**
	baz=37						
IKRO	**Krokur**	**4.49**	**42**	P	**Pn**	**13 07 45.5**	**-1.2**
	baz=35						
IKRO				S	**Sn**	**13 08 36.9**	**-1.9**
	baz=35						
IASM	**Asmuli**	**4.49**	**46**	P	**Pn**	**13 07 44.8**	**-1.9**
	baz=39						
IASM				S	**Sn**	**13 08 35.6**	**-3.3**
	baz=39						
IHEI	**Heioarbar**	**4.52**	**41**	P	**Pn**	**13 07 46.7**	**-0.4**
	baz=33						
IHEI				S	**Sn**	**13 08 38.6**	**-1.1**
	baz=33						
IMID	**Miomork**	**4.66**	**50**	P	**Pn**	**13 07 46.1**	**-2.9**
	baz=44						
ISAU	**Saurbar**	**4.66**	**45**	P	**Pn**	**13 07 47.4**	**-1.6**
	baz=39						
ISAU				S	**Sn**	**13 08 40.4**	**-2.6**
	baz=39						
IHAU	**Haukadalur**	**4.80**	**47**	S	**Sn**	**13 08 43.4**	**-3.1**
	baz=41						
BORG	**Borgarnes**	**4.89**	**36**	Pn	**Pn**	**13 07 51.4**	**-0.7**
	11nm,0.3s,baz=274,slow=6.1,SNR=74						
BORG				Sn	**Sn**	**13 08 46.7**	**-2.0**
	10.0nm,0.3s,baz=286,slow=22,SNR=17						
BORG	**Borgarnes**	**4.89**	**36**		**Pn**	**13 07 51.8**	**-0.4**
IASB	**`sbjarnarst**	**4.89**	**36**	P	**Pn**	**13 07 51.5**	**-0.7**
	baz=29						
IASB				S	**Sn**	**13 08 47.8**	**-0.9**
	baz=29						
IGYG	**Gygjarholskot**	**4.91**	**43**	P	**Pn**	**13 07 50.9**	**-1.5**
	baz=37						
IGYG				S	**Sn**	**13 08 48.1**	**-1.1**
	baz=37						
IIEY	**Innrieyrar**	**5.55**	**51**	P	**Pn**	**13 07 58.4**	**-2.9**
	baz=46						
IJOK	**Jokulheimar**	**5.63**	**49**	P	**Pn**	**13 08 00.1**	**-2.3**
	baz=43						
IKAL	**Kalfafell**	**5.65**	**53**	P	**Pn**	**13 08 00.3**	**-2.3**
	baz=48						
ISKR	**Skrokkalda**	**5.71**	**46**	P	**Pn**	**13 08 01.7**	**-1.8**
	baz=41						
IHUS	**Husbondi**	**5.83**	**50**	P	**Pn**	**13 08 02.3**	**-2.9**
	baz=45						
IHAE	**Haedir**	**5.96**	**54**	P	**Pn**	**13 08 04.3**	**-2.5**
	baz=49						
IGRF	**Grimsfjall**	**6.03**	**50**	P	**Pn**	**13 08 06.5**	**-1.5**
	baz=45						
SCO	**Scoresbysund**	**9.90**	**12**	Pn	**Pn**	**13 09 02.3**	**+1.5**
SFJD	**Kangerlussuaq**	**11.61**	**311**	LR	LR	13 13 13.5	
	comp=Z,973nm,18.6s,baz=126,slow=34						
SUMG	**Summit**	**12.38**	**345**	Pn	**Pn**	**13 09 34.8**	**-0.3**
JMIC	**Jan Mayen**	**12.75**	**30**	LR	LR	13 13 28.9	
	comp=Z,245nm,21.2s,baz=244,slow=32						
EKA	**Eskdalemuir Ar**	**14.19**	**102**	Pn	**Pn**	**13 10 01.1**	**+1.6**
	baz=300,slow=12,SNR=2.6						
EKA				LR	LR	13 14 36.7	
	comp=Z,612nm,19.0s,baz=310,slow=33						
NOA	**NORSAR Array B**	**18.81**	**72**	P	**Pn**	**13 11 00.7**	**+2.1**
	0.0nm,0.3s,baz=284,slow=12,SNR=5.7						
NOA				LR	LR	13 17 39.8	
	comp=Z,241nm,18.8s,baz=285,slow=35						
FRB	**Frobisher Bay**	**18.82**	**296**	P	**P**	**13 10 57.8**	**-0.3**
	0.1nm,0.3s,baz=96,slow=7.4,SNR=4.0						
FRB				LR	LR	13 16 57.3	
	comp=Z,473nm,20.4s,baz=99,slow=33						
HFS	**Hagfors**	**20.27**	**74**	LR	LR	13 18 34.7	
	comp=Z,274nm,19.0s,baz=285,slow=35						
TULEG	**Thule**	**20.79**	**334**	P	**P**	**13 11 18.7**	**-0.8**
BMRD	**Maredsous**	**21.08**	**105**	x	**P**	**13 11 27.1**	**+4.3**
DOU	**Dourbes**	**21.14**	**106**	Pn	**P**	**13 11 23.6**	**+0.2**
	24nm,1.1s						
DOU				x	**P**	**13 11 28.5**	**+5.0**
BCLA	**Clavier**	**21.26**	**105**	PnPn	P	13 11 41.5	+17
BSTI	**Sart Tilman**	**21.27**	**104**	x	**P**	**13 11 27.3**	**+2.4**
SCHQ	**Schefferville**	**21.29**	**271**	P	**P**	**13 11 25.3**	**+0.2**
	7.0nm,0.8s,baz=48,slow=8.3,SNR=6.2						
SCHQ				LR	LR	13 18 21.4	
	comp=Z,224nm,18.5s,baz=350,slow=33						
SCHQ	**Schefferville**	**21.29**	**271**	P	**P**	**13 11 22.8**	**-2.3**
SCHQ				IAmb	IAmb	13 11 48.7	
	comp=Z,30nm,1.4s						
MEM	**Membach**	**21.46**	**103**	x	**P**	**13 11 29.9**	**+3.0**
MEM				PnPn	**PnPn**	**13 11 43.6**	**-3.2**
BTNL	**Ternell**	**21.54**	**103**	x	**P**	**13 11 29.1**	**+1.3**
BTNL				PnPn	**PnPn**	**13 11 45.7**	**-2.2**
CLF	**Chambon-Foret**	**21.55**	**113**	P	**P**	**13 11 23.5**	**-4.3**
BHOU	**Houvegnez**	**21.63**	**104**	x	**P**	**13 11 31.1**	**+2.3**
WLF	**Walferdange**	**22.17**	**105**	P	**P**	**13 11 31.6**	**-3.0**
WLF				IAmb	IAmb	13 11 42.4	
	comp=Z,18nm,1.0s						
WLF	**Walferdange**	**22.17**	**105**	x	x	13 11 41.9	
ARCES	**ARCESS Array B**	**23.20**	**46**	P	**P**	**13 11 46.6**	**+1.4**
	comp=Z,12nm,1.0s,baz=265,slow=9.9,SNR=8.2						
ARCES				LR	LR	13 19 20.1	
	comp=Z,226nm,18.3s,baz=266,slow=33						
ARCES	**ARCESS Array B**	**23.20**	**46**	P	**P**	**13 11 45.0**	**-0.2**
CLL	**Collm**	**24.38**	**95**	*i* P	**P**	**13 12 00.0**	**+3.3**
	comp=Z,14nm,1.3s						
CLL				*ex*	x	13 12 12.0	
CLL	**Collm**	**24.38**	**95**	P	**P**	**13 11 53.3**	**-3.4**
CLL				IAmb	IAmb	13 12 02.7	
	comp=Z,14nm,1.3s						
BRG	**Berggiesshubel**	**25.12**	**95**	*e*P	**P**	**13 12 06.4**	**+3.1**
BRG				Amp		13 12 08.1	
	comp=Z,8.1nm,1.0s						
EUNU	**Eureka**	**25.34**	**340**	P	**P**	**13 12 05.7**	**+0.5**
EUNU				IAmb	IAmb	13 12 08.3	
	comp=Z,11nm,1.1s						
FINES	**FINESS Array B**	**25.43**	**65**	P	**P**	**13 12 07.5**	**+1.4**
	comp=Z,9.3nm,1.0s,baz=284,slow=7.7,SNR=12						
FINES				LR	LR	13 21 44.1	
	comp=Z,141nm,18.3s,baz=303,slow=36						
FINES	**FINESS Array B**	**25.43**	**65**	P	**P**	**13 12 04.4**	**-1.6**
FIA1	**FINESS Array S**	**25.43**	**65**	P	**P**	**13 12 04.6**	**-1.5**
PVCC	**Panska Ves**	**25.64**	**95**	AMS	AMS	13 23 10.0	
	comp=Z,300nm,14.0s						
ESDC	**Sonseca Array**	**25.94**	**134**	P	**P**	**13 12 13.9**	**+2.9**
	comp=Z,1.1nm,0.8s,baz=338,slow=9.7,SNR=6.0						
ESDC				LR	LR	13 20 36.7	
	comp=Z,140nm,20.3s,baz=322,slow=32						
DAVOX	**Davos/Dischmat**	**25.98**	**106**	LR	LR	13 22 13.1	
	comp=Z,125nm,20.7s,baz=265,slow=36						
PRU	**Pruhonice**	**25.98**	**96**	AMS	AMS	13 23 10.0	
	comp=Z,300nm,15.9s						
KHC	**Kasperske Hory**	**26.09**	**98**	*e*P	**P**	**13 12 15.5**	**+3.3**
KHC				AMS	AMS	13 23 20.0	
	comp=Z,500nm,16.3s						
CHVC	**Chvalec**	**26.33**	**93**	*e*P	**P**	**13 12 18.3**	**+3.9**
GERES	**GERESS Array B**	**26.34**	**98**	P	**P**	**13 12 18.4**	**+3.8**
	comp=Z,0.3nm,0.7s,baz=330,slow=11,SNR=2.4						
GERES				LR	LR	13 22 48.2	
	comp=Z,247nm,19.0s,baz=312,slow=37						
OSTC	**Ostas**	**26.43**	**93**	*e*P	**P**	**13 12 19.9**	**+4.6**
DPC	**Dobruska-Polom**	**26.61**	**93**	*e*P	**P**	**13 12 20.3**	**+3.3**
CKRC	**Cesky Krumlov**	**26.66**	**98**	*e*P	**P**	**13 12 22.8**	**+5.5**
CKRC				AMS	AMS	13 23 30.0	
	comp=Z,600nm,19.3s						
RES	**Resolute Bay**	**26.86**	**327**	P	**P**	**13 12 18.4**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=78,slow=15,SNR=4.4						
RES				LR	LR	13 21 41.8	
	comp=Z,231nm,18.3s,baz=287,slow=34						
KRLC	**Kraliky**	**27.02**	**93**	*e*P	**P**	**13 12 24.7**	**+4.1**
VRAC	**Vranov**	**27.43**	**95**	LR	LR	13 24 20.4	
	comp=Z,269nm,18.5s,baz=314,slow=38						
VRAC	**Vranov**	**27.43**	**95**	*e*P	**P**	**13 12 23.3**	**-1.0**
KRUC	**Moravsky**	**27.50**	**95**	*e*P	**P**	**13 12 23.6**	**-1.3**
MORC	**Moravsky Berou**	**27.59**	**93**	*e*P	**P**	**13 12 24.8**	**-0.9**
MORC	**Moravsky Berou**	**27.59**	**93**	P	**P**	**13 12 24.0**	**-1.7**
KLMR	**Klimovskoe**	**31.52**	**60**	*e*P	**P**	**13 13 00.5**	**+0.2**
KLMR				AMP		13 13 04.8	
	comp=Z,23nm,1.2s						
MDT	**Midelt**	**31.98**	**141**	LR	LR	13 24 39.1	
	comp=Z,56nm,18.2s,baz=353,slow=34						
AKASG	**Malin Array Be**	**32.67**	**82**	P	**P**	**13 13 11.7**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=314,slow=8.7,SNR=9.4						
AKASG				LR	LR	13 26 38.2	
	comp=Z,144nm,18.1s,baz=262,slow=37						
BURAR	**Bucovina Array**	**32.79**	**89**	P	**P**	**13 13 14.3**	**+2.5**
OBN	**Obninsk**	**33.39**	**70**	LR	LR	13 26 04.4	
	comp=Z,44nm,20.8s,baz=222,slow=35						
SADO	**Sadowa**	**33.85**	**265**	LR	LR	13 25 34.5	
	comp=Z,354nm,19.7s,baz=349,slow=34						
KEST	**Kesra**	**34.57**	**120**	LR	LR	13 27 40.5	
	comp=Z,183nm,18.4s,baz=288,slow=36						
MLR	**Muntele Rosu**	**34.65**	**91**	LR	LR	13 27 42.0	
	comp=Z,118nm,21.1s,baz=340,slow=36						
A36M	**Sachs Harbour**	**35.90**	**328**	P	**P**	**13 13 39.6**	**+1.3**
A36M				IAmb	IAmb	13 13 40.7	
	comp=Z,7.8nm,1.0s						
KIRV	**Kirov**	**36.94**	**58**	LR	LR	13 28 09.7	
	comp=Z,143nm,18.1s,baz=338,slow=35						
ULM	**Lac du Bonnet**	**38.10**	**285**	P	**P**	**13 13 57.9**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=43,slow=10,SNR=3.2						
ULM				LR	LR	13 28 36.3	
	comp=Z,471nm,19.4s,baz=352,slow=35						
ULM	**Lac du Bonnet**	**38.10**	**285**	P	**P**	**13 13 55.8**	**-1.4**
ULM				IAmb	IAmb	13 13 58.5	
	comp=Z,20nm,1.3s						
YKA	**Yellowknife Ar**	**38.17**	**311**	P	**P**	**13 13 58.4**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=51,slow=9.0,SNR=44						
YKA				PcP	**PcP**	**13 16 12.2**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=35,slow=3.2,SNR=4.4						
YKA	**Yellowknife Ar**	**38.17**	**311**	P	**P**	**13 13 56.4**	**-1.3**
BELG	**Belogornoye**	**40.17**	**67**	LR	LR	13 30 26.7	
	comp=Z,83nm,19.1s,baz=328,slow=36						
INK	**Inuvik**	**40.42**	**326**	P	**P**	**13 14 15.8**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=36,slow=12,SNR=4.4						
INK				LR	LR	13 30 31.5	
	comp=Z,140nm,21.5s,baz=158,slow=36						
INK	**Inuvik**	**40.42**	**326**	P	**P**	**13 14 15.3**	**-1.0**
IDI	**Anoyia**	**42.00**	**103**	LR	LR	13 33 24.6	
	comp=Z,79nm,19.0s,baz=256,slow=38						
ARU	**Arti**	**42.09**	**56**	LR	LR	13 30 59.0	
	comp=Z,128nm,18.6s,baz=330,slow=35						
ARU	**Arti**	**42.09**	**56**	P	**P**	**13 14 29.6**	**-0.7**
ARU				IAmb	IAmb	13 14 35.4	
	comp=Z,19nm,1.4s						
NRIK	**Noril'sk**	**42.17**	**28**	P	**P**	**13 14 32.4**	**+1.6**
	comp=Z,1.0nm,0.4s,baz=322,slow=4.3,SNR=5.4						
NRIK	**Noril'sk**	**42.17**	**28**	P	**P**	**13 14 31.1**	**+0.3**
NRIK				IAmb	IAmb	13 14 38.1	
	comp=Z,11nm,1.4s						
BRTR	**Keskin Array B**	**42.72**	**91**	P	**P**	**13 14 38.5**	**+2.7**
	comp=Z,1.8nm,1.0s,baz=326,slow=6.4,SNR=5.2						
BRTR				LR	LR	13 34 33.4	
	comp=Z,100nm,20.7s,baz=316,slow=39						
TKL	**Tuckaleechee C**	**43.12**	**260**	LR	LR	13 31 05.3	
	comp=Z,202nm,18.5s,baz=338,slow=34						
KBZ	**Khabaz**	**44.18**	**79**	P	**P**	**13 14 50.5**	**+3.2**
	comp=Z,4.9nm,0.9s,baz=327,slow=10,SNR=6.2						
KBZ				LR	LR	13 33 46.9	
	comp=Z,121nm,19.2s,baz=344,slow=37						
J29M	**Klondike Camp**	**44.52**	**325**	P	**P**	**13 14 50.8**	**+1.0**
J29M				IAmb	IAmb	13 14 52.7	
	comp=Z,7.0nm,0.8s						
LAO	**LASA Array**	**45.47**	**289**	P	**P**	**13 14 58.4**	**+0.8**
J26L	**Joseph Creek**	**45.95**	**327**	P	**P**	**13 15 01.7**

KSH pP sP 13 17 12.3 +6.3
KSH pmax pmax
comp=Z,8.0nm,1.3s
WMQ Urumqi 63.32 47 *e*P **P 13 17 09.1 +1.6**
CMIG Matias Romero 64.03 258 LR LR 13 44 40.3
comp=Z,57nm,21.5s,baz=292,slow=36
JTS Las Juntas de 65.37 245 LR LR 13 41 41.8
comp=Z,74nm,21.6s,slow=32
SONM Songino Array 65.49 32 P **P 13 17 22.7 +1.0**
comp=Z,0.4nm,0.5s,baz=319,slow=6.5,SNR=6.5
LPIG La Paz 65.56 276 LR LR 13 45 05.1
comp=Z,112nm,20.1s,baz=330,slow=35
WSAR Wadi Sarin 68.34 81 LR LR 13 51 39.6
comp=Z,25nm,19.1s,baz=26,slow=40
KLR Kul'dur 68.98 14 LR LR 13 50 54.9
comp=Z,42nm,18.0s,baz=50,slow=39
GTA Gaotai 71.34 40 ⇑P **P 13 18 00.3 +1.9**
GTA pP sP 13 18 05.9 +3.5
GTA sP pP 13 18 09.1 +7.8
GTA pmax pmax
comp=Z,4.0nm,1.7s
HHC Hu-ho-hao-te 73.34 31 *e*P **P 13 18 09.5 -0.8**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.3s
LZH Lanzhou 75.64 39 *e*P **P 13 18 19.8 -4.0**
LZH pP pP 13 18 25.5 -1.3
LZH pmax pmax
comp=Z,21nm,1.4s
MBAR Mbarara 75.84 118 LR LR 13 54 02.5
comp=Z,40nm,18.3s,baz=15,slow=37
KSRS Korea Array 80.00 19 P **P 13 18 47.1 -0.7**
comp=Z,1.0nm,0.8s,baz=345,slow=4.6,SNR=3.6
NJ2 Nanjing 83.47 28 *e*P **P 13 19 04.1 -2.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PZH PanZhiHua 83.81 44 P **P 13 19 07.5 -0.7**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.8s
KMI Kunming 85.43 44 ⇓P **P 13 19 15.6 -0.9**
KMI pmax pmax
comp=Z,11nm,0.5s
LSZ Lusaka 88.05 127 LR LR 14 02 10.7
comp=Z,106nm,18.0s,baz=346,slow=38
CPUP Villa Florida 90.17 206 LR LR 13 58 49.9
comp=Z,33nm,18.2s,baz=12,slow=35
CMAR Chiang Mai Arr 90.22 49 P **P 13 19 41.2 +1.9**
comp=Z,0.9nm,0.8s,baz=320,slow=5.7,SNR=10
CMAR LR LR 14 01 09.0
comp=Z,14nm,19.9s,baz=35,slow=36
CMAR Chiang Mai Arr 90.22 49 P **P 13 19 37.7 -1.6**
PALK Pallekele 92.60 70 LR LR 14 06 07.0
comp=Z,33nm,19.1s,baz=110,slow=38
LBTB Lobatse 95.95 133 LR LR 14 02 15.6
comp=Z,52nm,22.0s,baz=294,slow=35
BOSA Boshof 99.12 135 LR LR 14 05 09.0
comp=Z,75nm,18.6s,baz=5.5,slow=35

*IDC **16** 13:15:29.3±1.2,52°.25N×174°.96E,h0km,mb3.5/10, mb1 3.9/12,mb1mx3.6/49,mbtmp3.6/12,ML2.1/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/81,Error ellipse: s-maj=30.6km s-min=14.5km az=5.0*
*AEIC **16** 13:15:34±4.7,52°.2N±0°.1×175°.3E±0°.1,h11km±6km,Error ellipse: s-maj=22.5km s-min=8.0km az=206.0*
*NEIC **16** 13:15:35.9±1.3,52°.07N±0°.08×175°.1E±0°.1,h51km±12km, mb4.6/19,ML3.9(AEIC),Error ellipse: s-maj=14.3km s-min=7.8km az=219.0*
ISC 16 13:15:34.1±0.8,52°.0N±0°.1×175°.00E±0°.06,h39km,n56, σ1ş50/47,mb4.3/20,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.96**	**325**	LR	LR	13 15 39.3	
	comp=Z,98nm,21.5s,baz=12,slow=14						
SHEM				Pn	**Pn**	**13 15 51.9**	**+0.9**
	394nm,0.3s,baz=160,slow=4.4,SNR=229						
SHEM				Sn	**Sn**	**13 16 04.9**	**+1.5**
	575nm,0.3s,baz=300,slow=20,SNR=9.4						
SMY	**Shemya**	**0.96**	**325**		**Pn**	**13 15 52.0**	**+1.0**
GANO	**Gareloi North**	**3.84**	**89**		**Pn**	**13 16 31.1**	**+0.5**
GAEA	**Gareloi East**	**3.88**	**90**		**Pn**	**13 16 31.6**	**+0.4**
TASE	**Tanaga Southea**	**4.32**	**89**		**Pn**	**13 16 37.8**	**+0.6**
TAFP	**Tanaga Falls P**	**4.35**	**88**		**Pn**	**13 16 38.0**	**+0.5**
TAFL	**Tanaga Flats**	**4.41**	**90**		**Pn**	**13 16 39.2**	**+0.8**
KIMD	**Kanaga Island**	**4.82**	**89**		**Pn**	**13 16 44.9**	**+0.9**
KIKV	**Kanaga Island**	**4.85**	**88**		**Pn**	**13 16 45.0**	**+0.5**
ADK	**Adak**	**5.15**	**87**		**Pn**	**13 16 49.1**	**+0.6**
GSCK	**Great Sitkin C**	**5.47**	**86**		**Pn**	**13 16 53.5**	**+0.6**
KOKL	**Mount Kliuchef**	**6.66**	**83**		**Pn**	**13 17 10.8**	**+1.4**
PETK	**Petropavlovsk-**	**10.61**	**283**	Pn	**Pn**	**13 18 00.3**	**-3.1**
	0.1nm,0.3s,baz=351,slow=15,SNR=4.0						
PETK				Sn	**Sn**	**13 19 56.9**	**-3.7**
	0.9nm,0.3s,baz=237,slow=37,SNR=3.4						
PETK	**Petropavlovsk-**	**10.61**	**283**		**Pn**	**13 18 06.3**	**+2.9**
TTA	**Tatalina**	**18.90**	**43**	P	**P**	**13 19 51.1**	**+0.1**
KDAK	**Kodiak Island**	**19.42**	**60**	P	**P**	**13 19 55.6**	**-1.0**
	2.1nm,0.3s,baz=236,slow=2.5,SNR=7.9						
RSO	**Redoubt South**	**19.68**	**52**	P	**P**	**13 19 59.0**	**-0.7**
J20K	**Nowinta River**	**20.15**	**41**	P	Pn	13 20 05.8	-0.9
J20K				IAmb	IAmb	13 21 04.4	
	comp=Z,42nm,2.0s						
CNPM	**China Poot**	**20.28**	**55**	P	**P**	**13 20 05.4**	**-0.7**
BRLK	**Bradley Lake**	**20.49**	**54**	P	**P**	**13 20 08.0**	**-0.4**
IMAR	**Indian Mountai**	**21.06**	**36**	P	**P**	**13 20 15.3**	**+0.8**
H21K	**Melozitna Rive**	**21.27**	**38**	P	**P**	**13 20 17.6**	**+0.9**
TRF	**Thorofare Moun**	**21.52**	**44**	P	**P**	**13 20 18.6**	**-1.0**
TRF				IAmb	IAmb	13 20 53.0	
	comp=Z,49nm,1.9s						
RND	**Reindeer**	**22.13**	**45**	P	**P**	**13 20 25.1**	**-0.9**
RND				IAmb	IAmb	13 21 09.1	
	comp=Z,29nm,2.0s						
SCM	**Sheep Creek Mo**	**22.51**	**49**	P	**P**	**13 20 29.3**	**-0.8**
SCM				IAmb	IAmb	13 21 24.4	
	comp=Z,115nm,2.0s						
DHY	**Denali Highway**	**22.71**	**46**	P	**P**	**13 20 30.0**	**-2.3**
A21K	**Barrow**	**23.22**	**23**	P	**P**	**13 20 35.1**	**-2.1**
A21K				IAmb	IAmb	13 20 48.3	
	comp=Z,41nm,1.1s						
H24K	**Noodor Dome**	**23.23**	**39**	P	**P**	**13 20 34.1**	**-3.4**
H24K				IAmb	IAmb	13 21 08.4	
	comp=Z,22nm,1.8s						
ILAR	**Eielson Array**	**23.32**	**42**	P	**P**	**13 20 35.8**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=251,slow=6.8,SNR=14						
KAIM	**Kayak Island**	**23.75**	**54**	P	**P**	**13 20 41.1**	**-1.4**
GLB	**Gilahina Butte**	**24.13**	**51**	P	**P**	**13 20 44.5**	**-1.5**
GLB				IAmb	IAmb	13 21 00.8	
	comp=Z,65nm,2.0s						
J26L	**Joseph Creek**	**24.65**	**43**	P	**P**	**13 20 49.2**	**-1.6**
J26L				IAmb	IAmb	13 21 14.7	
	comp=Z,35nm,2.0s						
BMAR	**Burnt Mountain**	**24.98**	**36**	P	**P**	**13 20 53.9**	**+0.2**
GRNC	**Granite Creek**	**25.10**	**53**	P	**P**	**13 20 52.8**	**-2.2**
GRNC				IAmb	IAmb	13 21 06.5	
	comp=Z,48nm,1.6s						
L27K	**Beaver Creek,**	**25.20**	**47**	P	**P**	**13 20 54.1**	**-1.6**
L27K				IAmb	IAmb	13 21 17.0	
	comp=Z,20nm,1.9s						
EGAK	**Eagle**	**25.72**	**43**	P	**P**	**13 20 58.3**	**-2.0**
EGAK				IAmb	IAmb	13 21 40.2	
	comp=Z,24nm,1.8s						
INK	**Inuvik**	**29.26**	**37**	P	**P**	**13 21 31.6**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=282,slow=6.1,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**32.77**	**194**	T	T	13 56 55.4	
	baz=9.2,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.78**	**194**	T	T	13 56 39.9	
	baz=9.2,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.79**	**194**	T	T	13 56 57.2	
	baz=9.2,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.00**	**194**	T	T	13 58 29.8	
	baz=9.1,slow=76						
H11S3	**WAKE ISLAND Hy**	**34.02**	**194**	T	T	13 58 29.9	
	baz=9.1,slow=76						
H11S2	**WAKE ISLAND Hy**	**34.02**	**194**	T	T	13 58 29.4	
	baz=9.1,slow=76						
JNU	**Nakatsue**	**36.87**	**257**	LR	LR	13 36 41.0	
	comp=Z,24nm,21.4s,baz=210,slow=34						
YKA	**Yellowknife Ar**	**37.62**	**46**	P	**P**	**13 22 44.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=285,slow=7.5,SNR=4.5						
SONM	**Songino Array**	**42.90**	**293**	P	**P**	**13 23 29.8**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=54,slow=7.8,SNR=5.9						
NVAR	**Mina Array Bea**	**47.28**	**79**	P	**P**	**13 24 03.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=300,slow=7.2,SNR=2.8						
PDAR	**Pinedale Array**	**49.77**	**69**	P	**P**	**13 24 21.8**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=299,slow=2.9,SNR=5.4						
MK31	**Makanchi Array**	**56.59**	**305**	P	**P**	**13 25 13.0**	**+0.4**
MKAR	**Makanchi Array**	**56.59**	**305**	P	**P**	**13 25 12.7**	**0.0**
	comp=Z,1.0nm,0.4s,baz=52,slow=6.2,SNR=37						
TXAR	**Lajitas Array**	**62.34**	**77**	P	**P**	**13 25 52.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=335,slow=4.0,SNR=2.3						
NOA	**NORSAR Array B**	**66.62**	**351**	P	**P**	**13 26 20.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=345,slow=3.1,SNR=1.9						
ASAR	**Alice Springs**	**83.44**	**217**	P	**P**	**13 27 59.0**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=17,slow=6.8,SNR=2.2						
H03N2	**Juan Fernandez**	**125.03**	**101**	T	T	15 51 41.2	
	baz=308						
H03N1	**Juan Fernandez**	**125.05**	**101**	T	T	15 51 42.6	
	baz=308						
H03N3	**Juan Fernandez**	**125.05**	**101**	T	T	15 51 41.9	
	baz=308						

*TUL **16** 13:24:45.7±0.9,36°.86N±0°.01×97°.99W±0°.02,h5km±4km, ML2.8,mb_Lg2.5/25(NEIC),Error ellipse: s-maj=2.6km s-min=1.3km az=120.0*
NEIC 16 13:24:46.1±0.8,36°.84N±0°.01×97°.98W±0°.02,h5km±3km, Error ellipse: s-maj=2.7km s-min=1.2km az=134.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.10**	**83**	Pg	Pg	13 24 48.4	+0.2
KAN14	**Manchester OK**	**0.12**	**8**	Pg	Pg	13 24 48.3	-0.3
OK032	**Salt Plains WL**	**0.19**	**259**		Pg	13 24 49.8	0.0
KAN17	**Caldwell West**	**0.27**	**40**	Pg	Pg	13 24 51.2	-0.1
KAN17				Sg	Sg	13 24 55.0	+0.1
KAN10	**Anthony SW Sta**	**0.30**	**343**	Pg	Pg	13 24 51.6	-0.3
CROK	**Carrier**	**0.33**	**180**	Pg	Pg	13 24 53.0	+0.5
KAN01	**Argonia South**	**0.36**	**30**		Pg	13 24 52.9	-0.2
KAN01				Sg	Sg	13 24 57.7	-0.1
KAN08	**Anthony NE Sta**	**0.39**	**1**		Pg	13 24 53.3	-0.3
KAN16	**Harper SW Stat**	**0.39**	**350**	Pg	Pg	13 24 53.4	-0.3
KAN06	**Argonia West S**	**0.42**	**14**		Pg	13 24 53.9	-0.3
KAN13	**South Haven SW**	**0.44**	**67**	Pg	Pg	13 24 54.6	0.0
OK035	**E0210 Rd and N**	**0.60**	**258**	Pg	Pg	13 24 57.3	-0.2
BLOK	**Blackwell**	**0.62**	**97**	Pg	Pg	13 24 58.0	0.0
U32A	**Winter Ranch,**	**0.94**	**241**	Pg	Pg	13 25 03.6	-0.5
OK029	**Liberty Lake**	**1.12**	**158**	Pg	Pg	13 25 07.3	-0.4
T35A	**Sooner Cattle**	**1.18**	**86**	Pg	Pg	13 25 08.1	-0.6
BCOK	**Bluff Creek, N**	**1.22**	**166**	Pg	Pg	13 25 09.0	-0.4
QUOK	**Quay**	**1.23**	**123**		Pg	13 25 09.2	-0.3
OK031	**S. Brethren Rd**	**1.28**	**133**	Pn	Pg	13 25 10.0	-0.6
OK034	**N. Norfolk Rd.**	**1.32**	**129**	Pn	Pn	13 25 10.5	-0.6
OK030	**Cody Creek RV**	**1.33**	**133**	Pn	Pn	13 25 10.8	-0.5
OK025	**Westminster Rd**	**1.36**	**157**		Pn	13 25 11.6	-0.1
OKCSW	**OKLAHOMA CITY**	**1.50**	**163**	Pn	Pn	13 25 13.9	+0.3
FNO	**Franklin**	**1.65**	**163**		Pn	13 25 16.3	+0.6
R32A	**Long Quarter,**	**1.68**	**340**	Pn	Pn	13 25 16.2	0.0
W35A	**Tecumseh**	**1.91**	**152**		Pn	13 25 19.6	+0.3
TUL1	**Leonard**	**2.00**	**117**		Pn	13 25 21.1	+0.7
TUL1				IAmb_Lg		13 25 52.0	
	comp=Z,29nm,0.8s						
WMOK	**Wichita Mounta**	**2.19**	**197**	Pn	Pn	13 25 23.9	+0.7
WMOK				IAmb_Lg		13 25 56.3	
	comp=Z,15nm,0.8s						
X34A	**Smith Ranch, M**	**2.24**	**177**		Pn	13 25 25.3	+1.5
CBKS	**Cedar Bluff**	**2.41**	**325**		Pn	13 25 26.8	+0.6
KSU1	**Kansas State U**	**2.51**	**25**	IAmb_Lg		13 26 08.7	
	comp=Z,28nm,0.7s						
AMTX	**Amarillo**	**3.58**	**238**	IAmb_Lg		13 26 49.1	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**3.81**	**76**	IAmb_Lg		13 26 46.9	
	comp=Z,8.6nm,0.8s						
U40A	**Yellville**	**4.16**	**95**	IAmb_Lg		13 27 05.7	
	comp=Z,13nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.26**	**302**	IAmb_Lg		13 27 01.2	
	comp=Z,8.0nm,0.8s						
ABTX	**Abilene, Hawle**	**4.42**	**198**	IAmb_Lg		13 27 07.6	
	comp=Z,6.5nm,0.7s						
BGNE	**Belgrade**	**4.56**	**358**	IAmb_Lg		13 27 19.2	
	comp=Z,15nm,0.9s						
T25A	**Trinidad**	**5.15**	**275**	IAmb_Lg		13 27 35.7	
	comp=Z,8.1nm,0.7s						
LCAR	**Lake Charles**	**5.56**	**96**	IAmb_Lg		13 27 46.5	
	comp=Z,6.3nm,0.9s						
JCT	**Junction City**	**6.52**	**194**	IAmb_Lg		13 28 26.4	
	comp=Z,7.4nm,0.8s						
PHWY	**Pilot Hill**	**7.32**	**310**	IAmb_Lg		13 28 50.1	
	comp=Z,6.0nm,0.9s						

IDC 16 13:36:53.2±7.0,7°.15S×130°.07E,h215km±78km,mb2.6/1, mb1 2.8/3,mb1mx2.3/38,mbtmp3.3/3,Error ellipse: s-maj=139.5km s-min=31.8km az=73.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.37**	**162**	P	Pn	13 39 53.4	-1.5
	0.3nm,0.3s,baz=345,slow=13,SNR=19						
WRA				S	S	13 42 17.7	-5.4
	0.6nm,0.3s,baz=32,slow=8.9,SNR=9.5						
ASAR	**Alice Springs**	**16.83**	**168**	P	Pn	13 40 37.3	+0.5
	0.1nm,0.3s,baz=341,slow=9.6,SNR=9.2						
ASAR				S	S	13 43 39.5	-0.6
	0.2nm,0.3s,baz=321,slow=15,SNR=6.5						
MKAR	**Makanchi Array**	**68.39**	**327**	P	P	13 47 31.6	-0.1
	0.1nm,0.3s,baz=116,slow=7.4,SNR=1.9						

IDC 16 13:43:39.6±3.4,11°.37S×165°.46E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.2/35,mbtmp3.6/4,ML3.8/1,MS3.4/1, Ms1 3.4/1,ms1mx2.5/35,Error ellipse: s-maj=70.6km s-min=44.9km az=78.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.68**	**175**	Pn	Pn	13 46 13.6	-0.5
	0.7nm,0.3s,baz=317,slow=14,SNR=21						
DZM				Sn	Sn	13 48 07.6	-7.0
	0.1nm,0.3s,baz=266,slow=18,SNR=1.7						
WRA	**Warramunga Arr**	**31.11**	**250**	P	P	13 50 00.2	+0.1
	0.7nm,0.9s,baz=80,slow=9.4,SNR=3.9						
ASAR	**Alice Springs**	**32.40**	**244**	P	P	13 50 11.4	0.0
	0.2nm,0.7s,baz=64,slow=9.8,SNR=4.1						
LEM	**Lembang**	**57.22**	**269**	LR	LR	14 19 32.9	
	comp=Z,36nm,21.9s,baz=0.5,slow=38						
MKAR	**Makanchi Array**	**93.57**	**317**	P	P	13 56 57.7	0.0
	0.2nm,0.6s,baz=106,slow=5.2,SNR=2.2						

*MOS **16** 13:44:00.9±1.9,58°.04N×125°.53E,h11km,mb4.3/1,Error ellipse: s-maj=33.9km s-min=11.3km az=93.6*
*IDC **16** 13:44:01.6±0.8,57°.91N×125°.52E,h0km,mb3.6/9, mb1 3.8/13,mb1mx3.6/44,mbtmp3.6/13,ML3.8/3,Error ellipse: s-maj=20.7km s-min=14.2km az=114.0*
ISC 16 13:44:03.1±0.7,58°.02N±0°.06×125°.7E±0°.1,h10km,n18, σ1ş24/17,mb3.5/9,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEA	**Zeya**	**4.38**	**168**	*e*P	**Pn**	**13 45 11.4**	**+1.8**
ZEA				*e*S	**Sn**	**13 45 58.8**	**-1.8**
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
ZEA				pmax	pmax		
	comp=N,50nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,130nm,0.4s						
ZEA				smax	smax		
	comp=E,300nm,1.2s						
ZEA				smax	smax		
	comp=E,190nm,0.7s						
ZEA				smax	smax		
	comp=Z,320nm,0.7s						
ZEA				smax	smax		
	comp=N,440nm,0.5s						
YAK	**Yakutsk**	**4.49**	**25**	Pn	**Pn**	**13 45 11.7**	**+0.6**
	comp=N,0.3nm,0.3s,baz=204,slow=6.3,SNR=13						
YAK				Sn	**Sn**	**13 46 02.3**	**-1.0**
	comp=N,0.5nm,0.3s,baz=76,slow=23,SNR=17						
YAK				Lg	Lg	13 46 18.3	
	comp=N,0.9nm,0.3s,baz=298,slow=23,SNR=38						
YAK	**Yakutsk**	**4.49**	**25**	*e*P	**Pn**	**13 45 11.6**	**+0.5**
YAK				*e*		13 46 01.4	
YAK				pmax	pmax		
	comp=Z,10.0nm,0.2s						
YAK				pmax	pmax		
	comp=Z,20nm,0.3s						
YAK				smax	smax		
	comp=N,37nm,0.5s						
YAK				smax	smax		
	comp=E,39nm,0.5s						
YAK				smax	smax		
	comp=N,177nm,0.5s						
YAK				smax	smax		
	comp=E,305nm,0.6s						
KLR	**Kul'dur**	**9.50**	**155**	Pn	**Pn**	**13 46 19.0**	**-0.9**
	comp=E,0.2nm,0.3s,baz=332,slow=16,SNR=3.3						
KLR				Lg	Lg	13 48 56.5	
	comp=E,0.8nm,0.3s,baz=260,slow=19,SNR=3.7						
TIXI	**Tiksi**	**13.75**	**4**	Pn	Pn	13 47 15.3	-2.5
	comp=E,0.7nm,0.3s,baz=179,slow=10,SNR=9.7						
TIXI				Sn	Sn	13 49 41.0	-9.3
	comp=E,0.6nm,0.3s,baz=291,slow=14,SNR=2.4						
SEY	**Seymchan**	**13.97**	**58**	Lg	Lg	13 51 20.6	
	comp=E,0.1nm,0.3s,baz=208,slow=18,SNR=4.5						
SONM	**Songino Array**	**15.42**	**237**	Lg	Lg	13 52 09.7	
	comp=E,0.1nm,0.3s,baz=35,slow=29,SNR=9.6						
NRIK	**Noril'sk**	**19.95**	**320**	P	**P**	**13 48 35.1**	**+0.2**
	comp=E,0.3nm,0.3s,baz=99,slow=7.2,SNR=3.7						
KURK	**Kurchatov**	**27.89**	**275**	P	**P**	**13 49 53.5**	**+0.7**
KURBB	**Kurchatov Arra**	**27.99**	**275**	P	**P**	**13 49 53.5**	**-0.2**
	comp=E,0.7nm,0.9s,baz=59,slow=9.3,SNR=4.4						
MKAR	**Makanchi Array**	**28.27**	**266**	P	**P**	**13 49 56.2**	**-0.1**
	comp=E,0.4nm,0.7s,baz=53,slow=7.8,SNR=6.6						
ILAR	**Eielson Array**	**39.17**	**43**	P	**P**	**13 51 33.7**	**+3.1**
	comp=E,0.4nm,0.6s,baz=296,slow=5.7,SNR=8.7						
FINES	**FINESS Array B**	**45.60**	**318**	P	**P**	**13 52 22.0**	**-0.8**
	comp=E,0.5nm,0.5s,baz=46,slow=11,SNR=5.5						
NOA	**NORSAR Array B**	**50.79**	**325**	P	**P**	**13 53 02.2**	**-0.8**
	comp=E,0.3nm,0.8s,baz=50,slow=0.7,SNR=1.0						
YKA	**Yellowknife Ar**	**51.14**	**31**	P	**P**	**13 53 05.4**	**-0.1**
	comp=E,0.5nm,0.8s,baz=327,slow=7.2,SNR=7.1						
ESDC	**Sonseca Array**	**73.97**	**322**	P	**P**	**13 55 38.7**	**+0.2**
	comp=E,0.4nm,0.7s,baz=12,slow=5.4,SNR=2.2						
WRA	**Warramunga Arr**	**78.00**	**172**	P	**P**	**13 56 00.5**	**-0.9**
	comp=E,0.4nm,0.6s,baz=352,slow=6.6,SNR=7.1						
ASAR	**Alice Springs**	**81.66**	**172**	P	**P**	**13 56 20.8**	**-0.4**
	comp=E,0.5nm,0.9s,baz=359,slow=5.0,SNR=3.5						

*ISK **16** 13:56:28.9,36°.10N×31°.64E,h24km,ML2.4/8*
*DDA **16** 13:56:29.6±0.0,36°.15N×31°.56E,h9km±1km,ML2.1*
*NIC **16** 13:56:31.9±0.0,35°.95N×32°.13E,h11km±1km,Ml2.7/4*
ISC 16 13:56:27.1±1.3,36°.06N±0°.03×31°.69E±0°.04,h17km±10km, n24,σ1ş02/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.54**	**70**	PG	**Pn**	**13 56 40.8**	**+0.8**
GAZI				SG	**Sn**	**13 56 49.3**	**+0.6**
GAZI	**Gazipasa**	**0.54**	**70**	P	**Pn**	**13 56 40.9**	**+0.8**
GAZI				*i* AML	AML	13 56 49.0	
	comp=E,98nm,0.3s						
GAZI				S	**Sn**	**13 56 49.5**	**+0.8**
GAZI				*i* AML	AML	13 56 50.0	
	comp=N,156nm,0.3s						
KEPZ	**Antalya-Kepez**	**0.85**	**355**	P	**Pb**	**13 56 43.6**	**+0.3**
KEPZ				S	**Sb**	**13 56 53.9**	**-0.5**
KEPZ				*i* AML	AML	13 56 54.0	
	comp=E,67nm,0.5s						
KEPZ				*i* AML	AML	13 56 55.0	
	comp=N,70nm,0.5s						
HDMB	**Hadim**	**1.11**	**35**	PN	**Pn**	**13 56 49.7**	**+1.6**
HDMB				SN	**Sn**	**13 57 03.9**	**+0.8**
TEKE	**Tekeli-Mersin**	**1.16**	**85**	PN	**Pg**	**13 56 50.6**	**+1.1**
AKMS	**Akamas**	**1.16**	**153**	P	**Pn**	**13 56 48.8**	**+0.2**
AKMS				S	**Sb**	**13 57 03.2**	**-0.3**
AKMS				AML	AML	13 57 03.7	
	1.0nm,0.2s						
AKMS				AML	AML	13 57 03.7	
	1.0nm,0.2s						
AKMS				AML	AML	13 57 04.0	
	0.8nm,0.2s						
AKMS				AML	AML	13 57 04.0	
	0.8nm,0.2s						
ALFC	**Alefka**	**1.17**	**140**	P	**Pn**	**13 56 48.7**	**+0.1**
ALFC				S	**Sb**	**13 57 02.0**	**-1.6**
ALFC				AML	AML	13 57 03.1	
	1.8nm,0.2s						
ALFC				AML	AML	13 57 03.1	
	1.8nm,0.2s						
ALFC				AML	AML	13 57 03.1	
	1.5nm,0.1s						
ALFC				AML	AML	13 57 03.1	
	1.5nm,0.1s						
BERE	**Bereket-Mersin**	**1.27**	**76**	PN	**Pg**	**13 56 52.2**	**+0.5**
SEYD	**Seydisehir-KON**	**1.35**	**5**	PN	**Pg**	**13 56 52.6**	**-0.6**
SEDI	**Konya, Seydise**	**1.39**	**2**	P	**Pg**	**13 56 53.5**	**-0.5**
SEDI				S	**Sg**	**13 57 11.0**	**-1.2**
SEDI				*i* AML	AML	13 57 12.0	
	comp=N,44nm,0.5s						
SEDI				*i* AML	AML	13 57 12.0	
	comp=E,74nm,0.5s						
NATA	**Nata**	**1.46**	**150**	P	**Pg**	**13 56 56.6**	**+1.3**
NATA				S	**Sn**	**13 57 12.4**	**+1.0**
GULN	**MERSIN_Gulnar**	**1.51**	**85**	P	**Pg**	**13 56 56.1**	**0.0**
GULN				S	**Sg**	**13 57 15.9**	**+0.1**
GULN				*i* AML	AML	13 57 23.0	
	comp=E,17nm,0.7s						
GULN				*i* AML	AML	13 57 24.0	
	comp=N,14nm,0.2s						
AKKU	**Akkuyu-Mersin**	**1.51**	**86**	PN	**Pb**	**13 56 55.0**	**+0.3**
SUTC	**Sutluce-Ispart**	**1.52**	**339**	PN	**Pn**	**13 56 54.1**	**+0.4**
KKBE	**Karaman, Kazim**	**1.54**	**41**	P	**Pg**	**13 56 56.9**	**+0.1**
KKBE				*i* AML	AML	13 57 19.0	
	comp=E,15nm,0.3s						
KKBE				*i* AML	AML	13 57 19.0	
	comp=N,20nm,0.4s						
ELL	**Elmali**	**1.59**	**296**	PN	**Pn**	**13 56 55.6**	**+1.0**
IKL	**Isikli**	**1.63**	**83**	PN	**Pg**	**13 56 57.8**	**-0.6**
KEBE	**Keben-Mersin**	**1.68**	**76**	PN	**Pb**	**13 56 57.9**	**+0.3**
AKAS	**Kas**	**1.70**	**277**	PN	**Pn**	**13 56 57.2**	**+1.2**
CSS	**Mathiatis**	**1.73**	**129**	P	**Pn**	**13 56 57.1**	**+0.8**
CSS		

NEIC 16 14:40:06.5±0.6, 35°.686N±0°.009×97°.42W±0°.01, h9km±3km, ML2.3/30, Error ellipse: s-maj=2.0km s-min=0.8km az=121.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**181**	Pg	Pg	14 40 08.8	-0.2
OK009				Sg	Sg	14 40 10.7	-0.2
OK029	**Liberty Lake**	**0.11**	**346**	Pg	Pg	14 40 09.6	+0.3
OK029				Sg	Sg	14 40 11.8	+0.7
OK025	**Westminster Rd**	**0.12**	**147**	Pg	Pg	14 40 09.3	-0.1
OK025				Sg	Sg	14 40 11.3	0.0
OK025				IAML		14 40 11.5	
	2μm,0.2s						
BCOK	**Bluff Creek, N**	**0.16**	**259**	Pg	Pg	14 40 10.0	+0.1
BCOK				Sg	Sg	14 40 12.7	+0.4
OK001	**Jones High Sch**	**0.16**	**139**	Pg	Pg	14 40 10.0	0.0
OK001				Sg	Sg	14 40 12.5	+0.1
OKCFA	**Oklahoma City**	**0.27**	**185**	Pg	Pg	14 40 11.9	0.0
OKCFA				Sg	Sg	14 40 16.0	+0.4
OKCFA				IAML		14 40 16.2	
	comp=E,327nm,0.5s						
OKCSW	**OKLAHOMA CITY**	**0.28**	**183**		Pg	14 40 12.1	-0.1
OKCSW				Sg	Sg	14 40 16.3	+0.4
FNO	**Franklin**	**0.43**	**178**	Pg	Pg	14 40 14.8	0.0
FNO				Sg	Sg	14 40 21.0	+0.4
FNO				IAML		14 40 21.2	
	comp=E,220nm,0.2s						
OK031	**S. Brethren Rd**	**0.54**	**60**	Pg	Pg	14 40 17.0	0.0
OK031				IAML		14 40 25.1	
	comp=E,223nm,0.1s						
OK031				IAML		14 40 25.3	
	comp=E,240nm,0.2s						
OK030	**Cody Creek RV**	**0.57**	**65**	Pg	Pg	14 40 17.6	0.0
OK030				Sg	Sg	14 40 25.6	+0.5
OK030				IAML		14 40 26.0	
	comp=E,248nm,0.2s						
OK030				IAML		14 40 26.0	
	comp=E,165nm,0.2s						
OK034	**N. Norfolk Rd.**	**0.66**	**60**		Pg	14 40 19.1	-0.2
OK034				IAML		14 40 28.7	
	comp=E,198nm,0.2s						
OK034				IAML		14 40 28.7	
	comp=E,155nm,0.2s						
W35A	**Tecumseh**	**0.69**	**140**	Pg	Pg	14 40 19.5	-0.4
W35A				Sg	Sg	14 40 29.0	0.0
W35A				IAML		14 40 29.3	
	comp=E,151nm,0.4s						
W35A				IAML		14 40 29.3	
	comp=N,134nm,0.3s						
QUOK	**Quay**	**0.75**	**50**	Pg	Pg	14 40 20.9	-0.1
QUOK				Sg	Sg	14 40 31.3	+0.3
QUOK				IAML		14 40 34.6	
	comp=E,128nm,0.2s						
CROK	**Carrier**	**0.94**	**331**	Pg	Pg	14 40 24.5	-0.1
CROK				IAML		14 40 48.8	
	comp=N,120nm,0.3s						
X34A	**Smith Ranch, M**	**1.13**	**197**	Pn	Pg	14 40 27.9	-0.4
X34A				IAML		14 40 44.8	
	comp=E,60nm,0.4s						
GC02	**Grant County #**	**1.22**	**343**	Pn	Pb	14 40 29.3	-0.5
OK032	**Salt Plains WL**	**1.29**	**330**	Pn	Pn	14 40 30.3	-0.4
KAN13	**South Haven SW**	**1.33**	**358**	Pn	Pn	14 40 31.3	0.0
KAN14	**Manchester OK**	**1.34**	**341**	Pn	Pn	14 40 31.5	+0.1
TUL1	**Leonard**	**1.34**	**80**		Pn	14 40 30.6	-0.9
TUL1				IAML		14 40 55.0	
	comp=E,46nm,0.3s						
KAN17	**Caldwell West**	**1.38**	**349**	Pn	Pn	14 40 31.9	-0.1
U40A	**Yellville**	**3.76**	**78**	Pn	Pn	14 41 03.7	-1.0

*INMG **16** 14:50:16.6±1.7, 37°.65N×9°.77W, h6km±4km, MD2.5, ML2.5, Error ellipse: s-maj=6.5km s-min=2.9km az=66.0*
*IGIL **16** 14:50:17.2, 37°.65N×9°.77W, h13km, ML2.9*
*CNRM **16** 14:50:19.9, 37°.16N×9°.71W, h33km, ml2.8*

ISC 16 14:50:12.8±1.7, 37°.61N±0°.03×9°.94W±0°.06, h13km±9km, n33, σ1°65/56, 1D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.97**	**93**	*e*P	**Pg**	**14 50 31.8**	**+0.3**
PTEO				*e*S	**Sg**	**14 50 43.0**	**-1.2**
PTEO				A	A	14 50 45.0	
	84nm,0.1s						
PFVI	**Vila Bisbo**	**1.00**	**118**	*e*P	**Pg**	**14 50 33.3**	**+1.1**
PFVI				*e*S	**Sg**	**14 50 45.8**	**+0.5**
PFVI				A	A	14 50 47.7	
	111nm,0.1s						
PFVI	**Vila Bisbo**	**1.00**	**118**	P	**Pg**	**14 50 32.7**	**+0.5**
PFVI				S	**Sg**	**14 50 45.3**	**0.0**
MORF	**Marmelete**	**1.07**	**106**	*e*P	**Pg**	**14 50 33.9**	**+0.5**
MORF				*e*S	**Sg**	**14 50 46.3**	**-1.1**
MORF				IAML		14 50 48.9	
	comp=N,265nm,0.1s						
MORF	**Marmelete**	**1.07**	**106**	*e*P	**Pg**	**14 50 34.0**	**+0.5**
MORF				*e*S	**Sg**	**14 50 47.1**	**-0.3**
MORF				A	A	14 50 49.9	
	comp=N,150nm,0.1s						
PNCL	**Nicolau / Gran**	**1.23**	**65**	*e*P	**Pg**	**14 50 36.3**	**-0.1**
PNCL				S	**Sg**	**14 50 51.1**	**-1.3**
PNCL				A	A	14 50 53.5	
	comp=N,92nm,0.1s						
PMST	**Lisbon--Monsan**	**1.28**	**28**	*e*P	**Pg**	**14 50 38.4**	**+1.0**
PMST				*e*S	**Sg**	**14 50 53.0**	**-1.1**
PMST				A	A	14 50 56.4	
	comp=N,53nm,0.2s						
MESJ	**Messejana**	**1.38**	**80**	*e*P	**Pb**	**14 50 38.3**	**-0.2**
MESJ				*e*S	**Sg**	**14 50 54.2**	**-3.2**
MESJ				IAML		14 50 56.9	
	comp=N,192nm,0.3s						
MESJ	**Messejana**	**1.38**	**80**	*e*P	**Pb**	**14 50 38.3**	**-0.2**
MESJ				*e*S	**Sg**	**14 50 54.2**	**-3.2**
MESJ				iAML		14 50 56.9	
PMAFR	**Mafra**	**1.44**	**21**	*e*P	**Pn**	**14 50 40.0**	**+1.3**
PMAFR				S	**Sb**	**14 50 59.9**	**+2.0**
PMAFR				A	A	14 51 02.1	
	comp=N,45nm,0.2s						
PCVE	**Castro Verde**	**1.51**	**88**	*e*P	**Pn**	**14 50 40.3**	**+0.8**
PCVE				S	**Sb**	**14 50 59.0**	**-0.7**
PCVE				A	A	14 51 01.5	
	comp=N,38nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.64**	**102**	⇓*e*P	**Pn**	**14 50 42.7**	**+1.4**
PBDV				S	**Sn**	**14 51 01.9**	**-0.4**
PBDV				A	A	14 51 08.8	
	comp=N,22nm,0.1s						
PBEJ	**Beja**	**1.69**	**75**	*e*P	**Pn**	**14 50 44.3**	**+2.2**
PBEJ				S	**Sn**	**14 51 04.2**	**+0.6**
PBEJ				A	A	14 51 05.8	
	comp=N,43nm,0.1s						
PVAQ	**Vaqueiros**	**1.78**	**96**	*e*Pn	**Pn**	**14 50 44.3**	**+1.1**
PVAQ				*e*Sn	**Sb**	**14 51 08.1**	**+0.6**
PVAQ				A	A	14 51 12.1	
	comp=N,31nm,0.1s						
PVAQ	**Vaqueiros**	**1.78**	**96**	P	**Pn**	**14 50 45.8**	**+2.5**
PVAQ				S	**Sn**	**14 51 07.5**	**+1.8**
EVO	**Evora**	**1.78**	**58**	*e*Pn	**Pn**	**14 50 43.7**	**+0.4**
EVO				*e*Sn	**Sn**	**14 51 05.8**	**+0.1**
EVO				A	A	14 51 08.7	
	comp=N,79nm,0.1s						
PMTG	**Montargil**	**1.99**	**42**	*e*Pn	**Pn**	**14 50 47.0**	**+0.9**
PMTG				*e*Sn	**Sn**	**14 51 12.9**	**+2.0**
PMTG				A	A	14 51 17.0	
	comp=N,26nm,0.1s						
PESTR	**Estremoz**	**2.24**	**55**	*e*Pn	**Pn**	**14 50 51.6**	**+2.0**
PESTR				*e*Sn	**Sb**	**14 51 20.1**	**-0.6**
PESTR				A	A	14 51 24.6	
	comp=N,11nm,0.2s						
PESTR	**Estremoz**	**2.24**	**55**	P	**Pg**	**14 50 56.2**	**+0.5**
PESTR				S	**Sb**	**14 51 22.5**	**+1.8**
PCAS	**Casmilo, Conde**	**2.69**	**24**	*e*Pn	**Pn**	**14 50 57.1**	**+1.3**
PCAS				*e*Sn	**Sn**	**14 51 27.4**	**-0.8**
PCAS				A	A	14 51 44.0	
	comp=N,8.0nm,0.3s						
PMRV	**Marv??o**	**2.70**	**47**	*e*Pn	**Pn**	**14 50 56.6**	**+0.6**
PMRV				*e*Sn	**Sn**	**14 51 26.9**	**-1.7**
PMRV				A	A	14 51 38.4	
	comp=N,7.8nm,0.2s						
PCBR	**Castelo Branco**	**2.95**	**40**	*e*Pn	**Pn**	**14 51 02.1**	**+2.8**
PCBR				*e*Sn	**Sn**	**14 51 33.6**	**-0.9**
PCBR				A	A	14 51 49.1	
	comp=N,10nm,0.3s						
POLO	**Lamas de Olo**	**4.11**	**23**	*e*Pn	**Pn**	**14 51 16.9**	**+1.5**
POLO				*e*Sn	**Sn**	**14 52 00.0**	**-3.4**
PGAV	**Gavieira, Arco**	**4.54**	**16**	*e*Pn	**Pn**	**14 51 22.9**	**+1.6**
PGAV				*e*Sn	**Sn**	**14 52 10.3**	**-3.7**
PGAV				A	A	14 52 14.0	
	comp=N,2.1nm,0.1s						
PBRG	**Braganca**	**4.87**	**29**	*e*Pn	**Pn**	**14 51 27.4**	**+1.7**
ZHG	**ZHG**	**4.94**	**146**	P	**Pn**	**14 51 27.7**	**+0.8**
ZHG				S	Sn	14 52 18.1	-5.8
SRHM	**Skhour des Reh**	**5.39**	**161**	P	**Pn**	**14 51 35.5**	**+2.6**
SRHM				S	**Sn**	**14 52 31.9**	**-3.0**
MD31	**MD31**	**6.35**	**137**	P	**Pn**	**14 51 47.5**	**+1.4**
MD31				S	Sn	14 52 51.2	-7.3
MDT	**Midelt**	**6.47**	**136**	P	**Pn**	**14 51 49.3**	**+1.4**
MDT				S	Sn	14 52 56.1	-5.5
OUK	**Oukaimeden**	**6.61**	**164**	P	Pn	14 51 49.3	-0.6
OUK				S	Sn	14 52 59.4	-5.9
JBK	**JBK**	**6.81**	**116**	P	**Pn**	**14 51 51.3**	**-1.3**
JBK				S	Sn	14 53 02.5	-7.6
TTIG	**Tnine Tigouga,**	**7.15**	**170**	P	Pn	14 51 55.2	-2.0
TTIG				S	Sn	14 53 06.6	-12
OUZM	**OUZ**	**7.18**	**158**	P	**Pn**	**14 51 59.5**	**+1.9**
OUZM				S	Sn	14 53 14.6	-4.4

*IDC **16** 14:55:08.9±3.5, 6°.46S×128°.00E, h391km±38km, mb2.8/1, mb1 2.7/5, mb1mx2.6/36, mbtmp3.5/5, Error ellipse: s-maj=51.1km s-min=15.8km az=64.0*

ISC 16 14:55:04.8±1.6, 6°.2S±0°.1×128°.4E±0°.1, h350km, n5, σ2°65/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.13**	**229**	P	**Pn**	**14 56 37.6**	**+0.3**
	1.9nm,0.3s,baz=0.0,slow=3.0,SNR=1.7						
BATI				S	**S**	**14 57 49.6**	**-2.5**
	5.7nm,0.3s,baz=296,slow=22,SNR=13						
FITZ	**Fitzroy Crossi**	**12.12**	**193**	P	**Pn**	**14 57 47.9**	**-0.2**
	0.1nm,0.3s,baz=3.4,slow=17,SNR=5.9						
FITZ				S	**S**	**15 00 06.5**	**+3.8**
	0.1nm,0.3s,baz=81,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**14.84**	**158**	P	**P**	**14 58 19.1**	**+1.4**
	0.1nm,0.3s,baz=337,slow=11,SNR=11						
WRA				S	**S**	**15 00 54.2**	**-3.4**
	0.1nm,0.3s,baz=336,slow=21,SNR=5.1						
ASAR	**Alice Springs**	**18.16**	**164**	P	**P**	**14 58 55.0**	**+1.4**
	0.1nm,0.3s,baz=344,slow=12,SNR=20						
ASAR				S	**S**	**15 02 00.9**	**-2.3**
	0.1nm,0.3s,baz=341,slow=19,SNR=4.1						
MKAR	**Makanchi Array**	**66.69**	**327**	P	**P**	**15 05 19.1**	**+0.1**
	0.1nm,0.4s,baz=120,slow=7.7,SNR=4.7						

MAN 16 14:58:11.5, 14°.48N×120°.41E, h16km, mb3.7, ML2.5, MS2.0, Luzon

*SKHL **16** 15:11:20.8±0.4, 43°.10N×145°.90E, h42km±1km, mb4.2/4*
*JMA **16** 15:11:20.3±0.1, 43°.15N×145°.83E, h46km±1km, M2.5*

ISC 16 15:11:20.0±1.9, 43°.14N±0°.09×145°.88E±0°.06, h45km±10km, n12, σ0°66/20, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.24**	**336**	P	**Pn**	**15 11 28.3**	**+0.2**
NEM2				*e*S	**Sn**	**15 11 33.9**	**0.0**
NMR	**Nemuro--Hokkai**	**0.25**	**334**	*e*P	**Pn**	**15 11 28.4**	**+0.2**
NMR				AMB	AMB	15 11 28.6	
	140nm,0.3s						
NMR				*e*S	**Sn**	**15 11 33.8**	**-0.2**
NMR				A	A	15 11 34.4	
	990nm,0.3s						
NMR				A	A	15 11 34.4	
	680nm,0.3s						
JKHN	**Kushirohamanak**	**0.53**	**264**	P	**Pn**	**15 11 31.6**	**+0.3**
JAK	**Akkeshi**	**0.88**	**261**	P	**Pn**	**15 11 35.7**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**0.89**	**359**	*e*P	**Pn**	**15 11 35.9**	**-0.2**
YUK				AMB	AMB	15 11 36.8	
	110nm,0.2s						
YUK				*e*S	**Sn**	**15 11 47.2**	**-0.7**
YUK				A	A	15 11 50.2	
	280nm,0.4s						
YUK				A	A	15 11 50.2	
	300nm,0.4s						
JNSB	**Nemuroshibetsu**	**0.90**	**315**	P	**Pn**	**15 11 36.1**	**-0.1**
JNK	**Nakash**	**0.95**	**298**	P	**Pn**	**15 11 36.5**	**-0.5**
JNK				*e*S	**Sn**	**15 11 48.2**	**-1.2**
JRA	**Rausu**	**0.96**	**326**	P	**Pn**	**15 11 37.4**	**+0.3**
JRA				*e*S	**Sn**	**15 11 50.2**	**+0.5**
SHO	**Shikotan**	**1.00**	**43**	*e*P	**Pn**	**15 11 38.6**	**+0.9**
SHO				AMB	AMB	15 11 41.6	
	60nm,0.7s						
SHO				*e*S	**Sn**	**15 11 49.4**	**-1.2**
SHO				A	A	15 11 50.1	
	30nm,0.4s						
SHO				A	A	15 11 50.1	
	50nm,0.4s						
JOB	**Onbets**	**1.52**	**262**	P	**Pn**	**15 11 44.6**	**0.0**
JAR	**Ashorobuto**	**1.55**	**276**	P	**Pn**	**15 11 45.3**	**+0.2**
JAR				*e*S	**Sn**	**15 12 03.9**	**-0.1**
JTKR	**Abashiri--Toko**	**1.65**	**301**	P	**Pn**	**15 11 47.3**	**+0.8**
JTKR				*e*S	**Sn**	**15 12 07.5**	**+1.0**

*KRNET **16** 15:14:29.7±0.1, 40°.39N×73°.51E, h16km, mb2.7*
*ISU **16** 15:14:30, 39°.80N×73°.60E, h5km*
*NNC **16** 15:14:33.3±0.8, 40°.51N×73°.41E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=5.9km s-min=2.8km az=171.0*
*SOME **16** 15:14:34.1, 40°.52N×73°.43E, h10km*

ISC 16 15:14:29.6±1.0, 40°.40N±0°.02×73°.52E±0°.02, h12km±11km, n63, σ1°27/97, 26C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.38**	**182**	*e*P	**Pg**	**15 14 37.0**	**-0.3**
SFK				*e*S	**Sg**	**15 14 42.0**	**-0.4**
SFK	**Sufi-Kurgan**	**0.38**	**182**	⇓*e*P	**Pg**	**15 14 36.8**	**-0.5**
	baz=80						
SFK				⇓*e*S	**Sg**	**15 14 42.1**	**-0.4**
	baz=80						
SALK	**Salom-Alik**	**0.53**	**25**	⇑*e*P	**Pg**	**15 14 40.4**	**+0.3**
	baz=26						
SALK				⇑*e*S	**Sg**	**15 14 47.7**	**+0.5**
	baz=26						
OHH	**Osh**	**0.57**	**283**	⇓*i*P	**Pg**	**15 14 41.0**	**+0.2**
	baz=84						
OHH				⇓*i*S	**Sg**	**15 14 48.8**	**+0.4**
	baz=84						
FRG	**Fergana**	**1.32**	**270**	*e*P	**Pg**	**15 14 58.0**	**+3.0**
FRG				*e*S	**Sg**	**15 15 14.0**	**+1.8**
ARLS	**Aral**	**1.58**	**22**	⇓*i*P	**Pb**	**15 14 59.1**	**+0.1**
	baz=23						
ARLS				⇓*i*S	**Sg**	**15 15 20.0**	**-0.6**
	baz=23						
DRK	**Karamyk**	**1.61**	**236**	⇑*i*P	**Pb**	**15 14 59.3**	**-0.1**
	baz=36						
DRK				⇑*i*S	**Sg**	**15 15 20.7**	**-0.6**
	baz=36						
AML	**Almayashu**	**1.74**	**4**	P	**Pg**	**15 15 03.6**	**+0.6**
	SNR=26						
ARK	**Arkit**	**1.83**	**320**	⇑*e*P	**Pb**	**15 15 03.2**	**+0.1**
	baz=21						
ARK				⇑*e*S	**Sb**	**15 15 27.0**	**+1.0**
	baz=21						
UCH	**Uchtor**	**1.98**	**22**	P	**Pg**	**15 15 08.6**	**+1.1**
	SNR=16						
UCH	**Uchtor**	**1.98**	**22**	⇓*e*P	**Pb**	**15 15 05.7**	**-0.1**
	baz=22						
UCH				⇓*i*S	**Sb**	**15 15 31.7**	**+1.1**
	baz=22						
BTK	**Batken**	**2.09**	**262**	⇑*i*P	**Pb**	**15 15 07.0**	**-0.6**
	baz=62						
BTK				⇑*i*S	**Sb**	**15 15 33.6**	**0.0**
	baz=62						
TRKS	**Terek-Say**	**2.13**	**303**	⇑*i*P	**Pb**	**15 15 06.4**	**-1.8**
	baz=2.0						
TRKS				⇑*i*S	**Sb**	**15 15 32.9**	**-1.7**
	baz=2.0						
MNAS	**Manas**	**2.22**	**340**	⇑*i*P	**Pb**	**15 15 08.8**	**-1.0**
	baz=41						
MNAS				⇑*i*S	**Sb**	**15 15 36.8**	**-0.6**
	baz=41						
EKS2	**Erkin-Say**	**2.27**	**5**	P	**Pg**	**15 15 13.3**	**+0.1**
	SNR=7.8						
EKS2	**Erkin-Say**	**2.27**	**5**	⇑*e*P	**Pb**	**15 15 09.6**	**-1.0**
	baz=5.0						
EKS2				⇑*i*S	**Sb**	**15 15 38.3**	**-0.5**
	baz=5.0						
AAK	**Ala-Archa**	**2.35**	**18**	P	**Pg**	**15 15 14.5**	**-0.3**
	SNR=8.4						
AAK	**Ala-Archa**	**2.35**	**18**	⇓Pg	**Pg**	**15 15 15.3**	**+0.5**
	3.6nm,0.4s						
AAK				⇓Lg	Lg	15 15 46.1	
	17nm,0.6s						
AAK	**Ala-Archa**	**2.35**	**18**	⇑*e*P	**Pb**	**15 15 11.0**	**-1.1**
	baz=18						
AAK				⇑*e*S	**Sb**	**15 15 40.4**	**-0.8**
	baz=18						
MRKS	**Merke**	**2.36**	**355**	*e*P	**Pg**	**15 15 16.3**	**+1.5**
	3.9nm,0.3s						
MRKS				*e*S	**Sg**	**15 15 46.4**	**+1.1**
	61nm,0.4s						
MRKS	**Merke**	**2.36**	**355**	Pg	**Pg**	**15 15 15.0**	**+0.3**
	5.9nm,0.2s						
MRKS				Lg	Lg	15 15 46.0	
	61nm,0.4s						
KBK	**Karagaybulak**	**2.50**	**25**	P	**Pg**	**15 15 18.6**	**+1.1**
	SNR=7.5						
KBK	**Karagaybulak**	**2.50**	**25**	⇑*i*P	**Pb**	**15 15 13.0**	**-1.6**
	baz=25						
KBK				⇑*i*S	**Sb**	**15 15 44.2**	**-1.2**
	baz=25						
ULHL	**Ulahol**	**2.76**	**47**	P	**Pg**	**15 15 23.6**	**+1.1**
	SNR=7.4						
ULHL	**Ulahol**	**2.76**	**47**	⇑*e*P	**Pn**	**15 15 16.3**	**+2.4**
	baz=47						
ULHL				⇑*i*S	**Sb**	**15 15 50.2**	**-2.7**
	baz=47						
BOOM	**Boomskoye usch**	**2.77**	**40**	⇑*i*P	**Pb**	**15 15 16.5**	**-2.7**
	baz=40						
BOOM				⇑*i*S	**Sb**	**15 15 50.5**	**-2.7**
	baz=40						
TKM2	**Tokmak 2**	**2.96**	**31**	P	**Pb**	**15 15 24.3**	**+1.8**
	SNR=7.5						
TKM2	**Tokmak 2**	**2.96**	**31**	⇑Pg	**Pg**	**15 15 25.3**	**-1.1**
	1.6nm,0.3s						
TKM2				⇓Lg	Lg	15 16 05.4	
	5.8nm,0.5s						
DZA	**Taraz**	**2.98**	**327**	*e*P	**Pg**	**15 15 27.3**	**+0.5**
	48nm,0.2s						
DZA				*e*S	**Sg**	**15 16 05.2**	**-0.2**
	99nm,0.5s						
IUG	**Iuzhnay**	**3.16**	**305**	*e*P	**Pg**	**15 15 29.6**	**-0.5**
	100nm,0.4s						
IUG				*e*S	**Sg**	**15 16 09.4**	**-1.5**
	51nm,0.4s						
IUG	**Iuzhnay**	**3.16**	**305**	Pg	**Pg**	**15 15 28.7**	**-1.3**
	115nm,0.3s						
IUG				Lg	Lg	15 16 09.5	
	51nm,0.4s						
SGDS	**Sogindy**	**3.16**	**15**	*e*P	**Pg**	**15 15 30.2**	**0.0**
	1.5nm,0.2s						
SGDS				*e*S	**Sg**	**15 16 10.6**	**-0.6**
	9.5nm,0.8s						
SGDS	**Sogindy**	**3.16**	**15**	Pg	**Pg**	**15 15 29.3**	**-0.9**
	1.5nm,0.2s						
SGDS				Lg	Lg	15 16 10.6	
	9.5nm,0.8s						
KST	**Kastek**	**3.21**	**34**	*e*P	**Pg**	**15 15 32.9**	**+1.6**
	3.4nm,0.4s						
KST				*e*S	**Sg**	**15 16 15.0**	**+2.1**
	9.8nm,0.6s						
KST	**Kastek**	**3.21**	**34**	Pg	**Pg**	**15 15 31.9**	**+0.7**
	1.9nm,0.2s						
KST				Lg	Lg	15 16 15.0	
	9.8nm,0.6s						
DGS	**Degeres**	**3.30**	**30**	*e*P	**Pg**	**15 15 33.5**	**+0.6**
	6.2nm,0.5s						
DGS				*e*S	**Sg**	**15 16 16.0**	**+0.3**
	8.1nm,0.5s						
DGS	**Degeres**	**3.30**	**30**	Pg	**Pg**	**15 15 32.7**	**-0.2**
	6.2nm,0.5s						
DGS				Lg	Lg	15 16 16.0	
	8.1nm,0.5s						
MTBS	**Maitube**	**3.49**	**38**	*e*P	**Pg**	**15 15 37.3**	**+0.8**
	1.5nm,0.5s						
MTBS				*e*S	**Sg**	**15 16 22.7**	**+1.0**
	7.1nm,0.4s						
MTBS	**Maitube**	**3.49**	**38**	Pg	**Pg**	**15 15 36.2**	**-0.3**
	1.3nm,0.2s						
MTBS				Lg	Lg	15 16 22.7	
	7.1nm,0.4s						
KK02	**Karatay Array**	**3.52**	**321**	⇑Pg	**Pb**	**15 15 33.3**	**+1.5**
	1.1nm,0.3s						
KK02				⇑Lg	Lg	15 16 19.8	
	3.8nm,0.3s						
KRBS	**Karabastau**	**3.67**	**25**	*e*P	**Pg**	**15 15 40.4**	**+0.6**
	1.1nm,0.3s						
KRBS				*e*S	**Sg**	**15 16 28.4**	**+1.1**
	5.2nm,0.4s						
KRBS	**Karabastau**	**3.67**	**25**	Pg	**Pg**	**15 15 39.7**	**-0.1**
	2.3nm,0.5s						
KRBS				Lg	Lg	15 16 28.1	
	5.2nm,0.4s						
TNSS	**Tian-Shan**	**3.68**	**43**	*e*P	**Pg**	**15 15 40.3**	**+0.1**
	3.3nm,0.4s						
TNSS				*e*S	**Sg**	**15 16 28.2**	**+0.4**
	4.8nm,0.5s						
TNSS	**Tian-Shan**	**3.68**	**43**	Pg	**Pg**	**15 15 40.2**	**+0.1**
	3.3nm,0.4s						
TNSS				Lg	Lg	15 16 29.1	
	4.8nm,0.5s						
BRLS	**Borolday**	**3.81**	**315**	*e*P	**Pg**	**15 15 40.1**	**-2.5**
	3.3nm,0.3s						
BRLS				*e*S	**Sg**	**15 16 27.9**	**-4.0**
	9.5nm,0.4s						
BRLS	**Borolday**	**3.81**	**315**	Pg	**Pb**	**15 15 39.1**	**+2.3**
	3.3nm,0.3s						
BRLS				Lg	Lg	15 16 27.4	
	9.5nm,0.4s						
MDOK	**Medeo**	**3.82**	**43**	*e*P	**Pg**	**15 15 43.6**	**+0.8**
	1.3nm,0.7s						
MDOK				*e*S	**Sg**	**15 16 33.5**	**+1.1**
	4.4nm,0.6s						
MDOK	**Medeo**	**3.82**	**43**	Pg	**Pg**	**15 15 42.7**	**-0.1**
	2.5nm,0.4s						
MDOK				Lg	Lg	15 16 33.5	
	4.4nm,0.6s						
KOTS	**Kotyrbulak**	**3.91**	**42**	*e*P	**Pg**	**15 15 45.4**	**+1.0**
	2.1nm,0.2s						
KOTS				*e*S	**Sg**	**15 16 36.3**	**+1.3**
	16nm,0.7s						
KOTS	**Kotyrbulak**	**3.91**	**42**	Pg	**Pg**	**15 15 44.4**	**0.0**
	2.5nm,0.4s						
KOTS				Lg	Lg	15 16 36.3	
	16nm,0.7s						
KTBS	**Karatobe**	**4.06**	**34**	*e*P	**Pg**	**15 15 47.4**	**0.0**
	0.6nm,0.5s						
KTBS				*e*S	**Sg**	**15 16 40.2**	**+0.2**
	14nm,0.8s						
KTBS	**Karatobe**	**4.06**	**34**	Pg	**Pg**	**15 15 46.6**	**-0.8**
	0.9nm,0.3s						
KTBS				Lg	Lg	15 16 40.2	
	14nm,0.8s						
KUU	**Kurty**	**4.07**	**30**	*e*P	**Pg**	**15 15 47.8**	**+0.1**
	1.0nm,0.4s						
KUU				*e*S	**Sg**	**15 16 40.6**	**+0.2**
	5.6nm,0.

BLB	**Baldybastay**	**5.22**	**43**	*e*P		**Pg**	**15 16 08.6**	**-0.9**
	1.2nm,0.1s							
BLB				*e*S		**Sg**	**15 17 16.5**	**-0.5**
	3.2nm,0.3s							
BLB	**Baldybastay**	**5.22**	**43**	Pg		**Pg**	**15 16 07.7**	**-1.8**
	1.8nm,0.1s							
BLB				Lg		Lg	15 17 16.5	
	3.2nm,0.3s							
PDGK	**Podgornoye**	**5.33**	**55**	⇑Lg		Lg	15 17 22.4	
	3.0nm,1.1s							

*JMA **16** 15:19:38.3±0.2,33°.62N×141°.04E,h41km,M3.4*
*IDC **16** 15:19:41.0±3.6,33°.49N×140°.85E,h65km±28km,mb3.5/3, mb1 3.7/4,mb1mx2.9/52,mbtmp3.7/4,ML2.8/1,MS3.0/1, Ms1 3.0/1,ms1mx2.1/61,Error ellipse: s-maj=48.6km s-min=12.5km az=84.0*

ISC 16 15:19:38.4±1.4,33°.55N±0°.06×141°.1E±0°.1,h48km,n21, σ0s63/22,mb3.8/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.11**	**356**	P	**Pn**	**15 19 56.7**	**-0.3**
JHJ2	**Mitsune**	**1.14**	**248**	P	**Pn**	**15 19 58.3**	**+0.3**
JHJ	**Hachijo jima 2**	**1.16**	**249**	P	**Pn**	**15 19 58.4**	**+0.1**
	265nm,0.3s,baz=149,slow=22,SNR=124						
JHJ				S	**Sn**	**15 20 12.0**	**-1.0**
	248nm,0.3s,baz=271,slow=24,SNR=18						
JHCJ	**Hachijojimakas**	**1.17**	**247**	P	**Pn**	**15 19 58.8**	**+0.4**
JHCJ				*e*S	**Sn**	**15 20 13.5**	**+0.3**
JMKN	**Mikurajimanish**	**1.29**	**286**	P	**Pn**	**15 20 00.1**	**+0.1**
BSO3	**Boso 3**	**1.34**	**340**	P	**Pn**	**15 20 00.3**	**-0.1**
BSO4	**Boso 4**	**1.57**	**337**	P	**Pn**	**15 20 04.1**	**+0.4**
JKO	**Kozu shima**	**1.74**	**292**	P	**Pn**	**15 20 06.2**	**+0.1**
JTHY	**Toshimahigashi**	**1.78**	**304**	P	**Pn**	**15 20 06.7**	**0.0**
JIM2	**Oshima 3**	**1.80**	**311**	P	**Pn**	**15 20 06.2**	**-0.8**
JIZS	**Izushimoda**	**2.17**	**303**	P	**Pn**	**15 20 12.3**	**+0.3**
JOD2	**Odawara 2**	**2.38**	**317**	P	**Pn**	**15 20 14.6**	**-0.3**
JOD2				*e*S	**Sn**	**15 20 42.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.81**	**323**	P	**Pn**	**15 20 35.7**	**+1.2**
	0.8nm,0.3s,baz=140,slow=12,SNR=39						
MJAR				S	**Sn**	**15 21 19.1**	**+1.2**
	0.3nm,0.3s,baz=252,slow=26,SNR=4.1						
MAT	**Matsushiro**	**3.81**	**323**	P	**Pn**	**15 20 35.6**	**+1.1**
MAT				S	**Sn**	**15 21 17.9**	**-0.1**
PETK	**Petropavlovsk-**	**22.89**	**26**	LR	LR	15 34 29.1	
	comp=Z,40nm,20.8s,baz=61,slow=39						
H11N2	**WAKE ISLAND Hy**	**26.78**	**114**	T	T	15 54 10.8	
	baz=306,slow=75,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**26.78**	**114**	T	T	15 54 08.4	
	baz=306,slow=75,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**26.79**	**114**	T	T	15 54 09.1	
	baz=306,slow=75,SNR=3.2						
MKAR	**Makanchi Array**	**45.81**	**305**	P	**P**	**15 27 54.9**	**-0.6**
	0.4nm,0.8s,baz=93,slow=9.8,SNR=3.7						
WRA	**Warramunga Arr**	**53.58**	**188**	P	**P**	**15 28 54.6**	**+0.1**
	1.8nm,0.5s,baz=5.3,slow=7.6,SNR=33						
ASAR	**Alice Springs**	**57.30**	**188**	P	**P**	**15 29 21.7**	**+0.3**
	0.4nm,0.4s,baz=2.1,slow=6.2,SNR=29						

DJA 16 15:24:42.4±0.8,3°S±6°.3×13°9E±°,h60km±43km,M3.9/6, mb3.9/2,mB5.1/1,MLv3.8/6,Mw(mB)4.4/1,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.41**	**93**	P	Pn	15 25 06.1	+0.2
GENI				S	Sn	15 25 23.4	-0.1
JAY	**Jayapura**	**1.94**	**90**	P	Pn	15 25 13.5	+0.4
SRPI	**Serui, Papua**	**2.60**	**284**	P	Pn	15 25 22.5	+0.4
BAKI	**Biak**	**2.96**	**296**	P	Pn	15 25 27.1	+0.1
FAKI	**Fak Fak**	**6.52**	**266**	P	Pn	15 26 13.4	-2.3
	0.1nm20nm,1.2s						

*OMAN **16** 15:59:18.9±0.4,26°.01N×57°.87E,h13km±4km,ml3.3/20, Error ellipse: s-maj=11.0km s-min=2.2km az=41.0*
*DSN **16** 15:59:19.7±3.9,25°.94N×57°.77E,h10km,ML3.0/10,Error ellipse: s-maj=43.5km s-min=12.8km az=42.0*
*TEH **16** 15:59:19.6,26°.12N×57°.73E,h20km,ML3.6*

ISC 16 15:59:17.8±1.3,25°.89N±0°.04×57°.83E±0°.03,h12km±13km, n71,σ1s32/81,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK1	**Jask**	**0.25**	**191**	*e*Pg	**Pn**	**15 59 29.7**	**+2.4**
JSK1				*e*		16 00 17.1	
	comp=Z,61μm,0.7s						
BANOM	**Banah**	**1.38**	**272**	*e*Pn	**Pn**	**15 59 42.9**	**0.0**
BANOM	**Banah**	**1.38**	**272**	P	**Pn**	**15 59 42.8**	**0.0**
	SNR=70						
BANOM				S	**Sg**	**16 00 02.0**	**-0.1**
	SNR=12						
SHME	**Shamm**	**1.52**	**277**	*e*Pn	**Pg**	**15 59 46.5**	**-0.6**
SHME	**Shamm**	**1.52**	**277**	P	**Pb**	**15 59 46.3**	**+0.2**
	SNR=20						
SHME				S	**Sg**	**16 00 07.4**	**+0.5**
	SNR=9.0						
SHME	**Shamm**	**1.52**	**277**	P	**Pb**	**15 59 46.2**	**+0.2**
SHME				S	**Sg**	**16 00 06.3**	**-0.6**
MASF	**Masafi**	**1.59**	**252**	P	**Pn**	**15 59 45.9**	**+0.2**
	SNR=15						
MASF				S	**Sb**	**16 00 07.1**	**-0.1**
MSFE	**Esma-Masafi**	**1.59**	**251**	*e*Pn	**Pn**	**15 59 46.3**	**+0.5**
MSFE	**Esma-Masafi**	**1.59**	**251**	*e*P	**Pn**	**15 59 45.8**	**0.0**
	SNR=6.3						
UOSS	**Minazif**	**1.74**	**238**	*e*Pn	**Pn**	**15 59 48.5**	**+0.7**
UOSS	**Minazif**	**1.74**	**238**	P	**Pn**	**15 59 48.6**	**+0.7**
UOSS	**Minazif**	**1.74**	**238**	*e*P	**Pn**	**15 59 48.3**	**+0.4**
	SNR=13						
HATD	**Hatta, Dubai**	**1.86**	**236**	*e*Pn	**Pn**	**15 59 50.2**	**+0.7**
HATD	**Hatta, Dubai**	**1.86**	**236**	P	**Pn**	**15 59 50.3**	**+0.8**
	SNR=9.3						
HATD	**Hatta, Dubai**	**1.86**	**236**	*e*P	**Pn**	**15 59 50.2**	**+0.7**
	SNR=9.3						
IBND	**Bandar-abas**	**1.94**	**324**	*e*Pn	**Pn**	**15 59 50.2**	**-0.3**
IBND				*e*		16 00 40.6	
	comp=Z,13μm,0.4s						
UMQ	**Umm Al-Quwin**	**1.98**	**260**	*e*Pn	**Pn**	**15 59 52.3**	**+1.1**
ASHO	**Ashiyiah**	**2.00**	**234**	*e*Pn	**Pn**	**15 59 52.6**	**+1.2**
ASHO	**Ashiyiah**	**2.00**	**234**	P	**Pb**	**15 59 52.8**	**-1.3**
	SNR=22						
ASHO				S	**Sg**	**16 00 25.5**	**+3.5**
ASHO	**Ashiyiah**	**2.00**	**234**	*e*P	**Pn**	**15 59 52.5**	**+1.1**
	SNR=22						
KHNJ	**Kahnooj**	**2.06**	**357**	*e*Pn	**Pn**	**15 59 50.6**	**-1.6**
SOHO	**SOHO**	**2.10**	**214**	*e*Pn	**Pn**	**15 59 54.0**	**+1.2**
SOHO	**SOHO**	**2.10**	**214**	P	**Pn**	**15 59 54.1**	**+1.4**
SOHO	**SOHO**	**2.10**	**214**	*e*P	**Pn**	**15 59 54.0**	**+1.2**
	SNR=189						
GENO	**Geno**	**2.11**	**316**	*e*Pn	**Pn**	**15 59 52.5**	**-0.6**
GENO				*e*		16 00 39.1	
	comp=Z,6μm,0.4s						
NAZ	**Nazwa, Dubai**	**2.15**	**246**	*e*Pn	**Pg**	**15 59 58.0**	**-1.0**
NAZ	**Nazwa, Dubai**	**2.15**	**246**	P	**Pg**	**15 59 58.1**	**-1.0**
	SNR=17						
NAZ	**Nazwa, Dubai**	**2.15**	**246**	*e*P	**Pb**	**15 59 57.7**	**+1.0**
	SNR=17						
FAQ	**Al Faqa, Dubai**	**2.32**	**241**	*e*Pn	**Pb**	**15 59 59.7**	**+0.2**
FAQ	**Al Faqa, Dubai**	**2.32**	**241**	P	**Pb**	**15 59 59.8**	**+0.3**
	SNR=24						
FAQ	**Al Faqa, Dubai**	**2.32**	**241**	*e*P	**Pb**	**15 59 59.2**	**-0.3**
	SNR=24						
HOQ	**Hoqain**	**2.34**	**192**	P	**Pn**	**15 59 58.0**	**+1.9**
	SNR=100						
HOQ				S	**Sb**	**16 00 27.6**	**-1.2**
BIDO	**Bidbid**	**2.37**	**173**	*e*Pn	**Pb**	**15 59 59.1**	**-1.3**
BIDO	**Bidbid**	**2.37**	**173**	P	**Pb**	**15 59 59.1**	**-1.3**
	SNR=24						
CHBR	**Chabahar**	**2.41**	**96**	*e*Pn	**Pg**	**16 00 05.0**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.58**	**242**	*e*Pn	**Pb**	**16 00 03.7**	**-0.4**
ASUD	**Al Ashush, Dub**	**2.58**	**242**	P	**Pb**	**16 00 03.7**	**-0.4**
	SNR=36						
ASUD	**Al Ashush, Dub**	**2.58**	**242**	*e*P	**Pb**	**16 00 03.5**	**-0.6**
	SNR=36						
ALNE	**Al Ain**	**2.62**	**226**	*e*Pn	**Pb**	**16 00 03.7**	**-1.0**
ALNE	**Al Ain**	**2.62**	**226**	P	**Pb**	**16 00 04.3**	**-0.3**
	SNR=8.4						
ALNE	**Al Ain**	**2.62**	**226**	*e*P	**Pb**	**16 00 03.9**	**-0.8**
	SNR=8.3						
ARQ	**Araqi**	**2.80**	**205**	P	**Pb**	**16 00 07.5**	**-0.2**
	SNR=17						
ARQ				P	**Pb**	**16 00 07.5**	**-0.2**
	SNR=96						
SMDO	**Samad**	**2.82**	**176**	P	**Pb**	**16 00 06.4**	**-1.8**
	SNR=14						
SMDO				S	**Sb**	**16 00 41.4**	**-1.4**
AJN	**Ajban**	**2.89**	**243**	P	**Pb**	**16 00 07.5**	**-1.8**
BSY	**Bisya**	**3.18**	**190**	P	**Pb**	**16 00 12.4**	**-1.8**
	SNR=16						
BSY				S	**Sb**	**16 00 53.0**	**+0.1**
KBAM	**BAM**	**3.29**	**10**	*e*		16 00 10.8	
	comp=Z,1μm,0.3s						
KBAM				*e*Pn	**Pn**	**16 00 08.5**	**-0.7**
WBK	**Wadi Bani Khal**	**3.42**	**162**	P	**Pn**	**16 00 14.1**	**+3.1**
JMDO	**Jabal Madar**	**3.51**	**176**	P	**Pb**	**16 00 17.0**	**-2.8**
	SNR=22						
JMDO				S	**Sb**	**16 01 01.0**	**-1.4**
NGRK	**Negar Kerman**	**3.87**	**346**	*e*Pn	**Pn**	**16 00 16.9**	**-0.5**
NGRK				*e*		16 00 27.8	
	comp=Z,824nm,0.4s						
CHMN	**Cheshme madani**	**3.97**	**356**	*e*Pn	**Pn**	**16 00 19.5**	**+0.7**
CHMN				*e*		16 00 35.2	
	comp=Z,525nm,0.6s						
UMZA	**Um Al Zommool**	**3.98**	**218**	P	**Pn**	**16 00 21.7**	**+3.0**
JLN	**Jalan Bani Buh**	**3.99**	**158**	P	**Pn**	**16 00 21.6**	**+2.8**
KRBR	**Kerman**	**4.19**	**347**	*e*Pn	**Pn**	**16 00 22.4**	**+0.6**
TVBK	**TV Kerman**	**4.19**	**347**	*e*Pn	**Pn**	**16 00 22.5**	**+0.6**
SRVN	**Saravan**	**4.36**	**69**	*e*Pn	**Pn**	**16 00 27.0**	**+3.0**
ZHDN	**Zahedan**	**4.39**	**36**	*e*Pn	**Pn**	**16 00 24.6**	**+0.2**
ZHSF	**Zahedan**	**4.54**	**34**	*e*Pn	**Pn**	**16 00 28.5**	**+2.0**
KHGB	**Koh Gabri**	**4.63**	**345**	*e*Pn	**Pn**	**16 00 28.3**	**+0.5**
GHIR	**Ghir-Karzin**	**4.93**	**300**	*e*Pn	**Pn**	**16 00 32.1**	**+0.3**
NHDN	**Nehbandan**	**5.83**	**19**	*e*Pn	**Pn**	**16 00 43.3**	**-0.8**
BSRN	**Basiran**	**6.16**	**10**	*e*Pn	**Pn**	**16 00 47.1**	**-1.7**
IKOO	**Kooshah**	**6.60**	**9**	*e*Pn	**Pn**	**16 00 53.0**	**-1.8**
ISAD	**Sadrabad**	**7.02**	**330**	*e*Pn	**Pn**	**16 01 00.4**	**-0.2**
ITEG	**Tejag**	**7.03**	**6**	*e*Pn	**Pn**	**16 00 59.9**	**-0.9**
YZKH	**Yazd**	**7.07**	**337**	*e*Pn	**Pn**	**16 01 01.1**	**-0.1**
TPRV	**Parvadeh(Tabas**	**7.19**	**352**	*e*Pn	**Pn**	**16 01 02.6**	**-0.2**
IRAM	**Ramesheh**	**7.59**	**322**	*e*Pn	**Pn**	**16 01 07.7**	**-0.7**
TKDS	**Koohdasht(Taba**	**7.73**	**356**	*e*Pn	**Pn**	**16 01 09.4**	**-0.8**
SHAO	**Shalim**	**8.09**	**195**	P	**Pn**	**16 01 17.6**	**+2.5**
	SNR=9.0						
RBK	**Rabkut**	**8.99**	**203**	P	**Pn**	**16 01 29.7**	**+2.2**
IPIR	**Pirpir**	**9.08**	**320**	*e*Pn	**Pn**	**16 01 28.9**	**-0.1**

IDC 16 16:03:14.4±7.3,30°.46S×178°.61W,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.5/38,mbtmp3.4/2,Error ellipse: s-maj=305.0km s-min=56.3km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.58**	**267**	P	P	16 11 11.9	-0.4
	0.2nm,0.5s,baz=104,slow=6.9,SNR=2.3						
WRA	**Warramunga Arr**	**43.57**	**273**	P	P	16 11 20.4	0.0
	0.4nm,0.4s,baz=112,slow=7.9,SNR=8.3						
FINES	**FINESS Array B**	**145.01**	**340**	PKPbc	PKPbc	16 22 51.5	-0.7
	0.5nm,0.3s,baz=44,slow=3.8,SNR=12						

*IDC **16** 16:06:20.6±6.2,8°.17S×128°.07E,h91km±67km,mb2.8/1, mb1 3.2/5,mb1mx2.8/35,mbtmp3.4/5,ML3.4/4,MS3.2/1, Ms1 3.2/1,ms1mx2.4/13,Error ellipse: s-maj=54.3km s-min=20.8km az=32.0*

ISC 16 16:06:21.5±1.5,8°.3S±0°.1×128°.1E±0°.1,h100km,n6, σ1s29/9,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.75**	**245**	P	**Pn**	**16 07 30.1**	**-0.8**
	1.9nm,0.3s,baz=157,slow=3.7,SNR=11						
BATI				S	**Sn**	**16 08 26.0**	**+1.0**
	4.2nm,0.3s,baz=4.3,slow=21,SNR=5.7						
FITZ	**Fitzroy Crossi**	**10.07**	**193**	P	**Pn**	**16 08 42.5**	**-0.7**
	0.2nm,0.3s,baz=11,slow=12,SNR=7.3						
FITZ				S	**Sn**	**16 10 35.1**	**+0.8**
	0.3nm,0.3s,baz=112,slow=23,SNR=7.0						
WRA	**Warramunga Arr**	**13.12**	**153**	P	**Pn**	**16 09 24.8**	**+0.7**
	0.2nm,0.3s,baz=329,slow=12,SNR=11						
WRA				S	**Sn**	**16 11 48.4**	**-0.2**
	0.4nm,0.3s,baz=312,slow=27,SNR=10						
DAV	**Davao City (W)**	**15.41**	**351**	LR	LR	16 16 23.3	
	comp=Z,104nm,21.4s,baz=312,slow=39						
ASAR	**Alice Springs**	**16.32**	**161**	P	**P**	**16 10 07.2**	**+1.2**
	0.2nm,0.3s,baz=340,slow=12,SNR=27						
ASAR				S	**Sn**	**16 13 03.8**	**-2.3**
	0.1nm,0.3s,baz=334,slow=18,SNR=1.6						
MKAR	**Makanchi Array**	**68.23**	**328**	P	**P**	**16 17 11.0**	**-0.5**
	0.1nm,0.4s,baz=125,slow=7.6,SNR=1.6						

NNC 16 16:07:58.1±3.8,37°.26N×71°.16E,h0km,mb3.5,mpv3.2, 3C-4D,Error ellipse: s-maj=32.4km s-min=26.6km az=151.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**5.85**	**355**	⇓P	Pn	16 09 25.8	-0.3
	0.8nm,0.3s						
KK02				⇓S	Sn	16 10 34.7	+0.8
	1.9nm,0.5s						
AAK	**Ala-Archa**	**5.95**	**24**	⇓P	Pn	16 09 27.4	-0.2
	1.5nm,0.6s						
AAK				⇑S	Sn	16 10 38.9	+2.4
	5.3nm,0.9s						
TKM2	**Tokmak 2**	**6.59**	**30**	⇑P	Pn	16 09 36.4	-0.1
	2.0nm,0.8s						
TKM2				⇑S	Sn	16 10 52.8	+0.3
	2.8nm,1.1s						
AB31	**Akbulak array**	**14.48**	**329**	⇓P	Pn	16 11 25.8	+1.5
	0.3nm,0.5s,baz=158,slow=12,SNR=5.0						

NEIC 16 16:12:04.2±0.8,35°.68N±0°.01×97°.40W±0°.01,h10km±3km, ML2.1/30,Error ellipse: s-maj=1.5km s-min=1.2km az=184.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**192**	Pg	Pg	16 12 06.5	-0.2
OK009				Sg	Sg	16 12 08.2	-0.4
OK029	**Westminster Rd**	**0.11**	**152**	Pg	Pg	16 12 06.6	-0.2
OK025				Sg	Sg	16 12 08.5	-0.3
OK025				IAML		16 12 09.0	
	792nm,0.1s						
OK029	**Liberty Lake**	**0.13**	**339**	Pg	Pg	16 12 07.4	+0.2
OK029				Sg	Sg	16 12 09.9	+0.5
OK029				IAML		16 12 10.0	
	978nm,0.2s						
BCOK	**Bluff Creek, N**	**0.17**	**264**	Pg	Pg	16 12 07.9	0.0
BCOK				Sg	Sg	16 12 10.9	+0.4
BCOK				IAML		16 12 11.1	
	comp=E,405nm,0.1s						
OKCFA	**Oklahoma City**	**0.26**	**190**	Pg		16 12 09.6	+0.1
OKCFA				Sg	Sg	16 12 13.4	+0.3
OKCFA				IAML		16 12 13.6	
	comp=E,432nm,1.1s						
OKCSW	**OKLAHOMA CITY**	**0.27**	**187**	Pg	Pg	16 12 09.7	+0.1
OKCSW				Sg	Sg	16 12 13.6	+0.2
FNO	**Franklin**	**0.42**	**180**	Pg	Pg	16 12 12.3	0.0
FNO				Sg	Sg	16 12 18.3	+0.4
OK031	**S. Brethren Rd**	**0.53**	**58**	Pg	Pg	16 12 14.6	+0.1
OK031				Sg	Sg	16 12 22.1	+0.5
OK031				IAML		16 12 22.2	
	comp=E,89nm,0.1s						
OK030	**Cody Creek RV**	**0.56**	**63**	Pg	Pg	16 12 15.0	0.0
OK030				IAML		16 12 26.7	
	comp=E,107nm,0.1s						
OK034	**N. Norfolk Rd.**	**0.65**	**59**	Pg	Pg	16 12 16.5	-0.2
OK034				Sg	Sg	16 12 25.6	+0.3
OK034				IAML		16 12 26.3	
	comp=E,120nm,0.1s						
OK034				IAML		16 12 27.4	
	comp=E,83nm,0.1s						
W35A	**Tecumseh**	**0.67**	**140**	Pg	Pg	16 12 16.8	-0.5
W35A				Sg	Sg	16 12 25.9	-0.1
QUOK	**Quay**	**0.75**	**48**	Pg	Pg	16 12 18.4	-0.2
QUOK				Sg	Sg	16 12 28.6	+0.2
QUOK				IAML		16 12 31.8	
	comp=N,85nm,0.1s						
QUOK				IAML		16 12 33.2	
	comp=E,68nm,0.2s						
CROK	**Carrier**	**0.95**	**330**	Pg	Pg	16 12 22.4	-0.1
CROK				IAML		16 12 42.1	
	comp=E,69nm,0.3s						
BLOK	**Blackwell**	**1.09**	**8**		Pb	16 12 24.6	-0.6
X34A	**Smith Ranch, M**	**1.13**	**199**		Pb	16 12 25.6	-0.2
X34A				IAML		16 12 42.1	
	comp=N,45nm,0.2s						
X34A				IAML		16 12 44.5	
	comp=E,46nm,0.5s						
GC02	**Grant County #**	**1.23**	**343**	Pn	Pn	16 12 26.9	-0.5
TUL1	**Leonard**	**1.33**	**79**	Pn	Pn	16 12 27.9	-0.9
TUL1				IAML		16 12 47.4	
	comp=N,36nm,0.2s						
TUL1				IAML		16 12 49.5	
	comp=E,38nm,0.4s						
T35A	**Sooner Cattle**	**1.43**	**30**	Pn	Pn	16 12 30.0	-0.2
WMOK	**Wichita Mounta**	**1.47**	**231**	Pn	Pn	16 12 30.7	0.0
U32A	**Winter Ranch,**	**1.48**	**299**	Pn	Pn	16 12 31.0	+0.2

IDC 16 16:37:11.1±3.5,61°.07N×28°.17W,h0km,mb3.2/3, mb1 3.5/4,mb1mx3.0/46,mbtmp3.3/4,ML3.1/1,Error ellipse: s-maj=84.5km s-min=28.5km az=160.0,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.83**	**37**	Pn	Pn	16 38 24.4	-0.6
	0.9nm,0.3s,baz=284,slow=7.1,SNR=9.1						
BORG				Sn	Sn	16 39 21.6	0.0
	baz=301,slow=12,SNR=1.9						
YKA	**Yellowknife Ar**	**38.00**	**311**	P	P	16 44 30.9	+0.7
	0.2nm,0.7s,baz=53,slow=9.2,SNR=5.0						
PDAR	**Pinedale Array**	**49.85**	**288**	P	P	16 46 04.7	-1.2
	0.3nm,0.6s,baz=58,slow=7.5,SNR=2.5						
MKAR	**Makanchi Array**	**58.79**	**49**	P	P	16 47 11.0	+0.3
	0.2nm,0.7s,baz=337,slow=6.3,SNR=2.1						

IDC 16 16:37:25.8±3.4,61°.26N×28°.33W,h0km,mb3.3/3, mb1 3.6/4,mb1mx3.0/46,mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=86.7km s-min=27.8km az=161.0,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.74**	**39**	Pn	Pn	16 38 38.1	-0.3
	1.3nm,0.3s,baz=263,slow=7.3,SNR=7.9						
BORG				Sn	Sn	16 39 35.5	+1.6
	baz=332,slow=22,SNR=1.1						
YKA	**Yellowknife Ar**	**37.83**	**311**	P	P	16 44 43.4	-0.1
	0.1nm,0.3s,baz=50,slow=8.9,SNR=3.6						
PDAR	**Pinedale Array**	**49.72**	**287**	P	P	16 46 19.4	-0.2
	0.4nm,0.8s,baz=60,slow=5.3,SNR=3.7						
MKAR	**Makanchi Array**	**58.73**	**49**	P	P	16 47 24.9	0.0
	0.3nm,0.7s,baz=337,slow=6.9,SNR=4.1						

*IDC **16** 16:49:15.1±1.9,46°.73N×145°.41E,h368km±19km,mb3.0/9, mb1 3.0/13,mb1mx2.7/65,mbtmp3.6/13,Error ellipse: s-maj=25.3km s-min=17.4km az=95.0*
*SKHL **16** 16:49:15.3±0.0,46°.90N×146°.00E,h349km±2km,mb4.5/9, mbv4.9/2,msh4.6/2,msha4.6/6*
*JMA **16** 16:49:17.4±0.5,46°.10N×145°.47E,h391km,M3.4*

ISC 16 16:49:15.0±0.8,46°.53N±0°.05×145°.19E±0°.09,h372km±7km, n34,σ2s23/46,mb3.0/9,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.73**	**285**	*i* P	**Pn**	**16 50 08.4**	**+1.8**
YSS				AMB	AMB	16 50 10.4	
	40nm,0.3s						
YSS				*e*S	**S**	**16 50 49.8**	**+1.6**
YSS				A	A	16 50 52.0	
	40nm,0.7s						
YSS				A	A	16 50 52.0	
	20nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.54**	**169**	*e*P	**Pn**	**16 50 13.6**	**+1.3**
YUK				AMB	AMB	16 50 14.2	
	380nm,1.5s						
YUK				AMB	AMB	16 50 15.4	
	70nm,0.2s						
YUK				*e*S	**S**	**16 50 59.6**	**+1.1**
YUK				A	A	16 51 03.5	
	2μm,3.0s						
YUK				A	A	16 51 03.5	
	780nm,3.0s						
GRPR	**Tuman**	**2.57**	**171**	*e*P	**Pn**	**16 50 14.2**	**+1.6**
GRPR				AMB	AMB	16 50 14.8	
	90nm,0.3s						
GRPR				*e*S	**S**	**16 51 00.7**	**+1.8**
JRA	**Rausu**	**2.59**	**181**	P	**Pn**	**16 50 14.4**	**+1.7**
JTKR	**Abashiri--Toko**	**2.71**	**200**	P	**Pn**	**16 50 15.5**	**+1.8**
GLVR	**Golovnino**	**2.80**	**175**	*e*P	**Pn**	**16 50 17.0**	**+2.6**
GLVR				*e*S	**S**	**16 51 05.7**	**+3.4**
JMP	**Maruseppu**	**2.83**	**208**	P	**Pn**	**16 50 16.5**	**+1.7**
SHO	**Shikotan**	**2.90**	**156**	*i* P	**Pn**	**16 50 14.8**	**-0.5**
SHO				AMB	AMB	16 50 15.7	
	40nm,0.3s						
SHO				AMB	AMB	16 50 17.3	
	480nm,2.0s						
SHO				*e*S	**S**	**16 51 01.2**	**-2.6**
SHO				A	A	16 51 02.7	
	50nm,0.4s						
SHO				A	A	16 51 02.7	
	70nm,0.4s						
SHO				A	A	16 51 02.9	
	440nm,3.0s						
SHO				A	A	16 51 02.9	
	570nm,3.0s						
ASAJ	**Asahikawa**	**3.03**	**218**	P	**Pn**	**16 50 18.4**	**+2.1**
	0.5nm,0.3s,baz=173,slow=5.7,SNR=6.9						
NMR	**Nemuro--Hokkai**	**3.18**	**173**	*e*P	**Pn**	**16 50 17.4**	**-0.3**
NEM2	**Nemuro 2**	**3.19**	**173**	P	**Pn**	**16 50 17.0**	**-0.8**
UGL	**Uglegorsk**	**3.31**	**322**	*e*P	**Pn**	**16 50 19.5**	**+0.9**
UGL				AMB	AMB	16 50 20.0	
	80nm,0.5s						
UGL				*e*S	**S**	**16 51 09.5**	**-0.6**
UG

mb1 3.4/9, mb1mx3.1/59, mbtmp3.2/9, ML2.7/8, MS2.4/1, Ms1 2.5/1, ms1mx1.9/48, Error ellipse: s-maj=11.5km s-min=6.3km az=106.0

IPEC ***16*** *16:54:43.1±0.3, 51°.48N×16°.24E, h0km, ML2.3/3, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*

VIE ***16*** *16:54:45.0±0.9, 51°.35N×16°.16E, h0km, mb2.7/6, ml2.7/6, Error ellipse: s-maj=10.0km s-min=5.5km az=53.0 65 km WNW of Wroclaw Suspected Mining induced.*

ISC 16 16:54:41.1±0.6, 51°.57N±0°.03×16°.16E±0°.02, h0km, n47, σ1$**34/88, 13D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**174**	*e*Pg	**Pg**	**16 54 55.9**	**+0.7**
KSP				eSg	**Sg**	**16 55 04.4**	**-0.3**
CHVC	**Chvalec**	**0.99**	**184**	‖*i*PG	**Pg**	**16 55 00.6**	**+0.6**
CHVC				eSG	**Sg**	**16 55 12.4**	**-0.4**
OSTC	**Ostas**	**1.02**	**178**	‖*i*PG	**Pg**	**16 55 01.2**	**+0.6**
OSTC				eSG	**Sg**	**16 55 13.4**	**-0.4**
UPC	**Upice**	**1.07**	**185**	‖eSG	**Sg**	**16 55 14.9**	**-0.6**
DPC	**Dobruska-Polom**	**1.23**	**175**	‖*i*PG	**Pg**	**16 55 04.7**	**+0.1**
DPC				eSG	**Sg**	**16 55 19.9**	**-0.7**
	comp=Z,41nm,0.5s						
PVCC	**Panska Ves**	**1.45**	**224**	‖*e*PG	**Pn**	**16 55 09.0**	**+0.4**
PVCC				eSG	**Sg**	**16 55 28.0**	**+0.3**
	comp=Z,112nm,0.3s						
KRLC	**Kraliky**	**1.55**	**165**	‖*e*PG	**Pn**	**16 55 10.2**	**+0.2**
KRLC				eSG	**Sg**	**16 55 29.2**	**-1.7**
	comp=Z,63nm,0.5s						
BRG	**Berggiesshubel**	**1.56**	**244**	Pg	**Pb**	**16 55 11.6**	**+0.7**
BRG				Sg	**Sn**	**16 55 31.5**	**+0.4**
BRG				Amp		16 55 32.4	
	comp=Z,47nm,0.4s						
PRU	**Pruhonice**	**1.89**	**214**	‖*e*PN	**Pn**	**16 55 14.7**	**+0.1**
PRU				*e*PG	**Pb**	**16 55 16.5**	**0.0**
PRU				eSG	**Sb**	**16 55 40.4**	**-0.2**
	comp=Z,21nm,0.5s						
RAC	**Raciborz**	**1.97**	**138**	*e*PG	**Pb**	**16 55 18.1**	**+0.2**
RAC				eSG	**Sg**	**16 55 44.1**	**-0.3**
CLL	**Collm**	**2.00**	**264**	*i* Pn	**Pn**	**16 55 16.5**	**+0.4**
CLL				*i* Pg	**Pb**	**16 55 19.1**	**+0.8**
CLL				*i* x	x	16 55 23.2	
CLL				eSg	**Sb**	**16 55 45.0**	**+1.4**
	comp=Z,23nm,0.7s						
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**16 55 16.7**	**+0.5**
	baz=335						
MORC				eSg	**Sn**	**16 55 42.8**	**+0.8**
	comp=Z,25nm,0.4s,baz=335						
OKC	**Ostrava-Krasne**	**2.15**	**143**	‖*e*PG	**Pg**	**16 55 22.2**	**-0.1**
OKC				eSG	**Sb**	**16 55 48.1**	**+0.1**
VRAC	**Vranov**	**2.29**	**173**	Pn	**Pn**	**16 55 21.4**	**+1.3**
	comp=Z,2.4nm,0.3s,baz=345,slow=16,SNR=15						
VRAC				Pg	**Pg**	**16 55 24.9**	**0.0**
	comp=Z,3.7nm,0.3s,baz=345,slow=17,SNR=12						
VRAC				Lg	Lg	16 55 51.8	
	comp=Z,5.1nm,0.3s,baz=274,slow=22,SNR=9.2						
VRAC	**Vranov**	**2.29**	**173**	*e*Pn	**Pn**	**16 55 21.0**	**+0.9**
	baz=354						
VRAC				eSg	**Sb**	**16 55 51.6**	**-0.4**
	comp=Z,16nm,0.4s,baz=354						
TREC	**Trest**	**2.32**	**191**	‖*e*PN	**Pn**	**16 55 22.1**	**+1.5**
TREC				eSG	**Sb**	**16 55 53.5**	**+0.4**
	comp=Z,26nm,0.4s						
PBCC	**Pribram**	**2.34**	**217**	‖*e*PN	**Pn**	**16 55 20.7**	**-0.1**
KRUC	**Moravsky**	**2.52**	**177**	*e*Pn	**Pn**	**16 55 23.9**	**+0.6**
	baz=358						
KRUC				eSg	**Sb**	**16 55 58.9**	**+0.2**
	comp=Z,14nm,0.3s,baz=358						
OJC	**Ojcow**	**2.67**	**119**	*e*Pn	**Pn**	**16 55 25.4**	**0.0**
OJC				*e*Pg	**Pg**	**16 55 34.7**	**+2.4**
OJC				eSg	**Sg**	**16 56 09.4**	**+2.5**
NKC	**Novy Kostel**	**2.71**	**242**	‖*e*PN	**Pn**	**16 55 26.7**	**+0.8**
NKC				*e*PG	**Pg**	**16 55 33.2**	**+0.2**
NKC				eSG	**Sg**	**16 56 09.7**	**+1.7**
	comp=Z,29nm,0.3s						
JAVC	**Velka Javorina**	**2.88**	**160**	*e*PN	**Pn**	**16 55 29.3**	**+0.9**
KHC	**Kasperske Hory**	**2.95**	**215**	‖*e*PN	**Pn**	**16 55 29.7**	**+0.4**
KHC				*e*PG	**Pb**	**16 55 35.8**	**+1.2**
KHC				eSG	**Sg**	**16 56 16.0**	**+0.1**
	comp=Z,17nm,0.6s						
CKRC	**Cesky Krumlov**	**3.00**	**204**	‖*e*PN	**Pn**	**16 55 31.0**	**+1.0**
CKRC				*e*PG	**Pb**	**16 55 36.7**	**+1.2**
CKRC				eSG	**Sb**	**16 56 15.2**	**+2.5**
	comp=Z,17nm,0.4s						
GERES	**GERESS Array B**	**3.16**	**211**	Pn	**Pn**	**16 55 32.9**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=28,slow=13,SNR=36						
GERES				Pg	**Pb**	**16 55 38.8**	**+0.7**
	comp=Z,4.5nm,0.3s,baz=30,slow=17,SNR=32						
GERES				Lg	Lg	16 56 19.3	
	comp=Z,2.9nm,0.3s,baz=32,slow=26,SNR=4.6						
SMOL	**Smolenice**	**3.17**	**165**	*e*PG	**Pg**	**16 55 42.1**	**+0.3**
SMOL				eSG	**Sg**	**16 56 24.9**	**+2.0**
LANS	**Liptovska Anna**	**3.22**	**138**	*e*PN	**Pn**	**16 55 34.5**	**+1.5**
LANS				*e*PG	**Pg**	**16 55 43.3**	**+0.5**
LANS				eSG	**Sg**	**16 56 27.3**	**+2.8**
MODS	**Modra-Piesok**	**3.28**	**167**	*e*PG	**Pg**	**16 55 44.0**	**0.0**
MODS				eSG	**Sg**	**16 56 28.0**	**+1.5**
NIE	**Niedzica**	**3.41**	**128**	*e*P	**Pg**	**16 55 47.5**	**+1.1**
NIE				eS	**Sg**	**16 56 32.0**	**+1.4**
VYHS	**Vyhne**	**3.53**	**150**	*e*PN	**Pn**	**16 55 37.8**	**+0.6**
VYHS				*e*PG	**Pg**	**16 55 48.3**	**-0.5**
BSD	**Bornholm Skovb**	**3.62**	**349**	*e*P	**Pn**	**16 55 40.8**	**+2.4**
BSD				eS	**Sn**	**16 56 22.0**	**+0.1**
CONA	**Conrad Observa**	**3.65**	**183**	*i* Pn	**Pn**	**16 55 39.8**	**+0.8**
	comp=Z,2.3nm,0.3s						
CONA				eSg	**Sg**	**16 56 36.6**	**-1.9**
	comp=Z,18nm,0.4s						
MOA	**Molln**	**3.93**	**199**	*i* Pn	**Pn**	**16 55 43.2**	**+0.6**
	comp=Z,0.8nm,0.1s						
MOA				eSg	**Sg**	**16 56 45.4**	**-1.7**
	comp=Z,8.3nm,0.5s						
ARSA	**Arzberg**	**4.35**	**186**	Sg	**Sg**	**16 56 59.5**	**-1.2**
	comp=Z,14nm,0.7s						
LUNU	**Lund**	**4.38**	**339**	*i* P	**Pn**	**16 55 49.0**	**+0.2**
LUNU				eS	**Sn**	**16 56 40.6**	**+0.2**
BLEU	**Blekinge**	**4.75**	**358**	*e*P	**Pn**	**16 55 55.4**	**+1.6**
BLEU				eS	**Sn**	**16 56 49.2**	**-0.2**
DEL	**Delary**	**5.09**	**346**	*e*P	**Pn**	**16 56 00.1**	**+1.5**
DEL				eS	**Sn**	**16 56 57.9**	**-0.1**
MOTA	**Moosalm**	**5.37**	**220**	*e*Pn	**Pn**	**16 56 03.7**	**+1.2**
	comp=Z,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**5.39**	**208**	*i* Pn	**Pn**	**16 56 04.3**	**+1.5**
	comp=Z,1.7nm,0.6s						
SQTA	**Sankt Quirin**	**5.42**	**219**	*i* Pn	**Pn**	**16 56 05.4**	**+2.1**
	comp=Z,2.8nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.32**	**223**	Pn	**Pn**	**16 56 14.1**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=24,slow=20,SNR=1.9						
DAVOX				Lg	Lg	16 57 59.7	
	comp=Z,0.1nm,0.3s,baz=20,slow=22,SNR=1.7						
AKASG	**Malin Array Be**	**8.26**	**91**	Pn	**Pn**	**16 56 42.7**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=284,slow=12,SNR=4.6						
AKASG				Sn	**Sn**	**16 58 11.3**	**-4.8**
	comp=Z,0.6nm,0.3s,baz=193,slow=30,SNR=1.9						
HFS	**Hagfors**	**8.69**	**352**	Pn	**Pn**	**16 56 49.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=159,slow=14,SNR=2.2						
NOA	**NORSAR Array B**	**9.88**	**346**	Pn	**Pn**	**16 57 04.5**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=178,slow=12,SNR=1.1						
NOA				LR	LR	17 01 49.9	
	comp=Z,19nm,18.7s,baz=350,slow=43						
FINES	**FINESS Array B**	**11.29**	**25**	Pn	**Pn**	**16 57 23.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=213,slow=13,SNR=8.0						
FINES				Sn	**Sn**	**16 59 25.3**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=215,slow=19,SNR=4.4						
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn	**Pn**	**16 57 32.6**	**-2.1**
	baz=104,slow=14,SNR=1.4						
ARCES	**ARCESS Array B**	**18.55**	**10**	Pn	**P**	**16 58 57.6**	**-1.4**
	baz=187,slow=14,SNR=2.1						
YKA	**Yellowknife Ar**	**59.81**	**336**	P	**P**	**17 04 49.1**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=30,slow=7.1,SNR=3.2						

IDC ***16*** *16:57:59.0±0.6, 9°.22N×83°.98W, h0km, mb4.4/25, mb1 4.5/29, mb1mx4.4/48, mbtmp4.4/29, ML3.6/4, MS4.0/26, Ms1 4.0/26, ms1mx3.8/67, Error ellipse: s-maj=21.5km s-min=12.6km az=53.0*

NEIC ***16*** *16:58:00.7±2.1, 8°.91N±0°.05×84°.22W±0°.04, h25km±6km, mb4.9/28, Mwr4.7/38, Mwr5.2(UCR), Error ellipse: s-maj=7.2km s-min=4.6km az=204.0*

UCR ***16*** *16:58:00.7±1.4, 8°.93N×84°.19W, h5km, ML4.4, MW5.3, mb5.2(NEIC)*

UPA ***16*** *16:58:00.6±2.4, 8°.93N×84°.26W, h10km±23km, MW5.3*

NEIC ***16*** *16:58:00.7, 8°.91N×84°.22W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.89; Mθθ-0.29; Mφφ-0.60; Mrθ0.85; Mrφ0.61; Mθφ-0.41; Fault plane solution: M0 1.37000×10^16 NP1:φs123.31000°, δ67.92000°, λ72.89000°. NP2:φs342.63000°, δ27.67000°, λ125.96000°. Principal axes: T 1.3385, Plg63.0000°, Azm6.0000°; N 0.0677, Plg16.0000°, Azm130.0000°; P -1.4063, Plg21.0000°, Azm226.0000°;*

GCMT ***16*** *16:58:05.8±0.4, 8°.94N±0°.03×84°.21W±0°.04, h25km±1km, MW4.9/88, Moment Tensor Solution. s33,c36; s88,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.14±.14; Mθθ-1.51±.09; Mφφ-0.62±.10; Mrθ0.89±.15; Mθφ0.80±.07; Mθr-1.23±.22; Best double couple: M0 2.55400×10^16 NP1:φs290.00000°, δ29.00000°, λ70.00000°. NP2: φs133.00000°, δ63.00000°, λ101.00000°. Principal axes: T 2.6860, Plg70.0000°, Azm66.0000°; N -0.2620, Plg10.0000°, Azm308.0000°; P -2.4220, Plg18.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

SNET ***16*** *16:58:09.8±0.7, 9°.19N×84°.63W, h10km, ML5.0*

ISC 16 16:58:02.1±0.9, 9°.00N±0°.04×84°.15W±0°.04, h25km±6km, n285, σ1$**74/285, mb4.7/39, MS4.1/24, 13C-12D, Fault plane solution: NP1:**φs109.22415°, δ59.24215°, λ77.68682°. **NP2:**φs312.33752°, δ32.90540°, λ109.71453°. **Principal axes:** T Plg72.8016°, Azm348.5610°; N Plg10.5596°, Azm115.5936°; P Plg13.4174°, Azm208.1424°; **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.37**	**48**	*e*P	**Pb**	**16 58 09.9**	**-0.4**
EDDO				eS	**Sn**	**16 58 17.3**	**-1.0**
PEZE	**Perez Zeledon,**	**0.60**	**51**	*e*P	**Pb**	**16 58 13.6**	**-0.5**
PEZE	**Perez Zeledon,**	**0.60**	**51**		**Pb**	**16 58 13.5**	**-0.5**
PEZE				Sg	**Sn**	**16 58 24.2**	**+0.2**
CDM	**Cerro de Muert**	**0.66**	**35**	*e*P	**Pb**	**16 58 14.9**	**-0.5**
EDPN	**Palmar Norte**	**0.68**	**93**	*e*P	**Pb**	**16 58 14.6**	**-0.9**
LCR2	**La Lucha 2**	**0.75**	**11**	*e*P	**Pb**	**16 58 16.3**	**-0.3**
RIMA	**Rio Macho**	**0.81**	**20**	*e*P	**Pb**	**16 58 17.1**	**-0.6**
RIMA	**Rio Macho**	**0.81**	**20**		**Pb**	**16 58 16.9**	**-0.8**
SRBA	**San Rafael, Bu**	**0.81**	**74**	*e*P	**Pb**	**16 58 16.9**	**-0.7**
SRBA	**San Rafael, Bu**	**0.81**	**74**		**Pb**	**16 58 16.8**	**-0.8**
SRBA					**Sn**	**16 58 30.5**	**+1.2**
JACO	**JACO, Garabito**	**0.83**	**322**	*e*P	**Pn**	**16 58 17.0**	**-1.1**
JACO	**JACO, Garabito**	**0.83**	**322**		**Pn**	**16 58 16.9**	**-1.2**
OCM	**Ochomogo**	**0.90**	**12**	*e*P	**Pn**	**16 58 18.9**	**-0.5**
SJS	**Escuela Geolog**	**0.93**	**6**	*e*P	**Pn**	**16 58 19.6**	**-0.2**
HDC	**Heredia**	**0.99**	**2**	*e*P	**Pn**	**16 58 20.6**	**+0.1**
HDC	**Heredia**	**0.99**	**2**		**Pn**	**16 58 20.4**	**-0.2**
HDC				Sn	**Sn**	**16 58 35.2**	**+1.3**
HDC	**Heredia**	**0.99**	**2**	*e*P	**Pn**	**16 58 20.7**	**+0.1**
HDC				eS	**Sn**	**16 58 35.1**	**+1.3**
HDC3	**Heredia 3**	**0.99**	**2**	*e*P	**Pn**	**16 58 20.6**	**0.0**
POTG	**Potrero Grande**	**1.02**	**87**	*e*P	**Pn**	**16 58 20.8**	**0.0**
VTRT	**Volcan Turrial**	**1.05**	**19**	*e*P	**Pn**	**16 58 21.7**	**+0.2**
VTCV	**VTCV, Calle Va**	**1.06**	**23**	*e*P	**Pb**	**16 58 22.0**	**+0.1**
CVTR	**Volcan Turrial**	**1.08**	**21**	*e*P	**Pb**	**16 58 22.4**	**-0.1**
CVTR	**Volcan Turrial**	**1.08**	**21**		**Pb**	**16 58 22.3**	**-0.1**
VTUN	**Crater Central**	**1.08**	**20**	*e*P	**Pb**	**16 58 22.4**	**-0.1**
LAFE	**Finca La Fe, P**	**1.10**	**317**	*e*P	**Pn**	**16 58 21.0**	**-0.9**
SRA1	**San Ramn**	**1.12**	**343**	*e*P	**Pn**	**16 58 22.1**	**-0.2**
CAO2	**Cobano, Puntar**	**1.17**	**306**	*e*P	**Pn**	**16 58 21.3**	**-1.5**
CAO2	**Cobano, Puntar**	**1.17**	**306**		**Pn**	**16 58 21.2**	**-1.7**
EDSV	**San Vito**	**1.18**	**99**	*e*P	**Pn**	**16 58 23.2**	**+0.2**
CRPO	**Crater poas**	**1.19**	**356**	*e*P	**Pn**	**16 58 23.8**	**+0.5**
CCOL	**Caracol de Cor**	**1.30**	**117**	*e*P	**Pn**	**16 58 24.3**	**-0.4**
RIFO	**Rio Frio, Sara**	**1.32**	**10**	*e*P	**Pb**	**16 58 25.9**	**-0.5**
CDITO	**Canoas**	**1.33**	**109**	*e*P	**Pn**	**16 58 24.8**	**-0.3**
CDITO	**Canoas**	**1.33**	**109**	Pn	**Pn**	**16 58 24.8**	**-0.3**
BRU2	**Volcan**	**1.45**	**98**	*e*P	**Pn**	**16 58 27.1**	**+0.2**
BRU2	**Volcan**	**1.45**	**98**	*e*P	**Pn**	**16 58 25.7**	**-1.2**
BRU2	**Volcan**	**1.45**	**98**	Pn	**Pn**	**16 58 26.9**	**0.0**
BRU2	**Volcan**	**1.45**	**98**	⇑*i*P	**Pn**	**16 58 27.2**	**+0.3**
BRU2				eS	**Sb**	**16 58 48.4**	**+1.6**
LESP3	**La Esperanza,**	**1.47**	**114**	*e*P	**Pn**	**16 58 27.1**	**+0.2**
LESP3				eS	**Sb**	**16 58 46.3**	**-0.7**
PTPM	**Petroterminale**	**1.48**	**122**	*e*P	**Pn**	**16 58 27.1**	**0.0**
PTPM				eS	**Sn**	**16 58 46.4**	**+0.6**
JTS	**Las Juntas de**	**1.50**	**328**	Pg	**Pn**	**16 58 26.9**	**-0.6**
JTS	**Las Juntas de**	**1.50**	**328**	*e*P	**Pn**	**16 58 27.0**	**-0.5**
CASO	**Castillo**	**1.53**	**338**	*i* P	**Pn**	**16 58 28.8**	**+0.9**
FORC	**Fortuna**	**1.54**	**341**	*i* P	**Pn**	**16 58 29.0**	**+0.9**
ARE1	**Arenal 1**	**1.55**	**339**	*e*P	**Pn**	**16 58 29.2**	**+1.0**
CEDE	**Laguna Cedeo**	**1.57**	**340**	*e*P	**Pn**	**16 58 29.5**	**+1.1**
BCO2	**Palmira**	**1.62**	**100**	*e*P	**Pn**	**16 58 29.7**	**+0.4**
BCO2				eS	**Sb**	**16 58 54.3**	**+2.6**
CNI2	**El Empalme, Bo**	**1.71**	**76**	*e*P	**Pn**	**16 58 31.3**	**+1.1**
CNI2				eS	**Sb**	**16 58 54.6**	**+0.8**
COVE	**Coope Vega, Sa**	**1.72**	**352**	*e*P	**Pn**	**16 58 31.5**	**+1.0**
COVE	**Coope Vega, Sa**	**1.72**	**352**	Pn	**Pn**	**16 58 31.4**	**+0.9**
DVD	**David**	**1.77**	**108**	*e*P	**Pn**	**16 58 31.9**	**+0.8**
DVD				eS	**Sb**	**16 58 56.6**	**+0.9**
LOMA3	**Las Lomas, Chi**	**1.83**	**108**	*e*P	**Pn**	**16 58 32.8**	**+0.9**
LOMA3				eS	**Sb**	**16 58 56.3**	**-1.1**
PSOM3	**Paja de Sombre**	**1.83**	**100**	*e*P	**Pn**	**16 58 32.5**	**+0.5**
PSOM3				eS	**Sb**	**16 58 56.0**	**-1.5**
ACAL	**Aguas Claras**	**1.84**	**332**	*i* P	**Pn**	**16 58 32.6**	**+0.4**
PTEN	**Parque Tenorio**	**1.89**	**334**	*i* P	**Pn**	**16 58 33.9**	**+1.1**
CUI	**Cuipilapa**	**1.93**	**329**	*e*P	**Pn**	**16 58 33.8**	**+0.5**
COLC	**Colonia**	**1.95**	**328**	*i* P	**Pn**	**16 58 34.1**	**+0.4**
CHGR2	**Aguacate**	**1.98**	**92**	*e*P	**Pn**	**16 58 33.8**	**-0.2**
CHGR2				eS	**Sn**	**16 58 58.4**	**+0.2**
LIM1	**Limonal**	**2.00**	**327**	*i* P	**Pn**	**16 58 34.8**	**+0.3**
VRLE	**La Escondida,**	**2.14**	**326**	*e*P	**Pn**	**16 58 36.2**	**-0.1**
LAPC	**Finca la Perla**	**2.16**	**324**	*i* P	**Pn**	**16 58 37.0**	**+0.4**
GB1A	**Borinquen Arri**	**2.18**	**326**	*i* P	**Pn**	**16 58 37.9**	**+1.0**
BUAI	**Buenos Aires**	**2.20**	**328**	*i* P	**Pn**	**16 58 37.9**	**+0.9**
HZTE	**Horizontes, Gu**	**2.22**	**320**	Pn	**Pn**	**16 58 38.1**	**+0.8**
REME3	**Remedios, Chir**	**2.42**	**108**	*e*P	**Pn**	**16 58 40.9**	**+0.9**
ACON	**Acoyapa**	**3.11**	**341**	*e*P	**Pn**	**16 58 51.3**	**+1.6**
ACON	**Acoyapa**	**3.11**	**341**	Pn	**Pn**	**16 58 49.9**	**+0.2**
GMAL	**Guarumal, Vera**	**3.14**	**113**	*e*P	**Pb**	**16 58 56.0**	**-1.1**
GMAL	**Guarumal, Vera**	**3.14**	**113**	*e*P	**Pn**	**16 58 51.3**	**+1.4**
GMAL				eS	**Sn**	**16 59 29.3**	**+2.8**
ESPN	**Las Esperanzas**	**3.17**	**357**	Pn	**Pn**	**16 58 51.5**	**+1.0**
MARI3	**Mariato, Verag**	**3.40**	**113**	*e*P	**Pn**	**16 58 54.6**	**+1.0**
CACAO	**El Cacao, Vera**	**3.65**	**117**	*e*P	**Pn**	**16 58 57.9**	**+0.9**
CACAO	**El Cacao, Vera**	**3.65**	**117**	*e*P	**Pn**	**16 58 56.7**	**-0.3**
CACAO				eS	**Sn**	**16 59 40.7**	**+1.5**
PNME	**Penonome**	**3.81**	**97**	*e*P	**Pn**	**16 59 00.8**	**+1.6**
PNME	**Penonome**	**3.81**	**97**	*e*P	**Pn**	**16 58 59.6**	**+0.4**
AZU	**Azuero**	**4.02**	**107**	*e*P	**Pn**	**16 59 03.6**	**+1.6**
AZU	**Azuero**	**4.02**	**107**	*e*P	**Pn**	**16 59 03.6**	**+1.6**
PCRI3	**Pocri, Los San**	**4.21**	**108**	*e*P	**Pn**	**16 59 07.4**	**+2.8**
ZANG	**Zanguenga, Cho**	**4.23**	**90**	*e*P	**Pn**	**16 59 06.3**	**+1.3**
BCIP	**Isla Barro Col**	**4.26**	**87**	⇑*e*P	**Pn**	**16 59 06.1**	**+0.7**
BCIP	**Isla Barro Col**	**4.26**	**87**		**Pn**	**16 59 06.7**	**+1.4**
CNGN	**Cerro Negro**	**4.28**	**324**	*e*P	**Pn**	**16 59 08.8**	**+3.1**
PRVC	**Isla de Provid**	**5.13**	**32**	*e*P	**Pn**	**16 59 20.0**	**+2.6**
PRVC	**Isla de Provid**	**5.13**	**32**	Pn	**Pn**	**16 59 20.3**	**+2.9**
CNTA3	**Canitas, Panam**	**5.20**	**87**	*e*P	**Pn**	**16 59 20.3**	**+2.0**
CNCH	**Conchagua**	**5.58**	**320**	*e*P	**Pn**	**16 59 26.8**	**+3.2**
CNCH	**Conchagua**	**5.58**	**320**	*e*P	**Pn**	**16 59 26.8**	**+3.2**
TGUH	**Tegucigalpa,Un**	**5.88**	**329**	*e*P	**Pn**	**16 59 32.3**	**+4.5**
UPD2	**Meteti**	**6.08**	**94**	*e*P	**Pn**	**16 59 29.6**	**-0.8**
COEB	**Comit de Eme**	**6.20**	**316**	*e*P	**Pn**	**16 59 36.0**	**+3.8**
TECO	**Alcaldia de Te**	**6.40**	**315**	*e*P	**Pn**	**16 59 38.0**	**+3.2**
TECO	**Alcaldia de Te**	**6.40**	**315**	*e*P	**Pn**	**16 59 38.0**	**+3.2**
TECO				eS	**Sn**	**17 00 46.5**	**-0.7**
COEG	**Centro de Oper**	**6.53**	**315**	*e*P	**Pn**	**16 59 40.0**	**+3.4**
COEG	**Centro de Oper**	**6.53**	**315**	*e*P	**Pn**	**16 59 40.0**	**+3.4**
PTAC	**Punta Ardita,**	**6.54**	**106**	*e*P	**Pn**	**16 59 37.6**	**+0.8**
SJTE	**Alcalda de S**	**6.61**	**314**	*e*S	**Sn**	**17 00 52.7**	**+0.2**
JAYA	**Jayaque - finc**	**6.96**	**312**	*e*P	**Pn**	**16 59 46.0**	**+3.4**
CEVE	**Cerro Verde**	**7.20**	**312**	*e*P	**Pn**	**16 59 49.8**	**+3.7**
CEVE				IAML		17 00 01.7	
	comp=Z,332nm,0.6s						
CEVE	**Cerro Verde**	**7.20**	**312**	*e*P	**Pn**	**16 59 49.8**	**+3.7**
CEVE				IAML		17 00 01.7	
	comp=Z,332nm,0.6s						
CEVE				eS	**Sn**	**17 01 08.5**	**+1.3**
MTO3	**Montecristo**	**7.40**	**317**	*e*P	**Pn**	**16 59 52.7**	**+3.9**
MTO3	**Montecristo**	**7.40**	**317**	Pn	**Pn**	**16 59 52.8**	**+4.0**
MTO3	**Montecristo**	**7.40**	**317**	*e*P	**Pn**	**16 59 52.7**	**+3.9**
ESQI	**Esquipulas**	**7.51**	**318**	*e*P	**Pn**	**16 59 53.6**	**+3.5**
DBBC	**Dabeiba**	**8.10**	**104**	*e*P	**Pn**	**17 00 01.5**	**+3.2**
MOTC	**Monteria, Cord**	**8.38**	**91**	*e*P	**Pn**	**17 00 03.1**	**+1.0**
UREC	**San Jos de Ur**	**8.61**	**98**	*e*P	**Pn**	**17 00 09.5**	**+4.3**
PLMC	**San Jos del P**	**8.80**	**117**	*e*P	**Pn**	**17 00 11.1**	**+3.2**
SJCC	**San Jacinto, C**	**8.89**	**84**	*e*P	**Pn**	**17 00 09.5**	**+0.4**
SJCC	**San Jacinto, C**	**8.89**	**84**	Pn	**Pn**	**17 00 11.6**	**+2.5**
HELC	**Santa Helena**	**8.99**	**108**	*e*P	Pn	17 00 15.9	+5.2
YOTC	**Yotoco, Valle**	**9.22**	**122**	*e*P	**Pn**	**17 00 14.3**	**+0.7**
ZARC	**Zaragoza, Cauc**	**9.31**	**99**	*e*P	**Pn**	**17 00 14.3**	**-0.6**
ZARC	**Zaragoza, Cauc**	**9.31**	**99**		**Pn**	**17 00 16.4**	**+1.5**
GUY2C	**Guyana, Caldas**	**9.49**	**113**	*e*P	**Pn**	**17 00 17.5**	**-0.2**
NORC	**Norcasia**	**9.82**	**110**	*e*P	**Pn**	**17 00 25.5**	**+3.7**
POPC	**Popayan, Colom**	**9.82**	**130**	*e*P	**Pn**	**17 00 20.7**	**-1.3**
SMLC	**San Martn de**	**9.96**	**90**	*e*P	**Pn**	**17 00 27.1**	**+3.4**
SMRC	**Santa Marta, M**	**10.00**	**77**	*e*P	**Pn**	**17 00 25.5**	**+1.2**
SOTA	**Rioblanco**	**10.14**	**132**	*e*P	Pn	17 00 31.9	+5.2
PCON	**Cinco Dias**	**10.17**	**130**	‖*e*P	**Pn**	**17 00 27.1**	**0.0**
ORTC	**Ortega, Tolima**	**10.19**	**119**	*e*P	**Pn**	**17 00 30.3**	**+3.4**
OTAV	**Otavalo**	**10.39**	**147**	*e*P	**Pn**	**17 00 28.7**	**-1.4**
OTAV	**Otavalo**	**10.39**	**147**	*e*P	**Pn**	**17 00 32.5**	**+2.4**
ROSC	**El Rosal**	**10.60**	**112**	Pn	Pn	17 00 38.3	+5.6
	comp=Z,3.8nm,0.3s,baz=312,slow=5.1,SNR=7.2						
ROSC				LR	LR	17 04 01.1	
	comp=Z,688nm,19.7s,baz=326,slow=34						
PRAC	**Prado**	**10.60**	**119**	*e*P	Pn	17 00 39.9	+7.4
FLOC	**Florencia**	**11.22**	**131**	*e*P	**Pn**	**17 00 41.5**	**+0.5**
RUSC	**La Rusia**	**11.40**	**105**	*e*P	**Pn**	**17 00 47.8**	**+4.0**
PAMC	**Pamplona, Colo**	**11.45**	**97**	*e*P	**Pn**	**17 00 43.0**	**-1.5**
URIC	**Uribia, Colomb**	**12.25**	**76**	Pn	**Pn**	**17 00 54.8**	**-0.3**
SOCV	**Socops**	**13.16**	**92**	*e*P	**Pn**	**17 01 10.2**	**+2.6**
CMIG	**Matias Romero**	**13.19**	**309**	Pn	**Pn**	**17 01 09.0**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=148,slow=13,SNR=12						
SDV	**Santo Domingo**	**13.35**	**89**	Pn	**Pn**	**17 01 09.9**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=310,slow=7.1,SNR=1.8						
SDV	**Santo Domingo**	**13.35**	**89**	*e*P	**Pn**	**17 01 10.4**	**+0.1**
BAUV	**El Baul**	**15.91**	**89**		**P**	**17 01 46.2**	**

baz=122
GMRC Granite Mounta 38.60 316 P **P 17 05 26.5 +3.1**
baz=124
MURC Murrieta 39.04 314 P **P 17 05 30.6 +3.6**
baz=122
TUQ Turquoise Moun 39.15 317 P **P 17 05 31.0 +3.0**
baz=125
GSC Goldstone, Bar 39.67 316 P **P 17 05 34.6 +2.2**
baz=124
LCO Las Campanas 39.96 162 P 17 05 29.4 -5.5
TPNV Topopah Spring 40.23 319 P **P 17 05 40.8 +3.7**
baz=126
LMN Caledonia Moun 40.30 21 P **P 17 05 37.7 +0.5**
PDAR Pinedale Array 40.34 331 P **P 17 05 37.3 -0.6**
comp=Z,0.7nm,0.7s,baz=124,slow=11,SNR=6.8
PDAR PcP **PcP 17 07 42.5 +1.3**
comp=Z,0.7nm,0.7s,baz=149,slow=3.1,SNR=4.5
PDAR LR LR 17 24 26.1
comp=Z,127nm,18.6s,baz=314,slow=39
ARAG Araguaiana, MT 40.35 127 *e*P **P 17 05 39.2 +1.1**
LRMC Laurel Mtn Rad 40.37 316 P **P 17 05 41.1 +2.9**
baz=123
AGMN Agassiz Nation 40.39 348 P **P 17 05 36.6 -1.4**
baz=162
SMTB Santa Maria do 40.51 115 *e*P **P 17 05 40.5 +1.0**
MPMC Manual Prospec 40.55 317 P **P 17 05 42.3 +2.5**
baz=124
R11A Troy Canyon, C 40.65 321 P **P 17 05 43.3 +2.8**
baz=128
ISA Isabella, Lake 41.01 316 P **P 17 05 46.6 +3.1**
baz=122
BATG Bathurst New B 41.13 19 P **P 17 05 44.3 +0.2**
BATG IAmb IAmb 17 05 45.9
comp=Z,18nm,0.8s
CWC Cottonwood Cre 41.16 317 P **P 17 05 47.2 +2.5**
baz=123
PKM Mcpherson Peak 41.56 314 P **P 17 05 50.9 +2.8**
baz=120
CO03 El Pedregal 41.67 162 P **P 17 05 45.9 -2.9**
CO03 IAmb IAmb 17 06 00.2
comp=Z,15nm,1.1s
SMMC Simmler 41.90 314 P **P 17 05 54.6 +3.9**
baz=120
ULM Lac du Bonnet 42.26 349 P **P 17 05 51.8 -1.4**
comp=Z,14nm,0.9s,baz=157,slow=8.6,SNR=14
NVAR Mina Array Bea 42.42 319 P **P 17 05 56.7 +1.6**
comp=Z,6.1nm,0.8s,baz=135,slow=7.4,SNR=40
NVAR PcP **PcP 17 07 48.8 +0.8**
comp=Z,1.4nm,0.8s,baz=131,slow=4.1,SNR=3.4
RPN Rapa Nui 43.43 213 LR LR 17 19 42.1
comp=Z,219nm,18.5s,baz=112,slow=30
CPUP Villa Florida 43.73 144 LR LR 17 25 16.3
comp=Z,70nm,18.5s,baz=354,slow=37
NBMO Morrinhos-CE 45.63 104 *e*P **P 17 06 22.2 +1.3**
SCHQ Schefferville 47.74 13 P **P 17 06 35.9 -1.0**
comp=Z,16nm,0.9s,baz=196,slow=5.9,SNR=13
SCHQ LR LR 17 27 04.8
comp=Z,176nm,19.1s,baz=266,slow=37
SCHQ Schefferville 47.74 13 P **P 17 06 35.9 -1.0**
SCHQ IAmb IAmb 17 06 37.2
comp=Z,18nm,0.9s
FCC Fort Churchill 50.22 353 P **P 17 06 54.8 -1.0**
CMC01 Camacan, BA 50.41 118 *e*P **P 17 06 57.9 0.0**
PLCA Paso Flores 51.05 167 P **P 17 07 04.2 +1.9**
comp=Z,12nm,0.9s,baz=334,slow=8.4,SNR=11
PLCA Paso Flores 51.05 167 *e*P **P 17 07 04.0 +1.6**
FRB Frobisher Bay 55.78 8 LR LR 17 32 16.5
comp=Z,365nm,18.3s,baz=210,slow=37
YKA Yellowknife Ar 57.79 344 P **P 17 07 49.8 -1.1**
comp=Z,3.0nm,0.8s,baz=138,slow=7.0,SNR=26
YKA PcP **PcP 17 08 44.5 +1.2**
comp=Z,2.9nm,0.9s,baz=140,slow=4.1,SNR=8.7
DLBC Dease Lake 60.40 334 P **P 17 08 08.6 -0.7**
comp=Z,9.6nm,1.2s,baz=189,slow=4.9,SNR=5.3
DLBC Dease Lake 60.40 334 P **P 17 08 08.3 -0.9**
DLBC IAmb IAmb 17 08 33.9
comp=Z,29nm,1.4s
SFJD Kangerlussuaq 62.18 14 P **P 17 08 19.6 -1.4**
comp=Z,8.9nm,0.8s,baz=196,slow=9.6,SNR=4.4
SFJD LR LR 17 36 34.0
comp=Z,299nm,18.2s,baz=282,slow=37
SFJD Kangerlussuaq 62.18 14 P **P 17 08 19.2 -1.8**
SFJD IAmb IAmb 17 08 21.3
comp=Z,16nm,1.0s
RES Resolute Bay 65.93 357 LR LR 17 39 21.7
comp=Z,220nm,18.4s,baz=254,slow=38
ICESG Greenland Ices 66.54 16 *e*P **P 17 08 48.6 -1.3**
ICESG IAmb IAmb 17 08 49.5
comp=Z,14nm,0.8s
INK Inuvik 67.45 342 P **P 17 08 54.4 -0.9**
comp=Z,2.7nm,1.0s,baz=132,slow=6.0,SNR=5.4
A36M Sachs Harbour 67.71 347 P **P 17 08 56.3 -0.6**
baz=136
J26L Joseph Creek 69.04 336 P **P 17 09 06.7 +1.2**
baz=114
SUMG Summit 69.14 13 *i* P **P 17 09 05.0 -1.3**
SUMG IAmb IAmb 17 09 14.1
comp=Z,25nm,1.0s
J25K Salcha River, 69.80 336 P **P 17 09 11.1 +1.0**
baz=113
HDA Harding Lake 70.36 336 P **P 17 09 13.5 0.0**
baz=111
ILAR Eielson Array 70.46 336 P **P 17 09 13.9 -0.3**
comp=Z,1.7nm,0.7s,baz=113,slow=4.5,SNR=16
ILAR Eielson Array 70.46 336 P **P 17 09 11.9 -2.2**
NEEM North Greenlan 70.56 7 *i* P **P 17 09 13.6 -1.3**
NEEM IAmb IAmb 17 09 15.5
comp=Z,32nm,1.0s
DAG Danmarks Havn 75.78 12 *i* P **P 17 09 43.0 -2.3**
DAG IAmb IAmb 17 09 45.1
comp=Z,36nm,1.8s
MDT Midelt 76.42 58 P **P 17 09 50.3 +0.3**
comp=Z,1.5nm,0.4s,baz=285,slow=10,SNR=3.7
ESDC Sonseca Array 76.77 51 P **P 17 09 52.2 +0.4**
comp=Z,2.6nm,0.8s,baz=282,slow=5.5,SNR=13
ESDC LR LR 17 37 00.4
comp=Z,102nm,19.5s,baz=306,slow=31
ESDC Sonseca Array 76.77 51 P **P 17 09 50.4 -1.4**
ESDC IAmb IAmb 17 09 53.2
comp=Z,9.2nm,1.2s
JMIC Jan Mayen 76.87 19 LR LR 17 43 08.7
comp=Z,76nm,20.6s,baz=255,slow=35
EKA Eskdalemuir Ar 77.53 35 P **P 17 09 54.9 -0.7**
comp=Z,2.5nm,0.7s,baz=254,slow=4.7,SNR=5.4
MEM Membach 83.22 40 P **P 17 10 24.0 -2.3**
MEM pP **PcP 17 10 31.2 +0.4**
MEM sP **pP 17 10 33.5 -1.0**
SPITS Spitsbergen Ar 83.40 12 LR LR 17 49 13.3
comp=Z,242nm,19.4s,baz=348,slow=37
TORD Torodi Ar. Bea 83.98 78 P **P 17 10 29.6 -1.3**
comp=Z,2.3nm,0.9s,baz=298,slow=5.1,SNR=10.0
TORD Torodi Ar. Bea 83.98 78 P **P 17 10 27.5 -3.5**
NB2 NORSAR Subarra 84.78 29 P **P 17 10 34.0 -0.2**
comp=Z,0.7nm,0.7s,baz=280,slow=5.1
NOA NORSAR Array B 84.78 29 P **P 17 10 34.6 +0.4**
comp=Z,2.4nm,1.0s,baz=277,slow=5.1,SNR=4.7
NOA LR LR 17 48 25.5
comp=Z,30nm,18.2s,baz=345,slow=36
HFS Hagfors 86.15 30 P **P 17 10 40.7 -0.3**
comp=Z,3.2nm,0.8s,baz=154,slow=7.9,SNR=4.7
DAVOX Davos/Dischmat 86.26 43 LR LR 17 43 59.2
comp=Z,126nm,19.9s,baz=266,slow=32
CLL Collm 87.49 39 *e*P **P 17 10 47.0 -0.6**
comp=Z,29nm,2.1s
CLL *e*pP **pP 17 10 54.0 -1.9**
ARCES ARCESS Array B 88.36 19 P **P 17 10 51.3 -0.1**
comp=Z,3.4nm,0.9s,baz=294,slow=2.9,SNR=1.9
ARCES LR LR 17 49 09.2
comp=Z,45nm,20.3s,baz=314,slow=35
GERES GERESS Array B 88.42 41 P **P 17 10 52.3 +0.1**
comp=Z,0.4nm,0.4s,baz=235,slow=4.7,SNR=5.7
GERES LR LR 17 45 01.4
comp=Z,67nm,20.4s,baz=283,slow=32
VRAC Vranov 90.17 40 LR LR 17 50 47.6
comp=Z,82nm,18.7s,baz=318,slow=35
FINES FINESS Array B 91.59 27 P **P 17 11 05.8 -0.8**
comp=Z,2.4nm,0.8s,baz=255,slow=7.5,SNR=4.0
FINES LR LR 17 49 16.6
comp=Z,81nm,19.7s,baz=356,slow=34
FINES FINESS Array B 91.59 27 P **P 17 11 04.7 -1.9**
SEY Seymchan 96.37 337 P **P 17 11 29.4 +0.8**
comp=Z,2.5nm,0.9s,baz=22,slow=0.7,SNR=5.3
TIXI Tiksi 96.60 350 P **P 17 11 29.9 +0.5**
comp=Z,1.0nm,0.5s,baz=19,slow=5.6,SNR=11
AKASG Malin Array Be 97.42 36 LR LR 17 53 06.1
comp=Z,77nm,19.9s,baz=274,slow=34
H11S1 WAKE ISLAND Hyl 04.98 292 T T 19 09 25.0
baz=77,slow=74,SNR=5.7
H11S2 WAKE ISLAND Hyl 04.98 292 T T 19 09 25.5
baz=77,slow=74,SNR=6.8
H11S3 WAKE ISLAND Hyl 05.00 292 T T 19 09 26.4
baz=77,slow=74,SNR=5.4
KSRS Korea Array 124.89 329 PKP **PKPdf 17 17 00.2 -0.1**
comp=Z,1.5nm,0.8s,baz=45,slow=0.4,SNR=5.8
WMQ Urumqi 126.91 7 *e*P **PKPdf 17 17 02.8 -1.4**
WMQ pmax pmax
comp=Z,130nm,5.9s
HHC Hu-ho-hao-te 128.32 345 *e*P **PKPdf 17 17 02.4 -4.6**
NJ2 Nanjing 133.63 333 *e*P **PKPdf 17 17 15.8 -1.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s
ASAR Alice Springs 140.83 243 PKhKP PKPpre 17 17 24.9
comp=Z,0.6nm,0.8s,baz=117,slow=3.8,SNR=4.8
ASAR PKP **PKPdf 17 17 32.4 +1.7**
comp=Z,1.3nm,0.8s,baz=113,slow=2.7,SNR=7.9
WRA Warramunga Arr 141.28 249 PKhKP PKPpre 17 17 26.3
comp=Z,2.6nm,0.9s,baz=105,slow=2.0,SNR=12
WRA PKP **PKPdf 17 17 32.4 +0.8**
comp=Z,2.4nm,0.8s,baz=108,slow=2.7,SNR=13

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*NOU **16** 16:59:15.2, 36°.79S×176°.45E, h453km, mb3.5/6, Off E. Coast of N. Island, N.Z.*
*WEL **16** 16:59:22.3±0.7, 37°.5±7°.×17°.7E±°, h400km±6km, M2.6/25, MLv2.6/25, Error ellipse: s-maj=0.0km s-min=0.0km az=114.7*
ISC 16 16:59:18.5±2.5, 37°.16S±0°.10×176°.5E±0°.1, h431km±15km, n80, σ1§27/98, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**0.74**	**303**	P	**P**	**17 00 13.1**	**+1.0**
HAZ	**Te Kaha**	**1.19**	**121**	P	**P**	**17 00 13.6**	**+0.4**
HAZ				S	**S**	**17 00 55.0**	**-2.7**
URZ	**Urewera**	**1.21**	**156**	P	**P**	**17 00 13.7**	**+0.4**
URZ				S	**S**	**17 00 55.2**	**-2.6**
URZ	**Urewera**	**1.21**	**156**	P	**P**	**17 00 13.7**	**+0.4**
RUGZ	**Raukumara Rang**	**1.24**	**131**	P	**P**	**17 00 13.5**	**-0.1**
RUGZ				S	**S**	**17 00 54.7**	**-3.7**
ETAZ	**East Tamaki Re**	**1.27**	**279**	P	**P**	**17 00 15.2**	**+1.6**
MUGZ	**Murupara**	**1.34**	**171**	P	**P**	**17 00 14.5**	**+0.7**
MUGZ				S	**S**	**17 00 58.4**	**-0.4**
WPRZ	**Whakapapatarin**	**1.39**	**191**	P	**P**	**17 00 15.4**	**+1.3**
MWZ	**Matawai**	**1.43**	**145**	P	**P**	**17 00 15.1**	**+0.9**
MWZ				S	**S**	**17 00 57.9**	**-1.7**
AWAZ	**Awhitu Peninsu**	**1.48**	**273**	P	**P**	**17 00 16.5**	**+2.0**
MXZ	**Matakaoa Point**	**1.50**	**106**	P	**P**	**17 00 15.7**	**+1.2**
MXZ				S	**S**	**17 00 58.7**	**-1.4**
RTZ	**Ruatahuna**	**1.51**	**165**	P	**P**	**17 00 15.3**	**+0.6**
WTAZ	**Waiatarua**	**1.55**	**278**	P	**P**	**17 00 16.6**	**+1.7**
WMGZ	**Waiomatatini S**	**1.67**	**114**	P	**P**	**17 00 16.3**	**+1.0**
PUZ	**Puketiti**	**1.67**	**124**	P	**P**	**17 00 16.2**	**+0.8**
PUZ				S	**S**	**17 01 01.3**	**-0.3**
MRHZ	**Matea Rd**	**1.68**	**182**	P	**P**	**17 00 16.2**	**+0.8**
MRHZ				S	**S**	**17 01 00.6**	**-1.1**
MTHZ	**Maungataniwha**	**1.71**	**171**	P	**P**	**17 00 16.4**	**+0.8**
MTHZ				S	**S**	**17 01 00.3**	**-1.8**
RATZ	**Rangitukua**	**1.80**	**198**	P	**P**	**17 00 17.1**	**+1.1**
RAHZ	**Arahi**	**1.82**	**165**	P	**P**	**17 00 17.6**	**+1.5**
RAHZ				S	**S**	**17 01 02.3**	**-0.6**
RIGZ	**Rimuhau**	**1.84**	**147**	P	**P**	**17 00 17.8**	**+1.5**
RIGZ				S	**S**	**17 01 03.1**	**-0.1**
CNGZ	**Carnagh Statio**	**1.90**	**135**	P	**P**	**17 00 18.1**	**+1.6**
NMHZ	**Naumai**	**1.95**	**173**	P	**P**	**17 00 18.6**	**+1.7**
NMHZ				S	**S**	**17 01 04.8**	**+0.3**
BKZ	**Black Stump Fm**	**2.01**	**180**	P	**P**	**17 00 18.1**	**+0.9**
BKZ				S	**S**	**17 01 03.2**	**-1.7**
BKZ	**Black Stump Fm**	**2.01**	**180**	P	**P**	**17 00 18.1**	**+0.9**
NTVZ	**North Tongarir**	**2.04**	**198**	P	**P**	**17 00 18.8**	**+1.3**
TMVZ	**Te Maari**	**2.05**	**197**	P	**P**	**17 00 18.7**	**+1.1**
ETVZ	**East Tongariro**	**2.07**	**197**	P	**P**	**17 00 18.7**	**+1.1**
KNZ	**Kokohu**	**2.08**	**154**	P	**P**	**17 00 18.8**	**+1.3**
KNZ				S	**S**	**17 01 05.1**	**-0.5**
WTVZ	**West Tongariro**	**2.08**	**200**	P	**P**	**17 00 18.9**	**+1.2**
TWVZ	**Taurewa**	**2.08**	**203**	P	**P**	**17 00 18.6**	**+0.9**
NNVZ	**North Ngauruho**	**2.09**	**199**	P	**P**	**17 00 19.0**	**+1.2**
OTVZ	**Oturere**	**2.11**	**198**	P	**P**	**17 00 19.1**	**+1.2**
WCZ	**Waipu Caves**	**2.11**	**304**	P	**P**	**17 00 19.0**	**+1.1**
NGZ	**Ngauruhoe**	**2.13**	**199**	P	**P**	**17 00 19.2**	**+1.2**
SNVZ	**South Ngauruho**	**2.14**	**198**	P	**P**	**17 00 19.2**	**+1.1**
ARHZ	**Aropaoanui**	**2.14**	**170**	P	**P**	**17 00 19.6**	**+1.7**
ARHZ				S	**S**	**17 01 06.3**	**+0.1**
TUVZ	**Tukino**	**2.21**	**197**	P	**P**	**17 00 19.5**	**+1.0**
FWVZ	**Far West T-bar**	**2.22**	**199**	P	**P**	**17 00 19.5**	**+0.8**
KWHZ	**Kaweka Forest**	**2.27**	**181**	P	**P**	**17 00 20.0**	**+1.2**
TRVZ	**Turoa**	**2.27**	**199**	P	**P**	**17 00 20.2**	**+1.2**
WNVZ	**Wahianoa**	**2.28**	**198**	P	**P**	**17 00 19.9**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.28**	**151**	P	**P**	**17 00 20.7**	**+1.9**
MCHZ	**McNeill Hill**	**2.29**	**176**	P	**P**	**17 00 20.5**	**+1.7**
MCHZ				S	**S**	**17 01 09.3**	**+1.3**
MOVZ	**Moawhango**	**2.32**	**194**	P	**P**	**17 00 19.8**	**+0.7**
BHHZ	**Black Hill Sta**	**2.35**	**188**	P	**P**	**17 00 20.3**	**+1.0**
BHHZ				S	**S**	**17 01 07.1**	**-1.7**
VRZ	**Vera Road**	**2.40**	**214**	P	**P**	**17 00 20.9**	**+1.4**
KRHZ	**Kereru**	**2.48**	**182**	P	**P**	**17 00 21.4**	**+1.3**
KRHZ				S	**S**	**17 01 10.1**	**-0.2**
CKHZ	**Cape Kidnapper**	**2.54**	**170**	P	**P**	**17 00 22.4**	**+1.9**
KAHZ	**Kahuranaki**	**2.65**	**174**	P	**P**	**17 00 23.2**	**+1.9**
PNHZ	**Pukenui**	**2.76**	**185**	P	**P**	**17 00 23.3**	**+1.2**
WAZ	**Wanganui**	**2.85**	**204**	P	**P**	**17 00 24.0**	**+1.2**
DVHZ	**Dannevirke**	**3.15**	**185**	P	**P**	**17 00 26.2**	**+1.3**
ANWZ	**Angora Road**	**3.30**	**180**	P	**P**	**17 00 25.3**	**-0.8**
PRWZ	**Pori Road**	**3.42**	**187**	P	**P**	**17 00 28.7**	**+1.6**
BFZ	**Birch Farm**	**3.53**	**183**	P	**P**	**17 00 29.6**	**+1.5**
BFZ	**Birch Farm**	**3.53**	**183**	P	**P**	**17 00 29.8**	**+1.8**
MRZ	**Mangatainoka R**	**3.57**	**191**	P	**P**	**17 00 29.2**	**+0.8**
OGWZ	**Otaki Gorge**	**3.80**	**195**	P	**P**	**17 00 31.2**	**+0.8**
HOWZ	**Holdsworth Sta**	**3.81**	**191**	P	**P**	**17 00 31.7**	**+1.1**
KIW	**Kapiti Island**	**3.90**	**198**	P	**P**	**17 00 31.8**	**+0.5**
TMWZ	**Te Maipa**	**3.97**	**187**	P	**P**	**17 00 33.4**	**+1.4**
MTW	**Mount Morrison**	**4.07**	**191**	P	**P**	**17 00 33.7**	**+0.9**
CAW	**Cannon Point**	**4.10**	**195**	P	**P**	**17 00 33.9**	**+0.8**
DUWZ	**D'Urville Isla**	**4.16**	**208**	P	**P**	**17 00 34.1**	**+0.5**
PAWZ	**Paruwai Farm**	**4.30**	**191**	P	**P**	**17 00 36.1**	**+1.1**
WEL	**Wellington**	**4.33**	**197**	P	**P**	**17 00 36.9**	**+1.7**
SNZO	**South Karori**	**4.38**	**198**	P	**P**	**17 00 36.4**	**+0.8**
TCW	**Tory Channel**	**4.40**	**202**	P	**P**	**17 00 36.5**	**+0.7**
PLWZ	**Palliser**	**4.51**	**192**	P	**P**	**17 00 38.1**	**+1.2**
TUWZ	**Tuamarina**	**4.70**	**204**	P	**P**	**17 00 39.4**	**+0.6**
NNZ	**Nelson**	**4.72**	**210**	P	**P**	**17 00 39.3**	**+0.4**
QRZ	**Quartz Range**	**4.79**	**219**	P	**P**	**17 00 39.7**	**+0.1**
QRZ	**Quartz Range**	**4.79**	**219**	P	**P**	**17 00 40.4**	**+0.8**
THZ	**Tophouse**	**5.37**	**210**	P	**P**	**17 00 46.2**	**+0.8**
KHZ	**Kahutara**	**5.72**	**203**	P	**P**	**17 00 50.0**	**+1.1**
KHZ	**Kahutara**	**5.72**	**203**	P	**P**	**17 00 50.0**	**+1.1**
GVZ	**Greta Valley S**	**6.38**	**203**	P	**P**	**17 00 56.2**	**+0.3**
LTZ	**Lake Taylor**	**6.49**	**209**	P	**P**	**17 00 57.2**	**+0.2**
OKCZ	**Okains Bay**	**7.06**	**201**	P	**P**	**17 01 04.2**	**+0.8**
MHCZ	**Mount Hutt**	**7.39**	**209**	P	**P**	**17 01 06.2**	**-0.8**

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*LDG **16** 17:04:47.7±0.3, 51°.49N×16°.29E, h1km, Ml2.9/2, Error ellipse: s-maj=6.3km s-min=3.3km az=33.0, Suspected Mining induced.*
*IPEC **16** 17:04:47.5±0.3, 51°.50N×16°.32E, h0km, ML2.8/3, Error ellipse: s-maj=3.1km s-min=1.7km az=65.0*
*VIE **16** 17:04:48.7±0.9, 51°.37N×16°.30E, h0km, mb2.9/12, ml3.0/10, ms3.7/2, Error ellipse: s-maj=8.5km s-min=3.7km az=46.0 59 km WNW of Wroclaw Suspected Mining induced.*
*BGR **16** 17:04:49.0±0.3, 51°.45N×16°.20E, h1km, ML3.2/18, Error ellipse: s-maj=3.3km s-min=2.2km az=27.0*
*IDC **16** 17:04:48.2±0.7, 51°.46N×16°.07E, h0km, mb1 3.2/7, mb1mx3.0/52, mbtmp3.1/7, ML2.8/7, Error ellipse: s-maj=10.9km s-min=6.4km az=102.0*
*PRU **16** 17:04:48.2±0.0, 51°.47N×16°.17E, h0km*
*DNK **16** 17:04:49.1±2.1, 51°.67N×15°.98E, h0km±61km, Mc3.4*
*UPP **16** 17:04:53.4±3.3, 51°.90N×16°.06E, h0km, ML2.5, Suspected explosion*
ISC 16 17:04:45.9±0.7, 51°.56N±0°.02×16°.23E±0°.02, h0km, n92, σ1§47/169, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**177**	*e*Pg	**Pg**	**17 05 00.3**	**+0.6**
KSP				*e*Sg	**Sg**	**17 05 08.5**	**-0.5**
KSP	**Ksiaz**	**0.72**	**177**	*e*Pg	**Pg**	**17 05 00.3**	**+0.6**
KSP				*e*Sg	**Sg**	**17 05 08.2**	**-0.8**
CHVC	**Chvalec**	**0.98**	**187**	*e*PG	**Pg**	**17 05 05.3**	**+0.6**
CHVC				*e*SG	**Sg**	**17 05 16.9**	**-0.5**
OSTC	**Ostas**	**1.01**	**181**	*e*PG	**Pg**	**17 05 05.7**	**+0.6**
OSTC				*e*SG	**Sg**	**17 05 18.0**	**-0.2**
UPC	**Upice**	**1.06**	**188**	*e*PG	**Pg**	**17 05 06.6**	**+0.3**
UPC				*e*SG	**Sg**	**17 05 19.6**	**-0.4**
DPC	**Dobruska-Polom**	**1.21**	**177**	*e*PG	**Pg**	**17 05 09.1**	**0.0**
DPC				*e*SG	**Sg**	**17 05 24.1**	**-0.7**
DPC	**Dobruska-Polom**	**1.21**	**177**	*e*Pg	**Pg**	**17 05 09.2**	**0.0**
DPC				*e*Sg	**Sg**	**17 05 24.2**	**-0.6**
PVCC	**Panska Ves**	**1.48**	**226**	*e*Pg	**Pg**	**17 05 14.1**	**0.0**
PVCC				*e*Sg	**Sn**	**17 05 34.2**	**+0.5**
KRLC	**Kraliky**	**1.53**	**167**	*e*PG	**Pn**	**17 05 14.6**	**+0.1**
KRLC				*e*SG	**Sg**	**17 05 33.9**	**-1.0**
BRG	**Berggiesshubel**	**1.60**	**245**	Pn	**Pn**	**17 05 15.3**	**-0.1**
BRG				Pg	**Pg**	**17 05 17.4**	**+0.9**
BRG				Sg	**Sg**	**17 05 37.6**	**+0.4**
BRG				Amp		17 05 38.8	
BRG	**Berggiesshubel**	**1.60**	**245**	*e*Pg	**Pg**	**17 05 17.0**	**+0.5**
BRG				*e*Sg	**Sg**	**17 05 37.9**	**+0.7**
RUE	**Ruedersdorf**	**1.77**	**302**	*e*Pn	**Pb**	**17 05 19.0**	**-0.3**
RUE				*e*Sg	**Sg**	**17 05 45.9**	**+3.1**
PRU	**Pruhonice**	**1.91**	**215**	*e*PN	**Pn**	**17 05 19.5**	**-0.1**
PRU				*e*PG	**Pb**	**17 05 21.3**	**-0.2**
PRU				*e*SG	**Sb**	**17 05 45.5**	**-0.3**
FBE	**Freiberg**	**1.92**	**252**	*e*Sg	**Sg**	**17 05 48.2**	**+0.6**
RAC	**Raciborz**	**1.93**	**139**	*e*PG	**Pb**	**17 05 22.3**	**+0.3**
RAC				*e*SG	**Sg**	**17 05 49.3**	**+1.4**
MORC	**Moravsky Berou**	**1.97**	**155**	*e*Pn	**Pn**	**17 05 20.9**	**+0.3**
MORC				*e*Sg	**Sn**	**17 05 46.7**	**+0.7**
MORC	**Moravsky Berou**	**1.97**	**155**	*e*Pn	**Pn**	**17 05 21.0**	**+0.4**
MORC				*e*Sg	**Sb**	**17 05 47.2**	**-0.6**
CLL	**Collm**	**2.04**	**264**	*e*Pn	**Pn**	**17 05 22.0**	**+0.6**
CLL				*e*Pg	**Pg**	**17 05 25.0**	**+0.1**
CLL				*i* x	x	17 05 28.9	
CLL				*e*Sg	**Sg**	**17 05 52.0**	**+0.7**
OKC	**Ostrava-Krasne**	**2.11**	**144**	*e*PG	**Pg**	**17 05 27.3**	**+1.0**
OKC				*e*SG	**Sb**	**17 05 52.1**	**+0.3**
VRAC	**Vranov**	**2.27**	**174**	Pn	**Pn**	**17 05 25.5**	**+0.8**
VRAC				Pg	**Pg**	**17 05 28.7**	**-0.6**
VRAC				Sn	**Sn**	**17 05 51.6**	**-1.7**
VRAC				Lg	Lg	17 05 56.8	
VRAC	**Vranov**	**2.27**	**174**	*e*Pn	**Pn**	**17 05 25.4**	**+0.8**
VRAC				*e*Sg	**Sb**	**17 05 56.4**	**+0.1**
VRAC	**Vranov**	**2.27**	**174**	*e*Pn	**Pn**	**17 05 25.8**	**+1.2**
VRAC				*e*Sg	**Sb**	**17 05 57.1**	**+0.8**
TREC	**Trest**	**2.32**	**192**	*e*Pn	**Pn**	**17 05 26.9**	**+1.6**
TREC				*e*Sg	**Sg**	**17 05 59.2**	**-1.1**
PBCC	**Pribram**	**2.36**	**218**	*e*PN	**Pn**	**17 05 25.4**	**-0.4**
PBCC				*e*PG	**Pb**	**17 05 29.7**	**+0.5**
PBCC				*e*SG	**Sb**	**17 05 59.4**	**+0.5**
KRUC	**Moravsky**	**2.50**	**178**	*e*Pn	**Pn**	**17 05 29.0**	**+1.2**
KRUC				*e*Sg	**Sb**	**17 06 03.9**	**+0.8**
KRUC	**Moravsky**	**2.50**	**178**	*e*Pn	**Pn**	**17 05 29.0**	**+1.2**
KRUC				*e*Sg	**Sg**	**17 06 04.8**	**-1.5**
OJC	**Ojcow**	**2.63**	**119**	*e*Pn	**Pn**	**17 05 29.1**	**-0.5**
OJC				*e*Pg	**Pg**	**17 05 36.8**	**+0.6**
OJC				*e*Sg	**Sg**	**17 06 11.9**	**+1.6**
TANN	**Tannenbergstha**	**2.65**	**246**	*e*Pn	**Pn**	**17 05 30.7**	**+0.9**
TANN				*e*Sg	**Sg**	**17 06 11.7**	**+0.8**
WERD	**Werda**	**2.72**	**247**	*e*Pn	**Pn**	**17 05 31.6**	**+0.8**
WERD				*e*Sg	**Sg**	**17 06 13.9**	**+0.7**
NKC	**Novy Kostel**	**2.74**	**242**	*e*PN	**Pn**	**17 05 32.0**	**+0.8**
NKC				*e*PG	**Pg**	**17 05 38.6**	**+0.2**
NKC				*e*SG	**Sg**	**17 06 13.0**	**-0.9**
NKC	**Novy Kostel**	**2.74**	**242**	*e*Pn	**Pn**	**17 05 31.9**	**+0.8**
NKC				*e*Sg	**Sg**	**17 06 13.3**	**-0.6**
GUNZ	**Gunzen**	**2.74**	**246**	*e*Pn	**Pn**	**17 05 32.2**	**+1.0**
WERN	**Wernitzgruen**	**2.75**	**244**	*e*Pn	**Pn**	**17 05 32.3**	**+1.0**
WERN				*e*Sg	**Sg**	**17 06 15.6**	**+1.3**
PLN	**Plauen**	**2.79**	**249**	*e*Sg	**Sg**	**17 06 14.5**	**-0.9**
NEUB	**Neuenburg**	**2.82**	**265**	*e*Sg	**Sg**	**17 06 17.5**	**+1.2**
JAVC	**Velka Javorina**	**2.86**	**161**	*e*PN	**Pn**	**17 05 33.3**	**+0.5**
JAVC	**Velka Javorina**	**2.86**	**161**	*e*Pn	**Pn**	**17 05 34.5**	**+1.7**
KHC	**Kasperske Hory**	**2.97**	**216**	*e*PN	**Pn**	**17 05 34.5**	**+0.2**
KHC				*e*PG	**Pb**	**17 05 40.6**	**+0.9**
KHC				*e*SN	**Sn**	**17 06 09.5**	**-1.1**
KHC				*e*SG	**Sb**	**17 06 18.8**	**+2.3**
KHC	**Kasperske Hory**	**2.97**	**216**	*e*Pn	**Pn**	**17 05 34.9**	**+0.7**
CKRC	**Cesky Krumlov**	**3.01**	**205**	*e*PN	**Pn**	**17 05 35.6**	**+0.8**
CKRC				*e*PG	**Pb**	**17 05 41.8**	**+1.5**
CKRC				*e*SG	**Sb**	**17 06 19.9**	**+2.3**
CKRC	**Cesky Krumlov**	**3.01**	**205**	*e*Pn	**Pn**	**17 05 35.8**	**+1.0**
CKRC				*e*Sg	**Sg**	**17 06 20.6**	**-1.9**
MOX	**Moxa**	**3.05**	**254**	*e*Pn	**Pn**	**17 05 36.4**	**+1.0**
MOX				*e*Sg	**Sg**	**17 06 24.2**	**+0.3**
SMOL	**Smolenice**	**3.15**	**165**	*e*PG	**Pg**	**17 05 46.7**	**+0.5**
SMOL				*e*SG	**Sg**	**17 06 26.4**	**-0.5**
GEC2	**GERESS Array S**	**3.17**	**212**	*e*Pn	**Pn**	**17 05 38.1**	**+1.0**
GEC2				*e*Sg	**Sb**	**17 06 24.1**	**+1.9**
GERES	**GERESS Array B**	**3.17**	**212**	Pn	**Pn**	**17 05 38.0**	**+1.0**
GERES				Pg	**Pb**	**17 05 43.9**	**+0.8**
GERES				Sn	**Sn**	**17 06 14.4**	**-1.2**
GERES				Lg	Lg	17 06 22.7	
LANS	**Liptovska Anna**	**3.18**	**138**	*e*PN	**Pn**	**17 05 38.5**	**+1.3**
LANS				*e*PG	**Pg**	**17 05 47.2**	**+0.4**
LANS				*e*SG	**Sg**	**17 06 27.2**	**-0.8**
WET	**Wettzell**	**3.24**	**223**	*e*Pn	**Pn**	**17 05 38.5**	**+0.6**
MODS	**Modra-Piesok**	**3.26**	**168**	*e*PN	**Pn**	**17 05 41.0**	**+2.7**
MODS				*e*PG	**Pg**	**17 05 48.5**	**+0.1**

MODS			*e*SG	Sg	17 06 30.3	-0.3
NIE	**Niedzica**	**3.37 128**	*e*P	Pg	17 05 51.6	+1.2
NIE			*e*S	Sg	17 06 36.0	+1.9
ZST	**Bratislava**	**3.42 170**	*e*SG	Sg	17 06 33.9	-1.6
VYHS	**Vyhne**	**3.50 150**	*e*PN	Pn	17 05 42.0	+0.5
VYHS			*e*PG	Pg	17 05 52.5	-0.4
VYHS			*e*SG	Sg	17 06 36.8	-1.4
CONA	**Conrad Observa**	**3.65 184**	*i* Pn	Pn	17 05 44.5	+0.8
	comp=Z,0.9nm,0.1s					
CONA			*e*Sg	Sg	17 06 40.8	-2.1
	comp=Z,19nm,0.4s					
BSD	**Bornholm Skovb**	**3.65 348**	*i* P	Pn	17 05 43.0	-0.5
BSD			*e*S	Sn	17 06 26.9	-0.3
MOA	**Molln**	**3.93 200**	*e*Pn	Pn	17 05 48.3	+0.9
	comp=Z,1.3nm,0.1s,SNR=11					
MOA			*e*Sg	Sg	17 06 50.7	-1.3
	comp=Z,20nm,0.5s					
ARSA	**Arzberg**	**4.34 186**	*e*Pn	Pn	17 05 55.7	+2.6
	comp=Z,1.6nm,0.3s					
ARSA			Sg	Sg	17 07 03.4	-1.8
	comp=Z,27nm,0.7s					
LUNU	**Lund**	**4.40 339**	*e*P	Pn	17 05 53.4	-0.5
LUNU			*e*S	Sn	17 06 42.5	-3.4
BLEU	**Blekinge**	**4.76 357**	*i* P	Pn	17 06 00.6	+1.9
BLEU			P	Pn	17 06 00.7	+1.9
BLEU			S	Sn	17 06 52.9	-1.7
BLEU	**Blekinge**	**4.76 357**	P	Pn	17 06 00.7	+1.9
BLEU			S	Sn	17 06 52.9	-1.7
DEL	**Delary**	**5.11 345**	*i* P	Pn	17 06 04.8	+1.2
DEL			P	Pn	17 06 04.8	+1.2
DEL			*e*S	Sn	17 07 01.0	-2.3
DEL	**Delary**	**5.11 345**	P	Pn	17 06 04.8	+1.2
WATA	**Walderalm**	**5.21 217**	*i* Pn	Pn	17 06 06.8	+1.7
	comp=Z,0.7nm,0.1s					
MYKA	**Terra Mystica**	**5.22 200**	Sg	Sg	17 07 31.6	-1.9
	comp=Z,7.1nm,0.5s					
WTTA	**Wattenberg**	**5.24 217**	*i* Pn	Pn	17 06 07.4	+1.7
	comp=Z,0.7nm,0.2s					
WTTA			*e*Sg	Sg	17 07 33.2	-1.0
	comp=Z,11nm,0.4s					
MOTA	**Moosalm**	**5.38 220**	*i* Pn	Pn	17 06 08.0	+0.5
	comp=Z,0.8nm,0.2s					
MOTA			*e*Sg	Sg	17 07 39.2	+0.4
	comp=Z,13nm,0.6s					
ABTA	**Abfaltersbach**	**5.40 208**	*e*Pn	Pn	17 06 09.4	+1.7
	comp=Z,1.2nm,0.4s					
ABTA			Sg	Sg	17 07 39.9	+0.6
	comp=Z,11nm,0.5s					
VXJU	**Vaexsjoe**	**5.42 352**	P	Pn	17 06 09.8	+1.9
VXJU	**Vaexsjoe**	**5.42 352**	P	Pn	17 06 09.8	+1.9
SQTA	**Sankt Quirin**	**5.44 219**	*e*Pn	Pn	17 06 10.2	+1.9
	comp=Z,4.9nm,0.3s,SNR=7.3					
SQTA			*e*Sg	Sg	17 07 41.7	+1.0
	comp=Z,5.7nm,0.4s					
BYXU	**Byxelkrok**	**5.76 4**	P	Pn	17 06 14.7	+2.2
BYXU	**Byxelkrok**	**5.76 4**	P	Pn	17 06 14.7	+2.2
FETA	**Feichten**	**5.80 221**	*e*Pn	Pn	17 06 14.2	+1.0
	comp=Z,0.6nm,0.5s					
FABU	**Falkenberg**	**5.83 341**	P	Pn	17 06 14.7	+1.2
FABU			*e*P	Pn	17 06 14.9	+1.5
FABU			*e*S	Sn	17 07 17.1	-3.7
FABU	**Falkenberg**	**5.83 341**	P	Pn	17 06 14.7	+1.2
GNOU	**Gnosjoe**	**5.92 347**	P	Pn	17 06 16.2	+1.5
GNOU	**Gnosjoe**	**5.92 347**	P	Pn	17 06 16.2	+1.5
DAVA	**Damuels**	**5.96 227**	*i* Pn	Pn	17 06 15.9	+0.5
	comp=Z,0.7nm,0.2s					
DAVOX	**Davos/Dischmat**	**6.34 224**	Pn	Pn	17 06 19.9	-0.9
	comp=Z,0.3nm,0.3s,baz=43,slow=13,SNR=2.2					
DAVOX			Lg	Lg	17 08 06.8	
	comp=Z,0.5nm,0.3s,baz=356,slow=20,SNR=2.5					
ONAU	**Onsala**	**6.36 338**	*e*P	Pn	17 06 21.5	+0.7
ONAU			P	Pn	17 06 22.2	+1.4
ONAU			*e*S	Sn	17 07 29.7	-4.4
ONAU	**Onsala**	**6.36 338**	P	Pn	17 06 22.2	+1.4
BORU	**Boraas**	**6.41 343**	P	Pn	17 06 23.5	+2.0
BORU			*e*P	Pn	17 06 23.9	+2.5
BORU	**Boraas**	**6.41 343**	P	Pn	17 06 23.5	+2.0
CDF	**Champ du Feu**	**6.58 245**	*e*Pn	Pn	17 06 24.4	+0.5
CDF	**Champ du Feu**	**6.58 245**	*e*P	Pn	17 06 27.7	+3.8
CDF			*e*Sg	Sg	17 08 13.4	-3.7
	comp=Z,0.9nm,0.3s					
HINF	**Hinteralfeld**	**7.14 242**	*e*Pn	Pn	17 06 31.2	-0.4
HINF	**Hinteralfeld**	**7.14 242**	*e*P	Pn	17 06 35.9	+4.3
HINF			*e*Sg	Sg	17 08 31.1	-4.1
	comp=Z,2.3nm,0.4s					
HAU	**Haudompre**	**7.32 245**	*e*Pn	Pn	17 06 33.0	-1.0
HAU	**Haudompre**	**7.32 245**	*e*P	Pn	17 06 38.8	+4.8
AKASG	**Malin Array Be**	**8.22 91**	Pn	Pn	17 06 46.6	+0.3
	comp=Z,1.1nm,0.3s,baz=279,slow=12,SNR=6.2					
AKASG			Lg	Lg	17 09 13.6	
	comp=Z,0.2nm,0.3s,baz=353,slow=23,SNR=1.7					
HFS	**Hagfors**	**8.71 352**	Pn	Pn	17 06 53.6	+0.6
	comp=Z,0.3nm,0.3s,baz=160,slow=4.6,SNR=1.5					
NOA	**NORSAR Array B**	**9.90 346**	Pn	Pn	17 07 09.5	+0.2
	comp=Z,0.0nm,0.3s,baz=155,slow=13,SNR=8.4					
FINES	**FINESS Array B**	**11.28 25**	Pn	Pn	17 07 28.0	-0.2
	comp=Z,0.2nm,0.3s,baz=218,slow=12,SNR=17					
EKA	**Eskdalemuir Ar**	**12.15 296**	Pn	Pn	17 07 37.0	-3.1
	baz=101,slow=14,SNR=1.3					

EAF ***16*** *17:07:07.9±2.0,25°.62S×29°.75E, h0km±46km, MD4.1*
BUL ***16*** *17:07:09.8±1.5,25°.56S×29°.69E, h8km±28km, MD4.4*
ISC 16 17:07:05.7±3.5,**25°.9S**±0°.2×**30°.0E**±0°.1,**h10**km,**n8,**
σ0°**62**/12,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.67**	**29**	*i* P	Pn	17 07 49.3	+0.5
MOPA	**Mopani**	**2.67**	**29**	*i* P	Pn	17 07 49.3	+0.5
MSNA	**Messina**	**3.50**	**1**	*i* P	Pn	17 08 00.5	+0.3
MSNA				*i* Sg	Sb	17 08 50.6	+0.3
MSNA	**Messina**	**3.50**	**1**	*i* P	Pn	17 08 00.5	+0.3
MSNA				*i* Sg	Sb	17 08 50.6	+0.3
LBTB	**Lobatse**	**4.04**	**281**	*i* P	Pn	17 08 07.9	+0.2
LBTB				*i* Sg	Sb	17 09 05.9	0.0
LBTB	**Lobatse**	**4.04**	**281**	*i* P	Pn	17 08 07.9	+0.2
LBTB				*i* Sg	Sb	17 09 05.9	0.0
MATP	**Matopo**	**5.58**	**346**	*i* P	Pn	17 08 27.7	-1.1
MATP				*i* Sg	Sb	17 09 50.8	+0.5
MATP	**Matopo**	**5.58**	**346**	*i* P	Pn	17 08 27.7	-1.1
MATP				*i* Sg	Sb	17 09 50.8	+0.5

IDC ***16*** *17:11:50.6±2.0,36°.31N×70°.32E, h195km±19km, mb3.7/25, mb1 3.7/32, mb1mx3.6/55, mbtmp4.2/32, MS3.1/2, Ms1 3.2/2, ms1mx2.5/88, Error ellipse: s-maj=12.5km s-min=9.6km az=8.0*
MOS ***16*** *17:11:50.4±0.9, 36°.44N×70°.31E, h203km, mb4.3/12, Error ellipse: s-maj=8.0km s-min=4.3km az=84.1*
BJI ***16*** *17:11:51.0±0.0, 36°.37N×70°.31E, h205km, mb4.1/26, mB4.6/15*
NEIC ***16*** *17:11:51.6±2.1, 36°.45N±0°.05×70°.28E±0°.07, h201km±4km, mb4.5/52, Error ellipse: s-maj=8.8km s-min=6.8km az=110.0*
NNC ***16*** *17:11:56.1±2.3, 36°.88N×70°.31E, h200km±19km, mb3.2, mpv4.2, Error ellipse: s-maj=20.1km s-min=13.4km az=13.0*
ISC 16 17:11:51.1±0.3,**36°.43N**±0°.04×**70°.33E**±0°.04,**h204**km,**n243,**
σ1°**57**/264,**mb4.4**/55,**24C-13D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.16**	**209**	PN	Pn	17 12 32.8	+0.9
KBL						17 13 02.6	
KBL	**Kabul**	**2.16**	**209**	Pn	Pn	17 12 32.8	+0.9
KBL				Sn	S	17 13 02.6	-0.4
CHGR	**Chuyangaron**	**2.41**	**338**	PN	Pn	17 12 34.2	-0.1
CHGR				S	S	17 13 04.8	-2.8
CHGR	**Chuyangaron**	**2.41**	**338**		Pn	17 12 34.2	-0.1
CHGR				Sn	S	17 13 04.8	-2.8
CEP	**Cherat**	**2.91**	**153**	⇑P	Pn	17 12 41.4	+1.3
CEP				S	S	17 13 18.0	+0.3
DRK	**Karamyk**	**3.26**	**20**		Pn	17 12 44.9	+0.6
DRK				Sn	S	17 13 23.5	-1.9
BTK	**Batken**	**3.64**	**6**	PN	Pn	17 12 49.7	+1.1
BTK						17 13 31.9	
BTK	**Batken**	**3.64**	**6**	Pn	Pn	17 12 49.7	+1.1
BTK				Sn	S	17 13 31.9	-1.4
CHCP	**Chirah Chowk**	**3.67**	**138**	⇑P	Pn	17 12 50.6	+1.6
THW	**Thamme Wali**	**3.81**	**162**	⇑P	Pn	17 12 52.0	+1.2
TAS	**Tashkent**	**4.95**	**351**	PN	Pn	17 13 05.4	+0.5
TAS	**Tashkent**	**4.95**	**351**	Pn	Pn	17 13 05.4	+0.5
JMU	**Jammu**	**5.29**	**133**	*e*P	Pn	17 13 10.4	+1.1
JMU				*e*S	S	17 14 07.8	-2.8
KSH	**Kashi**	**5.42**	**54**	P	Pn	17 13 06.8	-4.2
KSH				S	S	17 14 01.6	-12
KSH				pmax	pmax		
	comp=Z,34nm,0.5s						
KSH				smax	smax		
	comp=N,540nm,0.5s						
KSH				smax	smax		
	comp=E,220nm,0.6s						
IUG	**Iuzhnay**	**5.71**	**358**	*d* iPN	Pn	17 13 15.1	+0.4
IUG	**Iuzhnay**	**5.71**	**358**	⇓*i*P	Pn	17 13 15.2	+0.4
	baz=357						
AML	**Almayashu**	**6.26**	**24**	P	Pn	17 13 21.9	-0.2
	SNR=65						
DHRM	**DHARAMSHALA**	**6.46**	**128**	*e*P	Pn	17 13 25.0	+0.4
DHRM				*e*S	S	17 14 35.8	-2.8
DHRM				IAML		17 14 36.6	
	comp=E,1μm,0.7s						
DHRM				IAML		17 14 38.4	
	comp=N,606nm,0.1s						
DZA	**Taraz**	**6.50**	**7**	*e*PN	Pn	17 13 25.5	+0.7
DZA	**Taraz**	**6.50**	**7**	*e*P	Pn	17 13 25.5	+0.7
	baz=6.1						
BRLS	**Borolday**	**6.60**	**357**	*e*PN	Pn	17 13 23.5	-2.6
BRLS	**Borolday**	**6.60**	**357**	*e*P	Pn	17 13 23.5	-2.6
	baz=355						
UCH	**Uchtor**	**6.63**	**28**	P	Pn	17 13 26.9	-0.1
	SNR=30						
KK02	**Karatay Array**	**6.67**	**1**	⇑P	Pn	17 13 26.3	-0.7
	comp=N,7.7nm,0.2s						
KK02				⇑S	S	17 14 36.8	-6.1
	comp=N,40nm,0.7s						
KKAR	**Karatay Array**	**6.67**	**1**	PN	Pn	17 13 25.6	-1.3
KKAR	**Karatay Array**	**6.67**	**1**	Pn	Pn	17 13 25.6	-1.3
EKS2	**Erkin-Say**	**6.77**	**22**	P	Pn	17 13 28.4	0.0
	SNR=17						
HRA	**Herat**	**6.91**	**255**	Pn	Pn	17 13 28.6	-1.8
AAK	**Ala-Archa**	**6.98**	**26**	P	Pn	17 13 30.9	-0.3
	comp=N,3.2nm,0.3s,baz=182,slow=6.2,SNR=39						
AAK				S	S	17 14 46.6	-4.0
	comp=N,9.9nm,0.3s,baz=149,slow=23,SNR=15						
AAK	**Ala-Archa**	**6.98**	**26**	P	Pn	17 13 30.6	-0.6
	SNR=15						
AAK	**Ala-Archa**	**6.98**	**26**	*c i*PN	Pn	17 13 31.3	+0.1
AAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AAK	**Ala-Archa**	**6.98**	**26**	⇑P	Pn	17 13 31.2	+0.1
	comp=Z,9.9nm,0.5s						
AAK				⇑S	S	17 14 46.8	-3.8
	comp=Z,45nm,0.5s						
AAK	**Ala-Archa**	**6.98**	**26**	Pn	Pn	17 13 31.0	-0.2
BHK	**Bhakra**	**7.11**	**133**	*e*P	Pn	17 13 33.4	+0.5
KBK	**Karagaybulak**	**7.17**	**28**	P	Pn	17 13 34.0	+0.4
	SNR=7.8						
FRU1	**Bishkek**	**7.18**	**26**	PN	Pn	17 13 31.8	-1.9
FRU1	**Bishkek**	**7.18**	**26**	Pn	Pn	17 13 31.8	-1.9
CHMS	**Chumysh**	**7.39**	**26**	P	Pn	17 13 36.0	-0.4
	SNR=7.3						
USP	**Ospenovka**	**7.54**	**24**	P	Pn	17 13 38.3	0.0
	SNR=8.6						
TKM2	**Tokmak 2**	**7.65**	**30**	P	Pn	17 13 40.4	+0.5
	SNR=16						
TKM2	**Tokmak 2**	**7.65**	**30**	PN	Pn	17 13 39.7	-0.1
TKM2	**Tokmak 2**	**7.65**	**30**	⇓P	Pn	17 13 39.7	-0.1
	comp=Z,6.4nm,0.3s						
TKM2				⇑S	S	17 15 03.2	-3.2
	comp=Z,23nm,0.7s						
SMLA	**Simla**	**7.77**	**131**	*e*P	Pn	17 13 41.9	+0.6
SMLA				*e*S	S	17 15 05.1	-4.0
SMLA				IAML		17 15 06.7	
	comp=N,250nm,0.4s						
SMLA				IAML		17 15 07.2	
	comp=E,328nm,0.4s						
KDJ	**Kajisay**	**7.78**	**41**	PN	Pn	17 13 40.0	-1.6
KDJ	**Kajisay**	**7.78**	**41**	Pn	Pn	17 13 40.0	-1.6
KST	**Kastek**	**7.90**	**32**	*e*P	Pn	17 13 43.6	+0.5
	baz=31						
TNSS	**Tian-Shan**	**8.33**	**36**	*e*P	Pn	17 13 49.0	+0.1
	baz=35						
MDOK	**Medeo**	**8.48**	**35**	PN	Pn	17 13 51.9	+1.3
MDOK	**Medeo**	**8.48**	**35**	P	Pn	17 13 51.9	+1.3
	comp=E,2.6nm,0.6s						
PRZ	**Przheval'sk**	**8.69**	**43**	PN	Pn	17 13 53.2	-0.2
PRZ	**Przheval'sk**	**8.69**	**43**	Pn	Pn	17 13 53.1	-0.2
ZHN	**Zhinishke**	**9.17**	**40**	*e*P	Pn	17 13 59.9	+0.3
ZHN	**Zhinishke**	**9.17**	**40**	*e*P	Pn	17 13 59.1	-0.5
	baz=40						
NDI	**New Delhi**	**9.66**	**141**	*e*P	Pn	17 14 05.4	-0.6
AYAN	**Aya Nagar**	**9.78**	**142**	*e*P	Pn	17 14 07.4	-0.1
PDGK	**Podgornoye**	**9.85**	**43**	P	Pn	17 14 07.8	-0.5
PDGK	**Podgornoye**	**9.85**	**43**	⇑P	Pn	17 14 07.8	-0.5
	comp=E,2.2nm,0.8s						
GEYT	**Alibeck**	**9.86**	**282**	P	Pn	17 14 07.0	-1.5
	comp=E,1.2nm,0.3s,baz=112,slow=12,SNR=9.0						
GEYT				S	S	17 15 53.4	-5.5
	comp=E,1.1nm,0.3s,baz=191,slow=7.1,SNR=2.2						
GEYT				LR	LR	17 18 44.7	
	comp=E,21nm,21.4s,baz=34,slow=42						
GEYT	**Alibeck**	**9.86**	**282**	Pn	Pn	17 14 07.3	-1.2
GYA0B	**ALIBECK ARRAY**	**9.86**	**282**	Pn	Pn	17 14 06.6	-1.9
AJM	**Ajmer**	**10.58**	**158**	*e*P	Pn	17 14 17.0	-0.9
AJM				*e*P	Pn	17 14 18.3	+0.4
AJM				*i* S	S	17 16 05.0	-11
OTUK	**Ortayu**	**11.90**	**7**	P	Pn	17 14 34.3	-0.1
OTUK	**Ortayu**	**11.90**	**7**	⇓P	Pn	17 14 34.3	-0.1
	comp=E,2.4nm,0.6s						
MAKZ	**Makanchi**	**13.53**	**36**	P	Pn	17 14 55.0	+0.1
MAKZ	**Makanchi**	**13.53**	**36**	⇓P	Pn	17 14 54.9	+0.1
	comp=E,5.6nm,0.7s						
MAKZ	**Makanchi**	**13.53**	**36**	Pn	Pn	17 14 55.0	+0.1
PYUN	**Piuthan**	**13.54**	**124**	*e*P	Pn	17 14 54.9	-0.6
	comp=E,28nm,0.3s						
MK31	**Makanchi Array**	**13.67**	**37**	P	Pn	17 14 56.0	-0.6
MK31	**Makanchi Array**	**13.67**	**37**	P	Pn	17 14 57.2	+0.6
	comp=E,1.8nm,0.5s,baz=217,slow=14,SNR=51						
MK31	**Makanchi Array**	**13.67**	**37**		Pn	17 14 56.0	-0.6
MKAR	**Makanchi Array**	**13.67**	**37**	P	Pn	17 14 56.9	+0.2
	comp=E,0.5nm,0.3s,baz=221,slow=15,SNR=20						
MKAR	**Makanchi Array**	**13.67**	**37**	*i* P	Pn	17 14 57.5	+0.9
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**13.67**	**37**	Pn	Pn	17 14 56.7	+0.1
DANN	**Dangsing**	**13.91**	**122**	*e*P	Pn	17 14 59.7	-0.4
	comp=Z,20nm,0.3s						
KOLN	**Koldanda**	**14.17**	**124**	*e*P	Pn	17 15 02.6	-0.6
	comp=Z,23nm,0.3s						
BHPL	**Bhopal**	**14.51**	**153**	*e*P	P	17 15 08.3	-0.1
BHPL				*e*S	S	17 17 40.2	-8.1
GKN	**Gorkha**	**14.73**	**121**	*e*P	Pn	17 15 09.7	-0.3
	comp=Z,12nm,0.3s						
AB31	**Akbulak array**	**14.89**	**333**	P	Pn	17 15 11.2	-0.4
AB31	**Akbulak array**	**14.89**	**333**	P	Pn	17 15 11.0	-0.6
	comp=Z,4.6nm,0.3s,baz=150,slow=11,SNR=391						
AB31				⇓S	S	17 17 52.6	-4.0
	comp=Z,2.4nm,0.6s,baz=156,slow=23,SNR=3.1						
ABKAR	**Akbulak array**	**14.89**	**333**		Pn	17 15 10.8	-0.8
ABKAR	**Akbulak array**	**14.89**	**333**	P	Pn	17 15 10.9	-0.7
WMQ	**Urumqi**	**15.18**	**56**	*e*P	P	17 15 15.8	+0.1
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
DMN	**Daman**	**15.30**	**121**	*e*P	Pn	17 15 17.1	0.0
	comp=Z,66nm,0.4s						
KKN	**Kakani**	**15.31**	**120**	*e*P	Pn	17 15 16.7	-0.4
	comp=Z,35nm,0.6s						
KURBB	**Kurchatov Arra**	**15.37**	**20**	P	P	17 15 18.6	+1.1
	comp=Z,0.1nm,0.3s,baz=208,slow=10,SNR=6.0						
KURBB	**Kurchatov Arra**	**15.37**	**20**	⇑P	P	17 15 18.5	+0.9
	comp=Z,2.9nm,0.8s						
KURK	**Kurchatov**	**15.47**	**20**	⇓*i*P	P	17 15 19.5	+0.8
KURK	**Kurchatov**	**15.47**	**20**		P	17 15 19.1	+0.4
PKIN	**Phulchoki**	**15.52**	**120**	*e*P	Pn	17 15 19.6	-0.1
	comp=Z,16nm,0.4s						
PKI	**Pulchoki**	**15.53**	**120**	*e*P	Pn	17 15 19.8	-0.2
	comp=Z,20nm,0.4s						
JBP	**Jabalpur**	**15.64**	**145**	*e*P	Pn	17 15 21.9	+1.0
JBP				IAmb	IAmb	17 15 28.1	
	comp=Z,27nm,0.6s						
JBP				⇓*e*S	S	17 18 03.9	-10
GUN	**Gumba**	**15.65**	**118**	*e*P	P	17 15 21.3	-0.1
	comp=Z,36nm,0.5s						
AKTO	**Aktyubinsk**	**16.58**	**331**	P	Pn	17 15 32.5	+0.5
	comp=Z,2.2nm,0.3s,baz=143,slow=10,SNR=60						
AKTO				S	S	17 18 32.0	-1.7
	comp=Z,0.2nm,0.3s,baz=91,slow=23,SNR=2.1						
AKTO	**Aktyubinsk**	**16.58**	**331**	⇓P	Pn	17 15 32.3	+0.3
	comp=Z,28nm,0.8s						
WSAR	**Wadi Sarin**	**16.59**	**221**	P	P	17 15 31.1	-0.2
	comp=Z,0.1nm,0.3s,baz=350,slow=7.9,SNR=1.7						
BVAR	**Borovoye Array**	**16.59**	**0**	P	Pn	17 15 32.7	+0.6
	comp=Z,1.4nm,0.3s,baz=149,slow=7.9,SNR=27						
BRVK	**Borovoye**	**16.63**	**360**	*c i*P	Pn	17 15 32.8	+0.3
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BRVK	**Borovoye**	**16.63**	**360**	⇑P	Pn	17 15 32.8	+0.3
	comp=Z,4.6nm,0.7s						
BRVK	**Borovoye**	**16.63**	**360**		P	17 15 31.0	-0.4
UOSS	**Minazif**	**16.67**	**231**	P	Pn	17 15 32.9	-0.4
GTK	**Tadong**	**17.96**	**115**	*e*P	Pn	17 15 48.5	-0.1
GTK				IAmb	IAmb	17 15 49.3	
	comp=Z,69nm,1.4s						
DGZ	**Jazzator, Alta**	**18.16**	**38**	*de*P	Pn	17 15 50.4	-0.4
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
BOK	**Bokaro**	**18.40**	**129**	*e*P	Pn	17 15 52.9	-0.8
LSA	**Lhasa**	**18.68**	**105**	P	P	17 15 55.4	+0.9
SRSP	**Sriramsagar**	**18.81**	**156**	*e*P	P	17 15 56.5	+1.0
GOMU	**GeErMu**	**19.72**	**83**	P	Pn	17 16 07.8	-1.9
GOMU				pP	P	17 16 11.0	+5.4
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,94nm,4.9s						
ZAA0	**Zalesovo Array**	**20.20**	**25**	⇑P	P	17 16 10.8	+0.7
	comp=Z,0.5nm,0.5s						
ZAA0	**Zalesovo Array**	**20.20**	**25**	P	P	17 16 09.8	-0.3
ZAA0				IAmb	IAmb	17 16 13.9	
	comp=Z,8.7nm,1.3s						
ZALV	**Zalesovo Beam**	**20.20**	**25**	P	P	17 16 10.8	+0.7
	comp=Z,3.2nm,0.3s,baz=213,slow=10,SNR=35						
ZALV				S	S	17 19 44.8	-0.5
	comp=Z,1.3nm,0.8s,baz=215,slow=18,SNR=3.2						
ZALV	**Zalesovo Beam**	**20.20**	**25**	P	P	17 16 09.7	-0.4
HYBB	**Hyderabad (bro**	**20.29**	**157**	*e*P	P	17 16 12.5	+1.1
HYBB				*e*S	S	17 19 49.0	+1.4
HYB	**Hyderabad**	**20.29**	**157**	*e*P	P	17 16 12.6	+1.1
GNI	**Garni**	**20.40**	**288**	P	P	17 16 14.6	+2.1
	comp=Z,20nm,0.7s,baz=178,slow=0.1,SNR=18						
GNI	**Garni**	**20.40**	**288**	*c i*P	Pn	17 16 16.0	-1.7
GNI				pmax	pmax		
	comp=Z,40nm,1.3s						
GNI	**Garni**	**20.40**	**288**	P	P	17 16 13.0	+0.4
NJS	**Nagarjunasagar**	**21.34**	**156**	*e*P	P	17 16 23.3	+0.8
SHL	**Shillong**	**21.37**	**114**	P	P	17 16 23.4	+0.5
SHL				pmax	pmax		
	comp=Z,27nm,1.0s						
SHL	**Shillong**	**21.37**	**114**	*e*P	P	17 16 23.5	+0.6
SHL				IAmb	IAmb	17 16 25.4	
	comp=Z,30nm,1.1s						
SHL	**Shillong**	**21.37**	**114**	P	P	17 16 23.4	+0.5
ARU	**Arti**	**21.53**	**342**	P	P	17 16 24.3	+0.3
	comp=Z,3.6nm,0.4s,baz=128,slow=8.2,SNR=25						
ARU	**Arti**	**21.53**	**342**	*de*P	P	17 16 26.5	+2.5
ARU				*i* *PP	pP	17 16 57.7	-1.3
ARU				pmax	pmax		
	comp=Z,35nm,1.7s						
ARU	**Arti**	**21.53**	**342**	P	P	17 16 24.3	+0.3
ONI	**Oni**	**21.58**	**295**	P	P	17 16 24.1	-0.7
ONI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ONI	**Oni**	**21.58**	**295**	P	P	17 16 24.1	-0.7
ONI				IAmb	IAmb	17 16 28.7	
	comp=Z,5.6nm,0.8s						
NCK	**Nalchik**	**21.61**	**297**	⇑*e*P	P	17 16 26.5	+1.4
NCK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MYLAV	**Mylavaram**	**21.63**	**152**	*e*P	P	17 16 27.6	+2.2
SRLM	**Srisailam**	**21.64**	**157**	*e*P	P	17 16 26.7	+1.2
VIS	**Vishakhapatnam**	**21.90**	**145**	*e*P	P	17 16 30.2	+2.2
KBZ	**Khabaz**	**22.15**	**298**	P	P	17 16 30.5	+0.2
	comp=Z,3.1nm,0.8s,baz=81,slow=13,SNR=7.8						
KBZ	**Khabaz**	**22.15**	**298**	⇓*e*P	P	17 16 31.2	+1.0
KBZ				pmax	pmax		
	comp=Z,15nm,2.5s						
RCLA	**Racherla**	**22.26**	**158**	*e*P	P	17 16 32.7	+1.2
SIRT	**Sirnak**	**22.28**	**281**	P	P	17 16 32.4	+0.7
SIRT				IAmb	IAmb	17 16 52.5	
	comp=Z,14nm,0.9s						
BELG	**Belogornoye**	**22.61**	**322**	P	P	17 16 35.6	+1.3
	comp=Z,31nm,0.7s,baz=337,slow=2.2,SNR=25						
BELG	**Belogornoye**	**22.61**	**322

FIA1 IAmb IAmb 17 18 45.0
comp=Z,10nm,0.9s
FINES FINESS Array B 37.24 326 P P 17 18 44.3 +1.6
comp=Z,4.5nm,0.6s,baz=114,slow=9.7,SNR=40
FINES FINESS Array B 37.24 326 *i P* **P 17 18 44.2 +1.5**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 37.24 326 P P 17 18 43.5 +0.8
LVZ Lovozero 37.33 339 P P 17 18 44.1 +0.7
LVZ pmax pmax
comp=Z,81nm,1.6s
LVZ Lovozero 37.33 339 P P 17 18 44.1 +0.7
UBPT Khong Chiam 37.69 115 P P 17 18 47.4 +0.4
UBPT IAmb IAmb 17 19 05.5
comp=Z,20nm,1.6s
FNA Florina 38.11 292 P P 17 18 49.2 -1.1
FNA pmax pmax
comp=Z,35nm,1.7s
FNA Florina 38.11 292 P P 17 18 49.2 -1.1
PDG Podgorica 39.41 295 P P 17 19 00.8 -0.2
PDG IAmb IAmb 17 19 18.1
comp=Z,26nm,1.2s
NJ2 Nanjing 40.02 82 *eP* **P 17 19 07.3 +1.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KEV Kevo 40.67 339 P P 17 19 12.5 +1.5
KEV pmax pmax
comp=Z,14nm,1.0s
KEV Kevo 40.67 339 P P 17 19 12.4 +1.5
KEV IAmb IAmb 17 19 35.9
comp=Z,14nm,1.0s
ARCES ARCESS Array B 41.00 338 P P 17 19 15.4 +1.7
comp=Z,5.5nm,0.5s,baz=108,slow=7.7,SNR=52
ARCES ARCESS Array B 41.00 338 P P 17 19 15.2 +1.5
ARCES IAmb IAmb 17 19 33.0
comp=Z,38nm,1.6s
HAMF Hammerfest 42.09 339 *eP* **P 17 19 24.7 +2.2**
IPM Ipoh 42.50 131 P P 17 19 27.0 +0.4
MOR8 Moi Rana 43.61 331 *eP* **P 17 19 35.7 +0.9**
FAUS Fauske 43.62 333 *eP* **P 17 19 36.4 +1.6**
STEI Steigen 43.79 333 *eP* **P 17 19 37.9 +1.7**
NC405 NORSAR Array S 43.88 323 P P 17 19 37.2 +0.2
NC405 IAmb IAmb 17 19 38.1
comp=Z,9.9nm,0.9s
NC602 NORSAR Array S 43.92 323 *eP* **P 17 19 38.2 +0.8**
NC602 NORSAR Array S 43.92 323 P P 17 19 37.8 +0.5
NC602 IAmb IAmb 17 19 43.7
comp=Z,27nm,1.4s
NC300 NORSAR Array S 44.04 323 P P 17 19 40.0 +1.8
NC300 IAmb IAmb 17 20 11.7
comp=Z,36nm,1.6s
NC303 NORSAR Array S 44.06 323 P P 17 19 39.7 +1.3
NC303 IAmb IAmb 17 19 40.7
comp=Z,18nm,1.1s
NC303 PP **PP 17 21 23.0 -2.2**
GRA1 Grafenberg Arr 44.07 307 P P 17 19 37.0 -1.7
GRA1 IAmb IAmb 17 19 46.4
comp=Z,35nm,1.6s
GRF Grafenberg Arr 44.07 307 P P 17 19 37.0 -1.7
GRF pmax pmax
comp=Z,35nm,1.6s
GRFO Grafenberg 44.07 307 P P 17 19 37.8 -0.9
GRFO pmax pmax
comp=Z,40nm,1.7s
GRFO Grafenberg 44.07 307 P P 17 19 37.8 -0.9
GRFO IAmb IAmb 17 19 46.3
comp=Z,40nm,1.7s
NB201 NORSAR Array S 44.07 323 P P 17 19 39.6 +1.0
NB201 IAmb IAmb 17 19 48.3
comp=Z,32nm,1.4s
NB2 NORSAR Subarra 44.11 323 P P 17 19 39.4 +0.5
comp=Z,1.5nm,0.5s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.11 323 P P 17 19 39.4 +0.5
baz=96,slow=7.9
NOA NORSAR Array B 44.11 323 P P 17 19 39.5 +0.5
comp=Z,3.6nm,0.9s,baz=98,slow=7.8,SNR=14
NBO00 NORSAR Array S 44.32 323 P P 17 19 40.1 -0.4
NC204 NORSAR Array S 44.35 323 P P 17 19 41.7 +0.8
NC204 IAmb IAmb 17 19 51.1
comp=Z,28nm,1.4s
LOF Lofoten 44.46 333 *eP* **P 17 19 41.5 0.0**
KONO Kongsberg 44.80 321 P P 17 19 44.3 0.0
KONO pmax pmax
comp=Z,29nm,1.5s
KONO Kongsberg 44.80 321 P P 17 19 44.3 0.0
KONO IAmb IAmb 17 20 17.3
comp=Z,30nm,1.5s
TPUB Ta-pu 45.07 92 P P 17 19 46.1 -0.9
KSAR Wonju Array Be 45.39 71 P P 17 19 49.5 +0.3
KSAR Wonju Array Be 45.39 71 P P 17 19 49.5 +0.3
KSRS Korea Array 45.41 71 P P 17 19 50.7 +1.3
comp=Z,0.6nm,0.7s,baz=285,slow=5.6,SNR=2.3
TIXI Tiksi 46.04 22 *deP* **P 17 19 55.0 +1.2**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 46.04 22 P P 17 19 54.8 +0.9
ASK Askoy 47.03 322 *eP* **P 17 19 59.6 -2.0**
SENIN Lac Senin/Sane 47.17 303 P P 17 20 03.3 +0.1
SPB2 Spitsbergen Ar 47.43 347 P P 17 20 06.6 +2.0
SPA0 Spitsbergen Ar 47.44 347 *eP* **P 17 20 07.0 +2.4**
SPITS Spitsbergen Ar 47.44 347 P P 17 20 06.5 +1.9
comp=Z,12nm,0.8s,baz=118,slow=12,SNR=8.2
ESDC Sonseca Array 57.01 298 P P 17 21 16.2 +0.6
comp=Z,0.3nm,0.6s,baz=53,slow=6.7,SNR=4.2
TORD Torodi Ar. Bea 65.18 268 P P 17 22 10.2 -0.5
comp=Z,1.0nm,0.4s,baz=52,slow=6.4,SNR=10
ILULI Ilulissat 66.29 341 P P 17 22 18.5 +1.6
ILULI pmax pmax
comp=Z,60nm,1.6s
ILULI Ilulissat 66.29 341 P P 17 22 18.5 +1.6
FAKI Fak Fak 69.56 110 P P 17 22 38.5 +0.3
INK Inuvik 74.06 9 P P 17 23 05.0 +1.0
comp=Z,0.5nm,0.4s,baz=335,slow=4.3,SNR=4.1
INK Inuvik 74.06 9 P P 17 23 05.6 +1.5
INK pmax pmax
comp=Z,5.0nm,1.4s
INK Inuvik 74.06 9 P P 17 23 05.6 +1.5
DBIC Dimbokro 74.16 267 P P 17 23 05.6 0.0
DBIC pmax pmax
comp=Z,18nm,1.3s
DBIC Dimbokro 74.16 267 P P 17 23 05.5 0.0
DBIC IAmb IAmb 17 23 12.7
comp=Z,18nm,1.3s
LBTB Lobatse 74.27 222 P P 17 23 06.7 +0.7
LBTB pmax pmax
comp=Z,20nm,1.7s
LBTB Lobatse 74.27 222 P P 17 23 06.7 +0.7
LBTB IAmb IAmb 17 23 10.8
comp=Z,20nm,1.6s
K20K Telida 74.45 19 P P 17 23 06.9 +0.4
K20K IAmb IAmb 17 23 34.9
comp=Z,16nm,1.1s
KNRA Kununurra 75.65 122 P P 17 23 14.1 +0.1
KNRA IAmb IAmb 17 23 26.7
comp=Z,6.1nm,1.1s
BOSA Boshof 77.35 220 P P 17 23 24.2 +0.8
comp=Z,1.9nm,0.8s,baz=34,slow=4.5,SNR=1.8
BOSA LR LR 18 00 57.0
comp=Z,72nm,18.3s,baz=6.5,slow=38
BOSA Boshof 77.35 220 P P 17 23 23.2 -0.2
BCAR Beaver Creek A 77.56 14 P P 17 23 25.0 +0.9
YKA Yellowknife Ar 81.34 2 P P 17 23 45.3 +0.9
comp=Z,0.7nm,0.6s,baz=350,slow=5.8,SNR=11
SCHQ Schefferville 81.95 337 P P 17 23 47.9 +0.2
comp=Z,1.3nm,0.7s,baz=90,slow=3.0,SNR=1.3
WRA Warramunga Arr 82.41 121 P P 17 23 49.5 -1.1
comp=Z,0.8nm,0.8s,baz=325,slow=5.1,SNR=6.8
WRA Warramunga Arr 82.41 121 P P 17 23 50.0 -0.6
WRA Warramunga Arr 82.41 121 P P 17 23 50.0 -0.6
WR0 Warramunga Arr 82.56 121 P P 17 23 50.4 -1.0
ASAR Alice Springs 84.66 124 P P 17 24 01.1 -0.9
comp=Z,0.7nm,0.7s,baz=308,slow=5.8,SNR=11
ASAR Alice Springs 84.66 124 P P 17 24 01.7 -0.3
ASAR Alice Springs 84.66 124 P P 17 24 01.7 -0.3
PLCA Paso Flores 149.29 250 PKPbc **PKiKP 17 31 16.2 -0.4**
comp=Z,0.9nm,0.8s,baz=52,slow=3.5,SNR=4.6

IDC 16 17:17:45.0±2.2,2°.89N×127°.65E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/26,mbtmp3.2/3,Error ellipse: s-maj=148.4km s-min=28.1km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**164**	P	P	17 22 58.0	+0.1
	0.7nm,0.6s,baz=344,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**27.09**	**167**	P	P	17 23 29.3	-0.4
	0.1nm,0.3s,baz=339,slow=6.5,SNR=5.7						
MKAR	**Makanchi Array**	**58.77**	**325**	P	P	17 27 45.3	+0.3
	0.1nm,0.5s,baz=120,slow=8.6,SNR=2.0						

*DJA **16** 17:27:00.7±0.3,3°.S±3°.×13°.9E±°,h88km±6km,M4.6/12, mB5.0/5,mb4.6/12,MLv4.8/6,Mw(mB)4.3/5*
*IDC **16** 17:27:00.4±1.8,2°.92S×138°.99E,h64km±25km,mb3.4/6, mb1 3.8/10,mb1mx3.6/24,mbtmp3.9/10,ML4.3/4,MS3.1/5, Ms1 3.1/5,ms1mx2.8/33,Error ellipse: s-maj=23.5km s-min=14.0km az=140.0*
*NEIC **16** 17:27:01.5±2.7,3°.00S±0°.07×139°.03E±0°.07,h81km±6km, mb4.4/20,Error ellipse: s-maj=10.4km s-min=9.0km az=136.0*
ISC 16 17:26:58.8±0.5,3°.03S±0°.05×138°.92E±0°.05,h46km,n67, σ2°.07/70,mb3.7/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.33**	**71**	P	**Pn**	**17 27 22.9**	**+2.0**
GENI				S	**Sn**	**17 27 38.5**	**+1.1**
GENI	**Genyem**	**1.33**	**71**	P	**Pn**	**17 27 23.0**	**+2.0**
JAY	**Jayapura**	**1.86**	**74**	P	**Pn**	**17 27 29.1**	**+0.8**
	44nm,0.3s,baz=230,slow=11,SNR=141						
JAY				S	**Sn**	**17 27 50.2**	**-0.4**
	98nm,0.3s,baz=112,slow=23,SNR=9.1						
JAY				LR	LR	17 28 10.3	
	comp=Z,130nm,21.1s,baz=192,slow=40						
JAY	**Jayapura**	**1.86**	**74**	P	**Pn**	**17 27 29.0**	**+0.8**
JAY				S	**Sn**	**17 27 51.0**	**+0.4**
SRPI	**Serui, Papua**	**2.91**	**293**	P	**Pn**	**17 27 45.1**	**+2.4**
BAKI	**Biak**	**3.35**	**303**	P	**Pn**	**17 27 50.2**	**+1.5**
FAKI	**Fak Fak**	**6.66**	**271**	P	**Pn**	**17 28 37.2**	**+3.0**
	0.4nm2μm71nm,0.8s						
FAKI	**Fak Fak**	**6.66**	**271**		**Pn**	**17 28 36.7**	**+2.5**
FAKI	**Fak Fak**	**6.66**	**271**	P	**Pn**	**17 28 37.4**	**+3.2**
SIJI	**Sorong**	**7.94**	**286**	P	**Pn**	**17 28 54.1**	**+2.3**
	7.4nm,0.3s,baz=207,slow=23,SNR=43						
SIJI				S	**Sn**	**17 30 17.1**	**-3.2**
	0.7nm,0.3s,baz=152,slow=23,SNR=2.1						
SWI	**Sorong**	**7.95**	**286**	P	**Pn**	**17 28 54.2**	**+2.3**
	0.2nm962nm50nm,0.6s						
SAUI	**Saumlaki**	**9.03**	**237**	Pn	**Pn**	**17 29 07.4**	**+0.7**
BNDI	**Bandanaira**	**9.11**	**260**	P	**Pn**	**17 29 10.8**	**+3.0**
PMG	**Port Moresby**	**10.35**	**128**	LR	LR	17 33 36.2	
	comp=Z,43nm,18.8s,baz=18,slow=38						
PMG	**Port Moresby**	**10.35**	**128**	Pn	**Pn**	**17 29 25.8**	**+1.0**
AAI	**Ambon**	**10.72**	**266**	P	**Pn**	**17 29 32.3**	**+2.4**
	20nm,0.4s						
KDU	**Kakadu**	**11.52**	**213**	P	**Pn**	**17 29 43.4**	**+2.7**
COEN	**Coen**	**11.64**	**159**	Pn	**Pn**	**17 29 44.8**	**+2.4**
COEN	**Coen**	**11.64**	**159**	P	**Pn**	**17 29 44.7**	**+2.3**
LBMI	**Labuha**	**11.65**	**282**	P	**Pn**	**17 29 45.8**	**+3.2**
	18nm,0.7s						
DRS	**Darwin Rock St**	**12.25**	**220**	P	**Pn**	**17 29 53.7**	**+2.9**
MTN	**Manton Dam**	**12.42**	**218**		**Pn**	**17 29 55.8**	**+2.7**
MTN	**Manton Dam**	**12.42**	**218**	P	**Pn**	**17 29 55.8**	**+2.7**
SANI	**Sanana**	**12.95**	**274**	P	**Pn**	**17 30 02.2**	**+1.9**
	674nm74nm,0.8s						
SANI	**Sanana**	**12.95**	**274**	P	**Pn**	**17 30 02.4**	**+2.1**
MTSU	**Mount Surprise**	**15.91**	**161**	P	**P**	**17 30 43.3**	**+0.5**
SOEI	**Soe**	**16.01**	**245**	P	**Pn**	**17 30 42.6**	**+1.5**
	31nm,0.8s						
SOEI	**Soe**	**16.01**	**245**	P	**Pn**	**17 30 42.4**	**+1.3**
SOEI				IAmb	IAmb	17 31 05.5	
	comp=Z,29nm,0.8s						
SOEI	**Soe**	**16.01**	**245**	P	**Pn**	**17 30 43.2**	**+2.1**
KNRA	**Kununurra**	**16.05**	**218**	P	**Pn**	**17 30 44.0**	**+2.5**
KNRA				IAmb	IAmb	17 31 01.8	
	comp=Z,12nm,0.7s						
KNRA	**Kununurra**	**16.05**	**218**	P	**P**	**17 30 44.7**	**+0.4**
DAV	**Davao City (W)**	**16.67**	**307**	LR	LR	17 37 20.7	
	comp=Z,38nm,20.0s,baz=342,slow=37						
BATI	**Baumata**	**16.73**	**244**	P	**Pn**	**17 30 50.9**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=344,slow=18,SNR=2.2						
BATI				S	**Sn**	**17 33 56.7**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=133,slow=23,SNR=1.9						
BATI	**Baumata**	**16.73**	**244**	P	**Pn**	**17 30 52.5**	**+2.3**
WB0	**Warramunga Arr**	**17.21**	**195**	P	**Pn**	**17 30 57.5**	**+1.5**
WR0	**Warramunga Arr**	**17.36**	**194**	P	**Pn**	**17 30 58.4**	**+0.5**
WRAB	**Tennant Creek**	**17.38**	**195**	P	**P**	**17 31 00.3**	**+1.3**
WRAB				IAmb	IAmb	17 31 23.7	
	comp=Z,8.4nm,0.6s						
WRAB	**Tennant Creek**	**17.38**	**195**	P	**P**	**17 30 59.9**	**+0.9**
WB2	**Warramunga Arr**	**17.39**	**195**	P	**Pn**	**17 30 59.3**	**+1.0**
WB2				IAmb	IAmb	17 31 16.3	
	comp=Z,8.5nm,0.7s						
WRA	**Warramunga Arr**	**17.39**	**195**	P	**Pn**	**17 30 59.7**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=17,slow=13,SNR=42						
WRA				S	Sn	17 34 01.3	-10
	comp=Z,0.8nm,0.3s,baz=12,slow=23,SNR=7.4						
WRA	**Warramunga Arr**	**17.39**	**195**	P	**Pn**	**17 30 57.6**	**-0.7**
QIS	**Mount Isa**	**17.43**	**178**	P	**P**	**17 31 02.9**	**+3.4**
GUMO	**Guam**	**17.54**	**20**	LR	LR	17 36 25.0	
	comp=Z,63nm,21.2s,baz=92,slow=32						
GUMO	**Guam**	**17.54**	**20**	P	**Pn**	**17 30 58.5**	**-1.6**
CTAO	**Charters Tower**	**18.40**	**158**	P	**P**	**17 31 10.1**	**-0.2**
CTAO				IAmb	IAmb	17 31 44.0	
	comp=Z,46nm,1.9s						
TOLI2	**Tolitoli**	**18.59**	**283**	P	**P**	**17 31 13.2**	**+0.9**
TOLI2				IAmb	IAmb	17 31 16.1	
	comp=Z,15nm,0.9s						
TOLI2	**Tolitoli**	**18.59**	**283**	P	**Pn**	**17 31 14.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**19.84**	**220**	P	**P**	**17 31 27.9**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=37,slow=14,SNR=10						
FITZ				S	**S**	**17 34 59.5**	**-7.5**
	baz=95,slow=16						
AS31	**Alice Springs**	**21.07**	**193**	P	**P**	**17 31 40.6**	**+1.2**
ASAR	**Alice Springs**	**21.08**	**193**	P	**P**	**17 31 41.4**	**+2.0**
	comp=Z,1.6nm,0.5s,baz=13,slow=11,SNR=70						
ASAR				S	**S**	**17 35 30.2**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=13,slow=24,SNR=5.3						
ASAR				LR	LR	17 39 08.5	
	comp=Z,63nm,19.9s,baz=54,slow=34						
ASAR	**Alice Springs**	**21.08**	**193**	P	**P**	**17 31 40.4**	**+1.0**
MYLDM	**Lahad Datu**	**21.97**	**292**	P	**P**	**17 31 49.5**	**+0.5**
MYLDM				IAmb	IAmb	17 31 51.4	
	comp=Z,30nm,1.4s						
JAGI	**Jajag, Banyuwa**	**25.21**	**257**	P	**P**	**17 32 20.3**	**-0.3**
JAGI				IAmb	IAmb	17 33 13.9	
	comp=Z,23nm,1.1s						
FORT	**Forrest**	**29.44**	**199**	P	**P**	**17 32 56.0**	**-2.3**
BBOO	**Buckleboo**	**29.74**	**185**	P	**P**	**17 32 59.0**	**-1.9**
PINNC	**Pines Island,**	**33.82**	**128**	P	**P**	**17 33 33.6**	**-3.3**
JHJ2	**Mitsune**	**35.96**	**1**	P	**P**	**17 33 55.4**	**+0.2**
IPM	**Ipoh**	**38.59**	**281**	P	**P**	**17 34 17.3**	**-0.5**
IPM				IAmb	IAmb	17 35 17.3	
	comp=Z,12nm,1.4s						
KULM	**Kulim**	**39.11**	**282**	P	**P**	**17 34 21.6**	**-0.5**
MSVF	**Nonsavu**	**41.05**	**114**	LR	LR	17 49 38.3	
	comp=Z,79nm,18.0s,baz=32,slow=33						
GSI	**Gunungsitoli**	**41.55**	**275**	P	**P**	**17 34 41.6**	**-0.7**
KSRS	**Korea Array**	**41.56**	**347**	P	**P**	**17 34 41.9**	**0.0**
	comp=Z,0.6nm,0.8s,baz=171,slow=6.8,SNR=2.0						
CMAR	**Chiang Mai Arr**	**44.78**	**300**	P	**P**	**17 35 07.8**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=116,slow=6.6,SNR=5.4						
SONM	**Songino Array**	**58.10**	**335**	P	**P**	**17 36 47.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=154,slow=9.1,SNR=2.0						
MKAR	**Makanchi Array**	**70.17**	**322**	P	**P**	**17 38 06.4**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=114,slow=7.9,SNR=26						
MKAR	**Makanchi Array**	**70.17**	**322**	P	**P**	**17 38 06.3**	**-0.5**
ZALV	**Zalesovo Beam**	**72.32**	**330**	P	**P**	**17 38 17.3**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=139,slow=6.8,SNR=1.9						

*BJI **16** 17:45:26.0±0.0,17°.68S×177°.94W,h568km,mb4.7/48, mB4.9/26*
*NOU **16** 17:45:28.4,17°.77S×178°.42W,h575km,ML4.7/96,Fiji Islands Region*
*NEIC **16** 17:45:28.4±1.9,17°.78S±0°.08×178°.57W±0°.09, h557km±5km,mb4.9/263,Error ellipse: s-maj=12.1km s-min=11.8km az=124.0*
*IDC **16** 17:45:29.4±0.8,17°.76S×178°.67W,h573km±7km,mb4.0/25, mb1 4.2/27,mb1mx4.0/35,mbtmp4.9/27,Error ellipse: s-maj=12.4km s-min=9.0km az=125.0*
ISC 16 17:45:28.2±0.5,17°.77S±0°.05×178°.56W±0°.05, h565km±4km,n781,σ1°.03/776,mb4.9/217,78C-104D,Fault plane solution: NP1:ϕ_s308.53552°,δ82.83204°, λ-79.96146°. **NP2:**ϕ_s73.71482°,δ12.31359°, λ-144.19035°. **Principal axes:** T Plg37.0569°, Azm29.6507°; N Plg9.9593°, Azm127.2702°; P Plg51.1756°, Azm229.8738°; **Fault plane solution: NP1:**ϕ_s155.04529°,δ87.91562°,λ40.32271°. **NP2:** ϕ_s63.27714°,δ49.70946°,λ177.26694°. **Principal axes:** T Plg28.8801°, Azm27.0442°; N Plg49.6326°, Azm157.4991°; P Plg25.5655°, Azm281.7448°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**1.66**	**309**	P	**P**	**17 46 40.0**	**+2.0**
DGTI	**Dogotuki**	**2.19**	**311**	P	**P**	**17 46 41.5**	**+1.3**
MSVF	**Nonsavu**	**3.23**	**270**	P	**P**	**17 46 48.1**	**+2.1**
	35nm,0.3s,baz=124,slow=5.4,SNR=333						
MSVF				S	**S**	**17 47 51.3**	**+1.9**
	0.8nm,0.3s,baz=268,slow=21,SNR=12						
MSVF	**Nonsavu**	**3.23**	**270**	P	**P**	**17 46 48.0**	**+2.0**
MSVF				S	**S**	**17 47 54.0**	**+4.7**
MSVF	**Nonsavu**	**3.23**	**270**	P	**P**	**17 46 48.4**	**+2.4**
AFI	**Afiamalu**	**7.57**	**61**	P	**P**	**17 47 20.9**	**-1.5**
	10nm,0.3s,baz=46,slow=4.6,SNR=6.2						
AFI				S	**S**	**17 48 51.3**	**-4.4**
	2.9nm,0.3s,baz=82,slow=24,SNR=1.6						
NIUE	**Niue**	**8.29**	**100**	P	**P**	**17 47 25.1**	**-4.2**
FUNA	**Funafuti**	**9.44**	**346**	P	**P**	**17 47 39.8**	**-1.0**
MARNC	**Mare, Loyalty**	**13.17**	**252**	P	**P**	**17 48 16.4**	**-2.4**
MARNC	**Mare, Loyalty**	**13.17**	**252**	P	**P**	**17 48 20.0**	**+1.2**
LIFNC	**LIFOU**	**13.74**	**255**	P	**P**	**17 48 22.1**	**-2.6**
SANVU	**Saraoutou**	**13.84**	**278**	P	**P**	**17 48 24.4**	**-1.4**
SANVU	**Saraoutou**	**13.84**	**278**	P	**P**	**17 48 27.3**	**+1.5**
PINNC	**Pines Island,**	**13.99**	**248**	P	**P**	**17 48 26.5**	**-0.8**
PINNC	**Pines Island,**	**13.99**	**248**	P	**P**	**17 48 28.2**	**+0.9**
OUENC	**Ouen Island, N**	**14.47**	**249**	P	**P**	**17 48 31.5**	**-0.6**
OUENC	**Ouen Island, N**	**14.47**	**249**	P	**P**	**17 48 33.2**	**+1.1**
DZM	**Mont Dzumac**	**14.74**	**251**	P	**P**	**17 48 33.6**	**-1.3**
	3.3nm,0.3s,baz=74,slow=19,SNR=58						
DZM				S	**S**	**17 51 06.1**	**-2.3**
	baz=2.1,slow=20,SNR=0.7						
DZM	**Mont Dzumac**	**14.74**	**251**	*eP*	**P**	**17 48 36.4**	**+1.6**
	105nm,0.9s						
DZM	**Mont Dzumac**	**14.74**	**251**	P	**P**	**17 48 34.0**	**-0.9**
DZM	**Mont Dzumac**	**14.74**	**251**	P	**P**	**17 48 36.5**	**+1.6**
ONTNC	**Ouen Toro**	**14.79**	**250**	P	**P**	**17 48 35.0**	**-0.3**
ONTNC	**Ouen Toro**	**14.79**	**250**	P	**P**	**17 48 36.6**	**+1.3**
NOUC	**Port Laguerre**	**14.87**	**251**	P	**P**	**17 48 37.5**	**+1.4**
KOUNC	**Koumac, New Ca**	**16.45**	**258**	P	**P**	**17 48 52.0**	**+0.7**
OUZ	**Omahuta**	**18.73**	**200**	P	**P**	**17 49 14.3**	**+2.4**
OUZ				IAmb	IAmb	17 49 15.6	
	comp=Z,39nm,0.8s						
MXZ	**Matakaoa Point**	**19.91**	**187**	P	**P**	**17 49 20.2**	**-2.4**
MXZ				IAmb	IAmb	17 50 00.2	
	comp=Z,50nm,1.2s						
URZ	**Urewera**	**20.77**	**190**	P	**P**	**17 49 27.4**	**-2.9**
URZ				IAmb	IAmb	17 49 36.7	
	comp=Z,17nm,0.7s						
TARA	**Tarawa**	**20.77**	**335**	P	**P**	**17 49 30.6**	**0.0**
HNR	**Honiara**	**22.46**	**289**	P	**P**	**17 49 45.2**	**-0.5**
	comp=Z,84nm,0.8s,baz=25,slow=1.0,SNR=13						
HNR	**Honiara**	**22.46**	**289**	P	**P**	**17 49 44.8**	**-1.0**
HNR	**Honiara**	**22.46**	**289**	P	**P**	**17 49 47.5**	**+1.7**
BFZ	**Birch Farm**	**23.27**	**190**	P	**P**	**17 49 52.9**	**+0.3**
BFZ				IAmb	IAmb	17 50 50.7	
	comp=Z,57nm,1.4s						
QRZ	**Quartz Range**	**24.23**	**197**	P	**P**	**17 50 01.4**	**+0.2**
TUWZ	**Tuamarina**	**24.45**	**194**	P	**P**	**17 50 01.2**	**-1.9**
THZ	**Tophouse**	**25.01**	**195**	P	**P**	**17 50 06.8**	**-1.3**
THZ				IAmb	IAmb	17 50 35.2	
	comp=Z,94nm,1.9s						
FOZ	**Fox Glacier**	**27.51**	**199**	P	**P**	**17 50 28.5**	**-1.4**
FOZ				IAmb	IAmb	17 50 30.9	
	comp=Z,45nm,1.2s						
EIDS	**Eidsvold**	**29.18**	**250**	P	**P**	**17 50 44.3**	**-0.5**
	baz=29,SNR=15						
EIDS	**Eidsvold**	**29.18**	**250**	P	**P**	**17 50 44.1**	**-0.8**
EIDS				IAmb	IAmb	17 50 45.2	
	comp=Z,54nm,0.8s						
EIDS	**Eidsvold**	**29.18**	**250**	P	**P**	**17 50 44.5**	**-0.3**
RK1H	**Rockhampton Ha**	**29.47**	**254**	P	**P**	**17 50 47.1**	**-0.2**
MLZ	**Mavora Lakes**	**29.68**	**199**	P	**P**	**17 50 49.0**	**+0.1**
MLZ				IAmb	IAmb	17 50 50.0	
	comp=Z,40nm,1.2s						
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**17 50 51.7**	**+0.7**
	baz=30,SNR=54						
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**17 50 51.6**	**+0.6**
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**17 50 51.7**	**+0.7**
WHZ	**Wether Hill Ro**	**30.21**	**199**	P	**P**	**17 50 52.9**	**-0.4**
WHZ				IAmb	IAmb	17 50 54.9	
	comp=Z,51nm,1.2s						
MGCD	**Mangrove Creek**	**31.26**	**235**	P	**P**	**17 51 03.2**	**+0.6**
	baz=31,SNR=28						
MGCD	**Mangrove Creek**	**31.26**	**235**	P	**P**	**17 51 03.6**	**+1.0**
RMQ	**Roma**	**31.43**	**248**	P	**P**	**17 51 04.5**	**+0.4**
	baz=31,SNR=121						
RMQ	**Roma**	**31.43**	**248**	P	**P**	**17 51 04.6**	**+0.5**
RIV	**Riverview**	**31.46**	**234**	P	**P**	**17 51 03.8**	**-0.4**
	baz=32,SNR=3.3						
RABL	**Rabaul**	**31.68**	**292**	P	**P**	**17 51 04.7**	**-1.7**
RABL	**Rabaul**	**31.68**	**292**	P	**P**	**17 51 06.3**	**-0.1**
SYDH	**Sydney Hard Ro**	**31.75**	**234**	P	**P**	**17 51 07.7**	**+1.0**
CTA	**Charters Tower**	**33.33**	**260**	P	**P**	**17 51 20.1**	**-0.3**
	comp=Z,41nm,0.6s,baz=91,slow=10,SNR=45						
CTA				PcP	**PcP**	**17 53 45.4**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=93,slow=5.1,SNR=4.1						
CTA	**Charters Tower**	**33.33**	**260**	P	**P**	**17 51 20.2**	**-0.1**
CTAO	**Charters Tower**	**33.33**	**260**	P	**P**	**17 51 19.2**	**-1.1**
CTAO				IAmb	IAmb	17 51 20.9	
	comp=Z,50nm,0.8s						
CTAO	**Charters Tower**	**33.33**	**260**	P	**P**	**17 51 20.0**	**-0.3**
CNB	**Canberra Magne**	**33.40**	**232**	P	**P**	**17 51 21.5**	**+0.7**
	baz=33,SNR=183						
CNB	**Canberra Magne**	**33.40**	**232**	P	**P**	**17 51 21.6**	**+0.8**
CAN	**Canberra**	**33.68**	**232**	P	**P**	**17 51 23.2**	**+0.1**
CAN				IAmb	IAmb	17 51 24.3	
	comp=Z,51nm,0.8s						
CAN	**Canberra**	**33.68**	**232**	P	**P**	**17 51 23.6**	**+0.5**
MILA	**Mila**	**34.27**	**229**	P	**P**	**17 51 28.5**	**+0.5**
	baz=34,SNR=6.3						
PMG	**Port Moresby**	**34.30**	**279**	P	**P**	**17 51 28.5**	**+0.1**
PMG	**Port Moresby**	**34.30**	**279**	P	**P**	**17 51 29.4**	**+0.9**
CMSA	**Cobar Meteorol**	**35.10**	**240**	P	**P**	**17 51 35.1**	**+0.2**
	baz=35,SNR=147						
CMSA	**Cobar Meteorol**	**35.10**	**240**	P	**P**	**

ARPS Mount Arapiles 39.62 233 P **P** **17 52 11.8 0.0**
baz=40,SNR=17
ARPS Mount Arapiles 39.62 233 P **P** **17 52 11.8 0.0**
HTT Hallett 41.10 239 P **P** **17 52 24.0 +0.4**
baz=41,SNR=154
HTT Hallett 41.10 239 P **P** **17 52 24.2 +0.6**
LCRK Leigh Creek 41.19 244 P **P** **17 52 24.5 +0.2**
GHSS Government Hou 41.67 237 P **P** **17 52 28.8 +0.8**
NAPP Napperby 41.69 240 P **P** **17 52 29.1 +0.9**
TWOA Tennyson Woods 41.72 237 P **P** **17 52 28.6 +0.2**
PTPS Port Pirie 41.81 240 P **P** **17 52 29.8 +0.7**
WHYH Whyalla 42.13 240 P **P** **17 52 32.0 +0.3**
JAY Jayapura 42.73 286 P **P** **17 52 37.7 +1.0**
comp=Z,852nmcomp=Z,95nm,1.0s
OOD Oodnadatta 43.14 248 P **P** **17 52 40.3 +0.6**
GENI Genyem 43.19 286 P **P** **17 52 41.3 +1.0**
comp=Z,3µmcomp=Z,321nm,0.8s
GENI Genyem 43.19 286 P **P** **17 52 41.3 +1.0**
KHLU Kahalu`u 43.28 32 P **P** **17 52 41.9 +1.0**
AIN Ainahou 43.32 33 P **P** **17 52 42.1 +0.8**
HLP Hilina Pali 43.34 33 P **P** **17 52 43.0 +1.7**
MWH Moku'aweowe 43.35 32 P **P** **17 52 42.4 +0.5**
BBOO Buckleboo 43.35 241 P **P** **17 52 41.3 +0.1**
baz=43,SNR=322
BBOO Buckleboo 43.35 241 P **P** **17 52 41.0 -0.2**
BBOO Buckleboo 43.35 241 P **P** **17 52 41.3 +0.1**
HUH Hualalai 43.39 32 P **P** **17 52 42.3 +0.4**
MLOA Mauna Loa Obse 43.40 32 P **P** **17 52 42.8 +0.6**
SDHHI Sand Hill 43.42 33 P **P** **17 52 42.5 +0.5**
WRMHI West Rim 43.43 33 P **P** **17 52 42.7 +0.5**
MLH Mauna Loa 43.46 33 P **P** **17 52 43.3 +0.8**
POHA Pohakuloa 43.61 32 P **P** **17 52 44.0 +0.4**
HPAH Hawaii Prepara 43.75 32 P **P** **17 52 45.5 +1.0**
DHH Diamond Head 43.80 29 P **P** **17 52 45.6 +0.8**
WMR Waimanalo Ridg 43.90 29 P **P** **17 52 46.4 +0.8**
HLK Haleakala 44.09 31 P **P** **17 52 48.1 +0.7**
WR0 Warramunga Arr 44.33 259 P **P** **17 52 47.8 -1.2**
WR0 IAmb IAmb 17 52 49.1
comp=Z,52nm,1.3s
WR0 PcP **PcP** **17 54 21.1 +0.4**
WB0 Warramunga Arr 44.48 260 P **P** **17 52 49.0 -1.2**
WB0 IAmb IAmb 17 52 50.1
comp=Z,51nm,0.6s
WB0 PcP **PcP** **17 54 21.2 -0.1**
WB2 Warramunga Arr 44.51 259 P **P** **17 52 49.3 -1.1**
WRAB Tennant Creek 44.51 259 P **P** **17 52 49.2 -1.2**
WRAB IAmb IAmb 17 52 50.3
comp=Z,51nm,0.6s
WRAB Tennant Creek 44.51 259 P **P** **17 52 49.5 -0.9**
WRA Warramunga Arr 44.52 259 P **P** **17 52 49.2 -1.2**
comp=Z,31nm,0.5s,baz=91,slow=6.9,SNR=1190
WRA PcP **PcP** **17 54 21.2 -0.2**
comp=Z,8.5nm,0.6s,baz=94,slow=3.3,SNR=7.2
WRA ScP **ScP** **17 57 20.6 +0.5**
comp=Z,2.3nm,0.9s,baz=92,slow=4.3,SNR=4.5
WRA S **S** **17 58 41.6 -3.9**
comp=Z,0.8nm,0.6s,baz=100,slow=12,SNR=3.1
WRA PKiKP **PKiKP** **18 01 17.4 -1.7**
comp=Z,0.4nm,0.5s,baz=82,slow=0.4,SNR=6.2
WRA Warramunga Arr 44.52 259 P **P** **17 52 49.3 -1.2**
AS31 Alice Springs 44.69 254 P **P** **17 52 51.5 -0.4**
ASAR Alice Springs 44.69 254 P **P** **17 52 51.5 -0.3**
comp=Z,415nm,0.6s,baz=89,slow=7.9
ASAR PcP **PcP** **17 54 21.9 -0.1**
comp=Z,14nm,0.5s,baz=103,slow=3.9,SNR=7.2
ASAR ScP **ScP** **17 57 21.3 +0.5**
comp=Z,3.0nm,0.7s,baz=106,slow=4.1,SNR=6.5
ASAR S **S** **17 58 43.3 -4.6**
comp=Z,3.9nm,1.0s,baz=88,slow=15,SNR=11
ASAR PKiKP **PKiKP** **18 01 17.8 -1.5**
comp=Z,0.3nm,0.4s,baz=93,slow=1.5,SNR=5.4
ASAR Alice Springs 44.69 254 P **P** **17 52 51.4 -0.4**
MULG Mulgathing 44.74 245 P **P** **17 52 51.9 -0.1**
SRPI Serui, Papua 47.09 284 P **P** **17 53 10.0 0.0**
comp=Z,80nm,0.7s
KDU Kakadu 47.42 269 P **P** **17 53 12.0 -0.5**
baz=47,SNR=64
KDU Kakadu 47.42 269 P **P** **17 53 12.2 -0.3**
BAKI Biak 47.47 285 P **P** **17 53 13.9 +1.0**
comp=Z,2µmcomp=Z,188nm,0.8s
GUMO Guam 47.68 308 P **P** **17 53 14.7 +0.3**
MTN Manton Dam 48.66 268 P **P** **17 53 20.9 -0.9**
baz=49,SNR=102
MTN Manton Dam 48.66 268 P **P** **17 53 21.0 -0.8**
MTN IAmb IAmb 17 53 21.8
comp=Z,67nm,0.8s
MTN Manton Dam 48.66 268 P **P** **17 53 21.0 -0.8**
DRS Darwin Rock St 48.97 269 P **P** **17 53 23.6 -0.4**
SAUI Saumlaki 49.71 275 P **P** **17 53 30.2 +0.7**
comp=Z,4µmcomp=Z,177nm,1.0s
SAUI Saumlaki 49.71 275 P **P** **17 53 29.7 +0.2**
SAUI Saumlaki 49.71 275 P **P** **17 53 29.9 +0.4**
WRKA Warakurna 49.75 252 P **P** **17 53 29.5 -0.2**
baz=50,SNR=236
WRKA Warakurna 49.75 252 P **P** **17 53 29.8 +0.1**
FORT Forrest 49.94 244 P **P** **17 53 30.2 -0.7**
baz=50,SNR=76
FORT Forrest 49.94 244 P **P** **17 53 30.0 -1.0**
FORT PcP **PcP** **17 54 40.8 -0.1**
FORT Forrest 49.94 244 P **P** **17 53 30.3 -0.7**
KNRA Kununurra 50.36 264 P **P** **17 53 33.7 -0.5**
baz=50,SNR=96
KNRA Kununurra 50.36 264 P **P** **17 53 33.5 -0.7**
KNRA Kununurra 50.36 264 P **P** **17 53 33.8 -0.4**
FAKI Fak Fak 50.41 281 P **P** **17 53 34.2 -0.4**
SWI Sorong 52.07 283 P **P** **17 53 47.2 +0.6**
comp=Z,3µmcomp=Z,348nm,0.8s
BNDI Bandanaira 52.08 278 P **P** **17 53 46.8 +0.1**
MSAI Masohi 53.38 279 P **P** **17 53 55.9 -0.1**
comp=Z,16nm,0.6s
AAI Ambon 53.96 279 P **P** **17 53 59.7 -0.3**
comp=Z,2µmcomp=Z,148nm,0.5s
LBMI Labuha 55.65 282 P **P** **17 54 12.7 +0.8**
comp=Z,873nmcomp=Z,94nm,0.9s
SOEI Soe 55.93 270 P **P** **17 54 15.2 +1.3**
comp=Z,3µmcomp=Z,293nm,1.0s
SOEI Soe 55.93 270 P **P** **17 54 14.8 +0.8**
SOEI Soe 55.93 270 P **P** **17 54 15.0 +1.1**
TNTI Ternate 56.29 283 P **P** **17 54 16.7 +0.4**
comp=Z,1µmcomp=Z,104nm,0.9s
TNTI Ternate 56.29 283 P **P** **17 54 16.5 +0.2**
TNTI IAmb IAmb 17 54 17.5
comp=Z,74nm,0.7s
TNTI Ternate 56.29 283 P **P** **17 54 16.9 +0.6**
BATI Baumata 56.39 269 P **P** **17 54 18.5 +1.5**
comp=Z,58nm,0.8s
SANI Sanana 56.58 280 P **P** **17 54 18.0 -0.3**
comp=Z,986nmcomp=Z,131nm,0.9s
SANI Sanana 56.58 280 P **P** **17 54 17.9 -0.3**
PSA00 Pilbara Seismi 57.81 255 P **P** **17 54 25.8 -0.7**
PSA00 IAmb IAmb 17 54 26.7
comp=Z,85nm,0.6s
PSA00 Pilbara Seismi 57.81 255 P **P** **17 54 24.9 -1.6**
PSA00 IAmb IAmb 17 54 26.8
comp=Z,42nm,0.9s
PSA00 Pilbara Seismi 57.81 255 P **P** **17 54 26.1 -0.4**
MBWA Marble Bar 57.97 256 P **P** **17 54 27.1 -0.5**
MMRI Maumere 58.16 271 P **P** **17 54 28.6 -0.4**
comp=Z,1µmcomp=Z,112nm,0.8s
MMRI Maumere 58.16 271 P **P** **17 54 27.9 -1.1**
MMRI IAmb IAmb 17 54 28.8
comp=Z,62nm,0.6s
MMRI Maumere 58.16 271 P **P** **17 54 28.5 -0.4**
MEEK Meekatharra 58.35 249 P **P** **17 54 29.3 -0.9**
baz=58,SNR=27
MEEK Meekatharra 58.35 249 P **P** **17 54 29.3 -0.9**
EDFI Ende, Flores 58.65 270 P **P** **17 54 32.0 -0.4**
comp=Z,627nmcomp=Z,56nm,0.8s
BBSI Bau Bau 58.72 274 P **P** **17 54 33.5 +0.7**
comp=Z,4.1nm,0.7s
KLBR Kellerberrin 58.77 243 P **P** **17 54 32.0 -0.8**
baz=59,SNR=66
KLBR Kellerberrin 58.77 243 P **P** **17 54 32.2 -0.6**
BASI Baing, Sumba 59.33 268 P **P** **17 54 37.5 +0.7**
comp=Z,798nmcomp=Z,93nm,1.2s
KMSI Cibinong 59.37 282 P **P** **17 54 37.2 +0.1**
comp=Z,1µmcomp=Z,153nm,0.7s
BLDU Ballidu 59.72 245 P **P** **17 54 38.3 -0.8**
baz=60,SNR=47
BLDU Ballidu 59.72 245 P **P** **17 54 38.4 -0.8**
LUWI Luwuk 59.94 279 P **P** **17 54 41.7 +0.8**
comp=Z,1µmcomp=Z,104nm,0.8s
LUWI Luwuk 59.94 279 P **P** **17 54 41.3 +0.4**
LUWI Luwuk 59.94 279 P **P** **17 54 41.5 +0.6**

MUN Mundaring 60.06 243 P **P** **17 54 41.2 -0.3**
baz=60,SNR=10
MUN Mundaring 60.06 243 P **P** **17 54 41.3 -0.2**
MORW Morawa 60.41 246 P **P** **17 54 43.0 -0.8**
baz=60,SNR=49
MORW Morawa 60.41 246 P **P** **17 54 43.0 -0.8**
MORW IAmb IAmb 17 54 43.5
comp=Z,24nm,0.7s
MORW PcP **PcP** **17 55 21.7 -0.1**
MORW Morawa 60.41 246 P **P** **17 54 43.1 -0.8**
MTKN Mount Kenneth 60.43 243 P **P** **17 54 44.5 +0.6**
BSSI Bau Bau, Buton 60.51 273 P **P** **17 54 44.4 -0.3**
comp=Z,39nm,0.9s
SBA Scott Base 60.55 184 P **P** **17 54 46.0 +2.1**
SBA PcP **PcP** **17 55 22.7 +1.3**
VNDA Vanda 60.57 185 P **P** **17 54 45.2 +1.2**
comp=Z,3.8nm,0.7s,baz=346,slow=6.7,SNR=16
VNDA Vanda 60.57 185 P **P** **17 54 44.8 +0.8**
WBSI Waikabubak, Su 60.60 269 P **P** **17 54 45.2 -0.2**
comp=Z,848nmcomp=Z,54nm,0.7s
APSI Ampana 61.04 279 P **P** **17 54 49.3 +1.1**
comp=Z,1µmcomp=Z,152nm,1.0s
BKSI Bulukumba 61.10 274 P **P** **17 54 48.0 -0.5**
comp=Z,33nm,0.7s
MRSI Marisa 61.24 281 P **P** **17 54 49.6 +0.1**
comp=Z,66nm,1.1s
BNSI Bone 61.39 275 P **P** **17 54 50.8 +0.4**
comp=Z,898nmcomp=Z,77nm,1.1s
KAPI Kappang 61.54 274 P **P** **17 54 51.1 -0.3**
KAPI IAmb IAmb 17 54 51.8
comp=Z,25nm,0.7s
KAPI Kappang 61.54 274 P **P** **17 54 51.4 0.0**
SPSI Sidrap Palu 61.84 275 P **P** **17 54 52.6 -0.8**
comp=Z,622nmcomp=Z,59nm,0.8s
TTSI Tana Toraja 62.08 276 P **P** **17 54 54.9 0.0**
comp=Z,28nm,0.7s
TOLI2 Tolitoli 62.55 281 P **P** **17 54 57.7 -0.3**
TOLI2 IAmb IAmb 17 55 01.7
comp=Z,29nm,0.8s
TOLI2 Tolitoli 62.55 281 P **P** **17 54 58.3 +0.3**
GIRL Giralia 62.80 253 P **P** **17 55 00.2 +0.8**
baz=63,SNR=20
GIRL Giralia 62.80 253 P **P** **17 54 60.0 +0.5**
MPSI Mapaga 63.11 280 P **P** **17 55 01.9 +0.3**
comp=Z,834nmcomp=Z,95nm,0.8s
DNP Denpasar 64.84 269 P **P** **17 55 12.5 -0.1**
comp=Z,204nm,0.8s
IGBI Denpasar 64.86 268 P **P** **17 55 12.6 -0.1**
comp=Z,1µmcomp=Z,159nm,0.9s
SRBI Singaraja 65.00 269 P **P** **17 55 13.1 -0.4**
comp=Z,1µmcomp=Z,99nm,1.1s
BKB Balikpapan 65.41 277 P **P** **17 55 16.3 +0.2**
KBKI Kotabaru 65.47 275 P **P** **17 55 17.0 +0.5**
comp=Z,483nmcomp=Z,44nm,1.1s
JAGI Jajag, Banyuwa 65.90 269 P **P** **17 55 18.0 -1.3**
comp=Z,1µmcomp=Z,174nm,0.8s
JAGI Jajag, Banyuwa 65.90 269 P **P** **17 55 17.9 -1.3**
JAGI Jajag, Banyuwa 65.90 269 P **P** **17 55 18.0 -1.3**
ABJI Asem Bagus 66.01 269 P **P** **17 55 19.8 -0.1**
comp=Z,79nm,1.0s
MYLDM Lahad Datu 66.14 284 P **P** **17 55 22.3 +1.6**
MYLDM IAmb IAmb 17 55 24.5
comp=Z,97nm,1.4s
CASY Casey 66.21 205 P **P** **17 55 19.8 -0.4**
CASY IAmb IAmb 17 55 21.2
comp=Z,46nm,1.1s
JYT Yasato 66.37 324 P **P** **17 55 22.2 +0.6**
JYT IAmb IAmb 17 55 23.5
comp=Z,37nm,0.9s
BLJI Banyuglugur 66.63 269 P **P** **17 55 23.5 -0.2**
comp=Z,834nmcomp=Z,87nm,0.7s
GMJI Gumukmas 66.63 269 P **P** **17 55 23.1 -0.6**
comp=Z,103nm,0.9s
BBKI Banjar Baru 66.68 274 P **P** **17 55 25.0 +1.0**
comp=Z,51nm,0.8s
JMM Marumori 67.24 326 P **P** **17 55 26.9 -0.1**
JMM IAmb IAmb 17 56 19.0
comp=Z,62nm,1.5s
MTKI Muara Teweh, K 67.41 277 P **P** **17 55 29.0 +0.5**
comp=Z,1µmcomp=Z,23nm,1.0s
JGF Kuroka 67.54 322 P **P** **17 55 28.4 -0.5**
MJAR Matsushiro Arr 67.71 323 P **P** **17 55 29.8 -0.1**
comp=Z,15nm,0.7s,baz=161,slow=5.8,SNR=47
MJAR Matsushiro Arr 67.71 323 P **P** **17 55 29.2 -0.7**
MAJO Matsushiro 67.71 323 P **P** **17 55 29.9 0.0**
MAJO IAmb IAmb 17 55 30.9
comp=Z,19nm,0.9s
MAJO Matsushiro 67.71 323 P **P** **17 55 30.1 +0.2**
MAT Matsushiro 67.71 323 P **P** **17 55 29.9 0.0**
MJB9 Matsu-Tunnel 67.72 323 P **P** **17 55 30.0 +0.1**
MJB9 IAmb IAmb 17 55 30.8
comp=Z,19nm,0.9s
JOW Kunigami 68.02 310 P **P** **17 55 32.9 +0.9**
JOW IAmb IAmb 17 56 16.2
comp=Z,39nm,1.2s
JMN Monobe 68.39 319 P **P** **17 55 34.8 +0.6**
JMN IAmb IAmb 17 55 36.2
comp=Z,38nm,1.1s
KKM Kota Kinabalu 68.57 284 P **P** **17 55 35.9 +0.2**
JSD Sado 68.74 325 P **P** **17 55 36.6 +0.6**
JSD IAmb IAmb 17 56 06.9
comp=Z,132nm,1.7s
PCJI Pacitan 68.81 268 P **P** **17 55 37.4 +0.4**
comp=Z,3µmcomp=Z,334nm,0.8s
JSU Suzuyama 69.23 315 P **P** **17 55 39.6 +0.5**
JSU IAmb IAmb 17 57 47.8
comp=Z,21nm,1.0s
ADK Adak 69.37 1 P **P** **17 55 39.5 +0.1**
ADK IAmb IAmb 17 56 01.9
comp=Z,129nm,1.4s
UGM Wanagama 69.51 268 P **P** **17 55 41.2 -0.1**
comp=Z,259nm,0.6s
UGM Wanagama 69.51 268 P **P** **17 55 41.0 -0.3**
UGM Wanagama 69.51 268 P **P** **17 55 41.1 -0.2**
UWJI Ujung Watu 69.52 270 P **P** **17 55 41.6 +0.3**
comp=Z,96nm,1.0s
JHS Saijyo 69.70 319 P **P** **17 55 42.8 +0.9**
JHS IAmb IAmb 17 55 43.8
comp=Z,36nm,0.8s
YOGI Yogyakarta 69.75 268 P **P** **17 55 42.7 0.0**
comp=Z,141nm,0.7s
SMRI Semarang 69.83 269 P **P** **17 55 43.8 +0.6**
comp=Z,112nm,0.8s
SMRI Semarang 69.83 269 P **P** **17 55 43.2 +0.1**
SMRI Semarang 69.83 269 P **P** **17 55 43.7 +0.6**
comp=Z,111nm,0.8s
PBKI Pangkalan Bun 69.92 274 P **P** **17 55 45.8 +2.1**
comp=Z,1µmcomp=Z,193nm,1.0s
JNU Nakatsue 69.94 316 P **P** **17 55 43.4 0.0**
JNU IAmb IAmb 17 55 44.8
comp=Z,44nm,1.5s
YOJ Yonaguni jima 70.75 305 P **P** **17 55 48.6 +0.3**
NIKH Nikolski High 70.94 6 P **P** **17 55 48.3 -0.4**
STKI Sintang 70.97 276 P **P** **17 55 50.7 +0.9**
comp=Z,6µmcomp=Z,59nm,0.8s
SBUM Sibu 71.05 279 P **P** **17 55 50.9 +0.6**
JKA Kamikawa-asahi 71.08 331 P **P** **17 55 49.9 0.0**
JKA IAmb IAmb 17 55 56.7
comp=Z,113nm,1.9s
TWG Pinlang 71.48 302 P **P** **17 55 51.3 -1.3**
TWG IAmb IAmb 17 55 54.5
comp=Z,158nm,2.0s
CMJI Cimerak 71.52 268 P **P** **17 55 52.6 -0.5**
YULB Yu-li 71.57 303 P **P** **17 55 51.9 -1.2**
YULB IAmb IAmb 17 55 53.3
comp=Z,18nm,0.6s
NACB Ninganchiao 71.72 304 P **P** **17 55 53.5 -0.5**
NACB IAmb IAmb 17 55 54.7
comp=Z,53nm,1.1s
SSLB Suanglung 72.04 303 P **P** **17 55 55.0 -0.9**
SSLB IAmb IAmb 17 55 55.9
comp=Z,35nm,0.5s
SSLB Suanglung 72.04 303 P **P** **17 55 55.2 -0.7**
TPUB Ta-pu 72.06 302 P **P** **17 55 54.9 -1.2**
TPUB Ta-pu 72.06 302 P **P** **17 55 55.2 -0.8**
UNV Unalaska Valle 72.07 7 P **P** **17 55 54.8 -0.5**
YHNB Yeheng 72.14 304 P **P** **17 55 55.9 -0.6**
YHNB IAmb IAmb 17 55 57.5
comp=Z,69nm,1.1s
TATO Taipei 72.20 304 P **P** **17 55 57.0 +0.2**
QSPA South Pole Qui 72.29 180 P **P** **17 55 56.9 +0.2**
comp=Z,34nm,0.8s,baz=6.7,slow=1.5,SNR=18
QSPA South Pole Qui 72.29 180 IAmb IAmb 17 55 58.4
comp=Z,39nm,0.9s
KSM Kuching 72.53 277 P **P** **17 55 59.2 +0.3**

KSM Kuching 72.53 277 P **P** **17 55 59.5 +0.6**
CNJI Cibinong 72.91 268 P **P** **17 56 00.3 -0.8**
PET Petropavlovsk 73.20 346 P **P** **17 56 01.7 -0.1**
PET IAmb IAmb 17 57 08.9
comp=Z,72nm,1.5s
CBJI Citeko 73.42 268 P **P** **17 56 02.8 -1.2**
XMIS Christmas Isla 73.45 264 P **P** **17 56 03.5 -0.7**
XMIS IAmb IAmb 17 56 05.1
comp=Z,33nm,0.8s
DBJI Dramaga 73.48 268 P **P** **17 56 04.0 -0.4**
PEA0B Petropavlovsk- 73.51 345 P **P** **17 56 04.1 +0.5**
PEA0B IAmb IAmb 17 56 51.3
comp=Z,67nm,1.5s
PETK Petropavlovsk- 73.51 345 P **P** **17 56 04.0 +0.4**
comp=Z,2.9nm,0.6s,baz=126,slow=8.2,SNR=19
PETK Petropavlovsk- 73.51 345 P **P** **17 56 03.2 -0.4**
SKJI Sukabumi 73.54 268 P **P** **17 56 04.0 -0.7**
TNG Tangerang 73.69 269 P **P** **17 56 04.3 -1.2**
TPI Tanjungpandan 73.73 272 P **P** **17 56 07.0 +1.2**
comp=Z,374nmcomp=Z,28nm,1.1s
SBJI Serang 74.20 269 P **P** **17 56 10.0 +1.6**
comp=Z,6µmcomp=Z,136nm,1.2s
KNMB Chin-men Tao 74.42 303 P **P** **17 56 08.1 -1.2**
KNMB IAmb IAmb 17 56 11.8
comp=Z,40nm,0.8s
CGJI Cibinong 74.47 268 P **P** **17 56 08.7 -1.2**
KSRS Korea Array 74.50 318 P **P** **17 56 10.8 +1.3**
comp=Z,3.3nm,0.7s,baz=129,slow=6.3,SNR=28
KSAR Wonju Array Be 74.52 318 P **P** **17 56 09.9 +0.3**
KS19 Wonju Array Si 74.57 318 P **P** **17 56 09.8 -0.2**
KS19 IAmb IAmb 17 57 47.0
comp=Z,51nm,1.7s
BLSI Bandar Lampung 75.25 269 P **P** **17 56 13.3 -1.1**
PPBI Pangkal Pinang 75.35 272 P **P** **17 56 15.2 +0.3**
CHIR Chirikof Islan 75.82 13 P **P** **17 56 16.6 +0.1**
KASI Kota Agung 75.92 269 P **P** **17 56 16.7 -1.3**
KLSI 75.94 270 P **P** **17 56 16.6 -1.6**
comp=Z,6.8nm,0.8s
USRK Ussuriysk Ar. 76.42 326 P **P** **17 56 21.3 +1.3**
comp=Z,2.6nm,0.5s,baz=108,slow=4.7,SNR=7.2
USRK Ussuriysk Ar. 76.42 326 P **P** **17 56 20.5 +0.5**
SAO San Andreas Ge 76.42 44 P **P** **17 56 21.6 +1.3**
SAO IAmb IAmb 17 56 22.9
comp=Z,23nm,0.8s
PKM Mcpherson Peak 76.48 46 P **P** **17 56 22.6 +1.7**
baz=237
LWLI Liwa 76.49 269 P **P** **17 56 20.7 -0.6**
comp=Z,61µmcomp=Z,113nm,0.6s
MDSI Maura Dua 76.53 270 P **P** **17 56 20.1 -1.3**
comp=Z,29nm,1.1s
PMPB Monarch Peak 76.54 45 P **P** **17 56 22.5 +1.4**
PMPB IAmb IAmb 17 56 23.8
comp=Z,57nm,1.5s
PAGB Antelope Grade 76.64 45 P **P** **17 56 23.5 +2.0**
KMPM Mount Pierce 76.86 40 P **P** **17 56 24.5 +1.8**
KMPM IAmb IAmb 17 57 50.0
comp=Z,87nm,1.5s
KMRM Mail Ridge 77.00 40 P **P** **17 56 25.0 +1.6**
KMRM IAmb IAmb 17 56 26.0
comp=Z,36nm,0.8s
DSRI Dabo 77.35 274 P **P** **17 56 26.2 +0.4**
comp=Z,20nm,1.3s
MWC Mount Wilson 77.35 48 P **P** **17 56 26.8 +1.1**
MWC IAmb IAmb 17 56 27.3
comp=Z,20nm,0.6s
O02D Mt. Diablo Mer 77.54 40 P **P** **17 56 27.2 +0.9**
O02D Mt. Diablo Mer 77.54 40 P **P** **17 56 28.5 +2.1**
baz=234
OHAK Old Harbor 77.63 14 P **P** **17 56 26.5 +0.2**
OHAK Old Harbor 77.63 14 P **P** **17 56 27.0 +0.7**
baz=205
MURC Murrieta 77.64 49 P **P** **17 56 28.6 +1.6**
baz=239
BFSC Mount Baldy Ra 77.64 48 P **P** **17 56 28.2 +1.1**
baz=238,SNR=5.0
MNAI Manna 77.73 269 P **P** **17 56 28.1 +0.2**
comp=Z,180nm,0.7s
MNAI Manna 77.73 269 P **P** **17 56 27.7 -0.2**
EDW2 Edwards Air Fo 77.74 47 P **P** **17 56 29.2 +1.6**
baz=238,SNR=16
NJ2 Nanjing 77.74 310 *eP* **P** **17 56 28.3 +0.8**
NJ2 pmax pmax
comp=Z,18nm,0.6s
ISA Isabella, Lake 77.82 46 P **P** **17 56 29.2 +1.3**
ISA Isabella, Lake 77.82 46 P **P** **17 56 29.9 +1.9**
baz=238,SNR=16
DLV T Lat 77.82 287 P **P** **17 56 29.3 +0.7**
DLV IAmb IAmb 17 56 30.5
comp=Z,25nm,0.9s
DLV T Lat 77.82 287 P **P** **17 56 28.6 0.0**
MONP2 Monument Peak 77.83 50 P **P** **17 56 30.1 +1.8**
baz=239,SNR=16
CMB Columbia Colle 77.83 43 P **P** **17 56 29.3 +1.3**
JMBI JAMBI 77.89 272 P **P** **17 56 30.4 +1.7**
WDC Whiskeytown Da 77.93 40 P **P** **17 56 29.8 +1.5**
RMX La Rumorosa 77.93 50 P **P** **17 56 29.1 +0.3**
IKP In-Ko-Pah, Jac 77.94 50 P **P** **17 56 30.5 +1.8**
baz=240,SNR=6.7
ORV Oroville 77.98 42 P **P** **17 56 29.7 +1.1**
MDJ Mudanjiang 77.99 325 P **P** **17 56 30.4 +1.8**
MDJ pmax pmax
comp=Z,28nm,0.7s
MDJ pmax pmax
comp=Z,210nm,3.5s
N02D Trinity Center 78.06 40 P **P** **17 56 30.1 +1.0**
N02D IAmb IAmb 17 58 44.0
comp=Z,93nm,2.0s
N02D Trinity Center 78.06 40 P **P** **17 56 31.2 +2.0**
baz=234
PFO Pinyon Flats O 78.17 49 P **P** **17 56 30.1 +0.1**
PFO IAmb IAmb 17 57 09.6
comp=Z,16nm,0.2s
PFO Pinyon Flats O 78.17 49 P **P** **17 56 31.6 +1.6**
baz=239
M02C Callahan 78.22 39 P **P** **17 56 31.5 +1.5**
M02C Callahan 78.22 39 P **P** **17 56 32.1 +2.2**
baz=233
O03E Paynes Creek 78.22 41 P **P** **17 56 30.4 +0.3**
O03E IAmb IAmb 17 56 32.4
comp=Z,41nm,1.4s
O03E Paynes Creek 78.22 41 P **P** **17 56 31.2 +1.1**
baz=234
L02E Cave Junction 78.22 38 P **P** **17 56 31.4 +1.5**
L02E IAmb IAmb 17 57 20.9
comp=Z,149nm,1.9s
LRMC Laurel Mtn Rad 78.27 47 P **P** **17 56 32.0 +1.5**
baz=238,SNR=6.6
KDAK Kodiak Island 78.30 14 P **P** **17 56 30.4 +0.6**
comp=Z,7.8nm,0.5s,baz=203,slow=3.2,SNR=7.2
KDAK Kodiak Island 78.30 14 P **P** **17 56 30.5 +0.6**
SWSC Sam W. Stewart 78.31 50 P **P** **17 56 32.2 +1.6**
baz=240
CWC Cottonwood Cre 78.50 46 P **P** **17 56 33.2 +1.4**
baz=238
YBH Yreka Blue Hor 78.50 39 P **P** **17 56 33.5 +1.9**
SLBS Sierra La Lagu 78.61 61 P **P** **17 56 34.4 +1.9**
BELC Belle Mtn. Jos 78.70 49 P **P** **17 56 34.4 +1.6**
baz=239,SNR=7.9
MPMC Manual Prospec 78.71 46 P **P** **17 56 34.4 +1.5**
baz=238,SNR=9.3
TIN Tinemaha, Big 78.73 45 P **P** **17 56 34.7 +1.9**
baz=238
MYKOM Kota Tinggi 78.74 276 P **P** **17 56 33.5 +0.2**
MYKOM IAmb IAmb 17 56 34.3
comp=Z,24nm,0.6s
MPK Martis Peak 78.77 42 P **P** **17 56 34.6 +1.4**
MPK IAmb IAmb 17 59 39.6
comp=Z,36nm,0.9s
MASI Maura Aman, Be 78.77 270 P **P** **17 56 33.4 -0.1**
comp=Z,84nm,1.3s
GSC Goldstone, Bar 78.79 47 P **P** **17 56 34.8 +1.6**
GSC Goldstone, Bar 78.79 47 P **P** **17 56 34.8 +1.6**
baz=239
HEC Hector,Ludlow 78.88 48 P **P** **17 56 35.0 +1.4**
baz=239
HUMO Hull Mountain 78.88 38 P **P** **17 56 35.4 +2.0**
HUMO IAmb IAmb 17 58 56.3
comp=Z,67nm,1.9s
BC3 Big Chuckawall 78.91 49 P **P** **17 56 36.0 +2.0**
baz=240
PNTR Pine Nut 78.93 43 P **P** **17 56 35.5 +1.4**
PNTR IAmb IAmb 17 56 36.6
comp=Z,37nm,0.9s
VCNR Virginia City 79.01 43 P **P** **17 56 34.3 -0.2**
L04D Klamath Falls 79.03 39 P **P** **17 56 35.6 +1.2**

L04D IAmb IAmb 17 56 36.7
comp=Z,22nm,0.8s
L04D Klamath Falls 79.03 39 P **P 17 56 36.0 +1.6**
baz=234
M04C Macdoel 79.06 40 P **P 17 56 34.8 +0.2**
M04C IAmb IAmb 17 57 35.3
comp=Z,89nm,1.9s
M04C Macdoel 79.06 40 P **P 17 56 36.2 +1.7**
baz=234
GLA Glamis 79.07 50 P **P 17 56 34.6 -0.1**
QSM Queen of Sheba 79.09 47 P **P 17 56 35.2 +0.6**
YERR Yerington 79.11 43 P **P 17 56 35.5 +0.5**
YERR IAmb IAmb 17 56 36.8
comp=Z,24nm,0.6s
LHV Little Huntoon 79.19 44 IAmb IAmb 17 56 38.0
comp=Z,24nm,1.0s
P18K Big Mountain, 79.21 12 IAmb IAmb 17 56 35.2
comp=Z,25nm,0.6s
P18K Big Mountain, 79.21 12 P **P 17 56 34.7 0.0**
baz=203
LCH Last Change Ra 79.22 45 P **P 17 56 35.9 +0.4**
GMRC Granite Mounta 79.33 48 P **P 17 56 37.6 +1.4**
baz=240
FURC Furnace Creek, 79.35 46 P **P 17 56 37.5 +1.5**
baz=238
IRM Iron Mountain 79.39 49 P **P 17 56 38.2 +1.9**
baz=240,SNR=9.0
NVAR Mina Array Bea 79.42 44 P **P 17 56 38.1 +1.5**
comp=Z,11nm,0.8s,baz=225,slow=8.8,SNR=83
NVAR pP **pwP 17 58 38.7 +0.3**
comp=Z,0.9nm,0.9s,baz=229,slow=8.2,SNR=3.0
NVAR Mina Array Bea 79.42 44 P **P 17 56 37.4 +0.8**
TUQ Turquoise Moun 79.47 48 P **P 17 56 38.5 +1.7**
baz=239,SNR=11
RGRI Rengat 79.52 273 P **P 17 56 39.0 +1.6**
comp=Z,17µmcomp=Z,91nm,0.7s
O18K Koktuh Hills 79.64 12 P **P 17 56 37.1 +0.1**
baz=203
J04D Umpqua Nationa 79.75 38 P **P 17 56 39.7 +1.5**
J04D IAmb IAmb 17 56 40.7
comp=Z,59nm,0.8s
J04D Umpqua Nationa 79.75 38 P **P 17 56 40.1 +1.9**
baz=234
CN2 Changchun 79.82 322 *e*P **P 17 56 39.3 +1.0**
CN2 SKS **SKSac 18 06 01.4 -0.2**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,150nm,4.0s
KRJI Kerinci 79.83 271 P **P 17 56 38.4 -0.8**
comp=Z,2µmcomp=Z,46nm,1.1s
BNX BinXian 79.90 325 ⇓P **P 17 56 39.0 +0.4**
BNX pmax pmax
comp=Z,15nm,0.7s
BNX pmax pmax
comp=Z,57nm,5.3s
TPH Tonopah 79.95 45 P **P 17 56 40.3 +0.9**
TPH IAmb IAmb 17 56 41.3
comp=Z,44nm,0.9s
TPNV Topopah Spring 80.02 46 P **P 17 56 41.6 +1.8**
baz=239,SNR=10
214A Organ Pipe Nat 80.04 52 P **P 17 56 41.6 +1.9**
baz=242
MOD Modoc Plateau 80.07 40 IAmb IAmb 17 56 42.1
comp=Z,17nm,0.7s
K05A Summer Lake 80.18 39 P **P 17 56 41.6 +1.2**
K05A IAmb IAmb 17 56 43.1
comp=Z,35nm,1.1s
PDMCI Parker Dam,Lak 80.18 49 P **P 17 56 42.3 +1.9**
baz=241
J05D Fort Rock, OR 80.30 39 P **P 17 56 42.9 +1.9**
baz=234,SNR=12
WHN Wuhan 80.41 306 ⇑P **P 17 56 42.9 +1.2**
BRSE Bradley Lake S 80.48 14 P **P 17 56 41.9 +0.5**
baz=207
H04A Detroit Lake 80.56 37 P **P 17 56 42.6 +0.4**
H04A IAmb IAmb 17 56 43.9
comp=Z,96nm,1.7s
N19K Bonanza Creek 80.67 12 P **P 17 56 42.2 -0.3**
baz=203
W13A Hualapai Mount 80.75 49 P **P 17 56 43.6 0.0**
PINE Pine Mountain 80.77 38 IAmb IAmb 17 56 46.2
comp=Z,24nm,0.8s
E03A Lebam 80.92 35 P **P 17 56 45.3 +1.4**
E03A IAmb IAmb 17 57 36.0
comp=Z,114nm,1.3s
BKNI Bangkinang 80.96 273 P **P 17 56 45.1 +0.2**
comp=Z,55nm,0.5s
BKNI Bangkinang 80.96 273 P **P 17 56 44.9 -0.1**
BKNI IAmb IAmb 17 56 46.8
comp=Z,99nm,1.1s
PRN Pahroc Range 81.08 46 IAmb IAmb 17 56 48.1
comp=Z,17nm,0.9s
WISH Wishkah 81.16 34 P **P 17 56 47.0 +1.9**
R11A Troy Canyon, C 81.19 45 P **P 17 56 47.3 +1.4**
baz=239,SNR=7.0
BMN Battle Mountai 81.20 43 P **P 17 56 45.8 0.0**
BMN IAmb IAmb 17 56 48.2
comp=Z,21nm,1.0s
PPI Padang Panjang 81.33 272 P **P 17 56 47.4 +0.6**
comp=Z,21nm,0.7s
SMAI San Martin Ant 81.34 159 P **P 17 56 47.1 +1.4**
SMAI IAmb IAmb 17 59 27.7
comp=Z,82nm,1.7s
WVOR Wild Horse Val 81.39 40 IAmb IAmb 17 56 49.2
comp=Z,26nm,1.1s
SPU Mount Spurr 81.50 13 P **P 17 56 46.1 -0.6**
M19K Big River Lodg 81.69 11 P **P 17 56 47.9 +0.3**
baz=203
TUC Tucson 81.72 52 P **P 17 56 49.9 +1.4**
TUC Tucson 81.72 52 P **P 17 56 50.7 +2.2**
baz=243
UBPT Khong Chiam 81.75 289 IAmb IAmb 17 56 50.0
comp=Z,13nm,0.7s
I07A Izee 81.78 39 IAmb IAmb 17 56 51.1
comp=Z,17nm,0.8s
L19K White Mountain 81.87 11 P **P 17 56 49.5 +1.1**
baz=203
J08A Circle Bar Ran 82.00 40 IAmb IAmb 17 56 52.1
comp=Z,38nm,1.3s
PWL Port Wells 82.04 14 P **P 17 56 49.3 0.0**
baz=209
LCMT Little Creek M 82.14 47 P **P 17 56 51.3 +0.7**
X16A Lo Mia Camp, P 82.20 50 P **P 17 56 52.3 +1.3**
X16A IAmb IAmb 17 59 38.6
comp=Z,37nm,0.6s
BBB Bella Bella 82.26 29 P **P 17 56 51.7 +1.1**
comp=Z,18nm,0.9s,baz=198,slow=5.1,SNR=1.4
IPM Ipoh 82.26 277 P **P 17 56 51.4 -0.2**
IPM IAmb IAmb 17 56 53.1
comp=Z,45nm,0.8s
IPM Ipoh 82.26 277 P **P 17 56 52.1 +0.5**
SISI Saibi 82.31 271 P **P 17 56 52.6 +0.8**
comp=Z,28nm,0.6s
L20K Farewell, AK 82.32 11 P **P 17 56 51.0 +0.3**
baz=204
GLI Glacier Island 82.35 15 P **P 17 56 51.1 +0.1**
baz=210
TTA Tatalina 82.36 10 P **P 17 56 51.6 +0.6**
TTA IAmb IAmb 17 57 06.5
comp=Z,45nm,1.9s
TTA Tatalina 82.36 10 P **P 17 56 51.8 +0.8**
baz=202
M22K Willow 82.42 13 IAmb IAmb 17 56 52.5
comp=Z,46nm,1.0s
M22K Willow 82.42 13 P **P 17 56 51.4 +0.2**
baz=207
KNB Kanab 82.44 47 P **P 17 56 53.2 +1.1**
KNB IAmb IAmb 18 00 12.8
comp=Z,13nm,0.5s
MNSI Mandailing Nat 82.49 273 P **P 17 56 51.9 -0.8**
comp=Z,18nm,0.5s
KNK Knik Glacier 82.49 14 P **P 17 56 52.1 +0.4**
baz=209
PMR Palmer 82.50 14 P **P 17 56 51.7 +0.1**
baz=208
U15A North Rim 82.53 48 P **P 17 56 54.4 +1.6**
U15A IAmb IAmb 18 00 06.6
comp=Z,21nm,0.7s
ELK Elko 82.65 43 P **P 17 56 54.0 +0.8**
GHO Glory Hole Cre 82.70 14 IAmb IAmb 17 56 53.7
comp=Z,32nm,0.6s
WUAZ Wupatki 82.76 49 P **P 17 56 54.8 +1.0**
WUAZ Wupatki 82.76 49 P **P 17 56 55.8 +2.0**
baz=242
G08A Pilot Rock 82.78 38 IAmb IAmb 17 56 55.8
comp=Z,26nm,1.3s

KULM Kulim 82.88 278 P **P 17 56 55.0 +0.4**
KULM IAmb IAmb 17 56 56.3
comp=Z,19nm,0.9s
DIV Divide 82.90 15 P **P 17 56 53.9 +0.1**
DIV IAmb IAmb 17 56 54.3
comp=Z,18nm,0.8s
CUT Chulitna 82.97 13 P **P 17 56 54.2 +0.3**
baz=207
E07A Sunnyside 82.99 36 IAmb IAmb 17 56 56.3
comp=Z,13nm,0.6s
PKCU Pink Cliffs 83.00 47 P **P 17 56 56.7 +1.6**
PKCU IAmb IAmb 18 00 14.4
comp=Z,22nm,0.6s
BMRM Bremner River 83.06 16 P **P 17 56 54.5 0.0**
baz=212
HAWA Hanford 83.08 37 IAmb IAmb 17 56 56.8
comp=Z,14nm,0.6s
K20K Telida 83.09 11 P **P 17 56 55.3 +0.7**
baz=203
SCM Sheep Creek Mo 83.13 14 P **P 17 56 55.0 +0.1**
SCM IAmb IAmb 17 56 55.9
comp=Z,37nm,0.7s
SCM Sheep Creek Mo 83.13 14 P **P 17 56 55.2 +0.4**
baz=210,SNR=6.4
KLU Klutina 83.17 15 P **P 17 56 55.5 +0.3**
baz=211
HNS HongShan 83.32 313 ⇑P **P 17 56 57.8 +1.5**
HNS pmax pmax
comp=Z,13nm,1.2s
YAH Yahtse 83.34 17 P **P 17 56 56.5 +0.3**
YAH IAmb IAmb 17 58 10.0
comp=Z,139nm,1.8s
MTPU Mount Pierson 83.37 47 IAmb IAmb 18 00 14.6
comp=Z,17nm,0.6s
E08A Dider Farm, El 83.40 37 P **P 17 56 57.3 +0.8**
TNA Tin City 83.46 4 P **P 17 56 57.6 +1.3**
baz=190
CAST Castle Rocks 83.52 12 IAmb IAmb 17 56 56.5
comp=Z,16nm,0.8s
CAST Castle Rocks 83.52 12 P **P 17 56 56.0 -0.8**
baz=205,SNR=9.8
BMO Blue Mountains 83.52 39 P **P 17 56 57.1 -0.2**
BMO IAmb IAmb 17 56 59.2
comp=Z,40nm,2.0s
BJI Beijing 83.58 315 P **P 17 56 58.4 +0.9**
BJI pmax pmax
comp=Z,12nm,0.9s
N25K Chitina, Valde 83.60 16 P **P 17 56 57.1 -0.2**
N25K IAmb IAmb 17 56 58.5
comp=Z,22nm,0.7s
N25K Chitina, Valde 83.60 16 P **P 17 56 57.8 +0.6**
baz=212,SNR=8.2
SEY Seymchan 83.61 347 P **P 17 56 57.5 +0.4**
comp=Z,1.5nm,0.4s,baz=158,slow=5.8,SNR=22
LYN LuoYang 83.63 309 ⇓P **P 17 56 59.1 +1.2**
LYN pmax pmax
comp=Z,20nm,0.7s
M24K Tolsona, Glenn 83.64 15 P **P 17 56 58.4 +1.0**
baz=211
GLB Gilahina Butte 83.67 16 P **P 17 56 57.3 -0.3**
GLB IAmb IAmb 17 56 58.6
comp=Z,119nm,1.8s
WAT6 Susitna Watana 83.68 14 P **P 17 56 57.8 +0.1**
baz=209,SNR=6.2
WAT1 Susitna Watana 83.72 13 P **P 17 56 57.7 -0.1**
baz=209
D08A Wollman Farm, 83.80 36 IAmb IAmb 17 57 00.2
comp=Z,12nm,0.7s
J20K Nowinta River 83.83 10 P **P 17 56 58.8 +0.5**
baz=203
CHUM Lake Minchumin 83.90 11 P **P 17 56 58.2 -0.3**
baz=205
TRF Thorofare Moun 83.90 12 P **P 17 56 58.5 -0.2**
TRF IAmb IAmb 17 57 00.3
comp=Z,28nm,0.9s
TRF Thorofare Moun 83.90 12 P **P 17 56 58.6 -0.2**
baz=207,SNR=8.2
BARN Barnard Glacie 83.93 17 IAmb IAmb 17 57 00.5
comp=Z,16nm,0.8s
MAW Mawson 83.94 200 P **P 17 56 59.4 +0.5**
comp=Z,13nm,0.5s,baz=152,slow=4.3,SNR=22
MAW Mawson 83.94 200 P **P 17 56 59.4 +0.5**
baz=84,SNR=17
MAW Mawson 83.94 200 P **P 17 56 59.3 +0.5**
MAW IAmb IAmb 18 00 04.5
comp=Z,34nm,2.0s
CTG Chitna Glacier 83.95 17 P **P 17 56 59.7 +0.6**
baz=215
PMSA Palmer Station 83.99 157 P **P 17 56 60.0 +0.8**
121A Cookes Peak, D 84.10 53 IAmb IAmb 17 58 57.8
comp=Z,22nm,0.6s
121A Cookes Peak, D 84.10 53 P **P 17 57 02.8 +2.2**
baz=245
HARP HAARP 84.14 15 P **P 17 57 00.3 +0.5**
baz=212
RND Reindeer 84.16 13 P **P 17 57 00.1 +0.2**
RND IAmb IAmb 17 57 00.9
comp=Z,20nm,0.6s
F10A Beach Ranch, E 84.17 38 IAmb IAmb 17 57 02.3
comp=Z,27nm,1.1s
DHY Denali Highway 84.20 14 P **P 17 57 00.3 +0.1**
baz=210
B08A Colville Reser 84.30 35 P **P 17 57 01.5 +0.5**
MCK McKinley 84.43 13 IAmb IAmb 17 57 02.1
comp=Z,19nm,1.0s
MCK McKinley 84.43 13 P **P 17 57 01.4 +0.1**
baz=208
Q16A Castle Valley 84.48 46 IAmb IAmb 18 00 21.1
comp=Z,22nm,0.6s
PAX Paxson 84.55 15 P **P 17 57 01.7 -0.2**
baz=212
GSI Gunungsitoli 84.55 273 P **P 17 57 03.9 +0.9**
GSI Gunungsitoli 84.55 273 P **P 17 57 03.9 +0.9**
GSI Gunungsitoli 84.55 273 P **P 17 57 04.2 +1.2**
HLID Hailey 84.61 41 P **P 17 57 04.1 +1.3**
HLID Hailey 84.61 41 P **P 17 57 04.4 +1.6**
baz=239,SNR=13
M26K Nabesna, AK 84.68 16 P **P 17 57 03.2 +0.6**
baz=214
HVU Hansel Valley 84.78 43 P **P 17 57 04.8 +1.2**
GYA Guiyang 84.84 300 ⇓P **P 17 57 05.1 +0.9**
GYA pmax pmax
comp=Z,17nm,0.9s
YUK3 Moose Creek 84.85 17 P **P 17 57 04.2 +0.7**
baz=216,SNR=5.9
SRIT Nakonsritamara 84.91 281 IAmb IAmb 17 57 07.3
comp=Z,43nm,0.8s
M27K Edge Creek, AK 84.94 16 P **P 17 57 04.6 +0.7**
baz=215
L26K Log Cabin Wild 85.12 15 P **P 17 57 05.3 +0.8**
baz=213
I21K Tanana 85.14 11 P **P 17 57 05.3 +0.8**
baz=205
BVCY Beaver Creek 85.26 17 P **P 17 57 06.4 +1.1**
baz=216,SNR=6.0
WRH Wood River Hil 85.26 13 IAmb IAmb 17 57 06.6
comp=Z,15nm,1.0s
SLVN Son La 85.30 294 P **P 17 57 06.4 -0.1**
H21K Melozitna Rive 85.42 10 P **P 17 57 06.4 +0.4**
baz=204
P18A Preston Nutter 85.45 46 IAmb IAmb 18 00 23.9
comp=Z,31nm,0.6s
CCB Clear Creek Bu 85.48 13 IAmb IAmb 17 58 22.9
comp=Z,9.9nm,0.5s
NEW Newport 85.48 36 P **P 17 57 07.0 +0.3**
baz=237
XLT XiLinHaoTe 85.55 319 *e*P **P 17 57 07.5 +0.3**
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,180nm,3.7s
MNTX Cornudas Mount 85.61 55 P **P 17 57 09.5 +1.8**
baz=246
BCYI Bear Canyon 85.62 41 P **P 17 57 08.4 +0.7**
DLBC Dease Lake 85.76 23 P **P 17 57 08.8 +1.0**
comp=Z,3.5nm,0.7s,baz=229,slow=4.7,SNR=5.6
SCRK Sand Creek 85.76 15 P **P 17 57 08.2 +0.4**
baz=213
ILAR Eielson Array 85.78 13 P **P 17 57 07.2 -0.5**
comp=Z,3.3nm,0.4s,baz=222,slow=5.2,SNR=79
POKR Poker Flat Res 85.97 13 P **P 17 57 08.3 -0.3**
baz=210
J25K Salcha River, 85.98 14 P **P 17 57 09.0 +0.2**
baz=212
TX31 Lajitas Ar. Si 86.04 58 IAmb IAmb 17 57 13.2
comp=Z,35nm,0.9s
TX32 Lajitas Array 86.04 58 IAmb IAmb 17 57 13.2
comp=Z,12nm,0.9s
TXAR Lajitas Array 86.04 58 P **P 17 57 12.2 +2.3**
comp=Z,7.4nm,0.7s,baz=218,slow=6.4,SNR=41
TXAR Lajitas Array 86.04 58 P **P 17 57 11.3 +1.4**
XAN Xi'an 86.06 307 P **P 17 57 11.0 +1.2**
XAN pmax pmax
comp=Z,49nm,1.0s
ANMO Albuquerque 86.12 52 P **P 17 57 10.8 +0.5**
ANMO Albuquerque 86.12 52 P **P 17 57 11.3 +1.1**
baz=245
J26L Joseph Creek 86.30 14 P **P 17 57 11.3 +1.0**
baz=213
M30M Minto, Yukon 86.54 18 P **P 17 57 12.0 +0.6**
baz=219
MSO Missoula 86.56 38 P **P 17 57 12.9 +0.9**
baz=240
REDW Red Top Meadow 86.78 43 P **P 17 57 14.2 +1.0**
M31M Drury Creek, Y 86.99 19 P **P 17 57 13.6 +0.1**
baz=222
DAWY Dawson 86.99 16 P **P 17 57 14.2 +0.7**
baz=217
S22A 4UR Ranch, Cre 87.02 49 P **P 17 57 15.9 +1.3**
baz=245
MOOW Moose Ponds 87.03 42 IAmb IAmb 17 57 16.8
comp=Z,24nm,1.9s
O20A White River Ci 87.06 46 P **P 17 57 15.7 +1.2**
baz=244
LOHW Long Hollow 87.06 42 IAmb IAmb 17 57 16.7
comp=Z,31nm,1.7s
HHC Hu-ho-hao-te 87.07 315 *e*P **P 17 57 15.9 +1.4**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,160nm,6.2s
QLMT Earthquake Lak 87.11 41 P **P 17 57 16.6 +1.9**
EGAK Eagle 87.11 15 P **P 17 57 14.5 +0.5**
baz=215
FLWY Flagg Ranch 87.22 42 IAmb IAmb 17 57 18.1
comp=Z,16nm,1.0s
COLD Coldfoot 87.30 11 P **P 17 57 15.5 +0.7**
baz=207
YMR Madison River 87.32 41 IAmb IAmb 17 57 18.7
comp=Z,9.9nm,0.9s
BW06 Boulder Array 87.34 43 P **P 17 57 17.0 +1.1**
baz=243
PDAR Pinedale Array 87.35 43 P **P 17 57 16.6 +0.7**
comp=Z,5.1nm,0.5s,baz=217,slow=3.3,SNR=64
PDAR PP **PP 18 00 49.9 -1.3**
comp=Z,2.3nm,1.0s,baz=233,slow=7.1,SNR=7.1
PDAR PKKPbc **PKKPdf 18 15 00.5 +2.7**
comp=Z,0.2nm,0.4s,baz=64,slow=3.4,SNR=3.6
H17A Grant Village 87.44 42 P **P 17 57 18.9 +2.6**
baz=242,SNR=7.3
MAYO Mayo, Yukon 87.59 18 P **P 17 57 17.6 +1.3**
baz=220
LKWY Lake 87.63 42 P **P 17 57 19.4 +2.2**
I29M Ogilvie Camp, 88.31 16 pP 17 59 19.2 -2.8
MSTX Muleshoe 88.52 54 IAmb IAmb 17 57 23.3
comp=Z,12nm,0.9s
MSTX Muleshoe 88.52 54 P **P 17 57 22.3 +0.9**
baz=247
RLMT Red Lodge 88.60 41 P **P 17 57 23.1 +1.5**
baz=243
CM31 Chiang Mai Arr 88.70 290 P **P 17 57 22.9 +0.4**
CM31 IAmb IAmb 17 57 24.9
comp=Z,20nm,1.0s
CMAR Chiang Mai Arr 88.70 290 P **P 17 57 23.8 +1.3**
comp=Z,11nm,0.9s,baz=111,slow=2.8,SNR=85
CMAR PP **PP 18 01 00.1 -2.0**
comp=Z,1.0nm,0.8s,baz=114,slow=6.2,SNR=4.1
CHTO Chiang Mai 88.82 290 P **P 17 57 23.2 +0.2**
CHTO IAmb IAmb 17 57 25.0
comp=Z,14nm,0.8s
CHTO Chiang Mai 88.82 290 P **P 17 57 24.1 +1.1**
CD2 Chengdu 88.87 303 P **P 17 57 24.4 +1.3**
N23A Red Feather La 88.96 46 P **P 17 57 25.2 +1.6**
baz=245
PZH PanZhiHua 88.97 298 P **P 17 57 25.3 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.7s
LZH Lanzhou 90.69 308 *e*P **P 17 57 32.9 +1.4**
LZH sP sP 18 00 28.6 -3.1
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,85nm,4.3s
SNAA Sanae 90.74 179 P **P 17 57 30.6 -0.4**
SNAA Sanae 90.74 179 P **P 17 57 30.4 -0.6**
SNAA IAmb IAmb 17 57 31.4
comp=Z,27nm,1.3s
VNA3 Neumayer Olymp 90.89 176 P **P 17 57 31.7 0.0**
VNA3 Neumayer Olymp 90.89 176 PKiKP **PKiKP 18 02 21.7 +0.8**
VNA3 Neumayer Olymp 90.89 176 pP pP 17 59 33.8 -1.2
LAO LASA Array 91.20 41 IAmb IAmb 17 57 36.3
comp=Z,10nm,0.8s
LAO LASA Array 91.20 41 P **P 17 57 35.4 +1.9**
baz=245
VNA2 Neumayer--Watz 91.33 177 P **P 17 57 33.5 -0.1**
baz=171,slow=4.7
VNA2 Neumayer--Watz 91.33 177 PKiKP **PKiKP 18 02 22.8 +1.2**
VNA2 Neumayer--Watz 91.33 177 pP pP 17 59 35.8 -1.1
baz=318,slow=11
PLCA Paso Flores 91.53 134 P **P 17 57 36.9 +1.6**
comp=Z,1.5nm,1.0s,baz=270,slow=2.0,SNR=2.1
VNA1 Neumayer--Stat 91.56 177 P **P 17 57 35.1 +0.5**
VNA1 Neumayer--Stat 91.56 177 pP pP 17 59 36.4 -1.4
RSSD Black Hills 91.56 44 P **P 17 57 35.5 +0.1**
RSSD IAmb IAmb 17 57 37.0
comp=Z,5.4nm,0.8s
RSSD Black Hills 91.56 44 P **P 17 57 36.3 +0.9**
baz=247
INK Inuvik 91.78 15 P **P 17 57 35.4 -0.2**
comp=Z,2.9nm,0.6s,baz=196,slow=2.4,SNR=15
INK Inuvik 91.78 15 IAmb IAmb 17 59 07.2
comp=Z,15nm,1.6s
INK Inuvik 91.78 15 P **P 17 57 35.2 -0.3**
baz=222
ULN Ulaanbaatar 92.96 320 P **P 17 57 41.8 +0.1**
ULN IAmb IAmb 17 57 42.9
comp=Z,4.9nm,0.8s
DGMT Dagmar 93.18 40 P **P 17 57 44.0 +1.5**
baz=247
SONM Songino Array 93.35 319 P **P 17 57 43.0 -0.4**
comp=Z,0.9nm,0.5s,baz=128,slow=4.8,SNR=8.2
YKA Yellowknife Ar 94.26 25 P **P 17 57 47.1 +0.1**
comp=Z,2.1nm,0.8s,baz=234,slow=4.6,SNR=20
YKA PP **PP 18 01 38.7 -5.4**
comp=Z,1.1nm,1.0s,baz=236,slow=7.6,SNR=3.7
YKA PKKPbc **PKKPdf 18 14 43.9 -2.0**
comp=Z,0.3nm,0.4s,baz=47,slow=2.2,SNR=8.3
GTA Gaotai 94.84 310 ⇑P **P 17 57 51.0 +0.6**
GTA pmax pmax
comp=Z,5.0nm,0.9s
KSU1 Kansas State U 94.97 51 P **P 17 57 52.7 +1.9**
baz=251
TIXI Tiksi 95.98 345 P **P 17 57 53.5 -1.1**
comp=Z,0.6nm,0.7s,baz=58,slow=1.0,SNR=4.5
A36M Sachs Harbour 96.38 15 Pdiff **P 17 57 56.7 +0.3**
baz=230
ECSD EROS Data Cent 96.44 46 Pdiff **P 17 57 57.4 0.0**
baz=252
ZALV Zalesovo Beam 108.03 322 PKiKP **PKiKP 18 02 50.9 -1.0**
comp=Z,2.1nm,0.6s,baz=124,slow=1.2,SNR=15
MKAR Makanchi Array 108.94 314 Pdiff **Pdif 17 58 55.0 +2.1**
comp=Z,0.2nm,0.6s,baz=91,slow=5.5,SNR=5.9
MKAR PKiKP **PKiKP 18 02 53.0 -0.9**
comp=Z,2.5nm,0.5s,baz=178,slow=0.6,SNR=69
MKAR PP **PP 18 03 30.8 -2.2**
comp=Z,1.1nm,1.1s,baz=99,slow=6.3,SNR=4.3
MKAR PKKPbc **PKKPbc 18 14 02.7 -1.5**
comp=Z,0.3nm,0.6s,baz=266,slow=8.1,SNR=3.6
KURK Kurchatov 111.63 318 PKiKP **PKiKP 18 02 57.6 -1.1**
BRVK Borovoye 116.71 321 **PKPdf 18 03 07.4 -1.1**
KKAR Karatay Array 117.12 310 **PKPdf 18 03 08.4 -1.2**
SPITS Spitsbergen Ar 119.12 357 PKP **PKPdf 18 03 11.9 -0.5**
comp=Z,11nm,1.0s,baz=100,slow=4.3,SNR=6.6
ARU Arti 122.66 326 **PKPdf 18 03 19.1 -0.7**
ABKAR Akbulak array 123.73 318 **PKPdf 18 03 21.1 -0.9**
ARCES ARCESS Array B 126.15 350 PKP **PKPdf 18 03 25.9 -0.2**
comp=Z,4.0nm,0.8s,baz=43,slow=0.2,SNR=27
GEYT Alibeck 126.84 304 PKP **PKPdf 18 03 28.4 0.0**
comp=Z,4.4nm,0.7s,baz=135,slow=4.3,SNR=5.8
BOSA Boshof 128.46 207 PKP **PKPdf 18 03 31.9 -0.1**
comp=Z,3.7nm,0.8s,baz=35,slow=4.1,SNR=4.6
KLMR Klimovskoe 129.17 337 *e*PKPdf **PKPdf 18 03 31.4 -0.7**

KLMR AMP 18 03 32.8
comp=Z,5.0nm,0.7s
FINES FINESS Array B 133.01 344 PKhKP PKPpre 18 03 24.2
comp=Z,1.6nm,0.9s,baz=324,slow=5.5,SNR=4.9
FINES SKPbc **SKPbc 18 06 15.9 +1.3**
comp=Z,3.0nm,0.8s,baz=45,slow=3.0,SNR=7.7
NB2 NORSAR Subarra136.22 353 PKP PKPdf 18 03 36.7 -8.7
comp=Z,4.2nm,1.7s,baz=17,slow=2.6
NOA NORSAR Array B 136.22 353 PKhKP PKPpre 18 03 35.9
comp=Z,0.9nm,1.0s,baz=227,slow=9.5,SNR=1.9
NOA PKP **PKPdf 18 03 45.5 +0.1**
comp=Z,0.9nm,0.7s,baz=13,slow=4.1,SNR=6.2
NOA SKPbc **SKPbc 18 06 26.3 +1.5**
comp=Z,2.2nm,1.0s,baz=16,slow=4.5,SNR=4.2
NACGM Naroch 138.16 338 *i* PKP **PKPdf 18 03 49.0 -0.1**
RAYN Ar Rayn 138.50 286 PKPpre 18 03 42.6
RAYN PKPdf **PKPdf 18 03 51.7 +1.0**
GURO Guroymak-BITLI 139.08 309 **PKPdf 18 03 49.5 -1.9**
KMBO Kilima Mbogo 140.06 246 PKP **PKiKP 18 03 56.0 -0.8**
comp=Z,11nm,0.3s,baz=8.0,slow=0.9,SNR=4.2
KMBO SKPab **SKPab 18 06 49.3 -1.0**
comp=Z,49nm,0.8s,baz=54,slow=0.5,SNR=7.4
KMBO Kilima Mbogo 140.06 246 PKPdf **PKPdf 18 03 52.6 -1.5**
AKASG Malin Array Be 140.37 332 PKhKP PKPpre 18 03 46.5
comp=Z,1.3nm,0.3s,baz=44,slow=3.9,SNR=20
AKASG PKP **PKiKP 18 03 54.8 -1.2**
comp=Z,1.9nm,0.3s,baz=41,slow=3.1,SNR=14
AKASG SKPbc **SKPbc 18 06 37.2 +0.5**
comp=Z,0.6nm,0.6s,baz=38,slow=4.0,SNR=4.3
SORM Soroca 142.60 330 ⇑P **PKPdf 18 03 54.5 -2.8**
PURM Purcari 142.94 327 ⇓P **PKPdf 18 03 56.1 -1.8**
GAZ Gaziantep 143.13 309 PKPab 18 03 55.8 -0.8
BZK Bozkurt 143.23 318 ⇓P **PKPdf 18 03 57.9 -0.6**
BSEG Bad Segeberg 143.25 351 *e*PKPbc PKPbc 18 03 57.3 +0.6
baz=18,slow=1.9
BNN Bunyan 143.45 312 PKPbc 18 03 58.1 +0.1
LEOM Leova 143.80 328 ⇑P **PKPdf 18 03 59.4 0.0**
KWP Kalwaria Pacla 143.88 336 PKPbc 18 03 58.6 -0.2
VASR Vaslui 143.91 329 ⇓P **PKPdf 18 03 60.0 +0.3**
BIR Birlad 144.26 328 ⇓P **PKPab 18 04 01.4 +1.0**
VLDR Vladesti 144.32 328 ⇓P **PKPab 18 04 01.5 +0.8**
TLCR 144.38 326 ⇓P **PKPab 18 04 01.3 +0.4**
BURAR Bucovina Array 144.42 332 ⇑P **PKPab 18 04 01.9 +0.7**
OJC Ojcow 144.43 340 *e*PKP **PKPab 18 04 01.0 0.0**
OJC Ojcow 144.43 340 PKPdf 18 03 59.8 -0.6
SCTR Scanteiesti 144.48 327 ⇑P **PKPab 18 04 02.1 +0.8**
GHRR 144.51 328 ⇓P **PKPab 18 04 02.5 +1.1**
RETH Rethem/Aller, 144.55 352 *e*PKPbc **PKPab 18 04 01.4 +0.1**
baz=18,slow=1.9
TESR Tescani 144.56 330 ⇑P **PKPab 18 04 01.5 -0.1**
BR131 Keskin Array S 144.58 315 **PKPdf 18 04 00.9 -0.3**
BRTR Keskin Array B 144.58 315 PKP PKPbc 18 04 01.6 +0.1
comp=Z,12nm,0.5s,baz=117,slow=1.9,SNR=96
BRTR Keskin Array B 144.58 315 **PKPdf 18 04 00.7 -0.5**
FLTG Flechtingen 144.66 350 *e*PKPbc PKPbc 18 04 01.2 +0.2
baz=18,slow=1.9
NRDL Niedersach Rie 144.68 351 *e*PKPbc PKPbc 18 04 01.3 +0.2
baz=18,slow=1.9
IZVR Izvoarele 144.68 327 ⇑P **PKPab 18 04 02.5 +0.4**
CFR Carcaliu 144.74 327 ⇑P **PKPab 18 04 02.3 0.0**
TPGR Topolog 144.80 326 ⇓P **PKPab 18 04 02.5 -0.1**
KSP Ksiaz 144.93 344 *e*PKP **PKPab 18 04 03.0 +0.2**
NIE Niedzica 144.94 338 *e*PKP **PKPab 18 04 03.9 +0.9**
CRVS Cervenica-Dubn 144.95 337 *e*PKP **PKPab 18 04 02.9 -0.1**
VRI Vrincioaia 144.99 329 ⇓P **PKPab 18 04 02.9 -0.4**
PLOR Plostina 145.03 329 ⇓P **PKPbc 18 04 02.9 +0.4**
TIRR Tirgusor 145.07 325 ⇑P **PKPdf 18 04 01.0 -0.7**
BMR Baia Mare 145.13 334 ⇑P **PKPbc 18 04 02.7 0.0**
HARR Harsova 145.18 326 ⇑P **PKPab 18 04 04.0 0.0**
ARCR ARCALIA 145.21 332 ⇓P **PKPab 18 04 04.1 0.0**
TLBR Topalu 145.21 326 ⇑P **PKPab 18 04 04.0 -0.2**
OSTC Ostas 145.22 343⇑*e*PKP **PKPab 18 04 03.7 -0.3**
CHVC Chvalec 145.23 344⇑*e*PKP **PKPab 18 04 03.6 -0.5**
MFTR Murfatlar 145.25 325 ⇓P **PKPdf 18 04 01.6 -0.4**
COVR Voineasa-Covas 145.26 329 ⇑P **PKPbc 18 04 03.5 +0.3**
CLZ Clausthal 145.27 350 *e*PKPbc **PKPbc 18 04 03.6 +0.6**
baz=18,slow=1.9
OZUR 145.28 330 ⇑P **PKPab 18 04 04.3 -0.1**
CLL Collm 145.29 347 ⇓*i*PKPbc **PKPbc 18 04 03.5 +0.5**
comp=Z,37nm,1.3s
CLL *e*pPKiKP **pPKiKP 18 06 17.0 -0.5**
CLL *e*SKPbc **SKiKP 18 06 50.0 +1.1**
CLL Collm 145.29 347 *e*PKPbc **PKPbc 18 04 03.4 +0.4**
baz=18,slow=1.9
UPC Upice 145.31 344⇑*e*PKP **PKPab 18 04 03.9 -0.5**
DPC Dobruska-Polom 145.37 343⇑*e*PKP **PKPab 18 04 04.3 -0.4**
MANR Mangalia 145.39 324 ⇓P **PKPdf 18 04 02.2 0.0**
LANS Liptovska Anna 145.46 339 *e*PKP **PKPab 18 04 05.1 +0.1**
KRLC Kraliky 145.49 342⇑*e*PKP **PKPbc 18 04 04.4 +0.7**
BRG Berggiesshubel 145.49 346 *e*PKP **PKPbc 18 04 03.0 -0.7**
BRG Amp 18 04 05.8
comp=Z,14nm,1.1s
BRG Berggiesshubel 145.49 346 *e*PKPbc **PKPbc 18 04 04.1 +0.5**
baz=18,slow=1.9
NEHR Nehoiu 145.51 328 ⇓P **PKPdf 18 04 01.4 -1.1**
MORC Moravsky Berou 145.53 341 ⇑P **PKPdf 18 04 02.6 +0.2**
MORC Moravsky Berou 145.53 341 *e*PKP **PKPbc 18 04 04.3 +0.5**
MORC Moravsky Berou 145.53 341 **PKPdf 18 04 02.4 0.0**
DOPR Dopca 145.56 330 ⇑P **PKPab 18 04 05.4 -0.1**
FBE Freiberg 145.58 347 *e*PKPbc **PKPab 18 04 04.8 -0.6**
baz=18,slow=1.9
ISR Istrita 145.60 328 ⇓P **PKPab 18 04 05.6 -0.2**
MLR Muntele Rosu 145.64 329 ⇑P **PKPbc 18 04 04.8 +0.4**
MLR Muntele Rosu 145.64 329 **PKPdf 18 04 02.4 -0.4**
KECS Kecovo 145.66 337 *e*PKP **PKPbc 18 04 04.9 +0.7**
PVCC Panska Ves 145.67 345⇑*e*PKP **PKPab 18 04 05.1 -0.6**
CJR Cluj-Napoca 145.83 332 ⇓P **PKPab 18 04 05.8 -0.7**
MBAR Mbarara 145.88 241 **PKPbc 18 04 06.0 0.0**
SECR 145.90 328 ⇓P **PKPbc 18 04 05.7 +0.7**
LEHL Lehliu 145.91 327 ⇓P **PKPab 18 04 05.9 -0.9**
LTVH Ltavrtes, Hu 146.01 335 ⇓P **PKPab 18 04 06.4 -0.8**
LTVH Ltavrtes, Hu 146.01 335 PKPDF **PKPdf 18 04 02.9 -0.3**
LTVH Ltavrtes, Hu 146.01 335 ⇑PKPB 18 04 06.5
SULR 146.06 328 ⇓P **PKPab 18 04 07.6 +0.1**
VOIR 146.11 330 ⇓P **PKPbc 18 04 06.2 +0.5**
DRGR 146.15 333 ⇓P **PKPbc 18 04 06.3 +0.6**
PRU Pruhonice 146.17 345⇑*e*PKP **PKPbc 18 04 06.2 +0.6**
VRAC Vranov 146.23 342 ⇑P **PKPbc 18 04 06.8 +1.0**
VRAC Vranov 146.23 342 *e*PKP **PKPbc 18 04 06.3 +0.5**
VYHS Vyhne 146.24 339 *e*PKP **PKPbc 18 04 06.8 +1.0**
WERD Werda 146.25 347 *e*PKPbc **PKPbc 18 04 06.3 +0.5**
baz=18,slow=1.9
JAVC Velka Javorina 146.30 341 *e*PKP **PKiKP 18 04 07.7 -0.6**
GUNZ Gunzen 146.33 347 *e*PKPbc **PKPbc 18 04 06.7 +0.7**
baz=18,slow=1.9
PSZ Piszkesteto 146.35 337 ⇓P **PKPbc 18 04 06.8 +0.6**
PSZ Piszkesteto 146.35 337 **PKPbc 18 04 05.2 -1.0**
PSZ Piszkesteto 146.35 337 ⇑PKPB 18 04 05.6
PSZ PKIKP **PKPbc 18 04 07.0 +0.8**
ARR Arges 146.36 330 ⇑P **PKiKP 18 04 07.8 -0.7**
WERN Wernitzgruen 146.39 347 *e*PKPbc **PKPbc 18 04 06.7 +0.5**
baz=18,slow=1.9
KRUC Moravsky 146.51 342 *e*PKP **PKPbc 18 04 07.0 +0.5**
SMOL Smolenice 146.68 341 *e*PKP **PKiKP 18 04 08.4 -0.6**
DEV Deva 146.77 332 ⇓P **PKPbc 18 04 07.8 +0.5**
HUMR Humele 146.81 329 ⇓P **PKPbc 18 04 07.3 -0.2**
MODS Modra-Piesok 146.85 341 *e*PKP **PKiKP 18 04 09.3 -0.1**
ROTZ Rotzenmuhle 146.92 347 *e*PKPbc **PKPbc 18 04 08.1 +0.5**
baz=18,slow=1.9
MEM Membach 147.03 355 PKPdf **PKPdf 18 04 05.5 +0.7**
MEM PKPbc **PKPbc 18 04 08.2 +0.3**
BUD Budapest 147.03 338 ⇑PKPB 18 04 08.1
BUD PKIKP **PKPbc 18 04 08.8 +0.8**
BTNL Ternell 147.04 355 PKPdf **PKPdf 18 04 05.3 +0.4**
BTNL PKPbc **PKPbc 18 04 08.6 +0.6**
ZST Bratislava 147.06 341 *e*PKP **PKiKP 18 04 09.1 -0.7**
TNS Taunus Mts 147.14 352 *e*PKPbc **PKPbc 18 04 08.7 +0.4**
baz=18,slow=1.9
LEF Lefka 147.15 308 ⇑P **PKPbc 18 04 08.1 -0.6**
GRF Grafenberg Arr 147.19 348 *e*PKPbc **PKPbc 18 04 09.2 +0.8**
baz=18,slow=1.9
KHC Kasperske Hory 147.20 345 *e*PKPDF **PKPdf 18 04 06.1 +0.9**
KHC ⇑*e*PKP **PKPbc 18 04 09.1 +0.7**
KHC Kasperske Hory 147.20 345 **PKPbc 18 04 08.8 +0.3**
GZR Gura Zlata 147.21 332 ⇓P **PKPbc 18 04 08.5 -0.1**
SNF Seneffe 147.25 357 PKPbc **PKPbc 18 04 09.1 +0.7**
CKRC Cesky Krumlov 147.31 344 *e*PKPDF **PKPdf 18 04 06.2 +0.8**
CKRC ⇑*e*PKP **PKPbc 18 04 09.3 +0.6**
WET Wettzell 147.36 346 *e*PKPbc **PKPbc 18 04 09.3 +0.5**
baz=18,slow=1.9
BMRD Maredsous 147.43 356 PKPbc **PKPbc 18 04 09.2 +0.3**
GERES GERESS Array B 147.44 345 PKPbc **PKPbc 18 04 09.5 +0.4**
comp=Z,13nm,0.7s,baz=352,slow=2.7,SNR=13
VLAD Vladila 147.47 328 ⇓P **PKPbc 18 04 09.9 +0.7**
BZS Buzias 147.54 333 ⇑P **PKPbc 18 04 09.4 0.0**
EGYH Egyhazaskeszo 147.67 340 ⇑PKPB 18 04 09.8
EGYH PKIKP **PKiKP 18 04 10.8 -0.3**
CONA Conrad Observa 147.69 342 *i* P **PKiKP 18 04 10.6 -0.6**
comp=Z,15nm,0.7s,SNR=8.2
HERR Herculane 147.76 332 ⇓P **PKPbc 18 04 10.2 +0.3**
MPLH Magyarpolny 147.82 339 ⇑PKPB 18 04 09.8
MPLH PKIKP **PKiKP 18 04 10.8 -0.6**
BANR Banloc 147.94 333 ⇑P **PKiKP 18 04 11.2 -0.4**
WLF Walferdange 147.95 354 *e*PKPbc **PKiKP 18 04 11.4 -0.2**
baz=18,slow=1.9
WLF Walferdange 147.95 354 PKPbc **PKiKP 18 04 11.2 -0.4**
MOA Molln 148.21 344 *e*P **PKPdf 18 04 06.6 -0.3**
comp=Z,3.4nm,1.0s
MOA *i* P **PKPbc 18 04 11.5 +0.4**
comp=Z,11nm,1.2s
MORH Mrgy, Hungar 148.25 337 ⇑P **PKPdf 18 04 06.8 -0.1**
MORH Mrgy, Hungar 148.25 337 *e*P **PKPbc 18 04 10.6 -0.5**
MORH Mrgy, Hungar 148.25 337 ⇑PKPB 18 04 09.7
MORH PKIKP **PKPbc 18 04 11.1 +0.1**
ARSA Arzberg 148.39 342 *e*P **PKPbc 18 04 11.9 +0.4**
comp=Z,7.3nm,1.1s
KUBS Kucevo 148.46 332 *e*P **PKPbc 18 04 10.6 -1.1**
KOVH Kovagotottos 148.55 338 ⇑PKPB 18 04 10.9
KOVH PKIKP **PKPbc 18 04 12.1 +0.3**
ZAGS Zajecar 148.66 330 *e*P **PKPbc 18 04 11.1 -1.1**
FRGS Fruska Gora 148.67 335 ⇑P **PKPbc 18 04 12.4 +0.1**
FRGS Fruska Gora 148.67 335 *e*P **PKPbc 18 04 11.7 -0.5**
FRGS Fruska Gora 148.67 335 *e*P **PKPbc 18 04 12.0 -0.2**
SVIS Svilajnac 148.78 332 *e*P **PKPbc 18 04 12.7 +0.2**
ZAPS Zavoj 148.88 329 *e*P **PKiKP 18 04 13.4 -0.4**
BFO Black Forest 149.00 351 **PKPbc 18 04 12.8 -0.1**
SOKA Soboth 149.06 342 *i* P **PKPbc 18 04 13.1 -0.1**
comp=Z,16nm,1.3s
VTS Vitosha 149.06 328 ⇓P **PKiKP 18 04 14.2 -0.2**
KBA Koelnbreinsper 149.16 344 *i* P **PKPbc 18 04 13.3 -0.3**
comp=Z,9.1nm,0.5s
TRUS Trudelj 149.17 333 *e*P **PKPbc 18 04 13.8 +0.4**
GRUS Gruza 149.30 332 *e*P **PKiKP 18 04 14.2 -0.4**
UBR Ueberruh 149.33 348 *e*PKPbc **PKiKP 18 04 14.2 -0.4**
baz=18,slow=1.9
OBKA Obir 149.35 342 *e*P **PKPbc 18 04 14.2 +0.3**
comp=Z,23nm,2.0s
WATA Walderalm 149.35 346 *i* P **PKPbc 18 04 14.1 +0.2**
comp=Z,8.0nm,0.5s
RETA Reutte 149.38 348 *i* P **PKPbc 18 04 14.1 +0.2**
comp=Z,4.4nm,0.5s
DOBS Dobrina 149.40 341 *i* PKPbc **PKPbc 18 04 13.9 -0.1**
WTTA Wattenberg 149.41 346 *e*P **PKiKP 18 04 14.6 -0.4**
comp=Z,13nm,0.4s,SNR=6.9
MOTA Moosalm 149.45 347 *i* P **PKPbc 18 04 14.3 +0.1**
comp=Z,22nm,1.3s
DIVS Divibare 149.45 333 *e*P **PKPbc 18 04 14.4 +0.2**
DIVS Divibare 149.45 333 *e*P **PKPbc 18 04 14.5 +0.2**
MYKA Terra Mystica 149.50 343 *i* P **PKPbc 18 04 13.9 -0.4**
comp=Z,8.9nm,0.5s
BOSS Bosilegrad 149.53 328⇑*i* P **PKPbc 18 04 14.4 0.0**
SQTA Sankt Quirin 149.54 347 *e*P **PKPdf 18 04 09.3 +0.1**
comp=Z,1.7nm,0.7s
SQTA *i* P **PKiKP 18 04 14.8 -0.4**
comp=Z,14nm,0.6s,SNR=5.5
BARS Barje 149.62 330 *e*P **PKPdf 18 04 10.6 +1.3**
SELS Selova 149.64 331 *e*P **PKPbc 18 04 14.4 -0.2**
ABTA Abfaltersbach 149.69 345 *i* P **PKPdf 18 04 09.5 +0.1**
comp=Z,7.5nm,0.9s
ABTA *e*P **PKPbc 18 04 14.4 -0.3**
comp=Z,18nm,0.6s,SNR=5.4
CRES Cresnjev 149.69 340 *e*P **PKPbc 18 04 13.9 -0.7**
DAVA Damuels 149.75 349 *i* P **PKiKP 18 04 15.3 -0.3**
comp=Z,13nm,0.9s,SNR=5.2
LJU Ljubljana 149.78 342 *e*P **PKPbc 18 04 14.8 0.0**
IVAS Ivanjica 149.80 332 *e*P **PKPbc 18 04 14.9 -0.1**
FETA Feichten 149.84 347 *e*P **PKPdf 18 04 09.5 -0.2**
comp=Z,3.5nm,0.9s
FETA *e*P **PKiKP 18 04 15.7 -0.1**
comp=Z,16nm,1.0s,SNR=5.4
BBLS Lazići 149.89 334 *e*P **PKPbc 18 04 15.4 +0.1**
BBLS Lazići 149.89 334 *e*P **PKiKP 18 04 15.9 0.0**
GBAS Gorenja Brezov 149.90 342 *i* PKPbc **PKPbc 18 04 15.2 +0.1**
MRAK Mrakovica 149.91 338 *e*P **PKPbc 18 04 15.0 -0.3**
BLY Banja Luka 150.03 337 *e*P **PKPbc 18 04 15.2 -0.3**
BOJS Bojanci 150.04 340 *i* PKPbc **PKiKP 18 04 16.0 0.0**
CEY Cerknica 150.09 342 *e*P **PKPbc 18 04 15.6 0.0**
STAL STALIGIAL 150.09 344 **PKPbc 18 04 15.1 -0.5**
RUDO Rudo 150.10 333 *e*P **PKPbc 18 04 15.3 -0.4**
SJES Sjenica 150.13 332 *e*P **PKiKP 18 04 16.4 -0.1**
MGRS Mrkonjic Grad 150.35 337 *e*P **PKPbc 18 04 16.3 0.0**
PDG Podgorica 151.11 332 ⇑P **PKiKP 18 04 18.2 -0.2**
PDG Podgorica 151.11 332 *e*P **PKPbc 18 04 17.6 -0.4**
TREB Trebinje 151.27 334 *e*P **PKPbc 18 04 17.8 -0.6**
DRME Dracevica, Mon 151.33 332 *e*P **PKPbc 18 04 15.5 -3.0**
FNA Florina 151.35 327 **PKPbc 18 04 18.1 -0.6**
SANT Santorini 151.83 316 P **PKPdf 18 04 11.6 -1.2**
AQU L'Aquila 153.45 340 *e*P **PKPdf 18 04 13.5 -1.5**
ESDC Sonseca Array 157.67 11 PKPab **PKPab 18 04 54.7 -1.9**
comp=Z,0.5nm,0.5s,baz=340,slow=4.4,SNR=5.5
DBIC Dimbokro 167.37 150 PKP **PKPdf 18 04 29.7 -1.0**
comp=Z,3.5nm,0.7s,baz=194,slow=9.4,SNR=3.3
TORD Torodi Ar. Bea 175.40 183 PKP **PKPdf 18 04 33.2 -1.4**
comp=Z,2.4nm,0.9s,baz=324,slow=1.8,SNR=12
TORD PKPab **PKPab 18 06 14.5 -0.7**
comp=Z,1.9nm,0.6s,baz=181,slow=4.0,SNR=9.1
TORD PP **PP 18 10 10.1 +3.3**
comp=Z,2.3nm,1.2s,baz=188,slow=4.3,SNR=3.9
TORD Torodi Ar. Bea 175.40 183 **PKPdf 18 04 33.3 -1.2**
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 23.04 227 P **P 18 17 51.9 +0.3**
comp=Z,2.7nm,0.5s,baz=53,slow=9.7,SNR=50
WRA S **S 18 21 48.8 -2.1**
comp=Z,0.3nm,0.6s,baz=63,slow=14,SNR=2.4
WRA Warramunga Arr 23.04 227 P **P 18 17 50.8 -0.8**
KNRA Kununurra 25.39 242 P **P 18 18 12.4 -0.6**
KNRA IAmb IAmb 18 18 15.7
comp=Z,7.3nm,0.7s
AS31 Alice Springs 25.82 221 P **P 18 18 16.6 -0.3**
ASAR Alice Springs 25.82 221 P **P 18 18 16.8 -0.1**
comp=Z,0.6nm,0.4s,baz=49,slow=8.9,SNR=22
ASAR S **S 18 22 34.1 -1.1**
comp=Z,0.2nm,0.6s,baz=51,slow=13,SNR=2.3
ASAR Alice Springs 25.82 221 P **P 18 18 16.3 -0.5**
STKA Stephens Creek 28.90 199 P **P 18 18 45.4 +1.2**
comp=Z,0.9nm,0.5s,baz=26,slow=12,SNR=4.5
FITZ Fitzroy Crossi 29.10 240 P **P 18 18 45.4 -0.7**
comp=Z,1.6nm,0.7s,baz=60,slow=8.2,SNR=13
CAN Canberra 30.76 185 P **P 18 19 01.2 +0.7**
CAN IAmb IAmb 18 19 10.9
comp=Z,28nm,1.4s
BBOO Buckleboo 31.84 206 P **P 18 19 09.2 -0.8**
BBOO IAmb IAmb 18 19 18.9
comp=Z,24nm,1.6s
FORT Forrest 34.50 218 P **P 18 19 31.8 -1.4**
FORT IAmb IAmb 18 20 05.3
comp=Z,17nm,0.9s
OUZ Omahuta 36.47 150 P **P 18 19 50.9 +1.0**
TAU Tasmania Unive 38.44 186 P **P 18 20 06.5 +0.2**
QRZ Quartz Range 40.55 156 P **P 18 20 25.4 +1.5**
URZ Urewera 40.60 149 P **P 18 20 23.9 -0.5**
URZ IAmb IAmb 18 20 40.4
comp=Z,9.8nm,1.1s
THZ Tophouse 41.50 156 P **P 18 20 31.4 -0.2**
TUWZ Tuamarina 41.65 155 P **P 18 20 32.1 -0.7**
SNZO South Karori 41.87 154 P **P 18 20 34.6 -0.1**
MORW Morawa 41.91 230 P **P 18 20 33.0 -2.2**
MORW IAmb IAmb 18 21 01.8
comp=Z,21nm,1.6s
BFZ Birch Farm 42.06 152 P **P 18 20 36.1 -0.1**
LTZ Lake Taylor 42.12 158 P **P 18 20 37.6 +0.9**
LTZ IAmb IAmb 18 21 16.3
comp=Z,43nm,1.6s
KHZ Kahutara 42.30 156 P **P 18 20 38.1 +0.1**
KHZ IAmb IAmb 18 21 17.2
comp=Z,46nm,1.4s
MLZ Mavora Lakes 43.03 163 P **P 18 20 43.5 -0.5**
CMAR Chiang Mai Arr 57.06 295 P **P 18 22 31.9 +1.7**
comp=Z,0.9nm,0.6s,baz=115,slow=5.2,SNR=9.5
CMAR Chiang Mai Arr 57.06 295 P **P 18 22 30.3 +0.1**
SONM Songino Array 65.69 328 P **P 18 23 28.7 +0.9**
comp=Z,0.3nm,0.5s,baz=133,slow=4.8,SNR=2.5
SONM Songino Array 65.69 328 P **P 18 23 28.3 +0.5**
VNDA Vanda 73.12 178 P **P 18 24 13.1 +0.4**
comp=Z,1.1nm,0.8s,baz=334,slow=5.4,SNR=2.1
VNDA Vanda 73.12 178 P **P 18 24 13.5 +0.8**
MK31 Makanchi Array 79.62 319 P **P 18 24 48.8 -1.1**
MKAR Makanchi Array 79.62 319 P **P 18 24 50.1 +0.1**
comp=Z,0.6nm,0.7s,baz=100,slow=6.8,SNR=7.7
MKAR Makanchi Array 79.62 319 P **P 18 24 49.1 -0.9**
KTH Kantishna Hill 80.07 22 P **P 18 24 52.2 +0.1**
KTH IAmb IAmb 18 24 54.6
comp=Z,24nm,1.6s
ZALV Zalesovo Beam 80.51 326 P **P 18 24 54.6 +0.2**
comp=Z,0.8nm,0.5s,baz=117,slow=4.0,SNR=5.3
ZALV Zalesovo Beam 80.51 326 P **P 18 24 52.9 -1.6**
ILAR Eielson Array 82.22 22 P **P 18 25 02.8 -0.5**
comp=Z,0.3nm,0.6s,baz=255,slow=5.5,SNR=4.2
TORD Torodi Ar. Bea 149.49 288 PKPbc **PKPbc 18 32 31.3 -0.5**
comp=Z,0.8nm,0.3s,baz=79,slow=2.6,SNR=20
TORD Torodi Ar. Bea 149.49 288 **PKPbc 18 32 30.9 -0.9**

*IDC **16** 18:40:48.3±2.6, 61°.09N×28°.09W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.3/58, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=59.9km s-min=22.4km az=162.0*
*NEIC **16** 18:40:50.1±2.3, 61°.1N±0°.2×28°.1W±0°.2, h15km±7km, mb4.3/4, Error ellipse: s-maj=22.7km s-min=11.5km az=180.0*
ISC 16 18:40:49.2±1.7, 61°.1N±0°.2×28°.0W±0°.1, h10km, n14, σ1§06/15, mb3.8/7, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.80**	**37**	P	**Pn**	**18 42 01.2**	**-0.3**
	3.9nm,0.3s,baz=244,slow=7.1,SNR=18						
BORG				Sn	**Sn**	**18 42 58.9**	**+1.8**
	0.9nm,0.3s,baz=98,slow=22,SNR=6.5						
BORG	**Borgarnes**	**4.80**	**37**		**Pn**	**18 42 01.0**	**-0.5**
BORG				Sn	**Sn**	**18 42 55.2**	**-2.0**
SUMG	**Summit**	**12.24**	**345**	*i* P	**Pn**	**18 43 44.0**	**+0.4**
SUMG	**Summit**	**12.24**	**345**	Pn	**Pn**	**18 43 44.0**	**+0.4**
SCHQ	**Schefferville**	**21.25**	**270**	P	**P**	**18 45 36.3**	**+1.2**
	1.3nm,0.5s,baz=69,slow=14,SNR=4.6						
SCHQ	**Schefferville**	**21.25**	**270**		**P**	**18 45 34.0**	**-1.1**
EUNU	**Eureka**	**25.20**	**340**	P	**P**	**18 46 13.5**	**-0.9**
YKA	**Yellowknife Ar**	**38.05**	**311**	P	**P**	**18 48 07.6**	**+0.3**
	0.5nm,0.6s,baz=51,slow=9.1,SNR=10						
INK	**Inuvik**	**40.28**	**326**	P	**P**	**18 48 25.4**	**-0.4**
	1.0nm,0.9s,baz=29,slow=8.4,SNR=3.7						
INK	**Inuvik**	**40.28**	**326**	IAmb	IAmb	18 48 28.2	
	comp=Z,18nm,1.9s						
ILAR	**Eielson Array**	**46.46**	**329**	P	**P**	**18 49 16.6**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=36,slow=7.1,SNR=6.5						
PDAR	**Pinedale Array**	**49.91**	**288**	P	**P**	**18 49 42.2**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=56,slow=7.7,SNR=7.8						
MK31	**Makanchi Array**	**58.75**	**49**	P	**P**	**18 50 47.1**	**+0.2**
MK31				IAmb	IAmb	18 52 46.4	
	comp=Z,3.9nm,1.8s						
MKAR	**Makanchi Array**	**58.75**	**49**	P	**P**	**18 50 47.6**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=334,slow=5.9,SNR=9.3						

*DDA **16** 18:45:32.6±0.0, 41°.23N×43°.95E, h7km±3km, ML1.9*
*TIF **16** 18:45:33.8, 41°.15N×43°.95E, h10km±1km*
*NORS **16** 18:45:35.6±0.0, 41°.36N×44°.05E, h1km, MPVA3.2*
ISC 16 18:45:34.2±1.0, 41°.17N±0°.02×43°.93E±0°.02, h14km±9km, n25, σ1§44/47, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.26**	**50**	P	**Pg**	**18 45 39.7**	**0.0**
DMNI				S	**Sb**	**18 45 44.0**	**-1.0**
TRLG	**Trialeti**	**0.40**	**19**	P	**Pg**	**18 45 42.5**	**+0.3**
AKH	**Akhalkalaki**	**0.41**	**307**	P	**Pb**	**18 45 43.0**	**-0.4**
AKH				S	**Sb**	**18 45 49.4**	**-0.2**
EAK	**Akyaka**	**0.54**	**207**	P	**Pg**	**18 45 44.2**	**-0.6**
EAK				S	**Sg**	**18 45 51.6**	**-0.4**
EAK				*i* AML	AML	18 46 00.0	
	comp=Z,57nm,0.4s						
EAK				*i* AML	AML	18 46 04.0	
	comp=N,94nm,1.1s						
EAK				*i* AML	AML	18 46 05.0	
	comp=E,74nm,0.6s						
BTNK	**Botanikuri**	**0.83**	**51**	P	**Pg**	**18 45 47.8**	**-2.5**
BTNK				S	**Sg**	**18 45 59.7**	**-1.6**
BTNK	**Botanikuri**	**0.83**	**51**	P	**Pg**	**18 45 47.6**	**-2.7**
BTNK				S	**Sg**	**18 45 58.2**	**-3.1**
BTNK				*i* AML	AML	18 45 59.0	
	comp=E,233nm,0.1s						
EPOS	**Posof**	**0.97**	**291**	P	**Pb**	**18 45 53.2**	**+0.4**
EPOS				S	**Sg**	**18 46 05.0**	**-0.6**
EPOS				*i* AML	AML	18 46 09.0	
	comp=N,34nm,0.3s						
ABS	**Abastumani**	**1.03**	**305**	P	**Pb**	**18 45 54.2**	**+0.3**
ABS				S	**Sn**	**18 46 09.0**	**+0.4**
DGRG	**David-gareji**	**1.12**	**75**	P	**Pn**	**18 45 55.9**	**+0.3**
DGRG				S	**Sn**	**18 46 10.7**	**-0.1**
IGDI	**IGDIR**	**1.30**	**175**	P	**Pn**	**18 45 57.4**	**-0.6**
IGDI				S	**Sb**	**18 46 13.4**	**-1.7**
GUDG	**Gudauri**	**1.36**	**17**	P	**Pb**	**18 45 59.9**	**+0.4**
TKB	**Tkibuli**	**1.38**	**330**	P	**Pg**	**18 46 01.1**	**+0.5**
TKB				S	**Sg**	**18 46 19.8**	**+1.2**
ONI	**Oni**	**1.47**	**346**	P	**Pg**	**18 46 02.1**	**-0.3**
ONI				S	**Sg**	**18 46 23.0**	**+1.4**
KOTA	**Agri, Merkez-K**	**1.47**	**202**	P	**Pg**	**18 46 02.3**	**-0.2**
KOTA				S	**Sg**	**18 46 24.2**	**+2.6**
PNSH	**Pansheti**	**1.56**	**19**	P	**Pg**	**18 46 03.6**	**-0.4**
PNSH				S	**Sg**	**18 46 25.4**	**+1.1**
MTEO	**Meteo**	**1.58**	**16**	P	**Pg**	**18 46 04.2**	**-0.3**
MTEO				S	**Sg**	**18 46 27.1**	**+1.9**
DDFL	**Dedoflistskaro**	**1.67**	**80**	P	**Pg**	**18 46 08.3**	**+2.0**

IDC 16 18:05:43.0±2.2, 3°.23N×127°.73E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.0/38, mbtmp3.1/3 Error ellipse: s-maj=144.5km s-min=28.4km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.92**	**165**	P	P	18 10 59.0	+0.1
	0.7nm,0.6s,baz=344,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.40**	**168**	P	P	18 11 30.3	-0.2
	0.1nm,0.7s,baz=349,slow=7.5,SNR=1.0						
MKAR	**Makanchi Array**	**58.53**	**325**	P	P	18 15 41.4	0.0

DDFL				S	Sg	18 46 33.5	+5.5
LACR	Lac	1.68	9	*e*Pg	Pg	18 46 06.2	-0.3
LACR				*e*Sg	Sg	18 46 28.6	+0.3
DBOC	Borcka	1.72	277	P	Pb	18 46 05.3	-0.3
DBOC				*i* AML	AML	18 46 35.0	
	comp=Z,11nm,1.2s						
DIGR	Digorskoe uzhe	1.75	352	*e*Pg	Pg	18 46 07.6	-0.3
DIGR				*e*Sg	Sg	18 46 32.4	+1.8
LGD	Lagodekhi	1.86	68	P	Pb	18 46 08.4	+0.5
LGD				S	Sg	18 46 34.1	0.0
LSNR	Lesken	2.11	358	*e*Pg	Pg	18 46 14.3	-0.4
LSNR				*e*Sg	Sg	18 46 43.7	+1.5
NEY	Neytrino	2.27	337	*e*Pg	Pb	18 46 15.0	0.0
NEY				*e*Sg	Sg	18 46 46.7	-0.4
BTLR	Botlikh	2.27	48	*e*Pg	Pb	18 46 15.4	+0.4
BTLR				*e*Sg	Sg	18 46 46.7	-0.6
SHA1	Shidzhatmaz	2.74	340	*e*Pn	Pg	18 46 26.9	+0.2
SHA1				*e*Sn	Sg	18 47 01.8	-0.4

IDC ***16*** *18:45:45.0±1.1, 7°.63S×154°.91E, h0km, mb4.1/14, mb1 4.2/14, mb1mx3.9/39, mbtmp4.0/14, MS3.3/7, Ms1 3.3/7, ms1mx3.0/60, Error ellipse: s-maj=37.0km s-min=17.4km az=121.0*
NEIC ***16*** *18:45:46.9±2.5, 7°.53S±0°.07×154°.98E±0°.08, h10km±1km, mb4.7/31, Error ellipse: s-maj=14.9km s-min=10.4km az=118.0*
ISC 16 18:45:49.9±0.5, 7°.51S±0°.07×154°.94E±0°.08, h31km, n63, σ1§31/61, mb4.3/26, MS3.4/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.30**	**320**		**Pn**	**18 46 51.4**	**-1.9**
RABL				Sn	**Sn**	**18 47 41.5**	**-1.0**
HNR	**Honiara**	**5.31**	**111**	LR	LR	18 49 18.5	
	comp=Z,176nm,19.3s,baz=130,slow=40						
PMG	**Port Moresby**	**7.92**	**256**	Pn	**Pn**	**18 47 43.8**	**+0.9**
	1.9nm,0.3s,baz=74,slow=12,SNR=2.2						
PMG				Sn	**Sn**	**18 49 13.0**	**+1.4**
	3.2nm,0.3s,baz=198,slow=18,SNR=6.0						
PMG				LR	LR	18 50 32.4	
	comp=Z,206nm,18.0s,baz=64,slow=36						
PMG	**Port Moresby**	**7.92**	**256**	Pn	**Pn**	**18 47 43.5**	**+0.5**
SANVU	**Saraoutou**	**14.37**	**124**	Pn	**Pn**	**18 49 08.6**	**-2.7**
JAY	**Jayapura**	**15.02**	**289**	LR	LR	18 55 15.7	
	comp=Z,72nm,19.1s,baz=10,slow=38						
CTA	**Charters Tower**	**15.07**	**213**	LR	LR	18 54 14.8	
	comp=Z,142nm,20.3s,baz=73,slow=34						
GENI	**Genyem**	**15.50**	**288**	P	P	18 49 42.7	+12
QIS	**Mount Isa**	**19.71**	**227**	P	**Pn**	**18 50 17.1**	**-1.4**
RMQ	**Roma**	**19.76**	**197**	P	**Pn**	**18 50 20.4**	**+1.3**
QLP	**Quilpie**	**21.52**	**207**	P	**P**	**18 50 37.4**	**+0.9**
WR0	**Warramunga Arr**	**23.32**	**236**	P	**P**	**18 50 53.6**	**-2.0**
WR0				IAmb	IAmb	18 50 56.7	
	comp=Z,7.7nm,0.8s						
WB0	**Warramunga Arr**	**23.35**	**236**	P	**P**	**18 50 54.3**	**-1.6**
WRAB	**Tennant Creek**	**23.47**	**236**	P	**P**	**18 50 55.9**	**-1.1**
WRAB	**Tennant Creek**	**23.47**	**236**	P	**P**	**18 50 55.3**	**-1.7**
WB2	**Warramunga Arr**	**23.47**	**236**	P	**P**	**18 50 55.1**	**-1.9**
WRA	**Warramunga Arr**	**23.48**	**236**	P	**P**	**18 50 55.5**	**-1.6**
	comp=Z,5.4nm,0.8s,baz=58,slow=9.2,SNR=45						
WRA				LR	LR	18 59 48.2	
	comp=Z,62nm,18.1s,baz=38,slow=36						
WRA	**Warramunga Arr**	**23.48**	**236**	P	**P**	**18 50 54.7**	**-2.4**
MTN	**Manton Dam**	**24.01**	**255**	P	**P**	**18 51 00.9**	**-1.3**
MTN				IAmb	IAmb	18 51 31.7	
	comp=Z,14nm,1.2s						
INKA	**Innaminka**	**24.19**	**212**	P	**P**	**18 51 03.8**	**+0.1**
CMSA	**Cobar Meteorol**	**25.41**	**199**	P	**P**	**18 51 16.4**	**+1.6**
AS31	**Alice Springs**	**25.79**	**229**	P	**P**	**18 51 16.8**	**-1.5**
ASAR	**Alice Springs**	**25.79**	**229**	P	**P**	**18 51 17.2**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=62,slow=9.0,SNR=40						
ASAR				LR	LR	19 00 47.9	
	comp=Z,176nm,19.4s,baz=46,slow=35						
KNRA	**Kununurra**	**26.87**	**250**	P	**P**	**18 51 25.9**	**-2.2**
KNRA				IAmb	IAmb	18 51 39.5	
	comp=Z,10.0nm,1.0s						
STKA	**Stephens Creek**	**27.24**	**205**	P	**P**	**18 51 30.1**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=28,slow=15,SNR=5.4						
STKA				LR	LR	19 01 39.0	
	comp=Z,97nm,19.8s,baz=27,slow=35						
FITZ	**Fitzroy Crossi**	**30.39**	**247**	P	**P**	**18 51 58.0**	**-1.6**
	comp=Z,3.1nm,0.5s,baz=66,slow=8.7,SNR=34						
MMRI	**Maumere**	**32.39**	**266**	P	**P**	**18 52 15.7**	**-1.5**
JNU	**Nakatsue**	**46.44**	**332**	P	**P**	**18 54 14.8**	**+0.8**
JNU				IAmb	IAmb	18 54 27.2	
	comp=Z,18nm,1.1s						
KSRS	**Korea Array**	**51.37**	**332**	P	**P**	**18 54 51.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=148,slow=7.1,SNR=2.8						
PEA0B	**Petropavlovsk-**	**60.43**	**2**	P	**P**	**18 55 58.3**	**+2.0**
PETK	**Petropavlovsk-**	**60.43**	**2**	P	**P**	**18 55 57.2**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=123,slow=5.3,SNR=6.3						
CMAR	**Chiang Mai Arr**	**60.96**	**296**	P	**P**	**18 56 01.2**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=115,slow=5.3,SNR=15						
CMAR	**Chiang Mai Arr**	**60.96**	**296**	P	**P**	**18 56 00.1**	**-0.5**
CHTO	**Chiang Mai**	**61.08**	**296**	P	**P**	**18 56 00.9**	**-0.5**
CHTO				IAmb	IAmb	18 56 02.5	
	comp=Z,3.8nm,1.1s						
NIKH	**Nikolski High**	**67.64**	**23**	P	**P**	**18 56 45.0**	**+1.3**
ULN	**Ulaanbaatar**	**69.41**	**328**	P	**P**	**18 56 55.2**	**+0.2**
ULN				IAmb	IAmb	18 57 07.0	
	comp=Z,6.6nm,1.3s						
SONM	**Songino Array**	**69.74**	**327**	P	**P**	**18 56 57.9**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=146,slow=5.4,SNR=8.1						
SONM	**Songino Array**	**69.74**	**327**	P	**P**	**18 56 57.7**	**+0.6**
SONM				IAmb	IAmb	18 57 08.9	
	comp=Z,5.9nm,1.2s						
M19K	**Big River Lodg**	**79.45**	**22**	P	**P**	**18 57 53.2**	**+0.3**
L19K	**White Mountain**	**79.46**	**22**	P	**P**	**18 57 54.0**	**+0.9**
L19K				IAmb	IAmb	18 58 36.2	
	comp=Z,30nm,1.8s						
RC01	**Rabbit Creek A**	**80.76**	**24**	P	**P**	**18 58 01.2**	**+1.2**
PWL	**Port Wells**	**81.20**	**24**	P	**P**	**18 58 03.6**	**+1.2**
SML	**Sawmill**	**81.72**	**24**	P	**P**	**18 58 04.5**	**-0.7**
KTH	**Kantishna Hill**	**81.72**	**22**	P	**P**	**18 58 05.3**	**+0.1**
SCM	**Sheep Creek Mo**	**82.14**	**24**	P	**P**	**18 58 06.5**	**-0.9**
IMAR	**Indian Mountai**	**82.23**	**19**	P	**P**	**18 58 08.3**	**+0.5**
RND	**Reindeer**	**82.41**	**22**	P	**P**	**18 58 10.4**	**+1.6**
RND				IAmb	IAmb	18 58 22.1	
	comp=Z,19nm,1.5s						
QSPA	**South Pole Qui**	**82.46**	**180**	P	**P**	**18 58 09.6**	**+0.4**
QSPA				IAmb	IAmb	18 58 12.8	
	comp=Z,17nm,1.8s						
MCK	**McKinley**	**82.56**	**22**	P	**P**	**18 58 09.4**	**-0.2**
M24K	**Tolsona, Glenn**	**82.74**	**24**	P	**P**	**18 58 12.7**	**+2.1**
MK31	**Makanchi Array**	**83.75**	**319**	P	**P**	**18 58 15.8**	**-0.3**
MK31				IAmb	IAmb	18 58 28.0	
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**83.75**	**319**	P	**P**	**18 58 16.5**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=107,slow=5.5,SNR=19						
MKAR	**Makanchi Array**	**83.75**	**319**	P	**P**	**18 58 16.1**	**0.0**
ILAR	**Eielson Array**	**83.88**	**21**	P	**P**	**18 58 16.5**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=248,slow=5.2,SNR=5.2						
GRNC	**Granite Creek**	**83.93**	**26**	P	**P**	**18 58 16.4**	**-0.5**
ZAA0	**Zalesovo Array**	**84.58**	**326**	P	**P**	**18 58 18.6**	**-1.4**
ZAA0				IAmb	IAmb	18 58 30.3	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**84.58**	**326**	P	**P**	**18 58 19.7**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=124,slow=5.6,SNR=6.5						
ZALV	**Zalesovo Beam**	**84.58**	**326**	P	**P**	**18 58 18.9**	**-1.2**
M27K	**Edge Creek, AK**	**84.62**	**25**	P	**P**	**18 58 23.7**	**+3.4**
M27K				IAmb	IAmb	18 58 34.5	
	comp=Z,9.3nm,0.9s						
NVAR	**Mina Array Bea**	**92.08**	**52**	P	**P**	**18 58 57.4**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=224,slow=6.3,SNR=1.0						
BVAR	**Borovoye Array**	**92.67**	**323**	P	**P**	**18 58 58.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=57,slow=5.3,SNR=2.0						
YKA	**Yellowknife Ar**	**96.82**	**28**	P	**P**	**18 59 17.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=266,slow=4.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**153.10**	**284**	PKPbc	**PKiKP**	**19 05 45.8**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=62,slow=2.6,SNR=8.5						

IDC ***16*** *18:46:15.5±1.3, 61°.08N×28°.26W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.4/68, mbtmp3.7/8, ML3.7/1, MS3.5/6, Ms1 3.5/6, ms1mx3.0/87, Error ellipse: s-maj=30.8km s-min=21.0km az=6.0*
ISC 16 18:46:17.0±1.1, 61°.1N±0°.1×28°.2W±0°.1, h10km, n14, σ1§07/10, mb3.7/7, MS3.5/3, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.84**	**37**	Pn	**Pn**	**18 47 28.3**	**-1.3**
	2.9nm,0.3s,baz=276,slow=6.7,SNR=15						
BORG				Sn	**Sn**	**18 48 25.3**	**-0.3**
	0.8nm,0.3s,baz=106,slow=22,SNR=6.0						
BORG				LR	LR	18 49 04.5	
	comp=Z,222nm,21.9s,baz=317,slow=35						
SFJD	**Kangerlussuaq**	**11.44**	**311**	LR	LR	18 52 50.7	
	comp=Z,231nm,18.9s,baz=280,slow=35						
SUMG	**Summit**	**12.21**	**345**	*i* P	**Pn**	**18 49 12.0**	**+1.0**
NOA	**NORSAR Array B**	**18.87**	**73**	LR	LR	18 56 47.3	
	comp=Z,58nm,21.4s,baz=355,slow=33						
ARCES	**ARCESS Array B**	**23.18**	**46**	LR	LR	18 58 47.4	
	comp=Z,85nm,19.1s,baz=334,slow=32						
FINES	**FINESS Array B**	**25.46**	**65**	P	**P**	**18 51 46.7**	**+2.1**
	2.1nm,0.9s,baz=297,slow=15,SNR=2.6						
DAVOX	**Davos/Dischmat**	**26.11**	**106**	LR	LR	19 00 12.6	
	comp=Z,545nm,20.6s,baz=128,slow=32						
GERES	**GERESS Array B**	**26.47**	**98**	LR	LR	19 03 25.3	
	comp=Z,128nm,19.5s,baz=180,slow=39						
YKA	**Yellowknife Ar**	**38.00**	**311**	P	**P**	**18 53 34.7**	**+0.2**
	0.7nm,0.8s,baz=50,slow=9.1,SNR=11						
INK	**Inuvik**	**40.24**	**326**	P	**P**	**18 53 53.2**	**0.0**
	1.3nm,0.8s,baz=33,slow=9.0,SNR=3.9						
ILAR	**Eielson Array**	**46.42**	**329**	P	**P**	**18 54 42.5**	**-0.6**
	0.8nm,0.9s,baz=29,slow=7.1,SNR=6.0						
PDAR	**Pinedale Array**	**49.85**	**288**	P	**P**	**18 55 09.5**	**-0.7**
	0.9nm,0.7s,baz=57,slow=5.3,SNR=8.7						
TORD	**Torodi Ar. Bea**	**52.54**	**142**	P	**P**	**18 55 30.0**	**-0.3**
	0.7nm,1.0s,baz=17,slow=25,SNR=2.2						
MKAR	**Makanchi Array**	**58.79**	**49**	P	**P**	**18 56 15.1**	**+0.2**
	0.7nm,0.8s,baz=324,slow=5.9,SNR=6.9						

CNRM ***16*** *18:47:54.3, 35°.47N×3°.69W, h30km, ml2.7*
INMG ***16*** *18:47:55.6±2.0, 35°.39N×3°.62W, h31km±20km, ML2.1, Error ellipse: s-maj=6.9km s-min=4.6km az=13.0*
SFS ***16*** *18:47:55.0, 35°.40N×3°.60W, h23km, ML2.2, ALBORAN SUR*
IGIL ***16*** *18:47:56.2, 35°.41N×3°.61W, h13km, ML1.9*
ISC 16 18:47:54.9±1.1, 35°.45N±0°.03×3°.62W±0°.03, h25km±10km, n30, σ1§68/56, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**229**	P	**Pb**	**18 48 02.4**	**-0.3**
PALE				S	**Sb**	**18 48 08.1**	**+0.2**
GOG	**Mont Gurugu**	**0.56**	**113**	P	**Pb**	**18 48 05.9**	**-0.2**
GOG				S	**Sb**	**18 48 13.1**	**-0.6**
CHAS	**Isla Isabel II**	**1.00**	**105**	P	**Pn**	**18 48 13.7**	**+0.3**
CHAS				S	**Sn**	**18 48 25.0**	**-1.7**
JBK	**JBK**	**1.40**	**142**	P	**Pn**	**18 48 18.8**	**-0.2**
JBK				S	**Sb**	**18 48 37.6**	**-0.5**
CHEFC	**Chefchaouen**	**1.45**	**257**	P	**Pb**	**18 48 21.3**	**+0.1**
CHEFC				S	**Sn**	**18 48 35.6**	**-2.2**
SMIR	**Smir Dam**	**1.46**	**280**	P	**Pn**	**18 48 18.2**	**-1.4**
SMIR				S	**Sn**	**18 48 32.8**	**-5.0**
EMAL	**Malaga-Limoner**	**1.47**	**334**	P	**Pn**	**18 48 20.2**	**+0.5**
EMAL				S	**Sn**	**18 48 36.4**	**-1.7**
LCRM	**LCR**	**2.03**	**211**	P	**Pn**	**18 48 28.9**	**+1.3**
LCRM				S	**Sb**	**18 48 55.9**	**-0.1**
IFR	**Ifrane**	**2.29**	**213**	P	**Pb**	**18 48 34.9**	**-0.7**
IFR				S	**Sb**	**18 49 03.7**	**+0.1**
MD31	**MD31**	**2.74**	**201**	P	**Pn**	**18 48 36.5**	**-0.8**
MD31				S	**Sn**	**18 49 09.7**	**+0.1**
MDT	**Midelt**	**2.75**	**198**	P	**Pn**	**18 48 38.5**	**+1.1**
MDT				S	**Sn**	**18 49 10.7**	**+0.8**
ZHG	**ZHG**	**3.20**	**232**	P	**Pn**	**18 48 44.1**	**+0.6**
ZHG				S	**Sn**	**18 49 20.8**	**-0.1**
PVAQ	**Vaqueiros**	**3.84**	**302**	*e*Pn	**Pn**	**18 48 53.8**	**+1.5**
PVAQ				*e*Sn	**Sn**	**18 49 36.1**	**-0.5**
PVAQ				A	A	18 49 43.0	
	3.2nm,0.5s						
PVAQ	**Vaqueiros**	**3.84**	**302**	P	**Pn**	**18 48 51.7**	**-0.6**
PVAQ				S	**Sn**	**18 49 34.4**	**-2.2**
PBDV	**Barranco-do-Ve**	**3.92**	**299**	*e*Pn	**Pn**	**18 48 54.8**	**+1.4**
PBDV				*e*Sn	**Sn**	**18 49 37.3**	**-1.3**
PBDV				A	A	18 49 41.1	
	3.8nm,1.0s						
PCVE	**Castro Verde**	**4.18**	**303**	*e*Pn	**Pn**	**18 48 58.5**	**+1.6**
PCVE				*e*Sn	**Sn**	**18 49 45.0**	**+0.1**
PCVE				A	A	18 49 51.7	
	3.0nm,0.5s						
MESJ	**Messejana**	**4.41**	**304**	*e*P	**Pn**	**18 49 01.4**	**+1.3**
MESJ				*e*S	**Sn**	**18 49 48.8**	**-1.7**
MESJ				IAML		18 49 52.7	
	comp=N,2.1nm,0.4s						
MESJ	**Messejana**	**4.41**	**304**	*e*P	**Pn**	**18 49 01.4**	**+1.3**
MESJ				*e*S	**Sn**	**18 49 48.8**	**-1.7**
MESJ				IAML		18 49 52.7	
PFVI	**Vila Bisbo**	**4.53**	**293**	*e*Pn	**Pn**	**18 49 04.0**	**+2.2**
PFVI				*e*Sn	**Sn**	**18 49 53.6**	**-0.1**
PFVI	**Vila Bisbo**	**4.53**	**293**	P	**Pn**	**18 49 02.0**	**+0.2**
PFVI				S	**Sn**	**18 49 51.3**	**-2.4**
PTEO	**Sao Teotonio**	**4.62**	**298**	*e*Sn	**Sn**	**18 49 56.9**	**+1.1**
PESTR	**Estremoz**	**4.66**	**318**	*e*Pn	**Pn**	**18 49 06.5**	**+2.9**
PESTR				*e*Sn	**Sn**	**18 49 57.4**	**+0.5**
PESTR	**Estremoz**	**4.66**	**318**	P	**Pn**	**18 49 03.7**	**+0.1**
PESTR				S	**Sn**	**18 49 53.3**	**-3.6**
EVO	**Evora**	**4.68**	**313**	*e*Pn	**Pn**	**18 49 05.7**	**+1.9**
EVO				*e*Sn	**Sn**	**18 49 57.4**	**+0.1**
PNCL	**Nicolau / Gran**	**4.76**	**305**	*e*Pn	**Pn**	**18 49 06.5**	**+1.6**
PNCL				*e*Sn	**Sn**	**18 49 58.7**	**-0.5**
PNCL				A	A	18 50 11.5	
	comp=N,1.9nm,0.6s						
PMRV	**Marv??o**	**4.98**	**324**	*e*Pn	**Pn**	**18 49 10.5**	**+2.5**
PMRV				*e*Sn	**Sn**	**18 50 04.5**	**-0.3**
PMRV				A	A	18 50 25.3	
	comp=N,1.0nm,0.3s						
PMTG	**Montargil**	**5.16**	**316**	*e*Pn	**Pn**	**18 49 13.0**	**+2.6**
OUZM	**OUZ**	**5.23**	**211**	P	**Pn**	**18 49 12.9**	**+1.3**
OUZM				S	**Sn**	**18 50 13.2**	**+1.9**
MVO	**Moncorvo**	**6.31**	**336**	*e*Pn	**Pn**	**18 49 29.2**	**+2.9**
PBRG	**Braganca**	**6.80**	**340**	*e*Pn	**Pn**	**18 49 36.6**	**+3.5**

CNRM ***16*** *18:48:54.1, 35°.53N×3°.70W, h23km, ml2.7*
SFS ***16*** *18:48:55.0, 35°.41N×3°.62W, h18km, ML2.3, ALBORAN SUR*
INMG ***16*** *18:48:56.1±1.9, 35°.44N×3°.56W, h28km±13km, ML2.1, Error ellipse: s-maj=8.1km s-min=5.4km az=142.0*
ISC 16 18:48:53.0±1.2, 35°.53N±0°.04×3°.63W±0°.03, h11km±10km, n20, σ1§47/33, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.40**	**218**	P	**Pb**	**18 49 02.2**	**+0.1**
PALE				S	**Sg**	**18 49 08.0**	**+1.6**
GOG	**Mont Gurugu**	**0.61**	**121**	P	**Pb**	**18 49 06.1**	**+0.4**
GOG				S	**Sb**	**18 49 13.4**	**-0.8**
CHAS	**Isla Isabel II**	**1.04**	**109**	P	**Pg**	**18 49 12.4**	**-0.6**
CHAS				S	**Sg**	**18 49 25.3**	**-1.3**
EMAL	**Malaga-Limoner**	**1.38**	**332**	P	**Pg**	**18 49 19.1**	**-0.4**
EMAL				S	**Sb**	**18 49 36.2**	**-0.4**
SMIR	**Smir Dam**	**1.43**	**276**	P	**Pn**	**18 49 17.7**	**-1.1**
SMIR				S	**Sb**	**18 49 34.5**	**-3.4**
CHEFC	**Chefchaouen**	**1.46**	**254**	P	**Pb**	**18 49 20.6**	**+0.4**
CHEFC				S	**Sn**	**18 49 37.5**	**-1.1**
JBK	**JBK**	**1.48**	**143**	P	**Pn**	**18 49 20.3**	**+0.5**
JBK				S	**Sn**	**18 49 39.9**	**+0.6**
LCRM	**LCR**	**2.10**	**209**	P	**Pn**	**18 49 29.9**	**+1.6**
LCRM				S	**Sn**	**18 49 56.5**	**+2.0**
IFR	**Ifrane**	**2.36**	**212**	S	**Sn**	**18 49 57.7**	**-3.2**
MD31	**MD31**	**2.82**	**200**	P	**Pn**	**18 49 39.0**	**+1.0**
MD31				S	**Sn**	**18 50 11.3**	**-0.8**
MDT	**Midelt**	**2.83**	**197**	P	**Pn**	**18 49 40.0**	**+1.8**
MDT				S	**Sn**	**18 50 12.1**	**-0.3**
ZHG	**ZHG**	**3.24**	**231**	P	**Pn**	**18 49 46.2**	**+2.4**
ZHG				S	**Sn**	**18 50 20.8**	**-1.7**
PVAQ	**Vaqueiros**	**3.78**	**301**	*e*Sn	**Sn**	**18 50 35.9**	**+0.2**
PVAQ				A	A	18 50 37.7	
	2.8nm,0.5s						
PVAQ	**Vaqueiros**	**3.78**	**301**	P	**Pn**	**18 49 51.4**	**+0.1**
PVAQ				S	**Sn**	**18 50 34.2**	**-1.6**
PBDV	**Barranco-do-Ve**	**3.86**	**297**	*e*Pn	**Pn**	**18 49 54.6**	**+2.2**
PBDV				*e*Sn	**Sn**	**18 50 38.3**	**+0.5**
PBDV				A	A	18 50 41.7	
	5.2nm,0.8s						
PCVE	**Castro Verde**	**4.12**	**302**	*e*Sn	**Sn**	**18 50 44.7**	**+0.7**
PCVE				A	A	18 50 58.4	
	1.2nm,4.3s						
PFVI	**Vila Bisbo**	**4.49**	**292**	*e*Sn	**Sn**	**18 50 53.7**	**+0.6**
EVO	**Evora**	**4.61**	**312**	*e*Sn	**Sn**	**18 50 57.1**	**+1.0**
PNCL	**Nicolau / Gran**	**4.70**	**305**	*e*Sn	**Sn**	**18 50 59.2**	**+1.0**
PNCL				A	A	18 51 09.5	
	1.9nm,0.6s						
PMRV	**Marv??o**	**4.90**	**324**	*e*Sn	**Sn**	**18 51 04.1**	**+0.7**

IDC ***16*** *18:51:13.3±1.1, 35°.54N×31°.16E, h0km, mb3.7/11, mb1 3.8/17, mb1mx3.6/65, mbtmp3.8/17, ML3.7/6, MS3.8/2, Ms1 3.8/2, ms1mx2.7/87, Error ellipse: s-maj=20.9km s-min=16.5km az=28.0*
ISK ***16*** *18:51:15.9, 35°.59N×31°.36E, h3km, ML4.0/28*
NIC ***16*** *18:51:16.0±0.0, 35°.50N×31°.15E, h17km±2km, Ml4.2/8*
DDA ***16*** *18:51:16.9±0.0, 35°.40N×31°.20E, h30km±2km, MW4.0*
HLW ***16*** *18:51:17.6, 35°.37N×31°.51E, h10km±14km, Md3.7, Ml3.9*
NEIC ***16*** *18:51:18.6±2.4, 35°.55N±0°.07×31°.36E±0°.07, h36km±10km, mb4.0/12, Md4.0(NIC), ML3.9(ISK), Error ellipse: s-maj=11.5km s-min=5.0km az=213.0*
GII ***16*** *18:51:18.8±0.3, 35°.44N×31°.32E, h60km, MD3.4/8, Mm3.4/3*
ISC 16 18:51:16.0±1.0, 35°.49N±0°.02×31°.23E±0°.02, h20km±4km, n156, σ1§41/202, mb3.8/17, 2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**1.02**	**117**	P	**Pg**	**18 51 35.7**	**-0.2**
AKMS				S	**Sn**	**18 51 50.9**	**+1.9**
AKMS				AML	AML	18 51 55.6	
	21nm,0.4s						
AKMS				AML	AML	18 51 55.6	
	21nm,0.4s						
AKMS				AML	AML	18 51 57.4	
	17nm,0.4s						
AKMS				AML	AML	18 51 57.4	
	17nm,0.4s						
AKUM	**Antalya-Kumluc**	**1.10**	**319**	SPECP		18 51 36.0	
AKUM				P	**Pg**	**18 51 36.3**	**-1.1**
AKUM				S	**Sn**	**18 51 53.8**	**+2.8**
GAZI	**Gazipasa**	**1.15**	**50**	PG	**Pn**	**18 51 36.0**	**-1.1**
GAZI				SG	**Sb**	**18 51 50.5**	**-1.4**
ALFC	**Alefka**	**1.17**	**106**	P	**Pb**	**18 51 37.8**	**+0.2**
ALFC				S	**Sg**	**18 51 55.1**	**+1.1**
ALFC				AML	AML	18 52 01.2	
	13nm,0.4s						
ALFC				AML	AML	18 52 01.2	
	13nm,0.4s						
ALFC				AML	AML	18 52 03.6	
	16nm,0.3s						
ALFC				AML	AML	18 52 03.6	
	16nm,0.3s						
KEMT	**Kemer-ANTALYA**	**1.24**	**334**	PN	**Pg**	**18 51 39.1**	**-0.9**
NATA	**Nata**	**1.31**	**123**	‖P	**Pg**	**18 51 40.7**	**-0.6**
NATA				S	**Sg**	**18 51 59.4**	**+0.9**
LEF	**Lefka**	**1.41**	**105**	PN	**Pb**	**18 51 41.5**	**-0.2**
AKDN	**Akdeniz- Kıbrı**	**1.43**	**97**	PN	**Pb**	**18 51 42.3**	**+0.2**
AKDN				SN	**Sg**	**18 52 01.6**	**-0.8**
AKAS	**Kas**	**1.51**	**300**	PN	**Pg**	**18 51 44.9**	**-0.3**
SZAC	**Souni**	**1.54**	**118**	‖*e*P	**Pb**	**18 51 43.8**	**-0.2**
SZAC				S	**Sg**	**18 52 05.4**	**-0.5**
SZAC				AML	AML	18 52 15.5	
	8.8nm,0.6s						
SZAC				AML	AML	18 52 15.5	
	8.8nm,0.6s						
SZAC				AML	AML	18 52 18.6	
	7.8nm,0.4s						
SZAC				AML	AML	18 52 18.6	
	7.8nm,0.4s						
ELL	**Elmali**	**1.65**	**320**	PN	**Pg**	**18 51 46.8**	**-1.0**
ELL	**Elmali**	**1.65**	**320**	P	**Pb**	**18 51 45.4**	**-0.5**
ELL				S	**Sb**	**18 52 04.9**	**-1.3**
ELL	**Elmali**	**1.65**	**320**		**Pb**	**18 51 45.6**	**-0.3**
ELL				Sn	**Sn**	**18 52 04.6**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.66**	**66**	PN	**Pn**	**18 51 43.8**	**-0.3**
KORT	**Korkueli**	**1.67**	**335**	PN	**Pg**	**18 51 46.4**	**-1.7**
HDMB	**Hadim**	**1.79**	**34**	PN	**Pn**	**18 51 46.6**	**+0.6**
ASGA	**Asgata**	**1.80**	**112**	P	**Pn**	**18 51 47.1**	**+1.1**
ASGA				S	**Sb**	**18 52 11.5**	**+1.1**
ASGA				AML	AML	18 52 23.2	
	5.7nm,0.5s						
ASGA				AML	AML	18 52 23.2	
	5.7nm,0.5s						
ASGA				AML	AML	18 52 26.8	
	7.6nm,0.6s						
ASGA				AML	AML	18 52 26.8	
	7.6nm,0.6s						
CSS	**

KONT				P	Pn	18 51 59.2	+2.0
KONT				S	Sb	18 52 32.9	-1.0
DOGA	**KONYA_Doganhis**	**2.63**	**8**	P	Pn	18 51 59.4	+1.8
DOGA				S	Sn	18 52 30.5	+1.5
TAVA	**DENIZLI_Tavas**	**2.71**	**317**	SPECP		18 51 59.0	
TAVA				P	Pn	18 51 59.5	+0.8
TAVA				S	Sg	18 52 44.5	+1.2
KZIL	**AFYON_Kizioren**	**2.90**	**343**	SPECP	P	18 52 03.0	+1.8
KZIL				P	P	18 52 03.0	+1.8
KZIL				S	Sb	18 52 41.3	-0.8
MULA	**Mugla, Merkez-**	**2.93**	**308**	SPECP		18 52 02.0	
MULA				P	Pn	18 52 02.6	+0.9
MERS	**Mersin**	**3.00**	**62**	PN	Pn	18 52 04.1	+1.6
YESY	**Yesilyurt**	**3.05**	**41**	PN	Pn	18 52 04.9	+1.6
ALIN	**Konya, Altinte**	**3.10**	**25**	SPECP		18 52 05.0	
ALIN				P	Pn	18 52 05.6	+1.7
ALIN				S	Sn	18 52 41.2	+0.7
SULT	**Sultanhani-AKS**	**3.27**	**33**	PN	Pn	18 52 07.7	+1.5
CHBY	**Cihanbeyli**	**3.36**	**23**	PN	Pn	18 52 09.1	+1.6
AFYO	**Afyonkarahisar**	**3.37**	**348**	SPECP		18 52 09.0	
AFYO				P	Pn	18 52 09.7	+2.0
AFYO				S	Sn	18 52 47.6	+0.4
GULE	**Gulek**	**3.38**	**57**	SPECP		18 52 10.0	
GULE				P	Pn	18 52 10.7	+2.9
GULE				S	Sb	18 52 54.5	-1.5
KRTS	**Karatas**	**3.53**	**71**	PN	Pn	18 52 11.7	+2.0
KARA	**Karaisali**	**3.56**	**59**	PN	Pn	18 52 11.9	+1.8
USAK	**Uak-Merkez**	**3.67**	**332**	SPECP		18 52 11.0	
USAK				P	Pn	18 52 11.7	0.0
USAK				S	Sn	18 52 58.3	+3.8
CMRD	**Camardi-Nigde**	**3.72**	**53**	PN	Pn	18 52 14.8	+2.3
ASUZ	**Hatay-Arsuz**	**3.78**	**77**	SPECP		18 52 16.0	
ASUZ				P	Pn	18 52 16.5	+3.2
YURE	**YUREGIR**	**3.80**	**68**	SPECP		18 52 15.0	
YURE				P	Pn	18 52 15.2	+1.6
GDZ	**Gediz**	**3.85**	**339**	SPECP		18 52 15.0	
GDZ				P	Pn	18 52 15.1	+0.8
KKUL	**Konya-Kulu**	**3.91**	**20**	SPECP		18 52 16.0	
KKUL				P	Pn	18 52 17.0	+1.8
KKUL				S	Sn	18 53 01.5	+1.0
AKO	**Adana**	**3.93**	**59**	SPECP		18 52 18.0	
AKO				P	Pn	18 52 18.1	+2.8
BHL	**Bhannes**	**3.98**	**112**	*eP*	Pn	18 52 16.6	+0.6
DQRL	**Deir Qamar**	**4.00**	**115**	*eP*	Pn	18 52 17.1	+0.8
SGAZ	**Eskisehir, Sey**	**4.04**	**356**	SPECP		18 52 18.0	
SGAZ				P	Pn	18 52 18.5	+1.6
SGAZ				S	Sn	18 52 59.1	-4.6
HNTI	**Hanita**	**4.05**	**125**	Pn	Pn	18 52 16.9	-0.1
HNTI				Sn	Sn	18 53 03.2	-0.7
HWQ	**Hawqa**	**4.06**	**106**	*eP*	Pn	18 52 18.3	+1.1
ANDZ	**Kutahya, Merke**	**4.15**	**346**	SPECP		18 52 19.0	
ANDZ				P	Pn	18 52 19.5	+1.1
OFRI	**`Ofer**	**4.23**	**132**	Pn	Pn	18 52 20.0	+0.5
OFRI				Sn	Sn	18 53 07.1	-1.3
MMA0B	**Mount Meron ar**	**4.25**	**124**	Pn	Pn	18 52 20.3	+0.6
MMA0B				Sn	Sn	18 53 08.3	-0.5
MMAI	**Mount Meron Ar**	**4.25**	**124**	Pn	Pn	18 52 20.3	+0.6
	23nm,0.3s,baz=305,slow=12,SNR=217						
MMAI				Sn	Sn	18 53 08.1	-0.7
	42nm,0.3s,baz=311,slow=27,SNR=15						
RCY	**Rachaya**	**4.29**	**116**	*eP*	Pn	18 52 20.9	+0.5
SHBL	**Chebaa**	**4.30**	**119**	*eP*	Pn	18 52 21.2	+0.7
GEM	**Giv'at Ha'Em**	**4.32**	**121**	Pn	Pn	18 52 20.9	+0.3
GEM				Sn	Sn	18 53 09.1	-1.3
NATI	**Neve Ativ**	**4.34**	**120**	Pn	Pn	18 52 20.8	-0.1
NATI				Sn	Sn	18 53 09.9	-1.0
SLTI	**Sal'it**	**4.54**	**135**	Pn	Pn	18 52 24.2	+0.6
SLTI				Sn	Sn	18 53 14.7	-1.1
ANTO	**Ankara**	**4.54**	**15**		Pn	18 52 24.0	+0.2
SAIM	**ADANA**	**4.62**	**56**	P	Pn	18 52 27.2	+2.3
MMLI	**Mount Malkishu**	**4.63**	**130**	Pn	Pn	18 52 25.5	+0.6
MMLI				Sn	Sn	18 53 17.4	-0.7
BR131	**Keskin Array S**	**4.64**	**24**	Pn	Pn	18 52 26.0	+0.8
BRTR	**Keskin Array B**	**4.64**	**24**	Pn	Pn	18 52 26.4	+1.3
	1.6nm,0.3s,baz=197,slow=15,SNR=42						
BRTR				Sn	Sn	18 53 20.9	+2.4
	1.5nm,0.3s,baz=212,slow=26,SNR=5.7						
BRTR				LR	LR	18 54 40.6	
	comp=Z,175nm,21.2s,baz=289,slow=45						
BRTR	**Keskin Array B**	**4.64**	**24**	Pn	Pn	18 52 25.7	+0.5
KAMA	**Osmaniye**	**4.70**	**67**	P	Pn	18 52 27.8	+1.8
HMDT	**Nahal Hemdat**	**4.82**	**131**	Pn	Pn	18 52 28.1	+0.6
MDUB	**Mudurnu**	**4.97**	**360**	Pn	Pn	18 52 30.7	+1.0
BNN	**Bunyan**	**4.98**	**46**	Pn	Pn	18 52 29.6	-0.3
GAZ	**Gaziantep**	**5.11**	**69**	Pn	Pn	18 52 30.7	-0.9
IDI	**Anoyia**	**5.18**	**270**	Pn	Pn	18 52 31.3	-1.3
	1.1nm,0.3s,baz=279,slow=1.8,SNR=9.8						
IDI				Sn	Sn	18 53 27.7	-4.1
	3.4nm,0.3s,baz=43,slow=9.7,SNR=8.9						
DSI	**Dead Sea**	**5.23**	**137**	Pn	Pn	18 52 34.0	+0.9
DSI				Sn	Sn	18 53 32.0	-0.8
YTIR	**Yattir**	**5.25**	**141**	Pn	Pn	18 52 33.8	+0.3
YTIR				Sn	Sn	18 53 32.0	-1.4
KZIT	**Kziot**	**5.29**	**149**	Pn	Pn	18 52 34.8	+0.8
KZIT				Sn	Sn	18 53 32.8	-1.5
GHAJ	**Ghor Haditha**	**5.53**	**138**	Pn	Pn	18 52 39.6	+2.4
GHAJ	**Ghor Haditha**	**5.53**	**138**	Pn	Pn	18 52 38.9	+1.6
KOT	**Kottamia**	**5.57**	**175**	P	Pn	18 52 38.6	+0.7
	baz=177						
HMYD	**Mayadein**	**5.69**	**184**	P	Pn	18 52 41.0	+1.5
	baz=187						
ASF	**Jabal al Asfar**	**5.76**	**123**	Pn	Pn	18 52 42.5	+1.9
	1.4nm,0.3s,baz=295,slow=3.0,SNR=13						
ASF				Sn	Sn	18 53 49.9	+3.7
	2.3nm,0.3s,baz=58,slow=17,SNR=3.0						
SUZ	**Suez**	**5.79**	**166**	P	Pn	18 52 42.2	+1.2
	baz=168						
HSAF	**As Saff**	**5.86**	**177**	P	Pn	18 52 42.8	+0.9
	baz=179						
GLL	**Jalalah**	**5.91**	**176**	P	Pn	18 52 43.4	+0.8
	baz=178						
ZFRI	**Zfri**	**5.94**	**145**	Pn	Pn	18 52 42.8	0.0
PRNI	**Paran**	**6.03**	**147**	Pn	Pn	18 52 44.3	+0.1
PRNI				Sn	Sn	18 53 51.9	-0.7
KRMI	**Paran Flat**	**6.11**	**150**	Pn	Pn	18 52 45.5	+0.2
HRFI	**Mount Harif**	**6.32**	**148**	Pn	Pn	18 52 48.6	+0.5
HRFI				Sn	Sn	18 53 58.6	-1.1
MBRI	**Mt Berech**	**6.47**	**150**	Pn	Pn	18 52 50.6	+0.2
MBRI				Sn	Sn	18 54 03.0	-0.7
EIL	**Elat**	**6.60**	**151**	Pn	Pn	18 52 52.9	+0.9
	4.4nm,0.3s,baz=305,slow=2.2,SNR=100						
EIL				Sn	Sn	18 54 04.2	-2.5
	2.0nm,0.3s,baz=31,slow=18,SNR=2.2						
EIL	**Elat**	**6.60**	**151**	Pn	Pn	18 52 52.3	+0.3
NBNS	**Bani Suef**	**6.85**	**180**	P	Pn	18 52 55.8	+0.4
	baz=182						
HKAT	**Jabal Katrina**	**7.33**	**161**	P	Pn	18 53 02.4	+0.1
	baz=162						
TR2	**Tor 2**	**7.39**	**163**	P	Pn	18 53 03.1	+0.2
	baz=164						
TR1	**Tor 1**	**7.81**	**162**	P	Pn	18 53 09.2	+0.5
	baz=163						
AGG	**Agios Georgios**	**7.92**	**299**	Pn	Pn	18 53 13.0	+2.9
AKASG	**Malin Array Be**	**15.27**	**355**	Pn	Pn	18 54 52.2	+1.9
	0.6nm,0.3s,baz=177,slow=9.7,SNR=4.8						
ZST	**Bratislava**	**16.45**	**325**	*e*SN	Sn	18 58 08.2	+0.5
GERES	**GERESS Array B**	**18.56**	**321**	P	P	18 55 31.1	-0.6
	0.1nm,0.3s,baz=120,slow=9.5,SNR=4.4						
KHC	**Kasperske Hory**	**18.81**	**322**	*e*P	P	18 55 34.0	-0.3
BELG	**Belogornoye**	**20.53**	**30**	P	P	18 55 51.3	-1.7
	6.5nm,0.6s,baz=248,slow=3.8,SNR=4.6						
SENIN	**Lac Senin/Sane**	**21.01**	**308**	P	P	18 55 59.1	+0.6
SENIN				IAmb	IAmb	18 56 07.2	
	comp=Z,15nm,1.6s						
BFO	**Black Forest**	**21.23**	**314**	P	P	18 56 02.4	+1.8
BFO				IAmb	IAmb	18 56 22.7	
	comp=Z,9.0nm,1.3s						
GEYT	**Alibeck**	**21.67**	**76**	P	P	18 56 05.9	+0.4
	comp=Z,1.6nm,0.5s,baz=317,slow=8.3,SNR=1.9						
GEYT	**Alibeck**	**21.67**	**76**	IAmb	IAmb	18 56 14.3	
	comp=Z,2.9nm,0.7s						
AKTO	**Aktyubinsk**	**24.46**	**44**	P	P	18 56 35.2	+1.6
	comp=Z,1.1nm,0.5s,baz=225,slow=15,SNR=4.5						
ABKAR	**Akbulak array**	**25.10**	**48**	P	P	18 56 37.3	-2.0
ABKAR	**Akbulak array**	**25.10**	**48**	P	P	18 56 37.9	-1.4
ABKAR				IAmb	IAmb	18 56 56.5	
	comp=Z,1.4nm,0.8s						
FIA1	**FINESS Array S**	**26.18**	**354**	P	P	18 56 46.9	-2.0
FINES	**FINESS Array B**	**26.18**	**354**	P	P	18 56 45.9	-3.1
	comp=Z,0.9nm,0.5s,baz=189,slow=11,SNR=9.3						
FINES	**FINESS Array B**	**26.18**	**354**	P	P	18 56 48.2	-0.8
ARU	**Arti**	**27.95**	**33**	P	P	18 57 03.2	-1.8
ARU				IAmb	IAmb	18 57 14.1	
	comp=Z,2.9nm,0.9s						
ESDC	**Sonseca Array**	**28.09**	**289**	P	P	18 57 05.5	-0.9
	comp=Z,0.5nm,0.8s,baz=78,slow=8.3,SNR=2.5						
KKAR	**Karatay Array**	**31.11**	**64**	P	P	18 57 31.4	-1.7
AAK	**Ala-Archa**	**34.05**	**65**	P	P	18 58 01.1	+2.1
	comp=Z,0.6nm,0.5s,baz=209,slow=13,SNR=2.0						
ARCES	**ARCESS Array B**	**34.24**	**356**	P	P	18 58 00.9	+0.7
	comp=Z,2.0nm,0.8s,baz=167,slow=8.3,SNR=1.9						
KURBB	**Kurchatov Arra**	**37.05**	**51**	P	P	18 58 24.1	-0.4
	comp=Z,0.9nm,0.6s,baz=268,slow=8.8,SNR=8.8						
KURK	**Kurchatov**	**37.12**	**51**	P	P	18 58 22.3	-2.8
KURK				IAmb	IAmb	18 58 54.2	
	comp=Z,2.8nm,1.1s						
MAKZ	**Makanchi**	**39.22**	**57**	P	P	18 58 41.7	-1.2
MAKZ				IAmb	IAmb	18 58 55.0	
	comp=Z,4.1nm,1.4s						
MKAR	**Makanchi Array**	**39.44**	**57**	P	P	18 58 44.1	-0.6
	comp=Z,0.9nm,0.5s,baz=260,slow=10,SNR=17						
MKAR	**Makanchi Array**	**39.44**	**57**	P	P	18 58 42.8	-1.9
WMQ	**Urumqi**	**43.52**	**61**	*eP*	P	18 59 18.8	+0.5
SCO	**Scoresbysund**	**44.87**	**338**	P	P	18 59 28.8	+0.2
SONM	**Songino Array**	**55.40**	**52**	P	P	19 00 47.9	-1.1
	comp=Z,0.2nm,0.4s,baz=276,slow=7.0,SNR=4.1						
SONM	**Songino Array**	**55.40**	**52**	IAmb	IAmb	19 01 08.7	
	comp=Z,1.8nm,1.3s						
TIXI	**Tiksi**	**59.08**	**21**	P	P	19 01 15.2	+0.8
	comp=Z,0.7nm,0.5s,baz=291,slow=5.1,SNR=6.0						
PZH	**PanZhiHua**	**59.97**	**77**	P	P	19 01 21.6	+0.2
PZH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,6.3s						
HHC	**Hu-ho-hao-te**	**61.28**	**59**	*eP*	P	19 01 30.6	+0.5
YKA	**Yellowknife Ar**	**78.55**	**345**	P	P	19 03 15.8	+0.1
	comp=Z,0.1nm,0.4s,baz=28,slow=5.4,SNR=1.9						
PCRV	**Puerto La Cruz**	**88.89**	**282**	LR	LR	19 42 56.9	
	comp=Z,261nm,19.6s,slow=35						

BJI ***16*** *18:54:26.3±0.0, 1˚.09S×.99˚.25E, h54km, mb4.8/63, mB5.0/45, Ms4.5/39, Ms7 4.3/40*
MOS ***16*** *18:54:31.7±0.9, 0˚.47S×.99˚.34E, h66km, mb5.3/42, Error ellipse: s-maj=7.7km s-min=4.2km az=112.9*
DJA ***16*** *18:54:32.6±0.2, 1˚S±2˚×9˚9E±˚, h62km±2km, M4.8/82, mB5.3/51, mb5.1/82, MLv5.5/27, Mw5.0/8, Mw(mB)4.7/51, MwMwp5.1/3, Mwp5.3/3*
GCMT ***16*** *18:54:32.7±0.3, 0˚.38S±0˚.02×.99˚.08E±0˚.02, h62km±2km, MW4.9/80, Moment Tensor Solution. s36,c46; s80,c107; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=1.45±.12; Mθθ2.48±.08; Mφφ-1.03±.10; Mrθ0.84±.07; Mθφ-0.32±.08; Mφr-1.26±.07; Best double couple: M=2.65200×1016 NP1:φs=62.00000°, δ=44.00000°, λ=-147.00000°. NP2: φs=307.00000°, δ=68.00000°, λ=-51.00000°. Principal axes: T 2.7460, Plg14.0000°, Azm10.0000°; N -0.1890, Plg36.0000°, Azm110.0000°; P -2.5580, Plg51.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *18:54:33.7±1.9, 0˚.48S±0˚.06×.99˚.29E±0˚.06, h62km±4km, mb5.2/136 Error ellipse: s-maj=9.5km s-min=7.3km az=222.0*
DSN ***16*** *18:54:33.9±1.4, 0˚.33S×.99˚.43E, h62km, mb5.7/12, Error ellipse: s-maj=28.3km s-min=11.5km az=126.0*
IDC ***16*** *18:54:35.1±1.0, 0˚.47S×.99˚.48E, h80km±8km, mb4.6/53, mb1 4.6/56, mb1mx4.5/68, mbtmp4.9/56, MS3.9/46, Ms1 3.9/46, ms1mx3.8/72, Error ellipse: s-maj=9.7km s-min=5.6km az=53.0*
BGR ***16*** *18:54:37.6±0.0, 0˚.84N×.98˚.42E, h33km, mb5.2, Ms4.1*
ISC 16 18:54:33.0±0.4, 0˚.53S±0˚.03×99˚.29E±0˚.03, h62km±3km, h62km:pP-P, n791, σ1$39/835, mb5.1/236, 48C-46D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.82**	**194**	P	**Pn**	18 54 48.3	-0.6
SISI				S	**Sn**	18 55 00.7	+0.2
PPI	**Padang Panjang**	**1.11**	**86**	P	**Pn**	18 54 53.4	+0.9
PPI				S	**Sn**	18 55 08.8	+1.7
MNSI	**Mandailing Nat**	**1.34**	**12**	P	**Pn**	18 54 56.3	+0.6
BKNI	**Bangkinang**	**1.94**	**64**	P	**Pn**	18 55 05.1	+1.4
BKNI	**Bangkinang**	**1.94**	**64**		**Pn**	18 55 05.0	+1.2
SBSI	**Sibolga**	**2.10**	**349**	P	**Pn**	18 55 03.8	-2.1
PPSI	**Pulau Pagai**	**2.33**	**162**	P	**Pn**	18 55 08.2	-0.9
GSI	**Gunungsitoli**	**2.50**	**317**	P	**Pn**	18 55 10.8	-0.5
GSI	**Gunungsitoli**	**2.50**	**317**	Pn	**Pn**	18 55 10.5	-0.8
GSI	**Gunungsitoli**	**2.50**	**317**	P	**Pn**	18 55 12.3	+1.0
KRJI	**Kerinci**	**2.67**	**126**	P	**Pn**	18 55 16.1	+2.4
RGRI	**Rengat**	**3.05**	**87**	P	**Pn**	18 55 20.4	+1.6
RPSI	**Rantau Prapat**	**3.22**	**353**		**Pn**	18 55 22.2	+1.0
RPSI					**Sn**	18 55 59.0	+0.7
PSI	**Prapat**	**3.33**	**354**	P	**Pn**	18 55 22.2	-0.6
	43nm,0.3s,baz=172,slow=10,SNR=177						
PSI				S	**Sn**	18 55 59.0	-2.1
	28nm,0.3s,baz=150,slow=2.8,SNR=6.1						
PSI				LR	LR	18 56 59.5	
	comp=Z,5μm,21.1s,baz=157,slow=45						
MASI	**Maura Aman, Be**	**3.93**	**131**	P	**Pn**	18 55 32.2	+1.3
TSI	**Tuntungan**	**4.07**	**350**	P	**Pn**	18 55 33.2	+0.4
SNSI	**Sinabang, Aceh**	**4.16**	**315**	P	**Pn**	18 55 32.4	-1.6
KCSI	**Kotacane, Aceh**	**4.30**	**339**	P	**Pn**	18 55 35.8	-0.2
JMBI	**JAMBI**	**4.49**	**104**	P	**Pn**	18 55 40.4	+1.9
MYKOM	**Kota Tinggi**	**5.11**	**63**		**Pn**	18 55 48.5	+1.5
IPM	**Ipoh**	**5.27**	**19**	Pn	**Pn**	18 55 51.1	+1.9
IPM	**Ipoh**	**5.27**	**19**	P	**Pn**	18 55 51.5	+2.3
MNAI	**Manna**	**5.28**	**136**	P	**Pn**	18 55 50.4	+1.0
	17nm28μm925nm,0.6s						
MNAI	**Manna**	**5.28**	**136**	Pn	**Pn**	18 55 50.2	+0.8
MNAI	**Manna**	**5.28**	**136**	P	**Pn**	18 55 51.0	+1.6
DSRI	**Dabo**	**5.29**	**90**	P	**Pn**	18 55 52.1	+2.6
	1.4nm4μm95nm,0.8s						
LHSI	**Lahat**	**5.35**	**128**	P	**Pn**	18 55 52.5	+2.2
	3.7nm7μm389nm,0.9s						
TPRI	**Tanjung Pinang**	**5.43**	**75**	P	**Pn**	18 55 52.7	+1.3
	2.4nm4μm290nm,0.7s						
KULM	**Kulim**	**5.94**	**13**	Pn	**Pn**	18 55 59.1	+0.8
PMBI	**Palembang**	**5.97**	**114**	Pn	**Pn**	18 55 58.6	-0.3
LHMI	**Lhok Sumawe**	**6.18**	**338**	P	**Pn**	18 56 01.3	-0.4
	4.2nm6μm473nm,0.9s						
LHMI	**Lhok Sumawe**	**6.18**	**338**		**Pn**	18 56 02.8	+1.1
LHMI	**Lhok Sumawe**	**6.18**	**338**	P	**Pn**	18 56 04.7	+3.0
MDSI	**Maura Dua**	**6.27**	**129**	P	**Pn**	18 56 04.9	+2.0
	0.8nm776nm2μm194nm,0.7s						
LWLI	**Liwa**	**6.52**	**133**	P	**Pn**	18 56 08.1	+1.6
	6.8nm52μm1μm,0.7s						
KLSI		**6.83**	**127**	P	**Pn**	18 56 12.2	+1.6
	0.4nm1μm120nm,0.7s						
PPBI	**Pangkal Pinang**	**7.03**	**103**	P	**Pn**	18 56 15.5	+2.1
	0.9nm4μm48nm,1.0s						
KASI	**Kota Agung**	**7.19**	**134**	P	**Pn**	18 56 15.7	+0.2
	2.0nm4μm403nm,0.7s						
BLSI	**Bandar Lampung**	**7.65**	**129**	P	**Pn**	18 56 21.9	+0.1
	0.8nm108nm,0.5s						
TPI	**Tanjungpandan**	**8.65**	**105**	P	**Pn**	18 56 37.7	+2.2
	436nm53nm,1.0s						
CGJI	**Cibinong**	**8.79**	**134**	P	**Pn**	18 56 35.3	-2.2
	2μm95nm,0.6s						
SRIT	**Nakonsritamara**	**9.07**	**2**	Pn	**Pn**	18 56 40.7	-0.5
DBJI	**Dramaga**	**9.55**	**129**	P	**Pn**	18 56 47.7	-0.2
	91μm5μm77nm,0.7s						
SKJI	**Sukabumi**	**9.69**	**132**	P	**Pn**	18 56 50.4	+0.6
	2μm109nm,0.6s						
CNJI	**Cibinong**	**10.32**	**131**	P	**Pn**	18 56 55.3	-3.1
	2μm187nm,1.0s						
LEM	**Lembang**	**10.40**	**127**	P	**Pn**	18 57 01.1	+1.5
	3.8nm,0.3s,baz=59,slow=11,SNR=8.0						
LEM				S	**Sn**	18 58 56.0	+1.2
	2.3nm,0.3s,baz=127,slow=20,SNR=1.1						
LEM				LR	LR	19 01 19.6	
	comp=Z,786nm,20.9s,baz=297,slow=39						
LEM	**Lembang**	**10.40**	**127**	P	**Pn**	18 56 59.8	+0.2
	730nm69nm,0.9s						
KSM	**Kuching**	**11.19**	**80**		**Pn**	18 57 12.2	+1.9
CMJI	**Cimerak**	**11.63**	**129**	P	**Pn**	18 57 12.6	-3.7
	851nm67nm,0.5s						
XMI	**Christmas Isla**	**11.73**	**147**	P	**Pn**	18 57 18.1	+0.4
COCO	**West Island**	**11.84**	**192**	P	**Pn**	18 57 16.0	-3.1
COCO	**West Island**	**11.84**	**192**	P	**Pn**	18 57 18.2	-1.0
COCO	**West Island**	**11.84**	**192**	Pn	**Pn**	18 57 16.0	-3.1
STKI	**Sintang**	**12.20**	**87**	P	**Pn**	18 57 25.0	+0.9
	38nm,0.9s						
SMRI	**Semarang**	**12.87**	**120**	P	**Pn**	18 57 34.4	+1.2
	143nm,0.7s						
SMRI	**Semarang**	**12.87**	**120**	Pn	**Pn**	18 57 33.7	+0.5
UWJI	**Ujung Watu**	**13.02**	**117**	P	**Pn**	18 57 32.7	-2.6
	62nm,1.1s						
SBUM	**Sibu**	**13.26**	**77**		**Pn**	18 57 36.5	-2.0
UGM	**Wanagama**	**13.38**	**124**	P	**Pn**	18 57 38.8	-1.4
	103nm,2.1s						
UGM	**Wanagama**	**13.38**	**124**		**Pn**	18 57 38.2	-2.0
UGM	**Wanagama**	**13.38**	**124**	P	**Pn**	18 57 39.9	-0.3
PCJI	**Pacitan**	**14.08**	**123**	P	**Pn**	18 57 48.3	-1.2
	47nm,0.5s						
DLV	**T Lat**	**15.39**	**36**	Pn	**Pn**	18 58 05.5	-1.2
MTKI	**Muara Teweh, K**	**15.61**	**92**	P	**P**	18 58 11.8	-0.6
	21nm,1.7s						
BBKI	**Banjar Baru**	**15.81**	**101**	P	**P**	18 58 14.5	-0.1
	1μm100nm,0.9s						
KMMI	**Kalianget**	**16.01**	**114**	P	**Pn**	18 58 15.4	+1.0
	83nm,1.1s						
JAGI	**Jajag, Banyuwa**	**16.78**	**118**	P	**P**	18 58 28.1	+2.8
	53nm,0.9s						
JAGI	**Jajag, Banyuwa**	**16.78**	**118**	P	**Pn**	18 58 23.0	-1.0
JAGI	**Jajag, Banyuwa**	**16.78**	**118**	P	**Pn**	18 58 24.6	+0.6
UBPT	**Khong Chiam**	**16.85**	**21**	P	**Pn**	18 58 23.0	-1.9
UBPT				IAmb	IAmb	18 59 01.4	
	comp=Z,249nm,1.9s						
KBKI	**Kotabaru**	**17.09**	**99**	P	**P**	18 58 29.1	+0.3
	comp=Z,658nmcomp=Z,78nm,1.0s						
SRBI	**Singaraja**	**17.55**	**116**	P	**Pn**	18 58 32.3	-1.3
	comp=Z,854nmcomp=Z,47nm,0.6s						
BKB	**Balikpapan**	**17.62**	**92**	P	**P**	18 58 38.9	+4.3
	comp=Z,2μmcomp=Z,207nm,1.2s						
KKM	**Kota Kinabalu**	**18.11**	**69**	P	**P**	18 58 37.9	-2.3
KKM				IAmb	IAmb	18 58 56.8	
	comp=Z,130nm,1.1s						
CM31	**Chiang Mai Arr**	**18.87**	**359**	P	**P**	18 58 45.9	-2.5
CMAR	**Chiang Mai Arr**	**18.87**	**359**	P	**P**	18 58 48.5	+0.1
	comp=Z,0.5nm,0.3s,baz=192,slow=11,SNR=41						
CMAR				S	**S**	19 02 18.2	-1.5
	comp=Z,0.2nm,0.3s,baz=184,slow=26,SNR=2.7						
CMAR				PcP	**PcP**	19 03 13.9	+0.9
	comp=Z,0.2nm,0.3s,baz=216,slow=2.8,SNR=8.8						
CMAR				LR	LR	19 06 30.1	
	comp=Z,910nm,19.0s,baz=180,slow=38						
CMAR				ScP	**ScP**	19 06 43.7	+0.1
	comp=Z,0.2nm,0.3s,baz=211,slow=3.3,SNR=6.3						
CMAR	**Chiang Mai Arr**	**18.87**	**359**	P	**P**	18 58 45.7	-2.6
CHTO	**Chiang Mai**	**19.22**	**359**	P	**P**	18 58 50.5	-1.7
CHTO				pmax	pmax		
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**19.22**	**359**	P	**P**	18 58 52.6	+0.4
CHTO				P	**P**	18 58 52.6	+0.4
CHTO	**Chiang Mai**	**19.22**	**359**	P	**P**	18 58 50.5	-1.7
MYLDM	**Lahad Datu**	**20.00**	**73**	P	**P**	18 59 01.5	+0.7
MYLDM				IAmb	IAmb	18 59 19.3	
	comp=Z,184nm,1.1s						
PALK	**Pallekele**	**20.10**	**293**	P	Pn	18 59 03.3	-0.9
	comp=Z,47nm,1.0s,baz=213,slow=8.8,SNR=18						
PALK				S	**S**	19 02 36.0	-8.5
	comp=Z,6.2nm,0.7s,baz=298,slow=18,SNR=2.9						
PALK				LR	LR	19 05 44.0	
	comp=Z,497nm,21.9s,baz=221,slow=33						
PALK	**Pallekele**	**20.10**	**293**	P	Pn	18 59 03.7	-0.5
PALK				P	Pn	18 59 03.7	-0.5
PALK	**Pallekele**	**20.10**	**293**	P	**P**	18 59 00.5	-1.3
MPSI	**Mapaga**	**20.62**	**88**	P	Pn	18 59 10.3	0.0
	comp=Z,654nmcomp=Z,50nm,0.7s						
TTSI	**Tana Toraja**	**20.67**	**97**	P	Pn	18

comp=Z,11nm,0.8s
CUPL Choutuppal 26.76 312 *e*P **P** **19 00 08.1 +0.8**
SHL Shillong 26.91 345 P **P** **19 00 06.9 -1.8**
SHL pmax pmax
comp=Z,197nm,1.1s
SHL Shillong 26.91 345 *e*P **P** **19 00 10.1 +1.4**
SHL Shillong 26.91 345 P **P** **19 00 11.5 +2.9**
SNR=57
SHL Shillong 26.91 345 P **P** **19 00 06.9 -1.8**
PZH PanZhiHua 26.98 5 ⇓P **P** **19 00 09.8 +0.6**
PZH pP **pP** **19 00 26.1 +1.8**
PZH sP **sP** **19 00 32.9 +1.3**
PZH S **S** **19 04 45.3 +3.0**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.0s
PZH LR LR
comp=Z,1μm,21.4s
PZH LR LR
comp=Z,830nm,20.2s
PZH LR LR
comp=Z,990nm,21.0s
MOKO MOKOCHONG 27.09 351 *e*P **P** **19 00 10.0 -0.1**
MOKO IAmb IAmb 19 00 20.7
comp=Z,187nm,1.2s
HYBB Hyderabad (bro 27.11 312 *e*P **P** **19 00 09.9 -0.5**
DAV Davao City (W) 27.29 73 LR LR 19 12 41.7
comp=Z,248nm,20.4s,baz=270,slow=40
BOK Bokaro 27.46 333 *e*P **P** **19 00 14.4 +1.0**
RPR Rampur 27.51 315 *e*P **P** **19 00 14.7 +0.8**
H08S2 Diego Garcia H 27.63 254 T T 19 28 31.1
baz=77,slow=76,SNR=66
H08S3 Diego Garcia H 27.64 255 T T 19 28 15.3
baz=77,slow=76,SNR=120
H08S1 Diego Carcia H 27.65 254 T T 19 28 14.9
baz=77,slow=76,SNR=65
GYA Guiyang 27.75 14 ⇑P **P** **19 00 19.0 +2.9**
GYA pP pP 19 00 30.6 -0.7
GYA S **S** **19 05 02.0 +7.4**
GYA pmax pmax
comp=Z,11nm,1.2s
GYA LR LR
comp=Z,480nm,19.2s
GYA LR LR
comp=Z,480nm,15.2s
GYA LR LR
comp=Z,580nm,20.6s
LKP Lekhapani 27.90 353 *e*P **P** **19 00 16.8 -0.4**
LKP IAmb IAmb 19 00 18.0
comp=Z,61nm,0.8s
ITAN ITANAGAR 28.03 349 *e*P **P** **19 00 19.0 +0.6**
ITAN IAmb IAmb 19 00 20.9
comp=Z,164nm,1.2s
LBMI Labuha 28.21 90 P **P** **19 00 21.6 +1.4**
comp=Z,796nmcomp=Z,40nm,1.9s
SRSP Sriramsagar 28.23 314 *e*P **P** **19 00 20.1 -0.2**
MBWA Marble Bar 28.61 137 P **P** **19 00 24.7 +1.0**
MBWA P **P** **19 00 24.7 +1.0**
MBWA Marble Bar 28.61 137 P **P** **19 00 25.1 +1.4**
PSA00 Pilbara Seismi 28.97 138 **P** **19 00 26.9 0.0**
PSA00 IAmb IAmb 19 00 42.2
comp=Z,39nm,0.8s
PSA00 Pilbara Seismi 28.97 138 P **P** **19 00 26.8 -0.2**
PSA00 IAmb IAmb 19 00 42.2
comp=Z,22nm,0.8s
PSA00 Pilbara Seismi 28.97 138 P **P** **19 00 28.9 +2.0**
AAI Ambon 29.05 97 P **P** **19 00 27.5 -0.2**
comp=Z,24nm,0.6s
PKI Pulchoki 30.96 336 *e*P **P** **19 00 45.4 +0.6**
comp=Z,11nm,0.9s
PKIN Phulchoki 30.97 336 *e*P **P** **19 00 45.3 +0.5**
LSA Lhasa 31.05 346 P **P** **19 00 46.8 +1.1**
GUN Gumba 31.07 337 *e*P **P** **19 00 46.8 +1.0**
comp=Z,40nm,0.7s
DMN Daman 31.12 335 *e*P **P** **19 00 46.2 +0.1**
comp=Z,33nm,1.0s
KKN Kakani 31.20 336 *e*P **P** **19 00 47.7 +0.9**
comp=Z,29nm,0.9s
FITZ Fitzroy Crossi 31.23 125 P **P** **19 00 46.0 -0.9**
comp=Z,7.9nm,0.6s,baz=316,slow=6.6,SNR=61
FITZ PcP **PcP** **19 03 41.1 +0.6**
comp=Z,3.9nm,0.7s,baz=270,slow=5.8,SNR=3.3
FITZ S **S** **19 05 44.2 -4.9**
comp=Z,30nm,1.1s,baz=99,slow=14,SNR=12
FITZ Fitzroy Crossi 31.23 125 P **P** **19 00 45.8 -1.1**
baz=31,SNR=29
TPUB Ta-pu 31.49 40 P **P** **19 00 47.1 -2.0**
CD2 Chengdu 31.55 7 P **P** **19 00 51.6 +2.0**
CD2 S **S** **19 05 57.3 +3.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,50nm,18.1s
CD2 LR LR
comp=Z,320nm,13.2s
CD2 LR LR
comp=Z,520nm,18.7s
GKN Gorkha 31.66 335 *e*P **P** **19 00 51.8 +1.0**
comp=Z,39nm,0.8s
KOLN Koldanda 31.92 333 *e*P **P** **19 00 54.1 +1.0**
comp=Z,68nm,0.7s
MEEK Meekatharra 31.93 146 P **P** **19 00 55.6 +2.6**
baz=32,SNR=7.6
MEEK Meekatharra 31.93 146 P **P** **19 00 54.8 +1.8**
SWI Sorong 31.97 91 P **P** **19 00 53.7 +0.2**
comp=Z,600nmcomp=Z,19nm,0.9s
SIJI Sorong 31.97 91 P **P** **19 00 52.7 -0.9**
comp=Z,6.8nm,0.6s,baz=248,slow=19,SNR=18
SIJI LR LR 19 16 43.7
comp=Z,105nm,19.3s,baz=212,slow=42
SSLB Suanglung 32.04 40 P **P** **19 00 52.8 -1.2**
SSLB IAmb IAmb 19 01 26.6
comp=Z,29nm,1.0s
ENH Enshi 32.13 17 P **P** **19 00 51.6 -3.1**
DANN Dangsing 32.34 334 *e*P **P** **19 00 57.8 +0.9**
comp=Z,61nm,0.7s
PYUN Piuthan 32.48 332 *e*P **P** **19 00 58.8 +0.8**
MORW Morawa 32.58 152 P **P** **19 01 01.1 +2.5**
baz=33,SNR=3.6
MORW Morawa 32.58 152 P **P** **19 00 57.4 -1.2**
MORW IAmb IAmb 19 01 16.2
comp=Z,37nm,1.1s
MORW Morawa 32.58 152 P **P** **19 01 00.9 +2.3**
KNRA Kununurra 32.75 119 P **P** **19 00 58.0 -2.2**
baz=33,SNR=21
KNRA Kununurra 32.75 119 P **P** **19 00 58.1 -2.2**
FAKI Fak Fak 33.03 95 P **P** **19 01 02.7 -0.1**
FAKI Fak Fak 33.03 95 P **P** **19 01 03.1 +0.3**
TATO Taipei 33.23 39 P **P** **19 01 03.0 -1.4**
MTN Manton Dam 33.85 113 P **P** **19 01 08.3 -1.6**
baz=34,SNR=7.6
MTN Manton Dam 33.85 113 **P** **19 01 06.5 -3.4**
MTN Manton Dam 33.85 113 P **P** **19 01 08.6 -1.3**
BLDU Ballidu 34.19 153 P **P** **19 01 14.2 +1.6**
baz=34,SNR=4.6
BLDU Ballidu 34.19 153 P **P** **19 01 15.2 +2.5**
KDU Kakadu 35.04 112 P **P** **19 01 18.0 -2.2**
baz=35,SNR=5.8
MUN Mundaring 35.13 155 P **P** **19 01 21.9 +1.2**
baz=35,SNR=6.0
MUN Mundaring 35.13 155 P **P** **19 01 24.0 +3.3**
KLBR Kellerberrin 35.49 152 P **P** **19 01 26.0 +2.1**
baz=36,SNR=4.9
KLBR Kellerberrin 35.49 152 P **P** **19 01 26.1 +2.2**
XAN Xi'an 35.55 14 P **P** **19 01 23.4 -1.0**
XAN S **S** **19 06 54.5 -1.3**
XAN pmax pmax
comp=Z,21nm,1.1s
XAN pmax pmax
comp=Z,98nm,4.6s
XAN LR LR
comp=Z,270nm,15.1s
XAN LR LR
comp=Z,440nm,19.2s
XAN LR LR
comp=Z,660nm,16.2s
NWAO Narrogin (SRO) 36.39 154 P **P** **19 01 33.1 +1.6**
LZH Lanzhou 36.67 6 ⇑P **P** **19 01 34.5 +0.4**
LZH pP pP 19 01 46.3 -3.2
LZH sP sP 19 01 54.3 -2.5
LZH PcP **PcP** **19 03 57.6 +1.8**
LZH sS sS 19 07 36.4 -2.5
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,130nm,5.4s
LZH LR LR
comp=Z,540nm,17.9s
LZH LR LR
comp=Z,370nm,18.0s
LZH LR LR
comp=Z,680nm,18.4s
GOMU GeErMu 36.77 354 P **P** **19 01 36.3 +1.1**
GOMU PcP **PcP** **19 03 57.8 +1.4**
GOMU S **S** **19 07 21.6 +6.5**
GOMU pmax pmax
comp=Z,5.0nm,1.0s
GOMU pmax pmax
comp=Z,65nm,4.6s
GOMU LR LR
comp=Z,100nm,15.9s
GOMU LR LR
comp=Z,130nm,15.5s
GOMU LR LR
comp=Z,88nm,16.2s
H01W3 Cape Leeuwin H 36.88 159 T T 19 40 05.9
baz=336,slow=76,SNR=7.0
H01W2 Cape Leeuwin H 36.90 159 T T 19 39 49.0
baz=336,slow=76,SNR=8.5
H01W1 Cape Leeuwin H 36.90 159 T T 19 39 57.9
baz=336,slow=76,SNR=6.1
LYN LuoYang 37.02 18 ⇑*i*P **P** **19 01 38.0 +1.2**
LYN sP sP 19 01 59.3 -0.2
LYN S **S** **19 07 22.6 +4.6**
LYN pmax pmax
comp=Z,10.0nm,0.6s
LYN LR LR
comp=Z,300nm,21.6s
LYN LR LR
comp=Z,290nm,20.6s
WRKA Warakurna 37.14 133 P **P** **19 01 38.5 +0.4**
baz=37,SNR=50
WRKA Warakurna 37.14 133 P **P** **19 01 39.1 +1.0**
NJ2 Nanjing 37.32 28 *e*P **P** **19 01 41.5 +2.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,260nm,5.4s
NJ2 LR LR
comp=Z,530nm,17.0s
NJ2 LR LR
comp=Z,330nm,15.2s
NJ2 LR LR
comp=Z,550nm,16.1s
SMLA Simla 37.84 328 *e*P **P** **19 01 43.7 -0.2**
JOW Kunigami 38.97 44 LR LR 19 18 20.8
comp=Z,82nm,20.2s,baz=132,slow=37
JOW Kunigami 38.97 44 P **P** **19 01 51.4 -2.0**
JOW IAmb IAmb 19 02 55.2
comp=Z,75nm,1.6s
DHRM DHARAMSHALA 39.18 328 *e*P **P** **19 01 55.1 -0.3**
WB0 Warramunga Arr 39.33 121 P **P** **19 01 54.9 -1.6**
WB0 IAmb IAmb 19 01 56.7
comp=Z,24nm,0.5s
WRA Warramunga Arr 39.35 122 P **P** **19 01 56.2 -0.6**
comp=Z,16nm,0.5s,baz=304,slow=8.9,SNR=360
WRA PcP **PcP** **19 04 04.8 +0.5**
comp=Z,4.9nm,0.6s,baz=313,slow=2.6,SNR=6.0
WRA S **S** **19 07 46.3 -7.6**
comp=Z,3.9nm,1.0s,baz=294,slow=16,SNR=6.3
WRA LR LR 19 19 22.0
comp=Z,87nm,20.4s,baz=69,slow=38
WRA Warramunga Arr 39.35 122 P **P** **19 01 55.0 -1.7**
WRAB Tennant Creek 39.36 122 *d i*P **P** **19 01 55.8 -1.0**
WRAB pmax pmax
comp=Z,19nm,0.9s
WRAB Tennant Creek 39.36 122 P **P** **19 01 55.4 -1.4**
WRAB IAmb IAmb 19 01 57.6
comp=Z,26nm,0.7s
WRAB Tennant Creek 39.36 122 P **P** **19 01 56.0 -0.8**
WB2 Warramunga Arr 39.36 122 P **P** **19 01 55.2 -1.6**
WB2 IAmb IAmb 19 01 57.6
comp=Z,24nm,0.7s
WR0 Warramunga Arr 39.53 121 P **P** **19 01 56.8 -1.4**
WR0 IAmb IAmb 19 01 58.7
comp=Z,31nm,0.6s
GTA Gaotai 39.75 1 ⇑P **P** **19 02 00.3 +0.5**
GTA pP pP 19 02 12.5 -2.9
GTA sP sP 19 02 18.6 -4.0
GTA ScP **ScP** **19 07 49.3 +0.3**
GTA S **S** **19 08 01.0 +1.6**
GTA pmax pmax
comp=Z,19nm,1.5s
GTA pmax pmax
comp=Z,45nm,3.8s
GTA LR LR
comp=Z,220nm,20.4s
GTA LR LR
comp=Z,190nm,19.3s
GTA LR LR
comp=Z,340nm,20.7s
HNS HongShan 40.34 19 ⇑P **P** **19 02 05.8 +1.2**
HNS pmax pmax
comp=Z,11nm,0.9s
FORT Forrest 40.62 140 P **P** **19 02 08.9 +1.9**
baz=41,SNR=41
FORT Forrest 40.62 140 P **P** **19 02 07.7 +0.6**
FORT Forrest 40.62 140 P **P** **19 02 09.1 +2.1**
AS31 Alice Springs 40.69 127 P **P** **19 02 07.2 -0.6**
ASAR Alice Springs 40.69 127 P **P** **19 02 07.7 -0.2**
comp=Z,24nm,0.7s,baz=305,slow=8.0,SNR=195
ASAR PcP **PcP** **19 04 09.4 +0.8**
comp=Z,11nm,0.7s,baz=309,slow=2.9,SNR=13
ASAR S **S** **19 08 08.2 -5.7**
comp=Z,2.1nm,0.7s,baz=300,slow=14,SNR=9.8
ASAR LR LR 19 19 14.2
comp=Z,152nm,21.8s,baz=324,slow=36
ASAR Alice Springs 40.69 127 P **P** **19 02 06.9 -0.9**
GENI Genyem 40.91 93 P **P** **19 02 08.1 -1.6**
comp=Z,45nm,0.8s
JAY Jayapura 41.44 93 LR LR 19 21 42.1
comp=Z,44nm,18.2s,baz=138,slow=39
JAY Jayapura 41.44 93 P **P** **19 02 13.4 -0.7**
comp=Z,13nm,0.9s
NIL Nilore 41.89 327 P **P** **19 02 16.7 -0.8**
NIL pmax pmax
comp=Z,43nm,0.8s
NIL Nilore 41.89 327 P **P** **19 02 16.7 -0.8**
NIL IAmb IAmb 19 02 18.3
comp=Z,43nm,0.8s
HHC Hu-ho-hao-te 42.67 14 *e*P **P** **19 02 24.9 +1.1**
HHC S **S** **19 08 45.5 +2.8**
HHC ScS **ScS** **19 12 19.4 0.0**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,75nm,5.4s
HHC LR LR
comp=Z,510nm,17.1s
HHC LR LR
comp=Z,220nm,17.8s
HHC LR LR
comp=Z,630nm,17.1s
BJT Baijiatuau 43.20 19 P **P** **19 02 27.4 -0.5**
BJT pmax pmax
comp=Z,31nm,1.3s
BJT Baijiatuau 43.20 19 P **P** **19 02 27.4 -0.5**
BJI Beijing 43.22 19 P **P** **19 02 29.3 +1.2**
BJI pmax pmax
comp=Z,14nm,1.0s
JSU Suzuyama 43.44 40 P **P** **19 02 29.1 -1.0**
JSU IAmb IAmb 19 03 01.8
comp=Z,80nm,1.4s
QIS Mount Isa 44.13 119 P **P** **19 02 35.1 -0.7**
baz=44,SNR=6.4
QIS Mount Isa 44.13 119 P **P** **19 02 35.5 -0.3**
OOD Oodnadatta 44.17 131 P **P** **19 02 36.7 +0.8**
MULG Mulgathing 44.34 135 P **P** **19 02 38.1 +0.8**
JNU Nakatsue 44.78 39 P **P** **19 02 40.5 -0.2**
comp=Z,28nm,1.0s,baz=198,slow=3.1,SNR=11
JNU LR LR 19 23 26.3
comp=Z,152nm,18.2s,baz=238,slow=39
JNU Nakatsue 44.78 39 P **P** **19 02 39.5 -1.2**
JNU IAmb IAmb 19 03 17.4
comp=Z,24nm,0.8s
JLN Jalan Bani Buh 44.93 303 P **P** **19 02 43.0 +0.9**
SNR=6.9
JLN P **P** **19 02 43.0 +0.9**
SNR=6.9
KSH Kashi 45.21 334 P **P** **19 02 43.4 -0.8**
KSH pP pP 19 02 57.0 -3.0
KSH pmax pmax
comp=Z,22nm,0.7s
WMQ Urumqi 45.35 348 pmax pmax
comp=Z,16nm,1.1s
WMQ Urumqi 45.35 348 *e*P **P** **19 02 47.0 +1.8**
WMQ pP pP 19 03 00.1 -0.9
WMQ sP sP 19 03 03.8 -4.4
WMQ PcP **PcP** **19 04 24.9 +1.1**
WMQ PP **PP** **19 04 33.5 +1.1**
WMQ S **S** **19 09 24.4 +2.8**
WMQ pmax pmax
comp=Z,94nm,1.3s
WMQ pmax pmax
comp=Z,300nm,5.1s
WMQ LR LR
comp=Z,140nm,20.5s
WMQ Urumqi 45.35 348 *e*P **PcP** **19 04 25.0 +1.1**
COEN Coen 45.42 109 P **P** **19 02 45.5 -0.6**
COEN IAmb IAmb 19 03 01.7
comp=Z,57nm,1.9s
WBK Wadi Bani Khal 45.49 303 P **P** **19 02 48.0 +1.5**
SNR=5.5
WBK P **P** **19 02 48.0 +1.5**
SNR=5.5
WSAR Wadi Sarin 46.04 304 P **P** **19 02 52.2 +1.3**
comp=Z,20nm,0.9s,baz=139,slow=7.5,SNR=12
WSAR LR LR 19 20 40.6
comp=Z,104nm,20.5s,baz=125,slow=34
KSAR Wonju Array Be 46.11 32 P **P** **19 02 50.7 -0.5**
KSAR Wonju Array Be 46.11 32 P **P** **19 02 50.6 -0.5**
JMDO Jabal Madar 46.12 302 P **P** **19 02 52.5 +1.0**
KSRS Korea Array 46.14 32 P **P** **19 02 50.8 -0.6**
comp=Z,5.4nm,0.7s,baz=226,slow=7.5,SNR=24
KSRS LR LR 19 24 28.4
comp=Z,196nm,18.6s,baz=220,slow=39
KS19 Wonju Array Si 46.14 32 P **P** **19 02 51.8 +0.4**
KS19 IAmb IAmb 19 03 06.0
comp=Z,19nm,0.9s
TARG Taragay, Kyrgy 46.34 338 P **P** **19 02 53.9 +0.5**
SMDO Samad 46.45 303 P **P** **19 02 55.4 +1.2**
SMDO P **P** **19 02 55.4 +1.2**
BIDO Bidbid 46.58 304 P **P** **19 02 56.6 +1.6**
SNR=6.5
SOCY Socotra 46.70 287 P **P** **19 02 57.4 +1.1**
SOCY Socotra 46.70 287 P **P** **19 02 56.9 +0.6**
SOCY IAmb IAmb 19 02 58.3
comp=Z,17nm,0.9s
XLT XiLinHaoTe 46.71 17 *e*P **P** **19 02 55.9 +0.1**
XLT pP pP 19 03 09.5 -2.3
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,160nm,4.1s
XLT LR LR
comp=Z,250nm,19.2s
XLT LR LR
comp=Z,240nm,16.4s
XLT LR LR
comp=Z,270nm,21.1s
SHAO Shalim 46.73 296 P **P** **19 02 57.6 +1.2**
SHAO Shalim 46.73 296 P **P** **19 02 57.5 +1.1**
PRZ Przheval'sk 46.77 339 P **P** **19 02 57.6 +1.1**
PRZ pmax pmax
comp=Z,55nm,1.0s
PRZ Przheval'sk 46.77 339 P **P** **19 02 57.6 +1.1**
KDJ Kajisay 46.92 337 P **P** **19 02 58.6 +0.9**
KDJ pmax pmax
comp=Z,90nm,1.0s
KDJ Kajisay 46.92 337 P **P** **19 02 58.6 +0.9**
BSY Bisya 47.04 302 P **P** **19 03 00.1 +1.4**
SNR=7.1
BSY P **P** **19 03 00.1 +1.4**
SNR=7.1
DRK Karamyk 47.10 331 P **P** **19 03 00.2 +0.9**
PDGK Podgornoye 47.13 340 P **P** **19 03 01.0 +1.8**
BBOO Buckleboo 47.20 137 P **P** **19 03 00.3 +0.5**
baz=47,SNR=13
BBOO Buckleboo 47.20 137 P **P** **19 02 59.9 +0.1**
BBOO IAmb IAmb 19 03 15.4
comp=Z,43nm,1.4s
BBOO Buckleboo 47.20 137 P **P** **19 03 00.8 +1.0**
DMTO DMTO 47.24 295 P **P** **19 03 01.2 +0.8**
SATY Saty 47.27 339 *e*P **P** **19 03 00.4 +0.1**
SATY *e*S **S** **19 09 50.4 +1.2**
SATY pmax pmax
comp=Z,16nm,1.0s
SATY Saty 47.27 339 *e*P **P** **19 03 00.4 +0.1**
comp=Z,16nm,1.0s,baz=339
SATY *e*S **S** **19 09 50.4 +1.2**
baz=339
GUMO Guam 47.28 71 LR LR 19 23 14.9
comp=Z,37nm,20.5s,baz=271,slow=36
HOQ Hoqain 47.28 303 P **P** **19 03 02.1 +1.5**
HOQ P **P** **19 03 02.1 +1.5**
ZHN Zhinishke 47.36 339 *e*P **P** **19 03 01.1 +0.2**
ZHN Zhinishke 47.36 339 *e*P **P** **19 03 01.1 +0.2**
baz=339
ULHL Ulahol 47.38 337 P **P** **19 03 02.3 +1.0**
SNR=16
JHS Saijyo 47.41 38 P **P** **19 03 01.1 -0.3**
JHS IAmb IAmb 19 03 16.1
comp=Z,27nm,0.7s
LCRK Leigh Creek 47.44 133 P **P** **19 03 03.5 +1.8**
MTSU Mount Surprise 47.55 114 P **P** **19 03 03.1 +0.3**
baz=48,SNR=9.9
MTSU Mount Surprise 47.55 114 P **P** **19 03 03.3 +0.5**
TNSS Tian-Shan 47.79 338 *e*P **P** **19 03 04.8 +0.1**
baz=338
ARQ Araqi 47.85 303 P **P** **19 03 06.4 +1.4**
MDOK Medeo 47.86 338 P **P** **19 03 05.9 +1.0**
MDOK Medeo 47.86 338 *e*P **P** **19 03 05.1 +0.2**
baz=338
MDOK *e*S **S** **19 09 58.9 +1.3**
baz=338
RBK Rabkut 47.86 294 P **P** **19 03 06.3 +1.1**
SNR=5.3
BTK Batken 48.03 331 P **P** **19 03 05.5 -0.7**
BTK pmax pmax
comp=Z,42nm,1.2s
BTK Batken 48.03 331 P **P** **19 03 05.5 -0.7**
BTK IAmb IAmb 19 03 28.0
comp=Z,42nm,1.2s
INKA Innaminka 48.05 128 P **P** **19 03 07.3 +0.9**
UCH Uchtor 48.07 335 P **P** **19 03 07.8 +0.9**
SNR=42
MANU Manus Island 48.09 92 P **P** **19 03 06.5 -0.5**
SOHO SOHO 48.16 304 P **P** **19 03 08.3 +0.9**
SOHO SOHO 48.16 304 *i* P **P** **19 03 07.8 +0.5**
SNR=6.5
KST Kastek 48.17 337 *e*P **P** **19 03 07.3 0.0**
comp=Z,17nm,0.9s,baz=337
TKM2 Tokmak 2 48.21 337 P **P** **19 03 08.8 +1.1**
SNR=67
TKM2 Tokmak 2 48.21 337 *i* P **P** **19 03 07.9 +0.2**
TKM2 pmax pmax
comp=Z,41nm,0.7s
KBK Karagaybulak 48.25 336 P **P** **19 03 10.0 +2.1**
SNR=19
DOK Doka 48.26 296 P **P** **19 03 09.1 +0.8**
SNR=6.9
AML Almayashu 48.34 335 P **P** **19 03 10.2 +1.2**
SNR=44
AML Almayashu 48.34 335 P **P** **19 03 10.3 +1.3**
AML Almayashu 48.34 335 *i* P **P** **19 03 10.0 +1.1**
SNR=45
WHFO Wadi Hawf 48.37 295 P **P** **19 03 09.8 +0.6**
WHFO P **P** **19 03 09.8 +0.6**
AAK Ala-Archa 48.42 336 P **P** **19 03 10.5 +1.3**
comp=Z,11nm,0.7s,baz=150,slow=5.2,SNR=61
AAK Ala-Archa 48.42 336 P **P** **19 03 10.9 +1.7**
SNR=16
AAK Ala-Archa 48.42 336 *d i*P **P** **19 03 10.4 +1.2**
AAK pmax pmax
comp=Z,30nm,1.2s
AAK Ala-Archa 48.42 336 P **P** **19 03 08.7 -0.5**
AAK IAmb IAmb 19 03 26.5
comp=Z,16nm,0.8s
AAK Ala-Archa 48.42 336 *i* P **P** **19 03 10.6 +1.4**
SNR=23
PMG Port Moresby 48.44 102 LR LR 19 25 30.6
comp=Z,101nm,19.8s,baz=285,slow=38
PMG Port Moresby 48.44 102 ⇑*e*P **P** **19 03 09.5 -0.2**
PMG pmax pmax
comp=Z,21nm,1.4s

PMG Port Moresby 48.44 102 P **P** **19 03 08.4 -1.3**
PMG IAmb IAmb 19 03 17.2
comp=Z,29nm,1.2s
PMG Port Moresby 48.44 102 P **P** **19 03 10.0 +0.3**
CHKK Chushkaly 48.47 338 *e*P **P** **19 03 09.5 +0.1**
baz=338
FRU1 Bishkek 48.51 336 P **P** **19 03 08.1 -1.7**
FRU1 pmax pmax
comp=Z,36nm,1.0s
FRU1 Bishkek 48.51 336 P **P** **19 03 08.1 -1.7**
FRU1 IAmb IAmb 19 03 25.8
comp=Z,36nm,0.9s
SONM Songino Array 48.56 6 P **P** **19 03 11.1 +0.9**
comp=Z,24nm,0.7s,baz=190,slow=8.9,SNR=126
SONM PcP **PcP** **19 04 35.8 +0.6**
comp=Z,4.9nm,0.6s,baz=179,slow=3.2,SNR=1.7
SONM ScP **ScP** **19 08 23.5 -1.3**
comp=Z,3.0nm,1.1s,baz=198,slow=3.3,SNR=6.1
SONM Songino Array 48.56 6 P **P** **19 03 10.9 +0.7**
SONM IAmb IAmb 19 03 26.2
comp=Z,33nm,0.8s
CHMS Chumysh 48.61 336 P **P** **19 03 11.4 +0.9**
SNR=23
ABTO Aybut 48.64 294 P **P** **19 03 12.0 +0.7**
ABTO P **P** **19 03 12.0 +0.7**
ULN Ulaanbaatar 48.67 7*c i*P **P** **19 03 11.8 +0.7**
ULN pmax pmax
comp=Z,21nm,1.0s
ULN Ulaanbaatar 48.67 7 P **P** **19 03 12.3 +1.2**
ULN P **P** **19 03 12.3 +1.2**
ULN Ulaanbaatar 48.67 7 P **P** **19 03 11.1 0.0**
ULN IAmb IAmb 19 03 26.5
comp=Z,25nm,0.8s
EKS2 Erkin-Say 48.74 335 P **P** **19 03 13.0 +1.3**
SNR=66
PTPS Port Pirie 48.74 136 P **P** **19 03 14.2 +2.5**
comp=Z,119nm,0.7s
KUU Kurty 48.75 338 *e*P **P** **19 03 11.1 -0.5**
KUU *e*S **S** **19 10 10.8 +0.9**
KUU pmax pmax
comp=Z,31nm,0.9s
KUU Kurty 48.75 338 *e*P **P** **19 03 11.1 -0.5**
comp=Z,31nm,0.9s,baz=338
KUU *e*S **S** **19 10 10.8 +0.9**
baz=338
UMZA Um Al Zommool 48.76 301 P **P** **19 03 13.3 +1.3**
UMZA P **P** **19 03 13.3 +1.3**
UOSS Minazif 48.77 304 P **P** **19 03 12.7 +0.7**
HATD Hatta, Dubai 48.78 304 P **P** **19 03 13.6 +1.5**
HATD Hatta, Dubai 48.78 304 P **P** **19 03 12.7 +0.6**
ASHO Ashiyiah 48.78 304 P **P** **19 03 13.3 +1.1**
ASHO Ashiyiah 48.78 304 P **P** **19 03 13.2 +1.0**
ALNE Al Ain 48.78 303 P **P** **19 03 13.5 +1.3**
SNR=11
ALNE P **P** **19 03 13.5 +1.3**
SNR=11
ALNE Al Ain 48.78 303 *i* P **P** **19 03 13.2 +1.0**
SNR=16
NAPP Napperby 48.85 136 P **P** **19 03 14.4 +1.9**
USP Ospenovka 48.94 336 P **P** **19 03 14.2 +1.1**
SNR=11
TDK Taldyqorghan 48.98 340 *e*P **P** **19 03 13.2 -0.1**
TDK pmax pmax
comp=Z,11nm,0.6s
TDK Taldyqorghan 48.98 340 *e*P **P** **19 03 13.2 -0.1**
comp=Z,11nm,0.6s,baz=340
MASF Masafi 48.98 305 P **P** **19 03 15.0 +1.3**
SGDS Sogindy 49.04 336 *e*P **P** **19 03 14.2 +0.3**
comp=Z,5.8nm,0.8s,baz=336
FAQ Al Faqa, Dubai 49.19 304 P **P** **19 03 16.2 +1.0**
FAQ Al Faqa, Dubai 49.19 304 *i* P **P** **19 03 16.1 +0.8**
SNR=12
ASUD Al Ashush, Dub 49.36 304 P **P** **19 03 18.1 +1.5**
ASUD Al Ashush, Dub 49.36 304 *i* P **P** **19 03 17.6 +1.0**
SNR=7.7
ZSN Zaisan 49.42 347 *e*P **P** **19 03 17.0 +0.4**
ZSN pmax pmax
comp=Z,6.0nm,0.7s
ZSN Zaisan 49.42 347 *e*P **P** **19 03 17.0 +0.4**
comp=Z,6.5nm,0.7s,baz=347
MK31 Makanchi Array 49.43 345 *i* P **P** **19 03 17.0 +0.3**
MK31 pmax pmax
comp=Z,19nm,0.6s
MK31 Makanchi Array 49.43 345 P **P** **19 03 17.0 +0.3**
MK31 IAmb IAmb 19 03 31.7
comp=Z,22nm,0.8s
MKAR Makanchi Array 49.43 345 P **P** **19 03 17.2 +0.5**
comp=Z,19nm,0.6s,baz=149,slow=7.7,SNR=251
MKAR S **S** **19 10 19.6 +0.2**
comp=Z,0.7nm,0.9s,baz=156,slow=14,SNR=3.4
MKAR Makanchi Array 49.43 345 P **P** **19 03 17.0 +0.3**
MAKZ Makanchi 49.53 344 P **P** **19 03 17.2 -0.3**
MAKZ pmax pmax
comp=Z,21nm,0.9s
MAKZ Makanchi 49.53 344 P **P** **19 03 17.2 -0.3**
MAKZ IAmb IAmb 19 03 32.4
comp=Z,21nm,0.8s
HTT Hallett 49.53 135 P **P** **19 03 19.0 +1.2**
baz=50,SNR=18
HTT Hallett 49.53 135 P **P** **19 03 19.4 +1.6**
TAS Tashkent 49.74 330 P **P** **19 03 18.7 -0.5**
TAS pmax pmax
comp=Z,67nm,1.1s
TAS Tashkent 49.74 330 P **P** **19 03 18.7 -0.5**
CTA Charters Tower 49.87 116 LR LR 19 25 48.7
comp=Z,146nm,18.8s,baz=285,slow=38
CTA Charters Tower 49.87 116 P **P** **19 03 21.1 +0.5**
CTAO Charters Tower 49.87 116 P **P** **19 03 19.9 -0.6**
CTAO pmax pmax
comp=Z,10.0nm,0.8s
CTAO Charters Tower 49.87 116 P **P** **19 03 19.9 -0.6**
CTAO Charters Tower 49.87 116 P **P** **19 03 21.0 +0.5**
CN2 Changchun 49.94 25 *e*P **P** **19 03 19.5 -1.1**
CN2 *e*pP pP 19 03 32.0 -4.7
CN2 *e*PP **PP** **19 05 15.8 -0.3**
CN2 *e*S **S** **19 10 25.8 -0.7**
CN2 *e*SS **SS** **19 13 55.8 -4.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,140nm,6.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,210nm,17.0s
CN2 LR LR
comp=Z,240nm,19.0s
DZA Taraz 49.99 333 *e*P **P** **19 03 21.0 -0.1**
DZA *e*S **S** **19 10 28.6 +1.3**
DZA pmax pmax
comp=Z,11nm,0.9s
DZA Taraz 49.99 333 *e*P **P** **19 03 21.0 -0.1**
comp=Z,11nm,0.9s,baz=333
DZA *e*S **S** **19 10 28.7 +1.3**
baz=333
IUG Iuzhnay 50.01 332 *e*P **P** **19 03 21.7 +0.4**
IUG Iuzhnay 50.01 332 *e*P **P** **19 03 21.8 +0.4**
baz=332
TWOA Tennyson Woods 50.18 137 P **P** **19 03 24.5 +1.9**
QLP Quilpie 50.37 125 P **P** **19 03 24.8 +0.6**
baz=50,SNR=14
QLP Quilpie 50.37 125 P **P** **19 03 25.3 +1.1**
KKAR Karatay Array 50.53 333 P **P** **19 03 25.1 0.0**
KKAR Karatay Array 50.53 333 P **P** **19 03 25.1 0.0**
BTLS Baital 50.59 337 *e*P **P** **19 03 24.8 -0.7**
BTLS pmax pmax
comp=Z,7.0nm,0.8s
BTLS Baital 50.59 337 *e*P **P** **19 03 24.9 -0.7**
comp=Z,6.7nm,0.8s,baz=337
STKA Stephens Creek 50.66 132 P **P** **19 03 26.9 +0.6**
comp=Z,12nm,0.6s,baz=309,slow=7.2,SNR=30
STKA LR LR 19 27 44.4
comp=Z,98nm,19.6s,baz=330,slow=39
STKA Stephens Creek 50.66 132 P **P** **19 03 27.0 +0.7**
baz=51,SNR=18
STKA Stephens Creek 50.66 132 P **P** **19 03 26.5 +0.2**
STKA Stephens Creek 50.66 132 P **P** **19 03 27.3 +1.0**
BRLS Borolday 50.78 332 *e*P **P** **19 03 25.4 -1.7**
BRLS *e*S **S** **19 10 37.3 -1.0**
BRLS Borolday 50.78 332 *e*P **P** **19 03 25.4 -1.7**
baz=332
BRLS *e*S **S** **19 10 37.4 -1.0**
baz=332
ZAK Zakamensk 50.83 3 *e*P **P** **19 03 27.9 +0.5**
ZAK pmax pmax
comp=Z,15nm,1.0s
DGZ Jazzator, Alta 51.06 350*c i*P **P** **19 03 30.4 +1.2**
DGZ pmax pmax
comp=Z,16nm,0.9s
GHWR Ruwais 51.17 302 P **P** **19 03 31.0 +0.8**
GHWR P **P** **19 03 31.0 +0.8**
MAJO Matsushiro 51.60 40 P **P** **19 03 32.3 -1.0**
MAJO pmax pmax
comp=Z,18nm,1.2s
MAJO Matsushiro 51.60 40 P **P** **19 03 32.3 -1.0**
MAJO IAmb IAmb 19 05 03.9
comp=Z,18nm,1.1s
MAT Matsushiro 51.60 40 P **P** **19 03 32.0 -1.3**
MAT *e*S **S** **19 10 43.0 -6.8**
MJB9 Matsu-Tunnel 51.60 40 P **P** **19 03 32.6 -0.7**
MJB9 IAmb IAmb 19 05 03.8
comp=Z,17nm,1.1s
MJAR Matsushiro Arr 51.60 40 P **P** **19 03 32.4 -0.9**
comp=Z,7.2nm,1.0s,baz=220,slow=6.9,SNR=12
MJAR LR LR 19 28 31.8
comp=Z,108nm,18.2s,baz=222,slow=40
MJAR Matsushiro Arr 51.60 40 P **P** **19 03 32.0 -1.3**
MOY Mondy 52.02 1 *e*P **P** **19 03 37.3 +1.0**
MOY pmax pmax
comp=Z,41nm,2.3s
SLWR Sila 52.22 301 P **P** **19 03 39.0 +1.0**
SLWR P **P** **19 03 39.0 +1.0**
BNX BinXian 52.33 25 ⇓P **P** **19 03 38.1 -0.4**
BNX pmax pmax
comp=Z,7.0nm,0.8s
BNX pmax pmax
comp=Z,150nm,5.1s
MDJ Mudanjiang 52.40 27 P **P** **19 03 39.6 +0.6**
MDJ pmax pmax
comp=Z,7.0nm,0.8s
MDJ pmax pmax
comp=Z,98nm,4.1s
MDJ Mudanjiang 52.40 27 P **P** **19 03 37.4 -1.6**
HIA Hailar 52.64 17 P **P** **19 03 39.7 -1.1**
HIA pmax pmax
comp=Z,7.0nm,1.0s
HIA Hailar 52.64 17 P **P** **19 03 39.7 -1.1**
IRK Irkutsk 52.75 4 *e*P **P** **19 03 43.1 +1.6**
IRK pmax pmax
comp=Z,45nm,0.6s
TRNA Turayna 52.87 302 P **P** **19 03 43.3 +0.5**
KHOR Al-Khor Airpor 52.94 303 P **P** **19 03 44.3 +0.9**
RABL Rabaul 52.94 95 P **P** **19 03 42.8 -0.9**
USA0B Ussuriysk Arra 53.21 29 P **P** **19 03 44.7 -0.3**
USA0B pmax pmax
comp=Z,32nm,0.9s
USA0B Ussuriysk Arra 53.21 29 P **P** **19 03 44.7 -0.3**
USRK Ussuriysk Ar. 53.21 29 P **P** **19 03 45.1 +0.1**
comp=Z,23nm,0.9s,baz=229,slow=6.1,SNR=14
USRK Ussuriysk Ar. 53.21 29 P **P** **19 03 44.7 -0.3**
SEM Semipalatinsk 53.29 345 *e*P **P** **19 03 45.3 -0.5**
SEM pmax pmax
comp=Z,9.0nm,0.5s
SEM Semipalatinsk 53.29 345 *e*P **P** **19 03 45.3 -0.5**
comp=Z,8.6nm,0.5s,baz=345
ARPS Mount Arapiles 53.35 137 P **P** **19 03 47.1 +0.9**
baz=53,SNR=7.4
ARPS Mount Arapiles 53.35 137 P **P** **19 03 48.3 +2.1**
SHMA Al-Shehemyia 53.48 303 P **P** **19 03 48.0 +0.7**
CMSA Cobar Meteorol 53.59 130 P **P** **19 03 48.9 +0.8**
baz=54,SNR=36
CMSA Cobar Meteorol 53.59 130 P **P** **19 03 49.2 +1.1**
GEYT Alibeck 53.87 320 P **P** **19 03 50.3 +0.2**
comp=Z,11nm,0.8s,baz=163,slow=11,SNR=15
GEYT LR LR 19 29 12.3
comp=Z,138nm,20.4s,baz=152,slow=38
GEYT Alibeck 53.87 320 P **P** **19 03 49.3 -0.7**
GEYT IAmb IAmb 19 03 51.0
comp=Z,13nm,0.8s
GYA0B ALIBECK ARRAY 53.87 320 P **P** **19 03 49.2 -0.9**
GYA0B IAmb IAmb 19 03 51.0
comp=Z,16nm,0.8s
SAKB Bahrain 53.88 303 P **P** **19 03 50.6 +0.4**
OTUK Ortayu 53.91 338 P **P** **19 03 50.5 +0.3**
KURBB Kurchatov Arra 53.95 344 P **P** **19 03 50.7 +0.4**
comp=Z,15nm,0.7s,baz=162,slow=6.8,SNR=135
KURBB S **S** **19 11 21.1 -0.1**
comp=Z,0.3nm,0.2s,baz=160,slow=11,SNR=4.8
KURBB Kurchatov Arra 53.95 344 P **P** **19 03 49.4 -0.9**
KURK Kurchatov 54.01 344*d i*P **P** **19 03 51.0 +0.3**
KURK pmax pmax
comp=Z,30nm,1.0s
KURK Kurchatov 54.01 344 P **P** **19 03 51.3 +0.6**
KURK Kurchatov 54.01 344 P **P** **19 03 50.4 -0.3**
KURK PcP **PcP** **19 04 55.0 -0.1**
RMQ Roma 54.09 123 P **P** **19 03 52.8 +1.0**
baz=54,SNR=4.1
RMQ Roma 54.09 123 P **P** **19 03 53.6 +1.7**
comp=Z,11nm,0.8s
BRZS Berezniki 55.24 339 *e*P **P** **19 03 58.8 -0.9**
BRZS Berezniki 55.24 339 *e*P **P** **19 03 58.8 -0.9**
baz=339
VOI Vohitsoka 55.34 244 P **P** **19 04 02.1 +1.0**
ZAA0 Zalesovo Array 55.60 350 P **P** **19 04 02.3 +0.1**
ZALV Zalesovo Beam 55.60 350 P **P** **19 04 02.5 +0.3**
comp=Z,34nm,0.7s,baz=170,slow=5.8,SNR=101
ZALV S **S** **19 11 42.7 -0.6**
comp=Z,3.9nm,0.9s,baz=164,slow=7.5,SNR=9.6
ZALV LR LR 19 30 16.0
comp=Z,138nm,21.9s,baz=184,slow=38
ZALV Zalesovo Beam 55.60 350 P **P** **19 04 02.2 0.0**
ZALV PcP **PcP** **19 04 59.7 -1.5**
EIDS Eidsvold 55.71 121 P **P** **19 04 03.7 +0.2**
baz=56,SNR=5.2
EIDS Eidsvold 55.71 121 P **P** **19 04 02.7 -0.8**
EIDS IAmb IAmb 19 04 22.4
comp=Z,49nm,1.5s
EIDS Eidsvold 55.71 121 P **P** **19 04 04.1 +0.6**
TOO Toolangi 56.26 136 P **P** **19 04 09.5 +2.3**
baz=56,SNR=6.3
TOO Toolangi 56.26 136 P **P** **19 04 10.6 +3.3**
KLR Kul'dur 56.89 25 P **P** **19 04 11.4 -0.1**
comp=Z,19nm,0.8s,baz=238,slow=6.8,SNR=57
KLR Kul'dur 56.89 25*c i*P **P** **19 04 11.2 -0.3**
ATD Arta Tunnel 57.32 284 LR LR 19 23 55.8
comp=Z,58nm,21.9s,baz=74,slow=31
RAYN Ar Rayn 57.41 298 P **P** **19 04 14.6 -1.1**
RAYN 19 05 09.0
RAYN pmax pmax
comp=Z,20nm,0.8s
RAYN Ar Rayn 57.41 298 P **P** **19 04 15.6 0.0**
RAYN Ar Rayn 57.41 298 P **P** **19 04 14.6 -1.1**
RAYN IAmb IAmb 19 04 16.7
comp=Z,20nm,0.8s
RAYN PcP **PcP** **19 05 09.0 0.0**
RAYN Ar Rayn 57.41 298 *i* P **P** **19 04 15.7 0.0**
SNR=27
CAN Canberra 57.72 132 P **P** **19 04 17.9 +0.2**
CAN pmax pmax
comp=Z,26nm,1.0s
CAN Canberra 57.72 132 P **P** **19 04 17.9 +0.2**
CAN IAmb IAmb 19 04 34.0
comp=Z,26nm,1.0s
CAN Canberra 57.72 132 P **P** **19 04 19.3 +1.6**
ARMA Armidale 57.83 126 P **P** **19 04 20.4 +1.7**
baz=58,SNR=4.2
ARMA Armidale 57.83 126 **P** **19 04 19.5 +0.9**
ARMA IAmb IAmb 19 04 35.4
comp=Z,22nm,0.8s
ARMA Armidale 57.83 126 P **P** **19 04 20.9 +2.2**
MGCD Mangrove Creek 58.45 129 P **P** **19 04 24.8 +2.0**
baz=58,SNR=4.7
MGCD Mangrove Creek 58.45 129 P **P** **19 04 25.6 +2.8**
comp=Z,27nm,0.8s
BVAR Borovoye Array 58.57 340 P **P** **19 04 22.9 -0.3**
comp=Z,8.8nm,0.7s,baz=134,slow=11,SNR=32
BRVK Borovoye 58.63 340*de*P **P** **19 04 23.0 -0.6**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 58.63 340 P **P** **19 04 23.1 -0.6**
BRVK P **P** **19 04 23.1 -0.6**
BRVK Borovoye 58.63 340 P **P** **19 04 23.2 -0.4**
BRVK IAmb IAmb 19 04 38.1
comp=Z,16nm,0.7s
ASAJ Asahikawa 58.82 35 P **P** **19 04 25.1 0.0**
comp=Z,4.8nm,0.7s,baz=233,slow=9.9,SNR=6.2
ZEA Zeya 58.84 19 *e*P **P** **19 04 25.6 +0.5**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=Z,200nm,17.0s
BOD Bodaibo 59.34 9 *e*P **P** **19 04 28.7 +0.2**
BOD pmax pmax
comp=Z,23nm,1.1s
GLAD Gladstone 59.64 139 P **P** **19 04 33.4 +2.6**
AB31 Akbulak array 60.02 331 *i* P **P** **19 04 32.8 -0.5**
ABKAR Akbulak array 60.02 331 P **P** **19 04 32.6 -0.7**
ABKAR Akbulak array 60.02 331 P **P** **19 04 32.6 -0.7**
ABKAR IAmb IAmb 19 04 48.4
comp=Z,52nm,1.0s
GRNR Gornyy 60.05 26 *e*P P 19 04 21.0 -13
GRNR MLR MLR
comp=E,160nm,14.0s
GRNR MLR MLR
comp=N,80nm,18.0s
GRNR MLR MLR
comp=Z,260nm,15.0s
YSS Yuzh-Sakhalins 60.62 33 *e*P **P** **19 04 37.3 -0.1**
YSS *e* 19 04 51.3
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 60.62 33 P **P** **19 04 37.4 0.0**
HNR Honiara 60.99 100 P **P** **19 04 40.9 +0.3**
comp=Z,60nm,0.8s,baz=167,slow=4.9,SNR=6.1
HNR LR LR 19 32 11.7
comp=Z,70nm,21.2s,baz=325,slow=37
HNR Honiara 60.99 100 P **P** **19 04 40.5 -0.1**
KIBK Kibwezi 61.25 268 P **P** **19 04 43.8 +1.3**
KIBK Kibwezi 61.25 268 P **P** **19 04 41.8 -0.7**
KIBK IAmb IAmb 19 04 44.9
comp=Z,10nm,0.8s
AKTO Aktyubinsk 61.73 331 P **P** **19 04 44.5 -0.4**
comp=Z,4.4nm,0.6s,baz=128,slow=8.1,SNR=14
KMBO Kilima Mbogo 62.03 269 *e*P **P** **19 04 49.2 +1.3**
KMBO IAmb IAmb 19 04 49.8
comp=Z,34nm,1.0s
KMBO Kilima Mbogo 62.03 269 P **P** **19 04 47.6 -0.3**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
KMBO Kilima Mbogo 62.03 269 P **P** **19 04 49.7 +1.7**
KMBO P **P** **19 04 49.7 +1.7**
KMBO Kilima Mbogo 62.03 269 P **P** **19 04 47.6 -0.3**
KMBO Kilima Mbogo 62.03 269 *i* P **P** **19 04 49.2 +1.3**
SNR=9.5
TYV Tymovskoe 63.02 29 *e*P P 19 05 07.0 +14
TYV pmax pmax
comp=Z,7.0nm,1.2s
TYV pmax pmax
comp=Z,200nm,7.6s
GNI Garni 63.98 316 P **P** **19 05 01.0 +0.7**
comp=Z,10nm,0.8s,baz=262,slow=6.4,SNR=7.3
GNI Garni 63.98 316*d i*P **P** **19 05 00.6 +0.3**
GNI pmax pmax
comp=Z,26nm,1.3s
GNI Garni 63.98 316 P **P** **19 05 00.6 +0.3**
GNI Garni 63.98 316 P **P** **19 05 00.2 -0.1**
GNI IAmb IAmb 19 05 27.7
comp=Z,31nm,1.1s
GNI Garni 63.98 316 P **P** **19 05 01.0 +0.7**
LODK Lodwar 64.01 274 P **P** **19 05 02.9 +2.1**
SNR=5.6
LODK Lodwar 64.01 274 P **P** **19 05 01.9 +1.1**
SIRT Sirnak 64.58 312 P **P** **19 05 03.6 -0.5**
SVE Sverdlovsk 65.06 338 *e*P **P** **19 05 06.7 0.0**
SVE pmax pmax
comp=Z,38nm,1.0s
GURO Guroymak-BITLI 65.27 313 P **P** **19 05 08.6 0.0**
GURO IAmb IAmb 19 05 10.4
comp=Z,28nm,0.9s
AKH Akhalkalaki 65.37 317 ⇑P **P** **19 05 09.8 +0.5**
ARU Arti 65.58 337 P **P** **19 05 09.7 -0.4**
comp=Z,1.7nm,0.6s,baz=141,slow=5.1,SNR=11
ARU LR LR 19 36 18.4
comp=Z,185nm,20.5s,baz=132,slow=38
ARU Arti 65.58 337*c i*P **P** **19 05 09.8 -0.4**
ARU *PP **pP** **19 05 23.5 -3.3**
ARU 19 05 42.1
ARU 19 07 30.2
ARU PPP PPP 19 09 09.1
ARU S **S** **19 13 52.7 +2.0**
ARU SS **SS** **19 18 08.5 +2.8**
ARU pmax pmax
comp=Z,197nm,20.4s
ARU MLR MLR
comp=Z,210nm,22.0s
ARU Arti 65.58 337 P **P** **19 05 09.2 -0.9**
ARU IAmb IAmb 19 05 25.3
comp=Z,22nm,1.0s
ONI Oni 65.89 318 P **P** **19 05 11.5 -1.0**
ONI pmax pmax
comp=Z,12nm,1.0s
ONI Oni 65.89 318 P **P** **19 05 11.5 -1.0**
CASY Casey 66.10 175 P **P** **19 05 14.8 +1.5**
CASY IAmb IAmb 19 05 32.1
comp=Z,33nm,1.1s
NCK Nalchik 66.18 319*ce*P **P** **19 05 15.0 +0.7**
NCK pmax pmax
comp=Z,13nm,0.3s
YAK Yakutsk 66.51 15 P **P** **19 05 15.5 -0.5**
comp=Z,2.2nm,0.3s,baz=110,slow=1.4,SNR=8.1
YAK Yakutsk 66.51 15 *e*P **P** **19 05 15.1 -0.8**
YAK *e* 19 05 41.5
YAK *e* 19 07 37.8
YAK *e*S **S** **19 14 03.1 +1.4**
YAK *e**SS **pS** **19 14 22.0 +0.2**
YAK *e* 19 15 01.1
YAK pmax pmax
comp=Z,17nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=Z,101nm,5.1s
YAK pmax pmax
comp=N,140nm,5.4s
YAK pmax pmax
comp=E,118nm,5.4s
YAK smax smax
comp=N,33nm,2.0s
YAK smax smax
comp=E,25nm,2.0s
YAK Yakutsk 66.51 15 P **P** **19 05 14.3 -1.6**
TETE Tete 66.56 253 *e*P **P** **19 05 18.7 +1.6**
TETE IAmb IAmb 19 05 19.6
comp=Z,86nm,1.9s
NEY Neytrino 66.65 318⇑*e*P **P** **19 05 18.5 +1.0**
NEY pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 66.74 319 P **P** **19 05 18.4 +0.6**
comp=Z,18nm,0.8s,baz=123,slow=6.2,SNR=29
KBZ Khabaz 66.74 319*de*P **P** **19 05 17.8 0.0**
KBZ pmax pmax
comp=Z,25nm,0.9s
CHVG Ch'k'valeri 66.86 318 ⇑P **P** **19 05 20.7 +2.1**
CHVG Ch'k'valeri 66.86 318 ⇑P **P** **19 05 20.7 +2.1**
KVAR Kislovodsk Arr 66.97 319 P **P** **19 05 19.9 +0.5**
comp=Z,2.2nm,0.3s,baz=90,slow=20,SNR=2.2
ASF Jabal al Asfar 67.16 305 P **P** **19 05 21.8 +0.9**
comp=Z,13nm,0.9s,baz=110,slow=2.3,SNR=13
GHAJ Ghor Haditha 68.03 304 P **P** **19 05 25.8 -0.3**
GHAJ IAmb IAmb 19 05 28.0
comp=Z,26nm,0.8s
BELG Belogornoye 68.11 329 P **P** **19 05 25.6 -0.7**
comp=Z,30nm,1.1s,baz=118,slow=0.6,SNR=13
BELG LR LR 19 39 18.8
comp=Z,107nm,20.5s,baz=39,slow=39
BELG Belogornoye 68.11 329*c i*P **P** **19 05 25.5 -0.7**
BELG pmax pmax
comp=Z,4.0nm,1.0s
EIL Elat 68.14 302 P **P** **19 05 27.6 +0.7**
comp=Z,37nm,0.8s,baz=134,slow=3.3,SNR=47
EIL LR LR 19 35 56.6
comp=Z,146nm,18.2s,baz=98,slow=36
GAZ Gaziantep 68.38 311 P **P** **19 05 28.1 -0.3**
MBAR Mbarara 68.55 270 LR LR 19 30 18.6
comp=Z,103nm,19.9s,baz=55,slow=31
MBAR Mbarara 68.55 270*de*P **P** **19 05 31.3 +1.3**
MBAR Mbarara 68.55 270 P **P** **19 05 31.8 +1.8**
MBAR P **P** **19 05 31.8 +1.8**
MBAR Mbarara 68.55 270 P **P** **19 05 30.6 +0.6**

MMAI Mount Meron Ar 68.60 306 P **P 19 05 30.8 +0.9**
comp=Z,13nm,0.8s,baz=101,slow=8.6,SNR=16
MMAI LR LR 19 36 58.9
comp=Z,49nm,19.9s,baz=262,slow=37
DZM Mont Dzumac 68.68 113 LR LR 19 38 24.4
comp=Z,94nm,20.3s,baz=242,slow=38
SOC Sochi 68.79 318 *eP* **P 19 05 28.0 -2.7**
SOC *e*PPP PPP 19 09 39.4
SOC *eS* **S 19 14 28.6 -1.2**
SOC *e*SS **SS 19 18 52.2 -3.8**
SOC *e*SSS SSS 19 21 58.7
SOC MLR MLR
comp=Z,102nm,17.0s
MOPA Mopani 69.57 245⇓ *iP* **P 19 05 36.6 +0.6**
MOPA IAmb IAmb 19 05 37.4
comp=Z,1.9nm,0.9s
POGA Pongola 69.92 241⇓ *iP* **P 19 05 39.4 +1.4**
POGA IAmb IAmb 19 05 40.3
comp=Z,27nm,1.0s
NRIK Noril'sk 70.19 356 P **P 19 05 38.6 -0.2**
comp=Z,29nm,0.9s,baz=160,slow=5.8,SNR=24
NRIK Noril'sk 70.19 356 *d iP* **P 19 05 38.4 -0.4**
NRIK pmax pmax
comp=Z,32nm,1.0s
NRIK Noril'sk 70.19 356 P **P 19 05 38.3 -0.5**
NRIK IAmb IAmb 19 05 53.8
comp=Z,45nm,1.1s
MSNA Messina 70.66 247⇓ *iP* **P 19 05 44.1 +1.3**
MSNA IAmb IAmb 19 05 44.8
comp=Z,96nm,2.0s
VRH Novokhopyorsk 70.72 326 *eP* **P 19 05 41.1 -1.3**
VRH pmax pmax
comp=Z,20nm,0.8s
KIRV Kirov 70.75 335 P **P 19 05 42.2 -0.2**
comp=Z,20nm,0.9s,baz=80,slow=3.9,SNR=6.5
KIRV LR LR 19 41 10.3
comp=Z,87nm,19.9s,baz=95,slow=40
KIRV Kirov 70.75 335 *c iP* **P 19 05 41.8 -0.6**
CSS Mathiatis 70.77 307 IAmb IAmb 19 05 44.4
comp=Z,38nm,1.1s
MAW Mawson 71.53 194 P **P 19 05 48.6 +1.7**
comp=Z,6.9nm,0.8s,baz=29,slow=8.8,SNR=4.2
NWCL Newcastle 71.57 241 *eP* **P 19 05 49.3 +1.0**
NWCL IAmb IAmb 19 05 50.2
comp=Z,25nm,0.8s
LSZ Lusaka 71.64 254 LR LR 19 31 48.8
comp=Z,157nm,21.8s,baz=118,slow=31
LSZ Lusaka 71.64 254 *eP* **P 19 05 49.6 +0.8**
LSZ IAmb IAmb 19 05 50.1
comp=Z,72nm,0.8s
LSZ Lusaka 71.64 254 P **P 19 05 49.1 +0.2**
LSZ pmax pmax
comp=Z,8.0nm,0.8s
LSZ Lusaka 71.64 254 P **P 19 05 49.1 +0.2**
BLWY Bulawayo 71.70 249⇓ *iP* **P 19 05 50.2 +1.0**
BLWY IAmb IAmb 19 05 51.0
comp=Z,88nm,1.0s
BR131 Keskin Array S 71.81 312 *d iP* **P 19 05 48.3 -1.2**
BRTR Keskin Array B 71.81 312 P **P 19 05 48.6 -0.9**
comp=Z,6.1nm,0.7s,baz=134,slow=7.2,SNR=43
BRTR LR LR 19 38 14.2
comp=Z,55nm,21.6s,baz=53,slow=36
MA2 Magadan 72.00 25 P **P 19 05 49.2 -0.8**
MA2 pmax pmax
comp=Z,24nm,0.8s
MA2 Magadan 72.00 25 **P 19 05 49.2 -0.8**
MA2 IAmb IAmb 19 06 04.7
comp=Z,24nm,0.8s
VORD Divnogorie 72.00 325 *eP* P 19 05 41.6 -8.5
VORD pmax pmax
comp=Z,8.0nm,0.5s
PETK Petropavlovsk- 72.03 33 P **P 19 05 49.6 -0.7**
comp=Z,2.3nm,0.7s,baz=294,slow=1.5,SNR=7.3
PETK LR LR 19 40 39.7
comp=Z,75nm,18.3s,baz=196,slow=38
PETK Petropavlovsk- 72.03 33 **P 19 05 49.0 -1.3**
VSR Storozhevoye 72.17 325 *eP* P 19 05 41.3 -10
VSR pmax pmax
comp=Z,20nm,0.6s
BZK Bozkurt 72.20 315 ⇑P **P 19 05 50.8 -0.7**
ANTO Ankara 72.48 312 P **P 19 05 52.5 -0.8**
ANTO pmax pmax
comp=Z,23nm,1.1s
ANTO Ankara 72.48 312 P **P 19 05 52.5 -0.8**
ANTO IAmb IAmb 19 05 53.9
comp=Z,23nm,1.1s
PET Petropavlovsk 72.51 33 *eP* **P 19 05 53.1 0.0**
PET *e*S **S 19 15 13.7 +1.1**
SLR Silverton 72.70 243⇓ *iP* **P 19 05 56.0 +1.0**
SLR IAmb IAmb 19 05 56.5
comp=Z,25nm,0.9s
LPSR Galich'ya Gora 72.88 326 *eP* **P 19 05 54.9 -0.4**
LPSR pmax pmax
comp=Z,20nm,0.9s
HRAO HartRAO 73.25 243 *eP* **P 19 05 59.3 +1.0**
HRAO IAmb IAmb 19 06 00.2
comp=Z,18nm,0.8s
WDLM Western Deep L 73.56 243 *eP* **P 19 06 00.5 +0.4**
WDLM IAmb IAmb 19 06 02.1
comp=Z,17nm,0.7s
PRYS Parys 73.68 242⇓ *iP* **P 19 06 01.6 +0.7**
PRYS IAmb IAmb 19 06 02.4
comp=Z,23nm,0.8s
KSR Koster 73.95 243 *eP* **P 19 06 03.6 +1.1**
KSR IAmb IAmb 19 06 04.6
comp=Z,43nm,1.3s
PRGR Permogore 74.04 336 *eP* **P 19 06 01.4 -0.6**
PRGR *e* 19 06 15.9
PRGR pmax pmax
comp=Z,54nm,0.9s
TIXI Tiksi 74.53 9 P **P 19 06 03.9 -0.8**
comp=Z,4.9nm,0.5s,baz=175,slow=4.1,SNR=30
TIXI LR LR 19 41 13.5
comp=Z,174nm,20.9s,baz=184,slow=38
TIXI Tiksi 74.53 9 *ceP* **P 19 06 03.8 -0.8**
TIXI pmax pmax
comp=Z,17nm,1.3s
TIXI Tiksi 74.53 9 P **P 19 06 03.3 -1.3**
TIXI IAmb IAmb 19 06 18.9
comp=Z,41nm,1.3s
SEY Seymchan 74.54 22 P **P 19 06 04.5 -0.3**
comp=Z,7.5nm,0.9s,baz=228,slow=5.6,SNR=14
MOS Moscow 74.88 329 *eP* **P 19 06 06.0 -0.9**
MOS *e* 19 06 19.0
MOS pmax pmax
comp=Z,54nm,0.8s
LBTB Lobatse 75.02 244⇓ *iP* **P 19 06 09.5 +0.9**
LBTB IAmb IAmb 19 06 10.1
comp=Z,15nm,0.8s
LBTB Lobatse 75.02 244 P **P 19 06 09.0 +0.4**
LBTB pmax pmax
comp=Z,15nm,0.8s
LBTB Lobatse 75.02 244 P **P 19 06 08.9 +0.4**
LBTB IAmb IAmb 19 06 10.2
comp=Z,15nm,0.8s
OBN Obninsk 75.18 328 ⇑P **P 19 06 07.5 -1.2**
OBN Obninsk 75.18 328 P **P 19 06 08.4 -0.2**
comp=Z,2.7nm,0.5s,baz=142,slow=6.2,SNR=6.0
OBN LR LR 19 44 05.4
comp=Z,24nm,19.9s,baz=360,slow=40
OBN Obninsk 75.18 328 *d iP* **P 19 06 08.3 -0.4**
OBN *i* *PP **PcP** **19 06 23.0 +1.1**
OBN *e* 19 08 55.5
OBN *e*S **SKSac** **19 16 07.2 -5.3**
OBN pmax pmax
comp=Z,37nm,1.7s
OBN MLR MLR
comp=Z,108nm,21.0s
OBN Obninsk 75.18 328 **P 19 06 07.4 -1.2**
OBN IAmb IAmb 19 06 21.0
comp=Z,29nm,0.9s
SWZ Schweizer 75.51 242 *eP* **P 19 06 12.4 +1.0**
SWZ IAmb IAmb 19 06 13.2
comp=Z,41nm,1.1s
BOSA Boshof 75.75 241 P **P 19 06 13.6 +0.8**
comp=Z,15nm,0.7s,baz=90,slow=5.7,SNR=24
BOSA LR LR 19 33 55.5
comp=Z,160nm,19.5s,baz=38,slow=31
BOSA Boshof 75.75 241⇓ *iP* **P 19 06 13.5 +0.8**
BOSA IAmb IAmb 19 06 13.9
comp=Z,17nm,0.8s
BOSA Boshof 75.75 241 P **P 19 06 13.1 +0.3**
BOSA IAmb IAmb 19 06 14.6
comp=Z,18nm,0.8s
SOE Somerset East 76.05 236 *eP* **P 19 06 15.4 +1.1**
SOE IAmb IAmb 19 06 16.9
comp=Z,36nm,1.1s
KLMR Klimovskoe 76.20 334 *eP* **P 19 06 12.9 -1.5**
KLMR *e* 19 09 05.3
KLMR pmax pmax
comp=Z,26nm,1.3s
KLMR Klimovskoe 76.20 334 *eP* **P 19 06 12.9 -1.5**
KLMR AMP 19 06 29.8
comp=Z,26nm,1.3s
KLMR *e*PP **PP** **19 09 05.3 -0.9**
RPZ Rata Peaks 76.51 135 P **P 19 06 17.3 +0.7**
RPZ IAmb IAmb 19 06 33.4
comp=Z,45nm,1.2s
QRZ Quartz Range 77.01 132 P **P 19 06 20.3 +0.8**
MILM Milestii Mici 77.15 318 ⇓P **P 19 06 19.8 -0.3**
MILM Milestii Mici 77.15 318 ⇓P **P 19 06 19.8 -0.3**
THZ Tophouse 77.46 133 P **P 19 06 21.9 -0.1**
THZ IAmb IAmb 19 06 24.4
comp=Z,24nm,0.7s
IDI Anoyia 77.60 306 P **P 19 06 22.9 -0.1**
comp=Z,8.1nm,0.8s,baz=98,slow=14,SNR=5.4
SORM Soroca 77.76 320 ⇑P **P 19 06 23.1 -0.4**
SORM Soroca 77.76 320 ⇑P **P 19 06 23.1 -0.4**
GHRR 77.88 317 ⇓P **P 19 06 25.2 +1.0**
AKASG Malin Array Be 77.89 322 P **P 19 06 23.4 -0.7**
comp=Z,4.2nm,0.8s,baz=83,slow=4.4,SNR=17
AKASG LR LR 19 45 10.7
comp=Z,77nm,19.9s,baz=56,slow=39
AKBB Malin Array Si 77.89 322 ⇑*iP* **P 19 06 23.7 -0.4**
AKBB Malin Array Si 77.89 322 P **P 19 06 23.4 -0.7**
VRI Vrincioaia 78.30 317 ⇑P **P 19 06 27.0 +0.5**
VRI Vrincioaia 78.30 317 ⇑P **P 19 06 27.0 +0.5**
PLOR Plostina 78.35 317 ⇓P **P 19 06 27.2 +0.3**
PLOR Plostina 78.35 317 ⇓P **P 19 06 27.2 +0.3**
SULR 78.36 316 ⇓P **P 19 06 28.0 +1.1**
NEHR Nehoiu 78.50 317 ⇑P **P 19 06 29.5 +1.8**
TESR Tescani 78.50 318 ⇑P **P 19 06 25.7 -1.9**
SECR 78.57 316 ⇓P **P 19 06 29.1 +1.0**
COVR Voineasa-Covas 78.65 317 ⇓P **P 19 06 28.4 -0.1**
MLR Muntele Rosu 78.75 317 ⇓P **P 19 06 29.9 +0.7**
MLR Muntele Rosu 78.75 317 P **P 19 06 29.6 +0.4**
comp=Z,28nm,1.0s,baz=158,slow=2.0,SNR=22
MLR Muntele Rosu 78.75 317 ⇓P **P 19 06 29.9 +0.7**
MLR Muntele Rosu 78.75 317 IAmb IAmb 19 06 30.7
comp=Z,29nm,0.9s
ZIMR 78.78 315 ⇓P **P 19 06 30.2 +1.0**
ZIMR 78.78 315 ⇓P **P 19 06 30.2 +1.0**
GRAN Grantham 78.84 237⇓ *iP* **P 19 06 31.5 +1.6**
GRAN IAmb IAmb 19 06 32.5
comp=Z,23nm,0.8s
MSVF Nonsavu 79.13 108 LR LR 19 44 56.1
comp=Z,86nm,18.2s,baz=24,slow=38
HUMR Humele 79.22 315 ⇑P **P 19 06 31.3 -0.3**
DOPR Dopca 79.23 317 ⇓P **P 19 06 31.1 -0.6**
VOIR 79.36 316 ⇑P **P 19 06 32.1 -0.3**
VOIR 79.36 316 ⇑P **P 19 06 32.1 -0.3**
ARR Arges 79.63 316 ⇑P **P 19 06 33.1 -0.8**
BURAR Bucovina Array 79.69 319 ⇓P **P 19 06 34.9 +0.7**
BUR08 Bucovina Ar. S 79.71 319 P **P 19 06 34.7 +0.3**
BUR08 IAmb IAmb 19 06 36.4
comp=Z,19nm,0.9s
SUR Sutherland 79.99 237 LR LR 19 34 36.0
comp=Z,155nm,19.0s,baz=99,slow=30
SUR Sutherland 79.99 237 P **P 19 06 38.7 +2.4**
PUL Pulkovo 80.00 331⇑*eP* **P 19 06 36.3 +0.8**
PUL pmax pmax
comp=Z,48nm,0.4s
VTS Vitosha 80.11 313 ⇓P **P 19 06 36.0 -0.7**
VTS Vitosha 80.11 313 ⇓P **P 19 06 36.0 -0.7**
ARCR ARCALIA 80.16 318 ⇑P **P 19 06 37.9 +1.2**
NACGM Naroch 80.44 326 *i P* **P 19 06 38.2 +0.3**
ARMS Ukamas 80.53 242 *eP* **P 19 06 40.7 +1.6**
ARMS IAmb IAmb 19 06 41.5
comp=Z,33nm,0.9s
IDID Didziasalis 80.57 326 *eP* **P 19 06 39.0 +0.4**
CJR Cluj-Napoca 80.59 317 ⇑P **P 19 06 40.7 +1.6**
CJR Cluj-Napoca 80.59 317 ⇑P **P 19 06 40.7 +1.6**
IIGN Ignalina 80.86 326 *eP* **P 19 06 40.4 +0.2**
DEV Deva 80.92 317 ⇑P **P 19 06 42.0 +1.2**
DEV Deva 80.92 317 ⇑P **P 19 06 42.0 +1.2**
LVV L'vov 80.92 321 *eP* **P 19 06 39.6 -1.1**
GZR Gura Zlata 80.92 316 ⇑P **P 19 06 40.9 +0.1**
GZR Gura Zlata 80.92 316 ⇑P **P 19 06 40.9 +0.1**
HERR Herculane 81.08 316 ⇑P **P 19 06 41.4 -0.2**
MESR Meseseni 81.11 318 ⇓P **P 19 06 43.0 +1.3**
DRGR 81.21 317 ⇑P **P 19 06 42.3 -0.1**
DRGR 81.21 317 ⇑P **P 19 06 42.3 -0.1**
VSU Vasula 81.39 330⇓*eP* **P 19 06 43.4 +0.5**
VSU pmax pmax
comp=Z,28nm,0.9s
KWP Kalwaria Pacla 81.72 320 P **P 19 06 45.2 +0.2**
KWP pmax pmax
comp=Z,452nm,0.6s
KWP Kalwaria Pacla 81.72 320 P **P 19 06 45.2 +0.2**
BZS Buzias 81.76 316 ⇑P **P 19 06 45.1 -0.1**
BZS Buzias 81.76 316 ⇑P **P 19 06 45.1 -0.1**
UZH Uzhgorod 81.81 319 *eP* P 19 06 54.1 +8.7
TSUM Tsumeb 81.99 251 LR LR 19 40 15.4
comp=Z,129nm,19.5s,baz=5.5,slow=33
TSUM Tsumeb 81.99 251 *eP* **P 19 06 47.8 +0.6**
TSUM Tsumeb 81.99 251 P **P 19 06 47.6 +0.4**
TSUM IAmb IAmb 19 06 49.6
comp=Z,20nm,0.9s
PABE Paberze 82.15 326 *eP* **P 19 06 47.5 +0.6**
PABE Paberze 82.15 326 IAmb IAmb 19 06 48.1
comp=Z,35nm,0.9s
SUW Suwalki 82.28 325 *eP* **P 19 06 47.4 -0.3**
SUW *e*pP **pP** **19 07 01.6 -3.3**
SUW Suwalki 82.28 325 P **P 19 06 47.0 -0.7**
SUW pmax pmax
comp=Z,69nm,1.1s
SUW Suwalki 82.28 325 *eP* **P 19 06 47.8 +0.1**
SUW Suwalki 82.28 325 P **P 19 06 47.0 -0.7**
CRVS Cervenica-Dubn 82.40 319 *eP* **P 19 06 49.4 +0.9**
CRVS Cervenica-Dubn 82.40 319 *eP* **P 19 06 49.3 +0.8**
FINES FINESS Array B 82.49 332 P **P 19 06 48.8 +0.2**
comp=Z,10nm,0.8s,baz=97,slow=5.4,SNR=32
FINES LR LR 19 48 49.8
comp=Z,87nm,18.4s,baz=28,slow=39
FINES FINESS Array B 82.49 332 *i P* **P 19 06 48.7 +0.1**
FINES pmax pmax
comp=Z,10.0nm,0.8s
WIN Windhoek 82.58 247⇓ *iP* **P 19 06 51.8 +1.5**
WIN IAmb IAmb 19 06 52.7
comp=Z,5.5nm,0.8s
WIN Windhoek 82.58 247 IAmb IAmb 19 06 52.9
comp=Z,17nm,0.9s
FRGS Fruska Gora 82.95 315 ⇑P **P 19 06 49.6 -1.9**
PDG Podgorica 83.00 313 ⇓P **P 19 06 51.6 -0.1**
PSZ Piszkesteto 83.28 318 ⇓P **P 19 06 53.2 0.0**
PSZ Piszkesteto 83.28 318 ⇓P **P 19 06 53.2 0.0**
PSZ Piszkesteto 83.28 318 P **P 19 06 53.0 -0.2**
PSZ Piszkesteto 83.28 318 P **P 19 06 52.7 -0.5**
PBUR Paburge 83.38 327 *eP* **P 19 06 53.4 +0.1**
OJC Ojcow 83.68 321 P **P 19 06 54.8 -0.3**
OJC pmax pmax
comp=Z,11nm,1.0s
OJC Ojcow 83.68 321 P **P 19 06 54.8 -0.3**
VNDA Vanda 83.73 169 P **P 19 06 56.4 +1.6**
comp=Z,4.9nm,0.6s,baz=326,slow=5.2,SNR=32
VNDA LR LR 19 36 35.4
comp=Z,71nm,21.8s,baz=326,slow=30
VNDA Vanda 83.73 169 P **P 19 06 56.0 +1.1**
VNDA IAmb IAmb 19 07 13.3
comp=Z,26nm,1.4s
MORH Mrgy, Hungar 83.90 316 ⇓P **P 19 06 56.5 +0.2**
MORH Mrgy, Hungar 83.90 316 P **P 19 06 55.3 -1.0**
VYHS Vyhne 84.06 319 *eP* **P 19 06 57.7 +0.6**
VYHS Vyhne 84.06 319 *eP* **P 19 06 57.7 +0.6**
KLNR Kaliningrad 84.10 325⇓*eP* **P 19 06 57.6 +0.5**
KLNR pmax pmax
comp=Z,56nm,1.0s
SRO2 Moca 84.26 318 *eP* **P 19 06 57.9 -0.2**
SRO2 Moca 84.26 318 *eP* **P 19 06 57.9 -0.2**
ARCES ARCESS Array B 84.86 340 P **P 19 07 00.6 -0.1**
comp=Z,5.0nm,0.8s,baz=85,slow=2.6,SNR=13
ARCES LR LR 19 48 08.4
comp=Z,98nm,21.9s,baz=58,slow=38
JAVC Velka Javorina 84.87 319 *eP* **P 19 07 02.6 +1.4**
MORC Moravsky Berou 85.06 320 ⇑P **P 19 07 02.6 +0.4**
MORC Moravsky Berou 85.06 320 ⇑P **P 19 07 02.6 +0.4**
MORC Moravsky Berou 85.06 320 *eP* **P 19 07 02.6 +0.4**
MORC Moravsky Berou 85.06 320 P **P 19 07 02.2 +0.1**
MODS Modra-Piesok 85.08 318 *eP* **P 19 07 03.3 +1.1**
MODS Modra-Piesok 85.08 318 *eP* **P 19 07 03.3 +1.1**
KRLC Kraliky 85.58 320 *eP* **P 19 07 05.8 +1.1**
KRLC Kraliky 85.58 320 *eP* **P 19 07 05.8 +1.1**
VRAC Vranov 85.62 319 P **P 19 07 04.8 -0.1**
comp=Z,2.8nm,1.1s,baz=264,slow=2.0,SNR=3.3
VRAC Vranov 85.62 319 *eP* **P 19 07 05.3 +0.4**
KRUC Moravsky 85.73 319 *eP* **P 19 07 05.6 +0.2**
DPC Dobruska-Polom 85.91 320 *eP* **P 19 07 07.4 +1.1**
DPC Dobruska-Polom 85.91 320 *eP* **P 19 07 07.4 +1.1**
DPC *e*pP **pP** **19 07 20.4 -3.2**
CONA Conrad Observa 85.97 318 *eP* **P 19 07 07.2 +0.4**
comp=Z,4.5nm,0.9s
OSTC Ostas 85.99 321 *eP* **P 19 07 07.9 +1.2**
CHVC Chvalec 86.10 321 *eP* **P 19 07 08.4 +1.1**
ARSA Arzberg 86.14 317 *i P* **P 19 07 08.4 +0.9**
comp=Z,12nm,1.5s
UPP Uppsala 86.26 330 *eP* **P 19 07 07.9 +0.1**
SOKA Soboth 86.43 317 *eP* **P 19 07 10.0 +0.9**
comp=Z,12nm,1.0s,SNR=6.9
OBKA Obir 86.75 316 *eP* **P 19 07 11.6 +1.0**
comp=Z,18nm,1.5s
PRU Pruhonice 87.01 320 *eP* **P 19 07 12.5 +0.8**
PRU Pruhonice 87.01 320 *eP* **P 19 07 12.5 +0.8**
MOA Molln 87.04 318 *eP* **P 19 07 12.3 +0.4**
comp=Z,6.2nm,1.1s
CKRC Cesky Krumlov 87.08 319 *eP* **P 19 07 13.1 +1.0**
PBCC Pribram 87.34 320 *eP* **P 19 07 14.1 +0.8**
BRG Berggiesshubel 87.46 321 *eP* **P 19 07 14.6 +0.8**
BRG Amp 19 07 16.6
comp=Z,35nm,1.8s
BRG *ex* x 19 07 27.5
BRG Amp 19 07 31.5
comp=Z,8.7nm,1.3s
BRG Berggiesshubel 87.46 321 *eP* **P 19 07 14.6 +0.8**
BRG pmax pmax
comp=Z,35nm,1.8s
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG Berggiesshubel 87.46 321 *eP* **P 19 07 14.5 +0.7**
comp=Z,34nm,1.7s,baz=92,slow=4.8
GEC2 GERESS Array S 87.48 319 *eP* **P 19 07 14.4 +0.3**
comp=Z,22nm,1.4s,baz=92,slow=4.8
GEC2 GERESS Array S 87.48 319 P **P 19 07 14.4 +0.3**
GEC2 IAmb IAmb 19 07 15.9
comp=Z,27nm,1.4s
GERES GERESS Array B 87.48 319 P **P 19 07 14.2 +0.1**
comp=Z,4.2nm,0.8s,baz=97,slow=4.6,SNR=28
KHC Kasperske Hory 87.58 319 *ceP* **P 19 07 15.2 +0.7**
KHC pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 87.58 319 *eP* **P 19 07 14.8 +0.3**
KHC *ex* x 19 07 26.8
KHC Kasperske Hory 87.58 319 IAmb IAmb 19 07 31.0
comp=Z,16nm,1.6s
RUE Ruedersdorf 87.67 322 *eP* **P 19 07 16.0 +1.2**
RUE Ruedersdorf 87.67 322 *eP* **P 19 07 15.9 +1.1**
comp=Z,82nm,1.4s,baz=92,slow=4.8
FBE Freiberg 87.83 321 *eP* **P 19 07 16.5 +0.9**
comp=Z,16nm,1.0s,baz=92,slow=4.8
WET Wettzell 88.04 319 *eP* **P 19 07 17.3 +0.6**
comp=Z,25nm,1.6s,baz=92,slow=4.8
CLL Collm 88.08 321 *i P* **P 19 07 17.4 +0.6**
CLL *e*PP **pP** **19 07 33.0 -1.1**
CLL pmax pmax
comp=Z,14nm,1.2s
CLL Collm 88.08 321 *i P* **P 19 07 17.4 +0.6**
comp=Z,14nm,1.2s
CLL *e*pP **pP** **19 07 33.0 -1.1**
CLL *ex* x 19 11 21.0
CLL *e*PPP PPP 19 12 44.0
CLL Collm 88.08 321 *eP* **P 19 07 17.0 +0.3**
comp=Z,14nm,1.2s,baz=92,slow=4.8
CLL Collm 88.08 321 P **P 19 07 17.1 +0.3**
CLL IAmb IAmb 19 07 18.3
comp=Z,14nm,1.2s
ABTA Abfaltersbach 88.17 317 *eP* **P 19 07 17.5 +0.1**
comp=Z,7.1nm,1.0s
HFS Hagfors 88.25 330 P **P 19 07 18.0 +0.6**
comp=Z,10nm,0.9s,baz=108,slow=4.7,SNR=9.3
HFS LR LR 19 52 25.9
comp=Z,78nm,18.8s,baz=16,slow=39
MANZ Manzenberg 88.58 320 *eP* **P 19 07 20.4 +1.2**
comp=Z,5.0nm,1.2s,baz=92,slow=4.8
NVL N'lazarevskaya 88.66 199 *eP* P 19 07 25.0 +5.9
NVL pmax pmax
comp=Z,34nm,1.0s
WTTA Wattenberg 88.79 317 *eP* **P 19 07 20.6 +0.2**
comp=Z,16nm,1.3s
WATA Walderalm 88.83 317 *i P* **P 19 07 20.6 0.0**
comp=Z,7.5nm,1.1s
NEUB Neuenburg 88.84 321 *eP* **P 19 07 21.0 +0.6**
comp=Z,42nm,1.3s,baz=92,slow=4.8
MOX Moxa 88.92 320 *eL* L 19 49 58.2
comp=Z,65nm,20.7s
FUR Furstenfeldbru 89.06 318 *eL* L 19 48 40.1
comp=Z,107nm,18.8s
SQTA Sankt Quirin 89.08 317 *eP* **P 19 07 22.0 +0.2**
comp=Z,8.8nm,0.9s,SNR=4.1
MOTA Moosalm 89.15 317 *eP* **P 19 07 22.3 +0.2**
comp=Z,9.9nm,1.0s,SNR=6.8
FLTG Flechtingen 89.22 322 *eP* **P 19 07 22.1 +0.1**
comp=Z,9.5nm,0.9s,baz=92,slow=4.8
RETA Reutte 89.39 317 *eP* **P 19 07 23.6 +0.5**
comp=Z,10nm,0.9s,SNR=5.1
FETA Feichten 89.40 317 *eP* **P 19 07 23.3 0.0**
comp=Z,5.2nm,0.9s
QSPA South Pole Qui 89.43 180 LR LR 19 43 35.3
comp=Z,91nm,20.9s,baz=269,slow=33
QSPA South Pole Qui 89.43 180 P **P 19 07 24.1 +1.2**
SALO Salr 89.51 315 P **P 19 07 23.7 0.0**
NB2 NORSAR Subarra 89.52 331 P **P 19 07 23.0 -0.4**
comp=Z,14nm,1.7s,baz=95,slow=4.8
NOA NORSAR Array B 89.52 331 P **P 19 07 22.9 -0.5**
comp=Z,1.0nm,0.8s,baz=93,slow=4.9,SNR=3.8
NOA LR LR 19 52 51.0
comp=Z,38nm,19.0s,baz=325,slow=39
CLZ Clausthal 89.74 322 *eP* **P 19 07 25.4 +0.8**
comp=Z,33nm,1.4s,baz=92,slow=4.8
NRDL Niedersach Rie 89.92 322 *eP* **P 19 07 26.7 +1.4**
comp=Z,48nm,1.4s,baz=92,slow=4.8
DAVA Damuels 89.98 317 *eP* **P 19 07 27.0 +1.0**
comp=Z,24nm,1.1s,SNR=9.2
KEST Kesra 90.26 306 P **P 19 07 28.6 +1.1**
comp=Z,22nm,1.0s,baz=316,slow=12,SNR=7.0
KEST LR LR 19 49 35.0
comp=Z,56nm,21.1s,baz=247,slow=36
TUE Stuetta 90.34 316 IAmb IAmb 19 07 32.2
comp=Z,13nm,1.0s
BFO Black Forest 91.03 318 P **P 19 07 29.2 -1.5**
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 91.03 318 P **P 19 07 29.2 -1.5**
BFO IAmb IAmb 19 07 31.9
comp=Z,6.6nm,0.8s
ECH Echery 91.81 318 P **P 19 07 33.9 -0.5**
ECH pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 91.81 318 P **P 19 07 33.9 -0.5**
ECH IAmb IAmb 19 07 35.8
comp=Z,9.1nm,0.9s
SNAA Sanae 93.31 198 P **P 19 07 42.2 +1.3**
SNAA Sanae 93.31 198 P **P 19 07 41.7 +0.9**
VNA2 Neumayer--Watz 94.92 198 P **P 19 07 49.8 +1.7**
baz=62,slow=8.4
VNA1 Neumayer--Stat 95.27 199 P **P 19 07 50.1 +0.4**
DAG Danmarks Havn 96.71 348 *i P* **P 19 07 55.0 -1.1**
TORD Torodi Ar. Bea 97.52 283 P **P 19 08 00.6 -0.5**
comp=Z,2.9nm,0.8s,baz=78,slow=4.2,SNR=11
ILAR Eielson Array 100.45 23 P **Pdif** **19 08 12.4 -0.8**
comp=Z,0.3nm,0.9s,baz=270,slow=3.6,SNR=2.2
ILAR PKKPbc **PKKPbc** **19 24 29.1 -2.3**
comp=Z,0.8nm,0.9s,baz=130,slow=3.0,SNR=5.3
ESDC Sonseca Array 100.53 310 P **Pdif** **19 08 14.3 +0.1**
comp=Z,0.3nm,0.6s,baz=55,slow=4.9,SNR=4.9
YKA Yellowknife Ar 113.17 16 PKiKP **PKiKP** **19 13 02.7 -0.5**
comp=Z,0.6nm,0.6s,baz=342,slow=2.1,SNR=12
YKA PKKPbc **PKKPbc** **19 23 49.6 -2.1**
comp=Z,0.6nm,0.8s,baz=148,slow=3.6,SNR=8.8
SCHQ Schefferville 124.69 350 PKP **PKPdf** **19 13 25.6 0.0**
comp=Z,7.2nm,0.7s,baz=21,slow=2.6,SNR=14
EGMT Eagleton 126.41 24 **PKPdf** **19 13 28.5 -0.7**
ULM Lac du Bonnet 128.80 12 PKP **PKPdf** **19 13 33.8 +0.2**
comp=Z,6.3nm,0.7s,baz=350,slow=1.2,SNR=7.4
NVAR Mina Array Bea 128.90 38 PKP **PKiKP** **19 13 35.0 -0.1**
comp=Z,0.8nm,0.7s,baz=251,slow=1.0,SNR=5.6

PDAR	**Pinedale Array**	**130.63**	**28**	PKP	**PKPdf**	**19 13 37.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=236,slow=2.3,SNR=4.7						
PDAR				SKPbc	**SKPbc**	**19 16 54.9**	**-1.3**
	comp=Z,2.0nm,1.0s,baz=318,slow=2.0,SNR=7.3						
NBRF	**Rio Formoso -**	**133.68**	**258**	*e*P	**PKiKP**	**19 13 45.2**	**+0.1**
RCBR	**Riachuelo**	**134.82**	**261**	*e*P	**PKPdf**	**19 13 46.7**	**+0.7**
RIB01	**Linhares ES**	**135.81**	**241**	*e*P	**PKPdf**	**19 13 48.2**	**+0.5**
CMC01	**Camacan, BA**	**136.35**	**247**	*e*P	**PKiKP**	**19 13 50.0**	**-0.5**
DUB01	**Friburgo-RJ**	**136.40**	**237**	*e*P	**PKiKP**	**19 13 50.1**	**-0.4**
MAN01	**Angra dos Reis**	**137.35**	**235**	*e*P	**PKPdf**	**19 13 51.2**	**+0.6**
PLCA	**Paso Flores**	**137.91**	**192**	PKP	**PKiKP**	**19 13 52.4**	**-0.7**
	comp=Z,3.4nm,1.1s,baz=180,slow=2.0,SNR=3.1						
PARB	**Paraibuna**	**138.46**	**233**	*e*P	**PKPdf**	**19 13 52.8**	**+0.2**
ITQB	**Itaqui**	**142.19**	**215**	*e*P	**PKPdf**	**19 14 00.4**	**+1.4**
BO02	**Sierra Bellavi**	**143.66**	**194**		PKPbc	19 13 59.2	+0.1
BDFB	**Brasilia**	**143.93**	**242**	PKP	PKPbc	19 14 01.2	+0.7
	comp=Z,7.3nm,0.8s,baz=110,slow=5.7,SNR=9.5						
BDFB	**Brasilia**	**143.93**	**242**	PKIKP	PKPbc	19 14 00.3	-0.2
BDFB	**Brasilia**	**143.93**	**242**	PKPdf	PKPbc	19 14 00.3	-0.2
TXAR	**Lajitas Array**	**143.94**	**35**	PKP	PKPbc	19 14 01.1	+0.9
	comp=Z,4.1nm,0.7s,baz=266,slow=1.5,SNR=32						
TXAR	**Lajitas Array**	**143.94**	**35**	PKPdf	PKPbc	19 14 00.3	+0.1
WVT	**Waverly**	**143.96**	**10**	PKIKP	PKPab	19 13 59.6	+0.3
WVT	**Waverly**	**143.96**	**10**	PKPdf	PKPab	19 13 59.6	+0.3
V48A	**Smith Brothers**	**144.51**	**9**		**PKPab**	**19 14 00.8**	**-0.5**
MT01	**Popeta**	**144.65**	**194**		**PKPdf**	**19 14 02.9**	**-0.4**
MT09	**Talagante**	**144.68**	**194**		PKPbc	19 14 02.8	+0.4
Z38A	**Mt. Pleasant**	**144.78**	**21**	PKPdf	PKPbc	19 14 02.7	+0.2
PLAL	**Pickwick Lake**	**145.04**	**11**		**PKPbc**	**19 14 02.7**	**-0.6**
CPUP	**Villa Florida**	**145.05**	**218**	PKPbc	**PKPdf**	**19 14 04.5**	**+0.3**
	comp=Z,39nm,0.8s,baz=124,slow=3.3,SNR=45						
CPUP	**Villa Florida**	**145.05**	**218**	*e*P	**PKPdf**	**19 14 04.9**	**+0.7**
W57A	**Gilead**	**145.54**	**359**		**PKPdf**	**19 14 04.7**	**0.0**
BG3	**Lake Jocassee**	**145.65**	**3**	PKPdf	**PKPdf**	**19 14 04.9**	**-0.1**
SMTB	**Santa Maria do**	**145.71**	**253**	*e*P	**PKPab**	**19 14 07.4**	**+0.9**
PAULI	**Pauline**	**145.87**	**2**		**PKPdf**	**19 14 05.4**	**+0.1**
ARAG	**Araguaiana, MT**	**147.22**	**239**	*e*P	**PKPdf**	**19 14 08.9**	**+0.8**
152A	**Waverly Hall**	**147.81**	**6**		**PKPbc**	**19 14 11.4**	**-0.2**
AQDB	**Aquidauana**	**147.83**	**228**		**PKPbc**	**19 14 11.5**	**-0.4**
BRAL	**Brewton**	**148.94**	**11**		**PKPdf**	**19 14 11.1**	**+0.6**
SALV	**Santo Antonio**	**150.39**	**235**	*e*P	**PKPdf**	**19 14 14.0**	**+0.7**
MCPB	**Macapa, AP**	**151.34**	**268**	*e*P	**PKPdf**	**19 14 15.0**	**+0.2**
PDRB	**Porto dos Gac**	**153.30**	**242**	*e*P	**PKPdf**	**19 14 18.0**	**+0.3**
PTLB	**Pontes e Lacer**	**153.42**	**232**	PKPdf	**PKPdf**	**19 14 17.9**	**+0.2**
PTLB					**PKPbc**	**19 14 25.1**	**-0.3**
PTLB				PKPab	**pPKPdf**	**19 14 36.5**	**+0.8**
LVC	**Limon Verde**	**154.29**	**206**	*e*P	**PKPdf**	**19 14 19.2**	**-0.2**
VILB	**Vilhena**	**155.65**	**236**	*e*P	**PKPdf**	**19 14 21.4**	**+0.5**
LPAZ	**La Paz**	**159.19**	**216**	PKPab	**PKPab**	**19 15 04.2**	**+1.2**
	comp=Z,2.6nm,0.7s,baz=202,slow=1.5,SNR=4.8						
LPAZ	**La Paz**	**159.19**	**216**	*e*P	**PKPdf**	**19 14 26.0**	**-0.1**
ETMB	**Extrema**	**162.29**	**234**	*e*P	**PKPdf**	**19 14 29.4**	**+0.7**

TIR ***16*** *18:55:09.9, 41°.50N×14°.59E, h34km±2km, Ml4.7*

BGR ***16*** *18:55:09.3±0.9, 41°.14N×14°.91E, h10km, ML4.5, Error ellipse: s-maj=15.6km s-min=10.0km az=102.0*

NEIC ***16*** *18:55:11.5±2.8, 41°.59N±0°.05×14°.65E±0°.05, h5km±4km, mb4.6/46, Mwr4.4/48, ML4.1(ROM), Error ellipse: s-maj=8.1km s-min=4.4km az=216.0*

IASPEI ***16*** *18:55:11.7±0.8, 41°.54N±0°.02×14°.61E±0°.02, h16km±5km, mb4.5/34, MS3.9/9, Error ellipse: s-maj=3.4km s-min=2.2km az=34.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

IDC ***16*** *18:55:11.6±0.6, 41°.66N×14°.52E, h0km, mb4.0/19, mb1 4.0/33, mb1mx3.9/75, mbtmp4.0/33, ML3.6/13, MS3.7/19, Ms1 3.6/19, ms1mx3.4/85, Error ellipse: s-maj=11.4km s-min=9.0km az=89.0*

NEIC ***16*** *18:55:11.7, 41°.56N×14°.69E, h29km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.52; $M_{\theta\theta}$-0.84; $M_{\phi\phi}$0.32; $M_{r\theta}$1.07; $M_{\theta\phi}$-3.76; $M_{\phi r}$-1.84; Fault plane solution: $M_0$4.38000×10^{15} NP1:ϕ_s187.36000°, δ75.17000°, λ23.75000°. NP2:ϕ_s90.93000°, δ67.09000°, λ163.86000°. Principal axes: T 4.6189, Plg27.0000°, Azm51.0000°; N -0.5174, Plg62.0000°, Azm218.0000°; P -4.1015, Plg5.0000°, Azm318.0000°;*

MED_RC ***16*** *18:55:11.0±0.4, 41°.59N×14°.62E, h10km, MW4.4/21, Moment Tensor Solution.Mantle waves: s21,c30; Duration: 1ŝ0 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.42±.24; $M_{\theta\theta}$3.37±.25; $M_{\phi\phi}$2.06±.24; $M_{r\theta}$0.64±1.03; $M_{\theta\phi}$-2.73±.17; $M_{\phi r}$-0.54±1.14; Best double couple: $M_0$5.54000×10^{15} NP1:ϕ_s309.00000°, δ49.00000°, λ-90.00000°. NP2:ϕ_s128.00000°, δ41.00000°, λ-91.00000°. Principal axes: T 5.5900, Plg4.0000°, Azm38.0000°; N -0.0900, Plg0.0000°, Azm128.0000°; P -5.4800, Plg86.0000°, Azm223.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ROM ***16*** *18:55:11.9±0.1, 41°.527N±0°.004×14°.599E±0°.005, h10km, ML4.1/92, Mw4.3 Error ellipse: s-maj=0.4km s-min=0.3km az=222.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.93; $M_{\theta\theta}$1.50; $M_{\phi\phi}$1.43; $M_{r\theta}$0.55; $M_{\theta\phi}$-1.49; $M_{\phi r}$0.13; Fault plane solution: $M_0$2.99482×10^{15} NP1:ϕ_s305.00000°, δ49.00000°, λ-102.00000°. NP2:ϕ_s143.00000°, δ43.00000°, λ-77.00000°.*

LDG ***16*** *18:55:12.7±0.2, 41°.56N×14°.76E, h10km, Ml3.5/27 Error ellipse: s-maj=8.3km s-min=5.3km az=28.0*

PDG ***16*** *18:55:12.2±0.7, 41°.54N×14°.65E, h12km, ML4.2/14, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

PRU ***16*** *18:55:14.3±0.0, 41°.68N×14°.31E, h0km, M4.6*

BEO ***16*** *18:55:14.8±0.6, 41°.64N×14°.81E, h0km, ML4.2/12*

ISC 16 18:55:12.2±0.7, 41°.56N±0°.02×14°.62E±0°.02, h14km±4km, n527, σ1$69/640, mb4.5/34, MS3.9/9, 55C-30D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSO	**Busso**	**0.03**	**244**	⇓P	**Pg**	**18 55 14.0**	**-0.8**
BSSO				S	**Sg**	**18 55 15.8**	**-0.8**
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
PTRJ	**Pietraroja**	**0.21**	**200**	⇑P	**Pg**	**18 55 16.0**	**-0.9**
PTRJ				S	**Sg**	**18 55 19.9**	**-0.2**
PTRJ				AML	AML		
PTRJ				AML	AML		
PTRJ				AML	AML		
PTRJ				AML	AML		
TRIV	**Trivento**	**0.22**	**345**	⇑P	**Pb**	**18 55 17.7**	**-0.2**
TRIV				S	**Sb**	**18 55 22.6**	**+0.8**
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
GATE	**Gambatesa**	**0.22**	**102**	⇑P	**Pb**	**18 55 17.8**	**-0.1**
GATE				AML	AML		
GATE				AML	AML		
GATE				AML	AML		
	comp=E,76750μm,1.1s						
GATE				AML	AML		
	comp=E,87850μm,1.1s						
SGG	**Gregorio Mates**	**0.25**	**227**	⇑P	**Pg**	**18 55 16.9**	**-0.8**
SGG				S	**Sg**	**18 55 21.6**	**+0.3**
SGG				AML	AML		
	comp=N,384nm,0.6s						
SGG				AML	AML		
	comp=E,512nm,0.6s						
SGG				AML	AML		
SGG				AML	AML		
SGG				AML	AML		
	comp=N,384nm,0.6s						
SGG				AML	AML		
	comp=E,512nm,0.6s						
MIDA	**Miranda**	**0.29**	**287**	P	**Pg**	**18 55 18.3**	**0.0**
MIDA				S	**Sb**	**18 55 23.4**	**-0.6**
MIDA				AML	AML		
	comp=E,89250μm,1.0s						
MIDA				AML	AML		
	comp=N,78850μm,1.6s						
MIDA				AML	AML		
	comp=E,92550μm,1.0s						
MIDA				AML	AML		
	comp=N,80000μm,1.6s						
MIDA				AML	AML		
	comp=E,89200μm,1.0s						
VAGA	**Valle Agricola**	**0.33**	**244**	⇑P	**Pg**	**18 55 18.4**	**-0.5**
VAGA				S	**Sg**	**18 55 23.1**	**-0.4**
VAGA				AML	AML		
VAGA				AML	AML		
VAGA				AML	AML		
VAGA				AML	AML		
VAGA				AML	AML		
PSB1	**Pescosannita**	**0.36**	**157**	P	**Pg**	**18 55 19.2**	**-0.3**
PSB1				S	**Sg**	**18 55 23.8**	**-0.7**
PSB1				AML	AML		
	comp=E,56700μm,0.9s						
PSB1				AML	AML		
	comp=N,56650μm,1.2s						
PSB1				AML	AML		
	comp=E,61150μm,0.9s						
PSB1				AML	AML		
	comp=N,58150μm,1.2s						
PSB1				AML	AML		
	comp=E,56650μm,0.9s						
PSB1				AML	AML		
	comp=N,56700μm,1.2s						
VITU	**Vitulano (BN)**	**0.37**	**179**	P	**Pg**	**18 55 18.9**	**-0.8**
VITU				S	**Sg**	**18 55 24.7**	**-0.2**
VITU				AML	AML		
	comp=E,79550μm,0.5s						
VITU				AML	AML		
	comp=N,87300μm,0.4s						
VITU				AML	AML		
	comp=E,28850μm,1.0s						
VITU				AML	AML		
	comp=N,85850μm,0.4s						
RNI2	**Rionero Sannit**	**0.38**	**292**	⇑P	**Pg**	**18 55 19.9**	**0.0**
RNI2				S	**Sb**	**18 55 26.2**	**-0.4**
RNI2				AML	AML		
	comp=E,62400μm,0.8s						
RNI2				AML	AML		
	comp=E,63800μm,0.8s						
RNI2				AML	AML		
	comp=N,59200μm,0.6s						
RNI2				AML	AML		
	comp=N,57500μm,0.6s						
RNI2				AML	AML		
	comp=N,57550μm,0.6s						
MELA	**Melanico ??? S**	**0.41**	**68**	⇑P	**Pg**	**18 55 20.3**	**0.0**
MELA				S	**Sb**	**18 55 27.6**	**+0.4**
MELA				AML	AML		
	comp=E,93550μm,0.4s						
MELA				AML	AML		
	comp=N,72700μm,0.5s						
MELA				AML	AML		
	comp=N,72700μm,0.5s						
MELA				AML	AML		
	comp=E,97350μm,0.4s						
MELA				AML	AML		
	comp=E,93500μm,0.4s						
MELA				AML	AML		
	comp=N,74300μm,0.5s						
FRES	**Fresagrandinar**	**0.42**	**5**	⇑P	**Pg**	**18 55 20.6**	**+0.1**
MOCO	**Biccari - m.te**	**0.44**	**115**	P	**Pg**	**18 55 21.3**	**+0.3**
MOCO				S	**Sb**	**18 55 28.1**	**-0.2**
MOCO				AML	AML		
	comp=E,27700μm,0.8s						
MOCO				AML	AML		
	comp=E,28050μm,0.6s						
MOCO				AML	AML		
	comp=N,12950μm,0.8s						
MOCO				AML	AML		
	comp=N,12850μm,0.8s						
CERA	**Filignano**	**0.46**	**275**	⇑P	**Pg**	**18 55 20.9**	**-0.3**
CERA				AML	AML		
	comp=E,53350μm,0.7s						
CERA				AML	AML		
	comp=E,54500μm,0.7s						
CERA				AML	AML		
	comp=N,66800μm,0.8s						
CERA				AML	AML		
	comp=N,65050μm,0.9s						
CERA				AML	AML		
	comp=E,53400μm,0.7s						
MRB1	**Monte Rocchett**	**0.50**	**149**	⇓P	**Pg**	**18 55 21.8**	**-0.3**
MRB1				S	**Sb**	**18 55 29.8**	**-0.2**
MRB1				AML	AML		
	comp=E,36350μm,0.9s						
MRB1				AML	AML		
	comp=N,45950μm,0.6s						
MRB1				AML	AML		
	comp=E,36350μm,0.9s						
MRB1				AML	AML		
	comp=N,44450μm,0.5s						
MRB1				AML	AML		
	comp=E,36550μm,0.9s						
BIOG	**Biogem**	**0.52**	**133**	P	**Pb**	**18 55 23.1**	**-0.1**
BIOG				AML	AML		
	comp=E,50050μm,1.6s						
BIOG				AML	AML		
	comp=N,45850μm,1.5s						
BIOG				AML	AML		
	comp=N,46750μm,1.5s						
BIOG				AML	AML		
	comp=E,48750μm,1.6s						
PAOL	**Paolisi**	**0.53**	**185**	P	**Pg**	**18 55 21.3**	**-1.3**
PAOL				AML	AML		
	comp=N,24500μm,0.8s						
PAOL				AML	AML		
	comp=E,20050μm,1.0s						
PAOL				AML	AML		
	comp=E,19150μm,1.0s						
PAOL				AML	AML		
	comp=N,23950μm,0.8s						
PAOL	**Paolisi**	**0.53**	**185**		**Pg**	**18 55 21.2**	**-1.3**
PAOL				Sg	**Sg**	**18 55 28.7**	**-0.9**
LPEL	**Lama dei Pelig**	**0.59**	**326**	P	**Pg**	**18 55 23.2**	**-0.6**
LPEL				S	**Sb**	**18 55 33.1**	**+0.5**
LPEL				AML	AML		
	comp=N,27650μm,0.2s						
LPEL				AML	AML		
	comp=E,59050μm,0.3s						
MODR	**Mondragone**	**0.70**	**234**	P	**Pg**	**18 55 24.9**	**-0.8**
MODR				AML	AML		
	comp=E,68450μm,0.8s						
MODR				AML	AML		
	comp=N,72800μm,0.9s						
SGTA	**Sant Agata di**	**0.70**	**127**	P	**Pg**	**18 55 25.1**	**-0.7**
SGTA				AML	AML		
	comp=E,11950μm,0.5s						
SGTA				AML	AML		
	comp=N,6665μm,0.8s						
SGTA				AML	AML		
	comp=E,12300μm,0.5s						
SGTA				AML	AML		
	comp=N,6380μm,0.8s						
SGTA				AML	AML		
	comp=E,12000μm,0.5s						
CAFR	**Castel Frentan**	**0.70**	**343**	P	**Pg**	**18 55 25.3**	**-0.6**
CAFR				S	**Sn**	**18 55 37.2**	**-1.1**
CAFR				AML	AML		
	comp=E,13650μm,0.9s						
CAFR				AML	AML		
	comp=N,20100μm,0.3s						
CAFE	**Carife**	**0.70**	**139**	P	**Pg**	**18 55 24.9**	**-1.0**
POFI	**Posta Fibreno**	**0.70**	**283**	⇑P	**Pg**	**18 55 24.9**	**-1.0**
RSF3	**Rocca San Feli**	**0.72**	**145**	P	**Pg**	**18 55 24.9**	**-1.4**
SNAL	**S. Angelo Dei**	**0.77**	**145**	P	**Pg**	**18 55 25.7**	**-1.4**
SNAL				AML	AML		
	comp=E,17650μm,1.1s						
SNAL				AML	AML		
	comp=N,11620μm,1.3s						
SNAL				AML	AML		
	comp=E,17850μm,1.1s						
SNAL				AML	AML		
	comp=N,11500μm,0.9s						
SNAL				AML	AML		
	comp=N,11600μm,1.3s						
SNAL				AML	AML		
	comp=E,17700μm,1.1s						
LIO3	**Lioni**	**0.78**	**147**	P	**Pg**	**18 55 25.9**	**-1.5**
LIK	**San Giovanni I**	**0.80**	**267**	P	**Pg**	**18 55 27.7**	**0.0**
LIK	**San Giovanni I**	**0.80**	**267**	AML	AML		
	comp=N,56850μm,0.7s						
LIK				AML	AML		
	comp=E,26850μm,0.6s						
VVLD	**Villa Vallelon**	**0.81**	**293**	P	**Pg**	**18 55 26.6**	**-1.3**
VVLD				AML	AML		
	comp=N,21250μm,0.5s						
VVLD				AML	AML		
	comp=E,11345μm,1.1s						
SGRT	**San Giovanni R**	**0.86**	**76**	⇑P	**Pg**	**18 55 28.0**	**-0.9**
SGRT				S	**Sn**	**18 55 41.8**	**-0.6**
SGRT				AML	AML		
	comp=N,31950μm,0.9s						
SGRT				AML	AML		
	comp=E,47850μm,0.7s						
SGRT	**San Giovanni R**	**0.86**	**76**	Pg	**Pg**	**18 55 27.5**	**-1.4**
SGRT				Sg	**Sb**	**18 55 41.2**	**+0.8**
SGRT	**San Giovanni R**	**0.86**	**76**	P	**Pg**	**18 55 27.7**	**-1.2**
	baz=73						
SGRT				S	**Sn**	**18 55 41.4**	**-1.0**
	baz=73						
TREM	**Isole Tremiti**	**0.87**	**49**	P	**Pg**	**18 55 28.5**	**-0.6**
TREM				AML	AML		
	comp=E,35200μm,0.6s						
TREM				AML	AML		
	comp=N,38150μm,0.7s						
MCRV	**Calabrutti - M**	**0.88**	**152**	P	**Pg**	**18 55 27.4**	**-1.8**
MCRV				AML	AML		
	comp=E,13200μm,0.9s						
MCRV				AML	AML		
	comp=N,11200μm,0.6s						
T0110	**Collepietro**	**0.92**	**317**	P	**Pb**	**18 55 28.6**	**-1.3**
T0110				AML	AML		
	comp=E,15600μm,1.6s						
T0110				AML	AML		
	comp=N,17600μm,0.5s						
VULT	**Monte Vulture**	**0.96**	**128**	P	**Pb**	**18 55 29.1**	**-1.5**
RDM3	**Ruvo Del Monte**	**0.97**	**134**	P	**Pb**	**18 55 30.2**	**-0.5**
MSAG	**Monte S. Angel**	**0.98**	**80**	P	**Pb**	**18 55 30.7**	**-0.2**
MSAG				S	**Sn**	**18 55 45.4**	**+0.2**
MSAG				AML	AML		
	comp=N,43450μm,0.8s						
MSAG				AML	AML		
	comp=N,43500μm,0.8s						
MSAG				AML	AML		
	comp=E,35250μm,0.7s						
MSAG				AML	AML		
	comp=E,34450μm,0.6s						
MSAG				AML	AML		
	comp=N,43500μm,0.8s						
CAPA	**Cerignola FG**	**0.98**	**114**	P	**Pb**	**18 55 29.2**	**-1.8**
CAPA				AML	AML		
	comp=E,13500μm,0.9s						
CAPA				AML	AML		
	comp=N,23250μm,1.1s						
GUAR	**Guarcino**	**1.01**	**284**	P	**Pb**	**18 55 30.0**	**-1.5**
GUAR				AML	AML		
	comp=E,13350μm,0.9s						
GUAR				AML	AML		
	comp=N,18250μm,1.2s						
VCEL	**Villa Celiera**	**1.02**	**325**	P	**Pb**	**18 55 30.8**	**-0.9**
VCEL				AML	AML		
	comp=E,16550μm,1.3s						
VCEL				AML	AML		
	comp=N,14550μm,0.3s						
PTQR	**Pietraquaria**	**1.03**	**297**	P	**Pb**	**18 55 30.5**	**-1.3**
PTQR				AML	AML		
	comp=N,9485μm,1.0s						
PTQR				AML	AML		
	comp=E,6630μm,1.3s						
MRLC	**Muro Lucano**	**1.03**	**141**	P	**Pb**	**18 55 31.2**	**-0.7**
MRLC				AML	AML		
	comp=N,7355μm,1.6s						
MRLC				AML	AML		
	comp=N,6715μm,1.6s						
MRLC				AML	AML		
	comp=E,5960μm,1.4s						
MRLC				AML	AML		
	comp=E,5570μm,0.7s						
FAGN	**Fagnano**	**1.05**	**313**	P	**Pb**	**18 55 31.2**	**-1.0**
FAGN				AML	AML		
	comp=N,17650μm,0.5s						
FAGN				AML	AML		
	comp=E,18000μm,0.6s						
PALZ	**Palazzo San Ge**	**1.18**	**121**	P	**Pn**	**18 55 33.6**	**-0.7**
PALZ				AML	AML		
	comp=E,9755μm,1.3s						
PALZ				AML	AML		
	comp=N,10195μm,1.1s						
CDRU	**Civita di Ruta**	**1.19**	**154**	P	**Pn**	**18 55 33.8**	**-0.6**
VENT	**Ventotene**	**1.19**	**230**	P	**Pn**	**18 55 33.4**	**-0.9**
VENT				AML	AML		
	comp=E,16050μm,0.6s						
VENT				AML	AML		
	comp=N,11350μm,0.7s						
GIGS	**Gran Sasso**	**1.19**	**319**	P	**Pn**	**18 55 33.5**	**-0.9**
GIGS				AML	AML		
	comp=E,2740μm,0.6s						
GIGS				AML	AML		
	comp=N,2890μm,1.4s						
AQU	**L'Aquila**	**1.21**	**312**	*e*Pn	**Pn**	**18 55 33.9**	**-0.8**
AQU	**L'Aquila**	**1.21**	**312**	Pn	**Pn**	**18 55 33.5**	**-1.2**
LATB	**Latina**	**1.25**	**268**	⇑P	**Pn**	**18 55 34.3**	**-0.9**
LATB				AML	AML		
	comp=E,2515μm,0.9s						
LATB				AML	AML		
	comp=N,2050μm,0.9s						
ACER	**Acerenza**	**1.26**	**127**	P	**Pn**	**18 55 35.1**	**-0.3**
ACER				AML	AML		
	comp=N,6195μm,1.0s						
ACER				AML	AML		
	comp=N,6390μm,1.0s						
ACER				AML	AML		
	comp=E,6135μm,1.2s						
ACER				AML	AML		
	comp=E,5915μm,1.2s						
MRVN	**Minervino Murg**	**1.28**	**112**	P	**Pn**	**18 55 35.2**	**-0.5**
MRVN				S	**Sb**	**18 55 52.3**	**-0.1**
MRVN				AML	AML		
	comp=E,3175μm,0.6s						
MRVN				AML	AML		
	comp=N,3960μm,1.4s						
MRVN	**Minervino Murg**	**1.28**	**112**	P	**Pn**	**18 55 35.4**	**-0.3**
	baz=109						
MRVN				S	**Sb**	**18 55 52.4**	**-0.1**
	baz=109						
CERT	**Cerreto**	**1.29**	**288**	P	**Pn**	**18 55 35.0**	**-0.8**
CERT				AML	AML		
	comp=N,4320μm,1.3s						
CERT				AML	AML		
	comp=E,6820μm,0.9s						
TERO	**Teramo**	**1.31**	**325**	P	**Pn**	**18 55 35.8**	**-0.3**
TERO				AML	AML		
	comp=N,5570μm,1.0s						
TERO				AML	AML		
	comp=E,1555μm,0.9s						
TERO				AML	AML		
	comp=N,2270μm,1.0s						
TERO				AML	AML		
	comp=E,3810μm,0.9s						
FIAM	**Fiamignano**	**1.33**	**303**	P	**Pb**	**18 55 36.8**	**-0.1**
FIAM				AML	AML		
	comp=N,4700μm,1.1s						
FIAM				AML	AML		
	comp=E,7665μm,0.8s						
CAMP	**Campotosto**	**1.33**	**318**	P	**Pn**	**18 55 35.6**	**-0.8**
CMPR	**Campora**	**1.34**	**157**	P	**Pn**	**18 55 36.0**	**-0.6**
CMPR				AML	AML		
	comp=E,4325μm,0.7s						
CMPR				AML	AML		
	comp=N,2765μm,0.5s						
TRTR	**Tortoreto Alta**	**1.36**	**337**	P	**Pb**	**18 55 37.6**	**+0.2**
TRTR				AML	AML		
	comp=N,37800μm,1.0s						
TRTR				AML	AML		
	comp=E,36100μm,0.8s						
SLCN	**Sala Consilina**	**1.39**	**146**	P	**Pn**	**18 55 36.9**	**-0.4**
SLCN				AML	AML		
	comp=N,6270μm,1.3s						
SLCN				AML	AML		
	comp=E,6845μm,1.5s						
VIVA	**Pratoni del Vi**	**1.40**	**279**	P	**Pb**	**18 55 37.8**	**-0.4**
VIVA				AML	AML		
	comp=N,10830μm,0.5s						
VIVA				AML	AML		
	comp=E,12950μm,0.6s						
RM33	**Pellescritta (**	**1.42**	**313**	P	**Pn**	**18 55 37.4**	**-0.2**
SMA1	**SAN MARTINO**	**1.44**	**319**	P	**Pn**	**18 55 37.6**	**-0.3**
SMA1				AML	AML		
	comp=N,5740μm,1.1s						
SMA1				AML	AML		
	comp=E,5660μm,1.0s						

RDP	**Rocca di Papa**	**1.44 279**	P	**Pn**	**18 55 38.3 +0.4**
RDP			AML	AML	
	comp=N,18950µm,0.8s				
RDP			AML	AML	
	comp=E,8565µm,0.6s				
MTCE	**Montecelio**	**1.48 289**	P	**Pn**	**18 55 37.9 -0.6**
MTCE			AML	AML	
	comp=N,4145µm,0.8s				
MTCE			AML	AML	
	comp=E,6195µm,1.0s				
PTRP	**Pietrapertosa**	**1.50 133**	P	**Pb**	**18 55 39.7 -0.2**
MCEL	**Monticello**	**1.52 144**	P	**Pb**	**18 55 39.6 -0.6**
MCEL			AML	AML	
	comp=E,3980µm,1.1s				
MCEL			AML	AML	
	comp=N,5655µm,1.2s				
MCEL			AML	AML	
	comp=E,3975µm,1.1s				
MCEL			AML	AML	
	comp=N,5720µm,1.2s				
MTSN	**Montesano sull**	**1.55 146**	P	**Pn**	**18 55 39.5 +0.2**
MTSN			AML	AML	
	comp=E,3185µm,1.2s				
MTSN			AML	AML	
	comp=N,3385µm,0.8s				
AQT1	**Arquata del Tr**	**1.57 321**	P	**Pb**	**18 55 40.5 -0.4**
LNSS	**Leonessa**	**1.57 312**	P	**Pn**	**18 55 39.9 +0.1**
LNSS			AML	AML	
	comp=N,4490µm,0.9s				
LNSS			AML	AML	
	comp=E,7980µm,1.5s				
AG11	**Viggiano (PZ)**	**1.58 140**	P	**Pn**	**18 55 40.4 +0.5**
AG11			AML	AML	
	comp=E,4605µm,1.1s				
AG11			AML	AML	
	comp=N,4195µm,1.3s				
BULG	**Bulgheria - Ca**	**1.58 159**	P	**Pn**	**18 55 39.8 -0.1**
BULG			AML	AML	
	comp=E,2440µm,0.8s				
BULG			AML	AML	
	comp=E,2460µm,0.8s				
BULG			AML	AML	
	comp=N,6480µm,1.1s				
BULG			AML	AML	
	comp=N,6355µm,1.1s				
MGR	**Morigerati**	**1.58 153**	P	**Pn**	**18 55 39.5 -0.3**
MGR			AML	AML	
	comp=N,2440µm,1.6s				
MGR			AML	AML	
	comp=N,2450µm,1.6s				
MGR			AML	AML	
	comp=E,2675µm,1.3s				
MGR			AML	AML	
	comp=E,2305µm,1.4s				
GUMA	**Gualdo di Mace**	**1.59 341**	AML	AML	
	comp=N,10985µm,1.3s				
GUMA			AML	AML	
	comp=N,10585µm,1.3s				
GUMA			AML	AML	
	comp=E,7630µm,0.4s				
GUMA			AML	AML	
	comp=E,8215µm,1.5s				
TN05	**Corleto Pertic**	**1.62 137**	P	**Pn**	**18 55 41.1 +0.7**
AMUR	**Altamura**	**1.63 113**	P	**Pn**	**18 55 40.5 +0.1**
AMUR			AML	AML	
	comp=E,3115µm,1.0s				
AMUR			AML	AML	
	comp=N,3725µm,1.6s				
TT08	**Gorgoglione (M**	**1.69 135**	P	**Pn**	**18 55 42.1 +0.8**
NRCA	**Norcia**	**1.70 319**	P	**Pn**	**18 55 42.2 +0.7**
NRCA	**Norcia**	**1.70 319**		**Pn**	**18 55 41.7 +0.2**
SRES	**S.Oreste - Sor**	**1.72 294**	P	**Pn**	**18 55 42.5 +0.8**
SRES			AML	AML	
	comp=E,1785µm,1.0s				
SRES			AML	AML	
	comp=N,2410µm,1.4s				
SCHR	**S. Chirico Rap**	**1.75 140**	P	**Pn**	**18 55 42.7 +0.5**
MATE	**Matera**	**1.81 119**	⇑P	**Pn**	**18 55 43.6 +0.7**
MATE	**Matera**	**1.81 119**	P	**Pn**	**18 55 43.6 +0.7**
MATE			AML	AML	
	comp=E,2575µm,0.8s				
MATE			AML	AML	
	comp=N,2465µm,0.7s				
CRAC	**Craco**	**1.82 130**	P	**Pn**	**18 55 43.8 +0.8**
CRAC			AML	AML	
	comp=E,4110µm,1.2s				
CRAC			AML	AML	
	comp=N,4210µm,1.3s				
CESX	**Cesi**	**1.85 305**	P	**Pb**	**18 55 45.8 0.0**
CESX			AML	AML	
	comp=N,2730µm,0.9s				
CESX			AML	AML	
	comp=E,2975µm,1.1s				
CSP1	**Cessapalombo**	**1.86 326**	P	**Pb**	**18 55 44.9 -1.1**
CSP1			AML	AML	
	comp=E,4180µm,1.0s				
CSP1			AML	AML	
	comp=N,3645µm,0.3s				
FDMO	**Fiordimonte**	**1.87 323**	P	**Pb**	**18 55 46.5 +0.4**
FDMO			AML	AML	
	comp=N,1955µm,0.7s				
FDMO			AML	AML	
	comp=E,2175µm,1.0s				
LTRZ	**Laterza**	**1.91 119**	P	**Pn**	**18 55 44.6 +0.3**
LTRZ			AML	AML	
	comp=E,1970µm,1.5s				
LTRZ			AML	AML	
	comp=N,2780µm,0.8s				
MMN	**Mormanno**	**1.96 148**	P	**Pb**	**18 55 47.2 -0.4**
NOCI	**Noci**	**2.00 112**	P	**Pn**	**18 55 45.8 +0.3**
NOCI			AML	AML	
	comp=E,2890µm,0.6s				
NOCI			AML	AML	
	comp=N,4010µm,1.1s				
NOCI	**Noci**	**2.00 112**	P	**Pn**	**18 55 45.9 +0.3**
	baz=110				
NOCI			S	**Sb**	**18 56 13.4 +0.5**
	baz=110				
ORI	**Oriolo Calabro**	**2.04 137**	P	**Pb**	**18 55 48.2 -0.7**
LSTV	**Lastovo**	**2.08 54**	*e*Pn	**Pn**	**18 55 47.0 +0.4**
LSTV			Sn	**Sn**	**18 56 13.2 +1.1**
EL6	**Elcito**	**2.10 328**	⇑P	**Pb**	**18 55 49.0 -1.1**
EL6			AML	AML	
	comp=E,3595µm,1.1s				
EL6			AML	AML	
	comp=N,4155µm,0.7s				
CING	**Cingoli**	**2.10 330**	⇑P	**Pb**	**18 55 49.8 -0.3**
CING			AML	AML	
	comp=E,1510µm,1.2s				
CING			AML	AML	
	comp=N,1260µm,1.0s				
HVAR	**Hvar**	**2.11 39**	*e*Pn	**Pn**	**18 55 47.6 +0.6**
HVAR			Sn	**Sn**	**18 56 12.3 -0.7**
SALB	**San Lorenzo Be**	**2.13 141**	P	**Pb**	**18 55 49.1 -1.5**
SALB			AML	AML	
	comp=E,1165µm,0.9s				
SALB			AML	AML	
	comp=N,941µm,1.1s				
SALB			AML	AML	
	comp=N,880µm,1.1s				
SALB			AML	AML	
	comp=E,1196µm,0.9s				
FOSV	**Fossato di Vic**	**2.22 322**	⇓P	**Pb**	**18 55 52.2 +0.1**
FOSV			AML	AML	
	comp=E,1480µm,0.7s				
FOSV			AML	AML	
	comp=N,1270µm,1.1s				
ZIRJ	**Zirje**	**2.23 19**	*e*Pn	**Pn**	**18 55 49.1 +0.5**
ZIRJ			Sn	**Sn**	**18 56 15.2 -0.7**
CET2	**Cetraro**	**2.27 153**	P	**Pn**	**18 55 49.2 -0.1**
CET2			AML	AML	
	comp=E,2125µm,0.9s				
CET2			AML	AML	
	comp=N,2435µm,1.1s				
TDS	**Terranova Siba**	**2.30 145**	P	**Pn**	**18 55 50.8 +1.1**
ARVD	**Arcevia**	**2.30 328**	⇓P	**Pb**	**18 55 52.3 -1.2**
ARVD			AML	AML	
	comp=E,1630µm,1.6s				
ARVD			AML	AML	
	comp=N,1185µm,1.1s				
MGAB	**Montegabbione**	**2.31 307**	P	**Pb**	**18 55 52.1 -1.4**
MGAB			AML	AML	
	comp=E,1530µm,1.1s				
MGAB			AML	AML	
	comp=E,1520µm,1.0s				
MGAB			AML	AML	
	comp=N,1930µm,1.6s				
MGAB			AML	AML	
	comp=N,1855µm,1.6s				
MURB	**Monte Urbino**	**2.31 318**		**Pb**	**18 55 52.5 -1.1**
LATE	**Laterza**	**2.35 298**	P	**Pb**	**18 55 53.7 -0.6**
LATE	**Laterza**	**2.35 298**		**Pb**	**18 55 53.1 -1.2**
SACS	**San Casciano d**	**2.39 304**	⇑P	**Pb**	**18 55 53.5 -1.6**
SACS			AML	AML	
	comp=E,1635µm,1.6s				
SACS			AML	AML	
	comp=N,1645µm,1.2s				
SACS			AML	AML	
	comp=E,1600µm,1.6s				
SACS			AML	AML	
	comp=N,1590µm,1.2s				
FRON	**Frontone**	**2.41 325**	P	**Pn**	**18 55 50.6 -0.6**
FRON			AML	AML	
	comp=N,1665µm,0.8s				
FRON			AML	AML	
	comp=E,1235µm,1.3s				
MORI	**Morici**	**2.44 19**	*e*Pn	**Pn**	**18 55 51.8 +0.3**
MORI			Sn	**Sn**	**18 56 21.1 -0.1**
ATVO	**AVT- Monte Val**	**2.45 319**	⇓P	**Pb**	**18 55 57.2 +1.1**
ATVO			AML	AML	
	comp=E,1480µm,0.9s				
ATVO			AML	AML	
	comp=N,1740µm,1.5s				
DUGI	**Dugi Otok**	**2.45 7**	*e*Pn	**Pn**	**18 55 51.8 0.0**
DUGI			Sn	**Sn**	**18 56 21.7 +0.1**
MAKA	**Makarska**	**2.48 45**	*e*Pn	**Pn**	**18 55 53.2 +1.1**
MAKA			Sn	**Sn**	**18 56 22.4 +0.3**
MPAG	**Monte Paganucc**	**2.49 327**	⇓P	**Pb**	**18 55 55.1 -1.5**
MPAG			AML	AML	
	comp=E,1275µm,1.6s				
MPAG			AML	AML	
	comp=N,1088µm,0.9s				
MCIV	**Monte Civitell**	**2.51 300**	P	**Pn**	**18 55 54.4 +1.8**
PIEI	**Pieia**	**2.51 323**	P	**Pb**	**18 55 55.4 -1.6**
PIEI			AML	AML	
	comp=N,886µm,1.1s				
PIEI			AML	AML	
	comp=E,914µm,0.3s				
FSSB	**Fossombrone**	**2.53 328**	⇑P	**Pb**	**18 55 55.3 -2.1**
FSSB			AML	AML	
	comp=N,2405µm,1.3s				
FSSB			AML	AML	
	comp=E,1598µm,1.2s				
SPS2	**Spezzano della**	**2.61 149**	AML	AML	
	comp=E,254µm,0.8s				
SPS2			AML	AML	
	comp=N,244µm,1.4s				
BADI	**Badiali**	**2.63 319**	⇑P	**Pb**	**18 55 57.2 -1.9**
BADI			AML	AML	
	comp=N,1110µm,1.5s				
BADI			AML	AML	
	comp=E,1085µm,1.0s				
STON	**Ston**	**2.63 59**	*e*Pn	**Pn**	**18 55 55.6 +1.4**
STON			Sn	**Sn**	**18 56 26.5 +0.5**
CAFI	**Castiglion Fio**	**2.65 313**	⇓P	**Pb**	**18 55 58.1 -1.3**
CAFI			AML	AML	
	comp=N,850µm,1.2s				
CAFI			AML	AML	
	comp=E,770µm,0.9s				
ARCI	**Arcidosso**	**2.67 300**	P	**Pn**	**18 55 57.2 +2.3**
RICI	**Ricice**	**2.68 43**	*e*Pn	**Pn**	**18 55 55.7 +0.8**
RICI			Sn	**Sn**	**18 56 27.1 -0.1**
SSP9	**Sansepolcro**	**2.73 318**	⇓P	**Pb**	**18 55 59.5 -1.3**
SSP9			AML	AML	
	comp=N,1850µm,1.3s				
SSP9			AML	AML	
	comp=E,1865µm,1.6s				
PARC	**Parchiule**	**2.73 321**	⇑P	**Pb**	**18 55 59.6 -1.2**
PARC			AML	AML	
	comp=N,1056µm,1.3s				
PARC			AML	AML	
	comp=E,1028µm,1.5s				
KIJV	**Kijevo**	**2.77 28**	*e*Pn	**Pn**	**18 55 56.7 +0.5**
KIJV			Sn	**Sn**	**18 56 29.7 +0.2**
CPGN	**Carpegna, Ital**	**2.81 324**	P	**Pn**	**18 55 58.9 +2.1**
CPGN			AML	AML	
	comp=N,1530µm,1.6s				
CPGN			AML	AML	
	comp=E,1692µm,1.0s				
CPGN			AML	AML	
	comp=E,1745µm,1.4s				
CPGN			AML	AML	
	comp=N,1635µm,1.3s				
TIP	**Timpagrande**	**2.88 145**	⇑P	**Pn**	**18 56 00.4 +2.7**
TIP	**Timpagrande**	**2.88 145**	P	**Pn**	**18 56 00.2 +2.4**
TIP	**Timpagrande**	**2.88 145**		**Pb**	**18 56 00.8 -2.6**
SERS	**Sersale**	**2.97 147**	P	**Pn**	**18 56 00.3 +1.3**
TREB	**Trebinje**	**3.00 66**	*e*Pn	**Pn**	**18 56 00.6 +1.3**
TREB	**Trebinje**	**3.00 66**	*e*Pn	**Pn**	**18 56 00.8 +1.5**
TREB			*e*Sn	**Sn**	**18 56 36.8 +1.7**
NVLJ	**Novalja**	**3.01 3**	*e*Pn	**Pn**	**18 55 59.9 +0.5**
NVLJ			Sn	**Sn**	**18 56 35.6 +0.3**
HCY	**Herceg Novi**	**3.02 72**	*e*Pn	**Pn**	**18 56 00.6 +1.1**
HCY	**Herceg Novi**	**3.02 72**	⇓*i*Pn	**Pn**	**18 56 01.0 +1.5**
HCY			*i* Sn	**Sn**	**18 56 37.2 +1.7**
CASP	**Castiglione de**	**3.05 295**	⇑P	**Pn**	**18 56 01.4 +1.4**
CASP			AML	AML	
	comp=E,364µm,0.9s				
CASP			AML	AML	
	comp=N,232µm,1.1s				
CASP	**Castiglione de**	**3.05 295**	Pn	**Pn**	**18 56 01.0 +1.0**
GRI	**Girifalco**	**3.06 153**	⇑P	**Pn**	**18 56 01.7 +1.6**
GRI			AML	AML	
	comp=E,464µm,1.5s				
GRI			AML	AML	
	comp=N,360µm,1.2s				
UDBI	**Udbina**	**3.08 15**	*e*Pn	**Pn**	**18 56 01.7 +1.2**
UDBI			Sn	**Sn**	**18 56 36.5 -0.7**
TRIF	**Trifonti**	**3.17 301**	P	**Pn**	**18 56 03.6 +2.0**
TRIF			AML	AML	
	comp=E,344µm,0.9s				
TRIF			AML	AML	
	comp=N,536µm,0.8s				
OSSC	**Osservatorio P**	**3.18 309**		**Pn**	**18 56 04.3 +2.5**
RABC	**Rab**	**3.19 2**	*e*Pn	**Pn**	**18 56 02.4 +0.5**
RABC			Sn	**Sn**	**18 56 40.0 +0.3**
BRY	**Bratogost**	**3.20 64**	*e*Pn	**Pn**	**18 56 04.3 +2.1**
BRY	**Bratogost**	**3.20 64**	⇓*i*Pn	**Pn**	**18 56 03.6 +1.4**
BRY			*i* Sn	**Sn**	**18 56 41.8 +1.6**
RUFI	**Rufina**	**3.24 316**	⇑P	**Pn**	**18 56 05.8 +3.2**
BUM	**Brajici-Budva**	**3.27 75**	⇓*i*Pn	**Pn**	**18 56 04.4 +1.3**
BUM			*i* Sn	**Sn**	**18 56 43.3 +1.5**
SCTE	**Santa Cesarea**	**3.27 116**		**Pn**	**18 56 03.4 +0.4**
SCTE	**Santa Cesarea**	**3.27 116**	P	**Pn**	**18 56 04.1 +1.1**
	baz=114				
LMD	**Lutirano**	**3.31 321**	⇑P	**Pb**	**18 56 07.3 -3.3**
LMD			AML	AML	
	comp=N,682µm,1.4s				
LMD			AML	AML	
	comp=E,497µm,1.0s				
CEME	**Cevo**	**3.35 71**	⇑*i*Pn	**Pn**	**18 56 05.5 +1.4**
CEME			*i* Sn	**Sn**	**18 56 45.3 +1.6**
MGRS	**Mrkonjic Grad**	**3.38 31**	*e*Pn	**Pn**	**18 56 08.0 +3.5**
PLIT	**Plitvice**	**3.40 12**	*e*Pn	**Pn**	**18 56 05.8 +1.0**
PLIT			Sn	**Sn**	**18 56 45.0 +0.1**
BRJN	**Brijuni**	**3.41 349**	*e*Pn	**Pn**	**18 56 05.9 +1.1**
BRJN			Sn	**Sn**	**18 56 44.9 -0.1**
CEL	**Celeste**	**3.44 163**		**Pn**	**18 56 06.1 +0.8**
NKME	**Niksic**	**3.44 68**	*e*Pn	**Pn**	**18 56 06.8 +1.5**
NKME			*i* Sn	**Sn**	**18 56 47.5 +1.6**
BRIS	**BRISIGHELLA**	**3.46 320**	⇑P	**Pn**	**18 56 08.6 +3.0**
BRIS			AML	AML	
	comp=N,776µm,1.6s				
BRIS			AML	AML	
	comp=N,1037µm,1.6s				
BRIS			AML	AML	
	comp=E,786µm,1.6s				
BRIS			AML	AML	
	comp=E,454µm,1.5s				
DRME	**Dracevica, Mon**	**3.46 78**	*e*Pn	**Pn**	**18 56 07.0 +1.4**
DRME	**Dracevica, Mon**	**3.46 78**	⇑*i*Pn	**Pn**	**18 56 07.1 +1.4**
DRME			*i* Sn	**Sn**	**18 56 48.0 +1.6**
ULC	**Ulcinj**	**3.48 82**	⇓*i*Pn	**Pn**	**18 56 07.3 +1.4**
ULC			*i* Sn	**Sn**	**18 56 48.2 +1.3**
NKY	**Niksic**	**3.48 67**	*e*Pn	**Pn**	**18 56 07.4 +1.4**
NKY			*i* Sn	**Sn**	**18 56 48.6 +1.6**
SMRN	**Sveta Marina**	**3.49 355**	*e*Pn	**Pn**	**18 56 07.2 +1.2**
SMRN			Sn	**Sn**	**18 56 46.9 -0.2**
PDG	**Podgorica**	**3.56 74**	⇑P	**Pn**	**18 56 08.7 +1.7**
PDG	**Podgorica**	**3.56 74**	*e*Pn	**Pn**	**18 56 08.8 +1.8**
PDG	**Podgorica**	**3.56 74**	P	**Pn**	**18 56 09.3 +2.3**
PDG			AML	AML	
	comp=E,724µm,1.2s				
PDG			AML	AML	
	comp=N,746µm,0.7s				
PDG			AML	AML	
	comp=N,958µm,0.7s				
PDG			AML	AML	
	comp=E,565µm,0.6s				
PDG	**Podgorica**	**3.56 74**	Pn	**Pn**	**18 56 08.5 +1.5**
PDG	**Podgorica**	**3.56 74**	*e*Pn	**Pn**	**18 56 09.3 +2.3**
PDG			*e*Sn	**Sn**	**18 56 50.1 +1.3**
TTG	**Podgorica**	**3.56 74**	⇓*i*Pn	**Pn**	**18 56 08.5 +1.5**
TTG			*i* Sn	**Sn**	**18 56 50.5 +1.7**
UPM	**Unac-Piva**	**3.57 61**	*e*Pn	**Pn**	**18 56 10.0 +2.7**
UPM	**Unac-Piva**	**3.57 61**	*e*Pn	**Pn**	**18 56 08.7 +1.4**
UPM			*i* Sn	**Sn**	**18 56 50.9 +1.5**
BLY	**Banja Luka**	**3.70 30**	*e*Pn	**Pn**	**18 56 10.3 +1.4**
BLY	**Banja Luka**	**3.70 30**	⇓P	**Pn**	**18 56 13.0 +4.1**
BLY			AML	AML	
	comp=E,1795µm,0.8s				
BLY			AML	AML	
	comp=E,1840µm,0.8s				
BLY			AML	AML	
	comp=N,1180µm,0.8s				
BLY			AML	AML	
	comp=N,1200µm,0.8s				
BLY	**Banja Luka**	**3.70 30**	*e*Pn	**Pn**	**18 56 12.2 +3.3**
BLY			*e*Sn	**Sn**	**18 56 54.5 +2.3**
PRIJ	**Prijedor**	**3.74 23**	*e*Pn	**Pn**	**18 56 12.8 +3.3**
RIY	**Rijeka**	**3.77 358**	*e*Pn	**Pn**	**18 56 11.3 +1.5**
RIY			Sn	**Sn**	**18 56 53.6 -0.3**
CORL	**Corleone**	**3.80 196**		**Pn**	**18 56 12.9 +2.6**
MRAK	**Mrakovica**	**3.83 25**	*e*Pn	**Pn**	**18 56 12.7 +1.9**
VLO	**Vlora**	**3.84 105**		**Pn**	**18 56 13.2 +2.4**
VLO	**Vlora**	**3.84 105**	P	**Pn**	**18 56 11.8 +1.0**
	baz=103				
KOME	**Kolasin**	**3.86 69**	⇓*i*Pn	**Pn**	**18 56 12.6 +1.5**
KOME			*i* Sn	**Sn**	**18 56 57.7 +1.4**
ZCCA	**Zocca**	**3.87 317**		**Pn**	**18 56 15.7 +4.4**
TIR	**Tirane**	**3.94 91**	⇓P	**Pn**	**18 56 14.6 +2.3**
TIR	**Tirane**	**3.94 91**	P	**Pn**	**18 56 14.8 +2.5**
TIR	**Tirane**	**3.94 91**		**Pn**	**18 56 13.7 +1.4**
TIR	**Tirane**	**3.94 91**	P	**Pn**	**18 56 13.6 +1.4**
	baz=90				
TIR			S	**Sn**	**18 56 59.5 +1.2**
	baz=90				
TIR			AMP		
	comp=E,1.0nm,0.5s,baz=90				
TIR	**Tirane**	**3.94 91**	*e*Pn	**Pn**	**18 56 14.1 +1.8**
TIR			*e*Sn	**Sn**	**18 56 59.2 +0.9**
PLE	**Pljevlja**	**3.95 62**	⇑*i*Pn	**Pn**	**18 56 13.9 +1.5**
PLE			*i* Sn	**Sn**	**18 56 59.8 +1.3**
VLC	**Villacollemand**	**4.06 311**		**Pn**	**18 56 13.9 +0.1**
RUDO	**Rudo**	**4.06 58**	*e*Pn	**Pn**	**18 56 15.3 +1.4**
VAE	**Valguarnera**	**4.08 182**	Pn	**Pn**	**18 56 18.4 +4.2**
	comp=E,0.9nm,0.3s,baz=125,slow=4.9,SNR=4.7				
VAE			Pg	**Pb**	**18 56 26.2 +2.4**
	comp=E,1.4nm,0.3s,baz=93,slow=9.0,SNR=4.9				
VAE			LR	LR	18 58 13.1
	comp=E,684nm,20.4s,baz=206,slow=43				
OZLJ	**Ozalj**	**4.10 8**	*e*Pn	**Pn**	**18 56 15.4 +1.0**
OZLJ			Sn	**Sn**	**18 57 00.8 -1.3**
PVY	**Plav**	**4.10 74**	⇑*i*Pn	**Pn**	**18 56 16.0 +1.4**
PVY			*i* Sn	**Sn**	**18 57 03.7 +1.3**
CLTB	**Caltabellotta**	**4.12 196**	Pn	**Pn**	**18 56 16.6 +1.8**
IVA	**Berane**	**4.13 70**	⇑*i*Pn	**Pn**	**18 56 16.4 +1.5**
IVA			*i* Sn	**Sn**	**18 57 04.3 +1.3**
BCI	**Bajram Curri**	**4.14 77**	P	**Pn**	**18 56 17.8 +2.9**
	baz=76				
BCI			S	**Sn**	**18 57 07.4 +4.3**
	baz=76				
BCI			AMP		
	comp=E,2.8nm,1.2s,baz=76				
CEY	**Cerknica**	**4.18 358**	*e*Pn	**Pn**	**18 56 17.2 +1.6**
BBLS	**Lazići**	**4.21 55**	*e*Pn	**Pn**	**18 56 17.5 +1.5**
BBLS	**Lazići**	**4.21 55**	*e*Pn	**Pn**	**18 56 18.3 +2.3**
PGF	**Pioggiola**	**4.30 285**	*e*Pn	**Pn**	**18 56 18.7 +1.4**
PGF			*e*Sn	**Sn**	**18 57 11.9 +4.6**
	comp=E,30nm,0.3s				
CRES	**Cresnjev**	**4.31 8**	*e*Pn	**Pn**	**18 56 18.4 +1.1**
SJES	**Sjenica**	**4.31 65**	*e*Pn	**Pn**	**18 56 19.7 +2.3**
RAFF	**Raffo Rosso**	**4.33 183**	Pn	**Pn**	**18 56 19.9 +2.3**
MOSL	**Moslavina**	**4.34 20**	*e*Pn	**Pn**	**18 56 19.4 +1.7**
MOSL			Sn	**Sn**	**18 57 07.5 -0.6**
FAVR	**Favara**	**4.35 190**	⇑P	**Pb**	**18 56 28.1 -0.2**
TEOL	**Teolo**	**4.37 331**	Pn	**Pb**	**18 56 18.0 -0.1**
ZAG	**Zagreb**	**4.38 13**	*e*Pn	**Pn**	**18 56 19.9 +1.7**
ZAG			Sn	**Sn**	**18 57 08.2 -0.8**
AJAC	**Base Areonaval**	**4.40 277**	P	**Pn**	**18 56 19.7 +1.2**
AJAC			AML	AML	
	comp=N,350µm,0.5s				
AJAC			AML	AML	
	comp=E,409µm,0.9s				
SRN	**Sarande**	**4.42 111**	P	**Pn**	**18 56 20.1 +1.4**
SRN	**Sarande**	**4.42 111**	P	**Pn**	**18 56 20.2 +1.5**
	baz=109				
PTJ	**Puntijarka**	**4.46 12**	*e*Pn	**Pn**	**18 56 20.4 +1.1**
PTJ			Sn	**Sn**	**18 57 09.7 -1.4**
SABO	**M.te Sabotino**	**4.48 351**	⇑P	**Pn**	**18 56 18.8 -0.9**
LJU	**Ljubljana**	**4.49 359**	*e*Pn	**Pn**	**18 56 21.1 +1.4**
LJU	**Ljubljana**	**4.49 359**	P	**Pn**	**18 56 21.5 +1.8**
VSL	**Villasalto**	**4.50 244**	⇑P	**Pn**	**18 56 17.7 -2.2**
VSL			S	**Sn**	**18 57 12.0 0.0**
VSL	**Villasalto**	**4.50 244**	Pn	**Pn**	**18 56 18.9 -1.0**
IVAS	**Ivanjica**	**4.55 62**	*e*Pn	**Pn**	**18 56 22.2 +1.5**
IVAS			*e*Sn	**Sn**	**18 57 13.6 +0.2**
MSSA	**Maissana**	**4.65 308**		**Pn**	**18 56 23.3 +1.2**
OHR	**Ohrid**	**4.67 93**	*i* Pn	**Pn**	**18 56 24.5 +2.2**
DIVS	**Divibare**	**4.69 55**	*e*Pn	**Pn**	**18 56 24.0 +1.4**
DIVS	**Divibare**	**4.69 55**	P	**Pn**	**18 56 24.1 +1.4**
DIVS	**Divibare**	**4.69 55**		**Pn**	**18 56 23.3 +0.7**
DIVS	**Divibare**	**4.69 55**	*e*Pn	**Pn**	**18 56 24.1 +1.4**
LOBO	**Lobor**	**4.71 12**	*e*Pn	**Pn**	**18 56 24.1 +1.3**
LOBO			Sn	**Sn**	**18 57 15.6 -1.7**
LSK	**Leskovik**	**4.75 105**	P	**Pn**	**18 56 25.8 +2.5**
LSK	**Leskovik**	**4.75 105**	P	**Pn**	**18 56 26.1 +2.7**
	baz=104				
LSK			AMP		
	comp=E,2.7nm,1.1s,baz=104				
KBN	**Korca**	**4.75 99**	P	**Pn**	**18 56 25.9 +2.5**
KBN	**Korca**	**4.75 99**		**Pn**	**18 56 23.5 +0.1**
KBN	**Korca**	**4.75 99**	AMP		
	comp=E,1.5nm,0.9s,baz=98				
KALN	**Kalnik**	**4.76 16**	*e*Pn	**Pn**	**18 56 24.1 +0.6**
KALN			Sn	**Sn**	**18 57 17.2 -1.2**
CGRP	**Cima Grappa**	**4.78 336**	⇓P	**Pn**	**18 56 23.6 -0.3**
IGT	**Igoumenitsa**	**4.80 113**	P	**Pn**	**18 56 25.7 +1.7**
IGT	**Igoumenitsa**	**4.80 113**	P	**Pn**	**18 56 25.7 +1.7**
	baz=112				
ROVR	**Rover Verones**	**4.83 329**	P	**Pn**	**18 56 26.1 +1.5**
ROVR			AML	AML	
	comp=E,113µm,1.0s				
ROVR			AML	AML	
	comp=N,203µm,1.0s				
STAL	**STALIGIAL**	**4.90 344**	Pn	**Pn**	**18 56 24.5 -0.9**
OBKA	**Obir**	**4.95 359**	*i* Pn	**Pn**	**18 56 27.0 +0.9**
	comp=N,7.2nm,0.2s,SNR=21				
OBKA			*i* Sn	**Sn**	**18 57 24.9 +1.6**
	comp=N,74nm,0.3s				
OBKA	**Obir**	**4.95 359**	*e*Pn	**Pn**	**18 56 27.3 +1.1**
OBKA			*e*Sn	**Sn**	**18 57 24.7 +1.5**
CTI	**Castel Tesino**	**4.98 335**	⇑P	**Pn**	**18 56 28.3 +1.7**
CTI	**Castel Tesino**	**4.98 335**	Pn	**Pn**	**18 56 26.2 -0.4**
DOSS	**Dosso del Somm**	**4.99 331**	P	**Pn**	**18 56 28.0 +1.2**
NEST	**Nestorio**	**5.00 101**	P	**Pn**	**18 56 29.6 +2.8**
TRUS	**Trudelj**	**5.01 56**	*e*Pn	**Pn**	**18 56 28.5 +1.5**
KOGS	**Kog**	**5.03 13**	⇑P	**Pn**	**18 56 28.6 +1.5**
SALO	**Salr**	**5.03 325**	⇓P	**Pn**	**18 56 29.1 +1.8**
SALO	**Salr**	**5.03 325**		**Pn**	**18 56 27.6 +0.4**
ACOM	**Acomizza, Ital**	**5.05 351**	⇓P	**Pn**	**18 56 30.5 +2.9**
GRUS	**Gruza**	**5.05 61**	*e*Pn	**Pn**	**18 56 29.0 +1.5**
GRUS			*e*Sn	**Sn**	**18 57 25.6 -0.1**
SELS	**Selova**	**5.09 69**	*e*Pn	**Pn**	**18 56 29.7 +1.7**
SELS			*e*Sn	**Sn**	**18 57 26.4 -0.2**
LEOD	**Capriano del C**	**5.09 322**	⇑P	**Pn**	**18 56 31.6 +3.6**
JAN	**Janina**	**5.11 110**	P	**Pn**	**18 56 29.2 +1.0**
SKO	**Skopje**	**5.11 83**	*i* Pn	**Pn**	**18 56 30.3 +2.0**
MAGA	**Magasa**	**5.12 327**

SOKA Soboth 5.13 3 *e*Pn **Pn 18 56 28.9 +0.3**
comp=N,6.1nm,0.3s,SNR=14
SOKA *i* Sn **Sn 18 57 28.3 +0.7**
comp=N,18nm,0.4s
FNA Florina 5.15 96 P **Pn 18 56 30.9 +1.9**
FNA Florina 5.15 96 **Pn 18 56 30.4 +1.5**
FNA Florina 5.15 96 P **Pn 18 56 30.9 +1.9**
baz=95
KOVH Kovagotottos 5.18 28 PN **Pn 18 56 30.6 +1.4**
KOVH SN **Sn 18 57 24.9 -3.9**
FRGS Fruska Gora 5.22 45 ⇓P **Pn 18 56 30.5 +0.7**
FRGS Fruska Gora 5.22 45 *e*Pn **Pn 18 56 30.3 +0.5**
FRGS Fruska Gora 5.22 45 *e*Pn **Pn 18 56 30.6 +0.8**
FRGS *e*Sn **Sn 18 57 28.2 -1.6**
GAGG Gaggia 5.24 331 P **Pn 18 56 31.5 +1.2**
KPRO Kipourio 5.36 105 P **Pn 18 56 34.5 +2.7**
ABTA Abfaltersbach 5.41 344 *e*Pn **Pn 18 56 32.9 +0.5**
comp=N,9.5nm,0.3s
ABTA *e*Sn **Sn 18 57 35.6 +1.1**
comp=N,119nm,0.9s
MORH Mrgy, Hungar 5.49 31 ⇓P **Pn 18 56 35.2 +1.7**
MORH Mrgy, Hungar 5.49 31 *e*Pn **Pn 18 56 34.0 +0.6**
MORH Mrgy, Hungar 5.49 31 PN **Pn 18 56 35.1 +1.7**
MORH SN **Sn 18 57 35.5 -0.8**
BARS Barje 5.49 74 *e*Pn Pn 18 56 40.6 +7.1
KZN Kozani 5.55 101 P **Pn 18 56 36.4 +1.9**
KBA Koelnbreinsper 5.60 351 *e*Pn **Pn 18 56 38.0 +2.9**
comp=N,8.5nm,0.3s
KBA *e*Sn **Sn 18 57 40.0 +0.7**
comp=N,29nm,0.6s
KBA Koelnbreinsper 5.60 351 *e*Pn **Pn 18 56 37.9 +2.8**
KBA *e*Sn **Sn 18 57 40.2 +1.0**
ARSA Arzberg 5.73 6 *e*Pn **Pn 18 56 37.4 +0.7**
comp=N,9.0nm,0.3s
ARSA *e*Sn **Sn 18 57 41.7 -0.6**
comp=N,26nm,0.5s
ARSA Arzberg 5.73 6 *e*Pn **Pn 18 56 37.6 +0.8**
SBF Sospel 5.78 296 *e*Pn **Pn 18 56 38.8 +1.3**
SBF *e*Sn **Sn 18 57 47.0 +3.5**
comp=N,27nm,0.6s
KTI Kastanea 5.79 99 P **Pn 18 56 39.6 +1.9**
GRG Griva 5.89 93 P **Pn 18 56 39.9 +0.8**
BOSS Bosilegrad 5.93 78 *e*Pn **Pn 18 56 40.8 +1.3**
BOSS *e*Sn **Sn 18 57 44.7 -2.5**
THL Klokotos Trika 5.97 107 P **Pn 18 56 42.0 +1.9**
VAY Valandovo 5.98 90 *i* Pn **Pn 18 56 41.4 +1.3**
VAY Valandovo 5.98 90 *e*Pn **Pn 18 56 41.5 +1.3**
MPLH Magyarpolny 5.99 19 PN **Pn 18 56 40.4 +0.1**
ZAGS Zajecar 6.04 66 *e*Pn **Pn 18 56 42.3 +1.2**
ZAGS *e*Sn **Sn 18 57 47.1 -2.9**
TYRN Tyrnavos 6.07 105 P **Pn 18 56 43.2 +1.7**
WTTA Wattenberg 6.09 340 *i* Pn **Pn 18 56 44.4 +2.5**
comp=N,2.4nm,0.2s
WTTA *e*Sn **Sn 18 57 53.6 +2.1**
comp=N,33nm,0.3s
WTTA Wattenberg 6.09 340 *e*Pn **Pn 18 56 44.6 +2.7**
EVR Evrytania 6.10 113 P **Pn 18 56 45.1 +3.2**
MDVR Moldovita 6.10 56 ⇑P **Pn 18 56 43.1 +1.2**
FETA Feichten 6.13 334 *i* Pn **Pn 18 56 46.0 +3.5**
comp=N,2.9nm,0.3s
FETA *i* Sn **Sn 18 57 54.8 +2.3**
comp=N,20nm,0.5s
SQTA Sankt Quirin 6.17 338 *i* Pn **Pn 18 56 45.3 +2.4**
comp=N,3.2nm,0.2s,SNR=9.6
SQTA *i* Sn **Sn 18 57 54.1 +0.8**
comp=N,36nm,0.3s
EGYH Egyhazaskeszo 6.17 17 PN **Pn 18 56 44.9 +2.1**
EGYH SN **Sn 18 57 54.0 +0.9**
ZAPS Zavoj 6.17 71 *e*Pn **Pn 18 56 44.7 +1.8**
ZAPS *e*Sn **Sn 18 57 51.2 -2.0**
WATA Walderalm 6.17 340 *i* Pn **Pn 18 56 45.1 +2.1**
comp=N,4.8nm,0.2s,SNR=15
WATA *e*Sn **Sn 18 57 55.0 +1.5**
comp=N,39nm,0.3s
TUE Stuetta 6.21 324 **Pn 18 56 44.0 +0.4**
DAVOX Davos/Dischmat 6.24 328 Pn **Pn 18 56 45.3 +1.4**
comp=N,2.0nm,0.3s,baz=154,slow=17,SNR=32
DAVOX Sn **Sn 18 57 55.0 -0.1**
comp=N,3.0nm,0.3s,baz=315,slow=20,SNR=2.6
LMR La Mourre 6.26 289 *e*Pn **Pn 18 56 44.8 +0.7**
LMR *e*Sn **Sn 18 57 56.7 +1.3**
comp=N,5.3nm,0.5s
SOP Sopron 6.28 12 PN **Pn 18 56 45.7 +1.4**
MOA Molln 6.30 358 *i* Pn **Pn 18 56 46.1 +1.5**
comp=N,7.4nm,0.3s
MOA *e*Sn **Sn 18 57 56.6 +0.3**
comp=N,25nm,0.3s
MOA Molln 6.30 358 *e*Pn **Pn 18 56 45.9 +1.3**
MOA *e*Sn **Sn 18 57 56.8 +0.5**
MOTA Moosalm 6.31 338 *i* Pn **Pn 18 56 48.4 +3.5**
comp=N,1.2nm,0.2s,SNR=4.3
MOTA *i* Sn **Sn 18 57 59.4 +2.5**
comp=N,38nm,0.5s
ANX Ano Chora 6.33 115 P **Pn 18 56 48.2 +3.1**
EFP Efpalio 6.41 117 P **Pn 18 56 48.6 +2.5**
AGG Agios Georgios 6.41 111 **Pn 18 56 47.7 +1.5**
CONA Conrad Observa 6.43 7 *i* Pn **Pn 18 56 46.6 +0.1**
comp=N,20nm,0.4s,SNR=14
CONA *e*Sn **Sn 18 58 00.1 +0.4**
comp=N,31nm,0.4s
VTS Vitosha 6.49 78 ⇓P **Pn 18 56 49.0 +1.6**
VTS Vitosha 6.49 78 **Pn 18 56 47.8 +0.4**
VTS Vitosha 6.49 78 *e*Pn **Pn 18 56 48.5 +1.1**
VTS *e*Sn **Sn 18 57 58.1 -3.2**
BZS Buzias 6.50 49 ⇑P **Pn 18 56 48.2 +0.9**
RETA Reutte 6.54 336 *i* Pn **Pn 18 56 50.5 +2.5**
comp=N,3.1nm,0.3s
RETA *e*Sn **Sn 18 58 03.6 +1.3**
comp=N,7.9nm,0.3s
MBDF Montbardon 6.56 302 *e*Pn **Pn 18 56 51.3 +3.0**
MBDF Montbardon 6.56 302 *e*P Pn 18 56 55.3 +7.0
MBDF *e*Sn **Sn 18 58 03.9 +1.0**
comp=N,2.9nm,0.4s
DJES Djerdap 6.56 59 ⇑P **Pn 18 56 50.2 +2.0**
HERR Herculane 6.59 57 ⇓P **Pn 18 56 49.8 +1.2**
PLONS Plons/SG 6.65 327 *e*Pn **Pn 18 56 52.4 +2.9**
DAVA Damuels 6.66 331 *e*Pn **Pn 18 56 51.3 +1.6**
comp=N,2.9nm,0.3s
DAVA *e*Sn **Sn 18 58 05.7 +0.3**
comp=N,55nm,0.7s
DAVA Damuels 6.66 331 *e*Pn **Pn 18 56 51.3 +1.6**
SRO2 Moca 6.76 22 *e*PN **Pn 18 56 52.2 +1.3**
SRO2 *e*SN **Sn 18 58 08.2 +0.6**
BNI Bardonecchia 6.77 304 **Pn 18 56 53.2 +2.1**
SRO Srobarova 6.78 22 *e*PN **Pn 18 56 53.1 +1.9**
SRO *e*SN **Sn 18 58 06.6 -1.6**
UBR Ueberruh 6.92 334 *e*Pn **Pn 18 56 54.2 +1.1**
UBR *e*Sn **Sn 18 58 10.9 -0.7**
LPG La Plagne 6.95 307 *e*Pn **Pn 18 56 55.5 +1.8**
LPG La Plagne 6.95 307 *e*P Pn 18 57 00.2 +6.5
LPG *e*Sn **Sn 18 58 12.7 +0.1**
comp=N,4.4nm,0.3s
LPL La Plagne 6.97 307 *e*Pn **Pn 18 56 55.7 +1.7**
LPL La Plagne 6.97 307 *e*P Pn 18 57 01.4 +7.4
LPL *e*Sn **Sn 18 58 12.3 -0.8**
comp=N,5.6nm,0.3s
GZR Gura Zlata 7.06 54 ⇑P **Pn 18 56 56.6 +1.5**
MODS Modra-Piesok 7.07 15 *e*PN **Pn 18 56 58.4 +3.2**
MODS *e*SN **Sn 18 58 13.9 -1.4**
SMRF Simiane la Rot 7.08 293 *e*Pn **Pn 18 56 58.3 +2.9**
KEST Kesra 7.13 217 Pn **Pn 18 56 59.1 +3.0**
comp=N,1.0nm,0.3s,baz=300,slow=5.1,SNR=18
KEST Sn **Sn 18 58 20.7 +3.7**
baz=36,slow=19,SNR=0.7
KEST LR LR 18 59 45.9
comp=N,402nm,20.6s,baz=358,slow=38
KEST Kesra 7.13 217 **Pn 18 56 58.5 +2.3**
SENIN Lac Senin/Sane 7.14 315 **Pn 18 56 58.1 +1.7**
ITM Ithomi 7.15 125 Pn **Pn 18 56 57.6 +1.3**
ORIF Oris-en-Rattie 7.21 301 *e*P Pn 18 57 02.7 +5.5
SMOL Smolenice 7.23 15 *e*PN Pn 18 57 02.3 +4.9
SMOL *e*SN **Sn 18 58 18.1 -1.2**
CKRC Cesky Krumlov 7.27 358 *e*PN **Pn 18 56 58.5 +0.6**
CKRC *e*SN **Sn 18 58 17.6 -2.5**
CKRC AMS AMS 19 00 10.0
comp=N,1µm,12.4s
GEC2 GERESS Array S 7.32 355 *e*Pn **Pn 18 56 58.7 0.0**
GEC2 *e*Sn **Sn 18 58 19.5 -2.0**
GEC2 GERESS Array S 7.32 355 **Pn 18 56 57.1 -1.5**
GERES GERESS Array B 7.32 355 Pn **Pn 18 56 58.2 -0.5**
comp=N,2.4nm,0.3s,baz=173,slow=13,SNR=31
GERES Sn **Sn 18 58 19.9 -1.6**
comp=N,7.5nm,0.3s,baz=167,slow=25,SNR=23
GERES GERESS Array B 7.32 355 **Pn 18 56 57.8 -0.8**

PSZ Piszkesteto 7.38 29 ⇑P **Pn 18 57 01.2 +1.6**
PSZ Piszkesteto 7.38 29 **Pn 18 56 59.2 -0.3**
PSZ Piszkesteto 7.38 29 PN **Pn 18 57 01.4 +1.9**
DEV Deva 7.39 51 ⇓P **Pn 18 57 00.9 +1.3**
VYHS Vyhne 7.55 22 *e*PN **Pn 18 57 03.3 +1.5**
VYHS *e*SN **Sn 18 58 25.6 -1.5**
SLE Schleitheim 7.59 327 *e*Pn **Pn 18 57 03.1 +0.8**
KRUC Moravsky 7.61 9 *e*PN **Pn 18 57 05.7 +3.2**
KRUC *e*SN **Sn 18 58 26.3 -2.2**
BALST Balsthal 7.61 322 *e*Pn **Pn 18 57 03.7 +1.1**
KHC Kasperske Hory 7.61 355 *e*PN **Pn 18 57 02.1 -0.5**
KHC *e*x x 18 57 07.5
KHC *e*SN **Sn 18 58 26.5 -2.1**
KHC AMS AMS 19 00 30.0
comp=N,1µm,12.8s
KHC Kasperske Hory 7.61 355 **Pn 18 57 01.7 -0.9**
JAVC Velka Javorina 7.61 15 *e*PN **Pn 18 57 04.9 +2.3**
WET Wettzell 7.69 351 *e*PN **Pn 18 57 04.0 +0.4**
LOT Lotru 7.70 57 ⇓P **Pn 18 57 05.9 +2.0**
LTVH Ltavrtes, Hu 7.81 39 PN Pn 18 57 13.3 +8.0
DRGR 7.82 45 ⇑P **Pn 18 57 07.6 +2.1**
VRAC Vranov 7.87 9 ⇑P **Pn 18 57 08.6 +2.4**
VRAC Vranov 7.87 9 Pn **Pn 18 57 07.0 +0.8**
comp=N,0.5nm,0.3s,baz=328,slow=5.5,SNR=3.1
VRAC LR LR 19 00 19.6
comp=N,298nm,19.3s,baz=208,slow=40
VRAC Vranov 7.87 9 *e*PN **Pn 18 57 08.3 +2.1**
CABF La Chapelle 7.95 312 *e*Pn **Pn 18 57 08.7 +1.3**
CABF *e*Sn **Sn 18 58 36.1 -1.0**
comp=N,7.4nm,0.5s
VIVF Saint-Julien-l 7.98 298 *e*Pn **Pn 18 57 10.2 +2.5**
VIVF *e*Sn **Sn 18 58 39.2 +1.4**
comp=N,1.2nm,0.4s
KECS Kecovo 8.07 29 *e*PN **Pn 18 57 13.3 +4.4**
BFO Black Forest 8.11 329 *e*Pn **Pn 18 57 11.1 +1.6**
BFO Black Forest 8.11 329 Pn **Pn 18 57 09.7 +0.2**
PBCC Pribram 8.14 357 *e*PN **Pn 18 57 10.7 +0.8**
HUMR Humele 8.14 65 ⇓P **Pn 18 57 12.2 +2.3**
ZIMR 8.20 72 ⇑P **Pn 18 57 13.2 +2.6**
ARR Arges 8.21 59 ⇑P **Pn 18 57 12.0 +1.0**
SSB Saint Sauveur 8.23 300 **Pn 18 57 12.6 +1.5**
LASF Ste Croix 8.31 291 *e*Pn **Pn 18 57 14.2 +2.0**
LASF *e*Sn **Sn 18 58 47.2 +1.5**
comp=N,0.7nm,0.2s
LANS Liptovska Anna 8.32 23 *e*PN **Pn 18 57 16.1 +3.7**
HINF Hinteralfeld 8.35 321 *e*Pn **Pn 18 57 13.2 +0.4**
HINF Hinteralfeld 8.35 321 *e*P Pn 18 57 19.1 +6.3
HINF *e*Sn **Sn 18 58 44.0 -2.9**
comp=N,15nm,0.3s
PRU Pruhonice 8.43 360 *e*PN **Pn 18 57 15.4 +1.6**
PRU *e*SN **Sn 18 58 44.3 -4.5**
PRU AMS AMS 19 01 00.0
comp=N,1µm,10.5s
MORC Moravsky Berou 8.47 13 ⇑P **Pn 18 57 17.1 +2.7**
MORC Moravsky Berou 8.47 13 *e*PN **Pn 18 57 16.6 +2.2**
MORC *e*SN **Sn 18 58 51.6 +1.8**
MORC Moravsky Berou 8.47 13 **Pn 18 57 15.0 +0.6**
GRA1 Grafenberg Arr 8.48 345 Pn **Pn 18 57 13.9 -0.6**
GRFO Grafenberg 8.48 345 Pn **Pn 18 57 15.2 +0.7**
ECH Echery 8.51 324 **Pn 18 57 14.3 -0.6**
VOIR 8.51 59 ⇑P **Pn 18 57 17.2 +2.2**
CDF Champ du Feu 8.60 325 *e*Pn **Pn 18 57 15.7 -0.6**
CDF *e*Sn **Sn 18 58 49.5 -3.6**
comp=N,13nm,0.4s
ALN Alexandroupoli 8.63 91 Pn **Pn 18 57 16.8 +0.2**
KRLC Kraliky 8.65 9 *e*PN **Pn 18 57 19.1 +2.2**
KRLC *e*SN **Sn 18 58 50.8 -3.4**
HAU Haudompre 8.73 320 *e*Pn **Pn 18 57 18.4 +0.5**
HAU *e*Sn **Sn 18 58 52.2 -3.8**
comp=N,44nm,0.4s
SGRR Singureni 8.75 68 ⇑P **Pn 18 57 19.5 +1.3**
CRVS Cervenica-Dubn 8.78 31 *e*PN **Pn 18 57 22.6 +3.9**
DPC Dobruska-Polom 8.87 7 *e*PN **Pn 18 57 22.1 +2.2**
ARCR ARCALIA 8.89 48 ⇑P **Pn 18 57 22.6 +2.4**
DOPR Dopca 8.95 57 ⇑P **Pn 18 57 23.5 +2.6**
GUNZ Gunzen 8.95 351 *e*Pn **Pn 18 57 22.8 +1.8**
TANN Tannenbergstha 8.99 351 *e*Pn **Pn 18 57 21.9 +0.4**
OSTC Ostas 9.07 6 *e*PN **Pn 18 57 24.1 +1.5**
CHVC Chvalec 9.09 6 *e*PN **Pn 18 57 24.2 +1.4**
MLR Muntele Rosu 9.11 61 ⇓P **Pn 18 57 25.7 +2.4**
MLR Muntele Rosu 9.11 61 Pn **Pn 18 57 25.8 +2.4**
comp=N,0.2nm,0.3s,baz=110,slow=7.1,SNR=11
MLR LR LR 19 01 59.4
comp=N,1µm,18.8s,baz=245,slow=45
MLR Muntele Rosu 9.11 61 **Pn 18 57 23.9 +0.5**
OZUR 9.25 57 ⇓P **Pn 18 57 27.8 +2.6**
SMF Signal de Mont 9.27 307 *e*Pn **Pn 18 57 26.7 +1.3**
SMF *e*Sn **Sn 18 59 08.7 -0.8**
comp=N,1.9nm,0.3s
NEHR Nehoiu 9.32 62 ⇑P **Pn 18 57 28.8 +2.8**
MOX Moxa 9.32 348 *e*Pn **Pn 18 57 25.9 -0.2**
BRG Berggiesshubel 9.33 357 Pn **Pn 18 57 27.5 +1.4**
BRG Amp 18 57 30.9
comp=Z,4.6nm,0.7s
BRG *e*x x 18 58 09.6
BRG *e*x x 18 59 07.5
BRG *e*x x 18 59 20.6
BRG Amp 18 59 37.8
comp=Z,66nm,1.8s
BRG Amp 19 01 45.0
comp=N,0.8nm,9.9s
BRG Amp 19 01 48.0
comp=E,0.5nm,9.9s
BRG Amp 19 01 48.0
comp=Z,1.2nm,9.2s
MTLF Montolieu 9.35 285 *e*P Pn 18 57 36.5 +10
MTLF *e*Sn **Sn 18 59 11.1 -0.1**
comp=Z,0.7nm,0.2s
OJC Ojcow 9.38 21 **Pn 18 57 27.4 +0.5**
PAGF Fort de Pagny 9.41 321 *e*Pn **Pn 18 57 28.1 +0.9**
PAGF *e*Sn **Sn 18 59 08.3 -4.5**
comp=Z,5.7nm,0.3s
SFTF Sexfontaines 9.51 318 *e*Pn **Pn 18 57 29.3 +0.7**
SFTF *e*Sn **Sn 18 59 13.2 -2.0**
comp=Z,4.6nm,0.3s
LOR Lormes 9.58 310 *e*Pn **Pn 18 57 30.7 +1.0**
baz=127
LOR *e*Sn **Sn 18 59 14.3 -2.8**
comp=Z,2.8nm,0.2s
AVF Avril sur Loir 9.64 307 *e*Pn **Pn 18 57 31.7 +1.3**
AVF Avril sur Loir 9.64 307 *e*P Pn 18 57 36.5 +6.1
AVF *e*Sn **Sn 18 59 15.7 -2.7**
comp=Z,2.6nm,0.6s
BURAR Bucovina Array 9.68 48 ⇑P **Pn 18 57 33.8 +2.8**
SSF Saint Saulge 9.68 308 *e*Pn **Pn 18 57 32.4 +1.4**
SSF *e*Sn **Sn 18 59 17.3 -2.1**
comp=Z,7.0nm,0.6s
MEZF Maizieres J'vi 9.70 319 *e*Pn **Pn 18 57 31.8 +0.6**
baz=139
MEZF *e*Sn **Sn 18 59 15.9 -3.9**
comp=Z,7.8nm,0.4s
PLOR Plostina 9.71 60 ⇑P **Pn 18 57 33.5 +2.1**
SAVF Savonnieres en 9.74 320 *e*Pn **Pn 18 57 32.7 +1.0**
SAVF Savonnieres en 9.74 320 *e*Pg Pn 18 58 12.6 +41
SAVF *e*Sn **Sn 18 59 15.7 -5.1**
VRI Vrincioaia 9.76 60 ⇓P **Pn 18 57 34.3 +2.2**
CAF Calviac 9.76 294 *e*Pn **Pn 18 57 33.5 +1.4**
CAF *e*Sn **Sn 18 59 17.7 -3.9**
comp=Z,0.3nm,0.1s
CLL Collm 9.82 354 *e*Pn **Pn 18 57 33.0 +0.2**
CLL *e*Sn Sn 18 58 59.0 -24
CLL *e*x x 18 59 18.0
CLL *e*Sb 18 59 37.0
CLL *e*Sg 19 00 19.0
CLL Collm 9.82 354 **Pn 18 57 32.6 -0.2**
BGF Bois d'Agland 9.84 304 *e*Pn **Pn 18 57 35.0 +1.9**
BGF Bois d'Agland 9.84 304 *e*P Pn 18 57 40.0 +6.9
BGF *e*Sn **Sn 18 59 20.1 -3.2**
comp=Z,2.4nm,0.3s
KWP Kalwaria Pacla 9.86 32 **Pn 18 57 34.5 +1.2**
ICOR Ion Corvin 10.01 71 ⇓P **Pn 18 57 38.0 +2.5**
TCF Toulx Ste Croi 10.12 302 *e*Pn **Pn 18 57 39.2 +2.1**
TCF *e*Sn **Sn 18 59 29.1 -1.3**
comp=Z,0.7nm,0.3s
IDI Anoyia 10.20 125 Pn **Pn 18 57 39.8 +1.7**
comp=Z,0.6nm,0.3s,baz=279,slow=19,SNR=1.8
IDI Sn **Sn 18 59 29.2 -3.0**
comp=Z,0.9nm,0.3s,baz=30,slow=20,SNR=2.7
IDI LR LR 19 03 17.1
comp=Z,106nm,19.9s,baz=262,slow=47
RJF Les Rejaudoux 10.24 296 *e*Pn **Pn 18 57 41.2 +2.5**
BAIF Baives 11.18 323 *e*Sn **Sn 18 59 51.7 -4.4**
comp=Z,1.2nm,0.4s

AKASG Malin Array Be 13.62 43 Pn **Pn 18 58 25.9 +1.1**
comp=Z,0.2nm,0.3s,baz=234,slow=10,SNR=3.3
AKASG Malin Array Be 13.62 43 Pn **Pn 18 58 25.6 +0.8**
AKBB Malin Array Si 13.62 43 Pn **Pn 18 58 25.0 +0.3**
SUW Suwalki 13.71 22 Pn **Pn 18 58 24.8 -1.1**
ESBB Sonseca Array 14.24 269 Pn **Pn 18 58 34.3 +0.8**
ESDC Sonseca Array 14.25 269 Pn **Pn 18 58 34.1 +0.7**
comp=Z,0.1nm,0.3s,baz=75,slow=13,SNR=8.9
ESDC LR LR 19 03 38.1
comp=Z,132nm,21.3s,baz=74,slow=36
ESDC Sonseca Array 14.25 269 Pn **Pn 18 58 34.9 +1.4**
BR131 Keskin Array S 14.55 91 **Pn 18 58 38.1 +0.3**
BRTR Keskin Array B 14.55 91 Pn **Pn 18 58 40.2 +2.4**
comp=Z,0.0nm,0.3s,baz=266,slow=9.7,SNR=3.6
BRTR LR LR 19 05 59.9
comp=Z,235nm,18.3s,baz=296,slow=44
BRTR Keskin Array B 14.55 91 **Pn 18 58 36.3 -1.5**
PAB San Pablo 14.57 268 Pn **Pn 18 58 37.2 -0.7**
PABE Paberze 15.25 21 Pn **Pn 18 58 46.1 -0.7**
PABE IAmb IAmb 18 58 56.5
comp=Z,21nm,1.0s
SNOP Sinop 15.36 81 Pn **Pn 18 58 48.1 -0.3**
BNN Bunyan 16.43 92 Pn **Pn 18 59 01.3 -1.1**
BNN IAmb IAmb 18 59 16.3
comp=Z,67nm,1.6s
MDT Midelt 17.61 246 LR LR 19 05 06.3
comp=Z,159nm,21.4s,baz=58,slow=34
GAZ Gaziantep 17.99 97 P **Pn 18 59 21.7 -0.2**
MMAI Mount Meron Ar 18.57 111 P **Pn 18 59 32.3 +3.3**
comp=Z,0.5nm,0.3s,baz=300,slow=12,SNR=2.1
HFS Hagfors 18.61 359 P **Pn 18 59 30.3 +1.1**
comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=3.6
HFS LR LR 19 07 47.8
comp=Z,196nm,18.1s,baz=206,slow=41
NC602 NORSAR Array S 19.30 355 P **Pn 18 59 36.9 -0.5**
NC602 IAmb IAmb 19 00 11.6
comp=Z,47nm,1.4s
NAO01 NORSAR Array S 19.45 354 P **P 18 59 36.2 -1.8**
NAO01 IAmb IAmb 19 00 03.5
comp=Z,47nm,1.2s
NB2 NORSAR Subarra 19.62 355 P **Pn 18 59 41.3 -0.1**
comp=Z,14nm,1.4s,baz=172,slow=11
NOA NORSAR Array B 19.62 355 P **P 18 59 41.0 -0.4**
comp=Z,0.0nm,0.3s,baz=171,slow=11,SNR=4.9
NOA LR LR 19 08 18.5
comp=Z,157nm,20.1s,baz=165,slow=40
NB201 NORSAR Array S 19.62 355 P **P 18 59 37.6 -2.4**
NB201 IAmb IAmb 18 59 59.4
comp=Z,53nm,1.2s
NBO00 NORSAR Array S 19.64 354 P **P 18 59 37.8 -2.4**
NC405 NORSAR Array S 19.66 356 P **P 18 59 38.0 -2.4**
NC405 IAmb IAmb 18 59 51.8
comp=Z,31nm,0.9s
GHAJ Ghor Haditha 19.67 115 P **P 18 59 37.5 -3.1**
GHAJ IAmb IAmb 19 00 20.1
comp=Z,13nm,0.6s
NC303 NORSAR Array S 19.80 355 P **P 18 59 41.6 -0.3**
OBN Obninsk 19.80 39 P **Pn 18 59 43.5 0.0**
comp=Z,0.3nm,0.3s,baz=32,slow=2.3,SNR=4.5
OBN LR LR 19 08 28.8
comp=Z,89nm,18.1s,baz=212,slow=40
OBN Obninsk 19.80 39 P **P 18 59 38.8 -3.2**
NC204 NORSAR Array S 19.89 355 P **P 18 59 40.7 -2.2**
NC204 IAmb IAmb 19 00 13.9
comp=Z,64nm,1.5s
ASF Jabal al Asfar 20.09 111 P Pn 18 59 48.6 +1.5
comp=Z,0.6nm,0.3s,baz=333,slow=11,SNR=1.9
EIL Elat 20.29 119 P Pn 18 59 50.8 +1.3
comp=Z,3.1nm,0.8s,baz=331,slow=2.7,SNR=6.5
KBZ Khabaz 20.87 75 P Pn 18 59 55.5 -0.6
comp=Z,4.8nm,1.0s,baz=306,slow=9.7,SNR=5.9
KBZ LR LR 19 09 33.8
comp=Z,95nm,19.9s,baz=290,slow=41
FINES FINESS Array B 21.09 15 P **P 18 59 56.4 +0.6**
comp=Z,9.0nm,0.8s,baz=188,slow=8.9,SNR=19
FINES FINESS Array B 21.09 15 P **P 18 59 51.1 -4.8**
FIA1 FINESS Array S 21.09 15 P **P 18 59 51.5 -4.3**
FIA1 IAmb IAmb 19 00 03.4
comp=Z,22nm,1.0s
GURO Guroymak-BITLI 21.16 89 P **P 18 59 53.9 -3.1**
ONI Oni 21.39 78 P **P 18 59 56.2 -3.1**
SIRT Sirnak 21.79 92 P **P 19 00 02.4 -1.3**
GNI Garni 22.77 83 P **P 19 00 17.2 +2.9**
comp=Z,7.8nm,0.9s,baz=24,slow=3.6,SNR=5.6
GNI Garni 22.77 83 P **P 19 00 11.1 -3.2**
GNI IAmb IAmb 19 00 21.8
comp=Z,41nm,1.6s
KLMR Klimovskoe 24.56 30 *e*P **P 19 00 31.8 +0.6**
KLMR AMP 19 00 35.4
comp=Z,42nm,1.1s
KLMR *e*S **S 19 04 51.7 +0.4**
KLMR *e*S **S 19 04 51.7 +0.4**
BELG Belogornoye 24.78 53 P **P 19 00 35.2 +2.0**
comp=Z,40nm,0.8s,baz=24,slow=1.1,SNR=16
PMOZ Porto Moniz, M 26.69 261 P **P 19 00 50.2 -0.7**
KIRV Kirov 27.65 40 LR LR 19 12 54.1
comp=Z,298nm,18.9s,baz=287,slow=38
TORD Torodi Ar. Bea 30.47 205 P **P 19 01 26.2 +1.7**
comp=Z,3.1nm,0.9s,baz=14,slow=8.7,SNR=12
TORD Torodi Ar. Bea 30.47 205 P **P 19 01 25.1 +0.5**
BORG Borgarnes 30.95 331 LR LR 19 15 27.4
comp=Z,178nm,20.2s,baz=330,slow=39
AKTO Aktyubinsk 31.04 58 P **P 19 01 30.1 +0.8**
comp=Z,0.7nm,0.6s,baz=182,slow=10.0,SNR=2.2
AKTO LR LR 19 14 10.9
comp=Z,132nm,21.2s,baz=306,slow=37
RAYN Ar Rayn 31.41 115 P **P 19 01 30.5 -2.4**
ARU Arti 31.82 47 P **P 19 01 37.5 +1.4**
comp=Z,0.6nm,0.4s,baz=254,slow=7.6,SNR=9.5
ARU LR LR 19 15 20.8
comp=Z,163nm,21.2s,baz=294,slow=38
ARU Arti 31.82 47 P **P 19 01 35.3 -0.8**
ARU IAmb IAmb 19 01 40.5
comp=Z,17nm,1.2s
ABKAR Akbulak array 32.33 61 P **P 19 01 37.3 -3.3**
ABKAR Akbulak array 32.33 61 P **P 19 01 38.0 -2.6**
ABKAR IAmb IAmb 19 02 00.6
comp=Z,1.2nm,0.9s
ROSA Rosais 32.65 279 P **P 19 01 40.2 -3.4**
GEYT Alibeck 33.38 82 P **P 19 01 51.9 +1.9**
comp=Z,2.2nm,0.5s,baz=269,slow=8.5,SNR=3.0
GEYT Alibeck 33.38 82 P **P 19 01 49.3 -0.7**
GYA0B ALIBECK ARRAY 33.38 82 P **P 19 01 49.6 -0.4**
GYA0B IAmb IAmb 19 01 56.1
comp=Z,7.8nm,0.8s
HRA Herat 37.82 85 P **P 19 02 26.7 -1.8**
BRVK Borovoye 38.51 53 P **P 19 02 33.5 -0.2**
BRVK IAmb IAmb 19 02 39.4
comp=Z,25nm,1.6s
BVAR Borovoye Array 38.58 53 P **P 19 02 36.0 +1.7**
comp=Z,1.8nm,0.7s,baz=251,slow=4.5,SNR=7.9
DBIC Dimbokro 38.83 212 P **P 19 02 38.5 +1.7**
comp=Z,4.3nm,0.7s,baz=13,slow=8.4,SNR=5.3
DBIC Dimbokro 38.83 212 P **P 19 02 37.9 +1.2**
DBIC IAmb IAmb 19 02 55.0
comp=Z,40nm,1.8s
TIC Toumodi 38.91 212 *e*P **P 19 02 38.8 +1.3**
KIC Kosan Boka 39.06 212 *e*P **P 19 02 39.7 +1.0**
comp=Z,8.6nm,0.8s
LIC Lamto 39.30 212 *e*P **P 19 02 42.1 +1.4**
comp=Z,49nm,1.1s
KKAR Karatay Array 40.69 68 P **P 19 02 51.6 -0.5**
NOR Nord 41.59 353 *i* P P 19 02 46.0 -13
LODK Lodwar 42.28 148 P **P 19 03 04.9 -0.5**
KURBB Kurchatov Arra 43.97 55 P **P 19 03 20.0 +1.3**
comp=Z,2.0nm,1.1s,baz=290,slow=9.1,SNR=6.5
KURK Kurchatov 44.00 55 P **P 19 03 18.6 -0.2**
NRIK Noril'sk 45.89 28 P **P 19 03 35.9 +2.2**
comp=Z,2.4nm,0.6s,baz=267,slow=7.7,SNR=5.7
NRIK Noril'sk 45.89 28 P **P 19 03 33.5 -0.2**
NRIK IAmb IAmb 19 03 39.9
comp=Z,13nm,1.3s
ZAA0 Zalesovo Array 46.89 50 P **P 19 03 41.8 +0.1**
ZALV Zalesovo Beam 46.89 50 P **P 19 03 43.4 +1.6**
comp=Z,2.2nm,0.9s,baz=282,slow=7.1,SNR=7.9
ZALV Zalesovo Beam 46.89 50 P **P 19 03 41.8 +0.1**
KMBO Kilima Mbogo 47.18 148 P **P 19 03 43.8 -0.9**
KMBO IAmb IAmb 19 03 53.4
comp=Z,6.9nm,1.7s
EUNU Eureka 51.26 347 P **P 19 04 15.5 +0.6**
EUNU IAmb IAmb 19 04 20.8
comp=Z,7.6nm,1.2s
TIXI Tiksi 58.05 20 P **P 19 05 05.8 +1.7**
comp=Z,1.9nm,1.0s,baz=301,slow=6.0,SNR=5.8
TIXI Tiksi 58.05 20 IAmb IAmb 19 05 09.7

comp=Z,15nm,1.6s
GTA Gaotai 62.18 61 *e*P P 19 05 33.3 +0.1
GTA pP pP 19 05 37.5 -0.5
GTA sP sP 19 05 40.5 +0.8
GTA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 68.60 337 P **P 19 06 15.3 +1.2**
comp=Z,2.2nm,1.0s,baz=42,slow=6.3,SNR=15
YKA Yellowknife Ar 68.60 337 P **P 19 06 14.7 +0.6**
HHC Hu-ho-hao-te 68.79 54 *e*P **P 19 06 15.0 -0.9**
HHC S **S 19 15 13.6 -5.5**
HHC pmax pmax
comp=Z,5.0nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.3s
HHC LR LR
comp=N,510nm,18.4s
HHC LR LR
comp=E,210nm,18.0s
HHC LR LR
comp=Z,630nm,18.4s
PZH PanZhiHua 70.91 71 P **P 19 06 30.8 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,130nm,6.3s
H21K Melozitna Rive 72.67 355 P **P 19 06 41.3 +2.3**
DAWY Dawson 72.73 348 P **P 19 06 41.4 +2.0**
DAWY IAmb IAmb 19 06 43.2
comp=Z,8.7nm,1.3s
ILAR Eielson Array 73.02 352 P **P 19 06 43.0 +1.9**
comp=Z,0.9nm,1.0s,baz=3.7,slow=7.7,SNR=6.0
DHY Denali Highway 74.72 352 P **P 19 06 52.6 +1.4**
S44A Carbondale 74.95 307 P **P 19 06 52.0 -0.9**
NJ2 Nanjing 78.91 57 *e*P **P 19 07 16.9 +1.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
JTMT Jette 80.24 328 P **P 19 07 22.4 +0.1**
JTMT IAmb IAmb 19 07 28.8
comp=Z,17nm,1.5s
KSRS Korea Array 80.56 48 P **P 19 07 25.8 +1.8**
comp=Z,1.1nm,0.9s,baz=325,slow=4.4,SNR=3.2
KSRS LR LR 19 46 37.1
comp=Z,70nm,18.7s,baz=220,slow=38
BOZ Bozeman (W) 80.85 325 P **P 19 07 26.6 +0.9**
BOZ IAmb IAmb 19 07 28.8
comp=Z,6.2nm,1.2s
PDAR Pinedale Array 82.15 322 P **P 19 07 33.8 +1.1**
comp=Z,0.6nm,0.7s,baz=48,slow=2.2,SNR=4.9
BMO Blue Mountains 83.81 328 P **P 19 07 41.3 +0.2**
RDMU Red Mountain 83.86 321 P **P 19 07 41.9 +0.3**
SDCO Great Sand Dun 84.02 316 P **P 19 07 42.8 +0.3**
SDCO IAmb IAmb 19 07 44.9
comp=Z,6.3nm,1.1s
S22A 4UR Ranch, Cre 84.70 317 P **P 19 07 45.4 -0.6**
S22A IAmb IAmb 19 07 51.9
comp=Z,6.3nm,1.3s
SRU San Rafael Swe 85.47 320 P **P 19 07 49.4 -0.3**
SRU IAmb IAmb 19 08 25.6
comp=Z,10nm,1.6s
ROSC El Rosal 86.03 273 LR LR 19 43 10.4
comp=Z,82nm,18.8s,baz=30,slow=34
MJAR Matsushiro Arr 86.71 42 LR LR 19 50 39.3
comp=Z,85nm,18.9s,baz=358,slow=38
WRA Warramunga Arr 125.03 86 PKP **PKPdf 19 14 11.7 -0.5**
comp=Z,0.2nm,0.7s,baz=318,slow=1.8,SNR=1.5
ASAR Alice Springs 126.89 90 PKP **PKPdf 19 14 15.4 -0.3**
comp=Z,0.1nm,0.4s,baz=304,slow=1.3,SNR=5.1

IDC 16 19:13:42.1±4.2, 3°.19S×143°.70E, h0^{km}, mb3.0/2, mb1 3.3/3, mb1mx2.9/34, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=135.2km s-min=34.1km az=94.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.99**	**208**	P	P	19 18 05.3	0.0
	0.0nm,0.3s,baz=30,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**22.45**	**204**	P	P	19 18 43.0	+0.1
	0.3nm,0.8s,baz=31,slow=9.7,SNR=4.9						
MKAR	**Makanchi Array**	**73.25**	**321**	P	P	19 25 15.3	0.0
	0.1nm,0.6s,baz=126,slow=7.3,SNR=1.8						

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*DJA **16** 19:24:29.5±0.7, 7°.5S×12°.7E±°, h442^{km}±10^{km}, M3.9/12, mb3.7/6, mB4.5/1, MLv4.0/12, Mw(mB)3.7/1*
*NEIC **16** 19:24:31.8±1.9, 6°.9S±0°.1×126°.90E±0°.08, h414^{km}±15^{km}, mb4.1/7, Error ellipse: s-maj=19.6km s-min=5.4km az=147.0*
*IDC **16** 19:24:33.1±2.1, 7°.12S×127°.05E, h392^{km}±53^{km}, mb3.3/1, mb1 3.0/5, mb1mx2.7/25, mbtmp3.8/5, Error ellipse: s-maj=73.7km s-min=19.5km az=115.0*
ISC 16 19:24:31.0±0.7, 6°.94S±0°.07×126°.93E±0°.07, h407^{km}, n34, σ1°30/38, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.47**	**21**	P	**P**	**19 25 40.4**	**+1.8**
SOEI	**Soe**	**3.84**	**223**	P	**P**	**19 25 44.0**	**+1.9**
SOEI	**Soe**	**3.84**	**223**	P	**P**	**19 25 43.7**	**+1.7**
MSAI	**Masohi**	**4.09**	**29**	P	**P**	**19 25 44.2**	**0.0**
SAUI	**Saumlaki**	**4.45**	**104**	S	**S**	**19 26 51.6**	**+1.3**
BATI	**Baumata**	**4.58**	**225**	P	**P**	**19 25 51.3**	**+2.3**
	124nm,0.3s,baz=70,slow=1.3,SNR=275						
BATI				S	**S**	**19 26 52.0**	**-0.6**
	18nm,0.3s,baz=355,slow=20,SNR=7.0						
BATI	**Baumata**	**4.58**	**225**	P	**P**	**19 25 51.3**	**+2.3**
BATI				S	**S**	**19 26 54.6**	**+2.0**
MMRI	**Maumere**	**4.95**	**250**	P	**P**	**19 25 53.9**	**+1.3**
MMRI	**Maumere**	**4.95**	**250**		**P**	**19 25 53.2**	**+0.5**
SANI	**Sanana**	**4.95**	**349**	P	**P**	**19 25 53.2**	**+0.5**
	0.1nm21nm,0.8s						
EDFI	**Ende, Flores**	**5.50**	**251**	P	**P**	**19 25 58.2**	**-0.2**
	0.0nm8.9nm,0.4s						
BSSI	**Bau Bau, Buton**	**6.45**	**277**	P	**P**	**19 26 10.4**	**+1.9**
	0.1nm25nm,0.7s						
FAKI	**Fak Fak**	**6.63**	**53**	P	**P**	**19 26 10.3**	**-1.0**
	0.1nm26nm,1.2s						
FAKI	**Fak Fak**	**6.63**	**53**		**P**	**19 26 11.2**	**-0.1**
BASI	**Baing, Sumba**	**7.08**	**242**	P	**P**	**19 26 15.3**	**-0.9**
	0.2nm32nm,1.4s						
MTN	**Manton Dam**	**7.18**	**145**	P	**P**	**19 26 18.1**	**+0.8**
SIJI	**Sorong**	**7.42**	**36**	P	**P**	**19 26 22.1**	**+2.1**
	1.0nm,0.3s,baz=309,slow=22,SNR=8.3						
KNRA	**Kununurra**	**8.87**	**168**		**P**	**19 26 37.0**	**+1.1**
MPSI	**Mapaga**	**10.08**	**316**	P	**P**	**19 26 48.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.16**	**186**	P	**P**	**19 27 02.4**	**+1.1**
	0.2nm,0.3s,baz=13,slow=12,SNR=7.5						
JAGI	**Jajag, Banyuwa**	**12.76**	**262**	P	**P**	**19 27 16.8**	**-2.2**
WB0	**Warramunga Arr**	**14.66**	**151**	P	**P**	**19 27 39.6**	**-0.1**
WRA	**Warramunga Arr**	**14.79**	**152**	P	**P**	**19 27 41.5**	**+0.4**
	0.4nm,0.3s,baz=323,slow=12,SNR=29						
WRA				S	**S**	**19 30 15.7**	**-2.6**
	0.1nm,0.3s,baz=328,slow=16,SNR=7.5						
WRA	**Warramunga Arr**	**14.79**	**152**	P	**P**	**19 27 40.1**	**-1.0**
PSA00	**Pilbara Seismi**	**16.08**	**204**	P	**P**	**19 27 53.7**	**-1.1**
PSA00				IAmb	IAmb	19 28 02.3	
	comp=Z,18nm,1.4s						
PSA00	**Pilbara Seismi**	**16.08**	**204**	P	**P**	**19 27 54.8**	**-0.1**
PSA00				IAmb	IAmb	19 28 24.0	
	comp=Z,3.8nm,1.1s						
AS31	**Alice Springs**	**17.93**	**159**	P	**P**	**19 28 15.0**	**+0.4**
AS31				IAmb	IAmb	19 28 18.5	
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**17.93**	**159**	P	**P**	**19 28 15.7**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=343,slow=14,SNR=55						
ASAR				S	**S**	**19 31 20.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=343,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**17.93**	**159**	P	**P**	**19 28 14.8**	**+0.2**
BBOO	**Buckleboo**	**27.10**	**163**	P	**P**	**19 29 39.4**	**+0.5**
BBOO				IAmb	IAmb	19 29 58.8	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**28.33**	**153**	P	**P**	**19 29 50.4**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=333,slow=9.8,SNR=5.2						
STKA	**Stephens Creek**	**28.33**	**153**	P	**P**	**19 29 50.0**	**+0.4**
TATO	**Taipei**	**32.16**	**351**	P	**P**	**19 30 22.3**	**-0.7**
QSPA	**South Pole Qui**	**83.04**	**180**	P	**P**	**19 36 11.8**	**-0.2**
QSPA				IAmb	IAmb	19 36 11.9	
	comp=Z,4.3nm,1.2s						

IDC 16 19:27:21.6±3.2, 61°.16N×28°.06W, h0^{km}, mb3.4/3, mb1 3.7/4, mb1mx3.3/39, mbtmp3.5/4, ML3.6/1, MS3.8/5, Ms1 3.8/5, ms1mx3.0/73, Error ellipse: s-maj=79.1km s-min=27.2km az=162.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.73**	**38**	Pn	Pn	19 28 33.9	-0.3
	2.6nm,0.3s,baz=227,slow=9.7,SNR=14						
BORG				Sn	Sn	19 29 30.0	+0.3
	1.1nm,0.3s,baz=21,slow=22,SNR=14						
EKA	**Eskdalemuir Ar**	**14.29**	**103**	LR	LR	19 34 43.0	
	comp=Z,116nm,20.1s,baz=324,slow=31						
VRAC	**Vranov**	**27.50**	**95**	LR	LR	19 44 16.7	
	comp=Z,80nm,19.0s,baz=354,slow=37						
YKA	**Yellowknife Ar**	**37.99**	**311**	P	P	19 34 40.9	+0.3
	0.4nm,0.7s,baz=53,slow=9.1,SNR=6.7						
KVAR	**Kislovodsk Arr**	**43.91**	**79**	LR	LR	19 54 09.6	
	comp=Z,86nm,19.9s,baz=90,slow=37						
PDAR	**Pinedale Array**	**49.88**	**288**	P	P	19 36 15.9	-0.7
	0.5nm,0.8s,baz=69,slow=8.1,SNR=3.7						
MKAR	**Makanchi Array**	**58.69**	**49**	P	P	19 37 20.6	+0.1
	0.4nm,0.7s,baz=336,slow=5.5,SNR=5.1						
PFO	**Pinyon Flats O**	**60.45**	**286**	LR	LR	20 02 13.1	
	comp=Z,242nm,18.1s,baz=330,slow=35						
LPIG	**La Paz**	**65.49**	**276**	LR	LR	20 04 54.0	
	comp=Z,176nm,20.0s,baz=305,slow=34						

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*NEIC **16** 19:56:00.6±1.5, 8°.98N±0°.08×126°.68E±0°.1, h10^{km}±1^{km}, mb4.6/61, Error ellipse: s-maj=17.2km s-min=13.4km az=94.0*
*MAN **16** 19:56:02.6, 8°.91N×126°.91E, h15^{km}, mb4.7, ML3.6, MS3.5*
*IDC **16** 19:56:10.2±1.8, 8°.88N×126°.75E, h98^{km}±17^{km}, mb3.9/23, mb1 3.9/26, mb1mx3.8/48, mbtmp4.2/26, MS3.2/6, Ms1 3.2/6, ms1mx2.8/81, Error ellipse: s-maj=19.8km s-min=10.8km az=81.0*
ISC 16 19:56:03.1±1.6, 8°.94N±0°.04×126°.68E±0°.07, h31^{km}±11^{km}, n129, σ1°02/132, mb4.5/57, 6C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.81**	**203**	⇓*e*P	**Pn**	**19 56 19.2**	**+0.8**
BIPH				*e*S	**Sn**	**19 56 31.2**	**+1.7**
SCPH	**Surigao**	**1.45**	**306**	⇓*i*P	**Pb**	**19 56 30.2**	**+0.7**
SCPH				*i* S	**Sb**	**19 56 49.4**	**+1.8**
MATI	**Mati**	**2.02**	**192**	⇓*e*P	**Pn**	**19 56 36.3**	**+1.2**
DAV	**Davao City (W)**	**2.15**	**211**	P	Pb	19 56 45.5	+4.0
	46nm,0.3s,baz=100,slow=8.6,SNR=8.2						
DAV				S	**Sb**	**19 57 11.4**	**+3.6**
	45nm,0.3s,baz=308,slow=14,SNR=3.7						
DAV				LR	LR	19 57 48.5	
	comp=Z,452nm,18.7s,baz=136,slow=46						
DAV	**Davao City (W)**	**2.15**	**211**		**Pn**	**19 56 38.0**	**+1.1**
KCP	**Kidapawan**	**2.48**	**220**	⇓*e*P	**Pb**	**19 56 46.2**	**-1.0**
KCP				*i* S	**Sb**	**19 57 16.9**	**-0.4**
TBP	**Tagbilaran**	**2.88**	**285**	⇓*e*P	**Pb**	**19 56 51.8**	**-2.1**
TBP				*i* S	**Sb**	**19 57 26.7**	**-2.0**
CTBH	**Cotabato--PC H**	**2.95**	**235**	⇑*e*P	**Pb**	**19 56 54.0**	**-1.1**
LLP	**Lapu-Lapu**	**3.01**	**297**	⇑*e*P	**Pb**	**19 56 53.6**	**-2.5**
LLP				*e*S	**Sb**	**19 57 31.2**	**-1.2**
DCPH	**Dipolog City**	**3.31**	**264**	⇑*e*P	**Pn**	**19 56 56.6**	**+3.8**
SNPH	**Sibulan**	**3.43**	**277**	*e*P	**Pb**	**19 56 60.0**	**-3.2**
SNPH				*e*S	**Sb**	**19 57 44.0**	**-0.5**
PAGZ	**Pagadian**	**3.44**	**252**	⇑*i*P	**Pb**	**19 57 02.2**	**-1.2**
CNOP	**Candoni, Negro**	**4.09**	**283**	⇑*e*P	Pn	19 57 08.4	+4.9
RCP	**Roxas**	**4.67**	**304**	⇓*e*P	Pn	19 57 16.8	+5.2
JAP	**San Jose, Anti**	**5.00**	**291**	⇑*e*P	Pb	19 57 22.9	-7.1
LQP	**Lukban**	**7.20**	**316**	⇓*e*P	Pn	19 57 52.4	+5.9
TNTI	**Ternate**	**8.14**	**175**		**Pn**	**19 57 59.1**	**-0.2**
SIJI	**Sorong**	**10.76**	**155**	P	**Pn**	**19 58 35.0**	**-0.2**
	5.1nm,0.3s,baz=340,slow=15,SNR=24						
SIJI				LR	LR	20 03 54.0	
	comp=Z,68nm,19.2s,baz=356,slow=43						
FAKI	**Fak Fak**	**13.02**	**155**	Pn	**Pn**	**19 59 05.3**	**-0.8**
TPUB	**Ta-pu**	**15.41**	**339**		**P**	**19 59 42.0**	**-0.8**
TPUB				IAmb	IAmb	20 00 00.3	
	comp=Z,52nm,1.3s						
SSLB	**Suanglung**	**15.75**	**340**		**P**	**19 59 47.5**	**+1.0**
SBUM	**Sibu**	**15.76**	**247**		**P**	**19 59 46.3**	**-0.3**
JOW	**Kunigami**	**17.86**	**5**	P	**P**	**20 00 13.5**	**+3.7**
	comp=Z,1.1nm,0.3s,baz=197,slow=10,SNR=1.6						
JOW				LR	LR	20 05 26.8	
	comp=Z,90nm,21.8s,baz=100,slow=31						
JOW	**Kunigami**	**17.86**	**5**	P	**P**	**20 00 11.0**	**+1.2**
KSM	**Kuching**	**17.90**	**246**	P	**P**	**20 00 10.6**	**+0.2**
JAY	**Jayapura**	**18.02**	**129**	LR	LR	20 06 17.3	
	comp=Z,110nm,20.7s,baz=19,slow=34						
SOEI	**Soe**	**18.73**	**187**	P	**Pn**	**20 00 20.7**	**+0.6**
SOEI				IAmb	IAmb	20 00 39.5	
	comp=Z,16nm,0.7s						
BATI	**Baumata**	**19.25**	**189**	P	**Pn**	**20 00 26.6**	**+0.2**
	comp=Z,4.6nm,0.3s,baz=75,slow=2.7,SNR=7.2						
MTN	**Manton Dam**	**22.09**	**168**	P	**P**	**20 00 56.7**	**+0.9**
JNU	**Nakatsue**	**24.38**	**9**	P	**P**	**20 01 18.8**	**+0.2**
	comp=Z,12nm,1.0s,baz=224,slow=9.2,SNR=3.7						
JNU	**Nakatsue**	**24.38**	**9**	P	**P**	**20 01 18.6**	**0.0**
JNU				IAmb	IAmb	20 01 20.1	
	comp=Z,16nm,1.0s						
KNRA	**Kununurra**	**24.54**	**175**	P	**P**	**20 01 19.9**	**-0.3**
KNRA				IAmb	IAmb	20 01 36.9	
	comp=Z,12nm,0.6s						
JMN	**Monobe**	**25.55**	**14**	P	**P**	**20 01 29.5**	**+0.2**
IPM	**Ipoh**	**25.86**	**262**	P	**P**	**20 01 33.8**	**+1.6**
IPM				IAmb	IAmb	20 01 37.0	
	comp=Z,12nm,0.7s						
JHS	**Saijyo**	**26.60**	**12**	P	**P**	**20 01 40.2**	**+1.4**
JHS				IAmb	IAmb	20 01 46.5	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**26.88**	**182**	P	**P**	**20 01 41.6**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=348,slow=9.3,SNR=3.0						
COEN	**Coen**	**28.02**	**144**	P	**P**	**20 01 51.1**	**-0.6**
COEN				IAmb	IAmb	20 02 17.9	
	comp=Z,16nm,1.4s						
KSRS	**Korea Array**	**28.41**	**2**	P	**P**	**20 01 55.8**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=182,slow=10,SNR=12						
KSRS				LR	LR	20 12 10.3	
	comp=Z,27nm,22.0s,baz=200,slow=34						
CMAR	**Chiang Mai Arr**	**28.52**	**292**	P	**P**	**20 01 57.3**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=98,slow=7.2,SNR=13						
CMAR				PcP	**PcP**	**20 05 07.6**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=51,slow=0.7,SNR=7.0						
WB0	**Warramunga Arr**	**29.52**	**165**	P	**P**	**20 02 03.5**	**-1.4**
WB0				IAmb	IAmb	20 02 13.8	
	comp=Z,5.8nm,0.7s						
WRA	**Warramunga Arr**	**29.67**	**165**	P	**P**	**20 02 05.2**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=349,slow=9.4,SNR=13						
WRA	**Warramunga Arr**	**29.67**	**165**	P	**P**	**20 02 04.6**	**-1.7**
GSI	**Gunungsitoli**	**29.94**	**257**	P	**P**	**20 02 09.9**	**+1.1**
GSI				IAmb	IAmb	20 02 27.8	
	comp=Z,17nm,1.3s						
AS31	**Alice Springs**	**33.16**	**168**	P	**P**	**20 02 36.1**	**-0.9**
ASAR	**Alice Springs**	**33.16**	**168**	P	**P**	**20 02 36.4**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=356,slow=6.7,SNR=15						
ASAR	**Alice Springs**	**33.16**	**168**	P	**P**	**20 02 35.9**	**-1.1**
USRK	**Ussuriysk Ar.**	**35.43**	**7**	P	**P**	**20 02 57.0**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=202,slow=7.4,SNR=5.4						
USRK	**Ussuriysk Ar.**	**35.43**	**7**	P	**P**	**20 02 55.7**	**-0.7**
SHL	**Shillong**	**36.96**	**301**	P	**P**	**20 03 09.7**	**-0.3**
HNR	**Honiara**	**37.82**	**118**	LR	LR	20 16 34.1	
	comp=Z,67nm,21.2s,baz=32,slow=32						
MORW	**Morawa**	**39.15**	**195**	P	**P**	**20 03 28.2**	**+0.1**
MORW				IAmb	IAmb	20 03 49.5	
	comp=Z,15nm,1.4s						
HIA	**Hailar**	**40.62**	**353**	P	**P**	**20 03 40.4**	**+0.2**
HIA				IAmb	IAmb	20 03 45.1	
	comp=Z,9.2nm,1.1s						
ULN	**Ulaanbaatar**	**42.21**	**340**	P	**P**	**20 03 53.4**	**0.0**
SONM	**Songino Array**	**42.40**	**340**	P	**P**	**20 03 55.7**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=152,slow=9.0,SNR=6.8						
SONM				PcP	**PcP**	**20 05 47.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=185,slow=3.6,SNR=2.7						
SONM	**Songino Array**	**42.40**	**340**	P	**P**	**20 03 54.5**	**-0.4**
BBOO	**Buckleboo**	**42.47**	**168**	P	**P**	**20 03 55.0**	**-0.4**
BBOO				IAmb	IAmb	20 04 09.3	
	comp=Z,6.0nm,0.8s						
GUN	**Gumba**	**42.80**	**302**	*e*P	**P**	**20 03 58.7**	**0.0**
	comp=Z,6.6nm,0.5s						
STKA	**Stephens Creek**	**43.02**	**161**	P	**P**	**20 03 59.4**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=339,slow=9.8,SNR=5.2						
STKA	**Stephens Creek**	**43.02**	**161**	P	**P**	**20 03 59.1**	**-0.8**
PKI	**Pulchoki**	**43.09**	**301**	*e*P	**P**	**20 04 00.8**	**-0.3**
	comp=Z,2.4nm,0.4s						
PKIN	**Phulchoki**	**43.11**	**301**	*e*P	**P**	**20 04 00.6**	**-0.5**
	comp=Z,4.2nm,0.4s						
KKN	**Kakani**	**43.27**	**301**	*e*P	**P**	**20 04 02.1**	**-0.2**
	comp=Z,4.1nm,0.4s						
DMN	**Daman**	**43.36**	**301**	*e*P	**P**	**20 04 02.8**	**-0.4**
	comp=Z,2.8nm,0.5s						
GKN	**Gorkha**	**43.88**	**301**	*e*P	**P**	**20 04 07.1**	**-0.1**
	comp=Z,4.0nm,0.3s						
KOLN	**Koldanda**	**44.69**	**301**	*e*P	**P**	**20 04 14.0**	**+0.3**
	comp=Z,3.0nm,0.3s						
DANN	**Dangsing**	**44.72**	**301**	*e*P	**P**	**20 04 14.1**	**0.0**
	comp=Z,4.3nm,0.3s						
PYUN	**Piuthan**	**45.30**	**301**	*e*P	**P**	**20 04 18.9**	**+0.3**
	comp=Z,3.3nm,0.3s						
PEA0B	**Petropavlovsk-**	**50.68**	**24**	P	**P**	**20 05 00.3**	**+0.7**
PETK	**Petropavlovsk-**	**50.68**	**24**	P	**P**	**20 04 59.9**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=198,slow=4.4,SNR=13						
MK31	**Makanchi Array**	**53.33**	**323**	P	**P**	**20 05 19.7**	**+0.3**
MK31				IAmb	IAmb	20 05 20.6	
	comp=Z,3.6nm,0.8s						
MKAR	**Makanchi Array**	**53.33**	**323**	P	**P**	**20 05 19.9**	**+0.4**
	comp=Z,4.5nm,0.6s,baz=122,slow=8.2,SNR=58						
MKAR				PcP	**PcP**	**20 06 26.4**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=120,slow=5.2,SNR=3.8						
MKAR	**Makanchi Array**	**53.33**	**323**	P	**P**	**20 05 19.8**	**+0.3**
MAKZ	**Makanchi**	**53.52**	**323**	P	**P**	**20 05 21.0**	**+0.2**
MAKZ				IAmb	IAmb	20 05 21.9	
	comp=Z,2.9nm,0.6s						
MA2	**Magadan**	**53.71**	**15**	P	**P**	**20 05 22.3**	**+0.4**
MA2				IAmb	IAmb	20 05 31.1	
	comp=Z,7.3nm,0.9s						
PRZ	**Przheval'sk**	**53.83**	**317**	P	**P**	**20 05 24.5**	**+1.1**
PRZ				IAmb	IAmb	20 05 25.1	
	comp=Z,4.7nm,0.7s						
TARG	**Taragay, Kyrgy**	**53.93**	**316**	P	**P**	**20 05 23.6**	**-0.8**
KDJ	**Kajisay**	**54.52**	**316**	P	**P**	**20 05 28.6**	**+0.1**
KDJ				IAmb	IAmb	20 05 42.7	
	comp=Z,3.4nm,0.9s						
NIL	**Nilore**	**54.82**	**305**	P	**P**	**20 05 30.6**	**0.0**
ZAA0	**Zalesovo Array**	**55.98**	**332**	P	**P**	**20 05 37.9**	**-0.6**
ZALV	**Zalesovo Beam**	**55.98**	**332**	P	**P**	**20 05 38.2**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=127,slow=6.2,SNR=9.1						
ZALV	**Zalesovo Beam**	**55.98**	**332**	P	**P**	**20 05 37.9**	**-0.6**
AAK	**Ala-Archa**	**56.55**	**316**	P	**P**	**20 05 42.8**	**-0.2**
KURK	**Kurchatov**	**57.39**	**326**	P	**P**	**20 05 48.7**	**+0.2**
KURK				IAmb	IAmb	20 06 03.0	
	comp=Z,8.5nm,0.9s						
CHGR	**Chuyangaron**	**59.24**	**310**	P	**P**	**20 06 01.5**	**-0.4**
CHGR				IAmb	IAmb	20 06 03.7	
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**59.47**	**315**	P	**P**	**20 06 03.3**	**0.0**
TIXI	**Tiksi**	**62.67**	**1**	P	**P**	**20 06 24.4**	**0.0**
TIXI				IAmb	IAmb	20 06 25.5	
	comp=Z,4.9nm,0.8s						
BRVK	**Borovoye**	**63.06**	**326**	P	**P**	**20 06 27.8**	**+0.4**
HRA	**Herat**	**63.94**	**304**	P	**P**	**20 06 34.2**	**+0.4**
HRA				IAmb	IAmb	20 06 34.7	
	comp=Z,2.9nm,0.8s						
NRIK	**Noril'sk**	**65.40**	**346**	P	**P**	**20 06 42.7**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=136,slow=5.2,SNR=7.9						
NRIK	**Noril'sk**	**65.40**	**346**	P	**P**	**20 06 42.7**	**+0.3**
GEYT	**Alibeck**	**67.67**	**307**	P	**P**	**20 06 58.1**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=62,slow=25,SNR=4.0						
GEYT	**Alibeck**	**67.67**	**307**	P	**P**	**20 06 58.1**	**+0.5**
GEYT				IAmb	IAmb	20 06 59.3	
	comp=Z,3.9nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**67.67**	**307**	P	**P**	**20 06 58.1**	**+0.6**
ABKAR	**Akbulak array**	**68.15**	**320**	P	**P**	**20 07 00.4**	**+0.2**
ABKAR	**Akbulak array**	**68.15**	**320**	P	**P**	**20 07 00.5**	**+0.2**
ABKAR				IAmb	IAmb	20 07 01.0	
	comp=Z,1.2nm,0.8s						
AKTO	**Aktyubinsk**	**69.60**	**321**	P	**P**	**20 07 08.8**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=90,slow=6.1,SNR=3.9						
ARU	**Arti**	**70.56**	**327**	P	**P**	**20 07 14.7**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=106,slow=7.4,SNR=14						
ARU	**Arti**	**70.56**	**327**	P	**P**	**20 07 14.8**	**-0.2**
ARU				IAmb	IAmb	20 07 15.5	
	comp=Z,5.3nm,0.7s						
SOCY	**Socotra**	**71.35**	**280**	P	**P**	**20 07 19.6**	**-1.2**
KIRV	**Kirov**	**75.79**	**328**	P	**P**	**20 07 45.7**	**-0.1**
	comp=Z,9.5nm,0.5s,baz=45,slow=4.3,SNR=3.6						
TTA	**Tatalina**	**76.32**	**27**	P	**P**	**20 07 48.3**	**-0.7**
TTA				IAmb	IAmb	20 08 06.7	
	comp=Z,7.1nm,1.4s						
J20K	**Nowinta River**	**77.29**	**26**	P	**P**	**20 07 55.0**	**+0.7**
IMAR	**Indian Mountai**	**77.64**	**24**	P	**P**	**20 07 57.0**	**+0.7**
RAYN	**Ar Rayn**	**78.44**	**292**	P	**P**	**20 08 01.1**	**-0.5**
RAYN				IAmb	IAmb	20 08 02.2	
	comp=Z,4.0nm,0.7s						
MCK	**McKinley**	**79.56**	**27**	P	**P**	**20 08 07.0**	**+0.1**
MCK				IAmb	IAmb	20 08 09.6	
	comp=Z,12nm,1.5s						
H24K	**Noodor Dome**	**80.04**	**25**	P	**P**	**20 08 08.8**	**-0.6**
ILAR	**Eielson Array**	**80.46**	**26**	P	**P**	**20 08 11.3**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=249,slow=5.3,SNR=15						
J25K	**Salcha River,**	**81

PTRJ				S	Sg	20 00 53.2	+0.2	
PTRJ				AML	AML			
	comp=N,36050µm,1.2s							
PTRJ				AML	AML			
	comp=E,54000µm,0.7s							
PTRJ				AML	AML			
	comp=N,33050µm,1.2s							
PTRJ				AML	AML			
	comp=E,48200µm,0.7s							
SGG	**Gregorio Mates**	0.21	229	⇑P	Pg	20 00 51.0	+0.1	
SGG				S	Sb	20 00 55.3	-0.1	
SGG				AML	AML			
	comp=E,26700µm,0.5s							
SGG				AML	AML			
	comp=N,24100µm,0.4s							
GATE	**Gambatesa**	0.24	93	⇑P	Pg	20 00 51.8	+0.4	
GATE				S	Sb	20 00 56.3	-0.1	
GATE				AML	AML			
	comp=E,10250µm,1.5s							
GATE				AML	AML			
	comp=N,12130µm,0.5s							
GATE				AML	AML			
	comp=N,12310µm,0.5s							
GATE				AML	AML			
	comp=E,10260µm,1.5s							
GATE				AML	AML			
	comp=N,12135µm,0.5s							
GATE				AML	AML			
	comp=N,12315µm,0.5s							
GATE				AML	AML			
	comp=E,8585µm,1.5s							
GATE				AML	AML			
	comp=E,10270µm,1.5s							
TRIV	**Trivento**	0.24	354	⇑P	Pg	20 00 51.8	+0.3	
TRIV				S	Sb	20 00 56.3	-0.1	
TRIV				AML	AML			
	comp=N,25600µm,0.4s							
TRIV				AML	AML			
	comp=E,48350µm,0.4s							
TRIV				AML	AML			
	comp=E,49500µm,0.4s							
TRIV				AML	AML			
	comp=N,25550µm,0.4s							
TRIV				AML	AML			
	comp=E,48400µm,0.4s							
TRIV				AML	AML			
	comp=N,26400µm,0.4s							
MIDA	**Miranda**	0.28	295	⇑P	Pg	20 00 52.2	+0.2	
MIDA				S	Sb	20 00 57.2	-0.2	
MIDA				AML	AML			
	comp=N,15450µm,0.4s							
MIDA				AML	AML			
	comp=E,12400µm,0.8s							
MIDA				AML	AML			
	comp=N,15400µm,0.4s							
MIDA				AML	AML			
	comp=N,15550µm,0.4s							
MIDA				AML	AML			
	comp=E,12500µm,0.9s							
VAGA	**Valle Agricola**	0.29	248	⇑P	Pg	20 00 52.5	+0.3	
VAGA				S	Sb	20 00 57.7	0.0	
VAGA				AML	AML			
	comp=E,26150µm,0.7s							
VAGA				AML	AML			
	comp=N,32800µm,0.5s							
VAGA				AML	AML			
	comp=N,31900µm,0.5s							
VAGA				AML	AML			
	comp=E,27200µm,0.7s							
VITU	**Vitulano (BN)**	0.34	175	P	Pg	20 00 52.8	-0.3	
VITU				S	Sb	20 00 58.8	-0.5	
VITU				AML	AML			
	comp=E,5265µm,0.3s							
VITU				AML	AML			
	comp=N,20450µm,0.4s							
VITU				AML	AML			
	comp=N,21050µm,0.4s							
VITU				AML	AML			
	comp=E,15850µm,0.4s							
VITU				AML	AML			
	comp=N,21000µm,0.4s							
VITU				AML	AML			
	comp=N,20500µm,0.4s							
PSB1	**Pescosannita**	0.34	151	⇓P	Pg	20 00 53.1	-0.1	
PSB1				S	Sg	20 00 58.4	+0.4	
PSB1				AML	AML			
	comp=E,8525µm,0.9s							
PSB1				AML	AML			
	comp=N,6530µm,0.6s							
PSB1				AML	AML			
	comp=E,8530µm,0.9s							
PSB1				AML	AML			
	comp=E,8540µm,0.9s							
PSB1				AML	AML			
	comp=N,6345µm,0.5s							
RNI2	**Rionero Sannit**	0.37	299	⇑P	Pg	20 00 53.9	+0.3	
RNI2				S	Sb	20 01 00.2	0.0	
RNI2				AML	AML			
	comp=E,9855µm,0.2s							
RNI2				AML	AML			
	comp=E,10195µm,0.2s							
RNI2				AML	AML			
	comp=E,9850µm,0.2s							
RNI2				AML	AML			
	comp=N,8155µm,0.8s							
RNI2				AML	AML			
	comp=N,8235µm,0.9s							
CERA	**Filignano**	0.43	280	P	Pg	20 00 54.7	-0.1	
CERA				AML	AML			
	comp=E,7275µm,0.4s							
CERA				AML	AML			
	comp=N,9385µm,0.6s							
CERA				AML	AML			
	comp=E,7270µm,0.4s							
CERA				AML	AML			
	comp=N,9380µm,0.6s							
CERA				AML	AML			
	comp=N,9110µm,0.6s							
CERA				AML	AML			
	comp=E,7355µm,0.4s							
MELA	**Melanico ??? S**	0.44	66	⇑P	Pg	20 00 54.2	-0.8	
MELA				S	Sg	20 01 01.2	+0.2	
FRES	**Fresagrandinar**	0.45	8	P	Pg	20 00 54.7	-0.5	
FRES				S	Sg	20 01 01.4	+0.1	
MOCO	**Biccari - m.te**	0.46	110	P	Pg	20 00 55.2	0.0	
MOCO				AML	AML			
	comp=E,3255µm,0.7s							
MOCO				AML	AML			
	comp=N,1670µm,0.5s							
MOCO				AML	AML			
	comp=E,3250µm,0.7s							
MOCO				AML	AML			
	comp=E,3290µm,0.7s							
MOCO				AML	AML			
	comp=E,3285µm,0.7s							
MOCO				AML	AML			
	comp=N,1690µm,0.5s							
MRB1	**Monte Rocchett**	0.49	144	⇑P	Pg	20 00 55.7	-0.1	
MRB1				AML	AML			
	comp=E,8645µm,0.5s							
MRB1				AML	AML			
	comp=N,10230µm,0.5s							
MRB1				AML	AML			
	comp=N,10405µm,0.6s							
MRB1				AML	AML			
	comp=E,8795µm,0.5s							
MRB1				AML	AML			
	comp=E,8625µm,0.5s							
MRB1				AML	AML			
	comp=N,10225µm,0.5s							
PAOL	**Paolisi**	0.49	182	P	Pg	20 00 55.4	-0.5	
PAOL				AML	AML			
	comp=E,4035µm,0.4s							
PAOL				AML	AML			
	comp=E,4040µm,0.4s							
PAOL				AML	AML			
	comp=N,4650µm,0.4s							
PAOL				AML	AML			
	comp=E,4175µm,0.4s							
PAOL				AML	AML			
	comp=N,4580µm,0.5s							
BIOG	**Biogem**	0.52	128	P	Pb	20 00 57.1	+0.1	
BIOG				AML	AML			
	comp=E,5095µm,0.7s							
BIOG				AML	AML			
	comp=N,5850µm,0.6s							
BIOG				AML	AML			
	comp=E,5080µm,0.7s							
BIOG				AML	AML			
	comp=N,5655µm,1.0s							
BIOG				AML	AML			
	comp=E,5085µm,0.7s							
BIOG				AML	AML			
	comp=E,5090µm,0.7s							
BIOG				AML	AML			
	comp=N,5850µm,0.6s							
LPEL	**Lama dei Pelig**	0.60	330	P	Pg	20 00 57.2	-0.7	
LPEL				S	Sb	20 01 06.5	-0.3	
LPEL				AML	AML			
	comp=E,6085µm,1.1s							
LPEL				AML	AML			
	comp=N,7365µm,0.8s							
MODR	**Mondragone**	0.65	235	P	Pg	20 00 58.7	-0.2	
MODR				AML	AML			
	comp=E,8830µm,1.6s							
MODR				AML	AML			
	comp=N,8275µm,1.1s							
SGTA	**Sant Agata di**	0.70	123	P	Pg	20 00 59.4	-0.4	
SGTA				AML	AML			
	comp=E,2025µm,0.6s							
SGTA				AML	AML			
	comp=N,1205µm,0.6s							
CAFR	**Castel Frentan**	0.72	346	P	Pg	20 00 59.4	-0.8	
CAFR				S	Sb	20 01 10.6	+0.4	
CAFR				AML	AML			
	comp=N,2580µm,0.8s							
CAFR				AML	AML			
	comp=E,3045µm,0.3s							
SNAL	**S. Angelo Dei**	0.76	142	P	Pg	20 00 59.8	-1.1	
LIO3	**Lioni**	0.77	144	P	Pg	20 00 59.7	-1.4	
LIK	**San Giovanni I**	0.77	269	P	Pn	20 01 02.8	+0.3	
LIK				S	Sn	20 01 15.7	+1.8	
LIK	**San Giovanni I**	0.77	269	AML	AML			
	comp=N,9785µm,0.4s							
LIK				AML	AML			
	comp=E,5190µm,1.2s							
VVLD	**Villa Vallelon**	0.80	296	P	Pg	20 01 00.6	-1.1	
VVLD				AML	AML			
	comp=N,2960µm,0.4s							
VVLD				AML	AML			
	comp=E,1650µm,0.5s							
MCRV	**Calabrutti - M**	0.86	149	P	Pg	20 01 01.3	-1.5	
SGRT	**San Giovanni R**	0.90	75	P	Pb	20 01 01.9	-1.5	
SGRT				S	Sg	20 01 15.2	0.0	
SGRT				AML	AML			
	comp=N,3590µm,0.9s							
SGRT				AML	AML			
	comp=E,5380µm,0.6s							
SGRT				AML	AML			
	comp=N,3585µm,0.9s							
TREM	**Isole Tremiti**	0.91	49	P	Pb	20 01 03.7	0.0	
T0110	**Collepietro**	0.93	320	P	Pb	20 01 02.6	-1.3	
T0110				AML	AML			
	comp=E,3070µm,0.4s							
T0110				AML	AML			
	comp=E,3075µm,0.4s							
T0110				AML	AML			
	comp=N,2480µm,0.5s							
VULT	**Monte Vulture**	0.96	126	P	Pb	20 01 03.5	-1.0	
CAPA	**Cerignola FG**	1.00	111	P	Pb	20 01 03.2	-1.8	
MSAG	**Monte S. Angel**	1.01	79	P	Pb	20 01 04.5	-0.8	
MSAG				S	Sb	20 01 18.0	-0.5	
MSAG				AML	AML			
	comp=N,4860µm,1.2s							
MSAG				AML	AML			
	comp=E,3725µm,0.8s							
MSAG				AML	AML			
	comp=N,4910µm,1.2s							
MSAG				AML	AML			
	comp=N,4865µm,1.2s							
MSAG				AML	AML			
	comp=N,4905µm,1.2s							
MSAG				AML	AML			
	comp=E,3680µm,0.8s							
PTQR	**Pietraquaria**	1.02	300	P	Pb	20 01 04.5	-1.0	
MRLC	**Muro Lucano**	1.03	138	P	Pn	20 01 06.0	0.0	
MRLC				AML	AML			
	comp=N,1037µm,0.5s							
MRLC				AML	AML			
	comp=E,1170µm,0.5s							
MRLC				AML	AML			
	comp=N,1051µm,0.6s							
MRLC				AML	AML			
	comp=E,1225µm,0.5s							
VCEL	**Villa Celiera**	1.03	328	P	Pb	20 01 05.0	-0.7	
FAGN	**Fagnano**	1.05	315	P	Pn	20 01 06.3	-0.1	
FAGN				AML	AML			
	comp=E,5180µm,0.6s							
FAGN				AML	AML			
	comp=N,2970µm,0.5s							
PALZ	**Palazzo San Ge**	1.19	119	P	Pn	20 01 07.9	-0.3	
PALZ				AML	AML			
	comp=E,1450µm,1.4s							
PALZ				AML	AML			
	comp=N,1250µm,1.1s							
PALZ				AML	AML			
	comp=E,1445µm,1.4s							
AQU	**L'Aquila**	1.21	314	*e*Pn	Pg	20 01 10.7	+1.2	
LATB	**Latina**	1.22	269	P	Pn	20 01 08.5	-0.2	
LATB				AML	AML			
	comp=E,314µm,0.8s							
LATB				AML	AML			
	comp=N,250µm,1.0s							
ACER	**Acerenza**	1.26	125	P	Pb	20 01 09.5	-0.1	
ACER				AML	AML			
	comp=N,982µm,0.7s							
ACER				AML	AML			
	comp=N,980µm,0.6s							
ACER				AML	AML			
	comp=E,828µm,0.7s							
ACER				AML	AML			
	comp=N,980µm,0.6s							
ACER				AML	AML			
	comp=E,827µm,0.7s							
ACER				AML	AML			
	comp=N,984µm,0.7s							
CERT	**Cerreto**	1.27	290	P	Pn	20 01 08.7	-0.8	
CERT				AML	AML			
	comp=E,1055µm,0.7s							
CERT				AML	AML			
	comp=N,627µm,0.5s							
MRVN	**Minervino Murg**	1.30	110	P	Pn	20 01 09.6	-0.2	
MRVN				AML	AML			
	comp=E,526µm,0.7s							
MRVN				AML	AML			
	comp=E,526µm,0.7s							
MRVN				AML	AML			
	comp=N,438µm,0.6s							
CMPR	**Campora**	1.32	156	P	Pn	20 01 09.7	-0.5	
CMPR				AML	AML			
	comp=N,468µm,0.6s							
CMPR				AML	AML			
	comp=E,664µm,0.7s							
FIAM	**Fiamignano**	1.32	305	P	Pg	20 01 11.8	+0.1	
SLCN	**Sala Consilina**	1.38	145	P	Pb	20 01 11.8	+0.1	
SLCN				AML	AML			
	comp=N,801µm,0.5s							
SLCN				AML	AML			
	comp=E,1340µm,1.6s							
RM33	**Pellescritta (**	1.42	314	P	Pb	20 01 12.4	0.0	
RM33				AML	AML			
	comp=E,762µm,0.6s							
RM33				AML	AML			
	comp=N,780µm,0.9s							
MCEL	**Monticello**	1.51	142	P	Pb	20 01 13.7	-0.2	
MTSN	**Montesano sull**	1.54	145	P	Pb	20 01 13.9	-0.5	
BULG	**Bulgheria - Ca**	1.56	157	P	Pn	20 01 13.9	+0.5	
BULG				AML	AML			
	comp=E,419µm,1.5s							
BULG				AML	AML			
	comp=N,707µm,0.7s							
MGR	**Morigerati**	1.57	152	P	Pn	20 01 13.4	0.0	
AG11	**Viggiano (PZ)**	1.58	139	P	Pb	20 01 14.5	-0.5	
AMUR	**Altamura**	1.64	111	P	Pn	20 01 14.5	0.0	
AMUR				AML	AML			
	comp=E,492µm,1.2s							
AMUR				AML	AML			
	comp=N,434µm,1.1s							
CSP1	**Cessapalombo**	1.87	327	P	Pb	20 01 19.5	-0.5	
LTRZ	**Laterza**	1.92	118	P	Pn	20 01 18.6	+0.3	
LSTV	**Lastovo**	2.12	53	*e*Pn	Pn	20 01 22.1	+1.1	
LSTV				Sn	Sn	20 01 48.1	+1.1	
HVAR	**Hvar**	2.15	39	*e*Pn	Pn	20 01 21.2	-0.3	
HVAR				Sn	Sn	20 01 48.6	+0.7	
ZIRJ	**Zirje**	2.27	20	*e*Pn	Pn	20 01 23.1	+0.1	
ZIRJ				Sn	Sn	20 01 50.5	-0.2	
ARVD	**Arcevia**	2.32	329	P	Pn	20 01 25.6	+1.8	
MORI	**Morici**	2.48	19	*e*Pn	Pn	20 01 25.8	-0.2	
MORI				Sn	Sn	20 01 55.5	-0.5	
DUGI	**Dugi Otok**	2.49	8	*e*Pn	Pn	20 01 25.2	-0.9	
DUGI				Sn	Sn	20 01 55.6	-0.7	
FSSB	**Fossombrone**	2.54	329	P	Pn	20 01 28.9	+2.0	
STON	**Ston**	2.68	59	*e*Pn	Pn	20 01 29.6	+0.9	
STON				Sn	Sn	20 02 01.6	+0.8	
RICI	**Ricice**	2.72	43	*e*Pn	Pn	20 01 29.7	+0.3	
RICI				Sn	Sn	20 02 02.4	+0.4	
KIJV	**Kijevo**	2.82	28	*e*Pn	Pn	20 01 30.9	+0.2	
KIJV				Sn	Sn	20 02 03.1	-1.3	
TREB	**Trebinje**	3.04	66	*e*Pn	Pn	20 01 33.6	-0.1	
TREB	**Trebinje**	3.04	66	*e*Pn	Pn	20 01 33.8	+0.1	
NVLJ	**Novalja**	3.04	4	*e*Pn	Pn	20 01 33.4	-0.3	
NVLJ				Sn	Sn	20 02 08.3	-1.5	
HCY	**Herceg Novi**	3.06	71	*e*Pn	Pn	20 01 33.0	-0.9	
UDBI	**Udbina**	3.12	16	*e*Pn	Pn	20 01 35.0	+0.1	
UDBI				Sn	Sn	20 02 10.8	-1.2	
RABC	**Rab**	3.23	2	*i* Pn	Pn	20 01 35.6	-0.6	
RABC				Sn	Sn	20 02 12.7	-1.7	
MGRS	**Mrkonjic Grad**	3.42	32	*e*Pn	Pn	20 01 42.7	+3.7	
BRJN	**Brijuni**	3.43	350	*e*Pn	Pn	20 01 39.3	+0.2	
BRJN				Sn	Sn	20 02 18.9	-0.6	
PLIT	**Plitvice**	3.44	12	*e*Pn	Pn	20 01 39.3	+0.1	
PLIT				Sn	Sn	20 02 18.7	-0.9	
DRME	**Dracevica, Mon**	3.50	78	*e*Pn	Pn	20 01 40.7	+0.7	
SMRN	**Sveta Marina**	3.52	355	*e*Pn	Pn	20 01 40.2	-0.1	
SMRN				Sn	Sn	20 02 20.6	-1.1	
PDG	**Podgorica**	3.60	74	*e*Pn	Pn	20 01 42.1	+0.8	
PDG	**Podgorica**	3.60	74	*e*Pn	Pn	20 01 42.4	+1.1	
PDG				*e*Sn	Sn	20 02 23.3	-0.2	
BLY	**Banja Luka**	3.74	30	*e*Pn	Pn	20 01 46.3	+3.0	
BLY	**Banja Luka**	3.74	30	*e*Pn	Pn	20 01 44.4	+1.1	
MRAK	**Mrakovica**	3.87	25	*e*Pn	Pn	20 01 48.1	+2.9	
TIR	**Tirane**	3.97	91	*e*Pn	Pn	20 01 48.3	+1.8	
RUDO	**Rudo**	4.11	58	*e*Pn	Pn	20 01 49.1	+0.8	
OZLJ	**Ozalj**	4.14	9	*e*Pn	Pn	20 01 49.7	+0.9	
OZLJ				Sn	Sn	20 02 34.6	-2.2	
CEY	**Cerknica**	4.21	358	*e*Pn	Pn	20 01 51.4	+1.6	
BBLS	**Lazići**	4.25	55	*e*Pn	Pn	20 01 51.8	+1.4	
BBLS	**Lazići**	4.25	55	*e*Pn	Pn	20 01 50.4	0.0	
PGF	**Pioggiola**	4.29	286	*e*P	Pn	20 01 52.7	+1.8	
PGF				*e*Sn	Sn	20 02 35.9	-4.8	
	comp=N,5.0nm,0.4s							
CRES	**Cresnjev**	4.35	8	*e*Pn	Pn	20 01 52.4	+0.8	
SJES	**Sjenica**	4.35	65	*e*Pn	Pn	20 01 51.9	+0.1	
SJES				*e*Sn	Sn	20 02 39.1	-3.2	
MOSL	**Moslavina**	4.38	20	*e*Pn	Pn	20 01 51.7	-0.4	
MOSL				Sn	Sn	20 02 42.1	-0.7	
PTJ	**Puntijarka**	4.49	12	*e*Pn	Pn	20 01 54.7	+0.9	
PTJ				Sn	Sn	20 02 43.8	-2.0	
LJU	**Ljubljana**	4.52	359	*e*Pn	Pn	20 01 56.8	+2.8	
IVAS	**Ivanjica**	4.59	62	*e*Pn	Pn	20 01 55.1	0.0	
IVAS				*e*Sn	Sn	20 02 44.5	-3.7	
OHR	**Ohrid**	4.70	93	*i* Pn	Pn	20 02 00.8	+4.3	
DIVS	**Divibare**	4.74	55	*e*Pn	Pn	20 01 57.6	+0.6	
DIVS	**Divibare**	4.74	55	*e*Pn	Pn	20 01 58.0	+1.0	
OBKA	**Obir**	4.98	360	*i* Pn	Pn	20 02 00.6	+0.1	
	comp=N,1.1nm,0.2s							
OBKA				*e*Sn	Sn	20 02 58.1	+0.2	
	comp=N,26nm,0.8s							
TRUS	**Trudelj**	5.05	56	*e*Pn	Pn	20 02 01.8	+0.4	
SELS	**Selova**	5.13	69	*e*Pn	Pn	20 02 02.9	+0.5	
MYKA	**Terra Mystica**	5.15	353	*e*Pn	Pn	20 02 06.1	+3.4	
	comp=N,1.0nm,0.2s							
MYKA				*e*Sn	Sn	20 03 01.5	-0.4	
	comp=N,5.5nm,0.4s							
SOKA	**Soboth**	5.16	3	*i* Pn	Pn	20 02 04.4	+1.5	
	comp=N,2.4nm,0.4s							
SOKA				*e*Sn	Sn	20 03 02.3	0.0	
	comp=N,3.6nm,0.6s							
FRGS	**Fruska Gora**	5.26	45	*e*Pn	Pn	20 02 03.9	-0.3	
ABTA	**Abfaltersbach**	5.43	345	*i* Pn	Pn	20 02 09.4	+2.8	
	comp=N,1.2nm,0.3s							
ABTA				*i* Sn	Sn	20 03 09.5	+0.6	
	comp=N,17nm,0.7s							
MORH	**Mrgy, Hungar**	5.53	31	*e*Pn	Pn	20 02 08.0	+0.2	
ARSA	**Arzberg**	5.76	6	*e*Pn	Pn	20 02 13.8	+2.7	
	comp=N,1.9nm,0.5s							
ARSA				*i* Sn	Sn	20 03 17.0	0.0	
	comp=N,1.4nm,0.3s							
SBF	**Sospel**	5.76	296	*e*P	Pn	20 02 13.2	+2.0	
SBF				*e*Sn	Sn	20 03 12.4	-4.7	
	comp=N,2.7nm,0.3s							
BOSS	**Bosilegrad**	5.96	78	*e*Pn	Pn	20 02 13.9	+0.1	
WTTA	**Wattenberg**	6.11	341	*e*Sn	Sn	20 03 27.9	+2.0	
	comp=N,11nm,0.5s							
FETA	**Feichten**	6.15	335	*e*Pn	Pn	20 02 21.0	+4.4	
	comp=N,1.4nm,0.5s							
FETA				*e*Sn	Sn	20 03 27.3	+0.5	
	comp=N,4.0nm,0.6s							
SQTA	**Sankt Quirin**	6.19	338	*i* Pn	Pn	20 02 19.9	+2.9	
	comp=N,2.4nm,0.4s							
SQTA				*e*Sn	Sn	20 03 28.1	+0.5	
	comp=N,7.9nm,0.4s							
WATA	**Walderalm**	6.20	341	*e*Sn	Sn	20 03 28.9	+1.1	
	comp=N,13nm,0.5s							
ZAPS	**Zavoj**	6.21	71	*e*Sn	Pn	20 02 18.6	+1.4	
ZAPS	**Zavoj**	6.21	71	*e*Pn	Sn	20 03 23.9	-4.1	
LMR	**La Mourre**	6.25	290	*e*P	Pn	20 02 18.6	+0.9	
LMR				*e*Sn	Sn	20 03 23.1	-5.7	
	comp=N,0.1nm,0.2s							
DAVOX	**Davos/Dischmat**	6.25	329	Pn	Pn	20 02 19.7	+1.8	
	comp=N,0.4nm,0.3s,baz=144,slow=18,SNR=4.5							
DAVOX				Sn	Sn	20 03 28.0	-1.2	
	comp=N,0.4nm,0.3s,baz=336,slow=14,SNR=2.3							
MOA	**Molln**	6.33	358	*e*Pn	Pn	20 02 20.3	+1.4	
	comp=N,1.2nm,0.2s							
MOA				*i* Sn	Sn	20 03 30.5	-0.4	
	comp=N,7.3nm,0.5s							
MOTA	**Moosalm**	6.33	338	*e*Sn	Sn	20 03 32.0	+0.9	
	comp=N,3.6nm,0.4s							
CONA	**Conrad Observa**	6.47	8	*e*Pn	Pn	20 02 21.7	+0.9	
	comp=N,1.6nm,0.3s							
CONA				*e*Sn	Sn	20 03 34.1	-0.3	
	comp=N,2.8nm,0.4s							
VTS	**Vitosha**	6.53	77	*e*Pn	Pn	20 02 22.6	+0.9	
VTS				*e*Sn	Sn	20 03 32.8	-3.2	
MBDF	**Montbardon**	6.55	302	*e*P	Pn	20 02 24.6	+2.5	
MBDF				*e*Sn	Sn	20 03 30.7	-5.9	
	comp=N,1.7nm,0.5s							
RETA	**Reutte**	6.56	337	*e*Sn	Sn	20 03 37.7	+1.1	
	comp=N,3.2nm,0.4s							
LPG	**La Plagne**	6.94	308	*e*P	Pn	20 02 30.3	+2.8	
LPG				*e*Sn	Sn	20 03 40.1	-6.3	
	comp=N,0.2nm,0.2s							
SMRF	**Simiane la Rot**	7.07	293	*e*Pn	Pn	20 02 26.9	-2.2	
ORIF	**Oris-en-Rattie**	7.21	301	*e*Pn	Pn	20 02 29.2	-1.8	
CKRC	**Cesky Krumlov**	7.30	359	*e*PN	Pn	20 02 32.0	-0.2	
CKRC				*e*SN	Sn	20 03 51.6	-3.1	
GERES	**GERESS Array B**	7.35	355	Pn	Pn	20 02 32.3	-0.6	
	comp=N,0.3nm,0.3s,baz=172,slow=14,SNR=9.4							
GERES				Sn	Sn	20 03 50.2	-5.9	
	comp=N,1.1nm,0.3s,baz=168,slow=23,SNR=18							
VYHS	**Vyhne**	7.59	22	*e*PN	Pn	20 02 37.5	+1.3	
VYHS				*e*SN	Sn	20 04 01.2	-0.7	
KHC	**Kasperske Hory**	7.64	355	*e*PN	Pn	20 02 38.2	+1.3	
KHC				*ex*	Pb	20 02 48.5	-10	
KHC				*e*SN	Sn	20 04 00.5	-2.7	
VRAC	**Vranov**	7.91	10	Pn	Pn	20 02 40.1	-0.4	
	comp=N,0.5nm,0.3s,baz=284,slow=12,SNR=2.3							
VRAC				LR	LR	20 06 28.2		
	comp=N,62nm,18.9s,baz=327,slow=46							
CABF	**La Chapelle**	7.95	313	*e*P	Pn	20 02 44.0	+2.8	
HINF	**Hinteralfeld**	8.36	321	*e*P	Pn	20 02 48.9	+2.1	
HINF				*e*Sn	Sn	20 04 15.5	-5.4	
	comp=N,3.5nm,0.5s							
CDF	**Champ du Feu**	8.62	326	*e*Pn	Pn	20 02 48.7	-1.6	
CDF				*e*Sn	Sn	20 04 20.3	-6.9	
	comp=N,1.4nm,0.4s							
HAU	**Haudompre**	8.73	321	*e*P	Pn	20 02 53.8	+1.9	
HAU				*e*Sn	Sn	20 04 23.5	-6.5

comp=N,30nm,18.1s,baz=268,slow=44
FINES FINESS Array B 21.13 15 P **P 20 05 30.3 +0.2**
comp=N,1.0nm,0.7s,baz=189,slow=8.2,SNR=1.7
BELG Belogornoye 24.82 53 P **P 20 06 10.7 +3.2**
comp=N,3.7nm,0.7s,baz=278,slow=3.0,SNR=3.2
KIRV Kirov 27.69 40 LR LR 20 18 25.6
comp=N,70nm,19.0s,baz=359,slow=39
SIV San Ignacio 90.11 249 LR LR 20 51 10.1
comp=N,56nm,21.6s,baz=307,slow=33

DDA 16 20:01:18.9±0.0, 41°.16N×43°.94E, h16km±2km, ML2.2
TIF 16 20:01:18.7, 41°.14N×43°.95E, h10km±1km
MOS 16 20:01:21.0±0.0, 41°.40N×44°.07E, h1km, MPVA2.9
NORS 16 20:01:21.5±0.0, 41°.36N×44°.07E, h4km, MPVA3.0
ISC 16 20:01:20.0±1.1, 41°.16N±0°.02×43°.94E±0°.02, h5km±10km, n32, σ1°66/60, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.26**	**48**	P	**Pg**	**20 01 24.8**	**-0.2**
DMNI				S	**Sg**	**20 01 29.0**	**+0.7**
TRLG	**Trialeti**	**0.40**	**18**	P	**Pg**	**20 01 27.5**	**-0.2**
KZRT	**Kazreti**	**0.41**	**57**	P	**Pg**	**20 01 27.6**	**-0.4**
KZRT				S	**Sg**	**20 01 33.5**	**+0.1**
KZRT	**Kazreti**	**0.41**	**57**	P	**Pg**	**20 01 27.6**	**-0.4**
KZRT				S	**Sg**	**20 01 33.2**	**-0.3**
AKH	**Akhalkalaki**	**0.42**	**307**	P	**Pg**	**20 01 28.0**	**-0.1**
AKH				S	**Sg**	**20 01 34.4**	**+0.8**
EAK	**Akyaka**	**0.54**	**208**	P	**Pg**	**20 01 29.3**	**-1.0**
EAK				S	**Sg**	**20 01 36.2**	**-1.0**
BTNK	**Botanikuri**	**0.83**	**51**	P	**Pg**	**20 01 32.8**	**-3.2**
BTNK				S	**Sg**	**20 01 44.6**	**-2.2**
BTNK	**Botanikuri**	**0.83**	**51**	P	**Pg**	**20 01 32.6**	**-3.3**
BTNK				S	**Sg**	**20 01 44.4**	**-2.4**
DIGO	**Kars**	**0.86**	**210**	P	**Pg**	**20 01 35.5**	**-1.0**
DIGO				S	**Sg**	**20 01 46.5**	**-1.1**
DIGO				*i* AML	AML	20 01 50.0	
	comp=N,86nm,0.2s						
DIGO				*i* AML	AML	20 01 58.0	
	comp=E,156nm,0.4s						
EPOS	**Posof**	**0.97**	**291**	P	**Pg**	**20 01 38.2**	**-0.4**
EPOS				S	**Sg**	**20 01 51.5**	**+0.2**
ABS	**Abastumani**	**1.03**	**306**	P	**Pg**	**20 01 39.2**	**-0.6**
ABS				S	**Sg**	**20 01 53.9**	**+0.7**
GUDG	**Gudauri**	**1.36**	**17**	P	**Pn**	**20 01 45.1**	**-0.8**
TKB	**Tkibuli**	**1.38**	**330**	P	**Pb**	**20 01 46.2**	**-0.2**
TKB				S	**Sn**	**20 02 05.0**	**+0.2**
KOTA	**Agri, Merkez-K**	**1.47**	**203**	P	**Pg**	**20 01 47.7**	**-0.4**
KOTA				S	**Sg**	**20 02 12.7**	**+5.6**
ONI	**Oni**	**1.47**	**346**	P	**Pb**	**20 01 47.7**	**-0.3**
ONI				S	**Sg**	**20 02 08.3**	**+0.9**
DAGI	**Agillar**	**1.53**	**268**	P	**Pb**	**20 01 48.2**	**-0.7**
DAGI				S	**Sb**	**20 02 09.1**	**+0.4**
PNSH	**Pansheti**	**1.56**	**19**	P	**Pb**	**20 01 48.7**	**-0.8**
PNSH				S	**Sg**	**20 02 10.4**	**+0.4**
MTEO	**Meteo**	**1.58**	**16**	P	**Pb**	**20 01 49.3**	**-0.8**
DDFL	**Dedoflistskaro**	**1.67**	**79**	P	**Pg**	**20 01 53.5**	**+1.5**
DDFL				S	**Sg**	**20 02 20.4**	**+6.8**
DDFL	**Dedoflistskaro**	**1.67**	**79**	P	**Pg**	**20 01 52.3**	**+0.4**
DDFL				S	**Sg**	**20 02 15.4**	**+1.8**
DDFL				*i* AML	AML	20 02 22.0	
	comp=N,26nm,0.6s						
DDFL				*i* AML	AML	20 02 24.0	
	comp=Z,25nm,0.7s						
DDFL				*i* AML	AML	20 02 27.0	
	comp=E,25nm,0.4s						
DDEM	**Demirkent**	**1.68**	**262**	P	**Pn**	**20 01 50.1**	**-0.1**
DDEM				*i* AML	AML	20 02 21.0	
	comp=N,30nm,0.4s						
DDEM				*i* AML	AML	20 02 22.0	
	comp=E,27nm,0.4s						
LACR	**Lac**	**1.69**	**9**	*e*Pg	**Pb**	**20 01 51.5**	**-0.1**
LACR				*e*Sg	**Sg**	**20 02 14.2**	**0.0**
DBAD	**Bademkaya**	**1.70**	**266**	P	**Pb**	**20 01 51.0**	**-0.9**
DBAD				S	**Sn**	**20 02 12.1**	**-0.6**
DBOC	**Borcka**	**1.72**	**277**	P	**Pn**	**20 01 50.5**	**-0.2**
DBOC				S	**Sn**	**20 02 11.0**	**-2.1**
DIGR	**Digorskoe uzhe**	**1.76**	**351**	*e*Pg	**Pb**	**20 01 53.1**	**+0.2**
DIGR				*e*Sg	**Sb**	**20 02 16.6**	**+1.2**
LGD	**Lagodekhi**	**1.86**	**68**	P	**Pb**	**20 01 53.5**	**-1.0**
LGD				S	**Sg**	**20 02 19.7**	**0.0**
KORR	**Kora**	**1.93**	**3**	*e*Pg	**Pg**	**20 01 58.8**	**+1.9**
KORR				*e*Sg	**Sg**	**20 02 23.5**	**+1.6**
ARNR	**Ardon**	**2.04**	**7**	*e*Pg	**Pb**	**20 01 57.9**	**+0.4**
ARNR				*e*Sg	**Sb**	**20 02 23.6**	**+0.5**
LSNR	**Lesken**	**2.12**	**358**	*e*Pg	**Pb**	**20 01 58.5**	**-0.4**
LSNR				*e*Sg	**Sb**	**20 02 26.8**	**+1.2**
BTLR	**Botlikh**	**2.27**	**48**	*e*Pg	**Pb**	**20 02 01.2**	**-0.3**
BTLR				*e*Sg	**Sb**	**20 02 30.5**	**+0.5**
NEY	**Neytrino**	**2.27**	**337**	*e*Pg	**Pg**	**20 02 02.9**	**-0.6**
NEY				*e*Sg	**Sb**	**20 02 31.6**	**+1.5**
SHA1	**Shidzhatmaz**	**2.75**	**340**	*e*Pn	**Pg**	**20 02 11.5**	**-1.1**
SHA1				*e*Sn	**Sb**	**20 02 46.7**	**+2.9**

UPA 16 20:20:37.9±0.9, 8°.99N×84°.12W, h0km±4km, MW4.7
UCR 16 20:20:38.5±1.6, 8°.96N×84°.16W, h5km, MW4.6
ISC 16 20:20:37.4±1.5, 8°.93N±0°.05×84°.17W±0°.04, h4km±12km, n37, σ0°57/48, 1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.44**	**43**	*e*P	**Pb**	**20 20 47.1**	**-0.6**
EDDO				*e*S	**Sb**	**20 20 54.5**	**-0.2**
PEZE	**Perez Zeledon,**	**0.66**	**47**	*e*P	**Pb**	**20 20 51.0**	**-0.6**
PEZE				*e*S	**Sb**	**20 21 01.3**	**+0.1**
EDPN	**Palmar Norte**	**0.71**	**87**	*e*P	**Pb**	**20 20 52.1**	**-0.2**
CDM	**Cerro de Muert**	**0.74**	**33**	*e*P	**Pg**	**20 20 52.1**	**+0.5**
LCR2	**La Lucha 2**	**0.82**	**11**	*e*P	**Pg**	**20 20 53.4**	**+0.2**
SRBA	**San Rafael, Bu**	**0.85**	**69**	*e*P	**Pb**	**20 20 54.6**	**-0.2**
JACO	**JACO, Garabito**	**0.87**	**327**	*e*P	**Pg**	**20 20 54.0**	**-0.2**
RIMA	**Rio Macho**	**0.89**	**20**	*e*P	**Pg**	**20 20 54.3**	**-0.1**
OCM	**Ochomogo**	**0.98**	**12**	*e*P	**Pg**	**20 20 56.0**	**-0.3**
SJS	**Escuela Geolog**	**1.01**	**7**	*e*P	**Pg**	**20 20 56.7**	**-0.1**
POTG	**Potrero Grande**	**1.05**	**83**	*e*P	**Pb**	**20 20 58.1**	**0.0**
HDC	**Heredia**	**1.07**	**3**	*e*P	**Pg**	**20 20 57.8**	**-0.1**
HDC	**Heredia**	**1.07**	**3**	*e*P	**Pg**	**20 20 57.9**	**0.0**
HDC				*e*S	**Sb**	**20 21 13.2**	**+0.3**
HDC3	**Heredia 3**	**1.07**	**3**	*e*P	**Pg**	**20 20 57.7**	**-0.2**
VTRT	**Volcan Turrial**	**1.13**	**19**	*e*P	**Pg**	**20 20 58.9**	**-0.2**
VTCV	**VTCV, Calle Va**	**1.14**	**23**	*e*P	**Pg**	**20 20 59.1**	**0.0**
LAFE	**Finca La Fe, P**	**1.14**	**320**	*e*P	**Pg**	**20 20 57.9**	**-1.3**
CVTR	**Volcan Turrial**	**1.16**	**20**	*e*P	**Pg**	**20 20 59.5**	**-0.1**
VTUN	**Crater Central**	**1.16**	**20**	*e*P	**Pg**	**20 20 59.6**	**0.0**
EDSV	**San Vito**	**1.19**	**95**	*e*P	**Pb**	**20 21 00.9**	**+0.3**
SRA1	**San Ramn**	**1.19**	**345**	*e*P	**Pg**	**20 20 59.8**	**-0.4**
CRPO	**Crater poas**	**1.26**	**358**	*e*P	**Pg**	**20 21 00.7**	**-0.8**
CDITO	**Canoas**	**1.33**	**105**	*e*P	**Pg**	**20 21 02.3**	**-0.6**
CDITO				*e*S	**Sg**	**20 21 20.7**	**+0.5**
RIFO	**Rio Frio, Sara**	**1.40**	**10**	*e*P	**Pn**	**20 21 03.5**	**-0.3**
PTPM	**Petroterminale**	**1.47**	**119**	*e*P	**Pn**	**20 21 04.8**	**+0.2**
PTPM				*e*S	**Sb**	**20 21 24.6**	**+0.3**
BRU2	**Volcan**	**1.47**	**95**	*e*P	**Pn**	**20 21 04.3**	**-0.5**
BRU2	**Volcan**	**1.47**	**95**	*e*P	**Pn**	**20 21 04.8**	**0.0**
BRU2				*e*S	**Sn**	**20 21 25.3**	**+0.8**
JTS	**Las Juntas de**	**1.56**	**330**	*e*P	**Pn**	**20 21 05.8**	**-0.1**
JTS				*e*S	**Sg**	**20 21 27.6**	**+0.2**
FORC	**Fortuna**	**1.60**	**342**	*i* P	**Pn**	**20 21 07.4**	**+0.9**
FORC				*i* S	**Sg**	**20 21 29.9**	**+0.9**
ARE1	**Arenal 1**	**1.62**	**341**	*e*P	**Pn**	**20 21 06.7**	**0.0**
CEDE	**Laguna Cedeo**	**1.64**	**341**	*e*P	**Pb**	**20 21 08.2**	**0.0**
BCO2	**Palmira**	**1.64**	**97**	⇓*i*P	**Pn**	**20 21 07.1**	**0.0**
CNI2	**El Empalme, Bo**	**1.75**	**74**	*e*P	**Pn**	**20 21 09.0**	**+0.5**
CNI2				*e*S	**Sn**	**20 21 29.9**	**-1.4**
DVD	**David**	**1.77**	**106**	*e*P	**Pn**	**20 21 09.0**	**+0.2**
DVD				*e*S	**Sn**	**20 21 32.5**	**+0.7**
COVE	**Coope Vega, Sa**	**1.79**	**353**	*e*P	**Pn**	**20 21 08.4**	**-0.7**
CHGR2	**Aguacate**	**2.00**	**90**	*e*P	**Pn**	**20 21 11.0**	**-1.0**
CHGR2				*e*S	**Sn**	**20 21 37.3**	**-0.2**
VRLE	**La Escondida,**	**2.19**	**328**	*e*P	**Pn**	**20 21 16.2**	**+1.5**

IDC 16 20:35:45.5±6.1, 16°.42N×98°.93W, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.6/39, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=119.5km s-min=29.2km az=16.0
MEX 16 20:35:45.7±0.7, 16°.14N×99°.25W, h15km±11km, MD4.1
ISC 16 20:35:42.1±2.1, 16°.07N±0°.08×99°.21W±0°.04, h8km±11km, n21, σ2°26/32, mb3.4/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.67**	**6**	*i* P	**Pg**	**20 35 55.1**	**+0.1**
CRIG				*i* S	**Sg**	**20 36 03.5**	**-0.2**
ACP2	**Acapulco**	**1.03**	**321**	*i* P	**Pb**	**20 36 00.8**	**-1.4**
ACP2				*i* S	**Sb**	**20 36 13.0**	**-2.9**
DAIG	**Los Arroyos**	**1.04**	**336**	*i* P	**Pb**	**20 36 00.5**	**-1.9**
DAIG				*i* S	**Sb**	**20 36 11.9**	**-4.2**
PNIG	**Pinotepa**	**1.09**	**73**	*i* P	**Pb**	**20 36 02.5**	**-0.7**
PNIG				*i* S	**Sb**	**20 36 15.2**	**-2.4**
CAIG	**El Cayaco**	**1.41**	**314**	*i* P	**Pn**	**20 36 06.2**	**-1.9**
CAIG				*i* S	**Sn**	**20 36 22.1**	**-4.7**
TLIG	**Tlapa**	**1.61**	**22**	*i* P	**Pn**	**20 36 09.8**	**-1.2**
TLIG				*i* S	**Sn**	**20 36 28.1**	**-3.9**
YOIG	**Yosondua**	**1.78**	**64**	*i* P	**Pn**	**20 36 13.0**	**-0.4**
YOIG				*i* S	**Sn**	**20 36 36.2**	**-0.2**
TXIG	**Tlaxiaco**	**1.81**	**49**	*i* P	**Pn**	**20 36 13.2**	**-0.8**
TXIG				*i* S	**Sn**	**20 36 35.0**	**-2.3**
MEIG	**Mezcala**	**1.89**	**348**	*i* P	**Pn**	**20 36 13.8**	**-1.0**
MEIG				*i* S	**Sb**	**20 36 41.5**	**+0.8**
PEIG	**Puerto Escondi**	**1.98**	**92**	*i* P	**Pn**	**20 36 15.1**	**-1.0**
PEIG				*i* S	**Sn**	**20 36 37.5**	**-3.7**
ARIG	**Puente Sto Nin**	**2.45**	**334**	*i* P	**Pn**	**20 36 23.5**	**+1.0**
ARIG				*i* S	**Sb**	**20 36 57.9**	**+0.9**
YAIG	**Yautepec**	**2.78**	**3**	*i* P	**Pn**	**20 36 27.9**	**+0.7**
YAIG				*i* S	**Sn**	**20 37 01.4**	**+0.4**
TOIG	**Toxpalan**	**2.87**	**45**	*i* P	**Pn**	**20 36 28.3**	**-0.1**
TOIG				*i* S	**Sb**	**20 37 08.8**	**-0.4**
CMIG	**Matias Romero**	**4.27**	**76**	Pn	**Pn**	**20 36 47.4**	**-0.1**
	1.7nm,0.3s,baz=264,slow=11,SNR=14						
CMIG				Sn	**Sn**	**20 37 34.7**	**-2.9**
	7.2nm,0.3s,baz=357,slow=20,SNR=8.2						
TXAR	**Lajitas Array**	**13.82**	**343**	Pn	**Pn**	**20 39 01.6**	**+3.0**
	0.0nm,0.3s,baz=161,slow=17,SNR=1.4						
NVAR	**Mina Array Bea**	**27.89**	**327**	P	**P**	**20 41 36.4**	**+3.5**
	0.1nm,0.3s,baz=138,slow=11,SNR=1.3						
PDAR	**Pinedale Array**	**28.04**	**344**	P	**P**	**20 41 36.7**	**+2.5**
	0.5nm,0.8s,baz=155,slow=14,SNR=4.1						
YKA	**Yellowknife Ar**	**47.62**	**350**	P	**P**	**20 44 20.1**	**+1.6**
	0.4nm,0.9s,baz=162,slow=7.1,SNR=4.0						
H03N2	**Juan Fernandez**	**52.90**	**159**	T	T	21 42 07.6	
	baz=337,slow=77,SNR=7.4						
H03N1	**Juan Fernandez**	**52.91**	**159**	T	T	21 42 09.5	
	baz=337,slow=77,SNR=14						
H03N3	**Juan Fernandez**	**52.92**	**159**	T	T	21 42 14.3	
	baz=337,slow=77,SNR=14						

UCR 16 20:36:25.6±1.6, 8°.83N×84°.15W, h5km, MW4.1, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.51**	**34**	*e*P	Pb	20 36 36.3	-0.7
EDDO				*e*S	Sb	20 36 43.9	-0.8
LCR2	**La Lucha 2**	**0.92**	**9**	*e*P	Pg	20 36 42.6	-0.7
JACO	**JACO, Garabito**	**0.97**	**329**	*e*P	Pg	20 36 43.0	-1.3
HDC	**Heredia**	**1.17**	**2**	*e*P	Pg	20 36 46.9	-1.1
LAFE	**Finca La Fe, P**	**1.23**	**322**	*e*P	Pg	20 36 46.9	-2.3
JTS	**Las Juntas de**	**1.66**	**331**	*e*P	Pn	20 36 53.0	-2.4
ARE1	**Arenal 1**	**1.72**	**341**	*e*P	Pn	20 36 55.4	-0.8
CEDE	**Laguna Cedeo**	**1.74**	**342**	*i* P	Pn	20 36 56.7	+0.2
COVE	**Coope Vega, Sa**	**1.90**	**352**	*e*P	Pn	20 36 57.6	-1.1
GUAI	**GUAI**	**1.96**	**317**	*i* P	Pb	20 37 01.7	-0.1
GUAI				*i* S	Sg	20 37 31.0	+2.2

GUC 16 20:36:40.4±0.8, 31°.25S×71°.75W, h29km±4km, ML4.0
NEIC 16 20:36:40.8±1.0, 31°.23S±0°.04×71°.73W±0°.08, h26km±6km, Error ellipse: s-maj=10.0km s-min=5.2km az=91.0
ISC 16 20:36:39.8±0.7, 31°.25S±0°.02×71°.77W±0°.07, h22km±4km, n46, σ0°95/63, mb4.3/3, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.59**	**11**	⇑*i*P	**Pb**	**20 36 51.9**	**+0.4**
CO06				*i* S	**Sb**	**20 36 59.8**	**+0.4**
CO06				IAML		20 37 01.7	
	comp=N,26μm,0.3s						
CO06	**Fray Jorge**	**0.59**	**11**		**Pb**	**20 36 51.8**	**+0.3**
CO06					**Sb**	**20 36 59.7**	**+0.3**
CO03	**El Pedregal**	**1.01**	**66**	⇓*i*P	**Pn**	**20 36 58.4**	**-0.4**
CO03				*i* S	**Sb**	**20 37 11.5**	**0.0**
CO03				IAML		20 37 13.8	
	comp=N,5μm,0.3s						
CO03	**El Pedregal**	**1.01**	**66**		**Pn**	**20 36 58.4**	**-0.4**
CO03					**Sb**	**20 37 11.6**	**0.0**
GO04	**Tololo Observa**	**1.36**	**38**	⇓*i*P	**Pn**	**20 37 04.1**	**+0.3**
GO04				*i* S	**Sb**	**20 37 21.8**	**+0.1**
GO04	**Tololo Observa**	**1.36**	**38**	Pn	**Pn**	**20 37 04.1**	**+0.3**
VA06	**Catapilco**	**1.36**	**163**	⇑*i*P	**Pn**	**20 37 04.3**	**+0.7**
VA06				*i* S	**Sn**	**20 37 21.8**	**+0.8**
VA06				IAML		20 37 28.2	
	comp=E,6μm,0.3s						
CO05	**La Serena**	**1.41**	**19**	*e*P	**Pn**	**20 37 04.6**	**+0.5**
CO05				*i* S	**Sb**	**20 37 22.8**	**+0.1**
CO05				IAML		20 37 29.6	
	comp=N,2μm,0.3s						
CO05	**La Serena**	**1.41**	**19**	Pn	**Pn**	**20 37 04.5**	**+0.4**
VA01	**Torpederas**	**1.77**	**177**	Pn	**Pn**	**20 37 09.3**	**+0.2**
VA03	**San Esteban**	**1.83**	**146**	*e*P	**Pn**	**20 37 11.6**	**+1.6**
VA03				*i* S	**Sb**	**20 37 35.2**	**+0.1**
VA03				IAML		20 37 38.5	
	comp=E,2μm,0.4s						
VA03	**San Esteban**	**1.83**	**146**	Pn	**Pn**	**20 37 11.7**	**+1.6**
ROCH	**El Roble**	**1.83**	**160**	⇑*i*P	**Pb**	**20 37 11.2**	**-1.5**
ROCH				⇑*i*P	**Pn**	**20 37 10.4**	**+0.2**
ROCH				*i* S	**Sn**	**20 37 34.4**	**+1.6**
ROCH				*i* S	**Sb**	**20 37 35.1**	**-0.2**
ROCH				IAML		20 37 41.3	
	comp=N,2μm,0.2s						
ROCH				IAML		20 37 41.7	
	comp=N,2μm,0.4s						
MT02	**Curacav**	**2.07**	**165**	*e*P	**Pn**	**20 37 13.9**	**+0.6**
MT02				*e*S	**Sb**	**20 37 41.7**	**-0.3**
MT02	**Curacav**	**2.07**	**165**	Pn	**Pn**	**20 37 13.7**	**+0.4**
PEL	**Peldehue**	**2.10**	**154**	*e*P	**Pn**	**20 37 15.2**	**+1.5**
PEL				*i* S	**Sb**	**20 37 42.6**	**-0.1**
PEL				IAML		20 37 46.0	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**2.10**	**154**	Pn	**Pn**	**20 37 14.8**	**+1.1**
MT05	**Renca**	**2.30**	**158**	*e*P	**Pn**	**20 37 18.1**	**+1.6**
MT05				*e*S	**Sb**	**20 37 49.3**	**+0.6**
MT05				IAML		20 37 52.1	
	comp=E,2μm,0.3s						
MT05	**Renca**	**2.30**	**158**	Pn	**Pn**	**20 37 17.9**	**+1.4**
VA05	**Santo Domingo**	**2.40**	**177**	*e*P	**Pn**	**20 37 18.2**	**+0.4**
VA05				IAML		20 37 57.7	
	comp=E,983nm,0.4s						
VA05	**Santo Domingo**	**2.40**	**177**		**Pn**	**20 37 17.8**	**0.0**
LCO	**Las Campanas**	**2.42**	**23**	*e*P	**Pn**	**20 37 18.4**	**+0.1**
LCO				*i* S	**Sn**	**20 37 46.1**	**-1.3**
LCO	**Las Campanas**	**2.42**	**23**		**Pn**	**20 37 18.7**	**+0.5**
MT09	**Talagante**	**2.60**	**166**	*e*P	**Pn**	**20 37 22.2**	**+1.5**
MT09				IAML		20 38 04.7	
	comp=E,805nm,0.5s						
MT09	**Talagante**	**2.60**	**166**	Pn	**Pn**	**20 37 21.9**	**+1.2**
MT01	**Popeta**	**2.64**	**171**	*i* P	**Pn**	**20 37 21.8**	**+0.8**
MT01				*i* S	**Sn**	**20 37 50.9**	**-1.6**
MT01				IAML		20 38 05.8	
	comp=N,491nm,0.4s						
MT01	**Popeta**	**2.64**	**171**		**Pn**	**20 37 21.9**	**+0.8**
BO04	**La Punta**	**2.90**	**161**	*e*P	**Pn**	**20 37 25.8**	**+1.1**
BO04				*e*S	**Sn**	**20 38 01.0**	**+2.1**
BO04				IAML		20 38 11.1	
	comp=N,551nm,0.5s						
LMEL	**Las Melosas**	**2.90**	**153**	*i* P	**Pn**	**20 37 27.1**	**+2.2**
LMEL				IAML		20 38 19.8	
	comp=N,459nm,0.5s						
BO01	**Tunca**	**3.18**	**170**	*e*P	**Pn**	**20 37 29.8**	**+1.2**
BO01				IAML		20 38 20.8	
	comp=E,183nm,0.7s						
BO01	**Tunca**	**3.18**	**170**	Pn	**Pn**	**20 37 29.6**	**+1.0**
BO02	**Sierra Bellavi**	**3.63**	**167**	*i* P	**Pn**	**20 37 36.1**	**+1.4**
BO02	**Sierra Bellavi**	**3.63**	**167**	Pn	**Pn**	**20 37 35.8**	**+1.0**
GO05	**Huala**	**3.75**	**182**	Pn	**Pn**	**20 37 36.2**	**-0.2**
GO03	**Copiap**	**3.88**	**20**	Pn	**Pn**	**20 37 38.1**	**-0.1**
ML02	**Panimavida**	**4.51**	**176**	Pn	**Pn**	**20 37 47.4**	**+0.6**
AC02	**Maricunga**	**4.97**	**28**	Pn	**Pn**	**20 37 53.5**	**-0.1**
LC01	**Cunco**	**7.63**	**181**	Pn	**Pn**	**20 38 29.2**	**-0.5**
PLCA	**Paso Flores**	**9.51**	**174**	Pn	**Pn**	**20 38 56.4**	**+0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLTB	**Pedras Altas**	**15.50**	**97**	Pn	**Pn**	**20 40 15.9**	**-1.2**
ETMB	**Extrema**	**21.95**	**15**	P	**P**	**20 41 31.5**	**-0.5**
ETMB				IAmb	IAmb	20 41 35.2	
	comp=Z,4.9nm,1.1s						
QSPA	**South Pole Qui**	**58.98**	**180**	P	**P**	**20 46 38.2**	**+0.7**
TXAR	**Lajitas Array**	**67.47**	**330**	P	**P**	**20 47 34.7**	**+0.7**
121A	**Cookes Peak, D**	**72.01**	**329**	P	**P**	**20 48 02.5**	**+0.4**
121A				IAmb	IAmb	20 48 14.1	
	comp=Z,6.6nm,1.4s						
DBIC	**Dimbokro**	**74.09**	**72**	P	**P**	**20 48 13.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**83.06**	**70**	P	**P**	**20 49 03.4**	**-0.7**
TORD				IAmb	IAmb	20 49 04.7	
	comp=Z,2.7nm,1.0s						

IDC 16 20:43:40.3±0.7, 36°.34N×69°.82E, h0km, mb4.0/25, mb1 4.1/31, mb1mx4.0/58, mbtmp4.1/31, ML4.1/6, MS3.5/17, Ms1 3.5/17, ms1mx3.2/91, Error ellipse: s-maj=13.4km s-min=11.2km az=162.0
MOS 16 20:43:46.1±1.1, 36°.60N×69°.91E, h48km, mb4.5/17, Error ellipse: s-maj=6.5km s-min=3.8km az=81.2
NEIC 16 20:43:47.9±1.7, 36°.53N±0°.04×69°.80E±0°.04, h48km±7km, mb4.5/37, Error ellipse: s-maj=6.3km s-min=4.6km az=201.0
NNC 16 20:43:48.4±2.3, 36°.72N×69°.50E, h81km±27km, mb4.2, mpv4.7, Error ellipse: s-maj=26.4km s-min=11.3km az=163.0
BJI 16 20:43:49.9±0.0, 36°.93N×70°.00E, h75km, mb4.2/11, mB4.5/6, Ms3.9/4, Ms7 3.8/3
ISC 16 20:43:47.2±0.3, 36°.50N±0°.04×69°.76E±0°.04, h50km, n258, σ2°04/269, mb4.3/55, MS3.4/15, 29C-15D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.04**	**197**	PN	**Pn**	**20 44 20.8**	**+1.5**
KBL	**Kabul**	**2.04**	**197**		**Pn**	**20 44 20.8**	**+1.5**
CHGR	**Chuyangaron**	**2.21**	**348**		**Pn**	**20 44 22.3**	**+0.9**
CEP	**Cherat**	**3.20**	**146**	⇑P	**Pn**	**20 44 37.8**	**+2.7**
CEP				S	**Sn**	**20 45 16.0**	**+4.0**
DRK	**Karamyk**	**3.38**	**28**		**Pn**	**20 44 39.5**	**+1.8**
BTK	**Batken**	**3.65**	**13**	PN	**Pn**	**20 44 42.9**	**+1.7**
BTK	**Batken**	**3.65**	**13**		**Pn**	**20 44 42.9**	**+1.7**
NIL	**Nilore**	**4.04**	**134**	PN	**Pn**	**20 44 48.2**	**+1.8**
NIL	**Nilore**	**4.04**	**134**		**Pn**	**20 44 48.2**	**+1.8**
CHCP	**Chirah Chowk**	**4.04**	**134**	⇑P	**Pn**	**20 44 48.5**	**+2.0**
THW	**Thamme Wali**	**4.04**	**156**	⇑P	**Pn**	**20 44 48.4**	**+1.8**
TAS	**Tashkent**	**4.83**	**356**	PN	**Pn**	**20 44 56.6**	**-0.7**
TAS	**Tashkent**	**4.83**	**356**	Pn	**Pn**	**20 44 56.6**	**-0.7**
SARP	**Sargodha**	**5.17**	**151**	P	**Pn**	**20 45 02.1**	**+0.2**
IUG	**Iuzhnay**	**5.64**	**2**	*e*PN	**Pn**	**20 45 08.4**	**-0.1**
IUG				*e*S	**Sn**	**20 46 11.6**	**-0.4**
IUG	**Iuzhnay**	**5.64**	**2**	*e*P	**Pn**	**20 45 08.5**	**-0.1**
	baz=0.3						
IUG				*e*S	**Sn**	**20 46 11.7**	**-0.4**
	baz=0.3						
JMU	**Jammu**	**5.67**	**130**	*e*P	Pn	20 45 00.0	-8.9
JMU				*e*P	**Pn**	**20 45 09.8**	**+0.9**
JMU				*e*S	**Sn**	**20 46 07.5**	**-5.2**
JMU				*e*S	**Sn**	**20 46 14.0**	**+1.3**
KSH	**Kashi**	**5.75**	**57**	P	**Pn**	**20 45 07.5**	**-2.6**
KSH				pmax	pmax		
	comp=Z,31nm,0.7s						
KSH				smax	smax		
	comp=N,230nm,0.6s						
KSH				smax	smax		
	comp=E,220nm,1.0s						
AML	**Almayashu**	**6.39**	**27**	P	**Pn**	**20 45 19.8**	**+0.7**
	SNR=152						
HRA	**Herat**	**6.49**	**253**		**Pn**	**20 45 20.8**	**+0.5**
DZA	**Taraz**	**6.50**	**10**	*e*PN	**Pn**	**20 45 20.1**	**-0.1**
DZA	**Taraz**	**6.50**	**10**	*e*P	**Pn**	**20 45 20.1**	**-0.1**
	baz=8.8						
DZA				*e*S	**Sn**	**20 46 32.1

GYA0	ALIBECK ARRAY	9.40	282	P		Pn	20 45 58.0	-1.9
GYA0B	ALIBECK ARRAY	9.40	282	⇓P		Pn	20 45 58.0	-1.9
GYA0B				⇑S		Sn	20 47 39.1	-5.1
GYA0B	ALIBECK ARRAY	9.40	282	Pn		Pn	20 45 57.6	-2.3
ZHN	Zhinishke	9.42	42	eP		Pn	20 45 58.7	-1.6
ZHN	Zhinishke	9.42	42	eP		Pn	20 45 58.8	-1.6
	baz=42							
UZB	Uzynbulak	9.73	44	eP		Pn	20 46 03.0	-1.6
UZB	Uzynbulak	9.73	44	eP		Pn	20 46 03.0	-1.6
	baz=44							
NDI	New Delhi	10.01	139	eP		Pn	20 46 08.0	-0.3
NDI				eS		Sn	20 47 56.0	-3.3
KUDL	Kundal	10.09	144	eP		Pn	20 46 08.1	-1.3
KUDL				eS		Sn	20 47 54.9	-6.2
PDGK	Podgornoye	10.11	45	P		Pn	20 46 08.1	-1.6
PDGK	Podgornoye	10.11	45	⇓P		Pn	20 46 08.1	-1.6
	comp=Z,4.5nm,0.6s							
AYAN	Aya Nagar	10.13	140	eP		Pn	20 46 08.6	-1.3
AYAN				ex		x	20 47 59.0	
SONA	Sohna	10.29	141	eP		Pn	20 46 11.6	-0.6
SONA				eS		Sn	20 48 01.5	-4.6
TDK	Taldyqorghan	10.72	35	eP		Pn	20 46 16.6	-1.4
TDK	Taldyqorghan	10.72	35	eP		Pn	20 46 16.7	-1.4
	baz=34							
AJM	Ajmer	10.82	156	eP		Pn	20 46 19.4	-0.1
OTUK	Ortayu	11.89	8	P		Pn	20 46 31.9	-2.0
OTUK	Ortayu	11.89	8	⇓P		Pn	20 46 31.9	-2.0
	comp=Z,3.0nm,0.6s							
BHUJ	Bhuj	13.20	180	eP		Pn	20 46 50.3	-1.7
JHNI	Jhansi	13.32	143	eP		Pn	20 46 49.9	-3.6
MAKZ	Makanchi	13.75	38	P		Pn	20 46 57.0	-2.3
MAKZ	Makanchi	13.75	38	⇓P		Pn	20 46 56.3	-3.0
	comp=Z,5.3nm,1.0s							
MAKZ	Makanchi	13.75	38	Pn		Pn	20 46 57.0	-2.3
MK31	Makanchi Array	13.89	38	P		Pn	20 46 59.0	-2.2
MK31	Makanchi Array	13.89	38	P		Pn	20 46 58.4	-2.9
	comp=Z,1.6nm,0.7s,baz=219,slow=12,SNR=27							
MK31	Makanchi Array	13.89	38			Pn	20 46 59.0	-2.2
MKAR	Makanchi Array	13.89	38	Pn		Pn	20 46 59.2	-2.1
	comp=Z,0.1nm,0.3s,baz=224,slow=15,SNR=27							
MKAR				Lg		Lg	20 51 05.0	
	comp=Z,0.1nm,0.3s,baz=233,slow=23,SNR=2.1							
MKAR	Makanchi Array	13.89	38	i P		Pn	20 46 58.7	-2.6
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
PYUN	Piuthan	13.96	123	eP		Pn	20 46 57.5	-5.0
	comp=Z,16nm,0.4s							
DANN	Dangsing	14.34	121	eP		Pn	20 47 03.3	-4.2
	comp=Z,29nm,0.6s							
KOLN	Koldanda	14.59	123	eP		Pn	20 47 05.5	-5.3
	comp=Z,7.6nm,0.3s							
AB31	Akbulak array	14.62	334	P		Pn	20 47 07.6	-3.3
AB31	Akbulak array	14.62	334	⇓P		Pn	20 47 07.6	-3.3
	comp=Z,3.3nm,0.3s,baz=155,slow=13,SNR=328							
AB31				⇑S		Sn	20 49 42.2	-9.3
	comp=Z,3.7nm,0.5s,baz=149,slow=24,SNR=9.9							
ABKAR	Akbulak array	14.62	334	Pn		Pn	20 47 08.1	-2.8
ABKAR	Akbulak array	14.62	334	Pn		Pn	20 47 08.2	-2.8
BHPL	Bhopal	14.78	151	eP		Pn	20 47 10.3	-2.9
BHPL				ex		x	20 49 38.7	
GKN	Gorkha	15.16	120	eP		Pn	20 47 13.1	-5.1
	comp=Z,15nm,0.5s							
KURBB	Kurchatov Arra	15.46	21	Pn		Pn	20 47 17.8	-4.1
	comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=15							
KURBB				Lg		Lg	20 51 55.9	
	comp=Z,0.0nm,0.3s,baz=206,slow=31,SNR=2.4							
KURBB	Kurchatov Arra	15.46	21	P		Pn	20 47 17.5	-4.3
KURBB	Kurchatov Arra	15.46	21	⇑P		Pn	20 47 17.5	-4.3
	comp=Z,12nm,0.6s							
KURK	Kurchatov	15.57	21	⇓eP		Pn	20 47 20.0	-3.2
KURK				pmax		pmax		
	comp=Z,7.0nm,0.8s							
KURK	Kurchatov	15.57	21			Pn	20 47 25.1	+1.9
DMN	Daman	15.73	120	eP		Pn	20 47 20.3	-5.3
	comp=Z,11nm,0.4s							
KKN	Kakani	15.74	119	eP		Pn	20 47 20.9	-4.9
PKIN	Phulchoki	15.95	119	eP		Pn	20 47 23.5	-5.0
	comp=Z,11nm,0.4s							
PKI	Pulchoki	15.96	119	eP		Pn	20 47 24.1	-4.6
	comp=Z,13nm,0.4s							
GUN	Gumba	16.09	118	eP		Pn	20 47 25.0	-5.4
	comp=Z,19nm,0.5s							
AKTO	Aktyubinsk	16.30	332	Pn		Pn	20 47 31.2	-1.2
	comp=Z,1.9nm,0.3s,baz=137,slow=14,SNR=43							
AKTO				Sn		Sn	20 50 21.1	-11
	comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=1.9							
AKTO				LR		LR	20 54 30.9	
	comp=Z,146nm,18.4s,baz=354,slow=40							
AKTO	Aktyubinsk	16.30	332	⇓P		Pn	20 47 30.9	-1.6
	comp=Z,43nm,0.8s							
AKTO				⇑S		Sn	20 50 22.9	-9.3
	comp=Z,12nm,1.0s							
WSAR	Wadi Sarin	16.35	219	LR		LR	20 54 46.6	
	comp=Z,76nm,20.6s,baz=38,slow=41							
BVAR	Borovoye Array	16.53	1	Pn		Pn	20 47 32.9	-2.4
	comp=Z,1.4nm,0.3s,baz=152,slow=13,SNR=35							
BVAR				Sn		Sn	20 50 29.4	-8.4
	comp=Z,0.3nm,0.3s,baz=166,slow=25,SNR=2.2							
BRVK	Borovoye	16.56	1	ceP		Pn	20 47 33.2	-2.5
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BRVK	Borovoye	16.56	1	⇑P		Pn	20 47 32.9	-2.8
	comp=Z,13nm,0.8s							
BRVK	Borovoye	16.56	1	Pn		Pn	20 47 33.4	-2.3
AKL	Akola	16.97	156	eP		Pn	20 47 39.5	-1.6
MAK	Makhachkala	18.27	298	d iP		Pn	20 47 57.9	+1.0
MAK				eS		S	20 51 25.1	+2.3
MAK				pmax		pmax		
	comp=Z,414nm,1.3s							
MAK				MLR		MLR		
	comp=Z,136nm,19.0s							
DGZ	Jazzator, Alta	18.39	39	ceP		P	20 47 55.5	-2.5
DGZ				pmax		pmax		
	comp=Z,5.0nm,0.8s							
SRSP	Sriramsagar	19.07	154	eP		P	20 48 06.0	+0.6
LSA	Lhasa	19.14	105	P		P	20 48 06.9	+0.2
RPR	Rampur	19.48	152	eP		P	20 48 11.6	+1.6
GROC	Groznyy	19.54	297	eP		Pn	20 48 14.5	+2.4
GNI	Garni	19.94	288	P		P	20 48 16.2	+1.1
	comp=Z,4.0nm,0.7s,baz=308,slow=13,SNR=2.4							
GNI	Garni	19.94	288	P		P	20 48 15.2	+0.1
GNI				pmax		pmax		
	comp=Z,20nm,1.2s							
GNI	Garni	19.94	288	P		P	20 48 15.2	+0.1
GNI				IAmb		IAmb	20 48 36.0	
	comp=Z,20nm,1.1s							
GOMU	GeErMu	20.17	83	P		Pn	20 48 20.1	+0.1
GOMU				pmax		pmax		
	comp=Z,91nm,6.0s							
ZAA0	Zalesovo Array	20.34	26	⇑P		P	20 48 17.7	-1.4
	comp=Z,1.1nm,0.7s							
ZAA0	Zalesovo Array	20.34	26	P		P	20 48 17.9	-1.1
ZAA0				IAmb		IAmb	20 48 31.5	
	comp=Z,11nm,0.7s							
ZALV	Zalesovo Beam	20.34	26	P		P	20 48 18.4	-0.7
	comp=Z,9.5nm,0.6s,baz=216,slow=11,SNR=50							
ZALV				S		S	20 52 04.5	+0.4
	comp=Z,0.8nm,0.7s,baz=212,slow=16,SNR=2.6							
ZALV	Zalesovo Beam	20.34	26	P		P	20 48 18.2	-0.8
HYBB	Hyderabad (bro	20.54	155	eP		P	20 48 22.3	+0.7
HYBB				eS		S	20 52 10.7	+2.1
HYB	Hyderabad	20.54	155	⇑eP		P	20 48 21.7	+0.2
HYB	Hyderabad	20.54	155	eP		P	20 48 21.9	+0.4
CUPL	Choutuppal	20.78	155	eP		P	20 48 24.5	+0.4
ONI	Oni	21.13	295	P		P	20 48 29.7	+1.9
ONI				pmax		pmax		
	comp=Z,6.0nm,0.8s							
ONI	Oni	21.13	295	P		P	20 48 29.6	+1.9
NCK	Nalchik	21.17	297	⇓eP		P	20 48 32.0	+3.8
NCK				pmax		pmax		
	comp=Z,17nm,0.5s							
SVE	Sverdlovsk	21.24	346	eP		P	20 48 29.3	+0.6
SVE				eS		S	20 52 20.4	-1.4
SVE				pmax		pmax		
	comp=Z,14nm,1.1s							
SVE				MLR		MLR		
	comp=Z,236nm,14.0s							
ARU	Arti	21.32	343	P		P	20 48 30.1	+0.5
	comp=Z,3.3nm,0.6s,baz=152,slow=4.7,SNR=20							
ARU				S		S	20 52 22.9	-0.6
	comp=Z,0.8nm,0.4s,baz=129,slow=23,SNR=5.7							
ARU				LR		LR	20 57 53.3	
	comp=Z,136nm,19.2s,baz=81,slow=40							
ARU	Arti	21.32	343	c iP		P	20 48 30.4	+0.8
ARU				*PP		sP	20 48 48.2	+0.2
ARU							20 48 51.9	
ARU				S		S	20 52 24.4	+0.9
ARU				SS		SnSn	20 52 55.8	+7.0
ARU				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ARU	Arti	21.32	343	P		P	20 48 29.9	+0.3
ARU				IAmb		IAmb	20 48 34.2	
	comp=Z,10nm,0.7s							
NJS	Nagarjunasagar	21.60	154	eP		P	20 48 33.5	+0.6
PYA1	Pyatigorsk	21.64	299	ceP		P	20 48 36.5	+3.4
KBZ	Khabaz	21.71	298	P		P	20 48 34.0	0.0
	comp=Z,6.6nm,0.8s,baz=129,slow=10,SNR=10							
KBZ				LR		LR	20 59 44.3	
	comp=Z,118nm,18.1s,baz=34,slow=44							
KBZ	Khabaz	21.71	298	ceP		P	20 48 37.2	+3.3
KBZ				pmax		pmax		
	comp=Z,9.0nm,0.9s							
NEY	Neytrino	21.76	296	⇑eP		P	20 48 36.9	+2.3
NEY				pmax		pmax		
	comp=Z,2.0nm,1.0s							
SHL	Shillong	21.82	114	P		P	20 48 34.3	-1.1
SHL				pmax		pmax		
	comp=Z,29nm,1.1s							
SHL	Shillong	21.82	114	P		P	20 48 34.3	-1.1
SHL				IAmb		IAmb	20 48 51.3	
	comp=Z,29nm,1.1s							
SRLM	Srisailam	21.88	156	eP		P	20 48 36.3	+0.4
GOF	Gofitskoye	21.89	301	⇑eP		P	20 48 30.8	-5.0
SHA1	Shidzhatmaz	21.89	298	d iP		P	20 48 39.0	+2.9
KVAR	Kislovodsk Arr	21.90	298	P		P	20 48 37.1	+1.0
	comp=Z,2.9nm,0.5s,baz=105,slow=20,SNR=2.1							
CHLP	Challavanipeta	21.91	141	eP		P	20 48 38.7	+2.5
MYLAV	Mylavaram	21.91	151	eP		P	20 48 37.8	+1.6
BELG	Belogornoye	22.27	322	P		P	20 48 40.4	+0.6
	comp=Z,28nm,0.9s,baz=336,slow=1.2,SNR=6.1							
BELG				LR		LR	20 59 12.6	
	comp=Z,105nm,18.2s,baz=305,slow=42							
BELG	Belogornoye	22.27	322	ceP		P	20 48 39.8	0.0
BELG				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ITAN	ITANAGAR	22.35	108	eP		P	20 48 42.9	+2.0
ITAN				IAmb		IAmb	20 48 47.5	
	comp=Z,38nm,0.2s							
URV	Uravakonda	22.49	161	eP		P	20 48 43.1	+0.7
ADKI	Addanki	22.49	154	eP		P	20 48 43.2	+0.8
RCLA	Racherla	22.50	156	eP		P	20 48 43.0	+0.4
MOKO	MOKOCHONG	23.38	109	eP		P	20 48 52.5	+0.9
KOHI	KOHIMA	23.39	110	eP		P	20 48 51.0	-0.7
KOHI				IAmb		IAmb	20 48 55.1	
	comp=Z,7.1nm,0.8s							
IMP	Imphal	23.77	113	eP		P	20 48 56.0	+0.8
IMP				IAmb		IAmb	20 49 00.3	
	comp=Z,3.2nm,0.6s							
GTA	Gaotai	23.82	74	P		P	20 48 56.8	+1.1
LKP	Lekhapani	23.89	105	eP		P	20 48 56.0	-0.2
RAYN	Ar Rayn	24.59	245	P		P	20 49 03.0	+0.3
RAYN				pmax		pmax		
	comp=Z,2.0nm,0.9s							
RAYN	Ar Rayn	24.59	245	P		P	20 49 03.0	+0.3
VRH	Novokhopyorsk	24.80	315	eP		P	20 49 03.6	-0.6
VRH				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KIRV	Kirov	25.81	335	P		P	20 49 14.4	+1.1
	comp=Z,7.3nm,0.7s,baz=271,slow=7.1,SNR=4.3							
KIRV	Kirov	25.81	335	ceP		P	20 49 14.7	+1.4
VORD	Divnogorie	26.11	313	eP		P	20 49 17.9	+1.8
VORD				pmax		pmax		
	comp=Z,8.0nm,0.7s							
VSR	Storozhevoye	26.28	314	eP		P	20 49 17.9	+0.3
VSR				pmax		pmax		
	comp=Z,20nm,1.8s							
LPSR	Galich'ya Gora	26.96	316	eP		P	20 49 24.5	+0.7
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
ZAK	Zakamensk	27.75	49	eP		P	20 49 44.6	+14
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BR131	Keskin Array S	28.48	288	⇑eP		P	20 49 43.0	+5.3
BRTR	Keskin Array B	28.48	288	P		P	20 49 38.1	+0.4
	comp=Z,0.9nm,0.7s,baz=113,slow=7.9,SNR=6.9							
BRTR	Keskin Array B	28.48	288	i P		P	20 49 39.9	+2.2
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRTR	Keskin Array B	28.48	288	P		P	20 49 38.2	+0.5
SONM	Songino Array	29.16	56	P		P	20 49 43.8	+0.2
	comp=Z,0.2nm,0.3s,baz=255,slow=12,SNR=2.5							
SONM	Songino Array	29.16	56	P		P	20 49 43.7	+0.1
SONM				pmax		pmax		
	comp=Z,2.0nm,1.2s							
SONM	Songino Array	29.16	56	P		P	20 49 43.7	+0.1
OBN	Obninsk	29.29	320	LR		LR	21 04 53.5	
	comp=Z,29nm,18.3s,baz=170,slow=43							
OBN	Obninsk	29.29	320	⇑eP		P	20 49 46.0	+1.5
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
ULN	Ulaanbaatar	29.60	56	ceP		P	20 49 49.0	+1.4
ULN				pmax		pmax		
	comp=Z,2.0nm,1.7s							
PALK	Pallekele	30.76	158	LR		LR	21 02 59.1	
	comp=Z,124nm,18.5s,baz=100,slow=38							
KLMR	Klimovskoe	31.00	331	eP		P	20 49 59.0	-0.5
KLMR				pmax		pmax		
	comp=Z,13nm,1.5s							
KLMR	Klimovskoe	31.00	331	eP		P	20 49 59.0	-0.5
KLMR				AMP			20 50 01.5	
	comp=Z,13nm,1.5s							
CMAR	Chiang Mai Arr	31.34	117	P		P	20 50 03.2	+0.3
	comp=Z,0.6nm,0.2s,baz=291,slow=7.6,SNR=6.6							
CMAR				LR		LR	21 06 38.9	
	comp=Z,36nm,19.5s,baz=355,slow=44							
ELL	Elmali	31.83	283	P		P	20 50 08.7	+1.4
ELL				pmax		pmax		
	comp=Z,56nm,1.0s							
ELL	Elmali	31.83	283	P		P	20 50 08.7	+1.4
AKASG	Malin Array Be	32.17	309	P		P	20 50 11.2	+1.2
	comp=Z,1.5nm,0.5s,baz=108,slow=8.5,SNR=16							
AKBB	Malin Array Si	32.17	309	⇑eP		P	20 50 10.8	+0.9
AKBB	Malin Array Si	32.17	309	P		P	20 50 10.7	+0.7
AKBB				IAmb		IAmb	20 50 12.0	
	comp=Z,14nm,1.5s							
MLR	Muntele Rosu	33.91	299	LR		LR	21 08 27.1	
	comp=Z,100nm,18.2s,baz=355,slow=44							
NRIK	Noril'sk	34.31	11	P		P	20 50 29.6	+1.3
	comp=Z,4.2nm,0.6s,baz=196,slow=4.6,SNR=7.1							
NRIK				LR		LR	21 07 00.9	
	comp=Z,186nm,18.2s,baz=352,slow=41							
NRIK	Noril'sk	34.31	11	ceP		P	20 50 29.9	+1.5
NRIK				pmax		pmax		
	comp=Z,7.0nm,1.1s							
NRIK	Noril'sk	34.31	11	P		P	20 50 29.9	+1.5
NRIK				IAmb		IAmb	20 50 30.5	
	comp=Z,4.4nm,0.6s							
BUR08	Bucovina Ar. S	34.46	303	P		P	20 50 31.3	+1.2
BUR08				IAmb		IAmb	20 50 57.2	
	comp=Z,5.7nm,1.4s							
FIA1	FINESS Array S	36.93	326	P		P	20 50 51.0	+0.1
FINES	FINESS Array B	36.93	326	P		P	20 50 52.0	+1.0
	comp=Z,1.4nm,0.6s,baz=121,slow=11,SNR=8.4							
FINES	FINESS Array B	36.93	326	i P		P	20 50 51.0	+0.1
FINES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
FINES	FINESS Array B	36.93	326	P		P	20 50 51.6	+0.7
KEV	Kevo	40.43	339	P		P	20 51 21.1	+0.9
KEV				pmax		pmax		
	comp=Z,75nm,1.4s							
KEV	Kevo	40.43	339	P		P	20 51 21.1	+0.9
ARCES	ARCESS Array B	40.77	338	P		P	20 51 24.2	+1.2
	comp=Z,1.5nm,0.4s,baz=116,slow=7.8,SNR=18							
ARCES	ARCESS Array B	40.77	338	P		P	20 51 23.7	+0.7
ARCES				pmax		pmax		
	comp=Z,11nm,1.2s							
ARCES	ARCESS Array B	40.77	338	P		P	20 51 23.7	+0.7
ARCES				IAmb		IAmb	20 51 43.0	
	comp=Z,10nm,1.1s							
GERES	GERESS Array B	42.11	305	P		P	20 51 35.6	+1.2
	comp=Z,0.7nm,0.9s,baz=106,slow=8.5,SNR=3.6							
HFS	Hagfors	42.45	322	LR		LR	21 12 38.6	
	comp=Z,111nm,18.4s,baz=318,slow=41							
IPM	Ipoh	42.89	131	P		P	20 51 41.2	+0.2
IPM				IAmb		IAmb	20 52 04.2	
	comp=Z,8.4nm,1.1s							
PSI	Prapat	42.98	134	LR		LR	21 11 03.2	
	comp=Z,46nm,19.5s,baz=352,slow=38							
GSI	Gunungsitoli	43.46	137	P		P	20 51 46.7	+1.2
NC405	NORSAR Array S	43.55	323	P		P	20 51 45.7	0.0
NC405				IAmb		IAmb	20 52 06.8	
	comp=Z,18nm,1.3s							
NB2	NORSAR Subarra	43.78	323	P		P	20 51 48.4	+0.8
	comp=Z,1.4nm,0.6s,baz=97,slow=7.9							
NOA	NORSAR Array B	43.78	323	P		P	20 51 48.3	+0.8
	comp=Z,1.8nm,0.6s,baz=98,slow=8.0,SNR=11							
NOA				LR		LR	21 11 28.0	
	comp=Z,46nm,18.2s,baz=330,slow=38							
YAK	Yakutsk	44.55	36	P		P	20 51 53.9	+0.3
	comp=Z,2.6nm,0.4s,baz=78,slow=0.8,SNR=8.1							
YAK	Yakutsk	44.55	36	eP		P	20 51 53.6	0.0
YAK				pmax		pmax		
	comp=Z,13nm,0.9s							
YAK				pmax		pmax		
	comp=N,1.0nm,0.9s							
YAK				pmax		pmax		
	comp=E,3.0nm,1.3s							
YAK	Yakutsk	44.55	36	P		P	20 51 53.7	+0.1
KSRS	Korea Array	45.82	71	P		P	20 52 05.0	+0.9
	comp=E,0.5nm,0.6s,baz=275,slow=7.0,SNR=1.7							
KSRS				LR		LR	21 13 00.0	
	comp=E,16nm,18.4s,baz=30,slow=38							
KSRS	Korea Array	45.82	71	P		P	20 52 05.0	+0.9
TIXI	Tiksi	46.15	22	d iP		P	20 52 06.7	+0.5
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.8s							
TIXI	Tiksi	46.15	22	P		P	20 52 06.8	+0.7
TIXI				IAmb		IAmb	20 52 07.7	
	comp=Z,5.0nm,0.7s							
SENIN	Lac Senin/Sane	46.75	303	P		P	20 52 11.4	-0.2
SENIN				IAmb		IAmb	20 52 13.1	
	comp=Z,4.1nm,0.9s							
SPITS	Spitsbergen Ar	47.27	347	P		P	20 52 16.1	+1.2
SPITS				pmax		pmax		
	comp=Z,45nm,1.3s							
MBAR	Mbarara	51.70	233	⇓eP		P	20 52 58.1	+8.5
DAG	Danmarks Havn	54.45	344	i P		P	20 53 09.0	+0.2
DAG				IAmb		IAmb	20 53 11.2	
	comp=Z,4.1nm,0.7s							
ESDC	Sonseca Array	56.57	297	P		P	20 53 25.4	+0.7
	comp=Z,0.5nm,0.7s,baz=56,slow=8.0,SNR=6.6							
BORG	Borgarnes	58.10	330	LR		LR	21 17 52.6	
	comp=Z,70nm,21.6s,baz=306,slow=35							
DAV	Davao City (W)	58.55	106	LR		LR	21 21 39.4	
	comp=Z,44nm,19.1s,baz=343,slow=39							
SUMG	Summit	60.73	341	P		P	20 53 55.2	+1.6
SUMG				pmax		pmax		
	comp=Z,7.0nm,1.1s							
SUMG	Summit	60.73	341	P		P	20 53 55.2	+1.6
SUMG				IAmb		IAmb	20 54 13.2	
	comp=Z,6.7nm,1.1s							
TORD	Torodi Ar. Bea	64.72	268	P		P	20 54 20.0	-0.5
	comp=Z,0.8nm,0.7s,baz=54,slow=6.1,SNR=6.2							
TORD	Torodi Ar. Bea	64.72	268	P		P	20 54 19.8	-0.6
A36M	Sachs Harbour	71.29	5	P		P	20 55 02.0	+1.3
A36M				IAmb		IAmb	20 55 03.4	
	comp=Z,6.6nm,0.8s							
IMAR	Indian Mountai	72.47	17	P		P	20 55 08.3	+0.3
H21K	Melozitna Rive	72.96	17	P		P	20 55 11.8	+0.8
BMAR	Burnt Mountain	73.17	13	P		P	20 55 13.3	+1.1
J20K	Nowinta River	73.85	18	P		P	20 55 16.9	+0.8
C36M	Paulatuk	73.97	5	P		P	20 55 17.4	+0.7
C36M				IAmb		IAmb	20 55 18.7	
	comp=Z,6.6nm,1.1s							
LBTB	Lobatse	74.02	221	P		P	20 55 18.3	+0.6
LBTB				pmax		pmax		
	comp=Z,13nm,1.2s							
LBTB	Lobatse	74.02	221	P		P	20 55 18.3	+0.6
INK	Inuvik	74.06	9	P		P	20 55 18.7	+1.4
	comp=Z,1.9nm,0.8s,baz=28,slow=5.7,SNR=6.8							
INK	Inuvik	74.06	9	P		P	20 55 18.6	+1.4
INK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
INK	Inuvik	74.06	9	P		P	20 55 18.6	+1.4
INK				IAmb		IAmb	20 55 19.1	
	comp=Z,3.2nm,0.9s							
TTA	Tatalina	74.36	20	P		P	20 55 20.0	+0.7
TTA				pmax		pmax		
	comp=Z,8.0nm,1.4s							
TTA	Tatalina	74.36	20	P		P	20 55 20.0	+0.7
TTA				IAmb		IAmb	20 55 33.2	
	comp=Z,8.4nm,1.4s							
ILAR	Eielson Array	75.05	15	P		P	20 55 23.6	+0.5
	comp=Z,0.7nm,0.8s,baz=329,slow=5.4,SNR=6.8							
ILAR	Eielson Array	75.05	15	P		P	20 55 23.8	+0.7
KNRA	Kununurra	76.07	122	P		P	20 55 31.0	+1.4
BCAR	Beaver Creek A	77.61	14	P		P	20 55 39.1	+1.3
MORW	Morawa	78.39	140	P		P	20 55 43.2	+0.9
YKA	Yellowknife Ar	81.28	2	P		P	20 55 58.6	+1.0
	comp=Z,1.2nm,0.6s,baz=349,slow=5.2,SNR=24							
WRA	Warramunga Arr	82.84	121	P		P	20 56 05.5	-1.0
	comp=Z,0.2nm,0.4s,baz=323,slow=4.9,SNR=7.3							
WRA	Warramunga Arr	82.84	121	P		P	20 56 06.3	-0.2
WB2	Warramunga Arr	82.85	121	P		P	20 56 05.3	-1.2
WB2				IAmb		IAmb	20 56 21.1	
	comp=Z,5.3nm,1.4s			

VOG	**Valley Oaks Go**	**1.18 260**	P	**Pg**	**20 49 40.4**	**-0.1**
	baz=79,SNR=12					
VOG			S	**Sg**	**20 49 55.1**	**-0.6**
	baz=79					
MLAC	**Mammoth, Mammo**	**1.30 327**	P	**Pb**	**20 49 42.7**	**-0.4**
	baz=148,SNR=35					
MLAC			S	**Sb**	**20 50 00.2**	**-0.1**
	baz=148					
KCC	**Kaiser Creek**	**1.35 306**		**Pg**	**20 49 42.9**	**-0.7**
TPNV	**Topopah Spring**	**1.42 73**	Pn	**Pn**	**20 49 44.4**	**-0.4**
TPNV			Sn	**Sn**	**20 50 04.3**	**+0.1**
TPNV			IAML		20 50 07.2	
	comp=E,280nm,0.7s					
TPNV			IAML		20 50 10.9	
	comp=E,336nm,1.1s					
TPNV	**Topopah Spring**	**1.42 73**	Pn	**Pn**	**20 49 44.4**	**-0.4**
	baz=254,SNR=135					
TPNV			Pg	**Pb**	**20 49 46.2**	**+1.1**
	baz=254					
TPNV			Sb	**Sn**	**20 50 04.6**	**+0.5**
	baz=254					
SHOC	**Shoshone, Teco**	**1.50 115**	Pb	**Pb**	**20 49 46.0**	**-0.3**
	baz=295,SNR=167					
SHOC			Sb	**Sn**	**20 50 07.1**	**+1.4**
	baz=295					
GSC	**Goldstone, Bar**	**1.55 143**	Pn	**Pn**	**20 49 45.7**	**-0.8**
GSC			IAML		20 50 15.3	
	comp=E,276nm,0.8s					
GSC			IAML		20 50 15.9	
	comp=N,231nm,0.8s					
GSC	**Goldstone, Bar**	**1.55 143**	Pn	**Pn**	**20 49 45.5**	**-1.0**
	baz=323,SNR=129					
GSC			Pg	**Pg**	**20 49 47.7**	**+0.3**
	baz=323					
GSC			Sb	**Sg**	**20 50 08.4**	**+0.9**
	baz=323					
ARVC	**Arvin**	**1.59 207**	Pb	**Pb**	**20 49 47.7**	**-0.1**
	baz=26,SNR=41					
TPH	**Tonopah**	**1.63 20**		**Pn**	**20 49 47.3**	**-0.4**
EDW2	**Edwards Air Fo**	**1.66 181**	P	**Pn**	**20 49 47.2**	**-0.8**
	baz=0.6,SNR=82					
EDW2			Sb	**Sn**	**20 50 10.2**	**+0.3**
	baz=0.6					
LHV	**Little Huntoon**	**1.76 345**		**Pn**	**20 49 49.2**	**-0.1**
RRX	**Edison Barstow**	**1.83 155**	Pg	**Pg**	**20 49 53.2**	**+0.2**
	baz=335,SNR=5.7					
NV11	**Mina Array Sit**	**1.89 355**		**Pn**	**20 49 51.1**	**-0.2**
NVAR	**Mina Array Bea**	**1.90 351**		**Pn**	**20 49 51.2**	**-0.3**
TUQ	**Turquoise Moun**	**1.98 123**	Pn	**Pn**	**20 49 51.6**	**-0.8**
	baz=304					
TUQ			Pb	**Pb**	**20 49 54.7**	**+0.1**
	baz=304,SNR=52					
TUQ			Sb	**Sg**	**20 50 22.0**	**+0.7**
	baz=304					
THIS	**South End of C**	**2.02 247**		**Pn**	**20 49 52.1**	**-0.8**
OSI	**Osito Audit: C**	**2.03 198**		**Pb**	**20 49 54.8**	**-0.6**
OSI			IAML		20 50 28.4	
	comp=E,182nm,0.7s					
OSI			IAML		20 50 29.9	
	comp=N,231nm,0.8s					
OSI	**Osito Audit: C**	**2.03 198**	Pg	**Pg**	**20 49 57.5**	**+0.8**
	baz=17,SNR=25					
OSI			Sb	**Sg**	**20 50 22.1**	**-0.8**
	baz=17					
PAGB	**Antelope Grade**	**2.04 247**		**Pn**	**20 49 54.1**	**+0.9**
SMMC	**Simmler**	**2.07 234**	Pb	**Pb**	**20 49 54.9**	**-1.2**
	baz=53,SNR=11					
SMMC			Sb	**Sb**	**20 50 22.1**	**-0.2**
	baz=53					
S11A	**Rachel**	**2.07 57**		**Pn**	**20 49 54.8**	**+1.1**
TRAM	**Private Proper**	**2.07 246**		**Pb**	**20 49 55.1**	**-1.0**
RYN	**Ryan**	**2.13 348**		**Pn**	**20 49 54.3**	**-0.2**
RYN			IAML		20 50 27.5	
	comp=N,117nm,0.2s					
HEC	**Hector,Ludlow**	**2.15 142**	Pn	**Pn**	**20 49 53.8**	**-1.0**
	baz=322					
HEC			Pb	**Pg**	**20 49 58.3**	**-0.8**
	baz=322,SNR=53					
HEC			Sb	**Sg**	**20 50 27.7**	**+0.7**
	baz=322					
TSCN	**Private Proper**	**2.19 244**		**Pb**	**20 49 58.0**	**-0.2**
SHPR	**Sheep Range**	**2.24 90**	Pn	**Pn**	**20 49 56.4**	**+0.3**
PKM	**Mcpherson Peak**	**2.25 223**	Pb	**Pb**	**20 49 57.8**	**-1.4**
	baz=42,SNR=14					
PKM			Sb	**Sb**	**20 50 27.3**	**-0.2**
	baz=42					
DECC	**Green Verdugo**	**2.31 188**	Sb	**Sb**	**20 50 30.6**	**+1.4**
	baz=7.2					
BFSC	**Mount Baldy Ra**	**2.31 174**	Sb	**Sg**	**20 50 31.0**	**-1.1**
	baz=354					
MWC	**Mount Wilson**	**2.32 182**		**Pn**	**20 49 57.0**	**-0.2**
MWC			IAML		20 50 34.9	
	comp=E,103nm,0.5s					
MWC			IAML		20 50 36.3	
	comp=N,130nm,0.5s					
PMPB	**Monarch Peak**	**2.33 263**	Pn	**Pn**	**20 49 57.5**	**+0.3**
PASC	**Pasadena Art C**	**2.38 185**		**Pn**	**20 49 57.7**	**-0.1**
PASC			IAML		20 50 35.6	
	comp=E,97nm,0.8s					
BBRC	**Big Bear Solar**	**2.43 160**	Pg	**Pg**	**20 50 04.9**	**+0.6**
	baz=340,SNR=7.2					
CMB	**Columbia Colle**	**2.45 308**		**Pb**	**20 50 00.7**	**-2.0**
PRN	**Pahroc Range**	**2.47 69**		**Pn**	**20 49 59.8**	**+0.6**
BBGB	**Big Mountain B**	**2.49 272**		**Pn**	**20 50 00.2**	**+0.7**
KVN	**Kaiserville**	**2.50 357**		**Pn**	**20 49 59.7**	**0.0**
KVN			IAML		20 50 41.0	
	comp=N,68nm,0.9s					
GMRC	**Granite Mounta**	**2.56 133**	Pn	**Pn**	**20 49 59.1**	**-1.3**
	baz=314					
GMRC			Pb	**Pb**	**20 50 05.5**	**+1.0**
	baz=314,SNR=19					
GMRC			Sb	**Sg**	**20 50 39.8**	**-0.2**
	baz=314					
R11A	**Troy Canyon, C**	**2.60 45**		**Pn**	**20 50 02.1**	**+1.1**
R11A			IAML		20 50 48.5	
	comp=E,69nm,0.8s					
R11A	**Troy Canyon, C**	**2.60 45**	Pb	**Pg**	**20 50 06.5**	**-1.2**
	baz=227,SNR=58					
R11A			Sb	**Sg**	**20 50 41.5**	**+0.2**
	baz=227					
SAO	**San Andreas Ge**	**2.83 275**	Pn	**Pn**	**20 50 04.4**	**+0.5**
PNTR	**Pine Nut**	**2.86 333**		**Pn**	**20 50 05.0**	**+0.4**
PNTR			IAML		20 50 53.7	
	comp=E,96nm,1.0s					
PNTR			IAML		20 50 53.7	
	comp=N,65nm,0.8s					
BELC	**Belle Mtn. Jos**	**3.00 147**	P	**Pn**	**20 50 05.7**	**-0.7**
	baz=328,SNR=7.2					
BELC			Sb	**Sg**	**20 50 53.5**	**-0.6**
	baz=328					
MURC	**Murrieta**	**3.00 168**	P	**Pn**	**20 50 06.3**	**-0.1**
	baz=348,SNR=5.4					
PFO	**Pinyon Flats O**	**3.17 157**	Pn	**Pn**	**20 50 08.2**	**-0.6**
PFO	**Pinyon Flats O**	**3.17 157**	Pn	**Pn**	**20 50 08.3**	**-0.5**
	baz=338					
PFO			Pg	**Pg**	**20 50 17.4**	**-1.1**
	baz=338,SNR=20					
PFO			Sb	**Sg**	**20 50 58.2**	**-1.5**
	baz=338					
ICU	**Indian Springs**	**3.28 78**		**Pn**	**20 50 10.6**	**+0.2**
IRM	**Iron Mountain**	**3.30 135**	P	**Pn**	**20 50 09.4**	**-1.2**
	baz=317,SNR=16					
IRM			Sb	**Sg**	**20 51 01.9**	**-2.0**
	baz=317					
PAHR	**Pah Rah Range**	**3.35 341**		**Pn**	**20 50 11.6**	**+0.2**
BC3	**Big Chuckawall**	**3.53 144**	Pb	**Pg**	**20 50 23.4**	**-2.1**
	baz=325,SNR=11					
BC3			Sb	**Sg**	**20 51 10.7**	**-0.6**
	baz=325					
W13A	**Hualapai Mount**	**3.60 112**		**Pn**	**20 50 16.5**	**+1.7**
LCMT	**Little Creek M**	**3.80 82**		**Pn**	**20 50 18.0**	**+0.5**
MONP2	**Monument Peak**	**3.85 161**	P	**Pn**	**20 50 18.2**	**-0.1**
	baz=341,SNR=8.8					
MONP2			Sb	**Sg**	**20 51 18.7**	**-2.9**
	baz=341					
BMN	**Battle Mountai**	**3.92 8**		**Pn**	**20 50 19.3**	**+0.1**
BMN			IAML		20 51 23.9	
	comp=E,23nm,1.0s					
BMN			IAML		20 51 25.4	
	comp=N,24nm,0.5s					
BAR	**Barrett**	**4.00 164**	Pn	**Pn**	**20 50 19.9**	**-0.2**
BAR			IAML		20 51 23.1	
	comp=E,22nm,0.7s					
BAR			IAML		20 51 24.3	
	comp=N,23nm,0.6s					
ORV	**Oroville**	**4.11 318**		**Pn**	**20 50 23.1**	**+1.4**
ORV			IAML		20 51 28.6	
	comp=E,39nm,0.7s					
ORV			IAML		20 51 29.3	
	comp=N,25nm,0.8s					
KNB	**Kanab**	**4.14 82**		**Pn**	**20 50 23.4**	**+1.2**
KNB			IAML		20 51 31.7	
	comp=N,24nm,0.7s					
KNB			IAML		20 51 32.8	
	comp=E,24nm,1.6s					
U15A	**North Rim**	**4.56 90**		**Pn**	**20 50 28.8**	**+0.8**
U15A			IAML		20 51 52.4	
	comp=E,23nm,1.0s					
U15A			IAML		20 51 53.0	
	comp=N,18nm,2.7s					
ELK	**Elko**	**4.70 26**		**Pn**	**20 50 30.4**	**+0.5**
ELK			IAML		20 51 49.6	
	comp=N,14nm,0.6s					
Y14A	**Wickenburg**	**4.81 121**		**Pn**	**20 50 32.1**	**+0.8**
Y14A			IAML		20 51 25.7	
	comp=E,12nm,3.0s					
Y14A			IAML		20 51 57.3	
	comp=N,13nm,1.7s					
O03E	**Paynes Creek**	**4.82 322**	Pb	**Pb**	**20 50 43.5**	**+0.5**
	baz=140					
O03E			Sb	**Sb**	**20 51 46.3**	**+4.9**
	baz=140					
DUG	**Dugway, Tooele**	**5.43 46**	Pg	**Pg**	**20 51 00.0**	**-1.9**
	baz=230					
X16A	**Lo Mia Camp, P**	**5.71 110**		**Pn**	**20 50 43.8**	**0.0**

KRSC 16 20:53:56.9±1.6, 49°.90N×157°.02E, h17km±28km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.98**	**324**	*i* P	Pb	20 54 14.0	-1.4
SKR				*e*S	Sb	20 54 26.2	-1.8
PAU	**Pauzhetka**	**1.58**	**355**	*e*P	Pb	20 54 25.3	-0.3
PAU				*e*S	Sb	20 54 45.5	+0.2
KDTR	**Khodutka, Kamc**	**2.03**	**19**	*e*P	Pb	20 54 32.3	-1.0
KDTR				*e*S	Sb	20 54 58.2	0.0
MTVR	**Mutnovka**	**2.69**	**15**	*e*P	Pb	20 54 42.2	-2.5
MTVR				*e*S	Sb	20 55 16.0	-1.5
RUS	**Russkaya**	**2.71**	**20**	*e*P	Pn	20 54 40.9	+1.3
RUS				*e*S	Sn	20 55 14.4	+2.4
GRL	**Gorelyy**	**2.74**	**14**	*e*P	Pb	20 54 43.2	-2.3
GRL				*e*S	Sb	20 55 16.4	-2.4
KRMR	**Karymshinskiy**	**3.02**	**13**	*e*P	Pn	20 54 46.7	+2.8
KRMR				*e*S	Sn	20 55 23.1	+3.5
PET	**Petropavlovsk**	**3.29**	**17**	*e*P	Pn	20 54 50.8	+3.1
PET				*e*S	Sb	20 55 30.6	-4.0
DALK	**Dalny**	**3.32**	**18**	*e*P	Pn	20 54 51.0	+3.0
DALK				*e*S	Sb	20 55 31.3	-4.1
UGLR	**Uglovaya**	**3.50**	**18**	*e*P	Pn	20 54 54.2	+3.5
AVH	**Avacha**	**3.54**	**17**	*e*P	Pb	20 54 55.4	-3.7
KOK	**Koryaka**	**3.55**	**16**	*e*P	Pb	20 54 55.8	-3.4
SMAR	**Somma**	**3.55**	**18**	*e*P	Pb	20 54 55.6	-3.7
KRER	**Koryakskii**	**3.58**	**17**	*e*P	Pb	20 54 55.9	-3.9
SDLR	**Sedlovina**	**3.58**	**18**	*e*P	Pn	20 54 54.6	+2.9
SPN	**Mys Shipunski**	**3.71**	**29**	*e*P	Pn	20 54 56.6	+3.2
SPN				*e*S	Sn	20 55 40.2	+3.4
GNL	**Ganaly**	**3.85**	**8**	*e*P	Pb	20 55 00.3	-4.0
KBTR	**Krutoberegovo**	**7.22**	**27**	P	Pn	20 55 45.9	+4.3

*NEIC **16** 21:00:14.0±2.6, 29°.70S±0°.04×68°.89W±0°.07, h100km±6km, mb4.1/6, Error ellipse: s-maj=9.6km s-min=6.2km az=103.0*
*GUC **16** 21:00:14.9±0.6, 29°.62S×69°.24W, h130km±13km, ML3.9*
*IDC **16** 21:00:14.1±3.4, 29°.67S×68°.98W, h106km±29km, mb3.5/5, mb1 3.6/7, mb1mx3.4/38, mbtmp3.8/7, Error ellipse: s-maj=32.4km s-min=23.1km az=75.0*

ISC 16 21:00:13.8±0.8, 29°.66S±0°.04×68°.95W±0°.06, h108km±8km, n59, σ1.38/74, mb3.9/6, 2C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.66**	**292**	*e*P	**Pn**	**21 00 43.3**	**+0.6**
LCO				*e*S	**Sn**	**21 01 05.2**	**+0.5**
LCO	**Las Campanas**	**1.66**	**292**	Pn	**Pn**	**21 00 43.5**	**+0.8**
LCO				Sn	**Sn**	**21 01 05.9**	**+1.2**
GO04	**Tololo Observa**	**1.69**	**252**	⇑*i*P	**Pn**	**21 00 43.7**	**+0.7**
GO04				*i* S	**Sn**	**21 01 06.3**	**+1.0**
GO04	**Tololo Observa**	**1.69**	**252**	Pn	**Pn**	**21 00 43.8**	**+0.7**
GO04				Sn	**Sn**	**21 01 06.4**	**+1.1**
ZON	**Zonda**	**1.90**	**173**		**Pn**	**21 00 46.3**	**+0.8**
CO03	**El Pedregal**	**1.92**	**232**	⇑*i*P	**Pn**	**21 00 46.5**	**+0.8**
CO03				*e*S	**Sn**	**21 01 11.2**	**+1.1**
CO03				IAML		21 01 12.6	
	comp=E,1μm,0.6s						
CO03	**El Pedregal**	**1.92**	**232**	Pn	**Pn**	**21 00 46.5**	**+0.8**
CO03				Sn	**Sn**	**21 01 11.7**	**+1.6**
CO05	**La Serena**	**2.01**	**262**	*e*P	**Pn**	**21 00 46.4**	**-0.4**
CO05				*e*S	**Sn**	**21 01 10.5**	**-1.5**
CO05				IAML		21 01 16.6	
	comp=N,1μm,0.3s						
CO05	**La Serena**	**2.01**	**262**	Pn	**Pn**	**21 00 46.6**	**-0.2**
CO05				Sn	**Sn**	**21 01 11.3**	**-0.7**
GO03	**Copiap**	**2.35**	**331**	*e*P	**Pn**	**21 00 52.4**	**+1.2**
GO03				*e*S	**Sn**	**21 01 20.4**	**+0.5**
GO03	**Copiap**	**2.35**	**331**	Pn	**Pn**	**21 00 52.4**	**+1.2**
GO03				Sn	**Sn**	**21 01 20.7**	**+0.8**
AC04	**Llanos de Chal**	**2.36**	**307**	*e*P	**Pn**	**21 00 51.6**	**+0.3**
AC04				*e*S	**Sn**	**21 01 18.9**	**-1.2**
AC04				IAML		21 01 21.9	
	comp=E,657nm,0.2s						
AC04	**Llanos de Chal**	**2.36**	**307**		**Pn**	**21 00 51.4**	**+0.1**
CO06	**Fray Jorge**	**2.54**	**246**	*e*P	**Pn**	**21 00 52.4**	**-1.3**
CO06				IAML		21 01 35.6	
	comp=N,369nm,0.2s						
CO06	**Fray Jorge**	**2.54**	**246**	Pn	**Pn**	**21 00 52.8**	**-0.9**
AC02	**Maricunga**	**2.81**	**357**	*e*P	**Pn**	**21 01 00.2**	**+2.5**
AC02	**Maricunga**	**2.81**	**357**	Pn	**Pn**	**21 00 59.7**	**+1.9**
VA03	**San Esteban**	**3.39**	**204**	*e*P	**Pn**	**21 01 05.5**	**+0.4**
VA03				IAML		21 01 52.3	
	comp=N,234nm,0.2s						
VA03	**San Esteban**	**3.39**	**204**	Pn	**Pn**	**21 01 05.3**	**+0.3**
VA06	**Catapilco**	**3.53**	**214**	*e*P	**Pn**	**21 01 05.4**	**-1.4**
ROCH	**El Roble**	**3.75**	**208**	*e*P	**Pn**	**21 01 08.9**	**-1.0**
ROCH				*e*P	**Pn**	**21 01 08.2**	**-1.7**
PEL	**Peldehue**	**3.78**	**203**	*e*P	**Pn**	**21 01 09.8**	**-0.5**
PEL	**Peldehue**	**3.78**	**203**	Pn	**Pn**	**21 01 07.9**	**-2.3**
MT05	**Renca**	**4.03**	**202**	*e*P	**Pn**	**21 01 12.7**	**-0.8**
MT05	**Renca**	**4.03**	**202**		**Pn**	**21 01 12.9**	**-0.6**
MT02	**Curacav**	**4.05**	**207**	Pn	**Pn**	**21 01 12.5**	**-1.3**
MT09	**Talagante**	**4.46**	**202**	*e*P	**Pn**	**21 01 17.9**	**-1.6**
MT09	**Talagante**	**4.46**	**202**	Pn	**Pn**	**21 01 18.3**	**-1.2**
VA05	**Santo Domingo**	**4.59**	**209**	Pn	**Pn**	**21 01 18.3**	**-2.8**
MT01	**Popeta**	**4.63**	**204**	Pn	**Pn**	**21 01 19.6**	**-2.0**
BO01	**Tunca**	**5.06**	**200**	Pn	**Pn**	**21 01 25.1**	**-2.3**
PB14	**IPOC Station P**	**5.17**	**345**	Pn	**Pn**	**21 01 29.4**	**+0.1**
GO05	**Huala**	**5.91**	**205**	Pn	**Pn**	**21 01 35.9**	**-3.0**
PB10	**IPOC Station P**	**6.28**	**346**	Pn	**Pn**	**21 01 43.3**	**-0.8**
PB15	**IPOC Station P**	**6.44**	**356**	Pn	**Pn**	**21 01 46.8**	**+0.5**
LVC	**Limon Verde**	**7.02**	**0**	P	**Pn**	**21 01 54.1**	**-0.1**
	comp=N,1.1nm,0.3s,baz=129,slow=8.2,SNR=12						
LVC				S	**Sn**	**21 03 07.7**	**-5.0**
	comp=N,1.2nm,0.3s,baz=262,slow=19,SNR=2.2						
LVC	**Limon Verde**	**7.02**	**0**		**Pn**	**21 01 52.4**	**-1.9**
PB07	**IPOC Station P**	**7.94**	**354**	Pn	**Pn**	**21 02 06.7**	**0.0**
ITQB	**Itaqui**	**10.72**	**93**		**Pn**	**21 02 41.5**	**-2.7**
CPUP	**Villa Florida**	**10.79**	**75**	P	**Pn**	**21 02 46.5**	**+1.4**
	comp=N,0.4nm,0.3s,baz=252,slow=14,SNR=3.0						
CPUP	**Villa Florida**	**10.79**	**75**		**Pn**	**21 02 43.3**	**-1.8**
PLTB	**Pedras Altas**	**13.37**	**103**	Pn	**Pn**	**21 03 16.0**	**-3.2**
ITAB	**Concordia**	**14.99**	**85**	Pn	**Pn**	**21 03 39.9**	**-0.1**
NNA	**Nana**	**19.05**	**336**	P	**Pn**	**21 04 28.9**	**-0.7**
NNA				IAmb	IAmb	21 04 43.5	
	comp=Z,14nm,1.0s						
BDFB	**Brasilia**	**23.77**	**59**	P	**P**	**21 05 17.2**	**+0.5**
BDFB				IAmb	IAmb	21 05 35.8	
	comp=Z,6.2nm,1.2s						
QSPA	**South Pole Qui**	**60.57**	**180**	P	**P**	**21 10 13.5**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=148,slow=1.2,SNR=11						
QSPA	**South Pole Qui**	**60.57**	**180**	P	**P**	**21 10 13.3**	**+0.7**
QSPA				IAmb	IAmb	21 10 14.2	
	comp=Z,3.9nm,0.9s						
TXAR	**Lajitas Array**	**67.37**	**327**	P	**P**	**21 10 58.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=146,slow=7.3,SNR=2.0						
BOSA	**Boshof**	**79.72**	**117**	P	**P**	**21 12 10.2**	**+0.1**
	comp=Z,4.5nm,1.2s,baz=278,slow=5.9,SNR=1.8						
BOSA	**Boshof**	**79.72**	**117**	P	**P**	**21 12 10.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**80.22**	**69**	P	**P**	**21 12 13.1**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=242,slow=11,SNR=5.7						
TORD	**Torodi Ar. Bea**	**80.22**	**69**	P	**P**	**21 12 13.1**	**+0.3**
TORD				IAmb	IAmb	21 12 14.3	
	comp=Z,3.0nm,1.4s						
PDAR	**Pinedale Array**	**81.17**	**331**	P	**P**	**21 12 17.9**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=134,slow=5.2,SNR=2.2						
LBTB	**Lobatse**	**81.69**	**114**	P	**P**	**21 12 20.7**	**0.0**
WRA	**Warramunga Arr**	**125.82**	**207**	PKP	**PKPdf**	**21 19 02.9**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=160,slow=1.9,SNR=11						
WRA	**Warramunga Arr**	**125.82**	**207**		**PKPdf**	**21 19 02.8**	**-0.7**
ZALV	**Zalesovo Beam**	**149.16**	**31**	PKPbc	**PKiKP**	**21 19 49.8**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=315,slow=3.3,SNR=16						
ZALV	**Zalesovo Beam**	**149.16**	**31**		**PKPbc**	**21 19 49.6**	**+0.6**
MKAR	**Makanchi Array**	**151.88**	**45**	PKP	**PKPdf**	**21 19 49.9**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=346,slow=3.7,SNR=2.1						
MKAR				PKPbc	**PKPbc**	**21 19 56.0**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=292,slow=1.5,SNR=16						
MKAR				PKPab	**PKPab**	**21 20 06.2**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=312,slow=3.1,SNR=6.9						

NNC 16 21:01:11.3±21.0, 33°.68N×68°.88E, h0km, mb3.8, 2C-1D, Error ellipse: s-maj=240.6km s-min=209.8km az=87.0, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**9.50**	**7**	⇑P	Pn	21 03 27.9	-1.4
	3.4nm,0.6s,baz=198,slow=16						
KK02				⇓S	Sn	21 05 18.8	+1.9
	1.5nm,0.5s						
AAK	**Ala-Archa**	**9.97**	**25**	P	Pn	21 03 35.3	-0.8
	1.1nm,0.5s						
TKM2	**Tokmak 2**	**10.62**	**28**	⇑P	Pn	21 03 44.1	-0.9
	1.3nm,0.6s						
AB31	**Akbulak array**	**16.92**	**340**	P	P	21 05 13.6	+2.1
	0.2nm,0.3s,baz=160,slow=13,SNR=15						

JMA 16 21:09:35.9±0.2, 24°.90N×124°.01E, h0km, M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.41**	**139**	P	Pg	21 09 44.5	+0.7
JISG				*e*S	Sg	21 09 50.4	+1.2
JIJ	**Ishigaki jima**	**0.55**	**167**	P	Pg	21 09 46.8	+0.4
JIJ				S	Sg	21 09 54.3	+0.8
IRIF	**Iriomote-Funau**	**0.62**	**204**	P	Pg	21 09 48.3	+0.6
JKRS	**Kuro-shima**	**0.66**	**180**	S	Sb	21 09 59.3	-0.7
JTJ	**Tarama**	**0.68**	**112**	S	Sb	21 09 59.3	-1.3

TAP 16 21:09:59.6, 24°.40N×121°.88E, h12km, ML1.1, 3C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.11**	**296**	⇑P	Pg	21 10 03.0	+0.5
	baz=295						
EWUT				S	Sg	21 10 06.0	+1.4
	baz=295						
ENA	**Nanau**	**0.13**	**283**	⇑P	Pg	21 10 03.4	+0.4
	baz=282						
ENA				S	Sg	21 10 06.0	+0.8
	baz=282						
NDS	**Dongshan**	**0.28**	**327**	*e*P	Pb	21 10 06.4	-0.2
	baz=326						
NDS				*e*S	Sg	21 10 10.2	+1.0
	baz=326						
NACB	**Ninganchiao**	**0.35**	**230**	*e*P	Pb	21 10 07.4	-0.3
	baz=229						
NACB				*e*S	Sb	21 10 13.1	-0.1
	baz=229						
LATG	**Datong**	**0.35**	**293**	*e*P	Pb	21 10 07.6	-0.3
	baz=292						
LATG				*e*S	Sb	21 10 13.1	-0.4
	baz=292						
ENTT	**Nioudou**	**0.38**	**310**	*e*P	Pb	21 10 08.0	-0.2
	baz=310						
ENTT				*e*S	Sb	21 10 13.8	-0.3
	baz=310						
TWE	**Neicheng**	**0.38**	**329**	⇑*e*P	Pb	21 10 07.7	-0.5
	baz=330						
TWE				*e*S	Sb	21 10 13.6	-0.5
	baz=330						
ETLH	**Xiulin Townshi**	**0.41**	**242**	*e*P	Pb	21 10 08.6	-0.3
	baz=242						
ETLH				*e*S	Sb	21 10 15.2	0.0
	baz=242						
FUSB	**Fushanzhiwuyua**	**0.45**	**323**	*e*P	Pb	21 10 09.3	-0.2
	baz=323						
FUSB				*e*S	Sb	21 10 16.5	+0.3
	baz=323						
NNS	**Nan Shan**	**0.47**	**275**	*e*P	Pb	21 10 09.6	-0.3
	baz=274						
NNS				*e*S	Sb	21 10 16.7	-0.1
	baz=274						
YHNB	**Yeheng**	**0.54**	**300**	*e*P	Pb	21 10 11.0	-0.1
	baz=300						
YHNB				*e*S	Sb	21 10 19.4	+0.6
	baz=300						
NSK	**Sanguang**	**0.55**	**300**	*e*P	Pb	21 10 11.1	-0.2
	baz=300						
NSK				*e*S	Sb	21 10 19.0	-0.2
	baz=300						
FUSS	**Fushou**	**0.60**	**256**	*e*P	Pb	21 10 12.2	-0.1
	baz=255						
FUSS				*e*S	Sb	21 10 21.1	+0.3
	baz=255						

*TUL **16** 21:31:54.8±1.0, 36°.291N±0°.007×97°.51W±0°.02, h7km±7km, ML2.5, ML2.4/54(NEIC), Error ellipse: s-maj=1.9km s-min=0.6km az=62.0*

NEIC 16 21:31:54.8±1.1, 36°.289N±0°.004×97°.52W±0°.02, h7km±7km, Error ellipse: s-maj=2.0km s-min=0.4km az=76.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**300**	Pg	Pg	21 32 03.4	+0.2
CROK				Sg	Sg	21 32 09.7	+0.8
CROK				IAML		21 32 09.8	
	comp=E,487nm,0.3s						
OK029	**Liberty Lake**	**0.49**	**174**	Pg	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,156nm,0.2s						
KAN17				IAML		21 32 27.3	
	comp=N,170nm,0.3s						
OKCFA	**Oklahoma City**	**0.87**	**177**	Pg	Pg	21 32 11.4	-0.1
KAN01	**Argonia South**	**0.88**	**347**	Pg	Pg	21 32 11.5	-0.3
KAN01				IAML		21 32 29.7	
	comp=E,127nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**		Pg	21 32 11.5	-0.3
KAN10	**Anthony SW Sta**	**0.95**	**331**	Pg	Pg	21 32 12.7	-0.4
KAN10				IAML		21 32 31.7	
	comp=N,102nm,0.1s						
KAN10				IAML		21 32 38.1	
	comp=E,132nm,0.1s						
KAN06	**Argonia West S**	**1.00**	**344**		Pg	21 32 13.5	-0.4
KAN06				IAML		21 32 34.1	
	comp=E,111nm,0.1s						
KAN06				IAML		21 32 34.6	
	comp=N,123nm,0.1s						
KAN08	**Anthony NE Sta**	**1.00**	**339**		Pg	21 32 13.7	-0.4
KAN08				IAML		21 32 33.0	
	comp=N,106nm,0.1s						
KAN08				IAML		21 32 36.1	
	comp=E,91nm,0.1s						
T35A	**Sooner Cattle**	**1.02**	**52**		Pg	21 32 13.8	-0.6
T35A				IAML		21 32 28.4	
	comp=N,148nm,0.3s						
T35A				IAML		21 32 28.5	
	comp=E,90nm,0.2s						
KAN16	**Harper SW Stat**	**1.03**	**335**	Pg	Pg	21 32 14.2	-0.4
FNO	**Franklin**	**1.03**	**175**	Pg	Pg	21 32 14.2	-0.5
FNO				IAML		21 32 28.6	
	comp=E,116nm,0.8s						
U32A	**Winter Ranch,**	**1.20**	**275**		Pg	21 32 16.9	-1.0
U32A				IAML		21 32 36.6	
	comp=E,72nm,0.3s						
W35A	**Tecumseh**	**1.25**	**155**	Pn	Pb	21 32 17.4	-1.3
W35A				IAML		21 32 35.7	
	comp=E,73nm,0.2s						
TUL1	**Leonard**	**1.45**	**105**	Pn	Pn	21 32 20.8	-0.6
X34A	**Smith Ranch, M**	**1.70**	**189**		Pb	21 32 25.9	-0.5
WMOK	**Wichita Mounta**	**1.86**	**214**	Pn	Pn	21 32 27.7	+0.5
LOOK	**Love County**	**2.31**	**173**	Pn	Pn	21 32 34.7	+1.4
X37A	**Clayton**	**2.44**	**133**	Pn	Pn	21 32 35.7	+0.6
U38A	**Gravette**	**2.53**	**86**		Pn	21 32 37.3	+0.9

*IDC **16** 21:33:16.6±9.0, 6°.58S×129°.93E, h152km±92km, mb3.0/1, mb1 3.2/5, mb1mx3.0/29, mbtmp3.6/5, Error ellipse: s-maj=77.5km s-min=28.4km az=39.0*

ISC 16 21:33:16.8±1.0, 6.66S±0.09×129.94E±0.08, h146km, n14, σ2.9s 40/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.37**	**32**	P	**Pn**	**21 34 21.1**	**-0.7**
DRS	**Darwin Rock St**	**5.82**	**171**	P	**Pn**	**21 34 44.1**	**+3.0**
MTN	**Manton Dam**	**6.26**	**169**	P	**Pn**	**21 34 49.1**	**+2.1**
SOEI	**Soe**	**6.40**	**241**	P	**Pn**	**21 34 51.0**	**+2.0**
KDU	**Kakadu**	**6.49**	**158**	P	**Pn**	**21 34 51.6**	**+1.5**
BATI	**Baumata**	**7.14**	**240**	P	**Pn**	**21 35 00.9**	**+2.1**
	3.3nm,0.3s,baz=13,slow=14,SNR=4.1						
BATI				S	**Sn**	**21 36 18.0**	**-0.7**
	2.0nm,0.3s,baz=66,slow=20,SNR=1.7						
KNRA	**Kununurra**	**9.04**	**187**	P	**Pn**	**21 35 24.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**12.12**	**200**	P	**Pn**	**21 36 05.0**	**+0.1**
	0.2nm,0.3s,baz=20,slow=9.1,SNR=7.7						
FITZ				S	Sn	21 38 10.2	-8.6
	0.4nm,0.3s,baz=58,slow=19,SNR=6.3						
WRAB	**Tennant Creek**	**13.88**	**162**	P	**Pn**	**21 36 27.7**	**+0.3**
WRA	**Warramunga Arr**	**13.88**	**162**	P	**Pn**	**21 36 26.4**	**-1.1**
	0.5nm,0.3s,baz=348,slow=12,SNR=14						
WRA				S	Sn	21 38 54.2	-7.1
	0.5nm,0.3s,baz=337,slow=22,SNR=10						
COEN	**Coen**	**14.90**	**120**	P	**Pn**	**21 36 41.6**	**+1.3**
ASAR	**Alice Springs**	**17.34**	**168**	P	**Pn**	**21 37 10.8**	**+0.7**
	0.3nm,0.3s,baz=347,slow=10,SNR=25						
ASAR				S	**S**	**21 40 16.1**	**-6.4**
	0.1nm,0.3s,baz=353,slow=25,SNR=2.0						
WRKA	**Warakurna**	**18.35**	**185**	P	**P**	**21 37 21.7**	**+1.5**
MKAR	**Makanchi Array**	**67.90**	**327**	P	**P**	**21 43 58.2**	**-1.5**
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.6						

*IDC **16** 21:39:10.4±0.9, 7°.84S×80°.15W, h0km, mb4.1/11, mb1 4.3/14, mb1mx4.2/28, mbtmp4.2/14, ML3.5/3, MS3.5/10, Ms1 3.5/10, ms1mx3.3/61, Error ellipse: s-maj=33.0km s-min=16.6km az=46.0*

*VAO **16** 21:39:12.4±1.4, 8°.25S×80°.20W, h10km, mb4.4*

*NEIC **16** 21:39:17.7±1.1, 7°.78S±0°.07×79°.96W±0°.06, h43km±5km, mb4.6/43, Error ellipse: s-maj=12.6km s-min=6.8km az=217.0*

ISC 16 21:39:16.1±0.5, 7°.89S±0°.06×80°.13W±0°.07, h37km, n113, σ1.9s 18/102, mb4.6/29, MS3.4/5, 1D, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.87**	**67**	Pn	**Pn**	**21 39 49.0**	**+3.1**
	56nm,0.3s,baz=250,slow=5.5,SNR=166						
ATAH				Sn	**Sn**	**21 40 13.6**	**+5.1**
	138nm,0.3s,baz=132,slow=16,SNR=7.9						
ATAH				LR	LR	21 40 42.7	
	comp=Z,1μm,18.1s,baz=305,slow=49						
NNA	**Nana**	**5.20**	**142**	Pn	**Pn**	**21 40 30.4**	**-1.1**
	1.7nm,0.3s,baz=173,slow=16,SNR=1.8						
NNA				Sn	**Sn**	**21 41 32.1**	**+1.9**
	15nm,0.3s,baz=211,slow=16,SNR=2.2						
NNA				LR	LR	21 43 07.6	
	comp=Z,200nm,19.4s,baz=318,slow=45						
NNA	**Nana**	**5.20**	**142**		**Pn**	**21 40 30.3**	**-1.1**
NNA				Sn	**Sn**	**21 41 29.8**	**-0.4**
CZSB	**Cruzeiro do Su**	**7.35**	**89**	*eP*	**Pn**	**21 41 01.7**	**+0.7**
CZSB	**Cruzeiro do Su**	**7.35**	**89**	Pn	**Pn**	**21 40 59.2**	**-1.8**
OTAV	**Otavalo**	**8.24**	**12**	*eP*	Pn	21 41 17.7	+4.2
OTAV	**Otavalo**	**8.24**	**12**	Pn	**Pn**	**21 41 12.0**	**-1.6**
PTLC	**Puerto Leguiza**	**9.61**	**34**	*eP*	**Pn**	**21 41 31.8**	**-0.1**
SOTA	**Rioblanco**	**10.56**	**20**	*eP*	**Pn**	**21 41 48.7**	**+3.4**
TBTG	**Tabatinga, AM**	**10.80**	**71**	Pn	**Pn**	**21 41 45.0**	**-3.3**
GARC	**Garzon, Huila**	**11.02**	**25**	*eP*	Pn	21 41 56.5	+5.0
PAYG	**Puerto Ayora**	**12.40**	**305**	Pn	**Pn**	**21 42 12.2**	**+2.0**
GUY2C	**Guyana, Caldas**	**13.86**	**20**	*eP*	**P**	**21 42 39.6**	**+1.2**
ETMB	**Extrema**	**13.88**	**99**	*eP*	**Pn**	**21 42 30.0**	**-0.3**
ETMB	**Extrema**	**13.88**	**99**	Pn	**Pn**	**21 42 29.1**	**-1.2**
ROSC	**El Rosal**	**13.91**	**25**	LR	LR	21 47 55.8	
	comp=Z,182nm,20.9s,baz=208,slow=38						
CBOC	**Ciudad Bolivar**	**14.26**	**17**	*eP*	**P**	**21 42 40.9**	**-1.5**
NORC	**Norcasia**	**14.35**	**22**	*eP*	**P**	**21 42 42.6**	**-0.7**
PB16	**IPOC Station P**	**14.65**	**136**		**Pn**	**21 42 42.5**	**+1.2**
MNMC	**Minye Minye**	**15.15**	**139**	Pn	**Pn**	**21 42 48.6**	**+0.9**
DBBC	**Dabeiba**	**15.31**	**15**	*eP*	**Pn**	**21 42 50.8**	**+1.1**
RUSC	**La Rusia**	**15.39**	**27**	*eP*	**P**	**21 42 56.5**	**+1.2**
ZARC	**Zaragoza, Cauc**	**16.16**	**19**	*eP*	**P**	**21 43 04.1**	**+0.7**
ZARC	**Zaragoza, Cauc**	**16.16**	**19**	P	**P**	**21 43 01.5**	**-1.9**
BRU2	**Volcan**	**16.77**	**351**	Pn	**Pn**	**21 43 07.4**	**-0.9**
BRU2				IAmb	IAmb	21 43 32.7	
	comp=Z,47nm,0.9s						
OCAC	**Ocana**	**17.40**	**23**	Pn	**Pn**	**21 43 13.8**	**-2.4**
SMLC	**San Martn de**	**17.64**	**20**	*eP*	**Pn**	**21 43 16.7**	**-2.4**
LVC	**Limon Verde**	**18.18**	**145**	Pn	**P**	**21 43 26.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=270,slow=15,SNR=1.5						
LVC				LR	LR	21 49 39.6	
	comp=Z,128nm,21.1s,baz=299,slow=34						
LVC	**Limon Verde**	**18.18**	**145**	P	**P**	**21 43 25.9**	**-0.2**
SJCC	**San Jacinto, C**	**18.34**	**16**	P	**Pn**	**21 43 27.1**	**-0.7**
JTS	**Las Juntas de**	**18.69**	**345**	LR	LR	21 49 20.0	
	comp=Z,144nm,20.1s,slow=33						
PB14	**IPOC Station P**	**19.07**	**152**	P	**P**	**21 43 34.6**	**-1.1**
SDV	**Santo Domingo**	**19.16**	**30**	P	**Pn**	**21 43 37.2**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=198,slow=13,SNR=3.8						
SDV				LR	LR	21 52 21.3	
	comp=Z,240nm,19.5s,baz=206,slow=41						
SDV	**Santo Domingo**	**19.16**	**30**	P	**P**	**21 43 35.3**	**-1.4**
MACA	**Manacapuru-AM**	**19.91**	**77**	P	**P**	**21 43 43.1**	**-1.6**
MACA				IAmb	IAmb	21 43 59.9	
	comp=Z,41nm,0.7s						
VILB	**Vilhena**	**20.23**	**106**	P	**P**	**21 43 47.2**	**-0.9**
VILB				IAmb	IAmb	21 43 50.0	
	comp=Z,11nm,0.7s						
SIV	**San Ignacio**	**20.29**	**115**	P	**P**	**21 43 49.8**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=283,slow=8.4,SNR=13						
SIV				LR	LR	21 52 10.0	
	comp=Z,177nm,20.9s,baz=294,slow=38						
BAUV	**El Baul**	**20.60**	**36**	P	**P**	**21 43 50.6**	**-1.6**
AC02	**Maricunga**	**21.54**	**152**	P	**P**	**21 44 03.7**	**+0.9**
PTLB	**Pontes e Lacer**	**21.87**	**112**	*eP*	**P**	**21 44 05.4**	**-0.5**
PTLB	**Pontes e Lacer**	**21.87**	**112**	P	**P**	**21 44 05.3**	**-0.5**
PTLB				IAmb	IAmb	21 44 08.6	
	comp=Z,6.7nm,0.7s						
BOAV	**Boa Vista**	**22.06**	**63**	P	**P**	**21 44 07.9**	**-0.1**
BIRV	**Birongo**	**22.87**	**37**	P	**P**	**21 44 14.6**	**-1.9**
BIRV				IAmb	IAmb	21 44 23.5	
	comp=Z,20nm,1.2s						
PDRB	**Porto dos Gac**	**23.35**	**101**	*eP*	**P**	**21 44 21.2**	**-0.2**
PCRV	**Puerto La Cruz**	**23.66**	**41**	P	**P**	**21 44 23.1**	**-1.3**
	comp=Z,16nm,0.9s,baz=227,slow=14,SNR=2.0						
MTO3	**Montecristo**	**23.96**	**337**	P	**P**	**21 44 26.9**	**-0.5**
CLDB	**Colider**	**24.18**	**99**	*eP*	**P**	**21 44 28.6**	**-0.7**
ITTB	**Itaituba**	**24.50**	**83**	*eP*	**P**	**21 44 32.1**	**-0.1**
NPGB	**Novo Progresso**	**24.57**	**90**	*eP*	**P**	**21 44 32.5**	**-0.3**
SALV	**Santo Antonio**	**25.18**	**111**	*eP*	**P**	**21 44 38.7**	**+0.4**
H03N2	**Juan Fernandez**	**25.45**	**178**	T	T	22 11 11.5	
	baz=357,slow=75,SNR=92						
H03N1	**Juan Fernandez**	**25.45**	**178**	T	T	22 11 12.3	
	baz=357,slow=75						
H03N3	**Juan Fernandez**	**25.47**	**178**	T	T	22 11 11.2	
	baz=357,slow=75,SNR=112						
CPUP	**Villa Florida**	**28.39**	**133**	LR	LR	21 59 09.1	
	comp=Z,80nm,19.1s,baz=346,slow=42						
CMIG	**Matias Romero**	**28.79**	**330**	LR	LR	21 55 03.2	
	comp=Z,94nm,18.4s,baz=215,slow=33						
IPMB	**Ipameri, GO**	**32.63**	**111**	*eP*	**P**	**21 45 44.8**	**+0.1**
PLCA	**Paso Flores**	**33.80**	**167**	LR	LR	21 57 58.3	
	comp=Z,38nm,18.3s,baz=299,slow=33						
TXAR	**Lajitas Array**	**43.40**	**329**	P	**P**	**21 47 15.6**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=161,slow=8.0,SNR=6.0						
TXAR	**Lajitas Array**	**43.40**	**329**	P	**P**	**21 47 15.3**	**0.0**
MIAR	**Mount Ida**	**44.08**	**344**	P	**P**	**21 47 20.4**	**-0.2**
MIAR				IAmb	IAmb	21 47 21.2	
	comp=Z,6.4nm,0.9s						
ABTX	**Abilene, Hawle**	**44.37**	**336**	P	**P**	**21 47 23.1**	**+0.1**
ABTX				IAmb	IAmb	21 47 24.3	
	comp=Z,11nm,1.0s						
WHAR	**Wooly Hollow**	**44.45**	**346**	P	**P**	**21 47 23.3**	**-0.3**
WHAR				IAmb	IAmb	21 47 24.5	
	comp=Z,17nm,1.1s						
LCAR	**Lake Charles**	**44.94**	**347**	P	**P**	**21 47 27.0**	**-0.4**
LCAR				IAmb	IAmb	21 47 27.9	
	comp=Z,13nm,1.2s						
FCAR	**Ozark Folk Cen**	**44.99**	**346**	P	**P**	**21 47 27.3**	**-0.5**
FCAR				IAmb	IAmb	21 47 28.9	
	comp=Z,12nm,0.9s						
U40A	**Yellville**	**45.61**	**346**	P	**P**	**21 47 32.5**	**-0.3**
FNO	**Franklin**	**45.91**	**340**	P	**P**	**21 47 35.2**	**+0.1**
MNTX	**Cornudas Mount**	**46.18**	**330**	P	**P**	**21 47 37.2**	**-0.1**
MNTX				IAmb	IAmb	21 47 38.2	
	comp=Z,4.6nm,1.0s						
MGMO	**Mountain Grove**	**46.23**	**347**	P	**P**	**21 47 37.7**	**0.0**
CCM	**Cathedral Cave**	**46.87**	**348**	P	**P**	**21 47 41.9**	**-0.7**
S39A	**Bolivar**	**46.99**	**346**	P	**P**	**21 47 43.4**	**-0.2**
T35A	**Sooner Cattle**	**47.14**	**342**	P	**P**	**21 47 44.9**	**+0.1**
R40A	**Maddies Static**	**47.31**	**347**	P	**P**	**21 47 46.1**	**0.0**
ANMO	**Albuquerque**	**49.33**	**331**	P	**P**	**21 48 02.3**	**+0.3**
ANMO				IAmb	IAmb	21 48 03.5	
	comp=Z,10nm,1.1s						
W18A	**Petrified Fore**	**51.10**	**329**	P	**P**	**21 48 15.3**	**0.0**
SDCO	**Great Sand Dun**	**51.21**	**334**	P	**P**	**21 48 16.4**	**+0.1**
SDCO				IAmb	IAmb	21 48 17.5	
	comp=Z,5.3nm,0.9s						
PV15	**Paradox Valley**	**53.04**	**332**	P	**P**	**21 48 30.4**	**+0.6**
P17A	**Butcher Ranch,**	**55.00**	**331**	P	**P**	**21 48 44.8**	**+0.8**
P17A				IAmb	IAmb	21 48 45.2	
	comp=Z,8.1nm,1.0s						
PDAR	**Pinedale Array**	**57.10**	**334**	P	**P**	**21 48 58.4**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=120,slow=8.8,SNR=5.8						
PDAR	**Pinedale Array**	**57.10**	**334**	P	**P**	**21 48 58.2**	**-0.9**
NV11	**Mina Array Sit**	**58.10**	**325**	P	**P**	**21 49 06.0**	**0.0**
NV11				IAmb	IAmb	21 49 13.2	
	comp=Z,4.6nm,1.4s						
NVAR	**Mina Array Bea**	**58.18**	**325**	P	**P**	**21 49 07.5**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=139,slow=6.3,SNR=7.3						
ULM	**Lac du Bonnet**	**59.50**	**348**	P	**P**	**21 49 14.3**	**-1.0**
	comp=Z,6.1nm,0.9s,baz=164,slow=7.2,SNR=6.2						
YKA	**Yellowknife Ar**	**75.02**	**344**	P	**P**	**21 50 52.4**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=139,slow=5.4,SNR=18						
LIC	**Lamto**	**76.20**	**82**	*eP*	**P**	**21 51 00.5**	**-0.7**
	comp=Z,54nm,1.9s						
TIC	**Toumodi**	**76.27**	**81**	*eP*	**P**	**21 51 02.2**	**+0.5**
VNA3	**Neumayer Olymp**	**76.34**	**162**	P	**P**	**21 51 02.0**	**+1.0**
DBIC	**Dimbokro**	**76.44**	**81**	P	**P**	**21 51 01.9**	**-0.7**
	comp=Z,5.3nm,0.8s,baz=289,slow=4.3,SNR=4.6						
DBIC	**Dimbokro**	**76.44**	**81**	P	**P**	**21 51 03.0**	**+0.4**
DBIC				IAmb	IAmb	21 51 03.9	
	comp=Z,7.1nm,0.9s						
KIC	**Kosan Boka**	**76.50**	**82**	*eP*	**P**	**21 51 03.4**	**+0.4**
	comp=Z,12nm,0.7s						
VNA2	**Neumayer--Watz**	**76.97**	**161**	P	**P**	**21 51 05.2**	**+0.6**
	baz=7.2,slow=17						
QSPA	**South Pole Qui**	**82.22**	**180**	P	**P**	**21 51 35.2**	**+1.9**
QSPA				IAmb	IAmb	21 51 36.2	
	comp=Z,7.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**83.89**	**76**	P	**P**	**21 51 43.1**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=285,slow=5.8,SNR=12						
TORD	**Torodi Ar. Bea**	**83.89**	**76**	P	**P**	**21 51 42.6**	**-0.2**
TORD				IAmb	IAmb	21 51 52.8	
	comp=Z,3.0nm,1.4s						
ESDC	**Sonseca Array**	**84.48**	**49**	P	**P**	**21 51 45.9**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=276,slow=6.3,SNR=10						
INK	**Inuvik**	**84.66**	**343**	P	**P**	**21 51 45.5**	**0.0**
INK				IAmb	IAmb	21 51 46.3	
	comp=Z,6.8nm,1.2s						
BCAR	**Beaver Creek A**	**84.68**	**336**	P	**P**	**21 51 46.5**	**+0.7**
A36M	**Sachs Harbour**	**84.96**	**347**	P	**P**	**21 51 45.9**	**-1.0**
A36M				IAmb	IAmb	21 51 46.6	
	comp=Z,6.1nm,0.8s						
EGAK	**Eagle**	**85.27**	**338**	P	**P**	**21 51 48.2**	**-0.4**
EGAK				IAmb	IAmb	21 51 49.4	
	comp=Z,4.9nm,0.8s						
J26L	**Joseph Creek**	**86.05**	**337**	P	**P**	**21 51 52.5**	**-0.2**
J26L				IAmb	IAmb	21 51 54.0	
	comp=Z,5.7nm,0.8s						
ILAR	**Eielson Array**	**87.46**	**337**	P	**P**	**21 51 58.8**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=151,slow=3.6,SNR=14						
ILAR	**Eielson Array**	**87.46**	**337**	P	**P**	**21 51 59.0**	**-0.5**
BMAR	**Burnt Mountain**	**87.76**	**340**	P	**P**	**21 52 01.2**	**+0.3**
TSUM	**Tsumeb**	**94.65**	**110**	LR	LR	22 34 51.7	
	comp=Z,59nm,18.1s,baz=326,slow=35						
H11N3	**WAKE ISLAND Hy**	**114.20**	**288**	T	T	00 01 53.3	
	baz=90,slow=75,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**114.21**	**288**	T	T	00 01 54.1	
	baz=90,slow=75,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**114.21**	**288**	T	T	00 01 54.0	
	baz=90,slow=75,SNR=5.4						
ZALV	**Zalesovo Beam**	**132.49**	**12**	PKP	**PKPdf**	**21 58 25.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=341,slow=3.1,SNR=4.0						
ASAR	**Alice Springs**	**134.29**	**226**	PKP	**PKPdf**	**21 58 30.5**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=114,slow=1.9,SNR=8.2						
WRA	**Warramunga Arr**	**136.23**	**230**	PKP	**PKPdf**	**21 58 34.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=120,slow=2.2,SNR=13						
MKAR	**Makanchi Array**	**138.41**	**18**	PKP	**PKPdf**	**21 58 36.9**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=323,slow=2.2,SNR=1.9						
GTA	**Gaotai**	**148.61**	**0**	PKPbc	**PKPbc**	**21 58 59.0**	**-0.8**
GTA				sPKP		21 59 13.6	
PZH	**PanZhiHua**	**161.40**	**355**	PKP	**PKPdf**	**21 59 13.8**	**0.0**
CMAR	**Chiang Mai Arr**	**169.45**	**5**	PKP	**PKPdf**	**21 59 20.6**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=352,slow=2.7,SNR=1.5						

*TEH **16** 21:46:12.4, 25°.24N×62°.81E, h19km, ML3.8*

*DSN **16** 21:46:21.7±4.4, 25°.79N×62°.08E, h15km, ML3.6/5, Error ellipse: s-maj=118.5km s-min=28.0km az=12.0*

*OMAN **16** 21:46:25.4±0.5, 25°.01N×62°.04E, h27km±28km, ml3.5/11, Error ellipse: s-maj=40.8km s-min=6.7km az=256.0*

ISC 16 21:46:11.8±1.9, 25.17N±0°.07×62.7E±0°.1, h10km, n43, σ3.9s 14/53, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**1.43**	**278**	*ePg*	**Pb**	**21 46 40.7**	**+2.2**
NGCH				*e*		21 47 01.6	
	comp=Z,6μm,0.3s						
SRVN	**Saravan**	**2.24**	**353**	*ePg*	**Pb**	**21 46 51.6**	**-0.9**
JLN	**Jalan Bani Buh**	**4.26**	**226**	P	**Pn**	**21 47 17.9**	**+1.2**
	SNR=37						
JLN				S	**Sn**	**21 48 01.9**	**-4.6**
WBK	**Wadi Bani Khal**	**4.26**	**234**	P	**Pn**	**21 47 18.4**	**+1.6**
	SNR=31						
WBK				S	**Sn**	**21 48 02.2**	**-4.4**
BIDO	**Bidbid**	**4.48**	**249**	*ePn*	**Pn**	**21 47 23.2**	**+3.4**
BIDO	**Bidbid**	**4.48**	**249**	P	**Pn**	**21 47 23.9**	**+4.0**
BIDO				S	**Sn**	**21 48 08.5**	**-3.5**
ZHDN	**Zahedan**	**4.54**	**339**	*ePn*	**Pn**	**21 47 22.8**	**+2.1**
SMDO	**Samad**	**4.74**	**245**	P	**Pn**	**21 47 25.9**	**+2.5**
	SNR=8.5						
SMDO				S	**Sn**	**21 48 13.5**	**-5.1**
	SNR=8.2						
JMDO	**Jabal Madar**	**5.05**	**237**	P	**Pn**	**21 47 29.8**	**+2.2**
JMDO				S	**Sn**	**21 48 22.6**	**-3.5**
HOQ	**Hoqain**	**5.16**	**253**	P	**Pn**	**21 47 31.1**	**+1.9**
HOQ				S	**Sn**	**21 48 23.4**	**-5.5**
KBAM	**BAM**	**5.47**	**317**	*ePn*	**Pn**	**21 47 35.4**	**+1.9**
KBAM				*e*		21 47 36.1	
	comp=Z,573nm,0.3s						
BSY	**Bisya**	**5.58**	**245**	P	**Pn**	**21 47 38.1**	**+3.1**
BSY				S	**Sn**	**21 48 37.9**	**-1.3**
BANOM	**Banah**	**5.83**	**279**	*ePn*	**Pn**	**21 47 40.5**	**+2.1**
BANOM	**Banah**	**5.83**	**279**	P	**Pn**	**21 47 40.8**	**+2.4**
BANOM				S	**Sn**	**21 48 40.5**	**-4.8**
BANOM	**Banah**	**5.83**	**279**	*i P*	**Pn**	**21 47 39.7**	**+1.3**
	SNR=24						
BANOM				S	**Sn**	**21 48 39.8**	**-5.6**
UOSS	**Minazif**	**5.90**	**269**	*ePn*	**Pn**	**21 47 40.1**	**+0.8**
UOSS	**Minazif**	**5.90**	**269**	P	**Pn**	**21 47 40.3**	**+1.0**
UOSS				S	Sn	21 48 40.7	-6.2
UOSS	**Minazif**	**5.90**	**269**	*i P*	**Pn**	**21 47 40.3**	**+1.0**
	SNR=14						
MSFE	**Esma-Masafi**	**5.92**	**273**	*ePn*	**Pn**	**21 47 41.5**	**+1.8**
MSFE	**Esma-Masafi**	**5.92**	**273**	P	**Pn**	**21 47 38.2**	**-1.5**
MASF	**Masafi**	**5.93**	**273**	P	Pn	21 47 44.8	+5.1
ARQ	**Araqi**	**5.93**	**253**	P	**Pn**	**21 47 44.4**	**+4.7**
	SNR=12						
ARQ				S	**Sn**	**21 48 47.6**	**-0.1**
HATD	**Hatta, Dubai**	**5.97**	**268**	*ePn*	**Pn**	**21 47 42.5**	**+2.2**
HATD	**Hatta, Dubai**	**5.97**	**268**	P	**Pn**	**21 47 43.5**	**+3.2**
HATD				S	**Sn**	**21 48 43.6**	**-5.2**
	SNR=5.9						
IBND	**Bandar-abas**	**5.98**	**294**	*ePn*	**Pn**	**21 47 44.3**	**+4.0**
SHME	**Shamm**	**5.99**	**280**	*ePn*	**Pn**	**21 47 43.2**	**+2.7**
SHME	**Shamm**	**5.99**	**280**	S	**Sn**	**21 48 47.1**	**-2.0**
SHME	**Shamm**	**5.99**	**280**	*i P*	**Pn**	**21 47 43.0**	**+2.5**
	SNR=29						
ASHO	**Ashiyiah**	**6.05**	**267**	*ePn*	**Pn**	**21 47 43.3**	**+1.9**
ASHO	**Ashiyiah**	**6.05**	**267**	*i P*	**Pn**	**21 47 44.4**	**+3.0**
	SNR=12						
GENO	**Geno**	**6.27**	**292**	*ePn*	**Pn**	**21 47 47.6**	**+3.1**
GENO				*e*		21 47 48.7	
	comp=Z,413nm,0.2s						
FAQ	**Al Faqa, Dubai**	**6.47**	**268**	*ePn*	**Pn**	**21 47 50.6**	**+3.5**
FAQ	**Al Faqa, Dubai**	**6.47**	**268**	S	**Sn**	**21 48 59.4**	**-1.5**
FAQ	**Al Faqa, Dubai**	**6.47**	**268**	*i P*	**Pn**	**21 47 51.0**	**+4.0**
	SNR=18						
NHDN	**Nehbandan**	**6.62**	**340**	*ePn*	**Pn**	**21 47 50.6**	**+1.2**
ASUD	**Al Ashush, Dub**	**6.72**	**267**	P	**Pn**	**21 47 55.1**	**+4.6**
	SNR=6.5						
ASUD	**Al Ashush, Dub**	**6.72**	**267**	*i P*	**Pn**	**21 47 54.8**	**+4.3**
	SNR=6.4						
NGRK	**Negar Kerman**	**6.93**	**311**	*ePn*	**Pn**	**21 47 56.6**	**+2.8**
NGRK				*e*		21 47 59.7	
	comp=Z,434nm,0.2s						
UMZA	**Um Al Zommool**	**7.32**	**252**	*ePn*	**Pn**	**21 48 02.0**	**+3.3**
UMZA	**Um Al Zommool**	**7.32**	**252**	P	**Pn**	**21 48 02.1**	**+3.3**
IKOO	**Kooshah**	**7.92**	**337**	*ePn*	**Pn**	**21 48 08.1**	**+0.8**
IRAM	**Ramesheh**	**11.23**	**308**	*ePn*	**Pn**	**21 48 54.1**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HELC				eS	Sn	21 58 60.0	+1.6
BIRV	**Birongo**	5.08	69	eP	Pn	21 58 01.7	+1.8
BIRV				eS	Sn	21 58 57.7	-1.3
GUY2C	**Guyana, Caldas**	5.44	232	eP	Pn	21 58 07.0	+1.8
GUY2C				eS	Sn	21 59 08.6	+0.1
CBOC	**Ciudad Bolivar**	5.62	241	eP	Pn	21 58 10.0	+2.7
CBOC				eS	Sn	21 59 17.7	+5.3
PRGV	**PARIAGUAN**	6.37	89	eP	Pn	21 58 17.7	+0.2
PRGV				eS	Sn	21 59 26.8	-3.9
PCRV	**Puerto La Cruz**	6.54	76	Pn	Pn	21 58 20.7	+0.7
	comp=Z,1.8nm,0.3s,baz=324,slow=4.4,SNR=11						
PCRV				Sn	Sn	21 59 36.1	+1.1
	comp=Z,1.7nm,0.3s,baz=298,slow=15,SNR=1.6						
PCRV	**Puerto La Cruz**	6.54	76	eP	Pn	21 58 20.7	+0.7
PCRV				eS	Sn	21 59 32.3	-2.7
COAV	**Cumanacoa**	7.32	78	eP	Pn	21 58 30.7	0.0
LUEV	**Luepa**	9.95	106	eP	Pn	21 59 06.0	-0.8
JTS	**Las Juntas de**	13.78	278	LR	LR	22 06 44.1	
	comp=Z,117nm,18.4s,slow=43						
YKA	**Yellowknife Ar**	62.27	339	P	P	22 07 05.6	-0.1
	comp=Z,1.1nm,0.9s,baz=124,slow=7.0,SNR=9.0						
ESDC	**Sonseca Array**	66.94	51	P	P	22 07 37.1	+0.3
	comp=Z,0.2nm,0.4s,baz=268,slow=6.7,SNR=1.5						
ASAR	**Alice Sprngs**	151.81	235	PKPbc	PKPbc	22 16 38.7	-1.1
	comp=Z,0.3nm,0.5s,baz=121,slow=2.9,SNR=2.5						
WRA	**Warramunga Arr**	152.97	243	PKPbc	PKPbc	22 16 41.5	-1.0
	comp=Z,0.4nm,0.5s,baz=109,slow=2.2,SNR=4.6						

*DJA **16** 22:10:10.3±0.3, 8°S±3°×12°0E±°, h184km±4km, M3.7/13, mb3.9/2, MLv3.6/13*
*IDC **16** 22:10:11.5±1.7, 8°14S×120°32E, h208km±14km, mb3.0/4, mb1 3.1/8, mb1mx2.9/32, mbtmp3.6/8, Error ellipse: s-maj=53.5km s-min=9.4km az=52.0*
ISC 16 22:10:09.1±0.8, 8°34S±0°06×120°03E±0°06, h172km, n21, σ2°21/27, mb3.6/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	1.44	206	P	Pn	22 10 42.0	+2.2
WBSI				S	Sn	22 11 05.7	+2.1
EDFI	**Ende, Flores**	1.70	104	P	Pn	22 10 44.9	+2.5
EDFI				S	Sn	22 11 11.1	+2.9
BASI	**Baing, Sumba**	1.94	164	P	Pn	22 10 47.5	+2.5
BASI				S	Sn	22 11 15.0	+2.1
MMRI	**Maumere**	2.21	98	P	Pn	22 10 51.1	+3.2
BSSI	**Bau Bau, Buton**	2.23	12	P	Pn	22 10 50.9	+2.7
BKSI	**Bulukumba**	3.00	2	P	Pn	22 11 00.2	+2.8
KAPI	**Kappang**	3.32	355	P	Pn	22 11 04.6	+3.3
	2.3nm,0.3s,baz=203,slow=7.0,SNR=20						
BNSI	**Bone**	3.92	1	P	Pn	22 11 10.8	+1.9
BATI	**Baumata**	4.04	118	P	Pn	22 11 13.1	+2.6
	8.1nm,0.3s,baz=308,slow=2.5,SNR=7.8						
BATI				S	Sn	22 11 58.9	+0.4
	14nm,0.3s,baz=256,slow=15,SNR=6.9						
BATI	**Baumata**	4.04	118	P	Pn	22 11 10.9	+0.4
SOEI	**Soe**	4.42	109	P	Pn	22 11 15.7	+0.2
IGBI	**Denpasar**	4.85	264	P	Pn	22 11 22.4	+1.5
TTSI	**Tana Toraja**	5.26	358	P	Pn	22 11 34.1	+7.7
JAGI	**Jajag, Banyuwa**	5.81	268	P	Pn	22 11 34.6	+1.0
	0.2nm21nm,1.4s						
PCJI	**Pacitan**	8.76	270	P	Pn	22 12 13.5	+1.0
FITZ	**Fitzroy Crossi**	11.13	151	P	Pn	22 12 44.2	+0.6
	0.2nm,0.3s,baz=352,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	18.03	131	P	P	22 14 07.2	0.0
	0.2nm,0.3s,baz=313,slow=11,SNR=11						
WRA				S	S	22 17 23.3	-1.8
	0.2nm,0.3s,baz=305,slow=25,SNR=6.3						
ASAR	**Alice Springs**	20.22	140	P	P	22 14 31.2	+0.2
	0.5nm,0.3s,baz=319,slow=8.6,SNR=22						
ASAR				S	S	22 18 05.3	-3.3
	0.4nm,0.7s,baz=320,slow=22,SNR=4.4						
ASAR				PcP	PcP	22 18 35.4	-2.6
	0.2nm,0.3s,baz=346,slow=1.4,SNR=4.8						
STKA	**Stephens Creek**	30.83	142	P	P	22 16 09.4	+0.4
	0.8nm,0.4s,baz=315,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	64.34	332	P	P	22 20 24.4	-2.0
	0.2nm,0.4s,baz=150,slow=7.2,SNR=7.1						
ZALV	**Zalesovo Beam**	68.80	339	P	P	22 20 51.8	-2.6
	0.5nm,0.5s,baz=106,slow=3.0,SNR=2.5						

*TUL **16** 22:18:21±1.1, 36°75N±0°01×97°58W±0°01, h7km±6km, ML2.8, mb_Lg2.4/15(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=198.0*
NEIC 16 22:18:21.4±0.8, 36°73N±0°01×97°58W±0°01, h2km±7km, Error ellipse: s-maj=1.8km s-min=1.6km az=195.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	0.26	299	Pg	Pg	22 18 26.4	+0.1
GC02				Sg	Sg	22 18 30.0	+0.4
BLOK	**Blackwell**	0.29	84	Pg	Pg	22 18 27.1	+0.1
BLOK				Sg	Sg	22 18 31.2	+0.3
KAN13	**South Haven SW**	0.29	16	Pg	Pg	22 18 26.9	-0.1
KAN13				Sg	Sg	22 18 30.9	0.0
KAN17	**Caldwell West**	0.35	335	Pg	Pg	22 18 28.0	-0.1
KAN17				Sg	Sg	22 18 32.7	+0.1
KAN14	**Manchester OK**	0.38	307	Pg	Pg	22 18 28.6	-0.1
KAN14				Sg	Sg	22 18 33.7	0.0
CROK	**Carrier**	0.39	236		Pg	22 18 29.1	+0.2
CROK				Sg	Sg	22 18 34.9	+0.8
KAN01	**Argonia South**	0.45	341		Pg	22 18 29.7	-0.3
KAN01				Sg	Sg	22 18 35.8	0.0
OK032	**Salt Plains WL**	0.51	279	Pg	Pg	22 18 31.2	0.0
OK032				Sg	Sg	22 18 38.1	+0.3
KAN06	**Argonia West S**	0.56	337	Pg	Pg	22 18 31.9	-0.3
KAN06				Sg	Sg	22 18 39.4	-0.2
KAN10	**Anthony SW Sta**	0.57	314	Pg	Pg	22 18 32.1	-0.2
KAN08	**Anthony NE Sta**	0.59	328		Pg	22 18 32.2	-0.4
KAN16	**Harper SW Stat**	0.63	322	Pg	Pg	22 18 33.2	-0.3
KAN12	**Harper NE Stat**	0.66	330	Pg	Pg	22 18 33.5	-0.5
T35A	**Sooner Cattle**	0.88	77	Pg	Pg	22 18 37.5	-0.7
QUOK	**Quay**	0.90	128	Pg	Pg	22 18 38.2	-0.4
OK035	**E0210 Rd and N**	0.91	269	Pg	Pg	22 18 38.6	-0.2
OK029	**Liberty Lake**	0.94	174	Pg	Pg	22 18 39.1	-0.1
OK031	**S. Brethren Rd**	0.98	142	Pg	Pg	22 18 39.8	-0.3
OK034	**N. Norfolk Rd.**	1.00	135	Pg	Pg	22 18 40.1	-0.4
OK030	**Cody Creek RV**	1.03	141	Pg	Pg	22 18 40.6	-0.4
BCOK	**Bluff Creek, N**	1.07	181	Pg	Pg	22 18 41.4	-0.5
OK025	**Westminster Rd**	1.16	170	Pg	Pg	22 18 43.4	-0.2
U32A	**Winter Ranch,**	1.20	253	Pg	Pg	22 18 43.4	-0.9
OKCFA	**Oklahoma City**	1.31	175		Pg	22 18 45.9	-0.6
OKCSW	**OKLAHOMA CITY**	1.32	175		Pg	22 18 46.0	-0.7
FNO	**Franklin**	1.48	174		Pn	22 18 48.5	-0.4
TUL1	**Leonard**	1.66	119	Pn	Pn	22 18 51.2	-0.3
TUL1				IAmb_Lg		22 19 15.6	
	comp=Z,29nm,0.8s						
W35A	**Tecumseh**	1.67	160	Pn	Pn	22 18 51.5	-0.2
R32A	**Long Quarter,**	1.92	332	Pn	Pn	22 18 55.2	+0.2
R32A				IAmb_Lg		22 19 20.4	
	comp=Z,10nm,0.8s						
X34A	**Smith Ranch, M**	2.13	186	Pn	Pn	22 18 59.0	+1.1
X34A				IAmb_Lg		22 19 29.7	
	comp=Z,18nm,0.7s						
WMOK	**Wichita Mounta**	2.21	207	Pn	Pn	22 18 59.0	-0.1
WMOK	**Wichita Mounta**	2.21	207	IAmb_Lg		22 19 31.9	
	comp=Z,16nm,0.7s						
KSU1	**Kansas State U**	2.49	18		Pn	22 19 02.9	0.0
U38A	**Gravette**	2.59	95	Pn	Pn	22 19 04.3	+0.1
U38A				IAmb_Lg		22 19 49.8	
	comp=Z,9.6nm,0.8s						
CBKS	**Cedar Bluff**	2.69	321	Pn	Pn	22 19 06.8	+1.1
LOOK	**Love County**	2.75	173	Pn	Pn	22 19 07.7	+1.2
X37A	**Clayton**	2.79	139	Pn	Pn	22 19 07.4	+0.4
S39A	**Bolivar**	3.53	73	Pn	Pn	22 19 17.1	-0.1
U40A	**Yellville**	3.82	94	Pn	Pn	22 19 20.9	-0.3
MIAR	**Mount Ida**	3.92	123	Pn	Pn	22 19 22.6	+0.1
MGMO	**Mountain Grove**	4.28	83	Pn	Pn	22 19 27.5	0.0
P38A	**Dawn**	4.30	47		Pn	22 19 27.3	-0.5
X40A	**Basin Creek Fa**	4.47	119	Pn	Pn	22 19 29.9	-0.2
FCAR	**Ozark Folk Cen**	4.49	99	Pn	Pn	22 19 31.7	+1.4
FCAR				IAmb_Lg		22 20 45.8	
	comp=Z,16nm,1.1s						
R40A	**Maddies Statio**	4.50	68	Pn	Pn	22 19 31.1	+0.5
WHAR	**Wooly Hollow**	4.52	107	Pn	Pn	22 19 31.6	+0.7
LCAR	**Lake Charles**	5.22	95	IAmb_Lg		22 21 06.7	
	comp=Z,6.1nm,0.8s						
I37A	**Lemond, Waseca**	7.95	22	IAmb_Lg		22 22 28.7	
	comp=Z,4.6nm,0.8s						

IDC 16 22:27:04.3±2.3, 2°59N×129°19E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/30, mbtmp3.5/3, Error ellipse: s-maj=157.4km s-min=24.7km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	22.95	167	P	P	22 32 08.9	-1.5
	0.6nm,0.5s,baz=347,slow=11,SNR=7.4						
ASAR	**Alice Springs**	26.49	170	P	P	22 32 45.1	+1.5
	0.1nm,0.3s,baz=348,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	59.90	325	P	P	22 37 12.1	0.0
	0.8nm,0.3s,baz=115,slow=7.9,SNR=32						

*TUL **16** 22:37:51.2±1.0, 36°77N±0°03×97°87W±0°05, h6km±7km, ML3.1, mb_Lg3.0/45(NEIC), Error ellipse: s-maj=6.1km s-min=2.8km az=59.0*
NEIC 16 22:37:51.4±0.9, 36°74N±0°03×97°86W±0°05, h3km±7km, Error ellipse: s-maj=6.4km s-min=2.4km az=63.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	0.11	359	Pg	Pg	22 37 53.4	-0.1
GC02				Sg	Sg	22 37 55.0	+0.1
KAN14	**Manchester OK**	0.23	338	Pg	Pg	22 37 55.5	-0.2
CROK	**Carrier**	0.26	203		Pg	22 37 56.9	+0.5
OK032	**Salt Plains WL**	0.29	282	Pg	Pg	22 37 56.9	0.0
OK032				Sg	Sg	22 38 01.2	+0.5
KAN17	**Caldwell West**	0.31	14	Pg	Pg	22 37 57.2	-0.1
KAN17				Sg	Sg	22 38 01.4	+0.1
KAN13	**South Haven SW**	0.41	48	Pg	Pg	22 37 59.1	0.0
KAN13				Sg	Sg	22 38 04.7	+0.3
KAN01	**Argonia South**	0.42	11	Pg	Pg	22 37 59.1	-0.2
KAN10	**Anthony SW Sta**	0.42	333	Pg	Pg	22 37 59.2	-0.3
KAN08	**Anthony NE Sta**	0.49	349		Pg	22 38 00.4	-0.3
KAN06	**Argonia West S**	0.50	360		Pg	22 38 00.7	-0.3
KAN16	**Harper SW Stat**	0.51	341	Pg	Pg	22 38 00.7	-0.4
BLOK	**Blackwell**	0.52	88	Pg	Pg	22 38 01.3	+0.1
KAN12	**Harper NE Stat**	0.56	348	Pg	Pg	22 38 01.8	-0.4
OK035	**E0210 Rd and N**	0.69	267	Pg	Pg	22 38 04.2	-0.3
U32A	**Winter Ranch,**	0.99	249	Pg	Pg	22 38 09.8	-0.5
OK029	**Liberty Lake**	1.00	161	Pg	Pg	22 38 10.4	-0.1
QUOK	**Quay**	1.09	121		Pg	22 38 12.1	-0.1
T35A	**Sooner Cattle**	1.09	81		Pg	22 38 11.8	-0.5
BCOK	**Bluff Creek, N**	1.10	169	Pg	Pg	22 38 12.2	-0.3
OK031	**S. Brethren Rd**	1.14	134	Pg	Pg	22 38 12.8	-0.3
OK034	**N. Norfolk Rd.**	1.18	128	Pg	Pg	22 38 13.7	-0.3
OK030	**Cody Creek RV**	1.19	133	Pg	Pg	22 38 13.6	-0.5
OK025	**Westminster Rd**	1.23	160		Pg	22 38 14.7	-0.3
OKCFA	**Oklahoma City**	1.37	166		Pn	22 38 17.0	-0.4
OKCSW	**OKLAHOMA CITY**	1.38	166		Pn	22 38 17.2	-0.3
FNO	**Franklin**	1.53	166		Pn	22 38 19.6	-0.1
FNO				IAmb_Lg		22 38 44.8	
	comp=Z,76nm,0.8s						
W35A	**Tecumseh**	1.78	153		Pn	22 38 23.3	+0.3
R32A	**Long Quarter,**	1.81	338		Pn	22 38 23.4	0.0
TUL1	**Leonard**	1.86	116		Pn	22 38 24.8	+0.6
TUL1				IAmb_Lg		22 38 53.8	
	comp=Z,99nm,0.7s						
WMOK	**Wichita Mounta**	2.14	201	Pn	Pn	22 38 28.4	+0.4
X34A	**Smith Ranch, M**	2.14	179		Pn	22 38 28.8	+0.8
X34A				IAmb_Lg		22 39 01.8	
	comp=Z,58nm,0.8s						
CBKS	**Cedar Bluff**	2.55	325		Pn	22 38 33.1	-0.6
KSU1	**Kansas State U**	2.55	22		Pn	22 38 33.5	-0.2
LOOK	**Love County**	2.80	168		Pn	22 38 37.6	+0.5
U38A	**Gravette**	2.81	95	Pn	Pn	22 38 37.3	+0.1
X37A	**Clayton**	2.95	136		Pn	22 38 39.6	+0.4
HHAR	**Hobbs**	3.19	97		Pn	22 38 42.5	+0.1
Z35A	**Perchaven, San**	3.44	172	Pn	Pn	22 38 46.1	+0.2
AMTX	**Amarillo**	3.62	240		Pn	22 38 48.3	-0.2
AMTX				IAmb_Lg		22 39 47.3	
	comp=Z,44nm,1.0s						
W39A	**Magazine**	3.65	114		Pn	22 38 50.6	+1.9
S39A	**Bolivar**	3.74	74		Pn	22 38 49.8	-0.2
N33A	**J Bar K, Exete**	4.00	4	Pn	Pn	22 38 52.1	-1.5
N33A				IAmb_Lg		22 40 06.7	
	comp=Z,26nm,0.8s						
U40A	**Yellville**	4.05	94		Pn	22 38 55.0	+0.7
U40A				IAmb_Lg		22 39 58.9	
	comp=Z,48nm,0.8s						
MIAR	**Mount Ida**	4.12	121		Pn	22 38 56.0	+0.8
MIAR				IAmb_Lg		22 40 09.4	
	comp=Z,36nm,0.9s						
Z38A	**Mt. Pleasant**	4.20	145	IAmb_Lg		22 40 10.3	
	comp=Z,49nm,0.8s						
ABTX	**Abilene, Hawle**	4.37	200	Pn	Pn	22 38 58.9	+0.2
KSCO	**Kaye Shedlock'**	4.40	302	Pn	Pn	22 38 59.4	+0.1
KSCO				IAmb_Lg		22 40 14.0	
	comp=Z,39nm,0.8s						
P38A	**Dawn**	4.46	49	Pn	Pn	22 38 59.8	-0.1
P38A				IAmb_Lg		22 40 19.5	
	comp=Z,28nm,0.7s						
MGMO	**Mountain Grove**	4.50	83		Pn	22 39 00.4	0.0
BGNE	**Belgrade**	4.66	357	Pn	Pn	22 39 01.5	-1.2
BGNE				IAmb_Lg		22 40 27.1	
	comp=Z,50nm,0.8s						
X40A	**Basin Creek Fa**	4.67	117		Pn	22 39 03.8	+1.0
X40A				IAmb_Lg		22 40 25.3	
	comp=Z,37nm,0.8s						
R40A	**Maddies Statio**	4.70	69		Pn	22 39 02.6	-0.6
FCAR	**Ozark Folk Cen**	4.71	99		Pn	22 39 04.6	+1.3
WHAR	**Wooly Hollow**	4.74	106		Pn	22 39 04.9	+1.2
WHAR				IAmb_Lg		22 40 28.6	
	comp=Z,22nm,0.8s						
WHTX	**Lake Whitney,**	4.75	176	Pn	Pn	22 39 03.8	-0.1
W41B	**Gary Mavity, V**	4.81	107	IAmb_Lg		22 40 29.3	
	comp=Z,26nm,0.7s						
MSTX	**Muleshoe**	4.88	237	Pn	Pn	22 39 04.4	-1.3
WLAR	**White Oak Lake**	4.94	127	IAmb_Lg		22 40 42.5	
	comp=Z,25nm,0.9s						
T25A	**Trinidad**	5.26	276		Pn	22 39 11.6	+0.4
P40A	**Paris**	5.36	57	Pn	Pn	22 39 13.0	+0.8
P40A				IAmb_Lg		22 40 43.5	
	comp=Z,24nm,0.7s						
N38A	**Joes South For**	5.42	40	Pn	Pn	22 39 12.7	-0.4
CCM	**Cathedral Cave**	5.42	74	Pn	Pn	22 39 12.9	-0.3
K31A	**O'Neill**	5.91	354	IAmb_Lg		22 41 01.0	
	comp=Z,26nm,0.8s						
HBAR	**Harrisburg**	5.95	99	IAmb_Lg		22 41 08.7	
	comp=Z,37nm,0.7s						
PBMO	**Poplar Bluff**	5.96	87	IAmb_Lg		22 41 00.2	
	comp=Z,16nm,0.8s						
Q24A	**Divide**	6.18	293	IAmb_Lg		22 41 16.5	
	comp=Z,16nm,0.7s						
PARMO	**Parma**	6.51	88	IAmb_Lg		22 41 29.4	
	comp=Z,26nm,0.7s						
ISCO	**Idaho Springs**	6.82	299	IAmb_Lg		22 41 34.6	
	comp=Z,14nm,0.9s						
N23A	**Red Feather La**	7.55	306	IAmb_Lg		22 41 56.7	
	comp=Z,17nm,0.8s						

*BJI **16** 22:38:03.7±0.0, 8°24S×157°06E, h15km, mb4.8/53, mB5.1/30, Ms4.7/14, Ms7 4.4/13*
*IDC **16** 22:38:04.8±0.5, 8°37S×156°42E, h0km, mb4.6/24, mb1 4.6/27, mb1mx4.5/44, mbtmp4.5/27, ML3.7/3, MS4.1/33, Ms1 4.1/33, ms1mx4.0/60, Error ellipse: s-maj=16.8km s-min=14.0km az=97.0*
*NEIC **16** 22:38:06.5±1.1, 8°49S±0°08×156°46E±0°02, h10km±1km, mb5.1/79, Error ellipse: s-maj=12.8km s-min=3.1km az=175.0*
*MOS **16** 22:38:07.6±0.8, 8°42S×156°32E, h29km, mb5.0/25, Error ellipse: s-maj=9.2km s-min=7.1km az=114.5*
*GCMT **16** 22:38:08.5±0.2, 8°54S±0°01×156°49E±0°01, h17km±1km, MW5.0/114, Moment Tensor Solution. s43,c54; s114,c171; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.92±.12; $M_{\theta\theta}$2.92±.10; $M_{\phi\phi}$-3.84±.11; $M_{r\theta}$0.89±.27; $M_{\theta\phi}$1.05±.08; $M_{\phi r}$-2.82±.36; Best double couple: $M_0$4.31300×10^{16} NP1:ϕ_s41.00000°, δ56.00000°, λ-177.00000°. NP2:ϕ_s310.00000°, δ88.00000°, λ-34.00000°. Principal axes: T 3.2620, Plg21.0000°, Azm0.0000°; N 2.1030, Plg56.0000°, Azm126.0000°; P -5.3640, Plg25.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **16** 22:38:13.9±1.3, 8°S±4°×15°6E±1°0, h55km±8km, M4.8/30, mb4.7/30, mB5.1/9, MLv5.2/1, Mw(mB)4.5/9, MwMwp5.0/3, Mwp5.3/3*
ISC 16 22:38:07.7±0.3, 8°52S±0°05×156°47E±0°05, h21km, n296, σ1°10/290, mb5.0/115, MS4.2/41, 16C-19D, Fault plane solution: NP1:ϕ_s127.89021°, δ88.37911°, λ9.03539°. NP2:ϕ_s37.63250°, δ80.96825°, λ178.35875°. Principal axes: T Plg7.5276°, Azm353.1089°; N Plg80.8216°, Azm137.9765°; P Plg5.2212°, Azm262.4170°;
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	3.55	105	Pn	Pn	22 38 59.5	-2.1
	16nm,0.3s,baz=232,slow=3.7,SNR=6.5						
HNR				Sn	Sn	22 39 45.7	+2.6
	27nm,0.3s,baz=90,slow=15,SNR=4.0						
HNR				LR	LR	22 40 39.3	
	comp=Z,3μm,18.4s,baz=286,slow=42						
HNR	**Honiara**	3.55	105	P	Pn	22 38 59.7	-1.9
HNR	**Honiara**	3.55	105		Pn	22 38 59.7	-1.9
RABL	**Rabaul**	6.07	315	Pn	Pn	22 39 34.9	-1.3
PMG	**Port Moresby**	9.24	264	LR	LR	22 43 48.9	
	comp=Z,3μm,19.4s,baz=88,slow=37						
PMG	**Port Moresby**	9.24	264	deP	Pn	22 40 18.8	-1.0
PMG				pmax	pmax		
	comp=Z,22nm,1.2s						
PMG	**Port Moresby**	9.24	264	Pn	Pn	22 40 18.6	-1.2
SANVU	**Saraoutou**	12.55	124	Pn	Pn	22 41 04.8	-0.3
COEN	**Coen**	14.11	246		Pn	22 41 26.8	+0.3
CTA	**Charters Tower**	15.16	220	Pn	Pn	22 41 42.0	+1.3
	comp=Z,0.2nm,0.3s,baz=42,slow=17,SNR=2.7						
CTA				LR	LR	22 47 02.5	
	comp=Z,703nm,18.5s,baz=42,slow=35						
CTAO	**Charters Tower**	15.16	220	P	Pn	22 41 41.1	+0.4
CTAO				pmax	pmax		
	comp=Z,79nm,1.5s						
CTAO	**Charters Tower**	15.16	220	Pn	Pn	22 41 41.1	+0.4
CTAO				IAmb	IAmb	22 41 50.9	
	comp=Z,79nm,1.4s						
PATS	**Pohnpei**	15.37	7	Pn	Pn	22 41 44.1	+0.7
DZM	**Mont Dzumac**	16.54	146	Pn	P	22 42 00.2	-0.9
	comp=Z,0.2nm,0.3s,baz=354,slow=15,SNR=6.0						
DZM				LR	LR	22 46 51.3	
	comp=Z,834nm,20.6s,baz=88,slow=32						
DZM	**Mont Dzumac**	16.54	146	eP	P	22 42 01.5	+0.4
	comp=Z,79nm,1.4s						
DZM				eLR	LR	22 45 39.2	
	comp=Z,1μm,26.6s,baz=312						
DZM	**Mont Dzumac**	16.54	146	Pn	Pn	22 41 59.2	+0.6
ONTNC	**Ouen Toro**	16.74	146		P	22 42 02.4	-0.7
JAY	**Jayapura**	16.78	290	Pn	Pn	22 41 59.2	-2.4
	comp=Z,0.5nm,0.3s,baz=108,slow=6.6,SNR=7.3						
JAY				LR	LR	22 48 12.9	
	comp=Z,565nm,19.8s,baz=50,slow=36						
JAY	**Jayapura**	16.78	290	P	Pn	22 42 01.7	+0.1
	comp=Z,354nmcomp=Z,12nm,1.7s						
OUENC	**Ouen Island, N**	17.04	145		P	22 42 06.0	-0.5
OUENC				IAmb	IAmb	22 42 26.4	
	comp=Z,154nm,2.0s						
EIDS	**Eidsvold**	17.52	196		P	22 42 12.0	+0.2
ARMA	**Armidale**	22.25	191	P	P	22 43 03.6	+0.2
ARMA				IAmb	IAmb	22 43 40.7	
	comp=Z,62nm,1.7s						
MSVF	**Nonsavu**	22.90	116	P	P	22 43 11.7	+1.4
	comp=Z,3.5nm,0.6s,baz=231,slow=19,SNR=3.0						
MSVF				LR	LR	22 50 37.5	
	comp=Z,121nm,20.0s,baz=327,slow=33						
MSVF	**Nonsavu**	22.90	116	∥eP	P	22 43 11.8	+1.4
MSVF				pmax	pmax		
	comp=Z,47nm,1.7s						
MSVF	**Nonsavu**	22.90	116	P	P	22 43 10.0	-0.4
MSVF				IAmb	IAmb	22 43 17.6	
	comp=Z,148nm,1.9s						
WR0	**Warramunga Arr**	24.07	239	P	P	22 43 21.4	-0.4
WR0				IAmb	IAmb	22 43 23.4	
	comp=Z,105nm,1.2s						
WB0	**Warramunga Arr**	24.11	240	P	P	22 43 22.1	-0.2
WRAB	**Tennant Creek**	24.22	240	di P	P	22 43 23.1	-0.1
WRAB				pmax	pmax		
	comp=Z,117nm,1.7s						
WRA	**Warramunga Arr**	24.23	240	P	P	22 43 23.4	+0.1
	comp=Z,33nm,1.0s,baz=64,slow=9.5,SNR=64						
WRA				PcP	PcP	22 47 04.7	+1.1

KAPI Kappang 36.62 273 P **P** **22 45 12.7 -0.2**
TOLI2 Tolitoli 36.83 283 P **P** **22 45 14.2 -0.5**
LTZ Lake Taylor 36.84 160 P **P** **22 45 14.4 0.0**
LTZ IAmb IAmb 22 46 09.9
comp=Z,66nm,1.6s
MPSI Mapaga 37.49 282 P **P** **22 45 20.5 +0.3**
comp=Z,9.4nm,1.0s
JAGI Jajag, Banyuwa 41.84 267 P **P** **22 45 55.0 -1.5**
JAGI IAmb IAmb 22 45 56.5
comp=Z,16nm,0.7s
KKM Kota Kinabalu 42.66 289 P **P** **22 46 02.6 -0.7**
KKM IAmb IAmb 22 47 12.6
comp=Z,36nm,1.2s
MORW Morawa 43.09 236 P **P** **22 46 06.6 0.0**
RAR Rarotonga 43.98 112 LR LR 23 04 22.6
comp=Z,147nm,18.5s,baz=336,slow=36
JHJ2 Mitsune 44.33 340 P **P** **22 46 16.5 +0.2**
JHJ Hachijo jima 2 44.35 340 LR LR 23 02 25.8
comp=Z,149nm,20.0s,baz=142,slow=33
JOW Kunigami 44.53 323 LR LR 23 01 21.6
comp=Z,167nm,21.6s,baz=130,slow=32
PCJI Pacitan 44.79 267 P **P** **22 46 21.7 +1.3**
comp=Z,86nm,1.6s
UGM Wanagama 45.46 267 P **P** **22 46 25.5 -0.2**
YULB Yu-li 46.78 313 P **P** **22 46 36.3 +0.3**
YULB IAmb IAmb 22 47 10.2
comp=Z,34nm,1.2s
KSM Kuching 47.07 280 P **P** **22 46 38.5 +0.1**
JMN Monobe 47.18 334 P **P** **22 46 38.6 -0.2**
SSLB Suanglung 47.27 314 P **P** **22 46 40.2 +0.4**
INU Inuyama 47.34 338 P **P** **22 46 39.7 -0.4**
MJAR Matsushiro Arr 47.99 340 P **P** **22 46 43.2 -2.0**
comp=Z,5.6nm,0.8s,baz=168,slow=8.1,SNR=12
MJAR PcP **PcP** **22 48 13.3 +0.2**
comp=Z,2.3nm,0.8s,baz=157,slow=4.0,SNR=4.1
MJAR LR LR 23 04 27.1
comp=Z,150nm,21.8s,baz=172,slow=33
MJAR Matsushiro Arr 47.99 340 P **P** **22 46 43.9 -1.3**
MJAR pmax pmax
comp=Z,11nm,1.6s
MJAR Matsushiro Arr 47.99 340 P **P** **22 46 43.9 -1.3**
MAJO Matsushiro 48.00 340 *ceP* **P** **22 46 44.8 -0.4**
MAJO pmax pmax
comp=Z,8.0nm,0.9s
MAT Matsushiro 48.00 340 P **P** **22 46 43.4 -1.8**
MAT *e*S **S** **22 53 45.6 +3.5**
MJB9 Matsu-Tunnel 48.00 340 P **P** **22 46 43.6 -1.6**
MJB9 IAmb IAmb 22 46 45.1
comp=Z,9.4nm,0.7s
JNU Nakatsue 48.04 331 LR LR 23 05 20.2
comp=Z,76nm,20.3s,baz=138,slow=34
JNU Nakatsue 48.04 331 P **P** **22 46 45.5 -0.1**
CBJI Citeko 49.22 269 P **P** **22 46 55.2 +0.2**
CGJI Cibinong 50.34 268 P **P** **22 47 02.6 -0.9**
MDSI Maura Dua 52.08 271 P **P** **22 47 16.2 -0.4**
comp=Z,8.5nm,1.5s
KSRS Korea Array 52.96 332 P **P** **22 47 22.2 -0.5**
comp=Z,3.9nm,0.8s,baz=154,slow=7.9,SNR=11
KSRS PcP **PcP** **22 48 31.9 +0.5**
comp=Z,1.6nm,0.7s,baz=159,slow=3.7,SNR=5.1
KSRS LR LR 23 10 04.5
comp=Z,56nm,18.4s,baz=135,slow=36
KSAR Wonju Array Be 52.97 332 P **P** **22 47 21.8 -1.0**
KSAR Wonju Array Be 52.97 332 P **P** **22 47 21.8 -1.0**
PPT Papeete 53.18 106 LR LR 23 05 06.0
comp=Z,180nm,21.5s,baz=258,slow=30
PPT2 Papeete2 53.18 106 *e*S **S** **22 54 54.0 -0.9**
comp=Z,105nm,31.0s
PPT2 *e*LR LR 23 02 32.3
comp=Z,491nm,23.5s,baz=266
ASAJ Asahikawa 53.88 348 P **P** **22 47 29.1 -0.1**
comp=Z,4.3nm,0.8s,baz=206,slow=12,SNR=5.8
ASAJ LR LR 23 10 36.5
comp=Z,153nm,19.1s,baz=180,slow=36
NJ2 Nanjing 54.01 320 *e*P **P** **22 47 32.5 +2.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PPI Padang Panjang 56.41 275 P **P** **22 47 48.0 -0.2**
comp=Z,9.8nm,0.4s
YSS Yuzh-Sakhalins 56.56 349 *e*P **P** **22 47 48.4 -0.2**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 56.56 349 P **P** **22 47 48.7 +0.1**
YSS IAmb IAmb 22 47 49.6
comp=Z,33nm,1.3s
USA0B Ussuriysk Arra 56.96 339 P **P** **22 47 51.1 -0.4**
USA0B pmax pmax
comp=Z,20nm,1.2s
USA0B Ussuriysk Arra 56.96 339 P **P** **22 47 51.1 -0.4**
USA0B IAmb IAmb 22 47 52.8
comp=Z,20nm,1.1s
USRK Ussuriysk Ar. 56.96 339 P **P** **22 47 50.7 -0.8**
comp=Z,8.9nm,0.9s,baz=152,slow=8.1,SNR=15
USRK LR LR 23 09 20.6
comp=Z,107nm,22.0s,baz=146,slow=33
USRK Ussuriysk Ar. 56.96 339 P **P** **22 47 51.3 -0.2**
USRK Ussuriysk Ar. 56.96 339 P **P** **22 47 51.3 -0.2**
MNSI Mandailing Nat 57.44 276 P **P** **22 47 55.4 -0.1**
comp=Z,13nm,1.0s
MDJ Mudanjiang 58.19 338 P **P** **22 48 00.3 +0.1**
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,120nm,4.2s
MDJ Mudanjiang 58.19 338 P **P** **22 47 59.8 -0.4**
MDJ IAmb IAmb 22 48 01.4
comp=Z,19nm,1.3s
CN2 Changchun 59.19 334 *e*P **P** **22 48 05.9 -1.2**
CN2 *e*PP **PP** **22 50 18.6 +0.4**
CN2 *e*S **S** **22 56 11.5 -2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,110nm,3.0s
CN2 LR LR
comp=Z,190nm,16.0s
CN2 LR LR
comp=Z,240nm,16.0s
CN2 LR LR
comp=Z,190nm,18.0s
GSI Gunungsitoli 59.50 277 P **P** **22 48 09.8 -0.1**
comp=Z,16nm,0.8s
GSI Gunungsitoli 59.50 277 P **P** **22 48 09.0 -0.9**
BNX BinXian 59.97 337 ⇑P **P** **22 48 11.8 -0.7**
BNX pmax pmax
comp=Z,16nm,1.4s
BNX pmax pmax
comp=Z,140nm,4.8s
HNS HongShan 60.09 322 ⇓P **P** **22 48 13.6 +0.1**
HNS pmax pmax
comp=Z,6.0nm,1.1s
TYV Tymovskoe 60.34 350 *e*P **P** **22 48 14.9 0.0**
TYV *e*S **S** **22 56 31.4 +3.2**
TYV pmax pmax
comp=Z,12nm,1.0s
TYV pmax pmax
comp=Z,200nm,6.6s
TYV smax smax
comp=N,900nm,7.7s
PEA0B Petropavlovsk- 61.40 1 P **P** **22 48 21.7 -0.3**
PEA0B pmax pmax
comp=Z,52nm,1.4s
PEA0B Petropavlovsk- 61.40 1 P **P** **22 48 21.7 -0.3**
PETK Petropavlovsk- 61.40 1 P **P** **22 48 22.1 0.0**
comp=Z,4.6nm,0.7s,baz=192,slow=12,SNR=7.6
PETK LR LR 23 11 38.1
comp=Z,294nm,20.9s,baz=169,slow=33
PETK Petropavlovsk- 61.40 1 P **P** **22 48 21.7 -0.4**
PETK Petropavlovsk- 61.40 1 P **P** **22 48 21.7 -0.4**
KLR Kul'dur 61.45 342 LR LR 23 12 57.9
comp=Z,49nm,21.7s,baz=136,slow=34
KLR Kul'dur 61.45 342 *c i*P **P** **22 48 22.4 -0.1**
KLR pmax pmax
comp=Z,30nm,1.5s
GRNR Gornyy 61.55 346 ⇑ *i*P **P** **22 48 23.1 -0.1**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,120nm,17.0s
KMI Kunming 62.08 304 ⇑P **P** **22 48 28.8 +1.3**
KMI pmax pmax
comp=E,8.0nm,1.1s
TAOE Nuku Hiva Isla 62.59 96 *e*LR LR 23 06 54.7
comp=E,428nm,29.7s

CMAR Chiang Mai Arr 62.76 296 P **P** **22 48 33.0 +1.2**
comp=E,1.0nm,0.3s,baz=124,slow=4.2,SNR=6.5
CMAR Chiang Mai Arr 62.76 296 *ceP* **P** **22 48 33.4 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 62.76 296 P **P** **22 48 31.7 -0.2**
SHEM Shemya Is, Ala 62.84 12 LR LR 23 11 25.6
comp=Z,264nm,22.0s,baz=272,slow=32
CHTO Chiang Mai 62.88 296 P **P** **22 48 32.4 -0.3**
CHTO pmax pmax
comp=Z,9.0nm,1.4s
CHTO Chiang Mai 62.88 296 P **P** **22 48 32.4 -0.3**
XLT XiLinHaoTe 63.71 329 *e*P **P** **22 48 37.8 0.0**
XLT sP sP 22 48 45.3 -0.2
XLT pmax pmax
comp=Z,13nm,0.9s
XLT LR LR
comp=Z,210nm,12.2s
XLT LR LR
comp=Z,280nm,8.9s
XLT LR LR
comp=Z,210nm,15.4s
CD2 Chengdu 63.91 310 P **P** **22 48 40.5 +1.1**
CD2 S **S** **22 57 16.5 +2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,20nm,17.0s
CD2 LR LR
comp=Z,170nm,12.8s
CD2 LR LR
comp=Z,180nm,17.5s
HHC Hu-ho-hao-te 64.18 323 *e*P **P** **22 48 43.4 +2.4**
HHC S **S** **22 57 20.3 +3.0**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.3s
HHC LR LR
comp=Z,210nm,16.5s
HHC LR LR
comp=Z,210nm,17.1s
HHC LR LR
comp=Z,270nm,16.5s
ADK Adak 64.44 18 P **P** **22 48 42.3 0.0**
ADK pmax pmax
comp=Z,225nm,1.6s
ADK Adak 64.44 18 P **P** **22 48 42.3 0.0**
BTO Baotou 64.95 322 *e*P P 22 48 52.5 +6.5
HIA Hailar 65.91 335 *c i*P **P** **22 48 52.0 0.0**
HIA pmax pmax
comp=Z,12nm,0.9s
HIA Hailar 65.91 335 P **P** **22 48 51.9 0.0**
HIA IAmb IAmb 22 48 53.1
comp=Z,13nm,0.9s
LZH Lanzhou 66.42 315 *e*P **P** **22 48 56.1 +0.4**
LZH sP pwP 22 49 06.3 +1.3
LZH S **S** **22 57 52.6 +7.5**
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,130nm,5.4s
LZH LR LR
comp=Z,380nm,17.3s
LZH LR LR
comp=Z,260nm,16.8s
LZH LR LR
comp=Z,480nm,17.9s
ZEA Zeya 66.77 342 *e*P **P** **22 48 57.6 +0.3**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA MLR MLR
comp=Z,100nm,13.0s
MA2 Magadan 68.02 357 ⇑ *e*P **P** **22 49 05.1 -0.1**
MA2 pmax pmax
comp=Z,14nm,1.0s
MA2 Magadan 68.02 357 P **P** **22 49 04.7 -0.5**
MA2 IAmb IAmb 22 49 06.6
comp=Z,11nm,0.9s
GTA Gaotai 70.84 317 ⇑P **P** **22 49 23.4 +0.2**
GTA pP sP 22 49 31.4 +0.4
GTA sP pwP 22 49 36.0 +3.4
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,96nm,4.7s
GTA LR LR
comp=Z,140nm,18.5s
GTA LR LR
comp=Z,130nm,17.1s
GTA LR LR
comp=Z,130nm,20.0s
ULN Ulaanbaatar 71.07 327 *ceP* **P** **22 49 25.0 +0.6**
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 71.07 327 P **P** **22 49 24.6 +0.2**
ULN IAmb IAmb 22 49 54.0
comp=Z,11nm,1.2s
SEY Seymchan 71.31 358 LR LR 23 17 15.9
comp=Z,173nm,21.9s,baz=162,slow=33
SHL Shillong 71.32 301 P **P** **22 49 26.2 -0.3**
SHL pmax pmax
comp=Z,17nm,0.8s
SHL Shillong 71.32 301 P **P** **22 49 26.2 -0.3**
SHL IAmb IAmb 22 49 27.8
comp=Z,16nm,0.8s
SONM Songino Array 71.40 327 P **P** **22 49 27.3 +0.9**
comp=Z,5.3nm,0.8s,baz=139,slow=6.2,SNR=31
SONM Songino Array 71.40 327 P **P** **22 49 26.7 +0.3**
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM Songino Array 71.40 327 P **P** **22 49 26.7 +0.3**
LSA Lhasa 73.33 304 P **P** **22 49 39.8 +1.0**
LSA pmax pmax
comp=Z,44nm,0.7s
YAK Yakutsk 73.35 347 *e*P **P** **22 49 37.0 -0.5**
YAK *e**PP **pP** **22 49 42.1 -1.3**
YAK *e* 22 49 50.2
YAK *e* 22 52 23.5
YAK *e*PPP PPP 22 54 02.7
YAK *e*S **S** **22 59 03.3 -1.8**
YAK *e* 22 59 42.6
YAK *e*SS **SS** **23 03 41.6 -6.0**
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,61nm,3.0s
YAK pmax pmax
comp=N,55nm,3.2s
YAK pmax pmax
comp=E,70nm,3.0s
YAK smax smax
comp=N,98nm,4.0s
YAK smax smax
comp=E,149nm,3.8s
YAK Yakutsk 73.35 347 P **P** **22 49 37.5 0.0**
YAK IAmb IAmb 22 49 38.4
comp=Z,16nm,0.7s
ZAK Zakamensk 74.55 328 *e*P **P** **22 49 44.6 -0.4**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
ZAK pmax pmax
comp=Z,6.0nm,1.2s
BOD Bodaibo 74.56 338 *e*P **P** **22 49 44.4 -0.3**
BOD pmax pmax
comp=Z,8.0nm,1.7s
BILL Bilibino 76.69 4 *ceP* **P** **22 49 57.0 +0.3**
BILL pmax pmax
comp=Z,19nm,0.7s
BILL MLR MLR
comp=Z,95nm,15.0s
BILL Bilibino 76.69 4 P **P** **22 49 56.6 -0.1**
BILL IAmb IAmb 22 49 57.8
comp=Z,19nm,0.8s
GUN Gumba 77.15 301 *e*P **P** **22 50 01.1 +0.4**
comp=Z,16nm,0.2s
PKI Pulchoki 77.45 301 *e*P **P** **22 50 02.5 +0.2**
PKIN Phulchoki 77.47 301 *e*P **P** **22 50 02.5 +0.2**

KKN Kakani 77.62 301 *e*P **P** **22 50 03.3 +0.1**
comp=Z,18nm,0.7s
DMN Daman 77.72 301 *e*P **P** **22 50 04.4 +0.7**
comp=Z,44nm,0.8s
GKN Gorkha 78.23 301 *e*P **P** **22 50 06.6 +0.2**
comp=Z,36nm,0.7s
SVW2 Sparrevohn 78.86 22 P **P** **22 50 09.7 +0.7**
SVW2 IAmb IAmb 22 52 14.3
comp=Z,51nm,1.7s
KOLN Koldanda 79.05 300 *e*P **P** **22 50 11.2 +0.2**
comp=Z,44nm,0.9s
DANN Dangsing 79.07 301 *e*P **P** **22 50 11.2 0.0**
comp=Z,22nm,0.7s
N19K Bonanza Creek 79.08 22 P **P** **22 50 10.2 -0.1**
PYUN Piuthan 79.66 301 *e*P **P** **22 50 14.1 -0.2**
comp=Z,38nm,0.9s
M19K Big River Lodg 79.82 21 P **P** **22 50 15.3 +1.1**
baz=229
L19K White Mountain 79.84 21 P **P** **22 50 14.7 +0.4**
L19K White Mountain 79.84 21 P **P** **22 50 15.2 +0.9**
baz=229
WMQ Urumqi 80.93 317 *e*P **P** **22 50 21.1 +0.4**
WMQ pmax pmax
comp=Z,9.0nm,1.1s
WMQ LR LR
comp=Z,140nm,18.7s
QSPA South Pole Qui 81.47 180 P **P** **22 50 24.0 +0.8**
QSPA LR LR 23 21 48.8
comp=Z,141nm,19.9s,baz=3.5,slow=32
QSPA South Pole Qui 81.47 180 P **P** **22 50 23.9 +0.7**
QSPA IAmb IAmb 22 50 30.2
comp=Z,9.1nm,0.8s
CAST Castle Rocks 81.61 21 P **P** **22 50 23.5 -0.3**
CAST IAmb IAmb 22 50 24.1
comp=Z,7.9nm,0.8s
CAST Castle Rocks 81.61 21 P **P** **22 50 23.7 -0.1**
baz=231
RDOG Red Dog Mine 81.61 14 P P 22 50 35.4 +12
baz=221
SML Sawmill 82.03 23 P **P** **22 50 26.2 +0.1**
TIXI Tiksi 82.06 351 ⇓ *e*P **P** **22 50 25.5 -0.4**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 82.06 351 P **P** **22 50 26.7 +0.7**
KTH Kantishna Hill 82.11 21 P **P** **22 50 25.9 -0.5**
KTH IAmb IAmb 22 52 44.6
comp=Z,32nm,1.6s
SCM Sheep Creek Mo 82.44 23 P **P** **22 50 28.4 +0.1**
SCM pmax pmax
comp=Z,105nm,1.9s
SCM Sheep Creek Mo 82.44 23 P **P** **22 50 28.4 +0.1**
IMAR Indian Mountai 82.70 18 P **P** **22 50 29.5 +0.1**
KLU Klutina 82.81 24 P **P** **22 50 31.6 +1.4**
MCK McKinley 82.92 21 P **P** **22 50 29.8 -0.9**
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 82.92 21 P **P** **22 50 29.8 -0.9**
MCK IAmb IAmb 22 50 30.9
comp=Z,15nm,1.0s
MCK McKinley 82.92 21 P **P** **22 50 30.0 -0.7**
baz=234
DGZ Jazzator, Alta 83.23 322 *deP* **P** **22 50 33.0 +0.3**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
COLA College 83.97 21 *deP* **P** **22 50 35.1 -0.8**
COLA pmax pmax
comp=Z,7.0nm,0.9s
ZSN Zaisan 84.04 320 *e*P **P** **22 50 36.5 -0.2**
ZSN Zaisan 84.04 320 *e*P **P** **22 50 36.6 -0.2**
baz=320
ILAR Eielson Array 84.25 21 P **P** **22 50 35.9 -1.6**
comp=Z,2.5nm,0.9s,baz=269,slow=5.0,SNR=16
ILAR Eielson Array 84.25 21 P **P** **22 50 36.8 -0.7**
ILAR Eielson Array 84.25 21 P **P** **22 50 36.8 -0.7**
M27K Edge Creek, AK 84.90 24 P **P** **22 50 42.0 +1.1**
BCAR Beaver Creek A 85.28 24 P **P** **22 50 42.8 +0.1**
MK31 Makanchi Array 85.51 318 P **P** **22 50 44.7 +0.5**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 85.51 318 P **P** **22 50 44.7 +0.5**
MK31 IAmb IAmb 22 50 45.5
comp=Z,10nm,0.8s
MKAR Makanchi Array 85.51 318 P **P** **22 50 44.7 +0.5**
comp=Z,10nm,0.7s,baz=101,slow=6.3,SNR=128
MKAR Makanchi Array 85.51 318 P **P** **22 50 44.5 +0.3**
MAKZ Makanchi 85.72 318 P **P** **22 50 45.1 -0.1**
MAKZ pmax pmax
comp=Z,13nm,0.9s
MAKZ Makanchi 85.72 318 P **P** **22 50 45.1 -0.1**
MAKZ IAmb IAmb 22 50 46.5
comp=Z,13nm,0.9s
ZAA0 Zalesovo Array 86.25 326 P **P** **22 50 46.8 -0.8**
ZAA0 IAmb IAmb 22 50 47.7
comp=Z,5.6nm,0.8s
ZALV Zalesovo Beam 86.25 326 P **P** **22 50 47.0 -0.7**
comp=Z,5.0nm,0.7s,baz=109,slow=5.6,SNR=25
ZALV Zalesovo Beam 86.25 326 *i* P **P** **22 50 47.0 -0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 86.25 326 P **P** **22 50 47.0 -0.7**
BMAR Burnt Mountain 86.49 19 P **P** **22 50 49.3 +0.7**
PRZ Przheval'sk 87.01 314 P **P** **22 50 52.3 +0.4**
PRZ pmax pmax
comp=Z,14nm,1.3s
PRZ Przheval'sk 87.01 314 P **P** **22 50 52.3 +0.4**
PRZ IAmb IAmb 22 50 54.4
comp=Z,14nm,1.2s
SATY Saty 87.14 314 *e*P **P** **22 50 52.1 -0.3**
SATY Saty 87.14 314 *e*P **P** **22 50 52.2 -0.3**
baz=314
TDK Taldyqorghan 87.63 316 *e*P **P** **22 50 54.4 -0.2**
TDK pmax pmax
comp=Z,3.0nm,0.8s
TDK Taldyqorghan 87.63 316 *e*P **P** **22 50 54.5 -0.2**
comp=Z,3.0nm,0.8s,baz=316
I29M Ogilvie Camp, 87.70 22 P **P** **22 50 55.2 +0.7**
baz=244
KDJ Kajisay 87.80 313 P **P** **22 50 55.8 +0.1**
KDJ pmax pmax
comp=Z,5.0nm,0.9s
KDJ Kajisay 87.80 313 P **P** **22 50 55.8 +0.1**
KDJ IAmb IAmb 22 50 57.6
comp=Z,4.7nm,0.8s
KSH Kashi 88.11 310 P **P** **22 50 59.5 +2.3**
KSH pP sP 22 51 05.0 +0.1
KSH pmax pmax
comp=Z,7.0nm,1.0s
MDOK Medeo 88.13 314 *e*P **P** **22 50 56.9 -0.3**
MDOK Medeo 88.13 314 *e*P **P** **22 50 57.0 -0.3**
baz=314
KUU Kurty 88.80 315 *e*P **P** **22 50 59.7 -0.5**
KUU pmax pmax
comp=Z,11nm,1.1s
KUU Kurty 88.80 315 *e*P **P** **22 50 59.8 -0.5**
comp=Z,11nm,1.1s,baz=315
YBH Yreka Blue Hor 88.83 48 P **P** **22 51 00.2 -0.3**
comp=Z,7.9nm,1.1s,baz=236,slow=4.6,SNR=5.1
KST Kastek 88.88 314 *e*P **P** **22 51 00.2 -0.5**
comp=Z,5.3nm,1.0s,baz=314
KURK Kurchatov 88.92 322 ⇓ *e*P **P** **22 51 00.2 -0.4**
KURK pmax pmax
comp=Z,5.0nm,1.7s
KURK Kurchatov 88.92 322 P **P** **22 51 00.5 -0.1**
KURBB Kurchatov Arra 88.96 321 P **P** **22 50 60.0 -0.8**
comp=Z,1.6nm,0.7s,baz=102,slow=4.2,SNR=18
NIL Nilore 89.07 304 P **P** **22 51 01.3 -0.4**
NIL pmax pmax
comp=Z,8.0nm,0.7s
NIL Nilore 89.07 304 P **P** **22 51 01.3 -0.4**
NIL IAmb IAmb 22 51 03.5
comp=Z,7.7nm,0.7s
AAK Ala-Archa 89.85 313 P **P** **22 51 05.2 -0.2**
comp=Z,0.7nm,0.5s,baz=94,slow=6.2,SNR=5.7
AAK Ala-Archa 89.85 313 ⇓ *e*P **P** **22 51 05.9 +0.6**
AAK pmax pmax
comp=Z,6.0nm,1.6s
AAK Ala-Archa 89.85 313 P **P** **22 51 05.5 +0.2**
SGDS Sogindy 89.92 314 *e*P **P** **22 51 05.5 0.0**
baz=314
NRIK Noril'sk 90.65 341 P **P** **22 51 06.9 -1.3**
comp=Z,2.8nm,0.6s,baz=130,slow=1.4,SNR=6.4
NRIK Noril'sk 90.65 341 *deP* **P** **22 51 07.3 -0.9**
NRIK pmax pmax
comp=Z,8.0nm,1.7s
BTLS Baital 90.65 315 *e*P **P** **22 51 08.2 -0.6**

BTLS	Baital	90.65	315	*e*P		P	22 51 08.2 -0.6
	baz=315						
CWC	Cottonwood Cre	91.36	54	P		P	22 51 14.2 +1.7
	baz=260						
NVAR	Mina Array Bea	91.52	52	P		P	22 51 14.4 +1.1
	comp=Z,2.8nm,0.9s,baz=248,slow=6.6,SNR=15						
NVAR	Mina Array Bea	91.52	52	P		P	22 51 14.1 +0.8
LRMC	Laurel Mtn Rad	91.53	55	P		P	22 51 15.1 +1.8
	baz=261						
NV11	Mina Array Sit	91.63	52	P		P	22 51 14.6 +0.9
NV11				IAmb		IAmb	22 51 16.2
	comp=Z,4.8nm,0.9s						
MPMC	Manual Prospec	91.77	54	P		P	22 51 16.5 +2.0
	baz=261						
PFO	Pinyon Flats O	92.23	57	LR		LR	23 24 50.4
	comp=Z,245nm,20.5s,baz=328,slow=30						
FURC	Furnace Creek,	92.34	54	P		P	22 51 19.1 +2.3
	baz=261						
TPNV	Topopah Spring	92.89	53	P		P	22 51 20.5 +0.9
TPNV				pmax		pmax	
	comp=Z,17nm,1.9s						
TPNV	Topopah Spring	92.89	53	P		P	22 51 20.5 +0.9
TPNV				IAmb		IAmb	22 51 21.7
	comp=Z,17nm,1.9s						
TPNV	Topopah Spring	92.89	53	P		P	22 51 21.3 +1.7
	baz=262						
IUG	Iuzhnay	93.02	312	*e*P		P	22 51 19.5 -0.5
IUG	Iuzhnay	93.02	312	*e*P		P	22 51 19.5 -0.5
	baz=312						
NEW	Newport	93.91	42	P		P	22 51 23.3 -0.5
	comp=Z,1.2nm,0.7s,baz=292,slow=8.0,SNR=2.2						
NEW				LR		LR	23 31 25.6
	comp=Z,284nm,18.0s,baz=246,slow=34						
C36M	Paulatuk	94.21	20	P		P	22 51 24.8 +0.2
	baz=257						
BVAR	Borovoye Array	94.38	323	P		P	22 51 25.0 -0.9
	comp=Z,3.5nm,0.7s,baz=89,slow=6.7,SNR=23						
A36M	Sachs Harbour	94.44	18	P		P	22 51 26.0 +0.3
A36M				IAmb		IAmb	22 51 26.8
	comp=Z,7.6nm,0.8s						
A36M	Sachs Harbour	94.44	18	P		P	22 51 26.2 +0.6
	baz=256						
BRVK	Borovoye	94.45	323	*ce*P		P	22 51 24.7 -1.5
BRVK				pmax		pmax	
	comp=Z,3.0nm,0.9s						
BRVK	Borovoye	94.45	323	P		P	22 51 25.3 -0.9
SPR3	Spring Creek 3	94.67	51	P		P	22 51 28.3 +0.3
SPR3				IAmb		IAmb	22 51 30.6
	comp=Z,9.0nm,1.1s						
LPIG	La Paz	96.35	67	LR		LR	23 26 36.8
	comp=Z,152nm,19.8s,baz=300,slow=30						
YKA	Yellowknife Ar	96.99	28	P		P	22 51 38.5 +1.0
	comp=Z,3.4nm,0.7s,baz=264,slow=4.8,SNR=56						
YKA	Yellowknife Ar	96.99	28	P		P	22 51 37.7 +0.2
YKA	Yellowknife Ar	96.99	28	P		P	22 51 37.7 +0.2
PDAR	Pinedale Array	98.63	48	P		Pdif	22 51 46.0 +0.3
	comp=Z,1.1nm,0.9s,baz=232,slow=2.5,SNR=7.3						
AKASG	Malin Array Be	119.62	324	PKP		PKPdf	22 56 55.8 -0.2
	comp=Z,0.8nm,0.6s,baz=60,slow=2.3,SNR=5.5						
AKASG	Malin Array Be	119.62	324	PKIKP		PKPdf	22 56 55.5 -0.5
AKASG	Malin Array Be	119.62	324			PKPdf	22 56 55.5 -0.5
NOA	NORSAR Array B	121.61	341	PKP		PKPdf	22 56 59.5 -0.1
	comp=Z,0.5nm,0.7s,baz=40,slow=1.6,SNR=3.5						
MORC	Moravsky Berou	126.55	328	*e*PKP		PKPdf	22 57 06.7 -2.7
VRAC	Vranov	127.32	328	PKP		PKiKP	22 57 11.4 0.0
	comp=Z,1.0nm,0.6s,baz=206,slow=11,SNR=2.1						
VRAC	Vranov	127.32	328	*e*PKP		PKPdf	22 57 08.1 -2.8
KRUC	Moravsky	127.57	328	*e*PKP		PKPdf	22 57 08.6 -2.7
GERES	GERESS Array B	129.10	329	PKP		PKiKP	22 57 14.9 -0.1
	comp=Z,0.5nm,0.6s,baz=73,slow=1.8,SNR=6.9						
DAVOX	Davos/Dischmat	132.40	329	PKP		PKiKP	22 57 21.8 -0.1
	comp=Z,2.5nm,0.9s,baz=89,slow=4.2,SNR=4.2						
MVO	Moncorvo	144.34	338	*e*PKPab		PKPdf	22 57 42.0 -0.7
ESDC	Sonseca Array	144.38	334	PKP		PKPbc	22 57 41.9 +0.7
	comp=Z,3.1nm,0.8s,baz=11,slow=2.7,SNR=19						
POLO	Lamas de Olo	144.43	339	*e*PKPab		PKPdf	22 57 42.4 -0.5
PVIS	Viseu	145.05	339	*e*PKPab		PKPdf	22 57 44.4 +0.5
MTE	Manteigas	145.20	338	*e*PKPab		PKPdf	22 57 45.1 +0.9
PCBR	Castelo Branco	145.67	338	*e*PKPab		PKPab	22 57 46.2 +0.7
COI	Coimbra	145.68	339	*e*PKPab		PKPab	22 57 46.7 +1.2
PCAS	Casmilo, Conde	145.85	339	*e*PKPab		PKPab	22 57 46.0 -0.2
BDFB	Brasilia	145.88	135	PKPbc		PKPab	22 57 47.3 +0.2
	comp=Z,9.3nm,0.6s,baz=190,slow=0.9,SNR=18						
PMRV	Marv??o	145.99	337	*e*PKPab		PKPab	22 57 47.3 +0.5
PESTR	Estremoz	146.56	337	*e*PKPab		PKPab	22 57 48.9 0.0
PMTG	Montargil	146.62	338	*e*PKPab		PKPab	22 57 48.7 -0.4
EVO	Evora	147.01	337	*e*PKPab		PKPab	22 57 50.4 -0.3
PNCL	Nicolau / Gran	147.57	338	*e*PKPab		PKPab	22 57 52.0 -0.9
PCVE	Castro Verde	147.80	337	*e*PKPab		PKiKP	22 57 53.1 -0.3
PVAQ	Vaqueiros	147.87	336	*e*PKPab		PKiKP	22 57 53.3 -0.3
PTEO	Sao Teotonio	148.15	337	*e*PKPab		PKiKP	22 57 54.0 -0.1
TORD	Torodi Ar. Bea	154.81	283	PKP		PKPdf	22 57 59.7 -0.2
	comp=Z,0.7nm,0.9s,baz=67,slow=1.0,SNR=2.7						
TORD				PKPbc		sPKPdf	22 58 08.2 -0.1
	comp=Z,1.1nm,0.8s,baz=64,slow=3.4,SNR=5.3						

IDC 16 23:07:56.8±4.0, 14°.20S×177°.48W, h380km±77km, mb2.9/3, mb1 3.3/4, mb1mx3.0/29, mbtmp3.8/4 Error ellipse: s-maj=337.3km s-min=28.7km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.55	230	P	Pn	23 09 23.9	+0.1
	5.1nm,0.3s,baz=279,slow=22,SNR=24						
WRA	Warramunga Arr	46.29	256	P	P	23 15 46.3	-0.2
	0.2nm,0.8s,baz=90,slow=7.3,SNR=1.4						
ASAR	Alice Springs	46.75	251	P	P	23 15 50.0	-0.1
	1.9nm,0.3s,baz=84,slow=8.6,SNR=38						
NVAR	Mina Array Bea	76.15	44	P	P	23 19 04.5	0.0
	0.4nm,0.8s,baz=197,slow=2.8,SNR=2.0						

*NEIC **16** 23:22:29.0±1.8, 3°.87S±0°.05×127°.23E±0°.04, h4km±3km, mb5.5/165, Ms_20 5.1/59, Mww5.6, Error ellipse: s-maj=8.1km s-min=4.6km az=157.0*

*MOS **16** 23:22:31.5±0.9, 3°.83S×127°.01E, h33km, mb5.5/47, MS4.9/18, Error ellipse: s-maj=8.9km s-min=4.4km az=115.8*

*IDC **16** 23:22:33.4±1.7, 3°.86S×127°.05E, h33km±12km, mb4.8/23, mb1 4.9/26, mb1mx4.9/30, mbtmp5.0/26, ML5.5/3, MS4.8/53, Ms1 4.8/53, ms1mx4.7/67, Error ellipse: s-maj=16.0km s-min=9.1km az=66.0*

*GCMT **16** 23:22:33.0±0.1, 3°.81S±0°.01×127°.25E±0°.01, h16km, MW5.6/153, Moment Tensor Solution. s132,c227; s153,c302; Duration: 1s5 Moment tensor: Scale 10^17 Nm; M_{rr}-0.94±.03; $M_{\theta\theta}$-1.71±.03; $M_{\phi\phi}$2.65±.04; $M_{r\theta}$0.12±.09; $M_{\theta\phi}$1.86±.03; $M_{\phi r}$0.48±.09; Best double couple: $M_0$2.89400×10^17 NP1:ϕ_s65.00000°, δ84.00000°, λ3.00000°. NP2:ϕ_s335.00000°, δ87.00000°, λ174.00000°. Principal axes: T 3.3910, Plg6.0000°, Azm290.0000°; N -0.9920, Plg83.0000°, Azm127.0000°; P -2.3970, Plg2.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*KLM **16** 23:22:34, 3°.91S×127°.37E, h45km, mb5.8*

*DJA **16** 23:22:34.3±0.1, 4°S±1°×12°7E±°, h44km±2km, M5.4/102, mB5.9/96, mb5.5/102, MLv5.6/31, Mw5.5/41, Mw(mB)5.5/96, MwMwp5.3/65, Mwp5.5/65*

*DSN **16** 23:22:35.7±3.5, 3°.64S×126°.97E, h43km, mb5.4/12, Ms5.3/5, Error ellipse: s-maj=92.6km s-min=43.3km az=100.0*

*NEIC **16** 23:22:36, 3°.76S×127°.23E, h12km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^17Nm; M_{rr}-1.08; $M_{\theta\theta}$-1.81; $M_{\phi\phi}$2.89; $M_{r\theta}$0.66; $M_{\theta\phi}$1.68; $M_{\phi r}$1.67; Fault plane solution: $M_0$3.52000×10^17 NP1: ϕ_s330.00000°, δ70.00000°, λ173.00000°. NP2: ϕ_s63.00000°, δ83.00000°, λ20.00000°. Principal axes: T 4.0513, Plg19.0000°, Azm288.0000°; N -1.6886, Plg68.0000°, Azm81.0000°; P -2.3627, Plg9.0000°, Azm195.0000°;*

ISC 16 23:22:34.5±0.3, 3°.87S±0°.03×127°.22E±0°.03, h45km±2km, h42km:pP-P, n952, σ1s76/1025, mb5.4/221, MS5.0/122, 52C-37D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.99	79	P	Pn	23 22 48.0	-4.0
AAI				S	Sn	23 23 03.0	-1.9
MSAI	Masohi	1.79	73	P	Pn	23 23 01.0	-1.9
SANI	Sanana	2.19	326	P	Pn	23 23 05.6	-2.8
SANI	Sanana	2.19	326	P	Pn	23 23 08.4	0.0
BNDI	Bandanaira	2.76	104	P	Pn	23 23 16.5	+0.3
LBMI	Labuha	3.23	5	P	Pn	23 23 22.8	+0.1
TNTI	Ternate	4.62	2	P	Pn	23 23 41.6	-0.2
TNTI	Ternate	4.62	2	Pn	Pn	23 23 40.9	-0.9
TNTI				Sn	Sn	23 24 33.6	-0.5
TNTI	Ternate	4.62	2	P	Pn	23 23 42.5	+0.7
BBSI	Bau Bau	4.90	251	P	Pn	23 23 46.9	+1.2
	0.6nm1μm150nm,1.0s						
SWI	Sorong	5.03	54	P	Pn	23 23 46.0	-1.4
SIJI	Sorong	5.03	54	Pn	Pn	23 23 46.2	-1.2
	273nm,0.3s,baz=219,slow=10.0,SNR=326						
SIJI				Sn	Sn	23 24 41.8	-2.5
	70nm,0.3s,baz=156,slow=20,SNR=20						
SIJI				LR	LR	23 26 06.3	
	comp=Z,8μm,21.0s,baz=247,slow=41						
FAKI	Fak Fak	5.11	79	P	Pn	23 23 48.0	-0.6
	3.4nm55μm10μm575nm,1.1s						
FAKI	Fak Fak	5.11	79	Pn	Pn	23 23 46.4	-2.2
FAKI	Fak Fak	5.11	79	P	Pn	23 23 48.3	-0.3
LUWI	Luwuk	5.25	302	P	Pn	23 23 49.9	-0.7
	14nm45μm58μm3μm,1.0s						
LUWI	Luwuk	5.25	302	Pn	Pn	23 23 49.6	-0.9
LUWI	Luwuk	5.25	302	P	Pn	23 23 50.4	-0.2
KMSI	Cibinong	5.47	324	P	Pn	23 23 53.6	0.0
	11nm828nm23μm3μm,0.8s						
SAUI	Saumlaki	5.76	135	P	Pn	23 23 59.3	+1.8
	9.2nm43μm33μm3μm,1.0s						
SAUI	Saumlaki	5.76	135	Pn	Pn	23 23 57.1	-0.4
SAUI	Saumlaki	5.76	135	P	Pn	23 23 59.6	+2.1
GTOI	Gorontalo	6.14	317	P	Pn	23 24 05.1	+2.4
	2.4nm12μm5μm499nm,0.9s						
APSI	Ampana	6.29	298	P	Pn	23 24 05.2	+0.4
	6.8nm22μm21μm2μm,0.8s						
SOEI	Soe	6.54	206	P	Pn	23 24 10.8	+2.5
	3.2nm31μm13μm694nm,1.1s						
SOEI	Soe	6.54	206	Pn	Pn	23 24 09.5	+1.3
SOEI	Soe	6.54	206	P	Pn	23 24 11.2	+2.9
MRSI	Marisa	6.82	309	P	Pn	23 24 12.4	+0.4
	9.1nm26μm26μm2μm,1.2s						
MMRI	Maumere	6.85	226	P	Pn	23 24 15.4	+3.0
	1.1nm14μm6μm274nm,1.3s						
MMRI	Maumere	6.85	226	Pn	Pn	23 24 11.7	-0.7
MMRI	Maumere	6.85	226	P	Pn	23 24 12.5	+0.1
BSSI	Bau Bau, Buton	7.07	251	P	Pn	23 24 15.5	0.0
	2.4nm5μm7μm676nm,1.1s						
BNSI	Bone	7.11	266	P	Pn	23 24 16.0	0.0
	1.6nm18μm4μm539nm,0.9s						
BATI	Baumata	7.21	209	Pn	Pn	23 24 19.5	+2.0
	9.4nm,0.3s,baz=28,slow=0.4,SNR=30						
BATI				LR	LR	23 27 25.9	
	comp=Z,14μm,18.2s,baz=17,slow=41						
BATI	Baumata	7.21	209	P	Pn	23 24 19.8	+2.3
	1.0nm10μm3μm148nm,0.8s						
BKSI	Bulukumba	7.22	258	P	Pn	23 24 18.8	+1.3
	5.7nm12μm17μm1μm,1.5s						
EDFI	Ende, Flores	7.32	228	P	Pn	23 24 19.8	+0.8
	0.7nm7μm2μm171nm,0.7s						
TTSI	Tana Toraja	7.43	276	P	Pn	23 24 21.3	+0.9
	2.0nm25μm6μm548nm,1.3s						
SPSI	Sidrap Palu	7.43	269	P	Pn	23 24 21.5	+1.1
	1.6nm18μm5μm480nm,1.2s						
KAPI	Kappang	7.53	261	Pn	Pn	23 24 22.4	+0.5
	30nm,0.3s,baz=122,slow=7.1,SNR=146						
KAPI				Sn	Sn	23 25 42.9	-2.9
	3.6nm,0.3s,baz=76,slow=19,SNR=1.2						
KAPI	Kappang	7.53 261		P	Pn	23 24 21.8	0.0
KAPI	Kappang	7.53 261		P	Pn	23 24 22.3	+0.5
KAPI				P	Pn	23 24 22.3	+0.5
KAPI				S	Sn	23 25 42.3	-3.6
KAPI				S	Sn	23 25 42.3	-3.6
KAPI	Kappang	7.53 261		Pn	Pn	23 24 21.8	0.0
KAPI	Kappang	7.53 261		P	Pn	23 24 23.5	+1.7
SGSI	Sangihe	7.70 347		P	Pn	23 24 20.5	-3.6
	2.6nm737nm,0.7s						
TOLI2	Tolitoli	8.12 307		Pn	Pn	23 24 29.0	-0.8
TOLI2	Tolitoli	8.12 307		P	Pn	23 24 32.7	+2.9
MPSI	Mapaga	8.42 300		P	Pn	23 24 34.7	+0.6
	29μm6μm550nm,1.3s						
BASI	Baing, Sumba	9.12 226		P	Pn	23 24 45.4	+1.8
	7μm6μm376nm,1.1s						
SRPI	Serui, Papua	9.23 78		P	Pn	23 24 43.3	-1.8
	8μm4μm330nm,0.9s						
DRS	Darwin Rock St	9.25 157		P	Pn	23 24 45.7	+0.3
BAKI	Biak	9.27 74		P	Pn	23 24 44.4	-1.3
	468nm,0.8s						
WBSI	Waikabubak, Su	9.65 233		P	Pn	23 24 51.6	+0.7
	5μm389nm,1.1s						
MTN	Manton Dam	9.72 157		P	Pn	23 24 51.9	+0.1
	baz=9.8,SNR=35						
MTN	Manton Dam	9.72 157		Pn	Pn	23 24 51.1	-0.7
MTN	Manton Dam	9.72 157		P	Pn	23 24 52.3	+0.5
KDU	Kakadu	10.18 150		P	Pn	23 24 56.4	-1.7
	baz=10,SNR=33						
KDU	Kakadu	10.18 150		P	Pn	23 24 58.4	+0.2
SMKI	Samarinda	10.56 289		P	Pn	23 25 02.3	-1.1
DAV	Davao City (W)	10.99 351		Pn	Pn	23 25 07.9	-1.4
	76nm,0.3s,baz=176,slow=2.7,SNR=10						
DAV	Davao City (W)	10.99 351		P	Pn	23 25 10.2	+0.9
DAV				P	Pn	23 25 10.2	+0.9
DAV	Davao City (W)	10.99 351		Pn	Pn	23 25 07.7	-1.6
DAV	Davao City (W)	10.99 351		P	Pn	23 25 12.2	+2.9
KBKI	Kotabaru	11.04 273		P	Pn	23 25 11.5	+1.6
	3μm103nm,1.2s						
KNRA	Kununurra	11.83 173		P	Pn	23 25 19.0	-1.7
	baz=12,SNR=82						
KNRA	Kununurra	11.83 173		Pn	Pn	23 25 17.9	-2.7
KNRA	Kununurra	11.83 173		P	Pn	23 25 19.8	-0.9
BBKI	Banjar Baru	12.36 271		P	Pn	23 25 29.1	+1.2
	8μm218nm,1.4s						
MYLDM	Lahad Datu	12.52 316			Pn	23 25 29.4	-0.7
MTKI	Muara Teweh, K	12.65 283		P	Pn	23 25 33.1	+1.2
	6μm135nm,1.7s						
SRBI	Singaraja	12.65 250		P	Pn	23 25 33.8	+1.9
	5μm4μm185nm,1.5s						
DNP	Denpasar	12.85 248		P	Pn	23 25 39.2	+4.6
IGBI	Denpasar	12.96 247		P	Pn	23 25 36.2	+0.1
	4μm79nm,1.0s						
GENI	Genyem	12.99 85		P	Pn	23 25 35.2	-1.4
	11μm6μm203nm,1.6s						
GENI	Genyem	12.99 85		P	Pn	23 25 38.5	+1.9
ABJI	Asem Bagus	13.49 253		P	Pn	23 25 46.6	+3.2
	7μm5μm226nm,1.1s						
I39PW	PALAU INFRASON	13.49	33	*i*		00 49 40.0	
	baz=214,slow=319,SNR=0.7						
JAY	Jayapura	13.54	85	Pn	Pn	23 25 40.3	-3.8
	0.6nm,0.3s,baz=273,slow=8.4,SNR=11						
JAY				LR	LR	23 32 43.5	
	comp=Z,19μm,18.7s,baz=297,slow=45						
JAY	Jayapura	13.54	85	P	Pn	23 25 43.1	-1.0
	6μm1μm65nm,2.4s						
KMMI	Kalianget	13.56	256	P	Pn	23 25 46.5	+2.1
	6μm5μm302nm,1.5s						
SPMM	Sapulut	13.71	308	P	Pn	23 25 48.0	+1.5
JAGI	Jajag, Banyuwa	13.77	250	P	Pn	23 25 49.5	+2.3
	6μm5μm314nm,2.4s						
JAGI	Jajag, Banyuwa	13.77	250		Pn	23 25 46.5	-0.6
BLJI	Banyuglugur	14.08	254	P	Pn	23 25 53.4	+1.9
	3μm119nm,1.0s						
FITZ	Fitzroy Crossi	14.22	186	Pn	Pn	23 25 49.5	-3.8
	0.3nm,0.3s,baz=18,slow=11,SNR=25						
FITZ				LR	LR	23 32 00.3	
	comp=Z,5μm,18.8s,baz=5.0,slow=40						
GMJI	Gumukmas	14.37	252	P	Pn	23 25 58.2	+2.8
	6μm5μm234nm,1.4s						
BWJI	Bawean	14.64	262	P	Pn	23 26 01.3	+2.4
	3μm278nm,1.3s						
KKM	Kota Kinabalu	14.76	312	Pn	Pn	23 25 59.4	-1.1
KKM	Kota Kinabalu	14.76	312	P	Pn	23 26 01.3	+0.7
PBKI	Pangkalan Bun	15.56	274	P	P	23 26 13.2	-1.5
	8μm559nm,1.3s						
STKI	Sintang	16.21	284	P	Pn	23 26 19.2	0.0
	5μm182nm,2.0s						
SBUM	Sibu	16.25	293		Pn	23 26 19.1	-0.7
SBUM	Sibu	16.25	293	P	P	23 26 23.0	+0.7
UWJI	Ujung Watu	16.40	260	P	P	23 26 23.8	-0.1
	5μm286nm,1.6s						
PCJI	Pacitan	16.51	254	P	P	23 26 24.9	-0.3
	6μm5μm328nm,1.6s						
SMRI	Semarang	16.99	259	P	P	23 26 30.3	-0.2
	12μm10μm468nm,2.5s						
SMRI	Semarang	16.99	259		Pn	23 26 27.8	-1.4
SMRI				IAmb	IAmb	23 26 48.8	
	comp=Z,721nm,1.3s						
UGM	Wanagama	17.08	256	P	P	23 26 31.7	+0.2
	comp=Z,9μmcomp=Z,8μmcomp=Z,314nm,1.1s						
UGM	Wanagama	17.08	256		Pn	23 26 28.4	-1.8
UGM				IAmb	IAmb	23 26 39.0	
	comp=Z,1μm,1.5s						
UGM	Wanagama	17.08	256	P	Pn	23 26 29.6	-0.6
YOGI	Yogyakarta	17.28	256	P	P	23 26 34.2	+0.5
	comp=Z,6μmcomp=Z,8μmcomp=Z,442nm,1.9s						
WRAB	Tennant Creek	17.41	157	*c i*P	Pn	23 26 30.7	-3.6
WRAB				pmax	pmax		
	comp=Z,243nm,1.4s						
WRAB	Tennant Creek	17.41	157	P	Pn	23 26 31.8	-2.5
WRA	Warramunga Arr	17.42	157	P	Pn	23 26 31.2	-3.2
	comp=Z,1.9nm,0.3s,baz=340,slow=13,SNR=98						
WRA				LR	LR	23 32 49.5	
	comp=Z,4μm,20.9s,baz=330,slow=35						
WRA				ScP	ScP	23 34 47.0	+1.2
	comp=Z,0.1nm,0.3s,baz=338,slow=1.9,SNR=2.5						
WRA	Warramunga Arr	17.42	157	*i* P	Pn	23 26 30.6	-3.8
WRA				pmax	pmax		
	comp=Z,135nm,1.1s						
WRA	Warramunga Arr	17.42	157	Pn	Pn	23 26 29.5	-4.9
WB2	Warramunga Arr	17.42	157	Pn	Pn	23 26 30.5	-3.9
WB2				IAmb	IAmb	23 26 37.5	
	comp=Z,359nm,1.1s						
KSM	Kuching	17.71	287	P	Pn	23 26 38.0	-0.1
KSM				IAmb	IAmb	23 26 41.9	
	comp=Z,626nm,1.2s						
KSM	Kuching	17.71	287	P	P	23 26 40.0	+1.5
KSM	Kuching	17.71	287	P	P	23 26 40.5	+2.0
MBWA	Marble Bar	18.66	202	P	Pn	23 26 49.7	+0.2
MBWA				P	Pn	23 26 49.7	+0.2
MBWA				S	S	23 30 18.9	-0.4
MBWA				S	S	23 30 18.9	-0.4
MBWA	Marble Bar	18.66	202	P	P	23 26 48.8	0.0
COEN	Coen	18.66	123	P	P	23 26 46.4	-2.5
COEN	Coen	18.66	123	P	P	23 26 49.2	+0.2
PSA00	Pilbara Seismi	19.00	202	P	P	23 26 51.4	-1.1
PSA00	Pilbara Seismi	19.00	202	P	P	23 26 51.9	-0.6
PSA00				IAmb	IAmb	23 27 05.0	
	comp=Z,110nm,1.3s						
PSA00	Pilbara Seismi	19.00	202	P	Pn	23 26 54.8	+1.2
CMJI	Cimerak	19.07	257	P	P	23 26 53.4	0.0
	comp=Z,3μmcomp=Z,4μmcomp=Z,219nm,0.7s						
TPI	Tanjungpandan	19.56	273	P	Pn	23 27 00.3	-0.1
LEM	Lembang	19.73	261	P	P	23 27 00.7	-0.1
	comp=Z,4.0nm,0.3s,baz=76,slow=8.8,SNR=37						
LEM				LR	LR	23 35 21.7	
	comp=Z,10μm,18.5s,baz=83,slow=39						
LEM	Lembang	19.73	261	P	Pn	23 27 02.7	+0.1
	comp=Z,5μmcomp=Z,5μmcomp=Z,200nm,2.0s						
MANU	Manus Island	20.20	85	P	P	23 27 05.1	-0.7
MANU				IAmb	IAmb	23 27 24.8	
	comp=Z,390nm,1.6s						
CNJI	Cibinong	20.28	259	P	P	23 27 05.8	-0.8
	comp=Z,16μmcomp=Z,1μm,1.2s						
CBJI	Citeko	20.44	262	P	P	23 27 08.5	+0.2
	comp=Z,9μmcomp=Z,690nm,1.0s						
QIS	Mount Isa	20.51	145	P	P	23 27 09.6	+0.5
	baz=21,SNR=102						
QIS	Mount Isa	20.51	145	P	P	23 27 10.2	+1.1
PMG	Port Moresby	20.55	107	P	Pn	23 27 11.2	-0.9
	comp=Z,60nm,0.8s,baz=339,slow=12,SNR=15						
PMG				LR	LR	23 38 29.6	
	comp=Z,8μm,18.6s,baz=321,slow=46						
PMG	Port Moresby	20.55	107	*c i*P	Pn	23 27 11.3	-0.8
PMG				pmax	pmax		
	comp=Z,133nm,1.3s						
PMG	Port Moresby	20.55	107	P	P	23 27 09.6	+0.1
PMG	Port Moresby	20.55	107	P	Pn	23 27 11.5	-0.6
PMG	Port Moresby	20.55	107	P	Pn	23 27 11.9	-0.2
DBJI	Dramaga	20.55	262	P	P	23 27 09.0	-0.6
	comp=Z,16μmcomp=Z,208nm,1.8s						
AS31	Alice Springs	20.71	162	P	P	23 27 11.9	+0.7
ASAR	Alice Springs	20.71	162	P	Pn	23 27 13.0	-1.0
	comp=Z,540nm,0.9s,baz=342,slow=10,SNR=871						
ASAR				S	Sn	23 31 03.7	-3.2
	comp=Z,8.2nm,1.1s,baz=354,slow=24,SNR=2.1						
ASAR				PcP	PcP	23 31 19.1	-0.8
	comp=Z,7.5nm,0.9s,baz=352,slow=2.1,SNR=5.0						
ASAR				ScP	ScP	23 34 53.5	+0.4
	comp=Z,2.9nm,0.8s,baz=351,slow=2.3,SNR=6.6						
ASAR	Alice Springs	20.71	162	P	P	23 27 11.8	+0.5
SKJI	Sukabumi	20.80	261	P	P	23 27 11.3	-0.9
	comp=Z,3μmcomp=Z,191nm,0.7s						
WRKA	Warakurna	21.07	177	P	P	23 27 16.6	+1.5
	baz=21,SNR=155						
WRKA	Warakurna	21.07	177	P	P	23 27 17.2	+2.1
PPBI	Pangkal Pinang	21.12	274	P	P	23 27 17.0	+1.3
	comp=Z,5μmcomp=Z,8μmcomp=Z,134nm,1.2s						
SBJI	Serang	21.12	263	P	P	23 27 17.5	+1.8
	comp=Z,236nm,1.7s						
CGJI	Cibinong	21.60	262	P

JRMM	**Jerantut**	**25.89 287**	P	**P**	**23 28 04.0**	**+1.4**
BKNI	**Bangkinang**	**26.49 278**	P	**P**	**23 28 08.7**	**+0.8**
comp=Z,4μmcomp=Z,4μmcomp=Z,308nm,1.4s						
BKNI	**Bangkinang**	**26.49 278**	P	**P**	**23 28 07.9**	**0.0**
BKNI			IAMs_20	IAMs_20	23 40 11.4	
comp=Z,4μm,19.0s						
BKNI	**Bangkinang**	**26.49 278**	P	**P**	**23 28 10.3**	**+2.4**
FORT	**Forrest**	**26.77 178**	P	**P**	**23 28 11.7**	**+1.4**
baz=27,SNR=10						
FORT	**Forrest**	**26.77 178**	P	**P**	**23 28 10.2**	**-0.1**
FORT			IAmb	IAmb	23 28 34.7	
comp=Z,105nm,0.8s						
FORT	**Forrest**	**26.77 178**	P	**P**	**23 28 12.2**	**+1.9**
PPI	**Padang Panjang**	**27.01 277**	P	**P**	**23 28 12.5**	**-0.1**
comp=Z,794nmcomp=Z,68nm,1.3s						
INKA	**Innaminka**	**27.02 153**	P	**P**	**23 28 17.1**	**+4.6**
MULG	**Mulgathing**	**27.05 167**	P	**P**	**23 28 14.7**	**+1.9**
TWG	**Pinlang**	**27.20 348**	P	**P**	**23 28 13.5**	**-0.7**
TWG			IAmb	IAmb	23 28 24.8	
comp=Z,190nm,1.4s						
MORW	**Morawa**	**27.21 202**	P	**P**	**23 28 14.3**	**0.0**
baz=27,SNR=14						
MORW	**Morawa**	**27.21 202**	P	**P**	**23 28 14.1**	**-0.2**
MORW			IAmb	IAmb	23 28 20.5	
comp=Z,240nm,1.5s						
MORW	**Morawa**	**27.21 202**	P	**P**	**23 28 15.2**	**+0.9**
IPM	**Ipoh**	**27.45 287**	P	**P**	**23 28 16.4**	**-0.2**
IPM	**Ipoh**	**27.45 287**	P	**P**	**23 28 18.0**	**+1.4**
IPM	**Ipoh**	**27.45 287**	P	**P**	**23 28 17.8**	**+1.2**
YULB	**Yu-li**	**27.71 348**	P	**P**	**23 28 17.9**	**-0.8**
YULB			IAmb	IAmb	23 28 42.2	
comp=Z,115nm,1.4s						
TPUB	**Ta-pu**	**27.76 347**	P	**P**	**23 28 19.2**	**-0.1**
TPUB	**Ta-pu**	**27.76 347**	P	**P**	**23 28 24.3**	**+5.1**
QLP	**Quilipie**	**27.85 146**	P	**P**	**23 28 20.5**	**+0.5**
baz=28,SNR=4.1						
QLP	**Quilpie**	**27.85 146**	P	**P**	**23 28 24.8**	**+4.8**
MNSI	**Mandailing Nat**	**28.00 279**	P	**P**	**23 28 22.0**	**+0.5**
comp=Z,2μmcomp=Z,100nm,1.0s						
KULM	**Kulim**	**28.05 289**	P	**P**	**23 28 22.0**	**0.0**
KULM			IAMs_20	IAMs_20	23 40 19.9	
comp=Z,3μm,19.0s						
KULM	**Kulim**	**28.05 289**	P	**P**	**23 28 23.0**	**+1.0**
SSLB	**Suanglung**	**28.16 348**	P	**P**	**23 28 21.9**	**-0.9**
SSLB			IAmb	IAmb	23 28 36.2	
comp=Z,87nm,1.0s						
SSLB	**Suanglung**	**28.16 348**	P	**P**	**23 28 26.3**	**+3.5**
SISI	**Saibi**	**28.21 274**	P	**P**	**23 28 21.9**	**-1.5**
comp=Z,1μmcomp=Z,45nm,1.5s						
BLDU	**Ballidu**	**28.39 199**	P	**P**	**23 28 25.0**	**+0.3**
baz=29,SNR=23						
BLDU	**Ballidu**	**28.39 199**	P	**P**	**23 28 24.7**	**-0.1**
LCRK	**Leigh Creek**	**28.40 160**	P	**P**	**23 28 25.6**	**+0.7**
NACB	**Ninganchiao**	**28.41 349**	P	**P**	**23 28 24.0**	**-1.0**
NACB			IAmb	IAmb	23 29 01.2	
comp=Z,104nm,1.5s						
QIZ	**Qiongzhong**	**28.47 324**	P	**P**	**23 28 26.9**	**+1.3**
QIZ			pP	**pP**	**23 28 37.8**	**+0.7**
QIZ			S	**S**	**23 33 13.3**	**+3.1**
QIZ			sS	**sS**	**23 33 32.8**	**+3.1**
QIZ			pmax	pmax		
comp=Z,57nm,1.1s						
QIZ			LR	LR		
comp=Z,2μm,20.4s						
QIZ			LR	LR		
comp=Z,1μm,15.1s						
QIZ			LR	LR		
comp=Z,2μm,18.4s						
QIZ	**Qiongzhong**	**28.47 324**	P	**P**	**23 28 23.9**	**-1.7**
QIZ			IAmb	IAmb	23 28 28.2	
comp=Z,169nm,1.5s						
UBPT	**Khong Chiam**	**28.74 312**	P	**P**	**23 28 27.8**	**-0.2**
UBPT			IAmb	IAmb	23 28 30.6	
comp=Z,179nm,1.4s						
YHNB	**Yeheng**	**28.93 349**	P	**P**	**23 28 28.6**	**-1.2**
YHNB			IAmb	IAmb	23 28 50.6	
comp=Z,68nm,0.9s						
YHNB	**Yeheng**	**28.93 349**	P	**P**	**23 28 32.0**	**+2.3**
KLBR	**Kellerberrin**	**28.97 197**	P	**P**	**23 28 30.1**	**+0.2**
baz=29,SNR=18						
KLBR	**Kellerberrin**	**28.97 197**	P	**P**	**23 28 31.0**	**+1.0**
PSI	**Prapat**	**29.04 283**	P	**P**	**23 28 29.8**	**-1.1**
comp=Z,30nm,0.9s,baz=103,slow=8.5						
PSI			LR	LR	23 40 54.0	
comp=Z,2μm,19.5s,baz=122,slow=38						
TSI	**Tuntungan**	**29.55 284**	P	**P**	**23 28 35.6**	**+0.3**
comp=Z,2μmcomp=Z,71nm,1.2s						
MUN	**Mundaring**	**29.81 199**	P	**P**	**23 28 37.7**	**+0.4**
baz=30,SNR=9.8						
MUN	**Mundaring**	**29.81 199**	P	**P**	**23 28 38.2**	**+0.8**
QZH	**Quanzhou**	**29.84 344**	P	**P**	**23 28 37.9**	**+0.2**
QZH			S	**S**	**23 33 33.0**	**+1.3**
QZH			pmax	pmax		
comp=Z,500nm,3.9s						
QZH			LR	LR		
comp=Z,920nm,14.7s						
QZH			LR	LR		
comp=Z,910nm,16.1s						
QZH			LR	LR		
comp=Z,1μm,13.5s						
BBOO	**Buckleboo**	**29.95 165**	P	**P**	**23 28 39.4**	**+0.7**
baz=30,SNR=29						
BBOO	**Buckleboo**	**29.95 165**	P	**P**	**23 28 37.9**	**-0.8**
BBOO			IAmb	IAmb	23 28 41.4	
comp=Z,65nm,1.0s						
BBOO	**Buckleboo**	**29.95 165**	P	**P**	**23 28 39.6**	**+1.0**
GSI	**Gunungsitoli**	**30.07 279**	P	**P**	**23 28 39.3**	**-0.6**
comp=Z,2μmcomp=Z,215nm,1.2s						
GSI	**Gunungsitoli**	**30.07 279**	P	**P**	**23 28 38.5**	**-1.3**
GSI			IAMs_20	IAMs_20	23 42 29.3	
comp=Z,6μm,19.0s						
GSI	**Gunungsitoli**	**30.07 279**	P	**P**	**23 28 40.3**	**+0.4**
SRIT	**Nakonsritamara**	**30.19 294**	P	**P**	**23 28 40.7**	**-0.3**
KCSI	**Kotacane, Aceh**	**30.33 284**	P	**P**	**23 28 40.9**	**-1.3**
comp=Z,989nmcomp=Z,60nm,1.5s						
NWAO	**Narrogin (SRO)**	**30.38 197**	P	**P**	**23 28 43.3**	**+0.9**
RMQ	**Roma**	**30.51 140**	P	P	23 28 49.2	+5.5
JOW	**Kunigami**	**30.54 2**	LR	LR	23 42 56.4	
comp=Z,1μm,19.8s,baz=168,slow=40						
JOW	**Kunigami**	**30.54 2**	P	**P**	**23 28 43.0**	**-0.8**
JOW			IAmb	IAmb	23 28 51.4	
comp=Z,69nm,0.9s						
JOW	**Kunigami**	**30.54 2**	P	P	23 28 50.6	+6.7
comp=Z,90nm,1.0s						
NAPP	**Napperby**	**30.90 162**	P	**P**	**23 28 48.8**	**+1.8**
STKA	**Stephens Creek**	**30.96 156**	P	**P**	**23 28 48.3**	**+0.8**
comp=Z,30nm,1.0s,baz=328,slow=9.7,SNR=19						
STKA			LR	LR	23 40 50.1	
comp=Z,2μm,19.7s,baz=327,slow=35						
STKA	**Stephens Creek**	**30.96 156**	P	**P**	**23 28 48.5**	**+0.9**
baz=31,SNR=20						
STKA	**Stephens Creek**	**30.96 156**	P	**P**	**23 28 47.5**	**-0.1**
STKA	**Stephens Creek**	**30.96 156**	P	**P**	**23 28 49.5**	**+2.0**
HTT	**Hallett**	**31.37 161**	P	**P**	**23 28 52.3**	**+1.1**
baz=32,SNR=15						
HTT	**Hallett**	**31.37 161**	P	**P**	**23 28 52.5**	**+1.3**
LHMI	**Lhok Sumawe**	**31.56 286**	P	**P**	**23 28 55.3**	**+2.3**
comp=Z,3μmcomp=Z,3μmcomp=Z,254nm,1.5s						
LHMI	**Lhok Sumawe**	**31.56 286**	P	**P**	**23 28 52.1**	**-0.9**
LHMI	**Lhok Sumawe**	**31.56 286**	P	**P**	**23 28 55.7**	**+2.7**
CMSA	**Cobar Meteorol**	**32.55 150**	P	**P**	**23 29 02.5**	**+1.0**
baz=33,SNR=25						
CMSA	**Cobar Meteorol**	**32.55 150**	P	**P**	**23 29 02.8**	**+1.3**
TWOA	**Tennyson Woods**	**32.75 163**	P	**P**	**23 29 06.0**	**+2.8**
PATS	**Pohnpei**	**32.81 71**	IAMs_20	IAMs_20	23 39 58.5	
comp=Z,6μm,20.0s						
HNR	**Honiara**	**32.96 101**	LR	LR	23 43 03.5	
comp=Z,2μm,21.6s,baz=269,slow=37						
HNR	**Honiara**	**32.96 101**	P	**P**	**23 29 03.2**	**-2.1**
HNR			pmax	pmax		
comp=Z,108nm,1.1s						
HNR			MLR	MLR		
comp=Z,2μm,22.0s						
HNR	**Honiara**	**32.96 101**	P	**P**	**23 29 03.2**	**-2.1**
HNR			IAmb	IAmb	23 29 31.3	
comp=Z,108nm,1.1s						
GULI	**GuiLin**	**33.29 331**	⇓P	**P**	**23 29 10.9**	**+2.9**
GULI			S	**S**	**23 34 33.5**	**+8.0**
GULI			pmax	pmax		
comp=Z,20nm,0.8s						
GULI			pmax	pmax		
comp=Z,320nm,4.7s						
GULI			LR	LR		
comp=Z,2μm,20.6s						
GULI			LR	LR		
comp=Z,2μm,21.7s						
GULI			LR	LR		
comp=Z,2μm,19.1s						
SLVN	**Son La**	**33.90 319**	P	**P**	**23 29 12.7**	**-0.8**
SLVN			IAmb	IAmb	23 29 17.0	
comp=Z,64nm,1.3s						
JCJ	**Chichijima**	**34.02 24**	P	**P**	**23 29 14.2**	**-0.1**
CNSH	**ChangSha**	**34.71 338**	⇓P	**P**	**23 29 21.3**	**+1.0**
CNSH			S	**S**	**23 34 50.8**	**+3.4**
CNSH			LR	LR		
comp=Z,1μm,21.5s						
CNSH			LR	LR		
comp=Z,2μm,24.9s						
CNSH			LR	LR		
comp=Z,2μm,17.8s						
ARMA	**Armidale**	**35.05 142**	P	**P**	**23 29 23.8**	**+0.3**
baz=35,SNR=4.0						
ARMA	**Armidale**	**35.05 142**	P	**P**	**23 29 22.4**	**-1.1**
SSE	**Sheshan**	**35.24 351**	P	**P**	**23 29 24.8**	**-0.1**
SSE			S	**S**	**23 34 55.1**	**-0.4**
SSE			pmax	pmax		
comp=Z,14nm,0.7s						
SSE			pmax	pmax		
comp=Z,130nm,3.9s						
SSE			LR	LR		
comp=Z,470nm,17.4s						
SSE			LR	LR		
comp=Z,270nm,15.7s						
ARPS	**Mount Arapiles**	**35.39 160**	P	**P**	**23 29 27.5**	**+1.4**
baz=36,SNR=29						
ARPS	**Mount Arapiles**	**35.39 160**	P	**P**	**23 29 28.2**	**+2.1**
CM31	**Chiang Mai Arr**	**35.61 309**	P	**P**	**23 29 28.1**	**-0.2**
CM31			IAmb	IAmb	23 29 31.5	
comp=Z,178nm,1.6s						
CMAR	**Chiang Mai Arr**	**35.61 309**	P	**P**	**23 29 28.9**	**+0.6**
comp=Z,12nm,0.9s,baz=134,slow=5.6,SNR=41						
CMAR			ScP	**ScP**	**23 35 41.3**	**+2.3**
comp=Z,0.8nm,0.3s,baz=152,slow=3.2,SNR=5.2						
CMAR			LR	LR	23 45 05.8	
comp=Z,3μm,20.6s,baz=115,slow=38						
CMAR	**Chiang Mai Arr**	**35.61 309**	*ce*P	**P**	**23 29 29.2**	**+0.9**
CMAR			pmax	pmax		
comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**35.61 309**	P	**P**	**23 29 27.6**	**-0.6**
CHTO	**Chiang Mai**	**35.82 310**	P	**P**	**23 29 29.6**	**-0.4**
CHTO			pmax	pmax		
comp=Z,128nm,1.4s						
CHTO			MLR	MLR		
comp=Z,3μm,20.0s						
CHTO	**Chiang Mai**	**35.82 310**	P	**P**	**23 29 30.7**	**+0.6**
CHTO			S	**S**	**23 35 09.1**	**+4.3**
CHTO	**Chiang Mai**	**35.82 310**	P	**P**	**23 29 29.6**	**-0.4**
CHTO			IAmb	IAmb	23 29 33.1	
comp=Z,128nm,1.4s						
CHTO	**Chiang Mai**	**35.82 310**	IAMs_20	IAMs_20	23 44 39.6	
comp=Z,3μm,20.0s						
CHTO	**Chiang Mai**	**35.82 310**	P	**P**	**23 29 31.4**	**+1.4**
GYA	**Guiyang**	**36.12 328**	⇑P	**P**	**23 29 33.3**	**+0.7**
GYA			pP	pP	23 29 45.1	+0.7
GYA			S	**S**	**23 35 13.3**	**+3.9**
GYA			pmax	pmax		
comp=Z,54nm,1.2s						
GYA			pmax	pmax		
comp=Z,320nm,3.6s						
GYA			LR	LR		
comp=Z,1μm,20.6s						
GYA			LR	LR		
comp=Z,1μm,14.3s						
GYA			LR	LR		
comp=Z,2μm,25.6s						
WHN	**Wuhan**	**36.37 341**	⇑P	**P**	**23 29 35.5**	**+1.0**
WHN			S	**S**	**23 35 15.1**	**+2.4**
WHN			pmax	pmax		
comp=Z,240nm,1.5s						
WHN			LR	LR		
comp=Z,2μm,8.4s						
WHN			LR	LR		
comp=Z,4μm,16.4s						
WHN			LR	LR		
comp=Z,4μm,24.8s						
NJ2	**Nanjing**	**36.60 348**	⇓P	**P**	**23 29 37.3**	**+0.9**
NJ2			sP	**sP**	**23 29 55.5**	**+2.0**
NJ2			PcP	**PcP**	**23 32 01.6**	**+2.5**
NJ2			S	**S**	**23 35 18.4**	**+2.1**
NJ2			sS	**sS**	**23 35 37.8**	**+1.8**
NJ2			SS	**SnSn**	**23 37 42.9**	**-6.3**
NJ2			ScS	**ScS**	**23 39 48.9**	**-0.1**
NJ2			pmax	pmax		
comp=Z,24nm,1.3s						
NJ2			pmax	pmax		
comp=Z,250nm,3.5s						
NJ2			LR	LR		
comp=Z,930nm,18.4s						
NJ2			LR	LR		
comp=Z,990nm,18.4s						
NJ2			LR	LR		
comp=Z,2μm,24.3s						
JNU	**Nakatsue**	**36.96 5**	LR	LR	23 43 22.2	
comp=Z,1μm,21.8s,baz=178,slow=34						
JNU	**Nakatsue**	**36.96 5**	P	**P**	**23 29 37.9**	**-1.7**
JNU			IAmb	IAmb	23 29 52.1	
comp=Z,123nm,1.7s						
JNU	**Nakatsue**	**36.96 5**	P	**P**	**23 29 43.9**	**+4.4**
CAN	**Canberra**	**37.23 150**	P	**P**	**23 29 41.7**	**-0.2**
CAN			pmax	pmax		
comp=Z,410nm,2.0s						
CAN			MLR	MLR		
comp=Z,4μm,19.0s						
CAN	**Canberra**	**37.23 150**	P	**P**	**23 29 41.7**	**-0.2**
CAN			IAMs_20	IAMs_20	23 47 53.0	
comp=Z,4μm,19.0s						
CAN	**Canberra**	**37.23 150**	P	**P**	**23 29 41.3**	**-0.6**
KMI	**Kunming**	**37.36 322**	⇑P	**P**	**23 29 44.8**	**+1.5**
KMI			pP	sP	23 29 59.0	-1.4
KMI			sP	pP	23 30 06.5	+11
KMI			S	**S**	**23 35 32.6**	**+4.1**
KMI			SS	**SnSn**	**23 38 07.3**	**-0.8**
KMI			pmax	pmax		
comp=Z,53nm,1.7s						
KMI			pmax	pmax		
comp=Z,340nm,3.5s						
KMI			LR	LR		
comp=Z,1μm,20.3s						
KMI			LR	LR		
comp=Z,1μm,20.3s						
KMI			LR	LR		
comp=Z,1μm,21.5s						
CNB	**Canberra Magne**	**37.40 149**	P	**P**	**23 29 43.8**	**+0.4**
baz=38,SNR=4.7						
CNB	**Canberra Magne**	**37.40 149**	P	**P**	**23 29 47.5**	**+4.1**
TOO	**Toolangi**	**37.48 156**	P	**P**	**23 29 45.1**	**+1.1**
baz=38,SNR=7.5						
TOO	**Toolangi**	**37.48 156**	P	**P**	**23 29 44.6**	**+0.6**
TOO			pmax	pmax		
comp=Z,64nm,1.2s						
TOO	**Toolangi**	**37.48 156**	P	**P**	**23 29 44.6**	**+0.6**
TOO	**Toolangi**	**37.48 156**	P	**P**	**23 29 46.0**	**+2.0**
PBA	**Port Blair**	**37.60 295**	P	**P**	**23 29 44.0**	**-1.1**
PBA			IAmb	IAmb	23 30 31.2	
comp=Z,172nm,1.2s						
JMN	**Monobe**	**37.92 9**	P	**P**	**23 29 47.5**	**-0.2**
JMN			IAmb	IAmb	23 30 24.4	
comp=Z,122nm,1.4s						
ENH	**Enshi**	**37.95 335**	P	**P**	**23 29 47.6**	**-0.4**
ENH			IAmb	IAmb	23 30 07.7	
comp=Z,102nm,1.2s						
ENH			IAMs_20	IAMs_20	23 45 52.9	
comp=Z,2μm,20.0s						
JHJ	**Hachijo jima 2**	**38.67 17**	LR	LR	23 44 54.8	
comp=Z,1μm,20.7s,baz=185,slow=35						
JHS	**Saijyo**	**39.06 8**	P	**P**	**23 29 56.7**	**-0.6**
TJN	**Taejon**	**40.04 0**	⇓*e*P	**P**	**23 30 05.5**	**+0.2**
TJN	**Taejon**	**40.04 0**	P	**P**	**23 30 09.4**	**+4.1**
comp=Z,110nm,1.5s						
INU	**Inuyama**	**40.09 12**	P	**P**	**23 30 04.9**	**-0.9**
INU	**Inuyama**	**40.09 12**	P	**P**	**23 30 07.4**	**+1.7**
JGF	**Kuroka**	**40.40 13**	P	**P**	**23 30 08.7**	**+0.3**
LYN	**LuoYang**	**40.66 341**	⇑P	**P**	**23 30 10.3**	**-0.2**
LYN			pP	pP	23 30 23.1	+0.3
LYN			sP	sP	23 30 26.5	-1.6
LYN			S	**S**	**23 36 13.8**	**-3.8**
LYN			pmax	pmax		
comp=Z,20nm,1.2s						
LYN			pmax	pmax		
comp=Z,2μm,4.3s						
LYN			LR	LR		
comp=Z,1μm,20.1s						
LYN			LR	LR		
comp=Z,2μm,21.6s						
TIA	**Tai'an**	**40.98 348**	*e*P	**P**	**23 30 09.5**	**-3.6**
TIA			S	**S**	**23 36 22.3**	**+0.1**
TIA			pmax	pmax		
comp=Z,11nm,1.7s						
TIA			pmax	pmax		
comp=Z,250nm,7.5s						
TIA			LR	LR		
comp=Z,680nm,17.1s						
TIA			LR	LR		
comp=Z,580nm,12.8s						
TIA			LR	LR		
comp=Z,970nm,20.6s						
SANVU	**Saraoutou**	**40.98 109**	P	**P**	**23 30 12.6**	**-0.9**
SANVU	**Saraoutou**	**40.98 109**	P	**P**	**23 30 16.2**	**+2.8**
KSAR	**Wonju Array Be**	**41.11 1**	P	**P**	**23 30 14.0**	**-0.1**
KSAR	**Wonju Array Be**	**41.11 1**	P	**P**	**23 30 13.9**	**-0.1**
KSRS	**Korea Array**	**41.12 1**	P	**P**	**23 30 14.8**	**+0.5**
comp=Z,11nm,0.8s,baz=179,slow=9.7,SNR=24						
KSRS			PcP	**PcP**	**23 32 15.0**	**+1.9**
comp=Z,7.4nm,0.9s,baz=184,slow=4.0,SNR=6.6						
KSRS			LR	LR	23 49 37.1	
comp=Z,373nm,19.6s,baz=180,slow=40						
INCN	**Inchon**	**41.15 359**	P	**P**	**23 30 13.3**	**-1.2**
INCN			pmax	pmax		
comp=Z,59nm,1.3s						
INCN			MLR	MLR		
comp=Z,2μm,21.0s						
INCN	**Inchon**	**41.15 359**	P	**P**	**23 30 13.3**	**-1.2**
INCN	**Inchon**	**41.15 359**	IAMs_20	IAMs_20	23 46 46.1	
comp=Z,2μm,21.0s						
KS19	**Wonju Array Si**	**41.17 1**	P	**P**	**23 30 13.8**	**-0.9**
CD2	**Chengdu**	**41.20 329**	P	**P**	**23 30 15.0**	**-0.1**
CD2			S	**S**	**23 36 26.0**	**+0.2**
CD2			pmax	pmax		
comp=Z,80nm,1.3s						
CD2			pmax	pmax		
comp=Z,290nm,4.3s						
CD2			LR	LR		
comp=Z,130nm,14.7s						
CD2			LR	LR		
comp=Z,1μm,17.9s						
CD2			LR	LR		
comp=Z,1μm,18.6s						
XAN	**Xi'an**	**41.47 337**	P	**P**	**23 30 16.6**	**-0.7**
XAN			pP	pP	23 30 26.6	-3.0
XAN			sP	sP	23 30 31.3	-3.6
XAN			S	**S**	**23 36 28.4**	**-1.3**
XAN			SS	**SS**	**23 39 31.1**	**-4.5**
XAN			pmax	pmax		
comp=Z,48nm,1.6s						
XAN			pmax	pmax		
comp=Z,110nm,5.2s						
XAN			LR	LR		
comp=Z,1μm,16.5s						
XAN			LR	LR		
comp=Z,2μm,20.6s						
XAN			LR	LR		
comp=Z,2μm,22.0s						
MJAR	**Matsushiro Arr**	**41.50 13**	P	**P**	**23 30 18.1**	**+0.7**
comp=Z,18nm,0.9s,baz=188,slow=9.2,SNR=22						
MJAR			ScP	**ScP**	**23 36 02.4**	**+1.3**
comp=Z,1.1nm,0.5s,baz=202,slow=6.5,SNR=1.5						
MJAR			LR	LR	23 45 12.3	
comp=Z,1μm,21.6s,baz=190,slow=33						
MJAR	**Matsushiro Arr**	**41.50 13**	P	**P**	**23 30 16.3**	**-1.1**
MAJO	**Matsushiro**	**41.50 13**	⇓*e*P	**P**	**23 30 19.1**	**+1.7**
MAJO			pmax	pmax		
comp=Z,47nm,1.2s						
MAJO	**Matsushiro**	**41.50 13**	P	**P**	**23 30 16.2**	**-1.2**
MAJO			IAmb	IAmb	23 30 26.2	
comp=Z,196nm,2.0s						
MAJO	**Matsushiro**	**41.50 13**	IAMs_20	IAMs_20	23 44 50.2	
comp=Z,2μm,21.0s						
MAJO	**Matsushiro**	**41.50 13**	P	**P**	**23 30 19.7**	**+2.3**
MAT	**Matsushiro**	**41.50 13**	P	**P**	**23 30 16.1**	**-1.3**
MAT			S	**S**	**23 36 29.8**	**-0.1**
MJB9	**Matsu-Tunnel**	**41.50 13**	P	**P**	**23 30 16.2**	**-1.2**
MJB9			IAmb	IAmb	23 30 26.2	
comp=Z,190nm,2.0s						
DZM	**Mont Dzumac**	**42.10 119**	LR	LR	23 48 17.9	
comp=Z,967nm,18.6s,baz=296,slow=37						
DZM	**Mont Dzumac**	**42.10 119**	*e*P	**P**	**23 30 21.6**	**-1.1**
comp=Z,89nm,1.4s						
DZM			*e*S	**S**	**23 36 38.0**	**-1.5**
comp=Z,2μm,28.4s						
DZM			*e*LR	LR	23 42 07.6	
comp=Z,4μm,26.1s						
DZM	**Mont Dzumac**	**42.10 119**	P	**P**	**23 30 21.7**	**-1.0**
DZM	**Mont Dzumac**	**42.10 119**	P	**P**	**23 30 27.0**	**+4.3**
LIFNC	**LIFOU**	**42.39 117**	P	**P**	**23 30 22.7**	**-2.1**
LIFNC			IAmb	IAmb	23 30 38.0	
comp=Z,73nm,0.9s						
OUENC	**Ouen Island, N**	**42.56 119**	P	**P**	**23 30 25.1**	**-1.2**
HNS	**HongShan**	**42.68 345**	⇓P	**P**	**23 30 25.4**	**-1.6**
HNS			S	**S**	**23 36 46.8**	**-0.5**
HNS			SS	**SS**	**23 39 55.5**	**-3.6**
HNS			pmax	pmax		
comp=Z,25nm,1.4s						
HNS			LR	LR		
comp=Z,840nm,19.4s						
HNS			LR	LR		
comp=Z,430nm,13.2s						
HNS			LR	LR		
comp=Z,870nm,20.8s						
JSD	**Sado**	**42.94 13**	P	**P**	**23 30 28.2**	**-0.9**
JSD			IAmb	IAmb	23 30 41.9	
comp=Z,197nm,1.7s						
IMP	**Imphal**	**43.12 313**	*e*P	**P**	**23 30 30.7**	**-0.1**
PINNC	**Pines Island,**	**43.15 119**	P	**P**	**23 30 30.0**	**-1.1**
PINNC			IAmb	IAmb	23 30 53.2	
comp=Z,89nm,1.3s						
LKP	**Lekhapani**	**43.35 318**	*e*P	**P**	**23 30 31.8**	**-0.7**
JMM	**Marumori**	**43.40 16**	P	**P**	**23 30 31.9**	**-0.9**
KOHI	**KOHIMA**	**43.54 314**	*e*P	**P**	**23 30 33.8**	**-0.5**
KOHI			IAmb	IAmb	23 30 37.6	
comp=Z,137nm,0.6s						
TIY	**Taiyuan**	**43.60 343**	*e*P	**P**	**23 30 35.4**	**+0.9**
TIY			S	**S**	**23 36 58.9**	**-2.0**
TIY			SS	**SS**	**23 40 10.9**	**-6.3**
TIY			ScS	**ScS**	**23 40 30.4**	**-0.1**
TIY			pmax	pmax		
comp=Z,16nm,0.6s						
TIY			pmax	pmax		
comp=Z,120nm,3.7s						
TIY			LR	LR		
comp=Z,970nm,15.8s						
TIY			LR	LR		
comp=Z,530nm,18.5s						
TIY			LR	LR		
comp=Z,840nm,17.9s						
MOKO	**MOKOCHONG**	**43.62 315**	*e*P	**P**	**23 30 35.1**	**+0.2**
MOKO			IAmb	IAmb	23 30 38.7	
comp=Z,148nm,1.7s						
ITAN	**ITANAGAR**	**44.68 316**	*e*P	**P**	**23 30 43.5**	**+0.2**
ITAN			IAmb	IAmb	23 30 46.8	
comp=Z,140nm,0.6s						
BJT	**Baijiatuau**	**44.84 348**	P	**P**	**23 30 43.2**	**-1.1**
BJT			pmax	pmax		
comp=Z,28nm,1.0s						
BJT			MLR	MLR		
comp=Z,600nm,19.0s						
BJT	**Baijiatuau**	**44.84 348**	P	**P**	**23 30 43.1**	**-1.1**
BJI	**Beijing**	**44.86 348**	P	**P**	**23 30 43.9**	**-0.5**
BJI			PP	**PcP**	**23 32 27.3**	**+1.7**
BJI			S	**S**	**23 37 16.6**	**-2.4**
BJI			pmax	pmax		
comp=Z,24nm,1.6s						
BJI			pmax	pmax		
comp=Z,330nm,8.3s						
BJI			LR	LR		
comp=Z,630nm,21.0s						
BJI			LR	LR		
comp=Z,500nm,22.4s						
BJI			LR	LR		
comp=Z,610nm,18.1s						
SHL	**Shillong**	**45.06 312**	P	**P**	**23 30 45.4**	**-1.1**
SHL			pmax	pmax		
comp=Z,108nm,1.0s						
SHL	**Shillong**	**45.06 312**	*e*P	**P

SNR=56
SHL Shillong 45.06 312 P P 23 30 45.4 -1.1
SHL IAmb IAmb 23 30 49.3
comp=Z,108nm,1.0s
LZH Lanzhou 45.37 333 ⇑P P 23 30 49.3 +0.5
LZH pP pP 23 31 00.0 -0.9
LZH sP sP 23 31 04.3 -1.7
LZH PcP **PcP 23 32 29.5 +1.8**
LZH S **S 23 37 28.4 +1.5**
LZH SS **ScS 23 40 44.5 +2.5**
LZH pmax pmax
comp=Z,60nm,1.3s
LZH pmax pmax
comp=Z,370nm,6.0s
LZH LR LR
comp=Z,1μm,12.9s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,1μm,17.0s
SNY Shenyang 45.60 356 ⇑P P 23 30 50.6 +0.3
SNY S **S 23 37 33.8 +4.1**
SNY pmax pmax
comp=Z,22nm,1.7s
SNY LR LR
comp=Z,930nm,18.5s
SNY LR LR
comp=Z,810nm,15.9s
SNY LR LR
comp=Z,2μm,22.0s
MSHR Mys Shultsa 46.37 4⇓eP P 23 30 58.3 +1.9
MSHR pmax pmax
comp=Z,37nm,1.1s
HHC Hu-ho-hao-te 46.76 344 eP P 23 30 59.4 -0.2
HHC S **S 23 37 40.1 -6.5**
HHC sS sS 23 38 04.8 -1.9
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,290nm,5.7s
HHC LR LR
comp=Z,590nm,16.5s
HHC LR LR
comp=Z,940nm,15.2s
HHC LR LR
comp=Z,680nm,15.6s
VLA Vladivostok 46.97 5⇓eP P 23 31 00.1 -0.9
VLA pmax pmax
comp=Z,19nm,0.7s
BTO Baotou 46.98 342 eP P 23 31 02.3 +1.0
BTO S **S 23 37 48.8 -1.0**
BTO LR LR
comp=Z,3μm,18.4s
BTO LR LR
comp=Z,4μm,22.2s
CN2 Changchun 47.48 358 eP P 23 31 03.6 -1.4
CN2 *e*sP sP 23 31 21.5 -1.1
CN2 *e*PP **PP 23 32 54.8 -2.1**
CN2 *e*S **S 23 37 54.8 -1.8**
CN2 *e*sS sS 23 38 15.8 -0.9
CN2 *e*SS **SS 23 41 17.1 -8.0**
CN2 pmax pmax
comp=Z,10.0nm,1.8s
CN2 pmax pmax
comp=Z,310nm,7.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,530nm,17.0s
CN2 LR LR
comp=Z,1μm,18.0s
PALK Pallekele 47.72 283 LR LR 23 52 21.1
comp=Z,2μm,20.8s,baz=216,slow=38
PALK Pallekele 47.72 283 P P 23 31 05.8 -1.6
PALK pmax pmax
comp=Z,87nm,1.8s
PALK MLR MLR
comp=Z,2μm,21.0s
PALK Pallekele 47.72 283 P P 23 31 06.2 -1.3
PALK Pallekele 47.72 283 P P 23 31 05.8 -1.6
PALK IAmb IAmb 23 31 30.6
comp=Z,87nm,1.8s
PALK Pallekele 47.72 283 IAMs_20 IAMs_20 23 52 00.2
comp=Z,2μm,21.0s
CHLP Challavanipeta 47.97 299 eP P 23 31 09.0 -0.2
LSA Lhasa 48.04 316 P P 23 31 11.6 +1.4
LSA S **S 23 38 05.6 -0.3**
LSA pmax pmax
comp=Z,260nm,1.2s
LSA LR LR
comp=Z,2μm,19.2s
LSA LR LR
comp=Z,2μm,16.4s
LSA LR LR
comp=Z,3μm,19.2s
USRK Ussuriysk Ar. 48.05 5 P P 23 31 09.6 +0.2
comp=Z,14nm,0.8s,baz=182,slow=6.8,SNR=14
USRK ScP **ScP 23 36 30.3 +2.5**
comp=Z,2.5nm,0.8s,baz=191,slow=4.4,SNR=2.7
USRK Ussuriysk Ar. 48.05 5 P P 23 31 08.9 -0.4
USA0B Ussuriysk Arra 48.05 5 P P 23 31 09.2 -0.2
USA0B pmax pmax
comp=Z,148nm,1.8s
USA0B Ussuriysk Arra 48.05 5 P P 23 31 09.2 -0.2
JEW Eniwo 48.25 14 P P 23 31 11.4 +0.4
VIS Vishakhapatnam 48.31 298 *e*P **P 23 31 11.4 -0.4**
MDJ Mudanjiang 48.32 2 P P 23 31 12.6 +1.1
MDJ pP pP 23 31 25.1 +1.1
MDJ sP sP 23 31 30.6 +1.4
MDJ S **S 23 38 12.8 +4.4**
MDJ pmax pmax
comp=Z,65nm,1.1s
MDJ pmax pmax
comp=Z,290nm,4.4s
MDJ LR LR
comp=Z,930nm,17.2s
MDJ LR LR
comp=Z,680nm,17.7s
MDJ LR LR
comp=Z,2μm,21.8s
MDJ Mudanjiang 48.32 2 P P 23 31 11.2 -0.2
XLT XiLinHaoTe 48.60 349 *e*P **P 23 31 13.1 -0.7**
XLT sP sP 23 31 30.9 +0.2
XLT S **S 23 38 11.5 -1.1**
XLT pmax pmax
comp=Z,30nm,1.3s
XLT pmax pmax
comp=Z,250nm,4.2s
XLT LR LR
comp=Z,670nm,16.8s
XLT LR LR
comp=Z,980nm,18.1s
XLT LR LR
comp=Z,560nm,18.5s
BOK Bokaro 48.75 306 *e*P **P 23 31 15.6 +0.4**
BNX BinXian 49.39 0 ⇑P P 23 31 19.8 +0.1
BNX pP **pP 23 31 32.0 +0.2**
BNX sP **sP 23 31 37.4 +0.6**
BNX PP **PP 23 33 19.1 +4.9**
BNX S **S 23 38 25.9 +2.4**
BNX sS **sS 23 38 47.0 +3.3**
BNX pmax pmax
comp=Z,9.0nm,1.4s
BNX pmax pmax
comp=Z,240nm,7.1s
BNX LR LR
comp=Z,940nm,19.5s
BNX LR LR
comp=Z,440nm,16.3s
BNX LR LR
comp=Z,2μm,20.1s
PVM Polavaram 49.65 296 *e*P **P 23 31 21.7 -0.5**
ASAJ Asahikawa 49.73 14 P P 23 31 22.4 +0.1
comp=Z,25nm,1.1s,baz=236,slow=11
JKA Kamikawa-asahi 49.73 15 P P 23 31 22.4 0.0
JKA IAmb IAmb 23 31 47.0
comp=Z,54nm,1.2s
GTA Gaotai 49.92 332 ⇑P P 23 31 23.8 -0.2
GTA pP pP 23 31 34.0 -2.3
GTA sP sP 23 31 38.0 -3.4
GTA PcP **PcP 23 32 44.8 +0.9**
GTA ScP **ScP 23 36 38.9 +2.8**
GTA S **S 23 38 31.8 +0.4**
GTA sS sS 23 38 53.6 +1.9
GTA ScS **ScS 23 41 11.3 -0.7**
GTA pmax pmax
comp=Z,27nm,1.8s
GTA pmax pmax
comp=Z,170nm,5.1s
GTA LR LR
comp=Z,570nm,20.0s
GTA LR LR
comp=Z,820nm,21.1s
GTA LR LR
comp=Z,1μm,21.8s
GOMU GeErMu 50.06 326 P P 23 31 24.8 -0.6
GOMU sP pP 23 31 40.3 +2.6
GOMU PP **PP 23 33 27.3 +6.4**
GOMU S **S 23 38 36.5 +2.6**
GOMU sS sS 23 38 59.9 +5.7
GOMU pmax pmax
comp=Z,17nm,1.8s
GOMU LR LR
comp=Z,810nm,19.2s
GOMU LR LR
comp=Z,780nm,17.1s
GOMU LR LR
comp=Z,410nm,18.8s
MYLAV Mylavaram 50.37 295 *e*P **P 23 31 26.8 -0.8**
YUK Yuzh-Kuril'sk 50.55 17 *e*P **P 23 31 28.6 +0.1**
YUK *e* 23 32 45.6
YUK *e* 23 33 24.8
YUK *e*PPP PPP 23 34 21.4
YUK *e*S **S 23 38 40.3 +0.7**
YUK *e* 23 41 14.4
YUK *e*SS **SS 23 42 15.4 +1.0**
YUK *e*SSS SSS 23 43 48.7
YUK pmax pmax
comp=Z,185nm,1.2s
YUK pmax pmax
comp=N,123nm,1.4s
YUK pmax pmax
comp=E,218nm,1.5s
YUK pmax pmax
comp=Z,254nm,1.5s
YUK MLR MLR
comp=N,526nm,17.0s
YUK MLR MLR
comp=Z,365nm,17.0s
YUK MLR MLR
comp=E,269nm,14.0s
ADKI Addanki 50.68 294 *e*P **P 23 31 29.6 -0.4**
ADKI *e*S **S 23 38 47.9 +5.6**
GUN Gumba 50.82 311 *e*P **P 23 31 31.0 -0.3**
comp=E,154nm,0.7s
PKI Pulchoki 51.00 310 *e*P **P 23 31 31.8 -0.8**
PKIN Phulchoki 51.01 310 *e*P **P 23 31 31.7 -1.0**
KKN Kakani 51.21 311 *e*P **P 23 31 33.6 -0.5**
DMN Daman 51.25 310 *e*P **P 23 31 34.1 -0.3**
comp=E,12nm,0.3s
RCLA Racherla 51.48 293 *e*P **P 23 31 34.5 -1.5**
RCLA *e*S **S 23 38 57.9 +4.4**
NJS Nagarjunasagar 51.51 295 *e*P **P 23 31 34.6 -1.6**
MSVF Nonsavu 51.62 110 LR LR 23 54 11.0
comp=E,1μm,19.9s,baz=298,slow=37
MSVF Nonsavu 51.62 110⇓eP **P 23 31 37.3 +0.2**
MSVF pmax pmax
comp=Z,13nm,1.0s
MSVF Nonsavu 51.62 110 P **P 23 31 37.0 -0.2**
MSVF IAmb IAmb 23 31 53.0
comp=Z,75nm,1.4s
SRLM Srisailam 51.74 294 *e*P **P 23 31 37.0 -1.0**
SRLM *e*S **S 23 39 01.0 +4.0**
GKN Gorkha 51.81 310 *e*P **P 23 31 38.0 -0.5**
comp=Z,26nm,0.3s
CUPL Choutuppal 52.10 295 *e*P **P 23 31 39.1 -1.5**
YSS Yuzh-Sakhalins 52.44 13 *e*P **P 23 31 44.9 +2.4**
YSS *e* 23 33 41.0
YSS *e*S **S 23 39 03.7 -1.8**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS MLR MLR
comp=Z,600nm,19.0s
YSS MLR MLR
comp=E,500nm,15.0s
YSS Yuzh-Sakhalins 52.44 13 P **P 23 31 43.2 +0.7**
HYB Hyderabad 52.47 295 *e*P **P 23 31 40.8 -2.5**
HYB IAmb IAmb 23 31 46.1
comp=Z,31nm,2.2s
HYBB Hyderabad (bro 52.47 295 *e*P **P 23 31 42.0 -1.4**
HYBB *e*PP **PP 23 33 42.1 -0.5**
HYBB *e*S **S 23 39 11.3 +4.3**
HYBB *e*ScS **ScS 23 41 33.5 +3.3**
KOLN Koldanda 52.48 310 *e*P **P 23 31 43.3 -0.3**
comp=Z,235nm,1.0s
DANN Dangsing 52.65 310 *e*P **P 23 31 44.3 -0.6**
comp=Z,97nm,0.6s
URV Uravakonda 52.89 292 *e*P **P 23 31 45.2 -1.4**
URV *e*S **S 23 39 16.5 +3.6**
KLR Kul'dur 53.03 4 PcP **PcP 23 32 55.6 +0.6**
baz=229,slow=2.8
KLR LR LR 23 54 57.7
comp=Z,465nm,20.9s,baz=182,slow=37
KLR Kul'dur 53.03 4*de*P **P 23 31 47.4 +0.5**
KLR pmax pmax
comp=Z,45nm,1.5s
PYUN Piuthan 53.12 310 *e*P **P 23 31 47.9 -0.3**
comp=Z,420nm,1.3s
SRSP Sriramsagar 53.16 297 *e*P **P 23 31 47.5 -0.9**
HIA Hailar 53.32 354*de*P **P 23 31 49.2 +0.1**
HIA pmax pmax
comp=Z,27nm,1.7s
HIA Hailar 53.32 354 P **P 23 31 49.0 -0.1**
HIA Hailar 53.32 354 IAMs_20 IAMs_20 23 55 34.5
comp=Z,1μm,19.0s
JBP Jabalpur 53.33 303 *e*P **P 23 31 49.3 -0.2**
JBP *e*S **S 23 39 18.8 +0.3**
DCZ Deep Cove 54.12 146 IAMs_20 IAMs_20 23 55 31.4
comp=Z,3μm,20.0s
UGL Uglegorsk 54.30 12 *e*P **P 23 31 57.5 +1.4**
UGL *e*S **S 23 39 32.1 +1.4**
UGL pmax pmax
comp=Z,70nm,1.0s
UGL MLR MLR
comp=E,1μm,20.0s
UGL MLR MLR
comp=N,1μm,19.0s
UGL MLR MLR
comp=Z,1μm,19.0s
KAAM Kaadhehdhoo 54.36 273 P **P 23 31 56.1 -1.2**
KAAM Kaadhehdhoo 54.36 273 IAMs_20 IAMs_20 23 53 35.1
comp=Z,2μm,22.0s
ULN Ulaanbaatar 54.48 343*ce*P **P 23 31 57.3 -0.4**
ULN pmax pmax
comp=Z,55nm,1.3s
ULN Ulaanbaatar 54.48 343 P **P 23 31 58.2 +0.4**
ULN P **P 23 31 58.2 +0.4**
ULN Ulaanbaatar 54.48 343 P **P 23 31 57.1 -0.6**
ULN IAmb IAmb 23 32 23.8
comp=Z,60nm,1.2s
FOZ Fox Glacier 54.53 143 P **P 23 31 58.4 +0.3**
FOZ IAmb IAmb 23 32 10.6
comp=Z,76nm,1.5s
DGAR Diego Garcia 54.58 264 IAMs_20 IAMs_20 23 58 02.2
comp=Z,1μm,18.0s
SONM Songino Array 54.64 343 P **P 23 31 58.9 0.0**
comp=Z,23nm,1.1s,baz=160,slow=7.4,SNR=57
SONM PcP **PcP 23 33 02.1 +0.8**
comp=Z,5.6nm,0.8s,baz=155,slow=4.1,SNR=4.2
SONM ScP **ScP 23 36 57.7 +1.3**
comp=Z,1.3nm,0.8s,baz=143,slow=5.0,SNR=4.8
SONM PKP2bc 00 02 21.6
comp=Z,0.7nm,1.0s,baz=214,slow=1.6,SNR=3.7
SONM Songino Array 54.64 343 P **P 23 31 58.2 -0.6**
QRZ Quartz Range 54.82 139 IAMs_20 IAMs_20 23 56 21.9
comp=Z,3μm,19.0s
GRNR Gornyy 55.00 7⇓*i*P **P 23 32 02.2 +0.9**
GRNR *e*S **S 23 39 46.5 +6.3**
GRNR pmax pmax
comp=N,4.0nm,1.0s
GRNR pmax pmax
comp=Z,6.0nm,1.0s
GRNR smax smax
comp=N,1.0nm,0.8s
GRNR MLR MLR
comp=E,170nm,14.0s
GRNR MLR MLR
comp=N,310nm,15.0s
GRNR MLR MLR
comp=Z,280nm,16.0s
RPZ Rata Peaks 55.39 142 P **P 23 32 04.6 +0.3**
BHPL Bhopal 55.52 302 *e*P **P 23 32 03.9 -1.7**
BHPL IAmb IAmb 23 32 06.1
comp=Z,30nm,2.2s
NNZ Nelson 55.57 139 IAMs_20 IAMs_20 23 56 44.8
comp=Z,2μm,19.0s
TUWZ Tuamarina 56.05 139 P **P 23 32 08.6 -0.4**
TYV Tymovskoe 56.11 12 *e*P P 23 32 17.8 +8.6
TYV *e*S S 23 40 16.3 +21
TYV pmax pmax
comp=Z,300nm,3.0s
TYV pmax pmax
comp=Z,18nm,1.4s
TYV smax smax
comp=N,1μm,9.7s
TYV smax smax
comp=E,2μm,9.7s
GOA Goa 56.23 291 *e*P **P 23 32 09.7 -1.0**
KHZ Kahutara 56.27 140 P **P 23 32 09.9 -0.6**
KHZ IAmb IAmb 23 32 35.5
comp=Z,87nm,1.5s
URZ Urewera 56.81 134 P **P 23 32 14.6 +0.1**
URZ IAmb IAmb 23 32 50.5
comp=Z,114nm,1.7s
CIT Chita 56.88 350 *e*P **P 23 32 14.4 -0.4**
CIT *e* 23 32 32.7
CIT *e* 23 33 08.7
CIT pmax pmax
comp=Z,68nm,2.4s
POO Poona 57.07 295 *e*P **P 23 32 14.7 -2.0**
BFZ Birch Farm 57.24 137 P **P 23 32 17.5 0.0**
BFZ IAmb IAmb 23 32 43.6
comp=Z,55nm,1.2s
ZEA Zeya 57.40 0 *e*P **P 23 32 18.7 +0.4**
ZEA *e*S **S 23 40 16.0 +4.1**
ZEA *e* 23 42 08.8
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA pmax pmax
comp=E,100nm,8.5s
ZEA pmax pmax
comp=N,100nm,4.4s
ZEA pmax pmax
comp=Z,200nm,6.6s
ZEA smax smax
comp=E,200nm,12.7s
ZAK Zakamensk 57.84 342 *e*P **P 23 32 20.9 -0.7**
ZAK pmax pmax
comp=Z,16nm,1.3s
NKL Nikolayevsk 57.94 10 *e*P **P 23 32 20.1 -2.0**
NKL *e* 23 33 11.5
NKL *e*S **S 23 40 26.1 +7.2**
NKL pmax pmax
comp=N,772nm,0.9s
NKL pmax pmax
comp=Z,46nm,1.6s
NKL pmax pmax
comp=E,3.0nm,0.4s
NKL pmax pmax
comp=Z,84nm,2.2s
NKL smax smax
comp=E,2.0nm,1.1s
NKL smax smax
comp=N,3μm,0.9s
SMLA Simla 59.01 310 *e*P **P 23 32 29.6 -0.4**
SMLA IAmb IAmb 23 32 41.8
comp=Z,111nm,1.1s
IRK Irkutsk 59.20 344 *e*P **P 23 32 30.9 -0.1**
IRK pmax pmax
comp=Z,81nm,3.0s
WMQ Urumqi 59.28 328 *e*P **P 23 32 31.6 -0.2**
WMQ pP pP 23 32 46.3 +1.9
WMQ PcP **PcP 23 33 18.9 -0.7**
WMQ S **S 23 40 37.9 +0.9**
WMQ ScS **ScS 23 42 13.3 -5.1**
WMQ pmax pmax
comp=Z,68nm,1.1s
WMQ pmax pmax
comp=Z,550nm,4.7s
WMQ LR LR
comp=Z,2μm,21.1s
WMQ LR LR
comp=Z,1μm,18.7s
WMQ LR LR
comp=Z,680nm,21.1s
MOY Mondy 59.67 341 *e*P **P 23 32 33.8 -0.6**
MOY pmax pmax
comp=Z,81nm,2.6s
DHRM DHARAMSHALA 60.17 311 *e*P **P 23 32 38.2 -0.1**
AFI Afiamalu 60.95 104 LR LR 23 57 52.1
comp=Z,624nm,21.7s,baz=236,slow=35
PEA0B Petropavlovsk- 62.30 20*ce*P **P 23 32 53.1 +1.1**
PETK Petropavlovsk- 62.30 20 P **P 23 32 54.3 +2.3**
comp=Z,10nm,0.9s,baz=202,slow=11,SNR=9.3
PETK LR LR 23 59 28.9
comp=Z,305nm,21.0s,baz=199,slow=36
PETK Petropavlovsk- 62.30 20 P **P 23 32 51.4 -0.6**
BOD Bodaibo 62.41 352 *e*P **P 23 32 52.5 -0.1**
BOD pmax pmax
comp=Z,70nm,1.6s
PET Petropavlovsk 62.56 21 *e*P **P 23 32 54.6 +0.9**
PET *e* 23 33 30.7
PET *e*S **S 23 41 18.7 +0.5**
PET *e*SS **SS 23 45 18.3 -4.9**
PET pmax pmax
comp=Z,800nm,5.5s
PET pmax pmax
comp=Z,400nm,6.7s
PET pmax pmax
comp=Z,46nm,1.1s
NIL Nilore 63.09 311 P **P 23 32 56.7 -1.0**
NIL pmax pmax
comp=Z,164nm,1.8s
NIL MLR MLR
comp=Z,1μm,21.0s
NIL Nilore 63.09 311 P **P 23 32 56.7 -1.0**
NIL Nilore 63.09 311 IAMs_20 IAMs_20 00 03 38.5
comp=Z,1μm,21.0s
ZSN Zaisan 63.18 329*c i*P **P 23 32 57.2 -0.8**
ZSN *e*S **S 23 41 26.7 +0.4**
ZSN pmax pmax
comp=Z,18nm,2.0s
ZSN Zaisan 63.18 329⇑*i*P **P 23 32 57.2 -0.8**
comp=Z,18nm,2.0s,baz=329
ZSN *e*S **S 23 41 26.7 +0.4**
baz=329
CASY Casey 63.38 187 P **P 23 32 58.3 -0.7**
CASY IAmb IAmb 23 33 04.6
comp=Z,74nm,1.6s
CASY Casey 63.38 187 IAMs_20 IAMs_20 00 03 22.0
comp=Z,1μm,19.0s
DGZ Jazzator, Alta 63.46 332*c i*P **P 23 32 59.5 -0.5**
DGZ pmax pmax
comp=Z,23nm,1.1s
TARG Taragay, Kyrgy 63.80 321 P **P 23 33 02.1 -0.6**
TARG IAmb IAmb 23 33 17.7
comp=Z,78nm,1.6s
UZB Uzynbulak 63.83 323*ce*P **P 23 33 02.1 -0.5**
UZB *e*S **S 23 41 35.2 +0.4**
UZB pmax pmax
comp=Z,31nm,1.5s
UZB Uzynbulak 63.83 323⇑*e*P **P 23 33 02.1 -0.5**
comp=Z,31nm,1.5s,baz=323
UZB *e*S **S 23 41 35.3 +0.4**
baz=323
PRZ Przheval'sk 63.84 322 P **P 23 33 02.6 -0.1**
PRZ pmax pmax
comp=Z,43nm,1.2s
PRZ Przheval'sk 63.84 322 P **P 23 33 02.5 -0.1**
PRZ IAmb IAmb 23 33 05.9
comp=Z,43nm,1.1s
KSH Kashi 63.85 318 P **P 23 33 03.3 +0.5**
KSH pP pP 23 33 15.3 -0.3
KSH PcP **PcP 23 33 43.4 +5.1**
KSH PP **PP 23 35 22.9 -0.8**
KSH S **S 23 41 33.6 -1.6**
KSH pmax pmax
comp=Z,23nm,1.5s
KSH LR LR
comp=Z,900nm,17.5s
KSH LR LR
comp=Z,600nm,19.6s
KSH LR LR

comp=Z,880nm,17.2s
MK31 Makanchi Array 64.11 327 *i* P **P 23 33 03.4 -0.8**
MK31 pmax pmax
comp=Z,40nm,0.9s
MK31 Makanchi Array 64.11 327 P **P 23 33 03.4 -0.8**
MK31 IAmb IAmb 23 33 06.6
comp=Z,26nm,0.9s
MKAR Makanchi Array 64.11 327 P **P 23 33 03.5 -0.8**
comp=Z,22nm,0.8s,baz=124,slow=7.8,SNR=106
MKAR PcP **PcP 23 33 39.6 +0.6**
comp=Z,8.7nm,0.7s,baz=139,slow=3.9,SNR=8.0
MKAR S **S 23 41 37.9 0.0**
comp=Z,0.5nm,0.8s,baz=141,slow=9.3,SNR=5.2
MKAR PKPPKP 00 01 49.9
comp=Z,0.8nm,1.0s,baz=270,slow=1.2,SNR=3.9
MKAR LR LR 00 02 11.4
comp=Z,716nm,19.8s,baz=125,slow=37
MKAR Makanchi Array 64.11 327 P **P 23 33 03.3 -0.9**
SATY Saty 64.15 322*c i* P **P 23 33 04.3 -0.4**
SATY *e*S **S 23 41 39.4 +0.6**
SATY pmax pmax
comp=Z,39nm,1.7s
SATY Saty 64.15 322⇑ *i* P **P 23 33 04.4 -0.4**
comp=Z,39nm,1.7s,baz=322
SATY *e*S **S 23 41 39.5 +0.6**
baz=322
ZHN Zhinishke 64.20 322 *e*P **P 23 33 04.3 -0.6**
ZHN *e*S **S 23 41 39.6 +0.3**
ZHN Zhinishke 64.20 322 *e*P **P 23 33 04.3 -0.6**
baz=322
ZHN *e*S **S 23 41 39.6 +0.3**
baz=322
MAKZ Makanchi 64.29 327 P **P 23 33 04.2 -1.2**
MAKZ pmax pmax
comp=Z,36nm,1.1s
MAKZ Makanchi 64.29 327 P **P 23 33 04.2 -1.2**
MAKZ IAmb IAmb 23 33 07.7
comp=Z,36nm,1.1s
KDJ Kajisay 64.41 321 P **P 23 33 05.9 -0.6**
KDJ pmax pmax
comp=Z,124nm,2.0s
KDJ Kajisay 64.41 321 P **P 23 33 05.9 -0.6**
TNSS Tian-Shan 65.04 322 *e*P **P 23 33 10.7 -0.1**
baz=322
MDOK Medeo 65.05 322 *i* P **P 23 33 10.1 -0.4**
MDOK *e*S **S 23 41 50.3 +0.5**
MDOK Medeo 65.05 322 *i* P **P 23 33 10.2 -0.3**
baz=322
MDOK *e*S **S 23 41 50.4 +0.5**
baz=322
ARXS Arharly 65.14 323 *e*P **P 23 33 10.3 -0.7**
TDK Taldyqorghan 65.24 324 *e*P **P 23 33 11.0 -0.5**
TDK *e*S **S 23 41 52.5 +0.7**
TDK pmax pmax
comp=Z,33nm,1.2s
TDK Taldyqorghan 65.24 324 *e*P **P 23 33 11.1 -0.5**
comp=Z,33nm,1.2s,baz=324
TDK *e*S **S 23 41 52.6 +0.7**
baz=324
CHKK Chushkaly 65.45 322 *e*P **P 23 33 12.2 -0.8**
baz=322
KST Kastek 65.66 321⇑ *i* P **P 23 33 13.0 -1.5**
comp=Z,52nm,1.7s,baz=321
KST *e*S **S 23 41 56.8 -0.5**
baz=321
YAK Yakutsk 65.75 1 *e*P **P 23 33 14.3 -0.1**
YAK *e**PP **pP 23 33 25.2 -1.8**
YAK *e* 23 33 43.3
YAK *e* 23 35 39.8
YAK *e*PPP PPP 23 37 10.6
YAK *e*S **S 23 41 58.0 +0.7**
YAK *e**SS **pS 23 42 15.0 +2.2**
YAK *e* 23 43 07.0
YAK *e*SS **SS 23 46 13.1 +0.6**
YAK pmax pmax
comp=Z,151nm,1.3s
YAK pmax pmax
comp=N,51nm,1.6s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,137nm,3.5s
YAK pmax pmax
comp=N,118nm,4.0s
YAK pmax pmax
comp=E,78nm,3.3s
YAK smax smax
comp=N,94nm,3.5s
YAK smax smax
comp=E,88nm,3.3s
YAK Yakutsk 65.75 1 P **P 23 33 14.4 -0.1**
TKM2 Tokmak 2 65.82 321 P **P 23 33 15.2 -0.4**
SNR=19
TKM2 Tokmak 2 65.82 321 *i* P **P 23 33 14.3 -1.4**
TKM2 pmax pmax
comp=Z,24nm,1.1s
KUU Kurty 65.87 322*c i* P **P 23 33 14.9 -0.7**
KUU *e*S **S 23 42 00.0 +0.4**
KUU pmax pmax
comp=Z,114nm,1.7s
KUU Kurty 65.87 322⇑ *i* P **P 23 33 15.0 -0.7**
comp=Z,114nm,1.7s,baz=322
KUU *e*S **S 23 42 00.0 +0.4**
baz=322
MA2 Magadan 65.94 13⇓ *e*P **P 23 33 16.8 +1.1**
MA2 pmax pmax
comp=Z,99nm,2.6s
MA2 Magadan 65.94 13 P **P 23 33 15.8 +0.1**
KBK Karagaybulak 66.10 320 P **P 23 33 17.8 +0.4**
SNR=13
UCH Uchtor 66.16 320 P **P 23 33 18.1 0.0**
SNR=20
AAK Ala-Archa 66.38 320 P **P 23 33 19.0 -0.2**
SNR=14
AAK Ala-Archa 66.38 320*c i* P **P 23 33 18.8 -0.4**
AAK pmax pmax
comp=Z,31nm,1.3s
AAK Ala-Archa 66.38 320 P **P 23 33 19.3 +0.2**
AAK P **P 23 33 19.3 +0.2**
AAK Ala-Archa 66.38 320 P **P 23 33 18.5 -0.7**
AAK IAmb IAmb 23 33 35.6
comp=Z,29nm,1.2s
AAK Ala-Archa 66.38 320 *i* P **P 23 33 19.0 -0.1**
SNR=23
FRU1 Bishkek 66.38 320 P **P 23 33 18.2 -0.8**
FRU1 pmax pmax
comp=Z,80nm,1.8s
FRU1 Bishkek 66.38 320 P **P 23 33 18.2 -0.8**
FRU1 IAmb IAmb 23 33 56.7
comp=Z,80nm,1.8s
KBL Kabul 66.64 310 P **P 23 33 19.7 -1.4**
KBL pmax pmax
comp=Z,138nm,1.8s
KBL Kabul 66.64 310 P **P 23 33 20.4 -0.7**
SNR=19
KBL Kabul 66.64 310 P **P 23 33 19.7 -1.4**
AML Almayashu 66.65 319 P **P 23 33 20.9 -0.2**
SNR=24
AML Almayashu 66.65 319 P **P 23 33 21.4 +0.2**
AML Almayashu 66.65 319 *i* P **P 23 33 20.9 -0.2**
SNR=24
DRK Karamyk 66.68 316 P **P 23 33 20.1 -1.3**
DRK IAmb IAmb 23 33 41.2
comp=Z,34nm,1.1s
USP Ospenovka 66.69 321 P **P 23 33 20.4 -0.6**
SNR=24
SGDS Sogindy 66.70 321 *e*P **P 23 33 19.9 -1.2**
SGDS Sogindy 66.70 321⇑ *i* P **P 23 33 20.1 -1.0**
comp=Z,35nm,2.6s,baz=321
EKS2 Erkin-Say 66.85 320 P **P 23 33 24.3 +2.1**
SNR=5.6
ZAA0 Zalesovo Array 67.58 334 P **P 23 33 24.1 -2.2**
ZAA0 IAmb IAmb 23 33 27.8
comp=Z,42nm,1.1s
ZALV Zalesovo Beam 67.58 334 P **P 23 33 25.1 -1.2**
comp=Z,32nm,1.0s,baz=126,slow=4.8,SNR=55
ZALV PKP2bc 00 01 50.8
comp=Z,1.0nm,0.8s,baz=294,slow=4.7,SNR=5.7
ZALV Zalesovo Beam 67.58 334 P **P 23 33 24.6 -1.7**
BTK Batken 67.62 316 P **P 23 33 25.8 -1.2**
BTK pmax pmax
comp=Z,61nm,1.4s
BTK Batken 67.62 316 P **P 23 33 25.8 -1.2**
BTK IAmb IAmb 23 33 49.6
comp=Z,61nm,1.4s
BTLS Baital 67.87 322 *e*P **P 23 33 27.4 -0.9**
BTLS pmax pmax
comp=Z,27nm,2.1s
BTLS Baital 67.87 322 *e*P **P 23 33 27.4 -0.9**
comp=Z,27nm,2.1s,baz=322
CHGR Chuyangaron 68.19 314 P **P 23 33 29.3 -1.3**
KURK Kurchatov 68.43 329*c i* P **P 23 33 30.5 -1.2**
KURK pmax pmax
comp=Z,82nm,1.3s
KURK Kurchatov 68.43 329 P **P 23 33 31.3 -0.4**
KURK P **P 23 33 31.3 -0.4**
KURK Kurchatov 68.43 329 P **P 23 33 30.5 -1.2**
DZA Taraz 68.55 319 *e*P **P 23 33 31.6 -1.1**
DZA Taraz 68.55 319 *e*P **P 23 33 31.6 -1.1**
baz=319
SHEM Shemya Is, Ala 68.81 28 LR LR 23 58 08.0
comp=Z,571nm,21.9s,baz=250,slow=31
IUG Iuzhnay 69.07 318*c i* P **P 23 33 35.3 -0.7**
IUG Iuzhnay 69.07 318⇑ *i* P **P 23 33 35.3 -0.7**
baz=318
KKAR Karatay Array 69.18 319 P **P 23 33 35.4 -1.2**
KKAR Karatay Array 69.18 319 P **P 23 33 35.4 -1.2**
TAS Tashkent 69.21 317 P **P 23 33 36.0 -0.8**
TAS pmax pmax
comp=Z,67nm,1.1s
TAS Tashkent 69.21 317 P **P 23 33 36.0 -0.8**
SEY Seymchan 69.30 12 LR LR 00 07 05.4
comp=Z,268nm,18.6s,baz=195,slow=38
BRLS Boroldoy 69.59 319 *e*P **P 23 33 37.9 -1.2**
BRLS Boroldoy 69.59 319 *e*P **P 23 33 38.0 -1.2**
baz=318
JLN Jalan Bani Buh 71.08 295 P **P 23 33 48.0 -0.7**
SNR=5.2
JLN P **P 23 33 48.0 -0.7**
SNR=5.2
BRZS Berezniki 71.19 326*ce*P **P 23 33 47.8 -0.9**
BRZS pmax pmax
comp=Z,40nm,1.9s
BRZS Berezniki 71.19 326⇑ *e*P **P 23 33 47.8 -0.9**
comp=Z,40nm,1.9s,baz=326
MSEY Mahe Island 71.51 266 IAMs_20 IAMs_20 00 00 54.8
comp=Z,1μm,21.0s
WBK Wadi Bani Khal 71.58 295 P **P 23 33 51.7 +0.1**
WBK P **P 23 33 51.7 +0.1**
HRA Herat 71.86 308 P **P 23 33 51.8 -1.6**
HRA IAmb IAmb 23 34 20.4
comp=Z,62nm,1.8s
WSAR Wadi Sarin 72.02 296 LR LR 00 06 15.7
comp=Z,837nm,21.3s,baz=115,slow=36
JMDO Jabal Madar 72.31 295 P **P 23 33 55.5 -0.5**
SNR=7.4
JMDO P **P 23 33 55.5 -0.5**
SNR=7.4
SMDO Samad 72.50 295 P **P 23 33 55.6 -1.7**
BIDO Bidbid 72.53 296 P **P 23 33 56.7 -0.6**
SNR=8.9
RAR Rarotonga 72.77 111 LR LR 00 04 36.3
comp=Z,252nm,20.6s,baz=254,slow=35
BSY Bisya 73.20 295 P **P 23 34 00.2 -1.1**
SNR=5.1
HOQ Hoqain 73.27 296 P **P 23 34 00.9 -0.8**
SNR=7.3
SHAO Shalim 73.79 290 P **P 23 34 03.9 -1.0**
SHAO P **P 23 34 03.9 -1.0**
SHAO Shalim 73.79 290 P **P 23 34 03.4 -1.4**
ARQ Araqi 73.93 295 P **P 23 34 04.9 -0.8**
SNR=6.3
BRVK Borovoye 74.03 328*ce*P **P 23 34 04.3 -1.3**
BRVK pmax pmax
comp=Z,31nm,1.3s
BRVK Borovoye 74.03 328 P **P 23 34 04.8 -0.8**
BRVK P **P 23 34 04.8 -0.8**
BRVK Borovoye 74.03 328 P **P 23 34 04.6 -0.9**
DMTO DMTO 74.37 289 P **P 23 34 06.8 -1.5**
DMTO P **P 23 34 06.8 -1.5**
SOCY Socotra 74.49 284 P **P 23 34 07.3 -1.8**
SNR=5.8
SOCY Socotra 74.49 284 P **P 23 34 06.9 -2.2**
SOCY IAMs_20 IAMs_20 00 04 13.7
comp=Z,951nm,22.0s
UOSS Minazif 74.54 297 P **P 23 34 08.4 -0.7**
UOSS Minazif 74.54 297 P **P 23 34 07.6 -1.6**
UOSS Minazif 74.54 297 P **P 23 34 07.3 -1.9**
HATD Hatta, Dubai 74.58 297 P **P 23 34 08.9 -0.4**
HATD Hatta, Dubai 74.58 297 P **P 23 34 08.2 -1.2**
ASHO Ashiyiah 74.62 297 P **P 23 34 08.6 -1.0**
MSFE Esma-Masafi 74.66 297 P **P 23 34 09.4 -0.4**
ALNE Al Ain 74.77 296 P **P 23 34 10.9 +0.4**
SNR=7.4
ALNE P **P 23 34 10.9 +0.4**
SNR=7.4
ALNE Al Ain 74.77 296 *i* P **P 23 34 10.0 -0.5**
SNR=5.0
SHME Shamm 74.82 298 P **P 23 34 11.7 +1.0**
SHME Shamm 74.82 298 P **P 23 34 11.5 +0.8**
UMZA Um Al Zommool 75.04 295 P **P 23 34 10.8 -1.2**
UMZA P **P 23 34 10.8 -1.2**
FAQ Al Faqa, Dubai 75.04 297 P **P 23 34 11.2 -0.8**
FAQ Al Faqa, Dubai 75.04 297 P **P 23 34 10.9 -1.1**
ASUD Al Ashush, Dub 75.25 297 P **P 23 34 13.4 +0.2**
DOK Doka 75.29 290 P **P 23 34 12.1 -1.5**
SNR=10
DOK P **P 23 34 12.1 -1.5**
SNR=10
TIXI Tiksi 75.39 1 LR LR 00 08 47.7
comp=Z,657nm,21.8s,baz=201,slow=37
TIXI Tiksi 75.39 1*de*P **P 23 34 12.8 -0.2**
TIXI pmax pmax
comp=Z,53nm,1.7s
TIXI MLR MLR
comp=Z,1μm,22.0s
TIXI Tiksi 75.39 1 P **P 23 34 11.7 -1.3**
TIXI IAmb IAmb 23 34 21.1
comp=Z,55nm,1.4s
TIXI IAMs_20 IAMs_20 00 08 03.4
comp=Z,917nm,21.0s
WHFO Wadi Hawf 75.51 290 P **P 23 34 12.9 -2.0**
SNR=6.9
WHFO P **P 23 34 12.9 -2.0**
SNR=6.9
ABTO Aybut 75.87 289 P **P 23 34 15.5 -1.5**
SNR=9.9
ABTO P **P 23 34 15.5 -1.5**
SNR=9.9
VNDA Vanda 75.87 173 P **P 23 34 15.4 -0.4**
comp=Z,6.9nm,0.9s,baz=302,slow=5.1,SNR=13
VNDA PP **PP 23 37 04.5 -1.8**
comp=Z,5.6nm,1.1s,baz=334,slow=9.6,SNR=3.6
VNDA LR LR 00 05 38.3
comp=Z,1μm,21.4s,baz=339,slow=34
VNDA Vanda 75.87 173 P **P 23 34 15.4 -0.4**
GEYT Alibeck 76.09 310 P **P 23 34 17.2 -0.6**
comp=Z,11nm,0.9s,baz=187,slow=3.7,SNR=13
GEYT LR LR 00 12 00.2
comp=Z,362nm,21.7s,baz=130,slow=39
GEYT Alibeck 76.09 310 P **P 23 34 16.9 -0.9**
GYA0B ALIBECK ARRAY 76.09 310 P **P 23 34 17.0 -0.9**
BILL Bilibino 76.75 14⇑ *e*P **P 23 34 21.1 +0.3**
BILL *e* 23 34 37.9
BILL *e* 23 37 14.6
BILL *e*S **SKSac 23 44 36.7 +7.8**
BILL pmax pmax
comp=Z,30nm,2.6s
BILL MLR MLR
comp=Z,302nm,20.0s
BILL Bilibino 76.75 14 P **P 23 34 22.0 +1.1**
SBA Scott Base 76.79 172 P **P 23 34 22.2 +1.2**
SBA pmax pmax
comp=Z,45nm,1.4s
SBA Scott Base 76.79 172 P **P 23 34 22.2 +1.2**
SBA IAmb IAmb 23 35 02.1
comp=Z,45nm,1.4s
MAW Mawson 76.85 201 LR LR 00 07 24.9
comp=Z,578nm,18.4s,baz=59,slow=35
NRIK Noril'sk 77.89 347 P **P 23 34 27.6 +0.5**
comp=Z,21nm,1.1s,baz=129,slow=6.0,SNR=31
NRIK LR LR 00 10 17.1
comp=Z,774nm,22.0s,baz=148,slow=37
NRIK Noril'sk 77.89 347*c i* P **P 23 34 26.8 -0.4**
NRIK pmax pmax
comp=Z,61nm,1.3s
NRIK Noril'sk 77.89 347 P **P 23 34 27.1 -0.1**
NRIK IAmb IAmb 23 34 29.6
comp=Z,70nm,1.4s
ABKAR Akbulak array 78.35 322 P **P 23 34 28.8 -1.4**
ABKAR Akbulak array 78.35 322 P **P 23 34 28.7 -1.4**
VOI Vohitsoka 79.69 249 P **P 23 34 36.9 -1.3**
VOI Vohitsoka 79.69 249 P **P 23 34 38.5 +0.3**
AKTO Aktyubinsk 79.92 323 LR LR 00 13 01.4
comp=Z,619nm,21.6s,baz=111,slow=38
SVE Sverdlovsk 80.68 329 *e*P **P 23 34 41.9 -0.8**
SVE pmax pmax
comp=Z,70nm,1.5s
ARU Arti 81.61 328*d i* P **P 23 34 45.0 -2.6**
ARU PPP PPP 23 39 39.4
ARU S **S 23 44 56.1 -0.3**
ARU SSS SSS 23 53 44.2
ARU pmax pmax
comp=Z,58nm,1.8s
ARU Arti 81.61 328 P **P 23 34 45.9 -1.8**
ARU IAmb IAmb 23 34 51.1
comp=Z,62nm,1.2s
PPT2 Papeete2 82.37 107 *e*S **S 23 45 05.0 -1.0**
comp=Z,271nm,22.8s
PPT2 Papeete2 82.37 107 *e*LR LR 00 00 48.0
comp=Z,2μm,28.2s
PPT Papeete 82.38 107 LR LR 00 08 50.2
comp=Z,322nm,21.9s,baz=266,slow=34
TNA Tin City 83.38 22 P **P 23 34 56.9 +0.3**
TNA IAmb IAmb 23 35 01.7
comp=Z,25nm,1.1s
TNA Tin City 83.38 22 P **P 23 34 58.5 +1.9**
baz=245
RAYN Ar Rayn 83.95 294 P **P 23 34 59.5 -1.1**
RAYN pmax pmax
comp=Z,41nm,1.1s
RAYN MLR MLR
comp=Z,1μm,20.0s
RAYN Ar Rayn 83.95 294 P **P 23 34 59.9 -0.7**
RAYN Ar Rayn 83.95 294 P **P 23 34 59.5 -1.1**
RAYN IAmb IAmb 23 35 02.0
comp=Z,41nm,1.1s
RAYN Ar Rayn 83.95 294 IAMs_20 IAMs_20 00 16 42.0
comp=Z,1μm,20.0s
RAYN Ar Rayn 83.95 294 *i* P **P 23 35 00.1 -0.5**
SNR=6.2
ANM Nome 83.97 24 P **P 23 35 00.2 +0.4**
ANM pmax pmax
comp=Z,48nm,1.6s
ANM Nome 83.97 24 P **P 23 35 00.1 +0.4**
ANM IAmb IAmb 23 35 27.9
comp=Z,48nm,1.6s
ANM Nome 83.97 24 P **P 23 35 02.0 +2.3**
baz=248
MAK Makhachkala 85.11 314 *e*P **P 23 35 01.3 -4.6**
MAK *e* 23 38 15.8
MAK *e* 23 45 22.0
MAK *e*SS SS 23 51 00.9 -5.9
MAK pmax pmax
comp=Z,182nm,1.0s
ATD Arta Tunnel 85.26 282 LR LR 00 11 07.1
comp=Z,361nm,20.1s,baz=91,slow=34
ATD Arta Tunnel 85.26 282 P **P 23 35 07.3 -0.1**
ATD IAmb IAmb 23 35 09.1
comp=Z,57nm,1.4s
QSPA South Pole Qui 86.08 180 LR LR 00 11 47.8
comp=Z,888nm,21.5s,baz=352,slow=34
QSPA South Pole Qui 86.08 180 P **P 23 35 10.2 -0.3**
QSPA IAmb IAmb 23 35 18.2
comp=Z,90nm,1.8s
GROC Groznyy 86.38 314 *e*P P 23 35 06.6 -5.7
GROC *e* 23 38 26.5
GROC pmax pmax
comp=Z,40nm,1.2s
BELG Belogornoye 86.71 323 LR LR 00 17 39.4
comp=Z,633nm,21.8s,baz=123,slow=38
BELG Belogornoye 86.71 323*ce*P **P 23 35 12.4 -1.2**
BELG pmax pmax
comp=Z,17nm,1.3s
GNI Garni 86.73 310 LR LR 00 21 38.5
comp=Z,233nm,20.5s,baz=110,slow=41
GNI Garni 86.73 310*de*P **P 23 35 14.7 +0.4**
GNI pmax pmax
comp=Z,44nm,1.7s
GNI Garni 86.73 310 P **P 23 35 14.9 +0.6**
GNI Garni 86.73 310 P **P 23 35 13.2 -1.1**
GNI IAmb IAmb 23 35 40.5
comp=Z,24nm,0.9s
KIRV Kirov 86.94 329*ce*P **P 23 35 12.9 -1.7**
SVW2 Sparrevohn 87.21 28 P **P 23 35 16.5 +0.6**
SVW2 IAmb IAmb 23 36 14.4
comp=Z,75nm,1.8s
TTA Tatalina 87.43 26 P **P 23 35 17.2 +0.2**
TTA pmax pmax
comp=Z,14nm,1.0s
TTA Tatalina 87.43 26 P **P 23 35 17.2 +0.2**
TTA Tatalina 87.43 26 P **P 23 35 18.4 +1.3**
baz=256
N19K Bonanza Creek 87.67 29 P **P 23 35 18.6 +0.4**
N19K IAmb IAmb 23 35 32.5
comp=Z,23nm,1.1s
N19K Bonanza Creek 87.67 29 P **P 23 35 21.5 +3.2**
baz=258
L19K White Mountain 87.79 27 P **P 23 35 18.5 -0.2**
L19K IAmb IAmb 23 35 24.6
comp=Z,24nm,1.1s
AKH Akhalkalaki 87.83 312 ⇓ P **P 23 35 20.0 +0.5**
M19K Big River Lodg 87.94 28 P **P 23 35 22.2 +2.8**
baz=258
ONI Oni 88.00 313 P **P 23 35 19.9 -0.3**
ONI pmax pmax
comp=Z,23nm,1.0s
ONI Oni 88.00 313 P **P 23 35 19.9 -0.3**
ONI IAmb IAmb 23 35 43.9
comp=Z,23nm,1.0s
NCK Nalchik 88.01 314⇑ *e*P **P 23 35 19.4 -0.8**
NCK pmax pmax
comp=Z,52nm,1.0s
KDAK Kodiak Island 88.03 32 LR LR 00 09 16.5
comp=Z,1μm,21.9s,baz=262,slow=32
SIRT Sirnak 88.19 308 P **P 23 35 20.9 -0.4**
K20K Telida 88.39 26 P **P 23 35 22.4 +0.9**
K20K IAmb IAmb 23 35 24.8
comp=Z,42nm,1.5s
K20K Telida 88.39 26 P **P 23 35 22.3 +0.8**
baz=258
J20K Nowinta River 88.52 25 P **P 23 35 22.9 +0.9**
J20K Nowinta River 88.52 25 P **P 23 35 24.8 +2.8**
baz=258
KBZ Khabaz 88.55 314 P **P 23 35 21.9 -0.8**
comp=Z,13nm,0.9s,baz=145,slow=2.8,SNR=16
KBZ LR LR 00 20 08.3
comp=Z,418nm,21.9s,baz=81,slow=39
KBZ Khabaz 88.55 314*ce*P **P 23 35 21.6 -1.0**
KBZ pmax pmax
comp=Z,22nm,0.9s
GOF Gofitskoye 88.60 315⇓ *i* P **P 23 35 22.6 -0.3**
GOF pmax pmax
comp=Z,64nm,1.3s
NEY Neytrino 88.62 313⇑ *e*P **P 23 35 22.9 -0.3**
NEY pmax pmax
comp=Z,4.0nm,0.8s
KIBK Kibwezi 89.02 268 P **P 23 35 24.9 -0.7**
KIBK IAmb IAmb 23 35 26.9
comp=Z,39nm,1.5s
KIBK IAMs_20 IAMs_20 00 11 36.7
comp=Z,761nm,20.0s
IMAR Indian Mountai 89.06 24 P **P 23 35 25.2 +0.6**
PPLA Purkeypile 89.14 27 P **P 23 35 25.0 -0.2**
PPLA IAmb IAmb 23 38 10.3
comp=Z,60nm,1.7s
FURI Furi 89.15 279 P **P 23 35 26.3 -0.2**
FURI IAmb IAmb 23 36 17.2
comp=Z,18nm,0.5s
FURI Furi 89.15 279 IAMs_20 IAMs_20 00 13 25.1
comp=Z,659nm,19.0s
CHUM Lake Minchumin 89.26 26 P **P 23 35 27.2 +1.7**
baz=260
CAST Castle Rocks 89.28 26 P **P 23 35 25.7 0.0**
CAST IAmb IAmb 23 38 15.0
comp=Z,46nm,2.0s
H21K Melozitna Rive 89.38 24 P **P 23 35 26.3 +0.2**
H21K Melozitna Rive 89.38 24 P **P 23 35 26.8 +0.7**
baz=259
PRGR Permogore 89.38 332 *e*P **P 23 35 23.2 -2.9**
PRGR pmax pmax
comp=Z,132nm,1.5s
KMBO Kilima Mbogo 89.89 269 P **P 23 35 28.6 -1.4**
KMBO pmax pmax
comp=Z,31nm,1.7s
KMBO Kilima Mbogo 89.89 269 P **P 23 35 28.6 -1.4**

KMBO **Kilima Mbogo** **89.89 269** IAMs_20 IAMs_20 00 10 39.8
comp=Z,1µm,22.0s
KMBO **Kilima Mbogo** **89.89 269** *i* P **P** **23 35 29.6 -0.3**
SNR=7.4
RC01 **Rabbit Creek A** **90.00 29** P **P** **23 35 28.8 -0.3**
RC01 IAmb IAmb 23 35 51.7
comp=Z,27nm,1.1s
VRH **Novokhopyorsk** **90.16 321** *e*P **P** **23 35 28.3 -1.7**
VRH pmax pmax
comp=Z,40nm,1.0s
KNK **Knik Glacier** **90.65 29** P **P** **23 35 31.5 -0.6**
KNK **Knik Glacier** **90.65 29** P **P** **23 35 33.0 +0.9**
baz=263
COLD **Coldfoot** **90.67 23** P **P** **23 35 31.9 -0.2**
COLD **Coldfoot** **90.67 23** P **P** **23 35 33.1 +1.0**
baz=262
I23K **Minto, Yukon-K** **90.72 25** P **P** **23 35 33.2 +0.9**
baz=263
MCK **McKinley** **90.72 26** P **P** **23 35 32.9 +0.4**
baz=263
SML **Sawmill** **90.76 28** P **P** **23 35 32.2 -0.5**
SML **Sawmill** **90.76 28** P **P** **23 35 35.0 +2.3**
baz=263
SOC **Sochi** **90.83 313** *e*P **P** **23 35 31.4 -1.9**
SOC *e* 23 39 02.8
SOC *e*S **SKSac** **23 46 00.5 -1.2**
SOC *e*SSS SSS 23 56 02.6
SOC MLR MLR
comp=Z,301nm,21.0s
WAT6 **Susitna Watana** **91.12 27** P **P** **23 35 35.4 +0.9**
baz=264
DHY **Denali Highway** **91.34 27** P **P** **23 35 34.9 -0.6**
DHY **Denali Highway** **91.34 27** P **P** **23 35 36.2 +0.7**
baz=264
H24K **Noodor Dome** **91.41 24** P **P** **23 35 36.2 +0.5**
baz=264
HDA **Harding Lake** **91.66 26** P **P** **23 35 37.9 +1.1**
baz=265
VORD **Divnogorie** **91.67 321** *e*P **P** **23 35 35.5 -1.5**
VORD pmax pmax
comp=Z,20nm,0.8s
ILAR **Eielson Array** **91.72 25** P **P** **23 35 35.8 -1.2**
comp=Z,2.8nm,0.9s,baz=267,slow=3.4,SNR=16
ILAR PP **PP** **23 39 16.2 +0.2**
comp=Z,1.8nm,1.2s,baz=261,slow=6.3,SNR=4.4
ILAR LR LR 00 16 23.5
comp=Z,265nm,18.9s,baz=260,slow=35
ILAR **Eielson Array** **91.72 25** P **P** **23 35 36.9 -0.1**
ILAR **Eielson Array** **91.72 25** P **P** **23 35 36.9 -0.1**
VSR **Storozhevoye** **91.77 321** *e*P **P** **23 35 34.5 -3.0**
VSR pmax pmax
comp=Z,30nm,1.1s
VORR **Voronezh** **91.77 321** *e*P **P** **23 35 35.4 -2.1**
VORR pmax pmax
comp=Z,72nm,1.6s
LPSR **Galich'ya Gora** **92.00 322** *e*P **P** **23 35 35.7 -2.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
TAOE **Nuku Hiva Isla** **92.01 99** *e*LR LR 00 05 16.0
comp=Z,2µm,34.5s
LODK **Lodwar** **92.08 273** P **P** **23 35 39.1 -0.8**
PAX **Paxson** **92.20 27** P **P** **23 35 39.2 -0.2**
PAX pmax pmax
comp=Z,59nm,1.8s
PAX **Paxson** **92.20 27** P **P** **23 35 39.2 -0.2**
PAX IAmb IAmb 23 35 44.3
comp=Z,59nm,1.8s
PAX **Paxson** **92.20 27** P **P** **23 35 40.1 +0.8**
baz=266
KLMR **Klimovskoe** **92.23 331** *e*P **P** **23 35 35.9 -3.5**
KLMR *e* 23 39 14.3
KLMR *e*S **SKSac** **23 46 05.3 -3.6**
KLMR pmax pmax
comp=Z,53nm,1.5s
KLMR **Klimovskoe** **92.23 331** *e*P **P** **23 35 36.0 -3.5**
KLMR AMP 23 35 46.4
comp=Z,53nm,1.5s
KLMR *e*PP **PP** **23 39 14.3 -5.8**
KLMR *e*S **SKSac** **23 46 05.3 -3.6**
KLMR *e*S **SKSac** **23 46 05.3 -3.6**
KLMR LQ LQ 00 08 40.9
KLMR LQ LQ 00 08 40.9
KLMR LR LR 00 15 52.5
GAZ **Gaziantep** **92.32 307** P **P** **23 35 38.5 -2.0**
GAZ IAmb IAmb 23 35 46.3
comp=Z,25nm,1.2s
FYU **Fort Yukon** **92.55 24** P **P** **23 35 40.8 0.0**
BMAR **Burnt Mountain** **92.86 23** P **P** **23 35 42.2 0.0**
DOT **Dot Lake** **92.87 27** P **P** **23 35 42.5 +0.1**
DOT IAmb IAmb 23 37 53.5
comp=Z,24nm,1.5s
SCRK **Sand Creek** **92.92 26** P **P** **23 35 42.7 0.0**
SCRK IAmb IAmb 23 36 47.0
comp=Z,29nm,1.8s
SCRK **Sand Creek** **92.92 26** P **P** **23 35 44.6 +1.8**
baz=267
MOS **Moscow** **92.94 326** *e*P **P** **23 35 40.2 -2.6**
MOS *e* 23 39 25.4
MOS *e* 23 46 12.1
MOS *e*S **S** **23 46 49.6 +4.3**
J26L **Joseph Creek** **93.13 26** P **P** **23 35 43.5 -0.1**
J26L **Joseph Creek** **93.13 26** P **P** **23 35 43.7 0.0**
baz=268
L26K **Log Cabin Wild** **93.17 27** P **P** **23 35 44.5 +0.7**
L26K IAmb IAmb 23 35 52.5
comp=Z,34nm,1.7s
L26K **Log Cabin Wild** **93.17 27** P **P** **23 35 45.5 +1.7**
baz=268
GHAJ **Ghor Haditha** **93.40 301** IAMs_20 IAMs_20 00 21 41.8
comp=Z,901nm,20.0s
OBN **Obninsk** **93.52 325** ⇓P **P** **23 35 45.3 -0.2**
OBN **Obninsk** **93.52 325** *de*P **P** **23 35 43.9 -1.6**
OBN *e* 23 39 27.2
OBN *e*S **SKSac** **23 46 18.7 +2.5**
OBN *e*SS **SS** **23 53 08.5 +0.4**
OBN pmax pmax
comp=Z,49nm,1.8s
OBN MLR MLR
comp=Z,517nm,21.0s
MMAI **Mount Meron Ar** **93.61 303** LR LR 00 26 08.1
comp=Z,241nm,18.3s,baz=266,slow=41
M27K **Edge Creek, AK** **93.83 28** P **P** **23 35 47.0 0.0**
M27K IAmb IAmb 23 35 55.7
comp=Z,32nm,1.4s
L27K **Beaver Creek,** **93.86 27** P **P** **23 35 47.9 +0.9**
baz=269
EIL **Elat** **93.86 299** LR LR 00 26 51.9
comp=Z,202nm,19.2s,baz=91,slow=41
BCAR **Beaver Creek A** **93.88 27** P **P** **23 35 46.9 -0.2**
CTG **Chitina Glacier** **94.06 29** P **P** **23 35 49.1 +1.0**
baz=269
CTGM **Chitina Glacie** **94.06 29** IAmb IAmb 23 35 53.4
comp=Z,45nm,1.2s
EGAK **Eagle** **94.17 25** P **P** **23 35 48.8 +0.5**
baz=270
BVCY **Beaver Creek** **94.30 28** P **P** **23 35 50.2 +1.2**
baz=270
YUK3 **Moose Creek** **94.49 28** P **P** **23 35 51.4 +1.2**
baz=270
DAWY **Dawson** **94.95 26** IAmb IAmb 23 35 56.2
comp=Z,27nm,1.3s
DAWY **Dawson** **94.95 26** P **P** **23 35 52.2 +0.2**
baz=271
APA **Apatity** **95.01 337** ⇓*i*P **P** **23 35 50.1 -2.0**
APA pmax pmax
comp=Z,6.0nm,0.9s
APA MLR MLR
comp=Z,1µm,24.0s
BR131 **Keskin Array S** **95.20 309** ⇓*e*P **P** **23 35 51.8 -2.0**
BR131 **Keskin Array S** **95.20 309** P **P** **23 35 52.4 -1.5**
BRTR **Keskin Array B** **95.20 309** P **P** **23 35 51.8 -2.0**
comp=Z,2.6nm,0.9s,baz=101,slow=6.4,SNR=8.2
BRTR PP **PP** **23 39 38.7 -5.5**
comp=Z,0.7nm,0.9s,baz=69,slow=6.9,SNR=3.7
BRTR LR LR 00 27 48.7
comp=Z,348nm,18.3s,baz=98,slow=41
BRTR **Keskin Array B** **95.20 309** *ce*P **P** **23 35 51.4 -2.4**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR **Keskin Array B** **95.20 309** P **P** **23 35 52.0 -1.8**
I29M **Ogilvie Camp,** **95.37 25** P **P** **23 35 54.5 +0.7**
baz=272
HYT **Haines Junctio** **95.94 29** P **P** **23 35 58.7 +2.0**
baz=273
M30M **Minto, Yukon** **96.18 28** IAmb IAmb 23 36 02.3
comp=Z,14nm,1.1s
M30M **Minto, Yukon** **96.18 28** P **P** **23 35 59.0 +1.4**
baz=274
MBAR **Mbarara** **96.42 269** LR LR 00 15 58.2
comp=Z,553nm,20.7s,baz=79,slow=33
MBAR **Mbarara** **96.42 269** IAMs_20 IAMs_20 00 15 47.0
comp=Z,747nm,21.0s
MATP **Matopo** **96.81 249** LR LR 00 14 23.7
comp=Z,187nm,21.9s,baz=97,slow=32
INK **Inuvik** **97.01 22** PKKP 23 52 44.5
comp=Z,1.4nm,0.9s,baz=308,slow=11,SNR=3.5
INK **Inuvik** **97.01 22** IAmb IAmb 23 36 04.5
comp=Z,13nm,1.1s
INK **Inuvik** **97.01 22** P Pdif 23 36 02.0 +0.8
baz=277
LSZ **Lusaka** **97.67 254** LR LR 00 15 11.7
comp=Z,730nm,21.8s,baz=100,slow=32
LSZ **Lusaka** **97.67 254** P **P** **23 36 03.5 -2.0**
LSZ pmax pmax
comp=Z,16nm,1.2s
LSZ **Lusaka** **97.67 254** P **P** **23 36 03.5 -2.0**
LSZ IAmb IAmb 23 36 06.4
comp=Z,16nm,1.2s
LSZ **Lusaka** **97.67 254** IAMs_20 IAMs_20 00 14 26.7
comp=Z,796nm,21.0s
ARCES **ARCESS Array B** **97.70 340** P **P** **23 36 02.5 -1.8**
comp=Z,8.1nm,0.9s,baz=79,slow=4.9,SNR=7.9
ARCES LR LR 00 25 46.7
comp=Z,380nm,20.7s,baz=96,slow=39
ARCES **ARCESS Array B** **97.70 340** P **P** **23 36 03.1 -1.2**
ARCES pmax pmax
comp=Z,90nm,1.8s
ARCES **ARCESS Array B** **97.70 340** P **P** **23 36 03.1 -1.2**
FARO **Faro, Yukon** **97.81 28** P Pdif 23 36 07.1 +2.1
baz=277
SPITS **Spitsbergen Ar** **97.98 349** LR LR 00 26 44.0
comp=Z,399nm,18.1s,baz=232,slow=39
SNAA **Sanae** **98.02 194** LR LR 00 20 33.9
comp=Z,606nm,18.1s,baz=142,slow=36
AKASG **Malin Array Be** **98.05 321** P **P** **23 36 04.5 -1.7**
comp=Z,3.7nm,0.8s,baz=70,slow=4.2,SNR=17
AKASG **Malin Array Be** **98.05 321** P **P** **23 36 04.5 -1.7**
AKBB **Malin Array Si** **98.05 321** ⇓*e*P **P** **23 36 04.3 -1.9**
AKBB **Malin Array Si** **98.05 321** P **P** **23 36 05.2 -1.0**
AKBB IAmb IAmb 23 36 14.0
comp=Z,23nm,1.5s
MNK **Minsk** **98.56 324** *i* P **P** **23 36 04.8 -3.6**
MNK *i* 23 40 05.4
MNK *i* PPP PPP 23 42 11.1
MNK *i* S **SKSac** **23 46 40.0 -2.8**
MNK *i* SSS SSS 23 58 05.6
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK MLR MLR
comp=N,523nm,20.0s
MNK **Minsk** **98.56 324** *i* P **P** **23 36 04.8 -3.6**
comp=E,2.0nm,0.9s
MNK *i* P **P** **23 36 04.8 -3.6**
comp=N,6.0nm,0.9s
MNK *i* P **P** **23 36 04.8 -3.6**
comp=Z,16nm,0.9s,baz=85
MNK *i* PP **PP** **23 40 05.4 -3.9**
MNK *i* PPP PPP 23 42 11.1
MNK *i* S **SKSac** **23 46 40.0 -2.8**
MNK *i* SS SS 23 53 50.2 -29
MNK *i* SSS SSS 23 58 05.7
MNK *i* LQ LQ 00 14 17.7
MNK *i* LR LR 00 18 44.5
MNK *i* LRM MLR 00 23 51.6
comp=N,523nm,20.0s
MNK *i* LRM MLR 00 25 34.8
comp=E,48nm,19.5s
MNK *i* LRM MLR 00 25 43.2
comp=Z,388nm,19.3s
BOSA **Boshof** **98.62 240** P **P** **23 36 08.4 -1.1**
comp=Z,7.2nm,1.2s,baz=106,slow=8.7,SNR=2.3
BOSA **Boshof** **98.62 240** P **P** **23 36 08.2 -1.3**
FINES **FINESS Array B** **98.71 332** P **P** **23 36 07.3 -1.6**
comp=Z,0.9nm,0.7s,baz=74,slow=10,SNR=1.4
SORM **Soroca** **98.79 318** ⇑P **P** **23 36 07.7 -1.9**
SORM **Soroca** **98.79 318** ⇑P **P** **23 36 07.7 -1.9**
LBTB **Lobatse** **98.86 244** LR LR 00 17 00.2
comp=Z,303nm,20.4s,baz=99,slow=33
A36M **Sachs Harbour** **99.05 17** P **Pdif** **23 36 12.5 +2.2**
baz=286
IDID **Didziasalis** **99.14 325** *e*P **Pdif** **23 36 12.7 +1.7**
NACGM **Naroch** **99.16 325** *i* LQ LQ 00 14 35.3
SCHL **Schela** **99.33 315** ⇓P **Pdif** **23 36 03.5 -8.6**
IIGN **Ignalina** **99.42 325** *e*P **Pdif** **23 36 12.7 +0.4**
ICOR **Ion Corvin** **99.44 314** ⇓P **Pdif** **23 36 13.5 +0.9**
TESR **Tescani** **100.07 316** ⇓P **Pdif** **23 36 15.1 -0.3**
VRI **Vrincioaia** **100.07 316** ⇓P **Pdif** **23 36 15.1 -0.3**
VRI **Vrincioaia** **100.07 316** ⇓P **Pdif** **23 36 15.1 -0.3**
C36M **Paulatuk** **100.15 20** P **Pdif** **23 36 16.1 +0.9**
baz=286
MTSE **Matsula** **100.25 329** *e*P **Pdif** **23 36 12.3 -3.5**
COVR **Voineasa-Covas** **100.44 316** ⇓P **Pdif** **23 36 15.8 -1.3**
MLR **Muntele Rosu** **100.65 315** P **Pdif** **23 36 16.8 -1.4**
comp=Z,3.3nm,0.5s,baz=50,slow=7.5,SNR=4.0
PABE **Paberze** **100.68 326** *e*P **Pdif** **23 36 14.1 -3.7**
OZUR **100.71 316** ⇓P **Pdif** **23 36 22.1 +3.9**
BURAR **Bucovina Array** **100.94 318** ⇓P **Pdif** **23 36 19.5 +0.1**
BURAR ⇑P **PKiKP** **23 40 43.4 -1.3**
BURAR **Bucovina Array** **100.94 318** ⇓P **Pdif** **23 36 19.5 +0.1**
DOPR **Dopca** **100.99 316** ⇑P **Pdif** **23 36 19.8 +0.3**
HUMR **Humele** **101.43 315** ⇓P **Pdif** **23 36 17.0 -4.5**
LVV **L'vov** **101.45 320** *e*P **Pdif** **23 36 21.5 +0.1**
LVV *e*S **Sdif** **23 47 56.9 -1.5**
LVV *e*SS **SS** **23 54 55.9 -4.2**
ARR **Arges** **101.58 315** ⇓P **Pdif** **23 36 25.2 +2.9**
BMR **Baia Mare** **102.09 318** ⇑P **Pdif** **23 36 24.8 +0.5**
BMR **Baia Mare** **102.09 318** ⇑P **Pdif** **23 36 24.8 +0.5**
CJR **Cluj-Napoca** **102.14 317** ⇑P **Pdif** **23 36 25.2 +0.5**
CJR **Cluj-Napoca** **102.14 317** ⇑P **Pdif** **23 36 25.2 +0.5**
DEV **Deva** **102.73 316** ⇑P **Pdif** **23 36 29.5 +2.3**
DEV **Deva** **102.73 316** ⇑P **Pdif** **23 36 29.5 +2.3**
DRGR **102.73 317** ⇓P **Pdif** **23 36 26.6 -0.7**
DRGR **102.73 317** ⇓P **Pdif** **23 36 26.6 -0.7**
UZH **Uzhgorod** **102.75 319** ⇑*i*P **Pdif** **23 36 26.6 -0.6**
GZR **Gura Zlata** **102.88 316** ⇑P **Pdif** **23 36 27.0 -1.0**
GZR **Gura Zlata** **102.88 316** ⇑P **Pdif** **23 36 27.0 -1.0**
CRVS **Cervenica-Dubn** **103.25 319** *e*P **Pdif** **23 36 30.2 +0.7**
CRVS **Cervenica-Dubn** **103.25 319** *e*PDIFF **Pdif** **23 36 30.2 +0.7**
OKC **Ostrava-Krasne** **105.20 321** *e*SS SS 23 56 31.9 +40
NOA **NORSAR Array B** **105.75 333** Pdiff **Pdif** **23 36 37.2 -3.2**
comp=Z,1.0nm,0.9s,baz=78,slow=4.4,SNR=3.3
KRLC **Kraliky** **106.01 321** AMS AMS 00 28 30.0
comp=Z,600nm,20.0s
YKA **Yellowknife Ar** **106.15 25** Pdiff **Pdif** **23 36 42.6 +0.5**
comp=Z,0.5nm,0.7s,baz=293,slow=4.6,SNR=7.5
YKA PKiKP **PKiKP** **23 40 51.9 -1.7**
comp=Z,2.0nm,0.9s,baz=296,slow=1.8,SNR=13
DPC **Dobruska-Polom** **106.23 321** AMS AMS 00 27 50.0
comp=Z,600nm,23.8s
OSTC **Ostas** **106.25 322** AMS AMS 00 27 30.0
comp=Z,600nm,23.1s
VRAC **Vranov** **106.30 320** Pdiff **Pdif** **23 36 41.8 -1.3**
comp=Z,1.5nm,1.0s,baz=70,slow=8.1,SNR=4.4
VRAC **Vranov** **106.30 320** *e*PDIFF **Pdif** **23 36 42.7 -0.4**
UPC **Upice** **106.38 322** AMS AMS 00 25 00.0
comp=Z,800nm,20.9s
KRUC **Moravsky** **106.49 320** *e*PDIFF **Pdif** **23 36 43.6 -0.3**
TREC **Trest** **107.01 321** AMS AMS 00 28 50.0
comp=Z,500nm,16.9s
PVCC **Panska Ves** **107.27 322** AMS AMS 00 28 00.0
comp=Z,600nm,17.6s
PRU **Pruhonice** **107.43 321** AMS AMS 00 29 30.0
comp=Z,600nm,22.0s
GERES **GERESS Array B** **108.26 320** Pdiff **Pdif** **23 36 51.7 -0.2**
comp=Z,0.3nm,0.6s,baz=134,slow=9.5,SNR=3.9
KHC **Kasperske Hory** **108.26 321** AMS AMS 00 30 20.0
comp=Z,400nm,20.0s
NVAR **Mina Array Bea** **111.48 50** PKiKP **PKiKP** **23 41 06.0 +1.3**
comp=Z,0.6nm,0.6s,baz=318,slow=2.0,SNR=5.6
MSO **Missoula** **112.29 41** P **PKiKP** **23 41 07.6 +1.8**
baz=289
LRMC **Laurel Mtn Rad** **112.60 53** P **PKiKP** **23 41 09.8 +3.0**
baz=282
MPMC **Manual Prospec** **112.63 53** P **PKiKP** **23 41 09.7 +2.8**
baz=282
HLID **Hailey** **113.00 44** P **PKiKP** **23 41 09.1 +1.7**
baz=288
R11A **Troy Canyon, C** **113.58 50** P **PKiKP** **23 41 11.6 +3.0**
baz=284
BOZ **Bozeman (W)** **114.22 41** P **PKiKP** **23 41 10.7 +1.1**
baz=291
BELC **Belle Mtn. Jos** **114.26 54** P **PKiKP** **23 41 11.8 +1.8**
baz=282
GMRC **Granite Mounta** **114.36 54** P **PKiKP** **23 41 11.9 +1.8**
baz=283
EGMT **Eagleton** **114.51 38** P PKPdf 23 41 10.6 +0.7
baz=293
BC3 **Big Chuckawall** **114.78 55** P **PKiKP** **23 41 12.0 +1.0**
baz=283
IRM **Iron Mountain** **114.92 54** P PKPdf 23 41 14.2 +3.1
baz=283
EKA **Eskdalemuir Ar** **115.11 331** PKP **PKPdf** **23 41 11.2 +0.5**
comp=Z,3.0nm,1.0s,baz=35,slow=3.1,SNR=3.7
DUG **Dugway, Tooele** **115.15 47** P **PKPdf** **23 41 14.1 +2.6**
baz=287
REDW **Red Top Meadow** **115.52 43** **PKiKP** **23 41 11.5 -0.8**
FCC **Fort Churchill** **116.61 23** PKIKP **PKPdf** **23 41 13.1 -0.4**
FCC **Fort Churchill** **116.61 23** **PKPdf** **23 41 13.1 -0.4**
BW06 **Boulder Array** **116.61 44** P **PKiKP** **23 41 14.8 +0.4**
baz=291
PD31 **Pinedale Array** **116.61 44** **PKPdf** **23 41 13.6 -0.8**
PDAR **Pinedale Array** **116.61 44** PKP **PKiKP** **23 41 14.7 +0.3**
comp=Z,0.8nm,0.5s,baz=74,slow=2.0,SNR=10
PDAR **Pinedale Array** **116.61 44** **PKPdf** **23 41 13.5 -0.8**
LAO **LASA Array** **117.25 38** PKPdf **PKPdf** **23 41 14.6 -0.7**
LAO **LASA Array** **117.25 38** P **PKiKP** **23 41 16.9 +1.6**
baz=296
WUAZ **Wupatki** **117.58 52** P **PKiKP** **23 41 17.3 +0.9**
baz=286
O20A **White River Ci** **118.48 46** P **PKiKP** **23 41 19.4 +1.3**
baz=291
K22A **Casper** **118.73 43** P **PKiKP** **23 41 18.7 +0.3**
baz=294
TUC **Tucson** **118.91 55** P **PKiKP** **23 41 20.4 +1.5**
baz=285
MVCO **Mesa Verde** **119.28 49** P **PKiKP** **23 41 20.6 +0.8**
baz=289
RSSD **Black Hills** **119.76 40** PKIKP **PKPdf** **23 41 19.8 -0.6**
RSSD **Black Hills** **119.76 40** PKPdf **PKPdf** **23 41 19.8 -0.6**
RSSD **Black Hills** **119.76 40** P **PKiKP** **23 41 20.8 +0.4**
baz=296
S22A **4UR Ranch, Cre** **120.35 48** P **PKiKP** **23 41 23.5 +1.6**
baz=291
ISCO **Idaho Springs** **120.48 45** P **PKiKP** **23 41 22.9 +0.8**
baz=293
ULM **Lac du Bonnet** **121.28 31** PKP **PKPdf** **23 41 21.2 -1.5**
comp=Z,6.9nm,0.9s,baz=273,slow=3.4,SNR=6.4
SDCO **Great Sand Dun** **121.33 48** P **PKiKP** **23 41 25.2 +1.4**
baz=292
ANMO **Albuquerque** **121.59 51** ⇓*i*PKIKP **PKiKP** **23 41 25.0 +0.7**
ANMO pmax pmax
comp=Z,16nm,1.3s
ANMO **Albuquerque** **121.59 51** P **PKiKP** **23 41 25.5 +1.2**
baz=289
T25A **Trinidad** **122.36 48** P **PKiKP** **23 41 27.0 +1.2**
baz=292
ESDC **Sonseca Array** **123.34 316** PKP **PKiKP** **23 41 27.3 -0.1**
comp=Z,1.1nm,1.0s,baz=64,slow=3.4,SNR=4.5
ESDC PP **PP** **23 43 07.8 -0.1**
comp=Z,0.5nm,0.9s,baz=64,slow=5.9,SNR=1.5
ESDC **Sonseca Array** **123.34 316** PKPdf **PKPdf** **23 41 26.3 -0.9**
MNTX **Cornudas Mount** **123.48 54** P **PKiKP** **23 41 28.9 +1.1**
baz=288
F33A **5 Mile Ranch,** **123.63 35** **PKPdf** **23 41 27.3 -0.1**
ECSD **EROS Data Cent** **124.61 38** PKPdf **PKPdf** **23 41 29.0 -0.4**
ECSD **EROS Data Cent** **124.61 38** P **PKPdf** **23 41 29.6 +0.1**
baz=303
MSTX **Muleshoe** **124.78 51** P **PKiKP** **23 41 30.7 +0.1**
baz=292
TORD **Torodi Ar. Bea** **125.44 283** PKP **PKPdf** **23 41 30.9 -0.9**
comp=Z,1.8nm,1.0s,baz=54,slow=1.3,SNR=7.7
TORD PP **PP** **23 43 27.1 +4.1**
comp=Z,1.4nm,0.9s,baz=46,slow=4.3,SNR=3.7
TORD PKKPbc **PKKPbc** **23 51 10.7 +1.8**
comp=Z,0.9nm,1.0s,baz=335,slow=1.8,SNR=3.8
TORD **Torodi Ar. Bea** **125.44 283** **PKPdf** **23 41 29.9 -1.8**
TXAR **Lajitas Array** **125.62 56** PKP **PKiKP** **23 41 32.3 0.0**
comp=Z,2.9nm,0.9s,baz=195,slow=1.9,SNR=19
TXAR **Lajitas Array** **125.62 56** PKPdf **PKPdf** **23 41 31.6 -0.3**
SPMN **Marine on St.** **125.98 34** P **PKiKP** **23 41 33.0 +0.6**
baz=308
MDT **Midelt** **126.62 309** PKP **PKPdf** **23 41 32.8 -0.9**
comp=Z,1.7nm,0.8s,baz=21,slow=8.6,SNR=2.2
KSU1 **Kansas State U** **127.03 42** P **PKiKP** **23 41 35.2 +0.6**
baz=300
COYC **Coyhaique** **127.86 163** PKPdf **PKPdf** **23 41 35.6 0.0**
SCHQ **Schefferville** **127.93 10** PKP **PKPdf** **23 41 35.3 -0.2**
comp=Z,5.9nm,0.8s,baz=268,slow=9.8,SNR=7.6
SCHQ **Schefferville** **127.93 10** **PKiKP** **23 41 36.3 +0.3**
JCT **Junction City** **128.40 54** P **PKiKP** **23 41 38.5 +0.8**
baz=291
L40A **Anamosa** **128.81 36** **PKPdf** **23 41 37.5 +0.1**
LL02 **Futaleuf** **130.09 162** **PKPdf** **23 41 39.6 -0.3**
R40A **Maddies Statio** **130.34 41** **PKPdf** **23 41 40.2 -0.3**
W39A **Magazine** **130.94 45** P **PKiKP** **23 41 43.6 +0.9**
baz=300
CCM **Cathedral Cave** **131.14 41** P **PKiKP** **23 41 42.9 0.0**
baz=305
MIAR **Mount Ida** **131.41 46** P **PKiKP** **23 41 44.6 +1.0**
baz=300
PLCA **Paso Flores** **132.72 162** PKP **PKPdf** **23 41 45.0 -0.1**
comp=Z,7.6nm,0.9s,baz=194,slow=3.1,SNR=12
PLCA **Paso Flores** **132.72 162** PKIKP **PKPdf** **23 41 45.2 +0.1**
PLCA **Paso Flores** **132.72 162** *e*P **PKiKP** **23 41 47.6 +1.4**
PLCA **Paso Flores** **132.72 162** PKPdf **PKPdf** **23 41 45.1 +0.1**
O48B **Farmland** **133.48 34** P **PKiKP** **23 41 47.3 -0.3**
baz=313
ACSO **Alum Creek Sta** **134.70 33** P **PKiKP** **23 41 50.9 +0.8**
baz=315
M54A **Oil Creek Stat** **135.46 29** P **PKiKP** **23 41 52.8 +1.2**
baz=320
O53A **New Philadelph** **135.62 31** P **PKiKP** **23 41 52.9 +0.9**
baz=317
LCO **Las Campanas** **143.05 153** PKIKP PKPbc 23 42 02.7 +1.2
LCO **Las Campanas** **143.05 153** PKPdf PKPbc 23 42 02.7 +1.3
GO03 **Copiap** **144.47 153** PKPdf **PKPab** **23 42 05.3 +0.1**
PLTB **Pedras Altas** **144.55 179** PKPdf **PKPab** **23 42 04.6 -0.6**
CPSB **Cacapava Do Su** **145.91 179** *e*P **PKPab** **23 42 11.0 +0.7**
BOAB **BOACO BROADBAND** **146.39 73** PKPdf **PKPdf** **23 42 08.7 -1.7**
ITQB **Itaqui** **146.44 174** *e*P **PKPbc** **23 42 11.6 +0.2**
ITQB **Itaqui** **146.44 174** PKPdf **PKPdf** **23 42 09.4 -0.7**
JTS **Las Juntas de** **147.47 77** *e*P **PKPab** **23 42 16.1 -0.8**
TER01 **Tubaro-SC** **147.59 186** *e*P **PKPbc** **23 42 14.2 -0.6**
PB15 **IPOC Station P** **148.54 150** **PKPbc** **23 42 15.9 -1.8**
RIMA **Rio Macho** **148.61 78** **PKPdf** **23 42 14.7 +0.4**
PB06 **IPOC Station P** **148.91 149** **PKPbc** **23 42 16.9 -1.7**
PB04 **IPOC Station P** **148.91 148** **PKPdf** **23 42 15.8 +1.2**
ITAB **Concordia** **149.07 181** *e*P **PKPbc** **23 42 17.3 -1.3**
ITAB **Concordia** **149.07 181** **PKPdf** **23 42 16.1 +1.6**
LCCY **Blossom Villag** **149.09 57** PKPbc **PKPbc** **23 42 17.6 -1.3**
SRBA **San Rafael, Bu** **149.17 79** **PKPdf** **23 42 16.4 +1.2**
LVC **Limon Verde** **149.32 150** PKHKP PKPpre 23 42 17.8
LVC **Limon Verde** **149.32 150** *e*P **PKPbc** **23 42 17.9 -1.9**
LVC **Limon Verde** **149.32 150** **PKPbc** **23 42 17.8 -2.1**
PB07 **IPOC Station P** **149.54 147** **PKPdf** **23 42 14.4 -1.3**
CPUP **Villa Florida** **149.65 172** PKPbc **PKPbc** **23 42 20.0 -0.1**
comp=Z,54nm,1.0s,baz=184,slow=1.5,SNR=22
CPUP **Villa Florida** **149.65 172** PKHKP PKPpre 23 42 17.9
CPUP **Villa Florida** **149.65 172** *e*P **PKPbc** **23 42 19.1 -1.0**
CPUP **Villa Florida** **149.65 172** **PKPbc** **23 42 17.9 -2.2**
PB09 **IPOC Station P** **149.83 148** **PKPdf** **23 42 18.0 +1.9**
BRU2 **Volcan** **149.89 79** *e*P **PKPab** **23 42 24.7 -2.2**
BRU2 **Volcan** **149.89 79** **PKPdf** **23 42 18.2 +1.9**
PRVC **Isla de Provid** **150.24 70** *e*P **PKPdf** **23 42 17.7 +1.1**
PRVC **Isla de Provid** **150.24 70** **PKPdf** **23 42 18.7 +2.0**
PB01 **IPOC Station P** **150.31 147** **PKPdf** **23 42 18.1 +1.4**
TIJ01 **Guaruva-PR** **150.75 187** *e*P **PKPbc** **23 42 20.5 -2.4**
PB11 **IPOC Station P** **151.25 145** PKPdf **PKPdf** **23 42 16.6 -1.8**
PB11 PKPbc **PKPbc** **23 42 23.6 -0.7**
NNA **Nana** **151.36 124** PKIKP **PKPdf** **23 42 17.6 -0.9**
NNA **Nana** **151.36 124** PKPdf **PKPdf** **23 42 17.6 -0.9**
PET01 **Itanhaem-SP** **151.50 191** *e*P **PKPbc** **23 42 22.3 -2.2**
PTGB **Pitanga** **151.57 181** *e*P **PKPdf** **23 42 21.6 +2.9**
MTDJ **Mount Denham** **151.89 58** *e*P **PKPbc** **23 42 24.4 -1.4**
VAO **Valinhos** **152.69 192** *e*P **PKPdf** **23 42 23.4 +3.0**
ALF01 **Guarapari-ES** **152.94 205** *e*P **PKPdf** **23 42 24.0 +3.4**
GTBY **Guantanamo Bay** **153.01 52** *e*P **PKPbc** **23 42 26.9 -1.2**
RCLB **Rio Claro- Sao** **153.37 191** *e*P **PKPdf** **23 42 24.0 +2.7**
OTAV **Otavalo** **154.10 97** *e*P **PKPdf** **23 42 23.5 +0.4**
OTAV **Otavalo** **154.10 97** *e*P **PKPdf** **23 42 27.0 +3.9**
PCMB **Pacaembu** **154.63 183** *e*P **PKPdf** **23 42 25.8 +2.7**

PTAC	Punta Ardita,	154.88	81	eP	PKPdf	23 42 21.4	-2.1
GCUF	Volcan Galeras	155.32	95	eP	PKPdf	23 42 25.2	+0.4
AQDB	Aquidauana	155.63	173	eP	PKPdf	23 42 27.3	+2.9
POPC	Popayan, Colom	156.11	92	eP	PKPdf	23 42 25.2	-0.4
SOTA	Rioblanco	156.15	93	eP	PKPdf	23 42 36.2	+10
DIAM	Diamantina, MG	156.21	202	eP	PKPdf	23 42 27.3	+1.9
DBBC	Dabeiba	156.47	81	eP	PKPdf	23 42 26.9	+1.0
YOTC	Yotoco, Valle	156.49	89	eP	PKPdf	23 42 26.6	+0.7
CBOC	Ciudad Bolivar	156.77	84	eP	PKPdf	23 42 28.3	+2.0
SJCC	San Jacinto, C	156.99	74	eP	PKPdf	23 42 27.3	+0.8
CZSB	Cruzeiro do Su	157.02	120	eP	PKPdf	23 42 29.3	+2.8
HELC	Santa Helena	157.23	83	eP	PKPdf	23 42 27.7	+0.6
ANIL	Santa Ana	157.43	88	eP	PKPdf	23 42 26.9	-0.4
GUY2C	Guyana, Caldas	157.45	86	eP	PKPdf	23 42 26.4	-1.1
ORTC	Ortega, Tolima	157.59	89	eP	PKPdf	23 42 25.2	-2.0
PTLC	Puerto Leguiza	157.70	99	eP	PKPdf	23 42 25.6	-1.7
ZARC	Zaragoza, Cauc	157.75	80	eP	PKPdf	23 42 26.9	-0.4
IPMB	Ipameri, GO	157.82	192	eP	PKPdf	23 42 29.9	+2.5
PTBC	PUERTO BERRIO	158.26	82	eP	PKPdf	23 42 25.6	-2.4
ROSC	El Rosal	158.50	87	PKP	PKPdf	23 42 28.6	-0.2
	comp=Z,6.0nm,0.4s,baz=357,slow=14,SNR=2.1						
ROSC				PKPab	PKPab	23 43 05.1	+1.4
	comp=Z,8.0nm,0.6s,baz=255,slow=20,SNR=2.3						
ROSC	El Rosal	158.50	87	eP	PKPdf	23 42 28.5	-0.2
SPBC	San Pablo de B	158.71	84	eP	PKPdf	23 42 28.2	-0.4
LL6C	La Loma 6 Bece	158.85	73	eP	PKPdf	23 42 26.4	-2.2
MACC	Macarena, Meta	158.90	94	eP	PKPdf	23 42 26.0	-2.7
CHIC	Chingaza	159.10	87	eP	PKPdf	23 42 28.7	-0.8
OCAC	Ocana	159.13	77	eP	PKPdf	23 42 28.5	-0.6
RUSC	La Rusia	159.68	84	eP	PKPdf	23 42 28.9	-1.3
PTLB	Pontes e Lacer	159.80	162	eP	PKPdf	23 42 34.7	+5.0
PAMC	Pamplona, Colo	159.89	79	eP	PKPdf	23 42 28.9	-1.5
SALV	Santo Antonio	160.14	172	eP	PKPdf	23 42 32.3	+2.2
ARAG	Araguaiana, MT	160.52	183	eP	PKPdf	23 42 33.5	+3.0
RCBR	Riachuelo	160.58	240	eP	PKPdf	23 42 32.6	+1.9
PTGC	Puerto Gaitan,	160.69	88	eP	PKPdf	23 42 28.9	-1.8
ETMB	Extrema	160.92	136	eP	PKPdf	23 42 34.7	+3.7
SDV	Santo Domingo	161.58	73	eP	PKPdf	23 42 30.6	-1.3
SDV	Santo Domingo	161.58	73	eP	PKPdf	23 42 34.2	+2.3
VILB	Vilhena	161.73	156	eP	PKPdf	23 42 34.5	+2.6
PDRB	Porto dos Gac	164.12	166	eP	PKPdf	23 42 36.8	+2.6
NPGB	Novo Progresso	168.85	167	eP	PKPdf	23 42 40.4	+2.6
BOAV	Boa Vista	172.13	101	eP	PKPdf	23 42 42.2	+2.6

IDC 16 23:35:30.9±2.4, 1°.07N×127°.64E, h0km, mb3.3/3, mb1 3.5/3, mb1mx2.9/57, mbtmp3.3/3, Error ellipse: s-maj=179.8km s-min=28.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.89	163	P	P	23 40 24.8	-0.9
	0.7nm,0.5s,baz=342,slow=11,SNR=7.1						
ASAR	Alice Springs	25.33	166	P	P	23 41 00.2	+0.7
	0.5nm,0.5s,baz=345,slow=11,SNR=6.4						
MKAR	Makanchi Array	60.25	326	P	P	23 45 41.0	-0.1
	0.1nm,0.5s,baz=120,slow=8.8,SNR=1.9						

*DNK **16** 23:38:56.0±2.1, 51°.46N×15°.99E, h0km±287km, Mc3.5*
*LDG **16** 23:38:57.6±0.2, 51°.52N×16°.18E, h1km, Ml3.5/16, Error ellipse: s-maj=5.6km s-min=2.7km az=14.0, Suspected Mining induced.*
*IDC **16** 23:38:58.4±0.5, 51°.52N×16°.01E, h0km, mb3.7/10, mb1 3.7/18, mb1mx3.5/57, mbtmp3.6/18, ML3.3/8, MS4.6/1, Ms1 4.6/1, ms1mx2.8/92, Error ellipse: s-maj=9.9km s-min=5.9km az=113.0*
*IPEC **16** 23:38:58.1±0.3, 51°.54N×16°.25E, h0km, ML3.2/3, Error ellipse: s-maj=1.9km s-min=1.6km az=33.0*
*BGR **16** 23:38:59.5±0.3, 51°.49N×16°.12E, h1km, ML3.5/16, Error ellipse: s-maj=3.3km s-min=2.2km az=39.0*
*PRU **16** 23:38:59.0±0.0, 51°.51N×16°.10E, h0km*
*VIE **16** 23:39:02.0±0.9, 51°.28N×15°.97E, h0km, mb3.1/20, ml3.2/17, ms3.7/2, Error ellipse: s-maj=8.9km s-min=3.5km az=33.0 75 km WNW of Wroclaw Suspected Mining induced.*

ISC 16 23:38:57.1±0.5, 51°.50N±0°.02×16°.05E±0°.02, h0km, n155, σ2s06/262, mb3.7/10, 2C-16D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	167	*i* Pg	Pb	23 39 12.0	+0.3
KSP				*e*Sg	Sb	23 39 20.9	-0.6
KSP	Ksiaz	0.67	167	*e*Pg	Pb	23 39 12.0	+0.3
KSP				*e*Sg	Sb	23 39 21.3	-0.3
	SNR=2.1						
CHVC	Chvalec	0.91	180	⇓*i*PG	Pn	23 39 16.7	-0.5
CHVC				*e*SG	Sb	23 39 28.7	+0.3
	comp=Z,380nm,0.6s						
OSTC	Ostas	0.95	174	⇓*i*PG	Pn	23 39 17.3	-0.4
OSTC				*e*SG	Sb	23 39 29.7	+0.2
	comp=Z,252nm,0.4s						
UPC	Upice	0.99	182	⇓*i*PG	Pn	23 39 17.9	-0.4
UPC				*e*SG	Sb	23 39 31.2	+0.5
	comp=Z,494nm,0.6s						
DPC	Dobruska-Polom	1.16	171	⇓*i*PG	Pn	23 39 20.7	+0.1
DPC				*e*SG	Sb	23 39 35.6	0.0
	comp=Z,179nm,0.5s						
DPC	Dobruska-Polom	1.16	171	*e*Pg	Pn	23 39 20.9	+0.2
DPC				*e*Sg	Sb	23 39 35.9	+0.2
	SNR=2.1						
PVCC	Panska Ves	1.35	225	⇓*e*PG	Pb	23 39 24.9	+1.7
PVCC				*e*SG	Sn	23 39 43.5	+1.7
PVCC	Panska Ves	1.35	225	*e*Pg	Pb	23 39 25.5	+2.2
PVCC				*e*Sg	Sn	23 39 44.1	+2.4
	SNR=3.6						
BRG	Berggiesshubel	1.47	246	Pn	Pb	23 39 25.5	+0.2
BRG				Pg	Pg	23 39 27.6	+2.4
BRG				Sg	Sn	23 39 47.6	+2.9
BRG				Amp		23 39 48.3	
	comp=Z,316nm,0.4s						
BRG	Berggiesshubel	1.47	246	*e*Pn	Pb	23 39 25.7	+0.5
	SNR=204						
BRG				*e*Pg	Pg	23 39 27.6	+2.4
	SNR=4.5						
BRG				*e*Sg	Sn	23 39 47.4	+2.7
	SNR=2.6						
KRLC	Kraliky	1.50	162	⇓*i*PG	Pb	23 39 26.2	+0.4
KRLC				*e*SG	Sn	23 39 46.3	+0.8
RUE	Ruedersdorf	1.72	306	*e*P	Pn	23 39 28.8	+0.6
RUE				*e*S	Sg	23 39 53.6	+1.3
RUE				IAML		23 40 04.7	
	comp=Z,170nm,0.5s						
RUE	Ruedersdorf	1.72	306	*e*Pn	Pb	23 39 29.0	-0.5
	SNR=37						
RUE				*e*Pg	Pg	23 39 31.9	+1.9
	SNR=18						
RUE				*e*Sg	Sg	23 39 55.5	+3.2
	SNR=7.3						
PRU	Pruhonice	1.79	213	⇓*e*PN	Pb	23 39 30.6	-0.1
PRU				*e*PG	Pg	23 39 32.4	+1.0
PRU				*e*SG	Sg	23 39 56.5	+2.0
	comp=Z,233nm,0.7s						
PRU	Pruhonice	1.79	213	*e*Pn	Pb	23 39 30.5	-0.3
	SNR=79						
FBE	Freiberg	1.79	252	*e*Pn	Pb	23 39 30.6	-0.2
	SNR=58						
FBE				*e*Sg	Sg	23 39 56.9	+2.2
	SNR=5.1						
GKP	Gorka Klasztor	1.92	22	*e*P	Pg	23 39 38.3	+4.4
CLL	Collm	1.92	266	*e*Pn	Pn	23 39 32.0	+1.0
CLL				*e*Pg	Pg	23 39 34.0	+0.1
CLL				*i* x	x	23 39 38.2	
CLL				*i* Sg	Sg	23 40 01.1	+2.3
	comp=Z,125nm,0.6s						
CLL	Collm	1.92	266	*e*Pn	Pn	23 39 32.0	+1.0
	SNR=85						
CLL				*e*Pg	Pg	23 39 35.5	+1.6
	SNR=21						
CLL				*e*Sg	Sg	23 40 01.3	+2.5
	SNR=2.2						
RAC	Raciborz	1.96	135	*e*PN	Pn	23 39 31.8	+0.2
RAC				*e*PG	Pg	23 39 35.0	+0.3
RAC				*e*SG	Sg	23 40 01.6	+1.5
MORC	Moravsky Berou	1.96	151	⇓P	Pn	23 39 32.4	+0.8
MORC				⇓S	Sg	23 40 05.1	+4.9
MORC	Moravsky Berou	1.96	151	*e*Pn	Pn	23 39 32.5	+0.8
	baz=336						
MORC				*e*Sg	Sb	23 39 59.2	+0.4
	comp=Z,146nm,0.5s,baz=336						
MORC	Moravsky Berou	1.96	151	*e*Pn	Pn	23 39 32.5	+0.8
	SNR=120						
MORC				*e*Sg	Sg	23 40 01.0	+0.8
	SNR=3.6						
OKC	Ostrava-Krasne	2.13	140	⇓*e*PG	Pg	23 39 38.4	+0.5
OKC				*e*SG	Sg	23 40 05.0	-0.5
	comp=Z,267nm,0.7s						
OKC	Ostrava-Krasne	2.13	140	*e*Pn	Pn	23 39 34.2	+0.3
	SNR=22						
OKC				*e*Sg	Sg	23 40 05.0	-0.5
	SNR=3.5						
VRAC	Vranov	2.22	171	⇑P	Pn	23 39 36.8	+1.6
VRAC				⇓S	Sg	23 40 09.5	+1.2
VRAC	Vranov	2.22	171	Pn	Pn	23 39 36.6	+1.4
	comp=Z,5.2nm,0.3s,baz=339,slow=16,SNR=56						
VRAC				Lg	Lg	23 40 07.0	
	comp=Z,15nm,0.3s,baz=50,slow=20,SNR=7.0						
VRAC	Vranov	2.22	171	*e*Pn	Pn	23 39 36.5	+1.4
	baz=354						
VRAC				*e*Sg	Sg	23 40 08.3	0.0
	comp=Z,150nm,0.9s,baz=354						
VRAC	Vranov	2.22	171	*e*PN	Pn	23 39 36.6	+1.4
VRAC				*e*SG	Sg	23 40 08.4	+0.1
VRAC	Vranov	2.22	171	*e*Pn	Pn	23 39 36.5	+1.4
	SNR=75						
VRAC				*e*Sg	Sg	23 40 08.9	+0.6
	SNR=3.4						
TREC	Trest	2.23	190	⇓*e*PN	Pb	23 39 37.3	-1.0
TREC				*e*SG	Sg	23 40 10.3	+1.5
	comp=Z,104nm,0.3s						
TREC	Trest	2.23	190	*e*Pn	Pb	23 39 37.1	-1.2
	SNR=40						
TREC				*e*Sg	Sg	23 40 10.4	+1.6
	SNR=4.3						
PBCC	Pribram	2.24	217	⇓*e*PN	Pn	23 39 36.5	+1.1
KRUC	Moravsky	2.45	175	*e*Pn	Pn	23 39 39.9	+1.6
	baz=358						
KRUC	Moravsky	2.45	175	*e*Pg	Pg	23 39 43.5	-0.5
	baz=358						
KRUC				*e*Sg	Sg	23 40 16.0	+0.3
	comp=Z,122nm,0.7s,baz=358						
KRUC	Moravsky	2.45	175	*e*Pn	Pn	23 39 39.9	+1.6
	SNR=77						
KRUC				*e*Sg	Sg	23 40 17.1	+1.5
	SNR=3.6						
TANN	Tannenbergstha	2.52	246	*e*Pn	Pn	23 39 41.0	+1.7
	SNR=68						
TANN				*e*Pg	Pg	23 39 47.9	+2.6
	SNR=13						
TANN				*e*Sg	Sg	23 40 20.1	+2.2
	SNR=5.1						
WERD	Werda	2.59	248	*e*Pn	Pn	23 39 42.0	+1.7
	SNR=40						
WERD				*e*Pg	Pg	23 39 49.3	+2.6
	SNR=7.1						
NKC	Novy Kostel	2.61	242	⇓*e*PN	Pn	23 39 42.3	+1.7
NKC				*e*PG	Pg	23 39 49.1	+2.0
NKC				*e*SG	Sg	23 40 23.1	+2.2
	comp=Z,241nm,0.3s						
NKC	Novy Kostel	2.61	242	*e*Pn	Pn	23 39 42.4	+1.9
	SNR=59						
NKC				*e*Pg	Pg	23 39 50.3	+3.2
	SNR=21						
GUNZ	Gunzen	2.61	246	*e*Pn	Pn	23 39 42.4	+1.8
	SNR=53						
GUNZ				*e*Pg	Pg	23 39 50.6	+3.4
	SNR=9.5						
WERN	Wernitzgruen	2.62	244	*e*Pn	Pn	23 39 42.5	+1.8
	SNR=79						
WERN				*e*Pg	Pg	23 39 49.7	+2.3
	SNR=17						
PLN	Plauen	2.66	249	*e*Pn	Pn	23 39 42.8	+1.6
	SNR=34						
PLN				*e*Pg	Pg	23 39 50.4	+2.3
	SNR=10						
PLN				*e*Sg	Sg	23 40 25.0	+2.4
	SNR=4.4						
OJC	Ojcow	2.69	117	*e*Pn	Pn	23 39 40.8	-1.0
OJC				*e*Pg	Pg	23 39 49.4	+0.6
OJC				*e*Sg	Sg	23 40 23.7	0.0
NEUB	Neuenburg	2.70	266	*e*Pg	Pg	23 39 50.7	+1.9
JAVC	Velka Javorina	2.84	158	*e*PN	Pn	23 39 44.9	+1.2
JAVC	Velka Javorina	2.84	158	*e*Pn	Pn	23 39 46.0	+2.3
	SNR=26						
KHC	Kasperske Hory	2.85	215	⇓*e*PN	Pn	23 39 45.2	+1.3
KHC				*e*PG	Pg	23 39 51.7	0.0
KHC				*e*SN	Sn	23 40 20.3	+1.4
KHC				*e*SG	Sg	23 40 29.3	+0.7
	comp=Z,72nm,0.5s						
KHC	Kasperske Hory	2.85	215	*e*Pn	Pn	23 39 45.3	+1.4
	SNR=54						
KHC				*e*Pg	Pg	23 39 51.9	+0.2
	SNR=27						
CKRC	Cesky Krumlov	2.90	203	⇓*e*PN	Pn	23 39 46.9	+2.3
CKRC				*e*PG	Pg	23 39 52.8	+0.1
CKRC				*e*SG	Sg	23 40 31.2	+0.8
	comp=Z,87nm,0.5s						
CKRC	Cesky Krumlov	2.90	203	*e*Pn	Pn	23 39 46.9	+2.3
	SNR=39						
MOX	Moxa	2.93	255	*e*Pn	Pn	23 39 46.3	+1.4
	SNR=19						
MOX				*e*Pg	Pg	23 39 54.6	+1.4
	SNR=7.1						
MOX				*e*Sg	Sg	23 40 34.6	+3.5
	SNR=3.8						
GEC2	GERESS Array S	3.05	211	*e*Pn	Pn	23 39 48.4	+1.7
	SNR=52						
GEC2				*e*Pg	Pg	23 39 55.5	-0.2
	SNR=30						
GEC2				*e*Sg	Sg	23 40 35.8	+0.6
	SNR=2.9						
GERES	GERESS Array B	3.05	211	Pn	Pn	23 39 48.3	+1.6
	comp=Z,6.2nm,0.3s,baz=32,slow=12,SNR=155						
GERES				Pg	Pg	23 39 55.0	-0.6
	comp=Z,13nm,0.3s,baz=31,slow=18,SNR=36						
GERES				Lg	Lg	23 40 33.0	
	comp=Z,9.6nm,0.3s,baz=35,slow=26,SNR=6.1						
GERES				LR	LR	23 40 50.4	
	comp=Z,52nm,18.3s,baz=292,slow=37						
FLTG	Flechtingen	3.10	288	*e*Sg	Sg	23 40 39.1	+2.5
	SNR=2.3						
WET	Wettzell	3.11	222	*e*Pn	Pn	23 39 49.0	+1.6
	SNR=27						
WET				*e*Sg	Sg	23 40 38.6	+1.6
	SNR=1.5						
SMOL	Smolenice	3.11	163	*e*PG	Pg	23 39 58.0	+1.2
SMOL				*e*SG	Sg	23 40 40.2	+3.1
LANS	Liptovska Anna	3.21	136	*e*PN	Pn	23 39 50.2	+1.4
LANS				*e*PG	Pg	23 39 59.8	+1.2
LANS				*e*SG	Sg	23 40 42.0	+1.8
MODS	Modra-Piesok	3.22	165	*e*PN	Pn	23 39 51.5	+2.5
MODS				*e*PG	Pg	23 40 00.5	+1.6
MODS				*e*SG	Sg	23 40 44.5	+3.9
ZST	Bratislava	3.37	168	*e*SG	Sg	23 40 46.5	+1.1
ASSE	Asse, Remlinge	3.40	283	*e*Pn	Pn	23 39 53.5	+2.2
	SNR=2.7						
NIE	Niedzica	3.42	126	*e*Pn	Pn	23 39 53.4	+1.8
NIE				*e*Pg	Pg	23 40 03.6	+1.0
NIE				*e*Sg	Sg	23 40 47.7	+0.8
VYHS	Vyhne	3.50	148	*e*PN	Pn	23 39 53.6	+0.8
VYHS				*e*PG	Pg	23 40 05.3	+1.1
VYHS				*e*SG	Sg	23 40 54.3	+4.8
CLZ	Clausthal	3.55	278	*e*Pn	Pn	23 39 55.7	+2.1
	SNR=9.4						
CONA	Conrad Observa	3.57	182	*i* Pn	Pn	23 39 55.8	+1.9
	comp=Z,6.7nm,0.3s,SNR=23						
CONA				Sg	Sg	23 40 51.9	0.0
	comp=Z,78nm,0.6s						
BSD	Bornholm Skovb	3.69	350	*i* P	Pn	23 39 53.0	-2.3
BSD				*e*S	Sn	23 40 38.0	-1.5
BSD	Bornholm Skovb	3.69	350	*e*P	Pn	23 39 55.5	+0.2
BSD				*e*S	Sn	23 40 37.7	-1.7
NRDL	Niedersach Rie	3.81	288	*e*Pn	Pn	23 39 59.4	+2.4
	SNR=5.6						
MOA	Molln	3.83	198	*e*Pn	Pn	23 39 59.4	+2.1
	comp=Z,14nm,0.3s,SNR=47						
MOA				Sg	Sg	23 41 01.7	+1.6
	comp=Z,36nm,0.4s						
SOP	Sopron	3.83	175	SN	Sb	23 40 51.9	-0.5
STHS	Stebnicka Huta	3.92	120	*e*PG	Pg	23 40 13.1	+1.0
STHS				*e*SG	Sg	23 41 08.2	+5.4
BSEG	Bad Segeberg	4.26	307	*e*Pn	Pn	23 40 03.0	-0.1
	SNR=11						
ARSA	Arzberg	4.26	185	*e*Pn	Pn	23 40 05.8	+2.5
	comp=Z,5.5nm,0.3s,SNR=16						
ARSA				Sg	Sg	23 41 15.3	+1.3
	comp=Z,50nm,0.6s						
CRVS	Cervenica-Dubn	4.34	125	*e*PN	Pn	23 40 05.9	+1.6
CRVS				*e*PG	Pg	23 40 21.1	+0.9
CRVS				*e*SG	Sg	23 41 18.8	+2.5
PSZ	Piszkesteto	4.36	144	⇑P	Pn	23 40 06.1	+1.4
PSZ	Piszkesteto	4.36	144	PN	Pn	23 40 06.4	+1.7
PSZ				SN	Sn	23 40 51.8	-4.4
FUR	Furstenfeldbru	4.55	225	*e*Pn	Pn	23 40 09.3	+2.2
	SNR=3.6						
KBA	Koelnbreinsper	4.76	203	*e*Pn	Pn	23 40 12.6	+2.3
	comp=Z,11nm,0.4s,SNR=9.4						
KBA				Sg	Sg	23 41 30.1	0.0
	comp=Z,26nm,0.6s						
BLEU	Blekinge	4.82	358	*e*P	Pn	23 40 11.4	+0.5
SOKA	Soboth	4.87	188	*e*Pn	Pn	23 40 14.2	+2.6
	comp=Z,2.1nm,0.3s,SNR=5.3						
SOKA				Sg	Sg	23 41 34.2	+0.7
	comp=Z,16nm,0.7s						
TNS	Taunus Mts	4.98	258	*e*Pn	Pn	23 40 14.9	+1.7
	SNR=9.5						
SUW	Suwalki	5.01	57	*e*P	Pn	23 40 13.6	+0.1
SUW				*e*S	Sn	23 41 06.4	-5.6
WATA	Walderalm	5.09	217	*e*Pn	Pn	23 40 17.4	+2.7
	comp=Z,7.3nm,0.4s,SNR=6.3						
OBKA	Obir	5.09	192	*e*Pn	Pn	23 40 17.4	+2.8
	comp=Z,1.3nm,0.3s						
OBKA				*e*Sg	Sg	23 41 44.2	+3.7
	comp=Z,31nm,0.7s						
MYKA	Terra Mystica	5.12	199	*i* Pn	Pn	23 40 19.1	+4.0
	comp=Z,2.3nm,0.3s						
MYKA				Sg	Sg	23 41 41.2	-0.4
	comp=Z,17nm,0.6s						
WTTA	Wattenberg	5.12	216	*e*Pn	Pn	23 40 17.6	+2.4
	comp=Z,3.7nm,0.4s,SNR=6.3						
WTTA				Sg	Sg	23 41 44.4	+2.8
	comp=Z,24nm,0.5s						
DEL	Delary	5.15	346	*i* P	Pn	23 40 14.7	-0.7
MOTA	Moosalm	5.26	220	*i* Pn	Pn	23 40 19.0	+1.9
	comp=Z,6.7nm,0.4s,SNR=13						
MOTA				*i* Sn	Sn	23 41 20.5	+2.0
	comp=Z,7.0nm,0.4s						
RETA	Reutte	5.29	223	*e*Pn	Pn	23 40 18.6	+1.2
	comp=Z,2.1nm,0.2s,SNR=8.9						
RETA				Sg	Sg	23 41 47.3	+0.3
	comp=Z,26nm,0.6s						
ABTA	Abfaltersbach	5.29	207	*e*Pn	Pn	23 40 20.2	+2.8
	comp=Z,4.9nm,0.4s,SNR=7.0						
ABTA				Sg	Sg	23 41 47.4	+0.5
	comp=Z,38nm,0.9s						
SQTA	Sankt Quirin	5.32	218	*e*Pn	Pn	23 40 20.5	+2.6
	comp=Z,8.1nm,0.3s,SNR=16						
SQTA				Sg	Sg	23 41 48.5	+0.6
	comp=Z,5.5nm,0.3s						
UBR	Ueberruh	5.43	228	*e*Pn	Pn	23 40 20.7	+1.3
	SNR=5.1						
FETA	Feichten	5.67	220	*e*Pn	Pn	23 40 25.0	+2.3
	comp=Z,2.1nm,0.4s						
FETA				*e*Sn	Sn	23 41 31.5	+2.8
	comp=Z,2.3nm,0.5s						
FETA				Sg	Sg	23 42 01.7	+2.4
	comp=Z,4.9nm,0.5s						
DAVA	Damuels	5.83	226	*i* Pn	Pn	23 40 26.1	+1.2
	comp=Z,2.6nm,0.3s,SNR=5.5						
DAVA				*e*Sn	Sn	23 41 34.8	+2.3
	comp=Z,9.5nm,0.5s						
DAVA				*e*Sg	Sg	23 42 10.1	+5.8
	comp=Z,12nm,0.4s						
FABU	Falkenberg	5.85	342	*i* P	Pn	23 40 24.7	-0.3
PABE	Paberze	6.20	47	*e*P	Pn	23 40 19.9	-10
PABE				IAML		23 42 29.5	
	comp=Z,11nm,0.4s						
DAVOX	Davos/Dischmat	6.22	223	Pn	Pn	23 40 32.5	+2.2
	comp=Z,1.1nm,0.3s,baz=59,slow=12,SNR=14						
DAVOX				Lg	Lg	23 42 12.2	
	comp=Z,0.8nm,0.3s,baz=7.3,slow=16,SNR=1.6						
BORU	Boraas	6.44	344	*e*P	Pn	23 40 32.6	-0.5
CDF	Champ du Feu	6.45	245	*e*Pn	Pn	23 40 34.8	+1.4
CDF	Champ du Feu	6.45	245	*e*Pg	Pg	23 40 59.4	-1.2
CDF				*e*Sg	Sg	23 42 21.5	-2.7
	comp=Z,20nm,0.6s						
HINF	Hinteralfeld	7.01	242	*e*Pn	Pn	23 40 41.1	0.0
HINF	Hinteralfeld	7.01	242	*e*Pg	Pg	23 41 06.9	-4.5
HINF				*e*Sn	Sn	23 41 57.5	-4.0
HINF				*e*Sg	Sg	23 42 41.0	-1.3
	comp=Z,3.9nm,0.4s						
SLIT	Slitere, Latvi	7.13	28	*e*P	Pn	23 40 42.9	+0.3
HAU	Haudompre	7.19	245	*e*Pn	Pn	23 40 43.6	+0.1
HAU	Haudompre	7.19	245	*e*Pg	Pg	23 41 12.5	-2.3
HAU				*e*Sn	Sn	23 42 03.5	-2.3
HAU				*e*Sg	Sg	23 42 44.5	-3.4
	comp=Z,8.0nm,0.4s						
IIGN	Ignalina	7.20	54	*e*P	Pn	23 40 45.0	+1.6
IIGN				IAML		23 43 05.1	
	comp=Z,4.0nm,0.6s						
GIVF	Givet	7.25	263	*e*Sg	Sg	23 42 45.8	-4.1
PAGF	Fort de Pagny	7.28	250	*e*Pn	Pn	23 40 44.9	+0.3
	baz=69						
PAGF				*e*Sn	Sn	23 42 03.0	-4.8
PAGF				*e*Sg	Sg	23 42 48.7	-1.9
	comp=Z,4.9nm,0.4s						
IDID	Didziasalis	7.44	55	*e*P	Pn	23 40 47.7	+0.8
IDID				IAML		23 43 12.9	
	comp=Z,2.0nm,0.6s						
SAVF	Savonnieres en	7.60	252	*e*Pn	Pn	23 40 49.7	+0.6
	baz=72						
SAVF				*e*Sg	Sg	23 42 59.2	-1.9
	comp=Z,1.9nm,0.4s						
BAIF	Baives	7.65	264	*e*Pn	Pn	23 40 50.5	+0.8
BAIF				*e*Sg	Sg	23 42 59.5	-3.1
	comp=Z,3.6nm,0.4s						
MEZF	Maizieres J'vi	7.70	251	*e*Pn	Pn	23 40 50.2	-0.2
	baz=72						
MEZF				*

FLN	**La Foliniere**	10.96	262	*e*Pn		**Pn**	**23 41 34.7**	**-0.4**
	baz=80							
FLN				*e*Sn		**Sn**	**23 43 32.7**	**-5.6**
FINES	**FINESS Array B**	11.39	25	Pn		**Pn**	**23 41 38.6**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=204,slow=12,SNR=39							
FINES				Sn		Sn	23 43 38.4	-10
	comp=Z,0.2nm,0.3s,baz=215,slow=24,SNR=1.9							
EKA	**Eskdalemuir Ar**	12.08	296	Pn		**Pn**	**23 41 47.5**	**-2.8**
	baz=99,slow=14,SNR=9.3							
SGMF	**Saint Gilles**	12.43	262	*e*Pn		**Pn**	**23 41 55.1**	**-0.1**
ARCES	**ARCESS Array B**	18.64	10	Pn		**P**	**23 43 12.6**	**-3.4**
	baz=191,slow=13,SNR=9.5							
ARU	**Arti**	25.18	62	P		**P**	**23 44 23.6**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=275,slow=7.1,SNR=5.6							
AKTO	**Aktyubinsk**	26.19	76	P		**P**	**23 44 33.4**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=310,slow=6.3,SNR=3.6							
SPITS	**Spitsbergen Ar**	26.79	0	P		**P**	**23 44 39.0**	**+0.6**
	comp=Z,5.1nm,0.8s,baz=180,slow=7.3,SNR=1.5							
BVAR	**Borovoye Array**	32.63	66	P		**P**	**23 45 31.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=190,slow=7.1,SNR=4.1							
KURBB	**Kurchatov Arra**	38.21	66	P		**P**	**23 46 19.1**	**+0.9**
	comp=Z,0.2nm,0.2s,baz=297,slow=9.2,SNR=2.1							
AAK	**Ala-Archa**	39.81	79	LR		LR	00 05 15.5	
	comp=Z,862nm,20.6s,baz=118,slow=40							
TORD	**Torodi Ar. Bea**	39.97	202	P		**P**	**23 46 34.2**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=11,slow=8.9,SNR=2.2							
MKAR	**Makanchi Array**	42.25	69	P		**P**	**23 46 53.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=304,slow=7.6,SNR=6.4							
SONM	**Songino Array**	54.95	55	P		**P**	**23 48 31.0**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=311,slow=9.0,SNR=3.8							
YKA	**Yellowknife Ar**	59.86	336	P		**P**	**23 49 05.3**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=30,slow=6.6,SNR=8.0							
PDAR	**Pinedale Array**	74.93	322	P		**P**	**23 50 41.5**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=64,slow=4.5,SNR=3.0							

IDC 16 23:40:53.8±51.0, 16°.79S×179°.51W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/28, mbtmp4.0/3, Error ellipse: s-maj=933.3km s-min=156.9km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	38.27	240	P	P	23 48 15.9	-0.1
	1.1nm,0.4s,baz=74,slow=9.1,SNR=4.3						
WRA	**Warramunga Arr**	43.81	259	P	P	23 49 01.9	0.0
	0.3nm,0.4s,baz=92,slow=7.9,SNR=10						
ASAR	**Alice Springs**	44.09	251	P	P	23 49 03.9	-0.3
	4.2nm,0.6s,baz=88,slow=8.4,SNR=81						

*SOME **16** 23:44:56.0, 38°.97N×72°.83E, h0km*
*IDC **16** 23:44:57.0±0.9, 38°.79N×73°.36E, h0km, mb3.8/18, mb1 4.0/24, mb1mx3.8/68, mbtmp3.8/24, ML3.4/6, MS4.1/3, Ms1 4.1/3, ms1mx3.3/90, Error ellipse: s-maj=16.0km s-min=13.6km az=166.0*
*MOS **16** 23:44:57.6±1.1, 38°.79N×73°.26E, h17km, mb4.3/11, Error ellipse: s-maj=7.1km s-min=4.5km az=81.6*
*BJI **16** 23:44:57.8±0.0, 38°.74N×73°.26E, h6km, mb4.1/15, mB4.4/2, ML3.7/7*
*NEIC **16** 23:44:58.6±2.4, 38°.80N±0°.04×73°.17E±0°.07, h10km±1km, mb4.3/16, Error ellipse: s-maj=8.8km s-min=7.0km az=86.0*
*NNC **16** 23:45:00.1±1.7, 39°.00N×73°.00E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=13.2km s-min=8.1km az=3.0*

ISC 16 23:44:58.8±0.4, 38°.87N±0°.03×73°.08E±0°.03, h10km, n206, σ2S14/213, mb4.0/27, MS4.6/3, 16C-15D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	1.17	302	Pn		**Pn**	**23 45 20.1**	**-1.4**
DRK				Sn		**Sb**	**23 45 39.1**	**+2.6**
BTK	**Batken**	2.11	305	PN		**Pb**	**23 45 37.2**	**-0.1**
BTK	**Batken**	2.11	305			**Pb**	**23 45 37.2**	**-0.1**
KSH	**Kashi**	2.34	73	Pg		Pn	23 45 30.9	-6.5
KSH				Sg		Sn	23 45 54.9	-11
KSH				smax		smax		
	comp=N,2μm,0.6s							
KSH				smax		smax		
	comp=E,1μm,0.8s							
CHGR	**Chuyangaron**	3.08	267	PN		**Pn**	**23 45 49.8**	**+2.3**
CHGR	**Chuyangaron**	3.08	267			**Pn**	**23 45 49.4**	**+1.9**
AML	**Almayashu**	3.29	8	P		**Pn**	**23 45 53.5**	**+2.8**
	SNR=44							
UCH	**Uchtor**	3.52	18	P		**Pn**	**23 45 56.9**	**+2.9**
	SNR=106							
TAS	**Tashkent**	3.80	311	PN		**Pn**	**23 45 59.4**	**+2.0**
TAS	**Tashkent**	3.80	311			**Pn**	**23 45 59.4**	**+2.0**
EKS2	**Erkin-Say**	3.82	8	P		**Pb**	**23 46 03.8**	**-2.6**
	SNR=35							
MRKS	**Merke**	3.87	2	*e*P		**Pb**	**23 46 05.2**	**-2.0**
	22nm,0.3s							
MRKS				*e*S		**Sb**	**23 46 55.2**	**+1.1**
	130nm,0.6s							
MRKS	**Merke**	3.87	2	Pg		**Pb**	**23 46 05.2**	**-2.0**
	22nm,0.3s							
MRKS				Lg		Lg	23 46 55.2	
	130nm,0.6s							
AAK	**Ala-Archa**	3.91	15	Pn		**Pn**	**23 46 02.4**	**+3.4**
	8.9nm,0.3s,baz=197,slow=8.5,SNR=93							
AAK				Lg		Lg	23 46 55.3	
	4.9nm,0.3s,baz=215,slow=19,SNR=6.0							
AAK				LR		LR	23 47 40.8	
	comp=Z,402nm,18.8s,baz=26,slow=42							
AAK	**Ala-Archa**	3.91	15	P		**Pn**	**23 46 02.3**	**+3.2**
	SNR=94							
AAK	**Ala-Archa**	3.91	15	*c i*PN		**Pn**	**23 46 02.3**	**+3.2**
AAK				pmax		pmax		
	comp=Z,58nm,0.7s							
AAK	**Ala-Archa**	3.91	15	⇓Pn		**Pn**	**23 46 01.0**	**+1.9**
	comp=Z,58nm,0.5s							
AAK				Lg		Lg	23 47 02.4	
	comp=Z,114nm,0.6s							
AAK	**Ala-Archa**	3.91	15			**Pn**	**23 46 01.4**	**+2.4**
IUG	**Iuzhnay**	4.01	326	*e*PN		**Pn**	**23 46 03.3**	**+2.9**
IUG	**Iuzhnay**	4.01	326	*e*P		Pn	23 46 06.3	+5.9
	comp=Z,978nm,0.8s							
IUG				*e*S		**Sb**	**23 46 57.0**	**-1.2**
	comp=Z,381nm,1.3s							
IUG	**Iuzhnay**	4.01	326	*e*P		**Pn**	**23 46 03.3**	**+2.9**
	baz=324							
IUG				*i* S		**Sn**	**23 46 49.1**	**+1.5**
	baz=324							
IUG	**Iuzhnay**	4.01	326	Pg		Pn	23 46 06.3	+5.9
	comp=Z,978nm,0.8s							
IUG				Lg		Lg	23 46 57.0	
	comp=Z,381nm,1.3s							
KBK	**Karagaybulak**	4.04	20	P		**Pn**	**23 46 05.0**	**+4.2**
	SNR=24							
FRU1	**Bishkek**	4.10	16	PN		**Pn**	**23 46 02.9**	**+1.3**
FRU1	**Bishkek**	4.10	16			**Pn**	**23 46 02.9**	**+1.3**
ULHL	**Ulahol**	4.14	35	P		**Pb**	**23 46 14.2**	**+2.3**
	SNR=8.4							
DZA	**Taraz**	4.23	342	*e*PN		**Pn**	**23 46 06.0**	**+2.7**
DZA	**Taraz**	4.23	342	*e*P		**Pb**	**23 46 11.3**	**-1.9**
	comp=Z,288nm,0.5s							
DZA				*e*S		**Sb**	**23 47 05.8**	**+1.4**
	comp=Z,254nm,0.7s							
DZA	**Taraz**	4.23	342	*e*P		**Pn**	**23 46 06.1**	**+2.7**
	baz=341							
DZA	**Taraz**	4.23	342	Pg		**Pb**	**23 46 11.3**	**-1.9**
	comp=Z,288nm,0.5s							
DZA				Lg		Lg	23 47 05.8	
	comp=Z,254nm,0.7s							
CHMS	**Chumysh**	4.31	17	P		Pb	23 46 10.3	-4.4
	SNR=14							
TKM2	**Tokmak 2**	4.47	24	P		**Pn**	**23 46 09.6**	**+2.9**
	SNR=18							
TKM2	**Tokmak 2**	4.47	24	PN		**Pg**	**23 46 22.0**	**-2.4**
TKM2	**Tokmak 2**	4.47	24	⇑Pn		**Pn**	**23 46 09.3**	**+2.5**
	comp=Z,18nm,1.0s							
TKM2				⇓Pg		**Pg**	**23 46 22.0**	**-2.4**
	comp=Z,40nm,0.6s							
TKM2				⇓Lg		Lg	23 47 21.4	
	comp=Z,66nm,0.7s							
KDJ	**Kajisay**	4.51	43	PN		**Pn**	**23 46 07.3**	**0.0**
KDJ	**Kajisay**	4.51	43			**Pn**	**23 46 07.3**	**0.0**
USP	**Ospenovka**	4.52	13	P		Pn	23 46 13.3	+6.1
	SNR=8.0							
TARG	**Taragay, Kyrgy**	4.60	50			**Pn**	**23 46 09.3**	**+0.6**
KK02	**Karatay Array**	4.65	336	⇑Pn		**Pn**	**23 46 10.7**	**+1.6**
	comp=Z,25nm,0.5s							
KK02				⇓Sn		**Sn**	**23 47 06.9**	**+3.7**
	comp=Z,68nm,0.5s							
KKAR	**Karatay Array**	4.65	336	PN		**Pn**	**23 46 11.7**	**+2.6**
KKAR	**Karatay Array**	4.65	336			**Pn**	**23 46 11.7**	**+2.6**
KST	**Kastek**	4.70	27	*e*P		**Pb**	**23 46 21.3**	**0.0**
	comp=Z,21nm,0.4s							
KST				*e*S		**Sb**	**23 47 23.0**	**+4.9**
KST	**Kastek**	4.70	27	*i* P		**Pn**	**23 46 07.6**	**-2.3**
	baz=25							
KST	**Kastek**	4.70	27	Pg		**Pb**	**23 46 21.3**	**0.0**
	comp=Z,21nm,0.4s							
KST				Lg		Lg	23 47 23.0	
SGDS	**Sogindy**	4.72	14	*e*P		**Pb**	**23 46 24.0**	**+2.4**
	comp=Z,48nm,0.7s							
SGDS				*e*S		**Sg**	**23 47 28.0**	**-2.3**
	comp=Z,54nm,1.1s							
SGDS	**Sogindy**	4.72	14	*i* P		**Pn**	**23 46 08.3**	**-1.8**
	baz=12							
SGDS	**Sogindy**	4.72	14	Pg		**Pb**	**23 46 24.0**	**+2.4**
	comp=Z,48nm,0.7s							
SGDS				Lg		Lg	23 47 28.0	
	comp=Z,54nm,1.1s							
DGS	**Degeres**	4.81	24	*e*P		**Pg**	**23 46 28.0**	**-3.0**
	comp=Z,56nm,0.5s							
DGS				*e*S		**Sg**	**23 47 34.5**	**+1.1**
	comp=Z,72nm,0.8s							
DGS	**Degeres**	4.81	24	Pg		**Pg**	**23 46 28.0**	**-3.0**
	comp=Z,56nm,0.5s							
DGS				Lg		Lg	23 47 34.4	
	comp=Z,72nm,0.8s							
BRLS	**Borolday**	4.83	330	*e*PN		**Pn**	**23 46 11.2**	**-0.3**
BRLS	**Borolday**	4.83	330	*e*P		**Pb**	**23 46 20.8**	**-2.7**
	comp=Z,25nm,0.5s							
BRLS				*e*S		**Sb**	**23 47 22.1**	**+0.6**
	comp=Z,94nm,0.9s							
BRLS	**Borolday**	4.83	330	*e*P		**Pn**	**23 46 11.2**	**-0.3**
	baz=327							
BRLS	**Borolday**	4.83	330	Pg		**Pb**	**23 46 20.8**	**-2.7**
	comp=Z,25nm,0.5s							
BRLS				Lg		Lg	23 47 22.1	
	comp=Z,94nm,0.9s							
MTBS	**Maitube**	4.95	30	*e*P		**Pb**	**23 46 28.4**	**+2.8**
	comp=Z,8.6nm,0.5s							
MTBS				*e*S		**Sg**	**23 47 35.1**	**-2.5**
	comp=Z,58nm,1.0s							
MTBS	**Maitube**	4.95	30	Pg		**Pb**	**23 46 28.4**	**+2.8**
	comp=Z,8.6nm,0.5s							
MTBS				Lg		Lg	23 47 35.1	
	comp=Z,58nm,1.0s							
TNSS	**Tian-Shan**	5.08	34	*e*P		**Pb**	**23 46 32.4**	**+4.3**
	comp=Z,46nm,0.5s							
TNSS				*e*S		**Sg**	**23 47 41.9**	**-0.2**
	comp=Z,36nm,1.0s							
TNSS	**Tian-Shan**	5.08	34	*i* P		**Pn**	**23 46 12.6**	**-2.8**
	baz=32							
TNSS	**Tian-Shan**	5.08	34	Pg		**Pb**	**23 46 32.4**	**+4.3**
	comp=Z,46nm,0.5s							
TNSS				Lg		Lg	23 47 41.9	
	comp=Z,36nm,1.0s							
CEP	**Cherat**	5.13	191	P		**Pn**	**23 46 16.1**	**+0.3**
CEP				S		**Sn**	**23 47 18.0**	**+2.9**
KRBS	**Karabastau**	5.20	21	*e*P		**Pb**	**23 46 32.8**	**+3.0**
	comp=Z,22nm,0.4s							
KRBS				*e*S		**Sg**	**23 47 42.6**	**-3.0**
	comp=Z,36nm,0.7s							
KRBS	**Karabastau**	5.20	21	Pg		**Pb**	**23 46 32.8**	**+3.0**
	comp=Z,22nm,0.4s							
KRBS				Lg		Lg	23 47 42.6	
	comp=Z,36nm,0.7s							
CHCP	**Chirah Chowk**	5.21	178	P		**Pn**	**23 46 17.9**	**+1.1**
NIL	**Nilore**	5.21	178	PN		**Pn**	**23 46 17.2**	**+0.3**
NIL	**Nilore**	5.21	178			**Pn**	**23 46 17.1**	**+0.3**
MDOK	**Medeo**	5.23	34	*e*P		**Pb**	**23 46 32.1**	**+1.8**
	comp=Z,26nm,0.6s							
MDOK				*e*S		**Sg**	**23 47 41.8**	**-4.9**
	comp=Z,68nm,1.6s							
MDOK	**Medeo**	5.23	34	*i* P		**Pn**	**23 46 14.6**	**-2.5**
	baz=32							
MDOK	**Medeo**	5.23	34	⇑Pn		**Pn**	**23 46 20.1**	**+2.9**
	comp=Z,6.8nm,0.7s							
MDOK				⇑Pg		**Pb**	**23 46 34.4**	**+4.0**
	comp=Z,23nm,0.6s							
MDOK				⇓Lg		Lg	23 47 44.1	
	comp=Z,103nm,0.8s							
MDOK	**Medeo**	5.23	34	Pg		**Pb**	**23 46 32.2**	**+1.8**
	comp=Z,26nm,0.6s							
MDOK				Lg		Lg	23 47 41.8	
	comp=Z,68nm,1.6s							
KNDC	**Almaty**	5.24	33	⇓Pn		**Pn**	**23 46 18.9**	**+1.7**
	comp=Z,25nm,0.9s							
KNDC				⇓Pg		**Pb**	**23 46 34.7**	**+4.2**
	comp=Z,74nm,0.5s							
KNDC				⇓Lg		Lg	23 47 44.7	
	comp=Z,390nm,1.0s							
KBL	**Kabul**	5.41	218	PN		**Pn**	**23 46 18.9**	**-0.8**
KBL	**Kabul**	5.41	218			**Pn**	**23 46 18.9**	**-0.8**
PRZ	**Przheval'sk**	5.42	47	PN		**Pn**	**23 46 19.9**	**+0.1**
PRZ	**Przheval'sk**	5.42	47			**Pn**	**23 46 19.9**	**+0.1**
KTBS	**Karatobe**	5.54	28	*e*P		**Pb**	**23 46 38.8**	**+3.1**
	comp=Z,14nm,0.7s							
KTBS				*e*S		**Sg**	**23 47 52.8**	**-3.8**
	comp=Z,88nm,1.2s							
KTBS	**Karatobe**	5.54	28	Pg		**Pb**	**23 46 38.8**	**+3.1**
	comp=Z,14nm,0.7s							
KTBS				Lg		Lg	23 47 52.8	
	comp=Z,88nm,1.2s							
KUU	**Kurty**	5.58	25	*i* P		**Pn**	**23 46 19.7**	**-2.1**
	baz=24							
CHKK	**Chushkaly**	5.78	29	*e*P		**Pb**	**23 46 43.4**	**+3.7**
	comp=Z,16nm,0.7s							
CHKK				*e*S		**Sg**	**23 48 00.4**	**-3.8**
	comp=Z,42nm,1.0s							
CHKK	**Chushkaly**	5.78	29	*e*P		**Pn**	**23 46 24.2**	**-0.3**
	baz=28							
CHKK	**Chushkaly**	5.78	29	Pg		**Pb**	**23 46 43.4**	**+3.7**
	comp=Z,16nm,0.7s							
CHKK				Lg		Lg	23 48 00.4	
	comp=Z,42nm,1.0s							
SATY	**Saty**	5.80	42	*e*PN		**Pn**	**23 46 24.4**	**-0.7**
SATY	**Saty**	5.80	42	*e*P		**Pn**	**23 46 24.4**	**-0.7**
	baz=41							
ZHN	**Zhinishke**	5.90	42	*e*PN		**Pn**	**23 46 25.8**	**-0.5**
ZHN	**Zhinishke**	5.90	42	*e*P		**Pb**	**23 46 44.9**	**+3.2**
	comp=Z,14nm,0.3s							
ZHN				*e*S		**Sg**	**23 48 02.6**	**-5.4**
	comp=Z,30nm,1.2s							
ZHN	**Zhinishke**	5.90	42	*e*P		**Pn**	**23 46 25.9**	**-0.5**
	baz=41							
ZHN	**Zhinishke**	5.90	42	Pg		**Pb**	**23 46 44.9**	**+3.2**
	comp=Z,14nm,0.3s							
ZHN				Lg		Lg	23 48 02.6	
	comp=Z,30nm,1.2s							
THW	**Thamme Wali**	6.16	191	P		**Pn**	**23 46 29.3**	**-0.6**
UZB	**Uzynbulak**	6.20	45	*e*PN		**Pn**	**23 46 29.7**	**-0.7**
UZB	**Uzynbulak**	6.20	45	*e*P		**Pn**	**23 46 29.7**	**-0.7**
	baz=44							
BTLS	**Baital**	6.20	6	*e*P		Pb	23 46 53.0	+6.1
	comp=Z,7.5nm,0.5s							
BTLS				*e*S		**Sg**	**23 48 16.7**	**-1.2**
	comp=Z,21nm,0.6s							
BTLS	**Baital**	6.20	6	*i* P		**Pn**	**23 46 28.9**	**-1.5**
	baz=5.2							
BTLS	**Baital**	6.20	6	Pg		Pb	23 46 53.0	+6.1
	comp=Z,7.5nm,0.5s							
BTLS				Lg		Lg	23 48 16.7	
	comp=Z,21nm,0.6s							
JMU	**Jammu**	6.32	166	*ex*		x	23 46 04.9	
ARXS	**Arharly**	6.41	32	*e*P		**Pb**	**23 46 54.3**	**+3.9**
	comp=Z,11nm,0.7s							
ARXS				*e*S		**Sg**	**23 48 19.4**	**-5.2**
	comp=Z,54nm,0.9s							
ARXS	**Arharly**	6.41	32	Pg		**Pb**	**23 46 54.3**	**+3.9**
	comp=Z,11nm,0.7s							
ARXS				Lg		Lg	23 48 19.4	
	comp=Z,54nm,0.9s							
PDGK	**Podgornoye**	6.57	45	PN		**Pn**	**23 46 36.0**	**+0.4**
PDGK	**Podgornoye**	6.57	45	⇓Pn		**Pn**	**23 46 36.5**	**+0.9**
	comp=Z,5.6nm,0.8s							
PDGK				⇓Pg		Pb	23 46 58.7	+5.5
	comp=Z,12nm,0.7s							
PDGK				⇑Lg		Lg	23 48 27.6	
	comp=Z,34nm,0.8s							
BLB	**Baldybastay**	6.60	36	*e*P		Pb	23 46 59.4	+5.6
	comp=Z,22nm,0.3s							
BLB				*e*S		**Sg**	**23 48 28.0**	**-2.7**
	comp=Z,61nm,1.1s							
BLB	**Baldybastay**	6.60	36	Pg		Pb	23 46 59.4	+5.6
	comp=Z,22nm,0.3s							
BLB				Lg		Lg	23 48 28.0	
	comp=Z,61nm,1.1s							
DHRM	**DHARAMSHALA**	7.11	157	*e*P		**Pn**	**23 46 41.0**	**-2.1**
DHRM				*e*S		**Sn**	**23 48 01.1**	**-2.9**
DHRM				IAML			23 48 04.5	
	comp=E,51nm,0.3s							
DHRM				IAML			23 48 04.7	
	comp=N,55nm,0.5s							
TDK	**Taldyqorghan**	7.29	31	*e*P		**Pn**	**23 46 45.3**	**-0.1**
TDK	**Taldyqorghan**	7.29	31	*e*P		**Pn**	**23 46 45.3**	**-0.1**
	baz=30							
DJR	**Jarkent**	7.41	41	Pg		Pb	23 47 13.6	+6.1
	comp=N,4.3nm,0.5s							
DJR				Lg		Lg	23 48 52.2	
	comp=N,28nm,1.4s							
SMLA	**Simla**	8.42	155	*e*P		**Pn**	**23 46 58.3**	**-2.5**
SMLA				*e*S		Sn	23 48 25.6	-10
SMLA				IAML			23 48 31.2	
	comp=N,26nm,0.8s							
SMLA				IAML			23 48 31.8	
	comp=E,34nm,0.4s							
HRA	**Herat**	9.79	246			**Pn**	**23 47 19.4**	**-0.4**
MAKZ	**Makanchi**	10.27	37	P		**Pn**	**23 47 27.2**	**+1.1**
MAKZ	**Makanchi**	10.27	37	⇑P		**Pn**	**23 47 28.4**	**+2.3**
	comp=E,2.1nm,0.6s							
MAKZ	**Makanchi**	10.27	37			**Pn**	**23 47 27.2**	**+1.1**
MK31	**Makanchi Array**	10.40	38	P		**Pn**	**23 47 28.3**	**+0.3**
MK31	**Makanchi Array**	10.40	38	⇑P		**Pn**	**23 47 29.5**	**+1.5**
	comp=E,4.9nm,0.8s,baz=213,slow=11,SNR=44							
MK31	**Makanchi Array**	10.40	38			**Pn**	**23 47 28.3**	**+0.3**
MKAR	**Makanchi Array**	10.40	38	Pn		**Pn**	**23 47 29.6**	**+1.5**
	comp=E,0.2nm,0.3s,baz=216,slow=12,SNR=53							
MKAR				Lg		Lg	23 50 22.6	
	comp=E,0.1nm,0.3s,baz=242,slow=28,SNR=2.0							
MKAR	**Makanchi Array**	10.40	38	P		**Pn**	**23 47 28.1**	**+0.1**
MKAR	**Makanchi Array**	10.40	38			**Pn**	**23 47 28.1**	**+0.1**
KUDL	**Kundal**	11.07	164	*e*P		**Pn**	**23 47 32.9**	**-4.2**
KUDL				*e*S		Sn	23 49 30.6	-10
BRZS	**Berezniki**	11.11	359	*i* P		**Pn**	**23 47 36.4**	**-1.2**
	baz=358							
GEYT	**Alibeck**	11.78	270	Sn		**Sn**	**23 50 01.6**	**+3.1**
	comp=E,0.5nm,0.3s,baz=100,slow=19,SNR=4.6							
GEYT	**Alibeck**	11.78	270	Pn		**Pn**	**23 47 47.3**	**+0.4**
GYA0	**ALIBECK ARRAY**	11.78	270	P		**Pn**	**23 47 48.3**	**+1.4**
GYA0B	**ALIBECK ARRAY**	11.78	270	Pn		**Pn**	**23 47 48.3**	**+1.3**
WMQ	**Urumqi**	12.04	61	*e*P		**Pn**	**23 47 50.5**	**+0.1**
WMQ				pP			23 47 55.3	
WMQ				PP		**PnPn**	**23 48 03.5**	**+5.4**
WMQ				S		**Sn**	**23 50 05.1**	**+0.3**
WMQ				pmax		pmax		
	comp=E,10.0nm,1.1s							
WMQ				pmax		pmax		
	comp=E,18nm,4.9s							
ZSN	**Zaisan**	12.13	41	*i* P		**Pn**	**23 47 49.2**	**-2.5**
	baz=41							
KURBB	**Kurchatov Arra**	12.36	16	Pn		**Pn**	**23 47 53.9**	**-0.9**
	comp=E,0.1nm,0.3s,baz=209,slow=13,SNR=2.5							
KURBB				Lg		Lg	23 51 28.3	
	comp=E,0.1nm,0.3s,baz=202,slow=29,SNR=5.7							
KURK	**Kurchatov**	12.47	17	⇓*e*P		**Pn**	**23 47 57.7**	**+1.5**
KURK				pmax		pmax		
	comp=Z,9.0nm,2.5s							
KURK	**Kurchatov**	12.47	17	Pn		**Pn**	**23 47 56.0**	**-0.2**
SEM	**Semipalatinsk**	12.60	21	*e*P		**Pn**	**23 47 58.7**	**+0.5**
SEM	**Semipalatinsk**	12.60	21	*e*P		**Pn**	**23 47 58.8**	**+0.5**
	baz=21							
PYUN	**Piuthan**	13.55	140	*e*P		Pn	23 48 03.5	-7.7
	comp=Z,3.1nm,0.3s							
DANN	**Dangsing**	13.75	137	*e*P		Pn	23 48 05.1	-8.9
	comp=Z,4.4nm,0.3s							
AB31	**Akbulak array**	14.01	322	P		**Pn**	**23 48 15.7**	**-1.6**
	comp=Z,3.9nm,0.5s,baz=3.1,slow=27,SNR=127							
AB31				⇓S		**Sn**	**23 50 53.7**	**+0.9**
	comp=Z,4.5nm,0.7s,baz=349,slow=60,SNR=4.0							
ABKAR	**Akbulak array**	14.01	322	Pn		**Pn**	**23 48 16.1**	**-1.2**
ABKAR	**Akbulak array**	14.01	322	Pn		**Pn**	**23 48 16.2**	**-1.0**
KOLN	**Koldanda**	14.13	138	*e*P		Pn	23 48 10.8	-8.4
	comp=Z,3.5nm,0.3s							
BVAR	**Borovoye Array**	14.28	353	Pn		**Pn**	**23 48 19.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=151,slow=16,SNR=9.1							
BRVK	**Borovoye**	14.32	353	⇑*e*P		**Pn**	**23 48 24.9**	**+3.5**
BRVK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
BRVK	**Borovoye**	14.32	353	⇑P		**Pn**	**23 48 22.5**	**+1.1**
	comp=Z,7.5nm,0.7s							
BRVK	**Borovoye**	14.32	353

ULN	**Ulaanbaatar**	**26.10 59**	P	**P**	**23 50 31.0**	**-1.8**
ULN			IAmb	IAmb	23 50 36.8	
comp=Z,3.6nm,0.8s						
RAYN	**Ar Rayn**	**27.98 245**	P	**P**	**23 50 48.3**	**-1.5**
RAYN			pmax	pmax		
comp=Z,4.0nm,1.4s						
RAYN	**Ar Rayn**	**27.98 245**	P	**P**	**23 50 48.2**	**-1.5**
HHC	**Hu-ho-hao-te**	**29.45 74**	*e*P	**P**	**23 51 05.0**	**+2.2**
HHC			pmax	pmax		
comp=Z,9.0nm,0.8s						
BRTR	**Keskin Array B**	**30.37 284**	P	**P**	**23 51 12.7**	**+1.7**
comp=Z,1.1nm,1.1s,baz=81,slow=7.4,SNR=2.7						
NRIK	**Noril'sk**	**31.50 10⇑**	*e*P	**P**	**23 51 20.5**	**0.0**
NRIK			pmax	pmax		
comp=Z,4.0nm,1.5s						
AKASG	**Malin Array Be**	**32.83 306**	P	**P**	**23 51 34.0**	**+1.8**
comp=Z,0.5nm,0.4s,baz=75,slow=7.2,SNR=4.7						
AKASG	**Malin Array Be**	**32.83 306**	P	**P**	**23 51 30.9**	**-1.4**
AKASG			pmax	pmax		
comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**32.83 306**	P	**P**	**23 51 30.9**	**-1.4**
BUR08	**Bucovina Ar. S**	**35.46 300**	P	**P**	**23 51 55.8**	**+0.4**
BUR08			IAmb	IAmb	23 52 06.4	
comp=Z,3.0nm,1.1s						
FIA1	**FINESS Array S**	**36.49 324**	P	**P**	**23 52 03.3**	**-0.5**
FINES	**FINESS Array B**	**36.49 324**	P	**P**	**23 52 03.8**	**0.0**
comp=Z,0.8nm,0.3s,baz=114,slow=13,SNR=12						
FINES	**FINESS Array B**	**36.49 324**	P	**P**	**23 52 03.5**	**-0.3**
KWP	**Kalwaria Pacla**	**37.01 304**	P	**P**	**23 52 08.9**	**+0.5**
KWP			pmax	pmax		
comp=Z,28nm,0.8s						
KWP	**Kalwaria Pacla**	**37.01 304**	P	**P**	**23 52 08.9**	**+0.5**
ARCES	**ARCESS Array B**	**39.62 336**	P	**P**	**23 52 30.2**	**+0.1**
comp=Z,1.4nm,0.6s,baz=105,slow=8.9,SNR=13						
ARCES	**ARCESS Array B**	**39.62 336**	P	**P**	**23 52 30.5**	**+0.4**
ARCES			IAmb	IAmb	23 52 45.6	
comp=Z,16nm,1.2s						
VRAC	**Vranov**	**41.01 304**	P	**P**	**23 52 42.1**	**+0.2**
comp=Z,1.5nm,0.6s,baz=53,slow=20,SNR=3.6						
YAK	**Yakutsk**	**41.08 37**	*de*P	**P**	**23 52 43.0**	**+0.8**
YAK			pmax	pmax		
comp=Z,6.0nm,0.9s						
TIXI	**Tiksi**	**42.95 23⇑**	*e*P	**P**	**23 52 56.2**	**-1.2**
TIXI			pmax	pmax		
comp=Z,8.0nm,2.1s						
TIXI	**Tiksi**	**42.95 23**	P	**P**	**23 52 55.9**	**-1.5**
TIXI			IAmb	IAmb	23 53 20.3	
comp=Z,6.2nm,1.4s						
GERES	**GERESS Array B**	**42.95 303**	P	**P**	**23 53 00.6**	**+2.7**
comp=Z,0.3nm,0.6s,baz=64,slow=8.9,SNR=2.3						
KHC	**Kasperske Hory**	**42.99 304**	*e*P	**P**	**23 52 59.0**	**+0.9**
KHC	**Kasperske Hory**	**42.99 304**	*e*P	**P**	**23 52 59.0**	**+0.9**
NC303	**NORSAR Array S**	**43.45 322**	P	**P**	**23 53 01.2**	**-0.4**
NB2	**NORSAR Subarra**	**43.52 321**	P	**P**	**23 53 01.6**	**-0.6**
comp=Z,0.9nm,0.5s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**43.52 321**	P	**P**	**23 53 03.7**	**+1.5**
comp=Z,1.4nm,0.7s,baz=92,slow=7.9,SNR=8.0						
SENIN	**Lac Senin/Sane**	**47.73 301**	P	**P**	**23 53 36.3**	**+0.3**
ESDC	**Sonseca Array**	**57.83 297**	P	**P**	**23 54 51.9**	**+1.4**
comp=Z,0.4nm,0.6s,baz=59,slow=7.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**67.42 269**	P	**P**	**23 55 56.7**	**+1.8**
comp=Z,0.7nm,0.7s,baz=48,slow=5.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**67.42 269**	P	**P**	**23 55 53.8**	**-1.0**
TORD			IAmb	IAmb	23 56 13.6	
comp=Z,2.8nm,1.3s						
INK	**Inuvik**	**71.29 10**	P	**P**	**23 56 17.4**	**-0.5**
comp=Z,0.4nm,0.4s,baz=330,slow=4.8,SNR=1.9						
ILAR	**Eielson Array**	**72.04 17**	P	**P**	**23 56 22.9**	**+0.4**
comp=Z,0.5nm,0.8s,baz=316,slow=3.7,SNR=4.8						
FRB	**Frobisher Bay**	**73.28 343**	LR	LR	00 33 35.3	
comp=Z,359nm,18.8s,baz=99,slow=41						
DBIC	**Dimbokro**	**76.46 268**	LR	LR	00 37 04.9	
comp=Z,259nm,18.8s,baz=99,slow=41						
YKA	**Yellowknife Ar**	**78.79 4**	P	**P**	**23 56 60.0**	**-1.3**
comp=Z,1.3nm,0.7s,baz=352,slow=5.4,SNR=6.7						
YKA	**Yellowknife Ar**	**78.79 4**	*i* P	**P**	**23 56 59.5**	**-1.8**
YKA			pmax	pmax		
comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**78.79 4**	P	**P**	**23 56 59.2**	**-2.1**
WRA	**Warramunga Arr**	**81.88 124**	P	**P**	**23 57 17.9**	**-0.6**
comp=Z,0.4nm,0.7s,baz=325,slow=5.3,SNR=2.3						
ASAR	**Alice Springs**	**84.29 126**	P	**P**	**23 57 28.9**	**-2.1**
comp=Z,0.3nm,0.8s,baz=320,slow=5.2,SNR=4.4						

PRU 16 23:52:09.4±0.0,**51°.48N**×**16°.12E**,**h0**km,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.89**	**183**	*e*PG	Pg	23 52 26.3	-0.2
CHVC				*e*SG	Sg	23 52 37.8	-0.3
OSTC	**Ostas**	**0.93**	**176**	*e*PG	Pg	23 52 26.4	-0.7
OSTC				*e*SG	Sg	23 52 39.2	+0.1
UPC	**Upice**	**0.98**	**184**	*e*PG	Pg	23 52 27.6	-0.5
UPC				*e*SG	Sg	23 52 40.5	-0.2
comp=Z,4.4nm,0.4s							
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*SG	Sg	23 52 45.3	-0.6
PVCC	**Panska Ves**	**1.37**	**226**	*e*PG	Pg	23 52 34.8	-0.8
PVCC				*e*SG	Sb	23 52 53.7	-0.1
comp=Z,8.3nm,0.3s							
KRLC	**Kraliky**	**1.47**	**163**	*e*P	Pn	23 52 35.5	-1.7
KRLC	**Kraliky**	**1.47**	**163**	*e*PG	Pn	23 52 35.5	-1.7
KRLC				*e*SG	Sg	23 52 55.2	-1.3
BRG	**Berggiesshubel**	**1.50**	**247**	Pg	Pb	23 52 37.9	-0.2
BRG				Sg	Sg	23 52 56.7	-0.8
KHC	**Kasperske Hory**	**2.86**	**216**	*e*SG	Sg	23 53 39.1	-2.2

IDC ***17*** *00:03:00.9±2.6,9°.43S×123°.93E,h90km±30km,mb3.6/3, mb1 3.7/7,mb1mx3.3/39,mbtmp4.0/7,Error ellipse: s-maj=81.0km s-min=18.2km az=56.0*
DJA ***17*** *00:03:00.8±0.4,10°.S±3°×12°.4E±°,h93km±6km,M4.0/11, mb4.2/4,mB5.0/3,MLv3.9/11,Mw(mB)4.3/3*
NEIC ***17*** *00:03:01.7±1.1,9°.38S±0°.06×123°.64E±0°.08,h89km±8km, mb4.1/10,Error ellipse: s-maj=12.7km s-min=7.8km az=62.0*
ISC 17 00:03:01.3±0.7,**9°.59S**±0°.06×**123°.68E**±0°.08,**h100**km,**n35,** σ2⁹**18**/**38**,**mb3.9/7**,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.60**	**106**	P	**Pn**	**00 03 19.1**	**+1.1**
SOEI	**Soe**	**0.60**	**106**	Pn	**Pn**	**00 03 18.5**	**+0.5**
BATI	**Baumata**	**0.62**	**182**	P	**Pn**	**00 03 19.4**	**+1.3**
505nm,0.3s,baz=1.0,slow=3.9,SNR=376							
BATI				S	**Sn**	**00 03 32.8**	**+2.3**
313nm,0.3s,baz=4.4,slow=22,SNR=11							
BATI				LR	LR	00 03 53.5	
comp=Z,563nm,18.6s,baz=244,slow=64							
BATI	**Baumata**	**0.62**	**182**	P	**Pn**	**00 03 19.2**	**+1.2**
BATI				S	**Sn**	**00 03 31.7**	**+1.1**
MMRI	**Maumere**	**1.71**	**303**	P	**Pn**	**00 03 28.2**	**-2.0**
MMRI	**Maumere**	**1.71**	**303**	Pn	**Pn**	**00 03 28.1**	**-2.1**
EDFI	**Ende, Flores**	**2.14**	**293**	P	**Pn**	**00 03 33.7**	**-2.0**
BASI	**Baing, Sumba**	**3.12**	**258**	P	**Pn**	**00 03 48.5**	**-0.2**
WBSI	**Waikabubak, Su**	**4.23**	**269**	P	**Pn**	**00 04 02.2**	**-1.5**
BSSI	**Bau Bau, Buton**	**4.66**	**317**	P	**Pn**	**00 04 07.9**	**-1.5**
BKSI	**Bulukumba**	**5.51**	**320**	P	**Pn**	**00 04 19.2**	**-1.8**
0.1nm20nm,0.9s							
KAPI	**Kappang**	**5.99**	**319**	P	**Pn**	**00 04 28.7**	**+1.3**
1.8nm,0.3s,baz=163,slow=7.0,SNR=4.2							
KAPI	**Kappang**	**5.99**	**319**	Pn	**Pn**	**00 04 26.7**	**-0.7**
KNRA	**Kununurra**	**7.82**	**141**		**Pn**	**00 04 52.1**	**-0.3**
MTN	**Manton Dam**	**7.99**	**115**	Pn	**Pn**	**00 04 55.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**8.67**	**168**	P	**Pn**	**00 05 04.3**	**+0.4**
1.9nm,0.3s,baz=8.5,slow=10,SNR=65							
FITZ				S	**Sn**	**00 06 35.8**	**-4.3**
10nm,0.3s,baz=156,slow=5.2,SNR=23							
APSI	**Ampana**	**8.85**	**347**	P	**Pn**	**00 05 04.4**	**-2.0**
WB0	**Warramunga Arr**	**14.47**	**136**		**Pn**	**00 06 19.9**	**-1.5**
WRA	**Warramunga Arr**	**14.56**	**136**	P	**Pn**	**00 06 20.4**	**-2.1**
0.9nm,0.3s,baz=312,slow=13,SNR=29							
WRA				S	Sn	00 08 54.4	-8.7
1.3nm,0.3s,baz=313,slow=24,SNR=9.5							
WRA	**Warramunga Arr**	**14.56**	**136**		**Pn**	**00 06 20.8**	**-1.7**
AS31	**Alice Springs**	**17.07**	**146**		**Pn**	**00 06 53.4**	**-0.5**
ASAR	**Alice Springs**	**17.07**	**146**	P	**Pn**	**00 06 53.5**	**-0.4**
0.6nm,0.3s,baz=325,slow=12,SNR=33							
ASAR				S	**Sn**	**00 09 55.9**	**-7.8**
0.7nm,0.3s,baz=324,slow=24,SNR=9.4							
COEN	**Coen**	**19.57**	**105**		**Pn**	**00 07 23.9**	**+0.2**
COEN				IAmb	IAmb	00 07 24.5	
comp=Z,12nm,1.2s							
MORW	**Morawa**	**20.66**	**199**	P	Pn	00 07 35.7	-0.7
MORW				IAmb	IAmb	00 07 36.0	
comp=Z,22nm,1.5s							
FORT	**Forrest**	**21.48**	**170**	P	**P**	**00 07 45.1**	**+3.3**
BBOO	**Buckleboo**	**25.78**	**155**	P	**P**	**00 08 25.5**	**+2.6**
BBOO				IAmb	IAmb	00 08 32.5	
comp=Z,13nm,1.4s							
STKA	**Stephens Creek**	**27.71**	**146**	P	**P**	**00 08 42.2**	**+2.0**
comp=Z,0.8nm,0.5s,baz=339,slow=15,SNR=3.0							
STKA	**Stephens Creek**	**27.71**	**146**	P	**P**	**00 08 42.2**	**+2.0**
UBPT	**Khong Chiam**	**30.59**	**324**	P	**P**	**00 09 04.8**	**-1.2**
MK31	**Makanchi Array**	**67.16**	**330**	P	**P**	**00 13 44.9**	**+0.4**
MK31				IAmb	IAmb	00 14 10.1	
comp=Z,2.6nm,1.4s							
MKAR	**Makanchi Array**	**67.16**	**330**	P	**P**	**00 13 45.0**	**+0.5**
comp=Z,0.7nm,0.5s,baz=134,slow=7.5,SNR=18							
MKAR	**Makanchi Array**	**67.16**	**330**	P	**P**	**00 13 44.8**	**+0.4**
ZALV	**Zalesovo Beam**	**71.31**	**337**	P	**P**	**00 14 09.8**	**0.0**
comp=Z,0.7nm,0.6s,baz=147,slow=3.7,SNR=4.4							
KURK	**Kurchatov**	**71.63**	**332**	P	**P**	**00 14 12.3**	**+0.5**
KURK				IAmb	IAmb	00 14 13.4	
comp=Z,1.2nm,0.8s							
QSPA	**South Pole Qui**	**80.41**	**180**	P	**P**	**00 15 05.0**	**+3.3**
QSPA				IAmb	IAmb	00 15 24.4	
comp=Z,5.7nm,1.4s							

IDC ***17*** *00:03:04.5±1.9,17°.19S×168°.32E,h0km,mb4.1/5, mb1 4.3/6,mb1mx3.8/32,mbtmp4.1/6,ML4.1/1,MS3.7/1, Ms1 3.7/1,ms1mx2.9/56,Error ellipse: s-maj=59.0km s-min=26.7km az=114.0*
NEIC ***17*** *00:03:07.9±1.6,17°.20S±0°.03×168°.0E±0°.2,h10km±1km, mb4.3/3,Error ellipse: s-maj=27.8km s-min=5.8km az=88.0*
NOU ***17*** *00:03:09.5,17°.15S×168°.06E,h20km,MLv4.8/11, Vanuatu Islands*
ISC 17 00:03:08.7±0.8,**17°.18S**±0°.05×**168°.1E**±0°.1,**h21**km,**n31,** σ1⁹**26**/**34**,**mb4.2/7**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.55**	**167**	P	**Pn**	**00 03 21.8**	**+0.4**
RTV	**Rentapao**	**0.70**	**150**	P	**Pn**	**00 03 24.7**	**+1.3**
SANVU	**Saraoutou**	**1.91**	**335**	Pn	**Pn**	**00 03 39.5**	**-0.5**
SANVU					**Sn**	**00 04 03.1**	**-0.3**
LIFNC	**LIFOU**	**3.66**	**192**	Pn	**Pn**	**00 04 03.5**	**-0.6**
LIFNC				Sn	**Sn**	**00 04 43.4**	**-3.1**
LIFNC	**LIFOU**	**3.66**	**192**	P	**Pn**	**00 04 04.5**	**+0.4**
MARNC	**Mare, Loyalty**	**4.28**	**180**		**Pn**	**00 04 11.7**	**-0.9**
KOUNC	**Koumac, New Ca**	**4.89**	**226**	P	**Pn**	**00 04 22.7**	**+1.6**
DZM	**Mont Dzumac**	**5.09**	**197**	Pn	**Pn**	**00 04 24.6**	**+0.7**
6.4nm,0.3s,baz=171,slow=23,SNR=32							
DZM				Sn	**Sn**	**00 05 22.8**	**+0.7**
17nm,0.3s,baz=136,slow=22,SNR=18							
DZM	**Mont Dzumac**	**5.09**	**197**	*e*Pn	**Pn**	**00 04 24.6**	**+0.7**
72nm,1.1s							
DZM				*e*Sn	**Sn**	**00 05 19.2**	**-3.0**
92nm,0.6s							
DZM	**Mont Dzumac**	**5.09**	**197**		**Pn**	**00 04 24.1**	**+0.2**
DZM	**Mont Dzumac**	**5.09**	**197**	P	**Pn**	**00 04 24.9**	**+1.0**
NOUC	**Port Laguerre**	**5.16**	**198**	P	**Pn**	**00 04 26.0**	**+1.2**
ONTNC	**Ouen Toro**	**5.32**	**196**		**Pn**	**00 04 26.6**	**-0.2**
ONTNC	**Ouen Toro**	**5.32**	**196**	P	**Pn**	**00 04 28.7**	**+1.8**
OUENC	**Ouen Island, N**	**5.33**	**192**		**Pn**	**00 04 27.7**	**+0.6**
OUENC	**Ouen Island, N**	**5.33**	**192**	P	**Pn**	**00 04 28.8**	**+1.7**
PINNC	**Pines Island,**	**5.43**	**186**		**Pn**	**00 04 29.8**	**+1.4**
URZ	**Urewera**	**22.45**	**161**	P	**P**	**00 08 06.5**	**+0.1**
URZ				IAmb	IAmb	00 08 10.7	
comp=Z,11nm,1.1s							
BFZ	**Birch Farm**	**24.46**	**165**		**P**	**00 08 26.8**	**+0.6**
BFZ				IAmb	IAmb	00 08 44.6	
comp=Z,28nm,1.3s							
AS31	**Alice Springs**	**32.59**	**253**	P	**P**	**00 09 38.0**	**-1.0**
AS31				IAmb	IAmb	00 10 02.0	
comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**32.59**	**253**	P	**P**	**00 09 39.1**	**+0.1**
comp=Z,3.2nm,0.7s,baz=79,slow=8.9,SNR=30							
ASAR	**Alice Springs**	**32.59**	**253**	P	**P**	**00 09 38.3**	**-0.7**
GUMO	**Guam**	**38.20**	**322**	LR	LR	00 23 54.2	
comp=Z,114nm,21.9s,baz=86,slow=33							
CMAR	**Chiang Mai Arr**	**76.64**	**294**	P	**P**	**00 14 59.8**	**+1.3**
comp=Z,1.1nm,0.6s,baz=128,slow=5.0,SNR=6.8							
CMAR	**Chiang Mai Arr**	**76.64**	**294**	P	**P**	**00 14 59.1**	**+0.7**
SONM	**Songino Array**	**84.91**	**323**	P	**P**	**00 15 42.2**	**0.0**
comp=Z,1.3nm,0.9s,baz=134,slow=4.2,SNR=5.7							
ILAR	**Eielson Array**	**88.62**	**18**	P	**P**	**00 15 57.9**	**-1.8**
comp=Z,0.6nm,0.8s,baz=233,slow=5.4,SNR=7.7							
MKAR	**Makanchi Array**	**99.49**	**316**	P	**Pdif**	**00 16 51.2**	**+1.1**
comp=Z,0.2nm,0.7s,baz=98,slow=4.5,SNR=2.1							
ABTA	**Abfaltersbach**	**144.25**	**331**	*e*P	**PKPab**	**00 22 41.7**	**+0.6**
comp=Z,1.3nm,0.6s							
FETA	**Feichten**	**144.85**	**333**	*e*P	**PKPdf**	**00 22 44.8**	**+0.4**
comp=Z,1.7nm,0.6s							
DAVA	**Damuels**	**145.00**	**334**	*e*P	**PKPdf**	**00 22 46.2**	**+1.5**
comp=Z,2.6nm,0.6s							

EAF ***17*** *00:24:12.6±1.2,22°.13S×31°.80E,h13km±11km,MD3.5*
BUL 17 00:24:12.6±1.2,**22°.13S**×**31°.80E**,**h13**km±11km,**MD3.6, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**1.66**	**262**	*i* P	Pn	00 24 40.8	-0.7
MSNA				*i* Sg	Sb	00 25 04.5	+0.5
MSNA	**Messina**	**1.66**	**262**	*i* P	Pn	00 24 40.8	-0.7
MSNA				*i* Sg	Sb	00 25 04.5	+0.5
MATP	**Matopo**	**3.51**	**298**	*i* P	Pn	00 25 07.8	+0.7
MATP				*i* S	Sn	00 25 45.9	-2.8
MATP	**Matopo**	**3.51**	**298**	*i* P	Pn	00 25 07.8	+0.7
MATP				*i* S	Sn	00 25 45.9	-2.8
BLWY	**Bulawayo**	**3.58**	**303**	*i* P	Pn	00 25 07.0	-0.9
BLWY				*i* Sg	Sg	00 26 03.5	-4.0
BLWY	**Bulawayo**	**3.58**	**303**	*i* P	Pn	00 25 07.0	-0.9
BLWY				*i* Sg	Sg	00 26 03.5	-4.0

RSNC 17 00:26:24.1±0.9,**4°.49N**×**76°.12W**,**h98**km±7km,**ML1.8,1D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.44**	**338**	*e*P	Pn	00 26 38.9	-0.5
PLMC				*e*S	Sn	00 26 50.8	+0.1
PLMC				*i*		00 26 51.8	
comp=Z,47nm,0.2s							
ANIL	**Santa Ana**	**0.71**	**90**	*e*P	Pn	00 26 40.6	-1.2
ANIL				*e*S	Sn	00 26 54.8	-0.2
ANIL				*i*		00 26 55.9	
comp=Z,33nm,0.4s							
ORTC	**Ortega, Tolima**	**1.05**	**124⇓**	*i* P	Pn	00 26 44.2	-0.8
ORTC				*e*S	Sn	00 27 00.5	-0.2
ORTC				*i*		00 27 01.9	
comp=Z,13nm,0.5s							
GUY2C	**Guyana, Caldas**	**1.05**	**46**	*e*P	Pn	00 26 45.0	-0.4
GUY2C				*e*S	Sn	00 27 01.3	-0.1
GUY2C				*i*		00 27 05.1	
comp=Z,5.8nm,0.2s							
PRAC	**Prado**	**1.45**	**122**	*e*P	Pn	00 26 49.1	-0.6
PRAC				*e*S	Sn	00 27 09.3	+0.2
PRAC				*i*		00 27 11.3	
comp=Z,6.3nm,0.3s							

IDC ***17*** *00:28:35.7±1.5,41°.66N×14°.25E,h0km,mb3.4/4, mb1 3.5/6,mb1mx3.3/35,mbtmp3.4/6,ML3.1/2,Error ellipse: s-maj=32.8km s-min=16.5km az=83.0*
LDG ***17*** *00:28:36.5±0.1,41°.51N×14°.63E,h10km,Ml2.9/9,Error ellipse: s-maj=4.8km s-min=3.1km az=27.0*
ROM ***17*** *00:28:36.3±0.1,41°.524N±0°.005×14°.607E±0°.007, h10km,ML3.2/28,Error ellipse: s-maj=0.5km s-min=0.5km az=27.0*
IASPEI ***17*** *00:28:36.4±0.8,41°.53N±0°.02×14°.60E±0°.02,h15km±5km, mb3.4/4,Error ellipse: s-maj=3.6km s-min=2.8km az=39.1, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
PRU ***17*** *00:28:37.6±0.0,41°.62N×14°.89E,h0km*
BEO ***17*** *00:28:39.3±0.8,41°.65N×14°.84E,h0km,ML3.5/6*
ISC 17 00:28:36.8±0.8,**41°.53N**±0°.02×**14°.57E**±0°.02,**h13**km±5km,

n121, σ1⁹**72**/165,**mb3.4**/4,**6C-2D,Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSO	**Busso**	**0.02**	**37**	⇓P	**Pg**	**00 28 38.6**	**-0.7**
BSSO				S	**Sg**	**00 28 40.3**	**-0.7**
PTRJ	**Pietraroja**	**0.17**	**192**	P	**Pg**	**00 28 40.4**	**-0.3**
SGG	**Gregorio Mates**	**0.20**	**226**	⇑P	**Pg**	**00 28 41.4**	**0.0**
SGG				S	**Sg**	**00 28 46.0**	**+1.6**
SGG				AML	AML		
comp=E,36nm,0.4s							
SGG				AML	AML		
comp=N,40nm,0.5s							
SGG				AML	AML		
comp=E,11175μm,1.6s							
SGG				AML	AML		
comp=N,40nm,0.4s							
SGG				AML	AML		
comp=N,12900μm,0.4s							
SGG				AML	AML		
comp=E,36nm,0.4s							
TRIV	**Trivento**	**0.24**	**356**	⇑P	**Pg**	**00 28 42.1**	**+0.2**
TRIV				S	**Sb**	**00 28 46.9**	**-0.3**
TRIV				AML	AML		
comp=N,11800μm,0.4s							
TRIV				AML	AML		
comp=N,13300μm,0.3s							
TRIV				AML	AML		
comp=E,23800μm,0.4s							
TRIV				AML	AML		
comp=N,11775μm,0.4s							
TRIV				AML	AML		
comp=E,23850μm,0.4s							
GATE	**Gambatesa**	**0.25**	**93**	P	**Pg**	**00 28 42.4**	**+0.2**
GATE				AML	AML		
comp=E,10435μm,0.4s							
GATE				AML	AML		
comp=N,9935μm,0.4s							
GATE				AML	AML		
comp=N,10100μm,0.4s							
GATE				AML	AML		
comp=E,10420μm,0.4s							
GATE				AML	AML		
comp=N,9930μm,0.4s							
GATE				AML	AML		
comp=E,6470μm,1.6s							
GATE				AML	AML		
comp=N,9925μm,0.4s							
GATE				AML	AML		
comp=E,10410μm,0.4s							
MIDA	**Miranda**	**0.27**	**296**	⇑P	**Pg**	**00 28 42.5**	**+0.1**
MIDA				S	**Sb**	**00 28 48.1**	**+0.1**
MIDA				AML	AML		
comp=E,4525μm,0.7s							
MIDA				AML	AML		
comp=N,5415μm,0.5s							
MIDA				AML	AML		
comp=E,4530μm,0.7s							
MIDA				AML	AML		
comp=E,4655μm,0.7s							
MIDA				AML	AML		
comp=N,5550μm,0.5s							
VAGA	**Valle Agricola**	**0.28**	**247**	⇑P	**Pg**	**00 28 42.8**	**+0.2**
VAGA				S	**Sb**	**00 28 48.7**	**+0.4**
VAGA				AML	AML		
comp=N,17250μm,1.0s							
VAGA				AML	AML		
comp=E,8745μm,0.7s							
VAGA				AML	AML		
comp=E,8485μm,0.7s							
VAGA				AML	AML		
comp=N,16600μm,1.0s							
VITU	**Vitulano (BN)**	**0.35**	**173**	P	**Pg**	**00 28 43.4**	**-0.4**
VITU				S	**Sg**	**00 28 49.2**	**+0.7**
VITU				AML	AML		
comp=N,12250μm,0.5s							
VITU				AML	AML		
comp=N,12400μm,0.5s							
VITU				AML	AML		
comp=E,3375μm,0.7s							
VITU				AML	AML		
comp=E,8945μm,0.4s							
PSB1	**Pescosannita**	**0.35**	**149**	⇓P	**Pg**	**00 28 43.5**	**-0.4**
PSB1				S	**Sg**	**00 28 49.3**	**+0.6**
PSB1				AML	AML		
comp=E,6895μm,0.8s							
PSB1				AML	AML		
comp=N,4910μm,0.6s							
PSB1				AML	AML		
comp=N,4705μm,0.6s							
PSB1				AML	AML		
comp=E,7010μm,0.8s							
RNI2	**Rionero Sannit**	**0.36**	**299**	⇑P	**Pg**	**00 28 44.3**	**+0.2**
RNI2				AML	AML		
comp=N,4450μm,0.6s							
RNI2				AML	AML		
comp=E,3285μm,1.0s							
RNI2				AML	AML		
comp=E,3190μm,1.0s							
RNI2				AML	AML		
comp=N,4340μm,0.6s							
CERA	**Filignano**	**0.42**	**280**	P	**Pg**	**00 28 45.1**	**-0.1**
CERA				AML	AML		
comp=N,4640μm,0.6s							
CERA				AML	AML		
comp=E,3800μm,0.6s							
CERA				AML	AML		
comp=N,4765μm,0.6s							
CERA				AML	AML		
comp=E,3855μm,0.6s							
MELA	**Melanico ??? S**	**0.45**	**66**	⇑P	**Pg**	**00 28 44.6**	**-1.0**
MELA				S	**Sg**	**00 28 51.7**	**0.0**
MELA				AML	AML		
comp=E,7170μm,1.0s							
MELA				AML	AML		
comp=E,7340μm,1.0s							
MELA				AML	AML		
comp=E,7165μm,1.0s							
MELA				AML	AML		
comp=N,5495μm,0.5s							
MELA				AML	AML		
comp=N,5650μm,0.5s							
FRES	**Fresagrandinar**	**0.45**	**9**	P	**Pg**	**00 28 45.0**	**-0.7**
MOCO	**Biccari - m.te**	**0.47**	**109**	P	**Pg**	**00 28 45.7**	**-0.3**
MOCO				AML	AML		
comp=E,2230μm,0.6s							
MOCO				AML	AML		
comp=N,1155μm,0.8s							
MOCO				AML	AML		
comp=E,2195μm,0.6s							
MOCO				AML	AML		
comp=N

CAFE	**Carife**	**0.70**	**135**	P	**Pg**	**00 28 49.2**	**-1.3**
CAFE				AML	AML		
	comp=E,1890μm,0.5s						
CAFE				AML	AML		
	comp=N,1410μm,0.4s						
CAFE				AML	AML		
	comp=E,1920μm,0.6s						
CAFE				AML	AML		
	comp=N,1460μm,0.4s						
CAFE				AML	AML		
	comp=E,1885μm,0.5s						
CAFE				AML	AML		
	comp=N,1405μm,0.4s						
LIK	**San Giovanni I**	**0.76**	**269**	AML	AML		
	comp=N,3730μm,0.4s						
LIK				AML	AML		
	comp=E,2435μm,0.4s						
SNAL	**S. Angelo Dei**	**0.77**	**141**	P	**Pg**	**00 28 49.9**	**-1.7**
SNAL				AML	AML		
	comp=E,1590μm,0.7s						
SNAL				AML	AML		
	comp=N,1760μm,0.6s						
SNAL				AML	AML		
	comp=E,1600μm,0.7s						
SNAL				AML	AML		
	comp=E,1585μm,0.7s						
SNAL				AML	AML		
	comp=N,1755μm,0.6s						
SNAL				AML	AML		
	comp=N,1850μm,0.6s						
LIO3	**Lioni**	**0.78**	**144**	P	**Pg**	**00 28 50.3**	**-1.6**
VVLD	**Villa Vallelon**	**0.79**	**296**	P	**Pg**	**00 28 51.2**	**-0.9**
VVLD				AML	AML		
	comp=E,888μm,0.8s						
VVLD				AML	AML		
	comp=N,1305μm,0.5s						
VVLD				AML	AML		
	comp=E,887μm,0.8s						
VVLD				AML	AML		
	comp=N,1310μm,0.5s						
MCRV	**Calabrutti - M**	**0.87**	**149**	P	**Pb**	**00 28 51.7**	**-2.0**
SGRT	**San Giovanni R**	**0.91**	**75**	P	**Pb**	**00 28 52.4**	**-2.0**
SGRT				AML	AML		
	comp=E,4200μm,0.5s						
SGRT				AML	AML		
	comp=N,3480μm,0.9s						
T0110	**Collepietro**	**0.92**	**320**	P	**Pb**	**00 28 53.0**	**-1.5**
T0110				AML	AML		
	comp=E,1645μm,0.4s						
T0110				AML	AML		
	comp=E,1650μm,0.4s						
T0110				AML	AML		
	comp=N,1465μm,0.7s						
TREM	**Isole Tremiti**	**0.92**	**49**	P	**Pb**	**00 28 53.9**	**-0.6**
TREM				AML	AML		
	comp=E,3035μm,1.6s						
TREM				AML	AML		
	comp=N,3025μm,0.7s						
VULT	**Monte Vulture**	**0.97**	**126**	P	**Pb**	**00 28 53.7**	**-1.8**
RDM3	**Ruvo Del Monte**	**0.97**	**132**	P	**Pn**	**00 28 57.1**	**+1.0**
GUAR	**Guarcino**	**0.98**	**286**	P	**Pg**	**00 28 56.1**	**+0.4**
CAPA	**Cerignola FG**	**1.00**	**111**	P	**Pb**	**00 28 55.3**	**-0.7**
PTQR	**Pietraquaria**	**1.01**	**300**	P	**Pb**	**00 28 55.3**	**-0.8**
MSAG	**Monte S. Angel**	**1.02**	**79**	P	**Pb**	**00 28 54.7**	**-1.6**
MSAG				AML	AML		
	comp=E,3270μm,0.5s						
MSAG				AML	AML		
	comp=N,4545μm,1.0s						
MSAG				AML	AML		
	comp=E,3265μm,0.5s						
MSAG				AML	AML		
	comp=N,4535μm,0.9s						
MSAG				AML	AML		
	comp=E,3330μm,0.5s						
MRLC	**Muro Lucano**	**1.03**	**138**	P	**Pb**	**00 28 56.3**	**-0.2**
MRLC				AML	AML		
	comp=N,886μm,0.6s						
MRLC				AML	AML		
	comp=N,886μm,0.6s						
MRLC				AML	AML		
	comp=E,914μm,0.5s						
FAGN	**Fagnano**	**1.04**	**315**	P	**Pb**	**00 28 55.8**	**-1.0**
PALZ	**Palazzo San Ge**	**1.20**	**119**	P	**Pn**	**00 28 58.6**	**-0.6**
PALZ				AML	AML		
	comp=E,991μm,1.3s						
PALZ				AML	AML		
	comp=E,987μm,1.3s						
PALZ				AML	AML		
	comp=N,956μm,0.8s						
AQU	**L'Aquila**	**1.20**	**314**	*e*Pn	**Pb**	**00 28 59.5**	**+0.1**
AQU	**L'Aquila**	**1.20**	**314**	P	**Pb**	**00 28 59.7**	**+0.2**
ACER	**Acerenza**	**1.27**	**125**	P	**Pb**	**00 29 00.9**	**+0.3**
MRVN	**Minervino Murg**	**1.31**	**110**	P	**Pn**	**00 28 59.9**	**-0.8**
MRVN				AML	AML		
	comp=E,506μm,0.5s						
MRVN				AML	AML		
	comp=N,368μm,0.5s						
FIAM	**Fiamignano**	**1.32**	**305**	P	**Pb**	**00 29 01.3**	**-0.1**
FIAM				AML	AML		
	comp=N,369μm,0.8s						
FIAM				AML	AML		
	comp=E,518μm,0.7s						
FIAM				AML	AML		
	comp=N,368μm,0.8s						
CMPR	**Campora**	**1.33**	**155**	P	**Pn**	**00 29 00.2**	**-0.8**
CMPR				AML	AML		
	comp=E,528μm,0.6s						
CMPR				AML	AML		
	comp=N,422μm,0.7s						
CMPR				AML	AML		
	comp=E,528μm,0.6s						
AMUR	**Altamura**	**1.65**	**111**	P	**Pn**	**00 29 04.8**	**-0.6**
AMUR				AML	AML		
	comp=E,438μm,1.3s						
AMUR				AML	AML		
	comp=E,439μm,1.3s						
AMUR				AML	AML		
	comp=N,386μm,0.4s						
CUC	**Castrocucco**	**1.80**	**148**	P	**Pn**	**00 29 07.1**	**-0.4**
LTRZ	**Laterza**	**1.93**	**118**	P	**Pn**	**00 29 08.9**	**-0.4**
NOCI	**Noci**	**2.02**	**111**	P	**Pn**	**00 29 10.3**	**-0.2**
NOCI				AML	AML		
	comp=E,362μm,0.7s						
NOCI				AML	AML		
	comp=N,419μm,1.1s						
LSTV	**Lastovo**	**2.12**	**53**	*e*Pn	**Pn**	**00 29 11.3**	**-0.6**
LSTV				Sn	**Sn**	**00 29 37.9**	**-0.2**
HVAR	**Hvar**	**2.16**	**39**	*e*Pn	**Pn**	**00 29 11.6**	**-0.8**
HVAR				Sn	**Sn**	**00 29 37.6**	**-1.3**
CET2	**Cetraro**	**2.26**	**152**	AML	AML		
	comp=E,318μm,0.6s						
CET2				AML	AML		
	comp=N,273μm,0.7s						
ZIRJ	**Zirje**	**2.27**	**20**	*e*Pn	**Pn**	**00 29 12.6**	**-1.3**
ZIRJ				Sn	**Sn**	**00 29 40.2**	**-1.5**
MORI	**Morici**	**2.48**	**19**	*e*Pn	**Pn**	**00 29 15.7**	**-1.1**
MORI				Sn	**Sn**	**00 29 46.2**	**-0.7**
DUGI	**Dugi Otok**	**2.49**	**8**	*e*Pn	**Pn**	**00 29 15.5**	**-1.4**
DUGI				Sn	**Sn**	**00 29 45.2**	**-2.0**
STON	**Ston**	**2.68**	**59**	*e*Pn	**Pn**	**00 29 19.5**	**-0.1**
STON				Sn	**Sn**	**00 29 50.6**	**-1.3**
RICI	**Ricice**	**2.73**	**43**	*e*Pn	**Pn**	**00 29 19.6**	**-0.6**
RICI				Sn	**Sn**	**00 29 53.1**	**0.0**
KIJV	**Kijevo**	**2.82**	**28**	*e*Pn	**Pn**	**00 29 20.4**	**-1.1**
KIJV				Sn	**Sn**	**00 29 55.0**	**-0.3**
NVLJ	**Novalja**	**3.04**	**4**	*e*Pn	**Pn**	**00 29 23.4**	**-1.1**
NVLJ				Sn	**Sn**	**00 29 59.1**	**-1.6**
TREB	**Trebinje**	**3.05**	**66**	*e*Pn	**Pn**	**00 29 24.9**	**+0.2**
TREB	**Trebinje**	**3.05**	**66**	*e*Pn	**Pn**	**00 29 24.6**	**-0.1**
HCY	**Herceg Novi**	**3.06**	**71**	*e*Pn	**Pn**	**00 29 25.0**	**+0.2**
RABC	**Rab**	**3.23**	**3**	*e*Pn	**Pn**	**00 29 26.1**	**-0.9**
RABC				Sn	**Sn**	**00 30 04.1**	**-1.2**
MGRS	**Mrkonjic Grad**	**3.43**	**32**	*e*Pn	**Pn**	**00 29 32.9**	**+3.0**
BRJN	**Brijuni**	**3.43**	**350**	*e*Pn	**Pn**	**00 29 28.6**	**-1.2**
BRJN				Sn	**Sn**	**00 30 07.5**	**-2.9**
PLIT	**Plitvice**	**3.44**	**13**	*e*Pn	**Pn**	**00 29 29.5**	**-0.5**
PLIT				Sn	**Sn**	**00 30 09.3**	**-1.3**
DRME	**Dracevica, Mon**	**3.51**	**78**	*e*Pn	**Pn**	**00 29 30.4**	**-0.5**
SMRN	**Sveta Marina**	**3.52**	**355**	*e*Pn	**Pn**	**00 29 30.0**	**-1.1**
SMRN				Sn	**Sn**	**00 30 10.1**	**-2.5**
PDG	**Podgorica**	**3.60**	**74**	*e*Pn	**Pn**	**00 29 32.6**	**+0.3**
PDG	**Podgorica**	**3.60**	**74**	*e*Pn	**Pn**	**00 29 32.8**	**+0.5**
BLY	**Banja Luka**	**3.74**	**30**	*e*Pn	**Pn**	**00 29 36.6**	**+2.4**
BLY	**Banja Luka**	**3.74**	**30**	*e*Pn	**Pn**	**00 29 36.9**	**+2.7**
PRIJ	**Prijedor**	**3.79**	**24**	*e*Pn	**Pg**	**00 29 52.9**	**+3.6**
RIY	**Rijeka**	**3.80**	**359**	*e*Pn	**Pn**	**00 29 34.2**	**-0.8**
RIY				Sn	**Sn**	**00 30 17.4**	**-2.0**
MRAK	**Mrakovica**	**3.88**	**25**	*e*Pn	**Pn**	**00 29 38.3**	**+2.2**
TIR	**Tirane**	**3.98**	**91**	*e*Pn	**Pn**	**00 29 39.5**	**+2.0**
TIR				*e*Sn	**Sn**	**00 30 23.8**	**-0.2**
RUDO	**Rudo**	**4.11**	**58**	*e*Pn	**Pn**	**00 29 39.4**	**+0.1**
OZLJ	**Ozalj**	**4.14**	**9**	*e*Pn	**Pn**	**00 29 39.0**	**-0.5**
OZLJ				Sn	**Sn**	**00 30 25.9**	**-1.9**
CEY	**Cerknica**	**4.21**	**359**	*e*Pn	**Pn**	**00 29 42.2**	**+1.5**
BBLS	**Lazići**	**4.26**	**55**	*e*Pn	**Pn**	**00 29 42.2**	**+0.9**
BBLS	**Lazići**	**4.26**	**55**	*e*Pn	**Pn**	**00 29 42.6**	**+1.3**
BBLS				*e*Sn	**Sn**	**00 30 28.8**	**-2.1**
PGF	**Pioggiola**	**4.28**	**286**	*e*P	**Pn**	**00 29 43.2**	**+1.6**
PGF				*e*Sn	**Sn**	**00 30 28.5**	**-2.9**
	comp=N,6.9nm,0.5s						
CRES	**Cresnjev**	**4.34**	**8**	*e*Pn	**Pn**	**00 29 42.0**	**-0.5**
SJES	**Sjenica**	**4.36**	**65**	*e*Pn	**Pn**	**00 29 43.4**	**+0.7**
MOSL	**Moslavina**	**4.38**	**20**	*e*Pn	**Pn**	**00 29 42.6**	**-0.4**
MOSL				Sn	**Sn**	**00 30 31.9**	**-1.9**
IVAS	**Ivanjica**	**4.60**	**62**	*e*Pn	**Pn**	**00 29 46.8**	**+0.8**
IVAS				*e*Sn	**Sn**	**00 30 35.8**	**-3.6**
DIVS	**Divibare**	**4.74**	**55**	*e*Pn	**Pn**	**00 29 47.8**	**-0.2**
DIVS	**Divibare**	**4.74**	**55**	*e*Pn	**Pn**	**00 29 48.1**	**+0.1**
DIVS				*e*Sn	**Sn**	**00 30 41.3**	**-1.5**
OBKA	**Obir**	**4.98**	**360**	*e*Pn	**Pn**	**00 29 51.2**	**-0.1**
	comp=N,0.7nm,0.1s						
OBKA				*e*Sn	**Sn**	**00 30 48.9**	**+0.1**
	comp=N,6.1nm,0.5s						
TRUS	**Trudelj**	**5.06**	**56**	*e*Pn	**Pn**	**00 29 52.3**	**0.0**
GRUS	**Gruza**	**5.10**	**60**	*e*Pn	**Pn**	**00 29 53.1**	**+0.2**
GRUS				*e*Sn	**Sn**	**00 30 49.0**	**-2.6**
SELS	**Selova**	**5.13**	**69**	*e*Pn	**Pn**	**00 29 53.0**	**-0.3**
MYKA	**Terra Mystica**	**5.15**	**353**	*e*Sn	**Sn**	**00 30 53.6**	**+0.8**
	comp=N,4.4nm,0.4s						
SOKA	**Soboth**	**5.16**	**4**	*e*Pn	**Pn**	**00 29 54.9**	**+1.1**
	comp=N,1.2nm,0.4s						
SOKA				*e*Sn	**Sn**	**00 30 51.8**	**-1.3**
	comp=N,1.7nm,0.5s						
FRGS	**Fruska Gora**	**5.27**	**45**	*e*Pn	**Pn**	**00 29 54.1**	**-1.0**
ABTA	**Abfaltersbach**	**5.43**	**345**	*i* Pn	**Pn**	**00 29 59.6**	**+2.2**
	comp=N,1.4nm,0.4s						
ABTA				*e*Sn	**Sn**	**00 30 59.0**	**-0.7**
	comp=N,2.4nm,0.3s						
MORH	**Mrgy, Hungar**	**5.53**	**31**	*e*Pn	**Pn**	**00 29 58.7**	**0.0**
SBF	**Sospel**	**5.75**	**296**	*e*Pn	**Pn**	**00 29 59.9**	**-2.0**
SBF				*e*Sn	**Sn**	**00 31 05.9**	**-1.9**
	comp=N,0.9nm,0.2s						
ARSA	**Arzberg**	**5.76**	**6**	*e*Pn	**Pn**	**00 30 03.8**	**+1.9**
	comp=N,0.9nm,0.3s						
ARSA				*e*Sn	**Sn**	**00 31 07.3**	**-0.6**
	comp=N,1.4nm,0.5s						
BOSS	**Bosilegrad**	**5.97**	**78**	*e*Pn	**Pn**	**00 30 04.4**	**-0.4**
SQTA	**Sankt Quirin**	**6.18**	**338**	*i* Pn	**Pn**	**00 30 09.4**	**+1.6**
	comp=N,0.3nm,0.2s						
SQTA				*e*Sn	**Sn**	**00 31 19.6**	**+1.2**
	comp=N,4.9nm,0.3s						
LMR	**La Mourre**	**6.24**	**290**	*e*Pn	**Pn**	**00 30 08.2**	**-0.2**
DAVOX	**Davos/Dischmat**	**6.24**	**329**	Pn	**Pn**	**00 30 07.0**	**-1.7**
	comp=N,0.1nm,0.3s,baz=209,slow=19,SNR=1.9						
DAVOX				Sn	**Sn**	**00 31 16.5**	**-3.5**
	comp=N,0.3nm,0.3s,baz=274,slow=19,SNR=1.9						
MOTA	**Moosalm**	**6.32**	**338**	*e*Sn	**Sn**	**00 31 22.2**	**+0.3**
	comp=N,1.0nm,0.3s						
MOA	**Molln**	**6.33**	**358**	*i* Pn	**Pn**	**00 30 09.8**	**+0.1**
	comp=N,0.3nm,0.2s						
MOA				*e*Sn	**Sn**	**00 31 20.5**	**-1.2**
	comp=N,2.5nm,0.3s						
CONA	**Conrad Observa**	**6.47**	**8**	*e*Pn	**Pn**	**00 30 10.6**	**-1.1**
	comp=N,1.1nm,0.3s						
CONA				*e*Sn	**Sn**	**00 31 20.7**	**-4.7**
	comp=N,1.1nm,0.4s						
MBDF	**Montbardon**	**6.54**	**302**	*e*P	**Pn**	**00 30 16.4**	**+3.6**
LPG	**La Plagne**	**6.93**	**308**	*e*Pn	**Pn**	**00 30 18.2**	**-0.1**
LPG				*e*Sn	**Sn**	**00 31 33.1**	**-4.0**
	comp=N,0.8nm,0.3s						
LPL	**La Plagne**	**6.96**	**308**	*e*P	**Pn**	**00 30 22.6**	**+4.1**
ORIF	**Oris-en-Rattie**	**7.20**	**301**	*e*P	**Pn**	**00 30 25.5**	**+3.8**
CKRC	**Cesky Krumlov**	**7.30**	**359**	*e*SN	**Sn**	**00 31 42.1**	**-3.5**
GERES	**GERESS Array B**	**7.34**	**355**	Pn	**Pn**	**00 30 22.8**	**-0.9**
	comp=N,0.4nm,0.3s,baz=172,slow=13,SNR=12						
GERES				Sn	**Sn**	**00 31 43.5**	**-3.5**
	comp=N,0.8nm,0.3s,baz=170,slow=23,SNR=17						
VYHS	**Vyhne**	**7.59**	**22**	*e*PN	**Pn**	**00 30 27.3**	**+0.3**
KHC	**Kasperske Hory**	**7.64**	**355**	*e*PN	**Pn**	**00 30 28.1**	**+0.4**
KHC				*e*SN	**Sn**	**00 31 51.6**	**-2.4**
HINF	**Hinteralfeld**	**8.35**	**321**	*e*Pn	**Pn**	**00 30 36.8**	**-0.7**
HINF				*e*Sn	**Sn**	**00 32 06.9**	**-4.7**
	comp=N,3.3nm,0.5s						
CDF	**Champ du Feu**	**8.61**	**326**	*e*Pn	**Pn**	**00 30 40.3**	**-0.7**
CDF				*e*Sn	**Sn**	**00 32 12.2**	**-5.8**
	comp=N,1.7nm,0.3s						
HAU	**Haudompre**	**8.72**	**321**	*e*Pn	**Pn**	**00 30 41.8**	**-0.8**
HAU				*e*Sn	**Sn**	**00 32 15.3**	**-5.5**
	comp=N,3.0nm,0.3s						
PAGF	**Fort de Pagny**	**9.41**	**321**	*e*Pn	**Pn**	**00 30 50.3**	**-1.6**
LOR	**Lormes**	**9.57**	**310**	*e*Sn	**Sn**	**00 32 36.4**	**-5.2**
	comp=N,0.6nm,0.3s						
FINES	**FINESS Array B**	**21.13**	**15**	P	**P**	**00 33 22.3**	**+1.3**
	comp=N,1.7nm,0.9s,baz=218,slow=10,SNR=1.9						
BELG	**Belogornoye**	**24.82**	**53**	P	**P**	**00 34 02.0**	**+3.6**
	comp=N,3.3nm,0.8s,baz=253,slow=5.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**30.42**	**205**	P	**P**	**00 34 49.5**	**+0.7**
	comp=N,0.4nm,0.9s,baz=18,slow=9.8,SNR=1.4						
MKAR	**Makanchi Array**	**47.51**	**60**	P	**P**	**00 37 11.7**	**+0.3**
	comp=N,0.1nm,0.6s,baz=292,slow=6.0,SNR=2.2						

IDC ***17*** *00:59:31.4±1.0,36°.99N×98°.12W,h0km,mb1 3.7/5, mb1mx3.3/64,mbtmp3.4/5,ML4.0/3,Error ellipse: s-maj=14.6km s-min=11.5km az=157.0*
ANF ***17*** *00:59:31.6±0.3,36°.85N×98°.02W,h0km,ML4.2/9,Error ellipse: s-maj=3.9km s-min=2.9km az=22.0*
TUL ***17*** *00:59:31.2±1.0,36°.87N±0°.04×98°.00W±0°.05,h5km±7km, ML3.5,mb_Lg3.4/72(NEIC),Error ellipse: s-maj=6.0km s-min=5.8km az=99.0*
NEIC ***17*** *00:59:31.7±1.5,36°.82N±0°.02×97°.96W±0°.06,h4km±7km, Error ellipse: s-maj=6.9km s-min=2.2km az=79.0*
ISC 17 00:59:31.8±0.9,36°.85N±0°.02×97°.96W±0°.03,h7km±7km, n105,σ0°84/100,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.08**	**89**	Pg	**Pg**	**00 59 33.9**	**0.0**
GC02				Sg	**Sg**	**00 59 35.7**	**+0.3**
KAN14	**Manchester OK**	**0.11**	**360**	Pg	**Pg**	**00 59 33.8**	**-0.5**
KAN14				Sg	**Sg**	**00 59 35.5**	**-0.5**
OK032	**Salt Plains WL**	**0.20**	**257**	Pg	**Pg**	**00 59 35.2**	**-0.8**
KAN17	**Caldwell West**	**0.25**	**39**	Pg	**Pg**	**00 59 36.7**	**-0.1**
KAN17				Sg	**Sg**	**00 59 40.4**	**+0.2**
KAN05	**Bluff City Nor**	**0.27**	**16**		**Pg**	**00 59 36.8**	**-0.3**
KAN05				Sg	**Sg**	**00 59 40.9**	**+0.1**
KAN10	**Anthony SW Sta**	**0.29**	**339**	Pg	**Pg**	**00 59 37.0**	**-0.6**
KAN01	**Argonia South**	**0.34**	**28**		**Pg**	**00 59 38.3**	**-0.3**
KAN01				Sg	**Sg**	**00 59 43.1**	**-0.1**
CROK	**Carrier**	**0.34**	**183**	Pg	**Pg**	**00 59 38.4**	**-0.2**
KAN08	**Anthony NE Sta**	**0.38**	**359**		**Pg**	**00 59 38.7**	**-0.5**
KAN16	**Harper SW Stat**	**0.38**	**348**	Pg	**Pg**	**00 59 38.8**	**-0.6**
KAN06	**Argonia West S**	**0.41**	**12**		**Pg**	**00 59 39.4**	**-0.4**
KAN13	**South Haven SW**	**0.42**	**67**	Pg	**Pg**	**00 59 40.0**	**0.0**
BLOK	**Blackwell**	**0.61**	**98**	Pg	**Pg**	**00 59 43.4**	**-0.1**
OK035	**E0210 Rd and N**	**0.62**	**257**		**Pg**	**00 59 42.7**	**-1.0**
U32A	**Winter Ranch,**	**0.96**	**241**		**Pg**	**00 59 49.0**	**-1.3**
OK029	**Liberty Lake**	**1.13**	**159**		**Pg**	**00 59 52.7**	**-0.8**
T35A	**Sooner Cattle**	**1.17**	**86**	Pg	**Pg**	**00 59 53.5**	**-0.7**
QUOK	**Quay**	**1.22**	**123**		**Pg**	**00 59 54.5**	**-0.7**
BCOK	**Bluff Creek, N**	**1.22**	**166**		**Pg**	**00 59 54.1**	**-1.2**
OK031	**S. Brethren Rd**	**1.27**	**134**		**Pn**	**00 59 55.3**	**-0.7**
OK034	**N. Norfolk Rd.**	**1.31**	**129**		**Pn**	**00 59 56.0**	**-0.6**
OK030	**Cody Creek RV**	**1.32**	**134**		**Pn**	**00 59 56.1**	**-0.6**
OK009	**Oakdale Elemen**	**1.34**	**161**	Pn	**Pn**	**00 59 56.5**	**-0.5**
OK025	**Westminster Rd**	**1.36**	**158**		**Pn**	**00 59 56.8**	**-0.5**
OKCFA	**Oklahoma City**	**1.49**	**164**		**Pn**	**00 59 58.7**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**1.50**	**163**		**Pn**	**00 59 59.4**	**+0.2**
FNO	**Franklin**	**1.65**	**164**		**Pn**	**01 00 01.3**	**+0.1**
R32A	**Long Quarter,**	**1.68**	**339**		**Pn**	**01 00 01.8**	**+0.2**
W35A	**Tecumseh**	**1.91**	**152**		**Pn**	**01 00 04.9**	**+0.1**
TUL1	**Leonard**	**1.99**	**118**	Pn	**Pn**	**01 00 06.1**	**+0.3**
TUL1				IAmb_Lg		01 00 37.4	
	comp=Z,203nm,0.8s						
TUL1	**Leonard**	**1.99**	**118**	P	**Pn**	**01 00 07.0**	**+1.2**
	baz=298						
TUL1				S	**Sb**	**01 00 34.3**	**+1.0**
	baz=298						
WMOK	**Wichita Mounta**	**2.21**	**198**		**Pn**	**01 00 09.1**	**+0.1**
WMOK	**Wichita Mounta**	**2.21**	**198**	P	**Pn**	**01 00 09.4**	**+0.5**
	baz=17						
X34A	**Smith Ranch, M**	**2.25**	**177**		**Pn**	**01 00 10.5**	**+1.1**
CBKS	**Cedar Bluff**	**2.41**	**325**		**Pn**	**01 00 11.9**	**+0.2**
CBKS	**Cedar Bluff**	**2.41**	**325**	P	**Pn**	**01 00 12.0**	**+0.2**
	baz=144						
KSU1	**Kansas State U**	**2.49**	**25**		**Pn**	**01 00 13.1**	**+0.3**
KSU1				IAmb_Lg		01 00 50.1	
	comp=Z,127nm,0.8s						
KSU1	**Kansas State U**	**2.49**	**25**	P	**Pn**	**01 00 13.2**	**+0.4**
	baz=206						
KSU1				S	**Sb**	**01 00 47.9**	**+0.2**
	baz=206						
U38A	**Gravette**	**2.91**	**97**		**Pn**	**01 00 19.5**	**+1.0**
LOOK	**Love County**	**2.92**	**167**		**Pn**	**01 00 19.3**	**+0.6**
X37A	**Clayton**	**3.09**	**136**		**Pn**	**01 00 21.4**	**+0.4**
X37A				IAmb_Lg		01 01 17.9	
	comp=Z,134nm,0.8s						
HHAR	**Hobbs**	**3.29**	**99**		**Pn**	**01 00 24.5**	**+0.7**
Z35A	**Perchaven, San**	**3.56**	**170**		**Pn**	**01 00 27.8**	**+0.4**
AMTX	**Amarillo**	**3.60**	**238**	IAmb_Lg		01 01 32.2	
	comp=Z,100nm,0.7s						
W39A	**Magazine**	**3.77**	**115**		**Pn**	**01 00 31.3**	**+1.0**
S39A	**Bolivar**	**3.79**	**76**		**Pn**	**01 00 31.2**	**+0.5**
N33A	**J Bar K, Exete**	**3.90**	**6**		**Pn**	**01 00 32.2**	**0.0**
U40A	**Yellville**	**4.14**	**95**	Pn	**Pn**	**01 00 36.1**	**+0.6**
U40A				IAmb_Lg		01 01 51.1	
	comp=Z,74nm,0.7s						
MIAR	**Mount Ida**	**4.25**	**121**		**Pn**	**01 00 36.9**	**0.0**
MIAR				IAmb_Lg		01 01 49.9	
	comp=Z,116nm,1.1s						
MIAR	**Mount Ida**	**4.25**	**121**	Sb	**Sg**	**01 01 45.3**	**-2.9**
	baz=304						
KSCO	**Kaye Shedlock'**	**4.27**	**302**		**Pn**	**01 00 37.2**	**-0.2**
KSCO				IAmb_Lg		01 01 46.7	
	comp=Z,59nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.27**	**302**	P	**Pn**	**01 00 37.6**	**+0.2**
	baz=119						
Z38A	**Mt. Pleasant**	**4.33**	**145**	Pn	**Pn**	**01 00 38.7**	**+0.6**
Z38A				IAmb_Lg		01 01 53.7	
	comp=Z,87nm,0.7s						
N35A	**Tabor**	**4.40**	**24**	Pn	**Pn**	**01 00 37.7**	**-1.3**
ABTX	**Abilene, Hawle**	**4.44**	**199**	Pn	**Pn**	**01 00 40.1**	**+0.5**
ABTX				IAmb_Lg		01 01 56.7	
	comp=Z,49nm,0.9s						
P38A	**Dawn**	**4.45**	**50**		**Pn**	**01 00 40.1**	**+0.4**
P38A				IAmb_Lg		01 01 54.9	
	comp=Z,49nm,0.7s						
BGNE	**Belgrade**	**4.55**	**358**		**Pn**	**01 00 40.4**	**-0.8**
BGNE				IAmb_Lg		01 01 59.4	
	comp=Z,78nm,0.7s						
MGMO	**Mountain Grove**	**4.57**	**84**		**Pn**	**01 00 41.9**	**+0.6**
MGMO				IAmb_Lg		01 01 56.5	
	comp=Z,54nm,0.8s						
R40A	**Maddies Statio**	**4.75**	**71**		**Pn**	**01 00 44.1**	**+0.3**
X40A	**Basin Creek Fa**	**4.79**	**118**		**Pn**	**01 00 45.2**	**+0.7**
X40A				IAmb_Lg		01 02 17.3	
	comp=Z,62nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.81**	**100**		**Pn**	**01 00 44.8**	**+0.1**
FCAR				IAmb_Lg		01 02 09.0	
	comp=Z,46nm,0.8s						
WHAR	**Wooly Hollow**	**4.85**	**107**		**Pn**	**01 00 44.8**	**-0.4**
WHAR				IAmb_Lg		01 02 05.9	
	comp=Z,65nm,0.8s						
WHTX	**Lake Whitney,**	**4.86**	**175**	Pn	**Pn**	**01 00 45.2**	**-0.2**
WHTX	**Lake Whitney,**	**4.86**	**175**	P	**Pn**	**01 00 45.5**	**+0.1**
	baz=355						
MSTX	**Muleshoe**	**4.87**	**235**	Pn	**Pn**	**01 00 45.8**	**+0.2**
MSTX	**Muleshoe**	**4.87**	**235**	Sb	**Sb**	**01 02 01.3**	**+5.1**
	baz=52						
W41B	**Gary Mavity, V**	**4.92**	**108**		**Pn**	**01 00 46.3**	**0.0**
237A	**Washetta, Mont**	**5.15**	**159**	Pn	**Pn**	**01 00 48.9**	**-0.5**
T25A	**Trinidad**	**5.17**	**275**	Pn	**Pn**	**01 00 49.9**	**+0.1**
T25A				IAmb_Lg		01 02 20.8	
	comp=Z,45nm,0.8s						
T25A	**Trinidad**	**5.17**	**275**	P	**Pn**	**01 00 49.4**	**-0.4**
	baz=92						
OGNE	**Ogallala**	**5.18**	**323**	IAmb_Lg		01 02 23.4	
	comp=Z,102nm,0.8s						
L34A	**Svendsen Farm,**	**5.26**	**13**	Pn	**Pn**	**01 00 49.7**	**-1.0**
L34A				IAmb_Lg		01 02 19.0	
	comp=Z,61nm,0.8s						
P40A	**Paris**	**5.37**	**58**	Pn	**Pn**	**01 00 52.3**	**-0.1**
P40A				IAmb_Lg		01 02 25.0	
	comp=Z,62nm,0.9s						
N38A	**Joes South For**	**5.40**	**42**		**Pn**	**01 00 51.8**	**-0.9**

mb1 3.8/5, mb1mx3.4/63, mbtmp3.6/5, Error ellipse: s-maj=98.6km s-min=24.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.08**	**184**	P	P	01 06 12.2	-0.3
	0.6nm,0.4s,baz=14,slow=11,SNR=7.6						
WRA	**Warramunga Arr**	**24.92**	**164**	P	P	01 06 39.7	-1.0
	3.1nm,0.9s,baz=344,slow=11,SNR=20						
ASAR	**Alice Springs**	**28.37**	**167**	P	P	01 07 13.2	+1.4
	0.2nm,0.5s,baz=346,slow=9.6,SNR=4.8						
STKA	**Stephens Creek**	**38.33**	**160**	P	P	01 08 38.5	0.0
	0.9nm,0.4s,baz=338,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	01 11 06.5	-0.1
	0.2nm,0.4s,baz=108,slow=8.3,SNR=4.9						

IDC 17 01:03:10.0±5.5, 35°.47S×179°.52W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/36, mbtmp3.7/2, Error ellipse: s-maj=261.3km s-min=59.6km az=166.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.84**	**273**	P	P	01 11 01.7	-0.2
	0.3nm,0.3s,baz=117,slow=7.2,SNR=18						
WRA	**Warramunga Arr**	**43.28**	**278**	P	P	01 11 13.5	-0.2
	0.8nm,0.5s,baz=120,slow=7.5,SNR=16						
FINES	**FINESS Array B**	**149.35**	**336**	PKPbc	PKPbc	01 22 59.6	-0.4
	1.8nm,0.9s,baz=15,slow=5.9,SNR=4.2						

*JMA **17** 01:08:17.1±0.2, 41°.89N×142°.57E, h59km±2km, M3.4*
Broadband fault plane solution: P waves. NP1: φs178.00000°, δ12.00000°, λ79.00000°. NP2: φs9.00000°, δ78.00000°, λ92.00000°. Principal axes: T Plg57.0000°, Azm282.0000°; N Plg2.0000°, Azm188.0000°; P Plg33.0000°, Azm97.0000°;
*IDC **17** 01:08:19.2±2.4, 42°.02N×143°.11E, h94km±17km, mb3.3/3, mb1 3.4/5, mb1mx3.0/64, mbtmp3.6/5 Error ellipse: s-maj=56.9km s-min=16.8km az=90.0*

ISC 17 01:08:17.0±1.0, 41°.87N±0°.04×142°.55E±0°.04, h56km±9km, n23, σ0s77/38, mb3.5/3, 4C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.44**	**20**	⇑P	**Pn**	**01 08 28.0**	**0.0**
JNBK				eS	**Sn**	**01 08 35.9**	**-0.1**
JEM	**Erimo**	**0.47**	**72**	⇑P	**Pn**	**01 08 28.5**	**+0.1**
JEM				eS	**Sn**	**01 08 36.5**	**-0.1**
JSHD	**Hidakashinhida**	**0.55**	**353**	⇓P	**Pn**	**01 08 29.5**	**+0.3**
JTHR	**Tokachihiroo**	**0.70**	**52**	⇑P	**Pn**	**01 08 31.2**	**+0.2**
JTHR				eS	**Sn**	**01 08 41.5**	**+0.3**
JIAM	**Iburiatsuma**	**0.89**	**328**	⇓P	**Pn**	**01 08 34.3**	**+0.9**
JIAM				eS	**Sn**	**01 08 47.0**	**+1.5**
JBT2	**Biratori 2**	**0.92**	**351**	⇓P	**Pn**	**01 08 33.7**	**-0.1**
JBT2				eS	**Sn**	**01 08 45.8**	**-0.5**
JCH	**Churui**	**0.96**	**39**	⇑P	**Pn**	**01 08 34.4**	**+0.1**
JCH				eS	**Sn**	**01 08 47.5**	**+0.4**
JKB	**Kayabe**	**1.14**	**272**	⇓P	**Pn**	**01 08 36.6**	**0.0**
JKB				eS	**Sn**	**01 08 51.3**	**+0.1**
JOT	**Ohata**	**1.23**	**247**	⇓P	**Pn**	**01 08 38.2**	**+0.3**
JOT				eS	**Sn**	**01 08 53.8**	**+0.3**
JEW	**Eniwo**	**1.27**	**320**	⇓P	**Pn**	**01 08 38.7**	**+0.2**
JEW				eS	**Sn**	**01 08 54.7**	**+0.2**
JNB	**Noboribetsu**	**1.28**	**299**	⇓P	**Pn**	**01 08 38.0**	**-0.5**
JNB				eS	**Sn**	**01 08 54.0**	**-0.6**
JFR	**Furan**	**1.30**	**1**	P	**Pn**	**01 08 38.9**	**+0.1**
JOB	**Onbets**	**1.41**	**42**	⇓P	**Pn**	**01 08 41.4**	**+1.1**
JTM	**Tenmabayashi**	**1.55**	**226**	P	**Pn**	**01 08 43.5**	**+1.2**
JTM				eS	**Sn**	**01 09 02.6**	**+1.2**
JSR	**Shiriuchi**	**1.63**	**259**	P	**Pn**	**01 08 44.1**	**+0.7**
JSR				eS	**Sn**	**01 09 04.4**	**+1.1**
JISS	**Ishikarishitsu**	**1.64**	**330**	P	**Pn**	**01 08 43.8**	**+0.4**
JISS				eS	**Sn**	**01 09 04.0**	**+0.6**
JYM2	**Yakumo 2**	**1.65**	**279**	P	**Pn**	**01 08 43.8**	**+0.3**
JYM2				eS	**Sn**	**01 09 03.4**	**-0.2**
JAB	**Ashibetsu**	**1.66**	**352**	P	**Pn**	**01 08 44.4**	**+0.7**
JAB				eS	**Sn**	**01 09 05.7**	**+1.9**
ASAJ	**Asahikawa**	**2.25**	**1**	P	**Pn**	**01 08 53.1**	**+1.4**
	8.9nm,0.3s,baz=207,slow=7.6,SNR=33						
ASAJ				S	**Sn**	**01 09 19.7**	**+1.4**
	7.3nm,0.3s,baz=4.2,slow=29,SNR=11						
MJAR	**Matsushiro Arr**	**6.30**	**214**	P	Pn	01 09 55.3	+8.1
	0.5nm,0.3s,baz=44,slow=19,SNR=14						
MKAR	**Makanchi Array**	**42.47**	**298**	P	**P**	**01 16 06.0**	**-0.3**
	0.4nm,0.6s,baz=85,slow=9.2,SNR=6.0						
WRA	**Warramunga Arr**	**61.96**	**189**	P	**P**	**01 18 30.4**	**-0.6**
	0.2nm,0.5s,baz=6.7,slow=7.0,SNR=7.1						
FINES	**FINESS Array B**	**64.97**	**332**	P	**P**	**01 18 49.6**	**-0.8**
	0.6nm,0.5s,baz=38,slow=6.9,SNR=8.6						

IDC 17 01:27:55.0±0.8, 0°.07N×132°.61E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.1/32, mbtmp3.3/3, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/29, Error ellipse: s-maj=11.9km s-min=2.1km az=166.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.64**	**235**	Pg	Pn	01 28 24.7	-0.5
	2.2nm,0.3s,baz=147,slow=19,SNR=13						
SIJI				Lg	Lg	01 28 47.0	
	4.7nm,0.3s,baz=209,slow=23,SNR=14						
WRA	**Warramunga Arr**	**19.96**	**175**	P	P	01 32 28.9	0.0
	0.2nm,0.3s,baz=354,slow=11,SNR=15						
ASAR	**Alice Springs**	**23.62**	**177**	P	P	01 33 08.1	0.0
	0.9nm,0.6s,baz=356,slow=10,SNR=19						
JHJ	**Hachijo jima 2**	**33.56**	**11**	LR	LR	01 45 40.3	
	comp=Z,56nm,20.7s,baz=331,slow=32						
MKAR	**Makanchi Array**	**63.93**	**324**	P	P	01 38 30.3	+0.3
	0.1nm,0.7s,baz=111,slow=7.9,SNR=1.4						

*JMA **17** 01:28:17.0±0.1, 33°.28N×137°.49E, h391km, M2.7*
*IDC **17** 01:28:20.0±1.6, 33°.66N×136°.50E, h363km±22km, mb2.6/3, mb1 2.7/5, mb1mx2.5/45, mbtmp3.3/5, Error ellipse: s-maj=39.2km s-min=28.1km az=62.0*

ISC 17 01:28:20.8±1.2, 33°.4N±0°.2×137°.6E±0°.1, h352km, n18, σ0s55/16, mb2.7/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**1.24**	**326**	P	**Pn**	**01 29 08.5**	**+0.7**
JKN2	**Miekihoku**	**1.38**	**310**	P	**Pn**	**01 29 08.9**	**+0.5**
HMMJ	**Hamamatsu 2**	**1.49**	**5**	P	**Pn**	**01 29 09.8**	**+0.7**
JTNC	**Tanabenakahech**	**1.68**	**286**	P	**Pn**	**01 29 10.4**	**+0.2**
JWY	**Kouya**	**1.84**	**298**	P	**Pn**	**01 29 11.7**	**+0.4**
JNY	**Yasuok**	**2.00**	**7**	P	**Pn**	**01 29 13.1**	**+0.7**
JYTA	**Yamagatataniai**	**2.32**	**343**	P	**Pn**	**01 29 14.9**	**+0.3**
JWT	**Wachi**	**2.61**	**318**	P	**Pn**	**01 29 16.7**	**-0.2**
JAI	**Aioi**	**2.62**	**280**	P	**Pn**	**01 29 16.7**	**-0.4**
JRY	**Ryogami san**	**2.87**	**22**	P	**Pn**	**01 29 20.1**	**+1.0**
BSO1	**Boso 1**	**3.12**	**65**	eS	**S**	**01 30 09.1**	**0.0**
MJAR	**Matsushiro Arr**	**3.21**	**9**	P	**Pn**	**01 29 22.1**	**-0.1**
	0.1nm,0.3s,baz=194,slow=10,SNR=5.3						
JAG	**Ashikaga**	**3.43**	**27**	P	**Pn**	**01 29 23.8**	**-0.4**
JHO	**Hitachi**	**4.08**	**37**	P	**Pn**	**01 29 30.0**	**-0.6**
JNU	**Nakatsue**	**5.60**	**269**	P	Pn	01 29 37.4	-10
	0.3nm,0.3s,baz=92,slow=13,SNR=1.3						
SONM	**Songino Array**	**27.50**	**311**	P	P	01 33 26.7	-10
	0.2nm,0.5s,baz=113,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**53.10**	**184**	P	**P**	**01 37 03.3**	**-0.1**
	0.2nm,0.8s,baz=0.9,slow=7.6,SNR=1.8						
ASAR	**Alice Springs**	**56.82**	**184**	P	**P**	**01 37 29.5**	**-0.2**
	0.2nm,0.7s,baz=1.8,slow=5.8,SNR=4.4						

*IDC **17** 02:04:30.5±0.7, 25°.53N×143°.65E, h0km, mb4.0/14, mb1 4.3/15, mb1mx4.1/40, mbtmp4.0/15, ML3.3/1, Error ellipse: s-maj=25.2km s-min=16.9km az=84.0*
*NEIC **17** 02:04:32.5±1.1, 25°.53N±0°.09×143°.65E±0°.06, h10km±1km, mb4.2/12, Error ellipse: s-maj=16.7km s-min=8.8km az=161.0*

ISC 17 02:04:35.7±0.7, 25°.6N±0°.1×143°.6E±0°.1, h35km, n39, σ0s85/32, mb4.1/19, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.01**	**320**		**Pn**	**02 05 07.5**	**+0.3**
MJAR	**Matsushiro Arr**	**11.90**	**338**	Pn	**Pn**	**02 07 22.1**	**-0.8**
	0.2nm,0.3s,baz=145,slow=11,SNR=8.3						
MAJO	**Matsushiro**	**11.90**	**338**	Pn	**Pn**	**02 07 21.2**	**-1.7**
MJB9	**Matsu-Tunnel**	**11.90**	**338**	Pn	**Pn**	**02 07 21.7**	**-1.3**
JMM	**Marumori**	**12.51**	**350**		**Pn**	**02 07 29.1**	**-2.1**
USRK	**Ussuriysk Ar.**	**20.87**	**336**	P	**P**	**02 09 16.1**	**+1.4**
	4.1nm,0.8s,baz=164,slow=9.7,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**22.22**	**100**	T	T	02 32 12.8	
	baz=290,slow=75,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**22.22**	**100**	T	T	02 32 14.0	
	baz=290,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**22.24**	**100**	T	T	02 32 14.1	
	baz=290,slow=75,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**22.48**	**104**	T	T	02 32 33.9	
	baz=292,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**22.48**	**104**	T	T	02 32 35.9	
	baz=292,slow=74,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**22.49**	**104**	T	T	02 32 35.2	
	baz=292,slow=74,SNR=6.8						
SONM	**Songino Array**	**36.72**	**317**	P	**P**	**02 11 39.4**	**-0.2**
	0.3nm,0.5s,baz=133,slow=8.3,SNR=2.7						
WR0	**Warramunga Arr**	**46.10**	**192**	P	**P**	**02 12 56.0**	**-0.6**
WR0				IAmb	IAmb	02 12 57.5	
	comp=Z,4.4nm,0.9s						
WB2	**Warramunga Arr**	**46.12**	**192**	P	**P**	**02 12 56.4**	**-0.4**
WRA	**Warramunga Arr**	**46.12**	**192**	P	**P**	**02 12 56.5**	**-0.2**
	comp=Z,6.4nm,0.8s,baz=12,slow=8.6,SNR=64						
WRA	**Warramunga Arr**	**46.12**	**192**	P	**P**	**02 12 56.4**	**-0.4**
AS31	**Alice Springs**	**49.83**	**192**	P	**P**	**02 13 24.3**	**-1.1**
ASAR	**Alice Springs**	**49.83**	**192**	P	**P**	**02 13 25.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=16,slow=10.0,SNR=25						
ZAA0	**Zalesovo Array**	**51.50**	**320**	P	**P**	**02 13 38.2**	**+0.4**
ZAA0				IAmb	IAmb	02 13 53.2	
	comp=Z,1.6nm,0.9s						
ZALV	**Zalesovo Beam**	**51.50**	**320**	P	**P**	**02 13 37.7**	**0.0**
	comp=Z,0.6nm,0.5s,baz=112,slow=6.9,SNR=4.0						
MKAR	**Makanchi Array**	**52.46**	**311**	P	**P**	**02 13 44.8**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=90,slow=9.3,SNR=5.8						
MAKZ	**Makanchi**	**52.67**	**311**	P	**P**	**02 13 47.7**	**+1.0**
MAKZ				IAmb	IAmb	02 13 53.7	
	comp=Z,2.6nm,1.4s						
NRIK	**Noril'sk**	**54.55**	**339**	P	**P**	**02 14 00.9**	**+1.0**
	comp=Z,3.8nm,0.6s,baz=107,slow=10,SNR=8.9						
NRIK	**Noril'sk**	**54.55**	**339**	P	**P**	**02 14 01.2**	**+1.2**
IL31		**58.44**	**28**	P	**P**	**02 14 28.3**	**+0.6**
IL31				IAmb	IAmb	02 14 28.4	
	comp=Z,3.7nm,1.0s						
ILAR	**Eielson Array**	**58.44**	**28**	P	**P**	**02 14 27.7**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=263,slow=5.7,SNR=16						
BRVK	**Borovoye**	**60.12**	**318**	P	**P**	**02 14 39.4**	**-0.1**
BRVK				IAmb	IAmb	02 14 40.6	
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**66.43**	**323**	P	**P**	**02 15 21.0**	**-0.3**
YKA	**Yellowknife Ar**	**72.87**	**28**	P	**P**	**02 16 00.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=292,slow=6.0,SNR=12						
NEW	**Newport**	**77.16**	**43**	P	**P**	**02 16 26.3**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=226,slow=5.0,SNR=3.9						
NEW	**Newport**	**77.16**	**43**	IAmb	IAmb	02 16 35.3	
	comp=Z,3.2nm,1.2s						
FINES	**FINESS Array B**	**79.90**	**334**	P	**P**	**02 16 40.9**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=70,slow=4.7,SNR=30						
KBZ	**Khabaz**	**80.01**	**314**	P	**P**	**02 16 42.1**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=56,slow=3.6,SNR=2.6						
NVAR	**Mina Array Bea**	**80.44**	**52**	P	**P**	**02 16 44.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=279,slow=4.9,SNR=4.5						
AKASG	**Malin Array Be**	**84.62**	**324**	P	**P**	**02 17 05.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=52,slow=4.8,SNR=2.9						
NOA	**NORSAR Array B**	**85.51**	**339**	P	**P**	**02 17 09.5**	**-0.5**
	comp=Z,1.9nm,1.0s,baz=49,slow=4.8,SNR=3.9						
PLCA	**Paso Flores**	**147.85**	**127**	PKPbc	**PKPbc**	**02 24 18.1**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=260,slow=4.6,SNR=6.2						
PLCA	**Paso Flores**	**147.85**	**127**	PKPbc	**PKPbc**	**02 24 16.4**	**-0.9**

*KRNET **17** 02:23:10.3±0.1, 42°.17N×79°.59E, h13km, mb2.6*
*SOME **17** 02:23:11.6, 42°.28N×79°.52E, h15km*
*NNC **17** 02:23:12.5±1.0, 42°.34N×79°.52E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=6.5km s-min=3.9km az=139.0*

ISC 17 02:23:11.0±2.1, 42°.27N±0°.06×79°.60E±0°.06, h4km±13km, n49, σ1s11/80, 13C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.91**	**284**	⇑iP	**Pg**	**02 23 28.5**	**0.0**
	baz=91						
PRZ				⇑iS	**Sg**	**02 23 41.6**	**+1.2**
	baz=91						
UZB	**Uzynbulak**	**0.98**	**334**	eP	**Pg**	**02 23 30.0**	**+0.2**
	4.5nm,0.2s						
UZB				eS	**Sb**	**02 23 43.0**	**-0.9**
	13nm,0.1s						
UZB	**Uzynbulak**	**0.98**	**334**	P	**Pg**	**02 23 30.0**	**+0.2**
	4.5nm,0.2s						
UZB				S	**Sb**	**02 23 43.0**	**-0.9**
	13nm,0.1s						
PDGK	**Podgornoye**	**1.06**	**356**	⇓P	**Pb**	**02 23 30.8**	**-1.3**
	1.6nm,0.3s						
PDGK				⇓S	**Sb**	**02 23 45.0**	**-1.4**
	11nm,0.4s						
SATY	**Saty**	**1.18**	**312**	eP	**Pb**	**02 23 33.5**	**-0.6**
	3.1nm,0.1s						
SATY				eS	**Sb**	**02 23 48.8**	**-1.0**
	24nm,0.1s						
SATY	**Saty**	**1.18**	**312**	P	**Pb**	**02 23 33.5**	**-0.6**
	3.1nm,0.1s						
SATY				S	**Sb**	**02 23 48.8**	**-1.0**
	24nm,0.1s						
ZHN	**Zhinishke**	**1.24**	**317**	eP	**Pn**	**02 23 34.6**	**-0.6**
	12nm,0.1s						
ZHN				eS	**Sb**	**02 23 50.8**	**-0.7**
	29nm,0.2s						
ZHN	**Zhinishke**	**1.24**	**317**	P	**Pn**	**02 23 34.6**	**-0.6**
	12nm,0.1s						
ZHN				S	**Sb**	**02 23 50.8**	**-0.7**
	29nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.44**	**249**	⇑iP	**Pn**	**02 23 36.8**	**-1.4**
	baz=52						
TARG				⇑iS	**Sn**	**02 23 56.6**	**-1.2**
	baz=52						
ANVS	**Anan'yevo**	**1.52**	**291**	⇑iP	**Pb**	**02 23 39.8**	**0.0**
	baz=94						
ANVS				⇑iS	**Sg**	**02 24 01.0**	**+1.2**
	baz=94						
KURS	**Kuram**	**1.61**	**320**	eP	**Pb**	**02 23 41.7**	**+0.4**
	2.2nm,0.1s						
KURS				eS	**Sg**	**02 24 03.0**	**+0.3**
	6.9nm,0.3s						
KURS	**Kuram**	**1.61**	**320**	P	**Pb**	**02 23 41.7**	**+0.4**
	2.2nm,0.1s						
KURS				S	**Sg**	**02 24 03.0**	**+0.3**
	6.9nm,0.3s						
KDJ	**Kajisay**	**1.80**	**266**	⇓eP	**Pn**	**02 23 43.5**	**+0.5**
	baz=70						
KDJ				⇓iS	**Sb**	**02 24 08.0**	**+0.4**
	baz=70						
BLB	**Baldybastay**	**2.00**	**336**	eP	**Pb**	**02 23 48.2**	**+0.2**
	9.8nm,0.1s						
BLB				eS	**Sg**	**02 24 14.3**	**-1.2**
	137nm,0.2s						
BLB	**Baldybastay**	**2.00**	**336**	Pg	**Pb**	**02 23 48.3**	**+0.2**
	9.8nm,0.1s						
BLB				Lg	Lg	02 24 14.3	
	137nm,0.2s						
DJR	**Jarkent**	**2.07**	**4**	eP	**Pb**	**02 23 49.5**	**+0.3**
	3.4nm,0.2s						
DJR				eS	**Sg**	**02 24 16.4**	**-1.1**
	57nm,0.2s						
DJR	**Jarkent**	**2.07**	**4**	Pg	**Pb**	**02 23 49.5**	**+0.3**
	3.4nm,0.2s						
DJR				Lg	Lg	02 24 16.4	
	57nm,0.2s						
KOTS	**Kotyrbulak**	**2.07**	**299**	eP	**Pb**	**02 23 48.7**	**-0.5**
	5.5nm,0.1s						
KOTS				eS	**Sb**	**02 24 15.2**	**-0.2**
	8.9nm,0.1s						
KOTS	**Kotyrbulak**	**2.07**	**299**	Pg	**Pb**	**02 23 48.7**	**-0.5**
	5.5nm,0.1s						
KOTS				Lg	Lg	02 24 15.2	
	8.9nm,0.1s						
MDOK	**Medeo**	**2.08**	**296**	eP	**Pn**	**02 23 48.4**	**+1.5**
	9.2nm,0.3s						
MDOK				eS	**Sb**	**02 24 14.4**	**-1.3**
	6.0nm,0.3s						
MDOK	**Medeo**	**2.08**	**296**	Pg	**Pn**	**02 23 48.4**	**+1.5**
	9.2nm,0.3s						
MDOK				Lg	Lg	02 24 14.4	
	6.0nm,0.3s						
TNSS	**Tian-Shan**	**2.10**	**292**	eP	**Pb**	**02 23 49.4**	**-0.5**
	5.5nm,0.2s						
TNSS				eS	**Sb**	**02 24 16.4**	**-0.1**
	5.1nm,0.2s						
TNSS	**Tian-Shan**	**2.10**	**292**	Pg	**Pb**	**02 23 49.4**	**-0.5**
	5.5nm,0.2s						
TNSS				Lg	Lg	02 24 16.4	
	5.1nm,0.2s						
AAA	**Alma-Ata**	**2.19**	**296**	eP	**Pb**	**02 23 50.4**	**-0.8**
	16nm,0.1s						
AAA				eS	**Sb**	**02 24 17.9**	**-0.8**
	47nm,0.1s						
AAA	**Alma-Ata**	**2.19**	**296**	Pg	**Pb**	**02 23 50.4**	**-0.8**
	16nm,0.1s						
AAA				Lg	Lg	02 24 17.9	
	47nm,0.1s						
ARXS	**Arharly**	**2.34**	**327**	eP	**Pb**	**02 23 53.3**	**-0.4**
	6.6nm,0.2s						
ARXS				eS	**Sb**	**02 24 23.1**	**+0.1**
	26nm,0.2s						
ARXS	**Arharly**	**2.34**	**327**	Pg	**Pb**	**02 23 53.3**	**-0.4**
	6.6nm,0.2s						
ARXS				Lg	Lg	02 24 23.1	
	26nm,0.2s						
CHKK	**Chushkaly**	**2.48**	**311**	⇓iP	**Pb**	**02 23 56.7**	**+0.5**
	5.5nm,0.3s						
CHKK				eS	**Sg**	**02 24 28.9**	**-1.9**
	27nm,0.4s						
CHKK	**Chushkaly**	**2.48**	**311**	Pg	**Pb**	**02 23 56.7**	**+0.5**
	5.5nm,0.3s						
CHKK				Lg	Lg	02 24 28.9	
	27nm,0.4s						
MTBS	**Maitube**	**2.49**	**291**	eP	**Pb**	**02 23 55.4**	**-0.9**
	1.9nm,0.2s						
MTBS				eS	**Sb**	**02 24 26.7**	**-0.7**
	8.8nm,0.3s						
MTBS	**Maitube**	**2.49**	**291**	Pg	**Pb**	**02 23 55.4**	**-0.9**
	1.9nm,0.2s						
MTBS				Lg	Lg	02 24 26.7	
	8.8nm,0.3s						
ULHL	**Ulahol**	**2.49**	**271**	⇓iP	**Pn**	**02 23 54.4**	**+1.9**
	baz=73						
ULHL				⇓iS	**Sb**	**02 24 26.5**	**-1.0**
	baz=73						
KTBS	**Karatobe**	**2.58**	**305**	eP	**Pb**	**02 23 57.5**	**-0.3**
	3.8nm,0.2s						
KTBS				eS	**Sb**	**02 24 30.2**	**+0.3**
	24nm,0.5s						
KTBS	**Karatobe**	**2.58**	**305**	Pg	**Pb**	**02 23 57.5**	**-0.3**
	3.8nm,0.2s						
KTBS				Lg	Lg	02 24 30.2	
	24nm,0.5s						
BOOM	**Boomskoye usch**	**2.72**	**276**	⇑iP	**Pn**	**02 23 57.5**	**+1.9**
	baz=78						
BOOM				⇑iS	**Sb**	**02 24 32.1**	**-2.0**
	baz=78						
KST	**Kastek**	**2.79**	**287**	eP	**Pb**	**02 24 01.2**	**-0.3**
	4.9nm,0.3s						
KST				eS	**Sb**	**02 24 36.6**	**+0.5**
	12nm,0.3s						
KST	**Kastek**	**2.79**	**287**	Pg	**Pb**	**02 24 01.2**	**-0.3**
	4.9nm,0.3s						
KST				Lg	Lg	02 24 36.6	
	12nm,0.3s						
KUU	**Kurty**	**2.89**	**305**	eP	**Pb**	**02 24 03.6**	**+0.5**
	2.1nm,0.4s						
KUU				eS	**Sb**	**02 24 40.8**	**+2.0**
	12nm,0.2s						
KUU	**Kurty**	**2.89**	**305**	Pg	**Pb**	**02 24 03.6**	**+0.5**
	2.1nm,0.4s						
KUU				Lg	Lg	02 24 40.8	
	12nm,0.2s						
DGS	**Degeres**	**2.98**	**290**	eP	**Pb**	**02 24 04.9**	**+0.2**
	2.9nm,0.4s						
DGS				eS	**Sb**	**02 24 43.2**	**+1.6**
	5.8nm,0.2s						
DGS	**Degeres**	**2.98**	**290**	Pg	**Pb**	**02 24 04.9**	**+0.2**
	2.9nm,0.4s						
DGS				Lg	Lg	02 24 43.2	
	5.8nm,0.2s						
KAPS	**Kapalarasan**	**3.02**	**357**	eP	**Pb**	**02 24 06.4**	**+1.0**
	0.5nm,0.1s						
KAPS				eS	**Sg**	**02 24 45.5**	**-2.5**
	5.6nm,0.1s						
KAPS	**Kapalarasan**	**3.02**	**357**	Pg	**Pb**	**02 24 06.4**	**+1.0**
	0.5nm,0.1s						
KAPS				Lg	Lg	02 24 45.5	
	5.6nm,0.1s						
TKM2	**Tokmak 2**	**3.03**	**284**	⇑Pn	**Pn**	**02 24 02.1**	**+2.3**
	0.4nm,0.3s						
TKM2				⇑Lg	Lg	02 24 46.8	
	1.5nm,0.3s						
TKM2	**Tokmak 2**	**3.03**	**284**	⇓iP	**Pn**	**02 24 02.2**	**+2.3**
	baz=86						
TKM2				⇓iS	**Sb**	**02 24 40.0**	**-2.9**
	baz=86						
KRBS	**Karabastau**	**3.21**	**298**	eP	**Pb**	**02 24 08.9**	**+0.2**
	4.1nm,0.4s						
KRBS				eS	**Sb**	**02 24 50.0**	**+1.8**
	4.5nm,0.2s						
KRBS	**Karabastau**	**3.21**	**298**	Pg	**Pb**	**02 24 08.9**	**+0.2**
	4.1nm,0.4s						
KRBS				Lg	Lg	02 24 50.0	
	4.5nm,0.2s						
MAKZ	**Makanchi**	**4.85**	**20**	⇑Pn	**Pn**	**02 24 26.8**	**+2.1**
	0.1nm,0.3s						
MAKZ				⇑Lg	Lg	02 25 40.8	
	0.4nm,0.8s						
MK31	**Makanchi Array**	**4.92**	**22**	⇑Pn	**Pn**	**02 24 26.9**	**+1.3**
	0.1nm,0.3s,baz=210,slow=14,SNR=7.0						
MK31				⇓Lg	Lg	02 25 42.9	
	0.6nm,0.6s,baz=212,slow=30						

**IDC 17 02:26:56.6±10.0, 7°.41S×128°.69E, h250km±121km, mb2.5/1, mb1 2.7/4, mb1mx2.6/34, mbtmp3.3/4, Error ellipse: s-maj=

DZM	Mont Dzumac	18.97	250	P	Pn	02 31 56.7	-0.7
NOUC	Port Laguerre	19.11	250	P	Pn	02 31 58.8	0.0
URZ	Urewera	22.97	197	P	P	02 32 35.4	-1.0
BKZ	Black Stump Fm	23.99	198	P	P	02 32 45.2	-0.6
QRZ	Quartz Range	26.80	202	P	P	02 33 10.9	-0.1
TUWZ	Tuamarina	26.85	200	P	P	02 33 11.3	-0.1
KHZ	Kahutara	27.87	199	P	P	02 33 19.4	-1.1
WHZ	Wether Hill Ro	32.86	203	P	P	02 34 02.7	-1.7
ARMA	Armidale	34.02	240	P	P	02 34 14.2	-0.7
CMSA	Cobar Meteorol	39.24	240	P	P	02 34 58.8	-0.1
H11S2	WAKE ISLAND Hy	39.43	331	T	T	03 15 53.6	
	baz=146,slow=75,SNR=21						
H11S3	WAKE ISLAND Hy	39.45	331	T	T	03 15 52.4	
	baz=146,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	39.45	331	T	T	03 15 54.8	
	baz=146,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	40.41	332	T	T	03 17 02.5	
	baz=147,slow=76,SNR=9.4						
H11N1	WAKE ISLAND Hy	40.41	332	T	T	03 17 03.5	
	baz=147,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	40.43	332	T	T	03 17 03.8	
	baz=147,slow=76,SNR=12						
STKA	Stephens Creek	42.73	241	P	P	02 35 27.3	-0.1
	comp=Z,5.6nm,0.8s,baz=81,slow=9.8,SNR=16						
STKA	Stephens Creek	42.73	241	P	P	02 35 27.4	-0.1
STKA	Stephens Creek	42.73	241	P	P	02 35 27.4	0.0
BBOO	Buckleboo	47.50	240	P	P	02 36 04.1	-1.0
BBOO				IAmb	IAmb	02 36 09.4	
	comp=Z,22nm,1.4s						
WB0	Warramunga Arr	48.69	258	P	P	02 36 14.3	-0.2
WB2	Warramunga Arr	48.72	258	P	P	02 36 13.7	-1.0
WRA	Warramunga Arr	48.73	258	P	P	02 36 13.3	-1.4
	comp=Z,1.1nm,0.5s,baz=96,slow=6.6,SNR=28						
WRA	Warramunga Arr	48.73	258	IAmb	IAmb	02 36 15.7	
	comp=Z,0.2nm,0.8s						
AS31	Alice Springs	48.93	253	P	P	02 36 13.8	-2.5
ASAR	Alice Springs	48.93	253	P	P	02 36 15.1	-1.2
	comp=Z,4.0nm,0.5s,baz=89,slow=7.9,SNR=76						
ASAR				S	S	02 43 05.5	-3.6
	comp=Z,0.3nm,0.9s,baz=90,slow=14,SNR=4.2						
ASAR	Alice Springs	48.93	253	P	P	02 36 14.8	-1.5
MTN	Manton Dam	52.75	266	P	P	02 36 42.8	-2.1
MTN				IAmb	IAmb	02 36 47.4	
	comp=Z,8.4nm,1.1s						
FORT	Forrest	54.13	244	P	P	02 36 53.5	-1.3
SIJI	Sorong	55.75	280	P	P	02 37 06.8	+0.1
	comp=Z,20nm,0.7s,baz=85,slow=7.2,SNR=18						
VNDA	Vanda	62.23	186	P	P	02 37 51.1	+0.9
	comp=Z,2.7nm,0.8s,baz=16,slow=6.4,SNR=7.6						
VNDA	Vanda	62.23	186	IAmb	IAmb	02 37 52.6	
	comp=Z,4.4nm,0.9s						
MJAR	Matsushiro Arr	69.18	321	P	P	02 38 34.3	-1.0
	comp=Z,3.5nm,0.6s,baz=164,slow=5.6,SNR=8.5						
MAT	Matsushiro	69.18	321	P	P	02 38 34.4	-1.0
JNU	Nakatsue	71.88	314	P	P	02 38 51.2	-0.6
	comp=Z,13nm,0.8s,baz=134,slow=9.9,SNR=5.1						
PETK	Petropavlovsk-	73.37	343	P	P	02 38 59.2	-1.0
	comp=Z,13nm,0.7s,baz=147,slow=8.8,SNR=16						
PETK	Petropavlovsk-	73.37	343	P	P	02 38 59.5	-0.7
ARVC	Arvin	73.50	45	P	P	02 39 02.5	+1.2
	baz=235						
QSPA	South Pole Qui	73.58	180	P	P	02 39 01.1	-0.4
VES	Vestal, Richgr	73.74	44	P	P	02 39 03.2	+0.5
	baz=235						
MURC	Murrieta	73.78	47	P	P	02 39 03.6	+0.6
	baz=237						
BFSC	Mount Baldy Ra	73.81	46	P	P	02 39 03.8	+0.4
	baz=236,SNR=5.5						
EDW2	Edwards Air Fo	73.93	45	P	P	02 39 04.9	+0.9
	baz=236,SNR=12						
MONP2	Monument Peak	73.95	48	P	P	02 39 05.2	+0.9
	baz=238,SNR=6.2						
IKP	In-Ko-Pah, Jac	74.04	48	P	P	02 39 05.6	+0.9
	baz=238						
ISA	Isabella, Lake	74.04	45	IAmb	IAmb	02 39 06.4	
	comp=Z,9.6nm,1.0s						
ISA	Isabella, Lake	74.04	45	P	P	02 39 05.6	+1.0
	baz=236,SNR=5.5						
CMB	Columbia Colle	74.16	42	IAmb	IAmb	02 39 06.6	
	comp=Z,7.9nm,0.9s						
PFO	Pinyon Flats O	74.31	47	P	P	02 39 05.8	-0.4
PFO	Pinyon Flats O	74.31	47	P	P	02 39 06.5	+0.3
	baz=237						
LRMC	Laurel Mtn Rad	74.48	45	P	P	02 39 08.0	+0.8
	baz=236,SNR=11						
N02D	Trinity Center	74.52	38	P	P	02 39 08.1	+0.8
	baz=231						
O03E	Paynes Creek	74.64	39	P	P	02 39 09.0	+1.0
	baz=232						
CWC	Cottonwood Cre	74.74	44	P	P	02 39 09.3	+0.5
	baz=236						
BELC	Belle Mtn. Jos	74.84	47	P	P	02 39 10.2	+0.9
	baz=238,SNR=10						
MPMC	Manual Prospec	74.93	45	P	P	02 39 10.7	+0.8
	baz=236,SNR=20						
GSC	Goldstone, Bar	74.98	46	IAmb	IAmb	02 39 11.5	
	comp=Z,13nm,0.9s						
GSC	Goldstone, Bar	74.98	46	P	P	02 39 10.7	+0.7
	baz=237,SNR=10						
TIN	Tinemaha, Big	74.99	43	P	P	02 39 11.1	+1.0
	baz=235						
BC3	Big Chuckawall	75.04	48	P	P	02 39 11.3	+0.8
	baz=238,SNR=7.3						
HEC	Hector,Ludlow	75.05	46	P	P	02 39 10.9	+0.5
	baz=237,SNR=19						
GLA	Glamis	75.17	48	IAmb	IAmb	02 39 13.1	
	comp=Z,14nm,1.0s						
GLA	Glamis	75.17	48	P	P	02 39 12.4	+1.3
	baz=239						
VCNR	Virginia City	75.37	41	IAmb	IAmb	02 39 13.9	
	comp=Z,7.4nm,0.8s						
YERR	Yerington	75.44	41	IAmb	IAmb	02 39 14.2	
	comp=Z,11nm,0.9s						
GMRC	Granite Mounta	75.49	47	P	P	02 39 13.7	+0.7
	baz=238,SNR=8.5						
LHV	Little Huntoon	75.49	42	IAmb	IAmb	02 39 14.8	
	comp=Z,12nm,0.9s						
IRM	Iron Mountain	75.52	47	P	P	02 39 14.0	+0.9
	baz=238,SNR=11						
GWY	Greenwater Val	75.55	45	IAmb	IAmb	02 39 14.6	
	comp=Z,7.1nm,0.7s						
TUQ	Turquoise Moun	75.66	46	P	P	02 39 14.5	+0.6
	baz=237,SNR=11						
SHOC	Shoshone, Teco	75.66	45	P	P	02 39 14.5	+0.6
	baz=237						
RYN	Ryan	75.69	42	IAmb	IAmb	02 39 15.7	
	comp=Z,8.3nm,0.9s						
NVAR	Mina Array Bea	75.72	42	P	P	02 39 14.9	+0.5
	comp=Z,9.3nm,0.8s,baz=226,slow=9.7,SNR=55						
NVAR	Mina Array Bea	75.72	42	P	P	02 39 13.6	-0.8
PAHR	Pah Rah Range	75.77	41	IAmb	IAmb	02 39 16.1	
	comp=Z,8.7nm,0.9s						
113A	Mohawk Valley,	75.79	49	IAmb	IAmb	02 39 16.1	
	comp=Z,8.2nm,0.9s						
NV11	Mina Array Sit	75.82	42	IAmb	IAmb	02 39 16.3	
	comp=Z,14nm,1.1s						
KVN	Kaiserville	76.21	42	IAmb	IAmb	02 39 18.4	
	comp=Z,7.3nm,0.8s						
TPNV	Topopah Spring	76.25	44	P	P	02 39 18.2	+0.8
	baz=237,SNR=13						
KSRS	Korea Array	76.29	316	P	P	02 39 18.5	+1.2
	comp=Z,3.3nm,0.9s,baz=132,slow=6.8,SNR=8.9						
PDMCI	Parker Dam,Lak	76.31	48	P	P	02 39 18.5	+1.0
	baz=239,SNR=7.6						
KSAR	Wonju Array Be	76.31	316	P	P	02 39 17.2	-0.3
KSM	Kuching	76.39	276	P	P	02 39 17.7	-0.7
KSM				IAmb	IAmb	02 39 19.9	
	comp=Z,16nm,1.2s						
MOD	Modoc Plateau	76.52	38	IAmb	IAmb	02 39 19.7	
	comp=Z,7.2nm,0.8s						
SHPR	Sheep Range	76.75	45	IAmb	IAmb	02 39 22.0	
	comp=Z,10nm,0.8s						
J05D	Fort Rock, OR	76.81	37	P	P	02 39 21.4	+1.1
	baz=232						
W13A	Hualapai Mount	76.90	47	IAmb	IAmb	02 39 22.9	
	comp=Z,10nm,1.0s						
Y14A	Wickenburg	76.93	48	IAmb	IAmb	02 39 22.7	
	comp=Z,9.6nm,0.7s						
P18K	Big Mountain,	77.18	10	P	P	02 39 21.6	-0.3
	baz=199						
R11A	Troy Canyon, C	77.45	44	P	P	02 39 24.5	+0.4
	baz=237,SNR=11						
USRK	Ussuriysk Ar.	77.70	324	P	P	02 39 25.4	+0.4
	comp=Z,1.4nm,0.5s,baz=169,slow=3.8,SNR=4.3						
TUC	Tucson	77.76	51	P	P	02 39 26.2	+0.4
TUC				IAmb	IAmb	02 39 27.8	
	comp=Z,6.9nm,0.8s						
TUC	Tucson	77.76	51	P	P	02 39 26.8	+1.0
	baz=241						
WVOR	Wild Horse Val	77.83	39	IAmb	IAmb	02 39 27.5	
	comp=Z,10nm,1.1s						
O19K	Port Alsworth	78.10	10	P	P	02 39 26.6	-0.2
	baz=200						
LCMT	Little Creek M	78.33	46	IAmb	IAmb	02 39 30.6	
	comp=Z,8.4nm,0.9s						
J08A	Circle Bar Ran	78.47	38	IAmb	IAmb	02 39 30.8	
	comp=Z,11nm,1.1s						
CCUT	Cedar City	78.52	45	IAmb	IAmb	02 39 32.0	
	comp=Z,8.8nm,0.9s						
KNB	Kanab	78.62	46	P	P	02 39 30.1	-0.4
KNB				IAmb	IAmb	02 39 32.4	
	comp=Z,11nm,0.8s						
SZCU	Shurtz Canyon	78.73	45	IAmb	IAmb	02 39 33.1	
	comp=Z,10nm,1.0s						
WUAZ	Wupatki	78.88	48	IAmb	IAmb	02 39 33.5	
	comp=Z,7.3nm,0.9s						
WUAZ	Wupatki	78.88	48	P	P	02 39 32.9	+0.9
	baz=240						
ELK	Elko	78.98	42	IAmb	IAmb	02 39 34.2	
	comp=Z,8.7nm,1.1s						
G08A	Pilot Rock	79.33	36	IAmb	IAmb	02 39 35.3	
	comp=Z,11nm,1.1s						
B05A	Bryant	79.46	33	P	P	02 39 34.8	+0.2
	baz=230						
MTPU	Mount Pierson	79.58	45	IAmb	IAmb	02 39 38.4	
	comp=Z,13nm,1.1s						
RC01	Rabbit Creek A	79.77	12	P	P	02 39 36.0	+0.1
	baz=204						
NJ2	Nanjing	80.09	308	eP	P	02 39 39.3	+0.9
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
121A	Cookes Peak, D	80.11	52	IAmb	IAmb	02 39 41.0	
	comp=Z,9.7nm,0.8s						
121A	Cookes Peak, D	80.11	52	P	P	02 39 40.0	+1.2
	baz=243						
DUG	Dugway, Tooele	80.25	43	P	P	02 39 39.7	+0.4
	baz=239						
L20K	Farewell, AK	80.32	9	P	P	02 39 38.9	0.0
	baz=200						
DIV	Divide	80.64	14	P	P	02 39 39.6	-1.1
F10A	Beach Ranch, E	80.71	36	IAmb	IAmb	02 39 42.2	
	comp=Z,10nm,0.9s						
HLID	Hailey	81.02	40	IAmb	IAmb	02 39 45.5	
	comp=Z,8.0nm,0.9s						
HLID	Hailey	81.02	40	P	P	02 39 44.0	+0.6
	baz=237						
HVU	Hansel Valley	81.10	42	IAmb	IAmb	02 39 45.0	
	comp=Z,8.1nm,1.0s						
SRU	San Rafael Swe	81.23	45	IAmb	IAmb	02 39 47.6	
	comp=Z,13nm,1.4s						
CN2	Changchun	81.33	321	eP	P	02 39 45.0	+0.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
N25K	Chitina, Valde	81.33	14	P	P	02 39 43.9	-0.5
	baz=209						
WAT6	Susitna Watana	81.52	12	P	P	02 39 44.8	-0.7
	baz=206						
MNTX	Cornudas Mount	81.58	54	IAmb	IAmb	02 39 48.1	
	comp=Z,12nm,1.3s						
MNTX	Cornudas Mount	81.58	54	P	P	02 39 47.0	+0.7
	baz=245						
TRF	Thorofare Moun	81.83	11	P	P	02 39 46.9	-0.2
TRF				IAmb	IAmb	02 39 47.1	
	comp=Z,11nm,0.9s						
TRF	Thorofare Moun	81.83	11	P	P	02 39 46.5	-0.6
	baz=203						
J20K	Nowinta River	81.89	9	P	P	02 39 46.9	-0.2
	baz=199						
CHUM	Lake Minchumin	81.89	10	P	P	02 39 46.7	-0.5
	baz=201						
TNA	Tin City	81.92	3	P	P	02 39 47.8	+0.5
	baz=186						
TXAR	Lajitas Array	81.95	56	P	P	02 39 49.6	+1.1
	comp=Z,3.1nm,0.9s,baz=222,slow=6.1,SNR=20						
BCYI	Bear Canyon	82.04	39	P	P	02 39 48.0	-0.7
NEW	Newport	82.10	35	P	P	02 39 48.2	-0.5
	baz=234						
ANMO	Albuquerque	82.18	50	P	P	02 39 48.9	-0.7
ANMO				IAmb	IAmb	02 39 51.5	
	comp=Z,18nm,1.3s						
ANMO	Albuquerque	82.18	50	P	P	02 39 50.3	+0.7
	baz=244						
MCK	McKinley	82.34	11	P	P	02 39 48.5	-1.1
MCK	McKinley	82.34	11	P	P	02 39 48.9	-0.7
	baz=204						
M26K	Nabesna, AK	82.40	14	P	P	02 39 49.8	-0.1
	baz=210						
YUK3	Moose Creek	82.48	16	P	P	02 39 50.7	+0.1
	baz=212						
M27K	Edge Creek, AK	82.63	15	P	P	02 39 51.5	+0.3
	baz=211						
L26K	Log Cabin Wild	82.86	14	P	P	02 39 52.3	0.0
	baz=210						
WHN	Wuhan	82.95	305	P	P	02 39 55.8	+2.4
MSO	Missoula	83.07	37	P	P	02 39 53.1	-0.8
	baz=237						
S22A	4UR Ranch, Cre	83.15	48	P	P	02 39 55.6	+0.9
	baz=243						
DOT	Dot Lake	83.24	13	IAmb	IAmb	02 39 55.5	
	comp=Z,9.7nm,1.0s						
O20A	White River Ci	83.27	45	P	P	02 39 55.6	+0.4
	baz=242						
HDA	Harding Lake	83.33	12	P	P	02 39 54.0	-0.6
	baz=206						
CCB	Clear Creek Bu	83.38	11	P	P	02 39 54.4	-0.4
H21K	Melozitna Rive	83.48	9	P	P	02 39 55.7	+0.3
	baz=201						
SCRK	Sand Creek	83.55	13	P	P	02 39 55.7	-0.2
	baz=209						
MDM	Murphy Dome	83.58	11	IAmb	IAmb	02 39 57.1	
	comp=Z,7.5nm,1.0s						
FLWY	Flagg Ranch	83.59	41	P	P	02 39 57.0	+0.4
BW06	Boulder Array	83.66	42	P	P	02 39 56.9	-0.2
	baz=241						
PDAR	Pinedale Array	83.66	42	P	P	02 39 56.8	-0.3
	comp=Z,9.7nm,0.6s,baz=211,slow=3.3,SNR=104						
PDAR	Pinedale Array	83.66	42	P	P	02 39 56.6	-0.5
IL31		83.67	11	P	P	02 39 56.4	+0.1
IL31				IAmb	IAmb	02 39 56.7	
	comp=Z,5.3nm,0.7s						
ILAR	Eielson Array	83.67	11	P	P	02 39 55.5	-0.8
	comp=Z,2.8nm,0.5s,baz=224,slow=5.8,SNR=55						
SMCO	Snowmass	83.70	46	IAmb	IAmb	02 39 58.9	
	comp=Z,12nm,1.0s						
BOZ	Bozeman (W)	83.79	39	P	P	02 39 57.8	+0.2
	baz=239						
H17A	Grant Village	83.82	40	P	P	02 39 59.5	+1.5
	baz=240						
POKR	Poker Plat Res	83.87	11	P	P	02 39 56.9	-0.5
	baz=206						
YNR	Norris Junctio	83.92	40	P	P	02 39 58.4	0.0
YNR				IAmb	IAmb	02 40 01.5	
	comp=Z,8.7nm,1.1s						
SDCO	Great Sand Dun	84.10	48	P	P	02 39 59.0	-0.5
	baz=244						
J26L	Joseph Creek	84.10	13	P	P	02 39 58.9	+0.3
	baz=210						
M30M	Minto, Yukon	84.12	16	P	P	02 39 58.6	-0.1
	baz=216						
MSTX	Muleshoe	84.52	52	P	P	02 40 01.8	+0.3
	baz=246						
DAWY	Dawson	84.68	15	IAmb	IAmb	02 40 02.2	
	comp=Z,6.0nm,0.7s						
DAWY	Dawson	84.68	15	P	P	02 40 01.6	+0.1
	baz=213						
EGAK	Eagle	84.86	14	IAmb	IAmb	02 40 03.2	
	comp=Z,7.4nm,0.8s						
EGAK	Eagle	84.86	14	P	P	02 40 02.4	0.0
	baz=212						
RLMT	Red Lodge	84.99	40	P	P	02 40 03.8	+0.1
	baz=241						
J29M	Klondike Camp	85.29	15	P	P	02 40 05.5	+0.9
	baz=214						
COLD	Coldfoot	85.33	9	P	P	02 40 05.0	+0.3
	baz=203						
BILL	Bilibino	85.45	353	P	P	02 40 04.1	-1.1
BILL				IAmb	IAmb	02 40 05.8	
	comp=Z,9.0nm,0.8s						
ABTX	Abilene, Hawle	86.41	55	P	P	02 40 10.4	-0.5
ABTX	Abilene, Hawle	86.41	55	P	P	02 40 11.4	+0.5
	baz=248						
LAO	LASA Array	87.60	40	P	P	02 40 16.9	+0.6
	baz=243						
RSSD	Black Hills	87.85	43	P	P	02 40 16.9	-0.8
	baz=245						
HHC	Hu-ho-hao-te	89.09	313	eP	P	02 40 23.8	+0.3
HHC				pmax	pmax		
	comp=Z,17nm,1.2s						
HHC				pmax	pmax		
	comp=Z,89nm,6.1s						
INK	Inuvik	89.52	14	P	P	02 40 24.6	0.0
	baz=219						
DGMT	Dagmar	89.62	39	P	P	02 40 26.1	+0.4
	baz=244						
YKA	Yellowknife Ar	91.43	24	P	P	02 40 32.9	-0.8
	comp=Z,3.0nm,1.0s,baz=235,slow=4.2,SNR=18						
PZH	PanZhiHua	91.95	297	P	P	02 40 37.4	+0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
CMAR	Chiang Mai Arr	92.09	289	P	P	02 40 39.2	+1.4
	comp=Z,1.9nm,0.5s,baz=91,slow=2.5,SNR=13						
CMAR	Chiang Mai Arr	92.09	289	P	P	02 40 37.4	-0.4
ECSD	EROS Data Cent	92.65	45	P	P	02 40 37.6	-2.2
	baz=250						
A36M	Sachs Harbour	94.15	14	P	P	02 40 46.5	+0.5
	baz=227						
SONM	Songino Array	95.04	318	P	P	02 40 50.8	0.0
	comp=Z,0.7nm,0.6s,baz=116,slow=3.4,SNR=6.1						
MKAR	Makanchi Array	110.93	314	PKiKP	PKiKP	02 45 59.1	-1.3
	comp=Z,0.6nm,0.6s,baz=163,slow=1.0,SNR=9.0						
ARCES	ARCESS Array B	125.53	352	PKP	PKPdf	02 46 27.3	-0.5
	comp=Z,4.9nm,0.8s,baz=52,slow=0.7,SNR=9.4						
FINES	FINESS Array B	132.78	347	PKP	PKPdf	02 46 41.1	-0.6
	comp=Z,1.0nm,0.5s,baz=7.1,slow=4.5,SNR=12						
NOA	NORSAR Array B	135.31	356	PKP	PKPdf	02 46 44.4	-2.2
	comp=Z,0.3nm,0.7s,baz=18,slow=4.2,SNR=3.3						
MNK	Minsk	138.33	341	i PKP	PKiKP	02 46 54.0	-0.3
MNK				i PKP	PKiKP	02 46 54.0	-0.3
MNK				i PKP	PKiKP	02 46 54.0	-0.3
	comp=Z,8.0nm,1.0s,baz=213						
MNK				i pPKP	sPKPdf	02 47 46.0	-0.4
MNK				i PP	PP	02 49 56.5	+14
MNK				i SKP		02 50 09.3	
MNK				i PKS	PKSdf	02 50 31.1	+3.0
MNK				i PPP	PPP	02 53 02.5	
MNK				i SKKS		03 03 09.4	
MNK				i PPS	PPS	03 05 24.1	
MNK				i SS	SS	03 08 01.5	+19
KWP	Kalwaria Pacla	144.15	341	PKPdf	PKPab	02 47 00.4	-0.5
OJC	Ojcow	144.45	344	PKPdf	PKPab	02 47 00.8	-1.2
KSP	Ksiaz	144.66	348	ePKP	PKPab	02 47 02.7	0.0
CLL	Collm	144.75	352	i PKPdf	PKPab	02 47 02.3	-0.8
	comp=Z,11nm,0.9s						
CLL				ex	x	02 47 11.0	
CLL	Collm	144.75	352		PKPab	02 47 02.3	-0.8
OSTC	Ostas	144.95	348	ePKP	PKPbc	02 47 03.8	0.0
CHVC	Chvalec	144.95	348	ePKP	PKPbc	02 47 03.4	-0.4
BURAR	Bucovina Array	145.00	337	⇓P	PKPbc	02 47 04.2	0.0
BURAR	Bucovina Array	145.00	337	PKPbc	PKPbc	02 47 04.0	-0.3
UPC	Upice	145.04	348	ePKP	PKPbc	02 47 03.9	-0.2
BRG	Berggiesshubel	145.04	351	i PKP	PKPbc	02 47 03.4	-0.7
BRG				Amp		02 47 04.5	
	comp=Z,6.0nm,0.9s						
BRG	Berggiesshubel	145.04	351	ePKPab	PKPbc	02 47 03.6	-0.4
	baz=9.5,slow=3.4						
NIE	Niedzica	145.05	343	ePKP	PKPdf	02 47 05.1	+0.6
FBE	Freiberg	145.08	351	ePKPab	PKPbc	02 47 04.3	+0.1
	baz=9.5,slow=3.4						
DPC	Dobruska-Polom	145.13	348	ePKP	PKPbc	02 47 04.3	-0.1
CRVS	Cervenica-Dubn	145.18	342	ePKP	PKPbc	02 47 04.5	-0.1
OKC	Ostrava-Krasne	145.21	346	ePKP	PKPbc	02 47 04.7	+0.1
PVCC	Panska Ves	145.28	350	ePKP	PKPbc	02 47 04.5	-0.3
KRLC	Kraliky	145.29	347	ePKP	PKPbc	02 47 04.5	-0.5
TESR	Tescani	145.33	334	⇑P	PKPbc	02 47 04.9	-0.3
GHRR		145.37	333	⇑P	PKPab	02 47 06.1	+0.6
MORC	Moravsky Berou	145.41	346	⇑P	PKPdf	02 47 04.9	-0.2
MORC	Moravsky Berou	145.41	346	ePKP	PKPdf	02 47 05.1	0.0
MORC	Moravsky Berou	145.41	346	PKPbc	PKPdf	02 47 05.0	-0.2
BNN	Bunyan	145.45	316	PKPbc	PKPdf	02 47 06.1	+0.5
GIUM	Giurgiulesti	145.45	332	⇑P	PKPbc	02 47 05.9	+0.4
MOX	Moxa	145.57	353	ePKPab	PKPdf	02 47 05.4	+0.1
	baz=9.5,slow=3.4						
MOX				eL	L	03 48 00.5	
	comp=Z,88nm,18.7s						
WERD	Werda	145.69	352	ePKPab	PKPdf	02 47 05.9	+0.4
	baz=9.5,slow=3.4						
CFR	Carcaliu	145.72	331	⇑P	PKPdf	02 47 06.3	+0.7
GUNZ	Gunzen	145.76	352	ePKPab	PKPdf	02 47 06.3	+0.7
	baz=9.5,slow=3.4						
ARCR	ARCALIA	145.77	337	⇑P	PKPbc	02 47 06.8	+0.3
PRU	Pruhonice	145.80	350	ePKP	PKPdf	02 47 05.9	+0.2
VRI	Vrincioaia	145.81	333	⇓P	PKPdf	02 47 06.5	+0.7
TPGR	Topolog	145.83	331	⇑P	PKPbc	02 47 07.2	+0.5
WERN	Wernitzgruen	145.83	352	ePKPab	PKPbc	02 47 06.7	+0.1
	baz=9.5,slow=3.4						
PLOR	Plostina	145.86	334	⇑P	PKPab	02 47 09.1	+1.7
NKC	Novy Kostel	145.88	352	ePKP	PKPdf	02 47 06.6	+0.7
BTNL	Ternell	145.97	359	PKP	PKPdf	02 47 06.2	+0.2
BSTI	Sart Tilman	145.97	0	PKP	PKPdf	02 47 06.7	+0.7
VRAC	Vranov	146.06	347	⇓P	PKPbc	02 47 07.4	+0.2
VRAC	Vranov	146.06	347	ePKP	PKPdf	02 47 07.0	+0.8
BCLA	Clavier	146.13	0	PKP	PKPdf	02 47 07.3	+1.1
BGES	Gesves	146.17	1	PKP	PKPdf	02 47 06.5	+0.2
PBCC	Pribram	146.19	350	ePKP	PKPdf	02 47 07.3	+0.9
JAVC	Velka Javorina	146.24	346	ePKP	PKPab	02 47 08.8	-0.1
VYHS	Vyhne	146.29	344	ePKP	PKPbc	02 47 08.1	+0.1
DOPR	Dopca	146.29	335	⇑P	PKPbc	02 47 08.3	+0.2
TREC	Trest	146.30	348	ePKP	PKPdf	02 47 07.5	+0.9
CBBR	Cluj-Babes-Bol	146.34	338	⇓P	PKPb

comp=Z,6.7nm,0.8s
ESDC Sonseca Array 155.40 18 PKPab **PKPab 02 47 47.0 +0.1**
comp=Z,2.8nm,0.9s,baz=330,slow=4.3,SNR=10
ESDC Sonseca Array 155.40 18 PKPab **PKPab 02 47 47.5 +0.6**
TORD Torodi Ar. Bea 174.94 130 PKP **PKPdf 02 47 37.8 -0.1**
comp=Z,0.6nm,0.8s,baz=317,slow=1.3,SNR=4.1
TORD PKPab **PKPab 02 49 13.9 +0.5**
comp=Z,1.2nm,0.9s,baz=266,slow=5.0,SNR=3.7

*IDC **17** 02:53:52.9±1.1,59.°82N×141.°82W,h0km,mb3.9/12, mb1 4.0/16,mb1mx3.8/40,mbtmp3.8/16,ML3.3/4,MS3.7/3, Ms1 3.7/3,ms1mx2.9/91,Error ellipse: s-maj=23.9km s-min=12.3km az=32.0*
*NEIC **17** 02:53:54,59.°92N×141.°61W,h10km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.93; $M_{\theta\theta}$0.82; $M_{\phi\phi}$0.11; $M_{r\theta}$0.76; $M_{\theta\phi}$0.32; $M_{\phi r}$0.16; Fault plane solution: M_o1.22000×10^{15} NP1:ϕ_s63.00000°,δ25.00000°, λ-101.00000°. NP2:ϕ_s255.00000°,δ65.00000°, λ-85.00000°. Principal axes: T 1.2162, Plg20.0000°, Azm341.0000°; N 0.0000, Plg5.0000°, Azm73.0000°; P -1.2162, Plg70.0000°, Azm175.0000°;*
*AEIC **17** 02:53:54±1.6,59.°82N±0.°03×141.°76W±0.°04,h10km±2km, ML3.7,mb4.1/4(NEIC),ML3.9/30(NEIC),Mwr4.0/15(SLM) Error ellipse: s-maj=5.1km s-min=2.4km az=191.0*
*NEIC **17** 02:53:55.6±2.1,59.°91N±0.°03×141.°63W±0.°04,h17km±4km, Error ellipse: s-maj=5.1km s-min=3.1km az=188.0*
ISC 17 02:53:54.4±1.2,59.°86N±0.°04×141.°67W±0.°02,h10km±7km, n163,σ0§89/157,mb3.9/12,MS3.8/3,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	**Chaix Hills**	**0.34**	**54**		**Pg**	**02 54 02.2**	**+1.0**
MESA	**MESA**	**0.35**	**336**	Pg	**Pg**	**02 54 02.0**	**+0.6**
MESA				IAML		02 54 09.3	
comp=N,20μm,0.6s							
MESA	**MESA**	**0.35**	**336**	P	**Pg**	**02 54 01.9**	**+0.6**
baz=145							
MESA				S	**Sg**	**02 54 06.7**	**+0.7**
baz=145							
CYK	**Cape Yakataga**	**0.47**	**299**		**Pb**	**02 54 04.8**	**+0.1**
CYK					**Sb**	**02 54 13.1**	**+1.5**
YAH	**Yahtse**	**0.50**	**356**		**Pg**	**02 54 04.5**	**+0.2**
YAH				IAML		02 54 16.9	
comp=N,7μm,1.1s							
SAMH	**Samovar Hills**	**0.52**	**59**		**Pg**	**02 54 05.4**	**+0.8**
TABL	**Table Mountain**	**0.64**	**24**		**Pg**	**02 54 06.6**	**-0.2**
TABL				IAML		02 54 20.6	
comp=E,7μm,0.6s							
TABL				IAML		02 54 25.7	
comp=N,8μm,0.7s							
BAGL	**Bagley Icefiel**	**0.66**	**342**		**Pg**	**02 54 07.3**	**+0.1**
BAGL					**Sb**	**02 54 17.5**	**+0.3**
SNH	**Sunshine Point**	**0.67**	**299**		**Pb**	**02 54 07.6**	**-0.5**
SNH				IAML		02 54 19.9	
comp=E,5μm,0.8s							
SNH				IAML		02 54 19.9	
comp=N,8μm,0.8s							
SNH	**Sunshine Point**	**0.67**	**299**		**Sn**	**02 54 18.9**	**-1.5**
PCA	**Pinnacle**	**0.75**	**71**		**Pg**	**02 54 08.9**	**0.0**
PINM	**Pinnacle**	**0.75**	**71**	P	**Pg**	**02 54 09.0**	**+0.1**
baz=259							
ISLE	**Juniper Island**	**0.81**	**336**		**Pg**	**02 54 09.3**	**-0.8**
ISLE				IAML		02 54 22.9	
comp=E,4μm,1.1s							
ISLE				IAML		02 54 25.8	
comp=N,6μm,0.8s							
WAX	**Waxell Ridge**	**0.83**	**315**		**Pg**	**02 54 10.3**	**-0.2**
WAX					**Sb**	**02 54 23.1**	**+0.8**
BGLC	**Bering Glacier**	**0.85**	**288**		**Pn**	**02 54 11.6**	**-0.8**
BGLC					**Sn**	**02 54 25.7**	**+0.9**
BGLC	**Bering Glacier**	**0.85**	**288**	P	**Pn**	**02 54 11.6**	**-0.8**
baz=101							
BGLC				S	**Sn**	**02 54 25.7**	**+0.9**
baz=101							
GRNC	**Granite Creek**	**0.87**	**357**		**Pg**	**02 54 10.8**	**-0.4**
GRNC	**Granite Creek**	**0.87**	**357**	IAML		02 54 25.8	
comp=E,3μm,0.5s							
GRNC				IAML		02 54 28.5	
comp=N,4μm,1.1s							
GRIN	**Grindle Hills**	**0.93**	**298**		**Pb**	**02 54 12.2**	**-0.3**
KHIT	**Khitrov Hills**	**0.98**	**307**		**Pg**	**02 54 12.9**	**-0.4**
KHIT					**Sn**	**02 54 27.2**	**-1.0**
LOGN	**Logan Glacier**	**1.02**	**19**		**Pg**	**02 54 12.6**	**-1.4**
LOGN				IAML		02 54 27.6	
comp=N,4μm,0.6s							
LOGN				IAML		02 54 29.9	
comp=E,4μm,0.7s							
BCPM	**Bancas Point**	**1.03**	**84**		**Pg**	**02 54 13.4**	**-0.8**
TGL	**Tana Glacier**	**1.07**	**328**		**Pg**	**02 54 13.9**	**-1.0**
TGL					**Sg**	**02 54 28.9**	**+0.1**
SUCK	**Suckling Hills**	**1.08**	**282**		**Pn**	**02 54 15.4**	**-0.1**
SUCK				IAML		02 54 33.2	
comp=N,3μm,0.6s							
CTG	**Chitna Glacier**	**1.12**	**8**	P	**Pb**	**02 54 14.6**	**-1.3**
baz=188							
KIAG	**Kiagna River**	**1.12**	**343**		**Pb**	**02 54 14.5**	**-1.4**
CTGM	**Chitina Glacie**	**1.12**	**8**		**Pb**	**02 54 13.7**	**-2.2**
CTGM				IAML		02 54 34.3	
comp=E,2μm,1.1s							
CTGM				IAML		02 54 36.5	
comp=N,2μm,0.6s							
BERG	**Berg Lake**	**1.15**	**298**		**Pb**	**02 54 15.7**	**-0.6**
BERG					**Sn**	**02 54 32.0**	**-0.3**
PNL	**Peninsula**	**1.17**	**99**		**Pb**	**02 54 15.5**	**-1.1**
PNL	**Peninsula**	**1.17**	**99**	P	**Pb**	**02 54 15.5**	**-1.1**
baz=285							
BARN	**Barnard Glacie**	**1.20**	**0**		**Pn**	**02 54 15.9**	**-1.5**
BARN	**Barnard Glacie**	**1.20**	**0**	IAML		02 54 35.4	
comp=E,2μm,0.6s							
NICHA	**Nichawak Mount**	**1.21**	**289**		**Pg**	**02 54 17.1**	**-0.5**
BALM	**Baldy**	**1.22**	**344**		**Pg**	**02 54 16.2**	**-1.5**
HMT	**Hamilton**	**1.38**	**291**		**Pb**	**02 54 19.5**	**-0.8**
KAIM	**Kayak Island**	**1.39**	**274**	Pn	**Pg**	**02 54 20.2**	**-0.8**
PTPK	**Patty Peak**	**1.39**	**344**		**Pn**	**02 54 18.9**	**-1.1**
VRDI	**Verde Repeater**	**1.63**	**328**		**Pn**	**02 54 22.3**	**-0.9**
GOAT	**Goat Mountain**	**1.69**	**297**		**Pn**	**02 54 23.3**	**-0.6**
BMRM	**Bremner River**	**1.83**	**309**		**Pn**	**02 54 25.6**	**-0.3**
BMRM	**Bremner River**	**1.83**	**309**	P	**Pn**	**02 54 25.6**	**-0.3**
baz=124							
GLB	**Gilahina Butte**	**1.90**	**327**		**Pn**	**02 54 26.5**	**-0.4**
EYAK	**Cordova Ski Ar**	**2.15**	**290**		**Pb**	**02 54 31.9**	**-1.4**
N25K	**Chitina, Valde**	**2.26**	**322**	Pn	**Pn**	**02 54 32.3**	**+0.4**
N25K	**Chitina, Valde**	**2.26**	**322**	P	**Pn**	**02 54 32.4**	**+0.5**
baz=138							
DIV	**Divide**	**2.39**	**304**		**Pn**	**02 54 33.3**	**-0.4**
M27K	**Edge Creek, AK**	**2.51**	**358**		**Pn**	**02 54 35.8**	**+0.5**
M27K	**Edge Creek, AK**	**2.51**	**358**	P	**Pn**	**02 54 35.8**	**+0.5**
baz=177							
FID	**Port Fidalgo**	**2.55**	**292**	Pn	**Pb**	**02 54 37.6**	**-2.7**
M26K	**Nabesna, AK**	**2.63**	**346**		**Pn**	**02 54 37.3**	**+0.5**
KLU	**Klutina**	**2.66**	**310**		**Pn**	**02 54 37.4**	**+0.1**
KLU	**Klutina**	**2.66**	**310**	P	**Pn**	**02 54 37.4**	**+0.1**
baz=124							
JPK	**Jack Peak**	**2.72**	**298**		**Pn**	**02 54 39.3**	**+1.2**
GLI	**Glacier Island**	**2.88**	**293**	Pn	**Pn**	**02 54 40.9**	**+0.6**
PS11	**TAPS Pump St11**	**2.90**	**322**		**Pn**	**02 54 41.6**	**+1.1**
HARP	**HAARP**	**3.06**	**328**		**Pn**	**02 54 43.2**	**+0.6**
HARP	**HAARP**	**3.06**	**328**	P	**Pn**	**02 54 43.3**	**+0.6**
baz=144							
M24K	**Tolsona, Glenn**	**3.14**	**318**		**Pn**	**02 54 44.9**	**+1.0**
M24K	**Tolsona, Glenn**	**3.14**	**318**	P	**Pn**	**02 54 44.9**	**+1.0**
baz=132							
L27K	**Beaver Creek,**	**3.21**	**359**		**Pn**	**02 54 45.3**	**+0.5**
BC03		**3.21**	**359**		**Pn**	**02 54 44.8**	**0.0**
BCAR	**Beaver Creek A**	**3.21**	**359**		**Pn**	**02 54 45.0**	**+0.1**
MENT	**Mentasta**	**3.24**	**343**		**Pn**	**02 54 47.6**	**+2.4**
SKAG	**Skagway**	**3.24**	**94**	Pn	**Pn**	**02 54 45.3**	**+0.1**
L26K	**Log Cabin Wild**	**3.27**	**346**		**Pn**	**02 54 45.8**	**+0.1**
L26K	**Log Cabin Wild**	**3.27**	**346**	P	**Pn**	**02 54 45.8**	**+0.1**
baz=164							
N31M	**Braeburn, Yuko**	**3.33**	**58**		**Pn**	**02 54 46.1**	**-0.3**
SCM	**Sheep Creek Mo**	**3.40**	**308**		**Pb**	**02 54 51.7**	**-3.0**
PWL	**Port Wells**	**3.46**	**290**		**Pb**	**02 54 56.6**	**+0.9**
WHY	**Whitehorse**	**3.48**	**74**		**Pn**	**02 54 47.9**	**-0.7**
WHY	**Whitehorse**	**3.48**	**74**	P	**Pn**	**02 54 47.9**	**-0.7**
baz=261							
M30M	**Minto, Yukon**	**3.60**	**39**		**Pn**	**02 54 50.8**	**+0.6**
M30M	**Minto, Yukon**	**3.60**	**39**	P	**Pn**	**02 54 50.3**	**+0.1**
baz=224							
PAX	**Paxson**	**3.61**	**331**	Pn	**Pn**	**02 54 51.1**	**+0.7**
PAX	**Paxson**	**3.61**	**331**	P	**Pn**	**02 54 50.9**	**+0.5**
baz=147							
KNK	**Knik Glacier**	**3.69**	**298**		**Pn**	**02 54 51.6**	**+0.3**
KNK	**Knik Glacier**	**3.69**	**298**	P	**Pn**	**02 54 51.6**	**+0.3**
baz=111							
BESE	**Bessie Mountai**	**3.73**	**107**		**Pn**	**02 54 52.3**	**+0.2**
SEW	**Seward**	**3.92**	**277**	Pn	**Pn**	**02 54 52.9**	**-1.6**
DOT	**Dot Lake**	**3.97**	**344**		**Pn**	**02 54 56.7**	**+1.5**
GHO	**Glory Hole Cre**	**4.04**	**301**		**Pn**	**02 54 56.5**	**+0.3**
PMR	**Palmer**	**4.05**	**299**		**Pn**	**02 54 56.4**	**0.0**
JIS	**Juneau Island**	**4.08**	**110**		**Pn**	**02 54 56.5**	**-0.3**
RIDG	**Independent Ri**	**4.17**	**340**	Pn	**Pn**	**02 54 59.0**	**+0.9**
RC01	**Rabbit Creek A**	**4.18**	**291**		**Pn**	**02 54 58.6**	**+0.5**
DHY	**Denali Highway**	**4.23**	**322**		**Pn**	**02 54 58.7**	**-0.2**
M31M	**Drury Creek, Y**	**4.25**	**53**		**Pn**	**02 55 00.0**	**+0.9**
M31M	**Drury Creek, Y**	**4.25**	**53**	P	**Pn**	**02 55 00.0**	**+0.9**
baz=240							
SCRK	**Sand Creek**	**4.27**	**346**		**Pn**	**02 54 59.9**	**+0.4**
SLKM	**Skilak Lake**	**4.32**	**282**		**Pn**	**02 54 58.8**	**-1.3**
DAWY	**Dawson**	**4.35**	**13**		**Pn**	**02 55 00.2**	**-0.3**
DAWY	**Dawson**	**4.35**	**13**	P	**Pn**	**02 55 01.3**	**+0.7**
baz=195							
SIT	**Sitka**	**4.36**	**127**	Pn	**Pn**	**02 54 60.0**	**-0.6**
P33M	**Teslin, Yukon**	**4.46**	**82**	Pn	**Pn**	**02 55 03.2**	**+1.2**
BRLK	**Bradley Lake**	**4.65**	**273**	Pn	**Pn**	**02 55 03.7**	**-0.9**
J26L	**Joseph Creek**	**4.74**	**350**		**Pn**	**02 55 06.7**	**+0.8**
CNPM	**China Poot**	**4.86**	**270**		**Pn**	**02 55 06.6**	**-0.8**
J29M	**Klondike Camp**	**4.88**	**18**		**Pn**	**02 55 09.2**	**+1.4**
CUT	**Chulitna**	**4.88**	**305**	Pn	**Pn**	**02 55 07.4**	**-0.3**
RND	**Reindeer**	**4.94**	**319**		**Pn**	**02 55 09.6**	**+1.0**
EGAK	**Eagle**	**4.94**	**3**		**Pn**	**02 55 09.0**	**+0.5**
MCK	**McKinley**	**5.19**	**322**	Pn	**Pn**	**02 55 12.2**	**+0.2**
HDA	**Harding Lake**	**5.19**	**334**		**Pn**	**02 55 11.3**	**-0.7**
TRF	**Thorofare Moun**	**5.46**	**315**		**Pn**	**02 55 15.8**	**0.0**
TRF	**Thorofare Moun**	**5.46**	**315**	P	**Pn**	**02 55 15.9**	**0.0**
baz=127							
IL31		**5.49**	**336**		**Pn**	**02 55 16.1**	**0.0**
ILAR	**Eielson Array**	**5.49**	**336**	Pn	**Pn**	**02 55 15.8**	**-0.3**
comp=E,0.4nm,0.3s,baz=166,slow=13,SNR=25							
ILAR				Lg	Lg	02 56 51.6	
comp=E,1.1nm,0.3s,baz=159,slow=26,SNR=5.4							
ILAR	**Eielson Array**	**5.49**	**336**	Pn	**Pn**	**02 55 16.8**	**+0.7**
WRH	**Wood River Hil**	**5.51**	**330**	Pn	**Pn**	**02 55 15.9**	**-0.5**
CCB	**Clear Creek Bu**	**5.59**	**332**		**Pn**	**02 55 17.3**	**-0.1**
BWN	**Browne**	**5.67**	**323**	Pn	**Pn**	**02 55 17.9**	**-0.7**
KTH	**Kantishna Hill**	**5.75**	**314**		**Pn**	**02 55 20.5**	**+0.8**
PPLA	**Purkeypile**	**5.90**	**306**	Pn	**Pn**	**02 55 19.6**	**-2.3**
POKR	**Poker Plat Res**	**5.91**	**336**	Pn	**Pn**	**02 55 22.5**	**+0.7**
MDM	**Murphy Dome**	**5.95**	**332**		**Pn**	**02 55 22.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**6.11**	**318**	Pn	**Pn**	**02 55 24.7**	**+0.2**
CAST	**Castle Rocks**	**6.11**	**310**	Pn	**Pn**	**02 55 24.6**	**0.0**
DLBC	**Dease Lake**	**6.16**	**98**	Pn	**Pn**	**02 55 25.9**	**+0.6**
comp=E,0.6nm,0.3s,baz=269,slow=5.6,SNR=9.2							
DLBC				Lg	Lg	02 57 09.2	
comp=E,2.9nm,0.3s,baz=116,slow=7.1,SNR=4.7							
DLBC	**Dease Lake**	**6.16**	**98**	Pn	**Pn**	**02 55 25.8**	**+0.4**
Q19K	**Cape Douglas,**	**6.19**	**266**	Pn	**Pn**	**02 55 25.1**	**-0.6**
H24K	**Noodor Dome**	**6.63**	**337**		**Pn**	**02 55 32.0**	**+0.2**
L19K	**White Mountain**	**6.81**	**296**		**Pn**	**02 55 34.1**	**-0.1**
L19K	**White Mountain**	**6.81**	**296**	P	**Pn**	**02 55 34.1**	**-0.1**
baz=103							
K20K	**Telida**	**6.87**	**306**	Pn	**Pn**	**02 55 34.8**	**-0.3**
FYU	**Fort Yukon**	**6.92**	**348**		**Pn**	**02 55 36.0**	**+0.4**
J20K	**Nowinta River**	**7.29**	**312**	Pn	**Pn**	**02 55 41.1**	**+0.4**
TTA	**Tatalina**	**7.54**	**300**	Pn	**Pn**	**02 55 43.3**	**-0.9**
BMAR	**Burnt Mountain**	**7.71**	**352**		**Pn**	**02 55 47.9**	**+1.4**
H21K	**Melozitna Rive**	**7.73**	**323**		**Pn**	**02 55 47.1**	**+0.3**
IMAR	**Indian Mountai**	**8.24**	**323**	Pn	**Pn**	**02 55 53.5**	**-0.2**
INK	**Inuvik**	**9.19**	**19**	Pn	**Pn**	**02 56 09.1**	**+2.4**
comp=E,0.2nm,0.3s,baz=184,slow=7.4,SNR=11							
INK				Lg	Lg	02 58 44.5	
comp=E,0.0nm,0.3s,baz=68,slow=20,SNR=3.0							
C36M	**Paulatuk**	**12.09**	**31**		**Pn**	**02 56 45.9**	**-0.5**
YKA	**Yellowknife Ar**	**13.28**	**67**	Pn	**Pn**	**02 57 02.1**	**-0.4**
comp=E,0.1nm,0.3s,baz=269,slow=13,SNR=8.0							
YKA				Lg	Lg	03 00 52.6	
comp=E,0.0nm,0.3s,baz=266,slow=30,SNR=2.8							
YKA	**Yellowknife Ar**	**13.28**	**67**	Pn	**Pn**	**02 57 02.9**	**+0.3**
A36M	**Sachs Harbour**	**13.81**	**22**		**Pn**	**02 57 09.6**	**-0.3**
RES	**Resolute Bay**	**22.46**	**30**	P	**P**	**02 58 52.6**	**-0.4**
comp=E,0.7nm,0.7s,baz=239,slow=7.8,SNR=2.4							
RES	**Resolute Bay**	**22.46**	**30**	IAmb	IAmb	02 59 16.5	
comp=Z,12nm,1.5s							
NVAR	**Mina Array Bea**	**26.08**	**135**	P	**P**	**02 59 29.1**	**+1.1**
comp=Z,1.0nm,0.8s,baz=312,slow=7.9,SNR=5.4							
NVAR	**Mina Array Bea**	**26.08**	**135**	P	**P**	**02 59 27.1**	**-1.0**
DAG	**Danmarks Havn**	**39.03**	**18**	*i* P	**P**	**03 01 21.0**	**+0.6**
JMIC	**Jan Mayen**	**45.37**	**20**	LR	LR	03 21 54.4	
comp=Z,105nm,18.1s,baz=325,slow=37							
H11N2	**WAKE ISLAND Hy**	**54.12**	**245**	T	T	04 02 26.3	
baz=30,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**54.13**	**245**	T	T	04 02 34.7	
baz=30,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hy**	**54.14**	**245**	T	T	04 02 31.7	
baz=30,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**55.27**	**245**	T	T	04 03 24.9	
baz=29,slow=75,SNR=25							
H11S2	**WAKE ISLAND Hy**	**55.29**	**245**	T	T	04 03 27.5	
baz=29,slow=75,SNR=7.8							
H11S3	**WAKE ISLAND Hy**	**55.29**	**245**	T	T	04 03 32.3	
baz=29,slow=75,SNR=8.9							
NOA	**NORSAR Array B**	**57.62**	**15**	P	**P**	**03 03 43.3**	**-0.6**
comp=Z,0.3nm,0.6s,baz=345,slow=7.1,SNR=1.7							
FINES	**FINESS Array B**	**58.65**	**7**	P	**P**	**03 03 49.8**	**-1.3**
comp=Z,3.9nm,1.0s,baz=328,slow=6.8,SNR=5.5							
SONM	**Songino Array**	**59.27**	**313**	P	**P**	**03 03 55.2**	**-0.5**
comp=Z,1.2nm,1.0s,baz=110,slow=1.7,SNR=4.2							
SONM	**Songino Array**	**59.27**	**313**	IAmb	IAmb	03 03 58.9	
comp=Z,2.0nm,1.1s							
ZALV	**Zalesovo Beam**	**60.59**	**331**	P	**P**	**03 04 04.0**	**-0.6**
comp=Z,0.5nm,0.5s,baz=42,slow=6.8,SNR=2.6							
KIRV	**Kirov**	**61.57**	**353**	LR	LR	03 33 32.6	
comp=Z,56nm,18.5s,baz=5.9,slow=39							
MKAR	**Makanchi Array**	**67.81**	**329**	P	**P**	**03 04 51.9**	**-0.1**
comp=Z,0.5nm,0.5s,baz=39,slow=5.5,SNR=4.0							
AKASG	**Malin Array Be**	**69.55**	**6**	P	**P**	**03 05 02.7**	**0.0**
comp=Z,0.5nm,0.3s,baz=355,slow=5.8,SNR=3.9							
AKASG	**Malin Array Be**	**69.55**	**6**	IAmb	IAmb	03 05 08.7	
comp=Z,2.8nm,1.4s							
ESDC	**Sonseca Array**	**74.88**	**33**	P	**P**	**03 05 35.8**	**+0.9**
comp=Z,0.9nm,0.8s,baz=339,slow=3.5,SNR=4.4							
ESDC	**Sonseca Array**	**74.88**	**33**	IAmb	IAmb	03 05 40.8	
comp=Z,0.9nm,0.9s							
KBZ	**Khabaz**	**76.70**	**357**	P	**P**	**03 05 47.3**	**+2.2**
comp=Z,3.8nm,0.9s,baz=26,slow=9.0,SNR=4.6							
BRTR	**Keskin Array B**	**80.69**	**4**	P	**P**	**03 06 08.3**	**+0.9**
comp=Z,0.7nm,0.6s,baz=338,slow=2.8,SNR=4.4							
DAV	**Davao City (W)**	**85.32**	**276**	LR	LR	03 39 33.8	
comp=Z,26nm,21.6s,baz=180,slow=32							
CMAR	**Chiang Mai Arr**	**87.90**	**304**	P	**P**	**03 06 45.4**	**+1.2**
comp=Z,1.4nm,0.3s,baz=0.1,slow=5.2,SNR=5.6							
BOSA	**Boshof**	**147.51**	**22**	PKPbc	**PKPbc**	**03 13 37.9**	**-0.3**
comp=Z,1.5nm,0.7s,baz=296,slow=2.1,SNR=4.6							

IDC 17 03:42:55.2±5.5,29.°57S×179.°20W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.4/27,mbtmp3.6/2,Error ellipse: s-maj=249.5km s-min=85.5km az=165.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.12**	**267**	P	P	03 50 48.8	-0.7
0.2nm,0.3s,baz=103,slow=7.1,SNR=5.9							
WRA	**Warramunga Arr**	**43.03**	**272**	P	P	03 50 57.2	+0.4
0.6nm,0.4s,baz=112,slow=8.0,SNR=12							
FINES	**FINESS Array B**	**144.01**	**340**	PKP	PKPdf	04 02 31.3	-0.7
2.0nm,1.0s,baz=46,slow=4.0,SNR=3.8							

*OSPL **17** 03:47:41.7±1.2, 18.°39N×68.°95W,h170km±25km,ML2.6*
*RSPR **17** 03:47:41.9, 18.°16N×68.°88W,h150km±3km,MD3.6/9*
*NEIC **17** 03:47:41.4±1.7, 18.°1N±0.°3×68.°93W±0.°05,h146km±16km, Error ellipse: s-maj=50.2km s-min=3.6km az=186.0*
ISC 17 03:47:41.5±1.4,18.°3N±0.°2×68.°89W±0.°05,h150km,n39, σ0§92/49,10C-3D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.54**	**65**	⇑*eP*	**Pn**	**03 48 02.9**	**-0.1**
PCDR	**Punta Cana, DR**	**0.54**	**65**	*eS*	**Sn**	**03 48 20.6**	**+1.2**
PCDR	**Punta Cana, DR**	**0.54**	**65**		**Pn**	**03 48 02.9**	**-0.1**
PCDR					**Sn**	**03 48 20.6**	**+1.2**
SDD	**Santo Domingo**	**0.99**	**280**	Pn	**Pn**	**03 48 05.2**	**-0.9**
SDD	**Santo Domingo**	**0.99**	**280**	*i* P	**Pn**	**03 48 07.2**	**+1.1**
SDD				*eS*	**Sn**	**03 48 24.8**	**0.0**
IDE	**Isla Desecheo**	**1.35**	**85**	⇑*eP*	**Pn**	**03 48 09.8**	**+0.3**
AGPR	**Aguadilla, PR**	**1.70**	**84**	⇑*eP*	**Pn**	**03 48 13.5**	**+0.3**
AGPR	**Aguadilla, PR**	**1.70**	**84**	*eS*	**Sn**	**03 48 38.5**	**+1.0**
AGPR	**Aguadilla, PR**	**1.70**	**84**		**Pn**	**03 48 13.5**	**+0.3**
AGPR					**Sn**	**03 48 38.5**	**+1.0**
AGPR	**Aguadilla, PR**	**1.70**	**84**	*i* P	**Pn**	**03 48 14.5**	**+1.3**
AGPR				IAML		03 48 42.0	
comp=Z,44nm,1.2s							
CRPR	**Cabo Rojo, PR**	**1.72**	**99**	⇓*eP*	**Pn**	**03 48 12.8**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.72**	**99**	*eS*	**Sn**	**03 48 38.5**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.72**	**99**		**Pn**	**03 48 12.8**	**-0.6**
CRPR					**Sn**	**03 48 38.5**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.72**	**99**	*i* P	**Pn**	**03 48 13.8**	**+0.5**
CRPR				IAML		03 48 37.7	
comp=Z,27nm,1.5s							
LSP	**Las Mesas**	**1.72**	**93**	⇑*eP*	**Pn**	**03 48 14.1**	**+0.7**
MLPR	**Magueyes Islan**	**1.78**	**100**	⇑*eP*	**Pn**	**03 48 13.7**	**-0.4**
MLPR	**Magueyes Islan**	**1.78**	**100**	*eS*	**Sn**	**03 48 38.8**	**-0.3**
MLPR	**Magueyes Islan**	**1.78**	**100**		**Pn**	**03 48 13.7**	**-0.4**
MLPR					**Sn**	**03 48 38.8**	**-0.3**
AOPR	**Arecibo Observ**	**2.03**	**88**	⇓*eP*	**Pn**	**03 48 17.8**	**+0.8**
AOPR	**Arecibo Observ**	**2.03**	**88**	*eS*	**Sn**	**03 48 43.4**	**-0.9**
AOPR	**Arecibo Observ**	**2.03**	**88**		**Pn**	**03 48 17.8**	**+0.8**
AOPR					**Sn**	**03 48 43.4**	**-0.9**
UUPR	**Utuado, UPR, P**	**2.06**	**90**	⇑*eP*	**Pn**	**03 48 18.4**	**+1.1**
UUPR	**Utuado, UPR, P**	**2.06**	**90**	*eS*	**Sn**	**03 48 45.0**	**+0.1**
UUPR	**Utuado, UPR, P**	**2.06**	**90**		**Pn**	**03 48 18.4**	**+1.1**
UUPR					**Sn**	**03 48 45.0**	**+0.1**
SC01	**Santiago de Io**	**2.08**	**304**	*i* P	**Pn**	**03 48 16.1**	**-1.4**
SC01				IAML		03 48 47.0	
comp=Z,29nm,0.3s							
OBIP	**Obispado Ponce**	**2.19**	**96**	⇑*eP*	**Pn**	**03 48 19.3**	**+0.5**
OBIP	**Obispado Ponce**	**2.19**	**96**		**Pn**	**03 48 19.3**	**+0.5**
CELP	**Cerrillos**	**2.21**	**95**	⇑*eP*	**Pn**	**03 48 19.6**	**+0.5**
CELP	**Cerrillos**	**2.21**	**95**	*eS*	**Sn**	**03 48 49.3**	**+1.3**
CELP	**Cerrillos**	**2.21**	**95**		**Pn**	**03 48 19.6**	**+0.5**
CELP					**Sn**	**03 48 49.3**	**+1.3**
SDDR	**Presa de Saban**	**2.38**	**287**	Pn	**Pn**	**03 48 21.7**	**+0.5**
HUMP	**Col San Antoni**	**2.90**	**92**	⇓*eP*	**Pn**	**03 48 27.1**	**-0.4**
HUMP	**Col San Antoni**	**2.90**	**92**	*eS*	**Sn**	**03 49 00.6**	**-2.4**
HUMP	**Col San Antoni**	**2.90**	**92**		**Pn**	**03 48 27.1**	**-0.4**
HUMP					**Sn**	**03 49 00.6**	**-2.4**
MTP	**Monte Pirata**	**3.18**	**93**	⇑*eP*	**Pn**	**03 48 30.6**	**-0.6**
MTP	**Monte Pirata**	**3.18**	**93**	*eS*	**Sn**	**03 49 08.9**	**+0.2**
MTP	**Monte Pirata**	**3.18**	**93**		**Pn**	**03 48 30.6**	**-0.6**
MTP					**Sn**	**03 49 08.9**	**+0.2**
CUPR	**Culebra, Puert**	**3.43**	**89**	⇑*eP*	**Pn**	**03 48 33.4**	**-0.9**
CUPR	**Culebra, Puert**	**3.43**	**89**		**Pn**	**03 48 33.4**	**-0.9**

**IDC 17 04:12:02.3±3.8,10.°87S×

BRLS	**Borolday**	**2.35**	**336**	*eP*	**Pb**	**04 24 48.7**	**-2.8**
	3.9nm,0.2s						
BRLS				*eS*	**Sb**	**04 25 19.2**	**-1.4**
	40nm,0.2s						
MRKS	**Merke**	**2.43**	**39**	*eP*	**Pb**	**04 24 52.8**	**+0.1**
	3.5nm,0.3s						
MRKS				*eS*	**Sg**	**04 25 26.4**	**-0.6**
	12nm,0.6s						
ARLS	**Aral**	**2.59**	**67**	⇓*eP*	**Pb**	**04 24 53.9**	**-1.7**
	baz=67						
ARLS				⇓*iS*	**Sb**	**04 25 26.4**	**-1.0**
	baz=67						
EKS2	**Erkin-Say**	**2.66**	**47**	⇑*iP*	**Pb**	**04 24 54.6**	**-2.1**
	baz=48						
EKS2				⇑*eS*	**Sb**	**04 25 27.4**	**-1.9**
	baz=48						
UCH	**Uchtor**	**2.87**	**61**	⇓*eP*	**Pn**	**04 24 57.9**	**+2.8**
	baz=62						
UCH				⇓*iS*	**Sn**	**04 25 33.2**	**+3.3**
	baz=62						
SGDS	**Sogindy**	**3.65**	**44**	*eP*	**Pb**	**04 25 14.6**	**+1.0**
	1.2nm,0.3s						
SGDS				*eS*	**Sg**	**04 26 03.2**	**-3.1**
	2.5nm,0.2s						
KST	**Kastek**	**4.19**	**57**	*eP*	**Pb**	**04 25 24.1**	**+1.1**
	2.3nm,0.2s						
KST				*eS*	**Sg**	**04 26 20.1**	**-3.6**
	3.5nm,0.5s						
KRBS	**Karabastau**	**4.38**	**49**	*eP*	**Pb**	**04 25 28.3**	**+2.2**
	1.4nm,0.3s						
KRBS				*eS*	**Sg**	**04 26 27.4**	**-2.4**
	2.9nm,0.4s						
BTLS	**Baital**	**4.67**	**26**	*eP*	**Pb**	**04 25 34.7**	**+3.8**
	1.3nm,0.2s						
BTLS				*eS*	**Sg**	**04 26 38.4**	**-0.5**
	2.3nm,0.3s						
KUU	**Kurty**	**4.89**	**50**	*eP*	**Pb**	**04 25 37.3**	**+2.6**
	0.4nm,0.2s						
KUU				*eS*	**Sg**	**04 26 42.8**	**-3.0**
	2.6nm,0.4s						
KTBS	**Karatobe**	**4.99**	**54**	*eP*	**Pb**	**04 25 38.9**	**+2.5**
	0.9nm,0.4s						
KTBS				*eS*	**Sg**	**04 26 45.7**	**-3.4**
	4.5nm,0.5s						

JMA 17 04:25:08.5±0.1, 36°.17N×140°.01E, h51km±1km, M3.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.16**	**69**	P	Pn	04 25 16.7	0.0
JYT				S	Sn	04 25 22.5	0.0
JAG	**Ashikaga**	**0.52**	**300**	P	Pn	04 25 20.1	+0.1
JAG				S	Sn	04 25 28.1	-0.2
JKT	**Katashina**	**0.85**	**314**	P	Pn	04 25 24.2	-0.2
JKT				S	Sn	04 25 35.8	-0.2
JRY	**Ryogami san**	**0.91**	**261**	P	Pn	04 25 25.2	+0.1
JRY				S	Sn	04 25 37.3	0.0
JOD2	**Odawara 2**	**1.18**	**220**	P	Pn	04 25 29.4	+0.8
JOD2				S	Sn	04 25 44.0	+0.4
JFY	**Yanaizu**	**1.26**	**349**	P	Pn	04 25 29.9	+0.1
JFY				S	Sn	04 25 46.2	+0.6
JYN	**Shimob**	**1.37**	**241**	P	Pn	04 25 33.0	+1.7
MAT	**Matsushiro**	**1.50**	**285**	P	Pn	04 25 33.6	+0.5
MAT				*eS*	Sn	04 25 51.8	+0.3

IDC 17 04:25:51.2±0.8, 28°.70N×143°.61E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.1/45, mbtmp3.3/3, Error ellipse: s-maj=25.3km s-min=17.4km az=94.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.18**	**192**	P	P	04 34 41.0	-0.1
	0.1nm,0.6s,baz=4.1,slow=7.5,SNR=4.9						
MKAR	**Makanchi Array**	**50.44**	**309**	P	P	04 34 50.5	0.0
	0.2nm,0.3s,baz=88,slow=8.6,SNR=6.8						
ILAR	**Eielson Array**	**55.70**	**29**	P	P	04 35 28.9	-0.2
	0.2nm,0.4s,baz=250,slow=5.6,SNR=5.2						

IDC 17 04:27:17.0±19.0, 21°.01S×176°.99W, h256km±139km, mb3.3/3, mb1 3.4/4, mb1mx3.1/33, mbtmp3.9/4, Error ellipse: s-maj=270.8km s-min=54.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.70**	**304**	P	Pn	04 28 41.6	-0.2
	2.8nm,0.3s,baz=135,slow=13,SNR=19						
CTA	**Charters Tower**	**34.38**	**265**	P	P	04 33 41.6	+1.2
	3.9nm,0.9s,baz=98,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**45.33**	**257**	P	P	04 35 09.8	-0.4
	0.8nm,0.7s,baz=92,slow=7.4,SNR=10						
WRA	**Warramunga Arr**	**45.47**	**262**	P	P	04 35 10.8	-0.5
	0.6nm,0.6s,baz=98,slow=8.2,SNR=8.3						
AKASG	**Malin Array Be**	**143.91**	**332**	PKP	PKPdf	04 46 21.2	-0.5
	0.1nm,0.3s,baz=41,slow=3.2,SNR=4.6						

*SOME **17** 05:21:50.4, 41°.92N×81°.88E, h5km*
*NNC **17** 05:21:52.2±2.5, 41°.94N×81°.84E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=18.8km s-min=10.0km az=159.0*
ISC 17 05:21:54.2±3.0, 41°.9N±0°.1×81°.73E±0°.09, h10km, n6, σ0°76/12, 5C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.17**	**311**	⇑Pg	**Pb**	**05 22 32.5**	**-1.1**
	0.9nm,0.5s						
PDGK				⇓Lg	Lg	05 23 04.2	
	1.7nm,0.3s						
UZB	**Uzynbulak**	**2.34**	**302**	*eP*	**Pb**	**05 22 36.8**	**+0.1**
	3.2nm,0.4s						
UZB				*eS*	**Sg**	**05 23 10.2**	**+0.7**
	9.5nm,0.3s						
SATY	**Saty**	**2.71**	**296**	*eP*	**Pb**	**05 22 43.4**	**+0.5**
	1.0nm,0.3s						
SATY				*eS*	**Sg**	**05 23 21.8**	**+0.6**
	6.2nm,0.4s						
DJR	**Jarkent**	**2.79**	**330**	*eP*	**Pb**	**05 22 44.4**	**+0.2**
	0.8nm,0.1s						
DJR				*eS*	**Sg**	**05 23 23.1**	**-0.8**
	2.8nm,0.5s						
MK31	**Makanchi Array**	**4.88**	**4**	⇑Pn	**Pn**	**05 23 06.9**	**-0.7**
	0.1nm,0.3s,baz=189,slow=13,SNR=10						
MK31				⇑Pg	**Pb**	**05 23 20.5**	**+0.7**
	1.7nm,1.1s,baz=182,slow=12,SNR=6.3						
MK31				⇑Sn	**Sn**	**05 24 04.6**	**+0.4**
	0.1nm,0.2s,baz=184,slow=23						
MK31				⇓Lg	Lg	05 24 26.4	
	0.4nm,0.6s						
MAKZ	**Makanchi**	**4.88**	**2**	⇑Pn	**Pn**	**05 23 07.1**	**-0.6**
	0.2nm,0.7s						
MAKZ				⇓Sn	**Sn**	**05 24 05.0**	**+0.8**
	0.4nm,0.5s						

*NEIC **17** 05:23:56.3±2.0, 56°.4S±0°.1×27°.4W±0°.2, h125km±8km, mb4.6/31, Error ellipse: s-maj=17.6km s-min=12.5km az=211.0*
*IDC **17** 05:23:56.5±12.0, 56°.33S×27°.24W, h128km±111km, mb4.2/6, mb1 4.3/7, mb1mx3.9/21, mbtmp4.6/7, ML5.1/1, Error ellipse: s-maj=60.8km s-min=21.2km az=108.0*
ISC 17 05:23:54.8±0.5, 56°.35S±0°.09×27°.30W±0°.08, h112km, n45, σ0°85/48, mb4.6/21, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.64**	**288**	Pn	**Pn**	**05 25 18.1**	**+1.9**
HOPE				Sn	**Sn**	**05 26 18.6**	**-1.0**
VNA1	**Neumayer--Stat**	**16.54**	**158**	P	**P**	**05 27 40.9**	**+0.6**
VNA3	**Neumayer Olymp**	**16.73**	**160**	P	**P**	**05 27 42.6**	**+0.2**
VNA2	**Neumayer--Watz**	**16.94**	**157**	P	**P**	**05 27 45.3**	**+0.6**
	baz=314,slow=13						
SNAA	**Sanae**	**18.50**	**156**	P	**P**	**05 28 02.2**	**+0.4**
SNAA	**Sanae**	**18.50**	**156**	P	**P**	**05 28 02.0**	**+0.2**
	6.0nm,0.3s,baz=306,slow=11,SNR=143						
SNAA	**Sanae**	**18.50**	**156**	P	**P**	**05 28 02.2**	**+0.4**
DSPA	**Despedida**	**23.29**	**259**	P	**P**	**05 28 50.9**	**-1.4**
PLTB	**Pedras Altas**	**30.65**	**312**	P	**P**	**05 29 58.3**	**-0.1**
PLTB				IAmb	IAmb	05 29 59.1	
	comp=Z,19nm,1.5s						
LL04	**Puerto Octay**	**32.89**	**279**	P	**P**	**05 30 17.8**	**-0.1**
LL04				IAmb	IAmb	05 30 26.5	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**33.90**	**180**	P	**P**	**05 30 27.4**	**+0.8**
	comp=Z,6.1nm,0.5s,baz=201,slow=2.4,SNR=69						
QSPA	**South Pole Qui**	**33.90**	**180**	P	**P**	**05 30 27.6**	**+0.9**
MT09	**Talagante**	**37.35**	**288**	P	**P**	**05 30 55.3**	**-1.0**
MT09				IAmb	IAmb	05 31 14.8	
	comp=Z,22nm,1.3s						
MT01	**Popeta**	**37.42**	**288**	P	**P**	**05 30 55.1**	**-1.7**
MT02	**Curacav**	**37.83**	**289**	P	**P**	**05 30 59.7**	**-0.5**
VA03	**San Esteban**	**37.90**	**290**	P	**P**	**05 31 00.1**	**-0.9**
VA03				IAmb	IAmb	05 31 06.8	
	comp=Z,12nm,1.1s						
MAW	**Mawson**	**39.95**	**143**	P	**P**	**05 31 17.9**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=219,slow=7.0,SNR=9.1						
MAW	**Mawson**	**39.95**	**143**	P	**P**	**05 31 17.7**	**+0.2**
AC02	**Maricunga**	**41.96**	**297**	P	**P**	**05 31 33.7**	**-1.3**
AC02				IAmb	IAmb	05 31 47.9	
	comp=Z,10nm,1.4s						
PB14	**IPOC Station P**	**44.43**	**297**	P	**P**	**05 31 53.3**	**-1.4**
PB14				IAmb	IAmb	05 32 01.1	
	comp=Z,12nm,1.2s						
LVC	**Limon Verde**	**45.40**	**300**	P	**P**	**05 32 02.6**	**+0.2**
LVC				IAmb	IAmb	05 32 04.1	
	comp=Z,7.8nm,0.9s						
BOSA	**Boshof**	**46.10**	**76**	P	**P**	**05 32 06.7**	**-1.0**
PB04	**IPOC Station P**	**46.23**	**299**	P	**P**	**05 32 09.0**	**+0.2**
PB04				IAmb	IAmb	05 32 09.5	
	comp=Z,22nm,1.2s						
PB09	**IPOC Station P**	**46.25**	**301**	P	**P**	**05 32 10.1**	**+1.2**
PB09				IAmb	IAmb	05 32 12.1	
	comp=Z,12nm,1.3s						
VNDA	**Vanda**	**46.27**	**183**	P	**P**	**05 32 08.0**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=189,slow=7.5,SNR=12						
VNDA	**Vanda**	**46.27**	**183**	P	**P**	**05 32 08.8**	**+0.5**
VNDA				IAmb	IAmb	05 32 10.5	
	comp=Z,23nm,1.4s						
PB07	**IPOC Station P**	**46.62**	**300**	P	**P**	**05 32 12.4**	**+0.6**
PB07				IAmb	IAmb	05 32 12.7	
	comp=Z,9.6nm,0.7s						
PB01	**IPOC Station P**	**47.01**	**301**	P	**P**	**05 32 15.5**	**+0.8**
PB01				IAmb	IAmb	05 32 15.9	
	comp=Z,6.2nm,0.6s						
PTLB	**Pontes e Lacer**	**47.47**	**316**	P	**P**	**05 32 18.2**	**0.0**
PB08	**IPOC Station P**	**47.63**	**302**	P	**P**	**05 32 20.7**	**+0.8**
PB11	**IPOC Station P**	**48.19**	**302**	P	**P**	**05 32 24.2**	**+0.3**
PB11				IAmb	IAmb	05 32 53.3	
	comp=Z,10nm,1.1s						
MNMC	**Minye Minye**	**48.70**	**302**	P	**P**	**05 32 29.0**	**+0.9**
MNMC				IAmb	IAmb	05 32 29.4	
	comp=Z,8.4nm,0.9s						
LBTB	**Lobatse**	**49.15**	**73**	P	**P**	**05 32 31.0**	**-0.2**
LBTB				IAmb	IAmb	05 32 59.9	
	comp=Z,6.7nm,1.1s						
PB16	**IPOC Station P**	**49.35**	**303**	P	**P**	**05 32 34.0**	**+0.7**
MACA	**Manacapuru-AM**	**59.36**	**320**	P	**P**	**05 33 44.6**	**-0.5**
MACA				IAmb	IAmb	05 33 59.8	
	comp=Z,7.7nm,1.2s						
BOAV	**Boa Vista**	**64.48**	**323**	P	**P**	**05 34 18.8**	**-0.5**
DBIC	**Dimbokro**	**65.46**	**25**	P	**P**	**05 34 25.1**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=182,slow=5.2,SNR=6.1						
DBIC	**Dimbokro**	**65.46**	**25**	P	**P**	**05 34 25.5**	**-0.1**
DBIC				IAmb	IAmb	05 34 44.5	
	comp=Z,12nm,1.2s						
SACV	**Santiago Islan**	**71.11**	**4**	P	**P**	**05 35 01.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**73.34**	**30**	P	**P**	**05 35 14.2**	**+0.1**
	comp=Z,4.0nm,0.4s,baz=201,slow=6.2,SNR=50						
TORD				pP	**pwP**	**05 35 45.6**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=202,slow=6.6,SNR=7.7						
TAU	**Tasmania Unive**	**81.01**	**176**	P	**P**	**05 35 56.5**	**-0.2**
QRZ	**Quartz Range**	**81.75**	**195**	P	**P**	**05 36 00.0**	**-0.6**
ASAR	**Alice Springs**	**98.72**	**163**	P	**P**	**05 37 20.1**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=182,slow=3.7,SNR=7.6						
YKA	**Yellowknife Ar**	**136.35**	**318**	PKP	**PKPdf**	**05 43 00.8**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=128,slow=2.5,SNR=5.8						
ILAR	**Eielson Array**	**150.27**	**311**	PKPbc	**PKPbc**	**05 43 30.9**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=138,slow=4.5,SNR=14						
ILAR				pPKPbc	**pPKPbc**	**05 44 02.6**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=126,slow=1.6,SNR=6.7						

*IDC **17** 05:46:35.0±6.3, 16°.59N×92°.49W, h140km±54km, mb3.0/3, mb1 3.4/5, mb1mx3.1/31, mbtmp3.4/5, Error ellipse: s-maj=116.1km s-min=64.8km az=21.0*
*MEX **17** 05:46:35.8±0.6, 16°.05N×92°.88W, h192km±4km, MD4.1*
ISC 17 05:46:35.7±0.9, 16°.05N±0°.08×92°.96W±0°.07, h180km±8km, n17, σ1°54/29, mb3.2/3, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.42**	**216**	*iP*	**Pn**	**05 47 00.5**	**+0.3**
PCIG				*iS*	**Sn**	**05 47 19.9**	**+0.9**
TGIG		**0.74**	**348**	*iP*	**Pn**	**05 47 02.3**	**+0.4**
TGIG				*iS*	**Sn**	**05 47 22.0**	**-0.1**
CCIG	**Comitan**	**0.82**	**73**	*iP*	**Pn**	**05 47 02.0**	**-0.4**
CCIG				*iS*	Sn	05 47 39.5	+16
PAVE	**Pavencul**	**1.13**	**138**	*iP*	**Pn**	**05 47 04.5**	**-0.3**
PAVE				*iS*	**Sn**	**05 47 26.5**	**-0.6**
PATR	**El Naranjo**	**1.16**	**143**	*iP*	**Pn**	**05 47 04.1**	**-0.9**
PATR				*iS*	**Sn**	**05 47 26.3**	**-1.2**
CHUJ	**Union Juarez**	**1.25**	**139**	*iP*	**Pn**	**05 47 05.1**	**-0.7**
CHUJ				*iS*	**Sn**	**05 47 27.9**	**-1.1**
THIG		**1.31**	**149**	*iP*	**Pn**	**05 47 05.8**	**-0.2**
THIG				*iS*	**Sn**	**05 47 28.8**	**-0.6**
UXUV	**UXUV**	**1.70**	**318**	*iP*	**Pn**	**05 47 10.3**	**+0.7**
UXUV				*iS*	**Sn**	**05 47 35.1**	**-1.0**
CMIG	**Matias Romero**	**2.12**	**300**	P	**Pn**	**05 47 14.8**	**+0.7**
	3.9nm,0.3s,baz=105,slow=8.2,SNR=34						
CMIG				S	**Sn**	**05 47 43.8**	**-0.1**
	5.9nm,0.3s,baz=130,slow=9.8,SNR=9.8						
CMIG	**Matias Romero**	**2.12**	**300**	*iP*	**Pn**	**05 47 14.7**	**+0.6**
CMIG				*iS*	**Sn**	**05 47 43.8**	**-0.1**
HUIG	**Huatulco**	**3.04**	**265**	*iP*	**Pn**	**05 47 24.7**	**-0.2**
HUIG				*iS*	**Sn**	**05 48 02.1**	**-1.1**
NEUV	**Arroyo Zacate**	**3.19**	**302**	*iP*	**Pn**	**05 47 27.5**	**+0.9**
NEUV				*iS*	**Sn**	**05 48 01.7**	**-4.7**
JAUV	**Jalcomulco**	**4.93**	**313**	*iP*	**Pn**	**05 47 48.6**	**-0.3**
JAUV				*iS*	**Sn**	**05 48 42.4**	**-3.9**
TXAR	**Lajitas Array**	**16.49**	**325**	P	**Pn**	**05 50 18.0**	**+1.0**
	0.1nm,0.3s,baz=143,slow=13,SNR=7.7						
PDAR	**Pinedale Array**	**30.18**	**335**	P	**P**	**05 52 29.9**	**+0.6**
	0.2nm,0.6s,baz=131,slow=9.7,SNR=1.8						
NVAR	**Mina Array Bea**	**31.51**	**320**	P	**P**	**05 52 43.9**	**+2.8**
	0.6nm,0.7s,baz=126,slow=9.5,SNR=4.6						
YKA	**Yellowknife Ar**	**48.83**	**347**	P	**P**	**05 55 01.4**	**-1.1**
	0.4nm,0.5s,baz=154,slow=7.3,SNR=8.1						

IDC 17 06:26:47.6±4.7, 29°.84N×143°.86E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.1/55, mbtmp4.0/3, Error ellipse: s-maj=313.2km s-min=32.7km az=85.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.33**	**192**	P	P	06 35 45.2	-1.1
	1.1nm,0.3s,baz=14,slow=7.9,SNR=27						
ASAR	**Alice Springs**	**54.05**	**191**	P	P	06 36 14.8	+0.9
	0.9nm,0.6s,baz=16,slow=6.4,SNR=17						
FINES	**FINESS Array B**	**76.14**	**334**	P	P	06 38 37.1	0.0
	1.5nm,0.9s,baz=49,slow=6.3,SNR=3.7						

*BGR **17** 06:37:23.1±0.0, 19°.95N×78°.48W, h33km, mb5.0, Ms4.3*
*JSN **17** 06:37:25.8±0.4, 19°.82N×76°.05W, h15km, 999km, MD3.9*
*IDC **17** 06:37:25.2±0.4, 19°.83N×76°.00W, h0km, mb4.6/34, mb1 4.7/40, mb1mx4.6/56, mbtmp4.6/40, ML4.2/4, MS4.1/51, Ms1 4.1/51, ms1mx4.0/72, Error ellipse: s-maj=13.1km s-min=9.5km az=61.0*
*OSPL **17** 06:37:26.4±0.8, 19°.78N×76°.15W, h7km±18km, ML4.7*
*NEIC **17** 06:37:27.3±1.5, 19°.80N±0°.06×76°.05W±0°.04, h10km±1km, mb4.9/345, Error ellipse: s-maj=9.4km s-min=6.7km az=185.0*
*SSNC **17** 06:37:27.2±1.4, 19°.69N×76°.04W, h5km, ML4.7, MW5.0*
*GCMT **17** 06:37:30.3±0.2, 19°.95N±0°.02×76°.05W±0°.01, h12km±1km, MW4.9/113, Moment Tensor Solution. s36,c43; s113,c162; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.45±.14; $M_{\theta\theta}$-0.04±.08; $M_{\phi\phi}$-2.42±.10; $M_{r\theta}$0.73±.26; $M_{\theta\phi}$0.74±.05; $M_{\phi r}$-1.47±.24; Best double couple: $M_0$3.02700×10^{16} NP1:ϕ_s351.00000°, δ29.00000°, λ101.00000°. NP2:ϕ_s158.00000°, δ61.00000°, λ84.00000°.*

Principal axes: T 2.9500, Plg73.0000°, Azm54.0000°; N 0.1450, Plg5.0000°, Azm161.0000°; P -3.1040, Plg16.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
ISC 17 06:37:26.2±0.8, 19°.75N±0°.03×76°.09W±0°.03, h8km±5km, n669, σ1°37/533, mb4.9/199, MS4.1/49, 26C-28D, Fault plane solution: NP1:ϕ_s183.39043°, δ82.73687°, λ94.39914°. NP2:ϕ_s332.06982°, δ8.48538°, λ58.95874°. Principal axes: T Plg52.0701°, Azm98.4525°; N Plg4.3638°, Azm2.8332°; P Plg37.5873°, Azm269.4657°;
Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.92**	**290**	*iP*	**Pg**	**06 37 43.5**	**-0.3**
LMGC				*eS*	**Sg**	**06 37 56.0**	**+0.2**
LMGC				IAML		06 37 57.2	
	comp=N,14μm,0.3s						
LMGC				IAML		06 37 59.7	
	comp=E,11μm,0.3s						
GTBY	**Guantanamo Bay**	**0.94**	**79**	Pg	**Pg**	**06 37 44.0**	**-0.2**
GTBY				Sg	**Sg**	**06 37 56.4**	**0.0**
GTBY	**Guantanamo Bay**	**0.94**	**79**	*iP*	**Pg**	**06 37 44.0**	**-0.2**
GTBY				*eS*	**Sg**	**06 37 56.7**	**+0.4**
GTBY	**Guantanamo Bay**	**0.94**	**79**	*iP*	**Pg**	**06 37 44.0**	**-0.2**
GTBY				*eS*	**Sg**	**06 37 57.0**	**+0.7**
GTBY				IAML		06 37 58.5	
	comp=Z,44μm,0.9s						
HLGC	**Holguin**	**1.13**	**1**	*eP*	**Pb**	**06 37 47.6**	**-0.5**
HLGC				*eS*	**Sn**	**06 38 03.8**	**-0.3**
MOAC	**Moa**	**1.39**	**49**	*eP*	**Pn**	**06 37 49.6**	**-2.3**
MOAC				*eS*	**Sn**	**06 38 09.2**	**-1.2**
CMJ	**Castle Mountai**	**1.63**	**190**	*iP*	**Pn**	**06 37 53.7**	**-1.5**
BBJ	**Bamboo Saint A**	**1.76**	**219**	*iP*	**Pn**	**06 37 55.7**	**-1.4**
GWJ	**Greenwich**	**1.78**	**200**	*iP*	**Pn**	**06 37 55.9**	**-1.5**
MASC	**Masc**	**1.79**	**76**	*eP*	**Pn**	**06 37 55.2**	**-2.3**
MASC				*eS*	**Sn**	**06 38 20.2**	**-0.2**
MASC				IAML		06 38 28.3	
	comp=E,5μm,0.6s						
MASC				IAML		06 38 28.7	
	comp=N,6μm,0.5s						
STH	**Stony Hill**	**1.80**	**202**	*iP*	**Pn**	**06 37 56.1**	**-1.5**
HOJ	**Hope**	**1.85**	**200**	*iP*	**Pn**	**06 37 57.1**	**-1.1**
MTDJ	**Mount Denham**	**2.05**	**222**	Pn	**Pn**	**06 37 59.6**	**-1.4**
MTDJ	**Mount Denham**	**2.05**	**222**	*eP*	**Pn**	**06 37 59.7**	**-1.4**
MTDJ				*eS*	**Sn**	**06 39 21.9**	**-4.9**
CCCC	**Cccc**	**2.13**	**313**	*iP*	**Pn**	**06 37 59.0**	**-3.1**
CCCC				*eS*	**Sn**	**06 38 20.3**	**-8.5**
CCCC				IAML		06 38 28.6	
	comp=E,8μm,0.7s						
CCCC				IAML		06 38 28.8	
	comp=N,4μm,0.5s						
MCJ	**Malvern**	**2.37**	**220**	*iP*	**Pn**	**06 38 04.3**	**-1.1**
LGNH	**Logne**	**3.52**	**110**	Pn	**Pn**	**06 38 20.1**	**-1.1**
LGNH	**Logne**	**3.52**	**110**	*eP*	**Pn**	**06 38 19.8**	**-1.4**
LGNH	**Logne**	**3.52**	**110**	*iP*	**Pn**	**06 38 20.1**	**-1.1**
LGNH				IAML		06 39 32.8	
	comp=Z,523nm,2.1s						
JAKH	**Jacmel**	**3.70**	**113**		**Pn**	**06 38 22.7**	**-1.0**
JAKH	**Jacmel**	**3.70**	**113**	*iP*	**Pn**	**06 38 22.9**	**-0.8**
JAKH				IAML		06 39 29.8	
	comp=Z,935nm,1.8s						
LCCY	**Blossom Villag**	**3.77**	**269**	Pn	**Pn**	**06 38 24.3**	**-0.3**
NQUSE	**US Embassy, Po**	**3.82**	**107**	Pn	**Pn**	**06 38 26.0**	**+0.7**
MGV	**Manicaragua**	**4.33**	**303**	*eP*	**Pn**	**06 38 33.7**	**+1.3**
MGV				*eS*	**Sn**	**06 39 23.9**	**+0.9**
MGV				IAML		06 39 52.4	
	comp=N,319nm,0.8s						
MGV				IAML		06 39 52.5	
	comp=E,328nm,0.7s						
LOPE2	**Hotel El Peder**	**4.45**	**112**	*iP*	**Pn**	**06 38 33.7**	**-0.4**
LOPE2				IAML		06 39 52.9	
	comp=Z,927nm,1.4s						
SDDR	**Presa de Saban**	**4.59**	**99**		**Pn**	**06 38 36.6**	**+0.5**
SDDR	**Presa de Saban**	**4.59**	**99**	*iP*	**Pn**	**06 38 35.6**	**-0.5**
SDDR				IAML		06 39 58.9	
	comp=Z,597nm,1.3s						
GRTK	**Grand Turk**	**4.96**	**68**	Pn	**Pn**	**06 38 39.6**	**-1.4**
GRTK	**Grand Turk**	**4.96**	**68**	*iP*	**Pn**	**06 38 39.8**	**-1.2**
GRTK				IAML		06 40 18.2	
	comp=Z,749nm,1.5s						
SC01	**Santiago de lo**	**5.06**	**93**		**Pn**	**06 38 42.6**	**+0.1**
SDD	**Santo Domingo**	**5.98**	**101**	Pn	**Pn**	**06 38 55.7**	**+0.7**
SOR	**Soroa**	**7.13**	**296**	Pn	**Pn**	**06 39 11.7**	**+0.9**
SOR	**Soroa**	**7.13**	**296**	*eP*	**Pn**	**06 39 11.9**	**+1.1**
PCDR	**Punta Cana, DR**	**7.39**	**98**	Pn	**Pn**	**06 39 12.7**	**-1.7**
061Z	**Ochoppi**	**7.53**	**325**	Pn	**Pn**	**06 39 16.1**	**-0.2**
PRVC	**Isla de Provid**	**8.11**	**219**	*eP*	**Pn**	**06 39 20.7**	**-3.7**
PRVC	**Isla de Provid**	**8.11**	**219**		**Pn**	**06 39 25.9**	**+1.6**
060A	**Indiantown**	**8.24**	**332**	Pn	**Pn**	**06 39 26.6**	**+0.5**
AGPR	**Aguadilla, PR**	**8.58**	**97**	Pn	**Pn**	**06 39 30.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**8.68**	**100**		**Pn**	**06 39 32.0**	**0.0**
SMRC	**Santa Marta, M**	**8.73**	**168**	*eP*	**Pn**	**06 39 28.8**	**-4.0**
MLPR	**Magueyes Islan**	**8.74**	**100**	Pn	**Pn**	**06 39 34.4**	**+1.4**
URIC	**Uribia, Colomb**	**8.92**	**153**		**Pn**	**06 39 34.8**	**-0.7**
AOPR	**Arecibo Observ**	**8.94**	**97**		**Pn**	**06 39 34.7**	**-1.0**
EMPR	**Esperanza - Ma**	**9.12**	**96**	Pn	**Pn**	**06 39 38.4**	**+0.1**
OBIP	**Obispado Ponce**	**9.13**	**99**		**Pn**	**06 39 39.5**	**+1.1**

JSC	Jenkinsville	15.18	343	Pn	Pn	06 40 58.4	-2.6
JSC				IAmb	IAmb	06 41 18.5	
comp=Z,83nm,1.9s							
ANIL	Santa Ana	15.19	177	eP	P	06 41 06.9	+0.4
CHIC	Chingaza	15.21	171	eP	P	06 41 06.4	-0.5
250A	Grady	15.22	325	Pn	Pn	06 41 00.6	-1.0
250A				IAmb	IAmb	06 41 27.6	
comp=Z,39nm,0.8s							
BIRD	Birdtown, Kers	15.33	346		Pn	06 40 58.4	-4.6
HODGE	Hodges	15.43	340	Pn	Pn	06 41 01.1	-3.1
Y52A	Lilburn	15.74	335		Pn	06 41 07.4	-0.9
ORTC	Ortega, Tolima	15.77	177	eP	Pn	06 41 10.5	+1.6
PAULI	Pauline	15.84	342		Pn	06 41 07.4	-2.3
PTGC	Puerto Gaitan,	15.93	165	eP	Pn	06 41 08.4	-2.5
V61A	Roper	15.98	359	Pn	Pn	06 41 06.2	-5.2
V61A				IAmb	IAmb	06 41 25.2	
comp=Z,126nm,1.1s							
PRAC	Prado	15.99	176	eP	Pn	06 41 12.5	+0.9
BBSR	BB Station	16.19	37	Pn	Pn	06 41 11.4	-2.6
BG3	Lake Jocassee	16.34	340	Pn	Pn	06 41 14.2	-1.9
U59A	Littleton	16.61	355		Pn	06 41 17.1	-2.3
V53A	Saluda	16.93	341		Pn	06 41 22.4	-1.1
U56A	King	16.96	348		Pn	06 41 21.7	-2.1
Z47A	Carrollton	17.14	324	P	Pn	06 41 26.0	-0.1
T59A	Double "B" Far	17.20	356		Pn	06 41 24.2	-2.7
TKL	Tuckaleechee C	17.23	338	P	Pn	06 41 25.0	-2.3
comp=Z,0.5nm,0.3s,baz=159,slow=15,SNR=11							
TKL				LR	LR	06 48 09.1	
comp=Z,565nm,18.1s,baz=153,slow=38							
TKL	Tuckaleechee C	17.23	338	P	Pn	06 41 26.1	-1.2
CPCT	Cooper Cave	17.32	336	P	Pn	06 41 28.6	+0.2
V52A	Sevierville	17.34	339	P	Pn	06 41 27.8	-0.8
T57A	Hurt	17.40	351	P	Pn	06 41 26.2	-3.2
U54A	Nelsons Funny	17.45	344	IAmb	IAmb	06 42 04.9	
comp=Z,101nm,1.7s							
MACC	Macarena, Meta	17.64	173⇑	eP	Pn	06 41 32.9	+0.4
BLA	Blacksburg	17.80	349	P	Pn	06 41 33.7	-0.7
baz=166							
TZTN	Tazewell	17.96	340	P	Pn	06 41 35.9	-0.5
baz=156							
CMIG	Matias Romero	18.03	265	P	P	06 41 38.0	+0.2
comp=Z,0.7nm,0.3s,baz=75,slow=4.2,SNR=29							
CMIG				LR	LR	06 48 06.1	
comp=Z,514nm,20.6s,baz=82,slow=35							
FLOC	Florencia	18.07	179	eP	Pn	06 41 34.9	-2.9
CBN	Corbin Frederi	18.42	357	IAmb	IAmb	06 41 53.8	
comp=Z,106nm,1.3s							
CBN	Corbin Frederi	18.42	357	P	P	06 41 40.7	-1.2
baz=176							
Y45A	Yeager Farm, C	18.46	322	IAmb	IAmb	06 42 03.3	
comp=Z,171nm,1.4s							
T50A	Nancy	18.83	338	IAmb	IAmb	06 41 59.2	
comp=Z,162nm,2.0s							
S51A	Beattyville	18.98	341	IAmb	IAmb	06 41 50.3	
comp=Z,123nm,1.9s							
R53A	Hurricane	19.20	346	IAmb	IAmb	06 42 22.7	
comp=Z,139nm,1.8s							
W45A	Hickory Valley	19.22	326	IAmb	IAmb	06 42 10.8	
comp=Z,40nm,0.8s							
WVT	Waverly	19.30	330	P	P	06 41 52.2	+0.6
WVT	Waverly	19.30	330	P	Pn	06 41 52.6	-0.1
baz=144							
OTAV	Otavalo	19.53	187	eP	Pn	06 41 55.8	-0.2
OTAV	Otavalo	19.53	187	P	P	06 41 54.8	0.0
T47A	Sharon Grove	19.69	333	P	P	06 41 56.5	+0.6
P57A	Homestead Farm	19.73	356	P	Pn	06 41 57.3	-0.4
P57A				IAmb	IAmb	06 42 10.2	
comp=Z,90nm,1.6s							
R50A	Paris	19.80	341	P	P	06 41 57.0	0.0
HALT	Halls	19.88	327	P	P	06 41 57.7	-0.2
HALT				IAmb	IAmb	06 42 14.7	
comp=Z,154nm,1.5s							
P60A	Greenville	19.99	1	P	P	06 41 58.9	-0.2
P60A				IAmb	IAmb	06 42 12.2	
comp=Z,164nm,1.6s							
P60A	Greenville	19.99	1	P	Pn	06 42 01.3	+0.5
baz=181,SNR=5.1							
R49A	Shelbyville	20.09	339	P	P	06 42 00.3	+0.1
MCWV	Mont Chateau	20.10	352	P	P	06 42 01.0	+0.7
MCWV				IAmb	IAmb	06 42 05.9	
comp=Z,72nm,1.4s							
MCWV	Mont Chateau	20.10	352	P	Pn	06 42 05.3	+3.1
baz=170							
LNXT	Lenox	20.10	327	IAmb	IAmb	06 42 34.3	
comp=Z,49nm,0.8s							
WUPA	West Chester U	20.11	1	P	P	06 42 00.9	+0.4
WUPA				IAmb	IAmb	06 42 04.8	
comp=Z,157nm,1.9s							
MVL	Millersville	20.18	359	P	P	06 42 00.9	-0.2
MVL				IAmb	IAmb	06 42 31.1	
comp=Z,103nm,1.7s							
P53A	Whipple	20.19	348	P	Pn	06 42 03.0	-0.2
P53A				IAmb	IAmb	06 42 16.6	
comp=Z,70nm,1.3s							
Q51A	Peebles	20.20	343	P	P	06 42 01.8	+0.3
Q51A				IAmb	IAmb	06 42 05.4	
comp=Z,54nm,1.3s							
GNAR	Gosnell	20.27	326	P	Pn	06 42 04.1	0.0
GNAR				IAmb	IAmb	06 42 22.7	
comp=Z,86nm,1.3s							
HICK	Hickman	20.31	328	P	P	06 42 02.6	0.0
HBAR	Harrisburg	20.32	324	P	P	06 42 03.0	+0.3
T45A	Paducah	20.41	330	IAmb	IAmb	06 42 29.8	
comp=Z,48nm,0.7s							
PAGS	Pennsylvania G	20.41	359	P	P	06 42 04.6	+0.9
PAGS				IAmb	IAmb	06 42 18.5	
comp=Z,83nm,1.2s							
WCI	Wyandotte Cave	20.43	336	P	P	06 42 04.1	+0.1
WCI	Wyandotte Cave	20.43	336	P	Pn	06 42 05.2	-0.9
baz=151							
P52A	Corning	20.48	347	IAmb	IAmb	06 42 09.2	
comp=Z,55nm,0.9s							
P52A	Corning	20.48	347	P	P	06 42 05.5	+0.9
baz=163,SNR=9.2							
O56A	Blue Knob Stat	20.56	355	IAmb	IAmb	06 42 10.8	
comp=Z,59nm,1.1s							
O56A	Blue Knob Stat	20.56	355	P	Pn	06 42 07.3	-0.3
baz=173,SNR=11							
P51A	Williamsport	20.56	344	IAmb	IAmb	06 42 11.9	
comp=Z,41nm,1.1s							
PARMO	Parma	20.67	327	P	P	06 42 06.9	+0.4
PARMO				IAmb	IAmb	06 42 20.0	
comp=Z,58nm,0.8s							
O54A	Avella	20.69	351	P	P	06 42 06.4	-0.4
O54A				IAmb	IAmb	06 42 13.0	
comp=Z,38nm,0.9s							
SSPA	Standing Stone	20.87	356	P	P	06 42 07.9	-0.8
SSPA				IAmb	IAmb	06 42 34.0	
comp=Z,144nm,1.7s							
SSPA	Standing Stone	20.87	356	P	Pn	06 42 13.1	+1.9
baz=175							
X40A	Basin Creek Fa	20.87	318	P	P	06 42 09.0	+0.3
X40A				IAmb	IAmb	06 42 23.7	
comp=Z,51nm,1.4s							
X40A	Basin Creek Fa	20.87	318	P	P	06 42 10.0	+1.3
baz=130							
O52A	Adamsville	20.89	348	P	P	06 42 08.8	-0.1
O52A				IAmb	IAmb	06 42 15.4	
comp=Z,89nm,1.6s							
O53A	New Philadelph	20.90	349	IAmb	IAmb	06 42 18.3	
comp=Z,60nm,1.2s							
O53A	New Philadelph	20.90	349	P	P	06 42 10.3	+1.3
baz=166,SNR=5.2							
BRNJ	Basking Ridge	20.90	3	IAmb	IAmb	06 42 15.7	
comp=Z,86nm,1.0s							
LCAR	Lake Charles	20.97	324	P	P	06 42 10.1	+0.4
W41B	Gary Mavity, V	20.97	320	P	Pn	06 42 11.1	-1.2
baz=133							
P49A	Miami Univ. Ec	21.07	341	IAmb	IAmb	06 42 24.5	
comp=Z,61nm,1.4s							
P49A	Miami Univ. Ec	21.07	341	P	P	06 42 11.4	+0.5
baz=157,SNR=6.4							
WHAR	Wooly Hollow	21.07	321	IAmb	IAmb	06 42 41.0	
comp=Z,52nm,1.1s							
N59A	State Game Lan	21.10	1	P	P	06 42 13.0	+1.9
baz=181							
PBMO	Poplar Bluff	21.10	326	IAmb	IAmb	06 42 16.8	
comp=Z,35nm,0.8s							
P48A	Milroy	21.23	340	IAmb	IAmb	06 42 14.2	
comp=Z,153nm,1.7s							
ACSO	Alum Creek Sta	21.25	345	P	P	06 42 13.4	+0.6
baz=162							
ODNJ	Ogdensburg	21.30	3	IAmb	IAmb	06 42 18.8	
comp=Z,66nm,1.0s							
BLO	Bloomington	21.35	337	IAmb	IAmb	06 42 16.3	
comp=Z,23nm,0.7s							
N53A	Lisbon	21.37	350	IAmb	IAmb	06 42 24.6	
comp=Z,85nm,1.4s							
MIAR	Mount Ida	21.38	317	P	P	06 42 14.4	+0.2
MIAR	Mount Ida	21.38	317	P	P	06 42 15.7	+1.5
baz=129,SNR=8.1							
TRNY	Table Rock, Ra	21.38	4	IAmb	IAmb	06 42 20.9	
comp=Z,55nm,1.2s							
FCAR	Ozark Folk Cen	21.39	322	IAmb	IAmb	06 42 19.1	
comp=Z,36nm,0.8s							
N54A	Moraine State	21.40	352	P	P	06 42 15.6	+1.2
baz=170							
TLIG	Tlapa	21.41	268	P	P	06 42 15.1	+0.3
WSPT	Westport, CT	21.48	6	IAmb	IAmb	06 42 20.7	
comp=Z,65nm,0.8s							
M57A	Sunshine Farm,	21.53	358	IAmb	IAmb	06 42 31.2	
comp=Z,29nm,0.9s							
O49A	Covington	21.56	343	IAmb	IAmb	06 42 21.1	
comp=Z,35nm,1.0s							
OLIL	Olney	21.58	334	IAmb	IAmb	06 42 30.2	
comp=Z,120nm,1.5s							
T42A	Van Buren	21.64	326	IAmb	IAmb	06 42 22.4	
comp=Z,28nm,0.8s							
KSPA	Keystone Colle	21.74	1	IAmb	IAmb	06 42 43.1	
comp=Z,150nm,1.7s							
N51A	Ashland	21.77	347	IAmb	IAmb	06 42 24.2	
comp=Z,44nm,0.8s							
O48B	Farmland	21.87	341	P	P	06 42 19.4	0.0
baz=156							
M54A	Oil Creek Stat	21.90	353	P	P	06 42 20.4	+0.6
baz=171							
W39A	Magazine	21.93	318	P	P	06 42 21.9	+1.8
baz=130							
M53A	WI Miller and	21.97	351	IAmb	IAmb	06 42 33.7	
comp=Z,79nm,1.2s							
M53A	WI Miller and	21.97	351	P	P	06 42 20.4	-0.1
baz=168							
P46A	Rosedale	21.99	337	IAmb	IAmb	06 42 23.6	
comp=Z,40nm,0.9s							
KSCT	Kent School, K	22.01	5	IAmb	IAmb	06 42 26.8	
comp=Z,39nm,0.9s							
FVM	French Village	22.03	329	IAmb	IAmb	06 42 29.5	
comp=Z,83nm,1.5s							
Q44A	Meyer Farm, Va	22.12	332	IAmb	IAmb	06 42 33.3	
comp=Z,80nm,1.1s							
U40A	Yellville	22.14	322	IAmb	IAmb	06 42 44.9	
comp=Z,37nm,1.3s							
U40A	Yellville	22.14	322	P	P	06 42 23.7	+1.3
baz=134							
N49A	Columbus Grove	22.20	344	P	P	06 42 22.3	-0.7
N49A				IAmb	IAmb	06 42 29.2	
comp=Z,33nm,1.1s							
UCCT	U. Connecticut	22.21	8	P	P	06 42 22.9	-0.2
UCCT				IAmb	IAmb	06 42 25.2	
comp=Z,76nm,1.2s							
BINY	Binghamton	22.38	0	P	P	06 42 24.6	-0.3
BINY	Binghamton	22.38	0	P	P	06 42 26.2	+1.3
baz=180							
M50A	Fremont	22.38	346	IAmb	IAmb	06 42 31.8	
comp=Z,46nm,0.8s							
CCM	Cathedral Cave	22.50	327	P	P	06 42 26.0	-0.2
CCM				IAmb	IAmb	06 42 50.2	
comp=Z,25nm,0.8s							
CCM	Cathedral Cave	22.50	327	P	P	06 42 26.8	+0.6
baz=140							
SFIN	Lafayette	22.62	338	P	P	06 42 28.2	+0.7
baz=152							
WHTX	Lake Whitney,	22.71	307	IAmb	IAmb	06 42 41.9	
comp=Z,50nm,0.9s							
WHTX	Lake Whitney,	22.71	307	P	P	06 42 30.9	+2.4
baz=117,SNR=9.2							
HHAR	Hobbs	22.73	320	IAmb	IAmb	06 42 33.6	
comp=Z,24nm,0.8s							
L61B	Northampton	22.81	7	P	P	06 42 30.2	+0.7
baz=188							
833A	Chaparral WMA,	22.90	296	IAmb	IAmb	06 42 42.7	
comp=Z,40nm,0.9s							
833A	Chaparral WMA,	22.90	296	P	P	06 42 32.7	+2.1
baz=107,SNR=11							
BOAV	Boa Vista	23.00	137	eP	P	06 42 31.1	-0.5
BOAV	Boa Vista	23.00	137	P	P	06 42 31.2	-0.5
Z35A	Perchaven, San	23.21	310	IAmb	IAmb	06 42 46.9	
comp=Z,43nm,0.8s							
S39A	Bolivar	23.34	324	IAmb	IAmb	06 42 39.0	
comp=Z,21nm,0.8s							
HDIL	Hopedale	23.61	334	IAmb	IAmb	06 42 41.0	
comp=Z,27nm,0.6s							
HDIL	Hopedale	23.61	334	P	P	06 42 38.8	+1.1
baz=148							
TUL1	Leonard	23.65	317	P	P	06 42 39.5	+1.5
baz=128,SNR=12							
W35A	Tecumseh	23.92	314	IAmb	IAmb	06 42 51.9	
comp=Z,34nm,0.8s							
JCT	Junction City	23.93	301	P	P	06 42 44.2	+3.3
baz=111,SNR=20							
P40A	Paris	24.03	329	IAmb	IAmb	06 43 21.4	
comp=Z,20nm,0.9s							
NCB	Newcomb	24.20	3	IAmb	IAmb	06 42 55.0	
comp=Z,51nm,1.2s							
OK034	N. Norfolk Rd.	24.30	316	IAmb	IAmb	06 43 11.4	
comp=Z,42nm,0.9s							
OK031	S. Brethren Rd	24.35	316	IAmb	IAmb	06 42 57.6	
comp=Z,54nm,1.2s							
QUOK	Quay	24.40	316	IAmb	IAmb	06 42 47.5	
comp=Z,29nm,0.8s							
TBTG	Tabatinga, AM	24.55	165	eP	P	06 42 47.7	+1.1
TBTG	Tabatinga, AM	24.55	165	P	P	06 42 46.9	+0.2
ABTX	Abilene, Hawle	24.65	306	IAmb	IAmb	06 43 00.4	
comp=Z,32nm,0.9s							
ABTX	Abilene, Hawle	24.65	306	P	P	06 42 49.1	+1.6
baz=116,SNR=8.4							
LBNH	Lisbon	24.66	7	P	P	06 42 48.1	+0.7
baz=189							
T35A	Sooner Cattle	24.72	318	IAmb	IAmb	06 42 49.8	
comp=Z,22nm,0.7s							
WMOK	Wichita Mounta	25.01	311	IAmb	IAmb	06 43 03.6	
comp=Z,24nm,1.0s							
WMOK	Wichita Mounta	25.01	311	P	P	06 42 51.4	+0.7
baz=121,SNR=20							
SADO	Sadowa	25.07	355	P	P	06 42 49.3	-1.8
comp=Z,13nm,0.8s,baz=197,slow=4.1,SNR=5.5							
SADO				LR	LR	06 53 42.1	
comp=Z,405nm,18.2s,baz=186,slow=39							
BLOK	Blackwell	25.08	317	IAmb	IAmb	06 43 14.0	
comp=Z,44nm,1.1s							
KAN13	South Haven SW	25.40	317	IAmb	IAmb	06 43 17.0	
comp=Z,44nm,1.0s							
N38A	Joes South For	25.58	329	IAmb	IAmb	06 43 46.1	
comp=Z,20nm,0.8s							
L40A	Anamosa	25.67	333	IAmb	IAmb	06 43 00.3	
comp=Z,30nm,0.8s							
JFWS	Jewell Farm	25.99	336	IAmb	IAmb	06 43 03.3	
comp=Z,28nm,0.7s							
JFWS	Jewell Farm	25.99	336	P	P	06 43 00.6	+1.2
baz=148							
KSU1	Kansas State U	26.18	322	P	P	06 43 02.3	+1.0
baz=132,SNR=8.9							
I42A	Draeger Farm,	26.35	339	IAmb	IAmb	06 43 07.3	
comp=Z,26nm,0.8s							
TXAR	Lajitas Array	26.78	296	P	P	06 43 07.4	+0.5
comp=Z,2.6nm,0.9s,baz=114,slow=9.1,SNR=21							
TXAR				PcP	PcP	06 46 30.6	+0.6
comp=Z,1.4nm,0.5s,baz=121,slow=3.4,SNR=19							
TXAR				LR	LR	06 55 51.1	
comp=Z,207nm,18.8s,baz=34,slow=41							
TX31	Lajitas Ar. Si	26.78	296	IAmb	IAmb	06 43 27.9	
comp=Z,34nm,1.1s							
ATAH	Atahualpa	26.82	185	P	P	06 43 10.0	+2.4
comp=Z,5.8nm,0.9s,baz=130,slow=3.2,SNR=3.6							
ATAH				LR	LR	06 55 28.2	
comp=Z,414nm,20.9s,baz=25,slow=40							
I40A	Norwalk	26.96	336	IAmb	IAmb	06 43 13.3	
comp=Z,20nm,0.8s							
R32A	Long Quarter,	27.02	318	IAmb	IAmb	06 43 45.0	
comp=Z,18nm,0.9s							
AMTX	Amarillo	27.17	309	IAmb	IAmb	06 43 23.4	
comp=Z,36nm,1.2s							
AMTX	Amarillo	27.17	309	P	P	06 43 11.4	+1.1
baz=117							
MACA	Manacapuru-AM	27.34	145	eP	P	06 43 12.5	+0.6
MACA	Manacapuru-AM	27.34	145	IAmb	IAmb	06 43 48.7	
comp=Z,16nm,1.0s							
CZSB	Cruzeiro do Su	27.51	173	eP	P	06 43 13.8	+0.3
CZSB	Cruzeiro do Su	27.51	173	P	P	06 43 13.1	-0.3
CZSB				IAmb	IAmb	06 43 24.0	
comp=Z,20nm,0.7s							
MSTX	Muleshoe	27.59	306	P	P	06 43 14.7	+0.5
MSTX				IAmb	IAmb	06 43 31.7	
comp=Z,27nm,1.4s							
CBKS	Cedar Bluff	27.90	318	P	P	06 43 18.2	+1.4
baz=126							
HPIG		28.04	290	IAmb	IAmb	06 43 35.5	
comp=Z,17nm,1.2s							
BGNE	Belgrade	28.60	324	P	P	06 43 24.0	+1.0
baz=132							
MNTX	Cornudas Mount	28.85	300	P	P	06 43 27.3	+2.0
baz=107,SNR=6.5							
ECSD	EROS Data Cent	29.44	329	P	P	06 43 30.3	-0.1
baz=138,SNR=7.3							
KSCO	Kaye Shedlock'	29.88	316	P	P	06 43 35.9	+1.4
baz=122							
T25A	Trinidad	30.17	311	P	P	06 43 39.4	+2.2
baz=117,SNR=16							
MALB	Monte Alegre	30.33	133	eP	P	06 43 37.8	-0.7
EYMN	Ely	30.77	340	P	P	06 43 42.9	+0.7
baz=151							
ANMO	Albuquerque	30.78	306	P	P	06 43 43.0	+0.5
comp=Z,1.4nm,0.7s,baz=112,slow=7.9,SNR=7.6							
ANMO				LR	LR	06 57 01.6	
comp=Z,188nm,18.4s,baz=58,slow=38							
ANMO	Albuquerque	30.78	306	P	P	06 43 44.8	+2.2
ANMO	Albuquerque	30.78	306	P	P	06 43 44.7	+2.1
baz=112							
F33A	5 Mile Ranch,	30.89	332	IAmb	IAmb	06 44 00.6	
comp=Z,30nm,1.6s							
MCPB	Macapa, AP	30.89	128	eP	P	06 43 42.4	-1.2
ETMB	Extrema	30.95	161	eP	P	06 43 44.0	0.0
ETMB	Extrema	30.95	161	P	P	06 43 44.3	+0.3
ETMB				IAmb	IAmb	06 43 53.9	
comp=Z,22nm,0.9s							
SUSD	Miller	31.12	327	P	P	06 43 45.6	+0.3
baz=135							
SDCO	Great Sand Dun	31.22	311	IAmb	IAmb	06 44 01.2	
comp=Z,54nm,1.9s							
SDCO	Great Sand Dun	31.22	311	P	P	06 43 48.5	+2.0
baz=117,SNR=5.8							
ITTB	Itaituba	31.23	138	eP	P	06 43 46.4	-0.1
Q24A	Divide	31.54	314	P	P	06 43 50.6	+1.2
baz=119							
NNA	Nana	31.55	181	P	P	06 43 51.0	+1.7
comp=Z,8.8nm,0.6s,baz=326,slow=9.3,SNR=6.1							
NNA				LR	LR	06 59 12.4	
comp=Z,328nm,18.7s,baz=350,slow=41							
NNA	Nana	31.55	181	P	P	06 43 50.3	+1.1
NNA				IAmb	IAmb	06 44 00.7	
comp=Z,20nm,0.8s							
319A	Douglas	31.98	298	IAmb	IAmb	06 44 06.0	
comp=Z,15nm,0.8s							
LPIG	La Paz	31.99	284	LR	LR	06 57 42.2	
comp=Z,275nm,20.8s,baz=118,slow=38							
S22A	4UR Ranch, Cre	32.16	310	P	P	06 43 56.7	+1.9
baz=115							
ISCO	Idaho Springs	32.27	315	IAmb	IAmb	06 44 08.7	
comp=Z,28nm,1.4s							
ISCO	Idaho Springs	32.27	315	P	P	06 43 57.1	+1.4
baz=120,SNR=10							
N23A	Red Feather La	33.03	316	IAmb	IAmb	06 44 17.1	
comp=Z,9.1nm,0.9s							
N23A	Red Feather La	33.03	316	P	P	06 44 03.8	+1.4
baz=121							
MVCO	Mesa Verde	33.16	309	IAmb	IAmb	06 44 18.2	
comp=Z,12nm,1.0s							
MVCO	Mesa Verde	33.16	309	P	P	06 44 05.4	+1.8
baz=113							
W18A	Petrified Fore	33.37	304	IAmb	IAmb	06 44 20.3	
comp=Z,19nm,1.1s							
W18A	Petrified Fore	33.37	304	P	P	06 44 07.8	+2.5
baz=108							
NPGB	Novo Progresso	33.55	141	eP	P	06 44 06.6	-0.3
PV15	Paradox Valley	33.60	310	IAmb	IAmb	06 44 22.4	
comp=Z,13nm,0.9s							
RSSD	Black Hills	33.66	322	P	P	06 44 08.1	+0.3
RSSD				IAmb	IAmb	06 44 35.0	
comp=Z,29nm,1.6s							
RSSD	Black Hills	33.66	322	P	P	06 44 08.6	+0.8
baz=127							
PV11	David Mesa, Pa	33.86	310	IAmb	IAmb	06 44 12.4	
comp=Z,11nm,0.7s							
MDND	Maddock	33.90	331	P	P	06 44 10.3	+0.8
baz=138							
PV23	Carpenter Ridg	34.02	310	IAmb	IAmb	06 44 24.8	
comp=Z,22nm,1.2s							
O20A	White River Ci	34.20	313	P	P	06 44 14.6	+2.1
baz=117							
ULM	Lac du Bonnet	34.25	337	P	P	06 44 11.7	-0.9
comp=Z,10nm,1.0s,baz=157,slow=10,SNR=6.7							
K22A	Casper	34.32	318	IAmb	IAmb	06 44 24.9	
comp=Z,11nm,1.1s							
K22A	Casper	34.32	318	P	P	06 44 14.4	+1.0
baz=122							
X16A	Lo Mia Camp, P	34.50	302	IAmb	IAmb	06 44 32.3	
comp=Z,12nm,1.1s							
WUAZ	Wupatki	34.76	304	P	P	06 44 20.1	+2.6
baz=107,SNR=9.7							
214A	Organ Pipe Nat	35.05	298	P	P	06 44 22.6	+2.8
baz=101							
RDMU	Red Mountain	35.31	313	IAmb	IAmb	06 44 23.9	
comp=Z,9.4nm,0.8s							
SRU	San Rafael Swe	35.37	311	IAmb	IAmb	06 44 36.3	
comp=Z,13nm,1.0s							
P18A	Preston Nutter	35.38	311	IAmb	IAmb	06 44 25.3	
comp=Z,23nm,0.9s							
Y14A	Wickenburg	35.63	301	IAmb	IAmb	06 44 41.6	
comp=Z,21nm,1.6s							
P17A	Butcher Ranch,	35.67	311	IAmb	IAmb	06 44 37.4	
comp=Z,13nm,0.9s							
SCHQ	Schefferville	35.72	9	P	P	06 44 24.3	-0.9
comp=Z,9.3nm,0.8s,baz=200,slow=7.0,SNR=17							
SCHQ				PcP	PcP	06 46 53.2	+0.1
comp=Z,5.8nm,0.9s,baz=338,slow=1.0,SNR=5.4							
SCHQ				LR	LR	06 57 11.6	
comp=Z,288nm,20.9s,baz=183,slow=33							
U15A	North Rim	35.75	305	IAmb	IAmb	06 44 39.2	
comp=Z,13nm,0.9s							
VILB	Vilhena	36.07	153	eP	P	06 44 29.0	+0.4
VILB	Vilhena	36.07	153	P	P	06 44 28.8	+0.2
VILB				IAmb	IAmb	06 44 44.1	
comp=Z,16nm,1.1s							
MTPU	Mount Pierson	36.19	308	IAmb	IAmb	06 44 42.7	
comp=Z,16nm,1.0s							
BW06	Boulder Array	36.30	317	P	P	06 44 31.3	+0.6
baz=119,SNR=6.6							
PDAR	Pinedale Array	36.30	317	P	P	06 44 30.9	+0.3
comp=Z,2.9nm,0.6s,baz=124,slow=11,SNR=36							
PDAR				PcP	PcP	06 46 55.2

BGU Big Grassy Mou 37.85 312 IAmb IAmb 06 44 58.0
comp=Z,18nm,1.2s
GMRC Granite Mounta 37.97 302 P **P 06 44 47.3 +2.5**
baz=103
SPR3 Spring Creek 3 38.10 309 IAmb IAmb 06 44 58.8
comp=Z,23nm,1.0s
TUQ Turquoise Moun 38.32 302 P **P 06 44 50.2 +2.5**
baz=103
PFO Pinyon Flats O 38.38 299 LR LR 07 02 31.9
comp=Z,357nm,18.0s,baz=128,slow=39
SIV San Ignacio 38.47 156 P **P 06 44 48.9 0.0**
comp=Z,9.2nm,0.9s,baz=353,slow=8.4,SNR=37
SIV LR LR 07 03 02.3
comp=Z,167nm,18.2s,baz=349,slow=40
ROSB Rosrio 38.63 122 *e*P **P 06 44 49.9 -0.4**
SHOC Shoshone, Teco 38.71 303 P **P 06 44 53.8 +2.9**
baz=104
S11A Rachel 38.75 306 IAmb IAmb 06 45 06.9
comp=Z,22nm,1.0s
PTLB Pontes e Lacer 38.75 153 *e*P **P 06 44 51.2 0.0**
PTLB Pontes e Lacer 38.75 153 P **P 06 44 51.2 0.0**
R11A Troy Canyon, C 38.83 307 P **P 06 44 54.2 +2.2**
baz=107,SNR=7.4
TPNV Topopah Spring 38.95 305 P **P 06 44 56.0 +3.0**
baz=105,SNR=7.1
MURC Murrieta 38.98 299 P **P 06 44 55.7 +2.5**
baz=100
BOZ Bozeman (W) 38.98 320 P **P 06 44 54.3 +1.1**
baz=120,SNR=6.6
GSC Goldstone, Bar 39.00 302 P **P 06 44 55.7 +2.4**
baz=102
EGMT Eagleton 39.17 324 IAmb IAmb 06 45 06.0
comp=Z,22nm,1.1s
EGMT Eagleton 39.17 324 P **P 06 44 55.3 +0.6**
baz=124,SNR=6.2
ELK Elko 39.34 311 P **P 06 44 56.5 +0.2**
comp=Z,6.0nm,0.8s,baz=105,slow=6.2,SNR=29
ELK LR LR 07 03 24.9
comp=Z,256nm,18.2s,baz=98,slow=40
MPMC Manual Prospec 39.70 303 P **P 06 45 00.8 +1.4**
baz=103
HLID Hailey 39.84 315 P **P 06 45 01.6 +1.2**
baz=114,SNR=16
EDW2 Edwards Air Fo 39.87 301 P **P 06 45 02.8 +2.2**
baz=101
SNDB Serra Nova Dou 39.88 140 *e*P **P 06 45 00.8 +0.1**
SMTB Santa Maria do 39.95 133 *e*P **P 06 45 01.2 -0.2**
CWC Cottonwood Cre 40.26 303 P **P 06 45 05.0 +1.1**
baz=103
ISA Isabella, Lake 40.40 302 P **P 06 45 06.1 +1.1**
baz=102
ARVC Arvin 40.59 301 P **P 06 45 09.3 +2.8**
baz=101
SALV Santo Antonio 40.71 149 *e*P **P 06 45 07.4 -0.2**
NVAR Mina Array Bea 40.90 306 P **P 06 45 10.7 +1.3**
comp=Z,4.3nm,0.7s,baz=97,slow=6.7,SNR=30
NVAR PcP **PcP 06 47 11.2 +1.3**
comp=Z,1.2nm,0.7s,baz=152,slow=4.5,SNR=4.0
NVAR LR LR 07 04 25.8
comp=Z,204nm,19.1s,baz=124,slow=40
KVN Kaiserville 40.91 307 IAmb IAmb 06 45 23.3
comp=Z,26nm,1.1s
VES Vestal, Richgr 40.92 302 P **P 06 45 12.1 +2.8**
baz=101
MSO Missoula 40.98 320 P **P 06 45 10.7 +1.0**
baz=118
LHV Little Huntoon 41.01 306 IAmb IAmb 06 45 24.7
comp=Z,16nm,1.1s
PB01 IPOC Station P 41.06 171 P **P 06 45 09.9 -0.6**
FCC Fort Churchill 41.10 346 P **P 06 45 10.0 -0.3**
FCC IAmb IAmb 06 45 20.5
comp=Z,33nm,1.6s
PLID Pearl Lake 41.50 317 P **P 06 45 14.5 +0.3**
JTMT Jette 41.63 321 P **P 06 45 16.0 +0.9**
JTMT IAmb IAmb 06 45 16.9
comp=Z,13nm,0.7s
NBPS Pedro II - PI 41.66 121 *e*P **P 06 45 15.4 -0.2**
YERR Yerington 41.75 307 IAmb IAmb 06 45 31.1
comp=Z,35nm,1.0s
PEXB Peixe 41.84 137 *e*P **P 06 45 16.5 -0.5**
PNTR Pine Nut 42.05 307 P **P 06 45 21.6 +2.9**
PNTR IAmb IAmb 06 45 33.1
comp=Z,18nm,0.9s
NBMO Morrinhos-CE 42.18 119 *e*P **P 06 45 19.4 -0.4**
WVOR Wild Horse Val 42.31 312 IAmb IAmb 06 45 35.5
comp=Z,22nm,1.4s
EMB Emerald Bay 42.40 307 IAmb IAmb 06 45 36.1
comp=Z,24nm,1.0s
RUBR Rubicon Trail 42.46 307 IAmb IAmb 06 45 39.5
comp=Z,36nm,1.1s
J08A Circle Bar Ran 42.50 313 IAmb IAmb 06 45 35.1
comp=Z,28nm,1.2s
ARAG Araguaiana, MT 42.56 144 *e*P **P 06 45 23.2 +0.5**
PP1B Ponte de Pedra 42.56 149 *e*P **P 06 45 23.3 +0.5**
LVC Limon Verde 42.69 170 LR LR 07 04 38.3
comp=Z,107nm,20.1s,baz=338,slow=38
LVC Limon Verde 42.69 170 *e*P **P 06 45 22.9 -1.2**
E09A Wood Farm, Sta 43.45 318 IAmb IAmb 06 45 30.8
comp=Z,9.5nm,0.7s
G08A Pilot Rock 43.51 316 IAmb IAmb 06 45 42.2
comp=Z,13nm,1.0s
NEW Newport 43.56 320 P **P 06 45 31.0 +0.4**
comp=Z,6.8nm,0.6s,baz=121,slow=8.2,SNR=18
NEW Newport 43.56 320 P **P 06 45 30.8 +0.1**
NEW Newport 43.56 320 P **P 06 45 31.3 +0.7**
baz=116,SNR=7.2
NBPB Pedra_Branca-C 43.83 121 *e*P **P 06 45 33.1 -0.1**
EDM Edmonton 44.01 328 P **P 06 45 34.3 +0.1**
EDM IAmb IAmb 06 45 35.6
comp=Z,26nm,1.3s
C09A Chrisman Ranch 44.06 319 IAmb IAmb 06 45 35.8
comp=Z,9.1nm,0.7s
NBCL Cascavel-CE 44.14 119 *e*P **P 06 45 35.8 +0.2**
D08A Wollman Farm, 44.16 318 P **P 06 45 35.3 -0.1**
FRB Frobisher Bay 44.26 5 LR LR 07 04 28.3
comp=Z,308nm,18.3s,baz=196,slow=37
SDBA SAO DESIDERIO 44.32 134 *e*P **P 06 45 36.3 -0.7**
PB14 IPOC Station P 44.46 173 P **P 06 45 38.6 +0.3**
AQDB Aquidauana 44.69 152 *e*P **P 06 45 40.2 +0.3**
AQDB Aquidauana 44.69 152 P **P 06 45 40.3 +0.5**
AQDB IAmb IAmb 06 45 50.2
comp=Z,13nm,0.7s
BDFB Brasilia 44.71 140 P **P 06 45 39.7 -0.6**
comp=Z,4.2nm,0.9s,baz=24,slow=4.3,SNR=4.7
BDFB Brasilia 44.71 140 P **P 06 45 40.1 -0.2**
BDFB IAmb IAmb 06 46 15.6
comp=Z,47nm,1.9s
L04D Klamath Falls 44.84 310 P **P 06 45 42.7 +1.6**
baz=105
B08A Colville Reser 44.93 320 P **P 06 45 42.2 +0.5**
B08A IAmb IAmb 06 45 42.9
comp=Z,16nm,0.6s
YBH Yreka Blue Hor 45.01 310 P **P 06 45 41.2 -1.2**
comp=Z,2.0nm,0.6s,baz=108,slow=6.2,SNR=6.3
LTY Liberty 45.34 318 IAmb IAmb 06 45 59.2
comp=Z,19nm,1.2s
I04A Tendick Farm, 45.35 313 P **P 06 45 45.5 +0.4**
baz=107
NBMA Muriti-CE 45.56 123 *e*P **P 06 45 47.5 +0.4**
IPMB Ipameri, GO 46.42 142 *e*P **P 06 45 52.0 -1.7**
ITRB Iturama 46.62 146 *e*P **P 06 45 55.8 +0.6**
JANB Januaria 46.62 136 *e*P **P 06 45 56.0 +0.7**
NBPN Ponto Novo - B 46.62 128 *e*P **P 06 45 54.4 -1.0**
AC02 Maricunga 46.80 171 P **P 06 45 57.9 +0.8**
RCBR Riachuelo 47.00 119 *e*P **P 06 45 58.6 +0.2**
LLLB Lillooet 47.36 322 IAmb IAmb 06 46 12.9
comp=Z,20nm,1.3s
NBLA Lagarto - SE 48.54 126 *e*P **P 06 46 09.1 -1.1**
BB19B Bebedouro 48.72 145 *e*P **P 06 46 12.2 +0.7**
NBAN Anadia - AL 48.91 123 *e*P **P 06 46 12.9 -0.1**
GDU01 Guandu, BA 48.97 130 *e*P **P 06 46 12.6 -0.9**
CPUP Villa Florida 49.30 158 P **P 06 46 17.6 +1.8**
comp=Z,5.5nm,1.1s,baz=202,slow=11,SNR=2.8
CPUP LR LR 07 09 35.2
comp=Z,99nm,18.4s,baz=348,slow=39
CPUP Villa Florida 49.30 158 IAmb IAmb 06 46 23.0
comp=Z,20nm,1.5s
NBIT Itapeh - BA 49.88 131 *e*P **P 06 46 20.1 -0.4**
SFJD Kangerlussuaq 49.97 13 P **P 06 46 18.7 -1.8**
comp=Z,12nm,0.9s,baz=212,slow=2.2,SNR=5.4
SFJD LR LR 07 07 37.0
comp=Z,160nm,18.3s,baz=226,slow=36
SFJD Kangerlussuaq 49.97 13 P **P 06 46 19.0 -1.4**
SFJD IAmb IAmb 06 46 21.7
comp=Z,25nm,1.1s
PTGB Pitanga 50.01 151 *e*P **P 06 46 22.1 +0.7**

YKA Yellowknife Ar 50.23 338 P **P 06 46 22.6 +0.1**
comp=Z,4.1nm,0.7s,baz=130,slow=8.9,SNR=61
YKA PcP **PcP 06 47 41.2 -0.3**
comp=Z,1.2nm,0.6s,baz=126,slow=3.3,SNR=6.8
ICESG Greenland Ices 54.15 15 *e*P **P 06 46 49.6 -2.4**
ICESG IAmb IAmb 06 46 53.5
comp=Z,22nm,0.6s
DLBC Dease Lake 54.73 329 P **P 06 46 57.7 +1.6**
comp=Z,7.9nm,0.6s,baz=111,slow=4.6,SNR=29
DLBC LR LR 07 12 34.0
comp=Z,674nm,20.0s,baz=111,slow=38
DLBC Dease Lake 54.73 329 IAmb IAmb 06 46 58.7
comp=Z,9.3nm,0.7s
RES Resolute Bay 55.89 354 P **P 06 47 03.5 -0.5**
comp=Z,9.8nm,0.8s,baz=177,slow=10,SNR=41
RES LR LR 07 11 27.2
comp=Z,311nm,18.7s,baz=110,slow=37
RES Resolute Bay 55.89 354 IAmb IAmb 06 47 04.5
comp=Z,12nm,0.8s
RPN Rapa Nui 56.66 216 LR LR 07 07 41.0
comp=Z,143nm,18.1s,baz=44,slow=32
TULEG Thule 56.94 2 P **P 06 47 11.7 +0.2**
TULEG IAmb IAmb 06 47 12.8
comp=Z,13nm,0.9s
SUMG Summit 56.97 13 *i* P **P 06 47 11.0 -1.3**
SUMG IAmb IAmb 06 47 13.2
comp=Z,16nm,0.9s
SUMG Summit 56.97 13 P **P 06 47 12.2 -0.1**
BORG Borgarnes 57.55 25 LR LR 07 09 00.3
comp=Z,52nm,18.7s,baz=272,slow=33
M31M Drury Creek, Y 58.08 332 P **P 06 47 21.0 +1.2**
baz=109
N31M Braeburn, Yuko 58.48 331 P **P 06 47 23.8 +1.2**
baz=107
NEEM North Greenlan 59.03 6 *e*P **P 06 47 24.5 -2.0**
NEEM IAmb IAmb 06 47 27.2
comp=Z,8.8nm,0.9s
M30M Minto, Yukon 59.26 332 IAmb IAmb 06 47 41.0
comp=Z,23nm,1.4s
M30M Minto, Yukon 59.26 332 P **P 06 47 28.9 +0.8**
baz=107
A36M Sachs Harbour 59.27 344 P **P 06 47 27.5 -0.4**
baz=124,SNR=29
INK Inuvik 59.98 339 P **P 06 47 31.8 -1.0**
comp=Z,2.6nm,0.7s,baz=108,slow=7.1,SNR=9.9
INK LR LR 07 13 01.3
comp=Z,392nm,19.1s,baz=120,slow=36
INK Inuvik 59.98 339 IAmb IAmb 06 49 35.0
comp=Z,26nm,1.8s
INK Inuvik 59.98 339 P **P 06 47 32.9 +0.1**
baz=114
PLCA Paso Flores 60.40 175 P **P 06 47 36.4 +0.3**
comp=Z,2.0nm,0.8s,baz=337,slow=7.5,SNR=8.8
PLCA LR LR 07 15 44.9
comp=Z,48nm,18.3s,baz=348,slow=38
PLCA Paso Flores 60.40 175 P **P 06 47 36.0 -0.1**
PLCA IAmb IAmb 06 48 34.2
comp=Z,23nm,1.7s
EUNU Eureka 60.53 358 P **P 06 47 36.9 +0.4**
EUNU IAmb IAmb 06 47 37.8
comp=Z,8.1nm,0.8s
DAWY Dawson 60.80 333 P **P 06 47 38.8 +0.1**
baz=105
BVCY Beaver Creek 61.04 331 P **P 06 47 41.2 +1.0**
baz=103
M27K Edge Creek, AK 61.49 331 P **P 06 47 44.4 +1.0**
baz=102
L27K Beaver Creek, 61.62 332 P **P 06 47 45.0 +0.8**
baz=102
EGAK Eagle 61.73 334 P **P 06 47 45.1 +0.3**
EGAK IAmb IAmb 06 47 46.2
comp=Z,8.6nm,0.9s
EGAK Eagle 61.73 334 P **P 06 47 45.5 +0.7**
baz=104
L26K Log Cabin Wild 62.29 332 P **P 06 47 50.0 +1.3**
baz=101
J26L Joseph Creek 62.67 333 IAmb IAmb 06 47 53.1
comp=Z,11nm,0.8s
J26L Joseph Creek 62.67 333 P **P 06 47 52.5 +1.2**
baz=102
SCRK Sand Creek 62.75 333 IAmb IAmb 06 48 03.5
comp=Z,16nm,1.2s
SCRK Sand Creek 62.75 333 P **P 06 47 52.6 +0.7**
baz=101
RIDG Independent Ri 63.08 332 P **P 06 47 55.1 +1.1**
baz=100
KLU Klutina 63.22 330 P **P 06 47 56.2 +1.2**
baz=98
PAX Paxson 63.23 331 P **P 06 47 56.1 +1.1**
baz=99
DAG Danmarks Havn 63.66 13 *i* P **P 06 47 55.0 -2.5**
DAG IAmb IAmb 06 47 57.1
comp=Z,7.5nm,0.7s
ESDC Sonseca Array 64.10 55 P **P 06 48 00.3 -0.8**
comp=Z,3.7nm,0.9s,baz=279,slow=6.4,SNR=15
ESDC LR LR 07 13 10.5
comp=Z,188nm,18.1s,baz=267,slow=34
ESDC Sonseca Array 64.10 55 P **P 06 48 01.2 +0.1**
ESDC IAmb IAmb 06 48 02.3
comp=Z,8.1nm,1.2s
HDA Harding Lake 64.10 333 IAmb IAmb 06 48 02.1
comp=Z,18nm,1.3s
HDA Harding Lake 64.10 333 P **P 06 48 01.1 +0.4**
baz=98
ILAR Eielson Array 64.13 333 P **P 06 48 00.8 0.0**
comp=Z,1.9nm,0.5s,baz=101,slow=4.8,SNR=38
ILAR LR LR 07 16 02.1
comp=Z,309nm,18.1s,baz=100,slow=36
WAT6 Susitna Watana 64.21 331 P **P 06 48 02.7 +1.1**
baz=97
EKA Eskdalemuir Ar 64.30 37 LR LR 07 13 48.7
comp=Z,95nm,18.4s,baz=273,slow=34
MDT Midelt 64.33 62 LR LR 07 11 53.9
comp=Z,296nm,18.9s,baz=308,slow=32
SML Sawmill 64.40 330 P **P 06 48 03.7 +1.0**
baz=96
POKR Poker Plat Res 64.41 334 P **P 06 48 03.5 +0.8**
baz=98
H24K Noodor Dome 64.70 334 IAmb IAmb 06 48 06.1
comp=Z,9.7nm,0.9s
H24K Noodor Dome 64.70 334 P **P 06 48 05.1 +0.5**
baz=98
MDM Murphy Dome 64.73 333 IAmb IAmb 06 48 18.1
comp=Z,20nm,1.5s
PMR Palmer 64.76 330 P **P 06 48 05.9 +1.0**
baz=95
MCK McKinley 64.88 332 P **P 06 48 06.9 +1.1**
baz=96
I23K Minto, Yukon-K 65.22 334 P **P 06 48 08.4 +0.5**
baz=96,SNR=8.6
TRF Thorofare Moun 65.46 332 P **P 06 48 10.4 +0.7**
baz=95
MLY Manley 65.79 333 P **P 06 48 12.1 +0.4**
baz=95
COLD Coldfoot 65.81 336 P **P 06 48 11.4 -0.3**
COLD IAmb IAmb 06 48 13.4
comp=Z,9.8nm,0.7s
COLD Coldfoot 65.81 336 P **P 06 48 12.7 +1.1**
baz=97,SNR=7.4
NOR Nord 66.25 8 *e*P **P 06 48 12.4 -1.9**
NOR IAmb IAmb 06 48 14.7
comp=Z,701nm,4.5s
KDAK Kodiak Island 66.33 325 LR LR 07 15 55.7
comp=Z,231nm,18.1s,baz=79,slow=35
CHUM Lake Minchumin 66.39 332 P **P 06 48 15.9 +0.4**
baz=93
H21K Melozitna Rive 66.71 334 P **P 06 48 17.7 +0.2**
baz=94
J20K Nowinta River 67.21 332 P **P 06 48 20.7 0.0**
baz=92
N19K Bonanza Creek 67.31 329 P **P 06 48 21.8 +0.3**
baz=90
TTA Tatalina 68.03 331 P **P 06 48 26.0 0.0**
baz=90
A21K Barrow 68.41 340 P **P 06 48 28.6 +0.6**
baz=92
ASK Askoy 68.74 32 *e*P **P 06 48 30.8 +0.4**
SNF Seneffe 68.95 42 pP **pP 06 48 34.5 +1.4**
SNF PcP **PcP 06 48 56.4 +0.2**
DOU Dourbes 69.19 43 P **P 06 48 33.4 0.0**
comp=Z,5.4nm,1.1s
BMRD Maredsous 69.28 43 P **P 06 48 34.1 +0.2**
comp=Z,5.4nm,1.1s
BGES Gesves 69.47 42 P **P 06 48 35.7 +0.6**
comp=Z,6.8nm,1.0s
ODD1 Odda 69.49 32 *e*P **P 06 48 36.4 +1.3**
AKN Aaknes 69.52 30 *e*P **P 06 48 35.9 +0.7**

RCHB Rochefort 69.59 43 P **P 06 48 36.0 +0.2**
BCLA Clavier 69.61 42 P **P 06 48 36.0 +0.1**
comp=Z,5.5nm,1.0s
BSTI Sart Tilman 69.76 42 P **P 06 48 37.5 +0.6**
TIC Toumodi 69.99 90 *e*PKP2 **P 06 48 37.7 -1.2**
MEM Membach 70.03 42 P **P 06 48 39.0 +0.4**
comp=Z,7.8nm,0.9s
BHOU Houvegnez 70.06 42 P **P 06 48 39.4 +0.6**
comp=Z,7.8nm,1.4s
BHOU PcP **PcP 06 49 00.1 -0.8**
BTNL Ternell 70.11 42 P **P 06 48 39.5 +0.4**
LIC Lamto 70.11 90 *e*PKP2 **P 06 48 38.1 -1.6**
comp=Z,100nm,1.8s
DBIC Dimbokro 70.14 90 P **P 06 48 38.1 -1.7**
comp=Z,6.5nm,0.9s,baz=294,slow=5.0,SNR=5.2
DBIC LR LR 07 13 11.1
comp=Z,105nm,21.8s,baz=300,slow=31
DBIC Dimbokro 70.14 90 P **P 06 48 38.3 -1.5**
DBIC IAmb IAmb 06 49 10.4
comp=Z,22nm,1.5s
WLF Walferdange 70.24 43 P **P 06 48 40.3 +0.5**
WLF Walferdange 70.24 43 P **P 06 48 40.7 +0.8**
SKAR Skarslia 70.26 31 *e*P **P 06 48 41.0 +1.2**
KIC Kosan Boka 70.34 90 *e*PKP2 **P 06 48 39.2 -1.9**
comp=Z,13nm,0.8s
DOMB Dombas 70.50 30 *e*P **P 06 48 42.7 +1.5**
HOMB Homborsund 70.60 34 *e*P **P 06 48 43.0 +1.1**
RDOG Red Dog Mine 70.67 337 P P 06 48 53.0 +11
baz=85
KONO Kongsberg 71.01 32 *e*P **P 06 48 45.3 +0.9**
KONO Kongsberg 71.01 32 P **P 06 48 45.6 +1.2**
ECH Echery 71.10 45 IAmb IAmb 06 48 46.2
comp=Z,17nm,1.1s
SPA0 Spitsbergen Ar 71.31 13 *e*P **P 06 48 46.3 +0.4**
SPITS Spitsbergen Ar 71.31 13 LR LR 07 21 24.8
comp=Z,171nm,18.1s,baz=2.5,slow=37
NSS Namsos 71.53 27 *e*P **P 06 48 47.8 +0.4**
TNS Taunus Mts 71.63 42 *e*P **P 06 48 49.3 +0.9**
comp=Z,16nm,1.2s,baz=283,slow=5.8
NB2 NORSAR Subarra 71.63 31 P **P 06 48 48.2 0.0**
comp=Z,29nm,1.1s,baz=278,slow=6.2
NB2 NORSAR Subarra 71.63 31 P **P 06 48 48.2 0.0**
baz=278,slow=6.2
NOA NORSAR Array B 71.63 31 P **P 06 48 49.1 +0.9**
comp=Z,7.0nm,0.8s,baz=279,slow=6.1,SNR=17
KONS Konsvik 71.76 25 *e*P **P 06 48 50.0 +1.3**
RETH Rethem/Aller, 71.81 40 *e*P **P 06 48 49.5 +0.3**
comp=Z,22nm,1.3s,baz=283,slow=5.8
NC602 NORSAR Array S 71.83 31 *e*P **P 06 48 51.0 +1.7**
NC602 NORSAR Array S 71.83 31 P **P 06 48 50.8 +1.5**
BFO Black Forest 71.86 44 *e*L L 07 16 17.1
comp=Z,259nm,18.3s
NC405 NORSAR Array S 71.86 31 P **P 06 48 49.8 +0.2**
NRDL Niedersach Rie 72.30 40 *e*P **P 06 48 52.5 +0.3**
comp=Z,29nm,1.4s,baz=283,slow=5.8
MOR8 Moi Rana 72.33 25 *e*P **P 06 48 53.3 +1.0**
GTTG Gottingen 72.37 41 *e*P **P 06 48 53.6 +0.9**
comp=Z,16nm,1.0s,baz=283,slow=5.8
STEI Steigen 72.37 23 *e*P **P 06 48 53.0 +0.6**
CLZ Clausthal 72.57 40 *e*L L 07 17 14.1
comp=Z,118nm,21.4s
ASSE Asse, Remlinge 72.70 40 *e*P **P 06 48 55.7 +1.1**
comp=Z,12nm,0.9s,baz=283,slow=5.8
FLTG Flechtingen 73.01 40 *e*P **P 06 48 56.8 +0.3**
comp=Z,19nm,1.1s,baz=283,slow=5.8
DAVOX Davos/Dischmat 73.17 46 LR LR 07 15 17.0
comp=Z,159nm,21.3s,baz=265,slow=31
TRO Tromso 73.39 21 *e*P **P 06 48 59.5 +1.1**
GRF Grafenberg Arr 73.49 43 *e*L L 07 13 52.6
comp=Z,125nm,18.6s
NEUB Neuenburg 73.54 41 *e*P **P 06 49 00.4 +0.8**
comp=Z,22nm,1.0s,baz=283,slow=5.8
MOX Moxa 73.55 42 *e*L L 07 18 50.1
comp=Z,186nm,19.1s
RETA Reutte 73.62 45 *e*P **P 06 49 00.9 +0.6**
comp=Z,7.8nm,0.8s
FETA Feichten 73.69 45 *e*P **P 06 49 01.6 +0.7**
comp=Z,12nm,1.1s
FUR Furstenfeldbru 73.82 44 *e*L L 07 18 12.3
comp=Z,212nm,18.7s
SALO Salr 73.83 47 P **P 06 49 01.5 -0.1**
MOTA Moosalm 73.88 45 *i* P **P 06 49 02.3 +0.4**
comp=Z,12nm,0.9s,SNR=6.3
JETT Jettan, Norway 73.91 21 *e*P **P 06 49 03.1 +1.6**
PLN Plauen 73.92 42 *e*P **P 06 49 02.4 +0.4**
comp=Z,13nm,0.9s,baz=283,slow=5.8
SQTA Sankt Quirin 73.97 45 *e*P **P 06 49 02.9 +0.4**
comp=Z,14nm,1.1s,SNR=4.5
MANZ Manzenberg 73.99 42 *e*P **P 06 49 03.1 +0.7**
comp=Z,86nm,4.7s,baz=283,slow=5.8
GUNZ Gunzen 74.06 42 *e*P **P 06 49 03.2 +0.5**
comp=Z,8.3nm,1.0s,baz=283,slow=5.8
ROTZ Rotzenmuhle 74.10 42 *e*P **P 06 49 03.8 +0.8**
comp=Z,6.9nm,1.7s,baz=283,slow=5.8
TANN Tannenbergstha 74.13 42 *e*P **P 06 49 03.7 +0.5**
comp=Z,12nm,0.9s,baz=283,slow=5.8
NKC Novy Kostel 74.16 42 *e*P **P 06 49 03.5 +0.2**
WTTA Wattenberg 74.25 45 *e*P **P 06 49 04.4 +0.2**
comp=Z,8.5nm,1.0s
CLL Collm 74.28 41⇑ *i*P **P 06 49 04.2 +0.2**
comp=Z,15nm,1.3s
CLL *e*PS **PnS 06 59 11.0 -0.1**
CLL Lm MLR 07 17 00.0
comp=Z,200nm,18.0s
CLL Collm 74.28 41 *e*P **P 06 49 04.3 +0.3**
comp=Z,15nm,1.3s,baz=283,slow=5.8
CLL *e*L L 07 17 45.9
comp=Z,185nm,18.0s
CLL Collm 74.28 41 P **P 06 49 03.8 -0.2**
CLL IAmb IAmb 06 49 05.0
comp=Z,11nm,1.2s
TORD Torodi Ar. Bea 74.33 81 P **P 06 49 04.5 -0.5**
comp=Z,6.6nm,0.8s,baz=291,slow=5.8,SNR=27
FBE Freiberg 74.58 41 *e*P **P 06 49 06.6 +0.9**
comp=Z,32nm,1.4s,baz=283,slow=5.8
WET Wettzell 74.66 43 *e*P **P 06 49 07.1 +0.8**
comp=Z,22nm,1.4s,baz=283,slow=5.8
WET *e*L L 07 17 57.6
comp=Z,130nm,21.7s
ABTA Abfaltersbach 74.94 45 *e*P **P 06 49 09.0 +1.0**
comp=Z,14nm,1.1s,SNR=4.2
BRG Berggiesshubel 74.95 41 *e*P **P 06 49 09.0 +1.1**
BRG Amp 06 49 09.8
comp=Z,9.1nm,1.1s
BRG Berggiesshubel 74.95 41 *e*P **P 06 49 07.9 0.0**
comp=Z,9.1nm,1.1s,baz=283,slow=5.8
KTK1 Kautokeino 75.02 22 *e*P **P 06 49 08.5 +0.6**
KHC Kasperske Hory 75.11 43 *e*P **P 06 49 09.2 +0.3**
KEST Kesra 75.15 57 P **P 06 49 10.0 +0.6**
comp=Z,16nm,0.9s,baz=41,slow=6.6,SNR=5.6
PBCC Pribram 75.25 42 *e*P **P 06 49 10.0 +0.3**
GEC2 GERESS Array S 75.25 43 *e*P **P 06 49 10.4 +0.6**
comp=Z,13nm,1.3s,baz=283,slow=5.8
GEC2 *e*L L 07 18 23.7
comp=Z,160nm,19.8s
GEC2 GERESS Array S 75.25 43 IAmb IAmb 06 49 11.6
comp=Z,15nm,1.3s
GERES GERESS Array B 75.25 43 P **P 06 49 09.9 +0.1**
comp=Z,3.5nm,0.8s,baz=285,slow=5.2,SNR=21
GERES LR LR 07 18 44.9
comp=Z,153nm,18.1s,baz=283,slow=33
KBA Koelnbreinsper 75.42 45 *i* P **P 06 49 11.3 +0.4**
comp=Z,6.1nm,0.8s
PRU Pruhonice 75.53 42 *e*P **P 06 49 11.8 +0.6**
ARA0 ARCESS Array S 75.64 21 *e*P **P 06 49 11.8 +0.2**
ARCES ARCESS Array B 75.64 21 P **P 06 49 11.7 +0.2**
comp=Z,8.3nm,0.6s,baz=283,slow=4.2,SNR=66
CKRC Cesky Krumlov 75.65 43 *e*P **P 06 49 12.3 +0.3**
MYKA Terra Mystica 75.73 45 *e*P **P 06 49 12.8 +0.2**
comp=Z,8.4nm,0.9s
MOA Molln 75.85 44 *e*P **P 06 49 13.1 -0.1**
comp=Z,5.8nm,0.8s,SNR=7.5
TREC Trest 76.29 42 *e*P **P 06 49 15.9 +0.3**
UPC Upice 76.32 41 *e*P **P 06 49 16.7 +1.0**
CHVC Chvalec 76.32 41 *e*P **P 06 49 15.8 0.0**
OBKA Obir 76.36 45 *e*P **P 06 49 16.9 +0.6**
comp=Z,16nm,1.5s
OSTC Ostas 76.43 41 *e*P **P 06 49 16.9 +0.5**
DPC Dobruska-Polom 76.55 41 *e*P **P 06 49 17.7 +0.6**
SOKA Soboth 76.64 45 *e*P **P 06 49 17.6 -0.2**
comp=Z,14nm,1.3s,SNR=5.2
CONA Conrad Observa 76.87 44 *e*P **P 06 49 19.6 +0.5**
comp=Z,7.1nm,1.0s,SNR=5.3
KRLC Kraliky 76.91 41 *e*P **P 06 49 19.4 +0.3**
KRUC Moravsky 76.92 42 *e*P **P 06 49 19.6 +0.4**
VRAC Vranov 76.99 42 *e*P **P 06 49 19.9 +0.3**

SOP	**Sopron**	**77.39**	**44**	P		**P**	**06 49 23.6**	**+1.8**
MORC	**Moravsky Berou**	**77.46**	**42**	*e*P		**P**	**06 49 23.1**	**+0.9**
MORC	**Moravsky Berou**	**77.46**	**42**	IAmb		IAmb	06 49 23.8	
	comp=Z,8.8nm,1.1s							
ZST	**Bratislava**	**77.61**	**43**	*e*P		**P**	**06 49 23.4**	**+0.4**
MODS	**Modra-Piesok**	**77.67**	**43**	*e*P		**P**	**06 49 24.6**	**+1.2**
SMOL	**Smolenice**	**77.73**	**43**	*e*P		**P**	**06 49 24.7**	**+1.0**
JAVC	**Velka Javorina**	**77.79**	**42**	*e*P		**P**	**06 49 25.5**	**+1.4**
MPLH	**Magyarpolny**	**78.17**	**44**	P		**P**	**06 49 26.9**	**+0.7**
SRO	**Srobarova**	**78.49**	**43**	*e*P		**P**	**06 49 29.1**	**+1.2**
FINES	**FINESS Array B**	**78.50**	**29**	P		**P**	**06 49 28.2**	**+0.5**
	comp=Z,9.7nm,0.5s,baz=274,slow=3.4,SNR=142							
FINES				LR		LR	07 19 25.5	
	comp=Z,38nm,21.8s,baz=288,slow=32							
VAE	**Valguarnera**	**78.64**	**54**	LR		LR	07 21 36.6	
	comp=Z,134nm,18.7s,baz=330,slow=34							
LANS	**Liptovska Anna**	**78.84**	**42**	*e*P		**P**	**06 49 31.4**	**+1.5**
KOVH	**Kovagotottos**	**78.85**	**45**	P		**P**	**06 49 30.4**	**+0.4**
PSZ	**Piszkesteto**	**79.48**	**43**	P		**P**	**06 49 33.9**	**+0.4**
PSZ				IAmb		IAmb	06 49 45.4	
	comp=Z,23nm,1.3s							
PSZ	**Piszkesteto**	**79.48**	**43**	P		**P**	**06 49 34.5**	**+1.1**
VSU	**Vasula**	**79.86**	**31**	*e*P		**P**	**06 49 35.6**	**+0.4**
FRGS	**Fruska Gora**	**80.27**	**46**	⇓P		**P**	**06 49 37.9**	**+0.1**
DIVS	**Divibare**	**80.73**	**47**	IAmb		IAmb	06 49 42.1	
	comp=Z,8.9nm,0.8s							
IIGN	**Ignalina**	**80.73**	**34**	*e*P		**P**	**06 49 40.6**	**+0.6**
IDID	**Didziasalis**	**81.02**	**34**	*e*P		**P**	**06 49 41.9**	**+0.4**
NACGM	**Naroch**	**81.19**	**35**	*i* P		**P**	**06 49 41.8**	**-0.6**
BZS	**Buzias**	**81.33**	**45**	⇑P		**P**	**06 49 44.4**	**+1.0**
BILL	**Bilibino**	**81.55**	**340**	P		**P**	**06 49 43.5**	**-0.6**
BILL				IAmb		IAmb	06 49 45.2	
	comp=Z,8.3nm,0.8s							
DRGR		**81.66**	**43**	⇓P		**P**	**06 49 46.4**	**+1.2**
MNK	**Minsk**	**81.94**	**35**	*i* P		**P**	**06 49 46.9**	**+0.5**
	comp=E,4.0nm,0.9s							
MNK				*i* P		**P**	**06 49 46.9**	**+0.5**
	comp=N,19nm,0.8s							
MNK				*i* P		**P**	**06 49 46.9**	**+0.5**
	comp=Z,17nm,0.8s,baz=293							
MNK				*i* PP		**PP**	**06 52 55.5**	**+2.1**
MNK				*i* PPP		PPP	06 54 41.6	
MNK				*i* S		**S**	**07 00 02.8**	**+2.4**
MNK				*i* SS		**SS**	**07 05 25.4**	**+7.1**
MNK				*i* SSS		SSS	07 08 46.3	
MNK				*i* LQ		LQ	07 21 02.6	
MNK				*i* LR		LR	07 25 03.9	
MNK				*i* LRM		MLR	07 27 20.0	
	comp=Z,243nm,27.4s							
MNK				*i* LRM		MLR	07 27 30.2	
	comp=N,279nm,25.9s							
MNK				*i* LRM		MLR	07 28 07.7	
	comp=E,14nm,19.4s							
GZR	**Gura Zlata**	**82.17**	**45**	⇑P		**P**	**06 49 48.1**	**+0.1**
LOT	**Lotru**	**82.81**	**44**	⇑P		**P**	**06 49 51.8**	**+0.5**
BURAR	**Bucovina Array**	**82.96**	**42**	⇓P		**P**	**06 49 53.5**	**+1.5**
ARR	**Arges**	**83.41**	**44**	⇓P		**P**	**06 49 55.0**	**+0.7**
VTS	**Vitosha**	**83.45**	**47**	⇑P		**P**	**06 49 56.0**	**+1.2**
VOIR		**83.66**	**44**	⇓P		**P**	**06 49 56.9**	**+1.3**
DOPR	**Dopca**	**83.68**	**43**	⇑P		**P**	**06 49 56.8**	**+1.1**
HUMR	**Humele**	**83.94**	**45**	⇓P		**P**	**06 49 56.8**	**-0.2**
AKASG	**Malin Array Be**	**84.19**	**38**	P		**P**	**06 49 57.9**	**-0.2**
	comp=E,1.5nm,0.6s,baz=288,slow=3.9,SNR=8.6							
AKASG				LR		LR	07 24 17.1	
	comp=E,89nm,18.6s,baz=264,slow=33							
MLR	**Muntele Rosu**	**84.22**	**44**	⇓P		**P**	**06 50 00.5**	**+1.9**
MLR	**Muntele Rosu**	**84.22**	**44**	LR		LR	07 23 02.4	
	comp=E,136nm,20.9s,baz=346,slow=32							
COVR	**Voineasa-Covas**	**84.25**	**43**	⇓P		**P**	**06 50 00.3**	**+1.6**
KLMR	**Klimovskoe**	**84.62**	**26**	*e*P		**P**	**06 49 58.3**	**-1.8**
KLMR				AMP			06 50 01.8	
	comp=Z,46nm,1.5s							
SORM	**Soroca**	**84.71**	**41**	⇓P		**P**	**06 50 01.4**	**+0.6**
SHEM	**Shemya Is, Ala**	**85.84**	**325**	LR		LR	07 27 37.2	
	comp=Z,126nm,21.4s,baz=22,slow=35							
TIXI	**Tiksi**	**87.24**	**352**	P		**P**	**06 50 13.1**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=24,slow=4.6,SNR=29							
TIXI	**Tiksi**	**87.24**	**352**	P		**P**	**06 50 12.4**	**-0.5**
TIXI				IAmb		IAmb	06 50 13.8	
	comp=Z,7.5nm,0.6s							
SEY	**Seymchan**	**89.25**	**340**	P		**P**	**06 50 23.0**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=102,slow=3.7,SNR=8.6							
SEY				LR		LR	07 33 15.6	
	comp=Z,127nm,19.7s,baz=4.0,slow=38							
KIRV	**Kirov**	**90.02**	**25**	LR		LR	07 28 41.5	
	comp=Z,41nm,19.4s,baz=345,slow=34							
BRTR	**Keskin Array B**	**91.79**	**47**	P		**P**	**06 50 35.2**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=270,slow=3.0,SNR=9.3							
BRTR				LR		LR	07 31 07.6	
	comp=Z,57nm,18.0s,baz=304,slow=35							
PETK	**Petropavlovsk-**	**93.87**	**331**	LR		LR	07 37 20.6	
	comp=Z,82nm,18.2s,baz=40,slow=38							
ARU	**Arti**	**95.07**	**23**	LR		LR	07 32 04.0	
	comp=Z,36nm,18.2s,baz=342,slow=34							
KBZ	**Khabaz**	**95.71**	**40**	LR		LR	07 34 29.7	
	comp=Z,36nm,18.4s,baz=324,slow=36							
MMAI	**Mount Meron Ar**	**96.18**	**52**	LR		LR	07 33 55.5	
	comp=Z,18nm,18.2s,baz=50,slow=35							
EIL	**Elat**	**97.40**	**55**	LR		LR	07 34 33.4	
	comp=Z,45nm,19.0s,baz=258,slow=35							
AKTO	**Aktyubinsk**	**99.26**	**28**	LR		LR	07 34 35.3	
	comp=Z,47nm,20.4s,baz=320,slow=35							
TSUM	**Tsumeb**	**99.60**	**107**	LR		LR	07 31 46.6	
	comp=Z,45nm,18.4s,baz=138,slow=33							
MKAR	**Makanchi Array**	**110.94**	**16**	PKKPbc		PKKPbc	07 06 57.2	-1.6
	comp=Z,0.6nm,1.0s,baz=146,slow=2.8,SNR=3.8							
WMQ	**Urumqi**	**115.01**	**13**	*e*PKP		**PKPdf**	**06 56 09.4**	**+1.2**
WMQ				LR		LR		
	comp=Z,130nm,17.3s							
HHC	**Hu-ho-hao-te**	**119.29**	**353**	*e*PKP		**PKPdf**	**06 56 11.8**	**-4.8**
NJ2	**Nanjing**	**126.54**	**344**	*e*PKP		**PKPdf**	**06 56 29.8**	**-0.7**
PZH	**PanZhiHua**	**133.97**	**3**	PKP		**PKPdf**	**06 56 44.4**	**-0.6**
STKA	**Stephens Creek**	**144.17**	**243**	PKP		PKPbc	06 57 01.6	+0.4
	comp=Z,3.0nm,0.6s,baz=124,slow=3.5,SNR=8.6							
STKA	**Stephens Creek**	**144.17**	**243**	PKPdf		PKPbc	06 57 01.5	+0.2
WRA	**Warramunga Arr**	**151.40**	**264**	PKP		**PKPdf**	**06 57 15.3**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=85,slow=2.1,SNR=26							
WRA				PKPbc		**PKPbc**	**06 57 20.7**	**-0.8**
	comp=Z,9.9nm,0.6s,baz=86,slow=2.5,SNR=12							
WRA	**Warramunga Arr**	**151.40**	**264**	PKPdf		**PKPdf**	**06 57 14.4**	**-1.0**
ASAR	**Alice Springs**	**151.89**	**257**	PKP		**PKPdf**	**06 57 15.8**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=97,slow=1.5,SNR=40							
ASAR				PKPbc		**PKPbc**	**06 57 21.1**	**-1.4**
	comp=Z,11nm,0.8s,baz=98,slow=2.2,SNR=50							
ASAR	**Alice Springs**	**151.89**	**257**	PKPdf		**PKPdf**	**06 57 15.3**	**-0.8**
ASAR				PKPbc		**PKPbc**	**06 57 21.6**	**-1.0**

IDC ***17*** *06:48:06.9±0.4, 19°.78N×75°.95W, h0km, mb4.4/27, mb1 4.5/33, mb1mx4.4/45, mbtmp4.4/33, ML3.6/5, MS3.8/11, Ms1 3.8/11, ms1mx3.4/76 Error ellipse: s-maj=14.2km s-min=10.8km az=64.0*

OSPL ***17*** *06:48:08.2±1.2, 19°.68N×76°.11W, h0km±18km, ML4.6*

SSNC ***17*** *06:48:08.2±1.4, 19°.65N×76°.02W, h4km±7km, ML4.6, MW4.6*

JSN ***17*** *06:48:08.1±0.8, 19°.68N×76°.07W, h0km±125km, MD4.9*

NEIC ***17*** *06:48:09.2±1.9, 19°.78N±0°.06×76°.02W±0°.04, h10km±1km, mb4.6/181, Error ellipse: s-maj=9.9km s-min=5.8km az=179.0*

ISC 17 06:48:07.3±0.6, 19°.73N±0°.03×76°.03W±0°.03, h3km±3km, n296, σ1$24/233, mb4.6/107, MS3.8/7, 7C-10D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.89**	**77**	Pg	**Pb**	**06 48 25.9**	**+0.6**
GTBY				Sg	**Sb**	**06 48 38.0**	**+0.5**
GTBY	**Guantanamo Bay**	**0.89**	**77**	*e*P	**Pb**	**06 48 25.4**	**+0.1**
GTBY				*e*S	**Sb**	**06 48 38.4**	**+0.9**
GTBY	**Guantanamo Bay**	**0.89**	**77**	*i* P	**Pb**	**06 48 25.6**	**+0.3**
GTBY				*e*S	**Sb**	**06 48 38.5**	**+0.9**
GTBY				IAML		06 48 39.6	
	comp=Z,27μm,0.7s						
GTMO	**Guantanamo**	**0.91**	**67**	*e*S	**Sn**	**06 48 41.2**	**+0.8**
LMGC	**Las Mercedes**	**0.97**	**290**	*e*P	**Pg**	**06 48 25.8**	**-0.3**
LMGC				*e*S	**Sg**	**06 48 38.2**	**-0.5**
LMGC				IAML		06 48 40.5	
	comp=E,5μm,0.1s						
LMGC				IAML		06 48 40.8	
	comp=N,8μm,0.2s						
HLGC	**Holguin**	**1.15**	**359**	*e*P	**Pg**	**06 48 29.5**	**0.0**
HLGC				*e*S	**Sn**	**06 48 46.9**	**+0.3**
HLGC				IAML		06 48 48.5	
	comp=N,28μm,0.7s						
HLGC				IAML		06 48 48.8	
	comp=E,61μm,0.5s						
MOAC	**Moa**	**1.36**	**47**	*e*P	**Pn**	**06 48 31.4**	**-1.8**
MOAC				*e*S	**Sg**	**06 48 50.4**	**-0.8**
MOAC				IAML		06 48 55.3	
	comp=N,8μm,0.5s						
MOAC				IAML		06 48 56.9	
	comp=E,10μm,0.4s						
CMJ	**Castle Mountai**	**1.62**	**192**	⇓*i*P	**Pn**	**06 48 35.9**	**-0.9**
MASC	**Masc**	**1.75**	**75**	*e*P	**Pn**	**06 48 36.7**	**-1.8**
MASC				*e*S	**Sn**	**06 48 57.3**	**-4.0**
MASC				IAML		06 49 09.0	
	comp=N,4μm,0.5s						
MASC				IAML		06 49 09.6	
	comp=E,3μm,0.5s						
GWJ	**Greenwich**	**1.78**	**202**	⇓*i*P	**Pn**	**06 48 37.6**	**-1.5**
BBJ	**Bamboo Saint A**	**1.78**	**221**	⇑*i*P	**Pn**	**06 48 37.8**	**-1.2**
STH	**Stony Hill**	**1.81**	**204**	⇓*i*P	**Pn**	**06 48 37.7**	**-1.7**
HOJ	**Hope**	**1.85**	**202**	⇓*i*P	**Pn**	**06 48 39.0**	**-1.0**
CVJ	**Coleyville**	**2.07**	**224**	*i* P	**Pn**	**06 48 41.7**	**-1.3**
MTDJ	**Mount Denham**	**2.07**	**224**		**Pn**	**06 48 41.6**	**-1.4**
MTDJ	**Mount Denham**	**2.07**	**224**	*e*P	**Pn**	**06 48 41.2**	**-1.8**
MTDJ				*e*S	**Sn**	**06 49 04.1**	**-5.2**
CCCC	**Cccc**	**2.19**	**312**	*e*P	**Pn**	**06 48 40.6**	**-4.0**
CCCC				*e*S	Sn	06 49 01.6	-11
CCCC				IAML		06 49 10.0	
	comp=E,3μm,0.6s						
CCCC				IAML		06 49 10.9	
	comp=N,2μm,0.5s						
MCJ	**Malvern**	**2.39**	**221**	⇑*i*P	**Pn**	**06 48 46.8**	**-0.6**
MCJ				*i* S	**Sn**	**06 49 15.2**	**-2.0**
LGNH	**Logne**	**3.46**	**110**	Pn	**Pn**	**06 49 03.3**	**+1.3**
LGNH	**Logne**	**3.46**	**110**	*i* P	**Pn**	**06 49 02.7**	**+0.6**
JAKH	**Jacmel**	**3.64**	**114**		**Pn**	**06 49 04.1**	**-0.4**
JAKH	**Jacmel**	**3.64**	**114**	*i* P	**Pn**	**06 49 04.2**	**-0.4**
JAKH				IAML		06 50 18.5	
	comp=Z,568nm,1.0s						
LCCY	**Blossom Villag**	**3.82**	**270**		**Pn**	**06 49 06.9**	**-0.1**
MGV	**Manicaragua**	**4.38**	**303**	*e*P	**Pn**	**06 49 14.6**	**-0.1**
MGV				*e*S	**Sn**	**06 50 06.5**	**+0.2**
MGV				IAML		06 50 10.4	
	comp=N,217nm,0.6s						
MGV				IAML		06 50 33.1	
	comp=E,184nm,0.8s						
SDDR	**Presa de Saban**	**4.54**	**99**		**Pn**	**06 49 16.5**	**-0.5**
SDDR	**Presa de Saban**	**4.54**	**99**	*i* P	**Pn**	**06 49 16.4**	**-0.5**
SDDR				IAML		06 50 23.8	
	comp=Z,413nm,0.7s						
GRTK	**Grand Turk**	**4.92**	**68**		**Pn**	**06 49 20.8**	**-1.3**
GRTK	**Grand Turk**	**4.92**	**68**	*i* P	**Pn**	**06 49 22.3**	**+0.2**
GRTK				IAML		06 50 28.6	
	comp=Z,545nm,0.8s						
SC01	**Santiago de lo**	**5.01**	**93**		**Pn**	**06 49 23.4**	**0.0**
SC01	**Santiago de lo**	**5.01**	**93**	*i* P	**Pn**	**06 49 24.2**	**+0.9**
SDD	**Santo Domingo**	**5.92**	**101**		**Pn**	**06 49 38.0**	**+2.1**
SOR	**Soroa**	**7.18**	**296**		**Pn**	**06 49 53.2**	**-0.1**
SOR	**Soroa**	**7.18**	**296**	*e*P	**Pn**	**06 49 52.2**	**-1.1**
PRVC	**Isla de Provid**	**8.13**	**220**	Pn	**Pn**	**06 50 07.6**	**+1.3**
MLPR	**Magueyes Islan**	**8.69**	**100**	Pn	**Pn**	**06 50 14.3**	**+0.4**
URIC	**Uribia, Colomb**	**8.88**	**153**	Pn	**Pn**	**06 50 17.0**	**+0.5**
OBIP	**Obispado Ponce**	**9.08**	**99**	Pn	**Pn**	**06 50 20.9**	**+1.6**
CELP	**Cerrillos**	**9.10**	**99**	Pn	**Pn**	**06 50 21.4**	**+1.8**
CRJC	**Cerrejon, Guaj**	**9.18**	**160**	*e*P	**Pn**	**06 50 18.7**	**-2.1**
HUMP	**Col San Antoni**	**9.76**	**98**	Pn	**Pn**	**06 50 28.0**	**-0.7**
SJCC	**San Jacinto, C**	**9.81**	**175**	*e*P	Pn	06 50 35.0	+5.6
CUPR	**Culebra, Puert**	**10.26**	**96**	Pn	**Pn**	**06 50 35.7**	**+0.1**
SMLC	**San Martn de**	**11.03**	**170**	*e*P	Pn	06 50 51.4	+5.3
ACON	**Acoyapa**	**11.70**	**230**	Pn	**Pn**	**06 50 56.8**	**+1.5**
OCAC	**Ocana**	**11.72**	**167**		**Pn**	**06 50 56.9**	**+1.2**
BOAB	**BOACO BROADBAN**	**11.75**	**233**		**Pn**	**06 50 57.3**	**+1.3**
UREC	**San Jos de Ur**	**11.92**	**178**	*e*P	**Pn**	**06 50 59.6**	**+1.3**
SDV	**Santo Domingo**	**11.98**	**153**	Pn	**Pn**	**06 51 00.0**	**+0.7**
	comp=Z,2.9nm,0.3s,baz=340,slow=12,SNR=9.8						
SDV				LR	LR	06 55 57.2	
	comp=Z,270nm,18.4s,baz=262,slow=39						
SDV	**Santo Domingo**	**11.98**	**153**	*e*P	**Pn**	**06 50 57.6**	**-1.7**
SDV	**Santo Domingo**	**11.98**	**153**		**Pn**	**06 50 59.9**	**+0.6**
TGUH	**Tegucigalpa,Un**	**12.15**	**244**	Pn	**Pn**	**06 51 02.1**	**+0.6**
ZARC	**Zaragoza, Cauc**	**12.22**	**175**		**Pn**	**06 51 04.0**	**+1.6**
SOCV	**Socops**	**12.44**	**156**	*e*P	Pn	06 51 11.9	+6.5
RIMA	**Rio Macho**	**12.47**	**218**	Pn	**Pn**	**06 51 06.5**	**+0.5**
SRBA	**San Rafael, Bu**	**12.62**	**215**	Pn	**Pn**	**06 51 08.5**	**+0.6**
PEZE	**Perez Zeledon,**	**12.67**	**217**	Pn	**Pn**	**06 51 08.1**	**-0.5**
PAMC	**Pamplona, Colo**	**12.74**	**165**	*e*P	**Pn**	**06 51 09.8**	**0.0**
JTS	**Las Juntas de**	**12.74**	**224**	Pn	**Pn**	**06 51 11.3**	**+1.8**
JTS				LR	LR	06 55 58.4	
	comp=Z,785nm,18.5s,slow=37						
JTS	**Las Juntas de**	**12.74**	**224**		**Pn**	**06 51 10.5**	**+1.1**
CDITO	**Canoas**	**12.92**	**212**		**Pn**	**06 51 12.7**	**+0.7**
ORTG	**Ortega, Santa**	**13.02**	**226**		**Pn**	**06 51 14.6**	**+1.1**
PTBC	**PUERTO BERRIO,**	**13.20**	**173**	*e*P	**Pn**	**06 51 16.0**	**+0.1**
BAUV	**El Baul**	**13.22**	**143**	Pn	**Pn**	**06 51 16.9**	**+0.9**
DUNO	**Dulce Nombre,**	**13.25**	**225**	Pn	**Pn**	**06 51 17.4**	**+0.9**
CAO2	**Cobano, Puntar**	**13.29**	**223**	Pn	**Pn**	**06 51 18.1**	**+1.1**
HELC	**Santa Helena**	**13.47**	**178**	*e*P	**Pn**	**06 51 24.2**	**+4.4**
ESQI	**Esquipulas**	**13.72**	**250**		**Pn**	**06 51 23.2**	**+0.2**
MTO3	**Montecristo**	**13.80**	**249**		**Pn**	**06 51 23.2**	**-1.0**
RUSC	**La Rusia**	**14.05**	**168**	*e*P	**P**	**06 51 32.4**	**-3.6**
SPBC	**San Pablo de B**	**14.13**	**172**	*e*P	**Pn**	**06 51 28.3**	**-0.2**
NORC	**Norcasia**	**14.13**	**175**	*e*P	**Pn**	**06 51 28.3**	**-0.3**
GUY2C	**Guyana, Caldas**	**14.44**	**177**	*e*P	**Pn**	**06 51 36.4**	**+3.3**
PCRV	**Puerto La Cruz**	**14.53**	**129**	Pn	**Pn**	**06 51 36.2**	**+2.2**
	comp=Z,1.2nm,0.3s,baz=53,slow=6.0,SNR=6.7						
PLCV	**Puerto La Cruz**	**14.57**	**129**		**Pn**	**06 51 36.2**	**+1.6**
PLMC	**San Jos del P**	**14.74**	**181**	*e*P	**Pn**	**06 51 38.5**	**+1.6**
ROSC	**El Rosal**	**14.90**	**173**	Pn	**Pn**	**06 51 40.9**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=348,slow=10,SNR=4.4						
ROSC				LR	LR	06 57 50.3	
	comp=Z,389nm,20.4s,baz=3.0,slow=39						
ROSC	**El Rosal**	**14.90**	**173**	*e*P	**Pn**	**06 51 38.5**	**-0.8**
ROSC	**El Rosal**	**14.90**	**173**		**Pn**	**06 51 38.6**	**-0.8**
152A	**Waverly Hall**	**15.05**	**331**		**Pn**	**06 51 41.8**	**+0.9**
152A				IAmb	IAmb	06 51 58.1	
	comp=Z,29nm,1.0s						
X58A	**Rowland**	**15.05**	**349**		**Pn**	**06 51 40.5**	**-0.4**
X58A				IAmb	IAmb	06 51 50.2	
	comp=Z,47nm,1.2s						
HODGE	**Hodges**	**15.46**	**340**	Pn	**Pn**	**06 51 44.0**	**-2.3**
VILC	**Villavicencio,**	**15.69**	**171**	*e*P	**Pn**	**06 51 50.8**	**+1.1**
CCIG	**Comitan**	**15.70**	**260**	Pn	**Pn**	**06 51 51.3**	**+1.5**
CCIG				IAmb	IAmb	06 51 58.0	
	comp=Z,45nm,1.0s						
ORTC	**Ortega, Tolima**	**15.75**	**177**	*e*P	**Pn**	**06 51 48.7**	**-1.5**
W57A	**Gilead**	**15.76**	**348**		**Pn**	**06 51 47.4**	**-2.8**
W57A				IAmb	IAmb	06 51 57.5	
	comp=Z,62nm,1.5s						
PAULI	**Pauline**	**15.88**	**342**	Pn	**Pn**	**06 51 50.0**	**-1.8**
PRAC	**Prado**	**15.96**	**176**	*e*P	P	06 52 05.1	+8.4
V61A	**Roper**	**16.00**	**358**	Pn	**Pn**	**06 51 51.6**	**-1.8**
Y49A	**Blount Mountai**	**16.83**	**329**	P	**P**	**06 52 06.6**	**+0.4**
FPAL	**Fort Paine**	**17.02**	**332**	P	**P**	**06 52 08.0**	**-0.3**
TKL	**Tuckaleechee C**	**17.27**	**338**	P	**Pn**	**06 52 07.6**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=158,slow=15,SNR=6.0						
TKL				LR	LR	07 00 12.2	
	comp=Z,190nm,18.5s,baz=156,slow=42						
CPCT	**Cooper Cave**	**17.36**	**336**	P	**Pn**	**06 52 10.3**	**-0.3**
SOTA	**Rioblanco**	**17.50**	**182**	*e*P	**P**	**06 52 17.4**	**+3.2**
X48A	**Hartselle**	**17.62**	**329**	P	**P**	**06 52 15.2**	**+0.3**
BLA	**Blacksburg**	**17.83**	**348**	IAmb	IAmb	06 52 31.5	
	comp=Z,42nm,1.1s						
FLOC	**Florencia**	**18.04**	**179**	*e*P	P	06 52 29.6	+10
CMIG	**Matias Romero**	**18.08**	**265**	P	**P**	**06 52 20.8**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=81,slow=8.6,SNR=19						
R58B	**Mineral**	**18.24**	**355**	IAmb	IAmb	06 52 40.7	
	comp=Z,53nm,1.4s						
GCUF	**Volcan Galeras**	**18.44**	**184**	*e*P	**P**	**06 52 25.6**	**+1.0**
V48A	**Smith Brothers**	**18.57**	**331**	IAmb	IAmb	06 52 44.7	
	comp=Z,45nm,1.4s						
W45A	**Hickory Valley**	**19.27**	**326**	IAmb	IAmb	06 52 44.9	
	comp=Z,46nm,0.9s						
WVT	**Waverly**	**19.35**	**330**	P	**Pn**	**06 52 35.3**	**+0.3**
Q56A	**Snyder Ridge,**	**19.43**	**353**	IAmb	IAmb	06 53 05.3	
	comp=Z,31nm,1.1s						
SDMD	**Soldier's Deli**	**19.62**	**358**	P	**P**	**06 52 36.8**	**-0.1**
P57A	**Homestead Farm**	**19.76**	**355**	IAmb	IAmb	06 52 52.4	
	comp=Z,37nm,1.2s						
WCI	**Wyandotte Cave**	**20.47**	**336**		Pn	06 52 49.0	+0.8
WCI				IAmb	IAmb	06 52 59.0	
	comp=Z,40nm,1.2s						
P52A	**Corning**	**20.52**	**346**	IAmb	IAmb	06 52 55.1	
	comp=Z,29nm,1.1s						
O56A	**Blue Knob Stat**	**20.58**	**354**	IAmb	IAmb	06 52 55.1	
	comp=Z,60nm,1.1s						
HKT	**Hockley**	**20.62**	**303**		**P**	**06 52 47.1**	**-0.7**
HKT				IAmb	IAmb	06 52 54.6	
	comp=Z,33nm,1.4s						
O54A	**Avella**	**20.72**	**351**	IAmb	IAmb	06 52 56.3	
	comp=Z,41nm,1.1s						
O52A	**Adamsville**	**20.92**	**347**	IAmb	IAmb	06 53 09.2	
	comp=Z,31nm,1.1s						
BRNJ	**Basking Ridge**	**20.92**	**3**	P	Pn	06 52 52.2	-1.2
O53A	**New Philadelph**	**20.93**	**349**	IAmb	IAmb	06 53 08.5	
	comp=Z,62nm,1.3s						
LCAR	**Lake Charles**	**21.02**	**324**	IAmb	IAmb	06 53 08.2	
	comp=Z,21nm,1.0s						
W41B	**Gary Mavity, V**	**21.02**	**320**	IAmb	IAmb	06 53 11.9	
	comp=Z,36nm,1.4s						
P49A	**Miami Univ. Ec**	**21.11**	**341**	IAmb	IAmb	06 53 04.2	
	comp=Z,50nm,1.2s						
N59A	**State Game Lan**	**21.12**	**1**	P	**P**	**06 52 55.1**	**+1.9**
WHAR	**Wooly Hollow**	**21.12**	**321**	P	**P**	**06 52 53.5**	**+0.3**
WHAR				IAmb	IAmb	06 53 00.2	
	comp=Z,40nm,1.1s						
PBMO	**Poplar Bluff**	**21.15**	**326**	IAmb	IAmb	06 53 00.2	
	comp=Z,25nm,0.9s						
P48A	**Milroy**	**21.26**	**340**	IAmb	IAmb	06 53 04.9	
	comp=Z,37nm,1.0s						
ODNJ	**Ogdensburg**	**21.32**	**3**	IAmb	IAmb	06 53 00.4	
	comp=Z,23nm,0.9s						
MIAR	**Mount Ida**	**21.43**	**317**	P	**P**	**06 52 58.2**	**+1.6**
MIAR				IAmb	IAmb	06 53 08.4	
	comp=Z,54nm,1.4s						
FCAR	**Ozark Folk Cen**	**21.44**	**322**	IAmb	IAmb	06 53 11.0	
	comp=Z,20nm,0.8s						
WSPT	**Westport, CT**	**21.49**	**6**	P	**P**	**06 52 59.5**	**+2.4**
M57A	**Sunshine Farm,**	**21.55**	**358**	IAmb	IAmb	06 53 11.4	
	comp=Z,36nm,1.1s						
OLIL	**Olney**	**21.63**	**334**	IAmb	IAmb	06 53 09.1	
	comp=Z,31nm,0.8s						
T42A	**Van Buren**	**21.69**	**326**	IAmb	IAmb	06 53 13.6	
	comp=Z,23nm,0.9s						
M53A	**WI Miller and**	**22.00**	**351**	IAmb	IAmb	06 53 10.3	
	comp=Z,37nm,1.0s						
P46A	**Rosedale**	**22.03**	**336**	IAmb	IAmb	06 53 24.4	
	comp=Z,25nm,0.9s						
FVM	**French Village**	**22.08**	**328**	IAmb	IAmb	06 53 15.1	
	comp=Z,24nm,0.9s						
MGMO	**Mountain Grove**	**22.42**	**324**	IAmb	IAmb	06 53 26.9	
	comp=Z,42nm,1.2s						
CCM	**Cathedral Cave**	**22.54**	**327**	P	**P**	**06 53 09.2**	**+0.7**
CCM				IAmb	IAmb	06 53 22.3	
	comp=Z,20nm,0.9s						
WVNY	**West Valley, N**	**22.71**	**355**	IAmb	IAmb	06 53 12.5	
	comp=Z,39nm,1.1s						
**Z35

comp=Z,19nm,1.4s
NEW Newport 43.61 320 P **P** 06 56 12.6 -0.3
NEW IAmb IAmb 06 56 24.5
comp=Z,7.8nm,1.0s
AQDB Aquidauana 44.65 152 P **P** 06 56 21.3 -0.1
AQDB IAmb IAmb 06 56 22.8
comp=Z,6.7nm,0.8s
BDFB Brasilia 44.66 140 P **P** 06 56 21.2 -0.5
comp=Z,2.5nm,0.9s,baz=325,slow=12,SNR=3.0
BDFB Brasilia 44.66 140 IAmb IAmb 06 56 41.9
comp=Z,9.1nm,1.2s
B08A Colville Reser 44.98 320 P **P** 06 56 24.0 +0.1
B08A IAmb IAmb 06 56 29.1
comp=Z,18nm,1.3s
YKA Yellowknife Ar 50.27 338 P **P** 06 57 04.5 -0.1
comp=Z,2.0nm,0.8s,baz=130,slow=8.5,SNR=31
YKA PcP **PcP** 06 58 23.1 -0.5
comp=Z,0.8nm,0.7s,baz=120,slow=4.3,SNR=2.5
DLBC Dease Lake 54.78 329 P **P** 06 57 38.0 -0.3
comp=Z,3.6nm,0.9s,baz=98,slow=5.1,SNR=8.2
DLBC Dease Lake 54.78 329 IAmb IAmb 06 57 49.7
comp=Z,8.7nm,1.1s
RES Resolute Bay 55.91 354 P **P** 06 57 45.2 -0.9
RES IAmb IAmb 06 57 46.2
comp=Z,7.0nm,0.8s
RPN Rapa Nui 56.67 216 LR LR 07 18 48.5
comp=Z,102nm,18.1s,baz=43,slow=32
SUMG Summit 56.98 13 *i* P **P** 06 57 53.0 -1.2
SUMG Summit 56.98 13 P **P** 06 57 53.5 -0.7
SUMG IAmb IAmb 06 58 08.3
comp=Z,11nm,1.0s
BORG Borgarnes 57.54 25 LR LR 07 21 12.3
comp=Z,106nm,18.1s,baz=296,slow=34
INK Inuvik 60.02 339 P **P** 06 58 14.8 -0.1
comp=Z,1.9nm,1.0s,baz=93,slow=5.8,SNR=6.7
INK Inuvik 60.02 339 IAmb IAmb 06 58 36.4
comp=Z,10nm,1.5s
PLCA Paso Flores 60.37 175 P **P** 06 58 18.1 +0.4
comp=Z,1.9nm,0.8s,baz=31,slow=7.2,SNR=5.3
PLCA Paso Flores 60.37 175 P **P** 06 58 18.5 +0.7
PLCA IAmb IAmb 06 58 19.3
comp=Z,6.0nm,1.2s
EUNU Eureka 60.55 358 P **P** 06 58 18.9 +0.3
EUNU IAmb IAmb 06 58 19.4
comp=Z,5.3nm,0.8s
DAG Danmarks Havn 63.67 12 *i* P **P** 06 58 37.0 -2.4
BMAR Burnt Mountain 63.73 336 P **P** 06 58 40.5 +0.4
ESDC Sonseca Array 64.07 55 P **P** 06 58 41.5 -1.3
comp=Z,2.6nm,0.9s,baz=284,slow=7.0,SNR=12
ESDC Sonseca Array 64.07 55 P **P** 06 58 43.5 +0.7
ESDC IAmb IAmb 06 58 46.7
comp=Z,6.6nm,1.3s
ILAR Eielson Array 64.17 333 P **P** 06 58 42.6 -0.3
comp=Z,1.5nm,0.8s,baz=104,slow=4.9,SNR=12
ILAR Eielson Array 64.17 333 P **P** 06 58 43.3 +0.4
MDT Midelt 64.29 62 LR LR 07 22 44.3
comp=Z,124nm,18.7s,baz=297,slow=32
RND Reindeer 64.85 332 P **P** 06 58 48.6 +1.0
COLD Coldfoot 65.85 336 P **P** 06 58 54.9 +1.1
NOR Nord 66.26 8 *eP* **P** 06 58 53.2 -3.0
CLF Chambon-Foret 67.84 45 P **P** 06 59 07.4 +0.6
SNF Seneffe 68.93 42 P **P** 06 59 13.9 +0.3
DOU Dourbes 69.17 43 P **P** 06 59 15.1 0.0
BMRD Maredsous 69.26 43 P **P** 06 59 15.8 +0.1
BGES Gesves 69.45 42 P **P** 06 59 17.1 +0.3
BCLA Clavier 69.59 42 P **P** 06 59 18.4 +0.7
BSTI Sart Tilman 69.73 42 P **P** 06 59 19.0 +0.4
TIC Toumodi 69.94 90 *e*PKIKP P 06 59 15.5 -5.0
LIC Lamto 70.06 90 *e*PKIKP P 06 59 15.8 -5.4
comp=Z,42nm,1.3s
DBIC Dimbokro 70.08 90 P **P** 06 59 20.6 -0.7
comp=Z,6.7nm,0.9s,baz=311,slow=5.1,SNR=4.9
WLF Walferdange 70.22 43 P **P** 06 59 22.5 +0.9
comp=Z,6.4nm,1.0s
WLF PcP **PcP** 06 59 44.2 +0.8
KIC Kosan Boka 70.29 90 *e*PKIKP P 06 59 16.2 -6.4
comp=Z,16nm,1.0s
SENIN Lac Senin/Sane 71.46 47 P **P** 06 59 30.7 +1.2
NB2 NORSAR Subarra 71.62 31 P **P** 06 59 30.4 +0.4
comp=Z,2.9nm,0.7s,baz=279,slow=6.2
NOA NORSAR Array B 71.62 31 P **P** 06 59 30.6 +0.6
comp=Z,5.4nm,0.8s,baz=279,slow=6.0,SNR=5.7
DAVA Damuels 73.05 45 *eP* **P** 06 59 40.1 +1.2
comp=Z,9.1nm,1.0s
RETA Reutte 73.60 45 *eP* **P** 06 59 42.7 +0.7
comp=Z,8.6nm,0.9s
FETA Feichten 73.67 45 *eP* **P** 06 59 43.2 +0.6
comp=Z,5.9nm,0.9s
MOTA Moosalm 73.85 45 *eP* **P** 06 59 43.9 +0.3
comp=Z,15nm,1.2s
SQTA Sankt Quirin 73.95 45 *eP* **P** 06 59 44.7 +0.5
comp=Z,13nm,1.7s
WTTA Wattenberg 74.22 45 *eP* **P** 06 59 46.2 +0.3
comp=Z,3.1nm,0.8s
CLL Collm 74.26 41 *eP* **P** 06 59 46.0 +0.3
CLL *ex* x 06 59 55.0
TORD Torodi Ar. Bea 74.28 81 P **P** 06 59 46.1 -0.4
comp=Z,6.1nm,0.9s,baz=293,slow=5.4,SNR=21
TORD Torodi Ar. Bea 74.28 81 P **P** 06 59 46.0 -0.5
TORD IAmb IAmb 06 59 47.0
comp=Z,7.0nm,0.9s
ABTA Abfaltersbach 74.92 45 *eP* **P** 06 59 50.2 +0.4
comp=Z,7.2nm,1.0s
BRG Berggiesshubel 74.93 41 *eP* **P** 06 59 50.2 +0.5
BRG Amp 06 59 51.8
comp=Z,4.8nm,1.0s
KHC Kasperske Hory 75.09 43 *eP* **P** 06 59 50.5 -0.2
KHC Kasperske Hory 75.09 43 IAmb IAmb 06 59 52.5
comp=Z,5.8nm,1.0s
KEST Kesra 75.11 57 P **P** 06 59 51.3 +0.2
comp=Z,14nm,1.0s,baz=272,slow=6.0,SNR=3.8
GERES GERESS Array B 75.23 43 P **P** 06 59 52.2 +0.7
comp=Z,2.2nm,0.8s,baz=285,slow=5.1,SNR=14
KBA Koelnbreinsper 75.40 45 *eP* **P** 06 59 53.0 +0.3
comp=Z,16nm,1.2s
PRU Pruhonice 75.50 42 *eP* **P** 06 59 53.7 +0.7
CKRC Cesky Krumlov 75.63 43 *eP* **P** 06 59 54.5 +0.7
ARCES ARCESS Array B 75.64 21 P **P** 06 59 53.0 -0.4
comp=Z,4.3nm,0.6s,baz=289,slow=3.7,SNR=18
ARCES ARCESS Array B 75.64 21 P **P** 06 59 53.2 -0.2
MURB Monte Urbino 75.72 49 P **P** 06 59 54.0 -0.4
MOA Molln 75.83 44 *eP* **P** 06 59 54.9 0.0
comp=Z,5.4nm,0.9s
CHVC Chvalec 76.30 41 *eP* **P** 06 59 58.3 +0.7
OBKA Obir 76.34 45 *i* P **P** 06 59 58.1 +0.2
comp=Z,7.7nm,1.1s
OSTC Ostas 76.41 41 *eP* **P** 06 59 58.7 +0.5
DPC Dobruska-Polom 76.53 41 *eP* **P** 06 59 59.6 +0.7
DPC *ep*P **pwP** 07 00 06.3 +0.6
SOKA Soboth 76.62 45 *eP* **P** 06 59 59.7 +0.2
comp=Z,12nm,1.5s
ARSA Arzberg 76.80 44 *i* P **P** 07 00 00.7 +0.3
comp=Z,3.2nm,1.1s
CONA Conrad Observa 76.85 44 *eP* **P** 07 00 00.8 0.0
comp=Z,4.8nm,1.0s
KRLC Kraliky 76.88 41 *eP* **P** 07 00 01.6 +0.7
KRUC Moravsky 76.90 42 *eP* **P** 07 00 01.4 +0.4
VRAC Vranov 76.97 42 *eP* **P** 07 00 01.7 +0.4
MORC Moravsky Berou 77.44 42 *eP* **P** 07 00 04.8 +0.8
MORC Moravsky Berou 77.44 42 IAmb IAmb 07 00 06.0
comp=Z,8.5nm,1.3s
ZST Bratislava 77.58 43 *eP* **P** 07 00 05.9 +1.1
MODS Modra-Piesok 77.65 43 *eP* **P** 07 00 05.0 -0.2
JAVC Velka Javorina 77.77 42 *eP* **P** 07 00 07.0 +1.1
FINES FINESS Array B 78.50 29 P **P** 07 00 09.8 +0.3
comp=Z,5.7nm,0.6s,baz=280,slow=3.8,SNR=34
VYHS Vyhne 78.61 43 *eP* **P** 07 00 11.2 +0.7
BZS Buzias 81.31 45 ⇑P **P** 07 00 26.0 +0.9
BILL Bilibino 81.59 340 P **P** 07 00 25.9 -0.3
BILL IAmb IAmb 07 00 27.3
comp=Z,4.8nm,0.8s
DRGR 81.63 43 ⇓P **P** 07 00 28.2 +1.2
GZR Gura Zlata 82.15 45 ⇓P **P** 07 00 30.7 +1.0
BURAR Bucovina Array 82.94 42 ⇓P **P** 07 00 34.9 +1.1
ARR Arges 83.39 44 ⇑P **P** 07 00 36.9 +0.8
VTS Vitosha 83.42 47 ⇓P **P** 07 00 37.9 +1.4
VOIR 83.63 44 ⇑P **P** 07 00 38.2 +0.8
DOPR Dopca 83.66 43 ⇓P **P** 07 00 38.6 +1.2
AKASG Malin Array Be 84.18 38 P **P** 07 00 39.5 -0.4
comp=Z,0.4nm,0.6s,baz=275,slow=3.7,SNR=5.0
MLR Muntele Rosu 84.20 44 ⇑P **P** 07 00 41.2 +0.8
VRI Vrincioaia 84.56 43 ⇓P **P** 07 00 42.8 +0.7
KLMR Klimovskoe 84.62 26 *eP* **P** 07 00 41.1 -0.9
KLMR AMP 07 00 51.8
comp=Z,35nm,1.5s

HARR Harsova 85.81 44 ⇑P P 07 00 35.6 -13
TIXI Tiksi 87.27 352 P **P** 07 00 54.8 -0.1
TIXI IAmb IAmb 07 00 55.5
comp=Z,4.2nm,0.7s
NRIK Noril'sk 90.39 6 P **P** 07 01 09.9 +0.2
comp=Z,1.7nm,0.5s,baz=25,slow=2.4,SNR=4.5
NRIK Noril'sk 90.39 6 P **P** 07 01 10.1 +0.4
NRIK IAmb IAmb 07 01 21.6
comp=Z,4.9nm,1.0s
BRTR Keskin Array B 91.77 47 P **P** 07 01 17.2 +0.3
comp=Z,2.4nm,1.0s,baz=247,slow=5.1,SNR=5.8
PZH PanZhiHua 133.99 3 PKP **PKPdf** 07 07 26.6 -0.3
STKA Stephens Creek 144.21 243 PKP PKPbc 07 07 43.5 +0.3
comp=Z,2.6nm,0.8s,baz=117,slow=5.2,SNR=7.7
STKA Stephens Creek 144.21 243 **PKPab** 07 07 42.9 0.0
WRA Warramunga Arr 151.45 264 PKP **PKPdf** 07 07 56.8 -0.7
comp=Z,1.8nm,0.8s,baz=81,slow=1.4,SNR=9.8
WRA PKPbc **sPKPbc** 07 08 02.0 -0.5
comp=Z,4.1nm,0.7s,baz=82,slow=1.9,SNR=20
WRA Warramunga Arr 151.45 264 **PKPdf** 07 07 55.3 -2.1
WRA PKPab **PKPab** 07 08 11.7 -0.1
ASAR Alice Springs 151.94 257 PKP **PKPdf** 07 07 56.3 -1.8
comp=Z,1.0nm,0.7s,baz=132,slow=1.4,SNR=6.8
ASAR PKPbc **sPKPbc** 07 08 03.0 -0.6
comp=Z,3.6nm,0.7s,baz=101,slow=2.0,SNR=21
ASAR Alice Springs 151.94 257 **PKPdf** 07 07 55.5 -2.6
ASAR PKPab **sPKPab** 07 08 12.5 -0.4

*IDC **17** 07:01:25.2±5.2, 2°.97S×140°.11E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=196.9km s-min=31.9km az=89.0*
*DJA **17** 07:01:37.2±0.9, 3°.S±6°×14°.0E±°, h77km±14km, M3.9/5, mb3.8/2, mB4.7/1, MLv4.0/5, Mw(mB)4.0/1*
ISC 17 07:01:36.2±0.8, 3°.06S±0°.08×139°.52E±0°.06, h100km, n17, σ1§65/19, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.80**	**55**	P		**Pn**	07 01 54.3	-0.3
GENI				S		**Sn**	07 02 07.4	-0.9
GENI	**Genyem**	**0.80**	**55**	P		**Pn**	07 01 54.3	-0.3
WAMI	**Wamena**	**1.15**	**224**	P		**Pn**	07 01 59.1	+0.8
WAMI				S		**Sn**	07 02 15.5	+0.5
JAY	**Jayapura**	**1.30**	**66**	P		**Pn**	07 01 59.9	-0.2
SRPI	**Serui, Papua**	**3.48**	**290**	P		**Pn**	07 02 28.3	-0.1
BAKI	**Biak**	**3.88**	**298**	P		**Pn**	07 02 34.6	+0.8
FAKI	**Fak Fak**	**7.26**	**271**	P		**Pn**	07 03 19.1	-0.6
	0.1nm9.7nm,1.0s							
COEN	**Coen**	**11.42**	**162**	P		**Pn**	07 04 16.9	+0.7
KDU	**Kakadu**	**11.84**	**216**	P		**Pn**	07 04 19.4	-2.4
MTN	**Manton Dam**	**12.78**	**220**	P		**Pn**	07 04 32.0	-2.3
KNRA	**Kununurra**	**16.41**	**220**	P		**Pn**	07 05 19.9	-0.8
LUWI	**Luwuk**	**16.85**	**276**	P		**Pn**	07 05 23.0	-3.2
QIS	**Mount Isa**	**17.39**	**180**	P		**Pn**	07 05 34.4	+1.7
WRAB	**Tennant Creek**	**17.51**	**196**	P		**P**	07 05 33.4	-0.5
WRA	**Warramunga Arr**	**17.53**	**196**	P		**P**	07 05 33.5	-0.5
	0.5nm,0.3s,baz=19,slow=13,SNR=15							
ASAR	**Alice Springs**	**21.19**	**194**	P		**P**	07 06 15.3	+1.5
	0.9nm,0.5s,baz=21,slow=10,SNR=16							
MKAR	**Makanchi Array**	**70.56**	**322**	P		**P**	07 12 44.1	+3.6
	0.1nm,0.4s,baz=104,slow=7.3,SNR=1.8							

NNC 17 07:04:28.3±3.4, 41°.90N×78°.21E, h0km, mb3.1, mpv3.0, 1C-3D, Error ellipse: s-maj=25.4km s-min=12.1km az=170.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**1.17**	**7**	P		Pg	07 04 45.3	-5.3
	0.8nm,0.1s							
SATY				S		Sg	07 05 01.1	-4.7
	4.9nm,0.1s							
TNSS	**Tian-Shan**	**1.47**	**321**	P		Pn	07 04 54.8	-1.6
	3.5nm,0.1s							
TNSS				S		Sn	07 05 17.4	+0.9
	2.9nm,0.2s							
MDOK	**Medeo**	**1.52**	**326**	Pg		Pn	07 04 55.9	-1.1
	2.4nm,0.2s							
MDOK				Lg		Lg	07 05 19.3	
	3.5nm,0.3s							
KOTS	**Kotyrbulak**	**1.56**	**329**	P		Pn	07 04 56.5	-1.0
	5.3nm,0.1s							
KOTS				S		Sb	07 05 20.5	+2.1
	5.9nm,0.3s							
PDGK	**Podgornoye**	**1.71**	**33**	⇑Pn		Pn	07 04 58.5	-1.0
	1.3nm,0.5s							
PDGK				⇓Sn		Sg	07 05 26.9	+3.5
	2.1nm,0.6s							
MTBS	**Maitube**	**1.80**	**314**	Pg		Pn	07 05 00.2	-0.5
	4.5nm,0.1s							
MTBS				Lg		Lg	07 05 26.5	
	5.6nm,0.2s							
KST	**Kastek**	**2.01**	**305**	Pg		Pn	07 05 03.1	-0.6
	3.8nm,0.1s							
KST				Lg		Lg	07 05 31.8	
	5.0nm,0.4s							
KTBS	**Karatobe**	**2.13**	**329**	Pg		Pb	07 05 06.7	-1.1
	3.6nm,0.3s							
KTBS				Lg		Lg	07 05 37.8	
	6.9nm,0.6s							
TKM2	**Tokmak 2**	**2.18**	**299**	⇓Pn		Pn	07 05 06.8	+0.7
	1.5nm,0.5s							
TKM2				⇓Sn		Sb	07 05 36.9	+0.4
	2.5nm,0.5s							
DGS	**Degeres**	**2.24**	**308**	Pg		Pn	07 05 07.5	+0.7
	4.3nm,0.3s							
DGS				Lg		Lg	07 05 39.3	
	3.6nm,0.2s							
ARXS	**Arharly**	**2.33**	**353**	Pg		Pn	07 05 09.5	+1.6
	5.2nm,0.3s							
ARXS				Lg		Lg	07 05 42.7	
	4.5nm,0.1s							
KUU	**Kurty**	**2.42**	**326**	Pg		Pn	07 05 10.6	+1.5
	2.6nm,0.1s							
KUU				Lg		Lg	07 05 44.6	
	4.4nm,0.3s							
KRBS	**Karabastau**	**2.59**	**315**	Pg		Pn	07 05 12.8	+1.4
	1.2nm,0.2s							
KRBS				Lg		Lg	07 05 48.3	
	4.3nm,0.3s							
DJR	**Jarkent**	**2.69**	**25**	Pg		Pn	07 05 14.3	+1.3
	1.1nm,0.1s							
DJR				Lg		Lg	07 05 50.8	
	4.8nm,0.2s							

MEX 17 07:06:58.0±1.5, 15°.56N×93°.74W, h85km±12km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCIG		**0.52**	**74**	*i* P		Pn	07 07 10.8	-1.6
PCIG				*e*S		Sn	07 07 21.2	-1.9
PCIG		**0.52**	**74**	*e*P		Pn	07 07 10.8	-1.6
PCIG				*e*S		Sn	07 07 21.4	-1.7
TGIG		**1.34**	**26**	*i* P		Pn	07 07 19.8	-1.9
TGIG				*i* S		Sn	07 07 35.5	-3.9
TGIG		**1.34**	**26**	*e*P		Pn	07 07 19.8	-1.8
TGIG				*e*S		Sn	07 07 35.5	-3.9
PATR	**El Naranjo**	**1.52**	**107**	*i* P		Pn	07 07 22.5	-1.5
PATR				*i* S		Sn	07 07 38.7	-4.9
PATR	**El Naranjo**	**1.52**	**107**	*e*P		Pn	07 07 21.7	-2.3
PATR				*e*S		Sn	07 07 41.1	-2.5
PAVE	**Pavencul**	**1.55**	**104**	*i* P		Pn	07 07 23.2	-1.2
PAVE				*i* S		Sn	07 07 41.4	-3.0
PAVE	**Pavencul**	**1.55**	**104**	*e*P		Pn	07 07 23.9	-0.5
PAVE				*e*S		Sn	07 07 43.4	-1.0
THIG		**1.56**	**114**	*i* P		Pn	07 07 23.9	-0.5
THIG				*i* S		Sn	07 07 42.2	-2.1
THIG		**1.56**	**114**	*e*P		Pn	07 07 22.8	-1.6
THIG				*e*S		Sn	07 07 42.7	-1.6
CHUJ	**Union Juarez**	**1.64**	**106**	*i* P		Pn	07 07 24.4	-1.2
CHUJ				*i* S		Sn	07 07 44.5	-2.0
CHUJ	**Union Juarez**	**1.64**	**106**	*e*P		Pn	07 07 24.5	-1.1
CHUJ				*i* S		Sn	07 07 44.6	-1.8
CCIG	**Comitan**	**1.70**	**65**	*e*P		Pn	07 07 25.4	-0.9
CCIG				*i* S		Sn	07 07 44.6	-3.1
CCIG	**Comitan**	**1.70**	**65**	*e*P		Pn	07 07 24.6	-1.7
CCIG				*e*S		Sn	07 07 46.6	-1.1
UXUV	**UXUV**	**1.79**	**347**	*i* P		Pn	07 07 27.0	-0.3
UXUV				*i* S		Sn	07 07 46.1	-3.4
CMIG	**Matias Romero**	**1.88**	**324**	*i* P		Pn	07 07 27.9	-0.5
CMIG				*i* S		Sn	07 07 46.7	-4.9
CMIG	**Matias Romero**	**1.88**	**324**	*e*P		Pn	07 07 28.0	-0.4
CMIG				*e*S		Sn	07 07 49.6	-2.0
HUIG	**Huatulco**	**2.29**	**275**	*i* P		Pn	07 07 32.8	-1.1
HUIG				*i* S		Sn	07 07 57.1	-4.3
HUIG	**Huatulco**	**2.29**	**275**	*e*P		Pn	07 07 32.8	-1.1
HUIG				*e*S		Sn	07 07 58.3	-3.1
NEUV	**Arroyo Zacate**	**2.91**	**317**	*i* P		Pn	07 07 43.6	+1.4
NEUV				*i* S		Sn	07 08 16.1	-0.2

IDC 17 07:11:48.5±2.4, 6°.54S×129°.29E, h0km, mb3.1/1, mb1 3.4/3, mb1mx3.1/30, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=138.5km s-min=33.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.20**	**160**	P		Pn	07 15 11.4	+0.4
	0.1nm,0.3s,baz=339,slow=12,SNR=1.8							
WRA				S		Sn	07 17 37.5	-12
	0.4nm,0.3s,baz=337,slow=22,SNR=7.1							
ASAR	**Alice Springs**	**17.60**	**166**	P		Pn	07 15 54.9	-0.4
	0.2nm,0.3s,baz=346,slow=11,SNR=13							
MKAR	**Makanchi Array**	**67.46**	**327**	P		P	07 22 46.2	+0.1
	0.1nm,0.6s,baz=141,slow=7.1,SNR=1.8							

*SFS **17** 07:22:16.0, 34°.72N×3°.55W, h30km, ML1.7, IZNALLOZ (GRANADA)*
INMG 17 07:22:16.4±1.9, 37°.40N×3°.60W, h31km±7km, ML1.7, Error ellipse: s-maj=3.6km s-min=3.3km az=157.0, Spain

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.92**	**227**	P		Pb	07 22 33.8	-0.1
EMAL				S		Sb	07 22 46.8	+1.1
PVAQ	**Vaqueiros**	**3.28**	**271**	*e*Pn		Pn	07 23 04.5	-1.2
PVAQ				*e*Sn		Sn	07 23 40.9	-2.8
PVAQ				A		A	07 23 42.9	
	1.1nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.46**	**269**	*e*Sn		Sn	07 23 46.0	-2.1
PESTR	**Estremoz**	**3.48**	**296**	*e*Sn		Sn	07 23 45.9	-2.5
PESTR				A		A	07 24 09.6	
	2.0nm,0.6s							
PMRV	**Marv??o**	**3.61**	**305**	*e*Sn		Sn	07 23 49.5	-2.2
PMRV				*e*Sg		Sb	07 24 07.0	+4.2
EVO	**Evora**	**3.67**	**289**	*e*Sn		Sn	07 23 51.0	-2.2
PNCL	**Nicolau / Gran**	**3.98**	**282**	*e*Sg		Sb	07 24 19.4	+6.1
PMTG	**Montargil**	**4.01**	**296**	*e*Sg		Sb	07 24 21.7	+7.4

SSNC 17 07:25:53.8±2.0, 19°.80N×76°.04W, h5km±9km, ML2.2, MW2.5, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.38**	**59**	*e*P		Pg	07 26 01.0	-0.1
RCC				*e*S		Sg	07 26 06.3	+0.3
RCC	**Rio Carpintero**	**0.38**	**59**	*i* P		Pg	07 26 01.1	-0.1
RCC				*e*S		Sg	07 26 05.8	-0.3
RCC				IAML			07 26 07.0	
	comp=E,99nm,0.2s							
RCC				IAML			07 26 07.2	
	comp=N,40nm,0.1s							
GTBY	**Guantanamo Bay**	**0.88**	**81**	*e*P		Pg	07 26 10.1	-0.6
GTBY	**Guantanamo Bay**	**0.88**	**81**	*e*P		Pg	07 26 09.6	-1.1
GTBY				*e*S		Sg	07 26 21.7	-0.5
GTMO	**Guantanamo**	**0.89**	**71**	*e*P		Pg	07 26 11.1	+0.2
GTMO				*e*S		Sb	07 26 24.1	+0.2
LMGC	**Las Mercedes**	**0.95**	**286**	*e*P		Pg	07 26 10.5	-1.5
LMGC				*e*S		Sg	07 26 22.5	-1.8
LMGC				IAML			07 26 23.3	
	comp=E,45nm,0.1s							
LMGC				IAML			07 26 23.9	
	comp=N,100nm,0.1s							
LMGC	**Las Mercedes**	**0.95**	**286**	*e*P		Pg	07 26 10.1	-1.9
LMGC				*e*S		Sg	07 26 22.8	-1.5
LMGC				IAML			07 26 23.3	
	comp=N,96nm,0.1s							
LMGC				IAML			07 26 23.4	
	comp=E,55nm,0.1s							
HLGC	**Holguin**	**1.09**	**359**	*e*P		Pg	07 26 14.6	-0.1
HLGC				*e*S		Sn	07 26 30.6	-0.7
HLGC				IAML			07 26 32.9	
	comp=N,104nm,0.4s							
HLGC				IAML			07 26 33.1	
	comp=E,237nm,0.4s							
HLGC	**Holguin**	**1.09**	**359**	*e*P		Pg	07 26 14.3	-0.3
HLGC				*e*S		Sb	07 26 29.6	-0.1
HLGC				IAML			07 26 32.9	
	comp=E,224nm,0.5s							
HLGC				IAML			07 26 33.1	
	comp=N,107nm,0.4s							
MOAC	**Moa**	**1.33**	**50**	*e*P		Pn	07 26 16.8	-2.3
MOAC				*e*S		Sg	07 26 35.3	-1.2
MOAC	**Moa**	**1.33**	**50**	*e*P		Pn	07 26 16.0	-3.0
MOAC				*e*S		Sg	07 26 33.2	-3.3
MASC	**Masc**	**1.74**	**77**	*e*P		Pn	07 26 21.6	-3.0
MASC				*e*S		Sn	07 26 45.0	-2.3
CCCC	**Cccc**	**2.14**	**311**	*e*P		Pn	07 26 26.4	-3.8
CCCC	**Cccc**	**2.14**	**311**	*e*P		Pn	07 26 25.8	-4.4

*TUL **17** 07:36:07.4±1.3, 35°.87N±0°.02×97°.35W±0°.02, h5km, ML2.9, mb_Lg2.9/25(NEIC), Error ellipse: s-maj=2.4km s-min=1.8km az=155.0*
NEIC 17 07:36:07.6±0.7, 35°.89N±0°.02×97°.36W±0°.01, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.8km az=159.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.12**	**218**	Pg		Pg	07 36 10.0	-0.2
OK029				Sg		Sg	07 36 14.1	+2.2
BCOK	**Bluff Creek, N**	**0.31**	**221**	Pg		Pg	07 36 13.6	-0.1
BCOK				Sg		Sg	07 36 18.4	+0.7
OK025	**Westminster Rd**	**0.31**	**177**	Pg		Pg	07 36 13.5	-0.2
OK025				Sg		Sg	07 36 18.2	+0.4
OK031	**S. Brethren Rd**	**0.43**	**82**	Pg		Pg	07 36 15.9	0.0
OK031				Sg		Sg	07 36 22.4	+0.9
OK030	**Cody Creek RV**	**0.47**	**86**	Pg		Pg	07 36 16.6	-0.1
OK030				Sg		Sg	07 36 23.8	+1.0
OKCFA	**Oklahoma City**	**0.48**	**189**	Pg		Pg	07 36 16.7	-0.2
OKCSW	**OKLAHOMA CITY**	**0.49**	**187**			Pg	07 36 16.9	-0.2
OK034	**N. Norfolk Rd.**	**0.54**	**77**	Pg		Pg	07 36 17.9	0.0
QUOK	**Quay**	**0.60**	**62**	Pg		Pg	07 36 19.1	0.0
FNO	**Franklin**	**0.64**	**183**	Pg		Pg	07 36 19.4	-0.4
CROK	**Carrier**	**0.79**	**321**	Pg		Pg	07 36 22.9	+0.1
W35A	**Tecumseh**	**0.84**	**152**	Pg		Pg	07 36 22.7	-1.0
BLOK	**Blackwell**	**0.87**	**8**			Pg	07 36 24.3	-0.1
GC02	**Grant County #**	**1.04**	**337**			Pg	07 36 27.3	-0.2
KAN13	**South Haven SW**	**1.12**	**355**			Pg	07 36 28.9	-0.3
OK032	**Salt Plains WL**	**1.14**	**323**			Pg	07 36 29.1	-0.3
KAN14	**Manchester OK**	**1.17**	**336**			Pg	07 36 29.6	-0.4
KAN17	**Caldwell West**	**1.19**	**344**			Pg	07 36 30.2	-0.3
T35A	**Sooner Cattle**	**1.23**	**34**	Pg		Pg	07 36 30.5	-0.7
TUL1	**Leonard**	**1.27**	**89**			Pg	07 36 30.3	-1.7
KAN05	**Bluff City Nor**	**1.28**	**341**			Pg	07 36 31.8	-0.4
KAN01	**Argonia South**	**1.30**	**346**			Pn	07 36 32.0	-0.5
**

KSU1	Kansas State U	3.26	10		Pn	07 37 00.1	+0.8
Z38A	Mt. Pleasant	3.28	143	IAmb_Lg		07 37 59.1	
	comp=Z,28nm,0.9s						
MIAR	Mount Ida	3.38	112		Pn	07 37 01.6	+0.6
AMTX	Amarillo	3.67	255	Pn	Pn	07 37 05.2	0.0
AMTX				IAmb_Lg		07 38 09.1	
	comp=Z,23nm,0.8s						
U40A	Yellville	3.68	81	Pn	Pn	07 37 05.2	+0.1
S39A	Bolivar	3.70	60	Pn	Pn	07 37 05.8	+0.3
S39A				IAmb_Lg		07 38 07.1	
	comp=Z,46nm,1.1s						
ABTX	Abilene, Hawle	3.77	211		Pn	07 37 06.4	-0.1
X40A	Basin Creek Fa	3.96	109		Pn	07 37 09.0	-0.1
WLAR	White Oak Lake	4.13	121	Pn	Pn	07 37 11.8	+0.4
WHAR	Wooly Hollow	4.18	97		Pn	07 37 12.1	+0.1
W41B	Gary Mavity, V	4.23	98	Pn	Pn	07 37 12.8	0.0
FCAR	Ozark Folk Cen	4.25	89		Pn	07 37 13.2	+0.2
MGMO	Mountain Grove	4.29	71	IAmb_Lg		07 38 27.4	
	comp=Z,26nm,0.8s						
R40A	Maddies Statio	4.72	58	Pn	Pn	07 37 19.8	+0.3
P38A	Dawn	4.80	38	IAmb_Lg		07 38 38.8	
	comp=Z,15nm,0.7s						
LCAR	Lake Charles	5.04	86	Pn	Pn	07 37 22.3	-1.5
N35A	Tabor	5.14	15	IAmb_Lg		07 39 03.2	
	comp=Z,36nm,0.8s						
P40A	Paris	5.56	48	IAmb_Lg		07 39 11.5	
	comp=Z,19nm,0.9s						
JCT	Junction City	5.78	201	IAmb_Lg		07 39 11.9	
	comp=Z,11nm,0.8s						
T25A	Trinidad	5.81	284	Pn	Pn	07 37 34.3	-0.4
L34A	Svendsen Farm,	6.11	7	IAmb_Lg		07 39 27.9	
	comp=Z,28nm,0.8s						
K31A	O'Neill	6.81	351	IAmb_Lg		07 39 55.9	
	comp=Z,22nm,1.0s						

MAN 17 07:48:23.8, 13°.74N×120°.10E, h29km, mb3.8, ML2.5, MS2.1, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.87	106	⇓eP	Pn	07 48 40.1	0.0
PGP				eS	Sn	07 48 52.4	+0.6

SSNC 17 07:55:23.4±1.2, 19°.71N×76°.05W, h3km±7km, ML3.3, MW3.6
OSPL 17 07:55:24.6±2.2, 20°.28N×76°.02W, h0km±15km, ML3.3
JSN 17 07:55:24.1±0.8, 19°.58N×76°.13W, h0km±124km, MD3.9
ISC 17 07:55:21.3±1.3, 19°.71N±0°.04×76°.08W±0°.03, h15km±10km, n22, σ1°85/32, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.46	52	eS	Sg	07 55 35.9	-0.8
RCC				IAML		07 55 37.0	
	comp=E,1μm,0.2s						
RCC				IAML		07 55 37.1	
	comp=Z,2μm,0.2s						
GTBY	Guantanamo Bay	0.94	77	eP	Pg	07 55 39.7	+0.2
GTBY				eS	Sb	07 55 52.5	+1.0
GTBY	Guantanamo Bay	0.94	77	i P	Pb	07 55 40.0	+0.7
GTBY				eS	Sb	07 55 52.7	+1.2
GTBY				IAML		07 55 54.9	
	comp=Z,836nm,0.3s						
LMGC	Las Mercedes	0.94	292	eP	Pb	07 55 40.0	+0.7
LMGC				eS	Sg	07 55 52.0	+0.1
LMGC				IAML		07 55 53.2	
	comp=E,488nm,0.1s						
LMGC				IAML		07 55 53.3	
	comp=N,664nm,0.1s						
GTMO	Guantanamo	0.96	67	eP	Pn	07 55 41.0	+0.8
GTMO				eS	Sn	07 55 54.9	+1.3
HLGC	Holguin	1.17	1	eP	Pb	07 55 44.1	+0.7
HLGC				eS	Sb	07 55 59.5	+1.1
HLGC				IAML		07 56 02.6	
	comp=N,619nm,0.5s						
HLGC				IAML		07 56 02.9	
	comp=E,2μm,0.3s						
CMJ	Castle Mountai	1.59	190	i P	Pn	07 55 50.1	+1.1
STH	Stony Hill	1.77	203	i P	Pn	07 55 52.4	+0.9
MASC	Masc	1.80	75	eP	Pn	07 55 51.5	-0.3
MASC				eS	Sn	07 56 13.7	-0.7
MASC				IAML		07 56 24.2	
	comp=N,239nm,0.4s						
MASC				IAML		07 56 24.8	
	comp=E,266nm,0.4s						
HOJ	Hope	1.81	201	i P	Pn	07 55 53.1	+1.1
CVJ	Coleyville	2.02	223	i P	Pn	07 55 56.0	+1.0
MTDJ	Mount Denham	2.02	223	eP	Pn	07 55 55.9	+0.9
MTDJ				eS	Sn	07 56 18.1	-1.9
CCCC	Cccc	2.17	313	eP	Pn	07 55 55.1	-1.7
CCCC				eS	Sn	07 56 18.9	-4.6
MCJ	Malvern	2.34	221	i P	Pn	07 56 01.5	+2.1
MCJ				i S	Sn	07 56 28.5	+0.6
LGNH	Logne	3.49	109	eP	Pn	07 56 18.9	+3.8
LGNH	Logne	3.49	109	i P	Pb	07 56 21.0	-1.9
LGNH				eS	Sb	07 57 03.9	-1.3
LGNH				IAML		07 57 08.0	
	comp=Z,19nm,1.3s						
JAKH	Jacmel	3.67	113	i P	Pb	07 56 23.7	-2.3
PAPH	Port-au-Prince	3.76	108	i P	Pb	07 56 24.2	-3.4
PAPH				IAML		07 57 17.5	
	comp=Z,42nm,0.4s						
MGV	Manicaragua	4.36	304	eP	Pn	07 56 29.2	+2.2
SDDR	Presa de Saban	4.58	98	i P	Pn	07 56 33.0	+2.8
GRTK	Grand Turk	4.97	68	eP	Pn	07 56 35.7	+0.3
GRTK	Grand Turk	4.97	68	i P	Pn	07 56 35.9	+0.5

UCR 17 07:58:42.8±1.0, 13°.43N×89°.82W, h59km±4km, ML4.2, mb4.0(NEIC)
SNET 17 07:58:42.8±0.9, 13°.43N×89°.82W, h59km±3km, ML4.2
INET 17 07:58:43.2±0.5, 13°.43N×89°.80W, h56km±5km, MW3.7
GCG 17 07:58:44.2±1.8, 13°.84N×89°.82W, h119km±34km, MD4.2
NEIC 17 07:58:45.6±1.5, 13°.53N±0°.08×89°.67W±0°.08, h53km±19km, mb4.0/2, Md4.2(SNET), Error ellipse: s-maj=13.4km s-min=8.9km az=49.0
ISC 17 07:58:44.8±1.1, 13°.47N±0°.05×89°.77W±0°.04, h53km±6km, n102, σ0°99/144, 1C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	0.37	59	eP	Pn	07 58 54.5	-0.7
JAYA				eS	Sn	07 59 02.9	+0.5
JAYA	Jayaque - finc	0.37	59	eP	Pn	07 58 54.5	-0.7
JAYA				eS	Sn	07 59 02.9	+0.5
CEVE	Cerro Verde	0.39	22	eP	Pn	07 58 54.7	-0.7
CEVE				eS	Sn	07 59 04.1	+1.1
CEVE				IAML		07 59 05.4	
	comp=Z,48μm,0.3s						
CEVE	Cerro Verde	0.39	22	eP	Pn	07 58 54.7	-0.7
CEVE				eS	Sn	07 59 04.1	+1.1
CEVE				IAML		07 59 05.4	
	comp=Z,48μm,0.3s						
SBLS	San Blas	0.40	21	eP	Pn	07 58 54.7	-0.8
SBLS	San Blas	0.40	21	eP	Pn	07 58 54.7	-0.8
NUBE	Las Nubes	0.43	359	eP	Pn	07 58 54.7	-1.1
NUBE				eS	Sn	07 59 03.6	0.0
NUBE	Las Nubes	0.43	359	eP	Pn	07 58 54.7	-1.1
NUBE				eS	Sn	07 59 03.6	0.0
LALI	Alcalda de L	0.44	87	eP	Pn	07 58 54.1	-1.5
LALI				eS	Sn	07 59 03.0	-0.4
LALI	Alcalda de L	0.44	87	eP	Pn	07 58 54.4	-1.3
LALI	Alcalda de L	0.44	87	eP	Pn	07 58 54.1	-1.5
LALI				eS	Sn	07 59 03.0	-0.4
RTR	El Retiro	0.45	16	i P	Pn	07 58 55.4	-0.6
RTR	El Retiro	0.45	16	i P	Pn	07 58 55.4	-0.6
CEDA	San Andres	0.50	47	i P	Pn	07 58 55.4	-0.9
CEDA				eS	Sn	07 59 05.6	+1.0
CEDA				IAML		07 59 13.6	
	comp=Z,7μm,0.7s						
CEDA	San Andres	0.50	47	eP	Pn	07 58 55.5	-0.9
CEDA	San Andres	0.50	47	i P	Pn	07 58 55.4	-0.9
CEDA				eS	Sn	07 59 05.6	+1.0
CEDA				IAML		07 59 13.6	
	comp=Z,7μm,0.7s						
ITCA	Escuela Especi	0.52	67	eP	Pn	07 58 56.0	-0.7
ITCA				eS	Sn	07 59 05.9	+0.6
ITCA	Escuela Especi	0.52	67	eP	Pn	07 58 56.0	-0.7
ITCA				eS	Sn	07 59 05.9	+0.6
LOAL	Lomas de Alarc	0.53	359	eP	Pn	07 58 55.8	-0.9
LOAL				eS	Sn	07 59 05.9	+0.6
LOAL	Lomas de Alarc	0.53	359	eP	Pn	07 58 55.8	-0.9
LOAL				eS	Sn	07 59 05.9	+0.6
BOQS	Boqueron	0.55	61	eP	Pn	07 58 56.5	-0.7
BOQS	Boqueron	0.55	61	eP	Pn	07 58 56.5	-0.7
SLOZ	Alcaldia de Sa	0.56	359	eP	Pn	07 58 56.0	-1.1
SLOZ				eS	Sn	07 59 06.8	+0.9
UNIC	Universidad Ca	0.56	23	eP	Pn	07 58 55.9	-1.2
UNIC				eS	Sn	07 59 06.5	+0.6
UNIC	Universidad Ca	0.56	23	eP	Pn	07 58 55.9	-1.2
UNIC				eS	Sn	07 59 06.5	+0.6
SNET	Serv Nac Est T	0.57	67	eP	Pn	07 58 56.4	-0.8
SNET				eS	Sn	07 59 06.8	+0.6
SNET	Serv Nac Est T	0.57	67		Pn	07 58 56.3	-0.9
SNET	Serv Nac Est T	0.57	67	eP	Pn	07 58 56.4	-0.9
SNET				eS	Sn	07 59 06.7	+0.6
SNET	Serv Nac Est T	0.57	67	eP	Pn	07 58 56.4	-0.9
SNET				eS	Sn	07 59 06.8	+0.6
UEES	Universidad Ev	0.57	64	eP	Pn	07 58 56.6	-0.7
UEES				IAML		07 59 09.6	
	comp=Z,13μm,0.1s						
UEES	Universidad Ev	0.57	64	eP	Pn	07 58 56.6	-0.7
UEES				IAML		07 59 09.6	
	comp=Z,13μm,0.1s						
SEMO	Seminario San	0.58	66	eP	Pn	07 58 56.6	-0.8
SEMO				eS	Sn	07 59 07.6	+1.2
UTEC	Universidad Te	0.60	67	IAML		07 59 09.7	
	comp=Z,5μm,0.2s						
UTEC	Universidad Te	0.60	67	IAML		07 59 09.7	
	comp=Z,5μm,0.2s						
OPAM	Oficina de Pla	0.61	66	eP	Pn	07 58 56.8	-0.9
OPAM				eS	Sn	07 59 08.2	+1.2
OPAM				IAML		07 59 09.5	
	comp=Z,7μm,0.3s						
OPAM	Oficina de Pla	0.61	66	eP	Pn	07 58 56.8	-0.9
OPAM				eS	Sn	07 59 08.2	+1.2
OPAM				IAML		07 59 09.5	
	comp=Z,7μm,0.3s						
UESS	Universidad de	0.61	65	eP	Pn	07 58 57.1	-0.6
UESS	Universidad de	0.61	65	eP	Pn	07 58 57.1	-0.6
TACO	Tacachico	0.65	39	⇓iP	Pn	07 58 57.0	-1.1
TACO				eS	Sn	07 59 08.3	+0.5
TACO	Tacachico	0.65	39	⇓iP	Pn	07 58 57.0	-1.1
TACO				eS	Sn	07 59 08.3	+0.5
UDBS	Universidad Do	0.65	67	eP	Pn	07 58 57.3	-0.9
UDBS	Universidad Do	0.65	67	eP	Pn	07 58 57.3	-0.9
LFU	La Fuente	0.70	66	eP	Pn	07 58 58.2	-0.6
LFU	La Fuente	0.70	66	eP	Pn	07 58 58.2	-0.6
LFRS	El Faro	0.71	77	eP	Pn	07 58 58.1	-0.9
LFRS	El Faro	0.71	77	eP	Pn	07 58 58.1	-0.9
SJTE	Alcalda de S	0.76	79	i P	Pn	07 58 58.8	-0.8
SJTE				eS	Sn	07 59 10.5	+0.2
SJTE	Alcalda de S	0.76	79	i P	Pn	07 58 58.8	-0.8
SJTE				eS	Sn	07 59 10.5	+0.2
PAVA	Las Pavas	0.85	73	eP	Pn	07 59 00.0	-0.7
PAVA				eS	Sn	07 59 13.8	+1.3
PAVA	Las Pavas	0.85	73	eP	Pn	07 58 59.9	-0.9
PAVA	Las Pavas	0.85	73	eP	Pn	07 59 00.0	-0.7
PAVA				eS	Sn	07 59 13.8	+1.3
COEG	Centro de Oper	0.88	80	eS	Sn	07 59 13.4	+0.3
COEG				eS	Sn	07 59 13.8	+0.7
COEG	Centro de Oper	0.88	80	eS	Sn	07 59 13.4	+0.3
COEG				eS	Sn	07 59 13.8	+0.7
SNVI	San Vicente	0.92	81	eP	Pn	07 59 00.8	-1.0
SNVI	San Vicente	0.92	81	eP	Pn	07 59 00.8	-1.0
TECO	Alcaldia de Te	0.97	86	i P	Pn	07 59 01.0	-1.2
TECO	Alcaldia de Te	0.97	86	i P	Pn	07 59 01.0	-1.2
MTO3	Montecristo	1.01	23	⇓iP	Pn	07 59 01.9	-1.1
MTO3				eS	Sn	07 59 17.0	+0.6
MTO3	Montecristo	1.01	23		Pn	07 59 01.8	-1.2
MTO3				Sn	Sn	07 59 16.2	-0.2
MTO3	Montecristo	1.01	23	eP	Pn	07 59 01.9	-1.1
MTO3	Montecristo	1.01	23	⇓iP	Pn	07 59 01.9	-1.1
MTO3				eS	Sn	07 59 17.0	+0.6
SCLA	Alcaldia de Sa	1.04	77	eP	Pn	07 59 02.2	-1.0
SCLA				eS	Sn	07 59 18.2	+1.3
SCLA	Alcaldia de Sa	1.04	77	eP	Pn	07 59 02.2	-1.0
SCLA				eS	Sn	07 59 18.2	+1.3
LLGN	La Laguna	1.06	49	eS	Sn	07 59 18.0	+0.6
LLGN	La Laguna	1.06	49	eS	Sn	07 59 18.0	+0.6
ESQI	Esquipulas	1.17	21		Pn	07 59 04.1	-0.9
ESQI				Sn	Sn	07 59 20.6	+0.7
ESQI	Esquipulas	1.17	21	⇓iP	Pn	07 59 04.2	-0.9
ESQI				eS	Sn	07 59 21.0	+1.0
PQSS	Presa 15 de Se	1.19	82	eP	Pn	07 59 03.9	-1.3
PQSS	Presa 15 de Se	1.19	82	eP	Pn	07 59 03.9	-1.3
COEB	Comit de Eme	1.21	88	eP	Pn	07 59 04.5	-1.1
COEB				IAML		07 59 24.9	
	comp=Z,2μm,0.4s						
COEB	Comit de Eme	1.21	88	eP	Pn	07 59 04.5	-1.1
COEB				IAML		07 59 24.9	
	comp=Z,2μm,0.4s						
NBG	Las Nubes	1.25	333	eP	Pn	07 59 06.1	-0.1
NBG				eS	Sn	07 59 24.3	+2.1
PACA	Pacayal	1.41	90	eP	Pn	07 59 07.9	-0.4
PACA				eS	Sn	07 59 26.6	+0.7
PACA	Pacayal	1.41	90	eP	Pn	07 59 07.9	-0.4
PACA				eS	Sn	07 59 26.6	+0.7
FUG	Fuego 3	1.43	313	eP	Pn	07 59 07.8	-0.8
FUG				eS	Sn	07 59 24.3	-2.1
MRL	Marmol	1.61	3	eP	Pn	07 59 11.2	+0.1
MRL				eS	Sn	07 59 28.9	-2.0
STG3	Santiaguito 3,	2.14	306	eP	Pn	07 59 17.7	-0.7
STG3				eS	Sn	07 59 43.6	-0.3
HUEH	Huehuetenango	2.49	318		Pn	07 59 25.0	+1.8
TGUH	Tegucigalpa,Un	2.50	76	eP	Pn	07 59 21.7	-1.5
TGUH	Tegucigalpa,Un	2.50	76		Pn	07 59 22.0	-1.2
TGUH	Tegucigalpa,Un	2.50	76	eP	Pn	07 59 21.7	-1.5
CRIN	San Cristobal	2.76	106		Pn	07 59 26.3	-0.4
MOMN	Momotombo	3.32	108	eP	Pn	07 59 32.3	-2.1
COPN	Copaltepe	3.35	112	eP	Pn	07 59 32.5	-2.3
PETF	Flores	3.43	358		Pn	07 59 36.1	+0.2
CCIG	Comitan	3.62	321		Pn	07 59 38.8	+0.2
BOAB	BOACO BROADBAN	3.13	104		Pn	07 59 42.5	-2.9
ACON	Acoyapa	4.73	108	Pn	Pn	07 59 52.2	-1.4
HZTE	Horizontes, Gu	4.92	123		Pn	07 59 56.6	+0.3
ORTG	Ortega, Santa	5.23	126		Pn	08 00 00.6	0.0
DUNO	Dulce Nombre,	5.37	128		Pn	08 00 02.3	-0.2
ESPN	Las Esperanzas	5.48	103	Pn	Pn	08 00 02.4	-1.6
JTS	Las Juntas de	5.67	123		Pn	08 00 06.3	-0.4
CAO2	Cobano, Puntar	5.91	129	Pn	Pn	08 00 09.6	-0.4
COVE	Coope Vega, Sa	5.92	117	Pn	Pn	08 00 09.6	-0.4
JACO	JACO, Garabito	6.27	126	Pn	Pn	08 00 15.3	+0.5
RIMA	Rio Macho	6.86	122		Pn	08 00 22.8	-0.2
PEZE	Perez Zeledon,	7.22	124		Pn	08 00 29.8	+1.9
SRBA	San Rafael, Bu	7.56	123		Pn	08 00 33.4	+0.7
TX32	Lajitas Array	20.38	323	P	P	08 03 18.2	+0.8
TX32				IAmb	IAmb	08 03 36.6	
	comp=Z,5.3nm,1.4s						
TXAR	Lajitas Array	20.38	323	P	P	08 03 17.5	+0.1
TX31	Lajitas Ar. Si	20.38	323	P	P	08 03 17.9	+0.6
TX31				IAmb	IAmb	08 03 35.4	
	comp=Z,35nm,1.9s						

MOS 17 08:17:33.1±1.0, 19°.76N×76°.21W, h11km, mb5.3/43, MS4.6/5, Error ellipse: s-maj=7.7km s-min=5.5km az=79.6
IDC 17 08:17:33.2±0.4, 19°.77N×76°.04W, h0km, mb4.7/25, mb1 4.8/31, mb1mx4.7/40, mbtmp4.7/31, ML3.6/5, MS4.1/6, Ms1 4.1/6, ms1mx3.5/77, Error ellipse: s-maj=13.9km s-min=11.1km az=70.0
OSPL 17 08:17:34.0±0.7, 19°.69N×76°.16W, h1km±9km, ML4.9
SSNC 17 08:17:34.8±1.4, 19°.77N×76°.07W, h1km±8km, ML4.5, MW4.6
NEIC 17 08:17:34.7±1.4, 19°.81N±0°.05×76°.09W±0°.04, h10km±1km, mb5.1/450, Mwr4.9/25, Error ellipse: s-maj=9.3km s-min=6.0km az=14.0
NEIC 17 08:17:35.3, 19°.80N×76°.07W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.42; $M_{\theta\theta}$-0.29; $M_{\phi\phi}$-2.13; $M_{r\theta}$-0.80; $M_{r\phi}$0.24; $M_{\theta\phi}$-1.21; Fault plane solution: $M_0$2.72000×10^{16} NP1:ϕ_s190.93000°, δ60.38000°, λ106.49000°. NP2:ϕ_s340.02000°, δ33.53000°, λ63.47000°. Principal axes: T 2.9370, Plg70.0000°, Azm137.0000°; N -0.5028, Plg14.0000°, Azm3.0000°; P -2.4342, Plg14.0000°, Azm269.0000°;
JSN 17 08:17:36.7±0.5, 19°.54N×76°.20W, h1km±58km, MD4.0
GCMT 17 08:17:37.7±0.2, 20°.03N±0°.02×75°.99W±0°.01, h14km, MW4.9/94, Moment Tensor Solution. s30,c36; s94,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.88±.16; $M_{\theta\theta}$0.43±.10; $M_{\phi\phi}$-3.31±.12; $M_{r\theta}$0.10±.23; $M_{\theta\phi}$-0.79±.08; $M_{r\phi}$-0.39±.20; Best double couple: $M_0$3.20100×10^{16} NP1:ϕ_s16.00000°, δ42.00000°, λ96.00000°. NP2: ϕ_s187.00000°, δ48.00000°, λ84.00000°. Principal axes: T 2.9140, Plg85.0000°, Azm49.0000°; N 0.5740, Plg4.0000°, Azm191.0000°; P -3.4890, Plg3.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
BGR 17 08:17:44.4±0.0, 20°.00N×74°.98W, h33km, mb5.2, Ms4.3
ISC 17 08:17:33.7±0.5, 19°.77N±0°.03×76°.09W±0°.02, h3km±3km, h4km:pP-P, n892, σ1°40/745, mb5.1/287, MS4.6/12, 42C-12D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.44	58	eP	Pg	08 17 42.9	+0.8
LMGC	Las Mercedes	0.91	289	eP	Pg	08 17 51.1	0.0
LMGC				eS	Sg	08 18 03.2	+0.2
LMGC				IAML		08 18 04.3	
	comp=E,5μm,0.2s						
LMGC				IAML		08 18 04.6	
	comp=N,14μm,0.3s						
GTBY	Guantanamo Bay	0.94	80	Pg	Pg	08 17 52.4	+0.7
GTBY				Sg	Sg	08 18 05.0	+1.1
GTBY	Guantanamo Bay	0.94	80	eP	Pg	08 17 52.0	+0.4
GTBY				eS	Sb	08 18 05.2	-0.3
GTBY	Guantanamo Bay	0.94	80	i P	Pg	08 17 52.2	+0.6
GTBY				eS	Sb	08 18 05.7	+0.2
GTBY				IAML		08 18 07.4	
	comp=Z,41μm,1.9s						
GTMO	Guantanamo	0.95	71	eP	Pg	08 17 52.8	+1.0
HLGC	Holguin	1.12	1	i P	Pg	08 17 55.4	+0.2
HLGC				eS	Sg	08 18 09.3	-0.4
HLGC				IAML		08 18 14.6	
	comp=N,17μm,0.7s						
HLGC				IAML		08 18 14.8	
	comp=E,26μm,0.6s						
MOAC	Moa	1.39	50	eP	Pg	08 17 57.5	-2.7
MOAC				eS	Sg	08 18 15.5	-2.8
MOAC				IAML		08 18 20.6	
	comp=N,8μm,0.6s						
MOAC				IAML		08 18 24.0	
	comp=E,15μm,0.6s						
CMJ	Castle Mountai	1.64	189	i P	Pn	08 18 01.9	-1.7
BBJ	Bamboo Saint A	1.77	219	⇑iP	Pn	08 18 03.7	-1.6
GWL	Greenwich	1.79	200	i P	Pn	08 18 03.8	-1.9
MASC	Masc	1.80	77	eP	Pn	08 18 03.1	-2.5
MASC				eS	Sn	08 18 26.7	-2.2
MASC				IAML		08 18 35.9	
	comp=N,7μm,0.5s						
MASC				IAML		08 18 36.1	
	comp=E,6μm,0.6s						
STH	Stony Hill	1.81	202	⇓iP	Pn	08 18 03.9	-2.0
HOJ	Hope	1.86	200	⇑iP	Pn	08 18 04.9	-1.6
CVJ	Coleyville	2.05	222	⇑iP	Pn	08 18 07.6	-1.6
MTDJ	Mount Denham	2.05	222	Pn	Pn	08 18 07.6	-1.7
CCCC	Cccc	2.12	313	i P	Pn	08 18 06.9	-3.2
CCCC				eS	Sn	08 18 30.3	-6.7
CCCC				IAML		08 18 34.4	
	comp=E,3μm,0.7s						
CCCC				IAML		08 18 36.5	
	comp=N,4μm,0.7s						
MCJ	Malvern	2.37	220	⇑iP	Pn	08 18 12.4	-1.2
MCJ				i S	Sn	08 18 38.9	-4.4
LGNH	Logne	3.52	110	Pn	Pn	08 18 29.5	+0.1
LGNH	Logne	3.52	110	eP	Pn	08 18 27.6	-1.7
LGNH	Logne	3.52	110	i P	Pn	08 18 28.2	-1.1
JAKH	Jacmel	3.71	114		Pn	08 18 31.2	-0.7
JAKH	Jacmel	3.71	114	i P	Pn	08 18 30.7	-1.2
LCCY	Blossom Villag	3.76	269		Pn	08 18 32.0	-0.7
NQUSE	US Embassy, Po	3.82	108	Pn	Pn	08 18 34.2	+0.7
MGV	Manicaragua	4.32	303	eP	Pn	08 18 40.1	-0.3
MGV				eS	Sn	08 19 32.0	+0.8
MGV				IAML		08 19 54.3	
	comp=N,211nm,0.8s						
MGV				IAML		08 19 55.7	
	comp=E,212nm,0.9s						
LOPE2	Hotel El Peder	4.46	112	i P	Pn	08 18 41.7	-0.6
SDDR	Presa de Saban	4.60	99		Pn	08 18 43.5	-0.7
SDDR	Presa de Saban	4.60	99	eP	Pn	08 18 42.6	-1.7
SDDR	Presa de Saban	4.60	99	i P	Pn	08 18 43.6	-0.7
SDDR				IAML		08 20 00.8	
	comp=Z,685nm,0.8s						
GRTK	Grand Turk	4.96	69	Pn	Pn	08 18 48.5	-0.6
GRTK	Grand Turk	4.96	69	eP	Pn	08 18 48.1	-1.0
GRTK				eS	Sn	08 19 43.9	-3.1
GRTK	Grand Turk	4.96	69	i P	Pn	08 18 48.6	-0.5
GRTK				IAML		08 21 26.4	
	comp=Z,775nm,1.9s						
SC01	Santiago de lo	5.07	93		Pn	08 18 51.0	+0.3
SDD	Santo Domingo	5.98	102	Pn	Pn	08 19 03.8	+0.6
SOR	Soroa	7.12	296	P	Pn	08 19 18.7	-0.1
SOR	Soroa	7.12	296	Pn	Pn	08 19 18.7	-0.1
SOR	Soroa	7.12	296	eP	Pn	08 19 19.3	+0.5
PCDR	Punta Cana, DR	7.39	98	Pn	Pn	08 19 20.4	-2.2
061Z	Ochoppi	7.52	325	Pn	Pn	08 19 23.4	-1.0
PRVC	Isla de Provid	8.12	219	⇑eP	Pn	08 19 32.8	+0.3
PRVC	Isla de Provid	8.12	219	Pn	Pn	08 19 33.2	+0.6
060A	Indiantown	8.23	332	Pn	Pn	08 19 33.9	-0.1
AGPR	Aguadilla, PR	8.59	97	Pn	Pn	08 19 38.5	-0.5
CRPR	Cabo Rojo, PR	8.68	100	Pn	Pn	08 19 40.0	-0.3
SMRC	Santa Marta, M	8.74	168	⇑eP	Pn	08 19 42.4	+1.4
MLPR	Magueyes Islan	8.75	100	Pn	Pn	08 19 39.8	-1.4
URIC	Uribia, Colomb	8.93	153		Pn	08 19 43.9	+0.2
OBIP	Obispado Ponce	9.14	99		Pn	08 19 46.6	+0.1

CAO2	Cobano, Puntar	13.28 222		Pn	08 20 43.7	+0.4
BAUV	El Baul	13.28 143		Pn	08 20 43.2	0.0
PETF	Flores	13.38 260		Pn	08 20 44.4	-0.3
BARC	Barichara	13.39 167	eP	Pn	08 20 46.2	+1.1
HELC	Santa Helena	13.50 178	eP	Pn	08 20 49.8	+3.2
ESQI	Esquipulas	13.68 250		Pn	08 20 47.3	-1.5
MTO3	Montecristo	13.76 249		Pn	08 20 49.9	-0.1
CBOC	Ciudad Bolivar	13.82 180	eP	Pn	08 20 54.5	+3.7
RUSC	La Rusia	14.10 168	eP	Pn	08 20 58.5	+3.6
352A	Blakely	14.12 327	Pn	Pn	08 20 53.1	-1.6
NORC	Norcasia	14.17 175	eP	Pn	08 20 59.0	+3.5
154A	Montrose	14.25 335		Pn	08 20 56.0	-0.5
Y58A	Scranton	14.44 348		Pn	08 20 56.5	-2.5
GUY2C	Guyana, Caldas	14.47 177	eP	P	08 21 06.2	-0.8
PCRV	Puerto La Cruz	14.60 129	Pn	Pn	08 21 02.2	+0.8
	comp=Z,1.7nm,0.3s,baz=21,slow=4.5,SNR=12					
PCRV			Sn	Sn	08 23 26.2	-18
	baz=14,slow=23,SNR=0.8					
PCRV			LR	LR	08 25 55.0	
	comp=Z,1µm,21.3s,slow=34					
PLMC	San Jos del P	14.77 181	eP	Pn	08 21 07.8	+4.1
ROSC	El Rosal	14.94 173	Pn	Pn	08 21 08.1	+1.9
	comp=Z,0.6nm,0.3s,baz=27,slow=6.7,SNR=10					
ROSC			Sn	Sn	08 23 45.0	-7.5
	baz=82,slow=23,SNR=1.5					
ROSC			LR	LR	08 27 35.9	
	comp=Z,715nm,19.0s,baz=0.0,slow=40					
ROSC	El Rosal	14.94 173	P	Pn	08 21 06.2	-0.1
ROSC	El Rosal	14.94 173		Pn	08 21 06.2	-0.1
152A	Waverly Hall	14.99 331		Pn	08 21 07.3	+0.7
X58A	Rowland	15.01 350		Pn	08 21 04.6	-2.2
SVN	Savane Anatole	15.06 107	Pn	Pn	08 21 06.3	-1.4
GOGA	Godfrey	15.10 336	P	Pn	08 21 07.3	-0.7
GOGA			pmax	pmax		
	comp=Z,47nm,1.3s					
GOGA	Godfrey	15.10 336		Pn	08 21 07.3	-0.7
FDF	Fort de France	15.12 107	P	Pn	08 21 07.7	-0.7
FDF			pmax	pmax		
	comp=Z,60nm,1.1s					
FDF	Fort de France	15.12 107	Pn	Pn	08 21 07.7	-0.7
FDF			IAmb	IAmb	08 21 34.0	
	comp=Z,60nm,1.1s					
ANIL	Santa Ana	15.20 177	eP	P	08 21 14.0	-0.9
250A	Grady	15.21 325		Pn	08 21 09.6	+0.1
250A			IAmb	IAmb	08 21 28.4	
	comp=Z,134nm,1.2s					
CHIC	Chingaza	15.22 171	eP	Pn	08 21 12.0	+1.9
BIRD	Birdtown, Kers	15.32 346		Pn	08 21 07.8	-3.1
HUEH	Huehuetenango	15.35 256	Pn	Pn	08 21 11.6	0.0
HUEH			IAmb	IAmb	08 21 48.0	
	comp=Z,156nm,1.4s					
HODGE	Hodges	15.42 340		Pn	08 21 09.7	-2.5
CNNC	Cliffs of the	15.50 354	IAmb	IAmb	08 21 20.1	
	comp=Z,139nm,1.2s					
CNNC	Cliffs of the	15.50 354	P	P	08 21 18.9	+1.1
	baz=174,SNR=6.0					
CCIG	Comitan	15.65 260		Pn	08 21 16.8	+1.3
CCIG			IAmb	IAmb	08 21 32.6	
	comp=Z,115nm,1.0s					
W57A	Gilead	15.71 348		Pn	08 21 12.4	-3.6
W57A			IAmb	IAmb	08 21 21.7	
	comp=Z,85nm,1.1s					
Y52A	Lilburn	15.73 335		Pn	08 21 15.7	-0.7
Z51A	Franklin	15.74 331		Pn	08 21 16.9	+0.4
ORTC	Ortega, Tolima	15.78 177	eP	P	08 21 21.6	+0.4
GRGR	Grenville	15.81 117	Pn	Pn	08 21 16.9	-0.5
GRGR			IAmb	IAmb	08 21 58.0	
	comp=Z,240nm,1.3s					
PAULI	Pauline	15.83 342		Pn	08 21 15.9	-1.7
V61A	Roper	15.97 359		Pn	08 21 18.9	-0.5
PRAC	Prado	16.00 176	eP	P	08 21 23.8	+0.3
KMSC	Kings Mountain	16.00 344		Pn	08 21 14.8	-5.0
KMSC	Kings Mountain	16.00 344	P	P	08 21 23.4	0.0
	baz=162,SNR=5.2					
BBSR	BB Station	16.18 37	Pn	Pn	08 21 19.6	-2.5
BBSR			IAmb	IAmb	08 21 35.9	
	comp=Z,307nm,1.4s					
BG3	Lake Jocassee	16.33 340	Pn	Pn	08 21 23.2	-0.9
BG3			IAmb	IAmb	08 21 32.0	
	comp=Z,181nm,1.9s					
U59A	Littleton	16.59 355		Pn	08 21 24.5	-2.9
V55A	Taylorsville	16.65 345		Pn	08 21 26.5	-1.7
X51A	Calhoun	16.67 334		Pn	08 21 27.9	-0.4
W52A	Murphy	16.77 337	P	Pn	08 21 29.6	-0.1
Y49A	Blount Mountai	16.77 329		Pn	08 21 28.4	-1.3
V53A	Saluda	16.92 341		Pn	08 21 30.1	-1.4
U56A	King	16.95 348		Pn	08 21 30.3	-1.6
Z47A	Carrollton	17.13 324		Pn	08 21 32.9	-1.2
Z47A			IAmb	IAmb	08 21 54.3	
	comp=Z,116nm,1.1s					
POPC	Popayan, Colom	17.13 182	eP	P	08 21 38.4	+2.1
TKL	Tuckaleechee C	17.22 338	P	Pn	08 21 33.5	-1.8
	comp=Z,0.3nm,0.3s,baz=156,slow=12,SNR=7.9					
TKL			S	Sn	08 24 33.0	-14
	comp=Z,0.2nm,0.3s,baz=264,slow=22,SNR=2.7					
TKL	Tuckaleechee C	17.22 338	P	Pn	08 21 34.2	-1.2
TKL			pmax	pmax		
	comp=Z,49nm,1.5s					
TKL	Tuckaleechee C	17.22 338	P	Pn	08 21 34.2	-1.2
146A	Union	17.29 320	P	Pn	08 21 36.1	-0.1
146A			IAmb	IAmb	08 21 55.7	
	comp=Z,434nm,2.0s					
CPCT	Cooper Cave	17.31 336	P	Pn	08 21 36.3	-0.1
V52A	Sevierville	17.33 339	P	Pn	08 21 36.3	-0.4
PCON	Cinco Dias	17.33 181	eP	P	08 21 44.2	+5.3
W50A	Signal Mountai	17.40 334	P	Pn	08 21 36.6	-1.0
344A	Westbrook Farm	17.58 314	IAmb	IAmb	08 21 53.5	
	comp=Z,182nm,1.5s					
SWET	Sewanee	17.68 333	IAmb	IAmb	08 22 01.2	
	comp=Z,190nm,1.8s					
BLA	Blacksburg	17.79 349	P	Pn	08 21 41.6	-0.8
	baz=167,SNR=16					
TZTN	Tazewell	17.95 340	P	Pn	08 21 44.5	+0.1
	baz=157					
CMIG	Matias Romero	18.03 265	P	Pn	08 21 46.1	+0.7
	comp=Z,0.6nm,0.3s,baz=80,slow=9.0,SNR=19					
CMIG			LR	LR	08 28 12.1	
	comp=Z,579nm,21.4s,baz=70,slow=35					
S57A	Dark Hollow, R	18.10 353	IAmb	IAmb	08 21 48.6	
	comp=Z,196nm,1.8s					
CBN	Corbin Frederi	18.41 357	IAmb	IAmb	08 22 02.4	
	comp=Z,119nm,1.1s					
CBN	Corbin Frederi	18.41 357	P	Pn	08 21 48.5	-1.5
	baz=176					
Y45A	Yeager Farm, C	18.45 322	IAmb	IAmb	08 22 09.6	
	comp=Z,250nm,1.4s					
R55A	Marlinton	18.78 350	IAmb	IAmb	08 21 56.9	
	comp=Z,101nm,1.1s					
W45A	Hickory Valley	19.21 326	IAmb	IAmb	08 22 10.7	
	comp=Z,129nm,1.1s					
WVT	Waverly	19.29 330	P	P	08 21 58.7	-1.1
WVT			pmax	pmax		
	comp=Z,43nm,1.2s					
WVT	Waverly	19.29 330	P	P	08 21 58.7	-1.1
WVT	Waverly	19.29 330	P	P	08 22 00.4	+0.7
	baz=145					
OTAV	Otavalo	19.54 187	P	P	08 22 02.8	-0.3
OTAV			pmax	pmax		
	comp=Z,23nm,1.0s					
OTAV	Otavalo	19.54 187	eP	P	08 22 02.0	-1.1
OTAV	Otavalo	19.54 187	eP	Pn	08 22 06.0	+1.6
OTAV	Otavalo	19.54 187	P	P	08 22 02.8	-0.3
SDMD	Soldier's Deli	19.59 358	P	P	08 22 02.4	-0.6
T47A	Sharon Grove	19.68 333	P	P	08 22 00.6	-3.4
P57A	Homestead Farm	19.72 356	P	P	08 22 03.7	-0.7
P57A			IAmb	IAmb	08 22 09.3	
	comp=Z,114nm,1.4s					
R50A	Paris	19.79 341	P	P	08 22 04.2	-1.0
P61A	Hammonton	19.87 3	P	P	08 22 05.0	-1.0
P60A	Greenville	19.98 1	P	P	08 22 06.7	-0.6
P60A	Greenville	19.98 1	P	Pn	08 22 09.7	+0.7
	baz=181,SNR=10					
Z41A	Richland Creek	20.07 315	IAmb	IAmb	08 22 32.2	
	comp=Z,93nm,1.3s					
Z41A	Richland Creek	20.07 315	P	P	08 22 10.4	+2.1
	baz=128					
MCWV	Mont Chateau	20.09 352	IAmb	IAmb	08 22 13.9	
	comp=Z,106nm,1.3s					
MCWV	Mont Chateau	20.09 352	P	Pn	08 22 13.4	+3.2
	baz=170,SNR=9.5					
WUPA	West Chester U	20.11 1	IAmb	IAmb	08 22 12.8	
	comp=Z,184nm,1.8s					
MVL	Millersville	20.17 359	IAmb	IAmb	08 22 32.7	
	comp=Z,91nm,1.4s					
P53A	Whipple	20.18 348	IAmb	IAmb	08 22 14.7	
	comp=Z,81nm,1.2s					
Q51A	Peebles	20.19 343	IAmb	IAmb	08 22 14.0	
	comp=Z,77nm,1.2s					
GNAR	Gosnell	20.26 326	IAmb	IAmb	08 22 29.4	
	comp=Z,147nm,1.3s					
HBAR	Harrisburg	20.30 324	IAmb	IAmb	08 22 45.4	
	comp=Z,174nm,1.5s					
WCI	Wyandotte Cave	20.42 336	P	P	08 22 11.4	-0.7
WCI			pmax	pmax		
	comp=Z,166nm,1.9s					
WCI	Wyandotte Cave	20.42 336	P	P	08 22 11.4	-0.7
WCI			IAmb	IAmb	08 22 23.9	
	comp=Z,166nm,1.9s					
WCI	Wyandotte Cave	20.42 336	P	P	08 22 13.2	+1.1
	baz=152					
PVMO	Portageville	20.44 327	P	P	08 22 10.3	-1.9
P52A	Corning	20.48 347	P	P	08 22 10.3	-2.4
P52A			IAmb	IAmb	08 22 17.3	
	comp=Z,94nm,1.1s					
P52A	Corning	20.48 347	P	P	08 22 13.5	+0.8
	baz=164,SNR=14					
NATX	Nacogdoches	20.52 309		P	08 22 12.6	-0.5
NATX			IAmb	IAmb	08 22 26.3	
	comp=Z,278nm,1.9s					
NATX	Nacogdoches	20.52 309	P	Pn	08 22 16.5	+1.2
	baz=121					
WLAR	White Oak Lake	20.54 316	IAmb	IAmb	08 22 32.4	
	comp=Z,121nm,1.4s					
O56A	Blue Knob Stat	20.55 355	IAmb	IAmb	08 22 18.8	
	comp=Z,159nm,1.1s					
O56A	Blue Knob Stat	20.55 355	P	P	08 22 15.5	+2.1
	baz=173,SNR=16					
P51A	Williamsport	20.55 344	IAmb	IAmb	08 22 19.9	
	comp=Z,64nm,1.1s					
HKT	Hockley	20.56 303	i P	P	08 22 11.5	-2.0
PARMO	Parma	20.66 327	IAmb	IAmb	08 22 37.6	
	comp=Z,139nm,1.2s					
O54A	Avella	20.68 351	IAmb	IAmb	08 22 19.9	
	comp=Z,98nm,1.1s					
LUPA	Lehigh Univers	20.77 2	IAmb	IAmb	08 22 22.4	
	comp=Z,196nm,1.5s					
SSPA	Standing Stone	20.86 356	P	P	08 22 18.4	+1.6
SSPA			IAmb	IAmb	08 22 22.4	
	comp=Z,83nm,1.2s					
SSPA	Standing Stone	20.86 356	P	P	08 22 18.3	+1.4
	baz=175					
X40A	Basin Creek Fa	20.86 318	P	P	08 22 18.0	+1.1
	baz=130					
O52A	Adamsville	20.88 348	IAmb	IAmb	08 22 21.8	
	comp=Z,149nm,1.4s					
O53A	New Philadelph	20.89 349	IAmb	IAmb	08 22 32.4	
	comp=Z,173nm,1.4s					
O53A	New Philadelph	20.89 349	P	P	08 22 17.9	+0.8
	baz=166,SNR=9.2					
LCAR	Lake Charles	20.95 324	IAmb	IAmb	08 22 38.8	
	comp=Z,130nm,1.6s					
W41B	Gary Mavity, V	20.96 320	IAmb	IAmb	08 22 31.1	
	comp=Z,62nm,1.1s					
W41B	Gary Mavity, V	20.96 320	P	P	08 22 19.1	+1.2
	baz=133,SNR=5.9					
CPNY	Central Park	21.04 5	IAmb	IAmb	08 22 25.4	
	comp=Z,95nm,1.4s					
P49A	Miami Univ. Ec	21.06 341	IAmb	IAmb	08 22 31.4	
	comp=Z,191nm,1.6s					
P49A	Miami Univ. Ec	21.06 341	P	P	08 22 20.0	+1.1
	baz=157,SNR=13					
WHAR	Wooly Hollow	21.06 321	IAmb	IAmb	08 22 32.1	
	comp=Z,77nm,1.1s					
N59A	State Game Lan	21.09 1	IAmb	IAmb	08 22 32.2	
	comp=Z,135nm,1.2s					
N59A	State Game Lan	21.09 1	P	P	08 22 20.9	+1.6
	baz=181,SNR=14					
PBMO	Poplar Bluff	21.09 326	IAmb	IAmb	08 22 40.1	
	comp=Z,108nm,1.2s					
P48A	Milroy	21.21 340	IAmb	IAmb	08 22 22.6	
	comp=Z,52nm,0.9s					
S44A	Carbondale	21.23 330	IAmb	IAmb	08 22 41.7	
	comp=Z,113nm,1.4s					
ACSO	Alum Creek Sta	21.24 345	IAmb	IAmb	08 22 23.7	
	comp=Z,74nm,1.1s					
ACSO	Alum Creek Sta	21.24 345	P	P	08 22 21.9	+1.0
	baz=162,SNR=6.3					
PAL	Palisades	21.25 5	P	P	08 22 20.4	-0.7
	baz=186					
ODNJ	Ogdensburg	21.29 3	IAmb	IAmb	08 22 27.5	
	comp=Z,102nm,1.0s					
N53A	Lisbon	21.36 350	IAmb	IAmb	08 22 29.2	
	comp=Z,98nm,1.2s					
MIAR	Mount Ida	21.37 317	IAmb	IAmb	08 22 43.6	
	comp=Z,109nm,1.4s					
MIAR	Mount Ida	21.37 317	P	P	08 22 23.5	+1.2
	baz=129,SNR=10					
TRNY	Table Rock, Ra	21.37 4	IAmb	IAmb	08 22 24.5	
	comp=Z,142nm,1.3s					
FCAR	Ozark Folk Cen	21.38 322	IAmb	IAmb	08 22 36.1	
	comp=Z,47nm,0.8s					
N54A	Moraine State	21.39 352	P	P	08 22 23.2	+0.7
	baz=170,SNR=13					
TLIG	Tlapa	21.41 268	P	P	08 22 23.1	+0.1
237A	Washetta, Mont	21.48 308	IAmb	IAmb	08 22 37.4	
	comp=Z,61nm,0.8s					
M57A	Sunshine Farm,	21.52 358	IAmb	IAmb	08 22 30.7	
	comp=Z,82nm,1.1s					
O49A	Covington	21.55 343	IAmb	IAmb	08 22 38.0	
	comp=Z,100nm,1.4s					
Z38A	Mt. Pleasant	21.55 312	IAmb	IAmb	08 22 45.2	
	comp=Z,124nm,1.3s					
OLIL	Olney	21.57 334	IAmb	IAmb	08 22 40.7	
	comp=Z,61nm,1.1s					
KSPA	Keystone Colle	21.73 1	IAmb	IAmb	08 22 40.3	
	comp=Z,86nm,1.1s					
M55A	Ridgway	21.75 355	IAmb	IAmb	08 22 28.9	
	comp=Z,159nm,1.6s					
N51A	Ashland	21.76 347	IAmb	IAmb	08 22 31.9	
	comp=Z,58nm,0.9s					
O48B	Farmland	21.86 341	P	P	08 22 28.1	+0.6
	baz=156					
M54A	Oil Creek Stat	21.89 353	IAmb	IAmb	08 22 32.1	
	comp=Z,174nm,1.4s					
M54A	Oil Creek Stat	21.89 353	P	P	08 22 29.3	+1.4
	baz=171,SNR=9.6					
W39A	Magazine	21.91 318	IAmb	IAmb	08 22 58.7	
	comp=Z,55nm,1.1s					
W39A	Magazine	21.91 318	P	P	08 22 29.8	+1.6
	baz=130					
M53A	WI Miller and	21.96 351	IAmb	IAmb	08 22 40.3	
	comp=Z,101nm,1.1s					
M53A	WI Miller and	21.96 351	P	P	08 22 29.7	+1.1
	baz=168,SNR=6.7					
P46A	Rosedale	21.98 337	IAmb	IAmb	08 22 31.6	
	comp=Z,70nm,1.1s					
KSCT	Kent School, K	22.00 5	IAmb	IAmb	08 22 39.5	
	comp=Z,112nm,1.2s					
FVM	French Village	22.02 329	IAmb	IAmb	08 22 51.2	
	comp=Z,77nm,1.2s					
Q44A	Meyer Farm, Va	22.11 332	IAmb	IAmb	08 22 48.0	
	comp=Z,127nm,1.1s					
U40A	Yellville	22.12 322	IAmb	IAmb	08 22 51.1	
	comp=Z,87nm,1.3s					
U40A	Yellville	22.12 322	P	P	08 22 31.1	+0.6
	baz=134					
N49A	Columbus Grove	22.19 344	IAmb	IAmb	08 22 47.3	
	comp=Z,124nm,1.4s					
UCCT	U. Connecticut	22.20 8	P	P	08 22 31.2	0.0
UCCT			IAmb	IAmb	08 22 42.2	
	comp=Z,119nm,1.0s					
L56A	Greenwood	22.34 357	IAmb	IAmb	08 22 44.2	
	comp=Z,148nm,1.4s					
MGMO	Mountain Grove	22.36 324	IAmb	IAmb	08 23 13.0	
	comp=Z,156nm,1.7s					
BINY	Binghamton	22.37 0	P	P	08 22 34.2	+1.2
	baz=180,SNR=7.6					
M50A	Fremont	22.37 346	IAmb	IAmb	08 22 40.3	
	comp=Z,87nm,1.0s					
CCM	Cathedral Cave	22.49 327	P	P	08 22 33.6	-0.7
CCM			pmax	pmax		
	comp=Z,69nm,1.0s					
CCM	Cathedral Cave	22.49 327	P	P	08 22 33.6	-0.7
CCM			IAmb	IAmb	08 22 49.8	
	comp=Z,69nm,1.0s					
CCM	Cathedral Cave	22.49 327	P	P	08 22 34.6	+0.3
	baz=140					
SFIN	Lafayette	22.61 338	IAmb	IAmb	08 22 38.0	
	comp=Z,67nm,1.1s					
SFIN	Lafayette	22.61 338	P	P	08 22 36.6	+1.0
	baz=152,SNR=6.3					
WHTX	Lake Whitney,	22.70 307	IAmb	IAmb	08 22 48.4	
	comp=Z,52nm,0.9s					
WHTX	Lake Whitney,	22.70 307	P	P	08 22 38.7	+2.0
	baz=117,SNR=8.2					
HHAR	Hobbs	22.72 320	IAmb	IAmb	08 23 08.8	
	comp=Z,70nm,1.2s					
L61B	Northampton	22.80 7	IAmb	IAmb	08 22 48.7	
	comp=Z,76nm,1.1s					
L61B	Northampton	22.80 7	P	P	08 22 38.7	+1.1
	baz=188,SNR=5.3					
833A	Chaparral WMA,	22.89 296	IAmb	IAmb	08 22 51.0	
	comp=Z,110nm,1.1s					
833A	Chaparral WMA,	22.89 296	P	P	08 22 39.9	+1.2
	baz=107,SNR=5.5					
O44A	Mansfield	22.93 335	IAmb	IAmb	08 22 42.8	
	comp=Z,70nm,1.2s					
MMNY	Mt. Morris Dam	22.95 357	IAmb	IAmb	08 22 51.4	
	comp=Z,141nm,1.6s					
TRY	Troy	22.99 5	IAmb	IAmb	08 23 06.9	
	comp=Z,121nm,1.3s					
BOAV	Boa Vista	23.01 137	eP	P	08 22 39.7	-0.3
BOAV	Boa Vista	23.01 137	P	P	08 22 39.8	-0.2
BOAV			IAmb	IAmb	08 22 50.7	
	comp=Z,79nm,1.6s					
U38A	Gravette	23.09 320	IAmb	IAmb	08 22 59.8	
	comp=Z,45nm,1.1s					
R40A	Maddies Statio	23.19 326	IAmb	IAmb	08 23 20.5	
	comp=Z,92nm,1.3s					
L48A	N Adams	23.22 344	IAmb	IAmb	08 22 45.0	
	comp=Z,73nm,0.9s					
S39A	Bolivar	23.33 324	IAmb	IAmb	08 23 08.7	
	comp=Z,59nm,1.1s					
HDIL	Hopedale	23.61 334	IAmb	IAmb	08 23 07.4	
	comp=Z,99nm,1.3s					
HDIL	Hopedale	23.61 334	P	P	08 22 46.6	+0.7
	baz=148					
TUL1	Leonard	23.64 317	IAmb	IAmb	08 23 23.0	
	comp=Z,90nm,1.1s					
TUL1	Leonard	23.64 317	P	P	08 22 47.2	+1.0
	baz=128,SNR=12					
JCT	Junction City	23.93 301	IAmb	IAmb	08 23 01.7	
	comp=Z,60nm,0.8s					
JCT	Junction City	23.93 301	P	P	08 22 52.0	+2.9
	baz=111,SNR=24					
P40A	Paris	24.02 329	IAmb	IAmb	08 23 00.6	
	comp=Z,39nm,0.9s					
X34A	Smith Ranch, M	24.27 312	IAmb	IAmb	08 23 30.9	
	comp=Z,59nm,1.2s					
OK034	N. Norfolk Rd.	24.30 316	IAmb	IAmb	08 23 03.1	
	comp=Z,45nm,0.8s					
OK031	S. Brethren Rd	24.34 316	IAmb	IAmb	08 23 11.3	
	comp=Z,119nm,1.5s					
QUOK	Quay	24.39 316	IAmb	IAmb	08 23 30.4	
	comp=Z,52nm,1.0s					
TBTG	Tabatinga, AM	24.57 165	eP	P	08 22 56.1	+1.0
ABTX	Abilene, Hawle	24.64 306	IAmb	IAmb	08 23 07.4	
	comp=Z,42nm,0.9s					
ABTX	Abilene, Hawle	24.64 306	P	P	08 22 57.2	+1.5
	baz=116,SNR=9.0					
LBNH	Lisbon	24.65 7	P	P	08 22 57.2	+1.6
	baz=189					
BCOK	Bluff Creek, N	24.69 314	IAmb	IAmb	08 23 12.4	
	comp=Z,109nm,1.5s					
T35A	Sooner Cattle	24.71 318	IAmb	IAmb	08 23 19.8	
	comp=Z,50nm,1.1s					
LONY	Lake Ozonia	24.82 3	P	P	08 22 57.7	+0.6
	baz=183					
P38A	Dawn	24.84 327	IAmb	IAmb	08 22 59.9	
	comp=Z,41nm,0.8s					
ZAIG	Zacatecas	24.84 282	IAmb	IAmb	08 23 10.9	
	comp=Z,73nm,1.6s					
L42A	Oliver, Polo	24.98 336	IAmb	IAmb	08 23 01.8	
	comp=Z,33nm,0.9s					
WMOK	Wichita Mounta	25.00 311	IAmb	IAmb	08 23 16.9	
	comp=Z,33nm,1.1s					
WMOK	Wichita Mounta	25.00 311	P	P	08 22 59.7	+0.8
	baz=121,SNR=17					
SADO	Sadowa	25.06 355	P	P	08 22 59.8	+0.5
	comp=Z,14nm,0.8s,baz=227,slow=4.0,SNR=4.4					
SADO	Sadowa	25.06 355	IAmb	IAmb	08 23 10.4	
	comp=Z,78nm,1.2s					
L40A	Anamosa	25.66 333	IAmb	IAmb	08 23 08.4	
	comp=Z,42nm,0.9s					
OK032	Salt Plains WL	25.74 316	IAmb	IAmb	08 23 24.5	
	comp=Z,55nm,1.2s					
GLMI	Grayling	25.98 346	P	P	08 23 09.9	+2.3
	baz=161,SNR=6.0					
JFWS	Jewell Farm	25.98 336	IAmb	IAmb	08 23 41.0	
	comp=Z,38nm,1.1s					
JFWS	Jewell Farm	25.98 336	P	P	08 23 07.4	-0.2
	baz=148					
KSU1	Kansas State U	26.17 322	IAmb	IAmb	08 23 20.5	
	comp=Z,45nm,0.8s					
KSU1	Kansas State U	26.17 322	P	P	08 23 10.3	+0.9
	baz=132,SNR=12					
I42A	Draeger Farm,	26.34 339	IAmb	IAmb	08 23 13.4	
	comp=Z,60nm,1.1s					
TXAR	Lajitas Array	26.77 296	P	P	08 23 16.3	+1.2
	comp=Z,6.2nm,0.9s,baz=112,slow=9.7,SNR=26					
TXAR			PcP	PcP	08 26 38.1	-0.3
	comp=Z,1.5nm,0.8s,baz=109,slow=2.8,SNR=6.4					
TX31	Lajitas Ar. Si	26.78 296	IAmb	IAmb	08 23 28.8	
	comp=Z,59nm,1.0s					
ATAH	Atahualpa	26.83 185	P	P	08 23 17.6	+1.6
	comp=Z,7.4nm,0.8s,baz=313,slow=6.0,SNR=6.0					
ATAH			LR	LR	08 36 17.9	
	comp=Z,429nm,18.8s,baz=36,slow=42					
I40A	Norwalk	26.95 336	IAmb	IAmb	08 23 31.7	
	comp=Z,32nm,1.1s					
R32A	Long Quarter,	27.01 318	IAmb	IAmb	08 23 36.7	
	comp=Z,65nm,1.4s					
AMTX	Amarillo	27.16 309	IAmb	IAmb	08 23 35.6	
	comp=Z,67nm,1.4s					
MACA	Manacapuru-AM	27.35 145	eP	P	08 23 20.8	+0.6
CZSB	Cruzeiro do Su	27.52 173	eP	P	08 23 21.0	-0.8
CZSB	Cruzeiro do Su	27.52 173	P	P	08 23 21.0	-0.8
CZSB			IAmb	IAmb	08 23 22.4	
	comp=Z,29nm,0.9s					
N33A	J Bar K, Exete	27.75 324	P	P	08 23 22.2	-1.5
N33A			IAmb	IAmb	08 23 26.5	
	comp=Z,39nm,0.9s					
CBKS	Cedar Bluff	27.89 318	IAmb	IAmb	08 23 44.5	
	comp=Z,59nm,1.1s					
CBKS	Cedar Bluff	27.89 318	P	P	08 23 26.7	+1.7
	baz=126					
LMQ	La Malbaie	28.11 8	IAmb	IAmb	08 23 38.8	
	comp=Z,72nm,1.4s					
MNTX	Cornudas Mount	28.85 300	IAmb	IAmb	08 23 50.7	
	comp=Z,43nm,1.3s					
MNTX	Cornudas Mount	28.85 300	P	P	08 23 34.4	+0.9
	baz=107,SNR=7.0					
ECSD	EROS Data Cent	29.43 329	P	P	08 23 38.2	-0.4
	baz=138,SNR=7.1					
KSCO	Kaye Shedlock'	29.87 316	IAmb	IAmb	08 24 00.1	
	comp=Z,46nm,1.4s					
KSCO	Kaye Shedlock'	29.87 316	P	P	08 23 43.4	+0.8
	baz=122					
T25A	Trinidad	30.16 311	IAmb	IAmb	08 23 56.7	
	comp=Z,34nm,0.8s					
T25A	Trinidad	30.16 311	P	P	08 23 47.2	+1.8
	baz=117,SNR=13					
MALB	Monte Alegre	30.34 133	eP	P	08 23 46.8	-0.1
OGNE	Ogallala	30.57 319	IAmb	IAmb	08 24 08.2	
	comp=Z,35n

S22A	4UR Ranch, Cre	32.16 310	IAmb	IAmb	08 24 20.3
	comp=Z,27nm,1.6s				
S22A	4UR Ranch, Cre	32.16 310	P	P	08 24 04.6 +1.5
	baz=115				
ISCO	Idaho Springs	32.26 315	IAmb	IAmb	08 24 14.9
	comp=Z,18nm,0.9s				
ISCO	Idaho Springs	32.26 315	P	P	08 24 05.0 +1.0
	baz=120,SNR=12				
N23A	Red Feather La	33.02 316	P	P	08 24 11.1 +0.5
	baz=121				
MVCO	Mesa Verde	33.15 309	IAmb	IAmb	08 24 20.3
	comp=Z,31nm,1.5s				
MVCO	Mesa Verde	33.15 309	P	P	08 24 13.3 +1.6
	baz=113				
W18A	Petrified Fore	33.36 304	P	P	08 24 15.2 +1.7
	baz=108				
TUC	Tucson	33.43 299	P	P	08 24 16.3 +2.2
	baz=103				
NPGB	Novo Progresso	33.56 141	eP	P	08 24 14.4 -0.8
PV15	Paradox Valley	33.59 310	IAmb	IAmb	08 24 27.1
	comp=Z,23nm,1.1s				
RSSD	Black Hills	33.65 322	P	P	08 24 15.5 -0.5
RSSD			pmax	pmax	
	comp=Z,48nm,1.8s				
RSSD	Black Hills	33.65 322	P	P	08 24 15.5 -0.5
RSSD			IAmb	IAmb	08 24 35.2
	comp=Z,48nm,1.8s				
RSSD	Black Hills	33.65 322	P	P	08 24 16.1 +0.1
	baz=127				
PV11	David Mesa, Pa	33.85 310	IAmb	IAmb	08 24 35.2
	comp=Z,25nm,1.0s				
PV23	Carpenter Ridg	34.01 310	IAmb	IAmb	08 24 31.6
	comp=Z,21nm,0.9s				
O20A	White River Ci	34.19 313	P	P	08 24 22.1 +1.4
	baz=117				
ULM	Lac du Bonnet	34.24 337	P	P	08 24 21.0 +0.2
	comp=Z,7.8nm,0.8s,baz=156,slow=9.2,SNR=7.7				
K22A	Casper	34.31 318	IAmb	IAmb	08 24 39.9
	comp=Z,58nm,1.8s				
K22A	Casper	34.31 318	P	P	08 24 22.5 +0.9
	baz=122,SNR=5.7				
X16A	Lo Mia Camp, P	34.49 302	IAmb	IAmb	08 24 35.6
	comp=Z,20nm,1.0s				
WUAZ	Wupatki	34.76 304	P	P	08 24 28.1 +2.5
	baz=107,SNR=13				
214A	Organ Pipe Nat	35.04 298	P	P	08 24 32.1 +4.2
	baz=101,SNR=7.1				
TMAB	Tom-Au,PA,Br	35.20 126	eP	P	08 24 29.0 -0.5
P18A	Preston Nutter	35.37 311	IAmb	IAmb	08 24 52.7
	comp=Z,34nm,1.2s				
Y14A	Wickenburg	35.63 301	IAmb	IAmb	08 24 50.8
	comp=Z,67nm,1.8s				
P17A	Butcher Ranch,	35.66 311	IAmb	IAmb	08 24 44.8
	comp=Z,20nm,0.9s				
SCHQ	Schefferville	35.71 9	P	P	08 24 33.5 +0.1
	comp=Z,12nm,0.8s,baz=188,slow=6.4,SNR=15				
SCHQ			PcP	PcP	08 27 01.4 -0.1
	comp=Z,3.7nm,0.8s,baz=258,slow=4.4,SNR=4.3				
SCHQ	Schefferville	35.71 9	P	P	08 24 34.2 +0.8
U15A	North Rim	35.74 305	IAmb	IAmb	08 24 52.2
	comp=Z,42nm,1.4s				
113A	Mohawk Valley,	35.99 299	P	P	08 24 35.5 -0.5
113A			IAmb	IAmb	08 24 54.4
	comp=Z,37nm,2.0s				
VILB	Vilhena	36.08 153	eP	P	08 24 37.5 +0.6
VILB	Vilhena	36.08 153	P	P	08 24 36.0 -1.0
VILB			IAmb	IAmb	08 24 59.5
	comp=Z,33nm,1.3s				
MTPU	Mount Pierson	36.18 308	IAmb	IAmb	08 24 50.0
	comp=Z,18nm,0.8s				
BW06	Boulder Array	36.30 317	IAmb	IAmb	08 24 56.8
	comp=Z,53nm,1.8s				
BW06	Boulder Array	36.30 317	P	P	08 24 38.9 +0.1
	baz=119,SNR=5.7				
PD31	Pinedale Array	36.30 317	IAmb	IAmb	08 24 56.8
	comp=Z,48nm,1.8s				
PDAR	Pinedale Array	36.30 317	P	P	08 24 38.7 -0.2
	comp=Z,3.3nm,0.9s,baz=119,slow=9.4,SNR=22				
PDAR			PcP	PcP	08 27 03.0 -0.9
	comp=Z,1.8nm,0.8s,baz=120,slow=7.4,SNR=3.8				
KNB	Kanab	36.33 306	IAmb	IAmb	08 24 57.8
	comp=Z,45nm,1.3s				
CLDB	Colider	36.42 145	eP	P	08 24 39.2 -0.7
LAO	LASA Array	36.43 324	IAmb	IAmb	08 24 57.2
	comp=Z,79nm,1.7s				
LAO	LASA Array	36.43 324	P	P	08 24 40.0 +0.2
	baz=127,SNR=8.9				
DGMT	Dagmar	36.51 328	P	P	08 24 41.1 +0.7
	baz=132				
PRPB	Parauapebas	36.51 132	eP	P	08 24 40.4 -0.3
PDRB	Porto dos Gac	36.55 147	eP	P	08 24 40.2 -0.7
W13A	Hualapai Mount	36.62 303	IAmb	IAmb	08 24 58.9
	comp=Z,26nm,1.2s				
RLMT	Red Lodge	37.30 320	IAmb	IAmb	08 25 05.4
	comp=Z,51nm,1.4s				
RLMT	Red Lodge	37.30 320	P	P	08 24 48.0 +0.6
	baz=122,SNR=10				
IRM	Iron Mountain	37.41 301	P	P	08 24 50.6 +2.4
	baz=102,SNR=13				
DUG	Dugway, Tooele	37.41 311	IAmb	IAmb	08 24 59.8
	comp=Z,30nm,0.9s				
DUG	Dugway, Tooele	37.41 311	P	P	08 24 49.8 +1.6
	baz=112,SNR=23				
REDW	Red Top Meadow	37.41 317	IAmb	IAmb	08 24 58.7
	comp=Z,26nm,0.8s				
BC3	Big Chuckawall	37.55 300	P	P	08 24 51.6 +2.0
	baz=102				
YMP	Mirror Lake Pl	37.64 319	IAmb	IAmb	08 25 27.3
	comp=Z,45nm,1.2s				
FLWY	Flagg Ranch	37.66 318	IAmb	IAmb	08 25 14.5
	comp=Z,24nm,1.1s				
H17A	Grant Village	37.73 318	P	P	08 24 52.2 +1.2
	baz=119				
GMRC	Granite Mounta	37.96 302	P	P	08 24 55.1 +2.2
	baz=103				
SPR3	Spring Creek 3	38.09 309	IAmb	IAmb	08 25 06.2
	comp=Z,40nm,1.0s				
MONP2	Monument Peak	38.21 298	P	P	08 25 00.6 +5.4
	baz=100				
TUQ	Turquoise Moun	38.31 302	P	P	08 24 58.2 +2.2
	baz=103,SNR=10				
HEC	Hector,Ludlow	38.51 301	P	P	08 24 59.5 +2.0
	baz=102				
ROSB	Rosrio	38.64 122	eP	P	08 24 58.2 -0.5
SHOC	Shoshone, Teco	38.70 303	P	P	08 25 01.6 +2.5
	baz=104				
PTLB	Pontes e Lacer	38.76 153	eP	P	08 24 59.4 -0.2
PTLB	Pontes e Lacer	38.76 153	P	P	08 24 59.3 -0.3
R11A	Troy Canyon, C	38.82 307	P	P	08 25 02.2 +2.0
	baz=107,SNR=8.5				
BBRC	Big Bear Solar	38.87 300	P	P	08 25 04.6 +3.8
	baz=101				
TPNV	Topopah Spring	38.94 305	P	P	08 25 03.9 +2.7
	baz=105				
MURC	Murrieta	38.97 299	P	P	08 25 06.1 +4.7
	baz=100				
BOZ	Bozeman (W)	38.97 320	P	P	08 25 00.9 -0.5
BOZ			pmax	pmax	
	comp=Z,43nm,1.6s				
BOZ	Bozeman (W)	38.97 320	P	P	08 25 00.9 -0.5
BOZ			IAmb	IAmb	08 25 19.9
	comp=Z,43nm,1.6s				
BOZ	Bozeman (W)	38.97 320	P	P	08 25 02.4 +1.0
	baz=120,SNR=8.7				
GSC	Goldstone, Bar	38.99 302	P	P	08 25 03.9 +2.3
	baz=102				
EGMT	Eagleton	39.16 324	P	P	08 25 03.6 +0.8
	baz=124,SNR=9.8				
FURC	Furnace Creek,	39.30 304	P	P	08 25 06.6 +2.6
	baz=104				
BFSC	Mount Baldy Ra	39.46 300	P	P	08 25 10.4 +4.7
	baz=100				
MPMC	Manual Prospec	39.70 303	P	P	08 25 09.5 +1.9
	baz=103				
PB11	IPOC Station P	39.78 171	P	P	08 25 07.4 -0.9
PB11			IAmb	IAmb	08 25 23.0
	comp=Z,59nm,1.9s				
HLID	Hailey	39.83 315	P	P	08 25 09.7 +1.1
	baz=114,SNR=15				
EDW2	Edwards Air Fo	39.86 301	P	P	08 25 11.0 +2.2
	baz=101,SNR=8.0				
SNDB	Serra Nova Dou	39.89 140	eP	P	08 25 09.5 +0.4
SMTB	Santa Maria do	39.96 133	eP	P	08 25 09.0 -0.8
PB08	IPOC Station P	40.24 170	P	P	08 25 11.6 -0.8
CWC	Cottonwood Cre	40.25 303	P	P	08 25 14.4 +2.2
	baz=103				
TIN	Tinemaha, Big	40.50 304	P	P	08 25 16.9 +2.7
	baz=103				
ARVC	Arvin	40.58 301	P	P	08 25 17.2 +2.5
	baz=101				
SALV	Santo Antonio	40.72 149	eP	P	08 25 15.6 -0.4
NVAR	Mina Array Bea	40.89 306	P	P	08 25 18.2 +0.7
	comp=Z,4.4nm,0.9s,baz=109,slow=7.3,SNR=22				
NVAR			PcP	PcP	08 27 18.8 +0.5
	comp=Z,2.0nm,0.9s,baz=143,slow=3.5,SNR=3.0				
KVN	Kaiserville	40.90 307	IAmb	IAmb	08 25 28.6
	comp=Z,28nm,0.8s				
VES	Vestal, Richgr	40.92 302	P	P	08 25 19.8 +2.3
	baz=101				
MSO	Missoula	40.97 320	P	P	08 25 18.7 +0.7
	baz=118				
PB01	IPOC Station P	41.07 171	P	P	08 25 17.9 -1.0
FCC	Fort Churchill	41.09 346	P	P	08 25 17.6 -0.9
FCC			pmax	pmax	
	comp=Z,37nm,1.4s				
FCC	Fort Churchill	41.09 346	P	P	08 25 17.6 -0.9
FCC			IAmb	IAmb	08 25 29.6
	comp=Z,37nm,1.4s				
PLID	Pearl Lake	41.49 317	P	P	08 25 22.4 -0.1
JTMT	Jette	41.62 321	P	P	08 25 23.8 +0.5
NBPS	Pedro II - PI	41.67 122	eP	P	08 25 23.4 -0.5
PB07	IPOC Station P	41.68 171	P	P	08 25 23.2 -0.8
YERR	Yerington	41.74 307	IAmb	IAmb	08 25 36.3
	comp=Z,47nm,0.9s				
PEXB	Peixe	41.85 137	eP	P	08 25 25.5 +0.2
PNTR	Pine Nut	42.04 307	IAmb	IAmb	08 25 38.9
	comp=Z,20nm,0.8s				
EMB	Emerald Bay	42.39 307	IAmb	IAmb	08 25 41.9
	comp=Z,28nm,1.0s				
ARAG	Araguaiana, MT	42.57 144	eP	P	08 25 30.5 -0.7
PP1B	Ponte de Pedra	42.58 149	eP	P	08 25 32.1 +1.0
LVC	Limon Verde	42.70 170	P	P	08 25 31.7 -0.8
	comp=Z,4.6nm,0.9s,baz=45,slow=4.4,SNR=4.0				
LVC	Limon Verde	42.70 170	P	P	08 25 31.6 -0.9
LVC			pmax	pmax	
	comp=Z,13nm,1.3s				
LVC	Limon Verde	42.70 170	eP	P	08 25 31.8 -0.7
LVC	Limon Verde	42.70 170	P	P	08 25 31.6 -0.9
NEW	Newport	43.55 320	P	P	08 25 37.5 -1.3
NEW			pmax	pmax	
	comp=Z,18nm,1.1s				
NEW	Newport	43.55 320	P	P	08 25 37.5 -1.3
NEW	Newport	43.55 320	P	P	08 25 39.2 +0.4
	baz=116,SNR=11				
NBPB	Pedra_Branca-C	43.84 121	eP	P	08 25 41.0 -0.6
EDM	Edmonton	44.00 328	P	P	08 25 41.6 -0.8
EDM			pmax	pmax	
	comp=Z,92nm,1.7s				
EDM	Edmonton	44.00 328	P	P	08 25 41.6 -0.8
C09A	Chrisman Ranch	44.05 319	IAmb	IAmb	08 25 59.8
	comp=Z,36nm,1.4s				
D08A	Wollman Farm,	44.15 318	P	P	08 25 43.2 -0.4
SDBA	SAO DESIDERIO	44.33 134	eP	P	08 25 44.6 -0.9
F07A	Phinny Hill Vi	44.35 316	P	P	08 25 44.9 -0.4
F07A			IAmb	IAmb	08 26 02.5
	comp=Z,68nm,1.8s				
J05D	Fort Rock, OR	44.38 312	P	P	08 25 46.0 +0.3
	baz=107				
PB14	IPOC Station P	44.47 173	IAmb	IAmb	08 25 48.0
	comp=Z,33nm,1.0s				
AQDB	Aquidauana	44.70 152	eP	P	08 25 48.5 +0.2
AQDB	Aquidauana	44.70 152	P	P	08 25 48.5 +0.2
AQDB			IAmb	IAmb	08 25 58.3
	comp=Z,21nm,0.8s				
BDFB	Brasilia	44.72 140	P	P	08 25 48.0 -0.7
	comp=Z,4.7nm,0.9s,baz=270,slow=9.6,SNR=5.2				
BDFB	Brasilia	44.72 140	IAmb	IAmb	08 26 01.1
	comp=Z,21nm,1.3s				
L04D	Klamath Falls	44.83 310	IAmb	IAmb	08 25 59.9
	comp=Z,32nm,1.0s				
L04D	Klamath Falls	44.83 310	P	P	08 25 50.8 +1.4
	baz=105				
B08A	Colville Reser	44.92 320	IAmb	IAmb	08 25 59.6
	comp=Z,18nm,0.8s				
LTY	Liberty	45.33 318	IAmb	IAmb	08 25 54.6
	comp=Z,24nm,1.2s				
H04A	Detroit Lake	45.45 314	IAmb	IAmb	08 26 04.9
	comp=Z,29nm,1.0s				
NBMA	Muriti-CE	45.57 123	eP	P	08 25 55.0 -0.4
IPMB	Ipameri, GO	46.44 142	eP	P	08 26 01.1 -1.0
ITRB	Iturama	46.63 146	eP	P	08 26 04.4 +0.8
JANB	Januaria	46.63 136	eP	P	08 26 02.5 -1.3
NBPN	Ponto Novo - B	46.63 128	eP	P	08 26 02.8 -1.0
AC02	Maricunga	46.81 171	IAmb	IAmb	08 26 10.1
	comp=Z,24nm,1.1s				
LLLB	Lillooet	47.35 322	IAmb	IAmb	08 26 10.7
	comp=Z,20nm,1.2s				
PCMB	Pacaembu	47.75 148	eP	P	08 26 12.7 +0.4
NBPV	Pedro Velho	47.84 119	eP	P	08 26 12.8 -0.3
NBLA	Lagarto - SE	48.55 126	eP	P	08 26 17.5 -1.1
BB19B	Bebedouro	48.73 145	eP	P	08 26 20.5 +0.6
NBAN	Anadia - AL	48.91 123	eP	P	08 26 21.2 -0.2
GDU01	Guandu, BA	48.98 130	eP	P	08 26 20.8 -1.1
NBRF	Rio Formoso -	49.25 121	eP	P	08 26 23.2 -0.8
CPUP	Villa Florida	49.31 158	P	P	08 26 23.7 -0.5
	comp=Z,2.0nm,0.8s,baz=40,slow=7.9,SNR=2.1				
DIAM	Diamantina, MG	49.42 138	eP	P	08 26 25.0 -0.5
NBIT	Itapeh - BA	49.89 131	eP	P	08 26 28.6 -0.2
SFJD	Kangerlussuaq	49.96 13	P	P	08 26 28.6 -0.1
	comp=Z,13nm,0.8s,baz=214,slow=4.3,SNR=7.5				
SFJD	Kangerlussuaq	49.96 13	P	P	08 26 28.0 -0.7
SFJD			pmax	pmax	
	comp=Z,40nm,1.1s				
SFJD	Kangerlussuaq	49.96 13	eP	P	08 26 29.4 +0.7
SFJD			IAmb	IAmb	08 26 30.1
	comp=Z,12nm,0.9s				
SFJD	Kangerlussuaq	49.96 13	P	P	08 26 28.0 -0.7
YKA	Yellowknife Ar	50.22 338	P	P	08 26 30.4 -0.3
	comp=Z,8.4nm,0.9s,baz=131,slow=8.8,SNR=70				
YKA			PcP	PcP	08 27 49.7 -0.1
	comp=Z,1.6nm,0.8s,baz=123,slow=3.7,SNR=3.8				
DY2G	Dye2	50.52 15	eP	P	08 26 33.7 +0.5
DY2G			IAmb	IAmb	08 26 44.2
	comp=Z,207nm,1.7s				
GUA01	Guaratinga, BA	50.76 133	eP	P	08 26 34.4 -0.9
ITAB	Concordia	52.17 153	eP	P	08 26 45.1 -0.7
ITAB	Concordia	52.17 153	P	P	08 26 44.9 -0.9
ITAB			IAmb	IAmb	08 26 55.2
	comp=Z,23nm,1.1s				
ITQB	Itaqui	52.61 159	eP	P	08 26 47.5 -1.5
ICESG	Greenland Ices	54.15 15	eP	P	08 27 00.1 -0.2
ICESG			IAmb	IAmb	08 27 01.2
	comp=Z,51nm,1.0s				
DLBC	Dease Lake	54.72 329	IAmb	IAmb	08 27 06.7
	comp=Z,26nm,1.1s				
PLTB	Pedras Altas	55.59 157	eP	P	08 27 10.3 -0.5
PLTB	Pedras Altas	55.59 157	P	P	08 27 09.8 -1.0
RES	Resolute Bay	55.88 354	P	P	08 27 11.2 -1.0
RES			pmax	pmax	
	comp=Z,17nm,0.9s				
RES	Resolute Bay	55.88 354	P	P	08 27 11.2 -1.0
RES			IAmb	IAmb	08 27 13.6
	comp=Z,18nm,0.8s				
TULEG	Thule	56.93 2	iP	P	08 27 20.0 +0.3
TULEG			IAmb	IAmb	08 27 20.6
	comp=Z,25nm,1.0s				
TULEG	Thule	56.93 2	P	P	08 27 19.1 -0.7
TULEG			IAmb	IAmb	08 27 31.1
	comp=Z,27nm,1.0s				
SUMG	Summit	56.96 13	P	P	08 27 19.8 -0.8
SUMG			pmax	pmax	
	comp=Z,31nm,1.0s				
SUMG	Summit	56.96 13	iP	P	08 27 20.6 +0.1
SUMG			IAmb	IAmb	08 27 21.4
	comp=Z,30nm,1.0s				
SUMG	Summit	56.96 13	P	P	08 27 19.8 -0.8
C36M	Paulatuk	57.46 342	P	P	08 27 22.2 -1.4
	baz=124				
M31M	Drury Creek, Y	58.07 332	P	P	08 27 28.9 +0.8
	baz=109				
N31M	Braeburn, Yuko	58.47 331	P	P	08 27 31.7 +0.9
	baz=108				
LC01	Cunco	58.49 176	IAmb	IAmb	08 27 46.4
	comp=Z,22nm,1.4s				
NEEM	North Greenlan	59.02 6	iP	P	08 27 35.0 +0.2
NEEM			IAmb	IAmb	08 27 38.0
	comp=Z,12nm,0.9s				
M30M	Minto, Yukon	59.25 332	IAmb	IAmb	08 27 37.8
	comp=Z,30nm,1.3s				
M30M	Minto, Yukon	59.25 332	P	P	08 27 36.9 +0.6
	baz=107,SNR=8.5				
A36M	Sachs Harbour	59.26 344	P	P	08 27 35.7 -0.5
	baz=124,SNR=51				
INK	Inuvik	59.97 339	IAmb	IAmb	08 27 42.2
	comp=Z,14nm,1.2s				
INK	Inuvik	59.97 339	P	P	08 27 41.0 0.0
	baz=114,SNR=7.4				
PLCA	Paso Flores	60.41 175	P	P	08 27 44.5 0.0
	comp=Z,4.8nm,1.1s,baz=352,slow=7.2,SNR=6.0				
PLCA	Paso Flores	60.41 175	P	P	08 27 44.3 -0.2
PLCA			pmax	pmax	
	comp=Z,38nm,1.9s				
PLCA	Paso Flores	60.41 175	eP	P	08 27 44.5 0.0
PLCA	Paso Flores	60.41 175	P	P	08 27 44.3 -0.2
PLCA			IAmb	IAmb	08 27 57.1
	comp=Z,38nm,1.9s				
EPYK	Eagle Plains	60.41 336	P	P	08 27 45.1 +0.9
	baz=109				
J29M	Klondike Camp	60.41 334	IAmb	IAmb	08 27 46.9
	comp=Z,21nm,0.9s				
J29M	Klondike Camp	60.41 334	P	P	08 27 45.8 +1.6
	baz=107,SNR=5.7				
EUNU	Eureka	60.52 358	IAmb	IAmb	08 27 46.0
	comp=Z,16nm,0.9s				
PGAV	Gavieira, Arco	60.72 52	eP	P	08 27 47.2 +0.4
DAWY	Dawson	60.79 333	P	P	08 27 45.4 -1.5
DAWY			IAmb	IAmb	08 27 49.1
	comp=Z,15nm,1.2s				
DAWY	Dawson	60.79 333	P	P	08 27 46.8 -0.1
	baz=105,SNR=7.1				
PMTG	Montargil	60.84 56	eP	P	08 27 47.7 +0.1
	comp=Z,27nm,1.6s				
PCAB	Cabril	60.91 53	eP	P	08 27 48.7 +0.7
MESJ	Messejana	60.91 57	eP	P	08 27 48.3 +0.2
MESJ			IAmb	IAmb	08 27 49.9
	comp=Z,26nm,1.0s				
MESJ	Messejana	60.91 57	eP	P	08 27 48.3 +0.2
MESJ			iAmb		08 27 49.9
MESJ	Messejana	60.91 57	eP	P	08 27 48.2 +0.2
BVCY	Beaver Creek	61.03 331	P	P	08 27 48.9 +0.4
	baz=103				
EVO	Evora	61.03 56	eP	P	08 27 49.3 +0.4
	comp=Z,31nm,1.7s				
PVIS	Viseu	61.03 54	eP	P	08 27 49.4 +0.5
	comp=Z,38nm,1.6s				
POLO	Lamas de Olo	61.09 53	eP	P	08 27 49.9 +0.5
	comp=Z,23nm,1.5s				
PBDV	Barranco-do-Ve	61.17 58	eP	P	08 27 51.0 +1.1
	comp=Z,83nm,1.4s				
MTE	Manteigas	61.31 54	eP	P	08 27 51.1 +0.3
	comp=Z,44nm,1.3s				
PVAQ	Vaqueiros	61.33 58	eP	P	08 27 51.9 +0.9
	comp=Z,46nm,1.3s				
PESTR	Estremoz	61.34 56	eP	P	08 27 51.7 +0.7
PCBR	Castelo Branco	61.38 55	eP	P	08 27 51.6 +0.3
	comp=Z,37nm,1.6s				
PMRV	Marv??o	61.47 55	eP	P	08 27 52.2 +0.3
	comp=Z,32nm,1.6s				
M27K	Edge Creek, AK	61.48 331	IAmb	IAmb	08 27 53.4
	comp=Z,15nm,1.1s				
M27K	Edge Creek, AK	61.48 331	P	P	08 27 52.3 +0.6
	baz=102				
L27K	Beaver Creek,	61.61 332	P	P	08 27 52.5 +0.1
	baz=103				
MVO	Moncorvo	61.67 53	eP	P	08 27 53.8 +0.5
	comp=Z,31nm,1.2s				
EGAK	Eagle	61.72 334	P	P	08 27 53.9 +0.8
	baz=104,SNR=5.2				
PBRG	Braganca	61.86 52	eP	P	08 27 55.1 +0.6
	comp=Z,48nm,1.5s				
M26K	Nabesna, AK	62.00 331	P	P	08 27 56.4 +1.3
	baz=101				
DBG	Daneborg	62.14 15	iP	P	08 27 55.3 -0.5
DBG			IAmb	IAmb	08 27 56.6
	comp=Z,3μm,7.7s				
L26K	Log Cabin Wild	62.28 332	IAmb	IAmb	08 27 59.5
	comp=Z,24nm,1.1s				
L26K	Log Cabin Wild	62.28 332	P	P	08 27 58.3 +1.3
	baz=101,SNR=10				
MENT	Mentasta	62.43 332	IAmb	IAmb	08 28 00.5
	comp=Z,22nm,1.3s				
J26L	Joseph Creek	62.66 333	IAmb	IAmb	08 28 01.2
	comp=Z,16nm,0.9s				
J26L	Joseph Creek	62.66 333	P	P	08 28 00.3 +0.8
	baz=102				
SCRK	Sand Creek	62.74 333	IAmb	IAmb	08 28 02.6
	comp=Z,24nm,1.2s				
SCRK	Sand Creek	62.74 333	P	P	08 28 00.9 +0.8
	baz=101,SNR=13				
RIDG	Independent Ri	63.07 332	P	P	08 28 03.5 +1.2
	baz=100,SNR=11				
DIV	Divide	63.09 329	P	P	08 28 02.1 -0.3
PAX	Paxson	63.22 331	P	P	08 28 03.1 -0.2
PAX			pmax	pmax	
	comp=Z,17nm,1.1s				
PAX	Paxson	63.22 331	P	P	08 28 03.1 -0.2
PAX			IAmb	IAmb	08 28 05.0
	comp=Z,17nm,1.1s				
PAX	Paxson	63.22 331	P	P	08 28 04.1 +0.8
	baz=99				
M24K	Tolsona, Glenn	63.41 330	P	P	08 28 06.3 +1.7
	baz=98,SNR=5.8				
DAG	Danmarks Havn	63.65 13	iP	P	08 28 05.0 -0.8
DAG			IAmb	IAmb	08 28 05.7
	comp=Z,18nm,0.9s				
PAB	San Pablo	63.81 55	P	P	08 28 07.4 -0.2
PAB			pmax	pmax	
	comp=Z,24nm,1.2s				
PAB	San Pablo	63.81 55	P	P	08 28 07.4 -0.2
PAB			IAmb	IAmb	08 28 19.5
	comp=Z,24nm,1.2s				
HDA	Harding Lake	64.09 333	P	P	08 28 09.2 +0.3
	baz=98				
ESDC	Sonseca Array	64.10 55	P	P	08 28 09.4 -0.1
	comp=Z,10nm,1.1s,baz=278,slow=6.9,SNR=31				
ESDC			PcP	PcP	08 28 43.0 -1.6
	comp=Z,6.0nm,1.1s,baz=285,slow=6.2,SNR=4.4				
ESDC	Sonseca Array	64.10 55	IAmb	IAmb	08 28 11.1
	comp=Z,19nm,1.2s				
ESBB	Sonseca Array	64.10 55	P	P	08 28 08.6 -0.9
ESBB			IAmb	IAmb	08 28 11.0
	comp=Z,25nm,1.2s				
IL31		64.12 333	P	P	08 28 08.5 -0.5
IL31			IAmb	IAmb	08 28 10.1
	comp=Z,12nm,1.1s				
ILAR	Eielson Array	64.12 333	P	P	08 28 08.9 -0.2
	comp=Z,5.5nm,1.0s,baz=103,slow=4.7,SNR=27				
WAT6	Susitna Watana	64.20 331	P	P	08 28 10.4 +0.6
	baz=97,SNR=5.5				
SML	Sawmill	64.39 330	P	P	08 28 12.0 +1.1
	baz=96				
POKR	Poker Plat Res	64.40 334	P	P	08 28 11.3 +0.4
	baz=98,SNR=5.3				
CCB	Clear Creek Bu	64.49 333	IAmb	IAmb	08 28 21.5
	comp=Z,11nm,1.1s				
COLA	College	64.54 333	iP	P	08 28 10.6 -1.2
COLA			pmax	pmax	
	comp=Z,5.0nm,0.8s				
H24K	Noodor Dome	64.69 334	IAmb	IAmb	08 28 14.2
	comp=Z,23nm,1.1s				
H24K	Noodor Dome	64.69 334	P	P	08 28 13.3 +0.4
	baz=98				
MDM	Murphy Dome	64.72 333	IAmb	IAmb	08 28 16.2
	comp=Z,19nm,1.2s				
MCK	McKinley	64.87 332	P	P	08 28 14.3 +0.3
	baz=96,SNR=6.8				
NEA2	Nenana	65.03 333	IAmb	IAmb	08 28 49.2
	comp=Z,15nm,1.1s				
I23K	Minto, Yukon-K	65.21 334	P	P	08 28 16.6 +0.4
	baz=96,SNR=14				
CUT	Chulitna	65.35 330	P	P	08 28 17.5 +0.4
	baz=94				
TRF	Thorofare Moun	65.45 332	P	P	08 28 18.5 +0.6
	baz=95,SNR=5.7				
COLD	Coldfoot	65.79 336	IAmb	IAmb	08 28 22.0
	comp=Z,18nm,1.0s				
COLD	Coldfoot	65.79 336	P	P	08 28 21.0 +1.1
	baz=97,SNR=8.7				
BPAW	Bear Paw Mtn.	65.81 332	IAmb	IAmb	08 29 04.5
	comp=Z,13nm,0.8s				
NOR	Nord	66.24 8	iP	P	08 28 22.3 -0.2
NOR			IAmb	IAmb	08 28 24.0
	comp=Z,12nm,1.0s				
CAST	Castle Rocks	66.25 332	IAmb	IAmb	08 28 24.9
	comp=Z,20nm,1.4s				
CAST	Castle Rocks

CHUM	**Lake Minchumin**	66.38	332	P		P	08 28 23.7 0.0
	baz=93,SNR=5.3						
H21K	**Melozitna Rive**	66.69	334	IAmb		IAmb	08 28 27.3
	comp=Z,18nm,1.2s						
H21K	**Melozitna Rive**	66.69	334	P		P	08 28 25.7 0.0
	baz=94						
L20K	**Farewell, AK**	67.03	330	P		P	08 28 28.1 +0.1
	baz=91						
K20K	**Telida**	67.14	331	P		P	08 28 28.3 -0.3
	baz=91						
J20K	**Nowinta River**	67.20	332	P		P	08 28 28.8 -0.2
	baz=92						
TTA	**Tatalina**	68.02	331	P		P	08 28 33.8 -0.5
	baz=90						
A21K	**Barrow**	68.40	340	P		P	08 28 36.6 +0.3
	baz=92,SNR=7.1						
SNF	**Seneffe**	68.94	42	P		P	08 28 40.4 +0.3
HYA	**Hoyanger**	69.19	31	*e*P		P	08 28 42.7 +1.3
DOU	**Dourbes**	69.19	43	P		P	08 28 41.9 +0.2
	comp=Z,12nm,1.0s						
BMRD	**Maredsous**	69.28	43	P		P	08 28 41.9 -0.4
	comp=Z,13nm,1.0s						
BMRD				x		x	08 28 51.4
BLS5	**Blasjo**	69.43	33	*e*P		P	08 28 44.0 +0.9
BGES	**Gesves**	69.47	42	P		P	08 28 44.0 +0.6
	comp=Z,15nm,1.1s						
BGES				x		x	08 28 52.1
ODD1	**Odda**	69.48	32	*e*P		P	08 28 44.6 +1.2
AKN	**Aaknes**	69.51	30	*e*P		P	08 28 44.0 +0.5
RCHB	**Rochefort**	69.58	43	P		P	08 28 43.7 -0.4
	comp=Z,7.7nm,1.2s						
RCHB				x		x	08 28 52.6
BCLA	**Clavier**	69.60	42	⇓P		P	08 28 43.5 -0.7
	comp=Z,14nm,1.0s						
BCLA				x		x	08 28 53.1
BCLA				PcP		PcP	08 29 07.4 +0.1
SSB	**Saint Sauveur**	69.74	48	IAmb		IAmb	08 28 55.8
	comp=Z,29nm,1.3s						
BSTI	**Sart Tilman**	69.75	42	P		P	08 28 45.2 0.0
BSTI				x		x	08 28 54.2
TIC	**Toumodi**	69.99	90	*e*PKP1		P	08 28 45.7 -1.6
MEM	**Membach**	70.03	42	P		P	08 28 47.6 +0.7
	comp=Z,16nm,0.9s						
MEM				x		x	08 28 55.8
BHOU	**Houvegnez**	70.06	42	P		P	08 28 48.1 +1.0
	comp=Z,14nm,1.1s						
BHOU				x		x	08 28 56.5
BTNL	**Ternell**	70.11	42	P		P	08 28 47.8 +0.4
BTNL				x		x	08 28 56.5
LIC	**Lamto**	70.12	90	*e*PKP1		P	08 28 45.9 -2.2
	comp=Z,58nm,1.1s						
DBIC	**Dimbokro**	70.14	90	P		P	08 28 47.5 -0.6
	comp=Z,11nm,0.8s,baz=292,slow=3.8,SNR=9.8						
DBIC	**Dimbokro**	70.14	90	P		P	08 28 47.0 -1.2
DBIC				pmax		pmax	
	comp=Z,17nm,1.0s						
DBIC	**Dimbokro**	70.14	90	P		P	08 28 47.0 -1.2
DBIC				IAmb		IAmb	08 28 48.6
	comp=Z,17nm,0.9s						
WLF	**Walferdange**	70.24	43	P		P	08 28 46.8 -1.4
WLF				pmax		pmax	
	comp=Z,31nm,1.0s						
WLF	**Walferdange**	70.24	43	*e*P		P	08 28 48.8 +0.6
	comp=Z,39nm,1.1s,baz=280,slow=6.0						
WLF	**Walferdange**	70.24	43	P		P	08 28 46.8 -1.4
WLF	**Walferdange**	70.24	43	P		P	08 28 49.1 +0.9
	comp=Z,18nm,1.0s						
WLF				x		x	08 28 57.7
SKAR	**Skarslia**	70.25	31	*e*P		P	08 28 49.6 +1.5
KIC	**Kosan Boka**	70.35	90	*e*PKP1		P	08 28 46.5 -3.0
	comp=Z,29nm,0.9s						
DOMB	**Dombas**	70.49	30	*e*P		P	08 28 50.5 +1.0
RDOG	**Red Dog Mine**	70.66	337	P		P	08 29 01.2 +11
	baz=85,SNR=7.3						
AHRW	**Bad Neuenahr-A**	70.71	42	*e*P		P	08 28 51.8 +0.7
	comp=Z,49nm,1.4s,baz=280,slow=6.0						
BUG	**Bochum--Univer**	70.71	41	*e*P		P	08 28 51.3 +0.3
	comp=Z,35nm,1.3s,baz=280,slow=6.0						
IBBN	**Ibbenburen**	70.89	40	*e*P		P	08 28 52.6 +0.5
	comp=Z,77nm,1.1s,baz=280,slow=6.0						
TBLU	**Trondheim**	70.92	29	*e*P		P	08 28 53.4 +1.3
KONO	**Kongsberg**	71.00	32	*ce*P		P	08 28 52.8 +0.2
KONO				pmax		pmax	
	comp=Z,15nm,0.8s						
KONO	**Kongsberg**	71.00	32	*e*P		P	08 28 53.8 +1.1
KONO	**Kongsberg**	71.00	32	P		P	08 28 50.9 -1.8
ECH	**Echery**	71.10	45	P		P	08 28 52.5 -1.0
ECH				pmax		pmax	
	comp=Z,34nm,1.1s						
ECH	**Echery**	71.10	45	P		P	08 28 52.5 -1.0
SPA0	**Spitsbergen Ar**	71.30	13	*e*P		P	08 28 53.4 -0.8
OSL	**Oslo**	71.53	32	*e*P		P	08 28 57.3 +1.5
TNS	**Taunus Mts**	71.63	42	*e*P		P	08 28 57.2 +0.5
	comp=Z,33nm,1.2s,baz=280,slow=6.0						
NB2	**NORSAR Subarra**	71.63	31	P		P	08 28 57.0 +0.5
	comp=Z,34nm,0.9s,baz=279,slow=6.2						
NB2	**NORSAR Subarra**	71.63	31	P		P	08 28 57.0 +0.5
	baz=279,slow=6.2						
NOA	**NORSAR Array B**	71.63	31	P		P	08 28 57.0 +0.5
	comp=Z,23nm,1.0s,baz=279,slow=6.1,SNR=25						
RETH	**Rethem/Aller,**	71.80	40	*e*P		P	08 28 58.4 +0.8
	comp=Z,38nm,1.1s,baz=280,slow=6.0						
NC602	**NORSAR Array S**	71.83	31	*e*P		P	08 28 59.0 +1.4
BFO	**Black Forest**	71.85	44	P		P	08 28 56.1 -2.0
BFO				pmax		pmax	
	comp=Z,15nm,1.1s						
BFO	**Black Forest**	71.85	44	*e*P		P	08 28 58.1 0.0
	comp=Z,14nm,1.1s,baz=280,slow=6.0						
BFO	**Black Forest**	71.85	44	P		P	08 28 56.1 -2.0
BFO				IAmb		IAmb	08 29 09.6
	comp=Z,15nm,1.1s						
BSEG	**Bad Segeberg**	72.18	38	*e*P		P	08 29 00.6 +0.7
	comp=Z,21nm,1.2s,baz=280,slow=6.0						
NRDL	**Niedersach Rie**	72.29	40	*e*P		P	08 29 01.3 +0.8
	comp=Z,40nm,1.3s,baz=280,slow=6.0						
MOR8	**Moi Rana**	72.33	25	*e*P		P	08 29 01.6 +1.0
STU	**Stuttgart**	72.34	44	P		P	08 29 00.5 -0.5
STU				pmax		pmax	
	comp=Z,17nm,1.1s						
STU	**Stuttgart**	72.34	44	P		P	08 29 00.5 -0.5
STU				IAmb		IAmb	08 29 02.2
	comp=Z,17nm,1.1s						
GTTG	**Gottingen**	72.36	41	*e*P		P	08 29 01.7 +0.7
	comp=Z,33nm,1.0s,baz=280,slow=6.0						
STEI	**Steigen**	72.37	23	*e*P		P	08 29 00.8 +0.1
UBBA	**Unterbreizbach**	72.51	42	*e*P		P	08 29 02.4 +0.6
	comp=Z,37nm,1.7s,baz=280,slow=6.0						
CLZ	**Clausthal**	72.56	40	*e*P		P	08 29 03.2 +1.0
	comp=Z,43nm,1.2s,baz=280,slow=6.0						
ASSE	**Asse, Remlinge**	72.69	40	*e*P		P	08 29 03.8 +0.9
	comp=Z,22nm,1.0s,baz=280,slow=6.0						
TNA	**Tin City**	72.95	334	IAmb		IAmb	08 29 05.8
	comp=Z,15nm,1.0s						
TNA	**Tin City**	72.95	334	P		P	08 29 04.6 +0.4
	baz=80						
FLTG	**Flechtingen**	73.00	40	*e*P		P	08 29 05.0 +0.3
	comp=Z,21nm,1.0s,baz=280,slow=6.0						
DAVA	**Damuels**	73.07	45	*e*P		P	08 29 06.4 +0.9
	comp=Z,11nm,0.8s						
TRO	**Tromso**	73.38	21	*e*P		P	08 29 07.1 +0.5
GRF	**Grafenberg Arr**	73.48	43	*e*L		L	09 01 13.9
	comp=Z,151nm,18.8s						
NEUB	**Neuenburg**	73.54	41	*e*P		P	08 29 08.5 +0.6
	comp=Z,32nm,0.9s,baz=280,slow=6.0						
MOX	**Moxa**	73.55	42	*e*P		P	08 29 08.3 +0.3
	comp=Z,19nm,1.2s,baz=280,slow=6.0						
MOX				*e*L		L	08 59 07.9
	comp=Z,166nm,19.8s						
RETA	**Reutte**	73.61	45	*e*P		P	08 29 09.3 +0.7
	comp=Z,25nm,1.0s,SNR=14						
FETA	**Feichten**	73.69	45	*e*P		P	08 29 10.2 +1.1
	comp=Z,20nm,0.9s,SNR=12						
FUR	**Furstenfeldbru**	73.82	44	*e*P		P	08 29 10.5 +0.7
	baz=280,slow=6.0						
MOTA	**Moosalm**	73.87	45	*e*P		P	08 29 11.0 +0.8
	comp=Z,18nm,0.9s,SNR=12						
JETT	**Jettan, Norway**	73.90	21	*e*P		P	08 29 11.6 +1.8
PLN	**Plauen**	73.92	42	*e*P		P	08 29 10.5 +0.3
	comp=Z,27nm,1.0s,baz=280,slow=6.0						
SQTA	**Sankt Quirin**	73.97	45	*e*P		P	08 29 11.3 +0.6
	comp=Z,14nm,0.9s,SNR=9.8						
MANZ	**Manzenberg**	73.99	42	*e*P		P	08 29 11.1 +0.4
	comp=Z,4.3nm,1.3s,baz=280,slow=6.0						
WERD	**Werda**	74.02	42	*e*P		P	08 29 11.1 +0.3
	comp=Z,18nm,1.0s,baz=280,slow=6.0						
GUNZ	**Gunzen**	74.05	42	*e*P		P	08 29 11.7 +0.6
	comp=Z,23nm,1.1s,baz=280,slow=6.0						
ROTZ	**Rotzenmuhle**	74.09	42	*e*P		P	08 29 12.1 +0.8
	comp=Z,6.2nm,1.1s,baz=280,slow=6.0						
WERN	**Wernitzgruen**	74.09	42	*e*P		P	08 29 11.9 +0.5
	comp=Z,22nm,1.2s,baz=280,slow=6.0						
TANN	**Tannenbergstha**	74.12	42	*e*P		P	08 29 12.0 +0.4
	comp=Z,26nm,1.0s,baz=280,slow=6.0						
NKC	**Novy Kostel**	74.15	42	*e*P		P	08 29 12.7 +1.1
NKC				*e*			08 29 20.7
NKC	**Novy Kostel**	74.15	42	*e*P		P	08 29 12.7 +1.1
NKC				*ex*		x	08 29 20.7
WATA	**Walderalm**	74.19	45	*e*P		P	08 29 12.6 +0.5
	comp=Z,12nm,1.0s,SNR=5.2						
WTTA	**Wattenberg**	74.24	45	*e*P		P	08 29 13.2 +0.8
	comp=Z,11nm,0.9s						
CLL	**Collm**	74.27	41	⇑*i*P		P	08 29 12.1 -0.2
CLL				*i*			08 29 21.1
CLL				pmax		pmax	
	comp=Z,25nm,1.4s						
CLL	**Collm**	74.27	41	⇑*i*P		P	08 29 12.1 -0.2
	comp=Z,25nm,1.4s						
CLL				*i* x		x	08 29 21.1
CLL				*e*PPS		PPS	08 39 54.0
CLL				*e*SSSS			08 48 42.0
CLL				Lm		MLR	09 11 00.0
	comp=N,100nm,21.0s						
CLL				Lm		MLR	09 11 00.0
	comp=E,200nm,20.5s						
CLL				Lm		MLR	09 11 00.0
	comp=Z,300nm,18.2s						
CLL	**Collm**	74.27	41	*e*P		P	08 29 12.7 +0.4
	comp=Z,25nm,1.4s,baz=280,slow=6.0						
CLL	**Collm**	74.27	41	IAmb		IAmb	08 29 24.2
	comp=Z,21nm,1.2s						
TORD	**Torodi Ar. Bea**	74.33	81	P		P	08 29 12.3 -0.9
	comp=Z,15nm,0.9s,baz=293,slow=5.3,SNR=52						
TORD	**Torodi Ar. Bea**	74.33	81	IAmb		IAmb	08 31 55.5
	comp=Z,18nm,0.8s						
CTI	**Castel Tesino**	74.51	46	IAmb		IAmb	08 29 25.3
	comp=Z,14nm,1.0s						
FBE	**Freiberg**	74.57	41	*e*P		P	08 29 14.9 +0.9
	comp=Z,27nm,1.1s,baz=280,slow=6.0						
WET	**Wettzell**	74.65	43	*e*P		P	08 29 15.6 +1.0
	comp=Z,35nm,1.3s,baz=280,slow=6.0						
ABTA	**Abfaltersbach**	74.94	45	*i* P		P	08 29 17.0 +0.6
	comp=Z,15nm,1.0s,SNR=6.2						
BRG	**Berggiesshubel**	74.95	41	*e*P		P	08 29 16.8 +0.6
BRG				Amp			08 29 18.5
	comp=Z,21nm,1.1s						
BRG				*ex*		x	08 29 25.9
BRG				Amp			08 29 29.0
	comp=Z,19nm,1.2s						
BRG	**Berggiesshubel**	74.95	41	*e*P		P	08 29 16.8 +0.6
BRG				*e*			08 29 25.8
BRG				pmax		pmax	
	comp=Z,21nm,1.1s						
BRG				pmax		pmax	
	comp=Z,19nm,1.2s						
BRG	**Berggiesshubel**	74.95	41	*e*P		P	08 29 16.6 +0.4
	comp=Z,21nm,1.1s,baz=280,slow=6.0						
UPP	**Uppsala**	74.97	31	*e*P		P	08 29 16.2 +0.1
KTK1	**Kautokeino**	75.01	22	*e*P		P	08 29 16.7 +0.4
KHC	**Kasperske Hory**	75.11	43	*e*P		P	08 29 17.2 0.0
KHC				*e*			08 29 26.6
KHC	**Kasperske Hory**	75.11	43	*e*P		P	08 29 17.2 0.0
KHC				*ex*		x	08 29 26.6
KHC	**Kasperske Hory**	75.11	43	IAmb		IAmb	08 29 19.0
	comp=Z,18nm,1.1s						
KEST	**Kesra**	75.14	57	P		P	08 29 18.4 +0.6
	comp=Z,22nm,0.9s,baz=325,slow=3.4,SNR=9.5						
STAL	**STALIGIAL**	75.18	46	IAmb		IAmb	08 29 28.9
	comp=Z,27nm,1.1s						
PBCC	**Pribram**	75.25	42	*e*P		P	08 29 19.1 +1.1
PBCC				*ex*		x	08 29 27.8
GEC2	**GERESS Array S**	75.25	43	*e*P		P	08 29 18.5 +0.4
	comp=Z,25nm,1.2s,baz=280,slow=6.0						
GEC2	**GERESS Array S**	75.25	43	IAmb		IAmb	08 29 19.6
	comp=Z,20nm,1.1s						
GERES	**GERESS Array B**	75.25	43	P		P	08 29 18.6 +0.4
	comp=Z,7.4nm,0.9s,baz=264,slow=3.9,SNR=43						
KBA	**Koelnbreinsper**	75.42	45	*e*P		P	08 29 20.3 +1.0
	comp=Z,24nm,1.1s						
PRU	**Pruhonice**	75.52	42	*e*P		P	08 29 20.4 +0.9
PRU				*e*			08 29 28.7
PRU	**Pruhonice**	75.52	42	*e*P		P	08 29 20.4 +0.9
PRU				*ex*		x	08 29 28.7
ARA0	**ARCESS Array S**	75.64	21	*e*P		P	08 29 19.6 -0.3
ARCES	**ARCESS Array B**	75.64	21	P		P	08 29 19.8 -0.1
	comp=Z,9.1nm,0.6s,baz=285,slow=4.3,SNR=37						
ARCES	**ARCESS Array B**	75.64	21	P		P	08 29 19.4 -0.5
ARCES				pmax		pmax	
	comp=Z,23nm,1.0s						
ARCES	**ARCESS Array B**	75.64	21	P		P	08 29 19.4 -0.5
ARCES				IAmb		IAmb	08 29 20.6
	comp=Z,23nm,1.0s						
CKRC	**Cesky Krumlov**	75.65	43	*e*P		P	08 29 21.0 +0.7
CKRC				*ex*		x	08 29 29.5
MYKA	**Terra Mystica**	75.72	45	*e*P		P	08 29 21.5 +0.7
	comp=Z,12nm,0.9s						
MURB	**Monte Urbino**	75.75	49	P		P	08 29 21.0 -0.1
MOA	**Molln**	75.85	44	*e*P		P	08 29 22.0 +0.5
	comp=Z,10nm,0.8s						
CADS	**Cadrg**	75.88	46	*e*P		P	08 29 21.8 0.0
GORS	**Gorjuse**	76.03	46	*i* P		P	08 29 22.8 +0.1
TREC	**Trest**	76.28	42	*e*P		P	08 29 24.6 +0.7
TREC				*e*			08 29 33.5
TREC	**Trest**	76.28	42	*e*P		P	08 29 24.6 +0.7
TREC				*e*PCP		pwP	08 29 33.5 +3.4
UPC	**Upice**	76.31	41	*e*P		P	08 29 25.0 +0.9
UPC				*e*			08 29 34.0
UPC	**Upice**	76.31	41	*e*P		P	08 29 25.0 +0.9
UPC				*e*PCP		PcP	08 29 34.0 -2.0
CHVC	**Chvalec**	76.32	41	*e*P		P	08 29 24.3 +0.2
CHVC				*ex*		x	08 29 32.8
GKP	**Gorka Klasztor**	76.35	38	*e*P		P	08 29 25.4 +1.2
OBKA	**Obir**	76.36	45	*e*P		P	08 29 25.1 +0.6
	comp=Z,21nm,1.1s						
OSTC	**Ostas**	76.42	41	*e*P		P	08 29 25.3 +0.6
OSTC				*ex*		x	08 29 30.6
LJU	**Ljubljana**	76.46	46	*e*P		P	08 29 25.7 +0.7
CEY	**Cerknica**	76.47	46	*e*P		P	08 29 26.1 +1.0
DPC	**Dobruska-Polom**	76.54	41	*e*P		P	08 29 25.8 +0.4
DPC				*e*			08 29 33.0
DPC	**Dobruska-Polom**	76.54	41	*e*P		P	08 29 25.8 +0.4
DPC				*ex*		x	08 29 33.0
SOKA	**Soboth**	76.64	45	*i* P		P	08 29 26.1 0.0
	comp=Z,23nm,1.2s,SNR=8.9						
ARSA	**Arzberg**	76.82	44	*e*P		P	08 29 26.6 -0.5
	comp=Z,6.8nm,1.1s						
CONA	**Conrad Observa**	76.87	44	*e*P		P	08 29 27.8 +0.4
	comp=Z,9.6nm,0.9s,SNR=5.6						
KRLC	**Kraliky**	76.90	41	*e*P		P	08 29 27.9 +0.4
KRLC				*e*			08 29 36.6
KRLC	**Kraliky**	76.90	41	*e*P		P	08 29 27.9 +0.4
KRLC				*e*PCP		pwP	08 29 36.6 +3.0
KRUC	**Moravsky**	76.92	42	*e*P		P	08 29 27.6 +0.1
KRUC				*e*			08 29 36.8
VRAC	**Vranov**	76.98	42	⇑P		P	08 29 28.2 +0.3
VRAC	**Vranov**	76.98	42	⇑P		P	08 29 28.2 +0.3
VRAC	**Vranov**	76.98	42	*e*P		P	08 29 28.3 +0.4
VRAC				*e*			08 29 37.4
CRES	**Cresnjev**	77.14	46	*e*P		P	08 29 28.9 0.0
SOP	**Sopron**	77.39	44	P		P	08 29 29.7 -0.5
MORC	**Moravsky Berou**	77.45	42	⇓P		P	08 29 31.4 +0.8
MORC	**Moravsky Berou**	77.45	42	⇓P		P	08 29 31.4 +0.8
MORC	**Moravsky Berou**	77.45	42	*e*P		P	08 29 31.1 +0.5
MORC				*e*			08 29 40.4
MORC	**Moravsky Berou**	77.45	42	IAmb		IAmb	08 29 40.8
	comp=Z,17nm,1.2s						
ZST	**Bratislava**	77.60	43	*e*P		P	08 29 32.4 +1.1
ZST	**Bratislava**	77.60	43	*e*P		P	08 29 32.4 +1.1
MODS	**Modra-Piesok**	77.67	43	*e*P		P	08 29 33.7 +2.0
MODS				*e*			08 29 42.2
MODS				pmax		pmax	
	comp=Z,37nm,1.3s						
MODS	**Modra-Piesok**	77.67	43	*e*P		P	08 29 33.7 +2.0
MODS				*e*			08 29 42.2
SMOL	**Smolenice**	77.72	43	*e*P		P	08 29 33.3 +1.2
SMOL				pmax		pmax	
	comp=Z,7.0nm,1.0s						
SMOL	**Smolenice**	77.72	43	*e*P		P	08 29 33.3 +1.2
JAVC	**Velka Javorina**	77.78	42	*e*P		P	08 29 33.9 +1.5
JAVC				*e*			08 29 43.0
MPLH	**Magyarpolny**	78.17	44	P		P	08 29 34.3 -0.3
MRAK	**Mrakovica**	78.34	46	*e*P		P	08 29 36.5 +0.9
SRO	**Srobarova**	78.49	43	*e*P		P	08 29 37.1 +0.8
SRO	**Srobarova**	78.49	43	*e*P		P	08 29 37.1 +0.8
FINES	**FINESS Array B**	78.50	29	P		P	08 29 36.2 +0.2
	comp=Z,12nm,0.6s,baz=277,slow=3.3,SNR=86						
FIA1	**FINESS Array S**	78.50	29	IAmb		IAmb	08 29 37.4
	comp=Z,21nm,0.8s						
SRO2	**Moca**	78.56	43	*e*P		P	08 29 36.6 0.0
SRO2				pmax		pmax	
	comp=Z,10.0nm,0.9s						
SRO2	**Moca**	78.56	43	*e*P		P	08 29 36.6 0.0
BLY	**Banja Luka**	78.61	47	*e*P		P	08 29 37.2 +0.2
VYHS	**Vyhne**	78.63	43	*e*P		P	08 29 38.2 +1.1
VYHS				*e*			08 29 46.9
VYHS				pmax		pmax	
	comp=Z,30nm,1.4s						
VYHS	**Vyhne**	78.63	43	*e*P		P	08 29 38.2 +1.1
VYHS				*e*			08 29 46.9
MGRS	**Mrkonjic Grad**	78.63	47	*e*P		P	08 29 38.3 +1.1
OJC	**Ojcow**	78.72	41	*e*P		P	08 29 38.8 +1.2
OJC	**Ojcow**	78.72	41	IAmb		IAmb	08 29 39.5
	comp=Z,33nm,1.4s						
LANS	**Liptovska Anna**	78.83	42	*e*P		P	08 29 40.2 +2.0
LANS				pmax		pmax	
	comp=Z,9.0nm,1.3s						
LANS	**Liptovska Anna**	78.83	42	*e*P		P	08 29 40.2 +2.0
KOVH	**Kovagotottos**	78.84	45	P		P	08 29 39.0 +0.7
APA	**Apatity**	79.06	22	⇓*i*P		P	08 29 34.6 -4.4
APA				pmax		pmax	
	comp=Z,13nm,0.8s						
APA				MLR		MLR	
	comp=Z,700nm,17.0s						
MORH	**Mrgy, Hungar**	79.17	45	*e*P		P	08 29 40.0 0.0
NIE	**Niedzica**	79.27	41	*e*P		P	08 29 43.3 +2.6
LVZ	**Lovozero**	79.34	21	*ce*P		P	08 29 40.0 -0.7
LVZ				pmax		pmax	
	comp=Z,97nm,2.5s						
PABE	**Paberze**	79.46	35	*e*P		P	08 29 41.6 +0.1
PSZ	**Piszkesteto**	79.47	43	⇓P		P	08 29 41.5 -0.3
PSZ	**Piszkesteto**	79.47	43	⇓P		P	08 29 41.5 -0.3
PSZ	**Piszkesteto**	79.47	43	IAmb		IAmb	08 29 53.3
	comp=Z,40nm,1.3s						
PSZ	**Piszkesteto**	79.47	43	P		P	08 29 42.3 +0.5
SUW	**Suwalki**	79.53	36	*e*P		P	08 29 42.3 +0.4
SUW	**Suwalki**	79.53	36	*e*P		P	08 29 41.9 +0.1
VSU	**Vasula**	79.86	31	*i* P		P	08 29 43.1 -0.4
VSU				pmax		pmax	
	comp=Z,60nm,0.7s						
VSU	**Vasula**	79.86	31	*e*P		P	08 29 43.6 +0.1
CRVS	**Cervenica-Dubn**	80.16	42	*e*P		P	08 29 46.8 +1.4
CRVS	**Cervenica-Dubn**	80.16	42	*e*P		P	08 29 46.8 +1.4
FRGS	**Fruska Gora**	80.27	46	⇓P		P	08 29 46.5 +0.4
FRGS	**Fruska Gora**	80.27	46	*e*P		P	08 29 45.7 -0.4
BBLS	**Lazići**	80.39	47	*e*P		P	08 29 47.2 +0.3
RUDO	**Rudo**	80.45	47	*e*P		P	08 29 47.2 +0.1
DIVS	**Divibare**	80.72	47	*e*P		P	08 29 49.6 +0.9
DIVS	**Divibare**	80.72	47	IAmb		IAmb	08 29 50.8
	comp=Z,26nm,0.9s						
IIGN	**Ignalina**	80.72	34	*e*P		P	08 29 49.3 +1.0
UZH	**Uzhgorod**	80.77	42	*e*P		P	08 29 49.2 +0.5
UZH				*i*			08 29 57.8
IDID	**Didziasalis**	81.01	34	*e*P		P	08 29 50.7 +0.9
NACGM	**Naroch**	81.19	35	*i* P		P	08 29 50.9 +0.2
BZS	**Buzias**	81.33	45	⇑P		P	08 29 51.8 +0.1
BZS	**Buzias**	81.33	45	⇑P		P	08 29 51.8 +0.1
LVV	**L'vov**	81.44	40	*e*P		P	08 29 53.3 +1.1
BILL	**Bilibino**	81.54	340	*d* iP		P	08 29 52.6 +0.2
BILL				*e*PP		pP	08 29 54.1 +2.6
BILL				*e*SP		pwP	08 29 56.7 -1.8
BILL				SSS		SSS	08 48 40.0
BILL				pmax		pmax	
	comp=Z,14nm,1.1s						
BILL				MLR		MLR	
	comp=Z,143nm,16.0s						
BILL	**Bilibino**	81.54	340	P		P	08 29 51.2 -1.2
BILL				IAmb		IAmb	08 29 53.8
	comp=Z,24nm,1.1s						
DRGR		81.65	43	⇑P		P	08 29 54.3 +0.8
DRGR		81.65	43	⇑P		P	08 29 54.3 +0.8
BMR	**Baia Mare**	81.85	42	⇓P		P	08 29 55.5 +1.1
BMR	**Baia Mare**	81.85	42	⇓P		P	08 29 55.5 +1.1
MNK	**Minsk**	81.93	35	*i* P		P	08 29 55.0 +0.3
MNK				*i*			08 33 04.6
MNK				*i* PPP		PPP	08 34 55.7
MNK				*i* S		S	08 40 12.6 +3.3
MNK				*i* SS		SS	08 45 36.7 +10
MNK				pmax		pmax	
	comp=Z,36nm,1.0s						
MNK				MLR		MLR	
	comp=N,213nm,26.0s						
MNK				MLR		MLR	
	comp=Z,180nm,19.0s						
MNK				MLR		MLR	
	comp=E,24nm,30.0s						
MNK	**Minsk**	81.93	35	*i* P		P	08 29 55.0 +0.3

TIXI					pmax	pmax		
	comp=Z,14nm,1.0s							
TIXI	**Tiksi**	**87.23**	**352**	P	**P**	**08 30 20.5**	**-0.7**
TIXI				IAmb	IAmb	08 30 22.0	
	comp=Z,11nm,0.9s							
LPSR	**Galich'ya Gora**	**88.66**	**34**	*e*P	**P**	**08 30 27.8**	**-0.6**
LPSR				pmax	pmax		
	comp=Z,60nm,0.9s							
VORR	**Voronezh**	**89.29**	**34**	*e*P	**P**	**08 30 31.5**	**+0.1**
VORR				pmax	pmax		
	comp=Z,39nm,1.4s							
VSR	**Storozhevoye**	**89.51**	**35**	*e*P	**P**	**08 30 31.6**	**-0.8**
VSR				pmax	pmax		
	comp=Z,20nm,1.0s							
VORD	**Divnogorie**	**89.71**	**35**	*e*P	**P**	**08 30 32.9**	**-0.4**
VORD				pmax	pmax		
	comp=Z,8.0nm,0.5s							
KIRV	**Kirov**	**90.01**	**25**	*c e*P	**P**	**08 30 33.9**	**-0.6**
NRIK	**Noril'sk**	**90.37**	**6**	P	**P**	**08 30 36.1**	**+0.1**
	comp=Z,7.9nm,1.0s,baz=21,slow=4.9,SNR=11						
NRIK	**Noril'sk**	**90.37**	**6**	*c e*P	**P**	**08 30 35.4**	**-0.7**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NRIK	**Noril'sk**	**90.37**	**6**	IAmb	IAmb	08 30 37.4	
	comp=Z,9.3nm,0.9s						
VRH	**Novokhopyorsk**	**90.87**	**34**	*e*P	**P**	**08 30 38.4**	**-0.3**
VRH				pmax	pmax		
	comp=Z,40nm,1.0s						
BR131	**Keskin Array S**	**91.79**	**47**	*i* P	**P**	**08 30 43.5**	**0.0**
BR131	**Keskin Array S**	**91.79**	**47**	IAmb	IAmb	08 30 53.5	
	comp=Z,17nm,1.2s						
BRTR	**Keskin Array B**	**91.79**	**47**	P	**P**	**08 30 42.8**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=276,slow=3.7,SNR=15						
BRTR	**Keskin Array B**	**91.79**	**47**	*i* P	**P**	**08 30 43.7**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BELG	**Belogornoye**	**93.14**	**31**	*i* P	**P**	**08 30 49.0**	**-0.2**
BELG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SOC	**Sochi**	**93.84**	**41**	*e*P	**P**	**08 30 50.2**	**-2.5**
SOC				*e*		08 34 36.3	
SOC				*e*PPP	PPP	08 36 37.0	
SOC				*e*S	**SKSac**	**08 41 24.9**	**-3.7**
SOC				*e*SS	**SS**	**08 48 24.3**	**+3.2**
SOC				*e*SSS	SSS	08 52 00.4	
SOC				MLR	MLR		
	comp=Z,269nm,19.0s						
ARU	**Arti**	**95.06**	**23**	*c i*P	**P**	**08 30 58.0**	**0.0**
ARU						08 34 49.5	
ARU				S	**SKSac**	**08 41 34.0**	**-0.6**
ARU				SS	**SS**	**08 48 38.9**	**+1.4**
ARU				pmax	pmax		
	comp=Z,13nm,1.6s						
KIV	**Kislovodsk**	**95.45**	**39**	*e*P	**P**	**08 31 00.3**	**+0.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SVE	**Sverdlovsk**	**95.52**	**22**	*e*P	**P**	**08 31 00.4**	**+0.3**
BRVK	**Borovoye**	**101.85**	**20**	*i* P	**Pdif**	**08 31 28.1**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MKAR	**Makanchi Array**	**110.94**	**16**	PP	**PP**	**08 36 46.6**	**+1.3**
	comp=Z,1.5nm,1.1s,baz=347,slow=5.0,SNR=3.8						
WMQ	**Urumqi**	**115.00**	**13**	*e*PKP	**PKiKP**	**08 36 16.4**	**-0.1**
XLT	**XiLinHaoTe**	**115.67**	**350**	*e*PKP	**PKPdf**	**08 36 20.3**	**+2.4**
XLT				AMB	AMB		
	comp=Z,130nm,6.2s						
XLT				LR	LR		
	comp=Z,330nm,12.0s						
XLT				LR	LR		
	comp=Z,200nm,16.6s						
KSRS	**Korea Array**	**118.75**	**338**	PKP	**PKPdf**	**08 36 21.9**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=358,slow=3.5,SNR=4.3						
HHC	**Hu-ho-hao-te**	**119.28**	**353**	*e*PKP	**PKPdf**	**08 36 19.8**	**-5.1**
HHC				LR	LR		
	comp=Z,310nm,17.3s						
HHC				LR	LR		
	comp=Z,270nm,16.9s						
HHC				LR	LR		
	comp=Z,220nm,19.6s						
GTA	**Gaotai**	**121.01**	**4**	*e*PKP	**PKiKP**	**08 36 30.8**	**+2.4**
GTA				LR	LR		
	comp=Z,140nm,18.2s						
GTA				LR	LR		
	comp=Z,190nm,17.5s						
GTA				LR	LR		
	comp=Z,150nm,18.9s						
LZH	**Lanzhou**	**124.45**	**0**	*e*PKP	**PKPdf**	**08 36 35.8**	**+0.7**
LZH				LR	LR		
	comp=Z,210nm,20.1s						
LZH				LR	LR		
	comp=Z,210nm,19.0s						
LZH				LR	LR		
	comp=Z,140nm,19.3s						
NJ2	**Nanjing**	**126.53**	**344**	*e*PKP	**PKPdf**	**08 36 38.1**	**-0.8**
CD2	**Chengdu**	**129.62**	**0**	PKP	**PKPdf**	**08 36 43.3**	**-1.6**
PZH	**PanZhiHua**	**133.96**	**4**	PKP	**PKPdf**	**08 36 53.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**141.70**	**8**	PKhKP	PKPpre	08 37 03.2	
	comp=Z,0.8nm,0.3s,baz=328,slow=3.2,SNR=1.6						
CMAR	**Chiang Mai Arr**	**141.70**	**8**	*i* PKIKP	**PKiKP**	**08 37 15.3**	**+4.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek**	**144.17**	**243**	PKP	**PKPab**	**08 37 09.7**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=26,slow=5.5,SNR=12						
WRAB	**Tennant Creek**	**151.38**	**264**	*c i*PKIKP	**PKPdf**	**08 37 23.7**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,25nm,2.5s						
WRA	**Warramunga Arr**	**151.40**	**264**	PKP	**PKPdf**	**08 37 23.2**	**-0.6**
	comp=Z,6.8nm,0.9s,baz=80,slow=1.2,SNR=35						
WRA				PKPbc	**sPKPbc**	**08 37 28.9**	**+0.3**
	comp=Z,9.2nm,0.8s,baz=85,slow=2.1,SNR=29						
ASAR	**Alice Springs**	**151.89**	**257**	PKP	**PKPdf**	**08 37 23.8**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=102,slow=1.5,SNR=36						
ASAR				PKPbc	**sPKPbc**	**08 37 29.9**	**+0.1**
	comp=Z,10.0nm,0.8s,baz=103,slow=2.3,SNR=50						
PSI	**Prapat**	**157.05**	**13**	PKPab	**PKPab**	**08 38 01.1**	**-1.0**
	comp=Z,8.6nm,0.8s,baz=315,slow=5.7,SNR=9.3						
RPSI	**Rantau Prapat**	**157.15**	**13**		**PKPab**	**08 38 01.1**	**-1.3**

*IDC **17** 08:30:21.3±0.4, 19°.82N×75°.98W, h0km, mb4.7/29, mb1 4.8/33, mb1mx4.8/39, mbtmp4.7/33, ML4.1/4, MS4.3/60, Ms1 4.3/60, ms1mx4.2/78, Error ellipse: s-maj=13.6km s-min=10.0km az=62.0*

*MOS **17** 08:30:21.4±1.1, 19°.75N×76°.07W, h10km, mb5.2/35, MS4.4/5, Error ellipse: s-maj=9.1km s-min=6.1km az=92.6*

*SSNC **17** 08:30:22.5±1.4, 19°.73N×76°.09W, h5km±8km, ML4.6, MW5.0*

*OSPL **17** 08:30:22.7±0.6, 19°.91N×76°.17W, h0km±9km, ML4.8*

*NEIC **17** 08:30:23.7±1.8, 19°.72N±0°.06×76°.10W±0°.04, h10km±1km, mb5.1/462, Mwr5.0/27, Mww5.2, Error ellipse: s-maj=9.7km s-min=5.7km az=356.0*

*GCMT **17** 08:30:24.7±0.1, 19°.93N±0°.01×76°.06W±0°.01, h12km, MW5.1/129, Moment Tensor Solution. s59,c76; s129,c208; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.41±.07; Mθθ-0.06±.07; Mφφ-4.35±.07; Mrθ0.77±.26; Mθφ0.38±.06; Mφr-2.01±.22; Best double couple: M=4.89400×10^16^ NP1:φs2.00000°, δ33.00000°, λ101.00000°. NP2:φs168.00000°, δ58.00000°, λ83.00000°. Principal axes: T 4.9400, Plg76.0000°, Azm57.0000°; N -0.0880, Plg6.0000°, Azm172.0000°; P -4.8480, Plg13.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **17** 08:30:24, 19°.68N×76°.14W, h16km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16^Nm; Mrr4.82; Mθθ-0.13; Mφφ-4.69; Mrθ3.70; Mθφ0.20; Mφr-3.78; Fault plane solution: Mo7.12000×10^16^ NP1:φs14.00000°, δ27.00000°, λ130.00000°. NP2:φs150.00000°, δ70.00000°, λ72.00000°. Principal axes: T 7.6773, Plg61.0000°, Azm33.0000°; N -1.2956, Plg17.0000°, Azm157.0000°; P -6.3817, Plg23.0000°, Azm254.0000°;*

*NEIC **17** 08:30:24.3, 19°.67N×76°.11W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr3.77; Mθθ-0.73; Mφφ-3.04; Mrθ-0.52; Mθφ0.72; Mφr-2.64; Fault plane solution: Mo4.44000×10^16^ NP1:φs178.81000°, δ63.64000°, λ101.23000°. NP2:φs334.72000°, δ28.49000°, λ68.55000°. Principal axes: T 4.7693, Plg69.0000°, Azm112.0000°; N -0.7448, Plg10.0000°, Azm354.0000°; P -4.0244, Plg18.0000°, Azm260.0000°;*

*JSN **17** 08:30:38.0±1.2, 18°.86N×76°.59W, h30km±100km, MD4.9*
ISC 17 08:30:21.6±0.6, 19°.74N±0°.03×76°.11W±0°.03, h3km±3km, h4km:pP-P, n814, σ1s61/612, mb5.1/258, MS4.3/66, 13C-8D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.91**	**291**	*e*P	**Pg**	**08 30 39.0**	**0.0**
LMGC				*e*P	**Pg**	**08 30 39.0**	**0.0**
LMGC				*e*S	**Sg**	**08 30 47.6**	**-3.1**
LMGC				IAML		08 30 54.3	
	comp=N,31μm,0.7s						
LMGC				IAML		08 30 55.1	
	comp=E,21μm,0.5s						
GTBY	**Guantanamo Bay**	**0.96**	**78**		**Pb**	**08 30 40.5**	**-0.4**
GTBY	**Guantanamo Bay**	**0.96**	**78**	*e*P	**Pg**	**08 30 39.9**	**-0.1**
GTBY	**Guantanamo Bay**	**0.96**	**78**	*i* P	**Pb**	**08 30 40.5**	**-0.4**
GTBY				*e*S	**Sb**	**08 30 53.8**	**-0.1**
GTBY				IAML		08 31 11.9	
	comp=Z,23μm,1.3s						
GTMO	**Guantanamo**	**0.97**	**69**	*e*P	**Pb**	**08 30 41.0**	**-0.2**
GTMO				*e*S	**Sn**	**08 30 56.3**	**-0.2**
HLGC	**Holguin**	**1.15**	**2**	*e*P	**Pg**	**08 30 43.3**	**-0.3**
HLGC				*e*S	**Sn**	**08 31 00.3**	**-0.6**
HLGC				IAML		08 31 03.5	
	comp=N,22μm,0.7s						
HLGC				IAML		08 31 03.7	
	comp=E,34μm,0.5s						
MOAC	**Moa**	**1.42**	**49**	*e*P	**Pn**	**08 30 45.6**	**-2.7**
MOAC				*e*S	**Sg**	**08 31 05.2**	**-1.9**
MOAC				IAML		08 31 12.3	
	comp=E,5μm,0.6s						
MOAC				IAML		08 31 16.2	
	comp=N,8μm,0.7s						
CMJ	**Castle Mountai**	**1.61**	**189**	‖ *i*P	**Pn**	**08 30 49.9**	**-1.2**
BBJ	**Bamboo Saint A**	**1.74**	**219**	‖ *i*P	**Pn**	**08 30 51.3**	**-1.5**
GWJ	**Greenwich**	**1.76**	**200**	‖ *i*P	**Pn**	**08 30 51.6**	**-1.5**
STH	**Stony Hill**	**1.78**	**202**	‖ *i*P	**Pn**	**08 30 51.8**	**-1.5**
MASC	**Masc**	**1.82**	**76**	‖ *e*P	**Pn**	**08 30 51.7**	**-2.1**
MASC				*e*S	**Sn**	**08 31 14.3**	**-3.1**
MASC				IAML		08 31 27.3	
	comp=N,2μm,0.6s						
MASC				IAML		08 31 27.5	
	comp=E,3μm,0.4s						
HOJ	**Hope**	**1.83**	**200**	‖ *i*P	**Pn**	**08 30 52.9**	**-1.1**
CVJ	**Coleyville**	**2.02**	**222**	‖ *i*P	**Pn**	**08 30 55.3**	**-1.4**
MTDJ	**Mount Denham**	**2.02**	**222**	Pn	**Pn**	**08 30 55.5**	**-1.2**
MTDJ				Sn	**Sn**	**08 31 18.0**	**-4.6**
MTDJ	**Mount Denham**	**2.02**	**222**	*e*P	**Pn**	**08 30 54.7**	**-2.0**
CCCC	**Cccc**	**2.13**	**313**	*e*P	**Pn**	**08 30 54.8**	**-3.3**
CCCC				*e*S	**Sn**	**08 31 17.6**	**-7.5**
CCCC				IAML		08 31 23.6	
	comp=E,4μm,0.6s						
CCCC				IAML		08 31 23.6	
	comp=N,4μm,0.5s						
MCJ	**Malvern**	**2.34**	**220**	*i* P	**Pn**	**08 31 00.5**	**-0.6**
MCJ				*i* S	Sn	08 31 16.1	-14
LGNH	**Logne**	**3.53**	**110**		**Pn**	**08 31 18.4**	**+1.0**
LGNH	**Logne**	**3.53**	**110**	*e*P	**Pn**	**08 31 16.7**	**-0.6**
LGNH	**Logne**	**3.53**	**110**	*i* P	**Pn**	**08 31 18.4**	**+1.0**
JAKH	**Jacmel**	**3.71**	**113**		**Pn**	**08 31 19.8**	**-0.1**
JAKH	**Jacmel**	**3.71**	**113**	*i* P	**Pn**	**08 31 20.8**	**+0.9**
LCCY	**Blossom Villag**	**3.75**	**270**		**Pn**	**08 31 20.9**	**+0.6**
NQUSE	**US Embassy, Po**	**3.83**	**107**	Pn	**Pn**	**08 31 21.9**	**+0.3**
MGV	**Manicaragua**	**4.32**	**304**	*e*P	**Pn**	**08 31 28.8**	**+0.6**
MGV				*e*S	**Sn**	**08 32 19.1**	**-0.1**
LOPE2	**Hotel El Peder**	**4.46**	**112**	*e*P	**Pn**	**08 31 31.6**	**+1.3**
SDDR	**Presa de Saban**	**4.61**	**99**		**Pn**	**08 31 30.8**	**-1.6**
SDDR	**Presa de Saban**	**4.61**	**99**	*e*P	**Pn**	**08 31 32.6**	**+0.3**
SDDR	**Presa de Saban**	**4.61**	**99**	*i* P	**Pn**	**08 31 33.2**	**+0.8**
SDDR				IAML		08 32 49.0	
	comp=Z,460nm,1.8s						
GRTK	**Grand Turk**	**4.98**	**68**	Pn	**Pn**	**08 31 36.5**	**-0.9**
GRTK	**Grand Turk**	**4.98**	**68**	*e*P	**Pn**	**08 31 36.2**	**-1.2**
GRTK	**Grand Turk**	**4.98**	**68**	*i* P	**Pn**	**08 31 36.5**	**-0.9**
GRTK				IAML		08 32 48.5	
	comp=Z,624nm,1.1s						
SC01	**Santiago de lo**	**5.08**	**93**		**Pn**	**08 31 38.8**	**0.0**
SDD	**Santo Domingo**	**5.99**	**101**	Pn	**Pn**	**08 31 54.8**	**+3.5**
SOR	**Soroa**	**7.12**	**296**	P	**Pn**	**08 32 08.8**	**+2.1**
SOR	**Soroa**	**7.12**	**296**	Pn	**Pn**	**08 32 08.8**	**+2.1**
SOR	**Soroa**	**7.12**	**296**	*e*P	**Pn**	**08 32 06.6**	**-0.1**
061Z	**Ochoppi**	**7.54**	**325**		**Pn**	**08 32 12.2**	**-0.2**
PRVC	**Isla de Provid**	**8.09**	**219**	*e*P	**Pn**	**08 32 22.2**	**+2.1**
PRVC	**Isla de Provid**	**8.09**	**219**	Pn	**Pn**	**08 32 20.0**	**0.0**
060A	**Indiantown**	**8.25**	**333**	Pn	**Pn**	**08 32 24.0**	**+1.8**
AGPR	**Aguadilla, PR**	**8.60**	**97**	Pn	**Pn**	**08 32 28.0**	**+0.9**
CRPR	**Cabo Rojo, PR**	**8.69**	**100**	Pn	**Pn**	**08 32 29.8**	**+1.4**
SMRC	**Santa Marta, M**	**8.71**	**168**	*e*P	**Pn**	**08 32 26.0**	**-2.7**
URIC	**Uribia, Colomb**	**8.92**	**153**		**Pn**	**08 32 32.2**	**+0.8**
AOPR	**Arecibo Observ**	**8.95**	**97**		**Pn**	**08 32 32.0**	**+0.1**
OBIP	**Obispado Ponce**	**9.15**	**99**		**Pn**	**08 32 36.1**	**+1.4**
CELP	**Cerrillos**	**9.17**	**99**	Pn	**Pn**	**08 32 35.8**	**+0.9**
CRJC	**Cerrejon, Guaj**	**9.21**	**160**	*e*P	**Pn**	**08 32 35.4**	**-0.2**
SJG	**San Juan**	**9.56**	**98**	P	**Pn**	**08 32 41.6**	**+1.3**
SJG	**San Juan**	**9.56**	**98**		**Pn**	**08 32 41.6**	**+1.3**
GCPR	**Guaynabo City**	**9.59**	**97**	Pn	**Pn**	**08 32 41.8**	**+1.2**
DWPF	**Disney Wildern**	**9.65**	**331**	Pn	**Pn**	**08 32 43.4**	**+1.9**
PDPR	**Patillas Dam,**	**9.70**	**99**		**Pn**	**08 32 41.4**	**-0.8**
CBYP	**Canovanas**	**9.81**	**97**		**Pn**	**08 32 45.0**	**+1.2**
SJCC	**San Jacinto, C**	**9.82**	**175**	*e*P	**Pn**	**08 32 46.3**	**+2.4**
SJCC	**San Jacinto, C**	**9.82**	**175**	Pn	**Pn**	**08 32 44.9**	**+0.9**
HUMP	**Col San Antoni**	**9.84**	**98**		**Pn**	**08 32 44.5**	**+0.5**
MTP	**Monte Pirata**	**10.12**	**98**		**Pn**	**08 32 49.0**	**+1.0**
DABV	**Dabajuro**	**10.23**	**148**	*e*P	**Pn**	**08 32 49.2**	**-0.2**
LL6C	**La Loma 6 Bece**	**10.31**	**164**	*e*P	**Pn**	**08 32 48.6**	**-2.0**
CUPR	**Culebra, Puert**	**10.34**	**96**	Pn	**Pn**	**08 32 51.8**	**+0.9**
ESPN	**Las Esperanzas**	**10.87**	**228**		**Pn**	**08 32 58.4**	**+0.1**
MOTC	**Monteria, Cord**	**10.90**	**178**		**Pn**	**08 32 58.2**	**-0.4**
SMLC	**San Martn de**	**11.05**	**169**	*e*P	**Pn**	**08 33 02.8**	**+2.1**
BCIP	**Isla Barro Col**	**11.11**	**199**	P	**Pn**	**08 33 01.4**	**-0.1**
BCIP	**Isla Barro Col**	**11.11**	**199**	Pn	**Pn**	**08 33 01.4**	**-0.1**
ACON	**Acoyapa**	**11.65**	**230**		**Pn**	**08 33 09.6**	**+0.7**
BOAB	**BOACO BROADBAN**	**11.70**	**233**	Pn	**Pn**	**08 33 10.2**	**+0.7**
OCAC	**Ocana**	**11.75**	**166**	*e*P	**Pn**	**08 33 13.0**	**+2.6**
OCAC	**Ocana**	**11.75**	**166**		**Pn**	**08 33 11.7**	**+1.3**
UREC	**San Jos de Ur**	**11.93**	**177**	*e*P	**Pn**	**08 33 14.3**	**+1.6**
COVE	**Coope Vega, Sa**	**12.01**	**223**		**Pn**	**08 33 14.9**	**+1.0**
SDV	**Santo Domingo**	**12.02**	**153**	Pn	**Pn**	**08 33 14.7**	**+0.6**
	comp=Z,8.1nm,0.3s,baz=352,slow=5.8,SNR=29						
SDV				LR	LR	08 39 07.0	
	comp=Z,739nm,18.8s,baz=330,slow=44						
SDV	**Santo Domingo**	**12.02**	**153**	*e*P	**Pn**	**08 33 14.4**	**+0.2**
SDV	**Santo Domingo**	**12.02**	**153**	*e*P	**Pn**	**08 33 12.5**	**-1.6**
SDV	**Santo Domingo**	**12.02**	**153**	Pn	**Pn**	**08 33 14.9**	**+0.8**
TGUH	**Tegucigalpa,Un**	**12.08**	**244**	Pn	**Pn**	**08 33 15.9**	**+0.9**
ZARC	**Zaragoza, Cauc**	**12.23**	**174**	*e*P	**Pn**	**08 33 18.9**	**+2.0**
ZARC	**Zaragoza, Cauc**	**12.23**	**174**		**Pn**	**08 33 17.8**	**+0.9**
HDC	**Heredia**	**12.39**	**220**		**Pn**	**08 33 19.8**	**+0.7**
RIMA	**Rio Macho**	**12.43**	**218**		**Pn**	**08 33 20.6**	**+0.9**
SMRT	**St. Maarten**	**12.45**	**96**	Pn	**Pn**	**08 33 20.5**	**+0.6**
SOCV	**Socops**	**12.47**	**155**	*e*P	**Pn**	**08 33 21.1**	**+1.0**
SRBA	**San Rafael, Bu**	**12.58**	**215**		**Pn**	**08 33 22.3**	**+0.5**
CRIN	**San Cristobal**	**12.62**	**238**		**Pn**	**08 33 22.6**	**+0.3**
PTAC	**Punta Ardita,**	**12.62**	**188**	‖ *e*P	**Pn**	**08 33 24.1**	**+1.8**
PEZE	**Perez Zeledon,**	**12.63**	**216**		**Pn**	**08 33 22.9**	**+0.4**
DBBC	**Dabeiba**	**12.64**	**180**	*e*P	**Pn**	**08 33 26.9**	**+4.3**
JTS	**Las Juntas de**	**12.69**	**224**	LR	LR	08 38 09.1	
	comp=Z,2μm,19.7s,slow=36						
JTS	**Las Juntas de**	**12.69**	**224**	*i* P	**Pn**	**08 33 25.2**	**+2.0**
JTS	**Las Juntas de**	**12.69**	**224**		**Pn**	**08 33 23.5**	**+0.3**
PAMC	**Pamplona, Colo**	**12.76**	**165**	*e*P	**Pn**	**08 33 25.9**	**+1.3**
CDITO	**Canoas**	**12.89**	**211**		**Pn**	**08 33 26.4**	**+0.6**
257A	**Skidaway Islan**	**12.96**	**341**		**Pn**	**08 33 28.3**	**+1.5**
PTBC	**PUERTO BERRIO,**	**13.22**	**173**	*e*P	**Pn**	**08 33 34.7**	**+4.3**
BIRV	**Birongo**	**13.22**	**133**	Pn	**Pn**	**08 33 28.9**	**-1.6**
BAUV	**El Baul**	**13.27**	**143**	Pn	**Pn**	**08 33 31.7**	**+0.6**
PETF	**Flores**	**13.36**	**260**		**Pn**	**08 33 33.9**	**+1.6**
BARC	**Barichara**	**13.37**	**167**	*e*P	**Pn**	**08 33 34.7**	**+2.0**
HELC	**Santa Helena**	**13.48**	**178**	*e*P	**P**	**08 33 39.5**	**-4.3**
MTO3	**Montecristo**	**13.74**	**249**		**Pn**	**08 33 38.3**	**+0.6**
CBOC	**Ciudad Bolivar**	**13.79**	**180**	*e*P	**Pn**	**08 33 41.8**	**+3.4**
RUSC	**La Rusia**	**14.07**	**168**	*e*P	**Pn**	**08 33 45.3**	**+2.8**
NORC	**Norcasia**	**14.14**	**175**	*e*P	**Pn**	**08 33 46.0**	**+3.0**
SPBC	**San Pablo de B**	**14.14**	**172**	*e*P	**Pn**	**08 33 44.5**	**+1.4**
Y59A	**Loris**	**14.41**	**351**		**Pn**	**08 33 49.1**	**+2.6**
GUY2C	**Guyana, Caldas**	**14.44**	**177**	*e*P	**P**	**08 33 55.0**	**+0.3**
PCRV	**Puerto La Cruz**	**14.59**	**129**	Pn	**Pn**	**08 33 49.9**	**+0.7**
	comp=Z,3.1nm,0.3s,baz=354,slow=3.0,SNR=12						
PCRV				LR	LR	08 40 11.1	
	comp=Z,619nm,18.2s,slow=40						
Y57A	**Sumter**	**14.72**	**346**		**P**	**08 33 55.0**	**-2.2**

PLMC	**San Jos del P**	**14.74**	**181**	*e*P	**Pn**	**08 33 53.8**	**+2.4**
ROSC	**El Rosal**	**14.91**	**173**	Pn	**P**	**08 33 57.3**	**-2.4**
	comp=Z,1.4nm,0.3s,baz=134,slow=18,SNR=31						
ROSC				LR	LR	08 40 14.4	
	comp=Z,1μm,20.0s,baz=3.0,slow=40						
ROSC	**El Rosal**	**14.91**	**173**	P	**Pn**	**08 33 54.1**	**+0.2**
ROSC	**El Rosal**	**14.91**	**173**	*e*P	**Pn**	**08 33 56.0**	**+2.1**
ROSC	**El Rosal**	**14.91**	**173**	Pn	**Pn**	**08 33 54.1**	**+0.2**
152A	**Waverly Hall**	**15.01**	**331**	IAmb	IAmb	08 34 11.4	
	comp=Z,137nm,1.5s						
X58A	**Rowland**	**15.04**	**350**	IAmb	IAmb	08 34 11.5	
	comp=Z,87nm,1.0s						
GOGA	**Godfrey**	**15.12**	**336**	P	**P**	**08 34 00.1**	**-1.5**
GOGA				pmax	pmax		
	comp=Z,29nm,0.9s						
GOGA	**Godfrey**	**15.12**	**336**	P	**P**	**08 34 00.1**	**-1.5**
ANIL	**Santa Ana**	**15.17**	**177**	*e*P	**P**	**08 34 00.8**	**-1.7**
JSC	**Jenkinsville**	**15.19**	**344**	P	**P**	**08 34 00.8**	**-1.5**
JSC				pmax	pmax		
	comp=Z,58nm,1.3s						
JSC	**Jenkinsville**	**15.19**	**344**		**P**	**08 34 00.8**	**-1.5**
CHIC	**Chingaza**	**15.19**	**171**	*e*P	**Pn**	**08 33 59.8**	**+2.1**
CNNC	**Cliffs of the**	**15.52**	**355**	IAmb	IAmb	08 34 16.2	
	comp=Z,87nm,1.1s						
CNNC	**Cliffs of the**	**15.52**	**355**	P	**P**	**08 34 06.1**	**+0.1**
	baz=174						
CCIG	**Comitan**	**15.63**	**260**	P	**P**	**08 34 06.5**	**-1.0**
CCIG				IAmb	IAmb	08 34 20.4	
	comp=Z,140nm,1.0s						
YOTC	**Yotoco, Valle**	**15.66**	**181**	*e*P	**P**	**08 34 06.8**	**-1.0**
VILC	**Villavicencio,**	**15.71**	**171**	*e*P	**P**	**08 34 07.5**	**-0.9**
Y52A	**Lilburn**	**15.75**	**335**		**Pn**	**08 34 05.6**	**+1.1**
ORTC	**Ortega, Tolima**	**15.76**	**177**	*e*P	**P**	**08 34 07.2**	**-1.6**
PRAC	**Prado**	**15.97**	**176**	*e*P	**Pn**	**08 34 08.5**	**+1.0**
KMSC	**Kings Mountain**	**16.02**	**344**	P	**P**	**08 34 12.5**	**+0.9**
	baz=162						
BG3	**Lake Jocassee**	**16.35**	**340**		**P**	**08 34 17.4**	**+2.2**
MARP	**Paez Belalcaza**	**16.79**	**179**	*e*P	**P**	**08 34 21.1**	**+0.6**
POPC	**Popayan, Colom**	**17.10**	**182**	*e*P	**Pn**	**08 34 22.1**	**0.0**
Z47A	**Carrollton**	**17.14**	**324**	IAmb	IAmb	08 34 35.0	
	comp=Z,108nm,1.0s						
TKL	**Tuckaleechee C**	**17.24**	**338**	P	**Pn**	**08 34 22.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=152,slow=13,SNR=7.4						
TKL				S	**Sn**	**08 37 26.0**	**-10**
	comp=Z,0.3nm,0.3s,baz=144,slow=14,SNR=1.7						
TKL				LR	LR	08 41 05.8	
	comp=Z,948nm,18.6s,baz=151,slow=37						
146A	**Union**	**17.30**	**321**	IAmb	IAmb	08 34 37.6	
	comp=Z,95nm,0.9s						
PCON	**Cinco Dias**	**17.30**	**181**	‖ *e*P	**P**	**08 34 27.9**	**+1.4**
GARC	**Garzon, Huila**	**17.45**	**178**	*e*P	**P**	**08 34 30.8**	**+2.9**
SOTA	**Rioblanco**	**17.50**	**182**	*e*P	**P**	**08 34 31.1**	**+2.5**
V51A	**Loudon**	**17.57**	**337**	IAmb	IAmb	08 34 46.4	
	comp=Z,196nm,1.5s						
344A	**Westbrook Farm**	**17.59**	**314**	P	**P**	**08 34 29.1**	**+0.2**
344A				IAmb	IAmb	08 34 41.5	
	comp=Z,231nm,1.3s						
MACC	**Macarena, Meta**	**17.62**	**173**	*e*P	**Pn**	**08 34 27.3**	**-1.1**
SWET	**Sewanee**	**17.69**	**333**	P	**P**	**08 34 31.4**	**+1.2**
BLA	**Blacksburg**	**17.81**	**349**	P	**P**	**08 34 31.8**	**+0.3**
BLA				pmax	pmax		
	comp=Z,177nm,1.3s						
BLA	**Blacksburg**	**17.81**	**349**	P	**P**	**08 34 31.8**	**+0.3**
BLA				IAmb	IA

LUPA	Lehigh Univers	20.80	2	IAmb	IAmb	08 35 15.5
	comp=Z,75nm,1.1s					
X40A	Basin Creek Fa	20.87	318	IAmb	IAmb	08 35 27.0
	comp=Z,90nm,1.3s					
X40A	Basin Creek Fa	20.87	318	P	Pn	08 35 06.8 -0.5
	baz=131,SNR=18					
SSPA	Standing Stone	20.89	356	P	P	08 35 04.9 -0.1
SSPA				IAmb	IAmb	08 35 25.4
	comp=Z,154nm,1.5s					
SSPA	Standing Stone	20.89	356	P	Pn	08 35 07.3 -0.2
	baz=175					
O52A	Adamsville	20.90	348	P	Pn	08 35 06.9 -0.7
O52A				IAmb	IAmb	08 35 20.0
	comp=Z,126nm,1.1s					
O53A	New Philadelph	20.91	349	P	Pn	08 35 06.9 -0.8
O53A				IAmb	IAmb	08 35 15.9
	comp=Z,161nm,1.3s					
O53A	New Philadelph	20.91	349	P	Pn	08 35 06.6 -1.1
	baz=167					
BRNJ	Basking Ridge	20.92	3	P	Pn	08 35 07.5 -0.3
BRNJ				IAmb	IAmb	08 35 21.0
	comp=Z,168nm,1.2s					
W41B	Gary Mavity, V	20.97	320	P	Pn	08 35 07.3 -1.2
W41B				IAmb	IAmb	08 35 19.7
	comp=Z,134nm,1.2s					
W41B	Gary Mavity, V	20.97	320	P	Pn	08 35 07.7 -0.7
	baz=133,SNR=13					
LCAR	Lake Charles	20.97	324	IAmb	IAmb	08 35 19.5
	comp=Z,94nm,1.3s					
N58A	Sunbury	21.04	359	P	P	08 35 07.5 +0.9
N58A				IAmb	IAmb	08 35 17.1
	comp=Z,74nm,1.1s					
CPNY	Central Park	21.07	5	P	P	08 35 07.6 +0.7
P49A	Miami Univ. Ec	21.08	341	P	P	08 35 07.0 -0.1
P49A				IAmb	IAmb	08 35 18.4
	comp=Z,78nm,1.1s					
P49A	Miami Univ. Ec	21.08	341	P	P	08 35 08.4 +1.3
	baz=157,SNR=8.9					
PBMO	Poplar Bluff	21.11	327	IAmb	IAmb	08 35 20.8
	comp=Z,92nm,1.0s					
N59A	State Game Lan	21.11	1	IAmb	IAmb	08 35 18.8
	comp=Z,99nm,1.1s					
N59A	State Game Lan	21.11	1	P	P	08 35 09.3 +1.8
	baz=181					
P48A	Milroy	21.23	340	IAmb	IAmb	08 35 19.7
	comp=Z,59nm,1.0s					
S44A	Carbondale	21.24	330	IAmb	IAmb	08 35 35.1
	comp=Z,132nm,1.2s					
ACSO	Alum Creek Sta	21.26	345	IAmb	IAmb	08 35 19.7
	comp=Z,156nm,1.4s					
ACSO	Alum Creek Sta	21.26	345	P	P	08 35 10.2 +1.2
	baz=162,SNR=7.4					
ODNJ	Ogdensburg	21.32	3	IAmb	IAmb	08 35 24.2
	comp=Z,85nm,0.9s					
MIAR	Mount Ida	21.38	317	IAmb	IAmb	08 35 23.9
	comp=Z,189nm,1.4s					
MIAR	Mount Ida	21.38	317	P	P	08 35 12.6 +2.2
	baz=129,SNR=21					
N53A	Lisbon	21.39	350	IAmb	IAmb	08 35 24.4
	comp=Z,87nm,1.1s					
TLIG	Tlapa	21.39	268	P	P	08 35 11.0 +0.2
TLIG				IAmb	IAmb	08 35 25.7
	comp=Z,73nm,1.1s					
FCAR	Ozark Folk Cen	21.39	322	IAmb	IAmb	08 35 23.5
	comp=Z,97nm,0.9s					
TRNY	Table Rock, Ra	21.40	4	IAmb	IAmb	08 35 26.1
	comp=Z,55nm,0.9s					
N54A	Moraine State	21.41	352	IAmb	IAmb	08 35 22.0
	comp=Z,96nm,1.1s					
N54A	Moraine State	21.41	352	P	P	08 35 11.8 +1.1
	baz=170					
M57A	Sunshine Farm,	21.55	358	IAmb	IAmb	08 35 27.4
	comp=Z,111nm,1.1s					
Z38A	Mt. Pleasant	21.56	312	IAmb	IAmb	08 35 26.1
	comp=Z,72nm,0.9s					
O49A	Covington	21.57	343	IAmb	IAmb	08 35 33.1
	comp=Z,79nm,1.2s					
OLIL	Olney	21.59	334	IAmb	IAmb	08 35 26.3
	comp=Z,94nm,1.1s					
T42A	Van Buren	21.64	326	IAmb	IAmb	08 35 27.6
	comp=Z,97nm,1.3s					
YLE	Yale	21.68	6	IAmb	IAmb	08 35 24.4
	comp=Z,112nm,1.0s					
KSPA	Keystone Colle	21.75	1	IAmb	IAmb	08 35 27.4
	comp=Z,67nm,1.1s					
M55A	Ridgway	21.78	355	IAmb	IAmb	08 35 40.2
	comp=Z,104nm,1.4s					
N51A	Ashland	21.78	347	IAmb	IAmb	08 35 27.9
	comp=Z,127nm,1.2s					
O48B	Farmland	21.88	341	P	P	08 35 16.8 +1.1
	baz=157					
M54A	Oil Creek Stat	21.91	353	IAmb	IAmb	08 35 26.3
	comp=Z,82nm,1.1s					
M54A	Oil Creek Stat	21.91	353	P	P	08 35 17.7 +1.6
	baz=171					
W39A	Magazine	21.93	318	IAmb	IAmb	08 35 31.6
	comp=Z,95nm,1.2s					
W39A	Magazine	21.93	318	P	P	08 35 19.0 +2.7
	baz=130,SNR=7.0					
M53A	WI Miller and	21.98	351	IAmb	IAmb	08 35 29.5
	comp=Z,128nm,1.1s					
M53A	WI Miller and	21.98	351	P	P	08 35 17.9 +1.1
	baz=169,SNR=5.4					
P46A	Rosedale	22.00	337	IAmb	IAmb	08 35 35.4
	comp=Z,126nm,1.2s					
KSCT	Kent School, K	22.03	5	IAmb	IAmb	08 35 31.5
	comp=Z,65nm,1.1s					
FVM	French Village	22.04	329	IAmb	IAmb	08 35 31.9
	comp=Z,141nm,1.4s					
U40A	Yellville	22.14	322	P	P	08 35 20.1 +1.5
	baz=134					
M52A	Chesterland	22.19	350	IAmb	IAmb	08 35 29.9
	comp=Z,86nm,0.9s					
N49A	Columbus Grove	22.21	344	IAmb	IAmb	08 35 29.6
	comp=Z,68nm,1.1s					
UCCT	U. Connecticut	22.23	8	P	P	08 35 20.0 +0.5
L56A	Greenwood	22.36	357	IAmb	IAmb	08 35 50.6
	comp=Z,104nm,1.3s					
MGMO	Mountain Grove	22.37	324	IAmb	IAmb	08 35 43.7
	comp=Z,100nm,1.1s					
M50A	Fremont	22.39	346	IAmb	IAmb	08 35 31.7
	comp=Z,83nm,1.1s					
BINY	Binghamton	22.39	0	IAmb	IAmb	08 35 31.9
	comp=Z,106nm,1.1s					
BINY	Binghamton	22.39	0	P	P	08 35 23.4 +2.1
	baz=180					
CCM	Cathedral Cave	22.50	327	P	P	08 35 23.4 +1.0
CCM				pmax	pmax	
	comp=Z,95nm,1.0s					
CCM	Cathedral Cave	22.50	327	P	P	08 35 23.4 +1.0
CCM				IAmb	IAmb	08 35 46.8
	comp=Z,95nm,1.0s					
CCM	Cathedral Cave	22.50	327	P	P	08 35 23.7 +1.3
	baz=140					
SFIN	Lafayette	22.63	338	IAmb	IAmb	08 35 42.0
	comp=Z,64nm,1.1s					
SFIN	Lafayette	22.63	338	P	P	08 35 25.0 +1.3
	baz=152					
WHTX	Lake Whitney,	22.71	307	IAmb	IAmb	08 35 35.8
	comp=Z,78nm,0.9s					
WHTX	Lake Whitney,	22.71	307	P	P	08 35 27.4 +2.8
	baz=118,SNR=9.6					
HHAR	Hobbs	22.73	320	IAmb	IAmb	08 35 36.3
	comp=Z,122nm,1.2s					
833A	Chaparral WMA,	22.89	296	P	P	08 35 28.3 +1.7
	baz=107,SNR=32					
WES	Weston	22.94	9	IAmb	IAmb	08 35 37.4
	comp=Z,88nm,1.1s					
O44A	Mansfield	22.95	335	IAmb	IAmb	08 35 52.8
	comp=Z,104nm,1.1s					
MMNY	Mt. Morris Dam	22.98	357	IAmb	IAmb	08 35 56.6
	comp=Z,111nm,1.3s					
BOAV	Boa Vista	23.00	137	eP	P	08 35 27.0 -0.9
BOAV	Boa Vista	23.00	137	P	P	08 35 27.6 -0.3
U38A	Gravette	23.10	320	IAmb	IAmb	08 35 47.6
	comp=Z,100nm,1.4s					
Z35A	Perchaven, San	23.20	310	IAmb	IAmb	08 35 59.7
	comp=Z,86nm,1.0s					
R40A	Maddies Statio	23.20	326	IAmb	IAmb	08 35 52.3
	comp=Z,78nm,1.0s					
L48A	N Adams	23.24	344	IAmb	IAmb	08 35 41.5
	comp=Z,94nm,1.0s					
S39A	Bolivar	23.34	324	IAmb	IAmb	08 35 56.0
	comp=Z,69nm,1.1s					
AAM	Ann Arbor	23.38	346	IAmb	IAmb	08 35 42.5
	comp=Z,97nm,1.2s					
AAM	Ann Arbor	23.38	346	P	P	08 35 34.2 +2.7
	baz=162					
LOOK	Love County	23.49	311		P	08 35 33.9 +1.2
LOOK				IAmb	IAmb	08 35 50.4
	comp=Z,86nm,1.2s					
J58A	Remsen	23.56	2	IAmb	IAmb	08 35 52.8
	comp=Z,99nm,1.4s					
TUL1	Leonard	23.65	317	P	P	08 35 36.0 +1.7
	baz=128,SNR=19					
ACCN	Adirondack Com	23.67	4	IAmb	IAmb	08 35 44.7
	comp=Z,79nm,1.4s					
J59A	Pisco	23.70	3	IAmb	IAmb	08 35 44.4
	comp=Z,92nm,1.3s					
M44A	Midewin, Midew	23.86	337	IAmb	IAmb	08 35 54.0
	comp=Z,116nm,1.4s					
JCT	Junction City	23.93	301	P	P	08 35 38.9 +1.8
	baz=111,SNR=35					
P40A	Paris	24.03	329	IAmb	IAmb	08 35 48.5
	comp=Z,47nm,0.9s					
QUOK	Quay	24.40	316		P	08 35 41.6 +0.3
OKCFA	Oklahoma City	24.45	314	IAmb	IAmb	08 36 06.7
	comp=Z,70nm,1.2s					
TBTG	Tabatinga, AM	24.54	165	eP	P	08 35 40.0 -2.8
TBTG	Tabatinga, AM	24.54	165	eP	P	08 35 42.9 +0.1
TBTG	Tabatinga, AM	24.54	165	P	P	08 35 42.5 -0.2
J47A	Sunmer	24.55	345	P	P	08 35 42.5 -0.1
ABTX	Abilene, Hawle	24.65	306	P	P	08 35 45.3 +1.7
	baz=116,SNR=10					
LBNH	Lisbon	24.68	7	P	P	08 35 44.7 +0.9
	baz=190					
ZAIG	Zacatecas	24.83	282	IAmb	IAmb	08 35 50.7
	comp=Z,28nm,1.0s					
LONY	Lake Ozonia	24.84	3	IAmb	IAmb	08 35 49.6
	comp=Z,73nm,1.4s					
LONY	Lake Ozonia	24.84	3	P	P	08 35 46.4 +1.1
	baz=184					
P38A	Dawn	24.86	327	IAmb	IAmb	08 35 55.1
	comp=Z,78nm,1.4s					
WMOK	Wichita Mounta	25.01	311	IAmb	IAmb	08 35 58.1
	comp=Z,40nm,0.8s					
WMOK	Wichita Mounta	25.01	311	P	P	08 35 48.0 +1.1
	baz=121,SNR=14					
SADO	Sadowa	25.09	355	P	P	08 35 49.2 +1.8
	comp=Z,26nm,0.9s,baz=196,slow=3.2,SNR=6.4					
L40A	Anamosa	25.68	333	IAmb	IAmb	08 36 03.4
	comp=Z,55nm,1.2s					
GLMI	Grayling	26.00	346	P	P	08 36 00.5 +4.7
	baz=162					
KSU1	Kansas State U	26.18	322	P	P	08 35 59.2 +1.7
	baz=132					
TX32	Lajitas Array	26.77	296	IAmb	IAmb	08 36 14.5
	comp=Z,39nm,1.1s					
TXAR	Lajitas Array	26.77	296	P	P	08 36 04.3 +1.3
	comp=Z,15nm,1.0s,baz=117,slow=5.7,SNR=33					
TXAR				LR	LR	08 47 25.2
	comp=Z,251nm,20.4s,baz=76,slow=38					
ATAH	Atahualpa	26.80	185	P	P	08 36 06.0 +2.3
	comp=Z,24nm,0.8s,baz=10,slow=3.8,SNR=19					
ATAH				LR	LR	08 48 12.5
	comp=Z,602nm,20.0s,baz=29,slow=40					
R32A	Long Quarter,	27.02	318	IAmb	IAmb	08 36 34.5
	comp=Z,65nm,1.4s					
AMTX	Amarillo	27.17	309	IAmb	IAmb	08 36 16.7
	comp=Z,80nm,1.4s					
AMTX	Amarillo	27.17	309	P	P	08 36 08.1 +1.5
	baz=117					
MACA	Manacapuru-AM	27.34	145	eP	P	08 36 08.0 -0.1
CZSB	Cruzeiro do Su	27.50	173	eP	P	08 36 08.5 -1.0
CBKS	Cedar Bluff	27.90	318	P	P	08 36 15.0 +2.0
	baz=126					
HPIG		28.02	290	IAmb	IAmb	08 36 25.0
	comp=Z,29nm,1.0s					
MNTX	Cornudas Mount	28.84	300	IAmb	IAmb	08 36 31.9
	comp=Z,22nm,1.0s					
MNTX	Cornudas Mount	28.84	300	P	P	08 36 23.0 +1.5
	baz=108,SNR=15					
ECSD	EROS Data Cent	29.45	329	P	P	08 36 26.3 -0.3
	baz=138					
KSCO	Kaye Shedlock'	29.88	316	P	P	08 36 34.0 +3.3
	baz=123					
T25A	Trinidad	30.17	311	P	P	08 36 35.2 +1.8
	baz=118,SNR=12					
MALB	Monte Alegre	30.33	133	eP	P	08 36 34.2 -0.5
OGNE	Ogallala	30.58	319	P	P	08 36 39.1 +2.2
	baz=126					
ANMO	Albuquerque	30.77	306	LR	LR	08 49 42.4
	comp=Z,459nm,21.9s,baz=102,slow=38					
ANMO	Albuquerque	30.77	306	ceP	P	08 36 40.9 +2.2
ANMO				pmax	pmax	
	comp=Z,5.0nm,1.0s					
ANMO	Albuquerque	30.77	306	P	P	08 36 41.5 +2.8
ANMO	Albuquerque	30.77	306	P	P	08 36 41.3 +2.6
	baz=112					
EYMN	Ely	30.78	340	P	P	08 36 38.9 +0.4
EYMN				IAmb	IAmb	08 36 40.1
	comp=Z,38nm,1.1s					
EYMN	Ely	30.78	340	P	P	08 36 39.6 +1.2
	baz=151					
MCPB	Macapa, AP	30.90	127	eP	P	08 36 39.2 -0.5
ETMB	Extrema	30.94	161	eP	P	08 36 40.0 -0.1
ETMB	Extrema	30.94	161	P	P	08 36 40.3 +0.3
121A	Cookes Peak, D	31.04	301	IAmb	IAmb	08 36 58.4
	comp=Z,29nm,1.2s					
121A	Cookes Peak, D	31.04	301	P	P	08 36 43.4 +2.3
	baz=107					
SDCO	Great Sand Dun	31.21	311	IAmb	IAmb	08 37 05.4
	comp=Z,32nm,1.4s					
SDCO	Great Sand Dun	31.21	311	P	P	08 36 45.0 +2.3
	baz=117,SNR=7.5					
ITTB	Itaituba	31.23	138	eP	P	08 36 42.0 -0.6
NNA	Nana	31.53	181	LR	LR	08 52 08.0
	comp=Z,484nm,18.7s,baz=350,slow=41					
NNA	Nana	31.53	181	ceP	P	08 36 48.4 +3.1
NNA				pmax	pmax	
	comp=Z,150nm,1.7s					
NNA	Nana	31.53	181	P	P	08 36 44.8 -0.5
Q24A	Divide	31.54	314	IAmb	IAmb	08 36 56.0
	comp=Z,20nm,1.1s					
Q24A	Divide	31.54	314	P	P	08 36 46.5 +0.9
	baz=119					
SLBS	Sierra La Lagu	31.64	283	P	P	08 36 45.5 -0.9
SLBS				IAmb	IAmb	08 36 58.4
	comp=Z,17nm,0.8s					
B35A	Bob, Littlefor	31.91	338	P	P	08 36 49.3 +1.0
B35A				IAmb	IAmb	08 36 57.6
	comp=Z,33nm,1.4s					
LPIG	La Paz	31.98	284	P	P	08 36 51.3 +2.1
	comp=Z,15nm,0.8s,baz=287,slow=22,SNR=2.1					
LPIG				LR	LR	08 50 36.6
	comp=Z,603nm,21.0s,baz=96,slow=38					
S22A	4UR Ranch, Cre	32.16	310	P	P	08 36 52.8 +1.7
	baz=116					
ISCO	Idaho Springs	32.26	315	IAmb	IAmb	08 37 02.9
	comp=Z,24nm,1.0s					
ISCO	Idaho Springs	32.26	315	P	P	08 36 53.2 +1.3
	baz=120,SNR=7.6					
SMCO	Snowmass	32.89	313	IAmb	IAmb	08 37 09.0
	comp=Z,35nm,0.9s					
MVCO	Mesa Verde	33.16	309	IAmb	IAmb	08 37 12.7
	comp=Z,29nm,1.1s					
MVCO	Mesa Verde	33.16	309	P	P	08 37 01.9 +2.2
	baz=113,SNR=6.3					
X18A	Snowflake	33.35	303	IAmb	IAmb	08 37 15.4
	comp=Z,26nm,1.3s					
W18A	Petrified Fore	33.36	304	IAmb	IAmb	08 37 13.0
	comp=Z,35nm,1.1s					
W18A	Petrified Fore	33.36	304	P	P	08 37 03.5 +2.1
	baz=109,SNR=7.7					
TUC	Tucson	33.43	299	P	P	08 37 02.3 +0.3
TUC				pmax	pmax	
	comp=Z,18nm,1.2s					
TUC	Tucson	33.43	299	P	P	08 37 02.2 +0.3
TUC	Tucson	33.43	299	P	P	08 37 04.5 +2.5
	baz=104					
NPGB	Novo Progresso	33.55	140	eP	P	08 37 02.5 -0.5
PV15	Paradox Valley	33.59	310	IAmb	IAmb	08 37 17.3
	comp=Z,24nm,1.0s					
PV11	David Mesa, Pa	33.86	310	IAmb	IAmb	08 37 16.9
	comp=Z,31nm,0.9s					
PV10	Paradox Valley	34.01	310	IAmb	IAmb	08 37 17.9
	comp=Z,28nm,1.1s					
PV23	Carpenter Ridg	34.02	310	IAmb	IAmb	08 37 19.6
	comp=Z,28nm,1.2s					
O20A	White River Ci	34.20	313	IAmb	IAmb	08 37 20.1
	comp=Z,40nm,1.2s					
O20A	White River Ci	34.20	313	P	P	08 37 10.6 +1.9
	baz=117					
ULM	Lac du Bonnet	34.26	337	P	P	08 37 08.5 -0.3
	comp=Z,6.4nm,0.8s,baz=166,slow=12,SNR=3.6					
ULM	Lac du Bonnet	34.26	337	IAmb	IAmb	08 37 28.2
	comp=Z,55nm,1.5s					
X16A	Lo Mia Camp, P	34.50	302	IAmb	IAmb	08 37 23.6
	comp=Z,32nm,1.1s					
WUAZ	Wupatki	34.76	304	P	P	08 37 15.5 +2.0
	baz=108,SNR=25					
214A	Organ Pipe Nat	35.04	298	IAmb	IAmb	08 37 28.3
	comp=Z,35nm,1.1s					
214A	Organ Pipe Nat	35.04	298	P	P	08 37 18.3 +2.5
	baz=102,SNR=11					
RDMU	Red Mountain	35.30	313	IAmb	IAmb	08 37 29.4
	comp=Z,24nm,1.2s					
SRU	San Rafael Swe	35.37	311	IAmb	IAmb	08 37 30.6
	comp=Z,23nm,1.1s					
P18A	Preston Nutter	35.37	312	IAmb	IAmb	08 37 29.8
	comp=Z,29nm,1.0s					
P17A	Butcher Ranch,	35.66	311	IAmb	IAmb	08 37 32.7
	comp=Z,30nm,1.1s					
SCHQ	Schefferville	35.74	9	P	P	08 37 21.0 -0.6
	comp=Z,9.7nm,0.8s,baz=186,slow=5.6,SNR=11					
U15A	North Rim	35.74	305	IAmb	IAmb	08 37 34.1
	comp=Z,26nm,1.0s					
TMUT	Trail Mountain	35.93	310	IAmb	IAmb	08 37 35.4
	comp=Z,26nm,1.2s					
VILB	Vilhena	36.06	153	eP	P	08 37 25.3 +0.5
VILB	Vilhena	36.06	153	P	P	08 37 25.4 +0.7
VILB				IAmb	IAmb	08 37 47.1
	comp=Z,27nm,1.1s					
MTPU	Mount Pierson	36.18	308	IAmb	IAmb	08 37 37.6
	comp=Z,25nm,0.9s					
BW06	Boulder Array	36.30	317	P	P	08 37 27.4 +0.6
BW06	Boulder Array	36.30	317	P	P	08 37 27.5 +0.6
	baz=119					
PDAR	Pinedale Array	36.30	317	P	P	08 37 26.5 -0.3
	comp=Z,2.4nm,0.7s,baz=120,slow=9.5,SNR=15					
PDAR				PcP	PcP	08 39 51.5 -0.2
	comp=Z,1.6nm,0.9s,baz=125,slow=4.7,SNR=2.2					
PDAR				LR	LR	08 54 12.8
	comp=Z,829nm,18.1s,baz=118,slow=39					
KNB	Kanab	36.33	306	IAmb	IAmb	08 37 38.9
	comp=Z,43nm,1.0s					
CLDB	Colider	36.41	145	eP	P	08 37 27.4 -0.3
LAO	LASA Array	36.45	324	IAmb	IAmb	08 37 37.3
	comp=Z,47nm,1.4s					
LAO	LASA Array	36.45	324	P	P	08 37 29.3 +1.5
	baz=128					
PRPB	Parauapebas	36.50	132	eP	P	08 37 27.6 -1.0
PDRB	Porto dos Gac	36.53	147	eP	P	08 37 27.9 -0.8
JLU	Jordanelle	36.61	312	IAmb	IAmb	08 37 43.6
	comp=Z,26nm,1.1s					
W13A	Hualapai Mount	36.62	303	IAmb	IAmb	08 37 41.7
	comp=Z,35nm,1.2s					
PDMCI	Parker Dam,Lak	36.63	301	P	P	08 37 32.0 +2.5
	baz=104					
NLU	North Lily Min	36.80	311	IAmb	IAmb	08 37 41.9
	comp=Z,31nm,1.2s					
CTU	Camp Tracy	36.86	312	IAmb	IAmb	08 37 43.9
	comp=Z,27nm,1.2s					
CCUT	Cedar City	36.91	307	IAmb	IAmb	08 37 43.4
	comp=Z,27nm,1.2s					
GLA	Glamis	36.92	299	IAmb	IAmb	08 37 43.8
	comp=Z,44nm,1.4s					
RLMT	Red Lodge	37.31	320	IAmb	IAmb	08 37 47.0
	comp=Z,47nm,1.2s					
RLMT	Red Lodge	37.31	320	P	P	08 37 35.9 +0.5
	baz=122,SNR=8.3					
LOHW	Long Hollow	37.38	317	IAmb	IAmb	08 37 46.4
	comp=Z,39nm,1.1s					
IRM	Iron Mountain	37.41	301	P	P	08 37 38.5 +2.3
	baz=103,SNR=21					
DUG	Dugway, Tooele	37.41	311	IAmb	IAmb	08 37 47.2
	comp=Z,49nm,1.0s					
DUG	Dugway, Tooele	37.41	311	P	P	08 37 37.5 +1.3
	baz=112,SNR=31					
MOOW	Moose Ponds	37.53	317	IAmb	IAmb	08 37 47.4
	comp=Z,27nm,0.9s					
BC3	Big Chuckawall	37.55	300	P	P	08 37 39.5 +2.0
	baz=102,SNR=7.3					
YMP	Mirror Lake Pl	37.65	319	IAmb	IAmb	08 38 01.7
	comp=Z,39nm,1.0s					
FLWY	Flagg Ranch	37.67	318	IAmb	IAmb	08 38 07.2
	comp=Z,65nm,1.5s					
SWSC	Sam W. Stewart	37.70	299	P	P	08 37 41.4 +2.9
	baz=100					
H17A	Grant Village	37.74	318	P	P	08 37 40.9 +1.8
	baz=120					
BGU	Big Grassy Mou	37.84	312	IAmb	IAmb	08 37 50.6
	comp=Z,38nm,1.2s					
IKP	In-Ko-Pah, Jac	37.91	298	P	P	08 37 43.8 +3.3
	baz=100					
GMRC	Granite Mounta	37.96	302	P	P	08 37 43.0 +2.2
	baz=103,SNR=5.8					
SHPR	Sheep Range	37.98	304	IAmb	IAmb	08 37 53.2
	comp=Z,28nm,1.2s					
BELC	Belle Mtn. Jos	38.07	300	P	P	08 37 44.1 +2.2
	baz=102					
SPR3	Spring Creek 3	38.09	309	IAmb	IAmb	08 37 53.6
	comp=Z,51nm,1.1s					
MONP2	Monument Peak	38.21	298	P	P	08 37 45.9 +2.8
	baz=100					
TUQ	Turquoise Moun	38.32	303	P	P	08 37 46.4 +2.5
	baz=104,SNR=11					
PFO	Pinyon Flats O	38.37	299	P	P	08 37 46.8 +2.4
	comp=Z,3.4nm,1.0s,baz=106,slow=8.6,SNR=5.0					
PFO				LR	LR	08 54 40.8
	comp=Z,378nm,19.8s,baz=90,slow=38					
PFO	Pinyon Flats O	38.37	299	P	P	08 37 45.4 +1.0
PFO				pmax	pmax	
	comp=Z,24nm,1.5s					
PFO	Pinyon Flats O	38.37	299	P	P	08 37 45.4 +1.0
PFO	Pinyon Flats O	38.37	299	P	P	08 37 46.9 +2.4
	baz=101					
SIV	San Ignacio	38.46	156	P	P	08 37 44.9 -0.2
	comp=Z,27nm,0.9s,baz=337,slow=7.7,SNR=48					
SIV				LR	LR	08 54 14.8
	comp=Z,315nm,18.1s,baz=346,slow=37					
QLMT	Earthquake Lak	38.49	319	P	P	08 37 46.4 +1.0
HEC	Hector,Ludlow	38.51	301	P	P	08 37 48.5 +3.0
	baz=102,SNR=5.8					
PB12	IPOC Station P	38.53	171	P	P	08 37 45.0 -0.8
ROSB	Rosrio	38.64	122	eP	P	08 37 45.9 -0.7
SHOC	Shoshone, Teco	38.70	303	P	P	08 37 49.4 +2.4
	baz=104					
S11A	Rachel	38.74	306	IAmb	IAmb	08 37 59.7
	comp=Z,56nm,1.2s					
PTLB	Pontes e Lacer	38.74	153	eP	P	08 37 47.0 -0.5
PTLB	Pontes e Lacer	38.74	153	P	P	08 37 46.9 -0.5
R11A	Troy Canyon, C	38.82	307	P	P	08 37 50.2 +2.0
	baz=107,SNR=15					
BBRC	Big Bear Solar	38.87	300	P	P	08 37 51.8 +3.2
	baz=101					
TPNV	Topopah Spring	38.94	305	P	P	08 37 51.9 +2.7
	baz=105,SNR=9.9					
MURC	Murrieta	38.97	299	P	P	08 37 51.6 +2.3
	baz=100,SNR=7.0					
BOZ	Bozeman (W)	38.98	320	P	P	08 37 50.3 +0.9
	baz=120,SNR=7.6					
GSC	Goldstone, Bar	38.99	302	P	P	08 37 52.2 +2.7
	baz=103,SNR=7.1					
EGMT	Eagleton	39.17	324	P	P	08 37 51.7 +0.9
	baz=124					
FURC	Furnace Creek,	39.30	304	P	P	08 37 54.8 +2.9
	baz=104					
ELK	Elko	39.34	311	LR	LR	08 54 44.2
	comp=Z,486nm,21.5s,ba

ISA pmax pmax
comp=Z,14nm,1.2s
ISA Isabella, Lake 40.40 302 P **P 08 38 01.9 +0.7**
ISA Isabella, Lake 40.40 302 P **P 08 38 04.0 +2.8**
baz=102
TA01 Diego Aracena 40.47 171 P **P 08 38 00.2 -1.6**
TA01 IAmb IAmb 08 38 04.0
comp=Z,43nm,0.9s
TIN Tinemaha, Big 40.50 304 P **P 08 38 05.1 +3.0**
baz=104
ARVC Arvin 40.58 301 P **P 08 38 05.4 +2.8**
baz=101
SALV Santo Antonio 40.71 149 *eP* **P 08 38 03.3 -0.5**
PATCX Punta Patache 40.73 171 IAmb IAmb 08 38 07.9
comp=Z,33nm,0.9s
NV11 Mina Array Sit 40.78 306 IAmb IAmb 08 38 15.7
comp=Z,31nm,1.2s
NVAR Mina Array Bea 40.90 306 P **P 08 38 06.5 +1.1**
comp=Z,4.0nm,0.7s,baz=103,slow=4.7,SNR=25
NVAR LR LR 08 55 39.2
comp=Z,360nm,21.9s,baz=108,slow=37
KVN Kaiserville 40.91 307 IAmb IAmb 08 38 16.6
comp=Z,44nm,1.1s
VES Vestal, Richgr 40.92 302 P **P 08 38 08.0 +2.6**
baz=102,SNR=14
MSO Missoula 40.98 320 P **P 08 38 06.3 +0.4**
baz=118
MLAC Mammoth, Mammo 41.11 305 P **P 08 38 09.6 +2.3**
baz=104
FCC Fort Churchill 41.11 346 P **P 08 38 06.5 -0.1**
FCC pmax pmax
comp=Z,46nm,1.5s
FCC Fort Churchill 41.11 346 P **P 08 38 06.5 -0.1**
FCC IAmb IAmb 08 38 16.8
comp=Z,46nm,1.4s
JTMT Jette 41.63 321 P **P 08 38 11.7 +0.5**
JTMT IAmb IAmb 08 38 23.0
comp=Z,22nm,0.9s
NBPS Pedro II - Pi 41.67 121 *eP* **P 08 38 10.8 -1.1**
YERR Yerington 41.75 307 P **P 08 38 13.9 +1.5**
PAGB Antelope Grade 41.83 302 IAmb IAmb 08 38 24.1
comp=Z,40nm,1.3s
PEXB Peixe 41.84 137 *eP* **P 08 38 12.7 -0.5**
PNTR Pine Nut 42.04 307 P **P 08 38 16.0 +1.1**
WALA Waterton Lakes 42.06 323 P **P 08 38 15.7 +0.9**
NBMO Morrinhos-CE 42.19 119 *eP* **P 08 38 14.9 -1.2**
PB04 IPOC Station P 42.22 172 IAmb IAmb 08 38 18.9
comp=Z,38nm,1.0s
EMB Emerald Bay 42.40 307 IAmb IAmb 08 38 29.4
comp=Z,34nm,1.1s
RUBR Rubicon Trail 42.45 307 IAmb IAmb 08 38 29.9
comp=Z,43nm,0.9s
J08A Circle Bar Ran 42.50 313 IAmb IAmb 08 38 28.4
comp=Z,27nm,1.0s
ARAG Araguaiana, MT 42.56 144 *eP* **P 08 38 18.4 -0.6**
PP1B Ponte de Pedra 42.56 149 *eP* **P 08 38 18.3 -0.7**
LVC Limon Verde 42.67 170 P **P 08 38 21.1 +0.9**
comp=Z,14nm,0.9s,baz=344,slow=6.0,SNR=12
LVC LR LR 08 58 57.1
comp=Z,288nm,18.2s,baz=348,slow=40
LVC Limon Verde 42.67 170 P **P 08 38 19.9 -0.3**
LVC pmax pmax
comp=Z,15nm,0.9s
LVC Limon Verde 42.67 170 *eP* **P 08 38 19.6 -0.6**
LVC Limon Verde 42.67 170 P **P 08 38 19.9 -0.3**
E09A Wood Farm, Sta 43.45 318 IAmb IAmb 08 38 35.5
comp=Z,31nm,1.3s
G08A Pilot Rock 43.51 316 IAmb IAmb 08 38 36.5
comp=Z,26nm,1.1s
NEW Newport 43.56 320 P **P 08 38 26.5 -0.3**
comp=Z,10nm,1.1s,baz=131,slow=9.3,SNR=9.3
NEW LR LR 08 56 41.9
comp=Z,419nm,18.5s,baz=110,slow=36
NEW Newport 43.56 320 P **P 08 38 26.0 -0.8**
NEW pmax pmax
comp=Z,22nm,1.1s
NEW Newport 43.56 320 P **P 08 38 26.0 -0.8**
NEW Newport 43.56 320 P **P 08 38 27.0 +0.2**
baz=116,SNR=7.5
NBPB Pedra_Branca-C 43.84 121 *eP* **P 08 38 28.6 -0.8**
EDM Edmonton 44.02 328 P **P 08 38 30.7 +0.3**
EDM pmax pmax
comp=Z,41nm,1.3s
EDM Edmonton 44.02 328 P **P 08 38 30.7 +0.3**
EDM IAmb IAmb 08 38 41.8
comp=Z,41nm,1.3s
C09A Chrisman Ranch 44.06 319 IAmb IAmb 08 38 40.9
comp=Z,39nm,1.3s
NBCL Cascavel-CE 44.15 119 *eP* **P 08 38 31.2 -0.7**
D08A Wollman Farm, 44.16 318 P **P 08 38 31.4 -0.2**
FRB Frobisher Bay 44.28 5 LR LR 08 57 25.8
comp=Z,366nm,18.9s,baz=187,slow=37
SDBA SAO DESIDERIO 44.32 134 *eP* **P 08 38 32.1 -1.2**
F07A Phinny Hill Vi 44.36 316 IAmb IAmb 08 38 43.2
comp=Z,23nm,1.1s
J05D Fort Rock, OR 44.38 312 P **P 08 38 35.3 +1.6**
baz=108
E07A Sunnyside 44.56 317 IAmb IAmb 08 38 45.0
comp=Z,19nm,1.1s
AQDB Aquidauana 44.68 152 *eP* **P 08 38 36.4 +0.3**
AQDB Aquidauana 44.68 152 P **P 08 38 35.8 -0.3**
AQDB IAmb IAmb 08 38 39.4
comp=Z,23nm,0.9s
BDFB Brasília 44.71 140 P **P 08 38 36.5 0.0**
comp=Z,5.0nm,0.9s,baz=327,slow=8.1,SNR=6.9
BDFB LR LR 08 57 55.7
comp=Z,491nm,19.1s,baz=319,slow=37
BDFB Brasília 44.71 140 P **P 08 38 35.7 -0.8**
BDFB pmax pmax
comp=Z,18nm,1.1s
BDFB Brasília 44.71 140 P **P 08 38 35.7 -0.8**
BDFB IAmb IAmb 08 38 52.7
comp=Z,18nm,1.1s
L04D Klamath Falls 44.84 311 P **P 08 38 39.6 +2.3**
baz=106
YBH Yreka Blue Hor 45.01 310 LR LR 08 59 29.2
comp=Z,486nm,18.0s,baz=108,slow=39
LTY Liberty 45.34 318 IAmb IAmb 08 38 51.3
comp=Z,38nm,1.2s
H04A Detroit Lake 45.46 314 IAmb IAmb 08 38 52.9
comp=Z,24nm,0.8s
NBMA Muriti-CE 45.57 123 *eP* **P 08 38 42.7 -0.7**
IPMB Ipameri, GO 46.42 142 *eP* **P 08 38 49.0 -1.0**
ITRB Iturama 46.62 146 *eP* **P 08 38 51.2 -0.3**
JANB Januaria 46.62 136 *eP* **P 08 38 50.8 -0.8**
NBPN Ponto Novo - B 46.63 128 *eP* **P 08 38 50.8 -0.8**
AC02 Maricunga 46.79 171 P **P 08 38 53.9 +0.7**
RCBR Riachuelo 47.01 119 *eP* **P 08 38 53.8 -0.9**
LLLB Lilloet 47.36 322 IAmb IAmb 08 39 06.8
comp=Z,28nm,1.2s
PCMB Pacaembu 47.74 148 *eP* **P 08 39 00.0 -0.1**
NBPV Pedro Velho 47.84 119 *eP* **P 08 39 00.0 -1.0**
NBLA Lagarto - SE 48.54 126 *eP* **P 08 39 05.2 -1.3**
BB19B Bebedouro 48.71 145 *eP* **P 08 39 05.4 -2.3**
LCO Las Campanas 48.74 174 P **P 08 39 10.8 +2.7**
LCO pmax pmax
comp=Z,35nm,1.3s
LCO Las Campanas 48.74 174 P **P 08 39 10.8 +2.7**
LCO IAmb IAmb 08 39 30.3
comp=Z,35nm,1.3s
NBAN Anadia - AL 48.91 123 *eP* **P 08 39 08.6 -0.8**
GDU01 Guandu, BA 48.97 130 *eP* **P 08 39 08.6 -1.2**
CBB Campbell River 49.23 320 P **P 08 39 11.6 +0.2**
NBRF Rio Formoso - 49.25 121 *eP* **P 08 39 10.6 -1.3**
CPUP Villa Florida 49.29 158 P **P 08 39 11.3 -0.7**
comp=Z,5.5nm,1.0s,baz=356,slow=9.7,SNR=4.1
CPUP LR LR 09 00 45.2
comp=Z,292nm,18.1s,baz=344,slow=37
CPUP Villa Florida 49.29 158 P **P 08 39 11.6 -0.3**
CPUP pmax pmax
comp=Z,19nm,1.3s
CPUP Villa Florida 49.29 158 *eP* **P 08 39 12.1 +0.1**
CPUP Villa Florida 49.29 158 P **P 08 39 11.6 -0.3**
CPUP IAmb IAmb 08 39 25.6
comp=Z,19nm,1.3s
DIAM Diamantina, MG 49.42 138 *eP* **P 08 39 13.2 -0.1**
NBIT Itapeh - BA 49.88 131 *eP* **P 08 39 15.9 -0.7**
SFJD Kangerlussuaq 49.99 13 P **P 08 39 16.6 -0.3**
comp=Z,14nm,0.9s,baz=196,slow=7.8,SNR=4.3
PTGB Pitanga 50.00 151 *eP* **P 08 39 17.8 +0.2**
CMC01 Camacan, BA 50.11 131 *eP* **P 08 39 18.5 +0.1**
YKA Yellowknife Ar 50.24 338 P **P 08 39 18.4 -0.4**
comp=Z,5.4nm,0.9s,baz=131,slow=8.2,SNR=34
YKA LR LR 08 59 58.8
comp=Z,425nm,18.2s,baz=222,slow=35
YKA Yellowknife Ar 50.24 338 P **P 08 39 19.4 +0.6**
YKA Yellowknife Ar 50.24 338 P **P 08 39 19.4 +0.6**
RCLB Rio Claro- Sao 50.35 145 *eP* **P 08 39 19.5 -0.7**
DY2G Dye2 50.55 15 *eP* **P 08 39 22.1 +0.8**
DY2G IAmb IAmb 08 39 32.4
comp=Z,79nm,1.5s
BBB Bella Bella 51.57 322 LR LR 09 01 19.7
comp=Z,465nm,19.6s,baz=120,slow=36
ITAB Concordia 52.16 153 *eP* **P 08 39 34.1 +0.5**
ITAB Concordia 52.16 153 P **P 08 39 33.3 -0.3**
ITAB IAmb IAmb 08 39 35.7
comp=Z,16nm,1.0s
ITQB Itaqui 52.59 159 *eP* **P 08 39 37.0 +0.3**
ICESG Greenland Ices 54.17 15 *i P* **P 08 39 47.6 -0.8**
ICESG IAmb IAmb 08 39 58.2
comp=Z,81nm,1.2s
CPSB Cacapava Do Su 54.42 156 *eP* **P 08 39 50.9 +0.7**
DLBC Dease Lake 54.74 329 LR LR 09 05 28.9
comp=Z,881nm,18.4s,baz=106,slow=38
DLBC Dease Lake 54.74 329 IAmb IAmb 08 40 05.1
comp=Z,35nm,1.4s
PLTB Pedras Altas 55.57 157 *eP* **P 08 39 59.0 +0.5**
PLTB Pedras Altas 55.57 157 P **P 08 39 58.1 -0.4**
PLTB IAmb IAmb 08 39 59.6
comp=Z,16nm,1.1s
RES Resolute Bay 55.90 354 P **P 08 39 59.5 -0.9**
RES pmax pmax
comp=Z,24nm,1.1s
RES Resolute Bay 55.90 354 P **P 08 39 59.5 -0.9**
RES IAmb IAmb 08 40 10.2
comp=Z,24nm,1.1s
RPN Rapa Nui 56.63 216 LR LR 08 59 33.6
comp=Z,281nm,19.8s,baz=38,slow=31
P33M Teslin, Yukon 56.70 330 IAmb IAmb 08 40 17.9
comp=Z,22nm,1.4s
P33M Teslin, Yukon 56.70 330 P **P 08 40 09.1 +2.7**
baz=110
TULEG Thule 56.96 2 *i P* **P 08 40 07.6 -0.3**
TULEG IAmb IAmb 08 40 18.0
comp=Z,51nm,1.3s
TULEG Thule 56.96 2 P **P 08 40 07.4 -0.5**
SUMG Summit 56.99 13 P **P 08 40 08.4 -0.3**
SUMG pmax pmax
comp=Z,62nm,1.2s
SUMG Summit 56.99 13 *i P* **P 08 40 08.0 -0.7**
SUMG IAmb IAmb 08 40 19.5
comp=Z,60nm,1.2s
SUMG Summit 56.99 13 P **P 08 40 08.4 -0.3**
BORG Borgarnes 57.57 25 LR LR 09 01 40.0
comp=Z,236nm,19.7s,baz=249,slow=33
M31M Drury Creek, Y 58.08 332 IAmb IAmb 08 40 27.5
comp=Z,13nm,1.0s
M31M Drury Creek, Y 58.08 332 P **P 08 40 18.0 +1.9**
baz=109
LC01 Cunco 58.46 176 IAmb IAmb 08 40 37.3
comp=Z,17nm,1.2s
N31M Braeburn, Yuko 58.48 331 IAmb IAmb 08 40 30.8
comp=Z,36nm,1.4s
N31M Braeburn, Yuko 58.48 331 P **P 08 40 20.2 +1.3**
baz=108
M30M Minto, Yukon 59.26 332 IAmb IAmb 08 40 36.2
comp=Z,19nm,1.1s
M30M Minto, Yukon 59.26 332 P **P 08 40 25.9 +1.5**
baz=107
A36M Sachs Harbour 59.28 344 P **P 08 40 23.4 -0.8**
baz=124,SNR=30
INK Inuvik 59.98 339 P **P 08 40 29.6 +0.5**
comp=Z,6.5nm,1.1s,baz=97,slow=5.9,SNR=9.6
INK Inuvik 59.98 339 P **P 08 40 30.1 +1.0**
baz=114
PLCA Paso Flores 60.38 175 P **P 08 40 33.6 +1.4**
comp=Z,8.4nm,0.9s,baz=352,slow=8.1,SNR=18
PLCA LR LR 09 08 41.9
comp=Z,96nm,18.4s,baz=7.5,slow=38
PLCA Paso Flores 60.38 175 P **P 08 40 33.2 +1.0**
PLCA pmax pmax
comp=Z,17nm,1.2s
PLCA Paso Flores 60.38 175 *eP* **P 08 40 33.6 +1.4**
PLCA Paso Flores 60.38 175 P **P 08 40 33.2 +1.0**
PLCA IAmb IAmb 08 40 46.6
comp=Z,17nm,1.1s
J29M Klondike Camp 60.42 334 P **P 08 40 35.0 +2.7**
baz=107
EPYK Eagle Plains 60.42 336 P **P 08 40 32.4 +0.2**
baz=109
LL04 Puerto Octay 60.43 177 P **P 08 40 32.8 +0.4**
LL04 IAmb IAmb 08 40 57.0
comp=Z,15nm,0.9s
EUNU Eureka 60.55 358 IAmb IAmb 08 40 43.5
comp=Z,24nm,1.2s
PTEO Sao Teotonio 60.55 57 *eP* **P 08 40 35.3 +1.8**
PCAS Casmilo, Conde 60.62 55 *eP* **P 08 40 34.1 +0.1**
DAWY Dawson 60.81 333 IAmb IAmb 08 40 45.6
comp=Z,15nm,1.1s
DAWY Dawson 60.81 333 P **P 08 40 34.3 -0.6**
baz=106
EVO Evora 61.06 56 *eP* **P 08 40 37.8 +0.8**
PCVE Castro Verde 61.09 57 *eP* **P 08 40 37.2 0.0**
PVRL Vila Real 61.18 53 *eP* **P 08 40 40.1 +2.3**
MTE Manteigas 61.34 54 *eP* **P 08 40 39.2 +0.2**
comp=Z,37nm,1.6s
PESTR Estremoz 61.37 56 *eP* **P 08 40 39.0 -0.2**
comp=Z,31nm,1.7s
M27K Edge Creek, AK 61.49 331 IAmb IAmb 08 40 51.1
comp=Z,18nm,1.0s
M27K Edge Creek, AK 61.49 331 P **P 08 40 41.5 +1.8**
baz=102
PMRV Marv??o 61.50 55 *eP* **P 08 40 40.0 0.0**
comp=Z,28nm,1.9s
L27K Beaver Creek, 61.62 332 IAmb IAmb 08 40 51.6
comp=Z,8.4nm,0.9s
L27K Beaver Creek, 61.62 332 P **P 08 40 40.8 +0.3**
baz=103
MVO Moncorvo 61.70 53 *eP* **P 08 40 42.7 +1.3**
comp=Z,32nm,1.5s
EGAK Eagle 61.73 334 IAmb IAmb 08 40 52.6
comp=Z,14nm,1.1s
EGAK Eagle 61.73 334 P **P 08 40 41.7 +0.6**
baz=104
PBRG Braganca 61.89 52 *eP* **P 08 40 43.8 +1.1**
comp=Z,35nm,1.8s
DBG Daneborg 62.17 15 *eP* **P 08 40 43.6 -0.3**
DBG IAmb IAmb 08 40 54.9
comp=Z,90nm,2.1s
L26K Log Cabin Wild 62.29 332 P **P 08 40 47.0 +2.1**
baz=101,SNR=6.1
MENT Mentasta 62.44 332 IAmb IAmb 08 40 58.1
comp=Z,19nm,1.2s
J26L Joseph Creek 62.68 333 P **P 08 40 48.1 +0.5**
baz=102
DOT Dot Lake 62.73 332 IAmb IAmb 08 40 50.0
comp=Z,16nm,1.2s
SCRK Sand Creek 62.76 333 IAmb IAmb 08 40 59.7
comp=Z,20nm,1.0s
SCRK Sand Creek 62.76 333 P **P 08 40 48.9 +0.8**
baz=101,SNR=6.3
RIDG Independent Ri 63.09 332 P **P 08 40 52.8 +2.5**
baz=100,SNR=5.5
PAX Paxson 63.24 331 P **P 08 40 52.0 +0.7**
baz=99
DAG Danmarks Havn 63.68 13 *i P* **P 08 40 52.9 -1.0**
DAG IAmb IAmb 08 41 03.9
comp=Z,18nm,1.0s
BMAR Burnt Mountain 63.70 336 P **P 08 40 54.9 +0.7**
PAB San Pablo 63.84 55 P **P 08 40 55.2 -0.5**
PAB pmax pmax
comp=Z,14nm,1.3s
PAB San Pablo 63.84 55 P **P 08 40 55.2 -0.5**
PAB IAmb IAmb 08 40 57.6
comp=Z,14nm,1.2s
HDA Harding Lake 64.11 333 IAmb IAmb 08 41 06.0
comp=Z,18nm,1.4s
HDA Harding Lake 64.11 333 P **P 08 40 58.7 +1.8**
baz=98
DHY Denali Highway 64.11 331 P **P 08 40 58.8 +1.7**
baz=98
ESDC Sonseca Array 64.13 55 P **P 08 40 56.3 -1.3**
comp=Z,4.8nm,1.0s,baz=280,slow=6.4,SNR=17
ESDC LR LR 09 02 39.7
comp=Z,321nm,21.9s,baz=266,slow=30
ESDC Sonseca Array 64.13 55 P **P 08 40 56.8 -0.8**
ESDC IAmb IAmb 08 41 15.5
comp=Z,16nm,1.4s
IL31 64.14 333 IAmb IAmb 08 41 07.1
comp=Z,16nm,1.2s
ILAR Eielson Array 64.14 333 P **P 08 40 56.3 -0.8**
comp=Z,3.0nm,0.9s,baz=109,slow=4.7,SNR=17
ILAR LR LR 09 08 50.8
comp=Z,519nm,18.5s,baz=102,slow=36
WAT6 Susitna Watana 64.22 331 P **P 08 40 59.7 +1.9**
baz=97
EKA Eskdalemuir Ar 64.32 37 LR LR 09 06 17.4
comp=Z,147nm,18.6s,baz=270,slow=34
MDT Midelt 64.36 62 LR LR 09 03 25.6
comp=Z,667nm,21.0s,baz=304,slow=31
POKR Poker Plat Res 64.42 334 IAmb IAmb 08 41 09.8
comp=Z,15nm,1.0s
KNK Knik Glacier 64.42 329 P **P 08 40 59.9 +0.8**
baz=96
COLA College 64.56 333 *i P* **P 08 40 59.6 -0.2**
COLA pmax pmax
comp=Z,10.0nm,1.1s
H24K Noodor Dome 64.71 334 IAmb IAmb 08 41 12.4
comp=Z,22nm,1.1s
H24K Noodor Dome 64.71 334 P **P 08 41 01.0 +0.1**
baz=98
MDM Murphy Dome 64.73 333 IAmb IAmb 08 41 16.6
comp=Z,14nm,1.0s
PMR Palmer 64.76 330 P **P 08 41 00.5 -0.7**
baz=95
I23K Minto, Yukon-K 65.23 334 P **P 08 41 04.5 +0.3**
baz=97,SNR=11
CUT Chulitna 65.37 330 P **P 08 41 05.6 +0.5**
baz=95
COLD Coldfoot 65.81 336 P **P 08 41 08.6 +0.6**
baz=97
NOR Nord 66.26 8 *i P* **P 08 41 09.4 -1.3**
NOR IAmb IAmb 08 41 20.5
comp=Z,29nm,1.3s
CAST Castle Rocks 66.27 332 IAmb IAmb 08 41 13.7
comp=Z,11nm,1.2s
KDAK Kodiak Island 66.33 325 LR LR 09 10 08.5
comp=Z,405nm,18.0s,baz=70,slow=36
I21K Tanana 66.34 333 P **P 08 41 12.7 +1.3**
baz=94
H21K Melozitna Rive 66.71 334 IAmb IAmb 08 41 31.0
comp=Z,18nm,1.3s
H21K Melozitna Rive 66.71 334 P **P 08 41 14.8 +1.0**
baz=94
L20K Farewell, AK 67.05 330 P **P 08 41 16.9 +0.9**
baz=91
J20K Nowinta River 67.21 332 P **P 08 41 17.7 +0.8**
baz=92
L19K White Mountain 67.50 330 P **P 08 41 20.1 +1.2**
baz=90
TTA Tatalina 68.03 331 P **P 08 41 21.5 -0.8**
TTA pmax pmax
comp=Z,19nm,1.2s
TTA Tatalina 68.03 331 P **P 08 41 21.5 -0.8**
TTA IAmb IAmb 08 41 33.1
comp=Z,19nm,1.2s
TTA Tatalina 68.03 331 P **P 08 41 23.1 +0.8**
baz=90
A21K Barrow 68.42 340 IAmb IAmb 08 41 35.6
comp=Z,24nm,1.1s
SNF Seneffe 68.98 42 P **P 08 41 28.6 +0.3**
comp=Z,7.1nm,0.9s
DOU Dourbes 69.22 43 P **P 08 41 29.3 -0.5**
comp=Z,7.3nm,1.1s
DOU PcP **PcP 08 41 55.1 +1.5**
BMRD Maredsous 69.31 43 P **P 08 41 30.5 +0.2**
BGES Gesves 69.50 42 P **P 08 41 32.0 +0.4**
RCHB Rochefort 69.62 43 P **P 08 41 31.6 -0.7**
comp=Z,7.8nm,1.1s
BCLA Clavier 69.63 42 P **P 08 41 32.0 -0.3**
comp=Z,8.6nm,1.0s
BSTI Sart Tilman 69.78 42 P **P 08 41 33.1 -0.2**
TIC Toumodi 70.01 90 *eP* **P 08 41 33.6 -1.7**
MEM Membach 70.06 42 P **P 08 41 35.0 0.0**
comp=Z,10nm,0.9s
BHOU Houvegnez 70.09 42 P **P 08 41 35.6 +0.4**
LIC Lamto 70.14 90 *eP* **P 08 41 34.5 -1.6**
comp=Z,60nm,1.2s
BTNL Ternell 70.14 42 P **P 08 41 36.0 +0.5**
DBIC Dimbokro 70.16 90 P **P 08 41 35.5 -0.7**
comp=Z,7.9nm,1.0s,baz=314,slow=6.6,SNR=6.1
DBIC LR LR 09 07 05.4
comp=Z,232nm,21.9s,baz=293,slow=32
WLF Walferdange 70.27 43 IAmb IAmb 08 41 39.0
comp=Z,16nm,1.1s
WLF Walferdange 70.27 43 P **P 08 41 36.1 -0.2**
comp=Z,9.6nm,0.9s
KIC Kosan Boka 70.36 90 *eP* **P 08 41 36.3 -1.2**
comp=Z,17nm,0.8s
RDOG Red Dog Mine 70.68 337 P P 08 41 49.3 +11
baz=85
KONO Kongsberg 71.03 32 *i P* **P 08 41 40.4 -0.3**
KONO pmax pmax
comp=Z,7.0nm,0.8s
ECH Echery 71.13 45 IAmb IAmb 08 41 43.4
comp=Z,15nm,1.0s
SPITS Spitsbergen Ar 71.33 13 LR LR 09 14 02.8
comp=Z,126nm,18.6s,baz=5.5,slow=37
SENIN Lac Senin/Sane 71.51 46 IAmb IAmb 08 41 46.5
comp=Z,18nm,0.9s
NB2 NORSAR Subarra 71.66 31 P **P 08 41 44.3 -0.3**
comp=Z,21nm,1.0s,baz=279,slow=6.2
NB2 NORSAR Subarra 71.66 31 P **P 08 41 44.3 -0.3**
baz=279,slow=6.2
NOA NORSAR Array B 71.66 31 P **P 08 41 44.7 +0.1**
comp=Z,12nm,1.0s,baz=279,slow=6.1,SNR=15
NB201 NORSAR Array S 71.69 31 P **P 08 41 44.5 -0.3**
NC303 NORSAR Array S 71.71 31 P **P 08 41 44.0 -0.8**
NC303 IAmb IAmb 08 41 47.5
comp=Z,17nm,1.1s
TNA Tin City 72.97 334 IAmb IAmb 08 42 03.5
comp=Z,16nm,1.0s
TNA Tin City 72.97 334 P **P 08 41 54.2 +1.9**
baz=80
HFS Hagfors 73.01 32 LR LR 09 10 08.2
comp=Z,116nm,21.3s,baz=268,slow=33
DAVA Damuels 73.10 45 *eP* **P 08 41 54.5 +0.9**
comp=Z,8.3nm,1.0s
DAVOX Davos/Dischmat 73.19 46 LR LR 09 08 24.7
comp=Z,306nm,20.5s,baz=263,slow=31
GRF Grafenberg Arr 73.51 43 *eP* **P 08 41 55.9 +0.1**
comp=Z,21nm,1.3s,baz=276,slow=6.6
GRF *eL* L 09 09 51.2
comp=Z,226nm,18.4s
MOX Moxa 73.58 42 *eL* L 09 12 35.6
comp=Z,248nm,18.5s
RETA Reutte 73.64 45 *eP* **P 08 41 57.2 +0.5**
comp=Z,8.8nm,0.8s
FETA Feichten 73.72 45 *eP* **P 08 41 57.8 +0.6**
comp=Z,8.8nm,0.8s
SALO Salr 73.86 47 IAmb IAmb 08 41 59.4
comp=Z,25nm,0.9s
MOTA Moosalm 73.90 45 *eP* **P 08 41 58.7 +0.4**
comp=Z,7.1nm,0.8s
SQTA Sankt Quirin 74.00 45 *eP* **P 08 41 59.3 +0.4**
comp=Z,8.1nm,1.2s
NKC Novy Kostel 74.18 42 *eP* **P 08 42 00.6 +0.9**
NKC Novy Kostel 74.18 42 *eP* **P 08 42 00.6 +0.9**
WATA Walderalm 74.22 45 *eP* **P 08 42 01.4 +1.2**
comp=Z,4.3nm,0.8s
WTTA Wattenberg 74.27 45 *eP* **P 08 42 00.6 +0.1**
comp=Z,5.7nm,1.1s
CLL Collm 74.31 41 *eP* **P 08 41 59.0 -1.4**
CLL Collm 74.31 41 *eP* **P 08 42 00.0 -0.4**
TORD Torodi Ar. Bea 74.35 81 P **P 08 42 00.2 -1.1**
comp=Z,13nm,1.1s,baz=293,slow=4.8,SNR=32
TORD Torodi Ar. Bea 74.35 81 P **P 08 41 59.9 -1.4**
USHA Ushuaia 74.56 175 LR LR 09 16 00.1
comp=Z,117nm,18.6s,baz=43,slow=37
WET Wettzell 74.69 43 *eL* L 09 10 46.0
comp=Z,375nm,18.7s
ABTA Abfaltersbach 74.97 45 *eP* **P 08 42 04.7 +0.2**
comp=Z,11nm,1.1s
BRG Berggiesshubel 74.98 41 *eP* **P 08 42 04.5 +0.1**
BRG Amp 08 42 07.1
comp=Z,12nm,1.3s
BRG *ex* x 08 42 20.2
BRG Amp 08 42 22.1
comp=Z,27nm,1.6s
BRG Berggiesshubel 74.98 41 *eP* **P 08 42 04.4 +0.1**
BRG *e* 08 42 20.2
BRG pmax pmax
comp=Z,12nm,1.3s
BRG pmax pmax
comp=Z,27nm,1.6s
KHC Kasperske Hory 75.14 43 *eP* **P 08 42 04.9 -0.4**
KHC *e* 08 42 19.6
KHC Kasperske Hory 75.14 43 *eP* **P 08 42 04.9 -0.4**
KHC *e*PCP **PcP 08 42 19.6 +0.7**

KEST	Kesra	75.17	57	P	P	08 42 06.3	+0.4	
	comp=Z,20nm,1.0s,baz=291,slow=0.9,SNR=6.6							
STAL	STALIGIAL	75.21	46	IAmb	IAmb	08 42 07.5		
	comp=Z,19nm,1.1s							
GEC2	GERESS Array S	75.28	43	eL	L	09 08 57.7		
	comp=Z,344nm,20.0s							
GEC2	GERESS Array S	75.28	43	IAmb	IAmb	08 42 23.0		
	comp=Z,18nm,1.4s							
GERES	GERESS Array B	75.28	43	P	P	08 42 05.8	-0.5	
	comp=Z,4.2nm,0.9s,baz=276,slow=2.5,SNR=21							
GERES				LR	LR	09 11 51.9		
	comp=Z,334nm,18.6s,baz=275,slow=33							
KBA	Koelnbreinsper	75.45	45	eP	P	08 42 09.0	+1.7	
	comp=Z,6.2nm,0.7s							
PRU	Pruhonice	75.55	42	eP	P	08 42 08.2	+0.6	
PRU	Pruhonice	75.55	42	eP	P	08 42 08.2	+0.6	
ARCES	ARCESS Array B	75.67	21	P	P	08 42 07.5	-0.5	
	comp=Z,3.4nm,0.6s,baz=297,slow=3.9,SNR=21							
ARCES				LR	LR	09 13 43.7		
	comp=Z,70nm,18.6s,baz=288,slow=34							
ARCES	ARCESS Array B	75.67	21	IAmb	IAmb	08 42 11.3		
	comp=Z,24nm,1.5s							
CKRC	Cesky Krumlov	75.68	43	eP	P	08 42 08.2	-0.2	
MOA	Molln	75.88	44	eP	P	08 42 09.8	+0.2	
	comp=Z,4.4nm,0.8s							
CHVC	Chvalec	76.35	41	eP	P	08 42 12.0	-0.2	
OBKA	Obir	76.39	45	eP	P	08 42 12.7	+0.1	
	comp=Z,15nm,1.2s							
OSTC	Ostas	76.46	41	eP	P	08 42 12.7	-0.1	
DPC	Dobruska-Polom	76.57	41	eP	P	08 42 12.5	-1.0	
DPC	Dobruska-Polom	76.57	41	eP	P	08 42 12.5	-1.0	
SOKA	Soboth	76.67	45	eP	P	08 42 15.5	+1.3	
	comp=Z,8.0nm,0.9s							
ARSA	Arzberg	76.85	44	eP	P	08 42 14.7	-0.4	
	comp=Z,4.3nm,0.9s							
CONA	Conrad Observa	76.90	44	eP	P	08 42 15.2	-0.3	
	comp=Z,4.9nm,0.8s							
KRUC	Moravsky	76.95	42	eP	P	08 42 15.0	-0.6	
VRAC	Vranov	77.01	42	LR	LR	09 12 58.4		
	comp=Z,196nm,18.8s,baz=279,slow=33							
VRAC	Vranov	77.01	42	eP	P	08 42 15.7	-0.3	
MORC	Moravsky Berou	77.48	42	eP	P	08 42 20.6	+1.9	
MORC	Moravsky Berou	77.48	42	IAmb	IAmb	08 42 36.0		
	comp=Z,17nm,1.4s							
ZST	Bratislava	77.63	43	eP	P	08 42 21.0	+1.6	
ZST	Bratislava	77.63	43	eP	P	08 42 21.0	+1.6	
MODS	Modra-Piesok	77.69	43	eP	P	08 42 22.3	+2.5	
MODS	Modra-Piesok	77.69	43	eP	P	08 42 22.3	+2.5	
JAVC	Velka Javorina	77.81	42	eP	P	08 42 23.3	+2.8	
FINES	FINESS Array B	78.53	29	P	P	08 42 24.0	-0.1	
	comp=Z,7.2nm,0.6s,baz=272,slow=2.9,SNR=42							
FINES				LR	LR	09 12 22.7		
	comp=Z,152nm,21.9s,baz=278,slow=32							
VAE	Valguarnera	78.66	54	LR	LR	09 15 19.3		
	comp=Z,165nm,18.0s,baz=328,slow=34							
LVZ	Lovozero	79.37	21	iP	P	08 42 27.7	-1.0	
PABE	Paberze	79.50	35	eP	P	08 42 30.4	+0.9	
PABE	Paberze	79.50	35	P	P	08 42 29.5	0.0	
PABE				IAmb	IAmb	08 42 31.3		
	comp=Z,20nm,1.0s							
PSZ	Piszkesteto	79.50	43	P	P	08 42 29.7	-0.2	
PSZ				pmax	pmax			
	comp=Z,13nm,1.2s							
PSZ	Piszkesteto	79.50	43	P	P	08 42 29.7	-0.2	
SUW	Suwalki	79.56	36	eP	P	08 42 30.8	+0.9	
VSU	Vasula	79.89	31	iP	P	08 42 31.4	-0.2	
VSU				pmax	pmax			
	comp=Z,52nm,0.9s							
DIVS	Divibare	80.75	47	IAmb	IAmb	08 42 39.3		
	comp=Z,14nm,0.9s							
IIGN	Ignalina	80.75	34	eP	P	08 42 37.2	+0.9	
UZH	Uzhgorod	80.80	42	eP	P	08 42 38.2	+1.5	
UZH				e		08 42 41.0		
UZH				e		08 42 45.0		
IDID	Didziasalis	81.04	34	eP	P	08 42 38.8	+0.9	
PPT	Papeete	81.08	248	LR	LR	09 12 55.9		
	comp=Z,87nm,20.3s,baz=30,slow=31							
NACGM	Naroch	81.22	35	iP	P	08 42 38.5	-0.3	
LVV	L'vov	81.47	40	eP	P	08 42 40.8	+0.5	
BILL	Bilibino	81.56	340	‖eP	P	08 42 40.5	+0.1	
BILL				e*PP	pP	08 42 42.1	+2.7	
BILL				e*SP	PcP	08 42 45.3	-1.1	
BILL				S	S	08 52 43.0	-10	
BILL				pmax	pmax			
	comp=Z,21nm,1.2s							
BILL				MLR	MLR			
	comp=Z,177nm,15.0s							
BILL	Bilibino	81.56	340	P	P	08 42 40.4	0.0	
BILL				IAmb	IAmb	08 42 44.6		
	comp=Z,22nm,1.2s							
MNK	Minsk	81.96	35	iP	P	08 42 42.8	0.0	
MNK				i		08 45 51.8		
MNK				iPPP	PPP	08 47 42.8		
MNK				iS	S	08 52 59.6	+2.1	
MNK				iSS	SS	08 58 22.6	+7.3	
MNK				pmax	pmax			
	comp=Z,14nm,0.6s							
MNK				MLR	MLR			
	comp=Z,214nm,16.0s							
MNK				MLR	MLR			
	comp=N,177nm,29.0s							
MNK				MLR	MLR			
	comp=E,16nm,20.0s							
MNK	Minsk	81.96	35	iP	P	08 42 42.8	0.0	
MNK				iP	P	08 42 42.8	0.0	
MNK				iP	P	08 42 42.8	0.0	
	comp=Z,14nm,0.6s,baz=292							
MNK				iPP	PP	08 45 51.9	+2.0	
MNK				iPPP	PPP	08 47 42.8		
MNK				iS	S	08 52 59.7	+2.2	
MNK				iSS	SS	08 58 22.6	+7.3	
MNK				iSSS	SSS	09 01 53.1		
MNK				iLQ	LQ	09 14 02.2		
MNK				iLR	LR	09 17 04.8		
MNK				iLRM	MLR	09 20 52.2		
	comp=Z,214nm,16.0s							
MNK				iLRM	MLR	09 20 53.5		
	comp=N,177nm,28.8s							
MNK				iLRM	MLR	09 21 07.1		
	comp=E,16nm,20.4s							
BUR08	Bucovina Ar. S	82.97	42	IAmb	IAmb	08 43 10.6		
	comp=Z,12nm,1.4s							
VTS	Vitosha	83.48	47	IAmb	IAmb	08 42 54.2		
	comp=Z,16nm,1.1s							
AKASG	Malin Array Be	84.22	38	P	P	08 42 53.8	-0.8	
	comp=Z,2.5nm,0.8s,baz=288,slow=3.4,SNR=9.2							
AKASG				LR	LR	09 17 33.7		
	comp=Z,178nm,19.7s,baz=276,slow=34							
AKBB	Malin Array Si	84.22	38	ceP	P	08 42 53.9	-0.7	
KLMR	Klimovskoe	84.65	26	eP	P	08 42 55.5	-1.0	
KLMR				pmax	pmax			
	comp=Z,40nm,1.2s							
KLMR	Klimovskoe	84.65	26	eP	P	08 42 55.5	-1.0	
KLMR				AMP		08 42 58.9		
	comp=Z,40nm,1.2s							
SHEM	Shemya Is, Ala	85.84	325	LR	LR	09 20 24.8		
	comp=Z,216nm,21.9s,baz=44,slow=35							
OBN	Obninsk	86.21	32	‖iP	P	08 43 04.2	-0.2	
OBN				e*PP	PcP	08 43 08.0	+1.0	
OBN				i*SP	pwP	08 43 10.5	-0.9	
OBN				S	S	08 53 47.0	+6.9	
OBN				e		08 55 04.1		
OBN				pmax	pmax			
	comp=Z,16nm,0.9s							
OBN				MLR	MLR			
	comp=Z,112nm,17.0s							
MOS	Moscow	86.42	31	eP	P	08 43 04.4	-1.0	
MOS				pmax	pmax			
	comp=Z,34nm,0.9s							
PRGR	Permogore	86.66	24	eP	P	08 43 06.5	0.0	
PRGR				pmax	pmax			
	comp=Z,39nm,1.2s							
TIXI	Tiksi	87.25	352	LR	LR	09 26 47.3		
	comp=Z,250nm,18.0s,baz=357,slow=39							
TIXI	Tiksi	87.25	352	ceP	P	08 43 08.7	-0.5	
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TIXI	Tiksi	87.25	352	P	P	08 43 08.7	-0.5	
TIXI				IAmb	IAmb	08 43 10.4		
	comp=Z,8.0nm,0.9s							
IDI	Anoyia	87.36	54	LR	LR	09 18 22.4		
	comp=Z,43nm,19.6s,baz=270,slow=33							
LPSR	Galich'ya Gora	88.69	34	eP	P	08 43 16.0	-0.4	
LPSR				pmax	pmax			
	comp=Z,40nm,1.1s							
VORR	Voronezh	89.32	34	eP	P	08 43 21.1	+1.7	
VORR				pmax	pmax			
	comp=Z,22nm,1.4s							
VSR	Storozhevoye	89.54	35	eP	P	08 43 19.2	-1.3	
VSR				pmax	pmax			
	comp=Z,10.0nm,0.5s							
KIRV	Kirov	90.04	25	LR	LR	09 19 08.4		
	comp=Z,61nm,21.4s,baz=312,slow=33							
KIRV	Kirov	90.04	25	ceP	P	08 43 23.2	+0.6	
NRIK	Noril'sk	90.40	6	P	P	08 43 24.4	+0.3	
	comp=Z,2.2nm,0.3s,baz=33,slow=3.3,SNR=5.3							
NRIK	Noril'sk	90.40	6	ceP	P	08 43 24.4	+0.3	
NRIK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
NRIK	Noril'sk	90.40	6	IAmb	IAmb	08 43 25.8		
	comp=Z,8.9nm,1.1s							
RAR	Rarotonga	91.36	248	LR	LR	09 16 53.5		
	comp=Z,85nm,19.8s,baz=350,slow=30							
BR131	Keskin Array S	91.82	47	iP	P	08 43 31.5	0.0	
BR131	Keskin Array S	91.82	47	IAmb	IAmb	08 43 51.8		
	comp=Z,16nm,1.4s							
BRTR	Keskin Array B	91.82	47	P	P	08 43 31.2	-0.3	
	comp=Z,3.4nm,1.0s,baz=281,slow=3.5,SNR=9.8							
BRTR				LR	LR	09 24 14.1		
	comp=Z,148nm,18.1s,baz=296,slow=35							
BELG	Belogornoye	93.17	31	iP	P	08 43 37.8	+0.6	
BELG				pmax	pmax			
	comp=Z,3.0nm,1.1s							
PETK	Petropavlovsk-	93.87	331	LR	LR	09 28 26.8		
	comp=Z,158nm,18.5s,baz=45,slow=37							
SOC	Sochi	93.87	41	eP	P	08 43 38.2	-2.5	
SOC				e		08 47 22.0		
SOC				eS	SKSac	08 54 12.5	-4.1	
SOC				eSS	SS	09 01 07.7	-1.7	
SOC				eSSS	SSS	09 04 47.1		
SOC				MLR	MLR			
	comp=Z,201nm,19.0s							
ARU	Arti	95.09	23	LR	LR	09 23 10.4		
	comp=Z,110nm,20.5s,baz=326,slow=33							
ARU	Arti	95.09	23	P	P	08 43 44.7	-1.3	
ARU						08 47 33.8		
ARU				S	SKSac	08 54 20.1	-2.6	
ARU				SS	SS	09 01 22.8	-3.1	
KIV	Kislovodsk	95.48	39	eP	P	08 43 48.0	-0.2	
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,77nm,20.0s							
KBZ	Khabaz	95.73	40	LR	LR	09 25 12.9		
	comp=Z,79nm,20.0s,baz=316,slow=34							
YAK	Yakutsk	95.96	348	LR	LR	09 30 58.3		
	comp=Z,138nm,18.0s,baz=86,slow=38							
MMAI	Mount Meron Ar	96.21	52	LR	LR	09 27 49.2		
	comp=Z,34nm,18.6s,baz=71,slow=36							
EIL	Elat	97.43	55	LR	LR	09 26 51.4		
	comp=Z,75nm,19.6s,baz=271,slow=35							
GNI	Garni	98.89	42	LR	LR	09 27 51.2		
	comp=Z,80nm,18.6s,baz=313,slow=35							
AKTO	Aktyubinsk	99.28	28	LR	LR	09 24 52.8		
	comp=Z,98nm,21.9s,baz=318,slow=33							
TSUM	Tsumeb	99.62	107	LR	LR	09 21 06.6		
	comp=Z,76nm,21.7s,baz=327,slow=31							
BRVK	Borovoye	101.88	20	iP	Pdif	08 44 15.6	-1.0	
BRVK				pmax	pmax			
	comp=Z,9.0nm,3.1s							
WMQ	Urumqi	115.03	13	ePKP	PKPdf	08 49 05.6	+1.1	
WMQ				LR	LR			
	comp=Z,300nm,16.9s							
WMQ				LR	LR			
	comp=Z,150nm,21.1s							
XLT	XiLinHaoTe	115.70	350	ePKP	PKPdf	08 49 05.8	0.0	
XLT				SS	SS	09 06 12.9	+5.7	
XLT				LR	LR			
	comp=Z,280nm,16.3s							
XLT				LR	LR			
	comp=Z,320nm,13.8s							
XLT				LR	LR			
	comp=Z,290nm,16.7s							
SYO	Syowa Base	117.41	159	‖ePDiff	Pdif	08 45 29.2	+4.1	
KSRS	Korea Array	118.78	338	PKP	PKiKP	08 49 12.0	+0.2	
	comp=Z,1.2nm,1.0s,baz=119,slow=36,SNR=2.8							
HHC	Hu-ho-hao-te	119.30	353	ePKP	PKPdf	08 49 09.5	-3.4	
HHC				LR	LR			
	comp=Z,320nm,20.4s							
HHC				LR	LR			
	comp=Z,140nm,19.0s							
HHC				LR	LR			
	comp=Z,300nm,20.4s							
GTA	Gaotai	121.04	4	ePKP	PKiKP	08 49 16.8	+0.4	
GTA				LR	LR			
	comp=Z,100nm,20.7s							
GTA				LR	LR			
	comp=Z,190nm,20.7s							
GTA				LR	LR			
	comp=Z,160nm,20.4s							
LZH	Lanzhou	124.48	0	ePKP	PKPdf	08 49 16.3	-6.7	
LZH				sPKP		08 49 26.8		
LZH				LR	LR			
	comp=N,270nm,19.5s							
LZH				LR	LR			
	comp=E,380nm,19.0s							
LZH				LR	LR			
	comp=Z,160nm,18.4s							
NJ2	Nanjing	126.55	344	ePKP	PKiKP	08 49 27.4	+0.1	
CD2	Chengdu	129.64	0	PKP	PKPdf	08 49 32.5	-0.4	
PZH	PanZhiHua	133.99	3	PKP	PKiKP	08 49 42.0	-0.6	
KMI	Kunming	135.40	1	‖PKP	PKiKP	08 49 47.8	+2.2	
KMI				LR	LR			
	comp=Z,180nm,13.4s							
KMI				LR	LR			
	comp=Z,250nm,20.3s							
KMI				LR	LR			
	comp=Z,210nm,19.1s							
CMAR	Chiang Mai Arr	141.73	8	PKP	PKPdf	08 49 55.2	-0.4	
	comp=Z,1.1nm,0.3s,baz=333,slow=1.9,SNR=4.8							
CMAR	Chiang Mai Arr	141.73	8	c iPKIKP	PKPdf	08 49 56.5	+0.9	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
STKA	Stephens Creek	144.14	243	PKP	PKPbc	08 49 57.4	-0.1	
	comp=Z,9.3nm,1.0s,baz=67,slow=3.1,SNR=17							
STKA	Stephens Creek	144.14	243	PKIKP	PKPbc	08 49 57.8	+0.3	
STKA	Stephens Creek	144.14	243	PKPdf	PKPbc	08 49 57.8	+0.3	
BBOO	Buckleboo	148.49	239	PKPdf	PKPdf	08 50 06.7	0.0	
BBOO				PKPbc	PKPbc	08 50 10.8	+0.5	
WB2	Warramunga Arr	151.37	264	PKPdf	PKPdf	08 50 10.4	-1.2	
WB2				PKPbc	pPKPbc	08 50 16.7	+0.1	
WB2				PKPab	PKPab	08 50 25.5	-0.3	
WRAB	Tennant Creek	151.37	264	c iPKIKP	PKPdf	08 50 12.6	+0.9	
WRAB				pmax	pmax			
	comp=Z,12nm,0.7s							
WRAB	Tennant Creek	151.37	264		PKPdf	08 50 10.6	-1.1	
WRAB				PKPbc	PKPbc	08 50 17.5	-0.2	
WRAB				PKPab	PKPab	08 50 25.3	-0.5	
WRA	Warramunga Arr	151.38	264	PKP	PKPdf	08 50 11.0	-0.7	
	comp=Z,6.5nm,0.9s,baz=79,slow=1.3,SNR=30							
WRA				PKPbc	pPKPbc	08 50 16.1	-0.6	
	comp=Z,12nm,0.9s,baz=86,slow=2.6,SNR=25							
WRA	Warramunga Arr	151.38	264	PKIKP	PKPdf	08 50 10.5	-1.2	
WRA						08 50 16.9		
WRA						08 50 25.2		
WRA	Warramunga Arr	151.38	264	PKPdf	PKPdf	08 50 10.5	-1.2	
WRA					pPKPbc	08 50 16.9	+0.2	
WRA				PKPab	PKPab	08 50 25.2	-0.7	
AS31	Alice Springs	151.87	257	PKPdf	PKPdf	08 50 11.5	-0.9	
AS31				PKPbc	PKPbc	08 50 18.6	-0.2	
AS31				PKPab	pPKPab	08 50 26.5	-0.3	
ASAR	Alice Springs	151.87	257	PKP	PKPdf	08 50 11.5	-0.9	
	comp=Z,3.6nm,0.9s,baz=105,slow=1.6,SNR=24							
ASAR				PKPbc	pPKPbc	08 50 17.1	-0.7	
	comp=Z,14nm,0.9s,baz=94,slow=1.7,SNR=37							
ASAR	Alice Springs	151.87	257	PKIKP	PKPdf	08 50 11.1	-1.3	
ASAR	Alice Springs	151.87	257	PKPdf	PKPdf	08 50 11.1	-1.3	

NEIC ***17*** *08:33:47.7±1.6, 19°.57N±0°.02×76°.11W±0°.04, h10km±1km, mb4.5/7, Error ellipse: s-maj=6.7km s-min=4.5km az=97.0*
IDC ***17*** *08:33:48.2±1.4, 19°.93N×76°.01W, h0km, mb4.1/11, mb1 4.4/13, mb1mx4.1/37, mbtmp4.2/13, ML3.6/2, Error ellipse: s-maj=40.3km s-min=21.9km az=34.0*
SSNC ***17*** *08:33:50.9±1.7, 19°.76N×76°.06W, h5km, ML4.1, MW4.1*
OSPL ***17*** *08:33:50.5±0.6, 19°.85N×76°.12W, h3km±8km, ML4.5*
ISC 17 08:33:46.7±2.0**, 19°.73N**±0°.05×**76°.17W**±0°.04**, h0**km±13km**, n49,** σ1°**20**/53**, mb4.0**/12**, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.52	59	eP	Pb	08 33 57.9	-0.8
GTBY	Guantanamo Bay	1.02	78	Pg	Pb	08 34 07.3	+0.1
GTBY				Sg	Sb	08 34 20.7	-0.4
GTBY	Guantanamo Bay	1.02	78	eP	Pb	08 34 07.2	0.0
GTBY	Guantanamo Bay	1.02	78	iP	Pb	08 34 07.5	+0.4
GTBY				eS	Sg	08 34 20.1	+0.7
GTBY				IAML		08 34 21.7	
	comp=Z,14μm,0.5s						
GTMO	Guantanamo	1.03	70	eS	Sg	08 34 19.7	-0.1
HLGC	Holguin	1.16	5	eP	Pb	08 34 09.8	+0.1
HLGC				eS	Sb	08 34 25.4	+0.1
MOAC	Moa	1.47	51	eP	Pn	08 34 14.2	-0.2
MOAC				eS	Sg	08 34 32.6	-1.3
MASC	Masc	1.88	76	eP	Pn	08 34 18.7	-1.3
MASC				eS	Sn	08 34 41.9	-2.6
MASC				IAML		08 34 50.7	
	comp=N,1μm,0.4s						
MASC				IAML		08 34 51.0	
	comp=E,2μm,0.4s						
MTDJ	Mount Denham	1.97	221	Pn	Pn	08 34 20.7	-0.8
CCCC	Cccc	2.10	315	eP	Pn	08 34 22.0	-1.0
CCCC				iS	Sn	08 34 47.9	-1.9
CCCC				IAML		08 34 48.9	
	comp=N,857nm,0.3s						
CCCC				IAML		08 34 49.9	
	comp=E,1μm,0.3s						
CCCC				IAML		08 34 49.9	
	comp=E,1μm,0.3s						
CCCC				IAML		08 34 50.1	
	comp=N,422nm,0.4s						
LGNH	Logne	3.58	109	Pn	Pn	08 34 41.8	-1.7
JAKH	Jacmel	3.76	113	Pn	Pn	08 34 44.0	-1.9
JAKH	Jacmel	3.76	113	iP	Pn	08 34 47.4	+1.4
MGV	Manicaragua	4.28	304	eP	Pn	08 34 55.4	+2.2
SDDR	Presa de Saban	4.67	98	Pn	Pn	08 34 57.8	-0.7
SDDR	Presa de Saban	4.67	98	eP	Pn	08 34 58.5	0.0
SDDR	Presa de Saban	4.67	98	iP	Pn	08 34 59.9	+1.3
GRTK	Grand Turk	5.04	68	Pn	Pn	08 35 03.2	-0.4
GRTK	Grand Turk	5.04	68	iP	Pn	08 35 03.5	-0.1
SC01	Santiago de lo	5.14	92	Pn	Pn	08 35 04.1	-0.9
SDD	Santo Domingo	6.05	101	Pn	Pn	08 35 15.4	-2.1
SDV	Santo Domingo	12.03	153	Pn	Pn	08 36 44.8	+5.0
	comp=N,3.7nm,0.3s,baz=1.0,slow=15,SNR=3.5						
RIMA	Rio Macho	12.38	218	Pn	Pn	08 36 43.1	-1.4
JACO	JACO, Garabito	12.94	221	Pn	Pn	08 36 49.9	-2.1
PCRV	Puerto La Cruz	14.63	129	Pn	Pn	08 37 17.9	+2.8
	comp=N,0.3nm,0.3s,baz=114,slow=12,SNR=1.8						
PLCV	Puerto La Cruz	14.67	129	P	Pn	08 37 17.9	+2.2
Y52A	Lilburn	15.74	335	Pn	Pn	08 37 29.2	-0.5
Y52A				IAmb	IAmb	08 37 40.4	
	comp=Z,47nm,1.1s						
PAULI	Pauline	15.85	343	Pn	Pn	08 37 32.1	+1.0
PAULI				IAmb	IAmb	08 37 38.8	
	comp=Z,51nm,0.9s						
Y49A	Blount Mountai	16.77	329	Pn	Pn	08 37 43.1	0.0
Y49A				IAmb	IAmb	08 37 49.4	
	comp=Z,33nm,0.9s						
S54A	Dingess, Beckl	18.56	347	P	P	08 38 05.2	0.0
Q56A	Snyder Ridge,	19.43	353	P	Pn	08 38 15.9	+0.2
Q56A				IAmb	IAmb	08 38 18.3	
	comp=Z,24nm,0.9s						
SDMD	Soldier's Deli	19.63	358	P	P	08 38 17.3	+0.5
O56A	Blue Knob Stat	20.58	355	P	Pn	08 38 28.6	-0.7
O56A				IAmb	IAmb	08 38 34.4	
	comp=Z,22nm,0.9s						
TXAR	Lajitas Array	26.73	296	PcP	PcP	08 42 52.8	+1.1
	comp=Z,0.2nm,0.6s,baz=132,slow=5.2,SNR=3.9						
TXAR	Lajitas Array	26.73	296	P	P	08 39 26.9	-1.2
TXAR	Lajitas Array	26.73	296	PcP	P	08 39 26.7	-1.4
	comp=Z,1.6nm,0.9s,baz=114,slow=4.8,SNR=3.6						
SCHQ	Schefferville	35.76	9	P	P	08 40 47.3	+0.1
	comp=Z,5.1nm,0.8s,baz=202,slow=7.3,SNR=3.7						
PDAR	Pinedale Array	36.27	317	P	P	08 40 53.5	+1.4
	comp=Z,0.9nm,0.7s,baz=129,slow=9.5,SNR=1.7						
NVAR	Mina Array Bea	40.86	306	P	P	08 41 31.3	+0.6
	comp=Z,1.0nm,0.9s,baz=87,slow=6.7,SNR=1.9						
YKA	Yellowknife Ar	50.23	338	P	P	08 42 45.0	+0.8
	comp=Z,1.2nm,0.8s,baz=130,slow=8.8,SNR=4.0						
ILAR	Eielson Array	64.12	333	P	P	08 44 22.9	+0.3
	comp=Z,0.8nm,0.9s,baz=84,slow=4.9,SNR=2.5						
ILAR	Eielson Array	64.12	333	P	P	08 44 21.9	-0.6
ESDC	Sonseca Array	64.18	55	P	P	08 44 22.8	-0.7
	comp=Z,0.8nm,0.7s,baz=278,slow=7.1,SNR=5.5						
NB2	NORSAR Subarra	71.70	31	P	P	08 45 11.4	+1.1
	comp=Z,3.6nm,0.7s,baz=279,slow=6.2						
NOA	NORSAR Array B	71.70	31	P	P	08 45 11.5	+1.1
	comp=Z,3.2nm,0.7s,baz=279,slow=6.0,SNR=7.2						
TORD	Torodi Ar. Bea	74.41	81	P	P	08 45 26.8	-0.4
	comp=Z,1.9nm,0.7s,baz=292,slow=5.6,SNR=6.1						
GERES	GERESS Array B	75.33	43	P	P	08 45 32.1	0.0
	comp=Z,1.0nm,0.8s,baz=245,slow=2.8,SNR=4.7						
ARCES	ARCESS Array B	75.70	21	P	P	08 45 33.8	+0.1
	comp=Z,2.2nm,0.6s,baz=305,slow=4.3,SNR=12						
FINES	FINESS Array B	78.57	29	P	P	08 45 50.3	+0.4
	comp=Z,3.6nm,0.5s,baz=276,slow=3.6,SNR=18						

IDC ***17*** *08:37:31.1±0.9, 19°.68N×75°.91W, h0km, mb3.8/12, mb1 4.1/13, mb1mx3.9/38, mbtmp3.8/13, ML3.1/1, Error ellipse: s-maj=28.6km s-min=21.3km az=17.0*
SSNC ***17*** *08:37:33.7±1.6, 19°.74N×76°.06W, h5km±9km, ML4.2, MW4.0*
OSPL ***17*** *08:37:34.5±0.6, 19°.93N×76°.12W, h0km±8km, ML4.3*
ISC 17 08:37:32.0±0.8**, 19°.78N**±0°.05×**76°.11W**±0°.03**, h4**km±5km**, n31,** σ1°**36**/43**, mb3.8**/12**, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.45	61	eP	Pb	08 37 42.3	-0.2
RCC				eS	Sb	08 37 48.2	-1.3
LMGC	Las Mercedes	0.89	289	eP	Pb

INK Inuvik 59.95 339 P P 08 47 39.8 +0.7
comp=Z,1.2nm,1.0s,baz=180,slow=6.1,SNR=1.8
ILAR Eielson Array 64.10 333 P P 08 48 08.4 +1.3
comp=Z,0.3nm,0.8s,baz=108,slow=6.0,SNR=2.0
ESDC Sonseca Array 64.11 55 P P 08 48 06.0 -1.7
comp=Z,0.7nm,0.8s,baz=286,slow=9.2,SNR=2.7
NOA NORSAR Array B 71.62 31 P P 08 48 55.0 +0.3
comp=Z,1.6nm,0.8s,baz=278,slow=6.2,SNR=3.5
TORD Torodi Ar. Bea 74.35 81 P P 08 49 10.8 -0.7
comp=Z,0.8nm,0.6s,baz=294,slow=5.7,SNR=4.6
GERES GERESS Array B 75.25 43 P P 08 49 16.6 +0.3
comp=Z,0.6nm,0.8s,baz=243,slow=5.8,SNR=4.8
ARCES ARCESS Array B 75.63 21 P P 08 49 17.5 -0.4
comp=Z,2.0nm,0.7s,baz=291,slow=5.2,SNR=8.2
FINES FINESS Array B 78.49 29 P P 08 49 33.2 -1.0
comp=Z,3.0nm,0.7s,baz=268,slow=4.3,SNR=14
WRA Warramunga Arr 151.38 264 PKP PKPdf 08 57 22.9 +1.0
comp=Z,0.6nm,0.7s,baz=90,slow=2.3,SNR=2.8
WRA PKPbc **sPKPbc 08 57 27.4 +0.1**
comp=Z,1.2nm,0.6s,baz=87,slow=2.8,SNR=7.8
ASAR Alice Springs 151.88 257 PKP PKPdf 08 57 22.6 0.0
comp=Z,0.5nm,0.7s,baz=73,slow=1.6,SNR=3.7
ASAR PKPbc **sPKPbc 08 57 27.9 -0.6**
comp=Z,1.3nm,0.7s,baz=90,slow=1.9,SNR=9.2

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*NEIC **17** 08:44:50.8±1.5,20°.40S±0°.03×175°.16W±0°.09, h100km±5km, mb4.6/56, Error ellipse: s-maj=12.3km s-min=4.6km az=81.0*
*NOU **17** 08:44:51.4,20°.56S×175°.00W, h67km, mb5.1/19, Tonga Islands*
*IDC **17** 08:45:01.0±3.5,20°.15S×175°.62W, h187km±30km, mb3.8/16, mb1 4.1/18, mb1mx3.9/34, mbtmp4.3/18, MS2.9/1, Ms1 2.9/1, ms1mx2.5/62, Error ellipse: s-maj=23.7km s-min=14.4km az=143.0*
ISC 17 08:44:50.5±0.4,20°.32S±0°.06×175°.08W±0°.05, h100km, n148, σ1§79/142, mb4.5/44, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.01**	**77**		**Pn**	**08 46 04.7**	**+1.4**
NIUE				Sn	**Sn**	**08 46 57.2**	**-2.8**
NIUE	**Niue**	**5.01**	**77**	P	**Pn**	**08 46 04.6**	**+1.3**
	692nm,0.6s						
MSVF	**Nonsavu**	**6.99**	**290**	P	**Pn**	**08 46 34.3**	**+3.9**
	3.6nm,0.3s,baz=123,slow=12,SNR=16						
MSVF				LR	LR	08 48 12.4	
	comp=Z,104nm,20.9s,baz=11,slow=30						
MSVF	**Nonsavu**	**6.99**	**290**		**Pn**	**08 46 29.6**	**-0.8**
MSVF				Sn	**Sn**	**08 47 52.9**	**+4.4**
AFI	**Afiamalu**	**7.11**	**27**	P	**Pn**	**08 46 32.1**	**0.0**
	4.7nm,0.3s,baz=231,slow=21,SNR=1.5						
AFI				S	**Sn**	**08 47 45.5**	**-6.0**
	21nm,0.3s,baz=174,slow=19,SNR=6.5						
RAO	**Raoul Island**	**9.26**	**196**	Pn	**Pn**	**08 46 59.7**	**-1.4**
RTV	**Rentapao**	**15.80**	**276**	P	**P**	**08 48 31.8**	**+2.6**
	402μm,1.0s						
MARNC	**Mare, Loyalty**	**15.83**	**263**	P	**P**	**08 48 28.2**	**-1.3**
MARNC	**Mare, Loyalty**	**15.83**	**263**	P	**P**	**08 48 30.9**	**+1.4**
	1.9nm,0.7s						
DVP	**Devils Point**	**16.04**	**276**	P	**P**	**08 48 35.0**	**+3.2**
	183μm,0.5s						
PINNC	**Pines Island,**	**16.43**	**259**	P	**P**	**08 48 35.0**	**-1.1**
PINNC	**Pines Island,**	**16.43**	**259**	P	**P**	**08 48 38.7**	**+2.6**
	87nm,0.6s						
LIFNC	**LIFOU**	**16.57**	**265**	P	**Pn**	**08 48 35.4**	**-1.5**
LIFNC	**LIFOU**	**16.57**	**265**	P	**P**	**08 48 39.2**	**+1.5**
OUENC	**Ouen Island, N**	**16.97**	**260**	P	**Pn**	**08 48 40.4**	**-1.4**
OUENC				IAmb	IAmb	08 48 45.7	
	comp=Z,49nm,1.0s						
OUENC	**Ouen Island, N**	**16.97**	**260**	P	**P**	**08 48 44.2**	**+2.1**
	comp=Z,59nm,1.0s						
DZM	**Mont Dzumac**	**17.32**	**261**	P	**P**	**08 48 47.1**	**+1.0**
	comp=Z,5.7nm,0.3s,baz=88,slow=19,SNR=44						
DZM	**Mont Dzumac**	**17.32**	**261**	P	**Pn**	**08 48 44.3**	**-1.9**
DZM				IAmb	IAmb	08 48 50.5	
	comp=Z,48nm,0.8s						
DZM	**Mont Dzumac**	**17.32**	**261**	P	**P**	**08 48 49.0**	**+2.9**
	comp=Z,58nm,0.8s						
ONTNC	**Ouen Toro**	**17.32**	**260**	P	**Pn**	**08 48 44.7**	**-1.4**
ONTNC				IAmb	IAmb	08 48 52.7	
	comp=Z,48nm,0.9s						
NOUC	**Port Laguerre**	**17.45**	**261**	P	**Pn**	**08 48 49.9**	**+2.2**
	comp=Z,37nm,0.9s						
SANVU	**Saraoutou**	**17.55**	**283**	P	**P**	**08 48 47.0**	**-1.5**
SANVU				IAmb	IAmb	08 48 51.9	
	comp=Z,41nm,0.7s						
SANVU	**Saraoutou**	**17.55**	**283**	P	**Pn**	**08 48 51.1**	**+2.3**
	comp=Z,65nm,0.9s						
RUGZ	**Raukumara Rang**	**18.67**	**198**	P	**Pn**	**08 49 02.0**	**-0.3**
TWGZ	**Tauwhareparae**	**18.78**	**197**	P	**Pn**	**08 49 05.5**	**+2.0**
MWZ	**Matawai**	**19.06**	**198**	P	**Pn**	**08 49 07.3**	**+0.5**
URZ	**Urewera**	**19.11**	**199**	P	**P**	**08 49 05.2**	**-0.3**
URZ	**Urewera**	**19.11**	**199**	P	**P**	**08 49 04.5**	**-0.9**
URZ				IAmb	IAmb	08 49 32.2	
	comp=Z,27nm,1.5s						
URZ	**Urewera**	**19.11**	**199**	P	**P**	**08 49 05.1**	**-0.3**
	comp=Z,58nm,0.8s						
NGRZ	**Ngongotaha**	**19.27**	**201**	P	**P**	**08 49 03.0**	**-4.3**
KOUNC	**Koumac, New Ca**	**19.34**	**266**	P	**Pn**	**08 49 13.8**	**+3.5**
	comp=Z,32nm,0.7s						
HIZ	**Hauiti**	**20.11**	**204**	P	Pn	08 49 17.9	-1.1
HIZ	**Hauiti**	**20.11**	**204**	P	Pn	08 49 17.4	-1.7
	comp=Z,171nm,2.3s						
MCHZ	**McNeill Hill**	**20.33**	**199**	P	**P**	**08 49 18.3**	**-0.3**
ETVZ	**East Tongariro**	**20.36**	**201**	P	**P**	**08 49 18.8**	**-0.3**
KWHZ	**Kaweka Forest**	**20.39**	**199**	P	Pn	08 49 21.9	-0.5
OTVZ	**Oturere**	**20.40**	**201**	P	**P**	**08 49 19.1**	**-0.5**
SNVZ	**South Ngauruho**	**20.43**	**201**	P	**P**	**08 49 19.4**	**-0.6**
WNVZ	**Wahianoa**	**20.57**	**201**	P	**P**	**08 49 20.0**	**-1.4**
KAHZ	**Kahuranaki**	**20.60**	**198**	P	**P**	**08 49 21.8**	**+0.1**
BFZ	**Birch Farm**	**21.60**	**198**	P	**P**	**08 49 28.3**	**-4.0**
BFZ				IAmb	IAmb	08 49 42.0	
	comp=Z,37nm,1.3s						
KHZ	**Kahutara**	**24.03**	**201**	P	**P**	**08 49 57.6**	**+1.5**
	comp=Z,49nm,1.8s						
RPZ	**Rata Peaks**	**26.05**	**203**	P	**P**	**08 50 17.0**	**+2.6**
	comp=Z,133nm,2.3s						
ODZ	**Otahua Downs**	**27.34**	**202**	P	**P**	**08 50 29.3**	**+3.3**
	comp=Z,23nm,2.6s						
EIDS	**Eidsvold**	**31.54**	**254**	P	**P**	**08 51 03.3**	**-0.1**
EIDS				IAmb	IAmb	08 51 11.6	
	comp=Z,20nm,1.2s						
ARMA	**Armidale**	**31.62**	**245**	P	**P**	**08 51 03.3**	**-0.9**
ARMA				IAmb	IAmb	08 51 25.9	
	comp=Z,7.7nm,0.9s						
CAN	**Canberra**	**34.90**	**237**	P	**P**	**08 51 31.9**	**-0.7**
CTAO	**Charters Tower**	**36.23**	**263**	P	**P**	**08 51 43.3**	**-0.9**
PMG	**Port Moresby**	**37.99**	**281**	P	**P**	**08 51 57.0**	**-2.1**
	comp=Z,13nm,0.8s,baz=199,slow=9.2,SNR=4.3						
PMG	**Port Moresby**	**37.99**	**281**	P	**P**	**08 51 57.9**	**-1.1**
TOO	**Toolangi**	**38.22**	**235**	P	**P**	**08 51 59.1**	**-1.7**
TOO				IAmb	IAmb	08 52 00.2	
	comp=Z,11nm,1.4s						
COEN	**Coen**	**40.31**	**272**	P	**P**	**08 52 17.4**	**-1.0**
COEN				IAmb	IAmb	08 52 17.9	
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**40.34**	**244**	P	**P**	**08 52 16.8**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=92,slow=13,SNR=8.4						
STKA	**Stephens Creek**	**40.34**	**244**	P	**P**	**08 52 17.2**	**-1.2**
MANU	**Manus Island**	**40.91**	**292**	P	**P**	**08 52 22.6**	**-0.8**
BBOO	**Buckleboo**	**45.08**	**244**	P	**P**	**08 52 55.5**	**-1.3**
BBOO				IAmb	IAmb	08 53 13.3	
	comp=Z,13nm,1.3s						
WR0	**Warramunga Arr**	**47.15**	**261**	P	**P**	**08 53 10.8**	**-2.4**
WR0				IAmb	IAmb	08 53 11.0	
	comp=Z,10nm,1.4s						
AS31	**Alice Springs**	**47.23**	**256**	P	**P**	**08 53 12.6**	**-1.2**
ASAR	**Alice Springs**	**47.23**	**256**	P	**P**	**08 53 12.0**	**-1.8**
	comp=Z,6.4nm,0.7s,baz=101,slow=8.4,SNR=48						
ASAR	**Alice Springs**	**47.23**	**256**	P	**P**	**08 53 12.5**	**-1.2**
WB0	**Warramunga Arr**	**47.32**	**261**	P	**P**	**08 53 12.2**	**-2.3**
WB0				IAmb	IAmb	08 53 12.8	
	comp=Z,9.1nm,0.7s						
WB2	**Warramunga Arr**	**47.33**	**261**	P	**P**	**08 53 12.2**	**-2.4**
WB2				IAmb	IAmb	08 53 13.0	
	comp=Z,7.2nm,0.8s						
WRAB	**Tennant Creek**	**47.33**	**261**	P	**P**	**08 53 12.5**	**-2.1**
WRAB				IAmb	IAmb	08 53 13.3	
	comp=Z,5.9nm,0.7s						
WRA	**Warramunga Arr**	**47.34**	**261**	P	**P**	**08 53 11.8**	**-2.8**
	comp=Z,4.1nm,0.7s,baz=95,slow=7.7,SNR=40						
WRA	**Warramunga Arr**	**47.34**	**261**	P	**P**	**08 53 12.6**	**-2.0**
FORT	**Forrest**	**51.88**	**246**	P	**P**	**08 53 47.4**	**-1.5**
MTN	**Manton Dam**	**51.91**	**269**	P	**P**	**08 53 47.0**	**-2.3**
KNRA	**Kununurra**	**53.41**	**265**	P	**P**	**08 53 58.5**	**-1.9**
FAKI	**Fak Fak**	**54.14**	**282**	P	**P**	**08 54 04.6**	**-1.2**
FAKI				IAmb	IAmb	08 54 12.4	
	comp=Z,6.7nm,0.8s						
VNDA	**Vanda**	**58.34**	**186**	P	**P**	**08 54 36.8**	**+2.1**
	comp=Z,1.4nm,0.7s,baz=46,slow=5.3,SNR=2.0						
VNDA	**Vanda**	**58.34**	**186**	P	**P**	**08 54 33.2**	**-1.5**
VNDA				IAmb	IAmb	08 54 55.2	
	comp=Z,9.3nm,1.4s						
SOEI	**Soe**	**59.24**	**271**	P	**P**	**08 54 41.4**	**-0.7**
JAGI	**Jajag, Banyuwa**	**69.13**	**268**	P	**P**	**08 55 47.0**	**+0.4**
QSPA	**South Pole Qui**	**69.75**	**180**	P	**P**	**08 55 50.1**	**+0.5**
MJAR	**Matsushiro Arr**	**71.73**	**322**	P	**P**	**08 55 59.4**	**-2.5**
	comp=Z,3.4nm,0.8s,baz=166,slow=6.7,SNR=7.4						
MAJO	**Matsushiro**	**71.73**	**322**	P	**P**	**08 56 01.6**	**-0.3**
MAJO				IAmb	IAmb	08 56 13.8	
	comp=Z,8.3nm,1.2s						
MAT	**Matsushiro**	**71.73**	**322**	P	**P**	**08 56 00.7**	**-1.2**
MJB9	**Matsu-Tunnel**	**71.73**	**322**	P	**P**	**08 56 01.6**	**-0.4**
MJB9				IAmb	IAmb	08 56 13.8	
	comp=Z,7.9nm,1.2s						
JSD	**Sado**	**72.74**	**323**	P	**P**	**08 56 08.4**	**+0.6**
PETK	**Petropavlovsk-**	**76.84**	**344**	P	**P**	**08 56 30.6**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=144,slow=8.6,SNR=2.3						
YBH	**Yreka Blue Hor**	**78.47**	**37**	P	**P**	**08 56 42.6**	**+2.0**
	comp=Z,2.5nm,0.8s,baz=153,slow=1.9,SNR=3.6						
YBH	**Yreka Blue Hor**	**78.47**	**37**	P	**P**	**08 56 42.9**	**+2.3**
MPK	**Martis Peak**	**78.50**	**40**	P	**P**	**08 56 40.7**	**-0.4**
MPK				IAmb	IAmb	08 57 07.6	
	comp=Z,15nm,1.4s						
KSAR	**Wonju Array Be**	**78.61**	**317**	P	**P**	**08 56 40.6**	**-0.8**
GWY	**Greenwater Val**	**78.77**	**45**	P	**P**	**08 56 44.5**	**+2.0**
113A	**Mohawk Valley,**	**78.84**	**49**	P	**P**	**08 56 45.4**	**+2.7**
NVAR	**Mina Array Bea**	**79.04**	**42**	P	**P**	**08 56 46.1**	**+2.1**
	comp=Z,2.0nm,0.7s,baz=225,slow=7.9,SNR=15						
NVAR	**Mina Array Bea**	**79.04**	**42**	P	**P**	**08 56 46.4**	**+2.5**
NV11	**Mina Array Sit**	**79.13**	**42**	P	**P**	**08 56 46.4**	**+2.0**
TPH	**Tonopah**	**79.51**	**43**	P	**P**	**08 56 49.1**	**+2.6**
TPH				IAmb	IAmb	08 56 49.8	
	comp=Z,18nm,1.2s						
K05A	**Summer Lake**	**80.14**	**37**	P	**P**	**08 56 52.2**	**+2.4**
K05A				IAmb	IAmb	08 56 52.7	
	comp=Z,11nm,1.0s						
PINE	**Pine Mountain**	**80.79**	**36**	P	**P**	**08 56 55.8**	**+2.5**
U15A	**North Rim**	**81.83**	**46**	P	**P**	**08 57 02.1**	**+3.1**
U15A				IAmb	IAmb	08 57 02.5	
	comp=Z,9.6nm,1.2s						
NJ2	**Nanjing**	**81.90**	**308**	*eP*	**P**	**08 56 59.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ELK	**Elko**	**82.31**	**42**	P	**P**	**08 57 03.4**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=249,slow=6.2,SNR=4.3						
H03S2	**Juan Fernandez**	**83.82**	**124**	T	T	10 29 50.5	
	SNR=87						
H03S1	**Juan Fernandez**	**83.83**	**124**	T	T	10 29 50.6	
	SNR=108						
H03S3	**Juan Fernandez**	**83.84**	**124**	T	T	10 29 51.5	
	SNR=133						
H03N2	**Juan Fernandez**	**83.95**	**123**	T	T	10 29 59.8	
	baz=257,slow=71,SNR=16						
H03N3	**Juan Fernandez**	**83.95**	**123**	T	T	10 29 56.8	
	baz=257,slow=71,SNR=20						
H03N1	**Juan Fernandez**	**83.97**	**123**	T	T	10 29 52.6	
	baz=257,slow=71,SNR=13						
PLID	**Pearl Lake**	**84.38**	**38**	P	**P**	**08 57 13.1**	**+1.2**
HLID	**Hailey**	**84.42**	**40**	P	**P**	**08 57 14.4**	**+2.3**
HVU	**Hansel Valley**	**84.43**	**42**	P	**P**	**08 57 13.9**	**+1.8**
SRU	**San Rafael Swe**	**84.44**	**45**	P	**P**	**08 57 14.8**	**+2.4**
SRU				IAmb	IAmb	08 57 15.3	
	comp=Z,5.9nm,0.7s						
GHO	**Glory Hole Cre**	**84.44**	**12**	P	**P**	**08 57 11.9**	**+0.3**
B08A	**Colville Reser**	**84.54**	**34**	P	**P**	**08 57 13.6**	**+1.2**
TXAR	**Lajitas Array**	**84.67**	**56**	P	**P**	**08 57 15.7**	**+2.2**
	comp=Z,1.8nm,0.9s,baz=212,slow=3.2,SNR=2.0						
N25K	**Chitina, Valde**	**85.22**	**14**	P	**P**	**08 57 16.2**	**+0.7**
N25K				IAmb	IAmb	08 57 36.5	
	comp=Z,12nm,1.2s						
NEW	**Newport**	**85.65**	**35**	P	**P**	**08 57 18.5**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=246,slow=3.9,SNR=4.1						
NEW	**Newport**	**85.65**	**35**	P	**P**	**08 57 16.5**	**-1.5**
IPM	**Ipoh**	**85.83**	**276**	P	**P**	**08 57 18.5**	**-1.2**
IPM				IAmb	IAmb	08 57 20.1	
	comp=Z,4.0nm,0.6s						
PDAR	**Pinedale Array**	**86.97**	**42**	P	**P**	**08 57 25.8**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=198,slow=4.3,SNR=6.8						
PLCA	**Paso Flores**	**87.39**	**133**	P	**P**	**08 57 29.6**	**+2.8**
	comp=Z,2.6nm,0.9s,baz=215,slow=3.4,SNR=6.3						
PLCA	**Paso Flores**	**87.39**	**133**	IAmb	IAmb	08 57 30.7	
	comp=Z,8.6nm,1.4s						
ILAR	**Eielson Array**	**87.56**	**12**	P	**P**	**08 57 26.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=220,slow=4.8,SNR=13						
DAWY	**Dawson**	**88.56**	**15**	P	**P**	**08 57 32.6**	**+1.0**
DAWY				IAmb	IAmb	08 57 32.7	
	comp=Z,2.8nm,0.9s						
HHC	**Hu-ho-hao-te**	**91.21**	**313**	*eP*	**P**	**08 57 46.6**	**+2.0**
HHC				pP	sP	08 58 29.6	+8.8
HHC	**Hu-ho-hao-te**	**91.21**	**313**	S	**S**	**09 08 33.8**	**-1.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,4.2s						
HHC				LR	LR		
	comp=N,310nm,15.8s						
HHC				LR	LR		
	comp=E,140nm,16.4s						
HHC				LR	LR		
	comp=Z,300nm,19.6s						
PZH	**PanZhiHua**	**93.06**	**297**	P	**P**	**08 57 54.9**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.1s						
YKA	**Yellowknife Ar**	**95.22**	**24**	P	**P**	**08 58 02.4**	**0.0**
	comp=Z,0.7nm,0.8s,baz=236,slow=4.4,SNR=10						
YKA	**Yellowknife Ar**	**95.22**	**24**	P	**P**	**08 58 02.9**	**+0.5**
GTA	**Gaotai**	**98.99**	**309**	*eP*	**P**	**08 58 17.9**	**-2.3**
GTA				sP	sP	08 58 58.9	+2.4
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**113.07**	**313**	PKiKP	**PKiKP**	**09 03 14.4**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=143,slow=1.3,SNR=5.0						
MKAR	**Makanchi Array**	**113.07**	**313**		**PKiKP**	**09 03 14.9**	**-1.2**
ARCES	**ARCESS Array B**	**129.21**	**351**	PKP	**PKPdf**	**09 03 45.6**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=44,slow=0.6,SNR=7.4						
ARCES	**ARCESS Array B**	**129.21**	**351**		**PKPdf**	**09 03 46.0**	**-0.4**
AKASG	**Malin Array Be**	**144.13**	**333**	PKP	**PKPab**	**09 04 11.4**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=39,slow=3.8,SNR=6.2						
AKASG	**Malin Array Be**	**144.13**	**333**		**PKPab**	**09 04 12.4**	**+0.1**
CLL	**Collm**	**148.43**	**350**	*e*PKPbc	**PKPbc**	**09 04 25.0**	**-0.3**
	comp=Z,5.0nm,1.1s						
CLL				*e*PKPab	**PKiKP**	**09 04 28.0**	**+1.2**
DPC	**Dobruska-Polom**	**148.70**	**346**	*e*PKP	**PKPbc**	**09 04 26.0**	**-0.1**
BRTR	**Keskin Array B**	**148.71**	**314**	PKPbc	**PKPbc**	**09 04 25.9**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=120,slow=3.9,SNR=4.8						
BRTR	**Keskin Array B**	**148.71**	**314**		**PKPbc**	**09 04 26.6**	**0.0**
MEM	**Membach**	**149.76**	**359**	PKiKP	**PKPbc**	**09 04 28.5**	**-0.2**
BMRD	**Maredsous**	**150.08**	**0**	PKiKP	**PKPbc**	**09 04 29.9**	**+0.5**
KHC	**Kasperske Hory**	**150.43**	**348**	*e*PKP	**PKPbc**	**09 04 30.2**	**-0.1**
CKRC	**Cesky Krumlov**	**150.59**	**347**	*e*PKP	**PKPbc**	**09 04 30.8**	**+0.1**
GERES	**GERESS Array B**	**150.68**	**348**	PKPbc	**PKPbc**	**09 04 31.0**	**0.0**
	comp=Z,1.7nm,0.6s,baz=32,slow=1.8,SNR=16						
GERES	**GERESS Array B**	**150.68**	**348**		**PKPbc**	**09 04 31.3**	**+0.3**
CONA	**Conrad Observa**	**151.07**	**345**	*eP*	**PKPbc**	**09 04 31.7**	**-0.3**
	comp=Z,5.3nm,1.0s						
MOA	**Molln**	**151.51**	**347**	*eP*	**PKPbc**	**09 04 32.0**	**-0.8**
	comp=Z,2.5nm,0.9s						
KBA	**Koelnbreinsper**	**152.44**	**348**	*eP*	**PKPbc**	**09 04 33.5**	**-1.7**
	comp=Z,4.3nm,0.9s						
SOKA	**Soboth**	**152.44**	**345**	*eP*	**PKPbc**	**09 04 33.8**	**-1.3**
	comp=Z,3.9nm,1.6s						
WATA	**Walderalm**	**152.51**	**350**	*i* P	**PKPbc**	**09 04 35.1**	**-0.2**
	comp=Z,1.9nm,0.4s						
WTTA	**Wattenberg**	**152.57**	**350**	*eP*	**PKPbc**	**09 04 35.0**	**-0.5**
	comp=Z,4.4nm,0.5s						
SQTA	**Sankt Quirin**	**152.69**	**351**	*i* P	**PKPbc**	**09 04 35.5**	**-0.2**
	comp=Z,0.6nm,0.3s						
ABTA	**Abfaltersbach**	**152.92**	**348**	*i* P	**PKPbc**	**09 04 35.1**	**-1.1**
	comp=Z,2.5nm,0.5s						
FETA	**Feichten**	**152.95**	**351**	*i* P	**PKPbc**	**09 04 36.0**	**-0.3**
	comp=Z,1.7nm,0.6s						

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*SSNC **17** 08:48:49.2±1.8, 19°.68N×76°.08W, h5km±10km, ML3.4, MW3.4*
*JSN **17** 08:48:52.7±1.0, 19°.54N×76°.30W, h0km±969km, MD3.7*
*OSPL **17** 08:48:52.3±1.5, 20°.21N×76°.03W, h20km, ML3.3*
ISC 17 08:48:47.0±1.1, 19°.66N±0°.04×76°.16W±0°.03, h15km±10km, n15, σ1§47/25, 1C, Cuba region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.55**	**53**	*i* P	**Pg**	**08 48 58.3**	**+0.5**
RCC				*i* S	**Sg**	**08 49 04.4**	**-0.9**
RCC				IAML		08 49 05.0	
	comp=E,1μm,0.3s						
RCC				IAML		08 49 05.8	
	comp=N,1μm,0.6s						
LMGC	**Las Mercedes**	**0.89**	**297**	*i* P	**Pn**	**08 49 06.1**	**+1.1**
LMGC				*e*S	**Sn**	**08 49 18.5**	**+1.0**
LMGC				IAML		08 49 21.7	
	comp=N,1μm,0.1s						
LMGC				IAML		08 49 21.8	
	comp=E,1μm,0.2s						
GTBY	**Guantanamo Bay**	**1.02**	**75**	*i* P	**Pg**	**08 49 07.1**	**+0.3**
GTBY				*e*S	**Sb**	**08 49 20.4**	**+0.7**
GTBY				IAML		08 49 22.0	
	comp=Z,1μm,0.5s						
GTMO	**Guantanamo**	**1.05**	**66**	*i* P	**Pg**	**08 49 08.2**	**+0.9**
GTMO				*i* S	**Sn**	**08 49 23.0**	**+1.5**
HLGC	**Holguin**	**1.23**	**4**	*e*P	**Pg**	**08 49 10.8**	**+0.1**
HLGC				*e*S	**Sg**	**08 49 27.9**	**+1.2**
HLGC				IAML		08 49 30.4	
	comp=E,4μm,0.5s						
HLGC				IAML		08 49 30.4	
	comp=N,2μm,0.4s						
MOAC	**Moa**	**1.51**	**48**	*e*P	**Pn**	**08 49 13.2**	**-0.2**
MOAC				*e*S	**Sn**	**08 49 33.1**	**+0.3**
MOAC				IAML		08 49 35.3	
	comp=E,288nm,0.3s						
MOAC				IAML		08 49 35.6	
	comp=N,186nm,0.3s						
GWJ	**Greenwich**	**1.66**	**199**	*i* P	**Pg**	**08 49 19.5**	**+0.5**
STH	**Stony Hill**	**1.69**	**201**	*i* P	**Pg**	**08 49 19.2**	**-0.2**
HOJ	**Hope**	**1.74**	**199**	*i* P	**Pg**	**08 49 21.1**	**+0.8**
MASC	**Masc**	**1.89**	**74**	*e*P	**Pn**	**08 49 18.6**	**0.0**
MASC				*e*S	**Sn**	**08 49 42.9**	**+0.7**
MASC				IAML		08 49 51.0	
	comp=N,117nm,0.4s						
MASC				IAML		08 49 51.3	
	comp=E,182nm,0.3s						
MTDJ	**Mount Denham**	**1.93**	**223**	*e*P	**Pb**	**08 49 22.0**	**+0.1**
MTDJ				*e*S	**Sn**	**08 49 41.8**	**-1.6**
CCCC	**Cccc**	**2.15**	**316**	*e*P	**Pn**	**08 49 21.6**	**-0.6**
CCCC				*i* S	**Sn**	**08 49 47.7**	**-0.9**
CCCC				IAML		08 49 49.5	
	comp=N,252nm,0.4s						
CCCC				IAML		08 49 50.3	
	comp=E,274nm,0.4s						
MCJ	**Malvern**	**2.25**	**220**	*i* P	**Pb**	**08 49 27.6**	**+0.2**
MCJ				*i* S	**Sb**	**08 49 53.6**	**-1.4**
PAPH	**Port-au-Prince**	**3.82**	**107**	*i* P	**Pb**	**08 49 50.1**	**-4.1**
PAPH				IAML		08 50 46.1	
	comp=Z,28nm,0.4s						
SDDR	**Presa de Saban**	**4.65**	**98**	*i* P	**Pn**	**08 50 00.4**	**+3.6**
SDDR				IAML		08 51 31.8	
	comp=Z,23nm,3.0s						

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*SSNC **17** 08:51:47.3±1.8, 19°.76N×76°.06W, h5km±8km, MD2.6, ML3.0, MW3.3*
*JSN **17** 08:51:47.5±1.0, 19°.77N×75°.98W, h26km±999km, MD3.8*
*OSPL **17** 08:51:47.5±0.6, 19°.94N×76°.12W, h0km±8km, ML4.2*
ISC 17 08:51:46.6±1.2, 19°.80N±0°.04×76°.11W±0°.03, h19km±3km, n18, σ1§06/28, Cuba region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.44**	**63**	*i* P	**Pg**	**08 51 55.2**	**-0.5**
RCC				*i* S	**Sg**	**08 52 00.3**	**-1.5**
RCC				IAML		08 52 01.0	
	comp=E,1μm,0.2s						
RCC				IAML		08 52 01.3	
	comp=N,796nm,0.3s						
LMGC	**Las Mercedes**	**0.88**	**288**	*i* P	**Pg**	**08 52 04.2**	**+0.4**
LMGC				*i* S	**Sn**	**08 52 16.7**	**+0.5**
LMGC				IAML		08 52 17.3	
	comp=E,477nm,0.1s						
LMGC				IAML		08 52 17.5	
	comp=N,913nm,0.1s						
GTBY	**Guantanamo

KAN13				Sg	Sg	08 52 26.6	-0.2
W35A	Tecumseh	0.96	164	Pg	Pg	08 52 13.1	-1.4
W35A				Sg	Sg	08 52 26.3	-0.7
T35A	Sooner Cattle	1.01	34		Pg	08 52 14.6	-0.7
KAN17	Caldwell West	1.06	335	Pg	Pg	08 52 15.6	-0.7
KAN14	Manchester OK	1.07	325	Pg	Pg	08 52 15.7	-0.8
OK032	Salt Plains WL	1.08	312		Pg	08 52 15.9	-0.9
KAN05	Bluff City Nor	1.16	333		Pg	08 52 17.4	-0.8
KAN01	Argonia South	1.16	338		Pg	08 52 17.7	-0.5
TUL1	Leonard	1.16	98		Pg	08 52 16.6	-1.6
TUL1	Leonard	1.16	98	P	Pg	08 52 16.6	-1.6
	baz=279						
TUL1				S	Sg	08 52 32.6	-0.7
	baz=279						
KAN10	Anthony SW Sta	1.26	326		Pn	08 52 19.2	-0.3
KAN06	Argonia West S	1.28	336	Pn	Pn	08 52 19.8	0.0
KAN08	Anthony NE Sta	1.30	332	Pn	Pn	08 52 20.0	-0.1
KAN16	Harper SW Stat	1.33	329		Pn	08 52 20.6	0.0
OK035	E0210 Rd and N	1.36	298	Pn	Pn	08 52 20.8	-0.2
KAN12	Harper NE Stat	1.37	333	Pn	Pn	08 52 21.1	0.0
U32A	Winter Ranch,	1.48	282	Pn	Pn	08 52 22.6	+0.1
X34A	Smith Ranch, M	1.56	199		Pn	08 52 24.2	+0.6
WMOK	Wichita Mounta	1.86	224	Pn	Pn	08 52 28.5	+0.8
WMOK	Wichita Mounta	1.86	224	P	Pn	08 52 28.5	+0.8
	baz=43						
WMOK				S	Sb	08 52 53.5	+0.3
	baz=43						
LOOK	Love County	2.08	179	Pn	Pn	08 52 31.6	+0.8
X37A	Clayton	2.11	134		Pn	08 52 31.6	+0.4
X37A				IAmb_Lg		08 53 07.6	
	comp=Z,94nm,0.8s						
U38A	Gravette	2.31	80	Pn	Pn	08 52 34.6	+0.7
HHAR	Hobbs	2.65	85		Pn	08 52 39.0	+0.3
Z35A	Perchaven, San	2.74	181		Pn	08 52 39.7	-0.2
W39A	Magazine	2.92	107		Pn	08 52 42.9	+0.5
W39A	Magazine	2.92	107	P	Pn	08 52 43.2	+0.8
	baz=289						
KSU1	Kansas State U	3.05	9		Pn	08 52 45.4	+1.2
KSU1				IAmb_Lg		08 53 40.8	
	comp=Z,38nm,1.1s						
KSU1	Kansas State U	3.05	9	Pb	Pb	08 52 51.9	+1.6
	baz=189						
KSU1				Sb	Sg	08 53 31.5	-2.5
	baz=189						
MIAR	Mount Ida	3.34	116		Pn	08 52 48.8	+0.7
MIAR	Mount Ida	3.34	116	P	Pn	08 52 48.8	+0.7
	baz=298						
AMTX	Amarillo	3.84	253	IAmb_Lg		08 54 00.9	
	comp=Z,43nm,0.9s						
X40A	Basin Creek Fa	3.92	113	Pn	Pn	08 52 56.8	+0.8
ABTX	Abilene, Hawle	3.99	211		Pn	08 52 57.6	+0.5
WHAR	Wooly Hollow	4.08	100		Pn	08 52 58.3	0.0
MGMO	Mountain Grove	4.12	73	IAmb_Lg		08 54 04.7	
	comp=Z,41nm,0.8s						
W41B	Gary Mavity, V	4.14	101	Pn	Pn	08 52 59.1	0.0
W41B	Gary Mavity, V	4.14	101	P	Pn	08 52 59.0	-0.1
	baz=284						
237A	Washetta, Mont	4.23	164	Pn	Pn	08 52 59.0	-1.4
P38A	Dawn	4.58	38	IAmb_Lg		08 54 32.0	
	comp=Z,28nm,0.8s						
Z41A	Richland Creek	4.59	127	Pn	Pn	08 53 04.3	-1.0
N35A	Tabor	4.93	14	IAmb_Lg		08 54 41.5	
	comp=Z,48nm,0.8s						
T42A	Van Buren	5.01	77	IAmb_Lg		08 54 41.3	
	comp=Z,22nm,0.8s						
CCM	Cathedral Cave	5.16	66	IAmb_Lg		08 54 44.6	
	comp=Z,50nm,0.8s						
P40A	Paris	5.34	48	IAmb_Lg		08 54 42.2	
	comp=Z,24nm,0.9s						
BGNE	Belgrade	5.37	352	IAmb_Lg		08 54 56.9	
	comp=Z,40nm,0.8s						
PBMO	Poplar Bluff	5.51	81	IAmb_Lg		08 54 57.7	
	comp=Z,24nm,0.7s						
T25A	Trinidad	5.89	282		Pn	08 53 23.4	+0.1
T25A	Trinidad	5.89	282	P	Pn	08 53 23.5	+0.2
	baz=98						
L34A	Svendsen Farm,	5.91	6	IAmb_Lg		08 55 13.5	
	comp=Z,26nm,0.7s						
PEBM	Pemiscott Bayo	5.95	88	IAmb_Lg		08 55 05.4	
	comp=Z,38nm,0.7s						
JCT	Junction City	5.99	202		Pn	08 53 23.1	-1.6
JCT				IAmb_Lg		08 55 12.9	
	comp=Z,20nm,0.9s						
JCT	Junction City	5.99	202	P	Pn	08 53 23.9	-0.8
	baz=20						
SLM	Saint Louis	6.11	63	IAmb_Lg		08 55 07.7	
	comp=Z,31nm,0.7s						
OGNE	Ogallala	6.16	324	IAmb_Lg		08 55 28.0	
	comp=Z,24nm,1.0s						
W45A	Hickory Valley	6.60	96	IAmb_Lg		08 55 22.0	
	comp=Z,31nm,1.1s						
K31A	O'Neill	6.64	350	IAmb_Lg		08 55 38.7	
	comp=Z,19nm,0.8s						
N41A	Harden Midland	6.80	45	IAmb_Lg		08 55 28.8	
	comp=Z,34nm,0.8s						

IDC 17 09:17:02.5±3.2, 17°.24S×69°.83W, h106km±31km, mb3.3/5, mb1 3.7/7, mb1mx3.5/26, mbtmp3.8/7, Error ellipse: s-maj=28.9km s-min=23.6km az=142.0

ISC 17 09:17:01.7±0.8, 17°.32S±0°.09×69°.9W±0°.1, h100km, n8, σ1§40/10, mb3.4/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	5.34	170	P	Pn	09 18 21.2	+1.7
	3.1nm,0.3s,baz=351,slow=9.5,SNR=42						
LVC				S	Sn	09 19 17.2	-2.6
	3.7nm,0.3s,baz=250,slow=23,SNR=12						
SIV	San Ignacio	8.54	82	P	Pn	09 19 03.6	+0.9
	3.2nm,0.3s,baz=270,slow=10.0,SNR=70						
SIV				S	Sn	09 20 36.6	-0.9
	0.2nm,0.3s,baz=3.4,slow=22,SNR=1.7						
PLCA	Paso Flores	23.34	181	P	P	09 22 02.0	+0.8
	1.5nm,0.8s,baz=42,slow=5.2,SNR=3.2						
TXAR	Lajitas Array	56.70	324	P	P	09 26 34.8	-0.4
	0.2nm,0.5s,baz=151,slow=8.8,SNR=4.7						
PDAR	Pinedale Array	70.05	330	P	P	09 28 02.4	-0.7
	0.3nm,0.7s,baz=113,slow=8.9,SNR=2.4						
TORD	Torodi Ar. Bea	76.86	72	P	P	09 28 42.8	-0.6
	0.4nm,0.3s,baz=257,slow=4.9,SNR=8.8						
YKA	Yellowknife Ar	86.96	341	P	P	09 29 35.1	-0.1
	0.9nm,0.7s,baz=133,slow=4.6,SNR=16						
SONM	Songino Array	149.41	5	PKPbc	PKPbc	09 36 40.2	+0.8
	0.3nm,0.3s,baz=346,slow=2.4,SNR=3.0						

DJA 17 09:20:37.2±0.6, 10°S±7°×11°4E±°, h10km, M3.7/13, mb4.1/2, MLv3.5/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.04	8	P	Pg	09 20 56.4	-0.9
IGBI	Denpasar	1.32	59	P	Pn	09 21 00.1	-1.7
GMJI	Gumukmas	1.35	336	P	Pn	09 21 01.1	-1.0
DNP	Denpasar	1.45	55	P	Pb	09 21 04.2	-0.2
ABJI	Asem Bagus	1.72	8	P	Pn	09 21 08.0	+0.8
BLJI	Banyuglugur	1.80	347	P	Pn	09 21 09.0	+0.7
SRBI	Singaraja	1.85	40	P	Pn	09 21 09.0	-0.1
KMMI	Kalianget	2.44	359	P	Pn	09 21 16.8	-0.4
PCJI	Pacitan	3.08	295	P	Pn	09 21 25.3	-0.6
UGM	Wanagama	3.79	295	P	Pn	09 21 36.3	+0.6
CMJI	Cimerak	5.75	287	P	Pn	09 22 02.7	0.0
	0.1nm14nm,0.9s						

ANF 17 09:32:03.8±0.2, 32°.95N×100°.80W, h2km, ML4.5/13, Error ellipse: s-maj=3.7km s-min=2.0km az=24.0
NEIC 17 09:32:03.2±1.6, 32°.87N±0°.02×100°.86W±0°.04, h2km±7km, mb_Lg3.5/89, Error ellipse: s-maj=5.2km s-min=2.5km az=118.0

ISC 17 09:32:03.4±0.7, 32°.87N±0°.04×100°.84W±0°.03, h10km, n129, σ1§51/138, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTX	Abilene, Hawle	1.04	103	Pg	Pg	09 32 23.5	+0.2
ABTX				Sg	Sg	09 32 37.0	+0.3
ABTX	Abilene, Hawle	1.04	103	P	Pg	09 32 23.5	+0.2
	baz=284,SNR=425						
ABTX				S	Sb	09 32 37.5	+0.4
	baz=284						
MSTX	Muleshoe	1.95	305	Pn	Pn	09 32 37.4	+0.7
MSTX	Muleshoe	1.95	305	P	Pn	09 32 37.4	+0.7
	baz=124,SNR=420						
MSTX				S	Sb	09 33 03.2	-0.4
	baz=124						
AMTX	Amarillo	2.13	341	Pn	Pb	09 32 40.4	-1.6
AMTX				IAmb_Lg		09 33 09.6	
	comp=Z,185nm,0.8s						
AMTX	Amarillo	2.13	341	P	Pb	09 32 40.5	-1.6
	baz=161						
AMTX				S	Sb	09 33 08.8	+0.3
	baz=161						
WMOK	Wichita Mounta	2.53	42		Pn	09 32 45.8	+1.2
WMOK	Wichita Mounta	2.53	42	P	Pn	09 32 45.7	+1.2
	baz=223,SNR=26						
JCT	Junction City	2.54	159	Pn	Pb	09 32 47.0	-2.2
JCT	Junction City	2.54	159	P	Pn	09 32 46.7	+1.9
	baz=340,SNR=114						
WHTX	Lake Whitney,	2.99	106		Pn	09 32 52.5	+1.6
WHTX				IAmb_Lg		09 33 42.1	
	comp=Z,132nm,0.8s						
WHTX	Lake Whitney,	2.99	106	Pn	Pn	09 32 52.5	+1.6
	baz=288,SNR=9.1						
WHTX				Pg	Pg	09 33 01.5	+0.8
	baz=288						
WHTX				Sb	Sg	09 33 37.2	-2.3
	baz=288						
X34A	Smith Ranch, M	3.04	55		Pn	09 32 54.1	+2.5
Z35A	Perchaven, San	3.04	80		Pn	09 32 52.6	+1.0
LOOK	Love County	3.25	69		Pn	09 32 56.4	+1.8
LOOK				IAmb_Lg		09 33 54.5	
	comp=Z,158nm,0.8s						
FNO	Franklin	3.71	49	Pn	Pn	09 33 01.5	+0.7
OKCFA	Oklahoma City	3.78	47	Pn	Pn	09 33 03.2	+1.4
OKCFA				IAmb_Lg		09 34 13.1	
	comp=Z,110nm,0.7s						
U32A	Winter Ranch,	3.81	23	Pn	Pn	09 33 04.5	+2.2
BCOK	Bluff Creek, N	3.85	43	Pn	Pn	09 33 03.8	+1.1
BCOK				IAmb_Lg		09 34 13.0	
	comp=Z,158nm,0.7s						
OK025	Westminster Rd	3.96	46	Pn	Pn	09 33 05.1	+0.9
W35A	Tecumseh	4.00	54	Pn	Pn	09 33 05.8	+1.0
W35A				IAmb_Lg		09 34 12.8	
	comp=Z,73nm,0.8s						
MNTX	Cornudas Mount	4.02	254	Pn	Pn	09 33 07.5	+2.4
MNTX				IAmb_Lg		09 34 11.5	
	comp=Z,88nm,0.8s						
MNTX	Cornudas Mount	4.02	254	P	Pn	09 33 06.6	+1.5
	baz=72,SNR=35						
MNTX				Sb	Sg	09 34 08.0	-4.6
	baz=72						
OK029	Liberty Lake	4.04	43	Pn	Pn	09 33 07.3	+1.9
OK029				IAmb_Lg		09 34 19.6	
	comp=Z,152nm,0.9s						
OK035	E0210 Rd and N	4.21	24		Pn	09 33 10.8	+3.2
TX31	Lajitas Ar. Si	4.28	215		Pn	09 33 09.9	+1.2
TXAR	Lajitas Array	4.28	215		Pn	09 33 10.3	+1.6
TX32	Lajitas Array	4.28	215		Pn	09 33 10.3	+1.6
CROK	Carrier	4.32	32		Pn	09 33 10.2	+1.1
CROK				IAmb_Lg		09 34 22.6	
	comp=Z,88nm,0.8s						
237A	Washetta, Mont	4.34	100		Pn	09 33 11.5	+2.1
OK032	Salt Plains WL	4.48	28		Pn	09 33 12.4	+1.1
OK032				IAmb_Lg		09 34 36.3	
	comp=Z,63nm,1.0s						
OK031	S. Brethren Rd	4.51	46		Pn	09 33 11.4	-0.4
OK030	Cody Creek RV	4.53	47	Pn	Pn	09 33 12.7	+0.6
OK030				IAmb_Lg		09 34 29.1	
	comp=Z,58nm,0.9s						
OK034	N. Norfolk Rd.	4.63	46		Pn	09 33 14.3	+0.9
GC02	Grant County #	4.66	31		Pn	09 33 13.7	-0.2
833A	Chaparral WMA,	4.70	164		Pn	09 33 15.0	+0.6
833A	Chaparral WMA,	4.70	164	P	Pn	09 33 16.0	+1.6
	baz=345,SNR=14						
833A				Sb	Sg	09 34 31.6	-2.7
	baz=345						
KAN14	Manchester OK	4.71	29	Pn	Pn	09 33 13.8	-0.8
KAN14				IAmb_Lg		09 34 36.6	
	comp=Z,57nm,0.9s						
QUOK	Quay	4.74	45	Pn	Pn	09 33 16.1	+1.2
735A	Kenedy	4.78	146	Pn	Pn	09 33 18.5	+3.1
KAN10	Anthony SW Sta	4.80	27		Pn	09 33 16.2	+0.4
X37A	Clayton	4.87	68	Pn	Pn	09 33 17.6	+0.9
X37A				IAmb_Lg		09 34 44.3	
	comp=Z,98nm,0.7s						
KAN17	Caldwell West	4.87	30		Pn	09 33 17.2	+0.5
KAN05	Bluff City Nor	4.88	29		Pn	09 33 16.7	-0.1
KAN05				IAmb_Lg		09 34 40.8	
	comp=Z,58nm,1.0s						
BLOK	Blackwell	4.89	37		Pn	09 33 17.4	+0.4
BLOK				IAmb_Lg		09 34 39.7	
	comp=Z,60nm,0.9s						
KAN16	Harper SW Stat	4.90	27		Pn	09 33 17.8	+0.6
Z38A	Mt. Pleasant	4.93	84		Pn	09 33 18.6	+1.1
KAN08	Anthony NE Sta	4.94	28		Pn	09 33 18.7	+1.0
KAN01	Argonia South	4.96	30		Pn	09 33 18.0	0.0
KAN13	South Haven SW	4.97	33		Pn	09 33 18.9	+0.8
KAN12	Harper NE Stat	4.99	27		Pn	09 33 18.1	-0.3
KAN12				IAmb_Lg		09 34 50.8	
	comp=Z,51nm,0.7s						
KAN06	Argonia West S	5.00	28		Pn	09 33 18.9	+0.4
BNM	Barren Site	5.00	286	Pn	Pn	09 33 19.4	+0.6
ANMO	Albuquerque	5.11	295	Pn	Pn	09 33 21.0	+0.8
ANMO				IAmb_Lg		09 34 47.5	
	comp=Z,93nm,0.8s						
ANMO	Albuquerque	5.11	295	P	Pn	09 33 21.4	+1.2
	baz=112						
ANMO				Sb	Sb	09 34 39.4	+4.9
	baz=112						
TUL1	Leonard	5.16	53		Pn	09 33 20.7	+0.1
TUL1				IAmb_Lg		09 34 55.2	
	comp=Z,98nm,1.1s						
TUL1	Leonard	5.16	53	Pn	Pn	09 33 20.7	+0.1
	baz=235						
TUL1				Pg	Pg	09 33 39.3	-2.9
	baz=235						
T25A	Trinidad	5.17	326		Pn	09 33 21.4	+0.4
T25A	Trinidad	5.17	326	P	Pn	09 33 22.1	+1.0
	baz=145,SNR=16						
T25A				Sb	Sb	09 34 41.4	+5.1
	baz=145						
HKT	Hockley	5.17	123		Pn	09 33 21.9	+1.1
HKT				IAmb_Lg		09 34 54.6	
	comp=Z,62nm,1.0s						
Y22D	IRIS PASSCAL I	5.22	285	Pb	Pb	09 33 36.3	+1.3
	baz=102						
Y22D				Sb	Sg	09 34 45.4	-5.8
	baz=102						
NATX	Nacogdoches	5.34	100	Pn	Pn	09 33 24.9	+1.7
NATX				IAmb_Lg		09 35 01.7	
	comp=Z,98nm,0.8s						
NATX	Nacogdoches	5.34	100	P	Pn	09 33 25.4	+2.2
	baz=284						
T35A	Sooner Cattle	5.38	40		Pn	09 33 24.1	+0.4
T35A				IAmb_Lg		09 35 05.5	
	comp=Z,69nm,1.1s						
R32A	Long Quarter,	5.80	17		Pn	09 33 29.9	+0.4
R32A				IAmb_Lg		09 35 14.1	
	comp=Z,81nm,0.9s						
121A	Cookes Peak, D	5.87	269	Pn	Pn	09 33 31.8	+1.2
121A				IAmb_Lg		09 35 21.3	
	comp=Z,92nm,0.9s						
121A	Cookes Peak, D	5.87	269	P	Pn	09 33 32.3	+1.7
	baz=85,SNR=6.8						
CBKS	Cedar Bluff	6.00	8		Pn	09 33 33.9	+1.6
CBKS				IAmb_Lg		09 35 24.0	
	comp=Z,55nm,0.8s						
CBKS	Cedar Bluff	6.00	8	P	Pn	09 33 33.3	+1.0
	baz=189						
SDCO	Great Sand Dun	6.18	323		Pn	09 33 34.9	-0.1
SDCO				IAmb_Lg		09 35 25.9	
	comp=Z,58nm,1.0s						
SDCO	Great Sand Dun	6.18	323	P	Pn	09 33 36.7	+1.8
	baz=141						
MIAR	Mount Ida	6.28	73		Pn	09 33 36.6	+0.6
MIAR				IAmb_Lg		09 35 31.5	
	comp=Z,61nm,0.9s						
MIAR	Mount Ida	6.28	73	P	Pn	09 33 37.3	+1.2
	baz=257						
KSCO	Kaye Shedlock'	6.30	347	Pn	Pn	09 33 37.1	+0.6
KSCO				IAmb_Lg		09 35 31.6	
	comp=Z,75nm,0.8s						
KSCO	Kaye Shedlock'	6.30	347	P	Pn	09 33 37.7	+1.2
	baz=166,SNR=7.8						
W39A	Magazine	6.30	66		Pn	09 33 36.2	-0.1
W39A	Magazine	6.30	66	P	Pn	09 33 36.8	+0.5
	baz=250						
W39A				S	Sn	09 34 48.0	-0.3
	baz=250						
U38A	Gravette	6.40	54	Pn	Pn	09 33 37.7	0.0
U38A				IAmb_Lg		09 35 29.8	
	comp=Z,66nm,1.1s						
WLAR	White Oak Lake	6.52	81	Pn	Pn	09 33 39.8	+0.4
WLAR				IAmb_Lg		09 35 39.1	
	comp=Z,66nm,0.9s						
HHAR	Hobbs	6.63	57		Pn	09 33 40.5	-0.4
HHAR				IAmb_Lg		09 35 39.3	
	comp=Z,56nm,0.9s						
Z41A	Richland Creek	6.75	85		Pn	09 33 43.3	+0.7
Z41A	Richland Creek	6.75	85	P	Pn	09 33 43.5	+0.9
	baz=269,SNR=8.6						
X40A	Basin Creek Fa	6.86	74		Pn	09 33 44.5	+0.4
X40A	Basin Creek Fa	6.86	74	P	Pn	09 33 44.2	+0.1
	baz=259						
S22A	4UR Ranch, Cre	6.90	316		Pn	09 33 46.8	+1.8
S22A	4UR Ranch, Cre	6.90	316	Pb	Pb	09 34 06.9	+3.3
	baz=133						
Q24A	Divide	7.01	331		Pn	09 33 46.7	+0.2
Q24A				IAmb_Lg		09 35 50.8	
	comp=Z,56nm,0.8s						
KSU1	Kansas State U	7.10	28		Pn	09 33 47.7	+0.4
KSU1				IAmb_Lg		09 35 58.8	
	comp=Z,56nm,0.8s						
319A	Douglas	7.32	260	Pn	Pn	09 33 50.5	+0.1
342A	Flagon Creek P	7.37	99	Pn	Pn	09 33 52.7	+1.6
U40A	Yellville	7.44	60	Pn	Pn	09 33 52.3	+0.3
U40A				IAmb_Lg		09 36 03.6	
	comp=Z,40nm,0.8s						
U40A	Yellville	7.44	60	P	Pn	09 33 52.1	+0.1
	baz=244						
WHAR	Wooly Hollow	7.49	69		Pn	09 33 53.3	+0.6
W41B	Gary Mavity, V	7.49	70	Pn	Pn	09 33 53.5	+0.8
W41B	Gary Mavity, V	7.49	70	P	Pn	09 33 53.4	+0.7
	baz=255,SNR=11						
MVCO	Mesa Verde	7.63	307	Pb	Pb	09 34 20.8	+4.8
	baz=122						
MVCO				Sb	Sg	09 35 57.4	-11
	baz=122						
CCAR	Cane Creek	7.65	80		Pn	09 33 55.1	+0.2
CCAR				IAmb_Lg		09 36 26.9	
	comp=Z,54nm,0.9s						
W18A	Petrified Fore	7.72	289	IAmb_Lg		09 36 20.6	
	comp=Z,47nm,1.3s						
X18A	Snowflake	7.77	285		Pn	09 33 58.7	+2.0
X18A				IAmb_Lg		09 36 19.9	
	comp=E,48nm,1.2s						
S39A	Bolivar	7.80	50	Pn	Pn	09 33 56.4	-0.5
S39A				IAmb_Lg		09 36 16.8	
	comp=Z,51nm,1.1s						
FCAR	Ozark Folk Cen	7.80	65		Pn	09 33 56.9	-0.1
ISCO	Idaho Springs	7.91	332	Pn	Pn	09 34 00.5	+1.7
OGNE	Ogallala	8.12	354		Pn	09 34 02.9	+1.5
MGMO	Mountain Grove	8.22	56		Pn	09 34 03.1	+0.3
LCAR	Lake Charles	8.61	66		Pn	09 34 08.8	+0.8
PV23	Carpenter Ridg	8.67	312		Pn	09 34 09.1	0.0
344A	Westbrook Farm	8.68	97	Pn	Pn	09 34 08.8	-0.2
R40A	Maddies Statio	8.83	50		Pn	09 34 10.4	-0.6
R40A				IAmb_Lg		09 36 41.2	
	comp=Z,28nm,0.8s						
P38A	Dawn	8.95	39	IAmb_Lg		09 36 60.0	
	comp=Z,46nm,1.0s						
T42A	Van Buren	9.01	60		Pn	09 34 13.3	-0.2
T42A				IAmb_Lg		09 36 57.9	
	comp=Z,34nm,0.9s						
WUAZ	Wupatki	9.12	290	Pn	Pn	09 34 17.3	+2.1
PHWY	Pilot Hill	9.19	338	IAmb_Lg		09 37 11.8	
	comp=Z,31nm,0.9s						
CCM	Cathedral Cave	9.38	54	Pn	Pn	09 34 16.5	-2.1
PBMO	Poplar Bluff	9.40	63		Pn	09 34 19.0	+0.1
Y45A	Yeager Farm, C	9.50	81	Pn	Pn	09 34 19.1	-1.1
P40A	Paris	9.72	44		Pn	09 34 22.7	-0.6
FVM	French Village	9.90	56		Pn	09 34 25.9	0.0
W45A	Hickory Valley	9.94	74		Pn	09 34 25.6	-0.7
N38A	Joes South For	9.98	35	Pn	Pn	09 34 27.2	+0.4
Y14A	Wickenburg	10.23	279	Pn	Pn	09 34 31.2	+0.9
S44A	Carbondale	10.62	60		Pn	09 34 36.0	+0.5
LCMT	Little Creek M	10.99	296	Pn	Pn	09 34 41.0	+0.2
WVT	Waverly	11.21	70	Pn	Pn	09 34 44.2	+0.5
Q44A	Meyer Farm, Va	11.31	55	Pn	Pn	09 34 44.3	-0.8
ECSD	EROS Data Cent	11.34	16	Pn	Pn	09 34 46.2	+0.8
OLIL	Olney	11.88	57	Pn	Pn	09 34 51.4	-1.4
L40A	Anamosa	11.93	37	Pn	Pn	09 34 52.9	-0.6
T47A	Sharon Grove	11.99	66	Pn	Pn	09 34 53.4	-1.0
SWET	Sewanee	12.58	75		Pn	09 35 01.2	-1.3

OSPL 17 09:42:01.9±0.6, 19°.92N×76°.12W, h0km±8km, ML3.9
SSNC 17 09:42:02.1±1.1, 19°.72N×76°.05W, h3km, ML4.0, MW3.8
JSN 17 09:42:04.0±1.7, 19°.71N×76°.15W, h29km±659km, MD4.0
IDC 17 09:42:05.1±1.7, 20°.80N×76°.16W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.6/39, mbtmp3.7/6, Error ellipse: s-maj=51.2km s-min=30.7km az=167.0

ISC 17 09:41:58.9±2.1, 19.76N±0°.04×76°.15W±0°.03, h2km±14km, n30, σ1§84/38, mb3.6/6, 1C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.49	61	eP	Pb	09 42 09.9	-0.3
RCC				eS	Sg	09 42 14.4	-0.2
RCC				IAML		09 42 17.1	
	comp=E,4μm,0.4s						
RCC				IAML		09 42 17.1	
	comp=N,5μm,0.4s						
LMGC	Las Mercedes	0.86	291	eP	Pn	09 42 18.3	+0.3
GTBY	Guantanamo Bay	0.99	80	i P	Pn	09 42 18.8	-1.1
GTBY				eS	Sb	09 42 31.7	-0.7
GTBY				IAML		09 42 33.2	
	comp=Z,5μm,0.6s						
GTMO	Guantanamo	1.00	71	eS	Sn	09 42 33.6	-1.1
HLGC	Holguin	1.13	4	eP	Pn	09 42 22.5	+0.8
HLGC				eS	Sn	09 42 38.7	+0.9
HLGC				IAML		09 42 41.5	
	comp=N,5μm,0.6s						
HLGC				IAML		09 42 41.8	
	comp=E,11μm,0.5s						
MOAC	Moa	1.43	51	eP	Pn	09 42 24.5	-1.4
MOAC				eS	Sn	09 42 43.2	-2.1
CMJ	Castle Mountai	1.63	187

DJA 17 09:50:57.9±1.4, 9°S±10°×12°4E±1°, h78km±17km, M2.3/4, MLv2.3/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.61**	**190**	P	Pn	09 51 13.8	+1.1
SOEI				S	Sn	09 51 26.0	+2.5
BATI	**Baumata**	**1.26**	**214**	P	Pn	09 51 20.1	0.0

DJA 17 09:51:06.0±0.4, 0°S±4°×12°3E±°, h64km±15km, M3.9/11, mb4.0/1, MLv3.8/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.84**	**200**	P	Pn	09 51 23.2	+1.0
LUWI	**Luwuk**	**0.84**	**200**	S	Sn	09 51 34.7	+0.6
LUWI	**Luwuk**	**0.84**	**200**	P	Pn	09 51 22.9	+0.7
GTOI	**Gorontalo**	**0.88**	**357**	P	Pn	09 51 25.3	+2.6
GTOI				S	Sn	09 51 39.6	+4.5
KMSI	**Cibinong**	**1.23**	**48**	P	Pn	09 51 27.1	-0.1
MRSI	**Marisa**	**1.33**	**303**	P	Pn	09 51 28.0	-0.6
MRSI				S	Sn	09 51 44.4	-1.1
MRSI	**Marisa**	**1.33**	**303**	P	Pn	09 51 28.2	-0.4
APSI	**Ampana**	**1.56**	**245**	P	Pn	09 51 31.6	+0.1
APSI	**Ampana**	**1.56**	**245**	P	Pn	09 51 31.4	-0.1
MPSI	**Mapaga**	**3.21**	**280**	P	Pn	09 51 55.3	+1.2
MPSI	**Mapaga**	**3.21**	**280**	P	Pn	09 51 55.0	+0.9
SANI	**Sanana**	**3.43**	**121**	P	Pn	09 51 56.8	-0.2
TTSI	**Tana Toraja**	**4.27**	**229**	P	Pn	09 52 08.5	0.0
TTSI	**Tana Toraja**	**4.27**	**229**	P	Pn	09 52 07.9	-0.6
LBMI	**Labuha**	**4.46**	**95**	P	Pn	09 52 10.5	-0.6
SPSI	**Sidrap Palu**	**4.94**	**222**	P	Pn	09 52 17.9	+0.1
BNSI	**Bone**	**5.07**	**216**	P	Pn	09 52 19.5	0.0
BNSI	**Bone**	**5.07**	**216**	P	Pn	09 52 19.6	+0.1
BSSI	**Bau Bau, Buton**	**6.39**	**204**	P	Pn	09 52 37.7	+0.1

MAN 17 09:56:08.4, 5°.65N×127°.17E, h28km, mb4.6, ML3.4, MS3.3
NEIC 17 09:56:09.7±0.7, 5°.58N±0°.10×127°.10E±0°.08, h94km±9km, mb4.5/21, Error ellipse: s-maj=17.6km s-min=5.7km az=218.0
IDC 17 09:56:11.3±2.0, 5°.56N×126°.94E, h112km±17km, mb3.7/11, mb1 3.7/12, mb1mx3.4/37, mbtmp4.0/12, MS3.2/2, Ms1 3.2/2, ms1mx2.5/77, Error ellipse: s-maj=36.6km s-min=15.1km az=71.0

ISC 17 09:56:07.8±0.5, 5°.58N±0°.06×127°.23E±0°.09, h84km, n49, σ1§40/52, mb4.4/22, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.21**	**312**	P	**Pn**	**09 56 43.0**	**+0.3**
	42nm,0.3s,baz=74,slow=5.6,SNR=4.9						
DAV				S	**Sn**	**09 57 10.8**	**+1.5**
	56nm,0.3s,baz=293,slow=23,SNR=14						
DAV	**Davao City (W)**	**2.21**	**312**		**Pn**	**09 56 42.3**	**-0.4**
KCP	**Kidapawan**	**2.56**	**304⇑**	*i* P	**Pn**	**09 56 47.1**	**-0.3**
KCP				*i* S	**Sn**	**09 57 17.1**	**-0.6**
BIPH	**Bislig**	**2.73**	**342⇓**	*e* P	Pn	09 56 37.5	-12
BIPH				*e* S	**Sn**	**09 57 15.6**	**-6.2**
BUKP	**Musuan**	**3.14**	**317⇑**	*e* P	**Pn**	**09 56 57.1**	**+1.9**
BUKP				*i* S	**Sn**	**09 57 32.3**	**+0.6**
CTBH	**Cotabato--PC H**	**3.38**	**299⇑**	*i* P	**Pn**	**09 56 58.7**	**+0.2**
SIJI	**Sorong**	**7.57**	**148**	P	**Pn**	**09 57 56.6**	**+1.1**
	0.5nm,0.3s,baz=132,slow=22,SNR=6.6						
SIJI				S	**Sn**	**09 59 15.8**	**-3.9**
	1.1nm,0.3s,baz=200,slow=23,SNR=2.0						
TOLI2	**Tolitoli**	**7.82**	**236**	Pn	**Pn**	**09 57 58.2**	**-0.7**
MYLDM	**Lahad Datu**	**8.70**	**268**	Pn	**Pn**	**09 58 10.9**	**-0.1**
FAKI	**Fak Fak**	**9.82**	**149**	Pn	**Pn**	**09 58 28.5**	**+2.3**
SBUM	**Sibu**	**15.29**	**259**	P	**P**	**09 59 41.7**	**-0.4**
JAY	**Jayapura**	**15.68**	**121**	LR	LR	10 06 46.9	
	comp=Z,59nm,18.6s,baz=324,slow=40						
BATI	**Baumata**	**16.08**	**193**	LR	LR	10 07 27.0	
	comp=Z,116nm,21.6s,baz=270,slow=42						
MTN	**Manton Dam**	**18.71**	**168**	P	**P**	**10 00 20.4**	**+0.6**
KNRA	**Kununurra**	**21.17**	**176**	P	**P**	**10 00 46.8**	**+0.3**
WB0	**Warramunga Arr**	**26.15**	**165**	P	**P**	**10 01 35.5**	**+1.0**
WB0				IAmb	IAmb	10 02 06.6	
	comp=Z,25nm,1.9s						
WRA	**Warramunga Arr**	**26.31**	**165**	P	**P**	**10 01 36.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=345,slow=10,SNR=7.6						
WRA	**Warramunga Arr**	**26.31**	**165**	P	**P**	**10 01 36.5**	**+0.6**
WB2	**Warramunga Arr**	**26.31**	**165**	P	**P**	**10 01 36.7**	**+0.8**
WB2				IAmb	IAmb	10 02 09.1	
	comp=Z,21nm,1.9s						
WR0	**Warramunga Arr**	**26.38**	**164**	P	**P**	**10 01 37.1**	**+0.6**
WR0				IAmb	IAmb	10 01 54.8	
	comp=Z,22nm,1.9s						
AS31	**Alice Springs**	**29.79**	**168**	P	**P**	**10 02 05.5**	**-1.4**
ASAR	**Alice Springs**	**29.79**	**168**	P	**P**	**10 02 08.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=355,slow=7.3,SNR=2.0						
ASAR				PcP	**PcP**	**10 05 09.4**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=352,slow=2.3,SNR=6.4						
ASAR	**Alice Springs**	**29.79**	**168**	P	**P**	**10 02 05.3**	**-1.6**
KS19	**Wonju Array Si**	**31.78**	**1**	P	**P**	**10 02 25.2**	**+0.9**
FORT	**Forrest**	**36.16**	**179**	P	**P**	**10 03 02.7**	**+0.5**
BBOO	**Buckleboo**	**39.09**	**168**	P	**P**	**10 03 26.6**	**-0.3**
BBOO				IAmb	IAmb	10 04 26.2	
	comp=Z,13nm,1.4s						
SONM	**Songino Array**	**45.73**	**340**	P	**P**	**10 04 21.7**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=155,slow=7.1,SNR=3.3						
PETK	**Petropavlovsk-**	**53.54**	**22**	P	**P**	**10 05 22.1**	**+2.2**
	comp=Z,2.1nm,0.8s,baz=212,slow=4.2,SNR=12						
MK31	**Makanchi Array**	**56.34**	**324**	P	**P**	**10 05 39.8**	**-0.5**
MK31				IAmb	IAmb	10 05 40.8	
	comp=Z,4.3nm,0.6s						
MKAR	**Makanchi Array**	**56.34**	**324**	P	**P**	**10 05 40.0**	**-0.3**
	comp=Z,5.0nm,0.6s,baz=116,slow=7.5,SNR=91						
MAKZ	**Makanchi**	**56.53**	**324**	P	**P**	**10 05 41.3**	**-0.2**
MAKZ				IAmb	IAmb	10 05 42.2	
	comp=Z,5.1nm,0.7s						
BOOM	**Boomskoye usch**	**58.31**	**317**	P	**P**	**10 05 54.6**	**+0.3**
BOOM				IAmb	IAmb	10 07 53.7	
	comp=Z,8.9nm,1.1s						
ZAA0	**Zalesovo Array**	**59.19**	**332**	P	**P**	**10 05 59.9**	**0.0**
ZAA0				IAmb	IAmb	10 06 03.7	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**59.19**	**332**	P	**P**	**10 05 59.0**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=122,slow=6.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**59.19**	**332**	P	**P**	**10 05 59.9**	**0.0**
KURK	**Kurchatov**	**60.47**	**327**	P	**P**	**10 06 08.6**	**-0.2**
KKAR	**Karatay Array**	**62.24**	**316**	P	**P**	**10 06 20.4**	**-0.5**
TIXI	**Tiksi**	**66.00**	**1**	P	**P**	**10 06 44.9**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=212,slow=3.6,SNR=5.7						
BRVK	**Borovoye**	**66.13**	**326**	P	**P**	**10 06 45.7**	**-0.5**
BRVK				IAmb	IAmb	10 06 46.3	
	comp=Z,5.3nm,0.6s						
ABKAR	**Abkulak array**	**71.05**	**320**	P	**P**	**10 07 16.3**	**-0.6**
ABKAR	**Abkulak array**	**71.05**	**320**	P	**P**	**10 07 16.4**	**-0.6**
ABKAR				IAmb	IAmb	10 07 17.2	
	comp=Z,5.9nm,0.8s						
ARU	**Arti**	**73.66**	**327**	P	**P**	**10 07 31.4**	**-0.8**
ARU				IAmb	IAmb	10 07 32.4	
	comp=Z,5.4nm,1.0s						
ILAR	**Eielson Array**	**83.23**	**25**	P	**P**	**10 08 24.8**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=251,slow=5.2,SNR=4.9						
VNDA	**Vanda**	**85.19**	**173**	P	**P**	**10 08 34.8**	**+0.5**
ARCES	**ARCESS Array B**	**88.90**	**340**	P	**P**	**10 08 51.2**	**-1.3**
	comp=Z,2.9nm,1.0s,baz=79,slow=6.3,SNR=3.6						
BRTR	**Keskin Array B**	**89.23**	**310**	P	**P**	**10 08 54.0**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=120,slow=7.5,SNR=3.6						
FINES	**FINESS Array B**	**90.45**	**332**	P	**P**	**10 08 59.0**	**-0.9**
	comp=Z,3.6nm,1.0s,baz=41,slow=5.1,SNR=6.9						
FINES	**FINESS Array B**	**90.45**	**332**	P	**P**	**10 08 58.4**	**-1.6**
QSPA	**South Pole Qui**	**95.47**	**180**	P	**P**	**10 09 23.3**	**+0.2**

IDC 17 10:01:21.4±1.5, 19°.73N×97°.88E, h0km, mb3.3/3, mb1 3.3/3, mb1mx2.8/49, mbtmp3.3/3, Error ellipse: s-maj=16.4km s-min=13.7km az=80.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**1.61**	**141**	Pg	Pb	10 01 52.0	-0.1
	19nm,0.3s,baz=322,slow=17,SNR=195						
CMAR				Lg	Lg	10 02 12.9	
	40nm,0.3s,baz=318,slow=28,SNR=5.6						
SONM	**Songino Array**	**28.88**	**12**	P	P	10 07 23.7	+1.8
	0.2nm,0.3s,baz=198,slow=8.9,SNR=1.5						
MKAR	**Makanchi Array**	**29.86**	**338**	P	P	10 07 30.2	-0.3
	0.1nm,0.7s,baz=141,slow=9.3,SNR=1.1						
ASAR	**Alice Springs**	**55.62**	**139**	P	P	10 10 57.3	-2.0
	0.2nm,0.4s,baz=320,slow=7.3,SNR=4.8						

IDC 17 10:04:32.0±1.3, 19°.62N×75°.96W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.3/49, mbtmp3.7/4, Error ellipse: s-maj=48.7km s-min=35.2km az=12.0
SSNC 17 10:04:34.0±1.8, 19°.65N×76°.03W, h5km±11km, ML3.8, MW3.8
JSN 17 10:04:37.8±0.6, 19°.48N×76°.16W, h6km±134km, MD4.0

ISC 17 10:04:32.3±1.2, 19°.67N±0°.03×76°.07W±0°.03, h6km±9km, n22, σ1§57/31, mb3.5/4, 2C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.48**	**47**	*i* P	**Pb**	**10 04 43.0**	**-0.2**
RCC				*e* S	**Sg**	**10 04 48.7**	**+0.9**
RCC				IAML		10 04 50.1	
	comp=E,4μm,0.5s						
RCC				IAML		10 04 50.1	
	comp=N,3μm,0.4s						
GTMO	**Guantanamo**	**0.96**	**65**	*e* P	**Pn**	**10 04 52.8**	**+0.4**
GTMO				*e* S	**Sn**	**10 05 07.0**	**+0.7**
LMGC	**Las Mercedes**	**0.97**	**294**	*e* P	**Pg**	**10 04 51.5**	**+0.5**
LMGC				*e* S	**Sg**	**10 05 04.0**	**+0.6**
HLGC	**Holguin**	**1.22**	**0**	*e* P	**Pg**	**10 04 55.6**	**0.0**
HLGC				*e* S	**Sg**	**10 05 12.7**	**+1.2**
HLGC				IAML		10 05 14.7	
	comp=N,4μm,0.5s						
HLGC				IAML		10 05 14.9	
	comp=E,9μm,0.5s						
MOAC	**Moa**	**1.43**	**46**	*e* P	**Pn**	**10 04 57.6**	**-1.3**
MOAC				*e* S	**Sb**	**10 05 15.2**	**-2.7**
MOAC				IAML		10 05 19.1	
	comp=N,649nm,0.5s						
MOAC				IAML		10 05 21.4	
	comp=E,559nm,0.4s						
CMJ	**Castle Mountai**	**1.55**	**191**	*i* P	**Pg**	**10 05 01.5**	**-0.6**
GWJ	**Greenwich**	**1.71**	**202⇑**	*i* P	**Pb**	**10 05 03.5**	**-0.7**
STH	**Stony Hill**	**1.73**	**204⇓**	*i* P	**Pb**	**10 05 03.8**	**-0.8**
MASC	**Masc**	**1.80**	**73**	*e* P	**Pn**	**10 05 03.6**	**-0.3**
MASC				*e* S	**Sb**	**10 05 27.8**	**-0.7**
MASC				IAML		10 05 35.0	
	comp=E,412nm,0.4s						
MASC				IAML		10 05 35.3	
	comp=N,619nm,0.4s						
MTDJ	**Mount Denham**	**2.00**	**224**	*e* P	**Pn**	**10 05 06.8**	**+0.1**
MTDJ				*e* S	**Sn**	**10 05 31.9**	**-0.2**
CVJ	**Coleyville**	**2.00**	**224⇑**	*i* P	**Pn**	**10 05 07.7**	**+0.9**
CCCC	**Cccc**	**2.20**	**314**	*e* P	**Pn**	**10 05 07.0**	**-2.4**
CCCC				*e* S	**Sn**	**10 05 32.6**	**-4.5**
CCCC				IAML		10 05 35.3	
	comp=N,418nm,0.5s						
CCCC				IAML		10 05 35.4	
	comp=E,989nm,0.5s						
MCJ	**Malvern**	**2.32**	**222**	*i* P	**Pb**	**10 05 12.8**	**-1.7**
MCJ				*i* S	**Sn**	**10 05 38.4**	**-1.5**
LGNH	**Logne**	**3.47**	**109**	*e* P	**Pb**	**10 05 31.7**	**-2.5**
MGV	**Manicaragua**	**4.39**	**304**	*e* P	**Pn**	**10 05 41.3**	**+1.8**
SDDR	**Presa de Saban**	**4.56**	**98**	*e* P	**Pn**	**10 05 42.5**	**+0.5**
TXAR	**Lajitas Array**	**26.84**	**296**	P	**P**	**10 10 16.6**	**+2.8**
	comp=E,0.4nm,1.0s,baz=111,slow=9.7,SNR=2.0						
YKA	**Yellowknife Ar**	**50.31**	**338**	P	**P**	**10 13 30.1**	**+0.5**
	comp=E,0.2nm,0.5s,baz=131,slow=8.7,SNR=6.4						
TORD	**Torodi Ar. Bea**	**74.32**	**81**	P	**P**	**10 16 12.0**	**+0.7**
	comp=E,0.2nm,0.3s,baz=309,slow=2.9,SNR=3.6						
ARCES	**ARCESS Array B**	**75.72**	**21**	P	**P**	**10 16 19.4**	**+1.0**
	comp=E,2.2nm,0.7s,baz=304,slow=9.7,SNR=1.9						
WRA	**Warramunga Arr**	**151.41**	**264**	PKPbc	**PKiKP**	**10 24 28.6**	**+0.1**
	comp=E,0.3nm,0.6s,baz=87,slow=2.6,SNR=7.7						
ASAR	**Alice Springs**	**151.89**	**256**	PKPbc	**PKiKP**	**10 24 29.4**	**0.0**
	comp=E,0.4nm,0.6s,baz=78,slow=2.1,SNR=8.4						

IDC 17 10:07:12.8±1.7, 18°.63N×74°.89W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.3/50, mbtmp4.1/3, Error ellipse: s-maj=67.8km s-min=39.7km az=153.0
SSNC 17 10:07:17.7±1.5, 19°.65N×76°.06W, h3km±8km, ML3.7, MW3.6
OSPL 17 10:07:19.3±1.1, 20°.07N×76°.07W, h0km±16km, ML3.7

ISC 17 10:07:16.4±1.2, 19°.70N±0°.05×76°.11W±0°.03, h14km±8km, n21, σ1§91/30, mb4.3/3, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.49**	**53**	*e* P	**Pg**	**10 07 26.1**	**+0.1**
RCC				*e* S	**Sg**	**10 07 31.9**	**-0.7**
RCC				IAML		10 07 32.7	
	comp=E,3μm,0.5s						
RCC				IAML		10 07 33.5	
	comp=N,3μm,0.5s						
LMGC	**Las Mercedes**	**0.92**	**293**	*e* P	**Pg**	**10 07 34.4**	**+0.3**
LMGC				*e* S	**Sg**	**10 07 46.6**	**+0.5**
LMGC				IAML		10 07 49.2	
	comp=N,1μm,0.2s						
LMGC				IAML		10 07 49.4	
	comp=E,924nm,0.1s						
GTBY	**Guantanamo Bay**	**0.97**	**76**	*e* P	**Pb**	**10 07 35.0**	**+0.1**
GTBY				*e* S	**Sg**	**10 07 48.0**	**+0.2**
GTBY	**Guantanamo Bay**	**0.97**	**76**	*i* P	**Pb**	**10 07 35.0**	**+0.1**
GTBY				*e* S	**Sg**	**10 07 48.0**	**+0.2**
GTBY				IAML		10 07 49.5	
	comp=Z,3μm,0.5s						
GTMO	**Guantanamo**	**0.99**	**67**	*e* P	**Pg**	**10 07 35.7**	**+0.2**
GTMO				*e* S	**Sn**	**10 07 50.7**	**+1.2**
GTMO				IAML		10 07 52.9	
	comp=E,64μm,0.5s						
GTMO				IAML		10 07 53.7	
	comp=N,69μm,0.3s						
HLGC	**Holguin**	**1.18**	**2**	*e* P	**Pb**	**10 07 38.7**	**+0.1**
HLGC				*e* S	**Sg**	**10 07 55.3**	**+0.6**
HLGC				IAML		10 07 58.5	
	comp=N,3μm,0.4s						
HLGC				IAML		10 07 58.8	
	comp=E,3μm,0.7s						
MOAC	**Moa**	**1.44**	**48**	*e* P	**Pn**	**10 07 41.3**	**-0.7**
MOAC				*e* S	**Sn**	**10 07 59.1**	**-1.6**
MOAC				IAML		10 08 06.1	
	comp=N,915nm,0.5s						
MOAC				IAML		10 08 06.3	
	comp=E,794nm,0.4s						
MASC	**Masc**	**1.83**	**75**	*e* P	**Pn**	**10 07 46.3**	**-1.0**
MASC				*e* S	**Sn**	**10 08 07.2**	**-3.1**
MASC				IAML		10 08 18.2	
	comp=E,216nm,0.3s						
MASC				IAML		10 08 18.5	
	comp=N,356nm,0.5s						
MTDJ	**Mount Denham**	**1.99**	**223**	*e* P	**Pn**	**10 07 50.2**	**+0.6**
MTDJ				*e* S	**Sn**	**10 08 13.1**	**-1.4**
CCCC	**Cccc**	**2.15**	**314**	*e* P	**Pn**	**10 07 50.7**	**-1.1**
CCCC				*e* S	**Sn**	**10 08 13.8**	**-4.5**
CCCC				IAML		10 08 18.3	
	comp=E,269nm,0.4s						
CCCC				IAML		10 08 18.8	
	comp=N,159nm,0.4s						
LGNH	**Logne**	**3.52**	**109**	*i* P	**Pb**	**10 08 15.3**	**-3.1**
JAKH	**Jacmel**	**3.70**	**113**	*i* P	**Pb**	**10 08 17.7**	**-3.8**
JAKH				IAML		10 09 09.2	
	comp=Z,72nm,0.3s						
PAPH	**Port-au-Prince**	**3.79**	**107**	*i* P	**Pn**	**10 08 18.3**	**+4.0**
MGV	**Manicaragua**	**4.34**	**304**	*e* P	**Pn**	**10 08 24.0**	**+2.1**
SDDR	**Presa de Saban**	**4.61**	**98**	*i* P	**Pn**	**10 08 28.0**	**+2.4**
GRTK	**Grand Turk**	**5.00**	**68**	*i* P	**Pn**	**10 08 31.6**	**+0.6**
TXAR	**Lajitas Array**	**26.79**	**296**	P	P	10 13 08.5	+12
	comp=Z,0.6nm,0.9s,baz=112,slow=8.2,SNR=3.5						
ARCES	**ARCESS Array B**	**75.70**	**21**	P	**P**	**10 19 02.1**	**+1.2**
	comp=Z,3.0nm,0.9s,baz=339,slow=3.1,SNR=3.8						
FINES	**FINESS Array B**	**78.56**	**29**	P	**P**	**10 19 18.9**	**+1.8**
	comp=Z,3.5nm,0.9s,baz=280,slow=3.6,SNR=7.9						
WRA	**Warramunga Arr**	**151.37**	**264**	PKPbc	**PKiKP**	**10 27 11.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=86,slow=2.6,SNR=7.5						
ASAR	**Alice Springs**	**151.86**	**257**	PKPbc	**PKiKP**	**10 27 12.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=66,slow=1.9,SNR=6.2						

KRSC 17 10:07:18.4±1.6, 49°.05N×156°.45E, h16km±22km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.65**	**353**	*e* P	Pn	10 07 46.5	-0.3
SKR				*e* S	Sn	10 08 07.7	0.0
PAU	**Pauzhetka**	**2.44**	**5**	*e* P	Pn	10 07 58.8	+1.3
PAU				*e* S	Sb	10 08 29.6	-2.0
KDTR	**Khodutka, Kamc**	**2.96**	**20**	*e* P	Pb	10 08 07.7	-3.0
KDTR				*e* S	Sb	10 08 44.1	-2.4
MTVR	**Mutnovka**	**3.61**	**17**	*e* P	Pn	10 08 17.2	+3.3
MTVR				*e* S	Sn	10 09 00.7	+4.5
RUS	**Russkaya**	**3.63**	**20**	P	Pn	10 08 17.4	+3.4
RUS				*e* S	Sb	10 09 01.7	-4.4
GRL	**Gorelyy**	**3.66**	**16**	*e* P	Pn	10 08 18.1	+3.6
APC	**Apacha**	**3.91**	**6**	*e* P	Pn	10 08 21.0	+3.2
KRMR	**Karymshinskiy**	**3.93**	**15**	*e* P	Pn	10 08 20.8	+2.7
PET	**Petropavlovsk**	**4.22**	**18**	*e* P	Pn	10 08 25.6	+3.6
PET				*e* S	Sn	10 09 15.6	+4.7
DALK	**Dalny**	**4.25**	**19**	*e* P	Pn	10 08 25.8	+3.4
DALK				*e* S	Sn	10 09 16.2	+4.6
UGLR	**Uglovaya**	**4.43**	**19**	*e* P	Pn	10 08 28.8	+3.8
AVH	**Avacha**	**4.46**	**18**	*e* P	Pn	10 08 30.4	+4.9
KOK	**Koryaka**	**4.47**	**17**	*e* P	Pn	10 08 30.5	+4.9
SMAR	**Somma**	**4.47**	**18**	*e* P	Pn	10 08 31.0	+5.2
KRER	**Koryakskii**	**4.50**	**18**	*e* P	Pn	10 08 31.1	+5.0
SDLR	**Sedlovina**	**4.50**	**19**	*e* P	Pn	10 08 29.6	+3.5
SPN	**Mys Shipunski**	**4.64**	**28**	*e* P	Pn	10 08 31.4	+3.6
SPN				*e* S	Sn	10 09 26.0	+4.7
GNL	**Ganaly**	**4.75**	**11**	*e* P	Pn	10 08 33.5	+4.1
TUMD	**Tumrok D**	**6.63**	**20**	*e* P	Pn	10 09 00.3	+5.2
TUMR	**Tumrok**	**6.65**	**19**	*e* P	Pn	10 09 01.6	+6.1

IDC 17 10:12:06.0±1.0, 23°.61S×177°.20W, h0km, mb3.8/7, mb1 4.2/7, mb1mx3.6/51, mbtmp3.8/7, MS3.1/4, Ms1 3.1/4, ms1mx2.8/61, Error ellipse: s-maj=45.1km s-min=25.0km az=152.0

ISC 17 10:12:24.2±1.0, 23°.7S±0°.3×177°.4W±0°.2, h150km, n20, σ0§52/7, mb3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.97**	**273**	LR	LR	10 20 30.1	
	comp=Z,129nm,19.5s,baz=14,slow=33						
DZM	**Mont Dzumac**	**14.97**	**273**	*e* LR	LR	10 19 36.8	
	comp=Z,205nm,25.4s						
RAR	**Rarotonga**	**16.48**	**85**	LR	LR	10 23 16.2	
	comp=Z,38nm,18.2s,baz=294,slow=41						
PPT2	**Papeete2**	**26.71**	**82**	*e* LR	LR	10 24 15.3	
	comp=Z,94nm,24.5s						
PPT	**Papeete**	**26.71**	**82**	LR	LR	10 25 19.2	
	comp=Z,32nm,20.3s,baz=304,slow=30						
TAOE	**Nuku Hiva Isla**	**38.53**	**74**	*e* LR	LR	10 29 45.0	
	comp=Z,60nm,24.5s						
ASAR	**Alice Springs**	**44.42**	**260**	P	**P**	**10 20 20.6**	**+0.2**
	1.6nm,0.9s,baz=92,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**44.80**	**265**	P	**P**	**10 20 23.1**	**-0.3**
	1.1nm,1.0s,baz=101,slow=7.0,SNR=6.8						
RPN	**Rapa Nui**	**60.91**	**109**	LR	LR	10 45 31.5	
	comp=Z,19nm,18.4s,baz=202,slow=33						
QSPA	**South Pole Qui**	**66.43**	**180**	P	**P**	**10 22 57.2**	**+0.1**
	1.4nm,0.8s,baz=266,slow=2.7,SNR=4.2						
NVAR	**Mina Array Bea**	**82.94**	**43**	P	**P**	**10 24 32.7**	**+0.1**
	0.4nm,0.7s,baz=241,slow=9.2,SNR=3.7						
H03S2	**Juan Fernandez**	**83.77**	**124**	T	T	11 56 35.7	
	SNR=16						
H03S1	**Juan Fernandez**	**83.78**	**124**	T	T	11 56 37.7	
	SNR=13						
H03S3	**Juan Fernandez**	**83.78**	**124**	T	T	11 56 36.8	
	SNR=14						
H03N2	**Juan Fernandez**	**83.92**	**124**	T	T	11 56 42.2	
	baz=250,slow=72,SNR=32						
H03N3	**Juan Fernandez**	**83.92**	**124**	T	T	11 56 43.5	
	baz=250,slow=72,SNR=43						
H03N1	**Juan Fernandez**	**83.94**	**124**	T	T	11 56 44.9	
	baz=250,slow=72,SNR=41						
TXAR	**Lajitas Array**	**88.29**	**57**	P	**P**	**10 24 59.1**	**0.0**
	0.5nm,0.8s,baz=193,slow=5.1,SNR=5.1						
PDAR	**Pinedale Array**	**90.87**	**43**	P	**P**	**10 25 10.2**	**-0.8**
	0.5nm,0.9s,baz=198,slow=4.2,SNR=3.6						
ILAR	**Eielson Array**	**91.25**	**13**	P	**P**	**10 25 12.4**	**+0.5**
	0.7nm,0.9s,baz=218,slow=5.7,SNR=3.0						

SSNC 17 10:17:18.3±1.2, 19°.70N×76°.05W, h3km±9km, ML3.3, MW3.7
OSPL 17 10:17:19.5±1.1, 20°.01N×76°.09W, h0km±15km, ML3.2
JSN 17 10:17:21.4±1.3, 19°.62N×76°.05W, h28km±999km, MD3.9
IDC 17 10:17:27.3±1.3, 19°.66N×77°.36W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/53, mbtmp3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/40, Error ellipse: s-maj=62.1km s-min=36.9km az=19.0

ISC 17 10:17:17.8±1.2, 19°.78N±0°.04×76°.11W±0°.03, h16km±9km, n26, σ1§66/33, mb3.2/3, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.44**	**62**	*i* P	**Pb**	**10 17 26.4**	**-0.7**
RCC				*e* S	**Sg**	**10 17 31.6

*NEIC **17** 10:21:00.2±1.0, 20.5°S±0.1°×67.9°E±0.2°, h10km±1km, mb4.6/13, Error ellipse: s-maj=36.7km s-min=23.5km az=272.0*

ISC 17 10:21:01.2±0.8, **20.5°S**±0.2°×**68.2°E**±0.2°, **h15**km, **n60**, σ0.85/31, **mb4.2**/16, **MS3.8**/29, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.42**	**19**	T	T	10 37 44.4	
	baz=200,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**13.42**	**19**	T	T	10 37 45.0	
	baz=200,slow=76,SNR=108						
H08S3	**Diego Garcia H**	**13.44**	**19**	T	T	10 37 47.7	
	baz=200,slow=76,SNR=121						
PALK	**Pallekele**	**30.20**	**25**	LR	LR	10 36 13.1	
	comp=Z,202nm,21.5s,baz=310,slow=30						
PSI	**Prapat**	**38.01**	**56**	LR	LR	10 40 22.4	
	comp=Z,44nm,18.3s,baz=210,slow=31						
LSZ	**Lusaka**	**38.33**	**271**	LR	LR	10 41 59.8	
	comp=Z,102nm,19.9s,baz=144,slow=33						
LBTB	**Lobatse**	**39.40**	**255**	LR	LR	10 42 34.8	
	comp=Z,69nm,18.8s,baz=88,slow=33						
BOSA	**Boshof**	**39.70**	**250**	LR	LR	10 41 41.1	
	comp=Z,52nm,18.5s,baz=168,slow=31						
LEM	**Lembang**	**40.54**	**76**	LR	LR	10 41 33.3	
	comp=Z,97nm,20.6s,baz=225,slow=30						
MBAR	**Mbarara**	**41.57**	**294**	LR	LR	10 43 10.6	
	comp=Z,120nm,20.2s,baz=32,slow=32						
H01W2	**Cape Leeuwin H**	**42.80**	**120**	T	T	11 14 54.9	
	baz=279,slow=75,SNR=4.6						
H01W3	**Cape Leeuwin H**	**42.80**	**120**	T	T	11 14 59.7	
	baz=279,slow=75,SNR=5.1						
H01W1	**Cape Leeuwin H**	**42.82**	**120**	T	T	11 14 57.0	
	baz=279,slow=75,SNR=5.1						
WSAR	**Wadi Sarin**	**44.43**	**347**	LR	LR	10 42 58.1	
	comp=Z,129nm,21.5s,baz=180,slow=30						
MAW	**Mawson**	**47.24**	**183**	LR	LR	10 44 26.6	
	comp=Z,160nm,21.3s,baz=56,slow=30						
TSUM	**Tsumeb**	**47.44**	**262**	LR	LR	10 47 36.3	
	comp=Z,139nm,18.6s,baz=148,slow=34						
CM31	**Chiang Mai Arr**	**49.07**	**40**	P	**P**	**10 29 48.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**49.07**	**40**	P	**P**	**10 29 48.8**	**+0.7**
	0.7nm,0.3s,baz=237,slow=8.4,SNR=6.6						
CMAR				LR	LR	10 47 08.0	
	comp=Z,75nm,21.7s,baz=225,slow=32						
CMAR	**Chiang Mai Arr**	**49.07**	**40**	P	**P**	**10 29 48.0**	**-0.1**
SHL	**Shillong**	**51.24**	**28**	P	**P**	**10 30 05.5**	**+0.8**
SHL				IAmb	IAmb	10 30 14.2	
	comp=Z,9.9nm,0.9s						
BATI	**Baumata**	**54.27**	**88**	LR	LR	10 49 03.9	
	comp=Z,63nm,21.1s,baz=234,slow=31						
GEYT	**Alibeck**	**58.85**	**351**	LR	LR	10 53 22.3	
	comp=Z,131nm,18.9s,baz=156,slow=33						
ASAR	**Alice Springs**	**60.53**	**106**	P	**P**	**10 31 11.0**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=262,slow=6.3,SNR=19						
ASAR				LR	LR	10 53 48.8	
	comp=Z,230nm,20.9s,baz=318,slow=33						
ASAR	**Alice Springs**	**60.53**	**106**	P	**P**	**10 31 12.0**	**+0.7**
AS31	**Alice Springs**	**60.53**	**106**	P	**P**	**10 31 11.3**	**0.0**
WRA	**Warramunga Arr**	**61.69**	**102**	P	**P**	**10 31 18.9**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=261,slow=6.6,SNR=9.6						
WRA	**Warramunga Arr**	**61.69**	**102**	P	**P**	**10 31 19.5**	**+0.3**
WB2	**Warramunga Arr**	**61.70**	**102**	P	**P**	**10 31 19.6**	**+0.3**
WRAB	**Tennant Creek**	**61.70**	**102**	P	**P**	**10 31 19.2**	**-0.1**
WB0	**Warramunga Arr**	**61.78**	**102**	P	**P**	**10 31 19.4**	**-0.4**
WB0				IAmb	IAmb	10 31 33.1	
	comp=Z,8.6nm,1.3s						
WR0	**Warramunga Arr**	**61.87**	**102**	P	**P**	**10 31 21.8**	**+1.3**
WR0				IAmb	IAmb	10 31 31.3	
	comp=Z,2.3nm,0.9s						
AAK	**Ala-Archa**	**63.06**	**5**	LR	LR	10 57 04.0	
	comp=Z,60nm,19.7s,baz=210,slow=34						
KKAR	**Karatay Array**	**63.30**	**2**	P	**P**	**10 31 28.6**	**-0.7**
GNI	**Garni**	**64.14**	**340**	LR	LR	10 57 22.0	
	comp=Z,50nm,19.4s,baz=118,slow=34						
KBZ	**Khabaz**	**67.97**	**340**	LR	LR	10 58 07.8	
	comp=Z,21nm,21.2s,baz=169,slow=33						
BRTR	**Keskin Array B**	**68.01**	**332**	P	**P**	**10 32 00.3**	**+0.2**
	comp=Z,1.8nm,1.2s,baz=133,slow=10,SNR=3.0						
BRTR				LR	LR	10 59 46.4	
	comp=Z,33nm,20.1s,baz=106,slow=34						
MK31	**Makanchi Array**	**68.16**	**10**	P	**P**	**10 31 59.6**	**-1.1**
MK31				IAmb	IAmb	10 32 12.0	
	comp=Z,4.7nm,1.4s						
MKAR	**Makanchi Array**	**68.16**	**10**	P	**P**	**10 31 59.8**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=174,slow=26,SNR=2.8						
MKAR				LR	LR	11 01 24.2	
	comp=Z,91nm,18.5s,baz=216,slow=36						
MKAR	**Makanchi Array**	**68.16**	**10**	P	**P**	**10 32 00.0**	**-0.6**
QSPA	**South Pole Qui**	**69.64**	**180**	P	**P**	**10 32 09.6**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=343,slow=9.2,SNR=1.8						
QSPA				LR	LR	10 59 29.0	
	comp=Z,148nm,18.6s,baz=251,slow=33						
QSPA	**South Pole Qui**	**69.64**	**180**	P	**P**	**10 32 09.8**	**-0.1**
QSPA				IAmb	IAmb	10 32 20.4	
	comp=Z,8.0nm,1.1s						
ABKAR	**Akbulak array**	**69.80**	**354**	P	**P**	**10 32 09.1**	**-1.7**
AKTO	**Aktyubinsk**	**71.16**	**353**	LR	LR	11 02 37.3	
	comp=Z,22nm,18.9s,baz=158,slow=35						
KURK	**Kurchatov**	**71.47**	**7**	P	**P**	**10 32 20.8**	**-0.1**
KURK				IAmb	IAmb	10 32 33.1	
	comp=Z,6.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.38**	**291**	P	**P**	**10 32 33.3**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=122,slow=4.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**75.49**	**10**	P	**P**	**10 32 43.3**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=169,slow=3.0,SNR=4.2						
ZALV				LR	LR	11 05 30.7	
	comp=Z,57nm,18.7s,baz=192,slow=35						
ZALV	**Zalesovo Beam**	**75.49**	**10**	P	**P**	**10 32 44.3**	**-0.2**
SONM	**Songino Array**	**76.16**	**25**	P	**P**	**10 32 48.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=100,slow=40,SNR=2.7						
SONM	**Songino Array**	**76.16**	**25**	P	**P**	**10 32 49.4**	**+0.7**
SONM				IAmb	IAmb	10 32 58.3	
	comp=Z,4.9nm,1.2s						
DBIC	**Dimbokro**	**76.59**	**282**	LR	LR	11 04 09.2	
	comp=Z,90nm,20.1s,baz=132,slow=34						
AKASG	**Malin Array Be**	**78.73**	**336**	P	**P**	**10 33 03.9**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=144,slow=4.4,SNR=3.4						
AKASG	**Malin Array Be**	**78.73**	**336**	P	**P**	**10 33 05.3**	**+2.5**
KIRV	**Kirov**	**80.28**	**350**	LR	LR	11 07 39.5	
	comp=Z,33nm,20.4s,baz=193,slow=35						
KSRS	**Korea Array**	**80.49**	**44**	LR	LR	11 07 38.0	
	comp=Z,35nm,21.0s,baz=160,slow=35						
MJAR	**Matsushiro Arr**	**87.05**	**49**	P	**P**	**10 33 46.3**	**0.0**
	comp=Z,1.1nm,0.7s,baz=238,slow=6.7,SNR=2.0						
MDT	**Midelt**	**87.34**	**306**	LR	LR	11 11 43.1	
	comp=Z,53nm,20.6s,baz=134,slow=35						
PMSA	**Palmer Station**	**87.47**	**199**	LR	LR	11 11 39.0	
	comp=Z,74nm,18.4s,baz=128,slow=35						
HNR	**Honiara**	**88.41**	**99**	LR	LR	11 08 12.0	
	comp=Z,285nm,20.0s,baz=130,slow=32						
DZM	**Mont Dzumac**	**89.73**	**113**	LR	LR	11 09 21.8	
	comp=Z,581nm,21.7s,baz=30,slow=32						
YKA	**Yellowknife Ar**	**137.97**	**2**	PKP	**PKiKP**	**10 40 25.9**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=347,slow=2.5,SNR=2.5						
YKA				PP	PP	10 43 22.4	+10
	comp=Z,0.2nm,0.9s,baz=354,slow=4.6,SNR=5.4						

*IDC **17** 10:21:33.8±1.1, 51.70°N×161.69°E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.4/54, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=32.5km s-min=27.0km az=36.0*

*KRSC **17** 10:21:35.9±2.6, 51.76°N×161.76°E, h41km±17km, ML4.2*

ISC 17 10:21:40.0±1.4, **51.70°N**±0.05°×**161.64°E**±0.05°, **h42**km±18km, **n44**, σ1.21/51, **mb3.4**/4, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.71**	**325**	*eP*	Pn	10 22 05.6	-1.7
SPN				eS	Sn	10 22 25.3	-2.7
NLC	**Nalytchevo**	**2.03**	**317**	*eP*	Pn	10 22 10.8	-0.9
NLC				eS	**Sn**	**10 22 34.3**	**-1.5**
RUS	**Russkaya**	**2.06**	**292**	*eP*	Pn	10 22 11.6	-0.5
RUS				eS	**Sn**	**10 22 35.8**	**-0.8**
DALK	**Dalny**	**2.21**	**308**	*eP*	Pn	10 22 13.8	-0.4
DALK				eS	**Sn**	**10 22 39.0**	**-1.3**
KDTR	**Khodutka, Kamc**	**2.22**	**274**	*eP*	Pn	10 22 13.9	-0.3
KDTR				eS	**Sn**	**10 22 39.1**	**-1.3**
PET	**Petropavlovsk**	**2.26**	**307**	*eS*	**Sn**	**10 22 40.9**	**-0.5**
MTVR	**Mutnovka**	**2.27**	**291**	*eP*	Pn	10 22 15.0	-0.1
MTVR				eS	**Sn**	**10 22 41.6**	**-0.3**
UGLR	**Uglovaya**	**2.29**	**312**	*eP*	**Pn**	**10 22 15.4**	**+0.1**
UGLR				eS	**Sn**	**10 22 42.6**	**+0.3**
SDLR	**Sedlovina**	**2.31**	**314**	*eP*	Pn	10 22 15.2	-0.4
SMAR	**Somma**	**2.33**	**313**	*eP*	Pn	10 22 15.7	-0.4
GRL	**Gorelyy**	**2.36**	**293**	*eP*	**Pn**	**10 22 16.8**	**+0.5**
GRL				eS	**Sn**	**10 22 44.9**	**+0.9**
AVH	**Avacha**	**2.37**	**313**	*eP*	**Pn**	**10 22 16.5**	**+0.1**
AVH				eS	**Sn**	**10 22 44.8**	**+0.6**
KRER	**Koryakskii**	**2.39**	**313**	*eP*	**Pn**	**10 22 16.8**	**0.0**
KRER				eS	**Sn**	**10 22 45.3**	**+0.5**
KOK	**Koryaka**	**2.43**	**312**	*eP*	**Pn**	**10 22 17.6**	**+0.3**
KOK				eS	**Sn**	**10 22 46.0**	**+0.2**
KRMR	**Karymshinskiy**	**2.43**	**299**	*eP*	Pn	10 22 17.1	-0.1
KRMR				eS	**Sn**	**10 22 45.1**	**-0.6**
KII	**Karymskiy**	**2.69**	**331**	*eP*	**Pn**	**10 22 20.5**	**-0.3**
KII				eS	**Sn**	**10 22 50.9**	**-1.2**
PETK	**Petropavlovsk-**	**2.79**	**302**	Pn	Pn	10 22 21.7	-0.5
	10nm,0.3s,baz=151,slow=3.5,SNR=419						
PETK				Sn	**Sn**	**10 22 55.0**	**+0.4**
	12nm,0.3s,baz=88,slow=39,SNR=2.1						
MKZ	**Mys Kozlova**	**2.86**	**1**	*eS*	**Sn**	**10 22 52.2**	**-3.9**
GNL	**Ganaly**	**3.01**	**313**	*eP*	**Pn**	**10 22 26.0**	**+0.8**
GNL				eS	**Sn**	**10 23 01.7**	**+1.7**
APC	**Apacha**	**3.01**	**296**	*eP*	**Pn**	**10 22 25.8**	**+0.7**
APC				eS	**Sn**	**10 23 02.1**	**+2.2**
PAU	**Pauzhetka**	**3.02**	**267**	P	**Pn**	**10 22 26.6**	**+1.3**
TUMD	**Tumrok D**	**3.58**	**349**	*eP*	Pn	10 22 32.2	-0.8
TUMD				eS	**Sn**	**10 23 11.2**	**-2.9**
SKR	**Severo-Kuril's**	**3.62**	**256**	*eS*	**Sn**	**10 23 13.4**	**-1.6**
TUMR	**Tumrok**	**3.69**	**347**	*eP*	**Pn**	**10 22 34.7**	**+0.1**
TUMR				eS	**Sn**	**10 23 15.6**	**-1.4**
KMNR	**Kamenistaya**	**4.14**	**349**	*eP*	**Pn**	**10 22 41.5**	**+0.7**
KMNR				eS	**Sn**	**10 23 28.6**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**4.28**	**353**	*eP*	**Pn**	**10 22 42.8**	**+0.1**
BZGR				eS	**Sn**	**10 23 31.5**	**+0.1**
BZWR	**Bezymyannyi-We**	**4.32**	**351**	*eP*	**Pn**	**10 22 43.9**	**+0.6**
BZWR				eS	**Sn**	**10 23 33.9**	**+1.4**
KIRR	**Kirishev**	**4.33**	**350**	*eP*	**Pn**	**10 22 43.9**	**+0.6**
ZLN	**Zelenaya**	**4.35**	**354**	*eS*	**Sn**	**10 23 33.4**	**+0.3**
KPT	**Kopyto**	**4.35**	**349**	*eP*	**Pn**	**10 22 43.9**	**+0.3**
BKI	**Bering**	**4.36**	**35**	*eS*	Sn	10 23 26.0	-7.1
KOZ	**Kozyrevsk**	**4.49**	**347**	*eP*	**Pn**	**10 22 45.8**	**+0.4**
KOZ				eS	**Sn**	**10 23 35.7**	**-0.6**
KRSR	**Krestovskiy**	**4.57**	**352**	*eS*	**Sn**	**10 23 37.8**	**-0.6**
ESO	**Esso**	**4.57**	**339**	*eP*	**Pn**	**10 22 47.0**	**+0.4**
KBG	**Krutoberegovo**	**4.60**	**7**	*eS*	**Sn**	**10 23 36.1**	**-3.0**
KLY	**Klyuchi**	**4.66**	**353**	*eP*	**Pn**	**10 22 47.4**	**-0.3**
KLY				eS	**Sn**	**10 23 38.4**	**-2.0**
BDR	**Baidarnaya**	**4.88**	**357**	P	**Pn**	**10 22 51.3**	**+0.4**
FINES	**FINESS Array B**	**61.77**	**338**	P	**P**	**10 31 52.7**	**-1.0**
	1.3nm,0.9s,baz=30,slow=8.7,SNR=1.3						
TXAR	**Lajitas Array**	**70.30**	**68**	P	**P**	**10 32 49.4**	**+0.3**
	0.2nm,0.5s,baz=297,slow=5.1,SNR=7.3						
WRA	**Warramunga Arr**	**75.24**	**207**	P	**P**	**10 33 17.4**	**-0.7**
	0.5nm,0.9s,baz=22,slow=9.0,SNR=1.5						
ASAR	**Alice Springs**	**78.90**	**206**	P	**P**	**10 33 39.4**	**+0.7**
	0.3nm,0.6s,baz=17,slow=5.7,SNR=6.4						
H03S2	**Juan Fernandez**	**133.50**	**92**	T	T	13 06 38.9	
	SNR=7.9						
H03S3	**Juan Fernandez**	**133.51**	**92**	T	T	13 06 50.1	
	SNR=5.6						
H03S1	**Juan Fernandez**	**133.52**	**92**	T	T	13 06 43.6	
	SNR=7.0						

*IDC **17** 10:53:42.0±1.2, 61.43°N×28.20°W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.4/57, mbtmp3.7/7, ML3.5/1, MS3.0/4, Ms1 3.0/4, ms1mx2.7/86, Error ellipse: s-maj=31.2km s-min=20.4km az=175.0*

ISC 17 10:53:43.3±1.1, **61.3°N**±0.1°×**28.1°W**±0.1°, **h10**km, **n11**, σ1.55/9, **mb3.6**/6, **Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.67**	**39**	Pn	**Pn**	**10 54 52.7**	**-0.9**
	2.4nm,0.3s,baz=274,slow=6.6,SNR=34						
BORG				Sn	**Sn**	**10 55 47.9**	**+0.2**
	1.0nm,0.3s,baz=160,slow=23,SNR=13						
BORG				LR	LR	10 56 03.2	
	comp=Z,136nm,20.7s,baz=277,slow=31						
SFJD	**Kangerlussuaq**	**11.34**	**310**	LR	LR	10 59 48.8	
	comp=Z,56nm,19.5s,baz=164,slow=33						
SUMG	**Summit**	**12.03**	**345**	*i P*	**Pn**	**10 56 37.0**	**+2.1**
NOA	**NORSAR Array B**	**18.78**	**73**	LR	LR	11 03 47.4	
	comp=Z,54nm,18.1s,baz=295,slow=32						
HFS	**Hagfors**	**20.24**	**75**	LR	LR	11 04 42.8	
	comp=Z,62nm,19.0s,baz=250,slow=33						
SCHQ	**Schefferville**	**21.22**	**270**	P	**P**	**10 58 29.7**	**+0.8**
	3.9nm,1.0s,baz=184,slow=4.3,SNR=2.6						
ESDC	**Sonseca Array**	**26.23**	**134**	P	**P**	**10 59 20.1**	**+1.9**
	0.9nm,0.9s,baz=329,slow=10,SNR=4.8						
YKA	**Yellowknife Ar**	**37.90**	**311**	P	**P**	**11 00 59.8**	**-0.3**
	0.6nm,0.7s,baz=52,slow=8.9,SNR=8.0						
PDAR	**Pinedale Array**	**49.82**	**288**	P	**P**	**11 02 34.3**	**-2.0**
	0.5nm,0.6s,baz=59,slow=6.3,SNR=5.9						
KURBB	**Kurchatov Arra**	**54.07**	**49**	P	**P**	**11 03 06.7**	**-0.9**
	0.6nm,0.7s,baz=323,slow=6.9,SNR=6.4						
MKAR	**Makanchi Array**	**58.64**	**49**	P	**P**	**11 03 39.8**	**-0.4**
	0.4nm,0.7s,baz=337,slow=5.4,SNR=4.9						

UCR 17 11:00:24.3±1.5, **9.28N**×**84.07W**, **h29**km±3km, **MW4.0**, **5C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.20**	**96**	*eP*	Pn	11 00 31.0	-0.5
EDDO				eS	Sb	11 00 36.6	+2.1
PEZE	**Perez Zeledon,**	**0.40**	**75**	*eP*	Pb	11 00 33.2	0.0
LCR2	**La Lucha 2**	**0.47**	**7**	*eP*	Pb	11 00 34.1	-0.2
LCR2				eS	Sn	11 00 42.0	-0.8
RIMA	**Rio Macho**	**0.53**	**22**	*eP*	Pb	11 00 34.8	-0.5
JACO	**JACO, Garabito**	**0.70**	**303**	*eP*	Pb	11 00 37.4	-0.6
JACO				eS	Sb	11 00 47.5	+0.1
SRBA	**San Rafael, Bu**	**0.70**	**94**	*eP*	Pb	11 00 37.0	-1.0
HDC	**Heredia**	**0.72**	**356**	*eP*	Pb	11 00 38.0	-0.4
SRA1	**San Ramn**	**0.90**	**333**	*eP*	Pn	11 00 40.4	-0.8
LAFE	**Finca La Fe, P**	**0.98**	**302**	*eP*	Pn	11 00 41.4	-0.8
EDSV	**San Vito**	**1.17**	**113**	*eP*	Pn	11 00 44.2	-0.7
FORC	**Fortuna**	**1.32**	**333**	*i P*	Pn	11 00 47.1	+0.2
FORC				*i S*	Sb	11 01 06.0	+0.8
CASO	**Castillo**	**1.32**	**330**	*i P*	Pn	11 00 47.1	+0.1
JTS	**Las Juntas de**	**1.33**	**319**	*eP*	Pn	11 00 46.4	-0.6
JTS				eS	Sn	11 01 03.6	-0.3
ARE1	**Arenal 1**	**1.34**	**331**	*eP*	Pn	11 00 47.5	+0.3
CEDE	**Laguna Cedeo**	**1.36**	**333**	*i P*	Pn	11 00 47.8	+0.4
COVE	**Coope Vega, Sa**	**1.47**	**347**	*eP*	Pn	11 00 48.9	-0.1
ACAL	**Aguas Claras**	**1.65**	**325**	*i P*	Pn	11 00 51.5	0.0
PTEN	**Parque Tenorio**	**1.69**	**328**	*i P*	Pn	11 00 52.3	+0.2
CUI	**Cuipilapa**	**1.75**	**322**	*i P*	Pn	11 00 52.6	-0.2
COLC	**Colonia**	**1.78**	**321**	*i P*	Pn	11 00 52.9	-0.2
HORNC	**Hornillas**	**1.80**	**323**	*i P*	Pn	11 00 53.1	-0.4
LIM1	**Limonal**	**1.83**	**321**	*i P*	Pn	11 00 53.7	-0.2
LAPC	**Finca la Perla**	**2.00**	**318**	*i P*	Pn	11 00 55.8	-0.5
BUEV	**Buena Vista**	**2.01**	**319**	*i P*	Pn	11 00 56.0	-0.4
BUAI	**Buenos Aires**	**2.02**	**322**	*i P*	Pn	11 00 56.2	-0.3
HZTE	**Horizontes, Gu**	**2.08**	**314**	*eP*	Pn	11 00 57.4	+0.1

*IDC **17** 11:02:49.1±0.7, 11.51°S×166.22°E, h0km, mb4.3/23, mb1 4.4/24, mb1mx4.4/42, mbtmp4.3/24, ML4.1/1, MS3.9/44, Ms1 3.9/44, ms1mx3.8/61, Error ellipse: s-maj=21.5km s-min=14.4km az=118.0*

*GCMT **17** 11:02:57.3±0.4, 11.82°S±0.03°×165.81°E±0.03, h40km±1km, MW5.0/50, Moment Tensor Solution. s50,c61; s31,c39; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.46±.17; $M_{\theta\theta}$-0.85±.14; $M_{\phi\phi}$-2.61±.12; $M_{r\theta}$0.24±.15; $M_{\theta\phi}$1.24±.09; $M_{\phi r}$0.83±.19; Best double couple: $M_0$3.45900×10^{16} NP1:φs144.00000°, δ40.00000°, λ77.00000°. NP2: φs342.00000°, δ51.00000°, λ101.00000°. Principal axes: T 3.6080, Plg80.0000°, Azm302.0000°; N -0.2990, Plg9.0000°, Azm155.0000°; P -3.3100, Plg5.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **17** 11:02:58.4±2.0, 11.67°S±0.08°×166.21°E±0.09, h60km±7km, mb4.8/42 Error ellipse: s-maj=13.9km s-min=10.6km az=58.0*

ISC 17 11:02:55.7±0.3, **11.67S**±0.05°×**166.10E**±0.06, **h37**km, **n152**, σ1.54/134, **mb4.8**/62, **MS3.9**/45, **2C-2D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.91**	**164**	Pn	**Pn**	**11 03 55.4**	**+2.2**
HNR	**Honiara**	**6.44**	**290**	Pn	Pn	11 04 17.7	-10
	29nm,0.3s,baz=88,slow=7.2,SNR=8.4						
HNR				Sn	**Sn**	**11 05 41.2**	**+0.9**
	baz=137,slow=21,SNR=0.9						
HNR	**Honiara**	**6.44**	**290**	Pn	**Pn**	**11 04 31.3**	**+3.3**
MARNC	**Mare, Loyalty**	**9.94**	**169**	Pn	**Pn**	**11 05 17.4**	**+1.4**
DZM	**Mont Dzumac**	**10.35**	**178**	Pn	**Pn**	**11 05 23.0**	**+1.2**
	1.4nm,0.3s,baz=94,slow=6.2,SNR=20						
DZM				Sn	**Sn**	**11 07 11.8**	**-4.9**
	baz=15,slow=20,SNR=1.1						
DZM	**Mont Dzumac**	**10.35**	**178**	*e*Pn	**Pn**	**11 05 24.2**	**+2.4**
	14nm,0.3s						
DZM				*e*Sn	**Sn**	**11 07 12.5**	**-4.1**
	4.2nm,0.2s						
DZM				*e*LR	LR	11 07 54.9	
	comp=Z,1μm,24.2s						
DZM	**Mont Dzumac**	**10.35**	**178**	Pn	**Pn**	**11 05 23.4**	**+1.7**
ONTNC	**Ouen Toro**	**10.59**	**178**	Pn	**Pn**	**11 05 26.2**	**+1.3**
OUENC	**Ouen Island, N**	**10.72**	**176**	Pn	**Pn**	**11 05 29.1**	**+2.4**
PINNC	**Pines Island,**	**10.96**	**173**	Pn	**Pn**	**11 05 32.7**	**+2.6**
MSVF	**Nonsavu**	**13.04**	**119**	LR	LR	11 09 57.0	
	comp=Z,1μm,19.6s,baz=320,slow=33						
MSVF	**Nonsavu**	**13.04**	**119**	Pn	**Pn**	**11 06 00.0**	**+1.5**
TARA	**Tarawa**	**14.61**	**28**	Pn	**Pn**	**11 06 19.6**	**-0.3**
PMG	**Port Moresby**	**18.75**	**275**	LR	LR	11 13 49.5	
	comp=Z,770nm,21.1s,baz=110,slow=35						
EIDS	**Eidsvold**	**19.68**	**224**	P	**P**	**11 07 21.6**	**-0.2**
CTA	**Charters Tower**	**20.82**	**244**	P	**P**	**11 07 33.6**	**-0.5**
	6.9nm,1.1s,baz=225,slow=1.4,SNR=2.3						
CTA				LR	LR	11 14 53.0	
	comp=Z,494nm,19.9s,baz=76,slow=34						
CTAO	**Charters Tower**	**20.82**	**244**	P	**P**	**11 07 33.7**	**-0.5**
CTAO				IAmb	IAmb	11 07 53.7	
	comp=Z,53nm,1.4s						
MANU	**Manus Island**	**20.89**	**296**	P	Pn	11 07 37.8	+0.2
AFI	**Afiamalu**	**21.69**	**98**	LR	LR	11 14 24.2	
	comp=Z,325nm,20.6s,baz=246,slow=32						
COEN	**Coen**	**22.46**	**262**		**P**	**11 07 52.8**	**+0.9**
ARMA	**Armidale**	**22.99**	**214**	P	**P**	**11 07 56.9**	**-0.4**
ARMA				IAmb	IAmb	11 08 00.8	
	comp=Z,29nm,1.1s						
URZ	**Urewera**	**28.25**	**161**	P	**P**	**11 08 45.1**	**-0.3**
URZ				IAmb	IAmb	11 08 52.3	
	comp=Z,19nm,1.3s						
STKA	**Stephens Creek**	**30.24**	**224**	P	**P**	**11 09 04.5**	**+1.4**
	comp=Z,3.6nm,0.8s,baz=20,slow=13,SNR=9.1						
STKA				PcP	**PcP**	**11 12 02.1**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=69,slow=5.0,SNR=3.6						
STKA				LR	LR	11 20 41.8	
	comp=Z,395nm,19.3s,baz=40,slow=35						
STKA	**Stephens Creek**	**30.24**	**224**	P	**P**	**11 09 03.7**	**+0.6**
THZ	**Tophouse**	**30.57**	**170**	P	**P**	**11 09 05.0**	**-0.9**
THZ				IAmb	IAmb	11 09 22.3	
	comp=Z,29nm,1.1s						
WR0	**Warramunga Arr**	**31.42**	**251**	P	**P**	**11 09 13.5**	**-0.1**
WB0	**Warramunga Arr**	**31.52**	**251**	P	**P**	**11 09 14.9**	**+0.4**
WB0				IAmb	IAmb	11 09 28.9	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**31.59**	**251**	P	**P**	**11 09 15.3**	**+0.2**
WRAB				IAmb	IAmb	11 09 30.2	
	comp=Z,8.4nm,0.8s						
WB2	**Warramunga Arr**	**31.59**	**251**	P	**P**	**11 09 15.4**	**+0.3**
WB2				IAmb	IAmb	11 09 29.5	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**31.60**	**251**	P	**P**	**11 09 15.1**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=84,slow=8.9,SNR=36						
WRA				PcP	**PcP**	**11 12 06.2**	**-1.0**
	comp=Z,1.6n

USRK Ussuriysk Ar. 63.65 333 P P 11 13 21.8 -1.3
SHEM Shemya Is, Ala 64.50 5 LR LR 11 35 26.0
comp=Z,56nm,21.2s,baz=88,slow=30
PETK Petropavlovsk- 64.91 354 P P 11 13 29.6 -1.6
comp=Z,2.3nm,0.9s,baz=163,slow=5.7,SNR=4.5
PETK LR LR 11 36 13.3
comp=Z,68nm,20.1s,baz=159,slow=31
PETK Petropavlovsk- 64.91 354 P P 11 13 30.1 -1.1
VNDA Vanda 65.88 181 P P 11 13 36.8 -0.4
comp=Z,1.4nm,0.6s,baz=338,slow=11,SNR=7.7
VNDA LR LR 11 38 58.2
comp=Z,78nm,18.8s,baz=302,slow=33
VNDA Vanda 65.88 181 P P 11 13 37.2 0.0
VNDA IAmb IAmb 11 14 00.2
comp=Z,16nm,1.5s
CN2 Changchun 66.45 329 eP P 11 13 40.3 -1.0
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KLR Kul'dur 67.76 336 P P 11 13 48.4 -1.1
comp=Z,1.0nm,0.6s,baz=145,slow=2.8,SNR=4.9
KLR LR LR 11 39 25.6
comp=Z,72nm,22.0s,baz=138,slow=32
PSI Prapat 68.29 278 P P 11 13 52.7 -1.1
comp=Z,3.3nm,0.7s,baz=320,slow=5.3,SNR=4.5
XLT XiLinHaoTe 71.56 324 eP P 11 14 13.4 +0.2
XLT pmax pmax
comp=Z,22nm,0.8s
XLT pmax pmax
comp=Z,80nm,4.0s
KMI Kunming 71.73 301 ⇓P P 11 14 16.4 +1.6
KMI pmax pmax
comp=Z,18nm,0.9s
HHC Hu-ho-hao-te 72.52 320 eP P 11 14 21.5 +2.5
HHC pP PcP 11 14 39.3 +2.7
HHC S S 11 23 41.8 +0.8
CMAR Chiang Mai Arr 72.67 294 P P 11 14 21.0 +0.8
comp=Z,6.3nm,0.7s,baz=122,slow=4.4,SNR=35
CMAR LR LR 11 44 33.9
comp=Z,33nm,21.3s,baz=95,slow=34
CMAR Chiang Mai Arr 72.67 294 P P 11 14 21.2 +0.9
CHTO Chiang Mai 72.79 294 P P 11 14 22.1 +1.1
CHTO IAmb IAmb 11 14 35.6
comp=Z,15nm,1.2s
PZH PanZhiHua 73.09 302 P P 11 14 23.0 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.1s
SEY Seymchan 75.12 354 LR LR 11 41 53.6
comp=Z,127nm,20.6s,baz=244,slow=31
LZH Lanzhou 75.43 312 ⇑P P 11 14 36.5 +0.3
LZH pP pP 11 14 47.0 +0.6
LZH sP pwP 11 14 51.5 +0.2
LZH pmax pmax
comp=Z,20nm,1.4s
KDAK Kodiak Island 77.03 21 LR LR 11 42 28.0
comp=Z,162nm,19.4s,baz=214,slow=31
QSPA South Pole Qui 78.34 180 LR LR 11 48 18.3
comp=Z,49nm,18.2s,baz=316,slow=35
QSPA South Pole Qui 78.34 180 P P 11 14 50.9 -1.2
YAK Yakutsk 78.78 343 LR LR 11 49 55.0
comp=Z,57nm,18.5s,baz=96,slow=36
ULN Ulaanbaatar 79.00 324 P P 11 14 56.2 +0.2
ULN IAmb IAmb 11 14 56.7
comp=Z,8.5nm,0.8s
SONM Songino Array 79.37 324 P P 11 14 55.8 -2.1
comp=Z,2.5nm,0.8s,baz=139,slow=5.6,SNR=14
SONM Songino Array 79.37 324 P P 11 14 58.0 +0.1
L19K White Mountain 79.66 17 P P 11 14 58.9 -0.2
GTA Gaotai 79.73 314 ⇑P P 11 15 00.1 0.0
GTA pP pP 11 15 10.8 +0.4
GTA sP pwP 11 15 14.8 -0.6
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,6.5s
GTA LR LR
comp=N,99nm,17.8s
GTA LR LR
comp=E,170nm,18.5s
GTA LR LR
comp=Z,120nm,18.2s
RPN Rapa Nui 80.00 116 LR LR 11 42 37.9
comp=Z,61nm,20.0s,baz=295,slow=30
SHL Shillong 81.11 298 P P 11 15 08.3 +0.5
SHL IAmb IAmb 11 15 08.9
comp=Z,13nm,0.9s
GOMU GeErMu 82.17 309 P P 11 15 13.3 -0.2
GOMU pP PcP 11 15 19.3 +0.5
GOMU sP pP 11 15 24.1 +0.3
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU pmax pmax
comp=Z,130nm,5.4s
M02C Callahan 83.86 46 P P 11 15 22.1 +0.3
M02C IAmb IAmb 11 15 31.0
comp=Z,12nm,1.3s
IL31 83.99 18 P P 11 15 20.1 -1.6
ILAR Eielson Array 83.99 18 P P 11 15 18.6 -3.2
comp=Z,0.5nm,0.5s,baz=247,slow=5.0,SNR=10.0
ILAR Eielson Array 83.99 18 P P 11 15 19.9 -1.9
BCAR Beaver Creek A 84.55 21 P P 11 15 24.8 +0.1
BBB Bella Bella 84.89 34 LR LR 11 46 14.2
comp=Z,127nm,19.8s,baz=230,slow=31
K05A Summer Lake 85.69 45 P P 11 15 31.3 +0.2
EGAK Eagle 85.84 20 P P 11 15 30.9 -0.2
EGAK IAmb IAmb 11 15 44.9
comp=Z,6.7nm,1.0s
PFO Pinyon Flats O 86.16 55 LR LR 11 44 58.1
comp=Z,280nm,21.3s,baz=234,slow=29
NVAR Mina Array Bea 86.16 50 P P 11 15 32.2 -1.4
comp=Z,0.4nm,0.7s,baz=234,slow=7.6,SNR=3.2
NVAR LR LR 11 45 43.8
comp=Z,206nm,20.6s,baz=209,slow=30
NV11 Mina Array Sit 86.27 50 P P 11 15 33.5 -0.5
NV11 IAmb IAmb 11 15 44.8
comp=Z,8.5nm,1.2s
TIXI Tiksi 86.76 349 LR LR 11 49 53.5
comp=Z,30nm,19.7s,baz=201,slow=33
DLBC Dease Lake 86.79 28 LR LR 11 52 41.9
comp=Z,105nm,18.2s,baz=150,slow=35
GUN Gumba 86.92 299 eP P 11 15 37.1 -0.6
comp=Z,19nm,0.8s
PALK Pallekele 86.97 278 LR LR 11 58 22.9
comp=Z,50nm,19.2s,baz=282,slow=38
PKI Pulchoki 87.23 299 eP P 11 15 38.8 -0.4
comp=Z,26nm,0.8s
PKIN Phulchoki 87.25 299 eP P 11 15 38.7 -0.5
KKN Kakani 87.40 299 eP P 11 15 39.5 -0.3
DMN Daman 87.50 299 eP P 11 15 40.4 0.0
comp=Z,51nm,0.8s
GKN Gorkha 88.00 299 eP P 11 15 42.0 -0.7
DANN Dangsing 88.84 299 eP P 11 15 45.8 -1.0
comp=Z,36nm,0.7s
KOLN Koldanda 88.84 299 eP P 11 15 45.8 -0.9
MYLAV Mylavaram 89.04 287⇓eP P 11 15 47.3 -0.2
ELK Elko 89.10 48 LR LR 11 50 04.2
comp=Z,98nm,18.6s,baz=224,slow=32
PYUN Piuthan 89.44 299 eP P 11 15 48.6 -0.9
comp=Z,28nm,0.9s
ADKI Addanki 89.47 286 eP P 11 15 48.9 -0.7
WMQ Urumqi 89.77 315 eP P 11 15 50.3 -0.2
WMQ pP pwP 11 16 11.4 +5.4
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,130nm,4.1s
U15A North Rim 90.20 53 P P 11 15 52.5 -0.5
U15A IAmb IAmb 11 16 05.3
comp=Z,7.3nm,1.1s
NJS Nagarjunasagar 90.24 287 eP P 11 15 52.6 -0.5
RCLA Racherla 90.35 286 eP P 11 15 52.9 -0.8
INK Inuvik 90.37 19 LR LR 11 50 52.8
comp=Z,86nm,20.8s,baz=197,slow=32
SRLM Srisailam 90.54 286 eP P 11 15 54.2 -0.4
HYBB Hyderabad (bro 91.13 287 eP P 11 15 56.9 -0.5
HYBB epP pwP 11 16 13.7 +1.2
HYBB eSKSac SKSac 11 26 23.5 -3.7
HYBB eSKKSac SKKSac 11 26 38.3 -4.1
SRSP Sriramsagar 91.63 289 eP P 11 15 59.2 -0.4
URV Uravakonda 91.85 285 eP P 11 16 00.2 -0.5
PDAR Pinedale Array 93.72 47 P P 11 16 07.6 -1.4
comp=Z,0.2nm,0.6s,baz=224,slow=2.5,SNR=2.0
MK31 Makanchi Array 94.21 317 P P 11 16 09.7 -1.2
MKAR Makanchi Array 94.21 317 P P 11 16 09.7 -1.2
comp=Z,7.5nm,0.7s,baz=95,slow=6.1,SNR=73
MKAR Makanchi Array 94.21 317 P P 11 16 09.8 -1.1
ZAA0 Zalesovo Array 94.26 324 P P 11 16 09.2 -1.7
ZAA0 IAmb IAmb 11 16 21.0
comp=Z,3.6nm,0.9s
ZALV Zalesovo Beam 94.26 324 P P 11 16 09.4 -1.5
comp=Z,2.7nm,0.8s,baz=109,slow=4.6,SNR=11
ZALV LR LR 11 56 13.6
comp=Z,36nm,21.9s,baz=34,slow=34
ZALV Zalesovo Beam 94.26 324 P P 11 16 09.0 -1.9
MAKZ Makanchi 94.42 317 P P 11 16 11.1 -0.8
ANMO Albuquerque 94.52 55 LR LR 11 52 42.1
comp=Z,76nm,19.0s,baz=245,slow=32
YKA Yellowknife Ar 95.36 27 P P 11 16 13.8 -1.9
comp=Z,0.3nm,0.5s,baz=257,slow=4.7,SNR=5.3
YKA LR LR 11 59 16.9
comp=Z,83nm,18.3s,baz=280,slow=36
YKA Yellowknife Ar 95.36 27 P P 11 16 14.7 -1.1
TXAR Lajitas Array 95.82 61 P P 11 16 18.4 -0.4
comp=Z,0.2nm,0.6s,baz=218,slow=5.7,SNR=2.5
TXAR LR LR 11 51 11.1
comp=Z,121nm,20.4s,baz=288,slow=30
NRIK Noril'sk 96.82 339 LR LR 11 57 52.8
comp=Z,32nm,21.8s,baz=104,slow=34
KURBB Kurchatov Arra 97.38 320 LR LR 12 03 15.5
comp=Z,46nm,18.0s,baz=48,slow=37
AAK Ala-Archa 98.96 312 LR LR 12 01 30.7
comp=Z,36nm,20.7s,baz=67,slow=36
FINES FINESS Array B 122.47 339 PKP PKPdf 11 21 45.6 -1.2
comp=Z,2.3nm,0.9s,baz=232,slow=24,SNR=1.8
TORD Torodi Ar. Bea 164.69 277 PKP PKPdf 11 22 57.2 +0.6
comp=Z,0.3nm,0.6s,baz=167,slow=36,SNR=2.3
TORD PKPab PKPab 11 23 51.9 -0.4
comp=Z,1.5nm,1.0s,baz=58,slow=2.6,SNR=5.5

IDC 17 11:12:46.8±2.3, 3°.86N×126°.64E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/34, mbtmp3.4/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/40, Error ellipse: s-maj=197.3km s-min=28.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.83	163	P	P	11 18 10.9	-0.1
1.5nm,0.7s,baz=342,slow=11,SNR=8.7							
ASAR	Alice Springs	28.26	166	P	P	11 18 42.0	+0.1
0.1nm,0.8s,baz=348,slow=12,SNR=1.0							
STKA	Stephens Creek	38.28	159	P	P	11 20 09.0	-0.1
1.3nm,0.8s,baz=337,slow=15,SNR=3.8							
USRK	Ussuriysk Ar.	40.45	6	LR	LR	11 37 32.8	
comp=Z,51nm,21.0s,baz=141,slow=37							
MKAR	Makanchi Array	57.40	325	P	P	11 22 37.2	-0.1
0.4nm,0.9s,baz=127,slow=7.8,SNR=2.4							

TUL 17 11:50:49±1.2, 35°.92N±0°.01×97°.54W±0°.02, h6km±7km, ML2.9, mb_Lg2.8/27(NEIC), Error ellipse: s-maj=2.5km s-min=1.7km az=71.0

NEIC 17 11:50:49.0±0.9, 35°.93N±0°.01×97°.55W±0°.02, h6km±5km, Error ellipse: s-maj=2.4km s-min=1.6km az=88.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.16	150	Pg	Pg	11 50 52.2	+0.1
OK029				Sg	Sg	11 50 54.7	+0.5
BCOK	Bluff Creek, N	0.28	190	Pg	Pg	11 50 54.5	+0.1
BCOK				Sg	Sg	11 50 58.2	+0.2
OK009	Oakdale Elemen	0.36	163		Pg	11 50 56.2	+0.2
OK025	Westminster Rd	0.39	154	Pg	Pg	11 50 56.6	+0.1
OK025				Sg	Sg	11 51 01.6	-0.1
OK001	Jones High Sch	0.43	150	Pg	Pg	11 50 57.1	-0.1
OK001				Sg	Sg	11 51 02.4	-0.4
OKCFA	Oklahoma City	0.52	171	Pg	Pg	11 50 58.9	-0.1
OKCFA				Sg	Sg	11 51 05.8	-0.1
OKCSW	OKLAHOMA CITY	0.53	170		Pg	11 50 59.1	-0.1
OKCSW				Sg	Sg	11 51 06.0	-0.2
OK031	S. Brethren Rd	0.58	88	Pg	Pg	11 51 00.2	+0.1
OK031				Sg	Sg	11 51 07.7	+0.1
OK030	Cody Creek RV	0.62	90	Pg	Pg	11 51 01.0	0.0
OK030				Sg	Sg	11 51 08.7	-0.3
CROK	Carrier	0.67	329	Pg	Pg	11 51 02.1	+0.2
FNO	Franklin	0.68	170	Pg	Pg	11 51 01.8	-0.3
FNO				Sg	Sg	11 51 11.7	+0.6
OK034	N. Norfolk Rd.	0.68	83	Pg	Pg	11 51 02.1	0.0
OK034				Sg	Sg	11 51 10.8	-0.2
QUOK	Quay	0.72	70	Pg	Pg	11 51 02.9	0.0
QUOK				Sg	Sg	11 51 12.2	-0.1
BLOK	Blackwell	0.87	18	Pg	Pg	11 51 05.7	0.0
BLOK				Sg	Sg	11 51 17.1	+0.1
GC02	Grant County #	0.95	345	Pg	Pg	11 51 07.1	-0.2
GC02				Sg	Sg	11 51 20.1	+0.5
W35A	Tecumseh	0.95	144	Pg	Pg	11 51 06.5	-0.7
W35A				Sg	Sg	11 51 19.3	-0.3
OK032	Salt Plains WL	1.02	329		Pg	11 51 08.4	-0.2
KAN14	Manchester OK	1.07	342		Pg	11 51 09.2	-0.4
KAN14				Sg	Sg	11 51 21.0	-2.6
KAN14				IAmb_Lg		11 51 22.7	
comp=Z,72nm,0.8s							
KAN13	South Haven SW	1.08	3	Pg	Pg	11 51 09.5	-0.2
KAN13				Sg	Sg	11 51 22.9	-0.8
KAN17	Caldwell West	1.12	351	Pg	Pg	11 51 10.2	-0.3
KAN17				Sg	Sg	11 51 25.4	+0.3
KAN05	Bluff City Nor	1.20	348		Pg	11 51 11.6	-0.5
OK035	E0210 Rd and N	1.22	310		Pg	11 51 11.8	-0.4
KAN01	Argonia South	1.23	352		Pg	11 51 12.1	-0.5
KAN01				Sg	Sn	11 51 31.4	+1.6
U32A	Winter Ranch,	1.26	291	Pn	Pg	11 51 12.2	-0.9
KAN10	Anthony SW Sta	1.27	340	Pn	Pg	11 51 13.2	-0.1
T35A	Sooner Cattle	1.29	40	Pn	Pn	11 51 13.0	-0.7
KAN06	Argonia West S	1.34	349		Pn	11 51 13.8	-0.4
X34A	Smith Ranch, M	1.35	190	Pn	Pn	11 51 14.2	-0.2
KAN16	Harper SW Stat	1.36	342	Pn	Pn	11 51 14.7	+0.1
KAN12	Harper NE Stat	1.41	345	Pn	Pn	11 51 15.4	+0.1
TUL1	Leonard	1.43	90		Pn	11 51 14.5	-1.0
TUL1				IAmb_Lg		11 51 36.5	
comp=Z,70nm,1.2s							
WMOK	Wichita Mounta	1.56	221	Pn	Pn	11 51 17.0	-0.4
LOOK	Love County	1.96	171		Pn	11 51 23.4	+0.6
LOOK				IAmb_Lg		11 51 54.5	
comp=Z,24nm,0.8s							
X37A	Clayton	2.23	126		Pn	11 51 27.6	+1.1
X37A				IAmb_Lg		11 52 02.9	
comp=Z,42nm,0.7s							
Z35A	Perchaven, San	2.61	175		Pn	11 51 31.6	-0.1
U38A	Gravette	2.61	78		Pn	11 51 32.6	+0.9
R32A	Long Quarter,	2.65	340		Pn	11 51 32.7	+0.3
HHAR	Hobbs	2.94	82		Pn	11 51 37.0	+0.7
W39A	Magazine	3.16	102		Pn	11 51 39.2	0.0
KSU1	Kansas State U	3.25	13	Pn	Pn	11 51 41.1	+0.5
CBKS	Cedar Bluff	3.36	329	Pn	Pn	11 51 42.9	+0.8
CBKS				IAmb_Lg		11 52 44.0	
comp=Z,35nm,0.8s							
Z38A	Mt. Pleasant	3.40	141		Pn	11 51 42.5	-0.1
Z38A				IAmb_Lg		11 52 38.3	
comp=Z,18nm,0.9s							
AMTX	Amarillo	3.53	254	Pn	Pn	11 51 44.3	-0.2
MIAR	Mount Ida	3.54	112		Pn	11 51 46.1	+1.6
ABTX	Abilene, Hawle	3.73	208		Pn	11 51 46.4	-0.7
S39A	Bolivar	3.82	61		Pn	11 51 49.5	+1.1
U40A	Yellville	3.83	82	Pn	Pn	11 51 47.6	-0.8
WHTX	Lake Whitney,	3.93	179		Pn	11 51 49.8	-0.2
X40A	Basin Creek Fa	4.12	109		Pn	11 51 54.2	+1.6
WLAR	White Oak Lake	4.28	120	Pn	Pn	11 51 56.5	+1.8
WHAR	Wooly Hollow	4.33	97		Pn	11 51 55.0	-0.4
W41B	Gary Mavity, V	4.39	98		Pn	11 51 56.6	+0.4
FCAR	Ozark Folk Cen	4.41	89		Pn	11 51 57.3	+0.9
MGMO	Mountain Grove	4.42	72	Pn	Pn	11 51 58.0	+1.3
MGMO				IAmb_Lg		11 53 13.8	
comp=Z,15nm,0.8s							
MSTX	Muleshoe	4.71	247		Pn	11 51 60.0	-0.8
R40A	Maddies Statio	4.83	59	Pn	Pn	11 52 03.4	+1.1
R40A				IAmb_Lg		11 53 31.4	
comp=Z,19nm,1.1s							
P38A	Dawn	4.87	40	Pn	Pn	11 52 02.9	+0.1
P38A				IAmb_Lg		11 53 34.1	
comp=Z,9.3nm,0.8s							
KSCO	Kaye Shedlock'	5.07	309	Pn	Pn	11 52 05.8	+0.1
KSCO				IAmb_Lg		11 53 32.5	
comp=Z,19nm,0.7s							
N35A	Tabor	5.14	16		Pn	11 52 06.8	+0.2
LCAR	Lake Charles	5.19	87	Pn	Pn	11 52 06.8	-0.4
T42A	Van Buren	5.32	76	Pn	Pn	11 52 09.2	+0.3
CCM	Cathedral Cave	5.47	65	Pn	Pn	11 52 11.7	+0.6
P40A	Paris	5.65	49	Pn	Pn	11 52 14.2	+0.7
P40A				IAmb_Lg		11 53 52.1	
comp=Z,20nm,0.9s							
T25A	Trinidad	5.65	284	Pn	Pn	11 52 13.0	-0.8
JCT	Junction City	5.75	200	Pn	Pn	11 52 14.3	-0.7
JCT				IAmb_Lg		11 54 01.8	
comp=Z,15nm,0.9s							
N38A	Joes South For	5.92	34	Pn	Pn	11 52 17.3	+0.1
FVM	French Village	6.06	68	Pn	Pn	11 52 19.1	-0.1
SLM	Saint Louis	6.43	63	IAmb_Lg		11 54 16.3	
comp=Z,13nm,0.7s							
SDCO	Great Sand Dun	6.63	288	Pn	Pn	11 52 27.3	0.0
S44A	Carbondale	6.88	73	Pn	Pn	11 52 31.9	+1.4
T45A	Paducah	7.26	79	IAmb_Lg		11 54 33.5	
comp=Z,14nm,0.7s							
ANMO	Albuquerque	7.34	265	Pn	Pn	11 52 37.5	+0.7
Q44A	Meyer Farm, Va	7.41	64	Pn	Pn	11 52 38.1	+0.4
ISCO	Idaho Springs	7.45	304	Pn	Pn	11 52 37.6	-1.0
MNTX	Cornudas Mount	7.76	239	Pn	Pn	11 52 41.6	-1.0
OLIL	Olney	8.03	67	IAmb_Lg		11 55 11.3	
comp=Z,12nm,0.9s							

IDC 17 12:00:26.6±7.1, 19°.74S×179°.28W, h651km±43km, mb2.8/3, mb1 3.0/4, mb1mx2.4/42, mbtmp3.9/4, Error ellipse: s-maj=209.8km s-min=86.4km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.22	308	P	P	12 01 51.1	-0.2
3.0nm,0.3s,baz=149,slow=9.6,SNR=6.1							
CTA	Charters Tower	32.37	263	P	P	12 06 07.1	+1.1
1.4nm,0.3s,baz=70,slow=11,SNR=2.0							
WRA	Warramunga Arr	43.52	262	P	P	12 07 35.9	+0.2
0.3nm,0.3s,baz=92,slow=7.5,SNR=15							
ASAR	Alice Springs	43.52	256	P	P	12 07 35.3	-0.4
0.9nm,0.5s,baz=94,slow=7.6,SNR=25							
AKASG	Malin Array Be	141.77	331	PKP	PKPdf	12 18 45.4	-0.3
0.9nm,0.5s,baz=43,slow=4.0,SNR=6.5							

NEIC 17 12:03:55.4±1.4, 24°.08N±0°.10×143°.1E±0°.2, h28km±4km, mb4.6/32, Error ellipse: s-maj=22.7km s-min=14.1km az=87.0
JMA 17 12:03:56.3±0.1, 25°.15N×144°.50E, h11km, M5.1
IDC 17 12:03:56.7±0.8, 24°.05N×143°.10E, h42km±5km, mb3.9/25, mb1 4.1/27, mb1mx3.9/54, mbtmp4.2/27, ML3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/84, Error ellipse: s-maj=17.4km s-min=14.6km az=102.0

ISC 17 12:03:55.5±0.5, 24°.16N±0°.07×143°.1E±0°.1, h29km, n89, σ1§44/91, mb4.5/39, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	2.59	342	P	Pn	12 04 38.8	+3.3
CBIJ	Chichi jima	3.03	345	P	Pn	12 04 42.8	+1.2
CBIJ				eS	Sn	12 05 17.2	+0.3
JCJ	Chichijima	3.03	345	Pn	Pn	12 04 43.5	+1.9
JHJ	Hachijo jima 2	9.38	343	P	Pn	12 06 09.2	+0.4
3.3nm,0.3s,baz=90,slow=20,SNR=1.2							
JHJ				S	Sn	12 07 47.7	-5.6
6.5nm,0.3s,baz=104,slow=22,SNR=1.7							
GUMO	Guam	10.65	171	LR	LR	12 10 03.6	
comp=Z,115nm,20.1s,baz=28,slow=35							
JHO	Hitachi	12.60	351	eS	Sn	12 09 02.8	-9.3
JAG	Ashikaga	12.62	346	eS	Sn	12 09 05.1	-7.5
MJAR	Matsushiro Arr	13.03	342	P	Pn	12 06 57.7	-1.1
0.2nm,0.3s,baz=159,slow=11,SNR=3.0							
MJAR	Matsushiro Arr	13.03	342		Pn	12 06 59.0	+0.2
MAJO	Matsushiro	13.04	342	Pn	Pn	12 06 59.2	+0.4
MJB9	Matsu-Tunnel	13.04	342	Pn	Pn	12 06 58.8	0.0
JOW	Kunigami	13.63	284	LR	LR	12 12 06.7	
comp=Z,114nm,20.2s,baz=108,slow=36							
JMM	Marumori	13.80	352		Pn	12 07 08.4	-0.8
JTM	Tenmabayashi	16.66	355	Pn	Pn	12 07 46.4	-0.5
JTM				IAmb	IAmb	12 07 53.0	
comp=Z,43nm,1.2s							
KSRS	Korea Array	18.54	319	P	Pn	12 08 12.1	+1.9
comp=Z,0.2nm,0.3s,baz=136,slow=12,SNR=4.8							
KSRS				LR	LR	12 15 33.4	
comp=Z,57nm,18.2s,baz=170,slow=37							
ASAJ	Asahikawa	19.91	359	P	Pn	12 08 29.4	+2.8
comp=Z,2.5nm,0.5s,baz=195,slow=5.3,SNR=7.8							
H11S3	WAKE ISLAND Hy	22.69	100	T	T	12 32 25.6	
baz=290							
H11S1	WAKE ISLAND Hy	22.70	100	T	T	12 32 12.9	
baz=290							
H11S2	WAKE ISLAND Hy	22.70	100	T	T	12 32 18.2	
baz=290							
KLR	Kul'dur	26.56	343	P	P	12 09 31.9	+1.0
comp=Z,2.7nm,0.7s,baz=152,slow=8.2,SNR=12							
MTN	Manton Dam	38.59	199	P	P	12 11 13.9	-2.2
SEY	Seymchan	39.26	7	P	P	12 11 22.3	+1.1
comp=Z,2.1nm,0.8s,baz=189,slow=3.0,SNR=6.6							
CMAR	Chiang Mai Arr	41.38	271	P	P	12 11 40.3	+0.9
comp=Z,0.3nm,0.3s,baz=56,slow=8.1,SNR=4.1							
WB0	Warramunga Arr	44.48	192	P	P	12 12 02.5	-1.9
WR0	Warramunga Arr	44.64	191	P	P	12 12 03.7	-1.9
WR0				IAmb	IAmb	12 12 10.7	
comp=Z,9.4nm,1.4s							
WRAB	Tennant Creek	44.65	192	P	P	12 12 04.2	-1.4
WRAB				IAmb	IAmb	12 12 17.9	
comp=Z,4.3nm,0.7s							
WB2	Warramunga Arr	44.65	192	P	P	12 12 04.3	-1.4
WB2				IAmb	IAmb	12 12 18.0	
comp=Z,5.7nm,0.7s							
WRA	Warramunga Arr	44.66	192	P	P	12 12 04.1	-1.7
comp=Z,1.0nm,0.4s,baz=7.2,slow=8.5,SNR=36							
AS31	Alice Springs	48.37	191	P	P	12 12 36.5	+1.6
ASAR	Alice Springs	48.37	191	P	P	12 12 32.9	-2.0
comp=Z,0.6nm,0.7s,baz=11,slow=6.4,SNR=11							
ASAR	Alice Springs	48.37	191	P	P	12 12 35.4	+0.5
ZALV	Zalesovo Beam	52.24	321	P	P	12 13 02.5	-1.3
comp=Z,0.4nm,0.3s,baz=108,slow=8.4,SNR=2.8							
ZALV				pP	sP	12 13 15.6	+1.2
comp=Z,2.1nm,0.8s,baz=92,slow=6.7,SNR=5.4							
ZALV				PcP	PcP	12 14 14.6	-0.5
comp=Z,1.4nm,0.6s,baz=103,slow=4.6,SNR=5.5							
ZALV	Zalesovo Beam	52.24	321	P	P	12 13 04.6	+0.8
MK31	Makanchi Array	52.99	311	P	P	12 13 09.8	+0.2
MKAR	Makanchi Array	52.99	311	P	P	12 13 09.6	0.0
comp=Z,0.5nm,0.4s,baz=86,slow=9.2,SNR=25							
MKAR				pP	sP	12 13 22.1	+1.8
comp=Z,1.5nm,0.5s,baz=86,slow=9.2,SNR=11							
MKAR	Makanchi Array	52.99	311	P	P	12 13 10.1	+0.6
MAKZ	Makanchi	53.20	311	P	P	12 13 11.5	+0.3
KURK	Kurchatov	55.63	316	P	P	12 13 29.1	+0.5
KURK				IAmb	IAmb	12 13 42.1	
comp=Z,13nm,1.4s							
NRIK	Noril'sk	55.67	339	P	P	12 13 29.5	+0.8
comp=Z,5.7nm,0.6s,baz=107,slow=9.3,SNR=9.7							
NRIK	Noril'sk	55.67	339	P	P	12 13 28.9	+0.3
NRIK				IAmb	IAmb	12 13 30.3	
comp=Z,5.9nm,0.8s							
OHAK	Old Harbor	55.79	36	P	P	12 13 29.9	+0.1
KDAK	Kodiak Island	56.25	36	P	P	12 13 32.5	-0.5
BBOO	Buckleboo	57.05	187	P	P	12 13 37.4	-1.5
BBOO				IAmb	IAmb	12 13 47.1	
comp=Z,7.1nm,1.1s							
IL31		59.91	28	P	P	12 13 57.4	-1.1
IL31				IAmb	IAmb	12 13 58.6	
comp=Z,4.7nm,0.8s							
ILAR	Eielson Array	59.91	28	P	P	12 13 57.5	-1.0
comp=Z,4.3nm,0.8s,baz=259,slow=5.9,SNR=24							
ILAR	Eielson Array	59.91	28	P	P	12 13 58.2	-0.3
BRVK	Borovoye	60.82	319	P	P	12 14 06.0	+1.1
BRVK				IAmb	IAmb	12 14 18.7	
comp=Z,4.8nm,1.0s							
SCRK	Sand Creek	61.09	29	P	P	12 14 06.3	-0.4
KKAR	Karatay Array	61.48	307	P	P	12 14 10.0	+0.4
BCAR	Beaver Creek A	62.03	30	P	P	12 14 13.6	+0.6
DAWY	Dawson	63.11	29	P	P	12 14 20.8	+0.6
DAWY				IAmb	IAmb	12 14 22.0	
comp=Z,5.9nm,1.1s						

comp=Z,3.1nm,1.1s,baz=236,slow=7.4,SNR=4.4
EUNU Eureka 72.68 8 P **P 12 15 20.6 +0.5**
EUNU IAmb IAmb 12 15 21.3
comp=Z,4.4nm,0.8s
YKA Yellowknife Ar 74.33 28 P **P 12 15 30.0 -0.1**
comp=Z,4.2nm,0.7s,baz=291,slow=5.8,SNR=45
YKA Yellowknife Ar 74.33 28 P **P 12 15 30.2 +0.2**
RES Resolute Bay 74.71 14 P **P 12 15 32.6 +0.5**
comp=Z,3.1nm,0.8s,baz=320,slow=4.8,SNR=16
RES Resolute Bay 74.71 14 P **P 12 15 32.3 +0.3**
ARCES ARCESS Array B 76.57 341 P **P 12 15 43.6 +0.8**
comp=Z,5.6nm,1.0s,baz=67,slow=6.7,SNR=10.0
ARCES ARCESS Array B 76.57 341 P **P 12 15 43.0 +0.2**
B08A Colville Reser 77.12 43 P **P 12 15 46.3 -0.1**
B08A IAmb IAmb 12 16 12.7
comp=Z,6.7nm,1.5s
NEW Newport 78.52 42 P **P 12 15 54.1 -0.1**
comp=Z,2.6nm,0.7s,baz=289,slow=4.7,SNR=7.2
WALA Waterton Lakes 80.14 41 P **P 12 16 04.2 +1.1**
WALA IAmb IAmb 12 16 05.0
comp=Z,3.5nm,0.8s
KBZ Khabaz 80.60 314 P **P 12 16 06.7 +1.2**
comp=Z,5.2nm,0.8s,baz=31,slow=2.8,SNR=6.9
FIA1 FINESS Array S 80.93 334 P **P 12 16 06.7 -0.1**
FINES FINESS Array B 80.93 334 P **P 12 16 07.0 +0.1**
comp=Z,3.8nm,0.4s,baz=69,slow=5.0,SNR=76
FINES pP **pwP 12 16 20.2 -0.1**
comp=Z,3.4nm,0.5s,baz=68,slow=4.9,SNR=5.9
NVAR Mina Array Bea 81.69 52 P **P 12 16 12.0 +0.3**
comp=Z,1.5nm,0.8s,baz=276,slow=6.8,SNR=9.7
NVAR Mina Array Bea 81.69 52 P **P 12 16 11.3 -0.4**
ELK Elko 82.87 49 P **P 12 16 18.1 +0.3**
comp=Z,0.8nm,0.6s,baz=298,slow=6.0,SNR=4.3
SUMG Summit 83.51 0 P **P 12 16 22.6 +1.8**
SUMG IAmb IAmb 12 16 34.9
comp=Z,7.4nm,1.2s
TPNV Topopah Spring 83.79 52 P **P 12 16 22.9 +0.3**
RLMT Red Lodge 84.76 43 P **P 12 16 27.4 0.0**
FCC Fort Churchill 84.88 26 P **P 12 16 26.6 -0.8**
FCC IAmb IAmb 12 16 44.0
comp=Z,5.7nm,1.4s
AKASG Malin Array Be 85.46 324 P **P 12 16 29.8 -0.6**
comp=Z,0.3nm,0.4s,baz=54,slow=5.3,SNR=3.1
AKASG pP **sP 12 16 42.5 +1.2**
comp=Z,0.8nm,0.6s,baz=48,slow=4.9,SNR=4.4
PDAR Pinedale Array 85.72 45 P **P 12 16 31.8 -0.5**
comp=Z,0.3nm,0.7s,baz=260,slow=2.7,SNR=3.8
KNB Kanab 86.22 51 P **P 12 16 34.8 0.0**
NB201 NORSAR Array S 86.59 339 P **P 12 16 35.0 -0.9**
NB2 NORSAR Subarra 86.63 339 P **P 12 16 35.4 -0.7**
comp=Z,1.0nm,0.6s,baz=46,slow=4.6
NOA NORSAR Array B 86.63 339 P **P 12 16 35.4 -0.7**
comp=Z,2.5nm,0.8s,baz=46,slow=4.6,SNR=7.4
NOA pP **pwP 12 16 49.1 -0.5**
comp=Z,1.1nm,0.7s,baz=46,slow=4.5,SNR=2.8
BRTR Keskin Array B 88.59 313 P **P 12 16 44.7 -1.4**
comp=Z,0.8nm,0.7s,baz=83,slow=6.0,SNR=2.9
ANMO Albuquerque 91.73 50 P **P 12 17 01.2 +0.2**
comp=Z,1.1nm,0.7s,baz=271,slow=6.1,SNR=5.4
TXAR Lajitas Array 96.69 54 P **P 12 17 23.4 -0.2**
comp=Z,0.1nm,0.4s,baz=292,slow=3.7,SNR=4.1
TORD Torodi Ar. Bea 127.10 310 PKP **PKPdf 12 22 57.5 -0.4**
comp=Z,0.4nm,0.5s,baz=57,slow=2.7,SNR=2.4
DBIC Dimbokro 136.22 310 PKP **PKPdf 12 23 12.8 -2.3**
comp=Z,5.2nm,1.2s,baz=56,slow=7.3,SNR=3.5
PLCA Paso Flores 147.41 129 PKPbc **PKPbc 12 23 36.7 -0.1**
comp=Z,2.7nm,0.6s,baz=246,slow=5.0,SNR=16
PLCA Paso Flores 147.41 129 **PKPbc 12 23 36.2 -0.5**

*IDC **17** 12:09:08.3±1.9, 14°.32N×124°.69E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.0/53, mbtmp3.6/4, MS4.2/1, Ms1 4.2/1, ms1mx2.5/68, Error ellipse: s-maj=193.0km s-min=27.0km az=74.0*
*MAN **17** 12:09:10.7, 14°.59N×125°.23E, h90km, mb4.6, ML3.5, MS3.4*
ISC 17 12:09:09.2±1.2, 14°.53N±0°.08×125°.20E±0°.10, h10km, n16, σ1§22/13, mb3.5/4, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCNP	**Jose Panganiba**	**2.44**	**265**	‖*eP*	**Pn**	**12 09 49.1**	**0.0**
JCNP				*i* S	**Sn**	**12 10 18.7**	**-0.3**
GQP	**Guinayangan**	**2.74**	**257**	‖*eP*	**Pn**	**12 09 53.8**	**+0.5**
GQP				*eS*	**Sn**	**12 10 28.0**	**+1.5**
LQP	**Lukban**	**3.57**	**264**	‖*eP*	**Pn**	**12 10 06.2**	**+1.2**
LQP				*eS*	**Sn**	**12 10 44.6**	**-2.7**
RCP	**Roxas**	**3.80**	**219**	‖*eP*	**Pn**	**12 10 09.0**	**+1.1**
APYP	**Conner**	**5.04**	**312**	‖*eP*	**Pn**	**12 10 25.1**	**+0.2**
APYP				*i* S	**Sn**	**12 11 23.4**	**+0.1**
LEM	**Lembang**	**27.47**	**221**	LR	LR	12 26 01.2	
	comp=Z,564nm,20.5s,baz=89,slow=38						
FITZ	**Fitzroy Crossi**	**32.43**	**179**	P	**P**	**12 15 38.5**	**-1.1**
	1.0nm,0.6s,baz=10,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**35.42**	**165**	P	**P**	**12 16 05.2**	**-0.5**
	0.4nm,0.9s,baz=345,slow=9.0,SNR=0.9						
SONM	**Songino Array**	**36.69**	**339**	P	**P**	**12 16 17.2**	**+0.7**
	0.5nm,0.6s,baz=140,slow=7.5,SNR=3.0						
ASAR	**Alice Springs**	**38.91**	**167**	P	**P**	**12 16 35.1**	**-0.2**
	0.6nm,0.6s,baz=345,slow=6.9,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**39.91**	**78**	T	T	13 00 37.7	
	baz=273,slow=74						
H11S1	**WAKE ISLAND Hy**	**39.92**	**78**	T	T	13 00 25.9	
	baz=273						
H11S2	**WAKE ISLAND Hy**	**39.93**	**78**	T	T	13 00 37.7	
	baz=273,slow=74						
H11N1	**WAKE ISLAND Hy**	**40.10**	**77**	T	T	13 00 51.8	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**40.11**	**77**	T	T	13 00 54.2	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**40.12**	**77**	T	T	13 00 51.9	
	baz=267						

*IDC **17** 12:14:45.5±0.6, 10°.12S×123°.69E, h20km±6km, mb4.0/10, mb1 4.1/13, mb1mx3.7/37, mbtmp4.1/13, ML3.9/3, MS3.9/23, Ms1 3.9/23, ms1mx3.6/68, Error ellipse: s-maj=22.3km s-min=13.7km az=100.0*
*DJA **17** 12:14:46.9±0.5, 10°.S±3°.×12°.4E±°., h12km±3km, M4.6/24, mb4.8/24, mB5.2/9, MLv4.6/13, Mw(mB)4.5/9, MwMwp4.4/1, Mwp4.8/1*
*NEIC **17** 12:14:48.6±3.5, 10°.03S±0°.07×123°.67E±0°.01, h34km±5km, mb4.5/21, Error ellipse: s-maj=10.6km s-min=1.8km az=184.0*
ISC 17 12:14:46.8±0.9, 10°.23S±0°.05×123°.69E±0°.05, h25km±6km, n109, σ2§03/90, mb4.4/23, MS3.9/19, 1D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.04**	**318**	Pg	**Pb**	**12 14 49.8**	**-1.4**
	14μm,0.3s,baz=326,slow=1.3,SNR=8116						
BATI				Lg	Lg	12 14 53.4	
	38μm,0.3s,baz=25,slow=3.9,SNR=35						
BATI	**Baumata**	**0.04**	**318**	P	**Pb**	**12 14 50.1**	**-1.1**
SOEI	**Soe**	**0.74**	**50**	P	**Pb**	**12 15 00.2**	**-1.0**
SOEI	**Soe**	**0.74**	**50**		**Pb**	**12 14 59.8**	**-1.4**
MMRI	**Maumere**	**2.14**	**318**	P	**Pn**	**12 15 22.2**	**+1.3**
MMRI	**Maumere**	**2.14**	**318**	Pn	**Pn**	**12 15 18.3**	**-2.7**
BASI	**Baing, Sumba**	**3.06**	**270**	P	**Pn**	**12 15 35.8**	**+2.2**
WBSI	**Waikabubak, Su**	**4.28**	**278**	P	**Pn**	**12 15 51.5**	**+1.1**
BSSI	**Bau Bau, Buton**	**5.15**	**322**	P	**Pn**	**12 16 05.3**	**+2.9**
	0.3nm828nm107nm,0.8s						
BKSI	**Bulukumba**	**6.03**	**324**	P	**Pn**	**12 16 15.9**	**+1.5**
	0.3nm725nm108nm,0.9s						
KAPI	**Kappang**	**6.49**	**323**	Pn	**Pn**	**12 16 23.7**	**+2.9**
	2.1nm,0.3s,baz=169,slow=5.8,SNR=13						
KAPI				LR	LR	12 18 58.8	
	comp=Z,688nm,18.8s,baz=162,slow=40						
KAPI	**Kappang**	**6.49**	**323**	Pn	**Pn**	**12 16 19.0**	**-1.8**
BNSI	**Bone**	**6.80**	**328**	P	**Pn**	**12 16 27.9**	**+2.9**
	0.3nm1μm70nm,1.6s						
KNRA	**Kununurra**	**7.33**	**138**	Pn	**Pn**	**12 16 33.9**	**+1.6**
SPSI	**Sidrap Palu**	**7.34**	**328**	P	Pn	12 16 39.0	+6.5
MTN	**Manton Dam**	**7.74**	**110**	Pn	**Pn**	**12 16 38.6**	**+0.6**
SAUI	**Saumlaki**	**7.84**	**74**	P	**Pn**	**12 16 41.4**	**+2.0**
	0.7nm7μm151nm,0.7s						
SAUI	**Saumlaki**	**7.84**	**74**	Pn	**Pn**	**12 16 41.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**8.04**	**167**	Pn	**Pn**	**12 16 43.1**	**+1.0**
	2.0nm,0.3s,baz=7.5,slow=11,SNR=40						
FITZ				Sn	**Sn**	**12 18 11.8**	**-0.5**
	15nm,0.3s,baz=225,slow=13,SNR=15						
FITZ				LR	LR	12 20 52.1	
	comp=Z,764nm,18.8s,baz=342,slow=45						
SANI	**Sanana**	**8.45**	**16**	P	**Pn**	**12 16 50.7**	**+3.0**
	1μm102nm,0.9s						
SRBI	**Singaraja**	**8.64**	**284**	P	Pn	12 17 02.9	+13
JAGI	**Jajag, Banyuwa**	**9.57**	**280**	P	**Pn**	**12 17 01.1**	**-2.0**
JAGI	**Jajag, Banyuwa**	**9.57**	**280**	Pn	**Pn**	**12 17 00.9**	**-2.3**
FAKI	**Fak Fak**	**11.18**	**50**	P	**Pn**	**12 17 26.5**	**+1.3**
	34nm,0.8s						
FAKI	**Fak Fak**	**11.18**	**50**	Pn	**Pn**	**12 17 26.8**	**+1.6**
PSA00	**Pilbara Seismi**	**11.86**	**198**	Pn	**Pn**	**12 17 37.2**	**+2.7**
PSA00	**Pilbara Seismi**	**11.86**	**198**	Pn	Pn	12 17 40.0	+5.5
SIJI	**Sorong**	**11.97**	**39**	Pn	**Pn**	**12 17 38.2**	**+2.2**
	0.7nm,0.3s,baz=312,slow=13,SNR=5.2						
SWI	**Sorong**	**11.97**	**39**	P	**Pn**	**12 17 40.3**	**+4.3**
	14nm,0.7s						
UGM	**Wanagama**	**13.20**	**279**	Pn	**Pn**	**12 17 55.1**	**+2.2**
WRA	**Warramunga Arr**	**14.10**	**134**	Pn	**Pn**	**12 18 02.2**	**-2.8**
	1.4nm,0.3s,baz=313,slow=14,SNR=80						
WRA				Sn	Sn	12 20 30.1	-11
	0.9nm,0.3s,baz=311,slow=25,SNR=11						
WRA				LR	LR	12 24 44.5	
	comp=Z,563nm,18.3s,baz=310,slow=42						
CMJI	**Cimerak**	**15.25**	**278**	P	**Pn**	**12 18 24.0**	**+3.4**
	60nm,0.9s						
BAKI	**Biak**	**15.27**	**55**	P	**Pn**	**12 18 21.0**	**+0.1**
	94nm,0.8s						
GIRL	**Giralia**	**15.30**	**215**		**Pn**	**12 18 22.2**	**+1.0**
WAMI	**Wamena**	**16.18**	**68**	P	P	12 18 48.0	+12
LEM	**Lembang**	**16.25**	**281**	Pn	**Pn**	**12 18 35.9**	**+2.2**
	2.2nm,0.3s,baz=126,slow=23,SNR=1.8						
AS31	**Alice Springs**	**16.54**	**145**		**Pn**	**12 18 36.0**	**-1.2**
ASAR	**Alice Springs**	**16.54**	**145**	Pn	**Pn**	**12 18 36.1**	**-1.1**
	0.5nm,0.3s,baz=320,slow=12,SNR=72						
ASAR				Sn	**Sn**	**12 21 32.5**	**-7.7**
	0.2nm,0.3s,baz=322,slow=24,SNR=4.2						
ASAR				LR	LR	12 25 58.5	
	comp=Z,428nm,18.9s,baz=322,slow=40						
ASAR	**Alice Springs**	**16.54**	**145**	P	**Pn**	**12 18 37.3**	**+0.1**
CNJI	**Cibinong**	**16.62**	**279**	P	**P**	**12 18 41.6**	**+1.1**
	5μm116nm,1.0s						
CBJI	**Citeko**	**17.09**	**282**	P	**Pn**	**12 18 44.4**	**+0.3**
	9μm124nm,0.8s						
DAV	**Davao City (W)**	**17.29**	**6**	LR	LR	12 26 08.4	
	comp=Z,400nm,20.8s,baz=187,slow=40						
GENI	**Genyem**	**18.04**	**66**	P	**P**	**12 19 01.8**	**+5.6**
CGJI	**Cibinong**	**18.16**	**280**	P	**Pn**	**12 18 56.5**	**-0.9**
	51nm,0.7s						
JAY	**Jayapura**	**18.56**	**67**	P	**P**	**12 18 59.5**	**-2.6**
	0.2nm,0.3s,baz=174,slow=9.2,SNR=2.2						
COEN	**Coen**	**19.41**	**103**	P	**Pn**	**12 19 13.3**	**+0.8**
KASI	**Kota Agung**	**19.57**	**282**	P	**P**	**12 19 13.7**	**+0.6**
	65nm,0.9s						
KLSI		**19.58**	**285**	P	**P**	**12 19 14.3**	**+1.1**
	6.8nm,1.0s						
MORW	**Morawa**	**20.06**	**200**	P	Pn	12 19 22.4	+2.2
MORW				IAmb	IAmb	12 19 44.1	
	comp=Z,37nm,1.4s						
MDSI	**Maura Dua**	**20.17**	**285**	P	**P**	**12 19 19.9**	**+0.3**
	comp=Z,5.9nm,1.0s						
FORT	**Forrest**	**20.84**	**169**	P	Pn	12 19 30.2	+0.9
PMG	**Port Moresby**	**23.14**	**90**	LR	LR	12 31 43.6	
	comp=Z,366nm,19.2s,baz=262,slow=44						
CTA	**Charters Tower**	**23.85**	**117**	P	**P**	**12 19 56.6**	**-1.8**
	comp=Z,2.1nm,0.7s,baz=276,slow=13,SNR=1.5						
CTAO	**Charters Tower**	**23.85**	**117**	P	**P**	**12 20 01.1**	**+2.7**
CTAO				IAmb	IAmb	12 20 03.0	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**25.20**	**155**	P	**P**	**12 20 13.3**	**+2.8**
BBOO				IAmb	IAmb	12 20 37.8	
	comp=Z,8.1nm,0.8s						
STKA	**Stephens Creek**	**27.18**	**145**	LR	LR	12 32 55.1	
	comp=Z,435nm,18.1s,baz=327,slow=40						
QIZ	**Qiongzhong**	**32.12**	**335**	P	**P**	**12 21 12.6**	**+0.2**
QIZ				S	**S**	**12 26 25.8**	**+2.2**
QIZ				LR	LR		
	comp=N,150nm,2.8s						
QIZ				LR	LR		
	comp=E,280nm,3.1s						
QIZ				LR	LR		
	comp=Z,130nm,3.9s						
HNR	**Honiara**	**35.72**	**92**	LR	LR	12 37 00.6	
	comp=Z,142nm,21.4s,baz=246,slow=37						
JOW	**Kunigami**	**37.11**	**7**	LR	LR	12 38 08.4	
	comp=Z,92nm,20.8s,baz=106,slow=38						
CM31	**Chiang Mai Arr**	**37.54**	**319**	P	**P**	**12 21 58.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**37.54**	**319**	P	**P**	**12 21 57.3**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=145,slow=7.4,SNR=12						
CMAR				LR	LR	12 39 33.8	
	comp=Z,182nm,18.1s,baz=125,slow=40						
NJ2	**Nanjing**	**42.30**	**354**	*eP*	**P**	**12 22 39.8**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
DZM	**Mont Dzumac**	**42.58**	**111**	LR	LR	12 42 48.4	
	comp=Z,164nm,19.2s,baz=286,slow=40						
JNU	**Nakatsue**	**43.66**	**9**	LR	LR	12 43 30.2	
	comp=Z,40nm,18.5s,baz=310,slow=40						
JHS	**Saijyo**	**45.86**	**11**	P	**P**	**12 23 06.5**	**-0.7**
PALK	**Pallekele**	**46.20**	**290**	LR	LR	12 42 17.0	
	comp=Z,267nm,21.9s,baz=218,slow=36						
KSRS	**Korea Array**	**47.60**	**5**	P	**P**	**12 23 20.2**	**-0.4**
	comp=Z,1.7nm,1.1s,baz=174,slow=7.8,SNR=2.4						
KSRS				LR	LR	12 44 04.2	
	comp=Z,26nm,20.4s,baz=170,slow=37						
MJAR	**Matsushiro Arr**	**48.49**	**16**	P	**P**	**12 23 25.5**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=192,slow=9.0,SNR=2.2						
MJAR				LR	LR	12 44 38.0	
	comp=Z,36nm,21.2s,baz=179,slow=37						
MAT	**Matsushiro**	**48.49**	**16**	P	**P**	**12 23 23.8**	**-3.8**
LZH	**Lanzhou**	**49.73**	**339**	*eP*	**P**	**12 23 36.8**	**-0.4**
LZH				pP	pP	12 23 44.4	-0.6
LZH				sP	sP	12 23 48.3	+0.2
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
HHC	**Hu-ho-hao-te**	**52.05**	**348**	*eP*	**P**	**12 23 57.0**	**+2.5**
HHC				pP	pP	12 24 02.1	-0.3
HHC				pmax	pmax		
	comp=Z,12nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
GTA	**Gaotai**	**54.15**	**337**	‖P	**P**	**12 24 09.3**	**-0.8**
GTA				pP	pP	12 24 14.4	-3.6
GTA				sP	sP	12 24 17.8	-3.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,57nm,4.0s						
GTA				LR	LR		
	comp=N,100nm,18.2s						
GTA				LR	LR		
	comp=E,100nm,18.9s						
GTA				LR	LR		
	comp=Z,120nm,19.3s						
USRK	**Ussuriysk Ar.**	**54.70**	**7**	P	**P**	**12 24 12.2**	**-1.6**
	comp=Z,5.2nm,0.8s,baz=168,slow=5.9,SNR=8.6						
USRK	**Ussuriysk Ar.**	**54.70**	**7**	P	**P**	**12 24 11.7**	**-2.1**
MDJ	**Mudanjiang**	**54.85**	**5**	P	**P**	**12 24 14.0**	**-0.9**
MDJ				pmax	pmax		
	comp=Z,25nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,110nm,5.6s						
SONM	**Songino Array**	**59.82**	**347**	P	**P**	**12 24 48.0**	**-2.1**
	comp=Z,1.5nm,0.8s,baz=165,slow=8.4,SNR=8.3						
SONM	**Songino Array**	**59.82**	**347**	P	**P**	**12 24 48.8**	**-1.3**
WMQ	**Urumqi**	**62.96**	**331**	*eP*	**P**	**12 25 13.3**	**+1.9**
KSH	**Kashi**	**66.40**	**321**	P	**P**	**12 25 32.9**	**-1.1**
MK31	**Makanchi Array**	**67.73**	**331**	P	**P**	**12 25 40.8**	**-1.3**
MK31				IAmb	IAmb	12 25 46.8	
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**67.73**	**331**	P	**P**	**12 25 40.7**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=138,slow=7.1,SNR=37						
MKAR	**Makanchi Array**	**67.73**	**331**	P	**P**	**12 25 40.5**	**-1.7**
MAKZ	**Makanchi**	**67.89**	**330**	P	**P**	**12 25 42.3**	**-0.8**
MAKZ				IAmb	IAmb	12 26 05.9	
	comp=Z,3.8nm,1.1s						
BOOM	**Boomskoye usch**	**68.24**	**324**	P	**P**	**12 25 46.5**	**+0.9**
BOOM				IAmb	IAmb	12 26 10.6	
	comp=Z,9.7nm,1.1s						
DRK	**Karamyk**	**69.00**	**319**	P	**P**	**12 25 48.9**	**-1.7**
MAW	**Mawson**	**69.70**	**201**	LR	LR	12 55 08.3	
	comp=Z,132nm,18.2s,baz=58,slow=35						
VNDA	**Vanda**	**70.08**	**172**	LR	LR	12 56 20.4	
	comp=Z,119nm,20.2s,baz=357,slow=36						
VNDA	**Vanda**	**70.08**	**172**	P	**P**	**12 25 56.6**	**+0.2**
VNDA				IAmb	IAmb	12 26 12.6	
	comp=Z,8.0nm,1.2s						
WSAR	**Wadi Sarin**	**71.79**	**299**	LR	LR	12 59 29.8	
	comp=Z,51nm,18.6s,baz=122,slow=37						
ZAA0	**Zalesovo Array**	**71.90**	**337**	P	**P**	**12 26 06.8**	**-0.8**
ZAA0				IAmb	IAmb	12 26 32.6	
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**71.90**	**337**	P	**P**	**12 26 05.4**	**-2.2**
	comp=Z,2.4nm,0.8s,baz=131,slow=6.8,SNR=9.8						
ZALV	**Zalesovo Beam**	**71.90**	**337**	P	**P**	**12 26 06.0**	**-1.7**
KURK	**Kurchatov**	**72.20**	**332**	P	**P**	**12 26 09.2**	**-0.3**
KURK				IAmb	IAmb	12 26 27.0	
	comp=Z,4.7nm,0.9s						
SOCY	**Socotra**	**72.73**	**286**	P	**P**	**12 26 13.3**	**-0.2**
SEY	**Seymchan**	**76.23**	**13**	P	**P**	**12 26 32.3**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=217,slow=10,SNR=12						
QSPA	**South Pole Qui**	**79.77**	**180**	LR	LR	13 01 11.0	
	comp=Z,143nm,20.2s,baz=288,slow=35						
QSPA	**South Pole Qui**	**79.77**	**180**	P	**P**	**12 26 54.0**	**+1.4**
ABKAR	**Akbulak array**	**81.26**	**324**	P	**P**	**12 27 00.2**	**-0.5**
TIXI	**Tiksi**	**81.77**	**2**	P	**P**	**12 27 01.6**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=209,slow=4.2,SNR=3.7						
RAYN	**Ar Rayn**	**83.40**	**295**	P	**P**	**12 27 10.7**	**-1.9**
RAYN				IAmb	IAmb	12 27 14.9	
	comp=Z,2.9nm,0.9s						
PPT	**Papeete**	**83.89**	**107**	LR	LR	13 05 33.4	
	comp=Z,17nm,18.2s,baz=192,slow=36						
SNAA	**Sanae**	**91.03**	**195**	LR	LR	13 05 34.6	
	comp=Z,183nm,21.9s,baz=160,slow=34						
LBTB	**Lobatse**	**92.95**	**244**	LR	LR	13 06 52.1	
	comp=Z,68nm,18.4s,baz=121,slow=34						
EIL	**Elat**	**93.90**	**299**	LR	LR	13 13 10.9	
	comp=Z,36nm,20.9s,baz=92,slow=37						
YKA	**Yellowknife Ar**	**113.36**	**25**	PKiKP	**PKiKP**	**12 33 22.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=289,slow=1.9,SNR=5.0						
NVAR	**Mina Array Bea**	**118.18**	**52**	PKP	**PKPdf**	**12 33 33.0**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=228,slow=1.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**123.22**	**279**	PKP	**PKPdf**	**12 33 43.2**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=56,slow=1.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**123.22**	**279**		**PKiKP**	**12 33 43.7**	**+1.0**
PDAR	**Pinedale Array**	**123.58**	**45**	PKP	**PKPdf**	**12 33 42.7**	**0.0**
	comp=Z,0.3nm,0.8s,baz=248,slow=1.9,SNR=2.3						

*IDC **17** 12:27:12.2±0.9, 11°.08N×126°.67E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/37, mbtmp3.8/8, Error ellipse: s-maj=47.8km s-min=18.0km az=69.0*
*MAN **17** 12:27:13.8, 11°.25N×126°.90E, h38km, mb4.8, ML3.7, MS3.7*
*NEIC **17** 12:27:18.9±0.8, 11°.1N±0°.2×126°.9E±0°.3, h44km±12km, mb4.2/13, Error ellipse: s-maj=47.4km s-min=18.6km az=62.0*
ISC 17 12:27:17.7±0.7, 11°.16N±0°.07×126°.73E±0°.08, h37km, n31, σ1§52/35, mb4.1/15, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**2.84**	**253**	*eP*	Pn	12 28 09.4	+9.0
LLP				*eS*	**Sn**	**12 28 33.5**	**+0.1**
TBP	**Tagbilaran**	**3.17**	**243**	*eP*	**Pn**	**12 28 02.4**	**-2.7**
TBP				*i* S	**Sn**	**12 28 41.8**	**+0.2**
BUKP	**Musuan**	**3.65**	**207**	‖*iP*	Pn	12 28 24.6	+13
RCP	**Roxas**	**3.92**	**276**	‖*eP*	**Pn**	**12 28 16.3**	**+1.0**
RCP				*eS*	**Sn**	**12 29 02.3**	**+2.1**
JCNP	**Jose Panganiba**	**5.01**	**309**	‖*eP*	**Pn**	**12 28 29.9**	**-0.4**
JCNP				*i* S	**Sn**	**12 29 21.1**	**-5.9**
KULM	**Kulim**	**26.44**	**259**	P	**P**	**12 32 52.3**	**+0.9**
KULM				IAmb	IAmb	12 33 16.5	
	comp=Z,11nm,1.2s						
KNRA	**Kununurra**	**26.74**	**176**	P	**P**	**12 32 53.0**	**-0.9**
KNRA				IAmb	IAmb	12 32 54.5	
	comp=Z,5.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.80**	**288**	P	**P**	**12 33 02.4**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=84,slow=9.2,SNR=1.5						
FITZ	**Fitzroy Crossi**	**29.09**	**182**	P	**P**	**12 33 14.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=2.6,slow=11,SNR=2.0						
WB0	**Warramunga Arr**	**31.64**	**166**	P	**P**	**12 33 35.4**	**-2.2**
WB0				IAmb	IAmb	12 33 55.0	
	comp=Z,6.2nm,1.3s						
WRAB	**Tennant Creek**	**31.80**	**166**	P	**P**	**12 33 37.5**	**-1.3**
WRAB				IAmb	IAmb	12 33 52.8	
	comp=Z,5.5nm,1.3s						
WRA	**Warramunga Arr**	**31.80**	**166**	P	**P**	**12 33 37.3**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=341,slow=11,SNR=6.0						
WRA				PcP	**PcP**	**12 36 29.5**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=340,slow=2.4,SNR=2.7						
WRA	**Warramunga Arr**	**31.80**	**166**	P	**P**	**12 33 37.6**	**-1.3**
WB2	**Warramunga Arr**	**31.80**	**166**	P	**P**	**12 33 37.4**	**-1.5**
WR0	**Warramunga Arr**	**31.87**	**166**	P	**P**	**12 33 39.4**	**0.0**
WR0				IAmb	IAmb	12 33 51.7	
	comp=Z,4.0nm,1.2s						
AS31	**Alice Springs**	**35.31**	**169**	P	**P**	**12 34 08.8**	**-0.6**
ASAR	**Alice Springs**	**35.32**	**169**	P	**P**	**12 34 09.0**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=354,slow=7.2,SNR=20						
ASAR				PcP	**PcP**	**12 36 39.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=335,slow=2.7,SNR=2.0				

ETVZ	East Tongariro	4.89 212	P	Pn	12 36 50.1	-2.0
OTVZ	Oturere	4.93 212	P	Pn	12 36 50.9	-1.9
BHHZ	Black Hill Sta	5.05 207	P	Pn	12 36 51.0	-3.3
KAHZ	Kahuranaki	5.06 199	P	Pn	12 36 51.3	-3.2
WNVZ	Wahianoa	5.09 211	P	Pn	12 36 52.7	-2.4
PXZ	Pawanui	5.29 198	P	Pn	12 36 53.1	-4.5
PNHZ	Pukenui	5.38 204	P	Pn	12 36 54.2	-4.6
PRHZ	Porangahau	5.57 199	P	Pn	12 36 56.5	-4.9
BFZ	Birch Farm	6.07 200	P	Pn	12 37 02.8	-5.5

IDC 17 12:38:32.5±2.4, 32°.62N×91°.70E, h0km, mb3.1/2, mb1 3.2/4, mb1mx3.1/43, mbtmp3.1/4, ML2.9/2, Error ellipse: s-maj=82.4km s-min=30.0km az=72.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.88	336	Pn	Pn	12 42 16.4	-0.9
	0.0nm,0.3s,baz=144,slow=12,SNR=2.1						
SONM	Songino Array	18.84	32	P	Pn	12 42 54.3	-0.1
	0.1nm,0.3s,baz=217,slow=12,SNR=4.2						
ZALV	Zalesovo Beam	21.88	349	P	P	12 43 25.7	-1.0
	0.5nm,0.6s,baz=177,slow=12,SNR=2.6						
ASAR	Alice Springs	68.96	139	P	P	12 49 39.7	0.0
	0.2nm,0.8s,baz=324,slow=6.5,SNR=4.3						

NEIC 17 12:48:38.2±1.4, 20°.9S±0°.1×178°.5W±0°.1, h555km±8km, mb4.0/12, Error ellipse: s-maj=23.1km s-min=13.7km az=150.0
IDC 17 12:48:39.0±1.7, 20°.80S×178°.58W, h571km±17km, mb3.1/12, mb1 3.4/14, mb1mx3.2/44, mbtmp4.1/14, Error ellipse: s-maj=20.8km s-min=14.7km az=144.0
ISC 17 12:48:38.6±0.5, 20°.70S±0°.09×178°.39W±0°.09, h579km, n57, σ1§67/62, mb3.8/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.48	311	P	P	12 50 04.7	-1.5
	11nm,0.3s,baz=146,slow=8.5,SNR=35						
MSVF	Nonsavu	4.48	311	P	P	12 50 05.2	-1.1
AFI	Afiamalu	9.24	44	P	P	12 50 46.7	-2.9
	4.3nm,0.3s,baz=265,slow=17,SNR=2.4						
AFI				S	S	12 52 30.9	-6.2
	3.3nm,0.3s,baz=43,slow=21,SNR=1.0						
DZM	Mont Dzumac	14.20	262	P	P	12 51 37.3	-2.5
	0.5nm,0.3s,baz=86,slow=19,SNR=6.5						
DZM	Mont Dzumac	14.20	262	P	P	12 51 38.0	-1.7
KUZ	Kuaotunu	16.79	197	P	P	12 52 02.6	-1.3
ETAZ	East Tamaki Re	17.21	198	P	P	12 52 07.7	0.0
HAZ	Te Kaha	17.32	190	P	P	12 52 05.9	-2.7
AWAZ	Awhitu Peninsu	17.40	199	P	P	12 52 09.1	-0.3
PKGZ	Pakihiroa	17.40	189	P	P	12 52 09.2	-0.3
RUGZ	Raukumara Rang	17.54	190	P	P	12 52 09.0	-1.8
PUZ	Puketiti	17.55	189	P	P	12 52 08.9	-1.9
TGRZ	Tauranga	17.59	194	P	P	12 52 11.1	0.0
TWGZ	Tauwhareparae	17.69	189	P	P	12 52 10.8	-1.4
URZ	Urewera	17.92	192	P	P	12 52 10.3	-3.9
RIGZ	Rimuhau	18.25	190	P	P	12 52 15.1	-2.1
KWHZ	Kaweka Forest	19.18	192	P	P	12 52 17.0	-8.7
THZ	Tophouse	22.25	197	P	P	12 52 51.6	-1.8
CTAO	Charters Tower	33.11	265	P	P	12 54 28.0	0.0
STKA	Stephens Creek	37.37	244	P	P	12 55 02.6	-0.6
	0.9nm,0.5s,baz=98,slow=14,SNR=3.7						
STKA	Stephens Creek	37.37	244	P	P	12 55 03.0	-0.3
BBOO	Buckleboo	42.13	244	P	P	12 55 40.1	-1.2
BBOO				IAmb	IAmb	12 55 50.9	
	comp=Z,12nm,1.4s						
JAY	Jayapura	43.77	289	P	P	12 55 54.6	+0.4
	comp=Z,5.9nm,0.5s,baz=150,slow=5.9,SNR=6.3						
WR0	Warramunga Arr	44.02	262	P	P	12 55 55.7	-0.4
WR0				IAmb	IAmb	12 56 06.2	
	comp=Z,4.3nm,1.1s						
AS31	Alice Springs	44.12	257	P	P	12 55 56.5	-0.4
ASAR	Alice Springs	44.12	257	P	P	12 55 55.9	-1.0
	comp=Z,1.0nm,0.7s,baz=92,slow=8.2,SNR=19						
ASAR				PcP	PcP	12 57 29.5	+0.4
	comp=Z,1.1nm,0.6s,baz=104,slow=3.8,SNR=12						
ASAR				ScP	ScP	13 00 26.6	+0.4
	comp=Z,0.4nm,0.7s,baz=98,slow=4.5,SNR=1.0						
ASAR	Alice Springs	44.12	257	P	P	12 55 56.5	-0.4
WB0	Warramunga Arr	44.19	263	P	P	12 55 56.8	-0.6
WB0				IAmb	IAmb	12 55 57.6	
	comp=Z,3.6nm,1.1s						
WB2	Warramunga Arr	44.20	262	P	P	12 55 56.7	-0.8
WB2				IAmb	IAmb	12 56 22.7	
	comp=Z,5.8nm,1.4s						
WRA	Warramunga Arr	44.21	262	P	P	12 55 56.6	-1.0
	comp=Z,0.8nm,0.9s,baz=96,slow=7.6,SNR=9.5						
WRA				PcP	PcP	12 57 29.7	+0.3
	comp=Z,0.4nm,0.6s,baz=99,slow=3.1,SNR=2.6						
WRA	Warramunga Arr	44.21	262	P	P	12 55 56.6	-1.0
SIJI	Sorong	52.94	285	P	P	12 57 02.5	+0.2
	comp=Z,4.8nm,0.6s,baz=92,slow=8.7,SNR=6.7						
VNDA	Vanda	57.67	185	P	P	12 57 35.1	+1.1
	comp=Z,1.0nm,0.5s,baz=5.4,slow=7.0,SNR=5.7						
VNDA	Vanda	57.67	185	P	P	12 57 34.6	+0.6
VNDA				IAmb	IAmb	12 57 52.4	
	comp=Z,18nm,1.5s						
QSPA	South Pole Qui	69.36	180	P	P	12 58 49.1	+0.4
MJAR	Matsushiro Arr	70.16	324	P	P	12 58 54.8	+1.0
	comp=Z,0.6nm,0.5s,baz=172,slow=5.5,SNR=1.9						
PETK	Petropavlovsk-	76.38	345	P	P	12 59 29.9	+1.1
	comp=Z,0.9nm,0.6s,baz=108,slow=9.7,SNR=5.4						
PETK	Petropavlovsk-	76.38	345	P	P	12 59 30.7	+1.9
NVAR	Mina Array Bea	81.42	44	P	P	12 59 58.8	+2.7
	comp=Z,1.2nm,0.8s,baz=223,slow=8.8,SNR=7.3						
NVAR	Mina Array Bea	81.42	44	P	P	12 59 58.0	+1.8
U15A	North Rim	84.37	48	P	P	13 00 13.8	+2.7
U15A				IAmb	IAmb	13 00 15.0	
	comp=Z,2.4nm,0.8s						
TXAR	Lajitas Array	87.47	57	P	P	13 00 28.2	+2.5
	comp=Z,1.5nm,0.9s,baz=223,slow=5.1,SNR=13						
ILAR	Eielson Array	88.59	13	P	P	13 00 30.9	+0.9
	comp=Z,0.6nm,1.0s,baz=218,slow=5.7,SNR=2.0						
PDAR	Pinedale Array	89.36	43	P	P	13 00 36.5	+2.1
	comp=Z,0.9nm,0.6s,baz=216,slow=3.6,SNR=11						
ZALV	Zalesovo Beam	110.42	321	PKiKP	PKiKP	13 06 05.5	+0.1
	comp=Z,0.4nm,0.5s,baz=96,slow=4.1,SNR=2.9						
MKAR	Makanchi Array	111.08	313	PKiKP	PKiKP	13 06 06.2	-0.6
	comp=Z,0.3nm,0.7s,baz=85,slow=0.6,SNR=4.1						
MKAR				PKKPbc	PKKPbc	13 17 06.3	+0.1
	comp=Z,0.5nm,0.8s,baz=268,slow=3.3,SNR=4.7						
AKASG	Malin Array Be	143.01	331	PKP	PKPab	13 07 05.3	+0.7
	comp=Z,0.7nm,0.5s,baz=41,slow=4.0,SNR=11						
BRTR	Keskin Array B	146.71	312	PKPbc	PKPbc	13 07 17.5	+0.9
	comp=Z,0.4nm,0.6s,baz=141,slow=4.1,SNR=5.7						
BRTR	Keskin Array B	146.71	312		PKPbc	13 07 17.0	+0.5
CLL	Collm	148.18	346	*e*PKPdf	PKPdf	13 07 18.0	+2.4
CLL				*i* PKPbc	PKPbc	13 07 21.0	+1.3
	comp=Z,5.0nm,0.8s						
PRU	Pruhonice	149.03	344	*e*PKP	PKPbc	13 07 23.2	+1.3
KHC	Kasperske Hory	150.07	344	*e*PKP	PKPbc	13 07 25.7	+1.3
CKRC	Cesky Krumlov	150.16	343	*e*PKP	PKPbc	13 07 26.0	+1.4
GERES	GERESS Array B	150.30	344	PKPbc	PKPbc	13 07 26.1	+1.1
	comp=Z,1.1nm,0.7s,baz=48,slow=2.0,SNR=9.1						
GERES	GERESS Array B	150.30	344		PKPbc	13 07 26.3	+1.3
TORD	Torodi Ar. Bea	172.49	181	PKP	PKPdf	13 07 42.2	-0.3
	comp=Z,1.0nm,0.9s,baz=129,slow=2.3,SNR=3.8						
TORD				PKPab	PKPab	13 09 09.8	-1.5
	comp=Z,0.7nm,0.9s,baz=174,slow=4.0,SNR=3.5						
TORD	Torodi Ar. Bea	172.49	181		PKPdf	13 07 42.0	-0.6

IDC 17 12:59:05.8±0.9, 3°.18S×123°.32E, h0km, mb3.9/5, mb1 4.0/9, mb1mx3.8/45, mbtmp3.9/9, ML3.7/4, MS3.4/14, Ms1 3.4/14, ms1mx3.1/75, Error ellipse: s-maj=27.4km s-min=17.6km az=55.0
DJA 17 12:59:09.5±1.0, 3°.S±2°.×12°.3E±°, h36km±22km, M4.2/19, mb4.3/6, mB4.7/1, MLv4.0/19, Mw(mB)3.9/1
NEIC 17 12:59:11.2±1.4, 3°.25S±0°.07×123°.32E±0°.10, h31km±6km, mb4.3/6, Error ellipse: s-maj=14.3km s-min=9.6km az=69.0
ISC 17 12:59:10.3±0.6, 3°.30S±0°.04×123°.31E±0°.05, h35km, n49, σ1§30/46, mb4.1/8, MS3.4/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	Bau Bau	2.30	199	P	Pn	12 59 45.6	-0.1
BBSI				S	Sn	13 00 12.5	-0.3
LUWI	Luwuk	2.31	346	P	Pn	12 59 44.3	-1.5
LUWI				S	Sn	13 00 13.4	+0.4
LUWI	Luwuk	2.31	346	Pn	Pn	12 59 44.1	-1.7
APSI	Ampana	2.90	325	P	Pn	12 59 53.2	-0.7
SANI	Sanana	2.95	65	P	Pn	12 59 53.2	-1.5
SANI				S	Sn	13 00 26.1	-2.8
BNSI	Bone	3.38	251	P	Pn	13 00 01.1	+0.5
TTSI	Tana Toraja	3.50	274	P	Pn	13 00 02.1	-0.1
SPSI	Sidrap Palu	3.60	259	P	Pn	13 00 01.2	-2.4
BKSI	Bulukumba	3.76	238	P	Pn	13 00 05.8	0.0
KMSI	Cibinong	3.91	10	P	Pn	13 00 08.0	+0.2
KAPI	Kappang	3.94	244	Pn	Pn	13 00 09.5	+1.3
	7.4nm,0.3s,baz=142,slow=20,SNR=2.2						
KAPI				Sn	Sn	13 00 51.3	-2.0
	5.9nm,0.3s,baz=72,slow=19,SNR=4.2						
KAPI				LR	LR	13 01 48.8	
	comp=Z,438nm,20.9s,baz=68,slow=41						
BSSI	Bau Bau, Buton	3.98	225	P	Pn	13 00 08.5	-0.4
MRSI	Marisa	3.99	340	P	Pn	13 00 08.1	-0.9
LBMI	Labuha	4.95	58	P	Pn	13 00 20.5	-1.7
MPSI	Mapaga	4.97	317	P	Pn	13 00 20.5	-1.9
TOLI2	Tolitoli	5.06	330		Pn	13 00 24.9	+1.2
EDFI	Ende, Flores	5.65	196	P	Pn	13 00 30.6	-1.3
	0.0nm12nm,0.6s						
TNTI	Ternate	5.73	45	Pn	Pn	13 00 32.6	-0.3
SOEI	Soe	6.48	172	P	Pn	13 00 43.1	-0.3
	0.1nm40nm,1.0s						
BATI	Baumata	6.87	177	LR	LR	13 03 40.5	
	comp=Z,482nm,19.2s,baz=356,slow=39						
SWI	Sorong	8.30	73	P	Pn	13 01 07.7	-0.6
	24nm,0.8s						
SIJI	Sorong	8.31	73	Pn	Pn	13 01 09.1	+0.7
	2.4nm,0.3s,baz=250,slow=7.7,SNR=14						
SIJI				Sn	Sn	13 02 42.8	+1.8
	1.2nm,0.3s,baz=307,slow=20,SNR=2.0						
SIJI				LR	LR	13 04 41.5	
	comp=Z,214nm,21.6s,baz=16,slow=41						
FAKI	Fak Fak	8.93	88	Pn	Pn	13 01 18.1	+1.2
DAV	Davao City (W)	10.55	12	LR	LR	13 05 52.5	
	comp=Z,52nm,21.2s,baz=207,slow=39						
KNRA	Kununurra	13.42	157	Pn	Pn	13 02 18.7	+0.3
FITZ	Fitzroy Crossi	14.88	171	Pn	P	13 02 39.8	-3.8
	0.1nm,0.3s,baz=359,slow=12,SNR=2.4						
FITZ				LR	LR	13 08 11.0	
	comp=Z,75nm,21.0s,baz=53,slow=36						
LEM	Lembang	16.02	257	LR	LR	13 10 17.7	
	comp=Z,290nm,19.8s,baz=76,slow=42						
MDSI	Maura Dua	19.12	266	P	Pn	13 03 44.6	+13
WRA	Warramunga Arr	19.73	148	P	Pn	13 03 39.5	+0.6
	0.3nm,0.3s,baz=327,slow=11,SNR=14						
WRA				LR	LR	13 11 22.6	
	comp=Z,73nm,19.5s,baz=354,slow=37						
AS31	Alice Springs	22.69	154	P	P	13 04 10.1	+1.0
ASAR	Alice Springs	22.69	154	P	P	13 04 10.2	+1.2
	0.5nm,0.4s,baz=339,slow=9.4,SNR=16						
ASAR				PcP	PcP	13 08 00.8	-0.1
	0.3nm,0.5s,baz=356,slow=1.8,SNR=6.6						
ASAR				LR	LR	13 13 21.2	
	comp=Z,134nm,19.6s,baz=335,slow=38						
ASAR	Alice Springs	22.69	154	P	P	13 04 10.7	+1.7
PSI	Prapat	25.12	284	LR	LR	13 13 56.2	
	comp=Z,60nm,21.0s,baz=114,slow=36						
CTA	Charters Tower	27.91	128	LR	LR	13 17 57.3	
	comp=Z,73nm,18.3s,baz=271,slow=40						
BBOO	Buckleboo	31.70	159	P	P	13 05 31.4	+0.7
BBOO				IAmb	IAmb	13 05 38.0	
	comp=Z,3.9nm,0.8s						
CM31	Chiang Mai Arr	32.30	313	P	P	13 05 36.4	+0.1
CM31				IAmb	IAmb	13 05 49.8	
	comp=Z,6.6nm,1.4s						
CMAR	Chiang Mai Arr	32.30	313	P	P	13 05 37.4	+1.2
	comp=Z,0.8nm,0.5s,baz=140,slow=6.7,SNR=8.6						
CMAR	Chiang Mai Arr	32.30	313	P	P	13 05 36.6	+0.3
CHTO	Chiang Mai	32.53	313	P	P	13 05 39.0	+0.8
STKA	Stephens Creek	33.22	151	P	P	13 05 45.2	+1.1
	comp=Z,2.8nm,0.8s,baz=326,slow=11,SNR=8.2						
STKA				LR	LR	13 20 46.2	
	comp=Z,66nm,19.0s,baz=22,slow=39						
STKA	Stephens Creek	33.22	151	P	P	13 05 45.6	+1.5
STKA				IAmb	IAmb	13 05 52.3	
	comp=Z,1.1nm,0.9s						
KSRS	Korea Array	40.77	6	LR	LR	13 24 02.0	
	comp=Z,11nm,21.0s,baz=185,slow=37						
MKAR	Makanchi Array	61.58	329	P	P	13 09 23.5	-0.7
	comp=Z,0.5nm,0.7s,baz=131,slow=7.8,SNR=4.6						
TIXI	Tiksi	74.90	2	P	P	13 10 47.0	-0.1
	comp=Z,1.6nm,0.3s,baz=142,slow=6.1,SNR=3.8						
ABKAR	Akbulak array	75.52	323	P	P	13 10 52.3	+1.2
QSPA	South Pole Qui	86.66	180	P	P	13 11 50.0	-0.2
QSPA				IAmb	IAmb	13 11 55.3	
	comp=Z,4.7nm,1.4s						
MBAR	Mbarara	92.53	269	LR	LR	13 49 38.9	
	comp=Z,34nm,18.1s,baz=20,slow=33						
LSZ	Lusaka	94.08	255	LR	LR	13 52 29.1	
	comp=Z,50nm,19.6s,baz=172,slow=34						
TORD	Torodi Ar. Bea	121.52	283	PKP	PKiKP	13 18 02.3	+0.9
	comp=Z,0.6nm,0.7s,baz=107,slow=1.5,SNR=4.2						

IDC 17 13:01:10.6±0.5, 30°.65N×132°.85E, h0km, mb4.3/25, mb1 4.4/31, mb1mx4.2/53, mbtmp4.2/31, ML3.7/6, MS3.8/42, Ms1 3.8/42, ms1mx3.6/89, Error ellipse: s-maj=17.0km s-min=9.8km az=89.0
MOS 17 13:01:11.7±1.2, 30°.65N×132°.86E, h20km, mb4.9/25, Error ellipse: s-maj=10.2km s-min=5.5km az=102.2
BJI 17 13:01:11.6±0.0, 30°.58N×132°.80E, h14km, mb4.3/43, mB4.8/27, Ms4.3/33, Ms7 4.0/31
NEIC 17 13:01:12.2±1.2, 30°.65N±0°.06×132°.80E±0°.08, h10km±1km, mb4.8/57, Error ellipse: s-maj=11.9km s-min=10.1km az=129.0
JMA 17 13:01:12.4±0.1, 30°.63N×132°.83E, h66km, M4.3
NIED 17 13:01:12.4, 30°.63N×132°.83E, h66km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.34; $M_{\theta\theta}$0.55; $M_{\phi\phi}$0.79; $M_{r\theta}$0.25; $M_{\theta\phi}$0.21; $M_{\phi r}$0.40; Fault plane solution: $M_0$1.22000×10^{16} NP1: ϕ_s211.00000°, δ56.00000°, λ-90.00000°. NP2: ϕ_s30.00000°, δ34.00000°, λ-91.00000°.
GCMT 17 13:01:16.2±0.4, 30°.70N±0°.04×132°.75E±0°.04, h12km, MW4.7/71, Moment Tensor Solution. s9,c10; s71,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.34±.05; $M_{\theta\theta}$0.27±.06; $M_{\phi\phi}$1.07±.05; $M_{r\theta}$0.06±.29; $M_{\theta\phi}$0.57±.04; $M_{\phi r}$0.46±.22; Best double couple: $M_0$1.43100×10^{16} NP1: ϕ_s34.00000°, δ36.00000°, λ-79.00000°. NP2: ϕ_s201.00000°, δ54.00000°, λ-98.00000°. Principal axes: T 1.4350, Plg9.0000°, Azm296.0000°; N -0.0050, Plg6.0000°, Azm205.0000°; P -1.4280, Plg79.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 17 13:01:13.9±0.6, 30°.64N±0°.04×132°.85E±0°.04, h24km±3km, n230, σ1§72/224, mb4.7/75, MS4.0/52, 13C-1D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	1.61	271	P	Pn	13 01 38.9	-1.9
JTN				*e*S	Sn	13 01 58.5	-2.4
JNAR	Kushima--Naru	1.62	304	P	Pn	13 01 39.3	-1.6
JNAR				*e*S	Sn	13 01 59.3	-1.7
JNKG	Nichinankitago	1.62	309	P	Pn	13 01 39.5	-1.5
JNKG				*e*S	Sn	13 01 59.6	-1.5
JMTN	Minamitane	1.70	262	P	Pn	13 01 40.5	-1.5
JMTN				*e*S	Sn	13 02 00.9	-2.1
JTSR	Tashiro 2	1.74	288	P	Pn	13 01 40.6	-2.0
JTSR				*e*S	Sn	13 02 01.6	-2.5
JTZ	Takazaki	1.96	310	P	Pn	13 01 44.3	-1.4
JTZ				*e*S	Sn	13 02 07.7	-1.9
JTO	Tosashimizu	2.21	359	P	Pn	13 01 46.7	-2.4
JTO				*e*S	Sn	13 02 10.4	-5.4
JSU	Suzuyama	2.23	293		Pn	13 01 47.7	-1.7
JNN	Nakanoshima	2.69	254	P	Pn	13 01 54.0	-1.7
JNN				*e*S	Sn	13 02 24.7	-2.9
JSJ	Shimokoshiki	2.88	292	P	Pn	13 01 55.7	-2.6
JSJ				*e*S	Sn	13 02 27.6	-4.6
JNA	Nagahama	2.93	354	P	Pn	13 01 57.3	-1.6
JNA				*e*S	Sn	13 02 28.9	-4.4
JNU	Nakatsue	2.99	326	Pn	Pn	13 01 59.5	-0.4
	28nm,0.3s,baz=131,slow=1.7,SNR=135						
JNU				Sn	Sn	13 02 34.3	-0.6
	33nm,0.3s,baz=85,slow=13,SNR=6.6						
JNU	Nakatsue	2.99	326		Pn	13 01 59.2	-0.6
JMN	Monobe	3.20	16	P	Pn	13 02 01.5	-1.2
JMN				*e*S	Sn	13 02 34.7	-5.5
JMN	Monobe	3.20	16	Pn	Pn	13 02 02.4	-0.4
JHS	Saijyo	4.35	3	Pn	Pn	13 02 17.3	-1.3
JTU	Tsushima	4.85	324	Pn	Pn	13 02 24.6	-0.7
JOW	Kunigami	5.53	228	Pn	Pn	13 02 33.0	-1.7
	41nm,0.3s,baz=107,slow=20,SNR=77						
JOW				Sn	Sn	13 03 31.8	-5.7
	23nm,0.3s,baz=138,slow=29,SNR=8.1						
JOW	Kunigami	5.53	228	Pn	Pn	13 02 32.8	-1.8
INU	Inuyama	5.86	36	Pn	Pn	13 02 39.4	+0.2
JHJ	Hachijo jima 2	6.39	65	LR	LR	13 05 03.7	
	comp=Z,447nm,19.5s,baz=258,slow=36						
MAJO	Matsushiro	7.39	36	P	Pn	13 03 00.4	+0.1
MAJO	Matsushiro	7.39	36		Pn	13 03 00.4	+0.1
MJAR	Matsushiro Arr	7.39	36	Pn	Pn	13 03 01.1	+0.8
	0.2nm,0.3s,baz=207,slow=13,SNR=9.1						
MJAR				LR	LR	13 04 53.2	
	comp=Z,56nm,21.2s,baz=226,slow=30						
MJAR	Matsushiro Arr	7.39	36	Pn	Pn	13 03 00.2	-0.1
MJB9	Matsu-Tunnel	7.39	36		Pn	13 03 00.4	+0.1
KSRS	Korea Array	7.93	330	Pn	Pn	13 03 07.5	-0.2
	0.2nm,0.3s,baz=147,slow=14,SNR=8.2						
KSRS				Sn	Sn	13 04 33.6	-3.0
	0.9nm,0.3s,baz=144,slow=24,SNR=8.1						
KSAR	Wonju Array Be	7.94	330	P	Pn	13 03 06.8	-1.0
KSAR	Wonju Array Be	7.94	330	Pn	Pn	13 03 06.8	-1.0
NJ2	Nanjing	12.05	280	*e*P	Pn	13 04 03.3	-0.8
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	Ussuriysk Ar.	13.55	357	LR	LR	13 09 08.3	
	comp=Z,197nm,21.4s,baz=180,slow=35						
CN2	Changchun	14.39	338	*e*P	P	13 04 46.0	+3.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,600nm,11.0s						
CN2				LR	LR		
	comp=E,700nm,11.0s						
CN2				LR	LR		
	comp=Z,700nm,11.0s						
ASAJ	Asahikawa	15.51	27	Pn	Pn	13 04 51.3	+0.4
	comp=Z,0.2nm,0.3s,baz=241,slow=19,SNR=1.3						
ASAJ				LR	LR	13 10 46.8	
	comp=Z,111nm,19.6s,baz=326,slow=37						
JKA	Kamikawa-asahi	15.51	27		Pn	13 04 51.3	+0.3
HNS	HongShan	16.47	299	⇑P	P	13 05 07.6	+1.7
HNS				pmax	pmax		
	comp=Z,18nm,1.4s						
HNS				LR	LR		
	comp=Z,410nm,14.9s						
HNS				LR	LR		
	comp=Z,800nm,15.3s						
HNS				LR	LR		
	comp=Z,460nm,13.9s						
BJI	Beijing	16.50	309	P	P	13 05 07.3	+1.1
BJI				S	Sn	13 08 10.8	+4.6
BJI				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BJI				LR	LR		
	comp=Z,490nm,16.1s						
BJI				LR	LR		
	comp=Z,610nm,15.1s						
YSS	Yuzh-Sakhalins	18.00	22	*e*P	P	13 05 22.9	+0.2
KLR	Kul'dur	18.59	358	P	Pn	13 05 29.6	+0.1
	comp=Z,0.1nm,0.3s,baz=167,slow=9.5,SNR=12						
KLR				LR	LR	13 12 25.8	
	comp=Z,131nm,19.1s,baz=183,slow=36						
KLR	Kul'dur	18.59	358	*ce*P	P	13 05 29.2	0.0
KLR				pmax	pmax		
	comp=Z,22nm,1.3s						
XLT	XiLinHaoTe	18.75	320	*e*P	P	13 05 31.5	+0.4
XLT				sP	pwP	13 05 41.1	-0.3
XLT				pmax	pmax		
	comp=Z,6.0nm,2.2s						
XLT				pmax	pmax		
	comp=Z,230nm,4.4s						
HHC	Hu-ho-hao-te	20.01	306	*e*P	Pn	13 05 47.3	+0.5
HHC				sP	pwP	13 05 58.8	+2.8
HHC				S	S	13 09 30.3	+1.4
HHC				SS	SnSn	13 09 53.6	+7.9
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,5.2s						
HHC				LR	LR		
	comp=Z,430nm,15.7s						
HHC				LR	LR		
	comp=Z,580nm,14.7s						
HHC				LR	LR		
	comp=Z,750nm,14.7s						
ENH	Enshi	20.14	275	P	P	13 05 46.0	-0.4
ENH				IAmb	IAmb	13 05 58.5	
	comp=Z,35nm,1.0s						
GUMO	Guam	20.27	144	LR	LR	13 12 37.8	
	comp=Z,195nm,18.5s,baz=331,slow=34						
BTO	Baotou	21.00	304	*e*P	P	13 06 00.3	+4.6
BTO				S	Sn	13 09 55.1	+0.1
BTO				LR	LR		
	comp=Z,3μm,18.3s						
BTO				LR	LR		
	comp=Z,1μm,15.2s						
GYA	Guiyang	23.36	266	⇑*i*P	P	13 06 20.3	-0.5
GYA				pmax	pmax		
	comp=Z,39nm,0.7s						
ZEA	Zeya	23.44	352	*e*P	P	13 06 22.2	+1.0
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ZEA				MLR	MLR		
	comp=E,100n

SIJI	Sorong	31.37 183	LR	LR	13 16 58.3	
	comp=Z,59nm,21.7s,baz=50,slow=30					
YAK	Yakutsk	31.47 357	LR	LR	13 21 00.7	
	comp=Z,91nm,18.5s,baz=278,slow=38					
GOMU	GeErMu	32.08 290	P	P	13 07 43.3	+3.8
GOMU			pP	pP	13 07 46.1	+0.7
GOMU			sP	pwP	13 07 50.1	-0.6
GOMU			S	S	13 12 45.3	-5.4
GOMU			pmax	pmax		
	comp=Z,2.0nm,0.7s					
GOMU			pmax	pmax		
	comp=Z,74nm,6.3s					
GOMU			LR	LR		
	comp=Z,160nm,14.3s					
GOMU			LR	LR		
	comp=Z,130nm,14.9s					
GOMU			LR	LR		
	comp=Z,83nm,15.0s					
H11N2	WAKE ISLAND Hy	32.55 101	T	T	13 41 60.0	
	baz=296,slow=75,SNR=9.0					
H11N1	WAKE ISLAND Hy	32.55 101	T	T	13 41 59.7	
	baz=296,slow=75,SNR=7.6					
H11N3	WAKE ISLAND Hy	32.57 101	T	T	13 42 01.0	
	baz=296,slow=75,SNR=8.6					
CHTO	Chiang Mai	32.85 257	P	P	13 07 45.9	0.0
CHTO			pmax	pmax		
	comp=Z,8.0nm,1.0s					
CHTO	Chiang Mai	32.85 257	P	P	13 07 45.9	0.0
CHTO			IAmb	IAmb	13 07 56.4	
	comp=Z,8.0nm,0.9s					
CMAR	Chiang Mai Arr	33.01 256	P	P	13 07 48.9	+1.5
	comp=Z,1.2nm,0.9s,baz=49,slow=8.1,SNR=9.8					
CMAR			PcP	PcP	13 10 32.8	+1.8
	comp=Z,0.3nm,0.4s,baz=48,slow=1.3,SNR=4.3					
CMAR			LR	LR	13 21 32.9	
	comp=Z,94nm,21.6s,baz=50,slow=37					
CMAR	Chiang Mai Arr	33.01 256	*i* P	P	13 07 48.9	+1.5
CMAR			pmax	pmax		
	comp=Z,2.0nm,1.0s					
CMAR	Chiang Mai Arr	33.01 256	P	P	13 07 48.1	+0.7
FAKI	Fak Fak	33.38 181	P	P	13 07 51.0	+0.5
SBUM	Sibu	34.16 219	P	P	13 07 57.7	+0.3
SHEM	Shemya Is, Ala	37.19 42	LR	LR	13 22 37.2	
	comp=Z,33nm,21.8s,baz=90,slow=35					
SMY	Shemya	37.19 42	P	P	13 08 24.0	+1.0
SMY			pmax	pmax		
	comp=Z,272nm,1.3s					
SMY	Shemya	37.19 42	P	P	13 08 23.9	+1.0
KAPI	Kappang	37.60 202	P	P	13 08 27.7	+0.9
	comp=Z,2.7nm,0.3s,baz=326,slow=8.4,SNR=3.7					
KAPI	Kappang	37.60 202	P	P	13 08 27.4	+0.6
KAPI			pmax	pmax		
	comp=Z,14nm,1.1s					
KAPI	Kappang	37.60 202	P	P	13 08 27.4	+0.6
KAPI			IAmb	IAmb	13 08 28.8	
	comp=Z,14nm,1.1s					
WMQ	Urumqi	37.83 303	*e*P	P	13 08 30.3	+1.7
WMQ			pP	pP	13 08 33.3	-1.3
WMQ			sP	sP	13 08 35.8	-1.0
WMQ			pmax	pmax		
	comp=Z,13nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,130nm,4.5s					
WMQ			LR	LR		
	comp=Z,410nm,15.9s					
WMQ			LR	LR		
	comp=Z,370nm,19.9s					
WMQ			LR	LR		
	comp=Z,310nm,21.9s					
DGZ	Jazzator, Alta	38.88 313	*i* P	P	13 08 37.3	-0.2
RABL	Rabaul	39.25 149	P	P	13 08 40.0	-0.7
RABL			IAmb	IAmb	13 08 45.8	
	comp=Z,17nm,0.8s					
KULM	Kulim	39.40 237	P	P	13 08 40.9	-1.1
KULM			IAmb	IAmb	13 08 44.6	
	comp=Z,15nm,0.9s					
IPM	Ipoh	39.70 235	P	P	13 08 44.7	+0.2
SOEI	Soe	41.00 193	P	P	13 08 54.6	-0.7
TIXI	Tiksi	41.12 358	P	P	13 08 55.6	0.0
	comp=Z,3.0nm,0.8s,baz=142,slow=6.2,SNR=8.2					
TIXI			LR	LR	13 26 55.2	
	comp=Z,105nm,18.9s,baz=196,slow=38					
TIXI	Tiksi	41.12 358	*ce*P	P	13 08 55.5	0.0
TIXI			pmax	pmax		
	comp=Z,5.0nm,1.0s					
TIXI	Tiksi	41.12 358	P	P	13 08 55.6	0.0
ZALV	Zalesovo Beam	41.43 318	P	P	13 08 58.5	+0.1
	comp=Z,0.8nm,0.6s,baz=116,slow=8.4,SNR=4.5					
ZALV			PcP	PcP	13 10 55.9	-0.1
	comp=Z,1.5nm,0.8s,baz=101,slow=2.9,SNR=5.1					
ZALV			LR	LR	13 27 51.8	
	comp=Z,186nm,18.4s,baz=122,slow=39					
ZALV	Zalesovo Beam	41.43 318	P	P	13 08 58.0	-0.4
BATI	Baumata	41.56 194	P	P	13 08 58.4	-1.4
	comp=Z,62nm,0.8s,baz=331,slow=1.4,SNR=13					
MK31	Makanchi Array	41.87 307	P	P	13 09 01.4	-0.7
MK31			pmax	pmax		
	comp=Z,2.0nm,1.0s					
MK31	Makanchi Array	41.87 307	P	P	13 09 01.4	-0.7
MKAR	Makanchi Array	41.87 307	P	P	13 09 01.8	-0.4
	comp=Z,1.8nm,1.0s,baz=95,slow=9.9,SNR=12					
MKAR			PcP	PcP	13 10 58.0	+0.4
	comp=Z,1.6nm,0.9s,baz=84,slow=2.9,SNR=5.7					
MKAR			LR	LR	13 28 37.3	
	comp=Z,246nm,18.2s,baz=89,slow=39					
MKAR	Makanchi Array	41.87 307	*i* P	P	13 09 02.7	+0.6
MKAR			pmax	pmax		
	comp=Z,2.0nm,1.0s					
MKAR	Makanchi Array	41.87 307	P	P	13 09 02.0	-0.2
PMG	Port Moresby	42.12 159	LR	LR	13 25 08.3	
	comp=Z,91nm,20.1s,baz=294,slow=34					
BILL	Bilibino	42.23 18	*de*P	P	13 09 06.1	+1.4
BILL			*e**PP	sP	13 09 12.4	-0.5
BILL			pmax	pmax		
	comp=Z,15nm,1.2s					
BILL			MLR	MLR		
	comp=Z,72nm,15.0s					
BILL	Bilibino	42.23 18	P	P	13 09 05.2	+0.5
BILL			IAmb	IAmb	13 09 07.1	
	comp=Z,16nm,1.2s					
BKNI	Bangkinang	42.67 231	P	P	13 09 08.5	-0.4
JAGI	Jajag, Banyuwa	42.83 208	P	P	13 09 09.8	-0.3
JAGI			IAmb	IAmb	13 09 13.2	
	comp=Z,18nm,1.2s					
MTN	Manton Dam	43.26 182	P	P	13 09 12.7	-0.9
GSI	Gunungsitoli	44.36 236	P	P	13 09 21.3	-1.2
LEM	Lembang	44.41 217	P	P	13 09 24.1	+1.1
	comp=Z,27nm,0.7s,baz=94,slow=5.6,SNR=9.3					
KURK	Kurchatov	44.62 313	*i* P	P	13 09 26.0	+1.8
KURK			pmax	pmax		
	comp=Z,2.0nm,0.7s					
KURK	Kurchatov	44.62 313	P	P	13 09 23.6	-0.6
KURBB	Kurchatov Arra	44.67 313	LR	LR	13 29 34.2	
	comp=Z,245nm,19.9s,baz=63,slow=38					
KNRA	Kununurra	46.22 185	P	P	13 09 37.0	-0.1
NRIK	Noril'sk	46.43 340	P	P	13 09 38.0	-0.3
	comp=Z,3.9nm,0.8s,baz=123,slow=11,SNR=5.6					
NRIK			LR	LR	13 30 38.3	
	comp=Z,93nm,20.1s,baz=140,slow=38					
NRIK	Noril'sk	46.43 340	*ce*P	P	13 09 38.5	+0.2
NRIK			pmax	pmax		
	comp=Z,13nm,1.6s					
NRIK	Noril'sk	46.43 340	P	P	13 09 37.9	-0.4
NRIK			IAmb	IAmb	13 09 41.1	
	comp=Z,15nm,1.5s					
KSH	Kashi	46.71 297	P	P	13 09 42.8	+1.7
KSH			LR	LR		
	comp=Z,260nm,13.7s					
KSH			LR	LR		
	comp=Z,350nm,14.1s					
KSH			LR	LR		
	comp=Z,260nm,16.7s					
AAK	Ala-Archa	47.47 302	LR	LR	13 32 46.4	
	comp=Z,159nm,18.7s,baz=76,slow=40					
FITZ	Fitzroy Crossi	48.95 189	P	P	13 09 58.9	+0.5
	comp=Z,10.0nm,0.8s,baz=16,slow=7.3,SNR=30					
BRVK	Borovoye	49.91 316	*ce*P	P	13 10 05.7	+0.3
BRVK			pmax	pmax		
	comp=Z,4.0nm,0.6s					
BRVK	Borovoye	49.91 316	P	P	13 10 05.7	+0.3
BRVK			IAmb	IAmb	13 10 15.0	
	comp=Z,6.4nm,0.7s					
WB0	Warramunga Arr	50.14 178	P	P	13 10 07.5	+0.1
WRAB	Tennant Creek	50.30 178	*ce*P	P	13 10 08.3	-0.4
WRAB			pmax	pmax		
	comp=Z,13nm,1.3s					
WRAB	Tennant Creek	50.30 178	P	P	13 10 08.8	+0.1
WRAB			IAmb	IAmb	13 10 09.8	
	comp=Z,13nm,1.0s					
WRA	Warramunga Arr	50.31 178	P	P	13 10 08.6	-0.1
	comp=Z,10nm,1.0s,baz=354,slow=8.3,SNR=42					
WRA	Warramunga Arr	50.31 178	*i* P	P	13 10 08.5	-0.1
WRA			pmax	pmax		
	comp=Z,12nm,1.0s					
WRA	Warramunga Arr	50.31 178	P	P	13 10 08.7	-0.1
WB2	Warramunga Arr	50.31 178	P	P	13 10 08.6	-0.1
WB2			IAmb	IAmb	13 10 09.9	
	comp=Z,12nm,0.9s					
WR0	Warramunga Arr	50.33 178	P	P	13 10 08.8	-0.1
CTA	Charters Tower	52.06 164	P	P	13 10 22.6	+0.8
	comp=Z,4.9nm,0.8s,baz=345,slow=6.3,SNR=4.1					
CTAO	Charters Tower	52.06 164	P	P	13 10 22.2	+0.4
CTAO			pmax	pmax		
	comp=Z,12nm,1.1s					
CTAO	Charters Tower	52.06 164	P	P	13 10 22.2	+0.4
CTAO			IAmb	IAmb	13 10 23.6	
	comp=Z,12nm,1.1s					
CHGR	Chuyangaron	52.08 297	P	P	13 10 22.0	-0.1
PSA00	Pilbara Seismi	53.40 195	P	P	13 10 31.5	-0.2
PSA00	Pilbara Seismi	53.40 195	P	P	13 10 31.9	+0.2
PSA00			IAmb	IAmb	13 10 32.9	
	comp=Z,8.3nm,0.8s					
PALK	Pallekele	53.95 256	LR	LR	13 37 28.2	
	comp=Z,30nm,18.3s,baz=189,slow=40					
AS31	Alice Springs	54.01 179	P	P	13 10 35.9	-0.3
ASAR	Alice Springs	54.01 179	P	P	13 10 36.5	+0.3
	comp=Z,5.9nm,0.9s,baz=11,slow=13,SNR=62					
ASAR	Alice Springs	54.01 179	P	P	13 10 36.0	-0.2
SVE	Sverdlovsk	55.37 320	*e*P	P	13 10 46.8	+1.1
ARU	Arti	56.54 320	LR	LR	13 36 41.4	
	comp=Z,104nm,20.4s,baz=82,slow=38					
ARU	Arti	56.54 320	*c i* P	P	13 10 53.8	-0.3
ARU					13 11 49.5	
ARU			S	S	13 18 44.6	+0.4
ARU			SS	SS	13 22 27.3	-3.9
ARU			pmax	pmax		
	comp=Z,16nm,1.1s					
ARU	Arti	56.54 320	P	P	13 10 52.1	-2.1
ARU			IAmb	IAmb	13 10 55.2	
	comp=Z,15nm,1.1s					
ABKAR	Akbulak array	56.70 311	P	P	13 10 54.2	-1.2
ABKAR			IAmb	IAmb	13 10 57.3	
	comp=Z,10nm,1.2s					
NEA2	Nenana	57.70 30	P	P	13 11 03.2	+1.0
NEA2			IAmb	IAmb	13 11 04.7	
	comp=Z,8.7nm,1.0s					
AKTO	Aktyubinsk	57.72 313	LR	LR	13 38 28.4	
	comp=Z,180nm,18.0s,baz=88,slow=39					
RND	Reindeer	57.89 31	P	P	13 11 02.0	-1.7
RND			pmax	pmax		
	comp=Z,12nm,1.2s					
RND	Reindeer	57.89 31	P	P	13 11 02.0	-1.7
RND			IAmb	IAmb	13 11 26.6	
	comp=Z,12nm,1.2s					
MDM	Murphy Dome	58.04 29	P	P	13 11 05.8	+1.2
MDM			IAmb	IAmb	13 11 09.2	
	comp=Z,10nm,1.0s					
H24K	Noodor Dome	58.12 28	P	P	13 11 06.0	+0.8
DHY	Denali Highway	58.59 32	P	P	13 11 08.7	0.0
DHY			IAmb	IAmb	13 11 30.0	
	comp=Z,12nm,1.4s					
ILAR	Eielson Array	58.62 30	P	P	13 11 08.7	0.0
	comp=Z,1.2nm,1.0s,baz=288,slow=8.5,SNR=8.8					
BMAR	Burnt Mountain	59.28 26	P	P	13 11 12.2	-1.1
SCRK	Sand Creek	59.98 30	P	P	13 11 18.5	+0.3
SCRK			IAmb	IAmb	13 11 27.9	
	comp=Z,6.6nm,1.1s					
GEYT	Alibeck	60.67 299	LR	LR	13 41 41.7	
	comp=Z,110nm,18.7s,baz=108,slow=40					
KIRV	Kirov	61.08 324	*ce*P	P	13 11 26.5	+0.9
FORT	Forrest	61.25 185	P	P	13 11 27.4	+0.5
DZM	Mont Dzumac	61.54 144	LR	LR	13 35 21.0	
	comp=Z,47nm,21.3s,baz=29,slow=33					
DZM	Mont Dzumac	61.54 144	*e*LR	LR	13 29 43.4	
	comp=Z,168nm,24.9s					
STKA	Stephens Creek	62.73 172	P	P	13 11 37.6	+0.7
	comp=Z,8.5nm,0.8s,baz=338,slow=7.3,SNR=23					
STKA	Stephens Creek	62.73 172	P	P	13 11 37.3	+0.4
BBOO	Buckleboo	63.18 177	P	P	13 11 40.0	+0.1
INK	Inuvik	63.23 25	P	P	13 11 40.6	+0.8
	comp=Z,1.3nm,0.7s,baz=268,slow=13,SNR=5.0					
INK	Inuvik	63.23 25	P	P	13 11 40.0	+0.2
BELG	Belogornoye	63.60 317	LR	LR	13 41 37.4	
	comp=Z,163nm,19.1s,baz=346,slow=38					
BELG	Belogornoye	63.60 317	*i* P	P	13 11 42.7	+0.2
BELG			pmax	pmax		
	comp=Z,3.0nm,1.0s					
A36M	Sachs Harbour	64.75 20	P	P	13 11 49.8	+0.1
A36M			IAmb	IAmb	13 11 52.2	
	comp=Z,8.3nm,0.9s					
MSVF	Nonsavu	64.83 132	LR	LR	13 37 02.1	
	comp=Z,43nm,18.6s,baz=60,slow=33					
KLMR	Klimovskoe	65.31 327	*e*P	P	13 11 51.7	-1.9
KLMR			pmax	pmax		
	comp=Z,17nm,1.2s					
KLMR	Klimovskoe	65.31 327	*e*P	P	13 11 51.8	-1.9
KLMR			AMP		13 12 02.3	
	comp=Z,17nm,1.2s					
C36M	Paulatuk	66.11 22	P	P	13 11 59.0	+0.4
C36M			IAmb	IAmb	13 12 00.3	
	comp=Z,9.4nm,1.0s					
MAK	Makhachkala	66.69 307	*e*P	P	13 12 00.8	-2.0
MAK			*e*		13 14 29.2	
MAK			*e*PPP	PPP	13 16 05.6	
MAK			*e*S	S	13 20 48.5	-4.6
MAK			pmax	pmax		
	comp=Z,344nm,1.4s					
MAK			MLR	MLR		
	comp=Z,182nm,17.0s					
ARCES	ARCESS Array B	67.40 339	P	P	13 12 06.6	-0.3
	comp=Z,2.8nm,0.8s,baz=51,slow=7.3,SNR=1.7					
ARCES			LR	LR	13 44 24.4	
	comp=Z,49nm,21.9s,baz=79,slow=38					
VRH	Novokhopyorsk	67.45 317	*e*P	P	13 12 05.7	-1.8
VRH			pmax	pmax		
	comp=Z,20nm,1.5s					
LPSR	Galich'ya Gora	68.54 319	*e*P	P	13 12 11.7	-2.6
LPSR			pmax	pmax		
	comp=Z,8.0nm,0.6s					
OBN	Obninsk	68.85 322	LR	LR	13 42 54.9	
	comp=Z,21nm,20.8s,baz=348,slow=36					
OBN	Obninsk	68.85 322	*e*P	P	13 12 16.5	+0.4
OBN			*i* *PP	sP	13 12 24.9	+0.2
OBN					13 12 39.0	
OBN			pmax	pmax		
	comp=Z,14nm,1.3s					
OBN			MLR	MLR		
	comp=Z,112nm,15.0s					
KBZ	Khabaz	69.52 309	P	P	13 12 21.2	+0.7
	comp=Z,7.4nm,0.9s,baz=138,slow=1.9,SNR=8.6					
KBZ			LR	LR	13 47 54.7	
	comp=Z,120nm,18.1s,baz=62,slow=40					
KBZ	Khabaz	69.52 309	*ce*P	P	13 12 21.0	+0.4
KBZ			pmax	pmax		
	comp=Z,7.0nm,0.9s					
KIV	Kislovodsk	69.58 310	*e*P	P	13 12 21.7	+0.7
KIV			pmax	pmax		
	comp=Z,12nm,1.0s					
KIV			MLR	MLR		
	comp=Z,57nm,17.0s					
GNI	Garni	69.67 305	LR	LR	13 47 04.1	
	comp=Z,59nm,19.1s,baz=68,slow=40					
GRNB	Grenville Isla	69.85 39	P	P	13 12 21.6	-0.8
RES	Resolute Bay	70.44 12	P	P	13 12 24.9	-0.7
RES			pmax	pmax		
	comp=Z,7.0nm,1.1s					
RES	Resolute Bay	70.44 12	P	P	13 12 24.9	-0.7
RES			IAmb	IAmb	13 12 27.2	
	comp=Z,6.6nm,1.1s					
FIA1	FINESS Array S	71.02 331	P	P	13 12 28.3	-1.1
FINES	FINESS Array B	71.02 331	P	P	13 12 28.5	-0.9
	comp=Z,1.5nm,0.6s,baz=76,slow=8.0,SNR=8.1					
FINES			LR	LR	13 44 47.5	
	comp=Z,82nm,20.2s,baz=52,slow=37					
FINES	FINESS Array B	71.02 331	P	P	13 12 28.4	-1.1
YKA	Yellowknife Ar	72.80 27	P	P	13 12 40.4	+0.3
	comp=Z,2.4nm,1.0s,baz=300,slow=5.6,SNR=18					
AKASG	Malin Array Be	74.80 320	P	P	13 12 52.1	+0.1
	comp=Z,5.1nm,0.8s,baz=53,slow=5.8,SNR=18					
AKASG			LR	LR	13 48 46.7	
	comp=Z,102nm,19.4s,baz=64,slow=38					
AKBB	Malin Array Si	74.80 320	*ce*P	P	13 12 52.6	+0.6
AKBB	Malin Array Si	74.80 320	P	P	13 12 51.9	-0.1
AKBB			IAmb	IAmb	13 13 01.3	
	comp=Z,9.6nm,0.9s					
RAYN	Ar Rayn	76.24 289	P	P	13 13 00.0	-0.8
RAYN			pmax	pmax		
	comp=Z,9.0nm,1.2s					
RAYN	Ar Rayn	76.24 289	P	P	13 13 00.0	-0.8
RAYN			IAmb	IAmb	13 13 02.5	
	comp=Z,9.0nm,1.1s					
NOA	NORSAR Array B	77.12 335	P	P	13 13 07.6	+2.5
	comp=Z,2.0nm,1.0s,baz=56,slow=5.5,SNR=2.4					
NOA			LR	LR	13 49 01.7	
	comp=Z,15nm,21.5s,baz=65,slow=37					
BRTR	Keskin Array B	77.50 309	P	P	13 13 08.1	+0.3
	comp=Z,3.2nm,0.9s,baz=92,slow=4.6,SNR=13					
BRTR			LR	LR	13 52 55.4	
	comp=Z,78nm,18.2s,baz=48,slow=40					
BRTR	Keskin Array B	77.50 309	P	P	13 13 07.3	-0.5
BUR08	Bucovina Ar. S	78.64 319	P	P	13 13 14.0	0.0
BUR08			IAmb	IAmb	13 13 15.6	
	comp=Z,11nm,1.1s					
BURAR	Bucovina Array	78.65 319	P	P	13 13 13.9	-0.1
BURAR			IAmb	IAmb	13 13 24.0	
	comp=Z,6.6nm,0.9s					
MLR	Muntele Rosu	79.39 317	LR	LR	13 51 46.7	
	comp=Z,184nm,20.6s,baz=350,slow=38					
UZH	Uzhgorod	79.71 321	*e*P	P	13 13 20.0	+0.4
UZH			*e*		13 13 28.0	
CRVS	Cervenica-Dubn	80.00 321	*e*P	P	13 13 22.4	+1.2
CRVS	Cervenica-Dubn	80.00 321	*e*P	P	13 13 22.4	+1.2
OJC	Ojcow	80.11 323	P	P	13 13 20.7	-1.1
OJC			pmax	pmax		
	comp=Z,9.0nm,0.9s					
OJC	Ojcow	80.11 323	P	P	13 13 20.7	-1.1
OJC			IAmb	IAmb	13 13 23.6	
	comp=Z,9.3nm,0.9s					
LANS	Liptovska Anna	80.92 322	*e*P	P	13 13 27.9	+1.7
LANS	Liptovska Anna	80.92 322	*e*P	P	13 13 27.9	+1.7
IZAB	Izabela	81.13 322	*e*P	P	13 13 29.5	+2.2
EIL	Elat	81.57 299	LR	LR	13 54 08.5	
	comp=Z,30nm,20.1s,baz=72,slow=39					
VYHS	Vyhne	81.64 322	*e*P	P	13 13 31.4	+1.4
VYHS			pmax	pmax		
	comp=Z,12nm,1.3s					
VYHS	Vyhne	81.64 322	*e*P	P	13 13 31.4	+1.4
OSTC	Ostas	81.72 325	*e*P	P	13 13 31.2	+0.8
DPC	Dobruska-Polom	81.79 325	*e*P	P	13 13 31.7	+0.9
DPC			*e*		13 13 39.4	
DPC	Dobruska-Polom	81.79 325	*e*P	P	13 13 31.7	+0.9
DPC			*ex*	x	13 13 39.4	
VRAC	Vranov	82.31 324	LR	LR	13 54 14.9	
	comp=Z,72nm,20.3s,baz=52,slow=39					
SMOL	Smolenice	82.37 323	*e*P	P	13 13 35.8	+2.0
SMOL	Smolenice	82.37 323	*e*P	P	13 13 35.8	+2.0
MODS	Modra-Piesok	82.54 323	*e*P	P	13 13 37.0	+2.3
MODS			pmax	pmax		
	comp=Z,20nm,1.3s					
MODS	Modra-Piesok	82.54 323	*e*P	P	13 13 37.0	+2.3
CLL	Collm	82.79 327	*e*P	P	13 13 33.0	-2.9
CLL			*e**PP	sP	13 13 44.0	-0.6
CLL			pmax	pmax		
	comp=Z,85nm,2.6s					
CLL	Collm	82.79 327	*i* P	P	13 13 35.9	0.0
	comp=Z,85nm,2.6s					
CLL			*ep*PcP		13 13 44.0	
CONA	Conrad Observa	83.56 323	*e*P	P	13 13 41.7	+1.6
	comp=Z,14nm,1.5s					
NKC	Novy Kostel	83.77 326	*e*P	P	13 13 42.4	+1.4
NKC			*e*		13 13 50.2	
NKC	Novy Kostel	83.77 326	*e*P	P	13 13 42.4	+1.4
NKC			*ex*	x	13 13 50.2	
CKRC	Cesky Krumlov	83.78 324	*e*P	P	13 13 41.9	+0.8
KHC	Kasperske Hory	83.94 325	*e*P	P	13 13 42.7	+0.7
KHC			*e*		13 13 50.5	
KHC	Kasperske Hory	83.94 325	*e*P	P	13 13 42.7	+0.7
KHC			*ex*	x	13 13 50.5	
GERES	GERESS Array B	84.07 325	P	P	13 13 43.0	+0.3
	comp=Z,1.6nm,0.8s,baz=60,slow=5.3,SNR=13					
GERES			LR	LR	13 55 31.4	
	comp=Z,165nm,18.4s,baz=59,slow=39					
GERES	GERESS Array B	84.07 325	P	P	13 13 43.0	+0.3
ARSA	Arzberg	84.16 323	*e*P	P	13 13 44.1	+1.0
	comp=Z,4.4nm,0.9s					
FRB	Frobisher Bay	84.42 9	LR	LR	13 55 35.1	
	comp=Z,59nm,18.3s,baz=211,slow=39					
NVAR	Mina Array Bea	84.54 48	P	P	13 13 46.5	+1.1
	comp=Z,1.2nm,0.8s,baz=280,slow=5.1,SNR=8.1					
SOKA	Soboth	84.79 322	*e*P	P	13 13 47.1	+0.7
	comp=Z,8.1nm,1.0s					
IDI	Anoyia	85.74 309	LR	LR	13 57 20.7	
	comp=Z,38nm,18.9s,baz=39,slow=39					
PDAR	Pinedale Array	87.19 41	P	P	13 13 58.6	+0.1
	comp=Z,0.5nm,0.9s,baz=90,slow=1.5,SNR=3.9					
DAVOX	Davos/Dischmat	87.36 325	LR	LR	13 57 36.2	
	comp=Z,133nm,20.4s,baz=83,slow=39					
PPT2	Papeete2	88.59 111	*e*LR	LR	13 41 59.8	
	comp=Z,86nm,24.2s					
TAOE	Nuku Hiva Isla	91.89 99	*e*LR	LR	13 43 36.7	
	comp=Z,110nm,25.6s					
SADO	Sadowa	99.48 22	LR	LR	14 03 27.8	
	comp=Z,40nm,18.2s,baz=8.5,slow=38					

IDC 17 13:14:14.3±2.9, 6°.00S×129°.76E, h135km±41km, mb2.7/1, mb1 2.9/5, mb1mx2.7/39, mbtmp3.3/5, Error ellipse: s-maj=71.9km s-min=21.3km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.32	16	P	Pn	13 15 31.9	+0.1
	0.8nm,0.3s,baz=184,slow=21,SNR=9.8						
SIJI				S	Sn	13 16 27.8	-4.3
	0.7nm,0.3s,baz=216,slow=23,SNR=7.7						
FITZ	Fitzroy Crossi	12.68	198	P	Pn	13 17 09.9	0.0
	0.1nm,0.3s,baz=28,slow=10,SNR=7.4						
FITZ				S	Sn	13 19 24.3	-5.6
	0.0nm,0.3s,baz=269,slow=13,SNR=1.4						
WRA	Warramunga Arr	14.55	163	P	Pn	13 17 32.8	-1.1
	0.1nm,0.3s,baz=346,slow=13,SNR=9.6						
WRA				S	Sn	13 20 04.1	-11
	0.1nm,0.3s,baz=346,slow=25,SNR=2.1						
ASAR	Alice Springs	18.01	168	P	Pn	13 18 15.6	-0.6
	0.1nm,0.3s,baz=344,slow=10.0,SNR=12						
ASAR				S	S	13 21 30.6	-4.1
	0.0nm,0.3s,baz=350,slow=24,SNR=1.4						
MKAR	Makanchi Array	67.27	327	P	P	13 24 54.3	-0.1
	0.1nm,0.6s,baz=134,slow=6.2,SNR=2.2						

DJA 17 13:45:26.0±0.4, 4°S±5°×12°7E±°, h10km, M3.4/8, mb3.5/4, MLv3.3/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.88	84	P	Pb	13 45 43.4	+0.1
AAI				S	Sg	13 45 54.7	+0.3
SANI	Sanana	2.17	322	P	Pn	13 46 02.4	+0.1
SWI	Sorong	4.89	54	P	Pn	13 46 39.5	-0.1
FAKI	Fak Fak	4.99	80	P	Pn	13 46 42.8	+1.7
	0.1nm3.8nm,1.1s						
TTSI	Tana Toraja	7.52	275	P	Pn	13 47 16.3	+0.4
	0.1nm5.7nm,1.8s						
SPSI	Sidrap Palu	7.54	268	P	Pn	13 47 15.5	-0.5
	0.1nm3.8nm,0.

s-min=1.4km az=179.0

NEIC 17 14:04:31.2±1.3, 36°.50N±0°.02×98°.69W±0°.03, h12km±4km, Error ellipse: s-maj=4.7km s-min=1.2km az=138.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.20**	**355**	Pg	Pg	14 04 35.6	-0.1
OK035				Sg	Sg	14 04 38.6	-0.1
U32A	**Winter Ranch,**	**0.28**	**244**	Pg	Pg	14 04 36.8	-0.2
U32A				Sg	Sg	14 04 40.6	-0.2
KAN14	**Manchester OK**	**0.74**	**52**	Pg	Pg	14 04 45.3	-0.2
KAN14				Sg	Sg	14 04 55.3	+0.2
GC02	**Grant County #**	**0.75**	**62**	Pg	Pg	14 04 45.5	-0.2
KAN10	**Anthony SW Sta**	**0.78**	**37**	Pg	Pg	14 04 46.3	0.0
KAN10				Sg	Sg	14 04 56.5	0.0
KAN16	**Harper SW Stat**	**0.88**	**35**	Pg	Pg	14 04 47.9	-0.2
KAN16				Sg	Sg	14 04 59.1	-0.5
KAN05	**Bluff City Nor**	**0.89**	**47**	IAmb_Lg		14 04 59.6	
	comp=Z,46nm,1.0s						
KAN17	**Caldwell West**	**0.92**	**54**	Pg	Pg	14 04 48.6	-0.3
KAN17				Sg	Sg	14 05 00.7	-0.2
KAN08	**Anthony NE Sta**	**0.92**	**38**	Pg	Pb	14 04 49.2	0.0
KAN12	**Harper NE Stat**	**0.97**	**35**	Pg	Pg	14 04 49.2	-0.6
KAN12				Sg	Sg	14 05 02.0	-0.5
KAN01	**Argonia South**	**0.99**	**49**	Pg	Pg	14 04 49.7	-0.5
KAN06	**Argonia West S**	**1.00**	**42**	Pg	Pg	14 04 50.0	-0.4
KAN06				Sg	Sg	14 05 03.3	-0.2
KAN13	**South Haven SW**	**1.10**	**62**	Pg	Pb	14 04 51.8	-0.4
BLOK	**Blackwell**	**1.21**	**77**	Pg	Pn	14 04 53.9	-0.2
BCOK	**Bluff Creek, N**	**1.22**	**134**	Pg	Pn	14 04 53.8	-0.3
OK025	**Westminster Rd**	**1.43**	**130**		Pn	14 04 57.4	+0.3
OKCFA	**Oklahoma City**	**1.48**	**137**	Pn	Pb	14 04 58.3	-0.4
OKCSW	**OKLAHOMA CITY**	**1.49**	**137**	Pn	Pb	14 04 58.6	-0.3
OK031	**S. Brethren Rd**	**1.59**	**110**	Pn	Pb	14 05 00.4	-0.2
FNO	**Franklin**	**1.62**	**140**		Pb	14 05 00.5	-0.6
QUOK	**Quay**	**1.63**	**101**		Pb	14 05 01.1	-0.2
OK030	**Cody Creek RV**	**1.64**	**111**	Pn	Pb	14 05 00.8	-0.7
OK034	**N. Norfolk Rd.**	**1.67**	**107**	Pn	Pb	14 05 01.5	-0.5
WMOK	**Wichita Mounta**	**1.76**	**182**		Pn	14 05 02.1	+0.5
T35A	**Sooner Cattle**	**1.80**	**76**		Pb	14 05 03.5	-0.6
T35A				IAmb_Lg		14 05 31.0	
	comp=Z,18nm,0.9s						
R32A	**Long Quarter,**	**1.92**	**359**		Pb	14 05 05.3	-0.8
W35A	**Tecumseh**	**2.00**	**132**		Pn	14 05 05.6	+0.8
LOOK	**Love County**	**2.79**	**153**	Pn	Pn	14 05 17.2	+1.4
Z35A	**Perchaven, San**	**3.38**	**159**	Pn	Pn	14 05 24.6	+0.7
U40A	**Yellville**	**4.71**	**90**	IAmb_Lg		14 07 10.7	
	comp=Z,8.1nm,0.8s						
N35A	**Tabor**	**4.96**	**28**	IAmb_Lg		14 07 21.6	
	comp=Z,26nm,0.8s						

*IDC **17** 14:20:27.7±1.5, 37°.78N×142°.64E, h0km, mb3.6/5, mb1 3.7/10, mb1mx3.3/40, mbtmp3.6/10, ML3.0/5, MS3.3/3, Ms1 3.3/3, ms1mx2.6/85, Error ellipse: s-maj=33.1km s-min=19.6km az=73.0*

*JMA **17** 14:20:32.0±0.1, 37°.76N×142°.35E, h32km±2km, M3.6*

*NIED **17** 14:20:32.1, 37°.76N×142°.35E, h32km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; M_{rr}=3.19; $M_{\theta\theta}$0.58; $M_{\phi\phi}$2.61; $M_{r\theta}$2.29; $M_{\theta\phi}$0.93; $M_{\phi r}$2.56; Fault plane solution: $M_0$4.60000×10^14 NP1: ϕ_s216.00000°, δ69.00000°, λ-81.00000°. NP2: ϕ_s11.00000°, δ23.00000°, λ-113.00000°.*

ISC 17 14:20:29.7±2.3, 37°.71N±0°.05×142°.40E±0°.08, h14km±12km, n32, σ1s90/34, mb3.5/5, MS3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.95**	**310**	P	**Pg**	**14 20 48.2**	**+0.1**
JIKH				S	**Sg**	**14 20 59.8**	**-0.8**
JIO	**Ouri**	**1.12**	**312**	P	**Pb**	**14 20 50.7**	**-0.1**
JIO				S	**Sb**	**14 21 04.0**	**-1.2**
JMST	**Minamisoumatoc**	**1.20**	**271**	P	**Pn**	**14 20 52.2**	**+0.2**
JMST				S	**Sb**	**14 21 06.7**	**-0.8**
JFK	**Kawauchi**	**1.26**	**255**	P	**Pn**	**14 20 53.3**	**+0.4**
JFK				eS	**Sb**	**14 21 08.5**	**-0.8**
JMM	**Marumori**	**1.28**	**278**	P	**Pn**	**14 20 53.5**	**+0.3**
JMM				S	**Sb**	**14 21 08.9**	**-1.1**
JKMT	**Kesennumamotoy**	**1.32**	**327**	P	**Pn**	**14 20 53.6**	**-0.1**
JKMT				eS	**Sb**	**14 21 09.2**	**-1.9**
JOU	**Okura**	**1.52**	**296**	P	**Pn**	**14 20 57.4**	**+0.9**
JMK	**Ichinoseki**	**1.55**	**324**	P	**Pn**	**14 20 57.2**	**+0.3**
JFT	**Otama**	**1.65**	**264**	P	**Pb**	**14 20 59.8**	**-0.1**
JFT				S	**Sn**	**14 21 20.1**	**+0.8**
JOM	**Ohasama**	**1.97**	**334**	P	**Pn**	**14 21 03.3**	**+0.7**
JYK	**Kaneyama**	**2.01**	**308**	P	**Pn**	**14 21 04.4**	**+1.2**
JRG	**Rokugo**	**2.18**	**321**	P	**Pn**	**14 21 07.3**	**+1.7**
MJAR	**Matsushiro Arr**	**3.54**	**252**	Pn	**Pn**	**14 21 27.7**	**+3.4**
	0.4nm,0.3s,baz=54,slow=10,SNR=19						
MJAR				Sn	**Sb**	**14 22 11.7**	**-3.4**
	0.5nm,0.3s,baz=83,slow=10,SNR=4.9						
MAT	**Matsushiro**	**3.55**	**252**	P	**Pb**	**14 21 29.1**	**-3.1**
MAT				eS	**Sb**	**14 22 12.8**	**-2.3**
JHJ	**Hachijo jima 2**	**5.05**	**206**	Pn	**Pn**	**14 21 47.1**	**+2.1**
	12nm,0.3s,baz=79,slow=22,SNR=1.7						
JHJ				Sn	**Sn**	**14 22 39.2**	**-3.9**
	12nm,0.3s,baz=88,slow=22,SNR=1.1						
ASAJ	**Asahikawa**	**6.41**	**1**	Pn	**Pn**	**14 22 04.2**	**+0.6**
	0.4nm,0.3s,baz=257,slow=6.6,SNR=8.3						
ASAJ				Sn	**Sn**	**14 23 12.9**	**-3.6**
	0.2nm,0.3s,baz=163,slow=31,SNR=1.7						
USRK	**Ussuriysk Ar.**	**10.20**	**313**	Pn	**Pn**	**14 22 57.9**	**+2.3**
	baz=140,slow=24,SNR=4.9						
KSRS	**Korea Array**	**11.49**	**273**	Pn	**Pn**	**14 23 17.1**	**+3.7**
	0.1nm,0.3s,baz=79,slow=15,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	14 55 38.6	
	baz=315,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	14 55 37.9	
	baz=315,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**27.85**	**123**	T	T	14 55 38.5	
	baz=315,slow=75,SNR=25						
SONM	**Songino Array**	**28.07**	**303**	P	**P**	**14 26 21.6**	**+0.8**
	0.6nm,0.7s,baz=110,slow=8.9,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**28.58**	**125**	T	T	14 56 24.9	
	baz=317,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	14 56 46.4	
	baz=317,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.60**	**125**	T	T	14 56 29.6	
	baz=317,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**42.05**	**312**	P	**P**	**14 28 21.1**	**+0.5**
	0.6nm,0.6s,baz=75,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**44.43**	**302**	P	**P**	**14 28 40.1**	**+0.1**
	0.2nm,0.5s,baz=87,slow=12,SNR=5.5						
PMG	**Port Moresby**	**47.08**	**174**	LR	LR	14 49 59.5	
	comp=Z,8.9nm,18.7s,baz=296,slow=38						
WRA	**Warramunga Arr**	**57.84**	**189**	P	**P**	**14 30 21.8**	**+1.0**
	1.8nm,0.9s,baz=6.6,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**61.56**	**189**	P	**P**	**14 30 47.5**	**+1.0**
	0.4nm,0.6s,baz=12,slow=5.5,SNR=5.6						
WSAR	**Wadi Sarin**	**71.45**	**285**	LR	LR	15 05 16.1	
	comp=Z,32nm,19.2s,baz=146,slow=38						
MMAI	**Mount Meron Ar**	**82.21**	**306**	LR	LR	15 13 33.3	
	comp=Z,36nm,18.9s,baz=216,slow=39						

*SSNC **17** 14:22:17.7±1.3, 19°.72N×76°.03W, h8km±6km, MD3.3, ML3.3, MW3.7*

*JSN **17** 14:22:18.2±0.7, 19°.63N×76°.17W, h0km±103km, MD3.8*

ISC 17 14:22:16.6±1.1, 19°.76N±0°.05×76°.04W±0°.05, h22km±7km, n14, σ0s56/20, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.39**	**54**	*e*P	**Pb**	**14 22 25.1**	**+0.2**
RCC				eS	**Sb**	**14 22 30.1**	**-0.4**
RCC				IAML		14 22 31.7	
	comp=N,1μm,0.1s						
RCC				IAML		14 22 31.7	
	comp=E,901nm,0.1s						
GTBY	**Guantanamo Bay**	**0.89**	**79**	*e*P	**Pb**	**14 22 33.8**	**+0.5**
GTMO	**Guantanamo**	**0.90**	**69**	*e*P	**Pb**	**14 22 33.2**	**-0.3**
GTMO				eS	**Sn**	**14 22 46.5**	**+0.2**
LMGC	**Las Mercedes**	**0.96**	**288**	*e*P	**Pn**	**14 22 34.1**	**-0.6**
HLGC	**Holguin**	**1.12**	**359**	*e*P	**Pb**	**14 22 38.0**	**+0.6**
HLGC				eS	**Sn**	**14 22 52.5**	**+0.6**
MOAC	**Moa**	**1.35**	**48**	*e*P	**Pn**	**14 22 40.0**	**-0.1**
MOAC				eS	**Sn**	**14 22 57.0**	**-0.3**
MOAC				IAML		14 23 02.3	
	comp=E,542nm,0.4s						
MOAC				IAML		14 23 02.6	
	comp=N,368nm,0.3s						
CMJ	**Castle Mountai**	**1.65**	**191**	*i* P	**Pn**	**14 22 45.0**	**+0.7**
MASC	**Masc**	**1.75**	**76**	*e*P	**Pn**	**14 22 45.8**	**+0.3**
MASC				eS	**Sn**	**14 23 06.1**	**-1.1**
GWJ	**Greenwich**	**1.80**	**201**	*i* P	**Pn**	**14 22 46.3**	**-0.2**
STH	**Stony Hill**	**1.83**	**204**	*i* P	**Pn**	**14 22 47.2**	**+0.4**
HOJ	**Hope**	**1.88**	**201**	*i* P	**Pn**	**14 22 47.5**	**+0.2**
CVJ	**Coleyville**	**2.09**	**223**	*i* P	**Pn**	**14 22 50.5**	**+0.1**
MTDJ	**Mount Denham**	**2.09**	**223**	*e*P	**Pn**	**14 22 50.0**	**-0.3**
MCJ	**Malvern**	**2.41**	**221**	*i* P	**Pn**	**14 22 55.3**	**+0.6**
MCJ				*i* S	**Sn**	**14 23 22.8**	**-0.8**

*IDC **17** 14:23:49.9±0.7, 30°.55N×132°.81E, h0km, mb3.8/15, mb1 4.0/21, mb1mx3.8/40, mbtmp3.9/21, ML3.5/6, MS3.6/20, Ms1 3.6/20, ms1mx3.2/89, Error ellipse: s-maj=20.2km s-min=14.9km az=80.0*

*NEIC **17** 14:23:51.5±1.7, 30°.61N±0°.06×132°.80E±0°.09, h9km±4km, mb4.6/23, Error ellipse: s-maj=10.9km s-min=9.1km az=109.0*

*JMA **17** 14:23:52.0±0.1, 30°.60N×132°.80E, h56km, M3.5*

*NIED **17** 14:23:52.1, 30°.60N×132°.80E, h56km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}-5.49; $M_{\theta\theta}$2.03; $M_{\phi\phi}$3.46; $M_{r\theta}$1.06; $M_{\theta\phi}$0.77; $M_{\phi r}$2.38; Fault plane solution: $M_0$5.32000×10^15 NP1: ϕ_s204.00000°, δ60.00000°, λ-90.00000°. NP2: ϕ_s24.00000°, δ30.00000°, λ-90.00000°.*

ISC 17 14:23:55.1±0.5, 30°.61N±0°.05×132°.75E±0°.06, h35km, n79, σ1s56/74, mb4.3/27, MS3.7/17, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.53**	**272**	P	**Pn**	**14 24 18.0**	**-2.0**
JTN				eS	**Sn**	**14 24 37.3**	**-1.3**
JNAR	**Kushima--Naru**	**1.57**	**306**	P	**Pn**	**14 24 18.7**	**-1.8**
JNAR				eS	**Sn**	**14 24 38.4**	**-1.1**
JNKG	**Nichinankitago**	**1.58**	**312**	P	**Pn**	**14 24 18.9**	**-1.7**
JNKG				eS	**Sn**	**14 24 39.0**	**-0.9**
JMTN	**Minamitane**	**1.61**	**263**	P	**Pn**	**14 24 19.4**	**-1.7**
JMTN				eS	**Sn**	**14 24 39.0**	**-1.7**
JTSR	**Tashiro 2**	**1.67**	**290**	P	**Pn**	**14 24 20.0**	**-1.9**
JTSR				eS	**Sn**	**14 24 40.6**	**-1.5**
JTZ	**Takazaki**	**1.92**	**313**	P	**Pn**	**14 24 23.4**	**-2.0**
JYAK	**Yakushimahirau**	**1.97**	**260**	P	**Pn**	**14 24 24.7**	**-1.3**
JYAK				eS	**Sn**	**14 24 48.4**	**-1.1**
JSU	**Suzuyama**	**2.17**	**295**		**Pn**	**14 24 26.9**	**-1.8**
JTO	**Tosashimizu**	**2.25**	**1**	P	**Pn**	**14 24 26.6**	**-3.2**
JTO				eS	**Sn**	**14 24 49.7**	**-6.6**
JNN	**Nakanoshima**	**2.60**	**254**	P	**Pn**	**14 24 33.6**	**-1.2**
JNN				eS	**Sn**	**14 25 04.0**	**-1.2**
JNU	**Nakatsue**	**2.97**	**328**	Pn	**Pn**	**14 24 39.2**	**-0.7**
	11nm,0.3s,baz=185,slow=7.0,SNR=90						
JNU				Sn	**Sn**	**14 25 13.4**	**-0.8**
	11nm,0.3s,baz=201,slow=22,SNR=2.3						
JNU	**Nakatsue**	**2.97**	**328**		**Pn**	**14 24 38.8**	**-1.0**
JMN	**Monobe**	**3.25**	**17**	Pn	**Pn**	**14 24 41.7**	**-2.1**
JHS	**Saijyo**	**4.39**	**4**		**Pn**	**14 24 57.1**	**-2.2**
JOW	**Kunigami**	**5.44**	**227**	Pn	**Pn**	**14 25 12.0**	**-1.8**
	9.6nm,0.3s,baz=97,slow=19,SNR=26						
JOW				Sn	**Sn**	**14 26 11.3**	**-3.9**
	0.9nm,0.3s,baz=40,slow=18,SNR=1.8						
JOW	**Kunigami**	**5.44**	**227**	Pn	**Pn**	**14 25 12.6**	**-1.2**
INU	**Inuyama**	**5.93**	**36**	Pn	**Pn**	**14 25 19.6**	**-0.8**
JGF	**Kuroka**	**6.30**	**37**	Pn	**Pn**	**14 25 23.5**	**-2.1**
JHJ	**Hachijo jima 2**	**6.48**	**65**	Pn	**Pn**	**14 25 26.3**	**-1.8**
	6.1nm,0.3s,baz=182,slow=7.8,SNR=1.9						
JHJ				LR	LR	14 27 34.2	
	comp=Z,272nm,21.5s,baz=299,slow=35						
MAJO	**Matsushiro**	**7.46**	**36**	Pn	**Pn**	**14 25 39.4**	**-2.1**
MJAR	**Matsushiro Arr**	**7.46**	**36**	Pn	**Pn**	**14 25 41.9**	**+0.3**
	0.1nm,0.3s,baz=241,slow=12,SNR=5.7						
MJAR	**Matsushiro Arr**	**7.46**	**36**	Pn	**Pn**	**14 25 39.9**	**-1.7**
MJB9	**Matsu-Tunnel**	**7.47**	**36**	Pn	**Pn**	**14 25 39.6**	**-2.0**
KSRS	**Korea Array**	**7.92**	**331**	Pn	**Pn**	**14 25 47.3**	**-0.4**
	0.1nm,0.3s,baz=148,slow=14,SNR=4.1						
JMM	**Marumori**	**9.83**	**40**	Pn	**Pn**	**14 26 15.0**	**+1.1**
ASAJ	**Asahikawa**	**15.57**	**27**	LR	LR	14 34 15.1	
	comp=Z,39nm,18.4s,baz=180,slow=40						
KLR	**Kul'dur**	**18.62**	**358**	P	**Pn**	**14 28 10.4**	**+0.5**
	0.1nm,0.3s,baz=164,slow=6.4,SNR=8.7						
KLR				LR	LR	14 34 20.2	
	comp=Z,47nm,20.4s,baz=186,slow=34						
GUMO	**Guam**	**20.29**	**144**	LR	LR	14 35 17.5	
	comp=Z,82nm,19.0s,baz=352,slow=34						
SONM	**Songino Array**	**26.51**	**318**	P	**P**	**14 29 30.1**	**+0.7**
	0.2nm,0.4s,baz=126,slow=7.4,SNR=2.1						
SONM				LR	LR	14 41 38.7	
	comp=Z,189nm,18.5s,baz=128,slow=40						
H11N2	**WAKE ISLAND Hy**	**32.63**	**101**	T	T	15 04 38.3	
	baz=296,slow=75,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**32.63**	**101**	T	T	15 04 39.5	
	baz=296,slow=75,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**32.64**	**101**	T	T	15 04 40.2	
	baz=296,slow=75,SNR=9.2						
CMAR	**Chiang Mai Arr**	**32.92**	**256**	LR	LR	14 46 16.2	
	comp=Z,43nm,18.3s,baz=60,slow=41						
FAKI	**Fak Fak**	**33.34**	**181**	P	**P**	**14 30 30.1**	**+0.1**
FAKI				IAmb	IAmb	14 30 34.9	
	comp=Z,12nm,0.9s						
ZALV	**Zalesovo Beam**	**41.40**	**318**	P	**P**	**14 31 38.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=77,slow=9.0,SNR=1.4						
ZALV				LR	LR	14 50 31.3	
	comp=Z,96nm,19.3s,baz=104,slow=39						
MKAR	**Makanchi Array**	**41.82**	**307**	P	**P**	**14 31 43.7**	**+2.2**
	comp=Z,0.8nm,1.0s,baz=108,slow=8.0,SNR=5.6						
MKAR				PcP	**PcP**	**14 33 36.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=79,slow=1.8,SNR=4.5						
MKAR				LR	LR	14 51 25.7	
	comp=Z,90nm,18.3s,baz=60,slow=40						
MTN	**Manton Dam**	**43.23**	**182**	P	**P**	**14 31 52.0**	**-1.0**
MTN				IAmb	IAmb	14 31 57.1	
	comp=Z,11nm,1.1s						
KURBB	**Kurchatov Arra**	**44.63**	**313**	LR	LR	14 52 03.9	
	comp=Z,104nm,18.9s,baz=46,slow=38						
KNRA	**Kunounrra**	**46.18**	**185**	P	**P**	**14 32 16.7**	**+0.2**
KNRA				IAmb	IAmb	14 32 20.9	
	comp=Z,12nm,1.2s						
WB0	**Warramunga Arr**	**50.11**	**178**	P	**P**	**14 32 45.9**	**-1.0**
WB0				IAmb	IAmb	14 32 48.1	
	comp=Z,4.8nm,1.1s						
WRAB	**Tennant Creek**	**50.27**	**178**	P	**P**	**14 32 47.9**	**-0.3**
WRAB				IAmb	IAmb	14 32 55.6	
	comp=Z,5.6nm,1.4s						
WB2	**Warramunga Arr**	**50.28**	**178**	P	**P**	**14 32 47.5**	**-0.7**
WB2				IAmb	IAmb	14 33 14.7	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**50.28**	**178**	P	**P**	**14 32 47.7**	**-0.5**
	comp=Z,1.6nm,1.0s,baz=354,slow=8.0,SNR=7.7						
WR0	**Warramunga Arr**	**50.30**	**178**	P	**P**	**14 32 47.8**	**-0.6**
WR0				IAmb	IAmb	14 32 53.0	
	comp=Z,5.8nm,1.1s						
PALK	**Pallekele**	**53.86**	**256**	LR	LR	14 59 57.8	
	comp=Z,33nm,18.2s,baz=228,slow=40						
ASAR	**Alice Springs**	**53.98**	**179**	P	**P**	**14 33 15.3**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=359,slow=5.6,SNR=8.2						
ARU	**Arti**	**56.51**	**320**	LR	LR	14 59 22.1	
	comp=Z,56nm,21.3s,baz=75,slow=38						
ABKAR	**Akbulak array**	**56.66**	**311**	P	**P**	**14 33 36.6**	**+1.9**
AKTO	**Aktyubinsk**	**57.68**	**313**	LR	LR	15 01 08.3	
	comp=Z,81nm,18.8s,baz=58,slow=39						
RND	**Reindeer**	**57.96**	**31**	P	**P**	**14 33 43.9**	**0.0**
RND				IAmb	IAmb	14 33 46.7	
	comp=Z,8.7nm,1.2s						
H24K	**Noodor Dome**	**58.19**	**28**	P	**P**	**14 33 46.4**	**+1.0**
ILAR	**Eielson Array**	**58.69**	**30**	P	**P**	**14 33 47.8**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=274,slow=6.0,SNR=2.1						
BMAR	**Burnt Mountain**	**59.35**	**26**	P	**P**	**14 33 55.0**	**+1.6**
TGL	**Tana Glacier**	**61.15**	**34**	P	**P**	**14 34 05.6**	**-0.3**
BCAR	**Beaver Creek A**	**61.18**	**31**	P	**P**	**14 34 06.8**	**+0.9**
M27K	**Edge Creek, AK**	**61.27**	**32**	P	**P**	**14 34 07.0**	**+0.3**
M27K				IAmb	IAmb	14 34 30.6	
	comp=Z,7.4nm,1.4s						
DZM	**Mont Dzumac**	**61.57**	**144**	LR	LR	14 59 16.2	
	comp=Z,33nm,18.1s,baz=31,slow=35						
STKA	**Stephens Creek**	**62.71**	**172**	P	**P**	**14 34 16.4**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=349,slow=5.0,SNR=4.7						
STKA	**Stephens Creek**	**62.71**	**172**	IAmb	IAmb	14 34 20.4	
	comp=Z,0.6nm,1.0s						
INK	**Inuvik**	**63.29**	**25**	P	**P**	**14 34 19.9**	**0.0**
INK				IAmb	IAmb	14 34 30.0	
	comp=Z,4.7nm,1.4s						
M30M	**Minto, Yukon**	**63.52**	**31**	P	**P**	**14 34 21.4**	**-0.3**
A36M	**Sachs Harbour**	**64.80**	**20**	P	**P**	**14 34 30.0**	**+0.2**
A36M				IAmb	IAmb	14 34 39.8	
	comp=Z,6.4nm,1.0s						
SKAG	**Skagway**	**65.11**	**34**	P	**P**	**14 34 32.5**	**+0.4**
C36M	**Paulatuk**	**66.17**	**22**	P	**P**	**14 34 38.8**	**+0.1**
C36M				IAmb	IAmb	14 34 42.1	
	comp=Z,5.9nm,1.1s						
ARCES	**ARCESS Array B**	**67.40**	**339**	LR	LR	15 08 20.1	
	comp=Z,26nm,19.4s,baz=76,slow=40						
KBZ	**Khabaz**	**69.48**	**309**	P	**P**	**14 35 01.9**	**+1.9**
	comp=Z,3.2nm,0.9s,baz=346,slow=4.2,SNR=3.0						
KBZ				LR	LR	15 10 53.4	
	comp=Z,56nm,18.1s,baz=44,slow=41						
GNI	**Garni**	**69.62**	**305**	LR	LR	15 09 24.4	
	comp=Z,45nm,18.1s,baz=20,slow=39						
FINES	**FINESS Array B**	**71.01**	**331**	P	**P**	**14 35 08.4**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=90,slow=7.6,SNR=6.0						
FINES				LR	LR	15 07 16.2	
	comp=Z,46nm,18.4s,baz=33,slow=37						
TULEG	**Thule**	**72.26**	**5**	P	**P**	**14 35 16.2**	**-0.1**
YKA	**Yellowknife Ar**	**72.87**	**27**	P	**P**	**14 35 21.6**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=303,slow=5.8,SNR=9.6						
AKASG	**Malin Array Be**	**74.77**	**320**	P	**P**	**14 35 30.7**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=53,slow=6.2,SNR=7.3						
AKASG	**Malin Array Be**	**74.77**	**320**	IAmb	IAmb	14 35 34.9	
	comp=Z,4.7nm,1.4s						
BRTR	**Keskin Array B**	**77.46**	**309**	P	**P**	**14 35 48.6**	**+1.4**
	comp=Z,1.8nm,0.9s,baz=73,slow=4.3,SNR=6.5						
BRTR	**Keskin Array B**	**77.46**	**309**	P	**P**	**14 35 48.2**	**+1.0**
BURAR	**Bucovina Array**	**78.62**	**319**	P	**P**	**14 35 53.5**	**+0.1**
GERES	**GERESS Array B**	**84.04**	**325**	P	**P**	**14 36 22.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=72,slow=4.3,SNR=4.9						
GERES				LR	LR	15 17 48.6	
	comp=Z,85nm,18.2s,baz=5.5,slow=38						
NVAR	**Mina Array Bea**	**84.62**	**48**	P	**P**	**14 36 25.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=295,slow=6.6,SNR=4.5						
PDAR	**Pinedale Array**	**87.26**	**41**	P	**P**	**14 36 38.6**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=61,slow=5.6,SNR=2.4						
PDAR				LR	LR	15 13 57.0	
	comp=Z,32nm,21.3s,baz=269,slow=34						
DAVOX	**Davos/Dischmat**	**87.34**	**325**	LR	LR	15 19 16.3	
	comp=Z,78nm,21.1s,baz=83,slow=38						

*IDC **17** 14:40:16.6±2.7, 52°.14N×179°.53E, h127km±25km, mb3.2/13, mb1 3.5/16, mb1mx3.3/60, mbtmp3.7/16, Error ellipse: s-maj=24.5km s-min=13.2km az=163.0*

*NEIC **17** 14:40:20.0±1.6, 52°.3N±0°.2×179°.76E±0°.09, h152km±9km, Error ellipse: s-maj=25.5km s-min=5.8km az=191.0*

*AEIC **17** 14:40:20±1.6, 52°.5N±0°.1×179°.74E±0°.06, h146km±7km, ML3.3, mb4.5/6(NEIC), Error ellipse: s-maj=19.0km s-min=3.4km az=169.0*

ISC 17 14:40:19.3±0.6, 52°.2N±0°.1×179°.70E±0°.06, h150km, n38, σ0s98/37, mb3.3/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.00**	**116**		**Pn**	**14 40 45.2**	**+1.2**
GANO	**Gareloi North**	**1.01**	**113**		**Pn**	**14 40 45.3**	**+1.1**
TASE	**Tanaga Southea**	**1.46**	**105**		**Pn**	**14 40 49.8**	**+1.4**
TAPA	**Tanaga Point A**	**1.59**	**104**		**Pn**	**14 40 50.8**	**+1.0**
KIMD	**Kanaga Island**	**1.96**	**103**		**Pn**	**14 40 54.2**	**+0.4**
KIKV	**Kanaga Island**	**1.97**	**99**		**Pn**	**14 40 54.8**	**+0.9**
KIWB	**Kanaga Island**	**1.98**	**100**		**Pn**	**14 40 53.9**	**-0.2**
ADK	**Adak**	**2.26**	**97**		**Pn**	**14 40 56.7**	**-0.7**
GSTD	**Great Sitkin T**	**2.57**	**92**		**Pn**	**14 41 01.3**	**0.0**
SHEM	**Shemya Is, Ala**	**3.46**	**280**	P	**Pn**	**14 41 13.9**	**+1.5**
	16nm,0.3s,baz=101,slow=19,SNR=5.2						
SHEM				S	**Sn**	**14 41 54.7**	**+1.2**

*AEIC **17** 14:52:29±1.9, 66°.38N±0°.04×153°.3W±0°.1, h11km±4km, ML4.5, mb4.3/21(NEIC), ML4.7/84(NEIC), Mwr4.2/92(NEIC), Error ellipse: s-maj=6.6km s-min=4.7km az=120.0*
*IDC **17** 14:52:31.3±0.7, 66°.27N×153°.20W, h0km, mb3.9/15, mb1 4.2/19, mb1mx3.9/37, mbtmp4.0/19, ML4.2/4, MS3.4/10, Ms1 3.4/10, ms1mx3.0/94, Error ellipse: s-maj=24.2km s-min=8.6km az=31.0*
ISC 17 14:52:31.1±0.4, 66°.38N±0°.03×153°.04W±0°.04, h10km, n232, σ1$59/219, mb4.2/29, MS3.3/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM03		**0.49**	**217**		**Pg**	**14 52 38.3**	**-2.3**
IMAR	**Indian Mountai**	**0.49**	**217**		**Pg**	**14 52 38.6**	**-2.0**
H21K	**Melozitna Rive**	**0.73**	**172**		**Pg**	**14 52 44.9**	**-0.2**
H21K	**Melozitna Rive**	**0.73**	**172**	IAML		14 52 58.2	
	comp=E,27µm,0.5s						
H21K				IAML		14 52 58.6	
	comp=N,25µm,0.5s						
H21K	**Melozitna Rive**	**0.73**	**172**	P	**Pg**	**14 52 44.9**	**-0.2**
	baz=344						
H21K				S	**Sg**	**14 52 55.1**	**+0.4**
	baz=344						
PS05	**TAPS Pump Stn5**	**1.04**	**64**		**Pg**	**14 52 50.7**	**-0.4**
I21K	**Tanana**	**1.28**	**160**		**Pn**	**14 52 54.6**	**-0.4**
I21K	**Tanana**	**1.28**	**160**	P	**Pn**	**14 52 54.6**	**-0.4**
	baz=336						
I21K				S	**Sb**	**14 53 11.8**	**+0.1**
	baz=336						
COLD	**Coldfoot**	**1.41**	**51**	Pn	**Pn**	**14 52 55.8**	**-1.1**
COLD	**Coldfoot**	**1.41**	**51**	P	**Pn**	**14 52 55.9**	**-0.9**
	baz=237						
COLD				S	**Sb**	**14 53 16.2**	**+0.7**
	baz=237						
PS06	**TAPS Pump Stn6**	**1.44**	**110**		**Pn**	**14 52 57.7**	**+0.5**
I23K	**Minto, Yukon-K**	**1.96**	**127**		**Pn**	**14 53 04.1**	**-0.2**
I23K				IAML		14 53 36.5	
	comp=E,5µm,0.5s						
I23K	**Minto, Yukon-K**	**1.96**	**127**	P	**Pn**	**14 53 04.5**	**+0.2**
	baz=309						
I23K				S	**Sb**	**14 53 32.6**	**+1.5**
	baz=309						
H24K	**Noodor Dome**	**2.17**	**102**		**Pn**	**14 53 07.2**	**-0.1**
H24K				IAML		14 53 44.4	
	comp=E,5µm,0.7s						
H24K				IAML		14 53 45.2	
	comp=N,4µm,0.6s						
PS07	**TAPS Pump Stn7**	**2.23**	**117**		**Pn**	**14 53 08.7**	**+0.6**
J20K	**Nowinta River**	**2.26**	**192**		**Pn**	**14 53 06.7**	**-1.7**
J20K	**Nowinta River**	**2.26**	**192**	P	**Pn**	**14 53 06.7**	**-1.7**
	baz=8.5						
GCSA	**Galena City Sc**	**2.29**	**226**		**Pn**	**14 53 05.5**	**-3.4**
GCSA	**Galena City Sc**	**2.29**	**226**	P	**Pn**	**14 53 05.5**	**-3.4**
	baz=40						
NEA2	**Nenana**	**2.44**	**135**		**Pn**	**14 53 10.4**	**-0.5**
NEA2	**Nenana**	**2.44**	**135**	P	**Pn**	**14 53 10.7**	**-0.2**
	baz=318						
BPAW	**Bear Paw Mtn.**	**2.44**	**158**		**Pn**	**14 53 11.3**	**+0.3**
BPAW				IAML		14 53 57.3	
	comp=E,3µm,0.8s						
BPAW	**Bear Paw Mtn.**	**2.44**	**158**	P	**Pn**	**14 53 10.4**	**-0.7**
	baz=338						
MDM	**Murphy Dome**	**2.45**	**123**		**Pn**	**14 53 10.9**	**-0.2**
CHUM	**Lake Minchumin**	**2.52**	**173**		**Pn**	**14 53 11.5**	**-0.6**
CHUM	**Lake Minchumin**	**2.52**	**173**	P	**Pn**	**14 53 11.5**	**-0.6**
	baz=351						
TCOL	**CIGO, UAF Yank**	**2.62**	**123**		**Pn**	**14 53 13.4**	**0.0**
TCOL	**CIGO, UAF Yank**	**2.62**	**123**	P	**Pn**	**14 53 13.5**	**0.0**
	baz=307						
COLA	**College**	**2.63**	**123**		**Pn**	**14 53 13.4**	**-0.1**
POKR	**Poker Plat Res**	**2.64**	**116**		**Pn**	**14 53 13.7**	**0.0**
POKR				IAML		14 54 00.8	
	comp=E,3µm,0.6s						
POKR				IAML		14 54 01.8	
	comp=N,2µm,0.6s						
POKR	**Poker Plat Res**	**2.64**	**116**	P	**Pn**	**14 53 14.0**	**+0.4**
	baz=301						
BWN	**Browne**	**2.67**	**144**		**Pn**	**14 53 14.4**	**+0.2**
BWN				IAML		14 54 01.6	
	comp=E,3µm,0.8s						
BWN				IAML		14 54 07.7	
	comp=N,3µm,0.9s						
CCB	**Clear Creek Bu**	**2.79**	**126**		**Pn**	**14 53 15.3**	**-0.4**
WRH	**Wood River Hil**	**2.82**	**131**		**Pn**	**14 53 15.7**	**-0.5**
KTH	**Kantishna Hill**	**2.98**	**161**		**Pn**	**14 53 17.4**	**-1.0**
KTH				IAML		14 54 14.4	
	comp=N,2µm,1.2s						
KTH				IAML		14 54 15.6	
	comp=E,3µm,1.1s						
CAST	**Castle Rocks**	**3.00**	**172**		**Pn**	**14 53 17.6**	**-1.1**
CAST				IAML		14 54 07.3	
	comp=N,2µm,0.4s						
IL31		**3.02**	**119**		**Pn**	**14 53 18.9**	**0.0**
ILAR	**Eielson Array**	**3.02**	**119**	Pn	**Pn**	**14 53 18.9**	**0.0**
	comp=N,94nm,0.3s,baz=310,slow=14,SNR=1812						
ILAR				Sn	**Sn**	**14 53 52.1**	**-3.0**
	comp=N,84nm,0.3s,baz=315,slow=18,SNR=2.9						
ILAR				Lg	Lg	14 54 07.0	
	comp=N,213nm,0.3s,baz=309,slow=31,SNR=11						
ILAR	**Eielson Array**	**3.02**	**119**	Pn	**Pn**	**14 53 18.8**	**-0.2**
K20K	**Telida**	**3.06**	**189**		**Pn**	**14 53 17.7**	**-1.8**
K20K				IAML		14 54 10.3	
	comp=E,3µm,0.7s						
K20K				IAML		14 54 11.4	
	comp=N,2µm,0.6s						
FYU	**Fort Yukon**	**3.14**	**83**	Pn	**Pn**	**14 53 20.0**	**-0.5**
TRF	**Thorofare Moun**	**3.16**	**157**		**Pn**	**14 53 20.5**	**-0.6**
TRF				IAML		14 54 13.6	
	comp=N,2µm,0.7s						
TRF				IAML		14 54 15.0	
	comp=E,2µm,0.9s						
TRF	**Thorofare Moun**	**3.16**	**157**	P	**Pn**	**14 53 20.7**	**-0.3**
	baz=338						
MCK	**McKinley**	**3.17**	**145**		**Pn**	**14 53 20.6**	**-0.4**
MCK	**McKinley**	**3.17**	**145**	P	**Pn**	**14 53 20.8**	**-0.2**
	baz=327						
PS08	**TAPS Pump Stn8**	**3.18**	**123**		**Pn**	**14 53 21.0**	**-0.1**
PRP	**Porcupine Dome**	**3.19**	**102**		**Pn**	**14 53 20.8**	**-0.6**
PRP				IAML		14 54 14.5	
	comp=E,2µm,0.7s						
PRP				IAML		14 54 16.7	
	comp=N,2µm,0.8s						
PRP	**Porcupine Dome**	**3.19**	**102**	P	**Pn**	**14 53 21.4**	**-0.1**
	baz=289						
HDA	**Harding Lake**	**3.22**	**125**		**Pn**	**14 53 21.0**	**-0.8**
HDA				IAML		14 54 14.9	
	comp=E,1µm,0.4s						
HDA				IAML		14 54 15.2	
	comp=N,1µm,0.4s						
HDA	**Harding Lake**	**3.22**	**125**	P	**Pn**	**14 53 21.6**	**-0.2**
	baz=310						
RND	**Reindeer**	**3.48**	**147**		**Pn**	**14 53 24.6**	**-0.6**
BM03	**Burnt Mountain**	**3.48**	**69**		**Pn**	**14 53 24.2**	**-1.1**
BMAR	**Burnt Mountain**	**3.50**	**69**	Pn	**Pn**	**14 53 24.6**	**-0.9**
PPLA	**Purkeypile**	**3.52**	**174**		**Pn**	**14 53 25.2**	**-0.7**
PPLA	**Purkeypile**	**3.52**	**174**	P	**Pn**	**14 53 25.2**	**-0.7**
	baz=353						
BM01	**Burnt Mountain**	**3.52**	**68**		**Pn**	**14 53 24.7**	**-1.1**
TTA	**Tatalina**	**3.69**	**202**		**Pn**	**14 53 25.5**	**-2.7**
TTA				IAML		14 54 33.7	
	comp=E,1µm,0.9s						
TTA	**Tatalina**	**3.69**	**202**	P	**Pn**	**14 53 26.0**	**-2.2**
	baz=17						
TT01	**Tatalina**	**3.71**	**202**		**Pn**	**14 53 26.3**	**-2.1**
L20K	**Farewell, AK**	**3.93**	**186**		**Pn**	**14 53 30.1**	**-1.4**
L20K	**Farewell, AK**	**3.93**	**186**	P	**Pn**	**14 53 30.0**	**-1.4**
	baz=3.3						
WAT7	**Susitna Watana**	**3.99**	**151**		**Pn**	**14 53 32.3**	**0.0**
WAT1	**Susitna Watana**	**4.05**	**149**		**Pn**	**14 53 33.5**	**+0.4**
WAT1	**Susitna Watana**	**4.05**	**149**	P	**Pn**	**14 53 33.5**	**+0.4**
	baz=332						
DHY	**Denali Highway**	**4.11**	**141**	Pn	**Pn**	**14 53 34.0**	**0.0**
DHY	**Denali Highway**	**4.11**	**141**	P	**Pn**	**14 53 34.6**	**+0.6**
	baz=325						
CUT	**Chulitna**	**4.17**	**162**		**Pn**	**14 53 35.5**	**+0.8**
CUT	**Chulitna**	**4.17**	**162**	P	**Pn**	**14 53 35.5**	**+0.8**
	baz=343						
PS10	**TAPS Pump St10**	**4.29**	**130**		**Pn**	**14 53 36.6**	**+0.3**
L19K	**White Mountain**	**4.29**	**191**		**Pn**	**14 53 34.1**	**-2.2**
L19K	**White Mountain**	**4.29**	**191**	IAML		14 54 53.2	
	comp=N,1µm,0.9s						
L19K	**White Mountain**	**4.29**	**191**	P	**Pn**	**14 53 34.1**	**-2.2**
	baz=8.3						
RIDG	**Independent Ri**	**4.36**	**124**		**Pn**	**14 53 36.8**	**-0.6**
RIDG	**Independent Ri**	**4.36**	**124**	IAML		14 54 52.5	
	comp=E,612nm,0.7s						
RIDG				IAML		14 54 58.4	
	comp=N,555nm,0.8s						
RIDG	**Independent Ri**	**4.36**	**124**	P	**Pn**	**14 53 36.8**	**-0.6**
	baz=310						
J26L	**Joseph Creek**	**4.38**	**111**		**Pn**	**14 53 37.6**	**-0.1**
J26L				IAML		14 54 56.7	
	comp=E,595nm,0.6s						
WAT6	**Susitna Watana**	**4.45**	**147**		**Pn**	**14 53 38.8**	**+0.1**
WAT6	**Susitna Watana**	**4.45**	**147**	P	**Pn**	**14 53 38.8**	**+0.1**
	baz=330						
SCRK	**Sand Creek**	**4.51**	**118**		**Pn**	**14 53 39.4**	**-0.1**
SCRK	**Sand Creek**	**4.51**	**118**	IAML		14 55 05.9	
	comp=E,581nm,0.8s						
SCRK	**Sand Creek**	**4.51**	**118**	P	**Pn**	**14 53 39.4**	**-0.1**
	baz=306						
DOT	**Dot Lake**	**4.69**	**122**		**Pn**	**14 53 41.5**	**-0.4**
PAX	**Paxson**	**4.72**	**133**		**Pn**	**14 53 43.2**	**+0.9**
PAX	**Paxson**	**4.72**	**133**	P	**Pn**	**14 53 43.2**	**+0.9**
	baz=319						
M22K	**Willow**	**4.82**	**163**		**Pn**	**14 53 42.5**	**-1.0**
GHO	**Glory Hole Cre**	**4.96**	**157**		**Pn**	**14 53 45.8**	**+0.2**
GHO	**Glory Hole Cre**	**4.96**	**157**	IAML		14 55 09.6	
	comp=N,491nm,0.7s						
GHO				IAML		14 55 15.0	
	comp=E,421nm,1.0s						
SML	**Sawmill**	**5.03**	**154**		**Pn**	**14 53 46.4**	**-0.1**
SML	**Sawmill**	**5.03**	**154**	IAML		14 55 20.1	
	comp=E,457nm,1.1s						
SML				IAML		14 55 27.1	
	comp=N,404nm,0.9s						
SML	**Sawmill**	**5.03**	**154**	P	**Pn**	**14 53 46.4**	**-0.1**
	baz=337						
PMR	**Palmer**	**5.10**	**159**		**Pn**	**14 53 47.9**	**+0.4**
PMR	**Palmer**	**5.10**	**159**	IAML		14 55 12.8	
	comp=E,372nm,0.9s						
PMR	**Palmer**	**5.10**	**159**	P	**Pn**	**14 53 47.9**	**+0.4**
	baz=341						
SPCG	**Spurr Capps Gl**	**5.13**	**175**		**Pn**	**14 53 46.6**	**-1.3**
A21K	**Barrow**	**5.13**	**347**		**Pn**	**14 53 45.2**	**-2.6**
A21K				IAML		14 55 23.5	
	comp=E,674nm,1.3s						
A21K				IAML		14 55 36.3	
	comp=N,588nm,0.9s						
EGAK	**Eagle**	**5.18**	**103**		**Pn**	**14 53 48.2**	**-0.4**
EGAK	**Eagle**	**5.18**	**103**	IAML		14 55 20.0	
	comp=N,585nm,0.8s						
EGAK	**Eagle**	**5.18**	**103**	P	**Pn**	**14 53 48.2**	**-0.4**
	baz=293						
SCM	**Sheep Creek Mo**	**5.20**	**149**		**Pn**	**14 53 49.3**	**+0.4**
SCM	**Sheep Creek Mo**	**5.20**	**149**	IAML		14 55 29.7	
	comp=N,515nm,1.1s						
SCM	**Sheep Creek Mo**	**5.20**	**149**	P	**Pn**	**14 53 49.3**	**+0.4**
	baz=333						
M24K	**Tolsona, Glenn**	**5.23**	**142**		**Pn**	**14 53 50.8**	**+1.5**
M24K	**Tolsona, Glenn**	**5.23**	**142**	IAML		14 55 44.3	
	comp=E,540nm,1.4s						
M24K				IAML		14 55 46.0	
	comp=N,500nm,1.4s						
M24K	**Tolsona, Glenn**	**5.23**	**142**	P	**Pn**	**14 53 50.7**	**+1.5**
	baz=327						
SPU	**Mount Spurr**	**5.24**	**175**		**Pn**	**14 53 48.8**	**-0.6**
HARP	**HAARP**	**5.25**	**136**		**Pn**	**14 53 51.0**	**+1.4**
HARP	**HAARP**	**5.25**	**136**	P	**Pn**	**14 53 51.0**	**+1.4**
	baz=322						
MENT	**Mentasta**	**5.28**	**126**		**Pn**	**14 53 50.1**	**+0.1**
MENT				IAML		14 55 26.8	
	comp=N,415nm,0.9s						
MENT				IAML		14 55 29.3	
	comp=E,423nm,1.0s						
L26K	**Log Cabin Wild**	**5.34**	**125**		**Pn**	**14 53 50.0**	**-0.8**
L26K	**Log Cabin Wild**	**5.34**	**125**	P	**Pn**	**14 53 50.0**	**-0.8**
	baz=313						
KNK	**Knik Glacier**	**5.38**	**156**		**Pn**	**14 53 52.5**	**+1.2**
KNK	**Knik Glacier**	**5.38**	**156**	P	**Pn**	**14 53 52.5**	**+1.2**
	baz=339						
SVW2	**Sparrevohn**	**5.42**	**193**		**Pn**	**14 53 50.2**	**-1.7**
SVW2				IAML		14 55 32.2	
	comp=N,351nm,0.8s						
PS11	**TAPS Pump St11**	**5.43**	**139**		**Pn**	**14 53 53.4**	**+1.4**
ANM	**Nome**	**5.45**	**256**		**Pn**	**14 53 49.2**	**-3.1**
ANM				IAML		14 55 32.8	
	comp=N,367nm,0.9s						
RC01	**Rabbit Creek A**	**5.51**	**163**		**Pn**	**14 53 53.8**	**+0.7**
RC01	**Rabbit Creek A**	**5.51**	**163**	P	**Pn**	**14 53 53.8**	**+0.7**
	baz=345						
N19K	**Bonanza Creek**	**5.62**	**187**		**Pn**	**14 53 53.1**	**-1.6**
DFR	**Drift River**	**5.81**	**178**		**Pn**	**14 53 57.0**	**-0.3**
KLU	**Klutina**	**5.82**	**144**	P	**Pn**	**14 53 59.3**	**+1.9**
	baz=330						
L27K	**Beaver Creek,**	**5.84**	**120**		**Pn**	**14 53 56.9**	**-0.7**
BC03		**5.85**	**119**		**Pn**	**14 53 57.2**	**-0.5**
BCAR	**Beaver Creek A**	**5.85**	**119**	Pn	**Pn**	**14 53 57.2**	**-0.7**
M26K	**Nabesna, AK**	**5.90**	**128**		**Pn**	**14 53 58.5**	**0.0**
PWL	**Port Wells**	**5.92**	**157**	P	**Pn**	**14 53 59.9**	**+1.2**
	baz=340						
N25K	**Chitina, Valde**	**6.05**	**138**	P	**Pn**	**14 54 02.0**	**+1.4**
	baz=325						
I29M	**Ogilvie Camp,**	**6.13**	**93**	Pn	**Pn**	**14 54 01.1**	**-0.4**
TNA	**Tin City**	**6.14**	**269**		**Pn**	**14 53 57.8**	**-3.9**
TNA	**Tin City**	**6.14**	**269**	P	**Pn**	**14 53 59.3**	**-2.3**
	baz=75						
DIV	**Divide**	**6.17**	**145**		**Pn**	**14 54 02.2**	**0.0**
DAWY	**Dawson**	**6.19**	**106**		**Pn**	**14 54 01.8**	**-0.7**
DAWY	**Dawson**	**6.19**	**106**	P	**Pn**	**14 54 01.9**	**-0.5**
	baz=298						
O19K	**Port Alsworth**	**6.23**	**186**		**Pn**	**14 54 00.8**	**-2.2**
O19K	**Port Alsworth**	**6.23**	**186**	P	**Pn**	**14 54 01.0**	**-2.0**
	baz=3.7						
M27K	**Edge Creek, AK**	**6.30**	**125**		**Pn**	**14 54 03.5**	**-0.5**
M27K	**Edge Creek, AK**	**6.30**	**125**	P	**Pn**	**14 54 04.0**	**0.0**
	baz=314						
J29M	**Klondike Camp**	**6.48**	**100**		**Pn**	**14 54 05.8**	**-0.6**
J29M	**Klondike Camp**	**6.48**	**100**	P	**Pn**	**14 54 06.2**	**-0.2**
	baz=294						
EPYK	**Eagle Plains**	**6.56**	**83**		**Pn**	**14 54 07.2**	**-0.3**
EPYK	**Eagle Plains**	**6.56**	**83**	P	**Pn**	**14 54 07.2**	**-0.3**
	baz=278						
BMRM	**Bremner River**	**6.59**	**141**		**Pn**	**14 54 08.3**	**+0.3**
BMRM	**Bremner River**	**6.59**	**141**	P	**Pn**	**14 54 08.8**	**+0.7**
	baz=328						
BVCY	**Beaver Creek**	**6.60**	**121**		**Pn**	**14 54 08.1**	**0.0**
BVCY	**Beaver Creek**	**6.60**	**121**	P	**Pn**	**14 54 08.1**	**0.0**
	baz=312						
O18K	**Koktuh Hills**	**6.62**	**190**		**Pn**	**14 54 06.5**	**-1.8**
VRDI	**Verde Repeater**	**6.68**	**136**		**Pn**	**14 54 10.0**	**+0.7**
EYAK	**Cordova Ski Ar**	**6.70**	**147**		**Pn**	**14 54 09.9**	**+0.5**
EYAK	**Cordova Ski Ar**	**6.70**	**147**	P	**Pn**	**14 54 10.3**	**+1.0**
	baz=333						
BRLK	**Bradley Lake**	**6.71**	**171**	Pn	**Pn**	**14 54 10.7**	**+1.1**
CNPM	**China Poot**	**6.93**	**172**		**Pn**	**14 54 13.5**	**+0.9**
YUK2	**White River**	**7.05**	**125**		**Pn**	**14 54 14.8**	**+0.5**
P18K	**Big Mountain,**	**7.08**	**189**		**Pn**	**14 54 12.5**	**-2.2**
P18K	**Big Mountain,**	**7.08**	**189**	P	**Pn**	**14 54 12.5**	**-2.2**
	baz=6.2						
YUK3	**Moose Creek**	**7.18**	**124**		**Pn**	**14 54 16.3**	**0.0**
YUK3	**Moose Creek**	**7.18**	**124**	P	**Pn**	**14 54 16.3**	**0.0**
	baz=315						
HMT	**Hamilton**	**7.23**	**143**	Pn	**Pn**	**14 54 18.5**	**+1.9**
TGL	**Tana Glacier**	**7.24**	**136**		**Pn**	**14 54 17.7**	**+0.7**
BERG	**Berg Lake**	**7.32**	**141**		**Pn**	**14 54 18.9**	**+1.0**
KHIT	**Khitrov Hills**	**7.39**	**139**		**Pn**	**14 54 20.5**	**+1.5**
Q19K	**Cape Douglas,**	**7.48**	**182**	Pn	**Pn**	**14 54 19.9**	**-0.3**
WAX	**Waxell Ridge**	**7.49**	**138**		**Pn**	**14 54 21.2**	**+0.9**
ISLE	**Juniper Island**	**7.51**	**135**	Pn	**Pn**	**14 54 20.8**	**+0.2**
CTG	**Chitna Glacier**	**7.51**	**131**	P	**Pn**	**14 54 22.3**	**+1.6**
	baz=321						
CTGM	**Chitina Glacie**	**7.51**	**131**		**Pn**	**14 54 21.6**	**+0.9**
GRNC	**Granite Creek**	**7.57**	**133**		**Pn**	**14 54 22.9**	**+1.3**
INK	**Inuvik**	**7.77**	**67**	Pn	**Pn**	**14 54 24.5**	**+0.5**
	comp=N,0.6nm,0.3s,baz=255,slow=17,SNR=22						
INK				Sn	**Sn**	**14 55 50.0**	**-1.9**
	comp=N,2.6nm,0.3s,baz=300,slow=32,SNR=1.7						
INK				Lg	Lg	14 56 34.8	
	comp=N,2.0nm,0.3s,baz=304,slow=15,SNR=3.6						
INK				LR	LR	14 57 46.4	
	comp=N,150nm,18.1s,baz=62,slow=40						
INK	**Inuvik**	**7.77**	**67**	Pn	**Pn**	**14 54 24.1**	**+0.1**
YAH	**Yahtse**	**7.87**	**135**	Pn	**Pn**	**14 54 25.5**	**-0.2**
M30M	**Minto, Yukon**	**7.97**	**111**		**Pn**	**14 54 26.8**	**-0.2**
M30M	**Minto, Yukon**	**7.97**	**111**	P	**Pn**	**14 54 26.7**	**-0.2**
	baz=306						
KDAK	**Kodiak Island**	**8.63**	**178**	Pn	**Pn**	**14 54 36.0**	**+0.2**
	comp=N,2.1nm,0.3s,baz=7.9,slow=7.7,SNR=16						
KDAK				Lg	Lg	14 56 58.6	
	comp=N,0.1nm,0.3s,baz=319,slow=19,SNR=1.3						
KDAK				LR	LR	14 58 07.6	
	comp=N,350nm,21.1s,baz=30,slow=40						
N31M	**Braeburn, Yuko**	**9.02**	**115**		**Pn**	**14 54 42.1**	**+0.8**
N31M	**Braeburn, Yuko**	**9.02**	**115**	P	**Pn**	**14 54 42.1**	**+0.8**
	baz=310						
M31M	**Drury Creek, Y**	**9.10**	**109**		**Pn**	**14 54 42.8**	**+0.5**
M31M	**Drury Creek, Y**	**9.10**	**109**	P	**Pn**	**14 54 43.0**	**+0.6**
	baz=305						
WHY	**Whitehorse**	**9.90**	**117**	Pn	**Pn**	**14 54 52.9**	**-0.5**
P33M	**Teslin, Yukon**	**10.96**	**115**	Pn	**Pn**	**14 55 08.0**	**+0.2**
C36M	**Paulatuk**	**11.26**	**62**	Pn	**Pn**	**14 55 10.1**	**-1.7**
A36M	**Sachs Harbour**	**11.27**	**48**	Pn	**Pn**	**14 55 09.8**	**-2.2**
JIS	**Juneau Island**	**11.83**	**124**	Pn	**Pn**	**14 55 19.3**	**-0.3**
DLBC	**Dease Lake**	**13.22**	**116**	Pn	**Pn**	**14 55 40.3**	**+1.5**
	comp=N,2.3nm,0.3s,baz=344,slow=8.0,SNR=37						
DLBC				Lg	Lg	14 59 23.0	
	comp=N,0.3nm,0.3s,baz=238,slow=22,SNR=4.3						
DLBC				LR	LR	15 00 14.2	
	comp=N,255nm,20.6s,baz=54,slow=35						
DLBC	**Dease Lake**	**13.22**	**116**		**Pn**	**14 55 39.8**	**+1.0**
BILL	**Bilibino**	**15.65**	**295**		**Pn**	**14 56 07.5**	**-3.8**
BILL				IAmb	IAmb	14 56 22.2	
	comp=Z,11nm,0.9s						
YKA	**Yellowknife Ar**	**16.83**	**85**	Pn	**Pn**	**14 56 25.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=297,slow=13,SNR=28						
YKA				Sn	**Sn**	**14 59 23.2**	**-10**
	comp=Z,0.3nm,0.3s,baz=301,slow=23,SNR=6.4						
YKA	**Yellowknife Ar**	**16.83**	**85**	Pn	**Pn**	**14 56 24.1**	**-2.4**
RES	**Resolute Bay**	**20.14**	**41**	P	Pn	14 57 06.4	-0.3
	comp=Z,1.2nm,0.5s,baz=265,slow=16,SNR=8.2						
RES				S	**S**	**15 00 42.3**	**-8.2**
	comp=Z,1.5nm,0.8s,baz=298,slow=12,SNR=1.9						
RES	**Resolute Bay**	**20.14**	**41**	P	**P**	**14 57 04.1**	**-0.8**
EUNU	**Eureka**	**21.71**	**26**	P	**P**	**14 57 19.6**	**-2.2**
SEY	**Seymchan**	**22.98**	**287**	P	**P**	**14 57 35.5**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=80,slow=8.5,SNR=29						
MA2	**Magadan**	**25.59**	**282**	P	**P**	**14 57 57.8**	**-2.1**
LTY	**Liberty**	**25.59**	**122**	P	**P**	**14 57 59.8**	**-0.3**
LTY				IAmb	IAmb	14 58 17.1	
	comp=Z,16nm,1.4s						
NEW	**Newport**	**25.97**	**117**	P	**P**	**14 58 05.0**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=20,slow=7.7,SNR=1.7						
WALA	**Waterton Lakes**	**26.50**	**112**	P	**P**	**14 58 07.1**	**-1.3**
WALA				IAmb	IAmb	14 58 28.1	
	comp=Z,7.3nm,1.1s						
TIXI	**Tiksi**	**26.57**	**316**	P	**P**	**14 58 07.1**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=330,slow=3.1,SNR=1.8						
TIXI	**Tiksi**	**26.57**	**316**	P	**P**	**14 58 07.1**	**-1.5**
PETK	**Petropavlovsk-**	**27.29**	**265**	LR	LR	15 09 31.0	
	comp=Z,61nm,18.3s,baz=55,slow=38						
JTMT	**Jette**	**27.45**	**114**	P	**P**	**14 58 17.0**	**+0.1**
HLID	**Hailey**	**30.98**	**118**	P	**P**	**14 58 49.6**	**+1.3**
HLID				IAmb	IAmb	14 58 50.9	
	comp=Z,2.3nm,0.8s						
ULM	**Lac du Bonnet**	**32.65**	**91**	LR	LR	15 12 46.7	
	comp=Z,151nm,21.5s,baz=315,slow=37						
PDAR	**Pinedale Array**	**33.43**	**113**	P	**P**	**14 59 11.7**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=336,slow=7.1,SNR=14						
PDAR	**Pinedale Array**	**33.43**	**113**	P	**P**	**14 59 09.6**	**-0.3**
NVAR	**Mina Array Bea**	**34.25**	**127**	P	**P**	**14 59 18.9**	**+1.8**
	comp=Z,3.0nm,0.8s,baz=315,slow=7.6,SNR=12						
R11A	**Troy Canyon, C**	**35.21**	**124**	P	**P**	**14 59 25.9**	**+0.6**
R11A				IAmb	IAmb	14 59 28.0	
	comp=Z,8.4nm,1.2s						
Q16A	**Castle Valley**	**36.22**	**118**	P	**P**	**14 59 34.3**	**+0.2**
MVU	**Marysvale**	**36.23**	**120**	P	**P**	**14 59 34.2**	**0.0**
EYMN	**Ely**	**36.23**	**90**	P	**P**	**14 59 32.5**	**-1.3**
SRU	**San Rafael Swe**	**36.28**	**117**	P	**P**	**14 59 34.3**	**-0.3**
SRU				IAmb	IAmb	14 59 37.8	
	comp=Z,5.3nm,1.1s						
SZCU	**Shurtz Canyon**	**36.74**	**121**	P	**P**	**14 59 37.7**	**-0.8**
SZCU				IAmb	IAmb	14 59 41.2	
	comp=Z,6.0nm,0.9s						
LCMT	**Little Creek M**	**37.21**	**122**	P	**P**	**14 59 41.0**	**-1.4**
LCMT				IAmb	IAmb	14 59 45.2	
	comp=Z,4.8nm,0.9s						
KNB	**Kanab**	**37.35**	**122**	P	**P**	**14 59 43.7**	**+0.1**
KNB				IAmb	IAmb	14 59 46.6	
	comp=Z,3.9nm,0.9s						
WUAZ	**Wupatki**	**39.20**	**121**	P	**P**	**14 59 57.9

SJA ***17*** *15:28:38.1±0.9,21°.35S×69°.00W,h119km±6km,ML4.9, MW4.7*

NEIC ***17*** *15:28:39.0±1.7,21°.30S±0°.04×68°.76W×0°.06,h90km±4km, mb4.9/248,Mwr4.8/39,Mwr5.0(GUC),Error ellipse: s-maj=8.0km s-min=5.4km az=75.0*

NEIC ***17*** *15:28:39,21°.30S×68°.76W,h98km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=1.39; $M_{\theta\theta}$0.28; $M_{\phi\phi}$1.10; $M_{r\theta}$0.32; $M_{\theta\phi}$-0.79; $M_{\phi r}$-0.74; Fault plane solution: $M_0$1.70000×10^{16} NP1:ϕ_s143.77000°, δ31.02000°,λ-97.79000°. NP2:ϕ_s332.84000°,δ59.30000°, λ-85.34000°. Principal axes: T 1.7883, Plg14.0000°, Azm59.0000°; N -0.1927, Plg4.0000°, Azm150.0000°; P -1.5956, Plg75.0000°, Azm256.0000°;*

VAO ***17*** *15:28:39.7±0.3,21°.22S×68°.67W,h94km,mb5.1*

IDC ***17*** *15:28:40.7±0.3,21°.36S×68°.75W,h105km±2km,mb4.4/19, mb1 4.5/24,mb1mx4.4/34,mbtmp4.8/24,MS3.7/7, Ms1 3.7/7,ms1mx3.3/51,Error ellipse: s-maj=12.5km s-min=5.8km az=95.0*

GUC ***17*** *15:28:40.6±0.7,21°.34S×68°.89W,h91km±4km,ML5.0, MW5.0*

GCMT ***17*** *15:28:45.0±0.4,21°.39S±0°.03×68°.72W×0°.05,h132km±5km, MW4.9/81,Moment Tensor Solution. s22,c24; s81,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.20±.13; $M_{\theta\theta}$0.20±.18; $M_{\phi\phi}$2.00±.22; $M_{r\theta}$0.82±.10; $M_{\theta\phi}$-1.94±.14; $M_{\phi r}$-0.42±.15; Best double couple: $M_0$2.90900×10^{16} NP1:ϕ_s166.00000°,δ40.00000°,λ-62.00000°. NP2: ϕ_s311.00000°,δ56.00000°,λ-112.00000°. Principal axes: T 3.3530, Plg8.0000°, Azm57.0000°; N -0.8870, Plg18.0000°, Azm324.0000°; P -2.4640, Plg70.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 15:28:39.4±0.3,21°.32S±0°.03×68°.88W±0°.04,h99km±2km, h99km:pP-P,n554,σ1$37/612,mb4.9/136,28C-22D,Fault plane solution: NP1:ϕ_s326.16476°,δ82.44256°,** λ-97.42362°. **NP2:ϕ_s190.89697°,δ10.57850°, λ-45.75878°. **Principal axes:** T Plg37.0197°, Azm62.7353°; N Plg7.3588°, Azm327.1465°; P Plg52.0072°, Azm227.6294°; **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.58**	**215**	⇑*iP*	**Pn**	**15 28 56.2**	**+0.3**
PB09				*eS*	**Sn**	**15 29 07.5**	**-0.8**
PB09				IAML		15 29 10.6	
	comp=N,53μm,0.4s						
PB09	**IPOC Station P**	**0.58**	**215**	Pn	**Pn**	**15 28 56.2**	**+0.3**
PB09				Sn	**Sn**	**15 29 07.3**	**-0.9**
PB01	**IPOC Station P**	**0.63**	**296**	⇑*iP*	**Pn**	**15 28 56.1**	**-0.1**
PB01				*eS*	**Sn**	**15 29 08.3**	**-0.4**
PB01				IAML		15 29 10.4	
	comp=E,173μm,0.4s						
PB01	**IPOC Station P**	**0.63**	**296**	Pn	**Pn**	**15 28 56.2**	**0.0**
PB01				Sn	**Sn**	**15 29 08.9**	**+0.1**
PB01	**IPOC Station P**	**0.63**	**296**	*eP*	**Pn**	**15 28 56.1**	**0.0**
PB01				*eS*	**Sn**	**15 29 09.2**	**+0.4**
PB01				IAML		15 29 09.3	
	comp=Z,29μm,0.5s						
PB02	**IPOC Station P**	**0.94**	**270**	⇑*iP*	**Pn**	**15 28 59.3**	**+0.1**
PB02				*eS*	**Sn**	**15 29 14.0**	**-0.2**
PB02				IAML		15 29 15.3	
	comp=E,117μm,0.2s						
PB02	**IPOC Station P**	**0.94**	**270**	*eP*	**Pn**	**15 28 59.4**	**+0.1**
PB02				*eS*	**Sn**	**15 29 15.0**	**+0.8**
PB02				IAML		15 29 17.9	
	comp=Z,67μm,0.5s						
PB07	**IPOC Station P**	**1.02**	**246**	⇑*iP*	**Pn**	**15 29 00.1**	**0.0**
PB07				*eS*	**Sn**	**15 29 15.3**	**-0.4**
PB07				IAML		15 29 17.6	
	comp=E,41μm,0.3s						
PB07	**IPOC Station P**	**1.02**	**246**	Pn	**Pn**	**15 29 00.1**	**0.0**
PB07				Sn	**Sn**	**15 29 15.8**	**0.0**
PB07	**IPOC Station P**	**1.02**	**246**	*eS*	**Pn**	**15 29 00.3**	**+0.2**
PB07				*eP*	**Pn**	**15 29 00.3**	**+0.2**
PB07				*eS*	**Sn**	**15 29 16.6**	**+0.9**
PB07				IAML		15 29 17.5	
	comp=Z,35μm,0.3s						
PB03	**IPOC Station P**	**1.09**	**228**	⇑*iP*	**Pn**	**15 29 00.9**	**0.0**
PB03				*eS*	**Sn**	**15 29 16.6**	**-0.4**
PB03				IAML		15 29 18.2	
	comp=E,43μm,0.4s						
PB08	**IPOC Station P**	**1.20**	**348**	⇓*iP*	**Pn**	**15 29 03.4**	**+1.0**
PB08				*eS*	**Sn**	**15 29 20.8**	**+1.1**
PB08				IAML		15 29 23.4	
	comp=E,22μm,0.7s						
PB08	**IPOC Station P**	**1.20**	**348**	Pn	**Pn**	**15 29 03.4**	**+1.0**
PB08	**IPOC Station P**	**1.20**	**348**	*eP*	**Pn**	**15 29 03.0**	**+0.6**
PB08				*eP*	**Pn**	**15 29 03.6**	**+1.2**
PB08				*eP*	**Pn**	**15 29 03.7**	**+1.2**
PB08				*eS*	**Sn**	**15 29 22.5**	**+2.8**
PB08				IAML		15 29 24.6	
	comp=Z,10μm,0.5s						
LVC	**Limon Verde**	**1.28**	**181**	P	**Pn**	**15 29 04.4**	**+1.0**
	comp=Z,2μm,0.3s,baz=8.1,slow=8.9,SNR=4857						
LVC				LR	LR	15 29 10.8	
	comp=Z,149nm,19.7s,baz=320,slow=24						
LVC				S	**Sn**	**15 29 22.3**	**+0.9**
	comp=Z,2μm,0.3s,baz=98,slow=23,SNR=16						
LVC	**Limon Verde**	**1.28**	**181**	⇑*iP*	**Pn**	**15 29 04.4**	**+1.0**
LVC				*i* S	**Sn**	**15 29 21.9**	**+0.5**
LVC	**Limon Verde**	**1.28**	**181**	*eP*	**Pn**	**15 29 04.5**	**+1.0**
PATCX	**Punta Patache**	**1.29**	**292**	⇑*iP*	**Pn**	**15 29 03.2**	**+0.2**
PATCX				*eS*	**Sn**	**15 29 20.9**	**-0.1**
PATCX				IAML		15 29 22.6	
	comp=N,46μm,0.3s						
PATCX	**Punta Patache**	**1.29**	**292**		**Pn**	**15 29 03.5**	**+0.5**
PATCX	**Punta Patache**	**1.29**	**292**	*eP*	**Pn**	**15 29 03.0**	**-0.1**
PATCX				*eP*	**Pn**	**15 29 03.6**	**+0.5**
PATCX				*eP*	**Pn**	**15 29 03.6**	**+0.5**
PATCX				*eP*	**Pn**	**15 29 03.7**	**+0.6**
PATCX				IAML		15 29 25.9	
	comp=Z,22μm,0.6s						
HMBC	**Humberstone**	**1.40**	**318**	⇑*iP*	**Pn**	**15 29 04.8**	**+0.3**
HMBC				IAML		15 29 25.2	
	comp=N,66μm,0.5s						
TA01	**Diego Aracena**	**1.43**	**301**	⇑*iP*	**Pn**	**15 29 04.7**	**0.0**
TA01				*eS*	**Sn**	**15 29 23.0**	**-0.8**
TA01	**Diego Aracena**	**1.43**	**301**	Pn	**Pn**	**15 29 04.7**	**0.0**
TA01	**Diego Aracena**	**1.43**	**301**	*eP*	**Pn**	**15 29 04.0**	**-0.7**
TA01				IAML		15 29 27.9	
	comp=Z,9μm,0.7s						
PB06	**IPOC Station P**	**1.52**	**205**	⇑*iP*	**Pn**	**15 29 06.5**	**+0.5**
PB06				*eS*	**Sn**	**15 29 25.8**	**-0.4**
PB06				IAML		15 29 29.1	
	comp=N,29μm,0.5s						
PB06	**IPOC Station P**	**1.52**	**205**	Pn	**Pn**	**15 29 06.5**	**+0.5**
PB06	**IPOC Station P**	**1.52**	**205**	*eP*	**Pn**	**15 29 06.0**	**0.0**
PB06				*eP*	**Pn**	**15 29 06.5**	**+0.5**
PB06				*eS*	**Sn**	**15 29 27.7**	**+1.6**
PB06				IAML		15 29 33.5	
	comp=Z,21μm,0.6s						
PB04	**IPOC Station P**	**1.55**	**229**	⇑*iP*	**Pn**	**15 29 06.3**	**-0.1**
PB04				IAML		15 29 32.9	
	comp=N,27μm,0.5s						
PB04	**IPOC Station P**	**1.55**	**229**		**Pn**	**15 29 06.2**	**-0.1**
PB04	**IPOC Station P**	**1.55**	**229**	*eP*	**Pn**	**15 29 06.0**	**-0.4**
PB04				*eP*	**Pn**	**15 29 06.5**	**+0.1**
PB04				*eS*	**Sn**	**15 29 24.6**	**-2.2**
PB04				*eS*	**Sn**	**15 29 28.1**	**+1.3**
PB04				IAML		15 29 34.7	
	comp=Z,15μm,0.4s						
TA02	**Huaiquique**	**1.57**	**312**	*i* P	**Pn**	**15 29 06.5**	**0.0**
TA02	**Huaiquique**	**1.57**	**312**	Pn	**Pn**	**15 29 06.4**	**0.0**
TA02	**Huaiquique**	**1.57**	**312**	*eP*	**Pn**	**15 29 06.0**	**-0.4**
TA02				*eS*	**Sn**	**15 29 28.5**	**+1.6**
TA02				IAML		15 29 31.9	
	comp=Z,10μm,0.6s						
PB11	**IPOC Station P**	**1.71**	**335**	⇓*iP*	**Pn**	**15 29 08.9**	**+0.5**
PB11				*eS*	**Sn**	**15 29 30.8**	**+0.3**
PB11				IAML		15 29 33.8	
	comp=N,15μm,0.5s						
PB11	**IPOC Station P**	**1.71**	**335**	Pn	**Pn**	**15 29 08.8**	**+0.5**
PB11	**IPOC Station P**	**1.71**	**335**	*eP*	**Pn**	**15 29 08.9**	**+0.5**
PB11				*eP*	**Pn**	**15 29 09.2**	**+0.8**
PB11				*eS*	**Sn**	**15 29 32.1**	**+1.6**
PB11				IAML		15 29 34.4	
	comp=Z,9μm,0.3s						
PB15	**IPOC Station P**	**1.96**	**196**	⇑*iP*	**Pn**	**15 29 11.8**	**+0.3**
PB15				*eS*	**Sn**	**15 29 37.9**	**+1.8**
PB15	**IPOC Station P**	**1.96**	**196**	Pn	**Pn**	**15 29 12.0**	**+0.4**
PB15	**IPOC Station P**	**1.96**	**196**	*eP*	**Pn**	**15 29 12.0**	**+0.4**
PB15				*eS*	**Sn**	**15 29 34.6**	**-1.5**
PB15				IAML		15 29 42.7	
	comp=Z,29μm,0.4s						
MNMC	**Minye Minye**	**2.28**	**343**	⇓*iP*	**Pn**	**15 29 16.6**	**+0.8**
MNMC				*eS*	**Sn**	**15 29 44.2**	**+0.6**
MNMC				IAML		15 29 52.6	
	comp=N,17μm,0.6s						
MNMC	**Minye Minye**	**2.28**	**343**	Pn	**Pn**	**15 29 16.6**	**+0.8**
MNMCX	**Minye Minye**	**2.28**	**343**	*eP*	**Pn**	**15 29 16.0**	**+0.2**
MNMCX				*eP*	**Pn**	**15 29 16.6**	**+0.8**
MNMCX				*eP*	**P**	**15 29 16.8**	**+1.0**
MNMCX				*eP*	**P**	**15 29 16.8**	**+1.0**
MNMCX				*eP*	**P**	**15 29 16.9**	**+1.1**
MNMCX				*eP*	**P**	**15 29 16.9**	**+1.1**
MNMCX				*eS*	**Sn**	**15 29 45.9**	**+2.2**
MNMCX				IAML		15 29 48.1	
	comp=Z,8μm,0.5s						
PB10	**IPOC Station P**	**2.68**	**215**	*eP*	**Pn**	**15 29 19.6**	**-1.1**
PB10				IAML		15 30 03.3	
	comp=N,4μm,0.4s						
PB10	**IPOC Station P**	**2.68**	**215**	Pn	**Pn**	**15 29 19.3**	**-1.5**
PB10	**IPOC Station P**	**2.68**	**215**	*eP*	**Pn**	**15 29 20.0**	**-0.8**
PB10				*eS*	**Sn**	**15 29 50.1**	**-2.5**
PB10				IAML		15 30 03.6	
	comp=Z,2μm,0.4s						
PB12	**IPOC Station P**	**3.02**	**333**	⇓*iP*	**Pn**	**15 29 24.4**	**-1.1**
PB12				IAML		15 30 13.4	
	comp=E,5μm,0.4s						
PB12	**IPOC Station P**	**3.02**	**333**	Pn	**Pn**	**15 29 24.2**	**-1.2**
PB12	**IPOC Station P**	**3.02**	**333**	*eP*	**Pn**	**15 29 24.6**	**-0.8**
PB12				*eS*	**Sn**	**15 29 56.1**	**-4.7**
PB12				*eS*	**Sn**	**15 30 00.9**	**0.0**
PB12				IAML		15 30 23.5	
	comp=Z,2μm,0.7s						
PB16	**IPOC Station P**	**3.03**	**349**	⇑*iP*	**Pn**	**15 29 27.0**	**+1.0**
PB16	**IPOC Station P**	**3.03**	**349**		**Pn**	**15 29 27.0**	**+1.0**
PB16	**IPOC Station P**	**3.03**	**349**	*eP*	**Pn**	**15 29 27.0**	**+1.0**
PB16				*eS*	**Sn**	**15 30 01.6**	**-0.2**
PB16				IAML		15 30 29.0	
	comp=Z,2μm,0.7s						
AP01	**Chacalluta**	**3.24**	**335**	*eP*	**Pn**	**15 29 27.0**	**-1.4**
AP01	**Chacalluta**	**3.24**	**335**	Pn	**Pn**	**15 29 26.9**	**-1.4**
AP01	**Chacalluta**	**3.24**	**335**	*eP*	**Pn**	**15 29 28.0**	**-0.3**
AP01				IAML		15 30 28.4	
	comp=Z,5μm,0.6s						
PB14	**IPOC Station P**	**3.58**	**203**	Pn	**Pn**	**15 29 31.1**	**-2.0**
PB14	**IPOC Station P**	**3.58**	**203**	*eP*	Pn	15 29 28.1	-5.0
PB14				IAML		15 30 23.4	
	comp=Z,3μm,0.9s						
SLA	**San Lorenzo**	**4.60**	**138**	*eP*	**Pn**	**15 29 50.0**	**+3.2**
SLA				IAML		15 30 53.7	
	comp=Z,78nm,0.7s						
LPAZ	**La Paz**	**5.05**	**8**	P	**Pn**	**15 29 55.4**	**+2.0**
	comp=Z,30nm,0.3s,baz=184,slow=8.2,SNR=139						
LPAZ				LR	LR	15 32 20.7	
	comp=Z,782nm,19.0s,baz=175,slow=43						
LPAZ	**La Paz**	**5.05**	**8**	Pn	**Pn**	**15 29 54.9**	**+1.4**
GO03	**Copiap**	**6.37**	**191**	Pn	**Pn**	**15 30 07.5**	**-3.2**
GO03	**Copiap**	**6.37**	**191**	*eP*	**Pn**	**15 30 08.1**	**-2.6**
GO03				*eP*	**Pn**	**15 30 08.1**	**-2.6**
AC04	**Llanos de Chal**	**7.14**	**196**	Pn	Pn	15 30 15.9	-5.2
VCA	**Vinchina**	**7.41**	**175**	*eP*	**Pn**	**15 30 26.0**	**+1.0**
VCA				*eS*	**Sn**	**15 31 50.4**	**+2.9**
VCA				IAML		15 33 13.0	
	comp=Z,163nm,1.4s						
GO04	**Tololo Observa**	**8.98**	**191**		**Pn**	**15 30 43.5**	**-3.0**
SIV	**San Ignacio**	**9.10**	**56**	P	**Pn**	**15 30 45.6**	**-2.4**
	comp=Z,37nm,0.3s,baz=243,slow=12,SNR=593						
CO03	**El Pedregal**	**9.62**	**189**		**Pn**	**15 30 50.4**	**-4.6**
CO06	**Fray Jorge**	**9.64**	**194**	Pn	**Pn**	**15 30 50.7**	**-4.4**
ZON	**Zonda**	**10.19**	**179**	Pn	**Pn**	**15 31 02.6**	**0.0**
PTLB	**Pontes e Lacer**	**10.94**	**59**	*eP*	**Pn**	**15 31 09.9**	**-3.0**
PTLB	**Pontes e Lacer**	**10.94**	**59**	Pn	**Pn**	**15 31 10.3**	**-2.6**
VA03	**San Esteban**	**11.50**	**187**		**Pn**	**15 31 17.2**	**-3.2**
CPUP	**Villa Florida**	**11.69**	**117**	P	**Pn**	**15 31 21.2**	**-1.8**
	comp=Z,1.0nm,0.3s,baz=300,slow=12,SNR=12						
CPUP				LR	LR	15 36 56.2	
	comp=Z,162nm,18.9s,baz=305,slow=43						
CPUP	**Villa Florida**	**11.69**	**117**	*eP*	**Pn**	**15 31 20.9**	**-2.0**
CPUP	**Villa Florida**	**11.69**	**117**	Pn	**Pn**	**15 31 19.9**	**-3.0**
ETMB	**Extrema**	**11.72**	**13**	*eP*	**Pn**	**15 31 20.4**	**-3.0**
ETMB	**Extrema**	**11.72**	**13**	Pn	**Pn**	**15 31 18.8**	**-4.6**
VILB	**Vilhena**	**11.75**	**46**	*eP*	**Pn**	**15 31 21.6**	**-2.2**
VILB	**Vilhena**	**11.75**	**46**	Pn	**Pn**	**15 31 21.6**	**-2.2**
PEL	**Peldehue**	**11.89**	**187**	Pn	**Pn**	**15 31 22.3**	**-3.2**
NNA	**Nana**	**12.01**	**319**	P	**Pn**	**15 31 29.5**	**+2.3**
	comp=Z,1.5nm,0.3s,baz=170,slow=11,SNR=2.0						
NNA				S	**Sn**	**15 33 31.7**	**-7.7**
	comp=Z,1.6nm,0.3s,baz=232,slow=17,SNR=1.8						
NNA	**Nana**	**12.01**	**319**	Pn	**Pn**	**15 31 27.6**	**+0.3**
MT02	**Curacav**	**12.06**	**189**		Pn	15 31 22.3	-5.5
AQDB	**Aquidauana**	**12.35**	**88**	*eP*	**Pn**	**15 31 29.0**	**-2.8**
AQDB	**Aquidauana**	**12.35**	**88**	Pn	**Pn**	**15 31 28.6**	**-3.2**
VA05	**Santo Domingo**	**12.53**	**191**	Pn	**Pn**	**15 31 32.2**	**-1.8**
MT09	**Talagante**	**12.55**	**188**		Pn	15 31 29.5	-5.0
MT01	**Popeta**	**12.67**	**189**		Pn	15 31 30.7	-5.2
BO01	**Tunca**	**13.17**	**188**		**Pn**	**15 31 41.8**	**-0.7**
BO02	**Sierra Bellavi**	**13.53**	**187**		**Pn**	**15 31 47.3**	**+0.1**
SALV	**Santo Antonio**	**13.61**	**69**	*eP*	**Pn**	**15 31 45.5**	**-2.8**
PP1B	**Ponte de Pedra**	**13.71**	**77**	*eP*	**Pn**	**15 31 46.9**	**-2.8**
ITQB	**Itaqui**	**13.84**	**129**	*eP*	**Pn**	**15 31 50.5**	**-0.7**
GO05	**Huala**	**13.90**	**190**	Pn	**Pn**	**15 31 52.6**	**+0.5**
CZSB	**Cruzeiro do Su**	**14.01**	**344**	*eP*	**Pn**	**15 31 53.5**	**0.0**
PDRB	**Porto dos Gac**	**15.12**	**52**	*eP*	**Pn**	**15 32 04.6**	**-3.3**
PTGB	**Pitanga**	**15.85**	**106**	*eP*	**Pn**	**15 32 16.5**	**-0.5**
CLDB	**Colider**	**16.30**	**52**	*eP*	**Pn**	**15 32 21.3**	**-1.1**
ITAB	**Concordia**	**16.36**	**114**	*eP*	**Pn**	**15 32 23.6**	**+0.4**
ITAB	**Concordia**	**16.36**	**114**		**Pn**	**15 32 21.9**	**-1.4**
ITAB				IAmb	IAmb	15 32 25.3	
	comp=Z,40nm,0.7s						
PCMB	**Pacaembu**	**16.41**	**94**	*eP*	**Pn**	**15 32 22.7**	**-1.1**
CPSB	**Cacapava Do Su**	**16.57**	**126**	*eP*	**Pn**	**15 32 24.6**	**-1.2**
ATAH	**Atahualpa**	**16.83**	**326**	P	**P**	**15 32 31.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=153,slow=11,SNR=4.1						
TBTG	**Tabatinga, AM**	**17.06**	**357**	*eP*	**P**	**15 32 32.3**	**+0.2**
TBTG	**Tabatinga, AM**	**17.06**	**357**		**Pn**	**15 32 31.1**	**-0.8**
TBTG				IAmb	IAmb	15 32 33.5	
	comp=Z,89nm,0.7s						
ARAG	**Araguaiana, MT**	**17.12**	**74**	*eP*	**Pn**	**15 32 31.0**	**-1.6**
PLTB	**Pedras Altas**	**17.16**	**130**	*eP*	**Pn**	**15 32 31.5**	**-1.5**
PLTB	**Pedras Altas**	**17.16**	**130**		**Pn**	**15 32 30.6**	**-2.3**
ITRB	**Iturama**	**17.43**	**88**	*eP*	**P**	**15 32 35.3**	**-0.9**
LC01	**Cunco**	**17.71**	**188**	P	**P**	**15 32 37.5**	**-1.5**
FRTB	**Fartura**	**17.99**	**100**	*eP*	**P**	**15 32 41.5**	**-0.8**
BB19B	**Bebedouro**	**18.98**	**93**	*eP*	**P**	**15 32 52.2**	**-1.1**
SNDB	**Serra Nova Dou**	**19.23**	**64**	*eP*	**P**	**15 32 54.5**	**-1.3**
TER01	**Tubaro-SC**	**19.29**	**116**	*eP*	**P**	**15 32 55.0**	**-1.4**
NPGB	**Novo Progresso**	**19.30**	**45**	*eP*	**P**	**15 32 54.4**	**-2.2**
PLCA	**Paso Flores**	**19.41**	**184**	P	**P**	**15 32 58.1**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=0.9,slow=12,SNR=48						
PLCA	**Paso Flores**	**19.41**	**184**	*eP*	**P**	**15 32 58.4**	**+0.7**
PLCA	**Paso Flores**	**19.41**	**184**	P	**P**	**15 32 58.2**	**+0.4**
MACA	**Manacapuru-AM**	**19.73**	**25**	*eP*	**P**	**15 32 59.3**	**-2.0**
MACA	**Manacapuru-AM**	**19.73**	**25**	P	**P**	**15 32 59.3**	**-2.0**
IPMB	**Ipameri, GO**	**19.75**	**84**	*eP*	**P**	**15 33 00.3**	**-1.3**
RCLB	**Rio Claro- Sao**	**19.85**	**97**	*eP*	**P**	**15 33 00.9**	**-1.7**
LL03	**Petrohue**	**19.98**	**188**	P	**P**	**15 33 03.5**	**-0.3**
PET01	**Itanhaem-SP**	**20.14**	**103**	*eP*	**P**	**15 33 04.7**	**-1.0**
VAO	**Valinhos**	**20.37**	**99**	*eP*	**P**	**15 33 06.4**	**-1.9**
BDFB	**Brasilia**	**20.57**	**78**	P	**P**	**15 33 09.2**	**-1.4**
	comp=Z,62nm,0.5s,baz=248,slow=9.9,SNR=146						
BDFB	**Brasilia**	**20.57**	**78**	P	**P**	**15 33 08.6**	**-2.0**
ITTB	**Itaituba**	**21.14**	**39**	*eP*	**P**	**15 33 14.2**	**-2.3**
PARB	**Paraibuna**	**21.61**	**100**	*eP*	**P**	**15 33 19.8**	**-1.8**
PEXB	**Peixe**	**21.72**	**68**	*eP*	**P**	**15 33 20.7**	**-1.9**
LL02	**Futaleuf**	**21.95**	**186**	P	**P**	**15 33 24.2**	**-0.7**
GO07	**Milladeo Hill,**	**22.10**	**189**	P	**P**	**15 33 24.8**	**-1.6**
BSCB	**Bom Sucesso**	**22.48**	**94**	*eP*	**P**	**15 33 29.4**	**-1.5**
MAN01	**Angra dos Reis**	**23.14**	**98**	*eP*	**P**	**15 33 35.6**	**-1.6**
OTAV	**Otavalo**	**23.38**	**335**	*eP*	**P**	**15 33 40.8**	**+0.9**
OTAV	**Otavalo**	**23.38**	**335**	P	**P**	**15 33 37.9**	**-2.0**
FLOC	**Florencia**	**23.70**	**343**	*eP*	**P**	**15 33 40.8**	**-1.6**
PRPB	**Parauapebas**	**23.82**	**54**	*eP*	**P**	**15 33 41.1**	**-2.4**
GCUF	**Volcan Galeras**	**23.89**	**339**	⇓*eP*	**P**	**15 33 50.3**	**+5.8**
DIAM	**Diamantina, MG**	**23.90**	**87**	*eP*	**P**	**15 33 43.0**	**-1.4**
SMTB	**Santa Maria do**	**23.96**	**62**	*eP*	**P**	**15 33 43.3**	**-1.4**
MALB	**Monte Alegre**	**24.03**	**38**	*eP*	**P**	**15 33 43.3**	**-2.0**
JANB	**Januaria**	**24.14**	**79**	*eP*	**P**	**15 33 44.5**	**-2.0**
COYC	**Coyhaique**	**24.33**	**185**	P	**P**	**15 33 47.5**	**-0.2**
SOTA	**Rioblanco**	**24.50**	**341**	*eP*	**P**	**15 33 52.2**	**+2.1**
SDBA	**SAO DESIDERIO**	**24.57**	**73**	*eP*	**P**	**15 33 49.1**	**-1.2**
PCON	**Cinco Dias**	**24.63**	**342**	*eP*	**P**	**15 33 53.2**	**+1.9**
DUB01	**Friburgo-RJ**	**24.63**	**97**	*eP*	**P**	**15 33 50.3**	**-0.5**
POPC	**Popayan, Colom**	**24.91**	**341**	*eP*	**P**	**15 33 56.0**	**+2.5**
BOAV	**Boa Vista**	**24.95**	**20**	*eP*	**P**	**15 33 53.5**	**-0.1**
BOAV	**Boa Vista**	**24.95**	**20**	P	**P**	**15 33 53.3**	**-0.3**
CAM01	**Campos-RJ**	**25.31**	**96**	*eP*	**P**	**15 33 56.3**	**-0.6**
ORTC	**Ortega, Tolima**	**25.84**	**345**	*eP*	**P**	**15 34 03.7**	**+2.0**
SJMB	**Sao Joao De Ma**	**26.14**	**89**	*eP*	**P**	**15 34 03.8**	**-0.7**
YOTC	**Yotoco, Valle**	**26.19**	**343**	*eP*	**P**	**15 34 04.6**	**-0.4**
CHIC	**Chingaza**	**26.22**	**349**	*eP*	**P**	**15 34 04.6**	**-1.0**
ALF01	**Guarapari-ES**	**26.29**	**94**	*eP*	**P**	**15 34 05.2**	**-0.5**
BSFB	**Barra de Sao F**	**26.44**	**90**	*eP*	**P**	**15 34 06.5**	**-0.6**
MCPB	**Macapa, AP**	**26.53**	**40**	*eP*	**P**	**15 34 06.3**	**-1.6**
ROSC	**El Rosal**	**26.54**	**348**	LR	LR	15 46 13.8	
	comp=Z,151nm,18.4s,baz=284,slow=40						
RIB01	**Linhares ES**	**26.78**	**91**	*eP*	**P**	**15 34 09.3**	**-0.8**
GUY2C	**Guyana, Caldas**	**27.13**	**346**	*eP*	**P**	**15 34 14.2**	**+0.3**
SPBC	**San Pablo de B**	**27.28**	**349**	*eP*	**P**	**15 34 15.1**	**+0.3**
NORC	**Norcasia**	**27.35**	**347**	*eP*	**P**	**15 34 16.1**	**+0.7**
RUSC	**La Rusia**	**27.36**	**351**	*eP*	**P**	**15 34 15.1**	**-0.7**
TMAB	**Tom-Au,PA,Br**	**27.65**	**50**	*eP*	**P**	**15 34 18.0**	**0.0**
GUA01	**Guaratinga, BA**	**27.88**	**85**	*eP*	**P**	**15 34 18.8**	**-1.3**
CBOC	**Ciudad Bolivar**	**27.91**	**345**	*eP*	**P**	**15 34 18.0**	**-2.4**
BARC	**Barichara**	**28.06**	**351**	*eP*	**P**	**15 34 22.8**	**+0.9**
HELC	**Santa Helena**	**28.11**	**346**	*eP*	**P**	**15 34 22.8**	**+0.3**
PTBC	**PUERTO BERRIO,**	**28.22**	**348**	*eP*	**P**	**15 34 19.9**	**-3.2**
CMC01	**Camacan, BA**	**28.47**	**83**	*eP*	**P**	**15 34 24.4**	**-0.9**
NBIT	**Itapeh - BA**	**28.67**	**82**	*eP*	**P**	**15 34 26.5**	**-0.6**
PAMC	**Pamplona, Colo**	**28.73**	**352**	*eP*	**P**	**15 34 25.6**	**-2.4**
GDU01	**Guandu, BA**	**28.92**	**80**	*eP*	**P**	**15 34 27.0**	**-2.3**
ZARC	**Zaragoza, Cauc**	**29.23**	**348**	*eP*	**P**	**15 34 29.4**	**-2.6**
ZARC	**Zaragoza, Cauc**	**29.23**	**348**	P	**P**	**15 34 30.2**	**-1.8**
NBPN	**Ponto Novo - B**	**29.41**	**74**	*eP*	**P**	**15 34 32.3**	**-1.4**
SOCV	**Socops**	**29.48**	**356**	*eP*	**P**	**15 34 33.2**	**-1.0**
SDV	**Santo Domingo**	**30.07**	**357**	P	**P**	**15 34 39.0**	**-0.6**
	comp=Z,3.3nm,0.5s,baz=198,slow=3.2,SNR=4.2						
SDV	**Santo Domingo**	**30.07**	**357**	*eP*	**P**	**15 34 39.1**	**-0.5**
SDV	**Santo Domingo**	**30.07**	**357**	P	**P**	**15 34 38.2**	**-1.4**
BAUV	**El Baul**	**30.09**	**2**	P	**P**	**15 34 38.0**	**-1.5**
BAUV				IAmb	IAmb	15 34 40.0	
	comp=Z,35nm,0.9s						
ROSB	**Rosrio**	**30.26**	**56**	*eP*	**P**	**15 34 40.6**	**-0.5**
SMLC	**San Martn de**	**30.36**	**350**	*eP*	**P**	**15 34 39.9**	**-2.1**
MOTC	**Monteria, Cord**	**30.64**	**347**	P	**P**	**15 34 44.8**	**

TKL IAmb IAmb 15 38 52.0
comp=Z,9.7nm,0.8s
SWET Sewanee 58.51 344 P **P 15 38 24.6 -0.7**
V52A Sevierville 58.53 346 P **P 15 38 25.1 -0.4**
V52A IAmb IAmb 15 38 52.5
comp=Z,19nm,0.9s
V51A Loudon 58.67 345 P **P 15 38 25.2 -1.2**
V51A IAmb IAmb 15 38 42.4
comp=Z,18nm,1.4s
U54A Nelsons Funny 58.81 348 P **P 15 38 27.7 +0.2**
T57A Hurt 58.82 350 P **P 15 38 27.8 +0.4**
T57A IAmb IAmb 15 38 43.4
comp=Z,22nm,1.5s
TZTN Tazewell 59.20 346 P **P 15 38 29.6 -0.5**
BLA Blacksburg 59.22 349 P **P 15 38 30.2 0.0**
BLA IAmb IAmb 15 38 32.1
comp=Z,12nm,0.7s
BLA Blacksburg 59.22 349 P **P 15 38 31.3 +1.0**
baz=167
V48A Smith Brothers 59.24 343 P **P 15 38 29.4 -0.9**
V48A IAmb IAmb 15 38 30.7
comp=Z,15nm,0.8s
WLAR White Oak Lake 59.38 337 P **P 15 38 31.6 +0.3**
CLTN Cedars of Leba 59.44 344 P **P 15 38 31.2 -0.5**
CLTN IAmb IAmb 15 38 59.0
comp=Z,19nm,1.0s
JCT Junction City 59.46 329 P **P 15 38 31.5 -0.5**
JCT IAmb IAmb 15 38 33.8
comp=Z,8.1nm,0.8s
JCT Junction City 59.46 329 P **P 15 38 33.4 +1.4**
baz=146
R58B Mineral 59.57 352 P **P 15 38 32.7 +0.1**
R58B IAmb IAmb 15 38 34.0
comp=Z,7.3nm,0.8s
WHTX Lake Whitney, 59.66 332 P **P 15 38 34.0 +0.7**
baz=149
U49A Red Boiling Sp 59.70 344 P **P 15 38 33.0 -0.4**
WVT Waverly 59.88 342 P **P 15 38 33.9 -0.9**
WVT Waverly 59.88 342 P **P 15 38 34.3 -0.5**
baz=160
T50A Nancy 59.95 345 P **P 15 38 34.6 -0.5**
T50A IAmb IAmb 15 39 01.6
comp=Z,9.9nm,0.9s
S54A Dingess, Beckl 59.95 349 P **P 15 38 35.1 -0.1**
R55A Marlinton 60.22 350 P **P 15 38 37.9 +0.9**
R55A IAmb IAmb 15 38 56.9
comp=Z,18nm,1.1s
VNA3 Neumayer Olymp 60.24 161 P **P 15 38 37.8 +1.0**
MIAR Mount Ida 60.31 337 P **P 15 38 37.6 -0.1**
MIAR IAmb IAmb 15 38 40.8
comp=Z,22nm,1.4s
MIAR Mount Ida 60.31 337 P **P 15 38 38.0 +0.3**
baz=153
W41B Gary Mavity, V 60.40 338 P **P 15 38 38.0 -0.3**
W41B IAmb IAmb 15 38 46.1
comp=Z,21nm,1.5s
VNA1 Neumayer--Stat 60.45 160 P **P 15 38 39.6 +1.4**
T47A Sharon Grove 60.49 343 P **P 15 38 38.3 -0.5**
TXAR Lajitas Array 60.49 325 P **P 15 38 39.8 +0.6**
comp=Z,1.6nm,0.6s,baz=149,slow=8.2,SNR=21
TXAR pP **pP 15 39 06.4 +2.2**
comp=Z,0.4nm,0.4s,baz=151,slow=8.8,SNR=2.9
TXAR LR LR 16 06 41.5
comp=Z,58nm,18.8s,baz=276,slow=38
TXAR Lajitas Array 60.49 325 P **P 15 38 39.3 +0.1**
TX31 Lajitas Ar. Si 60.50 325 P **P 15 38 39.5 +0.3**
TX31 IAmb IAmb 15 38 40.7
comp=Z,13nm,1.2s
TX32 Lajitas Array 60.50 325 P **P 15 38 39.5 +0.3**
WHAR Wooly Hollow 60.52 338 P **P 15 38 39.2 +0.1**
WHAR IAmb IAmb 15 39 06.8
comp=Z,7.9nm,1.0s
VNA2 Neumayer--Watz 60.81 161 P **P 15 38 41.7 +1.0**
baz=284,slow=7.2
LCAR Lake Charles 60.84 339 P **P 15 38 40.8 -0.5**
LCAR IAmb IAmb 15 39 07.9
comp=Z,8.3nm,0.9s
PARMO Parma 60.95 341 P **P 15 38 41.8 -0.2**
T45A Paducah 60.95 342 P **P 15 38 41.4 -0.5**
W39A Magazine 60.97 337 P **P 15 38 43.5 +1.3**
baz=153
FCAR Ozark Folk Cen 61.01 339 P **P 15 38 41.7 -0.7**
FCAR IAmb IAmb 15 39 00.7
comp=Z,14nm,1.5s
Q54A Coxs Mills 61.02 349 P **P 15 38 42.6 +0.2**
P57A Homestead Farm 61.08 352 P **P 15 38 43.8 +1.0**
P57A IAmb IAmb 15 38 47.6
comp=Z,7.5nm,1.0s
WUPA West Chester U 61.26 354 P **P 15 38 44.7 +0.8**
PBMO Poplar Bluff 61.26 340 P **P 15 38 43.9 -0.2**
PBMO IAmb IAmb 15 38 44.1
comp=Z,12nm,0.6s
Q52A Bidwell 61.26 348 P **P 15 38 43.6 -0.5**
Q52A IAmb IAmb 15 39 12.0
comp=Z,21nm,1.1s
MVL Millersville 61.40 353 P **P 15 38 45.6 +0.7**
MVL IAmb IAmb 15 38 48.1
comp=Z,10nm,1.2s
WCI Wyandotte Cave 61.45 344 P **P 15 38 44.6 -0.7**
WCI IAmb IAmb 15 38 48.1
comp=Z,14nm,1.1s
WCI Wyandotte Cave 61.45 344 P **P 15 38 44.9 -0.5**
baz=161
MCWV Mont Chateau 61.52 350 P **P 15 38 46.3 +0.5**
MCWV Mont Chateau 61.52 350 P **P 15 38 46.4 +0.7**
baz=168
P53A Whipple 61.61 349 P **P 15 38 46.1 -0.2**
T42A Van Buren 61.70 340 P **P 15 38 46.2 -0.9**
S44A Carbondale 61.75 342 P **P 15 38 46.8 -0.5**
S44A IAmb IAmb 15 38 48.4
comp=Z,15nm,0.7s
P52A Corning 61.89 348 P **P 15 38 47.9 -0.4**
P52A IAmb IAmb 15 39 15.1
comp=Z,19nm,0.8s
O56A Blue Knob Stat 61.93 352 P **P 15 38 49.4 +0.8**
O56A IAmb IAmb 15 38 53.8
comp=Z,15nm,1.1s
HHAR Hobbs 62.00 337 P **P 15 38 48.9 -0.2**
HHAR IAmb IAmb 15 38 52.6
comp=Z,9.8nm,1.2s
MGMO Mountain Grove 62.20 339 P **P 15 38 50.4 -0.1**
MGMO IAmb IAmb 15 39 17.7
comp=Z,7.0nm,0.8s
SSPA Standing Stone 62.20 352 P **P 15 38 50.5 +0.1**
N59A State Game Lan 62.25 354 P **P 15 38 50.4 -0.2**
N59A IAmb IAmb 15 39 05.9
comp=Z,22nm,1.4s
O52A Adamsville 62.30 349 P **P 15 38 51.1 +0.1**
O52A IAmb IAmb 15 39 18.4
comp=Z,12nm,0.8s
O53A New Philadelph 62.32 349 P **P 15 38 51.3 +0.2**
O53A IAmb IAmb 15 39 18.8
comp=Z,20nm,0.9s
P49A Miami Univ. Ec 62.32 346 P **P 15 38 50.4 -0.8**
P49A IAmb IAmb 15 38 50.8
comp=Z,6.3nm,0.6s
TRNY Table Rock, Ra 62.34 355 P **P 15 38 52.0 +0.8**
TRNY IAmb IAmb 15 39 14.2
comp=Z,20nm,1.3s
FVM French Village 62.37 341 P **P 15 38 51.2 -0.3**
BLO Bloomington 62.40 345 P **P 15 38 51.4 -0.3**
P48A Milroy 62.41 346 P **P 15 38 50.7 -1.0**
P48A IAmb IAmb 15 39 18.1
comp=Z,7.7nm,0.7s
SNAA Sanae 62.44 161 P **P 15 38 52.5 +0.8**
SNAA Sanae 62.44 161 P **P 15 38 52.6 +0.8**
comp=Z,21nm,0.6s,baz=282,slow=8.4,SNR=44
SNAA Sanae 62.44 161 P **P 15 38 52.4 +0.8**
CCM Cathedral Cave 62.69 340 P **P 15 38 53.5 -0.2**
CCM IAmb IAmb 15 39 21.4
comp=Z,23nm,1.2s
CCM Cathedral Cave 62.69 340 P **P 15 38 53.6 0.0**
baz=156
N53A Lisbon 62.80 350 P **P 15 38 54.1 -0.2**
N53A IAmb IAmb 15 38 55.4
comp=Z,28nm,1.1s
M57A Sunshine Farm, 62.80 353 P **P 15 38 55.0 +0.7**
M57A IAmb IAmb 15 39 00.2
comp=Z,19nm,1.1s
Q44A Meyer Farm, Va 62.81 342 P **P 15 38 53.7 -0.7**
Q44A IAmb IAmb 15 39 20.9
comp=Z,14nm,0.7s
N54A Moraine State 62.82 351 P **P 15 38 54.4 -0.1**
N54A IAmb IAmb 15 39 21.9
comp=Z,32nm,1.2s

N54A Moraine State 62.82 351 P **P 15 38 55.2 +0.8**
baz=168
BRYW Bryant College 62.96 358 P **P 15 38 55.3 -0.1**
S39A Bolivar 63.04 338 P **P 15 38 55.9 -0.1**
S39A IAmb IAmb 15 39 23.4
comp=Z,15nm,0.7s
M55A Ridgway 63.14 352 P **P 15 38 56.7 +0.1**
R40A Maddies Statio 63.23 340 P **P 15 38 57.2 0.0**
R40A IAmb IAmb 15 39 24.4
comp=Z,6.9nm,0.6s
MNTX Cornudas Mount 63.26 325 P **P 15 38 57.1 -0.5**
MNTX Cornudas Mount 63.26 325 P **P 15 38 57.8 +0.2**
baz=142
M54A Oil Creek Stat 63.30 351 P **P 15 38 57.8 +0.2**
M54A Oil Creek Stat 63.30 351 P **P 15 38 58.3 +0.7**
baz=169
L59A Walton 63.44 355 P **P 15 38 58.8 +0.2**
L59A IAmb IAmb 15 39 25.5
comp=Z,14nm,1.0s
N49A Columbus Grove 63.53 347 P **P 15 38 58.5 -0.6**
L56A Greenwood 63.64 353 P **P 15 38 59.9 -0.1**
L56A IAmb IAmb 15 39 06.4
comp=Z,40nm,1.4s
MSTX Muleshoe 63.76 329 P **P 15 39 01.1 +0.2**
MSTX IAmb IAmb 15 39 02.0
comp=Z,16nm,1.1s
MSTX Muleshoe 63.76 329 P **P 15 39 01.3 +0.4**
baz=145
WVNY West Valley, N 64.04 352 P **P 15 39 02.9 +0.5**
WVNY IAmb IAmb 15 39 05.7
comp=Z,35nm,1.4s
MMNY Mt. Morris Dam 64.27 353 P **P 15 39 04.2 +0.3**
MMNY IAmb IAmb 15 39 19.8
comp=Z,41nm,1.4s
J58A Remsen 64.63 355 P **P 15 39 06.2 -0.1**
J59A Piesco 64.67 355 P **P 15 39 06.8 +0.3**
J59A IAmb IAmb 15 39 34.0
comp=Z,11nm,0.8s
J56A Wolcott 64.69 354 P **P 15 39 06.8 +0.2**
J56A IAmb IAmb 15 39 32.7
comp=Z,26nm,1.0s
J57A Williamstown 64.74 354 P **P 15 39 07.2 +0.2**
J57A IAmb IAmb 15 39 07.7
comp=Z,10nm,0.8s
NCB Newcomb 65.15 356 P **P 15 39 10.1 +0.4**
NCB IAmb IAmb 15 39 19.0
comp=Z,18nm,1.4s
319A Douglas 65.16 322 P **P 15 39 09.9 -0.2**
319A IAmb IAmb 15 39 12.8
comp=Z,17nm,0.8s
121A Cookes Peak, D 65.20 324 P **P 15 39 11.1 +0.6**
121A Cookes Peak, D 65.20 324 P **P 15 39 12.1 +1.7**
baz=140
Y22D IRIS PASSCAL I 65.92 326 P **P 15 39 14.3 -0.7**
DELO Deloro Mine 66.00 353 P **P 15 39 15.1 0.0**
DELO IAmb IAmb 15 39 28.9
comp=Z,32nm,1.3s
K43A Burlington 66.18 344 P **P 15 39 15.7 -0.6**
G65A Princeton 66.21 1 P **P 15 39 15.8 -0.6**
ANMO Albuquerque 66.36 327 P **P 15 39 18.5 +0.6**
ANMO Albuquerque 66.36 327 P **P 15 39 19.3 +1.5**
baz=142
SADO Sadowa 66.43 352 P **P 15 39 17.1 -0.8**
SADO IAmb IAmb 15 39 38.5
comp=Z,28nm,1.2s
CBKS Cedar Bluff 66.44 334 P **P 15 39 19.5 +1.4**
baz=148
TUC Tucson 66.71 322 P **P 15 39 20.7 +0.7**
TUC Tucson 66.71 322 P **P 15 39 21.5 +1.5**
baz=137
F64A Sherman 66.86 0 P **P 15 39 20.8 +0.3**
F64A IAmb IAmb 15 39 27.4
comp=Z,33nm,1.4s
JFWS Jewell Farm 66.88 343 P **P 15 39 20.6 -0.1**
JFWS IAmb IAmb 15 39 48.2
comp=Z,22nm,1.2s
LMN Caledonia Moun 66.95 3 P **P 15 39 20.6 -0.6**
LMN IAmb IAmb 15 39 37.9
comp=Z,46nm,1.4s
T25A Trinidad 67.10 330 P **P 15 39 23.6 +1.0**
baz=144
TRQ Mont Tremblant 67.42 356 P **P 15 39 24.2 0.0**
TRQ IAmb IAmb 15 39 51.2
comp=Z,10nm,0.7s
I42A Draeger Farm, 67.44 344 P **P 15 39 24.1 -0.2**
I42A IAmb IAmb 15 39 36.9
comp=Z,34nm,1.3s
E62A Clayton Lake 67.62 360 P **P 15 39 25.5 +0.2**
214A Organ Pipe Nat 67.64 320 P **P 15 39 25.0 -0.8**
214A IAmb IAmb 15 39 29.0
comp=Z,22nm,1.3s
214A Organ Pipe Nat 67.64 320 P **P 15 39 28.1 +2.2**
baz=136
D62A Allapoint, All 68.08 360 P **P 15 39 28.8 +0.6**
SDCO Great Sand Dun 68.11 329 P **P 15 39 29.1 +0.1**
SDCO IAmb IAmb 15 39 31.5
comp=Z,18nm,1.5s
SDCO Great Sand Dun 68.11 329 P **P 15 39 30.4 +1.4**
baz=143
W18A Petrified Fore 68.21 325 P **P 15 39 31.2 +1.6**
baz=139
LIC Lamto 68.31 74 *e*P **P 15 39 29.7 -0.7**
comp=Z,23nm,0.7s
BATG Bathurst New B 68.32 2 P **P 15 39 30.1 +0.4**
TIC Toumodi 68.50 73 *e*P **P 15 39 30.9 -0.7**
KIC Kosan Boka 68.63 74 *e*P **P 15 39 31.6 -0.8**
comp=Z,26nm,0.5s
DBIC Dimbokro 68.66 73 P **P 15 39 32.3 -0.2**
comp=Z,22nm,0.7s,baz=238,slow=5.2,SNR=27
DBIC pP **pP 15 39 59.0 -0.1**
comp=Z,7.6nm,0.7s,baz=225,slow=5.7,SNR=2.7
DBIC Dimbokro 68.66 73 P **P 15 39 31.6 -1.0**
DBIC IAmb IAmb 15 39 33.3
comp=Z,26nm,0.8s
QSPA South Pole Qui 68.87 180 P **P 15 39 34.7 +1.5**
Q24A Divide 68.92 330 P **P 15 39 34.4 +0.4**
Q24A Divide 68.92 330 P **P 15 39 35.3 +1.3**
baz=144
MVCO Mesa Verde 69.16 327 P **P 15 39 37.3 +1.8**
baz=140
WUAZ Wupatki 69.40 324 P **P 15 39 38.9 +2.0**
baz=138
VLDQ Val d'Or 69.54 354 P **P 15 39 37.6 +0.4**
VLDQ IAmb IAmb 15 40 04.8
comp=Z,27nm,1.3s
ECSD EROS Data Cent 69.56 339 P **P 15 39 36.8 -0.7**
ECSD EROS Data Cent 69.56 339 P **P 15 39 37.5 0.0**
baz=152
ISCO Idaho Springs 69.80 331 P **P 15 39 40.9 +1.5**
baz=144
PV15 Paradox Valley 70.02 328 P **P 15 39 41.3 +0.5**
BC3 Big Chuckawall 70.41 320 P **P 15 39 45.1 +2.1**
baz=134,SNR=10
MONP2 Monument Peak 70.47 319 P **P 15 39 45.6 +2.0**
baz=133
F36A Milaca 70.51 342 P **P 15 39 42.9 -0.4**
F36A IAmb IAmb 15 40 10.8
comp=Z,16nm,1.1s
IRM Iron Mountain 70.58 321 P **P 15 39 46.1 +2.2**
baz=134,SNR=10
N23A Red Feather La 70.83 331 P **P 15 39 46.2 +0.5**
BELC Belle Mtn. Jos 70.98 320 P **P 15 39 48.4 +1.9**
baz=134
PFO Pinyon Flats O 70.99 319 P **P 15 39 48.9 +2.3**
baz=133,SNR=5.7
O20A White River Ci 71.30 329 P **P 15 39 50.4 +2.0**
O20A IAmb IAmb 15 39 51.0
comp=Z,13nm,1.0s
O20A White River Ci 71.30 329 P **P 15 39 49.9 +1.5**
baz=141
GMRC Granite Mounta 71.32 321 P **P 15 39 50.6 +2.1**
baz=134,SNR=14
LCMT Little Creek M 71.52 324 P **P 15 39 50.1 +0.3**
SRU San Rafael Swe 71.64 327 P **P 15 39 51.7 +1.3**
SRU IAmb IAmb 15 39 52.9
comp=Z,14nm,0.8s
MTPU Mount Pierson 71.70 325 P **P 15 39 52.6 +1.5**
HEC Hector,Ludlow 71.75 320 P **P 15 39 53.4 +2.3**
baz=134,SNR=8.5
Q16A Castle Valley 71.82 326 P **P 15 39 51.2 -0.4**
EYMN Ely 71.88 344 P **P 15 39 51.4 -0.1**
EYMN IAmb IAmb 15 39 58.5
comp=Z,39nm,1.5s
P18A Preston Nutter 71.89 328 P **P 15 39 52.9 +0.8**
P18A IAmb IAmb 15 39 54.9

comp=Z,13nm,0.8s
TUQ Turquoise Moun 71.93 321 P **P 15 39 54.4 +2.2**
baz=134,SNR=6.9
P17A Butcher Ranch, 72.02 327 P **P 15 39 52.8 +0.1**
P17A IAmb IAmb 15 39 55.4
comp=Z,14nm,0.8s
MSU Marysvale 72.05 326 P **P 15 39 54.6 +1.7**
MVU Marysvale 72.06 326 P **P 15 39 54.7 +1.7**
BFSC Mount Baldy Ra 72.14 319 P **P 15 39 55.3 +1.8**
baz=133
SHPR Sheep Range 72.23 322 P **P 15 39 55.0 +1.0**
TCRU Three Creeks R 72.26 325 P **P 15 39 55.0 +0.8**
RDMU Red Mountain 72.28 329 P **P 15 39 55.2 +0.9**
GSC Goldstone, Bar 72.35 320 P **P 15 39 56.9 +2.2**
baz=134,SNR=6.4
MWC Mount Wilson 72.38 319 P **P 15 39 56.5 +1.5**
RSSD Black Hills 72.65 334 P **P 15 39 57.1 +0.7**
RSSD Black Hills 72.65 334 P **P 15 39 58.2 +1.8**
baz=146
EDW2 Edwards Air Fo 72.78 319 P **P 15 39 58.8 +1.6**
baz=132,SNR=5.6
B35A Bob, Littlefor 72.84 343 P **P 15 39 56.8 -0.4**
B35A IAmb IAmb 15 40 25.1
comp=Z,24nm,1.1s
GWY Greenwater Val 72.88 321 P **P 15 39 59.2 +1.3**
GWY IAmb IAmb 15 40 00.7
comp=Z,10nm,0.9s
LRMC Laurel Mtn Rad 73.00 320 P **P 15 40 00.7 +2.1**
baz=133,SNR=5.7
NLU North Lily Min 73.06 327 P **P 15 40 00.3 +1.3**
TPNV Topopah Spring 73.17 322 P **P 15 40 01.8 +2.2**
baz=134,SNR=8.6
FURC Furnace Creek, 73.19 321 P **P 15 40 02.0 +2.6**
baz=134
MPMC Manual Prospec 73.28 321 P **P 15 40 02.0 +1.7**
baz=133
AGMN Agassiz Nation 73.39 342 P **P 15 40 00.5 +0.1**
baz=154
ISA Isabella, Lake 73.60 320 P **P 15 40 02.2 +0.2**
ISA IAmb IAmb 15 40 05.2
comp=Z,13nm,0.9s
ISA Isabella, Lake 73.60 320 P **P 15 40 04.3 +2.3**
baz=132,SNR=9.2
DUG Dugway, Tooele 73.62 326 P **P 15 40 02.2 +0.1**
DUG IAmb IAmb 15 40 05.1
comp=Z,16nm,1.3s
DUG Dugway, Tooele 73.62 326 P **P 15 40 03.9 +1.8**
baz=138,SNR=7.4
R11A Troy Canyon, C 73.77 323 P **P 15 40 05.3 +2.2**
baz=135,SNR=7.7
CWC Cottonwood Cre 73.89 321 P **P 15 40 05.8 +2.0**
baz=133
PKM Mcpherson Peak 73.90 318 P **P 15 40 05.8 +1.9**
baz=131
BW06 Boulder Array 73.97 330 P **P 15 40 04.0 -0.2**
BW06 Boulder Array 73.97 330 P **P 15 40 05.2 +1.0**
baz=141
PD31 Pinedale Array 73.97 330 P **P 15 40 04.1 -0.1**
PDAR Pinedale Array 73.97 330 P **P 15 40 04.8 +0.6**
comp=Z,1.3nm,0.7s,baz=136,slow=6.7,SNR=14
PDAR Pinedale Array 73.97 330 P **P 15 40 04.6 +0.4**
VES Vestal, Richgr 74.08 320 P **P 15 40 06.6 +1.9**
baz=132
LCH Last Change Ra 74.17 321 P **P 15 40 05.1 -0.3**
MDND Maddock 74.17 339 P **P 15 40 06.0 +1.0**
MDND Maddock 74.17 339 P **P 15 40 06.1 +1.0**
baz=150
AHID Auburn Hatcher 74.69 329 P **P 15 40 08.8 +0.5**
AHID IAmb IAmb 15 40 10.7
comp=Z,13nm,0.8s
PAGB Antelope Grade 74.72 319 P **P 15 40 10.0 +1.5**
PAGB IAmb IAmb 15 40 11.7
comp=Z,20nm,1.2s
HVU Hansel Valley 74.77 327 P **P 15 40 09.7 +0.9**
REDW Red Top Meadow 75.03 330 P **P 15 40 11.4 +1.1**
LOHW Long Hollow 75.11 330 P **P 15 40 12.2 +1.4**
MOOW Moose Ponds 75.28 330 P **P 15 40 10.7 -1.0**
LHV Little Huntoon 75.36 322 P **P 15 40 13.9 +1.9**
NVAR Mina Array Bea 75.37 322 P **P 15 40 14.0 +1.6**
comp=Z,4.3nm,0.8s,baz=156,slow=6.8,SNR=20
NVAR Mina Array Bea 75.37 322 P **P 15 40 12.8 +0.5**
FLWY Flagg Ranch 75.51 330 P **P 15 40 14.9 +1.9**
FLWY IAmb IAmb 15 40 16.1
comp=Z,23nm,0.8s
RYN Ryan 75.63 322 P **P 15 40 15.2 +1.5**
LAO LASA Array 75.63 334 P **P 15 40 14.7 +1.2**
LAO IAmb IAmb 15 40 15.7
comp=Z,22nm,1.1s
LAO LASA Array 75.63 334 P **P 15 40 15.0 +1.5**
baz=144
RLMT Red Lodge 75.67 332 P **P 15 40 15.1 +1.2**
RLMT IAmb IAmb 15 40 16.5
comp=Z,11nm,0.8s
RLMT Red Lodge 75.67 332 P **P 15 40 15.5 +1.5**
baz=141,SNR=9.7
KVN Kaiserville 75.67 323 P **P 15 40 15.3 +1.2**
KVN IAmb IAmb 15 40 16.6
comp=Z,12nm,1.0s
H17A Grant Village 75.69 331 P **P 15 40 16.3 +2.2**
H17A Grant Village 75.69 331 P **P 15 40 16.3 +2.2**
baz=140
LKWY Lake 75.74 331 P **P 15 40 16.5 +2.0**
LKWY IAmb IAmb 15 40 18.2
comp=Z,12nm,0.9s
YMP Mirror Lake Pl 75.77 331 P **P 15 40 16.7 +2.1**
SCHQ Schefferville 75.86 1 P **P 15 40 14.8 +0.3**
comp=Z,1.5nm,0.4s,baz=188,slow=5.6,SNR=8.0
SCHQ Schefferville 75.86 1 IAmb IAmb 15 40 30.3
comp=Z,14nm,1.1s
YERR Yerington 76.28 322 P **P 15 40 18.9 +1.3**
DGMT Dagmar 76.32 337 P **P 15 40 18.2 +0.9**
DGMT IAmb IAmb 15 40 47.5
comp=Z,26nm,0.9s
DGMT Dagmar 76.32 337 P **P 15 40 19.4 +2.1**
baz=146
GCMT Greycliff 76.37 332 P **P 15 40 18.4 +0.6**
PAHR Pah Rah Range 76.85 322 P **P 15 40 21.4 +0.8**
PAHR IAmb IAmb 15 40 23.8
comp=Z,20nm,0.8s
HLID Hailey 76.90 328 P **P 15 40 22.8 +1.9**
HLID IAmb IAmb 15 40 24.2
comp=Z,17nm,0.9s
HLID Hailey 76.90 328 P **P 15 40 23.2 +2.3**
baz=137,SNR=23
VNDA Vanda 77.03 190 P **P 15 40 23.0 +2.0**
comp=Z,2.9nm,0.8s,baz=131,slow=7.2,SNR=6.3
VNDA Vanda 77.03 190 P **P 15 40 22.9 +2.0**
VNDA IAmb IAmb 15 40 33.5
comp=Z,26nm,1.4s
MCMT McKenzie Canyo 77.08 330 P **P 15 40 23.4 +1.5**
BOZ Bozeman (W) 77.09 331 P **P 15 40 23.3 +1.4**
baz=140,SNR=5.4
TORD Torodi Ar. Bea 77.27 70 P **P 15 40 23.2 -0.2**
comp=Z,16nm,0.7s,baz=255,slow=5.2,SNR=118
TORD pP **pP 15 40 50.4 0.0**
comp=Z,21nm,0.8s,baz=254,slow=5.4,SNR=8.1
DLMT Dillon 77.36 330 P **P 15 40 24.7 +1.3**
DLMT IAmb IAmb 15 40 26.9
comp=Z,16nm,1.2s
MFID Camas Ranch 77.51 327 P **P 15 40 26.1 +1.9**
LRM Limekiln Ridge 77.64 330 P **P 15 40 26.4 +1.3**
ORV Oroville 77.97 321 P **P 15 40 28.1 +1.3**
ORV IAmb IAmb 15 40 29.8
comp=Z,13nm,1.0s
HRY Holter Researc 78.03 331 P **P 15 40 28.4 +1.4**
EGMT Eagleton 78.15 333 P **P 15 40 28.6 +1.0**
EGMT IAmb IAmb 15 40 57.5
comp=Z,12nm,0.9s
EGMT Eagleton 78.15 333 P **P 15 40 28.8 +1.2**
baz=141
O03E Paynes Creek 78.63 322 P **P 15 40 31.4 +0.9**
O03E IAmb IAmb 15 40 32.1
comp=Z,25nm,1.2s
O03E Paynes Creek 78.63 322 P **P 15 40 31.3 +0.8**
baz=131
SUR Sutherland 78.65 120 P **P 15 40 30.5 -0.6**
SUR IAmb IAmb 15 40 34.7
comp=Z,15nm,1.0s
PLID Pearl Lake 78.79 328 P **P 15 40 32.4 +1.0**
PLID IAmb IAmb 15 40 34.0
comp=Z,18nm,0.9s
J08A Circle Bar Ran 78.84 326 P **P 15 40 33.1 +1.6**
MOD Modoc Plateau 78.84 324 P **P 15 40 33.1 +1.4**
MOD IAmb IAmb 15 40 34.4
comp=Z,25nm,1.1s

MSO	**Missoula**	**79.08 330**	P	**P**	**15 40 34.5 +1.7**
MSO	**Missoula**	**79.08 330**	P	**P**	**15 40 34.7 +1.9**
baz=138					
O02D	**Mt. Diablo Mer**	**79.13 321**	P	**P**	**15 40 33.5 +0.3**
O02D			IAmb	IAmb	15 40 42.3
comp=Z,19nm,1.4s					
WDC	**Whiskeytown Da**	**79.24 321**	P	**P**	**15 40 33.5 -0.2**
WDC			IAmb	IAmb	15 40 34.6
comp=Z,9.8nm,0.7s					
BMO	**Blue Mountains**	**79.28 327**	P	**P**	**15 40 35.4 +1.5**
BMO			IAmb	IAmb	15 40 36.6
comp=Z,15nm,0.9s					
N02D	**Trinity Center**	**79.59 322**	P	**P**	**15 40 36.2 +0.5**
N02D			IAmb	IAmb	15 40 37.7
comp=Z,9.4nm,0.8s					
N02D	**Trinity Center**	**79.59 322**	P	**P**	**15 40 36.4 +0.7**
baz=130					
M04C	**Macdoel**	**79.62 323**	P	**P**	**15 40 36.6 +0.7**
M04C			IAmb	IAmb	15 40 37.9
comp=Z,20nm,0.7s					
M04C	**Macdoel**	**79.62 323**	P	**P**	**15 40 37.6 +1.7**
baz=131					
I07A	**Izee**	**79.88 326**	P	**P**	**15 40 37.8 +0.6**
I07A			IAmb	IAmb	15 40 40.6
comp=Z,12nm,0.9s					
JTMT	**Jette**	**79.92 331**	P	**P**	**15 40 38.4 +1.0**
F10A	**Beach Ranch, E**	**80.03 328**	P	**P**	**15 40 39.1 +1.1**
F10A			IAmb	IAmb	15 40 46.1
comp=Z,11nm,0.9s					
TSUM	**Tsumeb**	**80.07 107**	P	**P**	**15 40 37.8 -1.1**
J05D	**Fort Rock, OR**	**80.27 324**	P	**P**	**15 40 41.2 +1.8**
baz=132					
WALA	**Waterton Lakes**	**80.72 332**	P	**P**	**15 40 42.3 +0.6**
I05D	**Terrebonne, OR**	**81.03 325**	P	**P**	**15 40 45.4 +2.2**
baz=132					
I04A	**Tendick Farm,**	**81.25 324**	P	**P**	**15 40 45.4 +1.0**
baz=131					
HAWA	**Hanford**	**81.47 327**	P	**P**	**15 40 46.9 +1.4**
HAWA			IAmb	IAmb	15 40 48.3
comp=Z,18nm,0.8s					
MDT	**Midelt**	**81.61 50**	P	**P**	**15 40 46.8 +0.1**
comp=Z,5.4nm,1.1s,baz=245,slow=5.2,SNR=5.5					
G05D	**Wamic, OR**	**81.62 326**	P	**P**	**15 40 48.5 +2.2**
baz=132					
D08A	**Wollman Farm,**	**81.62 328**	P	**P**	**15 40 47.6 +1.3**
E07A	**Sunnyside**	**81.75 327**	P	**P**	**15 40 47.8 +0.9**
C09A	**Chrisman Ranch**	**81.83 329**	P	**P**	**15 40 48.4 +1.0**
BUCK	**Buck Mountain**	**81.83 324**	P	**P**	**15 40 48.7 +1.2**
F05D	**White Salmon**	**82.12 326**	P	**P**	**15 40 50.8 +1.9**
baz=132					
LTY	**Liberty**	**82.63 327**	P	**P**	**15 40 52.2 +0.5**
LTY			IAmb	IAmb	15 40 53.8
comp=Z,34nm,1.4s					
B08A	**Colville Reser**	**82.72 329**	P	**P**	**15 40 52.4 +0.4**
BOSA	**Boshof**	**83.51 118**	P	**P**	**15 40 56.9 +0.1**
comp=Z,5.8nm,0.8s,baz=247,slow=4.2,SNR=10.0					
BOSA			pP	**pP**	**15 41 24.9 +0.8**
comp=Z,4.8nm,0.9s,baz=246,slow=4.8,SNR=2.8					
BOSA	**Boshof**	**83.51 118**	IAmb	IAmb	15 40 58.2
comp=Z,8.1nm,0.9s					
B06A	**Marblemount**	**83.89 328**	P	**P**	**15 40 58.3 +0.4**
B06A			IAmb	IAmb	15 40 59.3
comp=Z,24nm,0.8s					
B05A	**Bryant**	**84.02 327**	P	**P**	**15 40 58.6 -0.1**
baz=131					
D03D	**Eldon**	**84.05 326**	P	**P**	**15 41 00.5 +1.7**
baz=130					
MAW	**Mawson**	**84.50 163**	P	**P**	**15 41 02.1 +1.3**
comp=Z,12nm,0.5s,baz=220,slow=7.6,SNR=20					
LBTB	**Lobatse**	**85.07 115**	P	**P**	**15 41 04.9 +0.2**
comp=Z,4.6nm,0.7s,baz=230,slow=6.8,SNR=7.4					
LBTB			pP	**pP**	**15 41 32.6 +0.5**
comp=Z,4.7nm,0.7s,baz=224,slow=5.1,SNR=3.3					
LBTB	**Lobatse**	**85.07 115**	IAmb	IAmb	15 41 06.0
comp=Z,6.1nm,0.8s					
LLLB	**Lillooet**	**85.47 329**	P	**P**	**15 41 06.4 +0.5**
LLLB			IAmb	IAmb	15 41 07.5
comp=Z,13nm,0.8s					
ESDC	**Sonseca Array**	**85.69 45**	P	**P**	**15 41 07.5 +0.2**
comp=Z,1.8nm,1.0s,baz=246,slow=6.3,SNR=6.1					
ESDC			pP	**pP**	**15 41 35.1 +0.4**
comp=Z,3.9nm,1.0s,baz=239,slow=5.4,SNR=9.3					
ESDC			sP	**sP**	**15 41 46.6 +0.8**
comp=Z,2.9nm,0.9s,baz=239,slow=6.8,SNR=6.0					
BBB	**Bella Bella**	**89.49 328**	LR	LR	16 23 16.9
comp=Z,110nm,18.1s,baz=226,slow=37					
YKA	**Yellowknife Ar**	**91.03 341**	P	**P**	**15 41 32.5 +0.5**
comp=Z,9.5nm,0.7s,baz=135,slow=4.5,SNR=182					
YKA			pP	**pP**	**15 42 01.4 +2.1**
comp=Z,5.7nm,0.8s,baz=134,slow=4.7,SNR=7.4					
YKA	**Yellowknife Ar**	**91.03 341**	P	**P**	**15 41 32.3 +0.3**
SEY	**Seymchan**	**129.94 337**	PKP	**PKPdf**	**15 47 37.1 +0.3**
comp=Z,3.1nm,0.8s,baz=100,slow=6.1,SNR=9.2					
ASAR	**Alice Springs**	**130.08 208**	PKP	**PKPdf**	**15 47 38.4 -0.1**
comp=Z,3.0nm,0.5s,baz=129,slow=1.8,SNR=7.7					
PETK	**Petropavlovsk-**	**132.43 324**	PKP	**PKiKP**	**15 47 43.2 +0.3**
comp=Z,2.9nm,0.8s,baz=177,slow=2.9,SNR=8.3					
WRA	**Warramunga Arr**	**133.12 211**	PKP	**PKPdf**	**15 47 44.7 +0.5**
comp=Z,3.1nm,0.6s,baz=152,slow=1.8,SNR=8.0					
ZALV	**Zalesovo Beam**	**141.78 25**	PKhKP	PKPpre	15 47 53.6
comp=Z,1.0nm,0.4s,baz=315,slow=4.4,SNR=5.6					
ZALV			PKP	**PKPdf**	**15 47 60.0 +0.9**
comp=Z,4.8nm,0.5s,baz=292,slow=2.5,SNR=18					
ZALV			pPKP	pPKPdf	15 48 27.7 +0.2
comp=Z,5.8nm,0.6s,baz=292,slow=2.4,SNR=5.5					
KSH	**Kashi**	**144.97 51**	PKP	**PKPdf**	**15 48 06.0 +0.7**
KSH			pPKP	pPKPdf	15 48 34.0 0.0
KSH			sPKP		15 48 39.3
JKA	**Kamikawa-asahi**	**145.43 318**	PKPdf	**PKPdf**	**15 48 05.7 -0.1**
ASAJ	**Asahikawa**	**145.43 318**	PKPbc	**PKPab**	**15 48 07.1 +0.8**
comp=Z,22nm,1.0s,baz=96,slow=2.2,SNR=8.9					
ASAJ			pPKPbc	**pPKPdf**	**15 48 35.3 +1.2**
comp=Z,12nm,0.8s,baz=230,slow=4.5,SNR=3.9					
MKAR	**Makanchi Array**	**145.47 36**	PKPbc	**PKPab**	**15 48 07.0 +0.6**
comp=Z,5.3nm,0.4s,baz=311,slow=3.8,SNR=58					
MKAR			pPKPbc	**pPKPdf**	**15 48 35.0 +0.5**
comp=Z,39nm,0.8s,baz=310,slow=2.8,SNR=26					
MKAR	**Makanchi Array**	**145.47 36**	PKPbc	**PKPab**	**15 48 06.4 +0.1**
KLR	**Kul'dur**	**147.67 334**	PKPbc	**PKPbc**	**15 48 12.5 +0.3**
comp=Z,4.4nm,0.7s,baz=44,slow=3.1,SNR=17					
WMQ	**Urumqi**	**150.31 36**	*e*P	**PKPdf**	**15 48 13.8 -0.1**
WMQ			sP	pPKPbc	15 48 48.8 +1.0
WMQ			pmax	pmax	
comp=Z,22nm,0.7s					
WMQ			pmax	pmax	
comp=Z,160nm,4.3s					
USRK	**Ussuriysk Ar.**	**151.37 328**	PKPbc	**PKiKP**	**15 48 22.4 +0.4**
comp=Z,6.8nm,0.8s,baz=48,slow=2.8,SNR=7.2					
LEM	**Lembang**	**151.82 173**	PKPbc	**PKiKP**	**15 48 25.1 +1.0**
comp=Z,35nm,0.7s,baz=104,slow=4.2,SNR=11					
MJAR	**Matsushiro Arr**	**151.98 309**	PKPbc	**PKiKP**	**15 48 23.7 +0.1**
comp=Z,6.3nm,0.8s,baz=50,slow=1.3,SNR=11					
MJAR			pPKPbc	**pPKPbc**	**15 48 51.2 -0.4**
comp=Z,3.0nm,0.7s,baz=119,slow=1.1,SNR=3.0					
MJAR	**Matsushiro Arr**	**151.98 309**		**PKPbc**	**15 48 23.1 -0.2**
MJAR			PKPab	**PKPab**	**15 48 33.4 +0.5**
MAT	**Matsushiro**	**151.98 309**	PKP	**PKPbc**	**15 48 23.4 +0.1**
SONM	**Songino Array**	**153.27 7**	PKP	**PKPdf**	**15 48 19.7 +1.4**
comp=Z,1.7nm,0.7s,baz=308,slow=0.5,SNR=8.6					
SONM			PKPbc	**PKiKP**	**15 48 26.8 +0.7**
comp=Z,1.2nm,0.5s,baz=322,slow=1.4,SNR=7.2					
SONM			pPKPbc	**pPKPbc**	**15 48 54.9 +0.6**
comp=Z,4.0nm,0.8s,baz=321,slow=0.5,SNR=7.6					
KSRS	**Korea Array**	**158.31 321**	PKPab	**PKPab**	**15 49 01.1 +1.4**
comp=Z,4.8nm,0.6s,baz=55,slow=4.5,SNR=18					
GTA	**Gaotai**	**159.53 26**	⇑PKP	**PKPdf**	**15 48 28.3 +1.6**
GTA			pPKP	pPKPdf	15 48 56.5 +1.1
GTA			PKPab	**sPKPdf**	**15 49 08.4 +2.3**
HHC	**Hu-ho-hao-te**	**160.53 359**	*e*P	**PKPdf**	**15 48 26.8 -1.0**
LZH	**Lanzhou**	**163.97 22**	*e*P	**PKPdf**	**15 48 32.8 +1.3**
LZH			pP	pPKPdf	15 48 39.5 -21
LZH			pmax	pmax	
comp=Z,14nm,1.2s					
NJ2	**Nanjing**	**167.28 329**	*e*P	**PKPdf**	**15 48 34.0 0.0**
NJ2			pmax	pmax	
comp=Z,12nm,0.5s					
CMAR	**Chiang Mai Arr**	**168.20 102**	PKP	**PKPdf**	**15 48 35.6 +0.6**
comp=Z,1.6nm,0.9s,baz=273,slow=1.8,SNR=10					
CMAR			pPKP	**pPKPdf**	**15 49 04.8 +1.0**
comp=Z,1.0nm,0.8s,baz=265,slow=2.2,SNR=4.7					
CMAR	**Chiang Mai Arr**	**168.20 102**		**PKPdf**	**15 48 33.7 -1.4**

*BJI **17** 15:30:00.5±0.0,5.°88S×130.°43E,h158km,mb4.9/73, mB5.0/42*

*MOS **17** 15:30:01.8±0.9,5.°43S×130.°11E,h135km,mb5.2/49,Error ellipse: s-maj=8.7km s-min=5.1km az=107.3*

*NEIC **17** 15:30:03.5±1.8,5.°45S±0.°05×130.°16E±0.°07,h132km±4km, mb5.2/133,Error ellipse: s-maj=9.7km s-min=7.6km az=102.0*

*GCMT **17** 15:30:04.5±0.2,5.°51S±0.°01×130.°17E±0.°01,h143km±1km, MW5.2/122,Moment Tensor Solution. s68,c94; s122,c208; Duration: 1⁹0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.22±.01; Mθθ-0.81±.02; Mφφ0.58±.02; Mrθ0.46±.01; Mθφ0.16±.02; Mφr-0.14±.01; Best double couple: M₀0.82600×10¹⁷ NP1:φ⁹228.00000°,δ61.00000°, λ-1.00000°. NP2:φ⁹319.00000°,δ89.00000°, λ-151.00000°. Principal axes: T 0.6380, Plg20.0000°, Azm90.0000°; N 0.3760, Plg61.0000°, Azm321.0000°; P -1.0140, Plg21.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **17** 15:30:04.1±1.0,5.°46S×130.°19E,h141km±8km,mb4.9/27, mb1 4.9/33,mb1mx4.7/45,mbtmp5.3/33,MS3.9/27, Ms1 3.9/27,ms1mx3.6/61 Error ellipse: s-maj=9.1km s-min=7.2km az=79.0*

*DJA **17** 15:30:04.1±0.1,5.°S±1.°×13.°0E±.°,h142km±2km,M5.0/96, mb5.3/96,mB5.5/75,MLv6.0/16,Mw(mB)5.0/75, MwMwp4.9/17,Mwp5.2/17*

ISC 17 15:30:03.8±0.3,5.°50S±0.°03×130.°22E±0.°03,h144km±2km, h146km:pP-P,n619,σ1⁹43/658,mb5.2/157,28C-8D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.02**	**342**	P	**Pn**	**15 30 29.9**	**+1.7**
MSAI	**Masohi**	**2.49**	**329**	P	**Pn**	**15 30 45.4**	**+0.8**
MSAI				S	**Sn**	**15 31 16.1**	**+0.1**
SAUI	**Saumlaki**	**2.69**	**157**	P	**Pn**	**15 30 48.2**	**+1.1**
SAUI				S	**Sn**	**15 31 21.2**	**+0.7**
SAUI	**Saumlaki**	**2.69**	**157**	Pn	**Pn**	**15 30 48.7**	**+1.5**
AAI	**Ambon**	**2.70**	**312**	P	**Pn**	**15 30 48.6**	**+1.4**
AAI				S	**Sn**	**15 31 21.3**	**+0.6**
FAKI	**Fak Fak**	**3.26**	**38**	P	**Pn**	**15 30 53.6**	**-0.8**
FAKI				S	**Sn**	**15 31 30.6**	**-2.9**
FAKI	**Fak Fak**	**3.26**	**38**	Pn	**Pn**	**15 30 53.8**	**-0.6**
FAKI	**Fak Fak**	**3.26**	**38**	P	**Pn**	**15 30 54.1**	**-0.3**
SIJI	**Sorong**	**4.71**	**13**	P	**Pn**	**15 31 12.4**	**-1.0**
832nm,0.3s,baz=198,slow=8.7,SNR=1451							
SIJI				S	**Sn**	**15 32 03.1**	**-4.5**
606nm,0.3s,baz=255,slow=23,SNR=24							
SIJI				LR	LR	15 33 34.6	
comp=Z,1μm,19.1s,baz=156,slow=45							
SWI	**Sorong**	**4.72**	**13**	P	**Pn**	**15 31 12.4**	**-1.1**
SWI				S	**Sn**	**15 32 03.7**	**-4.0**
SANI	**Sanana**	**5.43**	**309**	P	**Pn**	**15 31 22.6**	**-0.4**
2.8nm6μm8μm800nm,0.7s							
SANI				S	**Sn**	**15 32 21.3**	**-3.5**
2.8nm6μm8μm800nm,0.7s							
SANI	**Sanana**	**5.43**	**309**	P	**Pn**	**15 31 23.4**	**+0.4**
LBMI	**Labuha**	**5.54**	**331**	P	**Pn**	**15 31 24.9**	**+0.5**
31nm8μm33μm3μm,1.1s							
LBMI				S	**Sn**	**15 32 23.7**	**-3.5**
31nm8μm33μm3μm,1.1s							
TNTI	**Ternate**	**6.85**	**335**	P	**Pn**	**15 31 42.0**	**+0.1**
7.4nm2μm19μm2μm,0.8s							
TNTI	**Ternate**	**6.85**	**335**	Pn	**Pn**	**15 31 41.9**	**0.0**
TNTI	**Ternate**	**6.85**	**335**	P	**Pn**	**15 31 42.5**	**+0.6**
DRS	**Darwin Rock St**	**6.92**	**174**	P	**Pn**	**15 31 42.5**	**-0.4**
SRPI	**Serui, Papua**	**7.00**	**59**	P	**Pn**	**15 31 43.4**	**-0.6**
24nm3μm13μm678nm,0.5s							
SOEI	**Soe**	**7.26**	**234**	P	**Pn**	**15 31 48.3**	**+0.8**
4.5nm2μm8μm557nm,0.8s							
SOEI	**Soe**	**7.26**	**234**	Pn	**Pn**	**15 31 48.4**	**+0.9**
SOEI	**Soe**	**7.26**	**234**	P	**Pn**	**15 31 49.8**	**+2.3**
BAKI	**Biak**	**7.27**	**54**	P	**Pn**	**15 31 47.5**	**0.0**
MTN	**Manton Dam**	**7.36**	**173**	P	**Pn**	**15 31 47.8**	**-0.9**
baz=7.4,SNR=150							
MTN				S	**Sn**	**15 33 06.8**	**-4.1**
baz=7.4							
MTN	**Manton Dam**	**7.36**	**173**	Pn	**Pn**	**15 31 47.0**	**-1.7**
MTN	**Manton Dam**	**7.36**	**173**	P	**Pn**	**15 31 48.6**	**-0.1**
KDU	**Kakadu**	**7.48**	**163**	P	**Pn**	**15 31 49.0**	**-1.4**
baz=7.5,SNR=1000							
KDU				S	**Sn**	**15 33 07.8**	**-6.2**
baz=7.5							
KDU	**Kakadu**	**7.48**	**163**	P	**Pn**	**15 31 49.5**	**-0.9**
BBSI	**Bau Bau**	**7.61**	**270**	P	**Pn**	**15 31 56.2**	**+4.0**
0.5nm1μm167nm,1.0s							
BATI	**Baumata**	**8.00**	**234**	P	**Pn**	**15 31 58.2**	**+0.8**
76nm,0.3s,baz=120,slow=1.8,SNR=180							
BATI				S	**Sn**	**15 33 23.4**	**-3.2**
11nm,0.3s,baz=8.6,slow=22,SNR=1.5							
BATI	**Baumata**	**8.00**	**234**	P	**Pn**	**15 31 58.0**	**+0.6**
6μm859nm,0.8s							
MMRI	**Maumere**	**8.51**	**248**	P	**Pn**	**15 32 06.5**	**+2.3**
6μm402nm,1.1s							
LUWI	**Luwuk**	**8.65**	**301**	P	**Pn**	**15 32 06.7**	**+0.7**
4μm327nm,1.1s							
LUWI	**Luwuk**	**8.65**	**301**		**Pn**	**15 32 06.9**	**+0.8**
LUWI	**Luwuk**	**8.65**	**301**	P	**Pn**	**15 32 07.2**	**+1.2**
KMSI	**Cibinong**	**8.67**	**314**	P	**Pn**	**15 32 06.0**	**-0.3**
8μm909nm,0.7s							
EDFI	**Ende, Flores**	**9.06**	**249**	P	**Pn**	**15 32 13.4**	**+1.8**
1μm126nm,1.0s							
GTOI	**Gorontalo**	**9.43**	**310**	P	**Pn**	**15 32 19.5**	**+3.1**
852nm72nm,0.7s							
APSI	**Ampana**	**9.69**	**298**	P	**Pn**	**15 32 21.5**	**+1.6**
2μm157nm,1.0s							
BSSI	**Bau Bau, Buton**	**9.70**	**266**	P	**Pn**	**15 32 22.2**	**+2.2**
3μm184nm,0.7s							
BKSI	**Bulukumba**	**10.05**	**271**	P	**Pn**	**15 32 26.6**	**+1.9**
2μm125nm,0.7s							
BNSI	**Bone**	**10.13**	**276**	P	**Pn**	**15 32 28.3**	**+2.5**
3μm200nm,0.9s							
MRSI	**Marisa**	**10.18**	**305**	P	**Pn**	**15 32 27.0**	**+0.6**
2μm280nm,0.8s							
KNRA	**Kununurra**	**10.22**	**188**	P	**Pn**	**15 32 24.4**	**-2.5**
baz=10,SNR=1000							
KNRA	**Kununurra**	**10.22**	**188**	Pn	**Pn**	**15 32 24.8**	**-2.0**
KNRA	**Kununurra**	**10.22**	**188**	P	**Pn**	**15 32 24.9**	**-2.0**
SGSI	**Sangihe**	**10.25**	**333**	P	**Pn**	**15 32 27.6**	**+0.2**
5μm398nm,0.7s							
GENI	**Genyem**	**10.33**	**74**	P	**Pn**	**15 32 27.7**	**-0.8**
2μm6μm456nm,0.6s							
GENI	**Genyem**	**10.33**	**74**	P	**Pn**	**15 32 28.8**	**+0.3**
KAPI	**Kappang**	**10.44**	**272**	P	**Pn**	**15 32 31.2**	**+1.4**
1.0nm,0.3s,baz=118,slow=8.7,SNR=22							
KAPI				LR	LR	15 36 57.1	
comp=Z,332nm,19.1s,baz=99,slow=40							
KAPI	**Kappang**	**10.44**	**272**	Pn	**Pn**	**15 32 29.4**	**-0.4**
KAPI	**Kappang**	**10.44**	**272**	P	**Pn**	**15 32 32.7**	**+2.9**
MMPI	**Merauke**	**10.51**	**107**	P	**Pn**	**15 32 30.0**	**-0.8**
22μm2μm,0.8s							
SPSI	**Sidrap Palu**	**10.53**	**278**	P	**Pn**	**15 32 34.0**	**+3.0**
3μm180nm,1.6s							
BASI	**Baing, Sumba**	**10.64**	**243**	P	**Pn**	**15 32 31.4**	**-1.1**
3μm242nm,1.0s							
TTSI	**Tana Toraja**	**10.65**	**283**	P	**Pn**	**15 32 35.5**	**+2.8**
2μm3μm165nm,1.1s							
JAY	**Jayapura**	**10.87**	**75**	P	**Pn**	**15 32 35.2**	**-0.4**
10nm,0.3s,baz=257,slow=7.4,SNR=36							
JAY				S	**Sn**	**15 34 33.1**	**-2.7**
3.3nm,0.3s,baz=98,slow=21,SNR=2.0							
JAY				LR	LR	15 38 41.2	
comp=Z,485nm,18.0s,baz=254,slow=48							
JAY	**Jayapura**	**10.87**	**75**	P	**Pn**	**15 32 34.6**	**-1.0**
1μm175nm,0.8s							
TOLI2	**Tolitoli**	**11.48**	**305**		**Pn**	**15 32 43.8**	**+0.1**
TOLI2	**Tolitoli**	**11.48**	**305**	P	**Pn**	**15 32 44.8**	**+1.1**
WBSI	**Waikabubak, Su**	**11.49**	**248**	P	**Pn**	**15 32 43.3**	**-0.5**
2μm142nm,0.8s							
MPSI	**Mapaga**	**11.82**	**299**	P	**Pn**	**15 32 50.0**	**+1.9**
1μm868nm54nm,0.9s							
FITZ	**Fitzroy Crossi**	**13.30**	**199**	P	**Pn**	**15 33 03.5**	**-3.7**
17nm,0.3s,baz=31,slow=11,SNR=201							
FITZ				S	Sn	15 35 22.6	-12
11nm,0.3s,baz=111,slow=8.3,SNR=4.4							
FITZ				LR	LR	15 38 48.5	
comp=Z,588nm,18.2s,baz=359,slow=39							
DAV	**Davao City (W)**	**13.31**	**340**	P	**Pn**	**15 33 07.2**	**-0.1**
36nm,0.3s,baz=207,slow=4.5,SNR=2.0							
DAV				S	**S**	**15 35 41.3**	**-6.4**
28nm,0.3s,baz=59,slow=18,SNR=1.4							
KBKI	**Kotabaru**	**14.18**	**278**	P	**P**	**15 33 20.7**	**-0.8**
2μm222nm,1.1s							
WB0	**Warramunga Arr**	**14.76**	**164**	Pn	**Pn**	**15 33 21.4**	**-4.2**
WRAB	**Tennant Creek**	**14.90**	**165**	*ce*P	**Pn**	**15 33 23.6**	**-3.8**
WRAB				pmax	pmax		
comp=Z,272nm,1.0s							
WRAB	**Tennant Creek**	**14.90**	**165**	Pn	**Pn**	**15 33 23.4**	**-4.0**
WRA	**Warramunga Arr**	**14.91**	**165**	P	**Pn**	**15 33 23.6**	**-3.9**
comp=Z,29nm,0.3s,baz=350,slow=12,SNR=348							
WRA				S	Sn	15 36 00.4	-13
comp=Z,13nm,0.3s,baz=0.0,slow=14,SNR=4.2							
WRA				LR	LR	15 39 41.8	
comp=Z,850nm,20.6s,baz=337,slow=39							
WRA	**Warramunga Arr**	**14.91**	**165**	*i* P	**Pn**	**15 33 23.6**	**-3.9**
WRA				pmax	pmax		
comp=Z,175nm,0.6s							
WRA	**Warramunga Arr**	**14.91**	**165**	Pn	**Pn**	**15 33 23.4**	**-4.1**
WB2	**Warramunga Arr**	**14.91**	**165**	Pn	**Pn**	**15 33 23.6**	**-3.9**
WR0	**Warramunga Arr**	**14.98**	**164**	Pn	**Pn**	**15 33 24.1**	**-4.2**
SRBI	**Singaraja**	**15.12**	**259**	P	**P**	**15 33 31.3**	**-0.6**
comp=Z,1μm comp=Z,124nm,0.9s							
COEN	**Coen**	**15.28**	**124**	Pn	**Pn**	**15 33 29.8**	**-2.4**
COEN	**Coen**	**15.28**	**124**	P	**Pn**	**15 33 32.9**	**+0.8**
BBKI	**Banjar Baru**	**15.46**	**277**	P	**P**	**15 33 36.9**	**+1.2**
comp=Z,3μm comp=Z,303nm,1.3s							
MYLDM	**Lahad Datu**	**15.79**	**312**		**P**	**15 33 40.1**	**+0.8**
MYLDM				IAmb	IAmb	15 33 56.6	
comp=Z,150nm,1.0s							
MTKI	**Muara Teweh, K**	**15.95**	**286**	P	**P**	**15 33 41.6**	**+0.5**
comp=Z,30nm,0.9s							
ABJI	**Asem Bagus**	**16.04**	**261**	P	**P**	**15 33 43.3**	**+1.2**
comp=Z,3μm comp=Z,156nm,1.2s							
JAGI	**Jajag, Banyuwa**	**16.22**	**259**	P	**P**	**15 33 45.0**	**+0.9**
comp=Z,1μm comp=Z,95nm,0.9s							
JAGI	**Jajag, Banyuwa**	**16.22**	**259**		**Pn**	**15 33 41.8**	**-1.9**
JAGI	**Jajag, Banyuwa**	**16.22**	**259**	P	**Pn**	**15 33 42.4**	**-1.3**
KMMI	**Kalianget**	**16.23**	**264**	P	**P**	**15 33 46.3**	**+2.1**
comp=Z,4μm comp=Z,248nm,1.3s							
BLJI	**Banyuglugur**	**16.66**	**261**	P	**Pn**	**15 33 50.6**	**+1.5**
comp=Z,3μm comp=Z,139nm,0.8s							
GMJI	**Gumukmas**	**16.88**	**260**	P	**Pn**	**15 33 53.4**	**+1.7**
comp=Z,47nm,0.8s							
SPMM	**Sapulut**	**17.07**	**306**	P	**Pn**	**15 33 55.0**	**+0.9**
PMG	**Port Moresby**	**17.24**	**104**	P	**Pn**	**15 33 57.7**	**+1.7**
comp=Z,14nm,0.3s,baz=296,slow=6.0,SNR=83							
PMG				S	**S**	**15 37 00.9**	**-6.8**
comp=Z,2.5nm,0.3s,baz=170,slow=22,SNR=1.5							
PMG				LR	LR	15 41 28.0	
comp=Z,271nm,20.5s,baz=288,slow=40							
PMG	**Port Moresby**	**17.24**	**104**	*ce*P	**Pn**	**15 33 57.7**	**+1.7**
PMG				pmax	pmax		
comp=Z,870nm,1.3s							
PMG	**Port Moresby**	**17.24**	**104**	P	**P**	**15 33 54.8**	**-0.5**
PMG	**Port Moresby**	**17.24**	**104**	P	**Pn**	**15 33 58.2**	**+2.2**
PMG	**Port Moresby**	**17.24**	**104**	P	**Pn**	**15 33 58.3**	**+2.2**
MANU	**Manus Island**	**17.45**	**79**	P	**P**	**15 33 57.3**	**-0.3**
MANU				IAmb	IAmb	15 34 02.5	
comp=Z,199nm,0.9s							
BWJI	**Bawean**	**17.48**	**268**	P	**Pn**	**15 34 01.1**	**+2.2**
comp=Z,2μm comp=Z,165nm,1.2s							
QIS	**Mount Isa**	**17.53**	**150**	P	**Pn**	**15 33 59.1**	**-0.4**
baz=18,SNR=646							
QIS	**Mount Isa**	**17.53**	**150**	P	**Pn**	**15 34 00.0**	**+0.5**
KKM	**Kota Kinabalu**	**18.08**	**309**		**Pn**	**15 34 05.5**	**-0.7**
KKM	**Kota Kinabalu**	**18.08**	**309**	P	**Pn**	**15 34 05.8**	**-0.4**
AS31	**Alice Springs**	**18.41**	**169**	P	**Pn**	**15 34 09.1**	**-0.9**
ASAR	**Alice Springs**	**18.41**	**169**	P	**Pn**	**15 34 09.3**	**-0.6**
comp=Z,87nm,0.3s,baz=351,slow=10,SNR=2654							
ASAR				S	**S**	**15 37 22.6**	**-8.4**
comp=Z,4.2nm,0.3s,baz=348,slow=23,SNR=2.3							
ASAR				LR	LR	15 41 48.2	
comp=Z,444nm,20.0s,baz=360,slow=38							
ASAR				ScP	**ScP**	**15 41 53.5**	**-1.6**
comp=Z,0.5nm,0.3s,baz=8.9,slow=1.9,SNR=5.7							
MBWA	**Marble Bar**	**18.60**	**212**	P	**P**	**15 34 10.4**	**+0.3**
MTSU	**Mount Surprise**	**18.64**	**134**	P	**Pn**	**15 34 12.6**	**0.0**
baz=19,SNR=111							
MTSU	**Mount Surprise**	**18.64**	**134**	P	**Pn**	**15 34 12.8**	**+0.1**
PBKI	**Pangkalan Bun**	**18.71**	**278**	P	**P**	**15 34 12.2**	**+0.8**
comp=Z,2μm comp=Z,112nm,0.9s							
PSA00	**Pilbara Seismi**	**18.88**	**211**	P	**P**	**15

BBOO	Buckleboo	27.72 169	P	P	15 35 39.1	+0.3
BBOO	Buckleboo	27.72 169	P	P	15 35 39.2	+0.5
BLDU	Ballidu	28.04 205	P	P	15 35 41.4	-0.2
	baz=28,SNR=28					
BLDU	Ballidu	28.04 205	P	P	15 35 41.4	-0.2
EIDS	Eidsvold	28.11 137	P	P	15 35 42.5	+0.2
WHYH	Whyalla	28.24 167	P	P	15 35 44.1	+0.7
RGRI	Rengat	28.30 279	P	P	15 35 56.6	+12
STKA	Stephens Creek	28.32 159	P	P	15 35 45.0	+0.9
	comp=Z,140nm,0.7s,baz=334,slow=9.0,SNR=413					
STKA			LR	LR	15 48 15.7	
	comp=Z,727nm,18.1s,baz=330,slow=38					
STKA	Stephens Creek	28.32 159	P	P	15 35 45.2	+1.0
	baz=28,SNR=302					
STKA	Stephens Creek	28.32 159	P	P	15 35 44.9	+0.7
STKA			IAmb	IAmb	15 35 46.1	
	comp=Z,38nm,0.8s					
STKA	Stephens Creek	28.32 159	P	P	15 35 45.2	+1.0
KLBR	Kellerberrin	28.47 203	P	P	15 35 45.7	+0.3
	baz=29,SNR=23					
KLBR	Kellerberrin	28.47 203	P	P	15 35 45.8	+0.3
PTPS	Port Pirie	28.47 166	P	P	15 35 46.9	+1.5
NAPP	Napperby	28.52 166	P	P	15 35 46.7	+0.9
HTT	Hallett	28.95 165	P	P	15 35 50.6	+0.9
	baz=29,SNR=114					
HTT	Hallett	28.95 165	P	P	15 35 50.8	+1.1
MUN	Mundaring	29.43 205	P	P	15 35 53.9	0.0
	baz=30,SNR=4.9					
CMSA	Cobar Meteorol	29.69 153	P	P	15 35 57.4	+1.1
	baz=30,SNR=196					
CMSA	Cobar Meteorol	29.69 153	P	P	15 35 57.8	+1.6
HNR	Honiara	29.73 99	P	P	15 35 57.3	+0.5
	comp=Z,230nm,0.7s,baz=179,slow=3.8,SNR=21					
HNR			LR	LR	15 50 26.3	
	comp=Z,161nm,18.8s,baz=255,slow=41					
HNR	Honiara	29.73 99	P	P	15 35 57.0	+0.2
HNR	Honiara	29.73 99	P	P	15 35 57.3	+0.5
NWAO	Narrogin (SRO)	29.86 202	P	P	15 35 58.3	+0.6
NWAO			pmax	pmax		
	comp=Z,25nm,0.8s					
NWAO	Narrogin (SRO)	29.86 202	P	P	15 35 58.2	+0.6
NWAO			IAmb	IAmb	15 36 18.1	
	comp=Z,25nm,0.8s					
TPUB	Ta-pu	30.11 342	P	P	15 35 58.8	-1.3
TPUB			IAmb	IAmb	15 36 24.0	
	comp=Z,47nm,1.3s					
GHSS	Government Hou	30.29 166	P	P	15 36 04.1	+2.7
	comp=Z,284nm,0.9s					
TWOA	Tennyson Woods	30.39 166	P	P	15 36 04.0	+1.7
PATS	Pohnpei	30.60 67	P	P	15 36 04.5	+0.1
NACB	Ninganchiao	30.66 344	P	P	15 36 03.8	-1.0
NACB			IAmb	IAmb	15 36 14.8	
	comp=Z,95nm,1.5s					
IPM	Ipoh	30.79 288	P	P	15 36 05.1	-1.1
IPM	Ipoh	30.79 288	P	P	15 36 08.3	+2.1
	comp=Z,13nm,0.9s					
YHNB	Yeheng	31.20 344	P	P	15 36 09.1	-0.5
MNSI	Mandailing Nat	31.23 281	P	P	15 36 11.1	+1.1
	comp=Z,38nm,1.0s					
KULM	Kulim	31.41 289	P	P	15 36 10.4	-1.2
KULM	Kulim	31.41 289	P	P	15 36 11.0	-0.6
QIZ	Qiongzhong	31.57 321	P	P	15 36 13.4	+0.5
QIZ			S	S	15 41 13.0	+1.8
QIZ			LR	LR		
	comp=Z,310nm,10.9s					
QIZ			LR	LR		
	comp=Z,320nm,12.5s					
QIZ			LR	LR		
	comp=Z,250nm,16.5s					
ARMA	Armidale	31.95 143	P	P	15 36 18.4	+2.1
	baz=32,SNR=11					
ARMA	Armidale	31.95 143	P	P	15 36 17.8	+1.5
ARMA	Armidale	31.95 143	P	P	15 36 18.1	+1.8
UBPT	Khong Chiam	32.05 310	P	P	15 36 16.8	-0.3
UBPT			IAmb	IAmb	15 36 18.7	
	comp=Z,54nm,1.2s					
JOW	Kunigami	32.19 357	LR	LR	15 49 12.1	
	comp=Z,200nm,19.0s,baz=274,slow=36					
JOW	Kunigami	32.19 357	P	P	15 36 19.1	+0.9
ARPS	Mount Arapiles	32.90 163	P	P	15 36 26.1	+1.7
	baz=33,SNR=85					
ARPS	Mount Arapiles	32.90 163	P	P	15 36 26.0	+1.7
GSI	Gunungsitoli	33.30 281	P	P	15 36 27.3	-0.8
GSI			IAmb	IAmb	15 36 29.9	
	comp=Z,50nm,1.5s					
MGCD	Mangrove Creek	33.74 147	P	P	15 36 34.1	+2.4
	baz=34,SNR=40					
MGCD	Mangrove Creek	33.74 147	P	P	15 36 34.2	+2.5
SYDH	Sydney Hard Ro	33.97 148	P	P	15 36 36.0	+2.3
RIV	Riverview	34.24 148	P	P	15 36 37.8	+1.8
	baz=34,SNR=4.4					
BRAT	Ballarat	34.27 160	P	P	15 36 38.8	+2.6
CAN	Canberra	34.36 152	P	P	15 36 38.8	+1.7
CAN			pmax	pmax		
	comp=Z,136nm,1.0s					
CAN	Canberra	34.36 152	P	P	15 36 38.8	+1.7
CAN	Canberra	34.36 152	P	P	15 36 39.4	+2.3
JCJ	Chichijima	34.41 19	P	P	15 36 36.3	-1.2
CNB	Canberra Magne	34.53 152	P	P	15 36 40.3	+1.7
	baz=35,SNR=40					
CNB	Canberra Magne	34.53 152	P	P	15 36 40.5	+1.9
TOO	Toolangi	34.84 159	P	P	15 36 43.7	+2.5
	baz=35,SNR=20					
TOO	Toolangi	34.84 159	P	P	15 36 43.2	+2.1
TOO			pmax	pmax		
	comp=Z,136nm,1.1s					
TOO	Toolangi	34.84 159	P	P	15 36 43.2	+2.1
TOO	Toolangi	34.84 159	P	P	15 36 43.6	+2.5
MLBS	Spotswood, Mel	34.85 159	P	P	15 36 44.4	+3.3
	comp=Z,93nm,0.9s					
LHMI	Lhok Sumawe	34.89 287	P	P	15 36 40.8	-1.0
GEXS	Deakin Univers	34.98 160	P	P	15 36 45.7	+3.4
JSU	Suzuyama	36.80 0	P	P	15 36 58.5	+0.7
JSU			IAmb	IAmb	15 36 59.8	
	comp=Z,46nm,1.0s					
SLVN	Son La	37.11 317	P	P	15 37 00.5	-0.2
SANVU	Saraoutou	37.63 108	P	P	15 37 06.3	+1.3
SANVU	Saraoutou	37.63 108	P	P	15 37 06.9	+1.8
JNU	Nakatsue	38.41 1	LR	LR	15 54 21.5	
	comp=Z,203nm,18.4s,baz=172,slow=38					
JNU	Nakatsue	38.41 1	P	P	15 37 11.9	+0.5
JNU			IAmb	IAmb	15 37 12.7	
	comp=Z,55nm,1.0s					
JNU	Nakatsue	38.41 1	P	P	15 37 12.4	+1.0
NOUC	Port Laguerre	38.59 119	P	P	15 37 14.1	+1.1
DZM	Mont Dzumac	38.70 119	*e*P	P	15 37 14.3	+0.2
	comp=Z,66nm,1.3s					
DZM	Mont Dzumac	38.70 119	P	P	15 37 15.0	+0.9
DZM	Mont Dzumac	38.70 119	P	P	15 37 15.3	+1.2
GLAD	Gladstone	38.76 158	P	P	15 37 16.4	+2.2
ONTNC	Ouen Toro	38.79 119	P	P	15 37 15.3	+0.6
ONTNC			IAmb	IAmb	15 37 17.4	
	comp=Z,26nm,0.5s					
CORO	Coronation Par	38.87 160	P	P	15 37 17.5	+2.5
	comp=Z,77nm,1.1s					
NJ2	Nanjing	38.88 345 ⇓	P	P	15 37 16.9	+1.7
NJ2			pmax	pmax		
	comp=Z,24nm,0.7s					
WHN	Wuhan	38.92 338 ⇓	*i*P	P	15 37 17.4	+1.7
WHN			pmax	pmax		
	comp=Z,100nm,1.0s					
CM31	Chiang Mai Arr	38.96 308	P	P	15 37 16.4	+0.2
CM31			IAmb	IAmb	15 37 18.1	
	comp=Z,69nm,1.1s					
CMAR	Chiang Mai Arr	38.96 308	P	P	15 37 16.9	+0.7
	comp=Z,20nm,0.8s,baz=139,slow=7.5,SNR=188					
CMAR			ScP	ScP	15 42 58.7	-0.3
	comp=Z,1.4nm,0.8s,baz=154,slow=2.6,SNR=4.6					
CMAR	Chiang Mai Arr	38.96 308	P	P	15 37 16.7	+0.5
CMAR			ScP	ScP	15 42 58.2	-0.7
LIFNC	LIFOU	38.99 116	P	P	15 37 16.4	0.0
GYA	Guiyang	39.12 325 ⇑	*i*P	P	15 37 18.0	+0.5
GYA			pP	pP	15 37 50.0	+2.0
GYA			pmax	pmax		
	comp=Z,17nm,0.8s					
CHTO	Chiang Mai	39.16 309	P	P	15 37 17.4	-0.5
CHTO			pmax	pmax		
	comp=Z,65nm,1.0s					
CHTO	Chiang Mai	39.16 309	P	P	15 37 17.4	-0.5
CHTO			IAmb	IAmb	15 37 19.6	
	comp=Z,64nm,1.0s					
CHTO	Chiang Mai	39.16 309	P	P	15 37 18.7	+0.9
OUENC	Ouen Island, N	39.16 119	P	P	15 37 19.1	+1.3
JMN	Monobe	39.16 5	P	P	15 37 17.9	+0.2
JMN			IAmb	IAmb	15 37 19.7	
	comp=Z,45nm,0.8s					
PINNC	Pines Island,	39.76 119	P	P	15 37 24.2	+1.5
PINNC			IAmb	IAmb	15 37 25.5	
	comp=Z,89nm,1.5s					
MOO	Moorlands	39.76 160	P	P	15 37 25.3	+2.8
	baz=40,SNR=4.0					
MOO	Moorlands	39.76 160	P	P	15 37 24.5	+2.0
MARNC	Mare, Loyalty	39.90 117	P	P	15 37 24.9	+0.9
MARNC	Mare, Loyalty	39.90 117	P	P	15 37 25.4	+1.4
TAU	Tasmania Unive	40.22 160	P	P	15 37 27.2	+0.9
TAU			pmax	pmax		
	comp=Z,99nm,1.3s					
TAU	Tasmania Unive	40.22 160	P	P	15 37 27.1	+0.9
TAU			IAmb	IAmb	15 37 29.6	
	comp=Z,100nm,1.2s					
TAU	Tasmania Unive	40.22 160	P	P	15 37 28.4	+2.2
JHS	Saijyo	40.37 4	P	P	15 37 28.2	+0.6
JHS			IAmb	IAmb	15 37 30.6	
	comp=Z,56nm,1.1s					
KMI	Kunming	40.50 320 ⇓	P	P	15 37 30.8	+1.7
KMI			pmax	pmax		
	comp=Z,34nm,1.3s					
ENH	Enshi	40.74 332	P	P	15 37 30.8	+0.1
INU	Inuyama	41.13 8	P	P	15 37 34.3	+0.5
INU			IAmb	IAmb	15 37 35.6	
	comp=Z,37nm,1.1s					
INU	Inuyama	41.13 8	P	P	15 37 34.9	+1.1
JGF	Kuroka	41.43 9	P	P	15 37 36.5	+0.2
TJN	Taejon	41.74 357	*ce*P	P	15 37 39.3	+0.6
TJN	Taejon	41.74 357	P	P	15 37 41.4	+2.7
	comp=Z,174nm,1.2s					
PZH	PanZhiHua	42.11 320	P	P	15 37 41.9	-0.2
PZH			pP	pP	15 38 12.1	-0.5
PZH			S	S	15 43 51.4	+0.3
PZH			pmax	pmax		
	comp=Z,20nm,1.0s					
PZH			pmax	pmax		
	comp=Z,250nm,4.2s					
MAJO	Matsushiro	42.48 10	*c i*P	P	15 37 44.4	-0.4
MAJO			pmax	pmax		
	comp=Z,76nm,1.0s					
MAJO	Matsushiro	42.48 10	P	P	15 37 44.3	-0.5
MAJO			IAmb	IAmb	15 37 45.4	
	comp=Z,74nm,1.0s					
MAJO	Matsushiro	42.48 10	P	P	15 37 44.5	-0.4
MAT	Matsushiro	42.48 10	P	P	15 37 44.2	-0.6
MJAR	Matsushiro Arr	42.48 10	P	P	15 37 44.3	-0.5
	comp=Z,35nm,0.8s,baz=192,slow=9.4,SNR=62					
MJAR			LR	LR	15 53 42.3	
	comp=Z,72nm,19.2s,baz=202,slow=33					
MJAR	Matsushiro Arr	42.48 10	P	P	15 37 44.3	-0.5
MJAR			IAmb	IAmb	15 37 45.4	
	comp=Z,44nm,0.9s					
MJB9	Matsu-Tunnel	42.48 10	P	P	15 37 44.3	-0.5
MJB9			IAmb	IAmb	15 37 45.4	
	comp=Z,73nm,1.0s					
JYT	Yasato	42.55 12	P	P	15 37 44.7	-0.5
JYT			IAmb	IAmb	15 37 46.6	
	comp=Z,108nm,1.1s					
KSAR	Wonju Array Be	42.77 357	P	P	15 37 47.6	+0.5
KSAR	Wonju Array Be	42.77 357	P	P	15 37 47.5	+0.5
KSRS	Korea Array	42.78 357	P	P	15 37 48.4	+1.3
	comp=Z,6.5nm,0.6s,baz=174,slow=8.6,SNR=28					
KS19	Wonju Array Si	42.83 357	P	P	15 37 47.3	-0.3
KS19			IAmb	IAmb	15 38 15.1	
	comp=Z,47nm,1.3s					
LYN	LuoYang	43.21 338 ⇑	*i*P	P	15 37 51.3	+0.6
LYN			pmax	pmax		
	comp=Z,20nm,0.8s					
WAKE	Wake Island	43.51 55	P	P	15 37 54.4	+1.1
JSD	Sado	43.95 9	P	P	15 37 57.0	+0.4
CD2	Chengdu	44.17 327	P	P	15 37 58.0	-0.5
CD2			pmax	pmax		
	comp=Z,20nm,1.4s					
XAN	Xi'an	44.18 334	P	P	15 37 58.3	-0.2
XAN			pmax	pmax		
	comp=Z,47nm,0.9s					
JMM	Marumori	44.25 12	P	P	15 37 59.5	+0.6
JMM			IAmb	IAmb	15 38 09.5	
	comp=Z,62nm,0.7s					
HNS	HongShan	45.06 342 ⇑	P	P	15 38 05.8	+0.5
HNS			pmax	pmax		
	comp=Z,51nm,1.1s					
TIY	Taiyuan	46.07 340	P	P	15 38 13.9	+0.5
TIY			pP	sP	15 38 55.1	-6.0
TIY			S	S	15 44 50.3	+2.2
TIY			pmax	pmax		
	comp=Z,32nm,0.5s					
TIY			pmax	pmax		
	comp=Z,120nm,3.7s					
BJT	Baijiatuau	47.10 345	P	P	15 38 21.8	+0.5
BJT			pmax	pmax		
	comp=Z,45nm,0.9s					
BJT	Baijiatuau	47.10 345	P	P	15 38 21.8	+0.5
BJT			IAmb	IAmb	15 38 22.9	
	comp=Z,44nm,0.9s					
JTM	Tenmabayashi	47.12 11	P	P	15 38 22.1	+0.7
JTM			IAmb	IAmb	15 38 23.4	
	comp=Z,60nm,1.1s					
BJI	Beijing	47.12 345	P	P	15 38 22.0	+0.6
BJI			pP	pP	15 38 59.8	+5.9
BJI			sP	sP	15 39 15.8	+5.8
BJI			PcP	PcP	15 39 51.1	+0.2
BJI			pmax	pmax		
	comp=Z,49nm,1.2s					
BJI			pmax	pmax		
	comp=Z,170nm,5.0s					
SNY	Shenyang	47.48 353 ⇑	P	P	15 38 24.8	+0.6
SNY			pP	pP	15 38 59.3	+2.7
SNY			sP	sP	15 39 13.4	+0.8
SNY			S	S	15 45 06.4	-1.5
SNY			pmax	pmax		
	comp=Z,22nm,0.9s					
SNY			pmax	pmax		
	comp=Z,360nm,3.7s					
MSHR	Mys Shultsa	47.85 1	*ce*P	P	15 38 28.3	+1.3
MSHR			pmax	pmax		
	comp=Z,17nm,0.8s					
LZH	Lanzhou	48.20 331 ⇑	P	P	15 38 31.0	+1.0
LZH			pP	pwP	15 39 04.1	-3.3
LZH			pmax	pmax		
	comp=Z,32nm,1.4s					
LZH			pmax	pmax		
	comp=Z,220nm,4.3s					
LZH			LR	LR		
	comp=Z,170nm,15.1s					
LZH			LR	LR		
	comp=Z,210nm,15.4s					
LZH			LR	LR		
	comp=Z,160nm,16.6s					
MSVF	Nonsavu	48.26 109	LR	LR	15 59 53.6	
	comp=Z,92nm,18.9s,baz=183,slow=37					
MSVF	Nonsavu	48.26 109	P	P	15 38 31.5	+0.7
MSVF			pmax	pmax		
	comp=Z,18nm,0.9s					
MSVF	Nonsavu	48.26 109	P	P	15 38 31.5	+0.7
ERM	Erimo	48.73 13	P	P	15 38 34.1	+0.3
ERM			pmax	pmax		
	comp=Z,19nm,0.9s					
ERM	Erimo	48.73 13	P	P	15 38 34.1	+0.3
JEW	Eniwo	49.18 11	P	P	15 38 37.3	+0.1
HHC	Hu-ho-hao-te	49.20 341 ⇑	P	P	15 38 38.5	+1.0
HHC			pP	pP	15 39 09.6	-0.1
HHC			S	S	15 45 31.6	-0.6
HHC			pmax	pmax		
	comp=Z,29nm,1.1s					
HHC			pmax	pmax		
	comp=Z,190nm,5.8s					
CN2	Changchun	49.26 355	*e*P	P	15 38 37.9	+0.1
CN2			*e*pP	pP	15 39 09.3	-1.2
CN2			PcP	PcP	15 39 58.0	-0.5
CN2			*e*S	S	15 45 32.6	-0.2
CN2			pmax	pmax		
	comp=Z,30nm,0.7s					
BTO	Baotou	49.49 340	*e*P	P	15 38 41.0	+1.3
USA0B	Ussuriysk Arra	49.49 2	P	P	15 38 40.1	+0.6
USA0B			pmax	pmax		
	comp=Z,24nm,0.8s					
USA0B	Ussuriysk Arra	49.49 2	P	P	15 38 40.1	+0.6
USA0B			IAmb	IAmb	15 38 41.5	
	comp=Z,24nm,0.8s					
USRK	Ussuriysk Ar.	49.49 2	P	P	15 38 40.5	+0.9
	comp=Z,20nm,0.7s,baz=186,slow=7.2,SNR=33					
USRK	Ussuriysk Ar.	49.49 2	P	P	15 38 40.3	+0.7
MDJ	Mudanjiang	49.89 359	P	P	15 38 43.4	+0.9
MDJ			pP	pP	15 39 16.0	+1.0
MDJ			sP	sP	15 39 31.8	+1.3
MDJ			ScP	ScP	15 43 43.3	+0.2
MDJ			PcS	PcS	15 43 58.3	+0.5
MDJ			S	S	15 45 43.9	+2.4
MDJ			sS	sS	15 46 40.4	+3.3
MDJ			ScS	ScS	15 48 19.4	+0.2
MDJ			pmax	pmax		
	comp=Z,32nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,300nm,3.5s					
MDJ	Mudanjiang	49.89 359	P	P	15 38 42.8	+0.3
MDJ			IAmb	IAmb	15 38 44.5	
	comp=Z,23nm,0.8s					
ASAJ	Asahikawa	50.63 12	P	P	15 38 48.8	+0.7
	comp=Z,17nm,0.5s,baz=226,slow=9.5,SNR=50					
ASAJ			LR	LR	16 00 29.8	
	comp=Z,91nm,19.6s,baz=196,slow=36					
JKA	Kamikawa-asahi	50.63 12	P	P	15 38 48.6	+0.5
JKA			IAmb	IAmb	15 38 50.1	
	comp=Z,29nm,0.7s					
XLT	XiLinHaoTe	50.80 347 ⇑	*i*P	P	15 38 50.3	+0.8
XLT			sP	sP	15 39 39.3	+1.3
XLT			S	S	15 45 53.8	-0.5
XLT			pmax	pmax		
	comp=Z,28nm,1.8s					
XLT			pmax	pmax		
	comp=Z,140nm,5.1s					
PALK	Pallekele	51.01 284	LR	LR	16 01 31.4	
	comp=Z,137nm,19.3s,baz=212,slow=37					
BNX	BinXian	51.07 357 ⇓	P	P	15 38 51.8	+0.4
BNX			pmax	pmax		
	comp=Z,13nm,1.0s					
BNX			pmax	pmax		
	comp=Z,220nm,3.6s					
LSA	Lhasa	51.28 315	P	P	15 38 54.3	+0.5
LSA			pmax	pmax		
	comp=Z,69nm,1.0s					
CHLP	Challavanipeta	51.37 299	*e*P	P	15 38 54.5	+0.4
FOZ	Fox Glacier	51.45 144	P	P	15 38 54.6	+0.3
FOZ			IAmb	IAmb	15 38 56.7	
	comp=Z,55nm,1.3s					
QRZ	Quartz Range	51.64 139	P	P	15 38 57.9	+2.1
QRZ			IAmb	IAmb	15 39 08.7	
	comp=Z,49nm,1.3s					
LBZ	Lake Benmore	52.17 144	P	P	15 39 00.8	+1.1
LBZ			IAmb	IAmb	15 39 29.3	
	comp=Z,73nm,1.5s					
GTA	Gaotai	52.77 331 ⇑	P	P	15 39 05.1	+0.8
GTA			pP	pwP	15 39 43.0	+1.0
GTA			sP	sP	15 39 59.5	+7.8
GTA			pmax	pmax		
	comp=Z,25nm,1.1s					
GTA			pmax	pmax		
	comp=Z,140nm,5.6s					
GTA			LR	LR		
	comp=Z,120nm,17.1s					
GTA			LR	LR		
	comp=Z,130nm,17.4s					
GTA			LR	LR		
	comp=Z,160nm,19.6s					
TUWZ	Tuamarina	52.87 139	P	P	15 39 05.0	+0.2
GOMU	GeErMu	53.10 324	P	P	15 39 07.6	+0.5
GOMU			pmax	pmax		
	comp=Z,4.0nm,1.5s					
GOMU			pmax	pmax		
	comp=Z,50nm,5.2s					
SNZO	South Karori	53.30 139	P	P	15 39 08.2	+0.2
YSS	Yuzh-Sakhalins	53.39 11	*e*P	P	15 39 09.2	+0.7
YSS			pmax	pmax		
	comp=Z,40nm,0.6s					
YSS	Yuzh-Sakhalins	53.39 11	P	P	15 39 08.7	+0.2
YSS			IAmb	IAmb	15 39 10.1	
	comp=Z,35nm,0.6s					
MYLAV	Mylavaram	53.77 295	*e*P	P	15 39 12.0	+0.3
ADKI	Addanki	54.07 294	*e*P	P	15 39 13.7	-0.3
GUN	Gumba	54.14 310	*e*P	P	15 39 14.9	+0.1
	comp=Z,130nm,0.7s					
PKI	Pulchoki	54.33 310	*e*P	P	15 39 15.9	-0.2
	comp=Z,17nm,0.2s					
PKIN	Phulchoki	54.34 310	*e*P	P	15 39 15.8	-0.3
	comp=Z,15nm,0.2s					
KLR	Kul'dur	54.52 1	P	P	15 39 17.6	+0.9
	comp=Z,15nm,0.9s,baz=197,slow=5.0,SNR=38					
KLR			LR	LR	15 59 45.1	
	comp=Z,83nm,20.6s,baz=178,slow=33					
KLR	Kul'dur	54.52 1	*c i*P	P	15 39 17.3	+0.7
KLR			pmax	pmax		
	comp=Z,42nm,1.3s					
KKN	Kakani	54.54 310	*e*P	P	15 39 17.5	0.0
DMN	Daman	54.58 310	*e*P	P	15 39 18.0	+0.1
RCLA	Racherla	54.87 293	*e*P	P	15 39 19.0	-0.8
NJS	Nagarjunasagar	54.90 295	*e*P	P	15 39 19.6	-0.4
SRLM	Srisailam	55.13 294	*e*P	P	15 39 21.1	-0.6
GKN	Gorkha	55.14 310	*e*P	P	15 39 21.8	+0.1
	comp=Z,58nm,0.3s					
UGL	Uglegorsk	55.32 9	*e*P	P	15 39 22.2	-0.2
UGL			pmax	pmax		
	comp=E,70nm,0.7s					
UGL			pmax	pmax		
	comp=N,30nm,0.9s					
UGL			pmax	pmax		
	comp=Z,90nm,0.9s					
CUPL	Choutuppal	55.49 295	*e*P	P	15 39 23.7	-0.5
KOLN	Koldanda	55.82 309	*e*P	P	15 39 27.1	+0.4
HYBB	Hyderabad (bro	55.87 295	*e*P	P	15 39 26.4	-0.5
HYBB			*es*P	sP	15 40 13.0	-1.4
DANN	Dangsing	55.98 310	*e*P	P	15 39 27.9	0.0
GRNR	Gornyy	56.30 5 ⇑	*i*P	P	15 39 30.4	+1.1
GRNR			pmax	pmax		
	comp=N,5.0nm,0.9s					
GRNR			pmax	pmax		
	comp=Z,10.0nm,0.9s					
GRNR			MLR	MLR		
	comp=N,50nm,12.0s					
GRNR			MLR	MLR		
	comp=E,60nm,12.0s					
GRNR			MLR	MLR		
	comp=Z,100nm,14.0s					
PYUN	Piuthan	56.45 309	*e*P	P	15 39 31.5	+0.3
SRSP	Sriramsagar	56.56 297	*e*P	P	15 39 31.2	-0.6
ULN	Ulaanbaatar	56.91 342	*c i*P	P	15 39 35.3	+1.3
ULN			pmax	pmax		
	comp=Z,38nm,0.8s					
ULN	Ulaanbaatar	56.91 342	P	P	15 39 35.0	+1.1
ULN			IAmb	IAmb	15 39 36.5	
	comp=Z,44nm,1.0s					
SONM	Songino Array	57.10 341	P	P	15 39 36.5	+1.3
	comp=Z,7.6nm,0.5s,baz=160,slow=6.2,SNR=63					
SONM	Songino Array	57.10 341	P	P	15 39 36.4	+1.1
SONM			IAmb	IAmb	15 39 37.1	
	comp=Z,15nm,0.8s					
TYV	Tymovskoe	57.15 9	*e*P	P	15 39 36.7	+1.4
TYV			pmax	pmax		
	comp=Z,21nm,0.9s					
TYV			pmax	pmax		
	comp=Z,100nm,3.9s					
ZEA	Zeya	59.07 358	*e*P	P	15 39 49.3	+0.7
ZEA			pmax	pmax		
	comp=N,20nm,0.8s					
ZEA			pmax	pmax		
	comp=Z,40nm,0.9s					
ZAK	Zakamensk	60.33 340	*e*P	P	15 39 57.8	+0.3
ZAK			*e*		15 40 38.7	
ZAK			pmax	pmax		
	comp=Z,22nm,1.1s					
ZAK			pmax	pmax		
	comp=Z,13nm,1.0s					
POO	Poona	60.46 295	*e*P	P	15 39 55.0	-3.9
IRK	Irkutsk	61.62 342	*e*P	P	15 40 04.4	-1.6
IRK			pmax	pmax		
	comp=Z,65nm,2.1s					
MOY	Mondy	62.19 340	*e*P	P	15 40 11.8	+1.8
MOY			pmax	pmax		
	comp=Z,72nm,1.7s					
CASY	Casey	62.21 189	P	P	15 40 09.8	+0.1
WMQ	Urumqi	62.27 326 ⇑	P	P	15 40 11.8	+1.2
WMQ			pmax	pmax		
	comp=Z,61nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,340nm,3.9s					
PEA0B	Petropavlovsk-	62.84 18	*c i*P	P	15 40 15.2	+1.1
PEA0B	Petropavlovsk-	62.84 18	P	P	15 40 14.6	+0.4
PETK	Petropavlovsk-	62.84 18	P	P	15 40 14.6	+0.5

comp=Z,29nm,0.8s,baz=201,slow=7.6,SNR=41
PETK LR LR 16 03 21.5
comp=Z,82nm,21.5s,baz=193,slow=32
PETK Petropavlovsk- 62.84 18 P **P 15 40 14.1 0.0**
PET Petropavlovsk 63.07 19 *eP* **P 15 40 16.6 +1.0**
PET *e**SP **sP 15 41 07.6 +3.6**
PET *e*S **S 15 48 34.0 -0.7**
PET pmax pmax
comp=Z,84nm,1.0s
PET Petropavlovsk 63.07 19 P **P 15 40 16.2 +0.6**
PET IAmb IAmb 15 40 17.8
comp=Z,58nm,1.0s
BOD Bodaibo 64.46 350 *eP* **P 15 40 25.6 +1.0**
BOD pmax pmax
comp=Z,37nm,1.6s
DGZ Jazzator, Alta 66.30 331*c i P* **P 15 40 38.0 +1.1**
DGZ pmax pmax
comp=Z,60nm,1.4s
PAF Port-aux-Franc 66.58 218 P **P 15 40 38.9 +0.4**
PAF pmax pmax
comp=Z,146nm,1.1s
PAF Port-aux-Franc 66.58 218 P **P 15 40 38.9 +0.4**
MA2 Magadan 66.89 11*c i P* **P 15 40 41.5 +1.3**
MA2 pmax pmax
comp=Z,38nm,0.9s
MA2 Magadan 66.89 11 P **P 15 40 40.4 +0.2**
MA2 IAmb IAmb 15 40 42.6
comp=Z,40nm,1.0s
UZB Uzynbulak 66.94 322 *eP* **P 15 40 40.5 -0.6**
UZB Uzynbulak 66.94 322 *eP* **P 15 40 40.5 -0.6**
baz=322
KSH Kashi 67.07 317 P **P 15 40 43.3 +1.4**
KSH pP pwP 15 41 18.8 -2.1
KSH pmax pmax
comp=Z,17nm,0.8s
MK31 Makanchi Array 67.10 326 *i P* **P 15 40 42.2 +0.4**
MK31 pmax pmax
comp=Z,47nm,0.9s
MK31 Makanchi Array 67.10 326 P **P 15 40 42.3 +0.4**
MK31 IAmb IAmb 15 40 44.0
comp=Z,38nm,0.9s
MKAR Makanchi Array 67.10 326 P **P 15 40 42.8 +1.0**
comp=Z,30nm,0.8s,baz=127,slow=7.8,SNR=262
MKAR Makanchi Array 67.10 326 P **P 15 40 42.6 +0.8**
THW Thamme Wali 67.23 309 P **P 15 40 43.1 +0.1**
SATY Saty 67.27 321 *eP* **P 15 40 42.6 -0.5**
SATY pmax pmax
comp=Z,29nm,1.3s
SATY Saty 67.27 321 *eP* **P 15 40 42.7 -0.5**
comp=Z,28nm,1.3s,baz=321
MAKZ Makanchi 67.28 326 P **P 15 40 43.5 +0.5**
MAKZ Makanchi 67.28 326 P **P 15 40 43.4 +0.5**
MAKZ IAmb IAmb 15 40 45.0
comp=Z,45nm,1.0s
ZHN Zhinishke 67.31 321 *eP* **P 15 40 43.5 +0.1**
ZHN Zhinishke 67.31 321 *eP* **P 15 40 43.5 +0.1**
baz=322
YAK Yakutsk 67.33 360 P **P 15 40 43.6 +0.7**
comp=Z,64nm,0.7s,baz=346,slow=0.3,SNR=88
YAK LR LR 16 12 27.0
comp=Z,42nm,18.8s,baz=107,slow=38
YAK Yakutsk 67.33 360*c i P* **P 15 40 43.5 +0.6**
YAK *e* 15 41 15.1
YAK *e**PP **pwP 15 41 20.1 -1.7**
YAK *e*S **S 15 49 26.0 -0.5**
YAK *e* 15 50 23.1
YAK pmax pmax
comp=Z,92nm,0.8s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=Z,95nm,3.3s
YAK pmax pmax
comp=N,43nm,3.0s
YAK pmax pmax
comp=E,52nm,2.9s
YAK smax smax
comp=E,87nm,3.1s
YAK smax smax
comp=N,106nm,4.0s
YAK Yakutsk 67.33 360 P **P 15 40 43.3 +0.4**
CEP Cherat 67.50 310 P **P 15 40 44.9 +0.1**
MDOK Medeo 68.18 321 *eP* **P 15 40 48.1 -0.7**
MDOK Medeo 68.18 321 *eP* **P 15 40 48.1 -0.7**
baz=321
TDK Taldyqorghan 68.31 323 *eP* **P 15 40 49.2 -0.2**
TDK pmax pmax
comp=Z,76nm,1.6s
TDK Taldyqorghan 68.31 323 *eP* **P 15 40 49.3 -0.2**
comp=Z,76nm,1.6s,baz=323
BOOM Boomskoye usch 68.54 320 P **P 15 40 51.5 +0.3**
BOOM pmax pmax
comp=Z,42nm,1.5s
BOOM Boomskoye usch 68.54 320 P **P 15 40 51.5 +0.3**
BOOM IAmb IAmb 15 41 03.6
comp=Z,42nm,1.4s
CHKK Chushkaly 68.57 321 *eP* **P 15 40 50.9 -0.2**
baz=322
KST Kastek 68.80 320 *eP* **P 15 40 52.7 -0.1**
comp=Z,58nm,1.4s,baz=320
KUU Kurty 68.99 321 *eP* **P 15 40 53.2 -0.5**
KUU pmax pmax
comp=Z,42nm,1.0s
KUU Kurty 68.99 321 *eP* **P 15 40 53.2 -0.5**
comp=Z,42nm,1.0s,baz=321
KBK Karagaybulak 69.26 320 P **P 15 40 58.2 +2.6**
SNR=6.3
UCH Uchtor 69.34 319 P **P 15 40 57.1 +0.7**
SNR=12
AAK Ala-Archa 69.55 319 LR LR 16 13 56.3
comp=Z,55nm,21.9s,baz=119,slow=38
AAK Ala-Archa 69.55 319 P **P 15 40 58.6 +1.3**
SNR=7.4
AAK Ala-Archa 69.55 319*c i P* **P 15 40 57.4 +0.1**
AAK pmax pmax
comp=Z,21nm,1.2s
AAK Ala-Archa 69.55 319 P **P 15 40 57.7 +0.3**
AML Almayashu 69.83 319 P **P 15 41 00.9 +1.5**
SNR=11
USP Ospenovka 69.84 320 P **P 15 41 00.5 +1.4**
SNR=12
SGDS Sogindy 69.85 320 *eP* **P 15 40 58.3 -0.8**
comp=Z,9.2nm,1.0s,baz=320
KBL Kabul 69.97 310 P **P 15 40 58.9 -1.3**
KBL pmax pmax
comp=Z,14nm,1.1s
KBL Kabul 69.97 310 P **P 15 41 00.4 +0.3**
SNR=6.2
KBL Kabul 69.97 310 P **P 15 40 58.9 -1.3**
EKS2 Erkin-Say 70.02 319 P **P 15 41 01.6 +1.4**
SNR=5.5
SEY Seymchan 70.30 11 P **P 15 41 02.4 +1.2**
comp=Z,69nm,0.9s,baz=199,slow=4.9,SNR=204
ZAA0 Zalesovo Array 70.34 333 P **P 15 41 01.3 -0.4**
ZAA0 IAmb IAmb 15 41 02.9
comp=Z,74nm,1.3s
ZALV Zalesovo Beam 70.34 333 P **P 15 41 01.7 0.0**
comp=Z,23nm,0.8s,baz=108,slow=4.8,SNR=108
ZALV LR LR 16 13 43.2
comp=Z,45nm,20.1s,baz=106,slow=37
ZALV Zalesovo Beam 70.34 333 P **P 15 41 01.4 -0.3**
BTK Batken 70.86 316 P **P 15 41 04.9 -0.4**
BTK pmax pmax
comp=Z,16nm,1.1s
BTK Batken 70.86 316 P **P 15 41 04.9 -0.4**
BTLS Baital 70.99 321 *eP* **P 15 41 04.9 -0.9**
BTLS pmax pmax
comp=Z,11nm,1.2s
BTLS Baital 70.99 321 *eP* **P 15 41 05.0 -0.9**
comp=Z,11nm,1.2s,baz=322
KURK Kurchatov 71.36 328*c i P* **P 15 41 08.7 +0.8**
KURK pmax pmax
comp=Z,81nm,1.0s
KURK Kurchatov 71.36 328 P **P 15 41 08.3 +0.3**
KURK IAmb IAmb 15 41 09.9
comp=Z,73nm,1.0s
CHGR Chuyangaron 71.46 314 P **P 15 41 08.5 -0.5**
CHGR IAmb IAmb 15 41 10.7
comp=Z,72nm,1.2s
DZA Taraz 71.73 319 *eP* **P 15 41 10.0 -0.4**
DZA Taraz 71.73 319 *eP* **P 15 41 10.1 -0.4**
baz=318
IUG Iuzhnay 72.28 317 *eP* **P 15 41 13.4 -0.4**
IUG Iuzhnay 72.28 317 *eP* **P 15 41 13.4 -0.4**
baz=317
KK31 Karatay Array 72.36 318 P **P 15 41 14.2 0.0**
KKAR Karatay Array 72.36 318 P **P 15 41 14.1 -0.1**
KKAR Karatay Array 72.36 318 P **P 15 41 14.1 -0.1**
KIWB Kanaga Island 72.53 31 P **P 15 41 15.0 +0.1**
XMAS Kiritimati 72.63 86 P **P 15 41 15.5 -0.9**
BRLS Borolday 72.78 318 *eP* **P 15 41 16.1 -0.5**
BRLS Borolday 72.78 318 *eP* **P 15 41 16.2 -0.5**
baz=318
ADK Adak 72.79 31 P **P 15 41 16.8 +0.4**
ADK pmax pmax
comp=Z,124nm,1.4s
ADK Adak 72.79 31 P **P 15 41 16.8 +0.4**
VNDA Vanda 73.91 173 P **P 15 41 23.3 +0.7**
comp=Z,20nm,0.8s,baz=319,slow=7.4,SNR=29
VNDA Vanda 73.91 173 P **P 15 41 23.2 +0.7**
BRZS Berezniki 74.20 326 *eP* **P 15 41 24.3 -0.5**
BRZS pmax pmax
comp=Z,11nm,0.9s
BRZS Berezniki 74.20 326 *eP* **P 15 41 24.4 -0.4**
comp=Z,11nm,0.9s,baz=326
JLN Jalan Bani Buh 74.47 295 P **P 15 41 27.4 +0.5**
SNR=5.8
SBA Scott Base 74.79 172 P **P 15 41 28.5 +0.8**
SBA pmax pmax
comp=Z,160nm,1.5s
SBA Scott Base 74.79 172 P **P 15 41 28.4 +0.8**
WBK Wadi Bani Khal 74.97 295 P **P 15 41 30.8 +1.0**
HRA Herat 75.21 308 P **P 15 41 30.7 -0.5**
WSAR Wadi Sarin 75.41 296 LR LR 16 21 25.8
comp=Z,16nm,18.2s,baz=124,slow=41
JMDO Jabal Madar 75.70 295 P **P 15 41 34.7 +0.7**
SMDO Samad 75.90 295 P **P 15 41 35.9 +0.8**
SNR=9.1
BIDO Bidbid 75.92 296 P **P 15 41 35.9 +0.7**
SNR=8.3
MAW Mawson 76.42 201 P **P 15 41 38.1 +1.1**
comp=Z,46nm,0.8s,baz=77,slow=4.7,SNR=12
MAW LR LR 16 11 35.2
comp=Z,123nm,21.3s,baz=62,slow=33
MAW Mawson 76.42 201 P **P 15 41 38.2 +1.1**
baz=76,SNR=14
MAW Mawson 76.42 201 P **P 15 41 37.8 +0.7**
BSY Bisya 76.60 295 P **P 15 41 39.6 +0.6**
SNR=6.2
HOQ Hoqain 76.67 296 P **P 15 41 40.0 +0.6**
SNR=9.7
BRVK Borovoye 76.99 328*c i P* **P 15 41 41.1 +0.5**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 76.99 328 P **P 15 41 40.1 -0.4**
BRVK IAmb IAmb 15 41 42.2
comp=Z,27nm,0.9s
TIXI Tiksi 77.00 360 P **P 15 41 40.2 0.0**
comp=Z,21nm,0.6s,baz=158,slow=4.7,SNR=38
TIXI LR LR 16 15 44.0
comp=Z,66nm,21.1s,baz=202,slow=36
TIXI Tiksi 77.00 360*i i P* **P 15 41 39.8 -0.4**
TIXI pmax pmax
comp=Z,22nm,0.7s
TIXI Tiksi 77.00 360 P **P 15 41 39.3 -0.9**
TIXI IAmb IAmb 15 41 41.4
comp=Z,23nm,0.7s
SOHO SOHO 77.48 296 P **P 15 41 44.1 +0.2**
BILL Bilibino 77.61 13‖ *eP* **P 15 41 43.7 0.0**
BILL 15 41 52.0
BILL *e**SP **sP 15 42 32.5 -0.7**
BILL 15 44 36.0
BILL S S 15 51 38.0 +15
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL Bilibino 77.61 13 P **P 15 41 43.7 0.0**
SOCY Socotra 77.78 284 P **P 15 41 46.3 +0.5**
SNR=5.3
SOCY Socotra 77.78 284 P **P 15 41 45.6 -0.2**
UOSS Minazif 77.94 297 P **P 15 41 46.5 0.0**
ASHO Ashiyiah 78.02 297 P **P 15 41 47.6 +0.7**
SNR=5.3
BANOM Banah 78.06 298 P **P 15 41 48.3 +1.2**
MASF Masafi 78.07 297 P **P 15 41 48.5 +1.3**
SHME Shamm 78.22 298 P **P 15 41 49.1 +1.1**
FAQ Al Faqa, Dubai 78.44 297 P **P 15 41 50.0 +0.8**
DOK Doka 78.65 290 P **P 15 41 51.0 +0.5**
SNR=6.7
UNV Unalaska Valle 79.13 33 P **P 15 41 53.0 +0.7**
UNV Unalaska Valle 79.13 33 P **P 15 41 53.6 +1.3**
baz=245
GEYT Alibeck 79.42 310 P **P 15 41 54.8 +0.4**
comp=Z,2.8nm,0.5s,baz=73,slow=11,SNR=8.0
GEYT Alibeck 79.42 310 P **P 15 41 54.6 +0.2**
NRIK Noril'sk 80.16 346 P **P 15 41 58.1 +0.6**
comp=Z,26nm,0.9s,baz=133,slow=6.4,SNR=31
NRIK LR LR 16 19 00.8
comp=Z,48nm,21.0s,baz=133,slow=37
NRIK Noril'sk 80.16 346*c i P* **P 15 41 58.5 +0.9**
NRIK pmax pmax
comp=Z,51nm,1.0s
NRIK Noril'sk 80.16 346 P **P 15 41 58.0 +0.4**
NRIK IAmb IAmb 15 42 01.5
comp=Z,42nm,1.0s
AB31 Abkulak array 81.47 321 *i P* **P 15 42 04.4 -0.6**
ABKAR Abkulak array 81.47 321 P **P 15 42 04.7 -0.3**
ABKAR Abkulak array 81.47 321 P **P 15 42 04.7 -0.3**
ABKAR IAmb IAmb 15 42 07.9
comp=Z,15nm,1.1s
VOI Vohitsoka 81.89 249 P **P 15 42 07.5 -0.4**
VOI IAmb IAmb 15 42 09.2
comp=Z,19nm,0.6s
SVE Sverdlovsk 83.60 329 *eP* **P 15 42 16.0 +0.2**
SVE pmax pmax
comp=Z,65nm,1.2s
TNA Tin City 83.75 22 P **P 15 42 16.7 +0.3**
TNA Tin City 83.75 22 P **P 15 42 17.5 +1.1**
baz=242
ANM Nome 84.27 23 P **P 15 42 19.8 +0.7**
ANM pmax pmax
comp=Z,8.0nm,0.8s
ANM Nome 84.27 23 P **P 15 42 19.8 +0.7**
QSPA South Pole Qui 84.47 180 LR LR 16 21 57.4
comp=Z,65nm,18.9s,baz=308,slow=37
QSPA South Pole Qui 84.47 180 P **P 15 42 20.1 -0.2**
QSPA IAmb IAmb 15 42 21.4
comp=Z,38nm,0.8s
ARU Arti 84.55 328*c i P* **P 15 42 20.8 +0.1**
ARU *PP **pwP 15 42 59.3 -1.6**
ARU S **SKSac 15 52 30.6 -0.4**
ARU SS **SS 15 58 13.0 +3.3**
ARU pmax pmax
comp=Z,40nm,1.1s
ARU Arti 84.55 328 P **P 15 42 20.6 -0.1**
ARU IAmb IAmb 15 42 21.8
comp=Z,43nm,1.2s
SYO Syowa Base 85.13 201‖ *eP* **P 15 42 24.2 +0.9**
SYO Syowa Base 85.13 201‖ *e*PcP **PcP 15 42 28.3 +2.0**
SYO Syowa Base 85.13 201‖ *e*pP pP 15 42 59.4 +0.7
OHAK Old Harbor 87.33 32 P **P 15 42 35.3 +1.1**
baz=256
RAYN Ar Rayn 87.34 294 P **P 15 42 34.4 -0.8**
RAYN pmax pmax
comp=Z,23nm,1.0s
RAYN Ar Rayn 87.34 294 P **P 15 42 34.4 -0.8**
RAYN IAmb IAmb 15 42 36.8
comp=Z,22nm,0.9s
TTA Tatalina 87.55 26 P **P 15 42 35.5 +0.1**
TTA pmax pmax
comp=Z,15nm,0.8s
TTA Tatalina 87.55 26 P **P 15 42 35.5 +0.1**
TTA IAmb IAmb 15 42 37.5
comp=Z,15nm,0.8s
TTA Tatalina 87.55 26 P **P 15 42 36.5 +1.2**
baz=253
N19K Bonanza Creek 87.66 28 P **P 15 42 37.5 +1.6**
baz=255
GCSA Galena City Sc 87.73 24 P **P 15 42 36.6 +0.6**
baz=252
KDAK Kodiak Island 87.83 32 P **P 15 42 37.3 +0.7**
comp=Z,37nm,1.1s,baz=267,slow=4.3,SNR=5.5
L19K White Mountain 87.86 27 P **P 15 42 36.8 0.0**
L19K IAmb IAmb 15 42 39.8
comp=Z,40nm,1.3s
L19K White Mountain 87.86 27 P **P 15 42 38.3 +1.5**
baz=254
L20K Farewell, AK 88.37 27 P **P 15 42 40.3 +1.1**
baz=255
K20K Telida 88.52 26 P **P 15 42 41.0 +1.2**
baz=255
J20K Nowinta River 88.70 25 P **P 15 42 41.0 +0.3**
J20K IAmb IAmb 15 42 42.7
comp=Z,33nm,1.4s
J20K Nowinta River 88.70 25 P **P 15 42 41.7 +1.1**
baz=255
CAST Castle Rocks 89.40 26 P **P 15 42 45.0 +1.1**
baz=257
CHUM Lake Minchumin 89.41 26 P **P 15 42 45.0 +1.1**
baz=256
H21K Melozitna Rive 89.63 24 P **P 15 42 45.0 0.0**
H21K Melozitna Rive 89.63 24 P **P 15 42 45.3 +0.3**
baz=256
BELG Belogornoye 89.80 323 *i* P **P 15 42 45.2 -0.8**
BELG pmax pmax
comp=Z,3.0nm,0.9s
KIRV Kirov 89.87 329 *i* P **P 15 42 44.3 -1.9**
RND Reindeer 90.82 26 P **P 15 42 49.6 -1.0**
RND pmax pmax
comp=Z,17nm,0.8s
RND Reindeer 90.82 26 P **P 15 42 49.6 -1.0**
RND IAmb IAmb 15 42 50.8
comp=Z,17nm,0.8s
MCK McKinley 90.84 26 P **P 15 42 50.2 -0.5**
baz=259
WAT1 Susitna Watana 90.85 27 P **P 15 42 50.6 -0.2**
baz=260
I23K Minto, Yukon-K 90.93 25 P **P 15 42 50.9 -0.1**
I23K IAmb IAmb 15 42 52.3
comp=Z,32nm,1.3s
I23K Minto, Yukon-K 90.93 25 P **P 15 42 51.1 +0.1**
baz=259
COLD Coldfoot 91.00 23 P **P 15 42 51.4 +0.1**
COLD Coldfoot 91.00 23 P **P 15 42 51.9 +0.6**
baz=258
WRH Wood River Hil 91.34 25 P **P 15 42 52.0 -0.9**
WRH IAmb IAmb 15 42 53.1
comp=Z,14nm,1.1s
DHY Denali Highway 91.42 27 P **P 15 42 53.5 0.0**
baz=261
CCB Clear Creek Bu 91.49 25 P **P 15 42 52.4 -1.2**
CCB IAmb IAmb 15 42 53.6
comp=Z,19nm,1.1s
SIRT Sirnak 91.55 307 P **P 15 42 54.3 -0.3**
H24K Noodor Dome 91.66 24 P **P 15 42 54.4 0.0**
H24K IAmb IAmb 15 42 55.8
comp=Z,29nm,1.4s
H24K Noodor Dome 91.66 24 P **P 15 42 54.8 +0.3**
baz=260
HDA Harding Lake 91.82 26 P **P 15 42 54.3 -0.9**
baz=261
IL31 91.90 25 P **P 15 42 53.8 -1.6**
ILAR Eielson Array 91.90 25 P **P 15 42 54.1 -1.4**
comp=Z,3.9nm,0.8s,baz=260,slow=4.5,SNR=26
ILAR PP **PP 15 46 38.1 +1.4**
comp=Z,1.9nm,1.0s,baz=255,slow=5.9,SNR=4.3
ILAR LR LR 16 18 14.7
comp=Z,56nm,20.6s,baz=196,slow=32
ILAR Eielson Array 91.90 25 P **P 15 42 53.5 -2.1**
KIV Kislovodsk 92.00 314 *eP* **P 15 42 53.7 -2.9**
KIV pmax pmax
comp=Z,8.0nm,1.0s
PAX Paxson 92.27 27 P **P 15 42 58.0 +0.6**
baz=262
SCRK Sand Creek 93.05 26 P **P 15 43 01.2 +0.2**
baz=264
BMAR Burnt Mountain 93.19 23 P **P 15 43 01.9 +0.4**
L26K Log Cabin Wild 93.23 27 P **P 15 43 02.3 +0.5**
baz=264
J26L Joseph Creek 93.29 26 P **P 15 43 01.9 -0.2**
J26L IAmb IAmb 15 43 02.6
comp=Z,11nm,0.8s
J26L Joseph Creek 93.29 26 P **P 15 43 02.1 0.0**
baz=264
L27K Beaver Creek, 93.93 27 P **P 15 43 05.3 +0.4**
L27K IAmb IAmb 15 43 06.6
comp=Z,16nm,1.2s
L27K Beaver Creek, 93.93 27 P **P 15 43 05.7 +0.7**
baz=266
BCAR Beaver Creek A 93.95 27 P **P 15 43 05.2 +0.2**
EGAK Eagle 94.34 25 P **P 15 43 06.2 -0.5**
EGAK IAmb IAmb 15 43 07.9
comp=Z,16nm,1.1s
EGAK Eagle 94.34 25 P **P 15 43 07.1 +0.3**
baz=266
DAWY Dawson 95.07 26 P **P 15 43 10.2 0.0**
DAWY IAmb IAmb 15 43 11.7
comp=Z,17nm,0.9s
DAWY Dawson 95.07 26 P **P 15 43 10.9 +0.7**
baz=268
KLMR Klimovskoe 95.10 331 *eP* **P 15 43 07.3 -3.0**
KLMR *e**SP **sP 15 44 00.5 +0.1**
KLMR Klimovskoe 95.10 331 *eP* **P 15 43 07.4 -2.9**
KLMR *es*P **sP 15 44 00.6 +0.1**
I29M Ogilvie Camp, 95.57 25 P **P 15 43 12.2 -0.2**
I29M Ogilvie Camp, 95.57 25 P **P 15 43 12.9 +0.5**
baz=269
OBN Obninsk 96.56 325‖ *eP* **P 15 43 15.9 -1.1**
OBN *e* 15 43 48.2
OBN pmax pmax
comp=Z,7.0nm,0.8s
SNAA Sanae 97.17 193 P Pdif 15 43 20.9 +1.2
SNAA Sanae 97.17 193 P Pdif 15 43 20.7 +1.1
comp=Z,9.2nm,0.8s,baz=190,slow=4.9,SNR=12
SNAA LR LR 16 26 45.6
comp=Z,129nm,20.1s,baz=148,slow=35
SNAA Sanae 97.17 193 IAmb IAmb 15 43 21.4
comp=Z,12nm,0.8s
INK Inuvik 97.39 22 P **P 15 43 19.8 -0.8**
comp=Z,8.0nm,1.1s,baz=269,slow=6.3,SNR=9.9
INK Inuvik 97.39 22 P **P 15 43 19.4 -1.1**
INK IAmb IAmb 15 43 21.7
comp=Z,13nm,1.1s
INK Inuvik 97.39 22 P **P 15 43 20.2 -0.3**
baz=274
FARO Faro, Yukon 97.83 28 P Pdif 15 43 23.4 +0.7
baz=273
BRTR Keskin Array B 98.54 309 P **P 15 43 25.4 -1.2**
comp=Z,1.0nm,0.9s,baz=120,slow=4.4,SNR=4.4
BRTR Keskin Array B 98.54 309 *i P* Pdif 15 43 26.6 0.0
BRTR pmax pmax
comp=Z,1.0nm,0.9s
ARCES ARCESS Array B 100.25 340 P **Pdif 15 43 32.9 -0.4**
comp=Z,2.0nm,0.6s,baz=79,slow=6.3,SNR=7.9
BOSA Boshof 100.41 240 P **Pdif 15 43 35.1 0.0**
comp=Z,2.0nm,0.9s,baz=104,slow=5.9,SNR=3.6
C36M Paulatuk 100.64 20 P **Pdif 15 43 34.8 -0.2**
baz=283
AKASG Malin Array Be 101.20 320 P **Pdif 15 43 36.4 -1.5**
comp=Z,0.2nm,0.4s,baz=91,slow=2.8,SNR=4.4
YKA Yellowknife Ar 106.31 26 PKiKP **PKiKP 15 48 10.9 -0.1**
comp=Z,0.4nm,0.6s,baz=285,slow=1.7,SNR=6.5
YKA PKKPbc **PKKPbc 15 59 31.8 -3.0**
comp=Z,0.9nm,0.6s,baz=108,slow=2.9,SNR=16
NVAR Mina Array Bea 110.19 51 PP **PP 15 48 54.9 -0.6**
comp=Z,2.1nm,0.9s,baz=266,slow=8.0,SNR=7.4
CLL Collm 111.09 323 *e*PKiKP **PKiKP 15 48 21.0 +0.7**
CLL Collm 111.09 323 *e*PKiKP **PKiKP 15 48 21.0 +0.7**
GERES GERESS Array B 111.41 321 PKiKP **PKiKP 15 48 20.4 -0.7**
comp=Z,0.8nm,0.7s,baz=100,slow=2.2,SNR=6.4
GERES SKP **SKPdf 15 51 42.0 -1.3**
comp=Z,0.6nm,0.6s,baz=66,slow=2.4,SNR=4.3
WTTA Wattenberg 113.21 319 *i P* **PKiKP 15 48 24.9 +0.2**
comp=Z,5.5nm,0.4s
WATA Walderalm 113.22 319 *i P* **PKiKP 15 48 24.0 -0.6**
comp=Z,1.2nm,0.4s
MOTA Moosalm 113.53 320 *eP* **PKiKP 15 48 24.9 -0.4**
comp=Z,1.2nm,0.4s
FETA Feichten 113.87 319 *eP* **PKiKP 15 48 25.8 -0.2**
comp=Z,3.5nm,1.1s
DAVA Damuels 114.33 320 *eP* **PKiKP 15 48 26.9 +0.1**
comp=Z,3.5nm,0.5s
PDAR Pinedale Array 115.68 45 PKKPbc PKKPbc 15 59 02.2 -1.6
comp=Z,0.6nm,0.6s,baz=113,slow=4.7,SNR=6.8
MNTX Cornudas Mount 121.95 56 P **PKiKP 15 48 43.1 +1.2**
baz=285
TXAR Lajitas Array 123.97 58 PKP **PKiKP 15 48 46.6 +0.5**
comp=Z,0.4nm,0.6s,baz=207,slow=1.6,SNR=6.4
TXAR PKKPbc **PKKPbc 15 58 32.6 0.0**
comp=Z,0.8nm,0.9s,baz=115,slow=7.8,SNR=4.6
ESDC Sonseca Array 126.58 316 PKP **PKiKP 15 48 50.7 -0.3**
comp=Z,1.3nm,1.0s,baz=20,slow=4.1,SNR=5.4
ESDC PP **PP 15 50 49.8 +1.7**
comp=Z,0.6nm,0.8s,baz=63,slow=8.8,SNR=4.0
JCT Junction City 126.88 56 P **PKiKP 15 48 52.4 +0.6**
baz=288
TORD Torodi Ar. Bea 128.72 282 PKP **PKiKP 15 48 55.6 -0.2**

comp=Z,2.5nm,0.8s,baz=75,slow=2.1,SNR=9.8
TORD SKPbc SKiKP 15 52 01.0 -18
comp=Z,8.3nm,0.8s,baz=65,slow=3.4,SNR=18
TORD Torodi Ar. Bea 128.72 282 PKPdf 15 48 54.2 -0.9
PLCA Paso Flores 130.20 159 PKP **PKiKP 15 48 59.0 +0.7**
comp=Z,1.0nm,0.6s,baz=194,slow=1.5,SNR=8.7
PLCA SKPbc **SKPab 15 52 06.2 -0.9**
comp=Z,6.3nm,0.9s,baz=204,slow=7.9,SNR=9.7
PLCA Paso Flores 130.20 159 PKIKP **PKiKP 15 48 59.0 +0.7**
KIC Kosan Boka 135.20 273 *e*PKP1 **SKPbc 15 52 23.0 -2.1**
comp=Z,28nm,1.1s
DBIC Dimbokro 135.32 274 SKPbc **SKPbc 15 52 23.8 -1.7**
comp=Z,18nm,1.0s,baz=84,slow=4.0,SNR=10
DBIC Dimbokro 135.32 274 SKPbc **SKPbc 15 52 24.3 -1.1**
LIC Lamto 135.48 273 *e*PKP1 **SKPbc 15 52 24.0 -2.0**
comp=Z,109nm,1.4s
PLTB Pedras Altas 142.77 175 *e*P **PKPdf 15 49 21.4 +0.5**
PLTB Pedras Altas 142.77 175 PKPpre PKPpre 15 49 17.4
PB14 IPOC Station P 143.95 147 PKPdf PKPbc 15 49 21.9 +0.3
CPSB Cacapava Do Su 144.13 175 *e*P **PKPdf 15 49 23.2 0.0**
ITQB Itaqui 144.42 170 PKPdf PKPbc 15 49 22.9 +0.4
JTS Las Juntas de 144.85 80 PKP **PKPdf 15 49 25.5 +0.6**
comp=Z,27nm,0.7s
TER01 Tubaro-SC 146.16 181 *e*P **PKPbc 15 49 27.8 -0.1**
ITAB Concordia 147.38 176 PKPbc **PKPdf 15 49 29.8 +0.9**
CPUP Villa Florida 147.53 167 PKPbc **PKPbc 15 49 32.2 +0.4**
comp=Z,12nm,0.9s,baz=205,slow=1.8,SNR=9.6
CPUP SKPbc **SKPbc 15 52 56.2 -0.5**
comp=Z,6.0nm,0.8s,baz=242,slow=2.0,SNR=4.3
CPUP Villa Florida 147.53 167 *e*P **PKPdf 15 49 29.2 +0.1**
CPUP Villa Florida 147.53 167 PKPbc **PKPbc 15 49 31.5 -0.3**
PB11 IPOC Station P 148.18 143 PKPbc **PKPbc 15 49 33.1 -0.9**
MNMC Minye Minye 148.70 142 PKPbc 15 49 34.0 -1.4
PB16 IPOC Station P 149.35 141 PKiKP 15 49 39.3 +0.7
TIJ01 Guaruva-PR 149.36 181 *e*P **PKPdf 15 49 31.6 -0.6**
OTAV Otavalo 150.90 99 *e*P **PKPdf 15 49 35.9 +0.4**
CAM01 Campos-RJ 151.70 196 *e*P **PKPdf 15 49 36.2 +0.4**
LPAZ La Paz 151.75 140 PKPbc **PKiKP 15 49 44.5 +0.9**
comp=Z,3.2nm,0.4s,baz=10,slow=2.8,SNR=28
LPAZ La Paz 151.75 140 *e*P **PKPdf 15 49 36.4 -0.4**
RCLB Rio Claro- Sao 152.17 184 *e*P **PKPdf 15 49 37.1 +0.5**
PCMB Pacaembu 153.03 177 *e*P **PKPdf 15 49 37.6 -0.2**
AQDB Aquidauana 153.54 167 *e*P **PKPdf 15 49 38.9 +0.4**
RIB01 Linhares ES 153.67 200 *e*P **PKPdf 15 49 38.8 0.0**
SJMB Sao Joao De Ma 154.50 199 *e*P **PKPdf 15 49 40.0 0.0**
ITRB Iturama 154.95 179 *e*P **PKPdf 15 49 41.1 +0.5**
GUA01 Guaratinga, BA 155.94 204 *e*P **PKPdf 15 49 42.4 +0.5**
IPMB Ipameri, GO 156.62 184 *e*P **PKPdf 15 49 43.0 +0.2**
CMC01 Camacan, BA 156.92 206 *e*P **PKPdf 15 49 44.0 +0.8**
PTLB Pontes e Lacer 157.22 156 *e*P **PKPdf 15 49 44.1 +0.6**
TBTG Tabatinga, AM 157.71 115 *e*P **PKPdf 15 49 44.7 +0.4**
JANB Januaria 158.87 195 *e*P **PKPdf 15 49 45.9 +0.2**
BDFB Brasilia 158.93 185 PKPab **PKPab 15 50 22.9 +0.6**
comp=Z,4.0nm,0.8s,baz=184,slow=2.7,SNR=5.5
NBMO Morrinhos-CE 166.92 228 *e*P **PKPdf 15 49 54.3 +0.8**

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*DDA **17** 15:31:03.5±0.0, 40.11N×25.14E, 7km±3km, ML2.3*
*ISK **17** 15:31:03.6, 40.17N×25.15E, 6km, ML2.6/16*
*THE **17** 15:31:04.3, 40.20N×25.14E, 14km±2km, ML2.0/4, Error ellipse: s-maj=2.9km s-min=1.0km az=146.0*
ISC 17 15:31:03.7±1.2, 40.16N±0.03×25.14E±0.03, 7km±10km, n30, σ0.51/46, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.27**	**173**	P	**Pb**	**15 31 10.8**	**0.0**
SMTH	**Samothraki Isl**	**0.43**	**44**	P	**Pg**	**15 31 12.5**	**+0.5**
SMTH				S	**Sg**	**15 31 17.9**	**+0.2**
125nm,0.1s							
THAS	**Thassos island**	**0.55**	**324**	P	**Pb**	**15 31 14.8**	**-0.8**
GADA	**Gvkgeada**	**0.58**	**87**	P	**Pb**	**15 31 15.8**	**-0.4**
GADA				S	**Sg**	**15 31 23.4**	**+0.9**
142nm,0.3s							
GADA	**Gvkgeada**	**0.58**	**87**	PG	**Pb**	**15 31 15.8**	**-0.4**
GADA				SG	**Sb**	**15 31 23.7**	**-1.0**
GOKA	**anakkale-Gk**	**0.59**	**87**	P	**Pg**	**15 31 14.7**	**-0.4**
GOKA				S	**Sb**	**15 31 24.0**	**-0.9**
GOKA				*i* AML	AML	15 31 27.0	
comp=E,200nm,0.4s							
BOZC	**Bozcaada**	**0.77**	**114**	PG	**Pb**	**15 31 19.3**	**-0.1**
BOZC				SG	**Sb**	**15 31 29.8**	**-0.3**
ECEA	**Canakkale, Ece**	**0.80**	**98**	P	**Pb**	**15 31 19.6**	**-0.3**
ECEA				S	**Sb**	**15 31 30.4**	**-0.6**
ECEA				*i* AML	AML	15 31 48.0	
comp=E,185nm,1.4s							
OUR	**Ouranopolis**	**0.90**	**281**	P	**Pb**	**15 31 21.5**	**-0.2**
OUR				S	**Sg**	**15 31 33.1**	**+0.4**
155nm,0.3s							
OUR	**Ouranopolis**	**0.90**	**281**	PG	**Pb**	**15 31 21.5**	**-0.2**
ENEZ	**Enez**	**0.96**	**53**	PG	**Pb**	**15 31 22.5**	**-0.2**
ENEZ				SG	**Sb**	**15 31 36.1**	**+0.5**
EZN	**Ezine**	**0.97**	**110**	PG	**Pb**	**15 31 22.6**	**-0.2**
EZN				SG	**Sb**	**15 31 35.5**	**-0.4**
ALN	**Alexandroupoli**	**1.01**	**43**	P	**Pg**	**15 31 22.8**	**-0.2**
ALN				S	**Sb**	**15 31 36.5**	**-0.4**
68nm,0.4s							
ALN	**Alexandroupoli**	**1.01**	**43**	PG	**Pg**	**15 31 22.9**	**-0.1**
KOCA	**Canakkale, Ayv**	**1.01**	**130**	P	**Pg**	**15 31 22.4**	**-0.7**
KOCA				S	**Sg**	**15 31 36.4**	**+0.2**
KOCA				*i* AML	AML	15 32 02.0	
comp=N,112nm,2.4s							
RDO	**Rodhopi**	**1.03**	**17**	P	**Pg**	**15 31 22.7**	**-0.7**
RDO	**Rodhopi**	**1.03**	**17**	PG	**Pg**	**15 31 23.4**	**0.0**
GELI	**Tayfur-Gelibol**	**1.05**	**77**	PG	**Pb**	**15 31 24.3**	**+0.1**
GELI				SG	**Sb**	**15 31 38.5**	**+0.4**
SIGR	**SIGRI**	**1.10**	**150**	PN	**Pb**	**15 31 25.2**	**+0.2**
SIGR				SN	**Sn**	**15 31 40.6**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.16**	**111**	P	**Pn**	**15 31 26.6**	**+0.2**
BAYC				S	**Sg**	**15 31 40.6**	**-0.5**
ERIK	**Erikli-Kesan**	**1.17**	**64**	PN	**Pb**	**15 31 26.0**	**-0.1**
LPK	**Lapseki**	**1.26**	**80**	PN	**Pg**	**15 31 27.9**	**+0.1**
LPK				SN	**Sn**	**15 31 45.6**	**+0.7**
BUHA	**Balikesir, Bur**	**1.63**	**113**	P	**Pb**	**15 31 33.8**	**-0.3**
BUHA				S	**Sb**	**15 31 55.3**	**+0.4**
BUHA				*i* AML	AML	15 32 17.0	
comp=N,41nm,3.2s							
KRBG	**Karabiga-Canak**	**1.67**	**81**	PN	**Pb**	**15 31 33.9**	**-0.8**
MAR3	**Marsite Statio**	**1.74**	**70**	PN	**Pn**	**15 31 34.9**	**+0.5**
GZKV	**Gazikoy-Tekird**	**1.77**	**70**	PN	**Pb**	**15 31 35.5**	**-0.9**
KNL	**Balıkesir**	**1.83**	**86**	P	**Pn**	**15 31 35.9**	**+0.3**
MRMT	**Marmara Adasi**	**1.93**	**76**	PN	**Pn**	**15 31 37.4**	**+0.4**
EDC	**Edincik**	**2.09**	**84**	PN	**Pn**	**15 31 39.9**	**+0.7**
BALB	**Balikesir**	**2.17**	**103**	PN	**Pn**	**15 31 40.9**	**+0.6**

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*SOME **17** 15:40:14.9, 40.13N×73.20E, 0km*
NNC 17 15:40:16.4±5.2, 40.13N×73.21E, 0km, mb4.6, mpv3.9, Error ellipse: s-maj=38.8km s-min=23.5km az=157.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**2.61**	**0**	*e*P	Pb	15 41 04.4	+0.2
25nm,0.9s							
MRKS				*e*S	Sg	15 41 39.9	-0.5
10nm,1.5s							
MRKS	**Merke**	**2.61**	**0**	Pg	Pb	15 41 04.1	-0.1
24nm,0.8s							
MRKS				Lg	Lg	15 41 39.9	
10nm,1.5s							
IUG	**luzhnay**	**3.13**	**311**	*e*P	Pb	15 41 14.2	+1.1
246nm,1.1s							
IUG				*e*S	Sg	15 41 57.3	+0.2
12nm,1.0s							
IUG	**luzhnay**	**3.13**	**311**	Pg	Pb	15 41 14.2	+1.1
314nm,0.7s							
IUG				Lg	Lg	15 41 57.3	
12nm,1.0s							
BRLS	**Borolday**	**3.85**	**320**	*e*P	Pb	15 41 24.1	-1.1
4.2nm,0.7s							
BRLS				*e*S	Sb	15 42 13.6	+1.3
6.1nm,0.8s							
BRLS	**Borolday**	**3.85**	**320**	Pg	Pb	15 41 24.1	-1.1
4.2nm,0.7s							
BRLS				Lg	Lg	15 42 13.6	
6.1nm,0.8s							

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*NEIC **17** 15:53:23.7±2.1, 16.91N±0.03×95.84W±0.01, h10km±1km, mb4.0/7, Md4.1/26(MEX), Error ellipse: s-maj=5.8km s-min=3.0km az=7.0*

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*MEX **17** 15:53:27.2±1.3, 16.90N×95.81W, h15km±19km, MD4.1*
ISC 17 15:53:22.6±1.3, 16.92N±0.05×95.88W±0.02, h6km±10km, n30, σ1.06/47, mb3.9/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXLC	**Oaxaca**	**0.80**	**280**	*i* P	**Pg**	**15 53 38.2**	**+0.3**
OXLC				*e*S	**Sn**	**15 53 50.9**	**-2.1**
OXBJ	**Oaxaca**	**0.82**	**280**		**Pb**	**15 53 39.1**	**-0.2**
OXBJ					**Sn**	**15 53 51.5**	**-1.9**
OXBJ	**Oaxaca**	**0.82**	**280**	*i* P	**Pb**	**15 53 39.1**	**-0.2**
OXBJ				*e*S	**Sn**	**15 53 51.5**	**-1.9**
VHO	**Vista Hermosa**	**0.83**	**281**	*i* P	**Pg**	**15 53 38.8**	**+0.3**
VHO				*i* S	**Sg**	**15 53 49.3**	**0.0**
CMIG	**Matias Romero**	**0.97**	**80**		**Pb**	**15 53 41.0**	**-0.8**
CMIG					**Sb**	**15 53 53.2**	**-1.7**
CMIG	**Matias Romero**	**0.97**	**80**	*i* P	**Pb**	**15 53 41.0**	**-0.8**
CMIG				*e*S	**Sb**	**15 53 53.2**	**-1.7**
HUIG	**Huatulco**	**1.17**	**191**		**Pg**	**15 53 45.0**	**0.0**
HUIG					**Sg**	**15 54 00.7**	**+0.6**
HUIG	**Huatulco**	**1.17**	**191**	*i* P	**Pg**	**15 53 45.0**	**0.0**
HUIG				*e*S	**Sg**	**15 54 00.7**	**+0.6**
PEIG	**Puerto Escondi**	**1.52**	**233**	*e*P	**Pg**	**15 53 51.4**	**-0.4**
PEIG				*e*S	**Sg**	**15 54 12.3**	**+0.7**
YOIG	**Yosondua**	**1.59**	**268**	*e*P	**Pg**	**15 53 52.9**	**-0.3**
YOIG				*e*S	**Sg**	**15 54 12.3**	**-1.6**
TOIG	**Toxpalan**	**1.62**	**316**	*e*P	**Pb**	**15 53 53.0**	**0.0**
TOIG				*e*S	**Sb**	**15 54 14.2**	**+0.3**
UXUV	**UXUV**	**1.71**	**76**	*i* P	**Pn**	**15 53 53.7**	**+0.8**
UXUV				*e*S	**Sn**	**15 54 15.6**	**+0.5**
HLIG	**Huajuapan de L**	**2.04**	**297**	*e*P	**Pb**	**15 54 00.3**	**-0.1**
HLIG				*e*S	**Sb**	**15 54 25.8**	**-0.3**
FTIG	**Fresnillo de T**	**2.36**	**295**	*e*P	**Pb**	**15 54 05.0**	**-0.7**
FTIG				*e*S	**Sb**	**15 54 34.6**	**-0.5**
TLIG	**Tlapa**	**2.64**	**284**		**Pn**	**15 54 07.2**	**+1.2**
TGIG		**2.65**	**93**		**Pb**	**15 54 10.4**	**-0.1**
TGIG					**Sb**	**15 54 41.1**	**-2.2**
TGIG		**2.65**	**93**	*e*P	**Pb**	**15 54 10.4**	**-0.1**
TGIG				*e*S	**Sb**	**15 54 41.1**	**-2.2**
PCIG		**2.83**	**115**		**Pn**	**15 54 09.5**	**+1.2**
PCIG					**Sn**	**15 54 43.5**	**+0.7**
PCIG		**2.83**	**115**	*e*P	**Pn**	**15 54 09.5**	**+1.2**
PCIG				*e*S	**Sn**	**15 54 43.5**	**+0.7**
CCIG	**Comitan**	**3.65**	**99**	Pn	**Pn**	**15 54 19.5**	**-0.3**
Z41A	**Richland Creek**	**16.50**	**9**	Pn	**Pn**	**15 57 15.0**	**+0.3**
Z41A				IAmb	IAmb	15 57 29.5	
comp=Z,16nm,0.6s							
MIAR	**Mount Ida**	**17.67**	**6**	P	**P**	**15 57 31.2**	**+0.8**
MIAR				IAmb	IAmb	15 57 56.9	
comp=Z,12nm,1.4s							
ANMO	**Albuquerque**	**20.29**	**334**	P	Pn	15 58 01.5	+0.2
U49A	**Red Boiling Sp**	**21.47**	**23**	P	**P**	**15 58 13.2**	**+1.3**
SLM	**Saint Louis**	**22.19**	**12**	P	**P**	**15 58 19.6**	**-0.1**
ZARC	**Zaragoza, Cauc**	**22.56**	**112**	P	**P**	**15 58 23.9**	**0.0**
ZARC				IAmb	IAmb	15 58 48.3	
comp=Z,2.6nm,1.1s							
P38A	**Dawn**	**22.71**	**5**	P	**P**	**15 58 24.1**	**-1.1**
P38A				IAmb	IAmb	15 58 39.6	
comp=Z,4.3nm,1.1s							
LBNH	**Lisbon**	**33.91**	**32**	P	**P**	**16 00 08.0**	**+1.6**
PB08	**IPOC Station P**	**45.23**	**143**	P	**P**	**16 01 40.0**	**-1.3**
PB08				IAmb	IAmb	16 01 56.3	
comp=Z,5.8nm,1.4s							
SUMG	**Summit**	**64.46**	**16**	P	**P**	**16 04 01.1**	**+1.0**

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*IDC **17** 15:57:06.5±0.8, 0.08N×17.82W, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/43, mbtmp4.1/10, ML5.5/1, MS3.8/41, Ms1 3.8/41, ms1mx3.7/79, Error ellipse: s-maj=26.5km s-min=17.7km az=149.0*
*NEIC **17** 15:57:09.1±1.6, 0.11N±0.07×17.73W±0.08, h10km±1km, mb4.8/21, Error ellipse: s-maj=16.4km s-min=8.5km az=311.0*
*GCMT **17** 15:57:12.1±0.3, 0.25N±0.02×17.73W±0.02, h12km±2km, MW4.8/89, Moment Tensor Solution. s17,c18; s89,c106; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.19±.08; Mθθ=0.86±.08; Mφφ=-0.67±.07; Mrθ=0.43±.24; Mφφ=-1.54±.08; Mφr=0.89±.28; Best double couple: M0=1.97300×10^16 NP1:φs=260.00000°, δ=69.00000°, λ=-163.00000°. NP2: φs=164.00000°, δ=74.00000°, λ=-22.00000°. Principal axes: T 1.8200, Plg3.0000°, Azm213.0000°; N 0.3050, Plg63.0000°, Azm309.0000°; P -2.1250, Plg27.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 15:57:08.1±0.5, 0.03N±0.09×17.76W±0.07, h10km, n80, σ1.24/38, mb4.5/16, MS3.8/40, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.46**	**157**	T	T	16 08 16.4	
baz=338,slow=74,SNR=1673							
H10N3	**ASCENSION HYDR**	**8.47**	**157**	T	T	16 08 20.0	
baz=338,slow=74,SNR=2970							
H10N1	**ASCENSION HYDR**	**8.48**	**157**	T	T	16 08 10.2	
baz=338,slow=74,SNR=3860							
ASCN	**Ascension**	**8.61**	**157**	Pn	**Pn**	**15 59 12.9**	**0.0**
LIC	**Lamto**	**14.12**	**64**	*e*P	**Pn**	**16 00 28.8**	**+0.4**
55nm,0.4s							
TIC	**Toumodi**	**14.31**	**62**	*e*P	**Pn**	**16 00 30.2**	**-0.9**
KIC	**Kosan Boka**	**14.44**	**64**	*e*P	**Pn**	**16 00 31.4**	**-1.4**
77nm,0.4s							
DBIC	**Dimbokro**	**14.47**	**63**	Pn	**Pn**	**16 00 31.4**	**-1.8**
19nm,0.3s,baz=256,slow=12,SNR=156							
DBIC				Sn	Sn	16 03 02.1	-12
2.1nm,0.3s,baz=186,slow=16,SNR=2.8							
DBIC				LR	LR	16 04 57.4	
comp=Z,386nm,20.2s,baz=246,slow=32							
DBIC	**Dimbokro**	**14.47**	**63**		**Pn**	**16 00 31.0**	**-2.1**
SACV	**Santiago Islan**	**15.93**	**339**	P	**Pn**	**16 00 54.6**	**+2.0**
RCBR	**Riachuelo**	**19.02**	**252**	P	**P**	**16 01 30.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**23.28**	**55**	P	**P**	**16 02 14.6**	**-1.6**
27nm,1.2s,baz=241,slow=11,SNR=33							
TORD				S	**S**	**16 06 33.0**	**+4.2**
3.4nm,0.7s,baz=234,slow=23,SNR=3.9							
TORD	**Torodi Ar. Bea**	**23.28**	**55**	IAmb	IAmb	16 02 20.9	
comp=Z,35nm,0.9s							
BDFB	**Brasilia**	**33.69**	**241**	P	**P**	**16 03 49.4**	**-0.4**
comp=Z,3.0nm,0.8s,baz=90,slow=11,SNR=3.4							
BDFB	**Brasilia**	**33.69**	**241**	IAmb	IAmb	16 04 13.3	
comp=Z,15nm,1.4s							
MDT	**Midelt**	**34.89**	**20**	LR	LR	16 17 50.4	
comp=Z,284nm,20.5s,baz=192,slow=36							
MDP	**Montagnes des**	**35.19**	**279**	LR	LR	16 15 46.7	
comp=Z,90nm,18.5s,baz=103,slow=32							
TSUM	**Tsumeb**	**39.59**	**121**	LR	LR	16 17 35.2	
comp=Z,164nm,21.7s,baz=327,slow=31							
ESDC	**Sonseca Array**	**41.42**	**16**	LR	LR	16 22 26.1	
comp=Z,120nm,19.1s,baz=217,slow=37							
BOAV	**Boa Vista**	**42.81**	**273**	P	**P**	**16 05 06.6**	**0.0**
SVN	**Savane Anatole**	**45.35**	**291**	P	**P**	**16 05 26.4**	**-0.7**
SIV	**San Ignacio**	**45.60**	**247**	LR	LR	16 23 09.5	
comp=Z,146nm,20.1s,baz=162,slow=34							
CPUP	**Villa Florida**	**46.24**	**232**	LR	LR	16 23 58.7	
comp=Z,123nm,18.1s,baz=66,slow=35							
LSZ	**Lusaka**	**47.87**	**111**	P	**P**	**16 05 49.1**	**+2.2**
comp=Z,1.9nm,0.5s,baz=272,slow=7.8,SNR=4.8							
LSZ				LR	LR	16 22 29.4	
comp=Z,119nm,21.5s,baz=312,slow=32							
LSZ	**Lusaka**	**47.87**	**111**	P	**P**	**16 05 47.5**	**+0.5**
LSZ				IAmb	IAmb	16 05 52.4	
comp=Z,6.5nm,1.1s							
SUR	**Sutherland**	**48.61**	**135**	LR	LR	16 22 24.8	
comp=Z,111nm,21.2s,baz=306,slow=31							
LBTB	**Lobatse**	**48.75**	**124**	LR	LR	16 23 41.4	
comp=Z,110nm,21.0s,baz=259,slow=33							
LBTB	**Lobatse**	**48.75**	**124**	P	**P**	**16 05 54.6**	**+1.0**
LBTB				IAmb	IAmb	16 06 19.7	
comp=Z,21nm,1.4s							
ETMB	**Extrema**	**49.19**	**257**	P	**P**	**16 05 57.6**	**+0.6**
BIRV	**Birongo**	**49.33**	**284**	P	**P**	**16 05 58.1**	**+0.1**
BIRV				IAmb	IAmb	16 06 02.3	
comp=Z,15nm,0.9s							
MATP	**Matopo**	**49.59**	**117**	LR	LR	16 23 40.7	
comp=Z,106nm,21.4s,baz=241,slow=32							
BOSA	**Boshof**	**50.02**	**128**	P	**P**	**16 06 02.7**	**-0.6**
comp=Z,1.3nm,0.6s,baz=304,slow=7.3,SNR=4.7							
BOSA				LR	LR	16 23 01.2	
comp=Z,89nm,20.9s,baz=358,slow=31							
BOSA	**Boshof**	**50.02**	**128**	IAmb	IAmb	16 06 20.2	
comp=Z,13nm,1.3s							
BAUV	**El Baul**	**50.84**	**281**	P	**P**	**16 06 10.4**	**+0.9**
BAUV				IAmb	IAmb	16 06 23.4	
comp=Z,19nm,1.0s							
MLPR	**Magueyes Islan**	**51.60**	**293**	P	**P**	**16 06 15.9**	**+0.7**
LPAZ	**La Paz**	**52.23**	**249**	LR	LR	16 29 19.3	
comp=Z,61nm,18.2s,baz=72,slow=37							
DAVOX	**Davos/Dischmat**	**52.47**	**24**	LR	LR	16 27 57.1	
comp=Z,94nm,21.3s,baz=144,slow=35							
IDI	**Anoyia**	**52.99**	**44**	LR	LR	16 30 12.4	
comp=Z,67nm,19.2s,baz=249,slow=38							
KMBO	**Kilima Mbogo**	**55.02**	**91**	P	**P**	**16 06 40.1**	**-0.7**
KMBO				IAmb	IAmb	16 06 48.1	
comp=Z,7.1nm,1.4s							
GERES	**GERESS Array B**	**55.68**	**25**	P	**P**	**16 06 45.0**	**+0.3**
comp=Z,0.6nm,0.7s,baz=190,slow=5.0,SNR=3.7							
SDDR	**Presa de Saban**	**55.76**	**293**	P	**P**	**16 06 44.4**	**-1.3**
SDDR				IAmb	IAmb	16 06 51.0	
comp=Z,12nm,0.9s							
ROSC	**El Rosal**	**56.69**	**276**	LR	LR	16 28 46.5	
comp=Z,104nm,19.0s,baz=87,slow=34							
VRAC	**Vranov**	**57.27**	**26**	LR	LR	16 33 36.7	
comp=Z,83nm,18.5s,baz=161,slow=38							
NNA	**Nana**	**59.82**	**256**	LR	LR	16 31 19.8	
comp=Z,71nm,21.6s,baz=70,slow=34							
BURAR	**Bucovina Array**	**60.30**	**32**	P	**P**	**16 07 17.1**	**-0.1**
ATAH	**Atahualpa**	**60.88**	**262**	LR	LR	16 31 30.3	
comp=Z,84nm,19.2s,baz=88,slow=34							
BRTR	**Keskin Array B**	**61.22**	**43**	P	**P**	**16 07 23.6**	**0.0**
comp=Z,2.1nm,0.9s,baz=233,slow=5.1,SNR=7.8							
PLCA	**Paso Flores**	**62.66**	**223**	LR	LR	16 31 00.6	
comp=Z,78nm,21.6s,baz=115,slow=32							
BATG	**Bathurst New B**	**63.04**	**325**	P	**P**	**16 07 33.8**	**-1.7**
AKASG	**Malin Array Be**	**64.27**	**31**	P	**P**	**16 07 41.9**	**-1.6**
comp=Z,0.6nm,0.5s,baz=235,slow=6.9,SNR=6.6							
AKASG				LR	LR	16 37 21.7	
comp=Z,73nm,20.1s,baz=248,slow=38							
AKASG	**Malin Array Be**	**64.27**	**31**	P	**P**	**16 07 43.4**	**-0.1**
AKASG				IAmb	IAmb	16 07 47.9	
comp=Z,5.3nm,1.3s							
HFS	**Hagfors**	**64.70**	**17**	LR	LR	16 38 08.6	
comp=Z,67nm,19.3s,baz=202,slow=38							
NOA	**NORSAR Array B**	**64.77**	**15**	LR	LR	16 36 29.5	
comp=Z,57nm,21.5s,baz=200,slow=36							
USHA	**Ushuaia**	**68.52**	**209**	LR	LR	16 32 59.8	
comp=Z,82nm,21.4s,baz=72,slow=31							
KBZ	**Khabaz**	**69.17**	**43**	LR	LR	16 39 58.1	
comp=Z,56nm,21.8s,baz=342,slow=37							
GNI	**Garni**	**69.25**	**47**	LR	LR	16 43 08.8	
comp=Z,28nm,18.1s,baz=261,slow=40							
FINES	**FINESS Array B**	**69.69**	**21**	P	**P**	**16 08 18.1**	**+0.2**
comp=Z,1.7nm,0.7s,baz=224,slow=5.8,SNR=7.6							
FINES				LR	LR	16 38 55.3	
comp=Z,75nm,20.6s,baz=234,slow=36							
OBN	**Obninsk**	**70.40**	**30**	LR	LR	16 41 54.8	
comp=Z,22nm,18.0s,baz=254,slow=38							
TKL	**Tuckaleechee C**	**70.64**	**308**	LR	LR	16 37 53.7	
comp=Z,43nm,19.1s,baz=29,slow=35							
KIRV	**Kirov**	**78.25**	**30**	LR	LR	16 46 30.5	
comp=Z,37nm,18.3s,baz=246,slow=38							
AKTO	**Aktyubinsk**	**80.94**	**39**	LR	LR	16 48 25.5	
comp=Z,30nm,21.2s,baz=280,slow=38							
ARU	**Arti**	**82.43**	**33**	LR	LR	16 48 47.8	
comp=Z,62nm,18.2s,baz=167,slow=38							
MSTX	**Muleshoe**	**85.83**	**304**	P	**P**	**16 09 48.5**	**-0.1**
TX31	**Lajitas Ar. Si**	**86.41**	**299**	P	**P**	**16 09 51.8**	**+0.3**
TX32	**Lajitas Array**	**86.41**	**299**	P	**P**	**16 09 51.7**	**+0.2**
TX32				IAmb	IAmb	16 10 05.3	
comp=Z,10nm,1.3s							
TXAR	**Lajitas Array**	**86.41**	**299**	P	**P**	**16 09 51.8**	**+0.3**
comp=Z,1.3nm,0.8s,baz=115,slow=4.5,SNR=8.5							
TXAR	**Lajitas Array**	**86.41**	**299**	P	**P**	**16 09 51.9**	**+0.4**
ANMO	**Albuquerque**	**88.91**	**305**	LR	LR	16 45 10.9	
comp=Z,95nm,21.5s,baz=204,slow=32							
PDAR	**Pinedale Array**	**91.30**	**313**	LR	LR	16 48 35.1	
comp=Z,48nm,20.6s,baz=88,slow=34							
AAK	**Ala-Archa**	**91.64**	**48**	LR	LR	16 56 23.8	
comp=Z,50nm,19.5s,baz=121,slow=39							
YKA	**Yellowknife Ar**	**93.14**	**333**	P	**P**	**16 10 22.6**	**+0.4**
comp=Z,0.5nm,0.7s,baz=86,slow=5.0,SNR=8.7							
KURBB	**Kurchatov Arra**	**93.98**	**39**	LR	LR	16 57 32.2	
comp=Z,36nm,19.9s,baz=339,slow=39							
ELK	**Elko**	**95.65**	**311**	LR	LR	16 44 38.0	
comp=Z,57nm,21.3s,baz=187,slow=30							
NEW	**Newport**	**96.21**	**18**	LR	LR	16 51 30.8	
comp=Z,52nm,19.2s,baz=182,slow=34							
ZALV	**Zalesovo Beam**	**97.37**	**36**	LR	LR	16 58 44.9	
comp=Z,49nm,18.3s,baz=289,slow=38							
NVAR	**Mina Array Bea**	**98.24**	**309**	LR	LR	16 47 53.4	
comp=Z,98nm,21.9s,baz=172,slow=31							
INK	**Inuvik**	**99.27**	**340**	LR	LR	16 50 03.3	
comp=Z,84nm,18.2s,baz=

JYN				S	Sn	16 18 06.9	-0.1
JIZS	**Izushimoda**	**1.36**	**232**	P	Pn	16 17 50.2	-0.2
JIZS				*e*S	Sn	16 18 07.5	-0.1
JKT	**Katashina**	**1.41**	**328**	P	Pn	16 17 51.2	0.0
MJAR	**Matsushiro Arr**	**1.86**	**302**	P	Pn	16 17 56.9	-0.3
2.0nm,0.3s,baz=136,slow=14,SNR=68							
MJAR				S	Sn	16 18 20.4	+0.6
1.5nm,0.3s,baz=167,slow=34,SNR=4.1							
MJAR				LR	LR	16 18 53.1	
comp=Z,58nm,18.4s,baz=15,slow=48							
MAT	**Matsushiro**	**1.86**	**302**	P	Pn	16 17 57.7	+0.5
MAT				*e*S	Sn	16 18 20.3	+0.5
JHJ	**Hachijo jima 2**	**2.46**	**188**	P	Pn	16 18 06.0	+0.6
16nm,0.3s,baz=267,slow=23,SNR=5.7							
JHJ				S	Sn	16 18 34.7	+0.4
42nm,0.3s,baz=245,slow=23,SNR=6.9							
H11N2	**WAKE ISLAND Hy**	**28.32**	**117**	T	T	16 52 47.5	
baz=310							
H11N1	**WAKE ISLAND Hy**	**28.33**	**117**	T	T	16 52 52.6	
baz=310							
H11N3	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	16 52 50.7	
baz=310							
H11S1	**WAKE ISLAND Hy**	**28.97**	**119**	T	T	16 53 23.1	
baz=309							
H11S3	**WAKE ISLAND Hy**	**28.97**	**119**	T	T	16 53 24.4	
baz=309							
H11S2	**WAKE ISLAND Hy**	**28.98**	**119**	T	T	16 53 26.7	
baz=309							
MKAR	**Makanchi Array**	**44.06**	**303**	P	**P**	**16 25 29.0**	**+0.1**
0.1nm,0.4s,baz=94,slow=8.4,SNR=4.2							
KURBB	**Kurchatov Arra**	**46.13**	**309**	P	**P**	**16 25 45.2**	**+0.1**
0.3nm,0.2s,baz=83,slow=7.2,SNR=1.8							
WRA	**Warramunga Arr**	**55.48**	**187**	P	**P**	**16 26 54.7**	**-1.0**
0.2nm,0.4s,baz=0.6,slow=7.4,SNR=9.0							
ASAR	**Alice Springs**	**59.21**	**187**	P	**P**	**16 27 22.5**	**+0.6**
0.2nm,0.9s,baz=20,slow=11,SNR=5.2							

*TUL **17** 16:20:31.3±0.9, 36°.48N±0°.02×98°.75W±0°.02, h8km±6km, ML2.7, mb_Lg2.5/12(NEIC), Error ellipse: s-maj=3.0km s-min=2.6km az=191.0*

NEIC 17 16:20:31.6±0.8, 36°.51N±0°.02×98°.72W±0°.02, h11km±5km, Error ellipse: s-maj=3.0km s-min=2.7km az=198.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.20**	**3**	Pg	Pg	16 20 36.4	+0.4
OK035				Sg	Sg	16 20 39.5	+0.5
U32A	**Winter Ranch,**	**0.26**	**240**	Pg	Pg	16 20 36.0	-1.0
U32A					Sg	16 20 39.3	-1.3
OK032	**Salt Plains WL**	**0.51**	**54**		Pg	16 20 41.5	0.0
OK032				Sg	Sg	16 20 47.6	-0.7
CROK	**Carrier**	**0.59**	**90**	Pg	Pg	16 20 43.1	-0.1
CROK				Sg	Sg	16 20 50.6	-0.5
KAN14	**Manchester OK**	**0.76**	**53**	Pg	Pg	16 20 46.0	-0.2
KAN14				Sg	Sg	16 20 55.1	-1.0
GC02	**Grant County #**	**0.77**	**63**	Pg	Pg	16 20 46.5	-0.1
KAN10	**Anthony SW Sta**	**0.79**	**39**	Pg	Pg	16 20 47.0	+0.1
KAN16	**Harper SW Stat**	**0.89**	**36**	Pg	Pg	16 20 48.8	0.0
KAN16				Sg	Sg	16 20 59.9	-0.5
KAN08	**Anthony NE Sta**	**0.94**	**40**	Pg	Pg	16 20 49.4	-0.3
KAN17	**Caldwell West**	**0.94**	**55**	Pg	Pg	16 20 49.5	-0.2
KAN12	**Harper NE Stat**	**0.98**	**36**	Pg	Pb	16 20 50.7	+0.1
KAN01	**Argonia South**	**1.00**	**50**	Pg	Pg	16 20 50.6	-0.4
KAN06	**Argonia West S**	**1.01**	**43**	Pg	Pb	16 20 51.2	+0.1
KAN13	**South Haven SW**	**1.12**	**63**	Pg	Pb	16 20 52.4	-0.5
BLOK	**Blackwell**	**1.24**	**78**		Pn	16 20 54.2	-0.6
OK025	**Westminster Rd**	**1.45**	**129**		Pn	16 20 57.5	-0.3
OKCFA	**Oklahoma City**	**1.50**	**136**	Pn	Pn	16 20 58.4	-0.1
OKCSW	**OKLAHOMA CITY**	**1.52**	**136**	Pn	Pn	16 20 58.6	0.0
OK031	**S. Brethren Rd**	**1.62**	**109**	Pn	Pn	16 21 00.1	0.0
FNO	**Franklin**	**1.65**	**139**		Pn	16 21 00.7	+0.2
QUOK	**Quay**	**1.66**	**101**	Pn	Pn	16 21 01.0	+0.4
OK030	**Cody Creek RV**	**1.67**	**110**	Pn	Pn	16 21 01.3	+0.5
OK034	**N. Norfolk Rd.**	**1.70**	**106**	Pn	Pn	16 21 01.3	+0.2
WMOK	**Wichita Mounta**	**1.77**	**182**		Pn	16 21 01.9	-0.2
T35A	**Sooner Cattle**	**1.82**	**76**	IAmb_Lg		16 21 30.0	
comp=Z,22nm,0.9s							
R32A	**Long Quarter,**	**1.91**	**0**		Pn	16 21 05.0	+0.9
CBKS	**Cedar Bluff**	**2.44**	**341**	Pn	Pn	16 21 11.6	+0.2
TUL1	**Leonard**	**2.44**	**103**	Pn	Pn	16 21 12.1	+0.7
LOOK	**Love County**	**2.81**	**153**	Pn	Pn	16 21 16.8	+0.4
KSU1	**Kansas State U**	**3.08**	**32**	IAmb_Lg		16 22 13.7	
comp=Z,21nm,1.1s							
U38A	**Gravette**	**3.50**	**90**	IAmb_Lg		16 22 29.9	
comp=Z,17nm,0.8s							
ABTX	**Abilene, Hawle**	**3.95**	**191**	IAmb_Lg		16 22 37.8	
comp=Z,8.2nm,0.8s							
JCT	**Junction City**	**6.08**	**189**	IAmb_Lg		16 23 50.1	
comp=Z,9.6nm,0.9s							

*IDC **17** 16:29:15.6±0.7, 34°.21N×104°.85E, h0km, mb3.8/16, mb1 4.0/19, mb1mx3.8/62, mbtmp3.9/19, ML3.7/3, MS3.2/7, Ms1 3.2/7, ms1mx2.8/93, Error ellipse: s-maj=19.9km s-min=14.4km az=56.0*

*BJI **17** 16:29:17.1±0.0, 34°.26N×104°.86E, h10km, mb4.2/20, mB4.7/12, ML4.0/23, Ms4.0/25, Ms7 3.7/13*

*NEIC **17** 16:29:18.4±1.4, 34°.25N±0°.09×104°.8E±0°.1, h15km±4km, mb4.2/23, Error ellipse: s-maj=15.7km s-min=11.9km az=69.0*

ISC 17 16:29:18.1±0.4, 34°23N±0°.03×104°.74E±0°.03, h10km, n77, σ2°47/91, mb4.0/26, MS3.2/4, 1C-2D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**1.99**	**339**	Pg	**Pn**	**16 29 53.0**	**+1.0**
LZH				Sg	**Sb**	**16 30 19.9**	**+0.4**
LZH				smax	smax		
comp=N,770nm,1.4s							
LZH				smax	smax		
comp=E,1μm,1.4s							
CD2	**Chengdu**	**3.41**	**194**	Pg	**Pg**	**16 30 22.9**	**-0.6**
CD2				Sg	**Sg**	**16 31 10.1**	**+2.4**
CD2				smax	smax		
comp=N,90nm,0.9s							
CD2				smax	smax		
comp=E,730nm,0.7s							
XAN	**Xi'an**	**3.48**	**92**	Pn	**Pn**	**16 30 10.1**	**-2.2**
XAN				Pg	**Pb**	**16 30 21.8**	**+2.0**
XAN				Sg	**Sg**	**16 31 10.5**	**+0.8**
XAN				smax	smax		
comp=N,2μm,1.0s							
XAN				smax	smax		
comp=E,2μm,0.8s							
ENH	**Enshi**	**5.63**	**133**	Pn	**Pn**	**16 30 41.2**	**-0.8**
LYN	**LuoYang**	**6.40**	**85**	Pg	**Pb**	**16 31 13.3**	**+3.8**
LYN				Sg	**Sg**	**16 32 37.3**	**-6.2**
LYN				smax	smax		
comp=N,200nm,0.7s							
LYN				smax	smax		
comp=E,170nm,1.0s							
GTA	**Gaotai**	**6.50**	**324**	Pn	**Pn**	**16 30 53.6**	**-0.4**
GTA				Pg	**Pb**	**16 31 15.8**	**+4.4**
GTA				Sn	**Sn**	**16 32 09.8**	**+1.5**
GTA				Sg	**Sg**	**16 32 42.5**	**-4.4**
GTA				smax	smax		
comp=E,67nm,1.2s							
GTA				smax	smax		
comp=E,83nm,1.5s							
GTA				LR	LR		
comp=E,810nm,12.7s							
GTA				LR	LR		
comp=E,850nm,12.7s							
TIY	**Taiyuan**	**7.14**	**59**	*e*Pg	**Pb**	**16 31 26.3**	**+4.1**
TIY				Sg	**Sb**	**16 32 51.3**	**+3.8**
TIY				smax	smax		
comp=E,270nm,0.8s							
TIY				smax	smax		
comp=E,280nm,0.8s							
BTO	**Baotou**	**7.62**	**32**	*e*Pn	**Pn**	**16 31 07.5**	**-1.8**
BTO				LR	LR		
comp=E,2μm,9.4s							
BTO				LR	LR		
comp=E,3μm,8.9s							
GYA	**Guiyang**	**7.92**	**167**	⇓Pg	**Pg**	**16 31 46.9**	**-2.9**
GYA				Sn	**Sn**	**16 32 41.8**	**-1.5**
GYA				Sg	**Sg**	**16 33 30.9**	**-1.5**
GYA				smax	smax		
comp=N,80nm,1.4s							
GYA				smax	smax		
comp=E,100nm,1.3s							
GYA				LR	LR		
comp=N,270nm,4.5s							
GYA				LR	LR		
comp=E,690nm,4.9s							
GYA				LR	LR		
comp=Z,400nm,13.8s							
PZH	**PanZhiHua**	**8.12**	**199**	P	**Pn**	**16 31 17.6**	**+1.3**
PZH				S	**Sn**	**16 32 54.5**	**+6.3**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,120nm,4.9s							
PZH				LR	LR		
comp=Z,330nm,11.1s							
PZH				LR	LR		
comp=Z,720nm,12.8s							
PZH				LR	LR		
comp=Z,390nm,12.1s							
GOMU	**GeErMu**	**8.36**	**286**	P	**Pn**	**16 31 22.6**	**+3.0**
GOMU				smax	smax		
comp=Z,32nm,1.0s							
GOMU				smax	smax		
comp=Z,19nm,0.9s							
GOMU				LR	LR		
comp=Z,300nm,5.1s							
GOMU				LR	LR		
comp=Z,230nm,4.6s							
HHC	**Hu-ho-hao-te**	**8.54**	**37**	*e*P	**Pn**	**16 31 22.0**	**+0.1**
HHC				S	**Sn**	**16 33 00.8**	**+2.4**
HHC				pmax	pmax		
comp=Z,14nm,0.9s							
HHC				pmax	pmax		
comp=Z,76nm,4.5s							
HHC				LR	LR		
comp=Z,580nm,10.1s							
HHC				LR	LR		
comp=Z,380nm,8.7s							
HNS	**HongShan**	**8.69**	**66**	⇑Pn	**Pn**	**16 31 19.4**	**-4.5**
HNS				Pg	Pg	16 31 50.8	-14
HNS				Sn	**Sn**	**16 32 56.3**	**-5.6**
HNS				Sg	Sg	16 33 38.3	-19
HNS				smax	smax		
comp=N,210nm,0.9s							
HNS				smax	smax		
comp=E,130nm,1.2s							
WHN	**Wuhan**	**8.92**	**112**	*e*P	**Pn**	**16 31 31.4**	**+4.4**
WHN				*e*S	**Sn**	**16 33 14.8**	**+7.3**
GULI	**GuiLin**	**10.16**	**150**	P	**Pn**	**16 31 44.4**	**+0.4**
XLT	**XiLinHaoTe**	**13.06**	**39**	*e*P	**Pn**	**16 32 21.3**	**-2.4**
XLT				sP	P	16 32 29.3	-4.9
XLT				S	**Sn**	**16 34 49.3**	**+0.2**
XLT				pmax	pmax		
comp=E,6.0nm,2.3s							
XLT				pmax	pmax		
comp=E,270nm,4.6s							
XLT				LR	LR		
comp=E,580nm,8.0s							
XLT				LR	LR		
comp=E,290nm,7.5s							
SONM	**Songino Array**	**13.65**	**5**	Pn	**Pn**	**16 32 28.8**	**-3.0**
comp=E,0.6nm,0.3s,baz=189,slow=14,SNR=13							
SONM				Lg	Lg	16 36 28.2	
comp=E,0.1nm,0.3s,baz=190,slow=27,SNR=4.1							
SONM				LR	LR	16 38 10.2	
comp=E,148nm,18.6s,baz=150,slow=39							
SONM	**Songino Array**	**13.65**	**5**	Pn	**Pn**	**16 32 29.7**	**-2.1**
ULN	**Ulaanbaatar**	**13.73**	**7**		**Pn**	**16 32 29.9**	**-3.1**
SHL	**Shillong**	**14.09**	**236**	Pn	**Pn**	**16 32 37.5**	**-0.5**
QIZ	**Qiongzhong**	**15.81**	**162**	P	**Pn**	**16 32 59.3**	**-1.5**
QIZ				S	**Sn**	**16 35 56.3**	**+0.1**
QIZ				LR	LR		
comp=E,190nm,6.2s							
QIZ				LR	LR		
comp=E,540nm,13.0s							
CHTO	**Chiang Mai**	**16.20**	**200**	Pn	**Pn**	**16 33 05.2**	**-0.7**
CHTO				IAmb	IAmb	16 33 13.9	
comp=Z,14nm,1.2s							
WMQ	**Urumqi**	**16.32**	**311**	*e*P	**Pn**	**16 33 06.4**	**-0.9**
WMQ				pP	P	16 33 09.5	-0.8
WMQ				sP	sP	16 33 15.8	+0.3
WMQ				pmax	pmax		
comp=Z,14nm,0.9s							
WMQ				pmax	pmax		
comp=Z,100nm,4.9s							
WMQ				LR	LR		
comp=Z,400nm,10.7s							
CM31	**Chiang Mai Arr**	**16.54**	**200**	Pn	**Pn**	**16 33 09.4**	**-0.8**
CM31				IAmb	IAmb	16 33 17.7	
comp=Z,9.3nm,1.1s							
CMAR	**Chiang Mai Arr**	**16.54**	**200**	Pn	**Pn**	**16 33 10.2**	**0.0**
comp=Z,0.1nm,0.3s,baz=11,slow=12,SNR=16							
CMAR				LR	LR	16 39 29.0	
comp=Z,39nm,19.1s,baz=25,slow=37							
CMAR	**Chiang Mai Arr**	**16.54**	**200**	Pn	**Pn**	**16 33 09.1**	**-1.1**
SNY	**Shenyang**	**16.65**	**57**	⇓P	**P**	**16 33 17.1**	**+3.2**
SNY				S	**S**	**16 36 36.6**	**+8.8**
SNY				pmax	pmax		
comp=Z,11nm,0.9s							
SNY				pmax	pmax		
comp=Z,110nm,5.0s							
SNY				LR	LR		
comp=N,320nm,4.2s							
SNY				LR	LR		
comp=E,410nm,4.0s							
SNY				LR	LR		
comp=Z,300nm,4.5s							
UBPT	**Khong Chiam**	**18.88**	**178**	P	**Pn**	**16 33 39.5**	**+0.2**
KSRS	**Korea Array**	**19.06**	**74**	P	**P**	**16 33 39.0**	**-1.5**
comp=Z,0.3nm,0.3s,baz=268,slow=11,SNR=12							
KSRS				LR	LR	16 41 22.9	
comp=Z,44nm,20.2s,baz=255,slow=38							
MK31	**Makanchi Array**	**21.10**	**313**	P	**P**	**16 34 02.6**	**-0.1**
MKAR	**Makanchi Array**	**21.10**	**313**	P	**P**	**16 34 02.8**	**+0.1**
comp=Z,1.5nm,0.4s,baz=109,slow=12,SNR=19							
MAKZ	**Makanchi**	**21.29**	**313**	P	**P**	**16 34 04.9**	**+0.1**
MAKZ				IAmb	IAmb	16 34 05.7	
comp=Z,3.0nm,0.7s							
DLV	**T Lat**	**22.45**	**170**	P	**P**	**16 34 14.6**	**-2.9**
DLV				IAmb	IAmb	16 34 18.1	
comp=Z,9.0nm,1.1s							
USRK	**Ussuriysk Ar.**	**23.25**	**57**	P	**P**	**16 34 24.4**	**-1.2**
comp=Z,1.8nm,0.7s,baz=275,slow=8.1,SNR=5.2							
USRK	**Ussuriysk Ar.**	**23.25**	**57**	P	**P**	**16 34 24.0**	**-1.5**
KSH	**Kashi**	**23.55**	**291**	P	**P**	**16 34 27.1**	**-1.7**
BOOM	**Boomskoye usch**	**23.95**	**299**	P	**P**	**16 34 33.3**	**+0.6**
ZAA0	**Zalesovo Array**	**24.20**	**331**	P	**P**	**16 34 33.9**	**-0.8**
ZAA0				IAmb	IAmb	16 34 35.8	
comp=Z,5.7nm,1.2s							
ZALV	**Zalesovo Beam**	**24.20**	**331**	P	**P**	**16 34 33.7**	**-1.0**
comp=Z,0.9nm,0.4s,baz=120,slow=8.8,SNR=9.0							
ZALV	**Zalesovo Beam**	**24.20**	**331**	P	**P**	**16 34 33.8**	**-0.8**
KLR	**Kul'dur**	**24.94**	**45**	P	**P**	**16 34 41.0**	**-0.4**
comp=Z,1.5nm,0.8s,baz=269,slow=10,SNR=6.0							
KURK	**Kurchatov**	**25.16**	**319**	P	**P**	**16 34 42.8**	**-0.5**
KURK				IAmb	IAmb	16 34 45.7	
comp=Z,8.2nm,0.9s							
KURBB	**Kurchatov Arra**	**25.16**	**319**	P	**P**	**16 34 43.8**	**+0.4**
comp=Z,2.7nm,0.3s,baz=125,slow=9.9,SNR=25							
MJAR	**Matsushiro Arr**	**27.31**	**75**	LR	LR	16 46 37.8	
comp=Z,40nm,21.8s,baz=38,slow=38							
ASAJ	**Asahikawa**	**30.73**	**60**	LR	LR	16 46 56.3	
comp=Z,58nm,19.7s,baz=171,slow=35							
PALK	**Pallekele**	**34.80**	**225**	LR	LR	16 53 00.3	
comp=Z,49nm,19.6s,baz=49,slow=41							
ABKAR	**Akbulak array**	**36.08**	**308**	P	**P**	**16 36 20.0**	**+0.2**
ABKAR	**Akbulak array**	**36.08**	**308**	P	**P**	**16 36 19.8**	**0.0**
ABKAR				IAmb	IAmb	16 36 34.2	
comp=Z,1.7nm,1.0s							
NRIK	**Noril'sk**	**36.45**	**350**	P	**P**	**16 36 22.4**	**-0.2**
comp=Z,2.0nm,0.5s,baz=156,slow=12,SNR=5.7							
TIXI	**Tiksi**	**39.59**	**12**	P	**P**	**16 36 47.3**	**-1.8**
comp=Z,1.1nm,0.6s,baz=172,slow=5.6,SNR=4.5							
TIXI	**Tiksi**	**39.59**	**12**	P	**P**	**16 36 47.5**	**-1.6**
TIXI				IAmb	IAmb	16 36 53.6	
comp=Z,1.8nm,0.5s							
ARCES	**ARCESS Array B**	**54.65**	**335**	P	**P**	**16 38 46.1**	**-0.5**
comp=Z,2.9nm,0.7s,baz=78,slow=9.4,SNR=2.0							
FIA1	**FINESS Array S**	**55.30**	**325**	P	**P**	**16 38 51.1**	**-0.3**
FINES	**FINESS Array B**	**55.30**	**325**	P	**P**	**16 38 51.0**	**-0.4**
comp=Z,1.7nm,0.8s,baz=73,slow=6.4,SNR=6.1							
AKASG	**Malin Array Be**	**55.67**	**312**	P	**P**	**16 38 54.0**	**-0.3**
comp=Z,0.9nm,0.5s,baz=65,slow=7.3,SNR=4.7							
BRTR	**Keskin Array B**	**55.71**	**298**	P	**P**	**16 38 55.1**	**+0.2**
comp=Z,0.7nm,0.7s,baz=92,slow=5.4,SNR=3.6							
BRTR	**Keskin Array B**	**55.71**	**298**	P	**P**	**16 38 54.5**	**-0.4**
MMAI	**Mount Meron Ar**	**56.68**	**290**	LR	LR	17 08 57.6	
comp=Z,48nm,18.1s,baz=48,slow=42							
WB0	**Warramunga Arr**	**60.67**	**148**	P	**P**	**16 39 27.8**	**-1.8**
WB0				IAmb	IAmb	16 39 40.1	
comp=Z,2.3nm,1.0s							
WRAB	**Tennant Creek**	**60.80**	**148**	P	**P**	**16 39 28.8**	**-1.6**
WRAB				IAmb	IAmb	16 39 31.6	
comp=Z,6.4nm,1.3s							
WRA	**Warramunga Arr**	**60.80**	**148**	P	**P**	**16 39 28.6**	**-1.9**
comp=Z,0.5nm,0.6s,baz=343,slow=7.2,SNR=13							
WRA	**Warramunga Arr**	**60.80**	**148**	P	**P**	**16 39 27.7**	**-2.8**
WB2	**Warramunga Arr**	**60.80**	**148**	P	**P**	**16 39 28.5**	**-2.0**
WB2				IAmb	IAmb	16 39 31.6	
comp=Z,5.7nm,1.4s							
WR0	**Warramunga Arr**	**60.90**	**148**	P	**P**	**16 39 28.2**	**-2.9**
WR0				IAmb	IAmb	16 39 30.2	
comp=Z,7.8nm,1.5s							
NC405	**NORSAR Array S**	**62.08**	**327**	P	**P**	**16 39 36.8**	**-1.9**
NOA	**NORSAR Array B**	**62.33**	**327**	P	**P**	**16 39 38.7**	**-1.7**
comp=Z,0.4nm,0.6s,baz=70,slow=6.6,SNR=1.7							
NC204	**NORSAR Array S**	**62.45**	**327**	P	**P**	**16 39 40.0**	**-1.2**
AS31	**Alice Springs**	**63.91**	**150**	P	**P**	**16 39 50.3**	**-1.0**
ASAR	**Alice Springs**	**63.91**	**150**	P	**P**	**16 39 49.7**	**-1.5**
comp=Z,0.3nm,0.4s,baz=331,slow=6.5,SNR=13							
ASAR	**Alice Springs**	**63.91**	**150**	P	**P**	**16 39 50.3**	**-1.0**
PPLA	**Purkeypile**	**65.67**	**29**	P	**P**	**16 40 01.4**	**-1.1**
BMAR	**Burnt Mountain**	**66.20**	**23**	P	**P**	**16 40 05.6**	**-0.1**
MDM	**Murphy Dome**	**66.21**	**26**	P	**P**	**16 40 05.7**	**0.0**
MDM				IAmb	IAmb	16 40 25.8	
comp=Z,5.9nm,1.3s							
ILAR	**Eielson Array**	**66.80**	**26**	P	**P**	**16 40 07.7**	**-1.8**
comp=Z,0.4nm,0.5s,baz=292,slow=4.5,SNR=6.0							
ILAR	**Eielson Array**	**66.80**	**26**	P	**P**	**16 40 08.4**	**-1.1**
INK	**Inuvik**	**69.04**	**20**	P	**P**	**16 40 22.6**	**-0.9**
YKA	**Yellowknife Ar**	**78.56**	**17**	P	**P**	**16 41 18.5**	**-0.9**
comp=Z,0.4nm,0.5s,baz=328,slow=5.3,SNR=9.0							

*IDC **17** 16:36:04.5±1.0, 36°.50N×12°.80E, h0km, mb3.7/12, mb1 3.7/21, mb1mx3.7/48, mbtmp3.7/21, ML3.3/9, MS2.9/4, Ms1 2.9/4, ms1mx2.5/97, Error ellipse: s-maj=20.4km s-min=17.3km az=146.0*

*ROM **17** 16:36:05.2±0.3, 36°.48N±0°.02×12°.71E±0°.02, h19km±1km, ML3.9/10, Error ellipse: s-maj=1.7km s-min=1.6km az=15.0*

*NEIC **17** 16:36:07.0±2.7, 36°.58N±0°.05×12°.84E±0°.07, h10km±1km, mb4.2/2, ML3.9(ROM), Error ellipse: s-maj=11.3km s-min=6.5km az=124.0*

*LDG **17** 16:36:07.0±0.4, 36°.68N×12°.59E, h10km, Ml3.4/15, Error ellipse: s-maj=9.2km s-min=3.8km az=14.0*

ISC 17 16:36:05.1±1.6, 36°.51N±0°.05×12°.82E±0°.04, h3km±10km, n129, σ1°21/140, mb4.0/15, 6C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAVR	**Favara**	**1.02**	**42**	⇑P	**Pn**	**16 36 26.5**	**+0.3**
FAVR				S	**Sn**	**16 36 41.1**	**+0.1**
FAVR				AML	AML		
comp=E,7915μm,0.8s							
FAVR				AML	AML		
comp=E,7910μm,0.8s							
FAVR				AML	AML		
comp=N,8300μm,0.6s							
CLTB	**Caltabellotta**	**1.11**	**17**	⇑P	**Pg**	**16 36 25.6**	**-0.8**
CLTB				S	**Sg**	**16 36 40.7**	**-0.1**
CLTB				AML	AML		
comp=E,15900μm,0.4s							
CLTB				AML	AML		
comp=N,35650μm,0.6s							
CLTB	**Caltabellotta**	**1.11**	**17**	Pg	**Pg**	**16 36 25.4**	**-1.1**
CLTB				Sg	**Sg**	**16 36 40.2**	**-0.7**
CLTA	**Licata**	**1.12**	**55**	⇑P	**Pb**	**16 36 27.4**	**+0.2**
CLTA				S	**Sn**	**16 36 44.6**	**+1.1**
CLTA				AML	AML		
comp=E,5445μm,0.7s							
CLTA				AML	AML		
comp=N,6745μm,1.4s							
MMGO	**Monte Magaggia**	**1.16**	**6**	P	**Pg**	**16 36 26.1**	**-1.1**
CMDO	**Montedoro**	**1.25**	**40**	P	**Pn**	**16 36 30.8**	**+1.4**
MFNL	**Monte Finestre**	**1.28**	**4**	P	**Pg**	**16 36 28.9**	**-0.7**
RAFF	**Raffo Rosso**	**1.43**	**60**	P	**Pn**	**16 36 31.6**	**-0.3**
RAFF				S	**Sg**	**16 36 51.5**	**+0.5**
RAFF	**Raffo Rosso**	**1.43**	**60**		**Pn**	**16 36 31.5**	**-0.3**
CORL	**Corleone**	**1.43**	**16**	P	**Pn**	**16 36 31.0**	**-1.0**
CORL	**Corleone**	**1.43**	**16**		**Pn**	**16 36 30.8**	**-1.2**
ALJA	**Alia**	**1.44**	**31**	⇑P	**Pn**	**16 36 32.3**	**+0.2**
ALJA				AML	AML		
comp=E,2505μm,1.0s							
ALJA				AML	AML		
comp=N,2200μm,0.6s							
RESU	**Resuttano**	**1.51**	**41**	P	**Pg**	**16 36 34.3**	**+0.3**
WDD	**Wied Dalam**	**1.54**	**115**	P	**Pn**	**16 36 33.2**	**-0.2**
WDD				S	**Sn**	**16 36 53.2**	**-0.6**
HMDC	**Modica**	**1.64**	**74**	P	**Pn**	**16 36 33.9**	**-0.9**
HMDC				S	**Sn**	**16 36 55.0**	**-1.4**
HMDC				AML	AML		
comp=N,2470μm,0.5s							
HMDC				AML	AML		
comp=E,2075μm,1.5s							
HVZN	**Vizzini**	**1.66**	**66**	P	**Pn**	**16 36 34.4**	**-0.7**
SOLUN	**Solunto**	**1.68**	**20**	P	**Pn**	**16 36 34.4**	**-0.9**
SOLUN				S	**Sn**	**16 36 56.6**	**-0.7**
SOLUN				AML	AML		
comp=E,1084μm,0.9s							
SOLUN				AML	AML		
comp=N,776μm,1.0s							
SOLUN				AML	AML		
comp=N,777μm,1.0s							
PETRA	**Petralia Sopra**	**1.68**	**38**	P	**Pn**	**16 36 35.8**	**+0.3**
MPG	**Monte Pellegri**	**1.70**	**15**	P	**Pn**	**16 36 34.8**	**-0.9**
MPG				S	**Sn**	**16 36 56.9**	**-1.1**
CSLB	**Castelbuono**	**1.73**	**34**	⇑P	**Pn**	**16 36 36.1**	**0.0**
CSLB				S	**Sb**	**16 36 59.7**	**-0.1**
CSLB				AML	AML		
comp=E,906μm,0.4s							
CSLB				AML	AML		
comp=N,1135μm,0.4s							
CAGR	**Agira**	**1.74**	**50**	P	**Pn**	**16 36 37.1**	**+0.9**
CAGR				AML	AML		
comp=E,3720μm,0.9s							
CAGR				AML	AML		
comp=N,2990μm,0.8s							
GIB	**Gibilmanna**	**1.76**	**33**	P	**Pn**	**16 36 36.5**	**-0.1**
MEU	**Monte Lauro**	**1.79**	**70**	P	**Pn**	**16 36 36.4**	**-0.6**
MEU				S	**

ESLN AML AML
comp=E,4725μm,0.8s
EMSG Monte Spagnolo 2.15 52 P **Pn 16 36 43.0 +1.1**
EMSG AML AML
comp=E,3605μm,0.6s
EMSG AML AML
comp=N,3405μm,0.4s
NOV Novara 2.39 50 P **Pn 16 36 45.9 +0.7**
NOV AML AML
comp=N,1445μm,0.6s
NOV AML AML
comp=E,1340μm,0.5s
AIO Antillo 2.42 52 P **Pn 16 36 46.2 +0.7**
AIO AML AML
comp=N,1037μm,1.6s
AIO AML AML
comp=E,880μm,1.4s
IFIL Filicudi I Eol 2.48 34 AML AML
comp=E,6825μm,0.3s
IFIL AML AML
comp=N,2205μm,0.6s
MCSR Castroreale 2.48 51 P **Pn 16 36 46.9 +0.4**
MSRU Castanea 2.77 50 P **Pn 16 36 50.6 +0.3**
MSRU AML AML
comp=N,988μm,1.1s
MSRU AML AML
comp=E,1670μm,0.5s
KEST Kesra 2.92 256 Pn **Pn 16 36 52.2 -0.2**
comp=E,3.0nm,0.3s,baz=40,slow=5.6,SNR=26
KEST Sn **Sn 16 37 25.9 -2.0**
comp=E,5.6nm,0.3s,baz=26,slow=5.9,SNR=6.6
KEST LR LR 16 37 43.2
comp=E,204nm,19.9s,baz=348,slow=34
KEST Kesra 2.92 256 **Pn 16 36 53.0 +0.6**
CEL Celeste 3.01 54 P **Pn 16 36 54.4 +0.8**
CEL Celeste 3.01 54 **Pn 16 36 54.3 +0.6**
SOI Samo 3.02 58 P **Pn 16 36 54.5 +0.8**
SOI AML AML
comp=N,380μm,0.7s
SOI AML AML
comp=E,322μm,1.4s
TAMR Tamra 3.02 281 P **Pn 16 36 52.9 -0.9**
JOPP Joppolo 3.21 48 P **Pn 16 36 56.6 +0.2**
PLAC Placanica 3.47 55 P **Pn 16 37 01.1 +1.1**
PLAC AML AML
comp=N,248μm,1.3s
PLAC AML AML
comp=E,223μm,0.6s
GRI Girifalco 3.67 50 AML AML
comp=E,186μm,1.2s
GRI AML AML
comp=N,206μm,0.7s
SERS Sersale 3.97 49 P **Pn 16 37 08.0 +1.1**
SERS AML AML
comp=N,164μm,0.6s
SERS AML AML
comp=E,150μm,1.5s
CGL Cagliari Serpe 3.98 317 P **Pn 16 37 05.8 -1.2**
VSL Villasalto 4.03 319 P **Pn 16 37 06.5 -1.2**
VSL AML AML
comp=N,154μm,1.4s
VSL AML AML
comp=E,199μm,0.2s
VSL Villasalto 4.03 319 Pn **Pn 16 37 06.4 -1.3**
TIP Timpagrande 4.10 48 P **Pn 16 37 09.1 +0.4**
TIP Timpagrande 4.10 48 Pn **Pn 16 37 08.7 0.0**
CELI Celico 4.10 44 P **Pn 16 37 08.7 -0.1**
CELI AML AML
comp=N,328μm,0.9s
CELI AML AML
comp=E,241μm,0.9s
DGI Dorgali Grotta 4.56 327 P **Pn 16 37 14.1 -0.9**
PAOL Paolisi 4.71 16 **Pn 16 37 17.5 +0.4**
LATB Latina 4.98 1 P **Pn 16 37 21.2 +0.6**
LATB AML AML
comp=N,54μm,1.6s
LATB AML AML
comp=E,57μm,1.6s
TOLF Tolfa 5.58 354 P **Pn 16 37 29.4 +0.4**
SGRT San Giovanni R 5.71 23 Pn **Pn 16 37 31.7 +0.9**
CASP Castiglione de 6.45 347 Pn **Pn 16 37 41.9 +1.1**
PGF Pioggiola 6.71 335 *e*P **Pn 16 37 45.3 +0.7**
PGF *e*Sn Sn 16 38 50.9 -11
comp=E,27nm,0.4s
MURB Monte Urbino 6.75 358 Pn **Pn 16 37 46.6 +1.6**
OSSC Osservatorio P 7.11 351 **Pn 16 37 51.9 +2.0**
ITM Ithomi 7.34 82 Pn **Pn 16 37 54.0 +0.9**
PDG Podgorica 7.73 38 Pn **Pn 16 37 57.6 -0.8**
VLC Villacollemand 7.86 347 Pn **Pn 16 38 00.6 +0.4**
FNA Florina 7.94 55 Pn **Pn 16 38 00.6 -0.8**
AGG Agios Georgios 7.94 69 Pn **Pn 16 38 01.1 -0.2**
MSSA Maissana 8.19 343 Pn **Pn 16 38 06.5 +1.7**
LMR La Mourre 8.36 327 *e*P **Pn 16 38 05.6 -1.4**
LMR *e*Sn Sn 16 39 31.5 -10
comp=E,4.7nm,0.5s
SBF Sospel 8.42 332 *e*P **Pn 16 38 07.4 -0.5**
SBF *e*Sn Sn 16 39 31.3 -12
comp=E,18nm,0.4s
FRF La Foret Royal 8.48 328 *e*P **Pn 16 38 07.7 -1.0**
FRF *e*Sn Sn 16 39 33.6 -11
comp=E,1.5nm,0.3s
SMRF Simiane la Rot 9.28 326 *e*P **Pn 16 38 19.5 -0.3**
SMRF *e*Sn Sn 16 39 51.8 -13
comp=E,1.2nm,0.4s
SMRF *e*Sg 16 40 50.1
comp=E,0.7nm,0.2s
DIVS Divibare 9.35 34 Pn **Pn 16 38 20.6 -0.1**
MBDF Montbardon 9.40 333 *e*P **Pn 16 38 23.1 +1.6**
MBDF *e*Sn Sn 16 39 55.5 -12
comp=E,8.7nm,0.5s
CTI Castel Tesino 9.57 355 Pn **Pn 16 38 22.6 -1.1**
BNI Bardonecchia 9.71 333 **Pn 16 38 27.6 +1.8**
STAL STALIGIAL 9.74 360 Pn **Pn 16 38 27.5 +1.5**
IDI Anoyia 9.87 94 Pn **Pn 16 38 27.9 -0.1**
comp=E,0.4nm,0.3s,baz=280,slow=6.1,SNR=1.6
IDI Sn **Sn 16 40 12.3 -6.9**
comp=E,0.5nm,0.3s,baz=15,slow=15,SNR=1.3
IDI LR LR 16 42 09.2
comp=E,43nm,20.9s,baz=194,slow=37
ORIF Oris-en-Rattie 9.91 330 *e*P **Pn 16 38 28.8 +0.4**
ORIF *e*Sn Sn 16 40 06.8 -13
comp=E,2.3nm,0.6s
LPG La Plagne 10.07 335 *e*P **Pn 16 38 32.0 +1.1**
LPG *e*Sn Sn 16 40 11.3 -13
comp=E,1.8nm,0.5s
VTS Vitosha 10.09 50 Pn **Pn 16 38 30.8 -0.1**
LPL La Plagne 10.10 335 *e*P **Pn 16 38 32.2 +1.1**
LPL *e*Sn Sn 16 40 11.9 -13
comp=E,0.8nm,0.3s
ABTA Abfaltersbach 10.23 359 *i* Pn **Pn 16 38 35.2 +2.4**
comp=E,0.6nm,0.3s
ABTA *i* Pn Pn 16 38 40.7 +7.9
comp=E,2.8nm,0.7s
VIVF Saint-Julien-I 10.37 326 *e*P **Pn 16 38 34.3 -0.4**
VIVF *e*Sn Sn 16 40 17.7 -14
comp=E,0.4nm,0.2s
DAVOX Davos/Dischmat 10.49 349 Pn **Pn 16 38 36.8 +0.3**
comp=E,0.1nm,0.3s,baz=130,slow=22,SNR=1.3
MTLF Montolieu 10.61 313 *e*P **Pn 16 38 36.7 -1.3**
MTLF *e*Sn Sn 16 40 23.0 -14
comp=E,0.9nm,0.3s
FETA Feichten 10.62 352 *e*Pn Pn 16 38 44.8 +6.7
comp=E,1.3nm,0.5s
WTTA Wattenberg 10.78 356 *e*Pn Pn 16 38 47.0 +6.6
comp=E,3.4nm,0.6s
MOTA Moosalm 10.90 354 *i* Pn Pn 16 38 49.7 +7.7
comp=E,4.0nm,0.8s
RETA Reutte 11.07 353 *e*Pn Pn 16 38 51.5 +7.2
comp=E,1.9nm,0.5s
MOA Molln 11.38 5 *e*Pn **Pn 16 38 52.5 +4.0**
comp=E,8.4nm,0.9s
CONA Conrad Observa 11.63 10 *e*Pn **Pn 16 38 54.0 +2.1**
comp=E,5.9nm,1.2s
CAF Calviac 11.70 319 *e*P **Pn 16 38 52.8 -0.1**
ETSF Etsaut 12.11 306 *e*P **Pn 16 38 58.8 +0.3**
HINF Hinteralfeld 12.13 341 *e*P **Pn 16 39 00.2 +1.5**
BFO Black Forest 12.26 346 Pn **Pn 16 39 02.1 +1.5**
GERES GERESS Array B 12.34 3 Pn **Pn 16 39 02.8 +1.1**
comp=E,0.0nm,0.3s,baz=171,slow=13,SNR=2.1
ECH Echery 12.42 342 Pn **Pn 16 39 03.2 +0.6**
SSF Saint Saulge 12.61 330 *e*P **Pn 16 39 06.0 +0.7**
SJPF Ste Jean 12.64 306 *e*P **Pn 16 39 05.8 +0.1**
VRAC Vranov 13.08 11 Pn **Pn 16 39 14.5 +2.8**
comp=E,0.2nm,0.3s,baz=209,slow=10,SNR=2.1
VRAC LR LR 16 44 09.1
comp=E,107nm,19.1s,baz=105,slow=37
ESDC Sonseca Array 13.59 288 Pn **Pn 16 39 20.4 +1.7**
comp=E,0.1nm,0.3s,baz=94,slow=14,SNR=5.3
PAB San Pablo 13.87 288 Pn **Pn 16 39 24.3 +1.8**
BURAR Bucovina Array 14.40 36 P **P 16 39 38.2 +1.3**
CLL Collm 14.79 0 *e*P **Pn 16 39 35.0 0.0**
CLL *e*PP **PnPn 16 39 43.0 0.0**
CLL *es*PP 16 39 46.0
comp=Z,4.0nm,0.8s
MDT Midelt 14.80 261 Pn **Pn 16 39 35.6 +0.2**
comp=Z,0.1nm,0.3s,baz=47,slow=19,SNR=2.2
BRTR Keskin Array B 16.69 73 Pn **Pn 16 40 00.9 +0.9**
comp=Z,0.0nm,0.3s,baz=255,slow=9.3,SNR=2.3
AKASG Malin Array Be 18.44 35 P **P 16 40 20.6 -0.9**
comp=Z,0.3nm,0.3s,baz=226,slow=9.1,SNR=2.9
AKASG LR LR 16 49 08.6
comp=Z,29nm,19.6s,baz=241,slow=42
PABE Paberze 20.47 18 P **P 16 40 43.4 -0.2**
PABE IAmb IAmb 16 40 50.2
comp=Z,29nm,1.5s
EKA Eskdalemuir Ar 21.76 335 P **P 16 40 57.5 -0.1**
comp=Z,0.5nm,0.5s,baz=150,slow=10,SNR=2.0
HFS Hagfors 23.65 1 P **P 16 41 16.2 -1.0**
comp=Z,1.8nm,0.5s,baz=173,slow=13,SNR=1.5
NOA NORSAR Array B 24.57 358 P **P 16 41 25.6 -0.3**
comp=Z,0.9nm,0.8s,baz=172,slow=9.8,SNR=2.6
TORD Torodi Ar. Bea 25.32 206 P **P 16 41 31.9 -1.1**
comp=Z,0.8nm,0.8s,baz=8.5,slow=12,SNR=3.3
FINES FINESS Array B 26.32 14 P **P 16 41 40.8 -1.0**
comp=Z,4.3nm,0.7s,baz=198,slow=8.5,SNR=10.0
FINES FINESS Array B 26.32 14 P **P 16 41 40.9 -0.8**
ARCES ARCESS Array B 33.80 8 P **P 16 42 46.2 -1.7**
comp=Z,1.7nm,0.8s,baz=163,slow=6.6,SNR=4.5
ABKAR Akbulak array 36.23 54 P **P 16 43 08.0 -1.0**
KURBB Kurchatov Arra 48.11 51 P **P 16 44 46.1 +0.2**
comp=Z,1.3nm,0.7s,baz=283,slow=8.6,SNR=3.2
ZALV Zalesovo Beam 51.32 46 P **P 16 45 08.5 -1.8**
comp=Z,0.6nm,0.4s,baz=289,slow=4.4,SNR=1.2
MK31 Makanchi Array 51.35 55 P **P 16 45 10.9 +0.1**
MK31 IAmb IAmb 16 45 15.9
comp=Z,1.7nm,0.8s
MKAR Makanchi Array 51.35 55 P **P 16 45 11.2 +0.4**
comp=Z,1.7nm,0.7s,baz=283,slow=6.8,SNR=18
MKAR Makanchi Array 51.35 55 P **P 16 45 10.6 -0.1**
WMQ Urumqi 55.88 58 *e*P **P 16 45 46.8 +2.7**
SONM Songino Array 66.18 47 P **P 16 46 54.7 +0.6**
comp=Z,1.0nm,0.6s,baz=284,slow=6.4,SNR=9.3
YKA Yellowknife Ar 72.70 337 P **P 16 47 34.1 +0.3**
comp=Z,0.1nm,0.6s,baz=38,slow=5.2,SNR=3.5
HHC Hu-ho-hao-te 72.96 52 *e*P **P 16 47 35.8 -0.2**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.3s
PZH PanZhiHua 73.95 69 P **P 16 47 44.0 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.0s
CMAR Chiang Mai Arr 76.23 77 P **P 16 47 56.6 +1.4**
comp=Z,0.1nm,0.3s,baz=289,slow=6.3,SNR=2.1

NEIC 17 16:38:00.6±0.4, 36°.268N±0°.008×97°.38W±0°.02, h5km±2km, mb_Lg2.5/8, Error ellipse: s-maj=3.0km s-min=2.1km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.47**	**188**	Pg	Pg	16 38 10.1	+0.3
BLOK	**Blackwell**	**0.51**	**15**		Pg	16 38 10.8	+0.3
BLOK				Sg	Sg	16 38 17.0	0.0
OK031	**S. Brethren Rd**	**0.54**	**126**		Pg	16 38 11.0	+0.1
OK031				Sg	Sg	16 38 18.0	+0.1
CROK	**Carrier**	**0.55**	**296**		Pg	16 38 11.6	+0.5
QUOK	**Quay**	**0.55**	**100**		Pg	16 38 11.2	0.0
QUOK				Sg	Sg	16 38 18.2	-0.1
OK030	**Cody Creek RV**	**0.59**	**125**	Pg	Pg	16 38 12.0	+0.1
OK030				Sg	Sg	16 38 19.4	-0.1
OK034	**N. Norfolk Rd.**	**0.59**	**115**		Pg	16 38 12.0	-0.1
BCOK	**Bluff Creek, N**	**0.64**	**197**	Pg	Pg	16 38 13.1	+0.2
BCOK				Sg	Sg	16 38 20.9	-0.3
OK025	**Westminster Rd**	**0.69**	**177**	Pg	Pg	16 38 13.9	+0.1
OK025				IAmb_Lg		16 38 22.6	
comp=Z,35nm,0.9s							
GC02	**Grant County #**	**0.70**	**326**	Pg	Pg	16 38 11.7	-2.4
KAN13	**South Haven SW**	**0.75**	**354**	Pg	Pg	16 38 15.1	0.0
KAN13				Sg	Sg	16 38 24.6	-0.1
KAN14	**Manchester OK**	**0.83**	**326**	Pg	Pb	16 38 17.4	-0.3
KAN17	**Caldwell West**	**0.83**	**338**	Pg	Pb	16 38 17.4	-0.3
KAN17				Sg	Sg	16 38 27.4	-0.1
OKCFA	**Oklahoma City**	**0.85**	**184**	Pg	Pg	16 38 16.9	-0.1
OK032	**Salt Plains WL**	**0.86**	**309**	Pg	Pb	16 38 17.6	-0.4
OKCSW	**OKLAHOMA CITY**	**0.86**	**183**		Pg	16 38 17.0	-0.2
KAN01	**Argonia South**	**0.94**	**341**	Pg	Pg	16 38 18.7	+0.1
KAN01				Sg	Sg	16 38 30.6	-0.1
T35A	**Sooner Cattle**	**0.95**	**47**	Pg	Pg	16 38 18.6	-0.3
FNO	**Franklin**	**1.01**	**181**		Pg	16 38 19.6	-0.4
KAN06	**Argonia West S**	**1.05**	**338**	Pg	Pg	16 38 20.7	-0.1
KAN08	**Anthony NE Sta**	**1.07**	**334**	Pg	Pb	16 38 21.5	-0.1
KAN16	**Harper SW Stat**	**1.10**	**330**	Pg	Pg	16 38 21.8	0.0
KAN12	**Harper NE Stat**	**1.14**	**334**	Pg	Pg	16 38 22.4	-0.2
W35A	**Tecumseh**	**1.19**	**160**	Pg	Pg	16 38 22.4	-0.9
U32A	**Winter Ranch,**	**1.32**	**275**	Pn	Pn	16 38 25.3	-0.5
TUL1	**Leonard**	**1.33**	**105**	Pn	Pn	16 38 24.7	-1.2
WMOK	**Wichita Mounta**	**1.91**	**217**		Pn	16 38 34.5	+0.6
HHAR	**Hobbs**	**2.78**	**89**	Pn	Pn	16 38 45.9	+0.1
KSU1	**Kansas State U**	**2.89**	**12**	Pn	Pn	16 38 47.1	-0.3
W41B	**Gary Mavity, V**	**4.31**	**103**	Pn	Pn	16 39 06.7	-0.2
P38A	**Dawn**	**4.52**	**41**	Pn	Pn	16 39 09.9	+0.1
P38A				IAmb_Lg		16 40 24.4	
comp=Z,8.7nm,0.8s							
P40A	**Paris**	**5.32**	**51**	IAmb_Lg		16 40 52.5	
comp=Z,9.4nm,0.9s							
S44A	**Carbondale**	**6.65**	**75**	IAmb_Lg		16 41 34.0	
comp=Z,9.8nm,1.0s							

*LDG **17** 16:43:39.5±0.2, 36°.39N×12°.57E, h10km, Ml3.0/8, Error ellipse: s-maj=6.3km s-min=2.0km az=25.0*
*ROM **17** 16:43:42.0±0.4, 36°.42N±0°.03×12°.61E±0°.06, h32km±8km, Md2.8/11, Error ellipse: s-maj=5.3km s-min=2.1km az=243.0*

ISC 17 16:43:42.7±1.8, 36°.5N±0°.1×12°.57E±0°.09, h59km±42km, n29, σ2°.54/44, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAVR	**Favara**	**1.16**	**49**	P	**Pn**	**16 44 03.6**	**+0.8**
FAVR				END			
FAVR				END			
CLTB	**Caltabellotta**	**1.19**	**26**	P	**Pn**	**16 44 03.2**	**-0.1**
CLTB				END			
CLTB				END			
MMGO	**Monte Magaggia**	**1.20**	**16**	P	**Pn**	**16 44 03.8**	**+0.4**
MMGO				END			
CLTA	**Licata**	**1.29**	**60**	P	**Pn**	**16 44 04.7**	**+0.1**
CLTA				S	**Sn**	**16 44 21.9**	**+1.0**
CLTA				END			
CORL	**Corleone**	**1.50**	**23**	P	**Pn**	**16 44 08.3**	**+0.8**
CORL				END			
ALJA	**Alia**	**1.56**	**37**	P	**Pn**	**16 44 09.2**	**+1.0**
ALJA				END			
RAFF	**Raffo Rosso**	**1.60**	**63**	P	**Pn**	**16 44 08.8**	**0.0**
WDD	**Wied Dalam**	**1.72**	**112**	P	**Pn**	**16 44 09.3**	**-1.0**
WDD				S	**Sn**	**16 44 30.3**	**-0.9**
WDD				END			
SOLUN	**Solunto**	**1.76**	**26**	P	**Pn**	**16 44 11.4**	**+0.5**
SOLUN				S	**Sn**	**16 44 33.8**	**+1.6**
MPG	**Monte Pellegri**	**1.77**	**21**	P	**Pn**	**16 44 12.5**	**+1.4**
HMDC	**Modica**	**1.83**	**75**	P	**Pn**	**16 44 11.2**	**-0.8**
HMDC				S	**Sn**	**16 44 32.8**	**-1.3**
HMDC				END			
CSLB	**Castelbuono**	**1.85**	**39**	P	**Pn**	**16 44 13.2**	**+1.0**
CSLB				S	**Sn**	**16 44 37.2**	**+2.5**
GIB	**Gibilmanna**	**1.88**	**38**	P	**Pn**	**16 44 14.2**	**+1.6**
MEU	**Monte Lauro**	**1.98**	**72**	P	**Pn**	**16 44 13.8**	**-0.3**
MEU				S	**Sn**	**16 44 36.3**	**-1.6**
MEU				AML	AML		
comp=E,1475μm,0.3s							
MEU				AML	AML		
comp=N,3580μm,0.3s							
MEU				END			
GALF	**Gagliano Caste**	**2.00**	**53**	AML	AML		
comp=N,871μm,0.4s							
GALF				AML	AML		
comp=E,884μm,0.6s							
HLNI	**Lentini**	**2.03**	**65**	P	**Pn**	**16 44 14.8**	**+0.3**
HLNI				S	**Sn**	**16 44 37.9**	**-0.8**
HLNI				AML	AML		
comp=E,680μm,0.2s							
HLNI				AML	AML		
comp=N,688μm,0.2s							
HLNI				END			
HPAC	**Pachino**	**2.05**	**84**	P	**Pn**	**16 44 13.6**	**-1.3**
HAVL	**Avola**	**2.10**	**77**	P	**Pn**	**16 44 15.0**	**-0.6**
HAVL				S	**Sn**	**16 44 39.0**	**-1.6**
SSY	**Sortino**	**2.11**	**72**	P	**Pn**	**16 44 16.0**	**+0.3**
SSY				S	**Sn**	**16 44 40.6**	**-0.2**
HAGA	**Augusta**	**2.21**	**69**	P	**Pn**	**16 44 17.1**	**+0.1**
HAGA				S	**Sn**	**16 44 42.1**	**-1.1**
AIO	**Antillo**	**2.58**	**55**	P	**Pn**	**16 44 23.4**	**+1.3**
AIO				END			
MCSR	**Castroreale**	**2.64**	**53**	P	**Pn**	**16 44 24.3**	**+1.3**
MSRU	**Castanea**	**2.92**	**52**	P	**Pn**	**16 44 28.2**	**+1.4**
PGF	**Pioggiola**	**6.63**	**337**	*e*P	**Pn**	**16 45 22.1**	**+4.5**
PGF				*e*Sn	**Sn**	**16 46 28.7**	**-3.1**
comp=N,4.3nm,0.4s							
LMR	**La Mourre**	**8.25**	**328**	*e*P	**Pn**	**16 45 43.0**	**+3.3**
LMR				*e*Sn	**Sn**	**16 47 07.2**	**-4.2**
comp=N,0.8nm,0.3s							
SBF	**Sospel**	**8.33**	**333**	*e*P	**Pn**	**16 45 44.9**	**+4.1**
SBF				*e*Sn	**Sn**	**16 47 09.2**	**-4.1**
comp=N,0.7nm,0.2s							
SMRF	**Simiane la Rot**	**9.17**	**327**	*e*P	**Pn**	**16 45 56.4**	**+4.1**
SMRF				*e*Sn	**Sn**	**16 47 29.2**	**-4.8**
comp=N,1.0nm,0.3s							
MBDF	**Montbardon**	**9.31**	**334**	*e*P	**Pn**	**16 45 58.6**	**+4.3**
MBDF				*e*Sn	**Sn**	**16 47 32.7**	**-4.9**
comp=N,1.2nm,0.5s							
ORIF	**Oris-en-Rattie**	**9.81**	**331**	*e*P	**Pn**	**16 46 05.4**	**+4.3**
ORIF				*e*Sn	**Sn**	**16 47 44.5**	**-5.2**
comp=N,0.3nm,0.2s							

*BJI **17** 16:53:45.1±0.0, 2°.52N×128°.47E, h60km, mb4.6/27, mB5.0/16, Ms4.7/8, Ms7 4.4/6*
*DJA **17** 16:53:48.7±0.4, 3°N±4°×12°8E±°, h10km, M4.5/15, mb4.7/12, mB4.9/8, MLv4.7/15, Mw(mB)4.2/8*
*IDC **17** 16:53:49.2±1.5, 3°.12N×128°.31E, h43km±14km, mb4.1/18, mb1 4.3/20, mb1mx4.1/47, mbtmp4.3/20, ML4.2/2, MS3.5/22, Ms1 3.5/22, ms1mx3.3/74, Error ellipse: s-maj=18.9km s-min=8.6km az=76.0*
*NEIC **17** 16:53:50.4±2.1, 3°.21N±0°.04×128°.31E±0°.08, h51km±6km, mb4.6/46, Error ellipse: s-maj=11.3km s-min=6.3km az=86.0*
*MAN **17** 16:53:55.0, 3°.64N×128°.27E, h167km, mb5.0, ML3.9, MS3.9*

ISC 17 16:53:50.3±0.4, 3°.10N±0°.04×128°.31E±0°.06, h50km, n140, σ1°.57/130, mb4.6/48, MS3.5/22, 2C-2D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.50**	**202**	P	**Pn**	**16 54 30.7**	**+2.2**
TNTI	**Ternate**	**2.50**	**202**	Pn	**Pn**	**16 54 29.3**	**+0.8**
TNTI	**Ternate**	**2.50**	**202**	P	**Pn**	**16 54 30.2**	**+1.7**
SGSI	**Sangihe**	**2.83**	**282**	P	**Pn**	**16 54 32.3**	**-0.8**
LBMI	**Labuha**	**3.80**	**192**	P	**Pn**	**16 54 47.6**	**+1.2**
DAV	**Davao City (W)**	**4.79**	**326**	P	**Pn**	**16 55 03.1**	**+3.1**
26nm,0.3s,baz=216,slow=17,SNR=1.7							
DAV				S	**Sn**	**16 56 01.0**	**+6.8**
26nm,0.3s,baz=137,slow=20,SNR=4.0							
SWI	**Sorong**	**4.92**	**143**	P	**Pn**	**16 55 03.6**	**+1.8**
0.3nm1μm43nm,0.7s							
SIJI	**Sorong**	**4.93**	**143**	P	**Pn**	**16 55 02.3**	**+0.4**
6.6nm,0.3s,baz=182,slow=23,SNR=45							
SIJI				S	**Sn**	**16 55 56.8**	**-1.0**
7.4nm,0.3s,baz=23,slow=24,SNR=12							
SIJI				LR	LR	16 56 34.1	
comp=Z,214nm,21.6s,baz=285,slow=33							
KMSI	**Cibinong**	**5.00**	**240**	P	**Pn**	**16 55 04.0**	**+1.1**
KCP	**Kidapawan**	**5.03**	**321**	‖ *i* P	**Pn**	**16 55 05.1**	**+1.7**
KCP				*i* S	**Sn**	**16 56 05.4**	**+5.1**
SANI	**Sanana**	**5.62**	**204**	P	**Pn**	**16 55 11.4**	**0.0**
0.4nm1μm76nm,0.9s							
SANI	**Sanana**	**5.62**	**204**	P	**Pn**	**16 55 12.5**	**+1.1**
GTOI	**Gorontalo**	**5.83**	**245**	P	**Pn**	**16 55 14.9**	**+0.6**
0.2nm740nm46nm,0.5s							
MSAI	**Masohi**	**6.44**	**174**	P	**Pn**	**16 55 25.5**	**+2.9**
0.0nm9.7nm,0.6s							
AAI	**Ambon**	**6.75**	**181**	P	**Pn**	**16 55 29.3**	**+2.5**
0.2nm60nm,1.0s							
MRSI	**Marisa**	**6.88**	**248**	P	**Pn**	**16 55 29.6**	**+1.0**
1.9nm5μm636nm,0.7s							
LUWI	**Luwuk**	**6.89**	**233**	P	Pn	16 55 45.0	+16
LUWI	**Luwuk**	**6.89**	**233**	Pn	**Pn**	**16 55 31.1**	**+2.2**
LUWI	**Luwuk**	**6.89**	**233**	P	**Pn**	**16 55 31.7**	**+2.8**
FAKI	**Fak Fak**	**7.16**	**147**	P	**Pn**	**16 55 34.5**	**+1.9**
0.1nm28nm,0.9s							
FAKI	**Fak Fak**	**7.16**	**147**	Pn	**Pn**	**16 55 33.9**	**+1.3**
FAKI	**Fak Fak**	**7.16**	**147**	P	**Pn**	**16 55 33.9**	**+1.3**
APSI	**Ampana**	**7.76**	**239**	P	**Pn**	**16 55 41.6**	**+0.9**
0.3nm815nm63nm,0.9s							
TOLI2	**Tolitoli**	**7.77**	**255**	Pn	**Pn**	**16 55 40.0**	**-1.0**
MPSI	**Mapaga**	**8.84**	**252**	P	**Pn**	**16 55 55.5**	**-0.1**
576nm69nm,1.0s							
BAKI	**Biak**	**8.89**	**119**	P	**Pn**	**16 55 58.8**	**+2.6**
58nm,1.0s							
MYLDM	**Lahad Datu**	**9.99**	**282**		**Pn**	**16 56 10.8**	**-0.6**
TTSI	**Tana Toraja**	**10.45**	**234**	P	**Pn**	**16 56 17.4**	**-0.2**
KAPI	**Kappang**	**11.75**	**227**	P	**Pn**	**16 56 34.2**	**-1.2**
1.8nm,0.3s,baz=60,slow=9.7,SNR=8.8							
KAPI				S	**Sn**	**16 58 41.4**	**-3.7**
0.6nm,0.3s,baz=84,slow=21,SNR=1.8							
KAPI	**Kappang**	**11.75**	**227**	Pn	**Pn**	**16 56 34.9**	**-0.5**
KAPI	**Kappang**	**11.75**	**227**	P	**Pn**	**16 56 38.0**	**+2.6**
KKM	**Kota Kinabalu**	**12.40**	**284**	P	**Pn**	**16 56 47.8**	**+3.4**
JAY	**Jayapura**	**13.59**	**114**	LR	LR	17 01 29.3	
comp=Z,289nm,20.7s,baz=296,slow=34							
BATI	**Baumata**	**14.01**	**199**	P	**Pn**	**16 57 09.8**	**+3.6**
1.8nm,0.3s,baz=56,slow=1.0,SNR=15							
BATI				LR	LR	17 03 40.1	
comp=Z,108nm,18.3s,baz=25,slow=42							
SBUM	**Sibu**	**16.08**	**268**	P	**P**	**16 57 35.6**	**-0.2**
MTN	**Manton Dam**	**16.09**	**170**	Pn	**Pn**	**16 57 34.1**	**+0.8**
MTN	**Manton Dam**	**16.09**	**170**	P	**Pn**	**16 57 35.1**	**+1.8**
KDU	**Kakadu**	**16.22**	**165**	P	**P**	**16 57 37.5**	**+0.1**
KSM	**Kuching**	**18.05**	**265**		**P**	**16 57 57.9**	**+0.2**
JAGI	**Jajag, Banyuwa**	**18.20**	**231**	P	**Pn**	**16 58 00.5**	**+0.9**
JAGI				IAmb	IAmb	16 58 16.5	
comp=Z,40nm,0.9s							
KNRA	**Kununurra**	**18.66**	**179**	P	**P**	**16 58 05.1**	**+0.8**
KNRA				IAmb	IAmb	16 58 08.1	
comp=Z,45nm,0.9s							
GUMO	**Guam**	**19.40**	**57**	LR	LR	17 04 24.4	
comp=Z,197nm,21.2s,baz=230,slow=33							
FITZ	**Fitzroy Crossi**	**21.23**	**187**	P	**P**	**16 58 32.3**	**+0.1**
comp=Z,7.8nm,1.1s,baz=13,slow=10,SNR=12							
FITZ				LR	LR	17 08 38.4	
comp=Z,48nm,18.3s,baz=339,slow=42							
YULB	**Yu-li**	**21.28**	**342**	P	**P**	**16 58 33.0**	**+0.3**
YULB				IAmb	IAmb	16 58 34.7	
comp=Z,28nm,1.1s							
TPUB	**Ta-pu**	**21.41**	**340**	P	**P**	**16 58 31.9**	**-2.2**
SSLB	**Suanglung**	**21.76**	**342**	P	**P**	**16 58 36.3**	**-1.6**
SSLB				IAmb	IAmb	16 58 58.0	
comp=Z,14nm,0.8s							
COEN	**Coen**	**22.47**	**139**	P	**P**	**16 58 48.1**	**+2.5**
PMG	**Port Moresby**	**22.53**	**124**	LR	LR	17 07 28.7	
comp=Z,167nm,21.2s,baz=294,slow=36							
LEM	**Lembang**	**22.89**	**244**	LR	LR	17 07 34.3	
comp=Z,51nm,19.6s,baz=36,slow=36							
WB0	**Warramunga Arr**	**23.50**	**165**	P	**P**	**16 58 55.4**	**-0.6**
WRAB	**Tennant Creek**	**23.65**	**166**	P	**P**	**16 58 57.0**	**-0.4**
WRAB				IAmb	IAmb	16 59 01.9	
comp=Z,43nm,0.9s							
WRA	**Warramunga Arr**	**23.66**	**166**	P	**P**	**16 58 56.8**	**-

WR0 IAmb IAmb 16 59 02.7
comp=Z,24nm,0.8s
RABL Rabaul 24.92 107 P **P 16 59 09.5 +0.4**
RABL IAmb IAmb 16 59 11.0
comp=Z,30nm,0.7s
PSA00 Pilbara Seismi 25.88 198 P **P 16 59 18.0 +0.3**
PSA00 IAmb IAmb 16 59 20.6
comp=Z,16nm,1.0s
AS31 Alice Springs 27.16 169 P **P 16 59 28.6 -0.6**
ASAR Alice Springs 27.16 169 P **P 16 59 28.7 -0.5**
comp=Z,1.9nm,0.5s,baz=353,slow=7.7,SNR=74
ASAR PcP **PcP 17 02 48.6 -0.3**
comp=Z,0.9nm,0.7s,baz=353,slow=2.1,SNR=4.3
ASAR ScP **ScP 17 06 25.4 +0.1**
comp=Z,0.8nm,0.8s,baz=6.7,slow=3.2,SNR=5.5
ASAR Alice Springs 27.16 169 P **P 16 59 28.6 -0.7**
CTA Charters Tower 29.01 143 LR LR 17 13 07.5
comp=Z,115nm,19.1s,baz=308,slow=40
PSI Prapat 29.34 270 LR LR 17 13 49.2
comp=Z,53nm,18.5s,baz=122,slow=41
NJ2 Nanjing 30.14 344 *eP* **P 16 59 56.4 +0.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 32.54 300 P **P 17 00 17.9 +0.9**
comp=Z,1.3nm,0.6s,baz=121,slow=7.5,SNR=18
CMAR LR LR 17 15 16.0
comp=Z,33nm,19.5s,baz=140,slow=40
CHTO Chiang Mai 32.69 301 P **P 17 00 18.2 0.0**
CHTO IAmb IAmb 17 00 38.4
comp=Z,9.5nm,1.3s
KMI Kunming 32.94 314 ⇑P **P 17 00 23.0 +2.4**
KMI pmax pmax
comp=Z,11nm,1.1s
KMI LR LR
comp=Z,340nm,10.8s
KMI LR LR
comp=Z,340nm,11.8s
INU Inuyama 33.09 13 P **P 17 00 21.0 -0.4**
FORT Forrest 33.69 180 P **P 17 00 26.3 -0.5**
HNR Honiara 33.90 112 LR LR 17 13 14.3
comp=Z,96nm,20.8s,baz=208,slow=34
MORW Morawa 34.08 199 P **P 17 00 29.5 -0.7**
MORW IAmb IAmb 17 00 46.8
comp=Z,18nm,1.1s
KSRS Korea Array 34.19 359 P **P 17 00 30.5 -0.5**
comp=Z,1.7nm,0.8s,baz=172,slow=9.9,SNR=4.5
KSRS LR LR 17 13 48.2
comp=Z,71nm,21.7s,baz=180,slow=35
PZH PanZhiHua 34.49 315 P **P 17 00 35.4 +1.4**
PZH S **S 17 05 57.8 -1.5**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,130nm,5.0s
PZH LR LR
comp=Z,700nm,11.3s
PZH LR LR
comp=Z,510nm,12.4s
PZH LR LR
comp=Z,650nm,11.0s
MJAR Matsushiro Arr 34.51 14 P **P 17 00 32.3 -1.5**
comp=Z,4.2nm,0.7s,baz=179,slow=9.5,SNR=17
MJAR LR LR 17 12 12.8
comp=Z,169nm,21.9s,baz=210,slow=32
MJAR Matsushiro Arr 34.51 14 P **P 17 00 31.1 -2.7**
MAJO Matsushiro 34.51 14 P **P 17 00 30.8 -3.0**
MAT Matsushiro 34.51 14 P **P 17 00 32.1 -1.7**
MJB9 Matsu-Tunnel 34.51 14 P **P 17 00 30.6 -3.2**
JSD Sado 35.94 13 P **P 17 00 44.3 -1.8**
JMM Marumori 36.44 17 P **P 17 00 49.7 -0.6**
BBOO Buckleboo 36.47 169 P **P 17 00 50.3 -0.4**
BBOO IAmb IAmb 17 01 06.1
comp=Z,7.0nm,0.8s
STKA Stephens Creek 37.01 161 P **P 17 00 55.0 -0.3**
comp=Z,17nm,0.8s,baz=336,slow=8.7,SNR=24
STKA PP **PP 17 02 21.7 +1.2**
comp=Z,3.0nm,0.7s,baz=331,slow=10,SNR=3.6
STKA LR LR 17 18 07.3
comp=Z,101nm,19.9s,baz=19,slow=39
STKA Stephens Creek 37.01 161 P **P 17 00 54.9 -0.3**
STKA IAmb IAmb 17 01 00.1
comp=Z,3.5nm,0.8s
JTM Tennabayashi 39.24 15 P **P 17 01 13.7 -0.2**
LZH Lanzhou 39.85 328 ⇓P **P 17 01 20.4 +1.1**
LZH pP pP 17 01 30.6 -1.0
LZH sP sP 17 01 37.3 +0.2
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,200nm,4.9s
LZH LR LR
comp=Z,530nm,14.1s
LZH LR LR
comp=Z,290nm,12.9s
LZH LR LR
comp=Z,250nm,13.0s
ARMA Armidale 40.09 148 P **P 17 01 21.3 0.0**
ARMA IAmb IAmb 17 01 37.5
comp=Z,11nm,1.1s
HHC Hu-ho-hao-te 40.50 340 *eP* **P 17 01 25.4 +0.9**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,70nm,4.4s
H11S3 WAKE ISLAND Hy 40.56 65 T T 17 44 44.1
baz=253,slow=75,SNR=23
H11S1 WAKE ISLAND Hy 40.57 65 T T 17 44 47.0
baz=253,slow=75,SNR=7.6
H11S2 WAKE ISLAND Hy 40.57 65 T T 17 44 45.3
baz=253,slow=75,SNR=14
CN2 Changchun 40.61 357 *eP* P 17 01 30.5 +5.3
USA0B Ussuriysk Arra 41.05 4 P **P 17 01 28.2 -0.7**
USA0B IAmb IAmb 17 01 29.8
comp=Z,11nm,1.0s
USRK Ussuriysk Ar. 41.05 4 P **P 17 01 28.4 -0.5**
comp=Z,5.5nm,0.7s,baz=194,slow=8.1,SNR=11
USRK Ussuriysk Ar. 41.05 4 P **P 17 01 28.6 -0.3**
H11N1 WAKE ISLAND Hy 41.12 63 T T 17 45 28.3
baz=250,slow=75
H11N2 WAKE ISLAND Hy 41.13 63 T T 17 45 28.6
baz=250
H11N3 WAKE ISLAND Hy 41.13 63 T T 17 45 30.0
baz=250,slow=75
MDJ Mudanjiang 41.36 1 P **P 17 01 30.8 -0.6**
MDJ pmax pmax
comp=Z,17nm,1.4s
MDJ pmax pmax
comp=Z,180nm,5.3s
ASAJ Asahikawa 42.76 15 LR LR 17 17 24.2
comp=Z,79nm,21.2s,baz=224,slow=33
GTA Gaotai 44.45 328 ⇑P **P 17 01 56.6 -0.1**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,65nm,4.0s
GTA LR LR
comp=Z,320nm,14.2s
GTA LR LR
comp=Z,230nm,15.6s
KLR Kul'dur 46.05 3 LR LR 17 19 42.0
comp=Z,63nm,21.5s,baz=195,slow=34
GUN Gumba 47.36 306 *eP* **P 17 02 20.2 +0.1**
comp=Z,10nm,0.7s
PALK Pallekele 47.57 277 LR LR 17 25 40.7
comp=Z,43nm,18.7s,baz=234,slow=40
ULN Ulaanbaatar 48.21 341 P **P 17 02 24.8 -1.4**
ULN IAmb IAmb 17 02 27.4
comp=Z,3.2nm,0.9s
SONM Songino Array 48.40 340 P **P 17 02 26.7 -0.8**
comp=Z,0.8nm,0.7s,baz=149,slow=8.2,SNR=6.2
SONM LR LR 17 23 26.0
comp=Z,64nm,21.8s,baz=344,slow=37
SONM Songino Array 48.40 340 P **P 17 02 26.2 -1.3**
KOLN Koldanda 49.17 305 *eP* **P 17 02 34.2 +0.3**
comp=Z,17nm,0.8s
DANN Dangsing 49.26 305 *eP* **P 17 02 34.6 -0.1**
comp=Z,15nm,0.6s
PYUN Piuthan 49.79 305 *eP* **P 17 02 38.7 0.0**
comp=Z,9.9nm,0.7s
MSVF Nonsavu 53.22 115 LR LR 17 23 31.8
comp=Z,30nm,19.5s,baz=82,slow=34
WMQ Urumqi 54.14 324 *eP* **P 17 03 11.0 +0.4**
WMQ pmax pmax
comp=Z,12nm,1.5s
PEA0B Petropavlovsk- 55.43 21 P **P 17 03 19.9 +0.2**
PETK Petropavlovsk- 55.43 21 P **P 17 03 19.7 +0.1**
comp=Z,6.9nm,0.7s,baz=185,slow=4.5,SNR=14
PETK Petropavlovsk- 55.43 21 P **P 17 03 19.6 -0.1**
MK31 Makanchi Array 58.97 325 P **P 17 03 44.0 -0.8**
MK31 IAmb IAmb 17 04 00.8
comp=Z,3.8nm,1.1s
MKAR Makanchi Array 58.97 325 P **P 17 03 44.3 -0.5**
comp=Z,3.5nm,0.6s,baz=115,slow=8.2,SNR=62
MKAR LR LR 17 30 24.3
comp=Z,51nm,19.2s,baz=140,slow=37
MKAR Makanchi Array 58.97 325 P **P 17 03 44.1 -0.7**
MAKZ Makanchi 59.16 325 P **P 17 03 45.3 -0.8**
MAKZ IAmb IAmb 17 03 55.6
comp=Z,4.9nm,1.0s
KSH Kashi 59.60 315 P **P 17 03 50.1 +0.7**
KSH pP pwP 17 04 04.6 -1.4
ZALV Zalesovo Beam 61.86 333 P **P 17 04 02.5 -1.8**
comp=Z,0.8nm,0.5s,baz=122,slow=5.4,SNR=4.7
ZALV Zalesovo Beam 61.86 333 P **P 17 04 02.2 -2.1**
SHEM Shemya Is, Ala 62.22 30 LR LR 17 24 43.1
comp=Z,55nm,21.9s,baz=48,slow=30
SEY Seymchan 62.30 12 P **P 17 04 07.2 +0.1**
comp=Z,2.0nm,0.7s,baz=234,slow=9.8,SNR=9.2
KURK Kurchatov 63.11 327 P **P 17 04 11.1 -1.7**
KURK IAmb IAmb 17 04 30.0
comp=Z,4.5nm,0.8s
KKAR Karatay Array 64.76 317 P **P 17 04 22.8 -1.0**
TIXI Tiksi 68.45 0 P **P 17 04 45.1 -1.6**
comp=Z,1.3nm,0.4s,baz=169,slow=4.7,SNR=18
TIXI Tiksi 68.45 0 P **P 17 04 45.0 -1.7**
HRA Herat 68.57 306 P **P 17 04 46.6 -1.9**
BRVK Borovoye 68.77 327 P **P 17 04 47.4 -1.7**
BRVK IAmb IAmb 17 05 03.7
comp=Z,6.6nm,1.1s
NRIK Noril'sk 71.41 346 P **P 17 05 03.7 -1.2**
comp=Z,2.3nm,0.5s,baz=120,slow=7.4,SNR=7.5
NRIK LR LR 17 42 52.5
comp=Z,45nm,18.0s,baz=105,slow=41
NRIK Noril'sk 71.41 346 P **P 17 05 04.0 -1.0**
NRIK IAmb IAmb 17 05 04.5
comp=Z,3.3nm,0.7s
ABKAR Akbulak array 73.63 321 P **P 17 05 17.0 -1.5**
ABKAR Akbulak array 73.63 321 P **P 17 05 17.1 -1.4**
RAYN Ar Rayn 82.17 293 P **P 17 06 05.5 -1.2**
RAYN IAmb IAmb 17 06 27.0
comp=Z,3.3nm,0.9s
H21K Melozitna Rive 82.61 24 P **P 17 06 08.0 0.0**
H21K IAmb IAmb 17 06 09.9
comp=Z,12nm,1.2s
VNDA Vanda 82.61 173 P **P 17 06 07.8 +0.1**
comp=Z,5.2nm,0.8s,baz=292,slow=6.3,SNR=5.8
COLD Coldfoot 83.86 23 P **P 17 06 14.7 +0.4**
COLD IAmb IAmb 17 06 16.3
comp=Z,8.9nm,0.8s
ILAR Eielson Array 84.99 25 P **P 17 06 19.1 -1.0**
comp=Z,0.6nm,0.6s,baz=247,slow=5.9,SNR=9.7
YKA Yellowknife Ar 99.41 25 P **Pdif 17 07 26.5 -0.8**
comp=Z,1.4nm,1.1s,baz=300,slow=4.7,SNR=8.3
TXAR Lajitas Array 120.73 53 PKP **PKiKP 17 12 38.0 +0.2**
comp=Z,0.1nm,0.4s,baz=289,slow=2.8,SNR=5.5
TORD Torodi Ar. Bea 124.61 288 PKP **PKPdf 17 12 44.3 -1.1**
comp=Z,1.2nm,0.8s,baz=55,slow=1.8,SNR=6.5

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*VAO **17** 17:05:29.5±0.5, 27°.05S×71°.03W, h10km, mb4.5*
*SJA **17** 17:05:31.5±1.8, 26°.36S×71°.27W, h15km, ML4.7, MW4.3*
*NEIC **17** 17:05:38.4±2.7, 26°.44S±0°.01×70°.86W±0°.09, h37km±6km, mb5.0/11, ML4.2(GUC), Error ellipse: s-maj=12.3km s-min=0.5km az=98.0*
*IDC **17** 17:05:39.4±0.6, 26°.44S×70°.53W, h47km±4km, mb4.2/11, mb1 4.3/15, mb1mx4.1/31, mbtmp4.4/15, MS3.4/11, Ms1 3.4/11, ms1mx3.2/54, Error ellipse: s-maj=19.5km s-min=14.6km az=81.0*
*GUC **17** 17:05:39.0±0.7, 26°.44S×70°.87W, h40km±15km, ML4.2*
ISC 17 17:05:38.1±0.5, 26.44S±0.03×70.91W±0.05, h44km±4km, n156, σ1$56/168, mb4.8/16, MS3.7/6, 5C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**1.30**	**153**	⇓*eP*	**Pn**	**17 06 00.9**	**+1.0**
GO03				*eS*	**Sn**	**17 06 15.5**	**-0.8**
GO03	**Copiap**	**1.30**	**153**	Pn	**Pn**	**17 06 01.0**	**+1.0**
GO03				Sn	**Sn**	**17 06 16.6**	**+0.4**
GO03	**Copiap**	**1.30**	**153**	*eP*	**Pn**	**17 06 01.0**	**+1.1**
GO03				*eS*	Sn	17 06 06.3	-10
AC02	**Maricunga**	**1.64**	**104**	⇓*eP*	**Pn**	**17 06 05.2**	**+0.3**
AC02				*eS*	**Sn**	**17 06 24.1**	**-1.1**
AC02	**Maricunga**	**1.64**	**104**	Pn	**Pn**	**17 06 05.3**	**+0.3**
AC02				Sn	**Sn**	**17 06 24.3**	**-0.9**
AC04	**Llanos de Chal**	**1.77**	**185**	⇑*eP*	**Pn**	**17 06 06.2**	**0.0**
AC04				⇑*iP*	**Pn**	**17 06 06.6**	**+0.3**
AC04				*eS*	**Sn**	**17 06 28.5**	**+0.9**
AC04				IAML		17 06 29.1	
comp=E,2μm,0.1s							
AC04	**Llanos de Chal**	**1.77**	**185**	Pn	**Pn**	**17 06 06.6**	**+0.3**
AC04	**Llanos de Chal**	**1.77**	**185**	*eP*	**Pn**	**17 06 06.0**	**-0.3**
AC04				*eS*	**Sn**	**17 06 29.2**	**+1.6**
PB14	**IPOC Station P**	**1.86**	**14**	⇑*iP*	**Pn**	**17 06 08.5**	**+0.7**
PB14	**IPOC Station P**	**1.86**	**14**	Pn	**Pn**	**17 06 08.5**	**+0.7**
PB14	**IPOC Station P**	**1.86**	**14**	*eP*	**Pn**	**17 06 03.3**	**-4.5**
PB14				*eP*	**Pn**	**17 06 08.0**	**+0.2**
PB14				*eS*	**Sn**	**17 06 31.1**	**+0.8**
LCO	**Las Campanas**	**2.57**	**176**	*eP*	**Pn**	**17 06 17.7**	**+0.1**
LCO				*eS*	**Sn**	**17 06 48.4**	**+0.6**
LCO	**Las Campanas**	**2.57**	**176**	Pn	**Pn**	**17 06 18.5**	**+0.9**
LCO	**Las Campanas**	**2.57**	**176**	*eP*	**Pn**	**17 06 18.0**	**+0.4**
PB10	**IPOC Station P**	**2.93**	**6**	*eP*	**Pn**	**17 06 22.2**	**0.0**
PB10				IAML		17 07 16.5	
comp=E,641nm,0.2s							
PB10	**IPOC Station P**	**2.93**	**6**	Pn	**Pn**	**17 06 22.3**	**+0.1**
PB10	**IPOC Station P**	**2.93**	**6**	*eP*	**Pn**	**17 06 22.0**	**-0.2**
PB10				*eS*	**Sn**	**17 06 55.8**	**-0.3**
VCA	**Vinchina**	**3.32**	**134**	*eP*	**Pn**	**17 06 30.9**	**+3.2**
VCA				*eS*	**Sn**	**17 07 06.3**	**+0.3**
VCA				*eS*		17 07 14.3	
PB15	**IPOC Station P**	**3.47**	**22**	*eP*	**Pn**	**17 06 31.1**	**+1.2**
PB15	**IPOC Station P**	**3.47**	**22**		**Pn**	**17 06 31.1**	**+1.2**
PB15	**IPOC Station P**	**3.47**	**22**	*eP*	**Pn**	**17 06 30.1**	**+0.2**
PB15				*eP*	**Pn**	**17 06 31.1**	**+1.2**
PB15				*eS*	**Sn**	**17 07 11.3**	**+1.5**
PB15				IAML		17 07 37.8	
comp=Z,5μm,0.5s							
CO05	**La Serena**	**3.48**	**185**	⇑*eP*	**Pn**	**17 06 30.3**	**+0.5**
CO05				*i S*	**Sn**	**17 07 10.3**	**+0.5**
CO05	**La Serena**	**3.48**	**185**		**Pn**	**17 06 30.3**	**+0.5**
GO04	**Tololo Observa**	**3.73**	**179**	*eP*	**Pn**	**17 06 34.4**	**+1.0**
GO04	**Tololo Observa**	**3.73**	**179**		**Pn**	**17 06 34.6**	**+1.3**
GO04	**Tololo Observa**	**3.73**	**179**	*eP*	**Pn**	**17 06 34.7**	**+1.3**
GO04				*eS*	**Sn**	**17 07 17.0**	**+0.9**
PB06	**IPOC Station P**	**3.91**	**18**	⇑*iP*	**Pn**	**17 06 35.9**	**+0.1**
PB06	**IPOC Station P**	**3.91**	**18**		**Pn**	**17 06 35.7**	**-0.1**
PB06	**IPOC Station P**	**3.91**	**18**	*eP*	**Pn**	**17 06 36.0**	**+0.1**
PB06				*eS*	**Sn**	**17 07 20.8**	**+0.2**
PB06				*eS*		17 07 35.3	
PB06				IAML		17 07 52.0	
comp=Z,830nm,0.3s							
PB04	**IPOC Station P**	**4.14**	**10**	⇓*iP*	**Pn**	**17 06 38.6**	**-0.5**
PB04	**IPOC Station P**	**4.14**	**10**		**Pn**	**17 06 38.6**	**-0.5**
PB04	**IPOC Station P**	**4.14**	**10**	*eP*	Pn	17 06 33.8	-5.2
PB04				*eP*	**Pn**	**17 06 38.5**	**-0.5**
PB04				*eS*	**Sn**	**17 07 25.4**	**-0.9**
PB04				IAML		17 08 24.9	
comp=Z,658nm,0.5s							
LVC	**Limon Verde**	**4.22**	**26**	P	**Pn**	**17 06 41.1**	**+0.8**
comp=Z,12nm,0.3s,baz=180,slow=7.5,SNR=146							
LVC				S	**Sn**	**17 07 28.2**	**-0.4**
comp=Z,138nm,0.3s,baz=181,slow=21,SNR=6.4							
LVC				LR	LR	17 08 23.7	
comp=Z,316nm,21.7s,baz=218,slow=40							
LVC	**Limon Verde**	**4.22**	**26**	*eP*	**Pn**	**17 06 41.0**	**+0.8**
LVC	**Limon Verde**	**4.22**	**26**	*eP*	**Pn**	**17 06 41.2**	**+0.8**
LVC	**Limon Verde**	**4.22**	**26**	*eP*	**Pn**	**17 06 41.1**	**+0.8**
LVC				*eS*	Sn	17 07 40.3	+12
LVC				IAML		17 07 52.0	
comp=Z,583nm,0.4s							
CO06	**Fray Jorge**	**4.27**	**188**		**Pn**	**17 06 40.0**	**-0.6**
CO03	**El Pedregal**	**4.39**	**178**		**Pn**	**17 06 43.4**	**+1.0**
CO03	**El Pedregal**	**4.39**	**178**	*eP*	**Pn**	**17 06 43.0**	**+0.6**
CO03				*eP*	**Pn**	**17 06 43.4**	**+1.0**
CO03				*eS*	**Sn**	**17 07 33.8**	**+1.5**
CO03				IAML		17 07 58.1	
comp=Z,520nm,0.5s							
FSA	**Cafayete**	**4.44**	**87**	*eP*	**Pn**	**17 06 40.3**	**-2.8**
FSA				*eP*	**Pn**	**17 06 46.0**	**+2.9**
FSA				*eS*	**Sn**	**17 07 41.3**	**+7.6**
PB03	**IPOC Station P**	**4.49**	**14**	*eP*	**Pn**	**17 06 43.0**	**-0.9**
PB03				*eP*	**Pn**	**17 06 43.4**	**-0.5**
PB03				*eS*	**Sn**	**17 07 33.7**	**-1.3**
PB03				IAML		17 08 05.9	
comp=Z,906nm,0.5s							
PB07	**IPOC Station P**	**4.78**	**12**		**Pn**	**17 06 47.3**	**-0.5**
PB07	**IPOC Station P**	**4.78**	**12**	*eP*	**Pn**	**17 06 47.4**	**-0.5**
PB07				*eS*	**Sn**	**17 07 40.7**	**-1.3**
PB07				IAML		17 08 14.8	
comp=Z,656nm,0.4s							
PB09	**IPOC Station P**	**4.86**	**19**		**Pn**	**17 06 49.5**	**+0.6**
PB09	**IPOC Station P**	**4.86**	**19**	*eP*	**Pn**	**17 06 49.0**	**0.0**
PB09				*eS*	Sn	17 08 03.3	+19
PB09				IAML		17 08 20.0	
comp=Z,633nm,1.0s							
PB02	**IPOC Station P**	**5.18**	**11**	*eP*	**Pn**	**17 06 52.6**	**-0.6**
PB02				*eS*	**Sn**	**17 07 50.2**	**-1.6**
PB02				IAML		17 08 34.7	
comp=Z,720nm,0.4s							
PB01	**IPOC Station P**	**5.52**	**14**		**Pn**	**17 06 57.3**	**-0.7**
PB01	**IPOC Station P**	**5.52**	**14**	*eP*	**Pn**	**17 06 57.3**	**-0.7**
PB01				*eS*	**Sn**	**17 07 58.1**	**-2.1**
PB01				IAML		17 08 49.1	
comp=Z,243nm,0.5s							
RTLS	**Leoncito**	**5.53**	**166**	*eP*	**Pn**	**17 07 00.0**	**+1.8**
PATCX	**Punta Patache**	**5.63**	**7**		**Pn**	**17 06 58.0**	**-1.5**
PATCX	**Punta Patache**	**5.63**	**7**	*eP*	**Pn**	**17 06 58.3**	**-1.1**
PATCX				*eP*	**Pn**	**17 06 58.3**	**-1.1**
PATCX				*eP*	**Pn**	**17 06 58.8**	**-0.6**
PATCX				*eS*	**Sn**	**17 08 00.0**	**-2.9**
PATCX				IAML		17 08 44.7	
comp=Z,254nm,0.9s							
TA01	**Diego Aracena**	**5.88**	**7**		**Pn**	**17 07 00.9**	**-1.8**
TA01	**Diego Aracena**	**5.88**	**7**	*eP*	**Pn**	**17 07 01.2**	**-1.6**
TA01				*eS*	**Sn**	**17 08 05.3**	**-3.6**
VA03	**San Esteban**	**6.32**	**177**		**Pn**	**17 07 09.0**	**+0.2**
ASAL	**Salagasta**	**6.40**	**164**	*eP*	Pn	17 06 55.8	-14
PB08	**IPOC Station P**	**6.47**	**15**		**Pn**	**17 07 10.4**	**-0.8**
PB08	**IPOC Station P**	**6.47**	**15**	*eS*	**Sn**	**17 08 21.1**	**-2.9**
ROC1	**El Roble**	**6.52**	**181**	*eS*	**Sn**	**17 08 22.9**	**-2.0**
PEL	**Peldehue**	**6.69**	**178**	Pn	**Pn**	**17 07 14.0**	**+0.1**
MT02	**Curacav**	**6.80**	**182**	Pn	**Pn**	**17 07 14.9**	**-0.4**
MT02	**Curacav**	**6.80**	**182**	*eP*	**Pn**	**17 07 15.0**	**-0.4**
AAGR	**Agrelo**	**6.87**	**165**	*eP*	**Pn**	**17 07 20.0**	**+3.6**
MT09	**Talagante**	**7.32**	**181**	Pn	**Pn**	**17 07 21.7**	**-0.9**
MNMC	**Minye Minye**	**7.37**	**10**	Pn	**Pn**	**17 07 22.2**	**-1.3**
MT01	**Popeta**	**7.41**	**182**	Pn	**Pn**	**17 07 22.9**	**-0.8**
MT01	**Popeta**	**7.41**	**182**	*eP*	**Pn**	**17 07 22.9**	**-0.8**
PB12	**IPOC Station P**	**7.80**	**4**	Pn	**Pn**	**17 07 27.9**	**-1.3**
BO01	**Tunca**	**7.93**	**181**	Pn	**Pn**	**17 07 29.4**	**-1.5**
BO02	**Sierra Bellavi**	**8.33**	**179**	Pn	**Pn**	**17 07 36.3**	**-0.1**
RFA	**San Rafael**	**8.57**	**166**	*eP*	**Pn**	**17 07 40.0**	**+0.3**
GO05	**Huala**	**8.59**	**186**	Pn	**Pn**	**17 07 37.4**	**-2.5**
H03N1	**Juan Fernandez**	**9.84**	**223**	T	T	17 18 21.6	
baz=49,slow=71,SNR=433							
H03N2	**Juan Fernandez**	**9.85**	**223**	T	T	17 18 24.0	
baz=49,slow=71,SNR=418							
H03N3	**Juan Fernandez**	**9.86**	**223**	T	T	17 18 24.9	
baz=49,slow=71,SNR=614							
H03S3	**Juan Fernandez**	**10.11**	**221**	T	T	17 18 35.1	
SNR=4.3							
H03S1	**Juan Fernandez**	**10.12**	**221**	T	T	17 18 28.7	
SNR=7.2							
H03S2	**Juan Fernandez**	**10.12**	**221**	T	T	17 18 32.4	
SNR=6.3							
LPAZ	**La Paz**	**10.42**	**15**	P	**Pn**	**17 08 05.8**	**+0.1**
comp=Z,1.0nm,0.3s,baz=204,slow=4.7,SNR=22							
CPUP	**Villa Florida**	**12.18**	**93**	P	**Pn**	**17 08 30.8**	**+1.8**
comp=Z,0.1nm,0.3s,baz=287,slow=8.5,SNR=1.6							
CPUP				LR	LR	17 13 29.2	
comp=Z,174nm,20.8s,baz=262,slow=40							
CPUP	**Villa Florida**	**12.18**	**93**	*eP*	Pn	17 08 22.6	-6.5
ITQB	**Itaqui**	**13.02**	**108**	*eP*	Pn	17 08 33.1	-7.4
SIV	**San Ignacio**	**13.85**	**43**	P	**Pn**	**17 08 50.1**	**-1.9**
comp=Z,1.2nm,0.3s,baz=246,slow=9.0,SNR=9.7							
SIV				LR	LR	17 13 53.4	
comp=Z,55nm,19.0s,baz=262,slow=36							
PLCA	**Paso Flores**	**14.26**	**179**	P	**Pn**	**17 08 58.6**	**+1.2**
comp=Z,0.1nm,0.3s,baz=200,slow=22,SNR=1.7							
PLCA				LR	LR	17 15 01.3	
comp=Z,110nm,18.2s,baz=18,slow=39							
PLCA	**Paso Flores**	**14.26**	**179**	*eP*	Pn	17 08 42.3	-15
AQDB	**Aquidauana**	**15.16**	**70**	*eP*	**Pn**	**17 09 07.4**	**-2.0**
NNA	**Nana**	**15.42**	**338**	LR	LR	17 13 59.8	
comp=Z,45nm,21.3s,baz=142,slow=32							
PLTB	**Pedras Altas**	**16.03**	**113**	*eP*	**Pn**	**17 09 14.3**	**-6.2**
VILB	**Vilhena**	**16.77**	**39**	*eP*	**P**	**17 09 31.6**	**-0.1**
ITAB	**Concordia**	**16.78**	**97**		**P**	**17 09 31.4**	**-0.4**
ETMB	**Extrema**	**17.12**	**16**	*eP*	**P**	**17 09 36.6**	**+1.1**
SALV	**Santo Antonio**	**17.62**	**57**	*eP*	**P**	**17 09 41.4**	**+0.3**
PCMB	**Pacaembu**	**18.58**	**79**	*eP*	**P**	**17 09 49.2**	**-2.4**
CZSB	**Cruzeiro do Su**	**18.68**	**354**	*eP*	**Pn**	**17 09 56.4**	**+2.9**
PDRB	**Porto dos Gac**	**19.90**	**45**	*eP*	**P**	**17 10 06.2**	**+0.2**
ARAG	**Araguaiana, MT**	**20.75**	**63**	*eP*	**P**	**17 10 13.7**	**-1.6**
PET01	**Itanhaem-SP**	**21.46**	**89**	*eP*	**P**	**17 10 20.8**	**-2.1**
RCLB	**Rio Claro- Sao**	**21.65**	**84**	*eP*	**P**	**17 10 22.7**	**-2.3**
VAO	**Valinhos**	**22.01**	**86**	*eP*	**P**	**17 10 26.9**	**-2.1**
TBTG	**Tabatinga, AM**	**22.14**	**3**	*eP*	**P**	**17 10 32.5**	**+2.2**
IPMB	**Ipameri, GO**	**22.61**	**73**	*eP*	**P**	**17 10 32.4**	**-3.0**
PARB	**Paraibuna**	**23.14**	**88**	*eP*	**P**	**17 10 38.2**	**-2.5**
BDFB	**Brasilia**	**23.88**	**68**	P	**P**	**17 10 44.4**	**-3.5**
comp=Z,2.5nm,0.5s,baz=237,slow=8.8,SNR=6.4							
BDFB	**Brasilia**	**23.88**	**68**	P	**P**	**17 10 44.6**	**-3.3**
NPGB	**Novo Progresso**	**24.31**	**40**	*eP*	**P**	**17 10 51.5**	**-0.3**
BSCB	**Bom Sucesso**	**24.51**	**83**	*eP*	**P**	**17 10 51.9**	**-1.8**
MACA	**Manacapuru-AM**	**25.14**	**25**	*eP*	**P**	**17 10 59.5**	**+0.3**
PEXB	**Peixe**	**25.60**	**60**	*eP*	**P**	**17 11 03.0**	**-0.5**
ITTB	**Itaituba**	**26.32**	**36**	*eP*	**P**	**17 11 09.6**	**-0.4**
SMTB	**Santa Maria do**	**28.18**	**56**	*eP*	**P**	**17 11 26.0**	**-0.8**
BOAV	**Boa Vista**	**30.37**	**21**	P	**P**	**17 11 45.9**	**-0.2**
BOAV				IAmb	IAmb	17 12 01.0	
comp=Z,20nm,1.8s							
RPN	**Rapa Nui**	**34.22**	**260**	LR	LR	17 23 06.4	
comp=Z,60nm,18.3s,baz=178,slow=30							
MDP	**Montagnes des**	**36.00**	**32**	P	**P**	**17 12 34.2**	**-0.9**
comp=Z,8.0nm,0.9s,baz=95,slow=6.0,SNR=1.5							
MDP				LR	LR	17 26 17.2	
comp=Z,70nm,21.4s,baz=254,slow=34							
HOPE	**Hope Point**	**37.59**	**147**	P	**P**	**17 12 48.3**	**+0.1**
VNA3	**Neumayer Olymp**	**56.05**	**160**	P	**P**	**17 15 12.9**	**+0.7**
VNA2	**Neumayer--Watz**	**56.66**	**159**	P	**P**	**17 15 16.9**	**+0.4**
baz=292,slow=8.6							
SNAA	**Sanae**	**58.27**	**160**	P	**P**	**17 15 28.2**	**+0.2**
SNAA	**Sanae**	**58.27**	**160**	P	**P**	**17 15 28.1**	**+0.2**
comp=Z,6.1nm,0.5s,baz=279,slow=8.1,SNR=26							
SNAA	**Sanae**	**58.27**	**160**	P	**P**	**17 15 27.8**	**-0.2**
SNAA				IAmb	IAmb	17 17 15.1	
comp=Z,90nm,1.9s							
H06E1	**SOCORRO T-PHAS**	**59.41**	**315**	T	T	18 19 59.3	
SNR=10							
TKL	**Tuckaleechee C**	**62.94**	**348**	P	**P**	**17 15 59.9**	**-0.1**
comp=Z,5.8nm,1.0s,baz=157,slow=6.2,SNR=4.4							
TXAR	**Laj

comp=Z,7.3nm,0.5s,baz=265,slow=5.1,SNR=10
TORD Torodi Ar. Bea 80.73 70 IAmb IAmb 17 19 32.5
comp=Z,24nm,0.8s
BOSA Boshof 82.75 118 P **P** **17 17 56.4 -1.6**
comp=Z,3.9nm,1.0s,baz=202,slow=5.6,SNR=3.3
BOSA LR LR 17 49 49.2
comp=Z,31nm,18.1s,baz=194,slow=32
BOSA Boshof 82.75 118 IAmb IAmb 17 18 58.8
comp=Z,39nm,1.8s
LBTB Lobatse 84.61 115 LR LR 17 54 41.1
comp=Z,32nm,18.7s,baz=174,slow=35
BBB Bella Bella 92.86 329 P **P** **17 18 48.2 +2.4**
comp=Z,39nm,1.1s,baz=97,slow=9.2,SNR=3.9
BBB Bella Bella 92.86 329 IAmb IAmb 17 18 52.6
comp=Z,548nm,2.0s
YKA Yellowknife Ar 95.23 341 P **P** **17 18 57.5 +1.0**
comp=Z,1.0nm,0.7s,baz=140,slow=4.3,SNR=20
KEST Kesra 97.70 54 LR LR 18 05 15.4
comp=Z,44nm,18.5s,baz=286,slow=37
ASAR Alice Springs 124.71 208 PKP **PKPdf** **17 24 33.9 +0.2**
comp=Z,1.3nm,0.8s,baz=132,slow=1.6,SNR=24
ASAR pPKP **pPKPdf** **17 24 47.8 +0.8**
comp=Z,0.3nm,0.7s,baz=139,slow=1.5,SNR=2.8
H11S2 WAKE ISLAND Hyl 26.53 274
baz=108,slow=74,SNR=37
H11S1 WAKE ISLAND Hyl 26.55 274 T T 19 44 06.2
baz=108,slow=74,SNR=42
H11S3 WAKE ISLAND Hyl 26.55 274 T T 19 44 11.9
baz=108,slow=74,SNR=36
H11N3 WAKE ISLAND Hyl 26.75 276 T T 19 44 29.2
baz=107,slow=75,SNR=7.2
H11N1 WAKE ISLAND Hyl 26.77 276 T T 19 44 23.9
baz=107,slow=75,SNR=6.6
H11N2 WAKE ISLAND Hyl 26.77 276 T T 19 44 31.8
baz=107,slow=75,SNR=6.2
WRA Warramunga Arr 127.79 211 PKP **PKPdf** **17 24 39.5 -0.1**
comp=Z,1.6nm,0.6s,baz=162,slow=1.7,SNR=27
WRA pPKP **pPKPdf** **17 24 54.3 +1.4**
comp=Z,0.5nm,0.6s,baz=158,slow=1.6,SNR=2.8
FITZ Fitzroy Crossi 132.90 202 PKP **PKiKP** **17 24 50.8 +0.3**
comp=Z,8.3nm,0.4s,baz=207,slow=0.2,SNR=77
BVAR Borovoye Array 140.86 37 PKP **PKPdf** **17 25 03.6 +0.7**
comp=Z,0.6nm,0.6s,baz=325,slow=2.3,SNR=4.4
LEM Lembang 146.91 177 PKPbc **PKPab** **17 25 18.6 +0.5**
comp=Z,34nm,0.7s,baz=342,slow=17,SNR=13
ZALV Zalesovo Beam 147.17 27 PKPbc **PKPbc** **17 25 15.2 -0.9**
comp=Z,14nm,0.7s,baz=309,slow=3.6,SNR=54
MK31 Makanchi Array 150.65 39 PKPbc **PKiKP** **17 25 25.8 -0.2**
MKAR Makanchi Array 150.65 39 PKPbc **PKiKP** **17 25 25.8 -0.1**
comp=Z,8.1nm,0.7s,baz=324,slow=2.2,SNR=86
MKAR Makanchi Array 150.65 39 **PKPbc** **17 25 25.6 +0.3**
SONM Songino Array 158.53 5 PKP **PKPdf** **17 25 31.1 +0.3**
comp=Z,0.9nm,0.8s,baz=273,slow=1.1,SNR=7.2
SONM PKPab **PKPab** **17 26 07.7 +1.9**
comp=Z,0.6nm,0.7s,baz=344,slow=2.0,SNR=5.3
PZH PanZhiHua 173.41 88 PKP **PKPdf** **17 25 41.0 -2.3**

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*IDC **17** 17:07:52.3±0.9, 32°.59N×91°.79E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.4/39, mbtmp3.5/10, ML2.8/2, MS3.2/4, Ms1 3.2/4, ms1mx2.7/78, Error ellipse: s-maj=44.7km s-min=16.9km az=58.0*

ISC 17 17:07:58.1±0.7, 32°.79N±0°.07×91°.7E±0°.1, h35km, n26, σ2°09/24, mb3.7/6, MS3.3/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.11**	**188**	Pg	**Pn**	**17 08 44.8**	**-0.2**
LSA				Sg	**Sn**	**17 09 26.1**	**+5.0**
LSA				smax	smax		
	comp=N,950nm,1.0s						
LSA				smax	smax		
	comp=E,660nm,0.8s						
GOMU	**GeErMu**	**4.29**	**37**	P	**Pn**	**17 09 03.8**	**+2.6**
GOMU				pP		17 09 07.3	
GOMU				sP		17 09 11.1	
GOMU				S	Sn	17 10 01.8	+12
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,77nm,5.8s						
GOMU				LR	LR		
	comp=N,140nm,9.2s						
GOMU				LR	LR		
	comp=E,260nm,8.0s						
GOMU				LR	LR		
	comp=Z,200nm,9.4s						
GUN	**Gumba**	**6.96**	**227**	*e*P	**Pn**	**17 09 38.1**	**+0.2**
	comp=Z,1.9nm,0.2s						
KKN	**Kakani**	**7.42**	**230**	*e*P	**Pn**	**17 09 44.3**	**+0.2**
	comp=Z,1.7nm,0.3s						
PKI	**Pulchoki**	**7.50**	**228**	*e*P	**Pn**	**17 09 44.5**	**-0.7**
	comp=Z,13nm,0.5s						
PKIN	**Phulchoki**	**7.50**	**228**	*e*P	**Pn**	**17 09 44.1**	**-1.1**
	comp=Z,11nm,0.4s						
DMN	**Daman**	**7.66**	**229**	*e*P	**Pn**	**17 09 46.8**	**-0.6**
	comp=Z,3.3nm,0.3s						
GKN	**Gorkha**	**7.71**	**234**	*e*P	**Pn**	**17 09 48.2**	**+0.2**
	comp=Z,4.7nm,0.4s						
DANN	**Dangsing**	**8.11**	**239**	*e*P	**Pn**	**17 09 52.5**	**-1.1**
	comp=Z,10nm,0.5s						
KOLN	**Koldanda**	**8.57**	**236**	*e*P	**Pn**	**17 09 56.9**	**-2.9**
PYUN	**Piuthan**	**8.81**	**240**	*e*P	**Pn**	**17 10 00.1**	**-3.1**
	comp=Z,5.4nm,0.5s						
WMQ	**Urumqi**	**11.45**	**345**	*e*P	**Pn**	**17 10 37.8**	**-1.2**
WMQ				smax	smax		
	comp=N,12nm,0.5s						
WMQ				smax	smax		
	comp=E,11nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.70**	**154**	Pn	**Pn**	**17 11 33.0**	**-3.7**
	baz=326,slow=12,SNR=7.3						
MKAR	**Makanchi Array**	**15.71**	**336**	Pn	**Pn**	**17 11 36.4**	**-0.3**
	comp=E,0.0nm,0.3s,baz=141,slow=14,SNR=5.2						
AAK	**Ala-Archa**	**16.74**	**311**	LR	LR	17 19 36.8	
	comp=E,72nm,21.3s,baz=111,slow=42						
SONM	**Songino Array**	**18.72**	**32**	P	**P**	**17 12 12.8**	**-0.9**
	comp=E,0.0nm,0.3s,baz=223,slow=12,SNR=10.0						
KURBB	**Kurchatov Arra**	**20.28**	**335**	P	**P**	**17 12 32.6**	**+2.1**
	comp=E,0.5nm,0.3s,baz=142,slow=11,SNR=1.6						
ZALV	**Zalesovo Beam**	**21.71**	**349**	P	**P**	**17 12 46.8**	**+0.9**
	comp=E,1.9nm,0.7s,baz=171,slow=10,SNR=11						
BVAR	**Borovoye Array**	**25.35**	**329**	P	**P**	**17 13 23.7**	**+2.1**
	comp=E,0.6nm,0.8s,baz=158,slow=4.2,SNR=2.4						
GEYT	**Alibeck**	**27.73**	**290**	LR	LR	17 26 58.5	
	comp=E,77nm,19.0s,baz=110,slow=41						
KSRS	**Korea Array**	**29.91**	**71**	LR	LR	17 25 14.8	
	comp=E,19nm,20.5s,baz=85,slow=35						
AKASG	**Malin Array Be**	**48.40**	**311**	P	**P**	**17 16 37.7**	**+1.2**
	comp=E,0.2nm,0.4s,baz=88,slow=6.0,SNR=1.7						
AKASG				LR	LR	17 41 12.5	
	comp=E,60nm,18.3s,baz=46,slow=41						
GERES	**GERESS Array B**	**58.62**	**311**	P	**P**	**17 17 51.2**	**-0.4**
	comp=E,0.6nm,0.8s,baz=108,slow=4.3,SNR=4.9						
WRA	**Warramunga Arr**	**66.44**	**136**	P	**P**	**17 18 42.0**	**-2.0**
	comp=E,1.2nm,0.9s,baz=327,slow=6.2,SNR=7.2						
ASAR	**Alice Springs**	**69.11**	**139**	P	**P**	**17 18 59.0**	**-1.8**
	comp=E,0.6nm,0.7s,baz=321,slow=6.2,SNR=15						
TXAR	**Lajitas Array**	**116.53**	**15**	PKP	**PKiKP**	**17 26 40.8**	**+2.0**
	comp=E,0.1nm,0.6s,baz=12,slow=4.6,SNR=1.7						

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*KRNET **17** 17:16:52.4±0.1, 40°.96N×71°.02E, h19km, mb2.5*
*SOME **17** 17:16:52.3, 40°.97N×71°.13E, h5km*
*NNC **17** 17:16:55.6±2.9, 41°.18N×71°.24E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=23.4km s-min=9.0km az=7.0*

ISC 17 17:16:52.4±1.2, 40°.96N±0°.03×71°.04E±0°.03, h10km±12km, n25, σ1°87/41, 18C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.58**	**7**	⇑*i*P	**Pb**	**17 17 02.1**	**-2.6**
	baz=13						
TRKS				⇑*i*S	**Sb**	**17 17 09.8**	**-3.2**
	baz=13						
BTK	**Batken**	**0.91**	**191**	⇓*i*P	**Pb**	**17 17 09.5**	**-0.9**
	baz=90						
BTK				⇓*i*S	**Sg**	**17 17 21.9**	**0.0**
	baz=90						
ARK	**Arkit**	**1.09**	**39**	⇑*i*P	**Pn**	**17 17 12.9**	**-0.9**
	baz=40						
ARK				⇑*i*S	**Sg**	**17 17 28.0**	**+0.5**
	baz=40						
OHH	**Osh**	**1.39**	**108**	⇑*i*P	**Pb**	**17 17 17.8**	**-0.7**
	baz=7.0						
OHH				⇑*i*S	**Sg**	**17 17 37.2**	**0.0**
	baz=7.0						
IUG	**Iuzhnay**	**1.41**	**328**	*e*P	**Pg**	**17 17 19.3**	**-0.1**
	2μm,0.2s						
IUG				*e*S	**Sg**	**17 17 39.5**	**+1.8**
	91nm,0.4s						
DRK	**Karamyk**	**1.59**	**158**	⇑*i*P	**Pb**	**17 17 21.8**	**-0.1**
	baz=58						
DRK				⇑*i*S	**Sg**	**17 17 43.2**	**-0.2**
	baz=58						
CHM	**Chimkent**	**1.74**	**322**	*e*P	**Pg**	**17 17 26.5**	**+0.8**
	2.8nm,0.2s						
CHM				*e*S	**Sg**	**17 17 52.2**	**+4.1**
	164nm,0.3s						
MNAS	**Manas**	**1.88**	**35**	⇑*i*P	**Pb**	**17 17 26.5**	**-0.4**
	baz=36						
MNAS				⇑*i*S	**Sb**	**17 17 51.1**	**+0.6**
	baz=36						
DZA	**Taraz**	**1.94**	**6**	*e*P	**Pg**	**17 17 29.0**	**-0.7**
	36nm,0.1s						
DZA				*e*S	**Sg**	**17 17 56.1**	**+1.2**
	96nm,0.3s						
SFK	**Sufi-Kurgan**	**2.10**	**116**	⇓*e*P	**Pb**	**17 17 29.2**	**-1.5**
	baz=16						
SFK				⇓*e*S	**Sb**	**17 17 56.2**	**-0.7**
	baz=16						
SALK	**Salom-Alik**	**2.11**	**91**	⇑*e*P	**Pb**	**17 17 29.3**	**-1.5**
	baz=91						
SALK				⇑*e*S	**Sb**	**17 17 56.6**	**-0.4**
	baz=91						
KK02	**Karatay Array**	**2.18**	**350**	⇓Pg	**Pb**	**17 17 30.5**	**-1.5**
	5.0nm,0.6s,baz=162,slow=17						
KK01	**Karatay Array**	**2.18**	**350**	⇑Lg	Lg	17 18 00.2	
	4.3nm,0.3s,baz=160,slow=27						
BRLS	**Borolday**	**2.26**	**337**	*e*P	**Pb**	**17 17 31.0**	**-2.2**
	7.4nm,0.4s						
BRLS				*e*S	**Sb**	**17 17 59.8**	**-1.5**
	14nm,0.4s						
BRLS	**Borolday**	**2.26**	**337**	Pg	**Pb**	**17 17 31.0**	**-2.2**
	7.4nm,0.4s						
BRLS				Lg	Lg	17 17 59.8	
	14nm,0.4s						
MRKS	**Merke**	**2.42**	**42**	*e*P	**Pb**	**17 17 35.6**	**-0.5**
	2.9nm,0.5s						
MRKS				*e*S	**Sb**	**17 18 07.7**	**+1.7**
	16nm,0.5s						
MRKS	**Merke**	**2.42**	**42**	Pg	**Pb**	**17 17 35.6**	**-0.5**
	2.9nm,0.5s						
MRKS				Lg	Lg	17 18 07.7	
	16nm,0.5s						
ARLS	**Aral**	**2.63**	**69**	⇑*i*P	**Pn**	**17 17 36.3**	**+1.3**
	baz=69						
ARLS				⇑*i*S	**Sb**	**17 18 08.7**	**-3.3**
	baz=69						
UCH	**Uchtor**	**2.90**	**63**	⇑*i*P	**Pn**	**17 17 40.3**	**+1.3**
	baz=63						
UCH				⇑*i*S	**Sn**	**17 18 15.4**	**+1.3**
	baz=63						
AAK	**Ala-Archa**	**3.08**	**56**	⇑Pg	**Pb**	**17 17 48.9**	**+1.5**
AAK				⇓Lg	Lg	17 18 25.3	
TKM2	**Tokmak 2**	**3.92**	**58**	⇓Pg	**Pb**	**17 18 03.0**	**+1.2**
TKM2				⇓Lg	Lg	17 18 53.0	
DGS	**Degeres**	**4.20**	**55**	*e*P	**Pb**	**17 18 06.9**	**+0.6**
	3.0nm,0.6s						
DGS				*e*S	**Sb**	**17 19 00.9**	**+3.8**
	2.7nm,0.5s						
DGS	**Degeres**	**4.20**	**55**	Pg	**Pb**	**17 18 06.9**	**+0.6**
	3.0nm,0.6s						
DGS				Lg	Lg	17 19 00.9	
	2.7nm,0.5s						
KST	**Kastek**	**4.22**	**59**	*e*P	**Pb**	**17 18 07.8**	**+1.0**
	11nm,0.5s						
KST				*e*S	**Sg**	**17 19 02.6**	**-5.2**
	8.4nm,1.0s						
KST	**Kastek**	**4.22**	**59**	Pg	**Pb**	**17 18 07.8**	**+1.0**
	11nm,0.5s						
KST				Lg	Lg	17 19 02.6	
	8.4nm,1.0s						

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*DJA **17** 17:24:05.3±0.6, 3°.5S×3°.12°.4E±°, h102km±28km, M4.1/15, mb4.4/2, mB4.4/2, MLv3.9/15, Mw(mB)3.5/2*
*IDC **17** 17:24:13.4±1.2, 2°.92S×123°.52E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.5/31, mbtmp3.6/7, ML3.3/3, MS3.3/9, Ms1 3.3/9, ms1mx2.9/53, Error ellipse: s-maj=33.8km s-min=20.1km az=51.0*

ISC 17 17:24:14.7±1.1, 2°.89S±0°.07×123°.1E±0°.1, h35km, n25, σ1°49/12, mb3.7/4, MS3.2/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.88**	**349**	P	**Pn**	**17 24 42.6**	**-1.8**
APSI	**Ampana**	**2.47**	**323**	P	**Pn**	**17 24 53.1**	**+0.5**
BBSI	**Bau Bau**	**2.64**	**193**	P	Pn	17 24 47.6	-7.3
TTSI	**Tana Toraja**	**3.33**	**267**	P	**Pn**	**17 25 04.5**	**+0.2**
BNSI	**Bone**	**3.38**	**244**	P	**Pn**	**17 25 04.1**	**-1.0**
GTOI	**Gorontalo**	**3.51**	**358**	P	**Pn**	**17 25 05.8**	**-1.0**
SPSI	**Sidrap Palu**	**3.53**	**252**	P	**Pn**	**17 25 05.7**	**-1.5**
MRSI	**Marisa**	**3.56**	**340**	P	**Pn**	**17 25 05.3**	**-2.2**
BKSI	**Bulukumba**	**3.86**	**231**	P	**Pn**	**17 25 09.8**	**-1.9**
KAPI	**Kappang**	**3.99**	**238**	Pn	Pn	17 25 18.6	+5.2
	1.3nm,0.3s,baz=75,slow=16,SNR=3.9						
BSSI	**Bau Bau, Buton**	**4.17**	**219**	P	Pn	17 25 09.5	-6.5
MPSI	**Mapaga**	**4.56**	**315**	P	**Pn**	**17 25 21.8**	**+0.4**
LBMI	**Labuha**	**4.90**	**63**	P	Pn	17 25 11.9	-14
BATI	**Baumata**	**7.28**	**176**	LR	LR	17 28 38.9	
	comp=Z,198nm,19.9s,baz=1.5,slow=37						
SIJI	**Sorong**	**8.36**	**76**	Pn	**Pn**	**17 26 13.2**	**-0.4**
	2.1nm,0.3s,baz=239,slow=11,SNR=11						
SIJI				LR	LR	17 29 48.1	
	comp=Z,108nm,20.0s,baz=258,slow=42						
FITZ	**Fitzroy Crossi**	**15.31**	**171**	LR	LR	17 33 26.0	
	comp=Z,380nm,21.6s,baz=224,slow=36						
WRA	**Warramunga Arr**	**20.16**	**148**	P	Pn	17 28 47.5	-0.8
	0.0nm,0.3s,baz=343,slow=10,SNR=2.3						
WRA				LR	LR	17 38 20.2	
	comp=Z,39nm,20.4s,baz=92,slow=42						
ASAR	**Alice Springs**	**23.12**	**154**	P	**P**	**17 29 19.8**	**+1.8**
	0.8nm,0.8s,baz=340,slow=14,SNR=7.3						
ASAR				LR	LR	17 39 22.9	
	comp=Z,57nm,18.6s,baz=340,slow=40						
PMG	**Port Moresby**	**24.72**	**106**	LR	LR	17 41 42.4	
	comp=Z,64nm,18.6s,baz=252,slow=43						
CTA	**Charters Tower**	**28.30**	**129**	LR	LR	17 41 39.9	
	comp=Z,66nm,19.4s,baz=300,slow=37						
CMAR	**Chiang Mai Arr**	**31.91**	**313**	P	P	17 30 43.5	+6.3
	0.3nm,0.3s,baz=132,slow=7.2,SNR=6.3						
STKA	**Stephens Creek**	**33.66**	**151**	P	**P**	**17 30 53.0**	**+0.7**
	1.7nm,0.9s,baz=312,slow=5.6,SNR=3.3						
PALK	**Pallekele**	**43.54**	**284**	LR	LR	17 51 38.1	
	comp=Z,42nm,18.5s,baz=262,slow=38						
DZM	**Mont Dzumac**	**46.13**	**118**	LR	LR	17 52 24.3	
	comp=Z,31nm,20.7s,baz=7.5,slow=37						
MKAR	**Makanchi Array**	**61.15**	**329**	P	P	17 34 31.4	+5.7
	0.6nm,0.8s,baz=135,slow=7.9,SNR=5.6						

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*KRNET **17** 17:27:43.5±0.1, 41°.10N×70°.61E, h30km, md2.4*
*ISU **17** 17:27:45, 40°.80N×71°.30E, h5km*

ISC 17 17:27:44.4±1.8, 41°.05N±0°.04×70°.79E±0°.09, h1km±12km, n12, σ1°00/15, 13C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.55**	**29**	⇑*i*P	Pg	17 27 54.9	0.0
	baz=49						
TRKS				⇑*i*S	**Sg**	**17 28 03.2**	**+1.1**
	baz=49						
BTK	**Batken**	**0.99**	**179**	⇓*i*P	**Pg**	**17 28 02.9**	**-0.4**
	baz=71						
BTK				⇓*i*S	**Sg**	**17 28 17.2**	**+1.1**
	baz=71						
FRG	**Fergana**	**1.01**	**131**	*e*P	Pg	17 27 57.0	-6.7
FRG				*e*S	**Sg**	**17 28 15.0**	**-1.9**
ARK	**Arkit**	**1.16**	**49**	⇑*i*P	**Pg**	**17 28 06.3**	**-0.3**
	baz=55						
OHH	**Osh**	**1.60**	**108**	*e*P	Pn	17 28 07.0	-7.0
OHH				*e*S	Sg	17 28 24.0	-12
OHH	**Osh**	**1.60**	**108**	⇑*i*P	**Pn**	**17 28 14.6**	**+0.6**
	baz=8.0						
OHH				⇑*i*S	**Sg**	**17 28 37.0**	**+1.1**
	baz=8.0						
DRK	**Karamyk**	**1.75**	**153**	⇓*i*P	**Pn**	**17 28 15.8**	**-0.3**
	baz=50						
DRK				⇓*i*S	**Sn**	**17 28 39.3**	**+0.1**
	baz=50						
MNAS	**Manas**	**1.93**	**41**	⇓*i*P	Pn	17 28 17.5	-1.0
	baz=45						
MNAS				⇓*i*S	**Sn**	**17 28 42.6**	**-0.9**
	baz=45						
KK09	**Karatay Array**	**2.09**	**354**	⇑Pg	Pn	17 28 23.9	+3.3
	0.9nm,0.6s,baz=167,slow=17						
KK09				⇑Lg	Lg	17 28 55.9	
	9.1nm,0.4s,baz=166,slow=27						
SALK	**Salom-Alik**	**2.30**	**93**	⇑*e*P	**Pn**	**17 28 23.9**	**+0.2**
	baz=94						
SALK				⇑*e*S	**Sn**	**17 28 53.1**	**+0.4**
	baz=94						
SFK	**Sufi-Kurgan**	**2.31**	**116**	⇑*e*P	Pn	17 28 24.7	+0.8
	baz=15						
SFK				⇑*e*S	**Sn**	**17 28 54.2**	**+1.1**
	baz=15						
ARLS	**Aral**	**2.78**	**72**	⇑*i*P	**Pn**	**17 28 29.8**	**-0.4**
	baz=74						
ARLS				⇑*i*S	**Sn**	**17 29 03.7**	**-0.8**
	baz=74						

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*LDG **17** 17:33:43.1±0.6, 36°.20N×12°.97E, h10km, Ml2.9/4, Error ellipse: s-maj=15.6km s-min=3.8km az=14.0*
*ROM **17** 17:33:43.7±0.6, 36°.32N±0°.04×12°.74E±0°.03, h30km±1km, Md2.9/9, Error ellipse: s-maj=4.7km s-min=2.5km az=349.0*

ISC 17 17:33:44.9±2.5, 36°.4N±0°.1×12°.79E±0°.07, h23km±18km, n29, σ0°93/39, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAVR	**Favara**	**1.10**	**40**	P	**Pn**	**17 34 04.9**	**0.0**
CLTA	**Licata**	**1.20**	**52**	P	**Pn**	**17 34 06.1**	**0.0**
CLTA				END			
CLTA				END			
CLTB	**Caltabellotta**	**1.21**	**16**	P	**Pn**	**17 34 04.3**	**-2.1**
CMDO	**Montedoro**	**1.33**	**38**	P	**Pb**	**17 34 09.0**	**-0.2**
RAFF	**Raffo Rosso**	**1.50**	**57**	P	**Pn**	**17 34 09.8**	**-0.4**
RAFF				S	**Sn**	**17 34 29.9**	**+0.8**
RAFF				END			
WDD	**Wied Dalam**	**1.52**	**112**	P	**Pn**	**17 34 10.0**	**-0.6**
ALJA	**Alia**	**1.53**	**30**	P	**Pn**	**17 34 11.4**	**+0.5**
ALJA				END			
RESU	**Resuttano**	**1.59**	**39**	P	**Pb**	**17 34 13.3**	**-0.3**
HMDC	**Modica**	**1.69**	**71**	P	**Pn**	**17 34 12.2**	**-0.8**
HMDC				S	**Sn**	**17 34 33.9**	**0.0**
HMDC				END			
CAGR	**Agira**	**1.82**	**48**	P	**Pn**	**17 34 16.0**	**+1.2**
CSLB	**Castelbuono**	**1.82**	**33**	P	**Pn**	**17 34 14.5**	**-0.3**
CSLB				END			
CSLB				END			
MEU	**Monte Lauro**	**1.85**	**68**	P	**Pn**	**17 34 15.3**	**0.0**
MEU				S	**Sn**	**17 34 37.5**	**-0.4**
MEU				END			
HPAC	**Pachino**	**1.89**	**81**	P	**Pn**	**17 34 13.9**	**-1.8**
HLNI	**Lentini**	**1.91**	**60**	P	**Pn**	**17 34 15.6**	**-0.4**
HLNI				S	**Sn**	**17 34 39.0**	**-0.3**
HLNI				AML	AML		
	comp=E,371μm,0.3s						
HLNI				AML	AML		
	comp=N,340μm,0.9s						
HLNI				AML	AML		
	comp=E,370μm,0.3s						
HLNI				AML	AML		
	comp=N,341μm,0.9s						
HLNI				END			
GALF	**Gagliano Caste**	**1.92**	**47**	P	**Pn**	**17 34 17.4**	**+1.3**
GALF				AML	AML		
	comp=E,454μm,0.6s						
GALF				AML	AML		
	comp=N,397μm,0.5s						
GALF				END			
HAVL	**Avola**	**1.95**	**73**	P	**Pn**	**17 34 16.1**	**-0.5**
HAVL				S	**Sn**	**17 34 41.1**	**+0.7**
HAVL				AML	AML		
	comp=E,515μm,1.0s						
HAVL				AML	AML		
	comp=N,550μm,1.1s						
HAVL				END			
SSY	**Sortino**	**1.97**	**68**	P	**Pn**	**17 34 17.1**	**+0.2**
SSY				S	**Sn**	**17 34 42.0**	**+1.1**
SSY				AML	AML		
	comp=E,712μm,1.6s						
SSY				AML	AML		
	comp=N,1048μm,0.5s						
SSY				END			
ESML	**S. M. di Licod**	**2.05**	**54**	P	**Pn**	**17 34 18.6**	**+0.6**
HAGA	**Augusta**	**2.08**	**65**	P	**Pn**	**17 34 18.0**	**-0.4**
HAGA				S	**Sn**	**17 34 43.2**	**-0.4**
HAGA				END			
ESLN	**Serra La Nave**	**2.16**	**53**	P	**Pn**	**17 34 20.6**	**+1.0**
EMSG	**Monte Spagnolo**	**2.22**	**50**	P	**Pn**	**17 34 21.6**	**+1.2**
AIO	**Antillo**	**2.49**	**51**	P	**Pn**	**17 34 24.7**	**+0.6**
PGF	**Pioggiola**	**6.78**	**336**	*e*Pn	**Pn**	**17 35 24.3**	**+1.3**
PGF				*e*Sn	**Sn**	**17 36 39.7**	**+0.1**
	comp=N,3.1nm,0.6s						
LMR	**La Mourre**	**8.42**	**327**	*e*Pn	**Pn**	**17 35 44.3**	**-1.1**
SBF	**Sospel**	**8.49**	**333**	*e*Pn	**Pn**	**17 35 46.5**	**+0.1**
SBF				*e*Sn	**Sn**	**17 37 20.4**	**-1.0**
	comp=N,1.3nm,0.4s						
MBDF	**Montbardon**	**9.47**	**333**	*e*Pn	**Pn**	**17 36 01.0**	**+1.0**
MBDF				*e*Sn	**Sn**	**17 37 44.0**	**-1.7**
	comp=N,0.5nm,0.4s						
ORIF	**Oris-en-Rattie**	**9.97**	**330**	*e*Pn	**Pn**	**17 36 08.0**	**+1.2**
LPL	**La Plagne**	**10.17**	**335**	*e*Pn	**Pn**	**17 36 10.4**	**+0.8**
MTLF	**Montolieu**	**10.66**	**314**	*e*Pn	**Pn**	**17 36 17.3**	**+1.2**

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*TUL **17** 17:34:45.1±1.4, 36°.04N±0°.02×97°.46W±0°.02, h4km±7km, ML2.6, mb_Lg2.3/6(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=142.0*

NEIC 17 17:34:44.8±0.9, 36°.051N±0°.010×97°.48W±0°.02, h6km±5km, Error ellipse: s-maj=1.9km s-min=1.5km az=74.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.25**	**176**	Pg	Pg	17 34 49.9	+0.1
OK029				Sg	Sg	17 34 52.2	-1.0
BCOK	**Bluff Creek, N**	**0.41**	**195**		Pg	17 34 52.6	-0.1
BCOK				Sg	Sg	17 34 58.7	+0.7
OK033	**Mehan**	**0.44**	**91**	Pg	Pg	17 34 53.6	+0.3
OK025	**Westminster Rd**	**0.48**	**166**	Pg	Pg	17 34 54.5	+0.4
OK031	**S. Brethren Rd**	**0.53**	**100**		Pg	17 34 54.9	0.0
OK031				Sg	Sg	17 35 02.3	+0.4
OK030	**Cody Creek RV**	**0.58**	**102**		Pg	17 34 56.1	+0.2
CROK	**Carrier**	**0.61**	**318**		Pg	17 34 57.2	+0.6
OK034	**N. Norfolk Rd.**	**0.62**	**93**		Pg	17 34 56.9	+0.2
OKCFA	**Oklahoma City**	**0.63**	**178**		Pg	17 34 57.3	+0.3
QUOK	**Quay**	**0.64**	**79**	Pg	Pg	17 34 57.3	+0.3
OKCSW	**OKLAHOMA CITY**	**0.64**	**177**	Pg	Pg	17 34 57.0	-0.1
FNO	**Franklin**	**0.79**	**175**	Pg	P

RUS				eS	Sn	17 38 42.5	+1.1
MTVR	**Mutnovka**	**0.65**	**348**	eP	Pn	17 38 27.7	+1.2
MTVR				eS	Sn	17 38 43.1	+0.7
GRL	**Gorelyy**	**0.73**	**344**	eP	Pn	17 38 28.6	+1.5
KRMR	**Karymshinskiy**	**0.99**	**351**	eP	Pn	17 38 30.0	+0.9
KRMR				eS	Sn	17 38 48.3	+1.4
PAU	**Pauzhetka**	**1.06**	**249**	eP	Pn	17 38 30.7	+1.0
PET	**Petropavlovsk**	**1.18**	**7**	eP	Pn	17 38 32.3	+1.4
PET				eS	Sn	17 38 50.5	+0.4
DALK	**Dalny**	**1.20**	**10**	eP	Pn	17 38 32.6	+1.6
DALK				eS	Sn	17 38 50.9	+0.5
APC	**Apacha**	**1.32**	**325**	eP	Pn	17 38 32.1	-0.1
UGLR	**Uglovaya**	**1.38**	**11**	eP	Pn	17 38 35.0	+1.9
UGLR				eS	Sn	17 38 55.2	+1.2
AVH	**Avacha**	**1.43**	**8**	eP	Pn	17 38 35.5	+2.0
AVH				eS	Sn	17 38 56.6	+1.8
SMAR	**Somma**	**1.43**	**10**	eP	Pn	17 38 35.3	+1.6
NLC	**Nalytchevo**	**1.44**	**23**	eP	Pn	17 38 34.9	+1.4
NLC				eS	Sn	17 38 54.7	-0.1
KOK	**Koryaka**	**1.45**	**6**	eP	Pn	17 38 35.6	+1.9
SDLR	**Sedlovina**	**1.46**	**12**	eP	Pn	17 38 35.4	+1.5
SDLR				eS	Sn	17 38 56.0	+0.6
KRER	**Koryakskii**	**1.47**	**8**	eP	Pn	17 38 35.8	+1.7
KRER				eS	Sn	17 38 56.9	+1.1
SPN	**Mys Shipunski**	**1.59**	**38**	eP	Pn	17 38 37.7	+2.5
SPN				eS	Sn	17 38 59.5	+1.7
SKR	**Severo-Kuril's**	**1.85**	**232**	eP	Pn	17 38 39.4	+1.2
SKR				eS	Sn	17 39 03.0	-0.1
GNL	**Ganaly**	**1.87**	**352**	eP	Pn	17 38 38.5	0.0
TUMD	**Tumrok D**	**3.56**	**19**	eS	Sn	17 39 42.9	+1.2
KMNR	**Kamenistaya**	**4.06**	**15**	eP	Pn	17 39 09.2	+2.8
BKI	**Bering**	**5.63**	**50**	eS	Sn	17 40 29.1	-1.5

*IDC **17** 17:45:05.5±3.8, 8.′98S×118.′52E, h94km±35km, mb3.5/6, mb1 3.7/10, mb1mx3.2/36, mbtmp3.9/10, Error ellipse: s-maj=41.6km s-min=10.6km az=64.0*
*DJA **17** 17:45:07.9±0.9, 9.′5S±3.′×11.′9E±.′, h27km±9km, M4.2/23, mb4.2/7, mB4.9/6, MLv4.2/23, Mw(mB)4.2/6*

ISC 17 17:45:06.4±0.7, 9.′03S±0.′05×118.′62E±0.′06, h100km, n33, σ1°82/36, mb3.7/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.98**	**129**	P	**Pn**	**17 45 26.9**	**+0.3**
WBSI				S	**Sn**	**17 45 41.3**	**-0.5**
BASI	**Baing, Sumba**	**2.27**	**122**	P	**Pn**	**17 45 44.5**	**+2.1**
BASI				S	**Sn**	**17 46 11.7**	**+1.6**
EDFI	**Ende, Flores**	**3.05**	**85**	P	**Pn**	**17 45 54.3**	**+1.4**
EDFI				S	**Sn**	**17 46 30.2**	**+1.4**
DNP	**Denpasar**	**3.38**	**276**	P	Pn	17 46 00.5	+3.2
BSSI	**Bau Bau, Buton**	**3.42**	**33**	P	**Pn**	**17 45 58.6**	**+0.9**
IGBI	**Denpasar**	**3.44**	**273**	P	Pn	17 46 00.7	+2.7
SRBI	**Singaraja**	**3.50**	**285**	P	**Pn**	**17 45 59.6**	**+0.8**
MMRI	**Maumere**	**3.60**	**84**	P	**Pn**	**17 46 00.6**	**+0.4**
BKSI	**Bulukumba**	**3.97**	**22**	P	**Pn**	**17 46 06.7**	**+1.5**
KAPI	**Kappang**	**4.14**	**16**	P	**Pn**	**17 46 07.1**	**-0.4**
	4.1nm,0.3s,baz=205,slow=7.3,SNR=5.3						
KAPI				S	**Sn**	**17 46 53.7**	**-1.2**
	6.8nm,0.3s,baz=296,slow=23,SNR=22						
JAGI	**Jajag, Banyuwa**	**4.45**	**277**	P	**Pn**	**17 46 12.3**	**+0.6**
ABJI	**Asem Bagus**	**4.51**	**285**	P	**Pn**	**17 46 14.4**	**+2.0**
BNSI	**Bone**	**4.83**	**18**	P	**Pn**	**17 46 18.1**	**+1.3**
KMMI	**Kalianget**	**5.01**	**293**	P	Pn	17 46 22.4	+3.2
	0.1nm14nm,1.8s						
BATI	**Baumata**	**5.11**	**104**	P	**Pn**	**17 46 21.7**	**+1.0**
	32nm,0.3s,baz=310,slow=3.9,SNR=44						
BATI				S	**Sn**	**17 47 20.7**	**+2.2**
	20nm,0.3s,baz=254,slow=23,SNR=11						
BATI	**Baumata**	**5.11**	**104**	P	**Pn**	**17 46 21.1**	**+0.4**
BLJI	**Banyuglugur**	**5.13**	**284**	P	**Pn**	**17 46 22.7**	**+1.8**
	0.6nm8μm25nm,0.4s						
SPSI	**Sidrap Palu**	**5.16**	**13**	P	**Pn**	**17 46 23.2**	**+1.9**
	0.1nm11nm,1.1s						
GMJI	**Gumukmas**	**5.17**	**278**	P	**Pn**	**17 46 23.5**	**+2.1**
	0.3nm997nm29nm,0.8s						
BBSI	**Bau Bau**	**5.27**	**48**	P	**Pn**	**17 46 24.6**	**+1.8**
	0.0nm66nm6.0nm,0.9s						
SOEI	**Soe**	**5.62**	**98**	P	**Pn**	**17 46 28.3**	**+0.6**
	0.3nm1μm47nm,0.8s						
TTSI	**Tana Toraja**	**6.06**	**11**	P	**Pn**	**17 46 36.7**	**+3.1**
BBKI	**Banjar Baru**	**6.68**	**326**	P	**Pn**	**17 46 44.3**	**+2.3**
	0.1nm17nm,0.9s						
PCJI	**Pacitan**	**7.40**	**276**	P	**Pn**	**17 46 53.8**	**+2.0**
MTKI	**Muara Teweh, K**	**8.85**	**335**	P	Pn	17 47 15.4	+4.0
FITZ	**Fitzroy Crossi**	**11.31**	**144**	P	**Pn**	**17 47 43.7**	**-1.2**
	0.2nm,0.3s,baz=333,slow=8.8,SNR=9.7						
FITZ				S	Sn	17 49 41.0	-8.3
	0.8nm,0.3s,baz=188,slow=21,SNR=10						
WRA	**Warramunga Arr**	**18.67**	**127**	P	**P**	**17 49 16.6**	**-0.2**
	0.6nm,0.3s,baz=305,slow=13,SNR=8.3						
WRA				S	**S**	**17 52 38.5**	**-5.9**
	0.2nm,0.3s,baz=302,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**20.63**	**137**	P	**P**	**17 49 39.4**	**+1.4**
	2.8nm,0.5s,baz=317,slow=11,SNR=110						
ASAR				S	**S**	**17 53 21.5**	**-1.8**
	0.3nm,0.7s,baz=306,slow=22,SNR=2.7						
STKA	**Stephens Creek**	**31.17**	**140**	P	**P**	**17 51 17.0**	**+1.0**
	2.4nm,0.4s,baz=322,slow=8.1,SNR=13						
CMAR	**Chiang Mai Arr**	**33.51**	**325**	P	**P**	**17 51 36.6**	**0.0**
	0.2nm,0.4s,baz=156,slow=7.3,SNR=2.0						
SONM	**Songino Array**	**57.64**	**350**	P	**P**	**17 54 45.8**	**-0.4**
	0.4nm,0.4s,baz=170,slow=8.6,SNR=6.8						
MKAR	**Makanchi Array**	**64.31**	**333**	P	**P**	**17 55 29.9**	**-1.4**
	0.3nm,0.3s,baz=142,slow=5.9,SNR=20						
ZALV	**Zalesovo Beam**	**68.93**	**339**	P	**P**	**17 55 59.0**	**-1.4**
	0.5nm,0.4s,baz=153,slow=3.8,SNR=3.0						

*IDC **17** 17:49:38.5±2.0, 53.′67N×164.′74W, h0km, mb3.2/4, mb1 3.5/6, mb1mx3.1/37, mbtmp3.3/6, ML2.8/2, Error ellipse: s-maj=42.8km s-min=27.8km az=165.0*
*AEIC **17** 17:49:41±0.6, 53.′61N±0.′07×164.′74W±0.′08, h32km±7km, ML3.3, Error ellipse: s-maj=10.9km s-min=6.4km az=162.0*
*NEIC **17** 17:49:43.0±1.0, 53.′72N±0.′05×164.′81W±0.′07, h33km±17km, Error ellipse: s-maj=7.6km s-min=6.1km az=155.0*

ISC 17 17:49:42.6±1.1, 53.′7N±0.′1×164.′81W±0.′06, h35km, n37, σ0°76/29, mb3.5/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.70**	**312**		**Pn**	**17 49 56.0**	**-0.1**
AKSA	**Akutan Strait**	**0.70**	**312**		**Pn**	**17 49 55.9**	**-0.1**
AKUT	**Akutan**	**0.73**	**310**		**Pn**	**17 49 56.6**	**+0.1**
AKBBA	**Akutan Broad B**	**0.79**	**303**		**Pn**	**17 49 57.7**	**+0.4**
AKMO	**Akutan Morgan**	**0.82**	**301**		**Pn**	**17 49 57.8**	**+0.1**
WESP	**Westdahl Peak**	**0.82**	**4**		**Pn**	**17 49 57.8**	**-0.1**
HSB	**Akutan Spr's B**	**0.83**	**309**		**Pn**	**17 49 57.9**	**+0.1**
AKLV	**Akutan Long Va**	**0.84**	**306**		**Pn**	**17 49 57.9**	**0.0**
WECS	**Westdahl Cape**	**0.86**	**1**		**Pn**	**17 49 58.5**	**+0.2**
AKRB	**Akutan Reef Bi**	**0.87**	**302**		**Pn**	**17 49 58.6**	**+0.2**
WEBT	**Westdahl Beart**	**0.92**	**2**		**Pn**	**17 49 59.7**	**+0.6**
UNV	**Unalaska Valle**	**1.02**	**280**		**Pn**	**17 49 59.6**	**-0.7**
MTBL	**Makushin Table**	**1.15**	**286**		**Pn**	**17 50 02.0**	**-0.2**
SSLS	**Shishaldin Sou**	**1.15**	**24**		**Pn**	**17 50 01.7**	**-0.5**
MSW	**Makushin Switc**	**1.19**	**283**		**Pn**	**17 50 02.4**	**-0.4**
ISLZ	**Isanotski Laza**	**1.24**	**31**		**Pn**	**17 50 02.6**	**-0.8**
SSLN	**Shishaldin Nor**	**1.24**	**22**		**Pn**	**17 50 03.4**	**-0.1**
MAPS	**Pakushin South**	**1.27**	**277**		**Pn**	**17 50 03.5**	**-0.4**
ISNN	**Isanotski Nort**	**1.31**	**27**		**Pn**	**17 50 04.5**	**+0.1**
FALS	**False Pass**	**1.44**	**34**		**Pn**	**17 50 05.5**	**-0.6**
OKNC	**Okmok New Cone**	**1.99**	**265**		**Pn**	**17 50 14.8**	**+1.1**
NIKH	**Nikolski High**	**2.52**	**255**	Pn	**Pn**	**17 50 20.2**	**-0.8**
SDPT	**Sand Point**	**3.04**	**55**	Pn	**Pn**	**17 50 29.1**	**+1.1**
KDAK	**Kodiak Island**	**8.04**	**54**	Pn	**Pn**	**17 51 35.6**	**-1.0**
	0.2nm,0.3s,baz=262,slow=21,SNR=1.0						
ILAR	**Eielson Array**	**14.35**	**32**	Pn	**Pn**	**17 53 00.7**	**-2.3**
	0.0nm,0.3s,baz=219,slow=13,SNR=1.5						
INK	**Inuvik**	**20.75**	**33**	P	**P**	**17 54 20.4**	**+0.6**
	0.3nm,0.4s,baz=243,slow=9.6,SNR=1.7						
PETK	**Petropavlovsk-**	**22.20**	**284**	P	**P**	**17 54 36.6**	**+1.0**
	1.7nm,1.0s,baz=78,slow=15,SNR=1.7						
YKA	**Yellowknife Ar**	**27.30**	**51**	P	**P**	**17 55 24.6**	**+1.2**
	0.3nm,0.7s,baz=278,slow=10,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**40.25**	**224**	T	T	18 40 13.2	
	baz=25,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**40.25**	**224**	T	T	18 40 03.5	
	baz=25,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**40.27**	**224**	T	T	18 39 58.3	
	baz=25,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**41.42**	**223**	T	T	18 41 31.8	
	baz=25,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**41.44**	**223**	T	T	18 41 33.8	
	baz=25,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**41.44**	**223**	T	T	18 41 35.2	
	baz=25,slow=76,SNR=15						
TXAR	**Lajitas Array**	**50.02**	**94**	P	**P**	**17 58 33.9**	**+0.3**
	0.2nm,0.4s,baz=299,slow=5.4,SNR=5.9						
H03N1	**Juan Fernandez**	**113.91**	**114**	T	T	20 12 30.0	
	baz=324,slow=74,SNR=6.4						
H03N3	**Juan Fernandez**	**113.91**	**114**	T	T	20 12 55.4	
	baz=65,slow=74,SNR=5.6						

*IDC **17** 18:06:43.8±3.1, 4.′30S×144.′72E, h0km, mb3.2/4, mb1 3.4/6, mb1mx3.2/38, mbtmp3.2/6, ML3.3/2, Error ellipse: s-maj=65.0km s-min=28.4km az=90.0*

ISC 17 18:07:00.4±2.2, 4.′4S±0.′2×143.′7E±0.′2, h100km, n6, σ1°15/7, mb3.1/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.56**	**302**	Pn	**Pn**	**18 07 52.1**	**-1.6**
	2.0nm,0.3s,baz=161,slow=9.4,SNR=15						
JAY				Sn	**Sn**	**18 08 35.9**	**+0.9**
	3.0nm,0.3s,baz=294,slow=10.0,SNR=4.7						
WRA	**Warramunga Arr**	**17.95**	**210**	P	**P**	**18 11 02.5**	**-0.3**
	0.1nm,0.3s,baz=34,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**21.36**	**205**	P	**P**	**18 11 39.5**	**-0.4**
	0.2nm,0.6s,baz=30,slow=12,SNR=2.4						
FITZ	**Fitzroy Crossi**	**22.32**	**231**	P	**P**	**18 11 50.6**	**+0.6**
	0.9nm,0.6s,baz=55,slow=11,SNR=3.1						
CMAR	**Chiang Mai Arr**	**49.64**	**299**	P	**P**	**18 15 43.4**	**+1.1**
	0.2nm,0.6s,baz=116,slow=5.5,SNR=4.6						
MKAR	**Makanchi Array**	**74.22**	**321**	P	**P**	**18 18 26.5**	**0.0**
	0.2nm,0.8s,baz=131,slow=6.5,SNR=1.8						

IDC 17 18:12:47.5±1.6, 1.′64S×127.′94E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.0/34, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=143.9km s-min=12.7km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.23**	**161**	P	Pn	18 17 15.2	+0.8
	0.0nm,0.3s,baz=342,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**22.64**	**166**	P	P	18 17 50.1	-0.2
	0.6nm,0.6s,baz=344,slow=11,SNR=11						
MKAR	**Makanchi Array**	**62.65**	**326**	P	P	18 23 14.1	+0.1
	0.1nm,0.3s,baz=118,slow=7.9,SNR=4.6						

IDC 17 18:22:57.8±2.8, 30.′69S×59.′47E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/38, mbtmp3.5/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/41, Error ellipse: s-maj=88.1km s-min=50.4km az=48.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.42**	**314**	LR	LR	18 30 56.9	
	comp=Z,72nm,19.1s,baz=20,slow=29						
CMAR	**Chiang Mai Arr**	**61.88**	**43**	P	P	18 33 19.1	-0.1
	0.5nm,0.4s,baz=233,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**65.50**	**104**	P	P	18 33 43.4	0.0
	0.2nm,0.8s,baz=239,slow=6.1,SNR=4.2						
WRA	**Warramunga Arr**	**67.44**	**100**	P	P	18 33 55.8	+0.1
	0.4nm,0.8s,baz=244,slow=5.5,SNR=2.5						
VAE	**Valguarnera**	**79.84**	**325**	LR	LR	19 12 53.4	
	comp=Z,46nm,18.5s,baz=318,slow=38						
YKA	**Yellowknife Ar**	**147.95**	**355**	PKPbc	PKPbc	18 42 43.6	-0.7
	0.3nm,0.6s,baz=353,slow=2.7,SNR=8.5						

*IDC **17** 18:40:56.5±1.4, 2.′93S×123.′60E, h0km, mb3.3/3, mb1 3.5/6, mb1mx3.3/46, mbtmp3.3/6, ML3.2/3, MS3.1/8, Ms1 3.1/8, ms1mx2.8/28, Error ellipse: s-maj=48.9km s-min=20.8km az=59.0*
*DJA **17** 18:40:58.0±1.5, 3.′S±3.′×12.′3E±.′, h16km±12km, M3.8/14, mb3.8/1, MLv3.8/14*

ISC 17 18:41:00.8±0.8, 3.′06S±0.′05×123.′37E±0.′05, h35km, n26, σ1°42/22, mb3.5/3, MS2.8/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**2.09**	**343**	P	**Pn**	**18 41 32.9**	**-0.4**
LUWI				S	**Sn**	**18 41 59.0**	**+0.9**
BBSI	**Bau Bau**	**2.54**	**198**	P	**Pn**	**18 41 40.7**	**+1.1**
APSI	**Ampana**	**2.74**	**321**	P	**Pn**	**18 41 41.5**	**-0.8**
SANI	**Sanana**	**2.80**	**69**	P	**Pn**	**18 41 43.5**	**+0.4**
SANI				S	**Sn**	**18 42 15.3**	**-0.4**
BNSI	**Bone**	**3.52**	**248**	P	**Pn**	**18 41 52.0**	**-1.0**
TTSI	**Tana Toraja**	**3.54**	**270**	P	**Pn**	**18 41 52.7**	**-0.7**
KMSI	**Cibinong**	**3.66**	**10**	P	**Pn**	**18 41 51.7**	**-3.2**
GTOI	**Gorontalo**	**3.69**	**354**	P	**Pn**	**18 41 55.3**	**0.0**
SPSI	**Sidrap Palu**	**3.71**	**256**	P	**Pn**	**18 41 53.8**	**-1.8**
MRSI	**Marisa**	**3.79**	**338**	P	**Pn**	**18 41 54.8**	**-1.9**
BKSI	**Bulukumba**	**3.94**	**235**	P	**Pn**	**18 41 58.1**	**-0.8**
KAPI	**Kappang**	**4.10**	**242**	Pn	**Pn**	**18 42 02.9**	**+1.9**
	0.8nm,0.3s,baz=78,slow=12,SNR=3.9						
KAPI				Sn	**Sn**	**18 42 47.9**	**+0.1**
	1.0nm,0.3s,baz=90,slow=20,SNR=2.0						
KAPI				LR	LR	18 43 40.2	
	comp=Z,132nm,21.6s,baz=67,slow=38						
BSSI	**Bau Bau, Buton**	**4.20**	**223**	P	**Pn**	**18 42 00.9**	**-1.5**
EDFI	**Ende, Flores**	**5.90**	**196**	P	**Pn**	**18 42 24.8**	**-1.0**
BATI	**Baumata**	**7.11**	**178**	LR	LR	18 45 31.3	
	comp=Z,154nm,18.2s,baz=321,slow=38						
SIJI	**Sorong**	**8.19**	**75**	LR	LR	18 46 32.2	
	comp=Z,96nm,18.9s,baz=106,slow=42						
FITZ	**Fitzroy Crossi**	**15.11**	**172**	Pn	**P**	**18 44 34.8**	**-1.8**
	0.1nm,0.3s,baz=200,slow=7.0,SNR=4.0						
LEM	**Lembang**	**16.13**	**256**	LR	LR	18 52 07.8	
	comp=Z,97nm,19.4s,baz=86,slow=41						
JAY	**Jayapura**	**17.32**	**89**	LR	LR	18 53 01.2	
	comp=Z,75nm,18.8s,baz=335,slow=42						
WRA	**Warramunga Arr**	**19.91**	**148**	P	**Pn**	**18 45 30.5**	**-0.9**
	0.1nm,0.3s,baz=328,slow=12,SNR=7.0						
ASAR	**Alice Springs**	**22.88**	**154**	P	**P**	**18 46 01.3**	**-0.2**
	0.3nm,0.5s,baz=338,slow=13,SNR=10						
PMG	**Port Moresby**	**24.46**	**106**	LR	LR	18 59 04.9	
	comp=Z,69nm,18.2s,baz=259,slow=45						
GUMO	**Guam**	**26.99**	**52**	LR	LR	18 55 36.0	
	comp=Z,27nm,21.8s,baz=131,slow=33						
CTA	**Charters Tower**	**28.02**	**129**	LR	LR	18 58 23.0	
	comp=Z,26nm,20.1s,baz=276,slow=38						
CMAR	**Chiang Mai Arr**	**32.18**	**313**	P	**P**	**18 47 27.6**	**+1.9**
	0.5nm,0.7s,baz=135,slow=7.7,SNR=7.4						
MKAR	**Makanchi Array**	**61.40**	**329**	P	**P**	**18 51 14.6**	**+1.1**
	0.4nm,0.7s,baz=132,slow=7.0,SNR=6.0						

IDC 17 18:44:10.6±2.2, 1.′36N×126.′17E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/44, mbtmp3.2/3, Error ellipse: s-maj=184.3km s-min=27.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.64**	**160**	P	P	18 49 13.4	-0.1
	0.4nm,0.4s,baz=338,slow=11,SNR=17						
ASAR	**Alice Springs**	**25.99**	**164**	P	P	18 49 45.4	+0.1
	0.2nm,0.3s,baz=346,slow=11,SNR=13						
MKAR	**Makanchi Array**	**59.19**	**326**	P	P	18 54 13.4	-0.1
	0.1nm,0.4s,baz=110,slow=8.9,SNR=1.2						

*LDG **17** 18:53:04.0±0.2, 41.′47N×14.′60E, h10km, Ml2.8/5, Error ellipse: s-maj=6.6km s-min=4.2km az=12.0*
*ROM **17** 18:53:04.9±0.1, 41.′508N±0.′005×14.′603E±0.′007, h10km, ML3.3/14, Error ellipse: s-maj=0.6km s-min=0.5km az=119.0*
*IASPEI **17** 18:53:05.1±0.8, 41.′52N±0.′02×14.′62E±0.′02, h13km±5km, Error ellipse: s-maj=4.1km s-min=2.9km az=41.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*PRU **17** 18:53:05.6±0.0, 41.′47N×14.′77E, h10km*
*IDC **17** 18:53:08.5±3.4, 42.′00N×15.′02E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.1/47, mbtmp3.3/4, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.2/43, Error ellipse: s-maj=56.2km s-min=23.5km az=56.0*

ISC 17 18:53:05.1±0.8, 41.′53N±0.′02×14.′64E±0.′02, h13km±5km, n114, σ1°41/139, 6C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSO	**Busso**	**0.04**	**298**	⇓P	**Pg**	**18 53 07.2**	**-0.5**
BSSO				S	**Sg**	**18 53 09.0**	**-0.5**
PTRJ	**Pietraroja**	**0.18**	**208**	P	**Pg**	**18 53 08.9**	**-0.5**
PTRJ				S	**Sg**	**18 53 11.8**	**-0.5**
PTRJ				AML	AML		
	comp=E,34450μm,0.5s						
PTRJ				AML	AML		
	comp=N,25650μm,0.5s						
PTRJ				AML	AML		
	comp=N,23650μm,0.5s						
PTRJ				AML	AML		
	comp=E,30750μm,0.5s						
SGG	**Gregorio Mates**	**0.24**	**235**	P	**Pg**	**18 53 09.9**	**-0.4**
SGG				S	**Sg**	**18 53 13.6**	**-0.3**
SGG				AML	AML		
	comp=E,40nm,0.6s						
SGG				AML	AML		
	comp=E,12800μm,0.6s						
SGG				AML	AML		
	comp=N,14050μm,0.4s						
SGG				AML	AML		
	comp=E,40nm,0.6s						
SGG				AML	AML		
	comp=N,44nm,0.4s						
TRIV	**Trivento**	**0.25**	**344**	⇑P	**Pg**	**18 53 10.9**	**+0.4**
TRIV				S	**Sg**	**18 53 15.7**	**+1.6**
TRIV				AML	AML		
	comp=N,15900μm,0.3s						
TRIV				AML	AML		
	comp=N,14050μm,0.4s						
TRIV				AML	AML		
	comp=E,22000μm,0.4s						
TRIV				AML	AML		
	comp=E,22400μm,0.4s						
TRIV				AML	AML		
	comp=N,14000μm,0.4s						
MIDA	**Miranda**	**0.31**	**292**	⇑P	**Pg**	**18 53 11.3**	**-0.3**
MIDA				S	**Sg**	**18 53 16.7**	**+0.7**
MIDA				AML	AML		
	comp=N,8125μm,0.6s						
MIDA				AML	AML		
	comp=E,8290μm,0.5s						
MIDA				AML	AML		
	comp=E,7945μm,0.5s						
MIDA				AML	AML		
	comp=N,8250μm,0.6s						
MIDA				AML	AML		
	comp=E,8285μm,0.5s						
VAGA	**Valle Agricola**	**0.33**	**250**	⇑P	**Pg**	**18 53 11.5**	**-0.4**
VAGA				S	**Sg**	**18 53 17.1**	**+0.8**
VAGA				AML	AML		
	comp=N,20200μm,0.9s						
VAGA				AML	AML		
	comp=E,13150μm,0.2s						
VAGA				AML	AML		
	comp=N,20600μm,0.9s						
VAGA				AML	AML		
	comp=N,20150μm,0.9s						
VAGA				AML	AML		
	comp=E,13700μm,0.2s						
PSB1	**Pescosannita**	**0.33**	**157**	P	**Pg**	**18 53 11.9**	**0.0**
VITU	**Vitulano (BN)**	**0.34**	**182**	P	**Pg**	**18 53 11.9**	**-0.3**
MELA	**Melanico ??? S**	**0.41**	**64**	⇑P	**Pb**	**18 53 13.3**	**-0.9**
MELA				S	**Sb**	**18 53 20.5**	**+0.2**
RNI2	**Rionero Sannit**	**0.41**	**296**	⇑P	**Pg**	**18 53 13.1**	**-0.2**
RNI2				S	**Sg**	**18 53 19.2**	**+0.4**
RNI2				AML	AML		
	comp=E,6770μm,0.6s						
RNI2				AML	AML		
	comp=E,6910μm,0.7s						
RNI2				AML	AML		
	comp=N,6980μm,0.6s						
RNI2				AML	AML		
	comp=N,6850μm,0.6s						
RNI2				AML	AML		
	comp=N,6985μm,0.6s						
MOCO	**Biccari - m.te**	**0.42**	**112**	P	**Pb**	**18 53 14.2**	**-0.2**
MRB1	**Monte Rocchett**	**0.47**	**148**	P	**Pb**	**18 53 14.4**	**-0.9**
CERA	**Filignano**	**0.47**	**279**	P	**Pg**	**18 53 13.9**	**-0.6**
CERA				AML	AML		
	comp=E,5400μm,0.4s						
CERA				AML	AML		
	comp=N,4985μm,1.5s						
CERA				AML	AML		
	comp=E,5485μm,0.4s						
CERA				AML	AML		
	comp=N,4835μm,1.5s						
CERA				AML	AML		
	comp=E,5405μm,0.4s						
PIGN	**Pignataro Magg**	**0.48**	**227**	⇑P	**Pg**	**18 53 14.0**	**-0.5**
PIGN				AML	AML		
	comp=N,3795μm,0.3s						
PIGN				AML	AML		
	comp=E,4190μm,0.5s						
PIGN				AML	AML		
	comp=E,4070μm,0.4s						
PIGN				AML	AML		
	comp=N,3800μm,0.3s						
PIGN				AML	AML		
	comp=N,3700μm,0.3s						
BIOG	**Biogem**	**0.49**	**131**	P	**Pb**	**18 53 15.9**	**+0.2**
PAOL	**Paolisi**	**0.50**	**187**	P	**Pg**	**18 53 14.3**	**-0.6**
LPEL	**Lama dei Pelig**	**0.62**	**327**	P	**Pg**	**18 53 16.6**	**-0.7**
LPEL				S	**Sg**	**18 53 25.8**	**+0.2**
LPEL				AML	AML		
	comp=N,2605μm,0.8s						
LPEL				AML	AML		
	comp=E,4205μm,0.3s						
CAFE	**Carife**	**0.67**	**138**	P	**Pg**	**18 53 17.6**	**-0.6**
MODR	**Mondragone**	**0.69**	**237**	P

MCEL				AML	AML			
	comp=N,356µm,1.3s							
LSTV	**Lastovo**	**2.08**	**53**	*e*Pn	**Pn**	**18 53 41.0**	**+1.2**
LSTV				Sn	**Sb**	**18 54 06.3**	**-2.3**
HVAR	**Hvar**	**2.12**	**38**	*e*Pn	**Pn**	**18 53 40.7**	**+0.4**
HVAR				Sn	**Sn**	**18 54 05.9**	**-0.7**
ZIRJ	**Zirje**	**2.25**	**19**	*e*Pn	**Pn**	**18 53 42.7**	**+0.6**
ZIRJ				Sn	**Sn**	**18 54 08.9**	**-0.8**
MORI	**Morici**	**2.47**	**18**	*e*Pn	**Pn**	**18 53 45.2**	**+0.1**
MORI				Sn	**Sn**	**18 54 14.6**	**-0.4**
DUGI	**Dugi Otok**	**2.48**	**7**	*e*Pn	**Pn**	**18 53 44.6**	**-0.6**
DUGI				Sn	**Sn**	**18 54 15.1**	**-0.4**
FSSB	**Fossombrone**	**2.56**	**328**	AML	AML		
	comp=E,152µm,1.1s						
FSSB				AML	AML		
	comp=N,194µm,0.3s						
STON	**Ston**	**2.64**	**58**	*e*Pn	**Pn**	**18 53 48.5**	**+1.1**
STON				Sn	**Sn**	**18 54 19.3**	**0.0**
RICI	**Ricice**	**2.69**	**42**	*e*Pn	**Pn**	**18 53 48.7**	**+0.5**
RICI				Sn	**Sn**	**18 54 21.0**	**+0.3**
TREB	**Trebinje**	**3.00**	**65**	*e*Pn	**Pn**	**18 53 53.3**	**+0.9**
TREB	**Trebinje**	**3.00**	**65**	*e*Pn	**Pn**	**18 53 53.6**	**+1.2**
HCY	**Herceg Novi**	**3.02**	**71**	*e*Pn	**Pn**	**18 53 53.5**	**+0.9**
NVLJ	**Novalja**	**3.04**	**3**	*e*Pn	**Pn**	**18 53 52.7**	**-0.2**
NVLJ				Sn	**Sn**	**18 54 27.8**	**-1.4**
UDBI	**Udbina**	**3.11**	**15**	*e*Pn	**Pn**	**18 53 54.3**	**+0.4**
UDBI				Sn	**Sn**	**18 54 29.9**	**-1.2**
RABC	**Rab**	**3.22**	**2**	*e*Pn	**Pn**	**18 53 55.0**	**-0.4**
RABC				Sn	**Sn**	**18 54 32.1**	**-1.6**
MGRS	**Mrkonjic Grad**	**3.40**	**31**	*e*Pn	**Pn**	**18 54 01.2**	**+3.3**
PLIT	**Plitvice**	**3.43**	**12**	*e*Pn	**Pn**	**18 53 58.9**	**+0.7**
PLIT				Sn	**Sn**	**18 54 37.3**	**-1.4**
BRJN	**Brijuni**	**3.44**	**349**	*e*Pn	**Pn**	**18 53 58.0**	**-0.3**
BRJN				Sn	**Sn**	**18 54 37.5**	**-1.5**
DRME	**Dracevica, Mon**	**3.46**	**77**	*e*Pn	**Pn**	**18 53 59.7**	**+1.1**
SMRN	**Sveta Marina**	**3.53**	**354**	*e*Pn	**Pn**	**18 53 59.0**	**-0.5**
SMRN				Sn	**Sn**	**18 54 38.8**	**-2.4**
PDG	**Podgorica**	**3.56**	**74**	*e*Pn	**Pn**	**18 54 01.1**	**+1.1**
PDG	**Podgorica**	**3.56**	**74**	*e*Pn	**Pn**	**18 54 01.3**	**+1.3**
BLY	**Banja Luka**	**3.72**	**29**	*e*Pn	**Pn**	**18 54 05.3**	**+3.1**
BLY	**Banja Luka**	**3.72**	**29**	*e*Pn	**Pn**	**18 54 05.5**	**+3.3**
VLO	**Vlora**	**3.82**	**104**	AML	AML		
	comp=N,2215µm,0.1s						
VLO				AML	AML		
	comp=E,1166µm,0.4s						
MRAK	**Mrakovica**	**3.85**	**25**	*e*Pn	**Pn**	**18 54 05.8**	**+1.6**
RUDO	**Rudo**	**4.07**	**58**	*e*Pn	**Pn**	**18 54 08.4**	**+1.3**
OZLJ	**Ozalj**	**4.13**	**8**	*e*Pn	**Pn**	**18 54 09.0**	**+1.2**
OZLJ				Sn	**Sn**	**18 54 54.5**	**-1.5**
CEY	**Cerknica**	**4.21**	**358**	*e*Pn	**Pn**	**18 54 10.3**	**+1.2**
BBLS	**Lazići**	**4.22**	**55**	*e*Pn	**Pn**	**18 54 10.7**	**+1.5**
BBLS	**Lazići**	**4.22**	**55**	*e*Pn	**Pn**	**18 54 11.1**	**+1.9**
SJES	**Sjenica**	**4.31**	**65**	*e*Pn	**Pn**	**18 54 12.0**	**+1.5**
PGF	**Pioggiola**	**4.33**	**286**	*e*P	**Pn**	**18 54 11.3**	**+0.6**
PGF				*e*Sn	Sn	18 54 54.3	-6.7
	comp=E,4.2nm,0.5s						
CRES	**Cresnjev**	**4.34**	**8**	*e*Pn	**Pn**	**18 54 11.7**	**+0.9**
MOSL	**Moslavina**	**4.36**	**20**	*e*Pn	**Pn**	**18 54 11.9**	**+0.7**
MOSL				Sn	**Sn**	**18 55 00.5**	**-1.3**
PTJ	**Puntijarka**	**4.48**	**12**	*e*Pn	**Pn**	**18 54 13.0**	**+0.2**
PTJ				Sn	**Sn**	**18 55 02.9**	**-2.0**
IVAS	**Ivanjica**	**4.56**	**61**	*e*Pn	**Pn**	**18 54 14.9**	**+1.1**
DIVS	**Divibare**	**4.70**	**55**	*e*Pn	**Pn**	**18 54 16.7**	**+0.9**
DIVS	**Divibare**	**4.70**	**55**	*e*Pn	**Pn**	**18 54 16.8**	**+0.9**
LOBO	**Lobor**	**4.74**	**12**	*e*Pn	**Pn**	**18 54 17.2**	**+0.9**
LOBO				Sn	**Sn**	**18 55 09.4**	**-1.7**
OBKA	**Obir**	**4.98**	**359**	*e*Pn	**Pn**	**18 54 20.5**	**+0.8**
	comp=E,1.8nm,0.2s						
TRUS	**Trudelj**	**5.02**	**56**	*e*Pn	**Pn**	**18 54 19.3**	**-0.8**
GRUS	**Gruza**	**5.06**	**60**	*e*Pn	**Pn**	**18 54 20.3**	**-0.4**
SELS	**Selova**	**5.09**	**68**	*e*Pn	**Pn**	**18 54 21.4**	**+0.3**
MYKA	**Terra Mystica**	**5.15**	**352**	*e*Pn	**Pn**	**18 54 24.5**	**+2.5**
	comp=E,0.6nm,0.2s						
SOKA	**Soboth**	**5.16**	**3**	*e*Pn	**Pn**	**18 54 21.1**	**-1.0**
	comp=E,1.4nm,0.4s						
SOKA				*e*Sn	**Sn**	**18 55 21.1**	**-0.4**
	comp=E,0.9nm,0.4s						
ABTA	**Abfaltersbach**	**5.44**	**344**	*e*Pn	**Pn**	**18 54 28.5**	**+2.5**
	comp=E,0.9nm,0.3s						
ABTA				*e*Sn	**Sn**	**18 55 28.5**	**0.0**
	comp=E,4.6nm,0.5s						
BARS	**Barje**	**5.48**	**74**	*e*Pn	**Pn**	**18 54 27.3**	**+0.8**
MORH	**Mrgy, Hungar**	**5.51**	**30**	*e*Pn	**Pn**	**18 54 27.7**	**+0.9**
KBA	**Koeinbreinsper**	**5.63**	**351**	*e*Pn	**Pn**	**18 54 31.2**	**+2.6**
	comp=E,1.1nm,0.4s						
ARSA	**Arzberg**	**5.76**	**6**	*e*Pn	**Pn**	**18 54 30.5**	**+0.2**
	comp=E,0.9nm,0.3s						
SBF	**Sospel**	**5.80**	**296**	*e*Pn	Pn	18 54 27.8	-3.1
WTTA	**Wattenberg**	**6.13**	**340**	*e*Pn	**Pn**	**18 54 39.5**	**+4.0**
	comp=E,0.3nm,0.2s						
FETA	**Feichten**	**6.17**	**334**	*e*Pn	**Pn**	**18 54 36.0**	**0.0**
	comp=E,0.2nm,0.3s						
SQTA	**Sankt Quirin**	**6.20**	**338**	*e*Pn	**Pn**	**18 54 37.7**	**+1.3**
	comp=E,0.8nm,0.3s						
WATA	**Walderalm**	**6.21**	**340**	*e*Pn	**Pn**	**18 54 38.4**	**+1.8**
	comp=E,0.5nm,0.2s						
DAVOX	**Davos/Dischmat**	**6.27**	**328**	Pn	**Pn**	**18 54 39.2**	**+1.7**
	comp=E,0.4nm,0.3s,baz=151,slow=18,SNR=6.1						
DAVOX				Sn	**Sn**	**18 55 51.5**	**+2.5**
	comp=E,0.8nm,0.3s,baz=16,slow=12,SNR=5.4						
LMR	**La Mourre**	**6.28**	**289**	*e*Pn	Pn	18 54 34.3	-3.2
LMR	**La Mourre**	**6.28**	**289**	*e*P	**Pn**	**18 54 40.2**	**+2.7**
LMR				*e*Sn	Sn	18 55 42.2	-6.9
	comp=E,0.6nm,0.3s						
MOA	**Molln**	**6.33**	**358**	*e*Pn	**Pn**	**18 54 39.8**	**+1.7**
	comp=E,0.9nm,0.2s						
MOA				*e*Sn	**Sn**	**18 55 48.6**	**-1.6**
	comp=E,3.9nm,0.3s						
MOTA	**Moosalm**	**6.34**	**338**	*e*Pn	**Pn**	**18 54 39.2**	**+0.7**
	comp=E,0.2nm,0.2s						
CONA	**Conrad Observa**	**6.46**	**7**	*e*Pn	**Pn**	**18 54 39.7**	**-0.3**
	comp=E,1.4nm,0.3s						
CONA				*e*Sn	**Sn**	**18 55 51.6**	**-1.9**
	comp=E,2.6nm,0.4s						
MBDF	**Montbardon**	**6.59**	**302**	*e*P	**Pn**	**18 54 44.1**	**+2.3**
LPG	**La Plagne**	**6.97**	**307**	*e*Pn	Pn	18 54 44.3	-2.9
LPG	**La Plagne**	**6.97**	**307**	*e*P	**Pn**	**18 54 49.2**	**+2.0**
LPL	**La Plagne**	**7.00**	**307**	*e*P	**Pn**	**18 54 50.4**	**+2.9**
SMRF	**Simiane la Rot**	**7.11**	**293**	*e*P	**Pn**	**18 54 51.1**	**+2.2**
ORIF	**Oris-en-Rattie**	**7.24**	**301**	*e*P	**Pn**	**18 54 53.7**	**+3.0**
ORIF				*e*Sn	Sn	18 56 05.2	-7.6
CKRC	**Cesky Krumlov**	**7.30**	**358**	*e*SN	**Sn**	**18 56 13.4**	**-0.7**
GERES	**GERESS Array B**	**7.35**	**355**	Pn	**Pn**	**18 54 51.2**	**-0.9**
	comp=E,0.4nm,0.3s,baz=171,slow=13,SNR=14						
GERES				Sn	**Sn**	**18 56 11.2**	**-4.2**
	comp=E,0.7nm,0.3s,baz=166,slow=23,SNR=9.5						
VYHS	**Vyhne**	**7.57**	**22**	*e*PN	**Pn**	**18 54 57.0**	**+1.8**
VYHS				*e*SN	**Sn**	**18 56 19.3**	**-1.5**
KHC	**Kasperske Hory**	**7.64**	**355**	*e*PN	**Pn**	**18 54 57.2**	**+1.1**
KHC				*e*SN	**Sn**	**18 56 20.2**	**-2.4**
HINF	**Hinteralfeld**	**8.38**	**321**	*e*P	**Pn**	**18 55 07.4**	**+1.1**
HINF				*e*Sn	Sn	18 56 33.3	-7.5
	comp=E,3.3nm,0.5s						
HAU	**Haudompre**	**8.76**	**320**	*e*Sn	Sn	18 56 42.1	-7.9
	comp=E,4.9nm,0.5s						
SFTF	**Sexfontaines**	**9.54**	**318**	*e*Pn	Pn	18 55 18.4	-3.7
	baz=136						
FINES	**FINESS Array B**	**21.12**	**15**	P	**P**	**18 57 50.1**	**+0.9**
	comp=E,1.4nm,0.7s,baz=191,slow=13,SNR=1.6						
ZALV	**Zalesovo Beam**	**46.90**	**50**	LR	LR	19 23 19.7	
	comp=E,26nm,18.1s,baz=44,slow=39						
MKAR	**Makanchi Array**	**47.46**	**60**	P	**P**	**19 01 41.5**	**+2.0**
	comp=E,0.2nm,0.6s,baz=278,slow=5.8,SNR=4.4						

*IDC **17** 18:54:34.5±6.1, 21°.58N×143°.40E, h258km±61km, mb3.2/11, mb1 3.3/12, mb1mx3.1/60, mbtmp3.8/12, MS3.2/1, Ms1 3.2/1, ms1mx2.3/26, Error ellipse: s-maj=35.4km s-min=11.0km az=91.0*

ISC 17 18:54:33.5±0.8, 21°.55N±0°.10×143°.5E±0°.2, h250km, n14, σ0=77/13, mb3.4/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.62**	**344**	P	**P**	**18 58 01.0**	**+0.9**
	0.1nm,0.3s,baz=172,slow=11,SNR=5.4						
KSRS	**Korea Array**	**20.79**	**323**	P	**P**	**18 58 55.9**	**+0.1**
	1.1nm,0.7s,baz=143,slow=8.4,SNR=4.0						
KLR	**Kul'dur**	**29.15**	**344**	P	**P**	**19 00 11.2**	**-0.2**
	3.1nm,0.7s,baz=168,slow=6.2,SNR=15						
SONM	**Songino Array**	**39.62**	**320**	P	**P**	**19 01 41.7**	**+0.6**
	0.1nm,0.3s,baz=125,slow=5.8,SNR=3.8						
CTA	**Charters Tower**	**41.47**	**176**	LR	LR	19 19 24.9	
	comp=Z,32nm,20.2s,baz=161,slow=36						
WRA	**Warramunga Arr**	**42.19**	**193**	P	**P**	**19 02 02.6**	**+0.5**
	1.8nm,0.6s,baz=16,slow=8.7,SNR=32						
FITZ	**Fitzroy Crossi**	**43.10**	**205**	P	**P**	**19 02 09.2**	**-0.1**
	1.1nm,0.6s,baz=36,slow=9.3,SNR=6.1						
ASAR	**Alice Springs**	**45.90**	**192**	P	**P**	**19 02 31.6**	**+0.2**
	0.4nm,0.5s,baz=16,slow=11,SNR=15						
STKA	**Stephens Creek**	**53.15**	**182**	P	**P**	**19 03 25.4**	**-0.5**
	0.6nm,0.5s,baz=7.1,slow=9.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**57.81**	**317**	P	**P**	**19 03 58.6**	**-0.1**
	0.5nm,0.2s,baz=93,slow=7.5,SNR=4.5						
ILAR	**Eielson Array**	**62.05**	**27**	P	**P**	**19 04 26.8**	**-0.6**
	0.3nm,0.7s,baz=248,slow=5.8,SNR=4.2						
YKA	**Yellowknife Ar**	**76.46**	**28**	P	**P**	**19 05 55.9**	**+0.5**
	0.3nm,0.5s,baz=289,slow=5.7,SNR=7.2						
FINES	**FINESS Array B**	**83.42**	**335**	P	**P**	**19 06 31.2**	**-1.4**
	1.0nm,0.8s,baz=69,slow=6.5,SNR=5.0						
PLCA	**Paso Flores**	**145.47**	**131**	PKPbc	**PKPdf**	**19 13 43.2**	**+1.3**
	0.8nm,0.6s,baz=283,slow=5.7,SNR=5.1						

*UUSS **17** 18:56:00.1±0.9, 38°.14N±0°.01×113°.04W±0°.02, h8km±7km, ML2.8/10, ML2.6/44(NEIC), Error ellipse: s-maj=2.5km s-min=1.7km az=111.0*

NEIC 17 18:56:00.2±1.5, 38°.153N±0°.010×113°.08W±0°.04, h13km±7km, Error ellipse: s-maj=4.4km s-min=0.8km az=105.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWU	**Dry Willow Pea**	**0.08**	**127**		Pg	18 56 02.5	-0.6
NMUT	**North Mineral**	**0.41**	**26**		Pg	18 56 08.2	-0.1
NMUT					Sg	18 56 13.9	+0.1
ARUT	**Antelope Range**	**0.46**	**218**		Pg	18 56 09.8	+0.5
IMU	**Iron Mountain**	**0.48**	**353**		Pg	18 56 10.2	+0.4
SZCU	**Shurtz Canyon**	**0.56**	**181**		Pg	18 56 11.0	-0.1
SZCU	**Shurtz Canyon**	**0.56**	**181**	Pg	Pg	18 56 10.7	-0.4
SZCU	**Shurtz Canyon**	**0.56**	**181**	IAML		18 56 20.0	
	comp=N,1µm,0.2s						
SZCU				IAML		18 56 20.1	
	comp=E,1µm,0.3s						
BHU	**Blowhard Mount**	**0.59**	**163**		Pg	18 56 11.6	-0.1
BHU					Sg	18 56 19.2	-0.3
CCUT	**Cedar City**	**0.64**	**201**		Pg	18 56 12.8	0.0
CCUT					Sg	18 56 21.5	+0.3
CCUT	**Cedar City**	**0.64**	**201**	IAML		18 56 21.9	
	comp=N,177nm,0.2s						
CCUT				IAML		18 56 22.0	
	comp=E,179nm,0.6s						
TCRU	**Three Creeks R**	**0.67**	**47**		Pg	18 56 13.1	-0.3
TCRU	**Three Creeks R**	**0.67**	**47**	IAML		18 56 22.6	
	comp=E,539nm,0.2s						
TCRU				IAML		18 56 22.6	
	comp=N,347nm,0.3s						
MTPU	**Mount Pierson**	**0.71**	**99**		Pg	18 56 13.8	-0.4
MTPU	**Mount Pierson**	**0.71**	**99**	IAML		18 56 25.0	
	comp=N,356nm,0.3s						
PSUT	**Pine Spring**	**0.72**	**302**		Pb	18 56 15.0	+0.3
MVU	**Marysvale**	**0.77**	**63**		Pg	18 56 14.8	-0.3
MSU	**Marysvale**	**0.79**	**63**		Pg	18 56 15.3	-0.3
ZNPU	**Zion National**	**0.80**	**183**		Pg	18 56 15.4	-0.3
PKCU	**Pink Cliffs**	**0.93**	**139**		Pg	18 56 17.9	-0.4
PKCU	**Pink Cliffs**	**0.93**	**139**	IAML		18 56 31.0	
	comp=N,190nm,0.3s						
BTU	**Barney Top**	**1.03**	**112**		Pg	18 56 20.1	-0.1
WCU	**Willow Creek**	**1.12**	**43**		Pb	18 56 21.4	-0.2
LCMT	**Little Creek M**	**1.15**	**187**		Pb	18 56 21.6	-0.4
KNB	**Kanab**	**1.15**	**170**		Pb	18 56 21.6	-0.5
KNB	**Kanab**	**1.15**	**170**	IAML		18 56 36.7	
	comp=E,138nm,0.3s						
KNB				IAML		18 56 37.5	
	comp=N,122nm,0.3s						
EKU	**East Kanab**	**1.17**	**157**		Pb	18 56 21.9	-0.5
SPR3	**Spring Creek 3**	**1.29**	**311**	Pn	Pn	18 56 23.6	-0.7
SPR3				IAML		18 56 43.9	
	comp=N,155nm,0.2s						
SPR3				IAML		18 56 44.0	
	comp=E,127nm,0.3s						
Q16A	**Castle Valley**	**1.68**	**62**		Pn	18 56 30.2	+0.6
Q16A				IAML		18 56 53.3	
	comp=E,76nm,0.4s						
PRN	**Pahroc Range**	**1.73**	**245**		Pb	18 56 31.4	-0.5
U15A	**North Rim**	**1.83**	**160**		Pb	18 56 33.0	-0.8
U15A				IAML		18 56 59.2	
	comp=E,86nm,1.0s						
U15A				IAML		18 56 59.8	
	comp=N,78nm,0.4s						
TMUT	**Trail Mountain**	**1.86**	**51**		Pb	18 56 33.8	-0.4
TMUT				IAML		18 57 00.8	
	comp=N,56nm,0.5s						
TMUT				IAML		18 57 04.2	
	comp=E,42nm,0.5s						
NLU	**North Lily Min**	**1.96**	**23**		Pb	18 56 35.8	-0.2
R11A	**Troy Canyon, C**	**1.98**	**276**		Pn	18 56 34.5	+0.8
R11A				IAML		18 57 05.3	
	comp=N,49nm,0.3s						
R11A				IAML		18 57 06.1	
	comp=E,59nm,0.4s						
DUG	**Dugway, Tooele**	**2.05**	**6**		Pn	18 56 35.9	+1.3
DUG				IAML		18 57 07.9	
	comp=E,43nm,0.8s						
SRU	**San Rafael Swe**	**2.22**	**64**		Pn	18 56 37.0	+0.1
SRU				IAML		18 57 09.5	
	comp=N,64nm,0.3s						
SRU				IAML		18 57 10.4	
	comp=E,65nm,0.3s						
SHPR	**Sheep Range**	**2.34**	**226**	Pn	Pn	18 56 39.6	+1.1
TPNV	**Topopah Spring**	**2.79**	**245**	Pn	Pn	18 56 45.4	+0.6
TPNV				IAML		18 57 31.2	
	comp=E,20nm,0.6s						
TPNV				IAML		18 57 36.4	
	comp=E,15nm,0.5s						
PV23	**Carpenter Ridg**	**3.21**	**83**		Pb	18 56 54.3	-3.0
PV23				IAML		18 58 23.9	
	comp=N,16nm,0.8s						
PV13	**Radium Mtn., P**	**3.36**	**89**		Pn	18 56 53.9	+1.3
GWY	**Greenwater Val**	**3.48**	**237**		Pn	18 56 55.1	+0.9
HVU	**Hansel Valley**	**3.63**	**4**		Pn	18 56 54.5	-1.8

*SOME **17** 18:59:44.6, 39°.45N×75°.27E, h10km*
*KRNET **17** 18:59:45.2±0.1, 39°.14N×75°.47E, mb3.9*
*IDC **17** 18:59:45.5±1.0, 39°.31N×75°.28E, h0km, mb3.6/11, mb1 3.7/14, mb1mx3.5/53, mbtmp3.6/14, ML3.1/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/91, Error ellipse: s-maj=19.2km s-min=18.3km az=77.0*
*NNC **17** 18:59:51.3±2.7, 39°.68N×74°.98E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=21.0km s-min=13.0km az=161.0*

ISC 17 18:59:46.5±1.8, 39°.55N±0°.06×75°.54E±0°.03, h6km±10km, n68, σ1=87/96, mb3.7/11, 31C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.64**	**287**	⇑*e*P	**Pb**	**19 00 17.5**	**+0.3**
	baz=1.0						
SFK				⇑*e*S	**Sg**	**19 00 41.4**	**+2.4**
	baz=1.0						
SALK	**Salom-Alik**	**1.87**	**316**	⇓*e*P	**Pg**	**19 00 23.6**	**+1.3**
	baz=25						
SALK				⇓*e*S	**Sg**	**19 00 52.1**	**+5.5**
	baz=25						
OHH	**Osh**	**2.33**	**296**	⇑*iP*	**Pb**	**19 00 28.2**	**-0.7**
	baz=5.0						
OHH				⇑*iS*	**Sb**	**19 00 59.9**	**+2.0**
	baz=5.0						
ARLS	**Aral**	**2.49**	**339**	⇑*e*P	**Pg**	**19 00 33.3**	**-0.8**
	baz=43						
ARLS				⇑*iS*	**Sg**	**19 01 08.5**	**+2.2**
	baz=43						
ULHL	**Ulahol**	**2.75**	**11**	P	**Pg**	**19 00 39.9**	**+0.8**
	SNR=19						
TARG	**Taragay, Kyrgy**	**2.78**	**38**	⇑*e*P	**Pb**	**19 00 37.8**	**+1.1**
	baz=34						
TARG				⇑*iS*	**Sg**	**19 01 16.3**	**+0.6**
	baz=34						
UCH	**Uchtor**	**2.79**	**344**	P	**Pb**	**19 00 36.6**	**-0.3**
	SNR=27						
UCH	**Uchtor**	**2.79**	**344**	⇑*iP*	**Pb**	**19 00 38.1**	**+1.2**
	baz=47						
UCH				⇑*iS*	**Sg**	**19 01 16.7**	**+0.7**
	baz=47						
KDJ	**Kajisay**	**2.86**	**25**	⇓*iP*	**Pb**	**19 00 39.3**	**+1.2**
	baz=23						
KDJ				⇓*iS*	**Sg**	**19 01 18.2**	**-0.2**
	baz=23						
DRK	**Karamyk**	**2.89**	**270**	⇑*iP*	**Pn**	**19 00 33.8**	**+0.5**
	baz=78						
DRK				⇑*iS*	**Sn**	**19 01 09.3**	**+0.7**
	baz=78						
AML	**Almayashu**	**2.93**	**332**	P	**Pb**	**19 00 38.8**	**-0.6**
	SNR=7.4						
BOOM	**Boomskoye usch**	**2.95**	**6**	⇑*eP*	**Pb**	**19 00 40.9**	**+1.3**
	baz=6.0						
BOOM				⇑*iS*	**Sg**	**19 01 21.2**	**-0.1**
	baz=6.0						
KBK	**Karagaybulak**	**3.13**	**352**	P	**Pb**	**19 00 42.7**	**0.0**
	SNR=5.9						
KBK	**Karagaybulak**	**3.13**	**352**	⇑*iP*	**Pb**	**19 00 43.0**	**+0.3**
	baz=54						
KBK				⇑*iS*	**Sg**	**19 01 25.1**	**-2.1**
	baz=54						
AAK	**Ala-Archa**	**3.18**	**346**	Pn	**Pb**	**19 00 42.4**	**-1.1**
	5.3nm,0.3s,baz=161,slow=8.6,SNR=116						
AAK				Lg	Lg	19 01 27.9	
	3.8nm,0.3s,baz=346,slow=17,SNR=7.4						
AAK				LR	LR	19 02 08.6	
	comp=Z,69nm,19.8s,baz=146,slow=42						
AAK	**Ala-Archa**	**3.18**	**346**	P	**Pb**	**19 00 43.2**	**-0.3**
	SNR=18						
AAK	**Ala-Archa**	**3.18**	**346**	⇑Pn	**Pb**	**19 00 41.9**	**-1.6**
	14nm,0.6s						
AAK				⇓Lg	Lg	19 01 25.9	
	63nm,0.8s						
AAK	**Ala-Archa**	**3.18**	**346**	⇓*eP*	**Pb**	**19 00 43.4**	**-0.1**
	baz=48						
AAK				⇓*iS*	**Sg**	**19 01 25.9**	**-2.8**
	baz=48						
FRU1	**Bishkek**	**3.33**	**348**	⇑*iP*	**Pb**	**19 00 46.1**	**+0.2**
	baz=50						
FRU1				⇑*iS*	**Sg**	**19 01 30.4**	**-3.0**
	baz=50						
TKM2	**Tokmak 2**	**3.37**	**1**	P	**Pb**	**19 00 46.2**	**-0.5**
	SNR=67						
TKM2	**Tokmak 2**	**3.37**	**1**	⇓Pn	**Pb**	**19 00 45.2**	**-1.5**
	29nm,0.4s						
TKM2				⇑Lg	Lg	19 01 30.4	
	43nm,0.5s						
TKM2	**Tokmak 2**	**3.37**	**1**	⇑*eP*	**Pb**	**19 00 46.3**	**-0.4**
	baz=1.0						
TKM2				⇑*iS*	**Sb**	**19 01 31.0**	**+3.0**
	baz=1.0						
CHMS	**Chumysh**	**3.50**	**350**	P	**Pb**	**19 00 46.9**	**-1.8**
	SNR=17						
KST	**Kastek**	**3.50**	**5**	*e*P	**Pb**	**19 00 49.3**	**+0.4**
	20nm,0.6s						
KST				*e*S	**Sg**	**19 01 35.6**	**-3.4**
	104nm,0.5s						
KST	**Kastek**	**3.50**	**5**	Pg	**Pg**	**19 00 53.7**	**0.0**
	38nm,0.7s						
KST				Lg	Lg	19 01 42.3	
	104nm,0.5s						
ARK	**Arkit**	**3.53**	**311**	⇑*eP*	**Pb**	**19 00 46.1**	**-3.2**
	baz=16						
ARK				⇑*e*S	**Sb**	**19 01 30.7**	**-1.7**
	baz=16						
ANVS	**Anan'yevo**	**3.61**	**26**	⇑*iP*	**Pb**	**19 00 49.2**	**-1.6**
	baz=24						
ANVS				⇑*iS*	**Sb**	**19 01 36.0**	**+1.2**
	baz=24						
MRKS	**Merke**	**3.64**	**332**	*e*P	**Pb**	**19 00 49.1**	**-2.0**
	6.1nm,0.9s						
MRKS				*e*S	**Sb**	**19 01 35.4**	**-0.2**
	21nm,0.4s						
MRKS	**Merke**	**3.64**	**332**	Pg	**Pb**	**19 00 49.2**	**-2.0**
	3.0nm,0.4s						
MRKS				Lg	Lg	19 01 35.4	
	21nm,0.4s						
MTBS	**Maitube**	**3.64**	**10**	*e*P	**Pg**	**19 00 55.0**	**-1.1**
	5.6nm,0.5s						
MTBS				*e*S	**Sg**	**19 01 46.4**	**+3.0**
	30nm,0.4s						
TNSS	**Tian-Shan**	**3.64**	**16**	*e*P	**Pg**	**19 00 54.8**	**-1.5**
	5.9nm,0.5s						
TNSS				*e*S	**Sg**	**19 01 45.8**	**+2.4**
	28nm,0.8s						
TNSS	**Tian-Shan**	**3.64**	**16**	Pg	**Pg**	**19 00 56.8**	**+0.5**
	17nm,0.4s						
TNSS				Lg	Lg	19 01 47.6	
	28nm,0.8s						
BTK	**Batken**	**3.67**	**279**	⇓*iP*	**Pn**	**19 00 45.4**	**+1.6**
	baz=86						
BTK				⇓*iS*	**Sn**	**19 01 29.1**	**+1.6**
	baz=86						
DGS	**Degeres**	**3.69**	**3**	*e*P	**Pg**	**19 00 55.3**	**-1.9**
	21nm,0.7s						
DGS				*e*S	**Sg**	**19 01 46.7**	**+1.6**
	58nm,0.7s						
DGS	**

KURBB	Kurchatov Arra	11.27	10	Lg	Lg	19 05 51.1	
	0.0nm,0.3s,baz=272,slow=28,SNR=2.2						
BVAR	Borovoye Array	13.93	347	Pn	P	19 03 10.5	-2.1
	0.1nm,0.3s,baz=137,slow=11,SNR=2.0						
AKTO	Aktyubinsk	16.45	317	Pn	Pn	19 03 37.0	-0.7
	0.1nm,0.3s,baz=123,slow=18,SNR=3.8						
BRTR	Keskin Array B	32.05	284	P	P	19 06 13.7	-0.4
	0.8nm,0.7s,baz=95,slow=8.8,SNR=6.0						
AKASG	Malin Array Be	34.00	305	P	P	19 06 30.2	-0.6
	1.4nm,0.6s,baz=80,slow=7.2,SNR=5.8						
FINES	FINESS Array B	37.09	323	P	P	19 06 58.0	+0.8
	2.9nm,1.0s,baz=107,slow=13,SNR=3.4						
HFS	Hagfors	42.97	320	P	P	19 07 46.9	+0.8
	1.8nm,0.8s,baz=102,slow=13,SNR=1.5						
GERES	GERESS Array B	44.18	303	P	P	19 07 56.3	+0.3
	0.4nm,0.5s,baz=69,slow=7.3,SNR=4.9						
NOA	NORSAR Array B	44.19	321	P	P	19 07 55.5	-0.3
	0.7nm,0.8s,baz=90,slow=8.0,SNR=2.3						
ESDC	Sonseca Array	59.20	298	P	P	19 09 47.1	-1.3
	0.7nm,0.8s,baz=55,slow=6.7,SNR=7.0						
TORD	Torodi Ar. Bea	69.33	270	P	P	19 10 53.6	-1.5
	0.5nm,0.4s,baz=49,slow=5.6,SNR=11						
YKA	Yellowknife Ar	77.97	5	P	P	19 11 46.0	+1.0
	0.1nm,0.5s,baz=345,slow=5.8,SNR=3.2						
WRA	Warramunga Arr	80.69	125	P	P	19 12 00.8	+0.3
	0.1nm,0.7s,baz=329,slow=5.0,SNR=4.5						
ASAR	Alice Springs	83.19	128	P	P	19 12 13.8	+0.2
	0.3nm,0.9s,baz=315,slow=5.8,SNR=5.1						

*ANF **17** 19:12:48.4±0.4,39°.27N×77°.83W,h0km,ML3.7/14,Error ellipse: s-maj=4.2km s-min=3.0km az=13.0*
*NEIC **17** 19:12:48.5±1.6,39°.29N±0°.02×77°.73W±0°.05,h5km±2km, Error ellipse: s-maj=6.9km s-min=3.6km az=249.0*
*SLM **17** 19:12:48±2.3,39°.32N±0°.02×77°.83W±0°.05,h5km±7km, Md3.0,mb_Lg3.0/42(NEIC),Error ellipse: s-maj=5.8km s-min=2.9km az=67.0*
*LDO **17** 19:12:49.0,39°.32N×77°.83W,h5km*

ISC 17 19:12:47.4±1.3,39°28N±0°.02×77°.77W±0°.02,h2km±11km, n83,σ1§24/88,Virginia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P57A	Homestead Farm	0.27	318		Pg	19 12 53.0	+0.3
P57A				Sg	Sg	19 12 57.5	+1.2
SDMD	Soldier's Deli	0.73	80		Pb	19 13 02.4	-0.6
CBN	Corbin Frederi	1.12	164		Pb	19 13 09.1	-0.3
CBN				Sg	Sn	19 13 24.9	-1.2
CBN	Corbin Frederi	1.12	164	P	Pg	19 13 09.3	+0.4
	baz=342						
O56A	Blue Knob Stat	1.16	328		Pb	19 13 09.8	-0.5
O56A				Sg	Sb	19 13 24.2	-1.6
O56A	Blue Knob Stat	1.16	328	P	Pb	19 13 09.5	-0.8
	baz=149						
O56A				S	Sb	19 13 24.4	-1.3
	baz=149						
PAGS	Pennsylvania G	1.25	40		Pn	19 13 11.1	-0.7
MVL	Millersville	1.31	56		Pn	19 13 11.9	-0.8
R58B	Mineral	1.32	184		Pn	19 13 12.0	-0.8
SSPA	Standing Stone	1.36	356		Pg	19 13 13.9	+0.4
SSPA				IAmb_Lg		19 13 32.5	
	comp=Z,110nm,0.9s						
JSRW	J. Sargeant Re	1.59	183		Pb	19 13 16.9	-0.5
MCWV	Mont Chateau	1.65	284		Pb	19 13 18.1	-0.4
MCWV	Mont Chateau	1.65	284	P	Pb	19 13 17.9	-0.6
	baz=102						
MCWV				S	Sb	19 13 39.1	-0.6
	baz=102						
P60A	Greenville	1.74	72		Pn	19 13 18.3	-0.2
P60A	Greenville	1.74	72	P	Pn	19 13 18.6	0.0
	baz=254						
P60A				S	Sb	19 13 42.0	-0.3
	baz=254						
N58A	Sunbury	1.76	27		Pb	19 13 19.5	-0.8
S57A	Dark Hollow, R	1.78	212		Pn	19 13 19.3	+0.1
WUPA	West Chester U	1.80	68		Pn	19 13 19.6	+0.2
WUPA				IAmb_Lg		19 13 49.6	
	comp=Z,64nm,0.9s						
Q61A	Milford	1.95	101	S	Sg	19 13 50.4	+0.4
	baz=284						
R55A	Marlinton	2.09	242		Pb	19 13 25.1	-1.0
R55A				IAmb_Lg		19 13 58.3	
	comp=Z,63nm,0.8s						
M57A	Sunshine Farm,	2.11	13	Pn	Pb	19 13 25.5	-0.9
O54A	Avella	2.20	295		Pb	19 13 26.9	-1.0
O54A				IAmb_Lg		19 13 59.0	
	comp=Z,105nm,1.1s						
N59A	State Game Lan	2.24	43		Pb	19 13 27.4	-1.3
N59A	State Game Lan	2.24	43	P	Pb	19 13 27.9	-0.8
	baz=225						
N59A				S	Sb	19 13 57.7	+0.8
	baz=225						
LUPA	Lehigh Univers	2.27	54		Pb	19 13 27.6	-1.5
T59A	Double "B" Far	2.31	176		Pn	19 13 26.7	+0.2
M55A	Ridgway	2.31	341		Pb	19 13 28.1	-1.8
P61A	Hammonton	2.34	79	IAmb_Lg		19 14 09.8	
	comp=Z,79nm,0.8s						
N54A	Moraine State	2.39	315		Pb	19 13 29.1	-2.0
N54A	Moraine State	2.39	315	P	Pb	19 13 29.2	-2.0
	baz=134						
N54A				S	Sb	19 13 59.2	-1.8
	baz=134						
Q54A	Coxs Mills	2.40	264		Pb	19 13 29.6	-1.7
Q54A				IAmb_Lg		19 14 04.9	
	comp=Z,71nm,0.8s						
T57A	Hurt	2.56	208	Pn	Pn	19 13 30.7	+0.8
M54A	Oil Creek Stat	2.65	328		Pn	19 13 32.5	+1.3
M54A	Oil Creek Stat	2.65	328	P	Pb	19 13 32.9	-2.8
	baz=147						
M54A				S	Sb	19 14 06.3	-2.4
	baz=147						
N53A	Lisbon	2.80	304		Pn	19 13 35.0	+1.7
P53A	Whipple	2.81	275		Pn	19 13 34.5	+1.2
P53A				IAmb_Lg		19 14 15.5	
	comp=Z,57nm,0.9s						
O53A	New Philadelph	2.82	291		Pn	19 13 35.2	+1.7
O53A	New Philadelph	2.82	291	P	Pn	19 13 34.9	+1.4
	baz=109						
O53A				S	Sb	19 14 10.0	-3.5
	baz=109						
L56A	Greenwood	2.86	3		Pn	19 13 35.3	+1.2
L56A				IAmb_Lg		19 14 22.6	
	comp=Z,43nm,0.8s						
BLA	Blacksburg	2.93	226	Pn	Pn	19 13 36.5	+1.4
BLA	Blacksburg	2.93	226	P	Pb	19 13 38.4	-2.1
	baz=43						
BLA				Sb	Sb	19 14 18.3	+1.5
	baz=43						
ODNJ	Ogdensburg	3.02	52	IAmb_Lg		19 14 27.8	
	comp=Z,44nm,0.8s						
M53A	WI Miller and	3.09	315	P	Pn	19 13 39.0	+1.8
	baz=133						
M53A				S	Sn	19 14 16.6	+1.8
	baz=133						
S54A	Dingess, Beckl	3.14	243	Pn	Pn	19 13 39.4	+1.4
WVNY	West Valley, N	3.19	349	IAmb_Lg		19 14 30.2	
	comp=Z,72nm,1.3s						
BINY	Binghamton	3.22	24		Pn	19 13 40.9	+1.9
O52A	Adamsville	3.24	286		Pn	19 13 40.5	+1.2
TRNY	Table Rock, Ra	3.29	54		Pn	19 13 41.6	+1.6
ERPA	Erie	3.30	330	S	Sn	19 14 21.7	+1.9
	baz=149						
P52A	Corning	3.39	277		Pn	19 13 42.4	+1.0
P52A				IAmb_Lg		19 14 36.7	
	comp=Z,60nm,1.1s						
P52A	Corning	3.39	277	P	Pn	19 13 42.4	+1.0
	baz=94						
P52A				S	Sn	19 14 22.9	+0.7
	baz=94						
R53A	Hurricane	3.40	255		Pn	19 13 42.9	+1.5
PAL	Palisades	3.43	59	P	Pn	19 13 43.4	+1.6
	baz=242						
PAL				S	Sn	19 14 24.6	+1.6
	baz=242						
Q52A	Bidwell	3.51	266		Pn	19 13 43.5	+0.6
Q52A				IAmb_Lg		19 14 38.1	
	comp=Z,34nm,0.7s						
L59A	Walton	3.57	35	Pn	Pn	19 13 44.8	+1.0
K57A	Scipio Center	3.58	15		Pn	19 13 44.8	+0.9
U56A	King	3.58	216		Pn	19 13 44.8	+0.8
WSPT	Westport, CT	3.89	60	IAmb_Lg		19 14 54.3	
	comp=Z,41nm,0.7s						
J55A	Hilton	3.98	360	IAmb_Lg		19 14 58.1	
	comp=Z,26nm,0.8s						
CNNC	Cliffs of the	4.04	181	IAmb_Lg		19 15 04.9	
	comp=Z,47nm,0.8s						
KSCT	Kent School, K	4.08	52		Pn	19 13 52.3	+1.5
KSCT				IAmb_Lg		19 15 02.3	
	comp=Z,40nm,0.7s						
ACSO	Alum Creek Sta	4.12	285		Pn	19 13 52.0	+0.6
YLE	Yale	4.22	60	Pn	Pn	19 13 52.2	-0.5
J57A	Williamstown	4.34	17	Pn	Pn	19 13 55.7	+1.4
J57A				IAmb_Lg		19 15 05.0	
	comp=Z,49nm,1.2s						
Q51A	Peebles	4.34	268		Pn	19 13 54.1	-0.3
W57A	Gilead	4.48	204	Pn	Pn	19 13 56.5	+0.2
J58A	Remsen	4.49	24	Pn	Pn	19 13 56.5	+0.1
J59A	Piesco	4.85	29		Pn	19 14 02.1	+0.7
J59A				IAmb_Lg		19 15 21.3	
	comp=Z,45nm,0.8s						
S51A	Beattyville	4.85	252	Pn	Pn	19 14 02.3	+0.9
X58A	Rowland	4.88	195	Pn	Pn	19 14 02.3	+0.5
UCCT	U. Connecticut	4.92	58	Pn	Pn	19 14 02.5	+0.2
L61B	Northampton	4.99	49	Pn	Pn	19 14 04.6	+1.3
KMSC	Kings Mountain	5.01	216	Pn	Pn	19 14 04.6	+1.0
BIRD	Birdtown, Kers	5.10	206	Pn	Pn	19 14 05.4	+0.5
BIRD				IAmb_Lg		19 15 40.4	
	comp=Z,24nm,0.8s						
DELO	Deloro Mine	5.23	1	Pn	Pn	19 14 07.0	+0.4
AAM	Ann Arbor	5.39	306	IAmb_Lg		19 15 37.5	
	comp=Z,28nm,1.0s						
LONY	Lake Ozonia	5.84	23	Pn	Pn	19 14 15.7	+0.7
P48A	Milroy	5.93	274	IAmb_Lg		19 15 58.9	
	comp=Z,21nm,0.8s						
HODGE	Hodges	6.19	217	Pn	Pn	19 14 20.6	+0.7
FRNY	Flat Rock	6.36	28	Pn	Pn	19 14 22.3	+0.1
I62A	Tamworth	6.66	44	Pn	Pn	19 14 27.0	+0.8
MNTQ	Montreal, Queb	6.93	25	IAmb_Lg		19 16 35.3	
	comp=Z,18nm,1.0s						
H62A	Milan	7.23	41	Pn	Pn	19 14 32.9	-1.2

*SSNC **17** 19:24:14.3±1.5,19°.67N×76°.10W,h5km,ML2.9,MW3.1*
*OSPL **17** 19:24:29.7±0.3,19°.93N×75°.01W,h5km,ML1.8*

ISC 17 19:24:15.5±3.9,20°1N±0°.2×76°.1W±0°.2,h30km,n12, σ2§08/10,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.41	110	eP	Pb	19 24 22.6	-1.9
RCC				eS	Sb	19 24 29.4	-1.2
RCC				IAML		19 24 30.7	
	comp=N,677nm,0.5s						
RCC				IAML		19 24 31.1	
	comp=E,1μm,0.5s						
HLGC	Holguin	0.76	3	eP	Pn	19 24 34.7	+4.5
HLGC				eS	Sn	19 24 49.2	+8.6
HLGC				IAML		19 24 53.5	
	comp=N,441nm,0.4s						
HLGC				IAML		19 24 53.8	
	comp=E,849nm,0.5s						
LMGC	Las Mercedes	0.85	266	eP	Pn	19 24 29.9	-1.6
LMGC				eS	Sn	19 24 42.2	-0.7
GTMO	Guantanamo	0.91	93	eP	Pb	19 24 32.6	-0.1
GTMO				eS	Sn	19 24 48.3	+4.0
GTBY	Guantanamo Bay	0.96	102	eP	Pb	19 24 31.5	-2.0
GTBY				eS	Sn	19 24 45.7	+0.2
GTBY	Guantanamo Bay	0.96	102	i P	Pb	19 24 31.6	-2.0
GTBY				IAML		19 24 47.6	
	comp=Z,559nm,0.5s						
MOAC	Moa	1.19	64	eP	Pn	19 24 37.8	+1.6
MASC	Masc	1.76	88	eP	Pn	19 24 43.5	-0.4
MASC				eS	Sb	19 25 07.9	-0.9
MASC				IAML		19 25 13.3	
	comp=N,46nm,0.2s						
MASC				IAML		19 25 14.8	
	comp=E,66nm,0.3s						
CCCC	Cccc	1.89	305	eP	Pn	19 24 45.7	0.0
CCCC				eS	Sn	19 25 11.5	+3.0
CCCC				IAML		19 25 15.6	
	comp=N,51nm,0.5s						
CCCC				IAML		19 25 16.1	
	comp=E,84nm,0.6s						
MTDJ	Mount Denham	2.33	216	eP	Pn	19 24 46.3	-5.6
MTDJ				eS	Sn	19 25 07.9	-12
JAKH	Jacmel	3.88	118	i P	Pn	19 25 14.8	+1.7
SDDR	Presa de Saban	4.68	103	i P	Pn	19 25 25.1	+0.8

IDC 17 19:24:20.1±53.0,15°25S×171°39W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.4/31,mbtmp4.0/3,Error ellipse: s-maj=1033.0km s-min=194.0km az=79.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.80	240	P	P	19 32 44.2	+0.4
	0.8nm,0.5s,baz=91,slow=10,SNR=3.8						
WRA	Warramunga Arr	51.77	256	P	P	19 33 29.5	-0.5
	0.5nm,0.5s,baz=95,slow=6.9,SNR=14						
ASAR	Alice Springs	52.00	252	P	P	19 33 31.6	-0.1
	4.6nm,0.6s,baz=89,slow=7.7,SNR=123						

*MOS **17** 19:25:15.9±1.6,37°.98S×78°.07E,h10km,mb5.0/16,Error ellipse: s-maj=15.2km s-min=9.8km az=91.9*
*IDC **17** 19:25:15.2±0.4,37°.84S×78°.02E,h0km,mb4.6/24, mb1 4.6/24,mb1mx4.5/41,mbtmp4.5/24,MS4.7/47, Ms1 4.7/47,ms1mx4.6/61,Error ellipse: s-maj=14.9km s-min=13.4km az=147.0*
*NEIC **17** 19:25:16.8±2.1,38°.0S±0°.1×77°.9E±0°.1,h10km±1km, mb5.1/31,Error ellipse: s-maj=19.5km s-min=16.0km az=125.0*
*BJI **17** 19:25:17.0±0.0,37°.70S×78°.10E,h10km,mb4.8/41, mB5.4/27,Ms5.2/33,Ms7 4.9/33*
*GCMT **17** 19:25:18.8±0.1,37°.93S±0°.01×77°.93E±0°.01,h13km, MW5.3/125,Moment Tensor Solution. s93,c143; s125,c220; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.13±.02; $M_{\theta\theta}$0.57±.02; $M_{\phi\phi}$=0.44±.02; $M_{r\theta}$=0.05±.03; $M_{\theta\phi}$=-1.13±.02; $M_{\phi r}$0.04±.03; Best double couple: M_0=1.24000×10^{17} NP1:ϕ_s=258.00000°,δ88.00000°, λ178.00000°. NP2:ϕ_s=348.00000°,δ88.00000°,λ2.00000°. Principal axes: T 1.3070, Plg3.0000°, Azm213.0000°; N -0.1350, Plg87.0000°, Azm24.0000°; P -1.1720, Plg0.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 19:25:17.0±0.3,38°01S±0°.06×77°97E±0°.07,h10km,n234, σ1§71/216,mb5.0/92,MS4.8/63,13C-3D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAF	Port-aux-Franc	12.64	204	P	Pn	19 28 14.3	-2.5
PAF	Port-aux-Franc	12.64	204	Pn	Pn	19 28 14.2	-2.5
H01W2	Cape Leeuwin H	29.14	95	T	T	20 01 44.0	
	baz=253,slow=75						
H01W3	Cape Leeuwin H	29.14	95	T	T	20 01 42.2	
	baz=253,slow=75						
H01W1	Cape Leeuwin H	29.15	95	T	T	20 01 41.1	
	baz=253,slow=75						
H08S2	Diego Garcia H	30.64	349	T	T	20 03 20.4	
	baz=172,slow=76						
H08S1	Diego Carcia H	30.64	349	T	T	20 03 20.6	
	baz=172,slow=76						
H08S3	Diego Garcia H	30.65	349	T	T	20 03 21.8	
	baz=172,slow=76						
MAW	Mawson	30.83	191	P	P	19 31 32.9	+0.1
	20nm,1.0s,baz=17,slow=11,SNR=5.1						
MAW				LR	LR	19 41 34.8	
	comp=Z,4μm,18.7s,baz=17,slow=32						
MAW	Mawson	30.83	191	P	P	19 31 31.4	-1.4
OPO	Ambohidratompo	33.09	297	P	P	19 31 51.5	-1.8
	7.8nm,0.9s,baz=121,slow=14,SNR=3.0						
OPO				LR	LR	19 41 47.2	
	comp=Z,1μm,20.4s,baz=355,slow=30						
SYO	Syowa Base	37.33	202	⇑eP	P	19 32 29.0	-0.1
SYO	Syowa Base	37.33	202	⇑epP	pP	19 32 32.0	+0.4
SYO	Syowa Base	37.33	202	⇑ePnPn	PnPn	19 33 55.8	+1.2
POGA	Pongola	40.01	271	eP	P	19 32 52.1	0.0
POGA				IAmb	IAmb	19 33 12.1	
	comp=Z,17nm,1.0s						
LEM	Lembang	41.05	48	LR	LR	19 46 03.7	
	comp=Z,3μm,21.6s,baz=210,slow=30						
MOPA	Mopani	42.12	276	eP	P	19 33 09.7	+0.1
MOPA				IAmb	IAmb	19 33 14.0	
	comp=Z,6.3nm,1.0s						
SLR	Silverton	43.47	271	eP	P	19 33 17.2	-3.5
SLR				IAmb	IAmb	19 33 24.6	
	comp=Z,54nm,1.4s						
PRYS	Parys	43.64	269	eP	P	19 33 20.3	-1.7
PRYS				IAmb	IAmb	19 33 24.2	
	comp=Z,12nm,1.4s						
MSNA	Messina	43.81	277	eP	P	19 33 24.6	+1.3
MSNA				IAmb	IAmb	19 33 27.5	
	comp=Z,37nm,1.0s						
WDLM	Western Deep L	43.82	270	eP	P	19 33 20.1	-3.5
WDLM				IAmb	IAmb	19 33 27.6	
	comp=Z,35nm,1.1s						
HRAO	HartRAO	43.87	271	eP	P	19 33 24.1	+0.3
HRAO				IAmb	IAmb	19 33 27.9	
	comp=Z,82nm,1.3s						
KSR	Koster	44.51	270	eP	P	19 33 31.1	+2.1
KSR				IAmb	IAmb	19 34 15.3	
	comp=Z,82nm,1.7s						
BOSA	Boshof	44.53	266	P	P	19 33 28.1	-1.0
	comp=Z,13nm,1.0s,baz=113,slow=9.8,SNR=9.7						
BOSA	Boshof	44.53	266	eP	P	19 33 29.1	-0.1
BOSA				IAmb	IAmb	19 33 33.3	
	comp=Z,26nm,1.2s						
BOSA	Boshof	44.53	266	P	P	19 33 28.2	-1.0
BOSA				pmax	pmax		
	comp=Z,27nm,1.2s						
BOSA	Boshof	44.53	266	P	P	19 33 28.2	-1.0
BOSA				IAmb	IAmb	19 33 33.0	
	comp=Z,27nm,1.2s						
KMMI	Kalianget	44.84	56	P	P	19 33 31.3	-0.2
	comp=Z,18nm,1.1s						
PSI	Prapat	45.01	30	P	P	19 33 31.8	-1.1
	comp=Z,3.6nm,0.8s,baz=180,slow=7.9,SNR=9.2						
PSI				LR	LR	19 48 24.3	
	comp=Z,4μm,20.7s,baz=231,slow=31						
SWZ	Schweizer	45.12	268	eP	P	19 33 32.4	-1.4
PALK	Pallekele	45.12	4	LR	LR	19 47 44.0	
	comp=Z,1μm,21.8s,baz=290,slow=30						
LBTB	Lobatse	45.94	271	P	P	19 33 41.1	+0.8
	comp=Z,12nm,0.9s,baz=127,slow=6.1,SNR=10.0						
LBTB				LR	LR	19 49 14.8	
	comp=Z,971nm,19.3s,baz=118,slow=31						
LBTB	Lobatse	45.94	271	eP	P	19 33 39.2	-1.1
LBTB				IAmb	IAmb	19 33 43.8	
	comp=Z,28nm,1.2s						
LBTB	Lobatse	45.94	271	P	P	19 33 40.3	-0.1
LBTB				IAmb	IAmb	19 33 44.1	
	comp=Z,32nm,1.2s						
FITZ	Fitzroy Crossi	45.95	78	LR	LR	19 49 00.1	
	comp=Z,351nm,19.5s,baz=260,slow=31						
MATP	Matopo	46.04	278	P	P	19 33 42.1	+1.0
	comp=Z,8.6nm,1.1s,baz=116,slow=14,SNR=9.1						
MATP				LR	LR	19 48 39.4	
	comp=Z,559nm,21.6s,baz=128,slow=30						
BLWY	Bulawayo	46.11	278	eP	P	19 33 40.7	-1.1
BLWY				IAmb	IAmb	19 33 45.6	
	comp=Z,270nm,1.0s						
MATJ	Matjiesfontein	46.26	258	eP	P	19 33 45.6	+2.9
MATJ				IAmb	IAmb	19 33 53.3	
	comp=Z,107nm,1.6s						
SUR	Sutherland	46.43	259	P	P	19 33 45.3	+1.1
	comp=Z,21nm,0.9s,baz=124,slow=8.2,SNR=6.2						
SUR	Sutherland	46.43	259	P	P	19 33 44.0	-0.2
SUR				IAmb	IAmb	19 33 48.9	
	comp=Z,45nm,1.1s						
NVL	N'lazarevskaya	46.80	205	⇑i P	P	19 34 07.1	+21
NVL				i		19 35 16.7	
NVL				eSS	S	19 40 52.4	+16
NVL				pmax	pmax		
	comp=Z,87nm,1.8s						
IPM	Ipoh	47.39	32	P	P	19 33 50.0	-1.5
IPM				IAmb	IAmb	19 34 01.9	
	comp=Z,14nm,1.1s						
KULM	Kulim	47.96	31	P	P	19 33 53.7	-2.3
AUGR	Augrabies	48.41	263	eP	P	19 33 60.0	+0.5
LSZ	Lusaka	49.25	283	LR	LR	19 51 08.1	
	comp=Z,1μm,20.7s,baz=132,slow=32						
LSZ	Lusaka	49.25	283	i Pg	P	19 34 05.5	-0.6
LSZ				eP	pP	19 34 08.2	-0.5
LSZ				IAmb	IAmb	19 34 10.3	
	comp=Z,480nm,1.2s						
LSZ	Lusaka	49.25	283	P	P	19 34 05.1	-1.1
LSZ				pmax	pmax		
	comp=Z,53nm,1.2s						
LSZ	Lusaka	49.25	283	P	P	19 34 05.1	-1.1
BATI	Baumata	49.37	68	LR	LR	19 51 08.0	
	comp=Z,429nm,21.1s,baz=205,slow=32						
ASAR	Alice Springs	49.42	90	P	P	19 34 07.0	-0.3
	comp=Z,10.0nm,1.0s,baz=237,slow=6.0,SNR=32						
ASAR				LR	LR	19 52 39.7	
	comp=Z,491nm,19.2s,baz=243,slow=33						
ASAR	Alice Springs	49.42	90	P	P	19 34 06.4	-0.9
AS31	Alice Springs	49.42	90	P	P	19 34 06.5	-0.8
KNRA	Kununurra	49.78	78	P	P	19 34 09.6	-0.4
KAPI	Kappang	50.20	60	LR	LR	19 51 00.3	
	comp=Z,356nm,21.9s,baz=232,slow=31						
SPSI	Sidrap Palu	50.98	59	P	P	19 34 16.6	-2.5
	comp=Z,19nm,1.3s						
SBUM	Sibu	51.22	46	P	P	19 34 19.7	-1.2
SNAA	Sanae	51.56	203	P	P	19 34 24.6	+1.7
	comp=Z,8.5nm,0.9s,baz=105,slow=13,SNR=4.6						
SNAA				LR	LR	19 52 21.4	
	comp=Z,2μm,21.5s,baz=99,slow=31						
SNAA	Sanae	51.56	203	i P	P	19 34 26.5	+3.6
STKA	Stephens Creek	51.62	104	P	P	19 34 23.9	+0.1
	comp=Z,6.2nm,0.8s,baz=241,slow=6.0,SNR=13						
STKA				LR	LR	19 52 08.4	
	comp=Z,965nm,20.7s,baz=234,slow=31						
STKA	Stephens Creek	51.62	104	P	P	19 34 24.2	+0.4
STKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	Stephens Creek	51.62	104	P	P	19 34 24.2	+0.4
WRA	Warramunga Arr	51.72	86	P	P	19 34 23.6	-1.0
	comp=Z,15nm,1.1s,baz=237,slow=6.7,SNR=28						
WRA	Warramunga Arr	51.72	86	P	P	19 34 24.3	-0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,1.3s						
WRA	Warramunga Arr	51.72	86	P	P	19 34 24.3	-0.3
WB2	Warramunga Arr	51.73	86	P	P	19 34 24.2	-0.5
WB2				IAmb	IAmb	19 34 29.6	
	comp=Z,38nm,1.3s						
WRAB	Tennant Creek	51.73	86	ceP	P	19 34 24.6	-0.2
WRAB				pmax	pmax		
	comp=Z,36nm,1.3s						
WRAB	Tennant Creek	51.73	86	P	P	19 34 23.1	-1.7
WRAB				IAmb	IAmb	19 34 29.7	
	comp=Z,42nm,1.4s						
WB0	Warramunga Arr	51.86	86	P	P	19 34 24.8	-0.9
WB0				IAmb	IAmb	19 34 32.8	
	comp=Z,30nm,1.0s						
WR0	Warramunga Arr	51.87	86	P	P	19 34 24.8	-1.0
WR0				IAmb	IAmb	19 34 33.0	
	comp=Z,26nm,1.1s						
VNDA	Vanda	51.91	164	P	P	19 34 25.8	+0.5
	comp=Z,12nm,0.9s,baz=269,slow=3.7

MYLAV	**Mylavaram**	**54.52**	**3**	*e*P	**P**	**19 34 45.2**	**+0.1**
CUPL	**Choutuppal**	**55.02**	**1**	*e*P	**P**	**19 34 47.8**	**-0.9**
HYBB	**Hyderabad (bro**	**55.14**	**1**	*e*P	**P**	**19 34 48.7**	**-1.0**
HYBB				*e*S	**S**	**19 42 32.7**	**+0.1**
TSUM	**Tsumeb**	**55.30**	**272**	LR	LR	19 54 50.7	
	comp=Z,1μm,20.0s,baz=146,slow=32						
TSUM	**Tsumeb**	**55.30**	**272**	*e*P	**P**	**19 34 48.3**	**-2.8**
TSUM	**Tsumeb**	**55.30**	**272**	P	**P**	**19 34 51.8**	**+0.7**
TSUM				IAmb	IAmb	19 34 56.0	
	comp=Z,32nm,1.0s						
TOLI2	**Tolitoli**	**55.42**	**56**	P	**P**	**19 34 51.1**	**-0.7**
TOLI2				IAmb	IAmb	19 34 57.9	
	comp=Z,21nm,0.9s						
MRSI	**Marisa**	**55.71**	**57**	P	**P**	**19 34 51.3**	**-2.6**
	comp=Z,24nm,1.2s						
POO	**Poona**	**56.37**	**355**	*e*P	**P**	**19 35 03.0**	**+4.5**
GTOI	**Gorontalo**	**56.54**	**58**	P	**P**	**19 34 58.1**	**-1.7**
	comp=Z,9.5nm,1.2s						
SRSP	**Sriramsagar**	**56.64**	**0**	*e*P	**P**	**19 35 00.1**	**-0.2**
SANI	**Sanana**	**56.64**	**63**	P	**P**	**19 34 58.9**	**-1.7**
	comp=Z,17nm,1.0s						
MYLDM	**Lahad Datu**	**57.11**	**50**	P	**P**	**19 35 04.7**	**+0.8**
MBAR	**Mbarara**	**57.13**	**299**	LR	LR	19 56 00.7	
	comp=Z,1μm,19.3s,baz=125,slow=32						
MBAR	**Mbarara**	**57.13**	**299**	*i* P	**P**	**19 35 08.4**	**+4.1**
MBAR				pmax	pmax		
	comp=Z,15nm,1.5s						
LBMI	**Labuha**	**58.70**	**63**	P	**P**	**19 35 14.0**	**-1.1**
	comp=Z,910nmcomp=Z,15nm,1.3s						
CM31	**Chiang Mai Arr**	**59.53**	**23**	P	**P**	**19 35 18.8**	**-1.8**
CM31				IAmb	IAmb	19 35 24.4	
	comp=Z,16nm,1.0s						
CMAR	**Chiang Mai Arr**	**59.53**	**23**	P	**P**	**19 35 17.9**	**-2.7**
	comp=Z,7.6nm,1.0s,baz=209,slow=6.7,SNR=19						
CMAR				LR	LR	19 57 11.4	
	comp=Z,804nm,20.7s,baz=200,slow=32						
CMAR	**Chiang Mai Arr**	**59.53**	**23**	*ce*P	**P**	**19 35 19.2**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**59.53**	**23**	P	**P**	**19 35 19.1**	**-1.4**
CTA	**Charters Tower**	**61.05**	**94**	LR	LR	19 59 04.5	
	comp=Z,822nm,21.6s,baz=236,slow=33						
WSAR	**Wadi Sarin**	**63.58**	**340**	LR	LR	19 57 50.5	
	comp=Z,477nm,18.3s,baz=166,slow=31						
QIZ	**Qiongzhong**	**64.16**	**34**	P	**P**	**19 35 51.8**	**0.0**
QIZ				S	**S**	**19 44 29.3**	**+0.3**
QIZ				SS	**SS**	**19 48 40.3**	**+1.6**
QIZ				LR	LR		
	comp=Z,1μm,22.9s						
QIZ				LR	LR		
	comp=Z,390nm,18.4s						
QIZ				LR	LR		
	comp=Z,1μm,22.6s						
SHL	**Shillong**	**64.58**	**14**	P	**P**	**19 35 53.7**	**-0.9**
SHL				pmax	pmax		
	comp=Z,30nm,1.1s						
SHL	**Shillong**	**64.58**	**14**	P	**P**	**19 35 53.7**	**-0.9**
PKI	**Pulchoki**	**65.61**	**7**	*e*P	**P**	**19 35 59.4**	**-2.1**
	comp=Z,36nm,1.2s						
PKIN	**Phulchoki**	**65.61**	**7**	*e*P	**P**	**19 35 59.4**	**-2.0**
	comp=Z,5.6nm,0.6s						
DMN	**Daman**	**65.62**	**7**	*e*P	**P**	**19 36 00.2**	**-1.2**
	comp=Z,42nm,1.0s						
KOLN	**Koldanda**	**65.65**	**5**	*e*P	**P**	**19 36 00.3**	**-1.3**
	comp=Z,82nm,1.3s						
KKN	**Kakani**	**65.81**	**7**	*e*P	**P**	**19 36 01.3**	**-1.3**
	comp=Z,46nm,1.1s						
PYUN	**Piuthan**	**65.93**	**5**	*e*P	**P**	**19 36 01.5**	**-1.9**
	comp=Z,78nm,1.0s						
GKN	**Gorkha**	**65.97**	**6**	*e*P	**P**	**19 36 01.3**	**-2.2**
	comp=Z,70nm,1.2s						
GUN	**Gumba**	**65.99**	**8**	*e*P	**P**	**19 36 02.3**	**-1.7**
	comp=Z,185nm,1.3s						
DANN	**Dangsing**	**66.24**	**6**	*e*P	**P**	**19 36 03.2**	**-2.2**
	comp=Z,82nm,1.0s						
KMI	**Kunming**	**66.97**	**24**	⇑P	**P**	**19 36 13.5**	**+3.4**
KMI				pP	pwP	19 36 17.3	+2.4
KMI				PcP	**PcP**	**19 36 36.1**	**-2.4**
KMI				S	**S**	**19 45 04.9**	**+1.3**
KMI				sS	sS	19 45 11.9	+3.9
KMI				pmax	pmax		
	comp=Z,18nm,1.4s						
KMI				pmax	pmax		
	comp=Z,260nm,4.7s						
KMI				LR	LR		
	comp=Z,670nm,15.7s						
KMI				LR	LR		
	comp=Z,800nm,17.8s						
KMI				LR	LR		
	comp=Z,1μm,18.5s						
PMG	**Port Moresby**	**67.88**	**85**	LR	LR	20 05 27.9	
	comp=Z,581nm,18.2s,baz=221,slow=36						
PZH	**PanZhiHua**	**67.94**	**23**	P	**P**	**19 36 14.3**	**-1.8**
PZH				pP	**pP**	**19 36 18.4**	**-0.5**
PZH				sP	**pwP**	**19 36 20.8**	**-0.1**
PZH				S	**S**	**19 45 12.4**	**-2.6**
PZH				sS	**sS**	**19 45 19.8**	**+0.4**
PZH				SS	**SS**	**19 49 32.1**	**-5.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,180nm,3.6s						
PZH				LR	LR		
	comp=Z,370nm,20.1s						
PZH				LR	LR		
	comp=Z,350nm,19.0s						
PZH				LR	LR		
	comp=Z,520nm,17.0s						
RAYN	**Ar Rayn**	**68.39**	**328**	P	**P**	**19 36 19.3**	**+0.4**
RAYN				pmax	pmax		
	comp=Z,11nm,1.2s						
RAYN	**Ar Rayn**	**68.39**	**328**	P	**P**	**19 36 19.3**	**+0.4**
RAYN				IAmb	IAmb	19 36 32.9	
	comp=Z,11nm,1.1s						
LSA	**Lhasa**	**68.48**	**12**	P	**P**	**19 36 18.1**	**-1.7**
LSA				pmax	pmax		
	comp=Z,34nm,1.3s						
GYA	**Guiyang**	**69.55**	**27**	⇓P	**P**	**19 36 25.8**	**-0.4**
GYA				pP	pwP	19 36 32.0	+1.0
GYA				pmax	pmax		
	comp=Z,17nm,1.8s						
GYA				LR	LR		
	comp=Z,880nm,25.8s						
SMAI	**San Martin Ant**	**70.98**	**193**	P	**P**	**19 36 34.8**	**+0.6**
KBL	**Kabul**	**72.66**	**352**	P	**P**	**19 36 43.8**	**-1.2**
KBL				pmax	pmax		
	comp=Z,32nm,1.3s						
KBL	**Kabul**	**72.66**	**352**	P	**P**	**19 36 43.8**	**-1.2**
KBL				IAmb	IAmb	19 37 02.5	
	comp=Z,32nm,1.2s						
CD2	**Chengdu**	**72.67**	**23**	P	**P**	**19 36 44.8**	**-0.1**
CD2				pmax	pmax		
	comp=Z,30nm,1.4s						
GOMU	**GeErMu**	**75.47**	**14**	P	**P**	**19 37 03.9**	**+2.4**
GOMU				pP	pwP	19 37 07.3	+0.9
GOMU				sP	PcP	19 37 12.0	-2.6
GOMU				PP	**PP**	**19 39 47.6**	**-3.5**
GOMU				S	**S**	**19 46 47.3**	**+5.3**
GOMU				pmax	pmax		
	comp=Z,180nm,5.1s						
GOMU				LR	LR		
	comp=Z,520nm,19.4s						
GOMU				LR	LR		
	comp=Z,270nm,19.6s						
GOMU				LR	LR		
	comp=Z,560nm,20.8s						
DZM	**Mont Dzumac**	**75.60**	**107**	LR	LR	20 05 31.0	
	comp=Z,506nm,19.3s,baz=216,slow=32						
DZM	**Mont Dzumac**	**75.60**	**107**	*e*S	**S**	**19 46 43.2**	**-0.6**
	comp=Z,152nm,28.1s						
DZM				*e*SS	**SS**	**19 51 35.6**	**+1.1**
	comp=Z,326nm,25.9s						
DZM				*e*LR	LR	20 00 21.8	
	comp=Z,750nm,24.8s						
KSH	**Kashi**	**77.17**	**358**	P	**P**	**19 37 10.6**	**-0.2**
KSH				pP	pwP	19 37 18.4	+2.7
KSH				LR	LR		
	comp=Z,440nm,17.2s						
KSH				LR	LR		
	comp=Z,370nm,12.7s						
KSH				LR	LR		
	comp=Z,410nm,14.4s						
XAN	**Xi'an**	**77.24**	**26**	P	**P**	**19 37 13.8**	**+2.6**
XAN				pP	PcP	19 37 22.8	+0.9
XAN				pmax	pmax		
	comp=Z,22nm,0.9s						
LZH	**Lanzhou**	**77.52**	**21**	⇑P	**P**	**19 37 15.8**	**+2.9**
LZH				pP	pwP	19 37 19.3	+1.5
LZH				sP	PcP	19 37 22.5	-0.7
LZH				S	**S**	**19 47 08.5**	**+4.4**
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
LZH				pmax	pmax		
	comp=Z,340nm,4.6s						
LZH				LR	LR		
	comp=Z,700nm,21.7s						
LZH				LR	LR		
	comp=Z,460nm,20.6s						
LZH				LR	LR		
	comp=Z,1μm,21.1s						
GEYT	**Alibeck**	**77.75**	**344**	LR	LR	20 06 51.5	
	comp=Z,360nm,20.1s,baz=160,slow=32						
HNR	**Honiara**	**77.96**	**93**	LR	LR	20 07 47.0	
	comp=Z,305nm,21.9s,baz=220,slow=33						
EIL	**Elat**	**78.43**	**323**	LR	LR	20 07 31.0	
	comp=Z,283nm,19.8s,baz=134,slow=32						
NJ2	**Nanjing**	**79.44**	**34**	*e*P	**P**	**19 37 25.1**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,20.4s						
NJ2				LR	LR		
	comp=Z,870nm,19.4s						
NJ2				LR	LR		
	comp=Z,1μm,21.8s						
GTA	**Gaotai**	**79.62**	**17**	⇑P	**P**	**19 37 27.0**	**+2.6**
GTA				pP	PcP	19 37 31.3	-0.9
GTA				sP	pwP	19 37 34.4	+5.2
GTA				S	**S**	**19 47 28.8**	**+2.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,200nm,4.5s						
GTA				LR	LR		
	comp=Z,320nm,20.4s						
GTA				LR	LR		
	comp=Z,370nm,22.9s						
GTA				LR	LR		
	comp=Z,470nm,21.8s						
JOW	**Kunigami**	**79.89**	**44**	LR	LR	20 07 20.1	
	comp=Z,197nm,20.0s,baz=277,slow=32						
AAK	**Ala-Archa**	**80.33**	**357**	P	**P**	**19 37 27.0**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=192,slow=9.3,SNR=2.0						
AAK				LR	LR	20 09 39.6	
	comp=Z,764nm,20.8s,baz=174,slow=33						
AAK	**Ala-Archa**	**80.33**	**357**	*ce*P	**P**	**19 37 30.9**	**+2.7**
AAK				pmax	pmax		
	comp=Z,41nm,2.5s						
GUMO	**Guam**	**80.90**	**65**	LR	LR	20 06 02.2	
	comp=Z,53nm,21.7s,baz=216,slow=30						
KKAR	**Karatay Array**	**81.02**	**354**	P	**P**	**19 37 30.8**	**-0.9**
KKAR	**Karatay Array**	**81.02**	**354**	P	**P**	**19 37 30.8**	**-0.9**
CHKK	**Chushkaly**	**81.49**	**359**	*e*P	**P**	**19 37 35.8**	**+1.6**
	baz=359						
KUU	**Kurty**	**81.54**	**359**	*e*P	**P**	**19 37 35.2**	**+0.8**
KUU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KUU	**Kurty**	**81.54**	**359**	*e*P	**P**	**19 37 35.3**	**+0.8**
	comp=Z,6.8nm,1.2s,baz=359						
WMQ	**Urumqi**	**81.93**	**7**	*e*P	**P**	**19 37 36.4**	**-0.1**
WMQ				pP	PcP	19 37 43.1	+1.0
WMQ				sP	pwP	19 37 51.6	+10
WMQ				S	**S**	**19 47 51.4**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,20nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,230nm,4.3s						
WMQ				LR	LR		
	comp=Z,910nm,22.7s						
WMQ				LR	LR		
	comp=Z,430nm,19.9s						
WMQ				LR	LR		
	comp=Z,980nm,23.3s						
HNS	**HongShan**	**82.34**	**29**	⇑P	**P**	**19 37 41.0**	**+2.3**
HNS				S	**S**	**19 47 56.8**	**+2.4**
HNS				pmax	pmax		
	comp=Z,16nm,1.9s						
HNS				LR	LR		
	comp=Z,790nm,18.6s						
HNS				LR	LR		
	comp=Z,530nm,19.6s						
RAO	**Raoul Island**	**82.54**	**121**	LR	LR	20 08 41.1	
	comp=Z,146nm,19.6s,baz=112,slow=32						
TDK	**Taldyqorghan**	**82.64**	**0**	*e*P	**P**	**19 37 41.0**	**+0.9**
TDK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TDK	**Taldyqorghan**	**82.64**	**0**	*e*P	**P**	**19 37 41.1**	**+0.9**
	comp=Z,9.4nm,0.8s,baz=0.1						
BTLS	**Baital**	**82.75**	**357**	*e*P	**P**	**19 37 41.5**	**+0.8**
BTLS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BTLS	**Baital**	**82.75**	**357**	*e*P	**P**	**19 37 41.5**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=357						
USHA	**Ushuaia**	**83.14**	**199**	LR	LR	20 13 00.2	
	comp=Z,525nm,19.9s,baz=132,slow=34						
GNI	**Garni**	**83.54**	**335**	LR	LR	20 10 52.1	
	comp=Z,659nm,21.8s,baz=156,slow=33						
GNI	**Garni**	**83.54**	**335**	*i* P	**P**	**19 37 46.7**	**+1.6**
GNI				pmax	pmax		
	comp=Z,48nm,1.4s						
BTO	**Baotou**	**83.56**	**24**	*e*P	**P**	**19 37 47.3**	**+2.2**
BTO				S	**S**	**19 48 12.8**	**+5.8**
HHC	**Hu-ho-hao-te**	**84.28**	**25**	*e*P	**P**	**19 37 49.8**	**+1.0**
HHC				S	**S**	**19 48 13.8**	**-0.5**
HHC				sS	ScS	19 48 22.6	-3.6
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,150nm,5.7s						
HHC				LR	LR		
	comp=Z,670nm,17.6s						
HHC				LR	LR		
	comp=Z,560nm,17.3s						
HHC				LR	LR		
	comp=Z,690nm,17.3s						
MK31	**Makanchi Array**	**84.52**	**3**	P	**P**	**19 37 47.3**	**-2.5**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MK31	**Makanchi Array**	**84.52**	**3**	P	**P**	**19 37 47.3**	**-2.5**
MKAR	**Makanchi Array**	**84.52**	**3**	P	**P**	**19 37 47.3**	**-2.5**
	comp=Z,3.7nm,0.8s,baz=168,slow=6.3,SNR=23						
MKAR				LR	LR	20 12 49.1	
	comp=Z,519nm,21.1s,baz=182,slow=34						
MKAR	**Makanchi Array**	**84.52**	**3**	P	**P**	**19 37 47.6**	**-2.1**
MKAR	**Makanchi Array**	**84.52**	**3**	P	**P**	**19 37 47.6**	**-2.1**
MAK	**Makhachkala**	**85.22**	**338**	*e*P	**P**	**19 37 50.5**	**-2.8**
MAK				*e*		19 41 08.6	
MAK				*e*		19 48 10.9	
MAK				*e*SSS	SSS	19 57 22.2	
MAK				pmax	pmax		
	comp=Z,347nm,1.1s						
MAK				MLR	MLR		
	comp=Z,220nm,16.0s						
ZSN	**Zaisan**	**85.31**	**5**	*e*P	**P**	**19 37 54.9**	**+1.2**
ZSN	**Zaisan**	**85.31**	**5**	*e*P	**P**	**19 37 54.9**	**+1.2**
	baz=4.5						
JNU	**Nakatsue**	**86.20**	**42**	LR	LR	20 12 30.3	
	comp=Z,210nm,20.0s,baz=216,slow=33						
MSVF	**Nonsavu**	**86.91**	**110**	LR	LR	20 09 22.6	
	comp=Z,405nm,21.3s,baz=234,slow=30						
KBZ	**Khabaz**	**87.35**	**335**	LR	LR	20 13 54.8	
	comp=Z,385nm,20.1s,baz=162,slow=34						
BRTR	**Keskin Array B**	**87.40**	**327**	P	**P**	**19 38 02.7**	**-1.7**
	comp=Z,1.3nm,0.9s,baz=153,slow=6.4,SNR=5.0						
BRTR				LR	LR	20 14 01.7	
	comp=Z,192nm,18.9s,baz=140,slow=34						
BRTR	**Keskin Array B**	**87.40**	**327**	*i* P	**P**	**19 38 05.1**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**87.48**	**289**	P	**P**	**19 38 03.5**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=102,slow=3.7,SNR=5.3						
KIV	**Kislovodsk**	**87.62**	**335**	*e*P	**P**	**19 38 06.1**	**+0.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
DGZ	**Jazzator, Alta**	**87.73**	**6**	*i* P	**P**	**19 38 07.8**	**+2.1**
DGZ				pmax	pmax		
	comp=Z,27nm,2.2s						
SEM	**Semipalatinsk**	**88.07**	**1**	*e*P	**P**	**19 38 08.2**	**+0.9**
SEM				pmax	pmax		
	comp=Z,5.0nm,1.8s						
SEM	**Semipalatinsk**	**88.07**	**1**	*e*P	**P**	**19 38 08.3**	**+0.9**
	comp=Z,5.1nm,1.8s,baz=1.2						
KSRS	**Korea Array**	**88.10**	**38**	LR	LR	20 17 30.4	
	comp=Z,211nm,18.0s,baz=230,slow=36						
KURBB	**Kurchatov Arra**	**88.26**	**0**	P	**P**	**19 38 07.0**	**-1.0**
	comp=Z,2.6nm,1.1s,baz=194,slow=4.7,SNR=12						
KURBB				LR	LR	20 16 01.9	
	comp=Z,385nm,18.9s,baz=154,slow=35						
KURK	**Kurchatov**	**88.35**	**0**	*ce*P	**P**	**19 38 10.5**	**+2.1**
KURK				pmax	pmax		
	comp=Z,24nm,2.5s						
DBIC	**Dimbokro**	**88.44**	**280**	LR	LR	20 13 32.6	
	comp=Z,530nm,20.6s,baz=128,slow=33						
XLT	**XiLinHaoTe**	**88.54**	**27**	*e*P	**P**	**19 38 10.9**	**+1.3**
XLT				pP	pwP	19 38 14.6	+0.1
XLT				S	**S**	**19 49 00.1**	**+4.6**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.5s						
XLT				pmax	pmax		
	comp=Z,110nm,3.6s						
XLT				LR	LR		
	comp=Z,610nm,16.0s						
XLT				LR	LR		
	comp=Z,660nm,16.3s						
XLT				LR	LR		
	comp=Z,920nm,19.4s						
SONM	**Songino Array**	**89.15**	**19**	P	**P**	**19 38 10.5**	**-1.9**
	comp=Z,1.2nm,0.8s,baz=206,slow=4.7,SNR=4.4						
ULN	**Ulaanbaatar**	**89.34**	**19**	*ce*P	**P**	**19 38 15.0**	**+1.6**
ULN				pmax	pmax		
	comp=Z,13nm,2.4s						
ZAK	**Zakamensk**	**90.80**	**16**	*e*P	**P**	**19 38 22.1**	**+2.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
BVAR	**Borovoye Array**	**90.90**	**355**	P	**P**	**19 38 20.7**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=96,slow=6.4,SNR=2.6						
BRVK	**Borovoye**	**90.94**	**355**	*ce*P	**P**	**19 38 22.0**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**91.78**	**4**	P	**P**	**19 38 24.7**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=42,slow=4.6,SNR=6.4						
ZALV				LR	LR	20 17 40.7	
	comp=Z,490nm,20.9s,baz=199,slow=34						
ZALV	**Zalesovo Beam**	**91.78**	**4**	*i* P	**P**	**19 38 25.2**	**+0.8**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MAT	**Matsushiro**	**92.74**	**44**	P	**P**	**19 38 28.2**	**-1.1**
MJAR	**Matsushiro Arr**	**92.74**	**44**	P	**P**	**19 38 29.1**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=207,slow=2.5,SNR=5.9						
MJAR				LR	LR	20 17 20.1	
	comp=Z,192nm,20.9s,baz=224,slow=34						
BELG	**Belogornoye**	**93.83**	**342**	LR	LR	20 19 17.6	
	comp=Z,211nm,18.8s,baz=152,slow=35						
VAE	**Valguarnera**	**95.27**	**314**	LR	LR	20 20 24.5	
	comp=Z,174nm,18.9s,baz=144,slow=35						
ARU	**Arti**	**95.51**	**349**	LR	LR	20 21 30.2	
	comp=Z,177nm,18.2s,baz=166,slow=35						
PLCA	**Paso Flores**	**96.51**	**204**	P	**P**	**19 38 47.3**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=171,slow=5.7,SNR=4.6						
KLR	**Kul'dur**	**99.04**	**32**	LR	LR	20 21 38.8	
	comp=Z,948nm,20.8s,baz=214,slow=34						
OBN	**Obninsk**	**99.30**	**337**	LR	LR	20 20 53.6	
	comp=Z,73nm,21.3s,baz=166,slow=34						
PPT2	**Papeete2**	**108.92**	**132**	*e*LR	LR	20 15 51.8	
	comp=Z,906nm,27.2s						
TAOE	**Nuku Hiva Isla**	**121.35**	**134**	*e*LR	LR	20 21 35.5	
	comp=Z,434nm,26.7s						
BILL	**Bilibino**	**124.01**	**27**	⇓*e*PKIKP	**PKiKP**	**19 44 15.4**	**+0.7**
BILL				*e*		19 44 18.2	
BILL				pmax	pmax		
	comp=Z,11nm,1.6s						
ILAR	**Eielson Array**	**142.56**	**30**	PKhKP	PKPpre	19 44 44.1	
	comp=Z,0.5nm,0.7s,baz=294,slow=3.9,SNR=5.6						
ILAR				PKP	**PKPdf**	**19 44 49.0**	**-0.3**
	comp=Z,1.3nm,1.1s,baz=302,slow=3.9,SNR=3.5						
ILAR	**Eielson Array**	**142.56**	**30**	PKIKP	**PKPdf**	**19 44 49.0**	**-0.3**
A36M	**Sachs Harbour**	**143.97**	**12**	P	**PKPdf**	**19 44 50.9**	**-0.5**
	baz=328						
J26L	**Joseph Creek**	**143.97**	**29**	P	PKPbc	19 44 50.0	+0.3
	baz=297						
N25K	**Chitina, Valde**	**144.76**	**34**		**PKPab**	**19 44 51.9**	**-0.3**
BMRM	**Bremner River**	**144.99**	**35**		PKPbc	19 44 52.2	-0.9
BMRM	**Bremner River**	**144.99**	**35**	P	PKPbc	19 44 52.6	-0.5
	baz=291						
INK	**Inuvik**	**145.05**	**20**	PKP	**PKPbc**	**19 44 51.4**	**-1.5**
	comp=Z,10nm,1.1s,baz=287,slow=5.8,SNR=11						
INK	**Inuvik**	**145.05**	**20**	P	**PKPab**	**19 44 53.0**	**+0.1**
	baz=314						
M26K	**Nabesna, AK**	**145.13**	**32**		**PKPbc**	**19 44 52.5**	**-0.9**
M26K	**Nabesna, AK**	**145.13**	**32**	P	**PKPbc**	**19 44 53.1**	**-0.4**
	baz=295						
L27K	**Beaver Creek,**	**145.32**	**31**	P	**PKPbc**	**19 44 53.7**	**-0.3**
	baz=297						
BCAR	**Beaver Creek A**	**145.34**	**31**		**PKPbc**	**19 44 53.5**	**-0.6**
EPYK	**Eagle Plains**	**145.39**	**24**	P	**PKPbc**	**19 44 52.4**	**-1.7**
	baz=308						
I29M	**Ogilvie Camp,**	**145.46**	**26**	P	**PKPdf**	**19 44 53.1**	**-1.2**
	baz=305						
DAWY	**Dawson**	**145.78**	**28**	P	**PKPdf**	**19 44 54.4**	**-0.5**
	baz=302						
YUK4	**Talbot Arm**	**147.45**	**32**	P	**PKPab**	**19 45 01.5**	**-1.1**
	baz=299						
M30M	**Minto, Yukon**	**147.56**	**29**	P	**PKPbc**	**19 45 01.5**	**+0.8**
	baz=303						
M31M	**Drury Creek, Y**	**148.70**	**29**	P	**PKPbc**	**19 45 03.9**	**+0.2**
	baz=306						
P33M	**Teslin, Yukon**	**150.47**	**31**	P	**PKiKP**	**19 45 08.7**	**-0.2**
	baz=305						
SCHQ	**Schefferville**	**150.89**	**317**	PKPbc	**PKiKP**	**19 45 10.0**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=53,slow=5.3,SNR=5.6						
WRGLY	**Wrigley**	**151.61**	**20**	P	**PKPbc**	**19 45 09.5**	**-1.0**
	baz=323						
YKA	**Yellowknife Ar**	**154.30**	**13**	PKP	**PKPdf**	**19 45 08.4**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=322,slow=1.8,SNR=4.6						
YKA				PKPbc	**PKiKP**	**19 45 17.4**	**+0.9**
	comp=Z,2.9nm,1.1s,baz=310,slow=3.6,SNR=9.8						
YKA				PKPab	**PKPab**	**19 45 28.8**	**-1.8**
	comp=Z,2.7nm,1.0s,baz=346,slow=2.8,SNR=7.2						
NVAR	**Mina Array Bea**	**167.19**	**83**	PKPab	**PKPab**	**19 46 25.6**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=248,slow=4.8,SNR=3.0						
GSC	**Goldstone, Bar**	**167.83**	**98**	P	**PKPdf**	**19 45 25.4**	**+1.7**
	baz=253						
GMRC	**Granite Mounta**	**168.55**	**102**	P	**PKPdf**	**19 45 26.7**	**+2.5**
	baz=250						
R11A	**Troy Canyon, C**	**169.32**	**84**	P	**PKPdf**	**19 45 26.3**	**+1.7**
	baz=268						
TUC	**Tucson**	**170.85**	**126**	P	**PKPdf**	**19 45 27.1**	**+1.5**
	baz=229						
TXAR	**Lajitas Array**	**171.24**	**171**	PKP	**PKPdf**	**19 45 26.2**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=167,slow=4.3,SNR=3.8						
TXAR				PKPab	**PKPab**	**19 46 45.6**	**+0.1**
	comp=Z,1.9nm,1.1s,baz=177,slow=5.0,SNR=6.6						
DUG	**Dugway, Tooele**	**171.34**	**72**	P	**PKPdf**	**19 45 28.0**	**+2.3**

ellipse: s-maj=6.7km s-min=3.8km az=82.9
*BJI **17** 19:46:44.6±0.0, 37°.02N×71°.37E, h91km, mb4.6/49, mB4.8/26*
*NEIC **17** 19:46:45.1±3.0, 37°.05N±0°.05×71°.17E±0°.08, h85km±2km, mb4.8/31, Error ellipse: s-maj=9.4km s-min=7.5km az=89.0*
*NNC **17** 19:46:46.7±2.4, 37°.29N×70°.81E, h121km±33km, mb4.6, mpv5.3, Error ellipse: s-maj=22.8km s-min=13.0km az=163.0*

ISC 17 19:46:44.0±0.3, **36°.98N**±0°.03×**71°.32E**±0°.03, **h79**km±3km, **h79**km:**pP-P**, **n319**, σ2°.36/356, **mb4.6**/80, **24C-14D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.39**	**315**	PN	**Pn**	**19 47 21.3**	**+0.2**
CHGR	**Chuyangaron**	**2.39**	**315**		**Pn**	**19 47 21.3**	**+0.2**
DRK	**Karamyk**	**2.52**	**9**		**Pn**	**19 47 25.9**	**+2.8**
KBL	**Kabul**	**3.06**	**218**	PN	**Pn**	**19 47 33.7**	**+3.3**
KBL	**Kabul**	**3.06**	**218**	P	**Pn**	**19 47 33.6**	**+3.2**
KBL	SNR=170			S	**Sn**	**19 48 11.6**	**+5.6**
KBL	**Kabul**	**3.06**	**218**		**Pn**	**19 47 33.6**	**+3.3**
BTK	**Batken**	**3.09**	**353**	PN	**Pn**	**19 47 32.4**	**+1.7**
BTK	**Batken**	**3.09**	**353**		**Pn**	**19 47 32.4**	**+1.7**
NIL	**Nilore**	**3.68**	**154**	PN	**Pn**	**19 47 42.7**	**+4.0**
NIL	**Nilore**	**3.68**	**154**		**Pn**	**19 47 42.7**	**+4.0**
THW	**Thamme Wali**	**4.20**	**175**	P	**Pn**	**19 47 48.2**	**+2.6**
KSH	**Kashi**	**4.45**	**54**	P	**Pn**	**19 47 48.5**	**-0.7**
KSH				S	**Sn**	**19 48 34.3**	**-5.5**
KSH	comp=N,3μm,0.9s			smax	smax		
KSH	comp=E,2μm,0.9s			smax	smax		
TAS	**Tashkent**	**4.61**	**341**	PN	**Pn**	**19 47 52.1**	**+0.9**
TAS	**Tashkent**	**4.61**	**341**		**Pn**	**19 47 52.1**	**+0.9**
JMU	**Jammu**	**5.18**	**144**	*e*P	**Pn**	**19 48 01.0**	**+2.0**
JMU				*i* x	x	19 48 02.4	
JMU				*e*S	**Sn**	**19 48 59.9**	**+2.6**
IUG	**Iuzhnay**	**5.25**	**350**	*e*PN	**Pn**	**19 47 57.9**	**-2.1**
IUG	**Iuzhnay**	**5.25**	**350**	*e*P	**Pn**	**19 47 58.0**	**-2.1**
IUG	baz=349			*e*S	**Sn**	**19 48 57.5**	**-1.8**
AML	**Almayashu**	**5.46**	**19**	P	**Pn**	**19 48 05.1**	**+2.0**
UCH	**Uchtor**	**5.79**	**24**	P	**Pn**	**19 48 09.7**	**+2.0**
DZA	**Taraz**	**5.90**	**0**	*e*PN	**Pn**	**19 48 07.0**	**-1.8**
DZA	**Taraz**	**5.90**	**0**	*e*P	**Pn**	**19 48 07.1**	**-1.8**
DZA	baz=359			*e*S	**Sn**	**19 49 13.4**	**-1.6**
EKS2	**Erkin-Say**	**5.98**	**18**	P	**Pn**	**19 48 11.9**	**+1.9**
KK02	**Karatay Array**	**6.14**	**354**	⇓P	**Pn**	**19 48 12.9**	**+0.8**
KK02	171nm,0.3s			⇑S	**Sn**	**19 49 16.8**	**-4.1**
KKAR	**Karatay Array**	**6.14**	**354**	PN	**Pn**	**19 48 12.7**	**+0.6**
KKAR	**Karatay Array**	**6.14**	**354**		**Pn**	**19 48 12.7**	**+0.6**
BRLS	**Borolday**	**6.14**	**350**	*e*PN	Pn	19 48 07.2	-4.9
BRLS	**Borolday**	**6.14**	**350**	*e*P	Pn	19 48 07.2	-4.9
AAK	**Ala-Archa**	**6.15**	**22**	P	**Pn**	**19 48 14.8**	**+2.4**
AAK	59nm,0.3s,baz=181,slow=5.8,SNR=832			S	**Sn**	**19 49 22.0**	**+0.7**
AAK	8.0nm,0.3s,baz=139,slow=20,SNR=1.3			LR	LR	19 50 14.2	
AAK	**Ala-Archa**	**6.15**	**22**	P	**Pn**	**19 48 14.7**	**+2.3**
AAK	**Ala-Archa**	**6.15**	**22**	P	**Pn**	**19 48 14.8**	**+2.4**
AAK				S	**Sn**	**19 49 21.8**	**+0.4**
AAK	**Ala-Archa**	**6.15**	**22**	⇓P	**Pn**	**19 48 14.7**	**+2.3**
AAK	160nm,0.6s			⇑S	**Sn**	**19 49 23.0**	**+1.6**
AAK	**Ala-Archa**	**6.15**	**22**		**Pn**	**19 48 14.6**	**+2.3**
DHRM	**DHARAMSHALA**	**6.26**	**138**	*e*P	**Pn**	**19 48 16.0**	**+2.0**
DHRM				*e*S	**Sn**	**19 49 24.3**	**+0.1**
DHRM	comp=N,5μm,0.0s			IAML		19 49 28.4	
DHRM	comp=E,3μm,1.0s			IAML		19 49 29.8	
KBK	**Karagaybulak**	**6.32**	**25**	P	**Pn**	**19 48 17.2**	**+2.6**
FRU1	**Bishkek**	**6.35**	**23**	PN	**Pn**	**19 48 17.9**	**+2.9**
FRU1	**Bishkek**	**6.35**	**23**		**Pn**	**19 48 17.9**	**+2.9**
ULHL	**Ulahol**	**6.49**	**34**	P	**Pn**	**19 48 19.4**	**+2.5**
BOOM	**Boomskoye usch**	**6.55**	**32**	PN	**Pn**	**19 48 20.3**	**+2.4**
BOOM	**Boomskoye usch**	**6.55**	**32**	Pn	**Pn**	**19 48 20.2**	**+2.4**
CHMS	**Chumysh**	**6.56**	**23**	P	**Pn**	**19 48 20.1**	**+2.2**
USP	**Ospenovka**	**6.73**	**20**	P	**Pn**	**19 48 21.8**	**+1.6**
TKM2	**Tokmak 2**	**6.78**	**28**	P	**Pn**	**19 48 23.3**	**+2.3**
TKM2	**Tokmak 2**	**6.78**	**28**	PN	**Pn**	**19 48 22.0**	**+1.0**
TKM2	**Tokmak 2**	**6.78**	**28**	⇓P	**Pn**	**19 48 22.8**	**+1.8**
TKM2	comp=E,338nm,1.1s			⇑S	**Sn**	**19 49 37.4**	**+0.6**
SGDS	**Sogindy**	**6.94**	**20**	*e*P	**Pn**	**19 48 20.6**	**-2.5**
BHK	**Bhakra**	**6.98**	**141**	*e*P	**Pn**	**19 48 24.7**	**+1.1**
MDOK	**Medeo**	**7.58**	**34**	PN	**Pn**	**19 48 34.0**	**+2.2**
MDOK	**Medeo**	**7.58**	**34**	⇓P	**Pn**	**19 48 34.0**	**+2.2**
KNDC	**Almaty**	**7.58**	**33**	PN	**Pn**	**19 48 34.0**	**+2.2**
KNDC	**Almaty**	**7.58**	**33**	⇑P	**Pn**	**19 48 34.8**	**+3.0**
SMLA	**Simla**	**7.59**	**139**	*e*P	**Pn**	**19 48 33.0**	**+1.1**
SMLA				*e*S	**Sn**	**19 49 52.6**	**-3.9**
SMLA	comp=N,1μm,0.8s			IAML		19 49 58.6	
KUU	**Kurty**	**7.89**	**27**	*e*PN	**Pn**	**19 48 33.9**	**-2.0**
KUU	**Kurty**	**7.89**	**27**	*e*P	**Pn**	**19 48 34.0**	**-2.0**
BTLS	**Baital**	**8.31**	**14**	*e*PN	**Pn**	**19 48 39.5**	**-2.1**
BTLS	baz=27			pmax	pmax		
BTLS	**Baital**	**8.31**	**14**	*e*P	**Pn**	**19 48 39.5**	**-2.1**
UZB	**Uzynbulak**	**8.53**	**41**	*e*PN	**Pn**	**19 48 42.1**	**-2.7**
UZB	**Uzynbulak**	**8.53**	**41**	*e*P	**Pn**	**19 48 42.2**	**-2.6**
PDGK	**Podgornoye**	**8.90**	**42**	PN	**Pn**	**19 48 50.0**	**+0.1**
PDGK	**Podgornoye**	**8.90**	**42**	⇑P	**Pn**	**19 48 50.8**	**+0.9**
TDK	**Taldyqorghan**	**9.63**	**32**	*e*P	**Pn**	**19 48 57.4**	**-2.3**
TDK	**Taldyqorghan**	**9.63**	**32**	*e*P	**Pn**	**19 48 57.4**	**-2.3**
NDI	**New Delhi**	**9.65**	**147**	*e*P	**Pn**	**19 49 00.8**	**+0.7**
NDI				*e*P	**Pn**	**19 49 02.0**	**+2.0**
NDI				*e*S	**Sn**	**19 50 40.0**	**-6.7**
NDI				*e*S	**Sn**	**19 50 40.6**	**-6.1**
KUDL	**Kundal**	**9.83**	**152**	*e*P	**Pn**	**19 49 01.4**	**-1.2**
KUDL				*e*S	**Sn**	**19 50 44.2**	**-7.0**
SONA	**Sohna**	**9.97**	**149**	*e*P	**Pn**	**19 49 04.2**	**-0.2**
SONA				*e*S	**Sn**	**19 50 48.4**	**-6.2**
PTH	**Pithoragarh**	**10.51**	**132**	*e*PN	Pn	19 49 06.9	-5.0
PTH				*e*SN	Sn	19 50 54.9	-13
GEYT	**Alibeck**	**10.54**	**279**	P	**Pn**	**19 49 08.9**	**-3.2**
GEYT	comp=Z,2.7nm,0.3s,baz=132,slow=10,SNR=28			S	**Sn**	**19 51 03.4**	**-4.9**
GEYT	comp=Z,19nm,0.3s,baz=275,slow=32,SNR=13			LR	LR	19 54 36.3	
GEYT	comp=Z,220nm,19.3s,baz=124,slow=45 **Alibeck**	**10.54**	**279**	Pn	**Pn**	**19 49 08.7**	**-3.4**
GYA0	**ALIBECK ARRAY**	**10.54**	**279**	P	**Pn**	**19 49 08.4**	**-3.7**
GYA0B	**ALIBECK ARRAY**	**10.54**	**279**	⇑P	**Pn**	**19 49 08.4**	**-3.7**
GYA0B				⇑S	Sn	19 50 58.8	-9.5
GYA0B	**ALIBECK ARRAY**	**10.54**	**279**	Pn	**Pn**	**19 49 08.8**	**-3.3**
AJM	**Ajmer**	**10.85**	**164**	*e*P	**Pn**	**19 49 16.1**	**-0.3**
OTUK	**Ortayu**	**11.28**	**3**	P	**Pn**	**19 49 20.0**	**-2.1**
OTUK	**Ortayu**	**11.28**	**3**	⇓P	**Pn**	**19 49 21.0**	**-1.2**
MAKZ	**Makanchi**	**12.61**	**36**	P	**Pn**	**19 49 39.8**	**-0.5**
MAKZ	**Makanchi**	**12.61**	**36**	⇓P	**Pn**	**19 49 39.2**	**-1.1**
MAKZ	comp=Z,34nm,1.0s **Makanchi**	**12.61**	**36**		**Pn**	**19 49 39.8**	**-0.5**
MK31	**Makanchi Array**	**12.75**	**36**	P	**Pn**	**19 49 41.7**	**-0.4**
MK31	**Makanchi Array**	**12.75**	**36**	⇓P	**Pn**	**19 49 41.4**	**-0.7**
MK31	comp=Z,20nm,0.8s,baz=217,slow=12,SNR=94 **Makanchi Array**	**12.75**	**36**		**Pn**	**19 49 41.7**	**-0.4**
MKAR	**Makanchi Array**	**12.75**	**36**	P	**Pn**	**19 49 42.5**	**+0.3**
MKAR	comp=Z,0.8nm,0.3s,baz=221,slow=14,SNR=97 **Makanchi Array**	**12.75**	**36**	*i* P	**Pn**	**19 49 42.7**	**+0.6**
MKAR				pmax	pmax		
MKAR	comp=Z,13nm,0.9s **Makanchi Array**	**12.75**	**36**		**Pn**	**19 49 41.6**	**-0.5**
PYUN	**Piuthan**	**13.24**	**129**	*e*P	**Pn**	**19 49 47.4**	**-1.5**
PYUN	comp=Z,122nm,0.4s			*e*S	Sn	19 52 05.0	-9.4
DANN	comp=Z,482nm,0.6s **Dangsing**	**13.55**	**126**	*e*P	**Pn**	**19 49 51.7**	**-1.5**
DANN	comp=Z,57nm,0.3s			*e*S	Sn	19 52 13.1	-9.1
BHUJ	comp=Z,324nm,0.6s **Bhuj**	**13.76**	**186**	*e*P	**Pn**	**19 49 54.0**	**-1.6**
KOLN	**Koldanda**	**13.85**	**128**	*e*P	**Pn**	**19 49 55.4**	**-1.6**
KOLN	comp=Z,60nm,0.4s			*e*S	**Sn**	**19 52 20.5**	**-8.8**
WMQ	comp=Z,545nm,0.9s **Urumqi**	**14.21**	**56**	*e*P	**Pn**	**19 50 01.9**	**+0.4**
WMQ				pP	P	19 50 16.9	+10
WMQ				S	**Sn**	**19 52 35.0**	**-2.7**
WMQ				SS	**S**	**19 52 56.0**	**+2.4**
WMQ	comp=Z,24nm,1.1s			pmax	pmax		
WMQ	comp=Z,140nm,4.5s			pmax	pmax		
WMQ	comp=Z,620nm,4.7s			LR	LR		
WMQ	comp=Z,350nm,6.7s			LR	LR		
WMQ	comp=Z,250nm,7.5s			LR	LR		
GKN	**Gorkha**	**14.36**	**125**	*e*P	**Pn**	**19 50 01.8**	**-1.7**
KURBB	comp=Z,63nm,0.3s **Kurchatov Arra**	**14.58**	**19**	P	**Pn**	**19 50 03.4**	**-2.7**
KURBB	comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=36			LR	LR	19 55 52.2	
KURBB	comp=Z,127nm,18.5s,baz=179,slow=37 **Kurchatov Arra**	**14.58**	**19**	P	**Pn**	**19 50 04.4**	**-1.7**
KURBB	**Kurchatov Arra**	**14.58**	**19**	⇓P	**Pn**	**19 50 04.4**	**-1.7**
BHPL	comp=Z,25nm,0.8s **Bhopal**	**14.68**	**157**	*e*P	**Pn**	**19 50 07.0**	**-0.5**
KURK	**Kurchatov**	**14.69**	**19**	P	**Pn**	**19 50 04.1**	**-3.4**
KURK	**Kurchatov**	**14.69**	**19**	P	**Pn**	**19 50 04.8**	**-2.7**
KURK				S	**S**	**19 52 59.2**	**-3.8**
KURK	**Kurchatov**	**14.69**	**19**	Pn	**Pn**	**19 50 04.1**	**-3.4**
AB31	**Akbulak array**	**14.79**	**330**	P	Pn	19 50 04.7	-4.1
AB31	**Akbulak array**	**14.79**	**330**	⇑P	**Pn**	**19 50 04.7**	**-4.0**
AB31	comp=Z,17nm,0.4s			⇓S	Sn	19 52 37.0	-14
ABKAR	comp=Z,26nm,0.4s,baz=157,slow=24,SNR=11 **Akbulak array**	**14.79**	**330**		**Pn**	**19 50 05.5**	**-3.2**
ABKAR	**Akbulak array**	**14.79**	**330**		**Pn**	**19 50 05.2**	**-3.5**
KKN	**Kakani**	**14.93**	**124**	*e*P	**Pn**	**19 50 09.4**	**-1.5**
DMN	**Daman**	**14.93**	**125**	*e*P	**Pn**	**19 50 09.0**	**-2.0**
PKIN	**Phulchoki**	**15.14**	**124**	*e*P	**Pn**	**19 50 12.4**	**-1.4**
PKI	comp=Z,35nm,0.3s **Pulchoki**	**15.16**	**124**	*e*P	**Pn**	**19 50 12.6**	**-1.4**
GUN	comp=Z,42nm,0.3s **Gumba**	**15.25**	**122**	*e*P	**Pn**	**19 50 13.7**	**-1.5**
JBP	**Jabalpur**	**15.67**	**149**	*e*P	**P**	**19 50 21.9**	**-0.8**
JBP	comp=Z,26nm,0.5s			IAmb	IAmb	19 50 33.7	
JBP				*e*S	Sn	19 53 00.8	-12
BVAR	**Borovoye Array**	**16.05**	**358**	P	**Pn**	**19 50 23.1**	**-1.6**
BRVK	comp=Z,5.0nm,0.3s,baz=142,slow=12,SNR=89 **Borovoye**	**16.09**	**358**	*ce*P	**Pn**	**19 50 23.1**	**-2.1**
BRVK	comp=Z,70nm,1.3s			pmax	pmax		
BRVK	**Borovoye**	**16.09**	**358**	P	**Pn**	**19 50 23.3**	**-1.9**
BRVK				S	**Sn**	**19 53 17.9**	**-5.0**
BRVK	**Borovoye**	**16.09**	**358**	⇑P	**Pn**	**19 50 22.6**	**-2.6**
BRVK	comp=Z,38nm,0.9s **Borovoye**	**16.09**	**358**		**Pn**	**19 50 23.1**	**-2.1**
BRVK	comp=Z,51nm,1.0s			IAmb	IAmb	19 50 29.2	
AKTO	**Aktyubinsk**	**16.49**	**329**	P	**Pn**	**19 50 28.8**	**-1.4**
AKTO	comp=Z,9.6nm,0.3s,baz=162,slow=11,SNR=88			S	Sn	19 53 20.1	-13
AKTO	comp=Z,1.9nm,0.3s,baz=306,slow=17,SNR=3.4 **Aktyubinsk**	**16.49**	**329**	⇑P	**Pn**	**19 50 28.2**	**-2.1**
AKTO	comp=Z,57nm,0.5s			⇓S	Sn	19 53 19.7	-13
BANOM	comp=Z,51nm,1.1s **Banah**	**16.88**	**233**	P	**P**	**19 50 38.8**	**+2.7**
SHME	**Shamm**	**16.89**	**234**	P	**P**	**19 50 40.1**	**+3.9**
DGZ	**Jazzator, Alta**	**17.24**	**37**	*i* P	**Pn**	**19 50 37.6**	**-2.1**
GTK	**Tadong**	**17.50**	**118**	*e*P	**Pn**	**19 50 42.5**	**-0.5**
WSAR	**Wadi Sarin**	**17.53**	**222**	P	**Pn**	**19 50 39.1**	**-4.1**
UOSS	comp=Z,0.1nm,0.3s,baz=48,slow=9.7,SNR=1.7 **Minazif**	**17.63**	**231**	P	**Pn**	**19 50 47.5**	**+3.0**
UOSS	**Minazif**	**17.63**	**231**	P	**P**	**19 50 42.7**	**-1.7**
HATD	**Hatta, Dubai**	**17.77**	**231**	P	**Pn**	**19 50 49.9**	**+3.8**
WBK	**Wadi Bani Khal**	**17.86**	**220**	P	**Pn**	**19 50 48.6**	**+1.3**
ASHO	SNR=6.2 **Ashiyiah**	**17.91**	**231**	P	**Pn**	**19 50 49.7**	**+1.8**
SMDO	SNR=9.4 **Samad**	**17.99**	**223**	P	**Pn**	**19 50 50.6**	**+1.8**
HOQ	**Hoqain**	**17.99**	**226**	P	**Pn**	**19 50 50.8**	**+2.0**
JLN	**Jalan Bani Buh**	**18.02**	**218**	P	**Pn**	**19 50 52.3**	**+3.1**
LSA	SNR=7.4 **Lhasa**	**18.08**	**108**	P	**Pn**	**19 50 50.4**	**+0.1**
LSA	comp=Z,79nm,1.1s			pmax	pmax		
BOK	**Bokaro**	**18.16**	**132**	*e*P	**Pn**	**19 50 52.1**	**+1.2**
ASUD	**Al Ashush, Dub**	**18.41**	**233**	P	**Pn**	**19 50 55.6**	**+1.7**
JMDO	**Jabal Madar**	**18.51**	**222**	P	**Pn**	**19 50 56.0**	**+0.9**
POO	SNR=5.9 **Poona**	**18.52**	**172**	*e*P	**P**	**19 50 54.0**	**-0.2**
POO	comp=Z,40nm,0.8s			*e*S	**S**	**19 54 11.0**	**-10**
ARQ	**Araqi**	**18.64**	**227**	P	**Pn**	**19 50 58.5**	**+1.9**
BSY	**Bisya**	**18.71**	**225**	P	**Pn**	**19 50 59.2**	**+1.7**
GOMU	**GeErMu**	**18.88**	**85**	P	**Pn**	**19 50 59.9**	**+0.1**
GOMU				pmax	pmax		
GOMU	comp=Z,19nm,1.4s			pmax	pmax		
SRSP	comp=Z,85nm,5.0s **Sriramsagar**	**19.02**	**159**	*ep*Pn	Pn	19 51 16.2	+15
MAK	**Makhachkala**	**19.17**	**296**	*e*P	**P**	**19 50 57.9**	**-3.2**
MAK				*e*S	**S**	**19 54 30.3**	**-3.8**
MAK	comp=Z,476nm,1.3s			pmax	pmax		
MAK	comp=Z,138nm,12.0s			MLR	MLR		
ZAA0	**Zalesovo Array**	**19.37**	**25**	⇑P	**P**	**19 51 02.8**	**-0.3**
ZAA0	comp=Z,3.7nm,0.7s			IAmb	IAmb	19 51 08.4	
ZALV	comp=Z,25nm,0.8s **Zalesovo Beam**	**19.37**	**25**	P	**P**	**19 51 03.0**	**-0.2**
ZALV	comp=Z,4.8nm,0.3s,baz=214,slow=9.9,SNR=106			*i* P	**P**	**19 51 03.0**	**-0.2**
ZALV	comp=Z,17nm,0.4s			pmax	pmax		
ZALV	**Zalesovo Beam**	**19.37**	**25**	P	**P**	**19 51 02.8**	**-0.3**
UMZA	**Um Al Zommool**	**19.92**	**229**	P	**P**	**19 51 10.6**	**+1.2**
UMZA				S	**S**	**19 54 44.5**	**-4.8**
GROC	**Groznyy**	**20.45**	**296**	*e*P	**P**	**19 51 13.3**	**-1.6**
GROC				*e**SP	**sP**	**19 51 41.6**	**+0.1**
GROC				*e*S	**S**	**19 54 55.8**	**-3.5**
GROC				*e*SS	**SnSn**	**19 55 24.8**	**+1.0**
GROC	comp=Z,58nm,1.3s			pmax	pmax		
HYBB	**Hyderabad (bro**	**20.51**	**160**	*e*P	Pn	19 51 17.4	-1.3
HYB	**Hyderabad**	**20.51**	**160**	*e*P	**P**	**19 51 16.4**	**+0.6**
HYB	comp=Z,19nm,0.6s			IAmb	IAmb	19 51 21.3	
SHL	**Shillong**	**20.90**	**117**	P	**P**	**19 51 21.4**	**+1.3**
SHL	comp=Z,182nm,1.0s			pmax	pmax		
SHL	**Shillong**	**20.90**	**117**	*e*P	Pn	19 51 21.5	-1.9
SHL	**Shillong**	**20.90**	**117**	P	**P**	**19 51 21.4**	**+1.3**
GNI	**Garni**	**20.99**	**287**	P	**P**	**19 51 19.5**	**-1.5**
GNI	comp=Z,5.7nm,0.7s,baz=194,slow=19,SNR=1.7 **Garni**	**20.99**	**287**	*ce*P	**P**	**19 51 23.8**	**+2.8**
GNI	comp=Z,26nm,1.1s			pmax	pmax		
TRNA	**Turayna**	**21.09**	**240**	P	**P**	**19 51 20.7**	**-1.3**
SVE	**Sverdlovsk**	**21.10**	**344**	*e*P	**P**	**19 51 22.2**	**+0.4**
SVE				*e*S	**S**	**19 55 11.8**	**-0.2**
SVE	comp=Z,27nm,1.0s			pmax	pmax		
ARU	**Arti**	**21.26**	**340**	P	**P**	**19 51 23.5**	**0.0**
ARU	comp=Z,4.9nm,0.5s,baz=273,slow=8.1,SNR=22			S	**S**	**19 55 12.4**	**-2.8**
ARU	comp=Z,1.4nm,0.4s,baz=252,slow=20,SNR=2.5			LR	LR	20 00 34.7	
ARU	comp=Z,272nm,19.1s,baz=168,slow=39 **Arti**	**21.26**	**340**	*d* P	**P**	**19 51 23.9**	**+0.4**
ARU						19 51 45.3	
ARU				S	**S**	**19 55 19.8**	**+4.6**
ARU				SS	**SnSn**	**19 55 52.4**	**+8.7**
ARU	comp=Z,36nm,1.1s			pmax	pmax		
ARU	comp=Z,206nm,15.0s			MLR	MLR		
ARU	**Arti**	**21.26**	**340**	P	**P**	**19 51 23.1**	**-0.4**
ARU	comp=Z,32nm,0.9s			IAmb	IAmb	19 51 49.5	
NJS	**Nagarjunasagar**	**21.55**	**159**	*e*P	**P**	**19 51 28.4**	**+1.5**
PVM	**Polavaram**	**21.66**	**152**	*e*P	**P**	**19 51 30.5**	**+2.4**
MYLAV	**Mylavaram**	**21.78**	**155**	*e*P	**P**	**19 51 31.7**	**+2.4**
SRLM	**Srisailam**	**21.86**	**160**	*e*P	**P**	**19 51 31.8**	**+1.6**
NCK	**Nalchik**	**22.08**	**296**	*i* P	**P**	**19 51 33.4**	**+1.0**
NCK	comp=Z,20nm,0.7s			pmax	pmax		
ADKI	**Addanki**	**22.41**	**158**	*e*P	**P**	**19 51 38.3**	**+2.1**
RCLA	**Racherla**	**22.49**	**160**	*e*P	**P**	**19 51 38.5**	**+1.4**
GTA	**Gaotai**	**22.49**	**75**	⇓P	**P**	**19 51 38.5**	**+1.5**
GTA				S	**S**	**19 55 40.6**	**+2.2**
GTA	comp=Z,46nm,1.0s			pmax	pmax		
GTA	comp=Z,120nm,6.0s			pmax	pmax		
GTA	comp=Z,130nm,15.6s			LR	LR		
GTA	comp=Z,160nm,16.4s			LR	LR		
GTA	comp=Z,110nm,16.0s			LR	LR		
URV	**Uravakonda**	**22.58**	**165**	*e*P	**P**	**19 51 39.4**	**+1.4**
KBZ	**Khabaz**	**22.61**	**296**	P	**P**	**19 51 38.5**	**+0.4**
KBZ	comp=Z,3.5nm,1.0s,baz=230,slow=3.9,SNR=7.7			S	**S**	**19 55 47.0**	**+7.0**
BELG	comp=Z,2.8nm,0.8s,baz=301,slow=18,SNR=1.9 **Belogornoye**	**22.68**	**320**	P	**P**	**19 51 38.5**	**-0.1**
BELG	comp=Z,23nm,0.9s,baz=181,slow=0.9,SNR=10			S	**S**	**19 55 48.0**	**+7.2**
GOF	comp=Z,11nm,0.9s,baz=180,slow=20,SNR=2.0 **Gofitskoye**	**22.72**	**300**	⇑*e*P	**P**	**19 51 41.0**	**+1.8**
GOF				*e*S	Sn	19 56 23.8	+22
GOF	comp=Z,17nm,0.8s			pmax	pmax		
GOF	comp=N,27nm,0.8s			smax	smax		
GOF	comp=E,18nm,0.9s			smax	smax		
KVAR	**Kislovodsk Arr**	**22.79**	**297**	P	**P**	**19 51 39.7**	**-0.3**
KVAR	comp=E,5.2nm,1.0s,baz=108,slow=20,SNR=2.0			S	**S**	**19 55 49.3**	**+6.3**
KIV	comp=E,15nm,1.1s,baz=45,slow=13,SNR=2.4 **Kislovodsk**	**22.79**	**297**	*e*P	**P**	**19 51 39.5**	**-0.6**
KIV				*e*S	**S**	**19 55 44.6**	**+1.5**
KIV	comp=Z,7.0nm,1.1s			pmax	pmax		
KIV	comp=Z,58nm,14.0s			MLR	MLR		
IMP	**Imphal**	**22.82**	**116**	*e*P	**P**	**19 51 42.0**	**+1.5**
IMP	comp=Z,50nm,1.2s			IAmb	IAmb	19 51 43.7	
LKP	**Lekhapani**	**22.83**	**108**	*e*P	**P**	**19 51 41.1**	**+0.5**
DOK	**Doka**	**23.72**	**224**	P	**P**	**19 51 50.3**	**+1.4**
WHFO	SNR=5.4 **Wadi Hawf**	**24.48**	**224**	P	**P**	**19 51 56.2**	**+0.4**
SOC	SNR=14 **Sochi**	**24.89**	**295**	*e*P	**P**	**19 51 56.9**	**-2.4**
SOC				*e*		19 52 36.1	
SOC				*e*S	**S**	**19 56 14.8**	**-1.9**
SOC				*e*SS	**SnSn**	**19 57 15.1**	**+2.8**
SOC	comp=Z,184nm,18.0s			MLR	MLR		
ABTO	**Aybut**	**25.20**	**224**	P	**P**	**19 52 04.6**	**+2.2**
VRH	SNR=17 **Novokhopyorsk**	**25.36**	**313**	*e*P	**P**	**19 52 04.1**	**+0.7**
VRH	comp=Z,9.0nm,1.7s			pmax	pmax		
MOY	**Mondy**	**25.59**	**46**	*e*P	**P**	**19 52 08.1**	**+2.4**
MOY	comp=Z,27nm,1.8s			pmax	pmax		
KIRV	**Kirov**	**25.92**	**333**	*i* P	**P**	**19 52 09.8**	**+1.4**
RAYN	**Ar Rayn**	**25.92**	**246**	P	**P**	**19 52 09.2**	**+0.3**
RAYN	comp=Z,30nm,1.0s			pmax	pmax		
RAYN	**Ar Rayn**	**25.92**	**246**	P	**P**	**19 52 09.2**	**+0.3**
RAYN	comp=Z,30nm,0.9s			IAmb	IAmb	19 52 32.3	
LZH	**Lanzhou**	**26.09**	**82**	⇑P	**P**	**19 52 12.8**	**+2.4**
LZH				pP	pP	19 52 34.6	+4.5
LZH				sP	sP	19 52 45.8	+5.8
LZH	comp=Z,15nm,1.3s			pmax	pmax		
LZH	comp=Z,740nm,16.2s			LR	LR		
LZH	comp=Z,460nm,15.4s			LR	LR		
LZH	comp=Z,1μm,16.0s			LR	LR		
ZAK	**Zakamensk**	**26.48**	**49**	*e*P	**P**	**19 52 14.8**	**+1.0**
ZAK				*e*		19 52 38.5	
ZAK	comp=Z,18nm,1.0s			pmax	pmax		
ZAK	comp=Z,11nm,1.4s			pmax	pmax		
VSR	**Storozhevoye**	**26.86**	**312**	*e*P	**P**	**19 52 17.2**	**+0.2**
VSR	comp=Z,10.0nm,0.5s			pmax	pmax		
LPSR	**Galich'ya Gora**	**27.49**	**315**	*e*P	**P**	**19 52 22.5**	**-0.1**
LPSR	comp=Z,6.0nm,0.7s			pmax	pmax		
PZH	**PanZhiHua**	**27.80**	**103**	P	**P**	**19 52 27.3**	**+1.5**
PZH	comp=Z,10.0nm,1.0s			pmax	pmax		
PZH	comp=Z,90nm,3.9s			pmax	pmax		
SONM	**Songino Array**	**27.85**	**56**	P	**P**	**19 52 27.1**	**+1.1**
SONM	comp=Z,6.9nm,0.8s,baz=262,slow=8.3,SNR=39			pmax	pmax		
SONM	**Songino Array**	**27.85**	**56**	P	**P**	**19 52 27.2**	**+1.1**
SONM	comp=Z,8.0nm,0.8s **Songino Array**	**27.85**	**56**	P	**P**	**19 52 27.2**	**+1.1**
ULN	**Ulaanbaatar**	**28.30**	**56**	*ce*P	**P**	**19 52 31.2**	**+1.1**
ULN	comp=Z,5.0nm,0.7s			pmax	pmax		
ULN	**Ulaanbaatar**	**28.30**	**56**	P	**P**	**19 52 30.9**	**+0.9**
PRGR	**Permogore**	**29.44**	**335**	*e*P	P	19 52 46.3	+6.5
PRGR	comp=Z,33nm,1.4s			pmax	pmax		
BRTR	**Keskin Array B**	**29.53**	**287**	P	**P**	**19 52 40.9**	**-0.2**
OBN	comp=Z,0.7nm,0.8s,baz=99,slow=8.6,SNR=3.8 **Obninsk**	**29.74**	**319**	⇓*e*P	P	19 52 47.7	+5.2
OBN				*i* *SP	sP	19 53 09.2	-2.3
OBN				*e*		19 53 35.9

HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,97nm,4.5s
GYA Guiyang 31.69 99 ⇓P P 19 53 01.8 +1.6
GYA pmax pmax
comp=Z,16nm,1.0s
AKASG Malin Array Be 32.84 308 P P 19 53 09.8 0.0
comp=Z,0.2nm,0.3s,baz=81,slow=7.4,SNR=4.8
NRIK Noril'sk 33.60 10 P P 19 53 17.6 +1.3
comp=Z,3.5nm,0.6s,baz=299,slow=2.4,SNR=4.5
NRIK Noril'sk 33.60 10 *ce*P **P 19 53 19.0 +2.7**
NRIK pmax pmax
comp=Z,11nm,1.5s
HNS HongShan 34.34 76 ⇑P P 19 53 26.0 +2.9
HNS pmax pmax
comp=Z,6.0nm,1.1s
BOD Bodaibo 34.81 39 *e*P **P 19 53 27.8 +0.9**
BOD pmax pmax
comp=Z,11nm,1.3s
NACGM Naroch 35.05 315 *i* P P 19 53 36.3 +7.3
IDID Didziasalis 35.16 316 *e*P **P 19 53 32.2 +2.4**
IIGN Ignalina 35.46 316 *e*P **P 19 53 34.4 +1.9**
VSU Vasula 35.97 321 *e*P **P 19 53 37.1 +0.4**
PABE Paberze 36.75 316 *e*P **P 19 53 45.7 +2.2**
SUW Suwalki 36.97 313 *e*P **P 19 53 45.7 +0.3**
UZH Uzhgorod 37.20 304 *e*P P 19 53 59.6 +12
UZH *e* 19 54 16.4
UZH *e* 19 54 27.2
FIA1 FINESS Array S 37.22 326 P **P 19 53 47.5 +0.1**
FIA1 IAmb IAmb 19 54 07.0
comp=Z,21nm,1.2s
FINES FINESS Array B 37.23 326 P **P 19 53 48.2 +0.8**
comp=Z,2.4nm,0.5s,baz=119,slow=9.0,SNR=36
FINES FINESS Array B 37.23 326 P **P 19 53 47.6 +0.2**
MTSE Matsula 37.51 321 *e*P **P 19 53 51.8 +2.0**
PBUR Paburge 37.97 316 *e*P **P 19 53 56.4 +2.7**
NJ2 Nanjing 39.16 83 *e*P **P 19 54 04.3 +0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KRLC Kraliky 40.76 307 *e*P **P 19 54 18.9 +1.8**
KRLC Kraliky 40.76 307 *e*P **P 19 54 18.9 +1.8**
ARA0 ARCESS Array S 40.80 337 *e*P **P 19 54 18.2 +1.1**
ARCES ARCESS Array B 40.80 337 P **P 19 54 18.1 +0.9**
comp=Z,1.5nm,0.4s,baz=115,slow=9.1,SNR=38
ARCES ARCESS Array B 40.80 337 P **P 19 54 17.8 +0.6**
UPP Uppsala 40.85 322 *e*P **P 19 54 18.1 +0.5**
DPC Dobruska-Polom 41.04 307 *e*P **P 19 54 23.8 +4.4**
DPC Dobruska-Polom 41.04 307 *e*P **P 19 54 23.8 +4.4**
OSTC Ostas 41.10 307 *e*P P 19 54 25.1 +5.2
CHVC Chvalec 41.20 307 *e*P P 19 54 26.1 +5.4
UPC Upice 41.23 307 *e*P P 19 54 27.1 +6.1
UPC Upice 41.23 307 *e*P P 19 54 27.1 +6.1
KTK1 Kautokeino 41.28 336 *e*P **P 19 54 21.8 +0.7**
CONA Conrad Observa 41.52 303 *e*P **P 19 54 26.2 +2.7**
comp=Z,1.9nm,0.8s
ZEA Zeya 41.56 48 *e*P **P 19 54 24.9 +1.4**
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
HAMF Hammerfest 41.87 338 *e*P **P 19 54 27.0 +1.2**
SOKA Soboth 42.23 302 *e*P **P 19 54 33.5 +4.2**
comp=Z,4.0nm,1.0s
IPM Ipoh 42.28 133 P **P 19 54 29.7 -0.2**
IPM IAmb IAmb 19 54 31.4
comp=Z,15nm,0.9s
JETT Jettan, Norway 42.42 336 *e*P **P 19 54 31.9 +1.5**
PSI Prapat 42.46 137 P **P 19 54 30.8 -0.7**
comp=Z,11nm,1.1s,baz=293,slow=13
CKRC Cesky Krumlov 42.46 305 *e*P **P 19 54 35.6 +4.6**
BRG Berggiesshubel 42.52 308 *e*P **P 19 54 34.9 +3.4**
BRG Amp 19 54 39.2
comp=Z,7.0nm,1.1s
BRG pP **pP 19 54 54.3 +2.8**
BRG Amp 19 54 55.9
comp=Z,13nm,1.1s
BRG ⇑PP **PcP 19 56 23.7 +1.0**
BRG Amp 19 56 25.5
comp=Z,5.8nm,1.2s
BRG Berggiesshubel 42.52 308 *e*P **P 19 54 34.8 +3.4**
BRG 19 54 54.3
BRG 19 56 23.6
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,13nm,1.1s
BRG pmax pmax
comp=Z,6.0nm,1.2s
MOA Molln 42.60 303 *e*P **P 19 54 35.9 +3.7**
comp=Z,8.3nm,1.6s
GERES GERESS Array B 42.86 305 PcP **PcP 19 56 24.1 +0.1**
comp=Z,1.0nm,0.8s,baz=126,slow=4.5,SNR=4.7
KHC Kasperske Hory 42.91 305 *e*P **P 19 54 38.0 +3.3**
KHC Kasperske Hory 42.91 305 *e*P **P 19 54 38.0 +3.3**
GSI Gunungsitoli 42.99 140 P **P 19 54 36.0 +0.4**
CLL Collm 43.09 309 *e*P P 19 54 42.0 +6.0
CLL Collm 43.09 309 *e*P **P 19 54 35.0 -1.0**
CLL *ex* x 19 54 45.0
CLL *e*pP **pP 19 54 58.0 +1.9**
CLL *e*PP **PP 19 56 20.0 +2.8**
CLL *e*PPP PPP 19 56 56.0
YAK Yakutsk 43.43 36 P **P 19 54 38.8 +0.3**
comp=Z,3.5nm,0.3s,baz=105,slow=1.1,SNR=14
YAK Yakutsk 43.43 36 *e*P **P 19 54 38.8 +0.3**
YAK *e**PP **sP 19 55 11.0 +2.7**
YAK *e* 19 56 23.2
YAK *e*S **S 20 01 01.0 +0.4**
YAK *e**SS **sS 20 01 33.3 -2.2**
YAK *e*SS **SS 20 04 13.9 -3.1**
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,80nm,3.0s
YAK smax smax
comp=E,44nm,2.4s
YAK smax smax
comp=N,54nm,2.8s
FAUS Fauske 43.49 332 *e*P **P 19 54 39.7 +0.7**
MOR8 Moi Rana 43.52 330 *e*P **P 19 54 39.5 +0.1**
STEI Steigen 43.66 333 *e*P **P 19 54 41.2 +0.9**
NC602 NORSAR Array S 43.96 322 *e*P **P 19 54 43.5 +0.6**
NB201 NORSAR Array S 44.11 323 P **P 19 54 44.3 +0.2**
KONS Konsvik 44.11 331 *e*P **P 19 54 44.9 +0.9**
NB2 NORSAR Subarra 44.15 323 P **P 19 54 44.5 +0.1**
comp=Z,1.7nm,0.6s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.15 323 P **P 19 54 44.5 +0.1**
baz=96,slow=7.9
NOA NORSAR Array B 44.15 323 P **P 19 54 44.0 -0.5**
comp=Z,1.7nm,0.7s,baz=106,slow=7.2,SNR=12
NOA NORSAR Array B 44.15 323 P **P 19 54 44.0 -0.5**
NSS Namsos 44.22 328 *e*P **P 19 54 46.2 +1.3**
WTTA Wattenberg 44.44 303 *e*P **P 19 54 49.6 +2.5**
comp=Z,3.2nm,0.0s
MNSI Mandailing Nat 44.48 137 P **P 19 54 47.7 +0.1**
comp=Z,23nm,0.7s
KSRS Korea Array 44.48 71 P **P 19 54 47.3 -0.1**
comp=Z,3.3nm,0.9s,baz=286,slow=5.8,SNR=4.7
KLR Kul'dur 44.66 54 *ce*P **P 19 54 49.0 +0.4**
KLR pmax pmax
comp=Z,5.0nm,1.0s
KONO Kongsberg 44.87 321 *e*P **P 19 54 51.5 +1.3**
RETA Reutte 44.99 303 *e*P **P 19 54 55.6 +4.2**
comp=Z,4.8nm,1.1s
TIXI Tiksi 45.23 22 *ce*P **P 19 54 53.3 +0.4**
TIXI pmax pmax
comp=Z,19nm,0.9s
TIXI Tiksi 45.23 22 P **P 19 54 53.2 +0.4**
TIXI IAmb IAmb 19 54 54.1
comp=Z,19nm,0.9s
DOMB Dombas 45.25 324 *e*P **P 19 54 54.4 +1.2**
SKAR Skarslia 45.55 322 *e*P **P 19 54 56.6 +1.0**
DAVA Damuels 45.62 303 *e*P **P 19 54 59.8 +3.3**
comp=Z,3.1nm,0.6s
PPI Padang Panjang 45.97 137 P **P 19 54 59.4 +0.1**
comp=Z,12nm,0.8s
GRNR Gornyy 47.41 51 ⇑*i*P **P 19 55 10.8 +0.6**
GRNR pmax pmax
comp=Z,5.0nm,1.0s
GRNR MLR MLR
comp=E,230nm,18.0s
DSRI Dabo 48.35 133 P **P 19 55 18.3 +0.4**
comp=E,18nm,0.9s
KLSI 51.87 136 P **P 19 55 41.6 -2.8**
comp=E,5.6nm,1.0s
STKI Sintang 52.22 125 P **P 19 55 47.5 +0.4**
comp=E,12nm,1.0s
YSS Yuzh-Sakhalins 52.34 55 *e*P **P 19 55 47.4 -0.2**
YSS *e**PP **pP 19 56 05.7 -3.0**
YSS *e* 19 57 47.8
YSS *e*S **S 20 03 08.3 +1.3**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,300nm,16.0s
MBAR Mbarara 52.99 235 *ce*P **P 19 55 54.7 +1.7**
MBAR pmax pmax
comp=Z,4.0nm,1.0s
CGJI Cibinong 53.98 136 P **P 19 56 00.3 +0.3**
comp=Z,14nm,1.0s
BBKI Banjar Baru 57.07 125 P **P 19 56 23.0 +0.8**
comp=Z,26nm,0.9s
ESDC Sonseca Array 57.46 298 P **P 19 56 24.3 -0.4**
comp=Z,1.7nm,0.9s,baz=54,slow=7.4,SNR=8.8
ESDC LR LR 20 26 42.4
comp=Z,415nm,20.4s,baz=136,slow=42
MPSI Mapaga 57.78 118 P **P 19 56 28.4 +1.2**
comp=Z,26nm,1.1s
KBKI Kotabaru 57.83 124 P **P 19 56 27.8 +0.3**
BILL Bilibino 58.06 26 *ce*P **P 19 56 29.8 +1.4**
BILL *i* *PP **pP 19 56 53.9 +4.2**
BILL *i* *SP **sP 19 57 02.5 +3.5**
BILL 19 57 20.0
BILL *e* 19 58 47.0
BILL *e*S S 20 04 37.0 +14
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,43nm,13.0s
TORD Torodi Ar. Bea 65.98 269 P **P 19 57 20.4 -1.8**
comp=Z,3.8nm,0.6s,baz=48,slow=6.0,SNR=38
TORD Torodi Ar. Bea 65.98 269 P **P 19 57 20.8 -1.4**
BATI Baumata 67.91 123 P **P 19 57 33.4 -1.0**
comp=Z,15nm,0.9s,baz=101,slow=5.2,SNR=5.0
A36M Sachs Harbour 70.70 5 P **P 19 57 51.2 +0.4**
IMAR Indian Mountai 71.64 18 P **P 19 57 56.1 -0.5**
BMAR Burnt Mountain 72.41 14 P **P 19 58 01.5 +0.3**
J20K Nowinta River 72.99 19 P **P 19 58 05.4 +0.8**
J20K IAmb IAmb 19 58 30.7
comp=Z,15nm,1.1s
H24K Noodor Dome 73.11 16 P **P 19 58 06.0 +0.6**
C36M Paulatuk 73.37 6 P **P 19 58 06.9 +0.1**
INK Inuvik 73.39 9 P **P 19 58 07.3 +0.4**
comp=Z,12nm,0.8s,baz=353,slow=6.1,SNR=37
INK Inuvik 73.39 9 P **P 19 58 07.8 +0.9**
INK pmax pmax
comp=Z,12nm,0.8s
INK Inuvik 73.39 9 P **P 19 58 07.8 +0.9**
INK IAmb IAmb 19 58 08.7
comp=Z,12nm,0.8s
ILAR Eielson Array 74.24 16 P **P 19 58 11.7 -0.3**
comp=Z,3.6nm,0.9s,baz=317,slow=4.9,SNR=30
LBTB Lobatse 75.21 222 P **P 19 58 18.6 +0.5**
LBTB pmax pmax
comp=Z,14nm,0.9s
LBTB Lobatse 75.21 222 P **P 19 58 18.6 +0.5**
LBTB IAmb IAmb 19 58 19.5
comp=Z,14nm,0.9s
KNRA Kununurra 75.28 123 P **P 19 58 18.2 -0.4**
KNRA IAmb IAmb 19 58 19.7
comp=Z,16nm,0.8s
RSO Redoubt South 76.39 21 P **P 19 58 23.2 -1.4**
BOSA Boshof 78.28 220 P **P 19 58 34.5 -0.9**
comp=Z,13nm,0.9s,baz=36,slow=6.6,SNR=13
BOSA Boshof 78.28 220 P **P 19 58 34.9 -0.5**
BOSA IAmb IAmb 19 58 36.0
comp=Z,12nm,0.8s
P33M Teslin, Yukon 81.13 12 P **P 19 58 49.6 -0.9**
P33M IAmb IAmb 19 58 51.7
comp=Z,10nm,1.0s
WB0 Warramunga Arr 81.95 122 P **P 19 58 54.0 -1.2**
WB0 IAmb IAmb 19 58 54.6
comp=Z,6.5nm,0.9s
WRA Warramunga Arr 82.03 122 P **P 19 58 53.9 -1.8**
comp=Z,2.9nm,0.5s,baz=323,slow=4.7,SNR=56
WRA Warramunga Arr 82.03 122 *i* P **P 19 58 54.4 -1.3**
WRA pmax pmax
comp=Z,3.0nm,0.4s
WRA Warramunga Arr 82.03 122 P **P 19 58 54.4 -1.3**
WRAB Tennant Creek 82.03 122 P **P 19 58 54.2 -1.5**
WRAB pmax pmax
comp=Z,6.0nm,0.7s
WRAB Tennant Creek 82.03 122 P **P 19 58 54.2 -1.5**
WRAB IAmb IAmb 19 58 55.2
comp=Z,6.3nm,0.7s
WB2 Warramunga Arr 82.04 122 P **P 19 58 54.5 -1.2**
WB2 IAmb IAmb 19 58 55.2
comp=Z,6.6nm,0.6s
WR0 Warramunga Arr 82.18 122 P **P 19 58 54.9 -1.5**
WR0 IAmb IAmb 19 58 56.2
comp=Z,14nm,1.4s
DLBC Dease Lake 83.27 11 P **P 19 59 01.9 +0.2**
comp=Z,6.4nm,1.1s,baz=238,slow=8.7,SNR=3.6
AS31 Alice Springs 84.32 125 P **P 19 59 06.3 -1.1**
ASAR Alice Springs 84.32 125 P **P 19 59 06.1 -1.3**
comp=Z,3.4nm,0.7s,baz=312,slow=5.1,SNR=50
ASAR Alice Springs 84.32 125 P **P 19 59 06.2 -1.2**
ASAR Alice Springs 84.32 125 P **P 19 59 06.2 -1.2**

IDC ***17*** *19:53:16.8±2.5, 40°.63N×125°.79W, h0km, mb3.4/2, mb1 3.8/8, mb1mx3.4/49, mbtmp3.5/8, ML3.6/6, MS3.3/3, Ms1 3.3/3, ms1mx2.9/46, Error ellipse: s-maj=27.4km s-min=15.9km az=84.0*
NCEDC ***17*** *19:53:18.0±3.2, 40°.48N±0°.05×125°.94W±0°.10, h20km±2km, Mwr3.9/3, ML3.6/72(NEIC), Error ellipse: s-maj=12.8km s-min=8.2km az=255.0*
NEIC ***17*** *19:53:18.9±2.6, 40°.45N±0°.05×125°.78W±0°.09, h21km±2km, Error ellipse: s-maj=12.2km s-min=8.0km az=255.0*
NEIC ***17*** *19:53:18, 40°.48N×125°.94W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=2.87; Mθθ=0.66; Mφφ=2.20; Mrθ=1.40; Mθφ=-8.19; Mφr=-2.26; Fault plane solution: Mo=8.52000×10^14^ NP1:φs=92.00000°, δ=76.00000°, λ=177.00000°. NP2:φs=183.00000°, δ=88.00000°, λ=14.00000°. Principal axes: T 10.1798, Plg=11.0000°, Azm=48.0000°; N -3.3215, Plg=76.0000°, Azm=193.0000°; P -6.8583, Plg=8.0000°, Azm=316.0000°;*
ANF ***17*** *19:53:20.1±1.2, 40°.62N×125°.46W, h0km, ML3.6/13 Error ellipse: s-maj=11.9km s-min=7.3km az=68.0*
ISC 17 19:53:19.0±1.7, 40°.55N±0°.05×125°.69W±0°.09, h10km, n93, σ1**39**/108, **Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPM	**Mount Pierce**	**1.20**	**96**		**Pn**	**19 53 39.6**	**-2.3**
JCC	**Jacoby Creek,**	**1.29**	**77**		**Pn**	**19 53 41.2**	**-1.8**
JCC					**Sb**	**19 53 58.7**	**-1.2**
JCC				IAML		19 53 59.9	
	comp=E,1μm,0.8s						
JCC				IAML		19 53 60.0	
	comp=N,663nm,0.8s						
KRPM	**Rodgers**	**1.40**	**64**		**Sn**	**19 54 01.6**	**-1.7**
KCRM	**Chalk Rock**	**1.43**	**94**		**Pn**	**19 53 44.0**	**-1.1**
KHMM	**Horse Mountain**	**1.52**	**77**		**Pn**	**19 53 45.0**	**-1.5**
KHMM					**Sn**	**19 54 05.5**	**-0.9**
KMRM	**Mail Ridge**	**1.54**	**101**	Pn	**Pn**	**19 53 45.3**	**-1.4**
KMRM					**Sn**	**19 54 06.2**	**-0.6**
KBSM	**Bell Springs**	**1.72**	**111**		**Pn**	**19 53 47.4**	**-1.7**
KCPM	**Cahto Peak**	**1.83**	**117**		**Pn**	**19 53 48.4**	**-2.2**
KCPM					**Sn**	**19 54 11.6**	**-2.3**
KOMM	**Orleans Mounta**	**1.84**	**66**		**Pn**	**19 53 49.6**	**-1.2**
KSXB	**Camp Six Broad**	**1.87**	**46**		**Pn**	**19 53 50.1**	**-1.2**
KSXB				Sn	**Sn**	**19 54 12.9**	**-2.1**
KBO	**Bosley Butte**	**2.00**	**33**	Sn	**Sn**	**19 54 15.9**	**-2.1**
GNAM	**Navarro Ridge**	**2.08**	**130**		**Pn**	**19 53 52.4**	**-1.5**
O02D	**Mt. Diablo Mer**	**2.24**	**99**		**Pn**	**19 53 55.3**	**-1.0**
O02D				Sn	**Sn**	**19 54 24.1**	**0.0**
O02D				IAML		19 54 25.0	
	comp=N,188nm,0.6s						
O02D	**Mt. Diablo Mer**	**2.24**	**99**	P	**Pn**	**19 53 55.3**	**-1.0**
	baz=278,SNR=23						
O02D				S	**Sn**	**19 54 23.7**	**-0.4**
	baz=278						
L02E	**Cave Junction**	**2.25**	**44**	Pn	**Pn**	**19 53 55.9**	**-0.4**
L02E	**Cave Junction**	**2.25**	**44**	P	**Pn**	**19 53 55.7**	**-0.6**
	baz=227,SNR=18						
L02E				S	**Sn**	**19 54 23.6**	**-0.5**
	baz=227						
N02D	**Trinity Center**	**2.30**	**78**		**Pn**	**19 53 55.8**	**-1.4**
N02D				Sn	**Sn**	**19 54 24.9**	**-0.7**
N02D	**Trinity Center**	**2.30**	**78**	P	**Pn**	**19 53 55.7**	**-1.4**
	baz=260,SNR=25						
N02D				S	**Sn**	**19 54 25.8**	**+0.2**
	baz=260						
M02C	**Callahan**	**2.31**	**68**		**Pn**	**19 53 56.3**	**-0.8**
M02C				Sn	**Sn**	**19 54 25.1**	**-0.5**
M02C				IAML		19 54 26.0	
	comp=E,140nm,0.6s						
M02C	**Callahan**	**2.31**	**68**	P	**Pn**	**19 53 56.0**	**-1.1**
	baz=250,SNR=313						
M02C				S	**Sn**	**19 54 25.5**	**-0.1**
	baz=250						
WDC	**Whiskeytown Da**	**2.40**	**88**		**Pn**	**19 53 57.4**	**-0.9**
WDC	**Whiskeytown Da**	**2.40**	**88**	Sn	**Sn**	**19 54 27.4**	**-0.3**
WDC				IAML		19 54 29.3	
	comp=N,267nm,0.5s						
WDC				IAML		19 54 29.6	
	comp=E,203nm,0.4s						
GASB	**Alder Springs**	**2.44**	**110**		**Pn**	**19 53 57.4**	**-1.7**
HOPS	**Hopland Field**	**2.54**	**127**	Pn	**Pn**	**19 53 57.7**	**-2.6**
HOPS				IAML		19 55 37.4	
	comp=N,136nm,2.8s						
YBH	**Yreka Blue Hor**	**2.54**	**61**	Pn	**Pn**	**19 54 00.9**	**+0.6**
	comp=N,23nm,0.3s,baz=270,slow=12,SNR=318						
YBH				Sn	**Sn**	**19 54 31.5**	**0.0**
	comp=N,17nm,0.3s,baz=138,slow=13,SNR=10						
YBH				LR	LR	19 54 55.5	
	comp=N,107nm,20.8s,baz=296,slow=38						
YBH	**Yreka Blue Hor**	**2.54**	**61**	Pn	**Pn**	**19 54 00.1**	**-0.3**
K02D	**Willamette Mer**	**2.63**	**35**	P	**Pn**	**19 54 01.1**	**-0.5**
	baz=218,SNR=396						
K02D				S	**Sn**	**19 54 31.7**	**-1.9**
	baz=218						
LTCM	**Tuscan Springs**	**2.74**	**96**		**Pn**	**19 54 03.4**	**+0.3**
GDXM	**Geysers**	**2.83**	**127**	Pn	**Pn**	**19 54 04.2**	**-0.1**
HUMO	**Hull Mountain**	**2.90**	**44**	Pn	**Pn**	**19 54 05.8**	**+0.4**
J01E	**Myrtle Point**	**2.92**	**26**	P	**Pn**	**19 54 05.0**	**-0.5**
	baz=210,SNR=8.5						
J01E				S	**Sn**	**19 54 38.6**	**-2.2**
	baz=210						
O03E	**Paynes Creek**	**2.98**	**94**	IAML		19 54 47.3	
	comp=E,262nm,0.6s						
O03E				IAML		19 54 47.5	
	comp=N,226nm,0.6s						
O03E	**Paynes Creek**	**2.98**	**94**	P	**Pn**	**19 54 05.1**	**-1.2**
	baz=275,SNR=38						
O03E				S	**Sn**	**19 54 41.5**	**-0.6**
	baz=275						
L04D	**Klamath Falls**	**3.04**	**56**		**Pn**	**19 54 09.3**	**+2.0**
L04D				IAML		19 54 49.2	
	comp=N,74nm,0.4s						
L04D				IAML		19 54 57.9	
	comp=E,94nm,2.0s						
L04D	**Klamath Falls**	**3.04**	**56**	P	**Pn**	**19 54 08.5**	**+1.1**
	baz=239,SNR=85						
DBO	**Dodson Butte**	**3.15**	**35**		**Pn**	**19 54 09.1**	**+0.2**
M04C	**Macdoel**	**3.16**	**66**		**Pn**	**19 54 09.9**	**+1.0**
M04C				IAML		19 54 55.6	
	comp=N,121nm,0.8s						
M04C				IAML		19 54 57.3	
	comp=E,88nm,0.7s						
M04C	**Macdoel**	**3.16**	**66**	P	**Pn**	**19 54 10.0**	**+1.1**
	baz=248,SNR=21						
ORV	**Oroville**	**3.36**	**106**		**Pn**	**19 54 10.2**	**-1.4**
ORV				IAML		19 54 53.2	
	comp=N,69nm,0.3s						
ORV				IAML		19 54 53.6	
	comp=E,71nm,0.4s						
I03D	**Drain, OR**	**3.60**	**28**	P	**Pn**	**19 54 14.6**	**-0.2**
	baz=212,SNR=71						
I03D				S	**Sn**	**19 54 57.3**	**0.0**
	baz=212						
K04D	**Chiloquin, OR**	**3.61**	**54**	P	**Pn**	**19 54 16.2**	**+1.1**
	baz=237,SNR=9.7						
J04D	**Umpqua Nationa**	**3.79**	**44**	P	**Pn**	**19 54 19.3**	**+1.6**
	baz=227,SNR=20						
I04A	**Tendick Farm,**	**4.06**	**36**	P	**Pn**	**19 54 22.2**	**+1.1**
	baz=220,SNR=30						
BUCK	**Buck Mountain**	**4.16**	**28**	Pn	**Pn**	**19 54 23.3**	**+0.7**
BUCK				IAML		19 55 18.1	
	comp=N,84nm,4.7s						
BUCK				IAML		19 56 26.9	
	comp=E,81nm,4.7s						
K05A	**Summer Lake**	**4.20**	**57**	Pn	**Pn**	**19 54 24.1**	**+0.8**
K05A				IAML		19 55 59.9	
	comp=E,38nm,4.1s						
K05A				IAML		19 56 32.4	
	comp=N,56nm,4.9s						
MOD	**Modoc Plateau**	**4.28**	**70**	Pn	**Pn**	**19 54 25.0**	**+0.7**
MOD				IAML		19 55 47.0	
	comp=E,35nm,4.2s						
J05D	**Fort Rock, OR**	**4.30**	**49**	P	**Pn**	**19 54 25.9**	**+1.2**
	baz=233,SNR=20						
RUBR	**Rubicon Trail**	**4.51**	**108**	Pn	**Pn**	**19 54 28.1**	**+0.5**
MPK	**Martis Peak**	**4.52**	**104**	Pn	**Pn**	**19 54 28.2**	**+0.4**
MPK				IAML		19 55 28.0	
	comp=N,80nm,0.8s						
H04D	**Lebanon**	**4.53**	**28**	Pn	**Pn**	**19 54 28.9**	**+1.2**
H04D				IAML		19 56 04.4	
	comp=N,68nm,4.3s						
H04D				IAML		19 56 42.0	
	comp=E,64nm,2.8s						
H04D	**Lebanon**	**4.53**	**28**	P	**Pn**	**19 54 28.8**	**+1.2**
	baz=211,SNR=8.8						
H04D				S	**Sn**	**19 55 20.7**	**+0.3**
	baz=211						
EMB	**Emerald Bay**	**4.58**	**108**	Pn	**Pn**	**19 54 27.9**	**-0.6**
EMB				IAML		19 55 30.5	
	comp=N,53nm,0.8s						
EMB				IAML		19 55 33.4	
	comp=E,55nm,0.8s						
VCNR	**Virginia City**	**4.80**	**103**	Pn	**Pn**	**19 54 31.8**	**+0.1**
VCNR				IAML		19 55 33.5	
	comp=E,30nm,1.6s						
VCNR				IAML		19 55 34.5	
	comp=N,27nm,1.1s						
CMB	**Columbia Colle**	**4.81**	**120**	Pn	**Pn**	**19 54 31.6**	**0.0**
H04A	**Detroit Lake**	**4.88**	**31**	Pn	**Pn**	**19 54 33.1**	**+0.6**
H04A				IAML		19 55 33.9	
	comp=E,54nm,0.4s						
H04A				IAML		19 55 33.9	
	comp=N,36nm,0.3s						
PAHR	**Pah Rah Range**	**4.90**	**98**		**Pn**	**19 54 32.5**	**-0.4**
PAHR				IAML		19 55 42.0	
	comp=E,20nm,2.7s						
PAHR				IAML		19 55 44.5	
	comp=N,22nm,1.7s						
PNTR	**Pine Nut**	**4.91**	**105**	Pn	**Pn**	**19 54 33.4**	**+0.4**
PNTR				IAML		19 55 44.5	
	comp=E,54nm,1.1s						
PNTR				IAML		19 55 48.8	
	comp=N,38nm,1.7s						
I05D	**Terrebonne, OR**	**4.97**	**39**	P	**Pn**	**19 54 34.8**	**+1.0**
	baz=223						
G03D	**McMinnville, O**	**4.99**	**20**	Pn	Pn	19 54 39.1	+5.1
SAO	**San Andreas Ge**	**5.03**	**137**	Pn	**Pn**	**19 54 31.1**	**-3.4**
YERR	**Yerington**	**5.21**	**105**		**Pn**	**19 54 35.9**	**-1.2**
YERR				IAML		19 55 50.4	
	comp=N,22nm,2.5s						
YERR				IAML		19 55 52.3	
	comp=E,31nm,0.5s						
BBGB	**Big Mountain B**	**5.38**	**136**	Pn	**Pn**	**19 54 37.9**	**-1.6**
BBNM	**San Benito**	**5.41**	**137**		**Pn**	**19 54 37.5**	**-2.3**
HOOD	**Mount Hood Mea**	**5.62**	**30**		**Pn**	**19 54 45.0**	**+2.3**
WVOR	**Wild Horse Val**	**5.62**	**68**		**Pn**	**19 54 42.4**	**-0.3**
G05D	**Wamic, OR**	**5.69**	**33**	P	**Pn**	**19 54 45.1**	**+1.5**
	baz=217,SNR=6.2						
PMPB	**Monarch Peak**	**5.78**	**137**	Pn	**Pn**	**19 54 42.0**	**-2.9**
I07A	**Izee**	**5.79**	**50**		**Pn**	**19 54 45.8**	**+0.7**
RYN	**Ryan**	**5.85**	**107**		**Pn**	**19 54 45.5**	**-0.5**
LHV	**Little Huntoon**	**6.01**	**110**	Pn	**Pn**	**19 54 47.5**	**-0.5**
KVN	**Kaiserville**	**6.03**	**102**	Pn	**Pn**	**19 54 47.5**	**-0.9**
J08A	**Circle Bar Ran**	**6.07**	**60**	Pn	**Pn**	**19 54 48.8**	**-0.1**
NVAR	**Mina Array Bea**	**6.09**	**108**	Pn	**Pn**	**19 54 49.5**	**+0.2**
	comp=E,5.0nm,0.3s,baz=284,slow=15,SNR=67						
NVAR				Sn	**Sn**	**19 56 01.1**	**+2.0**
	comp=E,0.2nm,0.3s,baz=305,slow=19,SNR=1.9						
NVAR	**Mina Array Bea**	**6.09**	**108**		**Pn**	**19 54 48.1**	**-1.1**

NV11	Mina Array Sit	6.20	107	Pn	Pn	19 54 50.4	-0.2
HAWA	Hanford	7.36	35	Pn	Pn	19 55 06.0	-0.5
ISA	Isabella, Lake	7.49	128	Pn	Pn	19 55 06.5	-1.9
ISA	Isabella, Lake	7.49	128	P	Pn	19 55 09.0	+0.6
	baz=312,SNR=7.6						
ELK	Elko	7.95	85	Pn	Pn	19 55 16.4	+1.6
	comp=E,0.1nm,0.3s,baz=275,slow=13,SNR=5.0						
D08A	Wollman Farm,	8.14	35		Pn	19 55 15.2	-2.0
PLID	Pearl Lake	8.44	54	Pn	Pn	19 55 23.6	+2.1
HLID	Hailey	8.91	67	Pn	Pn	19 55 28.9	+0.9
HLID	Hailey	8.91	67	P	Pn	19 55 30.4	+2.4
	baz=254,SNR=11						
NEW	Newport	9.85	36	Pn	Pn	19 55 41.2	+0.6
	comp=E,0.2nm,0.3s,baz=312,slow=3.6,SNR=4.4						
NEW	Newport	9.85	36		Pn	19 55 39.3	-1.3
PFO	Pinyon Flats O	10.11	130	Pn	Pn	19 55 46.1	+1.9
	comp=E,0.2nm,0.3s,baz=316,slow=15,SNR=1.4						
MSO	Missoula	10.57	50	Pn	Pn	19 55 53.2	+2.7
DLMT	Dillon	10.73	59		Pn	19 55 54.7	+1.9
PDAR	Pinedale Array	12.27	74	Pn	Pn	19 56 18.0	+4.0
	comp=E,0.0nm,0.3s,baz=275,slow=10,SNR=2.8						
TXAR	Lajitas Array	21.18	115	P	P	19 58 06.5	+1.9
	comp=E,0.3nm,0.7s,baz=302,slow=9.4,SNR=3.8						
ULM	Lac du Bonnet	22.93	55	P	P	19 58 22.9	-0.2
	comp=E,4.9nm,0.7s,baz=264,slow=8.7,SNR=7.2						
ILAR	Eielson Array	27.19	340	LR	LR	20 08 07.6	
	comp=E,104nm,20.7s,baz=188,slow=33						
CMIG	Matias Romero	35.40	122	LR	LR	20 15 18.3	
	comp=E,114nm,18.3s,baz=260,slow=37						

IDC 17 19:56:48.2±2.2, 9°.29S×157°.83E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.3/34, mbtmp3.6/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/54, Error ellipse: s-maj=101.7km s-min=31.3km az=132.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.09	94	LR	LR	19 58 23.3	
	comp=Z,191nm,20.2s,baz=264,slow=46						
WRA	Warramunga Arr	25.04	242	P	P	20 02 14.5	0.0
	1.3nm,1.0s,baz=67,slow=9.6,SNR=4.8						
ASAR	Alice Springs	26.97	235	P	P	20 02 30.7	-1.2
	0.7nm,1.0s,baz=63,slow=10,SNR=2.5						
ASAR				PcP	PcP	20 05 54.6	+0.7
	0.2nm,0.8s,baz=52,slow=1.5,SNR=4.6						
ILAR	Eielson Array	84.49	21	P	P	20 09 22.0	-0.7
	0.3nm,0.4s,baz=257,slow=4.9,SNR=6.8						
MKAR	Makanchi Array	86.97	318	P	P	20 09 36.0	+0.6
	0.5nm,0.7s,baz=108,slow=5.1,SNR=6.1						
INK	Inuvik	90.87	20	LR	LR	20 51 47.0	
	comp=Z,100nm,18.6s,baz=332,slow=36						

IDC 17 20:10:44.6±2.7, 31°.36S×66°.26W, h72km±23km, mb3.4/3, mb1 3.7/6, mb1mx3.5/21, mbtmp3.7/6, MS4.3/1, Ms1 4.3/1, ms1mx3.2/15, Error ellipse: s-maj=30.2km s-min=26.9km az=104.0

ISC 17 20:10:43.3±0.8, 31°.3S±0°.1×66°.2W±0°.1, h50km, n12, σ2°.14/12, mb3.4/3, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	8.98	344	P	Pn	20 12 51.5	+0.9
	0.7nm,0.3s,baz=161,slow=9.6,SNR=5.7						
CPUP	Villa Florida	9.25	60	P	Pn	20 12 55.2	+1.1
	0.3nm,0.3s,baz=236,slow=6.0,SNR=3.3						
PLCA	Paso Flores	10.04	199	P	Pn	20 13 06.6	+1.8
	0.1nm,0.3s,baz=329,slow=13,SNR=4.0						
LPAZ	La Paz	15.04	353	P	P	20 14 18.7	+0.9
	2.5nm,0.3s,baz=146,slow=5.4,SNR=63						
SDV	Santo Domingo	40.18	353	LR	LR	20 39 31.1	
	comp=Z,392nm,19.5s,baz=153,slow=43						
TXAR	Lajitas Array	70.02	326	P	P	20 21 49.0	-1.0
	0.2nm,0.4s,baz=153,slow=7.0,SNR=8.2						
TORD	Torodi Ar. Bea	78.68	67	P	P	20 22 39.4	-1.1
	1.0nm,0.7s,baz=244,slow=5.9,SNR=6.6						
PDAR	Pinedale Array	83.75	329	P	P	20 23 06.9	-0.2
	0.3nm,0.7s,baz=148,slow=5.3,SNR=2.7						
ASAR	Alice Springs	122.04	202	PKP	PKPdf	20 29 29.6	-3.2
	0.3nm,0.9s,baz=132,slow=2.6,SNR=1.4						
WRA	Warramunga Arr	125.35	204	PKP	PKPdf	20 29 36.3	-2.9
	0.3nm,0.4s,baz=171,slow=1.7,SNR=7.7						
ZALV	Zalesovo Beam	149.29	34	PKPbc	PKPdf	20 30 24.9	+3.4
	0.8nm,0.5s,baz=314,slow=2.6,SNR=5.2						
MKAR	Makanchi Array	151.32	48	PKPbc	PKPbc	20 30 30.2	-0.9
	1.0nm,0.6s,baz=268,slow=2.3,SNR=20						
MKAR				PKPab	PKPab	20 30 37.8	-1.5
	0.9nm,0.8s,baz=301,slow=0.6,SNR=7.2						

IDC 17 21:13:08.8±1.1, 30°.83N×133°.10E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.3/50, mbtmp3.6/8, ML3.1/3, Error ellipse: s-maj=37.8km s-min=19.1km az=76.0
JMA 17 21:13:11.6±0.1, 30°.62N×132°.79E, h76km, M3.4

ISC 17 21:13:12.8±1.0, 30°.70N±0°.06×132°.92E±0°.06, h35km, n18, σ1°.88/28, mb3.7/5, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKG	Nichinankitago	1.63	306	P	Pn	21 13 38.4	-0.6
JNKG				eS	Sn	21 13 58.5	-0.3
JNAR	Kushima--Naru	1.63	301	P	Pn	21 13 38.3	-0.8
JNAR				S	Sn	21 13 58.3	-0.6
JTN	Tanegashima 3	1.67	269	P	Pn	21 13 38.0	-1.6
JTN				S	Sn	21 13 57.3	-2.5
JMTN	Minamitane	1.77	261	P	Pn	21 13 39.3	-1.6
JMTN				S	Sn	21 13 59.7	-2.5
JTSR	Tashiro 2	1.78	286	P	Pn	21 13 39.6	-1.5
JTSR				eS	Sn	21 14 01.1	-1.4
JTZ	Takazaki	1.97	308	P	Pn	21 13 43.1	-0.6
JTZ				eS	Sn	21 14 07.2	0.0
JTO	Tosashimizu	2.15	357	P	Pn	21 13 44.9	-1.3
JTO				S	Sn	21 14 07.6	-4.1
JNN	Nakanoshima	2.77	253	eS	Sn	21 14 24.0	-2.9
JNA	Nagahama	2.87	353	P	Pn	21 13 55.8	-0.3
JNA				S	Sn	21 14 26.3	-3.1
JSJ	Shimokoshiki	2.91	290	P	Pn	21 13 54.8	-1.9
JSJ				eS	Sn	21 14 28.4	-2.0
JNU	Nakatsue	2.97	325	Pn	Pn	21 13 57.9	+0.3
	6.0nm,0.3s,baz=91,slow=3.3,SNR=34						
JNU				Sn	Sn	21 14 33.3	+1.3
	17nm,0.3s,baz=0.0,slow=20,SNR=5.4						
MJAR	Matsushiro Arr	7.30	36	Pn	Pn	21 14 54.5	-2.6
	0.1nm,0.3s,baz=106,slow=7.1,SNR=1.8						
KLR	Kul'dur	18.53	358	P	Pn	21 17 26.8	+0.3
	0.1nm,0.3s,baz=175,slow=14,SNR=4.5						
BVAR	Borovoye Array	49.84	315	P	P	21 22 03.7	+1.4
	1.0nm,0.6s,baz=94,slow=12,SNR=4.6						
WRA	Warramunga Arr	50.37	178	P	P	21 22 08.2	+1.6
	0.8nm,1.0s,baz=355,slow=7.8,SNR=4.5						
ASAR	Alice Springs	54.07	179	P	P	21 22 36.5	+2.5
	0.4nm,0.7s,baz=9.1,slow=13,SNR=6.1						
FINES	FINESS Array B	71.00	331	P	P	21 24 27.3	+0.7
	0.8nm,0.5s,baz=52,slow=5.4,SNR=7.4						
YKA	Yellowknife Ar	72.72	27	P	P	21 24 36.8	-0.1
	0.3nm,0.7s,baz=306,slow=5.3,SNR=2.9						

IDC 17 21:14:09.9±1.0, 30°.65N×132°.76E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.4/49, mbtmp3.7/11, ML3.4/3, Error ellipse: s-maj=34.3km s-min=19.4km az=79.0
JMA 17 21:14:12.3±0.2, 30°.63N×132°.86E, h62km, M3.6

ISC 17 21:14:15.1±0.8, 30°.73N±0°.07×132°.80E±0°.06, h35km, n22, σ1°.37/32, mb3.7/8, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	1.53	302	P	Pn	21 14 39.4	-0.5
JNAR				S	Sn	21 14 58.9	+0.3
JNKG	Nichinankitago	1.54	308	P	Pn	21 14 39.6	-0.3
JNKG				eS	Sn	21 14 59.2	+0.5
JTN	Tanegashima 3	1.57	268	P	Pn	21 14 38.9	-1.6
JTN				S	Sn	21 14 58.7	-0.9
JMTN	Minamitane	1.67	259	P	Pn	21 14 40.5	-1.4
JMTN				eS	Sn	21 15 01.0	-1.1
JTSR	Tashiro 2	1.67	286	P	Pn	21 14 40.9	-1.0
JTSR				S	Sn	21 15 03.2	+1.1
JTZ	Takazaki	1.87	309	P	Pn	21 14 44.3	-0.3
JTZ				eS	Sn	21 15 08.6	+1.5
JTO	Tosashimizu	2.12	0	P	Pn	21 14 46.3	-1.7
JTO				S	Sn	21 15 08.9	-4.3
JSJ	Shimokoshiki	2.81	290	P	Pn	21 14 55.9	-1.6
JSJ				eS	Sn	21 15 28.7	-1.4
JNA	Nagahama	2.83	355	P	Pn	21 14 57.0	-0.8
JNA				S	Sn	21 15 27.6	-3.1
JNU	Nakatsue	2.89	326	Pn	Pn	21 14 59.3	+0.7
	14nm,0.3s,baz=207,slow=11,SNR=7.7						
JNU				Sn	Sn	21 15 32.5	+0.3
	11nm,0.3s,baz=117,slow=2.2,SNR=4.1						
JAI	Aioi	3.36	24	P	Pn	21 15 04.7	-0.3
MAT	Matsushiro	7.34	36	P	Pn	21 16 00.6	+0.8
MJAR	Matsushiro Arr	7.34	36	Pn	Pn	21 16 00.5	+0.8
	0.1nm,0.3s,baz=242,slow=14,SNR=9.9						
KLR	Kul'dur	18.50	358	P	Pn	21 18 28.6	+0.2
	0.1nm,0.3s,baz=157,slow=9.2,SNR=7.7						
MKAR	Makanchi Array	41.78	307	P	P	21 22 02.3	+1.2
	0.4nm,0.9s,baz=93,slow=12,SNR=3.5						
BVAR	Borovoye Array	49.75	315	P	P	21 23 04.5	+0.6
	1.2nm,0.7s,baz=75,slow=12,SNR=5.6						
WRA	Warramunga Arr	50.40	178	P	P	21 23 08.4	-0.7
	0.6nm,1.0s,baz=354,slow=8.1,SNR=5.1						
ASAR	Alice Springs	54.10	179	P	P	21 23 36.4	-0.1
	0.7nm,0.8s,baz=9.1,slow=7.0,SNR=6.2						
FINES	FINESS Array B	70.92	331	P	P	21 25 28.1	-0.3
	3.8nm,1.1s,baz=54,slow=7.1,SNR=6.1						
YKA	Yellowknife Ar	72.74	27	P	P	21 25 40.3	+1.0
	0.6nm,1.0s,baz=302,slow=5.7,SNR=4.8						
AKASG	Malin Array Be	74.70	320	P	P	21 25 50.2	-0.8
	0.4nm,0.4s,baz=52,slow=5.7,SNR=3.3						
BRTR	Keskin Array B	77.41	309	P	P	21 26 07.5	+0.6
	0.2nm,0.3s,baz=50,slow=7.7,SNR=1.5						

KRNET 17 21:17:44.7±0.1, 41°.09N×70°.58E, h25km, mb2.2
SOME 17 21:17:52.6, 41°.20N×71°.17E, h10km
NNC 17 21:17:53.3±0.9, 41°.20N×71°.20E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=7.6km s-min=3.5km az=8.0

ISC 17 21:17:47.6±1.2, 41°.00N±0°.03×71°.19E±0°.03, h6km±12km, n13, σ1°.74/22, 11C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.53	356	⇑iP	Pg	21 17 56.0	-1.8
TRKS	baz=50			⇑iS	Sg	21 18 04.3	-0.5
BTK	Batken	0.98	197	⇑iP	Pb	21 18 04.5	-2.5
BTK	baz=70			⇑iS	Sg	21 18 18.4	-0.7
ARK	Arkit	0.99	36	⇓iP	Pn	21 18 08.0	-0.1
ARK	baz=55			⇓iS	Sn	21 18 24.8	+2.3
OHH	Osh	1.30	111	⇑iP	Pg	21 18 15.9	+3.3
OHH	baz=8.0			⇑iS	Sg	21 18 39.0	+9.5
IUG	Iuzhnay	1.44	323	eP	Pg	21 18 17.3	+2.2
IUG	52nm,0.3s			eS	Sg	21 18 35.2	+1.5
IUG	Iuzhnay	1.44	323	P	Pg	21 18 17.3	+2.2
IUG	52nm,0.3s			S	Sg	21 18 35.2	+1.5
MNAS	Manas	1.78	33	⇑iP	Pb	21 18 19.2	-1.5
MNAS	baz=45			⇑iS	Sg	21 18 44.6	-0.3
KK03	Karatay Array	2.16	347	⇓Pg	Pg	21 18 29.2	+0.2
KK03	0.6nm,0.5s			⇑Lg	Lg	21 18 56.4	
BRLS	Borolday	2.26	334	eP	Pb	21 18 29.0	+0.1
BRLS	1.0nm,0.2s			eS	Sb	21 18 54.6	-2.5
BRLS	Borolday	2.26	334	Pg	Pb	21 18 29.0	+0.1
BRLS	1.0nm,0.2s			Lg	Lg	21 18 54.7	
MRKS	Merke	2.31	40	eP	Pg	21 18 32.9	+1.0
MRKS	1.1nm,0.6s			eS	Sg	21 19 01.5	-0.5
MRKS	Merke	2.31	40	Pg	Pg	21 18 32.9	+1.0
MRKS	1.1nm,0.6s			Lg	Lg	21 19 01.5	
ARLS	Aral	2.51	69	⇑iP	Pb	21 18 32.6	-0.6
ARLS	baz=74			⇑iS	Sg	21 19 06.7	-1.5

IDC 17 21:29:49.8±3.6, 36°.29N×71°.16E, h160km±30km, mb3.2/6, mb1 3.3/11, mb1mx3.0/46, mbtmp3.7/11, Error ellipse: s-maj=31.7km s-min=21.6km az=164.0
NNC 17 21:29:59.1±2.8, 37°.13N×71°.10E, h191km±40km, mb3.0, mpv4.0, Error ellipse: s-maj=26.9km s-min=16.4km az=24.0

ISC 17 21:29:53.0±0.7, 36°.69N±0°.06×71°.08E±0°.06, h188km, n32, σ2°.12/39, mb3.2/5, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.80	20	P	Pn	21 31 18.4	+0.7
	SNR=54						
UCH	Uchtor	6.13	25	P	Pn	21 31 22.8	+0.6
	SNR=10						
EKS2	Erkin-Say	6.32	18	P	Pn	21 31 25.6	+1.4
	SNR=30						
KK02	Karatay Array	6.42	356	⇓P	Pn	21 31 26.4	+1.0
	11nm,0.5s						
KK01	Karatay Array	6.42	356	⇑S	Sn	21 32 35.1	-3.6
	20nm,0.8s						
AAK	Ala-Archa	6.50	23	P	Pn	21 31 27.6	+1.0
	3.5nm,0.3s,baz=174,slow=5.5,SNR=58						
AAK				S	Sn	21 32 38.0	-2.7
	1.3nm,0.3s,baz=153,slow=23,SNR=16						
AAK	Ala-Archa	6.50	23	P	Pn	21 31 27.9	+1.3
	SNR=6.3						
AAK	Ala-Archa	6.50	23	⇑P	Pn	21 31 27.4	+0.8
	3.1nm,0.3s						
AAK				⇑S	Sn	21 32 38.1	-2.6
	17nm,0.8s						
TKM2	Tokmak 2	7.13	28	P	Pn	21 31 36.1	+1.2
	SNR=6.3						
TKM2	Tokmak 2	7.13	28	⇓P	Pn	21 31 35.1	+0.2
	7.4nm,0.6s						
TKM2				⇑S	Sn	21 32 53.1	-2.6
	3.7nm,0.6s						
GEYT	Alibeck	10.40	281	P	Pn	21 32 18.2	+0.6
	0.4nm,0.3s,baz=32,slow=47,SNR=3.7						
GEYT				S	Sn	21 34 08.7	-4.7
	0.5nm,0.3s,baz=168,slow=40,SNR=2.6						
MKAR	Makanchi Array	13.10	36	P	Pn	21 32 53.3	+1.3
	0.1nm,0.3s,baz=224,slow=12,SNR=2.6						
PYUN	Piuthan	13.21	127	eP	Pn	21 32 52.0	-1.7
	11nm,0.3s						
PYUN				eS	Sn	21 35 08.3	-13
	19nm,0.6s						
DANN	Dangsing	13.54	124	eP	Pn	21 32 56.3	-1.7
	9.3nm,0.3s						
DANN				eS	Sn	21 35 16.5	-13
	17nm,0.6s						
KOLN	Koldanda	13.82	126	eP	Pn	21 33 00.1	-1.3
	9.6nm,0.3s						
GKN	Gorkha	14.35	123	eP	Pn	21 33 07.2	-0.7
	14nm,0.3s						
GKN				eS	Sn	21 35 35.3	-13
	11nm,0.4s						
DMN	Daman	14.92	123	eP	P	21 33 14.9	-1.2
	12nm,0.3s						
KKN	Kakani	14.93	122	eP	P	21 33 14.8	-1.2
	7.4nm,0.3s						
AB31	Akbulak array	14.95	331	P	Pn	21 33 16.4	+1.5
	0.7nm,0.3s,baz=150,slow=11,SNR=59						
AB31				S	Sn	21 35 56.9	-4.9
	0.9nm,0.5s,baz=148,slow=24,SNR=7.5						
PKIN	Phulchoki	15.14	123	eP	P	21 33 17.4	-1.1
	20nm,0.4s						
PKI	Pulchoki	15.15	123	eP	P	21 33 17.7	-1.0
	14nm,0.4s						
GUN	Gumba	15.26	121	eP	P	21 33 19.0	-0.9
	11nm,0.3s						
BVAR	Borovoye Array	16.34	359	P	Pn	21 33 33.7	+2.0
	0.3nm,0.3s,baz=125,slow=9.7,SNR=8.8						
BVAR				S	S	21 36 30.8	-1.3
	0.1nm,0.3s,baz=161,slow=23,SNR=3.0						
AKTO	Aktyubinsk	16.65	330	P	Pn	21 33 38.4	+3.0
	0.7nm,0.3s,baz=141,slow=9.9,SNR=7.6						
AKTO				S	S	21 36 40.1	+1.6
	0.1nm,0.3s,baz=198,slow=20,SNR=1.6						
AKTO	Aktyubinsk	16.65	330	⇑P	Pn	21 33 37.9	+2.5
	1.4nm,0.4s						
ZALV	Zalesovo Beam	19.72	25	P	P	21 34 09.2	+1.4
	0.9nm,0.4s,baz=217,slow=11,SNR=7.5						
FINES	FINESS Array B	37.36	326	P	P	21 36 49.9	+2.8
	6.6nm,1.1s,baz=116,slow=9.6,SNR=3.8						
NB2	NORSAR Subarra	44.27	323	P	P	21 37 45.9	+2.4
	comp=Z,0.3nm,0.4s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.27	323	P	P	21 37 46.8	+3.3
	comp=Z,0.3nm,0.4s,baz=104,slow=6.0,SNR=4.6						
TORD	Torodi Ar. Bea	65.78	269	P	P	21 40 17.1	-1.1
	comp=Z,0.6nm,0.5s,baz=46,slow=5.1,SNR=7.2						
YKA	Yellowknife Ar	81.05	3	P	P	21 41 48.9	+2.4
	comp=Z,0.3nm,0.7s,baz=348,slow=5.3,SNR=4.9						
WRA	Warramunga Arr	82.04	122	P	P	21 41 52.0	-0.3
	comp=Z,0.3nm,0.9s,baz=321,slow=4.2,SNR=1.7						

IDC 17 21:41:23.2±1.4, 17°.89S×178°.63W, h615km±10km, mb3.3/11, mb1 3.6/13, mb1mx3.4/34, mbtmp4.2/13, Error ellipse: s-maj=48.4km s-min=14.6km az=151.0

ISC 17 21:41:21.0±1.0, 18°.0S±0°.3×178°.4W±0°.2, h600km, n59, σ0°.97/64, mb3.8/11, 7C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.39	274	P	P	21 42 43.7	+1.1
	5.2nm,0.3s,baz=110,slow=4.5,SNR=42						
MSVF				S	S	21 43 51.9	+2.8
	0.7nm,0.3s,baz=25,slow=20,SNR=11						
DZM	Mont Dzumac	14.79	252	P	P	21 44 27.2	-0.3
	0.3nm,0.3s,baz=92,slow=18,SNR=1.3						
WRA	Warramunga Arr	44.61	260	P	P	21 48 40.9	-0.9
	0.4nm,0.3s,baz=96,slow=7.6,SNR=25						
WRA				PcP	PcP	21 50 11.6	+0.3
	0.3nm,0.3s,baz=89,slow=3.5,SNR=8.0						
ASAR	Alice Springs	44.76	254	P	P	21 48 42.8	-0.1
	3.6nm,0.7s,baz=87,slow=8.7,SNR=55						
ASAR				PcP	PcP	21 50 11.9	+0.1
	0.5nm,0.4s,baz=126,slow=2.5,SNR=5.7						
FITZ	Fitzroy Crossi	53.01	261	P	P	21 49 43.8	+0.2
	1.2nm,1.1s,baz=63,slow=2.3,SNR=1.7						
MJAR	Matsushiro Arr	68.00	323	P	P	21 51 21.3	-0.4
	1.2nm,0.5s,baz=92,slow=8.5,SNR=1.8						
NVAR	Mina Array Bea	79.51	44	P	P	21 52 28.8	+1.8
	2.4nm,0.7s,baz=222,slow=8.0,SNR=10						
ILAR	Eielson Array	86.00	13	P	P	21 52 58.1	-0.4
	1.5nm,0.5s,baz=220,slow=5.1,SNR=28						
TXAR	Lajitas Array	86.06	58	P	P	21 53 00.7	+1.0
	3.6nm,0.8s,baz=219,slow=6.0,SNR=25						
PDAR	Pinedale Array	87.44	43	P	P	21 53 07.0	+0.9
	1.8nm,0.7s,baz=216,slow=3.1,SNR=18						
CMAR	Chiang Mai Arr	88.93	290	P	P	21 53 13.4	+0.2
	0.8nm,0.6s,baz=98,slow=2.6,SNR=4.9						
SONM	Songino Array	93.64	319	P	P	21 53 33.6	-0.8
	0.3nm,0.4s,baz=90,slow=1.4,SNR=3.1						
YKA	Yellowknife Ar	94.44	25	P	P	21 53 37.4	-0.2
	1.2nm,0.9s,baz=239,slow=4.5,SNR=8.3						
MKAR	Makanchi Array	109.22	314	PKiKP	PKiKP	21 58 43.2	-0.6
	0.3nm,0.5s,baz=192,slow=1.1,SNR=6.3						
ARCES	ARCESS Array B	126.43	350	PKP	PKPdf	21 59 16.1	0.0
	7.7nm,1.0s,baz=89,slow=0.7,SNR=9.0						
FINES	FINESS Array B	133.31	344	PKP	PKiKP	21 59 29.8	-0.8
	1.4nm,0.9s,baz=338,slow=2.1,SNR=4.6						
AKASG	Malin Array Be	140.67	332	PKhKP	PKPpre	21 59 36.9	
	0.7nm,0.5s,baz=43,slow=5.1,SNR=5.6						
AKASG				PKP	PKPdf	21 59 44.2	+1.1
	0.4nm,0.4s,baz=42,slow=3.1,SNR=4.2						
SORM	Soroca	142.90	330	⇑P	PKPdf	21 59 43.1	-4.1
BURAR	Bucovina Array	144.72	332	⇑P	PKPdf	21 59 50.6	0.0
BRTR	Keskin Array B	144.87	315	PKP	PKPbc	21 59 51.8	-0.1
	2.0nm,0.8s,baz=129,slow=3.6,SNR=8.7						
BMR	Baia Mare	145.42	334	⇓P	PKPab	21 59 53.5	-1.0
OSTC	Ostas	145.51	343	ePKP	PKPbc	21 59 53.6	+0.4
CHVC	Chvalec	145.52	344	ePKP	PKPab	21 59 53.8	-1.1
CLL	Collm	145.58	347	⇑iPKPbc	PKPab	21 59 53.9	-1.1
	comp=Z,13nm,0.8s						
UPC	Upice	145.61	344	ePKP	PKPab	21 59 54.4	-0.8
DPC	Dobruska-Polom	145.66	343	ePKP	PKPab	21 59 54.7	-0.8
KRLC	Kraliky	145.78	343	ePKP	PKPbc	21 59 54.2	+0.2
MORC	Moravsky Berou	145.83	342	⇓P	PKPab	21 59 55.1	-1.0
MORC	Moravsky Berou	145.83	342	ePKP	PKPbc	21 59 54.8	+0.6
DOPR	Dopca	145.86	330	⇓P	PKPab	21 59 55.5	-0.9
PVCC	Panska Ves	145.96	345	ePKP	PKPab	21 59 55.3	-1.2
CJR	Cluj-Napoca	146.12	332	⇓P	PKPbc	21 59 54.8	-0.3
DRGR		146.45	333	⇓P	PKPbc	21 59 56.0	0.0
PRU	Pruhonice	146.46	345	ePKP	PKPbc	21 59 56.5	+0.7
PRU				ex	PKPab	21 59 59.4	+0.8
VRAC	Vranov	146.53	342	ePKP	PKPbc	21 59 56.7	+0.6
JAVC	Velka Javorina	146.60	341	ePKP	PKiKP	21 59 58.0	-0.4
PSZ	Piszkesteto	146.65	337	⇓P	PKPbc	21 59 56.6	+0.1
ARR	Arges	146.66	330	⇓P	PKPbc	21 59 55.3	-1.4
NKC	Novy Kostel	146.71	347	ePKP	PKPbc	21 59 57.3	+0.8
KRUC	Moravsky	146.80	342	ePKP	PKPbc	21 59 57.5	+0.7
KHC	Kasperske Hory	147.49	345	ePKP	PKiKP	21 59 59.4	-0.8
KHC				ex	PKPab	22 00 04.1	+1.3
GZR	Gura Zlata	147.50	332	⇓P	PKPbc	21 59 58.2	-0.6
CKRC	Cesky Krumlov	147.60	344	ePKP	PKiKP	21 59 59.7	-0.7
CKRC				ex	PKPab	22 00 04.1	+0.8
GERES	GERESS Array B	147.73	345	PKPbc	PKiKP	21 59 60.0	-0.8
	comp=Z,3.8nm,0.7s,baz=29,slow=3,1,SNR=28						
BZS	Buzias	147.84	333	⇑P	PKPbc	21 59 59.8	+0.3
CONA	Conrad Observa	147.98	342	eP	PKiKP	22 00 00.8	-0.4
	comp=Z,7

DZM	**Mont Dzumac**	**20.96 145**	P	**P**		**22 01 13.3**	**+0.9**
DZM			IAmb	IAmb		22 01 14.0	
comp=Z,26nm,0.5s							
FAKI	**Fak Fak**	**21.38 275**	P	**P**		**22 01 16.7**	**-0.1**
FAKI			IAmb	IAmb		22 01 21.7	
comp=Z,26nm,0.9s							
OUENC	**Ouen Island, N**	**21.45 144**	P	**P**		**22 01 17.9**	**+0.4**
OUENC			IAmb	IAmb		22 01 19.1	
comp=Z,20nm,0.7s							
SIJI	**Sorong**	**22.66 280**	LR	LR		22 10 04.8	
comp=Z,34nm,18.6s,baz=344,slow=36							
MTN	**Manton Dam**	**23.43 249**	P	**P**		**22 01 39.2**	**+0.9**
MTN			IAmb	IAmb		22 01 47.9	
comp=Z,6.3nm,0.5s							
WR0	**Warramunga Arr**	**23.67 230**	P	**P**		**22 01 40.1**	**-0.3**
WB0	**Warramunga Arr**	**23.67 230**	P	**P**		**22 01 39.5**	**-0.9**
WB0			IAmb	IAmb		22 01 41.3	
comp=Z,16nm,1.4s							
WB2	**Warramunga Arr**	**23.80 230**	P	**P**		**22 01 41.4**	**-0.2**
WRA	**Warramunga Arr**	**23.81 230**	P	**P**		**22 01 41.4**	**-0.3**
comp=Z,3.2nm,0.9s,baz=54,slow=10.0,SNR=27							
WRA			PcP	**PcP**		**22 05 23.7**	**-0.3**
comp=Z,0.7nm,0.7s,baz=50,slow=2.8,SNR=5.5							
WRA	**Warramunga Arr**	**23.81 230**	P	**P**		**22 01 41.3**	**-0.5**
ASAR	**Alice Springs**	**26.43 224**	P	**P**		**22 02 05.1**	**-0.4**
comp=Z,0.5nm,0.6s,baz=58,slow=8.5,SNR=8.1							
ASAR			PcP	**PcP**		**22 05 29.6**	**-0.2**
comp=Z,0.5nm,0.6s,baz=57,slow=3.4,SNR=4.7							
ASAR			ScP	**ScP**		**22 09 03.7**	**-1.6**
comp=Z,0.2nm,0.5s,baz=48,slow=1.9,SNR=4.3							
KNRA	**Kununurra**	**26.52 245**	P	**P**		**22 02 06.2**	**-0.1**
KNRA			IAmb	IAmb		22 02 11.3	
comp=Z,9.1nm,0.8s							
DAV	**Davao City (W)**	**30.45 293**	LR	LR		22 15 48.7	
comp=Z,44nm,18.0s,baz=124,slow=38							
BKZ	**Black Stump Fm**	**39.74 152**	P	**P**		**22 04 01.0**	**0.0**
THZ	**Tophouse**	**40.35 158**	P	**P**		**22 04 05.9**	**-0.2**
THZ			IAmb	IAmb		22 04 12.7	
comp=Z,18nm,1.1s							
TUWZ	**Tuamarina**	**40.48 156**	P	**P**		**22 04 07.8**	**+0.7**
BFZ	**Birch Farm**	**40.84 153**	P	**P**		**22 04 10.1**	**+0.1**
LTZ	**Lake Taylor**	**41.00 159**	P	**P**		**22 04 12.2**	**+0.7**
RPZ	**Rata Peaks**	**41.41 161**	P	**P**		**22 04 15.2**	**+0.5**
LEM	**Lembang**	**45.72 265**	LR	LR		22 25 35.9	
comp=Z,24nm,22.0s,baz=193,slow=38							
CM31	**Chiang Mai Arr**	**58.71 295**	P	**P**		**22 06 26.9**	**+0.8**
CM31			IAmb	IAmb		22 06 27.8	
comp=Z,7.1nm,1.0s							
CMAR	**Chiang Mai Arr**	**58.71 295**	P	**P**		**22 06 26.2**	**0.0**
comp=Z,1.4nm,0.3s,baz=117,slow=5.0,SNR=17							
CMAR	**Chiang Mai Arr**	**58.71 295**	P	**P**		**22 06 25.8**	**-0.4**
CHTO	**Chiang Mai**	**58.82 295**	P	**P**		**22 06 25.7**	**-1.3**
CHTO			IAmb	IAmb		22 06 28.1	
comp=Z,3.2nm,1.1s							
SONM	**Songino Array**	**67.01 328**	P	**P**		**22 07 20.6**	**-0.4**
comp=Z,0.8nm,0.5s,baz=147,slow=6.4,SNR=8.1							
SONM	**Songino Array**	**67.01 328**	P	**P**		**22 07 21.0**	**+0.1**
VNDA	**Vanda**	**72.48 178**	P	**P**		**22 07 54.5**	**+0.5**
comp=Z,1.1nm,0.6s,baz=350,slow=6.1,SNR=1.5							
VNDA	**Vanda**	**72.48 178**	P	**P**		**22 07 55.0**	**+1.0**
VNDA			IAmb	IAmb		22 08 01.0	
comp=Z,11nm,1.4s							
PALK	**Pallekele**	**73.74 279**	LR	LR		22 45 32.6	
comp=Z,24nm,18.0s,baz=302,slow=40							
MK31	**Makanchi Array**	**81.07 319**	P	**P**		**22 08 42.5**	**-0.5**
MKAR	**Makanchi Array**	**81.07 319**	P	**P**		**22 08 42.8**	**-0.2**
comp=Z,1.1nm,0.8s,baz=109,slow=5.7,SNR=9.8							
ZALV	**Zalesovo Beam**	**81.85 326**	P	**P**		**22 08 45.5**	**-1.3**
comp=Z,0.6nm,0.4s,baz=115,slow=6.5,SNR=4.7							
ZALV	**Zalesovo Beam**	**81.85 326**	P	**P**		**22 08 45.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**151.13 288**	PKPbc	**PKPbc**		**22 16 19.8**	**-1.9**
comp=Z,1.8nm,0.4s,baz=74,slow=1.7,SNR=27							
TORD			PKPab	**PKPab**		**22 16 28.7**	**-0.9**
comp=Z,1.0nm,0.6s,baz=79,slow=3.9,SNR=4.3							

*PRE **17** 22:00:33.4±1.2,26°.34S×27°.65E, h2km, ML2.3*
*BUL **17** 22:00:42.1±4.5,25°.43S×27°.66E, h10km, MD4.7*
*EAF **17** 22:00:42.1±4.5,25°.43S×27°.66E, h10km, MD4.3*
ISC 17 22:00:32.7±1.4,**26°.26S**±0°.04×**27°.69E**±0°.03,**h6**km±12km,
n17,σ1§**80**/26,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**0.37**	**360**	*eP*	**Pb**	**22 00 43.0**	**+1.2**
HRAO				*eS*	**Sb**	**22 00 48.2**	**+0.4**
HRAO				IAML		22 00 52.3	
comp=Z,144nm,1.2s							
PRYS	**Parys**	**0.73**	**204**	*eP*	**Pg**	**22 00 46.3**	**-0.5**
PRYS				*eS*	**Sg**	**22 00 54.6**	**-1.6**
PRYS				IAML		22 01 03.1	
comp=Z,93nm,0.9s							
SLR	**Silverton**	**0.75**	**46**	*eP*	**Pn**	**22 00 50.2**	**+0.2**
SLR				*eS*	**Sn**	**22 01 00.0**	**-1.8**
SLR				IAML		22 01 06.7	
comp=Z,81nm,1.0s							
KSR	**Koster**	**0.82**	**299**	*eP*	**Pg**	**22 00 49.8**	**+1.3**
KSR				*eS*	**Sb**	**22 01 00.7**	**-0.2**
KSR				IAML		22 01 08.2	
comp=Z,123nm,0.4s							
LBTB	**Lobatse**	**2.26**	**303**	*eP*	**Pb**	**22 01 13.2**	**-0.8**
LBTB				*eS*	**Sb**	**22 01 41.8**	**-0.5**
LBTB				IAML		22 01 45.6	
comp=Z,46nm,0.7s							
LBTB	**Lobatse**	**2.26**	**303**	*i* P	**Pg**	**22 01 16.4**	**+0.4**
LBTB	**Lobatse**	**2.26**	**303**	*i* P	**Pg**	**22 01 16.4**	**+0.4**
SWZ	**Schweizer**	**2.30**	**246**	*eP*	**Pn**	**22 01 12.8**	**+1.5**
SWZ				*eS*	**Sn**	**22 01 40.4**	**+0.3**
SWZ				IAML		22 01 45.5	
comp=Z,45nm,0.7s							
BOSA	**Boshof**	**3.19**	**222**	*eP*	**Pn**	**22 01 24.3**	**+0.7**
BOSA				*eS*	**Sn**	**22 02 00.7**	**-1.4**
BOSA				IAML		22 02 13.3	
comp=Z,10nm,1.2s							
POGA	**Pongola**	**3.75**	**108**	*eP*	**Pn**	**22 01 33.2**	**+2.0**
POGA				*eS*	**Sn**	**22 02 16.9**	**+1.1**
POGA				IAML		22 02 34.8	
comp=Z,18nm,0.9s							
CNG	**Changalane**	**4.04**	**91**	*i* P	**Pb**	**22 01 45.1**	**+0.7**
CNG	**Changalane**	**4.04**	**91**	*i* P	**Pb**	**22 01 45.1**	**+0.7**
MOPA	**Mopani**	**4.33**	**52**	*eP*	**Pn**	**22 01 41.6**	**+2.3**
MOPA				*eS*	**Sn**	**22 02 32.0**	**+1.8**
MOPA				IAML		22 02 52.7	
comp=Z,11nm,4.5s							
MSNA	**Messina**	**4.44**	**29**	*i* P	**Pn**	**22 01 40.9**	**+0.2**
MSNA				*i* Sg	**Sb**	**22 02 40.5**	**-4.5**
MSNA	**Messina**	**4.44**	**29**	*i* P	**Pn**	**22 01 40.9**	**+0.2**
MSNA				*i* Sg	**Sb**	**22 02 40.5**	**-4.5**
MATP	**Matopo**	**5.85**	**7**	*i* P	Pn	22 01 52.1	-8.1
MATP	**Matopo**	**5.85**	**7**	*i* P	Pn	22 01 52.1	-8.1

*NEIC **17** 22:01:32.0±1.5,20°.65S±0°.04×69°.02W±0°.05, h110km±4km, mb4.4/6, ML4.1(GUC), Error ellipse: s-maj=7.6km s-min=5.3km az=104.0*
*IDC **17** 22:01:33.2±1.4,20°.68S×68°.73W, h119km± 13km, mb3.6/5, mb1 3.6/7, mb1mx3.4/29, mbtmp4.0/7, Error ellipse: s-maj=28.8km s-min=12.6km az=115.0*
*GUC **17** 22:01:33.1±0.6,20°.66S×69°.05W, h110km±3km, ML4.1*
*VAO **17** 22:01:35.9±0.6,20°.63S×68°.92W, h153km, mb4.1*
ISC 17 22:01:31.9±0.6,**20°.63S**±0°.03×**69°.03W**±0°.05,**h115**km±5km,
n100,σ0§**97**/121,**mb4.0**/4,**10C-1D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.50**	**347**	⇓*iP*	**Pn**	**22 01 50.4**	**+0.6**
PB08				*i* S	**Sn**	**22 02 03.6**	**+0.4**
PB08				IAML		22 02 04.5	
comp=E,14μm,0.2s							
PB08	**IPOC Station P**	**0.50**	**347**	Pn	**Pn**	**22 01 49.4**	**-0.4**
PB08				Sn	**Sn**	**22 02 03.7**	**+0.4**
PB01	**IPOC Station P**	**0.59**	**226**	⇑*iP*	**Pn**	**22 01 50.1**	**+0.1**
PB01				*i* S	**Sn**	**22 02 03.1**	**-0.5**
PB01				IAML		22 02 04.3	
comp=N,12μm,0.1s							
PB01	**IPOC Station P**	**0.59**	**226**		**Pn**	**22 01 49.1**	**-0.9**
PB01				Sn	**Sn**	**22 02 03.2**	**-0.5**
HMBC	**Humberstone**	**0.87**	**293**	⇑*iP*	**Pn**	**22 01 52.5**	**+0.1**
HMBC				*i* S	**Sn**	**22 02 07.6**	**-0.3**
HMBC				IAML		22 02 09.5	
comp=N,7μm,0.1s							
PB11	**IPOC Station P**	**1.04**	**326**		**Pn**	**22 01 53.6**	**-0.5**
PB02	**IPOC Station P**	**1.06**	**229**	⇑*iP*	**Pn**	**22 01 54.4**	**+0.2**
PB02				*eS*	**Sn**	**22 02 10.6**	**-0.6**
PB02				IAML		22 02 15.0	
comp=E,6μm,0.3s							
PATCX	**Punta Patache**	**1.06**	**260**	⇑*iP*	**Pn**	**22 01 54.2**	**0.0**
PATCX				*eS*	**Sn**	**22 02 11.2**	**0.0**
PATCX	**Punta Patache**	**1.06**	**260**		**Pn**	**22 01 53.7**	**-0.5**
PATCX				Sn	**Sn**	**22 02 11.4**	**+0.3**
TA01	**Diego Aracena**	**1.08**	**273**	⇑*iP*	**Pn**	**22 01 54.2**	**0.0**
TA01				*eS*	**Sn**	**22 02 10.3**	**-0.9**
TA01	**Diego Aracena**	**1.08**	**273**		**Pn**	**22 01 54.0**	**-0.3**
TA02	**Huaiquique**	**1.09**	**289**	⇑*iP*	**Pn**	**22 01 54.4**	**+0.1**
TA02				*eS*	**Sn**	**22 02 10.5**	**-0.9**
TA02	**Huaiquique**	**1.09**	**289**		**Pn**	**22 01 54.5**	**+0.1**
PB09	**IPOC Station P**	**1.18**	**189**	⇑*iP*	**Pn**	**22 01 55.9**	**+0.4**
PB09				*eS*	**Sn**	**22 02 13.6**	**+0.1**
PB09				IAML		22 02 15.9	
comp=E,3μm,0.3s							
PB09	**IPOC Station P**	**1.18**	**189**		**Pn**	**22 01 55.8**	**+0.2**
PB09				Sn	**Sn**	**22 02 13.6**	**+0.1**
PB07	**IPOC Station P**	**1.35**	**216**	⇑*iP*	**Pn**	**22 01 57.5**	**0.0**
PB07				*eS*	**Sn**	**22 02 15.8**	**-1.1**
PB07				IAML		22 02 18.9	
comp=E,4μm,0.2s							
PB07	**IPOC Station P**	**1.35**	**216**		**Pn**	**22 01 56.8**	**-0.7**
PB03	**IPOC Station P**	**1.56**	**205**	⇑*iP*	**Pn**	**22 01 60.0**	**0.0**
PB03				*eS*	**Sn**	**22 02 19.9**	**-1.3**
MNMC	**Minye Minye**	**1.58**	**340**	⇑*iP*	**Pn**	**22 02 01.1**	**+0.8**
MNMC				*i* S	**Sn**	**22 02 23.4**	**+1.5**
MNMC	**Minye Minye**	**1.58**	**340**		**Pn**	**22 02 00.6**	**+0.3**
LVC	**Limon Verde**	**1.97**	**177**	P	**Pn**	**22 02 06.1**	**+1.0**
comp=E,13nm,0.3s,baz=32,slow=9.9,SNR=231							
LVC				S	**Sn**	**22 02 31.3**	**+0.8**
comp=E,102nm,0.3s,baz=284,slow=22,SNR=42							
LVC	**Limon Verde**	**1.97**	**177**	*eP*	**Pn**	**22 02 06.0**	**+0.8**
LVC				*i* S	**Sn**	**22 02 31.0**	**+0.5**
LVC	**Limon Verde**	**1.97**	**177**	Pn	**Pn**	**22 02 05.6**	**+0.5**
PB04	**IPOC Station P**	**1.99**	**211**	*eP*	**Pn**	**22 02 04.7**	**-0.4**
PB04				*eS*	**Sn**	**22 02 28.4**	**-2.1**
PB04				IAML		22 02 32.4	
comp=N,1μm,0.1s							
PB04	**IPOC Station P**	**1.99**	**211**		**Pn**	**22 02 04.5**	**-0.6**
PB06	**IPOC Station P**	**2.12**	**194**	*eP*	**Pn**	**22 02 06.7**	**-0.2**
PB06				*eS*	**Sn**	**22 02 32.2**	**-1.4**
PB06				IAML		22 02 36.5	
comp=N,940nm,0.2s							
PB06	**IPOC Station P**	**2.12**	**194**		**Pn**	**22 02 06.2**	**-0.6**
PB16	**IPOC Station P**	**2.33**	**349**		**Pn**	**22 02 10.7**	**+0.9**
PB12	**IPOC Station P**	**2.35**	**328**	*i* P	**Pn**	**22 02 09.1**	**-0.5**
PB12				IAML		22 02 39.7	
comp=E,464nm,0.2s							
PB12	**IPOC Station P**	**2.35**	**328**		**Pn**	**22 02 09.2**	**-0.5**
AP01	**Chacalluta**	**2.56**	**331**	*eP*	**Pn**	**22 02 12.0**	**-0.3**
AP01	**Chacalluta**	**2.56**	**331**	Pn	**Pn**	**22 02 12.1**	**-0.2**
PB15	**IPOC Station P**	**2.60**	**189**	*eP*	**Pn**	**22 02 12.9**	**0.0**
PB15	**IPOC Station P**	**2.60**	**189**		**Pn**	**22 02 12.6**	**-0.4**
PB10	**IPOC Station P**	**3.20**	**206**	*eP*	**Pn**	**22 02 19.2**	**-1.4**
PB10	**IPOC Station P**	**3.20**	**206**		**Pn**	**22 02 19.3**	**-1.3**
PB14	**IPOC Station P**	**4.17**	**197**		**Pn**	**22 02 32.0**	**-1.9**
LPAZ	**La Paz**	**4.40**	**11**	P	**Pn**	**22 02 39.9**	**+2.5**
comp=E,0.9nm,0.3s,baz=204,slow=5.6,SNR=20							
LPAZ	**La Paz**	**4.40**	**11**	*eP*	**Pn**	**22 02 40.2**	**+2.9**
LPAZ	**La Paz**	**4.40**	**11**		**Pn**	**22 02 37.8**	**+0.5**
AC02	**Maricunga**	**6.18**	**181**	Pn	**Pn**	**22 03 00.5**	**-0.6**
SIV	**San Ignacio**	**8.86**	**60**	P	**Pn**	**22 03 34.4**	**-2.7**
comp=E,4.1nm,0.3s,baz=240,slow=11,SNR=38							
SIV				S	**Sn**	**22 05 11.0**	**-4.1**
comp=E,0.3nm,0.3s,baz=189,slow=22,SNR=1.3							
VILB	**Vilhena**	**11.39**	**49**		**Pn**	**22 04 09.5**	**-1.7**
CPUP	**Villa Florida**	**12.14**	**120**	*eP*	**Pn**	**22 04 23.8**	**+2.8**
AQDB	**Aquidauana**	**12.49**	**92**	*eP*	**Pn**	**22 04 26.5**	**+0.8**
SALV	**Santo Antonio**	**13.51**	**72**	*eP*	**Pn**	**22 04 39.9**	**+0.9**
BO01	**Tunca**	**13.83**	**187**	Pn	**Pn**	**22 04 43.0**	**+0.1**
PDRB	**Porto dos Gac**	**14.83**	**55**	*eP*	**P**	**22 04 57.4**	**-1.3**
PTGB	**Pitanga**	**16.18**	**108**	*eP*	**P**	**22 05 13.0**	**-0.7**
ITAB	**Concordia**	**16.79**	**116**	*eP*	**P**	**22 05 20.4**	**+0.2**
ITAB	**Concordia**	**16.79**	**116**		**Pn**	**22 05 19.4**	**-0.6**
ITAB				IAmb	IAmb	22 05 35.5	
comp=Z,28nm,1.4s							
ARAG	**Araguaiana, MT**	**17.08**	**76**	*eP*	**Pn**	**22 05 22.5**	**-1.2**
CPSB	**Cacapava Do Su**	**17.10**	**128**	*eP*	**Pn**	**22 05 22.9**	**-0.9**
PLTB	**Pedras Altas**	**17.72**	**132**	*eP*	**P**	**22 05 29.9**	**-0.6**
NPGB	**Novo Progresso**	**18.92**	**46**	*eP*	**Pn**	**22 05 44.8**	**-0.9**
SNDB	**Serra Nova Dou**	**19.06**	**66**	*eP*	**P**	**22 05 44.6**	**-0.7**
BB19B	**Bebedouro**	**19.17**	**95**	*eP*	**P**	**22 05 46.1**	**-0.4**
MACA	**Manacapuru-AM**	**19.18**	**26**	*eP*	**P**	**22 05 47.4**	**+0.9**
MACA	**Manacapuru-AM**	**19.18**	**26**	P	**P**	**22 05 45.6**	**-1.0**
MACA				IAmb	IAmb	22 05 48.0	
comp=Z,24nm,0.9s							
IPMB	**Ipameri, GO**	**19.83**	**86**	*eP*	**P**	**22 05 53.2**	**-0.5**
PLCA	**Paso Flores**	**20.08**	**183**	P	**P**	**22 05 57.4**	**+1.2**
comp=Z,2.6nm,0.9s,baz=358,slow=11,SNR=7.0							
PLCA	**Paso Flores**	**20.08**	**183**	*eP*	**P**	**22 05 57.1**	**+0.9**
PLCA	**Paso Flores**	**20.08**	**183**	P	**P**	**22 05 56.5**	**+0.3**
RCLB	**Rio Claro- Sao**	**20.08**	**99**	*eP*	**P**	**22 05 56.0**	**-0.5**
BDFB	**Brasilia**	**20.58**	**80**	P	**P**	**22 06 00.9**	**-0.9**
comp=Z,3.4nm,0.4s,baz=225,slow=5.6,SNR=8.0							
BDFB	**Brasilia**	**20.58**	**80**	P	**P**	**22 06 00.9**	**-0.9**
BDFB				IAmb	IAmb	22 06 04.4	
comp=Z,4.3nm,0.5s							
PEXB	**Peixe**	**21.60**	**70**	*eP*	**P**	**22 06 12.7**	**-0.1**
BSCB	**Bom Sucesso**	**22.68**	**95**	*eP*	**P**	**22 06 24.0**	**+0.1**
PRPB	**Parauapebas**	**23.54**	**55**	*eP*	**P**	**22 06 31.3**	**-0.6**
MALB	**Monte Alegre**	**23.58**	**40**	*eP*	**P**	**22 06 31.6**	**-0.6**
SMTB	**Santa Maria do**	**23.77**	**64**	*eP*	**P**	**22 06 33.9**	**-0.1**
DIAM	**Diamantina, MG**	**24.02**	**89**	*eP*	**P**	**22 06 36.8**	**+0.4**
JANB	**Januaria**	**24.16**	**81**	*eP*	**P**	**22 06 37.0**	**-0.6**
BOAV	**Boa Vista**	**24.36**	**21**	*eP*	**P**	**22 06 39.8**	**+0.5**
SDBA	**SAO DESIDERIO**	**24.51**	**74**	*eP*	**P**	**22 06 40.2**	**-0.5**
MCPB	**Macapa, AP**	**26.10**	**42**	*eP*	**P**	**22 06 55.6**	**+0.5**
SJMB	**Sao Joao De Ma**	**26.28**	**91**	*eP*	**P**	**22 06 57.0**	**+0.3**
ALF01	**Guarapari-ES**	**26.48**	**95**	*eP*	**P**	**22 06 59.5**	**+1.0**
RIB01	**Linhares ES**	**26.94**	**92**	*eP*	**P**	**22 07 02.4**	**-0.2**
GUA01	**Guaratinga, BA**	**27.97**	**87**	*eP*	**P**	**22 07 12.1**	**+0.3**
NBIT	**Itapeh - BA**	**28.72**	**83**	*eP*	**P**	**22 07 19.1**	**+0.6**
GDU01	**Guandu, BA**	**28.94**	**81**	*eP*	**P**	**22 07 19.9**	**-0.6**
NBPN	**Ponto Novo - B**	**29.36**	**75**	*eP*	**P**	**22 07 22.7**	**-1.6**
NBPS	**Pedro II - PI**	**31.31**	**63**	*eP*	**P**	**22 07 40.7**	**-0.8**
NBLA	**Lagarto - SE**	**31.50**	**77**	*eP*	**P**	**22 07 41.5**	**-1.6**
NBMA	**Muriti-CE**	**32.12**	**70**	*eP*	**P**	**22 07 48.4**	**-0.1**
NBPB	**Pedra_Branca-C**	**32.28**	**66**	*eP*	**P**	**22 07 49.4**	**-0.5**
NBMO	**Morrinhos-CE**	**33.07**	**62**	*eP*	**P**	**22 07 56.8**	**0.0**
NBAN	**Anadia - AL**	**33.38**	**76**	*eP*	**P**	**22 08 00.3**	**+0.8**
NBRF	**Rio Formoso -**	**34.80**	**75**	*eP*	**P**	**22 08 11.8**	**0.0**
RCBR	**Riachuelo**	**35.34**	**70**	P	**P**	**22 08 17.6**	**+1.1**
RCBR				IAmb	IAmb	22 08 18.1	
comp=Z,6.4nm,0.6s							
NBPV	**Pedro Velho**	**35.62**	**71**	*eP*	**P**	**22 08 18.8**	**+0.1**
DBIC	**Dimbokro**	**68.60**	**74**	P	**P**	**22 12 22.4**	**-0.5**
comp=Z,1.2nm,0.4s,baz=245,slow=5.1,SNR=4.6							
DBIC	**Dimbokro**	**68.60**	**74**	P	**P**	**22 12 22.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**77.17**	**71**	P	**P**	**22 13 12.9**	**-0.6**
comp=Z,0.9nm,0.4s,baz=257,slow=5.5,SNR=17							
YKA	**Yellowknife Ar**	**90.33**	**341**	P	**P**	**22 14 20.2**	**+0.8**
comp=Z,0.3nm,0.7s,baz=138,slow=4.9,SNR=6.8							
YKA				pP	**pP**	**22 14 50.9**	**+0.3**
comp=Z,0.7nm,0.8s,baz=135,slow=4.7,SNR=7.0							
WRA	**Warramunga Arr**	**133.64**	**211**	PKP	**PKPdf**	**22 20 36.7**	**+1.0**
comp=Z,0.3nm,0.7s,baz=150,slow=1.7,SNR=2.0							
WRA	**Warramunga Arr**	**133.64**	**211**		**PKPdf**	**22 20 36.2**	**+0.4**
MKAR	**Makanchi Array**	**145.00**	**35**	PKP	**PKPdf**	**22 20 55.8**	**+0.3**
comp=Z,0.1nm,0.4s,baz=354,slow=2.4,SNR=4.6							
MKAR	**Makanchi Array**	**145.00**	**35**		**PKPab**	**22 20 55.6**	**+0.4**

*IDC **17** 22:09:23.3±0.9,41°.73N×14°.42E, h0km, mb3.5/6, mb1 3.7/15, mb1mx3.6/49, mbtmp3.5/15, ML3.6/8, MS2.9/5, Ms1 2.9/5, ms1mx2.6/73, Error ellipse: s-maj=17.0km s-min=10.7km az=97.0*
*ROM **17** 22:09:23.6±0.1,41°.532N±0°.004×14°.606E±0°.005, h11km, ML3.6/55, Mw3.6, Error ellipse: s-maj=0.4km s-min=0.3km az=44.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-3.44; $M_{\theta\theta}$2.49; $M_{\phi\phi}$0.95; $M_{r\theta}$0.98; $M_{\theta\phi}$-1.66; $M_{\phi r}$-0.08; Fault plane solution: $M_0$3.63289×10^{14} NP1:ϕ_s295.00000°, δ52.00000°, λ-99.00000°. NP2:ϕ_s130.00000°, δ38.00000°, λ-78.00000°.*
*IASPEI **17** 22:09:23.5±0.8,41°.55N±0°.02×14°.61E±0°.02, h16km±5km, mb3.6/6 Error ellipse: s-maj=3.5km s-min=2.5km az=33.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*PRU **17** 22:09:25.8±0.0,41°.59N×14°.19E, h2km*
*LDG **17** 22:09:25.4±0.1,41°.46N×14°.62E, h10km, Ml3.4/8, Error ellipse: s-maj=3.9km s-min=2.2km az=33.0*
*BEO **17** 22:09:26.7±0.8,41°.69N×14°.89E, h0km, ML3.6/7*
ISC 17 22:09:24.0±0.7,**41°.56N**±0°.02×**14°.61E**±0°.02,**h13**km±4km,
n228,σ1§**49**/297,**mb3.6**/6,**25C-9D**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSO	**Busso**	**0.02**	**237**	P	**Pg**	**22 09 26.0**	**-0.4**
BSSO				S	**Sg**	**22 09 27.8**	**-0.2**
PTRJ	**Pietraroja**	**0.20**	**198**	⇑P	**Pg**	**22 09 27.8**	**-0.7**
PTRJ				S	**Sg**	**22 09 31.4**	**-0.2**
PTRJ				AML	AML		
PTRJ				AML	AML		
comp=N,57850μm,0.4s							
PTRJ				AML	AML		
PTRJ				AML	AML		
comp=N,62350μm,0.4s							
PTRJ				AML	AML		
PTRJ				AML	AML		
PTRJ				AML	AML		
comp=N,57900μm,0.4s							
TRIV	**Trivento**	**0.22**	**347**	⇑P	**Pb**	**22 09 29.3**	**-0.6**
TRIV				S	**Sb**	**22 09 33.9**	**+0.1**
TRIV				AML	AML		
comp=E,60250μm,0.6s							
TRIV				AML	AML		
comp=N,40100μm,0.4s							
TRIV				AML	AML		
comp=N,40700μm,0.4s							
TRIV				AML	AML		
comp=E,58600μm,0.5s							
SGG	**Gregorio Mates**	**0.24**	**226**	⇑P	**Pg**	**22 09 28.7**	**-0.6**
SGG				S	**Sg**	**22 09 33.2**	**+0.4**
SGG				AML	AML		
comp=N,120nm,0.6s							
SGG				AML	AML		
comp=E,108nm,0.5s							
SGG				AML	AML		
comp=N,119nm,0.6s							
SGG				AML	AML		
comp=N,38650μm,0.6s							
SGG				AML	AML		
comp=E,35100μm,0.5s							
MIDA	**Miranda**	**0.28**	**288**	⇑P	**Pg**	**22 09 29.8**	**-0.1**
MIDA				S	**Sg**	**22 09 34.6**	**+0.7**
MIDA				AML	AML		
comp=E,22050μm,0.5s							
MIDA				AML	AML		
comp=N,18300μm,0.9s							
MIDA				AML	AML		
comp=N,18350μm,0.9s							
MIDA				AML	AML		
comp=N,18850μm,0.9s							
MIDA				AML	AML		
comp=E,22100μm,0.5s							
MIDA				AML	AML		
comp=E,22450μm,0.5s							
VAGA	**Valle Agricola**	**0.32**	**244**	⇑P	**Pg**	**22 09 30.1**	**-0.4**
VAGA				S	**Sg**	**22 09 35.7**	**+0.8**
VAGA				AML	AML		
comp=E,25900μm,0.9s							
VAGA				AML	AML		
comp=E,26800μm,0.9s							
VAGA				AML	AML		
comp=E,25950μm,0.9s							
VAGA				AML	AML		
comp=N,44950μm,0.8s							
VAGA				AML	AML		
comp=N,46650μm,0.8s							
PSB1	**Pescosannita**	**0.36**	**156**	⇑P	**Pg**	**22 09 30.8**	**-0.6**
PSB1				S	**Sg**	**22 09 36.4**	**+0.1**
PSB1				AML	AML		
comp=E,18300μm,0.9s							
PSB1				AML	AML		
comp=N,13250μm,1.0s							
PSB1				AML	AML		
comp=E,18350μm,0.9s							
PSB1				AML	AML		
comp=E,18450μm,0.9s							
PSB1				A

comp=E,7705µm,0.3s
PAOL AML AML
comp=E,7365µm,0.3s
PAOL AML AML
comp=N,11100µm,0.3s
PAOL AML AML
comp=E,7700µm,0.3s
PAOL AML AML
comp=N,11350µm,0.3s
BIOG Biogem 0.53 132 P Pg 22 09 34.7 +0.3
BIOG AML AML
comp=E,9270µm,0.6s
BIOG AML AML
comp=N,10550µm,0.9s
BIOG AML AML
comp=E,9295µm,0.6s
BIOG AML AML
comp=N,10300µm,0.9s
BIOG AML AML
comp=N,10585µm,0.9s
BIOG AML AML
comp=E,9295µm,0.6s
LPEL Lama dei Pelig 0.59 327 ⇑P Pg 22 09 34.8 -0.7
LPEL S Sb 22 09 44.4 -0.1
LPEL AML AML
comp=E,12200µm,0.2s
LPEL AML AML
comp=N,13050µm,0.2s
MODR Mondragone 0.69 234 P Pg 22 09 36.6 -0.8
MODR AML AML
comp=E,12615µm,0.4s
MODR AML AML
comp=N,14000µm,1.3s
POFI Posta Fibreno 0.69 284 P Pg 22 09 36.5 -1.0
POFI S Sg 22 09 47.0 +0.3
SGTA Sant Agata di 0.70 126 P Pg 22 09 36.8 -0.9
CAFE Carife 0.71 138 P Pg 22 09 36.5 -1.3
CAFE AML AML
comp=E,4600µm,0.9s
CAFE AML AML
comp=N,3090µm,0.5s
CAFE AML AML
comp=N,3055µm,0.5s
CAFE AML AML
comp=E,4530µm,0.9s
LIO3 Lioni 0.79 147 P Pg 22 09 37.5 -1.8
LIK San Giovanni I 0.79 267 P Pb 22 09 40.2 +0.5
LIK San Giovanni I 0.79 267 AML AML
comp=E,9230µm,0.4s
LIK AML AML
comp=N,16505µm,0.4s
VVLD Villa Vallelon 0.81 293 P Pg 22 09 38.1 -1.6
VVLD AML AML
comp=E,2995µm,0.8s
VVLD AML AML
comp=N,4520µm,0.5s
VVLD AML AML
comp=N,4525µm,0.5s
SGRT San Giovanni R 0.87 76 P Pg 22 09 39.7 -1.2
SGRT S Sg 22 09 52.3 0.0
SGRT AML AML
comp=N,7805µm,0.9s
SGRT AML AML
comp=E,10080µm,0.5s
MCRV Calabrutti - M 0.88 151 P Pg 22 09 39.5 -1.6
MCRV AML AML
comp=E,3980µm,0.7s
MCRV AML AML
comp=N,4205µm,0.4s
TREM Isole Tremiti 0.88 49 P Pg 22 09 40.6 -0.4
TREM AML AML
comp=N,7815µm,0.7s
TREM AML AML
comp=E,5940µm,1.6s
T0110 Collepietro 0.92 317 P Pg 22 09 40.2 -1.6
T0110 AML AML
comp=E,5585µm,0.5s
T0110 AML AML
comp=N,4185µm,0.7s
T0110 AML AML
comp=N,4180µm,0.7s
VULT Monte Vulture 0.97 128 P Pb 22 09 40.8 -1.9
VULT AML AML
comp=N,7120µm,0.7s
VULT AML AML
comp=E,3435µm,0.4s
VULT AML AML
comp=N,7000µm,0.7s
VULT AML AML
comp=E,3505µm,1.1s
RDM3 Ruvo Del Monte 0.97 134 P Pb 22 09 41.8 -1.0
MSAG Monte S. Angel 0.98 80 P Pb 22 09 42.2 -0.8
MSAG AML AML
comp=E,8015µm,1.0s
MSAG AML AML
comp=N,16150µm,0.8s
MSAG AML AML
comp=E,8195µm,1.0s
MSAG AML AML
comp=N,16400µm,0.8s
CAPA Cerignola FG 0.99 113 P Pb 22 09 40.5 -2.5
CAPA AML AML
comp=N,5080µm,1.0s
CAPA AML AML
comp=E,4630µm,0.8s
GUAR Guarcino 1.00 284 P Pb 22 09 42.7 -0.6
GUAR AML AML
comp=E,2590µm,0.6s
GUAR AML AML
comp=N,3310µm,0.5s
VCEL Villa Celiera 1.02 326 P Pb 22 09 42.1 -1.5
PTQR Pietraquaria 1.02 298 P Pb 22 09 42.0 -1.6
PTQR AML AML
comp=E,1505µm,0.6s
PTQR AML AML
comp=N,1485µm,0.7s
MRLC Muro Lucano 1.04 140 P Pb 22 09 43.2 -0.7
FAGN Fagnano 1.05 313 P Pb 22 09 42.5 -1.6
FAGN AML AML
comp=N,4885µm,1.4s
FAGN AML AML
comp=E,7120µm,0.6s
VENT Ventotene 1.18 230 P Pn 22 09 44.8 -1.4
PALZ Palazzo San Ge 1.19 121 P Pn 22 09 45.8 -0.6
PALZ AML AML
comp=N,2390µm,0.9s
PALZ AML AML
comp=E,2320µm,1.0s
CDRU Civita di Ruta 1.19 154 P Pn 22 09 45.5 -1.0
AQU L'Aquila 1.21 312 *e*Pn Pn 22 09 44.5 -2.2
AQU L'Aquila 1.21 312 P Pn 22 09 45.9 -0.8
LATB Latina 1.24 268 P Pn 22 09 46.1 -0.9
LATB AML AML
comp=E,612µm,1.0s
LATB AML AML
comp=N,398µm,0.8s
ACER Acerenza 1.26 127 P Pn 22 09 47.0 -0.5
ACER AML AML
comp=E,1910µm,0.9s
ACER AML AML
comp=E,1820µm,0.9s
ACER AML AML
comp=N,1585µm,0.4s
ACER AML AML
comp=N,1685µm,0.4s
PZUN Potenza 1.28 135 P Pb 22 09 48.5 +0.6
CERT Cerreto 1.28 288 P Pn 22 09 46.2 -1.5
CERT AML AML
comp=N,1014µm,0.6s
CERT AML AML
comp=E,2245µm,0.6s
MRVN Minervino Murg 1.29 112 P Pn 22 09 47.0 -0.8
MRVN AML AML
comp=E,1028µm,0.5s
MRVN AML AML
comp=N,970µm,0.6s
TERO Teramo 1.30 325 P Pn 22 09 47.1 -0.9
FIAM Fiamignano 1.32 303 P Pn 22 09 47.1 -1.3
FIAM AML AML
comp=N,1795µm,0.7s
FIAM AML AML
comp=E,1575µm,0.7s
CAMP Campotosto 1.33 318 P Pn 22 09 47.2 -1.3
CMPR Campora 1.34 157 P Pn 22 09 47.4 -1.2
CMPR AML AML
comp=E,1335µm,0.6s
CMPR AML AML
comp=N,1142µm,0.6s
TRTR Tortoreto Alta 1.35 338 P Pg 22 09 50.2 +0.1
TRTR AML AML
comp=E,9835µm,0.7s
TRTR AML AML
comp=N,8135µm,0.9s
SLCN Sala Consilina 1.40 146 P Pn 22 09 49.4 +0.1
RM33 Pellescritta (1.41 313 P Pn 22 09 48.9 -0.7
MTCE Montecelio 1.48 289 P Pn 22 09 50.2 -0.1
MTCE AML AML
comp=E,834µm,0.7s
MTCE AML AML
comp=N,807µm,0.7s
MCEL Monticello 1.52 143 P Pn 22 09 51.5 +0.4
MTSN Montesano sull 1.55 146 P Pn 22 09 51.6 +0.2
MTSN AML AML
comp=N,1140µm,0.5s
MTSN AML AML
comp=E,1008µm,0.6s
AQT1 Arquata del Tr 1.56 322 P Pn 22 09 51.9 +0.3
LNSS Leonessa 1.57 312 P Pn 22 09 51.7 -0.1
LNSS AML AML
comp=N,778µm,0.8s
LNSS AML AML
comp=E,1082µm,0.6s
BULG Bulgheria - Ca 1.59 158 P Pn 22 09 51.1 -0.8
MGR Morigerati 1.59 153 P Pn 22 09 51.2 -0.6
AMUR Altamura 1.64 113 P Pn 22 09 52.2 -0.4
AMUR AML AML
comp=N,970µm,0.8s
AMUR AML AML
comp=E,1014µm,0.3s
MIGL Miglionico 1.68 124 P Pn 22 09 53.8 +0.7
MIGL AML AML
comp=N,2910µm,0.7s
MIGL AML AML
comp=E,2500µm,0.6s
SRES S.Oreste - Sor 1.71 294 P Pn 22 09 53.8 +0.2
SRES AML AML
comp=N,509µm,0.6s
SRES AML AML
comp=E,379µm,0.7s
MATE Matera 1.82 119 ⇓P Pn 22 09 54.9 -0.2
MATE ⇑S Sn 22 10 16.1 -1.9
MATE Matera 1.82 119 P Pn 22 09 55.1 +0.1
CESX Cesi 1.84 306 P Pb 22 09 56.6 -1.0
CSP1 Cessapalombo 1.86 326 P Pb 22 09 56.9 -1.0
FDMO Fiordimonte 1.86 323 P Pb 22 09 56.9 -1.1
FDMO AML AML
comp=E,444µm,0.6s
FDMO AML AML
comp=N,636µm,1.0s
LTRZ Laterza 1.92 119 P Pn 22 09 56.5 0.0
MOMA Monte Martano 1.96 310 P Pn 22 09 58.2 +1.0
MOMA AML AML
comp=N,522µm,1.6s
MOMA AML AML
comp=E,578µm,0.9s
MOMA AML AML
comp=E,546µm,0.9s
MOMA AML AML
comp=N,435µm,0.8s
MMN Mormanno 1.97 147 P Pn 22 09 58.2 +1.1
NOCI Noci 2.00 112 P Pn 22 09 57.5 -0.1
NOCI AML AML
comp=N,928µm,1.0s
NOCI AML AML
comp=E,804µm,0.7s
TOLF Tolfa 2.02 285 P Pn 22 09 58.0 +0.2
ASSB Assisi San Ben 2.08 316 P Pb 22 10 00.6 -1.1
LSTV Lastovo 2.08 54 *e*Pn Pn 22 09 59.7 +1.0
LSTV Sn Sn 22 10 24.9 +0.4
EL6 Elcito 2.10 328 P Pn 22 10 00.2 +1.2
CING Cingoli 2.10 330 P Pn 22 09 59.7 +0.7
CING AML AML
comp=N,343µm,0.9s
CING AML AML
comp=E,449µm,1.0s
HVAR Hvar 2.12 39 *e*Pn Pn 22 09 58.7 -0.5
HVAR Sn Sn 22 10 25.2 -0.1
ZIRJ Zirje 2.23 20 *e*Pn Pn 22 09 59.7 -1.0
ZIRJ Sn Sn 22 10 27.4 -0.7
CET2 Cetraro 2.27 153 P Pn 22 10 01.2 -0.1
CET2 AML AML
comp=N,604µm,0.7s
CET2 AML AML
comp=E,884µm,0.6s
MGAB Montegabbione 2.30 307 P Pn 22 10 03.3 +1.6
ARVD Arcevia 2.30 328 P Pn 22 10 02.7 +0.9
ARVD AML AML
comp=N,219µm,1.0s
ARVD AML AML
comp=E,265µm,0.7s
TDS Terranova Siba 2.31 145 P Pn 22 10 03.4 +1.7
SACS San Casciano d 2.39 304 P Pn 22 10 03.7 +0.7
MORI Morici 2.45 19 *e*Pn Pn 22 10 03.0 -0.7
MORI Sn Sn 22 10 32.9 -0.5
ATVO AVT- Monte Val 2.45 319 P Pb 22 10 06.2 -1.8
ATVO AML AML
comp=N,230µm,0.7s
ATVO AML AML
comp=E,265µm,0.9s
DUGI Dugi Otok 2.46 8 *e*Pn Pn 22 10 02.9 -0.9
DUGI Sn Sn 22 10 33.6 -0.2
MPAG Monte Paganucc 2.48 327 P Pn 22 10 04.7 +0.4
MCIV Monte Civitell 2.50 300 P Pn 22 10 05.0 +0.5
PIEI Pieia 2.50 323 P Pn 22 10 05.8 +1.2
PIEI AML AML
comp=N,137µm,1.0s
PIEI AML AML
comp=E,196µm,0.4s
FSSB Fossombrone 2.53 328 P Pn 22 10 06.1 +1.2
FSSB AML AML
comp=N,547µm,0.5s
FSSB AML AML
comp=E,394µm,0.5s
STON Ston 2.64 59 *e*Pn Pn 22 10 07.2 +0.8
STON Sn Sn 22 10 38.9 +0.7
RICI Ricice 2.69 43 *e*Pn Pn 22 10 06.8 -0.2
RICI Sn Sn 22 10 40.3 +0.8
KIJV Kijevo 2.78 28 *e*Pn Pn 22 10 08.5 +0.2
KIJV Sn Sn 22 10 41.8 +0.1
ISTR Stromboli Gino 2.80 171 ⇑P Pg 22 10 17.4 -0.3
CRE Caprese Michel 2.85 317 P Pn 22 10 11.3 +2.0
CRE AML AML
comp=N,156µm,1.4s
CRE AML AML
comp=E,111µm,1.6s
TIP Timpagrande 2.88 145 ⇑P Pn 22 10 09.2 -0.6
NVLJ Novalja 3.01 4 *e*Pn Pn 22 10 10.9 -0.5
NVLJ Sn Sn 22 10 46.4 -1.0
TREB Trebinje 3.01 66 *e*Pn Pn 22 10 12.0 +0.6
TREB Trebinje 3.01 66 *e*Pn Pn 22 10 12.1 +0.6
TREB *e*Sn Sn 22 10 45.4 -2.0
HCY Herceg Novi 3.03 72 *e*Pn Pn 22 10 12.0 +0.3
CASP Castiglione de 3.05 295 P Pn 22 10 12.6 +0.7
UDBI Udbina 3.09 15 *e*Pn Pn 22 10 13.0 +0.4
UDBI Sn Sn 22 10 49.5 +0.1
RABC Rab 3.20 2 *e*Pn Pn 22 10 13.4 -0.5
RABC Sn Sn 22 10 50.8 -1.1
BRY Bratogost 3.21 64 *e*Pn Pn 22 10 15.1 +0.8
MGRS Mrkonjic Grad 3.39 32 *e*Pn Pn 22 10 18.4 +1.8
PLIT Plitvice 3.40 12 *e*Pn Pn 22 10 16.7 -0.1
PLIT Sn Sn 22 10 55.6 -1.5
BRJN Brijuni 3.41 350 *e*Pn Pn 22 10 16.3 -0.5
BRJN Sn Sn 22 10 56.3 -0.9
DRME Dracevica, Mon 3.47 78 *e*Pn Pn 22 10 17.8 0.0
SMRN Sveta Marina 3.50 355 *e*Pn Pn 22 10 17.3 -0.8
SMRN Sn Sn 22 10 57.7 -1.6
PDG Podgorica 3.57 74 ⇑P Pn 22 10 19.2 +0.1
PDG ⇑S Sn 22 10 57.8 -3.3
PDG Podgorica 3.57 74 *e*Pn Pn 22 10 19.7 +0.6
PDG Podgorica 3.57 74 P Pn 22 10 20.1 +1.1
PDG AML AML
comp=N,196µm,0.5s
PDG AML AML
comp=E,156µm,0.9s
PDG Podgorica 3.57 74 *e*Pn Pn 22 10 19.7 +0.6
PDG *e*Sn Sn 22 11 00.5 -0.6
BLY Banja Luka 3.70 30 *e*Pn Pn 22 10 22.7 +1.7
BLY Banja Luka 3.70 30 *e*Pn Pn 22 10 22.9 +1.9
RIY Rijeka 3.77 359 *e*Pn Pn 22 10 22.3 +0.5
RIY Sn Sn 22 11 04.0 -2.1
MRAK Mrakovica 3.84 25 *e*Pn Pn 22 10 26.0 +3.1
TIR Tirane 3.95 91 ⇑P Pn 22 10 23.8 -0.6
BOJS Bojanci 3.97 6 S Sn 22 11 11.0 -0.2
RUDO Rudo 4.07 58 *e*Pn Pn 22 10 26.9 +0.9
VAE Valguarnera 4.08 182 Pn Pb 22 10 31.4 -4.2
comp=E,0.9nm,0.3s,baz=6.3,slow=9.2,SNR=2.4
OZLJ Ozalj 4.11 8 *e*Pn Pn 22 10 26.5 +0.1
OZLJ Sn Sn 22 11 13.0 -1.3
CEY Cerknica 4.18 358 *e*Pn Pn 22 10 25.4 -2.2
BBLS Lazići 4.22 55 *e*Pn Pn 22 10 29.4 +1.3
BBLS Lazići 4.22 55 *e*Pn Pn 22 10 29.5 +1.3
BBLS *e*Sn Sn 22 11 15.1 -2.2
PGF Pioggiola 4.30 285 *e*Pn Pn 22 10 30.1 +0.9
PGF *e*Sn Sn 22 11 19.0 -0.3
comp=E,24nm,0.7s
CRES Cresnjev 4.31 8 *e*Pn Pn 22 10 29.3 0.0
SJES Sjenica 4.32 65 *e*Pn Pn 22 10 31.3 +1.8
SJES *e*Sn Sn 22 11 17.0 -2.8
MOSL Moslavina 4.34 20 *e*Pn Pn 22 10 29.3 -0.5
MOSL Sn Sn 22 11 18.9 -1.4
PTJ Puntijarka 4.46 12 *e*Pn Pn 22 10 32.0 +0.5
PTJ Sn Sn 22 11 21.2 -2.0
LJU Ljubljana 4.49 359 *e*Pn Pn 22 10 31.8 +0.1
IVAS Ivanjica 4.56 62 *e*Pn Pn 22 10 33.5 +0.7
IVAS *e*Sn Sn 22 11 23.4 -2.3
OHR Ohrid 4.68 93 *i* Pn Pn 22 10 36.8 +2.3
OHR *e*Pg Pb 22 10 38.6 -7.4
OHR *e*Sg Sn 22 11 28.0 -0.6
DIVS Divibare 4.70 55 *e*Pn Pn 22 10 35.3 +0.5
DIVS Divibare 4.70 55 ⇓P Pn 22 10 35.7 +0.9
DIVS AML AML
comp=E,65µm,0.9s
DIVS AML AML
comp=N,60µm,1.3s
DIVS Divibare 4.70 55 *e*Pn Pn 22 10 34.8 0.0
LOBO Lobor 4.72 12 *e*Pn Pn 22 10 34.3 -0.6
LOBO Sn Sn 22 11 27.8 -1.7
LSK Leskovik 4.75 105 P Pn 22 10 36.2 +0.7
CGRP Cima Grappa 4.78 336 ⇑P Pn 22 10 37.4 +1.5
MPRI Monte Prat 4.83 346 P Pb 22 10 43.8 -4.7
OBKA Obir 4.95 359 *e*Pn Pn 22 10 38.3 +0.1
comp=N,0.8nm,0.1s,SNR=4.8
OBKA *e*Sn Sn 22 11 35.2 -0.2
comp=N,44nm,0.8s
CTI Castel Tesino 4.98 335 ⇑P Pn 22 10 37.0 -1.6
DOSS Dosso del Somm 4.99 331 P Pn 22 10 39.2 +0.5
NEST Nestorio 5.00 101 P Pn 22 10 41.2 +2.3
TRUS Trudelj 5.02 56 *e*Pn Pn 22 10 39.8 +0.7
KOGS Kog 5.03 13 P Pn 22 10 42.0 +2.8
GRUS Gruza 5.06 61 *e*Pn Pn 22 10 39.4 -0.3
SELS Selova 5.10 69 *e*Pn Pn 22 10 40.3 +0.2
MAGA Magasa 5.11 327 ⇓P Pn 22 10 40.6 +0.1
MYKA Terra Mystica 5.12 352 *e*Pn Pn 22 10 41.1 +0.6
comp=N,4.5nm,0.4s,SNR=5.4
MYKA *e*Sn Sn 22 11 41.0 +1.4
comp=N,8.7nm,0.4s
SOKA Soboth 5.13 3 *i* Pn Pn 22 10 39.7 -0.9
comp=N,0.8nm,0.3s,SNR=4.0
SOKA *e*Sn Sn 22 11 39.0 -0.8
comp=N,12nm,1.0s
FNA Florina 5.16 96 P Pn 22 10 42.1 +1.0
KOVH Kovagotottos 5.18 28 PN Pn 22 10 42.5 +1.2
FRGS Fruska Gora 5.23 45 ⇓P Pn 22 10 42.5 +0.6
FRGS Fruska Gora 5.23 45 *e*Pn Pn 22 10 40.4 -1.5
FRGS Fruska Gora 5.23 45 *e*Pn Pn 22 10 41.6 -0.3
ABTA Abfaltersbach 5.41 344 *e*Pn Pn 22 10 44.0 -0.4
comp=N,0.9nm,0.2s,SNR=5.9
ABTA *e*Sn Sn 22 11 46.2 -0.3
comp=N,18nm,0.7s
BARS Barje 5.50 74 *e*Pn Pn 22 10 46.2 +0.6
BARS Barje 5.50 74 *e*Pn Pn 22 10 51.7 +6.1
BARS *e*Sn Sn 22 11 46.3 -2.4
MILN Milano 5.54 317 P Pn 22 10 45.8 -0.4
BRES Bressanone 5.54 339 ⇑P Pn 22 10 47.8 +1.3
KBA Koelnbreinsper 5.60 351 *e*Pn Pn 22 10 48.0 +0.9
comp=N,1.2nm,0.5s
ABSI Aberstueckl 5.69 337 ⇓P Pn 22 10 49.7 +1.3
ARSA Arzberg 5.73 6 *e*Pn Pn 22 10 48.4 -0.4
comp=N,1.9nm,0.3s
ARSA *e*Sn Sn 22 11 55.6 +1.1
comp=N,4.2nm,0.6s
SBF Sospel 5.77 296 *e*Pn Pn 22 10 50.0 +0.6
SBF *e*Sn Sn 22 11 53.4 -2.1
GRG Griva 5.90 93 P Pn 22 10 51.3 +0.1
BOSS Bosilegrad 5.93 78 *e*Pn Pn 22 10 52.2 +0.6
BOSS *e*Sn Sn 22 11 55.9 -3.6
VAY Valandovo 5.99 90 *e*Pn Pn 22 10 47.3 -5.0
ZAGS Zajecar 6.05 66 *e*Pn Pn 22 10 53.9 +0.7
WTTA Wattenberg 6.09 341 *e*Pn Pn 22 10 56.0 +2.1
comp=N,0.9nm,0.3s
WTTA *e*Sn Sn 22 12 03.4 -0.2
comp=N,9.3nm,0.4s
MDVR Moldovita 6.11 56 ⇑P Pn 22 10 55.0 +0.9
FETA Feichten 6.13 334 *e*Pn Pn 22 10 55.5 +1.0
comp=N,1.8nm,0.4s
FETA *e*Sn Sn 22 12 05.0 +0.4
comp=N,4.8nm,0.4s
SQTA Sankt Quirin 6.17 338 *i* Pn Pn 22 10 57.0 +2.1
comp=N,2.2nm,0.2s,SNR=5.2
SQTA *e*Sn Sn 22 12 06.3 +1.0
comp=N,23nm,0.6s
WATA Walderalm 6.17 340 *e*Sn Sn 22 12 05.5 -0.1
comp=N,6.5nm,0.4s
ZAPS Zavoj 6.18 71 *e*Pn Pn 22 10 53.8 -1.2
ZAPS *e*Sn Sn 22 12 01.6 -4.0
DAVOX Davos/Dischmat 6.23 329 Pn Pn 22 10 55.9 0.0
comp=N,0.7nm,0.3s,baz=152,slow=14,SNR=16
DAVOX Sn Sn 22 12 04.4 -2.7
comp=N,0.4nm,0.3s,baz=133,slow=19,SNR=1.4
LMR La Mourre 6.25 289 *e*Pn Pn 22 10 55.6 -0.4
MOA Molln 6.30 358 *i* Pn Pn 22 10 57.6 +0.9
comp=N,1.8nm,0.3s
MOA *e*Sn Sn 22 12 08.2 -0.2
comp=N,3.8nm,0.3s
MOTA Moosalm 6.31 338 *e*Pn Pn 22 10 58.7 +1.8
comp=N,1.5nm,0.4s,SNR=4.0
MOTA *e*Sn Sn 22 12 09.5 +0.6
comp=N,14nm,0.6s
CONA Conrad Observa 6.43 8 *e*Pn Pn 22 10 58.0 -0.5
comp=N,1.6nm,0.4s,SNR=6.4
CONA *e*Sn Sn 22 12 10.8 -1.0
comp=N,4.1nm,0.4s
VTS Vitosha 6.50 78 ⇑P Pn 22 10 58.7 -0.8
VTS ⇑S Sn 22 12 10.3 -3.4
BZS Buzias 6.51 49 ⇓P Pn 22 10 59.5 +0.1
RETA Reutte 6.54 336 *e*Pn Pn 22 11 00.7 +0.7
comp=N,0.2nm,0.1s
RETA *e*Sn Sn 22 12 14.2 -0.2
comp=N,3.9nm,0.4s
MBDF Montbardon 6.55 302 *e*P Pn 22 11 04.7 +4.5
HERR Herculane 6.60 57 ⇑P Pn 22 11 01.1 +0.4
LPG La Plagne 6.94 307 *e*Pn Pn 22 11 06.5 +0.8
LPG *e*Sn Sn 22 12 22.9 -1.7
comp=N,4.7nm,0.5s
LPL La Plagne 6.96 307 *e*Pn Pn 22 11 06.4 +0.5
LPL *e*Sn Sn 22 12 22.6 -2.4
comp=N,7.3nm,0.8s
GZR Gura Zlata 7.07 54 ⇓P Pn 22 11 07.3 +0.1
MODS Modra-Piesok 7.07 15 *e*SN Sn 22 12 25.0 -2.5
SMRF Simiane la Rot 7.08 293 *e*Pn Pn 22 11 08.6 +1.3
KEST Kesra 7.13 217 Pn Pn 22 11 11.2 +3.2
comp=N,1.2nm,0.3s,baz=53,slow=15,SNR=15
KEST Sn Sn 22 12 31.3 +2.3
comp=N,0.1nm,0.3s,baz=293,slow=13,SNR=2.1
KEST LR LR 22 13 45.4
comp=N,94nm,21.3s,baz=302,slow=36
ORIF Oris-en-Rattie 7.21 301 *e*Pn Pn 22 11 10.0 +0.8
CKRC Cesky Krumlov 7.27 358 *e*PN Pn 22 11 11.1 +1.2
CKRC *e*SN Sn 22 12 30.8 -1.5
GERES GERESS Array B 7.32 355 Pn Pn 22 11 09.6 -1.1
comp=N,0.7nm,0.3s,baz=170,slow=13,SNR=17
GERES Sn Sn 22 12 29.6 -4.1
comp=N,2.2nm,0.3s,baz=166,slow=23,SNR=18
GERES LR LR 22 14 59.7
comp=N,79nm,18.7s,baz=204,slow=47
PSZ Piszkesteto 7.39 29 ⇓P Pn 22 11 12.7 +1.0
PSZ Piszkesteto 7.39 29 PN Pn 22 11 12.8 +1.2
VYHS Vyhne 7.55 22 *e*PN Pn 22 11 14.7 +0.9
VYHS *e*SN Sn 22 12 36.8 -2.5
KHC Kasperske Hory 7.61 355 *e*PN Pn 22 11 15.5 +0.9
KHC *e*SN Sn 22 12 38.9 -1.9
VRAC Vranov 7.88 9 Pn Pn 22 11 19.0 +0.7
comp=N,0.2nm,0.3s,baz=212,slow=19,SNR=1.7

VRAC Sn **Sn** **22 12 46.0 -1.3**
comp=N,0.3nm,0.3s,baz=282,slow=19,SNR=1.4
VIVF Saint-Julien-I 7.97 298 *e*PN **Pn** **22 11 18.9 -0.8**
ARR Arges 8.22 59 ⇑P **Pn** **22 11 22.7 -0.4**
LASF Ste Croix 8.30 291 *e*PN **Pn** **22 11 24.2 +0.1**
HINF Hinteralfeld 8.35 321 *e*PN **Pn** **22 11 24.4 -0.4**
HINF *e*SN **Sn** **22 12 55.2 -3.7**
comp=N,5.9nm,0.5s
PRU Pruhonice 8.43 360 *e*SN **Sn** **22 12 59.7 -1.2**
MORC Moravsky Berou 8.47 13 ⇓P **Pn** **22 11 29.1 +2.7**
KRLC Kraliky 8.65 9 *e*PN **Pn** **22 11 31.2 +2.2**
KRLC *e*SN **Sn** **22 13 05.1 -1.3**
HAU Haudompre 8.72 320 *e*PN **Pn** **22 11 29.5 -0.4**
HAU *e*Sn **Sn** **22 13 04.4 -3.7**
comp=N,11nm,0.4s
DPC Dobruska-Polom 8.88 7 *e*PN **Pn** **22 11 34.7 +2.7**
CHVC Chvalec 9.09 6 *e*PN **Pn** **22 11 37.0 +2.1**
MLR Muntele Rosu 9.12 61 Pn **Pn** **22 11 38.5 +3.0**
comp=N,0.4nm,0.3s,baz=285,slow=19,SNR=1.3
MLR LR LR 22 16 20.5
comp=N,86nm,21.4s,baz=344,slow=46
MTLF Montolieu 9.34 285 *e*PN **Pn** **22 11 37.5 -0.8**
PAGF Fort de Pagny 9.40 321 *e*PN **Pn** **22 11 39.3 +0.1**
PAGF *e*Sn **Sn** **22 13 19.6 -5.2**
comp=N,2.4nm,0.4s
SFTF Sexfontaines 9.50 318 *e*PN **Pn** **22 11 39.6 -0.9**
LOR Lormes 9.58 310 *e*PN **Pn** **22 11 40.7 -0.9**
LOR *e*Sn **Sn** **22 13 24.8 -4.3**
comp=N,2.6nm,0.5s
SAVF Savonnieres en 9.73 320 *e*PN **Pn** **22 11 43.7 0.0**
SAVF *e*Sn **Sn** **22 13 24.1 -8.7**
comp=N,2.4nm,0.4s
AKASG Malin Array Be 13.63 43 Pn **Pn** **22 12 37.7 +0.8**
comp=N,0.2nm,0.3s,baz=234,slow=12,SNR=2.1
AKASG LR LR 22 18 34.3
comp=N,58nm,19.5s,baz=232,slow=40
ESDC Sonseca Array 14.24 269 Pn **Pn** **22 12 45.5 +0.1**
comp=N,0.0nm,0.3s,baz=79,slow=14,SNR=4.7
MMAI Mount Meron Ar 18.58 111 P **Pn** **22 13 44.3 +3.2**
comp=N,0.3nm,0.3s,baz=317,slow=15,SNR=1.7
NOA NORSAR Array B 19.62 355 LR LR 22 23 03.8
comp=N,30nm,18.5s,baz=325,slow=42
FINES FINESS Array B 21.09 15 P **P** **22 14 08.3 +0.4**
comp=N,4.2nm,0.7s,baz=204,slow=17,SNR=9.2
TORD Torodi Ar. Bea 30.46 205 P **P** **22 15 37.6 +1.0**
comp=N,0.8nm,0.8s,baz=13,slow=8.2,SNR=5.3
MKAR Makanchi Array 47.47 60 P **P** **22 17 59.0 +0.5**
comp=N,0.3nm,0.5s,baz=284,slow=7.5,SNR=6.1
SONM Songino Array 61.80 50 P **P** **22 19 43.3 +0.7**
comp=N,0.3nm,0.5s,baz=290,slow=6.1,SNR=4.7
YKA Yellowknife Ar 68.59 337 P **P** **22 20 25.5 -0.7**
comp=N,0.2nm,0.7s,baz=44,slow=5.4,SNR=3.1
PDAR Pinedale Array 82.14 322 P **P** **22 21 45.5 +0.7**
comp=N,0.2nm,0.5s,baz=68,slow=9.8,SNR=2.2

IDC 17 22:22:40.2±4.2, 49°.09N×28°.63W, *h*0km, mb3.5/2, mb1 3.7/2, mb1mx3.2/48, mbtmp3.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/70, Error ellipse: s-maj=139.8km s-min=51.5km az=14.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**23.90**	**16**	LR	LR	22 34 48.2	
	comp=Z,80nm,20.3s,baz=16,slow=30						
YKA	**Yellowknife Ar**	**46.46**	**320**	P	P	22 31 08.3	-0.1
	0.6nm,0.9s,baz=67,slow=7.8,SNR=4.3						
MKAR	**Makanchi Array**	**67.28**	**44**	P	P	22 33 36.3	-0.1
	0.3nm,0.7s,baz=334,slow=5.7,SNR=4.0						
ASAR	**Alice Springs**	**151.13**	**35**	PKPbc	PKPbc	22 42 35.1	-0.1
	0.5nm,0.6s,baz=351,slow=1.7,SNR=7.0						

IDC 17 22:27:47.9±1.3, 4°.59N×126°.18E, *h*0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/39, mbtmp3.6/4, MS3.1/2, Ms1 3.1/2, ms1mx2.4/56, Error ellipse: s-maj=84.8km s-min=25.0km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.53**	**346**	LR	LR	22 29 48.8	
	comp=Z,47nm,18.8s,baz=293,slow=48						
WRA	**Warramunga Arr**	**25.67**	**162**	P	P	22 33 20.2	+0.6
	1.1nm,0.3s,baz=342,slow=10,SNR=22						
ASAR	**Alice Springs**	**29.08**	**165**	P	P	22 33 49.6	-0.7
	0.6nm,0.6s,baz=340,slow=7.3,SNR=9.6						
MKAR	**Makanchi Array**	**56.54**	**325**	P	P	22 37 32.3	+0.1
	0.1nm,0.4s,baz=126,slow=8.7,SNR=1.7						
KDAK	**Kodiak Island**	**81.46**	**32**	LR	LR	23 11 52.4	
	comp=Z,89nm,21.7s,baz=83,slow=32						
ILAR	**Eielson Array**	**84.57**	**25**	P	P	22 40 22.6	-0.2
	0.5nm,0.9s,baz=257,slow=5.2,SNR=4.2						

*IDC **17** 23:00:58.7±4.6, 19°.91S×178°.14W, h543km±35km, mb3.1/5, mb1 3.4/6, mb1mx3.0/32, mbtmp4.0/6, Error ellipse: s-maj=115.8km s-min=23.1km az=150.0*
*NEIC **17** 23:00:59.8±1.5, 20°.4S±0°.2×178°.3W±0°.1, h512km±10km, mb4.2/16, Error ellipse: s-maj=26.1km s-min=11.6km az=156.0*
ISC 17 23:00:58.6±1.0, 20°.1S±0°.1×178°.1W±0°.1, h550km, n27, σ1§17/27, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.39**	**302**	P	**P**	**23 02 21.6**	**-2.1**
	3.5nm,0.3s,baz=98,slow=2.2,SNR=8.2						
MSVF	**Nonsavu**	**4.39**	**302**	P	**P**	**23 02 22.0**	**-1.7**
DZM	**Mont Dzumac**	**14.60**	**260**	P	**P**	**23 04 02.5**	**-1.6**
MXZ	**Matakaoa Point**	**17.66**	**190**	P	**P**	**23 04 33.5**	**+0.3**
BFZ	**Birch Farm**	**21.06**	**192**	P	**P**	**23 05 03.2**	**-0.9**
MSWZ	**Moikau Station**	**21.97**	**194**	P	**P**	**23 05 13.6**	**+1.3**
QRZ	**Quartz Range**	**22.14**	**199**	P	**P**	**23 05 15.0**	**+1.1**
HNR	**Honiara**	**23.75**	**293**		**S**	**23 09 07.7**	**+2.1**
EIDS	**Eidsvold**	**28.90**	**254**	P	**P**	**23 06 14.0**	**+0.3**
CTA	**Charters Tower**	**33.48**	**264**	P	**P**	**23 06 53.2**	**+0.3**
	2.7nm,0.5s,baz=90,slow=6.1,SNR=2.8						
CTAO	**Charters Tower**	**33.48**	**264**	P	**P**	**23 06 53.8**	**+0.8**
CTAO				IAmb	IAmb	23 06 54.8	
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	**42.67**	**243**	P	**P**	**23 08 06.3**	**-1.1**
WR0	**Warramunga Arr**	**44.41**	**262**	P	**P**	**23 08 21.1**	**0.0**
WR0				IAmb	IAmb	23 08 22.3	
	comp=Z,2.3nm,0.4s						
AS31	**Alice Springs**	**44.56**	**256**	P	**P**	**23 08 22.9**	**+0.7**
ASAR	**Alice Springs**	**44.56**	**256**	P	**P**	**23 08 22.4**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=94,slow=7.8,SNR=30						
ASAR				PcP	**PcP**	**23 09 54.3**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=111,slow=4.0,SNR=4.1						
WB0	**Warramunga Arr**	**44.58**	**262**	P	**P**	**23 08 22.8**	**+0.4**
WB0				IAmb	IAmb	23 08 23.1	
	comp=Z,4.6nm,0.5s						
WB2	**Warramunga Arr**	**44.59**	**262**	P	**P**	**23 08 22.8**	**+0.2**
WRAB	**Tennant Creek**	**44.59**	**262**	P	**P**	**23 08 22.8**	**+0.2**
WRAB				IAmb	IAmb	23 08 24.1	
	comp=Z,2.5nm,0.6s						
WRA	**Warramunga Arr**	**44.60**	**262**	P	**P**	**23 08 22.5**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=97,slow=7.7,SNR=54						
WRA	**Warramunga Arr**	**44.60**	**262**	P	**P**	**23 08 22.8**	**+0.2**
FORT	**Forrest**	**49.40**	**246**	P	**P**	**23 08 58.0**	**-0.5**
FORT				IAmb	IAmb	23 09 09.5	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**50.63**	**266**	P	**P**	**23 09 08.2**	**+0.4**
KNRA				IAmb	IAmb	23 09 14.7	
	comp=Z,4.9nm,1.1s						
FAKI	**Fak Fak**	**51.37**	**283**	P	**P**	**23 09 15.5**	**+2.4**
FAKI				IAmb	IAmb	23 09 15.8	
	comp=Z,18nm,1.0s						
YERR	**Yerington**	**80.51**	**43**	P	P	23 12 20.2	+6.2
YERR				IAmb	IAmb	23 12 22.8	
	comp=Z,8.1nm,0.8s						
TXAR	**Lajitas Array**	**86.90**	**57**	P	**P**	**23 12 46.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=224,slow=6.3,SNR=2.6						
ILAR	**Eielson Array**	**87.97**	**13**	P	**P**	**23 12 50.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=213,slow=7.5,SNR=4.7						
AKASG	**Malin Array Be**	**142.67**	**331**	PKP	**PKPdf**	**23 19 27.1**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=46,slow=3.7,SNR=4.7						

*TUL **17** 23:14:24.5±0.9, 36°.66N±0°.04×98°.45W±0°.02, h7km±7km, ML2.7, mb_Lg2.5/19(NEIC), Error ellipse: s-maj=5.3km s-min=2.2km az=171.0*
NEIC 17 23:14:24.6±1.4, 36°.616N±0°.007×98°.44W±0°.02, h7km±7km, Error ellipse: s-maj=2.4km s-min=1.0km az=84.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.24**	**293**	Pg	Pg	23 14 29.1	-0.3
OK035				Sg	Sg	23 14 32.3	-0.3
OK032	**Salt Plains WL**	**0.26**	**44**	Pg	Pg	23 14 29.6	-0.1
OK032					Sg	23 14 33.1	-0.1
CROK	**Carrier**	**0.38**	**107**		Pg	23 14 32.6	+0.6
KAN14	**Manchester OK**	**0.51**	**48**	Pg	Pg	23 14 34.1	-0.4
KAN14				Sg	Sg	23 14 41.1	0.0
U32A	**Winter Ranch,**	**0.51**	**243**	Pg	Pg	23 14 34.9	+0.4
GC02	**Grant County #**	**0.52**	**63**	Pg	Pg	23 14 34.5	-0.1
GC02				Sg	Sg	23 14 41.6	+0.2
KAN10	**Anthony SW Sta**	**0.58**	**28**	Pg	Pg	23 14 35.1	-0.6
KAN05	**Bluff City Nor**	**0.67**	**42**	Pg	Pg	23 14 35.9	-1.6
KAN16	**Harper SW Stat**	**0.68**	**26**	Pg	Pg	23 14 36.8	-0.8
KAN17	**Caldwell West**	**0.69**	**51**		Pg	23 14 37.3	-0.5
KAN08	**Anthony NE Sta**	**0.71**	**31**	Pg	Pg	23 14 37.4	-0.9
KAN01	**Argonia South**	**0.76**	**45**		Pg	23 14 38.7	-0.6
KAN12	**Harper NE Stat**	**0.77**	**27**	Pg	Pg	23 14 38.4	-0.9
KAN06	**Argonia West S**	**0.78**	**36**	Pg	Pg	23 14 38.8	-0.8
KAN13	**South Haven SW**	**0.86**	**62**	Pg	Pg	23 14 40.3	-0.9
BLOK	**Blackwell**	**0.99**	**81**		Pg	23 14 42.7	-0.9
OK029	**Liberty Lake**	**1.14**	**136**		Pg	23 14 46.2	-0.2
BCOK	**Bluff Creek, N**	**1.17**	**145**		Pg	23 14 46.3	-0.7
OK025	**Westminster Rd**	**1.36**	**139**	Pn	Pn	23 14 50.0	0.0
OKCFA	**Oklahoma City**	**1.44**	**146**	Pn	Pn	23 14 50.9	-0.3
OK031	**S. Brethren Rd**	**1.45**	**117**		Pb	23 14 51.8	-0.2
OKCSW	**OKLAHOMA CITY**	**1.45**	**146**	Pn	Pn	23 14 51.6	+0.3
QUOK	**Quay**	**1.46**	**107**		Pb	23 14 51.8	-0.3
OK030	**Cody Creek RV**	**1.50**	**117**		Pn	23 14 52.2	+0.2
OK034	**N. Norfolk Rd.**	**1.52**	**113**	Pn	Pn	23 14 52.6	+0.4
T35A	**Sooner Cattle**	**1.57**	**78**	Pn	Pn	23 14 53.2	+0.2
T35A				IAmb	Lg	23 15 18.9	
	comp=Z,26nm,1.2s						
FNO	**Franklin**	**1.59**	**148**		Pb	23 14 54.1	-0.3
R32A	**Long Quarter,**	**1.82**	**353**		Pn	23 14 56.6	+0.3
R32A				IAmb	Lg	23 15 19.6	
	comp=Z,8.6nm,0.8s						
WMOK	**Wichita Mounta**	**1.90**	**189**		Pn	23 14 57.3	-0.1
W35A	**Tecumseh**	**1.93**	**139**	Pn	Pn	23 14 58.0	+0.1
W35A				IAmb	Lg	23 15 26.6	
	comp=Z,6.2nm,0.7s						
X34A	**Smith Ranch, M**	**2.07**	**166**		Pn	23 15 01.0	+1.2
TUL1	**Leonard**	**2.25**	**107**		Pn	23 15 03.0	+0.8
TUL1				IAmb	Lg	23 15 39.1	
	comp=Z,26nm,0.9s						
CBKS	**Cedar Bluff**	**2.43**	**335**	Pn	Pn	23 15 04.4	-0.4
LOOK	**Love County**	**2.81**	**158**	Pn	Pn	23 15 10.3	+0.4
KSU1	**Kansas State U**	**2.87**	**30**		Pn	23 15 10.0	-0.8
KSU1				IAmb	Lg	23 15 56.3	
	comp=Z,12nm,1.0s						
AMTX	**Amarillo**	**3.15**	**238**		Pn	23 15 15.8	+1.0
X37A	**Clayton**	**3.21**	**128**	Pn	Pn	23 15 17.6	+2.1
U38A	**Gravette**	**3.27**	**92**	Pn	Pn	23 15 17.7	+1.5
HHAR	**Hobbs**	**3.64**	**94**	IAmb	Lg	23 16 18.6	
	comp=Z,9.0nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.09**	**307**	IAmb	Lg	23 16 42.4	
	comp=Z,14nm,0.8s						
U40A	**Yellville**	**4.50**	**92**	IAmb	Lg	23 16 48.7	
	comp=Z,13nm,0.8s						
OGNE	**Ogallala**	**5.16**	**328**	IAmb	Lg	23 17 19.5	
	comp=Z,14nm,0.7s						
NATX	**Nacogdoches**	**5.76**	**146**	IAmb	Lg	23 17 31.8	
	comp=Z,13nm,0.9s						

*TUL **17** 23:20:10.6±1.5, 35°.93N±0°.01×97°.02W±0°.02, h4km±7km, ML2.5, ML2.3/40(NEIC), Error ellipse: s-maj=2.6km s-min=1.1km az=135.0*
NEIC 17 23:20:10.7±0.9, 35°.95N±0°.01×97°.04W±0°.01, h6km±7km, Error ellipse: s-maj=2.1km s-min=1.4km az=142.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.16**	**88**		Pg	23 20 14.0	0.0
OK031				Sg	Sg	23 20 16.3	0.0
OK030	**Cody Creek RV**	**0.21**	**95**	Pg	Pg	23 20 14.9	0.0
OK030				Sg	Sg	23 20 18.1	+0.4
OK030				IAML		23 20 18.2	
	1μm,0.2s						
OK034	**N. Norfolk Rd.**	**0.27**	**77**	Pg	Pg	23 20 16.2	+0.1
OK034				Sg	Sg	23 20 19.9	+0.3
QUOK	**Quay**	**0.35**	**50**		Pg	23 20 17.6	+0.1
QUOK				Sg	Sg	23 20 22.8	+0.7
QUOK				IAML		23 20 22.9	
	comp=N,327nm,0.3s						
QUOK				IAML		23 20 24.2	
	comp=E,357nm,0.2s						
OK029	**Liberty Lake**	**0.37**	**246**	Pg	Pg	23 20 18.1	+0.2
OK029				Sg	Sg	23 20 23.4	+0.6
OK025	**Westminster Rd**	**0.44**	**214**	Pg	Pg	23 20 19.2	0.0
OK025				Sg	Sg	23 20 25.8	+0.8
OK025				IAML		23 20 25.9	
	comp=E,273nm,0.3s						
OK025				IAML		23 20 25.9	
	comp=E,242nm,0.3s						
BCOK	**Bluff Creek, N**	**0.55**	**238**	Pg	Pg	23 20 21.4	+0.1
BCOK				Sg	Sg	23 20 28.6	+0.3
OKCFA	**Oklahoma City**	**0.63**	**212**	Pg	Pg	23 20 21.1	-1.7
OKCFA				Sg	Sg	23 20 31.3	+0.3
OKCFA				IAML		23 20 31.8	
	comp=E,110nm,0.3s						
OKCFA				IAML		23 20 31.8	
	comp=N,148nm,0.4s						
OKCSW	**OKLAHOMA CITY**	**0.63**	**211**	Pg	Pg	23 20 22.0	-0.9
OKCSW				Sg	Sg	23 20 31.9	+0.8
FNO	**Franklin**	**0.75**	**203**		Pg	23 20 25.3	+0.2
FNO				Sg	Sg	23 20 35.2	+0.3
FNO				IAML		23 20 38.4	
	comp=E,121nm,0.2s						
FNO				IAML		23 20 38.5	
	comp=N,87nm,0.1s						
W35A	**Tecumseh**	**0.81**	**170**	Pg	Pg	23 20 26.0	-0.2
W35A				IAML		23 20 36.8	
	comp=E,138nm,1.5s						
W35A				IAML		23 20 37.0	
	comp=N,89nm,0.3s						
BLOK	**Blackwell**	**0.82**	**350**	Pg	Pb	23 20 27.1	-0.3
TUL1	**Leonard**	**1.01**	**92**	Pg	Pg	23 20 29.3	-0.9
TUL1				IAML		23 20 44.6	
	comp=N,94nm,0.2s						
T35A	**Sooner Cattle**	**1.06**	**24**	Pg	Pg	23 20 30.8	-0.2
T35A				IAML		23 20 45.8	
	comp=N,90nm,0.2s						
GC02	**Grant County #**	**1.12**	**324**	Pg	Pg	23 20 32.0	-0.2
KAN13	**South Haven SW**	**1.12**	**342**	Pg	Pg	23 20 32.1	-0.2
KAN17	**Caldwell West**	**1.24**	**332**		Pg	23 20 34.4	-0.1
KAN14	**Manchester OK**	**1.25**	**324**	Pg	Pg	23 20 34.5	-0.2
KAN14				IAML		23 20 52.2	
	comp=E,72nm,0.2s						
KAN14				IAML		23 20 54.7	
	comp=N,64nm,0.3s						
OK032	**Salt Plains WL**	**1.27**	**312**	Pn	Pn	23 20 34.6	-0.5
OK032				IAML		23 20 54.4	
	comp=N,74nm,0.2s						
OK032				IAML		23 20 59.7	
	comp=N,84nm,0.3s						
KAN01	**Argonia South**	**1.33**	**334**	Pn	Pn	23 20 35.8	-0.2
KAN05	**Bluff City Nor**	**1.34**	**330**	Pn	Pn	23 20 36.1	+0.1
KAN10	**Anthony SW Sta**	**1.45**	**324**	Pn	Pn	23 20 36.2	-1.3
U32A	**Winter Ranch,**	**1.65**	**286**	Pn	Pn	23 20 40.5	+0.3
WMOK	**Wichita Mounta**	**1.87**	**230**	Pn	Pn	23 20 43.4	+0.1
X37A	**Clayton**	**1.92**	**134**	Pn	Pn	23 20 44.6	+0.6
LOOK	**Love County**	**1.95**	**183**	Pn	Pn	23 20 45.0	+0.6
U38A	**Gravette**	**2.20**	**76**	Pn	Pn	23 20 48.8	+1.0
HHAR	**Hobbs**	**2.53**	**82**	Pn	Pn	23 20 53.5	+1.1

*IDC **17** 23:22:52.1±1.6, 1°.11N×96°.97E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/44, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=28.0km s-min=21.1km az=151.0*
*DJA **17** 23:22:55.1±2.6, 1°.N±9°×9°.7E±1°.4, h16km±9km, M3.8/6, mb3.8/1, MLv3.8/6*
ISC 17 23:22:56.7±1.4, 1°.3N±0°.1×97°.02E±0°.09, h28km, n13, σ0§88/12, mb3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.56**	**85**	P	**Pb**	**23 23 07.6**	**-0.4**
GSI				S	**Sb**	**23 23 15.6**	**-0.1**
KCSI	**Kotacane, Aceh**	**2.38**	**18**	P	**Pn**	**23 23 32.6**	**-1.3**
PSI	**Prapat**	**2.45**	**51**	Pn	**Pn**	**23 23 33.9**	**-1.0**
	2.2nm,0.3s,baz=286,slow=6.9,SNR=8.8						
PSI				Sn	**Sn**	**23 24 05.5**	**+1.4**
	2.5nm,0.3s,baz=229,slow=6.9,SNR=4.7						
PSI				Lg	Lg	23 24 12.8	
	1.3nm,0.3s,baz=59,slow=18,SNR=7.7						
MNSI	**Mandailing Nat**	**2.60**	**100**	P	**Pn**	**23 23 36.7**	**-0.2**
BKNI	**Bangkinang**	**4.12**	**103**	P	**Pn**	**23 23 57.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.20**	**6**	P	**Pn**	**23 26 55.6**	**+0.4**
	baz=201,slow=9.7,SNR=1.2						
H08S2	**Diego Garcia H**	**26.01**	**250**	T	T	23 55 35.1	
	baz=71,slow=76,SNR=264						
H08S3	**Diego Garcia H**	**26.01**	**250**	T	T	23 55 35.4	
	baz=71,slow=76,SNR=645						
H08S1	**Diego Garcia H**	**26.03**	**250**	T	T	23 55 28.3	
	baz=71,slow=76,SNR=88						
WRA	**Warramunga Arr**	**42.21**	**122**	P	**P**	**23 30 46.9**	**-0.7**
	0.4nm,0.8s,baz=301,slow=9.1,SNR=5.1						
SONM	**Songino Array**	**47.11**	**9**	P	**P**	**23 31 26.7**	**+0.3**
	0.4nm,0.5s,baz=189,slow=8.5,SNR=5.0						
MKAR	**Makanchi Array**	**47.15**	**346**	P	**P**	**23 31 27.6**	**+1.0**
	0.4nm,0.5s,baz=161,slow=8.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**53.48**	**351**	P	**P**	**23 32 14.8**	**+0.5**
	1.0nm,0.3s,baz=164,slow=5.9,SNR=7.8						

*IDC **17** 23:26:53.1±1.3, 3°.83N×126°.61E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/37, mbtmp3.6/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/54, Error ellipse: s-maj=93.5km s-min=19.2km az=70.0*
ISC 17 23:26:59.3±1.3, 3°.8N±0°.2×126°.6E±0°.7, h45km, n7, σ0§54/6, mb3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.77**	**182**	P	**P**	**23 31 47.8**	**+0.4**
	0.7nm,0.4s,baz=10,slow=8.5,SNR=6.1						
WRA	**Warramunga Arr**	**24.79**	**162**	P	**P**	**23 32 16.7**	**-0.5**
	2.6nm,0.8s,baz=342,slow=11,SNR=19						
ASAR	**Alice Springs**	**28.21**	**166**	P	**P**	**23 32 47.6**	**-0.4**
	0.2nm,0.6s,baz=342,slow=7.8,SNR=2.4						
STKA	**Stephens Creek**	**38.24**	**159**	P	**P**	**23 34 15.4**	**+0.3**
	1.5nm,0.4s,baz=337,slow=9.7,SNR=6.0						
USRK	**Ussuriysk Ar.**	**40.52**	**6**	LR	LR	23 54 59.8	
	comp=Z,26nm,18.0s,baz=222,slow=42						
SONM	**Songino Array**	**47.19**	**342**	P	**P**	**23 35 28.0**	**+0.3**
	0.2nm,0.5s,baz=152,slow=6.4,SNR=2.0						
MKAR	**Makanchi Array**	**57.42**	**325**	P	**P**	**23 36 43.2**	**-0.3**
	0.3nm,0.5s,baz=123,slow=8.2,SNR=8.5						

*IDC **17** 23:27:48.1±1.6, 3°.89N×126°.80E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/36, mbtmp3.9/5, Error ellipse: s-maj=94.3km s-min=22.9km az=68.0*
*NEIC **17** 23:28:10.3±0.9, 2°.62N±0°.07×127°.0E±0°.1, h82km±12km, mb4.2/11, Error ellipse: s-maj=16.3km s-min=10.4km az=85.0*
ISC 17 23:28:07.1±0.8, 2°.7N±0°.1×127°.1E±0°.1, h50km, n18, σ1§54/16, mb4.2/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**6.55**	**256**	Pn	**Pn**	**23 29 42.3**	**+1.4**
FAKI	**Fak Fak**	**7.55**	**137**	Pn	**Pn**	**23 29 57.8**	**+3.0**
FITZ	**Fitzroy Crossi**	**20.71**	**184**	P	**P**	**23 32 43.3**	**-0.1**
	1.3nm,0.4s,baz=11,slow=10,SNR=8.5						
YHNB	**Yeheng**	**22.55**	**346**	P	**P**	**23 33 04.6**	**+1.3**
YHNB				IAmb	IAmb	23 33 18.3	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**23.42**	**163**	P	**P**	**23 33 10.9**	**-1.1**
WB0				IAmb	IAmb	23 33 11.9	
	comp=Z,5.6nm,0.8s						
QIZ	**Qiongzhong**	**23.46**	**315**	P	**P**	**23 33 11.0**	**-1.4**
QIZ				IAmb	IAmb	23 33 15.9	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**23.57**	**163**	P	**P**	**23 33 11.9**	**-1.5**
	comp=Z,5.7nm,0.7s,baz=344,slow=10,SNR=17						
WRA	**Warramunga Arr**	**23.57**	**163**	IAmb	IAmb	23 33 13.4	
	comp=Z,0.2nm,0.9s						
WB2	**Warramunga Arr**	**23.58**	**163**	P	**P**	**23 33 12.7**	**-0.8**
WB2				IAmb	IAmb	23 33 13.6	
	comp=Z,6.9nm,0.8s						
WR0	**Warramunga Arr**	**23.65**	**162**	P	**P**	**23 33 13.3**	**-0.8**
WR0				IAmb	IAmb	23 33 14.3	
	comp=Z,4.3nm,0.8s						
ASAR	**Alice Springs**	**27.01**	**166**	P	**P**	**23 33 42.6**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=336,slow=6.9,SNR=2.2						
BBOO	**Buckleboo**	**36.30**	**167**	P	**P**	**23 35 04.9**	**-1.1**
BBOO				IAmb	IAmb	23 35 12.4	
	comp=Z,5.2nm,1.1s						
STKA	**Stephens Creek**	**37.01**	**159**	P	**P**	**23 35 10.2**	**-1.9**
	comp=Z,3.4nm,0.6s,baz=329,slow=8.6,SNR=9.8						
STKA	**Stephens Creek**	**37.01**	**159**	P	**P**	**23 35 11.2**	**-0.9**
ERM	**Erimo**	**41.71**	**18**	P	**P**	**23 35 50.9**	**-0.1**
ERM				IAmb	IAmb	23 35 57.1	
	comp=Z,20nm,0.9s						
MKAR	**Makanchi Array**	**58.64**	**325**	P	P	23 37 39.0	-20
	comp=Z,0.4nm,0.5s,baz=123,slow=8.6,SNR=8.4						
WKZ	**Wanaka**	**60.23**	**147**	P	**P**	**23 38 10.5**	**+0.3**
NNZ	**Nelson**	**60.62**	**141**	P	**P**	**23 38 11.5**	**-1.4**

*DJA **17** 23:29:02.5±0.8, 5°.N±7°×12°.7E±°, h10km, M4.6/18, mB5.3/7, mb4.4/18, MLv4.6/12, Mw(mB)4.8/7*
*IDC **17**

comp=Z,50nm,1.3s
TPUB Ta-pu 20.16 343 P Pn 23 33 46.1 -0.3
TPUB IAmb IAmb 23 33 52.3
comp=Z,65nm,1.3s
FITZ Fitzroy Crossi 21.96 183 P **P 23 34 03.1 -0.6**
comp=Z,3.7nm,0.4s,baz=10,slow=12
CGJI Cibinong 23.66 244 P **P 23 34 18.1 -3.3**
comp=Z,2μmcomp=Z,21nm,0.7s
MDSI Maura Dua 24.23 250 P **P 23 34 25.0 -1.7**
comp=Z,4.9nm,0.7s
WB0 Warramunga Arr 24.70 163 P **P 23 34 30.3 -0.6**
WB0 IAmb IAmb 23 34 31.8
comp=Z,21nm,0.8s
WB0 Warramunga Arr 24.70 163 P **P 23 34 30.3 -0.6**
WB0 IAmb IAmb 23 34 31.8
comp=Z,21nm,0.8s
WRAB Tennant Creek 24.85 163 P **P 23 34 32.6 +0.3**
WRAB IAmb IAmb 23 34 33.4
comp=Z,21nm,0.8s
WRAB Tennant Creek 24.85 163 P **P 23 34 31.4 -0.8**
WRAB IAmb IAmb 23 34 33.4
comp=Z,21nm,0.8s
WRA Warramunga Arr 24.85 163 P **P 23 34 32.1 -0.2**
comp=Z,15nm,0.8s,baz=343,slow=10,SNR=46
WRA Warramunga Arr 24.85 163 P **P 23 34 31.4 -0.9**
WRA IAmb IAmb 23 34 33.5
comp=Z,0.5nm,0.7s
WRA Warramunga Arr 24.85 163 P **P 23 34 31.4 -0.9**
WB2 Warramunga Arr 24.86 163 P **P 23 34 31.8 -0.6**
WB2 IAmb IAmb 23 34 33.5
comp=Z,25nm,0.8s
WB2 Warramunga Arr 24.86 163 P **P 23 34 31.8 -0.6**
WB2 IAmb IAmb 23 34 33.5
comp=Z,25nm,0.8s
WR0 Warramunga Arr 24.93 163 P **P 23 34 33.1 +0.2**
WR0 IAmb IAmb 23 34 34.1
comp=Z,15nm,0.8s
WR0 Warramunga Arr 24.93 163 P **P 23 34 32.3 -0.6**
WR0 IAmb IAmb 23 34 34.1
comp=Z,15nm,0.8s
PSA00 Pilbara Seismi 26.31 195 P **P 23 34 45.8 +0.3**
PSA00 IAmb IAmb 23 34 46.4
comp=Z,10nm,0.8s
ASAR Alice Springs 28.30 166 P **P 23 35 02.7 -0.6**
comp=Z,0.6nm,0.5s,baz=346,slow=7.1,SNR=8.9
ASAR PcP **PcP 23 38 17.0 +1.0**
comp=Z,0.5nm,0.8s,baz=353,slow=3.0,SNR=2.7
ASAR Alice Springs 28.30 166 P **P 23 35 04.5 +1.1**
CMAR Chiang Mai Arr 30.92 300 P **P 23 35 26.2 -0.5**
comp=Z,0.6nm,0.3s,baz=118,slow=7.2,SNR=6.2
FORT Forrest 34.57 178 P **P 23 35 57.6 -0.7**
BBOO Buckleboo 37.59 167 P **P 23 36 24.4 +0.2**
BBOO IAmb IAmb 23 36 37.9
comp=Z,9.0nm,1.1s
STKA Stephens Creek 38.28 160 P **P 23 36 30.6 +0.5**
comp=Z,14nm,0.7s,baz=332,slow=8.1,SNR=31
STKA LR LR 23 56 06.4
comp=Z,38nm,19.5s,baz=66,slow=42
STKA Stephens Creek 38.28 160 P **P 23 36 30.5 +0.5**
STKA IAmb IAmb 23 36 31.8
comp=Z,2.7nm,0.7s
STKA Stephens Creek 38.28 160 P **P 23 36 30.5 +0.5**
STKA IAmb IAmb 23 36 31.8
comp=Z,2.7nm,0.7s
SHL Shillong 39.89 306 P **P 23 36 43.0 -0.9**
SHL IAmb IAmb 23 36 44.3
comp=Z,15nm,0.7s
ARMA Armidale 41.56 147 P **P 23 36 56.7 -0.7**
ARMA IAmb IAmb 23 37 01.1
comp=Z,8.1nm,1.1s
SONM Songino Array 47.14 341 P **P 23 37 42.2 +0.4**
comp=Z,1.0nm,0.9s,baz=158,slow=7.5,SNR=4.6
SONM PcP **PcP 23 39 14.3 +1.2**
comp=Z,1.2nm,0.9s,baz=161,slow=3.6,SNR=5.4
SONM Songino Array 47.14 341 P **P 23 37 43.5 +1.7**
MK31 Makanchi Array 57.47 325 P **P 23 38 58.3 -0.2**
MKAR Makanchi Array 57.47 325 P **P 23 38 58.1 -0.3**
comp=Z,0.9nm,0.4s,baz=119,slow=7.1,SNR=13
MAKZ Makanchi 57.66 325 P **P 23 38 59.4 -0.4**
ZALV Zalesovo Beam 60.47 333 P **P 23 39 20.0 +0.9**
comp=Z,0.4nm,0.4s,baz=133,slow=7.7,SNR=2.9
KURK Kurchatov 61.65 327 P **P 23 39 27.8 +0.7**
KURK IAmb IAmb 23 39 35.8
comp=Z,3.8nm,0.7s
LBZ Lake Benmore 61.77 146 P **P 23 39 29.5 +1.5**
BKZ Black Stump Fm 62.63 138 P **P 23 39 35.1 +1.1**
NRIK Noril'sk 70.25 346 P **P 23 40 23.1 +1.0**
comp=Z,1.8nm,0.6s,baz=162,slow=4.5,SNR=3.9
ILAR Eielson Array 84.81 25 P **P 23 41 44.8 +1.4**
comp=Z,0.8nm,1.0s,baz=252,slow=6.3,SNR=4.4
FINES FINESS Array B 91.72 332 P **P 23 42 15.9 -0.7**
comp=Z,2.5nm,1.0s,baz=38,slow=2.5,SNR=1.5
AKASG Malin Array Be 91.83 321 P **P 23 42 16.6 -0.7**
comp=Z,0.6nm,0.6s,baz=68,slow=3.8,SNR=5.1
NOA NORSAR Array B 98.66 334 LR LR 00 32 30.0
comp=Z,22nm,18.7s,baz=285,slow=38
TORD Torodi Ar. Bea 123.03 288 PKP **PKiKP 23 48 07.3 +0.4**
comp=Z,0.4nm,0.8s,baz=82,slow=2.2,SNR=2.2

*IDC **17** 23:38:45.5±0.7, 30°.67N×132°.88E, h0km, mb3.9/18, mb1 4.1/23, mb1mx4.0/45, mbtmp3.9/23, ML3.4/5, MS2.9/2, Ms1 3.0/2, ms1mx2.5/94, Error ellipse: s-maj=20.3km s-min=14.0km az=78.0*
*JMA **17** 23:38:47.2±0.2, 30°.64N×132°.89E, h62km, M3.9*
*NEIC **17** 23:38:47.8±2.3, 30°.71N±0°.05×132°.83E±0°.08, h10km±1km, mb4.6/20, Error ellipse: s-maj=11.3km s-min=7.8km az=95.0*

ISC 17 23:38:50.5±0.5, 30°.67N±0°.05×132°.88E±0°.05, h35km, n69, σ1§63/76, mb4.1/28, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**1.62**	**302**	P	**Pn**	**23 39 14.7**	**-1.9**
JNAR				S	**Sn**	**23 39 35.1**	**-1.2**
JNKG	**Nichinankitago**	**1.62**	**308**	P	**Pn**	**23 39 14.8**	**-1.8**
JNKG				S	**Sn**	**23 39 35.2**	**-1.1**
JTN	**Tanegashima 3**	**1.64**	**270**	P	**Pn**	**23 39 14.2**	**-2.7**
JTN				S	**Sn**	**23 39 33.9**	**-2.8**
JMTN	**Minamitane**	**1.73**	**261**	P	**Pn**	**23 39 15.7**	**-2.4**
JMTN				S	**Sn**	**23 39 36.6**	**-2.4**
JTSR	**Tashiro 2**	**1.75**	**287**	P	**Pn**	**23 39 16.0**	**-2.5**
JTZ	**Takazaki**	**1.96**	**309**	P	**Pn**	**23 39 19.4**	**-1.9**
JTZ				S	**Sn**	**23 39 44.1**	**-0.6**
JTO	**Tosashimizu**	**2.18**	**358**	P	**Pn**	**23 39 21.1**	**-3.2**
JTO				S	**Sn**	**23 39 44.0**	**-6.1**
JSU	**Suzuyama**	**2.24**	**292**	**Pn**	**Pn**	**23 39 23.3**	**-1.8**
JSU				Sn	**Sn**	**23 39 49.1**	**-2.5**
JNN	**Nakanoshima**	**2.73**	**253**	P	**Pn**	**23 39 29.9**	**-2.0**
JNA	**Nagahama**	**2.90**	**353**	P	**Pn**	**23 39 32.0**	**-2.1**
JNA				S	**Sn**	**23 40 02.6**	**-5.1**
JNU	**Nakatsue**	**2.98**	**326**	Pn	**Pn**	**23 39 35.0**	**-0.3**
	10nm,0.3s,baz=74,slow=5.7,SNR=62						
JNU				Sn	**Sn**	**23 40 09.8**	**0.0**
	17nm,0.3s,baz=286,slow=1.3,SNR=4.8						
JNU	**Nakatsue**	**2.98**	**326**		**Pn**	**23 39 34.8**	**-0.5**
JMN	**Monobe**	**3.16**	**15**	P	**Pn**	**23 39 35.8**	**-2.0**
JMN	**Monobe**	**3.16**	**15**	**Pn**	**Pn**	**23 39 35.9**	**-1.9**
JHS	**Saijyo**	**4.32**	**3**		**Pn**	**23 39 52.0**	**-1.7**
JOW	**Kunigami**	**5.57**	**228**	Pn	**Pn**	**23 40 10.1**	**-0.8**
	4.7nm,0.3s,baz=15,slow=14,SNR=1.5						
MAJO	**Matsushiro**	**7.35**	**36**	Pn	**Pn**	**23 40 35.6**	**+0.3**
MAT	**Matsushiro**	**7.35**	**36**	P	**Pn**	**23 40 35.8**	**+0.5**
MJAR	**Matsushiro Arr**	**7.35**	**36**	Pn	**Pn**	**23 40 35.7**	**+0.4**
	0.1nm,0.3s,baz=237,slow=13,SNR=13						
MJB9	**Matsu-Tunnel**	**7.35**	**36**	Pn	**Pn**	**23 40 35.9**	**+0.6**
KSRS	**Korea Array**	**7.91**	**330**	Pn	**Pn**	**23 40 43.9**	**+0.8**
	0.2nm,0.3s,baz=140,slow=14,SNR=3.5						
KSRS				LR	LR	23 43 49.9	
	comp=Z,64nm,18.7s,baz=95,slow=38						
KLR	**Kul'dur**	**18.55**	**358**	P	**Pn**	**23 43 04.6**	**+0.1**
	0.2nm,0.3s,baz=180,slow=8.1,SNR=14						
GUMO	**Guam**	**20.28**	**144**		**S**	**23 47 05.7**	**-3.1**
ULN	**Ulaanbaatar**	**26.17**	**318**		**P**	**23 44 21.7**	**0.0**
SONM	**Songino Array**	**26.53**	**318**	P	**P**	**23 44 25.6**	**+0.6**
	0.6nm,0.8s,baz=134,slow=9.2,SNR=3.9						
SONM	**Songino Array**	**26.53**	**318**	P	**P**	**23 44 25.1**	**+0.2**
PETK	**Petropavlovsk-**	**28.78**	**32**	P	**P**	**23 44 45.8**	**+0.9**
	4.7nm,0.8s,baz=246,slow=6.3,SNR=3.5						
PETK	**Petropavlovsk-**	**28.78**	**32**	P	**P**	**23 44 44.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**33.05**	**256**	LR	LR	23 58 56.7	
	comp=Z,18nm,18.4s,baz=70,slow=37						
ZALV	**Zalesovo Beam**	**41.43**	**318**	P	**P**	**23 46 33.0**	**-0.5**
	0.6nm,0.7s,baz=90,slow=7.2,SNR=2.3						
MKAR	**Makanchi Array**	**41.87**	**307**	P	**P**	**23 46 38.1**	**+0.8**
	0.6nm,0.9s,baz=99,slow=7.6,SNR=5.6						
BILL	**Bilibino**	**42.19**	**18**	P	**P**	**23 46 39.8**	**+0.3**
MTN	**Manton Dam**	**43.30**	**182**	P	**P**	**23 46 48.9**	**-0.1**
MTN				IAmb	IAmb	23 46 49.5	
	comp=Z,6.2nm,0.8s						
KURK	**Kurchatov**	**44.62**	**313**	P	**P**	**23 47 00.1**	**+0.7**
KURK	**Kurchatov**	**44.62**	**313**	IAmb	IAmb	23 47 12.7	
	comp=Z,8.5nm,1.6s						
KURBB	**Kurchatov Arra**	**44.67**	**313**	P	**P**	**23 47 00.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=96,slow=8.1,SNR=6.5						
KNRA	**Kununurra**	**46.25**	**185**	P	**P**	**23 47 12.9**	**+0.3**
KNRA				IAmb	IAmb	23 47 13.7	
	comp=Z,7.5nm,0.8s						
NRIK	**Noril'sk**	**46.41**	**340**	P	**P**	**23 47 13.2**	**0.0**
	comp=Z,0.7nm,0.3s,baz=92,slow=12,SNR=4.0						
BRVK	**Borovoye**	**49.91**	**316**	P	**P**	**23 47 41.4**	**+0.9**
BRVK				IAmb	IAmb	23 47 41.8	
	comp=Z,4.2nm,0.7s						
WB0	**Warramunga Arr**	**50.17**	**178**	P	**P**	**23 47 42.5**	**-0.2**
WB0				IAmb	IAmb	23 47 43.8	
	comp=Z,7.2nm,1.4s						
KKAR	**Karatay Array**	**50.34**	**303**	P	**P**	**23 47 45.2**	**+1.2**
WB2	**Warramunga Arr**	**50.34**	**178**	P	**P**	**23 47 44.0**	**-0.1**
WB2				IAmb	IAmb	23 49 13.2	
	comp=Z,18nm,1.9s						
WRA	**Warramunga Arr**	**50.34**	**178**	P	**P**	**23 47 43.9**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=353,slow=7.8,SNR=9.3						
WRA	**Warramunga Arr**	**50.34**	**178**	P	**P**	**23 47 44.1**	**0.0**
WR0	**Warramunga Arr**	**50.37**	**178**	P	**P**	**23 47 44.0**	**-0.3**
WR0				IAmb	IAmb	23 47 45.3	
	comp=Z,3.5nm,0.8s						
AS31	**Alice Springs**	**54.04**	**179**	P	**P**	**23 48 11.4**	**-0.1**
ASAR	**Alice Springs**	**54.04**	**179**	P	**P**	**23 48 12.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=3.4,slow=6.3,SNR=13						
J20K	**Nowinta River**	**55.47**	**31**	P	**P**	**23 48 23.3**	**+1.9**
RSO	**Redoubt South**	**56.22**	**35**	P	**P**	**23 48 28.5**	**+1.4**
PPLA	**Purkeypile**	**56.37**	**32**	P	**P**	**23 48 30.0**	**+1.9**
KDAK	**Kodiak Island**	**56.52**	**38**	P	**P**	**23 48 28.6**	**-0.4**
ABKAR	**Akbulak array**	**56.69**	**311**	P	**P**	**23 48 30.4**	**0.0**
RND	**Reindeer**	**57.85**	**31**	P	**P**	**23 48 39.2**	**+0.8**
MDM	**Murphy Dome**	**57.99**	**30**	P	**P**	**23 48 40.2**	**+0.8**
H24K	**Noodor Dome**	**58.07**	**28**	P	**P**	**23 48 41.9**	**+1.9**
H24K				IAmb	IAmb	23 48 45.3	
	comp=Z,24nm,1.9s						
ILAR	**Eielson Array**	**58.58**	**30**	P	**P**	**23 48 42.8**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=285,slow=8.4,SNR=7.8						
BMAR	**Burnt Mountain**	**59.24**	**26**	P	**P**	**23 48 50.8**	**+2.8**
J26L	**Joseph Creek**	**60.03**	**30**	P	**P**	**23 48 53.7**	**+0.1**
J26L				IAmb	IAmb	23 50 29.2	
	comp=Z,16nm,1.8s						
BCAR	**Beaver Creek A**	**61.06**	**31**	P	**P**	**23 49 01.3**	**+0.7**
STKA	**Stephens Creek**	**62.76**	**172**	P	**P**	**23 49 12.5**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=343,slow=13,SNR=3.3						
A36M	**Sachs Harbour**	**64.70**	**20**	P	**P**	**23 49 25.8**	**+1.3**
A36M				IAmb	IAmb	23 49 35.4	
	comp=Z,6.9nm,0.8s						
KBZ	**Khabaz**	**69.52**	**309**	P	**P**	**23 49 56.2**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=101,slow=5.2,SNR=3.6						
FINES	**FINESS Array B**	**71.00**	**331**	P	**P**	**23 50 04.0**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=72,slow=6.2,SNR=8.9						
YKA	**Yellowknife Ar**	**72.76**	**27**	P	**P**	**23 50 15.4**	**+0.5**
	comp=Z,1.1nm,1.0s,baz=303,slow=5.6,SNR=9.4						
AKASG	**Malin Array Be**	**74.79**	**320**	P	**P**	**23 50 26.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=54,slow=6.0,SNR=7.7						
NOA	**NORSAR Array B**	**77.10**	**335**	P	**P**	**23 50 39.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=32,slow=8.3,SNR=2.0						
BRTR	**Keskin Array B**	**77.50**	**309**	P	**P**	**23 50 43.5**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=85,slow=4.3,SNR=5.6						
GERES	**GERESS Array B**	**84.05**	**325**	P	**P**	**23 51 17.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=35,slow=4.9,SNR=5.6						
NVAR	**Mina Array Bea**	**84.49**	**48**	P	**P**	**23 51 21.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=295,slow=5.3,SNR=3.9						

*IDC **17** 23:49:17.5±0.8, 0°.29N×126°.11E, h0km, mb4.1/12, mb1 4.1/13, mb1mx3.7/53, mbtmp4.0/13, ML3.1/1, Error ellipse: s-maj=42.8km s-min=16.3km az=75.0*
*DJA **17** 23:49:20.8±0.3, 0°.N±3°.×12°.6E±°., h10km, M3.5/7, MLv3.5/7*
*NEIC **17** 23:49:25.1±0.8, 0°.3N±0°.1×126°.28E±0°.08, h56km±10km, mb4.2/10, Error ellipse: s-maj=16.1km s-min=10.9km az=186.0*

ISC 17 23:49:23.5±0.6, 0°.17N±0°.06×126°.22E±0°.05, h44km, n32, σ1§22/34, mb4.0/18, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.29**	**62**	P	**Pn**	**23 49 45.8**	**+0.7**
TNTI				S	**Sn**	**23 50 05.1**	**+3.9**
TNTI	**Ternate**	**1.29**	**62**	Pn	**Pn**	**23 49 45.6**	**+0.5**
LBMI	**Labuha**	**1.51**	**122**	P	**Pn**	**23 49 47.7**	**-0.4**
SANI	**Sanana**	**2.22**	**186**	P	**Pn**	**23 49 58.6**	**+0.8**
KMSI	**Cibinong**	**2.28**	**280**	P	**Pn**	**23 49 57.7**	**-0.9**
GTOI	**Gorontalo**	**3.24**	**278**	P	**Pn**	**23 50 14.2**	**+2.3**
TOLI2	**Tolitoli**	**5.52**	**280**	Pn	**Pn**	**23 50 45.1**	**+1.9**
FITZ	**Fitzroy Crossi**	**18.16**	**182**	P	**Pn**	**23 53 33.0**	**+0.5**
	0.1nm,0.3s,baz=347,slow=14,SNR=1.5						
WB0	**Warramunga Arr**	**21.37**	**158**	P	**P**	**23 54 08.2**	**+0.8**
WB0				IAmb	IAmb	23 54 38.0	
	comp=Z,33nm,2.0s						
WRAB	**Tennant Creek**	**21.51**	**159**	P	**P**	**23 54 09.4**	**+0.6**
WRAB				IAmb	IAmb	23 54 22.5	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**21.51**	**159**	P	**P**	**23 54 09.1**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=336,slow=11,SNR=29						
WRA	**Warramunga Arr**	**21.51**	**159**	P	**P**	**23 54 08.5**	**-0.4**
WB2	**Warramunga Arr**	**21.52**	**159**	P	**P**	**23 54 09.1**	**+0.1**
WB2				IAmb	IAmb	23 54 22.4	
	comp=Z,7.2nm,1.1s						
WR0	**Warramunga Arr**	**21.60**	**158**	P	**P**	**23 54 09.6**	**-0.3**
WR0				IAmb	IAmb	23 54 31.4	
	comp=Z,6.6nm,1.1s						
COEN	**Coen**	**21.88**	**131**	P	**P**	**23 54 12.6**	**-0.3**
COEN				IAmb	IAmb	23 54 20.3	
	comp=Z,7.5nm,1.1s						
AS31	**Alice Springs**	**24.84**	**163**	P	**P**	**23 54 43.6**	**+1.6**
ASAR	**Alice Springs**	**24.84**	**163**	P	**P**	**23 54 43.5**	**+1.5**
	comp=Z,3.2nm,0.9s,baz=342,slow=8.8,SNR=24						
USRK	**Ussuriysk Ar.**	**44.14**	**6**	P	**P**	**23 57 27.4**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=179,slow=7.2,SNR=5.9						
KLR	**Kul'dur**	**49.10**	**5**	P	**P**	**23 58 05.0**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=180,slow=4.0,SNR=2.6						
SONM	**Songino Array**	**50.51**	**343**	P	**P**	**23 58 16.4**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=158,slow=7.7,SNR=5.8						
PETK	**Petropavlovsk-**	**58.90**	**22**	P	**P**	**23 59 18.2**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=190,slow=7.2,SNR=2.1						
MKAR	**Makanchi Array**	**60.20**	**327**	P	**P**	**23 59 26.2**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=119,slow=8.3,SNR=41						
MKAR				PcP	**PcP**	**00 00 11.6**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=121,slow=4.0,SNR=4.9						
MKAR	**Makanchi Array**	**60.20**	**327**	P	**P**	**23 59 26.0**	**-1.1**
BKZ	**Black Stump Fm**	**60.33**	**137**	P	**P**	**23 59 27.9**	**-0.3**
MAKZ	**Makanchi**	**60.38**	**327**	P	**P**	**23 59 27.7**	**-0.6**
MAKZ				IAmb	IAmb	00 01 19.1	
	comp=Z,12nm,1.9s						
KURBB	**Kurchatov Arra**	**64.47**	**329**	P	**P**	**23 59 54.5**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=123,slow=6.1,SNR=16						
KURK	**Kurchatov**	**64.47**	**329**	P	**P**	**23 59 55.0**	**-0.5**
BVAR	**Borovoye Array**	**70.03**	**328**	P	**P**	**00 00 30.5**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=114,slow=10,SNR=5.2						
TIXI	**Tiksi**	**71.39**	**1**	P	**P**	**00 00 37.4**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=167,slow=4.5,SNR=4.4						
AKTO	**Aktyubinsk**	**76.13**	**322**	P	**P**	**00 01 06.6**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=78,slow=8.0,SNR=3.5						
KVAR	**Kislovodsk Ar**	**85.21**	**314**	P	**P**	**00 01 56.3**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=34,slow=3.6,SNR=1.4						
YKA	**Yellowknife Ar**	**102.93**	**25**	P	**Pdif**	**00 03 18.8**	**+2.0**
	comp=Z,0.3nm,1.0s,baz=286,slow=5.7,SNR=3.7						

*IDC **17** 23:53:50.8±1.2, 3°.89N×126°.72E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/50, mbtmp3.7/7, MS3.6/2, Ms1 3.6/2, ms1mx2.6/77, Error ellipse: s-maj=89.1km s-min=16.8km az=70.0*

ISC 17 23:53:57.2±1.2, 3°.8N±0°.2×126°.6E±0°.6, h45km, n8, σ0§74/7, mb3.6/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.77**	**182**	P	**P**	**23 58 45.7**	**+0.4**
	1.0nm,0.3s,baz=12,slow=11,SNR=9.7						
FITZ				LR	LR	00 07 22.3	
	comp=Z,39nm,18.5s,baz=190,slow=37						
WRA	**Warramunga Arr**	**24.79**	**162**	P	**P**	**23 59 14.7**	**-0.4**
	3.2nm,0.6s,baz=343,slow=11,SNR=32						
ASAR	**Alice Springs**	**28.21**	**166**	P	**P**	**23 59 45.5**	**-0.4**
	0.2nm,0.4s,baz=345,slow=6.9,SNR=1.9						
STKA	**Stephens Creek**	**38.24**	**159**	P	**P**	**00 01 13.3**	**+0.2**
	4.0nm,0.7s,baz=338,slow=7.8,SNR=9.2						
SONM	**Songino Array**	**47.19**	**342**	P	**P**	**00 02 26.3**	**+0.7**
	0.1nm,0.4s,baz=162,slow=7.0,SNR=2.2						
MKAR	**Makanchi Array**	**57.42**	**325**	P	**P**	**00 03 41.3**	**-0.1**
	0.3nm,0.5s,baz=124,slow=8.2,SNR=9.8						
KURBB	**Kurchatov Arra**	**61.61**	**327**	P	**P**	**00 04 09.0**	**-1.1**
	0.2nm,0.4s,baz=123,slow=7.0,SNR=6.3						
SPITS	**Spitsbergen Ar**	**90.39**	**349**	LR	LR	00 54 19.5	
	comp=Z,101nm,18.1s,baz=7.5,slow=40						

*IDC **18** 00:35:26.4±2.2, 31°.09S×179°.09W, h206km±20km, mb4.0/5, mb1 4.1/6, mb1mx3.7/36, mbtmp4.5/6, MS4.3/1, Ms1 4.3/1, ms1mx2.9/53, Error ellipse: s-maj=45.6km s-min=22.8km az=162.0*
*NEIC **18** 00:35:33.0±0.5, 31°.68S±0°.09×179°.8W±0°.2, h223km±20km, mb4.1/16, Error ellipse: s-maj=30.7km s-min=1.5km az=114.0*

ISC 18 00:35:25.0±0.9, 31°.31S±0°.09×179°.0W±0°.1, h200km, n34, σ1§12/35, mb4.3/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.27**	**25**	P	**Pn**	**00 36 04.6**	**-1.8**
	192nm,0.3s,baz=165,slow=20,SNR=2.9						
RAO				S	**Sn**	**00 36 38.4**	**-0.2**
	177nm,0.3s,baz=209,slow=19,SNR=2.2						
MXZ	**Matakaoa Point**	**6.61**	**199**	Pn	**Pn**	**00 37 01.4**	**+1.3**
OUZ	**Omahuta**	**7.30**	**236**	Pn	**Pn**	**00 37 07.2**	**-1.9**
URZ	**Urewera**	**7.62**	**204**	Pn	**Pn**	**00 37 14.6**	**+1.4**
BKZ	**Black Stump Fm**	**8.64**	**204**	Pn	**Pn**	**00 37 26.8**	**+0.2**
KHZ	**Kahutara**	**12.57**	**206**	Pn	**Pn**	**00 38 14.8**	**-2.1**
LTZ	**Lake Taylor**	**13.38**	**209**	Pn	**Pn**	**00 38 25.4**	**-1.7**
OXZ	**Oxford**	**13.92**	**208**	Pn	**Pn**	**00 38 32.8**	**-1.1**
DZM	**Mont Dzumac**	**15.90**	**302**	P	**P**	**00 38 59.7**	**+1.8**
ODZ	**Otahua Downs**	**15.91**	**208**	P	**P**	**00 38 57.2**	**-0.6**
WKZ	**Wanaka**	**16.42**	**211**	P	**P**	**00 39 03.3**	**-0.1**
WKZ				IAmb	IAmb	00 39 18.1	
	comp=Z,6.1nm,0.9s						
MLZ	**Mavora Lakes**	**17.24**	**212**	P	**P**	**00 39 11.0**	**-1.4**
CTA	**Charters Tower**	**33.09**	**281**	P	**P**	**00 41 43.0**	**+0.9**
	comp=Z,2.4nm,0.4s,baz=111,slow=9.8,SNR=7.8						
CTAO	**Charters Tower**	**33.09**	**281**	P	**P**	**00 41 43.2**	**+1.1**
CTAO				IAmb	IAmb	00 41 47.1	
	comp=Z,5.4nm,1.1s						
STKA	**Stephens Creek**	**33.42**	**259**	P	**P**	**00 41 46.2**	**+1.3**
	comp=Z,4.5nm,0.5s,baz=97,slow=10.0,SNR=14						
STKA	**Stephens Creek**	**33.42**	**259**	P	**P**	**00 41 46.5**	**+1.6**
BBOO	**Buckleboo**	**37.87**	**256**	P	**P**	**00 42 21.5**	**-1.2**
BBOO				IAmb	IAmb	00 42 23.4	
	comp=Z,6.2nm,0.9s						
COEN	**Coen**	**38.69**	**288**	P	**P**	**00 42 30.3**	**+0.6**
COEN				IAmb	IAmb	00 42 32.3	
	comp=Z,7.4nm,1.0s						
AS31	**Alice Springs**	**42.18**	**268**	P	**P**	**00 42 58.4**	**+0.1**
AS31				IAmb	IAmb	00 42 58.8	
	comp=Z,2.6nm,0.5s						
ASAR	**Alice Springs**	**42.18**	**268**	P	**P**	**00 42 58.3**	**0.0**
	comp=Z,4.4nm,0.4s,baz=105,slow=7.5,SNR=69						
ASAR				PcP	**PcP**	**00 44 48.8**	**0.0**
	comp=Z,0.2nm,0.5s,baz=120,slow=3.7,SNR=1.4						
ASAR	**Alice Springs**	**42.18**	**268**	P	**P**	**00 42 58.0**	**-0.3**
WR0	**Warramunga Arr**	**43.08**	**274**	P	**P**	**00 43 05.4**	**-0.1**
WR0				IAmb	IAmb	00 43 05.9	
	comp=Z,6.6nm,0.7s						
WB2	**Warramunga Arr**	**43.24**	**274**	P	**P**	**00 43 06.6**	**-0.3**
WRAB	**Tennant Creek**	**43.25**	**274**	P	**P**	**00 43 06.5**	**-0.4**
WRAB				IAmb	IAmb	00 43 07.3	
	comp=Z,7.6nm,0.7s						
WRA	**Warramunga Arr**	**43.26**	**274**	P	**P**	**00 43 06.8**	**-0.1**
	comp=Z,7.6nm,0.5s,baz=112,slow=7.9,SNR=195						
WRA	**Warramunga Arr**	**43.26**	**274**	P	**P**	**00 43 06.5**	**-0.4**
WB0	**Warramunga Arr**	**43.28**	**274**		**P**	**00 43 06.9**	**-0.3**
FORT	**Forrest**	**44.96**	**256**	P	**P**	**00 43 19.5**	**-0.8**
JAY	**Jayapura**	**47.54**	**299**	LR	LR	01 00 19.0	
	comp=Z,296nm,18.8s,baz=347,slow=32						
KNRA	**Kununurra**	**49.90**	**276**	P	**P**	**00 43 58.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**51.48**	**271**	P	**P**	**00 44 10.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=94,slow=6.7,SNR=9.9						
PSA00	**Pilbara Seismi**	**54.98**	**264**	P	**P**	**00 44 33.8**	**-2.0**
PSA00			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDC	Heredia	0.63	331	eP	Pb	00 46 34.9	0.0
HDC				eS	Sb	00 46 44.2	+0.8
HDC3	Heredia 3	0.63	332	⇑iP	Pb	00 46 34.9	0.0
CRPO	Crater poas	0.85	331	⇑eP	Pb	00 46 38.6	-0.1
JACO	JACO, Garabito	0.87	285	⇑iP	Pb	00 46 38.6	-0.2
JACO	JACO, Garabito	0.87	285		Pb	00 46 38.6	-0.2
JACO					Sb	00 46 50.8	+0.8
SRA1	San Ramn	0.92	314	eP	Pb	00 46 39.1	-0.7
EDSV	San Vito	1.03	127	eP	Pn	00 46 41.8	0.0
LAFE	Finca La Fe, P	1.15	288	⇑eP	Pn	00 46 43.5	+0.2
CDITO	Canoas	1.27	133	⇑iP	Pn	00 46 43.4	-1.6
CDITO	Canoas	1.27	133	Pn	Pn	00 46 43.3	-1.6
CDITO	Canoas	1.27	133	eP	Pn	00 46 44.0	-0.9
CDITO				eS	Sb	00 47 01.9	+0.5
BRU2	Volcan	1.28	120	⇑eP	Pn	00 46 44.6	-0.6
BRU2	Volcan	1.28	120	Pn	Pn	00 46 44.6	-0.6
BRU2	Volcan	1.28	120	eP	Pn	00 46 45.0	-0.2
BRU2				eS	Sb	00 47 03.6	+1.7
CAO2	Cobano, Puntar	1.31	281	⇑eP	Pn	00 46 45.0	-0.5
CAO2	Cobano, Puntar	1.31	281		Pn	00 46 44.9	-0.5
CNI2	El Empalme, Bo	1.32	91	eP	Pn	00 46 45.2	-0.4
CNI2				eS	Sn	00 47 01.6	-1.0
FORC	Fortuna	1.32	320	⇑iP	Pn	00 46 45.9	+0.2
FORC				i S	Sb	00 47 04.5	+1.4
ARE1	Arenal 1	1.35	318	⇑eP	Pn	00 46 46.4	+0.2
ARE1				eS	Sb	00 47 05.1	+1.2
CEDE	Laguna Cedeo	1.36	320	⇑iP	Pn	00 46 46.7	+0.4
CEDE				i S	Sb	00 47 05.7	+1.5
COVE	Coope Vega, Sa	1.40	335	eP	Pn	00 46 46.5	-0.2
COVE	Coope Vega, Sa	1.40	335	Pn	Pn	00 46 46.5	-0.2
JTS	Las Juntas de	1.41	307	⇑eP	Pn	00 46 46.5	-0.3
JTS	Las Juntas de	1.41	307		Pn	00 46 46.4	-0.5
JTS	Las Juntas de	1.41	307	eP	Pn	00 46 46.6	-0.3
JTS				eS	Sn	00 47 05.2	+0.3
BCO2	Palmira	1.45	120	eP	Pn	00 46 47.7	0.0
BCO2				eS	Sb	00 47 07.1	+0.1
PTPM	Petroterminale	1.54	143	eP	Pn	00 46 49.0	+0.4
PTPM				eS	Sb	00 47 09.3	+0.1
DVD	David	1.67	127	eP	Pn	00 46 50.5	0.0
DVD				eS	Sn	00 47 12.0	+0.7
ACAL	Aguas Claras	1.69	314	⇑iP	Pn	00 46 51.5	+0.6
CHGR2	Aguacate	1.72	107	eP	Pn	00 46 50.5	-0.7
CHGR2				eS	Sn	00 47 13.1	+0.6
PTEN	Parque Tenorio	1.72	317	⇑iP	Pn	00 46 51.9	+0.6
INDI	Punta indio, G	1.72	284	eP	Pn	00 46 50.6	-0.7
DUNO	Dulce Nombre,	1.78	291	Pn	Pn	00 46 51.7	-0.3
CUI	Cuipilapa	1.80	312	eP	Pn	00 46 53.2	+0.9
CUI				⇓iP	Pn	00 46 53.3	+0.9
COLC	Colonia	1.83	312	⇓iP	Pn	00 46 53.7	+0.9
HORNC	Hornillas	1.85	313	i P	Pn	00 46 54.2	+1.1
GRZA	Playa Garza	1.86	285	eP	Pn	00 46 52.5	-0.6
ORTG	Ortega, Santa	1.87	299		Pn	00 46 53.6	+0.4
GUAI	GUAI	1.87	296	i P	Pn	00 46 53.7	+0.5
VMAR	Armenia, Volca	1.88	317	eP	Pn	00 46 54.7	+1.3
GUAB	Guayabo de Bag	1.88	312	⇓iP	Pn	00 46 54.4	+0.9
SAJU	San Juanillo,	1.98	288	eP	Pn	00 46 54.4	-0.3
BUAI	Buenos Aires	2.07	314	⇑iP	Pn	00 46 57.3	+1.2
LAPC	Finca la Perla	2.07	310	⇑iP	Pn	00 46 56.8	+0.7
HZTE	Horizontes, Gu	2.17	306	⇑eP	Pn	00 46 58.7	+1.4
HZTE	Horizontes, Gu	2.17	306	Pn	Pn	00 46 58.1	+0.7
ESPN	Las Esperanzas	2.78	350	Pn	Pn	00 47 05.2	-0.5
ACON	Acoyapa	2.85	332	⇑eP	Pn	00 47 06.5	-0.2
ACON	Acoyapa	2.85	332		Pn	00 47 06.5	-0.2
BOAB	BOACO BROADBAN	3.50	329		Pn	00 47 14.8	-0.9
PNME	Penonome	3.57	105	eP	Pn	00 47 17.3	+0.7
PNME				eS	Sn	00 47 59.4	+1.3
CACAO	El Cacao, Vera	3.58	125	eP	Pn	00 47 19.1	+2.3
CACAO				eS	Sb	00 48 12.9	+4.7
AZU	Azuero	3.86	115	eP	Pn	00 47 23.9	+3.3
AZU				eS	Sb	00 48 14.5	-1.6
BCIP	Isla Barro Col	3.93	94	Pn	Pn	00 47 21.4	-0.2
BCIP	Isla Barro Col	3.93	94	eP	Pn	00 47 21.7	+0.2
BCIP				eS	Sn	00 48 07.5	+0.4
CRIN	San Cristobal	4.54	316	Pn	Pn	00 47 29.4	-0.7
PRVC	Isla de Provid	4.58	31	Pn	Pn	00 47 29.4	-1.2
TGUH	Tegucigalpa,Un	5.70	324	Pn	Pn	00 47 46.4	+0.2
MTO3	Montecristo	7.33	313	Pn	Pn	00 48 08.6	0.0
SJCC	San Jacinto, C	8.52	86		Pn	00 48 24.9	+0.2
ZARC	Zaragoza, Cauc	9.06	102	Pn	Pn	00 48 31.9	-0.3
SDV	Santo Domingo	13.02	91	Pn	Pn	00 49 26.4	-0.1
BAUV	El Baul	15.57	91	Pn	Pn	00 49 59.5	-1.4
BAUV				IAmb	IAmb	00 50 03.3	
	comp=Z,15nm,1.3s						
BIRV	Birongo	17.30	85	Pn	Pn	00 50 19.8	-3.2
BIRV				IAmb	IAmb	00 50 32.2	
	comp=Z,10nm,1.0s						

*IDC **18** 00:50:31.6±3.0,37.°21N×72.°36E,h175km±23km,mb3.5/18, mb1 3.6/24,mb1mx3.3/59,mbtmp4.0/24,Error ellipse: s-maj=28.9km s-min=12.8km az=159.0*

*NEIC **18** 00:50:35.4±1.9,37.°54N±0.°06×72.°16E±0.°09,h191km±5km, mb4.1/19,Error ellipse: s-maj=10.8km s-min=8.8km az=102.0*

*NNC **18** 00:50:39.5±5.1,37.°95N×72.°20E,h219km±71km,mb3.2, mpv4.2,Error ellipse: s-maj=57.2km s-min=27.8km az=4.0*

ISC 18 00:50:34.8±0.5,**37.°50N**±0.°05×**72.°23E**±0.°05,**h200**km,**n97,** σ1♀**78**/111,**mb3.9**/24,**5C-2D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	2.01	351		Pn	00 51 13.3	-0.4
CHGR	Chuyangaron	2.69	297	Pn	Pn	00 51 20.0	-0.8
CHGR				Sn	Sn	00 51 53.4	-3.4
BTK	Batken	2.79	337	Pn	Pn	00 51 22.5	+0.5
BTK				Sn	Sn	00 51 57.4	-1.6
KBL	Kabul	3.92	222	Pn	Pn	00 51 36.0	+0.3
KBL				Sn	Sn	00 52 23.1	-0.4
NIL	Nilore	3.93	167		Pn	00 51 36.5	+0.8
THW	Thamme Wali	4.71	185	P	Pn	00 51 45.1	-0.4
AML	Almayashu	4.77	13	P	Pn	00 51 45.9	-0.6
	SNR=115						
UCH	Uchtor	5.04	20	P	Pn	00 51 49.6	-0.5
	SNR=36						
JMU	Jammu	5.25	155	eP	Pn	00 51 51.2	-1.2
JMU				i x	Pn	00 51 51.9	-0.4
JMU				eS	Sn	00 52 49.1	-4.4
EKS2	Erkin-Say	5.29	12	P	Pn	00 51 52.6	-0.4
	SNR=31						
AAK	Ala-Archa	5.42	18	P	Pn	00 51 54.5	-0.1
	10nm,0.3s,baz=176,slow=5.6,SNR=153						
AAK				S	Sn	00 52 55.7	-2.1
	4.4nm,0.3s,baz=163,slow=19,SNR=25						
AAK	Ala-Archa	5.42	18	P	Pn	00 51 54.6	-0.1
	SNR=37						
AAK	Ala-Archa	5.42	18	⇑P	Pn	00 51 54.4	-0.3
	21nm,0.5s						
AAK				S	Sn	00 52 55.5	-2.3
	43nm,0.6s						
KBK	Karagaybulak	5.56	21	P	Pn	00 51 54.1	-2.4
	SNR=5.5						
SARP	Sargodha	5.57	176	P	Pn	00 51 55.5	-1.1
FRU1	Bishkek	5.62	18		Pn	00 51 57.5	+0.4
ULHL	Ulahol	5.66	32	P	Pn	00 51 56.8	-0.9
	SNR=23						
BOOM	Boomskoye usch	5.75	29		Pn	00 51 58.5	-0.3
KKAR	Karatay Array	5.75	347	Pn	Pn	00 51 58.2	-0.6
KK08	Karatay Array	5.76	347	⇓P	Pn	00 51 58.0	-0.8
	7.4nm,0.3s,baz=164,slow=13						
KK08				⇑S	Sn	00 53 00.3	-5.1
	43nm,0.5s,baz=161,slow=22						
CHMS	Chumysh	5.83	19	P	Pn	00 51 59.3	-0.5
	SNR=15						
KDJ	Kajisay	6.00	38	Pn	Pn	00 52 01.6	-0.5
TKM2	Tokmak 2	6.00	24	P	Pn	00 52 01.9	-0.3
	SNR=12						
TKM2	Tokmak 2	6.00	24	⇓P	Pn	00 52 01.6	-0.6
	23nm,0.8s						
TKM2				⇑S	Sn	00 53 08.6	-2.7
	11nm,0.7s						
TARG	Taragay, Kyrgy	6.03	44	Pn	Pn	00 52 02.1	-0.7
DHRM	DHARAMSHALA	6.21	146	eP	Pn	00 52 04.6	-0.4
DHRM				eS	Sn	00 53 11.3	-5.0
DHRM				IAML		00 53 14.8	
	comp=E,553nm,0.4s						
BHK	Bhakra	6.98	149	eP	Pn	00 52 13.5	-1.3
SMLA	Simla	7.55	146	eP	Pn	00 52 21.0	-1.1
SMLA				eS	Sn	00 53 40.3	-7.3
SMLA				IAML		00 53 41.7	
	comp=E,195nm,0.4s						
HRA	Herat	8.67	252	Pn	Pn	00 52 34.6	-2.3
NDI	New Delhi	9.73	153	eP	Pn	00 52 49.0	-1.5
NDI				eS	Sn	00 54 31.9	-7.6
SONA	Sohna	10.08	155	eS	Sn	00 54 36.3	-11
GEYT	Alibeck	11.19	277	P	Pn	00 53 07.6	-1.7
	comp=E,1.0nm,0.3s,baz=103,slow=13,SNR=18						
GEYT				S	Sn	00 55 06.2	-7.8
	comp=E,0.9nm,0.3s,baz=168,slow=15,SNR=2.3						
GYA0B	ALIBECK ARRAY	11.19	277	Pn	Pn	00 53 08.1	-1.2
GYA0B					Sn	00 55 10.6	-3.4
MAKZ	Makanchi	11.78	35	Pn	Pn	00 53 15.7	-1.0
MK31	Makanchi Array	11.91	36	Pn	Pn	00 53 18.9	+0.5
MKAR	Makanchi Array	11.91	36	P	Pn	00 53 17.5	-0.9
	comp=E,0.2nm,0.3s,baz=215,slow=14,SNR=12						
MKAR	Makanchi Array	11.91	36	Pn	Pn	00 53 17.9	-0.5
PYUN	Piuthan	13.02	133	eP	Pn	00 53 30.5	-2.2
	comp=E,23nm,0.3s						
PYUN				eS	S	00 55 45.0	-13
DANN	Dangsing	13.29	130	eP	Pn	00 53 35.3	-0.9
	comp=E,26nm,0.4s						
KOLN	Koldanda	13.62	132	eP	Pn	00 53 38.8	-1.4
	comp=E,7.3nm,0.4s						
KURBB	Kurchatov Arra	13.88	17	P	P	00 53 45.0	0.0
	comp=E,0.1nm,0.3s,baz=205,slow=10,SNR=14						
KURBB				S	Sn	00 56 20.0	+2.2
	comp=E,0.1nm,0.3s,baz=210,slow=20,SNR=4.3						
KURK	Kurchatov	13.98	17		P	00 53 46.1	0.0
GKN	Gorkha	14.08	129	eP	Pn	00 53 45.7	-0.2
	comp=E,62nm,0.5s						
KKN	Kakani	14.63	128	eP	Pn	00 53 52.4	-0.3
	comp=E,11nm,0.3s						
DMN	Daman	14.65	129	eP	Pn	00 53 52.7	-0.3
AB31	Akbulak array	14.74	327	⇑P	Pn	00 53 52.9	-0.7
	comp=E,5.7nm,0.5s,baz=138,slow=12,SNR=196						
ABKAR	Akbulak array	14.74	327		Pn	00 53 53.0	-0.6
ABKAR	Akbulak array	14.74	327		Pn	00 53 53.1	-0.5
PKIN	Phulchoki	14.86	128	eP	Pn	00 53 56.0	+0.5
	comp=E,11nm,0.2s						
PKI	Pulchoki	14.87	128	eP	Pn	00 53 56.3	+0.6
	comp=E,8.0nm,0.2s						
GUN	Gumba	14.93	126	eP	Pn	00 53 56.9	+0.4
	comp=E,32nm,0.5s						
BVAR	Borovoye Array	15.58	356	P	P	00 54 04.1	+0.2
	comp=E,0.8nm,0.3s,baz=149,slow=12,SNR=25						
BVAR				S	S	00 56 52.3	-4.3
	comp=E,0.2nm,0.3s,baz=154,slow=22,SNR=3.7						
BRVK	Borovoye	15.62	356		Pn	00 54 04.0	-0.3
BRVK				IAmb	IAmb	00 54 06.0	
	comp=Z,6.9nm,0.9s						
AKTO	Aktyubinsk	16.45	326	P	Pn	00 54 14.9	+0.6
	comp=Z,3.1nm,0.3s,baz=116,slow=10.0,SNR=40						
AKTO				S	S	00 57 11.2	-4.1
	comp=Z,0.2nm,0.3s,baz=186,slow=21,SNR=2.7						
AKTO	Aktyubinsk	16.45	326	⇑P	Pn	00 54 14.0	-0.4
	comp=Z,7.9nm,0.5s						
ZAA0	Zalesovo Array	18.61	24	P	P	00 54 38.0	+1.1
ZALV	Zalesovo Beam	18.61	24	P	P	00 54 37.4	+0.5
	comp=Z,0.8nm,0.3s,baz=213,slow=9.9,SNR=19						
ZALV				S	S	00 57 55.6	-2.5
	comp=Z,0.2nm,0.3s,baz=166,slow=41,SNR=1.7						
ARU	Arti	21.04	339	P	P	00 55 04.2	+1.4
	comp=Z,1.6nm,0.5s,baz=153,slow=4.4,SNR=18						
ARU	Arti	21.04	339	P	P	00 55 04.0	+1.1
ARU				IAmb	IAmb	00 55 05.0	
	comp=Z,8.7nm,0.9s						
BELG	Belogornoye	22.76	319	P	P	00 55 21.7	+2.1
	comp=Z,7.7nm,0.6s,baz=202,slow=5.4,SNR=8.8						
KBZ	Khabaz	23.05	295	P	P	00 55 23.9	+1.5
	comp=Z,1.6nm,1.0s,baz=96,slow=10,SNR=1.3						
KIRV	Kirov	25.80	332	P	P	00 55 49.9	+2.8
	comp=Z,6.0nm,0.4s,baz=205,slow=17,SNR=6.2						
SONM	Songino Array	26.96	57	P	P	00 55 58.6	+0.7
	comp=Z,0.7nm,0.7s,baz=247,slow=7.6,SNR=5.5						
BRTR	Keskin Array B	30.08	286	P	P	00 56 26.9	+1.4
	comp=Z,0.4nm,0.3s,baz=93,slow=10,SNR=5.3						
BRTR	Keskin Array B	30.08	286	P	P	00 56 27.6	+2.0
NRIK	Noril'sk	32.98	10	P	P	00 56 51.6	+1.4
	comp=Z,2.1nm,0.6s,baz=297,slow=2.8,SNR=5.6						
NRIK	Noril'sk	32.98	10	P	P	00 56 51.5	+1.3
NRIK				IAmb	IAmb	00 56 52.9	
	comp=Z,2.9nm,0.8s						
AKASG	Malin Array Be	33.11	307	P	P	00 56 53.5	+1.9
	comp=Z,0.7nm,0.5s,baz=110,slow=8.4,SNR=4.9						
BURAR	Bucovina Array	35.59	302	P	P	00 57 15.4	+2.3
FIA1	FINESS Array S	37.22	325	P	P	00 57 27.9	+1.4
FIA1				IAmb	IAmb	00 57 47.9	
	comp=Z,3.2nm,0.8s						
FINES	FINESS Array B	37.22	325	P	P	00 57 28.1	+1.5
	comp=Z,1.2nm,0.4s,baz=123,slow=8.3,SNR=11						
FINES	FINESS Array B	37.22	325	P	P	00 57 27.9	+1.3
KWP	Kalwaria Pacla	37.23	305	P	P	00 57 29.3	+2.5
ARCES	ARCESS Array B	40.61	337	P	P	00 57 55.7	+1.1
	comp=Z,1.5nm,0.4s,baz=114,slow=8.4,SNR=21						
ARCES	ARCESS Array B	40.61	337	P	P	00 57 56.3	+1.7
ARCES				IAmb	IAmb	00 58 07.3	
	comp=Z,5.1nm,1.1s						
GERES	GERESS Array B	43.17	305	P	P	00 58 17.4	+1.7
	comp=Z,0.2nm,0.4s,baz=80,slow=9.6,SNR=2.1						
NC405	NORSAR Array S	43.95	322	P	P	00 58 22.1	+0.5
NC405				IAmb	IAmb	00 58 41.7	
	comp=Z,7.5nm,1.1s						
NC602	NORSAR Array S	44.01	322	P	P	00 58 23.2	+1.2
NC303	NORSAR Array S	44.12	323	P	P	00 58 24.6	+1.6
NC303				IAmb	IAmb	00 58 28.0	
	comp=Z,8.5nm,1.0s						
NB201	NORSAR Array S	44.15	322	P	P	00 58 24.4	+1.2
NB201				IAmb	IAmb	00 58 39.5	
	comp=Z,7.0nm,0.9s						
NB2	NORSAR Subarra	44.19	322	P	P	00 58 24.4	+0.9
	comp=Z,1.6nm,0.5s,baz=92,slow=7.9						
NOA	NORSAR Array B	44.19	322	P	P	00 58 24.7	+1.1
	comp=Z,2.3nm,0.6s,baz=93,slow=7.7,SNR=10						
NAO01	NORSAR Array S	44.34	322	P	P	00 58 26.0	+1.3
NC204	NORSAR Array S	44.42	323	P	P	00 58 26.7	+1.3
TIXI	Tiksi	44.48	22	P	P	00 58 26.0	+0.4
	comp=Z,0.9nm,0.3s,baz=290,slow=4.5,SNR=1.6						
KONO	Kongsberg	44.94	320	P	P	00 58 30.4	+0.9
CTI	Castel Tesino	45.00	301	P	P	00 58 30.4	+0.1
CTI				IAmb	IAmb	00 58 43.1	
	comp=Z,5.6nm,1.2s						
MSSA	Maissana	46.86	299	P	P	00 58 46.2	+1.4
SENIN	Lac Senin/Sane	47.88	302	P	P	00 58 54.0	+1.2
ESBB	Sonseca Array	57.86	298	P	P	01 00 06.3	+0.7
ESBB				IAmb	IAmb	01 00 12.1	
	comp=Z,3.1nm,1.0s						
ESDC	Sonseca Array	57.86	298	P	P	01 00 06.6	+0.9
	comp=Z,0.9nm,0.6s,baz=53,slow=7.3,SNR=12						
ESDC	Sonseca Array	57.86	298	IAmb	IAmb	01 00 10.9	
	comp=Z,0.5nm,1.0s						
TORD	Torodi Ar. Bea	66.72	269	P	P	01 01 04.3	-0.3
	comp=Z,0.6nm,0.4s,baz=48,slow=5.6,SNR=16						
INK	Inuvik	72.76	10	P	P	01 01 42.0	+1.4
	comp=Z,0.9nm,0.4s,baz=63,slow=2.3,SNR=1.6						
ILAR	Eielson Array	73.55	16	P	P	01 01 45.9	+0.6
	comp=Z,0.1nm,0.5s,baz=308,slow=4.4,SNR=3.1						
ILAR	Eielson Array	73.55	16	P	P	01 01 46.5	+1.2
YKA	Yellowknife Ar	80.20	3	P	P	01 02 23.3	+0.9
	comp=Z,0.8nm,0.5s,baz=350,slow=5.5,SNR=31						

*IDC **18** 00:52:34.6±1.1,26.°23N×92.°01E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.4/49,mbtmp3.7/7,Error ellipse: s-maj=44.3km s-min=22.1km az=60.0*

*NDI **18** 00:52:51.1±2.4,26.°37N×93.°09E,h10km,ML3.2*

ISC 18 00:52:41.4±0.9,**26.°4N**±0.°1×**92.°26E**±0.°08,**h47**km,**n11,** σ2♀**58**/14,**mb3.7**/8,**Northeastern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITAN	ITANAGAR	1.52	59	eP	Pn	00 53 08.2	+2.0
ITAN				eS	Sn	00 53 23.4	-1.4
ITAN				IAML		00 53 27.8	
	comp=E,2μm,0.4s						
ITAN				IAML		00 53 27.9	
	comp=N,2μm,0.1s						
KOHI	KOHIMA	1.78	111	eP	Pn	00 53 12.7	+2.8
KOHI				eS	Sn	00 53 27.8	-3.6
KOHI				IAML		00 53 28.7	
	comp=N,155nm,0.7s						
KOHI				IAML		00 53 29.8	
	comp=Z,120nm,0.2s						
MOKO	MOKOCHONG	2.02	91	eP	Pn	00 53 17.7	+4.5
MOKO				eS	Sn	00 53 32.9	-4.5
MOKO				IAML		00 53 41.2	
	comp=N,364nm,0.3s						
MOKO				IAML		00 53 41.4	
	comp=E,482nm,0.5s						
MKAR	Makanchi Array	21.87	341	P	P	00 57 31.2	+1.0
	comp=E,0.9nm,0.6s,baz=147,slow=12,SNR=7.5						
SONM	Songino Array	24.14	24	P	P	00 57 54.3	+1.2
	comp=E,0.2nm,0.4s,baz=212,slow=10,SNR=4.3						
ZALV	Zalesovo Beam	28.10	351	P	P	00 58 28.4	-0.2
	comp=E,0.7nm,0.4s,baz=166,slow=9.3,SNR=4.0						
FINES	FINESS Array B	55.84	328	P	P	01 02 12.1	-1.8
	comp=E,1.6nm,0.8s,baz=159,slow=5.9,SNR=1.9						
WRA	Warramunga Arr	61.53	134	P	P	01 02 54.3	+0.4
	comp=E,0.5nm,0.7s,baz=323,slow=7.3,SNR=3.4						
GERES	GERESS Array B	63.31	314	P	P	01 03 04.9	-0.7
	comp=E,0.3nm,0.4s,baz=80,slow=8.3,SNR=2.9						
ASAR	Alice Springs	64.00	137	P	P	01 03 10.5	+0.2
	comp=E,0.3nm,0.7s,baz=328,slow=7.9,SNR=2.3						
TORD	Torodi Ar. Bea	84.77	282	P	P	01 05 10.9	-0.4
	comp=E,0.4nm,0.6s,baz=56,slow=4.5,SNR=1.9						

*BGR **18** 00:56:34.1±0.0,34.°92N×139.°39E,h33km,mb5.0,Ms4.2*

*BJI **18** 00:56:43.9±0.0,35.°20N×139.°43E,h154km,mb4.7/53, mB4.8/31*

*MOS **18** 00:56:44.8±1.1,35.°20N×139.°27E,h140km,mb4.7/39, Error ellipse: s-maj=6.8km s-min=4.0km az=106.1*

*IDC **18** 00:56:47.7±0.5,35.°13N×139.°11E,h151km±4km,mb4.3/36, mb1 4.3/40,mb1mx4.2/49,mbtmp4.7/40,MS2.8/3, Ms1 2.8/3,ms1mx2.5/89,Error ellipse: s-maj=10.2km s-min=5.6km az=69.0*

*NIED **18** 00:56:48.1,35.°18N×139.°28E,h150km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr3.24; Mθθ-5.44; Mφφ2.20; Mrθ3.57; Mθφ2.40; Mφr2.56; Fault plane solution: M0 6.89000×10^15^ NP1:ϕs72.00000°, δ71.00000°,λ50.00000°. NP2:ϕs321.00000°,δ43.00000°, λ152.00000°.*

*NEIC **18** 00:56:48.1±1.8,35.°19N±0.°05×139.°25E±0.°07, h147km±5km,mb4.6/124 Error ellipse: s-maj=8.3km s-min=7.7km az=118.0*

*JMA **18** 00:56:48.1±0.1,35.°18N×139.°28E,h150km±1km,M4.3 Broadband fault plane solution: P waves. NP1: ϕs324.00000°,δ44.00000°,λ150.00000°. NP2: ϕs77.00000°,δ69.00000°,λ50.00000°. Principal axes: T Plg49.0000°, Azm303.0000°; N Plg37.0000°, Azm93.0000°; P Plg15.0000°, Azm195.0000°;*

JMA Felt II J1.

ISC 18 00:56:46.9±0.4,**35.°20N**±0.°03×**139.°27E**±0.°05,**h148**km±3km, **h147**km:**pP-P,n451,**σ1♀**60**/490,**mb4.6**/158,**37C-14D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	Odawara 2	0.17	294	⇑P	Pn	00 57 08.4	+1.5
JOD2				S	Sn	00 57 24.1	+2.1
AJI	Ajiro2	0.21	225	⇑P	Pn	00 57 08.3	+1.4
JFNN	Fujinakano	0.48	270	⇑P	Pn	00 57 09.5	+1.6
JFNN				S	Sn	00 57 25.9	+2.1
JIM2	Oshima 3	0.49	165	⇑P	Pn	00 57 09.4	+1.4
JIZS	Izushimoda	0.58	214	⇑P	Pn	00 57 09.9	+1.5
JIZS				eS	Sn	00 57 26.5	+1.8
JYN	Shimob	0.67	297	⇑P	Pn	00 57 10.6	+1.6
JYN				S	Sn	00 57 28.1	+2.2
JRY	Ryogami san	0.87	340	⇓P	Pn	00 57 12.4	+1.9
JRY				S	Sn	00 57 30.5	+2.0
JSG	Sagara	1.03	240	Pn	Pn	00 57 12.8	+1.1
JAG	Ashikaga	1.24	7	⇓P	Pn	00 57 15.1	+1.5
JAG				S	Sn	00 57 35.1	+1.0
JYT	Yasato	1.27	36		Pn	00 57 14.9	+1.0
JYT				Sn	Sn	00 57 34.9	+0.2
BSO1	Boso 1	1.50	111	⇑P	Pn	00 57 17.7	+2.0
MJAR	Matsushiro Arr	1.60	328	P	Pn	00 57 18.3	+0.9
	66nm,0.3s,baz=167,slow=10.0,SNR=2003						
MJAR				S	Sn	00 57 41.2	+0.5
	12nm,0.3s,baz=115,slow=16,SNR=2.2						
MJAR				LR	LR	00 57 52.7	
	comp=Z,66nm,21.2s,baz=72,slow=41						
MJAR	Matsushiro Arr	1.60	328	Pn	Pn	00 57 18.1	+0.8
MAJO	Matsushiro	1.60	328	⇓iP	Pn	00 57 18.6	+1.2
MAJO	Matsushiro	1.60	328		Pn	00 57 18.5	+1.1
MAT	Matsushiro	1.60	328	P	Pn	00 57 18.5	+1.1
MAT				S	Sn	00 57 41.6	+0.8
MAT	Matsushiro	1.60	328	P	Pn	00 57 18.5	+1.1
MAT				S	Sn	00 57 41.6	+0.8
MJB9	Matsu-Tunnel	1.60	327		Pn	00 57 18.6	+1.2
JGF	Kuroka	1.62	285		Pn	00 57 19.0	+1.4
TK02	Tokai 2	1.77	226	⇓P

YSS Yuzh-Sakhalins 12.04 12 *e*P **Pn 00 59 31.3 -2.2**
YSS pmax pmax
comp=Z,220nm,0.6s
YSS Yuzh-Sakhalins 12.04 12 Pn **Pn 00 59 31.5 -2.1**
YSS Yuzh-Sakhalins 12.04 12 P **Pn 00 59 31.6 -1.9**
CN2 Changchun 13.69 313 *e*P **Pn 00 59 55.8 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
BNX BinXian 13.86 323 ⇓P **P 00 59 59.0 -1.5**
BNX pmax pmax
comp=Z,8.0nm,0.5s
BNX pmax pmax
comp=Z,110nm,3.7s
UGL Uglegorsk 14.03 8 *e*P Pn 00 59 54.2 -4.8
UGL pmax pmax
comp=Z,60nm,1.2s
KLR Kul'dur 15.08 341 P **Pn 01 00 10.9 -1.3**
comp=Z,2.1nm,0.3s,baz=160,slow=9.2,SNR=33
KLR S **Sn 01 02 54.5 -5.0**
comp=Z,0.1nm,0.3s,baz=266,slow=17,SNR=5.1
KLR LR LR 01 05 40.6
comp=Z,76nm,18.4s,baz=164,slow=35
KLR Kul'dur 15.08 341*ce*P **Pn 01 00 10.7 -1.5**
KLR pmax pmax
comp=Z,10.0nm,0.6s
TYV Tymovskoe 15.85 8 *e*P **Pn 01 00 20.3 -1.4**
TYV *e*S **Sn 01 03 10.5 -7.5**
TYV pmax pmax
comp=Z,37nm,1.1s
TYV pmax pmax
comp=Z,500nm,4.2s
TYV smax smax
comp=E,10.0nm,1.8s
TYV smax smax
comp=E,600nm,6.4s
NJ2 Nanjing 17.29 265 *e*P **Pn 01 00 39.1 -0.3**
NJ2 pmax pmax
comp=E,15nm,0.8s
NACB Ninganchiao 18.85 239 P **P 01 00 55.0 -0.7**
NACB IAmb IAmb 01 01 03.0
comp=Z,18nm,0.9s
BJT Baijiatuau 18.91 292 P **P 01 00 56.9 +0.7**
BJT pmax pmax
comp=Z,8.0nm,0.6s
BJT Baijiatuau 18.91 292 P **P 01 00 56.9 +0.7**
SSLB Suanglung 19.55 239 P **P 01 01 03.0 -0.2**
SSLB IAmb IAmb 01 01 18.0
comp=Z,24nm,1.1s
XLT XiLinHaoTe 19.84 303 *e*P **P 01 01 03.6 -2.7**
XLT pmax pmax
comp=Z,34nm,0.7s
XLT pmax pmax
comp=Z,170nm,3.6s
HNS HongShan 19.91 284 ⇑P **P 01 01 04.1 -2.9**
HNS pmax pmax
comp=Z,19nm,0.8s
TPUB Ta-pu 20.09 239 P **P 01 01 07.1 -2.0**
TPUB IAmb IAmb 01 01 12.8
comp=Z,22nm,1.0s
ZEA Zeya 20.38 339 *e*P **P 01 01 11.9 +0.1**
ZEA pmax pmax
comp=E,10.0nm,0.3s
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.7s
GUMO Guam 22.10 165 P **P 01 01 28.9 -1.5**
comp=Z,69nm,0.7s,baz=12,slow=17,SNR=3.7
GUMO Guam 22.10 165 P **P 01 01 30.2 -0.2**
GUMO pmax pmax
comp=Z,114nm,1.0s
GUMO Guam 22.10 165 P **P 01 01 30.2 -0.2**
PETK Petropavlovsk- 22.14 30 P **P 01 01 32.3 +1.8**
comp=Z,1.1nm,0.3s,baz=222,slow=5.8,SNR=1.9
HHC Hu-ho-hao-te 22.50 293 *e*P **P 01 01 34.3 +0.1**
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.5s
BTO Baotou 23.65 292 *e*P **P 01 01 49.3 +4.5**
MA2 Magadan 25.53 14*ce*P **P 01 02 03.0 +1.5**
MA2 pmax pmax
comp=Z,16nm,1.7s
MA2 Magadan 25.53 14 P **P 01 02 04.3 +2.8**
ULN Ulaanbaatar 27.03 308*ce*P **P 01 02 14.6 -0.7**
ULN pmax pmax
comp=Z,8.0nm,0.7s
ULN Ulaanbaatar 27.03 308 P **P 01 02 14.8 -0.6**
ULN IAmb IAmb 01 02 17.2
comp=Z,8.6nm,0.7s
SONM Songino Array 27.45 307 P **P 01 02 18.2 -0.8**
comp=Z,5.5nm,0.7s,baz=110,slow=9.5,SNR=22
SONM PcP **PcP 01 05 34.0 +0.2**
comp=Z,1.2nm,0.6s,baz=126,slow=2.2,SNR=6.8
SONM ScP **ScP 01 08 59.6 -0.8**
comp=Z,1.8nm,1.0s,baz=151,slow=3.4,SNR=7.7
SONM Songino Array 27.45 307 P **P 01 02 18.6 -0.5**
SONM IAmb IAmb 01 02 20.9
comp=Z,9.5nm,1.2s
YAK Yakutsk 27.53 350 P **P 01 02 19.2 -0.2**
comp=Z,5.8nm,0.4s,baz=159,slow=2.4,SNR=4.3
YAK Yakutsk 27.53 350 *e*P **P 01 02 19.6 +0.2**
YAK *e**PP **pP 01 02 50.1 -0.4**
YAK *e* 01 03 08.2
YAK *e* 01 05 33.4
YAK *e*S **S 01 06 50.6 +1.3**
YAK *e**SS **sS 01 07 47.3 +3.5**
YAK *e* 01 12 53.1
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,82nm,2.8s
YAK pmax pmax
comp=N,67nm,3.0s
YAK pmax pmax
comp=E,42nm,3.3s
YAK smax smax
comp=N,63nm,2.8s
YAK smax smax
comp=E,31nm,2.8s
LZH Lanzhou 28.71 282 *e*P **P 01 02 29.4 -1.0**
LZH pmax pmax
comp=E,20nm,1.4s
LZH LR LR
comp=E,270nm,14.6s
LZH LR LR
comp=E,220nm,13.9s
LZH LR LR
comp=E,210nm,14.6s
H11N2 WAKE ISLAND Hy 28.82 115 T T 01 32 11.4
baz=306,slow=75,SNR=17
H11N1 WAKE ISLAND Hy 28.83 115 T T 01 32 10.5
baz=306,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 28.84 115 T T 01 32 04.7
baz=306,slow=75,SNR=16
SEY Seymchan 28.94 12 P **P 01 02 33.8 +1.9**
comp=E,0.8nm,0.3s,baz=198,slow=20,SNR=1.7
H11S3 WAKE ISLAND Hy 29.44 117 T T 01 33 11.2
baz=310,slow=76,SNR=7.0
H11S1 WAKE ISLAND Hy 29.44 117 T T 01 33 11.7
baz=310,slow=76,SNR=5.3
H11S2 WAKE ISLAND Hy 29.46 117 T T 01 33 12.5
baz=310,slow=76,SNR=5.8
ZAK Zakamensk 30.12 311 *e*P **P 01 02 40.5 -2.1**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
GTA Gaotai 31.50 290 *e*P **P 01 02 54.8 -0.1**
GTA pP pP 01 03 23.3 -3.4
GTA PcP **PcP 01 05 45.1 +0.8**
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,5.8s
GTA LR LR
comp=Z,180nm,16.0s
GTA LR LR
comp=Z,200nm,16.7s
GTA LR LR
comp=Z,86nm,16.0s
KMI Kunming 32.98 262 ⇓P **P 01 03 07.9 -0.2**
KMI pmax pmax
comp=Z,9.0nm,0.5s
PZH PanZhiHua 33.21 265 P **P 01 03 11.0 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,60nm,3.7s
GOMU GeErMu 35.88 285 P **P 01 03 32.6 -0.5**
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GOMU pmax pmax
comp=Z,47nm,4.5s
BILL Bilibino 36.28 17 *e*P **P 01 03 35.2 -0.4**
BILL *e* 01 04 59.7
BILL *e* 01 05 57.9
BILL pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 36.93 355 P **P 01 03 40.6 -0.5**
comp=Z,6.4nm,0.5s,baz=142,slow=6.3,SNR=26
TIXI S **S 01 09 13.1 -1.5**
comp=Z,0.5nm,0.3s,baz=314,slow=8.3,SNR=1.3
TIXI Tiksi 36.93 355*ce*P **P 01 03 41.5 +0.4**
TIXI pmax pmax
comp=Z,6.0nm,0.6s
TIXI Tiksi 36.93 355 P **P 01 03 41.5 +0.4**
TIXI IAmb IAmb 01 03 42.2
comp=Z,7.8nm,0.6s
JAY Jayapura 37.54 178 P **P 01 03 46.8 -0.1**
comp=Z,33nm,0.9s,baz=322,slow=7.2,SNR=4.8
TOLI2 Tolitoli 38.03 211 P **P 01 03 50.0 -1.0**
FAKI Fak Fak 38.48 191 P **P 01 03 53.4 -1.3**
FAKI IAmb IAmb 01 04 08.4
comp=Z,18nm,1.1s
SANI Sanana 39.09 201 P **P 01 03 56.8 -3.0**
comp=Z,18nm,0.5s
LUWI Luwuk 39.22 207 P **P 01 03 58.1 -2.7**
LUWI Luwuk 39.22 207 P **P 01 03 58.2 -2.6**
comp=Z,134nm,0.5s
CMAR Chiang Mai Arr 39.36 256 P **P 01 04 01.2 -0.9**
comp=Z,0.5nm,0.3s,baz=38,slow=6.0,SNR=1.4
CMAR PcP **PcP 01 06 07.8 +0.2**
comp=Z,1.1nm,0.4s,baz=26,slow=1.0,SNR=6.4
DGZ Jazzator, Alta 40.10 308 ⇑*i*P **P 01 04 09.1 +1.1**
DGZ pmax pmax
comp=Z,53nm,0.8s
WMQ Urumqi 40.16 298 ⇑*i*P **P 01 04 09.4 +0.9**
WMQ pmax pmax
comp=Z,65nm,0.9s
WMQ pmax pmax
comp=Z,160nm,4.3s
ZSN Zaisan 41.85 304 *e*P **P 01 04 21.4 -0.8**
ZSN *e*S **S 01 10 27.6 -1.3**
ZSN pmax pmax
comp=Z,11nm,0.9s
ZSN Zaisan 41.85 304 *e*P **P 01 04 21.4 -0.8**
comp=Z,11nm,0.9s,baz=304
ZSN *i* S **S 01 10 27.6 -1.3**
baz=304
ZSN *e*S **S 01 10 27.6 -1.3**
baz=304
ZAA0 Zalesovo Array 41.91 314 P **P 01 04 22.8 +0.3**
ZAA0 IAmb IAmb 01 04 23.6
comp=Z,21nm,0.8s
ZALV Zalesovo Beam 41.91 314 P **P 01 04 22.6 +0.1**
comp=Z,13nm,0.4s,baz=95,slow=6.2,SNR=92
ZALV PcP **PcP 01 06 15.1 -0.2**
comp=Z,6.5nm,0.5s,baz=100,slow=3.0,SNR=11
ZALV ScP **ScP 01 09 50.1 -1.6**
comp=Z,2.4nm,1.0s,baz=95,slow=5.2,SNR=3.8
ZALV Zalesovo Beam 41.91 314 P **P 01 04 22.9 +0.4**
TNA Tin City 43.30 29 P **P 01 04 34.5 +0.9**
MK31 Makanchi Array 43.65 303 P **P 01 04 37.3 +0.5**
MK31 pmax pmax
comp=Z,12nm,0.7s
MK31 Makanchi Array 43.65 303 P **P 01 04 37.3 +0.5**
MK31 IAmb IAmb 01 04 37.9
comp=Z,12nm,0.7s
MKAR Makanchi Array 43.65 303 P **P 01 04 37.0 +0.2**
comp=Z,14nm,0.6s,baz=85,slow=9.3,SNR=189
MKAR ScP **ScP 01 09 58.2 -0.8**
comp=Z,1.0nm,0.8s,baz=77,slow=5.2,SNR=5.4
MKAR Makanchi Array 43.65 303 P **P 01 04 36.7 0.0**
MAKZ Makanchi 43.87 303 P **P 01 04 38.7 +0.2**
MAKZ pmax pmax
comp=Z,17nm,0.9s
MAKZ Makanchi 43.87 303 P **P 01 04 38.7 +0.2**
MAKZ IAmb IAmb 01 04 39.7
comp=Z,17nm,0.9s
KAPI Kappang 44.01 209 P **P 01 04 38.4 -1.5**
KAPI pmax pmax
comp=Z,10.0nm,0.8s
KAPI Kappang 44.01 209 P **P 01 04 38.4 -1.5**
KAPI IAmb IAmb 01 04 39.5
comp=Z,9.7nm,0.8s
KAPI Kappang 44.01 209 P **P 01 04 38.4 -1.5**
BKSI Bulukumba 44.15 208 P **P 01 04 38.4 -2.6**
comp=Z,7μmcomp=Z,11nm,0.8s
NRIK Noril'sk 44.23 336 P **P 01 04 41.6 +0.6**
comp=Z,5.6nm,0.5s,baz=112,slow=11,SNR=18
NRIK Noril'sk 44.23 336*ce*P **P 01 04 41.1 +0.1**
NRIK pmax pmax
comp=Z,15nm,1.1s
NRIK Noril'sk 44.23 336 P **P 01 04 41.7 +0.6**
NRIK IAmb IAmb 01 04 43.0
comp=Z,9.4nm,0.8s
SEM Semipalatinsk 44.71 309 *e*P **P 01 04 43.9 -1.4**
SEM Semipalatinsk 44.71 309 *e*P **P 01 04 44.0 -1.4**
baz=308
GUN Gumba 45.62 276 *e*P **P 01 04 52.5 -0.5**
comp=Z,45nm,0.7s
KURK Kurchatov 45.73 309*ce*P **P 01 04 52.6 -0.5**
KURK pmax pmax
comp=Z,43nm,0.7s
KURK Kurchatov 45.73 309 P **P 01 04 53.3 +0.2**
KURBB Kurchatov Arra 45.79 309 P **P 01 04 53.6 0.0**
comp=Z,29nm,0.7s,baz=84,slow=7.5,SNR=115
KURBB PcP **PcP 01 06 27.2 -1.4**
comp=Z,0.7nm,0.5s,baz=90,slow=3.9,SNR=1.0
PDGK Podgornoye 46.12 299 P **P 01 04 56.2 -0.3**
PKI Pulchoki 46.14 276 *e*P **P 01 04 56.0 -1.0**
comp=Z,24nm,0.6s
PKIN Phulchoki 46.15 276 *e*P **P 01 04 55.9 -1.1**
comp=Z,24nm,0.6s
KKN Kakani 46.16 276 *e*P **P 01 04 56.4 -0.7**
comp=Z,30nm,0.7s
DMN Daman 46.37 276 *e*P **P 01 04 57.9 -0.9**
comp=Z,10nm,0.5s
UZB Uzynbulak 46.49 299 *e*P **P 01 04 58.5 -0.9**
UZB pmax pmax
comp=Z,6.0nm,0.5s
UZB Uzynbulak 46.49 299 *e*P **P 01 04 58.5 -0.9**
comp=Z,6.0nm,0.5s,baz=298
TDK Taldyqorghan 46.59 301 *e*P **P 01 04 59.7 -0.2**
TDK pmax pmax
comp=Z,11nm,0.5s
TDK Taldyqorghan 46.59 301 *e*P **P 01 04 59.8 -0.2**
comp=Z,11nm,0.5s,baz=301
GKN Gorkha 46.60 277 *e*P **P 01 04 59.7 -0.7**
ZHN Zhinishke 46.91 299 *e*P **P 01 05 01.2 -1.4**
ZHN Zhinishke 46.91 299 *e*P **P 01 05 01.3 -1.4**
baz=299
SATY Saty 46.95 299 *e*P **P 01 05 02.9 0.0**
SATY Saty 46.95 299 *e*P **P 01 05 03.0 0.0**
baz=298
PRZ Przheval'sk 47.08 298 P **P 01 05 05.4 +1.4**
PRZ pmax pmax
comp=Z,58nm,1.0s
PRZ Przheval'sk 47.08 298 P **P 01 05 05.4 +1.4**
DANN Dangsing 47.17 278 *e*P **P 01 05 04.8 -0.2**
comp=Z,62nm,0.5s
KOLN Koldanda 47.53 277 *e*P **P 01 05 07.1 -0.6**
CHKK Chushkaly 47.80 300 *e*P **P 01 05 08.2 -1.2**
baz=300
PYUN Piuthan 47.90 278 *e*P **P 01 05 10.1 -0.4**
comp=Z,30nm,0.5s
MDOK Medeo 47.91 299 *e*P **P 01 05 09.6 -0.7**
MDOK Medeo 47.91 299 *e*P **P 01 05 09.6 -0.7**
baz=299
TNSS Tian-Shan 48.01 299 *i*P **P 01 05 08.9 -2.5**
baz=299
KDJ Kajisay 48.04 298 P **P 01 05 12.2 +0.8**
KDJ pmax pmax
comp=Z,26nm,1.1s
KDJ Kajisay 48.04 298 P **P 01 05 12.2 +0.8**
KDU Kakadu 48.05 189 P **P 01 05 10.4 -1.0**
O18K Koktuh Hills 48.19 38 P **P 01 05 12.7 +0.6**
KUU Kurty 48.25 300 *i*P **P 01 05 11.8 -1.0**
baz=300
KUU *i* S **S 01 12 00.7 -0.4**
baz=300
MTN Manton Dam 48.40 191 P **P 01 05 12.8 -1.3**
MTN Manton Dam 48.40 191 P **P 01 05 12.8 -1.3**
KST Kastek 48.71 299 *e*P **P 01 05 15.9 -0.5**
comp=Z,27nm,0.7s,baz=299
J20K Nowinta River 48.82 32 P **P 01 05 19.2 +2.4**
BOOM Boomskoye usch 48.85 299 P **P 01 05 18.7 +1.1**
BOOM pmax pmax
comp=Z,17nm,1.0s
BOOM Boomskoye usch 48.85 299 P **P 01 05 18.7 +1.1**
BOOM IAmb IAmb 01 05 19.1
comp=Z,17nm,0.9s
TKM2 Tokmak 2 49.00 299 P **P 01 05 19.8 +1.0**
SNR=18
TKM2 Tokmak 2 49.00 299 P **P 01 05 19.5 +0.8**
COEN Coen 49.02 175 P **P 01 05 19.3 +0.5**
COEN IAmb IAmb 01 05 20.8
comp=Z,16nm,0.8s
COEN Coen 49.02 175 P **P 01 05 19.4 +0.5**
H21K Melozitna Rive 49.48 30 P **P 01 05 23.4 +1.6**
KBK Karagaybulak 49.52 299 P **P 01 05 23.6 +0.9**
SNR=27
SGDS Sogindy 49.56 300 *e*P **P 01 05 21.9 -0.9**
comp=Z,7.8nm,0.8s,baz=300
CHMS Chumysh 49.58 300 P **P 01 05 23.5 +0.5**
SNR=10
KSH Kashi 49.59 295 P **P 01 05 27.3 +4.1**
KSH sP sP 01 06 16.1 +2.1
KSH PcP **PcP 01 06 45.3 +2.7**
KSH S **S 01 12 26.8 +6.7**
KSH ScS **ScS 01 15 01.3 +1.5**
KSH pmax pmax
comp=Z,9.0nm,0.9s
BRZS Berezniki 49.59 309 *e*P **P 01 05 21.4 -1.5**
BRZS Berezniki 49.59 309 *e*P **P 01 05 21.5 -1.5**
baz=309
BTLS Baital 49.61 302 *e*P **P 01 05 21.6 -1.5**
BTLS pmax pmax
comp=Z,8.0nm,0.4s
BTLS Baital 49.61 302 *e*P **P 01 05 21.6 -1.5**
comp=Z,8.0nm,0.4s,baz=302
KDAK Kodiak Island 49.62 41 P **P 01 05 24.7 +1.8**
comp=Z,3.6nm,0.5s,baz=285,slow=4.9,SNR=7.6
KDAK Kodiak Island 49.62 41 P **P 01 05 24.0 +1.0**
KDAK IAmb IAmb 01 05 32.7
comp=Z,11nm,0.9s
PPLA Purkeypile 49.66 34 P **P 01 05 25.2 +1.9**
USP Ospenovka 49.70 300 P **P 01 05 24.4 +0.6**
SNR=14
AAK Ala-Archa 49.85 299 P **P 01 05 25.7 +0.5**
comp=Z,10nm,0.6s,baz=144,slow=7.5
AAK Ala-Archa 49.85 299 P **P 01 05 25.8 +0.5**
SNR=8.9
AAK Ala-Archa 49.85 299*ce*P **P 01 05 25.2 0.0**
AAK pmax pmax
comp=Z,11nm,0.7s
AAK Ala-Archa 49.85 299 IAmb IAmb 01 05 26.5
comp=Z,12nm,0.8s
UCH Uchtor 49.94 299 P **P 01 05 27.3 +1.1**
SNR=6.2
OTUK Ortayu 50.12 307 P **P 01 05 26.9 0.0**
EKS2 Erkin-Say 50.36 299 P **P 01 05 29.3 +0.4**
SNR=6.5
BRLK Bradley Lake 50.38 38 P **P 01 05 30.8 +2.1**
BRLK IAmb IAmb 01 05 32.6
comp=Z,24nm,1.2s
TRF Thorofare Moun 50.52 33 P **P 01 05 31.9 +2.1**
TRF IAmb IAmb 01 05 39.5
comp=Z,7.0nm,1.1s
BVAR Borovoye Array 50.54 313 P **P 01 05 30.0 0.0**
comp=Z,7.3nm,0.4s,baz=93,slow=12,SNR=71
BVAR PcP **PcP 01 06 45.6 0.0**
comp=Z,3.0nm,0.6s,baz=87,slow=6.1,SNR=3.9
AML Almayashu 50.55 299 P **P 01 05 31.9 +1.2**
SNR=29
BRVK Borovoye 50.60 313*ce*P **P 01 05 30.2 -0.2**
BRVK pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 50.60 313 P **P 01 05 30.5 +0.1**
BRVK IAmb IAmb 01 05 32.0
comp=Z,16nm,0.9s
RC01 Rabbit Creek A 50.87 36 P **P 01 05 31.3 -1.0**
SEW Seward 51.07 38 P **P 01 05 34.9 +1.1**
MCK McKinley 51.12 33 P **P 01 05 35.9 +1.7**
MCK pmax pmax
comp=Z,2.0nm,0.8s
MCK McKinley 51.12 33 P **P 01 05 35.9 +1.7**
RND Reindeer 51.17 33 P **P 01 05 35.7 +1.1**
RND pmax pmax
comp=Z,6.0nm,1.0s
RND Reindeer 51.17 33 P **P 01 05 35.7 +1.1**
GHO Glory Hole Cre 51.22 35 P **P 01 05 36.1 +1.1**
GHO IAmb IAmb 01 05 49.1
comp=Z,8.9nm,1.1s
MDM Murphy Dome 51.39 31 P **P 01 05 38.5 +2.3**
MDM IAmb IAmb 01 05 39.5
comp=Z,7.1nm,0.8s
SML Sawmill 51.49 35 P **P 01 05 38.2 +1.1**
SML IAmb IAmb 01 05 45.2
comp=Z,7.9nm,1.0s
H24K Noodor Dome 51.51 30 P **P 01 05 39.8 +2.6**
KNRA Kununurra 51.57 193 P **P 01 05 37.6 -0.3**
DHY Denali Highway 51.85 34 P **P 01 05 41.6 +1.8**
ILAR Eielson Array 51.97 32 P **P 01 05 41.8 +1.4**
comp=Z,1.7nm,0.8s,baz=272,slow=6.1,SNR=15
ILAR PcP **PcP 01 06 50.9 +0.1**
comp=Z,1.0nm,0.7s,baz=272,slow=3.6,SNR=1.5
DZA Taraz 52.04 300 *e*P **P 01 05 40.7 -0.6**
DZA Taraz 52.04 300 *e*P **P 01 05 40.8 -0.6**
baz=300
FID Port Fidalgo 52.48 37 P **P 01 05 45.7 +1.4**
FID IAmb IAmb 01 05 51.5
comp=Z,17nm,1.0s
M24K Tolsona, Glenn 52.48 35 P **P 01 05 47.0 +2.6**
M24K IAmb IAmb 01 05 56.7
comp=Z,16nm,1.1s
DRK Karamyk 52.69 296 IAmb IAmb 01 05 47.7
comp=Z,12nm,0.7s
BMAR Burnt Mountain 52.77 28 P **P 01 05 48.9 +2.6**
BRLS Borolday 53.05 301 *e*P **P 01 05 49.3 +0.5**
BRLS Borolday 53.05 301 *e*P **P 01 05 49.4 +0.5**
baz=300
IUG Iuzhnay 53.17 300 *e*P **P 01 05 48.8 -0.9**
IUG Iuzhnay 53.17 300 *e*P **P 01 05 48.8 -0.9**
baz=300
BTK Batken 53.23 297 P **P 01 05 50.7 +0.5**
BTK pmax pmax
comp=Z,5.0nm,0.7s
BTK Batken 53.23 297 P **P 01 05 50.6 +0.5**
BTK IAmb IAmb 01 05 53.7
comp=Z,5.0nm,0.7s
N25K Chitina, Valde 53.28 35 P **P 01 05 51.9 +1.6**
N25K IAmb IAmb 01 05 54.6
comp=Z,5.0nm,0.9s
SCRK Sand Creek 53.29 32 P **P 01 05 51.5 +1.2**
BMRM Bremner River 53.37 36 P **P 01 05 52.4 +1.5**
BMRM IAmb IAmb 01 05 53.5
comp=Z,15nm,1.2s
NIL Nilore 53.55 289 P **P 01 05 53.2 +0.6**
NIL pmax pmax
comp=Z,30nm,0.8s
NIL Nilore 53.55 289 P **P 01 05 53.2 +0.6**
M26K Nabesna, AK 53.93 34 P **P 01 05 57.5 +2.6**
L27K Beaver Creek, 54.36 33 P **P 01 06 00.7 +2.7**
BCAR Beaver Creek A 54.38 33 P **P 01 06 00.6 +2.4**
M27K Edge Creek, AK 54.45 34 P **P 01 06 01.1 +2.3**
M27K IAmb IAmb 01 06 02.0
comp=Z,5.6nm,0.8s
BARN Barnard Glacie 54.77 36 P **P 01 06 02.6 +1.5**
BARN IAmb IAmb 01 06 13.7
comp=Z,7.8nm,1.2s
CTGM Chitina Glacie 54.94 36 P **P 01 06 04.4 +2.0**
CTGM IAmb IAmb 01 06 20.1
comp=Z,14nm,1.1s
WRAB Tennant Creek 55.02 186*ce*P **P 01 06 02.6 -0.6**
WRAB pmax pmax
comp=Z,27nm,0.7s
WRAB Tennant Creek 55.02 186 P **P 01 06 02.8 -0.4**
WRAB Tennant Creek 55.02 186 P **P 01 06 02.3 -0.9**
WRA Warramunga Arr 55.03 186 P **P 01 06 02.5 -0.7**
comp=Z,36nm,0.6s,baz=1.3,slow=7.6,SNR=219
WRA S **S 01 13 28.4 -5.7**
comp=Z,0.2nm,0.7s,baz=1.8,slow=30,SNR=0.9
WRA Warramunga Arr 55.03 186 P **P 01 06 02.6 -0.7**
WRA pmax pmax
comp=Z,3.0nm,0.6s

WRA	Warramunga Arr	55.03 186	IAmb	IAmb	01 06 03.5	
	comp=Z,3.1nm,0.6s					
SVE	Sverdlovsk	55.39 319	*eP*	P	01 06 06.1	+0.7
SVE			pmax	pmax		
	comp=Z,22nm,0.9s					
QIS	Mount Isa	55.45 180	P	P	01 06 06.0	-0.2
EPYK	Eagle Plains	55.97 29	IAmb	IAmb	01 06 12.4	
	comp=Z,6.3nm,0.6s					
KBL	Kabul	56.46 291	P	P	01 06 13.5	-0.2
KBL			pmax	pmax		
	comp=Z,8.0nm,1.1s					
KBL	Kabul	56.46 291	P	P	01 06 13.5	-0.2
KBL			IAmb	IAmb	01 06 13.6	
	comp=Z,7.7nm,1.1s					
ARU	Arti	56.60 319	P	P	01 06 13.8	-0.1
	comp=Z,4.5nm,0.5s,baz=84,slow=3.7,SNR=11					
ARU	Arti	56.60 319*c*	*i* P	P	01 06 13.9	-0.1
ARU			*PP	pP	01 06 44.5	-4.3
ARU					01 07 06.1	
ARU			S	S	01 13 56.5	+2.4
ARU			SS	SS	01 17 46.9	+3.6
ARU			pmax	pmax		
	comp=Z,28nm,1.1s					
ARU	Arti	56.60 319	P	P	01 06 14.1	+0.1
M30M	Minto, Yukon	56.73 33	P	P	01 06 17.9	+3.1
INK	Inuvik	56.80 26	P	P	01 06 16.6	+1.3
	comp=Z,2.6nm,0.6s,baz=312,slow=4.9,SNR=10					
INK	Inuvik	56.80 26	P	P	01 06 16.9	+1.7
INK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
INK	Inuvik	56.80 26	P	P	01 06 16.9	+1.7
N31M	Braeburn, Yuko	57.45 35	P	P	01 06 22.9	+2.9
N31M			IAmb	IAmb	01 06 23.8	
	comp=Z,7.3nm,0.8s					
WHY	Whitehorse	58.09 35	P	P	01 06 27.3	+2.8
WHY			IAmb	IAmb	01 06 28.2	
	comp=Z,6.6nm,0.8s					
A36M	Sachs Harbour	58.60 21	P	P	01 06 30.3	+2.6
A36M			IAmb	IAmb	01 06 31.0	
	comp=Z,5.9nm,0.8s					
AKTO	Aktyubinsk	58.62 312	P	P	01 06 28.1	-0.1
	comp=Z,13nm,0.7s,baz=74,slow=5.9,SNR=8.9					
AS31	Alice Springs	58.76 186	P	P	01 06 29.8	+0.3
ASAR	Alice Springs	58.76 186	P	P	01 06 29.0	-0.4
	comp=Z,7.2nm,0.7s,baz=19,slow=10,SNR=51					
ASAR			S	S	01 14 18.9	-4.1
	comp=Z,0.3nm,0.7s,baz=18,slow=22,SNR=3.4					
P33M	Teslin, Yukon	59.20 36	P	P	01 06 34.6	+2.4
PSA00	Pilbara Seismi	59.39 201	P	P	01 06 32.7	-1.1
C36M	Paulatuk	59.82 24	P	P	01 06 37.9	+1.8
C36M			IAmb	IAmb	01 06 38.6	
	comp=Z,9.6nm,0.7s					
KIRV	Kirov	60.67 323	P	P	01 06 42.1	0.0
	comp=Z,35nm,0.6s,baz=66,slow=2.0					
KIRV	Kirov	60.67 323*c*	*e*P	P	01 06 42.5	+0.4
WRKA	Warakurna	60.80 191	P	P	01 06 43.1	-0.3
PRGR	Permogore	61.36 327	*e*P	P	01 06 46.7	0.0
PRGR			pmax	pmax		
	comp=Z,26nm,0.8s					
QLP	Quilpie	61.62 175	P	P	01 06 48.3	-0.5
HRA	Herat	61.67 294	P	P	01 06 50.0	+0.4
HRA			IAmb	IAmb	01 06 51.5	
	comp=Z,8.3nm,0.7s					
SPA0	Spitsbergen Ar	61.98 349	*e*P	P	01 06 52.9	+2.2
SPB2	Spitsbergen Ar	61.98 349	P	P	01 06 52.6	+1.9
SPITS	Spitsbergen Ar	61.98 349	P	P	01 06 52.7	+2.0
KBS	Kingsbay	62.16 350	P	P	01 06 53.4	+1.6
KBS			pmax	pmax		
	comp=Z,21nm,0.9s					
KBS	Kingsbay	62.16 350	P	P	01 06 53.4	+1.6
EUNU	Eureka	62.25 8	P	P	01 06 53.8	+1.3
EUNU			IAmb	IAmb	01 06 54.2	
	comp=Z,3.7nm,0.6s					
OOD	Oodnadatta	62.74 184	P	P	01 06 56.5	+0.3
GEYT	Alibeck	63.21 299	P	P	01 07 00.1	+0.6
	comp=Z,2.4nm,0.7s,baz=333,slow=0.6,SNR=4.6					
BELG	Belogornoye	63.96 317	P	P	01 07 04.1	0.0
	comp=Z,20nm,0.8s,baz=68,slow=2.8					
BELG	Belogornoye	63.96 317	*i* P	P	01 07 03.8	-0.3
BELG			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KLMR	Klimovskoe	64.38 328	*e*P	P	01 07 06.1	-0.6
KLMR			*e*		01 09 30.8	
KLMR			pmax	pmax		
	comp=Z,6.0nm,0.5s					
KLMR	Klimovskoe	64.38 328	*e*P	P	01 07 06.2	-0.5
KLMR			AMP		01 07 07.2	
	comp=Z,6.0nm,0.5s					
KLMR			*e*PP	PP	01 09 30.8	+1.2
KEV	Kevo	64.54 339	P	P	01 07 08.2	+0.6
KEV			pmax	pmax		
	comp=Z,16nm,0.9s					
KEV	Kevo	64.54 339	P	P	01 07 08.2	+0.6
RES	Resolute Bay	64.80 14	P	P	01 07 10.4	+1.2
RES			pmax	pmax		
	comp=Z,4.0nm,0.6s					
RES	Resolute Bay	64.80 14	P	P	01 07 10.4	+1.2
RES			IAmb	IAmb	01 07 11.5	
	comp=Z,4.4nm,0.6s					
ARA0	ARCESS Array S	65.10 339	*e*P	P	01 07 11.9	+0.6
ARCES	ARCESS Array B	65.10 339	P	P	01 07 11.7	+0.4
	comp=Z,5.3nm,0.6s,baz=55,slow=8.0,SNR=17					
ARCES	ARCESS Array B	65.10 339	IAmb	IAmb	01 07 24.6	
	comp=Z,10nm,1.1s					
MULG	Mulgathing	65.31 185	P	P	01 07 13.3	+0.3
KTK1	Kautokeino	66.06 339	*e*P	P	01 07 18.0	+0.6
YKA	Yellowknife Ar	66.26 29	P	P	01 07 19.9	+1.1
	comp=Z,2.0nm,0.8s,baz=298,slow=6.4,SNR=29					
JETT	Jettan, Norway	66.53 340	*e*P	P	01 07 20.9	+0.5
STKA	Stephens Creek	66.75 178	P	P	01 07 23.6	+1.4
	comp=Z,2.1nm,0.5s,baz=327,slow=9.5,SNR=6.0					
DAG	Danmarks Havn	67.44 355	*i* P	P	01 07 26.0	0.0
DAG			IAmb	IAmb	01 07 27.4	
	comp=Z,6.6nm,0.7s					
MOS	Moscow	67.69 323	*e*P	P	01 07 27.2	-0.7
MOS			pmax	pmax		
	comp=Z,35nm,1.0s					
OBN	Obninsk	68.52 323	P	P	01 07 33.0	0.0
	baz=27,slow=6.8					
OBN	Obninsk	68.52 323	*e*P	P	01 07 32.8	-0.3
OBN			*e*		01 08 03.3	
OBN			*e*		01 10 03.3	
OBN			pmax	pmax		
	comp=Z,35nm,2.5s					
STEI	Steigen	69.02 340	*e*P	P	01 07 35.6	-0.3
FAUS	Fauske	69.39 340	*e*P	P	01 07 39.4	+1.2
FINES	FINESS Array B	69.62 332	P	P	01 07 40.0	+0.2
	comp=Z,7.0nm,0.5s,baz=64,slow=5.9,SNR=56					
FINES	FINESS Array B	69.62 332	P	P	01 07 40.0	+0.2
MOR8	Moi Rana	70.47 339	*e*P	P	01 07 44.5	-0.4
KBZ	Khabaz	70.77 310	P	P	01 07 47.1	0.0
	comp=Z,8.5nm,0.9s,baz=90,slow=2.1,SNR=11					
KBZ	Khabaz	70.77 310*c*e	P	P	01 07 47.9	+0.8
KBZ			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KIV	Kislovodsk	70.79 311	*e*P	P	01 07 48.2	+0.8
KIV			pmax	pmax		
	comp=Z,19nm,1.1s					
KIV	Kislovodsk	70.79 311	P	P	01 07 48.8	+1.4
VSU	Vasula	71.15 329	*e*P	P	01 07 49.6	+0.5
MTSE	Matsula	72.20 330	*e*P	P	01 07 55.9	+0.6
SUMG	Summit	72.51 359	P	P	01 07 58.9	+1.4
SUMG			pmax	pmax		
	comp=Z,16nm,1.0s					
SUMG	Summit	72.51 359	*i* P	P	01 07 58.0	+0.5
SUMG			IAmb	IAmb	01 08 00.3	
	comp=Z,15nm,0.9s					
SUMG	Summit	72.51 359	P	P	01 07 58.9	+1.4
SUMG			IAmb	IAmb	01 08 00.1	
	comp=Z,16nm,1.0s					
SOC	Sochi	72.82 311	*e*P	P	01 07 55.7	-3.6
SOC			*e**PP	pP	01 08 32.8	-2.7
SOC			*e*		01 10 41.4	
SOC			*e*PPP	PPP	01 12 24.2	
SOC			*e*S	S	01 17 08.4	-4.8
SOC			*i* SS	SS	01 21 56.1	+0.6
MNK	Minsk	73.03 325	*i* P	P	01 07 59.2	-1.2
MNK			*i **PP	pP	01 08 36.1	-0.6
MNK			*i*		01 10 43.8	
MNK			*i* PPP	PPP	01 12 29.3	
MNK			*i* S	S	01 17 15.0	-0.2
MNK			*i* SS	SS	01 21 57.3	-0.8
MNK			pmax	pmax		
	comp=N,13nm,1.0s					
MNK			pmax	pmax		
	comp=Z,25nm,1.0s					
MNK			pmax	pmax		
	comp=E,2.0nm,1.0s					
MNK			MLR	MLR		
	comp=N,88nm,17.0s					
MNK			MLR	MLR		
	comp=E,15nm,17.0s					
MNK			MLR	MLR		
	comp=Z,182nm,15.0s					
MNK	Minsk	73.03 325	*i* P	P	01 07 59.3	-1.1
	comp=E,2.0nm,1.0s					
MNK			*i* P	P	01 07 59.3	-1.1
	comp=N,13nm,1.0s					
MNK			*i* P	P	01 07 59.3	-1.1
	comp=Z,25nm,1.0s,baz=53					
MNK			*i* pP	pP	01 08 36.1	-0.6
MNK			*i* PP	PP	01 10 43.9	-0.5
MNK			*i* PPP	PPP	01 12 29.4	
MNK			*i* S	S	01 17 15.1	-0.1
MNK			*i* sS	sS	01 18 18.7	+0.7
MNK			*i* SS	SS	01 21 57.4	-0.7
MNK			*i* SSS	SSS	01 25 21.8	
MNK			*i* LR	LR	01 39 35.1	
MNK			*i* LRM	MLR	01 41 19.8	
	comp=N,88nm,17.2s					
MNK			*i* LRM	MLR	01 41 54.6	
	comp=E,15nm,17.2s					
MNK			*i* LRM	MLR	01 42 01.3	
	comp=Z,182nm,14.7s					
IDID	Didziasalis	73.06 326	*e*P	P	01 08 01.7	+1.2
IIGN	Ignalina	73.27 327	*e*P	P	01 08 02.8	+1.0
NACGM	Naroch	73.29 326	*i* P	P	01 08 02.9	+1.0
PABE	Paberze	74.17 328	*e*P	P	01 08 07.7	+0.7
AKASG	Malin Array Be	74.68 322	P	P	01 08 09.8	-0.2
	comp=Z,8.8nm,0.5s,baz=50,slow=6.3,SNR=49					
AKBB	Malin Array Si	74.68 322*c*e	P	P	01 08 10.0	0.0
AKBB	Malin Array Si	74.68 322	IAmb	IAmb	01 08 10.6	
	comp=Z,12nm,0.7s					
DOMB	Dombas	75.11 338	*e*P	P	01 08 12.8	+0.4
NB2	NORSAR Subarra	75.20 337	P	P	01 08 12.9	0.0
	comp=Z,5.2nm,0.8s,baz=44,slow=5.9					
NB2	NORSAR Subarra	75.20 337	P	P	01 08 12.9	0.0
	baz=44,slow=5.9					
NOA	NORSAR Array B	75.20 337	P	P	01 08 12.8	0.0
	comp=Z,4.7nm,0.8s,baz=47,slow=5.2,SNR=19					
NC602	NORSAR Array S	75.32 336	*e*P	P	01 08 13.6	+0.1
EGMT	Eagleton	76.79 40	P	P	01 08 23.8	+1.6
EGMT			IAmb	IAmb	01 08 24.8	
	comp=Z,7.8nm,0.9s					
NVAR	Mina Array Bea	77.48 52	P	P	01 08 28.3	+1.9
	comp=Z,3.7nm,0.7s,baz=294,slow=5.6,SNR=9.2					
GKP	Gorka Klasztor	78.59 329	*e*P	P	01 08 32.8	+0.9
BURAR	Bucovina Array	78.66 321	⇑P	P	01 08 33.3	+0.7
BURAR	Bucovina Array	78.66 321	⇑P	P	01 08 33.3	+0.7
BR131	Keskin Array S	78.75 311	IAmb	IAmb	01 08 34.9	
	comp=Z,10nm,1.1s					
BRTR	Keskin Array B	78.75 311	P	P	01 08 33.5	+0.2
	comp=Z,3.4nm,0.8s,baz=119,slow=4.5,SNR=17					
BRTR	Keskin Array B	78.75 311	*i* P	P	01 08 34.2	+0.9
BRTR			pmax	pmax		
	comp=Z,4.0nm,0.8s					
OZUR		79.34 320	⇓P	P	01 08 35.8	-0.5
BMR	Baia Mare	79.50 322	⇓P	P	01 08 38.4	+1.4
BMR	Baia Mare	79.50 322	⇓P	P	01 08 38.4	+1.4
OJC	Ojcow	79.58 325	IAmb	IAmb	01 08 39.1	
	comp=Z,17nm,1.1s					
TPNV	Topopah Spring	79.67 52	P	P	01 08 40.5	+2.2
TPNV			pmax	pmax		
	comp=Z,3.0nm,0.9s					
TPNV	Topopah Spring	79.67 52	P	P	01 08 40.5	+2.2
RAYN	Ar Rayn	79.73 291	P	P	01 08 38.7	0.0
RAYN			pmax	pmax		
	comp=Z,8.0nm,0.7s					
RAYN	Ar Rayn	79.73 291	P	P	01 08 38.7	0.0
RAYN			IAmb	IAmb	01 08 39.4	
	comp=Z,8.3nm,0.7s					
CJR	Cluj-Napoca	80.08 321	⇓P	P	01 08 40.8	+0.5
CJR	Cluj-Napoca	80.08 321	⇓P	P	01 08 40.8	+0.5
PDAR	Pinedale Array	80.19 44	P	P	01 08 42.2	+1.0
	comp=Z,0.9nm,0.6s,baz=257,slow=1.4,SNR=12					
ARR	Arges	80.43 319	⇑P	P	01 08 43.6	+1.4
LANS	Liptovska Anna	80.47 325	*e*P	P	01 08 44.4	+2.1
LANS	Liptovska Anna	80.47 325	*e*P	P	01 08 44.4	+2.1
SHPR	Sheep Range	80.63 52	P	P	01 08 46.0	+2.5
MORC	Moravsky Berou	80.93 326	⇓P	P	01 08 46.0	+1.3
MORC	Moravsky Berou	80.93 326	⇓P	P	01 08 46.0	+1.3
MORC	Moravsky Berou	80.93 326	*e*P	P	01 08 45.3	+0.6
OSTC	Ostas	80.97 327	*e*P	P	01 08 46.3	+1.4
CHVC	Chvalec	81.02 327	*e*P	P	01 08 46.1	+1.0
KRLC	Kraliky	81.06 327	*e*P	P	01 08 46.1	+0.7
KRLC	Kraliky	81.06 327	*e*P	P	01 08 46.1	+0.7
DPC	Dobruska-Polom	81.07 327	*e*P	P	01 08 46.5	+1.1
DPC	Dobruska-Polom	81.07 327	*e*P	P	01 08 46.5	+1.1
PSZ	Piszkesteto	81.12 324	⇑P	P	01 08 44.8	-1.0
PSZ	Piszkesteto	81.12 324	⇑P	P	01 08 44.8	-1.0
PSZ	Piszkesteto	81.12 324	IAmb	IAmb	01 08 47.7	
	comp=Z,6.3nm,0.9s					
VYHS	Vyhne	81.23 325	*e*P	P	01 08 47.6	+1.3
VYHS	Vyhne	81.23 325	*e*P	P	01 08 47.6	+1.3
JAVC	Velka Javorina	81.52 325	*e*P	P	01 08 49.6	+1.7
P17A	Butcher Ranch,	81.57 47	P	P	01 08 50.3	+1.9
P17A			IAmb	IAmb	01 08 51.0	
	comp=Z,6.1nm,0.8s					
RDMU	Red Mountain	81.57 46	P	P	01 08 50.1	+1.6
RDMU			IAmb	IAmb	01 08 51.3	
	comp=Z,7.2nm,1.1s					
MTPU	Mount Pierson	81.58 49	P	P	01 08 50.6	+1.9
VRAC	Vranov	81.70 326	⇑P	P	01 08 49.8	+1.1
VRAC	Vranov	81.70 326	⇑P	P	01 08 49.8	+1.1
VRAC	Vranov	81.70 326	*e*P	P	01 08 49.2	+0.5
PVCC	Panska Ves	81.71 328	*e*P	P	01 08 49.9	+1.1
PVCC	Panska Ves	81.71 328	*e*P	P	01 08 49.9	+1.1
BRG	Berggiesshubel	81.73 329	*e*P	P	01 08 49.6	+0.7
BRG			Amp		01 08 51.1	
	comp=Z,4.2nm,0.8s					
BRG	Berggiesshubel	81.73 329	*e*P	P	01 08 49.5	+0.7
BRG			pmax	pmax		
	comp=Z,4.0nm,0.8s					
BRG	Berggiesshubel	81.73 329	*e*P	P	01 08 49.4	+0.5
	comp=Z,5.6nm,0.8s,baz=45,slow=4.4					
FLTG	Flechtingen	81.76 331	*e*P	P	01 08 49.0	+0.1
	comp=Z,7.9nm,0.8s,baz=45,slow=4.4					
CLL	Collm	81.81 329	⇑*i*P	P	01 08 49.2	0.0
CLL			pmax	pmax		
	comp=Z,11nm,0.8s					
CLL	Collm	81.81 329	⇑*i*P	P	01 08 49.2	0.0
	comp=Z,11nm,0.8s					
CLL	Collm	81.81 329	*e*P	P	01 08 49.3	+0.1
	comp=Z,11nm,0.8s,baz=45,slow=4.4					
CLL	Collm	81.81 329	P	P	01 08 50.2	+1.0
CLL			IAmb	IAmb	01 08 50.7	
	comp=Z,11nm,0.8s					
SMOL	Smolenice	81.88 325	*e*P	P	01 08 51.0	+1.3
SMOL	Smolenice	81.88 325	*e*P	P	01 08 51.0	+1.3
SRO2	Moca	81.96 324	*e*P	P	01 08 50.5	+0.5
SRO2	Moca	81.96 324	*e*P	P	01 08 50.5	+0.5
KRUC	Moravsky	81.97 326	*e*P	P	01 08 50.6	+0.5
MODS	Modra-Piesok	82.05 325	*e*P	P	01 08 52.7	+2.1
MODS	Modra-Piesok	82.05 325	*e*P	P	01 08 52.7	+2.1
PUNG	Punghina	82.06 319	⇓P	P	01 08 49.2	-1.5
PRU	Pruhonice	82.12 328	*e*P	P	01 08 51.2	+0.3
PRU	Pruhonice	82.12 328	*e*P	P	01 08 51.2	+0.3
TREC	Trest	82.21 327	*e*P	P	01 08 52.2	+0.8
TREC	Trest	82.21 327	*e*P	P	01 08 52.2	+0.8
CLZ	Clausthal	82.48 331	*e*P	P	01 08 53.4	+0.6
	comp=Z,7.0nm,1.0s,baz=45,slow=4.4					
U15A	North Rim	82.51 51	P	P	01 08 55.2	+1.7
PBCC	Pribram	82.58 328	*e*P	P	01 08 53.7	+0.4
MOX	Moxa	82.88 329	*e*L	L	01 49 30.0	
	comp=Z,90nm,18.1s					
ZAPS	Zavoj	82.89 319	*e*P	P	01 08 58.0	+2.9
VTS	Vitosha	83.01 318	⇑P	P	01 08 53.9	-1.9
VTS	Vitosha	83.01 318	⇑P	P	01 08 53.9	-1.9
VTS	Vitosha	83.01 318	P	P	01 08 56.8	+0.9
VTS			IAmb	IAmb	01 08 57.9	
	comp=Z,9.8nm,1.0s					
CONA	Conrad Observa	83.03 326	*e*P	P	01 08 56.8	+1.1
	comp=Z,7.5nm,0.9s					
FRGS	Fruska Gora	83.08 322	⇑P	P	01 08 56.0	+0.1
FRGS	Fruska Gora	83.08 322	*e*P	P	01 08 55.7	-0.3
CKRC	Cesky Krumlov	83.08 327	*e*P	P	01 08 56.5	+0.6
KHC	Kasperske Hory	83.18 328	*e*P	P	01 08 56.8	+0.4
KHC	Kasperske Hory	83.18 328	*e*P	P	01 08 56.8	+0.4
KHC	Kasperske Hory	83.18 328	IAmb	IAmb	01 08 58.1	
	comp=Z,7.7nm,0.9s					
PV23	Carpenter Ridg	83.26 47	P	P	01 08 59.4	+2.0
PV23			IAmb	IAmb	01 09 00.9	
	comp=Z,9.2nm,0.8s					
GEC2	GERESS Array S	83.34 327	*e*P	P	01 08 57.5	+0.2
	comp=Z,4.3nm,0.9s,baz=45,slow=4.4					
GERES	GERESS Array B	83.34 327	P	P	01 08 57.4	+0.1
	comp=Z,3.2nm,0.8s,baz=39,slow=5.1,SNR=23					
TRUS	Trudelj	83.42 321	*e*P	P	01 08 58.0	+0.3
PV11	David Mesa, Pa	83.44 47	P	P	01 08 59.3	+1.1
PV11			IAmb	IAmb	01 09 01.2	
	comp=Z,3.9nm,0.7s					
GRUS	Gruza	83.49 320	*e*P	P	01 08 58.7	+0.6
BOSS	Bosilegrad	83.50 318	*e*P	P	01 08 58.7	+0.5
PV13	Radium Mtn., P	83.56 47	IAmb	IAmb	01 09 01.6	
	comp=Z,6.6nm,0.8s					
BARS	Barje	83.64 319	*e*P	P	01 08 59.2	+0.3
ARSA	Arzberg	83.68 325	*e*P	P	01 08 59.9	+0.8
	comp=Z,7.2nm,1.4s					
DIVS	Divibare	83.72 321	IAmb	IAmb	01 09 00.2	
	comp=Z,6.4nm,0.7s					
DIVS	Divibare	83.72 321	⇑*i*P	P	01 08 59.6	+0.2
SELS	Selova	83.74 320	*e*P	P	01 08 59.2	-0.2
GRF	Grafenberg Arr	83.77 329	*e*P	P	01 09 00.3	+0.9
	comp=Z,16nm,0.9s,baz=45,slow=4.4					
GRF			*e*L	L	01 48 02.3	
	comp=Z,107nm,18.4s					
GRFO	Grafenberg	83.77 329	P	P	01 09 00.6	+1.2
GRFO			pmax	pmax		
	comp=Z,14nm,0.8s					
GRFO	Grafenberg	83.77 329	P	P	01 09 00.6	+1.2
GRFO			IAmb	IAmb	01 09 01.2	
	comp=Z,14nm,0.8s					
MOA	Molln	83.82 326	*e*P	P	01 09 01.1	+1.4
	comp=Z,6.2nm,0.8s					
IVAS	Ivanjica	84.00 320	*e*P	P	01 09 00.4	-0.4
BBLS	Lazići	84.19 321	*e*P	P	01 09 02.2	+0.5
SOKA	Soboth	84.33 325	P	P	01 09 02.8	+0.4
	comp=Z,17nm,0.9s,SNR=15					
OBKA	Obir	84.68 325	*e*P	P	01 09 04.3	+0.2
	comp=Z,5.7nm,0.7s					
KBA	Koelnbreinsper	84.81 326	*e*P	P	01 09 05.1	+0.2
	comp=Z,6.6nm,0.8s					
FUR	Furstenfeldbru	84.91 328	*e*P	P	01 09 05.8	+0.6
	comp=Z,20nm,0.7s,baz=45,slow=4.4					
MYKA	Terra Mystica	85.01 326	P	P	01 09 05.3	-0.5
	comp=Z,6.3nm,0.5s,SNR=4.5					
BTNL	Ternell	85.12 332	P	P	01 09 05.7	-0.5
	comp=Z,5.8nm,0.9s					
BSTI	Sart Tilman	85.34 332	P	P	01 09 06.6	-0.6
BHOU	Houvegnez	85.35 332	P	P	01 09 07.0	-0.4
WATA	Walderalm	85.41 327	*e*P	P	01 09 08.1	+0.3
	comp=Z,5.2nm,0.9s					
ABTA	Abfaltersbach	85.44 326	P	P	01 09 07.4	-0.5
	comp=Z,5.9nm,0.8s,SNR=6.6					
WTTA	Wattenberg	85.44 327	*e*P	P	01 09 08.1	0.0
	comp=Z,2.1nm,0.6s					
BCLA	Clavier	85.57 332	P	P	01 09 08.2	-0.2
	comp=Z,5.5nm,1.0s					
MOTA	Moosalm	85.61 328	*e*P	P	01 09 08.9	0.0
	comp=Z,8.2nm,1.3s					
RETA	Reutte	85.65 328	*e*P	P	01 09 09.4	+0.4
	comp=Z,5.0nm,0.7s					
SQTA	Sankt Quirin	85.66 327	*e*P	P	01 09 08.9	-0.2
	comp=Z,3.3nm,0.7s					
RCHB	Rochefort	85.81 332	P	P	01 09 09.1	-0.5
	comp=Z,6.9nm,0.9s					
BMRD	Maredsous	85.86 333	P	P	01 09 10.0	+0.2
	comp=Z,8.8nm,0.8s					
SNF	Seneffe	85.88 333	P	P	01 09 09.8	0.0
	comp=Z,12nm,1.0s					
FETA	Feichten	86.03 328	P	P	01 09 10.1	-0.8
	comp=Z,5.2nm,0.9s,SNR=4.4					
DAVA	Damuels	86.19 328	P	P	01 09 12.4	+0.7
	comp=Z,11nm,1.1s,SNR=4.1					
SCHQ	Schefferville	87.56 15	P	P	01 09 19.0	+1.0
	comp=Z,5.6nm,0.8s,baz=350,slow=5.0,SNR=7.8					
TX31	Lajitas Ar. Si	92.62 51	P	P	01 09 43.6	+1.4
TX31			IAmb	IAmb	01 09 54.4	
	comp=Z,3.1nm,1.1s					
TXAR	Lajitas Array	92.62 51	P	P	01 09 43.6	+1.4
	comp=Z,1.3nm,0.7s,baz=291,slow=3.1,SNR=16					
TORD	Torodi Ar. Bea	117.34 312	PKP	PKPdf	01 15 14.6	-0.8
	comp=Z,1.0nm,0.6s,baz=21,slow=1.5,SNR=12					
BOSA	Boshof	124.50 257	PKP	PKPdf	01 15 28.5	-0.4
	comp=Z,1.5nm,0.8s,baz=126,slow=8.4,SNR=3.5					
DBIC	Dimbokro	126.37 314	PKP	PKPdf	01 15 32.3	-0.5
	comp=Z,1.7nm,0.6s,baz=71,slow=6.9,SNR=4.7					
LPAZ	La Paz	149.12 59	PKPbc	PKiKP	01 16 20.1	-0.1
	comp=Z,2.0nm,0.6s,baz=345,slow=2.3,SNR=11					
BDFB	Brasilia	159.46 20	PKPab	PKPab	01 17 08.1	+1.2
	comp=Z,1.5nm,0.4s,baz=302,slow=2.3,SNR=4.9					

TUL ***18*** *00:57:22.3±1.1, 36°.49N±0°.02×98°.74W±0°.03, h6km±7km, ML2.8, mb_Lg2.5/10(NEIC), Error ellipse: s-maj=3.1km s-min=2.1km az=125.0*

NEIC 18 00:57:22.6±1.0, 36°.47N±0°.03×98°.71W±0°.02, h3km±7km, Error ellipse: s-maj=4.0km s-min=2.4km az=157.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.24	360	Pg	Pg	00 57 27.2	0.0
OK035				Sg	Sg	00 57 31.0	+0.5
U32A	Winter Ranch,	0.25	250	Pg	Pg	00 57 27.3	-0.1
U32A				Sg	Sg	00 57 30.8	+0.1
OK032	Salt Plains WL	0.52	50	Pg	Pg	00 57 32.7	+0.1
OK032				Sg	Sg	00 57 40.2	+0.7
KAN14	Manchester OK	0.77	50	Pg	Pg	00 57 37.4	0.0
GC02	Grant County #	0.78	60	Pg	Pg	00 57 37.5	-0.1
KAN10	Anthony SW Sta	0.82	37	Pg	Pg	00 57 37.9	-0.4
KAN16	Harper SW Stat	0.92	34	Pg	Pg	00 57 39.9	-0.3
KAN05	Bluff City Nor	0.93	46	Pg	Pg	00 57 40.2	-0.2
KAN17	Caldwell West	0.95	52	Pg	Pg	00 57 40.5	-0.3
KAN08	Anthony NE Sta	0.96	38	Pg	Pg	00

ISC 18 01:08:38.2±0.7, 32°72'N±0°06'×91°5'E±0°1, h35km±1, n19, σ1§60/19, mb3.5/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.03**	**186**	Pg	**Pn**	**01 09 24.6**	**+0.4**
LSA				Sg	**Sn**	**01 10 03.3**	**+3.8**
LSA				smax	smax		
	comp=N,690nm,0.8s						
LSA				smax	smax		
	comp=E,550nm,0.8s						
GOMU	**GeErMu**	**4.40**	**37**	P	**Pn**	**01 09 45.3**	**+2.4**
GOMU				S	**Sn**	**01 10 31.8**	**-1.3**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,80nm,4.7s						
GOMU				LR	LR		
	comp=N,190nm,5.3s						
GOMU				LR	LR		
	comp=E,210nm,6.2s						
GOMU				LR	LR		
	comp=Z,170nm,8.5s						
GTA	**Gaotai**	**9.45**	**43**	*e*P	**Pn**	**01 10 52.3**	**+0.3**
GTA				pP		01 10 58.0	
GTA				sP		01 11 01.3	
GTA				pmax	pmax		
	comp=Z,1.0nm,1.5s						
WMQ	**Urumqi**	**11.48**	**346**	*e*P	**Pn**	**01 11 21.8**	**+2.1**
WMQ				smax	smax		
	comp=N,9.0nm,0.7s						
WMQ				smax	smax		
	comp=E,9.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**15.69**	**153**	Pn	**Pn**	**01 12 14.7**	**-2.0**
	comp=E,0.6nm,0.3s,baz=345,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**15.73**	**336**	Pn	**Pn**	**01 12 15.6**	**-1.5**
	comp=E,0.0nm,0.3s,baz=170,slow=14,SNR=3.1						
AAK	**Ala-Archa**	**16.70**	**311**	Pn	**P**	**01 12 31.2**	**-0.5**
	comp=E,0.2nm,0.3s,baz=160,slow=16,SNR=1.5						
SONM	**Songino Array**	**18.83**	**32**	P	**P**	**01 12 55.6**	**+0.6**
	comp=E,0.1nm,0.3s,baz=225,slow=11,SNR=12						
KURBB	**Kurchatov Arra**	**20.30**	**336**	P	**P**	**01 13 11.9**	**+1.0**
	comp=E,0.4nm,0.5s,baz=140,slow=12,SNR=6.8						
ZALV	**Zalesovo Beam**	**21.75**	**349**	P	**P**	**01 13 26.4**	**-0.2**
	comp=E,1.5nm,0.7s,baz=171,slow=11,SNR=10.0						
BVAR	**Borovoye Array**	**25.36**	**329**	P	**P**	**01 14 03.2**	**+1.4**
	comp=E,0.5nm,0.6s,baz=150,slow=12,SNR=1.8						
GEYT	**Alibeck**	**27.66**	**290**	LR	LR	01 27 36.4	
	comp=E,69nm,19.4s,baz=84,slow=41						
AKTO	**Aktyubinsk**	**30.34**	**316**	LR	LR	01 28 04.3	
	comp=E,35nm,18.3s,baz=7.7,slow=38						
GERES	**GERESS Array B**	**58.59**	**311**	P	**P**	**01 18 31.2**	**-0.4**
	comp=E,0.4nm,0.6s,baz=68,slow=7.4,SNR=4.5						
WRA	**Warramunga Arr**	**66.46**	**136**	P	**P**	**01 19 23.3**	**-1.0**
	comp=E,1.1nm,0.9s,baz=328,slow=6.8,SNR=6.7						
ASAR	**Alice Springs**	**69.13**	**139**	P	**P**	**01 19 40.7**	**-0.4**
	comp=E,0.9nm,0.8s,baz=316,slow=5.8,SNR=6.4						
ILAR	**Eielson Array**	**72.73**	**22**	P	**P**	**01 20 02.3**	**-0.1**
	comp=E,0.2nm,0.7s,baz=320,slow=4.0,SNR=3.1						
YKA	**Yellowknife Ar**	**82.81**	**12**	P	**P**	**01 20 57.6**	**-0.9**
	comp=E,0.1nm,0.5s,baz=337,slow=5.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**82.89**	**281**	P	**P**	**01 20 58.2**	**-1.5**
	comp=E,0.3nm,0.6s,baz=80,slow=1.8,SNR=1.7						

*TUL **18** 01:13:32±1.2, 35°67'N±0°01'×97°42'W±0°02', h6km±5km, ML3.2, mb_Lg2.7/37(NEIC), Error ellipse: s-maj=2.6km s-min=1.8km az=81.0*

NEIC 18 01:13:32.2±1.2, 35°69'N±0°02'×97°42'W±0°03, h9km±4km, Error ellipse: s-maj=3.7km s-min=2.2km az=111.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**180**		Pg	01 13 34.4	-0.4
OK009				Sg	Sg	01 13 36.2	-0.5
OK029	**Liberty Lake**	**0.11**	**346**	Pg	Pg	01 13 35.1	+0.1
OK029					Sg	01 13 37.3	+0.4
OK025	**Westminster Rd**	**0.13**	**147**		Pg	01 13 34.8	-0.3
OK025				Sg	Sg	01 13 36.9	-0.3
BCOK	**Bluff Creek, N**	**0.15**	**259**	Pg	Pg	01 13 35.4	-0.2
BCOK				Sg	Sg	01 13 38.2	+0.2
OK001	**Jones High Sch**	**0.17**	**139**	Pg	Pg	01 13 35.5	-0.2
OK001				Sg	Sg	01 13 38.2	0.0
OKCFA	**Oklahoma City**	**0.27**	**185**		Pg	01 13 37.2	-0.5
OKCFA				Sg	Sg	01 13 41.5	+0.1
OKCSW	**OKLAHOMA CITY**	**0.28**	**183**	Pg	Pg	01 13 37.7	-0.2
OKCSW				Sg	Sg	01 13 41.8	+0.1
FNO	**Franklin**	**0.43**	**178**	Pg	Pg	01 13 40.3	-0.4
FNO				Sg	Sg	01 13 46.4	+0.1
OK031	**S. Brethren Rd**	**0.54**	**61**	Pg	Pg	01 13 42.8	0.0
OK031				IAmb_Lg		01 13 49.2	
	comp=Z,73nm,0.9s						
OK031				Sg	Sg	01 13 50.4	+0.5
OK030	**Cody Creek RV**	**0.57**	**65**	Pg	Pg	01 13 43.2	-0.2
OK030				IAmb_Lg		01 13 50.2	
	comp=Z,64nm,0.7s						
OK030				Sg	Sg	01 13 51.1	+0.2
OK034	**N. Norfolk Rd.**	**0.66**	**61**	Pg	Pg	01 13 44.7	-0.3
OK034				IAmb_Lg		01 13 53.1	
	comp=Z,46nm,0.8s						
OK034				Sg	Sg	01 13 53.8	+0.1
W35A	**Tecumseh**	**0.70**	**140**	Pg	Pg	01 13 45.2	-0.5
W35A				Sg	Sg	01 13 54.3	-0.5
QUOK	**Quay**	**0.76**	**50**	Pg	Pg	01 13 46.4	-0.4
QUOK				Sg	Sg	01 13 56.8	+0.2
BLOK	**Blackwell**	**1.08**	**9**		Pg	01 13 52.6	-0.5
X34A	**Smith Ranch, M**	**1.14**	**197**		Pb	01 13 53.5	-0.5
GC02	**Grant County #**	**1.22**	**343**		Pb	01 13 54.7	-0.7
OK032	**Salt Plains WL**	**1.28**	**330**		Pn	01 13 55.8	-0.6
KAN13	**South Haven SW**	**1.32**	**358**	Pn	Pn	01 13 56.8	-0.1
KAN14	**Manchester OK**	**1.34**	**341**	Pn	Pn	01 13 57.0	-0.2
TUL1	**Leonard**	**1.34**	**80**		Pn	01 13 56.0	-1.1
KAN17	**Caldwell West**	**1.38**	**349**	Pn	Pn	01 13 57.9	+0.2
T35A	**Sooner Cattle**	**1.43**	**31**		Pn	01 13 58.3	-0.1
U32A	**Winter Ranch,**	**1.46**	**299**		Pn	01 13 58.5	-0.2
OK035	**E0210 Rd and N**	**1.46**	**315**		Pn	01 13 58.5	-0.2
WMOK	**Wichita Mounta**	**1.46**	**230**	Pn	Pn	01 13 58.5	-0.3
KAN10	**Anthony SW Sta**	**1.53**	**339**	Pn	Pn	01 14 00.2	+0.4
KAN08	**Anthony NE Sta**	**1.60**	**344**	Pn	Pn	01 14 01.1	+0.4
LOOK	**Love County**	**1.70**	**173**	Pn	Pn	01 14 02.4	+0.3
LOOK				IAmb_Lg		01 14 29.7	
	comp=Z,36nm,0.8s						
X37A	**Clayton**	**2.01**	**123**	Pn	Pn	01 14 06.9	+0.6
X37A				IAmb_Lg		01 14 37.7	
	comp=Z,32nm,0.7s						
Z35A	**Perchaven, San**	**2.35**	**177**	Pn	Pn	01 14 11.6	+0.5
U38A	**Gravette**	**2.57**	**72**	Pn	Pn	01 14 14.8	+0.8
HHAR	**Hobbs**	**2.89**	**77**	IAmb_Lg		01 15 06.6	
	comp=Z,16nm,0.8s						
W39A	**Magazine**	**3.01**	**98**	Pn	Pn	01 14 20.3	+0.3
W39A				IAmb_Lg		01 15 11.0	
	comp=Z,35nm,0.9s						
MIAR	**Mount Ida**	**3.35**	**109**	Pn	Pn	01 14 25.9	+1.1
KSU1	**Kansas State U**	**3.47**	**11**	Pn	Pn	01 14 26.7	+0.3
KSU1				IAmb_Lg		01 15 24.6	
	comp=Z,22nm,0.7s						
ABTX	**Abilene, Hawle**	**3.57**	**212**	IAmb_Lg		01 15 25.3	
	comp=Z,19nm,0.9s						
AMTX	**Amarillo**	**3.58**	**258**	Pn	Pn	01 14 28.5	+0.6
AMTX				IAmb_Lg		01 15 34.0	
	comp=Z,13nm,0.8s						
CBKS	**Cedar Bluff**	**3.63**	**330**	Pn	Pn	01 14 29.6	+1.0
CBKS				IAmb_Lg		01 15 30.8	
	comp=Z,16nm,0.8s						
WHTX	**Lake Whitney,**	**3.69**	**180**	Pn	Pn	01 14 29.0	-0.4
U40A	**Yellville**	**3.76**	**78**	Pn	Pn	01 14 30.9	+0.4
U40A				IAmb_Lg		01 15 33.5	
	comp=Z,27nm,0.8s						
S39A	**Bolivar**	**3.85**	**58**	Pn	Pn	01 14 32.1	+0.4
S39A				IAmb_Lg		01 15 41.0	
	comp=Z,37nm,1.3s						
237A	**Washetta, Mont**	**3.91**	**159**	IAmb_Lg		01 15 38.3	
	comp=Z,21nm,1.1s						
X40A	**Basin Creek Fa**	**3.95**	**106**	Pn	Pn	01 14 33.9	+0.9
WHAR	**Wooly Hollow**	**4.21**	**94**	Pn	Pn	01 14 36.7	+0.2
W41B	**Gary Mavity, V**	**4.26**	**95**	Pn	Pn	01 14 37.5	+0.4
P38A	**Dawn**	**5.00**	**37**	IAmb_Lg		01 16 15.1	
	comp=Z,14nm,0.8s						
T42A	**Van Buren**	**5.28**	**73**	Pn	Pn	01 14 50.8	-0.5
KSCO	**Kaye Shedlock'**	**5.31**	**310**	IAmb_Lg		01 16 35.1	
	comp=Z,14nm,0.8s						
BGNE	**Belgrade**	**5.74**	**355**	IAmb_Lg		01 16 42.5	
	comp=Z,21nm,0.9s						
T25A	**Trinidad**	**5.82**	**286**	Pn	Pn	01 14 57.6	-1.3
T25A				IAmb_Lg		01 16 45.9	
	comp=Z,22nm,1.0s						
FVM	**French Village**	**6.06**	**66**	Pn	Pn	01 15 00.8	-1.2
SDCO	**Great Sand Dun**	**6.81**	**290**	Pn	Pn	01 15 14.5	+2.0
OLIL	**Olney**	**8.04**	**65**	IAmb_Lg		01 17 59.6	
	comp=Z,9.5nm,0.7s						
ECSD	**EROS Data Cent**	**8.06**	**4**	Pn	Pn	01 15 28.0	-1.4

*IDC **18** 01:28:35.4±0.8, 6°06S'×75°04W, h0km, mb3.5/8, mb1 3.9/14, mb1mx3.9/29, mbtmp3.7/14, ML3.5/6, MS3.0/2, Ms1 3.0/2, ms1mx2.7/40, Error ellipse: s-maj=26.2km s-min=18.2km az=74.0*

*ARE **18** 01:28:38±5.7, 6°03S±0°07'×75°14W±0°09, h47km±8km, Error ellipse: s-maj=0.0km s-min=0.0km az=178.0*

*NEIC **18** 01:28:42.2±2.7, 6°19S±0°07'×75°14W±0°09, h44km±12km, mb4.0/9, ML4.3(ARE), Error ellipse: s-maj=13.4km s-min=10.0km az=64.0*

*VAO **18** 01:29:05.3±0.5, 6°08S'×72°97W, h10km, mbR3.4*

ISC 18 01:28:39.1±0.5, 6°13S±0°05'×75°02W±0°06, h27km, n42, σ1§79/40, mb3.6/9, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.80**	**125**		**Pb**	**01 29 26.4**	**-2.0**
ATAH	**Atahualpa**	**3.49**	**253**	Pn	**Pn**	**01 29 32.4**	**+0.3**
	5.2nm,0.3s,baz=37,slow=6.9,SNR=144						
ATAH				Sn	**Sn**	**01 30 09.2**	**-3.6**
	11nm,0.3s,baz=148,slow=19,SNR=7.2						
ATAH				Lg	Lg	01 30 23.6	
	15nm,0.3s,baz=9.9,slow=22,SNR=1.8						
ATAH				LR	LR	01 31 06.9	
	comp=Z,180nm,21.3s,baz=72,slow=43						
TBTG	**Tabatinga, AM**	**5.45**	**70**	*e*P	**Pn**	**01 30 01.1**	**+2.5**
TBTG				*e*S	Sn	01 30 44.0	-16
TBTG	**Tabatinga, AM**	**5.45**	**70**	Pn	Pn	01 30 03.1	+4.5
NNA	**Nana**	**6.09**	**197**	Pn	**Pn**	**01 30 08.7**	**+1.2**
	2.5nm,0.3s,baz=20,slow=7.9,SNR=8.4						
NNA				Sn	**Sn**	**01 31 13.0**	**-3.4**
	4.4nm,0.3s,baz=312,slow=12,SNR=2.0						
NNA	**Nana**	**6.09**	**197**	Pn	**Pn**	**01 30 08.2**	**+0.7**
OTAV	**Otavalo**	**7.19**	**331**	*e*P	Pb	01 31 05.9	+22
OTAV	**Otavalo**	**7.19**	**331**	Pn	**Pn**	**01 30 25.4**	**+2.5**
ETMB	**Extrema**	**9.46**	**113**	*e*P	**Pn**	**01 30 55.7**	**+2.0**
ETMB	**Extrema**	**9.46**	**113**	Pn	**Pn**	**01 30 55.5**	**+1.8**
ROSC	**El Rosal**	**10.92**	**4**	Pn	**Pn**	**01 31 13.8**	**-0.3**
	2.9nm,0.3s,baz=283,slow=11,SNR=4.1						
ROSC				Lg	Lg	01 34 22.8	
	0.7nm,0.3s,baz=162,slow=20,SNR=1.3						
LPAZ	**La Paz**	**12.15**	**147**	Pn	**Pn**	**01 31 33.2**	**+2.1**
	0.3nm,0.3s,baz=302,slow=7.4,SNR=8.7						
LPAZ				Lg	Lg	01 35 09.4	
	0.0nm,0.3s,baz=18,slow=15,SNR=1.8						
LPAZ	**La Paz**	**12.15**	**147**	*e*P	**P**	**01 31 45.5**	**+2.0**
LPAZ	**La Paz**	**12.15**	**147**	Pn	**Pn**	**01 31 33.0**	**+1.9**
MACA	**Manacapuru-AM**	**14.59**	**79**	*e*P	**Pn**	**01 32 04.0**	**0.0**
MACA	**Manacapuru-AM**	**14.59**	**79**	Pn	**Pn**	**01 32 04.5**	**+0.6**
SDV	**Santo Domingo**	**15.54**	**16**	Pn	**Pn**	**01 32 16.8**	**+0.1**
	0.2nm,0.3s,baz=180,slow=19,SNR=2.0						
SDV				Sn	**Sn**	**01 35 02.8**	**-5.5**
	0.2nm,0.3s,baz=251,slow=18,SNR=1.6						
SDV				Lg	Lg	01 36 51.4	
	0.2nm,0.3s,baz=207,slow=6.8,SNR=2.3						
VILB	**Vilhena**	**16.11**	**116**	Pn	**Pn**	**01 32 24.2**	**+0.3**
VILB				IAmb	IAmb	01 32 44.9	
	comp=Z,8.8nm,0.8s						
BAUV	**El Baul**	**16.51**	**25**	Pn	**P**	**01 32 31.0**	**-0.4**
BAUV				IAmb	IAmb	01 32 49.6	
	comp=Z,20nm,1.3s						
PB09	**IPOC Station P**	**16.55**	**161**	P	**P**	**01 32 33.1**	**+1.1**
PB09				IAmb	IAmb	01 32 45.9	
	comp=Z,12nm,1.2s						
SIV	**San Ignacio**	**16.83**	**127**	Pn	**Pn**	**01 32 32.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=319,slow=10,SNR=8.5						
SIV				Sn	**Sn**	**01 35 36.2**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=323,slow=9.1,SNR=2.6						
SIV				Lg	Lg	01 37 26.6	
	comp=Z,0.3nm,0.3s,baz=299,slow=19,SNR=1.7						
SIV				LR	LR	01 39 38.7	
	comp=Z,66nm,19.7s,baz=291,slow=39						
PTLB	**Pontes e Lacer**	**18.13**	**122**	P	**Pn**	**01 32 48.5**	**-0.7**
SALV	**Santo Antonio**	**21.29**	**119**	*e*P	P	01 33 34.2	+10
MCPB	**Macapa, AP**	**23.63**	**77**	*e*P	P	01 33 56.7	+8.4
PLCA	**Paso Flores**	**34.69**	**174**	P	**P**	**01 35 26.5**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=357,slow=13,SNR=3.8						
PLCA	**Paso Flores**	**34.69**	**174**	P	**P**	**01 35 27.9**	**+1.3**
PLCA				IAmb	IAmb	01 35 42.1	
	comp=Z,3.9nm,1.5s						
DUB01	**Friburgo-RJ**	**35.29**	**120**	*e*P	P	01 35 46.0	+14
V48A	**Smith Brothers**	**43.10**	**346**	P	**P**	**01 36 37.4**	**+0.3**
TZTN	**Tazewell**	**43.19**	**350**	P	**P**	**01 36 39.2**	**+1.3**
WVT	**Waverly**	**43.72**	**345**	P	**P**	**01 36 41.3**	**-0.8**
TXAR	**Lajitas Array**	**44.74**	**324**	P	**P**	**01 36 50.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=146,slow=9.8,SNR=1.9						
ANMO	**Albuquerque**	**50.47**	**326**	P	**P**	**01 37 36.9**	**+1.8**
ANMO				IAmb	IAmb	01 37 36.9	
	comp=Z,2.3nm,0.8s						
PDAR	**Pinedale Array**	**57.90**	**330**	P	**P**	**01 38 27.4**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=167,slow=8.3,SNR=2.1						
NVAR	**Mina Array Bea**	**59.81**	**321**	P	**P**	**01 38 43.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=78,slow=15,SNR=2.2						
YKA	**Yellowknife Ar**	**74.82**	**342**	P	**P**	**01 40 16.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=142,slow=6.0,SNR=18						
TORD	**Torodi Ar. Bea**	**78.55**	**75**	P	**P**	**01 40 39.2**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=274,slow=3.8,SNR=2.2						
ESDC	**Sonseca Array**	**79.53**	**48**	P	**P**	**01 40 44.9**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=305,slow=9.3,SNR=1.6						
ILAR	**Eielson Array**	**87.89**	**336**	P	**P**	**01 41 25.8**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=144,slow=3.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**129.59**	**15**	PKP	**PKiKP**	**01 47 46.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=305,slow=5.1,SNR=1.9						
MKAR	**Makanchi Array**	**135.02**	**22**	PKP	**PKPdf**	**01 47 56.4**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=353,slow=1.4,SNR=2.7						
ASAR	**Alice Springs**	**139.08**	**223**	PKhKP	PKPpre	01 47 58.5	
	comp=Z,0.3nm,0.6s,baz=150,slow=3.5,SNR=3.1						
WRA	**Warramunga Arr**	**141.20**	**227**	PKhKP	PKPpre	01 48 02.1	
	comp=Z,0.5nm,0.9s,baz=152,slow=2.4,SNR=2.0						
WRA				PKP	**PKiKP**	**01 48 09.9**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=125,slow=2.2,SNR=6.8						

*BEO **18** 01:35:52.3±0.8, 40°88N'×19°76E, h7km±2km, ML2.7/6*
*TIR **18** 01:35:53.4, 40°95N'×19°92E, h13km±1km, Md2.9, Ml2.7*
*SKO **18** 01:35:53.9, 40°96N'×19°84E, h5km*

ISC 18 01:35:52.1±1.1, 40°98N±0°02'×19°73E±0°03, h11km±9km, n36, σ1§48/60, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.38**	**16**	*e*Pg	**Pb**	**01 36 01.1**	**+0.2**
TIR	**Tirane**	**0.38**	**16**	P	**Pb**	**01 36 01.4**	**+0.5**
	baz=355						
TIR				S	**Sb**	**01 36 08.7**	**+1.8**
	baz=355						
TIR				AMP			
	comp=N,1.4nm,0.7s,baz=355						
TIR	**Tirane**	**0.38**	**16**	*e*Pg	**Pb**	**01 36 01.2**	**+0.2**
TIR				*e*Sg	**Sb**	**01 36 09.1**	**+2.2**
VLO	**Vlora**	**0.54**	**199**	P	**Pb**	**01 36 04.3**	**+0.6**
	baz=214						
VLO				S	**Sb**	**01 36 13.7**	**+2.3**
	baz=214						
VLO				AMP			
	comp=E,4.7nm,0.5s,baz=214						
OHR	**Ohrid**	**0.82**	**80**	*i* Pg	**Pg**	**01 36 06.9**	**-1.1**
OHR				*i* Sg	**Sg**	**01 36 18.2**	**-0.5**
OHR				*e*Lg	Lg	01 36 20.9	
	comp=N,86nm,0.5s						
OHR				*e*Lg	Lg	01 36 21.5	
	comp=E,220nm,0.7s						
KBN	**Korca**	**0.88**	**114**	P	**Pg**	**01 36 07.3**	**-1.8**
	baz=116						
KBN				S	**Sg**	**01 36 18.8**	**-1.7**
	baz=116						
KBN				AMP			
	comp=N,1.3nm,0.5s,baz=116						
PHP	**Peshkopia**	**0.89**	**37**	P	**Pg**	**01 36 08.6**	**-0.6**
	baz=28						
PHP				S	**Sn**	**01 36 21.8**	**-1.7**
	baz=28						
PHP				AMP			
	comp=N,1.2nm,0.5s,baz=28						
ULC	**Ulcinj**	**1.05**	**340**	*e*Pg	**Pn**	**01 36 14.2**	**+1.4**
LSK	**Leskovik**	**1.06**	**141**	P	**Pg**	**01 36 11.6**	**-1.0**
	baz=146						
LSK				S	**Sg**	**01 36 25.9**	**-0.5**
	baz=146						
SRN	**Sarande**	**1.12**	**169**	P	**Pg**	**01 36 14.4**	**+0.7**
	baz=176						
SRN				S	**Sg**	**01 36 29.7**	**+1.5**
	baz=176						
FNA	**Florina**	**1.26**	**98**	*i* Pg	**Pn**	**01 36 14.3**	**-1.5**
FNA				*i* Sg	**Sn**	**01 36 33.6**	**+0.8**
FNA	**Florina**	**1.26**	**98**	P	**Pn**	**01 36 15.1**	**-0.7**
	baz=98						
BCI	**Bajram Curri**	**1.41**	**10**	P	**Pg**	**01 36 20.5**	**+1.3**
	baz=4.0						
BCI				S	**Sg**	**01 36 40.2**	**+2.8**
	baz=4.0						
BCI				AMP			
	comp=N,0.6nm,0.6s,baz=4.0						
PDG	**Podgorica**	**1.49**	**346**	*i* Pg	**Pg**	**01 36 20.9**	**+0.1**
PDG	**Podgorica**	**1.49**	**346**	*e*Pg	**Pg**	**01 36 21.2**	**+0.4**
PDG				*e*Sg	**Sg**	**01 36 42.4**	**+2.3**
IGT	**Igoumenitsa**	**1.52**	**162**	*i* Pg	**Pb**	**01 36 20.8**	**+0.4**
IGT	**Igoumenitsa**	**1.52**	**162**	P	**Pb**	**01 36 21.2**	**+0.9**
	baz=167						
IGT				S	**Sn**	**01 36 40.4**	**+1.4**
	baz=167						
SKO	**Skopje**	**1.62**	**52**	*i* Pg	**Pb**	**01 36 21.9**	**-0.2**
SKO				*i* Sg	**Sg**	**01 36 44.0**	**-0.4**
TREB	**Trebinje**	**2.02**	**330**	*e*Pg	**Pg**	**01 36 29.6**	**-1.2**
TREB				*e*Sg	**Sg**	**01 36 58.9**	**+1.9**
GRG	**Griva**	**2.02**	**90**	*i* Pg	**Pn**	**01 36 26.9**	**+0.7**
GRG				*i* Sg	**Sb**	**01 36 54.2**	**0.0**
VAY	**Valandovo**	**2.17**	**80**	*e*Pn	**Pn**	**01 36 29.2**	**+0.9**
VAY				*e*Sg	**Sb**	**01 36 58.2**	**-0.2**
VAY				*e*Lg	Lg	01 37 02.7	
	comp=N,54nm,1.2s						
VAY				*e*Lg	Lg	01 37 05.3	
	comp=E,70nm,1.2s						
SJES	**Sjenica**	**2.29**	**4**	*e*Pn	**Pb**	**01 36 32.9**	**-0.6**
SJES				*e*Sn	**Sb**	**01 37 02.2**	**+0.4**
KNT	**Kendrikon**	**2.40**	**85**	*e*Pn	**Pn**	**01 36 32.5**	**+1.0**
BARS	**Barje**	**2.41**	**40**	*e*Pn	**Pb**	**01 36 34.6**	**-0.9**
STON	**Ston**	**2.42**	**322**	*e*Pn	**Pn**	**01 36 30.1**	**-1.5**
STON				Sn	**Sn**	**01 37 01.0**	**-0.2**
SELS	**Selova**	**2.46**	**24**	*e*Pn	**Pb**	**01 36 34.4**	**-2.1**
BOSS	**Bosilegrad**	**2.56**	**53**	*e*Pn	**Pn**	**01 36 33.9**	**+0.4**
IVAS	**Ivanjica**	**2.61**	**7**	*e*Pn	**Pb**	**01 36 37.1**	**-1.9**
VTS	**Vitosha**	**3.09**	**57**	*e*Pn	**Pn**	**01 36 41.9**	**+0.9**
VTS				*e*Sn	**Sn**	**01 37 18.0**	**0.0**
DIVS	**Divibare**	**3.12**	**3**	*e*Pn	**Pn**	**01 36 43.8**	**+2.4**
DIVS				*e*Sn	**Sn**	**01 37 20.6**	**+1.9**
ZAPS	**Zavoj**	**3.15**	**42**	*e*Pn	**Pn**	**01 36 42.8**	**+1.1**
RICI	**Ricice**	**3.17**	**323**	*e*Pn	**Pn**	**01 36 41.3**	**-0.6**
RICI				Sn	**Sn**	**01 37 19.3**	**-0.5**
HVAR	**Hvar**	**3.28**	**313**	*e*Pn	**Pn**	**01 36 41.2**	**-2.3**
HVAR				Sn	**Sn**	**01 37 20.5**	**-2.1**
ZAGS	**Zajecar**	**3.38**	**32**	*e*Pn	**Pn**	**01 36 46.2**	**+1.3**
MORI	**Morici**	**4.14**	**315**	*e*Pn	**Pn**	**01 36 54.0**	**-1.4**
MORI				Sn	**Sn**	**01 37 41.3**	**-2.4**
DUGI	**Dugi Otok**	**4.58**	**313**	*e*Pn	**Pn**	**01 36 58.8**	**-2.6**
DUGI				Sn	**Sn**	**01 37 51.0**	**-3.6**

*RSNC **18** 02:05:25.7±1.0, 6°79N'×73°13W, h144km±4km, ML2.8, Mw3.4*

*IDC **18** 02:05:29.0±5.3, 6°77N'×74°17W, h174km±34km, mb2.7/1, mb1 3.0/1, mb1mx2.6/30, mbtmp3.1/1, Error ellipse: s-maj=416.5km s-min=43.1km az=92.0*

ISC 18 02:05:23.7±1.0, 6°83N±0°03'×73°09W±0°04, h157km±6km, n31, σ1§38/59, 4C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**202**	⇑ *i*P	**Pn**	**02 05 45.3**	**+0.1**
BARC				*e*S	**Sn**	**02 05 59.9**	**-1.7**
BARC				*i*		02 06 01.4	
	comp=Z,110nm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**37**	⇑ *e*P	**Pn**	**02 05 48.2**	**+1.1**
PAMC				*e*S	**Sn**	**02 06 04.9**	**-0.1**
PAMC				*i*		02 06 07.5	
	comp=Z,202nm,0.3s						
RUSC	**La Rusia**	**0.93**	**180**	⇓ *i*P	**Pn**	**02 05 49.5**	**+0.3**
RUSC				*e*S	**Sn**	**02 06 07.6**	**-0.9**
RUSC				*i*		02 06 08.8	
	comp=Z,131nm,0.3s						
TAMC	**Tame, Arauca**	**1.34**	**107**	⇑ *i*P	**Pn**	**02 05 53.7**	**+1.5**
TAMC			

comp=Z,21nm,0.3s
SJCC San Jacinto, C 3.69 326 *e*P **Pn 02 06 19.7 -0.4**
SJCC *e*S **Sn 02 07 00.7 -3.3**
SJCC *i* 02 07 20.6
comp=Z,10nm,0.4s
PLMC San Jos del P 3.71 239 *e*P **Pn 02 06 21.5 +1.1**
PLMC *e*S **Sn 02 07 04.9 +0.4**
PLMC *i* 02 07 10.0
comp=Z,10nm,0.2s
MACC Macarena, Meta 4.71 189 *e*P **Pn 02 06 32.5 -1.1**
MACC *e*S **Sn 02 07 23.3 -4.7**
YKA Yellowknife Ar 63.27 340 P **P 02 15 36.7 +1.3**
comp=Z,0.2nm,0.6s,baz=132,slow=6.8,SNR=5.1
WRA Warramunga Arr 150.37 241 PKPbc **PKiKP 02 24 57.9 -0.3**
comp=Z,0.4nm,1.0s,baz=115,slow=2.8,SNR=5.1

ZUR 18 02:20:16.6, 46°.34N×7°.41E, h4km, MLh0.5/11, 2C-2D, Error ellipse: s-maj=1.8km s-min=0.4km az=38.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin/Sane**	**0.08**	**286**	⇓Pg	Pg	02 20 18.7	+0.2
	0.1nm,SNR=1.8						
SENIN				⇓Pg	Pg	02 20 18.7	+0.2
SENIN				Sg	Sg	02 20 20.1	+0.4
SIEB	**Ecole de Borzu**	**0.10**	**118**	Sg	Sg	02 20 20.4	+0.5
SIOV	**Sion-Valere**	**0.11**	**198**	⇑Pg	Pg	02 20 19.0	+0.1
	0.2nm,SNR=1.4						
SIOV				⇑Pg	Pg	02 20 19.0	+0.1
SIOV				Sg	Sg	02 20 20.7	+0.3
SIOM	**Sion-Mayennets**	**0.12**	**198**	Sg	Sg	02 20 21.0	+0.5
ESION	**College des Cr**	**0.12**	**202**	Sg	Sg	02 20 21.3	+0.7
LKBD	**Leukerbad**	**0.16**	**72**	Pg	Pg	02 20 20.0	+0.3
LKBD				Pg	Pg	02 20 20.0	+0.3
	0.1nm,SNR=1.5						
LKBD2	**Leukerbad 2**	**0.16**	**78**	Pg	Pg	02 20 20.1	+0.2
LKBD2				Pg	Pg	02 20 20.1	+0.2
	0.1nm,SNR=1.3						
GRYON	**Gryon**	**0.23**	**247**	Sg	Sg	02 20 24.5	+0.5
DIX	**Grande Dixence**	**0.26**	**181**	Pg	Pg	02 20 21.9	+0.2
DIX				Pg	Pg	02 20 21.9	+0.2
	0.1nm,SNR=1.6						
DIX				Sg	Sg	02 20 25.2	+0.1
EMBD	**Embd, Matterta**	**0.32**	**113**	Sg	Sg	02 20 26.9	0.0
SIMPL	**Simplonpass**	**0.43**	**103**	Pg	Pg	02 20 25.3	+0.3
	0.1nm,SNR=1.3						
SIMPL				Pg	Pg	02 20 25.3	+0.3
SIMPL				Sg	Sg	02 20 30.7	0.0

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*RHSSO **18** 02:21:44.4±1.0, 44°.02N×16°.56E, h7km±6km, ML2.0/5*
ISC 18 02:21:43.5±0.9, 44°.00N±0°.02×16°.55E±0°.02, h10km±7km, n25, σ0§72/50, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.11**	**273**	*e*Pg	**Pg**	**02 21 46.3**	**+0.1**
KIJV				Sg	**Sg**	02 21 48.5	+0.4
MGRS	**Mrkonjic Grad**	**0.56**	**42**	*e*Pg	**Pg**	**02 21 54.2**	**-0.3**
MGRS				*e*Sg	**Sg**	02 22 02.4	+0.4
MORI	**Morici**	**0.62**	**258**	*e*Pg	**Pg**	**02 21 54.8**	**-0.8**
MORI				Sg	**Sg**	02 22 04.4	+0.6
RICI	**Ricice**	**0.66**	**140**	*e*Pg	**Pg**	**02 21 55.5**	**-0.7**
RICI				Sg	**Sg**	02 22 05.7	+0.9
ZIRJ	**Zirje**	**0.74**	**243**	*e*Pg	**Pg**	**02 21 56.7**	**-1.1**
ZIRJ				Sg	**Sg**	02 22 07.8	+0.3
UDBI	**Udbina**	**0.77**	**313**	*e*Pg	**Pg**	**02 21 57.7**	**-0.8**
UDBI				Sg	**Sg**	02 22 08.7	+0.1
MAKA	**Makarska**	**0.79**	**154**	*e*Pg	**Pg**	**02 21 58.6**	**-0.1**
MAKA				Sg	**Sg**	02 22 09.0	0.0
HVAR	**Hvar**	**0.83**	**185**	*e*Pg	**Pg**	**02 21 58.5**	**-1.0**
HVAR				Sg	**Sg**	02 22 10.3	+0.1
BLY	**Banja Luka**	**0.88**	**31**	*e*Pg	**Pg**	**02 21 59.4**	**-1.0**
BLY				*e*Sg	**Sg**	02 22 11.7	-0.1
PRIJ	**Prijedor**	**0.98**	**7**	*e*Pg	**Pg**	**02 22 02.0**	**-0.4**
PRIJ				*e*Sg	**Sg**	02 22 15.3	+0.1
MRAK	**Mrakovica**	**1.04**	**14**	*e*Pg	**Pg**	**02 22 02.9**	**-0.7**
MRAK				*e*Sg	**Sg**	02 22 17.0	-0.1
DUGI	**Dugi Otok**	**1.08**	**270**	*e*Pg	**Pg**	**02 22 02.7**	**-1.5**
DUGI				Sg	**Sb**	02 22 19.2	+0.8
PLIT	**Plitvice**	**1.10**	**323**	*e*Pg	**Pg**	**02 22 03.0**	**-1.7**
PLIT				Sg	**Sg**	02 22 18.7	-0.3
LSTV	**Lastovo**	**1.26**	**169**	*e*Pg	**Pn**	**02 22 06.7**	**-0.5**
LSTV				Sg	**Sg**	02 22 24.3	+0.4
NVLJ	**Novalja**	**1.33**	**296**	*e*Pg	**Pn**	**02 22 07.8**	**-0.3**
NVLJ				Sg	**Sn**	02 22 26.4	+0.5
STON	**Ston**	**1.40**	**143**	*e*Pg	**Pn**	**02 22 08.8**	**-0.3**
STON				Sg	**Sg**	02 22 29.2	+0.5
RABC	**Rab**	**1.47**	**301**	*e*Pg	**Pn**	**02 22 10.4**	**+0.3**
RABC				Sg	**Sb**	02 22 30.1	+0.4
MOSL	**Moslavina**	**1.62**	**5**	*e*Pn	**Pn**	**02 22 11.2**	**-1.0**
MOSL				Sg	**Sb**	02 22 34.0	0.0
OZLJ	**Ozalj**	**1.79**	**335**	*e*Pn	**Pn**	**02 22 14.8**	**+0.3**
OZLJ				Sn	**Sn**	02 22 38.2	+0.9
TREB	**Trebinje**	**1.83**	**134**	*e*Pn	**Pb**	**02 22 16.8**	**-0.3**
TREB				*e*Sn	**Sb**	02 22 40.1	-0.1
PTJ	**Puntijarka**	**1.95**	**348**	*e*Pn	**Pn**	**02 22 17.0**	**+0.2**
PTJ				Sn	**Sn**	02 22 42.2	+0.8
CRES	**Cresnjev**	**1.98**	**337**	*e*Pn	**Pn**	**02 22 18.3**	**+1.1**
CRES				*e*Sn	**Sn**	02 22 43.5	+1.4
SMRN	**Sveta Marina**	**2.00**	**302**	*e*Pn	**Pn**	**02 22 17.5**	**+0.1**
SMRN				Sn	**Sb**	02 22 44.2	-0.8
BRJN	**Brijuni**	**2.20**	**295**	*e*Pn	**Pn**	**02 22 20.9**	**+0.8**
BRJN				Sn	**Sn**	02 22 48.2	+0.8
CEY	**Cerknica**	**2.30**	**320**	*e*Pn	**Pn**	**02 22 22.5**	**+0.9**
CEY				*e*Sn	**Sn**	**02 22 50.6**	**+0.6**

IDC 18 02:22:17.1±2.3, 32°.92N×142°.30E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/47, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=52.0km s-min=27.1km az=54.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.12**	**276**	Pn	Pn	02 22 54.3	+0.4
	15nm,0.3s,baz=37,slow=14,SNR=2.1						
JHJ				Sn	Sn	02 23 20.4	-0.7
	20nm,0.3s,baz=63,slow=22,SNR=1.3						
MJAR	**Matsushiro Arr**	**4.94**	**318**	Pn	Pn	02 23 30.8	-1.9
	0.4nm,0.3s,baz=165,slow=13,SNR=9.7						
SONM	**Songino Array**	**30.83**	**310**	P	P	02 28 36.4	+1.5
	0.4nm,0.7s,baz=120,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**47.01**	**306**	P	P	02 30 49.3	-0.8
	0.4nm,0.7s,baz=93,slow=9.7,SNR=4.8						
WRA	**Warramunga Arr**	**53.11**	**189**	P	P	02 31 36.3	-0.3
	0.6nm,0.8s,baz=6.9,slow=7.4,SNR=5.8						

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*IDC **18** 02:23:07.5±4.6, 13°.08S×166°.81E, h101km±42km, mb3.7/9, mb1 3.8/10, mb1mx3.4/34, mbtmp4.0/10, MS3.1/5, Ms1 3.1/5, ms1mx2.7/59, Error ellipse: s-maj=34.1km s-min=25.3km az=121.0*
ISC 18 02:23:07.6±0.8, 13°.04S±0°.08×166°.7E±0°.1, h100km, n19, σ1§00/18, mb3.6/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.52**	**298**	S	**Sn**	**02 26 17.5**	**-0.9**
	24nm,0.3s,baz=220,slow=18,SNR=1.9						
HNR				LR	LR	02 28 12.5	
	comp=Z,50nm,19.2s,baz=3.5,slow=40						
DZM	**Mont Dzumac**	**8.98**	**181**	P	**Pn**	**02 25 15.9**	**+1.4**
	1.2nm,0.3s,baz=326,slow=12,SNR=14						
DZM				S	**Sn**	**02 26 52.3**	**-1.8**
	0.5nm,0.3s,baz=98,slow=23,SNR=1.4						
MSVF	**Nonsavu**	**11.91**	**114**	LR	LR	02 29 41.7	
	comp=Z,103nm,20.6s,baz=358,slow=33						
PMG	**Port Moresby**	**19.49**	**279**	LR	LR	02 33 39.3	
	comp=Z,52nm,19.9s,baz=358,slow=32						
CTA	**Charters Tower**	**20.79**	**248**	LR	LR	02 34 07.2	
	comp=Z,54nm,19.4s,baz=82,slow=32						
STKA	**Stephens Creek**	**29.69**	**227**	P	**P**	**02 29 03.8**	**-0.4**
	0.9nm,0.6s,baz=205,slow=20,SNR=1.6						
STKA				PcP	**PcP**	**02 32 06.8**	**+0.6**
	1.3nm,0.5s,baz=102,slow=4.6,SNR=5.7						
H11S2	**WAKE ISLAND Hy 31.33**	**0**		T	T	03 04 00.7	
	baz=184,slow=76,SNR=4.9						
H11S3	**WAKE ISLAND Hy 31.34**	**0**		T	T	03 03 54.6	
	baz=184,slow=76,SNR=3.1						
H11S1	**WAKE ISLAND Hy 31.35**	**0**		T	T	03 04 02.5	
	baz=184,slow=76,SNR=3.1						

WRA	**Warramunga Arr**	**31.73**	**253**	P	**P**	**02 29 22.0**	**-0.3**
	0.3nm,0.8s,baz=85,slow=9.1,SNR=5.5						
WRA				PcP	**PcP**	**02 32 12.2**	**+0.4**
	0.3nm,0.6s,baz=73,slow=1.3,SNR=1.9						
ASAR	**Alice Springs**	**32.78**	**246**	P	**P**	**02 29 31.4**	**-0.1**
	0.5nm,0.7s,baz=73,slow=9.3,SNR=7.1						
ASAR				PcP	**PcP**	**02 32 14.4**	**-0.2**
	0.4nm,0.6s,baz=76,slow=1.8,SNR=6.7						
ASAR				LR	LR	02 41 47.2	
	comp=Z,45nm,19.0s,baz=34,slow=34						
KLR	**Kul'dur**	**69.24**	**336**	P	**P**	**02 34 04.2**	**+0.5**
	2.1nm,0.7s,baz=140,slow=3.5,SNR=9.0						
CMAR	**Chiang Mai Arr**	**73.75**	**294**	P	**P**	**02 34 33.5**	**+2.0**
	1.5nm,0.3s,baz=128,slow=4.9,SNR=5.7						
SONM	**Songino Array**	**80.81**	**324**	P	**P**	**02 35 10.6**	**+0.2**
	0.4nm,0.4s,baz=138,slow=7.0,SNR=6.9						
ILAR	**Eielson Array**	**85.11**	**18**	P	**P**	**02 35 30.5**	**-1.5**
	0.2nm,0.4s,baz=232,slow=5.1,SNR=7.1						
MKAR	**Makanchi Array**	**95.60**	**317**	P	**P**	**02 36 22.2**	**+0.4**
	0.9nm,0.7s,baz=95,slow=6.3,SNR=12						
ZALV	**Zalesovo Beam**	**95.70**	**324**	P	**P**	**02 36 21.2**	**-0.9**
	0.8nm,0.7s,baz=77,slow=12,SNR=4.5						
ARCES	**ARCESS Array B**	**118.49**	**345**	PKP	**PKPdf**	**02 41 42.5**	**-0.6**
	2.3nm,0.9s,baz=90,slow=2.2,SNR=8.4						
ESDC	**Sonseca Array**	**152.22**	**344**	PKPbc	**PKPbc**	**02 42 51.9**	**-0.1**
	0.3nm,0.8s,baz=29,slow=2.9,SNR=1.5						
ESDC				PKPab	**PKPab**	**02 43 01.7**	**-0.3**
	0.7nm,0.7s,baz=15,slow=4.0,SNR=7.3						

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*SSNC **18** 02:35:35.3±1.8, 19°.73N×76°.06W, h5km, MD3.1, ML3.2, MW3.5*
*OSPL **18** 02:35:35.4±0.7, 20°.04N×76°.10W, h0km±10km, ML3.2*
ISC 18 02:35:34.3±1.3, 19°.84N±0°.08×76°.11W±0°.03, h8km±11km, n13, σ1§36/18, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.42**	**68**	*i* P	**Pg**	**02 35 42.7**	**+0.1**
RCC				*e*S	**Sg**	**02 35 48.5**	**+0.5**
RCC				IAML		02 35 48.8	
	comp=E,3μm,0.3s						
RCC				IAML		02 35 49.8	
	comp=N,2μm,0.2s						
LMGC	**Las Mercedes**	**0.87**	**285**	*i* P	**Pg**	**02 35 51.3**	**+0.2**
LMGC				*e*S	**Sg**	**02 36 03.6**	**+1.1**
GTBY	**Guantanamo Bay**	**0.94**	**84**	*i* P	**Pg**	**02 35 51.8**	**-0.7**
GTBY	**Guantanamo Bay**	**0.94**	**84**	*i* P	**Pg**	**02 35 51.9**	**-0.7**
GTBY				*e*S	**Sg**	**02 36 04.8**	**+0.1**
GTBY				IAML		02 36 06.5	
	comp=Z,2μm,0.6s						
GTMO	**Guantanamo**	**0.94**	**75**	*i* P	**Pg**	**02 35 52.9**	**+0.4**
GTMO				*e*S	**Sb**	**02 36 06.9**	**+1.3**
HLGC	**Holguin**	**1.05**	**2**	*e*P	**Pb**	**02 35 55.4**	**+0.6**
HLGC				*e*S	**Sn**	**02 36 11.1**	**+0.9**
HLGC				IAML		02 36 13.1	
	comp=E,2μm,0.5s						
HLGC				IAML		02 36 13.2	
	comp=N,1μm,0.4s						
MOAC	**Moa**	**1.35**	**53**	*e*P	**Pg**	**02 35 57.6**	**-2.8**
MASC	**Masc**	**1.80**	**79**	*e*P	**Pn**	**02 36 03.7**	**-1.9**
MTDJ	**Mount Denham**	**2.09**	**220**	*e*P	**Pn**	**02 36 07.5**	**-2.3**
LGNH	**Logne**	**3.56**	**111**	*i* P	**Pn**	**02 36 31.4**	**+1.5**
LGNH				IAML		02 37 25.9	
	comp=Z,18nm,0.8s						
SDDR	**Presa de Saban**	**4.63**	**100**	*e*P	**Pn**	**02 36 43.9**	**-0.7**
SDDR	**Presa de Saban**	**4.63**	**100**	*i* P	**Pn**	**02 36 44.9**	**+0.2**
SDDR				IAML		02 37 42.0	
	comp=Z,18nm,1.6s						
GRTK	**Grand Turk**	**4.95**	**69**	*i* P	**Pn**	**02 36 48.1**	**-0.9**

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*IDC **18** 03:08:18.2±7.1, 6°.75N×75°.96W, h113km±80km, mb3.0/1, mb1 3.3/2, mb1mx3.0/22, mbtmp3.4/2, ML2.2/1, Error ellipse: s-maj=152.0km s-min=43.5km az=75.0*
*RSNC **18** 03:08:18.7±0.9, 6°.82N×73°.16W, h143km±4km, ML2.9, Mw3.3*
ISC 18 03:08:16.6±1.0, 6°.88N±0°.03×73°.10W±0°.04, h155km±7km, n30, σ1§61/57, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.30**	**196**	*e*P	**Pn**	**03 08 38.1**	**0.0**
BARC				*e*S	**Sn**	**03 08 52.8**	**-1.6**
BARC				*i*		03 08 54.1	
	comp=Z,211nm,0.2s						
PAMC	**Pamplona, Colo**	**0.60**	**41**	*e*P	**Pn**	**03 08 41.1**	**+1.4**
PAMC				*e*S	**Sn**	**03 08 58.1**	**+0.8**
PAMC				*i*		03 08 58.7	
	comp=Z,90nm,0.2s						
RUSC	**La Rusia**	**0.98**	**179**	⇓*i* P	**Pn**	**03 08 42.1**	**-0.2**
RUSC				*e*S	**Sn**	**03 09 01.0**	**-1.0**
RUSC				*i*		03 09 02.4	
	comp=Z,56nm,0.3s						
OCAC	**Ocana**	**1.36**	**351**	*e*P	**Pn**	**03 08 46.6**	**+1.2**
OCAC				*e*S	**Sn**	**03 09 08.2**	**+0.7**
OCAC				*i*		03 09 16.0	
	comp=Z,181nm,0.4s						
TAMC	**Tame, Arauca**	**1.38**	**109**	*e*P	**Pn**	**03 08 46.7**	**+1.4**
TAMC				*e*S	**Sn**	**03 09 07.8**	**+0.4**
TAMC				*i*		03 09 08.8	
	comp=Z,65nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.39**	**256**	*e*P	**Pn**	**03 08 44.7**	**-0.8**
PTBC				*e*S	**Sn**	**03 09 05.9**	**-1.7**
PTBC				*i*		03 09 11.0	
	comp=Z,106nm,0.2s						
SPBC	**San Pablo de B**	**1.56**	**218**	*e*P	**Pn**	**03 08 47.0**	**-0.3**
SPBC				*e*S	**Sn**	**03 09 08.9**	**-1.9**
SPBC				*i*		03 09 13.9	
	comp=Z,144nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.84**	**289**	*e*P	**Pn**	**03 08 50.3**	**0.0**
ZARC				*e*S	**Sn**	**03 09 15.6**	**-0.6**
ZARC				*i*		03 09 22.1	
	comp=Z,100nm,0.3s						
SMLC	**San Martn de**	**2.13**	**333**	*e*P	**Pn**	**03 08 54.4**	**+0.8**
SMLC				*e*S	**Sn**	**03 09 24.8**	**+2.6**
SMLC				*i*		03 09 28.4	
	comp=Z,119nm,0.1s						
NORC	**Norcasia**	**2.19**	**233**	*e*P	**Pn**	**03 08 53.8**	**-0.6**
NORC				*e*S	**Sn**	**03 09 22.2**	**-1.2**
NORC				*i*		03 09 27.3	
	comp=Z,64nm,0.2s						
CHIC	**Chingaza**	**2.33**	**196**	*e*P	**Pn**	**03 08 56.0**	**-0.2**
CHIC				*e*S	**Sn**	**03 09 25.8**	**-1.0**
CHIC				*i*		03 09 30.6	
	comp=Z,51nm,0.4s						
ROSC	**El Rosal**	**2.36**	**211**	P	**Pn**	**03 08 58.0**	**+1.3**
	comp=Z,11nm,0.3s,baz=125,slow=20,SNR=54						
ROSC				S	**Sn**	**03 09 29.4**	**+1.8**
	comp=Z,51nm,0.3s,baz=43,slow=20,SNR=20						
ROSC	**El Rosal**	**2.36**	**211**	*e*P	**Pn**	**03 08 57.8**	**+1.1**
ROSC				*e*S	**Sn**	**03 09 28.6**	**+1.0**
HELC	**Santa Helena**	**2.51**	**254**	*e*P	**Pn**	**03 08 58.3**	**-0.1**
HELC				*e*S	**Sn**	**03 09 30.2**	**-0.4**
HELC				*i*		03 09 36.5	
	comp=Z,55nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**290**	*e*P	**Pn**	**03 08 57.9**	**-0.8**
UREC				*e*S	**Sn**	**03 09 28.8**	**-2.5**
UREC				*i*		03 09 40.1	
	comp=Z,74nm,0.2s						
SOCV	**Socops**	**2.62**	**58**	*e*P	**Pn**	**03 08 60.0**	**+0.5**
SOCV				*e*S	**Sn**	**03 09 30.7**	**-2.0**
GUY2C	**Guyana, Caldas**	**2.79**	**234**	*e*P	**Pn**	**03 09 02.3**	**+0.3**
GUY2C				*e*S	**Sn**	**03 09 39.8**	**+2.8**
GUY2C				*i*		03 09 44.3	
	comp=Z,45nm,0.6s						
VILC	**Villavicencio,**	**2.81**	**192**	*e*P	**Pn**	**03 09 01.8**	**-0.2**
VILC				*e*S	**Sn**	**03 09 35.7**	**-1.4**
PTGC	**Puerto Gaitan,**	**2.83**	**160**	*e*P	**Pn**	**03 09 01.3**	**-0.8**
PTGC				*e*S	**Sn**	**03 09 34.7**	**-2.7**
PTGC				*i*		03 09 37.6	
	comp=Z,35nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.06**	**251**	*e*P	**Pn**	**03 09 05.6**	**+0.5**
CBOC				*e*S	**Sn**	**03 09 42.5**	**-0.2**
CBOC				*i*		03 09 48.0	
	comp=Z,12nm,0.2s						
DBBC	**Dabeiba**	**3.09**	**273**	*e*P	**Pn**	**03 09 05.5**	**+0.2**
DBBC				*i*		03 09 44.5	
	comp=Z,97nm,0.6s						
ANIL	**Santa Ana**	**3.30**	**224**	*e*P	**Pn**	**03 09 09.5**	**+1.2**
ANIL				*e*S	**Sn**	**03 09 49.1**	**+0.8**
PRAC	**Prado**	**3.62**	**210**	*e*P	**Pn**	**03 09 11.7**	**-0.3**
PRAC				*e*S	**Sn**	**03 09 54.2**	**-1.0**
PRAC				*i*		03 10 00.3	

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	comp=Z,45nm,0.2s						
SJCC	**San Jacinto, C**	**3.63**	**326**	*e*P	**Pn**	**03 09 12.3**	**0.0**
SJCC				*e*S	**Sn**	**03 09 53.3**	**-2.3**
ORTC	**Ortega, Tolima**	**3.65**	**216**	*e*P	**Pn**	**03 09 12.6**	**+0.1**
ORTC				*e*S	**Sn**	**03 09 55.7**	**-0.2**
ORTC				*i*		03 10 01.7	
	comp=Z,24nm,0.3s						
PLMC	**San Jos del P**	**3.73**	**238**	⇑*e*P	**Pn**	**03 09 13.6**	**+0.1**
PLMC				*e*S	**Sn**	**03 09 55.7**	**-2.0**
PLMC				*i*		03 09 60.0	
	comp=Z,9.1nm,0.3s						
YOTC	**Yotoco, Valle**	**4.33**	**228**	*e*P	**Pn**	**03 09 20.6**	**-0.8**
YOTC				*e*S	**Sn**	**03 10 18.8**	**+7.0**
SMRC	**Santa Marta, M**	**4.40**	**345**	*e*P	**Pn**	**03 09 22.5**	**+0.3**
SMRC				*e*S	**Sn**	**03 10 10.2**	**-3.1**
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**03 18 28.7**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=134,slow=6.7,SNR=7.5						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**03 27 50.1**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=111,slow=2.4,SNR=1.2						

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*INET **18** 03:17:54.9±0.4, 17°.34N×84°.59W, h15km, ML4.8*
*IDC **18** 03:17:54.5±0.8, 17°.15N×84°.57W, h0km, mb3.9/10, mb1 4.2/15, mb1mx3.9/45, mbtmp4.0/15, ML3.3/4, Error ellipse: s-maj=27.0km s-min=15.6km az=56.0*
*NEIC **18** 03:17:56.5±1.9, 17°.13N±0°.05×84°.65W±0°.05, h10km±1km, mb4.5/82, Error ellipse: s-maj=10.5km s-min=4.4km az=135.0*
ISC 18 03:17:55.8±0.3, 17°.04N±0°.03×84°.69W±0°.04, h10km, n188, σ1§29/146, mb4.5/37, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.88**	**220**		**Pn**	**03 18 55.5**	**-0.2**
BOAB	**BOACO BROADBAN**	**4.67**	**192**		Pn	03 19 06.0	-0.4
ESPN	**Las Esperanzas**	**4.83**	**175**	Pn	**Pn**	**03 19 09.7**	**+1.0**
ESPN	**Las Esperanzas**	**4.83**	**175**	*e*P	**Pn**	**03 19 09.6**	**+0.9**
PRVC	**Isla de Provid**	**4.86**	**138**		Pn	03 19 07.7	-1.3
CRIN	**San Cristobal**	**4.88**	**208**		**Pn**	**03 19 11.0**	**+1.6**
CRIN	**San Cristobal**	**4.88**	**208**	*e*P	**Pn**	**03 19 10.1**	**+0.7**
PETF	**Flores**	**4.96**	**269**		Pn	03 19 09.0	-1.3
PETF	**Flores**	**4.96**	**269**	*e*P	Pn	03 19 09.1	-1.3
ACON	**Acoyapa**	**5.07**	**185**	Pn	**Pn**	**03 19 13.2**	**+1.3**
ACON	**Acoyapa**	**5.07**	**185**	*e*P	**Pn**	**03 19 12.9**	**+1.0**
ACON				IAML		03 20 52.5	
	comp=Z,463nm,0.8s						
ESQI	**Esquipulas**	**5.11**	**242**		**Pn**	**03 19 13.4**	**+0.7**
MTO3	**Montecristo**	**5.21**	**240**		**Pn**	**03 19 14.6**	**+0.5**
MTO3	**Montecristo**	**5.21**	**240**	*e*P	**Pn**	**03 19 14.9**	**+0.8**
PAVA	**Las Pavas**	**5.27**	**232**	*e*P	**Pn**	**03 19 15.7**	**+1.0**
SOR	**Soroa**	**5.93**	**15**	Pn	**Pn**	**03 19 22.1**	**-1.7**
SOR	**Soroa**	**5.93**	**15**	*e*P	**Pn**	**03 19 22.6**	**-1.2**
SOR				*e*S	Sn	03 20 24.1	-7.8
SOR				IAML		03 20 30.9	
	comp=E,77nm,0.5s						
SOR				IAML		03 20 31.1	
	comp=N,52nm,0.3s						
HZTE	**Horizontes, Gu**	**6.35**	**188**	Pn	**Pn**	**03 19 30.8**	**+1.2**
ORTG	**Ortega, Santa**	**6.68**	**187**	Pn	**Pn**	**03 19 36.4**	**+2.2**
MGV	**Manicaragua**	**6.71**	**41**	*e*P	Pn	03 19 30.3	-4.2
MGV				*e*S	Sn	03 20 37.6	-14
MGV				IAML		03 20 44.6	
	comp=E,26nm,0.3s						
MGV				IAML		03 20 48.0	
	comp=N,26nm,0.5s						
JTS	**Las Juntas de**	**6.72**	**182**	Pn	**Pn**	**03 19 36.1**	**+1.5**
JTS	**Las Juntas de**	**6.72**	**182**	Pn	**Pn**	**03 19 35.8**	**+1.2**
HUEH	**Huehuetenango**	**6.77**	**256**		**Pn**	**03 19 36.4**	**+1.0**
DUNO	**Dulce Nombre,**	**6.97**	**187**		**Pn**	**03 19 40.7**	**+2.6**
CCIG	**Comitan**	**7.18**	**265**	Pn	**Pn**	**03 19 40.8**	**-0.3**
CAO2	**Cobano, Puntar**	**7.32**	**183**	Pn	**Pn**	**03 19 43.3**	**+0.4**
CCCC	**Cccc**	**7.74**	**57**	*e*P	**Pn**	**03 19 51.0**	**+2.4**
CCCC				*e*S	**Sn**	**03 21 14.7**	**-1.6**
CCCC				IAML		03 21 24.4	
	comp=E,1.9nm,0.4s						
CCCC				IAML		03 21 28.5	
	comp=N,1.9nm,0.9s						
061Z	**Ochoppi**	**9.46**	**21**	Pn	Pn	03 20 09.3	-2.9
CMIG	**Matias Romero**	**9.75**	**272**	Pn	**Pn**	**03 20 15.6**	**-0.6**
	comp=N,2.3nm,0.3s,baz=67,slow=8.4,SNR=24						
CMIG				Sn	Sn	03 21 55.5	-10
	comp=N,2.9nm,0.3s,baz=195,slow=23,SNR=6.1						
SJCC	**San Jacinto, C**	**11.66**	**126**	Pn	Pn	03 20 40.2	-2.2
553A	**Crawfordville**	**13.09**	**1**	Pn	**Pn**	**03 20 59.6**	**-2.2**
TLIG	**Tlapa**	**13.26**	**274**	Pn	**Pn**	**03 21 03.9**	**-0.6**
255A	**Hazlehurst**	**14.95**	**7**	Pn	**Pn**	**03 21 26.5**	**-0.8**
ROSC	**El Rosal**	**15.82**	**139**	Pn	**Pn**	**

WCI Wyandotte Cave 21.15 356 P P 03 22 40.3 -0.8
WCI IAmb IAmb 03 22 59.5
comp=Z,51nm,1.4s
TX31 Lajitas Ar. Si 21.27 308 P P 03 22 43.1 +0.5
TX31 IAmb IAmb 03 22 57.4
comp=Z,37nm,1.0s
TX32 Lajitas Array 21.27 308 P P 03 22 42.4 -0.2
TXAR Lajitas Array 21.27 308 P P 03 22 42.7 +0.1
comp=Z,5.8nm,0.8s,baz=124,slow=11,SNR=25
TXAR Lajitas Array 21.27 308 P P 03 22 42.4 -0.1
FNO Franklin 21.39 330 P P 03 22 43.1 -0.6
FNO IAmb IAmb 03 22 55.1
comp=Z,16nm,0.7s
OKCSW OKLAHOMA CITY 21.53 331 P P 03 22 44.2 -1.0
WMOK Wichita Mounta 21.66 327 P P 03 22 45.8 -0.9
WMOK IAmb IAmb 03 22 56.7
comp=Z,15nm,0.9s
WMOK Wichita Mounta 21.66 327 P P 03 22 46.6 -0.1
baz=141,SNR=5.4
OK034 N. Norfolk Rd. 21.70 333 P P 03 22 46.6 -0.4
OK034 IAmb IAmb 03 23 07.1
comp=Z,30nm,1.0s
CCM Cathedral Cave 21.71 346 P P 03 22 46.5 -0.6
CCM Cathedral Cave 21.71 346 P P 03 22 51.0 +3.9
baz=163
HPIG 21.77 300 P P 03 22 48.1 0.0
HPIG IAmb IAmb 03 22 59.2
comp=Z,27nm,1.1s
Q51A Peebles 21.93 3 P P 03 22 48.1 -1.4
Q51A IAmb IAmb 03 22 52.3
comp=Z,24nm,1.1s
Q52A Bidwell 21.94 5 P P 03 22 49.3 -0.3
Q52A IAmb IAmb 03 23 08.3
comp=Z,26nm,1.1s
BLO Bloomington 22.11 356 P P 03 22 50.8 -0.5
T35A Sooner Cattle 22.39 334 P P 03 22 53.3 -1.1
T35A IAmb IAmb 03 23 10.8
comp=Z,13nm,1.0s
OK032 Salt Plains WL 23.03 331 P P 03 23 00.3 -0.8
OK032 IAmb IAmb 03 23 11.0
comp=Z,20nm,0.8s
KAN12 Harper NE Stat 23.34 332 P P 03 23 03.9 -0.5
AMTX Amarillo 23.37 323 P P 03 23 04.1 -0.6
AMTX IAmb IAmb 03 23 31.5
comp=Z,17nm,0.8s
AMTX Amarillo 23.37 323 P P 03 23 04.5 -0.2
baz=135
MSTX Muleshoe 23.40 319 P P 03 23 03.7 -1.3
MSTX Muleshoe 23.40 319 P P 03 23 04.1 -0.9
baz=132
MNTX Cornudas Mount 23.77 312 P P 03 23 06.5 -2.2
MNTX Cornudas Mount 23.77 312 P P 03 23 07.7 -1.0
baz=123,SNR=5.6
KSU1 Kansas State U 24.32 337 P P 03 23 12.8 -0.9
SLBS Sierra La Lagu 24.56 290 P P 03 23 16.8 +0.7
R32A Long Quarter, 24.59 333 P P 03 23 15.6 -0.6
R32A IAmb IAmb 03 23 24.8
comp=Z,25nm,1.3s
TBTG Tabatinga, AM 25.66 144 P P 03 23 25.7 -0.3
121A Cookes Peak, D 25.94 311 P P 03 23 29.6 +0.9
baz=121
ANMO Albuquerque 26.37 317 P P 03 23 32.3 -0.3
comp=Z,2.1nm,1.1s,baz=142,slow=13,SNR=5.2
ANMO Albuquerque 26.37 317 P P 03 23 32.2 -0.4
ANMO Albuquerque 26.37 317 P P 03 23 32.9 +0.3
baz=127
T25A Trinidad 26.52 323 P P 03 23 33.8 -0.2
T25A IAmb IAmb 03 23 43.0
comp=Z,14nm,1.2s
T25A Trinidad 26.52 323 P P 03 23 34.9 +1.0
baz=134
SDCO Great Sand Dun 27.57 323 P P 03 23 43.2 -0.3
SDCO IAmb IAmb 03 23 58.0
comp=Z,8.8nm,1.2s
SDCO Great Sand Dun 27.57 323 P P 03 23 44.3 +0.8
baz=133
214A Organ Pipe Nat 29.47 305 P P 03 23 59.7 -0.5
214A IAmb IAmb 03 24 10.7
comp=Z,8.9nm,0.8s
214A Organ Pipe Nat 29.47 305 P P 03 24 01.2 +1.0
baz=114
GLA Glamis 31.47 306 P P 03 24 17.6 -0.2
GLA IAmb IAmb 03 24 30.2
comp=Z,9.5nm,0.9s
RDMU Red Mountain 31.81 323 P P 03 24 20.9 -0.1
RDMU IAmb IAmb 03 24 29.1
comp=Z,5.1nm,0.8s
TKX Tecate 32.68 304 P P 03 24 29.9 +1.5
PFO Pinyon Flats O 32.94 306 P P 03 24 32.2 +1.3
baz=112
PD31 Pinedale Array 33.26 326 P P 03 24 32.9 -0.8
PD31 IAmb IAmb 03 24 49.8
comp=Z,6.2nm,1.2s
PDAR Pinedale Array 33.26 326 P P 03 24 33.4 -0.2
comp=Z,1.1nm,0.8s,baz=134,slow=11,SNR=8.9
PDAR Pinedale Array 33.26 326 P P 03 24 32.9 -0.8
ULM Lac du Bonnet 34.33 347 P P 03 24 42.5 0.0
comp=Z,2.2nm,0.8s,baz=146,slow=6.6,SNR=1.9
LOHW Long Hollow 34.39 326 P P 03 24 43.0 -0.4
LOHW IAmb IAmb 03 24 53.4
comp=Z,4.5nm,0.8s
NVAR Mina Array Bea 36.29 313 P P 03 25 00.5 +0.6
comp=Z,0.8nm,0.7s,baz=137,slow=9.3,SNR=3.8
LRM Limekiln Ridge 36.85 327 P P 03 25 04.3 -0.3
HRY Holter Researc 37.14 329 P P 03 25 06.4 -0.4
MFID Camas Ranch 37.24 321 P P 03 25 07.0 -0.7
F10A Beach Ranch, E 39.54 324 P P 03 25 26.8 -0.3
SCHQ Schefferville 40.15 16 P P
comp=Z,3.7nm,0.9s,baz=33,slow=5.2,SNR=2.6
SCHQ Schefferville 40.15 16 P P 03 25 29.5 -2.4
SCHQ IAmb IAmb 03 25 32.7
comp=Z,12nm,1.2s
SIV San Ignacio 40.25 143 P P 03 25 32.2 -0.9
comp=Z,2.9nm,0.9s,baz=322,slow=8.7,SNR=13
FCC Fort Churchill 42.23 353 P P 03 25 47.6 -1.2
FCC IAmb IAmb 03 25 56.8
comp=Z,11nm,1.1s
EDM Edmonton 42.48 335 P P 03 25 52.1 +1.0
EDM IAmb IAmb 03 25 59.6
comp=Z,15nm,1.0s
YKA Yellowknife Ar 49.98 342 P P 03 26 48.7 -1.2
comp=Z,0.6nm,0.8s,baz=135,slow=7.9,SNR=11
YKA PcP **PcP 03 28 12.5 +2.6**
comp=Z,0.5nm,0.7s,baz=149,slow=4.5,SNR=3.5
YKA Yellowknife Ar 49.98 342 P P 03 26 50.9 +1.0
RES Resolute Bay 57.92 357 P P 03 27 46.4 -1.4
RES IAmb IAmb 03 27 48.3
comp=Z,4.4nm,1.2s
INK Inuvik 59.70 341 P P 03 28 03.6 +3.4
INK IAmb IAmb 03 28 21.0
comp=Z,9.1nm,1.4s
INK Inuvik 59.70 341 P P 03 28 07.8 +7.7
baz=123
A36M Sachs Harbour 59.80 346 P P 03 28 03.0 +2.2
A36M Sachs Harbour 59.80 346 P P 03 28 07.6 +6.8
baz=134,SNR=5.2
M27K Edge Creek, AK 60.04 333 P P 03 28 09.5 +6.7
baz=112
BCAR Beaver Creek A 60.26 334 P P 03 28 04.5 +0.2
L27K Beaver Creek, 60.28 334 P P 03 28 10.3 +5.9
baz=112
N25K Chitina, Valde 60.98 332 P P 03 28 17.6 +8.4
baz=109
SUMG Summit 61.50 14 *i* P P 03 28 19.0 +6.0
J26L Joseph Creek 61.53 335 P P 03 28 20.8 +7.9
baz=111
KLU Klutina 61.55 331 P P 03 28 20.5 +7.4
baz=107
RIDG Independent Ri 61.79 334 P P 03 28 22.8 +8.1
baz=110,SNR=6.6
PAX Paxson 61.80 333 P P 03 28 14.7 -0.1
PAX Paxson 61.80 333 P P 03 28 22.7 +7.9
baz=109,SNR=7.6
M24K Tolsona, Glenn 61.84 332 P P 03 28 23.6 +8.6
baz=108
WAT6 Susitna Watana 62.68 332 P P 03 28 28.9 +8.2
baz=106
HDA Harding Lake 62.88 334 P P 03 28 22.1 +0.3
HDA Harding Lake 62.88 334 P P 03 28 28.9 +7.0
baz=108,SNR=5.7
IL31 62.97 335 P P 03 28 22.1 -0.3
ILAR Eielson Array 62.97 335 P P 03 28 22.2 -0.3
comp=Z,2.2nm,0.8s,baz=115,slow=4.8,SNR=15
ILAR Eielson Array 62.97 335 P P 03 28 22.8 +0.3
BMAR Burnt Mountain 63.00 338 P P 03 28 24.2 +1.6

EUNU Eureka 63.06 360 P P 03 28 22.6 -0.3
EUNU IAmb IAmb 03 28 31.7
comp=Z,2.9nm,0.8s
RND Reindeer 63.40 333 P P 03 28 26.0 +0.6
MCK McKinley 63.52 333 P P 03 28 27.5 +1.3
MCK McKinley 63.52 333 P P 03 28 33.6 +7.4
baz=106
H24K Noodor Dome 63.70 336 P P 03 28 35.2 +7.8
baz=108
TRF Thorofare Moun 64.03 333 P P 03 28 30.1 +0.4
TRF Thorofare Moun 64.03 333 P P 03 28 37.7 +8.0
baz=104,SNR=5.1
I23K Minto, Yukon-K 64.09 335 P P 03 28 38.0 +8.2
baz=106,SNR=9.4
BPAW Bear Paw Mtn. 64.49 334 P P 03 28 39.8 +7.3
baz=104
MLY Manley 64.62 335 P P 03 28 41.3 +7.9
baz=104
PPLA Purkeypile 64.75 332 P P 03 28 41.7 +7.4
baz=102
CAST Castle Rocks 64.81 333 P P 03 28 41.8 +7.1
baz=102
COLD Coldfoot 65.00 337 P P 03 28 44.2 +8.5
baz=106
CHUM Lake Minchumin 65.01 333 P P 03 28 43.2 +7.3
baz=102
I21K Tanana 65.17 335 P P 03 28 44.8 +8.0
baz=103
L20K Farewell, AK 65.43 331 P P 03 28 46.1 +7.4
baz=100
H21K Melozitna Rive 65.61 335 P P 03 28 47.3 +7.6
baz=103
O18K Koktuh Hills 65.64 329 P P 03 28 47.1 +7.0
baz=98
L19K White Mountain 65.82 331 P P 03 28 48.4 +7.2
baz=99
J20K Nowinta River 65.86 333 P P 03 28 41.6 +0.2
J20K Nowinta River 65.86 333 P P 03 28 48.8 +7.4
baz=101
TTA Tatalina 66.47 332 P P 03 28 45.2 -0.2
TTA Tatalina 66.47 332 P P 03 28 52.6 +7.1
baz=99
ESDC Sonseca Array 72.29 53 P P 03 29 21.9 0.0
comp=Z,0.8nm,0.8s,baz=286,slow=4.7,SNR=3.0
TIC Toumodi 78.23 87 *eP* P 03 30 04.9 +8.4
LIC Lamto 78.34 87 *eP* P 03 30 03.8 +6.8
comp=Z,26nm,1.1s
KIC Kosan Boka 78.58 87 *eP* P 03 30 06.2 +7.8
comp=Z,11nm,0.7s
WRA Warramunga Arr 142.93 259 PKP **PKPdf 03 37 29.8 -0.8**
comp=Z,1.7nm,1.0s,baz=77,slow=2.1,SNR=8.7
WRA Warramunga Arr 142.93 259 PKPdf 03 37 30.6 0.0
ASAR Alice Springs 143.31 253 PKhKP PKPpre 03 37 27.5
comp=Z,1.5nm,0.6s,baz=104,slow=3.5,SNR=7.4
ASAR Alice Springs 143.31 253 PKPpre 03 37 27.1
FITZ Fitzroy Crossi 151.08 263 PKPbc **PKPbc 03 37 52.3 +2.2**
baz=175,slow=2.5

SSNC ***18*** *03:20:36.4±5.1, 17°.09N×84°.88W, h5km, mb7.2, MD5.2, MW5.4*
IDC ***18*** *03:20:37.1±0.5, 17°.15N×84°.60W, h0km, mb4.8/28, mb1 4.9/33, mb1mx4.8/43, mbtmp4.8/33, ML4.6/3, MS4.8/34, Ms1 4.8/34, ms1mx4.7/47, Error ellipse: s-maj=16.2km s-min=10.4km az=55.0*
MOS ***18*** *03:20:38.3±1.3, 17°.18N×84°.72W, h19km, mb5.4/30, MS5.0/10, Error ellipse: s-maj=9.8km s-min=5.3km az=105.0*
NEIC ***18*** *03:20:38.8±2.0, 17°.13N±0°.06×84°.64W±0°.06, h10km±1km, mb5.3/545, Ms_20 5.0/90, Mww5.4, Error ellipse: s-maj=10.4km s-min=9.9km az=249.0*
GCMT ***18*** *03:20:39.8±0.1, 17°.27N±0°.01×84°.73W±0°.01, h12km, MW5.4/141, Moment Tensor Solution. s120,c204; s141,c276; Duration: 1s2 Moment tensor: Scale 1017 Nm; Mrr=0.13±.01; Mθθ=0.69±.02; Mφφ0.82±.02; Mrθ0.23±.04; Mrφ1.27±.01; Mθφ0.18±.04; Best double couple: M0 1.50500×1017 NP1:φs344.00000°, δ80.00000°, λ177.00000°. NP2:φs75.00000°, δ87.00000°, λ10.00000°. Principal axes: T 1.5860, Plg9.0000°, Azm300.0000°; N -0.1620, Plg80.0000°, Azm90.0000°; P -1.4240, Plg5.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***18*** *03:20:43, 17°.30N×84°.78W, h14km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 1017Nm; Mrr=0.20; Mθθ=0.76; Mφφ0.96; Mrθ=0.30; Mφφ1.41; Mφr0.27; Fault plane solution: M0 1.71000×1017 NP1:φs73.00000°, δ77.00000°, λ=8.00000°. NP2:φs165.00000°, δ81.00000°, λ=167.00000°. Principal axes: T 1.7586, Plg3.0000°, Azm299.0000°; N -0.0976, Plg75.0000°, Azm199.0000°; P -1.6610, Plg15.0000°, Azm30.0000°;*
BGR ***18*** *03:20:54.4±0.0, 17°.52N×84°.73W, h33km, mb5.0, Ms4.8*
ISC 18 03:20:41.7±0.3, 17°.14N±0°.04×84°.64W±0°.04, h35km, n930, σ1§**84**/648, **mb5.3**/278, **MS5.0**/102, **9C-1D, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.98**	**220**	Pn	**Pn**	**03 21 38.1**	**-2.2**
BOAB	**BOACO BROADBAN**	**4.77**	**192**	Pn	**Pn**	**03 21 48.3**	**-2.8**
PRVC	**Isla de Provid**	**4.90**	**139**	Pn	**Pn**	**03 21 50.5**	**-2.4**
ESPN	**Las Esperanzas**	**4.93**	**176**	Pn	**Pn**	**03 21 51.5**	**-1.8**
CRIN	**San Cristobal**	**4.99**	**208**	Pn	**Pn**	**03 21 53.1**	**-1.2**
LCCY	**Blossom Villag**	**5.00**	**59**	Pn	**Pn**	**03 21 53.2**	**-1.1**
PETF	**Flores**	**5.01**	**268**		**Pn**	**03 21 51.3**	**-3.0**
ACON	**Acoyapa**	**5.17**	**186**	Pn	**Pn**	**03 21 55.4**	**-1.2**
ESQI	**Esquipulas**	**5.20**	**241**	Pn	**Pn**	**03 21 55.3**	**-1.9**
MTO3	**Montecristo**	**5.30**	**240**	Pn	**Pn**	**03 21 57.3**	**-1.3**
SOR	**Soroa**	**5.83**	**15**	P	**Pn**	**03 22 04.5**	**-1.1**
SOR	**Soroa**	**5.83**	**15**	Pn	**Pn**	**03 22 04.5**	**-1.1**
SOR	**Soroa**	**5.83**	**15**	*eP*	**Pn**	**03 22 03.3**	**-2.4**
SOR				*eS*	**Sn**	**03 23 07.7**	**-3.6**
SOR				IAmb	IAmb	03 23 12.3	
	comp=N,2μm,0.9s						
SOR				IAmb	IAmb	03 23 14.1	
	comp=E,3μm,0.5s						
COVE	**Coope Vega, Sa**	**6.39**	**178**		**Pn**	**03 22 13.0**	**-0.4**
HZTE	**Horizontes, Gu**	**6.46**	**188**	Pn	**Pn**	**03 22 12.8**	**-1.6**
MCJ	**Malvern**	**6.68**	**82**	*i P*	**Pn**	**03 22 17.9**	**+0.5**
ORTG	**Ortega, Santa**	**6.78**	**187**	Pn	**Pn**	**03 22 16.8**	**-2.2**
JTS	**Las Juntas de**	**6.81**	**183**	Pn	**Pn**	**03 22 18.9**	**-0.4**
JTS				Lg	Lg	03 24 01.3	
JTS	**Las Juntas de**	**6.81**	**183**	*i P*	**Pn**	**03 22 19.4**	**+0.1**
JTS	**Las Juntas de**	**6.81**	**183**	Pn	**Pn**	**03 22 19.4**	**+0.1**
HUEH	**Huehuetenango**	**6.84**	**256**	Pn	**Pn**	**03 22 17.6**	**-2.2**
CVJ	**Coleyville**	**6.86**	**80**	*i P*	**Pn**	**03 22 18.8**	**-1.1**
MTDJ	**Mount Denham**	**6.86**	**80**	Pn	**Pn**	**03 22 18.4**	**-1.5**
DUNO	**Dulce Nombre,**	**7.07**	**187**	Pn	**Pn**	**03 22 23.3**	**+0.6**
CCIG	**Comitan**	**7.24**	**264**	Pn	**Pn**	**03 22 22.6**	**-2.6**
RTAL	**Retalhuleu**	**7.27**	**250**	Pn	**Pn**	**03 22 26.5**	**+1.0**
STH	**Stony Hill**	**7.52**	**82**	*i P*	**Pn**	**03 22 27.5**	**-1.5**
HOJ	**Hope**	**7.57**	**82**	*i P*	**Pn**	**03 22 29.1**	**-0.6**
CCCC	**Cccc**	**7.65**	**57**	*eP*	Pn	03 22 34.7	+4.1
CCCC				*eS*	Sn	03 24 04.4	+8.3
CCCC				IAmb	IAmb	03 24 16.9	
	comp=N,71nm,0.8s						
CCCC				IAmb	IAmb	03 24 17.1	
	comp=E,85nm,0.4s						
HLGC	**Holguin**	**8.93**	**64**	*eP*	**Pn**	**03 22 47.6**	**-0.7**
HLGC				*eS*	**Sn**	**03 24 24.2**	**-3.5**
HLGC				IVmB_BB		03 27 05.2	
	comp=N,8μm,8.5s						
HLGC				IVmB_BB		03 27 08.7	
	comp=E,5μm,7.0s						
RCC	**Rio Carpintero**	**8.94**	**70**	*eP*	**Pn**	**03 22 49.5**	**+1.1**
RCC				*eS*	**Sn**	**03 24 30.1**	**+2.1**
RCC				IVmB_BB		03 27 43.0	
	comp=E,5μm,11.4s						
RCC				IVmB_BB		03 28 01.1	
	comp=N,7μm,8.6s						
061Z	**Ochoppi**	**9.35**	**21**	Pn	**Pn**	**03 22 52.0**	**-2.0**
GTBY	**Guantanamo Bay**	**9.45**	**71**	Pn	**Pn**	**03 22 55.1**	**-0.3**
CMIG	**Matias Romero**	**9.80**	**271**	Pn	**Pn**	**03 22 58.4**	**-1.8**
	comp=N,5.0nm,0.3s,baz=74,slow=8.9,SNR=15						
CMIG				Sn	Sn	03 24 37.8	-11
	comp=N,3.7nm,0.3s,baz=92,slow=15,SNR=2.1						
CMIG				LR	LR	03 27 04.5	
	comp=N,9μm,18.1s,baz=90,slow=39						
060A	**Indiantown**	**10.62**	**21**		**Pn**	**03 23 10.5**	**-0.8**
DWPF	**Disney Wildern**	**11.31**	**15**		**Pn**	**03 23 19.7**	**-1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWPF	**Disney Wildern**	**11.31**	**15**	P	**Pn**	**03 23 19.3**	**-1.6**
	baz=196						
LGNH	**Logne**	**11.54**	**81**		**Pn**	**03 23 24.2**	**+0.2**
SJCC	**San Jacinto, C**	**11.68**	**127**	*eP*	**Pn**	**03 23 24.0**	**-2.0**
SJCC	**San Jacinto, C**	**11.68**	**127**	Pn	**Pn**	**03 23 23.2**	**-2.8**
MOTC	**Monteria, Cord**	**12.06**	**132**	Pn	**Pn**	**03 23 28.6**	**-2.6**
656A	**Willston**	**12.32**	**9**		**Pn**	**03 23 33.4**	**-1.3**
ARGC	**Ariguani, Magd**	**12.43**	**124**	*eP*	**Pn**	**03 23 34.4**	**-1.8**
SDDR	**Presa de Saban**	**12.83**	**80**	Pn	**Pn**	**03 23 43.8**	**+2.1**
UREC	**San Jos de Ur**	**12.88**	**135**	*eP*	Pn	03 23 32.6	-10
DBBC	**Dabeiba**	**13.00**	**140**	*eP*	**Pn**	**03 23 42.7**	**-1.4**
LL1C	**La Loma 1 Cana**	**13.16**	**124**	*eP*	**Pn**	**03 23 45.2**	**-1.0**
LL6C	**La Loma 6 Bece**	**13.28**	**122**	*eP*	**Pn**	**03 23 45.2**	**-2.6**
TLIG	**Tlapa**	**13.31**	**274**	Pn	**Pn**	**03 23 45.5**	**-2.9**
SC01	**Santiago de lo**	**13.41**	**78**	Pn	**Pn**	**03 23 51.9**	**+2.3**
GRTK	**Grand Turk**	**13.47**	**69**	Pn	**Pn**	**03 23 51.2**	**+0.8**
ZARC	**Zaragoza, Cauc**	**13.53**	**134**	*eP*	**Pn**	**03 23 48.5**	**-2.8**
ZARC	**Zaragoza, Cauc**	**13.53**	**134**	Pn	**Pn**	**03 23 47.7**	**-3.6**
HELC	**Santa Helena**	**14.06**	**140**	*eP*	**Pn**	**03 23 57.5**	**-1.3**
BRAL	**Brewton**	**14.14**	**352**	P	**Pn**	**03 23 58.2**	**-1.2**
	baz=170						
OCAC	**Ocana**	**14.14**	**127**	*eP*	Pn	03 23 52.6	-7.2
OCAC	**Ocana**	**14.14**	**127**	Pn	**Pn**	**03 23 56.0**	**-3.7**
TIGA	**Tifton**	**14.27**	**4**	P	**Pn**	**03 24 00.1**	**-1.2**
	baz=184						
PLMC	**San Jos del P**	**14.66**	**145⃗**	*eP*	**P**	**03 24 12.4**	**-0.2**
GUY2C	**Guyana, Caldas**	**14.92**	**141**	*eP*	Pn	03 24 05.0	-5.7
NORC	**Norcasia**	**14.96**	**139**	*eP*	Pn	03 24 05.0	-5.8
PAMC	**Pamplona, Colo**	**15.19**	**128**	*eP*	**Pn**	**03 24 07.4**	**-6.7**
344A	**Westbrook Farm**	**15.29**	**340**	IAmb	IAmb	03 24 42.6	
	comp=Z,104nm,0.8s						
BARC	**Barichara**	**15.34**	**132**	*eP*	**Pn**	**03 24 11.9**	**-4.0**
YOTC	**Yotoco, Valle**	**15.40**	**147**	*eP*	**Pn**	**03 24 14.2**	**-2.4**
SPBC	**San Pablo de B**	**15.40**	**137**	*eP*	**Pn**	**03 24 17.9**	**+1.3**
ANIL	**Santa Ana**	**15.49**	**143**	*eP*	**Pn**	**03 24 18.6**	**+0.6**
441A	**DeRidder**	**15.63**	**332**	IAmb	IAmb	03 24 44.8	
	comp=Z,197nm,1.1s						
ROSC	**El Rosal**	**15.86**	**139**	Pn	**Pn**	**03 24 23.4**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=357,slow=7.5,SNR=44						
ROSC				Sn	**Sn**	**03 27 11.9**	**-5.9**
	comp=Z,0.8nm,0.3s,baz=258,slow=19,SNR=1.0						
ROSC				LR	LR	03 31 04.6	
	comp=Z,7μm,19.3s,baz=340,slow=40						
ROSC	**El Rosal**	**15.86**	**139**	*eP*	**Pn**	**03 24 21.6**	**-1.3**
ROSC	**El Rosal**	**15.86**	**139**	P	**P**	**03 24 25.4**	**-0.8**
ROSC				IAmb	IAmb	03 24 45.3	
	comp=Z,261nm,1.2s						
RUSC	**La Rusia**	**15.90**	**133**	*eP*	**Pn**	**03 24 21.6**	**-1.8**
MOIG	**Morelia**	**15.91**	**282**	Pn	**Pn**	**03 24 23.0**	**-0.3**
MOIG				IAmb	IAmb	03 24 38.8	
	comp=Z,267nm,1.0s						
SDV	**Santo Domingo**	**15.91**	**119**	Pn	**Pn**	**03 24 20.4**	**-2.9**
	comp=Z,21nm,0.3s,baz=44,slow=1.9,SNR=20						
SDV				Sn	**Sn**	**03 27 09.8**	**-9.0**
	comp=Z,1.4nm,0.3s,baz=62,slow=6.0,SNR=2.1						
SDV				LR	LR	03 31 22.5	
	comp=Z,3μm,20.2s,baz=276,slow=41						
SDV	**Santo Domingo**	**15.91**	**119**	*eP*	**Pn**	**03 24 19.1**	**-4.2**
SDV	**Santo Domingo**	**15.91**	**119**	*eP*	**Pn**	**03 24 20.3**	**-3.0**
SDV	**Santo Domingo**	**15.91**	**119**	Pn	**Pn**	**03 24 19.5**	**-3.8**
SDV				IAmb	IAmb	03 24 29.9	
	comp=Z,190nm,0.8s						
VBMS	**Vicksburg**	**15.93**	**342**	IAmb	IAmb	03 24 39.1	
	comp=Z,228nm,1.1s						
VBMS	**Vicksburg**	**15.93**	**342**	P	**Pn**	**03 24 22.5**	**-0.7**
	baz=159						
146A	**Union**	**15.94**	**346**	IAmb	IAmb	03 24 52.8	
	comp=Z,226nm,1.0s						
KVTX	**Kingsville**	**16.04**	**313**	IAmb	IAmb	03 24 37.8	
	comp=Z,186nm,0.9s						
ORTC	**Ortega, Tolima**	**16.05**	**144**	*eP*	**Pn**	**03 24 19.8**	**-5.2**
SOCV	**Socops**	**16.06**	**122**	*eP*	**P**	**03 24 26.5**	**-1.6**
Z51A	**Franklin**	**16.12**	**358**	IAmb	IAmb	03 24 41.9	
	comp=Z,232nm,1.3s						
GOGA	**Godfrey**	**16.24**	**4**	IAmb	IAmb	03 24 33.0	
	comp=Z,232nm,1.2s						
GOGA	**Godfrey**	**16.24**	**4**	P	**Pn**	**03 24 26.3**	**-0.8**
	baz=184,SNR=14						
HKT	**Hockley**	**16.35**	**323**	*i P*	**Pn**	**03 24 25.1**	**-3.5**
HKT				pmax	pmax		
	comp=Z,36nm,0.5s						
HKT	**Hockley**	**16.35**	**323**	Pn	**Pn**	**03 24 24.8**	**-3.8**
HKT				IAmb	IAmb	03 24 30.7	
	comp=Z,397nm,1.6s						
CHIC	**Chingaza**	**16.40**	**138**	*eP*	**Pn**	**03 24 27.4**	**-2.3**
NHSC	**New Hope**	**16.40**	**13**	Pn	**P**	**03 24 29.3**	**-2.3**
NHSC	**New Hope**	**16.40**	**13**	P	**Pn**	**03 24 26.7**	**-2.5**
	baz=195						
PRAC	**Prado**	**16.42**	**143**	*eP*	Pn	03 24 19.8	-10
TAMC	**Tame, Arauca**	**16.46**	**129**	*eP*	Pn	03 24 22.8	-7.3
POPC	**Popayan, Colom**	**16.48**	**151**	*eP*	**Pn**	**03 24 24.8**	**-5.9**
143A	**Socs Landing,**	**16.66**	**340**	IAmb	IAmb	03 24 39.5	
	comp=Z,324nm,1.3s						
Y52A	**Lilburn**	**16.66**	**2**	IAmb	IAmb	03 24 37.9	
	comp=Z,359nm,1.5s						
CRPR	**Cabo Rojo, PR**	**16.74**	**84**	P	**P**	**03 24 33.7**	**-1.8**
AGPR	**Aguadilla, PR**	**16.74**	**83**	IAmb	IAmb	03 24 54.0	
	comp=Z,515nm,1.2s						
PCON	**Cinco Dias**	**16.80**	**150**	*eP*	Pn	03 24 27.2	-7.7
735A	**Kenedy**	**16.80**	**316**	IAmb	IAmb	03 24 36.5	
	comp=Z,319nm,0.9s						
VILC	**Villavicencio,**	**16.82**	**139**	*eP*	**P**	**03 24 36.3**	**-0.3**
SOTA	**Rioblanco**	**16.87**	**151**	*eP*	**P**	**03 24 36.3**	**-1.3**
BETC	**Betania**	**16.97**	**147⃗**	*eP*	**Pn**	**03 24 36.2**	**-0.4**
NATX	**Nacogdoches**	**17.16**	**330**	Pn	**Pn**	**03 24 35.6**	**-3.2**
NATX				IAmb	IAmb	03 24 51.4	
	comp=Z,145nm,0.8s						
NATX	**Nacogdoches**	**17.16**	**330**	P	**Pn**	**03 24 35.8**	**-3.1**
	baz=146,SNR=12						
Y45A	**Yeager Farm, C**	**17.23**	**346**	IAmb	IAmb	03 24 51.6	
	comp=Z,518nm,1.6s						
GCUF	**Volcan Galeras**	**17.37**	**155**	*eP*	**P**	**03 24 47.0**	**+4.0**
GARC	**Garzon, Huila**	**17.37**	**148**	*eP*	**Pn**	**03 24 39.6**	**-2.1**
X48A	**Hartselle**	**17.38**	**353**	P	**P**	**03 24 41.9**	**-0.6**
Y59A	**Loris**	**17.56**	**16**	IAmb	IAmb	03 24 47.8	
	comp=Z,157nm,0.8s						
833A	**Chaparral WMA,**	**17.56**	**312**	P	**Pn**	**03 24 39.4**	**-4.4**
	baz=126,SNR=123						
SJG	**San Juan**	**17.65**	**84**	P	**P**	**03 24 45.1**	**-0.5**
SJG				pmax	pmax		
	comp=Z,75nm,1.1s						
SJG	**San Juan**	**17.65**	**84**	*eP*	**Pn**	**03 24 41.1**	**-3.8**
SJG	**San Juan**	**17.65**	**84**		**P**	**03 24 45.1**	**-0.5**
Z41A	**Richland Creek**	**17.66**	**337**	IAmb	IAmb	03 25 19.2	
	comp=Z,274nm,1.6s						
Z41A	**Richland Creek**	**17.66**	**337**	P	**Pn**	**03 24 43.5**	**-1.4**
	baz=154						
TULM	**Tulcn-Chalpat**	**17.66**	**157**	*eP*	**P**	**03 24 48.5**	**+2.2**
ZAIG	**Zacatecas**	**17.75**	**291**		**Pn**	**03 24 45.6**	**-0.9**
PTGC	**Puerto Gaitan,**	**17.77**	**135**	*eP*	**Pn**	**03 24 44.5**	**-1.9**
PAULI	**Pauline**	**17.79**	**8**	IAmb	IAmb	03 24 48.9	
	comp=Z,267nm,1.4s						
CUSE	**Cuicocha Este**	**17.82**	**159**	*eP*	Pn	03 24 39.6	-7.9
OTAV	**Otavalo**	**17.87**	**159**	P	**P**	**03 24 48.3**	**-0.2**
OTAV				pmax	pmax		
	comp=Z,109nm,1.4s						
OTAV	**Otavalo**	**17.87**	**159**	*eP*	**Pn**	**03 24 44.5**	**-3.6**
OTAV	**Otavalo**	**17.87**	**159**	*eP*	**P**	**03 24 49.2**	**+0.7**
OTAV	**Otavalo**	**17.87**	**159**	P	**P**	**03 24 48.3**	**-0.2**
237A	**Washetta, Mont**	**17.93**	**328**	IAmb	IAmb	03 25 02.1	
	comp=Z,150nm,

comp=Z,206nm,1.3s
V48A Smith Brothers 18.63 354 IAmb IAmb 03 25 25.4
comp=Z,396nm,1.6s
GUVC San Jose del G 18.70 140 *e*P P 03 24 47.0 -10
X40A Basin Creek Fa 18.77 339 P **Pn 03 24 58.1 -0.4**
baz=155,SNR=14
WHTX Lake Whitney, 18.80 324 P **Pn 03 24 57.8 -1.2**
baz=139,SNR=51
V55A Taylorsville 18.88 9 IAmb IAmb 03 25 03.1
comp=Z,343nm,1.5s
CNNC Cliffs of the 19.00 17 P **Pn 03 24 59.9 -1.4**
baz=200
MIAR Mount Ida 19.09 337 P **Pn 03 25 00.8 -1.6**
MIAR pmax pmax
comp=Z,83nm,1.1s
MIAR Mount Ida 19.09 337 P **Pn 03 25 00.8 -1.6**
MIAR Mount Ida 19.09 337 P **Pn 03 25 01.5 -0.9**
baz=153,SNR=13
HBAR Harrisburg 19.11 345 IAmb IAmb 03 25 11.6
comp=Z,308nm,1.2s
WVT Waverly 19.13 352 P **Pn 03 25 02.3 -0.5**
WVT pmax pmax
comp=Z,183nm,1.3s
WVT Waverly 19.13 352 P **Pn 03 25 02.3 -0.5**
WVT IAmb IAmb 03 25 10.5
comp=Z,183nm,1.3s
WVT Waverly 19.13 352 P **Pn 03 25 01.7 -1.1**
baz=171
HALT Halls 19.16 348 IAmb IAmb 03 25 15.8
comp=Z,287nm,1.2s
JCT Junction City 19.18 317 P **P 03 25 01.1 -1.3**
JCT pmax pmax
comp=Z,131nm,0.8s
JCT Junction City 19.18 317 P **P 03 25 01.1 -1.3**
JCT IAmb IAmb 03 25 47.6
comp=Z,130nm,0.8s
JCT Junction City 19.18 317 P **Pn 03 25 02.0 -1.5**
baz=130,SNR=11
W41B Gary Mavity, V 19.20 341 IAmb IAmb 03 25 15.0
comp=Z,302nm,1.6s
W41B Gary Mavity, V 19.20 341 P **Pn 03 25 03.7 0.0**
baz=157,SNR=14
WHAR Wooly Hollow 19.32 341 P **Pn 03 25 04.5 -0.7**
TZTN Tazewell 19.35 3 IAmb IAmb 03 25 08.5
comp=Z,169nm,1.1s
TZTN Tazewell 19.35 3 P **Pn 03 25 05.0 -0.5**
baz=183,SNR=19
PTLC Puerto Leguiza 19.45 149 *e*P **P 03 25 01.8 -3.6**
PEBM Pemiscott Bayo 19.46 347 IAmb IAmb 03 25 27.5
comp=Z,394nm,1.4s
U54A Nelsons Funny 19.47 7 IAmb IAmb 03 25 08.0
comp=Z,481nm,1.8s
U56A King 19.50 10 P **Pn 03 25 05.6 -1.7**
Z35A Perchaven, San 19.72 327 IAmb IAmb 03 25 18.8
comp=Z,195nm,1.2s
LCAR Lake Charles 19.72 344 IAmb IAmb 03 25 20.0
comp=Z,300nm,1.6s
W39A Magazine 19.75 337 P **Pn 03 25 08.9 -1.3**
baz=153
HICK Hickman 19.75 349 P **P 03 25 06.4 -2.1**
HICK IAmb IAmb 03 25 29.4
comp=Z,258nm,1.1s
X37A Clayton 19.86 333 P **Pn 03 25 09.6 -2.0**
X37A IAmb IAmb 03 25 35.9
comp=Z,297nm,1.6s
T47A Sharon Grove 19.89 354 IAmb IAmb 03 25 19.0
comp=Z,99nm,0.9s
LOOK Love County 20.21 329 IAmb IAmb 03 25 39.0
comp=Z,132nm,0.8s
PBMO Poplar Bluff 20.22 346 P Pn 03 25 14.3 -1.4
PBMO IAmb IAmb 03 25 27.4
comp=Z,166nm,1.2s
BLA Blacksburg 20.34 10 P Pn 03 25 15.8 -1.4
BLA pmax pmax
comp=Z,702nm,1.5s
BLA MLR MLR
comp=Z,5μm,19.0s
BLA Blacksburg 20.34 10 P Pn 03 25 15.8 -1.4
BLA Blacksburg 20.34 10 P Pn 03 25 16.8 -0.4
baz=192,SNR=44
T57A Hurt 20.35 12 IAmb IAmb 03 25 20.7
comp=Z,402nm,1.6s
S51A Beattyville 20.44 2 IAmb IAmb 03 25 20.4
comp=Z,123nm,1.1s
U40A Yellville 20.48 341 IAmb IAmb 03 25 36.7
comp=Z,111nm,0.9s
U40A Yellville 20.48 341 P Pn 03 25 18.0 -0.8
baz=157
ABTX Abilene, Hawle 20.53 321 P Pn 03 25 17.4 -2.1
baz=135,SNR=25
SMRT St. Maarten 20.57 84 *e*P Pn 03 25 18.1 -2.0
SMRT St. Maarten 20.57 84 P **P 03 25 16.9 -0.8**
SMRT IAmb IAmb 03 25 27.2
comp=Z,130nm,0.8s
T42A Van Buren 20.62 345 IAmb IAmb 03 25 32.5
comp=Z,112nm,1.1s
PCRV Puerto La Cruz 20.62 107 P Pn 03 25 21.2 +0.5
comp=Z,21nm,0.8s,baz=251,slow=4.1,SNR=5.2
SEUS St. Eustatius 20.68 86 *e*P **P 03 25 13.4 -5.4**
T59A Double "B" Far 20.72 16 P Pn 03 25 19.3 -2.3
T59A IAmb IAmb 03 25 22.5
comp=Z,380nm,1.6s
HHAR Hobbs 20.77 338 IAmb IAmb 03 25 32.8
comp=Z,140nm,1.2s
S54A Dingess, Beckl 20.79 7 IAmb IAmb 03 25 24.6
comp=Z,179nm,1.1s
S44A Carbondale 20.88 350 IAmb IAmb 03 25 42.5
comp=Z,147nm,1.1s
W35A Tecumseh 21.00 331 IAmb IAmb 03 25 35.8
comp=Z,234nm,1.3s
MGMO Mountain Grove 21.05 343 IAmb IAmb 03 25 36.4
comp=Z,191nm,1.2s
WCI Wyandotte Cave 21.06 356 P **P 03 25 22.8 +0.1**
WCI pmax pmax
comp=Z,185nm,1.1s
WCI Wyandotte Cave 21.06 356 P **P 03 25 22.8 +0.1**
WCI IAmb IAmb 03 25 34.8
comp=Z,185nm,1.1s
WCI Wyandotte Cave 21.06 356 P **P 03 25 23.5 +0.7**
baz=176
R50A Paris 21.07 1 IAmb IAmb 03 25 25.7
comp=Z,185nm,1.1s
R49A Shelbyville 21.08 359 IAmb IAmb 03 25 38.6
comp=Z,134nm,1.1s
T60A Surry 21.11 18 P **P 03 25 23.1 -0.2**
T60A IAmb IAmb 03 25 43.5
comp=Z,166nm,0.8s
S57A Dark Hollow, R 21.14 13 IAmb IAmb 03 25 25.6
comp=Z,181nm,1.1s
TUL1 Leonard 21.16 334 P **P 03 25 23.7 -0.2**
baz=149,SNR=17
TXAR Lajitas Array 21.25 308 P **P 03 25 24.9 0.0**
comp=Z,39nm,0.9s,baz=125,slow=11,SNR=36
TXAR S **S 03 29 12.3 -7.1**
comp=Z,7.3nm,0.7s,baz=124,slow=29,SNR=5.3
TXAR Lajitas Array 21.25 308 P **P 03 25 25.0 0.0**
TXAR Lajitas Array 21.25 308 P **P 03 25 24.2 -0.8**
TX31 Lajitas Ar. Si 21.25 308 P **P 03 25 24.3 -0.7**
TX32 Lajitas Array 21.25 308 P **P 03 25 24.6 -0.4**
TX32 IAmb IAmb 03 25 29.9
comp=Z,183nm,1.3s
JSRW J. Sargeant Re 21.32 15 P **P 03 25 25.6 +0.1**
FNO Franklin 21.33 330 IAmb IAmb 03 25 27.4
comp=Z,157nm,1.1s
FVM French Village 21.38 347 IAmb IAmb 03 25 37.9
comp=Z,135nm,1.0s
R55A Marlinton 21.43 10 P **P 03 25 27.1 +0.2**
OKCFA Oklahoma City 21.48 330 IAmb IAmb 03 25 45.0
comp=Z,236nm,1.4s
OK025 Westminster Rd 21.57 331 IAmb IAmb 03 25 36.4
comp=Z,240nm,1.3s
R58B Mineral 21.58 15 IAmb IAmb 03 25 30.7
comp=Z,357nm,1.7s
OK030 Cody Creek RV 21.60 332 IAmb IAmb 03 25 52.2
comp=Z,308nm,1.4s
WMOK Wichita Mounta 21.61 327 IAmb IAmb 03 25 48.6
comp=Z,212nm,1.4s
WMOK Wichita Mounta 21.61 327 P **P 03 25 28.7 -0.1**
baz=141,SNR=32
CCM Cathedral Cave 21.63 346 P **P 03 25 27.6 -1.3**
CCM pmax pmax
comp=Z,191nm,0.9s
CCM Cathedral Cave 21.63 346 P **P 03 25 27.6 -1.3**
CCM IAmb IAmb 03 25 40.7
comp=Z,191nm,0.9s
CCM Cathedral Cave 21.63 346 P **P 03 25 29.9 +1.0**
baz=163

OK034 N. Norfolk Rd. 21.64 333 IAmb IAmb 03 25 46.5
comp=Z,240nm,1.3s
BCOK Bluff Creek, N 21.76 330 IAmb IAmb 03 26 10.5
comp=Z,326nm,1.6s
QUOK Quay 21.77 333 P **P 03 25 29.7 -0.7**
QUOK IAmb IAmb 03 25 41.7
comp=Z,102nm,1.0s
OK029 Liberty Lake 21.80 331 IAmb IAmb 03 25 39.8
comp=Z,225nm,1.5s
ANWB Willy Bob 21.81 85 *e*P **P 03 25 23.9 -7.1**
ANBD Bethesda, Anti 21.86 87 *e*P **P 03 25 29.9 -1.6**
CBN Corbin Frederi 21.93 15 IAmb IAmb 03 25 45.8
comp=Z,95nm,0.9s
CBN Corbin Frederi 21.93 15 P **P 03 25 33.4 +1.3**
baz=199,SNR=8.5
SLM Saint Louis 21.97 348 P **P 03 25 33.0 +0.5**
SLM pmax pmax
comp=Z,192nm,1.0s
SLM Saint Louis 21.97 348 P **P 03 25 33.0 +0.5**
SLM IAmb IAmb 03 25 52.4
comp=Z,192nm,1.0s
Q54A Coxs Mills 22.02 8 IAmb IAmb 03 25 38.8
comp=Z,102nm,1.0s
TDBA Terre de Bas, 22.09 90 *e*P **P 03 25 37.0 +3.0**
R40A Maddies Statio 22.11 344 P **P 03 25 33.6 -0.5**
R40A IAmb IAmb 03 25 47.4
comp=Z,196nm,1.5s
ABD La Joyeuse, An 22.17 88 *e*P **P 03 25 30.0 -4.9**
P48A Milroy 22.25 358 IAmb IAmb 03 25 50.7
comp=Z,144nm,1.1s
P49A Miami Univ. Ec 22.31 360 P **P 03 25 35.0 -1.2**
P49A IAmb IAmb 03 26 00.7
comp=Z,223nm,1.4s
P49A Miami Univ. Ec 22.31 360 P **P 03 25 36.4 +0.2**
baz=180,SNR=13
T35A Sooner Cattle 22.32 334 IAmb IAmb 03 25 47.9
comp=Z,169nm,1.2s
DSLB Salisbury 22.35 91 *e*P **P 03 25 35.6 -1.2**
MAGL Barre de l'ile 22.42 90 *e*P **P 03 25 38.4 +0.8**
BLOK Blackwell 22.49 333 P **P 03 25 37.8 -0.3**
BLOK IAmb IAmb 03 25 39.5
comp=Z,173nm,1.3s
P46A Rosedale 22.51 355 IAmb IAmb 03 25 51.7
comp=Z,107nm,1.1s
P52A Corning 22.52 5 P **P 03 25 38.7 +0.3**
baz=186,SNR=22
CROK Carrier 22.62 331 P **P 03 25 38.1 -1.5**
CROK IAmb IAmb 03 25 49.2
comp=Z,160nm,1.1s
FDF Fort de France 22.71 93 *e*P **P 03 25 42.8 +2.1**
GRFF Grenada Fort F 22.72 100 *e*P **P 03 25 43.2 +2.4**
GRGR Grenville 22.78 100 *e*P **P 03 25 41.0 -0.4**
KAN13 South Haven SW 22.82 333 P **P 03 25 41.0 -0.6**
BIM Bigot 22.82 93 *e*P **P 03 25 40.4 -1.5**
MCWV Mont Chateau 22.82 10 P **P 03 25 41.9 +0.3**
MCWV IAMs_20 IAMs_20 03 34 22.4
comp=Z,7μm,18.0s
MCWV Mont Chateau 22.82 10 P **P 03 25 43.0 +1.4**
baz=192,SNR=25
SVB Belmont 22.89 96 *e*P **P 03 25 38.5 -4.0**
GCMP Grenada, Carri 22.91 98 *e*P **P 03 25 42.6 -0.1**
ILAM Ilet Lapin Mar 22.97 92 *e*P **P 03 25 39.6 -3.7**
O49A Covington 22.97 1 IAmb IAmb 03 25 45.1
comp=Z,92nm,1.2s
SLBI Saint Lucia, B 23.00 94 *e*P **P 03 25 43.5 -0.1**
U32A Winter Ranch, 23.01 329 P **P 03 25 43.6 +0.1**
U32A IAmb IAmb 03 26 02.3
comp=Z,192nm,1.2s
O52A Adamsville 23.02 6 IAmb IAmb 03 26 10.7
comp=Z,170nm,1.1s
MPOM Morne Pois Mar 23.03 93 *e*P **P 03 25 41.9 -2.2**
O48B Farmland 23.04 359 P **P 03 25 43.6 -0.3**
baz=179
ACSO Alum Creek Sta 23.05 3 IAmb IAmb 03 25 51.5
comp=Z,201nm,1.4s
ACSO Alum Creek Sta 23.05 3 P **P 03 25 44.6 +0.6**
baz=184,SNR=12
KAN01 Argonia South 23.06 332 P **P 03 25 43.5 -0.5**
MCLT Moule a Chique 23.09 95 *e*P **P 03 25 43.2 -1.4**
OK035 E0210 Rd and N 23.13 330 IAmb IAmb 03 26 12.8
comp=Z,72nm,0.9s
KAN06 Argonia West S 23.18 332 P **P 03 25 45.1 -0.2**
KAN10 Anthony SW Sta 23.18 332 IAmb IAmb 03 26 16.8
comp=Z,236nm,1.5s
O53A New Philadelph 23.22 7 P **P 03 25 46.9 +1.2**
baz=188,SNR=13
P40A Paris 23.22 345 IAmb IAmb 03 25 59.5
comp=Z,89nm,0.9s
KAN16 Harper SW Stat 23.25 332 P **P 03 25 45.9 -0.2**
KAN16 IAmb IAmb 03 25 55.7
comp=Z,160nm,1.2s
SFIN Lafayette 23.25 355 P **P 03 25 47.1 +1.2**
baz=174,SNR=7.4
O54A Avella 23.26 8 IAmb IAmb 03 26 08.3
comp=Z,180nm,1.4s
AMTX Amarillo 23.32 323 P **P 03 25 46.6 -0.2**
baz=135
MSTX Muleshoe 23.36 319 P **P 03 25 44.9 -2.3**
MSTX Muleshoe 23.36 319 P **P 03 25 46.4 -0.9**
baz=132,SNR=46
O56A Blue Knob Stat 23.64 12 IAMs_20 IAMs_20 03 34 55.0
comp=Z,4μm,19.0s
O56A Blue Knob Stat 23.64 12 P **P 03 25 52.8 +3.0**
baz=194,SNR=17
N47A Urbana 23.68 358 IAmb IAmb 03 26 04.2
comp=Z,77nm,0.9s
HDIL Hopedale 23.68 351 IAmb IAmb 03 25 53.5
comp=Z,90nm,0.9s
HDIL Hopedale 23.68 351 P **P 03 25 51.4 +1.3**
baz=169,SNR=11
N49A Columbus Grove 23.70 1 IAmb IAmb 03 26 08.6
comp=Z,65nm,1.0s
P38A Dawn 23.70 343 IAmb IAmb 03 26 00.1
comp=Z,86nm,1.1s
MNTX Cornudas Mount 23.75 311 P **P 03 25 49.2 -1.6**
MNTX Cornudas Mount 23.75 311 P **P 03 25 50.0 -0.9**
baz=123,SNR=40
N53A Lisbon 23.81 7 IAmb IAmb 03 26 41.8
comp=Z,97nm,1.3s
MVL Millersville 23.89 16 IAmb IAmb 03 25 56.2
comp=Z,99nm,1.3s
P60A Greenville 23.91 17 P **P 03 25 53.2 +1.0**
P60A IAmb IAmb 03 25 57.4
comp=Z,78nm,1.2s
P60A IAMs_20 IAMs_20 03 35 56.1
comp=Z,6μm,18.0s
P60A Greenville 23.91 17 P **P 03 25 53.7 +1.4**
baz=202,SNR=5.6
PAGS Pennsylvania G 24.01 15 IAmb IAmb 03 25 56.2
comp=Z,142nm,1.0s
WUPA West Chester U 24.03 17 IAmb IAmb 03 25 57.5
comp=Z,112nm,1.8s
N54A Moraine State 24.08 9 IAmb IAmb 03 26 44.7
comp=Z,75nm,1.1s
N54A IAMs_20 IAMs_20 03 35 53.6
comp=Z,4μm,19.0s
N54A Moraine State 24.08 9 P **P 03 25 54.6 +0.8**
baz=191
N41A Harden Midland 24.09 348 IAmb IAmb 03 25 57.0
comp=Z,76nm,0.8s
SSPA Standing Stone 24.13 13 P **P 03 25 54.7 +0.4**
SSPA IAmb IAmb 03 25 57.3
comp=Z,83nm,1.1s
SSPA Standing Stone 24.13 13 IAMs_20 IAMs_20 03 35 38.0
comp=Z,5μm,19.0s
SSPA Standing Stone 24.13 13 P **P 03 25 55.7 +1.4**
baz=196
M50A Fremont 24.22 3 IAmb IAmb 03 26 15.7
comp=Z,58nm,0.9s
KSU1 Kansas State U 24.25 337 P **P 03 25 56.2 +0.8**
baz=151,SNR=24
M44A Midewin, Midew 24.34 354 IAmb IAmb 03 26 22.3
comp=Z,119nm,1.1s
M53A WI Miller and 24.46 7 P **P 03 25 59.0 +1.7**
baz=189,SNR=10
BBGH Gun Hill 24.52 96 IAMs_20 IAMs_20 03 33 40.7
comp=Z,5μm,20.0s
SLBS Sierra La Lagu 24.57 290 P **P 03 26 00.4 +1.7**
N58A Sunbury 24.59 15 IAmb IAmb 03 26 26.9
comp=Z,82nm,1.2s
M54A Oil Creek Stat 24.66 9 IAMs_20 IAMs_20 03 35 29.0
comp=Z,4μm,21.0s
M54A Oil Creek Stat 24.66 9 P **P 03 26 02.4 +3.2**
baz=191,SNR=5.9
LUPA Lehigh Univers 24.71 17 IAmb IAmb 03 26 06.6
comp=Z,128nm,1.5s

L48A N Adams 24.72 0 IAmb IAmb 03 26 03.5
comp=Z,104nm,1.2s
ALLY Alegheny Colle 24.73 8 IAmb IAmb 03 26 40.6
comp=Z,77nm,1.0s
M55A Ridgway 24.77 11 P **P 03 26 00.6 +0.5**
ATAH Atahualpa 24.90 165 P **P 03 26 05.0 +3.1**
comp=Z,21nm,1.2s,baz=345,slow=6.7,SNR=8.0
ATAH LR LR 03 34 51.5
comp=Z,2μm,18.9s,baz=340,slow=34
N59A State Game Lan 24.90 16 IAMs_20 IAMs_20 03 36 09.4
comp=Z,5μm,20.0s
N59A State Game Lan 24.90 16 P **P 03 26 03.3 +1.9**
baz=200,SNR=16
M57A Sunshine Farm, 24.97 13 IAmb IAmb 03 26 05.6
comp=Z,143nm,1.4s
LPIG La Paz 24.98 290 P **P 03 26 03.9 +1.7**
comp=Z,21nm,0.4s,baz=162,slow=4.4,SNR=5.2
LPIG LR LR 03 37 22.5
comp=Z,2μm,18.3s,baz=115,slow=40
BRNJ Basking Ridge 25.02 18 IAmb IAmb 03 26 31.8
comp=Z,98nm,1.1s
AAM Ann Arbor 25.09 2 IAmb IAmb 03 26 06.7
comp=Z,154nm,1.4s
AAM Ann Arbor 25.09 2 P **P 03 26 04.9 +1.9**
baz=182,SNR=6.2
L44A Lake County Fo 25.11 354 P **P 03 26 03.1 -0.1**
L44A Lake County Fo 25.11 354 P **P 03 26 03.9 +0.7**
baz=173
L42A Oliver, Polo 25.15 351 P **P 03 26 03.9 +0.3**
ERPA Erie 25.21 8 IAMs_20 IAMs_20 03 35 46.6
comp=Z,5μm,19.0s
ERPA Erie 25.21 8 P **P 03 26 07.2 +3.1**
baz=190,SNR=5.4
CBKS Cedar Bluff 25.31 332 IAmb IAmb 03 26 17.6
comp=Z,98nm,1.0s
CBKS Cedar Bluff 25.31 332 P **P 03 26 07.4 +2.3**
baz=144,SNR=9.2
CPNY Central Park 25.31 19 IAmb IAmb 03 26 25.5
comp=Z,145nm,1.4s
ODNJ Ogdensburg 25.38 18 IAmb IAmb 03 26 09.9
comp=Z,82nm,1.0s
PAL Palisades 25.52 19 P **P 03 26 07.9 +1.0**
PAL pmax pmax
comp=Z,111nm,1.2s
PAL MLR MLR
comp=Z,7μm,20.0s
PAL Palisades 25.52 19 P **P 03 26 07.9 +1.0**
PAL IAmb IAmb 03 26 11.2
comp=Z,111nm,1.1s
PAL Palisades 25.52 19 P **P 03 26 09.5 +2.6**
baz=204,SNR=7.4
TRNY Table Rock, Ra 25.55 18 IAmb IAmb 03 26 11.5
comp=Z,209nm,2.0s
TBTG Tabatinga, AM 25.70 144 *e*P **P 03 26 09.3 +0.4**
TBTG Tabatinga, AM 25.70 144 P **P 03 26 07.9 -0.9**
SCIA State Center 25.76 345 P **P 03 26 11.1 +2.0**
baz=161
WSPT Westport, CT 25.85 20 IAmb IAmb 03 26 14.1
comp=Z,86nm,1.2s
WSPT IAMs_20 IAMs_20 03 36 08.7
comp=Z,6μm,20.0s
121A Cookes Peak, D 25.92 311 IAmb IAmb 03 26 27.6
comp=Z,54nm,0.9s
121A Cookes Peak, D 25.92 311 P **P 03 26 11.9 +1.0**
baz=121,SNR=19
J47A Sunmer 26.02 360 IAmb IAmb 03 26 34.9
comp=Z,74nm,1.1s
BINY Binghamton 26.05 15 P **P 03 26 13.0 +1.2**
BINY IAMs_20 IAMs_20 03 36 45.9
comp=Z,5μm,19.0s
BINY Binghamton 26.05 15 P **P 03 26 13.6 +1.8**
baz=199,SNR=14
YLE Yale 26.11 20 IAMs_20 IAMs_20 03 35 40.5
comp=Z,6μm,21.0s
JFWS Jewell Farm 26.13 351 IAmb IAmb 03 26 25.8
comp=Z,49nm,0.9s
JFWS Jewell Farm 26.13 351 P **P 03 26 13.7 +1.3**
baz=168
ANMO Albuquerque 26.34 317 P **P 03 26 15.2 +0.5**
comp=Z,31nm,1.1s,baz=135,slow=11,SNR=25
ANMO LR LR 03 39 36.1
comp=Z,1μm,19.7s,baz=124,slow=43
ANMO Albuquerque 26.34 317 *ce*P **P 03 26 15.3 +0.6**
ANMO pmax pmax
comp=Z,51nm,1.2s
ANMO Albuquerque 26.34 317 P **P 03 26 14.8 +0.1**
ANMO Albuquerque 26.34 317 P **P 03 26 15.2 +0.5**
baz=127
K38A Parkersburg 26.36 346 IAmb IAmb 03 27 09.2
comp=Z,181nm,1.6s
MEDO Medina 26.47 10 IAmb IAmb 03 26 18.7
comp=Z,83nm,1.1s
T25A Trinidad 26.48 323 P **P 03 26 16.6 +0.7**
T25A Trinidad 26.48 323 P **P 03 26 17.1 +1.2**
baz=134,SNR=22
319A Douglas 26.48 307 IAmb IAmb 03 26 32.5
comp=Z,78nm,1.0s
L34A Svendsen Farm, 26.71 340 IAmb IAmb 03 26 58.1
comp=Z,52nm,0.8s
UCCT U. Connecticut 26.78 21 IAmb IAmb 03 26 21.4
comp=Z,54nm,0.9s
BGNE Belgrade 26.84 337 P **P 03 26 24.1 +5.2**
baz=150
KSCO Kaye Shedlock' 26.86 328 P **P 03 26 19.3 0.0**
KSCO IAmb IAmb 03 27 17.4
comp=Z,98nm,1.1s
KSCO Kaye Shedlock' 26.86 328 P **P 03 26 20.5 +1.2**
baz=139,SNR=5.4
I42A Draeger Farm, 26.91 353 IAmb IAmb 03 26 31.7
comp=Z,123nm,1.1s
I40A Norwalk 27.14 350 IAmb IAmb 03 26 35.5
comp=Z,193nm,1.8s
M65A Busby, Falmout 27.15 23 IAMs_20 IAMs_20 03 36 59.9
comp=Z,4μm,18.0s
TRY Troy 27.17 18 IAmb IAmb 03 26 44.2
comp=Z,111nm,1.6s
TRY IAMs_20 IAMs_20 03 37 14.5
comp=Z,5μm,20.0s
J57A Williamstown 27.20 14 IAmb IAmb 03 26 24.4
comp=Z,87nm,1.1s
L61B Northampton 27.22 20 IAmb IAmb 03 26 43.4
comp=Z,123nm,1.6s
L61B IAMs_20 IAMs_20 03 36 05.8
comp=Z,6μm,22.0s
L61B Northampton 27.22 20 P **P 03 26 23.5 +1.2**
baz=206
J58A Remsen 27.32 15 IAmb IAmb 03 26 26.6
comp=Z,182nm,1.9s
CZSB Cruzeiro do Su 27.38 154 *e*P **P 03 26 25.9 +1.9**
CZSB Cruzeiro do Su 27.38 154 P **P 03 26 23.7 -0.3**
CZSB IAmb IAmb 03 26 52.6
comp=Z,100nm,1.2s
SDCO Great Sand Dun 27.53 322 IAmb IAmb 03 26 36.5
comp=Z,103nm,1.4s
SDCO Great Sand Dun 27.53 322 P **P 03 26 26.5 +1.1**
baz=133,SNR=19
ACCN Adirondack Com 27.77 17 IAmb IAmb 03 26 34.6
comp=Z,65nm,1.4s
BOAV Boa Vista 27.86 119 *e*P **P 03 26 28.8 +0.5**
BOAV Boa Vista 27.86 119 P **P 03 26 28.3 0.0**
BOAV IAmb IAmb 03 26 41.7
comp=Z,71nm,1.6s
SADO Sadowa 27.93 8 P **P 03 26 29.4 +0.8**
comp=Z,18nm,1.0s,baz=244,slow=3.8,SNR=4.3
SADO LR LR 03 37 40.1
comp=Z,4μm,19.8s,baz=187,slow=37
SADO Sadowa 27.93 8 IAmb IAmb 03 26 31.9
comp=Z,103nm,1.6s
TUC Tucson 28.04 307 P **P 03 26 30.2 +0.3**
TUC pmax pmax
comp=Z,42nm,1.2s
TUC Tucson 28.04 307 P **P 03 26 30.1 +0.3**
TUC Tucson 28.04 307 P **P 03 26 30.7 +0.8**
baz=116
OGNE Ogallala 28.07 331 IAmb IAmb 03 27 24.1
comp=Z,63nm,0.9s
OGNE Ogallala 28.07 331 P **P 03 26 31.4 +1.4**
baz=143
NCB Newcomb 28.16 16 IAmb IAmb 03 27 06.7
comp=Z,106nm,1.8s
Q24A Divide 28.16 325 P **P 03 26 31.7 +0.6**
baz=135,SNR=9.2
S22A 4UR Ranch, Cre 28.32 321 P **P 03 26 33.4 +0.9**
baz=130,SNR=9.5
ECSD EROS Data Cent 28.39 342 P **P 03 26 32.8 +0.1**
baz=155
FFD Franklin Falls 28.47 20 IAMs_20 IAMs_20 03 36 48.8

comp=Z,5µm,21.0s
HNH Hanover 28.48 19 IAMs_20 IAMs_20 03 37 29.0
comp=Z,5µm,19.0s
X18A Snowflake 28.49 312 P **P** **03 26 33.6 -0.4**
W18A Petrified Fore 28.65 314 IAmb IAmb 03 26 37.9
comp=Z,67nm,1.1s
W18A Petrified Fore 28.65 314 P **P** **03 26 36.6 +1.2**
baz=122,SNR=7.0
LONY Lake Ozonia 28.67 15 IAmb IAmb 03 26 37.8
comp=Z,68nm,1.1s
LONY Lake Ozonia 28.67 15 P **P** **03 26 36.3 +1.0**
baz=200,SNR=9.9
SPMN Marine on St. 28.82 348 P **P** **03 26 37.1 +0.5**
baz=164,SNR=5.9
VT1 Waterbury 28.90 18 IAmb IAmb 03 26 40.7
comp=Z,58nm,1.4s
VT1 IAMs_20 IAMs_20 03 38 14.1
comp=Z,5µm,21.0s
I62A Tamworth 28.93 20 IAmb IAmb 03 26 41.6
comp=Z,95nm,1.6s
ISCO Idaho Springs 29.01 325 IAmb IAmb 03 26 48.8
comp=Z,82nm,1.4s
ISCO Idaho Springs 29.01 325 P **P** **03 26 40.1 +1.4**
baz=135,SNR=18
MVCO Mesa Verde 29.02 318 P **P** **03 26 40.3 +1.6**
baz=127
LBNH Lisbon 29.07 19 P **P** **03 26 41.2 +2.5**
baz=206
FRNY Flat Rock 29.13 16 IAmb IAmb 03 27 31.4
comp=Z,101nm,1.7s
SMCO Snowmass 29.34 323 P **P** **03 26 41.8 +0.1**
SMCO IAmb IAmb 03 26 52.7
comp=Z,56nm,1.2s
214A Organ Pipe Nat 29.45 305 IAmb IAmb 03 26 44.9
comp=Z,66nm,0.9s
214A Organ Pipe Nat 29.45 305 P **P** **03 26 43.2 +0.8**
baz=114,SNR=27
F36A Milaca 29.58 347 IAmb IAmb 03 27 39.1
comp=Z,81nm,1.5s
H62A Milan 29.61 20 IAmb IAmb 03 27 32.4
comp=Z,107nm,1.9s
PV15 Paradox Valley 29.70 320 IAmb IAmb 03 27 43.8
comp=Z,83nm,1.7s
MNTQ Montreal, Queb 29.74 16 P **P** **03 26 45.4 +0.8**
MNTQ IAmb IAmb 03 26 48.0
comp=Z,121nm,1.6s
N23A Red Feather La 29.97 327 P **P** **03 26 49.0 +1.9**
baz=136
WUAZ Wupatki 30.00 313 P **P** **03 26 47.6 +0.2**
WUAZ Wupatki 30.00 313 P **P** **03 26 48.8 +1.5**
baz=121,SNR=12
TRQ Mont Tremblant 30.19 14 IAmb IAmb 03 26 51.2
comp=Z,49nm,1.0s
F33A 5 Mile Ranch, 30.22 344 IAmb IAmb 03 26 51.1
comp=Z,35nm,0.8s
G62A West of Eustis 30.39 20 IAmb IAmb 03 26 53.8
comp=Z,66nm,1.1s
Y14A Wickenburg 30.43 309 P **P** **03 26 51.0 -0.1**
O20A White River Ci 30.71 323 P **P** **03 26 54.3 +0.7**
O20A IAmb IAmb 03 27 11.6
comp=Z,42nm,1.1s
O20A White River Ci 30.71 323 P **P** **03 26 54.8 +1.2**
baz=132,SNR=9.7
PKME Peaks-Kenny Pk 30.85 21 P **P** **03 26 56.6 +2.1**
baz=210
MACA Manacapuru-AM 31.08 128 *eP* **P** **03 26 57.4 +0.5**
MACA Manacapuru-AM 31.08 128 P **P** **03 26 57.2 +0.3**
F62A Pittston Farm, 31.17 20 IAmb IAmb 03 27 01.6
comp=Z,113nm,2.0s
RWWY Rawlins 31.20 326 IAmb IAmb 03 27 09.0
comp=Z,49nm,1.2s
F63A Nahmakanta, Br 31.29 21 IAmb IAmb 03 27 01.4
comp=Z,51nm,1.2s
PDMCI Parker Dam,Lak 31.44 309 P **P** **03 27 00.9 +1.1**
baz=116,SNR=9.2
VLDQ Val d'Or 31.45 9 IAmb IAmb 03 27 02.7
comp=Z,83nm,1.6s
GLA Glamis 31.45 306 P **P** **03 27 00.5 +0.5**
GLA pmax pmax
comp=Z,68nm,1.0s
GLA Glamis 31.45 306 P **P** **03 27 00.5 +0.5**
GLA Glamis 31.45 306 P **P** **03 27 01.4 +1.4**
baz=113,SNR=15
K22A Casper 31.54 328 IAmb IAmb 03 28 05.0
comp=Z,37nm,1.2s
K22A Casper 31.54 328 P **P** **03 27 01.9 +1.1**
baz=137
P18A Preston Nutter 31.57 320 IAmb IAmb 03 27 11.2
comp=Z,32nm,1.1s
D32A Dogwood Acres, 31.61 344 P **P** **03 27 00.1 -1.1**
D32A IAmb IAmb 03 27 03.1
comp=Z,44nm,0.8s
PKCU Pink Cliffs 31.65 315 IAmb IAmb 03 27 04.7
comp=Z,73nm,1.5s
F64A Sherman 31.70 22 IAmb IAmb 03 27 06.5
comp=Z,42nm,1.3s
KNB Kanab 31.77 314 IAmb IAmb 03 27 06.7
comp=Z,37nm,1.3s
P17A Butcher Ranch, 31.78 320 P **P** **03 27 03.3 +0.3**
TMUT Trail Mountain 31.97 319 P **P** **03 27 04.4 -0.4**
IRM Iron Mountain 32.13 308 P **P** **03 27 08.5 +2.5**
baz=114,SNR=6.3
SWSC Sam W. Stewart 32.17 305 P **P** **03 27 07.4 +1.2**
baz=112,SNR=18
BC3 Big Chuckawall 32.17 307 P **P** **03 27 07.5 +1.1**
baz=113,SNR=11
E28A Huff 32.23 339 IAmb IAmb 03 27 27.3
comp=Z,39nm,1.1s
IKP In-Ko-Pah, Jac 32.30 304 P **P** **03 27 09.3 +1.7**
baz=111,SNR=13
TCRU Three Creeks R 32.37 317 IAmb IAmb 03 27 21.3
comp=Z,29nm,1.0s
ETMB Extrema 32.39 144 P **P** **03 27 06.7 -1.7**
PQI Presque Isle 32.51 22 IAmb IAmb 03 27 12.3
comp=Z,56nm,1.1s
D62A Allapoint, All 32.52 20 IAmb IAmb 03 27 12.2
comp=Z,48nm,1.1s
MONP2 Monument Peak 32.63 305 P **P** **03 27 12.0 +1.4**
baz=111,SNR=11
TKX Tecate 32.67 304 P **P** **03 27 11.7 +1.0**
TKX IAmb IAmb 03 27 13.4
comp=Z,60nm,1.0s
BELC Belle Mtn. Jos 32.72 307 P **P** **03 27 12.6 +1.3**
baz=113,SNR=26
BAR Barrett 32.76 304 IAmb IAmb 03 27 14.0
comp=Z,42nm,1.1s
GMRC Granite Mounta 32.78 308 P **P** **03 27 13.0 +1.2**
baz=115,SNR=13
PFO Pinyon Flats O 32.93 306 LR LR 03 43 41.5
comp=Z,3µm,18.2s,baz=138,slow=42
PFO Pinyon Flats O 32.93 306 P **P** **03 27 13.8 +0.7**
PFO pmax pmax
comp=Z,47nm,1.0s
PFO MLR MLR
comp=Z,3µm,19.0s
PFO Pinyon Flats O 32.93 306 P **P** **03 27 13.8 +0.7**
PFO IAmb IAmb 03 27 15.8
comp=Z,47nm,1.0s
PFO Pinyon Flats O 32.93 306 IAMs_20 IAMs_20 03 42 59.8
comp=Z,3µm,19.0s
PFO Pinyon Flats O 32.93 306 P **P** **03 27 14.4 +1.3**
baz=112,SNR=23
MDND Maddock 33.00 341 P **P** **03 27 14.1 +0.8**
baz=153
SHPR Sheep Range 33.16 312 P **P** **03 27 15.8 +0.6**
109C Camp Elliot, M 33.17 304 P **P** **03 27 16.8 +1.7**
baz=110,SNR=7.9
BW06 Boulder Array 33.21 325 IAmb IAmb 03 27 25.5
comp=Z,54nm,1.1s
BW06 Boulder Array 33.21 325 P **P** **03 27 15.7 +0.1**
baz=133,SNR=38
PD31 Pinedale Array 33.21 325 P **P** **03 27 15.2 -0.4**
PD31 IAmb IAmb 03 27 25.5
comp=Z,49nm,1.1s
PDAR Pinedale Array 33.21 325 P **P** **03 27 15.7 +0.1**
comp=Z,19nm,1.0s,baz=132,slow=8.8,SNR=37
PDAR LR LR 03 44 57.3
comp=Z,569nm,18.6s,baz=126,slow=44
PSUT Pine Spring 33.26 316 IAmb IAmb 03 27 33.9
comp=Z,24nm,0.8s
HEC Hector,Ludlow 33.30 308 P **P** **03 27 18.0 +1.7**
baz=114,SNR=16
MURC Murrieta 33.49 306 P **P** **03 27 19.6 +1.7**
baz=111,SNR=19
DUG Dugway, Tooele 33.50 319 IAmb IAmb 03 27 28.1
comp=Z,48nm,1.7s
DUG Dugway, Tooele 33.50 319 P **P** **03 27 18.8 +0.8**
baz=125,SNR=11
MDP Montagnes des 33.53 107 LR LR 03 42 24.1
comp=Z,1µm,21.9s,baz=288,slow=39
HWUT Hardware Ranch 33.59 322 IAmb IAmb 03 27 28.9
comp=Z,35nm,0.8s
GSC Goldstone, Bar 33.85 309 IAmb IAmb 03 27 45.7
comp=Z,53nm,1.7s
GSC Goldstone, Bar 33.85 309 P **P** **03 27 22.2 +1.2**
baz=114,SNR=9.2
AHID Auburn Hatcher 34.05 324 IAMs_20 IAMs_20 03 42 10.7
comp=Z,3µm,19.0s
BFSC Mount Baldy Ra 34.09 306 P **P** **03 27 24.6 +1.4**
baz=112
S11A Rachel 34.11 313 IAmb IAmb 03 27 36.2
comp=Z,29nm,1.1s
TPNV Topopah Spring 34.15 312 P **P** **03 27 24.5 +0.8**
TPNV pmax pmax
comp=Z,13nm,1.3s
TPNV Topopah Spring 34.15 312 P **P** **03 27 24.5 +0.8**
TPNV Topopah Spring 34.15 312 P **P** **03 27 25.1 +1.4**
baz=117,SNR=9.0
ULM Lac du Bonnet 34.25 347 P **P** **03 27 24.0 -0.2**
comp=Z,33nm,1.1s,baz=170,slow=6.6,SNR=14
ULM Lac du Bonnet 34.25 347 P **P** **03 27 24.0 -0.2**
ULM Lac du Bonnet 34.25 347 IAmb IAmb 03 27 26.1
comp=Z,51nm,1.1s
REDW Red Top Meadow 34.31 325 IAMs_20 IAMs_20 03 42 31.4
comp=Z,2µm,18.0s
LOHW Long Hollow 34.34 326 IAmb IAmb 03 27 35.5
comp=Z,31nm,0.9s
FURC Furnace Creek, 34.38 310 P **P** **03 27 27.1 +1.6**
baz=116,SNR=5.7
CIS Catalina Islan 34.38 305 P **P** **03 27 27.1 +1.5**
baz=110
LAO LASA Array 34.46 333 IAmb IAmb 03 27 47.2
comp=Z,69nm,1.4s
LAO LASA Array 34.46 333 P **P** **03 27 27.4 +1.3**
baz=142
PASC Pasadena Art C 34.47 306 IAmb IAmb 03 27 29.9
comp=Z,47nm,1.2s
MOOW Moose Ponds 34.51 326 P **P** **03 27 27.0 +0.2**
MOOW IAmb IAmb 03 27 37.4
comp=Z,54nm,1.1s
LRMC Laurel Mtn Rad 34.58 308 P **P** **03 27 28.9 +1.5**
baz=113
EDW2 Edwards Air Fo 34.58 307 P **P** **03 27 28.3 +0.9**
baz=112,SNR=12
MPMC Manual Prospec 34.66 309 P **P** **03 27 29.0 +0.7**
baz=114,SNR=12
RLMT Red Lodge 34.70 329 IAmb IAmb 03 27 38.1
comp=Z,85nm,1.4s
RLMT Red Lodge 34.70 329 P **P** **03 27 29.0 +0.6**
baz=136,SNR=28
H17A Grant Village 34.85 327 P **P** **03 27 31.4 +1.5**
baz=133
YMP Mirror Lake Pl 34.87 328 IAmb IAmb 03 27 58.3
comp=Z,90nm,1.6s
LKWY Lake 34.88 327 IAMs_20 IAMs_20 03 41 42.5
comp=Z,3µm,21.0s
OSI Osito Audit: C 35.04 306 IAmb IAmb 03 27 33.6
comp=Z,93nm,1.2s
OSI Osito Audit: C 35.04 306 P **P** **03 27 32.9 +1.5**
baz=111,SNR=6.4
DGMT Dagmar 35.09 337 IAmb IAmb 03 27 51.9
comp=Z,60nm,1.1s
DGMT Dagmar 35.09 337 P **P** **03 27 32.0 +0.4**
baz=146
ISA Isabella, Lake 35.24 308 P **P** **03 27 33.3 +0.2**
ISA pmax pmax
comp=Z,43nm,1.4s
ISA Isabella, Lake 35.24 308 P **P** **03 27 33.3 +0.2**
ISA IAmb IAmb 03 27 35.9
comp=Z,43nm,1.4s
ISA Isabella, Lake 35.24 308 P **P** **03 27 34.0 +0.9**
baz=113,SNR=11
YMR Madison River 35.24 327 IAmb IAmb 03 27 50.7
comp=Z,38nm,1.0s
CWC Cottonwood Cre 35.26 310 P **P** **03 27 34.7 +1.4**
baz=114
ARVC Arvin 35.31 307 P **P** **03 27 35.5 +2.0**
baz=112,SNR=24
ELK Elko 35.34 318 LR LR 03 44 27.9
comp=Z,1µm,21.5s,baz=138,slow=40
MALB Monte Alegre 35.40 119 *eP* **P** **03 27 35.3 +0.8**
ITTB Itatiuba 35.66 124 *eP* **P** **03 27 37.1 +0.4**
VES Vestal, Richgr 35.77 308 P **P** **03 27 39.1 +1.6**
baz=112,SNR=11
PKM Mcpherson Peak 35.98 306 P **P** **03 27 41.0 +1.4**
baz=110,SNR=9.6
BOZ Bozeman (W) 36.22 327 IAmb IAmb 03 27 52.2
comp=Z,34nm,0.9s
NVAR Mina Array Bea 36.26 313 P **P** **03 27 43.2 +1.2**
comp=Z,11nm,1.1s,baz=118,slow=8.1,SNR=24
NVAR PcP **PcP** **03 30 09.2 +2.6**
comp=Z,1.7nm,0.7s,baz=114,slow=4.4,SNR=2.6
NVAR LR LR 03 46 24.8
comp=Z,1µm,18.1s,baz=130,slow=43
MCMT McKenzie Canyo 36.36 325 P **P** **03 27 44.0 +1.3**
HLID Hailey 36.45 323 P **P** **03 27 44.3 +0.9**
baz=127,SNR=14
BMN Battle Mountai 36.47 316 IAmb IAmb 03 27 46.0
comp=Z,55nm,1.4s
MCPB Macapa, AP 36.50 115 *eP* **P** **03 27 44.9 +0.9**
DLMT Dillon 36.57 326 IAmb IAmb 03 27 57.9
comp=Z,78nm,1.2s
PAGB Antelope Grade 36.61 307 IAmb IAmb 03 27 59.1
comp=Z,155nm,1.8s
EGMT Eagleton 37.04 332 IAmb IAmb 03 27 58.7
comp=Z,64nm,1.1s
EGMT Eagleton 37.04 332 P **P** **03 27 49.3 +1.1**
baz=138,SNR=9.0
YERR Yerington 37.17 313 P **P** **03 27 49.8 +0.1**
MFID Camas Ranch 37.19 321 IAmb IAmb 03 28 03.4
comp=Z,77nm,1.6s
NPGB Novo Progresso 37.62 127 *eP* **P** **03 27 53.1 -0.4**
MSO Missoula 38.24 327 P **P** **03 27 59.3 +0.8**
baz=131,SNR=17
PB16 IPOC Station P 38.27 156 P **P** **03 28 00.1 +0.6**
PB16 IAmb IAmb 03 28 12.1
comp=Z,69nm,1.2s
PB16 IAMs_20 IAMs_20 03 45 23.8
comp=Z,2µm,18.0s
WVOR Wild Horse Val 38.40 318 IAmb IAmb 03 28 10.4
comp=Z,76nm,1.3s
VILB Vilhena 38.43 140 *eP* **P** **03 28 00.3 0.0**
DRLN Deer Lake 38.85 28 IAmb IAmb 03 28 05.8
comp=Z,71nm,1.1s
MOD Modoc Plateau 39.22 316 P **P** **03 28 05.8 -1.0**
PB11 IPOC Station P 39.51 158 IAmb IAmb 03 28 25.9
comp=Z,74nm,1.0s
CLDB Colider 39.84 132 *eP* **P** **03 28 11.1 -1.0**
K05A Summer Lake 39.99 317 P **P** **03 28 13.2 -0.1**
SCHQ Schefferville 40.04 16 P **P** **03 28 13.6 +0.3**
comp=Z,16nm,0.5s,baz=215,slow=6.9,SNR=56
SCHQ LR LR 03 44 25.8
comp=Z,3µm,21.1s,baz=211,slow=36
SCHQ Schefferville 40.04 16 P **P** **03 28 13.1 -0.2**
G08A Pilot Rock 40.10 322 P **P** **03 28 12.9 -1.2**
SIV San Ignacio 40.30 144 P **P** **03 28 15.1 -0.8**
comp=Z,29nm,0.9s,baz=329,slow=8.6,SNR=42
SIV LR LR 03 45 43.1
comp=Z,1µm,20.9s,baz=340,slow=37
J05D Fort Rock, OR 40.48 318 P **P** **03 28 17.3 +0.1**
baz=119,SNR=6.1
PINE Pine Mountain 40.53 319 P **P** **03 28 16.6 -1.1**
YBH Yreka Blue Hor 40.74 315 LR LR 03 50 05.6
comp=Z,651nm,18.0s,baz=110,slow=43
PB01 IPOC Station P 40.75 158 P **P** **03 28 19.9 +0.3**
NEW Newport 40.81 327 LR LR 03 47 36.8
comp=Z,751nm,19.9s,baz=129,slow=40
NEW Newport 40.81 327 P **P** **03 28 19.3 -0.6**
NEW pmax pmax
comp=Z,44nm,1.5s
NEW Newport 40.81 327 P **P** **03 28 19.3 -0.6**
NEW Newport 40.81 327 P **P** **03 28 19.9 +0.1**
baz=128,SNR=5.8
TMAB Tom-Au,PA,Br 40.93 115 *eP* **P** **03 28 22.1 +0.9**
PTLB Pontes e Lacer 41.00 141 P **P** **03 28 19.9 -1.7**
J04D Umpqua Nationa 41.02 317 P **P** **03 28 21.8 -0.1**
J04D IAmb IAmb 03 28 35.5
comp=Z,38nm,0.9s
J04D Umpqua Nationa 41.02 317 P **P** **03 28 22.3 +0.5**
baz=118
HAWA Hanford 41.04 323 P **P** **03 28 21.4 -0.3**
PB07 IPOC Station P 41.24 159 IAmb IAmb 03 28 35.9
comp=Z,84nm,1.2s
E07A Sunnyside 41.32 323 IAmb IAmb 03 28 34.0
comp=Z,52nm,1.2s
I04A Tendick Farm, 41.47 318 P **P** **03 28 26.0 +0.7**
baz=118
PRPB Parauapebas 41.48 121 *eP* **P** **03 28 26.5 +0.7**
G05D Wamic, OR 41.49 320 P **P** **03 28 26.8 +1.4**
baz=120
H04A Detroit Lake 41.75 319 P **P** **03 28 27.4 -0.2**
H04A IAmb IAmb 03 28 37.9
comp=Z,38nm,0.9s
F05D White Salmon 41.91 321 IAmb IAmb 03 28 42.3
comp=Z,61nm,1.3s
F05D White Salmon 41.91 321 P **P** **03 28 30.3 +1.5**
baz=121
I03D Drain, OR 42.03 317 P **P** **03 28 30.8 +1.0**
baz=117
FCC Fort Churchill 42.14 353 IAmb IAmb 03 28 41.6
comp=Z,36nm,0.8s
LVC Limon Verde 42.40 158 P **P** **03 28 34.6 +1.2**
comp=Z,3.8nm,0.8s,baz=61,slow=2.8,SNR=3.1
LVC LR LR 03 47 59.2
comp=Z,550nm,21.4s,baz=320,slow=39
LVC Limon Verde 42.40 158 *eP* **P** **03 28 34.9 +1.5**
EDM Edmonton 42.42 335 P **P** **03 28 32.3 -0.6**
EDM pmax pmax
comp=Z,58nm,0.8s
EDM Edmonton 42.42 335 P **P** **03 28 32.3 -0.6**
EDM IAmb IAmb 03 28 42.3
comp=Z,58nm,0.8s
C06D Leavenworth 42.66 324 P **P** **03 28 36.2 +1.3**
baz=124
B06A Marblemount 43.32 324 P **P** **03 28 40.6 +0.4**
B06A IAmb IAmb 03 28 49.8
comp=Z,40nm,1.0s
SNDB Serra Nova Dou 43.84 129 *eP* **P** **03 28 44.8 0.0**
ROSB Rosrio 44.66 113 *eP* **P** **03 28 52.2 +0.8**
SMTB Santa Maria do 44.82 122 *eP* **P** **03 28 53.5 +0.8**
PP1B Ponte de Pedra 45.28 138 *eP* **P** **03 28 56.7 +0.5**
ARAG Araguaiana, MT 45.97 133 *eP* **P** **03 29 01.1 -0.6**
PEXB Peixe 46.19 127 *eP* **P** **03 29 04.3 +0.8**
AC02 Maricunga 46.23 161 P **P** **03 29 03.6 -0.6**
AQDB Aquidauana 46.95 142 P **P** **03 29 07.5 -1.8**
AQDB IAmb IAmb 03 29 21.1
comp=Z,19nm,0.9s
NBPS Pedro II - PI 47.72 113 *eP* **P** **03 29 15.9 +0.3**
FRB Frobisher Bay 47.86 10 LR LR 03 50 00.9
comp=Z,4µm,18.1s,baz=202,slow=37
NBMO Morrinhos-CE 48.48 111 *eP* **P** **03 29 22.1 +0.7**
BDFB Brasilia 48.64 130 P **P** **03 29 21.7 -0.9**
comp=Z,8.7nm,0.9s,baz=307,slow=8.3,SNR=11
BDFB LR LR 03 50 36.5
comp=Z,2µm,21.4s,baz=306,slow=37
BDFB Brasilia 48.64 130 IAmb IAmb 03 29 36.0
comp=Z,25nm,1.1s
BBB Bella Bella 48.85 326 LR LR 03 54 05.2
comp=Z,681nm,18.1s,baz=120,slow=41
SDBA SAO DESIDERIO 49.02 124 *eP* **P** **03 29 25.7 +0.1**
CO03 El Pedregal 49.55 164 IAmb IAmb 03 29 45.1
comp=Z,35nm,1.2s
ITRB Iturama 49.74 136 *eP* **P** **03 29 32.5 +1.5**
NBPB Pedra_Branca-C 49.89 113 *eP* **P** **03 29 33.1 +0.9**
YKA Yellowknife Ar 49.91 342 P **P** **03 29 31.6 0.0**
comp=Z,5.4nm,0.6s,baz=137,slow=7.9,SNR=64
YKA PcP **PcP** **03 30 53.3 +1.8**
comp=Z,4.5nm,0.9s,baz=139,slow=4.0,SNR=6.5
YKA Yellowknife Ar 49.91 342 P **P** **03 29 30.9 -0.6**
IPMB Ipameri, GO 50.03 132 *eP* **P** **03 29 33.3 +0.1**
RPN Rapa Nui 50.11 209 LR LR 03 45 45.2
comp=Z,711nm,21.5s,baz=16,slow=30
NBCL Cascavel-CE 50.45 111 *eP* **P** **03 29 37.7 +1.3**
PCMB Pacaembu 50.52 138 *eP* **P** **03 29 37.9 +1.1**
CPUP Villa Florida 50.71 148 P **P** **03 29 39.6 +1.4**
comp=Z,1.5nm,0.8s,baz=4.5,slow=10,SNR=1.6
CPUP LR LR 03 52 10.1
comp=Z,592nm,21.9s,baz=324,slow=37
CPUP Villa Florida 50.71 148 *eP* **P** **03 29 39.7 +1.5**
ZON Zonda 50.77 162 P **P** **03 29 39.1 +0.5**
ZON pmax pmax
comp=Z,67nm,1.8s
ZON Zonda 50.77 162 P **P** **03 29 39.1 +0.5**
ZON IAmb IAmb 03 29 49.0
comp=Z,67nm,1.8s
JANB Januaria 51.05 126 *eP* **P** **03 29 41.5 +0.5**
NBMA Muriti-CE 51.47 114 *eP* **P** **03 29 44.9 +0.8**
BB19B Bebedouro 51.92 136 *eP* **P** **03 29 48.9 +1.5**
NBPN Ponto Novo - B 51.98 119 *eP* **P** **03 29 48.5 +0.5**
DLBC Dease Lake 52.97 332 LR LR 03 54 23.8
comp=Z,1µm,19.4s,baz=120,slow=38
WRGLY Wrigley 53.24 339 P **P** **03 29 58.9 +2.5**
baz=132
RCBR Riachuelo 53.28 111 P **P** **03 29 58.9 +1.3**
RCBR pmax pmax
comp=Z,23nm,1.0s
RCBR MLR MLR
comp=Z,2µm,20.0s
RCBR Riachuelo 53.28 111 *eP* **P** **03 29 58.4 +0.8**
RCBR Riachuelo 53.28 111 P **P** **03 29 58.9 +1.3**
RCBR Riachuelo 53.28 111 IAMs_20 IAMs_20 03 54 03.0
comp=Z,2µm,20.0s
BO02 Sierra Bellavi 53.30 166 IAmb IAmb 03 30 12.2
comp=Z,32nm,1.2s
DIAM Diamantina, MG 53.52 129 *eP* **P** **03 29 60.0 +0.6**
ITQB Itaqui 53.82 150 *eP* **P** **03 30 01.6 +0.4**
ITQB Itaqui 53.82 150 IAmb IAmb 03 30 10.2
comp=Z,26nm,1.0s
GDU01 Guandu, BA 54.03 122 *eP* **P** **03 30 03.8 +0.8**
NBLA Lagarto - SE 54.08 118 *eP* **P** **03 30 04.0 +0.6**
NBPV Pedro Velho 54.09 111 *eP* **P** **03 30 04.5 +1.1**
BSCB Bom Sucesso 54.45 133 *eP* **P** **03 30 06.3 +0.3**
SFJD Kangerlussuaq 54.49 16 P **P** **03 30 04.1 -1.4**
comp=Z,18nm,0.8s,baz=205,slow=5.4,SNR=6.8
SFJD LR LR 03 53 41.7
comp=Z,2µm,18.8s,baz=221,slow=36
SFJD Kangerlussuaq 54.49 16 P **P** **03 30 04.6 -0.9**
SFJD pmax pmax
comp=Z,32nm,1.0s
SFJD Kangerlussuaq 54.49 16 P **P** **03 30 04.6 -0.9**
SFJD IAmb IAmb 03 30 07.2
comp=Z,32nm,0.9s
NBIT Itapeh - BA 54.81 123 *eP* **P** **03 30 09.8 +1.1**
CMC01 Camacan, BA 54.98 123 *eP* **P** **03 30 11.1 +1.3**
P33M Teslin, Yukon 55.10 333 P **P** **03 30 11.5 +1.2**
P33M Teslin, Yukon 55.10 333 P **P** **03 30 12.8 +2.6**
baz=120
NBRF Rio Formoso - 55.26 114 *eP* **P** **03 30 13.5 +1.6**
DY2G Dye2 55.31 18 *eP* **P** **03 30 10.2 -1.5**
DY2G IAmb IAmb 03 30 12.5
comp=Z,70nm,1.5s
PARB Paraibuna 55.43 135 *eP* **P** **03 30 14.1 +1.1**
GUA01 Guaratinga, BA 55.45 125 *eP* **P** **03 30 14.3 +1.1**
SJMB Sao Joao De Ma 55.63 128 *eP* **P** **03 30 15.7 +1.3**
NAN01 Guarapari, ES 55.93 126 *eP* **P** **03 30 17.7 +1.1**
CPSB Cacapava Do Su 56.01 147 *eP* **P** **03 30 16.1 -0.8**
WHY Whitehorse 56.22 333 P **P** **03 30 20.8 +2.6**
baz=118
FARO Faro, Yukon 56.34 335 P **P** **03 30 21.1 +2.1**
baz=120
RIB01 Linhares ES 56.59 128 *eP* **P** **03 30 22.1 +0.8**
M31M Drury Creek, Y 56.75 335 P **P** **03 30 24.4 +2.5**
baz=119,SNR=6.4
N31M Braeburn, Yuko 56.99 334 P **P** **03 30 25.6 +2.0**
baz=117
LC01 Cunco 57.01 168 P **P** **03 30 22.9 -1.1**
LC01 IAmb IAmb 03 30 38.2
comp=Z,26nm,1.1s
PLTB Pedras Altas 57.01 148 *eP* **P** **03 30 24.3 +0.2**
PLTB Pedras Altas 57.01 148 IAmb IAmb 03 30 39.1
comp=Z,46nm,1.5s
ALF01 Guarapari-ES 57.13 129 *eP* **P** **03 30 25.9 +0.8**
CAM01 Campos-RJ 57.20 131 *eP* **P** **03 30 26.7 +1.1**
C36M Paulatuk 57.60 345 IAmb IAmb 03 31 03.8
comp=Z,30nm,1.4s
RES Resolute Bay 57.83 357 LR LR 03 57 23.2
comp=Z,1µm,18.8s,baz=164,slow=38
M30M Minto, Yukon 57.91 334 IAmb IAmb 03 30 55.3
comp=Z,53nm,1.6s
M30M Minto, Yukon 57.91 334 P **P** **03 30 31.7 +1.6**
baz=117
MAYO Mayo, Yukon 58.02 336 P **P** **03 30 33.6 +2.7**
baz=118,SNR=5.2
PINM Pinnacle 58.40 331 P **P** **03 30 36.5 +2.9**
baz=112
ICESG Greenland Ices 58.93 17 *eP* **P** **03 30 34.8 -2.6**
ICESG IAmb IAmb 03 30 38.0
comp=Z,64nm,1.1s
TABL Table Mountain 58.94 331 IAmb IAmb 03 30 48.6

comp=Z,27nm,0.8s
LOGN Logan Glacier 59.01 332 IAmb IAmb 03 30 54.0
comp=Z,21nm,1.0s
PLCA Paso Flores 59.05 168 P **P** **03 30 38.9 +0.6**
comp=Z,5.2nm,0.9s,baz=340,slow=8.3,SNR=8.8
PLCA Paso Flores 59.05 168 *e*P **P** **03 30 39.2 +1.0**
PLCA Paso Flores 59.05 168 P **P** **03 30 37.8 -0.4**
PLCA IAmb IAmb 03 30 48.0
comp=Z,53nm,1.6s
YUK3 Moose Creek 59.13 333 P **P** **03 30 41.5 +2.7**
baz=113
CTGM Chitina Glacie 59.22 332 IAmb IAmb 03 30 57.3
comp=Z,33nm,1.3s
CTG Chitna Glacier 59.22 332 P **P** **03 30 41.9 +2.5**
baz=112
BVCY Beaver Creek 59.56 333 P **P** **03 30 43.7 +2.2**
baz=113
DAWY Dawson 59.62 335 P **P** **03 30 42.0 0.0**
DAWY Dawson 59.62 335 P **P** **03 30 43.6 +1.6**
baz=115
INK Inuvik 59.63 341 P **P** **03 30 42.7 +0.9**
INK pmax pmax
comp=Z,15nm,0.8s
INK Inuvik 59.63 341 P **P** **03 30 42.7 +0.9**
INK IAmb IAmb 03 30 44.9
comp=Z,15nm,0.8s
INK Inuvik 59.63 341 P **P** **03 30 43.0 +1.1**
baz=123,SNR=13
EPYK Eagle Plains 59.67 338 IAmb IAmb 03 31 01.6
comp=Z,24nm,1.0s
EPYK Eagle Plains 59.67 338 P **P** **03 30 44.3 +2.0**
baz=119,SNR=8.2
A36M Sachs Harbour 59.72 346 IAmb IAmb 03 30 52.4
comp=Z,34nm,0.9s
A36M Sachs Harbour 59.72 346 P **P** **03 30 43.0 +0.5**
baz=134,SNR=20
M27K Edge Creek, AK 59.97 333 IAmb IAmb 03 30 55.6
comp=Z,30nm,0.9s
M27K Edge Creek, AK 59.97 333 P **P** **03 30 46.7 +2.2**
baz=112
TULEG Thule 59.98 4 *e*P **P** **03 30 41.5 -2.7**
TULEG IAmb IAmb 03 30 45.6
comp=Z,51nm,1.3s
TULEG Thule 59.98 4 P **P** **03 30 43.4 -0.8**
L27K Beaver Creek, 60.22 334 P **P** **03 30 47.9 +1.9**
baz=112
M26K Nabesna, AK 60.48 333 P **P** **03 30 49.8 +1.9**
baz=111
GLB Gilahina Butte 60.51 332 IAmb IAmb 03 30 59.4
comp=Z,17nm,0.9s
EGAK Eagle 60.62 336 IAmb IAmb 03 31 09.2
comp=Z,25nm,1.4s
EGAK Eagle 60.62 336 P **P** **03 30 50.2 +1.5**
baz=114
TAOE Nuku Hiva Isla 60.64 249 *e*LR LR 03 48 38.9
comp=Z,376nm,26.1s
BMRM Bremner River 60.72 331 IAmb IAmb 03 31 00.3
comp=Z,21nm,0.9s
BMRM Bremner River 60.72 331 P **P** **03 30 51.4 +1.8**
baz=108
L26K Log Cabin Wild 60.85 333 P **P** **03 30 52.0 +1.7**
L26K IAmb IAmb 03 31 01.1
comp=Z,17nm,0.9s
L26K Log Cabin Wild 60.85 333 P **P** **03 30 52.9 +2.5**
baz=111,SNR=6.5
N25K Chitina, Valde 60.92 332 IAmb IAmb 03 31 02.4
comp=Z,28nm,0.9s
N25K Chitina, Valde 60.92 332 P **P** **03 30 53.5 +2.5**
baz=109,SNR=6.6
EYAK Cordova Ski Ar 61.12 330 P **P** **03 30 54.4 +2.2**
baz=107
LL02 Futaleuf 61.17 169 P **P** **03 30 53.0 +0.3**
DIV Divide 61.31 331 IAmb IAmb 03 31 04.6
comp=Z,17nm,0.8s
DOT Dot Lake 61.37 334 IAmb IAmb 03 31 05.1
comp=Z,31nm,0.9s
SUMG Summit 61.40 14 P **P** **03 30 52.6 -1.8**
SUMG pmax pmax
comp=Z,58nm,1.1s
SUMG Summit 61.40 14 *i* P **P** **03 30 53.0 -1.4**
SUMG IAmb IAmb 03 30 55.3
comp=Z,58nm,1.1s
SUMG Summit 61.40 14 P **P** **03 30 52.6 -1.8**
HARP HAARP 61.42 333 P **P** **03 30 57.2 +2.9**
baz=109
SCRK Sand Creek 61.45 334 IAmb IAmb 03 31 13.3
comp=Z,36nm,1.5s
SCRK Sand Creek 61.45 334 P **P** **03 30 56.7 +2.1**
baz=111
J26L Joseph Creek 61.47 335 IAmb IAmb 03 31 05.0
comp=Z,16nm,1.0s
J26L Joseph Creek 61.47 335 P **P** **03 30 56.1 +1.5**
baz=111
KLU Klutina 61.48 331 P **P** **03 30 56.7 +1.9**
baz=107,SNR=7.4
RIDG Independent Ri 61.73 334 P **P** **03 30 57.4 +1.1**
RIDG Independent Ri 61.73 334 P **P** **03 30 59.1 +2.7**
baz=110,SNR=9.5
PAX Paxson 61.74 333 P **P** **03 30 58.3 +1.8**
baz=109,SNR=20
M24K Tolsona, Glenn 61.78 332 P **P** **03 30 58.8 +2.0**
baz=108
PMOZ Porto Moniz, M 62.17 62 *e*LR LR 03 50 15.2
comp=Z,511nm,22.0s
SCM Sheep Creek Mo 62.23 332 P **P** **03 31 02.3 +2.6**
baz=106
DHY Denali Highway 62.60 333 P **P** **03 31 04.6 +2.2**
baz=107
NEEM North Greenlan 62.61 8 *i* P **P** **03 31 02.1 -0.3**
NEEM IAmb IAmb 03 31 03.3
comp=Z,61nm,1.0s
WAT6 Susitna Watana 62.62 332 P **P** **03 31 04.3 +1.8**
baz=106,SNR=10
KNK Knik Glacier 62.63 331 P **P** **03 31 03.6 +1.2**
baz=105
SML Sawmill 62.68 331 P **P** **03 31 04.8 +2.0**
baz=105
HDA Harding Lake 62.82 334 P **P** **03 31 05.5 +1.9**
baz=108,SNR=23
FYU Fort Yukon 62.86 337 IAmb IAmb 03 31 38.8
comp=Z,31nm,0.9s
ILAR Eielson Array 62.91 335 P **P** **03 31 04.5 +0.3**
comp=Z,31nm,0.7s,baz=114,slow=4.1,SNR=134
ILAR Eielson Array 62.91 335 P **P** **03 31 04.9 +0.8**
ILAR Eielson Array 62.91 335 P **P** **03 31 04.9 +0.8**
PMR Palmer 62.99 331 IAmb IAmb 03 31 14.7
comp=Z,17nm,0.9s
PMR Palmer 62.99 331 P **P** **03 31 06.4 +1.7**
baz=104
WAT1 Susitna Watana 63.05 332 P **P** **03 31 06.3 +1.2**
baz=106
RC01 Rabbit Creek A 63.15 330 P **P** **03 31 07.3 +1.4**
baz=104
POKR Poker Plat Res 63.23 335 P **P** **03 31 08.4 +2.1**
baz=108,SNR=5.6
WRH Wood River Hil 63.31 334 IAmb IAmb 03 31 17.0
comp=Z,27nm,0.8s
COLA College 63.33 335 *i* P **P** **03 31 08.9 +2.0**
COLA pmax pmax
comp=Z,29nm,0.8s
COLA College 63.33 335 P **P** **03 31 07.1 +0.2**
COLA College 63.33 335 P **P** **03 31 09.0 +2.1**
baz=107
TCOL CIGO, UAF Yank 63.34 335 P **P** **03 31 09.1 +2.1**
baz=107,SNR=7.3
BRSE Bradley Lake S 63.34 329 P **P** **03 31 09.7 +2.5**
baz=102
MCK McKinley 63.46 333 P **P** **03 31 10.8 +2.9**
baz=106,SNR=7.5
M22K Willow 63.49 331 P **P** **03 31 09.3 +1.3**
baz=104
MDM Murphy Dome 63.51 335 IAmb IAmb 03 31 18.7
comp=Z,23nm,0.9s
H24K Noodor Dome 63.63 336 IAmb IAmb 03 31 20.5
comp=Z,21nm,0.9s
H24K Noodor Dome 63.63 336 P **P** **03 31 11.1 +2.1**
baz=108
CUT Chulitna 63.71 332 P **P** **03 31 10.5 +1.0**
CUT Chulitna 63.71 332 P **P** **03 31 12.0 +2.5**
baz=104
NEA2 Nenana 63.75 334 IAmb IAmb 03 31 19.7
comp=Z,24nm,1.0s
NEA2 Nenana 63.75 334 P **P** **03 31 11.0 +1.2**
baz=106
TRF Thorofare Moun 63.97 333 P **P** **03 31 13.6 +2.1**
baz=104,SNR=17
I23K Minto, Yukon-K 64.02 335 P **P** **03 31 13.8 +2.3**
baz=106,SNR=27
BPAW Bear Paw Mtn. 64.43 334 P **P** **03 31 16.2 +1.9**
baz=104,SNR=11
RSO Redoubt South 64.47 329 P **P** **03 31 15.9 +1.1**
MLY Manley 64.56 335 P **P** **03 31 17.0 +2.0**
baz=104
PPLA Purkeypile 64.69 332 IAmb IAmb 03 31 26.3
comp=Z,28nm,1.0s
PPLA Purkeypile 64.69 332 P **P** **03 31 16.9 +0.9**
baz=102
CAST Castle Rocks 64.75 333 IAmb IAmb 03 31 26.4
comp=Z,24nm,0.8s
CAST Castle Rocks 64.75 333 P **P** **03 31 18.2 +1.8**
baz=102,SNR=11
COLD Coldfoot 64.93 337 IAmb IAmb 03 31 35.6
comp=Z,38nm,1.3s
COLD Coldfoot 64.93 337 P **P** **03 31 20.4 +3.0**
baz=106,SNR=6.5
CHUM Lake Minchumin 64.95 333 P **P** **03 31 19.5 +1.9**
baz=102,SNR=6.6
SCO Scoresbysund 64.96 19 P **P** **03 31 17.4 -0.1**
SCO pmax pmax
comp=Z,32nm,1.4s
SCO Scoresbysund 64.96 19 P **P** **03 31 17.4 -0.1**
SCO IAmb IAmb 03 31 38.0
comp=Z,32nm,1.4s
I21K Tanana 65.10 335 P **P** **03 31 21.4 +2.9**
baz=103
O19K Port Alsworth 65.19 329 IAmb IAmb 03 31 28.3
comp=Z,26nm,1.1s
O19K Port Alsworth 65.19 329 P **P** **03 31 20.3 +1.1**
baz=99
L20K Farewell, AK 65.37 331 P **P** **03 31 21.8 +1.5**
baz=100
N19K Bonanza Creek 65.37 330 IAmb IAmb 03 31 30.2
comp=Z,26nm,0.8s
N19K Bonanza Creek 65.37 330 P **P** **03 31 21.7 +1.2**
baz=99
H21K Melozitna Rive 65.55 335 IAmb IAmb 03 31 32.0
comp=Z,22nm,0.9s
H21K Melozitna Rive 65.55 335 P **P** **03 31 23.6 +2.1**
baz=103
O18K Koktuh Hills 65.58 328 P **P** **03 31 23.8 +2.0**
baz=98
K20K Telida 65.61 332 P **P** **03 31 24.1 +2.1**
baz=101
L19K White Mountain 65.76 331 IAmb IAmb 03 31 32.8
comp=Z,20nm,0.9s
L19K White Mountain 65.76 331 P **P** **03 31 24.9 +2.0**
baz=99
J20K Nowinta River 65.80 333 P **P** **03 31 24.6 +1.4**
J20K Nowinta River 65.80 333 P **P** **03 31 24.5 +1.4**
baz=101
SVW2 Sparrevohn 65.94 330 IAmb IAmb 03 31 35.2
comp=Z,18nm,1.0s
TTA Talkina 66.41 332 P **P** **03 31 28.4 +1.3**
baz=99,SNR=11
DBG Daneborg 66.78 15 *e*P **P** **03 31 28.7 -0.6**
DBG IAmb IAmb 03 31 31.0
comp=Z,47nm,1.8s
GCSA Galena City Sc 67.06 334 P **P** **03 31 33.6 +2.5**
baz=99
DAG Danmarks Havn 68.00 13 *i* P **P** **03 31 35.0 -1.9**
DAG IAmb IAmb 03 31 37.8
comp=Z,35nm,1.4s
PGAV Gavieira, Arco 68.70 51 *e*LR LR 03 51 52.3
comp=Z,812nm,20.0s
COI Coimbra 68.73 53 IAMs_20 IAMs_20 03 58 13.9
comp=Z,836nm,19.0s
PTEO Sao Teotonio 68.73 56 *e*P **P** **03 31 45.0 +2.8**
comp=Z,98nm,1.7s
MORF Marmelete 68.81 56 *e*P **P** **03 31 43.3 +0.5**
comp=Z,62nm,1.7s
EVO Evora 69.19 55 *e*P **P** **03 31 46.6 +1.6**
comp=Z,44nm,2.0s
PCVE Castro Verde 69.27 56 *e*P **P** **03 31 46.1 +0.6**
comp=Z,35nm,1.9s
MTE Manteigas 69.38 53 *e*P **P** **03 31 44.5 -1.7**
comp=Z,67nm,1.3s
MTE *e*S S 03 41 05.1 +14
MTE *e*LQ LQ 03 49 48.1
MTE *e*LR LR 03 52 02.2
comp=Z,580nm,20.0s
MTE Manteigas 69.38 53 IAMs_20 IAMs_20 03 58 44.0
comp=Z,773nm,19.0s
PBDV Barranco-do-Ve 69.39 56 *e*P **P** **03 31 48.9 +2.6**
comp=Z,50nm,1.7s
PCBR Castelo Branco 69.48 53 *e*P **P** **03 31 48.7 +1.9**
comp=Z,53nm,1.6s
PESTR Estremoz 69.49 54 *e*P **P** **03 31 50.2 +3.3**
comp=Z,47nm,1.6s
PVAQ Vaqueiros 69.55 56 *e*P **P** **03 31 49.5 +2.3**
comp=Z,38nm,1.6s
PVAQ *e*S S 03 41 08.6 +16
PVAQ *e*LQ LQ 03 49 38.6
PVAQ *e*LR LR 03 52 16.8
comp=Z,780nm,20.0s
PMRV Marv??o 69.59 54 *e*LR LR 03 51 10.0
comp=Z,599nm,22.0s
MVO Moncorvo 69.70 52 *e*LR LR 03 53 13.9
comp=Z,607nm,20.0s
NOR Nord 69.97 8 *e*P **P** **03 31 47.3 -1.8**
NOR IAmb IAmb 03 31 51.5
comp=Z,40nm,1.4s
ANM Nome 70.69 333 P **P** **03 31 56.2 +2.5**
baz=91,SNR=7.5
SFS San Fernando 70.86 57 IAMs_20 IAMs_20 03 56 34.4
comp=Z,1μm,22.0s
TNA Tin City 71.77 334 IAmb IAmb 03 32 22.6
comp=Z,68nm,1.8s
TNA Tin City 71.77 334 P **P** **03 32 03.5 +3.3**
baz=89
PAB San Pablo 71.91 53 P **P** **03 32 02.1 +0.4**
PAB pmax pmax
comp=Z,39nm,1.6s
PAB San Pablo 71.91 53 P **P** **03 32 02.1 +0.4**
PAB IAmb IAmb 03 32 19.6
comp=Z,39nm,1.6s
PAB San Pablo 71.91 53 IAMs_20 IAMs_20 03 58 53.1
comp=Z,844nm,18.0s
ESDC Sonseca Array 72.19 53 P **P** **03 32 05.6 +2.3**
comp=Z,4.4nm,0.9s,baz=285,slow=6.6,SNR=13
ESDC LR LR 03 59 58.4
comp=Z,605nm,18.5s,baz=276,slow=33
ESDC Sonseca Array 72.19 53 P **P** **03 32 04.0 +0.7**
ESDC IAmb IAmb 03 32 25.9
comp=Z,29nm,1.4s
ESBB Sonseca Array 72.19 53 IAmb IAmb 03 32 06.7
comp=Z,56nm,1.7s
PPT2 Papeete2 72.64 245 *e*LQ LQ 03 51 15.8
comp=Z,1μm,28.4s
PPT2 *e*LR LR 03 54 02.6
comp=Z,286nm,21.0s
MDT Miolt 72.70 60 P **P** **03 32 08.1 +1.5**
comp=Z,3.3nm,0.9s,baz=266,slow=5.9,SNR=7.1
MDT LR LR 04 00 15.9
comp=Z,675nm,18.4s,baz=290,slow=33
CART Cartagena 74.81 55 IAMs_20 IAMs_20 04 03 09.8
comp=Z,638nm,18.0s
SPITS Spitsbergen Ar 75.58 12 LR LR 04 07 21.7
comp=Z,2μm,18.2s,baz=28,slow=37
BCLA Clavier 76.95 41 P **P** **03 32 31.3 +0.6**
BCLA PcP **PcP** **03 32 41.2 -0.4**
NB2 NORSAR Subarra 77.97 30 P **P** **03 32 36.9 +0.7**
comp=Z,1.3nm,0.8s,baz=285,slow=5.6
NOA NORSAR Array B 77.97 30 P **P** **03 32 37.1 +0.9**
comp=Z,3.6nm,0.9s,baz=283,slow=5.5,SNR=7.2
TIC Toumodi 78.18 87 *e*P **P** **03 32 39.2 +1.0**
LIC Lamto 78.29 87 *e*P **P** **03 32 39.4 +0.6**
comp=Z,119nm,1.3s
DBIC Dimbokro 78.33 87 P **P** **03 32 39.2 +0.3**
comp=Z,5.6nm,0.5s,baz=306,slow=5.2,SNR=15
DBIC Dimbokro 78.33 87 P **P** **03 32 39.3 +0.3**
DBIC pmax pmax
comp=Z,86nm,1.7s
DBIC Dimbokro 78.33 87 P **P** **03 32 39.3 +0.3**
KIC Kosan Boka 78.53 87 *e*P **P** **03 32 40.6 +0.5**
comp=Z,25nm,0.7s
TNS Taunus Mts 78.96 41 *e*L L 04 09 19.8
comp=Z,423nm,21.0s
BSEG Bad Segeberg 79.20 37 *e*L L 04 11 11.6
comp=Z,664nm,19.5s
BFO Black Forest 79.33 43 *e*L L 04 05 27.6
comp=Z,421nm,19.4s
TUE Stuetta 80.46 44 P **P** **03 32 51.6 +1.3**
TUE IAMs_20 IAMs_20 04 09 35.7
comp=Z,734nm,18.0s
DAVA Damuels 80.60 43 *e*P **P** **03 32 52.4 +1.4**
comp=Z,9.6nm,1.1s
MOX Moxa 80.82 40 *e*L L 04 08 38.0
comp=Z,475nm,19.4s
GRA1 Grafenberg Arr 80.83 41 IAMs_20 IAMs_20 04 12 33.3
comp=Z,748nm,18.0s
GRF Grafenberg Arr 80.83 41 *e*P P 03 33 03.4 +11
comp=Z,24nm,1.4s,baz=279,slow=5.8
GRF *e*L L 04 11 29.5
comp=Z,516nm,19.3s
GRFO Grafenberg 80.83 41 IAMs_20 IAMs_20 04 12 34.3
comp=Z,779nm,18.0s
ARCES ARCESS Array B 80.89 20 P **P** **03 32 52.6 +0.7**
comp=Z,7.5nm,0.9s,baz=300,slow=4.1,SNR=8.9
RETA Reutte 81.13 43 *e*P **P** **03 32 55.3 +1.6**
comp=Z,12nm,1.0s
BILL Bilibino 81.16 339 *e*P **P** **03 32 53.9 +0.6**
BILL *e* 03 32 59.6
BILL *e* 03 35 58.7
BILL *e*PPP PPP 03 37 48.6
BILL pmax pmax
comp=Z,23nm,1.9s
BILL MLR MLR
comp=Z,302nm,19.0s
BILL Bilibino 81.16 339 P **P** **03 32 54.3 +1.0**
BILL IAmb IAmb 03 33 19.2
comp=Z,34nm,1.3s
FETA Feichten 81.23 44 *e*P **P** **03 32 54.7 +0.3**
comp=Z,7.8nm,1.2s
FUR Furstenfeldbru 81.28 42 *e*L L 04 06 44.8
comp=Z,505nm,18.5s
MOTA Moosalm 81.39 43 *e*P **P** **03 32 56.1 +0.9**
comp=Z,14nm,1.2s
NKC Novy Kostel 81.44 40 *e*P P 03 33 00.5 +5.2
NKC Novy Kostel 81.44 40 *e*P P 03 33 00.5 +5.2
CLL Collm 81.48 39 *i* P **P** **03 32 56.1 +0.7**
CLL *e**SP **PcP** **03 33 01.0 -0.3**
CLL *e*S **S** **03 43 00.0 -4.4**
CLL pmax pmax
comp=Z,24nm,1.9s
CLL Collm 81.48 39 *i* P **P** **03 32 56.1 +0.7**
comp=Z,24nm,1.9s
CLL *e*sP **PcP** **03 33 01.0 -0.3**
CLL *e*x x 03 35 53.0
CLL *e*S **S** **03 43 07.0 +2.6**
CLL *e*PS **PnS** **03 43 48.0 -7.0**
CLL *e*SS **SS** **03 48 24.0 +3.2**
CLL *e*SSS SSS 03 51 36.0
CLL *e*SSSS 03 54 30.0
CLL Collm 81.48 39 *e*L L 04 04 45.2
comp=Z,302nm,21.2s
SQTA Sankt Quirin 81.49 43 *e*P **P** **03 32 56.7 +1.0**
comp=Z,14nm,1.5s
WATA Walderalm 81.70 43 *e*P **P** **03 32 58.5 +1.6**
comp=Z,8.4nm,1.1s
WTTA Wattenberg 81.76 43 *e*P **P** **03 32 57.6 +0.4**
comp=Z,4.6nm,0.9s
WET Wettzell 82.02 41 *e*L L 04 03 48.3
comp=Z,407nm,21.4s
BRG Berggiesshubel 82.17 39 *e*P **P** **03 33 00.7 +1.7**
BRG Amp 03 33 02.6
comp=Z,4.4nm,1.3s
BRG *e*x x 03 33 09.6
BRG Amp 03 33 10.8
comp=Z,8.4nm,1.6s
BRG *e*x x 03 33 14.2
BRG Amp 03 33 16.2
comp=Z,72nm,1.9s
BRG Amp 04 13 09.0
comp=N,0.3nm,19.0s
BRG Amp 04 13 18.0
comp=E,0.2nm,18.0s
BRG Amp 04 13 23.0
comp=Z,0.7nm,19.2s
BRG Berggiesshubel 82.17 39 *e*P **P** **03 33 00.7 +1.7**
BRG *e* 03 33 09.5
BRG pmax pmax
comp=Z,4.0nm,1.3s
BRG pmax pmax
comp=Z,8.0nm,1.6s
BRG pmax pmax
comp=Z,72nm,1.9s
BRG MLR MLR
comp=N,300nm,19.0s
BRG MLR MLR
comp=E,230nm,18.0s
BRG MLR MLR
comp=Z,670nm,19.2s
KHC Kasperske Hory 82.47 41 *e*P **P** **03 33 01.7 +1.0**
KHC MLR MLR
comp=Z,600nm,19.5s
KHC Kasperske Hory 82.47 41 *e*P **P** **03 33 01.7 +1.0**
KHC AMS AMS 04 11 30.0
comp=Z,600nm,19.5s
ABTA Abfaltersbach 82.48 43 *e*P **P** **03 33 02.3 +1.4**
comp=Z,8.9nm,1.0s
GEC2 GERESS Array S 82.63 41 *e*L L 04 04 04.4
comp=Z,447nm,21.5s
GEC2 GERESS Array S 82.63 41 IAmb IAmb 03 33 17.8
comp=Z,56nm,1.7s
GERES GERESS Array B 82.63 41 P **P** **03 33 03.0 +1.4**
comp=Z,1.5nm,0.8s,baz=289,slow=4.1,SNR=14
GERES GERESS Array B 82.63 41 P **P** **03 33 02.1 +0.5**
GERES GERESS Array B 82.63 41 P **P** **03 33 02.1 +0.5**
PVCC Panska Ves 82.66 39 AMS AMS 04 12 30.0
comp=Z,700nm,18.4s
TORD Torodi Ar. Bea 82.77 78 P **P** **03 33 03.3 +0.5**
comp=Z,3.0nm,0.7s,baz=296,slow=4.7,SNR=14
TORD Torodi Ar. Bea 82.77 78 IAmb IAmb 03 34 12.1
comp=Z,26nm,0.8s
PRU Pruhonice 82.80 40 AMS AMS 04 15 50.0
comp=Z,800nm,18.7s
KBA Koelnbreinsper 82.93 43 *e*P **P** **03 33 03.1 -0.3**
comp=Z,27nm,1.6s
CKRC Cesky Krumlov 83.02 41 AMS AMS 04 12 00.0
comp=Z,500nm,15.0s
MYKA Terra Mystica 83.26 43 *e*P **P** **03 33 06.1 +1.2**
comp=Z,7.1nm,1.1s
MOA Molln 83.29 42 *e*P **P** **03 33 06.8 +1.8**
comp=Z,3.4nm,0.9s
KEST Kesra 83.32 55 P **P** **03 33 08.0 +2.6**
comp=Z,11nm,1.1s,baz=37,slow=14,SNR=2.8
KEST LR LR 04 05 43.4
comp=Z,277nm,19.3s,baz=230,slow=32
CHVC Chvalec 83.53 39 *e*P **P** **03 33 07.1 +0.9**
CHVC AMS AMS 04 13 20.0
comp=Z,500nm,16.2s
UPC Upice 83.53 39 AMS AMS 04 13 20.0
comp=Z,600nm,19.2s
TREC Trest 83.61 40 AMS AMS 04 14 00.0
comp=Z,900nm,14.9s
OSTC Ostas 83.64 39 *e*P **P** **03 33 08.1 +1.4**
OSTC AMS AMS 04 13 00.0
comp=Z,600nm,18.4s
DPC Dobruska-Polom 83.77 39 *e*P **P** **03 33 08.8 +1.4**
DPC MLR MLR
comp=Z,500nm,17.8s
DPC Dobruska-Polom 83.77 39 *e*P **P** **03 33 08.8 +1.4**
DPC AMS AMS 04 14 50.0
comp=Z,500nm,17.8s
OBKA Obir 83.89 43 *e*P **P** **03 33 09.9 +1.8**
comp=Z,2.5nm,0.8s
KRLC Kraliky 84.14 39 *e*P **P** **03 33 11.8 +2.5**
KRLC MLR MLR
comp=Z,600nm,16.4s
KRLC Kraliky 84.14 39 *e*P **P** **03 33 11.8 +2.5**
KRLC AMS AMS 04 17 50.0
comp=Z,600nm,16.4s
SOKA Soboth 84.16 43 *e*P **P** **03 33 08.1 -1.4**
comp=Z,12nm,1.2s
KRUC Moravsky 84.25 40 *e*P **P** **03 33 10.5 +0.7**
CONA Conrad Observa 84.28 42 *e*P **P** **03 33 11.4 +1.3**
comp=Z,12nm,1.7s
VRAC Vranov 84.29 40 *e*P **P** **03 33 10.4 +0.4**
ARSA Arzberg 84.29 42 *e*P **P** **03 33 09.3 -0.8**
comp=Z,9.0nm,1.7s
FINES FINESS Array B 84.58 27 P **P** **03 33 12.5 +1.3**
comp=Z,9.3nm,0.9s,baz=283,slow=5.1,SNR=9.7
MORC Moravsky Berou 84.71 40 *e*P **P** **03 33 11.6 -0.6**
ZST Bratislava 84.98 41 *e* P 03 33 28.9 +15
MODS Modra-Piesok 85.03 41 *e*P **P** **03 33 16.0 +2.2**
MODS Modra-Piesok 85.03 41 *e*P **P** **03 33 16.0 +2.2**
MODS *e* 03 33 30.1
OKC Ostrava-Krasne 85.05 39 AMS AMS 04 15 40.0
comp=Z,800nm,16.3s
LANS Liptovska Anna 86.11 40 *e*P **P** **03 33 22.1 +2.9**

LANS e 03 33 32.3
LANS Liptovska Anna 86.11 40 eP **P 03 33 22.1 +2.9**
LANS e 03 33 32.3
PABE Paberze 86.14 33 P **P 03 33 19.8 +0.7**
VSU Vasula 86.21 29 i P **P 03 33 19.3 -0.1**
VSU pmax pmax
comp=Z,140nm,1.7s
CRVS Cervenica-Dubn 87.41 39 eP **P 03 33 27.1 +1.6**
CRVS e 03 33 38.5
CRVS Cervenica-Dubn 87.41 39 eP **P 03 33 27.1 +1.6**
CRVS e 03 33 38.5
UZH Uzhgorod 88.03 39 eP **P 03 33 32.0 +3.6**
UZH i 03 33 37.4
DIVS Divibare 88.33 44 IAMs_20 IAMs_20 04 12 10.0
comp=Z,536nm,20.0s
TIXI Tiksi 88.55 350 P **P 03 33 30.6 +0.2**
comp=Z,6.6nm,0.8s,baz=26,slow=4.9,SNR=18
TIXI Tiksi 88.55 350 ceP **P 03 33 30.9 +0.5**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 88.55 350 P **P 03 33 30.2 -0.2**
TIXI IAmb IAmb 03 33 46.7
comp=Z,16nm,1.1s
TIXI IAMs_20 IAMs_20 04 17 14.1
comp=Z,587nm,20.0s
LVV L'vov 88.57 38 eP P 03 33 41.2 +10
LVV MLR MLR
comp=Z,300nm,20.0s
MNK Minsk 88.61 33 i P **P 03 33 31.6 +0.6**
MNK i 03 36 57.6
MNK i PPP PPP 03 38 55.4
MNK i S **SKSac 03 44 00.3 +2.7**
MNK i SS **SS 03 50 11.8 +6.4**
MNK i SSS SSS 03 53 44.6
MNK pmax pmax
comp=N,14nm,1.3s
MNK pmax pmax
comp=Z,6.0nm,1.3s
MNK pmax pmax
comp=E,2.0nm,1.3s
MNK Minsk 88.61 33 i P **P 03 33 31.6 +0.6**
comp=E,2.0nm,1.3s
MNK i P **P 03 33 31.6 +0.6**
comp=N,14nm,1.3s
MNK i P **P 03 33 31.6 +0.6**
comp=Z,6.0nm,1.3s,baz=298
MNK i PP **PP 03 36 57.6 -1.6**
MNK i PPP PPP 03 38 55.5
MNK i S **SKSac 03 44 00.4 +2.8**
MNK i SS **SS 03 50 11.9 +6.5**
MNK i SSS SSS 03 53 44.6
MNK i LQ LQ 04 07 36.7
MNK i LR LR 04 14 22.0
MNK i LRM MLR 04 17 54.5
comp=N,309nm,17.2s
MNK i LRM MLR 04 18 11.8
comp=Z,478nm,25.6s
MNK i LRM MLR 04 18 32.2
comp=E,36nm,17.2s
SEY Seymchan 88.72 337 P **P 03 33 32.6 +1.2**
comp=E,3.0nm,0.8s,baz=76,slow=3.5,SNR=8.9
KLMR Klimovskoe 90.42 24 eP **P 03 33 38.2 -1.2**
KLMR e 03 37 11.6
KLMR pmax pmax
comp=Z,10.0nm,1.3s
KLMR Klimovskoe 90.42 24 eP **P 03 33 38.2 -1.2**
KLMR AMP 03 33 55.7
comp=Z,10.0nm,1.3s
KLMR ePP **PP 03 37 11.6 -1.8**
KLMR LQ LQ 04 03 07.1
KLMR LQ LQ 04 03 07.1
KLMR LR LR 04 08 46.6
AKASG Malin Array Be 91.14 36 P **P 03 33 42.7 -0.3**
comp=Z,0.3nm,0.5s,baz=306,slow=3.3,SNR=2.0
MA2 Magadan 91.38 335 ceP **P 03 33 46.2 +2.3**
MA2 pmax pmax
comp=Z,19nm,1.7s
MA2 Magadan 91.38 335 P **P 03 33 45.0 +1.1**
MA2 IAmb IAmb 03 33 53.2
comp=Z,14nm,1.0s
PET Petropavlovsk 91.50 327 eP **P 03 33 41.8 -2.7**
PET eS **S 03 44 35.8 -5.9**
PET ePS PS 03 45 48.3 -6.3
PET MLR MLR
comp=Z,800nm,19.0s
PET MLR MLR
comp=Z,500nm,19.0s
MLR Muntele Rosu 91.62 41 LR LR 04 14 40.4
comp=Z,123nm,18.1s,baz=332,slow=35
PETK Petropavlovsk- 91.94 328 P **P 03 33 48.3 +1.6**
comp=Z,2.3nm,0.6s,baz=43,slow=2.8,SNR=1.9
PETK LR LR 04 18 08.9
comp=Z,194nm,19.6s,baz=67,slow=38
PRGR Permogore 92.16 21 eP **P 03 33 47.5 +0.1**
PRGR pmax pmax
comp=Z,170nm,1.5s
OBN Obninsk 92.57 29‖ eP **P 03 33 51.6 +2.2**
OBN e 03 37 31.3
OBN ePPP PPP 03 39 30.7
OBN pmax pmax
comp=Z,10.0nm,1.5s
OBN MLR MLR
comp=Z,251nm,16.0s
MOS Moscow 92.70 29 eP P 03 33 54.3 +4.3
NRIK Noril'sk 93.58 3 ceP **P 03 33 55.9 +2.1**
NRIK pmax pmax
comp=Z,3.0nm,0.8s
IDI Anoyia 95.34 51 LR LR 04 11 52.7
comp=Z,134nm,21.2s,baz=271,slow=32
YAK Yakutsk 96.55 344 LR LR 04 23 19.6
comp=Z,336nm,19.1s,baz=62,slow=39
YAK Yakutsk 96.55 344 IAMs_20 IAMs_20 04 23 18.2
comp=Z,482nm,19.0s
MAK Makhachkala 105.79 34 i P **Pdif 03 34 45.8 -3.4**
MAK e 03 45 23.8
MAK e 03 46 06.9
MAK eSSS SSS 03 58 07.1
MAK pmax pmax
comp=Z,370nm,1.5s
BRVK Borovoye 106.81 16 IAMs_20 IAMs_20 04 27 26.6
comp=Z,566nm,20.0s
HIA Hailar 110.44 343 IAMs_20 IAMs_20 04 31 23.5
comp=Z,487nm,20.0s
DZM Mont Dzumac 113.39 253 eLR LR 04 13 11.0
comp=Z,277nm,26.9s
MBAR Mbarara 114.38 83 IAMs_20 IAMs_20 04 22 14.9
comp=Z,366nm,21.0s
ULN Ulaanbaatar 114.45 351 IAMs_20 IAMs_20 04 32 06.5
comp=Z,458nm,20.0s
SONM Songino Array 114.57 352 PKP PKPdf 03 39 19.8 +1.3
comp=Z,0.3nm,0.6s,baz=18,slow=5.0,SNR=2.9
BOSA Boshof 115.19 114 PKP **PKiKP 03 39 21.7 +1.6**
comp=Z,2.1nm,0.9s,baz=130,slow=14,SNR=2.2
HNR Honiara 116.91 268 IAMs_20 IAMs_20 04 32 39.0
comp=Z,468nm,20.0s
LODK Lodwar 117.38 77 IAMs_20 IAMs_20 04 25 31.1
comp=Z,324nm,20.0s
SYO Syowa Base 117.84 160⇑ epPdiff **Pdif 03 35 46.0 +4.0**
WMQ Urumqi 118.93 6 ePKP **PKiKP 03 39 28.3 +1.3**
WMQ LR LR
comp=Z,730nm,18.3s
WMQ LR LR
comp=Z,390nm,18.1s
WMQ LR LR
comp=Z,570nm,20.9s
HHC Hu-ho-hao-te 120.38 346 ePKP **PKPdf 03 39 26.0 -3.8**
HHC LR LR
comp=Z,690nm,20.9s
HHC LR LR
comp=Z,250nm,20.3s
HHC LR LR
comp=Z,950nm,19.0s
BTO Baotou 120.96 347 ePKP **PKPdf 03 39 28.4 -2.5**
KIBK Kibwezi 121.86 82 IAMs_20 IAMs_20 04 32 38.1
comp=Z,314nm,20.0s
GTA Gaotai 123.59 356 ePKPbc PKiKP 03 39 43.8 +7.5
GTA Gaotai 123.59 356 SS SS 03 58 12.3 +11
GTA LR LR
comp=N,470nm,20.7s
GTA LR LR
comp=E,340nm,19.6s
GTA LR LR
comp=Z,630nm,20.7s
NIL Nilore 125.27 23 IAMs_20 IAMs_20 04 37 52.7
comp=Z,456nm,21.0s

NJ2 Nanjing 126.15 335 ePKP **PKiKP 03 39 41.5 +0.1**
LZH Lanzhou 126.46 351 ePKP **PKiKP 03 39 43.3 +1.1**
LZH sPKP 03 39 51.8
LZH LR LR
comp=Z,470nm,20.6s
LZH LR LR
comp=Z,390nm,21.1s
LZH LR LR
comp=Z,390nm,20.6s
CD2 Chengdu 131.55 350 PKP **PKPdf 03 39 50.0 -1.4**
STKA Stephens Creek 135.78 242 PKP **PKiKP 03 40 00.4 -0.4**
comp=Z,2.6nm,0.8s,baz=71,slow=10,SNR=3.7
PZH PanZhiHua 136.18 352 PKP **PKiKP 03 40 02.3 +0.3**
PZH sPKP 03 40 08.8
PZH PP **PP 03 42 41.4 +2.8**
PZH SS SS 04 00 41.6 +5.7
PZH AMB AMB
comp=Z,100nm,5.0s
PZH LR LR
comp=Z,830nm,21.8s
PZH LR LR
comp=Z,750nm,20.2s
PZH LR LR
comp=Z,1μm,25.5s
QIZ Qiongzhong 141.34 338 PKP **PKPdf 03 40 09.3 -0.4**
QIZ PP **PP 03 43 11.4 +0.7**
QIZ LR LR
comp=Z,220nm,8.5s
QIZ LR LR
comp=Z,380nm,19.1s
QIZ LR LR
comp=Z,360nm,22.0s
WR0 Warramunga Arr 142.81 259 PKPpre 03 40 06.7
WB0 Warramunga Arr 142.94 260 PKPdf **PKPdf 03 40 11.4 -1.2**
WB2 Warramunga Arr 142.98 259 PKPdf **PKPdf 03 40 10.2 -2.4**
WRAB Tennant Creek 142.99 259 c iPKIKP **PKiKP 03 40 19.1 +3.3**
WRAB pmax pmax
comp=Z,32nm,1.7s
WRA Warramunga Arr 143.00 259 PKP **PKPdf 03 40 11.0 -1.6**
comp=Z,3.6nm,0.9s,baz=93,slow=3.1,SNR=14
WRA Warramunga Arr 143.00 259 PKIKP **PKPdf 03 40 11.0 -1.6**
WRA Warramunga Arr 143.00 259 PKPpre 03 40 08.6
AS31 Alice Springs 143.38 253 PKPdf PKPbc 03 40 10.3 -0.1
ASAR Alice Springs 143.38 253 PKP **PKPdf 03 40 11.4 -1.8**
comp=Z,6.7nm,0.7s,baz=100,slow=3.5,SNR=35
ASAR Alice Springs 143.38 253 PKPpre 03 40 09.7
CHTO Chiang Mai 144.10 354 IAMs_20 IAMs_20 04 48 58.4
comp=Z,308nm,20.0s
CMAR Chiang Mai Arr 144.45 354 c iPKIKP **PKiKP 03 40 23.1 +4.2**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
KNRA Kununurra 147.95 268 **PKiKP 03 40 25.1 -1.0**
TOLI2 Tolitoli 149.07 303 **PKiKP 03 40 27.9 -0.6**
SOEI Soe 150.97 281 **PKPbc 03 40 30.9 -1.1**
FITZ Fitzroy Crossi 151.14 264 PKPbc **PKiKP 03 40 33.3 +0.7**
baz=157,slow=3.1
BATI Baumata 151.68 280 PKPbc **PKPab 03 40 41.3 -0.9**
comp=Z,11nm,0.2s,baz=50,slow=2.0,SNR=7.9
PALK Pallekele 151.74 32 IAMs_20 IAMs_20 04 55 31.0
comp=Z,274nm,21.0s
KAPI Kappang 153.25 294 PKPbc **PKiKP 03 40 38.6 +1.5**
comp=Z,2.2nm,0.5s,baz=206,slow=18,SNR=2.1
KULM Kulim 157.11 346 IAMs_20 IAMs_20 05 01 38.5
comp=Z,300nm,19.0s
PSI Prapat 159.88 350 PKPab **PKPab 03 41 17.4 +0.2**
comp=Z,8.1nm,0.8s,baz=343,slow=7.2,SNR=9.1
RPSI Rantau Prapat 159.98 350 **PKPab 03 41 17.4 -0.1**

*IDC **18** 03:24:36.8±0.8, 28°.31N×104°.92E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.5/56, mbtmp3.8/12, ML3.4/1, MS4.1/2, Ms1 4.1/2, ms1mx2.9/91, Error ellipse: s-maj=38.0km s-min=16.2km az=58.0*
*NEIC **18** 03:24:41.9± 1.4, 28°.4N±0°.1×104°.9E±0°.1, h32km±2km, mb4.2/11, Error ellipse: s-maj=20.9km s-min=17.9km az=197.0*
ISC 18 03:24:38.5±0.5, 28°.41N±0°.03×105°.05E±0°.04, h10km, n41, σ1$77/51, mb4.0/18, 2C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.41**	**143**	⇑Pn	**Pn**	**03 25 20.3**	**+2.2**
GYA				Pg	**Pg**	**03 25 26.1**	**+1.4**
GYA				Sg	**Sg**	**03 25 56.6**	**+0.6**
GYA				smax	smax		
	comp=N,500nm,0.6s						
GYA				smax	smax		
	comp=E,450nm,0.8s						
GYA				LR	LR		
	comp=N,350nm,4.4s						
GYA				LR	LR		
	comp=E,340nm,3.8s						
GYA				LR	LR		
	comp=Z,150nm,2.7s						
CD2	**Chengdu**	**2.74**	**336**	Pn	Pn	03 25 18.0	-4.6
CD2				Pg	**Pg**	**03 25 30.4**	**-0.6**
CD2				Sn	**Sn**	**03 25 58.8**	**+3.0**
CD2				Sg	**Sg**	**03 26 10.5**	**+4.0**
CD2				smax	smax		
	comp=N,50nm,0.6s						
CD2				smax	smax		
	comp=E,520nm,0.7s						
PZH	**PanZhiHua**	**3.50**	**238**	Pn	**Pn**	**03 25 35.8**	**+2.7**
PZH				Pg	**Pg**	**03 25 45.4**	**-0.2**
PZH				Sn	**Sn**	**03 26 15.8**	**+1.1**
PZH				Sg	**Sg**	**03 26 26.6**	**-4.4**
PZH				smax	smax		
	comp=N,70nm,0.7s						
PZH				smax	smax		
	comp=E,50nm,0.7s						
PZH				LR	LR		
	comp=N,220nm,6.2s						
PZH				LR	LR		
	comp=E,170nm,6.0s						
PZH				LR	LR		
	comp=Z,160nm,6.5s						
ENH	**Enshi**	**4.29**	**63**	Pn	**Pn**	**03 25 47.2**	**+3.3**
XAN	**Xi'an**	**6.52**	**30**	Pn	**Pn**	**03 26 17.0**	**+2.5**
XAN	**Xi'an**	**6.52**	**30**	P	**Pb**	**03 26 29.6**	**-2.4**
XAN				Pg	**Pg**	**03 26 43.0**	**-0.3**
XAN				Sn	**Sn**	**03 27 26.8**	**-2.2**
XAN				SS	**SnSn**	**03 27 43.4**	**+2.6**
XAN				Sg	**Sg**	**03 28 05.9**	**-1.9**
XAN				smax	smax		
	comp=N,110nm,0.9s						
XAN				smax	smax		
	comp=E,110nm,0.8s						
CNSH	**ChangSha**	**6.95**	**90**	⇑P	Pn	03 26 17.3	-3.1
CNSH				S	**Sn**	**03 27 36.5**	**-3.0**
CNSH				smax	smax		
	comp=N,30nm,0.9s						
CNSH				smax	smax		
	comp=E,32nm,0.8s						
LZH	**Lanzhou**	**7.73**	**353**	ePg	**Pg**	**03 27 03.8**	**-2.6**
LZH				Sg	**Sg**	**03 28 44.3**	**-2.2**
LZH				smax	smax		
	comp=N,41nm,1.6s						
LZH				smax	smax		
	comp=E,36nm,1.6s						
CMAR	**Chiang Mai Arr**	**11.38**	**211**	Pn	**Pn**	**03 27 25.2**	**+4.1**
	baz=19,slow=13,SNR=7.2						
CMAR				LR	LR	03 32 08.1	
	comp=E,50nm,19.2s,baz=155,slow=40						
SONM	**Songino Array**	**19.43**	**3**	P	**Pn**	**03 29 07.3**	**+1.2**
	comp=E,0.1nm,0.3s,baz=182,slow=9.8,SNR=5.0						
SONM	**Songino Array**	**19.43**	**3**	P	**P**	**03 29 05.3**	**+0.2**
WMQ	**Urumqi**	**20.75**	**322**	eP	Pn	03 29 22.4	+0.6
KSRS	**Korea Array**	**21.17**	**59**	P	**P**	**03 29 24.7**	**+0.8**
	comp=E,0.7nm,0.4s,baz=234,slow=12,SNR=2.5						
JNU	**Nakatsue**	**22.66**	**72**	LR	LR	03 38 09.0	
	comp=E,168nm,18.5s,baz=128,slow=36						
MK31	**Makanchi Array**	**25.58**	**322**	P	**P**	**03 30 07.5**	**-0.2**
MK31				IAmb	IAmb	03 30 19.0	
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**25.58**	**322**	P	**P**	**03 30 07.8**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=118,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**29.51**	**335**	P	**P**	**03 30 43.3**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=142,slow=8.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**29.51**	**335**	P	**P**	**03 30 41.4**	**-1.4**
KURBB	**Kurchatov Arra**	**29.90**	**325**	P	**P**	**03 30 46.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=131,slow=9.9,SNR=5.2						
KURBB				PcP	**PcP**	**03 33 48.3**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=93,slow=2.5,SNR=5.2						
KURK	**Kurchatov**	**29.91**	**325**	P	**P**	**03 30 46.2**	**-0.2**
KURK				IAmb	IAmb	03 30 47.3	
	comp=Z,5.2nm,1.4s						
BTK	**Batken**	**30.42**	**301**	P	**P**	**03 30 49.2**	**-1.9**
BTK				IAmb	IAmb	03 31 14.0	
	comp=Z,7.7nm,1.3s						
ABKAR	**Akbulak array**	**40.11**	**314**	P	**P**	**03 32 14.5**	**+0.3**
WB0	**Warramunga Arr**	**55.66**	**146**	P	**P**	**03 34 14.5**	**-0.5**
WB0				IAmb	IAmb	03 34 31.5	
	comp=Z,5.2nm,1.1s						
WRAB	**Tennant Creek**	**55.78**	**146**	P	**P**	**03 34 15.2**	**-0.6**
WRAB				IAmb	IAmb	03 34 15.9	
	comp=Z,2.8nm,0.6s						
WRA	**Warramunga Arr**	**55.78**	**146**	P	**P**	**03 34 15.5**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=316,slow=12,SNR=66						
WRA	**Warramunga Arr**	**55.78**	**146**	P	**P**	**03 34 14.8**	**-1.1**
WB2	**Warramunga Arr**	**55.79**	**146**	P	**P**	**03 34 15.6**	**-0.3**
WR0	**Warramunga Arr**	**55.89**	**146**	P	**P**	**03 34 16.2**	**-0.4**
WR0				IAmb	IAmb	03 34 16.6	
	comp=Z,3.2nm,0.5s						
AS31	**Alice Springs**	**58.76**	**149**	P	**P**	**03 34 37.0**	**+0.1**
AS31				IAmb	IAmb	03 34 39.0	
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**58.76**	**149**	P	**P**	**03 34 37.0**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=329,slow=7.1,SNR=21						
ASAR	**Alice Springs**	**58.76**	**149**	P	**P**	**03 34 36.9**	**0.0**
ARCES	**ARCESS Array B**	**60.05**	**336**	P	**P**	**03 34 45.1**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=90,slow=7.3,SNR=6.5						
FINES	**FINESS Array B**	**60.27**	**327**	P	**P**	**03 34 46.9**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=94,slow=5.7,SNR=3.8						
FINES	**FINESS Array B**	**60.27**	**327**	P	**P**	**03 34 46.3**	**-0.5**
NOA	**NORSAR Array B**	**67.37**	**328**	P	**P**	**03 35 32.3**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=52,slow=10.0,SNR=2.2						
GERES	**GERESS Array B**	**70.03**	**315**	P	**P**	**03 35 51.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=69,slow=5.4,SNR=1.8						
PPLA	**Purkeypile**	**70.63**	**28**	P	**P**	**03 35 54.9**	**+0.8**
BMAR	**Burnt Mountain**	**71.44**	**22**	P	**P**	**03 35 59.9**	**+1.1**
YKA	**Yellowknife Ar**	**84.02**	**17**	P	**P**	**03 37 09.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=324,slow=4.8,SNR=10						
YKA	**Yellowknife Ar**	**84.02**	**17**	P	**P**	**03 37 08.6**	**-0.2**
TSUM	**Tsumeb**	**96.78**	**252**	LR	LR	04 21 20.5	
	comp=Z,173nm,19.4s,baz=328,slow=35						

*IDC **18** 03:35:51.0±0.6, 30°.69N×132°.81E, h0km, mb4.0/19, mb1 4.2/23, mb1mx4.0/51, mbtmp4.0/23, ML3.5/4, Error ellipse: s-maj=21.0km s-min=12.8km az=79.0*
*JMA **18** 03:35:52.9±0.2, 30°.63N×132°.90E, h64km, M4.0*
*NEIC **18** 03:35:53.6±1.5, 30°.72N±0°.09×132°.75E±0°.08, h10km±1km, mb4.6/38, Error ellipse: s-maj=15.1km s-min=11.8km az=161.0*
ISC 18 03:35:55.0±4.1, 30°.74N±0°.06×132°.85E±0°.05, h23km±29km, n91, σ1$48/103, mb4.4/38, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKG	**Nichinankitago**	**1.56**	**306**	P	**Pn**	**03 36 20.6**	**-0.7**
JNKG				eS	**Sn**	**03 36 40.6**	**-0.3**
JNAR	**Kushima--Naru**	**1.56**	**300**	P	**Pn**	**03 36 20.4**	**-1.0**
JNAR				S	**Sn**	**03 36 40.7**	**-0.2**
JTN	**Tanegashima 3**	**1.62**	**267**	P	**Pn**	**03 36 20.1**	**-2.0**
JTN				S	**Sn**	**03 36 39.7**	**-2.5**
JTSR	**Tashiro 2**	**1.71**	**285**	P	**Pn**	**03 36 21.8**	**-1.7**
JTSR				S	**Sn**	**03 36 42.7**	**-1.9**
JMTN	**Minamitane**	**1.72**	**259**	P	**Pn**	**03 36 21.6**	**-1.9**
JMTN				eS	**Sn**	**03 36 42.4**	**-2.4**
JTZ	**Takazaki**	**1.90**	**308**	P	**Pn**	**03 36 25.1**	**-0.9**
JTZ				S	**Sn**	**03 36 49.8**	**+0.6**
JTO	**Tosashimizu**	**2.11**	**359**	P	**Pn**	**03 36 26.8**	**-2.1**
JTO				S	**Sn**	**03 36 49.7**	**-4.7**
JSU	**Suzuyama**	**2.19**	**291**	Pn	**Pn**	**03 36 28.8**	**-1.3**
JNA	**Nagahama**	**2.82**	**354**	P	**Pn**	**03 36 37.7**	**-1.0**
JNA				eS	**Sn**	**03 37 08.3**	**-3.7**
JNU	**Nakatsue**	**2.91**	**325**	Pn	**Pn**	**03 36 40.0**	**+0.1**
	23nm,0.3s,baz=201,slow=9.6,SNR=94						
JNU				Sn	**Sn**	**03 37 14.4**	**+0.3**
	15nm,0.3s,baz=92,slow=5.8,SNR=3.7						
JNU	**Nakatsue**	**2.91**	**325**		**Pn**	**03 36 39.6**	**-0.3**
JMN	**Monobe**	**3.10**	**16**	P	**Pn**	**03 36 41.6**	**-1.0**
JMN				eS	**Sn**	**03 37 14.2**	**-4.7**
JMN	**Monobe**	**3.10**	**16**	Pn	**Pn**	**03 36 42.0**	**-0.5**
JAI	**Aioi**	**3.33**	**24**	P	**Pn**	**03 36 44.6**	**-1.0**
JAI				eS	**Sn**	**03 37 19.0**	**-5.4**
JHS	**Saijyo**	**4.25**	**3**	P	**Pn**	**03 36 57.6**	**-0.7**
JHS	**Saijyo**	**4.25**	**3**	Pn	**Pn**	**03 36 56.9**	**-1.5**
MAJO	**Matsushiro**	**7.30**	**36**	Pn	**Pn**	**03 37 40.6**	**+0.3**
MJAR	**Matsushiro Arr**	**7.30**	**36**	Pn	**Pn**	**03 37 41.7**	**+1.4**
	0.4nm,0.3s,baz=240,slow=14,SNR=19						
MJAR	**Matsushiro Arr**	**7.30**	**36**	Pn	**Pn**	**03 37 41.6**	**+1.3**
MJB9	**Matsu-Tunnel**	**7.30**	**36**	Pn	**Pn**	**03 37 40.6**	**+0.3**
KSRS	**Korea Array**	**7.84**	**330**	Pn	**Pn**	**03 37 46.7**	**-0.9**
	0.1nm,0.3s,baz=143,slow=15,SNR=2.4						
USRK	**Ussuriysk Ar.**	**13.45**	**357**	Pn	**P**	**03 39 12.4**	**-1.1**
	baz=175,slow=11,SNR=9.1						
ERM	**Erimo**	**13.96**	**34**	Pn	**Pn**	**03 39 15.4**	**+4.0**
KLR	**Kul'dur**	**18.48**	**358**	P	**Pn**	**03 40 10.6**	**+1.1**
	0.3nm,0.3s,baz=194,slow=5.5,SNR=15						
ULN	**Ulaanbaatar**	**26.10**	**318**	P	**P**	**03 41 27.0**	**-0.1**
SONM	**Songino Array**	**26.47**	**318**	P	**P**	**03 41 29.9**	**-0.5**
	0.6nm,0.7s,baz=128,slow=9.3,SNR=2.8						
SONM	**Songino Array**	**26.47**	**318**	P	**P**	**03 41 29.5**	**-0.9**
TIXI	**Tiksi**	**41.02**	**358**	P	**P**	**03 43 35.7**	**-0.2**
	1.3nm,0.5s,baz=141,slow=8.2,SNR=6.5						
TIXI	**Tiksi**	**41.02**	**358**	P	**P**	**03 43 36.0**	**+0.1**
ZALV	**Zalesovo Beam**	**41.36**	**318**	P	**P**	**03 43 38.6**	**-0.4**
	0.5nm,0.4s,baz=99,slow=13,SNR=2.2						
MKAR	**Makanchi Array**	**41.81**	**307**	P	**P**	**03 43 43.4**	**+0.6**
	0.6nm,0.7s,baz=96,slow=9.9,SNR=6.4						
MKAR				PcP	**PcP**	**03 45 38.0**	**-0.6**
	0.6nm,0.8s,baz=98,slow=1.6,SNR=3.8						
MKAR	**Makanchi Array**	**41.81**	**307**	P	**P**	**03 43 42.4**	**-0.4**
BILL	**Bilibino**	**42.13**	**18**	P	**P**	**03 43 46.8**	**+1.7**
BILL				IAmb	IAmb	03 43 47.4	
	comp=Z,7.7nm,1.1s						
KURK	**Kurchatov**	**44.56**	**313**	P	**P**	**03 44 05.5**	**+0.6**
KNRA	**Kununurra**	**46.32**	**185**	P	**P**	**03 44 18.6**	**-0.5**
KNRA				IAmb	IAmb	03 44 19.5	
	comp=Z,10.0nm,0.8s						
GAMB	**Gambell**	**47.73**	**30**	P	**P**	**03 44 32.8**	**+3.2**
FITZ	**Fitzroy Crossi**	**49.05**	**189**	P	**P**	**03 44 39.9**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=21,slow=12,SNR=3.6						
BRVK	**Borovoye**	**49.84**	**315**	P	**P**	**03 44 46.3**	**+0.3**
BRVK				IAmb	IAmb	03 44 47.5	
	comp=Z,6.0nm,0.7s						
WB0	**Warramunga Arr**	**50.24**	**178**	P	**P**	**03 44 48.7**	**-0.7**
WB2	**Warramunga Arr**	**50.41**	**178**	P	**P**	**03 44 49.7**	**-1.0**
WB2				IAmb	IAmb	03 45 05.6	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**50.41**	**178**	P	**P**	**03 44 50.0**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=354,slow=7.9,SNR=9.4						
WRA	**Warramunga Arr**	**50.41**	**178**	P	**P**	**03 44 49.9**	**-0.8**
WR0	**Warramunga Arr**	**50.44**	**178**	P	**P**	**03 44 49.8**	**-1.1**
WR0				IAmb	IAmb	03 44 51.1	
	comp=Z,5.4nm,0.8s						
AS31	**Alice Springs**	**54.11**	**179**	P	**P**	**03 45 17.7**	**-0.5**
ASAR	**Alice Springs**	**54.11**	**179**	P	**P**	**03 45 17.5**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=11,slow=12,SNR=18						
ASAR	**Alice Springs**	**54.11**	**179**	P	**P**	**03 45 18.6**	**+0.5**
PPLA	**Purkeypile**	**56.32**	**32**	P	**P**	**03 45 35.4**	**+1.5**
PPLA				IAmb	IAmb	03 45 47.2	
	comp=Z,16nm,1.4s						
ABKAR	**Akbulak array**	**56.63**	**311**	P	**P**	**03 45 36.5**	**+0.4**
BPAW	**Bear Paw Mtn.**	**56.81**	**31**	P	**P**	**03 45 39.7**	**+2.6**
KTH	**Kantishna Hill**	**56.87**	**31**	P	**P**	**03 45 39.0**	**+1.4**
KTH				IAmb	IAmb	03 46 04.9	
	comp=Z,12nm,1.5s						
RND	**Reindeer**	**57.80**	**31**	P	**P**	**03 45 44.8**	**+0.6**
RND				IAmb	IAmb	03 45 45.5	
	comp=Z,7.1nm,0.8s						
SEW	**Seward**	**57.85**	**35**	P	**P**	**03 45 44.8**	**+0.3**
MDM	**Murphy Dome**	**57.95**	**30**	P	**P**	**03 45 46.5**	**+1.4**
MDM				IAmb	IAmb	03 45 47.3	
	comp=Z,7.0nm,0.8s						
H24K	**Noodor Dome**	**58.02**	**28**	P	**P**	**03 45 47.5**	**+1.7**
IL31		**58.53**	**30**	P	**P**	**03 45 49.2**	**+0.1**
IL31				IAmb	IAmb	03 46 00.2	
	comp=Z,4.6nm,1.1s						
ILAR	**Eielson Array**	**58.53**	**30**	P	**P**	**03 45 48.7**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=270,slow=6.6,SNR=11						
ILAR	**Eielson Array**	**58.53**	**30**	P	**P**	**03 45 48.5**	**-0.7**
BMAR	**Burnt Mountain**	**59.19**	**26**	P	**P**	**03 45 56.0**	**+2.1**
J26L	**Joseph Creek**	**59.99**	**30**	P	**P**	**03 45 59.7**	**+0.3**
J26L				IAmb	IAmb	03 46 00.7	
	comp=Z,5.2nm,1.1s						

BMRM Bremner River 60.09 34 P P 03 46 01.4 +1.2
GLB Gilahina Butte 60.39 33 P P 03 46 03.8 +1.6
BCAR Beaver Creek A 61.02 31 P P 03 46 07.6 +1.1
M27K Edge Creek, AK 61.11 32 P P 03 46 08.4 +1.2
M27K IAmb IAmb 03 46 26.2
comp=Z,5.3nm,1.1s
EPYK Eagle Plains 62.42 27 P P 03 46 17.0 +1.2
EPYK IAmb IAmb 03 46 26.2
comp=Z,6.7nm,0.9s
STKA Stephens Creek 62.83 172 P P 03 46 17.6 -1.2
comp=Z,2.2nm,0.6s,baz=347,slow=8.8,SNR=6.6
STKA Stephens Creek 62.83 172 P P 03 46 18.7 -0.1
INK Inuvik 63.13 25 P P 03 46 20.9 +0.6
comp=Z,1.3nm,0.5s,baz=288,slow=4.7,SNR=13
INK Inuvik 63.13 25 P P 03 46 21.1 +0.6
INK IAmb IAmb 03 46 21.2
comp=Z,9.0nm,1.4s
M31M Drury Creek, Y 64.54 31 P P 03 46 30.9 +1.1
M31M IAmb IAmb 03 46 53.0
comp=Z,11nm,1.5s
A36M Sachs Harbour 64.65 20 P P 03 46 31.4 +1.1
C36M Paulatuk 66.02 22 P P 03 46 40.0 +0.7
ARCES ARCESS Array B 67.30 339 P P 03 46 46.5 -1.0
comp=Z,2.3nm,0.8s,baz=50,slow=8.0,SNR=4.2
EUNU Eureka 67.35 7 P P 03 46 47.4 -0.3
EUNU IAmb IAmb 03 46 58.2
comp=Z,4.1nm,1.3s
KBZ Khabaz 69.46 309 P P 03 47 02.0 +0.6
comp=Z,2.6nm,0.8s,baz=91,slow=5.0,SNR=4.9
RES Resolute Bay 70.33 12 P P 03 47 06.8 +0.6
RES IAmb IAmb 03 47 07.8
comp=Z,3.8nm,0.8s
FIA1 FINESS Array S 70.93 331 P P 03 47 09.6 -0.5
FINES FINESS Array B 70.93 331 P P 03 47 09.4 -0.7
comp=Z,2.4nm,0.5s,baz=72,slow=5.9,SNR=23
YKA Yellowknife Ar 72.71 27 P P 03 47 20.9 +0.1
comp=Z,0.9nm,0.8s,baz=299,slow=5.8,SNR=11
YKA Yellowknife Ar 72.71 27 P P 03 47 21.8 +1.0
AKASG Malin Array Be 74.72 320 P P 03 47 31.9 -0.8
comp=Z,2.3nm,0.7s,baz=54,slow=6.2,SNR=14
AKBB Malin Array Si 74.72 320 P P 03 47 32.7 -0.1
AKBB IAmb IAmb 03 47 33.3
comp=Z,4.1nm,0.8s
NOA NORSAR Array B 77.02 335 P P 03 47 44.9 -1.0
comp=Z,1.0nm,0.9s,baz=48,slow=5.6,SNR=2.2
BRTR Keskin Array B 77.44 309 P P 03 47 49.0 +0.4
comp=Z,1.2nm,0.7s,baz=117,slow=4.7,SNR=6.8
BRTR Keskin Array B 77.44 309 P P 03 47 49.2 +0.5
BUR08 Bucovina Ar. S 78.57 319 P P 03 47 55.5 +0.7
BUR08 IAmb IAmb 03 47 56.1
comp=Z,5.9nm,1.1s
BURAR Bucovina Array 78.58 319 P P 03 47 55.2 +0.5
BURAR IAmb IAmb 03 47 56.5
comp=Z,3.0nm,0.8s
GERES GERESS Array B 83.98 325 P P 03 48 23.2 -0.2
comp=Z,0.8nm,0.7s,baz=64,slow=4.5,SNR=7.3
GERES GERESS Array B 83.98 325 P P 03 48 23.6 +0.2
NVAR Mina Array Bea 84.47 48 P P 03 48 26.3 0.0
comp=Z,1.6nm,0.8s,baz=297,slow=5.9,SNR=8.0
NVAR Mina Array Bea 84.47 48 P P 03 48 25.3 -1.0
BTNL Ternell 86.34 329 PcP P 03 48 36.1 +0.9

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*IDC **18** 03:44:32.5±1.1, 9.°94S×123.°91E, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.6/30, mbtmp3.8/7, ML3.8/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/66, Error ellipse: s-maj=26.9km s-min=7.5km az=124.0*
*NEIC **18** 03:44:33.9±2.8, 10.°30S±0.°07×123.°63E±0.°03, h10km±1km, mb3.8/4, Error ellipse: s-maj=11.7km s-min=5.4km az=4.0*
*DJA **18** 03:44:36.4±0.6, 10.°S±5.°×12.°4E±.°, h12km±4km, M4.0/12, mb4.3/4, mB4.9/1, MLv3.9/12, Mw(mB)4.2/1*
ISC 18 03:44:34.3±0.6, 10.°27S±0.°05×123.°81E±0.°05, h10km, n36, σ2°06/39, mb4.0/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.16**	**295**	Pg	**Pg**	**03 44 39.6**	**+1.8**
	6μm,0.3s,baz=4.3,slow=3.5,SNR=1684						
BATI				Lg	Lg	03 44 44.3	
BATI	**Baumata**	**0.16**	**295**	P	**Pg**	**03 44 39.8**	**+2.0**
SOEI	**Soe**	**0.69**	**41**	P	**Pb**	**03 44 51.0**	**+2.6**
SOEI				S	**Sn**	**03 45 03.0**	**+2.0**
SOEI	**Soe**	**0.69**	**41**		**Pg**	**03 44 48.6**	**+1.0**
MMRI	**Maumere**	**2.25**	**316**	P	**Pn**	**03 45 12.1**	**+0.5**
MMRI	**Maumere**	**2.25**	**316**	Pn	**Pn**	**03 45 11.2**	**-0.4**
EDFI	**Ende, Flores**	**2.58**	**306**	P	**Pn**	**03 45 15.0**	**-1.3**
BASI	**Baing, Sumba**	**3.18**	**271**	P	**Pn**	**03 45 25.2**	**+0.8**
WBSI	**Waikabubak, Su**	**4.40**	**278**	P	**Pn**	**03 45 40.9**	**-0.3**
BSSI	**Bau Bau, Buton**	**5.26**	**321**	P	**Pn**	**03 45 54.3**	**+1.3**
	0.1nm16nm,0.6s						
BKSI	**Bulukumba**	**6.13**	**323**	P	**Pn**	**03 46 05.9**	**+0.9**
	0.1nm24nm,0.8s						
KAPI	**Kappang**	**6.59**	**322**	Pn	**Pn**	**03 46 11.8**	**+0.4**
	0.4nm,0.3s,baz=142,slow=17,SNR=1.2						
KNRA	**Kununurra**	**7.22**	**139**	Pn	**Pn**	**03 46 23.4**	**+3.4**
MTN	**Manton Dam**	**7.62**	**110**		**Pn**	**03 46 27.8**	**+2.3**
FITZ	**Fitzroy Crossi**	**7.98**	**167**	Pn	**Pn**	**03 46 34.4**	**+4.0**
	1.0nm,0.3s,baz=4.4,slow=9.0,SNR=42						
FITZ				Sn	**Sn**	**03 48 02.6**	**+1.8**
	4.6nm,0.3s,baz=148,slow=8.4,SNR=21						
FITZ				LR	LR	03 50 02.9	
	comp=Z,112nm,21.5s,baz=104,slow=40						
WB0	**Warramunga Arr**	**13.91**	**134**	Pn	**Pn**	**03 47 51.6**	**0.0**
WRA	**Warramunga Arr**	**13.98**	**135**	Pn	**Pn**	**03 47 52.5**	**-0.2**
	0.4nm,0.3s,baz=308,slow=14,SNR=6.4						
WRA				Sn	**Sn**	**03 50 24.7**	**-3.4**
	0.7nm,0.3s,baz=317,slow=27,SNR=7.7						
WRA	**Warramunga Arr**	**13.98**	**135**	Pn	**Pn**	**03 47 53.2**	**+0.5**
WRAB	**Tennant Creek**	**13.99**	**135**	Pn	**Pn**	**03 47 53.5**	**+0.8**
WB2	**Warramunga Arr**	**13.99**	**135**		**Pn**	**03 47 53.6**	**+0.8**
WR0	**Warramunga Arr**	**14.14**	**134**	Pn	**Pn**	**03 47 55.1**	**+0.3**
AS31	**Alice Springs**	**16.44**	**145**		**Pn**	**03 48 27.4**	**+2.2**
ASAR	**Alice Springs**	**16.44**	**145**	Pn	**Pn**	**03 48 27.4**	**+2.2**
	0.3nm,0.3s,baz=318,slow=12,SNR=18						
ASAR				Sn	**Sn**	**03 51 24.7**	**-3.2**
	0.3nm,0.3s,baz=325,slow=26,SNR=5.6						
ASAR				LR	LR	03 55 48.6	
	comp=Z,127nm,19.0s,baz=320,slow=41						
ASAR	**Alice Springs**	**16.44**	**145**	P	**Pn**	**03 48 28.2**	**+2.9**
COEN	**Coen**	**19.28**	**103**	P	**P**	**03 49 01.1**	**+1.6**
CTA	**Charters Tower**	**23.73**	**117**	LR	LR	03 58 22.8	
	comp=Z,100nm,20.9s,baz=264,slow=35						
USRK	**Ussuriysk Ar.**	**54.72**	**7**	P	**P**	**03 54 01.4**	**-2.4**
	5.0nm,1.1s,baz=196,slow=9.8,SNR=4.6						
USRK	**Ussuriysk Ar.**	**54.72**	**7**	P	**P**	**03 54 02.7**	**-1.1**
SONM	**Songino Array**	**59.88**	**347**	P	**P**	**03 54 38.3**	**-2.1**
	0.4nm,0.6s,baz=158,slow=8.1,SNR=2.8						
SONM	**Songino Array**	**59.88**	**347**	P	**P**	**03 54 38.5**	**-1.9**
SONM				IAmb	IAmb	03 54 43.1	
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**67.82**	**331**	P	**P**	**03 55 30.3**	**-2.3**
	comp=Z,0.7nm,0.7s,baz=142,slow=6.6,SNR=8.2						
MKAR	**Makanchi Array**	**67.82**	**331**	P	**P**	**03 55 29.5**	**-3.2**
ZALV	**Zalesovo Beam**	**71.99**	**337**	P	**P**	**03 55 55.8**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=167,slow=3.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**71.99**	**337**	P	**P**	**03 55 56.0**	**-2.0**
KURK	**Kurchatov**	**72.29**	**332**	P	**P**	**03 55 57.0**	**-2.9**
KURK				IAmb	IAmb	03 56 09.5	
	comp=Z,1.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**123.35**	**279**	PKP	**PKPdf**	**04 03 33.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=88,slow=2.2,SNR=1.9						

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*IDC **18** 03:53:01.6±2.0, 8.°45S×124.°84E, h0km, mb3.2/1, mb1 3.8/5, mb1mx3.3/39, mbtmp3.6/5, ML3.7/4, MS2.9/3, Ms1 2.9/3, ms1mx2.5/22, Error ellipse: s-maj=40.9km s-min=25.6km az=89.0*
*DJA **18** 03:53:06.4±0.4, 9.°S±4.°×12.°5E±.°, h10km, M3.8/7, mb4.3/2, MLv3.5/7*
ISC 18 03:53:02.5±1.3, 8.°63S±0.°09×124.°89E±0.°08, h10km, n10, σ2°60/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.28**	**209**	P	**Pg**	**03 53 28.8**	**+1.7**
BATI	**Baumata**	**1.98**	**218**	Pn	**Pb**	**03 53 38.8**	**+0.1**
	60nm,0.3s,baz=102,slow=9.3,SNR=24						
BATI				Sn	**Sb**	**03 54 03.9**	**+0.4**
	17nm,0.3s,baz=142,slow=22,SNR=25						
BATI				LR	LR	03 54 29.8	
	comp=Z,71nm,21.9s,baz=356,slow=42						
BATI	**Baumata**	**1.98**	**218**	P	**Pn**	**03 53 37.4**	**+1.3**
EDFI	**Ende, Flores**	**3.17**	**268**	P	**Pn**	**03 53 49.8**	**-2.7**
BASI	**Baing, Sumba**	**4.54**	**249**	P	**Pn**	**03 54 10.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**9.44**	**176**	Pn	**Pn**	**03 55 20.6**	**+1.9**
	0.4nm,0.3s,baz=353,slow=9.2,SNR=9.2						
FITZ				Sn	**Sn**	**03 57 00.2**	**-4.8**
	0.8nm,0.3s,baz=144,slow=5.4,SNR=16						
FITZ				LR	LR	04 00 06.3	
	comp=Z,45nm,18.4s,baz=349,slow=44						
WRA	**Warramunga Arr**	**14.50**	**142**	Pn	**Pn**	**03 56 30.3**	**+2.4**
	0.4nm,0.3s,baz=319,slow=13,SNR=32						
WRA				Sn	**Sn**	**03 59 06.0**	**-2.8**
	0.3nm,0.3s,baz=318,slow=23,SNR=7.3						
ASAR	**Alice Springs**	**17.27**	**151**	P	**P**	**03 57 07.4**	**+2.0**
	0.1nm,0.3s,baz=320,slow=11,SNR=6.5						
ASAR				S	**Sn**	**04 00 13.1**	**-3.1**
	0.1nm,0.3s,baz=314,slow=20,SNR=5.7						
DZM	**Mont Dzumac**	**42.09**	**113**	LR	LR	04 17 38.1	
	comp=Z,79nm,21.2s,baz=131,slow=35						
MKAR	**Makanchi Array**	**66.93**	**330**	P	**P**	**04 03 54.8**	**-0.4**
	0.1nm,0.5s,baz=122,slow=7.0,SNR=2.3						

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*MOS **18** 04:05:53.3±0.8, 62.°14N×150.°81W, h10km, mb4.9/39, Error ellipse: s-maj=12.0km s-min=5.4km az=95.4*
*IDC **18** 04:05:54.5±0.5, 62.°28N×150.°75W, h0km, mb4.4/25, mb1 4.5/30, mb1mx4.4/39, mbtmp4.4/30, ML4.3/5, MS4.0/19, Ms1 4.0/19, ms1mx3.6/95, Error ellipse: s-maj=12.4km s-min=9.7km az=42.0*
*NEIC **18** 04:05:56.7±2.2, 62.°09N±0.°02×150.°62W±0.°04, h14km±3km, Error ellipse: s-maj=3.3km s-min=2.6km az=218.0*
*AEIC **18** 04:05:56±2.0, 62.°10N±0.°02×150.°64W±0.°05, h10km±3km, ML4.8, mb4.8/91(NEIC), ML5.0/147(NEIC), Mwr4.5/97(NEIC), Error ellipse: s-maj=3.6km s-min=3.0km az=92.0*
*NEIC **18** 04:05:57.3, 62.°10N×150.°58W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.16; $M_{\theta\theta}$2.88; $M_{\phi\phi}$-6.04; $M_{r\theta}$2.89; $M_{\theta\phi}$-3.39; $M_{r\phi}$-1.68; Fault plane solution: $M_0$7.07000×10^{15} NP1:ϕ_s161.82000°, δ65.33000°, λ34.72000°. NP2:ϕ_s55.68000°, δ58.83000°, λ150.80000°. Principal axes: T 6.9080, Plg41.0000°, Azm21.0000°; N 0.3228, Plg48.0000°, Azm193.0000°; P -7.2308, Plg4.0000°, Azm287.0000°;*
*BGR **18** 04:06:00.0±0.0, 62.°08N×150.°08W, h33km, mb5.0, Ms4.0*
ISC 18 04:05:54.8±0.9, 62.°08N±0.°02×150.°66W±0.°02, h6km±5km, n563, σ1°30/599, mb4.8/124, MS4.1/25, 10C-10D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.37**	**29**	Pg	**Pb**	**04 06 03.7**	**-0.1**
CUT				Sg	**Sb**	**04 06 09.6**	**-0.3**
CUT				IAML		04 06 09.9	
	comp=E,128μm,0.5s						
CUT				IAML		04 06 09.9	
	comp=N,170μm,0.8s						
CUT	**Chulitna**	**0.37**	**29**	P	**Pb**	**04 06 03.6**	**-0.1**
	baz=210						
CUT				S	**Sb**	**04 06 09.5**	**-0.3**
	baz=210						
M22K	**Willow**	**0.42**	**142**		**Pb**	**04 06 04.3**	**-0.2**
M22K					**Sb**	**04 06 10.4**	**-0.6**
M22K	**Willow**	**0.42**	**142**	P	**Pb**	**04 06 04.4**	**-0.1**
	baz=326						
M22K				S	**Sb**	**04 06 10.9**	**-0.1**
	baz=326						
STLK	**Strandline Lak**	**0.81**	**224**		**Pg**	**04 06 10.8**	**+0.5**
PMR	**Palmer**	**0.88**	**123**	Pg	**Pb**	**04 06 12.3**	**0.0**
PMR				Sg	**Sb**	**04 06 24.0**	**-0.1**
PMR	**Palmer**	**0.88**	**123**	P	**Pb**	**04 06 12.3**	**0.0**
	baz=307						
PMR				S	**Sb**	**04 06 24.1**	**-0.1**
	baz=307						
GHO	**Glory Hole Cre**	**0.88**	**110**		**Pg**	**04 06 12.1**	**+0.5**
GHO					**Sb**	**04 06 24.4**	**0.0**
GHO				IAML		04 06 26.3	
	comp=E,53μm,0.3s						
GHO				IAML		04 06 26.4	
	comp=N,53μm,0.5s						
FIS	**Fire Island**	**0.96**	**167**	Pg	**Pb**	**04 06 14.1**	**+0.3**
FIS				Sg	**Sn**	**04 06 28.3**	**-0.3**
CGLM	**Capps Glacier**	**1.01**	**220**		**Pg**	**04 06 14.3**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.02**	**220**		**Pg**	**04 06 14.6**	**+0.2**
PPLA	**Purkeypile**	**1.08**	**320**	Pg	**Pg**	**04 06 15.9**	**+0.3**
PPLA	**Purkeypile**	**1.08**	**320**	P	**Pn**	**04 06 16.5**	**-0.1**
	baz=137						
RC01	**Rabbit Creek A**	**1.09**	**156**		**Pg**	**04 06 15.7**	**+0.1**
RC01				IAML		04 06 30.9	
	comp=E,48μm,0.5s						
RC01	**Rabbit Creek A**	**1.09**	**156**	P	**Pg**	**04 06 15.7**	**+0.1**
	baz=338						
SPU	**Mount Spurr**	**1.12**	**217**		**Pg**	**04 06 16.3**	**0.0**
WAT7	**Susitna Watana**	**1.13**	**47**		**Pg**	**04 06 16.5**	**0.0**
WAT7					**Sb**	**04 06 31.6**	**-0.2**
SML	**Sawmill**	**1.13**	**103**		**Pg**	**04 06 16.4**	**-0.1**
SML				IAML		04 06 34.1	
	comp=N,37μm,0.7s						
SML	**Sawmill**	**1.13**	**103**	P	**Pg**	**04 06 16.7**	**+0.2**
	baz=286						
SML				S	**Sb**	**04 06 31.9**	**+0.2**
	baz=286						
WAT1	**Susitna Watana**	**1.23**	**52**		**Pb**	**04 06 18.3**	**-0.2**
WAT1					**Sg**	**04 06 34.7**	**+0.3**
WAT1	**Susitna Watana**	**1.23**	**52**	P	**Pb**	**04 06 18.3**	**-0.2**
	baz=234						
WAT1				S	**Sg**	**04 06 34.7**	**+0.3**
	baz=234						
KNK	**Knik Glacier**	**1.24**	**122**		**Pn**	**04 06 18.5**	**-0.1**
KNK					**Sb**	**04 06 34.6**	**-0.2**
KNK				IAML		04 06 37.4	
	comp=N,39μm,0.6s						
KNK	**Knik Glacier**	**1.24**	**122**	P	**Pb**	**04 06 18.8**	**+0.2**
	baz=305						
KNK				S	**Sn**	**04 06 35.5**	**-0.1**
	baz=305						
CAPN	**Captain Cook N**	**1.34**	**190**	Pn	**Pg**	**04 06 21.6**	**+1.1**
CAPN	**Captain Cook N**	**1.34**	**190**	P	**Pg**	**04 06 22.0**	**+1.5**
	baz=10						
TRF	**Thorofare Moun**	**1.39**	**7**		**Pb**	**04 06 21.3**	**+0.2**
TRF					**Sg**	**04 06 39.4**	**+0.2**
TRF	**Thorofare Moun**	**1.39**	**7**	P	**Pg**	**04 06 21.5**	**+0.2**
	baz=187						
TRF				S	**Sg**	**04 06 40.0**	**+0.7**
	baz=187						
WAT6	**Susitna Watana**	**1.45**	**69**		**Pn**	**04 06 21.5**	**-0.2**
WAT6					**Sn**	**04 06 40.0**	**-1.0**
WAT6	**Susitna Watana**	**1.45**	**69**	P	**Pn**	**04 06 21.5**	**-0.2**
	baz=252						
WAT6				S	**Sn**	**04 06 40.0**	**-1.0**
	baz=252						
KTH	**Kantishna Hill**	**1.48**	**355**	Pn	**Pb**	**04 06 23.0**	**+0.3**
KTH				IAML		04 06 44.6	
	comp=N,15μm,1.0s						
KTH				IAML		04 06 44.8	
	comp=E,15μm,0.7s						
CAST	**Castle Rocks**	**1.49**	**335**	Pn	**Pb**	**04 06 22.8**	**-0.1**
CAST					**Sn**	**04 06 41.8**	**-0.1**
CAST				IAML		04 06 43.7	
	comp=E,22μm,0.8s						
CAST	**Castle Rocks**	**1.49**	**335**	P	**Pb**	**04 06 23.2**	**+0.3**
	baz=152						
CAST				S	**Sg**	**04 06 43.0**	**+0.2**
	baz=152						
L20K	**Farewell, AK**	**1.56**	**286**		**Pb**	**04 06 23.7**	**-0.3**
L20K					**Sg**	**04 06 45.3**	**+0.5**
L20K	**Farewell, AK**	**1.56**	**286**	P	**Pb**	**04 06 23.7**	**-0.3**
	baz=102						
L20K				S	**Sg**	**04 06 45.3**	**+0.5**
	baz=102						
RND	**Reindeer**	**1.57**	**31**	Pn	**Pn**	**04 06 23.4**	**+0.3**
RND				Sg	**Sb**	**04 06 44.4**	**+0.2**
RND				IAML		04 06 45.8	
	comp=N,22μm,0.9s						
RND				IAML		04 06 45.8	
	comp=E,15μm,0.9s						
SCM	**Sheep Creek Mo**	**1.59**	**98**	P	**Pn**	**04 06 23.8**	**+0.3**
SCM	**Sheep Creek Mo**	**1.59**	**98**		**Pn**	**04 06 23.8**	**+0.3**
SCM				IAML		04 06 47.8	
	comp=N,22μm,0.9s						
SCM	**Sheep Creek Mo**	**1.59**	**98**	P	**Pn**	**04 06 23.8**	**+0.3**
	baz=282						
SLKM	**Skilak Lake**	**1.59**	**172**		**Pn**	**04 06 23.5**	**0.0**
PWL	**Port Wells**	**1.66**	**137**	Pn	**Pn**	**04 06 25.1**	**+0.8**
PWL				IAML		04 06 49.8	
	comp=E,21μm,0.6s						
PWL	**Port Wells**	**1.66**	**137**	P	**Pn**	**04 06 24.8**	**+0.5**
	baz=320						
RDT	**Redoubt**	**1.73**	**210**		**Pn**	**04 06 25.7**	**+0.3**
DFR	**Drift River**	**1.79**	**214**		**Pb**	**04 06 27.4**	**-0.5**
DHY	**Denali Highway**	**1.82**	**55**		**Pn**	**04 06 26.6**	**0.0**
DHY					**Sn**	**04 06 50.6**	**+0.6**
DHY				IAML		04 06 58.4	
	comp=N,12μm,0.6s						
DHY				IAML		04 07 00.7	
	comp=E,10μm,0.9s						
DHY	**Denali Highway**	**1.82**	**55**	P	**Pn**	**04 06 26.6**	**0.0**
	baz=239						
DHY				S	**Sb**	**04 06 51.5**	**0.0**
	baz=239						
MCK	**McKinley**	**1.84**	**25**	P	**Pn**	**04 06 27.6**	**+0.8**
MCK	**McKinley**	**1.84**	**25**	Pn	**Pn**	**04 06 27.6**	**+0.8**
MCK				IAML		04 06 54.7	
	comp=N,14μm,0.5s						
MCK	**McKinley**	**1.84**	**25**	P	**Pn**	**04 06 27.5**	**+0.8**
	baz=206						
NCT	**North Crescent**	**1.88**	**217**		**Pn**	**04 06 28.2**	**+0.7**
RSO	**Redoubt South**	**1.91**	**213**		**Pn**	**04 06 28.6**	**+0.6**
RED	**Redoubt Volcan**	**1.96**	**212**		**Pn**	**04 06 29.1**	**+0.6**
CHUM	**Lake Minchumin**	**1.96**	**338**		**Pn**	**04 06 29.3**	**+0.8**
CHUM	**Lake Minchumin**	**1.96**	**338**	P	**Pn**	**04 06 29.3**	**+0.8**
	baz=156						
L19K	**White Mountain**	**1.97**	**275**	Pn	**Pn**	**04 06 29.2**	**+0.5**
L19K				Sn	**Sn**	**04 06 54.4**	**+0.7**
L19K				IAML		04 06 56.1	
	comp=E,8μm,0.6s						
L19K	**White Mountain**	**1.97**	**275**	P	**Pn**	**04 06 29.5**	**+0.8**
	baz=90						
L19K				S	**Sb**	**04 06 55.2**	**-0.7**
	baz=90						
K20K	**Telida**	**2.03**	**311**	Pn	**Pn**	**04 06 30.6**	**+1.2**
K20K				IAML		04 07 01.1	
	comp=E,10μm,0.7s						
K20K	**Telida**	**2.03**	**311**	P	**Pn**	**04 06 30.1**	**+0.6**
	baz=127						
BPAW	**Bear Paw Mtn.**	**2.03**	**356**	Pn	**Pn**	**04 06 30.1**	**+0.6**
BPAW	**Bear Paw Mtn.**	**2.03**	**356**	P	**Pn**	**04 06 30.1**	**+0.6**
	baz=175						
BPAW				S	**Sb**	**04 06 57.8**	**+0.3**
	baz=175						
SEW	**Seward**	**2.07**	**163**		**Pb**	**04 06 31.6**	**-1.0**
SEW	**Seward**	**2.07**	**163**		**Sb**	**04 06 59.0**	**+0.5**
SEW	**Seward**	**2.07**	**163**	P	**Pb**	**04 06 31.9**	**-0.7**
	baz=345						
SEW				S	**Sb**	**04 06 59.0**	**+0.5**
	baz=345						
GLI	**Glacier Island**	**2.09**	**124**	Pn	**Pn**	**04 06 31.7**	**+1.4**
GLI	**Glacier Island**	**2.09**	**124**	P	**Pb**	**04 06 32.2**	**-0.9**
	baz=308						
M24K	**Tolsona, Glenn**	**2.11**	**87**	Pn	**Pn**	**04 06 31.9**	**+1.3**
M24K	**Tolsona, Glenn**	**2.11**	**87**	P	**Pb**	**04 06 32.3**	**-1.1**
	baz=272						
BWN	**Browne**	**2.17**	**14**		**Pn**	**04 06 32.5**	**+1.2**
BWN	**Browne**	**2.17**	**14**	IAML		04 07 09.4	
	comp=N,11μm,1.0s						
BWN				IAML		04 07 15.7	
	comp=E,10μm,1.0s						
JPK	**Jack Peak**	**2.20**	**116**		**Pb**	**04 06 34.2**	**-0.7**
O20K	**Slope Mountain**	**2.22**	**206**		**Pb**	**04 06 34.0**	**-1.3**
O20K	**Slope Mountain**	**2.22**	**206**	P	**Pb**	**04 06 34.0**	**-1.3**
	baz=24						
N19K	**Bonanza Creek**	**2.23**	**237**		**Pn**	**04 06 33.6**	**+1.2**
N19K	**Bonanza Creek**	**2.23**	**237**	IAML		04 07 05.6	
	comp=N,9μm,0.9s						
N19K				IAML		04 07 07.6	
	comp=E,8μm,1.0s						
N19K	**Bonanza Creek**	**2.23**	**237**	P	**Pn**	**04 06 33.6**	**+1.2**
	baz=53						
N19K				S	**Sb**	**04 07 03.5**	**0.0**
	baz=53						
VMT	**TAPS Tl Valdez**	**2.28**	**114**		**Pb**	**04 06 35.0**	**-1.3**
ILIM	**Iliamna**	**2.30**	**210**		**Pb**	**04 06 35.4**	**-1.2**
KLU	**Klutina**	**2.33**	**103**	Pn	**Pn**	**04 06 34.6**	**+1.0**
KLU				IAML		04 07 10.6	
	comp=N,9μm,0.5s						
KLU				IAML		04 07 11.4	
	comp=E,8μm,0.5s						
KLU	**Klutina**	**2.33**	**103**	P	**Pn**	**04 06 34.9**	**+1.3**
	baz=288						
BRLK	**Bradley Lake**	**2.33**	**183**	Pn	**Pn**	**04 06 34.7**	**+1.2**
BRLK				IAML		04 07 08.7	
	comp=N,6μm,0.7s						
BRSE	**Bradley Lake S**	**2.35**	**181**		**Pn**	**04 06 35.2**	**+1.4**
BRSE	**Bradley Lake S**	**2.35**	**181**	P	**Pn**	**04 06 35.2**	**+1.4**
	baz=1.2						
FID	**Port Fidalgo**	**2.41**	**122**	Pn	**Pn**	**04 06 35.9**	**+1.2**
FID				IAML		04 07 11.6	
	comp=N,7μm,0.3s						
PS11	**TAPS Pump St11**	**2.44**	**88**		**Pb**	**04 06 38.0**	**-0.9**
HOM	**Homer**	**2.48**	**192**	Pn	**Pb**	**04 06 38.1**	**-1.5**
HOM	**Homer**	**2.48**	**192**	P	**Pb**	**04 06 38.4**	**-1.2**
	baz=11						
DIV	**Divide**	**2.52**	**110**	Pn	**Pn**	**04 06 37.3**	**+1.0**
SVW2	**Sparrevohn**	**2.55**	**249**	Pn	**Pn**	**04 06 37.2**	**+0.6**
SVW2				IAML		04 07 18.7	
	comp=N,8μm,1.4s						
SVW2				IAML		04 07 19.3	
	comp=E,6μm,0.5s						
PAX	**Paxson**	**2.57**	**67**	P	**Pn**	**04 06 38.2**	**+1.3**
PAX	**Paxson**	**2.57**	**67**	Pn	**Pn**	**04 06 38.2**	**+1.3**
PAX	**Paxson**	**2.57**	**67**	P	**Pn**	**04 06 38.6**	**+1.8**
	baz=252						
CNPM	**China Poot**	**2.58**	**187**	Pn	**Pn**	**04 06 38.2**	**+1.2**
CNPM				IAML		04 07 24.0	
	comp=E,4μm,0.6s						
CNPM				IAML		04 07 24.5	
	comp=N,4μm,0.7s						
HARP	**HAARP**	**2.59**	**81**		**Pb**	**04 06 40.1**	**-1.5**
HARP	**HAARP**	**2.59**	**81**	P	**Pb**	**04 06 40.1**	**-1.5**
	baz=266						
O19K	**Port Alsworth**	**2.59**	**225**	Pn	**Pn**	**04 06 37.8**	**+0.7**
O19K	**Port Alsworth**	**2.59**	**225**	P	**Pn**	**04 06 38.4**	**+1.2**
	baz=41						
NEA2	**Nenana**	**2.62**	**15**	Pn	**P

BMRM IAML 04 07 32.8
comp=E,3µm,1.0s
BMRM IAML 04 07 37.3
comp=N,4µm,0.7s
BMRM Bremner River 3.11 108 P Pn 04 06 46.5 +2.2
baz=294
I23K Minto, Yukon-K 3.13 10 Pn Pn 04 06 45.2 +0.7
I23K IAML 04 07 34.0
comp=N,3µm,0.8s
I23K Minto, Yukon-K 3.13 10 P Pn 04 06 45.2 +0.7
baz=191
RIDG Independent Ri 3.14 55 P Pn 04 06 47.5 +2.8
baz=241
O18K Koktuh Hills 3.15 227 Pn Pn 04 06 45.6 +0.8
O18K IAML 04 07 37.6
comp=E,3µm,0.6s
O18K IAML 04 07 45.0
comp=N,4µm,0.9s
O18K Koktuh Hills 3.15 227 P Pn 04 06 46.6 +1.8
baz=42
I21K Tanana 3.17 350 Pn Pn 04 06 45.7 +0.6
I21K IAML 04 07 40.7
comp=E,4µm,0.9s
I21K IAML 04 07 43.2
comp=N,4µm,0.9s
I21K Tanana 3.17 350 P Pn 04 06 45.8 +0.8
baz=168
IL31 3.19 30 Pn Pn 04 06 45.5 +0.2
ILAR Eielson Array 3.19 30 Pn Pn 04 06 45.0 -0.3
comp=N,36nm,0.3s,baz=210,slow=14,SNR=652
ILAR Lg Lg 04 07 34.5
comp=N,378nm,0.3s,baz=209,slow=28,SNR=13
ILAR LR LR 04 08 05.4
comp=N,2µm,21.7s,baz=289,slow=43
ILAR Eielson Array 3.19 30 P Pn 04 06 45.8 +0.5
ILAR Eielson Array 3.19 30 Pn Pn 04 06 45.8 +0.5
GOAT Goat Mountain 3.23 115 Pn 04 06 48.4 +2.4
POKR Poker Plat Res 3.37 24 Pn Pn 04 06 48.3 +0.4
POKR IAML 04 07 43.7
comp=E,4µm,1.1s
POKR Poker Plat Res 3.37 24 P Pn 04 06 48.5 +0.7
baz=207
Q23K Middleton Isla 3.40 140 Pn Pn 04 06 50.0 +1.8
Q23K IAML 04 07 46.4
comp=E,2µm,0.8s
Q23K IAML 04 07 57.6
comp=N,3µm,0.9s
Q23K Middleton Isla 3.40 140 P Pn 04 06 50.5 +2.3
baz=324
MID Middleton Isla 3.40 140 P Pn 04 06 49.7 +1.5
MID Middleton Isla 3.40 140 Pn Pn 04 06 49.7 +1.5
MID IAML 04 07 54.5
comp=E,2µm,0.7s
MID IAML 04 07 57.6
comp=N,2µm,1.0s
PS07 TAPS Pump Stn7 3.41 17 Pn 04 06 49.2 +0.9
Q19K Cape Douglas, 3.49 206 P Pn 04 06 52.7 +3.2
baz=24
P18K Big Mountain, 3.51 222 Pn Pn 04 06 51.4 +1.6
P18K Big Mountain, 3.51 222 P Pn 04 06 51.7 +1.9
baz=38
L26K Log Cabin Wild 3.52 71 P Pn 04 06 53.3 +3.5
baz=258
VRDI Verde Repeater 3.54 101 Pn Pn 04 06 52.0 +1.7
VRDI IAML 04 07 44.0
comp=N,3µm,0.9s
SCRK Sand Creek 3.59 55 Pn Pn 04 06 52.0 +1.0
SCRK IAML 04 07 49.5
comp=E,4µm,1.1s
SCRK IAML 04 07 51.2
comp=N,4µm,1.0s
SCRK Sand Creek 3.59 55 P Pn 04 06 52.2 +1.3
baz=241
H21K Melozitna Rive 3.71 346 Pn 04 06 53.4 +0.9
H21K IAML 04 07 51.4
comp=E,4µm,0.9s
H21K Melozitna Rive 3.71 346 P Pn 04 06 53.4 +0.9
baz=164
KAIM Kayak Island 3.73 123 Pn Pn 04 06 54.6 +1.9
KAIM IAML 04 07 59.6
comp=N,2µm,1.1s
KAIM Kayak Island 3.73 123 P Pn 04 06 55.4 +2.6
baz=309
NICHA Nichawak Mount 3.73 117 Pn 04 06 55.5 +2.7
BERG Berg Lake 3.77 114 Pn Pn 04 06 55.6 +2.4
PS06 TAPS Pump Stn6 3.81 6 Pn 04 06 54.7 +0.9
GCSA Galena City Sc 3.87 316 Pn 04 06 55.6 +1.0
GCSA Galena City Sc 3.87 316 P Pn 04 06 55.6 +1.0
baz=131
SUCK Suckling Hills 3.90 118 Pn Pn 04 06 56.9 +1.8
SUCK IAML 04 07 58.3
comp=N,3µm,0.5s
SUCK IAML 04 07 58.5
comp=E,2µm,0.8s
KHIT Khitrov Hills 3.94 111 Pn 04 06 58.5 +2.8
H24K Noodor Dome 3.96 17 Pn Pn 04 06 56.9 +0.9
H24K IAML 04 08 10.0
comp=E,1µm,1.3s
H24K Noodor Dome 3.96 17 P Pn 04 06 56.7 +0.6
baz=199
GRIN Grindle Hills 3.99 114 Pn 04 06 58.8 +2.5
PTPK Patty Peak 4.01 99 Pn 04 06 59.2 +2.3
J26L Joseph Creek 4.02 50 Pn Pn 04 06 58.0 +1.1
J26L IAML 04 08 06.1
comp=N,3µm,0.6s
J26L IAML 04 08 10.3
comp=E,2µm,0.6s
J26L Joseph Creek 4.02 50 P Pn 04 06 58.3 +1.4
baz=236
WAX Waxell Ridge 4.11 110 Pn Pn 04 07 00.1 +2.1
BALM Baldy 4.11 101 Pn 04 07 00.3 +2.1
M27K Edge Creek, AK 4.12 82 Pn Pn 04 07 00.5 +2.2
M27K IAML 04 08 11.8
comp=E,2µm,0.8s
M27K Edge Creek, AK 4.12 82 P Pn 04 07 01.4 +3.1
baz=270
PRP Porcupine Dome 4.13 31 Pn 04 06 59.4 +1.0
PRP IAML 04 08 10.1
comp=E,2µm,0.7s
PRP IAML 04 08 11.6
comp=N,2µm,0.8s
PRP Porcupine Dome 4.13 31 P Pn 04 06 59.3 +1.0
baz=216
KIAG Kiagna River 4.14 103 Pn 04 07 00.5 +1.9
IM03 4.15 342 Pn 04 06 59.4 +0.9
IMAR Indian Mountai 4.15 342 Pn Pn 04 06 59.7 +1.2
L27K Beaver Creek, 4.20 73 Pn Pn 04 07 01.4 +2.1
L27K IAML 04 08 05.7
comp=N,2µm,1.5s
BC03 4.22 73 Pn 04 07 02.1 +2.6
BCAR Beaver Creek A 4.22 73 Pn Pn 04 07 01.6 +2.0
SNH Sunshine Point 4.24 113 Pn Pn 04 07 02.0 +2.1
SNH IAML 04 08 13.2
comp=E,1µm,1.4s
ISLE Juniper Island 4.27 107 Pn Pn 04 07 02.0 +1.6
ISLE IAML 04 08 11.9
comp=E,2µm,0.9s
KDAK Kodiak Island 4.42 194 Pn Pn 04 07 03.2 +1.0
comp=E,6.7nm,0.3s,baz=54,slow=8.3,SNR=84
KDAK Sn Sn 04 07 53.7 -0.2
baz=107,slow=21,SNR=0.8
KDAK Lg Lg 04 08 16.6
comp=E,44nm,0.3s,baz=274,slow=21,SNR=1.9
KDAK LR LR 04 09 11.6
comp=E,2µm,19.1s,baz=61,slow=43
KDAK Kodiak Island 4.42 194 P Pn 04 07 03.6 +1.4
KDAK Kodiak Island 4.42 194 Pn Pn 04 07 03.6 +1.4
KDAK Kodiak Island 4.42 194 IAML 04 08 23.0
comp=E,1µm,0.8s
BARN Barnard Glacie 4.42 99 Pn Pn 04 07 04.5 +2.0
BARN IAML 04 08 11.6
comp=N,1µm,0.9s
BARN IAML 04 08 18.9
comp=E,2µm,0.9s
BAGL Bagley Icefiel 4.43 107 Pn 04 07 04.9 +2.6
GRNC Granite Creek 4.49 104 Pn Pn 04 07 04.5 +1.1
GRNC IAML 04 08 18.7
comp=N,1µm,1.1s
BVCY Beaver Creek 4.59 82 Pn 04 07 07.7 +3.0
BVCY Beaver Creek 4.59 82 P Pn 04 07 07.7 +3.0
baz=270
CTG Chitna Glacier 4.60 100 P Pn 04 07 07.5 +2.7
baz=288
CTGM Chitina Glacie 4.60 100 Pn Pn 04 07 07.2 +2.3
CTGM IAML 04 08 17.7
comp=N,2µm,0.7s
CTGM IAML 04 08 25.1
comp=E,923nm,1.5s
MESA MESA 4.63 110 Pn Pn 04 07 07.2 +1.9
MESA MESA 4.63 110 P Pn 04 07 07.7 +2.3
baz=298
YAH Yahtse 4.64 108 Pn Pn 04 07 06.8 +1.3
YAH IAML 04 08 16.0
comp=E,1µm,0.9s
YUK2 White River 4.65 89 Pn 04 07 08.3 +2.8
PS05 TAPS Pump Stn5 4.75 360 Pn 04 07 08.1 +1.3
LOGN Logan Glacier 4.80 101 Pn 04 07 09.3 +1.7
LOGN IAML 04 08 20.1
comp=E,972nm,1.0s
LOGN IAML 04 08 23.2
comp=N,1µm,0.7s
YUK3 Moose Creek 4.83 89 Pn 04 07 10.9 +2.8
YUK3 Moose Creek 4.83 89 P Pn 04 07 10.9 +2.8
baz=278
TABL Table Mountain 4.88 105 Pn Pn 04 07 10.7 +1.9
TABL IAML 04 08 30.7
comp=E,1µm,0.7s
TABL IAML 04 08 36.7
comp=N,820nm,1.1s
EGAK Eagle 5.05 53 Pn Pn 04 07 12.8 +2.0
EGAK Eagle 5.05 53 P Pn 04 07 13.0 +2.1
baz=242
OHAK Old Harbor 5.05 196 Pn Pn 04 07 11.9 +1.0
OHAK IAML 04 08 50.6
comp=E,740nm,1.1s
OHAK Old Harbor 5.05 196 P Pn 04 07 14.2 +3.3
baz=14
CHX Chaix Hills 5.06 109 Pn 04 07 14.0 +3.0
FYU Fort Yukon 5.08 25 Pn Pn 04 07 12.3 +1.0
FYU IAML 04 08 52.0
comp=N,1µm,1.3s
COLD Coldfoot 5.17 2 Pn Pn 04 07 13.9 +1.3
COLD Coldfoot 5.17 2 P Pn 04 07 13.7 +1.1
baz=182
SAMH Samovar Hills 5.17 108 Pn 04 07 15.2 +2.5
PLK3 Peulik 3 5.23 215 Pn 04 07 16.9 +3.5
PCA Pinnacle 5.42 107 Pn Pn 04 07 18.4 +2.3
PINM Pinnacle 5.43 107 P Pn 04 07 18.8 +2.7
baz=296
DAWY Dawson 5.49 64 Pn 04 07 19.2 +2.1
DAWY Dawson 5.49 64 P Pn 04 07 19.5 +2.5
baz=254
BCPM Bancas Point 5.77 107 Pn Pn 04 07 22.4 +1.6
SII Sitkinak Islan 5.83 200 Pn Pn 04 07 24.8 +3.3
BM03 Burnt Mountain 5.95 23 Pn 04 07 24.1 +0.8
BMAR Burnt Mountain 5.96 23 Pn Pn 04 07 24.5 +1.0
BM01 Burnt Mountain 5.99 23 Pn 04 07 24.6 +0.8
PNL Peninsula 6.01 109 Pn 04 07 26.7 +2.7
PNL Peninsula 6.01 109 P Pn 04 07 26.7 +2.7
baz=299
J29M Klondike Camp 6.10 62 P Pn 04 07 28.2 +2.9
baz=253
I29M Ogilvie Camp, 6.39 54 Pn Pn 04 07 30.4 +1.1
I29M Ogilvie Camp, 6.39 54 P Pn 04 07 30.2 +0.8
baz=245
M30M Minto, Yukon 6.48 79 Pn Pn 04 07 32.2 +1.7
M30M Minto, Yukon 6.48 79 P Pn 04 07 32.8 +2.3
baz=272
CHIR Chirikof Islan 6.78 204 Pn Pn 04 07 36.1 +1.5
CHGN Chignik 7.03 218 Pn Pn 04 07 40.2 +2.2
ANM Nome 7.07 297 P Pn 04 07 39.8 +1.2
ANM Nome 7.07 297 Pn Pn 04 07 39.8 +1.2
ANM Nome 7.07 297 P Pn 04 07 40.2 +1.6
baz=104
N31M Braeburn, Yuko 7.08 88 Pn Pn 04 07 40.0 +1.2
N31M Braeburn, Yuko 7.08 88 P Pn 04 07 40.9 +2.1
baz=282
EPYK Eagle Plains 7.44 49 Pn Pn 04 07 44.0 +0.3
M31M Drury Creek, Y 7.62 82 Pn Pn 04 07 47.6 +1.4
M31M Drury Creek, Y 7.62 82 P Pn 04 07 49.1 +2.9
baz=276
WHY Whitehorse 7.71 94 Pn Pn 04 07 48.2 +0.8
WHY Whitehorse 7.71 94 P Pn 04 07 48.3 +0.8
baz=288
SKAG Skagway 7.95 102 Pn Pn 04 07 52.4 +1.8
SKAG Skagway 7.95 102 P Pn 04 07 52.8 +2.1
baz=296
PS01 TAPS Pump Stn 8.26 5 Pn 04 07 56.1 +1.4
TNA Tin City 8.38 302 Pn Pn 04 07 57.8 +1.2
TNA Tin City 8.38 302 P Pn 04 07 58.2 +1.7
baz=106
BESE Bessie Mountai 8.58 107 Pn Pn 04 08 00.8 +1.3
P33M Teslin, Yukon 8.82 94 Pn Pn 04 08 03.7 +1.0
P33M Teslin, Yukon 8.82 94 P Pn 04 08 03.9 +1.2
baz=290
JIS Juneau Island 8.95 108 Pn Pn 04 08 06.0 +1.6
SIT Sitka 9.26 116 P Pn 04 08 09.2 +0.7
SIT Sitka 9.26 116 Pn Pn 04 08 09.2 +0.7
INK Inuvik 9.50 42 Pn Pn 04 08 12.9 +1.1
comp=N,2.2nm,0.3s,baz=229,slow=16,SNR=102
INK Sn Sn 04 10 02.0 +3.3
comp=N,2.3nm,0.3s,baz=202,slow=25,SNR=2.2
INK Lg Lg 04 10 51.7
baz=297,slow=16,SNR=3.6
INK LR LR 04 11 26.6
comp=N,401nm,18.5s,baz=223,slow=35
INK Inuvik 9.50 42 P Pn 04 08 13.1 +1.3
INK Inuvik 9.50 42 Pn Pn 04 08 13.1 +1.3
INK Inuvik 9.50 42 P Pn 04 08 12.9 +1.1
baz=237
A21K Barrow 9.57 348 Pn Pn 04 08 12.8 0.0
A21K Barrow 9.57 348 P Pn 04 08 13.2 +0.5
baz=163
GAMB Gambell 9.73 289 Pn Pn 04 08 16.1 +1.1
GAMB Gambell 9.73 289 P Pn 04 08 15.9 +0.9
baz=90
DLBC Dease Lake 10.86 100 Pn Pn 04 08 32.6 +2.0
comp=N,2.7nm,0.3s,baz=282,slow=10.0,SNR=14
DLBC Lg Lg 04 11 35.4
comp=N,0.4nm,0.3s,baz=206,slow=20,SNR=1.8
DLBC LR LR 04 12 53.6
comp=N,919nm,19.2s,baz=24,slow=38
DLBC Dease Lake 10.86 100 Pn Pn 04 08 32.0 +1.4
CRAG Craig 11.23 118 Pn Pn 04 08 37.1 +1.6
A36M Sachs Harbour 13.88 34 Pn Pn 04 09 12.0 +0.3
BBB Bella Bella 15.66 119 Pn P 04 09 38.7 -1.1
comp=N,0.4nm,0.3s,baz=305,slow=8.9,SNR=1.8
BBB Bella Bella 15.66 119 P P 04 09 38.8 -1.1
YKA Yellowknife Ar 16.64 73 Pn Pn 04 09 48.7 +0.5
comp=N,1.3nm,0.3s,baz=284,slow=10.0,SNR=66
YKA ScP ScP 04 18 12.5 +0.4
comp=N,0.2nm,0.3s,baz=289,slow=2.1,SNR=17
YKA Yellowknife Ar 16.64 73 *i* P Pn 04 09 48.7 +0.5
YKA pmax pmax
comp=Z,12nm,0.5s
YKA Yellowknife Ar 16.64 73 Pn Pn 04 09 48.4 +0.2
BILL Bilibino 18.77 307 *e*P P 04 10 12.4 -1.7
BILL pmax pmax
comp=Z,12nm,1.9s
BILL MLR MLR
comp=Z,292nm,15.0s
SHEM Shemya Is, Ala 20.91 260 LR LR 04 18 49.8
comp=Z,262nm,18.9s,baz=18,slow=37
EDM Edmonton 21.55 97 P P 04 10 44.4 -0.1
EDM pmax pmax
comp=Z,39nm,0.7s
EDM Edmonton 21.55 97 P P 04 10 44.4 -0.1
EDM IAmb IAmb 04 10 51.4
comp=Z,39nm,0.7s
B08A Colville Reser 22.25 114 P P 04 10 53.3 +1.3
LTY Liberty 22.53 117 P P 04 10 56.1 +1.0
RES Resolute Bay 22.93 34 P P 04 10 58.5 -0.5
comp=Z,14nm,0.7s,baz=250,slow=13,SNR=47
RES LR LR 04 21 00.4
comp=Z,259nm,20.3s,baz=103,slow=40
RES Resolute Bay 22.93 34 P P 04 10 57.3 -1.7
RES pmax pmax
comp=Z,27nm,1.1s
RES Resolute Bay 22.93 34 P P 04 10 57.3 -1.7
RES IAmb IAmb 04 11 00.8
comp=Z,27nm,1.1s
NEW Newport 23.28 111 P P 04 11 05.2 +2.3
comp=Z,8.0nm,0.7s,baz=326,slow=7.5,SNR=9.0
NEW Newport 23.28 111 P P 04 11 02.2 -0.7
NEW pmax pmax
comp=Z,16nm,1.0s
NEW Newport 23.28 111 P P 04 11 02.2 -0.7
E07A Sunnyside 23.43 117 P P 04 11 06.0 +1.6
E07A IAmb IAmb 04 11 13.1
comp=Z,22nm,0.7s
D08A Wollman Farm, 23.43 115 P P 04 11 05.0 +0.7
D08A IAmb IAmb 04 11 12.7
comp=Z,18nm,0.7s
F07A Phinny Hill Vi 23.93 118 P P 04 11 10.8 +1.7
F07A IAmb IAmb 04 11 17.9
comp=Z,31nm,0.7s
WALA Waterton Lakes 24.13 106 P P 04 11 10.9 -0.2
WALA IAmb IAmb 04 11 21.1
comp=Z,38nm,1.4s
JTMT Jette 24.93 108 P P 04 11 17.8 -0.6
F10A Beach Ranch, E 25.00 115 P P 04 11 20.3 +1.2
EUNU Eureka 25.25 22 P P 04 11 21.6 +0.5
EUNU IAmb IAmb 04 11 24.8
comp=Z,11nm,0.7s
SEY Seymchan 25.58 297 P P 04 11 24.6 +0.6
comp=Z,2.8nm,0.6s,baz=81,slow=8.2,SNR=11
BMO Blue Mountains 25.86 116 P P 04 11 28.3 +1.4
BMO pmax pmax
comp=Z,9.0nm,0.7s
BMO Blue Mountains 25.86 116 P P 04 11 28.3 +1.4
PLID Pearl Lake 26.23 114 P P 04 11 31.6 +1.2
YBH Yreka Blue Hor 26.32 128 P P 04 11 38.2 +7.1
comp=Z,6.6nm,0.9s,baz=22,slow=7.8,SNR=9.1
EGMT Eagleton 26.78 103 P P 04 11 35.0 -0.2
LRM Limekiln Ridge 27.21 109 P P 04 11 39.8 +0.6
FCC Fort Churchill 27.36 71 P P 04 11 40.8 +0.7
FCC pmax pmax
comp=Z,11nm,0.8s
FCC Fort Churchill 27.36 71 P P 04 11 40.8 +0.7
FCC IAmb IAmb 04 11 53.3
comp=Z,11nm,0.8s
MFID Camas Ranch 27.65 116 P P 04 11 44.7 +1.6
MCMT McKenzie Canyo 27.81 111 P P 04 11 46.5 +1.9
BCYI Bear Canyon 27.97 112 P P 04 11 46.5 +0.5
QLMT Earthquake Lak 28.43 109 P P 04 11 50.6 +0.5
GCMT Greycliff 28.48 106 P P 04 11 50.5 0.0
YMR Madison River 28.77 109 P P 04 11 54.4 +1.3
YMR IAmb IAmb 04 12 36.6
comp=Z,14nm,1.0s
RLMT Red Lodge 29.18 106 P P 04 11 57.5 +0.8
LAO LASA Array 29.39 101 P P 04 11 59.0 +0.5
LAO IAmb IAmb 04 12 06.8
comp=Z,25nm,0.9s
LOHW Long Hollow 29.76 110 P P 04 12 03.6 +1.7
HVU Hansel Valley 30.29 114 P P 04 12 07.4 +0.9
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU Hansel Valley 30.29 114 P P 04 12 07.4 +0.9
TIXI Tiksi 30.51 322 P P 04 12 07.2 -0.7
comp=Z,0.9nm,0.3s,baz=292,slow=4.5,SNR=1.2
TIXI PcP PcP 04 15 05.8 -0.7
comp=Z,0.8nm,0.3s,baz=26,slow=4.3,SNR=3.7
TIXI Tiksi 30.51 322 P P 04 12 06.6 -1.4
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 30.51 322 P P 04 12 06.6 -1.4
NVAR Mina Array Bea 30.86 125 P P 04 12 14.3 +2.6
comp=Z,1.3nm,0.4s,baz=313,slow=9.2,SNR=7.9
NVAR PcP PcP 04 15 09.3 +1.0
comp=Z,1.2nm,0.6s,baz=293,slow=2.5,SNR=4.8
NVAR Mina Array Bea 30.86 125 P P 04 12 13.2 +1.5
BW06 Boulder Array 30.89 109 P P 04 12 13.1 +1.2
PD31 Pinedale Array 30.89 109 P P 04 12 12.4 +0.5
PDAR Pinedale Array 30.89 109 P P 04 12 14.2 +2.2
comp=Z,1.2nm,0.6s,baz=329,slow=4.1,SNR=15
PDAR PcP PcP 04 15 07.4 -0.9
comp=Z,0.9nm,0.7s,baz=40,slow=1.5,SNR=3.9
PDAR LR LR 04 25 40.5
comp=Z,273nm,18.6s,baz=12,slow=38
PDAR Pinedale Array 30.89 109 P P 04 12 13.8 +1.8
NV11 Mina Array Sit 30.92 125 P P 04 12 13.5 +1.4
NV11 IAmb IAmb 04 12 28.6
comp=Z,13nm,1.1s
DUG Dugway, Tooele 31.58 116 P P 04 12 19.1 +1.2
DUG pmax pmax
comp=Z,5.0nm,0.7s
DUG Dugway, Tooele 31.58 116 P P 04 12 19.1 +1.2
CTU Camp Tracy 31.62 114 P P 04 12 19.0 +0.7
CTU IAmb IAmb 04 12 29.2
comp=Z,20nm,1.5s
ULM Lac du Bonnet 31.71 86 P P 04 12 21.7 +2.9
comp=Z,2.1nm,0.7s,baz=301,slow=9.4,SNR=2.1
ULM LR LR 04 25 39.2
comp=Z,441nm,20.5s,baz=336,slow=37
ULM Lac du Bonnet 31.71 86 P P 04 12 18.7 -0.1
ULM pmax pmax
comp=Z,24nm,1.5s
ULM Lac du Bonnet 31.71 86 P P 04 12 18.7 -0.1
ULM IAmb IAmb 04 13 00.4
comp=Z,24nm,1.5s
E28A Huff 32.05 95 P P 04 12 23.1 +1.3
RSSD Black Hills 32.34 102 P P 04 12 25.6 +1.0
RSSD pmax pmax
comp=Z,19nm,0.7s
RSSD Black Hills 32.34 102 P P 04 12 25.6 +1.0
K22A Casper 32.35 106 P P 04 12 25.7 +1.1
K22A IAmb IAmb 04 12 39.8
comp=Z,10nm,0.8s
NEEM North Greenlan 32.46 24 *i* P P 04 12 25.3 -0.2
NEEM IAmb IAmb 04 12 26.0
comp=Z,30nm,0.7s
RDMU Red Mountain 32.66 112 P P 04 12 28.6 +1.0
RDMU IAmb IAmb 04 12 40.1
comp=Z,17nm,1.2s
Q16A Castle Valley 33.34 116 P P 04 12 34.1 +0.7
Q16A IAmb IAmb 04 12 47.0
comp=Z,13nm,1.1s
SRU San Rafael Swe 33.46 115 P P 04 12 35.7 +1.2
SRU pmax pmax
comp=Z,30nm,1.5s
SRU San Rafael Swe 33.46 115 P P 04 12 35.6 +1.2
SRU IAmb IAmb 04 12 56.3
comp=Z,30nm,1.5s
CCUT Cedar City 33.59 119 P P 04 12 37.1 +1.5
GSC Goldstone, Bar 34.18 126 P P 04 12 41.0 +0.4
GSC pmax pmax
comp=Z,7.0nm,1.0s
GSC Goldstone, Bar 34.18 126 P P 04 12 41.0 +0.4
PV23 Carpenter Ridg 34.66 113 P P 04 12 44.7 -0.3
PV23 IAmb IAmb 04 12 52.8
comp=Z,31nm,1.5s
PV14 Lion Creek, Pa 34.72 114 P P 04 12 46.5 +1.0
PV11 David Mesa, Pa 34.85 113 P P 04 12 47.6 +1.1
ECSD EROS Data Cent 36.09 95 P P 04 12 57.5 +0.6
S22A 4UR Ranch, Cre 36.20 112 P P 04 13 00.1 +1.9
S22A IAmb IAmb 04 13 12.7
comp=Z,35nm,1.9s
KSCO Kaye Shedlock' 37.03 106 P P 04 13 04.3 -0.8
KSCO IAmb IAmb 04 13 14.6
comp=Z,16nm,0.7s
SUMG Summit 38.03 27 P P 04 13 12.4 -1.1
SUMG pmax pmax
comp=Z,12nm,0.7s
SUMG Summit 38.03 27 *i* P P 04 13 13.6 +0.1
SUMG IAmb IAmb 04 13 14.5
comp=Z,10nm,0.8s
SUMG Summit 38.03 27 P P 04 13 12.4 -1.1
SUMG IAmb IAmb 04 13 16.1
comp=Z,12nm,0.7s
DAG Danmarks Havn 38.18 16 *i* P P 04 13 13.5 -0.8
DAG IAmb IAmb 04 13 14.5
comp=Z,19nm,0.8s
CBKS Cedar Bluff 38.50 103 P P 04 13 17.9 +0.4
CBKS pmax pmax
comp=Z,14nm,0.7s
CBKS Cedar Bluff 38.50 103 P P 04 13 17.9 +0.4
CBKS IAmb IAmb 04 13 26.6
comp=Z,14nm,0.7s
ANMO Albuquerque 38.71 114 *i* P P 04 13 16.3 -3.1
N35A Tabor 38.77 97 P P 04 13 19.9 +0.3
N35A IAmb IAmb 04 13 59.9
comp=Z,35nm,1.3s
SFJD Kangerlussuaq 38.83 38 LR LR 04 31 03.0
comp=Z,230nm,18.8s,baz=222,slow=39
R32A Long Quarter, 39.29 102 P P 04 13 24.5 +0.4
R32A IAmb IAmb 04 13 45.5
comp=Z,27nm,0.8s
YSS Yuzh-Sakhalins 39.57 279 *e*P P 04 13 36.4 +10
YSS MLR MLR
comp=Z,600nm,15.0s
KSU1 Kansas State U 39.72 100 P P 04 13 27.4 -0.1
KSU1 IAmb IAmb 04 13 59.4
comp=Z,17nm,0.6s
SPITS Spitsbergen Ar 39.76 4 P P 04 13 26.7 -0.8
comp=Z,4.5nm,0.5s,baz=359,slow=12,SNR=3.5
SPITS PcP PcP 04 15 33.2 -0.2

comp=Z,19nm,1.1s,baz=67,slow=4.7,SNR=8.9
DBG Daneborg 40.01 19 *i* P **P 04 13 29.0 -0.6**
DBG IAmb IAmb 04 13 30.8
comp=Z,18nm,0.8s
KAN17 Caldwell West 40.85 103 P **P 04 13 35.7 -1.2**
KAN17 IAmb IAmb 04 13 45.1
comp=Z,15nm,0.7s
AMTX Amarillo 40.86 109 P **P 04 13 38.4 +1.2**
MSTX Muleshoe 41.15 110 P **P 04 13 40.7 +1.1**
MSTX IAmb IAmb 04 13 49.0
comp=Z,20nm,0.8s
SCHQ Schefferville 41.50 60 P **P 04 13 42.6 +0.4**
comp=Z,5.4nm,0.7s,baz=323,slow=8.0,SNR=8.2
SCHQ Schefferville 41.50 60 P **P 04 13 42.0 -0.2**
SCHQ IAmb IAmb 04 13 43.5
comp=Z,14nm,1.0s
P40A Paris 41.50 95 P **P 04 13 41.4 -0.9**
P40A IAmb IAmb 04 13 50.8
comp=Z,37nm,1.4s
T35A Sooner Cattle 41.53 102 P **P 04 13 42.8 +0.3**
ZEA Zeya 41.56 298 *eP* P 04 13 47.6 +5.0
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,4μm,16.0s
ZEA MLR MLR
comp=N,5μm,21.0s
ZEA MLR MLR
comp=Z,4μm,15.0s
R40A Maddies Statio 42.39 96 P **P 04 13 49.4 -0.1**
NRIK Noril'sk 42.53 333 P **P 04 13 49.9 -0.5**
comp=Z,3.9nm,0.5s,baz=52,slow=7.1,SNR=6.4
NRIK Noril'sk 42.53 333 P **P 04 13 48.9 -1.5**
KLR Kul'dur 42.90 290 *i* P **P 04 13 52.8 -0.7**
KLR pmax pmax
comp=Z,6.0nm,0.9s
U38A Gravette 42.90 100 P **P 04 13 53.2 -0.5**
U38A IAmb IAmb 04 14 00.1
comp=Z,12nm,0.6s
MGMO Mountain Grove 43.31 97 P **P 04 13 55.9 -1.1**
MGMO IAmb IAmb 04 14 05.6
comp=Z,14nm,0.9s
SADO Sadowa 43.48 79 LR LR 04 33 58.9
comp=Z,258nm,22.0s,baz=12,slow=39
T42A Van Buren 43.96 96 P **P 04 14 01.4 -0.8**
T42A IAmb IAmb 04 14 08.5
comp=Z,8.9nm,0.7s
PBMO Poplar Bluff 44.47 96 P **P 04 14 05.7 -0.6**
TRQ Mont Tremblant 44.48 74 P **P 04 14 06.3 -0.1**
TX31 Lajitas Ar. Si 44.73 115 P **P 04 14 08.5 -0.1**
TX31 IAmb IAmb 04 14 21.9
comp=Z,22nm,1.1s
TX32 Lajitas Array 44.73 115 P **P 04 14 09.2 +0.6**
TXAR Lajitas Array 44.73 115 P **P 04 14 10.4 +1.7**
comp=Z,0.5nm,0.6s,baz=325,slow=7.4,SNR=6.2
TXAR PcP **PcP 04 15 51.4 +0.6**
comp=Z,1.4nm,0.8s,baz=318,slow=4.9,SNR=1.6
TXAR LR LR 04 35 05.0
comp=Z,125nm,18.8s,baz=336,slow=39
TXAR Lajitas Array 44.73 115 P **P 04 14 09.5 +0.9**
TXAR Lajitas Array 44.73 115 P **P 04 14 09.5 +0.9**
JCT Junction City 45.43 110 P **P 04 14 14.0 -0.1**
JCT pmax pmax
comp=Z,20nm,0.7s
JCT Junction City 45.43 110 P **P 04 14 14.0 -0.1**
T50A Nancy 46.90 91 P **P 04 14 25.6 0.0**
143A Socs Landing, 47.37 100 P **P 04 14 30.1 +0.9**
F64A Sherman 47.53 70 P **P 04 14 29.9 -0.5**
HKT Hockley 47.66 106 *i* P **P 04 14 32.2 +0.8**
HKT pmax pmax
comp=Z,2.0nm,1.0s
X48A Hartselle 47.95 95 P **P 04 14 33.8 0.0**
X48A IAmb IAmb 04 14 40.3
comp=Z,8.5nm,0.6s
TKL Tuckaleechee C 48.51 91 LR LR 04 35 39.4
comp=Z,204nm,18.6s,baz=340,slow=37
Z47A Carrollton 48.51 96 P **P 04 14 38.5 +0.4**
146A Union 48.51 98 P **P 04 14 37.8 -0.3**
FPAL Fort Paine 48.56 93 P **P 04 14 38.4 0.0**
ARCES ARCESS Array B 48.64 2 P **P 04 14 37.4 -1.2**
comp=Z,3.5nm,0.7s,baz=7.6,slow=7.3,SNR=10
ARCES PcP **PcP 04 16 03.4 -0.5**
comp=Z,3.3nm,0.8s,baz=28,slow=4.1,SNR=3.8
LMN Caledonia Moun 49.09 67 P **P 04 14 42.8 +0.3**
Y52A Lilburn 49.84 92 P **P 04 14 49.1 +0.8**
CN2 Changchun 49.85 290 *eP* **P 04 14 48.0 -0.2**
CN2 *eS* **S 04 21 55.8 -2.2**
CN2 pmax pmax
comp=Z,20nm,1.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,500nm,14.0s
CN2 LR LR
comp=E,500nm,14.0s
CN2 LR LR
comp=Z,500nm,14.4s
ZAK Zakamensk 53.53 310 *eP* **P 04 15 19.7 +4.0**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
KSRS Korea Array 53.83 283 P **P 04 15 18.2 +0.2**
comp=Z,1.5nm,0.6s,baz=25,slow=6.0,SNR=2.7
ULN Ulaanbaatar 54.21 306 *ceP* **P 04 15 21.3 +0.5**
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 54.21 306 P **P 04 15 21.1 +0.3**
ULN IAmb IAmb 04 15 27.5
comp=Z,7.4nm,0.8s
SONM Songino Array 54.48 306 P **P 04 15 23.9 +1.1**
comp=Z,2.3nm,0.8s,baz=29,slow=7.1,SNR=14
SONM Songino Array 54.48 306 P **P 04 15 22.5 -0.3**
SONM pmax pmax
comp=Z,9.0nm,0.8s
SONM Songino Array 54.48 306 P **P 04 15 22.5 -0.3**
SONM IAmb IAmb 04 15 30.0
comp=Z,8.9nm,0.8s
PRGR Permogore 55.98 351 *eP* **P 04 15 32.8 -0.4**
PRGR pmax pmax
comp=Z,30nm,0.9s
ZAA0 Zalesovo Array 56.36 324 P **P 04 15 34.5 -1.5**
ZAA0 IAmb IAmb 04 15 35.9
comp=Z,6.2nm,0.8s
ZALV Zalesovo Beam 56.36 324 P **P 04 15 35.1 -0.9**
comp=Z,5.1nm,0.6s,baz=25,slow=6.5,SNR=26
ZALV Zalesovo Beam 56.36 324 P **P 04 15 34.6 -1.4**
NB2 NORSAR Subarra 56.42 10 P **P 04 15 35.2 -1.2**
comp=Z,5.6nm,0.8s,baz=349,slow=7.4
NOA NORSAR Array B 56.42 10 P **P 04 15 34.8 -1.7**
comp=Z,3.2nm,0.7s,baz=350,slow=7.1,SNR=11
NOA LR LR 04 42 43.5
comp=Z,36nm,18.1s,baz=240,slow=39
FINES FINESS Array B 56.77 2 P **P 04 15 37.4 -1.4**
comp=Z,4.3nm,0.8s,baz=1.5,slow=7.6,SNR=11
FINES FINESS Array B 56.77 2 P **P 04 15 37.8 -1.1**
KLMR Klimovskoe 57.14 354 *eP* **P 04 15 39.7 -1.7**
KLMR pmax pmax
comp=Z,17nm,0.9s
KLMR Klimovskoe 57.14 354 *eP* **P 04 15 39.8 -1.7**
KLMR AMP 04 15 41.3
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 58.23 298 *eP* **P 04 15 50.6 +1.1**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,100nm,6.0s
KIRV Kirov 58.66 348 *i* P **P 04 15 52.4 +0.3**
SVE Sverdlovsk 58.94 341 *eP* **P 04 15 54.1 0.0**
SVE pmax pmax
comp=Z,23nm,1.4s
DGZ Jazzator, Alta 59.37 320 *i* P **P 04 15 57.5 +0.1**
DGZ pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 59.64 342 *d i* P **P 04 15 58.0 -1.0**
ARU 04 16 41.4
ARU S **S 04 24 10.1 +1.0**
ARU SS **SS 04 28 06.4 +2.8**
ARU pmax pmax
comp=Z,17nm,1.4s
HNS HongShan 59.78 293 ⇓P **P 04 16 00.6 +0.4**
HNS S **S 04 24 07.8 -3.6**
HNS pmax pmax
comp=Z,8.0nm,1.0s
HNS LR LR
comp=N,670nm,17.5s
HNS LR LR

comp=Z,580nm,17.5s
BRVK Borovoye 60.73 333 *i* P **P 04 16 05.1 -1.4**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 60.73 333 P **P 04 16 05.2 -1.3**
BRVK IAmb IAmb 04 16 06.5
comp=Z,9.2nm,1.0s
KURK Kurchatov 60.93 327 *ceP* **P 04 16 06.4 -1.5**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 60.93 327 P **P 04 16 06.3 -1.5**
KURK IAmb IAmb 04 16 13.3
comp=Z,7.4nm,0.8s
KURBB Kurchatov Arra 61.04 327 P **P 04 16 07.5 -1.1**
NJ2 Nanjing 62.45 287 *eP* **P 04 16 17.8 -0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PABE Paberze 62.68 3 *eP* **P 04 16 20.1 +0.6**
IIGN Ignalina 62.88 2 *eP* **P 04 16 22.5 +1.6**
IDID Didziasalis 62.93 2 *eP* **P 04 16 22.9 +1.7**
OBN Obninsk 63.01 355 *eP* **P 04 16 21.0 -0.8**
OBN *e* 04 16 59.1
OBN *e* 04 18 35.3
OBN *e*PPP PPP 04 20 09.5
OBN pmax pmax
comp=Z,29nm,0.8s
OBN MLR MLR
comp=Z,122nm,17.0s
OBN Obninsk 63.01 355 P **P 04 16 20.9 -0.8**
LYN LuoYang 63.15 293 ⇑P P 04 16 28.8 +5.8
LYN pmax pmax
comp=Z,20nm,0.9s
LYN LR LR
comp=N,390nm,19.6s
LYN LR LR
comp=Z,460nm,20.8s
NACGM Naroch 63.34 2 *i* P **P 04 16 23.0 -1.0**
MK31 Makanchi Array 63.50 322 *i* P **P 04 16 23.8 -1.4**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 63.50 322 P **P 04 16 23.5 -1.7**
MK31 IAmb IAmb 04 16 30.7
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 63.50 322 P **P 04 16 24.0 -1.2**
comp=Z,1.6nm,0.5s,baz=36,slow=6.7,SNR=25
MKAR Makanchi Array 63.50 322 *ceP* **P 04 16 24.0 -1.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 63.50 322 P **P 04 16 23.7 -1.5**
MAKZ Makanchi 63.58 322 P **P 04 16 24.5 -1.2**
MAKZ pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 63.58 322 P **P 04 16 24.5 -1.2**
MAKZ IAmb IAmb 04 16 30.9
comp=Z,5.1nm,0.7s
MNK Minsk 63.75 1 *i* P **P 04 16 27.6 +0.9**
MNK *i* 04 16 59.9
MNK *i* 04 18 44.6
MNK *i* S **S 04 25 02.6 +1.4**
MNK *i* SS **SS 04 29 09.1 +1.2**
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,19nm,1.0s
MNK pmax pmax
comp=N,15nm,1.0s
MNK MLR MLR
comp=N,143nm,25.0s
MNK MLR MLR
comp=Z,209nm,17.0s
MNK MLR MLR
comp=E,17nm,20.0s
MNK Minsk 63.75 1 *i* P **P 04 16 27.6 +1.0**
comp=E,2.0nm,1.0s
MNK *i* P **P 04 16 27.6 +1.0**
comp=N,15nm,1.0s
MNK *i* P **P 04 16 27.6 +1.0**
comp=Z,19nm,1.0s,baz=359
MNK *i* PcP **PcP 04 16 59.9 -2.7**
MNK *i* PP **PP 04 18 44.6 -1.5**
MNK *i* PPP PPP 04 20 12.0
MNK *i* S **S 04 25 02.7 +1.4**
MNK *i* SS **SS 04 29 09.2 +1.3**
MNK *i* SSS SSS 04 32 11.6
MNK *i* LQ LQ 04 39 43.4
MNK *i* LR LR 04 44 30.1
MNK *i* LRM MLR 04 46 37.5
comp=N,143nm,25.1s
MNK *i* LRM MLR 04 46 56.2
comp=Z,209nm,17.4s
MNK *i* LRM MLR 04 47 05.8
comp=E,17nm,20.0s
SUW Suwalki 64.15 4 *eP* **P 04 16 30.1 +0.8**
GTA Gaotai 64.15 306 ⇓P **P 04 16 29.9 +0.2**
GTA pP sP 04 16 35.5 +2.8
GTA sP pP 04 16 38.9 +7.0
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,69nm,4.5s
GTA LR LR
comp=N,320nm,18.5s
GTA LR LR
comp=E,430nm,19.6s
GTA LR LR
comp=Z,380nm,19.3s
WMQ Urumqi 64.53 317 *eP* **P 04 16 32.4 +0.3**
WMQ pP sP 04 16 37.4 +2.3
WMQ pmax pmax
comp=Z,14nm,0.9s
OTUK Ortayu 64.78 330 P **P 04 16 32.1 -1.5**
BELG Belogornoye 64.95 348 *i* P **P 04 16 33.2 -1.4**
BELG pmax pmax
comp=Z,4.0nm,0.8s
CLZ Clausthal 65.43 13 *eP* **P 04 16 37.8 0.0**
comp=Z,18nm,0.9s,baz=348,slow=5.8
LZH Lanzhou 65.45 301 ⇑P P 04 16 44.1 +5.8
LZH pP sP 04 16 48.6 +7.3
LZH sP pP 04 16 50.8 +10
LZH pmax pmax
comp=Z,30nm,1.3s
GTTG Gottingen 65.68 13 *eP* **P 04 16 39.4 +0.1**
comp=Z,20nm,1.0s,baz=348,slow=5.8
BSTI Sart Tilman 66.10 16 P **P 04 16 42.2 +0.2**
MEM Membach 66.13 16 ⇓P **P 04 16 40.7 -1.6**
comp=Z,7.7nm,1.0s
CLL Collm 66.21 11 *i* P **P 04 16 41.7 -1.1**
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 66.21 11 *i* P **P 04 16 41.7 -1.1**
comp=Z,11nm,1.2s
GUMO Guam 66.22 254 LR LR 04 45 31.1
comp=Z,74nm,18.7s,baz=84,slow=36
AB31 Akbulak array 66.35 339 *i* P **P 04 16 42.6 -1.1**
ABKAR Akbulak array 66.35 339 P **P 04 16 42.2 -1.4**
ABKAR Akbulak array 66.35 339 P **P 04 16 41.8 -1.9**
ABKAR IAmb IAmb 04 16 49.9
comp=Z,7.1nm,0.9s
BRG Berggiesshubel 66.73 11 *eP* **P 04 16 45.9 -0.2**
BRG Amp 04 16 48.6
comp=Z,7.3nm,0.9s
BRG Berggiesshubel 66.73 11 *eP* **P 04 16 45.8 -0.2**
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 66.73 11 *eP* **P 04 16 45.6 -0.4**
comp=Z,4.6nm,0.9s,baz=348,slow=5.8
MOX Moxa 66.74 12 *eP* **P 04 16 45.8 -0.4**
comp=Z,13nm,0.9s,baz=348,slow=5.8
MOX *eL* L 04 48 25.7
comp=Z,88nm,18.2s
PLN Plauen 66.95 12 *eP* **P 04 16 47.1 -0.4**
comp=Z,8.6nm,1.0s,baz=348,slow=5.8
PVCC Panska Ves 67.12 10 *eP* **P 04 16 48.8 +0.2**
PVCC Panska Ves 67.12 10 *eP* **P 04 16 48.8 +0.2**
CHVC Chvalec 67.18 9 *eP* **P 04 16 48.8 -0.2**
OSTC Ostas 67.22 9 *eP* **P 04 16 49.5 +0.2**
NKC Novy Kostel 67.23 12 *eP* **P 04 16 48.9 -0.4**
NKC Novy Kostel 67.23 12 *eP* **P 04 16 48.9 -0.4**
DPC Dobruska-Polom 67.44 9 *eP* **P 04 16 50.4 -0.2**
DPC Dobruska-Polom 67.44 9 *eP* **P 04 16 50.4 -0.2**
AKASG Malin Array Be 67.57 0 P **P 04 16 50.1 -1.3**
comp=Z,11nm,0.6s,baz=4.0,slow=6.4,SNR=34
AKBB Malin Array Si 67.57 0 *ceP* **P 04 16 50.1 -1.3**
GRF Grafenberg Arr 67.64 13 *eP* **P 04 16 51.5 -0.4**
comp=Z,6.0nm,0.8s,baz=348,slow=5.8

GRF *eL* L 04 47 00.4
comp=Z,82nm,20.3s
PRU Pruhonice 67.66 10 *eP* **P 04 16 52.0 0.0**
PRU Pruhonice 67.66 10 *eP* **P 04 16 52.0 0.0**
ROTZ Rotzenmuhle 67.67 12 *eP* **P 04 16 51.8 -0.3**
comp=Z,2.3nm,0.9s,baz=348,slow=5.8
KRLC Kraliky 67.74 9 *eP* **P 04 16 52.5 -0.1**
KRLC Kraliky 67.74 9 *eP* **P 04 16 52.5 -0.1**
MORC Moravsky Berou 68.09 8 P **P 04 16 53.7 -1.1**
MORC pmax pmax
comp=Z,7.0nm,1.1s
MORC Moravsky Berou 68.09 8 *eP* **P 04 16 54.2 -0.6**
MORC Moravsky Berou 68.09 8 P **P 04 16 53.7 -1.1**
MORC IAmb IAmb 04 16 55.3
comp=Z,7.3nm,1.1s
TREC Trest 68.42 10 *eP* **P 04 16 56.9 +0.1**
TREC Trest 68.42 10 *eP* **P 04 16 56.9 +0.1**
KHC Kasperske Hory 68.42 11 P **P 04 16 56.8 -0.1**
KHC pmax pmax
comp=Z,12nm,1.1s
KHC Kasperske Hory 68.42 11 *eP* **P 04 16 56.8 -0.1**
KHC Kasperske Hory 68.42 11 P **P 04 16 56.8 -0.1**
KHC IAmb IAmb 04 16 58.0
comp=Z,12nm,1.1s
VRAC Vranov 68.49 9 ⇓P **P 04 16 57.5 +0.2**
VRAC Vranov 68.49 9 *eP* **P 04 16 56.8 -0.5**
GEC2 GERESS Array S 68.72 11 P **P 04 16 57.6 -1.2**
GEC2 IAmb IAmb 04 16 59.4
comp=Z,5.7nm,0.9s
GERES GERESS Array B 68.72 11 P **P 04 16 58.6 -0.1**
comp=Z,2.6nm,0.8s,baz=0.0,slow=4.4,SNR=22
KRUC Moravsky 68.72 9 *eP* **P 04 16 58.0 -0.7**
LANS Liptovska Anna 68.84 7 *eP* **P 04 16 59.4 0.0**
LANS Liptovska Anna 68.84 7 *eP* **P 04 16 59.4 0.0**
GOMU GeErMu 68.85 308 P **P 04 17 01.0 +0.8**
GOMU pP sP 04 17 06.3 +3.1
GOMU sP pP 04 17 10.6 +8.2
GOMU sS S 04 26 04.0 -0.5
JAVC Velka Javorina 69.02 8 *eP* **P 04 17 00.8 +0.2**
MODS Modra-Piesok 69.47 9 *eP* **P 04 17 04.5 +1.1**
MODS Modra-Piesok 69.47 9 *eP* **P 04 17 04.5 +1.1**
UZH Uzhgorod 69.49 5 *eP* **P 04 17 00.6 -2.8**
UZH *i* 04 17 27.0
MOA Molln 69.75 11 *eP* **P 04 17 04.9 -0.2**
comp=Z,9.0nm,1.2s
RETA Reutte 69.77 13 *eP* **P 04 17 04.8 -0.4**
comp=Z,4.6nm,0.8s
CONA Conrad Observa 69.81 10 *eP* **P 04 17 05.5 0.0**
comp=Z,21nm,2.0s
MOTA Moosalm 69.95 13 *eP* **P 04 17 06.2 -0.3**
comp=Z,9.0nm,1.2s
WATA Walderalm 70.01 13 *eP* **P 04 17 06.9 0.0**
comp=Z,12nm,0.9s
KKAR Karatay Array 70.05 329 P **P 04 17 05.6 -1.4**
KKAR Karatay Array 70.05 329 P **P 04 17 05.6 -1.4**
SQTA Sankt Quirin 70.08 13 *i* P **P 04 17 07.5 +0.2**
comp=Z,17nm,0.9s,SNR=6.9
WTTA Wattenberg 70.08 13 *i* P **P 04 17 07.9 +0.5**
comp=Z,17nm,0.9s,SNR=7.0
PSZ Piszkesteto 70.09 7 ⇓P **P 04 17 07.5 +0.3**
SORM Soroca 70.13 1 ⇓P **P 04 17 05.1 -2.2**
FETA Feichten 70.23 13 *eP* **P 04 17 08.2 0.0**
comp=Z,12nm,1.0s
KBA Koelnbreinsper 70.44 12 *i* P **P 04 17 09.9 +0.4**
comp=Z,18nm,0.8s,SNR=8.4
ARSA Arzberg 70.46 10 *eP* **P 04 17 10.0 +0.6**
comp=Z,6.1nm,1.2s
BURAR Bucovina Array 70.61 3 ⇓P **P 04 17 10.0 -0.4**
TUE Stuetta 70.61 15 P **P 04 17 09.8 -0.8**
ABTA Abfaltersbach 70.68 12 *eP* **P 04 17 09.4 -1.5**
comp=Z,7.5nm,1.4s
MYKA Terra Mystica 70.91 11 *eP* **P 04 17 11.9 -0.3**
comp=Z,4.7nm,0.6s
SOKA Soboth 70.98 10 *eP* **P 04 17 12.2 -0.6**
comp=Z,9.8nm,1.4s
OBKA Obir 71.11 11 *i* P **P 04 17 13.4 -0.1**
comp=Z,18nm,1.0s,SNR=9.5
DRGR 71.35 5 ⇓P **P 04 17 14.8 -0.2**
KSH Kashi 71.99 324 P **P 04 17 22.0 +3.0**
KSH pP sP 04 17 27.3 +5.3
KSH sP pP 04 17 29.4 +8.2
KSH PcP **PcP 04 17 40.4 +2.8**
KSH S **S 04 26 43.6 +3.0**
KSH pmax pmax
comp=Z,2.0nm,0.5s
KSH LR LR
comp=N,170nm,7.5s
KSH LR LR
comp=E,350nm,10.2s
DOPR Dopca 72.26 3 ⇑P **P 04 17 19.5 -0.8**
GZR Gura Zlata 72.75 5 ⇓P **P 04 17 23.0 -0.3**
VOIR 72.78 3 ⇑P P 04 17 16.5 -7.0
MVO Moncorvo 73.00 28 *eP* **P 04 17 25.4 +0.5**
VLC Villacollemand 73.01 14 P **P 04 17 24.2 -0.6**
MTE Manteigas 73.61 29 *eP* **P 04 17 29.3 +0.8**
PCAS Casmilo, Conde 73.73 29 *eP* **P 04 17 28.9 -0.2**
KIV Kislovodsk 73.77 350 *eP* **P 04 17 28.5 -0.9**
KIV pmax pmax
comp=Z,13nm,1.1s
KBZ Khabaz 73.98 350 P **P 04 17 30.4 0.0**
comp=Z,6.3nm,1.0s,baz=325,slow=11,SNR=5.7
PCBR Castelo Branco 74.16 29 *eP* **P 04 17 32.1 +0.5**
PMRV Marv??o 74.58 29 *eP* **P 04 17 34.6 +0.5**
PMAFR Mafra 74.59 30 *eP* **P 04 17 34.6 +0.4**
PZH PanZhiHua 74.69 298 P **P 04 17 35.8 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.0s
PMTG Montargil 74.73 29 *eP* **P 04 17 35.0 +0.1**
PESTR Estremoz 75.07 29 *eP* **P 04 17 37.1 +0.2**
ESBB Sonseca Array 75.08 26 P **P 04 17 36.5 -0.6**
ESDC Sonseca Array 75.08 26 P **P 04 17 37.3 +0.2**
comp=Z,12nm,0.8s,baz=344,slow=5.9,SNR=64
ESDC Sonseca Array 75.08 26 P **P 04 17 37.2 +0.1**
ESDC IAmb IAmb 04 17 38.4
comp=Z,10nm,0.8s
PAB San Pablo 75.12 26 P **P 04 17 36.2 -1.2**
PAB pmax pmax
comp=Z,9.0nm,0.9s
PAB San Pablo 75.12 26 P **P 04 17 36.2 -1.2**
PAB IAmb IAmb 04 17 38.5
comp=Z,9.2nm,0.9s
EVO Evora 75.29 29 *eP* **P 04 17 38.5 +0.3**
PNCL Nicolau / Gran 75.57 30 *eP* **P 04 17 40.4 +0.6**
PBEJ Beja 75.81 30 *eP* **P 04 17 41.8 +0.6**
MORF Marmelete 76.31 30 *eP* **P 04 17 44.3 +0.1**
MORF IAmb IAmb 04 17 45.2
comp=Z,18nm,1.0s
MORF Marmelete 76.31 30 *eP* **P 04 17 44.6 +0.5**
MORF Marmelete 76.31 30 *eP* **P 04 17 44.2 +0.1**
PFVI Vila Bisbo 76.43 31 *eP* **P 04 17 45.7 +1.0**
PVAQ Vaqueiros 76.44 30 *eP* **P 04 17 45.5 +0.7**
PBDV Barranco-do-Ve 76.54 30 *eP* **P 04 17 46.4 +1.0**
AFI Afiamalu 77.55 201 LR LR 04 44 55.8
comp=Z,216nm,19.5s,baz=226,slow=30
BRTR Keskin Array B 78.48 357 P **P 04 17 55.2 -1.1**
comp=Z,2.1nm,0.8s,baz=17,slow=3.6,SNR=7.8
BRTR Keskin Array B 78.48 357 *ceP* **P 04 17 55.9 -0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
PPT Papeete 79.38 179 LR LR 04 46 20.2
comp=Z,94nm,21.2s,baz=58,slow=30
KEST Kesra 81.19 16 P **P 04 18 11.2 +0.1**
comp=Z,6.5nm,0.7s,baz=288,slow=1.7,SNR=11
KEST LR LR 04 55 21.8
comp=Z,64nm,21.1s,baz=307,slow=37
CMAR Chiang Mai Arr 83.00 296 P **P 04 18 20.6 0.0**
comp=Z,1.6nm,0.3s,baz=10,slow=5.5,SNR=2.3
MSVF Nonsavu 83.33 210 LR LR 04 51 13.3
comp=Z,102nm,20.8s,baz=37,slow=33
WSAR Wadi Sarin 91.80 333 LR LR 05 05 47.8
comp=Z,139nm,18.1s,baz=138,slow=39
PLCA Paso Flores 120.80 119 PKP **PKPdf 04 24 46.6 -0.2**
comp=Z,1.3nm,0.8s,baz=342,slow=8.0,SNR=3.3
PLCA Paso Flores 120.80 119 PKIKP **PKPdf 04 24 46.0 -0.8**
PLCA Paso Flores 120.80 119 **PKPdf 04 24 46.0 -0.8**
BOSA Boshof 146.42 7 PKPbc **PKPbc 04 25 36.0 -0.1**
comp=Z,14nm,0.9s,baz=351,slow=3.2,SNR=17
BOSA Boshof 146.42 7 PKP2 **PKPbc 04 25 35.7 -0.5**
BOSA Boshof 146.42 7 **PKPbc 04 25 35.7 -0.5**

*EAF **18** 04:58:23.3±2.3, 18°.73S×30°.38E, h10km, MD3.9*

BUL 18 04:58:19.0±1.6, 18°82S×30°67E, h10km, MD4.1, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	**Bulawayo**	**2.34**	**236**	*i* P	Pn	04 58 57.8	+0.1
BLWY				*i* Sg	Sb	04 59 31.6	+1.2
BLWY	**Bulawayo**	**2.34**	**236**	*i* P	Pn	04 58 57.8	+0.1
BLWY				*i* Sg	Sb	04 59 31.6	+1.2
MATP	**Matopo**	**2.59**	**232**	*i* P	Pn	04 59 01.2	+0.1
MATP				*i* Sg	Sb	04 59 39.5	+1.9
MATP	**Matopo**	**2.59**	**232**	*i* P	Pn	04 59 01.2	+0.1
MATP				*i* Sg	Sb	04 59 39.5	+1.9
LSZ	**Lusaka**	**4.25**	**326**	*eP*	Pn	04 59 24.3	+0.4
LSZ				*i* Sg	Sb	05 00 29.6	+4.2
LSZ	**Lusaka**	**4.25**	**326**	*eP*	Pn	04 59 24.3	+0.4
LSZ				*i* Sg	Sb	05 00 29.6	+4.2
MOPA	**Mopani**	**4.72**	**172**	*eP*	Pn	04 59 35.7	+5.4
MOPA				*i* Sg	Sg	05 00 55.8	+5.2
MOPA	**Mopani**	**4.72**	**172**	*eP*	Pn	04 59 35.7	+5.4
MOPA				*i* Sg	Sg	05 00 55.8	+5.2

*IDC **18** 05:00:10.3±2.6, 20°70S×70°04W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/23, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=65.8km s-min=61.7km az=40.0*
*GUC **18** 05:00:27.1±0.7, 19°72S×69°27W, h95km±3km, ML3.4*
ISC 18 05:00:27.4±1.0, 19°76S±0°04×69°39W±0°08, h96km±7km, n17, σ0§67/27, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.25**	**269**	⇑*iP*	Pn	05 00 41.1	-0.4
PB11				*i* S	Sn	05 00 52.1	+0.1
PB11				IAML		05 00 52.7	
	comp=E,3μm,0.2s						
PB08	**IPOC Station P**	**0.44**	**150**	⇓*iP*	Pn	05 00 42.4	-0.5
PB08				*i* S	Sn	05 00 53.9	-0.3
PB08				IAML		05 00 54.9	
	comp=E,3μm,0.2s						
HMBC	**Humberstone**	**0.70**	**222**	⇑*iP*	Pn	05 00 44.5	-0.1
HMBC				*i* S	Sn	05 00 58.2	+0.8
HMBC				IAML		05 00 59.9	
	comp=N,1μm,0.4s						
TA02	**Huaiquique**	**0.87**	**234**	⇑*iP*	Pn	05 00 46.3	+0.2
TA02				*i* S	Sn	05 01 01.0	+0.9
TA02				IAML		05 01 01.6	
	comp=E,2μm,0.3s						
TA01	**Diego Aracena**	**1.10**	**223**	⇑*iP*	Pn	05 00 48.6	0.0
TA01				*i* S	Sn	05 01 05.3	+0.7
TA01				IAML		05 01 06.2	
	comp=E,595nm,0.4s						
PATCX	**Punta Patache**	**1.28**	**214**	⇑*eP*	Pn	05 00 50.7	-0.2
PATCX				*i* S	Sn	05 01 09.5	+1.0
PATCX				IAML		05 01 15.9	
	comp=E,490nm,0.2s						
PB01	**IPOC Station P**	**1.28**	**184**	⇑*iP*	Pn	05 00 50.9	0.0
PB01				*i* S	Sn	05 01 09.4	+0.8
PB01				IAML		05 01 12.2	
	comp=N,2μm,0.3s						
PB12	**IPOC Station P**	**1.44**	**322**	*eP*	Pn	05 00 52.6	-0.2
PB12				*i* S	Sn	05 01 12.3	+0.3
PB12				IAML		05 01 14.0	
	comp=E,202nm,0.3s						
PB02	**IPOC Station P**	**1.63**	**197**	⇑*iP*	Pn	05 00 55.1	-0.1
PB02				*i* S	Sn	05 01 16.9	+0.7
PB02				IAML		05 01 22.8	
	comp=N,849nm,0.4s						
PB07	**IPOC Station P**	**2.02**	**193**	*eP*	Pn	05 01 00.4	+0.2
PB07				*i* S	Sn	05 01 26.6	+1.4
PB07				IAML		05 01 33.0	
	comp=E,656nm,0.4s						
PB09	**IPOC Station P**	**2.04**	**176**	*eP*	Pn	05 01 00.7	+0.2
PB09				IAML		05 01 34.7	
	comp=E,230nm,0.3s						
PB03	**IPOC Station P**	**2.31**	**188**	*eP*	Pn	05 01 03.5	-0.5
PB03				IAML		05 01 39.9	
	comp=E,229nm,0.5s						
PB04	**IPOC Station P**	**2.66**	**195**	*eP*	Pn	05 01 08.6	-0.2
PB04				IAML		05 02 01.2	
	comp=E,164nm,0.3s						
PB06	**IPOC Station P**	**2.94**	**183**	*eP*	Pn	05 01 12.3	-0.2
PB06				IAML		05 01 55.9	
	comp=N,186nm,0.3s						
LPAZ	**La Paz**	**3.65**	**19**	Pn	Pn	05 01 23.8	+1.3
	comp=N,1.8nm,0.3s,baz=208,slow=6.4,SNR=48						
TORD	**Torodi Ar. Bea**	**77.20**	**71**	P	P	05 12 11.7	+0.2
	comp=N,0.2nm,0.4s,baz=259,slow=5.3,SNR=5.9						
YKA	**Yellowknife Ar**	**89.40**	**341**	P	P	05 13 11.7	-1.3
	comp=N,0.3nm,0.6s,baz=130,slow=4.5,SNR=8.6						

*IDC **18** 05:10:56.9±7.1, 2°22S×133°79E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.4/34, mbtmp3.6/3, ML3.7/1, MS3.5/5, Ms1 3.5/5, ms1mx3.0/54, Error ellipse: s-maj=404.1km s-min=30.4km az=77.0*
*DJA **18** 05:11:01.7±0.5, 2°S±4°×13°3E±°, h69km±10km, M4.4/5, mb5.1/3, mB6.1/1, MLv4.0/5, Mw(mB)5.8/1*
ISC 18 05:11:02.7±1.0, 2°40S±0°09×133°28E±0°07, h35km, n11, σ1§06/9, MS3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.15**	**243**	P	Pn	05 11 22.0	-0.2
FAKI				S	Sn	05 11 37.1	+0.3
SIJI	**Sorong**	**2.52**	**307**	LR	LR	05 13 21.1	
	comp=Z,340nm,21.4s,baz=72,slow=50						
SWI	**Sorong**	**2.53**	**307**	P	Pn	05 11 40.4	-0.8
BAKI	**Biak**	**3.08**	**67**	P	Pn	05 11 48.4	-0.4
SGKI	**Sangatta, Kali**	**15.78**	**277**	P	Pn	05 14 42.3	-0.1
WRA	**Warramunga Arr**	**17.47**	**177**	P	Pn	05 15 04.0	+0.3
	0.3nm,0.3s,baz=356,slow=12,SNR=9.6						
WRA				S	Sn	05 18 07.3	-10
	0.1nm,0.3s,baz=358,slow=23,SNR=3.9						
WRA				LR	LR	05 22 51.1	
	comp=Z,200nm,19.7s,baz=275,slow=40						
ASAR	**Alice Springs**	**21.15**	**178**	P	P	05 15 45.8	+0.9
	5.7nm,0.8s,baz=4.7,slow=12,SNR=39						
ASAR				S	S	05 19 36.3	-2.1
	0.9nm,0.8s,baz=359,slow=26,SNR=4.3						
CTA	**Charters Tower**	**21.67**	**145**	LR	LR	05 24 41.7	
	comp=Z,176nm,19.5s,baz=276,slow=38						
JNU	**Nakatsue**	**35.40**	**357**	LR	LR	05 31 33.9	
	comp=Z,68nm,19.9s,baz=188,slow=35						
MKAR	**Makanchi Array**	**66.30**	**324**	P	P	05 21 48.3	+0.7
	0.1nm,0.4s,baz=130,slow=6.2,SNR=1.6						
RAR	**Rarotonga**	**67.67**	**112**	LR	LR	05 50 36.4	
	comp=Z,51nm,19.0s,baz=330,slow=35						

*NNC **18** 05:12:45.3±8.3, 38°33N×71°24E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=65.6km s-min=45.0km az=175.0*
*KRNET **18** 05:12:49.4±0.1, 39°03N×71°74E, h13km, mb2.9*
ISC 18 05:12:52.1±2.9, 39°07N±0°07×71°62E±0°05, h1km±18km, n14, σ2§17/24, 20C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.44**	**19**	⇓*iP*	Pg	05 12 58.3	-2.2
	baz=6.0						
DRK				⇓*iS*	**Sg**	**05 13 04.7**	**-1.5**
	baz=6.0						
BTK	**Batken**	**1.17**	**328**	⇑*iP*	Pn	05 13 13.0	-2.8
	baz=25						
BTK				⇑*iS*	**Sb**	**05 13 30.4**	**-0.5**
	baz=25						
OHH	**Osh**	**1.71**	**31**	⇑*eP*	Pn	05 13 21.0	-2.2
	baz=28						
OHH				⇑*iS*	**Sn**	**05 13 44.0**	**-1.8**
	baz=28						
SFK	**Sufi-Kurgan**	**1.74**	**56**	⇑*eP*	Pn	05 13 20.7	-3.0
	baz=53						
SFK				⇑*eS*	**Sn**	**05 13 43.4**	**-3.2**
	baz=53						
CHGR	**Chuyangaron**	**1.97**	**259**	⇑*iP*	Pn	05 13 26.9	+0.2
	baz=60						
CHGR				⇑*iS*	**Sb**	**05 13 54.2**	**+0.4**
	baz=60						
TRKS	**Terek-Say**	**2.49**	**352**	⇑*eP*	Pn	05 13 32.6	-1.4
	baz=50						
TRKS				⇑*iS*	**Sn**	**05 14 04.3**	**-0.8**
	baz=50						
ARK	**Arkit**	**2.74**	**5**	⇑*iP*	Pn	05 13 36.9	-0.5
	baz=3.0						
ARK				⇑*iS*	**Sn**	**05 14 11.5**	**+0.2**
	baz=3.0						
ARLS	**Aral**	**3.47**	**36**	⇑*eP*	Pn	05 13 46.2	-1.3
	baz=34						
ARLS				⇑*iS*	**Sn**	**05 14 27.7**	**-1.6**
	baz=34						
MNAS	**Manas**	**3.48**	**11**	⇑*iP*	Pn	05 13 47.1	-0.5
	baz=9.0						
MNAS				⇑*iS*	**Sn**	**05 14 29.1**	**-0.5**
	baz=9.0						
KK07	**Karatay Array**	**4.11**	**348**	⇓S	Sb	05 14 55.5	+0.1
	1.2nm,0.4s,baz=169,slow=22						
KK09	**Karatay Array**	**4.14**	**349**	⇑P	Pn	05 13 58.4	+1.9
	3.3nm,0.5s,baz=170,slow=13						
AAK	**Ala-Archa**	**4.18**	**30**	⇑P	Pn	05 14 00.9	+3.6
	1.2nm,0.5s						
AAK				⇑S	**Sb**	**05 14 58.6**	**+0.9**
	2.4nm,0.7s						
TKM2	**Tokmak 2**	**4.89**	**37**	⇑P	Pn	05 14 10.4	+3.5
	1.4nm,0.6s						
TKM2				⇓S	**Sb**	**05 15 22.2**	**+4.2**
	1.2nm,0.5s						
AB31	**Akbulak array**	**13.18**	**324**	⇓P	Pn	05 16 01.6	+1.3
	0.3nm,0.5s,baz=166,slow=10,SNR=4.8						

WEL 18 05:16:22.7±0.3, 38°S±2°×17°8E±°, h5km, M3.3/25, ML3.5/25, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=158.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUGZ	**Raukumara Rang**	**0.10**	**152**	P	Pg	05 16 25.8	+0.9
RUGZ				S	Sg	05 16 28.6	+2.3
HAZ	**Te Kaha**	**0.18**	**46**	P	Pg	05 16 26.9	+0.7
HAZ				S	Sg	05 16 30.3	+1.8
PKGZ	**Pakihiroa**	**0.36**	**92**	P	Pg	05 16 29.5	-0.2
PKGZ				S	Sg	05 16 34.7	+0.3
TWGZ	**Tauwhareparae**	**0.41**	**136**	P	Pg	05 16 30.8	+0.1
TWGZ				S	Sb	05 16 37.8	-1.2
MWZ	**Matawai**	**0.46**	**189**	P	Pg	05 16 31.2	-0.3
MWZ				S	Sg	05 16 37.7	+0.1
WIZ	**White Island**	**0.49**	**316**	P	Pg	05 16 32.6	+0.5
WHRZ	**Whale Island**	**0.51**	**272**	P	Pg	05 16 32.3	-0.2
PUZ	**Puketiti**	**0.54**	**111**	P	Pg	05 16 32.9	-0.1
URZ	**Urewera**	**0.55**	**226**	P	Pg	05 16 33.0	-0.3
URZ				S	Sg	05 16 40.7	+0.2
TKGZ	**Te Karaka**	**0.59**	**162**	P	Pg	05 16 34.3	+0.3
TKGZ				S	Sb	05 16 43.4	-0.7
MXZ	**Matakaoa Point**	**0.63**	**60**	P	Pg	05 16 34.9	+0.1
WMGZ	**Waiomatatini S**	**0.63**	**85**	P	Pg	05 16 34.9	+0.1
RAGZ	**Rawiri**	**0.64**	**195**	P	Pg	05 16 34.7	-0.2
RAGZ				S	Sg	05 16 43.7	+0.5
CNGZ	**Carnagh Statio**	**0.76**	**143**	P	Pb	05 16 38.1	-0.3
RIGZ	**Rimuhau**	**0.83**	**172**	P	Pg	05 16 39.0	+0.3
RIGZ				S	Sb	05 16 51.7	+0.5
OPRZ	**Ohinepanea**	**0.84**	**272**	P	Pg	05 16 37.2	-1.6
RTZ	**Ruatahuna**	**0.89**	**214**	P	Pg	05 16 39.1	-0.6
MUGZ	**Murupara**	**0.90**	**228**	P	Pg	05 16 38.2	-1.7
TARZ	**Mount Tarawera**	**0.95**	**248**	P	Pg	05 16 39.9	-0.9
RRRZ	**Republican Roa**	**0.99**	**242**	P	Pn	05 16 43.0	-0.2
PRGZ	**Paritu Road**	**1.06**	**169**	P	Pg	05 16 42.2	-0.8
TGRZ	**Tauranga**	**1.09**	**278**	P	Pb	05 16 44.1	+0.1
RAHZ	**Arahi**	**1.12**	**202**	P	Pg	05 16 43.8	-0.3
KNZ	**Kokohu**	**1.14**	**178**	P	Pg	05 16 43.0	-1.6
PRRZ	**Plateau Road**	**1.15**	**237**	P	Pg	05 16 44.8	+0.1
MTHZ	**Maungataniwha**	**1.15**	**212**	P	Pg	05 16 44.5	-0.2
HSRZ	**Hossack Road**	**1.17**	**248**	P	Pn	05 16 47.2	+1.6
HRRZ	**Handcock Road**	**1.17**	**244**	P	Pn	05 16 47.0	+1.2
ALRZ	**Allen Road**	**1.22**	**235**	P	Pn	05 16 46.7	+0.3
MHGZ	**Mahia Peninsul**	**1.29**	**170**	P	Pn	05 16 45.4	-2.0
NMHZ	**Naumai**	**1.37**	**207**	P	Pn	05 16 48.1	-0.5
ARHZ	**Aropaoanui**	**1.47**	**199**	P	Pn	05 16 49.4	-0.4
BKZ	**Black Stump Fm**	**1.56**	**214**	P	Pn	05 16 49.5	-1.6
MCHZ	**Mcneill Hill**	**1.72**	**205**	P	Pn	05 16 53.0	-0.3
RITZ	**Rihia Road**	**1.77**	**231**	P	Pb	05 16 55.9	+0.4
KWHZ	**Kaweka Forest**	**1.81**	**211**	P	Pn	05 16 51.9	-2.6
CKHZ	**Cape Kidnapper**	**1.83**	**193**	P	Pn	05 16 53.0	-1.7
TMVZ	**Te Maari**	**1.94**	**230**	P	Pn	05 16 53.2	-3.3
NTVZ	**North Tongarir**	**1.95**	**231**	P	Pn	05 16 53.7	-2.9
ETVZ	**East Tongariro**	**1.95**	**229**	P	Pn	05 16 55.4	-1.2
KAHZ	**Kahuranaki**	**2.00**	**197**	P	Pn	05 16 55.5	-1.6
OTVZ	**Oturere**	**2.00**	**230**	P	Pn	05 16 54.5	-2.7
KRHZ	**Kereru**	**2.01**	**209**	P	Pn	05 16 55.2	-2.1
BHHZ	**Black Hill Sta**	**2.02**	**217**	P	Pn	05 16 55.8	-1.6
MOVZ	**Moawhango**	**2.11**	**223**	P	Pn	05 16 56.9	-1.9
WNVZ	**Wahianoa**	**2.15**	**227**	P	Pn	05 16 57.7	-1.6
PXZ	**Pawanui**	**2.23**	**195**	P	Pn	05 16 57.9	-2.4
HIZ	**Hauiti**	**2.27**	**253**	P	Pb	05 17 03.7	-0.4
PNHZ	**Pukenui**	**2.31**	**208**	P	Pn	05 16 59.9	-1.5
ANWZ	**Angora Road**	**2.73**	**199**	P	Pn	05 17 05.3	-1.8
WAZ	**Wanganui**	**2.78**	**227**	P	Pn	05 17 06.8	-1.1
BFZ	**Birch Farm**	**3.00**	**200**	P	Pn	05 17 07.0	-3.8
MRZ	**Mangatainoka R**	**3.20**	**209**	P	Pn	05 17 10.9	-2.7
CTZ	**Chatham Island**	**7.30**	**145**	P	Pn	05 18 07.1	-2.8

*DJA **18** 05:27:37.0±0.2, 9°S±2°×12°4E±°, h83km±4km, M4.2/12, mb4.4/6, mB5.0/5, MLv4.1/12, Mw(mB)4.3/5*
*IDC **18** 05:27:38.5±1.9, 9°28S×124°10E, h122km±24km, mb3.6/5, mb1 3.8/9, mb1mx3.5/34, mbtmp4.1/9, MS2.4/1, Ms1 2.4/1, ms1mx2.2/52, Error ellipse: s-maj=59.2km s-min=19.7km az=55.0*
ISC 18 05:27:37.3±0.6, 9°18S±0°05×124°22E±0°07, h100km, n46, σ2§25/49, mb4.6/12, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.57**	**175**	P	Pn	05 27 55.3	+1.5
BATI	**Baumata**	**1.15**	**208**	P	Pn	05 28 01.7	+2.2
	65nm,0.3s,baz=80,slow=2.5,SNR=27						
BATI				S	**Sn**	**05 28 18.1**	**+1.9**
	114nm,0.3s,baz=121,slow=22,SNR=8.0						
BATI	**Baumata**	**1.15**	**208**	P	Pn	05 28 01.4	+1.9
BATI				S	**Sn**	**05 28 16.6**	**+0.4**
MMRI	**Maumere**	**2.03**	**285**	P	Pn	05 28 10.0	-0.3
MMRI	**Maumere**	**2.03**	**285**	P	Pn	05 28 09.9	-0.3
EDFI	**Ende, Flores**	**2.53**	**280**	P	Pn	05 28 16.0	-0.9
BASI	**Baing, Sumba**	**3.73**	**254**	P	Pn	05 28 32.6	-0.3
BBSI	**Bau Bau**	**4.02**	**336**	P	Pn	05 28 36.3	-0.5
BSSI	**Bau Bau, Buton**	**4.77**	**309**	P	Pn	05 28 46.8	-0.1
WBSI	**Waikabubak, Su**	**4.78**	**264**	P	Pn	05 28 45.8	-1.3
BKSI	**Bulukumba**	**5.59**	**313**	P	Pn	05 28 56.9	-1.1
	0.1nm29nm,0.6s						
KAPI	**Kappang**	**6.07**	**313**	P	Pn	05 29 04.8	+0.3
	1.4nm,0.3s,baz=183,slow=13,SNR=5.5						
KAPI				LR	LR	05 31 53.0	
	comp=Z,33nm,18.1s,baz=138,slow=42						
BNSI	**Bone**	**6.26**	**319**	P	Pn	05 29 06.7	-0.5
	0.1nm40nm,1.0s						
SANI	**Sanana**	**7.30**	**14**	P	Pn	05 29 20.2	-1.2
	0.1nm1μm20nm,0.5s						
DRS	**Darwin Rock St**	**7.32**	**117**	P	Pn	05 29 22.3	+0.8
MTN	**Manton Dam**	**7.70**	**119**	P	Pn	05 29 27.6	+0.8
KNRA	**Kununurra**	**7.83**	**146**	P	Pn	05 29 29.1	+0.6
KDU	**Kakadu**	**8.82**	**114**	P	Pn	05 29 41.7	-0.3
FITZ	**Fitzroy Crossi**	**8.97**	**171**	P	Pn	05 29 43.7	-0.3
	4.9nm,0.3s,baz=355,slow=9.9,SNR=108						
FITZ				S	**Sn**	**05 31 19.0**	**-4.3**
	20nm,0.3s,baz=252,slow=20,SNR=20						
JAGI	**Jajag, Banyuwa**	**9.97**	**273**	P	Pn	05 29 59.1	+1.4
TOLI2	**Tolitoli**	**10.78**	**341**	P	Pn	05 30 12.5	+3.8
PSA00	**Pilbara Seismi**	**13.02**	**198**	P	Pn	05 30 39.2	+0.7
WRA	**Warramunga Arr**	**14.50**	**139**	P	Pn	05 30 56.6	-1.1
	1.6nm,0.3s,baz=315,slow=14,SNR=64						
WRA				S	Sn	05 33 28.2	-9.3
	2.6nm,0.3s,baz=311,slow=24,SNR=9.3						
WRKA	**Warakurna**	**16.24**	**167**	P	P	05 31 20.9	0.0
ASAR	**Alice Springs**	**17.12**	**148**	P	Pn	05 31 31.2	+0.7
	1.4nm,0.3s,baz=320,slow=11,SNR=52						
ASAR				S	**Sn**	**05 34 31.9**	**-9.1**
	0.5nm,0.3s,baz=320,slow=20,SNR=8.5						
MEEK	**Meekatharra**	**18.15**	**196**	P	Pn	05 31 46.0	+3.1
QIS	**Mount Isa**	**18.66**	**129**	P	Pn	05 31 51.5	+2.4
COEN	**Coen**	**19.17**	**106**	P	Pn	05 31 56.5	+1.5
OOD	**Oodnadatta**	**21.44**	**151**	P	P	05 32 20.9	+3.4
MULG	**Mulgathing**	**22.92**	**158**	P	P	05 32 36.6	+3.8
LCRK	**Leigh Creek**	**24.87**	**150**	P	P	05 32 54.6	+3.9
BBOO	**Buckleboo**	**25.94**	**157**	P	P	05 33 04.0	+3.7
RABL	**Rabaul**	**28.19**	**82**	P	P	05 33 26.6	+5.9
CMAR	**Chiang Mai Arr**	**37.10**	**318**	P	P	05 34 38.1	-0.2
	1.0nm,0.4s,baz=154,slow=6.8,SNR=6.5						
GUN	**Gumba**	**52.30**	**316**	*eP*	P	05 36 38.2	-1.1
	18nm,0.6s						
PKI	**Pulchoki**	**52.41**	**315**	*eP*	P	05 36 39.0	-1.1
	14nm,0.5s						
PKIN	**Phulchoki**	**52.42**	**315**	*eP*	P	05 36 39.0	-1.1
	15nm,0.5s						
KKN	**Kakani**	**52.64**	**316**	*eP*	P	05 36 40.2	-1.4
	2.6nm,0.2s						
DMN	**Daman**	**52.64**	**315**	*eP*	P	05 36 39.9	-1.8
	10nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.60**	**7**	P	P	05 36 48.3	+0.3
	3.7nm,1.0s,baz=198,slow=8.8,SNR=2.8						
KOLN	**Koldanda**	**53.80**	**314**	*eP*	P	05 36 48.9	-1.2
DANN	**Dangsing**	**54.04**	**315**	*eP*	P	05 36 50.9	-1.1
	32nm,0.6s						
PYUN	**Piuthan**	**54.43**	**314**	*eP*	P	05 36 53.7	-1.0
	23nm,0.7s						
SONM	**Songino Array**	**58.93**	**346**	P	P	05 37 24.9	-1.2
	0.4nm,0.7s,baz=152,slow=6.9,SNR=2.8						
MKAR	**Makanchi Array**	**67.08**	**330**	P	P	05 38 18.8	-1.1
	1.8nm,0.8s,baz=134,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**71.15**	**337**	P	P	05 38 43.0	-1.9
	0.9nm,0.7s,baz=134,slow=6.4,SNR=4.1						

IDC 18 05:31:26.4±5.2, 19°09S×179°15W, h574km±33km, mb3.0/4, mb1 3.3/5, mb1mx3.0/23, mbtmp3.9/5, Error ellipse: s-maj=199.6km s-min=25.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.98**	**296**	P	P	05 32 43.3	-0.1
	1.3nm,0.3s,baz=129,slow=7.6,SNR=9.6						
CTA	**Charters Tower**	**32.58**	**262**	P	P	05 37 11.9	+0.3
	3.9nm,1.0s,baz=96,slow=9.2,SNR=2.9						
WRA	**Warramunga Arr**	**43.74**	**261**	P	P	05 38 41.2	-0.9
	0.8nm,0.5s,baz=96,slow=7.1,SNR=6.0						
ASAR	**Alice Springs**	**43.80**	**255**	P	P	05 38 42.8	+0.1
	4.4nm,0.6s,baz=87,slow=8.6,SNR=19						
NVAR	**Mina Array Bea**	**80.76**	**44**	P	P	05 42 41.1	0.0
	0.2nm,0.6s,baz=242,slow=9.1,SNR=3.6						

*IDC **18** 05:44:34.0±3.2, 9°52S×112°72E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.1/54, mbtmp3.5/4, Error ellipse: s-maj=183.2km s-min=23.8km az=48.0*
*DJA **18** 05:44:39.2±1.1, 10°S±12°×111°3E±°, h10km, M3.5/9, MLv3.5/9*
ISC 18 05:44:40.1±1.3, 9°6S±0°1×112°85E±0°07, h36km, n12, σ1§41/12, mb3.5/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.46**	**24**	P	Pn	05 45 04.1	+0.3
JAGI	**Jajag, Banyuwa**	**1.71**	**49**	P	Pn	05 45 07.1	-0.3
BLJI	**Banyuglugur**	**2.00**	**22**	P	Pn	05 45 13.0	+1.7
PCJI	**Pacitan**	**2.18**	**310**	P	Pn	05 45 14.5	+0.8
ABJI	**Asem Bagus**	**2.27**	**37**	P	Pn	05 45 16.4	+1.4
KMMI	**Kalianget**	**2.78**	**23**	P	Pn	05 45 22.9	+0.9
SRBI	**Singaraja**	**2.78**	**57**	P	Pn	05 45 23.8	+1.7
UGM	**Wanagama**	**2.86**	**306**	P	Pn	05 45 24.7	+1.5
WRA	**Warramunga Arr**	**23.14**	**119**	P	P	05 49 43.5	+0.1
	0.5nm,0.9s,baz=293,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**24.48**	**127**	P	P	05 49 56.8	+0.7
	0.6nm,0.7s,baz=302,slow=9.2,SNR=7.5						
MKAR	**Makanchi Array**	**62.43**	**337**	P	P	05 54 58.3	-1.2
	0.5nm,0.5s,baz=152,slow=7.5,SNR=9.8						
ZALV	**Zalesovo Beam**	**67.63**	**343**	P	P	05 55 31.0	-2.0
	0.5nm,0.6s,baz=170,slow=8.8,SNR=2.6						

*ISK **18** 05:46:32.9, 40°72N×32°75E, h2km, ML3.7/12*
*DDA **18** 05:46:33.5±0.0, 40°69N×32°76E, h10km±1km, MW3.7*
ISC 18 05:46:33.9±1.0, 40°73N±0°02×32°77E±0°02, h7km±9km, n70, σ0§72/95, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMDR	**Camlidere-ANKA**	**0.32**	**224**	SPECP		05 46 40.0	
CMDR				P	**Pg**	**05 46 40.3**	**0.0**
CMDR				S	**Sg**	**05 46 44.5**	**-0.1**
SAFT	**Safranbolu**	**0.52**	**353**	PG	**Pg**	**05 46 44.0**	**+0.1**
SAFT				SG	**Sb**	**05 46 51.9**	**-1.1**
KBUK	**KARABUK-Merkez**	**0.52**	**348**	SPECP		05 46 44.0	
KBUK				P	**Pg**	**05 46 44.4**	**+0.5**
BCAM	**Yenicaga**	**0.54**	**280**	SPECP		05 46 44.0	
BCAM				P	**Pg**	**05 46 44.7**	**+0.3**
BCAM				S	**Sg**	**05 46 52.0**	**+0.5**
ELDT	**Eldivan**	**0.55**	**115**	SPECP		05 46 44.0	
ELDT				P	**Pg**	**05 46 44.6**	**+0.1**
ELDT				S	**Sg**	**05 46 51.9**	**+0.1**
CANT	**Cankiri**	**0.66**	**100**	PG	**Pg**	**05 46 46.9**	**+0.4**
CANT				SG	**Sb**	**05 46 56.8**	**-0.3**
PELI	**Kastamonı-Ara**	**0.70**	**35**	SPECP		05 46 48.0	
PELI				P	**Pb**	**05 46 48.0**	**-0.5**
PELI				S	**Sg

GEYV S **Sg** **05 47 36.0 +1.0**
SGAZ Eskisehir, Sey 1.91 232 SPECP 05 47 06.0
SGAZ P **Pn** **05 47 06.1 -0.8**
GPA Golpazari 1.93 258 PN **Pn** **05 47 07.6 +0.5**
BORA Eskisehir 1.96 245 PN **Pn** **05 47 08.0 +0.3**
BORA Eskisehir 1.96 245 SPECP 05 47 06.0
BORA P **Pn** **05 47 06.9 -0.8**
KAND Kocaeli-Kandir 1.99 281 P **Pb** **05 47 10.3 -0.1**
CHBY Cihanbeyli 2.15 178 PN **Pn** **05 47 11.1 +0.9**
CKRK Yozgat, Çekere 2.18 107 SPECP 05 47 12.0
CKRK P **Pb** **05 47 12.3 -1.5**
CKRK S **Sb** **05 47 41.7 +0.7**
SINO SINOP_Merkez 2.24 54 P **Pb** **05 47 15.2 +0.6**
SNOP Sinop 2.24 54 PN **Pn** **05 47 12.7 +1.3**
KDHN Kadinhani 2.26 193 P **Pn** **05 47 10.9 -0.8**
BILE Bilecik/Merkez 2.28 257 P **Pn** **05 47 11.7 -0.3**
ALIN Konya, Altinte 2.43 178 SPECP 05 47 14.0
ALIN P **Pn** **05 47 14.3 +0.3**
HACI Hacifakili, Ak 2.49 113 P **Pn** **05 47 15.4 +0.5**
AVNS Nevsehir-Avano 2.50 140 SPECP 05 47 16.0
AVNS P **Pn** **05 47 16.9 +1.8**
KVT Kavak 2.51 81 PN **Pn** **05 47 16.8 +1.7**
ANDZ Kutahya, Merke 2.52 242 SPECP 05 47 15.0
ANDZ P **Pn** **05 47 15.2 0.0**
SULT Sultanhani-AKS 2.59 167 PN **Pn** **05 47 17.7 +1.4**
SAMS Samsun-Alacam 2.66 75 SPECP 05 47 20.0
SAMS P **Pb** **05 47 20.5 -1.3**
AFYO Afyonkarahisar 2.72 225 P **Pn** **05 47 18.1 +0.1**
YVAC Isparta, Yalva 2.73 206 P **Pn** **05 47 18.1 0.0**
DOGA KONYA_Doganhis 2.75 198 P Pn 05 47 12.0 -6.6
STBT Saitabat 2.76 259 P **Pn** **05 47 18.5 -0.1**
IGD Bursa 2.76 262 P **Pn** **05 47 17.9 -0.7**
AVDN Avdancik/Bursa 2.78 262 P **Pn** **05 47 18.7 -0.2**
KONT Konya--Tatoy 2.80 187 P **Pn** **05 47 19.9 +0.8**
GUNE Kayseri 2.85 129 P **Pb** **05 47 26.1 +0.9**
TOKT Tokat 2.91 97 PN **Pn** **05 47 22.2 +1.6**
AFYN Afyon-Dinar-K 3.02 216 P Pn 05 47 11.3 -11
BNN Bunyan 3.02 127 PN **Pn** **05 47 24.1 +1.9**
SEV Sevastopol' 3.87 10 *e*P **Pn** **05 47 34.0 +0.2**
SEV Pm 05 47 35.2
comp=Z,3.0nm,0.3s
SEV *e*S **Sn** **05 48 19.2 -0.3**
SEV Sm 05 48 27.1
comp=N,6.0nm,0.4s
SEV Sm 05 48 27.1
comp=E,4.0nm,0.3s
SUDU Sudak 4.47 21 *e*P **Pn** **05 47 41.6 -0.4**
SUDU Pm 05 47 43.3
comp=Z,8.0nm,0.4s
SUDU *e*S **Sn** **05 48 33.1 -1.2**
SUDU Sm 05 48 36.3
comp=N,15nm,0.5s
SUDU Sm 05 48 36.3
comp=E,11nm,0.5s

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*GII **18** 05:53:04.2±0.0,29°.44N×34°.78E,h1km±1km,MD1.7/2, Mm1.9/2*
*HLW **18** 05:53:04.3,29°.28N×34°.98E,h11km±1km,Md2.0,Ml2.8*
ISC 18 05:53:04.8±1.1,29°.38N±0°.05×34°.8E±0°.1,h13km±8km,n14,
σ0°90/20,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HBST	**Basata**	**0.18**	**209**	P	**Pg**	**05 53 08.5**	**-0.5**
	baz=255						
HBST				S	**Sg**	**05 53 12.9**	**+1.1**
	baz=255						
EIL	**Elat**	**0.31**	**19**	Pg	**Pg**	**05 53 10.8**	**-0.4**
EIL				Sg	**Sg**	**05 53 15.8**	**+0.3**
NUB	**Nuweibaa**	**0.38**	**205**	P	**Pg**	**05 53 12.4**	**-0.1**
	baz=226						
MBRI	**Mt Berech**	**0.42**	**9**	Pg	**Pg**	**05 53 12.3**	**-1.0**
MBRI				Sg	**Sg**	**05 53 19.0**	**0.0**
HDHB	**Dhahab**	**0.68**	**196**	P	**Pg**	**05 53 17.2**	**-0.8**
	baz=210						
HRFI	**Mount Harif**	**0.68**	**15**	Pg	**Pg**	**05 53 17.5**	**-0.6**
HRFI				Sg	**Sg**	**05 53 27.1**	**0.0**
KRMI	**Paran Flat**	**0.74**	**353**	Pg	**Pg**	**05 53 18.1**	**-1.2**
PRNI	**Paran**	**0.98**	**9**	Pg	**Pg**	**05 53 23.3**	**-0.5**
PRNI				Sg	**Sb**	**05 53 37.7**	**+1.0**
HKAT	**Jabal Katrina**	**1.12**	**221**	P	**Pg**	**05 53 25.2**	**-1.4**
	baz=230						
ZFRI	**Zfri**	**1.21**	**14**	Pg	**Pg**	**05 53 27.4**	**-0.7**
ZFRI				Sg	**Sn**	**05 53 44.7**	**+0.9**
TR2	**Tor 2**	**1.39**	**225**	P	**Pn**	**05 53 29.7**	**-0.2**
	baz=232						
HRDS	**Abu Rudays**	**1.50**	**244**	P	**Pn**	**05 53 32.1**	**+0.7**
	baz=250						
TR1	**Tor 1**	**1.57**	**210**	P	**Pn**	**05 53 30.8**	**-1.6**
	baz=216						
HHRG	**Al Ghardaqah**	**2.42**	**208**	P	**Pn**	**05 53 44.7**	**+0.5**
	baz=209						

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*NEIC **18** 05:53:26.3±1.3,18°.16N±0°.09×145°.8E±0°.2,h100km±6km, mb4.9/72,Error ellipse: s-maj=21.0km s-min=12.7km az=97.0*
*IDC **18** 05:53:26.6±0.7,18°.21N×145°.85E,h115km±7km,mb3.8/19, mb1 4.0/20,mb1mx3.7/54,mbtmp4.1/20,Error ellipse: s-maj=18.4km s-min=9.0km az=103.0*
ISC 18 05:53:28.3±0.5,18°.17N±0°.06×145°.8E±0°.1,h135km,n107,
σ1°82/103,mb4.8/54,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.65**	**192**	P	**Pn**	**05 54 36.8**	**0.0**
	11nm,0.3s,baz=346,slow=12,SNR=4.2						
GUMO				S	**Sn**	**05 55 30.6**	**+0.4**
	12nm,0.3s,baz=289,slow=17,SNR=2.0						
GUMO	**Guam**	**4.65**	**192**		**Pn**	**05 54 34.1**	**-2.7**
H11S3	**WAKE ISLAND Hy**	**19.79**	**86**	T	T	06 18 28.3	
	baz=274,slow=74,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**19.80**	**86**	T	T	06 18 33.5	
	baz=274,slow=74,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**19.81**	**86**	T	T	06 18 33.5	
	baz=274,slow=74,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**19.97**	**82**	T	T	06 18 48.6	
	baz=267,slow=74,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**19.97**	**82**	T	T	06 18 48.5	
	baz=267,slow=74,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**19.99**	**82**	T	T	06 18 48.5	
	baz=267,slow=74,SNR=5.7						
SIJI	**Sorong**	**23.74**	**219**	P	**P**	**05 58 30.3**	**+2.0**
	7.2nm,0.4s,baz=22,slow=8.8,SNR=4.9						
PETK	**Petropavlovsk-**	**36.07**	**12**	P	**P**	**06 00 16.2**	**-0.5**
	4.3nm,0.8s,baz=187,slow=11,SNR=1.8						
WB0	**Warramunga Arr**	**39.34**	**197**	P	**P**	**06 00 43.7**	**-0.9**
WR0	**Warramunga Arr**	**39.48**	**197**	P	**P**	**06 00 46.0**	**+0.2**
WRAB	**Tennant Creek**	**39.51**	**197**	P	**P**	**06 00 46.8**	**+0.8**
WB2	**Warramunga Arr**	**39.52**	**197**	P	**P**	**06 00 46.7**	**+0.7**
WRA	**Warramunga Arr**	**39.52**	**197**	P	**P**	**06 00 46.1**	**0.0**
	0.8nm,0.4s,baz=17,slow=9.0,SNR=17						
WRA				PcP	**PcP**	**06 02 49.8**	**-1.3**
	0.2nm,0.6s,baz=9.1,slow=3.5,SNR=1.3						
FITZ	**Fitzroy Crossi**	**41.15**	**210**	P	**P**	**06 01 00.6**	**+1.1**
	26nm,1.1s,baz=34,slow=3.3						
ASAR	**Alice Springs**	**43.19**	**196**	P	**P**	**06 01 15.3**	**-0.6**
	0.3nm,0.4s,baz=21,slow=7.0,SNR=9.3						
SONM	**Songino Array**	**43.64**	**322**	P	**P**	**06 01 18.7**	**-0.8**
	0.3nm,0.3s,baz=135,slow=9.3,SNR=2.6						
SONM	**Songino Array**	**43.64**	**322**	P	**P**	**06 01 17.2**	**-2.3**
CMAR	**Chiang Mai Arr**	**44.43**	**278**	P	**P**	**06 01 26.7**	**+0.7**
	0.9nm,0.3s,baz=76,slow=7.4,SNR=4.2						
DZM	**Mont Dzumac**	**44.79**	**152**	P	**P**	**06 01 28.9**	**+0.1**
	7.3nm,0.9s,baz=270,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**44.79**	**152**	IAmb	IAmb	06 02 13.3	
	comp=Z,37nm,1.5s						
STKA	**Stephens Creek**	**49.93**	**185**	P	**P**	**06 02 07.2**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=341,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**49.93**	**185**	P	**P**	**06 02 07.0**	**-1.3**
BBOO	**Buckleboo**	**51.55**	**191**	P	**P**	**06 02 20.6**	**+0.1**
BBOO				IAmb	IAmb	06 03 04.2	
	comp=Z,28nm,1.8s						
TIXI	**Tiksi**	**54.41**	**353**	P	**P**	**06 02 40.7**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=350,slow=2.2,SNR=8.9						
TIXI	**Tiksi**	**54.41**	**353**	IAmb	IAmb	06 02 44.4	
	comp=Z,9.1nm,1.7s						
MORW	**Morawa**	**55.08**	**212**	P	**P**	**06 02 47.0**	**+0.6**
ZALV	**Zalesovo Beam**	**58.52**	**323**	P	**P**	**06 03 09.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=111,slow=7.9,SNR=2.0						
MK31	**Makanchi Array**	**58.92**	**314**	P	**P**	**06 03 14.4**	**+1.1**
MKAR	**Makanchi Array**	**58.92**	**314**	P	**P**	**06 03 14.0**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=93,slow=7.6,SNR=7.2						
MKAR	**Makanchi Array**	**58.92**	**314**	P	**P**	**06 03 14.6**	**+1.3**
SVW2	**Sparrevohn**	**59.22**	**29**	P	**P**	**06 03 17.6**	**+2.6**
KDAK	**Kodiak Island**	**59.72**	**33**	P	**P**	**06 03 20.4**	**+1.9**
CNPM	**China Poot**	**60.84**	**31**	P	**P**	**06 03 27.8**	**+1.6**
J20K	**Nowinta River**	**60.87**	**26**	P	**P**	**06 03 29.1**	**+2.9**
J20K				IAmb	IAmb	06 04 52.1	
	comp=Z,41nm,2.0s						
BRLK	**Bradley Lake**	**61.07**	**31**	P	**P**	**06 03 28.9**	**+1.2**
PPLA	**Purkeypile**	**61.30**	**27**	P	**P**	**06 03 31.7**	**+2.3**
CAST	**Castle Rocks**	**61.50**	**27**	P	**P**	**06 03 32.6**	**+2.1**
CAST				IAmb	IAmb	06 03 33.4	
	comp=Z,9.9nm,0.8s						
IMAR	**Indian Mountai**	**61.64**	**21**	P	**P**	**06 03 33.7**	**+2.3**
SEW	**Seward**	**61.85**	**31**	P	**P**	**06 03 35.2**	**+2.3**
H21K	**Melozitna Rive**	**61.90**	**24**	P	**P**	**06 03 35.7**	**+2.5**
H21K				IAmb	IAmb	06 03 36.3	
	comp=Z,19nm,1.6s						
RC01	**Rabbit Creek A**	**61.94**	**30**	P	**P**	**06 03 34.9**	**+1.4**
CUT	**Chulitna**	**62.02**	**28**	P	**P**	**06 03 35.5**	**+1.6**
KTH	**Kantishna Hill**	**62.04**	**27**	P	**P**	**06 03 35.9**	**+1.8**
KTH				IAmb	IAmb	06 04 21.3	
	comp=Z,24nm,1.6s						
NRIK	**Noril'sk**	**62.15**	**340**	P	**P**	**06 03 34.6**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=110,slow=8.7,SNR=3.7						
NRIK	**Noril'sk**	**62.15**	**340**	IAmb	IAmb	06 04 25.5	
	comp=Z,17nm,1.9s						
TRF	**Thorofare Moun**	**62.28**	**27**	P	**P**	**06 03 37.5**	**+1.5**
TRF				IAmb	IAmb	06 04 29.3	
	comp=Z,34nm,1.7s						
PMR	**Palmer**	**62.34**	**29**	P	**P**	**06 03 37.3**	**+1.2**
GHO	**Glory Hole Cre**	**62.48**	**29**	P	**P**	**06 03 38.9**	**+1.7**
MLY	**Manley**	**62.53**	**25**	P	**P**	**06 03 39.4**	**+2.0**
A21K	**Barrow**	**62.75**	**18**	P	**P**	**06 03 37.8**	**-0.9**
A21K				IAmb	IAmb	06 04 28.5	
	comp=Z,13nm,1.1s						
RND	**Reindeer**	**62.90**	**27**	P	**P**	**06 03 41.3**	**+1.4**
RND				IAmb	IAmb	06 03 42.7	
	comp=Z,8.3nm,1.0s						
MCK	**McKinley**	**62.94**	**27**	P	**P**	**06 03 42.2**	**+2.1**
MCK				IAmb	IAmb	06 05 33.7	
	comp=Z,33nm,1.8s						
GLI	**Glacier Island**	**63.15**	**30**	P	**P**	**06 03 43.5**	**+1.9**
COLD	**Coldfoot**	**63.38**	**23**	P	**P**	**06 03 45.5**	**+2.6**
COLD				IAmb	IAmb	06 04 39.9	
	comp=Z,20nm,1.9s						
FID	**Port Fidalgo**	**63.42**	**31**	P	**P**	**06 03 45.2**	**+1.8**
DHY	**Denali Highway**	**63.47**	**28**	P	**P**	**06 03 45.4**	**+1.6**
DHY				IAmb	IAmb	06 05 55.0	
	comp=Z,27nm,1.8s						
WRH	**Wood River Hil**	**63.48**	**26**	P	**P**	**06 03 44.9**	**+1.3**
WRH				IAmb	IAmb	06 03 53.1	
	comp=Z,29nm,1.8s						
MDM	**Murphy Dome**	**63.54**	**26**	P	**P**	**06 03 45.1**	**+1.1**
MDM				IAmb	IAmb	06 03 47.2	
	comp=Z,5.0nm,0.5s						
CCB	**Clear Creek Bu**	**63.64**	**26**	P	**P**	**06 03 45.8**	**+1.2**
EYAK	**Cordova Ski Ar**	**63.74**	**31**	P	**P**	**06 03 46.9**	**+1.6**
H24K	**Noodor Dome**	**63.90**	**25**	P	**P**	**06 03 48.5**	**+2.1**
H24K				IAmb	IAmb	06 04 40.5	
	comp=Z,22nm,1.7s						
HDA	**Harding Lake**	**63.95**	**26**	P	**P**	**06 03 47.3**	**+0.6**
IL31		**64.06**	**26**	P	**P**	**06 03 48.1**	**+0.8**
ILAR	**Eielson Array**	**64.06**	**26**	P	**P**	**06 03 47.7**	**+0.3**
	comp=Z,2.0nm,0.4s,baz=251,slow=6.1,SNR=41						
ILAR	**Eielson Array**	**64.06**	**26**	P	**P**	**06 03 48.3**	**+0.9**
PAX	**Paxson**	**64.30**	**28**	P	**P**	**06 03 51.0**	**+1.8**
PAX				IAmb	IAmb	06 03 51.6	
	comp=Z,5.7nm,0.6s						
BMRM	**Bremner River**	**64.37**	**30**	P	**P**	**06 03 52.2**	**+2.7**
BMRM				IAmb	IAmb	06 05 21.5	
	comp=Z,32nm,1.5s						
GLB	**Gilahina Butte**	**64.82**	**30**	P	**P**	**06 03 53.3**	**+0.8**
GLB				IAmb	IAmb	06 04 12.8	
	comp=Z,24nm,1.5s						
VRDI	**Verde Repeater**	**64.96**	**30**	P	**P**	**06 03 55.6**	**+2.0**
VRDI				IAmb	IAmb	06 04 10.6	
	comp=Z,28nm,1.5s						
DOT	**Dot Lake**	**65.05**	**28**	P	**P**	**06 03 56.0**	**+2.1**
DOT				IAmb	IAmb	06 04 19.5	
	comp=Z,23nm,1.5s						
SCRK	**Sand Creek**	**65.14**	**27**	P	**P**	**06 03 56.6**	**+2.1**
TGL	**Tana Glacier**	**65.20**	**31**	P	**P**	**06 03 57.2**	**+2.2**
TGL				IAmb	IAmb	06 03 58.5	
	comp=Z,29nm,1.4s						
M26K	**Nabesna, AK**	**65.34**	**29**	P	**P**	**06 03 57.8**	**+2.0**
M26K				IAmb	IAmb	06 05 48.0	
	comp=Z,35nm,1.9s						
J26L	**Joseph Creek**	**65.41**	**27**	P	**P**	**06 03 57.8**	**+1.6**
J26L				IAmb	IAmb	06 03 58.5	
	comp=Z,16nm,1.4s						
ISLE	**Juniper Island**	**65.42**	**31**	P	**P**	**06 03 58.5**	**+2.1**
BMAR	**Burnt Mountain**	**65.54**	**23**	P	**P**	**06 03 59.6**	**+2.5**
MESA	**MESA**	**65.56**	**32**	P	**P**	**06 04 00.1**	**+2.7**
GRNC	**Granite Creek**	**65.72**	**31**	P	**P**	**06 04 00.8**	**+2.3**
GRNC				IAmb	IAmb	06 04 01.3	
	comp=Z,9.1nm,0.7s						
BARN	**Barnard Glacie**	**65.80**	**31**	P	**P**	**06 04 01.3**	**+2.3**
BARN				IAmb	IAmb	06 04 36.9	
	comp=Z,24nm,1.6s						
M27K	**Edge Creek, AK**	**65.85**	**29**	P	**P**	**06 04 01.5**	**+2.3**
M27K				IAmb	IAmb	06 06 10.2	
	comp=Z,25nm,1.8s						
CTGM	**Chitina Glacie**	**65.95**	**31**	P	**P**	**06 04 02.1**	**+2.2**
L27K	**Beaver Creek,**	**65.96**	**28**	P	**P**	**06 04 01.7**	**+1.9**
L27K				IAmb	IAmb	06 05 55.7	
	comp=Z,27nm,2.0s						
BCAR	**Beaver Creek A**	**65.98**	**28**	P	**P**	**06 04 01.9**	**+2.0**
TABL	**Table Mountain**	**65.99**	**31**	P	**P**	**06 04 02.9**	**+2.6**
TABL				IAmb	IAmb	06 04 03.5	
	comp=Z,17nm,0.8s						
LOGN	**Logan Glacier**	**66.09**	**31**	P	**P**	**06 04 03.2**	**+2.4**
EGAK	**Eagle**	**66.47**	**27**	P	**P**	**06 04 05.7**	**+2.8**
EGAK				IAmb	IAmb	06 04 10.8	
	comp=Z,31nm,2.0s						
BVAR	**Borovoye Array**	**66.97**	**321**	P	**P**	**06 04 07.0**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=88,slow=11,SNR=9.8						
DAWY	**Dawson**	**67.15**	**27**	P	**P**	**06 04 09.7**	**+2.3**
DAWY				IAmb	IAmb	06 06 20.8	
	comp=Z,20nm,1.9s						
M30M	**Minto, Yukon**	**68.22**	**29**	P	**P**	**06 04 16.8**	**+2.7**
M30M				IAmb	IAmb	06 04 40.8	
	comp=Z,30nm,1.9s						
EPYK	**Eagle Plains**	**68.47**	**25**	P	**P**	**06 04 17.4**	**+1.9**
EPYK				IAmb	IAmb	06 05 28.4	
	comp=Z,45nm,2.0s						
WHY	**Whitehorse**	**69.09**	**31**	P	**P**	**06 04 21.8**	**+2.3**
WHY				IAmb	IAmb	06 05 13.9	
	comp=Z,37nm,1.9s						
M31M	**Drury Creek, Y**	**69.33**	**30**	P	**P**	**06 04 23.2**	**+2.3**
M31M				IAmb	IAmb	06 05 18.1	
	comp=Z,40nm,1.9s						
INK	**Inuvik**	**69.80**	**23**	P	**P**	**06 04 24.7**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=286,slow=6.0,SNR=11						
P33M	**Teslin, Yukon**	**70.12**	**32**	P	**P**	**06 04 28.0**	**+2.1**
P33M				IAmb	IAmb	06 06 45.4	
	comp=Z,30nm,1.7s						
A36M	**Sachs Harbour**	**72.53**	**19**	P	**P**	**06 04 41.8**	**+1.8**
C36M	**Paulatuk**	**73.18**	**22**	P	**P**	**06 04 45.1**	**+1.2**
ABKAR	**Akbulak array**	**73.82**	**317**	P	**P**	**06 04 49.1**	**+1.1**
YKA	**Yellowknife Ar**	**78.39**	**28**	P	**P**	**06 05 14.7**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=288,slow=5.4,SNR=57						
YKA				pP	**pP**	**06 05 42.9**	**-3.2**
	comp=Z,0.4nm,0.5s,baz=284,slow=5.7,SNR=3.3						
YKA	**Yellowknife Ar**	**78.39**	**28**	P	**P**	**06 05 14.9**	**+1.3**
NVAR	**Mina Array Bea**	**83.36**	**52**	P	**P**	**06 05 42.7**	**+1.9**
	comp=Z,1.3nm,0.5s,baz=270,slow=6.1,SNR=15						
NVAR				pP	**pP**	**06 06 11.0**	**-2.7**
	comp=Z,1.2nm,0.6s,baz=261,slow=5.3,SNR=5.3						
FINES	**FINESS Array B**	**87.42**	**335**	P	**P**	**06 05 57.4**	**-2.8**
	comp=Z,2.0nm,0.9s,baz=45,slow=3.0,SNR=5.0						
PDAR	**Pinedale Array**	**88.09**	**45**	P	**P**	**06 06 03.7**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=280,slow=6.3,SNR=2.9						
PDAR				pP	**pP**	**06 06 33.3**	**-4.1**
	comp=Z,0.3nm,0.7s,baz=316,slow=2.5,SNR=1.9						
PLCA	**Paso Flores**	**141.54**	**134**	PKP	**PKPdf**	**06 12 45.1**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=153,slow=2.4,SNR=3.1						
LPAZ	**La Paz**	**147.52**	**92**	PKPbc	**PKPdf**	**06 12 57.1**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=2.7,slow=3.9,SNR=5.3						
LPAZ	**La Paz**	**147.52**	**92**		**PKPbc**	**06 12 59.0**	**+0.8**

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*IDC **18** 06:04:53.8±0.7,24°.14N×94°.85E,h100km±6km,mb3.5/15, mb1 3.7/16,mb1mx3.5/46,mbtmp3.9/16,MS3.0/1, Ms1 3.0/1,ms1mx2.3/76,Error ellipse: s-maj=26.0km s-min=10.9km az=64.0*
*NEIC **18** 06:04:53.1±1.2,24°.2N±0°.1×94°.90E±0°.08,h85km±9km, mb4.3/22,Error ellipse: s-maj=16.5km s-min=8.7km az=206.0*
*NDI **18** 06:04:55.2±3.5,24°.26N×94°.56E,h116km±48km,ML4.4, mb4.3(NEIC)*
ISC 18 06:04:54.2±0.6,24°.17N±0°.06×94°.56E±0°.06,h100km,n77,
σ1°90/96,mb4.1/25,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**1.60**	**345**	*e*P	**Pn**	**06 05 24.2**	**+2.4**
KOHI				*e*S	**Sn**	**06 05 41.7**	**-1.0**
JORH	**JORHAT**	**2.58**	**354**	*e*P	**Pn**	**06 05 38.2**	**+3.9**
JORH				*e*S	**Sn**	**06 06 03.3**	**-1.8**
JORH				IAML		06 06 14.3	
	comp=E,9μm,0.3s						
SHL	**Shillong**	**2.80**	**300**	*e*P	**Pn**	**06 05 37.1**	**-0.3**
SHL				*e*S	**Sn**	**06 06 10.0**	**-0.7**
SHL				IAML		06 06 11.4	
	comp=E,2μm,0.3s						
SHL	**Shillong**	**2.80**	**300**	Pn	**Pn**	**06 05 36.7**	**-0.7**
ITAN	**ITANAGAR**	**3.06**	**346**	*e*P	**Pn**	**06 05 40.5**	**-0.2**
DIBR	**DIBRUGARH**	**3.30**	**5**	*e*P	Pn	06 05 51.5	+7.5
DIBR				*e*S	**Sn**	**06 06 18.7**	**-3.6**
LKP	**Lekhapani**	**3.36**	**20**	*e*P	**Pn**	**06 05 43.6**	**-1.1**
DHUB	**DHUBRI**	**4.53**	**295**	*e*P	**Pn**	**06 05 59.2**	**-1.3**
DHUB				*e*S	**Sn**	**06 06 48.9**	**-3.2**
GTK	**Tadong**	**6.22**	**302**	*e*P	**Pn**	**06 06 23.3**	**-0.3**
GTK				*e*S	**Sn**	**06 07 29.8**	**-3.6**
CHTO	**Chiang Mai**	**6.71**	**142**		Pn	06 06 26.9	-3.4
CMAR	**Chiang Mai Arr**	**7.00**	**143**	P	Pn	06 06 32.0	-2.1
	comp=E,1.1nm,0.3s,baz=318,slow=14,SNR=17						
CMAR	**Chiang Mai Arr**	**7.00**	**143**	Pn	Pn	06 06 28.6	-5.6
BOK	**Bokaro**	**7.94**	**269**	*e*P	**Pn**	**06 06 47.3**	**+0.4**
BOK				*e*S	**Sn**	**06 08 11.8**	**-3.3**
BOK				IAML		06 08 17.5	
	comp=N,125nm,0.3s						
GUN	**Gumba**	**8.65**	**297**	*e*Pn	**Pn**	**06 06 56.0**	**-0.8**
GUN				*e*Sn	**Sn**	**06 08 29.7**	**-3.1**
	comp=N,192nm,0.4s						
GUN	**Gumba**	**8.65**	**297**	*e*Pn	**Pn**	**06 06 56.1**	**-0.8**
GUN				*e*Sn	**Sn**	**06 08 31.0**	**-1.8**
	comp=N,237nm,0.4s						
PKI	**Pulchoki**	**8.91**	**294**	*e*Pn	**Pn**	**06 06 59.8**	**-0.6**
PKI				*e*Sn	**Sn**	**06 08 36.5**	**-2.6**
	comp=N,49nm,0.3s						
PKIN	**Phulchoki**	**8.92**	**294**	*e*Pn	**Pn**	**06 06 59.8**	**-0.7**
PKIN				*e*Sn	**Sn**	**06 08 36.8**	**-2.5**
	comp=N,147nm,0.5s						
PKIN	**Phulchoki**	**8.92**	**294**	*e*Pn	**Pn**	**06 07 00.0**	**-0.5**
PKIN				*e*Sn	**Sn**	**06 08 37.0**	**-2.3**
	comp=N,147nm,0.5s						
SLVN	**Son La**	**9.08**	**106**	Pn	Pn	06 06 58.8	-3.6
KKN	**Kakani**	**9.09**	**295**	*e*Pn	**Pn**	**06 07 01.9**	**-0.9**
KKN				*e*Sn	**Sn**	**06 08 40.9**	**-2.5**
	comp=N,108nm,0.3s						
DMN	**Daman**	**9.17**	**294**	*e*Pn	**Pn**	**06 07 03.1**	**-0.8**
GKN	**Gorkha**	**9.70**	**295**	*e*Pn	**Pn**	**06 07 09.5**	**-1.5**
GKN				*e*Sn	**Sn**	**06 08 54.9**	**-3.2**
	comp=N,184nm,0.3s						
GKN	**Gorkha**	**9.70**	**295**	*e*Pn	**Pn**	**06 07 09.5**	**-1.5**
GKN				*e*Sn	**Sn**	**06 08 54.8**	**-3.3**
	comp=N,184nm,0.3s						
KOLN	**Koldanda**	**10.49**	**292**	*e*Pn	**Pn**	**06 07 21.6**	**-0.2**
KOLN	**Koldanda**	**10.49**	**292**	*e*Pn	**Pn**	**06 07 20.3**	**-1.5**
KOLN				*e*Sn	**Sn**	**06 09 12.9**	**-4.5**
	comp=N,70nm,0.3s						
DANN	**Dangsing**	**10.55**	**296**	*e*Pn	**Pn**	**06 07 20.8**	**-1.8**
DANN				*e*Sn	**Sn**	**06 09 15.2**	**-3.7**
	comp=N,70nm,0.4s						
DANN	**Dangsing**	**10.55**	**296**	*e*Pn	**Pn**	**06 07 20.9**	**-1.7**
PYUN	**Piuthan**	**11.10**	**293**	*e*Pn	**Pn**	**06 07 29.2**	**-0.9**
PYUN				*e*Sn	**Sn**	**06 09 29.6**	**-2.8**
	comp=N,90nm,0.5s						
PYUN	**Piuthan**	**11.10**	**293**	*e*Pn	**Pn**	**06 07 29.6**	**-0.5**
PYUN				*e*Sn	**Sn**	**06 09 28.9**	**-3.5**
	comp=N,122nm,0.5s						
VIS	**Vishakhapatnam**	**12.29**	**241**	*e*P	**Pn**	**06 07 45.9**	**0.0**
VIS				*e*S	Sn	06 09 51.4	-10
JBP	**Jabalpur**	**13.39**	**269**	*e*P	**Pn**	**06 07 59.6**	**-0.7**
JBP				*e*S	**Sn**	**06 10 27.8**	**+0.1**
UBPT	**Khong Chiam**	**13.55**	**129**	Pn	Pn	06 07 58.1	-4.3
MYLAV	**Mylavaram**	**14.98**	**243**	*e*Pn	**P**	**06 08 23.9**	**+0.1**
RPR	**Rampur**	**15.15**	**253**	*e*Pn	**P**	**06 08 25.9**	**+0.2**
SRSP	**Sriramsagar**	**15.96**	**254**	*e*Pn	**P**	**06 08 36.1**	**+1.5**
ADKI	**Addanki**	**16.01**	**242**	*e*Pn	**P**	**06 08 37

WB2	**Warramunga Arr**	**58.52**	**135**	P		**P**	**06 14 39.2**	**-2.1**
WB2				IAmb		IAmb	06 14 39.6	
comp=Z,2.6nm,0.9s								
FINES	**FINESS Array B**	**58.80**	**328**	P		**P**	**06 14 41.8**	**+0.1**
comp=Z,2.4nm,0.9s,baz=96,slow=8.9,SNR=2.6								
FINES				pP		**pP**	**06 15 04.3**	**-2.3**
comp=Z,0.9nm,0.5s,baz=108,slow=6.2,SNR=1.0								
ARCES	**ARCESS Array B**	**60.26**	**338**	P		**P**	**06 14 51.9**	**+0.2**
comp=Z,1.4nm,0.6s,baz=94,slow=6.7,SNR=12								
AS31	**Alice Springs**	**60.98**	**138**	P		**P**	**06 14 55.8**	**-1.5**
ASAR	**Alice Springs**	**60.98**	**138**	P		**P**	**06 14 55.6**	**-1.6**
comp=Z,1.2nm,0.5s,baz=321,slow=6.9,SNR=32								
NOA	**NORSAR Array B**	**65.97**	**328**	P		**P**	**06 15 29.2**	**-0.4**
comp=Z,0.8nm,0.7s,baz=84,slow=6.3,SNR=2.5								
GERES	**GERESS Array B**	**66.32**	**315**	P		**P**	**06 15 33.1**	**+0.9**
comp=Z,0.3nm,0.5s,baz=69,slow=5.4,SNR=2.9								
GERES				pP		**pP**	**06 15 56.3**	**-1.3**
comp=Z,1.1nm,0.6s,baz=79,slow=6.9,SNR=6.4								
YKA	**Yellowknife Ar**	**90.56**	**13**	pP		pP	06 18 12.5	+1.2
comp=Z,0.2nm,0.6s,baz=131,slow=4.7,SNR=3.6								

*TEH **18** 06:14:43.7, 26°.53N×55°.01E, h8km, ML3.2*
*OMAN **18** 06:14:44.3±0.9, 26°.74N×55°.02E, h20km, ml2.9/13, Error ellipse: s-maj=8.5km s-min=4.6km az=9.0*
ISC 18 06:14:45.0±1.2, 26°.67N±0°.03×54.99E±0°.04, h22km±7km, n40, σ1°69/47, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**1.14**	**331**	*e*		06 15 32.5	
comp=Z,8μm,0.4s							
LAR1				*e*Pn	**Pb**	**06 15 06.9**	**+0.8**
SHME	**Shamm**	**1.20**	**121**	*e*Pg	**Pn**	**06 15 06.1**	**-0.3**
SHME	**Shamm**	**1.20**	**121**	P	**Pb**	**06 15 06.9**	**0.0**
SNR=23							
SHME				S	**Sn**	**06 15 22.7**	**+0.7**
GENO	**Geno**	**1.28**	**55**	*e*Sg	**Sb**	**06 15 28.6**	**+4.0**
GENO				*e*		06 15 37.8	
comp=N,8μm,0.4s							
UMQ	**Umm Al-Quwin**	**1.28**	**152**	*e*Pn	**Pn**	**06 15 05.8**	**-1.8**
UMQ	**Umm Al-Quwin**	**1.28**	**152**	P	**Pb**	**06 15 08.6**	**+0.1**
UMQ				S	**Sb**	**06 15 25.7**	**+1.2**
BANOM	**Banah**	**1.39**	**122**	*e*Pn	**Pn**	**06 15 08.6**	**-0.5**
BANOM	**Banah**	**1.39**	**122**	P	**Pn**	**06 15 09.2**	**+0.2**
SNR=64							
IBND	**Bandar-abas**	**1.58**	**60**	*e*Pg	**Pb**	**06 15 15.4**	**+1.8**
IBND				*e*		06 15 59.2	
comp=Z,4μm,0.8s							
MASF	**Masafi**	**1.66**	**141**	P	**Pn**	**06 15 13.5**	**+0.6**
MASF				S	**Sb**	**06 15 35.6**	**+0.2**
MSFE	**Esma-Masafi**	**1.67**	**141**	*e*Pn	**Pn**	**06 15 12.7**	**-0.3**
NAZ	**Nazwa, Dubai**	**1.78**	**160**	P	**Pb**	**06 15 15.5**	**-1.4**
NAZ				S	**Sb**	**06 15 38.9**	**+0.3**
FAQ	**Al Faqa, Dubai**	**1.99**	**164**	*e*Pn	**Pn**	**06 15 17.4**	**+0.1**
FAQ	**Al Faqa, Dubai**	**1.99**	**164**	P	**Pn**	**06 15 18.2**	**+0.9**
UOSS	**Minazif**	**2.03**	**147**	*e*Pn	**Pn**	**06 15 17.3**	**-0.6**
UOSS	**Minazif**	**2.03**	**147**	P	**Pn**	**06 15 18.0**	**+0.1**
ASUD	**Al Ashush, Dub**	**2.05**	**171**	*e*Pn	**Pn**	**06 15 18.5**	**+0.3**
ASUD	**Al Ashush, Dub**	**2.05**	**171**	P	**Pb**	**06 15 19.9**	**-1.7**
ASUD				S	**Sb**	**06 15 45.1**	**-1.6**
HATD	**Hatta, Dubai**	**2.10**	**151**	*e*Pn	**Pn**	**06 15 17.1**	**-1.8**
HATD	**Hatta, Dubai**	**2.10**	**151**	P	**Pn**	**06 15 20.3**	**+1.4**
ASHO	**Ashiyiah**	**2.19**	**154**	*e*Pn	**Pn**	**06 15 20.7**	**+0.5**
ASHO	**Ashiyiah**	**2.19**	**154**	P	**Pn**	**06 15 20.7**	**+0.5**
SNR=6.8							
ASHO				S	**Sn**	**06 15 48.3**	**+1.6**
SOHO	**SOHO**	**2.88**	**151**	P	**Pn**	**06 15 31.3**	**+1.7**
NGRK	**Negar Kerman**	**3.34**	**27**	*e*Pn	**Pb**	**06 15 40.5**	**-3.2**
NGRK				*e*		06 16 12.3	
comp=Z,269nm,0.4s							
HOQ	**Hoqain**	**3.72**	**145**	P	**Pn**	**06 15 42.3**	**+1.1**
HOQ				S	**Sn**	**06 16 24.1**	**-0.2**
CHMN	**Cheshme madani**	**3.90**	**35**	*e*Pn	**Pb**	**06 15 48.8**	**-4.4**
TRNA	**Turayna**	**3.92**	**241**	P	**Pn**	**06 15 44.9**	**+1.1**
TRNA				S	**Sn**	**06 16 30.0**	**+0.9**
KHGB	**Koh Gabri**	**3.92**	**19**	*e*Pn	**Pb**	**06 15 49.0**	**-4.5**
KBAM	**BAM**	**3.93**	**50**	*e*Pn	**Pn**	**06 15 48.1**	**+4.0**
KBAM				*e*		06 15 56.3	
comp=Z,174nm,0.3s							
UMZA	**Um Al Zommool**	**3.94**	**178**	*e*Pn	**Pn**	**06 15 43.9**	**-0.2**
BSY	**Bisya**	**4.39**	**152**	P	**Pn**	**06 15 51.8**	**+1.4**
SMDO	**Samad**	**4.54**	**142**	P	**Pn**	**06 15 53.4**	**+0.9**
SMDO				S	**Sn**	**06 16 44.6**	**0.0**
KLNJ	**Kolanjah**	**5.25**	**326**	*e*Pn	Pn	06 16 07.1	+4.5
WBK	**Wadi Bani Khal**	**5.42**	**137**	P	**Pn**	**06 16 04.4**	**-0.2**
IRAM	**Ramesheh**	**5.61**	**337**	*e*Pn	Pn	06 16 12.1	+4.8
JLN	**Jalan Bani Buh**	**6.03**	**137**	P	**Pn**	**06 16 12.0**	**-1.0**
DQM	**DQM**	**7.10**	**160**	P	**Pn**	**06 16 26.8**	**-0.9**
DOK	**Doka**	**8.05**	**186**	P	**Pn**	**06 16 41.5**	**+0.9**
DMTO	**DMTO**	**8.91**	**180**	P	**Pn**	**06 16 53.5**	**+1.1**
ABTO	**Aybut**	**9.40**	**190**	P	**Pn**	**06 16 58.9**	**-0.3**

*IDC **18** 06:16:34.7±0.6, 19°.59N×76°.08W, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.1/46, mbtmp4.1/15, ML3.6/1, MS3.6/14, Ms1 3.6/14, ms1mx3.3/77, Error ellipse: s-maj=20.6km s-min=17.0km az=28.0*
*SSNC **18** 06:16:37.6±1.4, 19°.79N×76°.05W, h5km±8km, MD4.4, ML3.9, MW4.4*
*NEIC **18** 06:16:39.1±2.0, 19°.84N±0°.06×76°.02W±0°.04, h15km±4km, mb4.5/78, Error ellipse: s-maj=9.2km s-min=4.8km az=192.0*
*JSN **18** 06:16:39.8±0.7, 19°.54N×76°.23W, h0km±493km, MD3.9*
ISC 18 06:16:36.1±0.7, 19°.82N±0°.04×76°.06W±0°.03, h2km±4km, n175, σ1°55/179, mb4.4/49, MS3.6/11, 4C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.90**	**83**	Pg	**Pb**	**06 16 54.5**	**+0.1**
GTBY					**Sb**	**06 17 07.9**	**+1.1**
GTBY	**Guantanamo Bay**	**0.90**	**83**	*i* P	**Pb**	**06 16 54.5**	**+0.1**
GTBY				*e*S	**Sb**	**06 17 07.6**	**+0.8**
GTMO	**Guantanamo**	**0.90**	**73**	⇑*i*P	**Pn**	**06 16 55.6**	**-0.2**
GTMO				*e*S	**Sn**	**06 17 09.2**	**-0.1**
GTMO				IAML		06 17 11.7	
comp=E,126μm,0.4s							
GTMO				IAML		06 17 12.4	
comp=N,169μm,0.5s							
LMGC	**Las Mercedes**	**0.93**	**286**	*e*P	**Pg**	**06 16 54.0**	**+0.2**
LMGC				*e*S	**Sg**	**06 17 06.4**	**+0.6**
LMGC				IAML		06 17 07.2	
comp=E,2μm,0.2s							
LMGC				IAML		06 17 07.5	
comp=N,3μm,0.1s							
HLGC	**Holguin**	**1.07**	**360**	*e*P	**Pb**	**06 16 58.0**	**+0.7**
HLGC				*e*S	**Sb**	**06 17 13.3**	**+1.6**
MOAC	**Moa**	**1.33**	**51**	*e*P	**Pg**	**06 17 00.1**	**-1.5**
MOAC				*e*S	**Sg**	**06 17 16.2**	**-2.6**
MASC	**Masc**	**1.75**	**78**	*e*P	**Pn**	**06 17 05.8**	**-1.6**
MASC				*e*S	**Sn**	**06 17 29.9**	**-0.5**
MASC				IAML		06 17 39.7	
comp=N,965nm,0.4s							
MASC				IAML		06 17 40.4	
comp=E,811nm,0.7s							
GWJ	**Greenwich**	**1.85**	**200**	⇑*i*P	**Pn**	**06 17 07.2**	**-1.7**
STH	**Stony Hill**	**1.87**	**202**	*i* P	**Pn**	**06 17 06.7**	**-2.4**
HOJ	**Hope**	**1.92**	**200**	⇑*i*P	**Pn**	**06 17 08.1**	**-1.7**
CVJ	**Coleyville**	**2.11**	**222**	⇑*i*P	**Pn**	**06 17 10.6**	**-1.9**
MTDJ	**Mount Denham**	**2.11**	**222**	Pn	**Pn**	**06 17 10.8**	**-1.7**
MTDJ	**Mount Denham**	**2.11**	**222**	*e*P	**Pn**	**06 17 10.0**	**-2.5**
CCCC	**Cccc**	**2.11**	**311**	*e*P	**Pn**	**06 17 09.5**	**-2.9**
CCCC				*e*S	**Sn**	**06 17 31.9**	**-7.3**
CCCC				IAML		06 17 36.1	
comp=E,854nm,1.2s							
CCCC				IAML		06 17 39.4	
comp=N,596nm,0.3s							
MCJ	**Malvern**	**2.43**	**220**	*i* P	**Pn**	**06 17 15.5**	**-1.4**
MCJ				*i* S	**Sn**	**06 17 41.8**	**-5.5**
LGNH	**Logne**	**3.51**	**111**		**Pn**	**06 17 31.5**	**-0.2**
LGNH	**Logne**	**3.51**	**111**	*e*P	**Pn**	**06 17 30.2**	**-1.5**
JAKH	**Jacmel**	**3.70**	**115**	Pn	**Pn**	**06 17 34.6**	**+0.3**
LCCY	**Blossom Villag**	**3.79**	**268**		**Pn**	**06 17 36.0**	**+0.5**
MGV	**Manicaragua**	**4.32**	**303**	*e*P	**Pn**	**06 17 43.8**	**+1.1**
MGV				*e*S	**Sn**	**06 18 33.3**	**-0.4**
MGV				IAML		06 18 55.5	
comp=N,53nm,0.6s							
MGV				IAML		06 18 56.1	
comp=E,61nm,0.6s							
SDDR	**Presa de Saban**	**4.58**	**100**		**Pn**	**06 17 46.4**	**0.0**
SDDR	**Presa de Saban**	**4.58**	**100**	*e*P	**Pn**	**06 17 46.2**	**-0.2**
GRTK	**Grand Turk**	**4.91**	**69**	Pn	**Pn**	**06 17 51.0**	**+0.1**
GRTK	**Grand Turk**	**4.91**	**69**	*e*P	**Pn**	**06 17 51.0**	**+0.1**
SC01	**Santiago de lo**	**5.04**	**94**		**Pn**	**06 17 53.0**	**+0.3**
SDD	**Santo Domingo**	**5.96**	**102**		**Pn**	**06 18 05.4**	**0.0**
SOR	**Soroa**	**7.12**	**296**	Pn	**Pn**	**06 18 22.8**	**+1.4**
061Z	**Ochoppi**	**7.50**	**324**	Pn	**Pn**	**06 18 25.7**	**-0.7**
PRVC	**Isla de Provid**	**8.18**	**219**	Pn	**Pn**	**06 18 36.1**	**+0.2**
CRPR	**Cabo Rojo, PR**	**8.66**	**101**	Pn	**Pn**	**06 18 42.2**	**-0.2**
OBIP	**Obispado Ponce**	**9.12**	**100**	Pn	**Pn**	**06 18 48.3**	**-0.4**
CELP	**Cerrillos**	**9.13**	**99**	Pn	**Pn**	**06 18 49.7**	**+0.7**
PDPR	**Patillas Dam,**	**9.66**	**99**	Pn	**Pn**	**06 18 57.0**	**+0.8**
CBYP	**Canovanas**	**9.77**	**97**	Pn	**Pn**	**06 19 00.2**	**+2.5**
SJCC	**San Jacinto, C**	**9.90**	**175**	Pn	**Pn**	**06 18 59.8**	**+0.2**
MTP	**Monte Pirata**	**10.09**	**98**	Pn	**Pn**	**06 19 02.8**	**+0.8**
CUPR	**Culebra, Puert**	**10.30**	**97**	Pn	**Pn**	**06 19 05.6**	**+0.7**
STVI	**Saint Thomas**	**10.60**	**96**	Pn	**Pn**	**06 19 08.5**	**-0.5**
SMLC	**San Martn de**	**11.12**	**170**	*e*P	**Pn**	**06 19 16.4**	**+0.2**
SDV	**Santo Domingo**	**12.07**	**153**	Pn	**Pn**	**06 19 29.3**	**-0.1**
comp=E,1.0nm,0.3s,baz=36,slow=2.4,SNR=11							
SDV				Sn	Sn	06 21 33.1	-12
comp=E,0.3nm,0.3s,baz=126,slow=19,SNR=1.1							
SDV				LR	LR	06 24 15.4	
comp=E,111nm,18.8s,baz=300,slow=39							
SDV	**Santo Domingo**	**12.07**	**153**	*e*P	**Pn**	**06 19 28.7**	**-0.7**
SDV	**Santo Domingo**	**12.07**	**153**		**Pn**	**06 19 29.6**	**+0.3**
ZARC	**Zaragoza, Cauc**	**12.31**	**174**		**Pn**	**06 19 34.5**	**+2.0**
RIMA	**Rio Macho**	**12.52**	**218**		**Pn**	**06 19 36.7**	**+1.2**
SRBA	**San Rafael, Bu**	**12.67**	**215**	Pn	**Pn**	**06 19 38.1**	**+0.6**
PEZE	**Perez Zeledon,**	**12.72**	**216**	Pn	**Pn**	**06 19 39.2**	**+1.0**
JTS	**Las Juntas de**	**12.78**	**223**	LR	LR	06 25 23.8	
comp=E,284nm,18.1s,slow=42							
BIRV	**Birongo**	**13.24**	**133**	Pn	**Pn**	**06 19 45.8**	**+0.5**
PTBC	**PUERTO BERRIO,**	**13.29**	**173**	*e*P	**Pn**	**06 19 46.4**	**+0.5**
BAUV	**El Baul**	**13.30**	**143**	Pn	**Pn**	**06 19 46.6**	**+0.6**
HELC	**Santa Helena**	**13.55**	**178**	*e*P	**Pn**	**06 19 53.2**	**+3.4**
CBOC	**Ciudad Bolivar**	**13.87**	**180**	*e*P	**Pn**	**06 19 56.7**	**+2.7**
NORC	**Norcasia**	**14.21**	**175**	*e*P	**Pn**	**06 20 00.7**	**+2.1**
GUY2C	**Guyana, Caldas**	**14.52**	**177**	*e*P	**P**	**06 20 06.8**	**-3.2**
PCRV	**Puerto La Cruz**	**14.61**	**129**	Pn	**Pn**	**06 20 05.2**	**+1.3**
comp=E,0.6nm,0.3s,baz=104,slow=15,SNR=1.6							
PLMC	**San Jos del P**	**14.82**	**181**	*e*P	**P**	**06 20 12.6**	**-0.4**
ROSC	**El Rosal**	**14.98**	**173**	LR	LR	06 25 52.8	
comp=E,164nm,20.0s,baz=309,slow=38							
CCIG	**Comitan**	**15.69**	**260**	Pn	**Pn**	**06 20 20.2**	**+1.7**
CCIG				IAmb	IAmb	06 20 26.6	
comp=Z,38nm,1.1s							
ORTC	**Ortega, Tolima**	**15.83**	**177**	*e*P	**P**	**06 20 26.2**	**+2.0**
PRAC	**Prado**	**16.05**	**176**	*e*P	**P**	**06 20 29.6**	**+3.0**
V53A	**Saluda**	**16.88**	**341**	Pn	**Pn**	**06 20 31.5**	**-2.0**
POPC	**Popayan, Colom**	**17.18**	**182**	*e*P	**P**	**06 20 39.8**	**+0.4**
PCON	**Cinco Dias**	**17.39**	**181**	*e*P	**P**	**06 20 48.3**	**+6.3**
CMIG	**Matias Romero**	**18.07**	**264**	P	**Pn**	**06 20 47.2**	**-1.2**
comp=Z,0.2nm,0.3s,baz=70,slow=9.0,SNR=4.8							
FLOC	**Florencia**	**18.13**	**179**	*e*P	P	06 20 58.0	+8.4
R58B	**Mineral**	**18.15**	**355**	Pn	**Pn**	**06 20 48.1**	**-1.2**
R55A	**Marlinton**	**18.74**	**350**	P	**Pn**	**06 20 57.1**	**+0.5**
R55A				IAmb	IAmb	06 21 24.5	
comp=Z,35nm,1.4s							
WVT	**Waverly**	**19.27**	**330**	P	**P**	**06 21 01.9**	**-0.1**
HKT	**Hockley**	**20.55**	**303**	P	**P**	**06 21 16.0**	**0.0**
WHAR	**Wooly Hollow**	**21.04**	**320**	P	**P**	**06 21 21.4**	**+0.2**
WHAR				IAmb	IAmb	06 21 26.5	
comp=Z,30nm,1.2s							
PBMO	**Poplar Bluff**	**21.07**	**326**	P	**P**	**06 21 22.3**	**+0.8**
PBMO				IAmb	IAmb	06 21 35.1	
comp=Z,16nm,0.9s							
P48A	**Milroy**	**21.18**	**340**	P	**P**	**06 21 23.4**	**+0.6**
P48A				IAmb	IAmb	06 21 36.6	
comp=Z,34nm,1.4s							
S44A	**Carbondale**	**21.20**	**330**	P	**P**	**06 21 23.4**	**+0.5**
MIAR	**Mount Ida**	**21.36**	**317**	P	**P**	**06 21 24.0**	**-0.7**
MIAR				IAmb	IAmb	06 21 45.1	
comp=Z,22nm,1.1s							
FCAR	**Ozark Folk Cen**	**21.36**	**322**	P	**P**	**06 21 24.4**	**-0.3**
T42A	**Van Buren**	**21.61**	**326**	P	**P**	**06 21 28.6**	**+1.3**
MGMO	**Mountain Grove**	**22.33**	**324**	P	**P**	**06 21 35.3**	**+0.1**
MGMO				IAmb	IAmb	06 21 58.3	
comp=Z,18nm,1.2s							
WHTX	**Lake Whitney,**	**22.70**	**307**	P	**P**	**06 21 39.4**	**+0.3**
WHTX				IAmb	IAmb	06 21 58.4	
comp=Z,16nm,0.9s							
833A	**Chaparral WMA,**	**22.90**	**296**	P	**P**	**06 21 41.8**	**+0.5**
S39A	**Bolivar**	**23.30**	**323**	P	**P**	**06 21 46.7**	**+1.3**
S39A				IAmb	IAmb	06 22 03.3	
comp=Z,23nm,1.4s							
TUL1	**Leonard**	**23.62**	**317**	P	**P**	**06 21 48.5**	**0.0**
TUL1				IAmb	IAmb	06 22 16.3	
comp=Z,15nm,0.8s							
JCT	**Junction City**	**23.93**	**301**	P	**P**	**06 21 52.8**	**+1.2**
P40A	**Paris**	**23.99**	**328**	P	**P**	**06 21 53.0**	**+1.0**
P40A				IAmb	IAmb	06 22 12.0	
comp=Z,10nm,1.1s							
NCB	**Newcomb**	**24.13**	**3**	P	**P**	**06 21 54.9**	**+1.5**
TBTG	**Tabatinga, AM**	**24.61**	**165**	P	**P**	**06 21 57.1**	**-0.8**
ABTX	**Abilene, Hawle**	**24.64**	**306**	P	**P**	**06 21 56.5**	**-1.7**
ABTX				IAmb	IAmb	06 22 01.2	
comp=Z,13nm,0.9s							
OK029	**Liberty Lake**	**24.65**	**315**	P	**P**	**06 21 57.5**	**-0.7**
OK029				IAmb	IAmb	06 22 21.8	
comp=Z,22nm,1.2s							
P38A	**Dawn**	**24.82**	**326**	P	**P**	**06 22 01.0**	**+1.3**
P38A				IAmb	IAmb	06 22 02.9	
comp=Z,8.3nm,0.8s							
ZAIG	**Zacatecas**	**24.86**	**282**	P	**P**	**06 22 01.4**	**+0.9**
ZAIG				IAmb	IAmb	06 22 05.7	
comp=Z,11nm,1.3s							
WMOK	**Wichita Mounta**	**24.99**	**311**	P	**P**	**06 22 02.0**	**+0.7**
WMOK				IAmb	IAmb	06 22 25.5	
comp=Z,11nm,1.2s							
BLOK	**Blackwell**	**25.05**	**317**	P	**P**	**06 22 03.4**	**+1.6**
KAN13	**South Haven SW**	**25.37**	**317**	P	**P**	**06 22 06.8**	**+2.1**
KAN13				IAmb	IAmb	06 22 08.3	
comp=Z,12nm,0.9s							
KAN14	**Manchester OK**	**25.65**	**316**	P	**P**	**06 22 07.7**	**+0.5**
TXAR	**Lajitas Array**	**26.78**	**296**	P	**P**	**06 22 18.5**	**+0.8**
comp=Z,3.1nm,1.0s,baz=118,slow=10.0,SNR=19							
TXAR				PcP	**PcP**	**06 25 39.1**	**-1.7**
comp=Z,0.3nm,0.6s,baz=150,slow=2.2,SNR=3.7							
TXAR				LR	LR	06 35 55.5	
comp=Z,78nm,18.8s,baz=46,slow=43							
TX31	**Lajitas Ar. Si**	**26.78**	**296**	P	**P**	**06 22 19.1**	**+1.4**
TX32	**Lajitas Array**	**26.78**	**296**	P	**P**	**06 22 18.7**	**+1.0**
TX32				IAmb	IAmb	06 22 38.3	
comp=Z,9.9nm,1.4s							
MDP	**Montagnes des**	**27.08**	**120**	LR	LR	06 34 01.6	
comp=Z,116nm,18.2s,baz=288,slow=39							
MNTX	**Cornudas Mount**	**28.85**	**300**	P	**P**	**06 22 37.7**	**+1.7**
K31A	**O'Neill**	**29.72**	**325**	P	**P**	**06 22 44.8**	**+1.2**
T25A	**Trinidad**	**30.15**	**311**	P	**P**	**06 22 49.6**	**+1.8**
T25A				IAmb	IAmb	06 22 50.4	
comp=Z,6.5nm,0.8s							
BNM	**Barren Site**	**30.62**	**304**	P	**P**	**06 22 54.1**	**+2.1**
ANMO	**Albuquerque**	**30.77**	**306**	LR	LR	06 37 36.9	
comp=Z,112nm,18.2s,baz=161,slow=41							
ETMB	**Extrema**	**31.00**	**161**	P	**P**	**06 22 54.9**	**-0.3**
ETMB				IAmb	IAmb	06 23 04.3	
comp=Z,8.1nm,0.8s							
SDCO	**Great Sand Dun**	**31.20**	**311**	P	**P**	**06 22 59.1**	**+2.0**
NNA	**Nana**	**31.61**	**181**	LR	LR	06 37 13.3	
comp=Z,65nm,18.1s,baz=334,slow=40							
LPIG	**La Paz**	**32.00**	**284**	LR	LR	06 36 18.6	
comp=Z,155nm,19.3s,baz=356,slow=37							
SMCO	**Snowmass**	**32.88**	**313**	P	**P**	**06 23 13.4**	**+1.5**
MVCO	**Mesa Verde**	**33.14**	**308**	P	**P**	**06 23 14.7**	**+0.5**
MVCO				IAmb	IAmb	06 23 28.4	
comp=Z,5.2nm,1.1s							
W18A	**Petrified Fore**	**33.35**	**304**	P	**P**	**06 23 15.4**	**-0.5**
W18A				IAmb	IAmb	06 23 18.9	
comp=Z,5.9nm,0.9s							
PV13	**Radium Mtn., P**	**33.75**	**310**	P	**P**	**06 23 20.2**	**+0.8**
PV13				IAmb	IAmb	06 23 22.6	
comp=Z,8.1nm,1.0s							
WUAZ	**Wupatki**	**34.75**	**304**	P	**P**	**06 23 28.8**	**+0.7**
P18A	**Preston Nutter**	**35.36**	**311**	P	**P**	**06 23 34.7**	**+1.3**
P18A				IAmb	IAmb	06 23 53.0	
comp=Z,9.2nm,1.3s							
P17A	**Butcher Ranch,**	**35.65**	**311**	P	**P**	**06 23 37.2**	**+1.4**
P17A				IAmb	IAmb	06 23 38.2	
comp=Z,5.2nm,1.1s							
SCHQ	**Schefferville**	**35.66**	**9**	LR	LR	06 37 28.9	
comp=Z,173nm,18.3s,baz=108,slow=35							
MTPU	**Mount Pierson**	**36.17**	**308**	P	**P**	**06 23 42.5**	**+2.0**
MTPU				IAmb	IAmb	06 23 52.6	
comp=Z,5.8nm,1.1s							
PD31	**Pinedale Array**	**36.28**	**317**	P	**P**	**06 23 41.9**	**+0.7**
PDAR	**Pinedale Array**	**36.28**	**317**	P	**P**	**06 23 41.1**	**-0.1**
comp=Z,0.7nm,0.7s,baz=119,slow=10,SNR=6.7							
PDAR				PcP	**PcP**	**06 26 02.9**	**-3.4**
comp=Z,0.3nm,0.6s,baz=112,slow=6.9,SNR=1.9							
PDAR				LR	LR	06 40 08.5	
comp=Z,96nm,18.2s,baz=69,slow=39							
KNB	**Kanab**	**36.32**	**306**	P	**P**	**06 23 44.0**	**+2.5**
KNB				IAmb	IAmb	06 23 44.7	
comp=Z,7.4nm,1.0s							
LPAZ	**La Paz**	**36.72**	**167**	P	**P**	**06 23 43.4**	**-2.1**
comp=Z,1.7nm,0.9s,baz=21,slow=10,SNR=1.5							
LPAZ				LR	LR	06 40 01.1	
comp=Z,75nm,19.0s,baz=318,slow=38							
LPAZ	**La Paz**	**36.72**	**167**	P	**P**	**06 23 46.2**	**+0.7**
LPAZ				IAmb	IAmb	06 23 54.9	
comp=Z,7.4nm,1.3s							
CCUT	**Cedar City**	**36.90**	**307**	P	**P**	**06 23 48.4**	**+1.9**
HWUT	**Hardware Ranch**	**37.09**	**314**	P	**P**	**06 23 49.0**	**+0.9**
RLMT	**Red Lodge**	**37.28**	**320**	P	**P**	**06 23 48.1**	**-1.5**
LOHW	**Long Hollow**	**37.35**	**317**	P	**P**	**06 23 51.6**	**+1.3**
REDW	**Red Top Meadow**	**37.40**	**317**	P	**P**	**06 23 51.5**	**+0.7**
REDW				IAmb	IAmb	06 23 54.3	
comp=Z,8.6nm,0.9s							
DUG	**Dugway, Tooele**	**37.40**	**311**	P	**P**	**06 23 52.3**	**+1.6**
DUG				IAmb	IAmb	06 24 02.9	
comp=Z,11nm,1.2s							
MOOW	**Moose Ponds**	**37.51**	**317**	P	**P**	**06 23 52.4**	**+0.8**
PSUT	**Pine Spring**	**37.58**	**308**	P	**P**	**06 23 54.2**	**+1.9**
GCMT	**Greycliff**	**37.87**	**321**	P	**P**	**06 23 54.4**	**-0.2**
SPR3	**Spring Creek 3**	**38.08**	**309**	P	**P**	**06 23 59.0**	**+2.3**
SPR3				IAmb	IAmb	06 23 59.5	
comp=Z,4.1nm,0.8s							
SIV	**San Ignacio**	**38.51**	**156**	P	**P**	**06 23 56.0**	**-4.1**
comp=Z,0.5nm,0.8s,baz=317,slow=18,SNR=1.6							
BOZ	**Bozeman (W)**	**38.95**	**319**	P	**P**	**06 24 04.1**	**+0.4**
BOZ				IAmb	IAmb	06 24 14.2	
comp=Z,8.5nm,1.0s							
EGMT	**Eagleton**	**39.14**	**324**	P	**P**	**06 24 03.7**	**-1.5**
ELK	**Elko**	**39.32**	**311**	P	**P**	**06 24 06.8**	**-0.1**
MCMT	**McKenzie Canyo**	**39.35**	**318**	P	**P**	**06 24 08.4**	**+1.3**
BCYI	**Bear Canyon**	**39.47**	**317**	P	**P**	**06 24 09.6**	**+1.4**
HLID	**Hailey**	**39.81**	**315**	P	**P**	**06 24 12.2**	**+1.2**
TPH	**Tonopah**	**39.97**	**306**	P	**P**	**06 24 14.7**	**+2.3**
NVAR	**Mina Array Bea**	**40.89**	**306**	P	**P**	**06 24 19.8**	**-0.2**
comp=Z,2.1nm,0.8s,baz=99,slow=6.2,SNR=15							
NVAR				PcP	**PcP**	**06 26 17.7**	**-3.0**
comp=Z,0.1nm,0.3s,baz=111,slow=4.9,SNR=1.6							
NVAR	**Mina Array Bea**	**40.89**	**306**	P	**P**	**06 24 20.8**	**+0.8**
KVN	**Kaiserville**	**40.90**	**307**	P	**P**	**06 24 21.7**	**+1.7**
KVN				IAmb	IAmb	06 24 22.4	
comp=Z,5.2nm,0.8s							
PLID	**Pearl Lake**	**41.48**	**317**	P	**P**	**06 24 25.2**	**+0.5**
YERR	**Yerington**	**41.74**	**307**	P	**P**	**06 24 27.2**	**+0.3**
B08A	**Colville Reser**	**44.91**	**320**	P	**P**	**06 24 52.8**	**+0.6**
B08A				IAmb	IAmb	06

comp=Z,2.6nm,1.1s
WRA Warramunga Arr 31.98 263 P **P** 06 42 06.9 -1.2
comp=Z,0.4nm,0.5s,baz=103,slow=8.5,SNR=7.2
WRA Warramunga Arr 31.98 263 P **P** 06 42 06.4 -1.8
AS31 Alice Springs 32.31 256 P **P** 06 42 10.5 -0.5
ASAR Alice Springs 32.31 256 P **P** 06 42 11.1 0.0
comp=Z,3.3nm,0.4s,baz=83,slow=8.5,SNR=76
ASAR Alice Springs 32.31 256 P **P** 06 42 10.1 -0.9
PSA00 Pilbara Seismi 45.36 258 P **P** 06 44 01.0 +0.6
PSA00 IAmb IAmb 06 44 21.3
comp=Z,4.5nm,1.4s
ARCES ARCESS Array B 124.57 345 PKP **PKPdf** 06 54 41.0 +0.4
comp=Z,6.8nm,1.1s,baz=46,slow=2.6,SNR=4.1

*NNC **18** 06:42:35.6±5.4, 53.°81N×90.°88E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=40.8km s-min=30.8km az=44.0, Suspected Mining explosion.*
*IDC **18** 06:42:39.1±3.3, 53.°65N×90.°73E, h0km, mb1 3.1/3, mb1mx3.0/41, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=28.3km s-min=23.5km az=48.0*
ISC 18 06:42:37.8±4.0, 53.°7N±0.°1×90.°8E±0.°2, h0km, n9, σ1§83/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.53**	**276**	⇑Pg	**Pb**	**06 43 40.0**	**-1.0**
ZAA0	3.0nm,0.8s			⇑Lg	Lg	06 44 31.3	
ZALV	**Zalesovo Beam**	**3.53**	**276**	Pn	**Pn**	**06 43 34.7**	**+1.0**
ZALV	0.7nm,0.3s,baz=94,slow=13,SNR=8.1			Lg	Lg	06 44 31.4	
KURK	**Kurchatov**	**8.04**	**253**	⇑Pn	**Pn**	**06 44 34.3**	**-1.4**
KURK	1.4nm,0.6s			⇓Sn	**Sn**	**06 46 10.4**	**+3.1**
KURK	13nm,1.0s			⇓Lg	Lg	06 46 55.6	
KURBB	**Kurchatov Arra**	**8.14**	**252**	Pn	**Pn**	**06 44 37.5**	**+0.5**
KURBB	0.1nm,0.3s,baz=66,slow=15,SNR=12			Sn	**Sn**	**06 46 07.8**	**-1.8**
KURBB	baz=68,slow=27,SNR=3.1			Lg	Lg	06 46 56.9	
KURBB	**Kurchatov Arra**	**8.14**	**252**	⇑Pn	**Pn**	**06 44 36.0**	**-1.1**
KURBB	3.5nm,0.7s			⇓Sn	**Sn**	**06 46 12.0**	**+2.4**
KURBB	31nm,0.9s			⇑Lg	Lg	06 46 57.6	
MK31	**Makanchi Array**	**8.81**	**221**	⇓Pn	**Pn**	**06 44 47.6**	**+1.3**
MK31	1.9nm,0.8s,baz=37,slow=14,SNR=13			⇑Sn	**Sn**	**06 46 25.2**	**-1.1**
MK31	1.8nm,0.8s			⇓Lg	Lg	06 47 13.3	
MKAR	**Makanchi Array**	**8.81**	**221**	Pn	**Pn**	**06 44 47.7**	**+1.4**
MKAR	0.2nm,0.3s,baz=36,slow=14,SNR=10			Sn	**Sn**	**06 46 25.0**	**-1.2**
MKAR	0.1nm,0.3s,baz=40,slow=21,SNR=1.9			Lg	Lg	06 47 17.0	
SONM	**Songino Array**	**11.51**	**115**	Lg	Lg	06 48 32.0	
I34MN	0.1nm,0.3s,baz=301,slow=29,SNR=9.6 **SONGINO INFRAS**	**11.54**	**115**	*i*		07 47 30.0	
	baz=311,slow=332,SNR=1.3						

*OSPL **18** 06:49:11.6±0.5, 20.°15N×76.°13W, h13km±8km, ML2.9*
*JSN **18** 06:49:16.0±1.5, 19.°59N×76.°19W, h30km±999km, MD3.8*
ISC 18 06:49:10.9±2.9, 19.°9N±0.°3×76.°2W±0.°1, h28km, n8, σ1§43/10, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**1.01**	**87**	*i* P	**Pn**	**06 49 28.9**	**-0.4**
GTBY				*e*S	**Sn**	**06 49 41.7**	**-0.9**
GTBY				IAML		06 49 44.3	
	comp=Z,481nm,0.2s						
GWJ	**Greenwich**	**1.86**	**196**	*i* P	**Pn**	**06 49 41.7**	**+0.5**
STH	**Stony Hill**	**1.88**	**198**	*i* P	**Pn**	**06 49 41.2**	**-0.1**
CVJ	**Coleyville**	**2.08**	**218**	*i* P	**Pn**	**06 49 44.4**	**+0.3**
MCJ	**Malvern**	**2.41**	**217**	*i* P	**Pn**	**06 49 50.7**	**+2.1**
MCJ				*i* S	**Sn**	**06 50 15.0**	**-2.1**
LGNH	**Logne**	**3.64**	**111**	*i* P	**Pn**	**06 50 07.1**	**+1.7**
LGNH				IAML		06 51 04.1	
	comp=Z,10nm,0.8s						
PAPH	**Port-au-Prince**	**3.91**	**109**	*i* P	**Pn**	**06 50 10.2**	**+1.1**
PAPH				IAML		06 51 09.5	
	comp=Z,22nm,0.2s						
SDDR	**Presa de Saban**	**4.70**	**100**	*i* P	**Pn**	**06 50 20.6**	**+0.5**
SDDR				IAML		06 51 24.2	
	comp=Z,13nm,1.9s						

*IDC **18** 06:51:08.6±3.1, 31.°34S×178.°40W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.4/32, mbtmp4.0/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/57, Error ellipse: s-maj=159.5km s-min=40.5km az=161.0*
*NEIC **18** 06:51:09.4±0.2, 29.°45S±0.°04×178.°04W±0.°07, h10km±2km, mb4.1/7, Error ellipse: s-maj=10.3km s-min=7.2km az=86.0*
ISC 18 06:51:08.4±1.2, 29.°6S±0.°1×177.°9W±0.°3, h10km, n27, σ2§05/25, mb4.2/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.34**	**3**		**Pg**	**06 51 14.1**	**-1.2**
MRZ	**Mangatainoka R**	**12.24**	**204**	P	Pn	06 53 52.9	-10
DUWZ	**D'Urville Isla**	**13.00**	**209**	P	**Pn**	**06 54 15.5**	**+2.2**
DUWZ	**D'Urville Isla**	**13.00**	**209**	P	**Pn**	**06 54 15.5**	**+2.2**
NNZ	**Nelson**	**13.58**	**209**	P	**Pn**	**06 54 22.1**	**+1.1**
QRZ	**Quartz Range**	**13.64**	**212**	P	**Pn**	**06 54 24.6**	**+2.7**
THZ	**Tophouse**	**14.23**	**209**	P	**Pn**	**06 54 30.1**	**+0.1**
KHZ	**Kahutara**	**14.52**	**206**	P	**Pn**	**06 54 32.7**	**-1.3**
GVZ	**Greta Valley S**	**15.19**	**206**	P	**Pn**	**06 54 40.8**	**-2.1**
LTZ	**Lake Taylor**	**15.33**	**208**	P	**Pn**	**06 54 42.9**	**-2.0**
OXZ	**Oxford**	**15.88**	**208**	P	**Pn**	**06 54 50.0**	**-2.0**
DZM	**Mont Dzumac**	**15.92**	**294**	LR	LR	07 00 08.8	
	comp=Z,119nm,18.2s,baz=200,slow=33						
MQZ	**McQueen's Vall**	**15.96**	**206**	P	**Pn**	**06 54 50.2**	**-2.8**
TMZ	**Timaru**	**17.17**	**208**	P	**Pn**	**06 55 04.6**	**-3.9**
HNR	**Honiara**	**28.82**	**310**	LR	LR	07 07 11.8	
	comp=Z,51nm,18.5s,baz=100,slow=32						
AS31	**Alice Springs**	**43.21**	**266**	P	**P**	**06 59 09.4**	**-0.6**
AS31				IAmb	IAmb	06 59 09.8	
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**43.21**	**266**	P	**P**	**06 59 08.1**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=105,slow=7.2,SNR=20						
ASAR				PcP	**PcP**	**07 00 57.3**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=111,slow=4.5,SNR=1.1						
WR0	**Warramunga Arr**	**43.94**	**271**	P	**P**	**06 59 15.2**	**-0.6**
WR0				IAmb	IAmb	06 59 15.5	
	comp=Z,4.4nm,1.2s						
WB2	**Warramunga Arr**	**44.11**	**271**	P	**P**	**06 59 16.6**	**-0.7**
WB2				IAmb	IAmb	06 59 28.7	
	comp=Z,7.2nm,1.5s						
WRAB	**Tennant Creek**	**44.12**	**271**	P	**P**	**06 59 16.3**	**-1.0**
WRAB				IAmb	IAmb	06 59 44.5	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**44.12**	**271**	P	**P**	**06 59 16.2**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=113,slow=8.2,SNR=25						
WRA	**Warramunga Arr**	**44.12**	**271**	P	**P**	**06 59 17.4**	**0.0**
WB0	**Warramunga Arr**	**44.14**	**272**	P	**P**	**06 59 16.8**	**-0.7**
WB0				IAmb	IAmb	06 59 44.6	
	comp=Z,3.1nm,0.8s						
QSPA	**South Pole Qui**	**60.51**	**180**	P	**P**	**07 01 17.8**	**-0.8**
FINES	**FINESS Array B**	**144.41**	**340**	PKPbc	**PKiKP**	**07 10 49.0**	**+1.2**
	comp=Z,2.6nm,0.5s,baz=45,slow=4.1,SNR=38						
NOA	**NORSAR Array B**	**147.96**	**352**	PKPbc	**PKPab**	**07 10 59.6**	**+3.6**
	comp=Z,0.8nm,0.6s,baz=16,slow=4.2,SNR=2.9						
AKASG	**Malin Array Be**	**150.69**	**324**	PKPbc	**PKiKP**	**07 11 04.1**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=47,slow=2.3,SNR=2.6						

WEL 18 06:51:52.3±1.0, 31.°S±8.°×17.°9E±1.°3, h33km, M4.7/5, mB4.8/4, ML5.4/7, MLv4.9/5, Mw(mB)4.1/4, Error ellipse: s-maj=0.0km s-min=0.0km az=120.1, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.52**	**57**	P	Pn	06 52 42.9	-1.7
GLKZ				S	Sn	06 53 27.3	+2.1
MXZ	**Matakaoa Point**	**6.33**	**183**	P	Pn	06 53 26.4	+3.1
WMGZ	**Waiomatatini S**	**6.58**	**182**	S	Sn	06 54 47.5	+6.8
OTVZ	**Oturere**	**8.30**	**197**	P	Pn	06 53 51.4	+0.9
WNVZ	**Wahianoa**	**8.47**	**197**	P	Pn	06 53 56.1	+3.3
KRHZ	**Kereru**	**8.61**	**192**	P	Pn	06 53 54.3	-0.3
KRHZ				S	Sn	06 55 32.3	+1.6
KAHZ	**Kahuranaki**	**8.68**	**189**	P	Pn	06 53 56.0	+0.4
KAHZ				S	Sn	06 55 33.1	+0.8
PXZ	**Pawanui**	**8.91**	**189**	P	Pn	06 53 59.3	+0.6
PXZ				S	Sn	06 55 37.7	-0.3
WAZ	**Wanganui**	**9.03**	**199**	P	Pn	06 54 02.8	+2.4
WAZ				S	Sn	06 55 48.4	+7.4
PRHZ	**Porangahau**	**9.18**	**190**	P	Pn	06 54 02.2	-0.1
PRHZ				S	Sn	06 55 45.2	+0.8
DVHZ	**Dannevirke**	**9.29**	**192**	P	Pn	06 54 03.6	-0.2
DVHZ				S	Sn	06 55 46.2	-0.9
ANWZ	**Angora Road**	**9.39**	**190**	P	Pn	06 54 04.8	-0.4
ANWZ				S	Sn	06 55 50.0	+0.3
BFZ	**Birch Farm**	**9.64**	**191**	P	Pn	06 54 07.6	-1.1
BFZ				S	Sn	06 55 51.9	-4.0
MRZ	**Mangatainoka R**	**9.75**	**194**	P	Pn	06 54 08.5	-1.7
MRZ				S	Sn	06 55 55.3	-3.2
OGWZ	**Otaki Gorge**	**9.99**	**196**	P	Pn	06 54 12.3	-1.1
OGWZ				S	Sn	06 56 03.8	-0.6
HOWZ	**Holdsworth Sta**	**9.99**	**194**	P	Pn	06 54 11.5	-2.0
HOWZ				S	Sn	06 56 02.1	-2.4
KIW	**Kapiti Island**	**10.09**	**197**	P	Pn	06 54 12.7	-2.2
KIW				S	Sn	06 56 05.0	-1.9
TMWZ	**Te Maipa**	**10.12**	**192**	P	Pn	06 54 13.2	-2.1
TMWZ				S	Sn	06 56 02.6	-5.0
MTW	**Mount Morrison**	**10.24**	**194**	P	Pn	06 54 15.1	-1.8
CAW	**Cannon Point**	**10.29**	**196**	P	Pn	06 54 14.7	-2.8
MSWZ	**Moikau Station**	**10.54**	**194**	P	Pn	06 54 17.5	-3.6
BHW	**Baring Head**	**10.62**	**196**	P	Pn	06 54 19.8	-2.3
TUWZ	**Tuamarina**	**10.88**	**199**	P	Pn	06 54 21.4	-4.2

WEL 18 06:53:09.4±0.4, 38.°S±3.°×17.°8E±.°, h22km±4km, M2.7/15, ML3.0/19, MLv2.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=121.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.09**	**100**	P	Pb	06 53 14.1	+0.5
TKGZ	**Te Karaka**	**0.20**	**279**	P	Pb	06 53 15.5	+0.7
TKGZ				S	Sb	06 53 21.0	+2.4
TWGZ	**Tauwhareparae**	**0.31**	**343**	P	Pb	06 53 17.3	+1.0
RIGZ	**Rimuhau**	**0.35**	**228**	P	Pn	06 53 18.2	-1.0
PUZ	**Puketiti**	**0.42**	**18**	P	Pb	06 53 18.6	+0.6
MWZ	**Matawai**	**0.47**	**287**	P	Pb	06 53 19.7	+0.7
MWZ				S	Sn	06 53 27.8	-0.6
PRGZ	**Paritu Road**	**0.48**	**200**	P	Pn	06 53 20.2	-0.8
RAGZ	**Rawiri**	**0.54**	**267**	P	Pn	06 53 21.1	-0.6
RAGZ				S	Sn	06 53 30.7	+0.5
PKGZ	**Pakihiroa**	**0.58**	**358**	P	Pn	06 53 21.7	-0.6
PKGZ				S	Sn	06 53 31.6	+0.4
RUGZ	**Raukumara Rang**	**0.60**	**327**	P	Pb	06 53 21.7	+0.4
KNZ	**Kokohu**	**0.64**	**211**	P	Pb	06 53 22.1	+0.1
KNZ				S	Sn	06 53 33.4	+0.7
WMGZ	**Waiomatatini S**	**0.70**	**21**	P	Pn	06 53 23.4	-0.5
WMGZ				S	Sn	06 53 35.2	+1.3
WMGZ	**Waiomatatini S**	**0.70**	**21**	P	Pb	06 53 23.0	+0.2
MHGZ	**Mahia Peninsul**	**0.70**	**192**	P	Pn	06 53 24.2	+0.3
HAZ	**Te Kaha**	**0.75**	**341**	P	Pb	06 53 23.8	+0.1
HAZ	**Te Kaha**	**0.75**	**341**	P	Pb	06 53 23.9	+0.1
URZ	**Urewera**	**0.80**	**285**	P	Pn	06 53 25.1	-0.2
RAHZ	**Arahi**	**0.91**	**240**	P	Pb	06 53 26.5	+0.1
MXZ	**Matakaoa Point**	**0.92**	**10**	P	Pn	06 53 27.2	+0.2
MTHZ	**Maungataniwha**	**1.05**	**248**	P	Pn	06 53 28.5	-0.4
PRRZ	**Plateau Road**	**1.34**	**268**	P	Pn	06 53 33.0	+0.3
BKZ	**Black Stump Fm**	**1.43**	**240**	P	Pn	06 53 33.8	-0.3
MCHZ	**McNeill Hill**	**1.46**	**228**	P	Pn	06 53 34.1	-0.4
KWHZ	**Kaweka Forest**	**1.62**	**233**	P	Pn	06 53 36.0	-0.6
TOZ	**Tahuroa Road**	**2.18**	**289**	P	Pn	06 53 44.0	-0.2

TAP 18 06:58:12.3, 23.°82N×121.°59E, h31km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.05**	**14**	P	Pb	06 58 18.2	+0.7
TEYL	baz=10.0			*e*S	Sb	06 58 22.5	+1.4
ESL	**Shilin**	**0.14**	**266**	*i* P	Pn	06 58 18.2	-0.1
ESL	baz=265			S	Sb	06 58 22.6	+0.6
ETM	**Tongmen**	**0.17**	**329**	P	Pn	06 58 18.7	0.0
ETM	baz=328			S	Sn	06 58 23.4	+0.8
EGFH	**Guangfu**	**0.21**	**223**	P	Pn	06 58 19.2	-0.1
EGFH	baz=223			*e*S	Sn	06 58 23.7	0.0
TWD	**Chiawan**	**0.26**	**2**	P	Pn	06 58 19.8	-0.1
TWD	baz=3.0			*e*S	Sn	06 58 25.6	+0.8
NACB	**Ninganchiao**	**0.35**	**1**	P	Pb	06 58 20.6	0.0
NACB	baz=1.0			*e*S	Sn	06 58 26.7	-0.5
HGSD	**Ruisui**	**0.36**	**204**	P	Pb	06 58 20.9	+0.2
HGSD	baz=204			*e*S	Sn	06 58 28.1	+0.7
ETLH	**Xiulin Townshi**	**0.39**	**346**	P	Pb	06 58 21.4	+0.1
ETLH	baz=345			*e*S	Sb	06 58 27.8	+0.5
EHY	**Hungye**	**0.40**	**218**	*e*P	Pn	06 58 21.9	+0.1
OWD	baz=216 **Renai**	**0.40**	**289**	*i* P	Pn	06 58 21.8	-0.2
OWD	baz=289			S	Sn	06 58 28.1	-0.4
VWDT	**VWDT**	**0.41**	**260**	P	Pn	06 58 21.9	-0.1
VWDT	baz=260			S	Sn	06 58 28.8	+0.1
WHF	**Hehuan Shan**	**0.43**	**318**	P	Pb	06 58 22.2	+0.1
WHF	baz=318			*e*S	Sn	06 58 29.7	-0.2
CHGB	**Renai**	**0.45**	**302**	P	Pn	06 58 22.5	-0.2
CHGB	baz=302			S	Sn	06 58 30.0	+0.2
WUSB	**Renai**	**0.46**	**292**	P	Pn	06 58 22.8	-0.1
WUSB	baz=291			S	Sn	06 58 30.2	+0.2
YULB	**Yu-li**	**0.50**	**212**	P	Pb	06 58 22.0	-0.9
FUSS	baz=211 **Fushou**	**0.53**	**324**	*e*P	Pn	06 58 23.8	-0.1
FUSS	baz=323			*e*S	Sn	06 58 32.2	+0.4
SSLB	**Suanglung**	**0.58**	**267**	*e*P	Pn	06 58 24.7	+0.3
SSLB	baz=266			*e*S	Sn	06 58 33.4	+0.5
NNSB	**Datong**	**0.63**	**343**	P	Pn	06 58 25.2	0.0
NNSB	baz=342			S	Sn	06 58 34.1	-0.2
SMLT	**Sun Moon Lake**	**0.63**	**276**	P	Pn	06 58 25.4	+0.2
NNS	baz=275 **Nan Shan**	**0.64**	**342**	S	Sn	06 58 34.4	-0.2
WCS	baz=343 **Beigang Elemen**	**0.66**	**291**	*e*P	Pn	06 58 25.8	+0.4
TYC	baz=290 **Yuchr**	**0.67**	**277**	*e*P	Pn	06 58 25.9	+0.3
TYC	baz=277			*e*S	Sn	06 58 36.2	+1.1
LATG	**Datong**	**0.71**	**356**	*e*P	Pn	06 58 26.3	0.0
LATG	baz=355			*e*S	Sn	06 58 36.8	+0.5
WHP	**Taichung City**	**0.74**	**308**	*e*S	Sn	06 58 38.3	+1.4
	baz=307						
ALS	**Alishan**	**0.78**	**247**	P	Pb	06 58 27.9	+0.3
ALS	baz=246			S	Sn	06 58 38.1	0.0
YHNB	**Yeheng**	**0.86**	**347**	P	Pb	06 58 28.8	-0.1
YHNB	baz=347			*e*S	Sb	06 58 40.2	+0.1
NSK	**Sanguang**	**0.87**	**346**	*e*P	Pb	06 58 29.0	0.0
NSK	baz=346			S	Sb	06 58 40.7	+0.2
EDH	**Donghe**	**0.89**	**197**	*e*P	Pn	06 58 28.6	+0.1
EDH	baz=197			*e*S	Sb	06 58 41.1	+0.4
	baz=197						

JMA 18 06:58:14.2±0.2, 24.°26N×123.°72E, h20km±1km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.07**	**7**	P	Pb	06 58 17.9	-0.1
IRIF				*e*S	Sb	06 58 20.5	0.0
HATJ	**Hateruma jima**	**0.22**	**159**	P	Pb	06 58 19.4	-0.2
HATJ				*e*S	Sb	06 58 23.1	-0.1
JKRS	**Kuro-shima**	**0.27**	**95**	P	Pb	06 58 20.2	-0.1
JKRS				S	Sb	06 58 24.6	+0.1
JIJ	**Ishigaki jima**	**0.40**	**75**	P	Pb	06 58 22.3	-0.3
JIJ				S	Sb	06 58 27.5	-0.7

*NNC **18** 07:11:27.1±4.9, 36.°94N×71.°25E, h108km±92km, mb3.2, mpv3.9, Error ellipse: s-maj=40.1km s-min=35.6km az=162.0*
ISC 18 07:11:25.0±3.3, 36.°8N±0.°2×71.°2E±0.°1, h88km, n12, σ1§02/15, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.65**	**19**	P	**Pn**	**07 12 47.7**	**+0.9**
UCH	SNR=96 **Uchtor**	**5.98**	**24**	P	**Pn**	**07 12 52.2**	**+0.9**
EKS2	SNR=17 **Erkin-Say**	**6.17**	**18**	P	**Pn**	**07 12 54.8**	**+1.2**
KK08	SNR=24 **Karatay Array**	**6.31**	**355**	⇑P	**Pn**	**07 12 56.0**	**+0.7**
KK08	5.4nm,0.3s,baz=178,slow=13			⇑S	**Sn**	**07 14 06.2**	**+0.3**
AAK	1.4nm,0.4s **Ala-Archa**	**6.35**	**23**	P	**Pn**	**07 12 57.0**	**+0.9**
AAK	SNR=9.3 **Ala-Archa**	**6.35**	**23**	⇑P	**Pn**	**07 12 56.9**	**+0.9**
AAK	4.0nm,0.3s			⇓S	**Sn**	**07 14 07.6**	**+0.5**
CHMS	15nm,0.8s **Chumysh**	**6.75**	**23**	P	**Pn**	**07 13 02.3**	**+0.8**
USP	SNR=5.2 **Ospenovka**	**6.92**	**20**	P	**Pn**	**07 13 04.5**	**+0.7**
TKM2	SNR=9.8 **Tokmak 2**	**6.97**	**28**	P	**Pn**	**07 13 04.9**	**+0.2**
TKM2	SNR=5.4 **Tokmak 2**	**6.97**	**28**	⇓P	**Pn**	**07 13 04.8**	**+0.2**
TKM2	2.6nm,0.4s			⇑S	**Sn**	**07 14 20.7**	**-1.8**
AB31	1.4nm,0.6s **Akbulak array**	**14.89**	**330**	P	**Pn**	**07 14 49.2**	**-1.4**
AKTO	0.2nm,0.2s,baz=170,slow=9.9,SNR=26 **Aktyubinsk**	**16.59**	**329**	⇓P	**P**	**07 15 13.7**	**+0.7**
	0.6nm,0.4s						

*IDC **18** 07:36:28.2±5.3, 36.°88N×71.°67E, h98km±30km, mb3.3/5, mb1 3.4/12, mb1mx3.2/56, mbtmp3.7/12, MS2.8/1, Ms1 2.8/1, ms1mx2.2/56, Error ellipse: s-maj=60.4km s-min=22.8km az=150.0*
*NNC **18** 07:36:33.3±4.7, 37.°26N×71.°33E, h104km±91km, mb3.7, mpv4.3, Error ellipse: s-maj=38.1km s-min=28.4km az=172.0*
ISC 18 07:36:27.8±0.9, 36.°85N±0.°08×71.°52E±0.°07, h106km, n33, σ1§70/38, mb3.5/5, 6C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.53**	**17**	P	**Pn**	**07 37 49.2**	**+1.0**
UCH	SNR=104 **Uchtor**	**5.85**	**22**	P	**Pn**	**07 37 53.9**	**+1.5**
EKS2	SNR=17 **Erkin-Say**	**6.06**	**16**	P	**Pn**	**07 37 56.1**	**+1.1**
AAK	SNR=15 **Ala-Archa**	**6.22**	**21**	P	**Pn**	**07 37 58.5**	**+1.3**
AAK	9.2nm,0.3s,baz=184,slow=5.8,SNR=70			S	**Sn**	**07 39 04.4**	**-2.5**
AAK	3.2nm,0.3s,baz=125,slow=21,SNR=15 **Ala-Archa**	**6.22**	**21**	P	**Pn**	**07 37 58.6**	**+1.4**
AAK	SNR=20 **Ala-Archa**	**6.22**	**21**	⇑P	**Pn**	**07 37 58.4**	**+1.2**
AAK	14nm,0.4s			⇑S	**Sn**	**07 39 04.6**	**-2.3**
KK08	32nm,0.6s **Karatay Array**	**6.30**	**353**	⇑P	**Pn**	**07 37 58.8**	**+0.6**
KK08	18nm,0.3s,baz=178,slow=13			⇑S	**Sn**	**07 39 05.3**	**-3.3**
CHMS	7.6nm,0.5s,baz=176,slow=24 **Chumysh**	**6.62**	**21**	P	**Pn**	**07 38 03.8**	**+1.2**
USP	SNR=11 **Ospenovka**	**6.80**	**19**	P	**Pn**	**07 38 05.7**	**+0.7**
TKM2	SNR=12 **Tokmak 2**	**6.82**	**26**	P	**Pn**	**07 38 06.7**	**+1.2**
TKM2	SNR=8.9 **Tokmak 2**	**6.82**	**26**	⇓P	**Pn**	**07 38 06.5**	**+1.0**
TKM2	6.1nm,0.5s			⇑S	**Sn**	**07 39 20.0**	**-1.7**
GEYT	9.9nm,0.8s **Alibeck**	**10.72**	**280**	P	**Pn**	**07 38 58.5**	**+0.2**
GEYT	1.0nm,0.3s,baz=101,slow=14,SNR=6.8			S	**Sn**	**07 40 51.3**	**-5.0**
MKAR	1.0nm,0.3s,baz=77,slow=19,SNR=3.3 **Makanchi Array**	**12.76**	**36**	P	**Pn**	**07 39 25.2**	**-0.1**
PYUN	0.0nm,0.3s,baz=212,slow=11,SNR=4.3 **Piuthan**	**13.02**	**129**	*e*P	**Pn**	**07 39 28.3**	**-0.8**
DANN	23nm,0.4s **Dangsing**	**13.34**	**126**	*e*P	**Pn**	**07 39 31.9**	**-1.4**
KOLN	5.7nm,0.2s **Koldanda**	**13.64**	**128**	*e*P	**Pn**	**07 39 35.6**	**-1.5**
GKN	5.1nm,0.2s **Gorkha**	**14.15**	**125**	*e*P	**Pn**	**07 39 42.3**	**-1.3**
KURBB	7.6nm,0.3s **Kurchatov Arra**	**14.66**	**18**	P	**Pn**	**07 39 51.5**	**+1.7**
KURBB	0.1nm,0.3s,baz=201,slow=10,SNR=5.7			LR	LR	07 46 02.7	
KKN	comp=Z,35nm,18.9s,baz=9.6,slow=39 **Kakani**	**14.71**	**124**	*e*P	**Pn**	**07 39 49.7**	**-1.2**
DMN	3.2nm,0.3s **Daman**	**14.72**	**125**	*e*P	**Pn**	**07 39 50.1**	**-0.9**
PKIN	5.1nm,0.3s **Phulchoki**	**14.93**	**124**	*e*P	**Pn**	**07 39 52.3**	**-1.4**
PKI	7.3nm,0.2s **Pulchoki**	**14.95**	**124**	*e*P	**Pn**	**07 39 52.0**	**-1.9**
AB31	1.8nm,0.2s **Akbulak array**	**14.99**	**329**	P	**Pn**	**07 39 53.5**	**-0.5**
GUN	1.2nm,0.3s,baz=168,slow=9.8,SNR=142 **Gumba**	**15.04**	**122**	*e*P	**Pn**	**07 39 53.3**	**-1.8**
BVAR	6.5nm,0.4s **Borovoye Array**	**16.19**	**358**	P	**Pn**	**07 40 09.0**	**+0.1**
AKTO	0.3nm,0.3s,baz=152,slow=9.6,SNR=4.5 **Aktyubinsk**	**16.69**	**329**	P	**Pn**	**07 40 16.1**	**+1.0**
AKTO	0.5nm,0.3s,baz=131,slow=8.3,SNR=7.7			S	Sn	07 43 08.8	-12
AKTO	0.1nm,0.3s,baz=60,slow=20,SNR=1.7 **Aktyubinsk**	**16.69**	**329**	⇑P	**Pn**	**07 40 16.2**	**+1.0**
ZALV	1.9nm,0.6s **Zalesovo Beam**	**19.42**	**24**	P	**P**	**07 40 45.3**	**-0.3**
AKASG	0.1nm,0.3s,baz=211,slow=9.6,SNR=2.3 **Malin Array Be**	**33.05**	**308**	P	**P**	**07 42 55.0**	**+2.0**
FINES	0.5nm,0.5s,baz=82,slow=6.5,SNR=2.1 **FINESS Array B**	**37.43**	**326**	P	**P**	**07 43 32.2**	**+1.9**
ARCES	0.8nm,0.3s,baz=124,slow=9.5,SNR=9.1 **ARCESS Array B**	**40.98**	**337**	P	**P**	**07 44 01.7**	**+1.9**
NOA	2.9nm,0.8s,baz=116,slow=8.1,SNR=1.6 **NORSAR Array B**	**44.35**	**323**	P	**P**	**07 44 28.5**	**+1.3**
YKA	0.3nm,0.5s,baz=116,slow=7.4,SNR=1.3 **Yellowknife Ar**	**80.88**	**3**	P	**P

*SSNC **18** 07:49:23.8±1.4, 19°.68N×76°.06W, h5km±12km, ML3.4, MW3.5*
*OSPL **18** 07:49:23.3±0.8, 19°.90N×76°.15W, h0km±11km, ML3.7*
*JSN **18** 07:49:26.6±2.1, 16°.79N×75°.83W, h0km±999km, MD3.9*
ISC 18 07:49:23.0±1.3, 19°.82N±0°.05×76°.14W±0°.03, h21km±5km, n18, σ1§19/25, 1C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.46**	**68**	*e*P	**Pb**	**07 49 31.9**	**-0.5**
RCC				*e*S	**Sb**	**07 49 37.9**	**-0.8**
RCC				IAML		07 49 39.0	
	comp=N,2μm,0.6s						
LMGC	**Las Mercedes**	**0.85**	**287**	*e*P	**Pn**	**07 49 40.1**	**+0.4**
LMGC				*e*S	**Sn**	**07 49 52.0**	**+0.5**
GTBY	**Guantanamo Bay**	**0.98**	**84**	*e*P	**Pn**	**07 49 40.5**	**-1.0**
GTBY	**Guantanamo Bay**	**0.98**	**84**	*i* P	**Pn**	**07 49 40.6**	**-1.0**
GTBY				*e*S	**Sb**	**07 49 54.0**	**+0.2**
GTBY				IAML		07 49 55.2	
	comp=Z,3μm,0.5s						
GTMO	**Guantanamo**	**0.98**	**75**	*e*P	**Pb**	**07 49 41.7**	**+0.4**
GTMO				*e*S	**Sn**	**07 49 56.0**	**+1.3**
HLGC	**Holguin**	**1.07**	**4**	*e*P	**Pb**	**07 49 44.6**	**+1.7**
MOAC	**Moa**	**1.39**	**53**	*e*P	**Pn**	**07 49 47.7**	**+0.5**
GWJ	**Greenwich**	**1.82**	**198**	*i* P	**Pn**	**07 49 54.1**	**+0.8**
MASC	**Masc**	**1.83**	**79**	*e*P	**Pn**	**07 49 52.0**	**-1.3**
MASC				*e*S	**Sn**	**07 50 13.7**	**-2.1**
MASC				IAML		07 50 24.2	
	comp=N,371nm,0.4s						
MASC				IAML		07 50 26.7	
	comp=E,380nm,0.4s						
STH	**Stony Hill**	**1.84**	**200**	*i* P	**Pn**	**07 49 52.8**	**-0.7**
HOJ	**Hope**	**1.90**	**198**	*i* P	**Pn**	**07 49 54.1**	**-0.1**
CCCC	**Cccc**	**2.05**	**312⇑**	*e*P	**Pn**	**07 49 55.4**	**-0.8**
CCCC				*e*S	**Sn**	**07 50 19.1**	**-2.1**
CCCC				IAML		07 50 23.8	
	comp=E,269nm,0.7s						
CCCC				IAML		07 50 23.8	
	comp=N,198nm,0.8s						
MTDJ	**Mount Denham**	**2.06**	**220**	*e*P	**Pn**	**07 49 55.8**	**-0.7**
MCJ	**Malvern**	**2.39**	**218**	*i* P	**Pn**	**07 50 01.7**	**+0.8**
MCJ				*i* S	**Sn**	**07 50 28.1**	**-1.6**
JAKH	**Jacmel**	**3.77**	**114**	*i* P	**Pn**	**07 50 21.9**	**+1.9**
JAKH				IAML		07 51 25.6	
	comp=Z,52nm,0.4s						
PAPH	**Port-au-Prince**	**3.86**	**109**	*i* P	**Pn**	**07 50 22.5**	**+1.3**
PAPH				IAML		07 51 20.2	
	comp=Z,86nm,0.4s						
SDDR	**Presa de Saban**	**4.66**	**100**	*i* P	**Pn**	**07 50 32.8**	**+0.6**
SDDR				IAML		07 51 39.4	
	comp=Z,52nm,0.6s						
GRTK	**Grand Turk**	**4.98**	**69**	*i* P	**Pn**	**07 50 37.2**	**+0.6**
GRTK				IAML		07 52 10.3	
	comp=Z,90nm,3.1s						

IDC 18 07:51:19.2±7.6, 6°.39S×147°.36E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.2/39, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=239.0km s-min=37.4km az=105.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.48**	**222**	P	P	07 55 35.5	-1.4
	0.1nm,0.3s,baz=40,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**21.51**	**216**	P	P	07 56 10.2	+0.3
	0.4nm,0.7s,baz=48,slow=8.3,SNR=9.5						
MKAR	**Makanchi Array**	**78.02**	**320**	P	P	08 03 20.1	+0.3
	0.1nm,0.3s,baz=113,slow=7.2,SNR=2.4						

IDC 18 08:18:26.7±48.0, 14°.75S×176°.32W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/29, mbtmp3.6/3, Error ellipse: s-maj=907.3km s-min=180.9km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.94**	**239**	P	P	08 26 18.2	-1.2
	0.8nm,0.8s,baz=94,slow=15,SNR=2.1						
WRA	**Warramunga Arr**	**47.25**	**256**	P	P	08 27 02.4	+0.3
	0.1nm,0.2s,baz=88,slow=8.1,SNR=7.2						
ASAR	**Alice Springs**	**47.63**	**251**	P	P	08 27 05.2	+0.1
	0.5nm,0.3s,baz=89,slow=8.0,SNR=17						

*SOME **18** 08:55:42.2, 39°.20N×72°.75E, h10km*
*NNC **18** 08:55:43.6±6.4, 38°.72N×73°.13E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=52.2km s-min=33.4km az=159.0*
*IDC **18** 08:55:45.6±7.3, 38°.52N×73°.41E, h136km±48km, mb3.3/4, mb1 3.4/7, mb1mx3.1/49, mbtmp3.7/7, Error ellipse: s-maj=63.4km s-min=29.0km az=12.0*
ISC 18 08:55:38.4±1.0, 38°.10N±0°.08×73°.04E±0°.08, h100km, n29, σ2§70/37, mb3.6/4, 5C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.06**	**7**	P	**Pn**	**08 56 40.2**	**+1.4**
	SNR=64						
UCH	**Uchtor**	**4.28**	**15**	P	**Pn**	**08 56 42.9**	**+1.2**
	SNR=15						
EKS2	**Erkin-Say**	**4.59**	**7**	P	**Pn**	**08 56 47.4**	**+1.7**
	SNR=22						
MRKS	**Merke**	**4.65**	**2**	*e*P	**Pn**	**08 56 48.9**	**+2.5**
MRKS	40nm,0.3s						
	112nm,0.6s						
IUG	**Iuzhnay**	**4.66**	**331**	*e*P	**Pn**	**08 56 50.1**	**+3.6**
IUG	270nm,0.6s						
	125nm,0.4s						
AAK	**Ala-Archa**	**4.67**	**13**	P	**Pn**	**08 56 48.6**	**+1.8**
	3.6nm,0.3s,baz=164,slow=5.9,SNR=35						
AAK				S	**Sn**	**08 57 37.3**	**-2.5**
	3.8nm,0.3s,baz=121,slow=22,SNR=10						
AAK	**Ala-Archa**	**4.67**	**13**	P	**Pn**	**08 56 49.4**	**+2.6**
	SNR=13						
AAK	**Ala-Archa**	**4.67**	**13**	⇑Pn	**Pn**	**08 56 48.2**	**+1.5**
	5.2nm,0.4s						
AAK				⇑Sn	**Sn**	**08 57 37.1**	**-2.8**
	14nm,0.5s						
TKM2	**Tokmak 2**	**5.20**	**21**	P	**Pn**	**08 56 55.1**	**+1.1**
	SNR=9.0						
TKM2	**Tokmak 2**	**5.20**	**21**	⇓Pn	**Pn**	**08 56 54.4**	**+0.5**
	1.1nm,0.3s						
TKM2				⇑Sn	**Sn**	**08 57 49.4**	**-3.4**
	11nm,0.6s						
KK08	**Karatay Array**	**5.37**	**340**	⇓Pn	**Pn**	**08 56 58.8**	**+2.7**
	40nm,0.5s,baz=145,slow=12						
KK08				⇑Sn	**Sn**	**08 57 54.9**	**-1.7**
	22nm,0.6s,baz=149,slow=21						
KST	**Kastek**	**5.42**	**23**	*e*P	Pn	08 57 06.0	+9.2
	5.3nm,0.6s						
KST				*e*S	**Sn**	**08 58 05.5**	**+7.5**
	14nm,0.5s						
BRLS	**Borolday**	**5.50**	**335**	*e*P	**Pn**	**08 57 00.2**	**+2.3**
	24nm,0.3s						
BRLS				*e*S	**Sn**	**08 57 55.4**	**-4.4**
	4.6nm,0.6s						
MKAR	**Makanchi Array**	**11.05**	**35**	P	**Pn**	**08 58 11.9**	**-1.3**
	0.1nm,0.3s,baz=210,slow=14,SNR=6.7						
PYUN	**Piuthan**	**12.99**	**137**	*e*P	**Pn**	**08 58 37.9**	**-1.4**
	26nm,0.5s						
DANN	**Dangsing**	**13.22**	**134**	*e*P	**Pn**	**08 58 40.3**	**-2.1**
	7.5nm,0.3s						
KOLN	**Koldanda**	**13.58**	**136**	*e*P	**Pn**	**08 58 45.4**	**-1.7**
	2.1nm,0.2s						
GKN	**Gorkha**	**13.98**	**133**	*e*P	**Pn**	**08 58 49.8**	**-2.5**
	3.6nm,0.3s						
KKN	**Kakani**	**14.52**	**131**	*e*P	**Pn**	**08 58 56.9**	**-2.3**
	2.0nm,0.2s						
DMN	**Daman**	**14.55**	**132**	*e*P	**Pn**	**08 58 58.4**	**-1.3**
	3.8nm,0.3s						
AB31	**Akbulak array**	**14.61**	**324**	⇑P	**Pn**	**08 59 00.9**	**+0.9**
	0.9nm,0.3s,baz=130,slow=13,SNR=44						
PKIN	**Phulchoki**	**14.75**	**132**	*e*P	**Pn**	**08 59 00.8**	**-1.4**
	2.2nm,0.3s						
PKI	**Pulchoki**	**14.76**	**132**	*e*P	**Pn**	**08 59 00.7**	**-1.7**
	2.9nm,0.2s						
AKTO	**Aktyubinsk**	**16.33**	**324**	P	**P**	**08 59 24.6**	**+1.9**
	0.9nm,0.3s,baz=130,slow=9.3,SNR=11						
AKTO				S	**Sn**	**09 02 15.6**	**-6.8**
	0.1nm,0.3s,baz=90,slow=15,SNR=3.2						
AKTO	**Aktyubinsk**	**16.33**	**324**	⇓P	**P**	**08 59 22.7**	**0.0**
	3.2nm,0.6s						
SONM	**Songino Array**	**26.10**	**57**	P	**P**	**09 01 02.9**	**+0.1**
	0.3nm,0.7s,baz=254,slow=11,SNR=3.7						
FINES	**FINESS Array B**	**37.10**	**324**	P	**P**	**09 02 40.6**	**+1.9**
	1.8nm,1.0s,baz=113,slow=11,SNR=1.7						
ARCES	**ARCESS Array B**	**40.31**	**336**	P	**P**	**09 03 06.8**	**+1.3**
	3.1nm,0.8s,baz=104,slow=8.9,SNR=8.3						
YKA	**Yellowknife Ar**	**79.57**	**4**	P	**P**	**09 07 34.6**	**+0.7**
	0.2nm,0.5s,baz=349,slow=5.7,SNR=5.6						

AUST 18 09:53:18.4±1.9, 32°.38S×148°.03E, h10km±11km, Error ellipse: s-maj=6.0km s-min=4.9km az=48.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMSA	**Cobar Meteorol**	**2.16**	**292**	P	Pn	09 53 53.7	-0.6
	baz=2.2						
CMSA				S	Sn	09 54 20.9	-0.3
	baz=2.2						
MGCD	**Mangrove Creek**	**2.72**	**109**	P	Pn	09 54 01.5	-0.7
	baz=2.7						
MGCD				S	Sn	09 54 36.0	+0.9
	baz=2.7						
CNB	**Canberra Magne**	**3.13**	**160**	P	Pn	09 54 09.7	+1.8
	baz=3.1						
CNB				S	Sn	09 54 47.6	+2.3
	baz=3.1						
ARMA	**Armidale**	**3.65**	**59**	P	Pn	09 54 16.0	+1.0
	baz=3.6						
ARMA				S	Sn	09 55 02.5	+4.4
	baz=3.6						

*NEIC **18** 09:58:20.7±0.7, 21°.4S±0°.2×179°.0W±0°.2, h584km±10km, mb4.2/14, Error ellipse: s-maj=23.2km s-min=19.8km az=151.0*
*IDC **18** 09:58:21.2±1.9, 21°.32S×179°.07W, h592km±15km, mb3.4/11, mb1 3.6/12, mb1mx3.5/22, mbtmp4.3/12, Error ellipse: s-maj=35.6km s-min=12.3km az=148.0*
ISC 18 09:58:21.9±0.8, 21°.3S±0°.1×179°.1W±0°.1, h602km, n38, σ0§72/39, mb4.0/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.44**	**323**	P	**P**	**09 59 49.2**	**-1.7**
	8.5nm,0.3s,baz=146,slow=12,SNR=43						
MSVF				S	**S**	**10 01 02.4**	**-0.9**
	baz=135,slow=19,SNR=1.8						
MSVF	**Nonsavu**	**4.44**	**323**	P	**P**	**09 59 49.1**	**-1.8**
MARNC	**Mare, Loyalty**	**11.97**	**267**	P	**P**	**10 00 59.9**	**-0.5**
SANVU	**Saraoutou**	**14.22**	**292**	P	**P**	**10 01 22.8**	**-0.2**
WHZ	**Wether Hill Ro**	**26.71**	**200**	P	**P**	**10 03 13.6**	**-1.3**
CTA	**Charters Tower**	**32.37**	**266**	P	**P**	**10 04 04.6**	**+0.7**
	4.4nm,0.5s,baz=86,slow=9.3,SNR=8.5						
CTAO	**Charters Tower**	**32.37**	**266**	P	**P**	**10 04 04.0**	**0.0**
CTAO				IAmb	IAmb	10 04 15.3	
	comp=Z,13nm,1.4s						
TOO	**Toolangi**	**34.57**	**234**	P	**P**	**10 04 22.0**	**-0.1**
STKA	**Stephens Creek**	**36.49**	**245**	P	**P**	**10 04 38.4**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=89,slow=10,SNR=7.2						
STKA	**Stephens Creek**	**36.49**	**245**	IAmb	IAmb	10 04 39.3	
	comp=Z,1.3nm,1.2s						
COEN	**Coen**	**36.60**	**275**	P	**P**	**10 04 40.3**	**+1.2**
COEN				IAmb	IAmb	10 05 04.0	
	comp=Z,4.7nm,1.1s						
BBOO	**Buckleboo**	**41.25**	**244**	P	**P**	**10 05 15.4**	**-0.8**
BBOO				IAmb	IAmb	10 05 17.9	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**43.26**	**263**	P	**P**	**10 05 32.0**	**-0.1**
WR0				IAmb	IAmb	10 05 32.2	
	comp=Z,3.5nm,1.0s						
AS31	**Alice Springs**	**43.31**	**258**	P	**P**	**10 05 32.4**	**-0.1**
ASAR	**Alice Springs**	**43.31**	**258**	P	**P**	**10 05 32.6**	**+0.1**
	comp=Z,5.7nm,0.5s,baz=95,slow=7.8,SNR=124						
ASAR				PcP	**PcP**	**10 07 07.7**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=113,slow=3.3,SNR=9.0						
ASAR				S	**S**	**10 11 18.7**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=97,slow=15,SNR=8.0						
WB0	**Warramunga Arr**	**43.44**	**263**	P	**P**	**10 05 33.4**	**-0.1**
WB0				IAmb	IAmb	10 05 33.9	
	comp=Z,6.0nm,0.8s						
WB2	**Warramunga Arr**	**43.44**	**263**	P	**P**	**10 05 33.3**	**-0.2**
WB2				IAmb	IAmb	10 05 34.1	
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**43.45**	**263**	P	**P**	**10 05 33.4**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=97,slow=5.9,SNR=34						
WRA				PcP	**PcP**	**10 07 08.5**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=94,slow=3.2,SNR=2.3						
WRA	**Warramunga Arr**	**43.45**	**263**	P	**P**	**10 05 33.4**	**-0.2**
FORT	**Forrest**	**48.01**	**247**	P	**P**	**10 06 07.2**	**-0.7**
MTN	**Manton Dam**	**48.13**	**272**	P	**P**	**10 06 09.0**	**0.0**
MTN				IAmb	IAmb	10 06 09.5	
	comp=Z,6.6nm,0.7s						
KNRA	**Kununurra**	**49.56**	**267**	P	**P**	**10 06 19.9**	**+0.3**
KNRA				IAmb	IAmb	10 06 20.3	
	comp=Z,4.7nm,0.6s						
PEA0B	**Petropavlovsk-**	**76.79**	**346**	P	**P**	**10 09 13.8**	**+1.3**
PETK	**Petropavlovsk-**	**76.79**	**346**	P	**P**	**10 09 12.7**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=158,slow=4.8,SNR=12						
USRK	**Ussuriysk Ar.**	**79.05**	**326**	P	**P**	**10 09 25.9**	**+1.1**
	comp=Z,3.9nm,1.0s,baz=154,slow=2.6,SNR=4.7						
NVAR	**Mina Array Bea**	**82.33**	**44**	P	**P**	**10 09 42.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=217,slow=10,SNR=6.3						
TXAR	**Lajitas Array**	**88.38**	**58**	P	**P**	**10 10 11.6**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=224,slow=3.5,SNR=5.3						
ILAR	**Eielson Array**	**89.33**	**13**	P	**P**	**10 10 14.0**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=220,slow=5.5,SNR=2.3						
CMAR	**Chiang Mai Arr**	**89.40**	**290**	P	**P**	**10 10 17.3**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=135,slow=2.9,SNR=10						
PDAR	**Pinedale Array**	**90.27**	**44**	P	**P**	**10 10 19.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=204,slow=3.3,SNR=5.4						
ARCES	**ARCESS Array B**	**129.52**	**349**	PKP	**PKPdf**	**10 16 22.6**	**0.0**
	comp=Z,4.6nm,0.8s,baz=17,slow=1.9,SNR=12						
FINES	**FINESS Array B**	**136.24**	**343**	PKP	**PKPdf**	**10 16 35.6**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=91,slow=2.7,SNR=6.4						
AKASG	**Malin Array Be**	**143.19**	**330**	PKP	PKPab	10 16 46.1	-0.3
	comp=Z,3.2nm,0.6s,baz=43,slow=4.3,SNR=31						
AKBB	**Malin Array Si**	**143.19**	**330**		PKPab	10 16 45.8	-0.7
BRTR	**Keskin Array B**	**146.59**	**311**	PKPbc	**PKPbc**	**10 16 57.6**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=147,slow=4.7,SNR=2.9						
BRTR	**Keskin Array B**	**146.59**	**311**		**PKPbc**	**10 16 57.0**	**-0.3**
CLL	**Collm**	**148.59**	**345**	*i* PKPbc	**PKPbc**	**10 17 02.0**	**+0.1**
	comp=Z,9.0nm,1.1s						
GERES	**GERESS Array B**	**150.67**	**343**	PKPbc	**PKPbc**	**10 17 07.0**	**0.0**
	comp=Z,1.4nm,0.6s,baz=29,slow=3.0,SNR=10						

*OTT **18** 09:59:49.4±0.2, 72°.22N×75°.89W, h18km, MN3.7/5, 89km southeast from Pond Inlet, Nu Eastern Arctic Background Seismic Zone.*
ISC 18 09:59:44.7±0.7, 72°.18N±0°.05×75°.38W±0°.05, h10km, n17, σ3§65/27, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLRN	**Clyde River**	**2.78**	**125**	PN	**Pb**	**10 00 35.2**	**+0.8**
CLRN				Trac		10 01 19.9	
	comp=Z,142nm,0.3s						
TULEG	**Thule**	**4.72**	**19**	*i* P	**Pn**	**10 00 58.0**	**+2.1**
TULEG				*i* S	**Sn**	**10 01 46.6**	**-4.0**
TULEG				IAML		10 01 49.3	
	comp=Z,13nm,0.3s						
UPNV	**Upernavik**	**5.83**	**75**	*i* P	**Pn**	**10 01 15.4**	**+4.3**
UPNV				*i* S	**Sn**	**10 02 17.8**	**-0.1**
UPNV				IAML		10 02 20.4	
	comp=Z,8.4nm,0.2s						
RES	**Resolute Bay**	**6.11**	**303**	PN	**Pn**	**10 01 16.2**	**+1.4**
RES				SN	**Sn**	**10 02 20.6**	**-4.0**
RES				LG	Lg	10 02 55.6	
RES				Trac		10 03 24.6	
	comp=Z,175nm,1.8s						
EUNU	**Eureka**	**8.32**	**347**	PN	**Pn**	**10 01 46.6**	**+1.4**
EUNU				SN	**Sn**	**10 03 14.5**	**-4.7**
EUNU				Trac		10 03 17.9	
	comp=Z,630nm,6.1s						
ILULI	**Ilulissat**	**8.54**	**99**	PN	**Pn**	**10 01 46.5**	**-1.6**
ILULI				Trac		10 02 38.2	
	comp=Z,7.9nm,0.2s						
FRB	**Frobisher Bay**	**8.84**	**160**	PN	**Pn**	**10 01 56.2**	**+3.9**
FRB				SN	**Sn**	**10 03 31.8**	**-0.1**
FRB				LG	Lg	10 04 29.6	
FRB				Trac		10 04 38.4	
	comp=Z,24nm,0.3s						
KNGQ	**Kangiqsujuaq**	**10.72**	**171**	PN	**Pn**	**10 02 21.0**	**+2.9**
KNGQ				SN	**Sn**	**10 04 16.9**	**-1.1**
KNGQ				Trac		10 05 24.3	
	comp=Z,81nm,0.9s						
KNGQ				LG	Lg	10 05 27.1	
SUMG	**Summit**	**11.08**	**70**	*i* P	**Pn**	**10 02 26.0**	**+2.7**
SUMG				*e*S	**Sn**	**10 04 21.4**	**-5.7**
KUKN	**Kugluktuk,NWT**	**14.04**	**272**	PN	**Pn**	**10 03 01.9**	**-1.5**
KUKN				SN	Sn	10 05 29.0	-10
KUKN				Trac		10 06 58.4	
	comp=Z,666nm,5.2s						
KUKN				LG	Lg	10 07 03.2	
KAJQ	**Kangiqsualujju**	**14.07**	**159**	PN	**Pn**	**10 03 04.8**	**+1.1**
KAJQ				SN	**Sn**	**10 05 34.6**	**-5.0**
KAJQ				LG	Lg	10 07 14.6	
KAJQ				Trac		10 07 17.9	
	comp=Z,152nm,1.7s						
A36M	**Sachs Harbour**	**15.00**	**293**	PN	**P**	**10 03 23.1**	**+1.4**
FCC	**Fort Churchill**	**15.42**	**219**	PN	**Pn**	**10 03 22.8**	**+0.8**
FCC				SN	Sn	10 06 02.5	-10
FCC				LG	Lg	10 07 55.6	
FCC				Trac		10 08 01.9	
	comp=Z,233nm,3.2s						
SAKN	**Sanikiluaq**	**15.79**	**188**	PN	**Pn**	**10 03 28.5**	**+1.8**
SAKN				SN	Sn	10 06 10.3	-11
SCHQ	**Schefferville**	**17.79**	**164**	PN	**P**	**10 03 54.9**	**+2.0**
SCHQ				SN	**Sn**	**10 07 02.8**	**-7.3**
SCHQ				Trac		10 09 00.6	
	comp=Z,3μm,5.8s						
SCHQ				LG	Lg	10 09 11.2	
LG4Q	**La Grande 4**	**18.63**	**178**	PN	**Pn**	**10 04 04.3**	**+1.9**
LG4Q				SN	**Sn**	**10 07 22.0**	**-8.3**
LG4Q				Trac		10 09 34.4	
	comp=Z,5.2nm,0.4s						
INK	**Inuvik**	**19.33**	**287**	PN	**Pn**	**10 04 13.2**	**+2.6**

*IDC **18** 10:07:26.7±2.5, 9°.23S×118°.08E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.5/35, mbtmp3.5/5, ML3.4/1, MS3.6/2, Ms1 3.6/2, ms1mx2.6/48, Error ellipse: s-maj=105.6km s-min=24.2km az=56.0*
*DJA **18** 10:07:32.8±0.3, 9°.5S±6°.×11°.8E±°, h10km, M4.0/13, mb4.0/2, MLv4.0/13*
ISC 18 10:07:37.7±0.9, 9°.52S±0°.10×117°.94E±0°.08, h124km, n21, σ3§16/19, mb3.5/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.44**	**95**	P	Pn	10 07 55.8	-8.9
WBSI				S	Sn	10 08 16.2	-9.1
BASI	**Baing, Sumba**	**2.69**	**105**	P	**Pn**	**10 08 17.8**	**-2.3**
DNP	**Denpasar**	**2.82**	**287**	P	**Pn**	**10 08 19.5**	**-2.3**
IGBI	**Denpasar**	**2.84**	**284**	P	**Pn**	**10 08 17.9**	**-4.2**
SRBI	**Singaraja**	**3.05**	**298**	P	**Pn**	**10 08 21.2**	**-3.6**
EDFI	**Ende, Flores**	**3.79**	**79**	P	**Pn**	**10 08 31.0**	**-3.6**
JAGI	**Jajag, Banyuwa**	**3.88**	**285**	P	**Pn**	**10 08 32.0**	**-3.8**
ABJI	**Asem Bagus**	**4.04**	**295**	P	**Pn**	**10 08 36.5**	**-1.4**
BSSI	**Bau Bau, Buton**	**4.20**	**37**	P	**Pn**	**10 08 35.6**	**-4.5**
GMJI	**Gumukmas**	**4.61**	**285**	P	**Pn**	**10 08 41.5**	**-4.0**
BLJI	**Banyuglugur**	**4.64**	**292**	P	**Pn**	**10 08 43.0**	**-2.9**
BKSI	**Bulukumba**	**4.70**	**28**	P	**Pn**	**10 08 43.7**	**-3.1**
BNSI	**Bone**	**5.53**	**23**	P	**Pn**	**10 08 54.7**	**-3.1**
	0.1nm9.9nm,0.6s						
SOEI	**Soe**	**6.25**	**93**	P	**Pn**	**10 09 06.0**	**-1.6**
WRA	**Warramunga Arr**	**18.93**	**125**	P	**P**	**10 11 49.9**	**+0.8**
	0.1nm,0.3s,baz=300,slow=12,SNR=6.9						
WRA				S	S	10 15 08.3	-9.5
	0.1nm,0.3s,baz=292,slow=21,SNR=2.2						
ASAR	**Alice Springs**	**20.75**	**135**	P	**P**	**10 12 10.4**	**+1.6**
	1.3nm,0.6s,baz=314,slow=9.6,SNR=26						
ASAR				S	**S**	**10 15 51.1**	**-2.7**
	0.2nm,0.7s,baz=304,slow=22,SNR=2.2						
JOW	**Kunigami**	**37.51**	**15**	LR	LR	10 31 25.0	
	comp=Z,88nm,19.7s,baz=340,slow=39						
USRK	**Ussuriysk Ar.**	**54.97**	**12**	P	**P**	**10 16 57.2**	**+1.3**
	1.0nm,0.7s,baz=196,slow=7.0,SNR=4.7						
SONM	**Songino Array**	**58.02**	**351**	P	**P**	**10 17 19.9**	**+2.3**
	0.4nm,0.7s,baz=140,slow=7.0,SNR=2.3						
KLR	**Kul'dur**	**59.75**	**10**	LR	LR	10 46 25.1	
	comp=Z,47nm,18.0s,baz=152,slow=39						
MKAR	**Makanchi Array**	**64.45**	**334**	P	**P**	**10 18 03.3**	**+2.5**
	0.1nm,0.3s,baz=153,slow=6.6,SNR=1.3						

*NNC **18** 10:18:20.4±0.9, 51°.77N×75°.48E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=12.1km s-min=5.2km az=21.0, Suspected Mining explosion.*
*IDC **18** 10:18:25.8±4.4, 51°.53N×75°.80E, h0km, mb1 3.1/2, mb1mx2.4/55, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=42.7km s-min=24.5km az=93.0*
ISC 18 10:18:24.0±1.3, 51°.64N±0°.08×75°.69E±0°.07, h0km, n12, σ1§84/12, 8C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.06**	**118**	⇑Pg	**Pb**	**10 19 01.9**	**-0.4**
	3.9nm,0.2s						
KURBB				⇑Lg	Lg	10 19 33.1	
	28nm,0.4s						
KURK	**Kurchatov**	**2.06**	**115**	⇑Pg	**Pn**	**10 19 00.6**	**+0.7**
	3.1nm,0.4s						
KURK				⇓Lg	Lg	10 19 29.2	
	14nm,0.6s						
BVB5	**Borovoye Array**	**3.55**	**295**	⇑Pg	**Pn**	**10 19 21.6**	**+1.3**
	3.6nm,0.6s						
BVB5				⇓Lg	Lg	10 20 07.1	
	5.8nm,0.4s						
OTUK	**Ortayu**	**4.03**	**214**	⇑Pg	**Pb**	**10 19 34.8**	**-1.1**
	0.8nm,0.4s						
OTUK				⇓Lg	Lg	10 20 29.5	
	1.9nm,0.4s						
ZALV	**Zalesovo Beam**	**6.00**	**64**	Pn	**Pn**	**10 19 54.9**	**+0.8**
	0.7nm,0.3s,baz=256,slow=

PATS	**Pohnpei**	**13.49 118**	Pn	**Pn**	**10 22 45.3**	**-2.4**
SIJI	**Sorong**	**20.54 228**	P	Pn	10 24 19.6	+2.7
	27nm,0.9s,baz=51,slow=9.7,SNR=17					
SIJI			LR	LR	10 33 18.5	
	comp=Z,87nm,19.2s,baz=47,slow=40					
FAKI	**Fak Fak**	**21.36 222**	P	**P**	**10 24 24.6**	**+1.2**
KSRS	**Korea Array**	**29.06 329**	P	**P**	**10 25 36.4**	**+0.3**
	1.6nm,0.6s,baz=137,slow=9.9,SNR=6.1					
WB0	**Warramunga Arr**	**34.95 200**	P	**P**	**10 26 28.3**	**+0.3**
WB0			IAmb	IAmb	10 26 42.5	
	comp=Z,8.2nm,1.4s					
WR0	**Warramunga Arr**	**35.08 199**	P	**P**	**10 26 29.7**	**+0.6**
WB2	**Warramunga Arr**	**35.12 200**	P	**P**	**10 26 31.5**	**+2.0**
WB2			IAmb	IAmb	10 26 45.6	
	comp=Z,5.8nm,1.1s					
WRA	**Warramunga Arr**	**35.13 200**	P	**P**	**10 26 29.8**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=22,slow=9.0,SNR=8.0					
ASAR	**Alice Springs**	**38.75 198**	P	**P**	**10 27 01.4**	**+1.1**
	comp=Z,0.5nm,0.9s,baz=24,slow=8.2,SNR=6.9					
ASAR	**Alice Springs**	**38.75 198**	P	**P**	**10 27 01.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**45.72 283**	P	**P**	**10 27 57.8**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=85,slow=6.2,SNR=7.1					
SONM	**Songino Array**	**47.72 324**	P	**P**	**10 28 13.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=136,slow=11,SNR=5.3					
SONM			LR	LR	10 48 57.3	
	comp=Z,43nm,18.2s,baz=272,slow=37					
MK31	**Makanchi Array**	**62.61 316**	P	**P**	**10 29 59.5**	**-0.5**
MKAR	**Makanchi Array**	**62.61 316**	P	**P**	**10 29 59.9**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=91,slow=9.0,SNR=11					
ZALV	**Zalesovo Beam**	**62.61 324**	P	**P**	**10 29 58.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=96,slow=7.6,SNR=4.4					
ZALV			LR	LR	10 57 20.2	
	comp=Z,48nm,19.0s,baz=344,slow=36					
MAKZ	**Makanchi**	**62.83 316**	P	**P**	**10 30 01.2**	**-0.3**
MAKZ			IAmb	IAmb	10 30 04.2	
	comp=Z,3.8nm,1.0s					
KURK	**Kurchatov**	**65.65 320**	P	**P**	**10 30 18.8**	**-1.0**
KURBB	**Kurchatov Arra**	**65.69 320**	P	**P**	**10 30 19.7**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=101,slow=6.7,SNR=22					
ILAR	**Eielson Array**	**68.18 25**	P	**P**	**10 30 36.7**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=252,slow=4.7,SNR=5.0					
PPT	**Papeete**	**70.35 114**	LR	LR	10 56 31.9	
	comp=Z,62nm,21.3s,baz=68,slow=32					
BRVK	**Borovoye**	**71.03 322**	P	**P**	**10 30 52.4**	**-1.1**
BRVK			IAmb	IAmb	10 30 54.3	
	comp=Z,3.1nm,0.8s					
INK	**Inuvik**	**74.04 22**	P	**P**	**10 31 11.9**	**+0.8**
	comp=Z,2.2nm,1.1s,baz=277,slow=7.4,SNR=2.7					
ABKAR	**Akbulak array**	**77.64 318**	P	**P**	**10 31 31.5**	**-0.6**
ABKAR			IAmb	IAmb	10 31 33.2	
	comp=Z,2.4nm,0.8s					
ARU	**Arti**	**77.74 325**	P	**P**	**10 31 33.0**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=325,slow=7.2,SNR=3.8					
ARU	**Arti**	**77.74 325**	IAmb	IAmb	10 31 47.4	
	comp=Z,4.7nm,1.0s					
AKTO	**Aktyubinsk**	**78.74 319**	P	**P**	**10 31 39.0**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=85,slow=12,SNR=2.6					
AKTO			LR	LR	11 07 10.9	
	comp=Z,10nm,20.1s,baz=54,slow=36					
YKA	**Yellowknife Ar**	**82.42 28**	P	**P**	**10 31 58.2**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=284,slow=5.0,SNR=8.7					
NVAR	**Mina Array Bea**	**85.97 52**	P	**P**	**10 32 16.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=274,slow=4.2,SNR=2.8					
FINES	**FINESS Array B**	**91.94 335**	P	**P**	**10 32 43.1**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=46,slow=5.5,SNR=6.4					
DBIC	**Dimbokro**	**145.11 303**	PKPbc	**PKPab**	**10 39 13.1**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=78,slow=3.9,SNR=3.8					
LPAZ	**La Paz**	**146.62 99**	PKPbc	**PKPbc**	**10 39 19.6**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=255,slow=5.5,SNR=2.9					

IDC 18 10:20:20.9±622.0, 53°.56N×35°.00E, h0km, Error ellipse: s-maj=262.1km s-min=76.2km az=25.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.41**	**21**	*i*			10 44 10.0	
	baz=204,slow=307,SNR=0.8							
I31KZ	**AKTYUBINSK INF**	**14.53**	**93**	*i*			11 51 00.0	
	baz=293,slow=341,SNR=1.8							
I46RU	**ZALESOVO INFRA**	**28.97**	**69**	*i*			13 15 50.0	
	baz=291,slow=329,SNR=1.1							
I34MN	**SONGINO INFRAS**	**43.87**	**67**	*i*			14 46 40.0	
	baz=303,slow=336,SNR=0.6							

*EAF **18** 10:27:52.9±3.8, 26°.09S×29°.29E, h0km±19km, MD4.2*
BUL 18 10:27:53.0±2.9, 26°.10S×29°.27E, h0km±15km, MD4.6, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.63**	**95**	*i* P		Pn	10 28 37.5	+0.8
CNG				*i* Sg		Sb	10 29 13.7	-0.1
CNG	**Changalane**	**2.63**	**95**	*i* P		Pn	10 28 37.5	+0.8
CNG				*i* Sg		Sb	10 29 13.7	-0.1
MOPA	**Mopani**	**3.22**	**37**	*i* P		Pn	10 28 43.4	-1.5
MOPA				*i* Sg		Sb	10 29 28.8	-2.1
MOPA	**Mopani**	**3.22**	**37**	*i* P		Pn	10 28 43.4	-1.5
MOPA				*i* Sg		Sb	10 29 28.8	-2.1
MSNA	**Messina**	**3.81**	**11**	*i* P		Pn	10 28 54.2	+1.3
MSNA				*i* Sg		Sb	10 29 48.8	+1.0
MSNA	**Messina**	**3.81**	**11**	*i* P		Pn	10 28 54.2	+1.3
MSNA				*i* Sg		Sb	10 29 48.8	+1.0
BOSA	**Boshof**	**4.36**	**234**	*i* P		Pn	10 28 59.9	-0.7
BOSA				*i* Sg		Sb	10 30 06.5	+2.8
BOSA	**Boshof**	**4.36**	**234**	*i* P		Pn	10 28 59.9	-0.7
BOSA				*i* Sg		Sb	10 30 06.5	+2.8
MATP	**Matopo**	**5.70**	**353**	*i* P		Pn	10 29 19.8	+0.7
MATP				*i* S		Sn	10 30 20.5	-4.7
MATP	**Matopo**	**5.70**	**353**	*i* P		Pn	10 29 19.8	+0.7
MATP				*i* S		Sn	10 30 20.5	-4.7
BLWY	**Bulawayo**	**5.97**	**354**	*i* S		Sn	10 30 27.0	-4.9
BLWY	**Bulawayo**	**5.97**	**354**	*i* S		Sn	10 30 27.0	-4.9
CHIPN	**CHIPINGE**	**6.62**	**29**	*i* P		Pn	10 29 32.6	+0.9
CHIPN				*i* S		Sn	10 30 42.5	-5.4
CHIPN	**CHIPINGE**	**6.62**	**29**	*i* P		Pn	10 29 32.6	+0.9
CHIPN				*i* S		Sn	10 30 42.5	-5.4

*IASPEI **18** 10:37:16.4±0.8, 42°.50N±0°.01×13°.31E±0°.02, h16km±4km, Error ellipse: s-maj=2.8km s-min=2.1km az=68.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*PDG **18** 10:37:16.7±0.6, 42°.50N×13°.33E, h12km, ML3.9/10, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*ROM **18** 10:37:16.6±0.0, 42°.498N±0°.003×13°.329E±0°.004, h13km, ML3.3/60, Error ellipse: s-maj=0.3km s-min=0.1km az=252.0*
*LDG **18** 10:37:16.6±0.1, 42°.43N×13°.30E, h15km, Ml2.9/11, Error ellipse: s-maj=4.5km s-min=3.0km az=35.0*
ISC 18 10:37:16.7±0.8, 42°.50N±0°.01×13°.30E±0°.01, h18km±2km, n181, σ1§73/249, 17C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.06**	**280**	P		**Pg**	**10 37 19.7**	**-0.4**
RM33				S		**Sg**	**10 37 22.0**	**-0.6**
RM33				AML		AML		
	comp=N,37500μm,0.3s							
RM33				AML		AML		
	comp=E,25650μm,0.7s							
RM33				AML		AML		
	comp=N,36550μm,0.3s							
RM33				AML		AML		
	comp=N,37500μm,0.3s							
RM33				AML		AML		
	comp=E,25600μm,0.7s							
RM33				AML		AML		
	comp=E,26650μm,0.6s							
CAMP	**Campotosto**	**0.09**	**65**	⇓P		**Pg**	**10 37 19.8**	**-0.6**
CAMP				S		**Sg**	**10 37 22.1**	**-0.8**
CAMP				AML		AML		
	comp=N,21700μm,0.6s							
CAMP				AML		AML		
	comp=E,10090μm,1.5s							
SMA1	**SAN MARTINO**	**0.14**	**11**	⇑P		**Pb**	**10 37 20.4**	**+0.6**
SMA1				S		**Sg**	**10 37 23.3**	**-0.4**
SMA1				AML		AML		
	comp=E,46400μm,1.2s							
SMA1				AML		AML		
	comp=N,62000μm,0.4s							
SMA1				AML		AML		
	comp=E,46450μm,1.2s							
AQU	**L'Aquila**	**0.16**	**152**	⇓P		**Pb**	**10 37 20.8**	**+0.2**
AQU				S		**Sg**	**10 37 23.9**	**-0.2**
AQU				AML		AML		
	comp=E,17200μm,1.6s							
AQU				AML		AML		
	comp=E,17150μm,1.6s							
AQU				AML		AML		
	comp=N,26250μm,0.8s							
AQU				AML		AML		
	comp=N,26300μm,0.8s							
AQU				AML		AML		
	comp=E,17150μm,1.6s							
AQU				AML		AML		
	comp=N,26550μm,0.7s							
GIGS	**Gran Sasso**	**0.20**	**104**	P		**Pb**	**10 37 21.1**	**-0.5**
GIGS				S		**Sg**	**10 37 24.6**	**-0.6**
GIGS				AML		AML		
	comp=E,5240μm,0.8s							
GIGS				AML		AML		
	comp=N,7375μm,0.1s							
GIGS				AML		AML		
	comp=E,5235μm,0.8s							
LNSS	**Leonessa**	**0.22**	**299**	⇑P		**Pb**	**10 37 21.8**	**-0.2**
LNSS				S		**Sg**	**10 37 25.6**	**0.0**
LNSS				AML		AML		
	comp=E,27800μm,1.1s							
LNSS				AML		AML		
	comp=N,27150μm,1.2s							
TERO	**Teramo**	**0.26**	**61**	⇑P		**Pb**	**10 37 21.9**	**-0.7**
TERO				S		**Sb**	**10 37 26.0**	**-0.7**
FIAM	**Fiamignano**	**0.27**	**211**	⇑P		**Pb**	**10 37 22.4**	**-0.5**
FIAM				S		**Sb**	**10 37 26.9**	**-0.1**
FIAM				AML		AML		
	comp=N,16200μm,0.4s							
FIAM				AML		AML		
	comp=E,9835μm,0.8s							
AQT1	**Arquata del Tr**	**0.28**	**359**	⇑P		**Pb**	**10 37 22.4**	**-0.6**
AQT1				S		**Sb**	**10 37 27.0**	**-0.3**
FAGN	**Fagnano**	**0.31**	**138**	⇓P		**Pb**	**10 37 23.1**	**-0.7**
FAGN				S		**Sb**	**10 37 27.7**	**-0.8**
FAGN				AML		AML		
	comp=E,29100μm,0.5s							
FAGN				AML		AML		
	comp=N,21000μm,1.6s							
VCEL	**Villa Celiera**	**0.41**	**104**	P		**Pg**	**10 37 24.6**	**-0.6**
VCEL				AML		AML		
	comp=N,11080μm,0.4s							
VCEL				AML		AML		
	comp=N,11125μm,0.4s							
VCEL				AML		AML		
	comp=E,10750μm,0.5s							
T0110	**Collepietro**	**0.45**	**127**	P		**Pg**	**10 37 25.2**	**-0.6**
T0110				S		**Sg**	**10 37 31.5**	**-0.4**
T0110				AML		AML		
	comp=E,7775μm,0.3s							
T0110				AML		AML		
	comp=N,12220μm,1.4s							
PTQR	**Pietraquaria**	**0.48**	**171**	P		**Pg**	**10 37 25.8**	**-0.7**
PTQR				S		**Sb**	**10 37 33.5**	**+0.1**
PTQR				AML		AML		
	comp=E,2915μm,0.4s							
PTQR				AML		AML		
	comp=N,1935μm,0.8s							
FEMA	**Monte Fema**	**0.50**	**338**	P		**Pg**	**10 37 26.2**	**-0.6**
FEMA				S		**Sb**	**10 37 34.4**	**+0.4**
FEMA				AML		AML		
	comp=E,6180μm,0.7s							
FEMA				AML		AML		
	comp=N,5095μm,0.9s							
FEMA				AML		AML		
	comp=E,6180μm,0.8s							
FEMA				AML		AML		
	comp=N,5100μm,0.9s							
OFFI	**Offida**	**0.52**	**33**	⇑P		**Pb**	**10 37 27.1**	**-0.1**
CESX	**Cesi**	**0.54**	**282**	P		**Pg**	**10 37 27.0**	**-0.5**
CESX				S		**Sb**	**10 37 36.4**	**+1.3**
TRTR	**Tortoreto Alta**	**0.55**	**55**	P		**Pb**	**10 37 27.8**	**+0.1**
TRTR				AML		AML		
	comp=E,9160μm,0.7s							
TRTR				AML		AML		
	comp=N,8500μm,1.0s							
FDMO	**Fiordimonte**	**0.56**	**344**	⇑P		**Pg**	**10 37 27.2**	**-0.7**
FDMO				S		**Sb**	**10 37 35.9**	**+0.3**
CSP1	**Cessapalombo**	**0.60**	**353**	⇑P		**Pg**	**10 37 27.9**	**-0.7**
CSP1				S		**Sb**	**10 37 37.3**	**+0.6**
CSP1				AML		AML		
	comp=E,4165μm,0.2s							
CSP1				AML		AML		
	comp=N,3760μm,1.5s							
CSP1				AML		AML		
	comp=N,3755μm,1.5s							
CSP1				AML		AML		
	comp=E,4160μm,0.2s							
CERT	**Cerreto**	**0.60**	**203**	⇑P		**Pg**	**10 37 27.9**	**-0.7**
CERT				S		**Sb**	**10 37 37.5**	**+0.9**
CERT				AML		AML		
	comp=E,6895μm,0.4s							
CERT				AML		AML		
	comp=N,4095μm,0.6s							
MOMA	**Monte Martano**	**0.62**	**300**	P		**Pb**	**10 37 28.7**	**-0.3**
MOMA				S		**Sb**	**10 37 38.4**	**+1.1**
MOMA				AML		AML		
	comp=N,4610μm,0.3s							
MOMA				AML		AML		
	comp=N,4785μm,0.3s							
MOMA				AML		AML		
	comp=E,4235μm,0.4s							
MOMA				AML		AML		
	comp=E,4375μm,0.4s							
MTCE	**Montecelio**	**0.63**	**221**	P		**Pg**	**10 37 28.6**	**-0.6**
MTCE				S		**Sb**	**10 37 38.8**	**+1.3**
MTCE				AML		AML		
	comp=N,2050μm,0.7s							
MTCE				AML		AML		
	comp=E,3240μm,0.4s							
SRES	**S.Oreste - Sor**	**0.64**	**246**	P		**Pb**	**10 37 29.2**	**-0.1**
SRES				S		**Sb**	**10 37 39.4**	**+1.5**
SRES				AML		AML		
	comp=E,1705μm,0.3s							
SRES				AML		AML		
	comp=N,1092μm,0.3s							
MNTP	**Montappone**	**0.65**	**11**	P		**Pb**	**10 37 29.3**	**-0.1**
VVLD	**Villa Vallelon**	**0.67**	**159**	P		**Pg**	**10 37 29.0**	**-0.9**
VVLD				AML		AML		
	comp=E,2610μm,1.1s							
VVLD				AML		AML		
	comp=N,3820μm,0.5s							
VVLD				AML		AML		
	comp=E,2615μm,1.1s							
GUAR	**Guarcino**	**0.70**	**179**	P		**Pb**	**10 37 30.5**	**+0.1**
GUAR				AML		AML		
	comp=N,4295μm,1.3s							
GUAR				AML		AML		
	comp=E,2990μm,0.4s							
MDAR	**Monte D'Aria**	**0.70**	**351**	P		**Pg**	**10 37 29.6**	**-0.9**
MDAR				S		**Sb**	**10 37 40.9**	**+1.1**
ASSB	**Assisi San Ben**	**0.72**	**319**	⇑P		**Pg**	**10 37 30.0**	**-0.8**
ASSB				S		**Sb**	**10 37 41.3**	**+1.0**
ASSB				AML		AML		
	comp=E,2400μm,0.7s							
ASSB				AML		AML		
	comp=N,3070μm,0.9s							
GUMA	**Gualdo di Mace**	**0.73**	**39**	⇑P		**Pg**	**10 37 27.6**	**-3.5**
GUMA				S		**Sg**	**10 37 36.5**	**-4.3**
GUMA				AML		AML		
	comp=E,9140μm,0.4s							
GUMA				AML		AML		
	comp=N,8725μm,0.5s							
GUMA				AML		AML		
	comp=E,10040μm,0.5s							
GUMA				AML		AML		
	comp=N,10055μm,0.5s							
CADA	**Capodarco di F**	**0.77**	**26**	P		**Pb**	**10 37 32.0**	**+0.5**
LPEL	**Lama dei Pelig**	**0.80**	**124**	P		**Pg**	**10 37 30.5**	**-1.7**
LPEL				S		**Sb**	**10 37 42.5**	**+0.1**
LPEL				AML		AML		
	comp=N,2860μm,0.6s							
LPEL				AML		AML		
	comp=E,2720μm,0.9s							
RMP	**Rome, Mte Porz**	**0.82**	**213**	P		**Pb**	**10 37 32.2**	**-0.1**
RMP				S		**Sb**	**10 37 44.2**	**+1.2**
RMP				AML		AML		
	comp=E,3020μm,1.0s							
RMP				AML		AML		
	comp=N,2975μm,0.5s							
POFI	**Posta Fibreno**	**0.84**	**158**	P		**Pg**	**10 37 32.4**	**-0.6**
ATCC	**AVT- Casa Cast**	**0.84**	**325**	P		**Pg**	**10 37 32.2**	**-0.8**
ATCC				S		**Sn**	**10 37 45.1**	**-0.5**
ATCC				AML		AML		
	comp=E,3060μm,0.5s							
ATCC				AML		AML		
	comp=E,3065μm,0.5s							
ATCC				AML		AML		
	comp=N,2420μm,1.0s							
EL6	**Elcito**	**0.84**	**350**	P		**Pg**	**10 37 32.1**	**-1.0**
RDP	**Rocca di Papa**	**0.86**	**211**	P		**Pb**	**10 37 33.1**	**+0.1**
RDP				AML		AML		
	comp=E,5020μm,0.5s							
RDP				AML		AML		
	comp=N,6125μm,1.2s							
CING	**Cingoli**	**0.88**	**355**	⇑P		**Pg**	**10 37 32.7**	**-1.1**
CING				AML		AML		
	comp=N,2580μm,0.8s							
CING				AML		AML		
	comp=E,1820μm,0.3s							
FOSV	**Fossato di Vic**	**0.89**	**334**	P		**Pg**	**10 37 32.9**	**-1.1**
SAMA	**S.Maria delle**	**0.89**	**217**	P		**Pb**	**10 37 33.6**	**0.0**
PP3	**Marolino**	**0.91**	**14**	P		**Pb**	**10 37 33.9**	**0.0**
LAV9	**Lanuvio**	**0.93**	**209**	P		**Pn**	**10 37 34.7**	**-0.2**
MURB	**Monte Urbino**	**0.95**	**324**	P		**Pg**	**10 37 34.2**	**-1.0**
MGAB	**Montegabbione**	**0.97**	**296**	P		**Pb**	**10 37 34.9**	**-0.1**
MGAB				AML		AML		
	comp=E,1435μm,1.3s							
MGAB				AML		AML		
	comp=N,1690μm,0.6s							
MGAB				AML		AML		
	comp=N,1680μm,0.6s							
MGAB				AML		AML		
	comp=E,1440μm,1.3s							
MGAB				AML		AML		
	comp=E,1670μm,1.4s							
ATTE	**AVT- Monte Tez**	**0.99**	**315**	AML		AML		
	comp=N,1455μm,0.4s							
ATTE				AML		AML		
	comp=E,1235μm,0.5s							
LIK	**San Giovanni I**	**1.01**	**169**	P		**Pn**	**10 37 36.0**	**+0.1**
LIK				AML		AML		
	comp=E,1825μm,0.5s							
LIK				AML		AML		
	comp=N,2330μm,0.6s							
LIK				AML		AML		
	comp=E,1833μm,0.5s							
SSFR	**Montelago di S**	**1.01**	**338**	P		**Pg**	**10 37 35.1**	**-1.2**
SSFR				AML		AML		
	comp=E,2020μm,1.4s							
SSFR				AML		AML		
	comp=E,2055μm,1.2s							
SSFR				AML		AML		
	comp=N,1985μm,0.3s							
SSFR				AML		AML		
	comp=N,2000μm,0.2s							
RNI2	**Rionero Sannit**	**1.02**	**141**	P		**Pb**	**10 37 35.7**	**0.0**
ATFO	**Monte Foce - G**	**1.02**	**329**	P		**Pg**	**10 37 35.4**	**-1.1**
ATFO				AML		AML		
	comp=N,1335μm,0.4s							
ATFO				AML		AML		
	comp=E,1250μm,1.4s							
ATSC	**Scheggia e Pas**	**1.03**	**334**	P		**Pg**	**10 37 35.4**	**-1.3**
ARVD	**Arcevia**	**1.03**	**345**	P		**Pg**	**10 37 35.4**	**-1.3**
ARVD				AML		AML		
	comp=E,2025μm,0.6s							
ARVD				AML		AML		
	comp=N,1285μm,0.5s							
LATB	**Latina**	**1.03**	**194**	P		**Pb**	**10 37 35.5**	**-0.5**
LATB				AML		AML		
	comp=E,379μm,0.8s							
LATB				AML		AML		
	comp=N,314μm,0.6s							
ATLO	**AVT- Montelove**	**1.05**	**322**	P		**Pg**	**10 37 35.8**	**-1.2**
ATLO				S		**Sn**	**10 37 51.2**	**+0.6**
CERA	**Filignano**	**1.05**	**149**	P		**Pg**	**10 37 35.8**	**-1.2**
CERA				AML		AML		
	comp=E,2440μm,1.1s							
CERA				AML		AML		
	comp=E,2475μm,1.1s							
CERA				AML		AML		
	comp=N,1810μm,0.6s							
CERA				AML		AML		
	comp=N,1765μm,0.6s							
TOLF	**Tolfa**	**1.06**	**246**	P		**Pn**	**10 37 36.6**	**+0.1**
AOI	**Ancona**	**1.07**	**12**	P		**Pb**	**10 37 36.5**	**-0.2**
AOI				AML		AML		
	comp=N,918μm,1.6s							
AOI				AML		AML		
	comp=E,948μm,1.4s							
ATVA	**AVT- Monte Val**	**1.08**	**317**	P		**Pb**	**10 37 36.7**	**-0.1**
ATVA				S		**Sn**	**10 37 51.8**	**+0.4**
SACS	**San Casciano d**	**1.08**	**289**	P		**Pn**	**10 37 37.3**	**+0.3**
TB01	**Gubbio**	**1.09**	**325**	P		**Pb**	**10 37 36.6**	**-0.3**
ATVO	**AVT- Monte Val**	**1.10**	**324**	P		**Pb**	**10 37 36.7**	**-0.5**
ATVO				S		**Sn**	**10 37 53.0**	**+1.0**
ATVO				AML		AML		
	comp=N,890μm,0.6s							
ATVO				AML		AML		
	comp=E,1160μm,0.6s							
FRON	**Frontone**	**1.10**	**338**	P		**Pb**	**10 37 36.7**	**-0.5**
FRON				S		**Sn**	**10 37 52.6**	**+0.6**
FRON				AML		AML		
	comp=E,1221μm,0.6s							
FRON				AML		AML		
	comp=N,1445μm,0.8s							
MIDA	**Miranda**	**1.11**	**140**	P		**Pb**	**10 37 36.0**	**-1.4**
MIDA				AML		AML		
	comp=E,1235μm,0.4s							
MIDA				AML		AML		
	comp=N,1115μm,0.6s							
TB03	**Pietralunga**	**1.11**	**324**	P		**Pb**	**10 37 37.0**	**-0.4**
ATBU	**Serra di Buran**	**1.12**	**331**	P		**Pb**	**10 37 37.2**	**-0.3**
ATMI	**Monte Miggiano**	**1.13**	**318**	P		**Pn**	**10 37 38.1**	**+0.5**
FRES	**Fresagrandinar**	**1.14**	**117**	P		**Pg**	**10 37 38.1**	**-0.7**
COR1	**Corinaldo**	**1.15**	**349**	P		**Pg**	**10 37 38.5**	**-0.5**
ATPI	**Pietralunga -**	**1.16**	**326**	P		**Pb**	**10 37 37.8**	**-0.4**
ATPC	**Poggio Castell**	**1.16**	**328**	P		**Pb**	**10 37 38.1**	**-0.1**
PIEI	**Pieia**	**1.18**	**332**	P		**Pb**	**10 37 37.9**	**-0.6**
PIEI				AML		AML		
	comp=E,904μm,1.1s							
PIEI				AML		AML		
	comp=N,844μm,0.7s							
MPAG	**Monte Paganucc**	**1.20**	**341**	P		**Pb**	**10 37 38.4**	**-0.5**
MPAG				AML		AML		
	comp=N,1460μm,0.6s							
MPAG				AML		AML		
	comp=E,1200μm,0.6s							
APEC	**Apecchio**	**1.24**	**329**	P		**Pg**	**10 37 40.0**	**-0.7**
ATMC	**Monte Cedrone**	**1.25**	**320**	P		**Pg**	**10 37 40.4**	**-0.4**
FSSB	**Fossombrone**	**1.25**	**342**	P		**Pn**	**10 37 39.4**	**+0.1**
FSSB				AML		AML		
	comp=E,3245μm,0.4s							
FSSB				AML		AML		
	comp=N,2735μm,0.4s							
BADI	**Badiali**	**1.27**	**323**	P		**Pb**	**10 37 40.2**	**+0.1**
BADI				AML		AML		
	comp=E,824μm,0.7s							
BADI				AML		AML		
	comp=N,1250μm,0.8s							
CAFI	**Castiglion Fio**	**1.28**	**311**	P		**Pb**	**10 37 40.4**	**0.0**
VAGA	**Valle Agricola**	**1.29**	**147**	P		**Pn**	**10 37 40.1**	**+0.3**
PE3	**Peglio**	**1.33**	**334**	P		**Pb**	**10 37 41.2**	**0.0**
SGG	**Gregorio Mates**	**1.37**	**144**	P		**Pg**	**10 37 42.7**	**-0.4**
SGG				AML		AML		
	comp=N,2.0nm,1.1s							
SGG				AML		AML		
	comp=E,672μm,0.6s							
SGG				AML		AML		
	comp=E,2.0nm,0.7s							
SGG				AML		AML		
	comp=N,640μm,0.4s							
SSP9	**Sansepolcro**	**1.38**	**322**	P		**Pg**	**10 37 42.7**	**-0.5**
PARC	**Parchiule**	**1.39**	**326**	P		**Pb**	**10 37 42.2**	**+0.1**
PARC				AML		AML		
	comp

CRE	**Caprese Michel**	**1.50 319**	P	**Pn**	**10 37 43.3 +0.6**
CRE			AML	AML	
	comp=E,416μm,0.4s				
CRE			AML	AML	
	comp=N,428μm,0.8s				
VITU	**Vitulano (BN)**	**1.65 142**	P	**Pb**	**10 37 46.2 -0.3**
PSB1	**Pescosannita**	**1.70 138**	P	**Pb**	**10 37 47.5 0.0**
ASQU	**Asqua**	**1.71 320**	P	**Pb**	**10 37 46.6 -0.9**
FROS	**Frosini**	**1.73 295**	P	**Pn**	**10 37 46.6 +0.8**
SFI	**Santa Sofia**	**1.76 323**	P	**Pn**	**10 37 47.1 +0.8**
CSNT	**Castellina Chi**	**1.77 304**	P	**Pb**	**10 37 48.2 -0.3**
CASP	**Castiglione de**	**1.82 280**	P	**Pn**	**10 37 47.6 +0.5**
CASP			AML	AML	
	comp=N,71μm,0.6s				
CASP			AML	AML	
	comp=E,60μm,1.6s				
OSSC	**Osservatorio P**	**1.82 305**	P	**Pb**	**10 37 48.6 -0.8**
RUFI	**Rufina**	**1.87 316**	P	**Pn**	**10 37 48.8 +1.0**
LMD	**Lutirano**	**1.96 324**	P	**Pb**	**10 37 51.2 -0.6**
SGRT	**San Giovanni R**	**1.96 111**	P	**Pb**	**10 37 50.7 -1.2**
DUGI	**Dugi Otok**	**1.97 40**	*e*Pn	**Pn**	**10 37 49.8 +0.7**
DUGI			Sn	**Sn**	**10 38 13.1 -0.3**
ZIRJ	**Zirje**	**2.07 55**	*e*Pn	**Pn**	**10 37 51.4 +0.9**
ZIRJ			Sn	**Sn**	**10 38 16.5 +0.7**
MSAG	**Monte S. Angel**	**2.10 111**	AML	AML	
	comp=E,591μm,0.5s				
MSAG			AML	AML	
	comp=N,1075μm,0.4s				
LIO3	**Lioni**	**2.13 138**	P	**Pn**	**10 37 53.1 +1.7**
CRMI	**Carmignano**	**2.14 308**	P	**Pn**	**10 37 53.0 +1.6**
CRMI			AML	AML	
	comp=N,98μm,1.6s				
CRMI			AML	AML	
	comp=E,96μm,0.8s				
MPPT	**Montemurlo**	**2.18 313**	AML	AML	
	comp=E,140μm,1.3s				
MPPT			AML	AML	
	comp=N,165μm,0.8s				
MORI	**Morici**	**2.23 51**	*e*Pn	**Pn**	**10 37 54.0 +1.4**
MORI			Sn	**Sn**	**10 38 20.0 +0.3**
MTCR	**Monte La Croce**	**2.27 313**	P	**Pn**	**10 37 54.3 +0.9**
FNVD	**Fontana Vidola**	**2.30 317**	P	**Pn**	**10 37 55.3 +1.5**
NVLJ	**Novalja**	**2.36 28**	*e*Pn	**Pn**	**10 37 55.1 +0.7**
NVLJ			Sn	**Sn**	**10 38 23.0 +0.1**
HVAR	**Hvar**	**2.41 73**	*e*Pn	**Pn**	**10 37 56.1 +0.9**
HVAR			Sn	**Sn**	**10 38 24.9 +0.7**
BRJN	**Brijuni**	**2.43 8**	*e*Pn	**Pn**	**10 37 56.1 +0.7**
BRJN			Sn	**Sn**	**10 38 24.4 -0.2**
MAIM	**Mastiano**	**2.49 306**	P	**Pn**	**10 37 57.8 +1.5**
MAIM			S	**Sn**	**10 38 28.1 +1.8**
RABC	**Rab**	**2.50 25**	*e*Pn	**Pn**	**10 37 56.6 +0.3**
RABC			Sn	**Sn**	**10 38 25.7 -0.5**
PALZ	**Palazzo San Ge**	**2.52 127**	P	**Pn**	**10 37 58.4 +1.7**
MRVN	**Minervino Murg**	**2.60 123**	P	**Pn**	**10 37 59.4 +1.6**
SMRN	**Sveta Marina**	**2.61 13**	*e*Pn	**Pn**	**10 37 58.5 +0.6**
SMRN			Sn	**Sn**	**10 38 29.7 +0.6**
UDBI	**Udbina**	**2.71 41**	*e*Pn	**Pn**	**10 38 00.9 +1.6**
UDBI			Sn	**Sn**	**10 38 31.6 0.0**
KIJV	**Kijevo**	**2.72 55**	*e*Pn	**Pn**	**10 38 01.3 +1.8**
KIJV			Sn	**Sn**	**10 38 32.8 +0.8**
MAKA	**Makarska**	**2.84 73**	*e*Pn	**Pn**	**10 38 02.1 +1.0**
MAKA			Sn	**Sn**	**10 38 36.6 +1.7**
PLIT	**Plitvice**	**2.92 35**	*e*Pn	**Pn**	**10 38 03.2 +1.1**
PLIT			Sn	**Sn**	**10 38 37.3 +0.6**
AMUR	**Altamura**	**2.94 122**	P	**Pn**	**10 38 04.0 +1.6**
RIY	**Rijeka**	**2.95 16**	*e*Pn	**Pn**	**10 38 03.9 +1.3**
RIY			Sn	**Sn**	**10 38 38.0 +0.4**
RICI	**Ricice**	**2.98 69**	*e*Pn	**Pn**	**10 38 04.6 +1.6**
RICI			Sn	**Sn**	**10 38 39.8 +1.4**
PGF	**Pioggiola**	**3.18 272**	*e*P	**Pn**	**10 38 07.3 +1.5**
PGF			*e*Sn	**Sn**	**10 38 39.7 -3.6**
	comp=N,6.0nm,0.5s				
STON	**Ston**	**3.27 82**	*e*Pn	**Pn**	**10 38 08.2 +1.3**
STON			Sn	**Sn**	**10 38 46.4 +1.2**
OZLJ	**Ozalj**	**3.49 26**	*e*Pn	**Pn**	**10 38 11.1 +1.2**
OZLJ			Sn	**Sn**	**10 38 49.8 -0.8**
ROVR	**Rover Verones**	**3.53 334**	AML	AML	
	comp=N,51μm,0.4s				
ROVR			AML	AML	
	comp=E,38μm,1.0s				
CGRP	**Cima Grappa**	**3.55 343**	AML	AML	
	comp=E,190μm,0.8s				
CGRP			AML	AML	
	comp=N,170μm,0.6s				
LJU	**Ljubljana**	**3.65 14**	AML	AML	
	comp=N,906μm,0.5s				
LJU			AML	AML	
	comp=E,512μm,1.5s				
CTI	**Castel Tesino**	**3.74 342**	AML	AML	
	comp=E,114μm,0.2s				
CTI			AML	AML	
	comp=N,146μm,1.3s				
STAL	**STALIGIAL**	**3.79 354**	AML	AML	
	comp=N,112μm,1.4s				
STAL			AML	AML	
	comp=E,143μm,0.8s				
MAGA	**Magasa**	**3.80 331**	AML	AML	
	comp=N,218μm,0.4s				
MAGA			AML	AML	
	comp=E,284μm,0.7s				
HCY	**Herceg Novi**	**3.84 89⇑**	*i*Pn	**Pn**	**10 38 16.5 +1.6**
HCY			*i* Sn	**Sn**	**10 39 02.3 +2.8**
CIMO	**Cimolais**	**3.86 351**	AML	AML	
	comp=E,44μm,0.4s				
CIMO			AML	AML	
	comp=N,33μm,0.8s				
BRY	**Bratogost**	**3.88 82**	*e*Pn	**Pn**	**10 38 17.1 +1.6**
BRY			*i* Sn	**Sn**	**10 39 03.3 +2.6**
MOSL	**Moslavina**	**3.99 37**	*e*Pn	**Pn**	**10 38 17.2 +0.4**
MOSL			Sn	**Sn**	**10 39 02.8 -0.4**
MABI	**Malga Bissina**	**4.08 332**	AML	AML	
	comp=N,41μm,0.6s				
MABI			AML	AML	
	comp=E,32μm,1.1s				
OBKA	**Obir**	**4.11 12**	*e*Pn	**Pn**	**10 38 19.1 +0.5**
	comp=E,1.0nm,0.2s				
OBKA			*e*Sn	**Sn**	**10 39 08.7 +2.5**
	comp=E,10nm,0.4s				
MYKA	**Terra Mystica**	**4.14 3**	*e*Pn	**Pn**	**10 38 19.4 +0.4**
	comp=E,1.0nm,0.2s				
MYKA			*e*Sn	**Sn**	**10 39 09.2 +2.3**
	comp=E,6.8nm,0.4s				
BUM	**Brajici-Budva**	**4.15 91⇑**	*i*Pn	**Pn**	**10 38 20.7 +1.6**
BUM			*i* Sn	**Sn**	**10 39 09.7 +2.6**
CEME	**Cevo**	**4.15 87⇑**	*i*Pn	**Pn**	**10 38 20.8 +1.6**
CEME			*i* Sn	**Sn**	**10 39 09.9 +2.6**
LOBO	**Lobor**	**4.16 28**	*e*Pn	**Pn**	**10 38 20.3 +1.0**
LOBO			Sn	**Sn**	**10 39 06.4 -1.0**
NKME	**Niksic**	**4.18 84⇑**	*i*Pn	**Pn**	**10 38 21.2 +1.7**
NKME			*i* Sn	**Sn**	**10 39 10.5 +2.6**
KOSI	**Kohlern**	**4.20 342**	AML	AML	
	comp=E,88μm,1.6s				
KOSI			AML	AML	
	comp=N,92μm,0.9s				
KALN	**Kalnik**	**4.28 31**	*e*Pn	**Pn**	**10 38 21.7 +0.8**
KALN			Sn	**Sn**	**10 39 09.6 -0.7**
ABTA	**Abfaltersbach**	**4.29 353**	*e*Pn	**Pn**	**10 38 22.3 +1.2**
	comp=N,2.4nm,0.2s				
ABTA			*e*Sn	**Sn**	**10 39 13.9 +3.3**
	comp=N,14nm,0.3s				
SOKA	**Soboth**	**4.36 16**	*e*Pn	**Pn**	**10 38 23.3 +1.3**
	comp=N,0.6nm,0.2s				
SOKA			*e*Sn	**Sn**	**10 39 13.2 +0.8**
	comp=N,4.6nm,0.4s				
DRME	**Dracevica, Mon**	**4.37 92**	*e*Pn	**Pn**	**10 38 23.9 +1.8**
DRME			*i* Sn	**Sn**	**10 39 15.1 +2.5**
TTG	**Podgorica**	**4.41 89⇓**	*i*Pn	**Pn**	**10 38 24.3 +1.7**
TTG			*i* Sn	**Sn**	**10 39 16.1 +2.7**
ULC	**Ulcinj**	**4.45 95⇑**	*i*Pn	**Pn**	**10 38 24.9 +1.7**
ULC			*i* Sn	**Sn**	**10 39 17.1 +2.6**
ABSI	**Aberstueckl**	**4.46 342**	AML	AML	
	comp=N,270μm,0.5s				
ABSI			AML	AML	
	comp=E,268μm,0.6s				
SBF	**Sospel**	**4.50 290**	*e*Pn	**Pn**	**10 38 22.2 -1.8**
SBF			*e*Sn	**Sn**	**10 39 11.2 -4.7**
	comp=E,12nm,0.4s				
KBA	**Koelnbreinsper**	**4.58 0**	*e*Pn	**Pn**	**10 38 27.4 +2.3**
	comp=E,2.0nm,0.3s				
KBA			*e*Sn	**Sn**	**10 39 17.5 -0.5**
	comp=E,8.7nm,0.4s				
KOME	**Kolasin**	**4.60 84**	*e*Pn	**Pn**	**10 38 27.0 +1.7**
KOME			*i* Sn	**Sn**	**10 39 20.7 +2.5**
IVA	**Berane**	**4.87 83**	*e*Pn	**Pn**	**10 38 30.9 +1.8**
IVA			*i* Sn	**Sn**	**10 39 27.4 +2.3**
FETA	**Feichten**	**4.88 339**	*e*Pn	**Pn**	**10 38 32.8 +3.5**
	comp=E,2.2nm,0.4s				
FETA			*e*Sn	**Sn**	**10 39 25.1 -0.2**
	comp=E,5.9nm,0.6s				
WTTA	**Wattenberg**	**4.91 347**	*i* Pn	**Pn**	**10 38 33.6 +3.9**
	comp=E,1.5nm,0.1s,SNR=4.2				
WTTA			*e*Sn	**Sn**	**10 39 28.3 +2.2**
	comp=E,19nm,0.6s				
SQTA	**Sankt Quirin**	**4.95 343**	*e*Pn	**Pn**	**10 38 33.3 +3.1**
	comp=E,3.0nm,0.2s				
SQTA			*e*Sn	**Sn**	**10 39 26.3 -0.7**
	comp=E,11nm,0.4s				
SJES	**Sjenica**	**4.96 79**	*e*Pn	**Pn**	**10 38 32.4 +2.1**
WATA	**Walderalm**	**4.99 346**	*i* Pn	**Pn**	**10 38 34.4 +3.7**
	comp=E,1.8nm,0.1s,SNR=5.7				
WATA			*e*Sn	**Sn**	**10 39 30.8 +2.8**
	comp=E,11nm,0.5s				
ARSA	**Arzberg**	**5.01 18**	*e*Pn	**Pn**	**10 38 32.2 +1.4**
	comp=E,1.4nm,0.3s				
ARSA			*e*Sn	**Sn**	**10 39 27.1 -1.2**
	comp=E,2.5nm,0.3s				
LMR	**La Mourre**	**5.06 282**	*e*P	**Pn**	**10 38 33.6 +2.1**
LMR			*e*Sn	**Sn**	**10 39 24.3 -5.1**
	comp=E,0.6nm,0.2s				
MOTA	**Moosalm**	**5.09 343**	*e*Pn	**Pn**	**10 38 35.9 +3.8**
	comp=E,5.0nm,0.5s				
MOTA			*e*Sn	**Sn**	**10 39 32.6 +2.1**
	comp=E,7.5nm,0.5s				
IVAS	**Ivanjica**	**5.14 76**	*e*Pn	**Pn**	**10 38 34.2 +1.5**
DIVS	**Divibare**	**5.14 70**	*e*Pn	**Pn**	**10 38 34.6 +1.9**
MBDF	**Montbardon**	**5.24 297**	*e*P	**Pn**	**10 38 36.6 +2.4**
MBDF			*e*Sn	**Sn**	**10 39 28.8 -5.3**
	comp=E,0.5nm,0.2s				
DAVA	**Damuels**	**5.37 334**	*e*Pn	**Pn**	**10 38 39.3 +3.3**
	comp=E,1.6nm,0.2s				
DAVA			*e*Sn	**Sn**	**10 39 40.0 +2.6**
	comp=E,2.8nm,0.3s				
MOA	**Molln**	**5.39 7**	*e*Pn	**Pn**	**10 38 38.3 +2.1**
	comp=E,0.3nm,0.1s				
MOA			*e*Sn	**Sn**	**10 39 39.6 +1.8**
	comp=E,4.7nm,0.4s				
FRGS	**Fruska Gora**	**5.41 58**	*e*Pn	**Pn**	**10 38 37.4 +1.0**
TRUS	**Trudelj**	**5.46 69**	*e*Pn	**Pn**	**10 38 38.8 +1.7**
GRUS	**Gruza**	**5.60 73**	*e*Pn	**Pn**	**10 38 36.7 -2.2**
CONA	**Conrad Observa**	**5.72 18**	*e*Pn	**Pn**	**10 38 42.8 +2.0**
	comp=E,0.6nm,0.3s				
CONA			*e*Sn	**Sn**	**10 39 45.2 -0.8**
	comp=E,4.3nm,0.4s				
SELS	**Selova**	**5.79 80**	*e*Pn	**Pn**	**10 38 43.0 +1.3**
SMRF	**Simiane la Rot**	**5.83 287**	*e*P	**Pn**	**10 38 45.2 +3.0**
SMRF			*e*Sn	**Sn**	**10 39 43.0 -5.6**
	comp=E,0.7nm,0.3s				
ORIF	**Oris-en-Rattie**	**5.90 297**	*e*P	**Pn**	**10 38 45.8 +2.6**
ORIF			*e*Sn	**Sn**	**10 39 44.6 -5.7**
	comp=E,1.3nm,0.3s				
BARS	**Barje**	**6.29 84**	*e*Pn	**Pn**	**10 38 50.4 +2.0**
PRVS	**Prvonek**	**6.49 87**	*e*Pn	**Pn**	**10 38 53.0 +1.8**
ZAGS	**Zajecar**	**6.66 76**	*e*Pn	**Pn**	**10 38 54.6 +1.0**
BOSS	**Bosilegrad**	**6.79 87**	*e*Pn	**Pn**	**10 38 56.8 +1.5**
ZAPS	**Zavoj**	**6.90 80**	*e*Pn	**Pn**	**10 38 59.2 +2.3**
HINF	**Hinteralfeld**	**7.00 322**	*e*P	**Pn**	**10 39 00.3 +2.0**
HINF			*e*Sn	**Sn**	**10 40 11.0 -6.4**
	comp=E,9.0nm,0.5s				
VYHS	**Vyhne**	**7.14 31**	*e*PN	**Pn**	**10 39 04.7 +4.5**
HAU	**Haudompre**	**7.37 321**	*e*P	**Pn**	**10 39 04.8 +1.5**
HAU			*e*Sn	**Sn**	**10 40 19.7 -6.8**
	comp=E,14nm,0.5s				
LANS	**Liptovska Anna**	**7.92 31**	*e*PN	Pn	10 39 17.5 +6.6
LANS			*e*SN	Sn	10 40 31.6 -8.4
SFTF	**Sexfontaines**	**8.15 317**	*e*Sn	**Sn**	**10 40 42.6 -2.9**
	comp=E,6.0nm,0.4s				

*IDC **18** 11:04:20.1±1.1, 20°.29S×66°.56W, h242km±11km, mb2.9/5, mb1 3.2/8, mb1mx3.1/23, mbtmp3.5/8, Error ellipse: s-maj=23.1km s-min=10.4km az=99.0*
*SCB **18** 11:04:26.2±4.3, 20°.31S×66°.64W, h60km±40km, ML3.5/5, Error ellipse: s-maj=23.4km s-min=15.6km az=1.0*

ISC 18 11:04:20.0±0.8, 20°.30S±0°.05×66°.66W±0°.07, h233km, n24, σ2°34/31, mb3.1/4, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**2.15**	**150**	P	**Pn**	**11 05 05.9**	**+2.9**
PB08	**IPOC Station P**	**2.35**	**273**	P	**Pn**	**11 05 08.1**	**+3.2**
PB08				S	**S**	**11 05 39.0**	**-1.0**
PB08				IAML		11 05 45.2	
	50nm,0.4s						
PB01	**IPOC Station P**	**2.75**	**254**	P	**Pn**	**11 05 11.0**	**+2.2**
PB09	**IPOC Station P**	**2.84**	**238**	P	**Pn**	**11 05 12.4**	**+2.6**
PB11	**IPOC Station P**	**2.87**	**280**	P	**Pn**	**11 05 12.4**	**+2.2**
HMBC	**Humberstone**	**3.03**	**270**	P	**Pn**	**11 05 13.5**	**+1.6**
HMBC				S	**S**	**11 05 51.0**	**-1.7**
HMBC				IAML		11 05 56.2	
	181nm,0.4s						
LVC	**Limon Verde**	**3.11**	**222**	P	**Pn**	**11 05 15.7**	**+2.6**
	0.6nm,0.3s,baz=41,slow=12,SNR=2.4						
LVC				S	**S**	**11 05 57.2**	**+2.4**
	5.0nm,0.3s,baz=170,slow=19,SNR=29						
LVC	**Limon Verde**	**3.11**	**222**	P	**Pn**	**11 05 15.5**	**+2.4**
PB02	**IPOC Station P**	**3.19**	**251**	P	**Pn**	**11 05 16.0**	**+2.3**
PB02				S	**S**	**11 05 54.1**	**-1.9**
PB02				IAML		11 05 57.4	
	338nm,0.3s						
PB16	**IPOC Station P**	**3.32**	**305**	P	**Pn**	**11 05 18.8**	**+3.1**
PB16				S	**S**	**11 05 57.9**	**-1.6**
PB16				IAML		11 06 05.9	
	22nm,0.4s						
PB07	**IPOC Station P**	**3.33**	**244**	P	**Pn**	**11 05 18.0**	**+2.6**
PB03	**IPOC Station P**	**3.37**	**238**	P	**Pn**	**11 05 18.1**	**+2.3**
BBOE	**La Paz, Chanca**	**3.69**	**340**	P	**Pn**	**11 05 23.5**	**+3.5**
PB04	**IPOC Station P**	**3.83**	**237**	P	**Pn**	**11 05 23.6**	**+2.4**
PB15	**IPOC Station P**	**3.90**	**222**	P	**Pn**	**11 05 24.4**	**+2.3**
PB15				S	**S**	**11 06 08.3**	**-2.8**
PB15				IAML		11 06 19.5	
	228nm,0.4s						
BBOD	**La Paz, Gloria**	**4.08**	**333**	P	**Pn**	**11 05 27.6**	**+3.0**
LPAZ	**La Paz**	**4.23**	**340**	P	**Pn**	**11 05 28.9**	**+2.5**
	1.6nm,0.3s,baz=157,slow=9.5,SNR=45						
LPAZ				S	**S**	**11 06 20.2**	**+1.4**
	0.5nm,0.3s,baz=215,slow=21,SNR=8.2						
LPAZ	**La Paz**	**4.23**	**340**	P	**Pn**	**11 05 28.8**	**+2.4**
SIV	**San Ignacio**	**6.82**	**52**	P	**Pn**	**11 05 58.2**	**-0.1**
	0.4nm,0.3s,baz=239,slow=12,SNR=7.7						
PLCA	**Paso Flores**	**20.64**	**188**	P	**P**	**11 08 42.4**	**+0.4**
	1.2nm,0.6s,baz=6.1,slow=8.1,SNR=7.7						
TXAR	**Lajitas Array**	**60.89**	**323**	P	**P**	**11 14 07.8**	**-0.7**
	0.1nm,0.6s,baz=147,slow=7.1,SNR=2.4						
PDAR	**Pinedale Array**	**74.15**	**329**	P	**P**	**11 15 30.9**	**-0.3**
	0.2nm,0.4s,baz=130,slow=8.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**74.97**	**70**	P	**P**	**11 15 33.6**	**-2.6**
	0.4nm,0.3s,baz=261,slow=5.5,SNR=4.3						
YKA	**Yellowknife Ar**	**90.77**	**340**	P	**P**	**11 16 55.5**	**-0.6**
	0.1nm,0.5s,baz=130,slow=4.5,SNR=6.4						

*IDC **18** 11:14:12.2±0.8, 3°.49N×149°.62E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/29, mbtmp3.9/11, Error ellipse: s-maj=31.7km s-min=19.1km az=99.0*
*NEIC **18** 11:14:16.7±2.1, 3°.54N±0°.10×149°.50E±0°.09, h24km±5km, mb4.1/10, Error ellipse: s-maj=18.2km s-min=5.4km az=137.0*

ISC 18 11:14:17.3±0.6, 3°.46N±0°.09×149°.5E±0°.1, h35km, n37, σ1°03/33, mb3.9/16, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.86**	**201**	Pn	**Pn**	**11 15 39.7**	**-2.1**
RABL	**Rabaul**	**8.06**	**161**	Pn	**Pn**	**11 16 12.8**	**+0.8**
PATS	**Pohnpei**	**9.41**	**69**		**Pn**	**11 16 28.7**	**-1.8**
H11S3	**WAKE ISLAND Hy**	**22.51**	**47**	T	T	11 42 22.6	
	baz=230,slow=75,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**22.52**	**47**	T	T	11 42 28.8	
	baz=230,slow=75,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**22.53**	**47**	T	T	11 42 25.6	
	baz=230,slow=75,SNR=7.0						
H11N1	**WAKE ISLAND Hy**	**23.44**	**45**	T	T	11 43 45.4	
	baz=229						
H11N2	**WAKE ISLAND Hy**	**23.46**	**45**	T	T	11 43 45.3	
	baz=229						
H11N3	**WAKE ISLAND Hy**	**23.46**	**45**	T	T	11 43 37.2	
	baz=229						
WB0	**Warramunga Arr**	**27.44**	**212**	P	**P**	**11 20 00.2**	**+0.1**
WB0				IAmb	IAmb	11 20 15.5	
	comp=Z,2.0nm,0.8s						
WR0	**Warramunga Arr**	**27.52**	**212**	P	**P**	**11 20 02.2**	**+1.3**
WR0				IAmb	IAmb	11 20 21.8	
	comp=Z,5.0nm,1.1s						
WB2	**Warramunga Arr**	**27.61**	**212**	P	**P**	**11 20 03.6**	**+2.0**
WB2				IAmb	IAmb	11 20 27.6	
	comp=Z,3.6nm,1.1s						
WRA	**Warramunga Arr**	**27.61**	**212**	P	**P**	**11 20 02.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=38,slow=9.6,SNR=11						
WRA				PcP	**PcP**	**11 23 19.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=23,slow=2.4,SNR=3.2						
WRA	**Warramunga Arr**	**27.61**	**212**	P	**P**	**11 20 02.8**	**+1.1**
KNRA	**Kununurra**	**27.97**	**227**	P	**P**	**11 20 04.7**	**-0.2**
KNRA				IAmb	IAmb	11 20 05.1	
	comp=Z,8.7nm,1.2s						
ASAR	**Alice Springs**	**30.95**	**209**	P	**P**	**11 20 31.6**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=40,slow=7.9,SNR=5.7						
ASAR				PcP	**PcP**	**11 23 27.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=46,slow=2.4,SNR=4.5						
USRK	**Ussuriysk Ar.**	**43.41**	**342**	P	**P**	**11 22 16.5**	**-0.2**
	comp=Z,3.5nm,1.1s,baz=173,slow=5.5,SNR=2.1						
CMAR	**Chiang Mai Arr**	**51.61**	**291**	P	**P**	**11 23 21.9**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=98,slow=5.4,SNR=5.7						
CMAR	**Chiang Mai Arr**	**51.61**	**291**	P	**P**	**11 23 20.1**	**-0.7**
SONM	**Songino Array**	**57.63**	**327**	P	**P**	**11 24 04.9**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=143,slow=8.6,SNR=20						
SONM	**Songino Array**	**57.63**	**327**	P	**P**	**11 24 04.4**	**+0.3**
SONM				IAmb	IAmb	11 24 05.6	
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**71.98**	**318**	P	**P**	**11 25 38.2**	**+0.6**
MKAR	**Makanchi Array**	**71.98**	**318**	P	**P**	**11 25 38.3**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=97,slow=8.1,SNR=8.4						
MKAR	**Makanchi Array**	**71.98**	**318**	P	**P**	**11 25 37.8**	**+0.2**
ZALV	**Zalesovo Beam**	**72.49**	**326**	P	**P**	**11 25 40.3**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=112,slow=9.8,SNR=2.8						
RND	**Reindeer**	**74.53**	**24**	P	**P**	**11 25 51.8**	**-0.5**
KURK	**Kurchatov**	**75.27**	**322**	P	**P**	**11 25 56.4**	**-0.3**
ILAR	**Eielson Array**	**75.86**	**23**	P	**P**	**11 25 59.0**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=253,slow=5.6,SNR=9.1						
ILAR	**Eielson Array**	**75.86**	**23**	P	**P**	**11 25 57.8**	**-2.1**
BMAR	**Burnt Mountain**	**77.73**	**21**	P	**P**	**11 26 12.0**	**+1.6**
DAWY	**Dawson**	**78.70**	**25**	P	**P**	**11 26 17.0**	**+1.1**
DAWY				IAmb	IAmb	11 26 20.2	
	comp=Z,2.8nm,1.1s						
KKAR	**Karatay Array**	**79.59**	**313**	P	**P**	**11 26 21.9**	**+0.8**
VNDA	**Vanda**	**81.17**	**177**	P	**P**	**11 26 29.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=71,slow=6.1,SNR=1.9						
ABKAR	**Akbulak array**	**87.10**	**319**	P	**P**	**11 26 58.6**	**-1.0**
NVAR	**Mina Array Bea**	**89.61**	**52**	P	**P**	**11 27 12.8**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=260,slow=5.7,SNR=4.2						
NVAR	**Mina Array Bea**	**89.61**	**52**	P	**P**	**11 27 12.2**	**+0.1**
YKA	**Yellowknife Ar**	**89.69**	**28**	P	**P**	**11 27 11.7**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=276,slow=5.2,SNR=5.4						

*IASPEI **18** 11:26:15.9±1.1, 40°.79N±0°.02×21°.48E±0°.02, h2km±11km, Error ellipse: s-maj=3.6km s-min=3.1km az=3.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*SKO **18** 11:26:15.3, 40°.78N×21°.46E, h7km*
*TIR **18** 11:26:15.7, 40°.79N×21°.43E, h20km±30km, Md2.9*
*THE **18** 11:26:15.8, 40°.81N×21°.43E, h7km±1km, ML2.6/7, Error ellipse: s-maj=1.4km s-min=0.6km az=323.0*
*BEO **18** 11:26:19.3±0.7, 41°.00N×21°.49E, h2km±4km, ML2.4/6*

ISC 18 11:26:15.8±0.9, 40°.79N±0°.02×21°.46E±0°.02, h4km±7km, n35, σ0°96/62, 4C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.07**	**262**	P	**Pg**	**11 26 17.2**	**0.0**
FNA				S	**Sg**	**11 26 18.2**	**+0.1**
	43μm,0.2s						
FNA	**Florina**	**0.07**	**262**	*i* Pg	**Pg**	**11 26 17.3**	**+0.1**
FNA				*i* Sg	**Sg**	**11 26 18.3**	**+0.1**
FNA	**Florina**	**0.07**	**262**	P	**Pg**	**11 26 17.3**	**+0.1**
	baz=256						
FNA				S	**Sg**	**11 26 18.3**	**+0.1**
	baz=256						
NEST	**Nestorio**	**0.49**	**220**	P	**Pg**	**11 26 24.7**	**-0.5**
NEST				S	**Sg**	**11 26 32.0**	**+0.4**
	1μm,0.3s						
KBN	**Korca**	**0.54**	**252**	P	**Pg**	**11 26 26.5**	**+0.4**
KBN				S	**Sg**	**11 26 33.2**	**+0.1**
	432nm,0.2s						
KBN	**Korca**	**0.54**	**252**	P	**Pg**	**11 26 26.5**	**+0.4**
	baz=252						
KBN				S	**Sg**	**11 26 34.4**	**+1.3**
	baz=252						
KZN	**Kozani**	**0.54**	**154**	P	**Pg**	**11 26 25.9**	**-0.2**
KZN				S	**Sb**	**11 26 35.2**	**-0.8**
	2μm,0.4s						
OHR	**Ohrid**	**0.59**	**303**	*i* Pg	**Pg**	**11 26 27.1**	**0.0**
OHR				*i* Sg	**Sb**	**11 26 37.3**	**-0.3**
OHR				*e*Lg	Lg	11 26 37.7	
	comp=E,832nm,0.3s						
KTI	**Kastanea**	**0.64**	**128**	P	**Pg**	**11 26 28.3**	**+0.3**
PENT	**Pentalofos**	**0.65**	**203**	P	**Pg**	**11 26 27.8**	**-0.3**
PENT				S	**Sg**	**11 26 37.6**	**+1.1**
	comp=E,335nm,0.3s						
GRG	**Griva**	**0.73**	**77**	P	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAGS	**Zajecar**	**0.34**	**167**	*e*Pg	Pg	11 26 45.4	-0.6
ZAGS				*e*Sg	Sg	11 26 51.1	+0.8
KUBS	**Kucevo**	**0.42**	**310**	*e*Pg	Pg	11 26 46.6	-1.1
KUBS				*e*Sg	Sg	11 26 52.9	-0.3
MDVR	**Moldovita**	**0.71**	**335**	‖P	Pg	11 26 51.9	-1.3
MDVR				‖S	Sg	11 27 03.2	+0.9
HERR	**Herculane**	**0.77**	**16**	‖P	Pg	11 26 53.8	-0.5
HERR				‖S	Sg	11 27 04.6	+0.2
ZAPS	**Zavoj**	**0.94**	**157**	*e*Pg	Pg	11 26 56.4	-1.2
ZAPS				*e*Sg	Sg	11 27 08.8	-1.0
GRUS	**Gruza**	**1.05**	**257**	*e*Pg	Pg	11 26 59.7	0.0
GRUS				*e*Sg	Sg	11 27 13.7	+0.5
SELS	**Selova**	**1.17**	**219**	*e*Pg	Pg	11 27 01.2	-0.9
SELS				*e*Sg	Sb	11 27 18.0	-0.5
TRUS	**Trudelj**	**1.24**	**275**	*e*Pg	Pg	11 27 02.4	-0.9
TRUS				*e*Sg	Sg	11 27 19.6	+0.2
GZR	**Gura Zlata**	**1.34**	**20**	‖P	Pg	11 27 04.5	-0.7
GZR				‖S	Sn	11 27 23.8	-0.3
BZS	**Buzias**	**1.52**	**346**	‖P	Pn	11 27 06.1	-1.9
BZS				‖S	Sg	11 27 28.2	-0.3
IVAS	**Ivanjica**	**1.53**	**249**	*e*Pg	Pn	11 27 06.0	-2.3
IVAS				*e*Sg	Sg	11 27 27.8	-1.1
DIVS	**Divibare**	**1.54**	**269**	*e*Pg	Pn	11 27 08.4	0.0
DIVS				*e*Sg	Sg	11 27 27.7	-1.3

IDC 18 11:41:06.2±2.5, 4°.13N×127°.25E, h0km, mb3.1/3, mb1 3.4/3, mb1mx2.7/37, mbtmp3.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/24, Error ellipse: s-maj=183.4km s-min=29.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.91**	**164**	P	P	11 46 31.0	-0.1
	0.7nm,0.5s,baz=344,slow=11,SNR=7.2						
WRA				LR	LR	11 58 43.8	
	comp=Z,49nm,19.1s,baz=154,slow=42						
ASAR	**Alice Springs**	**28.38**	**167**	P	P	11 47 02.4	+0.1
	0.1nm,0.6s,baz=344,slow=11,SNR=1.6						
MKAR	**Makanchi Array**	**57.53**	**325**	P	P	11 50 57.5	0.0
	0.1nm,0.5s,baz=111,slow=7.9,SNR=1.3						

*EAF **18** 11:42:25.4±22.0, 20°.53S×25°.68E, h10km, MD3.6*
BUL 18 11:43:53.1±15.0, **23°.34S×28°.28E, h10km, MD3.7, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.87**	**94**	*i* Sg	Sg	11 45 34.2	+9.0
MOPA	**Mopani**	**2.87**	**94**	*i* Sg	Sg	11 45 34.2	+9.0
MATP	**Matopo**	**2.90**	**4**	*e*P	Pn	11 44 29.2	-10
MATP				*i* Sg	Sg	11 45 30.8	+4.4
MATP	**Matopo**	**2.90**	**4**	*e*P	Pn	11 44 29.2	-10
MATP				*i* Sg	Sg	11 45 30.8	+4.4
LBTB	**Lobatse**	**2.97**	**235**	*i* P	Pn	11 44 30.1	-10
LBTB				*i* Sg	Sg	11 45 34.1	+5.6
LBTB	**Lobatse**	**2.97**	**235**	*i* P	Pn	11 44 30.1	-10
LBTB				*i* Sg	Sg	11 45 34.1	+5.6

*HVO **18** 11:52:11.0±1.5, 19°.54N±0°.01×155°.602W±0°.009, h12km±2km, ML3.9/34, ML3.9/51(NEIC), Error ellipse: s-maj=2.1km s-min=0.6km az=211.0*
NEIC 18 11:52:09.6±0.9, 19°.56N±0°.04×155°.61W±0°.03, h28km±11km, Error ellipse: s-maj=5.8km s-min=3.5km az=173.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLOA	**Mauna Loa Obse**	**0.04**	**129**		Pb	11 52 13.4	-1.5
MLOA				Sg	Sb	11 52 15.2	-3.2
MWH	**Moku'aweowe**	**0.08**	**170**		Pb	11 52 13.7	-1.5
MWH				Sg	Sb	11 52 15.7	-3.2
POHA	**Pohakuloa**	**0.21**	**21**		Sb	11 52 19.5	-0.7
POHA	**Pohakuloa**	**0.21**	**21**	Pg	Pb	11 52 15.9	0.0
MLH	**Mauna Loa**	**0.22**	**108**		Pb	11 52 15.6	-0.5
MLH				Sg	Sb	11 52 20.1	-0.4
MLH				IAML		11 52 20.7	
	comp=N,23μm,0.6s						
MLH				IAML		11 52 20.9	
	comp=E,26μm,0.5s						
AIN	**Ainahou**	**0.24**	**143**		Pb	11 52 15.8	-0.4
AIN				Sg	Sb	11 52 19.6	-1.1
AIN				IAML		11 52 20.0	
	comp=N,17μm,0.5s						
HUH	**Hualalai**	**0.24**	**300**		Pn	11 52 17.3	-0.3
HUH				Sg	Sb	11 52 22.7	+1.8
KHLU	**Kahalu`u**	**0.27**	**276**		Pb	11 52 17.1	+0.6
KHLU				Sg	Sb	11 52 21.7	+0.5
KHLU				IAML		11 52 22.1	
	comp=E,32μm,0.3s						
KHU	**Kahuku**	**0.32**	**181**		Pb	11 52 16.6	-0.6
KHU				Sg	Sb	11 52 21.0	-1.5
KHU				IAML		11 52 21.6	
	comp=E,30μm,0.5s						
KHU				IAML		11 52 21.6	
	comp=N,19μm,0.2s						
RSD	**Rainshed**	**0.33**	**108**		Pb	11 52 17.5	+0.1
RSD				Sg	Sb	11 52 23.1	+0.4
UWE	**Uwekahuna**	**0.33**	**115**		Pb	11 52 17.6	+0.1
UWE				Sg	Sb	11 52 23.1	+0.3
WRMHI	**West Rim**	**0.33**	**118**		Pb	11 52 17.4	0.0
WRMHI				Sg	Sb	11 52 22.8	0.0
OBL	**Observatory Le**	**0.34**	**115**		Pb	11 52 17.6	+0.1
OBL				Sg	Sb	11 52 23.1	+0.1
UWB	**Uwekahuna B**	**0.34**	**114**		Pb	11 52 17.5	-0.1
UWB				Sg	Sb	11 52 22.7	-0.3
UWB				IAML		11 52 23.3	
	comp=N,11μm,0.6s						
UWB				IAML		11 52 23.4	
	comp=E,11μm,0.6s						
NPH	**North Pit**	**0.35**	**116**		Pb	11 52 17.6	0.0
NPH				Sg	Sb	11 52 22.9	-0.2
NPH				IAML		11 52 23.3	
	comp=N,16μm,0.5s						
SDHHI	**Sand Hill**	**0.35**	**120**		Pb	11 52 17.6	0.0
SDHHI				Sg	Sb	11 52 23.3	+0.2
SDHHI				IAML		11 52 24.9	
	comp=E,27μm,0.5s						
SBLHI	**Steaming Bluff**	**0.35**	**113**		Pb	11 52 17.7	0.0
SBLHI				Sg	Sb	11 52 22.9	-0.3
SBLHI				IAML		11 52 27.5	
	comp=E,19μm,0.6s						
SBLHI				IAML		11 52 28.2	
	comp=N,27μm,0.4s						
HATHI	**Halema'uma'u T**	**0.36**	**113**		Pb	11 52 17.7	-0.1
HATHI				Sg	Sb	11 52 22.9	-0.5
HATHI				IAML		11 52 27.4	
	comp=E,20μm,0.6s						
HATHI				IAML		11 52 27.9	
	comp=N,20μm,0.7s						
RIM	**Rim**	**0.36**	**118**		Pb	11 52 18.0	+0.2
RIM				Sg	Sb	11 52 23.5	+0.1
RIM				IAML		11 52 23.9	
	comp=N,20μm,0.6s						
RIM				IAML		11 52 23.9	
	comp=E,11μm,0.6s						
BYL	**Byron's Ledge**	**0.36**	**114**		Pb	11 52 17.9	0.0
BYL				Sg	Sb	11 52 23.3	-0.2
BYL				IAML		11 52 25.1	
	comp=N,13μm,0.7s						
BYL				IAML		11 52 27.4	
	comp=E,15μm,0.3s						
KKO	**Keanakako`i**	**0.37**	**117**		Pb	11 52 18.1	+0.2
KKO				Sg	Sb	11 52 23.7	+0.1
KKO				IAML		11 52 24.6	
	comp=E,15μm,0.7s						
HLP	**Hilina Pali**	**0.39**	**133**		Pb	11 52 18.3	0.0
HLP				Sg	Sb	11 52 24.3	+0.1
HLP				IAML		11 52 24.9	
	comp=N,24μm,0.5s						
HLP				IAML		11 52 27.9	
	comp=E,19μm,0.6s						
HPAH	**Hawaii Prepara**	**0.47**	**350**		Pb	11 52 19.8	+0.3
HPAH				Sg	Sb	11 52 26.4	+0.2
HPAH				IAML		11 52 26.9	
	comp=N,6μm,0.5s						
HPAH				IAML		11 52 36.6	
	comp=E,10μm,0.4s						
STCH	**Steam Cracks**	**0.49**	**111**		Pb	11 52 19.7	-0.2
STCH				Sg	Sb	11 52 26.8	-0.1
NPOC	**North of Pu'u**	**0.50**	**110**		Pb	11 52 19.8	-0.2
NPOC				Sg	Sb	11 52 27.0	-0.1
NPOC				IAML		11 52 28.1	
	comp=N,11μm,0.3s						
NPOC				IAML		11 52 28.1	
	comp=E,6μm,0.3s						
JCUZ	**Jacuzzi**	**0.51**	**110**		Pb	11 52 19.9	-0.3
JCUZ				Sg	Sb	11 52 27.1	-0.4
HLK	**Haleakala**	**1.33**	**333**		Pn	11 52 32.1	-0.5
KHLH	**Kahului Airpor**	**1.53**	**330**		Pn	11 52 34.6	-0.5
WMR	**Waimanalo Ridg**	**2.61**	**312**		Pn	11 52 49.9	-0.1
DHH	**Diamond Head**	**2.66**	**310**	Pn	Pn	11 52 50.1	-0.5
HON	**Honolulu**	**2.84**	**308**	Pn	Pn	11 52 52.3	-0.8
KIP	**Kipapa**	**2.91**	**310**	IAML		11 53 48.3	
	comp=E,208nm,5.0s						
KIP	**Kipapa**	**2.91**	**310**		Pn	11 52 53.0	-1.2

*BEO **18** 12:04:40.8±1.1, 40°.66N×21°.49E, h3km±3km, ML2.5/4*
*IASPEI **18** 12:04:41.9±1.0, 40°.79N±0°.03×21°.45E±0°.03, h4km±8km, Error ellipse: s-maj=4.6km s-min=3.5km az=158.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*THE **18** 12:04:41.8, 40°.80N×21°.43E, h5km±1km, ML2.5/6, Error ellipse: s-maj=1.9km s-min=0.6km az=323.0*
*SKO **18** 12:04:41.5, 40°.80N×21°.47E, h5km*
ISC 18 12:04:41.7±1.1, 40°.80N±0°.03×21°.45E±0°.02, h1km±11km, n26, σ1°.09/44, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.06**	**253**	P	**Pg**	**12 04 43.0**	**+0.1**
FNA				S	**Sg**	**12 04 44.0**	**+0.3**
	38μm,0.2s						
FNA	**Florina**	**0.06**	**253**	*i* Pg	**Pg**	**12 04 43.0**	**+0.1**
FNA				*i* Sg	**Sg**	**12 04 44.0**	**+0.3**
NEST	**Nestorio**	**0.49**	**219**	P	**Pg**	**12 04 50.6**	**-0.5**
NEST				S	**Sg**	**12 04 57.7**	**+0.2**
	992nm,0.3s						
KBN	**Korca**	**0.53**	**251**	P	**Pg**	**12 04 52.3**	**+0.4**
KBN				S	**Sg**	**12 04 59.6**	**+0.7**
	358nm,0.4s						
KZN	**Kozani**	**0.55**	**154**	P	**Pg**	**12 04 51.8**	**-0.5**
KZN				S	**Sb**	**12 05 01.0**	**-1.6**
	1μm,0.4s						
OHR	**Ohrid**	**0.58**	**302**	*i* Pg	**Pg**	**12 04 52.9**	**0.0**
OHR				*i* Sg	**Sb**	**12 05 02.9**	**-0.7**
OHR				*e*Lg	Lg	12 05 04.0	
	comp=N,459nm,0.3s						
PENT	**Pentalofos**	**0.65**	**202**	P	**Pg**	**12 04 53.6**	**-0.5**
KTI	**Kastanea**	**0.65**	**129**	P	**Pg**	**12 04 54.1**	**-0.1**
GRG	**Griva**	**0.74**	**77**	P	**Pg**	**12 04 55.9**	**+0.1**
GRG				S	**Sb**	**12 05 07.1**	**-0.9**
	comp=N,310nm,0.5s						
GRG	**Griva**	**0.74**	**77**	*i* Pg	**Pg**	**12 04 55.9**	**+0.1**
GRG				*i* Sg	**Sb**	**12 05 07.1**	**-0.9**
KPRO	**Kipourio**	**0.85**	**185**	P	**Pg**	**12 04 57.3**	**-0.6**
KPRO				S	**Sb**	**12 05 10.4**	**-0.8**
	comp=N,362nm,0.4s						
LSK	**Leskovik**	**0.92**	**225**	P	**Pg**	**12 04 58.7**	**-0.6**
VAY	**Valandovo**	**0.99**	**58**	*i* Pg	**Pb**	**12 05 00.7**	**-1.0**
VAY				*i* Sg	**Sb**	**12 05 15.0**	**-0.3**
VAY				*e*Lg	Lg	12 05 20.4	
	comp=N,93nm,0.5s						
VAY	**Valandovo**	**0.99**	**58**	*e*Pg	**Pg**	**12 05 00.4**	**-0.4**
VAY				*e*Sg	**Sb**	**12 05 14.0**	**-1.3**
STIP	**Stip**	**1.05**	**32**	*i* Pg	**Pn**	**12 05 04.5**	**+0.9**
STIP				*i* Sg	**Sn**	**12 05 22.1**	**+3.2**
STIP				*e*Lg	Lg	12 05 23.2	
	comp=N,19nm,0.3s						
KNT	**Kendrikon**	**1.15**	**71**	*i* Pg	**Pb**	**12 05 03.8**	**-0.7**
KNT				*i* Sg	**Sb**	**12 05 19.4**	**-0.6**
SKO	**Skopje**	**1.17**	**360**	*i* Pg	**Pn**	**12 05 05.0**	**-0.3**
SKO				*i* Sg	**Sn**	**12 05 21.4**	**-0.5**
SKO				*e*Lg	Lg	12 05 24.0	
	comp=E,6.5nm,0.6s						
SOH	**Sokhos**	**1.45**	**89**	*i* Pn	**Pg**	**12 05 09.2**	**-0.2**
SOH				*i* Sn	**Sg**	**12 05 29.9**	**+1.7**
IGT	**Igoumenitsa**	**1.53**	**214**	*i* Pn	**Pg**	**12 05 11.3**	**+0.3**
IGT				*i* Sn	**Sg**	**12 05 34.7**	**+3.9**
PRVS	**Prvonek**	**1.77**	**15**	*e*Pn	**Pn**	**12 05 13.6**	**+0.1**
PRVS				*e*Sn	**Sg**	**12 05 39.3**	**+0.7**
BOSS	**Bosilegrad**	**1.86**	**24**	*e*Pn	**Pn**	**12 05 14.9**	**+0.1**
BOSS				*e*Sn	**Sb**	**12 05 39.8**	**-0.5**
SELS	**Selova**	**2.43**	**354**	*e*Pn	**Pb**	**12 05 24.3**	**-1.9**
ZAPS	**Zavoj**	**2.62**	**19**	*e*Pn	**Pn**	**12 05 25.7**	**+0.4**
SJES	**Sjenica**	**2.69**	**336**	*e*Pn	**Pn**	**12 05 27.5**	**+1.2**
IVAS	**Ivanjica**	**2.94**	**341**	*e*Pn	**Pn**	**12 05 29.6**	**0.0**
ZAGS	**Zajecar**	**3.06**	**11**	*e*Pn	**Pn**	**12 05 31.4**	**+0.1**

*IDC **18** 12:18:26.0±1.2, 26°.90N×62°.38E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.6/62, mbtmp3.8/15, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/83, Error ellipse: s-maj=30.7km s-min=18.8km az=135.0*
*TEH **18** 12:18:30.1, 26°.76N×62°.43E, h25km, ML3.5*
*NEIC **18** 12:18:32.6±1.4, 26°.9N±0°.2×62°.3E±0°.2, h47km±9km, mb4.1/9, Error ellipse: s-maj=29.7km s-min=15.7km az=144.0*
*OMAN **18** 12:18:41.3±0.3, 26°.17N×61°.89E, h34km±16km, ml4.1/7, Error ellipse: s-maj=23.6km s-min=2.5km az=236.0*
ISC 18 12:18:29.3±0.5, 26°.73N±0°.04×62°.60E±0°.05, h35km, n69, σ2°.33/80, mb3.9/18, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRVN	**Saravan**	**0.70**	**345**	*e*Pg	**Pn**	**12 18 43.7**	**+0.8**
SRVN				*e*Sg	**Sn**	**12 18 52.0**	**-0.5**
NGCH	**Negor - Chabah**	**1.90**	**224**	*e*Pg	**Pn**	**12 19 03.0**	**+3.8**
KBAM	**BAM**	**4.39**	**304**	*e*Pn	**Pn**	**12 19 34.1**	**+0.6**
KBAM				*e*		12 19 34.4	
	comp=Z,964nm,0.2s						
KHNJ	**Kahnooj**	**4.52**	**287**	*e*Pn	**Pn**	**12 19 36.8**	**+1.4**
WSAR	**Wadi Sarin**	**5.00**	**227**	Pn	**Pn**	**12 19 43.2**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=80,slow=5.4,SNR=11						
WSAR				Sn	**Sn**	**12 20 33.6**	**-5.0**
	comp=Z,3.7nm,0.3s,baz=236,slow=21,SNR=16						
NHDN	**Nehbandan**	**5.16**	**335**	*e*Pn	**Pn**	**12 19 45.3**	**+1.1**
WBK	**Wadi Bani Khal**	**5.26**	**220**	P	**Pn**	**12 19 45.6**	**0.0**
WBK				S	**Sn**	**12 20 41.1**	**-4.0**
JLN	**Jalan Bani Buh**	**5.41**	**213**	P	**Pn**	**12 19 48.5**	**+1.1**
JLN				S	**Sn**	**12 20 45.4**	**-3.1**
CHMN	**Cheshme madani**	**5.45**	**306**	*e*Pn	**Pn**	**12 19 49.8**	**+1.4**
BANOM	**Banah**	**5.71**	**263**	*e*Pn	**Pn**	**12 19 53.3**	**+1.6**
BANOM	**Banah**	**5.71**	**263**	P	**Pn**	**12 19 53.4**	**+1.6**
	SNR=14						
BANOM				S	**Sn**	**12 20 51.9**	**-4.2**
HOQ	**Hoqain**	**5.73**	**238**	P	**Pn**	**12 19 54.6**	**+2.7**
HOQ				S	**Sn**	**12 20 50.8**	**-5.7**
GENO	**Geno**	**5.77**	**278**	*e*Pn	**Pn**	**12 19 54.9**	**+2.2**
SHME	**Shamm**	**5.83**	**265**	*e*Pn	**Pn**	**12 19 56.4**	**+3.0**
SHME	**Shamm**	**5.83**	**265**	P	**Pn**	**12 19 56.4**	**+3.0**
	SNR=6.6						
SHME				S	**Sn**	**12 20 55.8**	**-3.3**
MASF	**Masafi**	**5.95**	**258**	P	**Pn**	**12 19 56.8**	**+1.8**
MASF				S	**Sn**	**12 20 55.6**	**-6.4**
MSFE	**Esma-Masafi**	**5.95**	**258**	*e*Pn	**Pn**	**12 19 56.6**	**+1.6**
UOSS	**Minazif**	**6.03**	**254**	*e*Pn	**Pn**	**12 19 56.6**	**+0.5**
UOSS	**Minazif**	**6.03**	**254**	P	**Pn**	**12 19 57.0**	**+0.9**
UOSS				S	**Sn**	**12 20 56.7**	**-7.3**
UOSS	**Minazif**	**6.03**	**254**		**Pn**	**12 19 57.3**	**+1.2**
SOHO	**SOHO**	**6.06**	**246**	*e*Pn	**Pn**	**12 19 56.6**	**+0.1**
SOHO	**SOHO**	**6.06**	**246**	P	**Pn**	**12 19 57.6**	**+1.1**
SOHO				S	**Sn**	**12 20 58.9**	**-5.8**
HATD	**Hatta, Dubai**	**6.13**	**253**	*e*Pn	**Pn**	**12 19 57.8**	**+0.3**
HATD	**Hatta, Dubai**	**6.13**	**253**	P	**Pn**	**12 19 59.1**	**+1.6**
HATD				S	Sn	12 20 59.0	-7.4
ASHO	**Ashiyiah**	**6.25**	**252**	*e*Pn	**Pn**	**12 20 00.5**	**+1.5**
IKOO	**Kooshah**	**6.48**	**332**	*e*Pn	**Pn**	**12 20 02.4**	**-0.1**
IKOO				*e*		12 21 13.3	
	comp=N,200nm,0.2s						
KHGB	**Koh Gabri**	**6.50**	**305**	*e*Pn	**Pn**	**12 20 04.3**	**+1.6**
KHGB				*e*		12 21 15.5	
	comp=Z,135nm,0.6s						
FAQ	**Al Faqa, Dubai**	**6.62**	**254**	*e*Pn	**Pn**	**12 20 04.1**	**-0.1**
ASUD	**Al Ashush, Dub**	**6.89**	**254**	*e*Pn	**Pn**	**12 20 09.6**	**+1.8**
IMON	**Monand**	**6.93**	**339**	*e*Pn	**Pn**	**12 20 08.7**	**+0.1**
ITEG	**Tejag**	**7.00**	**332**	*e*		12 20 20.0	
	comp=Z,119nm,0.4s						
ITEG				*e*Pn	**Pn**	**12 20 09.0**	**-0.5**
BHUJ	**Bhuj**	**7.27**	**117**	*e*P	**Pn**	**12 20 17.1**	**+4.0**
BHUJ				*e*S	**Sn**	**12 21 34.7**	**+0.3**
BHUJ				IAML		12 21 35.9	
	comp=N,42nm,0.3s						
BHUJ				IAML		12 21 38.0	
	comp=E,31nm,0.1s						
TPRV	**Parvadeh(Tabas**	**8.11**	**322**	*e*Pn	**Pn**	**12 20 26.1**	**+1.4**
TKDS	**Koohdasht(Taba**	**8.34**	**327**	*e*Pn	**Pn**	**12 20 28.5**	**+0.6**
TNSJ	**Nastanj**	**8.88**	**326**	*e*Pn	**Pn**	**12 20 35.6**	**+0.4**
KLNJ	**Kolanjah**	**10.55**	**296**	*e*Pn	**Pn**	**12 20 59.3**	**+0.9**
DHRM	**DHARAMSHALA**	**13.13**	**62**	*e*S	**Sn**	**12 23 53.3**	**-5.3**
SMLA	**Simla**	**13.48**	**68**	*e*P	**P**	**12 21 44.6**	**-2.3**
SMLA				*e*S	**Sn**	**12 23 59.5**	**-7.3**
SMLA				IAML		12 24 03.8	
	comp=N,24nm,0.5s						
SMLA				IAML		12 24 05.8	
	comp=E,12nm,0.1s						
BHPL	**Bhopal**	**13.88**	**101**	*e*P	**P**	**12 21 47.9**	**-3.5**
RAYN	**Ar Rayn**	**15.81**	**262**	Pn	**Pn**	**12 22 09.2**	**-0.2**
AAK	**Ala-Archa**	**18.61**	**28**	P	**Pn**	**12 22 43.9**	**-0.5**
	comp=E,0.2nm,0.3s,baz=194,slow=15,SNR=4.4						
AAK	**Ala-Archa**	**18.61**	**28**	P	**Pn**	**12 22 43.8**	**-0.5**
BOOM	**Boomskoye usch**	**19.14**	**31**	P	**Pn**	**12 22 51.2**	**+0.6**
BOOM				IAmb	IAmb	12 23 14.1	
	comp=Z,14nm,1.2s						
GNI	**Garni**	**19.98**	**317**	LR	LR	12 30 06.9	
	comp=Z,42nm,18.5s,baz=238,slow=36						
ABKAR	**Akbulak array**	**22.59**	**355**	P	**P**	**12 23 25.4**	**-1.2**
ABKAR				IAmb	IAmb	12 23 54.1	
	comp=Z,3.2nm,1.2s						
ABKAR	**Akbulak array**	**22.59**	**355**	P	**P**	**12 23 26.9**	**+0.3**
AKTO	**Aktyubinsk**	**23.93**	**353**	P	**P**	**12 23 40.4**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=174,slow=7.0,SNR=4.8						
MK31	**Makanchi Array**	**25.36**	**33**	P	**P**	**12 23 54.7**	**+1.6**
MK31				IAmb	IAmb	12 23 55.8	
	comp=Z,1.7nm,0.9s						
MKAR	**Makanchi Array**	**25.36**	**33**	P	**P**	**12 23 54.7**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=215,slow=10,SNR=13						
MKAR	**Makanchi Array**	**25.36**	**33**	P	**P**	**12 23 55.5**	**+2.4**
AKASG	**Malin Array Be**	**34.90**	**322**	P	**P**	**12 25 17.3**	**0.0**
	comp=Z,0.6nm,0.4s,baz=123,slow=8.5,SNR=4.6						
AKASG	**Malin Array Be**	**34.90**	**322**	P	**P**	**12 25 16.9**	**-0.5**
AKBB	**Malin Array Si**	**34.90**	**322**	P	**P**	**12 25 17.5**	**+0.2**
AKBB				IAmb	IAmb	12 25 38.9	
	comp=Z,13nm,1.5s						
SONM	**Songino Array**	**40.05**	**46**	P	**P**	**12 26 03.7**	**+2.5**
	comp=Z,0.5nm,0.6s,baz=253,slow=9.6,SNR=5.2						
FIA1	**FINESS Array S**	**42.47**	**335**	P	**P**	**12 26 20.9**	**+0.2**
FIA1				IAmb	IAmb	12 26 27.1	
	comp=Z,33nm,1.5s						
FINES	**FINESS Array B**	**42.47**	**335**	P	**P**	**12 26 20.6**	**0.0**
	comp=Z,1.8nm,0.6s,baz=134,slow=8.3,SNR=14						
FINES	**FINESS Array B**	**42.47**	**335**	P	**P**	**12 26 20.2**	**-0.4**
CLL	**Collm**	**44.60**	**317**	*e*P	**P**	**12 26 39.0**	**+1.0**
CLL				*i* pP	**sP**	**12 26 51.8**	**-1.3**
	comp=Z,9.0nm,0.8s						
CLL				*ex*	x	12 27 05.0	
ARCES	**ARCESS Array B**	**47.96**	**343**	P	**P**	**12 27 04.3**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=146,slow=9.3,SNR=18						
ARCES	**ARCESS Array B**	**47.96**	**343**	P	**P**	**12 27 04.0**	**-0.2**
NC602	**NORSAR Array S**	**48.26**	**329**	P	**P**	**12 27 05.7**	**-0.8**
NB2	**NORSAR Subarra**	**48.52**	**329**	P	**P**	**12 27 07.8**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=111,slow=7.4						
NOA	**NORSAR Array B**	**48.52**	**329**	P	**P**	**12 27 08.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=119,slow=7.2,SNR=4.0						
ESDC	**Sonseca Array**	**56.02**	**301**	P	**P**	**12 28 04.8**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=110,slow=7.0,SNR=1.9						
TORD	**Torodi Ar. Bea**	**58.35**	**269**	P	**P**	**12 28 21.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=57,slow=7.3,SNR=3.0						
BOSA	**Boshof**	**65.67**	**216**	P	**P**	**12 29 12.6**	**+2.3**
	comp=Z,1.7nm,1.0s,baz=90,slow=5.1,SNR=1.4						
SEY	**Seymchan**	**66.46**	**30**	P	**P**	**12 29 16.5**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=273,slow=8.5,SNR=5.7						
INK	**Inuvik**	**84.50**	**6**	P	**P**	**12 30 59.2**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=27,slow=5.7,SNR=3.7						
YKA	**Yellowknife Ar**	**91.06**	**359**	P	**P**	**12 31 30.9**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=354,slow=4.6,SNR=10.0						

IDC 18 12:31:30.1±2.8, 11°.23N×125°.69E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/43, mbtmp3.3/4, 1D, Error ellipse: s-maj=163.2km s-min=28.7km az=68.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**4.24**	**188**	‖*e*P	Pg	12 32 56.5	+5.2
KCP				*i* S	Sn	12 33 17.5	-8.7
FITZ	**Fitzroy Crossi**	**29.14**	**180**	P	P	12 37 33.0	0.0
	1.4nm,0.9s,baz=0.0,slow=11						
WRA	**Warramunga Arr**	**32.13**	**165**	P	P	12 37 59.4	0.0
	0.2nm,0.4s,baz=346,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**35.60**	**167**	P	P	12 38 29.5	-0.1
	0.2nm,0.5s,baz=342,slow=6.9,SNR=7.2						
MKAR	**Makanchi Array**	**50.92**	**323**	P	P	12

comp=E,160nm,0.2s
HNS HongShan 4.48 66 ⇓Pg Pg 12 40 20.3 -0.5
HNS Sg **Sg** 12 41 17.6 -1.3
HNS smax smax
comp=N,200nm,0.8s
HNS smax smax
comp=E,100nm,0.9s
LZH Lanzhou 4.66 277 Pg Pb 12 40 19.5 +2.6
LZH Sg **Sb** 12 41 14.4 +1.2
LZH smax smax
comp=N,130nm,1.5s
LZH smax smax
comp=E,130nm,1.4s
BTO Baotou 4.94 4 *e*Pn Pn 12 40 13.6 +4.4
BTO Sn **Sn** 12 41 04.8 -1.6
BTO smax smax
comp=N,290nm,0.3s
BTO smax smax
comp=E,340nm,0.3s
WHN Wuhan 6.50 141 ⇓Pg Pb 12 40 50.1 +2.0
WHN smax smax
comp=N,88nm,0.7s
WHN smax smax
comp=E,110nm,1.0s
GTA Gaotai 8.60 299 *e*P Pn 12 40 57.8 -1.7
GTA smax smax
comp=N,15nm,0.8s
GTA smax smax
comp=E,16nm,0.8s
SONM Songino Array 12.38 350 Pn **Pn 12 41 52.1 +0.9**
0.2nm,0.3s,baz=169,slow=14,SNR=5.1
SONM Lg Lg 12 45 26.3
0.1nm,0.3s,baz=156,slow=31,SNR=2.8
WMQ Urumqi 18.64 303 *e*P Pn 12 43 15.6 +2.5
MKAR Makanchi Array 23.21 307 P **P 12 43 59.4 -2.6**
0.6nm,0.9s,baz=102,slow=12,SNR=5.8
ARCES ARCESS Array B 55.03 335 P **P 12 48 24.5 -1.8**
6.1nm,1.1s,baz=82,slow=8.3,SNR=5.0
YKA Yellowknife Ar 75.93 19 P **P 12 50 39.5 -2.0**
0.1nm,0.4s,baz=327,slow=5.3,SNR=5.4

*IDC **18** 12:40:52.0±1.7, 8°.39S×121°.82E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.1/42, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=161.2km s-min=26.0km az=58.0*
*DJA **18** 12:41:06.0±0.6, 9°.5±5°.5×12°.1E±°, h87km±9km, M3.1/7, MLv3.1/7*
ISC 18 12:41:03.6±1.0, 9°.31S±0°.07×121°.26E±0°.09, h100km, n10, σ2°99/12, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.70**	**38**	P	**Pn**	**12 41 22.7**	**+1.5**
EDFI				S	**Sn**	**12 41 36.2**	**+1.9**
BASI	**Baing, Sumba**	**1.12**	**217**	P	**Pn**	**12 41 27.8**	**+2.4**
WBSI	**Waikabubak, Su**	**1.87**	**260**	P	**Pn**	**12 41 36.1**	**+1.6**
BATI	**Baumata**	**2.53**	**111**	P	**Pn**	**12 41 45.8**	**+2.6**
SOEI	**Soe**	**3.00**	**99**	P	**Pn**	**12 41 51.3**	**+1.8**
BSSI	**Bau Bau, Buton**	**3.24**	**346**	P	**Pn**	**12 41 53.9**	**+1.3**
FITZ	**Fitzroy Crossi**	**9.72**	**154**	Pn	**Pn**	**12 43 21.6**	**+1.1**
	0.1nm,0.3s,baz=349,slow=16,SNR=1.4						
FITZ				Sn	Sn	12 45 02.2	-5.5
	baz=180,slow=19						
WRA	**Warramunga Arr**	**16.48**	**131**	Pn	**Pn**	**12 44 47.9**	**-1.0**
	0.1nm,0.3s,baz=306,slow=13,SNR=8.2						
WRA				Sn	Sn	12 47 39.9	-12
	0.2nm,0.3s,baz=288,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**18.71**	**141**	P	**P**	**12 45 16.3**	**+1.9**
	0.3nm,0.3s,baz=331,slow=15,SNR=17						
ASAR				S	**S**	**12 48 35.8**	**-6.5**
	0.1nm,0.3s,baz=316,slow=22,SNR=4.8						
MKAR	**Makanchi Array**	**65.77**	**332**	P	**P**	**12 51 35.4**	**-2.5**
	0.3nm,0.6s,baz=148,slow=7.1,SNR=5.3						

*IDC **18** 12:55:54.1±0.9, 36°.41N×98°.14W, h0km, mb1 3.9/5, mb1mx3.5/54, mbtmp3.6/5, ML2.5/3, Error ellipse: s-maj=11.7km s-min=10.4km az=157.0*
*TUL **18** 12:55:56.9±1.2, 36°.28N±0°.01×98°.41W±0°.04, h8km±6km, ML4.1, mb_Lg3.7/96(NEIC), Error ellipse: s-maj=4.2km s-min=1.5km az=79.0*
*NEIC **18** 12:55:57.6±0.8, 36°.28N±0°.02×98°.39W±0°.02, h2km±5km, Error ellipse: s-maj=2.6km s-min=2.2km az=70.0*
*ANF **18** 12:55:57.3±0.2, 36°.26N×98°.37W, h5km, ML4.7/16, Error ellipse: s-maj=2.8km s-min=2.2km az=35.0*
ISC 18 12:55:55.3±1.1, 36°.24N±0°.02×98°.44W±0°.02, h3km±9km, n167, σ1°74/197, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.46**	**54**	Pg	**Pg**	**12 56 05.1**	**+1.0**
CROK				Sg	**Sg**	**12 56 11.0**	**+1.0**
U32A	**Winter Ranch,**	**0.47**	**288**	Pg	**Pb**	**12 56 06.4**	**+0.1**
U32A				Sg	**Sb**	**12 56 13.5**	**-0.2**
OK035	**E0210 Rd and N**	**0.52**	**336**	Pg	**Pg**	**12 56 06.7**	**+1.5**
OK035				Sg	**Sg**	**12 56 13.6**	**+1.7**
GC02	**Grant County #**	**0.77**	**37**	Pg	**Pg**	**12 56 10.7**	**+0.5**
GC02				Sg	**Sg**	**12 56 20.6**	**+0.4**
KAN14	**Manchester OK**	**0.81**	**28**	Pg	**Pg**	**12 56 11.5**	**+0.6**
KAN14				Sg	**Sg**	**12 56 22.2**	**+0.7**
BCOK	**Bluff Creek, N**	**0.89**	**130**	Pg	**Pb**	**12 56 13.7**	**+0.2**
BCOK					**Sb**	**12 56 25.4**	**-0.4**
KAN10	**Anthony SW Sta**	**0.93**	**18**	Pg	**Pg**	**12 56 13.5**	**+0.4**
KAN10				Sg	**Sb**	**12 56 25.8**	**-1.0**
KAN17	**Caldwell West**	**0.97**	**34**	Pg	**Pg**	**12 56 14.2**	**+0.3**
KAN17				Sg	**Sg**	**12 56 26.6**	**0.0**
KAN05	**Bluff City Nor**	**0.98**	**28**	Pg	**Pg**	**12 56 14.6**	**+0.5**
KAN05				Sg	**Sg**	**12 56 27.1**	**+0.2**
KAN16	**Harper SW Stat**	**1.03**	**17**	Pg	**Pg**	**12 56 15.4**	**+0.3**
KAN16				Sg	**Sg**	**12 56 28.9**	**+0.4**
KAN08	**Anthony NE Sta**	**1.06**	**21**		**Pg**	**12 56 15.9**	**+0.3**
KAN08				Sg	**Sg**	**12 56 29.3**	**0.0**
OK009	**Oakdale Elemen**	**1.06**	**128**		**Pn**	**12 56 16.7**	**-0.3**
OK009				Sg	**Sn**	**12 56 30.8**	**-1.5**
KAN01	**Argonia South**	**1.07**	**31**		**Pg**	**12 56 15.9**	**+0.1**
KAN01				Sg	**Sb**	**12 56 29.9**	**-0.9**
KAN13	**South Haven SW**	**1.10**	**45**	Pg	**Pg**	**12 56 16.5**	**+0.2**
KAN13				Sg	**Sg**	**12 56 29.9**	**-0.7**
KAN06	**Argonia West S**	**1.11**	**25**		**Pg**	**12 56 16.9**	**+0.2**
KAN06				Sg	**Sg**	**12 56 31.1**	**+0.1**
OK025	**Westminster Rd**	**1.11**	**126**		**Pn**	**12 56 17.5**	**-0.3**
OK025				Sg	**Sn**	**12 56 32.9**	**-0.8**
KAN12	**Harper NE Stat**	**1.12**	**19**	Pg	**Pb**	**12 56 16.9**	**-0.4**
KAN12				Sg	**Sg**	**12 56 31.1**	**-0.1**
BLOK	**Blackwell**	**1.12**	**62**	Pg	**Pb**	**12 56 17.1**	**-0.3**
BLOK				Sg	**Sg**	**12 56 31.1**	**-0.2**
OKCFA	**Oklahoma City**	**1.15**	**135**		**Pn**	**12 56 18.3**	**-0.1**
OKCFA				Sg	**Sn**	**12 56 33.9**	**-0.8**
OK001	**Jones High Sch**	**1.16**	**125**	Pg	**Pn**	**12 56 18.2**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**1.17**	**135**		**Pn**	**12 56 18.5**	**-0.1**
OKCSW				Sg	**Sn**	**12 56 35.0**	**0.0**
OK005	**Luther M Schoo**	**1.17**	**119**	Pg	**Pn**	**12 56 18.5**	**-0.1**
OK005				Sg	**Sn**	**12 56 34.5**	**-0.7**
FNO	**Franklin**	**1.30**	**139**	Pg	**Pg**	**12 56 20.8**	**+0.7**
OK031	**S. Brethren Rd**	**1.33**	**102**		**Pg**	**12 56 21.0**	**+0.2**
OK030	**Cody Creek RV**	**1.38**	**102**		**Pb**	**12 56 21.8**	**0.0**
QUOK	**Quay**	**1.41**	**92**		**Pb**	**12 56 22.0**	**-0.2**
WMOK	**Wichita Mounta**	**1.52**	**190**	Pn	**Pb**	**12 56 24.7**	**+0.5**
WMOK	**Wichita Mounta**	**1.52**	**190**	P	**Pb**	**12 56 24.7**	**+0.5**
	baz=11,SNR=157						
WMOK				S	**Sg**	**12 56 46.1**	**+2.0**
	baz=11						
OK011	**Prague**	**1.61**	**117**	Pn	**Pg**	**12 56 26.2**	**0.0**
W35A	**Tecumseh**	**1.68**	**130**		**Pb**	**12 56 26.8**	**0.0**
T35A	**Sooner Cattle**	**1.70**	**66**		**Pb**	**12 56 26.9**	**-0.3**
X34A	**Smith Ranch, M**	**1.71**	**163**		**Pg**	**12 56 28.6**	**+0.6**
TUL1	**Leonard**	**2.17**	**98**	Pn	**Pb**	**12 56 33.6**	**-1.7**
TUL1				IAmb_Lg		12 57 05.8	
	comp=Z,347nm,0.7s						
TUL1	**Leonard**	**2.17**	**98**	P	**Pn**	**12 56 33.5**	**+1.1**
	baz=281,SNR=64						
TUL1				S	**Sb**	**12 57 01.7**	**-0.9**
	baz=281						
R32A	**Long Quarter,**	**2.19**	**355**	Pn	**Pb**	**12 56 34.1**	**-1.5**
R32A				IAmb_Lg		12 57 09.1	
	comp=Z,287nm,0.7s						
LOOK	**Love County**	**2.47**	**155**		**Pb**	**12 56 38.8**	**-1.6**
LOOK				IAmb_Lg		12 57 21.9	
	comp=Z,241nm,0.7s						
CBKS	**Cedar Bluff**	**2.77**	**339**	Pn	**Pn**	**12 56 42.0**	**+1.4**
CBKS	**Cedar Bluff**	**2.77**	**339**	P	**Pn**	**12 56 42.3**	**+1.6**
	baz=157,SNR=77						
CBKS				S	**Sn**	**12 57 16.8**	**+2.2**
	baz=157						
AMTX	**Amarillo**	**2.96**	**244**	Pn	**Pb**	**12 56 46.6**	**-2.2**
AMTX					**Pg**	**12 56 51.4**	**-0.7**
AMTX				IAmb_Lg		12 57 35.1	
	comp=Z,185nm,0.8s						
AMTX	**Amarillo**	**2.96**	**244**	Pn	**Pb**	**12 56 47.0**	**-1.9**
	baz=61						
AMTX				Pb	**Pg**	**12 56 51.5**	**-0.6**
	baz=61						
X37A	**Clayton**	**3.00**	**122**		**Pn**	**12 56 45.4**	**+1.7**
Z35A	**Perchaven, San**	**3.06**	**161**		**Pn**	**12 56 46.8**	**+2.2**
KSU1	**Kansas State U**	**3.21**	**26**		**Pn**	**12 56 47.8**	**+1.2**
KSU1				IAmb_Lg		12 57 44.1	
	comp=Z,206nm,0.8s						
KSU1	**Kansas State U**	**3.21**	**26**	Pn	**Pn**	**12 56 47.7**	**+1.0**
	baz=207						
KSU1				Pb	**Pb**	**12 56 54.2**	**+1.3**
	baz=207						
KSU1				Sb	**Sg**	**12 57 35.7**	**-2.6**
	baz=207						
U38A	**Gravette**	**3.28**	**85**	Pn	**Pn**	**12 56 48.8**	**+1.1**
HHAR	**Hobbs**	**3.64**	**88**		**Pn**	**12 56 53.4**	**+0.7**
ABTX	**Abilene, Hawle**	**3.74**	**196**		**Pn**	**12 56 56.2**	**+2.2**
ABTX				IAmb_Lg		12 57 56.7	
	comp=Z,233nm,0.9s						
ABTX	**Abilene, Hawle**	**3.74**	**196**	P	**Pn**	**12 56 56.2**	**+2.2**
	baz=15,SNR=53						
W39A	**Magazine**	**3.93**	**104**		**Pn**	**12 56 57.5**	**+1.0**
W39A	**Magazine**	**3.93**	**104**	P	**Pn**	**12 56 57.8**	**+1.2**
	baz=287,SNR=7.2						
W39A				S	**Sn**	**12 57 44.6**	**+1.4**
	baz=287						
Z38A	**Mt. Pleasant**	**4.12**	**135**		**Pn**	**12 57 00.2**	**+1.1**
MSTX	**Muleshoe**	**4.21**	**239**	Pn	**Pn**	**12 57 03.2**	**+2.7**
MSTX				IAmb_Lg		12 58 13.3	
	comp=Z,128nm,1.1s						
MSTX	**Muleshoe**	**4.21**	**239**	Pn	**Pn**	**12 57 03.1**	**+2.7**
	baz=56						
MSTX				Pb	**Pb**	**12 57 13.3**	**+3.3**
	baz=56						
WHTX	**Lake Whitney,**	**4.32**	**169**		**Pn**	**12 57 04.0**	**+2.1**
WHTX	**Lake Whitney,**	**4.32**	**169**	P	**Pn**	**12 57 04.0**	**+2.1**
	baz=350,SNR=6.4						
MIAR	**Mount Ida**	**4.32**	**112**		**Pn**	**12 57 03.4**	**+1.5**
MIAR				IAmb_Lg		12 58 22.5	
	comp=Z,226nm,0.7s						
MIAR	**Mount Ida**	**4.32**	**112**	P	**Pn**	**12 57 03.5**	**+1.5**
	baz=295,SNR=8.4						
MIAR				S	**Sn**	**12 57 54.3**	**+1.4**
	baz=295						
KSCO	**Kaye Shedlock'**	**4.32**	**311**		**Pn**	**12 57 04.2**	**+2.1**
KSCO				IAmb_Lg		12 58 24.2	
	comp=Z,132nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.32**	**311**	Pn	**Pn**	**12 57 04.2**	**+2.1**
	baz=128						
KSCO				Pb	**Pb**	**12 57 15.4**	**+3.3**
	baz=128						
KSCO				Sb	**Sg**	**12 58 11.8**	**-2.3**
	baz=128						
S39A	**Bolivar**	**4.35**	**69**		**Pn**	**12 57 03.0**	**+0.7**
S39A				IAmb_Lg		12 58 17.2	
	comp=Z,125nm,0.8s						
U40A	**Yellville**	**4.52**	**87**	Pn	**Pn**	**12 57 04.5**	**-0.2**
U40A	**Yellville**	**4.52**	**87**	P	**Pn**	**12 57 06.1**	**+1.5**
	baz=271,SNR=6.8						
N33A	**J Bar K, Exete**	**4.56**	**10**	Pn	**Pn**	**12 57 05.4**	**+0.1**
N33A				IAmb_Lg		12 58 31.3	
	comp=Z,252nm,0.8s						
237A	**Washetta, Mont**	**4.76**	**152**		**Pn**	**12 57 08.8**	**+0.8**
T25A	**Trinidad**	**4.88**	**282**		**Pn**	**12 57 12.1**	**+2.3**
T25A	**Trinidad**	**4.88**	**282**	P	**Pn**	**12 57 12.4**	**+2.6**
	baz=98,SNR=7.6						
T25A				Sb	**Sg**	**12 58 29.0**	**-3.0**
	baz=98						
X40A	**Basin Creek Fa**	**4.91**	**109**		**Pn**	**12 57 10.9**	**+1.0**
X40A				IAmb_Lg		12 58 37.4	
	comp=Z,209nm,0.8s						
X40A	**Basin Creek Fa**	**4.91**	**109**	P	**Pn**	**12 57 11.3**	**+1.4**
	baz=293						
MGMO	**Mountain Grove**	**5.05**	**78**		**Pn**	**12 57 13.0**	**+1.0**
MGMO				IAmb_Lg		12 58 49.4	
	comp=Z,95nm,0.8s						
WLAR	**White Oak Lake**	**5.06**	**119**	IAmb_Lg		12 58 50.4	
	comp=Z,193nm,0.8s						
WHAR	**Wooly Hollow**	**5.09**	**99**		**Pn**	**12 57 13.8**	**+1.2**
N35A	**Tabor**	**5.11**	**25**		**Pn**	**12 57 13.2**	**+0.4**
P38A	**Dawn**	**5.15**	**47**		**Pn**	**12 57 13.9**	**+0.6**
W41B	**Gary Mavity, V**	**5.15**	**100**		**Pn**	**12 57 14.0**	**+0.7**
W41B				IAmb_Lg		12 58 52.6	
	comp=Z,155nm,0.7s						
W41B	**Gary Mavity, V**	**5.15**	**100**	P	**Pn**	**12 57 14.2**	**+0.8**
	baz=284						
W41B				S	**Sn**	**12 58 11.7**	**-1.6**
	baz=284						
BGNE	**Belgrade**	**5.17**	**2**		**Pn**	**12 57 14.1**	**+0.6**
BGNE	**Belgrade**	**5.17**	**2**	P	**Pn**	**12 57 14.2**	**+0.6**
	baz=182,SNR=17						
BGNE				S	**Sn**	**12 58 14.0**	**+0.2**
	baz=182						
R40A	**Maddies Statio**	**5.33**	**66**		**Pn**	**12 57 16.1**	**+0.2**
NATX	**Nacogdoches**	**5.46**	**144**	Pn	**Pn**	**12 57 17.8**	**+0.2**
NATX				IAmb_Lg		12 59 05.5	
	comp=Z,83nm,0.8s						
OGNE	**Ogallala**	**5.48**	**330**		**Pn**	**12 57 20.1**	**+2.2**
OGNE				IAmb_Lg		12 58 56.0	
	comp=Z,103nm,0.8s						
OGNE	**Ogallala**	**5.48**	**330**	P	**Pn**	**12 57 20.7**	**+2.8**
	baz=148,SNR=17						
Z41A	**Richland Creek**	**5.51**	**121**	Pn	**Pn**	**12 57 18.8**	**+0.4**
Z41A				IAmb_Lg		12 59 06.1	
	comp=Z,164nm,0.9s						
Z41A	**Richland Creek**	**5.51**	**121**	P	**Pn**	**12 57 20.5**	**+2.2**
	baz=305						
Z41A				S	**Sn**	**12 58 22.0**	**-0.2**
	baz=305						
SDCO	**Great Sand Dun**	**5.84**	**287**		**Pn**	**12 57 26.9**	**+3.7**
SDCO	**Great Sand Dun**	**5.84**	**287**	P	**Pn**	**12 57 27.5**	**+4.3**
	baz=102,SNR=10						
SDCO				Sb	**Sg**	**12 58 58.1**	**-4.9**
	baz=102						
JCT	**Junction City**	**5.85**	**192**		**Pn**	**12 57 24.2**	**+1.2**
JCT	**Junction City**	**5.85**	**192**	P	**Pn**	**12 57 24.6**	**+1.6**
	baz=11						
JCT				Sb	**Sg**	**12 58 59.4**	**-3.9**
	baz=11						
LCAR	**Lake Charles**	**5.90**	**89**		**Pn**	**12 57 24.8**	**+1.2**
LCAR				IAmb_Lg		12 59 04.9	
	comp=Z,88nm,0.7s						
CCAR	**Cane Creek**	**5.94**	**111**	IAmb_Lg		12 59 13.5	
	comp=Z,160nm,0.9s						
L34A	**Svendsen Farm,**	**5.94**	**15**		**Pn**	**12 57 24.4**	**+0.2**
T42A	**Van Buren**	**5.96**	**80**		**Pn**	**12 57 25.4**	**+0.9**
T42A				IAmb_Lg		12 59 14.2	
	comp=Z,100nm,0.8s						
Q24A	**Divide**	**5.98**	**299**		**Pn**	**12 57 26.3**	**+1.3**
Q24A				IAmb_Lg		12 59 12.9	
	comp=Z,111nm,0.8s						
CCM	**Cathedral Cave**	**6.03**	**70**		**Pn**	**12 57 25.3**	**-0.1**
CCM				IAmb_Lg		12 59 11.5	
	comp=Z,108nm,0.9s						
CCM	**Cathedral Cave**	**6.03**	**70**	P	**Pn**	**12 57 25.7**	**+0.3**
	baz=255						
P40A	**Paris**	**6.03**	**55**		**Pn**	**12 57 25.8**	**+0.4**
P40A				IAmb_Lg		12 59 06.7	
	comp=Z,169nm,0.8s						
N38A	**Joes South For**	**6.11**	**40**		**Pn**	**12 57 26.5**	**0.0**
K31A	**O'Neill**	**6.38**	**358**		**Pn**	**12 57 30.9**	**+0.7**
PBMO	**Poplar Bluff**	**6.48**	**83**		**Pn**	**12 57 32.2**	**+0.7**
PBMO				IAmb_Lg		12 59 34.8	
	comp=Z,107nm,0.7s						
FVM	**French Village**	**6.64**	**72**		**Pn**	**12 57 34.1**	**+0.3**
ANMO	**Albuquerque**	**6.66**	**261**	Pn	**Pn**	**12 57 37.9**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=73,slow=15,SNR=3.2						
ANMO				Pg	Pg	12 57 58.5	-4.2
	comp=Z,0.5nm,0.3s,baz=79,slow=17,SNR=6.5						
ANMO				Sn	**Sn**	**12 58 58.8**	**+8.2**
	comp=Z,1.5nm,0.3s,baz=87,slow=19,SNR=1.8						
ANMO				Lg	Lg	12 59 26.8	
	comp=Z,3.2nm,0.3s,baz=18,slow=19,SNR=5.9						
ANMO	**Albuquerque**	**6.66**	**261**	Pn	**Pn**	**12 57 35.8**	**+1.6**
ISCO	**Idaho Springs**	**6.68**	**304**	Pn	**Pn**	**12 57 36.6**	**+1.9**
ISCO				IAmb_Lg		12 59 44.0	
	comp=Z,72nm,0.7s						
ISCO	**Idaho Springs**	**6.68**	**304**	P	**Pn**	**12 57 37.0**	**+2.3**
	baz=120						
ISCO				Sb	**Sg**	**12 59 22.2**	**-7.7**
	baz=120						
143A	**Socs Landing,**	**6.80**	**119**	Pn	**Pn**	**12 57 37.0**	**+1.0**
143A				IAmb_Lg		12 59 42.1	
	comp=Z,94nm,0.7s						
GNAR	**Gosnell**	**6.83**	**90**	Pn	**Pn**	**12 57 36.9**	**+0.5**
S22A	**4UR Ranch, Cre**	**6.88**	**285**	Pn	**Pn**	**12 57 40.8**	**+3.4**
PEBM	**Pemiscott Bayo**	**6.94**	**89**	Pn	**Pn**	**12 57 39.1**	**+1.2**
SLM	**Saint Louis**	**6.96**	**67**	Pn	**Pn**	**12 57 38.0**	**-0.1**
SCIA	**State Center**	**6.97**	**34**	Pn	**Pn**	**12 57 37.7**	**-0.6**
SCIA				IAmb_Lg		12 59 38.5	
	comp=Z,138nm,0.7s						
BNM	**Barren Site**	**7.02**	**255**	Pn	**Pn**	**12 57 39.7**	**+0.5**
PVMO	**Portageville**	**7.06**	**86**	IAmb_Lg		12 59 58.5	
	comp=Z,149nm,0.8s						
LNXT	**Lenox**	**7.24**	**88**	Pn	**Pn**	**12 57 40.9**	**-1.2**
Y22D	**IRIS PASSCAL I**	**7.27**	**255**	IAmb_Lg		13 00 08.0	
	comp=Z,101nm,1.1s						
MNTX	**Cornudas Mount**	**7.33**	**234**		**Pn**	**12 57 45.5**	**+2.2**
MNTX	**Cornudas Mount**	**7.33**	**234**	P	**Pn**	**12 57 45.9**	**+2.6**
	baz=50,SNR=9.6						
735A	**Kenedy**	**7.38**	**176**	IAmb_Lg		13 00 08.6	
	comp=Z,68nm,0.7s						
HICK	**Hickman**	**7.44**	**85**	Pn	**Pn**	**12 57 46.1**	**+1.3**
PHWY	**Pilot Hill**	**7.45**	**315**	Pn	**Pn**	**12 57 45.8**	**+0.5**
PHWY				IAmb_Lg		13 00 02.9	
	comp=Z,60nm,0.8s						
N23A	**Red Feather La**	**7.49**	**311**		**Pn**	**12 57 47.5**	**+1.8**
N23A				IAmb_Lg		12 59 57.0	
	comp=Z,135nm,0.8s						
S44A	**Carbondale**	**7.50**	**76**		**Pn**	**12 57 45.8**	**+0.2**
S44A				IAmb_Lg		12 59 56.4	
	comp=Z,95nm,0.7s						
W45A	**Hickory Valley**	**7.61**	**95**	Pn	**Pn**	**12 57 47.9**	**+0.8**
ECSD	**EROS Data Cent**	**7.62**	**10**		**Pn**	**12 57 46.9**	**-0.3**
ECSD				IAmb_Lg		12 59 59.6	
	comp=Z,69nm,0.9s						
ECSD	**EROS Data Cent**	**7.62**	**10**	P	**Pn**	**12 57 46.8**	**-0.4**
	baz=191,SNR=5.5						
ECSD				S	**Sn**	**12 59 10.6**	**-3.5**
	baz=191						
Y45A	**Yeager Farm, C**	**7.67**	**105**	Pn	**Pn**	**12 57 48.2**	**+0.2**
Y45A				IAmb_Lg		13 00 20.2	
	comp=Z,95nm,0.8s						
K38A	**Parkersburg**	**7.76**	**33**	Pn	**Pn**	**12 57 47.9**	**-1.2**
K38A				IAmb_Lg		13 00 11.6	
	comp=Z,135nm,0.7s						
833A	**Chaparral WMA,**	**7.93**	**186**	Pn	**Pn**	**12 57 50.9**	**-0.7**
Q44A	**Meyer Farm, Va**	**7.95**	**68**		**Pn**	**12 57 51.8**	**+0.1**
Q44A				IAmb_Lg		13 00 17.0	
	comp=Z,93nm,0.9s						
L40A	**Anamosa**	**8.08**	**42**		**Pn**	**12 57 53.3**	**-0.3**
L40A				IAmb_Lg		13 00 16.3	
	comp=Z,107nm,0.7s						
MVCO	**Mesa Verde**	**8.13**	**280**	Sb	**Sg**	**13 00 10.1**	**-6.3**
	baz=94						
TX31	**Lajitas Ar. Si**	**8.17**	**214**		**Pn**	**12 57 57.0**	**+2.1**
TX32	**Lajitas Array**	**8.17**	**214**	Pn	**Pn**	**12 57 57.0**	**+2.1**
TXAR	**Lajitas Array**	**8.17**	**214**	Pn	**Pn**	**12 57 56.6**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=38,slow=11,SNR=56						
TXAR				Lg	Lg	13 00 14.8	
	comp=Z,5.4nm,0.3s,baz=30,slow=28,SNR=8.2						
TXAR	**Lajitas Array**	**8.17**	**214**		**Pn**	**12 57 56.4**	**+1.6**
SUSD	**Miller**	**8.21**	**357**		**Pn**	**12 57 55.7**	**+0.4**
SUSD	**Miller**	**8.21**	**357**	P	**Pn**	**12 57 55.7**	**+0.4**
	baz=177						
HDIL	**Hopedale**	**8.38**	**56**		**Pn**	**12 57 57.6**	**0.0**
HDIL	**Hopedale**	**8.38**	**56**	P	**Pn**	**12 57 57.7**	**+0.1**
	baz=242						
PLAL	**Pickwick Lake**	**8.54**	**95**	Pn	**Pn**	**12 58 01.0**	**+1.2**
146A	**Union**	**8.54**	**112**	IAmb_Lg		13 00 50.6	
	comp=Z,46nm,0.8s						
WVT	**Waverly**	**8.58**	**88**	Pn	**Pn**	**12 57 59.9**	**-0.6**
WVT	**Waverly**	**8.58**	**88**	P	**Pn**	**12 58 00.4**	**-0.1**
	baz=274						
I37A	**Lemond, Waseca**	**8.67**	**25**	IAmb_Lg		13 00 45.2	
	comp=Z,65nm,0.8s						
O44A	**Mansfield**	**8.77**	**61**	IAmb_Lg		13 00 35.9	
	comp=Z,90nm,0.8s						
L42A	**Oliver, Polo**	**8.92**	**47**	Pn	**Pn**	**12 58 04.7**	**-0.4**
L42A				IAmb_Lg		13 00 51.6	
	comp=Z,96nm,0.8s						
K22A	**Casper**	**8.95**	**318**		**Pn**	**12 58 05.5**	**0.0**
K22A				IAmb_Lg		13 01 01.2	
	comp=Z,72nm,1.1s						
RSSD	**Black Hills**	**8.96**	**333**	Pn	**Pn**	**12 58 07.5**	**+1.7**
RSSD	**Black Hills**	**8.96**	**333**	P	**Pn**	**12 58 07.6**	**+1.8**
	baz=149						
JFWS	**Jewell Farm**	**9.19**	**41**	IAmb_Lg		13 00 55.2	
	comp=Z,87nm,0.8s						
JFWS	**Jewell Farm**	**9.19**	**41**	P	**Pn**	**12 58 08.2**	**-0.6**
	baz=226						
JFWS				S	**Sn**	**12 59 47.2**	**-5.4**
	baz=226						
P46A	**Rosedale**	**9.50**	**66**	Pn	**Pn**	**12 58 14.2**	**+1.2**
I40A	**Norwalk**	**9.71**	**36**	Pn	**Pn**	**12 58 14.9**	**-1.0**
I40A				IAmb_Lg		13 01 10.9	
	comp=Z,52nm,0.8s						
F33A	**5 Mile Ranch,**	**9.73**	**9**	IAmb_Lg		13 01 05.0	
	comp=Z,46nm,0.9s						
BLO	**Bloomington**	**9.89**	**69**		**Pn**	**12 58 18.9**	**+0.6**
WCI	**Wyandotte Cave**	**9.89**	**75**	Pn	**Pn**	**12 58 18.8**	**+0.4**
WCI	**Wyandotte Cave**	**9.89**	**75**	P	**Pn**	**12 58 19.1**	**+0.7**
	baz=262						
SPMN	**Marine on St.**	**9.94**	**24**	IAmb_Lg		13 01 15.6	
	comp=Z,38nm,0.8s				

OCAC *eS* **Sn** **13 11 25.5 -0.5**
OCAC *i* 13 11 29.0
comp=Z,407nm,0.3s
SPBC San Pablo de B 1.53 220 *eP* **Pn** **13 11 04.5 0.0**
SPBC *eS* **Sn** **13 11 26.7 -1.0**
SPBC *i* 13 11 29.9
comp=Z,242nm,0.3s
ZARC Zaragoza, Cauc 1.88 291 *eP* **Pn** **13 11 08.7 +0.5**
ZARC *eS* **Sn** **13 11 34.4 0.0**
ZARC *i* 13 11 39.6
comp=Z,264nm,0.5s
NORC Norcasia 2.17 235 *eP* **Pn** **13 11 12.5 +0.9**
NORC *eS* **Sn** **13 11 39.1 -1.5**
NORC *i* 13 11 42.0
comp=Z,74nm,0.3s
SMLC San Martn de 2.19 334 *eP* **Pn** **13 11 12.1 +0.3**
SMLC *eS* **Sn** **13 11 41.7 +0.8**
SMLC *i* 13 11 54.1
comp=Z,122nm,0.1s
CHIC Chingaza 2.28 197 *eP* **Pn** **13 11 13.9 +0.7**
CHIC *eS* **Sn** **13 11 42.6 -0.7**
CHIC *i* 13 11 49.6
comp=Z,48nm,0.3s
ROSC El Rosal 2.33 212 P **Pn** **13 11 15.7 +1.9**
comp=Z,19nm,0.3s,baz=296,slow=10,SNR=15
ROSC S **Sn** **13 11 44.1 -0.2**
comp=Z,20nm,0.3s,baz=94,slow=13,SNR=12
ROSC El Rosal 2.33 212 *eP* **Pn** **13 11 15.5 +1.7**
ROSC *eS* **Sn** **13 11 44.6 +0.2**
ROSC *i* 13 11 51.9
comp=Z,189nm,0.5s
HELC Santa Helena 2.51 256 *eP* **Pn** **13 11 17.3 +1.4**
HELC *eS* **Sn** **13 11 47.7 -0.5**
HELC *i* 13 11 54.4
comp=Z,58nm,0.2s
UREC San Jos de Ur 2.60 291 *eP* **Pn** **13 11 17.6 +0.9**
UREC *eS* **Sn** **13 11 47.6 -2.1**
UREC *i* 13 12 01.6
comp=Z,84nm,0.3s
SOCV Socops 2.64 57 *eP* **Pn** **13 11 14.2 -3.0**
SOCV *eS* **Sn** **13 11 49.5 -1.1**
VILC Villavicencio, 2.76 193 *eP* **Pn** **13 11 19.5 +0.7**
VILC *eS* **Sn** **13 11 54.1 +0.6**
GUY2C Guyana, Caldas 2.77 235 *eP* **Pn** **13 11 21.0 +1.7**
GUY2C *eS* **Sn** **13 11 54.7 +0.5**
GUY2C *i* 13 12 00.5
comp=Z,67nm,0.3s
PTGC Puerto Gaitan, 2.77 160 *eP* **Pn** **13 11 18.9 +0.1**
PTGC *eS* **Sn** **13 11 52.3 -1.3**
PTGC *i* 13 11 54.2
comp=Z,104nm,0.4s
DBBC Dabeiba 3.11 274 *eP* **Pn** **13 11 23.8 +0.6**
DBBC *eS* **Sn** **13 11 59.9 -1.3**
DBBC *i* 13 12 06.3
comp=Z,143nm,0.4s
SDV Santo Domingo 3.17 50 P **Pn** **13 11 25.4 +1.4**
comp=Z,5.0nm,0.3s,baz=244,slow=3,1,SNR=11
SDV S **Sn** **13 12 02.5 -0.2**
comp=Z,13nm,0.3s,baz=73,slow=20,SNR=23
SDV Santo Domingo 3.17 50 *eP* **Pn** **13 11 25.3 +1.2**
SDV *eS* **Sn** **13 12 02.1 -0.6**
SDV *i* 13 12 04.9
comp=Z,42nm,0.3s
MOTC Monteria, Cord 3.21 307 *eP* **Pn** **13 11 23.5 -0.9**
MOTC *eS* **Sn** **13 12 02.1 -1.2**
MOTC *i* 13 12 15.7
comp=Z,30nm,0.4s
ARGC Ariguani, Magd 3.23 339 *eP* **Pn** **13 11 26.9 +2.4**
ARGC *eS* **Sn** **13 12 05.5 +1.8**
ARGC *i* 13 12 11.8
comp=Z,21nm,0.3s
ANIL Santa Ana 3.27 225 *eP* **Pn** **13 11 28.4 +3.0**
ANIL *i* 13 11 54.6
comp=Z,27nm,0.2s
ANIL *eS* **Sn** **13 12 05.8 +0.6**
PRAC Prado 3.58 210 *eP* **Pn** **13 11 29.4 +0.3**
PRAC *eS* **Sn** **13 12 10.9 -0.8**
PRAC *i* 13 12 18.4
comp=Z,62nm,0.3s
ORTC Ortega, Tolima 3.61 217 *eP* **Pn** **13 11 30.5 +1.0**
ORTC *eS* **Sn** **13 12 12.4 -0.2**
ORTC *i* 13 12 18.7
comp=Z,55nm,0.5s
SJCC San Jacinto, C 3.69 326 *eP* **Pn** **13 11 30.0 -0.6**
SJCC *eS* **Sn** **13 12 11.3 -3.2**
SJCC *i* 13 12 15.3
comp=Z,28nm,0.5s
PLMC San Jos del P 3.71 239 *eP* **Pn** **13 11 31.7 +0.8**
PLMC *eS* **Sn** **13 12 13.9 -1.1**
PLMC *i* 13 12 21.6
comp=Z,21nm,0.3s
CRJC Cerrejon, Guaj 4.17 3 *eP* **Pn** **13 11 36.3 -0.5**
CRJC *eS* **Sn** **13 12 20.9 -4.8**
CRJC *i* 13 12 31.1
comp=Z,18nm,0.3s
MACC Macarena, Meta 4.71 189 *eP* **Pn** **13 11 43.0 -0.9**
MACC *eS* **Sn** **13 12 34.0 -4.4**
MACC *i* 13 12 55.8
comp=Z,22nm,0.3s
PCON Cinco Dias 5.56 217 *eP* **Pn** **13 11 56.2 +0.7**
PCON *eS* **Sn** **13 12 54.2 -4.9**
YKA Yellowknife Ar 63.27 340 P **P** **13 20 46.9 +1.0**
comp=Z,0.3nm,0.6s,baz=135,slow=6.8,SNR=8.0
ASAR Alice Springs 149.15 234 PKPbc **PKPbc** **13 30 05.0 0.0**
comp=Z,0.2nm,0.6s,baz=131,slow=3.5,SNR=7.5
WRA Warramunga Arr 150.37 241 PKPbc **PKPbc** **13 30 08.0 0.0**
comp=Z,0.2nm,0.4s,baz=108,slow=2.9,SNR=6.5

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*IDC **18** 13:10:38.6±4.9, 47.°02N×152.°74E, h79km±41km, mb3.3/8, mb1 3.5/9, mb1mx3.3/34, mbtmp3.6/9, ML1.9/1, Error ellipse: s-maj=30.6km s-min=25.8km az=146.0*
*SKHL **18** 13:10:39.0±0.8, 46.°70N×153.°00E, h68km±5km, mb4.5/3*
ISC 18 13:10:36.2±0.9, 46.°9N±0.°1×152.°9E±0.°1, h56km, n19, σ1°56/16, mb3.6/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.90**	**247**	*eP*	**Pn**	**13 11 36.5**	**+3.0**
KUR				AMB	AMB	13 11 37.1	
	20nm,0.4s						
KUR				*eS*	**Sn**	**13 12 19.0**	**+1.0**
KUR				A	A	13 12 40.0	
	100nm,0.4s						
KUR				A	A	13 12 40.0	
	80nm,0.4s						
SHO	**Shikotan**	**5.25**	**237**	*eP*	**Pn**	**13 11 54.0**	**+1.9**
SHO				AMB	AMB	13 11 56.3	
	40nm,0.8s						
SHO				*eS*	**Sn**	**13 12 50.8**	**-0.5**
SHO				A	A	13 12 55.0	
	60nm,0.6s						
SHO				A	A	13 12 55.0	
	50nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.74**	**243**	*eP*	Pn	13 12 04.8	+6.1
YUK				AMB	AMB	13 12 06.8	
	80nm,0.3s						
NMR	**Nemuro--Hokkai**	**6.19**	**238**	*eP*	**Pn**	**13 12 04.4**	**-0.5**
NMR				*eS*	**Sn**	**13 13 14.0**	**-0.3**
PETK	**Petropavlovsk-**	**6.95**	**24**	P	**Pn**	**13 12 15.2**	**0.0**
	0.1nm,0.3s,baz=183,slow=14,SNR=1.2						
PETK				S	**Sn**	**13 13 35.7**	**+3.0**
	baz=176,slow=9.5,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**29.39**	**152**	T	T	13 47 54.7	
	baz=341,slow=76,SNR=108						
H11N1	**WAKE ISLAND Hy**	**29.40**	**152**	T	T	13 47 59.4	
	baz=341,slow=76,SNR=106						
H11N3	**WAKE ISLAND Hy**	**29.41**	**152**	T	T	13 48 02.4	
	baz=341,slow=76,SNR=79						
H11S1	**WAKE ISLAND Hy**	**30.48**	**154**	T	T	13 49 22.6	
	baz=341,slow=76,SNR=102						
H11S3	**WAKE ISLAND Hy**	**30.48**	**154**	T	T	13 49 20.0	
	baz=341,slow=76,SNR=132						
H11S2	**WAKE ISLAND Hy**	**30.50**	**154**	T	T	13 49 23.1	
	baz=341,slow=76,SNR=148						
ILAR	**Eielson Array**	**36.52**	**39**	P	**P**	**13 17 35.8**	**0.0**
	0.5nm,1.0s,baz=263,slow=7.2,SNR=2.1						
MKAR	**Makanchi Array**	**46.78**	**297**	P	**P**	**13 18 58.4**	**-1.4**
	0.3nm,0.8s,baz=72,slow=9.3,SNR=2.6						
YKA	**Yellowknife Ar**	**50.89**	**37**	P	**P**	**13 19 30.9**	**-0.1**
	0.5nm,0.8s,baz=298,slow=7.2,SNR=5.2						
FINES	**FINESS Array B**	**63.87**	**335**	P	**P**	**13 21 00.7**	**-1.7**
	1.7nm,0.8s,baz=25,slow=8.3,SNR=4.6						
NOA	**NORSAR Array B**	**68.07**	**341**	P	**P**	**13 21 28.1**	**-1.3**
	0.6nm,0.7s,baz=27,slow=6.4,SNR=2.0						
AKASG	**Malin Array Be**	**71.37**	**326**	P	**P**	**13 21 48.8**	**-1.1**
	0.7nm,0.3s,baz=34,slow=6.6,SNR=5.2						
ASAR	**Alice Springs**	**72.30**	**198**	P	**P**	**13 21 56.5**	**+0.9**
	0.4nm,1.0s,baz=15,slow=5.5,SNR=4.7						
TXAR	**Lajitas Array**	**77.53**	**60**	P	**P**	**13 22 25.9**	**-0.1**
	0.4nm,0.6s,baz=298,slow=4.6,SNR=6.4						

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*MOS **18** 13:43:56.7±1.0, 31.°22S×178.°87W, h91km, mb5.3/16, Error ellipse: s-maj=11.9km s-min=9.1km az=89.1*
*IDC **18** 13:43:58.1±1.1, 31.°16S×178.°89W, h96km±8km, mb4.5/19, mb1 4.6/22, mb1mx4.5/38, mbtmp4.8/22, MS3.7/35, Ms1 3.7/35, ms1mx3.6/59, Error ellipse: s-maj=11.7km s-min=10.3km az=118.0*
*NEIC **18** 13:43:58.0±1.8, 31.°32S±0.°09×178.°7W±0.°1, h95km±4km, mb5.1/68, Error ellipse: s-maj=14.3km s-min=12.6km az=114.0*
*GCMT **18** 13:43:59.0±0.2, 31.°30S±0.°02×178.°72W±0.°02, h104km±3km, MW5.0/89, Moment Tensor Solution. s57,c72; s89,c129; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.03±.18; $M_{\theta\theta}$0.69±.19; $M_{\phi\phi}$-0.66±.18; $M_{r\theta}$-1.22±.11; $M_{r\phi}$0.35±.18; $M_{\theta\phi}$-3.94±.09; Best double couple: $M_0$4.18200×10^16 NP1:ϕ_s294.00000°, δ9.00000°, λ6.00000°. NP2:ϕ_s198.00000°, δ89.00000°, λ99.00000°. Principal axes: T 3.9990, Plg45.0000°, Azm118.0000°; N 0.3660, Plg9.0000°, Azm18.0000°; P -4.3650, Plg43.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **18** 13:44:05.0, 31.°30S×177.°86W, h233km, mb5.1/31, Kermadec Islands Region*
ISC 18 13:43:53.3±0.3, 31.°39S±0.°04×178.°70W±0.°06, h61km, n524, σ1°60/499, mb5.2/80, 33C-15D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.23**	**18**	P	**Pn**	**13 44 29.8**	**+2.0**
GLKZ				S	**Sn**	**13 44 56.0**	**+1.8**
RAO	**Raoul Island**	**2.24**	**18**	P	**Pn**	**13 44 31.2**	**+3.1**
	670nm,0.3s,baz=84,slow=18,SNR=11						
RAO				S	**Sn**	**13 44 57.5**	**+3.0**
	1μm,0.3s,baz=266,slow=20,SNR=11						
RAO	**Raoul Island**	**2.24**	**18**	Pn	**Pn**	**13 44 30.8**	**+2.7**
RIZ	**Raoul Island**	**2.24**	**17**	P	**Pn**	**13 44 30.3**	**+2.2**
MXZ	**Matakaoa Point**	**6.63**	**201**	P	**Pn**	**13 45 28.7**	**+0.6**
MXZ				S	**Sn**	**13 46 41.7**	**-0.7**
MXZ	**Matakaoa Point**	**6.63**	**201**	Pn	**Pn**	**13 45 29.7**	**+1.5**
WMGZ	**Waiomatatini S**	**6.84**	**200**	P	**Pn**	**13 45 31.9**	**+1.0**
WMGZ				S	**Sn**	**13 46 46.8**	**-0.6**
HAZ	**Te Kaha**	**6.98**	**204**	P	**Pn**	**13 45 33.9**	**+1.1**
HAZ				S	**Sn**	**13 46 53.1**	**+2.3**
PKGZ	**Pakihiroa**	**7.00**	**201**	P	**Pn**	**13 45 33.7**	**+0.5**
PKGZ				S	**Sn**	**13 46 50.0**	**-1.5**
KUZ	**Kuaotunu**	**7.07**	**219**	P	Pn	13 45 38.9	+4.9
PUZ	**Puketiti**	**7.12**	**200**	P	**Pn**	**13 45 34.8**	**-0.1**
PUZ				S	**Sn**	**13 46 51.2**	**-3.1**
RUGZ	**Raukumara Rang**	**7.21**	**203**	P	**Pn**	**13 45 36.7**	**+0.6**
TWGZ	**Tauwhareparae**	**7.30**	**201**	P	**Pn**	**13 45 38.1**	**+0.8**
TWGZ				S	**Sn**	**13 46 57.0**	**-1.7**
CNGZ	**Carnagh Statio**	**7.52**	**199**	P	**Pn**	**13 45 40.7**	**+0.5**
OPRZ	**Ohinepanea**	**7.53**	**210**	P	Pn	13 45 45.5	+5.1
TKGZ	**Te Karaka**	**7.58**	**201**	P	**Pn**	**13 45 42.4**	**+1.3**
MWZ	**Matawai**	**7.59**	**203**	P	**Pn**	**13 45 40.6**	**-0.7**
MWZ				S	**Sn**	**13 47 03.5**	**-2.3**
URZ	**Urewera**	**7.67**	**206**	P	**Pn**	**13 45 42.4**	**+0.1**
URZ	**Urewera**	**7.67**	**206**	Pn	**Pn**	**13 45 42.3**	**0.0**
RIGZ	**Rimuhau**	**7.85**	**201**	P	**Pn**	**13 45 44.2**	**-0.7**
TOZ	**Tahuroa Road**	**7.93**	**216**	P	Pn	13 45 51.7	+5.8
MUGZ	**Murupara**	**7.99**	**206**	P	**Pn**	**13 45 47.3**	**+0.7**
PRGZ	**Paritu Road**	**8.02**	**199**	P	**Pn**	**13 45 47.2**	**+0.1**
KNZ	**Kokohu**	**8.17**	**200**	P	**Pn**	**13 45 47.4**	**-1.8**
MHGZ	**Mahia Peninsul**	**8.22**	**199**	P	**Pn**	**13 45 50.6**	**+0.7**
ALRZ	**Allen Road**	**8.23**	**208**	P	**Pn**	**13 45 51.6**	**+1.6**
RAHZ	**Arahi**	**8.26**	**204**	P	**Pn**	**13 45 49.7**	**-0.7**
MTHZ	**Maungataniwha**	**8.29**	**205**	P	**Pn**	**13 45 52.1**	**+1.2**
NMHZ	**Naumai**	**8.52**	**204**	P	**Pn**	**13 45 53.6**	**-0.4**
ARHZ	**Aropaoanui**	**8.60**	**203**	P	**Pn**	**13 45 54.1**	**-1.0**
WATZ	**Wairara**	**8.61**	**210**	P	**Pn**	**13 45 58.7**	**+3.6**
HATZ	**Hinemaiaia**	**8.61**	**208**	P	**Pn**	**13 45 57.1**	**+1.8**
BKZ	**Black Stump Fm**	**8.69**	**206**	P	**Pn**	**13 45 54.9**	**-1.5**
BKZ	**Black Stump Fm**	**8.69**	**206**	Pn	**Pn**	**13 45 55.2**	**-1.2**
HIZ	**Hauiti**	**8.86**	**215**	P	Pn	13 46 03.5	+4.9
HIZ	**Hauiti**	**8.86**	**215**		**Pn**	**13 46 01.7**	**+3.2**
MCHZ	**McNeill Hill**	**8.87**	**204**	P	**Pn**	**13 45 57.4**	**-1.4**
KWHZ	**Kaweka Forest**	**8.95**	**205**	P	**Pn**	**13 45 58.5**	**-1.4**
OTVZ	**Oturere**	**9.02**	**209**	P	**Pn**	**13 46 03.4**	**+2.5**
SNVZ	**South Ngauruho**	**9.05**	**209**	P	**Pn**	**13 46 04.1**	**+2.7**
KAHZ	**Kahuranaki**	**9.12**	**202**	P	**Pn**	**13 46 01.2**	**-1.1**
BHHZ	**Black Hill Sta**	**9.14**	**206**	P	**Pn**	**13 46 01.8**	**-0.7**
KRHZ	**Kereru**	**9.16**	**205**	P	**Pn**	**13 46 00.9**	**-1.9**
WNVZ	**Wahianoa**	**9.18**	**209**	P	**Pn**	**13 46 06.2**	**+3.0**
MOVZ	**Moawhango**	**9.19**	**208**	P	**Pn**	**13 46 03.1**	**0.0**
PXZ	**Pawanui**	**9.34**	**201**	P	**Pn**	**13 46 04.4**	**-0.8**
VRZ	**Vera Road**	**9.38**	**213**	P	Pn	13 46 12.4	+6.6
PNHZ	**Pukenui**	**9.46**	**205**	P	**Pn**	**13 46 04.6**	**-2.2**
WPHZ	**Waipukurau**	**9.51**	**203**	P	**Pn**	**13 46 06.2**	**-1.3**
PRHZ	**Porangahau**	**9.63**	**202**	P	**Pn**	**13 46 06.0**	**-3.2**
TSZ	**Takapari Road**	**9.67**	**205**	P	**Pn**	**13 46 07.3**	**-2.4**
WAZ	**Wanganui**	**9.80**	**210**	P	**Pn**	**13 46 12.7**	**+1.3**
PKE	**Pukeiti**	**9.81**	**215**	P	Pn	13 46 16.7	+5.0
DVHZ	**Dannevirke**	**9.81**	**204**	P	**Pn**	**13 46 10.3**	**-1.4**
ANWZ	**Angora Road**	**9.86**	**202**	P	**Pn**	**13 46 09.1**	**-3.1**
POWZ	**Post Office Ro**	**10.04**	**205**	P	**Pn**	**13 46 13.7**	**-1.0**
PRWZ	**Pori Road**	**10.11**	**204**	P	**Pn**	**13 46 14.0**	**-1.7**
BFZ	**Birch Farm**	**10.13**	**202**	P	**Pn**	**13 46 12.6**	**-3.4**
TIWZ	**Tintock**	**10.34**	**204**	P	**Pn**	**13 46 16.7**	**-2.1**
KIW	**Kapiti Island**	**10.77**	**207**	P	**Pn**	**13 46 21.8**	**-2.9**
TRWZ	**Traveller**	**10.96**	**203**	P	**Pn**	**13 46 24.0**	**-3.3**
PAWZ	**Paruwai Farm**	**11.03**	**204**	P	**Pn**	**13 46 26.4**	**-2.0**
MSWZ	**Moikau Station**	**11.12**	**204**	P	**Pn**	**13 46 27.3**	**-2.3**
WEL	**Wellington**	**11.19**	**206**	P	**Pn**	**13 46 27.9**	**-2.4**
TUWZ	**Tuamarina**	**11.63**	**209**		Pn	13 46 31.3	-5.2
NFK	**Norfolk Island**	**11.79**	**278**	P	**Pn**	**13 46 40.5**	**+1.7**
	baz=12,SNR=4.8						
BSWZ	**Blackbirch Sta**	**11.90**	**208**	P	**Pn**	**13 46 37.7**	**-2.5**
THZ	**Tophouse**	**12.35**	**211**	Pn	**Pn**	**13 46 44.0**	**-2.3**
KHZ	**Kahutara**	**12.63**	**207**	Pn	Pn	13 46 43.4	-6.6
MSVF	**Nonsavu**	**13.91**	**347**	P	**Pn**	**13 47 09.7**	**+2.0**
	2.3nm,0.3s,baz=115,slow=21,SNR=10						
MSVF				LR	LR	13 50 49.2	
	comp=Z,217nm,19.3s,baz=178,slow=30						
MSVF	**Nonsavu**	**13.91**	**347**	*eiP*	**Pn**	**13 47 09.8**	**+2.1**
MSVF	**Nonsavu**	**13.91**	**347**	Pn	**Pn**	**13 47 10.1**	**+2.5**
PINNC	**Pines Island,**	**15.12**	**302**	Pn	**P**	**13 47 25.8**	**-1.4**
PINNC				IAmb	IAmb	13 47 31.6	
	comp=Z,93nm,0.8s						
MARNC	**Mare, Loyalty**	**15.44**	**307**	P	**P**	**13 47 34.0**	**+3.2**
OUENC	**Ouen Island, N**	**15.68**	**301**	P	**P**	**13 47 36.1**	**+2.6**
OUENC				IAmb	IAmb	13 47 38.3	
	comp=Z,108nm,1.0s						
ONTNC	**Ouen Toro**	**16.03**	**301**	P	**P**	**13 47 39.2**	**+1.9**
ONTNC				IAmb	IAmb	13 47 40.5	
	comp=Z,152nm,1.3s						
DZM	**Mont Dzumac**	**16.18**	**301**	P	**P**	**13 47 40.6**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=108,slow=14,SNR=14						
DZM				LR	LR	13 53 05.4	
	comp=Z,214nm,18.3s,baz=196,slow=34						
DZM	**Mont Dzumac**	**16.18**	**301**	*eP*	**P**	**13 47 40.7**	**+1.6**
	comp=Z,300nm,1.4s						
DZM				*e*LR	LR	13 51 25.3	
	comp=Z,2μm,30.4s						
DZM	**Mont Dzumac**	**16.18**	**301**	P	**P**	**13 47 41.6**	**+2.5**
DZM				IAmb	IAmb	13 47 44.0	
	comp=Z,132nm,1.2s						
AFI	**Afiamalu**	**18.52**	**22**	P	**Pn**	**13 48 05.6**	**-0.1**
	comp=Z,3.3nm,0.3s,baz=7.4,slow=19,SNR=1.5						
AFI				S	**Sn**	**13 51 26.4**	**-5.9**
	comp=Z,3.4nm,0.3s,baz=180,slow=19,SNR=2.6						
RAR	**Rarotonga**	**19.74**	**64**	S	**S**	**13 51 51.4**	**-6.0**
	comp=Z,16nm,0.3s,baz=346,slow=16,SNR=2.9						
RAR				LR	LR	13 55 48.5	
	comp=Z,109nm,19.3s,baz=262,slow=36						
SANVU	**Saraoutou**	**20.44**	**318**	P	Pn	13 48 28.4	0.0
SANVU				IAmb	IAmb	13 48 42.5	
	comp=Z,70nm,0.8s						
ARMA	**Armidale**	**25.45**	**264**	P	**P**	**13 49 19.0**	**+3.3**
	baz=26,SNR=7.8						
ARMA	**Armidale**	**25.45**	**264**	P	**P**	**13 49 17.9**	**+2.2**
MGCD	**Mangrove Creek**	**25.55**	**258**	P	**P**	**13 49 19.8**	**+3.4**
	baz=26,SNR=26						
CNB	**Canberra Magne**	**26.90**	**253**	P	**P**	**13 49 31.4**	**+2.7**
	baz=27,SNR=24						
CAN	**Canberra**	**27.20**	**253**	P	**P**	**13 49 33.1**	**+1.8**
CAN				pmax	pmax		
	comp=Z,33nm,1.4s						
CAN	**Canberra**	**27.20**	**253**	P	**P**	**13 49 33.1**	**+1.8**
EIDS	**Eidsvold**	**27.20**	**275**	P	**P**	**13 49 32.9**	**+1.5**
	baz=27,SNR=10.0						
EIDS	**Eidsvold**	**27.20**	**275**	P	**P**	**13 49 32.7**	**+1.3**
RMQ	**Roma**	**28.83**	**271**	P	**P**	**13 49 48.7**	**+2.8**
	baz=29,SNR=39						
HNR	**Honiara**	**29.51**	**313**	LR	LR	14 00 26.7	
	comp=Z,96nm,19.0s,baz=142,slow=34						
PAE	**Paea**	**29.70**	**69**	*e*T	T	14 20 39.7	
	comp=Z,17nm,0.3s						
PPT2	**Papeete2**	**29.74**	**69**	*e*LR	LR	13 57 22.7	
	comp=Z,937nm,32.8s,baz=237						
PPT2	**Papeete2**	**29.74**	**69**	*e*T	T	14 20 43.6	
	comp=Z,8.1nm,0.3s						
PPT	**Papeete**	**29.75**	**69**	LR	LR	14 02 05.1	
	comp=Z,54nm,18.5s,baz=265,slow=36						
TIAR	**Tiarei**	**29.95**	**70**	*e*T	T	14 20 51.1	
	comp=Z,1.6nm,0.2s						
TOO	**Toolangi**	**30.03**	**248**	P	**P**	**13 49 58.6**	**+2.1**
	baz=30,SNR=7.9						
TOO	**Toolangi**	**30.03**	**248**	P	**P**	**13 49 58.8**	**+2.3**
TOO				pmax	pmax		
	comp=Z,25nm,1.2s						
TOO	**Toolangi**	**30.03**	**248**	P	**P**	**13 49 58.8**	**+2.3**
TOO				IAmb	IAmb	13 50 24.9	
	comp=Z,25nm,1.1s						
TOO	**Toolangi**	**30.03**	**248**	P	**P**	**13 49 59.5**	**+3.0**
CMSA	**Cobar Meteorol**	**30.29**	**260**	P	**P**	**13 50 00.7**	**+1.9**
	baz=30,SNR=102						
MEH	**Mehetia**	**30.81**	**71**	*e*T	T	14 22 03.3	
	comp=Z,16nm,0.2s						
BRAT	**Ballarat**	**31.27**	**248**	P	**P**	**13 50 09.5**	**+2.2**
VAH	**Vaihoa**	**32.60**	**68**	*e*T	T	14 24 16.0	
	comp=Z,56nm,0.2s						
QLP	**Quilpie**	**32.67**	**269**	P	**P**	**13 50 21.0**	**+1.2**
	baz=33,SNR=36						
QLP	**Quilpie**	**32.67**	**269**	P	**P**	**13 50 21.1**	**+1.3**
ARPS	**Mount Arapiles**	**32.96**	**250**	P	**P**	**13 50 23.8**	**+1.6**
	baz=33,SNR=12						
ARPS	**Mount Arapiles**	**32.96**	**250**	P	**P**	**13 50 24.1**	**+1.9**
CTA	**Charters Tower**	**33.38**	**281**	LR	LR	14 03 29.9	
	comp=Z,178nm,19.9s,baz=90,slow=35						
CTA	**Charters Tower**	**33.38**	**281**	P	**P**	**13 50 27.7**	**+1.7**
CTAO	**Charters Tower**	**33.38**	**281**	P	**P**	**13 50 27.3**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,92nm,1.0s						
CTAO	**Charters Tower**	**33.38**	**281**	P	**P**	**13 50 27.2**	**+1.2**
CTAO	**Charters Tower**	**33.38**	**281**	P	**P**	**13 50 27.8**	**+1.7**
STKA	**Stephens Creek**	**33.68**	**259**	P	**P**	**13 50 30.1**	**+1.5**
	comp=Z,12nm,0.4s,baz=105,slow=12,SNR=46						
STKA	**Stephens Creek**	**33.68**	**259**	P	**P**	**13 50 30.1**	**+1.5**
	baz=34,SNR=70						
STKA	**Stephens Creek**	**33.68**	**259**	P	**P**	**13 50 29.1**	**+0.6**
STKA	**Stephens Creek**	**33.68**	**259**	P	**P**	**13 50 30.3**	**+1.8**
INKA	**Innaminka**	**35.32**	**265**	P	**P**	**13 50 44.7**	**+1.9**
HTT	**Hallett**	**35.66**	**255**	P	**P**	**13 50 46.6**	**+1.0**
	baz=36,SNR=22						
HTT	**Hallett**	**35.66**	**255**	P	**P**	**13 50 46.8**	**+1.1**
MTSU	**Mount Surprise**	**35.91**	**283**	P	**P**	**13 50 49.3**	**+1.5**
	baz=36,SNR=41						
MTSU	**Mount Surprise**	**35.91**	**283**	P	**P**	**13 50 49.4**	**+1.5**
LCRK	**Leigh Creek**	**36.80**	**260**	P	**P**	**13 50 56.6**	**+1.2**
WHYH	**Whyalla**	**36.84**	**256**	P	**P**	**13 50 56.8**	**+1.2**
BBOO	**Buckleboo**	**38.13**	**256**	P	**P**	**13 51 06.7**	**+0.1**
	baz=38,SNR=42						
BBOO	**Buckleboo**	**38.13**	**256**	P	**P**	**13 51 06.4**	**-0.2**
BBOO	**Buckleboo**	**38.13**	**256**	P	**P**	**13 51 06.7**	**+0.1**
RABL	**Rabaul**	**38.50**	**309**	P	**P**	**13 51 08.2**	**-1.7**
RABL	**Rabaul**	**38.50**	**309**	P	**P**	**13 51 08.7**	**-1.1**
PMG	**Port Moresby**	**38.50**	**297**	P	**P**	**13 51 09.9**	**0.0**
	comp=Z,34nm,0.7s,baz=125,slow=7.9,SNR=10.0						
PMG				LR	LR	14 04 05.8	
	comp=Z,138nm,20.1s,baz=154,slow=32						
PMG	**Port Moresby**	**38.50**	**297**	*d iP*	**P**	**13 51 10.0**	**+0.1**
PMG				pmax	pmax		
	comp=Z,35nm,1.0s						
PMG	**Port Moresby**	**38.50**	**297**	P	**P**	**13 51 09.6**	**-0.3**
PMG				IAmb	IAmb	13 51 11.3	
	comp=Z,46nm,0.8s						
PMG	**Port Moresby**	**38.50**	**297**	P	**P**	**13 51 09.8**	**0.0**
PMG	**Port Moresby**	**38.50**	**297**	P	**P**	**13 51 09.9**	**0.0**
QIS	**Mount Isa**	**38.80**	**276**	P	**P**	**13 51 12.7**	**+0.3**
	baz=39,SNR=12						
QIS	**Mount Isa**	**38.80**	**276**	P	**P**	**13 51 13.2**	**+0.8**
COEN	**Coen**	**38.98**	**288**	P	**P**	**13 51 14.5**	**+0.6**
COEN				IAmb	IAmb	13 51 15.5	
	comp=Z,30nm,0.8s						
COEN	**Coen**	**38.98**	**288**	P	**P**	**13 51 14.9**	**+1.0**
OOD	**Oodnadatta**	**39.61**	**263**	P	**P**	**13 51 20.3**	**+1.3**
MUG	**Mulgathing**	**40.34**	**259**	P	**P**	**13 51 25.2**	**+0.2**
TAOE	**Nuku Hiva Isla**	**42.25**	**66**	*e*LR	LR	14 03 09.2	
	comp=Z,529nm,31.2s						
AS31	**Alice Springs**	**42.47**	**268**	P	**P**	**13 51 42.8**	**+0.2**
AS31				IAmb	IAmb	13 51 43.6	
	comp=Z,21nm,0.8s						
ASAR	**Alice Springs**	**42.47**	**268**	P	**P**	**13 51 42.8**	**+0.2**
	comp=Z,60nm,0.7s,baz=108,slow=7.5,SNR=1623						
AS

KLBR **Kellerberrin** **53.47 252** P **P** **13 53 07.5 +0.1**
NWAO **Narrogin (SRO)** **53.49 250** P **P** **13 53 06.7 -0.9**
NWAO pmax pmax
comp=Z,38nm,1.2s
NWAO **Narrogin (SRO)** **53.49 250** P **P** **13 53 06.7 -0.9**
NWAO IAmb IAmb 13 53 31.9
comp=Z,38nm,1.2s
CASY **Casey** **53.98 208** P **P** **13 53 10.2 -0.4**
CASY IAmb IAmb 13 53 10.9
comp=Z,30nm,0.8s
FAKI **Fak Fak** **54.13 291** P **P** **13 53 10.9 -1.5**
FAKI IAmb IAmb 13 53 14.6
comp=Z,32nm,1.4s
MEEK **Meekatharra** **54.38 258** P **P** **13 53 13.4 -0.8**
baz=55,SNR=13
MEEK **Meekatharra** **54.38 258** P **P** **13 53 13.0 -1.2**
MUN **Mundaring** **54.60 251** P **P** **13 53 15.3 -0.5**
baz=55,SNR=6.6
MWH **Moku'aweowe** **55.23 27** P **P** **13 53 20.0 -0.9**
PSA00 **Pilbara Seismi** **55.26 264** P **P** **13 53 18.9 -1.8**
PSA00 **Pilbara Seismi** **55.26 264** P **P** **13 53 19.0 -1.6**
PSA00 IAmb IAmb 13 53 20.0
comp=Z,20nm,1.1s
MBWA **Marble Bar** **55.53 265** P **P** **13 53 21.2 -1.3**
MORW **Morawa** **55.68 254** P **P** **13 53 23.3 -0.2**
baz=56,SNR=4.8
MORW **Morawa** **55.68 254** P **P** **13 53 22.8 -0.7**
MORW IAmb IAmb 13 53 26.3
comp=Z,33nm,1.4s
HPAH **Hawaii Prepara** **55.69 26** P **P** **13 53 24.3 +0.7**
SIJI **Sorong** **56.15 293** P **P** **13 53 26.2 -0.8**
comp=Z,12nm,0.8s,baz=127,slow=11,SNR=5.6
SIJI LR LR 14 15 55.0
comp=Z,61nm,20.9s,baz=91,slow=34
SWI **Sorong** **56.16 293** P **P** **13 53 28.3 +1.2**
comp=Z,26nm,1.0s
GUMO **Guam** **56.77 316** LR LR 14 13 48.9
comp=Z,44nm,22.0s,baz=148,slow=32
SOEI **Soe** **56.91 279** P **P** **13 53 34.0 +1.4**
comp=Z,40nm,1.1s
SOEI **Soe** **56.91 279** P **P** **13 53 33.7 +1.1**
SOEI IAmb IAmb 13 53 37.4
comp=Z,29nm,0.9s
BATI **Baumata** **57.19 278** LR LR 14 19 01.2
comp=Z,148nm,18.2s,baz=123,slow=37
QSPA **South Pole Qui** **58.72 180** P **P** **13 53 47.4 +2.9**
comp=Z,59nm,0.8s,baz=332,slow=0.7,SNR=129
QSPA **South Pole Qui** **58.72 180** P **P** **13 53 47.1 +2.5**
GIRL **Giralia** **59.59 261** P **P** **13 53 51.4 +0.3**
EDFI **Ende, Flores** **59.60 279** P **P** **13 53 50.4 -1.0**
comp=Z,521nmcomp=Z,7.1nm,0.6s
RPN **Rapa Nui** **59.76 105** LR LR 14 14 37.3
comp=Z,71nm,19.8s,baz=193,slow=31
KAPI **Kappang** **63.20 281** LR LR 14 21 47.1
comp=Z,72nm,18.9s,baz=144,slow=36
BNSI **Bone** **63.23 282** P **P** **13 54 15.8 +0.1**
comp=Z,24nm,1.4s
SPSI **Sidrap Palu** **63.75 282** P **P** **13 54 17.9 -1.2**
comp=Z,15nm,1.1s
IGBI **Denpasar** **65.13 275** P **P** **13 54 27.3 -0.8**
comp=Z,73nm,0.8s
SRBI **Singaraja** **65.44 276** P **P** **13 54 29.2 -1.0**
comp=Z,33nm,0.8s
DAV **Davao City (W)** **65.50 296** LR LR 14 23 48.3
comp=Z,23nm,18.9s,baz=356,slow=37
TOLI2 **Tolitoli** **65.75 287** P **P** **13 54 32.7 +0.6**
MPSI **Mapaga** **66.03 286** P **P** **13 54 33.5 -0.4**
comp=Z,16nm,0.8s
JAGI **Jajag, Banyuwa** **66.15 275** P **P** **13 54 33.2 -1.5**
GMJI **Gumukmas** **66.85 274** P **P** **13 54 37.8 -1.4**
comp=Z,61nm,1.3s
KMMI **Kalianget** **67.03 276** P **P** **13 54 39.2 -1.1**
comp=Z,42nm,0.9s
BKB **Balikpapan** **67.62 283** P **P** **13 54 43.8 -0.3**
BBKI **Banjar Baru** **68.16 280** P **P** **13 54 46.8 -0.7**
SMAI **San Martin Ant** **68.74 158** P **P** **13 54 51.7 +1.5**
PCJI **Pacitan** **68.83 273** P **P** **13 54 51.4 -0.2**
comp=Z,1µmcomp=Z,182nm,0.8s
UGM **Wanagama** **69.53 273** P **P** **13 54 55.2 -0.8**
UGM IAmb IAmb 13 55 00.3
comp=Z,39nm,0.8s
MAW **Mawson** **71.17 201** P **P** **13 55 06.3 +1.2**
comp=Z,17nm,0.8s,baz=119,slow=7.1,SNR=7.9
MAW LR LR 14 26 51.4
comp=Z,108nm,18.1s,baz=239,slow=36
MAW **Mawson** **71.17 201** P **P** **13 55 05.5 +0.3**
XMIS **Christmas Isla** **72.41 268** P **P** **13 55 12.1 -1.4**
XMIS IAmb IAmb 13 55 14.8
comp=Z,18nm,0.8s
LEM **Lembang** **72.56 273** LR LR 14 25 20.5
comp=Z,96nm,21.7s,baz=182,slow=34
STKI **Sintang** **72.88 281** P **P** **13 55 16.3 0.0**
DBJI **Dramaga** **73.44 272** P **P** **13 55 18.0 -1.6**
comp=Z,35nm,0.4s
CGJI **Cibinong** **74.31 272** P **P** **13 55 22.7 -1.9**
comp=Z,28nm,0.9s
KSM **Kuching** **74.62 281** P **P** **13 55 25.6 -0.9**
ESPZ **Base Esperanza** **74.90 157** P **P** **13 55 27.3 +0.1**
ESPZ IAmb IAmb 13 55 29.9
comp=Z,27nm,0.9s
MG04 **Isla Riesco** **74.96 143** P **P** **13 55 27.5 -0.3**
GO09 **Cerro Castillo** **75.41 141** P **P** **13 55 31.9 +1.5**
GO09 IAmb IAmb 13 55 33.2
comp=Z,33nm,1.4s
KASI **Kota Agung** **75.88 272** P **P** **13 55 33.3 -0.4**
comp=Z,34nm,1.0s
SYO **Syowa Base** **76.02 193**‖ *e*P **P** **13 55 33.2 -0.3**
SYO **Syowa Base** **76.02 193**‖ *e*PcP **PcP** **13 55 45.0 -0.6**
KLSI **76.11 273** P **P** **13 55 32.6 -2.4**
comp=Z,16nm,0.9s
LWLI **Liwa** **76.52 272** P **P** **13 55 35.5 -2.0**
comp=Z,67nm,0.5s
MDSI **Maura Dua** **76.69 273** P **P** **13 55 35.7 -2.6**
comp=Z,34nm,0.8s
SNAA **Sanae** **77.18 179** P **P** **13 55 41.2 +1.0**
VNA3 **Neumayer Olymp** **77.36 176** P **P** **13 55 42.1 +1.0**
VNA2 **Neumayer--Watz** **77.78 177** P **P** **13 55 44.8 +1.3**
baz=176,slow=4.5
NVL **N'lazarevskaya** **77.85 184** *e*P **P** **13 55 47.5 +3.7**
NVL pmax pmax
comp=Z,35nm,1.1s
VNA1 **Neumayer--Stat** **78.02 177** P **P** **13 55 46.1 +1.4**
JGF **Kuroka** **78.38 325** P **P** **13 55 45.8 -1.5**
MJAR **Matsushiro Arr** **78.72 326** P **P** **13 55 47.4 -1.6**
comp=Z,14nm,1.1s,baz=159,slow=6.4,SNR=7.0
MJAR LR LR 14 27 05.7
comp=Z,47nm,20.3s,baz=140,slow=33
MAJO **Matsushiro** **78.72 326**‖ *i*P **P** **13 55 50.6 +1.6**
MAJO pmax pmax
comp=Z,110nm,2.9s
MAT **Matsushiro** **78.72 326** P **P** **13 55 47.3 -1.7**
JNU **Nakatsue** **79.90 319** P **P** **13 55 54.9 -0.7**
comp=Z,11nm,1.0s,baz=168,slow=0.6,SNR=4.7
JNU LR LR 14 26 29.5
comp=Z,46nm,21.4s,baz=171,slow=32
JNU **Nakatsue** **79.90 319** IAmb IAmb 13 56 20.9
comp=Z,45nm,1.2s
LL02 **Futaleuf** **80.08 135** P **P** **13 55 58.0 +1.4**
H03S2 **Juan Fernandez** **80.42 124** T T 15 24 57.9
baz=237,SNR=53
H03S1 **Juan Fernandez** **80.43 124** T T 15 25 00.9
baz=237
H03S3 **Juan Fernandez** **80.44 124** T T 15 24 56.2
baz=237,SNR=46
H03N3 **Juan Fernandez** **80.62 123** T T 15 25 01.3
baz=241,slow=72,SNR=81
H03N2 **Juan Fernandez** **80.62 123** T T 15 25 03.1
baz=241,slow=72,SNR=57
H03N1 **Juan Fernandez** **80.63 123** T T 15 25 20.2
baz=241,slow=72,SNR=125
PLCA **Paso Flores** **82.27 133** P **P** **13 56 10.2 +1.9**
comp=Z,10nm,0.9s,baz=225,slow=5.1,SNR=32
PLCA LR LR 14 27 24.6
comp=Z,55nm,18.4s,baz=190,slow=32
PLCA **Paso Flores** **82.27 133** P **P** **13 56 09.2 +0.9**
LC01 **Cunco** **82.47 131** P **P** **13 56 10.4 +1.1**
LC01 IAmb IAmb 13 56 11.7
comp=Z,24nm,0.8s
SKR **Severo-Kuril's** **84.70 344** *ce*P **P** **13 56 22.7 +2.6**
KSRS **Korea Array** **84.72 320** P **P** **13 56 20.2 -0.3**
comp=Z,8.3nm,1.1s,baz=141,slow=5.1,SNR=7.0
KSRS LR LR 14 29 31.6
comp=Z,28nm,21.6s,baz=135,slow=32
PSI **Prapat** **84.94 276** LR LR 14 35 43.3
comp=Z,63nm,21.2s,baz=144,slow=37
GSI **Gunungsitoli** **85.31 274** P **P** **13 56 22.8 -1.4**

GSI **Gunungsitoli** **85.31 274** P **P** **13 56 23.1 -1.1**
GSI IAmb IAmb 13 56 25.5
comp=Z,28nm,0.9s
YSS **Yuzh-Sakhalins** **85.38 335**⇑ *e*P **P** **13 56 24.3 +0.7**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS **Yuzh-Sakhalins** **85.38 335** P **P** **13 56 23.6 0.0**
LPIG **La Paz** **85.57 58** LR LR 14 29 09.4
comp=Z,85nm,18.1s,baz=198,slow=32
PET **Petropavlovsk** **86.35 347**⇑ *e*P **P** **13 56 29.1 +0.9**
PET pmax pmax
comp=Z,49nm,1.9s
NJ2 **Nanjing** **86.44 311** *e*P **P** **13 56 30.9 +1.7**
NJ2 pmax pmax
comp=Z,16nm,0.7s
PEA0B **Petropavlovsk-** **86.62 346**⇑ *e*P **P** **13 56 30.0 +0.4**
PETK **Petropavlovsk-** **86.62 346** P **P** **13 56 29.8 +0.2**
comp=Z,11nm,0.8s,baz=135,slow=7.4,SNR=21
PETK LR LR 14 29 19.0
comp=Z,23nm,20.8s,baz=141,slow=32
VLA **Vladivostok** **86.88 326**⇑ *e*P **P** **13 56 31.7 +0.6**
VLA pmax pmax
comp=Z,82nm,0.8s
BFSC **Mount Baldy Ra** **86.98 47** P **P** **13 56 33.4 +1.3**
baz=228
PFO **Pinyon Flats O** **87.32 48** LR LR 14 35 36.5
comp=Z,48nm,18.2s,baz=190,slow=36
ISA **Isabella, Lake** **87.42 45** P **P** **13 56 35.4 +1.3**
baz=228
USRK **Ussurÿsk Ar.** **87.66 327** P **P** **13 56 34.5 -0.4**
comp=Z,7.1nm,0.9s,baz=111,slow=2.4,SNR=8.5
BELC **Belle Mtn. Jos** **87.86 48** P **P** **13 56 38.0 +1.7**
baz=229
BC3 **Big Chuckawall** **87.98 48** P **P** **13 56 38.8 +2.0**
baz=230
GLA **Glamis** **88.00 49** P **P** **13 56 37.4 +0.5**
GLA pmax pmax
comp=Z,16nm,1.1s
GLA **Glamis** **88.00 49** P **P** **13 56 37.4 +0.5**
GLA IAmb IAmb 13 56 39.8
comp=Z,16nm,1.1s
GLA **Glamis** **88.00 49** P **P** **13 56 39.3 +2.4**
baz=230
GSC **Goldstone, Bar** **88.20 46** P **P** **13 56 39.0 +1.2**
baz=229
MPMC **Manual Prospec** **88.28 45** P **P** **13 56 39.7 +1.4**
baz=228
IRM **Iron Mountain** **88.50 48** P **P** **13 56 41.1 +1.9**
baz=230
113A **Mohawk Valley,** **88.51 50** P **P** **13 56 39.9 +0.7**
214A **Organ Pipe Nat** **88.63 51** P **P** **13 56 40.3 +0.5**
214A IAmb IAmb 13 56 42.0
comp=Z,13nm,1.4s
214A **Organ Pipe Nat** **88.63 51** P **P** **13 56 41.4 +1.6**
baz=231
SHOC **Shoshone, Teco** **88.92 46** P **P** **13 56 42.4 +1.3**
baz=229
LHV **Little Huntoon** **89.14 43** P **P** **13 56 42.7 +0.8**
PDMCI **Parker Dam,Lak** **89.23 48** P **P** **13 56 44.6 +2.0**
baz=230
NVAR **Mina Array Bea** **89.37 43** P **P** **13 56 44.2 +0.8**
comp=Z,3.2nm,0.9s,baz=224,slow=9.0,SNR=16
TPH **Tonopah** **89.77 44** P **P** **13 56 45.5 +0.2**
TPH pmax pmax
comp=Z,22nm,0.9s
TPH **Tonopah** **89.77 44** P **P** **13 56 45.5 +0.2**
TPH IAmb IAmb 13 56 47.0
comp=Z,22nm,0.9s
TUC **Tucson** **90.20 52** P **P** **13 56 48.5 +1.3**
TUC pmax pmax
comp=Z,11nm,1.0s
TUC **Tucson** **90.20 52** P **P** **13 56 48.5 +1.3**
TUC IAmb IAmb 13 56 50.4
comp=Z,11nm,1.0s
TUC **Tucson** **90.20 52** P **P** **13 56 49.6 +2.4**
baz=232
TIA **Tai'an** **90.21 313** ⇑P **P** **13 56 47.4 +0.3**
TIA pmax pmax
comp=Z,21nm,1.2s
X16A **Lo Mia Camp, P** **91.05 50** P **P** **13 56 52.1 +0.8**
X16A IAmb IAmb 13 57 17.9
comp=Z,6.7nm,1.0s
LCMT **Little Creek M** **91.51 47** P **P** **13 56 54.1 +0.8**
GYA **Guiyang** **91.52 300** ⇑P **P** **13 56 53.6 0.0**
GYA pmax pmax
comp=Z,12nm,0.9s
KLR **Kul'dur** **91.59 330** P **P** **13 56 53.1 0.0**
comp=Z,7.2nm,0.7s,baz=135,slow=4.7,SNR=18
KLR LR LR 14 31 01.9
comp=Z,36nm,21.7s,baz=150,slow=31
KLR **Kul'dur** **91.59 330**⇑ *e*P **P** **13 56 52.5 -0.6**
KLR pmax pmax
comp=Z,36nm,2.3s
U15A **North Rim** **91.74 48** P **P** **13 56 55.4 +0.9**
U15A IAmb IAmb 13 57 01.4
comp=Z,4.5nm,0.8s
KNB **Kanab** **91.78 47** P **P** **13 56 55.1 +0.5**
KNB pmax pmax
comp=Z,8.0nm,1.2s
KNB **Kanab** **91.78 47** P **P** **13 56 55.1 +0.5**
KNB IAmb IAmb 13 57 20.9
comp=Z,8.1nm,1.2s
LYN **LuoYang** **92.16 310** *e*P **P** **13 56 56.5 +0.3**
LYN pmax pmax
comp=Z,10.0nm,0.9s
HNS **HongShan** **92.46 313** ⇑P **P** **13 56 57.9 +0.4**
HNS pmax pmax
comp=Z,13nm,0.9s
CMAR **Chiang Mai Arr** **93.16 290** P **P** **13 57 02.0 +0.8**
comp=Z,0.4nm,0.4s,baz=132,slow=2.6,SNR=1.7
CMAR PP **PP** **14 00 44.7 -0.8**
comp=Z,1.2nm,0.4s,baz=136,slow=6.4,SNR=10
CMAR LR LR 14 41 03.4
comp=Z,12nm,19.5s,baz=115,slow=37
CMAR **Chiang Mai Arr** **93.16 290** P **P** **13 57 02.0 +0.8**
TXAR **Lajitas Array** **93.43 58** P **P** **13 57 02.9 +0.6**
comp=Z,1.6nm,1.0s,baz=209,slow=6.9,SNR=11
TXAR LR LR 14 30 28.6
comp=Z,29nm,19.3s,baz=216,slow=30
CMIG **Matias Romero** **93.63 72** LR LR 14 32 56.6
comp=Z,40nm,18.5s,baz=250,slow=31
NNA **Nana** **93.72 106** LR LR 14 30 46.1
comp=Z,50nm,19.7s,baz=219,slow=30
LVC **Limon Verde** **93.98 119** LR LR 14 32 49.2
comp=Z,75nm,18.6s,baz=215,slow=31
MA2 **Magadan** **94.09 345**⇑ *e*P **P** **13 57 03.8 -0.6**
MA2 pmax pmax
comp=Z,6.0nm,1.1s
TMUT **Trail Mountain** **94.18 46** P **P** **13 57 05.9 +0.1**
ANMO **Albuquerque** **94.66 52**‖ *e*P **P** **13 57 09.1 +1.1**
ANMO pmax pmax
comp=Z,25nm,4.0s
HVU **Hansel Valley** **94.77 43** P **P** **13 57 08.3 +0.1**
HVU pmax pmax
comp=Z,8.0nm,1.5s
HVU **Hansel Valley** **94.77 43** P **P** **13 57 08.3 +0.1**
HVU IAmb IAmb 13 57 13.2
comp=Z,7.9nm,1.5s
ATAH **Atahualpa** **95.04 101** LR LR 14 32 59.0
comp=Z,30nm,18.2s,baz=212,slow=31
PZH **PanZhiHua** **95.23 298** P **P** **13 57 11.6 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,170nm,4.7s
CD2 **Chengdu** **96.11 302** P **P** **13 57 14.4 -0.1**
HHC **Hu-ho-hao-te** **96.49 314** *e*P **P** **13 57 17.9 +1.9**
HHC pmax pmax
comp=Z,16nm,0.8s
NEW **Newport** **96.53 36** LR LR 14 35 08.4
comp=Z,49nm,18.6s,baz=288,slow=32
SEY **Seymchan** **96.80 347** LR LR 14 42 41.0
comp=Z,23nm,18.1s,baz=326,slow=36
ZEA **Zeya** **96.82 331** *e*P P 13 57 08.6 -8.4
ZEA pmax pmax
comp=Z,10.0nm,1.0s
PDAR **Pinedale Array** **97.26 44** P **P** **13 57 18.8 -0.8**
comp=Z,0.2nm,0.6s,baz=197,slow=1.9,SNR=2.9
PDAR PKKPbc **PKKPbc** **14 13 58.5 -0.6**
comp=Z,0.4nm,0.5s,baz=86,slow=4.9,SNR=6.5
PDAR LR LR 14 38 15.6
comp=Z,25nm,18.7s,baz=192,slow=34
LPAZ **La Paz** **98.28 115** LR LR 14 32 23.7
comp=Z,36nm,19.8s,baz=228,slow=30
COLA **College** **98.93 13**⇑ *e*P Pdif 13 57 29.3 +3.1
COLA pmax pmax

comp=Z,28nm,4.6s
ILAR **Eielson Array** **99.03 13** P **Pdif** **13 57 27.4 +0.7**
comp=Z,0.3nm,0.7s,baz=216,slow=4.6,SNR=1.9
ILAR PKiKP **PKiKP** **14 01 57.8 +1.0**
comp=Z,0.6nm,0.6s,baz=308,slow=3.5,SNR=8.5
BILL **Bilibino** **99.76 354** *e*P **Pdif** **13 57 31.5 +1.6**
BILL *e**PP **sP** **13 57 53.2 -0.2**
BILL *e**SP pP 13 58 02.0 +15
BILL *e* 14 01 36.3
BILL *e*PPP PPP 14 03 42.0
BILL pmax pmax
comp=Z,4.0nm,1.2s
YAK **Yakutsk** **101.93 338**‖ *e*P **Pdif** **13 57 39.2 -0.4**
YAK pmax pmax
comp=Z,11nm,0.6s
INK **Inuvik** **104.89 16** PKiKP **PKiKP** **14 02 08.7 +1.3**
comp=Z,1.0nm,0.5s,baz=353,slow=0.9,SNR=5.9
YKA **Yellowknife Ar** **106.59 26** PKiKP **PKiKP** **14 02 10.8 +0.2**
comp=Z,0.8nm,0.5s,baz=250,slow=1.6,SNR=30
YKA PKKPbc **PKKPbc** **14 13 29.7 -2.3**
comp=Z,0.8nm,0.7s,baz=40,slow=3.1,SNR=18
YKA PKPPKP **P'P'df** **14 21 55.5 +4.2**
comp=Z,0.1nm,0.4s,baz=42,slow=1.6,SNR=4.2
TIXI **Tiksi** **109.06 345** PKiKP **PKiKP** **14 02 15.0 0.0**
comp=Z,0.7nm,0.3s,baz=122,slow=3.2,SNR=6.3
A36M **Sachs Harbour** **109.52 15** P **PKiKP** **14 02 17.3 +1.4**
baz=227
WMQ **Urumqi** **113.36 308** *e*PKP **PKiKP** **14 02 24.6 +0.5**
DGZ **Jazzator, Alta** **115.57 314**⇑ *i*PKIKP **PKiKP** **14 02 28.9 +0.6**
BOSA **Boshof** **116.11 203** PKP **PKPdf** **14 02 30.9 +0.8**
comp=Z,2.6nm,0.6s,baz=177,slow=3.4,SNR=8.7
MK31 **Makanchi Array** **117.95 310** PKIKP **PKPdf** **14 02 30.7 -2.1**
MK31 **Makanchi Array** **117.95 310** **PKPdf** **14 02 30.7 -2.1**
MKAR **Makanchi Array** **117.95 310** PKP **PKPdf** **14 02 30.9 -1.9**
comp=Z,1.1nm,0.4s,baz=217,slow=0.6,SNR=34
MKAR PKKPbc **PKKPbc** **14 12 53.6 0.0**
comp=Z,0.4nm,0.7s,baz=276,slow=2.4,SNR=4.5
MAKZ **Makanchi** **118.16 310** PKIKP **PKPdf** **14 02 30.9 -2.3**
MAKZ **Makanchi** **118.16 310** **PKPdf** **14 02 30.9 -2.3**
RES **Resolute Bay** **118.37 17** PKIKP **PKiKP** **14 02 33.6 +0.8**
RES **Resolute Bay** **118.37 17** **PKiKP** **14 02 33.6 +0.8**
ZALV **Zalesovo Beam** **118.37 318** PKP **PKPdf** **14 02 32.6 -0.6**
comp=Z,1.2nm,0.3s,baz=150,slow=1.5,SNR=8.2
ZALV **Zalesovo Beam** **118.37 318** **PKPdf** **14 02 31.4 -1.9**
NRIK **Noril'sk** **120.29 336** PKP **PKPdf** **14 02 35.2 -1.4**
comp=Z,4.0nm,0.6s,baz=212,slow=1.8,SNR=7.1
NRIK **Noril'sk** **120.29 336**‖ *i*PKIKP **PKPdf** **14 02 36.6 +0.1**
NRIK **Noril'sk** **120.29 336** **PKiKP** **14 02 36.8 +0.1**
CHKK **Chushkaly** **120.72 305** *e*PKP **PKPdf** **14 02 37.1 -1.1**
baz=305
KUU **Kurty** **121.18 305** *e*PKIKP **PKPdf** **14 02 37.8 -1.3**
KUU **Kurty** **121.18 305** *e*PKP **PKPdf** **14 02 37.9 -1.3**
baz=305
KURK **Kurchatov** **121.30 313** *c i*PKIKP **PKPdf** **14 02 38.7 -0.3**
KURK pmax pmax
comp=Z,11nm,1.0s
KURK **Kurchatov** **121.30 313** **PKPdf** **14 02 37.4 -1.6**
KURK **SKPdf** **14 06 04.5 -4.7**
KURBB **Kurchatov Arra** **121.33 313** PKP **PKPdf** **14 02 37.4 -1.7**
comp=Z,5.2nm,0.7s,baz=111,slow=1.8,SNR=40
KURBB SKP 14 06 04.5
comp=Z,1.4nm,0.8s,baz=118,slow=1.9,SNR=6.1
AAK **Ala-Archa** **122.16 303** PKP **PKiKP** **14 02 41.6 +0.3**
comp=Z,2.5nm,0.7s,baz=139,slow=5.5,SNR=8.9
AAK **Ala-Archa** **122.16 303**‖ *i*PKIKP **PKPdf** **14 02 41.4 +0.2**
AAK **Ala-Archa** **122.16 303** **PKiKP** **14 02 41.5 +0.2**
BTLS **Baital** **123.05 306** *e*PKIKP **PKPdf** **14 02 42.0 -0.6**
BTLS **Baital** **123.05 306** *e*PKP **PKPdf** **14 02 42.1 -0.6**
baz=306
KBL **Kabul** **124.05 293** PKIKP **PKPdf** **14 02 44.6 -0.6**
KBL **Kabul** **124.05 293** **PKPdf** **14 02 44.6 -0.6**
TULEG **Thule** **124.89 16** *e*P **PKPdf** **14 02 41.7 -3.5**
TULEG **Thule** **124.89 16** **PKiKP** **14 02 46.5 +0.9**
BRZS **Berezniki** **124.90 312** *e*PKIKP **PKPdf** **14 02 44.8 -1.2**
BRZS **Berezniki** **124.90 312** *e*PKP **PKPdf** **14 02 44.9 -1.2**
baz=312
CHGR **Chuyangaron** **125.09 298** PKPdf **PKPdf** **14 02 46.6 -0.2**
IUG **Iuzhnay** **125.26 302** *e*PKIKP **PKPdf** **14 02 45.6 -1.5**
IUG **Iuzhnay** **125.26 302** *e*PKP **PKPdf** **14 02 45.6 -1.5**
baz=302
BRLS **Borolday** **125.58 303** *e*PKIKP **PKPdf** **14 02 46.2 -1.4**
BRLS **Borolday** **125.58 303** *e*PKP **PKPdf** **14 02 46.2 -1.4**
baz=303
BVAR **Borovoye Array** **126.69 315** PKP **PKPdf** **14 02 48.4 -0.9**
comp=Z,5.2nm,0.6s,baz=77,slow=2.9,SNR=32
BRVK **Borovoye** **126.75 315**⇑ *i*PKIKP **PKPdf** **14 02 49.2 -0.2**
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK **Borovoye** **126.75 315** **PKPdf** **14 02 48.7 -0.8**
SCHQ **Schefferville** **127.38 43** PKP **PKPdf** **14 02 50.5 0.0**
comp=Z,6.6nm,0.9s,baz=332,slow=4.0,SNR=6.3
SPA0 **Spitsbergen Ar** **132.65 356** *e*PKPdf **PKiKP** **14 03 01.6 +0.5**
KMBO **Kilima Mbogo** **133.00 233** PKP **PKiKP** **14 03 04.4 +0.3**
comp=Z,2.4nm,0.6s,baz=86,slow=2.6,SNR=7.2
KMBO SKPbc **SKPbc** **14 06 20.9 -4.6**
comp=Z,3.8nm,0.8s,baz=64,slow=5.5,SNR=8.1
GEYT **Alibeck** **133.43 294** SKPbc **SKPbc** **14 06 20.4 -5.4**
comp=Z,3.9nm,0.7s,baz=81,slow=9.3,SNR=2.8
ARU **Arti** **133.47 320** SKPbc **SKPbc** **14 06 20.0 -5.2**
comp=Z,1.5nm,0.3s,baz=73,slow=1.0,SNR=12
ARU **Arti** **133.47 320** *i* PKIKP **PKPdf** **14 03 02.2 +0.2**
ARU 14 05 27.8
ARU **Arti** **133.47 320** **PKPdf** **14 03 01.7 -0.4**
DAG **Danmarks Havn** **133.59 6** *i* P **PKiKP** **14 03 03.0 0.0**
AKTO **Aktyubinsk** **134.32 312** PKP **PKPdf** **14 03 04.6 +0.8**
comp=Z,5.9nm,0.7s,baz=91,slow=5.0,SNR=17
AKTO SKPbc **SKPbc** **14 06 23.1 -5.2**
comp=Z,3.4nm,0.9s,baz=95,slow=4.3,SNR=4.2
DBG **Daneborg** **135.67 8** *e*P **PKPdf** **14 03 03.6 -2.1**
BJO1 **Bjornoya** **135.91 353** *e*PKPdf **PKPdf** **14 03 06.3 +0.1**
KIRV **Kirov** **137.78 325** *c i*PKIKP **PKPdf** **14 03 10.3 +0.3**
ARA0 **ARCESS Array S** **139.42 347** *e* PKPdf 14 03 05.0 -7.8
ARCES **ARCESS Array B** **139.42 347** PKhKP PKPpre 14 03 04.7
comp=Z,1.4nm,0.3s,baz=41,slow=1.8,SNR=37
ARCES SKPbc **SKPbc** **14 06 38.3 -4.6**
comp=Z,5.0nm,0.9s,baz=42,slow=3.8,SNR=5.6
JETT **Jettan, Norway** **140.28 350** *e*PKPdf **PKPdf** **14 03 15.0 +0.6**
KTK1 **Kautokeino** **140.29 348** *e* PKPdf 14 03 00.3 -14
BELG **Belogornoye** **140.49 316** PKP **PKPdf** **14 03 14.4 -0.7**
comp=Z,20nm,0.8s,baz=90,slow=4.2,SNR=3.3
BELG **Belogornoye** **140.49 316**⇑ *e*PKIKP **PKPdf** **14 03 14.3 -0.8**
KLMR **Klimovskoe** **141.34 331** *e*PKIKP **PKPdf** **14 03 16.7 +0.3**
KLMR pmax pmax
comp=Z,10.0nm,0.8s
KLMR **Klimovskoe** **141.34 331** *e*PKPdf **PKPdf** **14 03 16.7 +0.3**
KLMR AMP 14 03 18.7
comp=Z,10.0nm,0.8s
KLMR *ex* x 14 08 06.1
STEI **Steigen** **142.52 351** *e*PKPdf **PKPdf** **14 03 15.1 -3.2**
FAUS **Fauske** **143.03 351** *e* PKPbc 14 03 16.7 +0.4
GNI **Garni** **143.98 296**⇑ *e*PKIKP PKPbc 14 03 20.7 +0.6
KONS **Konsvik** **144.15 352** *e*PKPdf **PKPdf** **14 03 20.9 -0.3**
MOR8 **Moi Rana** **144.29 351** *e*PKPdf PKPbc 14 03 20.3 +0.4
STOK **Stokkvaagen** **144.32 352** *e*PKPdf **PKPdf** **14 03 21.6 +0.1**
VRH **Novokhopyorsk** **144.34 316** *e*PKIKP **PKPab** **14 03 19.2 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
NCK **Nalchik** **144.67 302**⇑ *e*PKIKP **PKPab** **14 03 21.8 0.0**
MOS **Moscow** **144.80 324** *i* PKIKP **PKPab** **14 03 20.4 -1.4**
MOS *e* 14 03 43.0
ONI **Oni** **144.85 301** PKIKP **PKPab** **14 03 21.9 -0.6**
ONI **Oni** **144.85 301** **PKPab** **14 03 21.9 -0.6**
GOF **Gofitskoye** **144.88 305**⇑ *e*PKIKP **PKPab** **14 03 21.8 -0.7**
GOF pmax pmax
comp=Z,47nm,0.6s
AKH **Akhalkalaki** **144.90 299** ⇑P **PKPab** **14 03 22.7 -0.2**
KBZ **Khabaz** **145.15 303** PKP **PKPbc** **14 03 22.9 -0.4**
comp=Z,27nm,1.0s,baz=114,slow=2.3,SNR=22
KBZ **Khabaz** **145.15 303** *ce*PKIKP **PKPbc** **14 03 23.2 -0.1**
KVAR **Kislovodsk Arr** **145.27 303** PKPbc **PKPab** **14 03 24.2 +0.1**
comp=Z,3.9nm,0.5s,baz=241,slow=19,SNR=2.5
KIV **Kislovodsk** **145.28 303** ⇑P **PKPbc** **14 03 23.7 -0.2**
KIV **Kislovodsk** **145.28 303** *e*PKIKP **PKPbc** **14 03 23.4 -0.5**
KIV pmax pmax
comp=Z,29nm,1.1s
KIV **Kislovodsk** **145.28 303** **PKPbc** **14 03 22.8 -1.1**
NEY **Neytrino** **145.33 302**‖ *e*PKIKP **PKPbc** **14 03 23.8 -0.4**
LPSR **Galich'ya Gora** **145.47 319** *e*PKP2 **PKPdf** **14 03 22.6 -1.3**
LPSR pmax pmax
comp=Z,70nm,0.8s
OBN **Obninsk** **145.63 324** ⇑P **PKPdf** **14 03 23.4 -0.7**
OBN **Obninsk** **145.63 324** PKPbc **PKPdf** **14 03 23.5 -0.7**
comp=Z,17nm,0.5s,baz=2.3,slow=4.4,SNR=13
OBN **Obninsk** **145.63 324** *de*PKIKP **PKPdf** **14 03 23.4 -0.7**

OBN			*e*		14 03 45.9	
OBN			pmax	pmax		
	comp=Z,59nm,0.8s					
OBN	**Obninsk**	**145.63 324**		**PKPdf**	**14 03 22.9**	**-1.1**
PUL	**Pulkovo**	**145.63 334** ⇓	*i* PKP2	**PKPab**	**14 03 24.7**	**0.0**
SIRT	**Sirnak**	**145.73 292**		**PKPdf**	**14 03 23.4**	**-1.7**
CHVG	**Ch'k'valeri**	**145.85 301** ⇑P		**PKPdf**	**14 03 24.5**	**-0.4**
VSR	**Storozhevoye**	**145.85 317**	*e*PKIKP	**PKPdf**	**14 03 23.8**	**-0.8**
VSR			pmax	pmax		
	comp=Z,70nm,0.8s					
FIA1	**FINESS Array S**	**145.86 339**	PKPdf	**PKPdf**	**14 03 23.1**	**-1.2**
FINES	**FINESS Array B**	**145.86 339**	PKPbc	**PKPdf**	**14 03 23.2**	**-1.2**
	comp=Z,89nm,0.8s,baz=48,slow=4.3,SNR=236					
FINES	**FINESS Array B**	**145.86 339**		**PKPdf**	**14 03 23.0**	**-1.4**
VORD	**Divnogorie**	**145.87 316**	*e*PKIKP	**PKPdf**	**14 03 23.6**	**-1.1**
VORD			pmax	pmax		
	comp=Z,70nm,0.8s					
NSS	**Namsos**	**146.18 352**	*e*PKPdf	**PKPdf**	**14 03 24.8**	**0.0**
VSU	**Vasula**	**147.88 335**	*de*PKIKP	**PKPbc**	**14 03 29.5**	**-1.3**
VSU	**Vasula**	**147.88 335**	*e*P	**PKPbc**	**14 03 30.0**	**-0.8**
MOL	**Molde**	**148.55 354**	*e*PKPbc	**PKiKP**	**14 03 33.8**	**-0.2**
AAL	**Aland**	**148.63 342**	*e*P	**PKiKP**	**14 03 34.1**	**0.0**
MTSE	**Matsula**	**148.70 337**	*e*P	**PKPbc**	**14 03 33.7**	**+0.8**
DOMB	**Dombas**	**148.93 353**	*e*PKPbc	**PKPbc**	**14 03 32.4**	**-1.1**
AKN	**Aaknes**	**148.98 355**	*e*PKPbc	**PKPbc**	**14 03 33.6**	**-0.1**
NC303	**NORSAR Array S**	**149.43 355**	PKPdf	**PKPdf**	**14 03 30.1**	**-0.2**
UPP	**Uppsala**	**149.50 344**	*e*P	**PKPbc**	**14 03 33.9**	**-1.0**
NB201	**NORSAR Array S**	**149.61 350**		**PKiKP**	**14 03 36.1**	**-0.2**
NB2	**NORSAR Subarra**	**149.63 350**	PKP	**PKPbc**	**14 03 33.7**	**-1.6**
	comp=Z,8.2nm,0.7s,baz=21,slow=4.0					
NB2	**NORSAR Subarra**	**149.63 350**	PKPab	**PKPbc**	**14 03 33.7**	**-1.6**
	baz=21,slow=4.0					
NOA	**NORSAR Array B**	**149.63 350**	PKPbc	**PKPbc**	**14 03 33.9**	**-1.4**
	comp=Z,10nm,0.8s,baz=15,slow=4.2,SNR=20					
FOO	**Floro**	**149.68 356**	*e*PKPbc	**PKPbc**	**14 03 35.5**	**+0.2**
NBO00	**NORSAR Array S**	**149.70 351**	PKPdf	**PKPdf**	**14 03 31.1**	**+0.4**
NC602	**NORSAR Array S**	**149.88 350**	*e*PKPbc	**PKPbc**	**14 03 34.5**	**-1.4**
NC602	**NORSAR Array S**	**149.88 350**		**PKPbc**	**14 03 34.5**	**-1.4**
GAZ	**Gaziantep**	**149.90 291**		**PKPbc**	**14 03 35.7**	**-1.1**
HYA	**Hoyanger**	**150.04 355**	*e*PKPbc	**PKiKP**	**14 03 37.1**	**0.0**
IDID	**Didziasalis**	**150.08 331**	*e*P	**PKiKP**	**14 03 37.6**	**+0.3**
IIGN	**Ignalina**	**150.28 331**	*e*P	**PKPbc**	**14 03 37.0**	**0.0**
SKAR	**Skarslia**	**150.34 353**	*e*PKPbc	**PKPbc**	**14 03 36.2**	**-0.9**
NACGM	**Naroch**	**150.34 330**	*i* PKP	**PKPdf**	**14 03 32.0**	**+0.1**
ASK	**Askoy**	**150.79 356**	*e*PKPbc	**PKiKP**	**14 03 39.7**	**+1.1**
BER	**Bergen**	**150.88 356**	*e*PKPbc	**PKPbc**	**14 03 38.0**	**-0.2**
PABE	**Paberze**	**151.07 333**	*e*P	**PKPbc**	**14 03 38.5**	**-0.3**
PABE	**Paberze**	**151.07 333**		**PKPbc**	**14 03 37.5**	**-1.4**
KONO	**Kongsberg**	**151.19 351** ⇑	*i* PKIKP	**PKiKP**	**14 03 39.8**	**+0.3**
KONO	**Kongsberg**	**151.19 351**	*e*PKPbc	**PKiKP**	**14 03 39.8**	**+0.3**
ODD1	**Odda**	**151.25 354**	*e*PKPbc	**PKiKP**	**14 03 40.3**	**+0.6**
AKASG	**Malin Array Be**	**151.71 321**	PKPbc	**PKPbc**	**14 03 39.4**	**-1.1**
	comp=Z,13nm,0.6s,baz=52,slow=2.7,SNR=53					
AKASG	**Malin Array Be**	**151.71 321**		**PKPbc**	**14 03 40.0**	**-0.5**
AKBB	**Malin Array Si**	**151.71 321**	PKIKP	**PKPbc**	**14 03 38.9**	**-1.6**
AKBB	**Malin Array Si**	**151.71 321**		**PKPbc**	**14 03 38.9**	**-1.6**
BLS5	**Blasjo**	**151.75 354**	*e*PKPbc	**PKiKP**	**14 03 40.9**	**+0.2**
KMY	**Karmoy**	**152.05 356**	*e*PKPbc	**PKiKP**	**14 03 42.3**	**+1.1**
SUW	**Suwalki**	**152.47 332**	*e*P	**PKPbc**	**14 03 42.2**	**+0.1**
BR131	**Keskin Array S**	**152.52 297**	*d i* PKIKP	**PKPbc**	**14 03 42.2**	**-0.7**
BR131	**Keskin Array S**	**152.52 297**		**PKPbc**	**14 03 41.9**	**-1.0**
BRTR	**Keskin Array B**	**152.52 297**	PKPbc	**PKPbc**	**14 03 42.5**	**-0.4**
	comp=Z,6.8nm,0.5s,baz=137,slow=3.9,SNR=16					
BRTR	**Keskin Array B**	**152.52 297**	PKIKP	**PKPbc**	**14 03 42.3**	**-0.7**
BRTR	**Keskin Array B**	**152.52 297**		**PKPbc**	**14 03 42.3**	**-0.7**
HOMB	**Homborsund**	**152.67 352**	*e*PKPbc	**PKPbc**	**14 03 41.9**	**-0.5**
SNART	**Snartemo**	**152.75 353**	*e*PKPbc	**PKPbc**	**14 03 42.1**	**-0.5**
ANTO	**Ankara**	**153.15 297**	PKIKP	**PKPbc**	**14 03 43.2**	**-1.0**
ANTO	**Ankara**	**153.15 297**		**PKPbc**	**14 03 43.2**	**-1.0**
SORM	**Soroca**	**153.51 317** ⇑P		**PKPab**	**14 03 44.7**	**+0.1**
LIC	**Lamto**	**154.27 165**	*e*PKIKP	**PKPdf**	**14 03 42.2**	**+3.2**
	comp=Z,57nm,0.8s					
KIC	**Kosan Boka**	**154.46 166**	*e*PKIKP	**PKPdf**	**14 03 42.4**	**+3.1**
	comp=Z,19nm,0.6s					
TIC	**Toumodi**	**154.68 165**	*e*PKIKP	**PKPdf**	**14 03 42.9**	**+3.3**
DBIC	**Dimbokro**	**154.74 166**	PKP	**PKPdf**	**14 03 41.5**	**+1.8**
	comp=Z,13nm,0.7s,baz=212,slow=2.0,SNR=17					
DBIC			PKPbc	**PKiKP**	**14 03 51.2**	**+3.0**
	comp=Z,5.0nm,0.5s,baz=165,slow=2.2,SNR=11					
TESR	**Tescani**	**155.31 315** ⇑P		**PKPab**	**14 04 04.2**	**-0.8**
VRI	**Vrincioaia**	**155.57 313** ⇑P		**PKPab**	**14 04 07.2**	**+1.1**
BURAR	**Bucovina Array**	**155.59 318** ⇑P		**PKPab**	**14 04 00.9**	**-5.3**
BURAR	**Bucovina Array**	**155.59 318**		**PKPab**	**14 04 05.3**	**-0.9**
PLOR	**Plostina**	**155.62 314** ⇑P		**PKPab**	**14 04 08.0**	**+1.7**
NEHR	**Nehoiu**	**156.04 313** ⇑P		**PKPab**	**14 04 10.1**	**+1.9**
CRVS	**Cervenica-Dubn**	**156.81 325**	*e*PKP2	**PKPab**	**14 04 10.2**	**-1.1**
ARR	**Arges**	**157.10 314** ⇓P		**PKPab**	**14 04 13.4**	**+0.7**
DRGR		**157.46 319** ⇑P		**PKPab**	**14 04 13.3**	**-0.9**
CHVC	**Chvalec**	**157.90 334**	*e*PKPAB	**PKPab**	**14 04 16.9**	**+1.0**
DPC	**Dobruska-Polom**	**157.99 334**	*e*PKP2	**PKPab**	**14 04 16.5**	**+0.2**
DPC	**Dobruska-Polom**	**157.99 334**	*e*PKPAB	**PKPab**	**14 04 16.5**	**+0.2**
KRLC	**Kraliky**	**158.03 333**	*e*PKP2	**PKPab**	**14 04 17.5**	**+1.0**
KRLC	**Kraliky**	**158.03 333**	*e*PKPAB	**PKPab**	**14 04 17.5**	**+1.0**
CLL	**Collm**	**158.30 340**	PKP2	**PKPab**	**14 04 16.9**	**-0.6**
CLL	**Collm**	**158.30 340**	*e*PKPdif	PKPdf	14 03 58.0	+15
CLL			*i* PKPab	**PKPab**	**14 04 16.7**	**-0.8**
	comp=Z,14nm,0.8s					
CLL	**Collm**	**158.30 340**	*e*PKPab	**PKPab**	**14 04 17.3**	**-0.3**
	baz=26,slow=3.8					
VYHS	**Vyhne**	**158.35 327**	*e*PKP2	**PKPab**	**14 04 18.4**	**+0.5**
BRG	**Berggiesshubel**	**158.39 338**	Amp		14 04 19.8	
	comp=Z,13nm,0.9s					
BRG	**Berggiesshubel**	**158.39 338**	*e*PKP	PKPdf	14 04 00.6	+17
BRG	**Berggiesshubel**	**158.39 338**	Amp		14 04 01.8	
	comp=Z,2.3nm,0.6s					
BRG	**Berggiesshubel**	**158.39 338**	*ex*	x	14 04 17.7	
PVCC	**Panska Ves**	**158.48 336**	*e*PKP2	**PKPab**	**14 04 18.7**	**+0.3**
PVCC	**Panska Ves**	**158.48 336**	*e*PKPAB	**PKPab**	**14 04 18.7**	**+0.3**
CLZ	**Clausthal**	**158.50 345**	*e*PKPab	**PKPab**	**14 04 18.0**	**-0.4**
	baz=26,slow=3.8					
IBBN	**Ibbenburen**	**158.57 349**	*e*PKPab	**PKPab**	**14 04 19.0**	**+0.3**
	baz=26,slow=3.8					
MODS	**Modra-Piesok**	**159.14 329**	*e*PKIKP	**PKPdf**	**14 03 46.7**	**+2.4**
MODS			*e*		14 04 22.8	
MODS	**Modra-Piesok**	**159.14 329**	*e*	**PKPab**	**14 04 22.8**	**+1.4**
MODS	**Modra-Piesok**	**159.14 329**	*e*PKP	**PKPdf**	**14 03 46.7**	**+2.4**
MOX	**Moxa**	**159.29 341**	*e*L	L	15 14 31.8	
	comp=Z,70nm,18.8s					
NKC	**Novy Kostel**	**159.42 339**	*e*PKP2	**PKPab**	**14 04 23.4**	**+0.9**
NKC	**Novy Kostel**	**159.42 339**	*e*PKPAB	**PKPab**	**14 04 23.4**	**+0.9**
KHC	**Kasperske Hory**	**160.00 336**	*e*PKP2	**PKPab**	**14 04 24.9**	**-0.2**
KHC	**Kasperske Hory**	**160.00 336**	*e*PKPAB	**PKPab**	**14 04 24.9**	**-0.2**
KHC	**Kasperske Hory**	**160.00 336**		**PKPab**	**14 04 24.8**	**-0.2**
CONA	**Conrad Observa**	**160.10 330**	*e*P	**PKPab**	**14 04 25.6**	**-0.1**
	comp=Z,8.2nm,0.8s					
GERES	**GERESS Array B**	**160.20 335**	PKP	**PKPdf**	**14 03 45.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=152,slow=3.1,SNR=2.7					
GERES			PKPab	**PKPab**	**14 04 24.9**	**-1.1**
	comp=Z,3.5nm,0.9s,baz=31,slow=3.1,SNR=13					
GRF	**Grafenberg Arr**	**160.26 341**	*e*PKPab	**PKPab**	**14 04 26.9**	**+0.8**
	baz=26,slow=3.8					
GRF			*e*L	L	15 06 37.0	
	comp=Z,57nm,19.5s					
TORD	**Torodi Ar. Bea**	**161.84 181**	PKP	**PKPdf**	**14 03 48.9**	**+0.8**
	comp=Z,11nm,0.9s,baz=300,slow=4.7,SNR=37					
TORD			PKPab	**PKPab**	**14 04 34.5**	**+0.7**
	comp=Z,20nm,0.8s,baz=167,slow=3.9,SNR=29					
WATA	**Walderalm**	**162.23 337**	*e*P	**PKPab**	**14 04 36.5**	**+1.4**
	comp=Z,4.0nm,0.8s					
WTTA	**Wattenberg**	**162.27 336**	*e*P	**PKPab**	**14 04 35.1**	**-0.1**
	comp=Z,4.8nm,1.0s					
RETA	**Reutte**	**162.37 338**	*e*P	**PKPab**	**14 04 35.8**	**+0.3**
	comp=Z,8.9nm,0.8s					
MOTA	**Moosalm**	**162.38 338**	*e*P	**PKPab**	**14 04 36.2**	**+0.5**
	comp=Z,6.8nm,0.8s					
ABTA	**Abfaltersbach**	**162.40 334**	*e*P	**PKPab**	**14 04 35.0**	**-0.7**
	comp=Z,8.3nm,1.1s					
SQTA	**Sankt Quirin**	**162.46 337**	*e*P	**PKPab**	**14 04 37.1**	**+1.1**
	comp=Z,9.7nm,1.1s					
FETA	**Feichten**	**162.79 338**	*e*P	**PKPab**	**14 04 37.8**	**+0.3**
	comp=Z,8.0nm,0.9s					
DAVA	**Damuels**	**162.81 340**	*e*P	**PKPab**	**14 04 37.3**	**-0.3**
	comp=Z,11nm,0.7s					
TUE	**Stuetta**	**163.71 340**		**PKPab**	**14 04 42.1**	**+0.5**
SENIN	**Lac Senin/Sane**	**164.34 344**	PKPab	**PKPab**	**14 04 44.3**	**-0.1**
ESDC	**Sonseca Array**	**170.69 26**	PKP	**PKPdf**	**14 03 55.0**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=346,slow=3.2,SNR=8.6					

JMA 18 13:46:53.9±0.2, 25°.39N×122°.71E, h233km±4km, M2.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**1.40**	**138**	P	Pn	13 47 29.6	-0.3
IRIF				*e*S	S	13 47 58.2	+0.3
JKRS	**Kuro-shima**	**1.65**	**134**	P	Pn	13 47 32.3	+0.5
JKRS				S	S	13 48 02.0	+0.6
JIJ	**Ishigaki jima**	**1.66**	**128**	P	Pn	13 47 32.1	+0.2
JIJ				S	S	13 48 00.7	-0.9
JISG	**Ishigakijimahi**	**1.66**	**118**	P	Pn	13 47 32.0	+0.1
JISG				S	S	13 48 01.3	-0.3
HATJ	**Hateruma jima**	**1.66**	**143**	S	S	13 48 02.7	+1.0
JTJ	**Tarama**	**1.96**	**112**	S	S	13 48 06.2	-0.1
JIRB	**Irabujima**	**2.30**	**104**	S	S	13 48 11.1	-1.2
JIKM	**Ikemajima**	**2.35**	**101**	*e*S	S	13 48 12.8	-0.3
JMJ2	**Miyako jima3**	**2.46**	**105**	P	Pn	13 47 40.2	+0.7
JMJ2				S	S	13 48 15.0	-0.3
JOGS	**Gusukube**	**2.52**	**104**	S	S	13 48 16.6	+0.1

TAP 18 13:47:26.2, 24°.37N×121°.64E, h17km±1km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.11**	**57**	*e*P	Pg	13 47 30.0	0.0
	baz=60						
EWUT	**Wuta**	**0.15**	**59**	*e*P	Pg	13 47 29.9	-0.5
	baz=58						
EWUT				*e*S	Sb	13 47 33.5	0.0
	baz=58						
LATG	**Datong**	**0.20**	**329**	P	Pg	13 47 30.9	-0.3
	baz=328						
NACB	**Ninganchiao**	**0.20**	**192**	*e*P	Pb	13 47 31.3	-0.1
	baz=191						
NACB				S	Sg	13 47 34.5	+0.2
	baz=191						
ETL	**Fush Village**	**0.21**	**184**	*e*P	Pb	13 47 32.0	+0.4
	baz=183						
ETLH	**Xiulin Townshi**	**0.21**	**222**	*e*P	Pb	13 47 32.1	+0.3
	baz=221						
ETLH				S	Sg	13 47 34.9	0.0
	baz=221						
NNSB	**Datong**	**0.24**	**285**	*e*P	Pg	13 47 31.7	-0.2
	baz=284						
NNS	**Nan Shan**	**0.25**	**287**	*e*P	Pg	13 47 31.8	-0.2
	baz=286						
NDT	**Datong Townshi**	**0.26**	**334**	*e*P	Pg	13 47 30.4	-1.7
	baz=334						
ENTT	**Nioudou**	**0.28**	**346**	*e*P	Pg	13 47 30.1	-2.4
	baz=347						
TWD	**Chiawan**	**0.29**	**188**	*e*P	Pg	13 47 32.4	-0.1
	baz=186						
TWD				*e*S	Sg	13 47 36.6	-0.2
	baz=186						
FUSS	**Fushou**	**0.38**	**252**	*e*P	Pg	13 47 34.2	0.0
	baz=251						
WHF	**Hehuan Shan**	**0.41**	**237**	*e*P	Pg	13 47 34.9	+0.1
	baz=236						
CHGB	**Renai**	**0.52**	**234**	*e*P	Pg	13 47 36.0	-0.7
	baz=234						
WUSB	**Renai**	**0.60**	**232**	*e*P	Pg	13 47 37.1	-1.2
	baz=231						

*DJA **18** 13:47:31.4±0.6, 4°.N±6°.×12°.3E±°, h10km, M4.3/6, mb4.2/3, mB4.6/1, MLv4.3/6, Mw(mB)3.8/1*
*MAN **18** 13:47:35.4, 4°.62N×123°.49E, h35km, mb4.8, ML3.7, MS3.6*
ISC 18 13:47:30.7±1.4, 4°.42N±0°.09×123°.2E±0°.2, h10km, n7, σ259/10, 2C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.38**	**46**	⇑*i* P	**Pn**	**13 48 10.1**	**+0.1**
GSPH				*i* S	**Sn**	**13 48 38.9**	**-0.4**
CTBH	**Cotabato--PC H**	**2.96**	**20**	⇓*i* P	**Pn**	**13 48 17.1**	**-0.7**
CTBH				*i* S	**Sn**	**13 48 49.1**	**-4.2**
KCP	**Kidapawan**	**3.17**	**36**	⇑*i* P	**Pn**	**13 48 20.8**	**+0.1**
KCP				*i* S	**Sb**	**13 49 09.6**	**+3.7**
GTOI	**Gorontalo**	**3.77**	**183**	P	**Pn**	**13 48 26.0**	**-2.9**
MRSI	**Marisa**	**4.12**	**198**	P	**Pn**	**13 48 33.5**	**-0.3**
MPSI	**Mapaga**	**5.25**	**219**	P	**Pn**	**13 48 50.0**	**+0.7**
	0.1nm15nm,1.1s						
APSI	**Ampana**	**5.53**	**197**	P	**Pn**	**13 48 55.5**	**+2.4**
	0.3nm535nm31nm,0.7s						

*NCEDC **18** 13:48:29.7±1.2, 38°.76N±0°.02×122°.72W±0°.03, h1km±7km, ML3.0/14, ML2.8/66(NEIC), Error ellipse: s-maj=4.2km s-min=2.7km az=66.0*
NEIC 18 13:48:29.9±1.4, 38°.79N±0°.02×122°.66W±0°.01, h4km±8km, Error ellipse: s-maj=3.1km s-min=1.3km az=176.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCRM	**Castle Rock Sp**	**0.04**	**252**		Pg	13 48 30.3	-0.8
GSGM	**Seigler Mounta**	**0.09**	**335**		Pg	13 48 32.7	+0.9
GDXM	**Geysers**	**0.10**	**282**	Pg	Pg	13 48 31.4	-0.7
HOPS	**Hopland Field**	**0.38**	**303**		Sg	13 48 37.5	-4.7
HOPS	**Hopland Field**	**0.38**	**303**	Pg	Pg	13 48 37.4	+0.2
HOPS	**Hopland Field**	**0.38**	**303**	IAML		13 48 48.3	
	comp=E,1μm,0.7s						
HOPS				IAML		13 48 48.7	
	comp=N,1μm,1.7s						
CVS	**Carmenet Viney**	**0.47**	**160**		Pg	13 48 38.9	0.0
MCCM	**Marconi Confer**	**0.66**	**195**		Sg	13 48 42.7	-8.5
MCCM	**Marconi Confer**	**0.66**	**195**	Pg	Pg	13 48 42.5	-0.1
MCCM	**Marconi Confer**	**0.66**	**195**	IAML		13 48 53.4	
	comp=E,455nm,0.9s						
MCCM				IAML		13 48 54.4	
	comp=N,546nm,1.0s						
SUTB	**Sutter Butte**	**0.81**	**57**		Pg	13 48 45.9	+0.4
GASB	**Alder Springs**	**0.87**	**357**		Pn	13 48 48.5	-0.5
VAK	**Adit at Lawren**	**0.96**	**160**		Pb	13 48 48.8	-0.4
BRK	**Berkeley--Havi**	**0.96**	**161**		Pg	13 48 47.5	-0.9
BKS	**Berkeley--Byer**	**0.97**	**160**		Pg	13 48 48.2	-0.3
SMCB	**Saint Mary's C**	**1.04**	**155**		Pg	13 48 49.0	-0.8
KCPM	**Cahto Peak**	**1.15**	**322**	Pg	Pg	13 48 51.0	-1.0
KCPM				IAML		13 49 28.0	
	comp=N,159nm,1.7s						
KCPM				IAML		13 49 30.0	
	comp=E,254nm,2.9s						
ORV	**Oroville**	**1.19**	**49**		Pg	13 48 51.1	-1.5
O02D	**Mt. Diablo Mer**	**1.39**	**356**		Pn	13 48 56.2	+0.1
O03E	**Paynes Creek**	**1.65**	**24**	Pn	Pn	13 48 58.5	-1.2
WDC	**Whiskeytown Da**	**1.79**	**3**	Pn	Pn	13 49 00.3	-1.3
CMB	**Columbia Colle**	**1.94**	**112**		Pn	13 49 03.5	-0.1
RUBR	**Rubicon Trail**	**1.97**	**82**	Pn	Pn	13 49 04.1	-0.2
MPK	**Martis Peak**	**2.11**	**75**		Pn	13 49 06.7	+0.5
MPK				IAML		13 49 42.2	
	comp=E,108nm,0.7s						
N02D	**Trinity Center**	**2.19**	**359**	Pn	Pn	13 49 07.7	+0.6
SAO	**San Andreas Ge**	**2.24**	**154**	Pn	Pn	13 49 07.3	-0.3
KHMM	**Horse Mountain**	**2.24**	**339**	Pn	Pn	13 49 07.8	-0.1
KHMM				IAML		13 49 51.7	
	comp=N,67nm,4.2s						
KHMM				IAML		13 50 30.2	
	comp=E,73nm,4.4s						
VCNR	**Virginia City**	**2.40**	**77**		Pn	13 49 10.6	+0.5
VCNR				IAML		13 49 46.7	
	comp=N,46nm,1.0s						
VCNR				IAML		13 49 53.3	
	comp=E,47nm,0.7s						
PNTR	**Pine Nut**	**2.41**	**82**	Pn	Pn	13 49 10.9	+0.7
PNTR				IAML		13 50 05.7	
	comp=E,82nm,1.4s						
PNTR				IAML		13 50 07.8	
	comp=N,68nm,1.2s						
BBGB	**Big Mountain B**	**2.55**	**149**	Pn	Pn	13 49 12.0	-0.1
M02C	**Callahan**	**2.61**	**357**	Pn	Pn	13 49 13.2	+0.4
YERR	**Yerington**	**2.68**	**85**		Pn	13 49 14.4	+0.4
YERR				IAML		13 49 59.2	
	comp=N,50nm,0.9s						
PAHR	**Pah Rah Range**	**2.71**	**69**		Pn	13 49 14.8	+0.5
PAHR				IAML		13 50 10.9	
	comp=N,24nm,4.4s						
YBH	**Yreka Blue Hor**	**2.94**	**359**	Pn	Pn	13 49 17.4	-0.1
YBH				IAML		13 50 03.1	
	comp=N,19nm,4.2s						
YBH				IAML		13 50 05.7	
	comp=E,22nm,4.9s						
PMPB	**Monarch Peak**	**2.96**	**149**	Pn	Pn	13 49 16.0	-1.7
RYN	**Ryan**	**3.24**	**92**		Pn	13 49 21.7	0.0
RYN				IAML		13 50 10.8	
	comp=N,17nm,3.1s						
RYN				IAML		13 50 19.7	
	comp=E,23nm,2.8s						
LHV	**Little Huntoon**	**3.31**	**98**	Pn	Pn	13 49 22.9	+0.5
LHV				IAML		13 50 21.8	
	comp=N,34nm,1.3s						
LHV				IAML		13 50 33.8	
	comp=E,35nm,1.0s						
NVAR	**Mina Array Bea**	**3.43**	**95**	Pn	Pn	13 49 25.0	+0.6
NV11	**Mina Array Sit**	**3.55**	**94**		Pn	13 49 26.1	+0.2
NV11				IAML		13 50 24.8	
	comp=N,18nm,2.8s						
NV11				IAML		13 50 31.1	
	comp=E,17nm,3.5s						
KVN	**Kaiserville**	**3.57**	**84**		Pn	13 49 26.1	0.0
KVN				IAML		13 50 15.2	
	comp=N,13nm,4.9s						
KVN				IAML		13 50 37.2	
	comp=E,14nm,4.0s						
MOD	**Modoc Plateau**	**3.60**	**29**	Pn	Pn	13 49 26.5	0.0
MOD				IAML		13 49 59.5	
	comp=E,14nm,5.0s						
MOD				IAML		13 51 00.2	
	comp=N,15nm,4.6s						
PAGB	**Antelope Grade**	**3.61**	**147**	Pn	Pn	13 49 26.2	-0.4
K05A	**Summer Lake**	**4.16**	**18**	Pn	Pn	13 49 35.1	+0.8
LCH	**Last Change Ra**	**4.26**	**110**		Pn	13 49 36.1	+0.5
LCH				IAML		13 50 53.7	
	comp=E,13nm,3.1s						
LCH				IAML		13 50 55.0	
	comp=N,10nm,4.4s						
ISA	**Isabella, Lake**	**4.57**	**132**		Pn	13 49 38.5	-1.3
ISA				IAML		13 50 36.3	
	comp=N,8.4nm,4.7s						
ISA				IAML		13 50 57.7	
	comp=E,12nm,4.9s						

*IDC **18** 13:49:14.8±0.5, 29°.75S×179°.23W, h293km±4km, mb4.0/18, mb1 4.2/19, mb1mx4.0/39, mbtmp4.7/19, Error ellipse: s-maj=13.2km s-min=10.8km az=177.0*
*NOU **18** 13:49:15.2, 30°.12S×178°.30W, h395km, mb4.6/10, Kermadec Islands, New Zealand*
*NEIC **18** 13:49:15.8±1.6, 29°.9S±0°.1×179°.2W±0°.1, h298km±5km, mb4.5/56, Error ellipse: s-maj=18.2km s-min=13.8km az=210.0*
ISC 18 13:49:15.1±0.3, 30°.04S±0°.05×179°.19W±0°.07, h300km, n226, σ1°89/263, mb4.4/46, 6C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.35**	**55**	P	**Pn**	**13 49 55.0**	**-2.4**
GLKZ				S	**S**	**13 50 25.1**	**-5.8**
RIZ	**Raoul Island**	**1.35**	**55**	P	**Pn**	**13 49 55.5**	**-1.9**
RAO	**Raoul Island**	**1.36**	**55**	P	**Pn**	**13 49 55.8**	**-1.6**
	554nm,0.3s,baz=92,slow=23,SNR=7.2						
RAO				S	**S**	**13 50 28.0**	**-3.1**
	208nm,0.3s,baz=287,slow=23,SNR=8.7						
RAO	**Raoul Island**	**1.36**	**55**		**Pn**	**13 49 55.5**	**-1.9**
MXZ	**Matakaoa Point**	**7.79**	**195**	S	**S**	**13 52 32.1**	**-3.7**
WMGZ	**Waiomatatini S**	**8.01**	**194**	P	**Pn**	**13 51 10.1**	**+1.4**
WMGZ				S	**S**	**13 52 36.3**	**-4.5**
URZ	**Urewera**	**8.76**	**199**	Pn	**Pn**	**13 51 16.3**	**-1.5**
URZ	**Urewera**	**8.76**	**199**	P	**Pn**	**13 51 19.6**	**+1.8**
RIGZ	**Rimuhau**	**9.01**	**195**	P	**P**	**13 51 23.5**	**-2.1**
RIGZ				S	**S**	**13 52 60.0**	**-3.3**
MUGZ	**Murupara**	**9.06**	**201**	P	**P**	**13 51 23.8**	**-2.4**
MUGZ				S	**S**	**13 53 02.4**	**-2.0**
ALRZ	**Allen Road**	**9.27**	**202**	P	**P**	**13 51 27.6**	**-0.9**
ALRZ				S	**S**	**13 53 07.9**	**-1.4**
KNZ	**Kokohu**	**9.33**	**195**	P	**Pn**	**13 51 26.3**	**+1.5**
KNZ				S	**S**	**13 53 05.3**	**-5.2**
RAHZ	**Arahi**	**9.37**	**198**	P	**Pn**	**13 51 26.8**	**+1.4**
RAHZ				S	**S**	**13 53 08.8**	**-2.8**
MTHZ	**Maungataniwha**	**9.38**	**199**	P	**P**	**13 51 27.8**	**-2.0**
MTHZ				S	**S**	**13 53 10.0**	**-1.8**
KUTZ

comp=Z,16nm,0.7s
TAU Tasmania Unive 29.63 235 P P 13 54 55.1 +2.0
TAU IAmb IAmb 13 55 02.2
comp=Z,19nm,1.2s
TOO Toolangi 30.16 246 P P 13 54 59.9 +1.9
TOO IAmb IAmb 13 55 01.6
comp=Z,11nm,1.1s
CTA Charters Tower 32.72 280 P P 13 55 20.9 +0.6
comp=Z,6.8nm,0.6s,baz=94,slow=10.0,SNR=6.8
CTAO Charters Tower 32.72 280 P P 13 55 21.0 +0.6
CTAO IAmb IAmb 13 55 24.1
comp=Z,8.4nm,0.8s
STKA Stephens Creek 33.55 257 P P 13 55 28.7 +1.3
comp=Z,9.7nm,0.6s,baz=95,slow=8.7,SNR=12
STKA Stephens Creek 33.55 257 P 13 55 28.7 +1.3
RABL Rabaul 37.33 308 P P 13 55 58.8 -0.8
RABL IAmb IAmb 13 56 03.8
comp=Z,15nm,0.9s
PMG Port Moresby 37.52 296 PcP PcP 13 58 11.6 -0.7
comp=Z,15nm,0.9s,baz=90,slow=3.0,SNR=4.5
BBOO Buckleboo 38.07 254 P P 13 56 06.2 +0.6
BBOO IAmb IAmb 13 56 07.9
comp=Z,16nm,0.8s
AS31 Alice Springs 42.09 267 P P 13 56 38.3 -0.2
ASAR Alice Springs 42.09 267 P P 13 56 38.6 +0.1
comp=Z,6.4nm,0.8s,baz=110,slow=7.7,SNR=13
ASAR PcP **PcP 13 58 26.9 -0.2**
comp=Z,1.8nm,0.5s,baz=120,slow=4.3,SNR=4.7
ASAR ScP **ScP 14 01 48.2 -0.2**
comp=Z,2.1nm,1.1s,baz=120,slow=3.7,SNR=5.1
ASAR S **S 14 02 35.0 -0.1**
comp=Z,1.1nm,1.1s,baz=113,slow=13,SNR=4.1
ASAR PKiKP **PKiKP 14 05 30.9 -1.1**
comp=Z,0.3nm,0.6s,baz=106,slow=1.5,SNR=4.4
ASAR Alice Springs 42.09 267 P P 13 56 38.3 -0.2
WR0 Warramunga Arr 42.87 272 P P 13 56 44.3 -0.4
WB2 Warramunga Arr 43.04 272 P P 13 56 45.8 -0.3
WRAB Tennant Creek 43.04 272 P P 13 56 45.8 -0.3
WRAB IAmb IAmb 13 56 48.0
comp=Z,17nm,0.9s
WRA Warramunga Arr 43.05 272 P P 13 56 46.1 -0.1
comp=Z,8.6nm,0.5s,baz=110,slow=8.1,SNR=18
WRA PcP **PcP 13 58 30.2 -0.1**
comp=Z,5.5nm,0.8s,baz=112,slow=3.5,SNR=7.0
WRA ScP **ScP 14 01 52.9 +0.6**
comp=Z,2.0nm,0.8s,baz=112,slow=4.2,SNR=9.6
WRA S **S 14 02 48.5 -0.5**
comp=Z,4.0nm,1.3s,baz=108,slow=14,SNR=4.6
WRA PKiKP **PKiKP 14 05 31.5 -1.4**
comp=Z,0.3nm,0.7s,baz=97,slow=0.6,SNR=5.2
WRA Warramunga Arr 43.05 272 P P 13 56 45.7 -0.4
WB0 Warramunga Arr 43.07 273 P P 13 56 46.1 -0.3
WB0 IAmb IAmb 13 56 48.2
comp=Z,20nm,1.1s
FORT Forrest 45.14 255 P P 13 57 02.2 -0.3
FORT IAmb IAmb 13 57 03.7
comp=Z,30nm,0.7s
SBA Scott Base 48.33 184 P P 13 57 30.5 +4.2
SBA IAmb IAmb 13 57 31.8
comp=Z,15nm,0.8s
VNDA Vanda 48.36 185 P P 13 57 29.3 +2.8
comp=Z,2.7nm,1.0s,baz=40,slow=9.5,SNR=2.7
VNDA Vanda 48.36 185 P P 13 57 28.9 +2.4
MTN Manton Dam 48.90 279 P P 13 57 30.7 -0.9
KNRA Kununurra 49.65 275 P P 13 57 37.0 -0.2
FITZ Fitzroy Crossi 51.33 270 P P 13 57 49.8 +0.2
comp=Z,9.6nm,0.9s,baz=134,slow=8.0
FAKI Fak Fak 53.24 291 P P 13 58 01.0 -2.7
FAKI IAmb IAmb 13 58 04.1
comp=Z,29nm,1.5s
NWAO Narrogin (SRO) 53.56 249 P P 13 58 05.2 -0.5
NWAO IAmb IAmb 13 58 27.4
comp=Z,34nm,1.2s
CASY Casey 54.98 208 P P 13 58 16.5 +1.1
CASY IAmb IAmb 13 58 26.9
comp=Z,14nm,1.0s
PSA00 Pilbara Seismi 54.98 264 P P 13 58 14.9 -1.2
SIJI Sorong 55.24 292 P P 13 58 17.8 -0.2
comp=Z,7.7nm,0.8s,baz=95,slow=4.5,SNR=6.3
MORW Morawa 55.64 254 P P 13 58 20.3 -0.4
MORW IAmb IAmb 13 58 36.6
comp=Z,40nm,1.4s
QSPA South Pole Qui 60.07 180 P P 13 58 53.8 +3.0
comp=Z,27nm,0.7s,baz=34,slow=1.2,SNR=50
QSPA South Pole Qui 60.07 180 P 13 58 53.6 +2.8
TOLI2 Tolitoli 64.94 287 P P 13 59 23.4 0.0
TOLI2 IAmb IAmb 13 59 35.7
comp=Z,15nm,1.0s
UGM Wanagama 69.03 273 P P 13 59 49.8 +0.7
SMAI San Martin Ant 70.15 158 P P 13 59 57.1 +2.1
SMAI IAmb IAmb 13 59 58.5
comp=Z,10nm,0.9s
XMIS Christmas Isla 72.03 268 P P 14 00 06.4 -0.8
MAW Mawson 72.28 201 P P 14 00 09.3 +1.7
comp=Z,1.8nm,0.5s,baz=146,slow=7.0,SNR=1.6
MAW Mawson 72.28 201 P P 14 00 08.6 +0.9
SBUM Sibu 72.83 283 P P 14 00 11.7 -0.2
MJAR Matsushiro Arr 77.36 326 P P 14 00 35.2 -1.8
comp=Z,5.5nm,1.0s,baz=162,slow=4.8,SNR=4.4
TPUB Ta-pu 78.43 305 P P 14 00 41.6 -1.6
SSLB Suanglung 78.51 306 P P 14 00 42.2 -1.4
SNAA Sanae 78.54 179 P P 14 00 44.5 +1.3
VNA3 Neumayer Olymp 78.73 177 P P 14 00 45.4 +1.3
VNA2 Neumayer--Watz 79.16 177 P P 14 00 48.1 +1.7
baz=165,slow=4.0
VNA1 Neumayer--Stat 79.39 177 P P 14 00 49.3 +1.7
MYKOM Kota Tinggi 79.62 278 P P 14 00 49.5 -0.4
DLV T Lat 81.06 289 P P 14 00 58.1 +0.5
KSRS Korea Array 83.41 320 P P 14 01 09.6 +0.7
comp=Z,2.8nm,0.9s,baz=126,slow=7.9,SNR=4.5
IPM Ipoh 83.41 279 P P 14 01 09.1 -0.6
PLCA Paso Flores 83.51 134 P P 14 01 12.1 +2.3
comp=Z,3.4nm,0.8s,baz=236,slow=3.8,SNR=10
PLCA Paso Flores 83.51 134 P P 14 01 11.6 +1.8
PLCA IAmb IAmb 14 01 12.4
comp=Z,4.6nm,0.9s
LC01 Cunco 83.68 131 P P 14 01 12.1 +1.5
LC01 IAmb IAmb 14 01 13.2
comp=Z,7.4nm,0.8s
YSS Yuzh-Sakhalins 83.97 335 P P 14 01 12.5 +0.9
GSI Gunungsitoli 84.78 275 P P 14 01 16.7 +0.2
PETK Petropavlovsk- 85.21 346 P P 14 01 17.2 -0.4
comp=Z,17nm,0.9s,baz=118,slow=8.5,SNR=19
PETK Petropavlovsk- 85.21 346 P P 14 01 17.3 -0.3
NJ2 Nanjing 85.23 311 *eP* **P 14 01 20.0 +1.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
USRK Ussuriysk Ar. 86.29 327 P P 14 01 23.0 -0.1
comp=Z,5.2nm,0.8s,baz=178,slow=2.4,SNR=7.9
ISA Isabella, Lake 86.77 45 P P 14 01 26.2 +0.5
ISA IAmb IAmb 14 01 27.5
comp=Z,7.4nm,0.9s
GSC Goldstone, Bar 87.58 47 P P 14 01 29.1 -0.5
GSC IAmb IAmb 14 01 31.3
comp=Z,10nm,1.2s
113A Mohawk Valley, 87.96 50 P P 14 01 31.9 +0.6
113A IAmb IAmb 14 01 33.6
comp=Z,7.4nm,1.2s
NVAR Mina Array Bea 88.68 43 P P 14 01 35.4 +0.5
comp=Z,3.1nm,0.9s,baz=219,slow=8.5,SNR=13
NV11 Mina Array Sit 88.77 43 P P 14 01 35.2 0.0
TPH Tonopah 89.10 44 P P 14 01 37.1 +0.3
W13A Hualapai Mount 89.31 48 P P 14 01 38.7 +0.8
W13A IAmb IAmb 14 01 40.0
comp=Z,4.1nm,1.0s
PRN Pahroc Range 90.00 46 P P 14 01 41.6 +0.6
PRN IAmb IAmb 14 01 43.2
comp=Z,5.1nm,1.0s
KLR Kul'dur 90.20 330 P P 14 01 41.7 +0.3
comp=Z,7.6nm,0.7s,baz=117,slow=2.3,SNR=17
BMN Battle Mountai 90.61 42 P P 14 01 43.9 +0.1
BMN IAmb IAmb 14 01 44.6
comp=Z,5.0nm,1.3s
PINE Pine Mountain 90.75 38 P P 14 01 44.6 +0.2
U15A North Rim 91.15 48 P P 14 01 46.7 +0.2
U15A IAmb IAmb 14 01 48.5
comp=Z,4.8nm,0.9s
KNB Kanab 91.17 47 P P 14 01 46.9 +0.5
KNB IAmb IAmb 14 01 48.5
comp=Z,8.8nm,1.3s
CMAR Chiang Mai Arr 92.31 290 P P 14 01 53.5 +1.6
comp=Z,3.6nm,0.9s,baz=141,slow=3.6,SNR=11
CMAR Chiang Mai Arr 92.31 290 P P 14 01 52.3 +0.4
TXAR Lajitas Array 93.07 58 P P 14 01 56.2 +0.9
comp=Z,0.8nm,1.1s,baz=227,slow=11,SNR=3.7

HVU Hansel Valley 94.08 43 P P 14 01 59.6 -0.1
HVU IAmb IAmb 14 02 00.8
comp=Z,3.1nm,0.9s
PZH PanZhiHua 94.22 298 P P 14 02 10.0 +9.3
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,150nm,5.0s
HHC Hu-ho-hao-te 95.24 315 *eP* **P 14 02 07.3 +2.4**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,310nm,6.2s
YKA Yellowknife Ar 105.56 26 PKiKP **PKiKP 14 07 00.8 -1.0**
comp=Z,0.2nm,0.6s,baz=260,slow=1.5,SNR=6.0
YKA PKKPbc **PKKPbc 14 18 27.1 -2.1**
comp=Z,0.3nm,0.6s,baz=35,slow=2.9,SNR=7.1
MKAR Makanchi Array 116.75 310 PKP **PKPdf 14 07 22.7 -0.9**
comp=Z,0.8nm,0.4s,baz=243,slow=1.4,SNR=20
MKAR PKKPbc **PKKPbc 14 17 52.2 +0.3**
comp=Z,0.6nm,0.7s,baz=284,slow=3.5,SNR=5.0
ZALV Zalesovo Beam 117.08 319 PKP **PKPdf 14 07 22.8 -1.1**
comp=Z,0.6nm,0.3s,baz=90,slow=3.0,SNR=4.2
BOSA Boshof 117.18 204 PKP **PKiKP 14 07 25.9 +0.6**
comp=Z,1.9nm,0.9s,baz=131,slow=4.4,SNR=3.5
NRIK Noril'sk 118.89 336 PKP **PKPdf 14 07 26.1 -0.8**
comp=Z,2.0nm,0.5s,baz=24,slow=3.3,SNR=3.7
KSH Kashi 119.17 301 PKP **PKiKP 14 07 29.5 +0.8**
KURBB Kurchatov Arra 120.09 314 PKP **PKPdf 14 07 28.8 -1.0**
comp=Z,5.1nm,0.8s,baz=107,slow=2.0,SNR=30
AAK Ala-Archa 121.05 304 PKP **PKPdf 14 07 31.8 -0.4**
comp=Z,1.2nm,0.4s,baz=184,slow=6.9,SNR=6.8
BVAR Borovoye Array 125.42 316 PKP **PKPdf 14 07 39.6 -0.4**
comp=Z,4.4nm,0.7s,baz=74,slow=5.3,SNR=20
SPITS Spitsbergen Ar 131.27 356 PKP **PKPdf 14 07 49.9 -0.6**
comp=Z,9.4nm,0.8s,baz=52,slow=6.7,SNR=5.7
ARU Arti 132.15 321 PKP **PKPdf 14 07 52.5 -0.2**
comp=Z,1.5nm,0.3s,baz=119,slow=14,SNR=5.2
ARU SKPbc **SKPbc 14 10 50.3 -0.1**
comp=Z,0.6nm,0.4s,baz=108,slow=2.6,SNR=4.9
AKTO Aktyubinsk 133.09 313 PKP **PKPdf 14 07 54.8 +0.1**
comp=Z,3.8nm,0.8s,baz=310,slow=2.5,SNR=7.2
AKTO SKPbc **SKPbc 14 10 53.8 0.0**
comp=Z,1.8nm,0.8s,baz=18,slow=3.2,SNR=3.5
ARCES ARCESS Array B 138.01 347 PKhKP PKPpre 14 07 54.7
comp=Z,2.9nm,0.7s,baz=90,slow=3.6,SNR=13
ARCES PKP **PKPdf 14 08 02.8 -0.5**
comp=Z,5.8nm,0.7s,baz=36,slow=0.6,SNR=13
AKH Akhalkalaki 143.87 300 ⇑P **PKPdf 14 08 14.3 -0.5**
KBZ Khabaz 144.05 304 PKP PKPbc 14 08 14.1 +0.4
comp=Z,13nm,0.9s,baz=159,slow=2.4,SNR=7.2
OBN Obninsk 144.28 325 PKP **PKPab 14 08 13.6 -0.1**
comp=Z,7.9nm,0.7s,baz=23,slow=4.2,SNR=8.5
FINES FINESS Array B 144.44 339 PKP **PKPab 14 08 13.3 -0.9**
comp=Z,15nm,0.3s,baz=48,slow=4.1,SNR=123
FINES FINESS Array B 144.44 339 PKPab 14 08 13.2 -1.0
CHVG Ch'k'valeri 144.78 303 ⇑P **PKPab 14 08 17.0 +0.9**
VSU Vasula 146.47 335 *eP* **PKPdf 14 08 16.6 -1.9**
AAL Aland 147.21 342 *eP* **PKPbc 14 08 21.9 -0.5**
DOMB Dombas 147.53 353 *ePKPdf* **PKPbc 14 08 22.1 -1.2**
AKN Aaknes 147.59 355 *ePKPbc* **PKPbc 14 08 23.3 -0.1**
NB2 NORSAR Subarra 148.23 350 PKP **PKPbc 14 08 24.0 -1.2**
comp=Z,23nm,0.9s,baz=14,slow=2.7
NB2 NORSAR Subarra 148.23 350 PKPab **PKPbc 14 08 24.0 -1.2**
baz=14,slow=2.7
NOA NORSAR Array B 148.23 350 PKPbc **PKPbc 14 08 24.3 -0.9**
comp=Z,10nm,0.8s,baz=16,slow=4.3,SNR=23
FOO Floro 148.31 356 *ePKPbc* **PKPbc 14 08 24.7 -0.6**
NC602 NORSAR Array S 148.47 350 *ePKPbc* **PKPbc 14 08 24.8 -0.9**
HYA Hoyanger 148.66 355 *ePKPdf* **PKPbc 14 08 24.5 -1.6**
IDID Didziasalis 148.70 331 *eP* **PKPbc 14 08 25.4 -1.1**
IIGN Ignalina 148.89 332 *eP* **PKPbc 14 08 26.3 -0.6**
SKAR Skarslia 148.94 353 *ePKPbc* **PKPbc 14 08 27.1 +0.1**
ASK Askoy 149.41 356 *ePKPbc* **PKPbc 14 08 26.5 -1.5**
PABE Paberze 149.67 334 *eP* **PKPbc 14 08 28.6 -0.1**
KONO Kongsberg 149.79 351 *ePKPbc* **PKPbc 14 08 28.7 -0.3**
ODD1 Odda 149.87 354 *ePKPbc* **PKPbc 14 08 29.1 -0.1**
PBUR Paburge 150.03 336 *eP* **PKPbc 14 08 29.6 -0.1**
BLS5 Blasjo 150.37 354 *ePKPbc* **PKiKP 14 08 31.6 +0.5**
AKASG Malin Array Be 150.38 322 PKPbc **PKPbc 14 08 30.2 -0.5**
comp=Z,19nm,0.7s,baz=49,slow=2.6,SNR=50
AKASG Malin Array Be 150.38 322 PKPbc 14 08 30.0 -0.7
KMY Karmoy 150.67 355 *ePKPbc* **PKiKP 14 08 31.3 -0.3**
SUW Suwalki 151.08 332 *eP* **PKPbc 14 08 31.9 -0.2**
HOMB Homborsund 151.28 352 *ePKPbc* **PKPbc 14 08 32.4 -0.1**
SNART Snartemo 151.36 353 *ePKPbc* **PKPbc 14 08 32.7 +0.1**
BRTR Keskin Array B 151.52 299 PKPbc **PKPbc 14 08 33.3 -0.6**
comp=Z,7.8nm,1.0s,baz=95,slow=4.2,SNR=10
BRTR PKPab **PKPab 14 08 43.3 -0.4**
comp=Z,2.1nm,0.5s,baz=148,slow=4.7,SNR=3.7
SORM Soroca 152.23 318 ⇑P **PKPbc 14 08 34.8 -0.2**
BSD Bornholm Skovb 152.97 342 *eP* **PKPab 14 08 48.0 -1.0**
LIC Lamto 155.69 166 *ePKP2* **PKPab 14 09 02.9 +1.3**
comp=Z,29nm,0.7s
ARR Arges 155.84 316 ⇑P **PKPab 14 09 02.3 +0.6**
KIC Kosan Boka 155.88 166 *ePKP2* **PKPab 14 09 03.8 +1.4**
comp=Z,11nm,0.7s
TIC Toumodi 156.09 166 *ePKP2* **PKPab 14 09 04.6 +1.2**
DRGR 156.16 321 ⇑P **PKPab 14 09 02.9 -0.1**
CLL Collm 156.88 340 ⇑*iPKPab* **PKPab 14 09 05.2 -0.6**
comp=Z,11nm,0.9s
BRG Berggiesshubel 156.98 338 *ePKP* **PKPab 14 09 06.0 -0.3**
BRG Amp 14 09 07.3
comp=Z,13nm,1.1s
KHC Kasperske Hory 158.59 337 *ePKPAB* **PKPab 14 09 13.0 -0.4**
CONA Conrad Observa 158.71 331 *eP* **PKPab 14 09 13.9 -0.2**
comp=Z,7.0nm,0.9s
GERES GERESS Array B 158.79 336 PKPab **PKPab 14 09 13.3 -1.1**
comp=Z,1.5nm,0.6s,baz=38,slow=6.8,SNR=11
MOA Molln 159.41 334 *eP* **PKPab 14 09 16.9 -0.1**
comp=Z,4.9nm,1.0s
SOKA Soboth 160.04 330 *eP* **PKPab 14 09 19.1 -0.8**
comp=Z,6.1nm,1.0s
MYKA Terra Mystica 160.66 332 *eP* **PKPab 14 09 21.0 -1.5**
comp=Z,6.8nm,0.9s
WTTA Wattenberg 160.86 337 *eP* **PKPab 14 09 22.9 -0.6**
comp=Z,5.0nm,1.0s
RETA Reute 160.95 339 *eP* **PKPab 14 09 23.5 -0.3**
comp=Z,14nm,1.1s
MOTA Moosalm 160.97 338 *eP* **PKPab 14 09 23.5 -0.5**
comp=Z,14nm,1.1s
ABTA Abfaltersbach 161.00 335 *eP* **PKPab 14 09 22.8 -1.2**
comp=Z,6.8nm,1.1s
SQTA Sankt Quirin 161.04 338 *eP* **PKPab 14 09 24.1 -0.2**
comp=Z,11nm,1.0s
FETA Feichten 161.38 338 *eP* **PKPab 14 09 25.4 -0.4**
comp=Z,7.0nm,0.9s
DAVA Damuels 161.40 340 *eP* **PKPab 14 09 25.5 -0.4**
comp=Z,13nm,1.0s
TORD Torodi Ar. Bea 163.17 183 PKP **PKPdf 14 08 42.5 +0.1**
comp=Z,1.0nm,0.7s,baz=303,slow=2.2,SNR=3.8
TORD PKPab **PKPab 14 09 35.3 +1.2**
comp=Z,7.8nm,0.7s,baz=170,slow=3.1,SNR=22
ESDC Sonseca Array 169.62 21 PKP **PKPdf 14 08 47.2 +0.5**
comp=Z,2.0nm,1.1s,baz=8.7,slow=3.1,SNR=5.3

*IDC **18** 13:50:58.8±1.2, 24°.66N×98°.76E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.3/56, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=49.1km s-min=16.4km az=75.0*
ISC 18 13:50:59.9±1.2, 24°.9N±0°.1×99°.2E±0°.4, h7km, n6, σ1°.26/7, mb3.7/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.36**	**182**	Pn	**Pn**	**13 52 32.1**	**-1.9**
	0.9nm,0.3s,baz=354,slow=12,SNR=6.1						
CMAR				Pg	**Pb**	**13 52 52.5**	**+1.6**
	0.5nm,0.3s,baz=357,slow=14,SNR=2.9						
CMAR				Lg	Lg	13 54 14.0	
	1.2nm,0.3s,baz=352,slow=31,SNR=9.8						
MKAR	**Makanchi Array**	**25.71**	**333**	P	**P**	**13 56 30.9**	**+0.2**
	1.4nm,0.8s,baz=141,slow=10,SNR=15						
KURBB	**Kurchatov Arra**	**30.26**	**334**	P	**P**	**13 57 11.2**	**-0.1**
	0.2nm,0.5s,baz=138,slow=8.7,SNR=2.0						
ZALV	**Zalesovo Beam**	**30.98**	**343**	P	**P**	**13 57 17.8**	**+0.2**
	0.5nm,0.6s,baz=141,slow=9.3,SNR=2.0						
BVAR	**Borovoye Array**	**35.50**	**330**	P	**P**	**13 57 57.2**	**+0.1**
	1.1nm,1.0s,baz=117,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**56.16**	**139**	P	**P**	**14 00 40.6**	**+0.1**
	0.7nm,0.7s,baz=325,slow=7.2,SNR=3.2						

*EAF **18** 13:52:02.9±2.3, 25°.97S×29°.20E, h10km±43km, MD4.2*
BUL 18 13:52:02.9±2.3, 25°.97S×29°.20E, h10km±43km, MD4.6,

South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.39**	**285**	*i* P	Pn	13 52 56.6	+0.5
LBTB				*i* Sg	Sg	13 53 48.8	-3.2
LBTB	**Lobatse**	**3.39**	**285**	*i* P	Pn	13 52 56.6	+0.5
LBTB				*i* Sg	Sg	13 53 48.8	-3.2
BOSA	**Boshof**	**4.39**	**232**	*i* P	Pn	13 53 10.3	+0.5
BOSA				*i* Sg	Sb	13 54 17.8	+4.4
BOSA	**Boshof**	**4.39**	**232**	*i* P	Pn	13 53 10.3	+0.5
BOSA				*i* Sg	Sb	13 54 17.8	+4.4
MATP	**Matopo**	**5.55**	**353**	*i* P	Pn	13 53 25.3	-0.5
MATP				*i* S	Sn	13 54 23.4	-6.4
MATP	**Matopo**	**5.55**	**353**	*i* P	Pn	13 53 25.3	-0.5
MATP				*i* S	Sn	13 54 23.4	-6.4

JMA 18 14:01:20.6±0.2, 24°.80N×122°.60E, h5km, M2.3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.47**	**138**	P	Pg	14 01 29.9	+0.3
JYNG				S	Sg	14 01 36.6	+0.9
YOJ	**Yonaguni jima**	**0.50**	**132**	P	Pg	14 01 30.4	+0.1
YOJ				S	Sg	14 01 36.7	-0.1
IRIF	**Iriomote-Funau**	**1.13**	**114**	*eS*	Sb	14 01 57.3	-0.3
HATJ	**Hateruma jima**	**1.32**	**124**	P	Pg	14 01 46.2	+0.2

TAP 18 14:01:26.6, 24°.74N×121°.75E, h40km±1km, ML2.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.03**	**5**	*eS*	Sn	14 01 38.7	+1.4
	baz=20						
TWE	**Neicheng**	**0.07**	**258**	*eS*	Sn	14 01 37.8	+0.3
	baz=252						
FUSB	**Fushanzhiwuyua**	**0.14**	**279**	P	Pn	14 01 33.2	-1.0
	baz=279						
FUSB				S	Sn	14 01 39.0	-1.0
	baz=279						
TWC	**Suao**	**0.16**	**143**	*eP*	Pn	14 01 34.0	-0.1
	baz=140						
ENTT	**Nioudou**	**0.19**	**240**	*eS*	Sn	14 01 39.7	-0.2
	baz=237						
NWLT	**Wulai**	**0.22**	**281**	*eS*	Sn	14 01 40.1	0.0
	baz=280						
TIPB	**Shuangxi**	**0.25**	**17**	*eP*	Pn	14 01 34.1	-0.4
TIPB	baz=17						
				eS	Sn	14 01 40.7	+0.4
	baz=17						
NDT	**Datong Townshi**	**0.25**	**238**	*eS*	Sn	14 01 40.6	+0.4
	baz=237						
LATG	**Datong**	**0.28**	**225**	P	Pn	14 01 35.0	+0.2
	baz=224						
LATG				S	Sn	14 01 40.8	0.0
	baz=224						
EWUT	**Wuta**	**0.29**	**174**	*eP*	Pn	14 01 35.2	+0.5
	baz=174						
NWF	**Wu-fen Shan**	**0.34**	**6**	*eP*	Pn	14 01 35.6	+0.3
	baz=5.0						
NWF				*eS*	Sn	14 01 42.2	+0.6
	baz=5.0						
WFSB	**Wu-fen Shan**	**0.34**	**6**	*eP*	Pn	14 01 35.9	+0.6
	baz=5.0						
WFSB				*eS*	Sn	14 01 42.2	+0.8
	baz=5.0						
YHNB	**Yeheng**	**0.34**	**259**	*eS*	Sn	14 01 42.6	+0.9
	baz=258						
NSK	**Sanguang**	**0.36**	**260**	*eS*	Sn	14 01 42.6	+0.7
	baz=259						
SXI1	**Grass Mountain**	**0.38**	**18**	*eP*	Pn	14 01 33.8	-2.0
	baz=18						
NNS	**Nan Shan**	**0.45**	**229**	*eS*	Sn	14 01 44.7	+0.8
	baz=228						
NFF	**Wufeng Townshi**	**0.58**	**260**	*eS*	Sn	14 01 47.9	+1.1
	baz=259						

IDC 18 14:06:28.5±1.4, 24°.67N×99°.15E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/46, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=54.0km s-min=18.2km az=83.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.19**	**182**	Pn	Pn	14 08 02.0	+0.9
	0.4nm,0.3s,baz=356,slow=11,SNR=2.1						
CMAR				Pg	Pb	14 08 21.9	+4.8
	0.5nm,0.3s,baz=357,slow=13,SNR=4.9						
CMAR				Lg	Lg	14 09 44.3	
	0.6nm,0.3s,baz=350,slow=28,SNR=5.6						
SONM	**Songino Array**	**23.82**	**12**	P	P	14 11 44.2	+1.0
	0.4nm,0.8s,baz=187,slow=7.1,SNR=2.3						
MKAR	**Makanchi Array**	**25.86**	**333**	P	P	14 12 01.3	-0.5
	1.4nm,0.7s,baz=145,slow=9.6,SNR=15						
WRA	**Warramunga Arr**	**56.03**	**139**	P	P	14 16 09.0	-0.4
	0.6nm,0.9s,baz=331,slow=7.1,SNR=3.3						

*GCG **18** 14:28:37.9±0.7, 13°.99N×91°.42W, h26km±6km, MD3.9*
*SNET **18** 14:28:37.1±1.3, 13°.96N×91°.26W, h12km±9km, ML3.3*
ISC 18 14:28:35.4±2.4, 13°.8N±0°.1×91°.44W±0°.08, h25km±18km, n17, σ0°.70/24, 2C-9D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.75**	**341**	⇓*iP*	**Pb**	**14 28 49.5**	**-0.3**
RTAL				⇓*eS*	**Sb**	**14 29 08.2**	**+0.6**
FUG	**Fuego 3**	**0.86**	**43**	*eP*	**Pn**	**14 28 52.3**	**+0.3**
STG3	**Santiaguito 3,**	**0.90**	**352**	⇓*eP*	**Pb**	**14 28 52.0**	**-0.4**
PCG	**Pacaya**	**0.99**	**55**	*eP*	**Pn**	**14 28 54.6**	**+0.6**
NBG	**Las Nubes**	**1.31**	**54**	*eP*	**Pb**	**14 28 59.9**	**+0.3**
NBG				*eS*	**Sb**	**14 29 16.8**	**+0.8**
HUEH	**Huehuetenango**	**1.50**	**358**	⇓*iP*	**Pb**	**14 29 02.1**	**-0.5**
HUEH				*eS*	**Sb**	**14 29 21.2**	**-0.1**
NUBE	**Las Nubes**	**1.62**	**87**	⇓*iP*	**Pn**	**14 29 02.4**	**-0.1**
NUBE				*eS*	**Sn**	**14 29 21.4**	**-1.2**
NUBE				IAML		14 29 26.2	
	comp=Z,167nm,0.3s						
SLOZ	**Alcaldia de Sa**	**1.62**	**82**	*i P*	**Pn**	**14 29 02.6**	**+0.1**
RTR	**El Retiro**	**1.75**	**87**	*eP*	**Pn**	**14 29 05.4**	**+1.1**
CEVE	**Cerro Verde**	**1.77**	**89**	⇓*iP*	**Pn**	**14 29 05.0**	**+0.4**
CEVE				*eS*	**Sb**	**14 29 28.1**	**-1.0**
CEVE				IAML		14 29 31.7	
	comp=Z,855nm,0.5s						
SBLS	**San Blas**	**1.77**	**89**	⇑*iP*	**Pn**	**14 29 04.9**	**+0.2**
JAYA	**Jayaque - finc**	**1.94**	**94**	⇓*iP*	**Pn**	**14 29 07.1**	**+0.1**
JAYA				*eS*	**Sn**	**14 29 30.1**	**-0.6**
TACO	**Tacachico**	**2.03**	**85**	⇑*iP*	**Pn**	**14 29 09.2**	**+1.0**
TACO				*eS*	**Sn**	**14 29 33.1**	**+0.3**
MTO3	**Montecristo**	**2.10**	**74**	⇓*iP*	**Pn**	**14 29 09.3**	**+0.1**
BOQS	**Boqueron**	**2.10**	**92**	⇓*iP*	**Pn**	**14 29 09.9**	**+0.7**
MRL	**Marmol**	**2.12**	**53**	*eP*	**Pb**	**14 29 12.9**	**-0.4**
COEG	**Centro de Oper**	**2.50**	**94**	*i P*	**Pn**	**14 29 15.9**	**+1.3**

*DNK **18** 14:43:37.9±0.7, 59°.19N×7°.30E, h0km, ML1.5(UPP), Suspected explosion*
BER 18 14:43:30.8±0.8, 59°.37N×6°.06E, h0km, ML1.3, 1C, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLS5	**Blasjo**	**0.21**	**74**	⇑*iP*	Pg	14 43 34.2	-0.6
BLS5				*eS*	Sg	14 43 37.5	0.0
BLS5				IAML		14 43 38.9	
	comp=Z,55nm,0.7s						
KMY	**Karmoy**	**0.45**	**250**	*eP*	Pg	14 43 38.9	-0.5
KMY				*eS*	Sg	14 43 45.0	-0.1
KMY				IAML		14 43 49.5	
	comp=Z,11nm,1.0s						
ODD1	**Odda**	**0.62**	**27**	*eP*	Pg	14 43 41.7	-0.9
ODD1				*eS*	Sg	14 43 49.6	-1.0
ODD1				IAML		14 43 51.9	
	comp=Z,12nm,0.7s						
SNART	**Snartemo**

STRU	**Stroemstad**	**2.66**	**95**	P	Pn	14 44 12.9	-1.9
STRU				S	Sn	14 44 44.5	-3.1
TJOU	**Tjoern**	**3.20**	**112**	P	Pn	14 44 21.1	-1.1
VANU	**Vaenersborg**	**3.24**	**103**	P	Pn	14 44 21.0	-1.8
FINU	**Finntorp**	**3.28**	**87**	P	Pn	14 44 22.2	-1.3
ONAU	**Onsala**	**3.66**	**120**	P	Pn	14 44 26.9	-1.7
NASU	**Vaermlandsnaes**	**3.70**	**94**	P	Pn	14 44 27.7	-1.4

BGS 18 14:43:49.9±0.3, 56°.28N×6°.13W, h8km±2km, ML1.5, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGBU	**Glenifferbraes**	**1.03**	**116**	*e*P	Pg	14 44 08.6	-1.1
PGBU				*e*S	Sg	14 44 22.2	-0.9
PGBU				IAML		14 44 23.3	
	comp=E,13nm,0.3s						
PGBU				IAML		14 44 25.6	
	comp=N,8.4nm,0.4s						
KPL	**Plockton**	**1.09**	**14**	*e*P	Pg	14 44 09.5	-1.4
KPL				*e*S	Sg	14 44 24.1	-1.1
KPL				IAML		14 44 26.9	
	comp=E,13nm,0.2s						
KPL				IAML		14 44 28.6	
	comp=N,7.2nm,0.3s						
INVG	**Invergeldie, C**	**1.17**	**82**	*e*P	Pb	14 44 10.6	-1.7
INVG				*e*S	Sg	14 44 26.1	-1.4
INVG				IAML		14 44 27.7	
	comp=N,11nm,0.1s						
INVG				IAML		14 44 28.1	
	comp=E,13nm,0.3s						
CLGH	**Cloghs, Cushen**	**1.20**	**180**	*e*P	Pb	14 44 11.3	-1.5
CLGH				*e*S	Sg	14 44 26.9	-1.5
CLGH				IAML		14 44 30.6	
	comp=N,10nm,0.2s						
KAC	**Achnashellach**	**1.31**	**20**	*e*P	Pn	14 44 13.1	-1.3
MDO	**Dochfour**	**1.52**	**39**	*e*P	Pn	14 44 16.3	-1.0
LEWI	**Lewis, Hebride**	**1.92**	**348**	*e*P	Pn	14 44 21.6	-1.2

*EAF **18** 15:00:13.1±0.9, 26°.07S×28°.90E, h13km±10km, MD4.2*
BUL 18 15:00:13.1±0.9, 26°.07S×28°.90E, h13km±10km, MD4.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.16**	**289**	*i* P	Pn	15 01 02.6	-0.1
LBTB				*i* Sg	Sg	15 01 51.4	-3.4
LBTB	**Lobatse**	**3.16**	**289**	*i* P	Pn	15 01 02.6	-0.1
LBTB				*i* Sg	Sg	15 01 51.4	-3.4
BOSA	**Boshof**	**4.11**	**231**	*i* P	Pn	15 01 16.1	+0.3
BOSA				*i* S	Sn	15 02 00.2	-3.7
BOSA	**Boshof**	**4.11**	**231**	*i* P	Pn	15 01 16.1	+0.3
BOSA				*i* S	Sn	15 02 00.2	-3.7
MATP	**Matopo**	**5.63**	**356**	*i* P	Pn	15 01 36.0	-0.7
MATP				*i* S	Sn	15 02 36.2	-5.1
MATP	**Matopo**	**5.63**	**356**	*i* P	Pn	15 01 36.0	-0.7
MATP				*i* S	Sn	15 02 36.2	-5.1

*IDC **18** 15:01:26.6±2.7, 28°.47N×52°.70E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.0/68, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=63.0km s-min=34.1km az=48.0*
*TEH **18** 15:01:29.4, 28°.50N×53°.02E, h8km, ML3.1*
ISC 18 15:01:28.8±1.2, 28°.42N±0°.05×52°.96E±0°.06, h9km±7km, n19, σ1s74/23, mb3.6/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.09**	**55**	*e*Pg	**Pg**	**15 01 30.6**	**-0.6**
QIR1				*e*Sg	**Sg**	**15 01 32.1**	**-0.7**
JHRM	**Jahrom**	**0.55**	**81**	*e*Pg	**Pg**	**15 01 40.0**	**+0.5**
JHRM				*e*Sg	**Sg**	**15 01 46.0**	**-0.7**
JHRM				*e*		15 02 00.1	
	comp=Z,36μm,0.4s						
LMD1	**Lamerd**	**1.09**	**170**	*e*Pn	**Pn**	**15 01 52.0**	**+1.6**
LMD1				*e*		15 02 25.8	
	comp=Z,7μm,0.4s						
SHI	**Shiraz**	**1.27**	**342**	*e*Pg	**Pg**	**15 01 53.4**	**+0.1**
SHI				*e*Sg	**Sn**	**15 02 11.2**	**+0.8**
LAR1	**LAR**	**1.46**	**121**	*e*Pg	**Pg**	**15 01 57.4**	**+0.6**
LAR1				*e*Sg	**Sg**	**15 02 18.4**	**+2.7**
KAZ1	**Kazerun**	**1.66**	**316**	*e*Pg	**Pb**	**15 01 59.8**	**+0.1**
KLNJ	**Kolanjah**	**2.84**	**336**	*e*Pn	**Pn**	**15 02 15.1**	**+0.5**
KLNJ				*e*		15 03 10.0	
	comp=Z,638nm,0.7s						
IMEH	**Mehriz**	**3.29**	**26**	*e*Pn	**Pn**	**15 02 23.0**	**+2.3**
IRAM	**Ramesheh**	**3.41**	**352**	*e*Pn	**Pn**	**15 02 24.1**	**+1.7**
IRAM				*e*		15 03 30.1	
	comp=Z,231nm,0.8s						
NGRK	**Negar Kerman**	**3.52**	**69**	*e*	Sg	15 03 32.0	+10
	comp=Z,320nm,0.6s						
KHGB	**Koh Gabri**	**3.63**	**57**	*e*Pn	**Pn**	**15 02 26.9**	**+1.4**
KHGB				*e*		15 03 40.5	
	comp=Z,277nm,0.9s						
ICHK	**Chekchek**	**4.01**	**18**	*e*Pn	**Pn**	**15 02 32.6**	**+2.0**
IKLH	**Kolahrood**	**5.02**	**347**	*e*Pn	**Pn**	**15 02 47.6**	**+3.0**
TNSJ	**Nastanj**	**6.35**	**29**	*e*Pn	**Pn**	**15 03 03.4**	**+0.8**
WSAR	**Wadi Sarin**	**7.26**	**134**	Pn	**Pn**	**15 03 17.0**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=339,slow=13,SNR=7.9						
WSAR				Sn	**Sn**	**15 04 34.3**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=156,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**29.35**	**43**	P	**P**	**15 07 32.3**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=229,slow=7.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**34.50**	**33**	P	**P**	**15 08 16.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=237,slow=10,SNR=4.4						
FINES	**FINESS Array B**	**37.56**	**339**	P	**P**	**15 08 41.4**	**-1.7**
	comp=Z,1.3nm,1.0s,baz=146,slow=10,SNR=4.9						
YKA	**Yellowknife Ar**	**88.85**	**354**	P	**P**	**15 14 21.6**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=6.2,slow=5.1,SNR=2.9						

IDC 18 15:04:14.9±2.2, 4°.35N×123°.62E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.1/60, mbtmp3.6/3, Error ellipse: s-maj=291.4km s-min=24.3km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.35**	**157**	P	P	15 09 53.0	+0.1
	0.3nm,0.3s,baz=337,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**29.60**	**161**	P	P	15 10 21.9	-0.1
	0.2nm,0.3s,baz=335,slow=7.8,SNR=18						
MKAR	**Makanchi Array**	**55.30**	**327**	P	P	15 13 50.2	-0.1
	0.3nm,0.3s,baz=128,slow=7.7,SNR=9.5						

*AEIC **18** 15:10:25±2.7, 51°.93N±0°.08×171°.10W±0°.06, h26km±3km, Error ellipse: s-maj=11.6km s-min=4.7km az=163.0*
*MOS **18** 15:10:27.4±1.1, 52°.18N×171°.32W, h51km, mb4.7/26, Error ellipse: s-maj=10.1km s-min=6.8km az=95.0*
*IDC **18** 15:10:28.7±1.9, 52°.23N×171°.38W, h45km±16km, mb4.0/32, mb1 4.1/35, mb1mx3.9/72, mbtmp4.2/35, ML3.7/3, MS3.5/22, Ms1 3.5/22, ms1mx3.2/101, Error ellipse: s-maj=17.9km s-min=9.4km az=176.0*
*NEIC **18** 15:10:28.0±1.9, 52°.13N±0°.09×171°.18W±0°.07, h42km±6km, mb4.6/87, ML4.5/6, ML4.1(AEIC), Error ellipse: s-maj=13.3km s-min=5.2km az=161.0*
ISC 18 15:10:28.3±0.9, 52°.12N±0°.08×171°.20W±0°.04, h45km±6km, n255, σ0s93/252, mb4.5/92, MS3.5/21, 10C-9D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**1.07**	**48**		**Pn**	**15 10 46.2**	**-0.6**
CLES				Sn	**Sn**	**15 11 00.1**	**-0.2**
CLES				IAML		15 11 02.8	
	comp=N,19μm,0.2s						
CLCO	**Concord Point,**	**1.12**	**53**		**Pn**	**15 10 46.3**	**-1.3**
NIKH	**Nikolski High**	**1.67**	**58**	Pn	**Pn**	**15 10 53.3**	**-1.7**
NIKH	**Nikolski High**	**1.67**	**58**		**Sn**	**15 11 14.6**	**-0.6**
KOFP	**Korovin Flat P**	**1.79**	**276**		**Pn**	**15 10 56.5**	**-0.2**
ATKA	**Atka Island**	**1.85**	**274**		**Pn**	**15 10 56.5**	**-0.9**
ATKA					**Sn**	**15 11 20.7**	**+1.2**
KOKL	**Mount Kliuchef**	**1.86**	**277**		**Pn**	**15 10 58.2**	**+0.6**
OKFG	**Magazine Ridge**	**2.38**	**56**		**Pn**	**15 11 04.7**	**0.0**
GSTR	**Great Sitkin T**	**3.00**	**271**		**Pn**	**15 11 13.4**	**+0.2**
GSMY	**Great Sitkin M**	**3.00**	**270**		**Pn**	**15 11 13.3**	**+0.1**
GSTD	**Great Sitkin T**	**3.05**	**271**		**Pn**	**15 11 13.6**	**-0.4**
GSTD					**Sn**	**15 11 50.6**	**+1.3**
MAPS	**Pakushin South**	**3.08**	**55**		**Pn**	**15 11 14.5**	**+0.1**
MSW	**Makushin Switc**	**3.22**	**54**		**Pn**	**15 11 16.7**	**+0.4**
MTBL	**Makushin Table**	**3.30**	**54**		**Pn**	**15 11 16.8**	**-0.6**
UNV	**Unalaska Valle**	**3.32**	**57**	Pn	**Pn**	**15 11 17.6**	**0.0**
ADK	**Adak**	**3.40**	**268**	P	**Pn**	**15 11 17.5**	**-1.2**
ADK						15 11 58.7	
ADK	**Adak**	**3.40**	**268**	Pn	**Pn**	**15 11 17.5**	**-1.2**
ADK				IAML		15 12 11.2	
	comp=N,1μm,0.8s						
ADK				IAML		15 12 14.3	
	comp=N,1μm,0.7s						
KIWB	**Kanaga Island**	**3.69**	**268**		**Pn**	**15 11 22.4**	**-0.3**
KIKV	**Kanaga Island**	**3.70**	**269**		**Pn**	**15 11 23.3**	**+0.4**
AKBBA	**Akutan Broad B**	**3.74**	**56**		**Pn**	**15 11 24.0**	**+0.5**
KIMD	**Kanaga Island**	**3.75**	**267**		**Pn**	**15 11 24.1**	**+0.6**
AKUT	**Akutan**	**3.84**	**56**	Pn	**Pn**	**15 11 26.1**	**+1.4**
AKUT				IAML		15 12 36.4	
	comp=N,328nm,0.8s						
TAPA	**Tanaga Point A**	**4.10**	**268**		**Pn**	**15 11 28.5**	**+0.1**
TASE	**Tanaga Southea**	**4.24**	**269**		**Pn**	**15 11 30.5**	**+0.2**
SPIA	**Saint Paul Isl**	**5.10**	**6**	Pn	**Pn**	**15 11 42.9**	**+0.9**
FALS	**False Pass**	**5.39**	**56**		**Pn**	**15 11 47.6**	**+1.5**
SDPT	**Sand Point**	**7.14**	**59**	Pn	**Pn**	**15 12 10.8**	**+0.9**
CNBA	**Chernabura Isl**	**7.44**	**64**	Pn	**Pn**	**15 12 13.8**	**-0.3**
CHIR	**Chirikof Islan**	**9.90**	**62**	Pn	**Pn**	**15 12 48.0**	**+0.3**
SII	**Sitkinak Islan**	**10.88**	**59**	Pn	**Pn**	**15 13 00.6**	**-0.6**
OHAK	**Old Harbor**	**11.55**	**57**	Pn	**Pn**	**15 13 09.1**	**-1.2**
Q19K	**Cape Douglas,**	**12.04**	**49**	Pn	**Pn**	**15 13 18.1**	**+1.1**
KDAK	**Kodiak Island**	**12.09**	**55**	P	**Pn**	**15 13 17.2**	**-0.5**
	comp=N,0.5nm,0.3s,baz=258,slow=9.3,SNR=1.2						
SVW2	**Sparrevohn**	**12.41**	**37**	Pn	**Pn**	**15 13 24.4**	**+2.3**
CNPM	**China Poot**	**13.41**	**49**	Pn	**Pn**	**15 13 33.7**	**-2.1**
TNA	**Tin City**	**13.59**	**6**	Pn	**Pn**	**15 13 40.0**	**+2.0**
BRLK	**Bradley Lake**	**13.67**	**48**	Pn	**Pn**	**15 13 38.8**	**-0.5**
SEW	**Seward**	**14.47**	**48**	Pn	**Pn**	**15 13 48.4**	**-1.6**
PPLA	**Purkeypile**	**14.79**	**36**	P	**P**	**15 14 00.9**	**+1.4**
GHO	**Glory Hole Cre**	**15.45**	**43**	Pn	**Pn**	**15 14 03.6**	**+0.7**
GHO				IAmb	IAmb	15 14 14.9	
	comp=Z,26nm,0.6s						
RND	**Reindeer**	**16.32**	**38**	P	**P**	**15 14 16.1**	**-0.3**
RND				pmax	pmax		
	comp=Z,12nm,1.2s						
RND	**Reindeer**	**16.32**	**38**	P	**P**	**15 14 16.1**	**-0.3**
MCK	**McKinley**	**16.47**	**36**	P	**P**	**15 14 16.8**	**-1.2**
MCK				pmax	pmax		
	comp=Z,14nm,1.4s						
MCK	**McKinley**	**16.47**	**36**		**P**	**15 14 16.8**	**-1.2**
CCB	**Clear Creek Bu**	**17.40**	**35**		**Pn**	**15 14 26.8**	**-0.6**
COLA	**College**	**17.52**	**34**	⇓*e*P	**P**	**15 14 31.3**	**+1.8**
COLA				pmax	pmax		
	comp=Z,28nm,4.6s						
GLB	**Gilahina Butte**	**17.54**	**47**	P	**P**	**15 14 29.8**	**0.0**
HDA	**Harding Lake**	**17.58**	**36**		**P**	**15 14 29.9**	**-0.3**
VRDI	**Verde Repeater**	**17.63**	**48**		**P**	**15 14 30.1**	**-1.0**
ILAR	**Eielson Array**	**17.80**	**35**	P	**Pn**	**15 14 30.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=234,slow=9.7,SNR=8.5						
ILAR				PcP	**PcP**	**15 19 07.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=298,slow=3.3,SNR=4.8						
H24K	**Noodor Dome**	**18.09**	**32**	P	**P**	**15 14 36.9**	**+1.0**
DOT	**Dot Lake**	**18.30**	**40**	P	**Pn**	**15 14 38.5**	**+0.1**
LOGN	**Logan Glacier**	**18.66**	**50**	P	**Pn**	**15 14 43.1**	**+0.1**
LOGN				IAmb	IAmb	15 14 55.2	
	comp=Z,18nm,1.0s						
PEA0B	**Petropavlovsk-**	**18.84**	**285**	⇑*e*P	**Pn**	**15 14 45.2**	**+0.2**
PEA0B	**Petropavlovsk-**	**18.84**	**285**	P	**Pn**	**15 14 44.8**	**-0.3**
PEA0B				IAmb	IAmb	15 15 08.9	
	comp=Z,39nm,1.3s						
PETK	**Petropavlovsk-**	**18.84**	**285**	P	**P**	**15 14 44.1**	**0.0**
	comp=Z,1.6nm,0.3s,baz=81,slow=14,SNR=5.9						
PETK				LR	LR	15 21 30.6	
	comp=Z,78nm,20.3s,baz=103,slow=35						
PETK	**Petropavlovsk-**	**18.84**	**285**	P	**P**	**15 14 44.2**	**+0.1**
J26L	**Joseph Creek**	**18.89**	**38**	P	**P**	**15 14 43.6**	**-1.1**
L27K	**Beaver Creek,**	**18.98**	**43**	P	**P**	**15 14 45.3**	**-0.3**
BILL	**Bilibino**	**19.32**	**334**	*e*P	**Pn**	**15 14 50.7**	**+0.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s						
BILL				MLR	MLR		
	comp=Z,84nm,16.0s						
BILL	**Bilibino**	**19.32**	**334**	Pn	**Pn**	**15 14 51.2**	**+0.6**
BMAR	**Burnt Mountain**	**20.11**	**30**	P	Pn	15 14 59.0	-1.0
SKAG	**Skagway**	**21.25**	**56**	P	**P**	**15 15 11.9**	**+1.8**
SKAG				IAmb	IAmb	15 15 12.6	
	comp=Z,18nm,0.9s						
SEY	**Seymchan**	**22.02**	**314**	P	**P**	**15 15 18.6**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=108,slow=8.9,SNR=40						
SEY				PcP	**PcP**	**15 19 15.7**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=132,slow=2.3,SNR=6.4						
SEY				LR	LR	15 24 52.8	
	comp=Z,92nm,18.4s,baz=5.5,slow=40						
MA2	**Magadan**	**22.35**	**304**	⇓*e*P	**P**	**15 15 23.9**	**+1.9**
MA2				pmax	pmax		
	comp=Z,16nm,1.7s						
P33M	**Teslin, Yukon**	**22.56**	**54**	P	**P**	**15 15 23.9**	**-0.5**
P33M				IAmb	IAmb	15 15 38.4	
	comp=Z,17nm,1.4s						
DLBC	**Dease Lake**	**23.98**	**58**	P	**P**	**15 15 40.8**	**+2.5**
	comp=Z,3.6nm,0.6s,baz=276,slow=14,SNR=7.2						
DLBC	**Dease Lake**	**23.98**	**58**	IAmb	IAmb	15 16 02.1	
	comp=Z,26nm,1.4s						
INK	**Inuvik**	**24.18**	**34**	P	**P**	**15 15 40.2**	**+0.3**
	comp=Z,2.5nm,0.4s,baz=241,slow=7.9,SNR=25						
INK	**Inuvik**	**24.18**	**34**	P	**P**	**15 15 40.1**	**+0.3**
A36M	**Sachs Harbour**	**28.17**	**28**	P	**P**	**15 16 16.5**	**+0.7**
A36M					**PcP**	**15 19 29.4**	**+1.0**
YKA	**Yellowknife Ar**	**31.25**	**48**	P	**P**	**15 16 43.9**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=272,slow=7.9,SNR=17						
YKA				PcP	**PcP**	**15 19 37.2**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=283,slow=2.7,SNR=7.5						
YKA				ScP	**ScP**	**15 23 15.6**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=281,slow=3.0,SNR=3.7						
YKA				LR	LR	15 30 08.3	
	comp=Z,117nm,21.6s,baz=295,slow=38						
YKA	**Yellowknife Ar**	**31.25**	**48**	*ce*P	**P**	**15 16 44.0**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAJ	**Asahikawa**	**31.40**	**274**	LR	LR	15 27 22.6	
	comp=Z,79nm,21.7s,baz=135,slow=32						
TIXI	**Tiksi**	**32.37**	**329**	P	**P**	**15 16 52.1**	**-0.8**
	comp=Z,0.4nm,0.2s,baz=90,slow=5.1,SNR=1.9						
TIXI				PcP	**PcP**	**15 19 39.1**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=129,slow=4.4,SNR=6.7						
TIXI				LR	LR	15 29 46.8	
	comp=Z,55nm,20.6s,baz=210,slow=36						
TIXI	**Tiksi**	**32.37**	**329**	⇑*e*P	**P**	**15 16 53.6**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.7s						
TIXI	**Tiksi**	**32.37**	**329**		**PcP**	**15 19 39.3**	**-0.1**
YAK	**Yakutsk**	**32.49**	**311**	LR	LR	15 31 28.4	
	comp=Z,52nm,19.1s,baz=83,slow=39						
YAK	**Yakutsk**	**32.49**	**311**	⇑*e*P	**P**	**15 16 54.3**	**+0.3**
YAK				pmax	pmax		
	comp=Z,15nm,2.0s						
YBH	**Yreka Blue Hor**	**34.11**	**88**	LR	LR	15 28 43.3	
	comp=Z,128nm,18.7s,baz=288,slow=32						
NEW	**Newport**	**34.16**	**74**	P	**P**	**15 17 11.7**	**+2.8**
	comp=Z,1.9nm,0.6s,baz=288,slow=13,SNR=4.1						
NEW				LR	LR	15 29 52.5	
	comp=Z,74nm,18.6s,baz=312,slow=34						
NEW	**Newport**	**34.16**	**74**	P	**P**	**15 17 09.9**	**+1.0**
NEW				IAmb	IAmb	15 17 26.8	
	comp=Z,5.6nm,0.8s						
KLR	**Kul'dur**	**35.47**	**289**	P	**P**	**15 17 18.6**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=63,slow=4.5,SNR=6.3						
KLR				LR	LR	15 32 36.5	
	comp=Z,55nm,19.1s,baz=82,slow=38						
KLR	**Kul'dur**	**35.47**	**289**	⇑*e*P	**P**	**15 17 18.5**	**-1.6**
KLR				pmax	pmax		
	comp=Z,22nm,2.7s						
ZEA	**Zeya**	**36.12**	**298**	*e*P	**P**	**15 17 25.9**	**+0.4**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**36.57**	**216**	T	T	15 56 03.7	
	baz=21,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**36.58**	**216**	T	T	15 56 24.8	
	baz=21,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**36.59**	**216**	T	T	15 56 29.7	
	baz=21,slow=75,SNR=29						
RES	**Resolute Bay**	**37.08**	**25**	PcP	**PcP**	**15 19 53.7**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=306,slow=0.6,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**37.77**	**216**	T	T	15 58 03.3	
	baz=23,slow=76,SNR=64						
H11S2	**WAKE ISLAND Hy**	**37.78**	**216**	T	T	15 57 57.0	
	baz=23,slow=76,SNR=68						
H11S3	**WAKE ISLAND Hy**	**37.78**	**216**	T	T	15 58 18.3	
	baz=23,slow=76,SNR=28						
USRK	**Ussuriysk Ar.**	**37.84**	**281**	P	**P**	**15 17 38.8**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=59,slow=8.3,SNR=5.0						
USRK	**Ussuriysk Ar.**	**37.84**	**281**	P	**P**	**15 17 38.5**	**-1.8**
EUNU	**Eureka**	**38.27**	**16**	P	**P**	**15 17 44.5**	**+0.9**
EUNU				IAmb	IAmb	15 17 45.6	
	comp=Z,9.3nm,1.4s						
MCMT	**McKenzie Canyo**	**38.43**	**77**	P	**P**	**15 17 45.8**	**+0.2**
MJAR	**Matsushiro Arr**	**38.56**	**267**	P	**P**	**15 17 46.9**	**+0.5**
	comp=Z,2.2nm,0.4s,baz=50,slow=5.6,SNR=6.7						
MJAR				LR	LR	15 37 21.0	
	comp=Z,12nm,18.4s,baz=56,slow=42						
MJAR	**Matsushiro Arr**	**38.56**	**267**	P	**P**	**15 17 47.7**	**+1.3**
MJAR				pmax	pmax		
	comp=Z,12nm,1.5s						
MJAR	**Matsushiro Arr**	**38.56**	**267**	P	**P**	**15 17 47.7**	**+1.3**
MJAR				IAmb	IAmb	15 18 03.4	
	comp=Z,12nm,1.5s						
MAJO	**Matsushiro**	**38.56**	**267**	⇑*e*P	**P**	**15 17 48.1**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,54nm,2.3s						
MAJO	**Matsushiro**	**38.56**	**267**	P	**P**	**15 17 47.2**	**+0.8**
MAT	**Matsushiro**	**38.56**	**267**	P	**P**	**15 17 46.9**	**+0.5**
MJB9	**Matsu-Tunnel**	**38.56**	**267**	P	**P**	**15 17 47.2**	**+0.8**
NVAR	**Mina Array Bea**	**38.79**	**89**	P	**P**	**15 17 50.6**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=297,slow=7.4,SNR=4.8						
NVAR				ScP	**ScP**	**15 23 44.5**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=299,slow=3.7,SNR=4.6						
ELK	**Elko**	**39.28**	**84**	P	**P**	**15 17 54.4**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=297,slow=9.0,SNR=4.3						
ELK				LR	LR	15 31 38.0	
	comp=Z,140nm,19.8s,baz=317,slow=32						
JGF	**Kuroka**	**39.69**	**266**	P	**P**	**15 17 56.2**	**+0.3**
JGF				IAmb	IAmb	15 17 58.9	
	comp=Z,9.6nm,0.9s						
BW06	**Boulder Array**	**41.56**	**78**	P	**P**	**15 18 11.8**	**+0.3**
BW06				IAmb	IAmb	15 18 26.4	
	comp=Z,8.7nm,1.5s						
PD31	**Pinedale Array**	**41.56**	**78**	P	**P**	**15 18 12.0**	**+0.5**
PDAR	**Pinedale Array**	**41.56**	**78**	P	**P**	**15 18 12.2**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=297,slow=4.6,SNR=11						
PDAR	**Pinedale Array**	**41.56**	**78**	P	**P**	**15 18 11.8**	**+0.3**
FCC	**Fort Churchill**	**41.96**	**49**	P	**P**	**15 18 15.1**	**+0.8**
FCC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
FCC	**Fort Churchill**	**41.96**	**49**	P	**P**	**15 18 15.1**	**+0.8**
FCC				IAmb	IAmb	15 18 16.3	
	comp=Z,9.9nm,0.8s						
HIA	**Hailar**	**42.33**	**295**	P	**P**	**15 18 16.9**	**-0.6**
HIA				pmax	pmax		
	comp=Z,16nm,0.8s						
HIA	**Hailar**	**42.33**	**295**	P	**P**	**15 18 16.9**	**-0.6**
HIA				IAmb	IAmb	15 18 17.8	
	comp=Z,16nm,0.8s						
KSRS	**Korea Array**	**44.31**	**276**	P	**P**	**15 18 33.1**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=57,slow=7.1,SNR=7.5						
KSRS				LR	LR	15 38 18.4	
	comp=Z,18nm,18.2s,baz=50,slow=38						
JNU	**Nakatsue**	**45.33**	**269**	LR	LR	15 36 57.8	
	comp=Z,45nm,21.1s,baz=150,slow=35						
NOR	**Nord**	**45.82**	**5**	*e*P	**P**	**15 18 45.1**	**+0.2**
B35A	**Bob, Littlefor**	**47.48**	**62**	P	**P**	**15 18 57.8**	**-0.6**
B35A				IAmb	IAmb	15 19 25.1	
	comp=Z,11nm,1.2s						
ANMO	**Albuquerque**	**48.31**	**84**	LR	LR	15 36 23.1	
	comp=Z,48nm,21.5s,baz=230,slow=32						
ECSD	**EROS Data Cent**	**48.61**	**69**	P	**P**	**15 19 06.7**	**-0.5**
ECSD				IAmb	IAmb	15 19 15.5	
	comp=Z,5.1nm,1.2s						
EYMN	**Ely**	**48.94**	**61**	P	**P**	**15 19 10.2**	**+0.6**
FRB	**Frobisher Bay**	**49.83**	**35**	P	**P**	**15 19 15.9**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=328,slow=9.8,SNR=3.5						
FRB	**Frobisher Bay**	**49.83**	**35**	P	**P**	**15 19 16.0**	**-0.1**
SPITS	**Spitsbergen Ar**	**49.88**	**358**	P	**P**	**15 19 16.2**	**-0.2**
SPITS				pmax	pmax		
	comp=Z,58nm,1.5s						
SPB2	**Spitsbergen Ar**	**49.89**	**358**	P	**P**	**15 19 16.2**	**-0.2**
ULN	**Ulaanbaatar**	**50.08**	**300**	⇓*e*P	**P**	**15 19 18.7**	**+0.2**
ULN				pmax	pmax		
	comp=Z,14nm,2.5s						
ULN	**Ulaanbaatar**	**50.08**	**300**	P	**P**	**15 19 18.2**	**-0.3**
ULN				IAmb	IAmb	15 19 45.1	
	comp=Z,3.8nm,1.3s		

comp=Z,3.0nm,0.8s
WVT Waverly 58.68 70 P **P 15 20 20.5 -0.4**
WVT pmax pmax
comp=Z,4.0nm,1.2s
WVT Waverly 58.68 70 P **P 15 20 20.5 -0.4**
WVT IAmb IAmb 15 20 35.0
comp=Z,3.5nm,1.2s
GTA Gaotai 59.58 296 *e*P **P 15 20 27.1 -0.2**
GTA pP pP 15 20 38.3 -1.6
GTA pmax pmax
comp=Z,3.0nm,1.2s
LZH Lanzhou 59.63 291 ‖P **P 15 20 28.6 +0.9**
LZH pP pP 15 20 38.5 -1.8
LZH pmax pmax
comp=Z,17nm,1.4s
LMQ La Malbaie 59.98 50 P **P 15 20 29.5 -0.3**
D62A Allapoint, AII 60.92 50 P **P 15 20 37.0 +0.9**
FPAL Fort Paine 61.09 70 P **P 15 20 36.9 -0.6**
FPAL IAmb IAmb 15 20 50.4
comp=Z,10nm,1.0s
G62A West of Eustis 61.56 52 P **P 15 20 41.4 +0.8**
KURK Kurchatov 61.80 317*c i*P **P 15 20 41.7 -0.3**
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 61.80 317 P **P 15 20 41.5 -0.5**
KURK IAmb IAmb 15 20 43.0
comp=Z,5.4nm,0.8s
KURBB Kurchatov Arra 61.91 317 P **P 15 20 42.6 -0.2**
comp=Z,3.6nm,0.7s,baz=45,slow=7.5,SNR=42
KURBB PcP **PcP 15 21 23.3 +0.2**
comp=Z,0.8nm,0.5s,baz=34,slow=4.1,SNR=7.3
KURBB Kurchatov Arra 61.91 317 P **P 15 20 42.1 -0.7**
F64A Sherman 62.14 50 P **P 15 20 44.5 +0.1**
BATG Bathurst New B 62.16 48 P **P 15 20 44.9 +0.3**
WMQ Urumqi 62.79 307 *e*P **P 15 20 49.3 +0.4**
WMQ sP sP 15 21 05.3 -1.3
WMQ pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 63.15 312 *i*P **P 15 20 50.2 -0.9**
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 63.15 312 P **P 15 20 50.6 -0.5**
MKAR Makanchi Array 63.15 312 P **P 15 20 50.5 -0.7**
comp=Z,1.2nm,0.7s,baz=52,slow=6.5,SNR=20
MKAR Makanchi Array 63.15 312 P **P 15 20 50.3 -0.9**
BRVK Borovoye 63.25 324 P **P 15 20 51.3 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 63.25 324 P **P 15 20 51.3 -0.4**
BRVK IAmb IAmb 15 20 52.6
comp=Z,2.7nm,0.8s
MAKZ Makanchi 63.28 313 P **P 15 20 51.3 -0.7**
MAKZ pmax pmax
comp=Z,2.0nm,1.1s
MAKZ Makanchi 63.28 313 P **P 15 20 51.3 -0.7**
LMN Caledonia Moun 63.80 48 P **P 15 20 55.6 +0.2**
ARU Arti 64.32 332 P **P 15 20 58.1 -0.5**
comp=Z,1.9nm,0.5s,baz=29,slow=5.0,SNR=13
ARU Arti 64.32 332*d i*P **P 15 20 57.8 -0.8**
ARU *PP **pP 15 21 10.8 -0.6**
ARU 15 21 29.8
ARU 15 23 16.1
ARU S **S 15 29 34.2 +1.2**
ARU SS **SS 15 33 37.1 -5.0**
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 64.32 332 P **P 15 20 58.1 -0.5**
ARU IAmb IAmb 15 20 59.7
comp=Z,7.7nm,0.8s
GOMU GeErMu 64.64 297 P **P 15 21 01.8 +0.3**
GOMU pP pP 15 21 05.3 -9.0
GOMU sP sP 15 21 09.4 -10
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU pmax pmax
comp=Z,130nm,5.7s
KIRV Kirov 64.82 338 LR LR 15 52 45.5
comp=Z,44nm,18.2s,baz=29,slow=39
GYA Guiyang 64.88 281 ⇑P **P 15 21 03.8 +0.9**
GYA pmax pmax
comp=Z,15nm,1.0s
FIA1 FINESS Array S 65.95 351 P **P 15 21 08.1 -1.0**
FINES FINESS Array B 65.95 351 P **P 15 21 08.2 -0.8**
comp=Z,1.6nm,0.4s,baz=12,slow=7.1,SNR=20
FINES PcP **PcP 15 21 39.0 -0.5**
comp=Z,1.1nm,0.4s,baz=42,slow=4.2,SNR=6.1
FINES LR LR 15 52 00.7
comp=Z,32nm,18.1s,baz=322,slow=38
FINES FINESS Array B 65.95 351 P **P 15 21 07.7 -1.4**
NC204 NORSAR Array S 66.94 359 P **P 15 21 15.2 -0.6**
NC303 NORSAR Array S 66.98 359 P **P 15 21 15.2 -0.6**
NC303 IAmb IAmb 15 21 15.2
comp=Z,14nm,1.2s
NC405 NORSAR Array S 67.09 358 P **P 15 21 15.0 -1.4**
NB201 NORSAR Array S 67.16 359 P **P 15 21 16.5 -0.5**
NB201 IAmb IAmb 15 21 20.2
comp=Z,3.9nm,0.7s
NB2 NORSAR Subarra 67.17 359 P **P 15 21 16.3 -0.7**
comp=Z,2.6nm,0.6s,baz=1.3,slow=6.5
NOA NORSAR Array B 67.17 359 P **P 15 21 16.4 -0.6**
comp=Z,1.3nm,0.6s,baz=24,slow=6.5,SNR=9.2
NAO01 NORSAR Array S 67.37 359 P **P 15 21 18.7 +0.5**
PZH PanZhiHua 67.80 285 P **P 15 21 22.1 +0.5**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,90nm,3.9s
KMI Kunming 68.23 283 ⇑P **P 15 21 24.5 0.0**
KMI pmax pmax
comp=Z,17nm,1.0s
BOOM Boomskoye usch 69.35 313 P **P 15 21 31.2 +0.1**
BOOM pmax pmax
comp=Z,13nm,1.2s
BOOM Boomskoye usch 69.35 313 P **P 15 21 31.2 +0.1**
BOOM IAmb IAmb 15 21 46.7
comp=Z,12nm,1.2s
AAK Ala-Archa 69.87 314*d i*P **P 15 21 34.7 +0.4**
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 69.87 314 P **P 15 21 34.2 -0.2**
AAK IAmb IAmb 15 21 35.7
comp=Z,13nm,1.4s
AB31 Akbulak array 70.04 327 *i*P **P 15 21 34.3 -0.7**
ABKAR Akbulak array 70.04 327 P **P 15 21 34.7 -0.3**
ABKAR IAmb IAmb 15 21 35.4
comp=Z,3.8nm,0.5s
SLVN Son La 70.37 280 P **P 15 21 37.4 -0.2**
SLVN IAmb IAmb 15 21 39.1
comp=Z,4.7nm,0.7s
OBN Obninsk 70.67 344 *e*P **P 15 21 39.9 +1.2**
OBN *e* 15 21 59.8
OBN *e* 15 24 14.3
OBN pmax pmax
comp=Z,6.0nm,1.3s
BELG Belogornoye 70.87 336*de*P **P 15 21 39.6 -0.3**
BELG pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 71.21 317 P **P 15 21 41.8 -0.5**
KKAR Karatay Array 71.21 317 P **P 15 21 41.8 -0.5**
KSH Kashi 71.70 311 P **P 15 21 48.8 +3.4**
KSH pP pP 15 21 58.4 +0.1
KSH sP PcP 15 22 03.9 -0.4
KSH pmax pmax
comp=Z,9.0nm,0.5s
PABE Paberze 72.01 351 P **P 15 21 46.5 -0.2**
ESK Eskdalemuir 72.47 7 P **P 15 21 49.6 +0.1**
ESK pmax pmax
comp=Z,24nm,1.3s
ESK Eskdalemuir 72.47 7 P **P 15 21 49.6 +0.1**
FAKI Fak Fak 72.57 241 P **P 15 21 50.2 -0.5**
FAKI IAmb IAmb 15 21 51.2
comp=Z,12nm,0.8s
BTK Batken 73.58 315 P **P 15 21 56.4 -0.1**
BTK pmax pmax
comp=Z,5.0nm,0.9s
BTK Batken 73.58 315 P **P 15 21 56.4 -0.1**
BTK IAmb IAmb 15 21 57.3
comp=Z,4.7nm,0.9s
UBPT Khong Chiam 74.02 274 P **P 15 21 59.3 0.0**
UBPT IAmb IAmb 15 22 15.2
comp=Z,8.8nm,1.3s
CHTO Chiang Mai 75.29 282 P **P 15 22 06.6 -0.1**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 75.29 282 P **P 15 22 06.6 -0.1**
CHTO IAmb IAmb 15 22 07.6
comp=Z,6.1nm,0.6s
CHGR Chuyangaron 75.46 315 P **P 15 22 07.5 0.0**
CHGR pmax pmax
comp=Z,18nm,0.6s
CHGR Chuyangaron 75.46 315 P **P 15 22 07.5 0.0**
CM31 Chiang Mai Arr 75.57 281 P **P 15 22 08.7 +0.5**
CM31 IAmb IAmb 15 22 09.7
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 75.57 281 P **P 15 22 08.8 +0.5**
comp=Z,9.3nm,0.7s,baz=26,slow=6.7,SNR=85
CMAR Chiang Mai Arr 75.57 281 P **P 15 22 08.4 +0.2**
AKASG Malin Array Be 76.10 347 P **P 15 22 09.5 -1.3**
comp=Z,2.1nm,0.5s,baz=14,slow=5.4,SNR=13
AKBB Malin Array Si 76.10 347‖*e*P **P 15 22 10.1 -0.7**
AKBB pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 76.10 347 P **P 15 22 09.1 -1.7**
AKBB IAmb IAmb 15 22 10.8
comp=Z,9.4nm,1.4s
CLL Collm 76.89 357 P **P 15 22 15.2 0.0**
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 76.89 357 P **P 15 22 15.2 0.0**
CLL IAmb IAmb 15 22 20.6
comp=Z,2.8nm,0.9s
NIL Nilore 77.73 310 P **P 15 22 20.6 +0.3**
NIL pmax pmax
comp=Z,11nm,0.7s
NIL Nilore 77.73 310 P **P 15 22 20.6 +0.3**
VRAC Vranov 78.73 355 LR LR 15 57 56.9
comp=Z,25nm,18.7s,baz=322,slow=36
GERES GERESS Array B 79.33 357 P **P 15 22 28.6 -0.2**
comp=Z,0.5nm,0.4s,baz=21,slow=5.7,SNR=6.2
GERES GERESS Array B 79.33 357 P **P 15 22 28.9 0.0**
GERES GERESS Array B 79.33 357 P **P 15 22 28.9 0.0**
BUR08 Bucovina Ar. S 79.63 349 P **P 15 22 30.3 -0.3**
BUR08 IAmb IAmb 15 22 33.7
comp=Z,7.6nm,1.4s
BURAR Bucovina Array 79.65 349 P **P 15 22 30.3 -0.4**
KBZ Khabaz 80.09 336 P **P 15 22 33.2 +0.3**
comp=Z,2.8nm,0.9s,baz=64,slow=7.4,SNR=4.3
MTN Manton Dam 81.50 236 P **P 15 22 40.0 -0.7**
WRA Warramunga Arr 85.97 230 P **P 15 23 02.3 -1.3**
comp=Z,1.2nm,0.7s,baz=32,slow=5.4,SNR=8.8
WRA Warramunga Arr 85.97 230 *i*P **P 15 23 02.4 -1.2**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 85.97 230 IAmb IAmb 15 23 07.3
comp=Z,0.2nm,0.9s
BRTR Keskin Array B 86.01 341 LR LR 16 11 29.8
comp=Z,26nm,18.7s,baz=181,slow=43
PSI Prapat 87.73 272 P **P 15 23 12.3 -0.2**
comp=Z,6.4nm,0.5s,baz=356,slow=5.6,SNR=10.0
RPSI Rantau Prapat 87.81 272 P **P 15 23 12.3 -0.4**
ESDC Sonseca Array 87.91 10 P **P 15 23 11.8 -1.1**
comp=Z,1.6nm,0.7s,baz=356,slow=5.6,SNR=8.4
AS31 Alice Springs 89.38 229 P **P 15 23 18.9 -0.9**
AS31 IAmb IAmb 15 23 20.2
comp=Z,1.9nm,0.6s
ASAR Alice Springs 89.38 229 P **P 15 23 19.5 -0.3**
comp=Z,5.4nm,0.6s,baz=24,slow=4.9,SNR=177
ASAR Alice Springs 89.38 229 P **P 15 23 19.2 -0.6**
EIL Elat 95.39 337 LR LR 16 13 07.5
comp=Z,28nm,18.1s,baz=275,slow=40
H03N2 Juan Fernandez 116.89 110 T T 17 37 07.7
baz=317,slow=78,SNR=5.8
H03N1 Juan Fernandez 116.90 110 T T 17 37 16.2
baz=317,slow=78,SNR=16
H03N3 Juan Fernandez 116.90 110 T T 17 37 14.3
baz=317,slow=78,SNR=3.9

MOS ***18*** *15:16:38.5±0.8, 50°.57N×157°.62E, h72km, mb4.6/1, Error ellipse: s-maj=25.4km s-min=4.7km az=80.5*
KRSC ***18*** *15:16:39.3±1.7, 50°.78N×157°.38E, h90km±22km, ML4.2*
IDC ***18*** *15:16:43.4±2.4, 51°.12N×156°.73E, h114km±20km, mb3.3/10, mb1 3.6/11, mb1mx3.4/45, mbtmp3.6/11, Error ellipse: s-maj=29.1km s-min=14.3km az=153.0*
ISC 18 15:16:40.7±0.9, 50°.78N±0°.08×157°.30E±0°.08, h88km±8km, n66, σ1§08/90, mb3.8/12, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.76**	**263**	*e*P	**Pn**	**15 16 57.9**	**+0.4**
SKR				*e*S	**Sn**	**15 17 10.3**	**+0.2**
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				smax	smax		
	comp=E,1μm,0.3s						
SKR				smax	smax		
	comp=N,1μm,0.4s						
SKR	**Severo-Kuril's**	**0.76**	**263**	*e*P	**Pn**	**15 16 57.8**	**+0.3**
SKR				*e*S	**Sn**	**15 17 10.2**	**+0.2**
PAU	**Pauzhetka**	**0.76**	**336**	PN	**Pn**	**15 16 57.4**	**-0.2**
PAU				S	**Sn**	**15 17 09.5**	**-0.6**
PAU	**Pauzhetka**	**0.76**	**336**	*e*P	**Pn**	**15 16 57.4**	**-0.2**
PAU				*e*S	**Sn**	**15 17 09.5**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.15**	**25**	PN	**Pn**	**15 17 02.4**	**+0.5**
KDTR				S	**Sn**	**15 17 18.0**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.15**	**25**	*e*P	**Pn**	**15 17 02.4**	**+0.5**
KDTR				*e*S	**Sn**	**15 17 18.0**	**+0.1**
MTVR	**Mutnovka**	**1.80**	**18**	PN	**Pn**	**15 17 10.9**	**+0.6**
MTVR				S	**Sn**	**15 17 33.2**	**+0.4**
MTVR	**Mutnovka**	**1.80**	**18**	*e*P	**Pn**	**15 17 10.9**	**+0.6**
MTVR				*e*S	**Sn**	**15 17 33.2**	**+0.4**
RUS	**Russkaya**	**1.82**	**24**	PN	**Pn**	**15 17 10.6**	**+0.1**
RUS				S	**Sn**	**15 17 32.4**	**-0.8**
RUS	**Russkaya**	**1.82**	**24**	*e*P	**Pn**	**15 17 10.6**	**+0.1**
RUS				*e*S	**Sn**	**15 17 32.4**	**-0.8**
GRL	**Gorelyy**	**1.84**	**15**	PN	**Pn**	**15 17 11.6**	**+0.7**
GRL				S	**Sn**	**15 17 34.7**	**+0.9**
GRL	**Gorelyy**	**1.84**	**15**	*e*P	**Pn**	**15 17 11.6**	**+0.7**
GRL				*e*S	**Sn**	**15 17 34.7**	**+0.9**
KRMR	**Karymshinskiy**	**2.12**	**14**	PN	**Pn**	**15 17 14.6**	**+0.2**
KRMR	**Karymshinskiy**	**2.12**	**14**	*e*P	**Pn**	**15 17 14.6**	**+0.2**
PEA0B	**Petropavlovsk-**	**2.35**	**6***c i*P	N	**Pn**	**15 17 17.5**	**0.0**
PETK	**Petropavlovsk-**	**2.35**	**6**	P	**Pn**	**15 17 16.6**	**-0.8**
	comp=N,7.3nm,0.3s,baz=180,slow=13,SNR=142						
PETK				S	**Sn**	**15 17 44.3**	**-1.2**
	comp=N,3.0nm,0.3s,baz=202,slow=14,SNR=5.2						
PET	**Petropavlovsk**	**2.40**	**20**	*e*P	**Pn**	**15 17 18.8**	**+0.7**
PET				*e*S	**Sn**	**15 17 47.3**	**+0.5**
PET				pmax	pmax		
	comp=Z,50nm,0.5s						
PET				smax	smax		
	comp=N,282nm,0.6s						
PET				smax	smax		
	comp=E,269nm,0.7s						
PET	**Petropavlovsk**	**2.40**	**20**	*e*P	**Pn**	**15 17 18.1**	**0.0**
PET				*e*S	**Sn**	**15 17 47.0**	**+0.2**
DALK	**Dalny**	**2.43**	**21**	PN	**Pn**	**15 17 19.2**	**+0.7**
DALK				S	**Sn**	**15 17 48.5**	**+1.0**
DALK	**Dalny**	**2.43**	**21**	*e*P	**Pn**	**15 17 19.2**	**+0.7**
DALK				*e*S	**Sn**	**15 17 48.5**	**+1.0**
UGLR	**Uglovaya**	**2.61**	**21**	PN	**Pn**	**15 17 22.4**	**+1.3**
UGLR				S	**Sn**	**15 17 51.5**	**-0.5**
UGLR	**Uglovaya**	**2.61**	**21**	*e*P	**Pn**	**15 17 22.4**	**+1.3**
UGLR				*e*S	**Sn**	**15 17 51.5**	**-0.5**
AVH	**Avacha**	**2.65**	**19**	PN	**Pn**	**15 17 22.9**	**+1.4**
AVH				S	**Sn**	**15 17 55.2**	**+2.4**
AVH	**Avacha**	**2.65**	**19**	*e*P	**Pn**	**15 17 22.9**	**+1.4**
AVH				*e*S	**Sn**	**15 17 55.2**	**+2.4**
KOK	**Koryaka**	**2.65**	**18**	PN	**Pn**	**15 17 23.1**	**+1.5**
KOK	**Koryaka**	**2.65**	**18**	*e*P	**Pn**	**15 17 23.1**	**+1.5**
SMAR	**Somma**	**2.66**	**20**	PN	**Pn**	**15 17 22.9**	**+1.1**
SMAR	**Somma**	**2.66**	**20**	*e*P	**Pn**	**15 17 22.9**	**+1.1**
KRER	**Koryakskii**	**2.69**	**19**	PN	**Pn**	**15 17 23.3**	**+1.2**
KRER				S	**Sn**	**15 17 54.5**	**+0.6**
KRER	**Koryakskii**	**2.69**	**19**	*e*P	**Pn**	**15 17 23.3**	**+1.2**
KRER				*e*S	**Sn**	**15 17 54.5**	**+0.6**
SDLR	**Sedlovina**	**2.69**	**21**	PN	**Pn**	**15 17 22.9**	**+0.8**
SDLR				S	**Sn**	**15 17 53.7**	**-0.2**
SDLR	**Sedlovina**	**2.69**	**21**	*e*P	**Pn**	**15 17 22.9**	**+0.8**
SDLR				*e*S	**Sn**	**15 17 53.7**	**-0.2**
SPN	**Mys Shipunski**	**2.87**	**35**	PN	**Pn**	**15 17 25.1**	**+0.7**
SPN				S	**Sn**	**15 17 57.1**	**-1.0**
SPN	**Mys Shipunski**	**2.87**	**35**	*e*P	**Pn**	**15 17 25.1**	**+0.7**
SPN				*e*S	**Sn**	**15 17 57.1**	**-1.0**
GNL	**Ganaly**	**2.95**	**7**	PN	**Pn**	**15 17 25.8**	**+0.2**
GNL	**Ganaly**	**2.95**	**7**	*e*P	**Pn**	**15 17 25.8**	**+0.2**
KII	**Karymskiy**	**3.52**	**21**	PN	**Pn**	**15 17 35.3**	**+2.0**
KII				S	**Sn**	**15 18 15.2**	**+1.3**
KII	**Karymskiy**	**3.52**	**21**	*e*P	**Pn**	**15 17 35.3**	**+2.0**
KII				*e*S	**Sn**	**15 18 15.2**	**+1.3**
MKZ	**Mys Kozlova**	**4.65**	**34**	PN	**Pn**	**15 17 47.9**	**-0.5**
MKZ				S	**Sn**	**15 18 37.5**	**-3.6**
MKZ	**Mys Kozlova**	**4.65**	**34**	*e*P	**Pn**	**15 17 47.9**	**-0.5**
MKZ				*e*S	**Sn**	**15 18 37.5**	**-3.6**
TUMR	**Tumrok**	**4.83**	**20**	PN	**Pn**	**15 17 52.6**	**+1.5**
TUMR	**Tumrok**	**4.83**	**20**	*e*P	**Pn**	**15 17 52.6**	**+1.5**
KMNR	**Kamenistaya**	**5.29**	**18**	PN	**Pn**	**15 17 57.2**	**-0.1**
KMNR	**Kamenistaya**	**5.29**	**18**	*e*P	**Pn**	**15 17 57.2**	**-0.1**
KBTR	**Krutoberegovo**	**6.36**	**29**	PN	**Pn**	**15 18 11.2**	**-0.5**
KBTR	**Krutoberegovo**	**6.36**	**29**	*e*P	**Pn**	**15 18 11.2**	**-0.5**
ERM	**Erimo**	**13.10**	**233**‖*e*PN		**Pn**	**15 19 43.1**	**0.0**
BILL	**Bilibino**	**17.87**	**11**	*e*P	**P**	**15 20 42.1**	**-0.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.4s						
ILAR	**Eielson Array**	**31.69**	**42**	P	**P**	**15 22 55.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=268,slow=5.2,SNR=6.1						
ILAR	**Eielson Array**	**31.69**	**42**	P	**P**	**15 22 55.0**	**-0.5**
ULN	**Ulaanbaatar**	**32.37**	**285**‖*e*P		P	15 22 58.3	-3.5
ULN				pmax	pmax		
	comp=Z,17nm,2.9s						
YKA	**Yellowknife Ar**	**46.05**	**40**	P	**P**	**15 24 54.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=298,slow=7.7,SNR=11						
KURK	**Kurchatov**	**47.50**	**302**	P	P	15 25 03.2	-3.4
KURBB	**Kurchatov Arra**	**47.59**	**302**	P	P	15 25 03.2	-4.1
	comp=Z,0.2nm,0.5s,baz=60,slow=7.2,SNR=1.8						
MKAR	**Makanchi Array**	**47.61**	**296**	P	P	15 25 02.8	-4.7
	comp=Z,0.2nm,0.4s,baz=66,slow=7.5,SNR=8.0						
CMAR	**Chiang Mai Arr**	**55.99**	**257**	P	**P**	**15 26 09.2**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=29,slow=7.0,SNR=12						
NVAR	**Mina Array Bea**	**58.20**	**67**	P	**P**	**15 26 27.4**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=300,slow=6.9,SNR=5.5						
PDAR	**Pinedale Array**	**60.20**	**58**	P	**P**	**15 26 40.1**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=323,slow=2.5,SNR=10						
KIV	**Kislovodsk**	**69.91**	**316**	*e*P	**P**	**15 27 41.1**	**-1.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TXAR	**Lajitas Array**	**73.17**	**64**	P	**P**	**15 28 02.9**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=299,slow=4.8,SNR=14						
WRA	**Warramunga Arr**	**73.26**	**203**	P	**P**	**15 28 02.2**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=17,slow=6.3,SNR=5.5						
WRA	**Warramunga Arr**	**73.26**	**203**	*i*P	**P**	**15 28 04.0**	**+1.7**
ASAR	**Alice Springs**	**76.94**	**202**	P	**P**	**15 28 24.2**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=12,slow=5.3,SNR=6.6						
H03N2	**Juan Fernandez**	**135.96**	**89**	T	T	18 06 42.8	
	baz=314,slow=77,SNR=5.4						
H03N1	**Juan Fernandez**	**135.97**	**89**	T	T	18 06 42.4	
	baz=314,slow=77,SNR=14						
H03N3	**Juan Fernandez**	**135.98**	**89**	T	T	18 06 42.6	
	baz=314,slow=77,SNR=11						

IDC ***18*** *15:35:03.6±1.9, 19°.81S×67°.29E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/46, mbtmp3.7/7, MS3.6/6, Ms1 3.6/6, ms1mx3.0/74, Error ellipse: s-maj=59.5km s-min=26.9km az=44.0*
ISC 18 15:35:06.2±2.0, 19°.8S±0°.4×67°.3E±0°.3, h16km, n15, σ1§41/8, mb3.9/7, MS3.6/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.11**	**23**	T	T	15 52 03.6	
	baz=204,slow=75,SNR=28						
H08S2	**Diego Garcia H**	**13.12**	**23**	T	T	15 52 06.1	
	baz=204,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**13.13**	**23**	T	T	15 52 06.9	
	baz=204,slow=75,SNR=38						
PALK	**Pallekele**	**30.00**	**27**	LR	LR	15 50 16.4	
	comp=Z,58nm,20.2s,baz=334,slow=30						
LSZ	**Lusaka**	**37.49**	**271**	LR	LR	15 57 00.9	
	comp=Z,106nm,18.0s,baz=166,slow=35						
TSUM	**Tsumeb**	**46.70**	**262**	LR	LR	16 00 09.2	
	comp=Z,102nm,18.5s,baz=156,slow=32						
CMAR	**Chiang Mai Arr**	**49.12**	**41**	P	**P**	**15 43 54.5**	**+1.2**
	0.8nm,0.6s,baz=234,slow=8.6,SNR=9.6						
CMAR				LR	LR	16 03 02.0	
	comp=Z,22nm,19.8s,baz=180,slow=34						
ASAR	**Alice Springs**	**61.51**	**107**	P	**P**	**15 45 23.1**	**+0.3**
	0.6nm,0.7s,baz=268,slow=6.0,SNR=15						
ASAR				LR	LR	16 07 20.4	
	comp=Z,92nm,21.7s,baz=200,slow=32						
AAK	**Ala-Archa**	**62.50**	**6**	LR	LR	16 08 47.4	
	comp=Z,38nm,19.3s,baz=181,slow=32						
WRA	**Warramunga Arr**	**62.65**	**103**	P	**P**	**15 45 29.4**	**-1.0**
	0.7nm,0.9s,baz=257,slow=5.8,SNR=6.0						
MKAR	**Makanchi Array**	**67.68**	**11**	P	**P**	**15 46 01.7**	**-0.8**
	0.6nm,0.8s,baz=213,slow=5.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**75.01**	**11**	P	**P**	**15 46 45.5**	**-1.1**
	0.6nm,0.5s,baz=225,slow=3.9,SNR=2.8						
SONM	**Songino Array**	**75.94**	**26**	P	**P**	**15 46 52.4**	**+0.1**
	0.5nm,0.7s,baz=223,slow=7.1,SNR=3.3						
AKASG	**Malin Array Be**	**77.81**	**336**	P	**P**	**15 47 01.6**	**-0.9**
	0.9nm,0.7s,baz=155,slow=4.3,SNR=4.8						
TXAR	**Lajitas Array**	**167.46**	**321**	PKPab	**PKPab**	**15 56 19.8**	**+2.2**
	0.3nm,0.8s,baz=72,slow=2.9,SNR=3.9						

EAF ***18*** *15:41:41.3±2.8, 25°.89S×29°.10E, h0km±56km, MD4.2*
BUL 18 15:41:41.3±2.8, 25°.89S×29°.10E, h0km±56km, MD4.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.28**	**285**	*i*P	Pn	15 42 33.9	-0.2
LBTB				*i*Sg	Sg	15 43 23.9	-2.8
LBTB	**Lobatse**	**3.28**	**285**	*i*P	Pn	15 42 33.9	-0.2
LBTB				*i*Sg	Sg	15 43 23.9	-2.8
BOSA	**Boshof**	**4.36**	**231**	*i*P	Pn	15 42 50.3	+1.3
BOSA				*i*Sg	Sb	15 43 54.8	+2.6
BOSA	**Boshof**	**4.36**	**231**	*i*P	Pn	15 42 50.3	+1.3
BOSA				*i*Sg	Sb	15 43 54.8	+2.6
MATP	**Matopo**	**5.47**	**354**	*i*P	Pn	15 43 03.6	-0.6
MATP				*i*S	Sn	15 44 01.7	-6.2
MATP	**Matopo**	**5.47**	**354**	*i*P	Pn	15 43 03.6	-0.6
MATP				*i*S	Sn	15 44 01.7	-6.2

IDC ***18*** *15:41:51.3±1.4, 14°.59S×166°.76E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/34, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=49.7km s-min=26.2km az=124.0*
NEIC ***18*** *15:41:53.8±2.2, 14°.78S±0°.09×166°.8E±0°.2, h10km±1km, mb4.2/9, Error ellipse: s-maj=28.8km s-min=6.8km az=60.0*
NOU ***18*** *15:41:54.5, 14°.75S×166°.87E, h0km, MLv4.7/11, Vanuatu Islands*
ISC 18 15:41:54.2±1.6, 14°.8S±0°.1×166°.8E±0°.2, h10km, n31, σ1§66/20, mb4.2/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.76**	**149**		**Pg**	**15 42 09.0**	**+0.2**
SANVU				Sg	**Sg**	**15 42 18.4**	**-0.4**
SANVU	**Saraoutou**	**0.76**	**149**	P	**Pg**	**15 42 09.2**	**+0.3**
LIFNC	**LIFOU**	**5.96**	**176**	Pn	**Pn**	**15 43 23.7**	**+1.1**
KOUNC	**Koumac, New Ca**	**6.20**	**202**	P	**Pn**	**15 43 27.5**	**+1.6**
MARNC	**Mare, Loyalty**	**6.75**	**170**	Pn	**Pn**	**15 43 34.1**	**+0.7**
MARNC	**Mare, Loyalty**	**6.75**	**170**	P	**Pn**	**15 43 35.1**	**+1.7**
DZM	**Mont Dzumac**	**7.24**	**183**	Pn	**Pn**	**15 43 41.2**	**+0.9**
	2.1nm,0.3s,baz=309,slow=20,SNR=19						
DZM				Sn	**Sn**	**15 45 00.1**	**-2.6**
	0.5nm,0.3s,baz=113,slow=22,SNR=1.2						
DZM	**Mont Dzumac**	**7.24**	**183**		**Pn**	**15 43 41.0**	**+0.7**
DZM	**Mont Dzumac**	**7.24**	**183**	P	**Pn**	**15 43 42.2**	**+1.9**
NOUC	**Port Laguerre**	**7.28**	**184**	P	**Pn**	**15 43 42.9**	**+2.2**
ONTNC	**Ouen Toro**	**7.48**	**182**	Pn	**Pn**	**15 43 43.1**	**-0.3**
ONTNC	**Ouen Toro**	**7.48**	**182**	P	**Pn**	**15 43 46.0**	**+2.6**
OUENC	**Ouen Island, N**	**7.58**	**180**	Pn	Pn	15 43 43.3	-1.5
OUENC	**Ouen Island, N**	**7.58**	**180**	P	**Pn**	**15 43 47.4**	**+2.5**
PINNC	**Pines Island,**	**7.80**	**176**	P	**Pn**	**15 43 50.5**	**+2.7**
STKA	**Stephens Creek**	**28.60**	**229**	P	P	15 47 50

comp=Z,7.8nm,1.4s
WRA Warramunga Arr 31.37 256 P P 15 48 13.6 -1.8
comp=Z,0.4nm,0.6s,baz=82,slow=6.8,SNR=5.1
WRA Warramunga Arr 31.37 256 IAmb IAmb 15 48 15.2
comp=Z,0.3nm,1.5s
AS31 Alice Springs 32.22 249 P P 15 48 21.4 -1.6
ASAR Alice Springs 32.22 249 P P 15 48 21.5 -1.5
comp=Z,0.4nm,0.7s,baz=72,slow=9.5,SNR=10
VNDA Vanda 62.78 181 P **P** **15 52 19.7 +0.3**
VNDA IAmb IAmb 15 52 48.9
comp=Z,4.6nm,1.2s
QSPA South Pole Qui 75.23 180 P **P** **15 53 36.7 -0.4**
ILAR Eielson Array 86.73 18 P P 15 54 35.2 -2.8
comp=Z,0.7nm,0.6s,baz=239,slow=5.0,SNR=8.0
MKAR Makanchi Array 96.94 316 P P 15 55 24.5 -1.5
comp=Z,0.6nm,0.9s,baz=85,slow=6.9,SNR=2.3
ZALV Zalesovo Beam 97.18 324 P P 15 55 24.9 -1.9
comp=Z,0.3nm,0.3s,baz=94,slow=5.8,SNR=1.8
FINES FINESS Array B 125.51 338 PKP **PKPdf** **16 00 54.0 -1.5**
comp=Z,0.5nm,0.4s,baz=46,slow=4.0,SNR=4.7

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*IDC **18** 15:45:18.4±1.3, 5°.05S×133°.67E, h0km, mb4.0/1, mb1 3.9/7, mb1mx3.7/32, mbtmp3.8/7, ML3.7/6, MS2.9/3, Ms1 2.9/3, ms1mx2.5/61, Error ellipse: s-maj=37.8km s-min=22.1km az=70.0*
*NEIC **18** 15:45:19.4±1.8, 5°.04S±0°.08×133°.80E±0°.09, h11km±7km, mb4.2/4, Error ellipse: s-maj=13.1km s-min=10.9km az=71.0*
*DJA **18** 15:45:22.4±0.3, 5°.5S±5°.×13°.4E±°, h83km±22km, M4.1/6, mB4.5/1, mb4.4/6, MLv4.0/6, Mw(mB)3.7/1*
ISC 18 15:45:20.6±0.6, 5°.05S±0°.05×133°.84E±0°.07, h28km, n47, σ2§23/48, mb4.1/3, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.65**	**323**	P	**Pn**	**15 46 01.1**	**-0.4**
FAKI				S	**Sn**	**15 46 31.8**	**-0.9**
FAKI	**Fak Fak**	**2.65**	**323**		**Pn**	**15 46 01.1**	**-0.4**
FAKI	**Fak Fak**	**2.65**	**323**	P	**Pn**	**15 46 01.6**	**+0.1**
BNDI	**Bandanaira**	**3.96**	**277**	P	**Pn**	**15 46 22.7**	**+3.1**
BAKI	**Biak**	**4.45**	**31**	P	**Pn**	**15 46 25.4**	**-0.9**
SIJI	**Sorong**	**4.88**	**328**	Pn	**Pn**	**15 46 31.6**	**-0.7**
	2.0nm,0.3s,baz=254,slow=22,SNR=27						
SIJI				Sn	**Sn**	**15 47 23.0**	**-5.0**
	2.5nm,0.3s,baz=165,slow=22,SNR=2.1						
SIJI				LR	LR	15 48 33.7	
	comp=Z,74nm,19.4s,baz=220,slow=41						
SWI	**Sorong**	**4.89**	**328**	P	**Pn**	**15 46 32.5**	**+0.1**
JAY	**Jayapura**	**7.29**	**70**	Pn	**Pn**	**15 47 07.8**	**+2.4**
	0.9nm,0.3s,baz=316,slow=23,SNR=1.8						
JAY				Sn	**Sn**	**15 48 25.6**	**-1.9**
	0.7nm,0.3s,baz=151,slow=2.4,SNR=2.1						
JAY	**Jayapura**	**7.29**	**70**	P	**Pn**	**15 47 04.9**	**-0.6**
	0.0nm9.8nm,0.9s						
KDU	**Kakadu**	**7.71**	**190**	P	**Pn**	**15 47 14.6**	**+3.5**
DRS	**Darwin Rock St**	**7.89**	**201**	P	**Pn**	**15 47 17.7**	**+4.1**
MTN	**Manton Dam**	**8.20**	**199**		**Pn**	**15 47 18.9**	**+1.2**
MTN	**Manton Dam**	**8.20**	**199**	P	**Pn**	**15 47 21.3**	**+3.5**
SANI	**Sanana**	**8.39**	**291**	P	**Pn**	**15 47 20.8**	**+0.4**
	14nm,0.7s						
SANI	**Sanana**	**8.39**	**291**	P	**Pn**	**15 47 20.6**	**+0.2**
SOEI	**Soe**	**10.58**	**243**	Pn	**Pn**	**15 47 50.6**	**0.0**
KNRA	**Kununurra**	**11.68**	**205**		**Pn**	**15 48 07.0**	**+1.4**
KNRA	**Kununurra**	**11.68**	**205**	P	**Pn**	**15 48 07.5**	**+1.9**
COEN	**Coen**	**12.76**	**135**	Pn	**Pn**	**15 48 19.6**	**-0.8**
COEN	**Coen**	**12.76**	**135**	P	**Pn**	**15 48 19.8**	**-0.6**
PMG	**Port Moresby**	**13.90**	**109**	LR	LR	15 56 09.0	
	comp=Z,111nm,19.6s,baz=22,slow=46						
KAPI	**Kappang**	**14.04**	**270**	LR	LR	15 55 54.4	
	comp=Z,28nm,18.1s,baz=284,slow=46						
WB0	**Warramunga Arr**	**14.64**	**178**		**Pn**	**15 48 46.0**	**0.0**
WRAB	**Tennant Creek**	**14.80**	**178**	Pn	**Pn**	**15 48 49.0**	**+0.7**
WRAB	**Tennant Creek**	**14.80**	**178**	P	**Pn**	**15 48 49.1**	**+0.9**
WB2	**Warramunga Arr**	**14.81**	**178**	Pn	**Pn**	**15 48 47.6**	**-0.8**
WRA	**Warramunga Arr**	**14.81**	**178**	Pn	**Pn**	**15 48 47.6**	**-0.8**
	0.2nm,0.3s,baz=356,slow=14,SNR=12						
WRA				Sn	**Sn**	**15 51 24.6**	**-7.1**
	0.2nm,0.3s,baz=356,slow=24,SNR=4.1						
WRA	**Warramunga Arr**	**14.81**	**178**		**Pn**	**15 48 47.9**	**-0.5**
WR0	**Warramunga Arr**	**14.84**	**177**	Pn	**Pn**	**15 48 48.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**15.25**	**211**	Pn	**Pn**	**15 48 53.4**	**-0.7**
	0.5nm,0.3s,baz=40,slow=12,SNR=16						
FITZ				Sn	Sn	15 51 31.3	-11
	baz=198,slow=13						
QIS	**Mount Isa**	**16.40**	**161**	P	**P**	**15 49 12.3**	**+0.7**
MTSU	**Mount Surprise**	**16.55**	**143**	P	**Pn**	**15 49 11.4**	**+0.5**
AS31	**Alice Springs**	**18.51**	**180**	P	**P**	**15 49 34.8**	**-0.1**
ASAR	**Alice Springs**	**18.51**	**180**	P	**Pn**	**15 49 36.4**	**+1.2**
	0.5nm,0.3s,baz=8.4,slow=11,SNR=26						
ASAR				S	**Sn**	**15 52 55.4**	**-6.0**
	0.1nm,0.3s,baz=2.6,slow=26,SNR=3.0						
ASAR	**Alice Springs**	**18.51**	**180**	P	**P**	**15 49 35.2**	**+0.3**
CTA	**Charters Tower**	**19.22**	**142**	P	**Pn**	**15 49 46.5**	**+2.7**
	0.2nm,0.3s,baz=326,slow=13,SNR=1.9						
WRKA	**Warakurna**	**20.58**	**194**	P	Pn	15 50 00.1	+0.3
OOD	**Oodnadatta**	**22.69**	**176**	P	**P**	**15 50 21.9**	**+1.8**
QLP	**Quilpie**	**23.60**	**156**	P	**P**	**15 50 31.0**	**+1.6**
MULG	**Mulgathing**	**25.10**	**180**	P	**P**	**15 50 45.4**	**+2.3**
FORT	**Forrest**	**26.17**	**191**	P	**P**	**15 50 55.8**	**+3.0**
JHJ	**Hachijo jima 2**	**38.37**	**8**	LR	LR	16 05 51.1	
	comp=Z,2μm,19.9s,baz=48,slow=32						
YAK	**Yakutsk**	**66.96**	**358**	P	**P**	**15 56 11.8**	**+1.4**
MK31	**Makanchi Array**	**68.77**	**325**	P	**P**	**15 56 23.6**	**+1.4**
MK31				IAmb	IAmb	15 56 24.9	
	comp=Z,2.1nm,1.3s						
MKAR	**Makanchi Array**	**68.77**	**325**	P	**P**	**15 56 24.0**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=122,slow=7.6,SNR=15						
MKAR	**Makanchi Array**	**68.77**	**325**	P	**P**	**15 56 23.6**	**+1.4**
MAKZ	**Makanchi**	**68.96**	**325**	P	**P**	**15 56 23.7**	**+0.3**
MAKZ				IAmb	IAmb	15 56 35.1	
	comp=Z,1.0nm,0.6s						

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*IDC **18** 15:47:03.6±1.1, 14°.67S×167°.02E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/35, mbtmp4.1/9, ML4.2/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/58, Error ellipse: s-maj=42.3km s-min=26.1km az=132.0*
*NEIC **18** 15:47:06.2±2.2, 14°.67S±0°.05×167°.0E±0°.2, h10km±1km, mb4.6/11, Error ellipse: s-maj=27.1km s-min=3.1km az=73.0*
*NOU **18** 15:47:08.2, 14°.80S×166°.85E, h0km, MLv5.0/15, Vanuatu Islands*
ISC 18 15:47:11.4±0.6, 14°.82S±0°.07×166°.9E±0°.1, h57km, n47, σ1§32/47, mb4.4/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.67**	**158**		**Pn**	**15 47 21.8**	**-3.4**
SANVU				Sg	**Sn**	**15 47 31.6**	**-3.5**
SANVU	**Saraoutou**	**0.67**	**158**	P	**Pn**	**15 47 22.0**	**-3.2**
DVP	**Devils Point**	**3.13**	**158**	P	**Pn**	**15 48 00.3**	**+2.1**
RTV	**Rentapao**	**3.28**	**154**	P	**Pn**	**15 48 02.0**	**+1.7**
LIFNC	**LIFOU**	**5.93**	**177**	Pn	**Pn**	**15 48 35.2**	**-1.5**
KOUNC	**Koumac, New Ca**	**6.23**	**204**	P	**Pn**	**15 48 40.3**	**-0.5**
MARNC	**Mare, Loyalty**	**6.70**	**171**	Pn	**Pn**	**15 48 47.5**	**+0.2**
MARNC	**Mare, Loyalty**	**6.70**	**171**	P	**Pn**	**15 48 48.2**	**+0.9**
DZM	**Mont Dzumac**	**7.23**	**184**	Pn	**Pn**	**15 48 54.2**	**-0.3**
	4.2nm,0.3s,baz=1.1,slow=20,SNR=27						
DZM				Sn	**Sn**	**15 50 13.8**	**-1.5**
	3.5nm,0.3s,baz=156,slow=23,SNR=5.8						
DZM				LR	LR	15 51 25.1	
	comp=Z,376nm,18.6s,baz=24,slow=36						
DZM	**Mont Dzumac**	**7.23**	**184**		**Pn**	**15 48 53.9**	**-0.6**
DZM	**Mont Dzumac**	**7.23**	**184**	P	**Pn**	**15 48 54.9**	**+0.4**
NOUC	**Port Laguerre**	**7.27**	**185**	P	**Pn**	**15 48 55.4**	**+0.4**
ONTNC	**Ouen Toro**	**7.46**	**183**	Pn	**Pn**	**15 48 58.0**	**+0.4**
ONTNC	**Ouen Toro**	**7.46**	**183**	P	**Pn**	**15 48 58.7**	**+1.1**
OUENC	**Ouen Island, N**	**7.56**	**181**	Pn	**Pn**	**15 48 59.7**	**+0.8**
OUENC	**Ouen Island, N**	**7.56**	**181**	P	**Pn**	**15 49 00.5**	**+1.6**
PINNC	**Pines Island,**	**7.76**	**177**	Pn	**Pn**	**15 49 02.3**	**+0.5**
PINNC	**Pines Island,**	**7.76**	**177**	P	**Pn**	**15 49 02.9**	**+1.1**
HNR	**Honiara**	**8.68**	**307**	LR	LR	15 52 19.2	
	comp=Z,182nm,18.7s,baz=151,slow=36						
CTA	**Charters Tower**	**20.41**	**252**	P	**P**	**15 51 44.0**	**0.0**
	4.7nm,0.9s,baz=69,slow=16,SNR=2.3						
CTA				LR	LR	15 58 07.8	
	comp=Z,126nm,20.6s,baz=77,slow=32						
CTAO	**Charters Tower**	**20.41**	**252**	P	**P**	**15 51 43.9**	**0.0**
BKZ	**Black Stump Fm**	**25.67**	**163**	P	**P**	**15 52 37.2**	**+1.2**
OXZ	**Oxford**	**28.74**	**172**	P	**P**	**15 53 04.8**	**+1.3**
OXZ				IAmb	IAmb	15 53 28.0	

comp=Z,27nm,1.4s
WRA Warramunga Arr 31.49 256 LR LR 16 06 04.3
comp=Z,69nm,18.5s,baz=122,slow=36
AS31 Alice Springs 32.34 249 P **P** **15 53 33.8 -1.8**
ASAR Alice Springs 32.34 249 P **P** **15 53 34.1 -1.5**
comp=Z,0.9nm,0.7s,baz=72,slow=9.1,SNR=6.8
BBOO Buckleboo 33.27 232 P **P** **15 53 44.1 +0.5**
BBOO IAmb IAmb 15 53 52.7
comp=Z,12nm,1.1s
VNDA Vanda 62.76 181 P **P** **15 57 32.1 +1.8**
VNDA IAmb IAmb 15 57 45.3
comp=Z,6.8nm,1.2s
CMAR Chiang Mai Arr 74.69 294 P **P** **15 58 47.1 +1.5**
comp=Z,0.8nm,0.6s,baz=128,slow=4.5,SNR=8.3
CMAR Chiang Mai Arr 74.69 294 P **P** **15 58 45.0 -0.6**
QSPA South Pole Qui 75.21 180 P **P** **15 58 49.1 +1.3**
QSPA IAmb IAmb 15 59 16.7
comp=Z,6.9nm,1.4s
P18K Big Mountain, 80.07 19 P **P** **15 59 13.9 -0.8**
SONM Songino Array 82.38 324 P **P** **15 59 27.8 +0.4**
comp=Z,0.6nm,0.8s,baz=132,slow=6.4,SNR=3.3
BILL Bilibino 82.63 360 P **P** **15 59 28.6 +0.6**
BILL IAmb IAmb 15 59 32.5
comp=Z,5.3nm,0.7s
IMAR Indian Mountai 85.74 15 P **P** **15 59 45.0 +1.1**
IL31 86.71 18 P **P** **15 59 47.9 -0.8**
IL31 IAmb IAmb 15 59 50.3
comp=Z,2.1nm,0.8s
ILAR Eielson Array 86.71 18 P **P** **15 59 47.7 -1.0**
comp=Z,2.3nm,0.9s,baz=239,slow=4.8,SNR=17
MK31 Makanchi Array 97.05 316 P **P** **16 00 36.8 -0.4**
MK31 IAmb IAmb 16 00 44.0
comp=Z,1.4nm,1.1s
MKAR Makanchi Array 97.05 316 P **P** **16 00 37.2 0.0**
comp=Z,0.6nm,0.7s,baz=89,slow=6.6,SNR=7.8
MKAR Makanchi Array 97.05 316 P **P** **16 00 35.9 -1.3**
ZALV Zalesovo Beam 97.28 324 P **P** **16 00 37.3 -0.7**
comp=Z,0.6nm,0.5s,baz=108,slow=3.2,SNR=2.3
YKA Yellowknife Ar 97.78 27 P **P** **16 00 39.2 -0.8**
comp=Z,0.4nm,0.7s,baz=255,slow=4.5,SNR=6.1
ARCES ARCESS Array B 120.26 345 PKP **PKPdf** **16 05 55.0 -0.5**
comp=Z,2.9nm,0.8s,baz=48,slow=1.3,SNR=11
FINES FINESS Array B 125.69 338 PKP **PKiKP** **16 06 06.7 +0.2**
comp=Z,2.1nm,0.8s,baz=64,slow=3.5,SNR=8.2
AKASG Malin Array Be 130.63 326 PKP **PKiKP** **16 06 16.6 -0.2**
comp=Z,0.9nm,0.6s,baz=53,slow=2.2,SNR=2.9
GERES GERESS Array B 139.58 333 PKP **PKPdf** **16 06 32.9 +0.1**
comp=Z,0.5nm,0.7s,baz=56,slow=2.5,SNR=2.5
KEST Kesra 151.08 320 PKPbc **PKPbc** **16 06 58.8 +0.1**
comp=Z,4.2nm,0.6s,baz=91,slow=4.1,SNR=6.3

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*REN **18** 15:57:45.8±0.8, 38°.40N±0°.02×118°.30W±0°.04, h12km±4km, ML2.9, ML2.7/28(NEIC), Error ellipse: s-maj=5.7km s-min=2.3km az=118.0*
NEIC 18 15:57:45.7±0.8, 38°.40N±0°.02×118°.29W±0°.01, h10km±8km, Error ellipse: s-maj=2.8km s-min=1.2km az=184.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**0.03**	**342**		Pg	15 57 47.1	-0.8
NV11	**Mina Array Sit**	**0.11**	**72**		Pg	15 57 49.0	+0.4
LHV	**Little Huntoon**	**0.22**	**229**		Pg	15 57 50.7	+0.4
LHV				IAML		15 57 54.7	
	comp=E,4μm,0.4s						
LHV				IAML		15 57 54.7	
	comp=N,3μm,0.5s						
RYN	**Ryan**	**0.29**	**322**		Pg	15 57 52.1	+0.4
KVN	**Kaiserville**	**0.67**	**13**	Pg	Pg	15 57 58.8	+0.1
BENR	**Benton**	**0.72**	**198**		Pg	15 57 59.6	0.0
LUL	**Lundy Lake**	**0.78**	**244**		Pg	15 58 00.9	+0.1
MLNR	**Milner Canyon**	**0.80**	**183**		Pg	15 58 01.4	+0.2
ORC	**Owens River**	**0.81**	**201**		Pg	15 58 01.5	0.0
TPH	**Tonopah**	**0.90**	**111**		Pb	15 58 03.3	-0.2
YERR	**Yerington**	**0.95**	**309**		Pg	15 58 03.6	-0.4
YERR				IAML		15 58 20.5	
	comp=N,448nm,0.5s						
RCCR	**Rock Creek Can**	**0.97**	**201**		Pg	15 58 04.3	-0.2
Q09A	**Carvers**	**0.97**	**63**		Pg	15 58 04.3	-0.2
POCCA	**Poleta Canyon**	**1.03**	**180**		Pg	15 58 05.5	-0.1
DSP	**Deep Springs**	**1.06**	**166**		Pb	15 58 06.2	+0.1
BFC	**Buffalo Canyon**	**1.15**	**296**		Pb	15 58 07.2	-0.5
PNTR	**Pine Nut**	**1.23**	**304**		Pn	15 58 08.6	-0.7
PNTR				IAML		15 58 31.0	
	comp=E,239nm,0.6s						
PNTR				IAML		15 58 31.5	
	comp=N,212nm,0.7s						
LCH	**Last Change Ra**	**1.27**	**156**		Pn	15 58 09.3	-0.4
LCH				IAML		15 58 29.6	
	comp=E,107nm,0.4s						
GNO	**Genoa**	**1.33**	**294**		Pn	15 58 10.8	+0.2
KCC	**Kaiser Creek**	**1.35**	**218**		Pb	15 58 11.1	0.0
PAHR	**Pah Rah Range**	**1.56**	**327**		Pn	15 58 13.3	-0.3
PAHR				IAML		15 58 36.4	
	comp=N,58nm,0.5s						
PAHR				IAML		15 58 37.1	
	comp=E,95nm,0.9s						
RUBR	**Rubicon Trail**	**1.60**	**295**		Pn	15 58 13.5	-0.7
RUBR				IAML		15 58 39.4	
	comp=N,81nm,0.8s						
RUBR				IAML		15 58 40.1	
	comp=E,84nm,0.8s						
PEAR	**Peavine Mounta**	**1.78**	**313**		Pb	15 58 18.6	0.0
KBF	**Kyburz Flat**	**1.86**	**307**		Pb	15 58 20.1	+0.1
IND	**Independence**	**1.87**	**304**		Pb	15 58 20.3	+0.1
WVA	**Winnemucca Val**	**1.95**	**323**		Pb	15 58 21.1	-0.4
R11A	**Troy Canyon, C**	**2.13**	**90**	Pn	Pn	15 58 21.1	-0.4
R11A				IAML		15 58 56.0	
	comp=N,28nm,0.2s						
S11A	**Rachel**	**2.15**	**110**	Pn	Pn	15 58 21.6	-0.1
BMN	**Battle Mountai**	**2.19**	**22**		Pn	15 58 22.1	-0.3
PRN	**Pahroc Range**	**2.75**	**110**		Pn	15 58 29.8	-0.2
ORV	**Oroville**	**2.76**	**296**	Pn	Pn	15 58 28.6	-1.4
ORV				IAML		15 59 18.4	
	comp=E,17nm,4.1s						
SPR3	**Spring Creek 3**	**3.15**	**78**	Pn	Pn	15 58 35.4	-0.3
ELK	**Elko**	**3.33**	**44**	Pn	Pn	15 58 37.9	-0.1
ELK				IAML		15 59 33.5	
	comp=E,15nm,0.4s						
ELK				IAML		15 59 34.4	
	comp=E,17nm,0.3s						
CCUT	**Cedar City**	**3.98**	**101**	Pn	Pn	15 58 46.7	-0.4

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*NEIC **18** 16:17:30.6±1.9, 3°.72S±0°.03×127°.33E±0°.08, h10km±1km, mb4.2/15, Error ellipse: s-maj=13.2km s-min=4.2km az=85.0*
*DJA **18** 16:17:32.8±0.7, 4°S±2°×12°7E±°, h20km±7km, M4.3/23, mB5.0/6, mb4.4/23, MLv4.2/20, Mw(mB)4.3/6*
*IDC **18** 16:17:35.0±1.8, 3°.78S×127°.29E, h44km±21km, mb3.8/6, mb1 4.1/10, mb1mx3.7/40, mbtmp4.1/10, ML3.8/4, MS3.2/6, Ms1 3.2/6, ms1mx2.8/72, Error ellipse: s-maj=22.8km s-min=14.4km az=131.0*
ISC 18 16:17:33.8±0.6, 3°.86S±0°.06×127°.30E±0°.05, h34km, n63, σ1§32/63, mb4.1/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.91**	**79**	P	**Pn**	**16 17 48.4**	**-1.8**
AAI				S	**Sn**	**16 18 00.6**	**-1.4**
MSAI	**Masohi**	**1.70**	**73**	P	**Pn**	**16 18 00.7**	**-0.4**
SANI	**Sanana**	**2.23**	**324**	P	**Pn**	**16 18 07.9**	**-0.5**
LBMI	**Labuha**	**3.21**	**4**	P	**Pn**	**16 18 23.0**	**+1.1**
TNTI	**Ternate**	**4.60**	**1**	Pn	**Pn**	**16 18 40.1**	**-0.9**
SWI	**Sorong**	**4.95**	**53**	P	**Pn**	**16 18 46.0**	**+0.2**
SIJI	**Sorong**	**4.95**	**53**	P	**Pn**	**16 18 46.1**	**+0.3**
	12nm,0.3s,baz=262,slow=23,SNR=30						
SIJI				S	**Sn**	**16 19 42.5**	**+0.5**
	13nm,0.3s,baz=313,slow=22,SNR=16						
SIJI				LR	LR	16 21 22.7	
	comp=Z,330nm,18.7s,baz=273,slow=46						
BBSI	**Bau Bau**	**4.99**	**251**	P	**Pn**	**16 18 46.8**	**+0.4**
	0.0nm6.6nm,1.0s						
FAKI	**Fak Fak**	**5.02**	**79**	P	**Pn**	**16 18 48.0**	**+1.1**
FAKI	**Fak Fak**	**5.02**	**79**	Pn	**Pn**	**16 18 47.7**	**+0.8**
LUWI	**Luwuk**	**5.32**	**302**	P	**Pn**	**16 18 51.7**	**+0.7**
	0.7nm6μm105nm,0.5s						
KMSI	**Cibinong**	**5.52**	**323**	P	**Pn**	**16 18 53.8**	**+0.2**
	0.5nm1μm127nm,0.6s						
SAUI	**Saumlaki**	**5.71**	**136**	P	**Pn**	**16 18 58.1**	**+1.8**
	0.5nm4μm162nm,0.8s						
SAUI	**Saumlaki**	**5.71**	**136**	Pn	**Pn**	**16 18 56.0**	**-0.2**
APSI	**Ampana**	**6.36**	**297**	P	**Pn**	**16 19 06.1**	**+0.8**
	0.3nm836nm83nm,0.7s						
MRSI	**Marisa**	**6.88**	**309**	P	**Pn**	**16 19 13.0**	**+0.7**
	0.3nm844nm78nm,0.5s						
BSSI	**Bau Bau, Buton**	**7.16**	**251**	P	**Pn**	**16 19 15.8**	**-0.4**
	0.1nm24nm,0.5s						
BNSI	**Bone**	**7.20**	**265**	P	**Pn**	**16 19 16.8**	**0.0**
	0.1nm22nm,1.1s						
BATI	**Baumata**	**7.27**	**210**	P	**Pn**	**16 19 20.3**	**+2.6**
	1.4nm,0.3s,baz=75,slow=18,SNR=4.1						
BATI	**Baumata**	**7.27**	**210**	P	**Pn**	**16 19 20.3**	**+2.6**
	0.1nm8.5nm,0.6s						
BKSI	**Bulukumba**	**7.30**	**258**	P	**Pn**	**16 19 19.0**	**+0.8**
	0.1nm51nm,1.4s						
EDFI	**Ende, Flores**	**7.40**	**229**	P	**Pn**	**16 19 21.1**	**+1.5**
	0.0nm5.1nm,0.6s						
SPSI	**Sidrap Palu**	**7.52**	**269**	P	**Pn**	**16 19 21.5**	**+0.4**
	0.1nm566nm24nm,1.2s						
KAPI	**Kappang**	**7.62**	**261**	P	**Pn**	**16 19 22.8**	**+0.3**
	3.8nm,0.3s,baz=63,slow=9.0,SNR=12						
KAPI				S	**Sn**	**16 20 45.5**	**-2.2**
	0.1nm,0.3s,baz=75,slow=17,SNR=1.0						
KAPI				LR	LR	16 22 09.6	
	comp=Z,79nm,22.0s,baz=100,slow=36						
KAPI	**Kappang**	**7.62**	**261**	Pn	**Pn**	**16 19 22.5**	**0.0**
TOLI2	**Tolitoli**	**8.18**	**307**		**Pn**	**16 19 31.8**	**+1.6**
MPSI	**Mapaga**	**8.49**	**299**	P	**Pn**	**16 19 36.8**	**+2.2**
	19nm,0.7s						
MTN	**Manton Dam**	**9.70**	**157**	Pn	**Pn**	**16 19 51.2**	**+0.1**
KNRA	**Kununurra**	**11.83**	**173**	Pn	**Pn**	**16 20 19.0**	**-1.3**
JAY	**Jayapura**	**13.45**	**85**	LR	LR	16 27 34.7	
	comp=Z,120nm,18.9s,baz=212,slow=45						
FITZ	**Fitzroy Crossi**	**14.24**	**186**	P	**Pn**	**16 20 53.2**	**-0.1**
	0.1nm,0.3s,baz=25,slow=12,SNR=6.8						
SBUM	**Sibu**	**16.33**	**292**	Pn	**Pn**	**16 21 20.2**	**-0.5**
WB0	**Warramunga Arr**	**17.26**	**157**	Pn	**Pn**	**16 21 30.0**	**-2.3**
WB0				IAmb	IAmb	16 21 36.4	
	comp=Z,19nm,1.0s						
WRAB	**Tennant Creek**	**17.39**	**157**	P	**Pn**	**16 21 33.7**	**-0.4**
WRAB				IAmb	IAmb	16 21 37.3	
	comp=Z,10.0nm,1.1s						
WRA	**Warramunga Arr**	**17.40**	**157**	P	**Pn**	**16 21 31.0**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=338,slow=12,SNR=20						
WRA	**Warramunga Arr**	**17.40**	**157**	Pn	**Pn**	**16 21 32.3**	**-1.8**
WB2	**Warramunga Arr**	**17.40**	**157**	P	**Pn**	**16 21 34.1**	**-0.1**
WB2				IAmb	IAmb	16 21 38.6	
	comp=Z,8.9nm,0.8s						
WR0	**Warramunga Arr**	**17.49**	**157**	Pn	**Pn**	**16 21 33.3**	**-1.9**
KSM	**Kuching**	**17.79**	**287**		**Pn**	**16 21 37.8**	**-1.2**
KSM				IAmb	IAmb	16 21 42.0	
	comp=Z,49nm,1.5s						
COEN	**Coen**	**18.60**	**124**	P	**P**	**16 21 49.0**	**+0.6**
COEN				IAmb	IAmb	16 21 55.0	
	comp=Z,12nm,0.9s						
LEM	**Lembang**	**19.82**	**261**	LR	LR	16 30 22.6	
	comp=Z,100nm,18.8s,baz=159,slow=39						
CNJI	**Cibinong**	**20.37**	**259**	P	**P**	**16 22 07.3**	**-0.4**
	comp=Z,56nm,1.4s						
AS31	**Alice Springs**	**20.70**	**163**	P	**P**	**16 22 12.9**	**+1.6**
AS31				IAmb	IAmb	16 22 15.3	
	comp=Z,13nm,0.8s						
ASAR	**Alice Springs**	**20.70**	**163**	P	**P**	**16 22 13.3**	**+2.0**
	comp=Z,50nm,0.9s,baz=344,slow=11,SNR=224						
ASAR				PcP	**PcP**	**16 26 19.6**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=356,slow=1.4,SNR=5.8						
ASAR	**Alice Springs**	**20.70**	**163**	P	**P**	**16 22 13.1**	**+1.8**
XMIS	**Christmas Isla**	**22.46**	**252**	P	**P**	**16 22 29.9**	**-0.4**
KLSI		**22.53**	**267**	P	**P**	**16 22 29.9**	**-1.1**
	comp=Z,5.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**35.67**	**309**	P	**P**	**16 24 29.5**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=134,slow=7.7,SNR=8.1						
CMAR				LR	LR	16 40 03.8	
	comp=Z,20nm,20.2s,baz=160,slow=38						
CMAR	**Chiang Mai Arr**	**35.67**	**309**	P	**P**	**16 24 29.0**	**-0.2**
CHTO	**Chiang Mai**	**35.88**	**310**	P	**P**	**16 24 29.9**	**-1.0**
CHTO				IAmb	IAmb	16 24 33.8	
	comp=Z,9.5nm,1.5s						
HHC	**Hu-ho-hao-te**	**46.77**	**344**	*eP*	**P**	**16 26 02.9**	**+2.8**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,6.0s						
USRK	**Ussuriysk Ar.**	**48.03**	**5**	P	**P**	**16 26 10.4**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=197,slow=7.2,SNR=2.0						
GTA	**Gaotai**	**49.95**	**332**	*eP*	**P**	**16 26 25.8**	**+1.1**
GTA				pP	pP	16 26 31.8	-3.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**54.65**	**343**	P	**P**	**16 26 58.0**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=148,slow=8.5,SNR=4.1						
SONM	**Songino Array**	**54.65**	**343**	IAmb	IAmb	16 27 06.7	

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.30**	**297**	Pn	**Pn**	**16 27 14.6**	**-0.5**
RABL	**Rabaul**	**2.30**	**297**	P	**Pn**	**16 27 17.6**	**+2.5**
HNR	**Honiara**	**7.04**	**127**	P	**Pn**	**16 28 17.7**	**+0.7**
	7.0nm,0.3s,baz=293,slow=3.6,SNR=6.4						
HNR				S	**Sn**	**16 29 38.5**	**+2.5**
	4.0nm,0.3s,baz=252,slow=18,SNR=5.2						
HNR	**Honiara**	**7.04**	**127**	Pn	**Pn**	**16 28 15.8**	**-1.2**
HNR	**Honiara**	**7.04**	**127**	P	**Pn**	**16 28 19.1**	**+2.1**
MANU	**Manus Island**	**7.54**	**295**		**Pn**	**16 28 23.4**	**-0.3**
PMG	**Port Moresby**	**8.13**	**239**	P	**Pn**	**16 28 33.0**	**+1.5**
	22nm,0.3s,baz=41,slow=9.7,SNR=24						
PMG				S	**Sn**	**16 30 05.8**	**+3.7**
	11nm,0.3s,baz=102,slow=21,SNR=6.7						
PMG				LR	LR	16 31 13.7	
	comp=Z,123nm,21.4s,baz=308,slow=34						
PMG	**Port Moresby**	**8.13**	**239**	Pn	**Pn**	**16 28 32.2**	**+0.6**
PMG	**Port Moresby**	**8.13**	**239**	P	**Pn**	**16 28 35.7**	**+4.2**
PATS	**Pohnpei**	**12.68**	**19**	P	**P**	**16 29 33.7**	**-3.2**
JAY	**Jayapura**	**13.75**	**281**	P	**Pn**	**16 29 44.6**	**-0.7**
	1.6nm,0.3s,baz=102,slow=7.2,SNR=14						
JAY	**Jayapura**	**13.75**	**281**	P	**Pn**	**16 29 46.2**	**+0.9**
	564nm68nm,1.1s						
COEN	**Coen**	**13.90**	**231**	Pn	**Pn**	**16 29 47.6**	**+0.5**
COEN	**Coen**	**13.90**	**231**	P	**P**	**16 29 49.1**	**-1.4**
GENI	**Genyem**	**14.26**	**280**	P	**Pn**	**16 29 52.7**	**+1.0**
	81nm,1.3s						
GENI	**Genyem**	**14.26**	**280**	P	**Pn**	**16 29 52.7**	**+1.0**
	80nm,1.3s						
SMPI	**Sarmi**	**15.81**	**281**	P	**P**	**16 30 11.8**	**+0.2**
	1µm104nm,1.5s						
MTSU	**Mount Surprise**	**16.05**	**216**	P	**P**	**16 30 16.0**	**+1.7**
CTA	**Charters Tower**	**16.66**	**207**	P	**Pn**	**16 30 22.3**	**+1.1**
	2.7nm,0.3s,baz=31,slow=12,SNR=35						
CTA				LR	LR	16 37 00.2	
	comp=Z,130nm,18.1s,baz=40,slow=38						
CTA	**Charters Tower**	**16.66**	**207**	P	**Pn**	**16 30 22.9**	**+1.7**
CTAO	**Charters Tower**	**16.66**	**207**		**Pn**	**16 30 22.4**	**+1.2**
CTAO				IAmb	IAmb	16 30 25.2	
	comp=Z,86nm,0.9s						
CTAO	**Charters Tower**	**16.66**	**207**	P	**Pn**	**16 30 23.0**	**+1.7**
RK1H	**Rockhampton Ha**	**18.39**	**191**	P	**Pn**	**16 30 41.2**	**-0.6**
BAKI	**Biak**	**18.52**	**282**	P	**Pn**	**16 30 42.9**	**-0.6**
	comp=Z,62nm,1.1s						
EIDS	**Eidsvold**	**20.23**	**188**	P	**P**	**16 31 00.3**	**+0.5**
EIDS				IAmb	IAmb	16 31 06.4	
	comp=Z,32nm,1.0s						
EIDS	**Eidsvold**	**20.23**	**188**	P	**P**	**16 31 00.7**	**+0.8**
DZM	**Mont Dzumac**	**20.49**	**146**	P	**P**	**16 31 01.9**	**-0.9**
	comp=Z,4.1nm,0.7s,baz=293,slow=15,SNR=1.7						
DZM	**Mont Dzumac**	**20.49**	**146**	P	**P**	**16 31 03.1**	**+0.4**
QIS	**Mount Isa**	**20.81**	**222**	P	**P**	**16 31 06.5**	**+0.3**
GUMO	**Guam**	**20.89**	**334**	P	**P**	**16 31 07.7**	**+0.7**
	comp=Z,108nm,0.8s,baz=156,slow=10,SNR=5.2						
GUMO	**Guam**	**20.89**	**334**	P	**P**	**16 31 07.6**	**+0.7**
RMQ	**Roma**	**21.76**	**193**	P	**P**	**16 31 16.5**	**+0.4**
FAKI	**Fak Fak**	**22.03**	**275**	P	**P**	**16 31 20.0**	**+0.9**
	comp=Z,31nm,0.8s						
FAKI	**Fak Fak**	**22.03**	**275**	P	**P**	**16 31 18.3**	**-0.9**
FAKI				IAmb	IAmb	16 31 23.7	
	comp=Z,24nm,0.9s						
FAKI	**Fak Fak**	**22.03**	**275**	P	**P**	**16 31 18.6**	**-0.5**
KDU	**Kakadu**	**22.70**	**250**	P	**P**	**16 31 25.0**	**-0.5**
SAUI	**Saumlaki**	**22.92**	**262**	P	**P**	**16 31 29.0**	**+1.4**
	comp=Z,138nm,1.2s						
SAUI	**Saumlaki**	**22.92**	**262**	P	**P**	**16 31 28.4**	**+0.8**
SAUI	**Saumlaki**	**22.92**	**262**	P	**P**	**16 31 29.2**	**+1.6**
QLP	**Quilpie**	**23.26**	**203**	P	**P**	**16 31 30.4**	**-0.2**
SIJI	**Sorong**	**23.32**	**280**	P	**P**	**16 31 31.1**	**-0.2**
	comp=Z,33nm,0.7s,baz=72,slow=9.2,SNR=23						
SIJI				LR	LR	16 42 13.5	
	comp=Z,48nm,18.8s,baz=100,slow=40						
SWI	**Sorong**	**23.33**	**280**	P	**P**	**16 31 32.0**	**+0.7**
	comp=Z,54nm,0.8s						
MTN	**Manton Dam**	**24.00**	**250**	P	**P**	**16 31 36.8**	**-0.6**
MTN				IAmb	IAmb	16 31 38.9	
	comp=Z,19nm,0.7s						
MTN	**Manton Dam**	**24.00**	**250**	P	**P**	**16 31 37.3**	**-0.1**
WR0	**Warramunga Arr**	**24.09**	**231**	P	**P**	**16 31 37.9**	**-0.3**
WB0	**Warramunga Arr**	**24.10**	**231**	P	**P**	**16 31 37.9**	**-0.4**
DRS	**Darwin Rock St**	**24.11**	**251**	P	**P**	**16 31 38.2**	**-0.2**
WRAB	**Tennant Creek**	**24.22**	**231**	P	**P**	**16 31 39.1**	**-0.4**
WRAB	**Tennant Creek**	**24.22**	**231**	P	**P**	**16 31 39.4**	**0.0**
WB2	**Warramunga Arr**	**24.23**	**231**	P	**P**	**16 31 39.2**	**-0.3**
WRA	**Warramunga Arr**	**24.24**	**231**	P	**P**	**16 31 39.4**	**-0.2**
	comp=Z,45nm,0.7s,baz=56,slow=10.0,SNR=349						
WRA				S	**S**	**16 35 43.7**	**-3.7**
	comp=Z,4.0nm,1.1s,baz=57,slow=14,SNR=6.0						
WRA				ScP	**ScP**	**16 38 40.5**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=67,slow=3.0,SNR=4.1						
WRA	**Warramunga Arr**	**24.24**	**231**	P	**P**	**16 31 39.4**	**-0.2**
ARMA	**Armidale**	**25.16**	**185**	P	**P**	**16 31 48.2**	**+0.3**
ARMA				IAmb	IAmb	16 31 49.3	
	comp=Z,21nm,0.8s						
ARMA	**Armidale**	**25.16**	**185**	P	**P**	**16 31 48.5**	**+0.6**
INKA	**Innaminka**	**25.78**	**208**	P	**P**	**16 31 53.1**	**-0.3**
AAI	**Ambon**	**25.99**	**272**	P	**P**	**16 31 56.8**	**+1.3**
	comp=Z,30nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**26.60**	**27**	T	T	16 59 59.6	
	baz=208,slow=74						
H11S2	**WAKE ISLAND Hy**	**26.61**	**27**	T	T	17 00 46.1	
	baz=208,slow=76						
H11S1	**WAKE ISLAND Hy**	**26.62**	**27**	T	T	17 00 00.7	
	baz=208,slow=74						
AS31	**Alice Springs**	**26.80**	**225**	P	**P**	**16 32 01.9**	**-0.8**
ASAR	**Alice Springs**	**26.80**	**225**	P	**P**	**16 32 02.0**	**-0.7**
	comp=Z,9.1nm,0.8s,baz=59,slow=9.4,SNR=137						
ASAR				S	**S**	**16 36 23.9**	**-4.1**
	comp=Z,2.3nm,0.7s,baz=52,slow=13,SNR=7.1						
ASAR				ScP	**ScP**	**16 38 47.9**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=50,slow=3.0,SNR=4.1						
ASAR	**Alice Springs**	**26.80**	**225**	P	**P**	**16 32 01.6**	**-1.1**
KNRA	**Kununurra**	**27.06**	**246**	P	**P**	**16 32 04.2**	**-0.8**
KNRA				IAmb	IAmb	16 32 06.1	
	comp=Z,16nm,0.7s						
KNRA	**Kununurra**	**27.06**	**246**	P	**P**	**16 32 04.5**	**-0.5**
LBMI	**Labuha**	**27.06**	**279**	P	**P**	**16 32 05.8**	**+0.7**
	comp=Z,40nm,0.8s						
CMSA	**Cobar Meteorol**	**27.35**	**196**	P	**P**	**16 32 07.2**	**-0.2**
SANI	**Sanana**	**28.35**	**275**	P	**P**	**16 32 16.7**	**+0.2**
	comp=Z,19nm,0.9s						
SANI	**Sanana**	**28.35**	**275**	P	**P**	**16 32 17.6**	**+1.1**
	comp=Z,19nm,1.0s						
OOD	**Oodnadatta**	**28.52**	**216**	P	**P**	**16 32 17.1**	**-0.8**
STKA	**Stephens Creek**	**29.01**	**203**	P	**P**	**16 32 21.1**	**-1.1**
	comp=Z,10.0nm,0.5s,baz=20,slow=10,SNR=37						
STKA				LR	LR	16 44 29.6	
	comp=Z,52nm,18.8s,baz=13,slow=37						
STKA	**Stephens Creek**	**29.01**	**203**	P	**P**	**16 32 21.2**	**-1.0**
STKA	**Stephens Creek**	**29.01**	**203**	P	**P**	**16 32 21.5**	**-0.7**
LCRK	**Leigh Creek**	**29.25**	**209**	P	**P**	**16 32 23.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**30.70**	**243**	P	**P**	**16 32 36.2**	**-1.1**
	comp=Z,21nm,0.7s,baz=76,slow=7.4,SNR=50						
KMSI	**Cibinong**	**30.75**	**280**	P	**P**	**16 32 38.1**	**+0.4**
	comp=Z,80nm,0.7s						
MULG	**Mulgathing**	**31.32**	**215**	P	**P**	**16 32 41.3**	**-1.3**
HTT	**Hallett**	**31.45**	**205**	P	**P**	**16 32 43.4**	**-0.3**
BBSI	**Bau Bau**	**31.51**	**268**	P	**P**	**16 32 45.1**	**+0.7**
	comp=Z,8.2nm,0.8s						
WHYH	**Whyalla**	**31.70**	**207**	P	**P**	**16 32 45.9**	**0.0**
	comp=Z,30nm,0.9s						
GTOI	**Gorontalo**	**31.71**	**280**	P	**P**	**16 32 47.7**	**+1.5**
	comp=Z,32nm,0.8s						
WRKA	**Warakurna**	**31.71**	**229**	P	**P**	**16 32 45.1**	**-1.0**
BBOO	**Buckleboo**	**32.24**	**209**	P	**P**	**16 32 49.5**	**-1.1**
BBOO	**Buckleboo**	**32.24**	**209**	P	**P**	**16 32 49.7**	**-0.9**
EDFI	**Ende, Flores**	**32.46**	**262**	P	**P**	**16 32 51.7**	**-1.2**
	comp=Z,20nm,0.7s						
MRSI	**Marisa**	**32.73**	**279**	P	**P**	**16 32 56.9**	**+1.8**
	comp=Z,27nm,0.5s						
TOO	**Toolangi**	**33.15**	**193**	P	**P**	**16 32 59.1**	**+0.6**
ARPS	**Mount Arapiles**	**33.36**	**198**	P	**P**	**16 33 00.2**	**-0.1**
BSSI	**Bau Bau, Buton**	**33.57**	**267**	P	**P**	**16 33 01.9**	**-0.5**
	comp=Z,23nm,0.9s						
BKSI	**Bulukumba**	**33.95**	**268**	P	**P**	**16 33 05.0**	**-0.7**
	comp=Z,18nm,1.0s						
TOLI2	**Tolitoli**	**33.99**	**280**	P	**P**	**16 33 05.0**	**-1.1**
TOLI2				IAmb	IAmb	16 33 06.0	
	comp=Z,18nm,1.1s						
BNSI	**Bone**	**34.00**	**270**	P	**P**	**16 33 06.9**	**+0.8**
	comp=Z,47nm,0.7s						
KAPI	**Kappang**	**34.33**	**269**	P	**P**	**16 33 08.9**	**0.0**
	comp=Z,19nm,0.4s,baz=120,slow=5.4,SNR=15						
KAPI	**Kappang**	**34.33**	**269**	P	**P**	**16 33 08.1**	**-0.8**
KAPI	**Kappang**	**34.33**	**269**	P	**P**	**16 33 09.6**	**+0.7**
SPSI	**Sidrap Palu**	**34.36**	**271**	P	**P**	**16 33 09.3**	**+0.1**
	comp=Z,35nm,0.8s						
MPSI	**Mapaga**	**34.72**	**278**	P	**P**	**16 33 11.7**	**-0.6**
	comp=Z,82nm,0.5s						
WBSI	**Waikabubak, Su**	**34.79**	**261**	P	**P**	**16 33 13.6**	**+0.6**
	comp=Z,34nm,0.7s						
FORT	**Forrest**	**35.36**	**221**	P	**P**	**16 33 16.3**	**-1.3**
FORT	**Forrest**	**35.36**	**221**	P	**P**	**16 33 16.8**	**-0.8**
MBWA	**Marble Bar**	**36.99**	**241**	P	**P**	**16 33 30.6**	**-1.0**
PSA00	**Pilbara Seismi**	**37.03**	**241**	P	**P**	**16 33 29.9**	**-2.0**
PSA00	**Pilbara Seismi**	**37.03**	**241**	P	**P**	**16 33 31.0**	**-1.0**
TAU	**Tasmania Unive**	**38.00**	**188**	P	**P**	**16 33 40.4**	**+0.6**
TAU				IAmb	IAmb	16 33 41.2	
	comp=Z,13nm,0.7s						
BBKI	**Banjar Baru**	**39.30**	**271**	P	**P**	**16 33 52.1**	**+1.1**
	comp=Z,2µmcomp=Z,48nm,0.6s						
MTKI	**Muara Teweh, K**	**39.48**	**275**	P	**P**	**16 33 52.6**	**0.0**
KKM	**Kota Kinabalu**	**39.56**	**286**	P	**P**	**16 33 53.1**	**-0.3**
KKM				IAmb	IAmb	16 33 54.5	
	comp=Z,23nm,1.0s						
MEEK	**Meekatharra**	**40.07**	**234**	P	**P**	**16 33 56.6**	**-0.7**
BSWZ	**Blackbirch Sta**	**40.33**	**157**	P	**P**	**16 33 59.8**	**+0.7**
LTZ	**Lake Taylor**	**40.66**	**160**	P	**P**	**16 34 02.4**	**+0.5**
LTZ				IAmb	IAmb	16 34 21.4	
	comp=Z,27nm,1.4s						
KHZ	**Kahutara**	**40.80**	**158**	P	**P**	**16 34 04.2**	**+1.2**
LBZ	**Lake Benmore**	**41.43**	**163**	P	**P**	**16 34 07.6**	**-0.6**
LBZ				IAmb	IAmb	16 34 20.2	
	comp=Z,25nm,1.4s						
PBKI	**Pangkalan Bun**	**42.51**	**272**	P	**P**	**16 34 18.6**	**+1.2**
	comp=Z,23µmcomp=Z,2µmcomp=Z,189nm,0.8s						
SBUM	**Sibu**	**42.64**	**279**	P	**P**	**16 34 19.1**	**+0.7**
YULB	**Yu-li**	**42.93**	**313**	P	**P**	**16 34 20.7**	**+0.1**
YULB				IAmb	IAmb	16 34 38.7	
	comp=Z,64nm,1.5s						
STKI	**Sintang**	**43.00**	**276**	P	**P**	**16 34 22.4**	**+1.1**
	comp=Z,9µmcomp=Z,38nm,0.8s						
MORW	**Morawa**	**43.18**	**232**	P	**P**	**16 34 21.4**	**-1.1**
MORW				IAmb	IAmb	16 34 21.6	
	comp=Z,28nm,1.1s						
JMN	**Monobe**	**43.28**	**335**	P	**P**	**16 34 23.3**	**0.0**
SSLB	**Suanglung**	**43.42**	**313**	P	**P**	**16 34 25.1**	**+0.6**
SSLB				IAmb	IAmb	16 34 31.1	
	comp=Z,19nm,0.7s						
JNU	**Nakatsue**	**44.12**	**331**	P	**P**	**16 34 29.9**	**-0.1**
	comp=Z,30nm,0.7s,baz=159,slow=0.4,SNR=18						
MJAR	**Matsushiro Arr**	**44.19**	**341**	P	**P**	**16 34 29.9**	**-0.5**
	comp=Z,5.0nm,0.5s,baz=160,slow=6.7,SNR=12						
MJAR	**Matsushiro Arr**	**44.19**	**341**	P	**P**	**16 34 29.9**	**-0.5**
MAT	**Matsushiro**	**44.19**	**341**	P	**P**	**16 34 30.0**	**-0.4**
KSM	**Kuching**	**44.36**	**277**	P	**P**	**16 34 32.2**	**0.0**
KSM	**Kuching**	**44.36**	**277**	P	**P**	**16 34 32.6**	**+0.4**
TPI	**Tanjungpandan**	**46.51**	**271**	P	**P**	**16 34 49.6**	**+0.5**
	comp=Z,30nm,0.9s						
CNJI	**Cibinong**	**46.83**	**265**	P	**P**	**16 34 50.8**	**-0.8**
	comp=Z,1µmcomp=Z,130nm,1.0s						
CGJI	**Cibinong**	**48.27**	**266**	P	**P**	**16 35 00.5**	**-2.2**
	comp=Z,54nm,0.8s						
TJN	**Taejon**	**48.44**	**331**	P	**P**	**16 35 05.0**	**+1.4**
DLV	**T Lat**	**48.58**	**291**	P	**P**	**16 35 05.5**	**+0.3**
DLV				IAmb	IAmb	16 35 07.0	
	comp=Z,25nm,0.9s						
DLV	**T Lat**	**48.58**	**291**	P	**P**	**16 35 06.2**	**+1.0**
KSRS	**Korea Array**	**49.04**	**332**	P	**P**	**16 35 08.2**	**0.0**
	comp=Z,8.2nm,0.6s,baz=144,slow=6.6,SNR=35						
KSRS				LR	LR	16 54 28.7	
	comp=Z,16nm,18.5s,baz=40,slow=34						
INCN	**Inchon**	**49.67**	**331**	P	**P**	**16 35 12.6**	**-0.4**
INCN	**Inchon**	**49.67**	**331**	P	**P**	**16 35 14.2**	**+1.2**
MDSI	**Maura Dua**	**49.85**	**269**	P	**P**	**16 35 13.6**	**-1.2**
	comp=Z,7.2nm,2.0s						
NJ2	**Nanjing**	**50.08**	**320**	*e*P	**P**	**16 35 17.9**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
JKA	**Kamikawa-asahi**	**50.24**	**349**	P	**P**	**16 35 17.5**	**+0.4**
ASAJ	**Asahikawa**	**50.24**	**349**	P	**P**	**16 35 18.6**	**+1.6**
	comp=Z,32nm,0.7s,baz=218,slow=13,SNR=7.1						
UBPT	**Khong Chiam**	**52.41**	**294**	P	**P**	**16 35 34.4**	**+0.6**
UBPT				IAmb	IAmb	16 35 44.2	
	comp=Z,25nm,1.4s						
YSS	**Yuzh-Sakhalins**	**52.96**	**350**	P	**P**	**16 35 37.7**	**+0.5**
USA0B	**Ussuriysk Arra**	**53.13**	**340**	P	**P**	**16 35 39.2**	**+0.6**
USA0B				IAmb	IAmb	16 35 57.3	
	comp=Z,31nm,1.2s						
USRK	**Ussuriysk Ar.**	**53.13**	**340**	P	**P**	**16 35 39.5**	**+0.9**
	comp=Z,6.7nm,0.6s,baz=180,slow=5.3,SNR=27						
USRK	**Ussuriysk Ar.**	**53.13**	**340**	P	**P**	**16 35 39.0**	**+0.5**
IPM	**Ipoh**	**54.00**	**279**	P	**P**	**16 35 44.4**	**-1.1**
IPM				IAmb	IAmb	16 35 45.9	
	comp=Z,12nm,1.3s						
KULM	**Kulim**	**54.51**	**280**	P	**P**	**16 35 47.9**	**-1.2**
CN2	**Changchun**	**55.29**	**335**	*e*P	**P**	**16 35 55.3**	**+1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ENH	**Enshi**	**55.49**	**312**	P	**P**	**16 35 55.9**	**-0.1**
GYA	**Guiyang**	**55.79**	**307**	⇑P	**P**	**16 35 59.9**	**+1.7**
GYA				pmax	pmax		
	comp=Z,13nm,1.0s						
BNX	**BinXian**	**56.11**	**338**	⇓P	**P**	**16 36 01.6**	**+1.6**
BNX				pmax	pmax		
	comp=Z,19nm,0.9s						
BNX				pmax	pmax		
	comp=Z,1µm,5.4s						
HNS	**HongShan**	**56.15**	**322**	⇑P	**P**	**16 36 01.6**	**+1.1**
HNS				pmax	pmax		
	comp=Z,19nm,1.3s						
GSI	**Gunungsitoli**	**56.95**	**275**	P	**P**	**16 36 05.1**	**-1.4**
PEA0B	**Petropavlovsk-**	**58.21**	**2**	P	**P**	**16 36 16.0**	**+1.4**
PETK	**Petropavlovsk-**	**58.21**	**2**	P	**P**	**16 36 15.5**	**+0.9**
	comp=Z,7.8nm,0.9s,baz=163,slow=5.7,SNR=16						
PETK	**Petropavlovsk-**	**58.21**	**2**	P	**P**	**16 36 15.3**	**+0.7**
KMI	**Kunming**	**58.41**	**304**	⇓P	**P**	**16 36 18.6**	**+1.8**
KMI				pmax	pmax		
	comp=Z,30nm,1.0s						
CM31	**Chiang Mai Arr**	**59.34**	**295**	P	**P**	**16 36 24.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**59.34**	**295**	P	**P**	**16 36 24.6**	**+1.5**
	comp=Z,11nm,0.7s,baz=116,slow=5.2,SNR=126						
CMAR	**Chiang Mai Arr**	**59.34**	**295**	P	**P**	**16 36 24.1**	**+1.0**
CHTO	**Chiang Mai**	**59.45**	**295**	P	**P**	**16 36 24.6**	**+0.7**
CHTO				IAmb	IAmb	16 36 25.9	
	comp=Z,28nm,1.4s						
CHTO	**Chiang Mai**	**59.45**	**295**	P	**P**	**16 36 24.9**	**+1.0**
XLT	**XiLinHaoTe**	**59.77**	**329**	*e*P	**P**	**16 36 26.1**	**+0.4**
XLT				sP	sP	16 37 13.8	-1.7
XLT				pmax	pmax		
	comp=Z,85nm,0.7s						
XLT				pmax	pmax		
	comp=Z,420nm,4.3s						
PZH	**PanZhiHua**	**59.78**	**305**	P	**P**	**16 36 23.0**	**-3.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
HHC	**Hu-ho-hao-te**	**60.23**	**324**	*e*P	**P**	**16 36 31.3**	**+2.4**
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,350nm,5.8s						
BTO	**Baotou**	**61.01**	**323**	*e*P	**P**	**16 36 36.8**	**+2.6**
HIA	**Hailar**	**62.02**	**335**	P	**P**	**16 36 41.1**	**+0.4**
HIA				IAmb	IAmb	16 36 43.0	
	comp=Z,12nm,0.8s						
LZH	**Lanzhou**	**62.53**	**315**	⇓P	**P**	**16 36 46.3**	**+1.7**
LZH				pP	pwP	16 37 24.8	+0.3
LZH				pmax	pmax		
	comp=Z,22nm,1.5s						
MA2	**Magadan**	**64.68**	**358**	P	**P**	**16 36 58.2**	**+0.3**
MA2				IAmb	IAmb	16 36 59.9	
	comp=Z,18nm,0.9s						
MA2	**Magadan**	**64.68**	**358**	P	**P**	**16 36 58.9**	**+1.0**
GTA	**Gaotai**	**66.94**	**317**	⇓P	**P**	**16 37 14.6**	**+1.6**
GTA				pP	PcP	16 37 42.9	+2.5
GTA				sP	sP	16 37 58.9	-4.6
GTA				pmax	pmax		
	comp=Z,14nm,1.4s						
ULN	**Ulaanbaatar**	**67.12**	**328**	P	**P**	**16 37 13.1**	**-0.9**
ULN				IAmb	IAmb	16 37 17.1	
	comp=Z,18nm,1.0s						
SONM	**Songino Array**	**67.46**	**327**	P	**P**	**16 37 16.7**	**+0.7**
	comp=Z,8.2nm,0.6s,baz=142,slow=5.1,SNR=45						
SONM	**Songino Array**	**67.46**	**327**	P	**P**	**16 37 16.9**	**+0.8**
SONM				IAmb	IAmb	16 37 18.9	
	comp=Z,29nm,1.3s						
SHL	**Shillong**	**67.75**	**300**	P	**P**	**16 37 18.6**	**+0.1**
GOMU	**GeErMu**	**69.11**	**312**	P	**P**	**16 37 27.9**	**+1.0**
GOMU				pP	PcP	16 37 31.8	-18
GOMU				PP	**PP**	**16 39 59.3**	**-2.4**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,160nm,5.9s						
LSA	**Lhasa**	**69.65**	**304**	P	**P**	**16 37 31.4**	**+0.9**
LSA				pmax	pmax		
	comp=Z,35nm,0.9s						
YAK	**Yakutsk**	**69.69**	**348**	P	**P**	**16 37 30.0**	**+0.6**
YAK				IAmb	IAmb	16 37 31.4	
	comp=Z,28nm,1.1s						
GUN	**Gumba**	**73.56**	**301**	*e*P	**P**	**16 37 54.5**	**+0.7**
	comp=Z,61nm,1.0s						
BILL	**Bilibino**	**73.61**	**5**	P	**P**	**16 37 53.1**	**+0.3**
BILL				IAmb	IAmb	16 37 55.0	
	comp=Z,12nm,1.0s						
PKI	**Pulchoki**	**73.87**	**301**	*e*P	**P**	**16 37 55.8**	**+0.2**
	comp=Z,37nm,1.0s						
PKIN	**Phulchoki**	**73.89**	**301**	*e*P	**P**	**16 37 55.8**	**+0.2**
	comp=Z,7.7nm,0.4s						
KKN	**Kakani**	**74.04**	**301**	*e*P	**P**	**16 37 56.8**	**+0.4**
	comp=Z,32nm,0.9s						
DMN	**Daman**	**74.14**	**300**	*e*P	**P**	**16 37 57.8**	**+0.7**
	comp=Z,55nm,1.0s						
PALK	**Pallekele**	**74.40**	**279**	P	**P**	**16 37 57.4**	**-1.2**
GKN	**Gorkha**	**74.64**	**301**	*e*P	**P**	**16 38 00.2**	**+0.3**
PTCN	**Pitcairn Islan**	**74.84**	**114**	P	**P**	**16 37 58.5**	**-2.4**
OHAK	**Old Harbor**	**75.31**	**26**	P	**P**	**16 38 04.1**	**+1.3**
OHAK				IAmb	IAmb	16 38 09.3	
	comp=Z,28nm,1.3s						
KOLN	**Koldanda**	**75.48**	**300**	*e*P	**P**	**16 38 04.9**	**+0.2**
	comp=Z,46nm,0.8s						
DANN	**Dangsing**	**75.48**	**301**	*e*P	**P**	**16 38 04.9**	**+0.1**
	comp=Z,36nm,0.6s						
P18K	**Big Mountain,**	**75.78**	**24**	P	**P**	**16 38 06.1**	**+0.6**
MYLAV	**Mylavaram**	**75.90**	**289**	*e*P	**P**	**16 38 06.6**	**-0.4**
MYLAV				*es*P	**sP**	**16 38 58.0**	**-0.1**
PYUN	**Piuthan**	**76.08**	**300**	*e*P	**P**	**16 38 08.0**	**-0.1**
	comp=Z,52nm,0.8s						
Q19K	**Cape Douglas,**	**76.15**	**25**	P	**P**	**16 38 08.8**	**+1.1**
ADKI	**Addanki**	**76.38**	**288**	*e*P	**P**	**16 38 10.4**	**+0.7**
ADKI				*ep*P	**pP**	**16 38 45.2**	**-0.1**
WMQ	**Urumqi**	**77.03**	**317**	*e*P	**P**	**16 38 13.6**	**+0.7**
WMQ				PcP	**PcP**	**16 38 24.3**	**+1.0**
WMQ				pP	pP	16 38 47.4	-1.2
WMQ				pmax	pmax		
	comp=Z,14nm,1.7s						
RCLA	**Racherla**	**77.28**	**287**	*e*P	**P**	**16 38 14.5**	**-0.3**
RCLA				*es*P	**sP**	**16 39 05.1**	**-0.9**
SRLM	**Srisailam**	**77.44**	**288**	*e*P	**P**	**16 38 15.1**	**-0.6**
SRLM				*ep*P	**pP**	**16 38 50.3**	**-1.1**
RPR	**Rampur**	**77.52**	**291**	*e*P	**P**	**16 38 16.0**	**-0.1**
L19K	**White Mountain**	**77.63**	**22**	P	**P**	**16 38 16.4**	**+0.6**
L19K				IAmb	IAmb	16 38 19.9	
	comp=Z,12nm,0.8s						
BRLK	**Bradley Lake**	**77.79**	**25**	P	**P**	**16 38 16.9**	**+0.1**
BRLK				IAmb	IAmb	16 38 28.7	
	comp=Z,28nm,1.3s						
HYBB	**Hyderabad (bro**	**77.97**	**289**	*e*P	**P**	**16 38 18.3**	**-0.3**
HYBB				*es*P	**sP**	**16 39 09.7**	**-0.3**
HYBB				*e*S	**S**	**16 48 01.2**	**+0.8**
SRSP	**Sriramsagar**	**78.42**	**290**	*e*P	**P**	**16 38 20.3**	**-0.7**
SRSP				*es*P	**sP**	**16 39 11.4**	**-1.0**
TIXI	**Tiksi**	**78.53**	**352**	P	**P**	**16 38 21.3**	**+0.8**
URV	**Uravakonda**	**78.82**	**286**	*e*P	**P**	**16 38 23.4**	**+0.1**
RC01	**

YKA	**Yellowknife Ar**	**95.16**	**28**	P	**P**	**16 39 42.7**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=271,slow=4.7,SNR=15						
GERES	**GERESS Array B**	**125.16**	**329**	PKP	**PKPdf**	**16 45 18.4**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=64,slow=2.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	**151.79**	**288**	PKPbc	**PKPbc**	**16 46 13.0**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=49,slow=2.9,SNR=8.9						

*TUL **18** 16:41:56.3±1.1, 35°.95N±0°.01×97°.39W±0°.02, h7km±6km, ML3.0, mb_Lg2.6/20(NEIC), Error ellipse: s-maj=2.4km s-min=1.0km az=121.0*

NEIC 18 16:41:56.2±0.6, 35°.96N±0°.01×97°.41W±0°.02, h10km±6km, Error ellipse: s-maj=2.5km s-min=2.0km az=115.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.17**	**193**	Pg	Pg	16 42 00.0	+0.2
OK029				Sg	Sg	16 42 02.4	+0.1
BCOK	**Bluff Creek, N**	**0.35**	**208**	Pg	Pg	16 42 03.3	+0.2
BCOK				Sg	Sg	16 42 07.8	+0.2
OK025	**Westminster Rd**	**0.38**	**172**	Pg	Pg	16 42 03.9	+0.1
OK025				Sg	Sg	16 42 08.4	-0.5
OK033	**Mehan**	**0.39**	**78**	Pg	Pg	16 42 03.9	+0.1
OK031	**S. Brethren Rd**	**0.46**	**91**	Pg	Pg	16 42 05.2	0.0
OK030	**Cody Creek RV**	**0.51**	**94**	Pg	Pg	16 42 06.0	0.0
OKCFA	**Oklahoma City**	**0.55**	**184**	Pg	Pg	16 42 06.7	-0.1
OKCFA				Sg	Sg	16 42 14.1	+0.1
OKCSW	**OKLAHOMA CITY**	**0.56**	**183**	Pg	Pg	16 42 07.0	0.0
OK034	**N. Norfolk Rd.**	**0.56**	**85**	Pg	Pg	16 42 07.0	-0.2
QUOK	**Quay**	**0.60**	**70**	Pg	Pg	16 42 07.8	-0.1
FNO	**Franklin**	**0.70**	**180**	Pg	Pg	16 42 09.6	-0.2
FNO				Sg	Sg	16 42 18.3	-0.7
CROK	**Carrier**	**0.71**	**319**	Pg	Pg	16 42 10.0	0.0
BLOK	**Blackwell**	**0.81**	**11**	Pg	Pg	16 42 11.7	-0.2
W35A	**Tecumseh**	**0.92**	**152**	Pg	Pg	16 42 12.9	-0.9
GC02	**Grant County #**	**0.96**	**338**		Pg	16 42 14.5	-0.1
KAN13	**South Haven SW**	**1.05**	**357**	Pg	Pg	16 42 16.1	-0.3
OK032	**Salt Plains WL**	**1.06**	**323**		Pg	16 42 16.4	-0.2
KAN14	**Manchester OK**	**1.09**	**336**		Pg	16 42 16.9	-0.3
KAN17	**Caldwell West**	**1.12**	**345**		Pb	16 42 17.4	-0.2
T35A	**Sooner Cattle**	**1.19**	**37**	Pg	Pb	16 42 18.4	-0.5
KAN05	**Bluff City Nor**	**1.20**	**342**		Pb	16 42 18.9	-0.2
KAN01	**Argonia South**	**1.22**	**347**		Pn	16 42 19.2	-0.2
KAN10	**Anthony SW Sta**	**1.28**	**335**		Pn	16 42 20.1	-0.2
OK035	**E0210 Rd and N**	**1.29**	**306**		Pn	16 42 20.0	-0.3
TUL1	**Leonard**	**1.31**	**92**	Pn	Pn	16 42 19.7	-0.9
KAN06	**Argonia West S**	**1.33**	**344**		Pn	16 42 20.2	-0.7
KAN08	**Anthony NE Sta**	**1.34**	**340**		Pn	16 42 21.0	0.0
U32A	**Winter Ranch,**	**1.36**	**288**	Pn	Pn	16 42 21.3	0.0
KAN16	**Harper SW Stat**	**1.37**	**337**		Pn	16 42 21.4	0.0
X34A	**Smith Ranch, M**	**1.40**	**195**	Pn	Pb	16 42 22.3	-0.2
WMOK	**Wichita Mounta**	**1.66**	**223**	Pn	Pn	16 42 25.9	+0.4
WMOK				IAmb_Lg		16 42 51.4	
	comp=Z,55nm,0.8s						
LOOK	**Love County**	**1.97**	**175**	IAmb_Lg		16 43 03.0	
	comp=Z,34nm,0.9s						
X37A	**Clayton**	**2.16**	**129**	Pn	Pn	16 42 32.7	+0.5
U38A	**Gravette**	**2.49**	**78**	Pn	Pn	16 42 37.4	+0.5
W39A	**Magazine**	**3.05**	**103**	Pn	Pn	16 42 44.8	+0.3
W39A				IAmb_Lg		16 43 37.8	
	comp=Z,20nm,0.8s						
MIAR	**Mount Ida**	**3.44**	**113**	Pn	Pn	16 42 50.2	+0.4
MIAR				IAmb_Lg		16 43 53.2	
	comp=Z,10nm,0.9s						
S39A	**Bolivar**	**3.70**	**61**	Pn	Pn	16 42 53.8	+0.3
U40A	**Yellville**	**3.71**	**83**	IAmb_Lg		16 43 55.1	
	comp=Z,21nm,0.7s						
WHAR	**Wooly Hollow**	**4.22**	**98**	IAmb_Lg		16 44 12.1	
	comp=Z,20nm,1.1s						
W41B	**Gary Mavity, V**	**4.28**	**99**	IAmb_Lg		16 44 18.5	
	comp=Z,10nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.29**	**89**	IAmb_Lg		16 44 21.8	
	comp=Z,13nm,0.7s						
R40A	**Maddies Statio**	**4.72**	**59**	IAmb_Lg		16 44 27.7	
	comp=Z,9.1nm,0.7s						
CCM	**Cathedral Cave**	**5.36**	**65**	IAmb_Lg		16 44 51.2	
	comp=Z,13nm,1.1s						

*BEO **18** 17:20:04.9±0.9, 40°.57N×23°.98E, h12km±7km, ML3.2/11*
*SOF **18** 17:20:04.6, 40°.58N×23°.95E, h15km, MD3.5*
*THE **18** 17:20:05.9, 40°.60N×23°.87E, h9km±1km, ML3.1/9, Error ellipse: s-maj=1.2km s-min=0.5km az=51.0*
*ISK **18** 17:20:06.0, 40°.53N×23°.78E, h6km, ML3.4/10*
*SKO **18** 17:20:06.8, 40°.52N×23°.84E, h0km*

ISC 18 17:20:05.3±1.0, 40°.57N±0°.02×23°.86E±0°.02, h14km±8km, n89, σ0°87/115, 15C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.26**	**159**	P	**Pb**	**17 20 11.6**	**-0.2**
OUR				S	**Sb**	**17 20 15.5**	**-0.5**
	29μm,0.3s						
OUR	**Ouranopolis**	**0.26**	**159**	PG	**Pb**	**17 20 11.5**	**-0.2**
OUR				SG	**Sb**	**17 20 15.6**	**-0.5**
KOKK	**Kokkinochori,**	**0.27**	**23**	P	**Pg**	**17 20 11.0**	**+0.1**
KOKK				S	**Sg**	**17 20 14.7**	**0.0**
	5μm,0.2s						
PLG	**Polygyros**	**0.38**	**238**	P	**Pb**	**17 20 13.7**	**-0.1**
SOH	**Sokhos**	**0.46**	**303**	P	**Pb**	**17 20 14.8**	**-0.4**
SOH				S	**Sb**	**17 20 21.2**	**-0.7**
	2μm,0.5s						
SOH	**Sokhos**	**0.46**	**303**	*i* Pg	**Pb**	**17 20 14.8**	**-0.4**
SOH				*i* Sg	**Sb**	**17 20 21.6**	**-0.4**
SRS	**Serrai**	**0.58**	**339**	P	**Pg**	**17 20 16.5**	**-0.2**
SRS	**Serrai**	**0.58**	**339**	*i* Pg	**Pn**	**17 20 18.9**	**-0.3**
SRS				*i* Sg	**Sn**	**17 20 26.8**	**-1.8**
HORT	**Hortiatis**	**0.58**	**273**	P	**Pb**	**17 20 16.9**	**-0.4**
HORT				S	**Sb**	**17 20 25.0**	**-0.5**
	828nm,0.2s						
HORT	**Hortiatis**	**0.58**	**273**	PG	**Pb**	**17 20 16.7**	**-0.6**
HORT				SG	**Sg**	**17 20 24.5**	**+0.1**
KAVA	**Kavala**	**0.65**	**49**	P	**Pb**	**17 20 18.1**	**-0.4**
KAVA				S	**Sg**	**17 20 26.5**	**-0.1**
	4μm,0.2s						
THAS	**Thassos island**	**0.65**	**87**	P	**Pb**	**17 20 18.1**	**-0.4**
THAS				S	**Sb**	**17 20 28.1**	**+0.6**
	4μm,0.3s						
PAIG	**Paliouri**	**0.66**	**192**	P	**Pb**	**17 20 18.7**	**+0.1**
THE	**Thessaloniki**	**0.69**	**275**	P	**Pb**	**17 20 18.9**	**-0.2**
THE	**Thessaloniki**	**0.69**	**275**	*i* Pg	**Pb**	**17 20 18.8**	**-0.2**
THE				*i* Sg	**Sb**	**17 20 28.3**	**-0.1**
NVR	**Nevrokopi**	**0.78**	**0**	P	**Pg**	**17 20 20.0**	**-0.4**
NVR				S	**Sg**	**17 20 30.3**	**-0.3**
	1μm,0.2s						
KNT	**Kendrikon**	**0.94**	**309**	P	**Pg**	**17 20 23.2**	**-0.2**
KNT				S	**Sn**	**17 20 36.5**	**-0.9**
	2μm,0.3s						
KNT	**Kendrikon**	**0.94**	**309**	PG	**Pn**	**17 20 24.2**	**+0.1**
KNT				SG	**Sn**	**17 20 36.9**	**-0.5**
KNT	**Kendrikon**	**0.94**	**309**	*i* Pg	**Pg**	**17 20 23.2**	**-0.2**
KNT				*i* Sg	**Sn**	**17 20 36.7**	**-0.7**
MMB	**Musomiste**	**1.02**	**354**	P	**Pb**	**17 20 23.8**	**-1.0**
GRG	**Griva**	**1.17**	**289**	P	**Pg**	**17 20 27.6**	**-0.3**
GRG				S	**Sg**	**17 20 44.6**	**+1.4**
	505nm,0.6s						
GRG	**Griva**	**1.17**	**289**	PN	**Pg**	**17 20 27.9**	**0.0**
GRG				SN	**Sg**	**17 20 44.2**	**+1.0**
GRG	**Griva**	**1.17**	**289**	*i* Pg	**Pg**	**17 20 27.7**	**-0.2**
GRG				*i* Sg	**Sg**	**17 20 45.1**	**+1.9**
LIA	**Limnos Island**	**1.22**	**123**	P	**Pb**	**17 20 27.5**	**-0.6**
VAY	**Valandovo**	**1.23**	**308**	*i* Pg	**Pg**	**17 20 29.0**	**0.0**
VAY				*i* Sg	**Sg**	**17 20 46.4**	**+1.4**
VAY				*e*Lg	Lg	17 20 47.0	
	comp=N,283nm,0.4s						
VAY	**Valandovo**	**1.23**	**308**	*e*Pg	**Pg**	**17 20 28.6**	**-0.4**
VAY				*e*Sg	**Sg**	**17 20 46.2**	**+1.2**
RZN	**Rozhen**	**1.29**	**30**	P	**Pn**	**17 20 28.7**	**-0.4**
RZN	**Rozhen**	**1.29**	**30**	Pg	**Pg**	**17 20 29.9**	**-0.2**
KTI	**Kastanea**	**1.34**	**263**	P	**Pg**	**17 20 30.6**	**-0.5**
RDO	**Rodhopi**	**1.39**	**65**	P	**Pn**	**17 20 29.8**	**-0.5**
KKB	**Krupnik**	**1.42**	**336**	P	**Pb**	**17 20 30.8**	**-0.8**
TYRN	**Tyrnavos**	**1.52**	**236**	P	**Pb**	**17 20 33.0**	**-0.2**
KDZ	**Kurdzhali**	**1.59**	**47**	P	**Pn**	**17 20 31.9**	**-1.2**
KDZ	**Kurdzhali**	**1.59**	**47**	Pg	**Pb**	**17 20 34.1**	**-0.4**
GADA	**Gvkgeada**	**1.60**	**103**	PN	**Pg**	**17 20 36.3**	**+0.2**
PLD	**Plovdiv**	**1.66**	**22**	PN	**Pg**	**17 20 37.4**	**+0.3**
PLD				SN	**Sg**	**17 21 00.1**	**+1.5**
PLD	**Plovdiv**	**1.66**	**22**	*i* Pn	**Pg**	**17 20 37.4**	**+0.3**
PLD				*i* Sn	**Sg**	**17 20 59.7**	**+1.2**
PLD	**Plovdiv**	**1.66**	**22**	P	**Pg**	**17 20 37.3**	**+0.3**
STIP	**Stip**	**1.69**	**312**	*i* Pn	**Pn**	**17 20 33.8**	**-0.7**
STIP				*i* Sn	**Sb**	**17 20 57.5**	**+0.2**
STIP				*e*Lg	Lg	17 20 59.2	
	comp=N,151nm,0.3s						
ALN	**Alexandroupoli**	**1.69**	**78**	PN	**Pg**	**17 20 37.6**	**-0.1**
ENEZ	**Enez**	**1.75**	**84**	PN	**Pg**	**17 20 38.6**	**-0.3**
BOZC	**Bozcaada**	**1.83**	**113**	PN	**Pg**	**17 20 39.6**	**-0.8**
FNA	**Florina**	**1.90**	**277**	PN	**Pb**	**17 20 38.4**	**-1.4**
FNA	**Florina**	**1.90**	**277**	*i* Pn	**Pb**	**17 20 38.3**	**-1.5**
FNA				*i* Sn	**Sb**	**17 21 03.5**	**0.0**
DIM	**Dimitrovgrad**	**1.94**	**40**	P	**Pg**	**17 20 41.7**	**-0.8**
AGG	**Agios Georgios**	**1.95**	**218**	PN	**Pb**	**17 20 39.6**	**-1.0**
PGB	**Panagyurishte**	**1.99**	**7**	P	**Pb**	**17 20 42.0**	**+0.7**
GELI	**Tayfur-Gelibol**	**2.00**	**94**	PN	**Pb**	**17 20 41.9**	**+0.4**
ERIK	**Erikli-Kesan**	**2.02**	**86**	PN	**Pb**	**17 20 42.3**	**+0.5**
EZN	**Ezine**	**2.03**	**111**	PN	**Pb**	**17 20 42.3**	**+0.3**
SIGR	**SIGRI**	**2.05**	**131**	PN	**Pb**	**17 20 42.1**	**-0.2**
VTS	**Vitosha**	**2.10**	**347**	⇓P	**Pb**	**17 20 43.6**	**+0.4**
VTS				⇑S	**Sn**	**17 21 07.1**	**+1.0**
VTS	**Vitosha**	**2.10**	**347**	*i* Pn	**Pn**	**17 20 40.9**	**+0.8**
VTS				*i* Sn	**Sn**	**17 21 06.9**	**+0.8**
VTS	**Vitosha**	**2.10**	**347**	*e*Pn	**Pn**	**17 20 40.8**	**+0.6**
VTS				*e*Sn	**Sn**	**17 21 06.1**	**0.0**
VTS	**Vitosha**	**2.10**	**347**	P	**Pn**	**17 20 40.9**	**+0.8**
BOSS	**Bosilegrad**	**2.18**	**332**	*e*Pn	**Pn**	**17 20 41.9**	**+0.7**
BOSS				*e*Sn	**Sn**	**17 21 08.9**	**+0.8**
LPK	**Lapseki**	**2.22**	**94**	PN	**Pb**	**17 20 45.1**	**-0.1**
PRVS	**Prvonek**	**2.35**	**326**	*e*Pn	**Pn**	**17 20 44.1**	**+0.5**
PRVS				*e*Sn	**Sn**	**17 21 13.6**	**+1.3**
EDRB	**Edirne**	**2.52**	**59**	PN	**Pb**	**17 20 49.7**	**-0.6**
RKY	**Sarkoy-Tekirda**	**2.53**	**86**	PN	**Pb**	**17 20 49.6**	**-0.9**
MAR3	**Marsite Statio**	**2.62**	**85**	PN	**Pb**	**17 20 51.2**	**-0.8**
KRBG	**Karabiga-Canak**	**2.63**	**93**	PN	**Pb**	**17 20 51.1**	**-1.0**
BARS	**Barje**	**2.71**	**326**	*i* Pn	**Pn**	**17 20 49.3**	**+0.7**
BARS	**Barje**	**2.71**	**326**	*e*Pn	**Pn**	**17 20 49.2**	**+0.7**
BARS				*e*Sn	**Sn**	**17 21 23.5**	**+2.3**
BARS				*e*Sn	Sg	17 21 46.1	+14
MPEP	**Malo Peshtene**	**2.78**	**358**	P	**Pn**	**17 20 50.8**	**+1.3**
ZAPS	**Zavoj**	**2.85**	**342**	*e*Sn	**Sn**	**17 21 24.9**	**+0.3**
BLKB	**Belogradchik**	**3.17**	**344**	⇑S	**Sg**	**17 21 47.0**	**-0.1**
SELS	**Selova**	**3.34**	**323**	*e*Pn	**Pn**	**17 20 57.1**	**-0.1**
VLAD	**Vladila**	**3.45**	**7**	⇑P	**Pn**	**17 21 01.1**	**+2.5**
ZAGS	**Zajecar**	**3.46**	**340**	*e*Pn	**Pn**	**17 20 58.6**	**-0.1**
SJES	**Sjenica**	**3.95**	**314**	*e*Pn	**Pn**	**17 21 06.0**	**+0.4**
SGRR	**Singureni**	**3.97**	**23**	⇑P	**Pb**	**17 21 13.4**	**-1.6**
GRUS	**Gruza**	**4.05**	**326**	*e*Pn	**Pn**	**17 21 07.3**	**+0.4**
IVAS	**Ivanjica**	**4.08**	**319**	*e*Pn	**Pn**	**17 21 07.6**	**+0.3**
SRE	**Strehaia**	**4.11**	**353**	⇑P	**Pn**	**17 21 07.7**	**0.0**
STFAR	**Stefanesti-Arg**	**4.36**	**10**	⇓P	**Pb**	**17 21 19.0**	**-2.7**
HERR	**Herculane**	**4.43**	**347**	⇑P	**Pn**	**17 21 11.8**	**-0.3**
SULR		**4.47**	**22**	⇑P	Pn	17 21 17.4	+4.9
MDVR	**Moldovita**	**4.49**	**340**	⇑P	**Pn**	**17 21 12.9**	**-0.1**
DIVS	**Divibare**	**4.54**	**322**	*e*Pn	**Pn**	**17 21 13.9**	**+0.2**
ICOR	**Ion Corvin**	**4.59**	**38**	⇑P	**Pb**	**17 21 24.6**	**-0.9**
GZR	**Gura Zlata**	**4.88**	**351**	⇓P	**Pn**	**17 21 18.5**	**+0.2**
VOIR		**4.94**	**10**	⇑P	**Pn**	**17 21 20.2**	**+1.1**
TIRR	**Tirgusor**	**5.13**	**39**	⇑P	**Pb**	**17 21 33.0**	**-1.9**
MLR	**Muntele Rosu**	**5.15**	**17**	⇑P	Pn	17 21 26.7	+4.7
BZS	**Buzias**	**5.30**	**343**	⇑P	**Pn**	**17 21 23.9**	**-0.2**
DOPR	**Dopca**	**5.50**	**11**	⇓P	**Pn**	**17 21 29.8**	**+2.9**
PLOR	**Plostina**	**5.65**	**20**	⇑P	Pn	17 21 34.1	+5.2
VRI	**Vrincioaia**	**5.69**	**21**	⇑P	Pn	17 21 34.9	+5.5

*AEIC **18** 17:20:09±1.2, 59°.00N±0°.05×137°.95W±0°.06, h10km±5km, Error ellipse: s-maj=8.4km s-min=3.6km az=202.0*
*NEIC **18** 17:20:09.4±1.0, 58°.95N±0°.05×137°.96W±0°.06, h6km±7km, Error ellipse: s-maj=8.0km s-min=3.7km az=204.0*
*PGC **18** 17:20:10.1±0.5, 58°.96N×137°.92W, h10km, ML3.3, ML3.4/6, 97km Ese of Yakutat, Ak Southeastern Alaska*

ISC 18 17:20:08.4±0.8, 58°.96N±0°.04×137°.93W±0°.02, h10km, n113, σ1°67/120, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**1.03**	**314**		**Pb**	**17 20 28.4**	**0.0**
PNL					**Sn**	**17 20 42.9**	**-0.6**
PNL	**Peninsula**	**1.03**	**314**	P	**Pb**	**17 20 28.4**	**0.0**
PNL				S	**Sb**	**17 20 42.3**	**+0.3**
PNL	**Peninsula**	**1.03**	**314**	P	**Pb**	**17 20 28.4**	**0.0**
	baz=131						
PNL				S	**Sn**	**17 20 42.9**	**-0.6**
	baz=131						
YKU2	**Yakutat**	**1.05**	**302**		**Sn**	**17 20 45.5**	**+1.7**
YKU2	**Yakutat**	**1.05**	**302**	Pg	**Pn**	**17 20 29.5**	**+0.4**
BCPM	**Bancas Point**	**1.32**	**320**		**Pg**	**17 20 34.2**	**+0.5**
BCPM	**Bancas Point**	**1.32**	**320**	IAML		17 20 53.7	
	comp=E,729nm,0.2s						
SKAG	**Skagway**	**1.43**	**68**		**Pg**	**17 20 36.0**	**+0.2**
SKAG					**Sg**	**17 20 54.5**	**+0.2**
SKAG	**Skagway**	**1.43**	**68**	IAML		17 20 56.6	
	comp=E,876nm,0.4s						
SKAG				IAML		17 20 56.7	
	comp=N,673nm,0.4s						
SKAG	**Skagway**	**1.43**	**68**	P	**Pg**	**17 20 36.0**	**+0.2**
	baz=252						
SKAG				S	**Sg**	**17 20 54.5**	**+0.2**
	baz=252						
PINM	**Pinnacle**	**1.64**	**315**	P	**Pn**	**17 20 37.7**	**+0.4**
	baz=132						
PCA	**Pinnacle**	**1.64**	**315**		**Pn**	**17 20 37.7**	**+0.3**
PCA	**Pinnacle**	**1.64**	**315**	Pn	**Pn**	**17 20 37.8**	**+0.3**
PCA				Sn	**Sn**	**17 20 58.8**	**+0.2**
BESE	**Bessie Mountai**	**1.65**	**102**		**Pb**	**17 20 38.5**	**-0.4**
BESE					**Sg**	**17 21 01.3**	**0.0**
BESE	**Bessie Mountai**	**1.65**	**102**	Pn	**Pb**	**17 20 38.3**	**-0.6**
BESE				Sg	**Sg**	**17 21 01.3**	**0.0**
SAMH	**Samovar Hills**	**1.86**	**310**		**Pb**	**17 20 42.0**	**-0.5**
SAMH					**Sb**	**17 21 05.4**	**-0.6**
SAMH	**Samovar Hills**	**1.86**	**310**	Pn	**Pb**	**17 20 42.7**	**+0.1**
SAMH				Sg	**Sg**	**17 21 07.2**	**-1.1**
JIS	**Juneau Island**	**1.98**	**109**		**Pb**	**17 20 43.5**	**-1.0**
JIS					**Sg**	**17 21 11.2**	**-0.8**
JIS	**Juneau Island**	**1.98**	**109**	IAML		17 21 14.8	
	comp=E,530nm,0.7s						
TABL	**Table Mountain**	**2.20**	**314**		**Pn**	**17 20 46.6**	**+1.4**
TABL	**Table Mountain**	**2.20**	**314**	IAML		17 21 28.1	
	comp=N,271nm,0.9s						
TABL	**Table Mountain**	**2.20**	**314**	Pn	**Pb**	**17 20 47.0**	**-1.4**
TABL				Sn	**Sn**	**17 21 13.5**	**+0.9**
WHY	**Whitehorse**	**2.30**	**41**		**Pb**	**17 20 48.4**	**-1.6**
WHY	**Whitehorse**	**2.30**	**41**	IAML		17 21 23.2	
	comp=E,344nm,0.4s						
WHY				IAML		17 21 24.0	
	comp=N,266nm,0.6s						
WHY	**Whitehorse**	**2.30**	**41**	Pn	**Pb**	**17 20 48.4**	**-1.6**
WHY				Sg	**Sg**	**17 21 21.7**	**-0.4**
WHY	**Whitehorse**	**2.30**	**41**	P	**Pb**	**17 20 48.4**	**-1.6**
	baz=224						
SIT	**Sitka**	**2.36**	**143**		**Pb**	**17 20 49.6**	**-1.3**
SIT	**Sitka**	**2.36**	**143**	P	**Pb**	**17 20 49.6**	**-1.3**
	baz=326						
MESA	**MESA**	**2.38**	**303**		**Pn**	**17 20 49.2**	**+1.5**
MESA	**MESA**	**2.38**	**303**	IAML		17 21 42.0	
	comp=E,276nm,0.6s						
MESA	**MESA**	**2.38**	**303**	Pn	**Pb**	**17 20 49.7**	**-1.8**
MESA				Sg	**Sb**	**17 21 22.6**	**+1.7**
MESA	**MESA**	**2.38**	**303**	P	**Pn**	**17 20 49.2**	**+1.5**
	baz=118						
YAH	**Yahtse**	**2.39**	**308**		**Pn**	**17 20 49.4**	**+1.6**
YAH	**Yahtse**	**2.39**	**308**	IAML		17 21 44.4	
	comp=N,155nm,0.9s						
LOGN	**Logan Glacier**	**2.43**	**322**		**Pn**	**17 20 49.5**	**+1.3**
LOGN	**Logan Glacier**	**2.43**	**322**	IAML		17 21 26.4	
	comp=N,170nm,0.6s						
LOGN	**Logan Glacier**	**2.43**	**322**	Pn	**Pn**	**17 20 49.3**	**+1.0**
GRNC	**Granite Creek**	**2.62**	**314**		**Pn**	**17 20 52.6**	**+1.6**
GRNC					**Sb**	**17 21 26.0**	**-1.8**
GRNC	**Granite Creek**	**2.62**	**314**	Pn	**Pn**	**17 20 51.9**	**+0.9**
GRNC				Sn	**Sb**	**17 21 27.5**	**-0.3**
CTGM	**Chitina Glacie**	**2.64**	**321**		**Pn**	**17 20 52.6**	**+1.5**
CTGM	**Chitina Glacie**	**2.64**	**321**	IAML		17 21 38.2	
	comp=N,119nm,0.5s						
CTGM	**Chitina Glacie**	**2.64**	**321**	Pn	**Pn**	**17 20 52.4**	**+1.2**
CTGM				Sn	**Sb**	**17 21 27.8**	**-0.5**
CTG	**Chitna Glacier**	**2.64**	**321**	P	**Pn**	**17 20 52.6**	**+1.4**
	baz=138						
N31M	**Braeburn, Yuko**	**2.75**	**22**	Pn	**Pn**	**17 20 54.0**	**+1.4**
N31M				IAML		17 21 41.1	
	comp=N,253nm,0.7s						
ISLE	**Juniper Island**	**2.77**	**308**		**Pn**	**17 20 54.5**	**+1.5**
ISLE				IAML		17 21 54.1	
	comp=E,131nm,1.0s						
ISLE				IAML		17 21 59.3	
	comp=N,144nm,0.9s						
SNH	**Sunshine Point**	**2.78**	**298**		**Pn**	**17 20 53.3**	**+0.3**
SNH				IAML		17 21 49.6	
	comp=E,214nm,1.1s						
BARN	**Barnard Glacie**	**2.82**	**320**		**Pn**	**17 20 55.0**	**+1.4**
BARN	**Barnard Glacie**	**2.82**	**320**	IAML		17 21 43.5	
	comp=E,145nm,0.5s						
P33M	**Teslin, Yukon**	**2.89**	**62**		**Pn**	**17 20 55.9**	**+1.4**
P33M	**Teslin, Yukon**	**2.89**	**62**	IAML		17 21 40.7	
	comp=N,188nm,0.5s						
P33M				IAML		17 21 41.0	
	comp=E,108nm,0.8s						
P33M	**Teslin, Yukon**	**2.89**	**62**	P	**Pn**	**17 20 55.9**	**+1.4**
	baz=247						
WAX	**Waxell Ridge**	**2.91**	**303**		**Pn**	**17 20 54.7**	**-0.1**
WAX				IAML		17 22 06.9	
	comp=E,175nm,0.9s						
KIAG	**Kiagna River**	**2.97**	**313**		**Pn**	**17 20 57.7**	**+1.9**
KIAG	**Kiagna River**	**2.97**	**313**	Pn	**Pn**	**17 20 57.6**	**+1.9**
KIAG				Sn	**Sb**	**17 21 36.3**	**-1.6**
BALM	**Baldy**	**3.04**	**315**	Pn	**Pn**	**17 20 57.5**	**+0.8**
BALM				Sn	**Sb**	**17 21 37.0**	**-2.8**
TGL	**Tana Glacier**	**3.06**	**308**		**Pn**	**17 20 58.1**	**+1.3**
TGL				IAML		17 21 53.5	
	comp=N,83nm,1.0s						
KHIT	**Khitrov Hills**	**3.08**	**301**		**Pn**	**17 20 58.1**	**+1.0**
YUK3	**Moose Creek**	**3.09**	**337**		**Pn**	**17 20 58.9**	**+1.5**
YUK3	**Moose Creek**	**3.09**	**337**	Pn	**Pn**	**17 20 59.4**	**+2.0**
YUK3				Sg	**Sg**	**17 21 46.8**	**-0.8**
YUK3	**Moose Creek**	**3.09**	**337**	P	**Pn**	**17 20 58.9**	**+1.5**
	baz=155						
YUK2	**White River**	**3.18**	**334**	Pn	**Pn**	**17 21 00.1**	**+1.5**
YUK2				Sg	**Sg**	**17 21 49.6**	**-0.9**
PTPK	**Patty Peak**	**3.18**	**316**	Pn	**Pn**	**17 21 01.3**	**+2.6**
PTPK				Sn	**Sb**	**17 21 42.5**	**-1.6**
BERG	**Berg Lake**	**3.26**	**299**		**Pn**	**17 21 00.3**	**+0.8**
HMT	**Hamilton**	**3.50**	**296**		**Pn**	**17 21 03.9**	**+1.1**
VRDI	**Verde Repeater**	**3.58**	**312**		**Pn**	**17 21 05.5**	**+1.4**
M30M	**Minto, Yukon**	**3.67**	**8**		**Pn**	**17 21 06.9**	**+1.7**
M30M	**Minto, Yukon**	**3.67**	**8**	IAML		17 22 08.2	
	comp=E,104nm,1.1s						
M30M				IAML		17 22 10.1	
	comp=N,56nm,0.7s						
M30M	**Minto, Yukon**	**3.67**	**8**	P	**Pn**	**17 21 06.9**	**+1.7**
	baz=190						
M31M	**Drury Creek, Y**	**3.69**	**27**		**Pn**	**17 21 08.1**	**+2.6**
M31M	**Drury Creek, Y**	**3.69**	**27**	IAML		17 22 08.1	
	comp=N,92nm,0.6s						
M31M	**Drury Creek, Y**	**3.69**	**27**	P	**Pn**	**17 21 08.1**	**+2.6**
	baz=210						
GOAT	**Goat Mountain**	**3.80**	**298**		**Pn**	**17 21 08.9**	**+1.9**
GLB	**Gilahina Butte**	**3.85**	**313**		**Pn**	**17 21 09.5**	**+1.9**
BMRM	**Bremner River**	**3.91**	**304**		**Pn**	**17 21 10.4**	**+1.9**
BMRM	**Bremner River**	**3.91**	**304**	IAML		17 22 13.9	
	comp=N,62nm,0.7s						
BMRM				IAML		17 22 15.6	
	comp=E,75nm,0.7s						
BMRM	**Bremner River**	**3.91**	**304**	P	**Pn**	**17

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01				IAML		17 21 51.8	
	comp=N,223nm,0.4s						
PPLA	**Purkeypile**	**1.10**	**320**		Pb	17 21 37.8	-0.1
PPLA	**Purkeypile**	**1.10**	**320**		Sb	17 21 52.2	-0.6
SPU	**Mount Spurr**	**1.11**	**218**		Pg	17 21 37.4	+0.3
SML	**Sawmill**	**1.13**	**102**		Pg	17 21 37.8	+0.1
SML	**Sawmill**	**1.13**	**102**		Pg	17 21 37.8	+0.1
SML	**Sawmill**	**1.13**	**102**		Sb	17 21 53.4	-0.3
WAT7	**Susitna Watana**	**1.15**	**47**		Pg	17 21 38.0	+0.1
KNK	**Knik Glacier**	**1.23**	**121**		Pb	17 21 40.2	0.0
KNK				IAML		17 21 58.0	
	comp=N,299nm,0.5s						
WAT1	**Susitna Watana**	**1.25**	**51**		Pg	17 21 39.5	-0.3
WAT1					Sg	17 21 56.0	0.0
CAPN	**Captain Cook N**	**1.32**	**191**		Pn	17 21 42.9	+1.3
TRF	**Thorofare Moun**	**1.41**	**7**		Pg	17 21 42.8	-0.1
TRF				IAML		17 22 02.1	
	comp=N,177nm,0.3s						
TRF				IAML		17 22 02.6	
	comp=E,189nm,0.7s						
WAT6	**Susitna Watana**	**1.46**	**68**		Pn	17 21 42.8	-0.9
KTH	**Kantishna Hill**	**1.50**	**356**		Pn	17 21 44.3	+0.1
KTH				IAML		17 22 05.0	
	comp=E,175nm,0.7s						
CAST	**Castle Rocks**	**1.51**	**335**		Pb	17 21 44.7	-0.2
CAST				IAML		17 22 05.3	
	comp=E,140nm,0.3s						
CAST				IAML		17 22 05.6	
	comp=N,124nm,0.3s						
L20K	**Farewell, AK**	**1.56**	**287**		Pn	17 21 45.0	0.0
SLKM	**Skilak Lake**	**1.57**	**172**		Pn	17 21 44.6	-0.6
RND	**Reindeer**	**1.59**	**31**		Pn	17 21 44.7	-0.7
RND				IAML		17 22 07.0	
	comp=N,193nm,0.8s						
SCM	**Sheep Creek Mo**	**1.59**	**97**		Pn	17 21 44.9	-0.5
PWL	**Port Wells**	**1.64**	**136**		Pn	17 21 46.1	0.0
PWL	**Port Wells**	**1.64**	**136**	IAML		17 22 12.1	
	comp=E,107nm,0.5s						
PWL				IAML		17 22 12.3	
	comp=N,150nm,0.5s						
DFR	**Drift River**	**1.77**	**214**		Pn	17 21 47.8	0.0
M19K	**Big River Lodg**	**1.77**	**267**		Pn	17 21 47.6	-0.2
M19K				IAML		17 22 13.8	
	comp=N,114nm,0.2s						
M19K				IAML		17 22 14.0	
	comp=E,156nm,0.3s						
DHY	**Denali Highway**	**1.83**	**55**		Pn	17 21 48.5	-0.3
DHY	**Denali Highway**	**1.83**	**55**	IAML		17 22 17.0	
	comp=E,108nm,0.5s						
DHY				IAML		17 22 19.7	
	comp=N,106nm,0.6s						
MCK	**McKinley**	**1.85**	**24**		Pn	17 21 49.3	+0.3
MCK	**McKinley**	**1.85**	**24**	IAML		17 22 15.6	
	comp=E,130nm,0.4s						
MCK				IAML		17 22 15.9	
	comp=N,120nm,0.6s						
NCT	**North Crescent**	**1.86**	**217**		Pn	17 21 49.4	+0.2
RDWB	**Redoubt West**	**1.90**	**215**		Pn	17 21 50.1	+0.4
RSO	**Redoubt South**	**1.90**	**213**		Pn	17 21 49.4	-0.3
RED	**Redoubt Volcan**	**1.94**	**213**		Pn	17 21 50.6	+0.4
L19K	**White Mountain**	**1.98**	**275**		Pn	17 21 50.8	+0.2
L19K				IAML		17 22 17.3	
	comp=E,74nm,0.5s						
CHUM	**Lake Minchumin**	**1.98**	**338**		Pn	17 21 51.1	+0.5
SEW	**Seward**	**2.05**	**163**		Pn	17 21 52.3	+0.7
BPAW	**Bear Paw Mtn.**	**2.05**	**356**		Pn	17 21 51.5	-0.2
GLI	**Glacier Island**	**2.08**	**123**		Pn	17 21 52.0	-0.1
M24K	**Tolsona, Glenn**	**2.11**	**87**		Pn	17 21 53.7	+1.2
BWN	**Browne**	**2.19**	**14**		Pn	17 21 53.9	+0.4
BWN				IAML		17 22 37.3	
	comp=E,86nm,1.1s						
JPK	**Jack Peak**	**2.19**	**116**		Pn	17 21 54.9	+1.2
O20K	**Slope Mountain**	**2.20**	**207**		Pn	17 21 54.8	+1.0
N19K	**Bonanza Creek**	**2.22**	**237**		Pn	17 21 55.1	+1.0
N19K	**Bonanza Creek**	**2.22**	**237**	IAML		17 22 28.7	
	comp=N,57nm,1.2s						
BRLK	**Bradley Lake**	**2.31**	**183**		Pn	17 21 56.2	+1.0
BRLK	**Bradley Lake**	**2.31**	**183**	IAML		17 22 42.1	
	comp=E,59nm,2.9s						
KLU	**Klutina**	**2.32**	**102**		Pn	17 21 57.0	+1.5
KLU	**Klutina**	**2.32**	**102**	IAML		17 22 30.3	
	comp=N,80nm,0.3s						
KLU				IAML		17 22 34.3	
	comp=E,53nm,0.6s						
BRSE	**Bradley Lake S**	**2.33**	**181**		Pn	17 21 56.8	+1.3
FID	**Port Fidalgo**	**2.40**	**121**		Pn	17 21 57.4	+0.8
FID	**Port Fidalgo**	**2.40**	**121**	IAML		17 22 32.6	
	comp=N,72nm,0.3s						
PS11	**TAPS Pump St11**	**2.44**	**87**		Pn	17 21 58.4	+1.4
DIV	**Divide**	**2.52**	**110**		Pn	17 21 59.6	+1.5
SVW2	**Sparrevohn**	**2.54**	**250**		Pn	17 21 58.0	-0.4
SVW2	**Sparrevohn**	**2.54**	**250**	IAML		17 22 38.3	
	comp=N,41nm,0.6s						
SVW2				IAML		17 22 38.4	
	comp=E,48nm,0.4s						
CNPM	**China Poot**	**2.56**	**187**		Pn	17 21 59.6	+0.9
CNPM	**China Poot**	**2.56**	**187**	IAML		17 23 14.4	
	comp=E,47nm,4.8s						
PAX	**Paxson**	**2.57**	**67**		Pn	17 22 00.0	+1.1
TT01	**Tatalina**	**2.63**	**291**		Pn	17 21 59.4	-0.3
TTA	**Tatalina**	**2.63**	**292**		Pn	17 21 59.7	0.0
PS10	**TAPS Pump St10**	**2.63**	**57**		Pn	17 22 00.9	+1.1
NEA2	**Nenana**	**2.64**	**15**		Pn	17 21 59.4	-0.4
J20K	**Nowinta River**	**2.65**	**325**		Pn	17 22 00.2	+0.3
WRH	**Wood River Hil**	**2.68**	**25**		Pn	17 22 00.3	-0.1
HDA	**Harding Lake**	**2.89**	**34**		Pn	17 22 03.5	+0.2
HDA				IAML		17 22 52.4	
	comp=E,49nm,0.7s						
CCB	**Clear Creek Bu**	**2.90**	**25**		Pn	17 22 02.9	-0.3
PS08	**TAPS Pump Stn8**	**3.04**	**33**		Pn	17 22 04.9	-0.3
MDM	**Murphy Dome**	**3.11**	**19**		Pn	17 22 05.2	-1.0
MDM				IAML		17 22 56.4	
	comp=E,26nm,1.1s						
O18K	**Koktuh Hills**	**3.13**	**227**		Pn	17 22 07.4	+0.9
O18K	**Koktuh Hills**	**3.13**	**227**	IAML		17 22 59.0	
	comp=N,27nm,1.8s						
O18K				IAML		17 23 08.5	
	comp=E,32nm,3.1s						
RIDG	**Independent Ri**	**3.15**	**55**		Pn	17 22 08.1	+1.3
RIDG	**Independent Ri**	**3.15**	**55**	IAML		17 22 59.3	
	comp=E,40nm,0.7s						
I23K	**Minto, Yukon-K**	**3.15**	**10**		Pn	17 22 05.2	-1.6
I23K				IAML		17 22 59.5	
	comp=N,26nm,0.8s						
I21K	**Tanana**	**3.19**	**350**	Pn	Pn	17 22 06.3	-1.0
I21K				IAML		17 23 01.9	
	comp=E,26nm,1.0s						
I21K				IAML		17 23 04.9	
	comp=N,27nm,0.8s						
IL31	**Talkeetna**	**3.21**	**30**		Pn	17 22 07.1	-0.4
ILAR	**Eielson Array**	**3.21**	**30**	Pn	Pn	17 22 07.2	-0.4
POKR	**Poker Plat Res**	**3.39**	**24**	Pn	Pn	17 22 10.2	+0.1
POKR				IAML		17 23 04.9	
	comp=E,28nm,1.2s						
DOT	**Dot Lake**	**3.42**	**59**		Pn	17 22 09.7	-0.8
Q19K	**Cape Douglas,**	**3.47**	**206**	Pn	Pn	17 22 07.9	-3.3
P18K	**Big Mountain,**	**3.49**	**222**	Pg	Pb	17 22 17.5	-1.1
P18K				IAML		17 22 43.7	
	comp=E,28nm,3.9s						
P18K				IAML		17 23 18.9	
	comp=N,26nm,4.8s						
J25K	**Salcha River,**	**3.50**	**41**		Pn	17 22 10.5	-1.2
J25K				IAML		17 23 09.4	
	comp=E,19nm,0.5s						
SCRK	**Sand Creek**	**3.60**	**55**		Pn	17 22 14.3	+1.3
SCRK	**Sand Creek**	**3.60**	**55**	IAML		17 23 10.5	
	comp=E,23nm,0.6s						
SCRK				IAML		17 23 12.6	
	comp=N,29nm,0.7s						
H21K	**Melozitna Rive**	**3.73**	**346**		Pn	17 22 15.1	+0.4
H21K	**Melozitna Rive**	**3.73**	**346**	IAML		17 23 41.0	
	comp=N,17nm,4.9s						
H24K	**Noodor Dome**	**3.98**	**17**	Pn	Pn	17 22 18.0	-0.3
H24K				IAML		17 23 28.4	
	comp=E,17nm,3.9s						

SOME ***18*** *17:29:54.7, 42°.78N×84°.57E, h0km*
NNC ***18*** *17:29:54.5±1.6, 42°.59N×84°.58E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=12.9km s-min=7.9km az=135.0*
ISC 18 17:29:55.8±2.6,**42°.6N**±0°.1×**84°.5E**±0°.1,**h10km,n16,**
σ2§46/22,6C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.13**	**287**	*e*P	**Pb**	**17 30 53.7**	**+2.1**
	7.0nm,0.3s						
KTMS				*e*S	**Sg**	**17 31 36.2**	**-0.1**
	46nm,0.2s						
KTMS	**Ketmen**	**3.13**	**287**	Pg	**Pb**	**17 30 53.7**	**+2.1**
	7.0nm,0.3s						
KTMS				Lg	Lg	17 31 36.2	
	46nm,0.2s						
SHLS	**Shalkode**	**3.72**	**280**	*e*P	**Pb**	**17 30 59.8**	**-1.8**
	5.0nm,0.1s						
SHLS				*e*S	**Sb**	**17 31 46.4**	**-0.4**
	42nm,0.4s						
SHLS	**Shalkode**	**3.72**	**280**	Pg	**Pb**	**17 30 59.8**	**-1.8**
	5.0nm,0.1s						
SHLS				Lg	Lg	17 31 46.4	
	42nm,0.4s						
PDGK	**Podgornoye**	**3.72**	**283**	⇑Pn	**Pn**	**17 30 53.7**	**+0.3**
	0.4nm,0.2s						
PDGK				⇑Lg	Lg	17 31 57.9	
	39nm,0.6s						
MK31	**Makanchi Array**	**4.46**	**340**	Pn	**Pn**	**17 31 04.4**	**+0.9**
	baz=180,slow=15,SNR=108						
MK31				Pg	**Pg**	**17 31 17.6**	**-3.7**
	1.6nm,0.3s,baz=150,slow=15,SNR=78						
MK31				Lg	Lg	17 32 17.9	
	14nm,0.3s,baz=155,slow=29,SNR=9.9						
KAPS	**Kapalarasan**	**4.55**	**308**	*e*P	**Pb**	**17 31 18.7**	**+2.8**
	3.6nm,0.5s						
KAPS				*e*S	**Sg**	**17 32 18.8**	**-3.2**
	13nm,0.4s						
MAKZ	**Makanchi**	**4.56**	**338**	⇑Pn	**Pn**	**17 31 05.7**	**+0.9**
	1.7nm,1.2s						
MAKZ				⇑Pg	**Pg**	**17 31 19.9**	**-3.1**
	2.6nm,0.3s						
MAKZ				⇓Sn	**Sn**	**17 32 00.2**	**+2.4**
	2.0nm,0.5s						
MAKZ				⇓Lg	Lg	17 32 21.4	
	11nm,0.7s						
BLB	**Baldybastay**	**4.61**	**291**	*e*P	**Pb**	**17 31 20.8**	**+4.0**
	3.6nm,0.0s						
BLB				*e*S	**Sg**	**17 32 23.1**	**-0.7**
	16nm,0.4s						
BLB	**Baldybastay**	**4.61**	**291**	Pg	**Pb**	**17 31 20.8**	**+4.0**
	3.6nm,0.0s						
BLB				Lg	Lg	17 32 23.1	
	16nm,0.4s						
KURS	**Kuram**	**4.70**	**283**	*e*P	**Pg**	**17 31 23.9**	**-1.8**
	2.8nm,0.3s						
KURS				*e*S	**Sg**	**17 32 27.6**	**+1.1**
	8.6nm,0.3s						
KURS	**Kuram**	**4.70**	**283**	Pg	**Pg**	**17 31 23.9**	**-1.8**
	2.8nm,0.3s						
KURS				Lg	Lg	17 32 27.6	
	8.6nm,0.3s						
ARXS	**Arharly**	**5.09**	**291**	Pg	**Pb**	**17 31 28.3**	**+3.2**
ARXS				Lg	Lg	17 32 36.6	
TKM2	**Tokmak 2**	**6.53**	**276**	⇓Pn	**Pn**	**17 31 32.0**	**-0.2**
	1.1nm,0.5s						
TKM2				⇑Lg	Lg	17 33 27.4	
	4.9nm,0.5s						
KURBB	**Kurchatov Arra**	**8.99**	**335**	⇓Lg	Lg	17 34 45.3	
	12nm,0.7s						
KURK	**Kurchatov**	**9.05**	**336**	⇑Lg	Lg	17 34 44.3	
	3.0nm,0.5s						

DJA ***18*** *18:19:49.2±0.8, 4°.S±.7°×12°.7E±°, h10km, M3.9/9, mb4.5/4, mB4.6/2, MLv3.6/9, Mw(mB)3.8/2*
IDC ***18*** *18:19:54.6±5.7, 3°.81S×127°.38E, h49km±59km, mb3.7/4, mb1 3.9/5, mb1mx3.4/38, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=52.1km s-min=22.7km az=89.0*
ISC 18 18:19:51.1±1.0,**4°.1S**±0°.1×**127°.38E**±0°.07,**h34km,n13,**
σ1§28/17,mb4.0/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.90**	**65**	P	**Pb**	**18 20 07.2**	**-1.2**
AAI				S	**Sb**	**18 20 18.8**	**-1.3**
MSAI	**Masohi**	**1.71**	**65**	P	**Pb**	**18 20 20.2**	**-1.8**
SANI	**Sanana**	**2.45**	**325**	P	**Pn**	**18 20 26.7**	**-2.0**
LBMI	**Labuha**	**3.42**	**2**	P	**Pn**	**18 20 43.1**	**+1.0**
LBMI				S	**Sn**	**18 21 22.9**	**+1.5**
SWI	**Sorong**	**5.02**	**51**	P	**Pn**	**18 21 05.0**	**+0.9**
	0.2nm28nm,0.6s						
SIJI	**Sorong**	**5.02**	**51**	P	**Pn**	**18 21 05.2**	**+1.0**
	6.0nm,0.3s,baz=16,slow=23,SNR=28						
SIJI				S	**Sn**	**18 22 00.3**	**-0.8**
	2.1nm,0.3s,baz=18,slow=23,SNR=9.5						
KMSI	**Cibinong**	**5.73**	**324**	P	**Pn**	**18 21 12.5**	**-1.4**
	0.2nm52nm,0.6s						
MRSI	**Marisa**	**7.07**	**310**	P	**Pn**	**18 21 31.4**	**-0.8**
WRA	**Warramunga Arr**	**17.17**	**157**	P	**P**	**18 23 50.4**	**+0.5**
	0.1nm,0.3s,baz=338,slow=12,SNR=10.0						
ASAR	**Alice Springs**	**20.47**	**163**	P	Pn	18 24 31.4	+3.1
	6.1nm,0.7s,baz=340,slow=7.8,SNR=60						
ASAR				PcP	**PcP**	**18 28 38.5**	**+1.1**
	0.1nm,0.5s,baz=356,slow=1.5,SNR=4.7						
USRK	**Ussuriysk Ar.**	**48.24**	**4**	P	**P**	**18 28 30.2**	**+1.6**
	1.6nm,0.7s,baz=174,slow=7.5,SNR=4.3						
MKAR	**Makanchi Array**	**64.37**	**327**	P	**P**	**18 30 23.7**	**0.0**
	0.7nm,0.5s,baz=116,slow=6.9,SNR=22						
MKAR				PcP	**PcP**	**18 30 58.7**	**+0.7**
	0.4nm,0.6s,baz=146,slow=3.6,SNR=5.5						
ZALV	**Zalesovo Beam**	**67.83**	**334**	P	**P**	**18 30 45.4**	**-0.3**
	0.3nm,0.5s,baz=120,slow=5.2,SNR=2.7						

IDC ***18*** *18:24:17.1±0.4, 21°.65S×176°.00E, h0km, mb5.3/38, mb1 5.3/41, mb1mx5.1/47, mbtmp5.2/41, ML4.8/3, MS5.4/57, Ms1 5.4/57, ms1mx5.4/62, Error ellipse: s-maj=12.8km s-min=9.5km az=12.0*
NEIC ***18*** *18:24:18.4±1.8, 21°.41S±0°.04×176°.12E±0°.08, h7km±3km, mb5.8/107, Ms_20 5.7/293, Mwb5.8/30, Mww5.8, Error ellipse: s-maj=10.6km s-min=5.4km az=92.0*
NEIC ***18*** *18:24:18.9, 21°.46S×176°.19E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.90; $M_{\theta\theta}$=-5.94; $M_{\phi\phi}$=6.84; $M_{r\theta}$=1.71; $M_{r\phi}$=0.57; $M_{\theta\phi}$=1.17; Fault plane solution: M_0=6.79000×10^{17} NP1:ϕ_s=318.25000°, δ71.49000°, λ=-174.33000°. NP2:ϕ_s=226.45000°, δ84.62000°, λ=-18.59000°. Principal axes: T 7.0682, Plg9.0000°, Azm274.0000°; N -0.5956, Plg71.0000°, Azm31.0000°; P -6.4726, Plg17.0000°, Azm181.0000°;*
MOS ***18*** *18:24:19.5±2.1, 21°.64S×175°.80E, h10km, mb5.7/29, MS5.5/35 Error ellipse: s-maj=8.3km s-min=7.3km az=41.7*
NOU ***18*** *18:24:20.3, 21°.56S×176°.30E, h17km, ML5.8/117, South of Fiji Islands*
BJI ***18*** *18:24:20.6±0.0, 21°.75S×175°.76E, h23km, mb5.0/49, mB5.9/59, Ms5.7/71, Ms7 5.5/66*
NEIC ***18*** *18:24:24, 21°.27S×176°.21E, h18km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.74; $M_{\theta\theta}$=-5.09; $M_{\phi\phi}$=7.83; $M_{r\theta}$=0.53; $M_{r\phi}$=2.65; $M_{\theta\phi}$=-0.11; Fault plane solution: M_0=7.40000×10^{17} NP1: ϕ_s=236.00000°, δ83.00000°, λ=-7.00000°. NP2:ϕ_s=327.00000°, δ83.00000°, λ=-172.00000°. Principal axes: T 8.3564, Plg0.0000°, Azm101.0000°; N -2.6415, Plg80.0000°, Azm11.0000°; P -5.7149, Plg10.0000°, Azm191.0000°;*
GCMT ***18*** *18:24:25.4±0.1, 21°.50S×175°.98E, h17km, MW5.9/164, Moment Tensor Solution. s147,c304; s164,c513; Duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.29±.01; $M_{\theta\theta}$=-0.65±.01; $M_{\phi\phi}$=0.93±.01; $M_{r\theta}$=0.19±.02; $M_{r\phi}$=0.38±.01; $M_{\theta\phi}$=-0.07±.01; Best double couple: M_0=0.91900×10^{18} NP1:ϕ_s=236.00000°, δ74.00000°, λ=-14.00000°. NP2:ϕ_s=330.00000°, δ76.00000°, λ=-164.00000°. Principal axes: T 1.0240, Plg1.0000°, Azm103.0000°; N -0.2090, Plg69.0000°, Azm9.0000°; P -0.8150, Plg21.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 18 18:24:19.7±0.4,**21°.58S**±0°.04×**176°.10E**±0°.04,**h11km**±2**km,**
h11km:pP-P,n1048,σ1§95/981,mb5.7/195,MS5.7/255,
98C-49D,Fault plane solution: NP1:ϕ_s25.33026°, δ88.53406°, λ43.63759°. **NP2:**ϕ_s293.93286°, δ46.38029°, λ177.97484°. **Principal axes:** T Plg30.3912°, Azm258.9411°; N Plg46.3427°, Azm26.8671°; P Plg28.0162°, Azm150.7580°; **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.25**	**26**	Pn	**Pn**	**18 25 21.2**	**-3.3**
	318nm,0.3s,baz=227,slow=18,SNR=247						
MSVF				Sn	**Sn**	**18 26 08.7**	**-5.3**
	321nm,0.3s,baz=282,slow=23,SNR=10.0						
MSVF				LR	LR	18 26 38.6	
	comp=Z,54μm,19.8s,baz=293,slow=33						
MSVF	**Nonsavu**	**4.25**	**26**	Pn	**Pn**	**18 25 21.0**	**-3.5**
MSVF	**Nonsavu**	**4.25**	**26**	P	**Pn**	**18 25 21.3**	**-3.2**
TAVE	**Taveuni**	**6.14**	**39**	P	**Pn**	**18 25 48.8**	**-1.7**
DGTI	**Dogotuki**	**6.28**	**34**	P	**Pn**	**18 25 50.3**	**-2.1**
MARNC	**Mare, Loyalty**	**7.51**	**269**	Pn	**Pn**	**18 26 09.2**	**-0.1**
MARNC	**Mare, Loyalty**	**7.51**	**269**	P	**Pn**	**18 26 11.2**	**+1.9**
PINNC	**Pines Island,**	**8.09**	**261**	Pn	**Pn**	**18 26 17.3**	**+0.1**
PINNC	**Pines Island,**	**8.09**	**261**	P	**Pn**	**18 26 19.3**	**+2.1**
RTV	**Rentapao**	**8.15**	**296**	P	**Pn**	**18 26 20.4**	**+2.3**
LIFNC	**LIFOU**	**8.31**	**274**	Pn	**Pn**	**18 26 19.7**	**-0.4**
LIFNC	**LIFOU**	**8.31**	**274**	P	**Pn**	**18 26 22.2**	**+2.0**
DVP	**Devils Point**	**8.38**	**296**	P	**Pn**	**18 26 24.3**	**+3.1**
OUENC	**Ouen Island, N**	**8.63**	**263**	Pn	**Pn**	**18 26 24.2**	**-0.4**
OUENC	**Ouen Island, N**	**8.63**	**263**	P	**Pn**	**18 26 28.3**	**+3.7**
DZM	**Mont Dzumac**	**8.98**	**265**	Pn	**Pn**	**18 26 28.6**	**-1.0**
	4.9nm,0.3s,baz=72,slow=20,SNR=40						
DZM	**Mont Dzumac**	**8.98**	**265**	*e*Pn	**Pn**	**18 26 29.7**	**+0.2**
	1μm,1.1s						
DZM				*e*LR	LR	18 28 35.0	
	comp=Z,118μm,24.9s						
DZM	**Mont Dzumac**	**8.98**	**265**		**Pn**	**18 26 29.8**	**+0.2**
DZM	**Mont Dzumac**	**8.98**	**265**	P	**Pn**	**18 26 31.4**	**+1.8**
ONTNC	**Ouen Toro**	**8.98**	**264**	Pn	**Pn**	**18 26 30.1**	**+0.7**
ONTNC	**Ouen Toro**	**8.98**	**264**	P	**Pn**	**18 26 32.3**	**+2.8**
NOUC	**Port Laguerre**	**9.12**	**265**	P	**Pn**	**18 26 33.9**	**+2.6**
RAO	**Raoul Island**	**9.36**	**146**	LR	LR	18 29 37.7	
	comp=Z,22μm,18.1s,baz=194,slow=34						
SANVU	**Saraoutou**	**10.41**	**304**	Pn	**Pn**	**18 26 49.3**	**+0.3**
SANVU	**Saraoutou**	**10.41**	**304**	P	**Pn**	**18 26 50.9**	**+1.8**
NFK	**Norfolk Island**	**10.47**	**223**	P	**Pn**	**18 26 50.1**	**+0.3**
	baz=11,SNR=23						
NFK	**Norfolk Island**	**10.47**	**223**	P	**Pn**	**18 26 50.8**	**+1.0**
KOUNC	**Koumac, New Ca**	**11.08**	**273**	P	**Pn**	**18 27 01.6**	**+3.4**
OUZ	**Omahuta**	**13.77**	**189**		**Pn**	**18 27 38.7**	**+3.9**
AFI	**Afiamalu**	**13.83**	**59**	Pn	**Pn**	**18 27 37.7**	**+1.8**
	3.4nm,0.3s,baz=322,slow=20,SNR=1.7						
AFI				LR	LR	18 31 59.0	
	comp=Z,19μm,21.1s,baz=236,slow=33						
URZ	**Urewera**	**16.64**	**177**	P	**P**	**18 28 15.5**	**+0.1**
URZ				IAmb	IAmb	18 28 23.3	
	comp=Z,752nm,1.2s						
RIGZ	**Rimuhau**	**17.13**	**176**	P	**Pn**	**18 28 14.9**	**-4.2**
RIGZ				S	**Sn**	**18 31 34.1**	**+4.5**
RAHZ	**Arahi**	**17.30**	**177**	P	**P**	**18 28 24.5**	**+1.8**
KNZ	**Kokohu**	**17.43**	**176**	P	**P**	**18 28 26.9**	**+2.8**
BKZ	**Black Stump Fm**	**17.53**	**179**	P	**P**	**18 28 25.9**	**+0.7**
MOVZ	**Moawhango**	**17.77**	**181**	P	**P**	**18 28 29.7**	**+1.8**
KWHZ	**Kaweka Forest**	**17.79**	**179**	P	**P**	**18 28 30.6**	**+2.5**
BHHZ	**Black Hill Sta**	**17.85**	**180**	P	**P**	**18 28 32.1**	**+3.3**
KRHZ	**Kereru**	**18.00**	**179**	P	**P**	**18 28 33.7**	**+3.3**
LHI	**Lord Howe Isla**	**18.15**	**233**	P	**P**	**18 28 36.5**	**+4.4**
	baz=18,SNR=6.7						
LHI	**Lord Howe Isla**	**18.15**	**233**		**P**	**18 28 32.4**	**+0.3**
LHI	**Lord Howe Isla**	**18.15**	**233**	P	**P**	**18 28 33.2**	**+1.1**
PNHZ	**Pukenui**	**18.27**	**180**	P	**P**	**18 28 36.5**	**+3.0**
TSZ	**Takapari Road**	**18.42**	**180**	P	**Pn**	**18 28 37.4**	**+2.3**
DVHZ	**Dannevirke**	**18.66**	**180**	P	**Pn**	**18 28 40.4**	**+2.4**
BFZ	**Birch Farm**	**19.04**	**180**	P	**P**	**18 28 40.8**	**-1.0**
BFZ				IAmb	IAmb	18 28 48.2	
	comp=Z,645nm,1.3s						
BFZ	**Birch Farm**	**19.04**	**180**	P	**Pn**	**18 28 42.5**	**-0.1**
QRZ	**Quartz Range**	**19.42**	**188**	P	**Pn**	**18 28 47.2**	**+0.1**
QRZ				IAmb	IAmb	18 28 57.7	
	comp=Z,685nm,1.2s						
HNR	**Honiara**	**19.68**	**305**	P	**P**	**18 28 48.1**	**-0.8**
	comp=Z,6.4nm,0.3s,baz=223,slow=4.8,SNR=33						
HNR				S	**S**	**18 32 31.2**	**+0.3**
	baz=244,slow=19,SNR=0.8						
HNR				LR	LR	18 35 10.8	
	comp=Z,20μm,20.0s,baz=140,slow=33						
HNR	**Honiara**	**19.68**	**305**	P	**P**	**18 28 48.4**	**-0.6**
HNR	**Honiara**	**19.68**	**305**	P	**Pn**	**18 28 50.2**	**-0.2**
SNZO	**South Karori**	**19.70**	**183**	P	**Pn**	**18 28 50.9**	**+0.4**
SNZO				IAmb	IAmb	18 29 03.6	
	comp=Z,524nm,1.1s						
SNZO	**South Karori**	**19.70**	**183**	P	**P**	**18 28 49.4**	**+0.3**
NNZ	**Nelson**	**19.71**	**186**	P	**P**	**18 28 49.2**	**+0.1**
NNZ				IAmb	IAmb	18 29 00.6	
	comp=Z,698nm,1.2s						
MSWZ	**Moikau Station**	**19.79**	**182**	P	**P**	**18 28 49.5**	**-0.5**
BHW	**Baring Head**	**19.79**	**183**	P	**P**	**18 28 50.5**	**+0.5**
TUWZ	**Tuamarina**	**19.87**	**185**	P	**Pn**	**18 28 51.9**	**-0.7**
PLWZ	**Palliser**	**19.94**	**182**	P	**P**	**18 28 52.3**	**+0.6**
BSWZ	**Blackbirch Sta**	**20.16**	**185**	P	Pn	18 28 55.0	-0.9
CMWZ	**Cape Campbell**	**20.17**	**184**	P	**P**	**18 28 53.5**	**-0.7**
THZ	**Tophouse**	**20.30**	**187**	P	**P**	**18 28 56.6**	**+0.9**
THZ				IAMs_20	IAMs_20	18 36 24.6	
	comp

baz=25,SNR=5.6
RMQ Roma 25.42 254 P **P 18 29 48.6 +1.0**
baz=26,SNR=35
RMQ Roma 25.42 254 P **P 18 29 49.2 +1.6**
SYDH Sydney Hard Ro 25.45 236 P **P 18 29 49.4 +1.7**
PYZ Puysegur Point 25.70 195 IAMs_20 IAMs_20 18 38 25.5
comp=Z,27µm,20.0s
CNB Canberra Magne 27.10 234 P **P 18 30 03.5 +0.8**
baz=27,SNR=28
CNB Canberra Magne 27.10 234 P **P 18 30 03.9 +1.2**
CAN Canberra 27.37 234 P **P 18 30 03.7 -1.5**
CAN pmax pmax
comp=Z,104nm,1.2s
CAN MLR MLR
comp=Z,12µm,20.0s
CAN Canberra 27.37 234 P **P 18 30 03.7 -1.5**
CAN Canberra 27.37 234 P **P 18 30 06.9 +1.7**
CTA Charters Tower 27.92 268 P **P 18 30 08.8 -1.3**
comp=Z,87nm,1.1s,baz=88,slow=12,SNR=13
CTA S **S 18 34 54.2 +0.3**
comp=Z,1.7nm,0.2s,baz=351,slow=20,SNR=1.3
CTA LR LR 18 41 00.7
comp=Z,27µm,18.3s,baz=92,slow=36
CTA Charters Tower 27.92 268 P **P 18 30 12.2 +2.1**
CTAO Charters Tower 27.92 268 P **P 18 30 08.6 -1.5**
CTAO pmax pmax
comp=Z,286nm,1.5s
CTAO MLR MLR
comp=Z,27µm,18.0s
CTAO Charters Tower 27.92 268 P **P 18 30 08.6 -1.5**
CTAO IAmb IAmb 18 30 16.3
comp=Z,286nm,1.4s
CTAO Charters Tower 27.92 268 P **P 18 30 11.8 +1.7**
MILA Mila 27.97 231 P **P 18 30 12.0 +1.5**
baz=28,SNR=3.9
CMSA Cobar Meteorol 28.87 244 P **P 18 30 18.0 -0.5**
baz=29,SNR=43
CMSA Cobar Meteorol 28.87 244 P **P 18 30 20.1 +1.6**
RABL Rabaul 28.96 303 P **P 18 30 16.9 -2.5**
RABL Rabaul 28.96 303 P **P 18 30 18.3 -1.1**
QLP Quilpie 29.47 254 P **P 18 30 22.5 -1.4**
baz=30,SNR=6.5
QLP Quilpie 29.47 254 P **P 18 30 25.6 +1.7**
MTSU Mount Surprise 30.06 271 P **P 18 30 28.6 -0.6**
baz=30,SNR=12
MTSU Mount Surprise 30.06 271 P **P 18 30 30.7 +1.5**
PMG Port Moresby 30.34 289 P **P 18 30 30.3 -1.3**
comp=Z,29nm,1.0s,baz=106,slow=9.5,SNR=7.9
PMG LR LR 18 40 51.4
comp=Z,5µm,21.7s,baz=92,slow=33
PMG Port Moresby 30.34 289 *de*P **P 18 30 32.4 +0.8**
PMG pmax pmax
comp=Z,148nm,2.5s
PMG Port Moresby 30.34 289 P **P 18 30 28.8 -2.9**
PMG Port Moresby 30.34 289 P **P 18 30 33.2 +1.6**
PMG Port Moresby 30.34 289 P **P 18 30 32.9 +1.3**
GLAD Gladstone 30.62 224 P **P 18 30 35.2 +1.3**
TOO Toolangi 30.85 232 P **P 18 30 36.6 +0.6**
baz=31,SNR=20
TOO Toolangi 30.85 232 P **P 18 30 35.2 -0.8**
TOO pmax pmax
comp=Z,115nm,1.0s
TOO Toolangi 30.85 232 P **P 18 30 35.2 -0.8**
TOO IAmb IAmb 18 30 40.5
comp=Z,115nm,1.0s
TOO Toolangi 30.85 232 P **P 18 30 35.3 -0.8**
CORO Coronation Par 31.42 224 P **P 18 30 42.3 +1.4**
MOO Moorlands 31.90 223 P **P 18 30 46.5 +1.3**
baz=32,SNR=6.2
MOO Moorlands 31.90 223 P **P 18 30 46.2 +1.0**
BRAT Ballarat 31.99 233 P **P 18 30 47.6 +1.6**
comp=Z,70nm,1.0s
TAU Tasmania Unive 32.07 222 P **P 18 30 45.2 -1.4**
TAU pmax pmax
comp=Z,194nm,1.3s
TAU MLR MLR
comp=Z,17µm,20.0s
TAU Tasmania Unive 32.07 222 P **P 18 30 45.2 -1.4**
TAU IAmb IAmb 18 30 51.6
comp=Z,194nm,1.2s
TAU Tasmania Unive 32.07 222 IAMs_20 IAMs_20 18 40 57.3
comp=Z,17µm,20.0s
TAU Tasmania Unive 32.07 222 P **P 18 30 47.9 +1.3**
COEN Coen 32.21 278 P **P 18 30 46.8 -1.3**
COEN IAmb IAmb 18 30 54.5
comp=Z,162nm,1.2s
COEN Coen 32.21 278 P **P 18 30 48.6 +0.4**
STKA Stephens Creek 32.36 244 P **P 18 30 48.2 -1.1**
comp=Z,47nm,1.1s,baz=89,slow=10,SNR=27
STKA LR LR 18 42 03.5
comp=Z,9µm,19.4s,baz=72,slow=33
STKA Stephens Creek 32.36 244 P **P 18 30 48.9 -0.4**
baz=32,SNR=18
STKA Stephens Creek 32.36 244 P **P 18 30 48.4 -0.9**
STKA Stephens Creek 32.36 244 P **P 18 30 48.4 -0.9**
PAE Paea 32.52 89 *e*P **P 18 30 54.1 +3.3**
comp=Z,49nm,1.4s
PPT2 Papeete2 32.54 89 *e*P **P 18 30 54.7 +3.6**
comp=Z,200nm,1.4s
PPT2 *e*S **S 18 36 05.9 -0.7**
comp=Z,4µm,25.0s
PPT2 *e*LQ LQ 18 38 07.9
comp=Z,13µm,30.8s
PPT2 *e*LR LR 18 39 30.4
comp=Z,44µm,28.2s,baz=254
PPT Papeete 32.55 89 P **P 18 30 52.9 +1.8**
comp=Z,18nm,0.5s,baz=149,slow=16,SNR=1.8
PPT LR LR 18 40 50.9
comp=Z,7µm,21.1s,baz=256,slow=30
PPTF Pamatai, Papee 32.55 89 P **P 18 30 49.7 -1.5**
INKA Innaminka 32.63 252 P **P 18 30 52.2 +0.4**
TIAR Tiarei 32.76 89 *e*P **P 18 30 56.6 +3.6**
comp=Z,1.8nm,1.4s
ARPS Mount Arapiles 33.32 235 P **P 18 30 57.7 0.0**
baz=33,SNR=18
ARPS Mount Arapiles 33.32 235 P **P 18 30 58.8 +1.1**
MEH Mehetia 33.88 90 *e*P **P 18 31 05.9 +3.1**
comp=Z,45nm,1.2s
QIS Mount Isa 34.02 265 P **P 18 31 02.5 -1.5**
baz=34,SNR=21
QIS Mount Isa 34.02 265 P **P 18 31 03.0 -1.0**
PMOR Pomariorio Ree 34.75 85 *e*P **P 18 31 13.4 +3.1**
comp=Z,245nm,1.3s
HTT Hallett 34.85 242 P **P 18 31 10.5 -0.5**
baz=35,SNR=56
HTT Hallett 34.85 242 P **P 18 31 11.4 +0.3**
VAH Vaihoa 34.93 86 *e*P **P 18 31 14.7 +2.9**
comp=Z,87nm,1.1s
LCRK Leigh Creek 35.04 247 P **P 18 31 12.5 -0.2**
TWOA Tennyson Woods 35.44 240 P **P 18 31 17.4 +1.4**
comp=Z,62nm,1.1s
PTPS Port Pirie 35.57 243 P **P 18 31 18.8 +1.6**
WHYH Whyalla 35.90 243 P **P 18 31 19.7 -0.3**
comp=Z,179nm,1.0s
MMPI Merauke 36.77 285 P **P 18 31 28.4 +0.7**
OOD Oodnadatta 37.11 252 P **P 18 31 32.9 +2.4**
BBOO Buckleboo 37.13 244 P **P 18 31 29.7 -0.9**
baz=37,SNR=44
BBOO Buckleboo 37.13 244 P **P 18 31 28.4 -2.1**
BBOO IAmb IAmb 18 31 33.9
comp=Z,194nm,1.1s
BBOO Buckleboo 37.13 244 P **P 18 31 31.1 +0.5**
MULG Mulgathing 38.61 248 P **P 18 31 44.3 +1.2**
WR0 Warramunga Arr 38.81 265 P **P 18 31 41.9 -3.0**
AS31 Alice Springs 38.90 259 P **P 18 31 43.7 -2.0**
ASAR Alice Springs 38.91 259 P **P 18 31 42.9 -2.8**
comp=Z,46nm,1.0s,baz=84,slow=8.9,SNR=119
ASAR PcP **PcP 18 33 54.1 -2.5**
comp=Z,8.7nm,0.9s,baz=97,slow=3.0,SNR=3.2
ASAR ScP **ScP 18 37 45.3 +0.4**
comp=Z,0.9nm,0.9s,baz=108,slow=5.0,SNR=1.6
ASAR LR LR 18 47 37.5
comp=Z,15µm,19.8s,baz=103,slow=36
ASAR P3KPbc 19 01 47.2
comp=Z,0.1nm,0.3s,baz=289,slow=3.6,SNR=1.5
ASAR Alice Springs 38.91 259 P **P 18 31 42.8 -2.9**
WB0 Warramunga Arr 38.98 265 P **P 18 31 43.4 -3.0**
WB0 IAmb IAmb 18 31 50.9
comp=Z,213nm,1.2s
WB2 Warramunga Arr 38.99 265 P **P 18 31 43.0 -3.5**
WB2 IAmb IAmb 18 31 51.1
comp=Z,264nm,1.3s
WRAB Tennant Creek 38.99 265 *de*P **P 18 31 43.6 -2.9**
WRAB pmax pmax
comp=Z,182nm,1.7s
WRAB MLR MLR
comp=Z,11µm,15.0s
WRAB Tennant Creek 38.99 265 P **P 18 31 42.5 -4.0**
WRAB IAmb IAmb 18 31 51.0
comp=Z,268nm,1.3s
WRA Warramunga Arr 39.00 265 P **P 18 31 43.9 -2.6**
comp=Z,55nm,1.0s,baz=97,slow=8.9,SNR=60
WRA PP **PP 18 33 15.8 -0.1**
comp=Z,10nm,1.1s,baz=95,slow=9.2,SNR=1.5
WRA PcP **PcP 18 33 53.9 -3.0**
comp=Z,9.3nm,1.1s,baz=102,slow=2.6,SNR=0.9
WRA S S 18 37 34.3 -11
comp=Z,0.6nm,0.9s,baz=101,slow=15,SNR=1.3
WRA LR LR 18 47 57.3
comp=Z,25µm,18.2s,baz=98,slow=36
WRA Warramunga Arr 39.00 265 P **P 18 31 42.6 -3.9**
JAY Jayapura 39.29 294 P **P 18 31 47.4 -1.6**
comp=Z,49nm,0.9s,baz=152,slow=1.5,SNR=16
JAY LR LR 18 47 42.7
comp=Z,7µm,18.6s,baz=112,slow=36
JAY Jayapura 39.29 294 P **P 18 31 49.4 +0.4**
comp=Z,2µmcomp=Z,1µmcomp=Z,43nm,1.6s
GENI Genyem 39.71 293 P **P 18 31 52.5 +0.1**
comp=Z,5µmcomp=Z,6µmcomp=Z,278nm,1.3s
GENI Genyem 39.71 293 P **P 18 31 53.4 +1.0**
SMPI Sarmi 41.27 293 P **P 18 32 06.3 +1.0**
comp=Z,3µmcomp=Z,2µmcomp=Z,60nm,1.7s
KDU Kakadu 42.50 275 P **P 18 32 13.7 -1.7**
baz=42,SNR=11
KDU Kakadu 42.50 275 P **P 18 32 16.5 +1.1**
SRPI Serui, Papua 43.45 291 P **P 18 32 23.1 -0.1**
comp=Z,3µmcomp=Z,2µmcomp=Z,80nm,2.0s
MTN Manton Dam 43.70 274 P **P 18 32 23.6 -1.5**
baz=44,SNR=22
MTN Manton Dam 43.70 274 P **P 18 32 22.6 -2.5**
MTN Manton Dam 43.70 274 P **P 18 32 23.9 -1.2**
FORT Forrest 43.80 248 P **P 18 32 24.6 -1.2**
baz=44,SNR=17
FORT Forrest 43.80 248 P **P 18 32 24.0 -1.8**
FORT IAmb IAmb 18 32 29.4
comp=Z,236nm,1.1s
FORT Forrest 43.80 248 P **P 18 32 27.3 +1.5**
WRKA Warakurna 43.86 256 P **P 18 32 25.4 -1.0**
baz=44,SNR=33
WRKA Warakurna 43.86 256 P **P 18 32 27.6 +1.2**
BAKI Biak 43.91 292 P **P 18 32 27.4 +0.6**
comp=Z,4µmcomp=Z,213nm,1.1s
TAOE Nuku Hiva Isla 43.92 80 *e*P **P 18 32 29.7 +2.7**
comp=Z,307nm,1.1s
TAOE *e*S **S 18 38 57.9 -0.8**
comp=Z,3µm,26.0s
TAOE *e*LQ LQ 18 42 42.6
comp=Z,16µm,28.0s
TAOE *e*LR LR 18 44 43.1
comp=Z,23µm,26.3s,baz=250
TAOE Nuku Hiva Isla 43.92 80 P **P 18 32 25.7 -1.3**
DRS Darwin Rock St 44.04 274 P **P 18 32 27.0 -0.9**
comp=Z,52nm,1.0s
KNRA Kununurra 45.11 269 P **P 18 32 34.9 -1.5**
baz=45,SNR=12
KNRA Kununurra 45.11 269 P **P 18 32 34.4 -2.0**
KNRA IAmb IAmb 18 32 58.4
comp=Z,91nm,1.1s
KNRA Kununurra 45.11 269 P **P 18 32 37.2 +0.8**
SAUI Saumlaki 45.21 280 P **P 18 32 37.1 -0.1**
comp=Z,8µmcomp=Z,6µmcomp=Z,323nm,1.3s
SAUI Saumlaki 45.21 280 P **P 18 32 35.2 -2.0**
SAUI Saumlaki 45.21 280 P **P 18 32 38.6 +1.4**
FAKI Fak Fak 46.46 287 P **P 18 32 45.9 -1.2**
comp=Z,4µmcomp=Z,2µmcomp=Z,106nm,1.1s
FAKI Fak Fak 46.46 287 P **P 18 32 44.3 -2.8**
FAKI IAmb IAmb 18 32 49.6
comp=Z,123nm,1.1s
FAKI Fak Fak 46.46 287 P **P 18 32 48.2 +1.1**
GUMO Guam 46.49 316 P **P 18 32 47.3 +0.1**
comp=Z,72nm,0.9s,baz=133,slow=14,SNR=2.0
GUMO LR LR 18 50 18.7
comp=Z,5µm,21.7s,baz=134,slow=34
FITZ Fitzroy Crossi 47.43 265 P **P 18 32 53.0 -1.6**
comp=Z,58nm,1.0s,baz=105,slow=4.6,SNR=34
FITZ LR LR 18 52 31.2
comp=Z,18µm,19.0s,baz=103,slow=36
BNDI Bandanaira 47.86 284 P **P 18 32 58.7 +0.6**
SIJI Sorong 48.28 289 P **P 18 32 59.8 -1.6**
comp=Z,115nm,0.9s,baz=81,slow=6.6,SNR=29
SIJI LR LR 18 53 00.6
comp=Z,6µm,20.9s,baz=102,slow=36
SWI Sorong 48.29 289 P **P 18 33 00.2 -1.2**
comp=Z,4µmcomp=Z,3µmcomp=Z,220nm,1.0s
MSAI Masohi 49.24 285 P **P 18 33 09.6 +0.9**
comp=Z,6.2nm,0.7s
KEKH Kekaha 49.31 30 P **P 18 33 05.8 -3.2**
POHA Pohakuloa 49.57 36 P P 18 33 06.2 -5.2
POHA IAmb IAmb 18 33 17.2
comp=Z,153nm,1.2s
AAI Ambon 49.76 284 P **P 18 33 12.0 -0.7**
comp=Z,3µmcomp=Z,271nm,1.1s
SOEI Soe 51.06 275 P **P 18 33 23.1 +0.4**
comp=Z,4µmcomp=Z,2µmcomp=Z,154nm,1.1s
SOEI Soe 51.06 275 P P 18 33 16.4 -6.2
SOEI IAmb IAmb 18 33 35.2
comp=Z,178nm,1.1s
SOEI Soe 51.06 275 P **P 18 33 23.7 +1.0**
BATI Baumata 51.47 274 P **P 18 33 25.3 -0.3**
comp=Z,169nm,1.0s,baz=128,slow=3.1,SNR=17
BATI LR LR 18 56 32.1
comp=Z,16µm,18.3s,baz=153,slow=38
BATI Baumata 51.47 274 P **P 18 33 26.6 +1.0**
comp=Z,3µmcomp=Z,1µmcomp=Z,100nm,1.1s
LBMI Labuha 51.72 287 P **P 18 33 27.8 +0.4**
comp=Z,2µmcomp=Z,3µmcomp=Z,164nm,1.8s
PSA00 Pilbara Seismi 52.05 259 P **P 18 33 27.0 -2.8**
PSA00 IAmb IAmb 18 33 32.7
comp=Z,110nm,1.1s
PSA00 Pilbara Seismi 52.05 259 P **P 18 33 28.1 -1.8**
PSA00 IAmb IAmb 18 33 33.2
comp=Z,151nm,1.1s
PSA00 Pilbara Seismi 52.05 259 P **P 18 33 28.8 -1.1**
MBWA Marble Bar 52.24 259 P **P 18 33 30.2 -1.1**
MEEK Meekatharra 52.35 252 P **P 18 33 30.6 -1.4**
baz=52,SNR=22
MEEK Meekatharra 52.35 252 P **P 18 33 33.4 +1.3**
SANI Sanana 52.45 285 P **P 18 33 32.0 -0.9**
comp=Z,5µmcomp=Z,4µmcomp=Z,157nm,1.6s
SANI Sanana 52.45 285 P **P 18 33 33.2 +0.3**
TNTI Ternate 52.49 289 P **P 18 33 32.8 -0.4**
comp=Z,2µmcomp=Z,4µmcomp=Z,180nm,2.1s
TNTI Ternate 52.49 289 P **P 18 33 30.7 -2.4**
TNTI Ternate 52.49 289 P **P 18 33 33.6 +0.4**
KLBR Kellerberrin 52.59 246 P **P 18 33 32.5 -1.3**
baz=53,SNR=55
KLBR Kellerberrin 52.59 246 P **P 18 33 34.6 +0.8**
NWAO Narrogin (SRO) 52.95 244 P **P 18 33 35.5 -0.9**
NWAO pmax pmax
comp=Z,303nm,1.1s
NWAO MLR MLR
comp=Z,10µm,18.0s
NWAO Narrogin (SRO) 52.95 244 P **P 18 33 35.5 -0.9**
NWAO Narrogin (SRO) 52.95 244 P **P 18 33 35.5 -0.9**
MMRI Maumere 53.33 275 P **P 18 33 38.6 -0.8**
comp=Z,4µmcomp=Z,3µmcomp=Z,175nm,1.2s
MMRI Maumere 53.33 275 P **P 18 33 38.5 -0.9**
MMRI Maumere 53.33 275 P **P 18 33 38.8 -0.6**
BLDU Ballidu 53.57 247 P **P 18 33 39.8 -1.2**
baz=54,SNR=10
BLDU Ballidu 53.57 247 P **P 18 33 40.4 -0.6**
EDFI Ende, Flores 53.79 275 P **P 18 33 41.7 -1.2**
comp=Z,2µmcomp=Z,1µmcomp=Z,51nm,1.8s
MUN Mundaring 53.88 246 P **P 18 33 42.5 -0.7**
baz=54,SNR=20
MUN Mundaring 53.88 246 P **P 18 33 43.5 +0.3**
comp=Z,174nm,1.3s
BBSI Bau Bau 54.16 279 P **P 18 33 45.6 +0.1**
comp=Z,179nmcomp=Z,18nm,1.2s
MTKN Mount Kenneth 54.25 246 P **P 18 33 47.2 +1.3**
MORW Morawa 54.31 249 P **P 18 33 44.8 -1.6**
baz=54,SNR=19
MORW Morawa 54.31 249 P **P 18 33 45.1 -1.3**
MORW IAmb IAmb 18 33 49.3
comp=Z,147nm,1.1s
MORW Morawa 54.31 249 P **P 18 33 45.5 -0.9**
BASI Baing, Sumba 54.33 273 P **P 18 33 47.0 +0.3**
comp=Z,2µmcomp=Z,1µmcomp=Z,102nm,1.4s
KMSI Cibinong 55.40 287 P **P 18 33 54.5 0.0**
comp=Z,1µmcomp=Z,112nm,1.0s
SGSI Sangihe 55.49 291 P **P 18 33 55.1 0.0**
comp=Z,141nm,0.8s
WBSI Waikabubak, Su 55.63 273 P **P 18 33 56.1 -0.1**
comp=Z,2µmcomp=Z,70nm,1.0s
LUWI Luwuk 55.78 284 P **P 18 33 57.5 +0.3**
comp=Z,5µmcomp=Z,5µmcomp=Z,241nm,1.3s
LUWI Luwuk 55.78 284 P **P 18 33 56.2 -1.0**
LUWI Luwuk 55.78 284 P **P 18 33 57.2 0.0**
BSSI Bau Bau, Buton 55.83 277 P **P 18 33 58.9 +1.3**
comp=Z,2µmcomp=Z,1µmcomp=Z,32nm,1.9s
GTOI Gorontalo 56.30 286 P **P 18 34 02.4 +1.5**
comp=Z,855nmcomp=Z,57nm,1.6s
VNDA Vanda 56.41 184 P **P 18 34 00.8 0.0**
comp=Z,23nm,1.1s,baz=2.6,slow=6.5,SNR=15
VNDA LR LR 18 54 47.1
comp=Z,7µm,20.3s,baz=20,slow=32
VNDA Vanda 56.41 184 P **P 18 34 00.5 -0.3**
VNDA pmax pmax
comp=Z,91nm,1.4s
VNDA Vanda 56.41 184 P **P 18 34 00.5 -0.3**
VNDA IAmb IAmb 18 34 05.8
comp=Z,91nm,1.4s
BKSI Bulukumba 56.48 278 P **P 18 34 01.0 -1.2**
comp=Z,4µmcomp=Z,1µmcomp=Z,54nm,1.2s
SBA Scott Base 56.50 182 P **P 18 34 01.9 +0.5**
SBA pmax pmax
comp=Z,216nm,1.0s
SBA MLR MLR
comp=Z,5µm,20.0s
SBA Scott Base 56.50 182 P **P 18 34 01.9 +0.5**
SBA Scott Base 56.50 182 IAMs_20 IAMs_20 18 54 07.7
comp=Z,5µm,20.0s
BNSI Bone 56.85 279 P **P 18 34 03.8 -1.0**
comp=Z,2µmcomp=Z,90nm,1.6s
APSI Ampana 56.85 284 P **P 18 34 06.2 +1.4**
comp=Z,2µmcomp=Z,2µmcomp=Z,132nm,1.4s
KAPI Kappang 56.94 278 P **P 18 34 04.4 -1.1**
comp=Z,41nm,1.2s,baz=124,slow=3.4,SNR=12
KAPI LR LR 19 00 37.7
comp=Z,3µm,18.2s,baz=154,slow=38
KAPI Kappang 56.94 278 P **P 18 34 03.2 -2.3**
KAPI IAmb IAmb 18 34 08.7
comp=Z,141nm,1.4s
KAPI Kappang 56.94 278 P **P 18 34 05.2 -0.3**
GIRL Giralia 56.95 256 P **P 18 34 03.6 -1.8**
DAV Davao City (W) 57.14 294 P **P 18 34 06.7 -0.1**
comp=Z,83nm,0.3s,baz=58,slow=4.2,SNR=3.9
DAV LR LR 18 57 48.4
comp=Z,958nm,19.8s,baz=118,slow=35
DAV Davao City (W) 57.14 294 P **P 18 34 05.5 -1.4**
MRSI Marisa 57.19 285 P **P 18 34 05.7 -1.5**
comp=Z,3µmcomp=Z,1µmcomp=Z,49nm,1.1s
SPSI Sidrap Palu 57.32 279 P **P 18 34 06.3 -1.9**
comp=Z,3µmcomp=Z,1µmcomp=Z,48nm,1.2s
TTSI Tana Toraja 57.64 280 P **P 18 34 11.5 +1.1**
comp=Z,3µmcomp=Z,2µmcomp=Z,74nm,1.2s
TOLI2 Tolitoli 58.50 285 P **P 18 34 13.6 -2.9**
TOLI2 IAmb IAmb 18 34 18.8
comp=Z,134nm,1.1s
TOLI2 Tolitoli 58.50 285 P **P 18 34 19.0 +2.5**
MPSI Mapaga 58.96 284 P **P 18 34 18.6 -1.1**
comp=Z,3µmcomp=Z,1µmcomp=Z,70nm,1.1s
IGBI Denpasar 59.85 272 P **P 18 34 27.1 +1.3**
comp=Z,2µmcomp=Z,101nm,1.3s
SRBI Singaraja 60.03 273 P **P 18 34 28.0 +0.9**
comp=Z,4µmcomp=Z,2µmcomp=Z,71nm,1.2s
CASY Casey 60.65 205 P **P 18 34 30.3 -0.2**
JAGI Jajag, Banyuwa 60.89 272 P **P 18 34 34.2 +1.2**
comp=Z,4µmcomp=Z,2µmcomp=Z,50nm,1.6s
JAGI Jajag, Banyuwa 60.89 272 P **P 18 34 29.8 -3.2**
JAGI Jajag, Banyuwa 60.89 272 P **P 18 34 32.9 -0.1**
KBKI Kotabaru 60.89 279 P **P 18 34 35.3 +2.3**
comp=Z,32nm,1.2s
ABJI Asem Bagus 61.04 273 P **P 18 34 35.3 +1.3**
comp=Z,4µmcomp=Z,2µmcomp=Z,39nm,1.1s
SMKI Samarinda 61.07 282 P **P 18 34 36.3 +2.1**
KMMI Kalianget 61.55 274 P **P 18 34 36.3 -1.1**
comp=Z,3µmcomp=Z,2µmcomp=Z,66nm,1.2s
GMJI Gumukmas 61.62 272 P **P 18 34 39.0 +1.1**
comp=Z,1µmcomp=Z,50nm,1.2s
BBKI Banjar Baru 62.05 278 P **P 18 34 43.5 +2.7**
comp=Z,1µmcomp=Z,57nm,2.3s
MYLDM Lahad Datu 62.36 288 P **P 18 34 42.4 -0.5**
PCJI Pacitan 63.75 271 P **P 18 34 53.5 +1.4**
comp=Z,3µmcomp=Z,2µmcomp=Z,104nm,1.3s
UGM Wanagama 64.45 271 P **P 18 35 00.6 +3.8**
comp=Z,4µmcomp=Z,3µmcomp=Z,118nm,1.2s
UGM Wanagama 64.45 271 P **P 18 34 57.4 +0.6**
UWJI Ujung Watu 64.58 273 P **P 18 34 59.0 +1.4**
comp=Z,6µmcomp=Z,109nm,1.5s
TGY Tagaytay City 64.70 298 P **P 18 34 57.9 -0.5**
comp=Z,70nm,0.3s,baz=90,slow=4.1
TGY LR LR 18 58 33.6
comp=Z,1µm,20.9s,baz=114,slow=32
KKM Kota Kinabalu 64.78 288 P **P 18 34 56.0 -3.0**
KKM Kota Kinabalu 64.78 288 P **P 18 35 01.4 +2.5**
SMRI Semarang 64.83 272 IAMs_20 IAMs_20 19 04 20.7
comp=Z,5µm,18.0s
PBKI Pangkalan Bun 65.27 277 P **P 18 35 02.0 -0.1**
comp=Z,1µmcomp=Z,125nm,1.1s
CMJI Cimerak 66.43 271 P **P 18 35 11.0 +1.5**
comp=Z,751nmcomp=Z,38nm,1.1s
STKI Sintang 66.52 280 P **P 18 35 09.9 -0.2**
comp=Z,2µmcomp=Z,51nm,1.3s
JYT Yasato 66.77 329 P **P 18 35 09.7 -1.5**
JOW Kunigami 66.79 314 P **P 18 35 09.6 -1.9**
comp=Z,25nm,0.8s,baz=152,slow=19,SNR=2.1
JOW LR LR 19 04 06.3
comp=Z,1µm,18.6s,baz=108,slow=36
JOW Kunigami 66.79 314 IAmb IAmb 18 35 15.8
comp=Z,103nm,1.2s
SBUM Sibu 66.81 283 P **P 18 35 10.0 -2.0**
RPN Rapa Nui 67.26 111 LR LR 18 57 34.7
comp=Z,1µm,20.8s,baz=256,slow=30
LEM Lembang 67.53 271 P **P 18 35 15.2 -1.6**
comp=Z,95nm,1.1s,baz=150,slow=9.6,SNR=18
LEM LR LR 19 05 19.1
comp=Z,5µm,19.6s,baz=121,slow=36
LEM Lembang 67.53 271 P **P 18 35 16.0 -0.8**
comp=Z,2µmcomp=Z,1µmcomp=Z,51nm,1.6s
INU Inuyama 67.67 326 P **P 18 35 15.4 -1.6**
INU IAmb IAmb 18 35 23.7
comp=Z,88nm,1.0s
INU Inuyama 67.67 326 P **P 18 35 19.1 +2.2**
JGF Kuroka 67.69 327 P **P 18 35 16.4 -0.7**
JGF IAmb IAmb 18 35 23.6
comp=Z,50nm,0.9s
CNJI Cibinong 67.82 271 P **P 18 35 19.1 +0.7**
comp=Z,3µmcomp=Z,1µmcomp=Z,101nm,1.1s
MJAR Matsushiro Arr 67.99 328 P **P 18 35 18.0 -1.0**
comp=Z,71nm,1.1s,baz=159,slow=5.7,SNR=21
MJAR LR LR 19 00 49.5
comp=Z,1µm,21.8s,baz=134,slow=32
MJAR Matsushiro Arr 67.99 328 P **P 18 35 18.0 -1.0**
MJAR Matsushiro Arr 67.99 328 P **P 18 35 15.9 -3.1**
MJAR IAmb IAmb 18 35 25.3
comp=Z,62nm,1.0s
MAJO Matsushiro 67.99 328 *ce*P **P 18 35 21.8 +2.8**
MAJO pmax pmax
comp=Z,99nm,0.9s
MAJO MLR MLR
comp=Z,1µm,19.0s
MAJO Matsushiro 67.99 328 P **P 18 35 15.6 -3.4**
MAJO Matsushiro 67.99 328 P **P 18 35 17.8 -1.2**
MAT Matsushiro 67.99 328 P **P 18 35 18.2 -0.8**
MAT S **S 18 44 22.6 +4.5**
MJB9 Matsu-Tunnel 68.00 328 P **P 18 35 15.4 -3.6**
MJB9 IAmb IAmb 18 35 25.4
comp=Z,97nm,0.9s
XMI Christmas Isla 68.11 267 P **P 18 35 22.9 +2.7**
comp=Z,118nm,1.1s
XMIS Christmas Isla 68.13 267 P **P 18 35 17.4 -3.0**
XMIS IAmb IAmb 18 35 23.2
comp=Z,100nm,1.1s
XMIS Christmas Isla 68.13 267 P **P 18 35 23.1 +2.7**
comp=Z,82nm,1.4s
JMN Monobe 68.14 323 P **P 18 35 16.6 -3.5**
KSM Kuching 68.15 281 P **P 18 35 17.5 -2.9**
KSM IAmb IAmb 18 35 23.5
comp=Z,117nm,1.1s
KSM Kuching 68.15 281 P **P 18 35 22.1 +1.6**
CBJI Citeko 68.39 272 P **P 18 35 23.1 +1.1**
comp=Z,2µmcomp=Z,111nm,0.9s
DBJI Dramaga 68.44 271 P **P 18 35 22.8 +0.5**
comp=Z,2µmcomp=Z,52nm,1.0s
SKJI Sukabumi 68.46 271 P **P 18 35 22.7 +0.3**
QSPA South Pole Qui 68.49 180 LR LR 19 01 50.5
comp=Z,3µm,19.4s,baz=36,slow=33

QSPA	**South Pole Qui**	**68.49 180**	P	**P**	**18 35 21.7**	**-0.2**
TNG	**Tangerang**	**68.66 272**	P	**P**	**18 35 24.0**	**+0.3**
TNG			P	**P**	**18 35 24.2**	**+0.5**
TPI	**Tanjungpandan**	**68.96 276**	P	**P**	**18 35 27.0**	**+1.5**
	comp=Z,32nm,1.0s					
SBJI	**Serang**	**69.16 272**	P	**P**	**18 35 27.2**	**+0.4**
	comp=Z,87nm,1.2s					
CGJI	**Cibinong**	**69.40 271**	P	**P**	**18 35 26.2**	**-2.0**
	comp=Z,2μmcomp=Z,65nm,1.1s					
JNU	**Nakatsue**	**69.44 320**	P	**P**	**18 35 26.8**	**-1.3**
	comp=Z,54nm,1.1s,baz=322,slow=18,SNR=5.8					
JNU	**Nakatsue**	**69.44 320**	P	**P**	**18 35 27.4**	**-0.7**
NACB	**Ninganchiao**	**69.84 308**	P	**P**	**18 35 29.4**	**-1.3**
TPUB	**Ta-pu**	**70.05 306**	P	**P**	**18 35 30.8**	**-1.3**
TPUB			IAmb	IAmb	18 35 39.2	
	comp=Z,92nm,1.4s					
TPUB	**Ta-pu**	**70.05 306**	P	**P**	**18 35 33.3**	**+1.2**
BLSI	**Bandar Lampung**	**70.25 272**	P	**P**	**18 35 32.8**	**-0.7**
	comp=Z,1μmcomp=Z,67nm,1.2s					
YHNB	**Yeheng**	**70.29 308**	IAMs_20	IAMs_20	19 01 01.8	
	comp=Z,4μm,22.0s					
TATO	**Taipei**	**70.39 308**	IAMs_20	IAMs_20	19 01 17.2	
	comp=Z,4μm,21.0s					
PPBI	**Pangkal Pinang**	**70.59 275**	P	**P**	**18 35 35.1**	**-0.5**
	comp=Z,3μmcomp=Z,3μmcomp=Z,31nm,0.6s					
KLI	**Kotabumi**	**70.79 272**	P	**P**	**18 35 36.2**	**-0.6**
	comp=Z,3μmcomp=Z,81nm,0.6s					
KASI	**Kota Agung**	**70.89 272**	P	**P**	**18 35 35.6**	**-1.8**
	comp=Z,2μmcomp=Z,1μmcomp=Z,82nm,1.1s					
YUK	**Yuzh-Kuril'sk**	**70.94 337**	*e*P	**P**	**18 35 36.6**	**-0.3**
YUK			S	**S**	**18 44 54.9**	**+2.5**
YUK			*e*SS	**SS**	**18 49 21.2**	**-4.6**
YUK			SSS	SSS	18 52 34.3	
YUK			pmax	pmax		
	comp=Z,722nm,1.1s					
YUK			pmax	pmax		
	comp=N,438nm,0.5s					
YUK			pmax	pmax		
	comp=E,1μm,1.1s					
KLSI		**70.97 272**	P	**P**	**18 35 35.5**	**-2.4**
	comp=E,857nmcomp=E,396nmcomp=E,16nm,1.8s					
LWLI	**Liwa**	**71.48 272**	P	**P**	**18 35 41.7**	**+0.6**
	comp=E,74nm,0.9s					
MDSI	**Maura Dua**	**71.56 272**	P	**P**	**18 35 38.8**	**-2.7**
	comp=E,571nmcomp=E,27nm,1.5s					
PMBI	**Palembang**	**71.57 274**	P	**P**	**18 35 42.5**	**+1.0**
	comp=E,2μmcomp=E,209nm,0.6s					
PMBI	**Palembang**	**71.57 274**	IAMs_20	IAMs_20	19 06 26.3	
	comp=Z,5μm,22.0s					
ASAJ	**Asahikawa**	**72.22 335**	P	**P**	**18 35 46.1**	**+1.4**
	comp=Z,44nm,0.9s,baz=250,slow=10,SNR=7.3					
ASAJ			LR	LR	19 02 02.9	
	comp=Z,4μm,20.8s,baz=164,slow=31					
LHSI	**Lahat**	**72.40 273**	P	P	18 35 40.5	-6.0
QZH	**Quanzhou**	**72.51 307**⇑	*i*P	**P**	**18 35 50.0**	**+3.1**
QZH			S	**S**	**18 45 14.4**	**+3.0**
QZH			pmax	pmax		
	comp=Z,530nm,7.6s					
QZH			LR	LR		
	comp=Z,1μm,21.8s					
QZH			LR	LR		
	comp=Z,1μm,20.8s					
QZH			LR	LR		
	comp=Z,2μm,19.4s					
DSRI	**Dabo**	**72.66 277**	P	**P**	**18 35 49.4**	**+1.3**
	comp=Z,2μmcomp=Z,769nmcomp=Z,27nm,1.7s					
MNAI	**Manna**	**72.74 272**	P	**P**	**18 35 48.6**	**0.0**
	comp=Z,104nm,1.5s					
JMBI	**JAMBI**	**73.10 275**	P	**P**	**18 35 52.1**	**+1.4**
TPRI	**Tanjung Pinang**	**73.24 278**	P	**P**	**18 35 53.9**	**+2.4**
	comp=Z,62nm,1.7s					
TJN	**Taejon**	**73.77 321**⇓	*e*P	**P**	**18 35 54.7**	**+0.6**
MASI	**Maura Aman, Be**	**73.84 273**	P	**P**	**18 35 54.1**	**-1.0**
	comp=Z,2μmcomp=Z,117nm,1.3s					
ATKA	**Atka Island**	**73.96 6**	P	**P**	**18 35 55.7**	**+0.9**
SHEM	**Shemya Is, Ala**	**74.02 359**	LR	LR	19 01 31.3	
	comp=Z,4μm,21.9s,baz=146,slow=30					
SKR	**Severo-Kuril's**	**74.08 347**	*e*P	P	18 36 02.3	+6.8
SKR			*e*		18 38 38.1	
SKR			pmax	pmax		
	comp=Z,200nm,6.2s					
SKR			MLR	MLR		
	comp=Z,1μm,20.0s					
KSRS	**Korea Array**	**74.19 322**	P	**P**	**18 35 56.1**	**-0.4**
	comp=Z,12nm,1.1s,baz=151,slow=6.1,SNR=11					
MYKOM	**Kota Tinggi**	**74.20 278**	P	P	18 35 51.2	-5.9
MYKOM			IAMs_20	IAMs_20	19 08 00.8	
	comp=Z,5μm,22.0s					
KSAR	**Wonju Array Be**	**74.20 322**	P	**P**	**18 35 54.3**	**-2.3**
KSAR	**Wonju Array Be**	**74.20 322**	P	**P**	**18 35 54.3**	**-2.3**
DLV	**T Lat**	**74.23 290**	P	**P**	**18 35 54.7**	**-2.8**
DLV	**T Lat**	**74.23 290**	P	**P**	**18 35 58.2**	**+0.7**
	comp=Z,132nm,1.4s					
SSE	**Sheshan**	**74.28 313**	P	**P**	**18 35 57.8**	**+0.7**
SSE			S	**S**	**18 45 32.3**	**+1.2**
SSE			pmax	pmax		
	comp=Z,22nm,1.4s					
SSE			pmax	pmax		
	comp=Z,380nm,4.1s					
SSE			LR	LR		
	comp=Z,480nm,14.8s					
SSE			LR	LR		
	comp=Z,470nm,14.9s					
YSS	**Yuzh-Sakhalins**	**74.56 337**⇓	*e*P	**P**	**18 36 00.2**	**+1.8**
YSS			*e*		18 36 12.7	
YSS			*e*		18 38 48.5	
YSS			*e*S	**S**	**18 45 33.2**	**-0.4**
YSS			*e*		18 46 06.8	
YSS			*e*SS	**SS**	**18 50 22.6**	**+1.4**
YSS			pmax	pmax		
	comp=Z,170nm,1.0s					
YSS			pmax	pmax		
	comp=Z,1μm,4.3s					
YSS			smax	smax		
	comp=N,1μm,8.9s					
YSS			smax	smax		
	comp=E,1μm,12.9s					
YSS			MLR	MLR		
	comp=Z,2μm,17.0s					
YSS			MLR	MLR		
	comp=N,2μm,16.0s					
YSS			MLR	MLR		
	comp=E,2μm,18.0s					
YSS	**Yuzh-Sakhalins**	**74.56 337**	P	**P**	**18 35 57.7**	**-0.7**
YSS			IAmb	IAmb	18 36 06.4	
	comp=Z,153nm,1.0s					
YSS			IAMs_20	IAMs_20	19 04 17.8	
	comp=Z,4μm,20.0s					
YSS	**Yuzh-Sakhalins**	**74.56 337**	P	**P**	**18 35 58.8**	**+0.4**
KRJI	**Kerinci**	**74.95 274**	P	**P**	**18 36 02.1**	**+0.5**
	comp=Z,2μmcomp=Z,92nm,1.3s					
PET	**Petropavlovsk**	**75.82 349**	*e*P	**P**	**18 36 09.4**	**+3.9**
PET			*e*S	**S**	**18 45 50.0**	**+2.6**
PET			*e*PS	**PnS**	**18 46 27.4**	**+3.1**
PET			*e*PPS	PPS	18 46 38.7	
PET			*e*SS	**SS**	**18 50 44.3**	**+4.2**
PET			pmax	pmax		
	comp=Z,87nm,1.7s					
PET			pmax	pmax		
	comp=Z,500nm,15.8s					
PET			MLR	MLR		
	comp=Z,2μm,19.0s					
PET			MLR	MLR		
	comp=Z,2μm,19.0s					
PET	**Petropavlovsk**	**75.82 349**	P	**P**	**18 36 03.5**	**-2.1**
PET			IAmb	IAmb	18 36 11.8	
	comp=Z,110nm,1.4s					
PEA0B	**Petropavlovsk-**	**76.07 349**⇑	*e*P	**P**	**18 36 10.1**	**+3.1**
PEA0B	**Petropavlovsk-**	**76.07 349**	P	**P**	**18 36 03.1**	**-3.9**
PETK	**Petropavlovsk-**	**76.07 349**	P	**P**	**18 36 06.4**	**-0.7**
	comp=Z,11nm,0.9s,baz=169,slow=4.5,SNR=14					
PETK			LR	LR	19 04 03.7	
	comp=Z,2μm,21.2s,baz=160,slow=31					
PETK	**Petropavlovsk-**	**76.07 349**	P	**P**	**18 36 06.2**	**-0.8**
VLA	**Vladivostok**	**76.15 328**⇑	*e*P	**P**	**18 36 07.7**	**0.0**
VLA			pmax	pmax		
	comp=Z,136nm,0.8s					
VLA			MLR	MLR		
	comp=Z,640nm,16.0s					
BKNI	**Bangkinang**	**76.24 276**	P	**P**	**18 36 08.3**	**-0.6**
	comp=Z,3μmcomp=Z,2μmcomp=Z,102nm,1.5s					
BKNI	**Bangkinang**	**76.24 276**	P	**P**	**18 36 07.1**	**-1.8**
BKNI	**Bangkinang**	**76.24 276**	P	**P**	**18 36 10.1**	**+1.2**
QIZ	**Qiongzhong**	**76.35 297**	P	**P**	**18 36 09.4**	**0.0**
QIZ			PP	**PP**	**18 39 00.3**	**-0.9**
QIZ			S	**S**	**18 45 55.8**	**+1.2**
QIZ			SS	**SS**	**18 50 51.4**	**+2.1**
QIZ			pmax	pmax		
	comp=Z,630nm,5.1s					
QIZ			LR	LR		
	comp=Z,870nm,25.9s					
QIZ			LR	LR		
	comp=Z,920nm,30.9s					
QIZ			LR	LR		
	comp=Z,2μm,31.4s					
NJ2	**Nanjing**	**76.44 313**	⇑P	**P**	**18 36 12.0**	**+2.4**
NJ2			pP	**pwP**	**18 36 16.6**	**+0.9**
NJ2			PP	**PP**	**18 39 05.0**	**+3.3**
NJ2			S	**S**	**18 45 55.9**	**+0.8**
NJ2			sS	**sS**	**18 46 04.8**	**+5.0**
NJ2			pmax	pmax		
	comp=Z,25nm,0.8s					
NJ2			pmax	pmax		
	comp=Z,890nm,6.4s					
NJ2			LR	LR		
	comp=Z,1μm,16.2s					
NJ2			LR	LR		
	comp=Z,2μm,18.7s					
NJ2			LR	LR		
	comp=Z,2μm,20.6s					
UGL	**Uglegorsk**	**76.61 338**	*e*P	**P**	**18 36 14.0**	**+3.9**
UGL			*e*S	**S**	**18 46 04.8**	**+8.6**
UGL			pmax	pmax		
	comp=Z,60nm,1.0s					
UGL			smax	smax		
	comp=E,2μm,11.0s					
UGL			MLR	MLR		
	comp=E,2μm,16.0s					
UGL			MLR	MLR		
	comp=N,2μm,20.0s					
UGL			MLR	MLR		
	comp=Z,3μm,17.0s					
USRK	**Ussuriysk Ar.**	**76.91 329**	P	**P**	**18 36 12.0**	**+0.1**
	comp=Z,20nm,0.9s,baz=165,slow=2.9,SNR=16					
USRK			LR	LR	19 05 46.2	
	comp=Z,2μm,20.4s,baz=120,slow=32					
USRK	**Ussuriysk Ar.**	**76.91 329**	P	**P**	**18 36 12.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**76.91 329**	P	**P**	**18 36 12.0**	**+0.1**
SISI	**Saibi**	**77.44 274**	P	**P**	**18 36 17.5**	**+1.9**
	comp=Z,1μmcomp=Z,40nm,1.3s					
MNSI	**Mandailing Nat**	**77.77 276**	P	**P**	**18 36 18.3**	**+0.8**
IPM	**Ipoh**	**77.84 280**	P	**P**	**18 36 15.8**	**-2.1**
IPM			IAmb	IAmb	18 36 20.7	
	comp=Z,66nm,1.1s					
IPM			IAMs_20	IAMs_20	19 09 24.1	
	comp=Z,4μm,22.0s					
IPM	**Ipoh**	**77.84 280**	P	**P**	**18 36 17.1**	**-0.8**
	comp=Z,56nm,1.1s					
TYV	**Tymovskoe**	**77.92 339**	*e*P	**P**	**18 36 19.6**	**+2.2**
TYV			*e*S	**S**	**18 46 15.9**	**+5.5**
TYV			pmax	pmax		
	comp=Z,1μm,5.9s					
TYV			pmax	pmax		
	comp=Z,54nm,1.3s					
TYV			smax	smax		
	comp=E,700nm,7.7s					
MDJ	**Mudanjiang**	**78.38 328**	P	**P**	**18 36 22.4**	**+2.3**
MDJ			pmax	pmax		
	comp=E,22nm,1.3s					
MDJ			pmax	pmax		
	comp=E,2μm,6.0s					
KULM	**Kulim**	**78.50 280**	P	**P**	**18 36 18.5**	**-3.0**
KULM			IAMs_20	IAMs_20	19 09 46.6	
	comp=Z,5μm,21.0s					
CNSH	**ChangSha**	**78.52 307**	⇓P	**P**	**18 36 24.3**	**+3.0**
CNSH			S	**S**	**18 46 21.8**	**+4.0**
CNSH			LR	LR		
	comp=Z,1μm,17.7s					
CNSH			LR	LR		
	comp=Z,1μm,17.6s					
CNSH			LR	LR		
	comp=Z,2μm,21.1s					
MAW	**Mawson**	**78.63 201**	P	**P**	**18 36 21.0**	**-0.3**
	comp=Z,54nm,1.0s,baz=113,slow=7.0,SNR=10					
MAW			LR	LR	19 08 23.9	
	comp=Z,4μm,18.7s,baz=92,slow=34					
MAW	**Mawson**	**78.63 201**	P	**P**	**18 36 21.5**	**+0.2**
	baz=79,SNR=12					
MAW	**Mawson**	**78.63 201**	P	**P**	**18 36 19.9**	**-1.4**
MAW			pmax	pmax		
	comp=Z,20nm,1.2s					
MAW	**Mawson**	**78.63 201**	P	**P**	**18 36 19.9**	**-1.4**
WHN	**Wuhan**	**78.75 309**	⇑P	**P**	**18 36 22.8**	**+0.3**
WHN			S	**S**	**18 46 22.6**	**+2.4**
WHN			pmax	pmax		
	comp=Z,120nm,1.3s					
WHN			LR	LR		
	comp=Z,950nm,10.1s					
WHN			LR	LR		
	comp=Z,5μm,19.7s					
WHN			LR	LR		
	comp=Z,8μm,20.9s					
DL2	**Dalian**	**78.86 320**	*e*P	**P**	**18 36 24.8**	**+1.9**
DL2			S	**S**	**18 46 25.1**	**+4.1**
DL2			pmax	pmax		
	comp=Z,85nm,1.3s					
DL2			pmax	pmax		
	comp=Z,1μm,5.4s					
DL2			LR	LR		
	comp=Z,1μm,19.2s					
DL2			LR	LR		
	comp=Z,2μm,17.1s					
DL2			LR	LR		
	comp=Z,2μm,20.9s					
RPSI	**Rantau Prapat**	**79.09 277**	P	**P**	**18 36 21.0**	**-3.8**
PSI	**Prapat**	**79.13 277**	P	**P**	**18 36 21.0**	**-4.2**
	comp=Z,4.1nm,0.5s,baz=167,slow=6.3,SNR=9.1					
PSI			LR	LR	19 14 29.4	
	comp=Z,2μm,18.7s,baz=138,slow=38					
SMAI	**San Martin Ant**	**79.52 160**	P	**P**	**18 36 25.9**	**-0.3**
SMAI			IAmb	IAmb	18 36 34.8	
	comp=Z,83nm,1.0s					
TSI	**Tuntungan**	**79.73 278**	P	**P**	**18 36 28.6**	**+0.3**
	comp=Z,2μmcomp=Z,70nm,0.4s					
GSI	**Gunungsitoli**	**79.81 275**	P	**P**	**18 36 29.4**	**+0.6**
	comp=Z,2μmcomp=Z,86nm,1.9s					
GSI	**Gunungsitoli**	**79.81 275**	P	**P**	**18 36 25.8**	**-3.0**
CN2	**Changchun**	**79.92 325**	*e*P	**P**	**18 36 27.8**	**-0.8**
CN2			pmax	pmax		
	comp=Z,20nm,1.3s					
TIA	**Tai'an**	**80.05 315**	⇑P	**P**	**18 36 32.0**	**+2.5**
TIA			pmax	pmax		
	comp=Z,39nm,1.1s					
TIA			pmax	pmax		
	comp=Z,960nm,6.5s					
TIA			LR	LR		
	comp=Z,810nm,20.6s					
TIA			LR	LR		
	comp=Z,940nm,16.2s					
TIA			LR	LR		
	comp=Z,1μm,20.8s					
GRNR	**Gornyy**	**80.08 336**⇓	*i*P	**P**	**18 36 31.8**	**+2.5**
GRNR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
GRNR			MLR	MLR		
	comp=E,1μm,16.0s					
BNX	**BinXian**	**80.26 328**	⇓P	**P**	**18 36 34.1**	**+3.7**
BNX			pmax	pmax		
	comp=E,14nm,0.9s					
BNX			pmax	pmax		
	comp=E,1μm,4.6s					
KCSI	**Kotacane, Aceh**	**80.47 278**	P	**P**	**18 36 32.4**	**+0.1**
	comp=E,850nmcomp=E,19nm,1.2s					
KLR	**Kul'dur**	**80.79 332**	P	**P**	**18 36 32.6**	**-0.6**
	comp=E,2.3nm,0.8s,baz=40,slow=3.5,SNR=4.8					
KLR			LR	LR	19 07 37.3	
	comp=E,2μm,20.2s,baz=145,slow=32					
KLR	**Kul'dur**	**80.79 332**⇓	*e*P	**P**	**18 36 35.2**	**+2.0**
KLR			pmax	pmax		
	comp=Z,86nm,1.9s					
KLR			MLR	MLR		
	comp=Z,1μm,18.0s					
LHMI	**Lhok Sumawe**	**81.88 279**	P	**P**	**18 36 39.4**	**-0.4**
	comp=Z,2μmcomp=Z,114nm,1.2s					
LHMI	**Lhok Sumawe**	**81.88 279**	IAMs_20	IAMs_20	19 14 40.1	
	comp=Z,4μm,20.0s					
LHMI	**Lhok Sumawe**	**81.88 279**	P	**P**	**18 36 40.9**	**+1.1**
ENH	**Enshi**	**82.17 307**	P	**P**	**18 36 38.8**	**-2.2**
ENH			IAmb	IAmb	18 36 43.8	
	comp=Z,109nm,1.4s					
LYN	**LuoYang**	**82.26 312**	*e*P	**P**	**18 36 40.3**	**-1.0**
LYN			S	**S**	**18 46 57.4**	**+0.6**
LYN			SS	**SS**	**18 52 17.3**	**-0.3**
LYN			pmax	pmax		
	comp=Z,30nm,1.1s					
LYN			pmax	pmax		
	comp=Z,590nm,6.2s					
LYN			LR	LR		
	comp=Z,1μm,20.0s					
LYN			LR	LR		
	comp=Z,710nm,23.1s					
LYN			LR	LR		
	comp=Z,2μm,31.8s					
HNS	**HongShan**	**82.31 315**	⇑P	**P**	**18 36 40.0**	**-1.5**
HNS			PP	**PP**	**18 39 52.3**	**+1.8**
HNS			S	**S**	**18 46 53.9**	**-3.4**
HNS			SS	**SS**	**18 52 18.8**	**+0.5**
HNS			pmax	pmax		
	comp=Z,37nm,1.5s					
HNS			pmax	pmax		
	comp=Z,1μm,7.5s					
HNS			LR	LR		
	comp=Z,1μm,18.4s					
HNS			LR	LR		
	comp=Z,1μm,18.8s					
HNS			LR	LR		
	comp=Z,1μm,20.6s					
PMSA	**Palmer Station**	**82.42 158**	LR	LR	19 08 09.2	
	comp=Z,1μm,18.3s,baz=238,slow=32					
GYA	**Guiyang**	**82.47 302**⇑	*i*P	**P**	**18 36 44.6**	**+1.8**
GYA			sP	pwP	18 36 50.5	+1.6
GYA			S	**S**	**18 47 03.9**	**+4.2**
GYA			SS	**SS**	**18 52 23.3**	**+2.0**
GYA			pmax	pmax		
	comp=Z,18nm,1.6s					
GYA			pmax	pmax		
	comp=Z,710nm,6.3s					
GYA			LR	LR		
	comp=Z,910nm,16.5s					
GYA			LR	LR		
	comp=Z,950nm,17.5s					
GYA			LR	LR		
	comp=Z,2μm,24.2s					
OHAK	**Old Harbor**	**82.60 16**	P	P	18 36 47.5	+5.0
	baz=208					
PKM	**Mcpherson Peak**	**82.75 48**	P	**P**	**18 36 45.5**	**+1.4**
	baz=238					
HOPS	**Hopland Field**	**82.86 43**	P	**P**	**18 36 42.2**	**-2.1**
BJI	**Beijing**	**82.89 318**	P	**P**	**18 36 47.0**	**+2.5**
BJI			S	**S**	**18 47 09.0**	**+6.0**
BJI			pmax	pmax		
	comp=Z,26nm,1.0s					
BJI			pmax	pmax		
	comp=Z,720nm,5.9s					
BJI			LR	LR		
	comp=Z,920nm,27.1s					
BJI			LR	LR		
	comp=Z,1μm,27.7s					
BJI			LR	LR		
	comp=Z,2μm,29.8s					
KDAK	**Kodiak Island**	**83.27 16**	LR	LR	19 06 18.2	
	comp=Z,4μm,21.6s,baz=232,slow=30					
KDAK	**Kodiak Island**	**83.27 16**	IAMs_20	IAMs_20	19 05 34.4	
	comp=Z,4μm,21.0s					
KDAK	**Kodiak Island**	**83.27 16**	P	P	18 36 50.9	+4.9
	baz=209					
MA2	**Magadan**	**83.49 347**c	*i*P	**P**	**18 36 48.9**	**+1.8**
MA2			pmax	pmax		
	comp=Z,72nm,1.7s					
MA2			MLR	MLR		
	comp=Z,1μm,17.0s					
MA2	**Magadan**	**83.49 347**	P	**P**	**18 36 47.5**	**+0.4**
O02D	**Mt. Diablo Mer**	**83.71 42**	P	**P**	**18 36 47.6**	**-1.2**
O02D	**Mt. Diablo Mer**	**83.71 42**	P	**P**	**18 36 50.4**	**+1.6**
	baz=235					
VES	**Vestal, Richgr**	**83.76 48**	P	**P**	**18 36 49.8**	**+0.8**
	baz=238					
BFSC	**Mount Baldy Ra**	**83.92 50**	P	**P**	**18 36 51.2**	**+1.1**
	baz=239					
TIY	**Taiyuan**	**83.99 314**	*e*P	**P**	**18 36 53.4**	**+3.1**
TIY			S	**S**	**18 47 18.9**	**+4.4**
TIY			sS	**ScS**	**18 47 31.3**	**+4.3**
TIY			pmax	pmax		
	comp=Z,22nm,0.6s					
TIY			pmax	pmax		
	comp=Z,530nm,4.8s					
TIY			LR	LR		
	comp=Z,1μm,18.6s					
TIY			LR	LR		
	comp=Z,860nm,15.7s					
TIY			LR	LR		
	comp=Z,1μm,17.2s					
Q19K	**Cape Douglas,**	**84.01 15**	P	**P**	**18 36 49.0**	**-0.8**
Q19K			IAMs_20	IAMs_20	19 06 16.9	
	comp=Z,4μm,22.0s					
Q19K	**Cape Douglas,**	**84.01 15**	P	**P**	**18 36 51.6**	**+1.8**
	baz=208					
EDW2	**Edwards Air Fo**	**84.02 49**	P	**P**	**18 36 51.7**	**+1.2**
	baz=239,SNR=21					
P18K	**Big Mountain,**	**84.05 14**	P	**P**	**18 36 51.8**	**+1.7**
	baz=207,SNR=8.9					
ISA	**Isabella, Lake**	**84.09 48**	P	**P**	**18 36 52.1**	**+1.2**
	baz=238,SNR=19					
MONP2	**Monument Peak**	**84.13 51**	P	**P**	**18 36 52.8**	**+1.5**
	baz=240					
N02D	**Trinity Center**	**84.22 42**	IAMs_20	IAMs_20	19 06 35.0	
	comp=Z,3μm,21.0s					
N02D	**Trinity Center**	**84.22 42**	P	**P**	**18 36 53.0**	**+1.6**
	baz=235,SNR=18					
L02E	**Cave Junction**	**84.36 40**	P	**P**	**18 36 55.8**	**+3.8**
	baz=234					
M02C	**Callahan**	**84.37 41**	IAMs_20	IAMs_20	19 05 46.8	
	comp=Z,3μm,20.0s					
M02C	**Callahan**	**84.37 41**	P	**P**	**18 36 54.0**	**+1.9**
	baz=235,SNR=9.8					
SYO	**Syowa Base**	**84.39 194**⇓	*e*P	**P**	**18 36 50.4**	**-1.3**
O03E	**Paynes Creek**	**84.40 43**	IAMs_20	IAMs_20	19 15 15.1	
	comp=Z,3μm,18.0s					
O03E	**Paynes Creek**	**84.40 43**	P	**P**	**18 36 53.7**	**+1.3**
	baz=236					
PFO	**Pinyon Flats O**	**84.46 51**	LR	LR	19 07 07.0	
	comp=Z,1μm,19.8s,baz=240,slow=30					
PFO	**Pinyon Flats O**	**84.46 51**	P	**P**	**18 36 53.7**	**+0.8**
	baz=240					
TPFO	**Pinon Flats**	**84.46 51**	P	**P**	**18 36 53.9**	**+1.0**
	baz=240					
O18K	**Koktuh Hills**	**84.47 14**	P	**P**	**18 36 51.2**	**-0.9**
O18K			IAmb	IAmb	18 36 59.3	
	comp=Z,123nm,1.2s					
O18K	**Koktuh Hills**	**84.47 14**	P	**P**	**18 36 54.3**	**+2.2**
	baz=207,SNR=13					
XAN	**Xi'an**	**84.49 310**	P	**P**	**18 36 53.3**	**+0.4**
XAN			pP	pwP	18 37 03.3	+4.3
XAN			sP	PcP	18 37 08.9	+12
XAN			S	**S**	**18 47 23.6**	**+4.0**
XAN			SS	**SS**	**18 52 48.3**	**-2.5**
XAN			pmax	pmax		
	comp=Z,26nm,1.5s					
XAN			LR	LR		
	comp=Z,2μm,18.1s					
XAN			LR	LR		
	comp=Z,3μm,19.6s					
XAN			LR	LR		
	comp=Z,4μm,20.6s					
SWSC	**Sam W. Stewart**	**84.61 52**	P	**P**	**18 36 54.7**	**+1.3**
	baz=240					
K02D	**Willamette Mer**	**84.63 40**	P	**P**	**18 36 57.9**	**+4.4**
	baz=234					
YBH	**Yreka Blue Hor**	**84.65 41**	LR	LR	19 06 49.1	
	comp=Z,3μm,20.9s,baz=234,slow=30					
LPIG	**La Paz**	**84.73 62**	LR	LR	19 05 26.3	
	comp=Z,3μm,22.0s,baz=244,slow=29					
J01E	**Myrtle Point**	**84.75 40**	IAMs_20	IAMs_20	19 15 35.7	
	comp=Z,4μm,19.0s					
CWC	**Cottonwood Cre**	**84.77 48**	P	**P**	**18 36 55.5**	**+1.1**
	baz=238					
O19K	**Port Alsworth**	**84.98 14**	P	**P**	**18 36 56.4**	**+1.8**
	baz=207,SNR=16					
MPMC	**Manual Prospec**	**84.98 48**	P	**P**	**18 36 56.4**	**+0.9**
	baz=239,SNR=25					
BELC	**Belle Mtn. Jos**	**84.99 51**	P	**P**	**18 36 56.2**	**+0.7**
	baz=240					
KMI	**Kunming**	**85.00 299**	⇑P	**P**	**18 36 56.9**	**+1.0**
KMI			sP	pwP	18 37 04.0	+2.0
KMI			PP	**PP**	**18 40 13.0**	**-0.1**
KMI			S	**S**	**18 47 27.4**	**+2.0**
KMI			SS	**SS**	**18 53 00.4**	**+1.5**
KMI			pmax	pmax		
	comp=Z,25nm,1.7s					

KMI pmax pmax
comp=Z,750nm,8.1s
KMI LR LR
comp=Z,720nm,23.5s
KMI LR LR
comp=Z,2µm,24.6s
KMI LR LR
comp=Z,3µm,25.7s
HUMO Hull Mountain 85.00 40 IAMs_20 IAMs_20 19 09 11.0
comp=Z,3µm,20.0s
GSC Goldstone, Bar 85.07 49 P **P** **18 36 57.1 +1.2**
baz=239,SNR=16
CNPM China Poot 85.14 16 IAMs_20 IAMs_20 19 08 08.7
comp=Z,4µm,20.0s
HOM Homer 85.15 16 IAMs_20 IAMs_20 19 10 19.0
comp=Z,3µm,19.0s
HEC Hector,Ludlow 85.16 50 P **P** **18 36 57.1 +0.8**
baz=240,SNR=37
L04D Klamath Falls 85.18 41 P **P** **18 36 57.4 +1.1**
baz=235,SNR=10
XLT XiLinHaoTe 85.21 321 *e*P **P** **18 36 57.5 +1.2**
XLT pP pwP 18 37 02.4 -0.5
XLT sP sP 18 37 04.6 +4.4
XLT S **S** **18 47 26.8 +0.4**
XLT sS ScS 18 47 36.5 -0.2
XLT SS **SS** **18 53 00.3 -0.8**
XLT pmax pmax
comp=Z,18nm,1.7s
XLT pmax pmax
comp=Z,950nm,6.8s
XLT LR LR
comp=Z,1µm,16.4s
XLT LR LR
comp=Z,2µm,20.6s
XLT LR LR
comp=Z,2µm,17.3s
BC3 Big Chuckawall 85.21 51 P **P** **18 36 58.4 +1.8**
baz=240,SNR=7.1
M04C Macdoel 85.22 42 P **P** **18 36 57.7 +1.2**
baz=236,SNR=8.4
CMAR Chiang Mai Arr 85.34 292 P **P** **18 36 57.1 -0.3**
comp=Z,30nm,1.1s,baz=123,slow=3.4,SNR=72
CMAR PP **PP** **18 40 14.8 -0.9**
comp=Z,1.6nm,0.9s,baz=127,slow=5.7,SNR=2.6
CMAR PKKPbc **PKKPbc** **18 55 01.8 -0.5**
comp=Z,0.3nm,0.6s,baz=291,slow=4.4,SNR=2.4
CMAR LR LR 19 12 40.4
comp=Z,403nm,21.9s,baz=110,slow=34
CMAR Chiang Mai Arr 85.34 292 *i* P **P** **18 36 57.7 +0.3**
CMAR pmax pmax
comp=Z,31nm,1.0s
CMAR Chiang Mai Arr 85.34 292 P **P** **18 36 57.0 -0.5**
QSM Queen of Sheba 85.36 49 P **P** **18 36 56.9 -0.3**
I03D Drain, OR 85.40 39 P **P** **18 37 01.5 +4.4**
baz=234
BRLK Bradley Lake 85.44 16 IAMs_20 IAMs_20 19 08 18.2
comp=Z,3µm,20.0s
BRSE Bradley Lake S 85.45 16 P **P** **18 37 00.5 +3.4**
baz=211
CHTO Chiang Mai 85.48 292 P **P** **18 36 58.8 +0.6**
N19K Bonanza Creek 85.49 14 IAMs_20 IAMs_20 19 07 14.9
comp=Z,2µm,19.0s
N19K Bonanza Creek 85.49 14 P **P** **18 37 00.4 +3.1**
baz=207
GAMB Gambell 85.61 5 P **P** **18 37 01.0 +3.3**
baz=191
GMRC Granite Mounta 85.62 50 P **P** **18 36 59.7 +1.1**
baz=240,SNR=25
NVAR Mina Array Bea 85.66 46 P **P** **18 36 59.4 +0.5**
comp=Z,24nm,0.9s,baz=227,slow=8.5,SNR=36
NVAR PP **PP** **18 40 19.1 +0.9**
comp=Z,1.4nm,1.0s,baz=246,slow=7.8,SNR=3.2
NVAR LR LR 19 08 48.0
comp=Z,1µm,19.5s,baz=241,slow=31
NVAR Mina Array Bea 85.66 46 P **P** **18 36 59.0 +0.1**
IRM Iron Mountain 85.68 51 P **P** **18 36 59.9 +1.1**
baz=240,SNR=41
NV11 Mina Array Sit 85.76 46 P **P** **18 36 57.3 -2.0**
NV11 IAmb IAmb 18 37 08.0
comp=Z,122nm,1.5s
ZEA Zeya 86.01 333 *e*P **P** **18 37 03.2 +3.3**
ZEA *e*S **S** **18 47 40.1 +6.5**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.8s
ZEA smax smax
comp=N,2µm,13.0s
KVN Kaiserville 86.12 45 P **P** **18 37 00.7 -0.4**
KVN pmax pmax
comp=Z,89nm,1.5s
KVN Kaiserville 86.12 45 P **P** **18 37 00.7 -0.4**
KVN IAmb IAmb 18 37 09.8
comp=Z,89nm,1.5s
MOD Modoc Plateau 86.24 42 P **P** **18 37 01.9 +0.4**
MOD IAmb IAmb 18 37 07.4
comp=Z,89nm,1.2s
H04D Lebanon 86.24 39 P **P** **18 37 04.7 +3.4**
baz=235
HHC Hu-ho-hao-te 86.26 317 *e*P **P** **18 37 01.5 -0.1**
HHC SKS **SKSac** **18 47 24.1 -3.8**
HHC S **SKKSac** **18 47 33.0 -2.6**
HHC sS ScS 18 47 46.3 +0.7
HHC pmax pmax
comp=Z,33nm,1.1s
HHC pmax pmax
comp=Z,1µm,6.6s
HHC LR LR
comp=Z,1µm,18.4s
HHC LR LR
comp=Z,1µm,17.1s
HHC LR LR
comp=Z,3µm,17.8s
TPNV Topopah Spring 86.29 48 P **P** **18 37 03.2 +1.2**
baz=240,SNR=18
SEY Seymchan 86.30 349 P **P** **18 37 00.2 -0.9**
comp=Z,14nm,1.1s,baz=155,slow=5.3,SNR=21
SEY LR LR 19 09 09.0
comp=Z,2µm,21.7s,baz=158,slow=31
K05A Summer Lake 86.33 41 P **P** **18 37 00.9 -1.2**
214A Organ Pipe Nat 86.34 54 P **P** **18 37 06.7 +4.6**
baz=242
PZH PanZhiHua 86.41 300 P **P** **18 37 01.6 -1.2**
PZH PP **PP** **18 40 24.8 +0.4**
PZH S **S** **18 47 34.9 -4.1**
PZH sS **sS** **18 47 45.3 +1.4**
PZH pmax pmax
comp=Z,590nm,6.1s
PZH LR LR
comp=Z,4µm,21.0s
PZH LR LR
comp=Z,5µm,22.0s
PZH LR LR
comp=Z,8µm,23.0s
J05D Fort Rock, OR 86.43 41 P **P** **18 37 03.5 +1.0**
baz=236,SNR=35
PDMCI Parker Dam,Lak 86.48 51 P **P** **18 37 04.1 +1.4**
baz=241,SNR=6.9
L19K White Mountain 86.63 13 P **P** **18 37 04.4 +1.6**
baz=207,SNR=6.0
CD2 Chengdu 86.81 305 P **P** **18 37 05.3 +0.8**
CD2 PP **PP** **18 40 28.6 +1.2**
CD2 SS SS 18 53 25.8 +0.8
CD2 pmax pmax
comp=Z,40nm,1.3s
CD2 pmax pmax
comp=Z,740nm,7.4s
CD2 LR LR
comp=Z,2µm,25.0s
CD2 LR LR
comp=Z,2µm,25.6s
RC01 Rabbit Creek A 86.87 16 IAMs_20 IAMs_20 19 10 05.4
comp=Z,2µm,20.0s
RC01 Rabbit Creek A 86.87 16 P **P** **18 37 05.2 +1.2**
baz=212
I05D Terrebonne, OR 86.96 40 P **P** **18 37 05.0 0.0**
baz=236,SNR=5.8
SNAA Sanae 86.99 180 P **P** **18 37 00.2 -4.5**
SNAA Sanae 86.99 180 P **P** **18 37 02.8 -2.0**
comp=Z,34nm,1.1s,baz=216,slow=7.7,SNR=12
SNAA LR LR 19 15 42.6
comp=Z,3µm,18.0s,baz=167,slow=36
SNAA Sanae 86.99 180|| *e*P **P** **18 37 05.7 +0.9**
SNAA pmax pmax
comp=Z,5µm,1.7s

PWL Port Wells 87.04 17 IAMs_20 IAMs_20 19 07 03.9
comp=Z,3µm,20.0s
PWL Port Wells 87.04 17 P **P** **18 37 05.6 +0.7**
baz=213
ANM Nome 87.06 8 IAMs_20 IAMs_20 19 09 34.4
comp=Z,2µm,20.0s
TTA Tatalina 87.07 12 P **P** **18 37 08.5 +3.5**
baz=206
L20K Farewell, AK 87.11 13 P **P** **18 37 07.3 +2.1**
baz=208
BTO Baotou 87.12 316 *e*P **P** **18 37 07.8 +1.9**
BTO S **S** **18 47 50.8 +5.5**
BTO LR LR
comp=Z,6µm,20.3s
BTO LR LR
comp=Z,3µm,23.6s
NVL N'lazarevskaya 87.24 185⇑ *i*P **P** **18 37 09.3 +3.4**
NVL pmax pmax
comp=Z,82nm,1.3s
NVL MLR MLR
comp=N,4µm,18.0s
NVL MLR MLR
comp=E,3µm,18.0s
NVL MLR MLR
comp=Z,5µm,18.0s
VNA3 Neumayer Olymp 87.34 178 P **P** **18 37 02.0 -4.4**
M22K Willow 87.34 15 IAMs_20 IAMs_20 19 08 42.9
comp=Z,4µm,21.0s
FID Port Fidalgo 87.45 17 IAMs_20 IAMs_20 19 06 48.5
comp=Z,3µm,22.0s
PMR Palmer 87.45 16 P P 18 37 12.4 +5.7
baz=212
R11A Troy Canyon, C 87.45 47 P **P** **18 37 08.3 +0.7**
baz=240
KNK Knik Glacier 87.47 16 P **P** **18 37 09.2 +2.3**
baz=213
G05D Wamic, OR 87.48 39 P **P** **18 37 11.3 +3.9**
baz=236
E04D Cinebar 87.51 37 IAMs_20 IAMs_20 19 10 36.6
comp=Z,3µm,20.0s
E04D Cinebar 87.51 37 P **P** **18 37 12.0 +4.5**
baz=235
WVOR Wild Horse Val 87.56 42 IAMs_20 IAMs_20 19 07 54.5
comp=Z,3µm,22.0s
VNA2 Neumayer--Watz 87.71 179 P **P** **18 37 04.0 -4.1**
baz=154,slow=2.9
TNA Tin City 87.72 7 P **P** **18 37 10.5 +2.5**
baz=195
SML Sawmill 87.84 16 IAMs_20 IAMs_20 19 16 10.1
comp=Z,2µm,19.0s
CUT Chulitna 87.86 15 IAMs_20 IAMs_20 19 08 28.8
comp=Z,4µm,22.0s
VNA1 Neumayer--Stat 87.97 179 P **P** **18 37 04.9 -4.4**
TUC Tucson 88.03 54 IAMs_20 IAMs_20 19 08 02.8
comp=Z,2µm,19.0s
TUC Tucson 88.03 54 P **P** **18 37 12.8 +2.4**
baz=243
BBB Bella Bella 88.05 31 LR LR 19 08 37.2
comp=Z,4µm,20.5s,baz=238,slow=30
SCM Sheep Creek Mo 88.12 16 P **P** **18 37 08.4 -1.7**
SCM pmax pmax
comp=Z,73nm,1.4s
SCM MLR MLR
comp=Z,2µm,19.0s
SCM Sheep Creek Mo 88.12 16 P **P** **18 37 08.4 -1.7**
SCM IAmb IAmb 18 37 16.5
comp=Z,73nm,1.4s
SCM IAMs_20 IAMs_20 19 08 55.6
comp=Z,2µm,19.0s
BMRM Bremner River 88.16 18 IAMs_20 IAMs_20 19 08 06.7
comp=Z,3µm,21.0s
CAST Castle Rocks 88.33 14 IAMs_20 IAMs_20 19 09 58.9
comp=Z,3µm,21.0s
CAST Castle Rocks 88.33 14 P **P** **18 37 12.5 +1.5**
baz=209
ISLE Juper Island 88.54 19 IAMs_20 IAMs_20 19 09 15.7
comp=Z,4µm,21.0s
J20K Nowinta River 88.56 13 IAMs_20 IAMs_20 19 08 50.1
comp=Z,3µm,22.0s
J20K Nowinta River 88.56 13 P **P** **18 37 15.4 +3.3**
baz=208
DGPR DIGLIPUR 88.57 285 *e*P **P** **18 37 11.0 -2.2**
WAT6 Susitna Watana 88.64 16 P **P** **18 37 14.7 +2.0**
baz=213
WAT1 Susitna Watana 88.65 15 P **P** **18 37 14.7 +2.2**
baz=213
N25K Chitina, Valde 88.68 18 IAMs_20 IAMs_20 19 08 02.4
comp=Z,3µm,22.0s
N25K Chitina, Valde 88.68 18 P **P** **18 37 16.6 +3.8**
baz=216
VRDI Verde Repeater 88.70 18 IAMs_20 IAMs_20 19 13 20.0
comp=Z,2µm,19.0s
KTH Kantishna Hill 88.70 14 P **P** **18 37 11.2 -1.6**
KTH IAMs_20 IAMs_20 19 16 20.9
comp=Z,2µm,19.0s
B05A Bryant 88.75 36 P **P** **18 37 17.5 +4.2**
baz=235,SNR=7.2
TRF Thorofare Moun 88.76 14 IAMs_20 IAMs_20 19 08 58.4
comp=Z,3µm,22.0s
TRF Thorofare Moun 88.76 14 P **P** **18 37 16.3 +3.1**
baz=211
GRNC Granite Creek 88.82 19 IAMs_20 IAMs_20 19 09 46.1
comp=Z,3µm,20.0s
ELK Elko 88.88 45 LR LR 19 12 26.6
comp=Z,964nm,18.6s,baz=242,slow=32
WUAZ Wupatki 89.06 51 P **P** **18 37 16.8 +1.5**
baz=243
RND Reindeer 89.06 15 IAMs_20 IAMs_20 19 09 27.3
comp=Z,4µm,21.0s
BARN Barnard Glacie 89.11 19 IAMs_20 IAMs_20 19 09 43.7
comp=Z,3µm,20.0s
LOGN Logan Glacier 89.12 19 IAMs_20 IAMs_20 19 09 24.2
comp=Z,3µm,21.0s
LZH Lanzhou 89.12 310⇑ P **P** **18 37 16.0 +0.4**
LZH sP pwP 18 37 27.1 +5.4
LZH pmax pmax
comp=Z,23nm,1.5s
LZH pmax pmax
comp=Z,600nm,4.9s
LZH LR LR
comp=Z,1µm,20.1s
LZH LR LR
comp=Z,2µm,19.5s
LZH LR LR
comp=Z,3µm,21.0s
CTGM Chitina Glacie 89.13 19 IAMs_20 IAMs_20 19 09 12.3
comp=Z,3µm,21.0s
DHY Denali Highway 89.15 16 IAMs_20 IAMs_20 19 11 57.7
comp=Z,3µm,19.0s
DHY Denali Highway 89.15 16 P **P** **18 37 15.9 +0.9**
baz=214
BPAW Bear Paw Mtn. 89.16 14 IAMs_20 IAMs_20 19 14 42.0
comp=Z,2µm,18.0s
MCK McKinley 89.32 15 P **P** **18 37 16.7 +1.1**
baz=212
PAX Paxson 89.55 16 P **P** **18 37 18.5 +1.7**
baz=215
BWN Browne 89.57 14 IAMs_20 IAMs_20 19 09 56.8
comp=Z,4µm,21.0s
BILL Bilibino 89.65 356 *de*P **P** **18 37 17.9 +0.8**
BILL *e**PP **pwP** **18 37 22.9 -0.7**
BILL *e* 18 40 49.7
BILL *e*S **SKSac** **18 47 47.9 +0.9**
BILL *e*SS **SS** **18 54 05.4 +0.6**
BILL *e*SSS SSS 18 57 40.9
BILL pmax pmax
comp=Z,111nm,1.5s
BILL MLR MLR
comp=Z,902nm,19.0s
BILL Bilibino 89.65 356 P **P** **18 37 16.8 -0.3**
BILL IAmb IAmb 18 37 25.3
comp=Z,84nm,1.2s
BMO Blue Mountains 89.66 41 IAMs_20 IAMs_20 19 13 35.8
comp=Z,3µm,18.0s
M26K Nabesna, AK 89.77 18 IAMs_20 IAMs_20 19 09 11.2
comp=Z,2µm,20.0s
M26K Nabesna, AK 89.77 18 P **P** **18 37 20.5 +2.6**
baz=218
H03S2 Juan Fernandez 89.86 126 T T 20 17 22.0
baz=242
H03S1 Juan Fernandez 89.87 126 T T 20 17 23.1
baz=242
H03S3 Juan Fernandez 89.87 126 T T 20 17 15.2
baz=242
NEA2 Nenana 90.02 14 IAMs_20 IAMs_20 19 09 35.7
comp=Z,3µm,22.0s
YUK3 Moose Creek 90.03 19 P **P** **18 37 21.5 +2.3**
baz=220
M27K Edge Creek, AK 90.06 18 IAMs_20 IAMs_20 19 20 27.8
comp=Z,3µm,19.0s
M27K Edge Creek, AK 90.06 18 P **P** **18 37 22.1 +2.8**
baz=218
W18A Petrified Fore 90.07 52 P **P** **18 37 21.6 +1.5**
baz=244,SNR=10.0
H21K Melozitna Rive 90.14 12 IAMs_20 IAMs_20 19 14 46.8
comp=Z,2µm,19.0s
H21K Melozitna Rive 90.14 12 P **P** **18 37 24.0 +4.6**
baz=209
L26K Log Cabin Wild 90.17 17 IAMs_20 IAMs_20 19 09 48.8
comp=Z,3µm,21.0s
L26K Log Cabin Wild 90.17 17 P **P** **18 37 23.0 +3.4**
baz=217
DUG Dugway, Tooele 90.23 46 IAMs_20 IAMs_20 19 19 39.4
comp=Z,2µm,20.0s
DUG Dugway, Tooele 90.23 46 P **P** **18 37 21.8 +1.1**
baz=242,SNR=9.1
RIDG Independent Ri 90.34 16 IAMs_20 IAMs_20 19 13 40.3
comp=Z,2µm,18.0s
RIDG Independent Ri 90.34 16 P **P** **18 37 23.4 +2.9**
baz=216
CCB Clear Creek Bu 90.36 15 IAMs_20 IAMs_20 19 10 28.6
comp=Z,3µm,21.0s
HDA Harding Lake 90.36 15 IAMs_20 IAMs_20 19 11 57.9
comp=Z,3µm,19.0s
HDA Harding Lake 90.36 15 P **P** **18 37 23.1 +2.5**
baz=214,SNR=18
121A Cookes Peak, D 90.40 55 P **P** **18 37 23.3 +1.6**
baz=245
I23K Minto, Yukon-K 90.43 14 IAMs_20 IAMs_20 19 22 09.4
comp=Z,2µm,18.0s
MDM Murphy Dome 90.52 14 IAMs_20 IAMs_20 19 11 28.0
comp=Z,3µm,20.0s
TCOL CIGO, UAF Yank 90.54 15 IAMs_20 IAMs_20 19 10 13.4
comp=Z,4µm,21.0s
TCOL CIGO, UAF Yank 90.54 15 P **P** **18 37 24.3 +3.1**
baz=213
COLA College 90.54 15|| *e*P **P** **18 37 21.4 +0.2**
COLA pmax pmax
comp=Z,71nm,1.5s
COLA MLR MLR
comp=Z,3µm,18.0s
COLA College 90.54 15 IAMs_20 IAMs_20 19 10 13.4
comp=Z,3µm,21.0s
COLA College 90.54 15 P **P** **18 37 24.0 +2.8**
baz=213
PLID Pearl Lake 90.58 41 IAMs_20 IAMs_20 19 12 55.4
comp=Z,2µm,19.0s
L27K Beaver Creek, 90.62 18 P **P** **18 37 24.9 +3.1**
baz=219
BCAR Beaver Creek A 90.64 18 P **P** **18 37 20.0 -1.9**
ILAR Eielson Array 90.68 15 P **P** **18 37 20.2 -1.7**
comp=Z,8.7nm,1.0s,baz=234,slow=5.1,SNR=24
ILAR LR LR 19 11 00.8
comp=Z,2µm,21.2s,baz=218,slow=31
ILAR Eielson Array 90.68 15 P **P** **18 37 20.4 -1.6**
ILAR Eielson Array 90.68 15 P **P** **18 37 20.4 -1.6**
SCRK Sand Creek 90.76 16 IAMs_20 IAMs_20 19 13 51.3
comp=Z,2µm,19.0s
SCRK Sand Creek 90.76 16 P **P** **18 37 24.9 +2.4**
baz=217
HLID Hailey 90.80 43 P **P** **18 37 24.5 +1.2**
baz=241,SNR=28
POKR Poker Plat Res 90.84 15 P **P** **18 37 24.7 +2.0**
baz=214
J25K Salcha River, 90.92 16 P **P** **18 37 21.8 -1.4**
J25K IAmb IAmb 18 37 29.9
comp=Z,51nm,1.4s
J25K Salcha River, 90.92 16 P **P** **18 37 25.6 +2.4**
baz=215
YAK Yakutsk 91.15 340 P **P** **18 37 22.3 -1.8**
comp=Z,4.9nm,0.4s,baz=77,slow=2.1,SNR=1.6
YAK LR LR 19 17 33.7
comp=Z,928nm,18.8s,baz=140,slow=35
YAK Yakutsk 91.15 340 *e*P **P** **18 37 24.7 +0.6**
YAK *e* 18 41 02.4
YAK *e*S **SKSac** **18 47 51.0 -4.8**
YAK *e* 18 48 20.1
YAK pmax pmax
comp=Z,53nm,1.5s
YAK pmax pmax
comp=E,16nm,1.4s
YAK pmax pmax
comp=N,17nm,1.5s
YAK pmax pmax
comp=Z,158nm,3.0s
YAK pmax pmax
comp=N,95nm,2.8s
YAK pmax pmax
comp=E,136nm,2.8s
YAK smax smax
comp=N,721nm,7.1s
YAK smax smax
comp=E,252nm,5.2s
DLBC Dease Lake 91.28 25 LR LR 19 15 44.8
comp=E,2µm,18.0s,baz=236,slow=34
J26L Joseph Creek 91.29 16 P **P** **18 37 23.7 -1.2**
J26L IAmb IAmb 18 37 32.5
comp=Z,110nm,1.5s
J26L IAMs_20 IAMs_20 19 13 59.4
comp=Z,2µm,20.0s
J26L Joseph Creek 91.29 16 P **P** **18 37 27.5 +2.5**
baz=217
N31M Braeburn, Yuko 91.30 21 IAMs_20 IAMs_20 19 16 08.8
comp=Z,3µm,20.0s
N31M Braeburn, Yuko 91.30 21 P **P** **18 37 28.3 +3.4**
baz=224
H24K Noodor Dome 91.34 14 IAMs_20 IAMs_20 19 18 32.6
comp=Z,2µm,20.0s
P33M Teslin, Yukon 91.43 23 IAMs_20 IAMs_20 19 10 01.3
comp=Z,3µm,21.0s
NEW Newport 91.54 38 LR LR 19 13 42.2
comp=Z,2µm,18.6s,baz=240,slow=32
NEW Newport 91.54 38 IAMs_20 IAMs_20 19 16 54.3
comp=Z,3µm,20.0s
NEW Newport 91.54 38 P **P** **18 37 29.7 +3.3**
baz=239,SNR=5.2
LKP Lekhapani 91.54 299 *e*P **P** **18 37 26.7 -0.2**
PRP Porcupine Dome 91.62 15 IAMs_20 IAMs_20 19 10 45.2
comp=Z,3µm,22.0s
M30M Minto, Yukon 91.77 20 P **P** **18 37 29.9 +2.8**
baz=223
MVCO Mesa Verde 91.89 51 P **P** **18 37 29.4 +0.9**
baz=244
MNTX Cornudas Mount 91.91 57 IAMs_20 IAMs_20 19 10 36.0
comp=Z,3µm,20.0s
MNTX Cornudas Mount 91.91 57 P **P** **18 37 29.8 +1.3**
baz=246,SNR=26
COLD Coldfoot 92.03 12 P **P** **18 37 29.8 +1.6**
baz=211
DAWY Dawson 92.10 18 P **P** **18 37 31.8 +3.2**
baz=221,SNR=9.3
IMP Imphal 92.14 296 *e*P **P** **18 37 29.0 -0.7**
EGAK Eagle 92.15 17 P **P** **18 37 26.8 -2.0**
EGAK IAmb IAmb 18 37 36.7
comp=Z,54nm,1.4s
EGAK IAMs_20 IAMs_20 19 10 24.1
comp=Z,3µm,22.0s
EGAK Eagle 92.15 17 P **P** **18 37 31.7 +2.9**
baz=219,SNR=10
MOKO MOKOCHONG 92.24 297 *e*P **P** **18 37 27.9 -2.4**
UNM Universidad Na 92.26 70 IAMs_20 IAMs_20 19 09 24.3
comp=Z,3µm,21.0s
TXAR Lajitas Array 92.31 59 P **P** **18 37 31.6 +1.1**
comp=Z,13nm,1.1s,baz=224,slow=3.5,SNR=15
TXAR PKKPbc **PKKPbc** **18 54 45.5 -0.1**
comp=Z,1.2nm,1.0s,baz=48,slow=1.3,SNR=4.0
TXAR LR LR 19 10 38.3
comp=Z,2µm,21.7s,baz=242,slow=30
KOHI KOHIMA 92.34 297 *e*P **P** **18 37 33.7 +2.9**
ANMO Albuquerque 92.42 53 LR LR 19 13 56.1
comp=Z,1µm,18.1s,baz=242,slow=32
ANMO Albuquerque 92.42 53|| *e*P **P** **18 37 32.1 +1.1**
ANMO pmax pmax
comp=Z,48nm,1.2s
ANMO MLR MLR
comp=Z,1µm,17.0s
ANMO Albuquerque 92.42 53 P **P** **18 37 29.6 -1.4**
ANMO IAmb IAmb 18 37 40.6
comp=Z,42nm,1.1s
ANMO Albuquerque 92.42 53 P **P** **18 37 32.0 +0.9**
baz=245
PLCA Paso Flores 92.44 136 P **P** **18 37 32.0 +1.0**
comp=Z,9.6nm,1.1s,baz=193,slow=3.6,SNR=7.8
PLCA LR LR 19 09 50.5
comp=Z,1µm,21.2s,baz=240,slow=30

PLCA	**Paso Flores**	92.44	136	P	P	18 37 29.9	-1.1	
PLCA				pmax	pmax			
comp=Z,17nm,1.1s								
PLCA	**Paso Flores**	92.44	136	P	P	18 37 29.9	-1.1	
FYU	**Fort Yukon**	92.55	14	IAMs_20	IAMs_20	19 12 37.6		
comp=Z,3μm,20.0s								
FARO	**Faro, Yukon**	92.64	21	P	P	18 37 34.7	+3.5	
baz=226								
ULN	**Ulaanbaatar**	92.65	321	*de*P	P	18 37 31.3	-0.4	
ULN				pmax	pmax			
comp=Z,23nm,1.2s								
ULN				MLR	MLR			
comp=Z,977nm,18.0s								
J29M	**Klondike Camp**	92.73	18	IAMs_20	IAMs_20	19 20 18.4		
comp=Z,2μm,18.0s								
DLMT	**Dillon**	92.81	42	IAMs_20	IAMs_20	19 13 23.6		
comp=Z,2μm,20.0s								
SONM	**Songino Array**	93.02	321	P	P	18 37 31.4	-2.0	
comp=Z,6.6nm,1.0s,baz=150,slow=42,SNR=14								
SONM				PP	PP	18 41 15.2	-1.5	
comp=Z,3.4nm,1.2s,baz=129,slow=7.1,SNR=4.7								
SONM				PKKPbc	PKKPdf	18 54 43.3	-0.2	
comp=Z,0.6nm,0.9s,baz=222,slow=1.9,SNR=2.2								
SONM				LR	LR	19 17 05.8		
comp=Z,695nm,20.8s,baz=122,slow=34								
SONM	**Songino Array**	93.02	321	P	P	18 37 32.3	-1.1	
SONM				pmax	pmax			
comp=Z,10.0nm,1.0s								
SONM	**Songino Array**	93.02	321	P	P	18 37 32.3	-1.1	
S22A	**4UR Ranch, Cre**	93.31	51	P	P	18 37 36.4	+1.2	
baz=245,SNR=42								
O20A	**White River Cl**	93.33	48	P	P	18 37 36.4	+1.3	
baz=245,SNR=13								
I29M	**Ogilvie Camp,**	93.38	17	IAMs_20	IAMs_20	19 11 01.7		
comp=Z,3μm,22.0s								
I29M	**Ogilvie Camp,**	93.38	17	P	P	18 37 35.4	+0.9	
baz=222								
BMAR	**Burnt Mountain**	93.41	14	P	P	18 37 34.2	-0.4	
GTA	**Gaotai**	93.46	311	⇑P	P	18 37 35.1	-0.5	
GTA				PP	PP	18 41 19.4	-0.9	
GTA				S	S	18 48 37.0	-6.9	
GTA				sS	sS	18 48 52.5	+3.7	
GTA				pmax	pmax			
comp=Z,270nm,5.1s								
GTA				LR	LR			
comp=Z,700nm,20.4s								
GTA				LR	LR			
comp=Z,1μm,21.8s								
GTA				LR	LR			
comp=Z,2μm,22.2s								
BOZ	**Bozeman (W)**	93.52	42	IAMs_20	IAMs_20	19 14 15.1		
comp=Z,3μm,19.0s								
BOZ	**Bozeman (W)**	93.52	42	P	P	18 37 36.9	+1.1	
baz=243,SNR=13								
BW06	**Boulder Array**	93.58	45	P	P	18 37 36.7	+0.5	
baz=244,SNR=8.0								
PDAR	**Pinedale Array**	93.58	45	P	P	18 37 35.5	-0.7	
comp=Z,5.5nm,1.0s,baz=222,slow=2.9,SNR=17								
PDAR				PP	PP	18 41 22.6	+1.3	
comp=Z,2.2nm,1.0s,baz=240,slow=8.4,SNR=5.6								
PDAR				LR	LR	19 13 42.7		
comp=Z,559nm,19.6s,baz=251,slow=32								
H17A	**Grant Village**	93.64	43	P	P	18 37 38.6	+2.1	
baz=243,SNR=9.2								
SDCO	**Great Sand Dun**	94.28	51	P	P	18 37 40.2	+0.6	
baz=246,SNR=14								
A21K	**Barrow**	94.57	9	IAMs_20	IAMs_20	19 17 30.8		
comp=Z,2μm,20.0s								
RWWY	**Rawlins**	94.69	47	IAMs_20	IAMs_20	19 18 39.6		
comp=Z,3μm,19.0s								
RLMT	**Red Lodge**	94.80	43	P	P	18 37 45.3	+3.5	
baz=244,SNR=12								
T25A	**Trinidad**	94.83	52	P	P	18 37 45.2	+3.1	
baz=247								
Q24A	**Divide**	95.02	50	P	P	18 37 47.2	+4.2	
baz=246								
ISCO	**Idaho Springs**	95.02	49	P	P	18 37 47.0	+3.9	
baz=246								
N23A	**Red Feather La**	95.24	48	P	P	18 37 47.8	+3.9	
baz=246								
CMIG	**Matias Romero**	95.25	74	LR	LR	19 12 59.0		
comp=Z,2μm,18.4s,baz=252,slow=31								
EGMT	**Eagleton**	95.76	40	IAMs_20	IAMs_20	19 14 01.2		
comp=Z,2μm,19.0s								
GOMU	**GeErMu**	95.80	307	P	P	18 37 46.3	-0.4	
GOMU				pP	sP	18 37 51.3	+0.7	
GOMU				sP	pwP	18 37 55.5	+2.7	
GOMU				PP	PP	18 41 41.8	+2.9	
GOMU				S	S	18 49 06.1	+1.2	
GOMU				LR	LR			
comp=Z,450nm,20.8s								
GOMU				LR	LR			
comp=Z,1μm,20.2s								
GOMU				LR	LR			
comp=Z,1μm,19.8s								
JCT	**Junction City**	95.85	60	IAMs_20	IAMs_20	19 13 22.4		
comp=Z,2μm,18.0s								
ZAK	**Zakamensk**	96.02	322	*e*P	P	18 37 45.0	-2.1	
ZAK				pmax	pmax			
comp=Z,13nm,1.4s								
PEL	**Peldehue**	96.25	129	IAMs_20	IAMs_20	19 11 25.8		
comp=Z,3μm,21.0s								
KVTX	**Kingsville**	96.35	63	IAMs_20	IAMs_20	19 16 25.1		
comp=Z,2μm,18.0s								
INK	**Inuvik**	96.82	17	LR	LR	19 14 15.8		
comp=Z,2μm,21.9s,baz=222,slow=31								
INK	**Inuvik**	96.82	17	P	P	18 37 52.1	+2.0	
baz=226								
LAO	**LASA Array**	97.38	43	P	Pdif	18 37 56.6	+3.3	
baz=246,SNR=8.1								
PALK	**Pallekele**	97.64	275	LR	LR	19 23 21.5		
comp=Z,4μm,18.9s,baz=228,slow=36								
WMOK	**Wichita Mounta**	98.18	56	IAMs_20	IAMs_20	19 14 15.7		
comp=Z,3μm,21.0s								
TIXI	**Tiksi**	98.44	346	P	Pdif	18 37 57.7	+0.4	
comp=Z,2.1nm,0.8s,baz=121,slow=7.3,SNR=6.6								
TIXI				PP	PP	18 41 57.2	-0.7	
comp=Z,1.6nm,0.9s,baz=128,slow=8.2,SNR=4.1								
TIXI				LR	LR	19 17 02.0		
comp=Z,2μm,21.8s,baz=122,slow=32								
TIXI	**Tiksi**	98.44	346	⇑*e*P	Pdif	18 37 58.2	+0.9	
TIXI				pmax	pmax			
comp=Z,12nm,1.5s								
TIXI				MLR	MLR			
comp=Z,979nm,19.0s								
TIXI	**Tiksi**	98.44	346	IAMs_20	IAMs_20	19 16 29.1		
comp=Z,3μm,22.0s								
HKT	**Hockley**	98.88	61	IAMs_20	IAMs_20	19 13 27.9		
comp=Z,2μm,22.0s								
OK035	**E0210 Rd and N**	98.91	54	IAMs_20	IAMs_20	19 14 33.0		
comp=Z,3μm,21.0s								
OK032	**Salt Plains WL**	99.32	54	IAMs_20	IAMs_20	19 15 07.8		
comp=Z,3μm,20.0s								
OK025	**Westminster Rd**	99.58	56	IAMs_20	IAMs_20	19 15 32.6		
comp=Z,3μm,21.0s								
YKA	**Yellowknife Ar**	99.85	26	P	Pdif	18 38 05.2	+1.4	
comp=Z,1.0nm,0.9s,baz=247,slow=4.3,SNR=10								
YKA				PP	PP	18 42 04.0	-4.8	
comp=Z,1.1nm,1.0s,baz=241,slow=7.3,SNR=5.1								
YKA				PKKPbc	PKKPbc	18 54 22.1	-4.0	
comp=Z,0.3nm,0.7s,baz=61,slow=2.4,SNR=2.8								
YKA				LR	LR	19 16 04.0		
comp=Z,2μm,21.3s,baz=250,slow=31								
YKA	**Yellowknife Ar**	99.85	26	*i* P	Pdif	18 38 02.4	-1.4	
YKA	**Yellowknife Ar**	99.85	26		Pdif	18 38 02.4	-1.4	
C36M	**Paulatuk**	100.13	18	IAMs_20	IAMs_20	19 16 20.2		
comp=Z,2μm,20.0s								
OK034	**N. Norfolk Rd.**	100.20	55	IAMs_20	IAMs_20	19 16 13.1		
comp=Z,3μm,20.0s								
NATX	**Nacogdoches**	100.43	60	IAMs_20	IAMs_20	19 14 27.7		
comp=Z,3μm,22.0s								
MYLAV	**Mylavaram**	100.94	284	*e*Pdif	Pdif	18 38 07.9	-1.8	
MYLAV				*e*PP	PP	18 42 16.3	-1.8	
NNA	**Nana**	101.05	108	IAMs_20	IAMs_20	19 15 37.1		
comp=Z,2μm,19.0s								
TGUH	**Tegucigalpa,Un**	101.10	79	IAMs_20	IAMs_20	19 13 05.2		
comp=Z,2μm,22.0s								
ADKI	**Addanki**	101.24	283	*e*Pdif	Pdif	18 38 08.8	-2.3	
JTS	**Las Juntas de**	101.97	84	IAMs_20	IAMs_20	19 13 53.6		
comp=Z,2μm,21.0s								
RCLA	**Racherla**	102.03	282	*e*Pdif	Pdif	18 38 13.2	-1.4	
RCLA				*e*PP	PP	18 42 24.2	-2.3	
RCLA				*e*SS	SS	18 57 02.0	-0.6	
NJS	**Nagarjunasagar**	102.07	283	*e*PP	PP	18 42 24.6	-2.2	
MIAR	**Mount Ida**	102.17	58	IAMs_20	IAMs_20	19 16 53.5		
comp=Z,3μm,21.0s								
PB15	**IPOC Station P**	102.17	121	IAMs_20	IAMs_20	19 12 44.7		
comp=Z,3μm,20.0s								
SRLM	**Srisailam**	102.30	283	*e*Pdif	Pdif	18 38 14.4	-1.5	
SRLM				*e*PP	PP	18 42 27.3	-1.2	
PB06	**IPOC Station P**	102.34	121	IAMs_20	IAMs_20	19 13 36.2		
comp=Z,2μm,21.0s								
PB07	**IPOC Station P**	102.57	120	IAMs_20	IAMs_20	19 14 08.3		
comp=Z,2μm,21.0s								
HDC	**Heredia**	102.64	84	IAMs_20	IAMs_20	19 13 55.6		
comp=Z,2μm,22.0s								
PATCX	**Punta Patache**	102.79	119	IAMs_20	IAMs_20	19 13 40.2		
comp=Z,2μm,22.0s								
RPR	**Rampur**	102.82	285	*e*Pdif	Pdif	18 38 16.8	-1.3	
LVC	**Limon Verde**	102.92	121	IAMs_20	IAMs_20	19 15 07.4		
comp=Z,3μm,20.0s								
HYBB	**Hyderabad (bro**	103.03	284	⇓*e*Pdif	Pdif	18 38 17.5	-1.6	
HYBB				*e*PP	PP	18 42 31.5	-2.5	
HYBB				*e*PKiKP	PKiKP	18 42 37.4	-1.9	
HYBB				*e*SKSac	SKSac	18 48 57.5	-1.9	
HYBB				⇓*e*SS	SS	18 57 13.8	-2.7	
PB09	**IPOC Station P**	103.05	120	IAMs_20	IAMs_20	19 13 13.1		
comp=Z,2μm,22.0s								
U40A	**Yellville**	103.27	56	IAMs_20	IAMs_20	19 21 18.5		
comp=Z,2μm,20.0s								
URV	**Uravakonda**	103.42	281	*e*Pdif	Pdif	18 38 18.8	-2.1	
SRSP	**Sriramsagar**	103.70	285	*e*Pdif	Pdif	18 38 19.6	-2.5	
SRSP				*e*Pdif	pPdif	18 38 20.2	-4.8	
SRSP				*e*PP	PP	18 42 35.8	-3.2	
SRSP				*e*PP	PKiKP	18 42 36.8	-3.6	
PB12	**IPOC Station P**	103.71	117	IAMs_20	IAMs_20	19 14 41.5		
comp=Z,2μm,19.0s								
PB11	**IPOC Station P**	103.71	118	IAMs_20	IAMs_20	19 14 24.6		
comp=Z,2μm,22.0s								
PB08	**IPOC Station P**	103.94	118	IAMs_20	IAMs_20	19 13 50.6		
comp=Z,3μm,22.0s								
OTAV	**Otavalo**	104.44	96	IAMs_20	IAMs_20	19 14 20.8		
comp=Z,2μm,22.0s								
PB16	**IPOC Station P**	104.52	117	IAMs_20	IAMs_20	19 14 44.1		
comp=Z,2μm,19.0s								
CCM	**Cathedral Cave**	104.98	55	IAMs_20	IAMs_20	19 18 29.7		
comp=Z,3μm,22.0s								
PLAL	**Pickwick Lake**	106.64	58	IAMs_20	IAMs_20	19 17 38.0		
comp=Z,2μm,21.0s								
ZALV	**Zalesovo Beam**	107.89	322	Pdiff	Pdif	18 38 41.2	+1.4	
comp=Z,0.4nm,0.3s,baz=8.8,slow=30,SNR=2.0								
ZALV				PKiKP	PKiKP	18 42 46.9	-0.1	
comp=Z,0.4nm,0.4s,baz=124,slow=2.1,SNR=2.6								
MKAR	**Makanchi Array**	107.95	314	Pdiff	Pdif	18 38 41.0	+0.7	
comp=Z,0.5nm,1.0s,baz=22,slow=14,SNR=3.3								
MKAR				PKiKP	PKiKP	18 42 46.5	-1.0	
comp=Z,2.3nm,1.1s,baz=89,slow=1.3,SNR=5.1								
MKAR				PKKPbc	PKKPbc	18 53 59.6	-1.6	
comp=Z,0.9nm,1.0s,baz=277,slow=2.1,SNR=2.8								
MKAR				PKKP	PKKPab	18 54 13.5	+0.9	
comp=Z,0.6nm,0.8s,baz=275,slow=4.2,SNR=4.8								
KSH	**Kashi**	111.00	305	PKP	PKiKP	18 42 53.8	+0.3	
KSH				PP	PP	18 43 31.4	-0.8	
KSH				LR	LR			
comp=Z,810nm,18.9s								
KSH				LR	LR			
comp=Z,1μm,24.0s								
KSH				LR	LR			
comp=Z,1μm,22.0s								
KURK	**Kurchatov**	111.06	318	*c i*PKIKP	PKiKP	18 42 51.9	-1.2	
KURK				pmax	pmax			
comp=Z,6.0nm,1.0s								
KURK	**Kurchatov**	111.06	318		PKiKP	18 42 50.9	-2.1	
KURBB	**Kurchatov Arra**	111.10	317	PKiKP	PKiKP	18 42 51.2	-2.0	
comp=Z,3.3nm,1.0s,baz=104,slow=2.0,SNR=13								
MTDJ	**Mount Denham**	111.28	78	IAMs_20	IAMs_20	19 18 44.9		
comp=Z,2μm,22.0s								
ACSO	**Alum Creek Sta**	111.73	54	IAMs_20	IAMs_20	19 25 13.2		
comp=Z,2μm,20.0s								
AAK	**Ala-Archa**	112.64	308	PKKPbc	PKKPbc	18 53 45.5	-0.5	
comp=Z,0.6nm,0.5s,baz=204,slow=11,SNR=2.6								
AAK	**Ala-Archa**	112.64	308	⇓*i*PKIKP	PKiKP	18 42 59.0	+2.4	
SDV	**Santo Domingo**	114.80	90	PKP	PKPdf	18 43 00.5	-1.0	
comp=Z,1.8nm,0.3s,baz=252,slow=11,SNR=2.6								
KKAR	**Karatay Array**	115.61	309	PKIKP	PKPdf	18 43 00.1	-2.0	
KKAR	**Karatay Array**	115.61	309	PKPdf	PKPdf	18 43 00.1	-2.0	
BVAR	**Borovoye Array**	116.34	320	PKP	PKPdf	18 43 00.6	-2.5	
comp=Z,2.8nm,0.8s,baz=110,slow=6.5,SNR=9.8								
BRVK	**Borovoye**	116.40	320	⇑*i*PKIKP	PKiKP	18 43 03.6	+0.3	
TULEG	**Thule**	116.61	14	IAMs_20	IAMs_20	19 27 26.3		
comp=Z,2μm,20.0s								
PARB	**Paraibuna**	119.63	135	*e*P	PKiKP	18 43 13.0	+2.4	
NEEM	**North Greenlan**	119.69	11	*e*P	PKPdf	18 43 08.6	-0.8	
CLDB	**Colider**	119.71	117	*e*P	PKiKP	18 43 15.1	+4.1	
ARAG	**Araguaiana, MT**	120.16	124	*e*P	PKiKP	18 43 15.5	+3.8	
UPNV	**Upernavik**	121.25	16	*e*P	PKPdf	18 43 11.6	-0.5	
SVE	**Sverdlovsk**	121.70	324	*i* PKIKP	PKPdf	18 43 12.4	-0.9	
SVE				pmax	pmax			
comp=Z,17nm,1.3s								
SVE				MLR	MLR			
comp=Z,1μm,23.0s								
BOAV	**Boa Vista**	121.79	101	*e*P	PKiKP	18 43 18.9	+3.9	
BOSA	**Boshof**	122.71	211	PKP	PKPdf	18 43 13.8	-2.6	
comp=Z,4.3nm,1.0s,baz=109,slow=7.2,SNR=4.0								
BOSA	**Boshof**	122.71	211	PKPdf	PKPdf	18 43 15.4	-1.0	
SNDB	**Serra Nova Dou**	122.76	121	*e*P	PKiKP	18 43 19.3	+2.4	
ARU	**Arti**	122.90	324	PKP	PKPdf	18 43 13.6	-2.0	
comp=Z,2.9nm,0.8s,baz=117,slow=2.0,SNR=12								
ARU	**Arti**	122.90	324	*i* PKIKP	PKiKP	18 43 17.8	+2.0	
ARU						18 44 56.2		
ARU						18 50 29.4		
ABKAR	**Akbulak array**	123.03	315	PKPdf	PKPdf	18 43 14.1	-2.0	
BDFB	**Brasília**	123.08	127	PKP	PKPdf	18 43 16.1	-1.3	
comp=Z,1.2nm,0.4s,baz=207,slow=6.8,SNR=1.4								
ITTB	**Itaituba**	123.08	111	*e*P	PKiKP	18 43 21.2	+3.7	
CAM01	**Campos-RJ**	123.27	137	*e*P	PKiKP	18 43 21.5	+3.8	
AKTO	**Aktyubinsk**	124.15	317	PKP	PKPdf	18 43 16.4	-1.9	
comp=Z,7.5nm,0.9s,baz=78,slow=3.1,SNR=11								
DAG	**Danmarks Havn**	124.27	4	*i* P	PKPdf	18 43 15.0	-2.7	
DIAM	**Diamantina, MG**	124.44	133	*e*P	PKiKP	18 43 23.5	+3.2	
ILULI	**Ilulissat**	124.56	19	*e*P	PKiKP	18 43 19.6	+0.8	
GEYT	**Alibeck**	124.69	302	PKP	PKPdf	18 43 18.5	-1.2	
comp=Z,7.0nm,0.9s,baz=108,slow=4.8,SNR=6.5								
GEYT	**Alibeck**	124.69	302	PKPdf	PKPdf	18 43 17.7	-2.1	
ALF01	**Guarapari-ES**	124.74	137	*e*P	PKiKP	18 43 24.4	+3.8	
PEXB	**Peixe**	125.04	123	*e*P	PKiKP	18 43 24.9	+3.4	
SUMG	**Summit**	125.42	12	*i* P	PKPdf	18 43 20.0	-0.6	
MALB	**Monte Alegre**	125.57	109	*e*P	PKiKP	18 43 25.7	+3.3	
SJMB	**Sao Joao De Ma**	125.83	135	*e*P	PKiKP	18 43 26.5	+3.6	
RIB01	**Linhares ES**	125.90	136	*e*P	PKiKP	18 43 26.8	+3.8	
SFJD	**Kangerlussuaq**	125.95	21	*e*P	PKiKP	18 43 22.5	+1.0	
DBG	**Daneborg**	126.51	5	*e*P	PKPdf	18 43 20.5	-1.6	
KIRV	**Kirov**	127.07	328	PKP	PKPdf	18 43 22.4	-1.1	
comp=Z,6.8nm,0.5s,baz=258,slow=2.4,SNR=8.5								
KIRV	**Kirov**	127.07	328	⇓*i*PKIKP	PKiKP	18 43 25.9	+1.9	
PRPB	**Parauapebas**	127.21	116	*e*P	PKiKP	18 43 29.2	+3.5	
SDBA	**SAO DESIDERIO**	127.45	126	*e*P	PKiKP	18 43 30.3	+4.0	
SMTB	**Santa Maria do**	127.53	121	*e*P	PKiKP	18 43 29.7	+3.3	
PRGR	**Permogore**	127.58	333	*e*PKIKP	PKiKP	18 43 25.2	+0.2	
PRGR				pmax	pmax			
comp=Z,33nm,1.1s								
DY2G	**Dye2**	127.66	20	*e*P	PKPdf	18 43 24.5	-0.3	
ICESG	**Greenland Ices**	127.77	15	*e*P	PKiKP	18 43 26.5	+0.9	
KEV	**Kevo**	128.37	347	IAMs_20	IAMs_20	19 38 47.4		
comp=Z,2μm,20.0s								
APA	**Apatity**	128.45	343	⇓*i*PKIKP	PKPdf	18 43 25.8	-0.1	
APA				*i*		18 45 30.3		
APA				pmax	pmax			
comp=Z,11nm,1.1s								
APA				MLR	MLR			
comp=Z,1μm,20.0s								
ARCES	**ARCESS Array B**	128.87	347	PKP	PKPdf	18 43 25.3	-1.4	
comp=Z,15nm,1.1s,baz=31,slow=1.4,SNR=14								
ARCES	**ARCESS Array B**	128.87	347	PKPdf	PKPdf	18 43 25.8	-0.9	
NBIT	**Itapeh - BA**	129.68	133	*e*P	PKiKP	18 43 32.8	+2.1	
BELG	**Belogornoye**	130.08	321	PKP	PKPdf	18 43 27.1	-2.3	
comp=Z,15nm,1.0s,baz=242,slow=6.6,SNR=7.9								
BELG	**Belogornoye**	130.08	321	*c i*PKIKP	PKiKP	18 43 31.1	+0.9	
BELG				MLR	MLR			
comp=Z,80nm,19.0s								
KLMR	**Klimovskoe**	130.53	334	*e*PKIKP	PKPdf	18 43 27.6	-2.5	
KLMR				*e*SS	SS	19 03 09.2	-3.1	
KLMR				pmax	pmax			
comp=Z,46nm,1.5s								
KLMR	**Klimovskoe**	130.53	334	*e*PKPdf	PKPdf	18 43 27.7	-2.4	
KLMR				AMP		18 43 33.1		
comp=Z,46nm,1.5s								
KLMR				*e*SKPbc	SKPab	18 46 51.2	-2.4	
KLMR				*e*PKKS		18 57 04.4		
KLMR				*e*PKKS		18 57 04.4		
KLMR				*e*SS	SS	19 03 09.2	-3.1	
KLMR				*e*SS	SS	19 03 09.2	-3.1	
KLMR				LQ	LQ	19 24 53.5		
KLMR				LQ	LQ	19 24 53.5		
KLMR				LR	LR	19 32 45.5		
LSZ	**Lusaka**	131.71	223	PKP	PKPdf	18 43 31.5	-2.4	
comp=Z,0.9nm,0.4s,baz=285,slow=3.7,SNR=4.9								
LSZ				PP	PP	18 45 51.3	-1.4	
comp=Z,7.1nm,1.0s,baz=152,slow=6.6,SNR=5.6								
NBPN	**Ponto Novo - B**	131.95	129	*e*P	PKiKP	18 43 37.9	+2.6	
MAK	**Makhachkala**	132.42	309	*i* P	Pdif	18 40 17.6	-12	
MAK				*i*		18 43 30.8		
MAK				*e*		18 50 35.0		
MAK				*e*SSS	SSS	19 08 27.0		
MAK				pmax	pmax			
comp=Z,147nm,1.1s								
NBLA	**Lagarto - SE**	133.58	131	*e*P	PKiKP	18 43 41.3	+2.7	
KMBO	**Kilima Mbogo**	133.91	246	PKhKP	PKPpre	18 43 34.0		
comp=Z,3.7nm,0.8s,baz=0.0,slow=0.0,SNR=2.2								
KMBO	**Kilima Mbogo**	133.91	246	*d i*PKIKP	PKiKP	18 43 40.5	+0.9	
VRH	**Novokhopyorsk**	133.93	321	*e*PKIKP	PKPdf	18 43 36.9	+0.1	
VRH				pmax	pmax			
comp=Z,20nm,1.2s								
MOS	**Moscow**	134.08	329	*i* PKIKP	PKPdf	18 43 37.1	+0.2	
TSUM	**Tsumeb**	134.34	209	PKP	PKPdf	18 43 37.7	-1.0	
comp=Z,1.1nm,0.3s,baz=126,slow=4.5,SNR=2.8								
TSUM	**Tsumeb**	134.34	209		PKPdf	18 43 36.0	-2.8	
RAYN	**Ar Rayn**	134.51	282	IAMs_20	IAMs_20	19 45 45.5		
comp=Z,1μm,18.0s								
OBN	**Obninsk**	134.92	328	PKP	PKPdf	18 43 36.2	-2.3	
comp=Z,1.6nm,0.4s,baz=156,slow=18,SNR=1.5								
OBN	**Obninsk**	134.92	328	*e*PKIKP	PKiKP	18 43 39.8	-0.1	
OBN				*e*		18 46 13.9		
OBN				*e*SS	SS	19 04 07.7	+1.9	
OBN				pmax	pmax			
comp=Z,10.0nm,1.1s								
OBN				MLR	MLR			
comp=Z,1μm,20.0s								
OBN	**Obninsk**	134.92	328	IAMs_20	IAMs_20	19 40 40.4		
comp=Z,1μm,20.0s								
LPSR	**Galich'ya Gora**	134.92	324	*e*PKIKP	PKiKP	18 43 40.8	+0.7	
LPSR				pmax	pmax			
comp=Z,20nm,1.2s								
FINES	**FINESS Array B**	135.08	340	PKhKP	PKPpre	18 43 33.4		
comp=Z,2.3nm,1.0s,baz=251,slow=5.8,SNR=2.2								
NCK	**Nalchik**	135.11	311	⇓*i*PKIKP	PKiKP	18 43 40.8	0.0	
VORR	**Voronezh**	135.18	323	*e*PKIKP	PKPdf	18 43 37.7	-1.4	
VORR				pmax	pmax			
comp=Z,60nm,2.3s								
NBMA	**Muriti-CE**	135.31	126	*e*P	PKiKP	18 43 44.8	+2.7	
VSR	**Storozhevoye**	135.40	322	*e*PKIKP	PKiKP	18 43 41.6	+0.5	
VSR				pmax	pmax			
comp=Z,10.0nm,0.6s								
KBZ	**Khabaz**	135.54	311	⇓*i*PKIKP	PKiKP	18 43 43.1	+1.5	
KIV	**Kislovodsk**	135.64	311	*i* PKIKP	PKiKP	18 43 41.3	-0.7	
KIV				*e*		18 46 17.5		
KIV				*e*PS	PS	18 56 40.0	-1.8	
KIV				*e*SS	SS	19 04 16.0	+0.2	
KIV				*e*SSS	SSS	19 09 18.0		
KIV				pmax	pmax			
comp=Z,9.0nm,1.0s								
VSU	**Vasula**	137.06	337	⇑*e*PKIKP	PKiKP	18 43 45.0	+0.8	
VSU				MLR	MLR			
comp=Z,2μm,19.0s								
SOC	**Sochi**	137.81	312	*i* PKIKP	PKPdf	18 43 45.2	+0.9	
SOC				*e*		18 46 29.3		
RCBR	**Riachuelo**	138.45	127	IAMs_20	IAMs_20	19 40 31.8		
comp=Z,1μm,21.0s								
NB2	**NORSAR Subarra**	139.18	349	PKPdf	PKPdf	18 43 42.4	-3.9	
comp=Z,28nm,1.7s,baz=27,slow=1.8								
NB2	**NORS

VOIR 146.42 322 ⇑P **PKPbc** 18 44 01.3 +0.3
VOIR 146.42 322 ⇑PKP2 **PKPbc** 18 44 01.3 +0.3
CJR Cluj-Napoca 146.45 325 ⇑P **PKPbc** 18 44 01.4 +0.4
CJR Cluj-Napoca 146.45 325 ⇑PKP2 **PKPbc** 18 44 01.4 +0.4
MESR Meseseni 146.52 326 ⇑P **PKPab** 18 44 02.3 +0.3
ARR Arges 146.70 322 ⇑P **PKPab** 18 44 03.6 +0.7
KSP Ksiaz 146.78 336 *e*PKP **PKPbc** 18 44 02.0 +0.3
LANS Liptovska Anna 146.81 332 *e*PKP2 **PKPab** 18 44 02.8 -0.4
LANS Liptovska Anna 146.81 332 *e*PKP **PKPab** 18 44 02.8 -0.4
KECS Kecovo 146.83 330 *e*PKP2 **PKPab** 18 44 02.9 -0.3
KECS Kecovo 146.83 330 *e*PKP **PKPab** 18 44 02.9 -0.3
OKC Ostrava-Krasne 146.85 334 AMS AMS 19 48 50.0
comp=Z,2μm,18.9s
DRGR 146.87 326 ⇓P **PKPbc** 18 44 02.2 0.0
DRGR 146.87 326 ⇓PKP2 **PKPbc** 18 44 02.2 0.0
LTVH Ltavrtes, Hu 146.90 327 PKPDF **PKPdf** 18 43 58.1 -2.2
OSTC Ostas 147.05 336⇑*e*PKP **PKPbc** 18 44 03.2 +0.7
OSTC AMS AMS 19 50 40.0
comp=Z,2μm,24.4s
CHVC Chvalec 147.08 336⇑*e*PKP **PKPbc** 18 44 03.1 +0.5
CHVC AMS AMS 19 50 30.0
comp=Z,2μm,21.5s
MORC Moravsky Berou 147.15 334 ⇑P **PKPbc** 18 44 02.3 -0.6
MORC Moravsky Berou 147.15 334 ⇑PKP2 **PKPbc** 18 44 02.3 -0.6
MORC Moravsky Berou 147.15 334 *e*PKP **PKPbc** 18 44 02.8 -0.1
UPC Upice 147.16 336 *e*PKP2 **PKPab** 18 44 03.9 -0.6
UPC MLR MLR
comp=Z,2μm,20.6s
UPC Upice 147.16 336⇑*e*PKP **PKPab** 18 44 03.9 -0.6
UPC AMS AMS 19 50 30.0
comp=Z,2μm,20.6s
DPC Dobruska-Polom 147.17 336 *e*PKP2 **PKPbc** 18 44 03.0 +0.1
DPC MLR MLR
comp=Z,1μm,20.3s
DPC Dobruska-Polom 147.17 336⇑*e*PKP **PKPbc** 18 44 03.0 +0.1
DPC AMS AMS 19 49 50.0
comp=Z,1μm,20.3s
KRLC Kraliky 147.22 335 *e*PKP2 **PKPbc** 18 44 03.5 +0.5
KRLC MLR MLR
comp=Z,1μm,20.5s
KRLC Kraliky 147.22 335⇑*e*PKP **PKPbc** 18 44 03.5 +0.5
KRLC AMS AMS 19 50 50.0
comp=Z,1μm,20.5s
KULA Kula-Manisa 147.37 308 P **PKPbc** 18 44 03.0 -0.9
PSZ Piszkesteto 147.51 330 ⇑P **PKPbc** 18 44 03.4 -0.5
PSZ Piszkesteto 147.51 330 ⇑PKP2 **PKPbc** 18 44 03.4 -0.5
PSZ Piszkesteto 147.51 330 IAMs_20 IAMs_20 20 03 39.1
comp=Z,1μm,22.0s
PSZ Piszkesteto 147.51 330 PKPDF **PKPdf** 18 44 01.5 +0.1
CLL Collm 147.53 340 *e*PKIKP **PKPbc** 18 44 03.0 -0.8
CLL *e* 18 44 06.0
CLL *i* 18 44 09.0
CLL pmax pmax
comp=Z,15nm,1.0s
CLL MLR MLR
comp=Z,1μm,21.9s
CLL Collm 147.53 340 *e*PKPbc **PKPbc** 18 44 03.0 -0.8
comp=Z,15nm,1.0s
CLL *e*PKiKP **PKiKP** 18 44 06.0 +0.1
CLL *i* pPKiKP **sPKPab** 18 44 09.0 -0.7
comp=Z,92nm,1.0s
CLL *e*SS SS 19 06 34.0 +1.9
CLL *ex* x 19 07 58.0
CLL *e*SSS SSS 19 12 07.0
CLL *ex* x 19 15 30.0
CLL LmV 19 53 00.0
comp=Z,1μm,21.9s
CLL Collm 147.53 340 *e*L L 19 53 04.2
comp=Z,1μm,21.9s
CLL Collm 147.53 340 IAMs_20 IAMs_20 19 53 25.4
comp=Z,1μm,20.0s
VYHS Vyhne 147.57 331 *e*PKP2 **PKPbc** 18 44 04.1 +0.1
VYHS Vyhne 147.57 331 *e*PKP **PKPbc** 18 44 04.1 +0.1
BRG Berggiesshubel 147.59 339 *i* PKP **PKPbc** 18 44 03.6 -0.4
BRG Amp 18 44 07.5
comp=Z,48nm,1.2s
BRG *ex* x 18 44 09.9
BRG Amp 18 44 11.5
comp=Z,103nm,1.2s
BRG Berggiesshubel 147.59 339 *i* PKP2 **PKPbc** 18 44 03.6 -0.4
BRG *e* 19 06 34.0
BRG *e* 19 12 11.0
BRG pmax pmax
comp=Z,48nm,1.3s
BRG pmax pmax
comp=Z,103nm,1.3s
BRG pmax pmax
comp=N,900nm,23.4s
BRG MLR MLR
comp=E,730nm,23.4s
BRG MLR MLR
comp=Z,2μm,21.6s
PVCC Panska Ves 147.67 338 *e*PKP2 **PKPbc** 18 44 04.4 +0.2
PVCC MLR MLR
comp=Z,2μm,24.6s
PVCC Panska Ves 147.67 338⇑*e*PKP **PKPbc** 18 44 04.4 +0.2
PVCC AMS AMS 19 49 50.0
comp=Z,2μm,24.6s
GZR Gura Zlata 147.73 324 ⇑P **PKPbc** 18 44 03.5 -1.2
GZR Gura Zlata 147.73 324 ⇑PKIKP **PKPbc** 18 44 03.5 -1.2
SIRR Siria 147.77 326 ⇑P **PKPbc** 18 44 03.5 -1.2
BSZH Besenyszg 147.77 329 ⇑PKPB 18 44 05.6
JAVC Velka Javorina 147.80 333 *e*PKP **PKPbc** 18 44 05.1 +0.4
VRAC Vranov 147.90 334 ⇓P **PKPbc** 18 44 05.2 +0.3
VRAC Vranov 147.90 334 ⇓PKP2 **PKPbc** 18 44 05.2 +0.3
VRAC Vranov 147.90 334 *e*PKP **PKPbc** 18 44 04.8 -0.1
PRU Pruhonice 148.13 337 *e*PKP2 **PKPbc** 18 44 05.2 -0.3
PRU MLR MLR
comp=Z,1μm,21.3s
PRU Pruhonice 148.13 337⇑*e*PKP **PKPbc** 18 44 05.2 -0.3
PRU AMS AMS 19 48 20.0
comp=Z,1μm,21.3s
SMOL Smolenice 148.17 333 *e*PKP2 **PKPbc** 18 44 05.7 +0.1
SMOL Smolenice 148.17 333 *e*PKP **PKPbc** 18 44 05.7 +0.1
KRUC Moravsky 148.17 334 *e*PKP **PKPbc** 18 44 05.5 -0.1
AMBH Ambrzfalva 148.19 327 ⇑P **PKPab** 18 44 08.8 +0.1
AMBH Ambrzfalva 148.19 327 ⇑PKPB 18 44 07.7
BZS Buzias 148.21 325 ⇑P **PKPbc** 18 44 05.1 -0.7
BZS Buzias 148.21 325 ⇑PKP2 **PKPbc** 18 44 05.1 -0.7
BUD Budapest 148.23 330 ⇑PKPB 18 44 05.7
HERR Herculane 148.24 323 ⇑P **PKPbc** 18 44 04.8 -1.1
SRO Srobarova 148.31 331 *e*PKP2 **PKPbc** 18 44 05.9 -0.1
SRO Srobarova 148.31 331 *e*PKP **PKPbc** 18 44 05.9 -0.1
SRO2 Moca 148.31 331 *e*PKP2 **PKPbc** 18 44 05.9 -0.1
SRO2 Moca 148.31 331 *e*PKP **PKPbc** 18 44 05.9 -0.1
MODS Modra-Piesok 148.34 333 *e*PKP2 **PKPbc** 18 44 06.1 0.0
MODS Modra-Piesok 148.34 333 *e*PKP **PKPbc** 18 44 06.1 0.0
TREC Trest 148.34 336 AMS AMS 19 49 00.0
comp=Z,1μm,22.2s
RDO Rodhopi 148.41 315 P **PKPbc** 18 44 06.5 0.0
MOX Moxa 148.54 341 *e*L L 20 02 29.0
comp=Z,1μm,19.9s
ZST Bratislava 148.56 333 *e*PKP2 **PKPbc** 18 44 06.8 +0.2
ZST Bratislava 148.56 333 *e*PKP **PKPbc** 18 44 06.8 +0.2
PBCC Pribram 148.58 337⇑*e*PKP **PKPbc** 18 44 06.4 -0.3
PBCC AMS AMS 19 50 20.0
comp=Z,900nm,20.2s
NKC Novy Kostel 148.64 340 *e*PKP2 **PKPbc** 18 44 06.7 -0.1
NKC MLR MLR
comp=Z,1μm,19.6s
NKC Novy Kostel 148.64 340⇑*e*PKP **PKPbc** 18 44 06.7 -0.1
NKC AMS AMS 19 56 30.0
comp=Z,1μm,19.6s
CSKK Cskako 148.67 330 PKPDF **PKPdf** 18 44 05.0 +1.8
PRK Paraskevi 148.79 311 P **PKPdf** 18 44 04.7 +1.1
ZAGS Zajecar 149.00 322 *e*P **PKPbc** 18 44 08.3 +0.4
EGYH Egyhazaskeszo 149.05 331 PKPDF **PKPdf** 18 44 05.4 +1.6
ZAPS Zavoj 149.09 321 *e*P **PKPbc** 18 44 08.7 +0.5
VTS Vitosha 149.11 319 ⇑P **PKiKP** 18 44 10.9 +1.2
VTS Vitosha 149.11 319 ⇑PKP2 **PKiKP** 18 44 10.9 +1.2
MPLH Magyarpolny 149.14 331 PKPDF **PKPdf** 18 44 05.6 +1.6
CKRC Cesky Krumlov 149.18 336⇑*e*PKP **PKPdf** 18 44 06.1 +2.1
CKRC AMS AMS 19 49 20.0
comp=Z,1μm,19.6s
TIH Tihany 149.18 330 ⇑PKPB 18 44 07.9
SOP Sopron 149.18 333 ⇑PKPB 18 44 08.7
KHC Kasperske Hory 149.19 337 *e*PKHKP PKPpre 18 44 03.5
KHC *e* 18 44 06.3
KHC *e* 18 44 09.5
KHC MLR MLR
comp=Z,2μm,20.4s
KHC Kasperske Hory 149.19 337 *e*PKPDF **PKPdf** 18 44 03.5 -0.6
KHC ⇑*e*PKP **pPKPdf** 18 44 06.3 -0.7
KHC *ex* x 18 44 09.5
KHC AMS AMS 19 51 20.0
comp=Z,2μm,20.4s
CONA Conrad Observa 149.29 334 *e*P **PKPbc** 18 44 08.0 -0.6
comp=Z,143nm,1.6s,SNR=28
SVIS Svilajnac 149.30 323 *e*P **PKPab** 18 44 12.5 -0.7
MORH Mrgy, Hungar 149.32 329 ⇑P **PKPbc** 18 44 06.9 -1.8
MORH Mrgy, Hungar 149.32 329 PKPDF **PKPdf** 18 44 04.5 +0.2
GEC2 GERESS Array S 149.38 337 *e*PKPdf **PKPbc** 18 44 08.8 -0.1
baz=29,slow=1.8
GEC2 *e*L L 19 51 29.5
comp=Z,2μm,21.3s
GERES GERESS Array B 149.38 337 PKPbc **PKPdf** 18 44 06.3 +1.8
comp=Z,8.2nm,0.9s,baz=48,slow=2.0,SNR=28
NVR Nevrokopi 149.40 316 P **PKPbc** 18 44 08.1 -1.0
BOVS Bovan 149.41 322 *e*P **PKPbc** 18 44 07.7 -1.2
WET Wettzell 149.43 338 *e*PKPdf **PKPbc** 18 44 09.2 +0.3
baz=29,slow=1.8
WET *e*L L 19 51 12.0
comp=Z,1μm,21.9s
FRGS Fruska Gora 149.47 326 ⇑P **PKPdf** 18 44 06.4 +1.8
FRGS Fruska Gora 149.47 326 *e*P **PKPdf** 18 44 04.9 +0.3
GRA1 Grafenberg Arr 149.50 341 IAMs_20 IAMs_20 19 54 54.4
comp=Z,1μm,21.0s
GRF Grafenberg Arr 149.50 341 *e*PKPdf **PKPbc** 18 44 08.9 -0.1
baz=29,slow=1.8
GRF *e*L L 19 54 54.3
comp=Z,723nm,19.5s
GRFO Grafenberg 149.50 341 PKP2 **PKPbc** 18 44 08.6 -0.4
GRFO MLR MLR
comp=Z,1μm,21.0s
GRFO Grafenberg 149.50 341 **PKPbc** 18 44 08.6 -0.4
GRFO IAMs_20 IAMs_20 19 54 55.4
comp=Z,1μm,21.0s
BOSS Bosilegrad 149.63 319 *e*P **PKPbc** 18 44 09.3 -0.3
KOVH Kovagotottos 149.68 329 PKPDF **PKPdf** 18 44 06.3 +1.4
TRUS Trudelj 149.77 324 *e*P **PKPdf** 18 44 05.6 +0.5
TNS Taunus Mts 149.80 344 *e*PKPdf **PKiKP** 18 44 10.3 -0.5
baz=29,slow=1.8
TNS *e*L L 19 46 21.3
comp=Z,1μm,21.6s
GRUS Gruza 149.82 323 *e*P **PKPdf** 18 44 04.9 -0.3
AHRW Bad Neuenahr-A 149.84 346 *e*PKPdf **PKiKP** 18 44 10.7 -0.1
baz=29,slow=1.8
BARS Barje 149.84 321 *e*P **PKPbc** 18 44 08.0 -2.1
BARS Barje 149.84 321 *e*P **PKPbc** 18 44 08.4 -1.7
PRVS Prvonek 149.87 320 *e*P **PKPbc** 18 44 09.9 -0.3
BEBN Eben Emael 149.89 348 PKPab **PKiKP** 18 44 11.7 +0.9
ARSA Arzberg 149.96 333 *e*P **PKPbc** 18 44 09.6 -0.6
comp=Z,40nm,1.2s,SNR=11
MOA Molln 149.99 335 *e*P **PKPbc** 18 44 09.6 -0.7
comp=Z,60nm,1.3s,SNR=10.0
BTNL Ternell 150.00 347 PKP **PKPdf** 18 44 06.9 +1.6
BTNL PKPab **pPKPbc** 18 44 12.6 -0.5
MEM Membach 150.00 347 PKPdf **PKPdf** 18 44 02.5 -2.7
MEM *x* x 18 44 09.8
MEM PKPab **pPKPbc** 18 44 12.6 -0.5
SELS Selova 150.01 322 *e*P **PKPdf** 18 44 06.4 +0.9
DIVS Divibare 150.08 324 IAMs_20 IAMs_20 20 03 04.0
comp=Z,907nm,20.0s
DIVS Divibare 150.08 324 *e*P **PKPdf** 18 44 05.5 -0.2
BSTI Sart Tilman 150.11 348 PKP **PKPdf** 18 44 07.2 +1.8
BSTI *x* x 18 44 10.2
BSTI PKPab **pPKPbc** 18 44 13.1 -0.2
VAY Valandovo 150.24 317 *i* P **PKPbc** 18 44 11.0 0.0
BHOU Houvegnez 150.24 347 PKP **PKPdf** 18 44 08.1 +2.4
BHOU *x* x 18 44 11.9
STIP Stip 150.27 318 *i* P **PKiKP** 18 44 11.6 -0.3
BCLA Clavier 150.32 348 PKPdf **PKPdf** 18 44 01.7 -4.1
BCLA *x* x 18 44 10.3
BCLA PKPab **pPKPbc** 18 44 13.4 -0.4
IVAS Ivanjica 150.33 323 *e*P **PKPdf** 18 44 05.2 -0.9
BGES Gesves 150.40 348 PKP **PKPdf** 18 44 08.2 +2.4
BGES PKPab **pPKPbc** 18 44 13.4 -0.7
SNF Seneffe 150.42 349 PKPab **PKiKP** 18 44 13.8 +1.9
BMRD Maredsous 150.53 349 PKP **PKPdf** 18 44 08.8 +2.7
BMRD *x* x 18 44 10.8
BMRD PKPab **pPKPbc** 18 44 13.9 -0.4
BBLS Lazići 150.55 324 *e*P **PKPdf** 18 44 08.2 +1.8
SKO Skopje 150.57 320 *i* P **PKiKP** 18 44 12.8 +0.3
RCHB Rochefort 150.59 348 PKP **PKPdf** 18 44 08.7 +2.6
RCHB PKPab **pPKPbc** 18 44 14.2 -0.2
SOKA Soboth 150.62 333 *e*P **PKPbc** 18 44 09.9 -2.0
comp=Z,109nm,1.6s,SNR=19
SJES Sjenica 150.63 323 *e*P **PKPdf** 18 44 08.4 +1.8
DOU Dourbes 150.76 349 PKP **PKPdf** 18 44 08.8 +2.3
DOU *x* x 18 44 11.4
DOU PKPab **pPKPbc** 18 44 14.6 -0.3
NPS Neapolis 150.81 304 P **PKPbc** 18 44 11.9 -0.7
FUR Furstenfeldbru 150.81 339 *e*L L 19 51 24.3
comp=Z,1μm,21.3s
WLF Walferdange 150.86 347 IAMs_20 IAMs_20 19 56 56.0
comp=Z,1μm,19.0s
WLF Walferdange 150.86 347 PKP **PKPdf** 18 44 09.2 +2.6
WLF *x* x 18 44 12.3
WLF PKPab **pPKPbc** 18 44 15.0 -0.2
STU Stuttgart 150.92 342 IAMs_20 IAMs_20 19 57 05.9
comp=Z,1μm,19.0s
OBKA Obir 150.96 333 *e*P **PKPbc** 18 44 11.2 -1.5
comp=Z,28nm,1.2s,SNR=7.8
KBA Koelnbreinsper 150.98 335 *e*P **PKPbc** 18 44 10.9 -2.0
comp=Z,75nm,1.1s,SNR=19
KTI Kastanea 151.03 316 P **PKiKP** 18 44 14.8 +1.1
MYKA Terra Mystica 151.23 334 *e*P **PKPdf** 18 44 08.7 +1.3
comp=Z,56nm,1.1s,SNR=10
FNA Florina 151.29 318 P **PKPdf** 18 44 09.8 +2.2
ATAL Atalanti 151.29 312 P **PKPbc** 18 44 11.3 -2.3
LKR Lokris 151.33 312 P **PKPbc** 18 44 11.9 -1.8
LJU Ljubljana 151.34 333 *i* PKPdf **PKPbc** 18 44 12.2 -1.3
LJU *e*PKPbc **pPKPbc** 18 44 13.3 -1.1
PHP Peshkopia 151.34 320 P **PKPbc** 18 44 12.9 -0.8
CRNS Crni Vrh 151.42 333 *i* PKPdf **PKPbc** 18 44 12.1 -1.7
WATA Walderalm 151.42 338 *e*P **PKPdf** 18 44 09.0 +1.2
comp=Z,108nm,1.5s,SNR=10
OHR Ohrid 151.46 319 *i* P **PKPbc** 18 44 13.4 -0.6
WTTA Wattenberg 151.46 338 *e*P **PKPdf** 18 44 08.2 +0.3
comp=Z,94nm,1.2s,SNR=7.9
BFO Black Forest 151.57 343 *e*PKPdf **PKPbc** 18 44 13.1 -0.9
baz=29,slow=1.8
BFO *e*L L 20 02 41.0
comp=Z,788nm,21.1s
BFO Black Forest 151.57 343 IAMs_20 IAMs_20 20 07 37.9
comp=Z,1μm,18.0s
PDG Podgorica 151.57 322 IAMs_20 IAMs_20 19 58 20.7
comp=Z,1μm,20.0s
RETA Reutte 151.57 339 *e*P **PKPdf** 18 44 10.2 +2.3
comp=Z,76nm,1.6s,SNR=9.4
ABTA Abfaltersbach 151.58 336 *e*P **PKPdf** 18 44 09.6 +1.6
comp=Z,98nm,1.4s,SNR=12
MOTA Moosalm 151.58 338 *e*P **PKPdf** 18 44 09.9 +1.9
comp=Z,98nm,1.3s,SNR=7.2
AGG Agios Georgios 151.60 314 P **PKPbc** 18 44 12.3 -2.1
SQTA Sankt Quirin 151.65 338 *e*P **PKPdf** 18 44 10.3 +2.2
comp=Z,71nm,1.2s,SNR=13
NEST Nestorio 151.70 317 P **PKPbc** 18 44 14.2 -0.4
MAKR Makrakomi, Fth 151.74 314 P **PKPbc** 18 44 13.1 -1.6
ECH Echery 151.98 344 IAMs_20 IAMs_20 19 54 19.8
comp=Z,1μm,21.0s
FETA Feichten 151.99 338 *e*P **PKPdf** 18 44 09.1 +0.5
comp=Z,98nm,1.2s
DAVA Damuels 152.04 340 *e*P **PKPdf** 18 44 07.5 -1.2
comp=Z,81nm,1.8s,SNR=7.1
ANX Ano Chora 152.09 313 P **PKPbc** 18 44 13.6 -2.0
VLC Villacollemand 154.56 336 IAMs_20 IAMs_20 19 58 11.0
comp=Z,1μm,22.0s
TIP Timpagrande 155.09 319 IAMs_20 IAMs_20 19 56 53.5
comp=Z,1μm,20.0s
VSL Villasalto 158.84 331 IAMs_20 IAMs_20 20 02 06.9
comp=Z,1μm,21.0s
PGAV Gavieira, Arco 159.35 9 *e*LR LR 19 39 48.6
comp=Z,2μm,20.0s
MVO Mccorvo 160.30 7 *e*LR LR 19 39 33.2
comp=Z,2μm,18.0s
MTE Manteigas 160.99 9 *e*LR LR 19 40 39.9
comp=Z,1μm,22.0s
PMRV Marv??o 161.96 9 *e*LR LR 19 40 55.2
comp=Z,1μm,20.0s
ESDC Sonseca Array 161.97 0 PKP **PKPdf** 18 44 22.1 +0.7
comp=Z,1.7nm,1.0s,baz=356,slow=3.0,SNR=5.4
ESDC PKPab **PKPab** 18 45 05.8 -1.4
comp=Z,1.7nm,1.1s,baz=24,slow=38,SNR=3.7
ESDC PP **PP** 18 48 51.1 +1.1
comp=Z,0.4nm,0.4s,baz=322,slow=16,SNR=2.7
PMOZ Porto Moniz, M 163.73 44 *e*LR LR 19 41 05.5
comp=Z,1μm,20.0s
PVAQ Vaqueiros 163.89 11 *e*LR LR 19 41 51.6
comp=Z,2μm,18.0s
LIC Lamto 164.69 176 *e*PKP2 **PKPab** 18 45 19.4 -0.4
comp=Z,68nm,1.1s
KIC Kosan Boka 164.85 177 *e*PKP2 **PKPab** 18 45 20.0 -0.4
comp=Z,25nm,1.0s
TIC Toumodi 165.11 176 *e*PKP2 **PKPab** 18 45 21.1 -0.5
DBIC Dimbokro 165.15 176 PKP **PKPdf** 18 44 25.3 +0.3
comp=Z,3.7nm,0.9s,baz=13,slow=11,SNR=2.4
DBIC PKPab **PKPab** 18 45 19.9 -1.8
comp=Z,11nm,1.0s,baz=194,slow=5.7,SNR=6.0
MDT Midelt 168.79 3 PKP **PKPdf** 18 44 28.2 +0.8
comp=Z,5.9nm,1.1s,baz=218,slow=0.9,SNR=8.9
MDT PKPab **PKPab** 18 45 35.9 -1.6
comp=Z,2.3nm,0.9s,baz=29,slow=14,SNR=1.8
TORD Torodi Ar. Bea 170.06 213 PKP **PKPdf** 18 44 26.9 -1.6
comp=Z,7.8nm,1.1s,baz=8.3,slow=0.5,SNR=11
TORD PKPab **PKPab** 18 45 40.1 -3.4
comp=Z,5.6nm,1.0s,baz=131,slow=3.5,SNR=6.6
TORD PP **PP** 18 49 33.0 +0.4
comp=Z,1.6nm,1.0s,baz=156,slow=6.6,SNR=2.4

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*NEIC **18** 18:29:54.4±1.4, 57.9°S±0.1°×25.5°W±0.3, h35km±1km, mb4.5/6 Error ellipse: s-maj=28.4km s-min=20.1km az=240.0*
*IDC **18** 18:29:57.5±6.2, 58.01°S×25.54°W, h63km±53km, mb3.9/5, mb1 4.0/6, mb1mx3.6/28, mbtmp4.2/6, ML4.6/1, Error ellipse: s-maj=27.8km s-min=26.8km az=172.0*
ISC 18 18:29:55.5±0.6, 58.0°S±0.1°×25.5°W±0.2, h49km, n36, σ0.57/30, mb4.3/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.62**	**157**	P	**Pn**	**18 33 18.2**	**-0.7**
VNA1				S	Sn	18 35 45.9	-13
VNA3	**Neumayer Olymp**	**14.82**	**160**	P	**Pn**	**18 33 20.7**	**-1.0**
VNA3				S	Sn	18 35 50.2	-14
VNA2	**Neumayer--Watz**	**15.01**	**157**	P	**Pn**	**18 33 23.1**	**-1.0**
baz=326,slow=14							
VNA2				S	Sn	18 35 54.4	-15
baz=320,slow=19							
SNAA	**Sanae**	**16.56**	**155**	P	**Pn**	**18 33 44.4**	**+0.4**
SNAA	**Sanae**	**16.56**	**155**	P	**Pn**	**18 33 44.3**	**+0.3**
2.4nm,0.3s,baz=320,slow=16,SNR=56							
SNAA				S	Sn	18 36 31.6	-15
0.0nm,0.3s,baz=299,slow=20,SNR=2.5							
SNAA	**Sanae**	**16.56**	**155**	Pn	**Pn**	**18 33 44.4**	**+0.4**
PLCA	**Paso Flores**	**33.27**	**281**	P	**P**	**18 36 28.4**	**+0.4**
1.7nm,0.8s,baz=149,slow=6.7,SNR=4.9							
PLCA	**Paso Flores**	**33.27**	**281**	IAmb	IAmb	18 36 44.5	
comp=Z,5.9nm,1.2s							
SUR	**Sutherland**	**40.35**	**71**	P	**P**	**18 37 29.4**	**+1.1**
comp=Z,3.7nm,0.9s,baz=338,slow=7.8,SNR=1.4							
VNDA	**Vanda**	**44.63**	**182**	P	**P**	**18 38 04.0**	**+1.6**
comp=Z,2.1nm,0.9s,baz=276,slow=5.5,SNR=1.8							
VNDA	**Vanda**	**44.63**	**182**	IAmb	IAmb	18 38 19.4	
comp=Z,14nm,1.3s							
BOSA	**Boshof**	**45.64**	**72**	P	**P**	**18 38 10.9**	**-0.1**
BOSA				IAmb	IAmb	18 38 11.4	
comp=Z,11nm,1.2s							
H10N1	**ASCENSION HYDR**	**50.78**	**14**	T	T	19 34 38.9	
baz=181,slow=71,SNR=22							
H10N3	**ASCENSION HYDR**	**50.79**	**14**	T	T	19 34 37.6	
baz=181,slow=71,SNR=57							
H10N2	**ASCENSION HYDR**	**50.80**	**14**	T	T	19 34 38.4	
baz=181,slow=71,SNR=32							
BOAV	**Boa Vista**	**66.40**	**321**	P	**P**	**18 40 38.7**	**-0.6**
BOAV				IAmb	IAmb	18 40 43.8	
comp=Z,5.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**74.36**	**28**	P	**P**	**18 41 28.2**	**+0.4**
comp=Z,1.4nm,0.5s,baz=200,slow=6.1,SNR=17							
ASAR	**Alice Springs**	**96.82**	**161**	P	**P**	**18 43 20.6**	**-0.4**
comp=Z,0.8nm,0.8s,baz=186,slow=3.7,SNR=9.2							
ASAR	**Alice Springs**	**96.82**	**161**	P	**P**	**18 43 20.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**123.52**	**110**	PKP	**PKPdf**	**18 48 47.0**	**-0.2**
comp=Z,0.8nm,0.6s,baz=219,slow=4.4,SNR=6.5							
CMAR	**Chiang Mai Arr**	**123.52**	**110**		**PKPdf**	**18 48 47.1**	**-0.1**
FINES	**FINESS Array B**	**125.71**	**28**	PKP	**PKPdf**	**18 48 49.2**	**-0.7**
comp=Z,1.3nm,0.8s,baz=186,slow=1.9,SNR=8.8							
ARCES	**ARCESS Array B**	**132.45**	**22**	PKP	**PKPdf**	**18 49 02.5**	**-0.1**
comp=Z,2.8nm,0.9s,baz=325,slow=1.1,SNR=1.3							
MKAR	**Makanchi Array**	**136.64**	**72**	PKP	**PKiKP**	**18 49 12.4**	**-0.5**
comp=Z,0.2nm,0.5s,baz=230,slow=1.0,SNR=3.0							
YKA	**Yellowknife Ar**	**138.24**	**316**	PKP	**PKPdf**	**18 49 13.4**	**-0.1**
comp=Z,0.9nm,0.4s,baz=127,slow=2.3,SNR=19							
ZALV	**Zalesovo Beam**	**142.40**	**65**	PKhKP	PKPpre	18 49 15.9	
comp=Z,0.5nm,0.5s,baz=224,slow=3.6,SNR=2.6							
A36M	**Sachs Harbour**	**146.37**	**326**		**PKPbc**	**18 49 29.1**	**+0.1**
INK	**Inuvik**	**147.90**	**318**	PKPbc	**PKPbc**	**18 49 33.1**	**-0.3**
comp=Z,5.3nm,0.8s,baz=90,slow=2.3,SNR=16							
SONM	**Songino Array**	**149.90**	**89**	PKPbc	**PKPbc**	**18 49 39.0**	**-0.3**
comp=Z,2.3nm,0.4s,baz=219,slow=3.8,SNR=40							
SONM	**Songino Array**	**149.90**	**89**		**PKPbc**	**18 49 38.9**	**-0.4**
J26L	**Joseph Creek**	**150.64**	**309**		**PKiKP**	**18 49 41.0**	**-0.1**
SCRK	**Sand Creek**	**150.66**	**308**		**PKiKP**	**18 49 41.1**	**-0.1**
RIDG	**Independent Ri**	**150.96**	**307**		**PKPbc**	**18 49 40.9**	**-0.3**
IL31		**152.09**	**309**		**PKPbc**	**18 49 43.8**	**+0.2**
ILAR	**Eielson Array**	**152.09**	**309**	PKPbc	**PKPbc**	**18 49 43.8**	**0.0**
comp=Z,5.7nm,0.9s,baz=145,slow=2.2,SNR=30							
ILAR	**Eielson Array**	**152.09**	**309**		**PKPbc**	**18 49 43.4**	**-0.3**

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*TUL **18** 18:32:28.6±1.2, 36.50N±0.03×99.06W±0.01, h5km±6km, ML2.5, mb_Lg2.5/5(NEIC), Error ellipse: s-maj=4.0km s-min=1.0km az=164.0*
NEIC 18 18:32:28.2±1.0, 36.52N±0.04×99.07W±0.05, h10km±3km, Error ellipse: s-maj=7.9km s-min=1.8km az=128.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.15**	**159**	Pg	Pg	18 32 31.6	+0.1
U32A				Sg	Sg	18 32 33.9	0.0
OK035	**E0210 Rd and N**	**0.34**	**56**	Pg	Pg	18 32 35.2	+0.1
CROK	**Carrier**	**0.87**	**90**	Pg	Pg	18 32 45.0	0.0
KAN10	**Anthony SW Sta**	**0.99**	**52**	Pg	Pg	18 32 47.2	-0.1
KAN10				Sg	Sg	18 32 59.7	-0.4
KAN14	**Manchester OK**	**0.99**	**63**	Pg	Pg	18 32 47.3	0.0
KAN14				Sg	Sb	18 33 00.6	-0.1
GC02	**Grant County #**	**1.03**	**71**		Pg	18 32 47.9	-0.1
GC02				Sg	Sg	18 33 01.1	-0.2
KAN16	**Harper SW Stat**	**1.07**	**48**	Pg	Pg	18 32 48.1	-0.7
KAN17	**Caldwell West**	**1.17**	**63**	Pg	Pb	18 32 50.6	0.0
KAN06	**Argonia West S**	**1.21**	**53**	Pg	Pn	18 32 50.9	-0.4
KAN01	**Argonia South**	**1.23**	**58**	Pg	Pn	18 32 51.4	-0.1
KAN13	**South Haven SW**	**1.37**	**68**	Pg	Pb	18 32 53.9	-0.1
BCOK	**Bluff Creek, N**	**1.46**	**126**	Pn	Pn	18 32 54.9	+0.3
OK029	**Liberty Lake**	**1.49**	**118**		Pn	18 32 55.2	+0.1
BLOK	**Blackwell**	**1.51**	**80**	Pn	Pb	18 32 55.9	-0.5
OK025	**Westminster Rd**	**1.68**	**123**	Pn	Pn	18 32 58.5	+0.7
OK033	**Mehan**	**1.78**	**105**	Pn	Pn	18 32 59.1	0.0
WMOK	**Wichita Mounta**	**1.79**	**172**		Pn	18 32 59.4	+0.1
FNO	**Franklin**	**1.85**	**132**	Pn	Pn	18 33 00.2	+0.2
OK031	**S. Brethren Rd**	**1.89**	**107**	Pn	Pn	18 33 01.6	+1.0
R32A	**Long Quarter,**	**1.92**	**8**	IAmb_Lg		18 33 34.2	
comp=Z,13nm,0.7s							
QUOK	**Quay**	**1.94**	**100**	Pn	Pn	18 33 00.4	-0.8
OK030	**Cody Creek RV**	**1.94**	**107**	Pn	Pn	18 33 00.4	-0.8
OK034	**N. Norfolk Rd.**	**1.97**	**104**	Pn	Pn	18 33 00.8	-0.8
T35A	**Sooner Cattle

DZM	**Mont Dzumac**	8.90 264	*e*Pn	Pn	18 35 23.0	+3.2
	114nm,1.8s					
STKA	**Stephens Creek**	32.35 244	P	P	18 39 37.6	-2.2
	2.7nm,0.9s,baz=83,slow=8.3,SNR=3.2					
ASAR	**Alice Springs**	38.85 258	P	P	18 40 34.0	-1.6
	0.9nm,0.6s,baz=86,slow=8.6,SNR=7.7					
ASAR			PcP	PcP	18 42 45.2	-1.2
	0.5nm,0.7s,baz=93,slow=3.7,SNR=2.4					
WRA	**Warramunga Arr**	38.92 264	P	P	18 40 33.5	-2.8
	1.2nm,0.9s,baz=97,slow=8.3,SNR=4.1					
FITZ	**Fitzroy Crossi**	47.35 265	P	P	18 41 43.9	-0.5
	4.5nm,1.0s,baz=118,slow=10,SNR=2.9					
VNDA	**Vanda**	56.60 184	P	P	18 42 52.4	0.0
	1.7nm,0.7s,baz=17,slow=8.4,SNR=2.0					
MJAR	**Matsushiro Arr**	67.78 328	P	P	18 44 09.9	+2.0
	5.2nm,1.0s,baz=145,slow=7.0,SNR=2.2					
CMAR	**Chiang Mai Arr**	85.17 292	P	P	18 45 48.5	+1.7
	0.5nm,0.6s,baz=98,slow=3.2,SNR=4.1					
NVAR	**Mina Array Bea**	85.60 46	P	P	18 45 51.2	+2.5
	2.9nm,1.0s,baz=231,slow=8.1,SNR=9.2					
SEY	**Seymchan**	86.08 349	P	P	18 45 51.1	+0.9
	2.0nm,0.9s,baz=135,slow=7.1,SNR=4.9					
ILAR	**Eielson Array**	90.52 15	P	P	18 46 09.8	-1.5
	0.9nm,1.0s,baz=231,slow=5.7,SNR=3.0					
TXAR	**Lajitas Array**	92.30 59	P	P	18 46 21.9	+1.4
	0.8nm,1.0s,baz=234,slow=8.5,SNR=4.9					
GERES	**GERESS Array B 149.17 337**		PKPbc	PKPbc	18 52 57.7	-0.6
	1.0nm,0.7s,baz=26,slow=3.4,SNR=3.5					

*IDC **18** 18:37:36.8±0.9,21°.49S×175°.74E,h0km,mb4.2/11, mb1 4.4/11,mb1mx3.9/34,mbtmp4.2/11,Error ellipse: s-maj=37.8km s-min=20.3km az=154.0*
*NEIC **18** 18:37:38.2±2.2,21°.4S±0°.1×176°.2E±0°.1,h14km±4km, mb4.3/10,Error ellipse: s-maj=21.0km s-min=10.7km az=138.0*
*NOU **18** 18:37:40.1,21°.10S×176°.03E,h0km,mb4.9/11,South of Fiji Islands*

ISC 18 18:37:38.5±0.5,**21°.30S**±0°.08×**175°.99E**±0°.09,**h10**km,**n44**, σ2§**21**/44,**mb4.2**/15,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.05	29	Pn	Pn	18 38 40.1	-0.5
	35nm,0.3s,baz=221,slow=21,SNR=16						
MSVF				Sn	Sn	18 39 29.1	+1.0
	12nm,0.3s,baz=227,slow=21,SNR=2.4						
MSVF	**Nonsavu**	4.05	29	P	Pn	18 38 40.5	-0.1
TAVE	**Taveuni**	6.00	41	P	Pn	18 39 07.7	+0.4
DGTI	**Dogotuki**	6.11	36	P	Pn	18 39 09.6	+0.7
MARNC	**Mare, Loyalty**	7.42	267	Pn	Pn	18 39 26.5	-0.3
PINNC	**Pines Island,**	8.03	259	Pn	Pn	18 39 35.6	+0.3
OUENC	**Ouen Island, N**	8.57	261	Pn	Pn	18 39 45.2	+2.6
OUENC	**Ouen Island, N**	8.57	261	P	Pn	18 39 46.4	+3.8
DZM	**Mont Dzumac**	8.91	263	Pn	Pn	18 39 48.8	+1.4
	1.5nm,0.3s,baz=74,slow=14,SNR=9.6						
DZM	**Mont Dzumac**	8.91	263	*e*Pn	Pn	18 39 50.4	+3.0
	72nm,1.7s						
DZM	**Mont Dzumac**	8.91	263		Pn	18 39 48.5	+1.1
DZM	**Mont Dzumac**	8.91	263	P	Pn	18 39 50.2	+2.8
NOUC	**Port Laguerre**	9.04	263	P	Pn	18 39 53.0	+3.9
OUZ	**Omahuta**	14.03	188	P	P	18 41 01.8	-3.4
	74nm,1.7s						
URZ	**Urewera**	16.93	177	P	P	18 41 41.2	+3.8
	121nm,0.8s						
LHI	**Lord Howe Isla**	18.24	233	P	P	18 41 56.7	+4.8
	86nm,1.3s						
QRZ	**Quartz Range**	19.68	188	P	Pn	18 42 13.4	+4.2
LTZ	**Lake Taylor**	21.64	187	P	P	18 42 26.1	-2.9
LTZ				IAmb	IAmb	18 42 31.3	
	comp=Z,37nm,1.3s						
STKA	**Stephens Creek**	32.38	244	P	P	18 44 07.0	-1.4
	comp=Z,2.0nm,0.8s,baz=85,slow=12,SNR=4.0						
STKA	**Stephens Creek**	32.38	244	IAmb	IAmb	18 44 11.6	
	comp=Z,1.1nm,1.1s						
WR0	**Warramunga Arr**	38.73	264	P	P	18 45 03.2	0.0
WR0				IAmb	IAmb	18 45 08.1	
	comp=Z,6.9nm,1.1s						
AS31	**Alice Springs**	38.86	258	P	P	18 45 04.0	-0.2
ASAR	**Alice Springs**	38.86	258	P	P	18 45 01.8	-2.4
	comp=Z,2.0nm,0.8s,baz=83,slow=8.9,SNR=15						
ASAR	**Alice Springs**	38.86	258	P	P	18 45 02.6	-1.6
WB0	**Warramunga Arr**	38.90	265	P	P	18 45 03.8	-0.9
WB0				IAmb	IAmb	18 45 07.7	
	comp=Z,4.8nm,1.0s						
WB2	**Warramunga Arr**	38.91	264	P	P	18 45 03.9	-0.8
WB2				IAmb	IAmb	18 45 08.4	
	comp=Z,7.7nm,1.1s						
WRA	**Warramunga Arr**	38.92	264	P	P	18 45 01.3	-3.5
	comp=Z,2.6nm,0.9s,baz=94,slow=8.0,SNR=9.0						
WRA	**Warramunga Arr**	38.92	264	P	P	18 45 02.5	-2.3
FITZ	**Fitzroy Crossi**	47.35	265	P	P	18 46 11.7	-1.3
	comp=Z,6.9nm,1.2s,baz=79,slow=14,SNR=4.1						
SIJI	**Sorong**	48.09	289	P	P	18 46 17.0	-1.8
	comp=Z,4.6nm,0.9s,baz=215,slow=23,SNR=2.5						
VNDA	**Vanda**	56.69	184	P	P	18 47 19.2	-2.4
	comp=Z,0.9nm,0.7s,baz=57,slow=21,SNR=2.1						
VNDA	**Vanda**	56.69	184	P	P	18 47 19.0	-2.7
VNDA				IAmb	IAmb	18 47 30.4	
	comp=Z,7.7nm,1.4s						
SBA	**Scott Base**	56.77	182	P	P	18 47 22.2	-0.1
QSPA	**South Pole Qui**	68.77	180	P	P	18 48 41.0	-1.5
CMAR	**Chiang Mai Arr**	85.14	292	P	P	18 50 15.1	-0.3
	comp=Z,1.1nm,0.8s,baz=135,slow=4.2,SNR=7.9						
NVAR	**Mina Array Bea**	85.54	46	P	P	18 50 19.1	+1.8
	comp=Z,2.2nm,0.8s,baz=223,slow=9.2,SNR=14						
NVAR	**Mina Array Bea**	85.54	46	P	P	18 50 14.4	-2.8
SEY	**Seymchan**	86.00	349	P	P	18 50 19.5	+0.9
	comp=Z,1.4nm,0.3s,baz=208,slow=4.9,SNR=5.4						
ILAR	**Eielson Array**	90.44	15	P	P	18 50 39.2	-0.6
	comp=Z,0.5nm,0.7s,baz=212,slow=5.9,SNR=1.0						
TXAR	**Lajitas Array**	92.26	59	P	P	18 50 51.4	+2.1
	comp=Z,0.9nm,0.9s,baz=217,slow=5.7,SNR=5.8						
ARCES	**ARCESS Array B 128.57 347**		PKP	PKPdf	18 56 44.6	-0.5
	comp=Z,2.0nm,0.8s,baz=338,slow=1.3,SNR=3.9						
CLL	**Collm**	147.23 340	*e*PKPbc	PKPbc	18 57 22.0	+0.1
GERES	**GERESS Array B 149.09 337**		PKPbc	PKPbc	18 57 26.7	-0.3
	comp=Z,1.4nm,0.9s,baz=29,slow=3.0,SNR=7.0					
GERES	**GERESS Array B 149.09 337**			PKPbc	18 57 27.0	-0.1

*NOU **18** 18:44:59.4,34°.80S×178°.82W,h64km,mb5.0/48,South of Kermadec Islands*
*WEL **18** 18:45:03.8±0.6,35°.5±7°.×18°.0W±1°.6,h33km,M5.1/22, mB5.5/6,ML5.3/23,MLv5.2/22,Mw(mB)5.0/6,Error ellipse: s-maj=0.0km s-min=0.0km az=111.9*
*NEIC **18** 18:45:07.6±2.2,34°.4S±0°.1×180°.0W±0°.1,h79km±4km, mb4.9/29,Error ellipse: s-maj=16.5km s-min=13.3km az=192.0*
*IDC **18** 18:45:14.0±3.8,34°.30S×179°.95W,h138km±30km, mb4.1/11,mb1 4.2/13,mb1mx3.9/27,mbtmp4.5/13,MS4.2/2, Ms1 4.2/2,ms1mx3.6/58,Error ellipse: s-maj=21.2km s-min=19.2km az=98.0*

ISC 18 18:45:03.0±0.5,**34°.54S**±0°.05×**179°.51W**±0°.08,**h61**km, **n214**,σ1§**67**/202,**mb4.9**/26,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	3.50	210	P	Pn	18 45 56.4	+1.6
MXZ	**Matakaoa Point**	3.50	210	Pn	Pn	18 45 55.4	+0.6
WMGZ	**Waiomatatini S**	3.68	207	P	Pn	18 45 59.2	+1.8
PKGZ	**Pakihiroa**	3.87	210	P	Pn	18 46 01.6	+1.5
PKGZ				S	Sn	18 46 44.8	+0.6
HAZ	**Te Kaha**	3.89	214	P	Pn	18 46 02.9	+2.7
PUZ	**Puketiti**	3.96	206	P	Pn	18 46 02.7	+1.5
PUZ				S	Sn	18 46 45.8	-0.6
RUGZ	**Raukumara Rang**	4.11	213	P	Pn	18 46 04.9	+1.6
TWGZ	**Tauwhareparae**	4.16	208	P	Pn	18 46 05.4	+1.5
TWGZ				S	Sn	18 46 53.2	+1.9
CNGZ	**Carnagh Statio**	4.35	204	P	Pn	18 46 08.8	+2.4
CNGZ				S	Sn	18 46 58.2	+2.4
TKGZ	**Te Karaka**	4.44	208	P	Pn	18 46 08.7	+1.0
TKGZ				S	Sn	18 46 58.7	+0.7
KUZ	**Kuaotunu**	4.46	239	P	Pn	18 46 08.9	+0.8
MWZ	**Matawai**	4.48	211	P	Pn	18 46 09.4	+1.1
OPRZ	**Ohinepanea**	4.58	223	P	Pn	18 46 11.7	+2.0
URZ	**Urewera**	4.61	215	P	Pn	18 46 10.7	+0.7
URZ	**Urewera**	4.61	215		Pn	18 46 10.0	0.0
URZ	**Urewera**	4.61	215	P	Pn	18 46 11.6	+1.6
RAGZ	**Rawiri**	4.66	211	P	Pn	18 46 12.8	+1.9
RAGZ				S	Sn	18 47 03.3	-0.4
RIGZ	**Rimuhau**	4.70	207	P	Pn	18 46 12.1	+0.7
RIGZ				S	Sn	18 47 04.7	+0.1
PRGZ	**Paritu Road**	4.85	205	P	Pn	18 46 13.9	+0.5
PRGZ				S	Sn	18 47 07.4	-0.8
KARZ	**Kaharoa**	4.88	223	P	Pn	18 46 16.6	+2.8
MUGZ	**Murupara**	4.94	216	P	Pn	18 46 17.4	+2.8
MUGZ				S	Sn	18 47 08.4	-2.1
RTZ	**Ruatahuna**	4.95	214	P	Pn	18 46 16.7	+1.8
RTZ				S	Sn	18 47 07.4	-3.4
RRRZ	**Republican Roa**	4.97	219	P	Pn	18 46 18.0	+3.0
HLRZ	**Highlands Stat**	4.99	221	P	Pn	18 46 19.9	+4.6
KNZ	**Kokohu**	5.01	206	P	Pn	18 46 15.0	-0.6
KNZ				S	Sn	18 47 11.1	-1.1
MHGZ	**Mahia Peninsul**	5.05	203	P	Pn	18 46 16.3	+0.2
MHGZ				S	Sn	18 47 12.0	-1.1
PRRZ	**Plateau Road**	5.15	219	P	Pn	18 46 19.2	+1.7
RAHZ	**Arahi**	5.15	211	P	Pn	18 46 18.8	+1.2
MTHZ	**Maungataniwha**	5.21	213	P	Pn	18 46 19.6	+1.3
ALRZ	**Allen Road**	5.22	219	P	Pn	18 46 20.3	+1.8
NMHZ	**Naumai**	5.42	212	P	Pn	18 46 21.7	+0.4
GLKZ	**Green Lake**	5.43	15	P	Pn	18 46 20.8	-0.5
GLKZ				S	Sn	18 47 21.2	-1.3
ARHZ	**Aropaoanui**	5.49	210	P	Pn	18 46 22.9	+0.8
BKZ	**Black Stump Fm**	5.62	214		Pn	18 46 23.9	-0.1
BKZ	**Black Stump Fm**	5.62	214	P	Pn	18 46 25.3	+1.3
OUZ	**Omahuta**	5.71	261		Pn	18 46 24.7	-0.4
OUZ	**Omahuta**	5.71	261	P	Pn	18 46 25.7	+0.6
RATZ	**Rangitukua**	5.75	220	P	Pn	18 46 27.6	+1.9
RITZ	**Rihia Road**	5.78	219	P	Pn	18 46 28.1	+1.9
KWHZ	**Kaweka Forest**	5.86	213	P	Pn	18 46 26.8	-0.5
KAHZ	**Kahuranaki**	5.99	208	P	Pn	18 46 27.9	-1.1
KAHZ				S	Sn	18 47 35.7	-0.5
HIZ	**Hauiti**	6.03	227		Pn	18 46 30.4	+1.0
HIZ	**Hauiti**	6.03	227	P	Pn	18 46 31.3	+1.8
BFZ	**Birch Farm**	7.00	208		Pn	18 46 40.6	-2.2
BFZ	**Birch Farm**	7.00	208	P	Pn	18 46 41.3	-1.4
MSWZ	**Moikau Station**	8.02	210		Pn	18 46 51.6	-5.1
PLWZ	**Palliser**	8.14	209	Pn	Pn	18 46 55.0	-3.5
SNZO	**South Karori**	8.16	212	Pn	Pn	18 46 53.9	-4.7
SNZO	**South Karori**	8.16	212	P	Pn	18 46 56.0	-2.6
BHW	**Baring Head**	8.17	211	Pn	Pn	18 46 53.7	-5.0
TUWZ	**Tuamarina**	8.60	215		Pn	18 47 02.5	-2.2
NNZ	**Nelson**	8.72	218	Pn	Pn	18 47 02.2	-4.1
BSWZ	**Blackbirch Sta**	8.86	214	Pn	Pn	18 47 04.4	-3.8
QRZ	**Quartz Range**	8.90	223	Pn	Pn	18 47 05.6	-3.2
QRZ	**Quartz Range**	8.90	223	P	Pn	18 47 05.8	-2.9
THZ	**Tophouse**	9.36	217	Pn	Pn	18 47 11.2	-3.9
KHZ	**Kahutara**	9.56	213	Pn	Pn	18 47 14.2	-3.7
KHZ	**Kahutara**	9.56	213	P	Pn	18 47 14.4	-3.4
LTZ	**Lake Taylor**	10.44	216	Pn	Pn	18 47 22.8	-7.0
OXZ	**Oxford**	10.96	214		Pn	18 47 31.0	-5.9
MQZ	**McQueen's Vall**	10.99	211	Pn	Pn	18 47 31.1	-6.2
RPZ	**Rata Peaks**	11.72	216	Pn	Pn	18 47 41.3	-6.1
RPZ	**Rata Peaks**	11.72	216	P	Pn	18 47 42.9	-4.5
FOZ	**Fox Glacier**	12.22	220	Pn	Pn	18 47 48.2	-5.8
LBZ	**Lake Benmore**	12.64	216	Pn	Pn	18 47 53.8	-6.1
ODZ	**Otahua Downs**	12.93	213	Pn	Pn	18 47 57.0	-6.7
ODZ	**Otahua Downs**	12.93	213	P	Pn	18 47 58.8	-4.9
WKZ	**Wanaka**	13.54	217	Pn	Pn	18 48 05.3	-6.7
MLZ	**Mavora Lakes**	14.37	217	Pn	Pn	18 48 17.3	-5.8
MSVF	**Nonsavu**	16.88	352	P	P	18 48 56.7	+0.2
	1.1nm,0.3s,baz=230,slow=23,SNR=2.4						
DZM	**Mont Dzumac**	17.50	312	P	P	18 49 04.8	+1.4
	0.6nm,0.3s,baz=246,slow=21,SNR=6.7						
DZM				LR	LR	18 54 45.0	
	comp=Z,948nm,19.6s,baz=38,slow=33						
DZM	**Mont Dzumac**	17.50	312	IAmb	IAmb	18 49 06.7	
	comp=Z,20nm,1.0s						
DZM	**Mont Dzumac**	17.50	312	P	P	18 49 06.3	+2.9
NOUC	**Port Laguerre**	17.57	311	P	P	18 49 07.0	+3.0
KOUNC	**Koumac, New Ca**	19.97	310	P	Pn	18 49 32.8	+0.3
SANVU	**Saraoutou**	22.46	325	P	P	18 49 58.5	+1.4
SANVU				IAmb	IAmb	18 50 00.5	
	comp=Z,48nm,0.7s						
SANVU	**Saraoutou**	22.46	325	P	P	18 49 59.2	+2.1
EIDS	**Eidsvold**	26.99	282	P	P	18 50 38.7	-0.4
RMQ	**Roma**	28.40	278	P	P	18 50 54.8	+3.0
CMSA	**Cobar Meteorol**	29.24	266	P	P	18 51 01.4	+2.3
ARPS	**Mount Arapiles**	31.34	255	P	P	18 51 18.7	+1.0
PPT	**Papeete**	31.60	65	LR	LR	19 01 42.0	
	comp=Z,279nm,19.6s,baz=271,slow=31						
QLP	**Quilpie**	32.08	274	P	P	18 51 26.5	+2.3
STKA	**Stephens Creek**	32.52	264	P	P	18 51 29.6	+1.6
	comp=Z,2.3nm,0.6s,baz=103,slow=12,SNR=13						
STKA			PcP	PcP	18 54 13.1	-0.4
	comp=Z,1.6nm,0.6s,baz=90,slow=7.1,SNR=4.5						
STKA	**Stephens Creek**	32.52	264	P	P	18 51 26.8	-1.2
STKA	**Stephens Creek**	32.52	264	P	P	18 51 30.0	+2.0
CTA	**Charters Tower**	33.47	287	P	P	18 51 38.3	+1.8
	comp=Z,5.4nm,0.6s,baz=115,slow=8.5,SNR=10						
CTA	**Charters Tower**	33.47	287	P	P	18 51 38.5	+2.0
CTAO	**Charters Tower**	33.47	287	P	P	18 51 36.0	-0.4
CTAO				IAmb	IAmb	18 51 53.4	
	comp=Z,15nm,1.1s						
CTAO	**Charters Tower**	33.47	287	P	P	18 51 38.4	+2.0
HTT	**Hallett**	34.31	260	P	P	18 51 45.0	+1.3
INKA	**Innaminka**	34.52	270	P	P	18 51 46.7	+1.3
LCRK	**Leigh Creek**	35.70	265	P	P	18 51 56.0	+0.4
BBOO	**Buckleboo**	36.80	260	P	P	18 52 03.5	-1.4
BBOO				IAmb	IAmb	18 52 07.2	
	comp=Z,25nm,1.5s						
BBOO	**Buckleboo**	36.80	260	P	P	18 52 05.3	+0.4
QIS	**Mount Isa**	38.57	280	P	P	18 52 20.3	+0.3
OOD	**Oodnadatta**	38.67	267	P	P	18 52 21.8	+1.0
MULG	**Mulgathing**	39.16	263	P	P	18 52 25.1	+0.2
COEN	**Coen**	39.40	292	P	P	18 52 28.0	+1.0
RABL	**Rabaul**	40.03	313	P	P	18 52 32.9	+0.7
RABL	**Rabaul**	40.03	313	P	P	18 52 33.4	+1.2
AS31	**Alice Springs**	41.80	272	P	P	18 52 45.1	-1.7
ASAR	**Alice Springs**	41.80	272	P	P	18 52 46.3	-0.5
	comp=Z,10nm,0.5s,baz=113,slow=7.8,SNR=91						
ASAR			PcP	PcP	18 54 41.8	-0.2
	comp=Z,1.0nm,0.4s,baz=110,slow=3.3,SNR=2.7						
ASAR			ScP	ScP	18 58 19.6	-7.4
	comp=Z,0.3nm,0.6s,baz=123,slow=4.0,SNR=2.4						
ASAR	**Alice Springs**	41.80	272	P	P	18 52 45.8	-1.0
WR0	**Warramunga Arr**	42.99	277	P	P	18 52 55.8	-0.6
WR0				IAmb	IAmb	18 52 57.4	
	comp=Z,10nm,0.4s						
WB2	**Warramunga Arr**	43.16	277	P	P	18 52 57.0	-0.8
WRAB	**Tennant Creek**	43.16	277	P	P	18 52 57.5	-0.3
WRAB	**Tennant Creek**	43.16	277	P	P	18 52 58.5	+0.7
WRA	**Warramunga Arr**	43.17	277	P	P	18 52 57.5	-0.3
	comp=Z,24nm,0.4s,baz=117,slow=7.5,SNR=899						
WRA			PcP	PcP	18 54 45.6	-1.0
	comp=Z,1.1nm,0.5s,baz=117,slow=3.1,SNR=1.5						
WRA	**Warramunga Arr**	43.17	277	P	P	18 52 56.6	-1.2
WB0	**Warramunga Arr**	43.21	278	P	P	18 52 58.0	-0.2
FORT	**Forrest**	43.90	260	P	P	18 53 03.6	0.0
FORT	**Forrest**	43.90	260	P	P	18 53 03.6	0.0
WRKA	**Warakurna**	45.85	267	P	P	18 53 18.7	-0.5
JAY	**Jayapura**	48.82	302	P	P	18 53 41.5	-0.9
	comp=Z,3.6nm,0.6s,baz=191,slow=15,SNR=4.1						
MTN	**Manton Dam**	49.53	283	P	P	18 53 47.0	-0.7
MTN				IAmb	IAmb	18 53 48.8	
	comp=Z,7.6nm,0.6s						
MTN	**Manton Dam**	49.53	283	P	P	18 53 47.6	-0.2
KNRA	**Kununurra**	49.90	279	P	P	18 53 50.6	0.0
KNRA	**Kununurra**	49.90	279	P	P	18 53 50.5	0.0
DRS	**Darwin Rock St**	49.95	284	P	P	18 53 51.2	+0.2
CASY	**Casey**	50.91	209	P	P	18 53 58.6	+1.1
CASY				IAmb	IAmb	18 54 14.6	
	comp=Z,28nm,1.2s						
NWAO	**Narrogin (SRO)**	51.85	253	P	P	18 54 03.9	-1.2
NWAO				IAmb	IAmb	18 54 06.4	
	comp=Z,25nm,1.1s						
NWAO	**Narrogin (SRO)**	51.85	253	P	P	18 54 04.2	-0.9
KLBR	**Kellerberrin**	51.91	255	P	P	18 54 04.7	-0.8
MUN	**Mundaring**	52.99	253	P	P	18 54 13.1	-0.5
BLDU	**Ballidu**	53.10	255	P	P	18 54 14.5	+0.1
	comp=Z,22nm,2.0s						
MEEK	**Meekatharra**	53.13	261	P	P	18 54 13.6	-1.1
MORW	**Morawa**	54.23	257	P	P	18 54 20.9	-1.8
MORW				IAmb	IAmb	18 54 45.0	
	comp=Z,36nm,1.4s						
MORW	**Morawa**	54.23	257	P	P	18 54 21.6	-1.1
	comp=Z,27nm,2.8s						
PSA00	**Pilbara Seismi**	54.34	267	P	P	18 54 22.4	-1.1
PSA00				IAmb	IAmb	18 54 22.9	
	comp=Z,6.4nm,0.6s						
PSA00	**Pilbara Seismi**	54.34	267	P	P	18 54 21.2	-2.4
PSA00				IAmb	IAmb	18 54 22.4	
	comp=Z,6.4nm,1.3s						
PSA00	**Pilbara Seismi**	54.34	267	P	P	18 54 22.3	-1.2
MBWA	**Marble Bar**	54.62	267	P	P	18 54 24.6	-1.0
FAKI	**Fak Fak**	54.72	294	P	P	18 54 25.2	-1.0
FAKI				IAmb	IAmb	18 54 26.6	
	comp=Z,4.7nm,0.7s						
FAKI	**Fak Fak**	54.72	294	P	P	18 54 25.7	-0.6
QSPA	**South Pole Qui**	55.58	180	P	P	18 54 37.4	+5.4
QSPA				IAmb	IAmb	18 54 39.0	
	comp=Z,13nm,1.1s						
SOEI	**Soe**	56.81 282		P	P	18 54 42.7	+1.2
SOEI				IAmb	IAmb	18 54 45.7	
	comp=Z,31nm,1.4s						
BATI	**Baumata**	57.04 281		P	P	18 54 44.1	+1.2
	comp=Z,5.8nm,0.5s,baz=161,slow=3.7,SNR=5.2						
MMRI	**Maumere**	59.09 281		P	P	18 54 56.7	-0.6
SANI	**Sanana**	60.06 290		P	P	18 55 03.7	-0.2
JAGI	**Jajag, Banyuwa**	65.77 277		P	P	18 55 40.4	-1.5
JAGI				IAmb	IAmb	18 56 01.3	
	comp=Z,25nm,1.3s						
JAGI	**Jajag, Banyuwa**	65.77 277		P	P	18 55 40.7	-1.2
	comp=Z,16nm,1.7s						
MAW	**Mawson**	68.00 201		P	P	18 55 57.9	+2.7
	comp=Z,6.7nm,0.5s,baz=138,slow=5.0,SNR=23						
MAW	**Mawson**	68.00 201		P	P	18 55 57.6	+2.4
KKM	**Kota Kinabalu**	72.70 290		P	P	18 56 24.0	-0.9
KKM				IAmb	IAmb	18 56 47.9	
	comp=Z,21nm,1.1s						
SNAA	**Sanae**	74.06 179		P	P	18 56 36.7	+4.7
VNA3	**Neumayer Olymp**	74.27 177		P	P	18 56 36.9	+3.8
VNA2	**Neumayer--Watz**	74.68 177		P	P	18 56 39.6	+4.1
	baz=180,slow=5.0						
VNA1	**Neumayer--Stat**	74.92 177		P	P	18 56 40.9	+4.1
H03S2	**Juan Fernandez**	79.25 124		T	T	20 25 19.6	
	baz=228						
H03S1	**Juan Fernandez**	79.26 124		T	T	20 25 22.2	
	baz=228						
H03S3	**Juan Fernandez**	79.26 124		T	T	20 25 22.0	
	baz=228						
H03N3	**Juan Fernandez**	79.46 123		T	T	20 25 29.3	
	baz=238,slow=72,SNR=75						
H03N2	**Juan Fernandez**	79.47 123		T	T	20 25 28.0	
	baz=238,slow=72,SNR=63						
H03N1	**Juan Fernandez**	79.48 123		T	T	20 25 32.7	
	baz=238,slow=72,SNR=61						
KSRS	**Korea Array**	86.70 321		P	P	18 57 40.4	+0.5
	comp=Z,1.5nm,0.6s,baz=144,slow=5.3,SNR=10.0						
PETK	**Petropavlovsk-**	89.51 346		P	P	18 57 53.3	+0.4
	comp=Z,3.8nm,0.6s,baz=134,slow=5.0,SNR=15						
USRK	**Ussuriysk Ar.**	89.92 327		P	P	18 57 55.5	+0.4
	comp=Z,1.1nm,0.7s,baz=206,slow=4.1,SNR=4.5						
NVAR	**Mina Array Bea**	92.12 44		P	P	18 58 09.6	+3.8
	comp=Z,0.1nm,0.4s,baz=211,slow=4.7,SNR=2.3						
CMAR	**Chiang Mai Arr**	93.58 290		P	P	18 58 11.7	-1.0
	comp=Z,0.6nm,0.8s,baz=159,slow=3.1,SNR=5.9						
CMAR	**Chiang Mai Arr**	93.58 290		P	P	18 58 11.5	-1.2
CD2	**Chengdu**	97.22 303		*e*P	Pdif	18 58 31.5	+2.4
MKAR	**Makanchi Array**	119.40 309		PKP	PKiKP	19 03 44.5	-0.7
	comp=Z,0.5nm,0.7s,baz=125,slow=0.6,SNR=8.2						
MKAR	**Makanchi Array**	119.40 309			PKPdf	19 03 43.9	-1.2
ZALV	**Zalesovo Beam**	120.23 317		PKP	PKiKP	19 03 46.1	-0.4
	comp=Z,1.0nm,0.5s,baz=73,slow=0.4,SNR=6.2						
ZALV	**Zalesovo Beam**	120.23 317			PKiKP	19 03 45.9	-0.6
RES	**Resolute Bay**	121.56 18		PKP	PKiKP	19 03 50.0	+1.5
	comp=Z,1.2nm,

PNSH S **Sg** **19 05 00.9 -0.7**
MTEO **Meteo** **0.94 251** P **Pg** **19 04 50.1 -0.6**
MTEO S **Sg** **19 05 03.9 +0.9**
ARKR **Arakani** **1.00 112** *e*Pg **Pn** **19 04 53.3 +1.1**
4.0nm,0.2s
ARKR *e*Sg **Sn** **19 05 07.1 +0.9**
67nm,0.4s
BUJR **Buynaksk** **1.02 99** *e*Pg **Pn** **19 04 52.9 +0.4**
27nm,0.1s
BUJR *e*Sg **Sn** **19 05 06.3 -0.3**
67nm,0.4s
GUDG **Gudauri** **1.06 241** P **Pg** **19 04 52.3 -0.8**
GUDG S **Sg** **19 05 05.9 -1.1**
LGD **Lagodekhi** **1.21 162** P **Pn** **19 04 54.8 -0.3**
LGD S **Sn** **19 05 09.8 -1.4**
DDFL **Dedoflistskaro** **1.56 169** P **Pg** **19 05 05.1 +2.5**
ONI **Oni** **1.73 258** P **Pb** **19 05 04.6 +0.6**
ONI S **Sb** **19 05 28.0 +2.4**

BJI ***18*** *19:21:48.0±0.0, 0.˚20S×129.˚60E, h5km, mb4.9/64, mB5.5/32, Ms4.9/27, Ms7 4.6/28*
KLM ***18*** *19:21:50, 0.˚13S×129.˚67E, h10km, mb5.3*
NEIC ***18*** *19:21:50.2±1.8, 0.˚27S±0.˚02×129.˚52E±0.˚05, h10km±1km, mb5.5/216, Mww5.2, Error ellipse: s-maj=9.4km s-min=3.0km az=81.0*
MOS ***18*** *19:21:50.4±0.9, 0.˚22S×129.˚52E, h27km, mb5.4/35, Error ellipse: s-maj=7.9km s-min=4.8km az=113.9*
GCMT ***18*** *19:21:51.2±0.2, 0.˚27S±0.˚01×129.˚42E±0.˚02, h17km, MW5.2/106, Moment Tension Solution. s43,c59; s106,c182; Duration: 1±0 Moment tensor: Scale 10^17 Nm; Mrr=0.46±.03; Mθθ=0.77±.02; Mφφ=-0.30±.02; Mrθ=0.18±.04; Mrφ=0.03±.01; Mθφ=0.67±.07; Best double couple: M0=0.93800×10^17 NP1:φs119.00000°, δ47.00000°, λ-31.00000°. NP2:φs232.00000°, δ68.00000°, λ-132.00000°. Principal axes: T 0.8120, Plg12.0000°, Azm351.0000°; N 0.2510, Plg39.0000°, Azm251.0000°; P -1.0630, Plg49.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***18*** *19:21:52.1±0.6, 0.˚S±2.˚×13.˚0E±.˚, h22km±4km, M5.1/120, mb5.4/120, mB5.6/72, MLv5.4/18, Mw(mB)5.1/72, MwMwp5.2/1, Mwp5.4/1*
IDC ***18*** *19:21:53.0±2.4, 0.˚24S×129.˚58E, h30km±16km, mb5.0/28, mb1 5.1/34, mb1mx5.1/37, mbtmp5.2/34, ML4.1/4, MS4.4/25, Ms1 4.4/25, ms1mx4.2/71, Error ellipse: s-maj=12.0km s-min=8.6km az=65.0*
NEIC ***18*** *19:21:53, 0.˚17S×129.˚63E, h16km, Moment Tensor Solution. Duration: 8±0 Moment tensor: Scale 10^16 Nm; Mrr=2.57; Mθθ=6.50; Mφφ=-3.93; Mrθ=0.82; Mrφ=1.93; Mθφ=4.92; Fault plane solution: M0=7.79000×10^16 NP1: φs117.00000°, δ53.00000°, λ-22.00000°. NP2: φs221.00000°, δ72.00000°, λ-140.00000°. Principal axes: T 7.2045, Plg12.0000°, Azm345.0000°; N 1.0683, Plg47.0000°, Azm242.0000°; P -8.2728, Plg40.0000°, Azm85.0000°;*
DSN ***18*** *19:21:56.0±1.9, 0.˚24N×128.˚67E, h10km, mb5.6/15 Error ellipse: s-maj=49.6km s-min=14.3km az=100.0*
ISC 18 19:21:50.5±0.4, 0.˚32S±0.˚03×129.˚53E±0.˚04, h15km±2km, h15km:pP-P,n920,σ1§34/943, mb5.4/230, **MS4.4**/33, **18C-21D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.81**	**107**	P	**Pn**	**19 22 21.9**	**+0.7**
SIJI	**Sorong**	**1.82**	**107**	Pn	**Pn**	**19 22 21.9**	**+0.5**
999nm,0.3s,baz=325,slow=16,SNR=3155							
SIJI				Sn	**Sn**	**19 22 45.0**	**+0.9**
474nm,0.3s,baz=96,slow=24,SNR=14							
SIJI				LR	LR	19 22 50.9	
comp=Z,3μm,19.6s,baz=280,slow=32							
LBMI	**Labuha**	**2.05**	**261**	P	**Pn**	**19 22 24.1**	**-0.3**
TNTI	**Ternate**	**2.42**	**297**	P	**Pn**	**19 22 29.6**	**+0.1**
TNTI	**Ternate**	**2.42**	**297**	Pn	**Pn**	**19 22 28.6**	**-0.9**
TNTI	**Ternate**	**2.42**	**297**	P	**Pn**	**19 22 29.8**	**+0.3**
MSAI	**Masohi**	**3.06**	**191**	P	**Pn**	**19 22 38.6**	**+0.2**
AAI	**Ambon**	**3.60**	**202**	P	**Pn**	**19 22 47.3**	**+1.6**
FAKI	**Fak Fak**	**3.75**	**134**	P	**Pn**	**19 22 48.7**	**+0.9**
FAKI	**Fak Fak**	**3.75**	**134**	Pn	**Pn**	**19 22 47.5**	**-0.3**
FAKI	**Fak Fak**	**3.75**	**134**	P	**Pn**	**19 22 49.5**	**+1.7**
SANI	**Sanana**	**3.93**	**244**	P	**Pn**	**19 22 49.9**	**-0.4**
SANI	**Sanana**	**3.93**	**244**	P	**Pn**	**19 22 50.8**	**+0.5**
BNDI	**Bandanaira**	**4.19**	**175**	P	**Pn**	**19 22 55.5**	**+1.6**
KMSI	**Cibinong**	**5.62**	**279**	P	**Pn**	**19 23 14.0**	**+0.5**
6.9nm10μm1μm,0.7s							
SGSI	**Sangihe**	**5.64**	**315**	P	**Pn**	**19 23 15.0**	**+1.2**
2.4nm6μm632nm,0.6s							
GTOI	**Gorontalo**	**6.58**	**278**	P	**Pn**	**19 23 29.7**	**+2.9**
0.8nm2μm280nm,0.7s							
BAKI	**Biak**	**6.64**	**98**	P	**Pn**	**19 23 29.5**	**+2.0**
LUWI	**Luwuk**	**6.79**	**264**	P	**Pn**	**19 23 29.7**	**+0.1**
2.9nm8μm1μm,1.0s							
LUWI	**Luwuk**	**6.79**	**264**	Pn	**Pn**	**19 23 29.2**	**-0.5**
LUWI	**Luwuk**	**6.79**	**264**	P	**Pn**	**19 23 29.8**	**+0.1**
SRPI	**Serui, Papua**	**6.89**	**103**	P	**Pn**	**19 23 33.4**	**+2.4**
0.8nm2μm193nm,0.7s							
MRSI	**Marisa**	**7.63**	**276**	P	**Pn**	**19 23 40.9**	**-0.2**
0.8nm2μm281nm,0.9s							
SAUI	**Saumlaki**	**7.81**	**167**	P	**Pn**	**19 23 44.2**	**+0.5**
3.9nm6μm736nm,0.7s							
SAUI	**Saumlaki**	**7.81**	**167**	Pn	**Pn**	**19 23 42.4**	**-1.3**
SAUI	**Saumlaki**	**7.81**	**167**	P	**Pn**	**19 23 43.0**	**-0.7**
GSPH	**General Santos**	**7.84**	**324**⇑	*i*P	**Pn**	**19 23 44.2**	**+0.1**
APSI	**Ampana**	**7.90**	**266**	P	**Pn**	**19 23 45.3**	**+0.4**
2.6nm6μm864nm,0.7s							
DAV	**Davao City (W)**	**8.33**	**332**	Pn	**Pn**	**19 23 50.6**	**-0.2**
49nm,0.3s,baz=119,slow=12,SNR=3.8							
KCP	**Kidapawan**	**8.52**	**329**⇑	*i*P	**Pn**	**19 23 54.1**	**+0.6**
BBSI	**Bau Bau**	**8.64**	**233**	P	**Pn**	**19 23 57.2**	**+2.2**
399nm52nm,0.9s							
TOLI2	**Tolitoli**	**8.86**	**279**	Pn	**Pn**	**19 23 56.3**	**-1.8**
TOLI2	**Tolitoli**	**8.86**	**279**	P	**Pn**	**19 23 59.1**	**+1.0**
CTBH	**Cotabato--PC H**	**9.16**	**325**⇑	*e*P	**Pn**	**19 24 03.0**	**+0.9**
I39PW	**PALAU INFRASON**	**9.27**	**33**	*i*		20 19 00.0	
baz=214,slow=319,SNR=1.0							
SMPI	**Sarmi**	**9.33**	**100**	P	**Pn**	**19 24 06.1**	**+1.6**
997nm88nm,0.9s							
MPSI	**Mapaga**	**9.65**	**274**	P	**Pn**	**19 24 10.2**	**+1.3**
1μm150nm,1.0s							
TTSI	**Tana Toraja**	**10.07**	**254**	P	**Pn**	**19 24 16.1**	**+1.4**
2μm264nm,0.9s							
BNSI	**Bone**	**10.25**	**247**	P	**Pn**	**19 24 18.3**	**+1.2**
2μm117nm,0.7s							
SPSI	**Sidrap Palu**	**10.40**	**250**	P	**Pn**	**19 24 21.8**	**+2.6**
17μm1μm,0.4s							
BKSI	**Bulukumba**	**10.62**	**242**	P	**Pn**	**19 24 25.5**	**+3.3**
1μm165nm,0.8s							
BSSI	**Bau Bau, Buton**	**10.71**	**237**	P	**Pn**	**19 24 25.8**	**+2.3**
1μm144nm,0.9s							
SOEI	**Soe**	**10.73**	**209**	P	**Pn**	**19 24 27.0**	**+3.1**
3μm318nm,1.0s							
SOEI	**Soe**	**10.73**	**209**	Pn	**Pn**	**19 24 25.0**	**+1.1**
SOEI	**Soe**	**10.73**	**209**	P	Pn	19 24 29.7	+5.8
KAPI	**Kappang**	**10.82**	**244**	Pn	**Pn**	**19 24 27.8**	**+2.8**
10nm,0.3s,baz=96,slow=5.7,SNR=35							
KAPI				Sn	**Sn**	**19 26 27.2**	**+1.3**
0.8nm,0.3s,baz=188,slow=24,SNR=0.8							
KAPI				LR	LR	19 29 34.7	
comp=Z,826nm,18.5s,baz=102,slow=42							
KAPI	**Kappang**	**10.82**	**244**	P	**Pn**	**19 24 27.1**	**+2.2**
KAPI						19 26 27.2	
KAPI	**Kappang**	**10.82**	**244**	Pn	**Pn**	**19 24 27.1**	**+2.2**
KAPI	**Kappang**	**10.82**	**244**	P	**Pn**	**19 24 28.2**	**+3.3**
GENI	**Genyem**	**10.87**	**102**	P	**Pn**	**19 24 26.6**	**+0.9**
3μm183nm,1.3s							
GENI	**Genyem**	**10.87**	**102**	P	**Pn**	**19 24 28.6**	**+2.9**
240nm,0.9s							
MMRI	**Maumere**	**11.00**	**221**	P	**Pn**	**19 24 30.2**	**+2.8**
1μm124nm,1.2s							
MMRI	**Maumere**	**11.00**	**221**	Pn	**Pn**	**19 24 28.6**	**+1.2**
MMRI	**Maumere**	**11.00**	**221**	P	**Pn**	**19 24 31.2**	**+3.8**
JAY	**Jayapura**	**11.38**	**101**	Pn	**Pn**	**19 24 33.0**	**+0.3**
0.8nm,0.3s,baz=274,slow=8.0,SNR=16							
JAY	**Jayapura**	**11.38**	**101**	P	**Pn**	**19 24 33.1**	**+0.3**
29nm,0.8s							
BATI	**Baumata**	**11.42**	**211**	Pn	**Pn**	**19 24 36.3**	**+3.1**
3.8nm,0.3s,baz=163,slow=1.3,SNR=23							
BATI				LR	LR	19 29 48.5	
comp=Z,2μm,21.4s,baz=13,slow=41							
BATI	**Baumata**	**11.42**	**211**	P	**Pn**	**19 24 35.5**	**+2.3**
1μm96nm,1.2s							
EDFI	**Ende, Flores**	**11.45**	**223**	P	**Pn**	**19 24 35.8**	**+2.2**
591nm66nm,1.1s							
DRS	**Darwin Rock St**	**12.11**	**174**	P	**Pn**	**19 24 39.6**	**-3.0**
139nm,0.5s							
MYLDM	**Lahad Datu**	**12.29**	**297**	Pn	**Pn**	**19 24 46.3**	**+1.2**
MTN	**Manton Dam**	**12.54**	**173**	P	**Pn**	**19 24 45.4**	**-3.2**
baz=13,SNR=824							
MTN	**Manton Dam**	**12.54**	**173**		**Pn**	**19 24 45.4**	**-3.2**
MTN	**Manton Dam**	**12.54**	**173**	P	**Pn**	**19 24 47.2**	**-1.3**
KDU	**Kakadu**	**12.63**	**167**	P	**Pn**	**19 24 45.7**	**-3.9**
baz=13,SNR=101							
KDU	**Kakadu**	**12.63**	**167**	P	**Pn**	**19 24 46.5**	**-3.2**
BKB	**Balikpapan**	**12.66**	**266**	P	**Pn**	**19 24 50.9**	**+0.7**
258nm,0.8s							
BKB	**Balikpapan**	**12.66**	**266**	P	P	19 24 56.4	-5.1
257nm,0.8s							
BASI	**Baing, Sumba**	**13.26**	**222**	P	**Pn**	**19 25 00.6**	**+2.2**
2μm131nm,1.2s							
KBKI	**Kotabaru**	**13.68**	**257**	P	**Pn**	**19 25 06.3**	**+2.3**
631nm74nm,0.8s							
WBSI	**Waikabubak, Su**	**13.69**	**227**	P	**Pn**	**19 25 06.3**	**+2.0**
2μm118nm,0.9s							
SPMM	**Sapulut**	**13.97**	**291**	P	**Pn**	**19 25 10.0**	**+1.9**
MTKI	**Muara Teweh, K**	**14.64**	**268**	P	**Pn**	**19 25 16.9**	**-0.4**
66nm,1.1s							
KKM	**Kota Kinabalu**	**14.72**	**296**		**Pn**	**19 25 19.0**	**+0.6**
KKM	**Kota Kinabalu**	**14.72**	**296**	P	**Pn**	**19 25 19.6**	**+1.2**
BBKI	**Banjar Baru**	**15.00**	**258**	P	**Pn**	**19 25 24.2**	**+2.0**
KNRA	**Kununurra**	**15.28**	**183**	P	**Pn**	**19 25 21.8**	**-3.9**
baz=15,SNR=120							
KNRA	**Kununurra**	**15.28**	**183**	Pn	**Pn**	**19 25 21.1**	**-4.7**
KNRA				IAmb	IAmb	19 25 23.8	
comp=Z,126nm,0.8s							
KNRA	**Kununurra**	**15.28**	**183**	P	**Pn**	**19 25 22.5**	**-3.3**
SRBI	**Singaraja**	**16.22**	**241**	P	**P**	**19 25 40.2**	**-0.8**
comp=Z,4μmcomp=Z,475nm,1.2s							
DNP	**Denpasar**	**16.50**	**239**	P	**P**	**19 25 45.1**	**+0.9**
comp=Z,21μmcomp=Z,317nm,1.2s							
IGBI	**Denpasar**	**16.62**	**239**	P	**P**	**19 25 44.8**	**-0.7**
comp=Z,2μmcomp=Z,127nm,0.9s							
TGY	**Tagaytay City**	**16.66**	**330**	Pn	**Pn**	**19 25 43.1**	**-0.6**
baz=90,slow=14							
KMMI	**Kalianget**	**16.90**	**246**	P	**P**	**19 25 50.9**	**+2.3**
comp=Z,138nm,1.1s							
ABJI	**Asem Bagus**	**16.96**	**244**	P	**P**	**19 25 51.4**	**+2.2**
comp=Z,4μmcomp=Z,460nm,1.2s							
JAGI	**Jajag, Banyuwa**	**17.32**	**242**	P	**P**	**19 25 55.0**	**+1.7**
comp=Z,4μmcomp=Z,193nm,1.1s							
JAGI	**Jajag, Banyuwa**	**17.32**	**242**		**Pn**	**19 25 52.2**	**+0.2**
JAGI	**Jajag, Banyuwa**	**17.32**	**242**	P	**P**	**19 25 58.1**	**+4.8**
BLJI	**Banyuglugur**	**17.51**	**245**	P	**P**	**19 25 58.2**	**+2.8**
comp=Z,2μmcomp=Z,243nm,0.9s							
SBUM	**Sibu**	**17.52**	**279**	Pn	**Pn**	**19 25 52.9**	**-1.5**
SBUM	**Sibu**	**17.52**	**279**	P	**P**	**19 25 55.0**	**-0.5**
GMJI	**Gumukmas**	**17.87**	**243**	P	**P**	**19 26 01.5**	**+2.2**
comp=Z,4μmcomp=Z,266nm,0.9s							
MANU	**Manus Island**	**17.92**	**96**	P	**Pn**	**19 25 59.4**	**0.0**
PBKI	**Pangkalan Bun**	**18.01**	**262**	P	**P**	**19 26 01.7**	**+0.8**
comp=Z,3μmcomp=Z,375nm,1.2s							
STKI	**Sintang**	**18.05**	**271**	P	**P**	**19 26 02.6**	**+1.2**
comp=Z,38nm,1.2s							
FITZ	**Fitzroy Crossi**	**18.07**	**192**	P	**Pn**	**19 25 57.8**	**-3.4**
comp=Z,6.7nm,0.3s,baz=27,slow=11,SNR=189							
FITZ				LR	LR	19 33 03.8	
comp=Z,1μm,18.4s,baz=34,slow=37							
FITZ	**Fitzroy Crossi**	**18.07**	**192**	P	**Pn**	**19 25 57.7**	**-3.5**
baz=18,SNR=187							
COEN	**Coen**	**19.13**	**136**	P	**P**	**19 26 12.0**	**-1.2**
COEN	**Coen**	**19.13**	**136**	P	**Pn**	**19 26 14.1**	**0.0**
KSM	**Kuching**	**19.30**	**275**	P	**P**	**19 26 14.4**	**-0.6**
KSM	**Kuching**	**19.30**	**275**	P	**Pn**	**19 26 18.0**	**+1.8**
UWJI	**Ujung Watu**	**19.50**	**252**	P	**Pn**	**19 26 18.6**	**0.0**
comp=Z,5μmcomp=Z,218nm,0.9s							
PMG	**Port Moresby**	**19.73**	**118**	P	**P**	**19 26 19.4**	**-0.4**
comp=Z,2.2nm,0.3s,baz=338,slow=13,SNR=21							
PMG				LR	LR	19 35 17.6	
comp=Z,2μm,20.2s,baz=285,slow=41							
PMG	**Port Moresby**	**19.73**	**118**	*de*P	**P**	**19 26 19.5**	**-0.4**
PMG				pmax	pmax		
comp=Z,116nm,0.8s							
PMG	**Port Moresby**	**19.73**	**118**		**P**	**19 26 18.6**	**-1.2**
PMG				IAmb	IAmb	19 26 28.6	
comp=Z,127nm,0.8s							
PMG	**Port Moresby**	**19.73**	**118**	P	**Pn**	**19 26 21.2**	**-0.2**
PCJI	**Pacitan**	**19.89**	**246**	P	**Pn**	**19 26 23.8**	**+0.6**
comp=Z,3μmcomp=Z,338nm,1.5s							
WB0	**Warramunga Arr**	**19.91**	**166**	P	**P**	**19 26 19.6**	**-2.1**
WRAB	**Tennant Creek**	**20.06**	**167**	*ce*P	**P**	**19 26 22.4**	**-0.9**
WRAB				pmax	pmax		
comp=Z,155nm,1.2s							
WRAB	**Tennant Creek**	**20.06**	**167**	P	**P**	**19 26 20.8**	**-2.5**
WRAB				IAmb	IAmb	19 26 25.4	
comp=Z,231nm,1.3s							
WRAB	**Tennant Creek**	**20.06**	**167**	P	**P**	**19 26 22.7**	**-0.6**
WRA	**Warramunga Arr**	**20.06**	**167**	P	**P**	**19 26 22.1**	**-1.3**
comp=Z,87nm,0.7s,baz=347,slow=12,SNR=406							
WRA				S	S	19 29 53.8	-15
comp=Z,10nm,0.7s,baz=348,slow=24,SNR=4.0							
WRA				LR	LR	19 34 39.6	
comp=Z,2μm,20.9s,baz=342,slow=38							
WRA	**Warramunga Arr**	**20.06**	**167**	P	**P**	**19 26 21.6**	**-1.8**
WRA				pmax	pmax		
comp=Z,25nm,1.3s							
WRA	**Warramunga Arr**	**20.06**	**167**	P	**P**	**19 26 21.6**	**-1.8**
WB2	**Warramunga Arr**	**20.07**	**167**	P	**P**	**19 26 20.8**	**-2.6**
WR0	**Warramunga Arr**	**20.13**	**166**	P	**P**	**19 26 22.7**	**-1.4**
SMRI	**Semarang**	**20.18**	**250**	P	Pn	19 26 28.2	+1.6
comp=Z,298nm,1.1s							
SMRI	**Semarang**	**20.18**	**250**	P	**P**	**19 26 25.4**	**+0.8**
SMRI				IAmb	IAmb	19 26 29.9	
comp=Z,354nm,1.1s							
SMRI	**Semarang**	**20.18**	**250**	P	Pn	19 26 29.3	+2.7
UGM	**Wanagama**	**20.39**	**248**	P	Pn	19 26 28.3	-0.8
comp=Z,4μmcomp=Z,383nm,1.2s							
UGM	**Wanagama**	**20.39**	**248**		Pn	19 26 29.4	+0.3
UGM				IAmb	IAmb	19 26 34.9	
comp=Z,468nm,1.2s							
UGM	**Wanagama**	**20.39**	**248**	P	Pn	19 26 30.4	+1.3
GUMO	**Guam**	**20.55**	**47**	P	**P**	**19 26 28.1**	**-0.6**
comp=Z,149nm,0.6s,baz=174,slow=12,SNR=11							
GUMO				LR	LR	19 33 45.7	
comp=Z,444nm,20.3s,baz=226,slow=35							
GUMO	**Guam**	**20.55**	**47**	P	**P**	**19 26 28.3**	**-0.3**
GUMO				pmax	pmax		
comp=Z,533nm,1.3s							
GUMO	**Guam**	**20.55**	**47**		**P**	**19 26 28.3**	**-0.3**
GUMO				IAmb	IAmb	19 26 30.3	
comp=Z,533nm,1.3s							
GUMO	**Guam**	**20.55**	**47**	P	Pn	19 26 32.4	+1.5
YOGI	**Yogyakarta**	**20.57**	**248**	P	Pn	19 26 31.1	-0.1
comp=Z,5μmcomp=Z,502nm,1.4s							
TPI	**Tanjungpandan**	**22.00**	**263**	P	**P**	**19 26 44.0**	**-0.3**
comp=Z,1μmcomp=Z,76nm,1.2s							
CMJI	**Cimerak**	**22.28**	**250**	P	**P**	**19 26 48.4**	**+1.0**
comp=Z,2μmcomp=Z,189nm,1.4s							
QIS	**Mount Isa**	**22.40**	**155**	P	**P**	**19 26 48.4**	**-0.1**
baz=22,SNR=158							
QIS	**Mount Isa**	**22.40**	**155**	P	**P**	**19 26 49.3**	**+0.7**
LEM	**Lembang**	**22.79**	**253**	P	**P**	**19 26 54.3**	**+1.3**
comp=Z,104nm,0.9s,baz=63,slow=7.1,SNR=22							
LEM	**Lembang**	**22.79**	**253**	P	**P**	**19 26 54.6**	**+1.6**
comp=Z,1μmcomp=Z,63nm,1.1s							
MBWA	**Marble Bar**	**22.81**	**204**	P	**P**	**19 26 54.6**	**+1.6**
MTSU	**Mount Surprise**	**22.91**	**141**	P	**P**	**19 26 53.5**	**-0.5**
baz=23,SNR=44							
MTSU	**Mount Surprise**	**22.91**	**141**	P	**P**	**19 26 54.2**	**+0.2**
RABL	**Rabaul**	**22.94**	**100**	P	**P**	**19 26 53.3**	**-1.2**
RABL	**Rabaul**	**22.94**	**100**	P	**P**	**19 26 55.7**	**+1.3**
PSA00	**Pilbara Seismi**	**23.14**	**203**	P	**P**	**19 26 54.3**	**-2.0**
PSA00	**Pilbara Seismi**	**23.14**	**203**	P	**P**	**19 26 55.2**	**-1.1**
PSA00				IAmb	IAmb	19 27 18.0	
comp=Z,66nm,0.9s							
PSA00	**Pilbara Seismi**	**23.14**	**203**	P	**P**	**19 26 57.8**	**+1.5**
CNJI	**Cibinong**	**23.39**	**252**	P	**P**	**19 26 59.0**	**+0.1**
comp=Z,3μmcomp=Z,312nm,1.2s							
CBJI	**Citeko**	**23.42**	**255**	P	**P**	**19 27 00.9**	**+1.6**
comp=Z,4μmcomp=Z,193nm,1.1s							
PPBI	**Pangkal Pinang**	**23.45**	**265**	P	**P**	**19 27 00.8**	**+1.2**
comp=Z,134nm,1.1s							
DBJI	**Dramaga**	**23.55**	**254**	P	**P**	**19 27 02.4**	**+1.8**
comp=Z,2μmcomp=Z,71nm,1.2s							
AS31	**Alice Springs**	**23.59**	**170**	P	**P**	**19 27 00.9**	**0.0**
AS31				IAmb	IAmb	19 27 09.2	
comp=Z,69nm,0.7s							
ASAR	**Alice Springs**	**23.59**	**170**	P	**P**	**19 27 01.1**	**+0.2**
comp=Z,166nm,0.8s,baz=348,slow=9.2,SNR=482							
ASAR				PcP	**PcP**	**19 30 45.8**	**-0.2**
comp=Z,9.9nm,0.8s,baz=341,slow=2.7,SNR=5.0							
ASAR				S	**S**	**19 31 14.9**	**0.0**
comp=Z,12nm,0.9s,baz=350,slow=22,SNR=4.3							
ASAR				LR	LR	19 38 33.3	
comp=Z,1μm,20.1s,baz=3.0,slow=42							
ASAR	**Alice Springs**	**23.59**	**170**	P	**P**	**19 27 00.9**	**0.0**
SKJI	**Sukabumi**	**23.85**	**253**	P	**P**	**19 27 04.5**	**+1.0**
comp=Z,1μmcomp=Z,99nm,0.8s							
SBJI	**Serang**	**24.05**	**256**	P	**P**	**19 27 08.5**	**+3.2**
comp=Z,260nm,1.3s							
DLV	**T Lat**	**24.18**	**301**	P	**P**	**19 27 06.6**	**-0.2**
DLV				IAmb	IAmb	19 27 17.4	
comp=Z,219nm,1.4s							
DLV	**T Lat**	**24.18**	**301**	P	**P**	**19 27 08.8**	**+2.0**
CGJI	**Cibinong**	**24.59**	**255**	P	**P**	**19 27 10.4**	**+0.1**
comp=Z,1μmcomp=Z,161nm,1.0s							
WRKA	**Warakurna**	**24.60**	**183**	P	**P**	**19 27 10.6**	**+0.3**
baz=25,SNR=378							
WRKA	**Warakurna**	**24.60**	**183**	P	**P**	**19 27 11.3**	**+1.0**
BLSI	**Bandar Lampung**	**24.76**	**258**	P	**P**	**19 27 14.6**	**+2.8**
comp=Z,2μmcomp=Z,119nm,1.1s							
PMBI	**Palembang**	**24.88**	**264**	P	**P**	**19 27 16.8**	**+3.9**
comp=Z,12μmcomp=Z,355nm,1.0s							
PMBI	**Palembang**	**24.88**	**264**	P	**P**	**19 27 14.2**	**+1.3**
PMBI	**Palembang**	**24.88**	**264**	P	**P**	**19 27 17.9**	**+5.0**
YULB	**Yu-li**	**24.89**	**342**	P	**P**	**19 27 10.8**	**-2.1**
DSRI	**Dabo**	**24.95**	**270**	P	**P**	**19 27 16.1**	**+2.6**
comp=Z,864nmcomp=Z,63nm,1.0s							
TPUB	**Ta-pu**	**25.02**	**340**	P	**P**	**19 27 12.4**	**-1.7**
TPUB				IAmb	IAmb	19 27 41.9	
comp=Z,138nm,1.2s							
TPUB	**Ta-pu**	**25.02**	**340**	P	**P**	**19 27 15.9**	**+1.8**
TPRI	**Tanjung Pinang**	**25.03**	**273**	P	**P**	**19 27 16.5**	**+2.2**
comp=Z,113nm,1.0s							
KLI	**Kotabumi**	**25.05**	**259**	P	**P**	**19 27 16.0**	**+1.6**
comp=Z,7μmcomp=Z,1μm,1.0s							
KLSI	**25.14**	**260**	P	**P**	**19 27 16.7**	**+1.4**	
comp=Z,1μmcomp=Z,168nm,1.1s							
SSLB	**Suanglung**	**25.37**	**341**	P	**P**	**19 27 17.1**	**-0.2**
SSLB	**Suanglung**	**25.37**	**341**	P	**P**	**19 27 18.3**	**+1.1**
KASI	**Kota Agung**	**25.52**	**258**	P	**P**	**19 27 20.0**	**+1.3**
comp=Z,3μmcomp=Z,322nm,1.0s							
CTA	**Charters Tower**	**25.57**	**141**	P	**P**	**19 27 20.4**	**+1.3**
comp=Z,31nm,0.6s,baz=322,slow=9.8,SNR=51							
CTA				LR	LR	19 39 40.9	
comp=Z,1μm,18.5s,baz=324,slow=42							
CTA	**Charters Tower**	**25.57**	**141**	P	**P**	**19 27 21.1**	**+1.9**
CTAO	**Charters Tower**	**25.57**	**141**	P	**P**	**19 27 20.1**	**+0.9**
CTAO				pmax	pmax		
comp=Z,53nm,1.0s							
CTAO	**Charters Tower**	**25.57**	**141**	P	**P**	**19 27 20.1**	**+0.9**
CTAO	**Charters Tower**	**25.57**	**141**	P	**P**	**19 27 21.1**	**+1.9**
MDSI	**Maura Dua**	**25.66**	**260**	P	**P**	**19 27 21.1**	**+1.1**
comp=Z,1μmcomp=Z,179nm,1.1s							
XMI	**Christmas Isla**	**25.75**	**246**	P	**P**	**19 27 23.3**	**+2.5**
MYKOM	**Kota Tinggi**	**25.76**	**275**	P	**P**	**19 27 22.3**	**+1.4**
MYKOM				IAmb	IAmb	19 27 24.9	
comp=Z,130nm,1.0s							
MYKOM	**Kota Tinggi**	**25.76**	**275**	P	**P**	**19 27 23.0**	**+2.1**
XMIS	**Christmas Isla**	**25.79**	**246**	P	**P**	**19 27 20.9**	**-0.3**
XMIS				IAmb	IAmb	19 27 26.7	
comp=Z,74nm,1.0s							
XMIS	**Christmas Isla**	**25.79**	**246**	P	**P**	**19 27 26.9**	**+5.7**
LWLI	**Liwa**	**25.86**	**259**	P	**P**	**19 27 24.1**	**+2.2**
comp=Z,35μmcomp=Z,391nm,0.9s							
JMBI	**JAMBI**	**25.91**	**267**	P	**P**	**19 27 25.6**	**+3.3**
comp=Z,125nm,1.2s							
YHNB	**Yeheng**	**26.07**	**343**	P	**P**	**19 27 24.3**	**+0.7**
YHNB				IAmb	IAmb	19 27 41.2	
comp=Z,75nm,1.0s							
YHNB	**Yeheng**	**26.07**	**343**	P	**P**	**19 27 24.8**	**+1.2**
LHSI	**Lahat**	**26.21**	**262**	P	**P**	**19 27 26.8**	**+1.8**

baz=33,SNR=5.7
EIDS Eidsvold 32.46 142 P P 19 28 19.9 -0.5
EIDS Eidsvold 32.46 142 P P 19 28 21.3 +0.9
comp=Z,19nm,0.9s
BLDU Ballidu 32.50 201 P P 19 28 21.0 +0.3
baz=33,SNR=20
BLDU Ballidu 32.50 201 P P 19 28 22.6 +1.9
CNSH ChangSha 32.50 332 ⇓P P 19 28 20.8 +0.1
CNSH pmax pmax
comp=Z,21nm,1.4s
BBOO Buckleboo 32.90 170 P P 19 28 24.2 +0.1
baz=33,SNR=18
BBOO Buckleboo 32.90 170 P P 19 28 23.7 -0.5
BBOO Buckleboo 32.90 170 P P 19 28 24.5 +0.3
LHMI Lhok Sumawe 33.00 280 P P 19 28 26.1 +0.8
comp=Z,52nm,0.7s
LHMI Lhok Sumawe 33.00 280 P P 19 28 28.2 +2.9
SLVN Son La 33.01 312 P P 19 28 26.0 +0.7
SLVN IAmb IAmb 19 28 35.7
comp=Z,79nm,1.3s
KLBR Kellerberrin 33.04 199 P P 19 28 25.6 +0.2
baz=33,SNR=15
KLBR Kellerberrin 33.04 199 P P 19 28 25.9 +0.5
JNU Nakatsue 33.29 2 LR LR 19 41 13.5
comp=Z,587nm,20.6s,baz=180,slow=35
JNU Nakatsue 33.29 2 P P 19 28 25.7 -1.9
JNU IAmb IAmb 19 28 32.9
comp=Z,80nm,1.2s
STKA Stephens Creek 33.40 161 P P 19 28 28.9 +0.4
comp=Z,83nm,0.7s,baz=339,slow=8.4,SNR=109
STKA LR LR 19 42 34.7
comp=Z,570nm,21.0s,baz=335,slow=37
STKA Stephens Creek 33.40 161 P P 19 28 29.0 +0.4
baz=34,SNR=79
STKA Stephens Creek 33.40 161 P P 19 28 28.6 +0.1
STKA pmax pmax
comp=Z,17nm,0.7s
STKA Stephens Creek 33.40 161 P P 19 28 28.6 +0.1
STKA Stephens Creek 33.40 161 P P 19 28 29.3 +0.8
WHYH Whyalla 33.41 168 P P 19 28 29.8 +1.2
comp=Z,44nm,0.8s
NJ2 Nanjing 33.74 344 *e*P **P 19 28 32.3 +0.8**
NJ2 pP **pP 19 28 35.8 0.0**
NJ2 sP **sP 19 28 39.0 +1.5**
NJ2 pmax pmax
comp=Z,18nm,0.8s
NJ2 LR LR
comp=Z,560nm,12.8s
NJ2 LR LR
comp=Z,820nm,11.8s
NJ2 LR LR
comp=Z,630nm,17.6s
MUN Mundaring 33.91 201 P P 19 28 33.1 +0.1
baz=34,SNR=5.1
MUN Mundaring 33.91 201 P P 19 28 33.9 +0.9
WHN Wuhan 33.92 336 ⇑P P 19 28 34.5 +1.4
WHN pmax pmax
comp=Z,140nm,1.0s
HTT Hallett 34.10 166 P P 19 28 35.4 +0.7
baz=34,SNR=5.5
HTT Hallett 34.10 166 P P 19 28 37.0 +2.3
NWAO Narrogin (SRO) 34.44 198 P P 19 28 36.8 -0.8
NWAO pmax pmax
comp=Z,33nm,0.9s
NWAO Narrogin (SRO) 34.44 198 P P 19 28 36.8 -0.8
NWAO IAmb IAmb 19 28 42.8
comp=Z,33nm,0.8s
NWAO Narrogin (SRO) 34.44 198 P P 19 28 42.1 +4.5
comp=Z,60nm,1.2s
GYA Guiyang 34.56 322 ⇑P P 19 28 39.3 +0.4
GYA pP pP 19 28 44.0 +0.8
GYA pmax pmax
comp=Z,11nm,1.0s
CMSA Cobar Meteorol 34.62 155 P P 19 28 40.1 +1.1
baz=35,SNR=43
CMSA Cobar Meteorol 34.62 155 P P 19 28 40.2 +1.1
JHJ Hachijo jima 2 34.64 15 LR LR 19 41 17.2
comp=Z,766nm,21.7s,baz=70,slow=34
CM31 Chiang Mai Arr 35.38 303 P P 19 28 45.7 -0.1
CMAR Chiang Mai Arr 35.38 303 P P 19 28 46.9 +1.0
comp=Z,9.8nm,0.9s,baz=128,slow=6.9,SNR=47
CMAR PcP **PcP 19 31 17.6 +1.6**
comp=Z,4.6nm,0.9s,baz=149,slow=1.9,SNR=6.8
CMAR ScP **ScP 19 34 59.8 -1.7**
comp=Z,0.5nm,0.4s,baz=138,slow=1.9,SNR=8.8
CMAR LR LR 19 45 50.9
comp=Z,197nm,18.1s,baz=180,slow=41
CMAR Chiang Mai Arr 35.38 303 P P 19 28 46.0 +0.1
CMAR Chiang Mai Arr 35.38 303 P P 19 28 46.0 +0.1
CHTO Chiang Mai 35.54 304 P P 19 28 46.9 -0.4
CHTO pmax pmax
comp=Z,31nm,1.0s
CHTO Chiang Mai 35.54 304 P P 19 28 46.9 -0.4
CHTO Chiang Mai 35.54 304 P P 19 28 50.0 +2.7
TWOA Tennyson Woods 35.55 167 P P 19 28 48.6 +1.5
comp=Z,103nm,0.8s
ENH Enshi 35.91 330 P P 19 28 47.5 -2.8
ENH IAmb IAmb 19 29 07.9
comp=Z,42nm,1.0s
KMI Kunming 36.21 316 ⇑P P 19 28 54.8 +1.6
KMI pP pP 19 28 57.8 +0.2
KMI PP **PP 19 30 16.9 +1.2**
KMI PcP **PcP 19 31 19.4 +0.8**
KMI pmax pmax
comp=Z,38nm,0.8s
TJN Taejon 36.57 357 ⇓*i*P **P 19 28 56.5 +0.7**
ARMA Armidale 36.57 147 P P 19 28 56.9 +0.9
baz=37,SNR=50
ARMA Armidale 36.57 147 P P 19 28 55.4 -0.7
ARMA IAmb IAmb 19 29 00.5
comp=Z,57nm,0.8s
ARMA Armidale 36.57 147 P P 19 28 57.5 +1.4
MAJO Matsushiro 37.55 12 ⇑*i*P **P 19 29 03.0 -1.2**
MAJO pmax pmax
comp=Z,53nm,0.9s
MAJO Matsushiro 37.55 12 P P 19 29 02.1 -2.1
MAJO IAmb IAmb 19 29 04.6
comp=Z,54nm,0.9s
MAJO Matsushiro 37.55 12 P P 19 29 03.5 -0.7
comp=Z,78nm,0.9s
MAT Matsushiro 37.55 12 P P 19 29 01.8 -2.4
MJAR Matsushiro Arr 37.55 12 P P 19 29 02.5 -1.7
comp=Z,30nm,0.8s,baz=191,slow=9.1,SNR=35
MJAR LR LR 19 41 42.7
comp=Z,251nm,21.7s,baz=220,slow=32
MJAR Matsushiro Arr 37.55 12 P P 19 29 02.8 -1.4
MJAR pmax pmax
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 37.55 12 P P 19 29 02.8 -1.4
MJB9 Matsu-Tunnel 37.56 11 P P 19 29 01.9 -2.3
MJB9 IAmb IAmb 19 29 04.5
comp=Z,53nm,0.9s
KSAR Wonju Array Be 37.61 358 P P 19 29 02.8 -1.8
KSAR Wonju Array Be 37.61 358 P P 19 29 02.8 -1.8
KSRS Korea Array 37.62 358 P P 19 29 04.5 -0.2
comp=Z,13nm,0.8s,baz=174,slow=10,SNR=30
KSRS PcP **PcP 19 31 22.9 +0.6**
comp=Z,6.4nm,0.8s,baz=182,slow=3.5,SNR=8.1
KSRS LR LR 19 43 56.2
comp=Z,348nm,21.8s,baz=175,slow=35
KS19 Wonju Array Si 37.67 358 P P 19 29 05.6 +0.5
PZH PanZhiHua 37.79 317 P P 19 29 06.4 -0.1
PZH sP **pP 19 29 10.6 -0.3**
PZH PcP **PcP 19 31 23.8 +0.5**
PZH S **S 19 34 57.9 +0.9**
PZH ScS **ScS 19 39 19.4 -0.1**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,570nm,11.0s
ARPS Mount Arapiles 38.02 164 P P 19 29 09.5 +1.4
baz=38,SNR=46
ARPS Mount Arapiles 38.02 164 P P 19 29 09.9 +1.8
LYN LuoYang 38.19 337 *e*P **P 19 29 11.1 +1.5**
LYN pmax pmax
comp=Z,20nm,1.4s
MGCD Mangrove Creek 38.50 150 P P 19 29 13.2 +0.9
baz=39,SNR=5.5
MGCD Mangrove Creek 38.50 150 P P 19 29 14.2 +1.9
SYDH Sydney Hard Ro 38.77 151 P P 19 29 16.7 +2.2
comp=Z,47nm,0.8s
RIV Riverview 39.02 151 P P 19 29 17.7 +1.1
baz=39,SNR=4.8
CAN Canberra 39.27 154 P P 19 29 19.6 +0.9
CAN pmax pmax
comp=Z,82nm,0.8s
CAN Canberra 39.27 154 P P 19 29 19.6 +0.9
CAN IAmb IAmb 19 29 21.8
comp=Z,82nm,0.8s
CAN Canberra 39.27 154 P P 19 29 20.5 +1.7
XAN Xi'an 39.27 333 P P 19 29 20.3 +1.5
XAN pP sP 19 29 29.1 +4.2
XAN pmax pmax
comp=Z,31nm,0.9s
BRAT Ballarat 39.36 162 P P 19 29 21.9 +2.5
comp=Z,36nm,1.0s
JMM Marumori 39.40 14 P P 19 29 18.1 -1.5
JMM IAmb IAmb 19 29 42.6
comp=Z,98nm,1.0s
CNB Canberra Magne 39.42 154 P P 19 29 21.8 +1.8
baz=40,SNR=9.1
CNB Canberra Magne 39.42 154 P P 19 29 22.5 +2.4
KOUNC Koumac, New Ca 39.48 123 P P 19 29 20.5 -0.1
CD2 Chengdu 39.54 324 P P 19 29 20.6 -0.5
CD2 pmax pmax
comp=Z,40nm,1.1s
TOO Toolangi 39.89 160 P P 19 29 24.9 +1.1
baz=40,SNR=16
TOO Toolangi 39.89 160 P P 19 29 25.4 +1.6
TOO pmax pmax
comp=Z,71nm,1.0s
TOO Toolangi 39.89 160 P P 19 29 25.4 +1.6
TOO IAmb IAmb 19 29 29.0
comp=Z,71nm,0.9s
TOO Toolangi 39.89 160 P P 19 29 26.0 +2.1
HNS HongShan 39.96 342 ⇓P **P 19 29 24.1 -0.2**
HNS S **S 19 35 31.5 +2.3**
HNS pmax pmax
comp=Z,26nm,1.2s
HNS LR LR
comp=Z,660nm,13.8s
HNS LR LR
comp=Z,770nm,16.5s
GEXS Deakin Univers 40.07 162 P P 19 29 28.9 +3.6
comp=Z,135nm,0.9s
SANVU Saraoutou 40.12 114 P P 19 29 23.9 -2.1
SANVU Saraoutou 40.12 114 P P 19 29 29.9 +3.9
MILA Mila 40.81 156 P P 19 29 32.0 +0.5
baz=41,SNR=10
DVP Devils Point 41.76 117 P P 19 29 39.9 +0.4
NOUC Port Laguerre 41.85 124 P P 19 29 41.2 +1.0
comp=Z,45nm,0.8s
DZM Mont Dzumac 41.95 124 LR LR 19 46 48.6
comp=Z,870nm,20.9s,baz=312,slow=36
DZM Mont Dzumac 41.95 124 *e*P **P 19 29 41.8 +0.6**
comp=Z,90nm,0.9s
DZM *e*LR LR 19 41 20.7
comp=Z,1μm,23.1s
DZM Mont Dzumac 41.95 124 P P 19 29 41.0 -0.2
DZM Mont Dzumac 41.95 124 P P 19 29 42.9 +1.7
BJT Baijiatuau 41.96 345 P P 19 29 39.7 -1.1
BJT pmax pmax
comp=Z,26nm,0.8s
BJT Baijiatuau 41.96 345 P P 19 29 39.7 -1.1
BJI Beijing 41.98 345 P P 19 29 40.3 -0.7
BJI pP **pP 19 29 45.0 -0.3**
BJI pmax pmax
comp=Z,22nm,1.3s
ONTNC Ouen Toro 42.07 124 P P 19 29 41.9 -0.1
ONTNC Ouen Toro 42.07 124 P P 19 29 44.6 +2.6
comp=Z,61nm,0.9s
LIFNC LIFOU 42.08 121 P P 19 29 41.0 -1.1
LIFNC IAmb IAmb 19 29 44.1
comp=Z,106nm,0.9s
OUENC Ouen Island, N 42.44 124 P P 19 29 45.4 +0.4
LZH Lanzhou 43.39 329 ⇓P **P 19 29 53.6 +0.9**
LZH pP pP 19 29 56.9 -0.2
LZH sP sP 19 30 00.6 +1.7
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,120nm,4.3s
LZH LR LR
comp=Z,830nm,17.8s
LZH LR LR
comp=Z,720nm,17.3s
LZH LR LR
comp=Z,730nm,18.9s
GLAD Gladstone 43.81 160 P P 19 29 59.7 +3.9
comp=Z,30nm,0.8s
CORO Coronation Par 43.94 161 P P 19 30 01.0 +4.2
comp=Z,34nm,1.0s
CN2 Changchun 44.08 356 *e*P **P 19 29 59.0 +1.1**
CN2 pmax pmax
comp=Z,30nm,1.2s
HHC Hu-ho-hao-te 44.11 340 *e*P **P 19 29 59.6 +1.2**
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,770nm,5.7s
HHC LR LR
comp=Z,1μm,15.2s
HHC LR LR
comp=Z,820nm,16.5s
HHC LR LR
comp=Z,890nm,15.9s
USRK Ussuriysk Ar. 44.38 3 P P 19 30 00.8 +0.5
comp=Z,26nm,0.8s,baz=186,slow=7.3,SNR=35
USRK Ussuriysk Ar. 44.38 3 P P 19 30 00.2 -0.1
USRK Ussuriysk Ar. 44.38 3 P P 19 30 00.2 -0.1
BTO Baotou 44.44 339 *e*P **P 19 30 02.3 +1.3**
SHL Shillong 44.54 308 P P 19 30 01.4 -0.7
SHL pmax pmax
comp=Z,79nm,1.0s
SHL Shillong 44.54 308 P P 19 30 01.4 -0.7
SHL IAmb IAmb 19 30 11.1
comp=Z,79nm,1.0s
MDJ Mudanjiang 44.74 0 P P 19 30 04.8 +1.6
MDJ pmax pmax
comp=Z,50nm,0.8s
MDJ pmax pmax
comp=Z,2μm,5.5s
MDJ Mudanjiang 44.74 0 P P 19 30 03.0 -0.2
MDJ IAmb IAmb 19 30 06.1
comp=Z,60nm,1.2s
MOO Moorlands 44.84 161 P P 19 30 06.6 +2.6
baz=45,SNR=3.9
MOO Moorlands 44.84 161 P P 19 30 05.4 +1.3
TAU Tasmania Unive 45.31 162 P P 19 30 08.2 +0.5
TAU pmax pmax
comp=Z,40nm,1.1s
TAU Tasmania Unive 45.31 162 P P 19 30 08.2 +0.5
TAU IAmb IAmb 19 30 12.3
comp=Z,40nm,1.1s
TAU Tasmania Unive 45.31 162 P P 19 30 12.7 +5.0
comp=Z,36nm,1.2s
XLT XiLinHaoTe 45.64 346 *e*P **P 19 30 10.0 -0.5**
XLT pP pP 19 30 14.4 -0.5
XLT sP sP 19 30 17.4 +0.8
XLT pmax pmax
comp=Z,39nm,1.3s
XLT pmax pmax
comp=Z,850nm,4.9s
LSA Lhasa 47.21 313 P P 19 30 24.5 +1.0
LSA pmax pmax
comp=Z,59nm,0.7s
GTA Gaotai 47.98 329 *e*P **P 19 30 28.8 -0.2**
GTA pP pP 19 30 31.8 -1.7
GTA sP sP 19 30 35.6 +0.4
GTA PcP **PcP 19 31 58.3 +1.2**
GTA pmax pmax
comp=Z,210nm,4.5s
GTA LR LR
comp=Z,410nm,17.8s
GTA LR LR
comp=Z,600nm,19.3s
GTA LR LR
comp=Z,620nm,18.9s
YSS Yuzh-Sakhalins 48.49 12 ⇓*e*P **P 19 30 32.5 0.0**
YSS pmax pmax
comp=Z,18nm,1.0s
GOMU GeErMu 48.58 322 P P 19 30 36.0 +2.1
GOMU pP sP 19 30 39.3 -0.8
GOMU sP pP 19 30 43.1 +4.7
GOMU PP **PP 19 32 25.0 -1.9**
GOMU LR LR
comp=Z,340nm,16.5s
GOMU LR LR
comp=Z,370nm,17.2s
GOMU LR LR
comp=Z,310nm,15.9s
PALK Pallekele 49.27 280 LR LR 19 51 50.7
comp=Z,353nm,18.3s,baz=205,slow=36
KLR Kul'dur 49.40 2 LR LR 19 50 09.8
comp=Z,345nm,20.5s,baz=228,slow=34
KLR Kul'dur 49.40 2*c i*P **P 19 30 39.5 0.0**
KLR pmax pmax
comp=Z,32nm,1.0s
GUN Gumba 50.37 308 *e*P **P 19 30 47.5 -0.3**
comp=Z,62nm,0.8s
GUN Gumba 50.37 308 *e*P **P 19 30 48.0 +0.2**
UGL Uglegorsk 50.38 11 *e*P **P 19 30 47.2 +0.2**
UGL pmax pmax
comp=Z,50nm,0.9s
PKI Pulchoki 50.60 307 *e*P **P 19 30 49.1 -0.4**
comp=Z,7.7nm,0.8s
PKIN Phulchoki 50.61 307 *e*P **P 19 30 48.9 -0.6**
comp=Z,11nm,0.6s
MSVF Nonsavu 50.73 113*de*P **P 19 30 51.4 +1.1**
MSVF pmax pmax
comp=Z,177nm,4.4s
MSVF Nonsavu 50.73 113 P **P 19 30 51.2 +0.9**
MSVF IAmb IAmb 19 30 54.6
comp=Z,28nm,0.8s
MSVF Nonsavu 50.73 113 P **P 19 30 53.0 +2.7**
KKN Kakani 50.80 307 *e*P **P 19 30 50.8 0.0**
comp=Z,10nm,0.6s
DMN Daman 50.86 307 *e*P **P 19 30 50.0 -1.3**
comp=Z,7.5nm,0.4s
GRNR Gornyy 51.24 6 ⇓*i*P **P 19 30 52.9 -0.5**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=E,330nm,19.0s
GKN Gorkha 51.40 307 *e*P **P 19 30 54.9 -0.4**
comp=E,21nm,0.8s
ADKI Addanki 51.48 291 *e*P **P 19 30 56.7 +0.9**
ULN Ulaanbaatar 51.82 341*d i*P **P 19 30 58.4 +0.3**
ULN pmax pmax
comp=Z,53nm,1.7s
ULN Ulaanbaatar 51.82 341 P **P 19 30 58.2 +0.2**
DGTI Dogotuki 51.97 110 P **P 19 31 02.5 +3.0**
comp=Z,32nm,0.9s
SONM Songino Array 52.02 340 P **P 19 30 59.3 -0.2**
comp=Z,7.1nm,0.7s,baz=149,slow=8.5,SNR=49
SONM PcP **PcP 19 32 12.1 +0.5**
comp=Z,7.4nm,1.0s,baz=158,slow=3.7,SNR=6.1
SONM Songino Array 52.02 340 P **P 19 30 59.4 -0.1**
SONM 19 32 12.1
SONM pmax pmax
comp=Z,34nm,1.4s
SONM Songino Array 52.02 340 P **P 19 30 59.4 -0.1**
TYV Tymovskoe 52.20 10 *e*P **P 19 31 00.6 0.0**
TYV *e*S **S 19 38 32.0 +7.3**
TYV pmax pmax
comp=Z,200nm,3.9s
TYV pmax pmax
comp=Z,21nm,0.9s
TYV smax smax
comp=E,8.0nm,1.7s
TYV smax smax
comp=N,500nm,5.7s
TYV smax smax
comp=E,1μm,5.7s
DANN Dangsing 52.25 307 *e*P **P 19 31 01.5 -0.3**
comp=E,86nm,0.8s
NJS Nagarjunasagar 52.26 291 *e*P **P 19 31 01.8 +0.2**
RCLA Racherla 52.34 290 *e*P **P 19 31 02.5 +0.2**
RPR Rampur 52.85 294 *e*P **P 19 31 05.6 -0.4**
HYBB Hyderabad (bro 53.17 292 *e*P **P 19 31 08.3 -0.1**
HYBB *e*PcP **PcP 19 32 15.4 -1.1**
HYBB *e*PP **PP 19 33 08.0 -0.6**
HYBB *e*S **S 19 38 38.2 -0.8**
HYBB *e*ScS **ScS 19 40 56.4 -1.9**
SRSP Sriramsagar 53.73 294 *e*P **P 19 31 12.1 -0.4**
SRSP *e*P **pP 19 31 12.3 -4.7**
SRSP *e*sP **sP 19 31 16.7 -2.1**
SRSP *e*sP sP 19 31 16.8 -2.0
ZEA Zeya 53.91 358 *e*P **P 19 31 13.2 +0.1**
ZEA pmax pmax
comp=N,20nm,1.5s
ZEA pmax pmax
comp=Z,40nm,0.8s
KLRI Killari 55.13 292 *e*P **P 19 31 22.5 -0.3**
ZAK Zakamensk 55.26 340 *e*P **P 19 31 21.8 -1.3**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
DCZ Deep Cove 55.85 149 P P 19 31 27.0 -0.4
DCZ IAmb IAmb 19 31 30.9
comp=Z,59nm,1.0s
QRZ Quartz Range 56.04 141 P P 19 31 29.9 +1.1
QRZ IAmb IAmb 19 31 32.6
comp=Z,52nm,0.8s
FOZ Fox Glacier 56.04 145 P P 19 31 27.8 -1.0
FOZ IAmb IAmb 19 31 32.0
comp=Z,39nm,0.9s
MLZ Mavora Lakes 56.29 148 P P 19 31 29.3 -1.3
MLZ IAmb IAmb 19 31 56.7
comp=Z,50nm,1.4s
WHZ Wether Hill Ro 56.55 149 P P 19 31 33.1 +0.7
WHZ IAmb IAmb 19 31 35.1
comp=Z,32nm,0.7s
LBZ Lake Benmore 56.78 146 P P 19 31 35.1 +1.0
THZ Tophouse 56.81 142 P P 19 31 35.1 +0.8
THZ IAmb IAmb 19 31 36.4
comp=Z,26nm,0.8s
RPZ Rata Peaks 56.86 145 P P 19 31 36.2 +1.5
RPZ IAmb IAmb 19 31 38.8
comp=Z,96nm,1.4s
MOY Mondy 57.13 339 *e*P **P 19 31 37.3 +0.8**
MOY pmax pmax
comp=Z,47nm,1.8s
TUWZ Tuamarina 57.26 141 P P 19 31 37.5 0.0
BSWZ Blackbirch Sta 57.38 142 P P 19 31 38.2 -0.1
KHZ Kahutara 57.57 142 P P 19 31 39.8 +0.2
KHZ IAmb IAmb 19 31 43.0
comp=Z,70nm,1.0s
WMQ Urumqi 57.62 325 *e*P **P 19 31 40.5 +0.4**
WMQ pP pP 19 31 43.6 -1.1
WMQ sP sP 19 31 47.6 +1.2
WMQ PcP **PcP 19 32 31.4 -1.8**
WMQ pmax pmax
comp=Z,43nm,1.1s
WMQ LR LR
comp=Z,800nm,17.3s
WMQ LR LR
comp=Z,450nm,21.5s
URZ Urewera 57.70 137 P P 19 31 40.7 +0.1
URZ IAmb IAmb 19 31 43.9
comp=Z,40nm,0.9s
PEA0B Petropavlovsk- 58.20 20 ⇓*i*P **P 19 31 43.6 -0.3**
PEA0B Petropavlovsk- 58.20 20 P P 19 31 44.1 +0.2
PEA0B IAmb IAmb 19 32 13.0
comp=Z,64nm,1.2s
PETK Petropavlovsk- 58.20 20 P P 19 31 43.9 0.0
comp=Z,22nm,0.8s,baz=178,slow=3.1,SNR=22
PETK PcP **PcP 19 32 35.0 -0.1**
comp=Z,6.7nm,0.8s,baz=218,slow=2.2,SNR=4.0
PETK Petropavlovsk- 58.20 20 P P 19 31 43.3 -0.6
PETK Petropavlovsk- 58.20 20 P P 19 31 43.3 -0.6
PET Petropavlovsk 58.45 20 ⇓*e*P **P 19 31 44.0 -1.6**
PET pmax pmax
comp=Z,52nm,1.4s
BOD Bodaibo 59.27 350 *e*P **P 19 31 51.1 -0.1**
BOD pmax pmax
comp=Z,44nm,1.5s
ZSN Zaisan 61.40 327 *e*P **P 19 32 05.4 -0.7**
ZSN Zaisan 61.40 327 *e*P **P 19 32 05.4 -0.7**
baz=327
DGZ Jazzator, Alta 61.47 330 ⇓*i*P **P 19 32 06.7 0.0**
DGZ pmax pmax
comp=Z,29nm,1.5s
MA2 Magadan 61.99 12*d i*P **P 19 32 09.8 0.0**
MA2 pmax pmax
comp=Z,46nm,1.2s
MA2 Magadan 61.99 12 P **P 19 32 09.9 0.0**
MA2 IAmb IAmb 19 32 11.9
comp=Z,48nm,1.2s
YAK Yakutsk 62.19 0*c i*P **P 19 32 11.5 +0.5**
YAK *e**PP **pP 19 32 15.3 -0.3**
YAK *e* 19 32 51.2
YAK *e*S **S 19 40 37.9 +2.0**
YAK *e**SS **sS 19 40 47.6 +3.9**
YAK *e* 19 42 01.0
YAK *e*SS **SS 19 44 40.7 +1.6**

YAK pmax pmax
comp=Z,270nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=Z,216nm,3.9s
YAK pmax pmax
comp=E,178nm,4.7s
YAK smax smax
comp=N,327nm,5.2s
YAK smax smax
comp=E,305nm,4.6s
YAK Yakutsk 62.19 0 P **P 19 32 11.3 +0.3**
SHLS Shalkode 62.23 321 *e*P **P 19 32 09.7 -2.2**
SHLS Shalkode 62.23 321 *e*P **P 19 32 09.8 -2.2**
baz=321
MK31 Makanchi Array 62.45 325 P **P 19 32 12.6 -0.6**
MK31 pmax pmax
comp=Z,32nm,1.3s
MK31 Makanchi Array 62.45 325 P **P 19 32 12.6 -0.6**
MK31 IAmb IAmb 19 32 18.0
comp=Z,32nm,1.2s
MKAR Makanchi Array 62.45 325 P **P 19 32 13.0 -0.2**
comp=Z,16nm,0.6s,baz=120,slow=7.9,SNR=209
MKAR PKP2bc 20 01 26.1
comp=Z,0.8nm,0.8s,baz=270,slow=2.4,SNR=5.8
MKAR Makanchi Array 62.45 325 P **P 19 32 12.6 -0.6**
MKAR Makanchi Array 62.45 325 P **P 19 32 12.6 -0.6**
NIL Nilore 62.61 309 P **P 19 32 13.6 -0.9**
NIL pmax pmax
comp=Z,50nm,1.4s
NIL Nilore 62.61 309 P **P 19 32 13.6 -0.9**
NIL IAmb IAmb 19 32 22.4
comp=Z,50nm,1.4s
TARG Taragay, Kyrgy 62.61 319 P **P 19 32 14.2 -0.6**
TARG IAmb IAmb 19 32 30.4
comp=Z,29nm,1.3s
MAKZ Makanchi 62.64 325 P **P 19 32 13.3 -1.1**
MAKZ pmax pmax
comp=Z,48nm,1.3s
MAKZ Makanchi 62.64 325 P **P 19 32 13.3 -1.1**
MAKZ IAmb IAmb 19 32 19.1
comp=Z,48nm,1.2s
SATY Saty 62.85 320 *e*P **P 19 32 15.9 -0.2**
SATY pmax pmax
comp=Z,15nm,0.8s
SATY Saty 62.85 320 *e*P **P 19 32 15.9 -0.2**
comp=Z,16nm,0.8s,baz=320
KSH Kashi 62.87 316 P **P 19 32 17.5 +1.3**
KSH pP sP 19 32 22.6 0.0
KSH PcP **PcP 19 32 54.3 -0.2**
KSH LR LR
comp=Z,430nm,18.2s
KSH LR LR
comp=Z,380nm,15.1s
KSH LR LR
comp=Z,740nm,16.8s
ZHN Zhinishke 62.89 320 *e*P **P 19 32 15.8 -0.4**
ZHN Zhinishke 62.89 320 *e*P **P 19 32 15.9 -0.4**
baz=320
KDJ Kajisay 63.21 319 P **P 19 32 18.1 -0.4**
KDJ pmax pmax
comp=Z,72nm,1.5s
KDJ Kajisay 63.21 319 P **P 19 32 18.1 -0.4**
KDJ IAmb IAmb 19 32 38.6
comp=Z,72nm,1.4s
MDOK Medeo 63.78 320 *e*P **P 19 32 22.1 -0.1**
MDOK Medeo 63.78 320 *e*P **P 19 32 22.1 -0.1**
baz=320
TNSS Tian-Shan 63.78 320 *e*P **P 19 32 22.6 0.0**
baz=320
TDK Taldyqorghan 63.81 322 *e*P **P 19 32 21.8 -0.4**
TDK pmax pmax
comp=Z,24nm,1.6s
TDK Taldyqorghan 63.81 322 *e*P **P 19 32 21.9 -0.4**
comp=Z,24nm,1.6s,baz=322
CHKK Chushkaly 64.14 320 *e*P **P 19 32 23.7 -0.7**
baz=320
BOOM Boomskoye usch 64.19 319 P **P 19 32 25.2 +0.2**
BOOM pmax pmax
comp=Z,33nm,1.3s
BOOM Boomskoye usch 64.19 319 P **P 19 32 25.2 +0.2**
BOOM IAmb IAmb 19 32 33.2
comp=Z,32nm,1.3s
KST Kastek 64.43 319 *e*P **P 19 32 26.4 -0.1**
comp=Z,16nm,0.7s,baz=319
KUU Kurty 64.57 320 *e*P **P 19 32 26.7 -0.5**
KUU pmax pmax
comp=Z,25nm,0.9s
KUU Kurty 64.57 320 *e*P **P 19 32 26.8 -0.5**
comp=Z,25nm,0.9s,baz=320
TKM2 Tokmak 2 64.61 319 P **P 19 32 28.0 +0.2**
SNR=20
KBK Karagaybulak 64.93 318 P **P 19 32 30.2 +0.4**
SNR=6.8
UCH Uchtor 65.03 318 P **P 19 32 31.2 +0.4**
SNR=13
FRU1 Bishkek 65.20 318 P **P 19 32 30.3 -1.1**
FRU1 pmax pmax
comp=Z,20nm,1.3s
FRU1 Bishkek 65.20 318 P **P 19 32 30.3 -1.1**
CHMS Chumysh 65.20 319 P **P 19 32 31.2 -0.2**
SNR=6.5
AAK Ala-Archa 65.22 318 LR LR 20 03 31.4
comp=Z,442nm,20.0s,baz=98,slow=38
AAK Ala-Archa 65.22 318 *e*P **P 19 32 32.5 +0.8**
AAK pmax pmax
comp=Z,23nm,1.5s
AAK Ala-Archa 65.22 318 P **P 19 32 31.6 0.0**
AAK IAmb IAmb 19 32 40.3
comp=Z,30nm,1.5s
AAK Ala-Archa 65.22 318 P **P 19 32 32.2 +0.6**
SEY Seymchan 65.38 11 LR LR 20 00 07.2
comp=Z,195nm,20.3s,baz=245,slow=35
ZAA0 Zalesovo Array 65.44 333 P **P 19 32 31.3 -1.4**
ZALV Zalesovo Beam 65.44 333 P **P 19 32 31.9 -0.8**
comp=Z,5.1nm,0.8s,baz=111,slow=6.0,SNR=26
ZALV PKP2bc 20 01 16.9
comp=Z,1.5nm,0.9s,baz=310,slow=6.9,SNR=4.2
ZALV Zalesovo Beam 65.44 333 P **P 19 32 30.7 -1.9**
ZALV Zalesovo Beam 65.44 333 P **P 19 32 30.7 -1.9**
SGDS Sogindy 65.48 319 *e*P **P 19 32 32.5 -0.7**
baz=319
USP Ospenovka 65.49 319 P **P 19 32 33.3 +0.1**
SNR=13
AML Almayashu 65.54 317 P **P 19 32 34.6 +0.6**
SNR=13
AML Almayashu 65.54 317 *i* P **P 19 32 34.6 +0.6**
SNR=20
SEM Semipalatinsk 65.60 328 *e*P **P 19 32 33.4 -0.6**
SEM Semipalatinsk 65.60 328 *e*P **P 19 32 33.5 -0.6**
baz=328
EKS2 Erkin-Say 65.71 318 P **P 19 32 35.1 +0.3**
SNR=12
DRK Karamyk 65.81 314 P **P 19 32 35.1 -0.7**
DRK IAmb IAmb 19 32 41.5
comp=Z,38nm,1.3s
KBL Kabul 66.20 308 P **P 19 32 37.2 -1.0**
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 66.20 308 P **P 19 32 37.2 -1.0**
KBL IAmb IAmb 19 32 41.1
comp=Z,19nm,0.8s
BTLS Baital 66.56 320 *e*P **P 19 32 39.1 -0.9**
BTLS Baital 66.56 320 *e*P **P 19 32 39.2 -0.9**
baz=320
KURK Kurchatov 66.64 327 *d i*P **P 19 32 40.1 -0.3**
KURK pmax pmax
comp=Z,47nm,0.7s
KURK Kurchatov 66.64 327 P **P 19 32 39.6 -0.7**
BTK Batken 66.73 314 P **P 19 32 40.8 -0.5**
BTK pmax pmax
comp=Z,14nm,0.8s
BTK Batken 66.73 314 P **P 19 32 40.8 -0.5**
CASY Casey 67.19 188 P **P 19 32 43.3 -0.3**
CHGR Chuyangaron 67.44 313 P **P 19 32 45.4 -0.5**
CHGR IAmb IAmb 19 32 48.3
comp=Z,28nm,1.0s
DZA Taraz 67.45 317 *e*P **P 19 32 45.2 -0.5**
DZA pmax pmax
comp=Z,7.0nm,0.8s
DZA Taraz 67.45 317 *e*P **P 19 32 45.3 -0.5**
comp=Z,7.5nm,0.8s,baz=317
IUG Iuzhnay 68.05 316 *e*P **P 19 32 49.4 -0.3**
IUG Iuzhnay 68.05 316 *e*P **P 19 32 49.5 -0.3**
baz=316
KKAR Karatay Array 68.08 317 P **P 19 32 49.1 -0.7**
KKAR Karatay Array 68.08 317 P **P 19 32 49.1 -0.7**
BRLS Borolday 68.51 317 *e*P **P 19 32 51.9 -0.6**
BRLS Borolday 68.51 317 *e*P **P 19 32 51.9 -0.6**
baz=317
BRZS Berezniki 69.59 325 *e*P **P 19 32 58.3 -0.7**
BRZS pmax pmax
comp=Z,7.0nm,0.8s
BRZS Berezniki 69.59 325 *e*P **P 19 32 58.3 -0.7**
comp=Z,7.0nm,0.8s,baz=325
HRA Herat 71.56 306 P **P 19 33 10.5 -1.2**
TIXI Tiksi 71.85 360 LR LR 20 05 48.8
comp=Z,405nm,19.5s,baz=220,slow=37
TIXI Tiksi 71.85 360 *i*P **P 19 33 11.5 -0.8**
TIXI pmax pmax
comp=Z,27nm,1.1s
TIXI Tiksi 71.85 360 P **P 19 33 11.3 -1.0**
TIXI IAmb IAmb 19 33 21.5
comp=Z,20nm,0.8s
BRVK Borovoye 72.29 327 *d i*P **P 19 33 15.0 -0.3**
BRVK pmax pmax
comp=Z,53nm,1.7s
BRVK Borovoye 72.29 327 P **P 19 33 14.9 -0.4**
BRVK IAmb IAmb 19 33 18.0
comp=Z,27nm,0.9s
BILL Bilibino 72.77 14 *de*P **P 19 33 17.9 0.0**
BILL *e* 19 33 35.8
BILL *e* 19 35 59.8
BILL pmax pmax
comp=Z,10.0nm,0.8s
BILL MLR MLR
comp=Z,168nm,18.0s
BILL Bilibino 72.77 14 P **P 19 33 17.0 -0.9**
KIP Kipapa 73.81 68 P **P 19 33 25.6 +0.6**
KIP pmax pmax
comp=Z,156nm,1.2s
KIP Kipapa 73.81 68 P **P 19 33 25.6 +0.6**
MSEY Mahe Island 74.08 265 P **P 19 33 27.9 +1.2**
SHAO Shalim 74.80 289 *i* P **P 19 33 30.9 +0.1**
SNR=6.0
NRIK Noril'sk 75.01 346 P **P 19 33 31.3 +0.4**
comp=Z,8.7nm,0.6s,baz=126,slow=6.3,SNR=14
NRIK Noril'sk 75.01 346 *d i*P **P 19 33 30.6 -0.4**
NRIK pmax pmax
comp=Z,21nm,0.9s
NRIK Noril'sk 75.01 346 P **P 19 33 30.9 -0.1**
UOSS Minazif 75.04 296 P **P 19 33 31.3 -0.7**
UOSS Minazif 75.04 296 *i* P **P 19 33 31.6 -0.5**
SNR=11
BANOM Banah 75.08 297 P **P 19 33 32.0 -0.3**
HATD Hatta, Dubai 75.09 296 *i* P **P 19 33 32.5 +0.1**
SNR=8.4
MSFE Esma-Masafi 75.13 296 *i* P **P 19 33 33.3 +0.7**
SNR=9.0
ASHO Ashiyiah 75.14 296 *i* P **P 19 33 32.4 -0.3**
SNR=11
UNV Unalaska Valle 75.19 33 P **P 19 33 32.1 -0.2**
UNV IAmb IAmb 19 33 38.9
comp=Z,93nm,1.2s
SHME Shamm 75.24 297 *i* P **P 19 33 33.3 +0.1**
SNR=6.9
ALNE Al Ain 75.34 295 *i* P **P 19 33 34.1 +0.3**
SNR=20
NAZ Nazwa, Dubai 75.53 296 P **P 19 33 34.7 -0.2**
FAQ Al Faqa, Dubai 75.56 296 *i* P **P 19 33 34.9 -0.2**
SNR=9.4
GEYT Alibeck 75.60 309 P **P 19 33 35.2 +0.1**
comp=Z,15nm,0.7s,baz=138,slow=5.4,SNR=18
GEYT Alibeck 75.60 309 P **P 19 33 34.7 -0.4**
GYA0B ALIBECK ARRAY 75.60 309 P **P 19 33 34.2 -0.9**
ASUD Al Ashush, Dub 75.79 295 P **P 19 33 36.5 +0.1**
MLOA Mauna Loa Obse 75.88 70 P **P 19 33 36.6 -0.9**
SOCY Socotra 75.94 283 P **P 19 33 36.2 -1.2**
SOCY IAmb IAmb 19 33 38.1
comp=Z,36nm,0.9s
POHA Pohakuloa 75.95 70 P **P 19 33 37.6 0.0**
MLH Mauna Loa 76.06 70 P **P 19 33 38.0 -0.3**
GAMB Gambell 76.98 23 P **P 19 33 42.9 +0.7**
GAMB IAmb IAmb 19 33 44.4
comp=Z,64nm,0.9s
GAMB Gambell 76.98 23 P **P 19 33 43.5 +1.3**
baz=241,SNR=12
ABKAR Akbulak array 77.03 321 P **P 19 33 42.7 -0.2**
ABKAR IAmb IAmb 19 33 43.5
comp=Z,28nm,0.6s
FALS False Pass 77.24 33 P **P 19 33 44.5 +0.7**
FALS False Pass 77.24 33 P **P 19 33 44.6 +0.7**
baz=251
SVE Sverdlovsk 78.85 328 *de*P **P 19 33 53.1 +0.2**
SVE pmax pmax
comp=Z,56nm,1.3s
SDPT Sand Point 79.00 33 P **P 19 33 52.5 -1.1**
SDPT Sand Point 79.00 33 P **P 19 33 54.0 +0.3**
baz=253,SNR=7.1
VNDA Vanda 79.09 173 P **P 19 33 54.6 +0.8**
comp=Z,32nm,0.9s,baz=318,slow=6.4,SNR=60
VNDA LR LR 20 07 32.9
comp=Z,196nm,21.9s,baz=326,slow=35
VNDA Vanda 79.09 173 P **P 19 33 53.9 +0.1**
VNDA pmax pmax
comp=Z,37nm,1.0s
VNDA Vanda 79.09 173 P **P 19 33 53.9 +0.1**
VNDA IAmb IAmb 19 33 56.4
comp=Z,37nm,0.9s
TNA Tin City 79.24 22 P **P 19 33 54.6 -0.1**
TNA Tin City 79.24 22 P **P 19 33 55.9 +1.1**
baz=245,SNR=10.0
CNBA Chernabura Isl 79.34 34 P **P 19 33 55.5 0.0**
CNBA IAmb IAmb 19 33 58.0
comp=Z,58nm,0.8s
CHNA Chernabura Isl 79.34 34 P **P 19 33 55.9 +0.3**
baz=254
ANM Nome 79.82 23 P **P 19 33 57.1 -0.9**
ANM pmax pmax
comp=Z,24nm,0.8s
ANM Nome 79.82 23 P **P 19 33 57.1 -0.9**
ANM Nome 79.82 23 P **P 19 33 59.4 +1.4**
baz=247,SNR=11
ARU Arti 79.83 328 *c i*P **P 19 33 57.9 -0.3**
ARU S **S 19 44 00.1 -0.7**
ARU SS **SS 19 49 04.6 -5.4**
ARU pmax pmax
comp=Z,19nm,0.8s
ARU Arti 79.83 328 P **P 19 33 57.5 -0.7**
MAW Mawson 80.97 201 P **P 19 34 06.3 +2.2**
baz=81,SNR=22
PPT Papeete 81.22 108 P **P 19 34 06.5 0.0**
comp=Z,41nm,0.8s,baz=207,slow=6.8,SNR=2.9
SII Sitkinak Islan 82.73 33 P **P 19 34 14.0 +0.3**
SII Sitkinak Islan 82.73 33 P **P 19 34 15.0 +1.4**
baz=258,SNR=8.9
P18K Big Mountain, 82.79 30 P **P 19 34 13.4 -0.5**
P18K Big Mountain, 82.79 30 P **P 19 34 14.1 +0.2**
baz=257,SNR=15
O18K Koktuh Hills 82.90 29 P **P 19 34 14.3 -0.2**
O18K IAmb IAmb 19 34 17.3
comp=Z,37nm,0.7s
O18K Koktuh Hills 82.90 29 P **P 19 34 15.5 +1.0**
baz=257,SNR=9.2
SVW2 Sparrevohn 83.01 28 P **P 19 34 15.3 +0.3**
SVW2 IAmb IAmb 19 34 17.2
comp=Z,40nm,0.8s
VOI Vohitsoka 83.14 248 P **P 19 34 15.2 -1.5**
VOI IAmb IAmb 19 34 25.6
comp=Z,37nm,1.2s
TTA Tatalina 83.25 26 P **P 19 34 16.6 +0.4**
TTA pmax pmax
comp=Z,48nm,0.7s
TTA Tatalina 83.25 26 P **P 19 34 16.6 +0.4**
TTA Tatalina 83.25 26 P **P 19 34 17.0 +0.7**
baz=256,SNR=47
GCSA Galena City Sc 83.33 24 P **P 19 34 17.7 +1.2**
baz=255,SNR=29
OHAK Old Harbor 83.34 32 P **P 19 34 17.1 +0.4**
OHAK Old Harbor 83.34 32 P **P 19 34 17.7 +0.9**
baz=259,SNR=12
O19K Port Alsworth 83.41 29 P **P 19 34 16.9 -0.1**
O19K IAmb IAmb 19 34 19.7
comp=Z,51nm,1.4s
O19K Port Alsworth 83.41 29 P **P 19 34 17.3 +0.3**
baz=258
N19K Bonanza Creek 83.47 29 P **P 19 34 18.1 +0.6**
N19K Bonanza Creek 83.47 29 P **P 19 34 18.7 +1.3**
baz=258
Q19K Cape Douglas, 83.49 31 P **P 19 34 16.9 -0.6**
Q19K Cape Douglas, 83.49 31 P **P 19 34 17.5 0.0**
baz=258,SNR=6.9
L19K White Mountain 83.59 27 P **P 19 34 18.8 +0.9**
L19K White Mountain 83.59 27 P **P 19 34 18.9 +0.9**
baz=257
M19K Big River Lodg 83.74 28 P **P 19 34 19.5 +0.7**
M19K Big River Lodg 83.74 28 P **P 19 34 19.7 +1.0**
baz=258
KDAK Kodiak Island 83.82 32 P **P 19 34 19.5 +0.3**
comp=Z,127nm,0.8s,baz=281,slow=4.6,SNR=40
KDAK Kodiak Island 83.82 32 P **P 19 34 19.9 +0.7**
KDAK pmax pmax
comp=Z,123nm,0.8s
KDAK Kodiak Island 83.82 32 P **P 19 34 19.9 +0.7**
KDAK Kodiak Island 83.82 32 P **P 19 34 20.0 +0.7**
baz=260
L20K Farewell, AK 84.10 27 P **P 19 34 21.5 +0.9**
baz=258
K20K Telida 84.20 26 P **P 19 34 21.8 +0.7**
K20K Telida 84.20 26 P **P 19 34 22.2 +1.1**
baz=258,SNR=50
RSO Redoubt South 84.23 29 P **P 19 34 20.6 -0.9**
J20K Nowinta River 84.35 25 P **P 19 34 22.0 +0.2**
J20K Nowinta River 84.35 25 P **P 19 34 22.8 +1.0**
baz=258
MAK Makhachkala 84.37 313 *e*P P 19 34 15.5 -6.8
MAK *e*S S 19 44 35.0 -13
MAK *e*SS **SS 19 50 17.5 -0.6**
MAK pmax pmax
comp=Z,181nm,1.4s
RAYN Ar Rayn 84.64 294 P **P 19 34 23.5 -0.7**
RAYN pmax pmax
comp=Z,9.0nm,0.9s
RAYN Ar Rayn 84.64 294 P **P 19 34 23.5 -0.7**
RAYN Ar Rayn 84.64 294 *i* P **P 19 34 24.0 -0.2**
SNR=15
SPU Mount Spurr 84.70 28 P **P 19 34 23.0 -0.7**
CNPM China Poot 84.81 30 P **P 19 34 23.8 -0.4**
IMAR Indian Mountai 84.90 24 P **P 19 34 24.7 +0.1**
PPLA Purkeypile 84.95 27 P **P 19 34 25.0 0.0**
PPLA Purkeypile 84.95 27 P **P 19 34 25.2 +0.2**
baz=259,SNR=22
CAPN Captain Cook N 85.06 29 P **P 19 34 26.1 +0.7**
baz=260
CHUM Lake Minchumin 85.08 26 P **P 19 34 26.4 +1.0**
baz=259,SNR=35
CAST Castle Rocks 85.09 26 P **P 19 34 25.4 -0.2**
CAST Castle Rocks 85.09 26 P **P 19 34 25.9 +0.3**
baz=260,SNR=41
BRSE Bradley Lake S 85.10 30 P **P 19 34 25.6 -0.1**
baz=261,SNR=9.9
KIRV Kirov 85.11 329 *c i*P **P 19 34 25.9 +0.2**
A21K Barrow 85.16 18 P **P 19 34 27.4 +1.7**
baz=255
H21K Melozitna Rive 85.21 24 P **P 19 34 26.2 +0.1**
H21K IAmb IAmb 19 34 28.4
comp=Z,31nm,1.2s
H21K Melozitna Rive 85.21 24 P **P 19 34 27.4 +1.3**
baz=259
BELG Belogornoye 85.30 323 *ce*P **P 19 34 27.0 +0.2**
BELG pmax pmax
comp=Z,13nm,1.1s
I21K Tanana 85.46 25 P **P 19 34 28.1 +0.8**
I21K IAmb IAmb 19 34 29.1
comp=Z,26nm,1.1s
I21K Tanana 85.46 25 P **P 19 34 28.7 +1.4**
baz=259
KTH Kantishna Hill 85.63 26 P **P 19 34 27.8 -0.6**
BPAW Bear Paw Mtn. 85.69 26 P **P 19 34 28.8 +0.2**
BPAW IAmb IAmb 19 34 30.9
comp=Z,30nm,0.7s
BPAW Bear Paw Mtn. 85.69 26 P **P 19 34 29.7 +1.1**
baz=260,SNR=5.7
M22K Willow 85.71 28 P **P 19 34 27.9 -0.7**
M22K Willow 85.71 28 P **P 19 34 28.6 0.0**
baz=261,SNR=8.5
CUT Chulitna 85.74 27 P **P 19 34 27.5 -1.3**
CUT Chulitna 85.74 27 P **P 19 34 28.7 -0.1**
baz=261,SNR=6.4
SEW Seward 85.79 30 P **P 19 34 29.0 -0.1**
SEW Seward 85.79 30 P **P 19 34 28.9 -0.1**
baz=262,SNR=17
RC01 Rabbit Creek A 85.79 29 P **P 19 34 28.6 -0.5**
RC01 Rabbit Creek A 85.79 29 P **P 19 34 28.9 -0.2**
baz=262,SNR=58
TRF Thorofare Moun 85.89 26 P **P 19 34 29.2 -0.5**
TRF IAmb IAmb 19 34 30.8
comp=Z,54nm,0.9s
TRF Thorofare Moun 85.89 26 P **P 19 34 29.7 -0.1**
baz=261,SNR=20
PMR Palmer 86.15 28 P **P 19 34 30.0 -0.8**
PMR pmax pmax
comp=Z,102nm,0.8s
PMR Palmer 86.15 28 P **P 19 34 29.9 -0.8**
PMR Palmer 86.15 28 P **P 19 34 30.5 -0.3**
baz=262,SNR=32
GHO Glory Hole Cre 86.28 28 P **P 19 34 31.2 -0.3**
GHO IAmb IAmb 19 34 32.7
comp=Z,44nm,0.8s
BWN Browne 86.36 26 P **P 19 34 31.7 -0.1**
PWL Port Wells 86.44 29 P **P 19 34 31.9 -0.4**
PWL Port Wells 86.44 29 P **P 19 34 32.2 -0.1**
baz=263,SNR=35
KNK Knik Glacier 86.45 29 P **P 19 34 32.2 -0.1**
KNK Knik Glacier 86.45 29 P **P 19 34 32.6 +0.3**
baz=263,SNR=52
COLD Coldfoot 86.52 23 P **P 19 34 32.4 -0.1**
COLD Coldfoot 86.52 23 P **P 19 34 33.1 +0.5**
baz=261
RND Reindeer 86.53 26 P **P 19 34 32.5 -0.3**
RND pmax pmax
comp=Z,88nm,0.8s
RND Reindeer 86.53 26 P **P 19 34 32.5 -0.3**
MCK McKinley 86.53 26 P **P 19 34 32.8 +0.1**
MCK pmax pmax
comp=Z,80nm,1.0s
MCK McKinley 86.53 26 P **P 19 34 32.8 +0.1**
MCK McKinley 86.53 26 P **P 19 34 32.3 -0.4**
baz=262,SNR=26
I23K Minto, Yukon-K 86.55 25 P **P 19 34 32.6 -0.1**
I23K IAmb IAmb 19 34 35.0
comp=Z,67nm,1.4s
I23K Minto, Yukon-K 86.55 25 P **P 19 34 33.5 +0.8**
baz=262,SNR=13
SML Sawmill 86.56 28 P **P 19 34 33.2 +0.3**
baz=263,SNR=35
WAT1 Susitna Watana 86.58 27 P **P 19 34 33.4 +0.4**
baz=263
NEA2 Nenana 86.59 25 P **P 19 34 33.1 +0.1**
NEA2 IAmb IAmb 19 34 35.3
comp=Z,28nm,1.2s
NEA2 Nenana 86.59 25 P **P 19 34 33.7 +0.7**
baz=262,SNR=7.7
WAT6 Susitna Watana 86.93 27 P **P 19 34 35.3 +0.4**
baz=263,SNR=36
WRH Wood River Hil 87.00 25 P **P 19 34 33.8 -1.1**
WRH IAmb IAmb 19 34 37.6
comp=Z,32nm,0.9s
MDM Murphy Dome 87.00 25 P **P 19 34 34.2 -0.8**
SCM Sheep Creek Mo 87.03 28 P **P 19 34 35.7 +0.4**
SCM pmax pmax
comp=Z,144nm,0.8s
SCM Sheep Creek Mo 87.03 28 P **P 19 34 35.6 +0.4**
SCM Sheep Creek Mo 87.03 28 P **P 19 34 36.2 +0.9**
baz=264,SNR=31
GLI Glacier Island 87.05 29 P **P 19 34 35.0 -0.3**
GLI Glacier Island 87.05 29 P **P 19 34 36.0 +0.7**
baz=264,SNR=10
CCB Clear Creek Bu 87.14 25 P **P 19 34 34.1 -1.5**
CCB IAmb IAmb 19 34 37.6
comp=Z,26nm,0.8s
COLA College 87.15 25 *i*P **P 19 34 35.3 -0.3**
COLA pmax pmax
comp=Z,10.0nm,0.9s
DHY Denali Highway 87.15 27 P **P 19 34 36.2 +0.3**
DHY IAmb IAmb 19 34 37.7
comp=Z,60nm,1.2s
DHY Denali Highway 87.15 27 P **P 19 34 36.5 +0.5**
baz=264,SNR=16
H24K Noodor Dome 87.25 24 P **P 19 34 35.9 -0.4**
H24K Noodor Dome 87.25 24 P **P 19 34 36.8 +0.5**
baz=263
FID Port Fidalgo 87.33 29 P **P 19 34 36.8 +0.1**

PRGR **Permogore** 87.37 332 *e*P P 19 34 43.1 +6.3
PRGR pmax pmax
comp=Z,52nm,1.4s
HDA **Harding Lake** 87.48 26 P **P** 19 34 35.8 -1.6
HDA IAmb IAmb 19 34 39.8
comp=Z,29nm,0.8s
HDA **Harding Lake** 87.48 26 P **P** 19 34 36.1 -1.2
baz=264,SNR=25
IL31 87.54 25 P **P** 19 34 35.9 -1.6
ILAR **Eielson Array** 87.54 25 P **P** 19 34 35.9 -1.7
comp=Z,7.7nm,0.6s,baz=234,slow=3.1,SNR=58
ILAR PKKPbc **PKKPdf** 19 52 25.8 +2.7
comp=Z,1.1nm,0.8s,baz=38,slow=1.9,SNR=6.7
ILAR **Eielson Array** 87.54 25 P **P** 19 34 35.4 -2.2
ILAR **Eielson Array** 87.54 25 P **P** 19 34 35.4 -2.2
M24K **Tolsona, Glenn** 87.60 28 P **P** 19 34 38.0 0.0
M24K **Tolsona, Glenn** 87.60 28 P **P** 19 34 38.8 +0.7
baz=265,SNR=16
KLU **Klutina** 87.67 29 P **P** 19 34 38.9 +0.5
KLU **Klutina** 87.67 29 P **P** 19 34 39.2 +0.8
baz=265,SNR=11
EYAK **Cordova Ski Ar** 87.67 30 P **P** 19 34 38.6 +0.3
EYAK IAmb IAmb 19 34 39.6
comp=Z,31nm,0.8s
EYAK **Cordova Ski Ar** 87.67 30 P **P** 19 34 39.3 +1.0
baz=265,SNR=5.6
DIV **Divide** 87.71 29 P **P** 19 34 39.9 +1.3
KBZ **Khabaz** 87.78 314 P **P** 19 34 38.1 -1.0
comp=Z,4.8nm,0.9s,baz=133,slow=4.6,SNR=6.7
KBZ **Khabaz** 87.78 314⇓ *e*P **P** 19 34 38.2 -0.9
KBZ pmax pmax
comp=Z,8.0nm,1.0s
SIRT **Sirnak** 87.88 307 P **P** 19 34 40.6 +0.7
NEY **Neytrino** 87.88 313⇑ *e*P **P** 19 34 40.7 +0.8
NEY pmax pmax
comp=Z,3.0nm,0.8s
KIV **Kislovodsk** 87.94 314 *e*P **P** 19 34 37.6 -2.5
KIV pmax pmax
comp=Z,6.0nm,1.1s
PAX **Paxson** 88.00 27 P **P** 19 34 39.8 -0.2
PAX pmax pmax
comp=Z,43nm,1.4s
PAX **Paxson** 88.00 27 P **P** 19 34 39.8 -0.2
PAX IAmb IAmb 19 34 41.8
comp=Z,43nm,1.4s
PAX **Paxson** 88.00 27 P **P** 19 34 40.0 +0.1
baz=265,SNR=8.8
HARP **HAARP** 88.10 28 P **P** 19 34 41.2 +0.8
baz=266,SNR=5.6
J25K **Salcha River,** 88.18 25 P **P** 19 34 39.4 -1.4
J25K **Salcha River,** 88.18 25 P **P** 19 34 39.7 -1.0
baz=266
BMRM **Bremner River** 88.26 29 P **P** 19 34 41.7 +0.5
BMRM IAmb IAmb 19 34 43.0
comp=Z,40nm,0.8s
BMRM **Bremner River** 88.26 29 P **P** 19 34 41.9 +0.8
baz=266,SNR=8.4
N25K **Chitina, Valde** 88.31 28 P **P** 19 34 41.6 +0.2
N25K IAmb IAmb 19 34 43.1
comp=Z,19nm,0.8s
N25K **Chitina, Valde** 88.31 28 P **P** 19 34 42.1 +0.7
baz=266,SNR=5.4
RIDG **Independent Ri** 88.34 26 P **P** 19 34 40.8 -0.7
RIDG IAmb IAmb 19 34 45.8
comp=Z,35nm,0.8s
RIDG **Independent Ri** 88.34 26 P **P** 19 34 41.1 -0.4
baz=266,SNR=7.2
GLB **Gilahina Butte** 88.68 29 P **P** 19 34 43.5 +0.4
GLB IAmb IAmb 19 34 45.1
comp=Z,45nm,1.0s
DOT **Dot Lake** 88.69 26 P **P** 19 34 42.3 -0.8
DOT IAmb IAmb 19 34 45.9
comp=Z,27nm,0.9s
BMAR **Burnt Mountain** 88.71 23 P **P** 19 34 43.0 -0.2
SCRK **Sand Creek** 88.74 26 P **P** 19 34 43.0 -0.5
SCRK **Sand Creek** 88.74 26 P **P** 19 34 43.2 -0.2
baz=267,SNR=5.8
MENT **Mentasta** 88.80 27 P **P** 19 34 44.1 +0.4
MENT IAmb IAmb 19 34 46.2
comp=Z,23nm,0.6s
VRDI **Verde Repeater** 88.84 29 P **P** 19 34 44.3 +0.2
VRDI IAmb IAmb 19 34 45.4
comp=Z,26nm,1.0s
J26L **Joseph Creek** 88.95 26 P **P** 19 34 43.4 -1.0
J26L IAmb IAmb 19 34 45.1
comp=Z,15nm,0.8s
J26L **Joseph Creek** 88.95 26 P **P** 19 34 44.2 -0.2
baz=267
L26K **Log Cabin Wild** 88.97 27 P **P** 19 34 44.4 -0.1
L26K IAmb IAmb 19 34 47.0
comp=Z,14nm,0.7s
L26K **Log Cabin Wild** 88.97 27 P **P** 19 34 45.1 +0.6
baz=267,SNR=7.7
M26K **Nabesna, AK** 89.11 28 P **P** 19 34 45.0 -0.1
M26K IAmb IAmb 19 34 50.0
comp=Z,17nm,0.9s
M26K **Nabesna, AK** 89.11 28 P **P** 19 34 45.2 +0.1
baz=268
ISLE **Juniper Island** 89.36 30 P **P** 19 34 46.6 +0.1
ISLE IAmb IAmb 19 34 48.6
comp=Z,35nm,0.8s
QSPA **South Pole Qui** 89.61 180 P **P** 19 34 47.5 0.0
QSPA IAmb IAmb 19 34 50.8
comp=Z,20nm,0.8s
M27K **Edge Creek, AK** 89.63 28 P **P** 19 34 47.8 +0.1
M27K IAmb IAmb 19 34 50.7
comp=Z,24nm,0.8s
M27K **Edge Creek, AK** 89.63 28 P **P** 19 34 48.4 +0.8
baz=269
GRNC **Granite Creek** 89.65 29 P **P** 19 34 48.6 +0.7
L27K **Beaver Creek,** 89.67 27 P **P** 19 34 47.2 -0.5
L27K IAmb IAmb 19 34 50.8
comp=Z,22nm,0.8s
L27K **Beaver Creek,** 89.67 27 P **P** 19 34 48.2 +0.5
baz=269
SYO **Syowa Base** 89.68 201⇑ *i*P **P** 19 34 49.0 +1.5
BCAR **Beaver Creek A** 89.69 27 P **P** 19 34 47.5 -0.3
BARN **Barnard Glacie** 89.70 29 P **P** 19 34 48.0 -0.1
BARN IAmb IAmb 19 34 49.9
comp=Z,41nm,0.8s
CTG **Chitna Glacier** 89.86 29 P **P** 19 34 49.9 +1.2
baz=269,SNR=13
CTGM **Chitina Glacie** 89.86 29 P **P** 19 34 49.3 +0.5
TABL **Table Mountain** 89.94 30 P **P** 19 34 49.2 -0.1
EGAK **Eagle** 90.00 25 P **P** 19 34 48.4 -0.7
EGAK **Eagle** 90.00 25 P **P** 19 34 49.1 0.0
baz=269
LOGN **Logan Glacier** 90.02 29 P **P** 19 34 49.6 +0.1
LOGN IAmb IAmb 19 34 51.8
comp=Z,32nm,0.8s
SOC **Sochi** 90.08 313 *e*P **P** 19 34 47.8 -2.2
SOC *e* 19 38 20.4
SOC *e*PPP PPP 19 40 16.8
SOC *e*S **SKSac** 19 45 18.2 -2.5
SOC *e*SS **SS** 19 51 44.8 +3.2
BVCY **Beaver Creek** 90.10 28 P **P** 19 34 50.7 +1.0
baz=270
KLMR **Klimovskoe** 90.28 331 *e*P **P** 19 34 47.4 -3.1
KLMR pmax pmax
comp=Z,31nm,1.4s
KLMR **Klimovskoe** 90.28 331 *e*P **P** 19 34 47.4 -3.1
KLMR AMP 19 35 00.7
comp=Z,31nm,1.4s
YUK3 **Moose Creek** 90.29 28 P **P** 19 34 51.6 +0.7
baz=270
PCA **Pinnacle** 90.38 30 P **P** 19 34 52.3 +1.2
PINM **Pinnacle** 90.39 30 P **P** 19 34 52.1 +1.0
baz=270
DAWY **Dawson** 90.76 26 P **P** 19 34 52.6 -0.2
DAWY IAmb IAmb 19 34 54.2
comp=Z,18nm,0.8s
DAWY **Dawson** 90.76 26 P **P** 19 34 53.0 +0.2
baz=271,SNR=18
PNL **Peninsula** 90.82 30 P **P** 19 34 54.0 +0.9
baz=271
I29M **Ogilvie Camp,** 91.20 25 P **P** 19 34 54.5 -0.3
I29M **Ogilvie Camp,** 91.20 25 P **P** 19 34 55.1 +0.3
baz=272
OBN **Obninsk** 91.96 325 *e*P **P** 19 34 58.6 +0.2
OBN *e* 19 38 38.4
OBN *e*PPP PPP 19 40 34.9
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,383nm,20.0s

M30M **Minto, Yukon** 91.99 28 P **P** 19 34 58.7 +0.1
M30M IAmb IAmb 19 35 00.4
comp=Z,21nm,0.8s
M30M **Minto, Yukon** 91.99 28 P **P** 19 34 59.4 +0.8
baz=273
KMBO **Kilima Mbogo** 92.27 269 P **P** 19 35 02.6 +1.5
comp=Z,4.8nm,0.7s,baz=46,slow=6.2,SNR=4.7
KMBO **Kilima Mbogo** 92.27 269 P **P** 19 35 02.3 +1.2
KMBO pmax pmax
comp=Z,17nm,1.4s
KMBO **Kilima Mbogo** 92.27 269 P **P** 19 35 02.3 +1.2
KMBO IAmb IAmb 19 35 11.9
comp=Z,17nm,1.4s
KMBO **Kilima Mbogo** 92.27 269 *i*P **P** 19 35 02.9 +1.8
SNR=6.3
N31M **Braeburn, Yuko** 92.53 29 P **P** 19 35 01.4 +0.4
N31M **Braeburn, Yuko** 92.53 29 P **P** 19 35 01.9 +0.8
baz=274,SNR=8.5
APA **Apatity** 92.64 338⇓ *i*P P 19 34 55.3 -6.0
APA pmax pmax
comp=Z,10.0nm,0.8s
APA MLR MLR
comp=Z,1μm,24.0s
INK **Inuvik** 92.87 22 P **P** 19 35 01.6 -0.8
comp=Z,15nm,1.0s,baz=279,slow=5.2,SNR=27
INK PKKPbc **PKKPdf** 19 52 13.0 -0.7
comp=Z,3.4nm,0.9s,baz=78,slow=2.6,SNR=8.2
INK **Inuvik** 92.87 22 P **P** 19 35 01.2 -1.2
INK pmax pmax
comp=Z,24nm,1.2s
INK **Inuvik** 92.87 22 P **P** 19 35 01.2 -1.2
INK IAmb IAmb 19 35 02.3
comp=Z,24nm,1.1s
INK **Inuvik** 92.87 22 P **P** 19 35 01.9 -0.5
baz=276
SKAG **Skagway** 92.90 31 P **P** 19 35 03.1 +0.4
SKAG **Skagway** 92.90 31 P **P** 19 35 03.1 +0.4
baz=274,SNR=8.2
WHY **Whitehorse** 93.03 29 P **P** 19 35 04.2 +0.7
baz=275,SNR=20
M31M **Drury Creek, Y** 93.13 28 P **P** 19 35 03.8 0.0
M31M IAmb IAmb 19 35 04.5
comp=Z,13nm,1.0s
M31M **Drury Creek, Y** 93.13 28 P **P** 19 35 03.6 -0.1
baz=275
BESE **Bessie Mountai** 93.21 31 P **P** 19 35 04.6 +0.3
BESE IAmb IAmb 19 35 05.9
comp=Z,28nm,0.9s
FARO **Faro, Yukon** 93.61 28 P **P** 19 35 06.6 +0.6
baz=276,SNR=28
P33M **Teslin, Yukon** 94.09 30 P **P** 19 35 08.0 -0.4
P33M IAmb IAmb 19 35 09.5
comp=Z,17nm,0.8s
P33M **Teslin, Yukon** 94.09 30 P **P** 19 35 08.2 -0.1
baz=276,SNR=7.1
BR131 **Keskin Array S** 94.74 310⇑ *e*P **P** 19 35 13.7 +1.8
BRTR **Keskin Array B** 94.74 310 P **P** 19 35 10.6 -1.3
comp=Z,2.5nm,0.9s,baz=132,slow=2.1,SNR=4.4
WRAK **Wrangell Islan** 94.77 34 P **P** 19 35 11.1 -0.3
WRAK IAmb IAmb 19 35 13.0
comp=Z,28nm,0.8s
WRAK **Wrangell Islan** 94.77 34 P **P** 19 35 11.8 +0.4
baz=277
A36M **Sachs Harbour** 94.99 18 P **P** 19 35 11.0 -1.1
A36M IAmb IAmb 19 35 12.8
comp=Z,12nm,0.9s
A36M **Sachs Harbour** 94.99 18 P **P** 19 35 11.4 -0.7
baz=284
ARCES **ARCESS Array B** 95.19 340 P **P** 19 35 10.9 -2.1
comp=Z,10nm,0.9s,baz=87,slow=2.6,SNR=11
ARCES **ARCESS Array B** 95.19 340 P **P** 19 35 12.4 -0.7
ARCES pmax pmax
comp=Z,43nm,1.3s
ARCES **ARCESS Array B** 95.19 340 P **P** 19 35 12.4 -0.7
ARCES IAmb IAmb 19 35 14.2
comp=Z,43nm,1.2s
DLBC **Dease Lake** 95.75 31 P **P** 19 35 15.9 0.0
comp=Z,7.2nm,0.7s,baz=303,slow=5.2,SNR=11
DLBC **Dease Lake** 95.75 31 P **P** 19 35 15.7 -0.2
DLBC IAmb IAmb 19 35 16.8
comp=Z,11nm,0.9s
C36M **Paulatuk** 96.05 20 P **P** 19 35 16.1 -0.8
baz=285
FINES **FINESS Array B** 96.70 332 P **P** 19 35 18.9 -1.1
comp=Z,1.3nm,0.6s,baz=67,slow=6.4,SNR=9.6
MBAR **Mbarara** 98.78 269 LR LR 20 18 40.0
comp=Z,472nm,21.4s,baz=306,slow=34
RES **Resolute Bay** 101.25 11 P **Pdif** 19 35 39.6 -0.6
comp=Z,5.6nm,0.7s,baz=312,slow=5.8,SNR=25
YKA **Yellowknife Ar** 101.98 25 P **Pdif** 19 35 43.4 -0.3
comp=Z,4.5nm,0.8s,baz=292,slow=5.0,SNR=41
YKA PKiKP **PKiKP** 19 40 04.8 -1.5
comp=Z,0.8nm,0.8s,baz=299,slow=2.0,SNR=6.0
YKA PKKPbc **PKKPbc** 19 51 47.9 -2.7
comp=Z,1.4nm,0.9s,baz=109,slow=2.5,SNR=12
YKA **Yellowknife Ar** 101.98 25 P **Pdif** 19 35 43.1 -0.5
YKA **Yellowknife Ar** 101.98 25 **Pdif** 19 35 43.1 -0.5
BOSA **Boshof** 102.36 241 PKKPbc PKKPbc 19 51 47.1 -1.4
comp=Z,3.2nm,0.8s,baz=315,slow=8.9,SNR=5.1
NB2 **NORSAR Subarra** 103.63 334 P **Pdif** 19 35 49.1 -2.0
comp=Z,0.8nm,0.6s,baz=66,slow=4.4
NB2 **NORSAR Subarra** 103.63 334 P **Pdif** 19 35 49.1 -2.0
baz=66,slow=4.4
NOA **NORSAR Array B** 103.63 334 Pdiff **Pdif** 19 35 49.7 -1.5
comp=Z,0.7nm,0.7s,baz=66,slow=4.5,SNR=2.3
CLL **Collm** 106.54 324 *e*PKiKP **PKiKP** 19 40 16.0 +1.0
GERES **GERESS Array B** 106.97 322 PKiKP **PKiKP** 19 40 15.9 -0.1
comp=Z,1.0nm,0.6s,baz=82,slow=3.0,SNR=10
NVAR **Mina Array Bea** 107.45 50 Pdiff **Pdif** 19 36 08.4 -0.4
comp=Z,0.5nm,0.7s,baz=263,slow=7.1,SNR=2.1
NVAR PKiKP **PKiKP** 19 40 17.8 +0.4
comp=Z,0.7nm,0.8s,baz=257,slow=3.2,SNR=4.4
NVAR PP **PP** 19 40 34.9 -1.5
comp=Z,0.4nm,0.8s,baz=272,slow=6.4,SNR=4.9
GMRC **Granite Mounta** 110.40 53 PKiKP **PKiKP** 19 40 24.3 +1.3
baz=285
BC3 **Big Chuckawall** 110.84 54 PKiKP **PKiKP** 19 40 24.8 +1.1
baz=284
PDAR **Pinedale Array** 112.46 43 PKiKP **PKiKP** 19 40 26.6 -0.1
comp=Z,0.9nm,0.7s,baz=174,slow=3.0,SNR=6.3
PDAR PKKPbc **PKKPbc** 19 51 16.2 -1.3
comp=Z,0.6nm,0.8s,baz=113,slow=6.9,SNR=5.0
PDAR PKKPab **PKKPab** 19 51 24.2 -0.9
comp=Z,1.4nm,0.9s,baz=117,slow=6.6,SNR=7.7
PDAR **Pinedale Array** 112.46 43 PKKPbc 19 51 15.5 -2.1
KEST **Kesra** 114.35 309 PKP PKPdf 19 40 30.1 -0.2
comp=Z,4.0nm,1.0s,baz=180,slow=2.0,SNR=2.1
O20A **White River Ci** 114.36 45 P **PKiKP** 19 40 31.0 +0.6
baz=292
TUC **Tucson** 114.98 54 P PKPdf 19 40 32.3 +0.7
baz=287
MVCO **Mesa Verde** 115.22 48 P **PKPdf** 19 40 33.0 +0.8
baz=290
RSSD **Black Hills** 115.57 40 PKIKP **PKiKP** 19 40 30.5 -2.1
RSSD **Black Hills** 115.57 40 **PKiKP** 19 40 30.5 -2.1
RSSD **Black Hills** 115.57 40 P **PKiKP** 19 40 32.0 -0.6
baz=297
S22A **4UR Ranch, Cre** 116.27 47 P **PKiKP** 19 40 35.4 +1.2
baz=292
ULM **Lac du Bonnet** 117.07 31 PKP **PKPdf** 19 40 33.6 -1.3
comp=Z,5.0nm,0.8s,baz=326,slow=0.7,SNR=5.3
SDCO **Great Sand Dun** 117.24 47 P **PKiKP** 19 40 36.8 +0.6
baz=293
ANMO **Albuquerque** 117.56 50 PKIKP **PKPdf** 19 40 36.2 -0.5
ANMO **Albuquerque** 117.56 50 PKPdf **PKPdf** 19 40 36.2 -0.5
ANMO **Albuquerque** 117.56 50 P **PKiKP** 19 40 37.4 +0.7
baz=291
T25A **Trinidad** 118.28 47 PKPdf **PKiKP** 19 40 38.4 +0.4
T25A **Trinidad** 118.28 47 P **PKiKP** 19 40 38.6 +0.5
baz=294
F33A **5 Mile Ranch,** 119.42 35 PKPdf **PKPdf** 19 40 39.0 -0.7
MNTX **Cornudas Mount** 119.53 53 PKPdf **PKiKP** 19 40 40.4 0.0
MNTX **Cornudas Mount** 119.53 53 P **PKiKP** 19 40 40.6 +0.2
baz=290,SNR=20
ECSD **EROS Data Cent** 120.40 37 PKPdf **PKPdf** 19 40 40.6 -1.1
ECSD **EROS Data Cent** 120.40 37 P **PKPdf** 19 40 41.2 -0.5
baz=303
MSTX **Muleshoe** 120.75 50 PKPdf **PKPdf** 19 40 42.3 -0.4
MSTX **Muleshoe** 120.75 50 P **PKiKP** 19 40 42.9 0.0
baz=293
EYMN **Ely** 120.75 31 **PKPdf** 19 40 40.7 -1.5
F36A **Milaca** 120.97 34 PKPdf **PKPdf** 19 40 41.7 -1.0
AMTX **Amarillo** 121.21 49 P **PKiKP** 19 40 44.0 +0.3
baz=294
TX31 **Lajitas Ar. Si** 121.72 55 **PKPdf** 19 40 44.5 -0.3
TX32 **Lajitas Array** 121.72 55 PKPdf **PKPdf** 19 40 44.4 -0.4

TXAR **Lajitas Array** 121.72 55 PKP **PKPdf** 19 40 44.6 -0.1
comp=Z,5.6nm,0.8s,baz=228,slow=1.0,SNR=58
TXAR PP **PP** 19 42 17.4 0.0
comp=Z,0.9nm,0.6s,baz=290,slow=5.7,SNR=6.8
TXAR PKKPbc **PKKPbc** 19 50 44.1 +0.1
comp=Z,2.4nm,0.8s,baz=123,slow=6.0,SNR=19
TXAR **Lajitas Array** 121.72 55 PKIKP **PKPdf** 19 40 44.3 -0.4
TXAR **Lajitas Array** 121.72 55 PKPdf **PKPdf** 19 40 44.3 -0.4
R32A **Long Quarter,** 121.78 44 PKPdf **PKPdf** 19 40 44.5 +0.1
I37A **Lemond, Waseca** 122.15 35 **PKPdf** 19 40 44.4 -0.6
ESDC **Sonseca Array** 122.32 319 PKP **PKPdf** 19 40 45.2 -0.3
comp=Z,1.2nm,0.7s,baz=34,slow=1.5,SNR=8.0
ESDC **Sonseca Array** 122.32 319 PKPdf **PKPdf** 19 40 45.5 0.0
KSU1 **Kansas State U** 122.87 42 PKPdf **PKPdf** 19 40 46.0 -0.6
KSU1 **Kansas State U** 122.87 42 P **PKPdf** 19 40 46.5 0.0
baz=301
CROK **Carrier** 123.20 45 **PKPdf** 19 40 47.0 -0.3
WMOK **Wichita Mounta** 123.43 47 PKIKP **PKPdf** 19 40 46.0 -1.8
WMOK **Wichita Mounta** 123.43 47 **PKPdf** 19 40 46.0 -1.8
WMOK **Wichita Mounta** 123.43 47 P **PKPdf** 19 40 47.2 -0.5
baz=297,SNR=5.7
MVO **Moncorvo** 123.49 321 *e*PKP **PKiKP** 19 40 48.9 +0.9
POLO **Lamas de Olo** 123.84 322 *e*PKP **PKiKP** 19 40 49.5 +0.8
T35A **Sooner Cattle** 124.03 44 PKPdf **PKPdf** 19 40 48.0 -0.9
SCHQ **Schefferville** 124.03 11 P **PKPdf** 19 40 48.0 -0.2
comp=Z,4.1nm,0.8s,baz=24,slow=5.7,SNR=4.8
MTE **Manteigas** 124.25 321 *e*PKP **PKiKP** 19 40 50.3 +0.8
JCT **Junction City** 124.43 53 PKIKP **PKPdf** 19 40 49.4 -0.4
JCT **Junction City** 124.43 53 PKPdf **PKPdf** 19 40 49.4 -0.4
JCT **Junction City** 124.43 53 P **PKPdf** 19 40 49.8 0.0
baz=293
PCBR **Castelo Branco** 124.52 320 *e*PKP **PKiKP** 19 40 50.7 +0.8
L40A **Anamosa** 124.60 36 **PKPdf** 19 40 48.2 -1.5
P38A **Dawn** 124.60 40 PKPdf **PKPdf** 19 40 48.9 -0.9
W35A **Tecumseh** 124.63 46 **PKPdf** 19 40 49.1 -0.9
JFWS **Jewell Farm** 124.64 35 PKIKP **PKPdf** 19 40 49.3 -0.5
JFWS **Jewell Farm** 124.64 35 **PKPdf** 19 40 49.3 -0.5
JFWS **Jewell Farm** 124.64 35 P **PKPdf** 19 40 48.7 -1.1
baz=309
LOOK **Love County** 124.95 48 **PKPdf** 19 40 49.2 -1.4
833A **Chaparral WMA,** 125.59 55 P **PKiKP** 19 40 53.0 +0.6
baz=292
EVO **Evora** 125.59 319 *e*PKP **PKiKP** 19 40 52.9 +0.8
P40A **Paris** 125.60 39 **PKPdf** 19 40 50.7 -1.0
U38A **Gravette** 125.75 44 PKPdf **PKPdf** 19 40 49.9 -2.3
PBEJ **Beja** 125.78 319 *e*PKP **PKiKP** 19 40 53.4 +0.9
S39A **Bolivar** 125.80 42 PKPdf **PKPdf** 19 40 51.0 -1.2
PCVE **Castro Verde** 126.11 318 *e*PKP **PKiKP** 19 40 54.3 +1.1
HHAR **Hobbs** 126.14 43 **PKPdf** 19 40 51.7 -1.2
R40A **Maddies Statio** 126.16 41 **PKPdf** 19 40 51.6 -1.2
PNCL **Nicolau / Gran** 126.17 319 *e*PKP **PKiKP** 19 40 54.0 +0.7
MORF **Marmelete** 126.69 318 *e*PKP **PKiKP** 19 40 55.8 +1.4
TORD **Torodi Ar. Bea** 126.78 286 PKP **PKPdf** 19 40 54.5 -0.2
comp=Z,9.7nm,0.7s,baz=54,slow=2.1,SNR=47
TORD PKKPbc **PKKPbc** 19 50 23.6 -0.6
comp=Z,3.0nm,0.7s,baz=284,slow=4.2,SNR=16
MGMO **Mountain Grove** 126.80 42 **PKPdf** 19 40 53.1 -1.0
W39A **Magazine** 126.81 45 **PKPdf** 19 40 53.3 -0.9
W39A **Magazine** 126.81 45 P **PKPdf** 19 40 54.0 -0.2
baz=301
U40A **Yellville** 126.84 43 PKPdf **PKPdf** 19 40 53.5 -0.7
U40A **Yellville** 126.84 43 P **PKPdf** 19 40 53.8 -0.4
baz=303
MIAR **Mount Ida** 127.29 45 PKIKP **PKPdf** 19 40 55.0 -0.1
MIAR **Mount Ida** 127.29 45 PKPdf **PKPdf** 19 40 55.0 -0.1
MIAR **Mount Ida** 127.29 45 P **PKiKP** 19 40 55.5 -0.1
baz=301
FVM **French Village** 127.53 40 PKIKP **PKPdf** 19 40 54.4 -1.1
FVM **French Village** 127.53 40 **PKPdf** 19 40 54.4 -1.1
T42A **Van Buren** 127.64 41 **PKPdf** 19 40 54.9 -0.8
WVT **Waverly** 130.30 40 PKIKP **PKPdf** 19 41 00.2 -0.6
WVT **Waverly** 130.30 40 PKPdf **PKPdf** 19 41 00.2 -0.6
WVT **Waverly** 130.30 40 P **PKPdf** 19 41 00.9 +0.1
baz=308
PLAL **Pickwick Lake** 130.82 41 **PKPdf** 19 41 00.8 -1.0
T50A **Nancy** 131.60 37 **PKPdf** 19 41 02.4 -0.9
DBIC **Dimbokro** 134.06 279 PKP **PKPdf** 19 41 09.1 +0.6
comp=Z,4.4nm,0.9s,baz=128,slow=2.8,SNR=4.9
PMAR **Madeira** 134.86 319 *e*PKP **PKiKP** 19 41 12.9 +1.7
PMOZ **Porto Moniz, M** 134.99 319 *e*PKP **PKiKP** 19 41 12.6 +1.3
PLCA **Paso Flores** 135.24 158 PKP **PKPdf** 19 41 10.8 +0.6
comp=Z,5.6nm,0.8s,baz=195,slow=3.2,SNR=19
BO01 **Tunca** 140.43 153 PKPdf **PKPdf** 19 41 16.2 -3.6
VA03 **San Esteban** 142.03 152 PKPpre 19 41 17.0
CO03 **El Pedregal** 143.54 150 PKPbc 19 41 22.4 -0.3
ZON **Zonda** 143.91 153 PKIKP PKPbc 19 41 23.8 0.0
ZON **Zonda** 143.91 153 PKPdf PKPbc 19 41 23.8 0.0
JTS **Las Juntas de** 144.31 73 PKIKP **PKPab** 19 41 24.8 -0.3
JTS **Las Juntas de** 144.31 73 **PKPab** 19 41 24.8 -0.3
COVE **Coope Vega, Sa** 144.73 72 **PKPab** 19 41 25.4 -1.3
PRVC **Isla de Provid** 146.77 66 *e*P **PKPbc** 19 41 33.5 +0.5
AC02 **Maricunga** 147.57 148 **PKPbc** 19 41 35.3 -0.3
PLTB **Pedras Altas** 147.95 175 *e*P **PKPbc** 19 41 35.4 -0.5
PLTB **Pedras Altas** 147.95 175 **PKPbc** 19 41 35.8 -0.1
PB14 **IPOC Station P** 148.57 143 **PKPbc** 19 41 37.1 -1.0
GTBY **Guantanamo Bay** 148.99 50 *e*P **PKPbc** 19 41 38.0 -0.8
GTBY **Guantanamo Bay** 148.99 50 **PKPbc** 19 41 38.5 -0.4
CPSB **Cacapava Do Su** 149.31 175 *e*P **PKPdf** 19 41 37.3 +2.1
BCIP **Isla Barro Col** 149.47 72 *e*P **PKPdf** 19 41 37.5 +1.7
SACV **Santiago Islan** 149.72 300 **PKPdf** 19 41 33.6 -2.5
TER01 **Tubaro-SC** 151.28 182 *e*P **PKPbc** 19 41 41.3 -2.9
PTAC **Punta Ardita,** 151.91 75 *e*P **PKPbc** 19 41 45.0 -1.0
CAPC **Capurgana** 151.98 72 *e*P **PKPbc** 19 41 45.8 -0.4
OTAV **Otavalo** 152.02 90 PKIKP **PKPdf** 19 41 38.1 -2.3
OTAV **Otavalo** 152.02 90 *e*P **PKPbc** 19 41 46.5 -0.4
OTAV **Otavalo** 152.02 90 *e*P **PKPdf** 19 41 42.2 +1.8
OTAV **Otavalo** 152.02 90 **PKPdf** 19 41 38.1 -2.3
SDDR **Presa de Saban** 152.41 47 *e*P **PKPab** 19 41 55.3 -1.8
ITAB **Concordia** 152.56 177 *e*P **PKPdf** 19 41 42.8 +2.6
CPUP **Villa Florida** 152.69 166 PKP **PKPdf** 19 41 40.9 +0.5
comp=Z,3.6nm,0.9s,baz=28,slow=2.6,SNR=3.8
CPUP PKPbc **PKiKP** 19 41 47.7 0.0
comp=Z,20nm,0.8s,baz=183,slow=1.2,SNR=26
CPUP PKPab **PKPab** 19 41 59.2 +1.3
comp=Z,7.0nm,0.7s,baz=155,slow=2.4,SNR=5.3
CPUP **Villa Florida** 152.69 166 PKIKP **PKiKP** 19 41 47.6 -0.1
CPUP **Villa Florida** 152.69 166 *e*P **PKPdf** 19 41 42.5 +2.1
GCUF **Volcan Galeras** 153.12 86 *e*P **PKiKP** 19 41 50.5 +0.9
DBBC **Dabeiba** 153.48 75 *e*P **PKiKP** 19 41 51.1 +1.3
POPC **Popayan, Colom** 153.72 85 *e*P **PKPbc** 19 41 49.0 -1.4
SOTA **Rioblanco** 153.81 86 *e*P **PKPab** 19 42 03.7 -0.2
PLMC **San Jos del P** 153.82 80 *e*P **PKiKP** 19 41 50.8 +0.3
YOTC **Yotoco, Valle** 153.90 82 *e*P **PKPbc** 19 41 49.6 -1.0
CBOC **Ciudad Bolivar** 153.92 77 *e*P **PKPbc** 19 41 49.6 -1.1
PCON **Cinco Dias** 154.01 85 *e*P **PKPbc** 19 41 51.4 0.0
MARP **Paez Belalcaza** 154.41 84 *e*P **PKiKP** 19 41 52.0 0.0
ZARC **Zaragoza, Cauc** 154.67 73 *e*P **PKPbc** 19 41 50.8 -1.3
GUY2C **Guyana, Caldas** 154.67 78 *e*P **PKPbc** 19 41 52.6 -0.1
ORTC **Ortega, Tolima** 154.99 81 *e*P **PKPbc** 19 41 52.3 -0.6
CRJC **Cerrejon, Guaj** 155.33 64 *e*P **PKPab** 19 42 08.7 -1.0
PRAC **Prado** 155.37 82 *e*P PKPdf 19 41 53.5 +8.9
LL6C **La Loma 6 Bece** 155.46 67 *e*P PKPdf 19 41 53.5 +8.9
ROSC **El Rosal** 155.76 79 PKP **PKPdf** 19 41 45.6 0.0
comp=Z,6.6nm,0.4s,baz=109,slow=23,SNR=1.3
ROSC PKPbc **sPKPdf** 19 41 54.5 +2.3
comp=Z,16nm,0.7s,baz=208,slow=21,SNR=4.5
ROSC PKPab **PKPab** 19 42 12.2 +0.2
comp=Z,30nm,0.7s,baz=148,slow=6.9,SNR=7.6
ROSC **El Rosal** 155.76 79 *e*P **PKPab** 19 42 12.1 0.0
LPAZ **La Paz** 156.00 134 PKP **PKPdf** 19 41 46.6 +0.5
comp=Z,1.2nm,0.5s,baz=278,slow=4.8,SNR=3.6
LPAZ PKPab **PKPab** 19 42 14.1 +1.0
comp=Z,11nm,0.8s,baz=177,slow=6.1,SNR=12
CZSB **Cruzeiro do Su** 156.44 110 *e*P **PKPdf** 19 41 48.6 +2.6
MACC **Macarena, Meta** 156.56 85 *e*P **PKPdf** 19 41 45.6 -0.6
PAMC **Pamplona, Colo** 156.77 72 *e*P **PKPab** 19 42 16.6 +0.2
MTP **Monte Pirata** 156.94 39 PKPab **PKPab** 19 42 15.5 -0.8
SDV **Santo Domingo** 158.19 66 *e*P **PKPdf** 19 41 47.6 -0.8
SOCV **Socops** 158.21 68 *e*P **PKPab** 19 42 20.5 -1.6
SMRT **St. Maarten** 158.46 34 **PKPab** 19 42 21.3 -1.5
BAUV **El Baul** 160.52 63 PKPab **PKPab** 19 42 30.2 -1.9
BDFB **Brasilia** 163.96 189 PP PP 19 46 31.7 +0.9
comp=Z,1.9nm,0.7s,baz=135,slow=7.1,SNR=3.7
BOAV **Boa Vista** 169.75 78 PKPab **PKPab** 19 43 11.7 -1.1

NEIC ***18*** *19:40:28.1±1.2, 15°.55N±0°.09×147°.34E±0°.09, h10km±1km, mb4.5/12, Error ellipse: s-maj=17.2km s-min=11.6km az=140.0*
IDC ***18*** *19:40:33.2±3.6, 15°.61N×147°.08E, h41km±33km, mb3.8/17, mb1 3.9/18, mb1mx3.6/55, mbtmp4.0/18, ML3.4/1, Error*

ellipse: s-maj=25.8km s-min=16.6km az=99.0

ISC 18 19:40:30.9±0.6, 15°.53N±0°.08×147°.25E±0°.09, h29km, n37, σ0.88/38, mb4.2/22, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.01**	**230**	P	**Pn**	**19 41 17.2**	**+0.6**
	5.6nm,0.3s,baz=103,slow=7.9,SNR=5.1						
GUMO				S	**Sn**	**19 41 51.6**	**-0.1**
	15nm,0.3s,baz=26,slow=13,SNR=4.1						
GUMO	**Guam**	**3.01**	**230**		**Pn**	**19 41 16.6**	**0.0**
PATS	**Pohnpei**	**13.86**	**127**	Pn	**Pn**	**19 43 43.5**	**-2.0**
SIJI	**Sorong**	**22.70**	**226**	P	**P**	**19 45 31.7**	**+1.3**
	8.3nm,0.6s,baz=20,slow=9.3,SNR=7.4						
KLR	**Kul'dur**	**35.92**	**343**	P	**P**	**19 47 27.8**	**-0.8**
	1.2nm,0.5s,baz=158,slow=5.5,SNR=9.8						
WRA	**Warramunga Arr**	**37.46**	**200**	P	**P**	**19 47 42.3**	**+0.3**
	0.8nm,0.8s,baz=22,slow=9.3,SNR=4.7						
WRA				PcP	**PcP**	**19 50 01.8**	**+1.5**
	0.4nm,0.9s,baz=14,slow=3.4,SNR=1.8						
ASAR	**Alice Springs**	**41.08**	**199**	P	**P**	**19 48 13.0**	**+0.7**
	0.2nm,0.8s,baz=22,slow=8.7,SNR=4.8						
CHTO	**Chiang Mai**	**46.16**	**281**	P	**P**	**19 48 52.2**	**-1.1**
CHTO				IAmb	IAmb	19 48 55.0	
	comp=Z,1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**46.19**	**281**	P	**P**	**19 48 52.9**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=81,slow=6.3,SNR=20						
CMAR	**Chiang Mai Arr**	**46.19**	**281**	P	**P**	**19 48 53.5**	**0.0**
SONM	**Songino Array**	**46.55**	**323**	P	**P**	**19 48 55.0**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=135,slow=6.7,SNR=3.8						
SEY	**Seymchan**	**47.49**	**3**	P	**P**	**19 49 04.7**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=188,slow=14,SNR=4.0						
TIXI	**Tiksi**	**57.18**	**353**	P	**P**	**19 50 14.9**	**+0.1**
	baz=144,slow=8.0						
TIXI	**Tiksi**	**57.18**	**353**	IAmb	IAmb	19 50 19.9	
	comp=Z,4.2nm,1.1s						
ZALV	**Zalesovo Beam**	**61.43**	**323**	P	**P**	**19 50 42.8**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=111,slow=8.1,SNR=3.8						
MK31	**Makanchi Array**	**61.73**	**315**	P	**P**	**19 50 46.8**	**+0.1**
MKAR	**Makanchi Array**	**61.73**	**315**	P	**P**	**19 50 46.8**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=95,slow=7.5,SNR=24						
MKAR				PcP	**PcP**	**19 51 27.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=84,slow=4.8,SNR=2.1						
MKAR	**Makanchi Array**	**61.73**	**315**	P	**P**	**19 50 46.6**	**-0.1**
MAKZ	**Makanchi**	**61.95**	**315**	P	**P**	**19 50 48.3**	**+0.1**
KURK	**Kurchatov**	**64.62**	**319**		**P**	**19 51 05.1**	**-0.6**
KURBB	**Kurchatov Arra**	**64.67**	**319**	P	**P**	**19 51 05.9**	**-0.1**
	comp=Z,9.0nm,0.7s,baz=98,slow=7.0,SNR=76						
ILAR	**Eielson Array**	**65.84**	**25**	P	**P**	**19 51 13.7**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=256,slow=5.3,SNR=5.0						
BVAR	**Borovoye Array**	**69.86**	**321**	P	**P**	**19 51 39.2**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=80,slow=9.8,SNR=13						
BRVK	**Borovoye**	**69.92**	**321**	P	**P**	**19 51 38.5**	**-0.8**
BRVK				IAmb	IAmb	19 51 40.1	
	comp=Z,3.7nm,0.9s						
KKAR	**Karatay Array**	**69.94**	**311**	P	**P**	**19 51 39.4**	**-0.2**
CHGR	**Chuyangaron**	**71.27**	**306**	P	**P**	**19 51 46.8**	**-1.1**
CHGR				IAmb	IAmb	19 51 48.4	
	comp=Z,4.8nm,0.7s						
A36M	**Sachs Harbour**	**74.58**	**19**		**P**	**19 52 07.6**	**+0.8**
A36M				IAmb	IAmb	19 52 09.7	
	comp=Z,7.1nm,0.8s						
ARU	**Arti**	**76.50**	**325**	P	**P**	**19 52 17.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=78,slow=7.9,SNR=6.5						
ARU	**Arti**	**76.50**	**325**	P	**P**	**19 52 17.8**	**-0.2**
ARU				IAmb	IAmb	19 52 18.4	
	comp=Z,5.6nm,1.2s						
ABKAR	**Akbulak array**	**76.67**	**318**	P	**P**	**19 52 18.7**	**-0.5**
ABKAR	**Akbulak array**	**76.67**	**318**	P	**P**	**19 52 18.4**	**-0.7**
YKA	**Yellowknife Ar**	**80.08**	**28**	P	**P**	**19 52 38.9**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=283,slow=5.3,SNR=8.8						
NVAR	**Mina Array Bea**	**83.92**	**52**	P	**P**	**19 52 59.7**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=264,slow=6.3,SNR=2.4						
ARCES	**ARCESS Array B**	**85.95**	**343**	P	**P**	**19 53 06.8**	**-1.2**
	comp=Z,3.4nm,0.9s,baz=61,slow=7.6,SNR=7.4						
ARCES	**ARCESS Array B**	**85.95**	**343**	P	**P**	**19 53 07.8**	**-0.3**
FINES	**FINESS Array B**	**90.37**	**336**	P	**P**	**19 53 28.1**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=68,slow=5.1,SNR=6.3						
DBIC	**Dimbokro**	**144.65**	**307**	PKP	PKPbc	20 00 04.7	+0.1
	comp=Z,3.8nm,0.8s,baz=335,slow=8.5,SNR=4.4						

*JMA **18** 19:51:16.0±0.1, 36°.47N×141°.07E, h45km±2km, M3.6*
JMA Felt I J1.
*IDC **18** 19:51:17.3±6.6, 36°.02N×140°.98E, h66km±35km, mb3.3/5, mb1 3.5/7, mb1mx3.0/44, mbtmp3.6/7, ML2.7/2, Error ellipse: s-maj=87.7km s-min=27.4km az=167.0*

ISC 18 19:51:16.4±1.4, 36°.49N±0°.05×141°.10E±0°.08, h33km±3km, n25, σ0.89/27, mb3.6/5, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.44**	**251**	⇓P	**Pb**	**19 51 26.0**	**0.0**
JHYU				S	**Sb**	**19 51 32.7**	**+0.1**
JHO	**Hitachi**	**0.44**	**287**	⇓P	**Pb**	**19 51 26.0**	**-0.1**
JHO				S	**Sb**	**19 51 32.9**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.66**	**339**	⇓P	**Pn**	**19 51 28.8**	**-0.6**
ONAJ				S	**Sb**	**19 51 37.7**	**-1.0**
JIHU	**Itakohorinouch**	**0.69**	**222**	P	**Pn**	**19 51 29.9**	**+0.1**
JIHU				S	**Sb**	**19 51 39.7**	**+0.2**
JYT	**Yasato**	**0.77**	**251**	⇓P	**Pn**	**19 51 30.2**	**-0.7**
JYT				S	**Sn**	**19 51 39.7**	**-1.6**
JFK	**Kawauchi**	**0.90**	**349**	⇓P	**Pn**	**19 51 31.9**	**-0.8**
JFT	**Otama**	**1.20**	**330**	⇓P	**Pn**	**19 51 37.5**	**+0.7**
JFT				S	**Sn**	**19 51 52.8**	**+0.9**
JAG	**Ashikaga**	**1.33**	**268**	⇓P	**Pn**	**19 51 38.2**	**-0.3**
JMM	**Marumori**	**1.40**	**350**	P	**Pn**	**19 51 39.3**	**-0.2**
JMM				S	**Sn**	**19 51 56.6**	**-0.2**
JFY	**Yanaizu**	**1.45**	**310**	P	**Pn**	**19 51 40.7**	**+0.5**
JKT	**Katashina**	**1.51**	**281**	P	**Pn**	**19 51 41.6**	**+0.4**
MJAR	**Matsushiro Arr**	**2.33**	**272**	P	**Pn**	**19 51 53.2**	**+0.9**
	5.8nm,0.3s,baz=113,slow=9.9,SNR=170						
MJAR				S	**Sn**	**19 52 19.9**	**+0.1**
	1.4nm,0.3s,baz=80,slow=12,SNR=5.4						
MAT	**Matsushiro**	**2.33**	**272**	P	**Pn**	**19 51 53.1**	**+0.8**
MAT				*e*S	**Sn**	**19 52 19.6**	**-0.2**
USRK	**Ussuriysk Ar.**	**10.37**	**321**	P	Pn	19 53 47.6	+5.0
	baz=140,slow=14,SNR=4.5						
SEY	**Seymchan**	**27.38**	**11**	P	**P**	**19 57 01.1**	**+2.8**
	0.4nm,0.3s,baz=196,slow=6.5,SNR=4.2						
SONM	**Songino Array**	**27.89**	**305**	P	**P**	**19 57 02.0**	**-1.1**
	0.7nm,0.5s,baz=110,slow=10.0,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**28.09**	**119**	T	T	20 26 38.3	
	baz=313,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	20 26 37.3	
	baz=313,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**28.11**	**119**	T	T	20 26 42.4	
	baz=313,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**28.78**	**122**	T	T	20 27 29.6	
	baz=314,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**28.78**	**122**	T	T	20 27 32.1	
	baz=314,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	20 27 31.4	
	baz=314,slow=76,SNR=35						
ZALV	**Zalesovo Beam**	**42.10**	**313**	P	**P**	**19 59 04.5**	**-0.4**
	0.9nm,0.5s,baz=110,slow=7.8,SNR=5.6						
MKAR	**Makanchi Array**	**44.20**	**303**	P	**P**	**19 59 21.6**	**-0.5**
	0.3nm,0.6s,baz=85,slow=10.0,SNR=8.2						
ILAR	**Eielson Array**	**50.09**	**32**	P	**P**	**20 00 07.4**	**-0.3**
	0.5nm,0.8s,baz=265,slow=5.4,SNR=2.7						

*NEIC **18** 19:53:10.2±0.6, 24°.3S±0°.2×179°.6W±0°.3, h507km±17km, mb4.4/21, Error ellipse: s-maj=35.8km s-min=23.4km az=98.0*
*IDC **18** 19:53:11.5±6.2, 24°.17S×179°.91W, h501km±28km, mb3.3/5, mb1 3.5/6, mb1mx2.9/38, mbtmp4.2/6, Error ellipse: s-maj=119.8km s-min=24.0km az=130.0*

ISC 18 19:53:10.8±1.4, 24°.4S±0°.1×179°.8W±0°.2, h505km, n29, σ0.72/31, mb4.2/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.89**	**342**	P	**P**	**19 54 55.9**	**-0.4**
	1.5nm,0.3s,baz=178,slow=4.3,SNR=9.9						
QRZ	**Quartz Range**	**17.66**	**200**	P	**P**	**19 56 46.7**	**-0.9**
NNZ	**Nelson**	**17.77**	**197**	P	**P**	**19 56 48.0**	**-0.6**
THZ	**Tophouse**	**18.41**	**198**	P	**P**	**19 56 54.6**	**+0.1**
THZ				IAmb	IAmb	19 57 13.6	
	comp=Z,19nm,1.1s						
KHZ	**Kahutara**	**18.86**	**196**	P	**P**	**19 56 58.0**	**-0.5**
LTZ	**Lake Taylor**	**19.53**	**198**	P	**P**	**19 57 04.3**	**-0.4**
LTZ				IAmb	IAmb	19 57 33.5	
	comp=Z,19nm,1.2s						
OXZ	**Oxford**	**20.10**	**198**	P	**P**	**19 57 09.7**	**-0.1**
RPZ	**Rata Peaks**	**20.74**	**199**	P	**P**	**19 57 16.0**	**+0.3**
RPZ				IAmb	IAmb	19 57 21.8	
	comp=Z,25nm,1.2s						
EIDS	**Eidsvold**	**26.46**	**262**	P	**P**	**19 58 06.8**	**-0.2**
EIDS				IAmb	IAmb	19 58 25.0	
	comp=Z,9.7nm,1.2s						
CTAO	**Charters Tower**	**31.70**	**271**	P	**P**	**19 58 53.1**	**+0.4**
STKA	**Stephens Creek**	**34.77**	**249**	P	**P**	**19 59 19.3**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=98,slow=11,SNR=12						
BBOO	**Buckleboo**	**39.48**	**247**	P	**P**	**19 59 56.8**	**-0.4**
BBOO				IAmb	IAmb	19 59 58.8	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**42.18**	**261**	P	**P**	**20 00 18.4**	**-0.6**
ASAR	**Alice Springs**	**42.18**	**261**	P	**P**	**20 00 18.9**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=94,slow=7.1,SNR=54						
ASAR				ScP	**ScP**	**20 05 05.6**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=101,slow=4.8,SNR=4.8						
ASAR	**Alice Springs**	**42.18**	**261**	P	**P**	**20 00 18.5**	**-0.4**
WR0	**Warramunga Arr**	**42.41**	**267**	P	**P**	**20 00 20.1**	**-0.6**
WB2	**Warramunga Arr**	**42.59**	**267**	P	**P**	**20 00 21.6**	**-0.6**
WB2				IAmb	IAmb	20 00 22.1	
	comp=Z,5.8nm,0.7s						
WRAB	**Tennant Creek**	**42.59**	**267**	P	**P**	**20 00 21.4**	**-0.8**
WRAB				IAmb	IAmb	20 00 22.1	
	comp=Z,5.3nm,0.8s						
WB0	**Warramunga Arr**	**42.60**	**267**	P	**P**	**20 00 21.5**	**-0.7**
WB0				IAmb	IAmb	20 00 22.1	
	comp=Z,6.7nm,0.7s						
WRA	**Warramunga Arr**	**42.60**	**267**	P	**P**	**20 00 21.5**	**-0.7**
	comp=Z,4.7nm,0.4s,baz=102,slow=8.3,SNR=118						
WRA				ScP	**ScP**	**20 05 07.3**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=101,slow=4.3,SNR=4.8						
WRA	**Warramunga Arr**	**42.60**	**267**	P	**P**	**20 00 21.6**	**-0.6**
FORT	**Forrest**	**46.37**	**250**	P	**P**	**20 00 50.6**	**-0.6**
FORT				IAmb	IAmb	20 00 50.9	
	comp=Z,20nm,1.0s						
MTN	**Manton Dam**	**47.71**	**275**	P	**P**	**20 01 00.5**	**-1.0**
KNRA	**Kununurra**	**48.91**	**270**	P	**P**	**20 01 10.3**	**-0.2**
KNRA				IAmb	IAmb	20 01 11.0	
	comp=Z,8.8nm,0.8s						
MORW	**Morawa**	**56.93**	**250**	P	**P**	**20 02 07.3**	**-0.3**
MORW				IAmb	IAmb	20 02 13.8	
	comp=Z,19nm,1.1s						
PETK	**Petropavlovsk-**	**79.59**	**346**	P	**P**	**20 04 24.1**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=157,slow=7.8,SNR=1.8						
PETK	**Petropavlovsk-**	**79.59**	**346**	P	**P**	**20 04 24.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**89.89**	**290**	P	**P**	**20 05 17.3**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=98,slow=1.8,SNR=5.7						
AKASG	**Malin Array Be**	**145.47**	**327**	PKPbc	**PKPdf**	**20 11 50.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=43,slow=3.8,SNR=2.2						

*TUL **18** 20:00:17.2±1.6, 35°.661N±0°.010×97°.39W±0°.01, h6km±4km, ML2.8, mb_Lg2.3/8(NEIC), Error ellipse: s-maj=1.4km s-min=1.4km az=219.0*

NEIC 18 20:00:17.1±0.7, 35°.677N±0°.009×97°.40W±0°.01, h9km±3km, Error ellipse: s-maj=1.7km s-min=0.7km az=221.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**191**	Pg	Pg	20 00 19.3	-0.3
OK009				Sg	Sg	20 00 21.0	-0.3
OK025	**Westminster Rd**	**0.11**	**152**		Pg	20 00 19.6	-0.2
OK025				Sg	Sg	20 00 21.4	-0.3
OK029	**Liberty Lake**	**0.13**	**339**		Pg	20 00 20.4	+0.4
OK029				Sg	Sg	20 00 22.9	+0.8
OK001	**Jones High Sch**	**0.15**	**142**	Pg	Pg	20 00 20.3	-0.1
OK001				Sg	Sg	20 00 22.7	+0.1
BCOK	**Bluff Creek, N**	**0.17**	**263**	Pg	Pg	20 00 20.9	+0.1
BCOK				Sg	Sg	20 00 23.8	+0.5
OK005	**Luther M Schoo**	**0.17**	**97**	Sg	Sg	20 00 23.8	+0.5
OKCFA	**Oklahoma City**	**0.27**	**189**	Pg	Pg	20 00 22.4	-0.1
OKCFA				Sg	Sg	20 00 26.3	+0.3
OKCSW	**OKLAHOMA CITY**	**0.27**	**187**	Pg	Pg	20 00 22.6	-0.1
OKCSW				Sg	Sg	20 00 26.6	+0.3
FNO	**Franklin**	**0.42**	**180**	Pg	Pg	20 00 25.2	-0.1
FNO				Sg	Sg	20 00 31.2	+0.3
OK033	**Mehan**	**0.52**	**46**	Pg	Pg	20 00 27.2	-0.1
OK031	**S. Brethren Rd**	**0.53**	**59**	Pg	Pg	20 00 27.6	+0.1
OK030	**Cody Creek RV**	**0.56**	**63**	Pg	Pg	20 00 28.0	0.0
OK034	**N. Norfolk Rd.**	**0.65**	**59**	Pg	Pg	20 00 29.7	0.0
W35A	**Tecumseh**	**0.68**	**140**	Pg	Pg	20 00 29.8	-0.4
QUOK	**Quay**	**0.75**	**49**	Pg	Pg	20 00 31.5	0.0
CROK	**Carrier**	**0.95**	**330**	Pg	Pg	20 00 35.4	-0.1
BLOK	**Blackwell**	**1.09**	**8**	Pg	Pg	20 00 37.7	-0.4
X34A	**Smith Ranch, M**	**1.13**	**198**		Pg	20 00 38.5	-0.3
GC02	**Grant County #**	**1.23**	**343**		Pn	20 00 40.4	-0.1
OK032	**Salt Plains WL**	**1.30**	**330**		Pn	20 00 41.2	-0.3
TUL1	**Leonard**	**1.33**	**79**		Pn	20 00 41.0	-0.9
KAN13	**South Haven SW**	**1.33**	**357**		Pb	20 00 42.3	-0.1
KAN14	**Manchester OK**	**1.35**	**341**		Pn	20 00 42.3	+0.1
KAN17	**Caldwell West**	**1.40**	**348**	Pn	Pb	20 00 43.2	-0.2
T35A	**Sooner Cattle**	**1.43**	**30**	Pn	Pn	20 00 43.2	-0.1
WMOK	**Wichita Mounta**	**1.47**	**231**	Pn	Pn	20 00 43.7	-0.1
U32A	**Winter Ranch,**	**1.48**	**299**	Pn	Pn	20 00 43.8	-0.1
U32A				IAmb_Lg		20 01 03.7	
	comp=Z,15nm,1.0s						
KAN01	**Argonia South**	**1.50**	**349**	Pn	Pn	20 00 44.5	+0.2
KAN06	**Argonia West S**	**1.61**	**347**	IAmb_Lg		20 01 10.1	
	comp=Z,21nm,0.8s						
X37A	**Clayton**	**1.99**	**123**	IAmb_Lg		20 01 19.9	
	comp=Z,10nm,0.8s						
X40A	**Basin Creek Fa**	**3.93**	**106**	Pn	Pn	20 01 16.8	-0.9
X40A				IAmb_Lg		20 02 26.0	
	comp=Z,15nm,0.8s						
WHAR	**Wooly Hollow**	**4.19**	**94**	Pn	Pn	20 01 20.7	-0.6
MGMO	**Mountain Grove**	**4.39**	**69**	Pn	Pn	20 01 25.8	+1.7

*NNC **18** 20:22:45.9±3.6, 38°.56N×73°.10E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=28.6km s-min=18.8km az=159.0*
*SOME **18** 20:22:45.0, 38°.88N×72°.35E, h0km*

ISC 18 20:22:43.0±2.6, 38°.4N±0°.1×72°.17E±0°.07, h25km, n18, σ2.50/24, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**4.13**	**337**	*e*P	**Pb**	**20 23 56.1**	**+1.0**
	27nm,0.7s						
IUG				*e*S	**Sb**	**20 24 47.5**	**+3.0**
	22nm,0.5s						
MRKS	**Merke**	**4.46**	**10**	*e*P	**Pb**	**20 23 58.0**	**-2.7**
	6.1nm,0.6s						
MRKS				*e*S	**Sb**	**20 24 51.4**	**-2.7**
	7.9nm,0.8s						
MRKS	**Merke**	**4.46**	**10**	Pg	**Pn**	**20 23 52.8**	**+3.6**
MRKS				Lg	Lg	20 24 42.3	
AAK	**Ala-Archa**	**4.63**	**22**	⇑Pn	**Pn**	**20 23 49.6**	**-2.0**
	5.7nm,0.5s						
AAK				⇓Lg	Lg	20 24 55.7	
	14nm,0.7s						
KK08	**Karatay Array**	**4.92**	**345**	⇓Pn	Pn	20 24 00.7	+5.3
	3.6nm,0.5s,baz=151,slow=13						
KK08				⇑Sn	**Sb**	**20 25 01.8**	**-5.3**
	4.8nm,0.7s,baz=146,slow=25						
BRLS	**Borolday**	**5.00**	**340**	*e*P	**Pb**	**20 24 10.2**	**+0.4**
	1.5nm,0.5s						
BRLS				*e*S	**Sb**	**20 25 11.8**	**+2.3**
	3.8nm,0.6s						
TKM2	**Tokmak 2**	**5.25**	**29**	⇑Pg	**Pb**	**20 24 18.0**	**+3.7**
	6.4nm,0.8s						
TKM2				⇑Lg	Lg	20 25 19.0	
	7.6nm,0.7s						
KST	**Kastek**	**5.50**	**30**	*e*P	**Pb**	**20 24 16.7**	**-1.7**
	3.1nm,0.6s						
KST				*e*S	**Sb**	**20 25 23.2**	**-0.8**
	11nm,0.6s						
KST	**Kastek**	**5.50**	**30**	Pg	**Pb**	**20 24 15.1**	**-3.3**
	3.7nm,0.5s						
KST				Lg	Lg	20 25 20.5	
	11nm,0.6s						
DGS	**Degeres**	**5.60**	**28**	*e*P	**Pb**	**20 24 20.2**	**+0.2**
	4.9nm,0.7s						
DGS				*e*S	**Sb**	**20 25 28.9**	**+2.2**
	7.0nm,0.7s						
DGS	**Degeres**	**5.60**	**28**	Pg	**Pb**	**20 24 18.6**	**-1.4**
	4.9nm,0.5s						
DGS				Lg	Lg	20 25 26.0	
	7.0nm,0.7s						
KRBS	**Karabastau**	**5.96**	**25**	*e*P	**Pb**	**20 24 26.7**	**+0.5**
	2.1nm,0.3s						
KRBS				*e*S	**Sb**	**20 25 40.7**	**+3.6**
	3.6nm,0.5s						
KRBS	**Karabastau**	**5.96**	**25**	Pg	**Pb**	**20 24 26.3**	**+0.2**
	2.5nm,0.2s						
KRBS				Lg	Lg	20 25 39.9	
	3.6nm,0.5s						
KTBS	**Karatobe**	**6.35**	**31**	Pg	**Pb**	**20 24 32.3**	**-0.4**
	1.4nm,0.3s						
KTBS				Lg	Lg	20 25 50.8	
	12nm,0.9s						
KUU	**Kurty**	**6.37**	**28**	Pg	**Pb**	**20 24 32.0**	**-1.0**
KUU				Lg	Lg	20 25 49.3	
CHKK	**Chushkaly**	**6.59**	**32**	Pg	**Pb**	**20 24 38.5**	**+1.6**
	2.1nm,0.2s						
CHKK				Lg	Lg	20 26 00.2	
	4.2nm,0.3s						
ARXS	**Arharly**	**7.24**	**34**	Pg	**Pb**	**20 24 49.0**	**+1.1**
	2.0nm,0.5s						
ARXS				Lg	Lg	20 26 17.9	
	5.0nm,0.5s						
AB31	**Akbulak array**	**14.01**	**325**	P	**P**	**20 26 05.8**	**-1.6**
	0.7nm,0.7s,baz=140,slow=14,SNR=8.1						

*IDC **18** 20:23:32.2±1.0, 18°.04S×176°.62W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/24, mbtmp4.0/8, MS3.9/11, Ms1 3.9/11, ms1mx3.6/62, Error ellipse: s-maj=57.9km s-min=20.0km az=149.0*
*NEIC **18** 20:23:35.8±0.8, 17°.4S±0°.1×176°.9W±0°.1, h10km±1km, mb4.6/12, Error ellipse: s-maj=24.6km s-min=17.6km az=136.0*

ISC 18 20:23:35.0±0.8, 17°.5S±0°.1×176°.8W±0°.1, h10km, n42, σ1.62/30, mb4.3/14, MS3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.90**	**266**	Pn	Pn	20 24 53.4	+4.6
	0.7nm,0.3s,baz=103,slow=14,SNR=6.6						
MSVF				LR	LR	20 26 50.0	
	comp=Z,2μm,18.7s,baz=59,slow=39						
MSVF	**Nonsavu**	**4.90**	**266**		**Pn**	**20 24 48.1**	**-0.7**
AFI	**Afiamalu**	**6.01**	**55**	LR	LR	20 26 56.1	
	comp=Z,322nm,20.5s,baz=190,slow=33						
FUNA	**Funafuti**	**9.70**	**336**	Pn	**Pn**	**20 25 52.7**	**-1.9**
RAO	**Raoul Island**	**11.77**	**185**	LR	LR	20 29 51.8	
	comp=Z,1μm,19.7s,baz=32,slow=34						
DZM	**Mont Dzumac**	**16.40**	**251**	LR	LR	20 32 35.2	
	comp=Z,394nm,20.2s,baz=112,slow=33						
DZM	**Mont Dzumac**	**16.40**	**251**	*e*Pn	**P**	**20 27 33.5**	**+5.2**
	58nm,1.6s						
DZM				*e*LR	LR	20 31 30.2	
	comp=Z,468nm,23.7s						
HNR	**Honiara**	**23.95**	**286**	LR	LR	20 37 40.3	
	comp=Z,119nm,18.3s,baz=70,slow=35						
PPT2	**Papeete2**	**25.97**	**94**	*e*LR	LR	20 34 58.4	
	comp=Z,412nm,25.0s						
PPT	**Papeete**	**25.97**	**94**	LR	LR	20 36 19.7	
	comp=Z,140nm,19.8s,baz=248,slow=30						
CTA	**Charters Tower**	**35.02**	**260**	LR	LR	20 43 27.5	
	comp=Z,206nm,18.3s,baz=92,slow=34						
PMG	**Port Moresby**	**35.89**	**278**	LR	LR	20 43 37.2	
	comp=Z,163nm,18.2s,baz=200,slow=33						
TOO	**Toolangi**	**38.62**	**231**	P	**P**	**20 30 58.0**	**-0.5**
TOO				IAmb	IAmb	20 31 01.4	
	comp=Z,23nm,1.2s						
STKA	**Stephens Creek**	**40.17**	**241**	P	**P**	**20 31 10.2**	**-1.3**
	comp=Z,4.9nm,1.1s,baz=71,slow=9.6,SNR=4.8						
STKA	**Stephens Creek**	**40.17**	**241**	P	**P**	**20 31 10.8**	**-0.8**
WB0	**Warramunga Arr**	**46.17**	**259**	P	**P**	**20 31 59.6**	**-0.6**
WB0				IAmb	IAmb	20 32 09.7	
	comp=Z,3.1nm,1.0s						
WB2	**Warramunga Arr**	**46.19**	**259**	P	**P**	**20 32 00.2**	**-0.2**
WB2				IAmb	IAmb	20 32 01.3	
	comp=Z,4.5nm,0.9s						
WRA	**Warramunga Arr**	**46.20**	**259**	P	**P**	**20 31 59.7**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=94,slow=6.2,SNR=21						
WRA	**Warramunga Arr**	**46.20**	**259**	P	**P**	**20 31 59.7**	**-0.8**
AS31	**Alice Springs**	**46.37**	**254**	P	**P**	**20 32 00.3**	**-1.5**
ASAR	**Alice Springs**	**46.37**	**254**	P	**P**	**20 32 00.3**	**-1.5**
	comp=Z,2.7nm,0.7s,baz=90,slow=8.3,SNR=50						
FITZ	**Fitzroy Crossi**	**54.60**	**260**	LR	LR	20 54 31.0	
	comp=Z,132nm,21.0s,baz=252,slow=34						
SOEI	**Soe**	**57.59**	**269**	P	**P**	**20 33 26.3**	**+0.6**

comp=N,174nm,0.3s
KAN12 IAML 20 24 29.1
comp=E,173nm,0.4s
BLOK Blackwell 0.69 88 Pg Pg 20 24 18.7 -1.0
BLOK IAML 20 24 35.3
comp=N,114nm,0.2s
BLOK IAML 20 24 43.0
comp=E,126nm,0.2s
OK029 Liberty Lake 1.07 152 Pg Pb 20 24 27.4 +0.2
OK029 IAML 20 24 49.4
comp=E,51nm,0.4s
OK029 IAML 20 24 49.6
comp=E,42nm,0.1s
BCOK Bluff Creek, N 1.15 161 Pg Pg 20 24 27.9 -0.4
BCOK IAML 20 24 42.9
comp=E,55nm,4.2s
BCOK IAML 20 24 49.1
comp=N,61nm,0.2s
OK033 Mehan 1.15 127 Pg Pg 20 24 27.8 -0.7
QUOK Quay 1.24 117 Pg 20 24 30.4 +0.2
T35A Sooner Cattle 1.27 82 Pn 20 24 30.1 -0.3
T35A IAML 20 24 52.7
comp=E,30nm,0.3s
OK031 S. Brethren Rd 1.27 128 Pn Pn 20 24 30.1 -0.5
OK031 IAML 20 24 51.3
comp=E,57nm,2.2s
OK025 Westminster Rd 1.30 153 Pg 20 24 31.5 +0.1
OK034 N. Norfolk Rd. 1.32 123 Pn Pn 20 24 31.1 -0.1
OK030 Cody Creek RV 1.32 128 Pn Pn 20 24 31.3 +0.1
R32A Long Quarter, 1.75 343 Pn 20 24 37.2 +0.1
W35A Tecumseh 1.86 148 Pn 20 24 39.4 +0.7
WMOK Wichita Mounta 2.08 196 Pn Pn 20 24 43.0 +1.4
X34A Smith Ranch, M 2.15 175 Pn Pn 20 24 44.0 +1.4

KRSC 18 20:52:05.9±1.6, 50°33N×156°97E, h44km±20km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.65**	**303**	*e*P	Pn	20 52 19.1	+0.4
SKR				*e*S	Sn	20 52 28.0	+0.1
PAU	**Pauzhetka**	**1.14**	**355**	*e*P	Pn	20 52 27.1	+1.7
PAU				*e*S	Sn	20 52 41.8	+1.9
KDTR	**Khodutka, Kamc**	**1.64**	**25**	*e*P	Pn	20 52 34.2	+2.0
KDTR				*e*S	Sn	20 52 54.1	+2.1
MTVR	**Mutnovka**	**2.28**	**19**	*e*P	Pn	20 52 43.9	+2.7
MTVR				*e*S	Sn	20 53 11.0	+2.8
GRL	**Gorelyy**	**2.33**	**17**	*e*P	Pn	20 52 45.0	+3.2
GRL				*e*S	Sn	20 53 13.1	+3.9
KRMR	**Karymshinskiy**	**2.60**	**16**	*e*P	Pn	20 52 49.1	+3.6
KRMR				*e*S	Sn	20 53 20.4	+4.6
DALK	**Dalny**	**2.92**	**22**	*e*P	Pn	20 52 52.3	+2.5
DALK				*e*S	Sn	20 53 27.0	+3.4
UGLR	**Uglovaya**	**3.10**	**21**	*e*P	Pn	20 52 56.8	+4.4
AVH	**Avacha**	**3.14**	**20**	*e*P	Pn	20 52 57.9	+5.1
KOK	**Koryaka**	**3.14**	**19**	*e*P	Pn	20 52 57.5	+4.6
SMAR	**Somma**	**3.15**	**20**	*e*P	Pn	20 52 58.2	+5.1
SDLR	**Sedlovina**	**3.18**	**21**	*e*P	Pn	20 52 56.8	+3.3
SPN	**Mys Shipunski**	**3.36**	**33**	P	Pn	20 52 59.0	+3.2
SPN				*e*S	Sn	20 53 36.8	+2.4
MKZ	**Mys Kozlova**	**5.13**	**33**	*e*P	Pn	20 53 22.5	+2.4

*KRNET **18** 21:02:03.9±0.1, 40°87N×71°20E, h14km, mb2.7*
*ISU **18** 21:02:03, 41°00N×71°40E, h5km*
*SOME **18** 21:02:04.8, 40°92N×71°10E, h5km*
*NNC **18** 21:02:10.5±4.5, 41°11N×71°24E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=35.9km s-min=13.8km az=8.0*
ISC 18 21:02:04.2±1.1, 40°92N±0°03×71°20E±0°03, h11km±11km, n24, σ1§44/42, 15C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.61**	**356**	⇑*e*P	Pg	21 02 15.5	-0.6
TRKS	baz=58			⇑*i*S	Sg	21 02 24.0	-0.2
BTK	**Batken**	**0.91**	**199**	*i*P	Pn	21 02 23.0	0.0
BTK				*e*S	Sn	21 02 38.0	+1.8
BTK	**Batken**	**0.91**	**199**	⇓*i*P	Pb	21 02 20.4	-1.7
BTK	baz=0.0			⇓*i*S	Sb	21 02 32.7	-1.5
ARK	**Arkit**	**1.05**	**33**	⇑*i*P	Pg	21 02 24.8	+0.4
ARK	baz=32			⇑*i*S	Sn	21 02 40.2	+0.5
CHMG	**Chimgan**	**1.09**	**305**	*i*P	Pb	21 02 25.0	-0.2
CHMG				*e*S	Sb	21 02 40.0	+0.4
CHRV	**Charvak**	**1.18**	**308**	*e*P	Pg	21 02 28.0	+1.1
CHRV				*e*S	Sn	21 02 43.0	+0.1
OHH	**Osh**	**1.27**	**108**	⇑*i*P	Pb	21 02 28.0	-0.2
OHH	baz=5.0			⇑*i*S	Sg	21 02 45.2	0.0
IUG	**Iuzhnay**	**1.50**	**325**	*e*P	Pg	21 02 33.8	+0.7
IUG	242nm,0.4s			*e*S	Sg	21 02 54.2	+1.6
DRK	**Karamyk**	**1.51**	**162**	⇓*i*P	Pb	21 02 31.9	-0.6
DRK	baz=61			⇓*i*S	Sb	21 02 51.7	-0.1
MNAS	**Manas**	**1.84**	**32**	⇑*i*P	Pg	21 02 39.3	-0.3
MNAS	baz=31			⇑*i*S	Sg	21 03 04.8	+1.2
SFK	**Sufi-Kurgan**	**1.98**	**117**	⇑*e*P	Pb	21 02 40.4	0.0
SFK	baz=15			⇑*e*S	Sg	21 03 07.0	-0.9
KK08	**Karatay Array**	**2.24**	**347**	⇓Pn	Pb	21 02 44.9	+0.1
KK08	2.2nm,0.5s,baz=162,slow=14			⇓Sn	Sg	21 03 16.1	-0.3
BRLS	**Borolday**	**2.34**	**335**	*e*P	Pb	21 02 45.1	-1.3
BRLS	4.5nm,0.2s			*e*S	Sb	21 03 14.6	-0.7
BRLS	**Borolday**	**2.34**	**335**	Pg	Pb	21 02 45.1	-1.3
BRLS	4.5nm,0.2s			Lg	Lg	21 03 14.6	
MRKS	**Merke**	**2.37**	**39**	*e*P	Pg	21 02 49.7	+0.1
MRKS	5.4nm,0.3s			*e*S	Sg	21 03 21.9	+1.4
MRKS	**Merke**	**2.37**	**39**	Pg	Pg	21 02 49.7	+0.1
MRKS	5.4nm,0.3s			Lg	Lg	21 03 21.9	
ARLS	**Aral**	**2.53**	**67**	⇓*i*P	Pb	21 02 48.9	-0.9
ARLS	baz=66			⇓*i*S	Sb	21 03 21.3	+0.3
UCH	**Uchtor**	**2.81**	**61**	⇑*e*P	Pb	21 02 52.9	-1.8
UCH	baz=60			⇑*i*S	Sb	21 03 28.8	-0.5
AAK	**Ala-Archa**	**3.00**	**54**	⇑Pg	Pg	21 03 06.2	+4.4
AAK	0.8nm,0.4s			⇓Lg	Lg	21 03 40.6	
SGDS	**Sogindy**	**3.59**	**44**	*e*P	Pg	21 03 11.0	-2.0
SGDS	0.9nm,0.7s			*e*S	Sg	21 03 57.7	-1.8
SGDS	**Sogindy**	**3.59**	**44**	Pg	Pg	21 03 11.5	-1.5
SGDS	0.9nm,0.2s			Lg	Lg	21 03 57.7	
TKM2	**Tokmak 2**	**3.84**	**57**	⇑Pg	Pg	21 03 22.5	+4.6
TKM2	0.3nm,0.4s			⇑Lg	Lg	21 04 06.3	
KST	**Kastek**	**4.14**	**58**	*e*P	Pg	21 03 22.7	-0.8
KST	1.3nm,0.3s			*e*S	Sg	21 04 17.7	+0.6
KST	**Kastek**	**4.14**	**58**	Pg	Pg	21 03 22.7	-0.8
KST	1.3nm,0.3s			Lg	Lg	21 04 17.7	
	4.1nm,0.4s						

*IDC **18** 21:17:06.5±12.0, 36°22N×71°23E, h225km±74km, mb2.8/3, mb1 2.8/4, mb1mx2.6/33, mbtmp3.3/4, Error ellipse: s-maj=349.6km s-min=38.0km az=139.0*
*NNC **18** 21:17:10.5±13.0, 36°71N×71°00E, h199km±282km, mb2.3, mpv3.4, Error ellipse: s-maj=144.6km s-min=67.6km az=6.0*
ISC 18 21:17:03.5±1.6, 36°3N±0°1×71°2E±0°2, h188km, n8, σ1§85/11, 1C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	**Karatay Array**	**6.85**	**356**	⇓P	Pn	21 18 43.5	+1.9
KK08	3.1nm,0.5s,baz=171,slow=12			⇓S	Sn	21 19 58.1	-1.3
AAK	**Ala-Archa**	**6.87**	**21**	⇑P	Pn	21 18 44.8	+2.8
AAK	1.2nm,0.4s			⇓S	Sn	21 19 58.4	-1.5
TKM2	**Tokmak 2**	**7.48**	**26**	⇓P	Pn	21 18 52.4	+2.4
TKM2	0.9nm,0.5s			⇓S	Sn	21 20 12.9	-1.6
MKAR	**Makanchi Array**	**13.41**	**35**	P	P	21 20 07.9	-1.4
AB31	**Akbulak array**	**15.35**	**331**	⇓P	P	21 20 31.2	+0.4
ZALV	**Zalesovo Beam**	**20.08**	**24**	P	P	21 21 23.0	+0.8
TORD	**Torodi Ar. Bea**	**65.84**	**269**	P	P	21 27 28.5	-0.5
YKA	**Yellowknife Ar**	**81.48**	**3**	P	P	21 28 58.3	-0.9

0.0nm,0.3s,baz=220,slow=13,SNR=3.0
0.1nm,0.3s,baz=118,slow=6.2,SNR=8.7
0.3nm,0.4s,baz=221,slow=11,SNR=2.8
0.4nm,1.1s,baz=53,slow=4.9,SNR=5.0
0.1nm,0.4s,baz=354,slow=5.4,SNR=4.7

*IDC **18** 21:41:34.0±1.7, 14°90S×177°59W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/33, mbtmp3.8/6, MS3.6/10, Ms1 3.6/10, ms1mx3.3/61, Error ellipse: s-maj=112.2km s-min=24.0km az=145.0*
ISC 18 21:41:35.4±1.5, 14°95±0°6×177°6W±0°4, h10km, n16, σ0§47/7, mb3.9/6, MS3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.03**	**236**	LR	LR	21 44 15.5	
	comp=Z,142nm,21.2s,baz=44,slow=32						
HNR	**Honiara**	**22.63**	**281**	LR	LR	21 54 19.8	
	comp=Z,182nm,18.3s,baz=126,slow=34						
PPT	**Papeete**	**27.00**	**99**	LR	LR	21 55 49.5	
	comp=Z,64nm,19.0s,baz=208,slow=32						
PMG	**Port Moresby**	**34.87**	**275**	LR	LR	22 00 16.4	
	comp=Z,171nm,18.1s,baz=144,slow=32						
STKA	**Stephens Creek**	**40.81**	**238**	P	P	21 49 17.6	+0.2
	4.5nm,0.9s,baz=76,slow=5.7,SNR=7.4						
WRA	**Warramunga Arr**	**46.02**	**257**	P	P	21 49 59.7	+0.1
	0.2nm,0.2s,baz=91,slow=7.9,SNR=2.9						
WRA				LR	LR	22 09 05.0	
	comp=Z,76nm,18.1s,baz=126,slow=36						
ASAR	**Alice Springs**	**46.42**	**251**	P	P	21 50 02.4	-0.3
	1.3nm,0.7s,baz=85,slow=8.2,SNR=18						
ASAJ	**Asahikawa**	**69.08**	**330**	LR	LR	22 17 57.0	
	comp=Z,40nm,21.6s,baz=324,slow=32						
PFO	**Pinyon Flats O**	**75.61**	**49**	LR	LR	22 20 09.8	
	comp=Z,88nm,20.6s,baz=208,slow=31						
YBH	**Yreka Blue Hor**	**75.73**	**39**	LR	LR	22 18 51.4	
	comp=Z,63nm,19.1s,baz=282,slow=30						
KLR	**Kul'dur**	**77.98**	**329**	LR	LR	22 22 00.3	
	comp=Z,48nm,21.2s,baz=164,slow=31						
ILAR	**Eielson Array**	**82.83**	**13**	P	P	21 53 59.4	-0.2
	0.8nm,1.0s,baz=205,slow=4.0,SNR=3.3						
TXAR	**Lajitas Array**	**83.74**	**58**	P	P	21 54 05.2	-0.1
	0.8nm,1.0s,baz=241,slow=4.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**88.64**	**289**	LR	LR	22 33 08.3	
	comp=Z,16nm,18.5s,baz=185,slow=35						
YKA	**Yellowknife Ar**	**91.31**	**24**	P	P	21 54 41.5	+0.6
	0.3nm,0.9s,baz=249,slow=3.8,SNR=3.7						
GERES	**GERESS Array B**	**144.93**	**347**	PKP	**PKPdf**	**22 01 12.6**	**-0.5**
	1.1nm,1.0s,baz=38,slow=2.4,SNR=5.3						

*WEL **18** 21:46:17.2±0.8, 37°S±6°×17°8E±°, h77km±7km, M3.2/24, ML3.4/26, MLv3.2/24, Error ellipse: s-maj=0.0km s-min=0.0km az=135.5*
*NOU **18** 21:46:29.5, 38°59S×176°86E, h0km, MLv3.8/5, North Island, New Zealand*
ISC 18 21:46:13.2±2.6, 37°40S±0°10×177°96E±0°08, h125km±12km, n89, σ1§62/101, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.32**	**120**	P	Pn	21 46 31.6	+0.8
MXZ				S	Sn	21 46 43.3	-0.8
HAZ	**Te Kaha**	**0.38**	**201**	P	Pn	21 46 30.8	-0.2
HAZ				S	Sn	21 46 41.2	-3.3
PKGZ	**Pakihiroa**	**0.49**	**169**	P	Pn	21 46 32.6	+0.9
PKGZ				S	Sn	21 46 44.3	-1.5
WMGZ	**Waiomatatini S**	**0.55**	**139**	P	Pn	21 46 33.5	+1.5
WMGZ				S	Sn	21 46 47.0	+0.8
RUGZ	**Raukumara Rang**	**0.60**	**201**	P	Pn	21 46 32.3	-0.2
WIZ	**White Island**	**0.62**	**258**	P	Pn	21 46 31.9	-0.6
PUZ	**Puketiti**	**0.71**	**160**	P	Pn	21 46 34.4	+1.3
PUZ				S	Sn	21 46 47.9	-0.3
TWGZ	**Tauwhareparae**	**0.77**	**179**	P	Pn	21 46 35.6	+1.9
TWGZ				S	Sn	21 46 49.6	+0.3
MWZ	**Matawai**	**0.99**	**200**	P	Pn	21 46 36.7	+1.2
MWZ				S	Sn	21 46 51.3	-1.3
TKGZ	**Te Karaka**	**1.04**	**185**	P	Pn	21 46 37.7	+1.8
TKGZ				S	Sn	21 46 53.9	+0.6
URZ	**Urewera**	**1.09**	**218**	P	Pn	21 46 37.0	+0.6
URZ				S	Sn	21 46 52.1	-2.1
URZ	**Urewera**	**1.09**	**218**	P	Pn	21 46 37.0	+0.6
CNGZ	**Carnagh Statio**	**1.10**	**170**	P	Pn	21 46 39.4	+2.8
RAGZ	**Rawiri**	**1.17**	**201**	P	Pn	21 46 39.3	+1.9
RAGZ				S	Sn	21 46 56.4	+0.5
OPRZ	**Ohinepanea**	**1.20**	**248**	P	Pn	21 46 37.9	+0.3
RIGZ	**Rimuhau**	**1.31**	**187**	P	Pn	21 46 40.6	+1.8
RIGZ				S	Sn	21 46 59.2	+0.8
TARZ	**Mount Tarawera**	**1.42**	**234**	P	Pn	21 46 41.6	+1.5
MUGZ	**Murupara**	**1.43**	**221**	P	Pn	21 46 41.3	+1.2
RTZ	**Ruatahuna**	**1.44**	**212**	P	Pn	21 46 41.5	+1.2
RTZ				S	Sn	21 47 00.3	-0.6
RRRZ	**Republican Roa**	**1.48**	**230**	P	Pn	21 46 41.8	+1.2
KARZ	**Kaharoa**	**1.49**	**245**	P	Pn	21 46 41.7	+0.8
PRGZ	**Paritu Road**	**1.52**	**182**	P	Pn	21 46 43.0	+1.8
HLRZ	**Highlands Stat**	**1.53**	**236**	P	Pn	21 46 43.1	+1.8
KNZ	**Kokohu**	**1.63**	**188**	P	Pn	21 46 44.0	+1.6
PRRZ	**Plateau Road**	**1.65**	**228**	P	Pn	21 46 44.1	+1.5
RAHZ	**Arahi**	**1.66**	**204**	P	Pn	21 46 44.7	+1.9
MTHZ	**Maungataniwha**	**1.69**	**211**	P	Pn	21 46 44.8	+1.5
ALRZ	**Allen Road**	**1.72**	**227**	P	Pn	21 46 45.4	+1.9
MHGZ	**Mahia Peninsul**	**1.75**	**181**	P	Pn	21 46 46.1	+2.2
WPRZ	**Whakapapatarin**	**1.80**	**231**	P	Pn	21 46 46.5	+2.0
MRHZ	**Matea Rd**	**1.88**	**220**	P	Pn	21 46 47.0	+1.6
NMHZ	**Naumai**	**1.92**	**208**	P	Pn	21 46 48.2	+2.2
TOZ	**Tahuroa Road**	**1.98**	**260**	P	Pn	21 46 47.9	+1.3
ARHZ	**Aropaoanui**	**2.00**	**202**	P	Pn	21 46 48.8	+1.9
HATZ	**Hinemaiaia**	**2.09**	**224**	P	Pn	21 46 49.9	+1.9
WATZ	**Wairara**	**2.19**	**233**	P	Pn	21 46 51.3	+2.1
RATZ	**Rangitukua**	**2.26**	**229**	P	Pn	21 46 52.4	+2.3
MCHZ	**McNeill Hill**	**2.27**	**206**	P	Pn	21 46 51.9	+1.8
RITZ	**Rihia Road**	**2.28**	**226**	P	Pn	21 46 52.8	+2.4
KWHZ	**Kaweka Forest**	**2.35**	**210**	P	Pn	21 46 52.8	+1.5
CKHZ	**Cape Kidnapper**	**2.35**	**197**	P	Pn	21 46 52.6	+1.3
KATZ	**Kakaramea**	**2.38**	**228**	P	Pn	21 46 54.0	+2.4
TMVZ	**Te Maari**	**2.46**	**225**	P	Pn	21 46 54.9	+2.1
NTVZ	**North Tongarir**	**2.47**	**226**	P	Pn	21 46 55.1	+2.2
ETVZ	**East Tongariro**	**2.47**	**225**	P	Pn	21 46 55.0	+2.1
KRVZ	**Karewarewa**	**2.48**	**226**	P	Pn	21 46 55.4	+2.3
OTVZ	**Oturere**	**2.52**	**225**	P	Pn	21 46 55.6	+2.1
NNVZ	**North Ngauruho**	**2.52**	**226**	P	Pn	21 46 56.0	+2.4
WTVZ	**West Tongariro**	**2.53**	**227**	P	Pn	21 46 56.0	+2.4
KAHZ	**Kahuranaki**	**2.53**	**199**	P	Pn	21 46 55.1	+1.5
SNVZ	**South Ngauruho**	**2.55**	**225**	P	Pn	21 46 56.1	+2.2
BHHZ	**Black Hill Sta**	**2.56**	**215**	P	Pn	21 46 55.3	+1.3
KRHZ	**Kereru**	**2.56**	**209**	P	Pn	21 46 54.9	+1.0
NGZ	**Ngauruhoe**	**2.56**	**226**	P	Pn	21 46 56.3	+2.2
TWVZ	**Taurewa**	**2.59**	**229**	P	Pn	21 46 56.7	+2.3
MOVZ	**Moawhango**	**2.65**	**220**	P	Pn	21 46 56.3	+1.2
WNVZ	**Wahianoa**	**2.67**	**223**	P	Pn	21 46 57.2	+1.7
HIZ	**Hauiti**	**2.69**	**245**	P	Pn	21 46 58.2	+2.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**2.69**	**245**	P	Pn	21 46 58.2	+2.6
PXZ	**Pawanui**	**2.76**	**198**	P	Pn	21 46 57.1	+0.6
PNHZ	**Pukenui**	**2.86**	**208**	P	Pn	21 46 58.3	+0.5
WPHZ	**Waipukurau**	**2.91**	**204**	P	Pn	21 46 59.1	+0.6
PRHZ	**Porangahau**	**3.04**	**199**	P	Pn	21 47 00.9	+0.8
VRZ	**Vera Road**	**3.05**	**235**	P	Pn	21 47 02.9	+2.7
TSZ	**Takapari Road**	**3.08**	**210**	P	Pn	21 47 00.9	+0.3
DVHZ	**Dannevirke**	**3.21**	**205**	P	Pn	21 47 02.2	-0.2
ANWZ	**Angora Road**	**3.26**	**200**	P	Pn	21 47 03.3	+0.3
POWZ	**Post Office Ro**	**3.44**	**209**	P	Pn	21 47 06.0	+0.7
PRWZ	**Pori Road**	**3.51**	**206**	P	Pn	21 47 06.3	+0.1
BFZ	**Birch Farm**	**3.54**	**202**	P	Pn	21 47 06.4	-0.2
BFZ	**Birch Farm**	**3.54**	**202**	P	Pn	21 47 06.4	-0.2
PKE	**Pukeiti**	**3.60**	**239**	P	Pn	21 47 11.7	+4.3
TIWZ	**Tintock**	**3.73**	**205**	P	Pn	21 47 08.6	-0.7
MRZ	**Mangatainoka R**	**3.74**	**209**	P	Pn	21 47 09.0	-0.4
HOWZ	**Holdsworth Sta**	**3.97**	**208**	P	Pn	21 47 11.4	-1.0
OGWZ	**Otaki Gorge**	**4.04**	**212**	P	Pn	21 47 12.8	-0.5
KIW	**Kapiti Island**	**4.19**	**214**	P	Pn	21 47 14.9	-0.4
MTW	**Mount Morrison**	**4.21**	**206**	P	Pn	21 47 14.2	-1.3
CAW	**Cannon Point**	**4.33**	**210**	P	Pn	21 47 16.4	-0.7
TRWZ	**Traveller**	**4.36**	**203**	P	Pn	21 47 16.4	-1.2
PAWZ	**Paruwai Farm**	**4.43**	**205**	P	Pn	21 47 17.3	-1.2
TCW	**Tory Channel**	**4.75**	**216**	P	Pn	21 47 21.6	-1.2
BSWZ	**Blackbirch Sta**	**5.34**	**215**	P	Pn	21 47 29.1	-1.5
QRZ	**Quartz Range**	**5.43**	**229**	P	Pn	21 47 31.3	-0.6
QRZ	**Quartz Range**	**5.43**	**229**	P	Pn	21 47 31.6	-0.3
THZ	**Tophouse**	**5.85**	**220**	P	Pn	21 47 36.6	-1.0
KHZ	**Kahutara**	**6.05**	**213**	P	Pn	21 47 38.5	-1.7
KHZ	**Kahutara**	**6.05**	**213**	P	Pn	21 47 40.4	+0.2
GVZ	**Greta Valley S**	**6.71**	**213**	P	Pn	21 47 47.3	-1.9

*IDC **18** 22:09:08.1±14.0, 1°68N×124°23E, h420km±201km, mb3.0/6, mb1 3.2/7, mb1mx3.0/36, mbtmp3.8/7, Error ellipse: s-maj=59.0km s-min=30.7km az=93.0*
ISC 18 22:09:00.3±1.0, 1°8N±0°2×124°1E±0°5, h323km, n7, σ0§70/7, mb3.2/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.82**	**176**	P	P	22 13 08.8	+0.6
	0.7nm,0.3s,baz=12,slow=10,SNR=22						
WRA	**Warramunga Arr**	**23.81**	**156**	P	P	22 13 44.3	-0.8
	2.2nm,0.5s,baz=334,slow=10.0,SNR=40						
ASAR	**Alice Springs**	**27.03**	**160**	P	P	22 14 13.8	-0.2
	0.5nm,0.5s,baz=340,slow=7.2,SNR=8.1						
USRK	**Ussuriysk Ar.**	**42.80**	**8**	P	P	22 16 27.7	+0.7
	0.4nm,0.3s,baz=187,slow=7.8,SNR=5.2						
SONM	**Songino Array**	**48.36**	**344**	P	P	22 17 10.2	-0.3
	0.4nm,0.6s,baz=160,slow=6.9,SNR=3.3						
MKAR	**Makanchi Array**	**57.71**	**327**	P	P	22 18 18.1	+0.1
	0.4nm,0.3s,baz=122,slow=8.1,SNR=21						
ZALV	**Zalesovo Beam**	**61.17**	**335**	P	P	22 18 40.7	-0.6
	0.5nm,0.4s,baz=136,slow=7.3,SNR=2.6						

*ISK **18** 22:14:50.9, 39°24N×29°33E, h8km, ML2.5/8*
*DDA **18** 22:14:50.5±0.0, 39°17N×29°38E, h7km±1km, ML1.9*
ISC 18 22:14:51.1±1.0, 39°21N±0°02×29°37E±0°03, h9km±9km, n20, σ0§40/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.25**	**17**	PG	Pg	22 14 56.0	-0.1
TVSB				SG	Sg	22 14 59.7	+0.2
SMAA	**Simav-Kutahya**	**0.32**	**250**	PG	Pg	22 14 57.6	+0.1
SMAA				SG	Sg	22 15 02.4	+0.6
SIMA	**Simav-Kutahya**	**0.33**	**247**	PG	Pg	22 14 57.7	+0.1
SIMA				SG	Sg	22 15 02.4	+0.4
USAK	**Uak-Merkez**	**0.57**	**209**	P	Pg	22 15 02.1	-0.1
USAK				S	Sg	22 15 09.6	0.0
USAK				*i* AML	AML	22 15 11.0	
	comp=E,84nm,0.2s						
USAK				*i* AML	AML	22 15 12.0	
	comp=N,56nm,0.3s						
DURS	**Dursunbey**	**0.79**	**299**	P	Pg	22 15 06.2	-0.2
DURS				S	Sb	22 15 18.8	+0.7
DURS				*i* AML	AML	22 15 21.0	
	comp=N,69nm,0.6s						
DURS				*i* AML	AML	22 15 21.0	
	comp=E,84nm,0.5s						
PASA	**Karahalli, USA**	**0.87**	**174**	P	Pb	22 15 08.0	-0.4
PASA				S	Sg	22 15 18.8	-0.3
KULA	**Kula-Manisa**	**0.89**	**219**	PG	Pg	22 15 07.8	-0.4
STBT	**Saitabat**	**0.94**	**354**	P	Pb	22 15 09.2	-0.3
STBT				S	Sg	22 15 21.1	-0.1
STBT				*i* AML	AML	22 15 26.0	
	comp=E,72nm,0.1s						
STBT				*i* AML	AML	22 15 26.0	
	comp=N,92nm,0.4s						
ULDT	**Uludag**	**0.94**	**349**	P	Pb	22 15 09.4	-0.4
ULDT				S	Sg	22 15 21.0	-0.6
ULDT				*i* AML	AML	22 15 24.0	
	comp=N,33nm,0.3s						
ULDT				*i* AML	AML	22 15 25.0	
	comp=E,27nm,0.4s						
BILE	**Bilecik/Merkez**	**1.02**	**22**	P	Pg	22 15 10.3	-0.5
BILE				S	Sn	22 15 25.8	-0.6
BILE				*i* AML	AML	22 15 28.0	
	comp=N,33nm,0.2s						
BILE				*i* AML	AML	22 15 29.0	
	comp=E,38nm,0.2s						
CAVI	**Cavuskoy**	**1.05**	**20**	PG	Pb	22 15 11.4	-0.1
CAVI				SG	Sb	22 15 26.2	+0.7
IGD	**Bursa**	**1.06**	**353**	P	Pb	22 15 11.4	-0.2
IGD				S	Sg	22 15 25.0	-0.2
IGD				*i* AML	AML	22 15 27.0	
	comp=E,31nm,0.2s						
IGD				*i* AML	AML	22 15 28.0	
	comp=N,23nm,0.3s						
AVDN	**Avdancik/Bursa**	**1.09**	**352**	P	Pb	22 15 12.1	-0.1
AVDN				*i* AML	AML	22 15 28.0	
	comp=E,34nm,0.5s						
AVDN				S	Sn	22 15 28.0	+0.2
AVDN				*i* AML	AML	22 15 29.0	
	comp=N,32nm,0.4s						
SHUT	**Suhut-Afyon**	**1.13**	**125**	PN	Pn	22 15 13.9	+0.6
BALB	**Balikesir**	**1.23**	**291**	PN	Pn	22 15 14.5	0.0
SRCK	**Saricakaya, Es**	**1.27**	**49**	PN	Pg	22 15 15.6	0.0
YLV	**Yalova**	**1.35**	**0**	PN	Pb	22 15 16.5	-0.2
TRML	**Termal-Yalova**	**1.40**	**354**	PN	Pb	22 15 17.2	-0.3
GULT	**Gulveren**	**1.50**	**36**	PN	Pb	22 15 19.1	-0.2
AYDB	**Zeytinkoy-Aydi**	**1.72**	**223**	PN	Pb	22 15 22.1	-0.8

*IDC **18** 22:18:18.6±1.7, 30°65S×72°72W, h0km, mb4.1/2, mb1 3.9/6, mb1mx3.7/31, mbtmp3.9/6, ML3.7/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/48, Error ellipse: s-maj=72.7km s-min=24.9km az=101.0*
*GUC **18** 22:

AC04	**Llanos de Chal**	**2.70**	**27**⇑	*e*P	**Pn**	**22 19 03.2**	**-0.6**
AC04				*i* S	**Sn**	**22 19 35.5**	**-0.9**
AC04				IAML		22 19 41.7	
	comp=N,122nm,0.3s						
MT09	**Talagante**	**3.38**	**159**	*e*P	**Pn**	**22 19 13.2**	**-0.1**
MT09				*e*S	**Sn**	**22 19 53.3**	**0.0**
MT09				IAML		22 19 56.6	
	comp=N,65nm,0.2s						
MT01	**Popeta**	**3.39**	**163**⇑	*e*P	**Pn**	**22 19 12.1**	**-1.2**
MT01				*i* S	**Sn**	**22 19 53.2**	**-0.1**
MT01				IAML		22 19 56.4	
	comp=E,38nm,0.5s						
GO03	**Copiap**	**3.60**	**34**⇑	*e*P	**Pn**	**22 19 15.9**	**-0.2**
GO03				*i* S	**Sn**	**22 19 57.7**	**-0.8**
GO03				IAML		22 20 01.7	
	comp=N,64nm,0.5s						
BO01	**Tunca**	**3.94**	**163**	*e*P	**Pn**	**22 19 20.3**	**-0.4**
BO01				*e*S	**Sn**	**22 20 03.7**	**-3.0**
BO02	**Sierra Bellavi**	**4.39**	**161**	*e*P	**Pn**	**22 19 26.9**	**-0.2**
BO02				*i* S	**Sn**	**22 20 13.4**	**-4.7**
AC02	**Maricunga**	**4.78**	**39**⇓	*e*S	**Sn**	**22 20 27.1**	**-1.2**
LVC	**Limon Verde**	**8.60**	**23**	Pn	**Pn**	**22 20 24.0**	**-1.1**
	comp=N,0.3nm,0.3s,baz=205,slow=14,SNR=1.5						
LVC				Sn	**Sn**	**22 21 57.7**	**-4.3**
	comp=N,0.3nm,0.3s,baz=213,slow=15,SNR=1.3						
PLCA	**Paso Flores**	**10.21**	**172**	Pn	**Pn**	**22 20 46.2**	**-0.6**
	comp=N,0.2nm,0.3s,baz=347,slow=9.9,SNR=8.5						
CPUP	**Villa Florida**	**13.99**	**76**	LR	LR	22 27 17.1	
	comp=N,50nm,20.5s,baz=206,slow=38						
LPAZ	**La Paz**	**14.81**	**17**	Pn	**Pn**	**22 21 52.7**	**+2.3**
	comp=N,0.1nm,0.3s,baz=150,slow=6.0,SNR=8.4						
SIV	**San Ignacio**	**17.92**	**38**	P	**P**	**22 22 31.1**	**+0.9**
	comp=N,0.2nm,0.3s,baz=215,slow=12,SNR=10						
SNAA	**Sanae**	**54.85**	**159**	P	**P**	**22 27 50.6**	**+0.5**
	comp=N,2.5nm,0.8s,baz=261,slow=13,SNR=1.7						
TORD	**Torodi Ar. Bea**	**83.42**	**71**	P	**P**	**22 30 49.5**	**+1.4**
	comp=N,0.7nm,0.6s,baz=281,slow=5.6,SNR=9.1						
BBB	**Bella Bella**	**95.73**	**329**	LR	LR	23 10 01.5	
	comp=N,57nm,21.5s,baz=251,slow=32						
WRA	**Warramunga Arr**	**123.50**	**211**	PKP	**PKPdf**	**22 37 17.4**	**-0.9**
	comp=N,0.2nm,0.5s,baz=170,slow=1.5,SNR=1.8						
ZALV	**Zalesovo Beam**	**151.51**	**29**	PKPbc	**PKiKP**	**22 38 14.8**	**+0.5**
	comp=N,1.9nm,0.5s,baz=309,slow=3.0,SNR=11						

JMA 18 22:25:34.3±0.1, 24°.93N×123°.37E, h26km±4km, M2.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.57**	**215**	P	Pb	22 25 45.3	-0.4
YOJ				S	Sb	22 25 53.1	-0.4
JYNG	**Yonagunijimaku**	**0.61**	**219**	P	Pb	22 25 46.1	-0.4
JYNG				S	Sb	22 25 54.2	-0.5
IRIF	**Iriomote-Funau**	**0.68**	**151**	P	Pb	22 25 47.2	-0.3
IRIF				*e*S	Sb	22 25 56.3	-0.2
JIJ	**Ishigaki jima**	**0.90**	**129**	P	Pn	22 25 50.6	-0.7
JIJ				*e*S	Sb	22 26 01.6	-1.3
JKRS	**Kuro-shima**	**0.90**	**140**	P	Pn	22 25 51.0	-0.3
JKRS				S	Sb	22 26 02.6	-0.3
JISG	**Ishigakijimahi**	**0.92**	**112**	P	Pn	22 25 51.1	-0.5
JISG				*e*S	Sb	22 26 02.6	-0.9
HATJ	**Hateruma jima**	**0.96**	**155**	P	Pn	22 25 51.7	-0.3
HATJ				*e*S	Sb	22 26 03.8	-0.7

TAP 18 22:26:05.6, 24°.25N×121°.71E, h11km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.07**	**27**	*e*P	Pg	22 26 08.4	+0.4
	baz=33						
EHP				*e*S	Sg	22 26 10.4	+0.7
	baz=33						
ETL	**Fush Village**	**0.12**	**221**	P	Pb	22 26 09.9	0.0
	baz=220						
ETL				S	Sg	22 26 11.8	+1.1
	baz=220						
NACB	**Ninganchiao**	**0.13**	**234**	P	Pg	22 26 08.8	+0.1
	baz=234						
NACB				S	Sg	22 26 12.3	+1.4
	baz=234						
ENA	**Nanau**	**0.18**	**10**	*i* P	Pb	22 26 10.4	-0.5
	baz=12						
ENA				*i* S	Sg	22 26 13.6	+1.2
	baz=12						
TWD	**Chiawan**	**0.20**	**211**	P	Pb	22 26 10.7	-0.5
	baz=209						
TWD				S	Sg	22 26 13.9	+1.3
	baz=209						
EWUT	**Wuta**	**0.21**	**18**	*e*P	Pb	22 26 10.8	-0.5
	baz=18						
EWUT				*e*S	Sg	22 26 14.9	+1.8
	baz=18						
ETLH	**Xiulin Townshi**	**0.21**	**259**	*e*P	Pb	22 26 10.9	-0.5
	baz=258						
ETLH				S	Sg	22 26 14.7	+1.5
	baz=258						
HWA	**Hwalien**	**0.28**	**199**	*e*P	Pg	22 26 11.9	+0.5
	baz=197						
HWA				*e*S	Sb	22 26 17.4	-0.1
	baz=197						
LATG	**Datong**	**0.33**	**330**	P	Pb	22 26 13.4	-0.1
	baz=330						
LATG				S	Sb	22 26 18.6	-0.3
	baz=330						
NNS	**Nan Shan**	**0.36**	**302**	*e*P	Pg	22 26 13.4	+0.6
	baz=302						
NNS				S	Sb	22 26 19.4	-0.4
	baz=302						
TWC	**Suao**	**0.38**	**20**	*e*P	Pb	22 26 14.9	+0.6
	baz=21						
TWC				*e*S	Sb	22 26 20.3	+0.1
	baz=21						
NDS	**Dongshan**	**0.38**	**1**	P	Pb	22 26 14.2	-0.2
	baz=1.0						
NDS				*e*S	Sb	22 26 19.9	-0.4
	baz=1.0						
NDT	**Datong Townshi**	**0.40**	**333**	*e*P	Pb	22 26 14.6	0.0
	baz=333						
NDT				*e*S	Sb	22 26 20.6	-0.1
	baz=333						
ENTT	**Nioudou**	**0.41**	**342**	*e*P	Pg	22 26 13.8	+0.1
	baz=342						
ENTT				S	Sb	22 26 21.1	0.0
	baz=342						
WHF	**Hehuan Shan**	**0.42**	**256**	P	Pb	22 26 14.8	-0.4
	baz=255						
WHF				S	Sb	22 26 20.9	-0.7
	baz=255						
FUSS	**Fushou**	**0.42**	**270**	*e*P	Pb	22 26 14.7	-0.5
	baz=269						
FUSS				*e*S	Sb	22 26 21.1	-0.6
	baz=269						
ESL	**Shilin**	**0.50**	**210**	*e*P	Pb	22 26 16.0	-0.4
	baz=209						
ESL				*e*S	Sb	22 26 23.2	-0.4
	baz=209						
ILA	**Ilan**	**0.52**	**4**	*e*P	Pg	22 26 16.1	+0.5
	baz=5.0						
ILA				*e*S	Sb	22 26 24.4	+0.3
	baz=5.0						
YHNB	**Yeheng**	**0.52**	**324**	*e*P	Pb	22 26 16.3	-0.4
	baz=324						
YHNB				*e*S	Sb	22 26 24.4	+0.2
	baz=324						
FUSB	**Fushanzhiwuyua**	**0.52**	**348**	*e*P	Pg	22 26 16.2	+0.4
	baz=347						
FUSB				*e*S	Sb	22 26 24.6	+0.2
	baz=347						
CHGB	**Renai**	**0.52**	**249**	*e*P	Pb	22 26 16.8	0.0
	baz=248						
CHGB				*e*S	Sb	22 26 24.9	+0.4
	baz=248						
NSK	**Sanguang**	**0.53**	**323**	*e*P	Pg	22 26 16.4	+0.4
	baz=323						
NSK				*e*S	Sb	22 26 24.8	+0.1
	baz=323						
NWLT	**Wulai**	**0.56**	**341**	*e*P	Pb	22 26 17.4	-0.1
	baz=340						
NWLT				*e*S	Sb	22 26 25.6	+0.1
	baz=340						
OWD	**Renai**	**0.57**	**239**	*e*S	Sb	22 26 26.0	+0.3
	baz=238						
WUSB	**Renai**	**0.60**	**245**	*e*P	Pb	22 26 17.7	-0.4
	baz=244						
WUSB				*e*S	Sb	22 26 26.9	+0.4
	baz=244						
TIPB	**Shuangxi**	**0.73**	**8**	*e*S	Sb	22 26 30.9	+0.6
	baz=8.0						

*IDC **18** 22:55:33.8±0.7, 30°.66N×132°.80E, h0km, mb3.9/13, mb1 4.0/18, mb1mx3.9/50, mbtmp3.8/18, ML3.5/5, MS3.5/2, Ms1 3.5/2, ms1mx2.6/92, Error ellipse: s-maj=22.8km s-min=14.5km az=86.0*

*NEIC **18** 22:55:36.2±1.7, 30°.67N±0°.06×132°.78E±0°.09, h10km±1km, mb4.3/21, Error ellipse: s-maj=12.5km s-min=9.6km az=273.0*

*JMA **18** 22:55:36.6±0.2, 30°.61N×132°.76E, h65km, M3.4*

ISC 18 22:55:38.9±0.5, 30°.67N±0°.05×132°.81E±0°.05, h35km, n64, σ1§66/74, mb4.2/24, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**1.57**	**303**	P	**Pn**	**22 56 02.8**	**-1.5**
JNAR				*e*S	**Sn**	**22 56 21.9**	**-1.5**
JNKG	**Nichinankitago**	**1.58**	**309**	P	**Pn**	**22 56 03.2**	**-1.1**
JNKG				*e*S	**Sn**	**22 56 22.3**	**-1.2**
JTN	**Tanegashima 3**	**1.58**	**270**	P	**Pn**	**22 56 02.1**	**-2.3**
JTN				*e*S	**Sn**	**22 56 21.6**	**-2.0**
JMTN	**Minamitane**	**1.67**	**261**	P	**Pn**	**22 56 03.6**	**-2.0**
JMTN				*e*S	**Sn**	**22 56 22.4**	**-3.5**
JTSR	**Tashiro 2**	**1.70**	**287**	P	**Pn**	**22 56 04.2**	**-1.8**
JTSR				*e*S	**Sn**	**22 56 25.3**	**-1.2**
JTZ	**Takazaki**	**1.92**	**310**	P	**Pn**	**22 56 07.7**	**-1.3**
JTZ				*e*S	**Sn**	**22 56 31.0**	**-0.9**
JTO	**Tosashimizu**	**2.18**	**360**	P	**Pn**	**22 56 10.1**	**-2.6**
JTO				*e*S	**Sn**	**22 56 33.3**	**-5.2**
JSU	**Suzuyama**	**2.19**	**293**	**Pn**	**Pn**	**22 56 11.2**	**-1.6**
JNA	**Nagahama**	**2.89**	**355**	P	**Pn**	**22 56 20.9**	**-1.5**
JNA				*e*S	**Sn**	**22 56 51.6**	**-4.4**
JNU	**Nakatsue**	**2.94**	**327**	Pn	**Pn**	**22 56 23.3**	**+0.1**
	11nm,0.3s,baz=20,slow=1.1,SNR=42						
JNU				Sn	**Sn**	**22 56 57.9**	**+0.6**
	3.7nm,0.3s,baz=152,slow=6.9,SNR=3.7						
JNU	**Nakatsue**	**2.94**	**327**	Pn	**Pn**	**22 56 22.8**	**-0.4**
JMN	**Monobe**	**3.18**	**16**	Pn	**Pn**	**22 56 24.8**	**-1.7**
JAI	**Aioi**	**3.41**	**24**	P	**Pn**	**22 56 28.7**	**-0.8**
JAI				*e*S	**Sn**	**22 57 02.9**	**-5.8**
JHS	**Saijyo**	**4.32**	**3**	Pn	**Pn**	**22 56 41.0**	**-1.2**
JOW	**Kunigami**	**5.52**	**227**	Pn	**Pn**	**22 56 58.0**	**-0.6**
	9.6nm,0.3s,baz=91,slow=21,SNR=8.5						
JOW				Sn	**Sn**	**22 57 55.9**	**-5.0**
	baz=306,slow=28,SNR=1.3						
JOW	**Kunigami**	**5.52**	**227**	Pn	**Pn**	**22 56 57.9**	**-0.7**
INU	**Inuyama**	**5.85**	**36**	Pn	**Pn**	**22 57 02.5**	**-0.6**
MAJO	**Matsushiro**	**7.38**	**36**	Pn	**Pn**	**22 57 24.3**	**+0.1**
MJAR	**Matsushiro Arr**	**7.38**	**36**	Pn	**Pn**	**22 57 24.1**	**-0.1**
	0.2nm,0.3s,baz=242,slow=14,SNR=8.9						
MJB9	**Matsu-Tunnel**	**7.38**	**36**	Pn	**Pn**	**22 57 24.2**	**0.0**
KSRS	**Korea Array**	**7.88**	**330**	Pn	**Pn**	**22 57 30.2**	**-0.8**
	0.3nm,0.3s,baz=148,slow=14,SNR=2.8						
KLR	**Kul'dur**	**18.55**	**358**	P	**Pn**	**22 59 52.7**	**-0.2**
	0.1nm,0.3s,baz=176,slow=3.9,SNR=6.3						
SMY	**Shemya**	**37.19**	**42**	P	**P**	**23 02 46.2**	**-0.2**
TIXI	**Tiksi**	**41.09**	**358**	P	**P**	**23 03 18.5**	**-0.3**
	0.5nm,0.3s,baz=128,slow=3.7,SNR=5.0						
TIXI	**Tiksi**	**41.09**	**358**	P	**P**	**23 03 18.1**	**-0.6**
MKAR	**Makanchi Array**	**41.82**	**307**	P	**P**	**23 03 25.8**	**+0.6**
	0.5nm,0.9s,baz=98,slow=8.7,SNR=3.8						
MKAR				PcP	**PcP**	**23 05 21.1**	**+0.3**
	0.4nm,0.8s,baz=158,slow=1.6,SNR=3.3						
MKAR	**Makanchi Array**	**41.82**	**307**	P	**P**	**23 03 26.1**	**+0.9**
KURK	**Kurchatov**	**44.58**	**313**	P	**P**	**23 03 48.0**	**+0.6**
KURK				IAmb	IAmb	23 04 09.8	
	comp=Z,3.7nm,1.4s						
KNRA	**Kununurra**	**46.24**	**185**	P	**P**	**23 04 01.1**	**+0.3**
KNRA				IAmb	IAmb	23 04 01.8	
	comp=Z,6.5nm,0.8s						
AAK	**Ala-Archa**	**47.43**	**301**	LR	LR	23 26 41.9	
	comp=Z,57nm,18.1s,baz=140,slow=39						
BRVK	**Borovoye**	**49.86**	**316**	P	**P**	**23 04 29.8**	**+1.3**
BRVK				IAmb	IAmb	23 04 30.1	
	comp=Z,1.5nm,0.7s						
WB0	**Warramunga Arr**	**50.17**	**178**	P	**P**	**23 04 30.9**	**-0.2**
WB0				IAmb	IAmb	23 04 35.8	
	comp=Z,7.6nm,1.4s						
WRA	**Warramunga Arr**	**50.34**	**178**	P	**P**	**23 04 32.1**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=354,slow=8.5,SNR=7.0						
WRA	**Warramunga Arr**	**50.34**	**178**	P	**P**	**23 04 32.3**	**-0.1**
WB2	**Warramunga Arr**	**50.34**	**178**	P	**P**	**23 04 32.5**	**0.0**
WB2				IAmb	IAmb	23 04 44.7	
	comp=Z,3.4nm,1.1s						
WR0	**Warramunga Arr**	**50.37**	**178**	P	**P**	**23 04 32.5**	**-0.1**
WR0				IAmb	IAmb	23 04 43.1	
	comp=Z,7.3nm,1.2s						
ASAR	**Alice Springs**	**54.04**	**179**	P	**P**	**23 04 59.8**	**0.0**
	comp=Z,0.9nm,0.8s,baz=12,slow=12,SNR=11						
PPLA	**Purkeypile**	**56.40**	**32**	P	**P**	**23 05 18.1**	**+1.5**
ABKAR	**Akbulak array**	**56.65**	**311**	P	**P**	**23 05 18.1**	**-0.3**
AKTO	**Aktyubinsk**	**57.67**	**313**	LR	LR	23 31 53.8	
	comp=Z,36nm,19.3s,baz=73,slow=38						
RND	**Reindeer**	**57.88**	**31**	P	**P**	**23 05 27.3**	**+0.3**
RND				IAmb	IAmb	23 05 38.1	
	comp=Z,8.3nm,1.4s						
MDM	**Murphy Dome**	**58.02**	**30**	P	**P**	**23 05 29.7**	**+1.7**
MDM				IAmb	IAmb	23 05 54.3	
	comp=Z,5.9nm,1.3s						
ILAR	**Eielson Array**	**58.61**	**30**	P	**P**	**23 05 32.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=289,slow=9.1,SNR=5.9						
ILAR	**Eielson Array**	**58.61**	**30**	P	**P**	**23 05 31.9**	**-0.1**
BMAR	**Burnt Mountain**	**59.27**	**26**	P	**P**	**23 05 39.2**	**+2.6**
M27K	**Edge Creek, AK**	**61.19**	**32**	P	**P**	**23 05 51.4**	**+1.5**
STKA	**Stephens Creek**	**62.76**	**172**	P	**P**	**23 06 00.9**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=42,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**62.76**	**172**	P	**P**	**23 06 01.1**	**+0.6**
INK	**Inuvik**	**63.21**	**25**	P	**P**	**23 06 03.8**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=314,slow=8.5,SNR=5.7						
INK	**Inuvik**	**63.21**	**25**	P	**P**	**23 06 03.7**	**+0.6**
M30M	**Minto, Yukon**	**63.44**	**31**	P	**P**	**23 06 06.4**	**+1.6**
M30M				IAmb	IAmb	23 06 20.5	
	comp=Z,2.9nm,1.2s						
C36M	**Paulatuk**	**66.10**	**22**	P	**P**	**23 06 22.4**	**+0.5**
KBZ	**Khabaz**	**69.48**	**309**	P	**P**	**23 06 44.7**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=92,slow=5.1,SNR=2.5						
RES	**Resolute Bay**	**70.41**	**12**	P	**P**	**23 06 49.3**	**+0.4**
FIA1	**FINESS Array S**	**70.97**	**331**	P	**P**	**23 06 52.1**	**-0.4**
FINES	**FINESS Array B**	**70.98**	**331**	P	**P**	**23 06 52.2**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=77,slow=4.6,SNR=15						
YKA	**Yellowknife Ar**	**72.79**	**27**	P	**P**	**23 07 03.3**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=302,slow=6.3,SNR=7.2						
AKASG	**Malin Array Be**	**74.75**	**320**	P	**P**	**23 07 14.8**	**-0.3**
	comp=Z,3.4nm,1.1s,baz=55,slow=6.5,SNR=6.6						
BUR08	**Bucovina Ar. S**	**78.60**	**319**	P	**P**	**23 07 38.2**	**+1.1**
BUR08				IAmb	IAmb	23 07 42.0	
	comp=Z,3.2nm,1.3s						
BURAR	**Bucovina Array**	**78.61**	**319**	P	**P**	**23 07 38.0**	**+0.9**
BURAR				IAmb	IAmb	23 07 39.1	
	comp=Z,1.8nm,0.9s						
GERES	**GERESS Array B**	**84.02**	**325**	P	**P**	**23 08 06.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=29,slow=3.0,SNR=5.0						
GERES	**GERESS Array B**	**84.02**	**325**	P	**P**	**23 08 06.5**	**+0.7**
NVAR	**Mina Array Bea**	**84.54**	**48**	P	**P**	**23 08 10.2**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=293,slow=3.4,SNR=5.4						
NVAR	**Mina Array Bea**	**84.54**	**48**	P	**P**	**23 08 10.4**	**+1.6**

*KRNET **18** 23:13:53.2±0.1, 42°.25N×71°.73E, h23km, mb2.3*

*NNC **18** 23:13:54.6±1.2, 42°.29N×71°.79E, h0km, mb2.6, mpv2.7, Error ellipse: s-maj=14.2km s-min=4.4km az=1.0*

*SOME **18** 23:13:55.1, 42°.20N×71°.83E, h15km*

ISC 18 23:13:54.6±1.1, 42°.21N±0°.02×71°.81E±0°.02, h9km±9km, n32, σ1§61/56, 18C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.43**	**164**	⇓*i*P	**Pg**	**23 14 02.9**	**-0.1**
	baz=59						
ARK				⇓*i*S	**Sg**	**23 14 09.6**	**+0.9**
	baz=59						
MNAS	**Manas**	**0.59**	**62**	⇓*i*P	**Pg**	**23 14 05.2**	**-0.8**
	baz=67						
MNAS				⇓*i*S	**Sg**	**23 14 13.9**	**+0.2**
	baz=67						
DZA	**Taraz**	**0.76**	**333**	*e*P	**Pg**	**23 14 09.5**	**+0.2**
	48nm,0.1s						
DZA				*e*S	**Sg**	**23 14 18.9**	**-0.3**
	106nm,0.2s						
TRKS	**Terek-Say**	**0.84**	**216**	⇑*i*P	**Pg**	**23 14 10.1**	**-0.7**
	baz=8.0						
TRKS				⇑*i*S	**Sg**	**23 14 21.9**	**+0.1**
	baz=8.0						
MRKS	**Merke**	**1.18**	**63**	*e*P	**Pg**	**23 14 17.8**	**+0.6**
	1.3nm,0.1s						
MRKS				*e*S	**Sg**	**23 14 32.9**	**+0.3**
	7.5nm,0.2s						
MRKS	**Merke**	**1.18**	**63**	P	**Pg**	**23 14 17.8**	**+0.6**
	1.3nm,0.1s						
MRKS				S	**Sg**	**23 14 32.9**	**+0.3**
	7.5nm,0.2s						
KK08	**Karatay Array**	**1.32**	**313**	⇓P	**Pn**	**23 14 17.9**	**-1.3**
	1.8nm,0.3s,baz=131,slow=16						
KK08				⇑S	**Sn**	**23 14 34.6**	**-2.4**
	6.2nm,0.4s,baz=136,slow=24						
BRLS	**Borolday**	**1.67**	**300**	*e*P	**Pb**	**23 14 26.4**	**+0.9**
	1.3nm,0.1s						
BRLS				*e*S	**Sb**	**23 14 46.8**	**+0.2**
	10nm,0.3s						
BRLS	**Borolday**	**1.67**	**300**	P	**Pb**	**23 14 26.4**	**+0.9**
	1.3nm,0.1s						
BRLS				S	**Sb**	**23 14 46.8**	**+0.2**
	10nm,0.3s						
OHH	**Osh**	**1.84**	**156**	⇑*i*P	**Pn**	**23 14 27.0**	**+0.6**
	baz=55						
OHH				⇑*i*S	**Sb**	**23 14 51.7**	**+0.1**
	baz=55						
ARLS	**Aral**	**1.91**	**100**	⇑*i*P	**Pb**	**23 14 28.2**	**-1.5**
	baz=1.0						
ARLS				⇑*i*S	**Sb**	**23 14 53.6**	**-0.1**
	baz=1.0						
UCH	**Uchtor**	**2.01**	**89**	⇑*i*P	**Pn**	**23 14 29.8**	**+0.7**
	baz=90						
UCH				⇑*i*S	**Sb**	**23 14 56.3**	**-0.6**
	baz=90						
AAK	**Ala-Archa**	**2.04**	**77**	⇓Pg	**Pb**	**23 14 31.3**	**-0.5**
	0.9nm,0.4s						
AAK				⇓Lg	Lg	23 15 00.4	
	1.9nm,0.6s						
AAK	**Ala-Archa**	**2.04**	**77**	⇑*e*P	**Pn**	**23 14 29.8**	**+0.6**
	baz=78						
AAK				⇑*i*S	**Sb**	**23 14 56.3**	**-1.0**
	baz=78						
USP	**Ospenovka**	**2.25**	**61**	⇑*i*P	**Pn**	**23 14 32.4**	**+0.4**
	baz=63						
USP				⇑*i*S	**Sb**	**23 15 01.0**	**-2.3**
	baz=63						
BTK	**Batken**	**2.28**	**199**	⇓*e*P	**Pn**	**23 14 32.6**	**+0.1**
	baz=98						
BTK				⇓*i*S	**Sn**	**23 15 01.5**	**+0.8**
	baz=98						
KBK	**Karagaybulak**	**2.37**	**78**	⇑*e*P	**Pn**	**23 14 34.5**	**+0.7**
	baz=79						
KBK				⇑*e*S	**Sb**	**23 15 04.5**	**-2.4**
	baz=79						
SGDS	**Sogindy**	**2.42**	**58**	*e*P	**Pb**	**23 14 39.2**	**+0.9**
	0.8nm,0.3s						
SGDS				*e*S	**Sb**	**23 15 09.1**	**+0.8**
	8.4nm,0.4s						
SGDS	**Sogindy**	**2.42**	**58**	Pg	**Pb**	**23 14 39.2**	**+0.9**
	0.8nm,0.3s						
SGDS				Lg	Lg	23 15 09.1	
	8.4nm,0.4s						
SFK	**Sufi-Kurgan**	**2.54**	**149**	⇓*e*P	**Pn**	**23 14 36.8**	**+0.5**
	baz=48						
SFK				⇓*e*S	**Sb**	**23 15 08.9**	**-3.1**
	baz=48						
DRK	**Karamyk**	**2.73**	**180**	⇑*e*P	**Pn**	**23 14 39.3**	**+0.4**
	baz=79						
DRK				⇑*i*S	**Sn**	**23 15 13.1**	**+1.0**
	baz=79						
TKM2	**Tokmak 2**	**2.89**	**75**	⇓Pg	**Pb**	**23 14 44.6**	**-1.8**
	0.6nm,0.6s						
TKM2				⇑Lg	Lg	23 15 23.4	
	0.6nm,0.3s						
DGS	**Degeres**	**3.10**	**69**	*e*P	**Pb**	**23 14 51.4**	**+1.4**
	0.8nm,0.2s						
DGS				*e*S	**Sb**	**23 15 29.7**	**+1.8**
	3.3nm,0.5s						
DGS	**Degeres**	**3.10**	**69**	Pg	**Pb**	**23 14 51.4**	**+1.4**
	0.8nm,0.2s						
DGS				Lg	Lg	23 15 29.7	
	3.3nm,0.5s						
KST	**Kastek**	**3.18**	**73**	*e*P	**Pb**	**23 14 53.4**	**+2.1**
	0.8nm,0.2s						
KST				*e*S	**Sb**	**23 15 32.7**	**+2.5**
	2.5nm,0.4s						
KST	**Kastek**	**3.18**	**73**	Pg	**Pb**	**23 14 53.4**	**+2.1**
	0.8nm,0.2s						
KST				Lg	Lg	23 15 32.7	
	2.5nm,0.4s						
KRBS	**Karabastau**	**3.20**	**61**	*e*P	**Pb**	**23 14 53.0**	**+1.3**
	0.3nm,0.2s						
KRBS				*e*S	**Sb**	**23 15 32.6**	**+1.7**
	3.7nm,0.3s						
KRBS	**Karabastau**	**3.20**	**61**	Pg	**Pb**	**23 14 53.0**	**+1.3**
	0.3nm,0.2s						
KRBS				Lg	Lg	23 15 32.6	
	3.7nm,0.3s						
KUU	**Kurty**	**3.72**	**62**	*e*P	**Pb**	**23 15 02.9**	**+2.4**
	0.6nm,0.3s						
KUU				*e*S	**Sg**	**23 15 50.0**	**-4.1**
	1.9nm,0.3s						
KUU	**Kurty**	**3.72**	**62**	Pg	**Pb**	**23 15 02.9**	**+2.4**
	0.6nm,0.3s						
KUU				Lg	Lg	23 15 50.0	
	1.9nm,0.3s						
KTBS	**Karatobe**	**3.88**	**66**	*e*P	**Pb**	**23 15 05.4**	**+2.2**
	0.5nm,0.1s						
KTBS				*e*S	**Sg**	**23 15 54.5**	**-4.7**
	2.4nm,0.5s						
KTBS	**Karatobe**	**3.88**	**66**	Pg	**Pb**	**23 15 05.4**	**+2.2**
	0.5nm,0.1s						
KTBS				Lg	Lg	23 15 54.5	
	2.4nm,0.5s						

*NOU **18** 23:24:40.1, 35°.32S×177°.68W, h101km, mb4.5/9, East of North Island, N.Z.*

*IDC **18** 23:24:51.9±1.8, 35°.94S×179°.53W, h0km, mb4.0/3, mb1 4

MHGZ	Mahia Peninsul	4.08 214	P	Pn	23 25 57.8 +2.0
KNZ	Kokohu	4.09 217	P	Pn	23 25 57.1 +1.2
RTZ	Ruatahuna	4.18 227	P	Pn	23 25 58.2 +1.1
MUGZ	Murupara	4.21 229	P	Pn	23 25 58.8 +1.3
MUGZ			S	Sn	23 26 43.5 -2.0
TARZ	Mount Tarawera	4.24 234	P	Pn	23 25 59.7 +1.7
OMRZ	Omania	4.26 236	P	Pn	23 25 59.6 +1.3
RRRZ	Republican Roa	4.29 233	P	Pn	23 26 00.1 +1.4
RAHZ	Arahi	4.32 223	P	Pn	23 26 00.6 +1.6
RAHZ			S	Sn	23 26 47.7 -0.5
MTHZ	Maungataniwha	4.42 225	P	Pn	23 26 01.8 +1.4
MTHZ			S	Sn	23 26 50.9 +0.4
KMRZ	Kaimai	4.43 241	P	Pn	23 26 01.1 +0.5
PRRZ	Plateau Road	4.46 232	P	Pn	23 26 01.5 +0.5
ALRZ	Allen Road	4.53 231	P	Pn	23 26 02.8 +0.9
ARHZ	Aropaoanui	4.62 220	P	Pn	23 26 04.1 +1.0
ARHZ			S	Sn	23 26 54.5 -0.9
BKZ	Black Stump Fm	4.83 225	P	Pn	23 26 06.2 +0.2
CKHZ	Cape Kidnapper	4.88 217	P	Pn	23 26 07.1 +0.5
CKHZ			S	Sn	23 27 00.3 -1.5
MCHZ	McNeill Hill	4.91 221	P	Pn	23 26 08.0 +0.9
MCHZ			S	Sn	23 27 02.0 -0.6
KWHZ	Kaweka Forest	5.04 223	P	Pn	23 26 09.3 +0.3
KWHZ			S	Sn	23 27 04.1 -1.9
KAHZ	Kahuranaki	5.08 217	P	Pn	23 26 09.7 +0.3
RITZ	Rihia Road	5.08 230	P	Pn	23 26 10.9 +1.4
KRHZ	Kereru	5.23 221	P	Pn	23 26 11.9 +0.4
TMVZ	Te Maari	5.26 229	P	Pn	23 26 13.3 +1.2
NTVZ	North Tongarir	5.27 230	P	Pn	23 26 12.9 +0.8
PXZ	Pawanui	5.27 216	P	Pn	23 26 11.8 -0.3
ETVZ	East Tongariro	5.27 229	P	Pn	23 26 12.7 +0.5
BHHZ	Black Hill Sta	5.29 224	P	Pn	23 26 12.9 +0.5
OTVZ	Oturere	5.32 229	P	Pn	23 26 13.5 +0.7
NNVZ	North Ngauruho	5.33 230	P	Pn	23 26 14.3 +1.3
WTVZ	West Tongariro	5.33 230	P	Pn	23 26 14.3 +1.2
SNVZ	South Ngauruho	5.35 229	P	Pn	23 26 13.4 +0.2
NGZ	Ngauruhoe	5.36 230	P	Pn	23 26 14.6 +1.1
TWVZ	Taurewa	5.40 231	P	Pn	23 26 14.9 +0.9
MOVZ	Moawhango	5.42 227	P	Pn	23 26 13.6 -0.5
WNVZ	Wahianoa	5.46 228	P	Pn	23 26 15.0 +0.3
HIZ	Hauiti	5.50 239	P	Pn	23 26 17.3 +2.1
HIZ	Hauiti	5.50 239		Pn	23 26 15.3 +0.1
HIZ	Hauiti	5.50 239	P	Pn	23 26 16.8 +1.6
WPHZ	Waipukurau	5.50 218	P	Pn	23 26 15.1 -0.2
PNHZ	Pukenui	5.51 220	P	Pn	23 26 15.0 -0.4
PRHZ	Porangahau	5.56 215	P	Pn	23 26 15.4 -0.6
TSZ	Takapari Road	5.75 221	P	Pn	23 26 17.8 -0.8
ANWZ	Angora Road	5.79 215	P	Pn	23 26 19.5 +0.4
DVHZ	Dannevirke	5.82 218	P	Pn	23 26 19.0 -0.5
VRZ	Vera Road	5.87 234	P	Pn	23 26 22.0 +1.8
OUZ	Omahuta	5.94 273	P	Pn	23 26 21.5 +0.2
OUZ	Omahuta	5.94 273	Pn	Pn	23 26 21.5 +0.2
OUZ	Omahuta	5.94 273	P	Pn	23 26 21.8 +0.5
BFZ	Birch Farm	6.07 215	P	Pn	23 26 22.1 -0.9
BFZ	Birch Farm	6.07 215	Pn	Pn	23 26 22.0 -1.1
BFZ	Birch Farm	6.07 215	P	Pn	23 26 21.8 -1.3
POWZ	Post Office Ro	6.09 220	P	Pn	23 26 23.0 -0.3
WAZ	Wanganui	6.09 228	P	Pn	23 26 24.0 +0.6
PRWZ	Pori Road	6.11 218	P	Pn	23 26 23.2 -0.3
CPWZ	Castlepoint	6.27 214	P	Pn	23 26 25.5 -0.2
MRZ	Mangatainoka R	6.38 219	P	Pn	23 26 26.2 -1.1
TMWZ	Te Marua	6.57 215	P	Pn	23 26 28.3 -1.7
HOWZ	Holdsworth Sta	6.59 218	P	Pn	23 26 28.6 -1.6
OGWZ	Otaki Gorge	6.71 220	P	Pn	23 26 30.3 -1.4
MTW	Mount Morrison	6.80 216	P	Pn	23 26 30.9 -2.1
KIW	Kapiti Island	6.88 221	P	Pn	23 26 32.4 -1.7
TRWZ	Traveller	6.90 214	P	Pn	23 26 32.0 -2.4
CAW	Cannon Point	6.98 219	P	Pn	23 26 33.5 -1.9
PAWZ	Paruwai Farm	7.01 216	P	Pn	23 26 34.1 -1.8
PLWZ	Palliser	7.23 216	P	Pn	23 26 36.1 -2.9
BHW	Baring Head	7.30 218	Pn	Pn	23 26 38.5 -1.3
SNZO	South Karori	7.31 219	Pn	Pn	23 26 39.0 -0.9
SNZO	South Karori	7.31 219	P	Pn	23 26 40.4 +0.4
	61nm,1.8s				
TUWZ	Tuamarina	7.80 222	Pn	Pn	23 26 46.2 -0.4
CMWZ	Cape Campbell	7.88 219	Pn	Pn	23 26 47.0 -0.8
NNZ	Nelson	7.97 225	Pn	Pn	23 26 49.9 +0.9
BSWZ	Blackbirch Sta	8.03 221	Pn	Pn	23 26 49.1 -0.8
QRZ	Quartz Range	8.24 230	Pn	Pn	23 26 51.8 -0.9
QRZ	Quartz Range	8.24 230	P	Pn	23 26 53.1 +0.3
THZ	Tophouse	8.60 224	Pn	Pn	23 26 55.3 -2.4
KHZ	Kahutara	8.71 218	Pn	Pn	23 26 59.1 -0.1
KHZ	Kahutara	8.71 218	P	Pn	23 26 58.6 -0.6
LTZ	Lake Taylor	9.63 221	Pn	Pn	23 27 10.6 -1.2
MQZ	McQueen's Vall	10.10 216	Pn	Pn	23 27 15.8 -2.5
OXZ	Oxford	10.13 219	Pn	Pn	23 27 17.9 -0.8
RPZ	Rata Peaks	10.92 221	Pn	Pn	23 27 28.1 -1.4
RPZ	Rata Peaks	10.92 221	P	Pn	23 27 28.9 -0.5
FOZ	Fox Glacier	11.48 224	Pn	Pn	23 27 36.4 -0.7
LBZ	Lake Benmore	11.83 220	Pn	Pn	23 27 39.4 -2.5
ODZ	Otahua Downs	12.06 217	Pn	Pn	23 27 43.0 -2.1
ODZ	Otahua Downs	12.06 217	P	Pn	23 27 42.8 -2.2
	38nm,3.0s				
WKZ	Wanaka	12.75 221	Pn	Pn	23 27 53.1 -1.3
MLZ	Mavora Lakes	13.58 221	Pn	Pn	23 28 01.5 -4.3
DZM	Mont Dzumac	18.57 314	P	Pn	23 29 09.6 -0.1
DZM			IAmb	IAmb	23 29 27.5
	comp=Z,5.8nm,1.1s				
BBOO	Buckleboo	36.88 261	P	P	23 32 00.2 +0.2
AS31	Alice Springs	42.16 273	P	P	23 32 44.5 +0.4
ASAR	Alice Springs	42.16 273	P	P	23 32 44.0 -0.1
	comp=Z,0.7nm,0.5s,baz=118,slow=7.5,SNR=17				
WR0	Warramunga Arr	43.46 279	P	P	23 32 54.0 -0.6
WR0			IAmb	IAmb	23 32 54.4
	comp=Z,5.5nm,1.3s				
WB2	Warramunga Arr	43.62 278	P	P	23 32 55.4 -0.5
WB2			IAmb	IAmb	23 32 56.0
	comp=Z,7.1nm,1.4s				
WRAB	Tennant Creek	43.63 278	P	P	23 32 55.4 -0.5
WRA	Warramunga Arr	43.63 278	P	P	23 32 55.8 -0.2
	comp=Z,1.6nm,0.5s,baz=120,slow=7.7,SNR=34				
WRA	Warramunga Arr	43.63 278	P	P	23 32 55.5 -0.5
WB0	Warramunga Arr	43.68 279	P	P	23 32 56.0 -0.4
WB0			IAmb	IAmb	23 32 57.2
	comp=Z,2.6nm,0.7s				
QSPA	South Pole Qui	54.33 180	P	P	23 34 18.9 +1.5
	comp=Z,0.6nm,0.3s,baz=31,slow=5.9,SNR=2.5				
MKAR	Makanchi Array	120.41 308	PKP	PKiKP	23 43 43.9 +2.0
	comp=Z,0.1nm,0.4s,baz=107,slow=1.5,SNR=4.4				
FINES	FINESS Array B	149.78 336	PKPbc	PKPab	23 44 42.8 -2.5
	comp=Z,0.8nm,0.8s,baz=46,slow=4.0,SNR=5.5				

NEIC ***18*** *23:50:04.3±1.0, 19°.50N±0°.05×145°.6E±0°.2, h157km±11km, mb4.1/14, Error ellipse: s-maj=25.8km s-min=6.6km az=84.0*

IDC ***18*** *23:50:06.0±8.1, 19°.54N×145°.70E, h183km±76km, mb3.2/9, mb1 3.4/10, mb1mx3.3/33, mbtmp3.7/10, MS3.0/1, Ms1 3.0/1, ms1mx2.5/25, Error ellipse: s-maj=32.9km s-min=20.0km az=87.0*

ISC 18 23:50:02.6±0.7, 19°.53N±0°.08×145°.6E±0°.1, h147km, n30, σ0°90/30, mb3.6/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	5.95	187	Pn	Pn	23 51 29.7	+1.1
JHJ2	Mitsune	14.49	340	Pn	Pn	23 53 21.8	+1.0
JMN	Monobe	17.59	326	P	Pn	23 53 58.4	-0.3
JMN				IAmb	IAmb	23 54 12.6	
	comp=Z,34nm,1.1s						
JGF	Kuroka	17.60	337	P	P	23 53 57.9	+0.3
JGF				IAmb	IAmb	23 54 12.2	
	comp=Z,12nm,1.1s						
MJAR	Matsushiro Arr	18.16	341	P	Pn	23 54 04.8	-0.6
	comp=Z,0.2nm,0.3s,baz=170,slow=9.6,SNR=5.5						
MJAR				LR	LR	00 00 38.2	
	comp=Z,45nm,19.5s,baz=120,slow=35						
MJAR	Matsushiro Arr	18.16	341	P	P	23 54 04.7	+0.9
MAJO	Matsushiro	18.16	341	P	P	23 54 04.8	+1.0
MAJO				IAmb	IAmb	23 54 04.9	
	comp=Z,3.3nm,0.7s						
MJB9	Matsu-Tunnel	18.17	341	P	P	23 54 04.8	+1.0
MJB9				IAmb	IAmb	23 54 04.9	
	comp=Z,3.1nm,0.7s						
KSRS	Korea Array	23.62	323	P	P	23 55 00.4	+0.2
	comp=Z,1.8nm,0.7s,baz=151,slow=7.3,SNR=6.2						
KNMB	Chin-men Tao	25.71	286	P	P	23 55 20.3	+1.1
BJT	Baijiatuau	32.49	315	P	P	23 56 18.8	-0.4
BJT				IAmb	IAmb	23 56 28.8	
	comp=Z,3.7nm,0.6s						
COEN	Coen	33.36	184	P	P	23 56 26.9	-0.1
COEN				IAmb	IAmb	23 56 36.5	
	comp=Z,5.3nm,1.0s						
PEA0B	Petropavlovsk-	34.80	13	P	P	23 56 40.0	+1.1
WB0	Warramunga Arr	40.57	196	P	P	23 57 27.4	-0.4
WB2	Warramunga Arr	40.75	196	P	P	23 57 28.2	-1.0
WB2				IAmb	IAmb	23 57 43.2	
	comp=Z,3.9nm,1.1s						
WRA	Warramunga Arr	40.75	196	P	P	23 57 29.2	-0.1
	comp=Z,0.2nm,0.4s,baz=26,slow=8.6,SNR=7.0						
WRA	Warramunga Arr	40.75	196	P	P	23 57 29.1	-0.2
SONM	Songino Array	42.46	321	P	P	23 57 43.4	+0.3
	comp=Z,0.4nm,0.6s,baz=135,slow=9.4,SNR=2.1						
SONM	Songino Array	42.46	321	P	P	23 57 41.8	-1.3
ZALV	Zalesovo Beam	57.32	322	P	P	23 59 34.9	-0.1
	comp=Z,0.4nm,0.6s,baz=112,slow=6.5,SNR=2.2						
MKAR	Makanchi Array	57.84	314	P	P	23 59 39.4	+0.6
	comp=Z,0.2nm,0.5s,baz=91,slow=7.8,SNR=5.1						
MKAR	Makanchi Array	57.84	314	P	P	23 59 39.3	+0.5
RSO	Redoubt South	59.29	30	P	P	23 59 49.3	+0.5
TRF	Thorofare Moun	61.18	27	P	P	00 00 01.2	-0.3
TRF				IAmb	IAmb	00 00 14.5	
	comp=Z,3.6nm,1.1s						
KDJ	Kajisay	61.33	308	P	P	00 00 01.4	-1.6
ILAR	Eielson Array	62.94	26	P	P	00 00 11.3	-1.7
	comp=Z,0.3nm,0.5s,baz=268,slow=6.3,SNR=2.8						
BMAR	Burnt Mountain	64.39	24	P	P	00 00 23.5	+1.0
YKA	Yellowknife Ar	77.29	28	P	P	00 01 39.5	-1.0
	comp=Z,0.3nm,0.5s,baz=290,slow=5.6,SNR=4.7						
NVAR	Mina Array Bea	82.69	52	P	P	00 02 10.6	+0.3
	comp=Z,0.4nm,0.6s,baz=272,slow=7.4,SNR=3.9						
FINES	FINESS Array B	86.11	335	P	P	00 02 25.1	-1.6
	comp=Z,4.4nm,1.1s,baz=90,slow=5.7,SNR=4.9						

IDC ***18*** *23:57:54.2±5.8, 5°.35S×153°.04E, h60km±40km, mb3.3/5, mb1 3.4/5, mb1mx3.3/26, mbtmp3.6/5, Error ellipse: s-maj=60.4km s-min=23.3km az=90.0*

ISC 18 23:57:51.1±1.5, 5°.4S±0°.2×153°.2E±0°.2, h37km, n7, σ1°31/9, mb3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	1.60	311	P	Pn	23 58 17.2	+0.4
KRVT				S	Sn	23 58 36.3	+0.1
WRA	Warramunga Arr	23.40	230	P	P	00 02 56.8	-0.1
	0.4nm,0.5s,baz=54,slow=9.8,SNR=6.3						
WRA				PcP	PcP	00 06 45.4	+2.5
	0.1nm,0.4s,baz=54,slow=2.5,SNR=1.0						
ASAR	Alice Springs	26.03	224	P	P	00 03 20.1	-0.9
	0.3nm,0.5s,baz=56,slow=9.1,SNR=1.7						
MKAR	Makanchi Array	81.03	319	P	P	00 10 02.2	-0.1
	0.5nm,0.9s,baz=104,slow=6.1,SNR=5.6						
KURBB	Kurchatov Arra	84.51	322	P	P	00 10 19.1	-1.1
	0.2nm,0.3s,baz=108,slow=4.1,SNR=4.4						
BVAR	Borovoye Array	89.95	323	P	P	00 10 45.3	-1.2
	1.1nm,0.6s,baz=103,slow=6.2,SNR=6.8						
TORD	Torodi Ar. Bea	150.89	287	PKPbc	PKPbc	00 17 40.7	-0.2
	1.1nm,0.8s,baz=73,slow=1.6,SNR=6.7						

NEIC ***19*** *00:49:31.3±0.8, 19°.0N±0°.4×69°.0W±0°.2, h114km±21km, Error ellipse: s-maj=61.1km s-min=21.5km az=193.0*

OSPL ***19*** *00:49:32.6±0.9, 17°.62N×68°.97W, h6km±23km, ML2.2*

RSPR ***19*** *00:49:32.9, 19°.00N×68°.91W, h112km±2km, MD3.7/7*

ISC 19 00:49:33.4±1.9, 18°.9N±0°.2×68°.94W±0°.04, h100km, n48, σ1°02/48, 10C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	Punta Cana, DR	0.65	125	i eP	Pn	00 49 50.5	+0.1
PCDR	Punta Cana, DR	0.65	125	eS	Sn	00 50 05.3	+2.2
PCDR	Punta Cana, DR	0.65	125		Pn	00 49 50.5	+0.1
PCDR					Sn	00 50 05.3	+2.2
SDD	Santo Domingo	1.02	245	i P	Pn	00 49 54.4	+0.4
SDD				eS	Sn	00 50 10.8	+1.2
IDE	Isla Desecheo	1.48	110	i eP	Pn	00 49 59.1	-0.2
IDE	Isla Desecheo	1.48	110	eS	Sn	00 50 20.0	+0.9
AGPR	Aguadilla, PR	1.78	103	Pn	Pn	00 50 02.1	-1.1
AGPR				IAML		00 50 30.5	
	comp=E,45nm,0.5s						
AGPR				IAML		00 50 48.1	
	comp=N,46nm,2.7s						
AGPR	Aguadilla, PR	1.78	103	i P	Pn	00 50 04.1	+0.9
LSP	Las Mesas	1.90	112	i eP	Pn	00 50 05.0	+0.4
LSP	Las Mesas	1.90	112	eS	Sn	00 50 28.7	+0.2
CRPR	Cabo Rojo, PR	1.95	117	i eP	Pn	00 50 03.4	-1.9
CRPR	Cabo Rojo, PR	1.95	117	eS	Sn	00 50 30.8	+1.2
CRPR	Cabo Rojo, PR	1.95	117		Pn	00 50 03.4	-1.9
CRPR	Cabo Rojo, PR	1.95	117		Sn	00 50 30.8	+1.2
CRPR	Cabo Rojo, PR	1.95	117	IAML		00 50 23.2	
	comp=N,21nm,2.2s						
CRPR	Cabo Rojo, PR	1.95	117	IAML		00 51 04.4	
	comp=E,20nm,2.4s						
CRPR	Cabo Rojo, PR	1.95	117	i P	Pn	00 50 02.9	-2.3
CRPR				IAML		00 50 31.0	
	comp=Z,20nm,1.8s						
MLPR	Magueyes Islan	2.02	117	Pn	Pn	00 50 05.6	-0.6
AOPR	Arecibo Observ	2.14	104	i eP	Pn	00 50 07.7	-0.1
AOPR	Arecibo Observ	2.14	104	eS	Sn	00 50 34.8	+0.6
AOPR	Arecibo Observ	2.14	104		Pn	00 50 07.7	-0.1
AOPR				IAML		00 50 41.0	
	comp=N,47nm,0.4s						
AOPR	Arecibo Observ	2.14	104		Sn	00 50 34.8	+0.6
LOBA2	Hotel Casa Bon	2.20	249	i P	Pn	00 50 06.4	-2.1
LOBA2				IAML		00 50 35.5	
	comp=Z,16nm,1.1s						
UUPR	Utuado, UPR, P	2.20	106	i eP	Pn	00 50 08.8	+0.3
UUPR	Utuado, UPR, P	2.20	106	eS	Sn	00 50 35.6	+0.1
UUPR	Utuado, UPR, P	2.20	106		Pn	00 50 08.8	+0.3
UUPR					Sn	00 50 35.6	+0.1
SDDR	Presa de Saban	2.23	273	i P	Pn	00 50 12.8	+3.9
EMPR	Esperanza - Ma	2.32	100	i eP	Pn	00 50 09.8	-0.3
EMPR	Esperanza - Ma	2.32	100	eS	Sn	00 50 38.1	-0.2
EMPR	Esperanza - Ma	2.32	100		Pn	00 50 09.8	-0.3
EMPR					Sn	00 50 38.1	-0.2
OBIP	Obispado Ponce	2.37	111	i eP	Pn	00 50 10.4	-0.3
OBIP	Obispado Ponce	2.37	111	eS	Sn	00 50 40.0	+0.5
OBIP	Obispado Ponce	2.37	111		Pn	00 50 10.4	-0.3
OBIP	Obispado Ponce	2.37	111		Sn	00 50 37.3	-2.2
CELP	Cerrillos	2.38	110	i eP	Pn	00 50 10.7	-0.3
CELP	Cerrillos	2.38	110	eS	Sn	00 50 40.4	+0.6
CELP	Cerrillos	2.38	110		Pn	00 50 10.4	-0.6
CELP	Cerrillos	2.38	110		Sn	00 50 40.4	+0.6
CELP	Cerrillos	2.38	110	IAML		00 50 41.6	
	comp=E,12nm,0.7s						
CELP				IAML		00 50 44.0	
	comp=N,12nm,0.5s						
GCPR	Guaynabo City	2.77	102	Pn	Pn	00 50 15.4	-0.6
GCPR				IAML		00 51 18.3	
	comp=N,12nm,4.8s						
GCPR				IAML		00 51 52.3	
	comp=E,11nm,1.7s						
CBYP	Canovanas	2.99	101	i eP	Pn	00 50 18.4	-0.7
CBYP	Canovanas	2.99	101	eS	Sn	00 50 54.6	+0.3
CBYP	Canovanas	2.99	101		Pn	00 50 18.0	-1.1
HUMP	Col San Antoni	3.02	104	Pn	Pn	00 50 18.5	-0.9
HUMP				IAML		00 50 59.5	
	comp=N,11nm,0.2s						
MTP	Monte Pirata	3.31	103	i eP	Pn	00 50 22.6	-0.7
MTP	Monte Pirata	3.31	103	eS	Sn	00 51 02.4	+0.6
MTP	Monte Pirata	3.31	103		Pn	00 50 22.6	-0.7
MTP					Sn	00 51 02.4	+0.6
MTP	Monte Pirata	3.31	103	IAML		00 51 09.3	
	comp=N,11nm,1.9s						
MTP				IAML		00 51 24.4	
	comp=E,9.4nm,4.6s						

IDC ***19*** *00:52:34.0±1.3, 49°.19S×125°.53E, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.1/24, mbtmp4.1/5, MS3.9/16, Ms1 3.8/16, ms1mx3.6/47, Error ellipse: s-maj=50.1km s-min=24.7km az=92.0*

NEIC ***19*** *00:52:35.8±1.0, 49°.20S±0°.10×125°.6E±0°.2, h10km±2km, mb4.4/13, Error ellipse: s-maj=24.5km s-min=15.7km az=255.0*

ISC 19 00:52:35.5±0.9, 49°.2S±0°.1×125°.6E±0°.1, h10km, n36, σ0°79/20, mb4.3/10, MS3.9/16, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAU	Tasmania Unive	16.33	76		Pn	00 56 25.5	+0.7
H01W1	Cape Leeuwin H	16.59	325	T	T	01 13 10.0	
	baz=158,slow=79,SNR=8.4						
H01W2	Cape Leeuwin H	16.59	325	T	T	01 13 18.3	
	baz=158,slow=79,SNR=9.9						
H01W3	Cape Leeuwin H	16.60	325	T	T	01 13 11.0	
	baz=158,slow=79,SNR=8.3						
NWAO	Narrogin (SRO)	17.41	336		Pn	00 56 38.2	-0.1
CASY	Casey	18.81	199	P	Pn	00 56 55.9	+0.6
CASY				IAmb	IAmb	00 57 47.0	
	comp=Z,67nm,1.8s						
STKA	Stephens Creek	21.09	41	P	P	00 57 21.4	+1.4
	comp=Z,6.0nm,1.0s,baz=204,slow=12,SNR=5.7						
STKA				LR	LR	01 04 18.4	
	comp=Z,231nm,19.4s,baz=203,slow=33						
STKA	Stephens Creek	21.09	41	P	P	00 57 20.2	+0.3
ASAR	Alice Springs	26.32	17	P	P	00 58 10.9	-0.5
	comp=Z,3.8nm,0.9s,baz=188,slow=9.1,SNR=22						
ASAR				LR	LR	01 07 34.9	
	comp=Z,303nm,20.4s,baz=218,slow=34						
ASAR	Alice Springs	26.32	17	P	P	00 58 11.1	-0.3
AS31	Alice Springs	26.32	17	P	P	00 58 11.7	+0.3
ARMA	Armidale	27.22	56	P	P	00 58 18.7	-0.9
ARMA				IAmb	IAmb	00 58 26.6	
	comp=Z,23nm,1.8s						
DCZ	Deep Cove	28.18	98	P	P	00 58 27.6	-0.3
WRA	Warramunga Arr	30.03	17	P	P	00 58 42.5	-2.0
	comp=Z,1.6nm,1.0s,baz=194,slow=10,SNR=5.2						
WRA				LR	LR	01 09 50.1	
	comp=Z,305nm,19.9s,baz=216,slow=34						
WRA	Warramunga Arr	30.03	17	P	P	00 58 44.0	-0.5
WB2	Warramunga Arr	30.03	17	P	P	00 58 43.3	-1.2
WB2				IAmb	IAmb	00 58 51.4	
	comp=Z,8.5nm,1.4s						
WRAB	Tennant Creek	30.04	17	P	P	00 58 44.7	+0.1
WRAB				IAmb	IAmb	00 59 07.4	
	comp=Z,5.0nm,1.0s						
WR0	Warramunga Arr	30.05	17	P	P	00 58 44.6	-0.1
WR0				IAmb	IAmb	00 59 06.4	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	30.21	17	P	P	00 58 45.8	-0.3
WB0				IAmb	IAmb	00 59 52.1	
	comp=Z,5.0nm,1.2s						
VNDA	Vanda	31.60	166	P	P	00 58 57.3	-0.5
	comp=Z,3.7nm,0.9s,baz=311,slow=7.4,SNR=7.2						
VNDA	Vanda	31.60	166	P	P	00 58 57.9	0.0
VNDA				IAmb	IAmb	00 59 11.3	
	comp=Z,11nm,1.2s						
CTA	Charters Tower	33.44	37	LR	LR	01 12 38.5	
	comp=Z,172nm,18.5s,baz=256,slow=36						
MAW	Mawson	35.66	216	LR	LR	01 10 41.1	
	comp=Z,330nm,18.7s,baz=248,slow=30						
QSPA	South Pole Qui	40.92	180	LR	LR	01 16 22.6	
	comp=Z,176nm,18.6s,baz=240,slow=35						
DZM	Mont Dzumac	42.10	65	LR	LR	01 17 33.1	
	comp=Z,185nm,18.0s,baz=270,slow=36						
KAPI	Kappang	44.30	352	LR	LR	01 17 40.5	
	comp=Z,31nm,20.7s,baz=260,slow=34						
JAY	Jayapura	48.28	20	LR	LR	01 22 08.8	
	comp=Z,113nm,19.3s,baz=348,slow=37						
SIJI	Sorong	48.39	8	LR	LR	01 22 16.4	
	comp=Z,50nm,19.6s,baz=255,slow=37						
HNR	Honiara	48.93	48	LR	LR	01 21 14.4	
	comp=Z,103nm,18.2s,baz=110,slow=35						
MSVF	Nonsavu	52.47	72	LR	LR	01 19 49.8	
	comp=Z,77nm,20.1s,baz=172,slow=31						
CMAR	Chiang Mai Arr	71.39	333	P	P	01 03 56.0	+0.4
	comp=Z,3.3nm,1.1s,baz=188,slow=5.6,SNR=11						
SUR	Sutherland	74.87	238	LR	LR	01 30 39.7	
	comp=Z,67nm,19.4s,baz=173,slow=30						
LSZ	Lusaka	83.31	255	LR	LR	01 34 34.9	
	comp=Z,90nm,18.6s,baz=161,slow=30						
TSUM	Tsumeb	86.82	244	LR	LR	01 37 39.2	
	comp=Z,68nm,18.8s,baz=158,slow=31						
MBAR	Mbarara	92.71	266	LR	LR	01 39 55.2	
	comp=Z,49nm,18.7s,baz=165,slow=31						
YKA	Yellowknife Ar	145.09	45	PKPbc	PKPdf	01 12 11.7	-0.1
	comp=Z,2.9nm,0.8s,baz=267,slow=3.4,SNR=32						

ARE ***19*** *01:11:38±3.0, 8°.20S±0°.08×74°.46W±0°.09, h169km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=212.0*

IDC ***19*** *01:11:39.0±0.6, 8°.30S×74°.40W, h159km±6km, mb3.6/7, mb1 3.7/11, mb1mx3.6/30, mbtmp4.1/11, Error ellipse: s-maj=13.4km s-min=11.4km az=45.0*

NEIC ***19*** *01:11:39.6±1.9, 8°.27S±0°.08×74°.37W±0°.07, h159km±3km, mb4.0/7, Error ellipse: s-maj=12.4km s-min=9.8km az=165.0*

VAO ***19*** *01:11:41.5±0.7, 8°.27S×74°.19W, h156km±5km, mbR3.9*

ISC 19 01:11:38.5±0.5, 8°.28S±0°.06×74°.40W±0°.05, h147km, n53, σ1°26/60, mb4.0/7, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZSB	Cruzeiro do Su	1.76	72	eP	Pn	01 12 12.9	+2.1

TORD	**Torodi Ar. Bea**	**78.50**	**75**	P	**P**	**01 23 22.2**	**-1.9**
TORD				IAmb	IAmb	01 23 23.0	
	comp=Z,2.8nm,0.8s						
ESDC	**Sonseca Array**	**80.51**	**48**	P	**P**	**01 23 34.0**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=257,slow=6.6,SNR=5.3						
QSPA	**South Pole Qui**	**81.83**	**180**	P	**P**	**01 23 41.9**	**+0.8**
ZALV	**Zalesovo Beam**	**131.47**	**16**	PKP	**PKPdf**	**01 30 32.1**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=267,slow=2.5,SNR=3.9						
MKAR	**Makanchi Array**	**136.75**	**23**	PKP	**PKPdf**	**01 30 43.0**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=338,slow=1.6,SNR=2.9						
ASAR	**Alice Springs**	**137.90**	**220**	PKP	**PKPdf**	**01 30 45.6**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=116,slow=3.2,SNR=2.6						
WRA	**Warramunga Arr**	**140.17**	**225**	PKP	**PKPdf**	**01 30 50.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=131,slow=1.8,SNR=6.9						
WRA				pPKP	**pPKPdf**	**01 31 32.7**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=134,slow=2.0,SNR=2.8						
FITZ	**Fitzroy Crossi**	**147.16**	**217**	PKPbc	**PKPbc**	**01 31 05.2**	**-0.2**
	comp=Z,3.2nm,1.0s,baz=140,slow=6.5,SNR=5.9						
FITZ				pPKPbc	**pPKPab**	**01 31 46.2**	**+0.9**
	comp=Z,4.5nm,0.9s,baz=207,slow=2.2,SNR=8.9						

*KRSC **19** 01:30:20.8±0.7, 55°.61N×162°.25E, h89km±11km, ML4.1*
*MOS **19** 01:30:22.2±0.7, 55°.65N×162°.17E, h91km, mb4.3/6, Error ellipse: s-maj=9.1km s-min=4.7km az=75.8*
*IDC **19** 01:30:24.2±3.4, 55°.75N×161°.76E, h88km±41km, mb3.6/8, mb1 3.8/9, mb1mx3.5/34, mbtmp3.9/9, Error ellipse: s-maj=38.9km s-min=17.9km az=6.0*
*NEIC **19** 01:30:25.6±1.0, 55°.7N±0°.1×161°.7E±0°.1, h110km±8km, mb4.2/14, Error ellipse: s-maj=16.7km s-min=8.6km az=187.0*
ISC 19 01:30:22.4±0.7, **55°.60N**±0°.02×**162°.23E**±0°.03, **h81**km±6km, **n130**, σ1$59/194, **mb4.1**/19, **4C-4D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.69**	**28**	PN	**Pn**	**01 30 38.5**	**+0.5**
KBTR				S	**Sn**	01 30 50.3	+0.7
KBTR	**Krutoberegovo**	**0.69**	**28**	*e*P	**Pn**	01 30 38.5	+0.5
KBTR				*e*S	**Sn**	01 30 50.3	+0.7
KBG	**Krutoberegovo**	**0.70**	**22**	PN	**Pn**	01 30 38.7	+0.6
KBG				S	**Sn**	01 30 50.8	+1.0
KBG	**Krutoberegovo**	**0.70**	**22**	*e*P	**Pn**	01 30 38.7	+0.6
KBG				*e*S	**Sn**	01 30 50.8	+1.0
ZLN	**Zelenaya**	**0.91**	**298**	PN	**Pn**	01 30 41.2	+0.7
ZLN	**Zelenaya**	**0.91**	**298**	*e*P	**Pn**	01 30 41.2	+0.7
BZGR	**Bezymyannyi-Gr**	**0.93**	**292**	PN	**Pn**	01 30 41.3	+0.6
BZGR				S	**Sn**	01 30 55.5	+1.1
BZGR	**Bezymyannyi-Gr**	**0.93**	**292**	*e*P	**Pn**	01 30 41.3	+0.6
BZGR				*e*S	**Sn**	01 30 55.5	+1.1
CIRR	**Tsirk**	**0.98**	**302**	PN	**Pn**	01 30 41.8	+0.4
CIRR				S	**Sn**	01 30 56.2	+0.7
CIRR	**Tsirk**	**0.98**	**302**	*e*P	**Pn**	01 30 41.8	+0.4
CIRR				*e*S	**Sn**	01 30 56.2	+0.7
LGNR	**Loginova**	**0.99**	**300**	PN	**Pn**	01 30 42.6	+0.9
LGNR				S	**Sn**	01 30 57.2	+1.2
LGNR	**Loginova**	**0.99**	**300**	*e*P	**Pn**	01 30 42.6	+0.9
LGNR				*e*S	**Sn**	01 30 57.2	+1.2
BZWR	**Bezymyannyi-We**	**1.04**	**291**	PN	**Pn**	01 30 42.9	+0.8
BZWR				S	**Sn**	01 30 57.8	+0.9
BZWR	**Bezymyannyi-We**	**1.04**	**291**	*e*P	**Pn**	01 30 42.9	+0.8
BZWR				*e*S	**Sn**	01 30 57.8	+0.9
SMKR	**Semkarok**	**1.07**	**337**	PN	**Pn**	01 30 42.7	+0.3
SMKR				S	**Sn**	01 30 57.9	+0.6
SMKR	**Semkarok**	**1.07**	**337**	*e*P	**Pn**	01 30 42.7	+0.3
SMKR				*e*S	**Sn**	01 30 57.9	+0.6
MKZ	**Mys Kozlova**	**1.09**	**196**	PN	**Pn**	01 30 42.7	+0.2
MKZ				S	**Sn**	01 30 57.8	+0.3
MKZ	**Mys Kozlova**	**1.09**	**196**	*e*P	**Pn**	01 30 42.7	+0.2
MKZ				*e*S	**Sn**	01 30 57.8	+0.3
TUMD	**Tumrok D**	**1.12**	**250**	*e*P	**Pn**	01 30 43.4	+0.5
TUMD				*e*S	**Sn**	01 30 58.8	+0.5
KRSR	**Krestovskiy**	**1.12**	**304**	PN	**Pn**	01 30 43.1	+0.1
KRSR				S	**Sn**	01 30 58.9	+0.4
KRSR	**Krestovskiy**	**1.12**	**304**	*e*P	**Pn**	01 30 43.1	+0.1
KRSR				*e*S	**Sn**	01 30 58.9	+0.4
KIRR	**Kirishev**	**1.12**	**289**	PN	**Pn**	01 30 43.9	+0.8
KIRR				S	**Sn**	01 30 59.5	+0.9
KIRR	**Kirishev**	**1.12**	**289**	*e*P	**Pn**	01 30 43.9	+0.8
KIRR				*e*S	**Sn**	01 30 59.5	+0.9
BDR	**Baidarnaya**	**1.12**	**330**	PN	**Pn**	01 30 43.5	+0.5
BDR				S	**Sn**	01 30 59.5	+1.0
BDR	**Baidarnaya**	**1.12**	**330**	*e*P	**Pn**	01 30 43.5	+0.5
BDR				*e*S	**Sn**	01 30 59.5	+1.0
KLY	**Klyuchi**	**1.14**	**309**	PN	**Pn**	01 30 42.1	-1.0
KLY				S	**Sn**	01 30 57.2	-1.4
KLY	**Klyuchi**	**1.14**	**309**	*e*P	**Pn**	01 30 42.1	-1.0
KLY				*e*S	**Sn**	01 30 57.2	-1.4
KMNR	**Kamenistaya**	**1.14**	**279**	PN	**Pn**	01 30 44.0	+0.8
KMNR				S	**Sn**	01 31 00.1	+1.2
KMNR	**Kamenistaya**	**1.14**	**279**	*e*P	**Pn**	01 30 44.0	+0.8
KMNR				*e*S	**Sn**	01 31 00.1	+1.2
KPT	**Kopyto**	**1.19**	**289**	PN	**Pn**	01 30 44.6	+0.7
KPT				S	**Sn**	01 31 01.1	+1.1
KPT	**Kopyto**	**1.19**	**289**	*e*P	**Pn**	01 30 44.6	+0.7
KPT				*e*S	**Sn**	01 31 01.1	+1.1
SRKR	**Sorokina**	**1.21**	**331**	PN	**Pn**	01 30 44.6	+0.5
SRKR	**Sorokina**	**1.21**	**331**	*e*P	**Pn**	01 30 44.6	+0.5
TUMR	**Tumrok**	**1.23**	**256**	PN	**Pn**	01 30 45.4	+1.0
TUMR				S	**Sn**	01 31 03.0	+2.1
TUMR	**Tumrok**	**1.23**	**256**	*e*P	**Pn**	01 30 45.4	+1.0
TUMR				*e*S	**Sn**	01 31 03.0	+2.1
KOZ	**Kozyrevsk**	**1.41**	**290**	PN	**Pn**	01 30 47.2	+0.7
KOZ				S	**Sn**	01 31 06.4	+1.7
KOZ	**Kozyrevsk**	**1.41**	**290**	*e*P	**Pn**	01 30 47.2	+0.7
KOZ				*e*S	**Sn**	01 31 06.4	+1.7
ESO	**Esso**	**2.02**	**281**	PN	**Pn**	01 30 55.0	+0.5
ESO				S	**Sn**	01 31 18.6	-0.5
ESO	**Esso**	**2.02**	**281**	*e*P	**Pn**	01 30 55.0	+0.5
ESO				*e*S	**Sn**	01 31 18.6	-0.5
BKI	**Bering**	**2.17**	**99**	PN	**Pn**	01 30 57.4	+0.9
BKI				S	**Sn**	01 31 22.8	+0.2
BKI	**Bering**	**2.17**	**99**	*e*P	**Pn**	01 30 57.4	+0.9
BKI				*e*S	**Sn**	01 31 22.8	+0.2
KII	**Karymskiy**	**2.25**	**227**	PN	**Pn**	01 30 58.9	+1.2
KII	**Karymskiy**	**2.25**	**227**	*e*P	**Pn**	01 30 58.9	+1.2
SPN	**Mys Shipunski**	**2.82**	**208**	PN	**Pn**	01 31 05.1	-0.2
SPN				S	**Sn**	01 31 36.0	-2.3
SPN	**Mys Shipunski**	**2.82**	**208**	*e*P	**Pn**	01 31 05.1	-0.2
SPN				*e*S	**Sn**	01 31 36.0	-2.3
NLC	**Nalytchevo**	**2.96**	**216**	PN	**Pn**	01 31 08.3	+1.1
NLC				S	**Sn**	01 31 41.8	+0.1
NLC	**Nalytchevo**	**2.96**	**216**	*e*P	**Pn**	01 31 08.3	+1.1
NLC				*e*S	**Sn**	01 31 41.8	+0.1
SDLR	**Sedlovina**	**3.04**	**221**	PN	**Pn**	01 31 09.8	+1.4
SDLR				S	**Sn**	01 31 44.6	+0.8
SDLR	**Sedlovina**	**3.04**	**221**	*e*P	**Pn**	01 31 09.8	+1.4
SDLR				*e*S	**Sn**	01 31 44.6	+0.8
KRER	**Koryakskii**	**3.07**	**223**	PN	**Pn**	01 31 10.6	+1.7
KRER				S	**Sn**	01 31 45.6	+1.0
KRER	**Koryakskii**	**3.07**	**223**	*e*P	**Pn**	01 31 10.6	+1.7
KRER				*e*S	**Sn**	01 31 45.6	+1.0
SMAR	**Somma**	**3.08**	**222**	PN	**Pn**	01 31 10.4	+1.4
SMAR	**Somma**	**3.08**	**222**	*e*P	**Pn**	01 31 10.4	+1.4
AVH	**Avacha**	**3.11**	**222**	PN	**Pn**	01 31 11.1	+1.9
AVH				S	**Sn**	01 31 45.9	+0.6
AVH	**Avacha**	**3.11**	**222**	*e*P	**Pn**	01 31 11.1	+1.9
AVH				*e*S	**Sn**	01 31 45.9	+0.6
UGLR	**Uglovaya**	**3.12**	**221**	PN	**Pn**	01 31 11.0	+1.6
UGLR				S	**Sn**	01 31 46.2	+0.6
UGLR	**Uglovaya**	**3.12**	**221**	*e*P	**Pn**	01 31 11.0	+1.6
UGLR				*e*S	**Sn**	01 31 46.2	+0.6
KOK	**Koryaka**	**3.12**	**224**	PN	**Pn**	01 31 11.2	+1.7
KOK				S	**Sn**	01 31 47.5	+1.7
KOK	**Koryaka**	**3.12**	**224**	*e*P	**Pn**	01 31 11.2	+1.7
KOK				*e*S	**Sn**	01 31 47.5	+1.7
GNL	**Ganaly**	**3.14**	**234**	PN	**Pn**	01 31 11.5	+1.8
GNL	**Ganaly**	**3.14**	**234**	*e*P	**Pn**	01 31 11.5	+1.8
DALK	**Dalny**	**3.29**	**220**	*e*S	**Sn**	01 31 49.2	-0.3
PET	**Petropavlovsk**	**3.33**	**220**	*e*PN	**Pn**	01 31 13.4	+1.3
PET				*e*S	**Sn**	01 31 50.8	+0.3
PET				pmax	pmax		
	comp=Z,49nm,0.6s						
PET				smax	smax		
	comp=N,175nm,0.6s						
PET				smax	smax		
	comp=E,150nm,0.6s						
PET	**Petropavlovsk**	**3.33**	**220**	Pn	**Pn**	**01 31 13.8**	**+1.7**
PET				Sn	**Sn**	**01 31 51.0**	**+0.5**
PET	**Petropavlovsk**	**3.33**	**220**	*e*P	**Pn**	**01 31 13.8**	**+1.7**
PET				*e*S	**Sn**	**01 31 50.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**3.64**	**229**	⇑*i*PN	**Pn**	**01 31 18.1**	**+1.7**
PEA0B	**Petropavlovsk-**	**3.64**	**229**	Pn	**Pn**	**01 31 18.2**	**+1.8**
PEA0B				Sn	**Sn**	**01 32 00.0**	**+1.8**
PETK	**Petropavlovsk-**	**3.64**	**229**	P	**Pn**	**01 31 17.4**	**+0.9**
	comp=E,2.1nm,0.3s,baz=66,slow=15,SNR=33						
PETK				S	**Sn**	**01 32 05.5**	**+7.3**
	comp=E,2.6nm,0.3s,baz=197,slow=30,SNR=6.0						
PETK	**Petropavlovsk-**	**3.64**	**229**	Pn	**Pn**	**01 31 15.8**	**-0.7**
KRMR	**Karymshinskiy**	**3.68**	**223**	PN	**Pn**	**01 31 18.9**	**+2.1**
KRMR				S	**Sn**	**01 32 00.2**	**+1.2**
KRMR	**Karymshinskiy**	**3.68**	**223**	*e*P	**Pn**	**01 31 18.9**	**+2.1**
KRMR				*e*S	**Sn**	**01 32 00.2**	**+1.2**
OSSR	**Ossora**	**3.68**	**7**	PN	**Pn**	**01 31 17.3**	**+0.4**
OSSR				S	**Sn**	**01 31 57.3**	**-1.8**
OSSR	**Ossora**	**3.68**	**7**	*e*P	**Pn**	**01 31 17.3**	**+0.4**
OSSR				*e*S	**Sn**	**01 31 57.3**	**-1.8**
PALN	**Palana**	**3.70**	**342**	PN	**Pn**	**01 31 17.8**	**+0.6**
PALN	**Palana**	**3.70**	**342**	*e*P	**Pn**	**01 31 17.8**	**+0.6**
RUS	**Russkaya**	**3.86**	**216**	PN	**Pn**	**01 31 20.4**	**+1.1**
RUS				S	**Sn**	**01 32 02.2**	**-1.2**
RUS	**Russkaya**	**3.86**	**216**	*e*P	**Pn**	**01 31 20.4**	**+1.1**
RUS				*e*S	**Sn**	**01 32 02.2**	**-1.2**
GRL	**Gorelyy**	**3.92**	**220**	PN	**Pn**	**01 31 22.8**	**+2.6**
GRL				S	**Sn**	**01 32 06.7**	**+1.6**
GRL	**Gorelyy**	**3.92**	**220**	*e*P	**Pn**	**01 31 22.8**	**+2.6**
GRL				*e*S	**Sn**	**01 32 06.7**	**+1.6**
MTVR	**Mutnovka**	**3.93**	**219**	PN	**Pn**	**01 31 22.6**	**+2.1**
MTVR	**Mutnovka**	**3.93**	**219**	*e*P	**Pn**	**01 31 22.6**	**+2.1**
APC	**Apacha**	**4.01**	**230**	PN	**Pn**	**01 31 23.9**	**+2.6**
APC	**Apacha**	**4.01**	**230**	*e*P	**Pn**	**01 31 23.9**	**+2.6**
KDTR	**Khodutka, Kamc**	**4.53**	**215**	PN	**Pn**	**01 31 29.1**	**+0.6**
KDTR	**Khodutka, Kamc**	**4.53**	**215**	*e*P	**Pn**	**01 31 29.1**	**+0.6**
TILK	**Tilichiki**	**5.28**	**22**	PN	**Pn**	**01 31 40.4**	**+1.8**
TILK				S	**Sn**	**01 32 37.3**	**-0.7**
TILK	**Tilichiki**	**5.28**	**22**	*e*P	**Pn**	**01 31 40.4**	**+1.8**
TILK				*e*S	**Sn**	**01 32 37.3**	**-0.7**
MA2	**Magadan**	**7.33**	**308**	⇑*e*PN	**Pn**	**01 32 08.1**	**+1.5**
MA2				pmax	pmax		
	comp=Z,24nm,3.3s						
BILL	**Bilibino**	**12.62**	**7**	⇓*e*PN	**P**	**01 33 23.2**	**-3.5**
BILL				*i* S	**Sn**	**01 35 43.8**	**+6.9**
BILL				pmax	pmax		
	comp=Z,20nm,3.4s						
ADK	**Adak**	**13.01**	**98**	PN	**P**	**01 33 29.9**	**-1.3**
ADK	**Adak**	**13.01**	**98**	Pn	**P**	**01 33 29.9**	**-1.3**
KUR	**Kuril'sk**	**13.81**	**227**	⇑*e*P	**Pn**	**01 33 30.7**	**-3.6**
UNV	**Unalaska Valle**	**18.07**	**83**	P	**Pn**	**01 34 31.3**	**+3.6**
TIXI	**Tiksi**	**21.39**	**331**	P	**P**	**01 35 02.3**	**-0.6**
	comp=Z,3.9nm,0.4s,baz=120,slow=9.0,SNR=20						
TIXI	**Tiksi**	**21.39**	**331**	⇓*i*P	**P**	**01 35 03.5**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI	**Tiksi**	**21.39**	**331**	P	**P**	**01 35 02.6**	**-0.3**
TIXI				IAmb	IAmb	01 35 05.7	
	comp=Z,9.3nm,1.0s						
ILAR	**Eielson Array**	**26.19**	**49**	P	**P**	**01 35 49.4**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=275,slow=8.3,SNR=8.7						
ILAR	**Eielson Array**	**26.19**	**49**	P	**P**	**01 35 49.8**	**+0.9**
SCM	**Sheep Creek Mo**	**26.33**	**56**	P	**P**	**01 35 52.0**	**+1.7**
SCM				pmax	pmax		
	comp=Z,46nm,1.5s						
SCM	**Sheep Creek Mo**	**26.33**	**56**	P	**P**	**01 35 52.0**	**+1.7**
BMAR	**Burnt Mountain**	**27.02**	**43**	P	**P**	**01 35 58.5**	**+2.0**
SCRK	**Sand Creek**	**27.52**	**50**	P	**P**	**01 36 01.0**	**0.0**
L27K	**Beaver Creek,**	**28.63**	**52**	P	**P**	**01 36 12.8**	**+2.0**
L27K				IAmb	IAmb	01 36 21.8	
	comp=Z,6.2nm,1.2s						
BCAR	**Beaver Creek A**	**28.64**	**52**	P	**P**	**01 36 12.0**	**+1.1**
M27K	**Edge Creek, AK**	**28.75**	**53**	P	**P**	**01 36 14.1**	**+2.1**
M27K				IAmb	IAmb	01 36 30.8	
	comp=Z,7.7nm,1.2s						
M30M	**Minto, Yukon**	**30.99**	**52**	P	**P**	**01 36 33.7**	**+2.0**
H11N2	**WAKE ISLAND Hy**	**35.99**	**173**	T	T	02 14 47.5	
	baz=355,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**36.00**	**172**	T	T	02 14 48.9	
	baz=355,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**36.01**	**173**	T	T	02 14 50.0	
	baz=355,slow=76,SNR=16						
YKA	**Yellowknife Ar**	**40.48**	**45**	P	**P**	**01 37 54.3**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=300,slow=8.0,SNR=8.1						
DGZ	**Jazzator, Alta**	**43.71**	**295**	⇓*e*P	**P**	**01 38 18.1**	**-1.2**
DGZ				pmax	pmax		
	comp=Z,6.0nm,2.0s						
KURK	**Kurchatov**	**47.49**	**301**	⇓*e*P	**P**	**01 38 47.2**	**-1.6**
KURK				pmax	pmax		
	comp=Z,11nm,2.8s						
MK31	**Makanchi Array**	**48.21**	**295**	P	**P**	**01 38 52.2**	**-2.3**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MK31	**Makanchi Array**	**48.21**	**295**	P	**P**	**01 38 52.2**	**-2.3**
MKAR	**Makanchi Array**	**48.21**	**295**	P	**P**	**01 38 52.2**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=52,slow=7.1,SNR=14						
MKAR	**Makanchi Array**	**48.21**	**295**	*e*P	**P**	**01 38 52.6**	**-1.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**49.85**	**308**	⇓*i*P	**P**	**01 39 05.5**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**49.85**	**308**	P	**P**	**01 39 04.9**	**-1.9**
PLID	**Pearl Lake**	**50.30**	**66**	P	**P**	**01 39 13.1**	**+2.4**
KVN	**Kaiserville**	**53.42**	**73**	P	**P**	**01 39 36.7**	**+2.8**
KVN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KVN	**Kaiserville**	**53.42**	**73**	P	**P**	**01 39 36.7**	**+2.8**
KVN				IAmb	IAmb	01 39 37.7	
	comp=Z,1.5nm,0.7s						
RYN	**Ryan**	**53.50**	**73**	P	**P**	**01 39 37.3**	**+2.9**
RYN				IAmb	IAmb	01 39 46.7	
	comp=Z,5.6nm,1.4s						
RLMT	**Red Lodge**	**53.70**	**61**	P	**P**	**01 39 38.0**	**+2.1**
RLMT				IAmb	IAmb	01 39 39.5	
	comp=Z,4.0nm,1.1s						
NVAR	**Mina Array Bea**	**53.76**	**73**	P	**P**	**01 39 39.6**	**+3.2**
	comp=Z,1.6nm,0.7s,baz=300,slow=7.6,SNR=11						
NVAR	**Mina Array Bea**	**53.76**	**73**	P	**P**	**01 39 38.4**	**+2.0**
PDAR	**Pinedale Array**	**55.24**	**64**	P	**P**	**01 39 49.5**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=331,slow=2.5,SNR=7.8						
FINES	**FINESS Array B**	**58.30**	**337**	P	**P**	**01 40 08.0**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=38,slow=8.2,SNR=46						
AKASG	**Malin Array Be**	**67.09**	**330**	P	**P**	**01 41 06.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=28,slow=6.6,SNR=3.6						
AKASG	**Malin Array Be**	**67.09**	**330**	P	**P**	**01 41 04.8**	**-1.9**
AKASG				IAmb	IAmb	01 41 12.8	
	comp=Z,2.4nm,1.4s						
WB2	**Warramunga Arr**	**78.89**	**207**	P	**P**	**01 42 15.7**	**-0.9**
WB2				IAmb	IAmb	01 42 16.1	

*DDA **19** 01:36:28.9±0.0, 39°.20N×29°.36E, h6km±2km, MW3.5*
*ISK **19** 01:36:28.8, 39°.23N×29°.38E, h9km, ML3.6/30*
ISC 19 01:36:28.8±0.8, **39°.22N**±0°.02×**29°.38E**±0°.02, **h9**km, **n75**, σ1$**08**/89, **16C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.24**	**16**	PG	**Pg**	**01 36 34.1**	**+0.4**
TVSB				SG	**Sg**	**01 36 37.9**	**+0.8**
SMAA	**Simav-Kutahya**	**0.33**	**249**	PG	**Pg**	**01 36 36.0**	**+0.7**
SMAA				SG	**Sb**	**01 36 41.5**	**-0.8**
SIMA	**Simav-Kutahya**	**0.33**	**246**	PG	**Pg**	**01 36 36.1**	**+0.7**
SIMA				SG	**Sg**	**01 36 40.9**	**+1.1**
ANDZ	**Kutahya, Merke**	**0.50**	**54**	P	**Pg**	**01 36 39.0**	**+0.5**
ANDZ				S	**Sg**	**01 36 46.0**	**+0.8**
ANDZ				*i* AML	AML	01 36 47.0	
	comp=N,2μm,0.2s						
ANDZ				*i* AML	AML	01 36 47.0	
	comp=E,2μm,0.4s						
DEMI	**Demirci**	**0.54**	**251**	SPECP		01 36 39.0	
DEMI				P	**Pg**	**01 36 39.9**	**+0.6**
DEMI				S	**Sg**	**01 36 47.1**	**+0.7**
DEMI				*i* AML	AML	01 36 48.0	
	comp=E,3μm,0.4s						
DEMI				*i* AML	AML	01 36 49.0	
	comp=N,3μm,0.2s						
USAK	**Uak-Merkez**	**0.57**	**209**	SPECP		01 36 40.0	
USAK				P	**Pg**	**01 36 40.5**	**+0.6**
USAK				S	**Sg**	**01 36 48.0**	**+0.6**
USAK				*i* AML	AML	01 36 49.0	
	comp=E,3μm,0.2s						
USAK				*i* AML	AML	01 36 50.0	
	comp=N,1μm,0.3s						
DST	**Dursunbey**	**0.70**	**304**	PG	**Pg**	**01 36 42.5**	**+0.2**
DURS	**Dursunbey**	**0.80**	**299**	SPECP		01 36 44.0	
DURS				P	**Pb**	**01 36 44.9**	**0.0**
DURS				*i* AML	AML	01 36 59.0	
	comp=E,3μm,0.5s						
DURS				S	**Sn**	**01 36 59.5**	**+1.1**
DURS				*i* AML	AML	01 37 00.0	
	comp=N,2μm,0.6s						
AFYO	**Afyonkarahisar**	**0.84**	**121**	P	**Pn**	**01 36 46.7**	**-0.2**
PASA	**Karahalli, USA**	**0.87**	**174**	SPECP		01 36 45.0	
PASA				P	**Pg**	**01 36 45.9**	**+0.3**
PASA				*i* AML	AML	01 37 01.0	
	comp=E,636nm,0.4s						
PASA				*i* AML	AML	01 37 02.0	
	comp=N,548nm,0.5s						
KULA	**Kula-Manisa**	**0.90**	**219**	PG	**Pg**	**01 36 45.9**	**-0.1**
AUKIR	**Kırka- Seyitga**	**0.90**	**86**	P	**Pb**	**01 36 46.8**	**+0.1**
AUKIR				*i* AML	AML	01 37 06.0	
	comp=N,2μm,0.6s						
AUKIR				*i* AML	AML	01 37 06.0	
	comp=E,1μm,0.8s						
KHL	**Karahalli**	**0.90**	**173**	PG	**Pb**	**01 36 46.8**	**+0.2**
ORLT	**Orhaneli**	**0.91**	**336**	PG	**Pg**	**01 36 46.6**	**+0.4**
STBT	**Saitabat**	**0.93**	**354**	SPECP		01 36 46.0	
STBT				P	**Pg**	**01 36 46.8**	**+0.1**
STBT				S	**Sg**	**01 36 59.5**	**+0.6**
STBT				*i* AML	AML	01 37 02.0	
	comp=E,3μm,0.9s						
STBT				*i* AML	AML	01 37 04.0	
	comp=N,3μm,0.5s						
ULDT	**Uludag**	**0.94**	**349**	SPECP		01 36 47.0	
ULDT				P	**Pg**	**01 36 47.1**	**+0.2**
ULDT				S	**Sg**	**01 36 59.5**	**+0.2**
ULDT				*i* AML	AML	01 37 03.0	
	comp=N,2μm,0.4s						
ULDT				*i* AML	AML	01 37 04.0	
	comp=E,1μm,0.4s						
BILE	**Bilecik/Merkez**	**1.02**	**22**	SPECP		01 36 48.0	
BILE				P	**Pg**	**01 36 48.6**	**+0.2**
BILE				*i* AML	AML	01 37 07.0	
	comp=E,2μm,0.2s						
BILE				*i* AML	AML	01 37 09.0	
	comp=N,1μm,0.2s						
CAVI	**Cavuskoy**	**1.05**	**20**	PG	**Pg**	**01 36 49.2**	**+0.3**
IGD	**Bursa**	**1.05**	**353**	SPECP		01 36 49.0	
IGD				P	**Pb**	**01 36 49.7**	**+0.5**
IGD				S	**Sb**	**01 37 03.5**	**+0.3**
IGD				*i* AML	AML	01 37 06.0	
	comp=N,876nm,0.4s						
IGD				*i* AML	AML	01 37 06.0	
	comp=E,1μm,0.3s						
BORA	**Eskisehir**	**1.06**	**51**	PG	**Pg**	**01 36 49.4**	**+0.1**
BORA	**Eskisehir**	**1.06**	**51**	SPECP		01 36 49.0	
BORA				P	**Pg**	**01 36 49.3**	**0.0**
AVDN	**Avdancik/Bursa**	**1.09**	**351**	SPECP		01 36 50.0	
AVDN				P	**Pn**	**01 36 50.4**	**+0.2**
AVDN				*i* AML	AML	01 37 07.0	
	comp=N,1μm,0.3s						
AVDN				*i* AML	AML	01 37 07.0	
	comp=E,1μm,0.5s						
IZI	**Iznik**	**1.12**	**4**	PN	**Pg**	**01 36 50.5**	**+0.2**
SHUT	**Suhut-Afyon**	**1.13**	**125**	PN	**Pb**	**01 36 50.9**	**+0.3**
YYLC	**Yaylacik**	**1.17**	**339**	SPECP		01 36 51.0	
YYLC				P	**Pn**	**01 36 51.6**	**+0.3**
YYLC				*i* AML	AML	01 37 10.0	
	comp=N,3μm,0.4s						
YYLC				*i* AML	AML	01 37 13.0	
	comp=E,2μm,0.4s						
ESKT	**Eskisehir**	**1.18**	**75**	PN	**Pg**	**01 36 51.8**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.21**	**342**	PN	**Pg**	**01 36 52.4**	**+0.4**
GEMT	**Gemlik**	**1.23

BGR ***19*** *02:02:07.2±0.0, 1°.58N×96°.35E, h33km, mb5.1, Ms4.5*
GCMT ***19*** *02:02:07.4±0.2, 2°.09N±0°.02×96°.47E±0°.02, h16km, MW5.4/100, Moment Tensor Solution. s100, c142; s80, c108; Duration: 1±2 Moment tensor: Scale 10^17^Nm; Mrr0.72±.02; Mθθ-0.32±.02; Mφφ-0.40±.02; Mrθ0.77±.05; Mθφ0.26±.02; Mφr-1.27±.06; Best double couple: M0 1.63000×10^17^ NP1:φs315.00000°, δ12.00000°, λ77.00000°. NP2:φs148.00000°, δ78.00000°, λ93.00000°. Principal axes: T 1.6820, Plg57.0000°, Azm61.0000°; N -0.1050, Plg3.0000°, Azm327.0000°; P -1.5780, Plg33.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***19*** *02:02:08, 2°.08N×96°.72E, h25km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.78; Mθθ-0.24; Mφφ-0.54; Mrθ0.17; Mθφ0.39; Mφr-0.62; Fault plane solution: M0 1.02000×10^17^ NP1:φs157.55000°, δ64.67000°, λ100.68000°. NP2:φs313.75000°, δ27.35000°, λ68.61000°. Principal axes: T 1.0254, Plg69.0000°, Azm89.0000°; N -0.0116, Plg10.0000°, Azm333.0000°; P -1.0138, Plg19.0000°, Azm240.0000°;*
ISC 19 02:02:05.0±0.4, 2°.05N±0°.03×96°.65E±0°.03, h19km±1km, h19km; pP-P, n838, σ1s 27/883, mb5.4/242, MS5.0/31, 92C-73D, Fault plane solution: NP1:φs326.80759°, δ86.38313°, λ-67.76283°. NP2:φs65.57900°, δ22.51465°, λ-170.51755°. Principal axes: T Plg37.4887°, Azm37.0982°; N Plg22.1905°, Azm145.3301°; P Plg44.2523°, Azm258.7453°; Fault plane solution: NP1:φs329.90128°, δ88.05757°, λ-121.15900°. NP2: φs236.69273°, δ31.21340°, λ-3.75018°. Principal axes: T Plg35.5055°, Azm86.6087°; N Plg31.1391°, Azm331.0754°; P Plg38.9554°, Azm211.8353°; Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.48**	**318**	P	**Pn**	**02 02 16.9**	**+0.1**
SNSI				S	**Sn**	**02 02 24.8**	**0.0**
GSI	**Gunungsitoli**	**1.19**	**129**	P	**Pb**	**02 02 26.9**	**0.0**
GSI				S	**Sb**	**02 02 41.7**	**-0.1**
GSI	**Gunungsitoli**	**1.19**	**129**		**Pn**	**02 02 26.3**	**-0.3**
GSI				Sg	**Sb**	**02 02 40.3**	**-1.5**
GSI	**Gunungsitoli**	**1.19**	**129**	P	**Pb**	**02 02 27.1**	**+0.2**
KCSI	**Kotacane, Aceh**	**1.84**	**37**	P	**Pb**	**02 02 37.2**	**-0.9**
KCSI				S	**Sb**	**02 03 00.5**	**-0.3**
PSI	**Prapat**	**2.39**	**72**	Pn	**Pn**	**02 02 42.9**	**-0.4**
	42nm,0.3s,baz=264,slow=5.1,SNR=207						
PSI				Sn	**Sn**	**02 03 13.9**	**+1.7**
	125nm,0.3s,baz=267,slow=6.0,SNR=8.2						
PSI				LR	LR	02 03 33.7	
	comp=Z,11μm,20.1s,baz=306,slow=39						
TSI	**Tuntungan**	**2.40**	**53**	P	**Pn**	**02 02 45.2**	**+2.0**
LHMI	**Lhok Sumawe**	**3.17**	**5**	P	**Pn**	**02 02 54.5**	**+0.6**
LHMI	**Lhok Sumawe**	**3.17**	**5**	Pn	**Pn**	**02 02 54.8**	**+0.8**
LHMI	**Lhok Sumawe**	**3.17**	**5**	P	**Pn**	**02 02 55.5**	**+1.6**
MNSI	**Mandailing Nat**	**3.18**	**113**	P	**Pn**	**02 02 55.0**	**+1.0**
SISI	**Saibi**	**4.15**	**144**	P	**Pn**	**02 03 07.6**	**+0.3**
BKNI	**Bangkinang**	**4.71**	**111**	P	**Pn**	**02 03 16.2**	**+1.2**
BKNI	**Bangkinang**	**4.71**	**111**	Pn	**Pn**	**02 03 15.2**	**+0.1**
BKNI	**Bangkinang**	**4.71**	**111**	P	**Pn**	**02 03 16.3**	**+1.2**
IPM	**Ipoh**	**4.99**	**61**	Pn	**Pn**	**02 03 19.7**	**+0.7**
IPM	**Ipoh**	**4.99**	**61**	P	**Pn**	**02 03 21.0**	**+2.0**
IPM	**Ipoh**	**4.99**	**61**	P	**Pn**	**02 03 20.6**	**+1.6**
KULM	**Kulim**	**5.13**	**51**	Pn	**Pn**	**02 03 21.5**	**+0.6**
KULM	**Kulim**	**5.13**	**51**	P	**Pn**	**02 03 22.0**	**+1.2**
PPSI	**Pulau Pagai**	**5.84**	**145**	P	**Pn**	**02 03 30.2**	**-0.4**
	2.2nm4μm198nm,0.5s						
JRMM	**Jerantut**	**6.10**	**72**	P	**Pn**	**02 03 36.0**	**+1.8**
KRJI	**Kerinci**	**6.33**	**130**	P	**Pn**	**02 03 39.6**	**+2.2**
	5.7nm18μm1μm,0.8s						
SRIT	**Nakonsritamara**	**7.14**	**24**	Pn	**Pn**	**02 03 48.1**	**-0.3**
MYKOM	**Kota Tinggi**	**7.20**	**92**		**Pn**	**02 03 50.6**	**+1.3**
MYKOM	**Kota Tinggi**	**7.20**	**92**	P	**Pn**	**02 03 51.0**	**+1.7**
MASI	**Maura Aman, Be**	**7.60**	**133**	P	**Pn**	**02 03 55.7**	**+0.8**
	2.8nm4μm286nm,0.8s						
JMBI	**JAMBI**	**7.89**	**118**	P	**Pn**	**02 03 58.6**	**-0.2**
	1.3nm135nm,0.6s						
TPRI	**Tanjung Pinang**	**7.95**	**98**	P	**Pn**	**02 04 00.9**	**+1.2**
	1.1nm155nm,0.6s						
MNAI	**Manna**	**8.96**	**135**	P	**Pn**	**02 04 13.2**	**-0.2**
	354nm,0.5s						
MNAI	**Manna**	**8.96**	**135**		**Pn**	**02 04 13.2**	**-0.2**
MNAI	**Manna**	**8.96**	**135**	P	**Pn**	**02 04 14.4**	**+0.9**
LHSI	**Lahat**	**9.02**	**130**	P	**Pn**	**02 04 14.3**	**+0.1**
	196nm,0.8s						
MDSI	**Maura Dua**	**9.94**	**131**	P	**Pn**	**02 04 26.4**	**-0.5**
	684nm63nm,0.8s						
LWLI	**Liwa**	**10.20**	**133**	P	**Pn**	**02 04 30.6**	**0.0**
	43μm211nm,0.7s						
PPBI	**Pangkal Pinang**	**10.37**	**114**	P	**Pn**	**02 04 34.9**	**+2.1**
KLSI	**Pangkalan**	**10.49**	**130**	P	**Pn**	**02 04 33.9**	**-0.5**
	522nm40nm,0.8s						
KASI	**Kota Agung**	**10.86**	**134**	P	**Pn**	**02 04 38.5**	**-1.1**
	1μm114nm,0.8s						
DGPR	**DIGLIPUR**	**11.65**	**342**	*ex*	x	02 05 04.8	
TPI	**Tanjungpandan**	**11.99**	**113**	P	**Pn**	**02 04 55.8**	**+0.8**
CGJI	**Cibinong**	**12.47**	**134**	P	**Pn**	**02 04 57.8**	**-3.8**
	33nm,0.7s						
KSM	**Kuching**	**13.66**	**92**	Pn	**Pn**	**02 05 17.5**	**-0.4**
KSM	**Kuching**	**13.66**	**92**	P	**Pn**	**02 05 21.0**	**+3.1**
CNJI	**Cibinong**	**13.99**	**132**	P	Pn	02 05 16.8	-5.6
LEM	**Lembang**	**14.06**	**129**	LR	LR	02 11 23.4	
	comp=Z,2μm,21.9s,baz=296,slow=40						
STKI	**Sintang**	**14.96**	**97**	P	**Pn**	**02 05 37.0**	**+1.5**
	18μm96nm,0.8s						
DLV	**T Lat**	**15.31**	**49**	Pn	**Pn**	**02 05 40.0**	**-0.4**
DLV				IAmb	IAmb	02 05 46.9	
	comp=Z,150nm,0.8s						
SBUM	**Sibu**	**15.56**	**88**	Pn	**Pn**	**02 05 43.1**	**-0.5**
SBUM	**Sibu**	**15.56**	**88**	P	**Pn**	**02 05 45.0**	**+1.5**
UBPT	**Khong Chiam**	**15.77**	**33**	Pn	**Pn**	**02 05 44.6**	**-1.5**
CM31	**Chiang Mai Arr**	**16.46**	**8**	Pn	**Pn**	**02 05 55.0**	**-0.1**
CM31				IAmb	IAmb	02 05 59.0	
	comp=Z,227nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.46**	**8**	Pn	**Pn**	**02 05 54.2**	**-0.8**
	comp=Z,3.7nm,0.3s,baz=199,slow=14,SNR=68						
CMAR				LR	LR	02 12 29.4	
	comp=Z,3μm,20.9s,baz=190,slow=38						
CMAR	**Chiang Mai Arr**	**16.46**	**8**	*i* P	**Pn**	**02 05 54.2**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,167nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.46**	**8**	Pn	**Pn**	**02 05 53.7**	**-1.3**
PALK	**Pallekele**	**16.71**	**289**	Pn	**Pn**	**02 05 58.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=202,slow=13,SNR=2.4						
PALK				Sn	Sn	02 08 47.3	-16
	comp=Z,0.9nm,0.3s,baz=284,slow=22,SNR=2.7						
PALK				LR	LR	02 11 46.6	
	comp=Z,4μm,20.1s,baz=211,slow=35						
PALK	**Pallekele**	**16.71**	**289**		**P**	**02 05 59.9**	**-0.7**
CHTO	**Chiang Mai**	**16.81**	**8**	P	**Pn**	**02 05 57.8**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,85nm,1.3s						
CHTO	**Chiang Mai**	**16.81**	**8**	Pn	**Pn**	**02 05 57.8**	**-1.7**
CHTO	**Chiang Mai**	**16.81**	**8**	P	**Pn**	**02 05 59.9**	**+0.4**
MTKI	**Muara Teweh, K**	**18.48**	**99**	P	**Pn**	**02 06 20.4**	**+0.1**
	comp=Z,74nm,0.9s						
BBKI	**Banjar Baru**	**18.99**	**107**	P	**P**	**02 06 25.9**	**+0.3**
	comp=Z,6μmcomp=Z,65nm,0.8s						
KMMI	**Kalianget**	**19.50**	**118**	P	**P**	**02 06 30.3**	**-1.0**
	comp=Z,2μmcomp=Z,117nm,0.9s						
KKM	**Kota Kinabalu**	**19.91**	**78**		**P**	**02 06 34.8**	**-1.0**
KKM				IAmb	IAmb	02 06 40.2	
	comp=Z,129nm,0.8s						
KKM	**Kota Kinabalu**	**19.91**	**78**	P	**Pn**	**02 06 39.3**	**+1.8**
SPMM	**Sapulut**	**19.95**	**82**	P	**Pn**	**02 06 38.0**	**0.0**
KBKI	**Kotabaru**	**20.22**	**105**	P	**P**	**02 06 38.7**	**-0.4**
	comp=Z,64nm,0.8s						
VIS	**Vishakhapatnam**	**20.34**	**321**	*e*P	Pn	02 06 43.5	+1.1
SLVN	**Son La**	**20.43**	**20**	P	**P**	**02 06 40.9**	**-0.5**
SLVN				IAmb	IAmb	02 06 43.7	
	comp=Z,98nm,0.8s						
CHLP	**Challavanipeta**	**20.49**	**324**	⇓*e*P	**P**	**02 06 43.1**	**+1.1**
CHLP				*e*S	**S**	**02 10 32.4**	**+1.7**
TRD	**Trivandrum**	**20.62**	**289**	*ex*	x	02 07 26.1	
TRD				*i* Lg	Lg	02 12 42.9	
BWNR	**Bhubaneshwar**	**21.00**	**330**	*e*P	**P**	**02 06 48.0**	**+0.6**
SRBI	**Singaraja**	**21.07**	**119**	P	**P**	**02 06 47.9**	**-0.4**
	comp=Z,1μmcomp=Z,128nm,1.1s						
QIZ	**Qiongzhong**	**21.25**	**37**	P	**P**	**02 06 50.6**	**+0.4**
QIZ				S	Sn	02 10 50.0	-3.2
QIZ				LR	LR		
	comp=Z,27μm,18.8s						
QIZ				LR	LR		
	comp=Z,11μm,12.8s						
QIZ				LR	LR		
	comp=Z,14μm,12.2s						
QIZ	**Qiongzhong**	**21.25**	**37**	P	**P**	**02 06 50.0**	**-0.2**
VJD	**Vijayawada**	**21.32**	**313**	*e*P	**P**	**02 06 54.3**	**+3.4**
ADKI	**Addanki**	**21.40**	**311**	*e*P	**P**	**02 06 53.1**	**+1.2**
ADKI				*e*S	**S**	**02 10 50.5**	**+1.7**
RAGD	**RAYAGADA**	**21.42**	**324**	*e*P	**P**	**02 06 54.0**	**+2.0**
RAGD				*ex*	**S**	**02 10 40.0**	**-9.2**
MYLAV	**Mylavaram**	**21.48**	**314**	*e*P	**P**	**02 06 53.7**	**+1.0**
MYLAV				*e*S	**S**	**02 10 52.2**	**+1.8**
RCLA	**Racherla**	**21.95**	**308**	*e*P	**P**	**02 06 58.0**	**+0.2**
RCLA				*e*S	**S**	**02 11 01.3**	**+1.7**
MYLDM	**Lahad Datu**	**22.02**	**81**	P	**P**	**02 06 57.8**	**-0.8**
NJS	**Nagarjunasagar**	**22.34**	**311**	*e*P	**P**	**02 07 03.0**	**+1.1**
NJS				*e*S	**S**	**02 11 08.6**	**+1.7**
SRLM	**Srisailam**	**22.38**	**310**	*e*P	**P**	**02 07 03.6**	**+1.2**
SRLM				*e*S	**S**	**02 11 09.3**	**+1.6**
URV	**Uravakonda**	**23.03**	**305**	*e*P	**P**	**02 07 11.4**	**+2.2**
JHSG	**JHARSUGUGA**	**23.26**	**328**	*e*P	**P**	**02 07 13.4**	**+1.9**
MPSI	**Mapaga**	**23.30**	**94**	P	**P**	**02 07 11.4**	**-0.6**
	comp=Z,2μmcomp=Z,1μmcomp=Z,55nm,1.0s						
HYB	**Hyderabad**	**23.44**	**312**	*ex*	**P**	**02 07 16.8**	**+3.4**
HYBB	**Hyderabad (bro**	**23.44**	**312**	*e*P	**P**	**02 07 13.3**	**-0.1**
HYBB				*e*S	**S**	**02 11 27.5**	**+1.4**
KMI	**Kunming**	**23.68**	**14**	⇑P	**P**	**02 07 16.0**	**+0.1**
KMI				pP	sP	02 07 24.3	+1.1
KMI				S	**S**	**02 11 27.0**	**-3.2**
KMI				sS	sS	02 11 37.3	-0.1
KMI				pmax	pmax		
	comp=Z,99nm,0.9s						
KMI				pmax	pmax		
	comp=Z,930nm,4.8s						
KMI				LR	LR		
	comp=Z,2μm,15.3s						
KMI				LR	LR		
	comp=Z,3μm,15.5s						
KMI				LR	LR		
	comp=Z,4μm,13.9s						
TTSI	**Tana Toraja**	**23.71**	**102**	P	**P**	**02 07 15.3**	**-0.7**
	comp=Z,2μmcomp=Z,100nm,1.1s						
SHL	**Shillong**	**23.83**	**349**	P	**P**	**02 07 14.2**	**-3.0**
SHL				pmax	pmax		
	comp=Z,247nm,1.0s						
SHL	**Shillong**	**23.83**	**349**	*e*P	**P**	**02 07 14.9**	**-2.3**
SHL				IAmb	IAmb	02 07 19.4	
	comp=Z,189nm,1.1s						
SHL	**Shillong**	**23.83**	**349**	P	**P**	**02 07 14.2**	**-3.0**
RPR	**Rampur**	**23.84**	**316**	*e*P	**P**	**02 07 18.1**	**+0.9**
RPR				*e*S	**S**	**02 11 34.2**	**+1.8**
SPSI	**Sidrap Palu**	**23.87**	**104**	P	**P**	**02 07 17.2**	**-0.3**
	comp=Z,1μmcomp=Z,56nm,1.5s						
KAPI	**Kappang**	**24.12**	**107**	P	**P**	**02 07 19.9**	**-0.1**
	comp=Z,49nm,0.8s,baz=313,slow=13,SNR=31						
KAPI	**Kappang**	**24.12**	**107**	P	**P**	**02 07 19.7**	**-0.2**
KAPI				pmax	pmax		
	comp=Z,84nm,1.1s						
KAPI	**Kappang**	**24.12**	**107**	P	**P**	**02 07 19.7**	**-0.2**
KAPI				IAmb	IAmb	02 07 23.1	
	comp=Z,84nm,1.1s						
KAPI	**Kappang**	**24.12**	**107**	P	**P**	**02 07 21.9**	**+2.0**
TOLI2	**Tolitoli**	**24.14**	**92**	P	**P**	**02 07 18.1**	**-2.0**
TOLI2				IAmb	IAmb	02 07 29.2	
	comp=Z,76nm,1.0s						
MOKO	**MOKOCHONG**	**24.22**	**355**	*e*P	**P**	**02 07 19.3**	**-1.5**
MOKO				IAmb	IAmb	02 07 23.7	
	comp=Z,136nm,0.4s						
BNSI	**Bone**	**24.30**	**105**	P	**P**	**02 07 21.6**	**0.0**
	comp=Z,2μmcomp=Z,95nm,0.9s						
BLSP	**Bilaspur**	**24.45**	**326**	*e*P	**P**	**02 07 25.7**	**+2.9**
SRSP	**Sriramsagar**	**24.55**	**314**	*e*P	**P**	**02 07 26.0**	**+2.2**
BKSI	**Bulukumba**	**24.56**	**107**	P	**P**	**02 07 25.5**	**+1.5**
	comp=Z,2μmcomp=Z,103nm,1.0s						
PZH	**PanZhiHua**	**24.80**	**11**	⇑P	**P**	**02 07 25.8**	**-0.3**
PZH				pP	**pP**	**02 07 30.3**	**-1.5**
PZH				sP	**sP**	**02 07 33.3**	**-0.5**
PZH				SS	S	02 12 44.6	+57
PZH				ScS	**ScS**	**02 18 29.1**	**+0.1**
PZH				pmax	pmax		
	comp=Z,90nm,1.1s						
PZH				pmax	pmax		
	comp=Z,470nm,4.6s						
PZH				LR	LR		
	comp=Z,2μm,13.4s						
PZH				LR	LR		
	comp=Z,2μm,15.7s						
PZH				LR	LR		
	comp=Z,3μm,13.5s						
ITAN	**ITANAGAR**	**25.11**	**354**	*e*P	**P**	**02 07 29.3**	**+0.6**
LKP	**Lekhapani**	**25.15**	**358**	*e*P	**P**	**02 07 28.8**	**-0.3**
BSSI	**Bau Bau, Buton**	**25.16**	**109**	P	**P**	**02 07 29.9**	**+0.6**
	comp=Z,1μmcomp=Z,156nm,0.8s						
APSI	**Ampana**	**25.17**	**96**	P	**P**	**02 07 30.6**	**+1.2**
	comp=Z,1μmcomp=Z,137nm,0.9s						
MRSI	**Marisa**	**25.33**	**93**	P	**P**	**02 07 30.8**	**-0.1**
	comp=Z,1μmcomp=Z,76nm,0.7s						
WBSI	**Waikabubak, Su**	**25.46**	**118**	P	**P**	**02 07 29.6**	**-2.5**
	comp=Z,879nmcomp=Z,100nm,0.8s						
H08S2	**Diego Garcia H**	**25.95**	**248**	T	T	02 34 25.2	
	baz=69,slow=76,SNR=7660						
H08S3	**Diego Garcia H**	**25.95**	**248**	T	T	02 34 25.4	
	baz=69,slow=76						
H08S1	**Diego Carcia H**	**25.97**	**248**	T	T	02 34 26.5	
	baz=69,slow=76,SNR=1071						
GTK	**Tadong**	**26.28**	**344**	*e*P	**P**	**02 07 40.4**	**+0.9**
LUWI	**Luwuk**	**26.30**	**96**	P	**P**	**02 07 40.4**	**+0.7**
	comp=Z,147nm,1.1s						
LUWI	**Luwuk**	**26.30**	**96**	P	**P**	**02 07 37.4**	**-2.3**
LUWI				IAmb	IAmb	02 07 49.0	
	comp=Z,116nm,1.1s						
GTOI	**Gorontalo**	**26.39**	**93**	P	**P**	**02 07 39.1**	**-1.4**
	comp=Z,398nmcomp=Z,29nm,0.9s						
JBP	**Jabalpur**	**26.49**	**324**	*e*P	**P**	**02 07 41.5**	**+0.1**
JBP				⇓*ex*	x	02 12 12.4	
AKL	**Akola**	**26.66**	**315**	*ex*	x	02 07 48.4	
BASI	**Baing, Sumba**	**26.76**	**118**	P	**P**	**02 07 43.9**	**+0.1**
	comp=Z,833nmcomp=Z,57nm,0.8s						
BBSI	**Bau Bau**	**26.95**	**106**	P	**P**	**02 07 45.7**	**+0.1**
	comp=Z,361nmcomp=Z,18nm,0.8s						
EDFI	**Ende, Flores**	**27.17**	**114**	P	**P**	**02 07 44.2**	**-3.5**
	comp=Z,12nm,0.8s						
ALBI	**Allahabad**	**27.19**	**330**	*e*P	**P**	**02 07 49.2**	**+1.6**
PKI	**Pulchoki**	**27.57**	**338**	*e*P	**P**	**02 07 52.6**	**+1.3**
	comp=Z,67nm,0.6s						
PKIN	**Phulchoki**	**27.57**	**338**	*e*P	**P**	**02 07 52.4**	**+1.1**
	comp=Z,71nm,0.7s						
MMRI	**Maumere**	**27.63**	**113**	P	**P**	**02 07 49.2**	**-2.5**
	comp=Z,66nm,0.8s						
GUN	**Gumba**	**27.70**	**339**	*e*P	**P**	**02 07 53.0**	**+0.4**
	comp=Z,347nm,0.7s						
DMN	**Daman**	**27.71**	**338**	*e*P	**P**	**02 07 53.9**	**+1.3**
	comp=Z,150nm,0.8s						
KKN	**Kakani**	**27.81**	**338**	*e*P	**P**	**02 07 54.8**	**+1.4**
	comp=Z,232nm,0.8s						
VLK	**Valmikinagar**	**27.95**	**335**	*e*P	**P**	**02 07 57.0**	**+2.6**
LSA	**Lhasa**	**27.99**	**350**	P	**P**	**02 07 55.1**	**-0.2**
BHPL	**Bhopal**	**28.13**	**320**	*e*P	**P**	**02 07 58.2**	**+2.2**
BHPL				IAmb	IAmb	02 08 06.9	
	comp=Z,55nm,1.5s						
BHPL				*ex*	x	02 12 48.3	
GKN	**Gorkha**	**28.25**	**337**	*e*P	**P**	**02 07 58.0**	**+0.8**
	comp=Z,189nm,0.8s						
KOLN	**Koldanda**	**28.46**	**335**	*e*P	**P**	**02 08 00.2**	**+1.0**
	comp=Z,277nm,0.7s						
DANN	**Dangsing**	**28.91**	**336**	*e*P	**P**	**02 08 03.3**	**+0.1**
	comp=Z,192nm,0.8s						
PYUN	**Piuthan**	**29.01**	**335**	*e*P	**P**	**02 08 05.1**	**+1.0**
	comp=Z,44nm,0.8s						
JHNI	**Jhansi**	**29.09**	**325**	*ex*	**P**	**02 08 04.4**	**-0.2**
CD2	**Chengdu**	**29.48**	**12**	P	**P**	**02 08 07.3**	**-0.7**
CD2				S	**S**	**02 13 08.1**	**+6.4**
CD2				pmax	pmax		
	comp=Z,80nm,0.6s						
CD2				LR	LR		
	comp=Z,3μm,11.3s						
CD2				LR	LR		
	comp=Z,5μm,14.7s						
CD2				LR	LR		
	comp=Z,4μm,10.9s						
SOEI	**Soe**	**29.90**	**114**	P	P	02 08 21.8	+10
ENH	**Enshi**	**30.60**	**22**	P	**P**	**02 08 15.8**	**-2.0**
SSLB	**Suanglung**	**31.94**	**45**	P	**P**	**02 08 31.4**	**+1.5**
SSLB				IAmb	IAmb	02 08 35.4	
	comp=Z,64nm,1.1s						
YULB	**Yu-li**	**31.95**	**46**	P	**P**	**02 08 29.9**	**0.0**
YULB				IAmb	IAmb	02 08 31.7	
	comp=Z,41nm,0.8s						
SONA	**Sohna**	**32.06**	**326**	*e*P	**P**	**02 08 31.9**	**+1.1**
AJM	**Ajmer**	**32.20**	**321**	*e*P	**P**	**02 08 33.4**	**+1.3**
AYAN	**Aya Nagar**	**32.22**	**327**	*e*P	**P**	**02 08 33.4**	**+1.2**
MBWA	**Marble Bar**	**32.29**	**137**	P	**P**	**02 08 33.6**	**+0.8**
KUDL	**Kundal**	**32.32**	**325**	*e*P	**P**	**02 08 33.5**	**+0.5**
NDI	**New Delhi**	**32.33**	**327**	*ex*	**P**	**02 08 33.8**	**+0.7**
NACB	**Ninganchiao**	**32.64**	**46**	P	**P**	**02 08 36.5**	**+0.6**
NACB				IAmb	IAmb	02 08 38.8	
	comp=Z,42nm,0.7s						
PSA00	**Pilbara Seismi**	**32.65**	**137**	P	**P**	**02 08 36.1**	**+0.1**
PSA00				IAmb	IAmb	02 08 47.6	
	comp=Z,55nm,0.9s						
PSA00	**Pilbara Seismi**	**32.65**	**137**	P	**P**	**02 08 36.3**	**+0.3**
PSA00				IAmb	IAmb	02 08 48.2	
	comp=Z,33nm,1.0s						
PSA00	**Pilbara Seismi**	**32.65**	**137**	P	**P**	**02 08 38.8**	**+2.8**
WHN	**Wuhan**	**32.93**	**29**	⇓P	**P**	**02 08 38.8**	**+0.4**
WHN				sP	**sP**	**02 08 46.4**	**+0.4**
WHN				pmax	pmax		
	comp=Z,50nm,0.8s						
XAN	**Xi'an**	**33.83**	**18**	P	**P**	**02 08 44.8**	**-1.4**
XAN				pP	sP	02 08 53.0	-0.9
XAN				sP	pP	02 08 58.3	+6.3
XAN				pmax	pmax		
	comp=Z,100nm,0.8s						
GOMU	**GeErMu**	**34.02**	**357**	P	**P**	**02 08 47.8**	**-0.5**
GOMU				pP	pP	02 08 53.3	-0.7
GOMU				sP	sP	02 08 55.1	-0.9
GOMU				S	**S**	**02 14 14.3**	**+1.2**
GOMU				pmax	pmax		
	comp=Z,41nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,88nm,4.3s						
SMLA	**Simla**	**34.29**	**329**	*e*P	**P**	**02 08 51.0**	**+0.9**
SMLA				IAmb	IAmb	02 08 55.2	
	comp=Z,78nm,1.1s						
LZH	**Lanzhou**	**34.52**	**10**	⇑P	**P**	**02 08 51.0**	**-1.3**
LZH				pP	pP	02 08 56.4	-1.7
LZH				sP	sP	02 08 58.4	-1.6
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
LZH				pmax	pmax		
	comp=Z,300nm,4.9s						
SWI	**Sorong**	**34.73**	**94**	P	**P**	**02 08 53.4**	**-0.8**
	comp=Z,35nm,0.8s						
SIJI	**Sorong**	**34.73**	**94**	P	**P**	**02 08 53.0**	**-1.3**
	comp=Z,21nm,0.7s,baz=325,slow=4.5,SNR=13						
LYN	**LuoYang**	**35.54**	**23**	⇓*i* P	**P**	**02 09 01.3**	**+0.3**
LYN				pmax	pmax		
	comp=Z,50nm,0.9s						
DHRM	**DHARAMSHALA**	**35.63**	**330**	*e*P	**P**	**02 09 02.6**	**+0.6**
KNRA	**Kununurra**	**36.31**	**120**	P	**P**	**02 09 06.0**	**-1.7**
	baz=36,SNR=13						
KNRA	**Kununurra**	**36.31**	**120**	P	**P**	**02 09 07.8**	**0.0**
NJ2	**Nanjing**	**36.44**	**33**	⇓P	**P**	**02 09 09.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,35nm,0.6s						
DRS	**Darwin Rock St**	**36.93**	**114**	P	**P**	**02 09 12.9**	**-0.2**
MTN	**Manton Dam**	**37.29**	**114**	P	**P**	**02 09 14.5**	**-1.7**
	baz=37,SNR=11						
MTN	**Manton Dam**	**37.29**	**114**	P	**P**	**02 09 14.2**	**-2.0**
GTA	**Gaotai**	**37.30**	**4**	⇑P	**P**	**02 09 15.3**	**-0.8**
GTA				pP	pP	02 09 21.4	-0.5
GTA				sP	sP	02 09 24.3	+0.5
GTA				S	**S**	**02 14 59.8**	**-3.0**
GTA				sS	sS	02 15 13.6	+2.1
GTA				pmax	pmax		
	comp=Z,200nm,0.8s						
GTA				pmax	pmax		
	comp=Z,500nm,4.4s						
GTA				LR	LR		
	comp=Z,7μm,17.1s						
GTA				LR	LR		
	comp=Z,5μm,17.4s						
GTA				LR	LR		
	comp=Z,4μm,18.2s						
NIL	**Nilore**	**38.31**	**328**	P	**P**	**02 09 25.1**	**+0.5**
NIL				pmax	pmax		
	comp=Z,133nm,0.7s						
NIL	**Nilore**	**38.31**	**328**	P	**P**	**02 09 25.1**	**+0.5**
TIY	**Taiyuan**	**38.34**	**20**	⇑P	**P**	**02 09 25.3**	**+0.4**
TIY				pmax	pmax		
	comp=Z,27nm,0.7s						
KDU	**Kakadu**	**38.46**	**113**	P	**P**	**02 09 24.4**	**-1.6**
	baz=38,SNR=35						
HNS	**HongShan**	**38.91**	**23**	⇑P	**P**	**02 09 29.3**	**-0.2**
HNS				S	**S**	**02 15 30.3**	**+3.4**
HNS				pmax	pmax		
	comp=Z,75nm,1.0s						
HNS				LR	LR		
	comp=Z,3μm,11.6s						
HNS				LR	LR		
	comp=Z,5μm,13.3s						
HNS				LR	LR		
	comp=Z,5μm,12.2s						
TIA	**Tai'an**

KSH LR LR
comp=Z,1μm,18.6s
KSH LR LR
comp=Z,2μm,17.7s
SMPI Sarmi 42.24 95 P **P 02 09 57.3 -0.2**
comp=Z,3μmcomp=Z,63nm,1.1s
WMQ Urumqi 42.35 350 ⇓P **P 02 09 59.4 +1.5**
WMQ pP sP 02 10 05.6 -0.1
WMQ sP pP 02 10 09.0 +5.2
WMQ PP **PP 02 11 38.4 +2.1**
WMQ ScP **ScP 02 15 42.9 +1.7**
WMQ S **S 02 16 20.9 +2.6**
WMQ pmax pmax
comp=Z,48nm,1.3s
WMQ pmax pmax
comp=Z,510nm,4.5s
WMQ LR LR
comp=Z,4μm,11.3s
WMQ LR LR
comp=Z,4μm,12.7s
WMQ LR LR
comp=Z,2μm,18.5s
WSAR Wadi Sarin 42.43 303 LR LR 02 28 27.8
comp=Z,901nm,18.3s,baz=113,slow=37
WB0 Warramunga Arr 42.92 122 P **P 02 10 02.2 -0.6**
WB0 IAmb IAmb 02 10 04.1
comp=Z,63nm,0.7s
WRA Warramunga Arr 42.95 122 P **P 02 10 02.5 -0.6**
comp=Z,48nm,0.9s,baz=300,slow=9.2,SNR=151
WRA LR LR 02 28 21.3
comp=Z,951nm,21.7s,baz=304,slow=37
WRA Warramunga Arr 42.95 122 *i* P **P 02 10 02.5 -0.6**
WRA pmax pmax
comp=Z,44nm,0.7s
WRA Warramunga Arr 42.95 122 P **P 02 10 01.9 -1.2**
WRAB Tennant Creek 42.95 122*c i*P **P 02 10 02.8 -0.4**
WRAB pmax pmax
comp=Z,66nm,0.8s
WRAB Tennant Creek 42.95 122 P **P 02 10 01.6 -1.5**
WRAB IAmb IAmb 02 10 04.6
comp=Z,64nm,0.8s
WRAB Tennant Creek 42.95 122 P **P 02 10 03.4 +0.2**
WB2 Warramunga Arr 42.96 122 P **P 02 10 02.0 -1.2**
WB2 IAmb IAmb 02 10 04.5
comp=Z,52nm,0.8s
TARG Taragay, Kyrgy 42.99 339 P **P 02 10 03.3 -0.3**
TARG IAmb IAmb 02 10 08.5
comp=Z,87nm,0.9s
WR0 Warramunga Arr 43.13 122 P **P 02 10 04.4 -0.2**
WR0 IAmb IAmb 02 10 06.0
comp=Z,75nm,0.8s
JSU Suzuyama 43.30 44 P **P 02 10 05.5 -0.3**
JSU IAmb IAmb 02 10 07.2
comp=Z,83nm,0.8s
PRZ Przheval'sk 43.45 340 P **P 02 10 07.9 +0.9**
PRZ pmax pmax
comp=Z,83nm,1.1s
PRZ Przheval'sk 43.45 340 P **P 02 10 07.9 +0.9**
PRZ IAmb IAmb 02 10 12.5
comp=Z,83nm,1.1s
KDJ Kajisay 43.56 339 P **P 02 10 07.3 -0.6**
KDJ pmax pmax
comp=Z,91nm,0.9s
KDJ Kajisay 43.56 339 P **P 02 10 07.3 -0.6**
KDJ IAmb IAmb 02 10 10.6
comp=Z,91nm,0.8s
DRK Karamyk 43.59 332 P **P 02 10 08.5 +0.2**
SHLS Shalkode 43.71 342 *eP* **P 02 10 08.0 -1.0**
SHLS pmax pmax
comp=Z,39nm,0.8s
SHLS Shalkode 43.71 342 *eP* **P 02 10 08.0 -1.0**
comp=Z,39nm,0.8s,baz=342
GENI Genyem 43.75 96 P **P 02 10 08.1 -1.6**
comp=Z,3μmcomp=Z,152nm,0.8s
UZB Uzynbulak 43.84 341 *eP* **P 02 10 09.7 -0.4**
UZB pmax pmax
comp=Z,43nm,0.7s
UZB Uzynbulak 43.84 341 *eP* **P 02 10 09.7 -0.4**
comp=Z,43nm,0.7s,baz=341
SATY Saty 43.96 341 *eP* **P 02 10 11.1 0.0**
SATY pmax pmax
comp=Z,51nm,0.8s
SATY Saty 43.96 341 *eP* **P 02 10 11.1 0.0**
comp=Z,51nm,0.8s,baz=341
ULHL Ulahol 44.01 338 P **P 02 10 12.1 +0.6**
SNR=5.5
ZHN Zhinishke 44.05 341 *eP* **P 02 10 11.9 +0.1**
ZHN Zhinishke 44.05 341 *eP* **P 02 10 11.9 +0.1**
baz=341
CHGR Chuyangaron 44.26 329 P **P 02 10 13.1 -0.4**
FORT Forrest 44.28 140 P **P 02 10 15.2 +1.5**
baz=44,SNR=30
FORT Forrest 44.28 140 P **P 02 10 14.8 +1.2**
FORT Forrest 44.28 140 P **P 02 10 16.8 +3.2**
JAY Jayapura 44.28 96 P **P 02 10 12.2 -1.7**
comp=Z,59nm,0.9s,baz=83,slow=19,SNR=15
JAY Jayapura 44.28 96 P **P 02 10 11.8 -2.2**
comp=Z,338nmcomp=Z,35nm,0.8s
BOOM Boomskoye usch 44.33 338 P **P 02 10 14.1 0.0**
BOOM pmax pmax
comp=Z,36nm,0.8s
BOOM Boomskoye usch 44.33 338 P **P 02 10 14.1 0.0**
BOOM IAmb IAmb 02 10 16.2
comp=Z,36nm,0.8s
AS31 Alice Springs 44.34 127 P **P 02 10 13.5 -0.9**
ASAR Alice Springs 44.34 127 P **P 02 10 14.1 -0.3**
comp=Z,26nm,0.8s,baz=305,slow=7.5,SNR=138
ASAR PcP **PcP 02 11 59.2 +0.8**
comp=Z,5.9nm,0.8s,baz=318,slow=3.8,SNR=6.1
ASAR ScP **ScP 02 15 50.0 +0.2**
comp=Z,2.5nm,0.9s,baz=299,slow=5.1,SNR=6.2
ASAR Alice Springs 44.34 127 P **P 02 10 14.1 -0.3**
ASAR PcP **PcP 02 11 58.6 +0.3**
TJN Taejon 44.41 36*de*P **P 02 10 14.1 -0.5**
TJN Taejon 44.41 36 P **P 02 10 13.9 -0.7**
TJN Taejon 44.41 36 P **P 02 10 14.9 +0.3**
BTK Batken 44.51 332 P **P 02 10 16.4 +0.9**
BTK pmax pmax
comp=Z,84nm,0.9s
BTK Batken 44.51 332 P **P 02 10 16.4 +0.9**
MDOK Medeo 44.52 340 P **P 02 10 15.1 -0.5**
MDOK Medeo 44.52 340 *eP* **P 02 10 15.5 -0.1**
baz=340
JNU Nakatsue 44.54 42 P **P 02 10 14.9 -0.9**
comp=Z,42nm,0.8s,baz=216,slow=4.9,SNR=10
JNU Nakatsue 44.54 42 P **P 02 10 15.7 -0.1**
JNU IAmb IAmb 02 10 16.9
comp=Z,57nm,0.9s
JNU Nakatsue 44.54 42 P **P 02 10 17.1 +1.3**
UCH Uchtor 44.66 337 P **P 02 10 17.6 +0.5**
SNR=61
KST Kastek 44.80 338 *eP* **P 02 10 17.5 -0.3**
comp=Z,47nm,1.1s,baz=338
KBK Karagaybulak 44.85 337 P **P 02 10 19.8 +1.6**
SNR=49
AML Almayashu 44.91 336 P **P 02 10 19.8 +0.8**
SNR=39
AML Almayashu 44.91 336 *i* P **P 02 10 19.8 +0.8**
SNR=42
AAK Ala-Archa 45.01 337 P **P 02 10 21.4 +1.9**
SNR=21
AAK Ala-Archa 45.01 337*c i*P **P 02 10 20.4 +0.8**
AAK pmax pmax
comp=Z,44nm,1.3s
AAK Ala-Archa 45.01 337 P **P 02 10 20.4 +0.8**
AAK IAmb IAmb 02 10 24.2
comp=Z,64nm,1.4s
AAK Ala-Archa 45.01 337 *i* P **P 02 10 21.4 +1.9**
SNR=25
FRU1 Bishkek 45.10 337 P **P 02 10 20.8 +0.6**
FRU1 pmax pmax
comp=Z,50nm,1.1s
FRU1 Bishkek 45.10 337 P **P 02 10 20.8 +0.6**
FRU1 IAmb IAmb 02 10 24.6
comp=Z,50nm,1.1s
XLT XiLinHaoTe 45.10 20 *eP* **P 02 10 21.3 +1.1**
XLT pP sP 02 10 28.0 +0.1
XLT sP pP 02 10 30.4 +4.4
XLT pmax pmax
comp=Z,58nm,0.9s
XLT pmax pmax
comp=Z,580nm,4.6s
XLT LR LR
comp=Z,7μm,14.1s
XLT LR LR
comp=Z,9μm,16.2s
XLT LR LR
comp=Z,10μm,13.4s
CHKK Chushkaly 45.14 340 *eP* **P 02 10 19.7 -0.7**
baz=340
ASHO Ashiyiah 45.16 303 P P 02 10 29.2 +8.3
ARXS Arharly 45.18 341 *eP* **P 02 10 20.5 -0.2**
CHMS Chumysh 45.22 337 P **P 02 10 22.6 +1.6**
SNR=15
EKS2 Erkin-Say 45.32 336 P **P 02 10 23.8 +1.9**
SNR=6.8
MSFE Esma-Masafi 45.35 304 P **P 02 10 24.7 +2.3**
KUU Kurty 45.40 339 *eP* **P 02 10 21.7 -0.7**
KUU pmax pmax
comp=Z,74nm,1.2s
KUU Kurty 45.40 339 *eP* **P 02 10 21.7 -0.7**
comp=Z,74nm,1.2s,baz=339
KSAR Wonju Array Be 45.44 35 P **P 02 10 22.9 +0.1**
KSAR Wonju Array Be 45.44 35 P **P 02 10 22.9 +0.1**
KSRS Korea Array 45.47 35 P **P 02 10 22.5 -0.5**
comp=Z,49nm,0.8s,baz=229,slow=9.0,SNR=74
KS19 Wonju Array Si 45.47 35 P **P 02 10 22.5 -0.6**
USP Ospenovka 45.54 337 P **P 02 10 25.4 +1.8**
SNR=8.4
SGDS Sogindy 45.65 338 *eP* **P 02 10 25.1 +0.6**
SGDS Sogindy 45.65 338 *eP* **P 02 10 23.7 -0.8**
comp=Z,12nm,0.8s,baz=338
TDK Taldyqorghan 45.70 342 *eP* **P 02 10 24.4 -0.4**
TDK pmax pmax
comp=Z,49nm,0.8s
TDK Taldyqorghan 45.70 342 *eP* **P 02 10 24.4 -0.4**
comp=Z,49nm,0.8s,baz=342
ASUD Al Ashush, Dub 45.75 303 P **P 02 10 28.5 +3.0**
RER Riviere de l'E 46.19 238 P **P 02 10 28.7 -0.4**
RER IAmb IAmb 02 10 44.5
comp=Z,44nm,0.9s
TAS Tashkent 46.22 331 P **P 02 10 29.7 +0.8**
TAS pmax pmax
comp=Z,96nm,0.7s
TAS Tashkent 46.22 331 P **P 02 10 29.7 +0.8**
MK31 Makanchi Array 46.29 346 *i* P **P 02 10 28.9 -0.5**
MK31 Makanchi Array 46.29 346 P **P 02 10 28.1 -1.3**
MKAR Makanchi Array 46.29 346 P **P 02 10 29.1 -0.3**
comp=Z,141nm,0.8s,baz=162,slow=7.1,SNR=497
ZSN Zaisan 46.37 349 *eP* **P 02 10 29.8 -0.2**
ZSN pmax pmax
comp=Z,42nm,0.9s
ZSN Zaisan 46.37 349 *eP* **P 02 10 29.9 -0.2**
comp=Z,42nm,0.9s,baz=349
MAKZ Makanchi 46.38 346 P **P 02 10 29.1 -1.0**
MAKZ pmax pmax
comp=Z,118nm,0.9s
MAKZ Makanchi 46.38 346 P **P 02 10 29.1 -1.0**
SONM Songino Array 46.38 9 P **P 02 10 29.8 -0.5**
comp=Z,74nm,0.8s,baz=191,slow=8.0,SNR=264
SONM PcP **PcP 02 12 05.6 +0.5**
comp=Z,4.6nm,0.7s,baz=193,slow=4.0,SNR=4.9
SONM Songino Array 46.38 9 P **P 02 10 27.8 -2.5**
IUG Iuzhnay 46.52 333 *eP* **P 02 10 31.3 0.0**
IUG Iuzhnay 46.52 333 *eP* **P 02 10 31.4 0.0**
baz=333
ULN Ulaanbaatar 46.52 10*c i*P **P 02 10 30.4 -0.9**
ULN pmax pmax
comp=Z,55nm,1.0s
ULN Ulaanbaatar 46.52 10 P **P 02 10 31.5 +0.2**
ULN IAmb IAmb 02 10 32.9
comp=Z,48nm,1.0s
DZA Taraz 46.53 334 *eP* **P 02 10 31.0 -0.3**
DZA pmax pmax
comp=Z,27nm,0.6s
DZA Taraz 46.53 334 *eP* **P 02 10 31.1 -0.3**
comp=Z,27nm,0.6s,baz=334
JMN Monobe 46.94 44 P **P 02 10 34.7 -0.1**
KKAR Karatay Array 47.06 334 P **P 02 10 35.6 +0.1**
KKAR Karatay Array 47.06 334 P **P 02 10 35.6 +0.1**
JHS Saijyo 47.15 42 P **P 02 10 36.2 -0.1**
BTLS Baital 47.22 338 *eP* **P 02 10 36.4 -0.3**
BTLS pmax pmax
comp=Z,11nm,0.8s
BTLS Baital 47.22 338 *eP* **P 02 10 36.5 -0.3**
comp=Z,12nm,0.8s,baz=338
BRLS Borolday 47.30 333 *eP* **P 02 10 36.3 -1.0**
BRLS Borolday 47.30 333 *eP* **P 02 10 36.4 -1.0**
baz=333
QIS Mount Isa 47.70 120 P **P 02 10 41.1 +0.2**
baz=48,SNR=13
QIS Mount Isa 47.70 120 P **P 02 10 41.6 +0.7**
OOD Oodnadatta 47.84 131 P **P 02 10 42.6 +0.8**
DGZ Jazzator, Alta 48.12 352*c i*P **P 02 10 44.3 +0.5**
DGZ pmax pmax
comp=Z,31nm,0.7s
ZAK Zakamensk 48.49 6 *eP* **P 02 10 46.3 -0.2**
ZAK pmax pmax
comp=Z,24nm,1.1s
COEN Coen 48.77 110 P **P 02 10 48.3 -0.9**
COEN IAmb IAmb 02 10 50.6
comp=Z,46nm,0.8s
COEN Coen 48.77 110 P **P 02 10 50.3 +1.1**
CN2 Changchun 48.81 28 *eP* **P 02 10 48.1 -0.9**
CN2 PP **PP 02 12 40.8 -1.5**
CN2 S **S 02 17 48.4 -2.9**
CN2 SS **SS 02 21 13.8 -8.3**
CN2 pmax pmax
comp=Z,80nm,0.7s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,15μm,18.0s
CN2 LR LR
comp=Z,9μm,18.0s
MOY Mondy 49.58 4 *eP* **P 02 10 55.6 +0.7**
MOY pmax pmax
comp=Z,73nm,3.3s
SEM Semipalatinsk 50.15 346 *eP* **P 02 10 58.8 -0.6**
SEM pmax pmax
comp=Z,38nm,0.9s
SEM Semipalatinsk 50.15 346 *eP* **P 02 10 58.9 -0.6**
comp=Z,38nm,0.9s,baz=346
GEYT Alibeck 50.21 320 P **P 02 11 00.5 +0.6**
comp=Z,15nm,0.7s,baz=129,slow=12,SNR=21
GEYT Alibeck 50.21 320 P **P 02 11 01.0 +1.1**
GEYT IAmb IAmb 02 11 13.0
comp=Z,36nm,0.8s
GYA0 ALIBECK ARRAY 50.21 320 P **P 02 11 00.5 +0.6**
GYA0B ALIBECK ARRAY 50.21 320 P **P 02 11 01.1 +1.2**
GYA0B IAmb IAmb 02 11 12.9
comp=Z,49nm,0.9s
IRK Irkutsk 50.43 6 *eP* **P 02 11 01.8 +0.6**
IRK pmax pmax
comp=Z,126nm,0.4s
OTUK Ortayu 50.56 339 P **P 02 11 01.9 -0.5**
KURBB Kurchatov Arra 50.77 345 P **P 02 11 02.6 -1.2**
KURK Kurchatov 50.84 345*c i*P **P 02 11 04.9 +0.6**
KURK pmax pmax
comp=Z,70nm,0.8s
KURK Kurchatov 50.84 345 P **P 02 11 04.2 0.0**
KURK IAmb IAmb 02 11 06.1
comp=Z,68nm,0.9s
BBOO Buckleboo 50.87 136 P **P 02 11 05.2 +0.3**
baz=51,SNR=7.3
HIA Hailar 51.02 19 P **P 02 11 05.6 -0.2**
HIA pmax pmax
comp=Z,61nm,0.9s
HIA Hailar 51.02 19 P **P 02 11 05.6 -0.2**
HIA IAmb IAmb 02 11 07.6
comp=Z,61nm,0.9s
MTSU Mount Surprise 51.02 115 P **P 02 11 06.6 +0.3**
baz=51,SNR=14
BNX BinXian 51.19 27 ⇓P **P 02 11 07.0 0.0**
BNX pmax pmax
comp=Z,67nm,0.8s
BNX pmax pmax
comp=Z,1μm,4.3s
MDJ Mudanjiang 51.40 30 P **P 02 11 10.8 +2.1**
MDJ pP pP 02 11 13.9 -0.7
MDJ S **S 02 18 29.8 +2.3**
MDJ pmax pmax
comp=Z,80nm,0.8s
MDJ pmax pmax
comp=Z,2μm,6.2s
MDJ LR LR
comp=Z,6μm,14.9s
MDJ LR LR
comp=Z,17μm,19.2s
MDJ LR LR
comp=Z,7μm,13.5s
MDJ Mudanjiang 51.40 30 P **P 02 11 09.7 +1.0**
MDJ IAmb IAmb 02 11 12.1
comp=Z,66nm,0.8s
MAJO Matsushiro 51.44 43⇑*i*P **P 02 11 09.9 +0.7**
MAJO pmax pmax
comp=Z,168nm,3.8s
MAJO Matsushiro 51.44 43 P **P 02 11 09.0 -0.2**
MAT Matsushiro 51.44 43 P **P 02 11 08.6 -0.6**
MJB9 Matsu-Tunnel 51.44 43 P **P 02 11 08.9 -0.3**
MJAR Matsushiro Arr 51.44 43 P **P 02 11 09.9 +0.7**
comp=Z,22nm,0.8s,baz=220,slow=6.1,SNR=27
MJAR PcP **PcP 02 12 23.9 +0.4**
comp=Z,14nm,0.9s,baz=250,slow=4.4,SNR=7.5
MJAR Matsushiro Arr 51.44 43 P **P 02 11 08.4 -0.8**
MJAR **PcP 02 12 22.9 -0.6**
PMG Port Moresby 51.59 104*c i*P **P 02 11 10.0 -0.5**
PMG pmax pmax
comp=Z,109nm,0.8s
PMG Port Moresby 51.59 104 P **P 02 11 10.4 -0.2**
CIT Chita 51.77 13 *eP* **P 02 11 12.6 +1.2**
CIT *e* 02 11 19.4
CIT *e* 02 20 52.2
CIT pmax pmax
comp=Z,184nm,2.9s
BRZS Berezniki 51.93 341 *eP* **P 02 11 12.3 -0.2**
BRZS pmax pmax
comp=Z,20nm,1.2s
BRZS Berezniki 51.93 341 *eP* **P 02 11 12.3 -0.2**
comp=Z,20nm,1.2s,baz=340
USA0B Ussuriysk Arra 52.34 32 P **P 02 11 14.9 -0.7**
USA0B pmax pmax
comp=Z,66nm,1.2s
USA0B Ussuriysk Arra 52.34 32 P **P 02 11 14.9 -0.7**
USA0B IAmb IAmb 02 11 17.6
comp=Z,66nm,1.1s
USRK Ussuriysk Ar. 52.34 32 P **P 02 11 15.5 -0.1**
comp=Z,23nm,0.7s,baz=240,slow=6.3,SNR=60
ZAA0 Zalesovo Array 52.64 351 P **P 02 11 17.7 0.0**
ZALV Zalesovo Beam 52.64 351 P **P 02 11 17.4 -0.2**
comp=Z,138nm,0.6s,baz=179,slow=6.5,SNR=390
ZALV Zalesovo Beam 52.64 351 *i* P **P 02 11 17.5 -0.2**
ZALV pmax pmax
comp=Z,141nm,0.6s
ZALV Zalesovo Beam 52.64 351 P **P 02 11 17.6 -0.1**
ZALV **S 02 18 43.3 -0.9**
HTT Hallett 53.21 135 P **P 02 11 23.0 +0.7**
baz=53,SNR=8.9
CTA Charters Tower 53.37 117 P **P 02 11 23.3 -0.4**
comp=Z,32nm,0.9s,baz=283,slow=9.1,SNR=23
CTAO Charters Tower 53.37 117 P **P 02 11 23.9 +0.1**
CTAO pmax pmax
comp=Z,65nm,1.0s
CTAO Charters Tower 53.37 117 P **P 02 11 23.9 +0.1**
CTAO IAmb IAmb 02 11 34.7
comp=Z,65nm,0.9s
RAYN Ar Rayn 53.88 298 P **P 02 11 27.6 +0.2**
RAYN pmax pmax
comp=Z,18nm,0.8s
RAYN Ar Rayn 53.88 298 P **P 02 11 27.6 +0.2**
RAYN Ar Rayn 53.88 298 *i* P **P 02 11 28.2 +0.8**
SNR=20
KRAR Krasnoyarsk 53.88 357⇓*eP* **P 02 11 27.7 +0.9**
QLP Quilpie 54.00 125 P **P 02 11 30.1 +1.9**
baz=54,SNR=6.0
STKA Stephens Creek 54.33 132 P **P 02 11 30.6 0.0**
comp=Z,20nm,0.9s,baz=309,slow=7.2,SNR=31
STKA LR LR 02 37 00.0
comp=Z,962nm,21.4s,baz=316,slow=39
STKA Stephens Creek 54.33 132 P **P 02 11 30.9 +0.4**
baz=54,SNR=17
STKA Stephens Creek 54.33 132 P **P 02 11 30.5 0.0**
STKA pmax pmax
comp=Z,9.0nm,1.0s
STKA Stephens Creek 54.33 132 P **P 02 11 30.4 -0.1**
BRVK Borovoye 55.34 341*c i*P **P 02 11 37.1 -0.3**
BRVK pmax pmax
comp=Z,39nm,0.8s
BRVK Borovoye 55.34 341 P **P 02 11 36.6 -0.8**
BRVK IAmb IAmb 02 11 42.0
comp=Z,39nm,0.8s
KLR Kul'dur 55.75 27 P **P 02 11 40.3 -0.2**
comp=Z,24nm,0.9s,baz=247,slow=7.0,SNR=32
KLR Kul'dur 55.75 27*c i*P **P 02 11 40.9 +0.4**
KLR pmax pmax
comp=Z,76nm,1.7s
AB31 Akbulak array 56.51 332 *i* P **P 02 11 45.2 -0.7**
ABKAR Akbulak array 56.51 332 P **P 02 11 45.4 -0.5**
ABKAR Akbulak array 56.51 332 P **P 02 11 45.5 -0.4**
ABKAR IAmb IAmb 02 11 51.9
comp=Z,70nm,0.9s
LKRN Lenkeran, Azer 56.87 316 P **P 02 11 50.1 +1.5**
CMSA Cobar Meteorol 57.26 130 P **P 02 11 52.1 +0.6**
baz=57,SNR=16
BOD Bodaibo 57.28 11 *eP* **P 02 11 49.8 -1.4**
BOD pmax pmax
comp=Z,50nm,1.1s
ZEA Zeya 57.34 21 *eP* **P 02 11 52.3 +0.6**
ZEA pmax pmax
comp=Z,50nm,0.5s
RMQ Roma 57.70 123 P **P 02 11 56.6 +1.8**
baz=58,SNR=13
AKTO Aktyubinsk 58.23 332 P **P 02 11 56.2 -1.8**
ASAJ Asahikawa 58.32 37 P **P 02 11 59.3 +0.5**
comp=Z,15nm,0.7s,baz=300,slow=9.0,SNR=5.4
MNGR Mingechevir, A 58.98 318 P **P 02 12 04.9 +1.5**
GRNR Gornyy 58.99 28⇑*i*P **P 02 12 03.8 +0.4**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
SEKA Sheki 59.10 318 P **P 02 12 05.4 +1.0**
EIDS Eidsvold 59.29 121 P **P 02 12 07.2 +1.3**
baz=59,SNR=3.1
EIDS Eidsvold 59.29 121 P **P 02 12 05.9 0.0**
NAX Nakhchivan 59.36 315 P **P 02 12 06.4 +0.1**
GANJ Ganja 59.44 317 P **P 02 12 07.1 +0.4**
KMBO Kilima Mbogo 59.47 267 P **P 02 12 07.8 +0.2**
KMBO pmax pmax
comp=Z,14nm,1.3s
KMBO Kilima Mbogo 59.47 267 P **P 02 12 07.8 +0.2**
MAK Makhachkala 59.73 320 *eP* P 02 12 02.4 -6.2
MAK *eS* S 02 20 09.4 -9.3
MAK pmax pmax
comp=Z,123nm,1.0s
MAK MLR MLR
comp=Z,499nm,17.0s
TOO Toolangi 59.93 136 P **P 02 12 13.3 +3.2**
baz=60,SNR=5.4
TOO Toolangi 59.93 136 P **P 02 12 10.6 +0.5**
TOO pmax pmax
comp=Z,26nm,1.0s
TOO Toolangi 59.93 136 P **P 02 12 10.6 +0.5**
TOO IAmb IAmb 02 12 23.0
comp=Z,26nm,0.9s
YSS Yuzh-Sakhalins 59.97 35 *eP* **P 02 12 10.5 +0.4**
YSS pmax pmax
comp=Z,80nm,0.8s
YSS Yuzh-Sakhalins 59.97 35 P **P 02 12 10.4 +0.4**
YUK Yuzh-Kuril'sk 60.30 39⇓*eP* **P 02 12 13.3 +0.8**
GNI Garni 60.30 316⇑*eP* **P 02 12 12.7 -0.1**
GNI pmax pmax
comp=Z,16nm,1.1s
GNI Garni 60.30 316 P **P 02 12 12.9 +0.1**
GNI IAmb IAmb 02 12 23.4
comp=Z,29nm,1.0s
GNI Garni 60.30 316 P **P 02 12 14.0 +1.1**
SIRT Sirnak 60.90 312 P **P 02 12 16.6 -0.2**
LODK Lodwar 61.23 273 P **P 02 12 19.2 -0.2**
CAN Canberra 61.40 132 P **P 02 12 20.6 +0.4**
CAN pmax pmax
comp=Z,25nm,1.0s
CAN Canberra 61.40 132 P **P 02 12 20.6 +0.4**
CAN IAmb IAmb 02 12 32.0
comp=Z,25nm,1.0s
ARMA Armidale 61.48 126 P **P 02 12 22.7 +1.8**
baz=62,SNR=6.2
ARMA Armidale 61.48 126 P **P 02 12 21.9 +1.0**
ARMA IAmb IAmb 02 12 33.4
comp=Z,21nm,0.9s
KARS Kars 61.66 316 P **P 02 12 22.4 +0.4**
KARS pmax pmax
comp=Z,71nm,0.9s
KARS Kars 61.66 316 P **P 02 12 22.4 +0.4**
AKH Akhalkalaki 61.70 317 P **P 02 12 21.8 -0.4**
SVE Sverdlovsk 61.70 338*de*P **P 02 12 21.9 +0.1**
SVE pmax pmax
comp=Z,91nm,0.9s

TYV	**Tymovskoe**	**62.14 31**	*e*P	P		02 12 33.3 +8.5
TYV			pmax	pmax		
comp=Z,11nm,0.8s						
TYV			pmax	pmax		
comp=Z,300nm,2.8s						
ARU	**Arti**	**62.19 337***d*	*i*P	**P**		**02 12 24.6 -0.5**
ARU						02 13 02.5
ARU			S	**S**		**02 20 51.0 +1.4**
ARU			SS	**SS**		**02 24 49.1 -3.8**
ARU			pmax	pmax		
comp=Z,32nm,0.9s						
ARU	**Arti**	**62.19 337**	P	**P**		**02 12 24.0 -1.0**
ONI	**Oni**	**62.22 318**	P	**P**		**02 12 25.8 +0.2**
ONI			pmax	pmax		
comp=Z,14nm,1.0s						
ONI	**Oni**	**62.22 318**	P	**P**		**02 12 25.8 +0.2**
NCK	**Nalchik**	**62.52 319**⇓	*e*P	**P**		**02 12 28.2 +0.7**
NCK			pmax	pmax		
comp=Z,62nm,2.6s						
NEY	**Neytrino**	**62.99 318**⇓	*e*P	**P**		**02 12 33.0 +2.1**
NEY			pmax	pmax		
comp=Z,9.0nm,2.1s						
KBZ	**Khabaz**	**63.07 319**	P	**P**		**02 12 30.9 -0.2**
comp=Z,14nm,0.8s,baz=127,slow=5.4,SNR=24						
KBZ	**Khabaz**	**63.07 319**⇑	*e*P	**P**		**02 12 31.6 +0.4**
KBZ			pmax	pmax		
comp=Z,22nm,0.9s						
KIV	**Kislovodsk**	**63.31 319**	*e*P	**P**		**02 12 33.6 +0.7**
KIV			*e*			02 14 53.1
KIV			*e*S	**S**		**02 21 07.0 +2.7**
KIV			*e*SS	**SS**		**02 25 14.4 +3.3**
KIV			pmax	pmax		
comp=Z,36nm,1.0s						
KIV			pmax	pmax		
comp=Z,21nm,4.1s						
KIV			MLR	MLR		
comp=Z,160nm,17.0s						
KIV	**Kislovodsk**	**63.31 319**	P	**P**		**02 12 32.6 -0.3**
KIV			IAmb	IAmb		02 12 42.2
comp=Z,51nm,1.2s						
KIV	**Kislovodsk**	**63.31 319**	*i* P	**P**		**02 12 32.6 -0.3**
SNR=6.8						
GOF	**Gofitskoye**	**63.56 320**⇑	*e*P	P		02 12 40.5 +6.1
GOF			pmax	pmax		
comp=Z,49nm,0.9s						
BELG	**Belogornoye**	**64.56 329***ce*P		**P**		**02 12 39.3 -1.4**
BELG			pmax	pmax		
comp=Z,14nm,0.8s						
GAZ	**Gaziantep**	**64.71 310**	P	**P**		**02 12 42.2 0.0**
GAZ			IAmb	IAmb		02 12 43.1
comp=Z,24nm,0.9s						
YAK	**Yakutsk**	**64.77 17**	P	**P**		**02 12 41.2 -0.7**
comp=Z,154nm,0.8s,baz=265,slow=0.3,SNR=54						
YAK	**Yakutsk**	**64.77 17***c*	*i*P	**P**		**02 12 41.5 -0.4**
YAK			*e*PP	**sP**		**02 12 49.7 -0.1**
YAK			*e*			02 13 12.7
YAK			*e*			02 15 05.3
YAK			*e*PPP	PPP		02 16 36.7
YAK			*e*S	**S**		**02 21 20.0 -1.5**
YAK			*e**SS	sS		02 21 57.8 +27
YAK			*e*			02 22 35.2
YAK			*e*SS	**SS**		**02 25 33.3 +0.4**
YAK			pmax	pmax		
comp=Z,312nm,0.9s						
YAK			pmax	pmax		
comp=N,50nm,1.0s						
YAK			pmax	pmax		
comp=E,42nm,0.9s						
YAK			pmax	pmax		
comp=Z,568nm,5.8s						
YAK			pmax	pmax		
comp=N,239nm,5.1s						
YAK			pmax	pmax		
comp=E,363nm,5.4s						
YAK			smax	smax		
comp=E,519nm,5.4s						
YAK			smax	smax		
comp=N,504nm,5.1s						
YAK			MLR	MLR		
comp=E,978nm,14.0s						
YAK	**Yakutsk**	**64.77 17**	P	**P**		**02 12 41.8 -0.1**
SOC	**Sochi**	**65.12 318**	*e*P	**P**		**02 12 41.6 -3.1**
SOC			*e*			02 15 07.1
SOC			*e*PPP	PPP		02 16 37.0
SOC			*e*S	**S**		**02 21 24.9 -1.7**
SOC			*e*SS	**SS**		**02 25 31.8 -7.4**
SOC			MLR	MLR		
comp=Z,284nm,20.0s						
MBAR	**Mbarara**	**65.95 268**	LR	LR		02 37 26.8
comp=Z,565nm,20.9s,baz=65,slow=32						
BNN	**Bunyan**	**66.24 312**	P	**P**		**02 12 52.2 0.0**
BNN			IAmb	IAmb		02 12 53.8
comp=Z,40nm,0.9s						
VRH	**Novokhopyorsk**	**67.11 326**	*e*P	**P**		**02 12 56.2 -1.1**
VRH			pmax	pmax		
comp=Z,50nm,0.8s						
KIRV	**Kirov**	**67.31 335***c*	*i*P	**P**		**02 12 58.2 -0.2**
NRIK	**Noril'sk**	**67.45 357**	P	**P**		**02 12 59.0 -0.1**
comp=Z,23nm,0.8s,baz=164,slow=6.3,SNR=22						
NRIK	**Noril'sk**	**67.45 357***c*	*i*P	**P**		**02 12 59.0 -0.1**
NRIK			pmax	pmax		
comp=Z,43nm,1.1s						
NRIK	**Noril'sk**	**67.45 357**	P	**P**		**02 12 58.8 -0.3**
NRIK			IAmb	IAmb		02 13 03.5
comp=Z,39nm,1.1s						
BR131	**Keskin Array S**	**68.14 312***d*	*i*P	**P**		**02 13 04.2 0.0**
BR131	**Keskin Array S**	**68.14 312**	P	**P**		**02 13 03.5 -0.7**
BR131			IAmb	IAmb		02 13 14.3
comp=Z,17nm,0.8s						
BRTR	**Keskin Array B**	**68.14 312**	P	**P**		**02 13 03.3 -0.9**
comp=Z,7.7nm,0.8s,baz=131,slow=6.7,SNR=16						
BRTR	**Keskin Array B**	**68.14 312**	*i* P	**P**		**02 13 04.3 0.0**
BRTR			pmax	pmax		
comp=Z,8.0nm,0.8s						
BRTR	**Keskin Array B**	**68.14 312**	P	**P**		**02 13 02.6 -1.6**
VORD	**Divnogorie**	**68.38 325**	*e*P	**P**		**02 13 04.2 -1.1**
VORD			pmax	pmax		
comp=Z,30nm,0.7s						
VSR	**Storozhevoye**	**68.56 325**	*e*P	**P**		**02 13 05.2 -1.2**
VSR			pmax	pmax		
comp=Z,30nm,0.7s						
VORR	**Voronezh**	**68.73 326**	*e*P	**P**		**02 13 05.4 -2.1**
VORR			pmax	pmax		
comp=Z,33nm,0.6s						
ANTO	**Ankara**	**68.80 312**	P	**P**		**02 13 07.6 -0.7**
ANTO			pmax	pmax		
comp=Z,17nm,0.8s						
ANTO	**Ankara**	**68.80 312**	P	**P**		**02 13 07.6 -0.7**
ANTO			IAmb	IAmb		02 13 09.3
comp=Z,17nm,0.8s						
LPSR	**Galich'ya Gora**	**69.29 327**	*e*P	**P**		**02 13 10.0 -0.9**
LPSR			pmax	pmax		
comp=Z,50nm,0.8s						
LSZ	**Lusaka**	**69.83 253**	LR	LR		02 39 39.7
comp=Z,1μm,20.9s,baz=87,slow=32						
MDUB	**Mudurnu**	**70.14 312**	P	**P**		**02 13 16.5 -0.1**
ELL	**Elmali**	**70.24 308**	P	**P**		**02 13 17.2 -0.1**
ELL			pmax	pmax		
comp=Z,156nm,1.4s						
ELL	**Elmali**	**70.24 308**	P	**P**		**02 13 17.2 -0.1**
MATP	**Matopo**	**70.33 248**	LR	LR		02 41 43.6
comp=Z,328nm,18.0s,baz=84,slow=34						
PRGR	**Permogore**	**70.65 337**	*e*P	**P**		**02 13 19.3 +0.2**
PRGR			*e**SP	**pP**		**02 13 24.0 -1.2**
PRGR			*e*			02 13 36.6
PRGR			pmax	pmax		
comp=Z,100nm,0.8s						
MA2	**Magadan**	**70.81 26***c*	*i*P	**P**		**02 13 20.4 +0.3**
MA2			pmax	pmax		
comp=Z,54nm,0.8s						
MA2	**Magadan**	**70.81 26**	P	**P**		**02 13 18.9 -1.3**
MOS	**Moscow**	**71.33 329**	*e*P	**P**		**02 13 20.9 -2.4**
MOS			*e*			02 13 42.3
MOS			*e*S	**S**		**02 22 37.7 -2.4**
MOS			pmax	pmax		
comp=Z,96nm,0.8s						
MOS			MLR	MLR		
comp=Z,1μm,22.0s						
PETK	**Petropavlovsk-**	**71.34 34**	P	**P**		**02 13 23.2 -0.3**
comp=Z,4.2nm,0.7s,baz=177,slow=3.0,SNR=5.8						
PETK	**Petropavlovsk-**	**71.34 34**	P	**P**		**02 13 24.1 +0.6**
PETK	**Petropavlovsk-**	**71.34 34**	P	**P**		**02 13 24.1 +0.6**
OBN	**Obninsk**	**71.61 328***ce*P		**P**		**02 13 24.0 -1.0**
OBN			*i*			02 13 46.4
OBN			*e*			02 15 59.3
OBN			*e*S	S		02 22 33.2 -10
OBN			pmax	pmax		
comp=Z,106nm,1.7s						
OBN	**Obninsk**	**71.61 328**	P	**P**		**02 13 25.4 +0.3**
PET	**Petropavlovsk**	**71.84 34**	*e*P	**P**		**02 13 26.8 +0.3**
PET			*e*S	**S**		**02 22 44.3 -1.8**
PET			pmax	pmax		
comp=Z,83nm,1.3s						
PET			pmax	pmax		
comp=Z,400nm,16.7s						
PET	**Petropavlovsk**	**71.84 34**	P	**P**		**02 13 26.2 -0.2**
DZM	**Mont Dzumac**	**72.13 114**	P	**P**		**02 13 28.2 -0.8**
comp=Z,9.5nm,1.2s,baz=353,slow=18,SNR=3.1						
DZM	**Mont Dzumac**	**72.13 114**	P	**P**		**02 13 29.0 +0.1**
TIXI	**Tiksi**	**72.45 10**	P	**P**		**02 13 28.3 -1.5**
comp=Z,30nm,0.8s,baz=192,slow=2.8,SNR=76						
TIXI	**Tiksi**	**72.45 10**⇓	*e*P	**P**		**02 13 28.0 -1.8**
TIXI			pmax	pmax		
comp=Z,36nm,0.7s						
TIXI	**Tiksi**	**72.45 10**	P	**P**		**02 13 29.3 -0.5**
TIXI			IAmb	IAmb		02 13 30.3
comp=Z,37nm,0.8s						
KLMR	**Klimovskoe**	**72.75 334**	*e*P	**P**		**02 13 30.4 -1.4**
KLMR			*e*			02 16 11.3
KLMR			pmax	pmax		
comp=Z,45nm,1.3s						
KLMR	**Klimovskoe**	**72.75 334**	*e*P	**P**		**02 13 30.4 -1.4**
KLMR			AMP			02 13 32.9
comp=Z,45nm,1.3s						
KLMR			*e*PP	**PP**		**02 16 11.4 -2.3**
TIRR	**Tirgusor**	**73.13 316**	P	**P**		**02 13 33.9 -0.4**
SEY	**Seymchan**	**73.20 23**	P	**P**		**02 13 33.3 -1.1**
comp=Z,34nm,0.9s,baz=238,slow=6.1,SNR=88						
MILM	**Milestii Mici**	**73.48 319**	*e*P	**P**		**02 13 36.5 +0.1**
comp=Z,20nm,0.7s						
MILM	**Milestii Mici**	**73.48 319**	⇑P	**P**		**02 13 36.0 -0.4**
MILM	**Milestii Mici**	**73.48 319**	*e*P	**P**		**02 13 36.5 +0.1**
MILM			pmax	pmax		
comp=Z,20nm,0.7s						
CFR	**Carcaliu**	**73.50 317**	⇓P	**P**		**02 13 37.1 +0.6**
KIS	**Kishinev**	**73.50 319**	*e*P	**P**		**02 13 36.0 -0.5**
KIS			LRM	MLR		02 48 46.0
comp=Z,300nm,23.0s						
KIS	**Kishinev**	**73.50 319**	*e*P	**P**		**02 13 36.0 -0.5**
KIS			MLR	MLR		
comp=Z,300nm,23.0s						
LBTB	**Lobatse**	**73.77 243**	LR	LR		02 41 22.8
comp=Z,1μm,20.5s,baz=75,slow=32						
SORM	**Soroca**	**74.10 320**	⇑P	**P**		**02 13 39.6 -0.4**
AKASG	**Malin Array Be**	**74.25 322**	P	**P**		**02 13 39.6 -1.2**
comp=Z,11nm,0.7s,baz=92,slow=4.6,SNR=47						
AKASG	**Malin Array Be**	**74.25 322**	P	**P**		**02 13 40.3 -0.5**
AKASG			pmax	pmax		
comp=Z,22nm,0.9s						
AKASG	**Malin Array Be**	**74.25 322**	P	**P**		**02 13 40.3 -0.5**
AKASG			IAmb	IAmb		02 13 49.6
comp=Z,22nm,0.8s						
AKBB	**Malin Array Si**	**74.25 322**⇓	*e*P	**P**		**02 13 39.8 -1.0**
AKBB			pmax	pmax		
comp=Z,17nm,0.8s						
AKBB	**Malin Array Si**	**74.25 322**	P	**P**		**02 13 40.0 -0.8**
AKBB			IAmb	IAmb		02 13 49.6
comp=Z,21nm,0.8s						
VRI	**Vrincioaia**	**74.62 317**	⇑P	**P**		**02 13 43.1 0.0**
PLOR	**Plostina**	**74.67 317**	⇑P	**P**		**02 13 44.0 +0.6**
BOSA	**Boshof**	**74.73 240**	P	**P**		**02 13 43.8 -0.4**
comp=Z,2.0nm,0.7s,baz=79,slow=1.7,SNR=5.9						
BOSA			LR	LR		02 43 16.3
comp=Z,635nm,18.4s,baz=76,slow=33						
BOSA	**Boshof**	**74.73 240**	P	**P**		**02 13 43.9 -0.3**
BOSA			pmax	pmax		
comp=Z,18nm,1.4s						
BOSA	**Boshof**	**74.73 240**	P	**P**		**02 13 43.9 -0.3**
TESR	**Tescani**	**74.83 318**	⇑P	**P**		**02 13 44.6 +0.3**
COVR	**Voineasa-Covas**	**74.98 317**	P	**P**		**02 13 44.7 -0.5**
GIRR	**Girov**	**75.03 318**	P	**P**		**02 13 46.2 +0.8**
MLR	**Muntele Rosu**	**75.08 317**	⇓P	**P**		**02 13 46.2 +0.4**
MLR	**Muntele Rosu**	**75.08 317**	P	**P**		**02 13 46.3 +0.4**
MLR			pmax	pmax		
comp=Z,25nm,1.0s						
MLR	**Muntele Rosu**	**75.08 317**	P	**P**		**02 13 46.3 +0.4**
MLR			IAmb	IAmb		02 13 56.6
comp=Z,25nm,1.0s						
ZIMR		**75.10 315**	P	**P**		**02 13 47.0 +1.1**
ZIMR		**75.10 315**	P	**P**		**02 13 48.0 +2.1**
VOIR		**75.68 316**	⇓P	**P**		**02 13 49.1 -0.2**
ARR	**Arges**	**75.95 316**	⇑P	**P**		**02 13 50.5 -0.4**
BURAR	**Bucovina Array**	**76.03 319**	⇑P	**P**		**02 13 51.4 +0.1**
BURAR	**Bucovina Array**	**76.03 319**	P	**P**		**02 13 51.7 +0.5**
BURAR			IAmb	IAmb		02 14 02.5
comp=Z,21nm,0.8s						
BUR08	**Bucovina Ar. S**	**76.05 319**	P	**P**		**02 13 51.6 +0.2**
MNK	**Minsk**	**76.12 326**	*i* P	**P**		**02 13 51.2 -0.3**
MNK			*i*			02 14 03.2
MNK			*i*			02 16 41.5
MNK			*i* PPP	PPP		02 18 27.9
MNK			*i* S	**S**		**02 23 35.4 +1.1**
MNK			*i*			02 24 08.8
MNK			*i* SS	**SS**		**02 28 29.0 +1.4**
MNK			pmax	pmax		
comp=Z,58nm,1.0s						
MNK			pmax	pmax		
comp=N,9.0nm,0.9s						
MNK			pmax	pmax		
comp=E,5.0nm,1.0s						
MNK			MLR	MLR		
comp=E,30nm,17.0s						
MNK			MLR	MLR		
comp=Z,142nm,18.0s						
MNK			MLR	MLR		
comp=N,367nm,18.0s						
MNK	**Minsk**	**76.12 326**	*i* P	**P**		**02 13 51.2 -0.2**
comp=E,5.0nm,1.0s						
MNK			*i* P	**P**		**02 13 51.2 -0.2**
comp=N,9.0nm,0.9s						
MNK			*i* P	**P**		**02 13 51.2 -0.2**
comp=Z,58nm,1.0s,baz=286						
MNK			*i* PP	**PP**		**02 16 41.6 -0.8**
MNK			*i* PPP	PPP		02 18 27.9
MNK			*i* S	**S**		**02 23 35.4 +1.1**
MNK			*i* SS	**SS**		**02 28 29.1 +1.5**
MNK			*i* SSS	SSS		02 31 52.0
MNK			*i* LR	LR		02 47 57.7
MNK			*i* LRM	MLR		02 50 15.2
comp=E,30nm,17.4s						
MNK			*i* LRM	MLR		02 50 16.0
comp=Z,142nm,18.1s						
MNK			*i* LRM	MLR		02 50 48.5
comp=N,367nm,18.1s						
VTS	**Vitosha**	**76.44 313**	⇑P	**P**		**02 13 53.5 -0.3**
VTS	**Vitosha**	**76.44 313**	P	**P**		**02 13 53.7 -0.1**
VTS			pmax	pmax		
comp=Z,10.0nm,0.9s						
VTS	**Vitosha**	**76.44 313**	P	**P**		**02 13 53.7 -0.1**
PUL	**Pulkovo**	**76.49 332**⇑	*e*P	**P**		**02 13 54.6 +1.2**
PUL			pmax	pmax		
comp=Z,31nm,0.4s						
ARCR	**ARCALIA**	**76.49 318**	⇓P	**P**		**02 13 54.0 +0.2**
BAIL	**Bailesti**	**76.60 315**	⇓P	**P**		**02 13 54.7 +0.2**
NACGM	**Naroch**	**76.84 326**	*i* P	**P**		**02 13 56.4 +0.8**
PUNG	**Punghina**	**76.94 315**	P	**P**		**02 13 57.2 +0.9**
BOSS	**Bosilegrad**	**76.97 313**	*e*P	**P**		**02 13 56.4 -0.2**
IDID	**Didziasalis**	**76.97 327**	*e*P	**P**		**02 13 56.4 +0.1**
BMR	**Baia Mare**	**77.18 318**	⇑P	**P**		**02 13 57.4 -0.2**
GZR	**Gura Zlata**	**77.24 316**	⇑P	**P**		**02 13 58.3 +0.1**
LVV	**L'vov**	**77.27 321**	*e*P	**P**		**02 13 59.0 +0.9**
IIGN	**Ignalina**	**77.27 327**	*e*P	**P**		**02 13 57.9 -0.1**
ZAGS	**Zajecar**	**77.36 314**	*e*P	**P**		**02 13 58.5 -0.2**
HERR	**Herculane**	**77.41 315**	⇑P	**P**		**02 13 58.9 -0.1**
BARS	**Barje**	**77.50 313**	*e*P	**P**		**02 13 58.7 -0.9**
BARS	**Barje**	**77.50 313**	*e*P	P		02 14 08.8 +9.2
DRGR		**77.54 317**	⇓P	**P**		**02 14 00.2 +0.4**
VSU	**Vasula**	**77.84 330**⇑	*e*P	**P**		**02 14 01.1 0.0**
VSU			pmax	pmax		
comp=Z,113nm,1.8s						
VSU	**Vasula**	**77.84 330**	*e*P	**P**		**02 14 00.6 -0.5**
LVZ	**Lovozero**	**77.85 340**⇓	*e*P	**P**		**02 14 01.3 +0.2**
LVZ			pmax	pmax		
comp=Z,108nm,2.2s						
LVZ	**Lovozero**	**77.85 340**	P	**P**		**02 14 00.9 -0.1**
LVZ			IAmb	IAmb		02 14 03.9
comp=Z,29nm,0.9s						
SELS	**Selova**	**78.07 314**	*e*P	P		02 14 10.1 +7.3
KWP	**Kalwaria Pacla**	**78.07 320**	P	**P**		**02 14 02.8 +0.2**
KWP			pmax	pmax		
comp=Z,276nm,1.0s						
KWP	**Kalwaria Pacla**	**78.07 320**	P	**P**		**02 14 02.8 +0.2**
BZS	**Buzias**	**78.08 316**	⇑P	**P**		**02 14 02.7 0.0**
UZH	**Uzhgorod**	**78.15 319**	*e*P	**P**		**02 14 03.4 +0.4**
UZH			*i*			02 14 12.0
UZH			*i*			02 14 16.2
UZH			*e*			02 17 03.2
UZH			*e*PPP	PPP		02 18 53.2
UZH			*e*S	**S**		**02 23 58.4 +1.8**
UZH			*e*PS	**PnS**		**02 24 41.0 +2.3**
UZH			*e*SS	**SS**		**02 28 56.4 -2.2**
SIRR	**Siria**	**78.16 317**	⇑P	**P**		**02 14 03.9 +0.7**
LTVH	**Ltavrtes, Hu**	**78.19 318**	P	**P**		**02 14 04.0 +0.8**
GRUS	**Gruza**	**78.45 314**	*e*P	**P**		**02 14 04.9 +0.1**
PABE	**Paberze**	**78.55 326**	*e*P	**P**		**02 14 04.8 -0.3**
PABE	**Paberze**	**78.55 326**	P	**P**		**02 14 05.7 +0.6**
SUW	**Suwalki**	**78.67 325**	*e*P	**P**		**02 14 06.1 +0.3**
SUW			*e*PcP	**PcP**		**02 14 14.9 +0.2**
SUW	**Suwalki**	**78.67 325**	P	**P**		**02 14 06.3 +0.5**
SUW			pmax	pmax		
comp=Z,86nm,1.0s						
SUW	**Suwalki**	**78.67 325**	*e*P	**P**		**02 14 04.9 -0.9**
SUW	**Suwalki**	**78.67 325**	P	**P**		**02 14 06.3 +0.5**
TRUS	**Trudelj**	**78.72 315**	*e*P	**P**		**02 14 06.7 +0.4**
CRVS	**Cervenica-Dubn**	**78.74 319**	*e*P	**P**		**02 14 07.5 +1.2**
CRVS			pmax	pmax		
comp=Z,25nm,1.1s						
CRVS	**Cervenica-Dubn**	**78.74 319**	*e*P	**P**		**02 14 07.5 +1.2**
IVAS	**Ivanjica**	**78.81 314**	*e*P	**P**		**02 14 06.4 -0.5**
SJES	**Sjenica**	**78.90 314**	*e*P	**P**		**02 14 07.9 +0.4**
FIA1	**FINESS Array S**	**79.00 333**	P	**P**		**02 14 07.1 -0.3**
FIA1			IAmb	IAmb		02 14 08.7
comp=Z,28nm,0.8s						
FINES	**FINESS Array B**	**79.00 333**	P	**P**		**02 14 07.0 -0.4**
comp=Z,18nm,0.6s,baz=99,slow=5.7,SNR=64						
FINES	**FINESS Array B**	**79.00 333**	*i* P	**P**		**02 14 07.0 -0.4**
FINES			pmax	pmax		
comp=Z,18nm,0.6s						
DIVS	**Divibare**	**79.00 314**	*e*P	**P**		**02 14 07.8 -0.2**
DIVS	**Divibare**	**79.00 314**	P	**P**		**02 14 08.2 +0.3**
DIVS	**Divibare**	**79.00 314**	*e*P	**P**		**02 14 08.1 +0.1**
SUR	**Sutherland**	**79.17 237**	LR	LR		02 43 15.8
comp=Z,929nm,19.2s,baz=85,slow=31						
FRGS	**Fruska Gora**	**79.28 315**	⇑P	**P**		**02 14 09.5 +0.2**
FRGS	**Fruska Gora**	**79.28 315**	*e*P	**P**		**02 14 08.6 -0.8**
KECS	**Kecovo**	**79.31 319**	*e*P	**P**		**02 14 10.1 +0.7**
KECS	**Kecovo**	**79.31 319**	*e*P	**P**		**02 14 10.1 +0.7**
PDG	**Podgorica**	**79.32 313**	⇑P	**P**		**02 14 10.0 +0.4**
PDG	**Podgorica**	**79.32 313**	⇓*i*P	**P**		**02 14 09.5 -0.1**
DRME	**Dracevica, Mon**	**79.34 312**	*e*P	**P**		**02 14 08.6 -1.2**
RUDO	**Rudo**	**79.38 314**	*e*P	**P**		**02 14 08.4 -1.6**
BBLS	**Lazići**	**79.39 314**	*e*P	**P**		**02 14 10.2 +0.2**
BBLS	**Lazići**	**79.39 314**	*e*P	**P**		**02 14 10.3 +0.2**
PSZ	**Piszkesteto**	**79.61 318**	⇑P	**P**		**02 14 11.6 +0.4**
PSZ	**Piszkesteto**	**79.61 318**	P	**P**		**02 14 11.4 +0.2**
PSZ			pmax	pmax		
comp=Z,14nm,0.8s						
PSZ	**Piszkesteto**	**79.61 318**	P	**P**		**02 14 11.4 +0.2**
PSZ	**Piszkesteto**	**79.61 318**	P	**P**		**02 14 11.3 +0.2**
UPM	**Unac-Piva**	**79.67 313**	*e*P	**P**		**02 14 10.8 -1.0**
IZAB	**Izabela**	**79.83 319**	*e*P	**P**		**02 14 13.0 +0.7**
BRY	**Bratogost**	**79.90 313**	*e*P	**P**		**02 14 12.2 -0.8**
TREB	**Trebinje**	**80.02 313**	*e*P	**P**		**02 14 13.3 -0.1**
OJC	**Ojcow**	**80.02 321**	*e*P	**P**		**02 14 13.7 +0.4**
OJC	**Ojcow**	**80.02 321**	P	**P**		**02 14 13.9 +0.6**
OJC			pmax	pmax		
comp=Z,12nm,1.0s						
OJC	**Ojcow**	**80.02 321**	P	**P**		**02 14 13.9 +0.6**
LANS	**Liptovska Anna**	**80.07 319**	*e*P	**P**		**02 14 14.5 +0.9**
LANS	**Liptovska Anna**	**80.07 319**	*e*P	**P**		**02 14 14.5 +0.9**
MORH	**Mrgy, Hungar**	**80.23 316**	*e*P	**P**		**02 14 13.8 -0.6**
VYHS	**Vyhne**	**80.39 319**	*e*P	**P**		**02 14 16.0 +0.7**
VYHS	**Vyhne**	**80.39 319**	*e*P	**P**		**02 14 16.0 +0.7**
KLNR	**Kaliningrad**	**80.49 325**⇑	*e*P	**P**		**02 14 15.8 +0.2**
KLNR			pmax	pmax		
comp=Z,231nm,1.6s						
BILL	**Bilibino**	**80.57 21***ce*P		**P**		**02 14 15.7 -0.2**
BILL			*i*			02 14 22.4
BILL			*e*			02 17 25.0
BILL			pmax	pmax		
comp=Z,10.0nm,1.0s						
BILL			MLR	MLR		
comp=Z,1μm,17.0s						
SRO2	**Moca**	**80.59 318**	*e*P	**P**		**02 14 16.7 +0.3**
SRO2	**Moca**	**80.59 318**	*e*P	**P**		**02 14 16.7 +0.3**
SRO	**Srobarova**	**80.65 318**	*e*P	**P**		**02 14 18.0 +1.3**
SRO			pmax	pmax		
comp=Z,15nm,0.9s						
SRO	**Srobarova**	**80.65 318**	*e*P	**P**		**02 14 18.0 +1.3**
OKC	**Ostrava-Krasne**	**81.02 320**	*e*P	**P**		**02 14 20.0 +1.4**
OKC	**Ostrava-Krasne**	**81.02 320**	*e*P	**P**		**02 14 20.0 +1.4**
BLY	**Banja Luka**	**81.08 315**	*e*P	**P**		**02 14 18.2 -0.9**
MPLH	**Magyarpolny**	**81.10 317**	P	**P**		**02 14 19.3 +0.2**
MGRS	**Mrkonjic Grad**	**81.11 314**	*e*P	**P**		**02 14 19.8 +0.5**
JAVC	**Velka Javorina**	**81.21 319**	*e*P	**P**		**02 14 21.0 +1.3**
EGYH	**Egyhazasksezo**	**81.26 318**	P	**P**		**02 14 20.8 +0.9**
MRAK	**Mrakovica**	**81.30 315**	*e*P	**P**		**02 14 20.5 +0.1**
SMOL	**Smolenice**	**81.33 319**	*e*P	**P**		**02 14 21.5 +1.1**
SMOL	**Smolenice**	**81.33 319**	*e*P	**P**		**02 14 21.4 +1.1**
MORC	**Moravsky Berou**	**81.40 320**	P	**P**		**02 14 21.1 +0.3**
MORC	**Moravsky Berou**	**81.40 320**	P	**P**		**02 14 20.8 0.0**
MORC			pmax	pmax		
comp=Z,11nm,0.9s						
MORC	**Moravsky Berou**	**81.40 320**	*e*P	**P**		**02 14 21.1 +0.3**
MORC	**Moravsky Berou**	**81.40 320**	P	**P**		**02 14 20.8 0.0**
MODS	**Modra-Piesok**	**81.41 318**	*e*P	**P**		**02 14 22.1 +1.3**
MODS	**Modra-Piesok**	**81.41 318**	*e*P	**P**		**02 14 22.1 +1.3**
ZST	**Bratislava**	**81.51 318**	*e*P	**P**		**02 14 22.1 +0.9**
ZST	**Bratislava**	**81.51 318**	*e*P	**P**		**02 14 22.1 +0.9**
ARCES	**ARCESS Array B**	**81.56 340**	P	**P**		**02 14 20.5 -0.6**
comp=Z,9.2nm,0.5s,baz=94,slow=5.7,SNR=56						
ARCES			PP	**PP**		**02 17 29.3 +1.9**
comp=Z,5.9nm,0.8s,baz=111,slow=6.6,SNR=4.4						
ARCES	**ARCESS Array B**	**81.56 340**	P	**P**		**02 14 21.1 0.0**
ARCES			IAmb	IAmb		02 14 32.4
comp=Z,56nm,1.4s						
KOGS	**Kog**	**81.90 316**	*i* P	**P**		**

PVCC	Panska Ves	83.38	320	eP		P	02 14 32.4 +1.4
PVCC	Panska Ves	83.38	320	eP		P	02 14 32.4 +1.4
CKRC	Cesky Krumlov	83.41	319	eP		P	02 14 31.4 +0.2
CKRC				ex		x	02 14 38.2
BKZ	Black Stump Fm	83.42	130	P		P	02 14 31.4 -0.1
BKZ				IAmb		IAmb	02 14 33.4
	comp=Z,24nm,0.9s						
AQU	L'Aquila	83.63	312	P		P	02 14 32.9 +0.3
AQU				pmax		pmax	
	comp=Z,32nm,1.0s						
AQU	L'Aquila	83.63	312	eP		P	02 14 32.9 +0.3
AQU	L'Aquila	83.63	312	P		P	02 14 32.9 +0.3
AQU				IAmb		IAmb	02 14 42.8
	comp=Z,32nm,1.0s						
MYKA	Terra Mystica	83.71	317	i P		P	02 14 33.1 +0.2
	comp=Z,7.5nm,0.8s						
BRG	Berggiesshubel	83.81	321	eP		P	02 14 33.9 +0.7
BRG				Amp			02 14 35.1
	comp=Z,14nm,1.1s						
BRG				ex		x	02 14 40.9
BRG				Amp			02 14 45.0
	comp=Z,8.3nm,1.0s						
BRG	Berggiesshubel	83.81	321	eP		P	02 14 33.9 +0.7
BRG				e			02 14 40.9
BRG				pmax		pmax	
	comp=Z,14nm,1.1s						
BRG	Berggiesshubel	83.81	321	eP		P	02 14 34.0 +0.7
	comp=Z,14nm,1.1s,baz=93,slow=5.0						
GEC2	GERESS Array S	83.82	319	eP		P	02 14 34.4 +1.0
	comp=Z,22nm,1.0s,baz=93,slow=5.0						
GEC2	GERESS Array S	83.82	319	P		P	02 14 33.2 -0.2
GEC2				IAmb		IAmb	02 14 35.3
	comp=Z,19nm,0.9s						
GERES	GERESS Array B	83.82	319	P		P	02 14 33.5 +0.1
	comp=Z,11nm,0.8s,baz=99,slow=4.2,SNR=73						
GERES	GERESS Array B	83.82	319	P		P	02 14 32.5 -0.9
GERES	GERESS Array B	83.82	319	P		P	02 14 32.5 -0.9
KHC	Kasperske Hory	83.92	319	eP		P	02 14 33.6 -0.2
KHC				e			02 14 42.5
KHC	Kasperske Hory	83.92	319	eP		P	02 14 33.6 -0.2
KHC				epP		sP	02 14 42.5 +0.3
KHC	Kasperske Hory	83.92	319	P		P	02 14 33.8 0.0
KBA	Koelnbreinsper	83.94	317	i P		P	02 14 33.9 -0.2
	comp=Z,6.9nm,0.9s						
RUE	Ruedersdorf	84.03	322	eP		P	02 14 34.4 +0.2
RUE	Ruedersdorf	84.03	322	eP		P	02 14 35.1 +0.9
	comp=Z,27nm,1.0s,baz=93,slow=5.0						
FBE	Freiberg	84.18	321	eP		P	02 14 36.2 +1.1
	comp=Z,18nm,1.0s,baz=93,slow=5.0						
STAL	STALIGIAL	84.33	316	P		P	02 14 35.7 -0.3
STAL				IAmb		IAmb	02 14 37.4
	comp=Z,49nm,1.4s						
WET	Wettzell	84.38	319	eP		P	02 14 37.0 +0.8
	comp=Z,15nm,0.9s,baz=93,slow=5.0						
CLL	Collm	84.43	321	i P		P	02 14 36.7 +0.4
CLL				i			02 14 45.2
CLL				eS		S	02 25 03.0 +1.3
CLL				pmax		pmax	
	comp=Z,6.0nm,0.9s						
CLL				MLR		MLR	
	comp=Z,3µm,18.8s						
CLL	Collm	84.43	321	i P		P	02 14 36.7 +0.4
	comp=Z,6.0nm,0.9s						
CLL				i x		x	02 14 45.2
CLL				eS		S	02 25 03.0 +1.3
CLL				eSS		SS	02 30 36.0 +3.9
CLL				eSSS		SSS	02 34 00.0
CLL				ex		x	02 35 30.0
CLL	Collm	84.43	321	eP		P	02 14 36.8 +0.4
	comp=Z,6.2nm,0.9s,baz=93,slow=5.0						
CLL	Collm	84.43	321	P		P	02 14 36.8 +0.4
ABTA	Abfaltersbach	84.49	317	i P		P	02 14 36.2 -0.7
	comp=Z,7.5nm,0.8s						
NKC	Novy Kostel	84.72	320	eP		P	02 14 38.4 +0.5
NKC				e			02 14 44.9
NKC	Novy Kostel	84.72	320	eP		P	02 14 38.4 +0.5
NKC				epP		pP	02 14 44.9 +0.8
TANN	Tannenbergstha	84.72	320	eP		P	02 14 38.6 +0.7
	comp=Z,3.0nm,0.8s,baz=93,slow=5.0						
WERN	Wernitzgruen	84.77	320	eP		P	02 14 39.1 +1.0
	comp=Z,9.0nm,0.9s,baz=93,slow=5.0						
GUNZ	Gunzen	84.80	320	eP		P	02 14 39.3 +1.0
	comp=Z,13nm,1.0s,baz=93,slow=5.0						
ROTZ	Rotzenmuhle	84.85	320	eP		P	02 14 39.6 +1.1
	comp=Z,3.2nm,0.8s,baz=93,slow=5.0						
MANZ	Manzenberg	84.92	320	eP		P	02 14 40.2 +1.2
	comp=Z,6.0nm,1.0s,baz=93,slow=5.0						
CTI	Castel Tesino	85.06	316	P		P	02 14 39.8 0.0
CTI				pmax		pmax	
	comp=Z,21nm,0.8s						
CTI	Castel Tesino	85.06	316	P		P	02 14 39.8 0.0
CTI				IAmb		IAmb	02 14 41.6
	comp=Z,20nm,0.8s						
WTTA	Wattenberg	85.11	317	eP		P	02 14 40.0 -0.2
	comp=Z,17nm,0.8s,SNR=5.5						
WATA	Walderalm	85.16	317	eP		P	02 14 39.7 -0.6
	comp=Z,6.7nm,0.6s						
NEUB	Neuenburg	85.19	321	eP		P	02 14 40.9 +0.7
	comp=Z,17nm,0.8s,baz=93,slow=5.0						
MOX	Moxa	85.27	320	eL		L	02 52 47.3
	comp=Z,192nm,18.2s						
SQTA	Sankt Quirin	85.40	317	eP		P	02 14 41.1 -0.4
	comp=Z,13nm,0.6s						
ZCCA	Zocca	85.48	314	P		P	02 14 42.6 +0.8
ZCCA				IAmb		IAmb	02 15 02.6
	comp=Z,30nm,1.1s						
MOTA	Moosalm	85.48	317	eP		P	02 14 41.5 -0.4
	comp=Z,13nm,0.8s,SNR=5.4						
GRA1	Grafenberg Arr	85.48	320	P		P	02 14 42.4 +0.7
GRA1				IAmb		IAmb	02 14 52.1
	comp=Z,27nm,1.0s						
GRF	Grafenberg Arr	85.48	320	P		P	02 14 42.4 +0.7
GRF				pmax		pmax	
	comp=Z,27nm,1.0s						
GRF	Grafenberg Arr	85.48	320	eP		P	02 14 42.9 +1.2
	comp=Z,23nm,0.8s,baz=93,slow=5.0						
GRF				eL		L	02 56 06.5
	comp=Z,193nm,21.7s						
GRFO	Grafenberg	85.48	320	P		P	02 14 41.9 +0.2
GRFO				pmax		pmax	
	comp=Z,28nm,1.0s						
GRFO	Grafenberg	85.48	320	P		P	02 14 41.9 +0.2
GRFO				IAmb		IAmb	02 14 52.0
	comp=Z,28nm,1.0s						
RETA	Reutte	85.72	317	eP		P	02 14 42.9 -0.1
	comp=Z,16nm,0.7s,SNR=6.4						
FETA	Feichten	85.72	317	eP		P	02 14 43.3 +0.2
	comp=Z,11nm,1.0s						
NC405	NORSAR Array S	85.76	331	P		P	02 14 42.9 +0.1
NC405				IAmb		IAmb	02 14 54.0
	comp=Z,49nm,1.1s						
NC602	NORSAR Array S	85.83	331	P		P	02 14 43.3 +0.2
SALO	Salr	85.83	315	P		P	02 14 44.1 +0.6
SALO				IAmb		IAmb	02 14 58.0
	comp=Z,35nm,0.9s						
NB2	NORSAR Subarra	86.00	331	P		P	02 14 43.2 -0.9
	comp=Z,3.6nm,0.7s,baz=97,slow=4.8						
NOA	NORSAR Array B	86.00	331	P		P	02 14 43.9 -0.1
	comp=Z,7.8nm,0.9s,baz=94,slow=4.9,SNR=19						
NOA				PP		PP	02 18 03.8 -0.3
	comp=Z,2.0nm,0.8s,baz=93,slow=8.3,SNR=5.0						
SPB2	Spitsbergen Ar	86.01	348	P		P	02 14 43.9 +0.1
SPB2				IAmb		IAmb	02 14 47.8
	comp=Z,35nm,1.0s						
NAO01	NORSAR Array S	86.15	331	P		P	02 14 45.4 +0.7
BSEG	Bad Segeberg	86.19	324	eP		P	02 14 46.3 +1.3
	comp=Z,25nm,1.0s,baz=93,slow=5.0						
NBO00	NORSAR Array S	86.21	331	P		P	02 14 44.7 -0.3
NBO00				IAmb		IAmb	02 14 59.7
	comp=Z,45nm,1.4s						
NC204	NORSAR Array S	86.23	331	P		P	02 14 46.1 +0.9
NRDL	Niedersach Rie	86.28	322	eP		P	02 14 46.8 +1.4
	baz=93,slow=5.0						
DAVA	Damuels	86.31	317	eP		P	02 14 44.0 -2.0
	comp=Z,18nm,0.8s						
GTTG	Gottingen	86.34	321	eP		P	02 14 46.9 +1.0
	comp=Z,15nm,0.7s,baz=93,slow=5.0						
KEST	Kesra	86.62	305	P		P	02 14 47.7 -0.1
	comp=Z,8.0nm,0.8s,baz=336,slow=1.4,SNR=7.1						
KEST	Kesra	86.62	305	P		P	02 14 48.2 +0.4
TUE	Stuetta	86.67	316	P		P	02 14 46.8 -1.1
TNS	Taunus Mts	87.28	320	eP		P	02 14 51.6 +1.0
	comp=Z,14nm,0.8s,baz=93,slow=5.0						
BFO	Black Forest	87.36	318	P		P	02 14 51.6 +0.6
BFO				pmax		pmax	
	comp=Z,9.0nm,0.8s						
BFO	Black Forest	87.36	318	eP		P	02 14 51.1 +0.1
	comp=Z,9.7nm,0.8s,baz=93,slow=5.0						
BFO	Black Forest	87.36	318	P		P	02 14 51.6 +0.6
IBBN	Ibbenburen	87.71	322	eP		P	02 14 53.7 +1.2
	comp=Z,27nm,1.0s,baz=93,slow=5.0						
BUG	Bochum--Univer	88.03	321	eP		P	02 14 55.0 +1.0
	comp=Z,19nm,1.1s,baz=93,slow=5.0						
SENIN	Lac Senin/Sane	88.08	316	P		P	02 14 54.7 0.0
AHRW	Bad Neuenahr-A	88.16	320	eP		P	02 14 56.0 +1.3
	comp=Z,11nm,0.8s,baz=93,slow=5.0						
BTNL	Ternell	88.76	320	PcP		PcP	02 14 58.6 -0.5
MEM	Membach	88.84	320	PcP		PcP	02 14 58.8 -0.7
MEM				sP		sP	02 15 07.2 +0.8
BHOU	Houvegnez	88.85	320	PcP		PcP	02 14 59.3 -0.3
GAMB	Gambell	88.91	26	P		P	02 14 59.2 +1.3
	baz=272						
BCLA	Clavier	89.30	320	PcP		P	02 15 00.7 +0.7
BCLA				sP		sP	02 15 07.6 -0.8
BGES	Gesves	89.44	320	PcP		PcP	02 15 01.9 -0.2
BGES				sP		sP	02 15 10.1 +0.9
BMRD	Maredsous	89.64	320	PcP		PcP	02 15 03.2 +0.2
DOU	Dourbes	89.77	320	PcP		P	02 15 02.7 +0.4
DOU				sP		sP	02 15 11.2 +0.6
TNA	Tin City	90.40	24	P		P	02 15 05.1 +0.2
TNA	Tin City	90.40	24	P		P	02 15 04.8 -0.1
	baz=276						
NOR	Nord	91.32	352	i P		P	02 15 08.7 -0.2
DAG	Danmarks Havn	93.66	348	i P		P	02 15 18.8 -1.0
TORD	Torodi Ar. Bea	94.36	283	P		P	02 15 24.3 +0.1
	comp=Z,1.9nm,0.8s,baz=83,slow=4.8,SNR=9.0						
TORD	Torodi Ar. Bea	94.36	283	P		P	02 15 24.4 +0.1
DBG	Daneborg	95.09	346	eP		P	02 15 26.4 0.0
TTA	Tatalina	96.01	26	P		P	02 15 30.5 -0.4
TTA				pmax		pmax	
	comp=Z,11nm,1.2s						
TTA	Tatalina	96.01	26	P		P	02 15 30.5 -0.4
TTA	Tatalina	96.01	26	P		P	02 15 31.5 +0.6
	baz=286						
IMAR	Indian Mountai	96.02	23	P		P	02 15 30.9 +0.1
J20K	Nowinta River	96.43	25	P		P	02 15 33.0 +0.3
J20K				IAmb		IAmb	02 15 34.8
	comp=Z,10nm,1.0s						
J20K	Nowinta River	96.43	25	P		P	02 15 33.2 +0.5
	baz=288						
H21K	Melozitna Rive	96.49	23	P		P	02 15 33.1 +0.2
H21K				IAmb		IAmb	02 15 35.1
	comp=Z,14nm,1.3s						
H21K	Melozitna Rive	96.49	23	P		P	02 15 33.7 +0.8
	baz=290						
VNA2	Neumayer--Watz	96.50	199	P		P	02 15 30.0 -2.9
	baz=295,slow=6.4						
K20K	Telida	96.72	25	P		P	02 15 34.1 +0.1
K20K				IAmb		IAmb	02 15 36.1
	comp=Z,13nm,0.8s						
K20K	Telida	96.72	25	P		P	02 15 35.3 +1.2
	baz=288						
L19K	White Mountain	96.74	27	P		P	02 15 34.7 +0.5
L19K				IAmb		IAmb	02 15 35.6
	comp=Z,13nm,1.1s						
L19K	White Mountain	96.74	27	P		P	02 15 35.4 +1.2
	baz=287						
VNA1	Neumayer--Stat	96.85	199	P		P	02 15 28.2 -6.2
ESDC	Sonseca Array	96.86	310	P		P	02 15 35.3 +0.1
	comp=Z,0.7nm,0.9s,baz=106,slow=2.8,SNR=2.4						
I21K	Tanana	96.98	23	P		P	02 15 35.8 +0.7
I21K				IAmb		IAmb	02 15 39.6
	comp=Z,11nm,1.0s						
I21K	Tanana	96.98	23	P		P	02 15 36.6 +1.5
	baz=290						
M19K	Big River Lodg	97.03	27	P		Pdif	02 15 36.8 +1.2
	baz=288						
L20K	Farewell, AK	97.08	26	P		Pdif	02 15 36.7 +0.9
	baz=288						
O18K	Koktuh Hills	97.26	29	P		Pdif	02 15 38.0 +1.4
	baz=287						
CHUM	Lake Minchumin	97.29	25	P		Pdif	02 15 38.1 +1.4
	baz=290						
N19K	Bonanza Creek	97.32	28	P		Pdif	02 15 37.2 +0.2
N19K				IAmb		IAmb	02 15 38.2
	comp=Z,20nm,1.1s						
N19K	Bonanza Creek	97.32	28	P		Pdif	02 15 38.0 +1.0
	baz=288						
CAST	Castle Rocks	97.55	25	P		Pdif	02 15 38.3 +0.5
CAST				IAmb		IAmb	02 15 44.1
	comp=Z,12nm,1.1s						
CAST	Castle Rocks	97.55	25	P		Pdif	02 15 38.3 +0.4
	baz=290						
H24K	Noodor Dome	98.31	22	P		Pdif	02 15 42.2 +1.0
	baz=294						
ILAR	Eielson Array	99.14	23	P		Pdif	02 15 43.5 -1.3
	comp=Z,0.5nm,0.6s,baz=292,slow=3.6,SNR=4.5						
ILAR				PP		PP	02 19 42.9 -4.1
	comp=Z,1.9nm,0.9s,baz=293,slow=6.6,SNR=6.6						
ILAR				PKKPbc		PKKPdf	02 32 20.7 +4.7
	comp=Z,0.6nm,0.8s,baz=154,slow=1.3,SNR=4.3						
A36M	Sachs Harbour	101.40	12	P		Pdif	02 15 55.6 +0.9
	baz=317						
INK	Inuvik	101.83	17	P		Pdif	02 15 56.1 -0.6
	comp=Z,1.9nm,0.9s,baz=285,slow=5.1,SNR=5.6						
C36M	Paulatuk	103.62	14	P		Pdif	02 16 05.6 +0.9
	baz=318						
YKA	Yellowknife Ar	111.42	15	Pdiff		Pdif	02 16 41.0 +1.5
	comp=Z,0.4nm,0.8s,baz=327,slow=4.1,SNR=8.2						
YKA				PKiKP		PKiKP	02 20 37.2 -0.4
	comp=Z,0.7nm,1.0s,baz=348,slow=2.5,SNR=4.3						
YKA				PP		PP	02 21 22.0 +4.4
	comp=Z,1.8nm,1.0s,baz=323,slow=6.9,SNR=6.2						
YKA				PKKPbc		PKKPab	02 31 41.4 -2.0
	comp=Z,0.5nm,0.8s,baz=145,slow=2.8,SNR=5.2						
PMSA	Palmer Station	115.87	189			PKiKP	02 20 44.0 -2.0
SCHQ	Schefferville	121.69	349	PKP		PKPdf	02 20 57.0 -0.6
	comp=Z,7.5nm,1.1s,baz=236,slow=5.6,SNR=4.2						
HAWA	Hanford	122.19	29	PKPdf		PKPdf	02 20 58.9 +0.1
J04D	Umpqua Nationa	123.04	33	P		PKiKP	02 21 02.4 +1.3
	baz=312						
J05D	Fort Rock, OR	123.48	33	P		PKiKP	02 21 03.0 +1.1
	baz=313						
F10A	Beach Ranch, E	123.59	28			PKPdf	02 21 01.6 -0.1
MSO	Missoula	124.39	25	PKPdf		PKPdf	02 21 02.9 -0.3
MSO	Missoula	124.39	25	P		PKPdf	02 21 02.7 -0.5
	baz=322						
PLID	Pearl Lake	124.82	28	PKPdf		PKPdf	02 21 04.0 -0.3
MOD	Modoc Plateau	124.93	33	PKPdf		PKPdf	02 21 04.1 -0.4
EGMT	Eagleton	125.07	21	PKPdf		PKPdf	02 21 04.4 0.0
EGMT	Eagleton	125.07	21	P		PKPdf	02 21 04.5 +0.1
	baz=327						
O03E	Paynes Creek	125.15	36	P		PKiKP	02 21 05.1 0.0
	baz=311						
DLMT	Dillon	126.13	25			PKPdf	02 21 06.5 -0.1
BOZ	Bozeman (W)	126.34	24	PKIKP		PKPdf	02 21 07.1 +0.1
BOZ	Bozeman (W)	126.34	24			PKPdf	02 21 07.1 +0.1
BOZ	Bozeman (W)	126.34	24	P		PKiKP	02 21 07.3 -0.2
	baz=324						
HLID	Hailey	126.72	28	PKPdf		PKiKP	02 21 08.2 -0.2
HLID	Hailey	126.72	28	P		PKiKP	02 21 09.4 +1.0
	baz=320						
ULM	Lac du Bonnet	126.80	10	PKP		PKPdf	02 21 07.5 0.0
	comp=Z,9.9nm,0.8s,baz=319,slow=2.0,SNR=8.9						
PAHR	Pah Rah Range	126.93	35			PKPdf	02 21 07.5 -0.8
LAO	LASA Array	127.45	20	PKPdf		PKPdf	02 21 09.2 +0.2
LAO	LASA Array	127.45	20	P		PKiKP	02 21 10.0 +0.4
	baz=331						
KVN	Kaiserville	128.10	34	PKIKP		PKPdf	02 21 10.2 -0.5
KVN	Kaiserville	128.10	34	PKPdf		PKPdf	02 21 10.2 -0.5
MDND	Maddock	128.32	14			PKPdf	02 21 09.8 -0.7
MDND	Maddock	128.32	14	P		PKiKP	02 21 11.3 +0.1
	baz=339						
LOHW	Long Hollow	128.38	25			PKPdf	02 21 10.9 -0.2
NVAR	Mina Array Bea	128.41	35	PKP		PKPdf	02 21 09.1 -2.3
	comp=Z,3.3nm,0.8s,baz=277,slow=2.1,SNR=18						
REDW	Red Top Meadow	128.48	25			PKPdf	02 21 11.0 -0.3
PD31	Pinedale Array	129.51	25			PKPdf	02 21 12.6 -0.6
PDAR	Pinedale Array	129.51	25	PKP		PKPdf	02 21 12.7 -0.6
	comp=Z,1.4nm,0.6s,baz=213,slow=1.4,SNR=15						
R11A	Troy Canyon, C	130.00	33	P		PKiKP	02 21 15.7 +0.6
	baz=316						
DUG	Dugway, Tooele	130.07	29	P		PKiKP	02 21 16.4 +1.3
	baz=320						
RSSD	Black Hills	130.44	20	PKIKP		PKPdf	02 21 14.3 -0.7
RSSD	Black Hills	130.44	20	PKPdf		PKPdf	02 21 14.3 -0.7
MPMC	Manual Prospec	130.50	37	P		PKiKP	02 21 17.2 +1.0
	baz=313						
K22A	Casper	130.83	23			PKPdf	02 21 15.3 -0.4
RDMU	Red Mountain	131.29	27	PKPdf		PKPdf	02 21 16.4 -0.3
F36A	Milaca	131.45	9	PKPdf		PKPdf	02 21 16.3 -0.2
P18A	Preston Nutter	131.74	28			PKPdf	02 21 16.9 -0.8
O20A	White River Ci	132.24	26			PKPdf	02 21 16.7 -1.8
O20A	White River Ci	132.24	26	P		PKiKP	02 21 19.1 -0.5
	baz=326						
GMRC	Granite Mounta	132.46	37	P		PKiKP	02 21 20.8 +0.8
	baz=314						
ECSD	EROS Data Cent	132.89	13	PKPdf		PKPdf	02 21 19.3 0.0
ECSD	EROS Data Cent	132.89	13	P		PKPdf	02 21 19.6 +0.3
	baz=342						
K31A	O'Neill	133.41	16	PKPdf		PKPdf	02 21 20.4 0.0
PV13	Radium Mtn., P	133.58	28			PKPdf	02 21 20.7 -0.4
GLA	Glamis	134.15	38	P		PKiKP	02 21 24.0 +0.6
	baz=314						
WUAZ	Wupatki	134.36	32	P		PKiKP	02 21 25.1 +1.1
	baz=319						
MVCO	Mesa Verde	134.50	28	P		PKiKP	02 21 24.0 -0.2
	baz=324						
CAM01	Campos-RJ	134.95	241	eP		PKiKP	02 21 26.8 +1.6
NBMA	Muriti-CE	135.27	262	eP		PKiKP	02 21 27.5 +1.4
T25A	Trinidad	136.38	25	P		PKiKP	02 21 28.4 +0.3
	baz=329						
TUC	Tucson	137.07	35	P		PKiKP	02 21 28.8 -0.6
	baz=318						
KSU1	Kansas State U	137.27	15	P		PKiKP	02 21 29.8 +0.3
	baz=340						
ANMO	Albuquerque	137.29	28	eP	KIKP	PKPdf	02 21 27.5 -0.6
ANMO	Albuquerque	137.29	28	P		PKiKP	02 21 29.8 -0.2
	baz=325						
R40A	Maddies Statio	139.02	11			PKPdf	02 21 30.9 +0.1
S39A	Bolivar	139.39	12	PKPdf		PKPdf	02 21 31.6 -0.1
PLCA	Paso Flores	139.79	195	PKP		PKPdf	02 21 32.8 +0.5
	comp=Z,1.1nm,0.8s,baz=233,slow=3.6,SNR=3.9						
PLCA	Paso Flores	139.79	195	eP		PKiKP	02 21 34.5 -0.2
SDBA	SAO DESIDERIO	140.55	253	eP		PKiKP	02 21 35.9 -1.1
FCAR	Ozark Folk Cen	141.38	11			PKPdf	02 21 35.1 -0.1
LCAR	Lake Charles	141.38	10			PKPdf	02 21 32.9 -2.3
ABTX	Abilene, Hawle	142.22	23	P		PKPdf	02 21 33.1 -3.8
	baz=333						
MIAR	Mount Ida	142.35	14	PKIKP		PKPdf	02 21 33.7 -3.3
MIAR	Mount Ida	142.35	14			PKPdf	02 21 33.7 -3.3
MIAR	Mount Ida	142.35	14	P		PKPdf	02 21 34.0 -3.0
	baz=343						
TX31	Lajitas Ar. Si	143.23	30			PKPbc	02 21 35.8 0.0
TX32	Lajitas Array	143.23	30	PKPdf		PKPbc	02 21 35.7 -0.1
TXAR	Lajitas Array	143.23	30	PKP		PKPbc	02 21 36.1 +0.3
	comp=Z,2.9nm,0.7s,baz=271,slow=2.5,SNR=19						
TXAR				PP		PP	02 24 56.1 +7.9
	comp=Z,1.1nm,0.8s,baz=351,slow=5.3,SNR=4.3						
TXAR	Lajitas Array	143.23	30	PKIKP		PKPbc	02 21 35.7 -0.1
TXAR	Lajitas Array	143.23	30	PKPdf		PKPbc	02 21 35.7 -0.1
HPIG		144.03	35			PKPbc	02 21 39.2 +0.8
JCT	Junction City	144.05	25	PKIKP		PKPbc	02 21 37.8 -0.2
JCT	Junction City	144.05	25	PKPdf		PKPbc	02 21 37.8 -0.2
JCT	Junction City	144.05	25	P		PKPbc	02 21 38.4 +0.3
	baz=331						
237A	Washetta, Mont	144.13	18			PKPab	02 21 37.4 -0.4
143A	Socs Landing,	144.61	12			PKPdf	02 21 40.4 -0.6
ML02	Panimavida	144.68	197	PKPdf		PKPdf	02 21 40.7 -0.3
NATX	Nacogdoches	144.70	17	PKPdf		PKPbc	02 21 40.0 0.0
146A	Union	145.08	8			PKPbc	02 21 40.9 -0.3
CPUP	Villa Florida	145.25	224	PKPbc		PKPab	02 21 42.1 0.0
	comp=Z,12nm,0.7s,baz=119,slow=2.6,SNR=20						
VBMS	Vicksburg	145.25	11	P		PKPdf	02 21 42.3 +0.2
	baz=348						
152A	Waverly Hall	145.45	2			PKPbc	02 21 40.8 -1.6
833A	Chaparral WMA,	146.10	26	P		PKPab	02 21 44.9 -0.2
	baz=330						
AQDB	Aquidauana	147.39	234			PKPbc	02 21 48.2 -0.3
ZAIG	Zacatecas	149.02	36	PKPbc		PKPbc	02 21 52.3 -0.8
GO03	Copiap	151.67	205	PKPdf		PKPdf	02 21 52.8 0.0
PTLB	Pontes e Lacer	152.66	239	PKPdf		PKPdf	02 21 54.0 -0.4
SIV	San Ignacio	154.05	236	PKP		PKPdf	02 21 55.3 -1.2
	comp=Z,2.2nm,0.9s,baz=213,slow=2.3,SNR=4.1						

*SKHL **19** 02:03:56.7±0.3,46°.50N×153°.20E,h72km±3km,mb4.7/4*
*MOS **19** 02:03:58.3±1.2,46°.88N×152°.70E,h82km,mb3.9/1,Error ellipse: s-maj=20.5km s-min=5.7km az=65.7*
*IDC **19** 02:03:59.3±6.3,46°.84N×152°.58E,h76km±55km,mb3.4/7, mb1 3.8/10,mb1mx3.4/51,mbtmp3.8/10,ML3.0/3,MS3.1/2, Ms1 3.1/2,ms1mx2.8/68,Error ellipse: s-maj=82.9km s-min=22.0km az=148.0*

ISC 19 02:04:01.1±0.9,47°.0N±0°.1×152°.5E±0°.1,h100km,n43, σ18°23/40,mb3.7/6,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.65**	**243**	*e*PN		**Pn**	**02 04 54.6**	**-0.8**
KUR				*e*S		**Sn**	**02 05 39.1**	**+1.6**
KUR				pmax		pmax		
	comp=Z,133nm,0.7s							
KUR				smax		smax		
	comp=N,351nm,0.7s							
KUR				smax		smax		
	comp=E,188nm,0.4s							
KUR	**Kuril'sk**	**3.65**	**243**	*e*P		**Pn**	**02 04 54.7**	**-0.7**
KUR

baz=74,slow=12,SNR=12
KSRS Korea Array 20.44 251 P Pn 02 08 31.8 -1.6
comp=N,1.2nm,0.5s,baz=51,slow=10,SNR=2.1
H11N2 WAKE ISLAND Hy 29.66 152 T T 02 41 29.3
baz=340,slow=76,SNR=185
H11N1 WAKE ISLAND Hy 29.68 152 T T 02 41 30.1
baz=340,slow=76,SNR=180
H11N3 WAKE ISLAND Hy 29.68 152 T T 02 41 30.3
baz=340,slow=76,SNR=108
H11S1 WAKE ISLAND Hy 30.74 153 T T 02 42 44.1
baz=340,slow=76,SNR=146
H11S3 WAKE ISLAND Hy 30.75 153 T T 02 42 53.5
baz=340,slow=76,SNR=179
H11S2 WAKE ISLAND Hy 30.76 153 T T 02 42 52.4
baz=340,slow=76,SNR=140
ILAR Eielson Array 36.63 39 P **P 02 10 58.1 +0.8**
comp=N,0.6nm,0.6s,baz=262,slow=7.4,SNR=10.0
INK Inuvik 41.68 33 P **P 02 11 40.9 +1.7**
comp=N,1.1nm,0.3s,baz=294,slow=9.0,SNR=11
YKA Yellowknife Ar 50.99 37 P **P 02 12 52.8 +0.7**
comp=N,0.2nm,0.6s,baz=297,slow=7.1,SNR=7.8
NVAR Mina Array Bea 62.72 62 P **P 02 14 16.2 +0.7**
comp=N,0.5nm,0.5s,baz=294,slow=7.5,SNR=5.1
PDAR Pinedale Array 64.96 54 P **P 02 14 31.3 +1.1**
comp=N,0.4nm,0.6s,baz=310,slow=2.6,SNR=4.3
TXAR Lajitas Array 77.76 60 P **P 02 15 48.2 +1.0**
comp=N,0.8nm,0.7s,baz=297,slow=4.7,SNR=8.7
H03N2 Juan Fernandez 139.21 90 T T 04 58 50.3
baz=308,slow=77,SNR=29
H03N1 Juan Fernandez 139.22 90 T T 04 58 51.7
baz=308,slow=77,SNR=30
H03N3 Juan Fernandez 139.22 90 T T 04 58 47.8
baz=308,slow=77,SNR=25

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*VAO **19** 02:04:25.8±0.3, 14°.06S×72°.94W, h10km, mb4.8*
*NEIC **19** 02:04:30.0±1.4, 14°.07S±0°.04×72°.95W±0°.07, h101km±6km, mb4.8/167, ML5.3(ARE), Error ellipse: s-maj=10.3km s-min=6.3km az=77.0*
*ARE **19** 02:04:32±1.6, 14°.05S±0°.07×73°.01W±0°.08, h115km±5km, Error ellipse: s-maj=12.3km s-min=7.5km az=53.0*
*IDC **19** 02:04:34.0±0.6, 14°.05S×72°.91W, h85km±4km, mb4.4/17, mb1 4.5/22, mb1mx4.4/35, mbtmp4.7/22, MS3.9/13, Ms1 3.8/13, ms1mx3.6/60, Error ellipse: s-maj=13.9km s-min=9.1km az=49.0*
*GCMT **19** 02:04:36.0±0.3, 14°.02S±0°.02×72°.80W±0°.03, h88km±4km, MW5.0/79, Moment Tensor Solution. s24,c24; s79,c108; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=2.71±.15; Mθθ=0.35±.14; Mφφ=3.05±.15; Mrθ=1.43±.09; Mrφ=-2.31±.13; Mθφ=-0.03±.13; Best double couple: Mo=3.91900×1016 NP1:φs=182.00000°, δ48.00000°, λ=45.00000°. NP2: φs=306.00000°, δ58.00000°, λ=128.00000°. Principal axes: T 4.2860, Plg6.0000°, Azm62.0000°; N -0.7420, Plg31.0000°, Azm328.0000°; P -3.5510, Plg58.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 02:04:32.3±0.3, 14°.26S±0°.05×72°.98W±0°.06, h83km, n401, σ1°99/302, mb4.8/92, 3C, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.39**	**301**	P	**Pn**	**02 05 36.5**	**-0.2**
	40nm,0.3s,baz=128,slow=12,SNR=53						
NNA				S	**Sn**	**02 06 26.7**	**+0.1**
	119nm,0.3s,baz=215,slow=24,SNR=6.8						
NNA				LR	LR	02 07 10.8	
	comp=Z,953nm,21.2s,baz=157,slow=36						
NNA	**Nana**	**4.39**	**301**		**Pn**	**02 05 35.1**	**-1.5**
NNA				Sn	**Sn**	**02 06 24.5**	**-2.1**
AP01	**Chacalluta**	**4.81**	**149**	Pn	**Pn**	**02 05 44.0**	**+1.7**
AP01				Sn	**Sn**	**02 06 39.7**	**+2.9**
PB12	**IPOC Station P**	**5.02**	**150**	Pn	**Pn**	**02 05 45.1**	**-0.2**
PB12				Sn	**Sn**	**02 06 42.5**	**+0.3**
LPAZ	**La Paz**	**5.10**	**114**	P	**Pn**	**02 05 49.6**	**+2.8**
	37nm,0.3s,baz=322,slow=9.3,SNR=282						
LPAZ				LR	LR	02 08 11.9	
	comp=Z,514nm,20.0s,baz=317,slow=42						
LPAZ	**La Paz**	**5.10**	**114**	Pn	**Pn**	**02 05 46.8**	**-0.1**
PB16	**IPOC Station P**	**5.25**	**141**		**Pn**	**02 05 50.8**	**+1.9**
PB11	**IPOC Station P**	**6.33**	**150**		**Pn**	**02 06 03.1**	**-0.2**
GO01	**Chusmiza**	**6.49**	**147**	Pn	**Pn**	**02 06 06.6**	**+0.9**
CZSB	**Cruzeiro do Su**	**6.50**	**2**		**Pn**	**02 06 01.9**	**-3.5**
TA02	**Huaiquique**	**6.57**	**156**		**Pn**	**02 06 05.7**	**-0.7**
TA01	**Diego Aracena**	**6.82**	**157**	Pn	**Pn**	**02 06 09.2**	**-0.5**
PB08	**IPOC Station P**	**6.90**	**149**		**Pn**	**02 06 11.4**	**+0.2**
PATCX	**Punta Patache**	**7.06**	**158**		**Pn**	**02 06 12.7**	**-0.5**
PB01	**IPOC Station P**	**7.52**	**154**		**Pn**	**02 06 18.4**	**-1.0**
ETMB	**Extrema**	**7.96**	**57**	Pn	**Pn**	**02 06 22.8**	**-2.5**
PB07	**IPOC Station P**	**7.99**	**159**		**Pn**	**02 06 25.1**	**-0.8**
PB09	**IPOC Station P**	**8.30**	**155**		**Pn**	**02 06 29.4**	**-0.7**
PB04	**IPOC Station P**	**8.47**	**162**		**Pn**	**02 06 30.8**	**-1.7**
ATAH	**Atahualpa**	**8.85**	**323**	P	**Pn**	**02 06 36.5**	**-1.4**
	1.8nm,0.3s,baz=135,slow=3.1,SNR=15						
ATAH				LR	LR	02 09 38.0	
	comp=Z,310nm,20.7s,baz=179,slow=35						
PB06	**IPOC Station P**	**9.00**	**159**		**Pn**	**02 06 38.4**	**-1.3**
LVC	**Limon Verde**	**9.16**	**156**	P	**Pn**	**02 06 42.1**	**+0.1**
	4.8nm,0.3s,baz=349,slow=9.7,SNR=28						
LVC				S	**Sn**	**02 08 22.4**	**-1.2**
	15nm,0.3s,baz=185,slow=19,SNR=14						
LVC	**Limon Verde**	**9.16**	**156**	*eP*	**Pn**	**02 06 42.4**	**+0.4**
LVC	**Limon Verde**	**9.16**	**156**	Pn	**Pn**	**02 06 41.5**	**-0.6**
PB10	**IPOC Station P**	**9.49**	**166**		**Pn**	**02 06 44.3**	**-1.8**
PB15	**IPOC Station P**	**9.50**	**160**		**Pn**	**02 06 45.0**	**-1.6**
TBTG	**Tabatinga, AM**	**10.46**	**17**	*eP*	Pn	02 06 54.2	-5.3
TBTG	**Tabatinga, AM**	**10.46**	**17**		Pn	02 06 53.0	-6.5
PB14	**IPOC Station P**	**10.59**	**167**	Pn	**Pn**	**02 06 59.3**	**-2.3**
SIV	**San Ignacio**	**11.63**	**100**	P	**Pn**	**02 07 13.9**	**-1.5**
	25nm,0.3s,baz=293,slow=9.2,SNR=209						
SIV				LR	LR	02 12 23.5	
	comp=Z,318nm,21.8s,baz=291,slow=40						
VILB	**Vilhena**	**12.49**	**86**	*eP*	**Pn**	**02 07 24.0**	**-3.2**
VILB	**Vilhena**	**12.49**	**86**	Pn	**Pn**	**02 07 23.0**	**-4.2**
AC02	**Maricunga**	**13.02**	**165**	Pn	**Pn**	**02 07 34.4**	**-0.2**
PTLB	**Pontes e Lacer**	**13.44**	**97**	*eP*	**Pn**	**02 07 36.5**	**-3.2**
PTLB	**Pontes e Lacer**	**13.44**	**97**	Pn	**Pn**	**02 07 35.8**	**-3.9**
OTAV	**Otavalo**	**15.39**	**339**	*eP*	**Pn**	**02 08 01.6**	**-3.7**
OTAV	**Otavalo**	**15.39**	**339**	Pn	**Pn**	**02 07 58.8**	**-6.6**
MACA	**Manacapuru-AM**	**16.40**	**49**	Pn	Pn	02 08 10.0	-7.6
SOTA	**Rioblanco**	**16.68**	**347**	*eP*	**Pn**	**02 08 22.1**	**+0.5**
SALV	**Santo Antonio**	**16.78**	**98**	*eP*	**Pn**	**02 08 20.4**	**-1.9**
PCON	**Cinco Dias**	**16.82**	**348**	*eP*	**P**	**02 08 25.7**	**+1.4**
POPC	**Popayan, Colom**	**17.09**	**347**	*eP*	**P**	**02 08 26.9**	**+0.1**
CLDB	**Colider**	**17.11**	**81**	*eP*	**Pn**	**02 08 23.7**	**-2.7**
AQDB	**Aquidauana**	**17.61**	**113**	*eP*	**Pn**	**02 08 33.1**	**+0.7**
PP1B	**Ponte de Pedra**	**17.72**	**103**	*eP*	**Pn**	**02 08 34.2**	**+0.4**
PRAC	**Prado**	**17.96**	**354**	*eP*	**Pn**	**02 08 37.5**	**+0.7**
ORTC	**Ortega, Tolima**	**18.19**	**353**	*eP*	**Pn**	**02 08 39.5**	**0.0**
VILC	**Villavicencio,**	**18.27**	**358**	*eP*	**Pn**	**02 08 44.3**	**+3.8**
YOTC	**Yotoco, Valle**	**18.43**	**349**	*eP*	**Pn**	**02 08 47.2**	**+4.7**
NPGB	**Novo Progresso**	**18.74**	**69**	*eP*	**P**	**02 08 43.9**	**-0.9**
CHIC	**Chingaza**	**18.78**	**358**	*eP*	**Pn**	**02 08 49.2**	**+2.3**
ANIL	**Santa Ana**	**18.78**	**352**	*eP*	**Pn**	**02 08 51.9**	**+5.0**
CPUP	**Villa Florida**	**18.94**	**132**	P	**Pn**	**02 08 47.8**	**-0.6**
	2.1nm,0.3s,baz=308,slow=11,SNR=23						
CPUP				LR	LR	02 17 56.1	
	comp=Z,143nm,20.3s,baz=311,slow=42						
CPUP	**Villa Florida**	**18.94**	**132**	*eP*	**Pn**	**02 08 49.5**	**+1.1**
CPUP	**Villa Florida**	**18.94**	**132**	P	**P**	**02 08 45.0**	**-1.9**
CPUP				IAmb	IAmb	02 08 50.5	
	comp=Z,60nm,1.2s						
ROSC	**El Rosal**	**19.02**	**356**	P	**P**	**02 08 47.9**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=133,slow=9.5,SNR=10						
ROSC				LR	LR	02 17 58.3	
	comp=Z,206nm,19.4s,baz=200,slow=43						
ROSC	**El Rosal**	**19.02**	**356**	*eP*	**Pn**	**02 08 50.8**	**+1.0**
PLMC	**San Jos del P**	**19.32**	**350**	*eP*	**Pn**	**02 08 55.0**	**+2.0**
GUY2C	**Guyana, Caldas**	**19.50**	**353**	*eP*	**Pn**	**02 08 54.9**	**-0.7**
ITTB	**Itaituba**	**19.64**	**62**	*eP*	**P**	**02 08 53.6**	**-0.9**
NORC	**Norcasia**	**19.78**	**354**	*eP*	**P**	**02 08 56.3**	**+0.1**
SPBC	**San Pablo de B**	**19.81**	**357**	*eP*	**P**	**02 08 55.9**	**-0.6**
CBOC	**Ciudad Bolivar**	**20.22**	**351**	*eP*	**P**	**02 09 00.7**	**-0.3**
HELC	**Santa Helena**	**20.48**	**353**	*eP*	**P**	**02 09 03.4**	**-0.6**
ARAG	**Araguaiana, MT**	**20.50**	**97**	*eP*	**P**	**02 09 04.9**	**+1.0**
BO02	**Sierra Bellavi**	**20.54**	**175**	P	**P**	**02 09 03.5**	**-0.7**
BO02				IAmb	IAmb	02 09 09.5	
	comp=Z,30nm,0.8s						
BOAV	**Boa Vista**	**20.65**	**38**	*eP*	**P**	**02 09 02.3**	**-3.2**
BOAV	**Boa Vista**	**20.65**	**38**	P	**P**	**02 09 00.3**	**-5.1**
GO05	**Huala**	**20.68**	**178**	IAmb	IAmb	02 09 12.7	
	comp=Z,62nm,1.4s						
PTBC	**PUERTO BERRIO,**	**20.72**	**356**	*eP*	**P**	**02 09 03.2**	**-3.0**
SNDB	**Serra Nova Dou**	**21.24**	**86**	*eP*	**P**	**02 09 12.0**	**+0.1**
DBBC	**Dabeiba**	**21.38**	**351**	*eP*	**P**	**02 09 13.5**	**+0.2**
ML02	**Panimavida**	**21.46**	**177**	P	**P**	**02 09 13.2**	**-0.7**
ML02				IAmb	IAmb	02 09 18.2	
	comp=Z,36nm,0.9s						
ITQB	**Itaqui**	**21.53**	**138**	*eP*	**P**	**02 09 17.1**	**+2.3**
ITQB	**Itaqui**	**21.53**	**138**	P	**P**	**02 09 12.7**	**-2.1**
ZARC	**Zaragoza, Cauc**	**21.69**	**355**	*eP*	**P**	**02 09 15.2**	**-1.4**
ZARC	**Zaragoza, Cauc**	**21.69**	**355**	P	**P**	**02 09 09.7**	**-6.9**
ZARC				IAmb	IAmb	02 09 18.4	
	comp=Z,40nm,1.0s						
PCMB	**Pacaembu**	**21.90**	**113**	*eP*	**P**	**02 09 20.2**	**+1.3**
MALB	**Monte Alegre**	**22.23**	**58**	*eP*	**P**	**02 09 21.1**	**-1.3**
PTGB	**Pitanga**	**22.26**	**121**	*eP*	**P**	**02 09 23.1**	**+0.3**
ITRB	**Iturama**	**22.30**	**107**	*eP*	**P**	**02 09 24.5**	**+1.4**
SMLC	**San Martn de**	**22.94**	**357**	*eP*	**P**	**02 09 27.8**	**-1.9**
MOTC	**Monteria, Cord**	**23.04**	**353**	*eP*	**P**	**02 09 30.5**	**-0.2**
MOTC	**Monteria, Cord**	**23.04**	**353**	P	**P**	**02 09 25.1**	**-5.7**
MOTC				IAmb	IAmb	02 09 34.9	
	comp=Z,74nm,1.4s						
SDV	**Santo Domingo**	**23.11**	**6**	P	**P**	**02 09 29.4**	**-2.3**
	comp=Z,14nm,0.9s,baz=228,slow=4.8,SNR=13						
SDV				LR	LR	02 18 14.1	
	comp=Z,149nm,21.7s,baz=172,slow=36						
SDV	**Santo Domingo**	**23.11**	**6**	*eP*	**P**	**02 09 29.8**	**-1.9**
SDV	**Santo Domingo**	**23.11**	**6**	P	**P**	**02 09 25.5**	**-6.2**
ITAB	**Concordia**	**23.34**	**127**	*eP*	**P**	**02 09 34.9**	**+1.3**
ITAB	**Concordia**	**23.34**	**127**	P	**P**	**02 09 30.1**	**-3.4**
ITAB				IAmb	IAmb	02 09 35.9	
	comp=Z,55nm,1.2s						
BAUV	**El Baul**	**23.57**	**12**	P	**P**	**02 09 29.1**	**-6.5**
FRTB	**Fartura**	**23.91**	**116**	*eP*	**P**	**02 09 40.2**	**+1.5**
IPMB	**Ipameri, GO**	**24.08**	**102**	*eP*	**P**	**02 09 39.9**	**-0.4**
SJCC	**San Jacinto, C**	**24.10**	**355**	*eP*	**P**	**02 09 39.4**	**-1.1**
SJCC	**San Jacinto, C**	**24.10**	**355**	P	**P**	**02 09 34.4**	**-6.0**
CPSB	**Cacapava Do Su**	**24.12**	**135**	*eP*	**P**	**02 09 42.2**	**+1.7**
PEXB	**Peixe**	**24.12**	**88**	*eP*	**P**	**02 09 42.7**	**+2.0**
PRPB	**Parauapebas**	**24.16**	**73**	*eP*	**P**	**02 09 40.7**	**-0.3**
BDFB	**Brasilia**	**24.16**	**96**	P	**P**	**02 09 41.9**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=261,slow=10,SNR=4.5						
BDFB				LR	LR	02 20 32.1	
	comp=Z,109nm,18.8s,baz=167,slow=40						
BDFB	**Brasilia**	**24.16**	**96**	P	**P**	**02 09 37.2**	**-3.9**
BB19B	**Bebedouro**	**24.25**	**110**	*eP*	**P**	**02 09 42.6**	**+0.8**
LC01	**Cunco**	**24.56**	**178**	P	**P**	**02 09 41.9**	**-2.5**
PLTB	**Pedras Altas**	**24.86**	**138**	*eP*	**P**	**02 09 47.9**	**+0.6**
PLTB	**Pedras Altas**	**24.86**	**138**	P	**P**	**02 09 44.1**	**-3.1**
PLTB				IAmb	IAmb	02 09 56.5	
	comp=Z,30nm,1.2s						
MCPB	**Macapa, AP**	**24.89**	**58**	*eP*	**P**	**02 09 48.5**	**+0.8**
TIJ01	**Guaruva-PR**	**25.06**	**120**	*eP*	**P**	**02 09 51.8**	**+2.6**
SMTB	**Santa Maria do**	**25.44**	**81**	*eP*	**P**	**02 09 53.8**	**+1.1**
RCLB	**Rio Claro- Sao**	**25.46**	**112**	*eP*	**P**	**02 09 54.3**	**+1.4**
BIRV	**Birongo**	**25.46**	**16**	P	**P**	**02 09 46.2**	**-6.6**
BIRV				IAmb	IAmb	02 09 55.6	
	comp=Z,36nm,0.7s						
PCRV	**Puerto La Cruz**	**25.65**	**19**	P	**P**	**02 09 54.4**	**-0.2**
	comp=Z,26nm,0.9s,baz=255,slow=6.6,SNR=5.8						
VAO	**Valinhos**	**26.11**	**113**	*eP*	**P**	**02 09 59.6**	**+0.9**
PET01	**Itanhaem-SP**	**26.19**	**116**	*eP*	**P**	**02 10 01.7**	**+2.3**
TER01	**Tubaro-SC**	**26.29**	**127**	*eP*	**P**	**02 10 01.4**	**+1.1**
PLCA	**Paso Flores**	**26.46**	**176**	P	**P**	**02 10 04.3**	**+2.6**
	comp=Z,16nm,0.8s,baz=349,slow=9.8,SNR=58						
PLCA				PcP	**PcP**	**02 13 27.9**	**+2.9**
	comp=Z,3.5nm,0.9s,baz=339,slow=4.6,SNR=3.6						
PLCA	**Paso Flores**	**26.46**	**176**	*eP*	**P**	**02 10 05.0**	**+3.3**
PLCA	**Paso Flores**	**26.46**	**176**	P	**P**	**02 09 59.0**	**-2.6**
PLCA				IAmb	IAmb	02 10 06.1	
	comp=Z,16nm,0.8s						
LL04	**Puerto Octay**	**26.56**	**179**	P	**P**	**02 09 59.9**	**-2.6**
LL04				IAmb	IAmb	02 10 06.1	
	comp=Z,25nm,1.2s						
TMAB	**Tom-Au,PA,Br**	**27.27**	**67**	*eP*	**P**	**02 10 10.2**	**+1.1**
SDBA	**SAO DESIDERIO**	**27.38**	**90**	*eP*	**P**	**02 10 11.6**	**+1.4**
PARB	**Paraibuna**	**27.39**	**113**	*eP*	**P**	**02 10 12.2**	**+2.0**
BSCB	**Bom Sucesso**	**27.68**	**108**	*eP*	**P**	**02 10 14.3**	**+1.4**
JANB	**Januaria**	**27.74**	**95**	*eP*	**P**	**02 10 14.3**	**+0.9**
MDP	**Montagnes des**	**27.88**	**48**	P	**P**	**02 10 16.0**	**+1.5**
	comp=Z,14nm,0.9s,baz=252,slow=8.7,SNR=4.2						
MDP				LR	LR	02 21 22.2	
	comp=Z,446nm,19.7s,baz=227,slow=36						
DIAM	**Diamantina, MG**	**28.40**	**102**	*eP*	**P**	**02 10 21.3**	**+1.9**
MAN01	**Angra dos Reis**	**28.77**	**112**	*eP*	**P**	**02 10 24.5**	**+2.0**
LL02	**Futaleuf**	**28.85**	**178**	P	**P**	**02 10 20.3**	**-2.6**
ROSB	**Rosrio**	**30.64**	**71**	*eP*	**P**	**02 10 39.2**	**+0.1**
COYC	**Coyhaique**	**31.22**	**179**	P	**P**	**02 10 41.4**	**-2.4**
COYC				IAmb	IAmb	02 10 47.7	
	comp=Z,23nm,0.9s						
NBPN	**Ponto Novo - B**	**32.16**	**88**	*eP*	**P**	**02 10 54.2**	**+1.7**
GDU01	**Guandu, BA**	**32.41**	**93**	*eP*	**P**	**02 10 56.0**	**+1.3**
NBPS	**Pedro II - PI**	**32.58**	**76**	*eP*	**P**	**02 10 57.5**	**+1.3**
CELP	**Cerrillos**	**32.74**	**11**	P	P	02 10 52.1	-5.4
CELP				IAmb	IAmb	02 10 56.4	
	comp=Z,30nm,1.0s						
PDPR	**Patillas Dam,**	**32.80**	**12**	IAmb	IAmb	02 11 00.6	
	comp=Z,20nm,1.0s						
SJG	**San Juan**	**32.87**	**12**	P	P	02 10 52.3	-6.2
SJG				IAmb	IAmb	02 10 58.0	
	comp=Z,25nm,1.2s						
HUMP	**Col San Antoni**	**32.96**	**13**	P	P	02 10 53.1	-6.2
HUMP				IAmb	IAmb	02 10 59.7	
	comp=Z,22nm,1.1s						
GCPR	**Guaynabo City**	**33.07**	**12**	P	P	02 10 54.1	-6.2
GCPR				IAmb	IAmb	02 11 03.3	
	comp=Z,17nm,0.8s						
NBPB	**Pedra_Branca-C**	**33.98**	**79**	*eP*	**P**	**02 11 07.9**	**-0.4**
NBMO	**Morrinhos-CE**	**34.27**	**75**	*eP*	**P**	**02 11 10.8**	**0.0**
NBMA	**Muriti-CE**	**34.27**	**82**	*eP*	**P**	**02 11 11.3**	**+0.4**
NBLA	**Lagarto - SE**	**34.48**	**89**	*eP*	**P**	**02 11 14.0**	**+1.3**
NBCL	**Cascavel-CE**	**35.61**	**77**	*eP*	**P**	**02 11 23.6**	**+1.3**
NBAN	**Anadia - AL**	**36.17**	**87**	*eP*	**P**	**02 11 27.0**	**-0.2**
RPN	**Rapa Nui**	**36.20**	**243**	LR	LR	02 22 58.4	
	comp=Z,155nm,19.8s,baz=114,slow=30						
NBPA	**Parau_RN**	**36.28**	**80**	*eP*	**P**	**02 11 29.1**	**+1.0**
RCBR	**Riachuelo**	**37.41**	**81**	*eP*	**P**	**02 11 38.8**	**+0.9**
NBRF	**Rio Formoso -**	**37.48**	**86**	*eP*	**P**	**02 11 38.7**	**+0.4**
NBPV	**Pedro Velho**	**37.84**	**82**	*eP*	**P**	**02 11 42.7**	**+1.4**
CMIG	**Matias Romero**	**37.92**	**325**	LR	LR	02 26 40.3	
	comp=Z,170nm,19.5s,baz=144,slow=35						
USHA	**Ushuaia**	**40.64**	**176**	P	**P**	**02 12 06.7**	**+2.7**
	comp=Z,31nm,0.6s,baz=18,slow=6.1,SNR=10						
NHSC	**New Hope**	**47.60**	**352**	P	**P**	**02 13 01.0**	**+1.1**
	baz=170						
833A	**Chaparral WMA,**	**49.45**	**329**	P	P	02 13 07.8	-6.5
833A				IAmb	IAmb	02 13 16.3	
	comp=Z,13nm,1.2s						
ESPZ	**Base Esperanza**	**50.34**	**171**	P	**P**	**02 13 17.9**	**-2.6**
Z41A	**Richland Creek**	**50.90**	**339**	P	P	02 13 19.8	-5.3
Z41A	**Richland Creek**	**50.90**	**339**	P	**P**	**02 13 25.7**	**+0.6**
	baz=155						
WLAR	**White Oak Lake**	**51.40**	**338**	P	P	02 13 23.0	-5.8
WHTX	**Lake Whitney,**	**51.63**	**333**	P	**P**	**02 13 31.7**	**+1.1**
	baz=149						
BLA	**Blacksburg**	**51.67**	**352**	P	**P**	**02 13 32.6**	**+1.7**
	baz=171						
X40A	**Basin Creek Fa**	**52.02**	**339**	P	**P**	**02 13 35.2**	**+1.8**
	baz=155						
WVT	**Waverly**	**52.05**	**345**	P	**P**	**02 13 32.8**	**-0.8**
	baz=162						
MIAR	**Mount Ida**	**52.34**	**338**	P	P	02 13 29.9	-5.9
MIAR				IAmb	IAmb	02 13 36.8	
	comp=Z,12nm,0.9s						
MIAR	**Mount Ida**	**52.34**	**338**	P	**P**	**02 13 35.8**	**0.0**
	baz=154,SNR=7.6						
W41B	**Gary Mavity, V**	**52.45**	**340**	P	**P**	**02 13 36.5**	**-0.1**
	baz=156						
TXAR	**Lajitas Array**	**52.50**	**326**	P	**P**	**02 13 38.0**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=148,slow=8.5,SNR=44						
TXAR				pP	**pP**	**02 13 59.1**	**0.0**
	comp=Z,6.2nm,0.8s,baz=154,slow=7.1,SNR=16						
TXAR	**Lajitas Array**	**52.50**	**326**	P	P	02 13 30.8	-6.4
TX31	**Lajitas Ar. Si**	**52.50**	**326**	P	P	02 13 31.4	-5.9
TX31				IAmb	IAmb	02 13 38.9	
	comp=Z,13nm,0.8s						
TX32	**Lajitas Array**	**52.50**	**326**	P	P	02 13 29.6	-7.6
Z35A	**Perchaven, San**	**52.69**	**334**	P	P	02 13 32.1	-6.3
Q61A	**Milford**	**52.91**	**358**	P	**P**	**02 13 39.5**	**-0.3**
	baz=177						
LCAR	**Lake Charles**	**52.92**	**342**	IAmb	IAmb	02 13 39.7	
	comp=Z,12nm,1.1s						
W39A	**Magazine**	**52.99**	**339**	IAmb	IAmb	02 13 42.2	
	comp=Z,19nm,1.1s						
W39A	**Magazine**	**52.99**	**339**	P	**P**	**02 13 41.1**	**+0.4**
	baz=154						
FCAR	**Ozark Folk Cen**	**53.06**	**341**	IAmb	IAmb	02 13 54.5	
	comp=Z,10nm,1.2s						
ABTX	**Abilene, Hawle**	**53.14**	**332**	P	**P**	**02 13 42.3**	**+0.5**
	baz=147,SNR=6.8						
PBMO	**Poplar Bluff**	**53.37**	**343**	IAmb	IAmb	02 13 43.4	
	comp=Z,20nm,1.2s						
WCI	**Wyandotte Cave**	**53.68**	**347**	P	**P**	**02 13 45.5**	**-0.1**
	baz=164						
U40A	**Yellville**	**53.73**	**340**	P	**P**	**02 13 45.5**	**-0.5**
	baz=156						
P60A	**Greenville**	**53.85**	**357**	P	**P**	**02 13 47.5**	**+0.7**
	baz=177						
SMAI	**San Martin Ant**	**53.96**	**177**	P	**P**	**02 13 44.1**	**-3.1**
SMAI				IAmb	IAmb	02 13 52.5	
	comp=Z,17nm,1.0s						
HHAR	**Hobbs**	**54.03**	**339**	P	P	02 13 41.4	-6.8
MGMO	**Mountain Grove**	**54.27**	**341**	P	P	02 13 44.0	-5.9
MGMO				IAmb	IAmb	02 13 50.4	
	comp=Z,18nm,1.1s						
TUL1	**Leonard**	**54.37**	**337**	IAmb	IAmb	02 13 52.3	
	comp=Z,16nm,1.2s						
TUL1	**Leonard**	**54.37**	**337**	P	**P**	**02 13 50.6**	**0.0**
	baz=152						
FNO	**Franklin**	**54.42**	**335**		P	02 13 44.3	-6.7
FVM	**French Village**	**54.49**	**343**	P	P	02 13 44.8	-6.7
WMOK	**Wichita Mounta**	**54.54**	**334**	P	**P**	**02 13 51.8**	**-0.2**
	baz=149						
OK030	**Cody Creek RV**	**54.76**	**336**		P	02 13 47.8	-5.7
OK030				IAmb	IAmb	02 13 55.0	
	comp=Z,16nm,1.0s						
O53A	**New Philadelph**	**54.77**	**352**	P	**P**	**02 13 53.1**	**-0.4**
	baz=170						
CCM	**Cathedral Cave**	**54.79**	**342**	P	**P**	**02 13 53.1**	**-0.5**
	baz=158						
OK031	**S. Brethren Rd**	**54.80**	**336**	IAmb	IAmb	02 14 08.2	
	comp=Z,12nm,0.8s						
OK034	**N. Norfolk Rd.**	**54.80**	**336**		P	02 13 47.9	-5.9
OK034				IAmb	IAmb	02 13 55.4	
	comp=Z,15nm,1.0s						
SSPA	**Standing Stone**	**54.80**	**355**	P	**P**	**02 13 53.6**	**-0.1**
	baz=174						
OK029	**Liberty Lake**	**54.91**	**336**		P	02 13 48.1	-6.5
OK029				IAmb	IAmb	02 13 55.2	
	comp=Z,17nm,1.0s						
N59A	**State Game Lan**	**54.96**	**357**	P	**P**	**02 13 55.9**	**+1.0**
	baz=177						
S39A	**Bolivar**	**55.10**	**340**	IAmb	IAmb	02 13 56.3	
	comp=Z,12nm,1.1s						
MNTX	**Cornudas Mount**	**55.26**	**326**	P	P	02 13 51.4	-5.8
MNTX				IAmb	IAmb	02 13 58.4	
	comp=Z,9.5nm,1.2s						
MNTX	**Cornudas Mount**	**55.26**	**326**	P	**P**	**02 13 57.4**	**+0.2**
	baz=141,SNR=7.9						
R40A	**Maddies Statio**	**55.31**	**342**	IAmb	IAmb	02 13 57.2	
	comp=Z,7.3nm,0.8s						
T35A	**Sooner Cattle**	**55.52**	**337**	IAmb	IAmb	02 14 00.3	
	comp=Z,16nm,1.1s						
MSTX	**Muleshoe**	**55.73**	**330**	P	P	02 13 54.1	-6.5
MSTX				IAmb	IAmb	02 14 01.8	
	comp=Z,11nm,0.9s						
MSTX	**Muleshoe**	**55.73**	**330**	P	**P**	**02 14 00.9**	**+0.3**
	baz=144			

	baz=132					
O20A	**White River Ci**	**63.27 330**	P	P	02 14 46.3	-6.3
O20A			IAmb	IAmb	02 14 54.6	
	comp=Z,14nm,0.9s					
O20A	**White River Ci**	**63.27 330**	P	**P**	**02 14 53.7**	**+1.2**
	baz=141,SNR=7.9					
KNB	**Kanab**	**63.31 325**	P	P	02 14 46.9	-6.0
KNB			IAmb	IAmb	02 14 55.9	
	comp=Z,13nm,1.0s					
GMRC	**Granite Mounta**	**63.40 321**	P	**P**	**02 14 54.7**	**+1.2**
	baz=133					
LCMT	**Little Creek M**	**63.54 325**	P	**P**	**02 14 49.6**	**-4.8**
MURC	**Murrieta**	**63.56 319**	P	**P**	**02 14 55.5**	**+1.1**
	baz=131					
SRU	**San Rafael Swe**	**63.62 328**	P	P	02 14 50.0	-4.9
SRU			IAmb	IAmb	02 14 56.9	
	comp=Z,9.9nm,0.9s					
MTPU	**Mount Pierson**	**63.70 326**	P	P	02 14 48.5	-7.1
Q16A	**Castle Valley**	**63.81 327**	P	P	02 14 49.4	-6.8
BBRC	**Big Bear Solar**	**63.83 320**	P	**P**	**02 14 58.0**	**+1.7**
	baz=131					
P18A	**Preston Nutter**	**63.87 329**	P	P	02 14 49.7	-6.9
P18A			IAmb	IAmb	02 14 59.0	
	comp=Z,8.2nm,0.9s					
CCUT	**Cedar City**	**63.99 325**	P	P	02 14 52.2	-5.2
TUQ	**Turquoise Moun**	**64.00 322**	P	**P**	**02 14 58.7**	**+1.4**
	baz=133					
SCI2	**San Clemente I**	**64.03 318**	P	**P**	**02 14 59.1**	**+1.7**
	baz=130					
MSU	**Marysvale**	**64.04 327**	P	P	02 14 52.0	-5.8
MVU	**Marysvale**	**64.06 327**	P	P	02 14 51.7	-6.1
TMUT	**Trail Mountain**	**64.11 328**	P	**P**	**02 14 53.5**	**-4.7**
RDMU	**Red Mountain**	**64.25 330**	P	P	02 14 51.7	-7.3
RDMU			IAmb	IAmb	02 15 00.8	
	comp=Z,14nm,0.8s					
BFSC	**Mount Baldy Ra**	**64.27 320**	P	**P**	**02 15 00.3**	**+1.1**
	baz=131					
SHPR	**Sheep Range**	**64.28 323**	P	P	02 14 53.6	-5.6
SHPR			IAmb	IAmb	02 15 02.0	
	comp=Z,9.6nm,1.3s					
GSC	**Goldstone, Bar**	**64.45 321**	P	**P**	**02 15 01.3**	**+1.1**
	baz=132					
K22A	**Casper**	**64.47 333**	P	P	02 14 53.7	-6.6
K22A			IAmb	IAmb	02 15 02.0	
	comp=Z,8.2nm,0.8s					
K22A	**Casper**	**64.47 333**	P	**P**	**02 15 01.2**	**+0.8**
	baz=144,SNR=5.4					
RSSD	**Black Hills**	**64.63 336**	P	P	02 14 55.3	-6.1
RSSD	**Black Hills**	**64.63 336**	P	**P**	**02 15 02.4**	**+1.0**
	baz=146					
SNCC	**San Nicolas Is**	**64.83 318**	P	**P**	**02 15 04.1**	**+1.5**
	baz=129					
EDW2	**Edwards Air Fo**	**64.90 320**	P	**P**	**02 15 04.7**	**+1.5**
	baz=131					
NLU	**North Lily Min**	**65.05 328**	P	P	02 14 58.2	-6.0
JLU	**Jordanelle**	**65.21 329**	IAmb	IAmb	02 15 07.7	
	comp=Z,11nm,0.9s					
TPNV	**Topopah Spring**	**65.22 323**	P	P	02 14 57.9	-7.5
TPNV	**Topopah Spring**	**65.22 323**	P	**P**	**02 15 07.4**	**+2.1**
	baz=133,SNR=7.7					
MPMC	**Manual Prospec**	**65.36 321**	P	**P**	**02 15 07.5**	**+1.2**
	baz=132					
DUG	**Dugway, Tooele**	**65.61 327**	P	P	02 15 01.7	-6.0
DUG			IAmb	IAmb	02 15 10.5	
	comp=Z,16nm,1.0s					
DUG	**Dugway, Tooele**	**65.61 327**	P	**P**	**02 15 09.4**	**+1.6**
	baz=137,SNR=13					
ISA	**Isabella, Lake**	**65.71 320**	P	P	02 15 02.8	-5.6
ISA	**Isabella, Lake**	**65.71 320**	P	**P**	**02 15 10.0**	**+1.7**
	baz=131					
R11A	**Troy Canyon, C**	**65.80 324**	P	P	02 15 03.6	-5.5
R11A	**Troy Canyon, C**	**65.80 324**	P	**P**	**02 15 10.9**	**+1.8**
	baz=134,SNR=9.3					
BW06	**Boulder Array**	**65.93 331**	P	**P**	**02 15 11.0**	**+1.1**
	baz=141,SNR=5.9					
PDAR	**Pinedale Array**	**65.93 331**	P	**P**	**02 15 09.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=144,slow=6.4,SNR=12					
PDAR			pP	**pP**	**02 15 32.5**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=117,slow=7.9,SNR=7.4					
CWC	**Cottonwood Cre**	**65.97 321**	P	**P**	**02 15 11.8**	**+1.6**
	baz=131					
VES	**Vestal, Richgr**	**66.20 320**	P	**P**	**02 15 12.6**	**+1.2**
	baz=130					
LCH	**Last Change Ra**	**66.24 322**	P	P	02 15 06.5	-5.3
MDND	**Maddock**	**66.24 341**	P	P	02 15 05.1	-6.3
MDND			IAmb	IAmb	02 15 12.8	
	comp=Z,16nm,0.8s					
MDND	**Maddock**	**66.24 341**	P	**P**	**02 15 12.6**	**+1.1**
	baz=152					
BGU	**Big Grassy Mou**	**66.25 328**	P	P	02 15 05.5	-6.4
SMMC	**Simmler**	**66.44 319**	P	**P**	**02 15 14.1**	**+1.1**
	baz=129					
TPH	**Tonopah**	**66.55 323**	P	P	02 15 08.3	-5.6
AHID	**Auburn Hatcher**	**66.66 330**	P	P	02 15 08.8	-5.7
AHID			IAmb	IAmb	02 15 16.2	
	comp=Z,7.5nm,0.9s					
HVU	**Hansel Valley**	**66.75 329**	P	P	02 15 09.4	-5.6
HVU			IAmb	IAmb	02 15 16.9	
	comp=Z,8.5nm,0.8s					
REDW	**Red Top Meadow**	**67.00 331**	P	P	02 15 10.5	-6.2
REDW			IAmb	IAmb	02 15 25.2	
	comp=Z,12nm,1.4s					
LOHW	**Long Hollow**	**67.07 331**	P	P	02 15 11.9	-5.3
MOOW	**Moose Ponds**	**67.24 331**	P	P	02 15 13.0	-5.2
LHV	**Little Huntoon**	**67.42 323**	IAmb	IAmb	02 15 22.5	
	comp=Z,8.7nm,1.2s					
NVAR	**Mina Array Bea**	**67.42 323**	P	**P**	**02 15 20.3**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=145,slow=6.8,SNR=11					
NVAR			pP	**pP**	**02 15 43.1**	**+1.1**
	comp=Z,2.5nm,0.9s,baz=156,slow=7.6,SNR=6.7					
LAO	**LASA Array**	**67.62 336**	P	**P**	**02 15 20.7**	**+0.4**
	baz=145					
RLMT	**Red Lodge**	**67.64 333**	IAmb	IAmb	02 15 22.7	
	comp=Z,23nm,1.4s					
RLMT	**Red Lodge**	**67.64 333**	P	**P**	**02 15 21.5**	**+0.9**
	baz=142,SNR=7.3					
H17A	**Grant Village**	**67.66 332**	P	**P**	**02 15 21.8**	**+1.0**
	baz=140					
LKWY	**Lake**	**67.71 332**	IAmb	IAmb	02 15 24.4	
	comp=Z,11nm,0.9s					
YMP	**Mirror Lake Pl**	**67.74 332**	IAmb	IAmb	02 15 42.2	
	comp=Z,8.9nm,1.1s					
YNR	**Norris Junctio**	**67.95 332**	P	P	02 15 17.7	-5.0
YNR			IAmb	IAmb	02 15 25.2	
	comp=Z,5.5nm,0.7s					
YMR	**Madison River**	**68.05 332**	P	P	02 15 17.5	-5.7
YMR			IAmb	IAmb	02 15 25.6	
	comp=Z,12nm,1.0s					
VNA3	**Neumayer Olymp**	**68.13 162**	P	**P**	**02 15 26.2**	**+3.0**
DGMT	**Dagmar**	**68.34 338**	P	**P**	**02 15 26.3**	**+1.6**
DGMT	**Dagmar**	**68.34 338**	P	**P**	**02 15 25.8**	**+1.1**
	baz=147					
GCMT	**Greycliff**	**68.34 333**	P	**P**	**02 15 26.3**	**+1.4**
YERR	**Yerington**	**68.34 323**	IAmb	IAmb	02 15 28.4	
	comp=Z,16nm,1.3s					
PNTR	**Pine Nut**	**68.62 323**	IAmb	IAmb	02 15 30.2	
	comp=Z,11nm,1.0s					
HLID	**Hailey**	**68.88 329**	P	**P**	**02 15 30.1**	**+1.7**
	baz=136					
PAHR	**Pah Rah Range**	**68.90 323**	IAmb	IAmb	02 15 31.7	
	comp=Z,16nm,1.0s					
BOZ	**Bozeman (W)**	**69.06 332**	IAmb	IAmb	02 15 31.6	
	comp=Z,17nm,1.4s					
BOZ	**Bozeman (W)**	**69.06 332**	P	**P**	**02 15 30.4**	**+1.0**
	baz=140,SNR=10					
MFID	**Camas Ranch**	**69.49 328**	IAmb	IAmb	02 15 34.9	
	comp=Z,19nm,1.0s					
ORV	**Oroville**	**70.05 322**	IAmb	IAmb	02 15 38.7	
	comp=Z,19nm,1.2s					
EGMT	**Eagleton**	**70.13 335**	P	**P**	**02 15 36.8**	**+0.9**
	baz=142					
SNAA	**Sanae**	**70.34 162**	P	**P**	**02 15 40.0**	**+3.1**
SNAA	**Sanae**	**70.34 162**	P	**P**	**02 15 40.0**	**+3.1**
	comp=Z,18nm,0.6s,baz=278,slow=7.9,SNR=74					
SNAA	**Sanae**	**70.34 162**⇑	*e*P	**P**	**02 15 39.8**	**+2.9**
SNAA	**Sanae**	**70.34 162**	P	**P**	**02 15 33.3**	**-3.6**
O03E	**Paynes Creek**	**70.69 322**	P	**P**	**02 15 40.8**	**+1.3**
	baz=129					
MOD	**Modoc Plateau**	**70.86 324**	IAmb	IAmb	02 15 43.2	
	comp=Z,11nm,0.8s					
MSO	**Missoula**	**71.05 332**	IAmb	IAmb	02 15 44.3	
	comp=Z,15nm,1.2s					
MSO	**Missoula**	**71.05 332**	P	**P**	**02 15 43.0**	**+1.5**
	baz=138,SNR=6.6					
O02D	**Mt. Diablo Mer**	**71.21 322**	P	**P**	**02 15 43.6**	**+1.0**
	baz=128					
N02D	**Trinity Center**	**71.66 323**	P	**P**	**02 15 45.8**	**+0.5**
	baz=129					
M04C	**Macdoel**	**71.66 324**	P	**P**	**02 15 46.5**	**+1.2**
	baz=130					
L04D	**Klamath Falls**	**72.21 324**	P	**P**	**02 15 50.0**	**+1.4**
	baz=129					
J05D	**Fort Rock, OR**	**72.29 325**	P	**P**	**02 15 50.5**	**+1.4**
	baz=130					
I05D	**Terrebonne, OR**	**73.03 326**	P	**P**	**02 15 54.9**	**+1.5**
	baz=131					
K02D	**Willamette Mer**	**73.29 323**	P	**P**	**02 15 56.6**	**+1.7**
	baz=128					
H04D	**Lebanon**	**73.92 325**	P	**P**	**02 15 59.9**	**+1.4**
	baz=130					
QSPA	**South Pole Qui**	**75.89 180**	P	**P**	**02 16 05.9**	**-3.8**
D03D	**Eldon**	**76.03 328**	P	**P**	**02 16 12.1**	**+1.6**
	baz=130					
TORD	**Torodi Ar. Bea**	**78.80 73**	P	**P**	**02 16 26.2**	**-0.5**
	comp=Z,5.5nm,0.8s,baz=270,slow=5.6,SNR=21					
TORD			pP	**pP**	**02 16 48.9**	**-1.2**
	comp=Z,6.7nm,0.8s,baz=263,slow=4.7,SNR=5.7					
TORD	**Torodi Ar. Bea**	**78.80 73**	P	P	02 16 21.7	-5.0
TORD			IAmb	IAmb	02 16 37.6	
	comp=Z,5.5nm,0.6s					
YKA	**Yellowknife Ar**	**83.12 342**	P	**P**	**02 16 48.6**	**0.0**
	comp=Z,4.8nm,0.8s,baz=136,slow=5.4,SNR=92					
VNDA	**Vanda**	**83.26 190**	P	**P**	**02 16 51.3**	**+2.0**
	comp=Z,7.5nm,0.9s,baz=150,slow=4.9,SNR=8.1					
VNDA	**Vanda**	**83.26 190**	P	**P**	**02 16 47.5**	**-1.8**
VNDA			IAmb	IAmb	02 16 54.8	
	comp=Z,11nm,1.1s					
ESDC	**Sonseca Array**	**83.55 46**	P	**P**	**02 16 52.2**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=250,slow=5.9,SNR=7.1					
ESDC			pP	**pP**	**02 17 14.1**	**-1.0**
	comp=Z,5.8nm,0.9s,baz=249,slow=6.3,SNR=11					
WIN	**Windhoek**	**84.72 112**	P	P	02 16 52.1	-5.9
WIN			IAmb	IAmb	02 17 00.9	
	comp=Z,11nm,0.9s					
CRAG	**Craig**	**85.78 330**	P	**P**	**02 17 04.3**	**+2.1**
	baz=122					
P33M	**Teslin, Yukon**	**88.21 334**	P	**P**	**02 17 15.7**	**+1.6**
	baz=123					
SKAG	**Skagway**	**88.89 333**	P	**P**	**02 17 18.1**	**+1.0**
	baz=121					
WHY	**Whitehorse**	**89.32 334**	P	**P**	**02 17 20.8**	**+1.6**
	baz=121					
FARO	**Faro, Yukon**	**89.53 336**	P	**P**	**02 17 21.8**	**+1.7**
	baz=122					
SUMG	**Summit**	**89.58 10**	*i* P	**P**	**02 17 22.0**	**+1.4**
SUMG	**Summit**	**89.58 10**	P	P	02 17 14.9	-5.8
RES	**Resolute Bay**	**89.82 354**	LR	LR	03 02 01.9	
	comp=Z,468nm,19.3s,baz=320,slow=38					
M31M	**Drury Creek, Y**	**89.92 336**	P	**P**	**02 17 23.2**	**+1.2**
	baz=122					
N31M	**Braeburn, Yuko**	**90.12 335**	P	**P**	**02 17 23.6**	**+0.7**
	baz=120					
BOSA	**Boshof**	**90.32 120**	P	**P**	**02 17 26.1**	**+1.3**
	comp=Z,4.9nm,0.8s,baz=289,slow=4.0,SNR=6.7					
TULEG	**Thule**	**90.65 1**	P	P	02 17 19.9	-5.1
TULEG			IAmb	IAmb	02 17 27.2	
	comp=Z,14nm,1.1s					
PNL	**Peninsula**	**90.80 332**	P	**P**	**02 17 28.3**	**+2.2**
	baz=117					
MAW	**Mawson**	**92.32 165**	P	**P**	**02 17 35.2**	**+2.1**
	comp=Z,12nm,0.8s,baz=206,slow=7.3,SNR=5.7					
A36M	**Sachs Harbour**	**92.75 346**	P	**P**	**02 17 36.0**	**+1.2**
	baz=130					
DAWY	**Dawson**	**92.82 336**	P	**P**	**02 17 36.2**	**+0.8**
	baz=117					
INK	**Inuvik**	**92.86 341**	LR	LR	03 05 38.3	
	comp=Z,437nm,18.3s,baz=288,slow=40					
INK	**Inuvik**	**92.86 341**	P	**P**	**02 17 36.6**	**+1.2**
	baz=122					
J26L	**Joseph Creek**	**94.65 336**	P	**P**	**02 17 44.6**	**+0.8**
	baz=113					
GLI	**Glacier Island**	**94.80 332**	P	**P**	**02 17 45.7**	**+1.2**
	baz=110					
SCM	**Sheep Creek Mo**	**95.24 333**	P	**P**	**02 17 48.1**	**+1.5**
	baz=110					
PWL	**Port Wells**	**95.36 332**	P	**P**	**02 17 48.7**	**+1.6**
	baz=109					
J25K	**Salcha River,**	**95.42 336**	P	**P**	**02 17 48.5**	**+1.2**
	baz=112					
WAT6	**Susitna Watana**	**95.68 333**	P	**P**	**02 17 48.7**	**+0.1**
	baz=110					
ILAR	**Eielson Array**	**96.08 336**	P	**P**	**02 17 50.2**	**0.0**
	comp=Z,0.6nm,0.8s,baz=180,slow=4.5,SNR=4.1					
WAT1	**Susitna Watana**	**96.11 333**	P	**P**	**02 17 50.2**	**-0.3**
	baz=109					
M22K	**Willow**	**96.47 332**	P	**P**	**02 17 51.6**	**-0.4**
	baz=108					
H24K	**Noodor Dome**	**96.84 336**	P	**P**	**02 17 54.4**	**+0.6**
	baz=109					
Q19K	**Cape Douglas,**	**97.34 329**	P	Pdif	02 17 56.6	+0.5
	baz=105					
COLD	**Coldfoot**	**98.16 337**	P	Pdif	02 18 00.5	+0.8
	baz=107					
GAMB	**Gambell**	**106.53 333**	P	**PKiKP**	**02 22 47.6**	**+0.4**
	baz=88					
KBZ	**Khabaz**	**118.39 48**	PKP	**PKiKP**	**02 23 12.3**	**+1.9**
	comp=Z,3.3nm,0.8s,baz=150,slow=2.7,SNR=6.2					
ASAR	**Alice Springs**	**134.04 215**	PKP	**PKiKP**	**02 23 43.0**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=122,slow=2.3,SNR=8.0					
ASAR	**Alice Springs**	**134.04 215**	PKPdf	**PKPdf**	**02 23 34.5**	**-6.5**
WRA	**Warramunga Arr**	**136.67 219**	PKP	**PKiKP**	**02 23 48.1**	**+0.3**
	comp=Z,8.2nm,0.6s,baz=147,slow=1.9,SNR=10					
WRA	**Warramunga Arr**	**136.67 219**	PKPdf	**PKPdf**	**02 23 40.8**	**-5.1**
ZALV	**Zalesovo Beam**	**136.72 19**	PKP	**PKiKP**	**02 23 46.9**	**+0.1**
	comp=Z,16nm,0.8s,baz=299,slow=2.1,SNR=7.8					
FITZ	**Fitzroy Crossi**	**142.97 210**	PKP	**PKPdf**	**02 23 56.1**	**-1.3**
	comp=Z,8.0nm,0.9s,baz=179,slow=2.7,SNR=3.6					
MJAR	**Matsushiro Arr**	**144.40 314**	PKP	PKPbc	02 23 58.3	+0.3
	comp=Z,2.0nm,0.5s,baz=86,slow=1.3,SNR=6.9					
MAT	**Matsushiro**	**144.40 314**	*e*PKP	**PKPdf**	**02 23 58.8**	**-0.6**
SONM	**Songino Array**	**146.52 1**	PKPbc	**PKPbc**	**02 24 04.6**	**+0.2**
	comp=Z,12nm,0.8s,baz=329,slow=1.9,SNR=17					
SONM	**Songino Array**	**146.52 1**	PKPdf	**PKPdf**	**02 23 57.3**	**-5.5**
KSRS	**Korea Array**	**150.35 325**	PKPbc	**PKiKP**	**02 24 15.2**	**0.0**
	comp=Z,8.8nm,0.9s,baz=16,slow=1.3,SNR=9.7					
BATI	**Baumata**	**150.62 215**	PKPbc	**PKiKP**	**02 24 17.8**	**+1.2**
	comp=Z,12nm,0.3s,baz=120,slow=0.4,SNR=4.2					
SIJI	**Sorong**	**151.67 240**	PKPab	**PKPab**	**02 24 30.6**	**+3.4**
	comp=Z,6.0nm,0.3s,baz=72,slow=8.6,SNR=5.5					
GTA	**Gaotai**	**154.16 13**	*e*PKPbc	**PKPdf**	**02 24 17.3**	**+2.3**
GTA			pPKP	PKiKP	02 24 24.8	+1.6
CD2	**Chengdu**	**163.16 10**	PKP	**PKPdf**	**02 24 26.1**	**+0.3**
PZH	**PanZhiHua**	**166.86 21**	PKP	**PKPdf**	**02 24 29.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**171.20 61**	PKP	**PKPdf**	**02 24 33.6**	**+1.7**
	comp=Z,1.8nm,0.3s,baz=335,slow=1.9,SNR=4.8					

IDC ***19*** *02:05:37.5±1.6, 10°.11N×126°.45E, h0km, mb4.2/7, mb1 4.3/7, mb1mx3.8/42, mbtmp4.2/7, Error ellipse: s-maj=192.7km s-min=21.7km az=70.0*

MAN ***19*** *02:05:46.3, 9°.97N×126°.06E, h15km, mb4.7, ML3.5, MS3.4*

ISC 19 02:05:46.6±1.2, 10°.00N±0°.04×126°.09E±0°.07, h58km±11km, n21, σ2.9 04/32, mb4.1/7, 10C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.63**	**250**	⇓*i*P	**Pn**	**02 05 58.1**	**-1.8**
SCPH				*i* S	**Sn**	**02 06 08.4**	**-1.2**
BUTP	**Butuan**	**1.13**	**204**	⇑*i*P	**Pn**	**02 06 05.5**	**-0.8**
BUTP				*e*S	**Sn**	**02 06 22.1**	**+1.2**
MSLP	**Maasin**	**1.22**	**276**	⇑*i*P	**Pn**	**02 06 07.4**	**-0.1**
MSLP				*e*S	**Sn**	**02 06 25.4**	**+2.3**
BESP	**Borongan**	**1.71**	**338**	⇑*i*P	**Pn**	**02 06 15.8**	**+1.6**
BESP				*e*S	**Sn**	**02 06 38.8**	**+3.8**
BIPH	**Bislig**	**1.83**	**172**	⇓*i*P	**Pn**	**02 06 16.1**	**+0.3**
BIPH				*i* S	**Sn**	**02 06 37.9**	**+0.1**
LLP	**Lapu-Lapu**	**2.12**	**279**	⇑*e*P	**Pn**	**02 06 20.9**	**+1.2**
LLP				*e*S	**Sn**	**02 06 47.9**	**+3.1**
TBP	**Tagbilaran**	**2.22**	**262**	⇓*e*P	**Pn**	**02 06 21.9**	**+0.8**
TBP				*i* S	**Sn**	**02 06 47.7**	**+0.4**
BUKP	**Musuan**	**2.34**	**206**	⇓*i*P	**Pn**	**02 06 24.9**	**+2.1**
BUKP				*i* S	**Sn**	**02 06 54.9**	**+4.4**
DCPH	**Dipolog City**	**3.05**	**243**	⇑*e*P	**Pn**	**02 06 33.5**	**+1.1**
DCPH				*e*S	**Sn**	**02 07 08.2**	**+0.5**
KCP	**Kidapawan**	**3.13**	**198**	⇑*e*P	**Pn**	**02 06 35.8**	**+2.1**
CNOP	**Candoni, Negro**	**3.41**	**267**	⇑*i*P	**Pn**	**02 06 38.4**	**+1.1**
PAGZ	**Pagadian**	**3.43**	**232**	⇑*i*P	**Pn**	**02 06 39.0**	**+1.4**
PAGZ				*e*S	**Sn**	**02 07 19.2**	**+2.2**
RCP	**Roxas**	**3.63**	**296**	⇑*e*P	**Pn**	**02 06 41.9**	**+1.5**
DDMP	**Don Marcelino,**	**3.89**	**186**	⇑*i*P	**Pn**	**02 06 48.0**	**+4.0**
DDMP				*e*S	**Sn**	**02 07 30.7**	**+2.3**
WRA	**Warramunga Arr**	**30.84**	**165**	P	**P**	**02 11 54.6**	**-2.9**
	4.3nm,0.9s,baz=342,slow=8.1,SNR=3.5						
ASAR	**Alice Springs**	**34.32**	**167**	P	**P**	**02 12 27.7**	**-0.1**
	0.8nm,0.4s,baz=349,slow=7.3,SNR=1.4						
SONM	**Songino Array**	**41.21**	**340**	P	**P**	**02 13 25.7**	**-0.1**
	1.0nm,0.6s,baz=147,slow=9.6,SNR=1.0						
MKAR	**Makanchi Array**	**52.13**	**323**	P	**P**	**02 14 50.7**	**-0.4**
	1.1nm,0.6s,baz=116,slow=6.4,SNR=6.8						
ZALV	**Zalesovo Beam**	**54.77**	**331**	P	**P**	**02 15 08.9**	**-1.5**
	0.5nm,0.3s,baz=114,slow=5.9,SNR=1.7						
ARCES	**ARCESS Array B**	**84.38**	**340**	P	**P**	**02 18 11.2**	**-1.2**
	4.4nm,1.0s,baz=76,slow=6.0,SNR=5.3						
FINES	**FINESS Array B**	**86.04**	**332**	P	**P**	**02 18 19.6**	**-1.1**
	1.2nm,0.4s,baz=75,slow=4.2,SNR=13						

NIED ***19*** *02:13:26.0, 22°.83N×121°.29E, h29km, MW5.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^17 Nm; Mrr=0.06; Mθθ=3.02; Mφφ=-2.96; Mrθ=0.51; Mθφ=0.41; Mφr=0.20; Fault plane solution: M0=3.07000×10^17 NP1: φs=221.00000°, δ=86.00000°, λ=171.00000°. NP2: φs=311.00000°, δ=81.00000°, λ=4.00000°.*

JMA ***19*** *02:13:25.9±0.1, 22°.83N×121°.29E, h29km±3km, M5.8*

JMA Felt I J1.

BJI ***19*** *02:13:25.4±0.0, 22°.88N×121°.45E, h30km, mb5.0/76, mB5.5/63, ML5.6/10, Ms5.6/90, Ms7 5.2/82*

TAP ***19*** *02:13:26.8, 22°.79N×121°.31E, h30km, ML5.8, B*

ASIES ***19*** *02:13:26.2, 22°.75N×121°.38E, h25km, MW5.4*

MOS ***19*** *02:13:26.3±1.0, 22°.78N×121°.35E, h35km, mb5.4/67, MS5.2/24, Error ellipse: s-maj=7.1km s-min=4.2km az=116.6*

NEIC ***19*** *02:13:27.2±1.7, 22°.86N±0°.04×121°.32E±0°.05, h27km±3km, mb5.3/148, Ms_20 5.2/79, Mwr5.5/19, Mww5.6, ML5.7(TAP), Error ellipse: s-maj=7.3km s-min=6.2km az=116.0*

GCMT ***19*** *02:13:27.0±0.1, 22°.76N±0°.01×121°.28E±0°.01, h28km, MW5.6/149, Moment Tensor Solution. s114,c193; s149,c265; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr=0.51±.04; Mθθ=3.06±.03; Mφφ=-2.55±.04; Mrθ=0.37±.06; Mθφ=-0.22±.03; Mφr=0.47±.07; Best double couple: M0=2.88600×10^17 NP1:φs=137.00000°, δ=77.00000°, λ=-5.00000°. NP2:φs=228.00000°, δ=85.00000°, λ=-167.00000°. Principal axes: T 3.1030, Plg6.0000°, Azm2.0000°; N -0.4330, Plg76.0000°, Azm248.0000°; P -2.6690, Plg13.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***19*** *02:13:28.6±1.1, 22°.78N×121°.43E, h44km±9km, mb4.7/34, mb1 4.8/39, mb1mx4.7/50, mbtmp4.9/39, ML4.4/5, MS4.9/32, Ms1 4.9/32, ms1mx4.7/60 Error ellipse: s-maj=11.1km s-min=8.1km az=75.0*

NEIC ***19*** *02:13:28.3, 22°.87N×121°.33E, h37km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.30; Mθθ=2.39; Mφφ=-2.69; Mrθ=0.01; Mθφ=0.43; Mφr=0.56; Fault plane solution: M0=2.65000×10^17 NP1:φs=220.60000°, δ=84.06000°, λ=-171.57000°. NP2:φs=129.72000°, δ=81.61000°, λ=-6.01000°. Principal axes: T 2.4308, Plg2.0000°, Azm355.0000°; N 0.3978, Plg80.0000°, Azm256.0000°; P -2.8286, Plg10.0000°, Azm85.0000°;*

BGR ***19*** *02:13:32.7±0.0, 23°.73N×121°.03E, h33km, mb5.3, Ms5.4*

NEIC ***19*** *02:13:32, 22°.88N×121°.42E, h24km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^17 Nm; Mrr=0.74; Mθθ=3.10; Mφφ=-2.37; Mrθ=0.02; Mθφ=0.26; Mφr=1.11; Fault plane solution: M0=3.03000×10^17 NP1: φs=231.00000°, δ=71.00000°, λ=-161.00000°. NP2: φs=134.00000°, δ=72.00000°, λ=-20.00000°. Principal axes: T 3.1186, Plg1.0000°, Azm183.0000°; N -0.1801, Plg63.0000°, Azm275.0000°; P -2.9385, Plg27.0000°, Azm92.0000°;*

ISC 19 02:13:27.6±0.4, 22°.78N±0°.02×121°.36E±0°.02, h33km±1km, h33km; pP-P, n985, σ1.9 76/1111, mb5.2/210, MS5.2/110, 173C-79D, Fault plane solution: NP1:φs125.86531°, δ79.53393°, λ-9.34089°. NP2:φs217.57680°, δ80.81587°, λ-169.39645°. Principal axes: T Plg0.8932°, Azm351.6133°; N Plg76.0066°, Azm258.0265°; P Plg13.9637°, Azm81.8354°; **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.15**	**135**	⇑*i*P	**Pn**	**02 13 32.7**	**-0.7**
LDUT				*i* S	**Sb**	**02 13 37.0**	**-0.8**
TTN	**Taitung**	**0.19**	**262**	⇓*i*P	**Pn**	**02 13 33.1**	**-1.0**
TTN				*e*S	**Sb**	**02 13 38.0**	**-0.5**
EDH	**Donghe**	**0.20**	**346**	⇑*i*P	**Pn**	**02 13 32.8**	**-1.4**
EDH				*i* S	**Sn**	**02 13 37.1**	**-0.8**
LONT	**Longtian**	**0.24**	**301**	⇓*i*P	**Pb**	**02 13 33.1**	**-1.6**
LONT				*e*S	**Sn**	**02 13 37.6**	**-1.7**
TWGBT	**Beinan**	**0.26**	**278**	⇓*i*P	**Pb**	**02 13 33.0**	**-1.8**
TWGBT				*e*S	**Sn**	**02 13 37.5**	**-2.3**
TWG	**Pinlang**	**0.26**	**279**	Pg	**Pb**	**02 13 32.1**	**-2.8**
TWG				Sg	**Sn**	**02 13 37.3**	**-2.7**
CHKT	**Chengkung**	**0.32**	**2**	⇑*i*P	**Pb**	**02 13 34.5**	**-1.1**
CHKT				S	**Sb**	**02

SSD	baz=266			eS	Sb	02 13 46.7	-3.3
STYT	baz=266	Tauyuan	0.67	305⇓iP	Pn	02 13 39.2	-1.7
STYT	baz=306			i S	Sb	02 13 47.8	-2.4
MASBT	baz=306	Mashibuluo	0.69	256⇓iP	Pn	02 13 39.2	-1.8
MASBT	baz=254			S	Sb	02 13 47.4	-3.2
SLGT	baz=254	Liugui	0.69	288⇓iP	Pn	02 13 39.5	-1.6
SLGT	baz=288			eS	Sb	02 13 50.0	-0.5
HGSD	baz=288	Ruisui	0.71	5⇑iP	Pn	02 13 40.0	-1.4
HGSD	baz=8.0			eS	Sn	02 13 51.4	+0.2
EHY	baz=8.0	Hungye	0.72	358⇑iP	Pn	02 13 39.3	-2.3
EHY	baz=1.0			eS	Sb	02 13 52.7	+1.1
LAY	baz=1.0	Lan-yu	0.76	166⇑iP	Pn	02 13 40.4	-1.7
LAY	baz=163			eS	Sn	02 13 51.3	-1.2
SLIU	baz=163	Shizi	0.76	223⇑iP	Pn	02 13 40.0	-2.1
SLIU	baz=220			eS	Sn	02 13 49.9	-2.6
SGST	baz=220	Jiashian	0.77	293⇓iP	Pn	02 13 40.6	-1.6
SGST	baz=294			eS	Sn	02 13 51.9	-0.9
SSPT	baz=294	Xinbi	0.78	248⇓iP	Pn	02 13 41.4	-1.0
SSPT	baz=246			eS	Sn	02 13 51.4	-1.6
SCZT	baz=246	Fangliau	0.79	239⇓iP	Pn	02 13 40.9	-1.6
SCZT	baz=237			eS	Sn	02 13 51.2	-2.0
YUS	baz=237	Yu-Shan	0.80	332⇑eP	Pn	02 13 41.3	-1.7
YUS	baz=335			eS	Sn	02 13 50.8	-3.3
SGLT	baz=335	Jiouru	0.80	266 eP	Pn	02 13 42.2	-0.4
TSPT	baz=265	Pingtung City	0.80	263 eP	Pn	02 13 42.2	-0.4
LYUB	baz=262	Lan-yu	0.80	165⇑iP	Pn	02 13 40.0	-2.7
LYUB	baz=162			i S	Sn	02 13 50.3	-3.2
WTP	baz=162	Ta-pu	0.82	304⇓iP	Pn	02 13 42.3	-0.7
WTP	baz=306			eS	Sn	02 13 54.0	-0.2
TPUB	baz=306	Ta-pu	0.84	308⇓iP	Pn	02 13 42.7	-0.6
TPUB	baz=309			S	Sn	02 13 54.0	-0.6
TPUB	baz=309	Ta-pu	0.84	308	Pn	02 13 42.7	-0.6
TPUB					Sn	02 13 53.6	-1.0
TPUB		Ta-pu	0.84	308 P	Pn	02 13 43.0	-0.3
TWM1		Shoushan	0.86	273⇓eP	Pb	02 13 43.9	-0.3
TWM1	baz=272			eS	Sb	02 14 00.0	+4.6
CHN1	baz=272	Nanshi	0.86	298⇓iP	Pn	02 13 43.4	-0.2
CHN1	baz=299			eS	Sb	02 13 55.3	-0.1
ALS	baz=299	Alishan	0.89	325⇑iP	Pn	02 13 43.3	-0.8
ALS	baz=327			eS	Sn	02 13 54.7	-1.3
EGFH	baz=327	Guangfu	0.89	4⇑iP	Pn	02 13 41.5	-2.3
EGFH	baz=7.0			eS	Sb	02 13 57.1	+1.0
SMST	baz=7.0	Manzhou Townsh	0.90	212⇑eP	Pn	02 13 42.2	-1.7
SMST	baz=210			eS	Sn	02 13 54.1	-1.6
CHN4	baz=210	Tsaushan	0.90	309 ⇓P	Pn	02 13 43.9	-0.2
CHN4	baz=310			eS	Sb	02 13 56.5	-0.1
SNST	baz=310	Tainan City	0.90	299 ⇓P	Pn	02 13 44.1	0.0
SNST	baz=300			eS	Sb	02 13 56.5	-0.1
TWK	baz=300	Hsinying	0.93	301 ⇓P	Pn	02 13 44.3	-0.2
TWK	baz=302			eS	Sn	02 13 57.1	+0.3
TEGC	baz=302	Jichi Village	0.94	10⇑eP	Pn	02 13 43.7	-0.9
TEGC	baz=13			eS	Sn	02 13 57.1	+0.2
SNJT	baz=13	Kaohsiung City	0.94	269⇓eP	Pb	02 13 45.9	+0.4
CHN3	baz=268	Shinhua	0.96	288⇓eP	Pb	02 13 46.0	+0.2
CHN3	baz=288			eS	Sb	02 14 01.0	+2.8
HEN	baz=288	Hengchun	0.96	217⇑iP	Pn	02 13 43.7	-1.1
HEN	baz=214			eS	Sn	02 13 56.7	-0.7
SHHT	baz=214	Tainan City	0.96	285⇓eP	Pb	02 13 46.1	+0.3
SHHT	baz=285			eS	Sb	02 14 00.4	+2.3
TSEB	baz=285	Hengchuen, Pin	0.97	206 ⇑P	Pn	02 13 43.9	-1.1
TSEB	baz=206			eS	Sn	02 13 57.5	-0.1
TWKBT	baz=206	Hengchun	0.97	211 ⇑P	Pn	02 13 43.5	-1.5
TWK1	baz=209	Hengchun	0.98	211⇑iP	Pn	02 13 43.6	-1.5
TWK1	baz=209			eS	Sn	02 13 56.5	-1.3
VWDT	baz=209	VWDT	0.99	349 ⇑P	Pn	02 13 44.1	-1.1
VWDT	baz=351			eS	Sb	02 13 58.7	-0.4
KAU	baz=351	Kaohsiung	0.99	258⇓eP	Pb	02 13 46.9	+0.6
SNW	baz=257	Nanwan	0.99	215 eP	Pn	02 13 44.5	-0.8
SNW	baz=212			eS	Sn	02 13 58.1	0.0
WLCH	baz=212	Liuqiu	1.00	245⇓eP	Pb	02 13 47.5	+1.1
WLCH	baz=243			eS	Sb	02 14 02.3	+3.0
TWP	baz=243	Hsiaoliuchiu	1.01	245⇓eP	Pb	02 13 47.6	+0.9
ESL	baz=243	Shilin	1.03	4 ⇑P	Pn	02 13 43.6	-2.3
SSHA	baz=7.0	Shanhua	1.04	290 eP	Pb	02 13 47.0	-0.2
SSHA	baz=290			eS	Sb	02 14 02.6	+2.0
SSLB	baz=290	Suanglung	1.07	340⇑iP	Pn	02 13 45.6	-0.8
SSLB	baz=342			eS	Sb	02 14 00.9	-0.5
SSLB	baz=342	Suanglung	1.07	340	Pn	02 13 45.6	-0.8
SSLB					Sn	02 13 58.6	-1.6
SSLB		Suanglung	1.07	340 P	Pn	02 13 46.0	-0.4
TAI1		Yung-k'ang	1.07	284⇓eP	Pb	02 13 47.2	-0.4
TAI	baz=284	Tainan	1.09	282 eP	Pb	02 13 47.9	0.0
TAI	baz=281			eS	Sb	02 14 03.1	+1.2
CHN2	baz=281	Minshiung	1.10	313⇑eP	Pb	02 13 47.7	-0.5
CHN2	baz=314			eS	Sb	02 14 03.0	+0.8
TEYL	baz=314	Yanliau Villag	1.10	12 eP	Pn	02 13 46.2	-0.6
TEYL	baz=13			eS	Sb	02 14 02.2	-0.1
CHY	baz=13	Chiayi	1.11	310⇑eP	Pn	02 13 47.5	+0.5
CHY	baz=311			eS	Sb	02 14 02.7	+0.1
SCLT	baz=311	Jiali	1.14	290 eP	Pn	02 13 47.9	+0.6
SCLT	baz=291			eS	Sb	02 14 04.2	+0.9
ICHU	baz=291	Yijhu	1.15	300 ⇓P	Pn	02 13 47.9	+0.5
ICHU	baz=301			eS	Sb	02 14 03.2	-0.3
WGK	baz=301	Gukeng	1.16	321⇑eP	Pb	02 13 48.4	-0.7
WGK	baz=323			eS	Sb	02 14 05.0	+1.1
SMLT	baz=323	Sun Moon Lake	1.17	339 ⇑P	Pn	02 13 47.8	-0.1
SMLT	baz=341			eS	Sb	02 14 04.4	0.0
WDLH	baz=341	Douliu	1.18	320 ⇑P	Pb	02 13 48.7	-0.8
WDLH	baz=322			eS	Sb	02 14 04.5	+0.2
OWD	baz=322	Renai	1.18	352 eP	Pn	02 13 46.7	-1.3
OWD	baz=354			eS	Sn	02 14 02.4	-0.7
ETM	baz=354	Tongmen	1.19	6 eP	Pn	02 13 45.9	-2.1
WJS	baz=8.0	Zhushan	1.19	331 ⇑P	Pn	02 13 48.7	+0.7
WJS	baz=332			eS	Sb	02 14 04.7	0.0
CHN8	baz=332	Yiju	1.19	298⇓eP	Pn	02 13 48.5	+0.4
CHN8	baz=299			eS	Sb	02 14 04.9	0.0
TYC	baz=299	Yuchr	1.21	338 ⇑P	Pn	02 13 48.5	+0.2
TYC	baz=340			eS	Sb	02 14 05.8	+0.5
HWA	baz=340	Hwalien	1.21	11⇑eP	Pn	02 13 47.2	-1.1
WUSB	baz=13	Renai	1.23	350 ⇑P	Pn	02 13 47.8	-0.9
WNT	baz=352	Mingjian	1.25	331⇑eP	Pb	02 13 50.0	-0.8
WNT	baz=332			eS	Sb	02 14 07.1	+0.5
WTK	baz=332	Tuku	1.27	316 ⇑P	Pn	02 13 49.5	+0.4
WTK	baz=317			eS	Sb	02 14 06.0	-1.0
WSL	baz=317	Shuilin Townsh	1.27	306 ⇑P	Pn	02 13 49.5	+0.4
WSL	baz=306			eS	Sn	02 14 05.5	+0.4
WPL	baz=306	Puli Township	1.28	343 eP	Pn	02 13 49.4	+0.1
WNT1	baz=345	Nantou City	1.28	331⇑eP	Pb	02 13 50.4	-0.8
WNT1	baz=332			eS	Sb	02 14 08.1	+0.7
CHGB	baz=332	Renai	1.28	353 ⇑P	Pn	02 13 48.6	-0.9
CHGB	baz=354			eS	Sb	02 14 06.8	-0.9
DPDB	baz=354	Guoxing	1.31	343 ⇑P	Pn	02 13 50.0	+0.3
DPDB	baz=344			eS	Sn	02 14 06.8	+0.7
TWD	baz=344	Chiawan	1.31	10 eP	Pn	02 13 47.9	-1.8
TWD	baz=12			eS	Sb	02 14 07.2	-1.0
WCS	baz=12	Beigang Elemen	1.33	342 ⇑P	Pn	02 13 50.4	+0.4
WCS	baz=344			eS	Sn	02 14 07.1	+0.5
WHF	baz=344	Hehuan Shan	1.36	357 ⇑P	Pn	02 13 49.3	-1.5
WYL	baz=358	Yuanlin Townsh	1.37	329 eP	Pn	02 13 51.6	+1.1
ETL	baz=330	Fush Village	1.39	10 eP	Pn	02 13 48.8	-2.1
WWF	baz=12	Wufeng	1.39	334⇑eP	Pb	02 13 52.1	-1.0
WWF	baz=336			eS	Sb	02 14 11.3	+0.8
NACB	baz=336	Ninganchiao	1.40	9⇑eP	Pn	02 13 48.8	-2.1
NACB	baz=11			eS	Sn	02 14 07.8	-0.6
NACB	baz=11	Ninganchiao	1.40	9 Pn	Pn	02 13 48.8	-2.1
ETLH	baz=358	Xiulin Townshi	1.43	5 ⇑P	Pn	02 13 49.3	-2.0
ETLH	baz=6.0			eS	Sn	02 14 10.2	+1.2
WRL	baz=6.0	Guolierlin Hig	1.43	321⇑eP	Pn	02 13 51.6	+0.3
WRL	baz=322			eS	Sn	02 14 09.9	+0.8
WMLT	baz=322	Mailiao	1.46	315 eP	Pn	02 13 52.5	+0.9
WTCT	baz=315	Ta-ch'eng	1.46	318 eP	Pn	02 13 52.7	+0.9
FUSS	baz=319	Fushou	1.46	356⇑eP	Pn	02 13 51.3	-0.8
TWT	baz=358	Tachien	1.48	354⇑eP	Pn	02 13 51.8	-0.3
TDCB	baz=355	Techi	1.48	353 ⇑P	Pn	02 13 51.8	-0.3
TDCB	baz=354			eS	Sb	02 14 12.7	-0.4
WCHH	baz=354	Zhanghua	1.49	331 ⇑P	Pn	02 13 53.1	+1.0
WCHH	baz=332			eS	Sb	02 14 12.2	-1.0
TCU	baz=332	Taichung	1.50	336⇑eP	Pn	02 13 53.5	+1.2
TCU	baz=337			eS	Sb	02 14 13.0	-0.5
WHP	baz=337	Taichung City	1.54	346⇑eP	Pn	02 13 53.5	+0.6
WHP	baz=347			eS	Sb	02 14 15.0	+0.2
EHP	baz=347	Heping Village	1.56	13 eP	Pn	02 13 52.8	-0.3
WDGT	baz=15	Dungji	1.63	287⇓eP	Pn	02 13 53.7	-0.4
WDGT	baz=287			eS	Sn	02 14 13.1	-0.9
TWQ1	baz=287	Liyutan	1.65	341⇑eP	Pn	02 13 55.5	+1.2
TWQ1	baz=342			eS	Sb	02 14 17.7	-0.1
NNS	baz=342	Nan Shan	1.65	1⇑eP	Pn	02 13 53.4	-1.1
NNS	baz=2.0			eS	Sn	02 14 15.9	+1.3
ENA	baz=2.0	Nanau	1.68	12 eP	Pn	02 13 53.1	-1.6
ENA	baz=14			eS	Sn	02 14 16.7	+1.6
WDJ	baz=14	Dajia District	1.69	337⇑eP	Pn	02 13 55.9	+1.0
WDJ	baz=338			eS	Sb	02 14 18.9	-0.2
EWUT	baz=338	Wuta	1.70	13⇑eP	Pn	02 13 53.5	-1.5
EWUT	baz=15			eS	Sn	02 14 15.8	+0.1
NSY	baz=15	Sanyi	1.72	342 eP	Pn	02 13 56.5	+1.3
NSY	baz=343			eS	Sb	02 14 20.1	+0.3
LATG	baz=343	Datong	1.75	5 ⇑P	Pn	02 13 54.5	-1.4
LATG	baz=6.0			eS	Sn	02 14 19.0	+1.8
PHUB	baz=6.0	P'eng-hu	1.80	294⇓eP	Pn	02 13 55.8	-0.5
PHUB	baz=294			eS	Sn	02 14 16.9	-1.1
NDT	baz=294	Datong Townshi	1.82	5 eP	Pn	02 13 55.7	-1.0
NDT	baz=6.0			eS	Sn	02 14 19.9	+1.2
NMLH	baz=6.0	Miaoli	1.82	344⇑eP	Pn	02 13 57.7	+0.9
VCHM	baz=345	Qimei	1.82	284⇓eP	Pn	02 13 56.3	-0.4
VCHM	baz=284			eS	Sn	02 14 17.6	-1.1
PNG	baz=284	Penghu	1.83	296⇓eP	Pn	02 13 56.5	-0.3
PNG	baz=296			eS	Sn	02 14 18.0	-0.9
NFF	baz=296	Wufeng Townshi	1.86	353⇑eP	Pn	02 13 57.6	+0.4
NFF	baz=354			eS	Sn	02 14 20.2	+0.6
ENTT	baz=354	Nioudou	1.86	6⇑eP	Pn	02 13 56.1	-1.1
NSTT	baz=7.0	Nanjuang	1.87	350⇑eP	Pn	02 13 58.2	+0.8
NSTT	baz=351			eS	Sb	02 14 23.6	-0.6
NDS	baz=351	Dongshan	1.87	10⇑eP	Pn	02 13 55.9	-1.5
NDS	baz=11			eS	Sn	02 14 20.3	+0.3
TWC	baz=11	Suao	1.88	14 eP	Pn	02 13 56.4	-1.1
TWC	baz=15			eS	Sn	02 14 20.8	+0.8
YHNB	baz=15	Yeheng	1.88	1⇑eP	Pn	02 13 57.2	-0.4
YHNB	baz=2.0			eS	Sn	02 14 21.2	+0.9
YHNB	baz=2.0	Yeheng	1.88	1	Pn	02 13 57.3	-0.3
YHNB		Yeheng	1.88	1 P	Pn	02 13 58.6	+1.0
LIOB		Emei	1.88	351⇑eP	Pn	02 13 58.5	+1.0
LIOB	baz=352			eS	Sb	02 14 22.6	-2.0
NSK	baz=352	Sanguang	1.89	0⇑eP	Pn	02 13 57.4	-0.3
NSK	baz=2.0			eS	Sn	02 14 21.0	+0.6
TWE	baz=2.0	Neicheng	1.95	8 eP	Pn	02 13 57.7	-0.8
TWE	baz=10.0			eS	Sn	02 14 23.4	+1.5
NJD	baz=10.0	Zhudong	1.96	353 eP	Pn	02 14 00.3	+1.7
FUSB	baz=354	Fushanzhiwuyua	1.98	6⇑eP	Pn	02 13 58.0	-1.0
FUSB	baz=7.0			eS	Sn	02 14 24.6	+1.9
NWLT	baz=7.0	Wulai	1.99	4⇑eP	Pn	02 13 58.4	-0.7
NWLT	baz=5.0			eS	Sn	02 14 24.3	+1.3
ILA	baz=5.0	Ilan	2.01	10 eP	Pn	02 13 59.3	0.0
HSN1	baz=12	Hsinchu	2.01	351 eP	Pn	02 14 00.4	+1.1
SBCB	baz=352	Hsinchu	2.03	350⇑eP	Pn	02 14 00.5	+0.9
SBCB	baz=351			eS	Sn	02 14 25.0	+1.1
HSN	baz=351	Hsinchu	2.04	350 eP	Pn	02 14 00.7	+1.0
NTC	baz=352	Toucheng	2.11	12⇑eP	Pn	02 14 00.5	-0.2
NTC	baz=13			eS	Sn	02 14 26.4	+0.7
EGS	baz=13		2.12	14 eP	Pn	02 14 03.0	+2.1
NHDH	baz=16	Xindian Distri	2.18	4⇑eP	Pn	02 14 01.5	-0.1
NHDH	baz=5.0			eS	Sn	02 14 29.1	+1.6
NCUH	baz=5.0	Zhongli	2.18	356⇑eP	Pn	02 14 02.4	+0.7
NCUH	baz=357			eS	Sn	02 14 29.2	+1.6
NCU	baz=357	National Centr	2.19	356 eP	Pn	02 14 02.2	+0.5
TATO	baz=357	Taipei	2.19	3⇑eP	Pn	02 14 01.6	-0.2
TATO	baz=4.0			eS	Sn	02 14 28.8	+1.0
TATO	baz=4.0	Taipei	2.19	3	Pn	02 14 01.4	-0.4
TWA	baz=7.0	Mucha	2.20	5⇑eP	Pn	02 14 01.7	-0.2
BACT	baz=7.0	New Taipei Cit	2.21	2 eP	Pn	02 14 03.2	+1.2
NTY	baz=3.0	Taoyuan	2.21	359 eP	Pn	02 14 03.1	+1.1
JYNG	baz=360	Yonagunijimaku	2.21	41 P	Pn	02 14 02.5	+0.4
JYNG				S	Sn	02 14 28.3	0.0
TIPB	baz=12	Shuangxi	2.22	11 eP	Pn	02 14 02.0	-0.2
NHW	baz=354	Xinwu Township	2.23	353 eP	Pn	02 14 03.1	+0.7
TAP	baz=5.0	Taipei	2.25	3 eP	Pn	02 14 02.8	+0.2
TAP1	baz=5.0	Taipei	2.25	4 eP	Pn	02 14 03.5	+0.8
NHY	baz=5.0	Taipei	2.26	5 eP	Pn	02 14 03.1	+0.4
YOJ	baz=6.0	Yonaguni jima	2.26	42 P	Pn	02 14 03.0	+0.3
YOJ				S	Sn	02 14 29.3	-0.2
YOJ		Yonaguni jima	2.26	42 P	Pn	02 14 02.5	-0.2
YOJ		Yonaguni jima	2.26	42⇑eP	Pn	02 14 03.0	+0.3
YOJ	baz=43			eS	Sn	02 14 29.3	-0.2
YOJ	baz=43	Yonaguni jima	2.26	42	Pn	02 14 02.5	-0.2
YOJ		Yonaguni jima	2.26	42 P	Pn	02 14 03.6	+0.9
TWB1	baz=16	Santiao Chiao	2.29	15⇑eP	Pn	02 14 03.5	+0.3
TWB1	baz=16			eS	Sn	02 14 32.5	+2.2
TWS1	baz=3.0	Kuangyinshan	2.31	1 eP	Pn	02 14 04.0	+0.5
NWF	baz=11	Wu-fen Shan	2.31	10 eP	Pn	02 14 03.2	-0.4
NWF	baz=11			eS	Sn	02 14 33.4	+2.5
WFSB	baz=11	Wu-fen Shan	2.31	10⇑eP	Pn	02 14 03.2	-0.3
WFSB	baz=11			eS	Sn	02 14 31.4	+0.6
SXI1	baz=13	Grass Mountain	2.35	12 eP	Pn	02 14 03.8	-0.3
SXI1	baz=13			eS	Sn	02 14 32.8	+0.9
YM01	baz=6.0	YM01	2.36	5 eP	Pn	02 14 03.5	-0.7
YM01	baz=6.0			eS	Sn	02 14 32.5	+0.4
NTST	baz=3.0	Danshui	2.38	2 eP	Pn	02 14 04.4	+0.1
TNOU	baz=10.0	National Taiwa	2.39	9 eP	Pn	02 14 04.2	-0.3
TNOU	baz=10.0			eS	Sn	02 14 33.8	+1.1
BBP		Basco	2.40	166⇑eP	Pn	02 14 04.1	-0.5
BBP				eS	Sn	02 14 34.1	+1.3
ANP	baz=5.0	Anpu	2.40	4 eP	Pn	02 14 04.7	0.0
YM08	baz=6.0	YM08	2.41	5 eP	Pn	02 14 03.8	-0.9
NWRT	baz=8.0	Kuosheng	2.43	7 eP	Pn	02 14 05.2	+0.1
TWY	baz=6.0	Chenhua	2.49	5 eP	Pn	02 14 06.4	+0.5
HATJ		Hateruma jima	2.58	60 P	Pn	02 14 07.0	-0.2
HATJ				S	Sn	02 14 36.5	-1.0
IRIF		Iriomote-Funau	2.67	54 P	Pn	02 14 08.5	+0.1
IRIF				eS	Sn	02 14 40.0	+0.3
JKRS		Kuro-shima	2.84	59 P	Pn	02 14 10.8	+0.2
JKRS				S	Sn	02 14 43.6	-0.1
PCYT	baz=14	Pengchaiyu	2.91	13 eP	Pn	02 14 12.2	+0.5
JIJ	baz=14	Ishigaki jima	3.00	58 P	Pn	02 14 12.5	-0.5
JIJ				S	Sn	02 14 46.8	-1.1
PTMZ	baz=318	Houxiangcun	3.04	318⇑eP	Pn	02 14 13.0	-0.4
PTMZ				eS	Sn	02 14 45.8	-2.9

baz=318
KNM Kinmen 3.14 302 *e*P **Pn 02 14 15.9 +1.1**
baz=300
KNM *e*S **Sn 02 14 51.8 +0.7**
baz=300
KNMB Chin-men Tao 3.19 302 *e*P **Pn 02 14 15.1 -0.5**
baz=302
KNMB *e*S **Sn 02 14 50.1 -2.4**
baz=302
KNMB Chin-men Tao 3.19 302 Pn 02 14 15.0 -0.5
JISG Ishigakijimahi 3.25 56 P **Pn 02 14 15.7 -0.7**
JISG S **Sn 02 14 52.8 -1.2**
QZH Quanzhou 3.32 311⇑*i*Pn **Pn 02 14 16.8 -0.5**
QZH Sn **Sn 02 14 52.5 -3.2**
QZH smax smax
comp=N,6μm,0.4s
QZH LR LR
comp=N,50μm,6.2s
QZH LR LR
comp=Z,17μm,6.4s
ZPLA Ao Xicun 3.50 290⇓*e*P **Pn 02 14 19.7 -0.1**
baz=289
ZPLA *e*S **Sn 02 14 57.8 -2.4**
baz=289
JTJ Tarama 3.58 58 P **Pn 02 14 21.2 +0.3**
JTJ S **Sn 02 15 01.4 -0.7**
MATB Ma-tsu 3.59 339⇑*e*P **Pn 02 14 20.3 -0.7**
baz=339
MATB *e*S **Sn 02 15 00.3 -2.1**
baz=339
MSUT Lienchiang 3.62 339 *e*P **Pn 02 14 20.7 -0.7**
baz=339
DSXP Dongshan 3.73 285⇓*e*P **Pn 02 14 22.8 -0.2**
baz=284
DSXP *e*S **Sn 02 15 03.0 -2.8**
baz=284
AXDP Jialang 3.75 305⇑*e*P **Pn 02 14 22.8 -0.4**
baz=304
AXDP *e*S **Sn 02 15 03.4 -2.9**
baz=304
LYJJ Jianjiangzhen 4.02 339⇑*e*P **Pn 02 14 26.3 -0.7**
baz=339
LYJJ *e*S **Sn 02 15 12.1 -0.9**
baz=339
JIRB Irabujima 4.05 59 P **Pn 02 14 26.9 -0.4**
JIRB *e*S **Sn 02 15 12.0 -1.6**
JMJ2 Miyako jima3 4.13 61 P **Pn 02 14 28.4 0.0**
JMJ2 *e*S **Sn 02 15 15.1 -0.5**
JMJ Miyako jima 2 4.14 60⇓*e*P **Pn 02 14 28.5 0.0**
baz=61
JMJ *e*S **Sn 02 15 15.2 -0.6**
baz=61
JMJ Miyako jima 2 4.14 60 P **Pn 02 14 28.9 +0.4**
JIKM Ikemajima 4.15 58 P **Pn 02 14 28.2 -0.6**
JIKM *e*S **Sn 02 15 14.7 -1.5**
JOGS Gusukube 4.20 61 P **Pn 02 14 29.5 +0.1**
JOGS *e*S **Sn 02 15 17.5 +0.1**
XPSS Dashiqiu 4.26 346⇑*e*P **Pn 02 14 29.4 -0.9**
baz=346
XPSS *e*S **Sn 02 15 17.8 -1.1**
baz=346
SGCP Gonzaga 4.56 172⇑*i*P **Pn 02 14 35.0 +0.6**
SGCP *e*S **Sn 02 15 27.7 +1.4**
VDOS Pratas Island 4.77 245 *e*P **Pn 02 14 38.2 +0.9**
baz=244
VDOS *e*S **Sn 02 15 27.6 -3.9**
baz=244
APYP Conner 4.89 181 *e*P **Pn 02 14 40.5 +1.5**
APYP *e*S **Sn 02 15 38.8 +4.3**
SXFK Yanhouchang 4.94 318⇑*e*P **Pn 02 14 39.0 -0.6**
baz=317
SXFK *e*S **Sn 02 15 31.9 -3.7**
baz=317
SAMP Sagada Mountai 5.69 184⇓*e*P **Pn 02 14 49.8 -0.1**
SAMP *e*S **Sn 02 15 56.5 +2.4**
JKE Kume jima 2 6.08 53 P **Pn 02 14 53.5 -1.7**
BOLP Bolinao 6.51 192⇑*i*P **Pn 02 15 01.4 +0.2**
BOLP *e*S **Sn 02 16 15.0 +0.7**
SMPP San Manuel, Pa 6.63 186⇓*e*P **Pn 02 15 03.0 +0.2**
SMPP *e*S **Sn 02 16 20.1 +2.8**
HKPS Hong Kong Po S 6.69 267⇓*e*P **Pn 02 15 04.0 +0.4**
baz=266
HKPS *e*S **Sn 02 16 13.6 -5.1**
baz=266
HKPS Hong Kong Po S 6.69 267 Pn 02 15 04.2 +0.5
JNTH Nagotoyohara 7.12 57 *e*S **Sn 02 16 26.1 -3.1**
MCO Taipa Grande 7.24 266 P **Pn 02 15 12.0 +0.8**
GZH Guangzhou 7.39 274⇓*i*Pn **Pn 02 15 10.5 -2.8**
GZH Sn **Sn 02 16 33.5 -2.5**
GZH smax smax
comp=N,3μm,1.3s
GZH smax smax
comp=E,2μm,1.1s
JOW Kunigami 7.47 56 P **Pn 02 15 12.6 -1.8**
32nm,0.3s,baz=192,slow=12,SNR=25
JOW S **Sn 02 16 33.1 -4.9**
20nm,0.3s,baz=332,slow=28,SNR=8.6
JOW Kunigami 7.47 56 *e*P **Pn 02 15 11.7 -2.6**
baz=57
JOW *e*S **Sn 02 16 32.4 -5.5**
baz=57
JOW Kunigami 7.47 56 Pn **Pn 02 15 11.9 -2.5**
SSE Sheshan 8.28 359 P **Pn 02 15 25.8 +0.3**
SSE S **Sn 02 17 00.6 +2.7**
SSE smax smax
comp=N,230nm,1.6s
SSE smax smax
comp=E,330nm,1.2s
SSE LR LR
comp=N,5μm,13.7s
SSE LR LR
comp=E,9μm,11.5s
MACP Maragondon, Ca 8.49 184⇓*e*P **Pn 02 15 26.6 -1.8**
MACP *e*S Sb 02 17 44.5 +10
GQP Guinayangan 8.89 173⇓*e*P **Pn 02 15 36.7 +2.9**
GQP *e*S **Sn 02 17 12.4 -0.5**
PGP Puerto Galera 9.24 182⇑*e*P **Pn 02 15 37.8 -0.8**
CNSH ChangSha 9.32 307⇑P Pn 02 15 34.8 -4.9
CNSH S **Sn 02 17 16.6 -6.8**
CNSH smax smax
comp=N,2μm,1.2s
CNSH smax smax
comp=E,2μm,1.5s
NJ2 Nanjing 9.50 347 *e*P **Pn 02 15 40.5 -1.6**
NJ2 S **Sn 02 17 21.8 -6.0**
NJ2 pmax pmax
comp=E,120nm,0.6s
NJ2 smax smax
comp=E,1μm,1.0s
NJ2 smax smax
comp=E,360nm,1.0s
NJ2 LR LR
comp=E,21μm,10.0s
NJ2 LR LR
comp=E,15μm,8.2s
NJ2 LR LR
comp=E,24μm,11.4s
WHN Wuhan 9.95 322⇑P **Pn 02 15 48.4 +0.1**
WHN sP 02 15 57.9
WHN S **Sn 02 17 36.0 -2.8**
WHN pmax pmax
comp=E,200nm,1.1s
WHN LR LR
comp=E,52μm,12.6s
WHN LR LR
comp=E,58μm,12.6s
WHN LR LR
comp=E,30μm,12.4s
GULI GuiLin 10.35 286⇓P Pn 02 15 40.1 -14
KALP Kalibo 11.08 175⇑*e*P Pn 02 16 15.4 +11
RCP Roxas 11.24 173⇓*e*P **Pn 02 16 10.8 +4.8**
QIZ Qiongzhong 11.39 253 P **Pn 02 16 09.6 +1.5**
QIZ S **Sn 02 18 18.3 +4.1**
QIZ pmax pmax
comp=E,37nm,1.4s
ENH Enshi 12.97 308 Pn **Pn 02 16 26.5 -3.3**
TBP Tagbilaran 13.24 169 *e*P **Pn 02 16 30.9 -2.4**
TBP *i*S **Sn 02 19 03.0 +3.5**
JNU Nakatsue 13.29 37 P **Pn 02 16 33.7 -0.5**
comp=E,0.5nm,0.3s,baz=175,slow=15,SNR=6.3
JNU LR LR 02 23 15.4
comp=E,5μm,18.1s,baz=217,slow=44
JNU Nakatsue 13.29 37 Pn **Pn 02 16 30.2 -3.9**
JNU Nakatsue 13.29 37 P **Pn 02 16 35.4 +1.3**
JTU Tsushima 13.66 29 Pn **Pn 02 16 35.3 -3.8**

GYA Guiyang 13.85 288⇑*i*P **Pn 02 16 42.8 +0.9**
GYA pP P 02 16 48.5 -1.3
GYA S **Sn 02 19 18.8 +4.1**
GYA pmax pmax
comp=E,1μm,9.1s
GYA LR LR
comp=E,9μm,10.6s
GYA LR LR
comp=E,11μm,12.1s
GYA LR LR
comp=E,14μm,10.4s
TIA Tai'an 13.88 346⇑P **Pn 02 16 42.5 +0.4**
TIA sP P 02 16 55.6 +5.7
TIA pmax pmax
comp=E,11nm,0.7s
TIA LR LR
comp=E,11μm,12.8s
TIA LR LR
comp=E,5μm,5.4s
TIA LR LR
comp=E,18μm,14.9s
LYN LuoYang 14.07 328⇑*i*P **Pn 02 16 46.8 +2.1**
LYN sP P 02 16 54.8 +2.7
LYN PP **PnPn 02 16 58.1 +5.3**
LYN S **Sn 02 19 22.1 +2.3**
LYN SS **S 02 19 39.3 -1.0**
LYN pmax pmax
comp=E,70nm,2.0s
LYN pmax pmax
comp=E,790nm,6.3s
LYN LR LR
comp=E,25μm,15.0s
LYN LR LR
comp=E,24μm,14.9s
LYN LR LR
comp=E,13μm,9.5s
TJN Taejon 14.52 20 P **Pn 02 16 48.2 -2.5**
TJN Taejon 14.52 20 Pn **Pn 02 16 48.2 -2.5**
TJN Taejon 14.52 20 P **Pn 02 16 53.8 +3.1**
PAGZ Pagadian 14.97 172⇓*e*P **Pn 02 16 56.5 -0.5**
INCN Inchon 15.34 16 P **Pn 02 17 01.6 -0.2**
INCN pmax pmax
comp=Z,484nm,1.5s
INCN Inchon 15.34 16 Pn **Pn 02 17 01.6 -0.2**
INCN Inchon 15.34 16 P **Pn 02 17 03.4 +1.6**
XAN Xi'an 15.65 318 P **Pn 02 17 06.3 +0.4**
XAN pmax pmax
comp=Z,76nm,1.7s
XAN LR LR
comp=Z,19μm,6.2s
XAN LR LR
comp=Z,16μm,14.4s
HNS HongShan 15.66 340⇑P **Pn 02 17 05.1 -0.7**
HNS PP **PnPn 02 17 15.4 +0.9**
HNS S **Sn 02 19 58.3 +0.1**
HNS sS **S 02 20 08.5 -4.1**
HNS PcP **PcP 02 22 06.3 +0.6**
HNS pmax pmax
comp=Z,400nm,1.7s
HNS pmax pmax
comp=Z,4μm,4.7s
HNS LR LR
comp=Z,12μm,15.5s
HNS LR LR
comp=Z,33μm,13.7s
HNS LR LR
comp=Z,13μm,16.3s
HJU Haeju 15.67 13 P **Pn 02 17 04.1 -1.9**
KSRS Korea Array 15.68 20 P **Pn 02 17 05.7 -0.5**
comp=Z,3.4nm,0.3s,baz=198,slow=12,SNR=49
KSRS LR LR 02 23 52.9
comp=Z,6μm,18.5s,baz=195,slow=40
KS19 Wonju Array Si 15.71 19 Pn **Pn 02 17 04.2 -2.3**
KS19 IAmb IAmb 02 17 10.7
comp=Z,272nm,1.4s
DL2 Dalian 16.08 1 P **Pn 02 17 08.1 -3.1**
DL2 S **Sn 02 20 03.8 -4.6**
DL2 pmax pmax
comp=Z,110nm,2.0s
DL2 pmax pmax
comp=Z,2μm,4.7s
DL2 LR LR
comp=Z,5μm,13.1s
DL2 LR LR
comp=Z,10μm,13.0s
DL2 LR LR
comp=Z,9μm,11.8s
KCP Kidapawan 16.09 167⇓*e*P **P 02 17 14.4 -0.2**
SLVN Son La 16.24 268 P **Pn 02 17 13.8 +0.3**
SLVN IAmb IAmb 02 17 19.1
comp=Z,260nm,1.5s
DLV T Lat 16.33 231 Pn **Pn 02 17 15.2 +0.5**
DLV IAmb IAmb 02 17 23.0
comp=Z,217nm,1.4s
DLV T Lat 16.33 231 P **Pn 02 17 15.8 +1.1**
PYAG Pyongyang 16.65 12 P **P 02 17 19.7 -0.9**
PYAG pP **pP 02 17 26.1 -3.0**
PYAG S **S 02 20 33.1 +0.3**
PYAG AMS AMS
comp=N,235nm,5.2s
PYAG AMS AMS
comp=E,662nm,14.6s
PYAG AMS AMS
comp=Z,227nm,5.0s
TIY Taiyuan 16.75 335⇑P **P 02 17 22.1 +0.3**
TIY PP **pP 02 17 31.0 +0.7**
TIY SS S 02 20 47.1 +12
TIY pmax pmax
comp=Z,150nm,1.8s
TIY pmax pmax
comp=Z,4μm,5.1s
TIY LR LR
comp=Z,23μm,6.5s
TIY LR LR
comp=Z,39μm,14.3s
TIY LR LR
comp=Z,12μm,12.7s
UBPT Khong Chiam 16.76 246 Pn **Pn 02 17 18.6 -15.5**
KMI Kunming 17.18 282⇑P **P 02 17 26.8 0.0**
KMI pP pP 02 17 32.8 -2.6
KMI PP **sP 02 17 41.8 +2.6**
KMI S **Sn 02 20 38.8 +3.2**
KMI SS **SnSn 02 20 59.4 +10**
KMI pmax pmax
comp=Z,34nm,1.1s
KMI LR LR
comp=Z,8μm,17.3s
KMI LR LR
comp=Z,10μm,19.1s
KMI LR LR
comp=Z,7μm,21.6s
KKM Kota Kinabalu 17.36 197 **P 02 17 28.4 -0.4**
KKM Kota Kinabalu 17.36 197 P **Pn 02 17 27.6 -0.1**
SUJ Sinuiju 17.47 8 P **P 02 17 31.2 +1.5**
SUJ pP **pP 02 17 38.8 +0.6**
SUJ S **S 02 20 48.2 -1.5**
SUJ AMS AMS
comp=N,1μm,3.8s
SUJ AMS AMS
comp=E,2μm,7.5s
SUJ AMS AMS
comp=Z,1μm,3.7s
CD2 Chengdu 17.65 301 P **Pn 02 17 30.8 -0.3**
CD2 sP sP 02 17 43.3 -0.9
CD2 S **Sn 02 20 37.6 -9.3**
CD2 LR LR
comp=Z,3μm,11.8s
CD2 LR LR
comp=Z,23μm,9.9s
CD2 LR LR
comp=Z,7μm,8.5s
MYLDM Lahad Datu 17.71 189 P **P 02 17 33.4 +0.9**
MYLDM IAmb IAmb 02 17 38.6
comp=Z,411nm,1.3s
BJT Baijiatuau 17.74 347 P **Pn 02 17 31.1 -1.0**
BJT pmax pmax
comp=Z,213nm,1.2s
BJT Baijiatuau 17.74 347 **Pn 02 17 31.1 -1.0**
BJT IAmb IAmb 02 17 36.6
comp=Z,213nm,1.2s
BJI Beijing 17.76 347 P **P 02 17 33.0 +0.1**
BJI PP **sP 02 17 48.5 +3.2**
BJI S **Sn 02 20 50.1 +0.9**
BJI SS **SnSn 02 21 09.9 +6.8**
BJI pmax pmax

comp=Z,140nm,1.2s
BJI pmax pmax
comp=Z,3μm,9.6s
BJI LR LR
comp=Z,10μm,14.2s
BJI LR LR
comp=Z,8μm,13.4s
BJI LR LR
comp=Z,11μm,13.2s
PZH PanZhiHua 18.21 286 P **P 02 17 39.4 +1.3**
PZH sP **sP 02 17 49.8 -0.7**
PZH SS S 02 21 22.4 +17
PZH pmax pmax
comp=Z,40nm,1.1s
PZH pmax pmax
comp=Z,1μm,5.7s
PZH LR LR
comp=Z,7μm,11.8s
PZH LR LR
comp=Z,6μm,12.4s
PZH LR LR
comp=Z,8μm,15.3s
INU Inuyama 18.52 44 **P 02 17 41.0 -0.3**
INU IAmb IAmb 02 17 48.6
comp=Z,210nm,1.2s
INU Inuyama 18.52 44 P **Pn 02 17 43.3 +1.6**
SPMM Sapulut 18.58 195 P **Pn 02 17 45.0 +2.5**
JGF Kuroka 18.90 44 **P 02 17 45.3 -0.2**
SNY Shenyang 19.08 5⇓P **Pn 02 17 50.4 +2.0**
SNY S **Sn 02 21 15.9 -5.3**
SNY pmax pmax
comp=Z,4μm,8.0s
SNY LR LR
comp=Z,7μm,14.4s
SNY LR LR
comp=Z,6μm,11.2s
SNY LR LR
comp=Z,10μm,12.8s
JHJ Hachijo jima 2 19.24 54 P **Pn 02 17 50.3 -0.1**
comp=Z,23nm,0.3s,baz=234,slow=15,SNR=2.5
JHJ2 Mitsune 19.26 54 P **Pn 02 17 52.6 +2.0**
HHC Hu-ho-hao-te 19.82 338⇑P **Pn 02 17 57.3 0.0**
HHC pP pP 02 18 02.8 -1.4
HHC S **Sn 02 21 39.4 +0.3**
HHC sS sS 02 21 48.3 -2.9
HHC pmax pmax
comp=Z,200nm,1.5s
HHC pmax pmax
comp=Z,2μm,7.0s
HHC LR LR
comp=Z,9μm,12.8s
HHC LR LR
comp=Z,5μm,10.8s
HHC LR LR
comp=Z,10μm,15.3s
MAJO Matsushiro 20.02 43⇓*e*P Pn 02 17 59.5 -0.2
MAJO pmax pmax
comp=Z,160nm,1.2s
MAJO Matsushiro 20.02 43 P **P 02 17 56.6 -1.2**
MAJO IAmb IAmb 02 18 08.0
comp=Z,93nm,0.9s
MAJO Matsushiro 20.02 43 P Pn 02 17 59.8 +0.1
MAT Matsushiro 20.02 43 P **P 02 17 56.5 -1.3**
MAT S **S 02 21 42.0 +0.8**
MJB9 Matsu-Tunnel 20.02 43 **P 02 17 57.0 -0.8**
MJB9 IAmb IAmb 02 18 08.0
comp=Z,96nm,0.9s
MJAR Matsushiro Arr 20.02 43 P **P 02 17 58.5 +0.8**
comp=Z,0.4nm,0.3s,baz=231,slow=9.1,SNR=23
MJAR LR LR 02 26 42.3
comp=Z,4μm,21.3s,baz=218,slow=40
MJAR Matsushiro Arr 20.02 43 P **P 02 17 57.2 -0.6**
MJAR pmax pmax
comp=Z,65nm,0.9s
MJAR Matsushiro Arr 20.02 43 P **P 02 17 57.1 -0.6**
LZH Lanzhou 20.17 315⇑P Pn 02 18 01.8 +0.3
LZH pP pP 02 18 07.4 -0.9
LZH S **S 02 21 44.3 0.0**
LZH sS sS 02 21 57.8 -1.1
LZH pmax pmax
comp=Z,170nm,1.4s
LZH pmax pmax
comp=Z,1μm,4.3s
LZH LR LR
comp=Z,13μm,11.4s
LZH LR LR
comp=Z,7μm,11.9s
LZH LR LR
comp=Z,10μm,11.9s
BTO Baotou 20.19 334 *e*P Pn 02 18 01.9 +0.3
CN2 Changchun 21.24 8 *e*P **P 02 18 08.5 -2.3**
CN2 PP **PnPn 02 18 32.0 +1.1**
CN2 S **S 02 21 58.5 -6.6**
CN2 sS Sn 02 22 07.3 -5.7
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,15μm,18.0s
CN2 LR LR
comp=Z,9μm,19.0s
CHTO Chiang Mai 21.31 263 P **P 02 18 12.0 +0.1**
CHTO pmax pmax
comp=Z,60nm,1.2s
CHTO MLR MLR
comp=Z,10μm,19.0s
CHTO Chiang Mai 21.31 263 P **P 02 18 11.9 +0.1**
CHTO Chiang Mai 21.31 263 IAMs_20 IAMs_20 02 27 11.1
comp=Z,10μm,19.0s
CHTO Chiang Mai 21.31 263 P **P 02 18 14.1 +2.2**
MSHR Mys Shultsa 21.37 20⇑*e*P **P 02 18 11.7 -0.5**
MSHR pmax pmax
comp=Z,135nm,1.6s
CMAR Chiang Mai Arr 21.41 263 P **P 02 18 14.3 +1.4**
comp=Z,30nm,1.1s,baz=69,slow=8.7,SNR=92
CMAR PcP **PcP 02 22 16.9 +1.0**
comp=Z,2.3nm,0.3s,baz=83,slow=0.4,SNR=6.6
CMAR ScP **ScP 02 25 49.3 -1.2**
comp=Z,2.5nm,0.3s,baz=38,slow=2.0,SNR=7.2
CMAR LR LR 02 27 34.2
comp=Z,10μm,18.5s,baz=80,slow=39
CMAR Chiang Mai Arr 21.41 263 P **P 02 18 12.7 -0.2**
CMAR Chiang Mai Arr 21.41 263 P **P 02 18 12.7 -0.2**
XLT XiLinHaoTe 21.51 350⇑*i*P **P 02 18 12.6 -1.2**
XLT pP pP 02 18 19.3 -3.3
XLT sP sP 02 18 23.3 -3.1
XLT sS Sn 02 22 16.3 -3.4
XLT SS **SnSn 02 22 42.8 +7.6**
XLT pmax pmax
comp=Z,77nm,1.5s
XLT pmax pmax
comp=Z,970nm,4.8s
XLT LR LR
comp=Z,7μm,14.2s
XLT LR LR
comp=Z,9μm,18.5s
XLT LR LR
comp=Z,10μm,13.7s
TOLI2 Tolitoli 21.55 182 P **P 02 18 13.5 -0.8**
TOLI2 Tolitoli 21.55 182 P **P 02 18 14.5 +0.2**
SBUM Sibu 22.07 205 P **P 02 18 18.8 -1.1**
SBUM IAmb IAmb 02 18 25.2
comp=Z,119nm,1.5s
SBUM Sibu 22.07 205 P **P 02 18 21.0 +1.1**
GTOI Gorontalo 22.07 176 P **P 02 18 20.1 +0.2**
comp=Z,1μmcomp=Z,122nm,0.7s
MRSI Marisa 22.18 178 P **P 02 18 22.0 +0.9**
comp=Z,3μmcomp=Z,286nm,1.3s
KMSI Cibinong 22.22 173 P **P 02 18 21.4 -0.2**
comp=Z,313nm,1.1s
MPSI Mapaga 22.35 184 P **P 02 18 24.3 +1.3**
comp=Z,2μmcomp=Z,126nm,1.0s
JMM Marumori 22.46 44 P **P 02 18 23.3 -0.8**
JMM IAmb IAmb 02 18 25.2
comp=Z,106nm,0.8s
TNTI Ternate 22.64 164 P **P 02 18 24.3 -1.8**
comp=Z,2μmcomp=Z,102nm,1.2s
TNTI Ternate 22.64 164 P **P 02 18 25.1 -1.0**
TNTI IAmb IAmb 02 18 31.1
comp=Z,118nm,1.1s
TNTI Ternate 22.64 164 P **P 02 18 26.6 +0.5**
MDJ Mudanjiang 22.81 15 P **P 02 18 26.4 -1.2**
MDJ sP pP 02 18 36.9 +0.6
MDJ PP **PnPn 02 18 51.5 -0.9**

MDJ S **S** **02 22 36.9 +2.3**
MDJ PcS **PcS** **02 25 52.6 -4.4**
MDJ ScS **ScS** **02 29 36.8 -2.3**
MDJ pmax pmax
comp=Z,49nm,0.9s
MDJ pmax pmax
comp=Z,2μm,3.9s
MDJ LR LR
comp=Z,6μm,15.0s
MDJ LR LR
comp=Z,17μm,18.2s
MDJ LR LR
comp=Z,7μm,13.5s
MDJ Mudanjiang 22.81 15 P **P** **02 18 25.2 -2.4**
USA0B Ussuriysk Arra 23.09 20 P **P** **02 18 30.3 -0.2**
USA0B pmax pmax
comp=Z,148nm,1.3s
USA0B Ussuriysk Arra 23.09 20 P **P** **02 18 30.3 -0.2**
USA0B IAmb IAmb 02 18 33.2
comp=Z,148nm,1.3s
USRK Ussuriysk Ar. 23.09 20 P **P** **02 18 30.0 -0.5**
comp=Z,52nm,1.1s,baz=205,slow=7.6,SNR=27
USRK ScP **ScP** **02 25 51.4 -3.0**
comp=Z,1.1nm,0.7s,baz=133,slow=5.9,SNR=4.4
USRK Ussuriysk Ar. 23.09 20 P **P** **02 18 29.9 -0.6**
USRK Ussuriysk Ar. 23.09 20 P **P** **02 18 29.9 -0.6**
BNX BinXian 23.43 11 ⇑P **P** **02 18 38.8 +5.0**
BNX pP **sP** **02 18 45.4 -1.2**
BNX sP **pP** **02 18 49.8 +7.0**
BNX PP PnPn 02 19 13.0 +12
BNX S **S** **02 22 54.9 +10**
BNX sS Sn 02 23 06.8 +1.4
BNX pmax pmax
comp=Z,10.0nm,0.8s
BNX pmax pmax
comp=Z,940nm,5.9s
BNX LR LR
comp=N,3μm,8.4s
BNX LR LR
comp=E,7μm,13.8s
BNX LR LR
comp=Z,5μm,14.1s
SMKI Samarinda 23.44 190 P **P** **02 18 35.3 +1.1**
comp=Z,16μmcomp=Z,322nm,1.1s
APSI Ampana 23.55 179 P **P** **02 18 35.5 +0.3**
comp=Z,3μmcomp=Z,311nm,1.2s
LUWI Luwuk 23.72 176 P **P** **02 18 36.4 -0.5**
comp=Z,5μmcomp=Z,368nm,1.3s
LUWI Luwuk 23.72 176 P **P** **02 18 36.0 -0.8**
LUWI Luwuk 23.72 176 P **P** **02 18 36.8 -0.1**
KSM Kuching 23.74 208 P **P** **02 18 36.8 -0.3**
KSM IAmb IAmb 02 18 41.0
comp=Z,176nm,1.4s
KSM Kuching 23.74 208 P **P** **02 18 37.7 +0.6**
LBMI Labuha 24.04 165 P **P** **02 18 38.5 -1.3**
comp=Z,3μmcomp=Z,195nm,1.0s
GUMO Guam 24.11 108 P **P** **02 18 40.8 +0.2**
comp=Z,464nm,1.0s,baz=188,slow=6.3,SNR=15
GUMO LR LR 02 28 45.1
comp=Z,2μm,18.9s,baz=299,slow=38
GUMO Guam 24.11 108 P **P** **02 18 41.1 +0.5**
GUMO pmax pmax
comp=Z,551nm,1.0s
GUMO Guam 24.11 108 P **P** **02 18 41.1 +0.5**
GUMO Guam 24.11 108 P **P** **02 18 41.4 +0.8**
MTKI Muara Teweh, K 24.40 196 P **P** **02 18 43.9 +0.7**
comp=Z,176nm,0.9s
STKI Sintang 24.54 204 P **P** **02 18 44.9 +0.4**
comp=Z,52nm,1.7s
MOKO MOKOCHONG 24.65 284 *ex* P 02 18 58.8 +13
GTA Gaotai 24.70 317 ⇑P **P** **02 18 46.4 +0.5**
GTA pP pP 02 18 56.3 +0.9
GTA sP sP 02 19 00.5 +1.6
GTA PcP **PcP** **02 22 26.8 +4.3**
GTA S **S** **02 23 08.4 +2.6**
GTA ScP **ScP** **02 25 57.6 -1.5**
GTA pmax pmax
comp=Z,57nm,1.2s
GTA pmax pmax
comp=Z,1μm,4.4s
GTA LR LR
comp=Z,7μm,18.5s
GTA LR LR
comp=Z,5μm,17.1s
GTA LR LR
comp=Z,6μm,17.8s
SANI Sanana 25.09 169 P **P** **02 18 45.8 -3.6**
SRIT Nakonsritamara 25.20 239 P **P** **02 18 50.7 +0.3**
SRIT IAmb IAmb 02 19 07.4
comp=Z,91nm,1.2s
ITAN ITANAGAR 25.40 286 *eP* **P** **02 18 55.1 +2.8**
SIJI Sorong 25.41 156 P **P** **02 18 52.6 +0.2**
comp=Z,21nm,0.6s,baz=20,slow=6.3,SNR=9.0
TTSI Tana Toraja 25.71 184 P **P** **02 18 54.1 -1.0**
JEW Eniwo 26.06 35 P **P** **02 18 57.2 -0.8**
KBKI Kotabaru 26.41 192 P **P** **02 19 03.2 +1.8**
comp=Z,69nm,1.2s
ERM Erimo 26.45 38⇓ *eP* **P** **02 19 03.1 +1.5**
ERM pmax pmax
comp=Z,220nm,1.4s
HIA Hailar 26.46 358 P **P** **02 19 00.3 -1.4**
HIA pmax pmax
comp=Z,53nm,1.4s
HIA MLR MLR
comp=Z,2μm,20.0s
HIA Hailar 26.46 358 P **P** **02 19 00.3 -1.4**
KULM Kulim 26.50 232 P **P** **02 19 01.5 -0.8**
GOMU GeErMu 26.59 306 P **P** **02 19 06.3 +2.9**
GOMU pP pP 02 19 13.6 +0.8
GOMU sP sP 02 19 17.3 +0.9
GOMU pmax pmax
comp=Z,14nm,1.2s
GOMU LR LR
comp=Z,3μm,12.5s
GOMU LR LR
comp=Z,4μm,14.7s
GOMU LR LR
comp=Z,5μm,14.3s
SPSI Sidrap Palu 26.63 184 P **P** **02 19 02.4 -1.0**
comp=Z,84nm,1.6s
IPM Ipoh 26.79 230 P **P** **02 19 04.4 -0.5**
IPM IAmb IAmb 02 19 08.9
comp=Z,69nm,1.1s
IPM Ipoh 26.79 230 P **P** **02 19 06.0 +1.1**
IPM Ipoh 26.79 230 P **P** **02 19 05.8 +0.9**
BBKI Banjar Baru 26.85 195 P **P** **02 19 05.3 -0.1**
comp=Z,121nm,1.2s
MYKOM Kota Tinggi 26.91 222 P **P** **02 19 05.2 -0.8**
MYKOM Kota Tinggi 26.91 222 P **P** **02 19 07.0 +1.0**
MSAI Masohi 27.00 163 P **P** **02 19 06.9 +0.2**
SHL Shillong 27.00 282 P **P** **02 19 06.4 -0.6**
SHL pmax pmax
comp=Z,102nm,1.1s
SHL Shillong 27.00 282 *eP* **P** **02 19 09.0 +2.0**
SHL Shillong 27.00 282 P **P** **02 19 06.4 -0.6**
SHL IAmb IAmb 02 19 24.7
comp=Z,102nm,1.1s
BNSI Bone 27.04 183 P **P** **02 19 07.8 +0.7**
comp=Z,84nm,1.0s
AAI Ambon 27.14 165 P **P** **02 19 08.0 0.0**
comp=Z,2μmcomp=Z,90nm,1.3s
TPRI Tanjung Pinang 27.20 219 P **P** **02 19 09.2 +0.6**
ULN Ulaanbaatar 27.52 339*c iP* **P** **02 19 10.8 -0.6**
ULN pmax pmax
comp=Z,97nm,1.5s
ULN Ulaanbaatar 27.52 339 P **P** **02 19 10.6 -0.8**
ULN IAmb IAmb 02 19 15.2
comp=Z,126nm,1.5s
ULN Ulaanbaatar 27.52 339 IAMs_20 IAMs_20 02 31 25.7
comp=Z,8μm,20.0s
ASAJ Asahikawa 27.55 34 P **P** **02 19 12.3 +0.9**
comp=Z,65nm,1.0s,baz=207,slow=1.1,SNR=7.8
ASAJ LR LR 02 31 08.4
comp=Z,2μm,18.4s,baz=170,slow=38
ASAJ Asahikawa 27.55 34 P **P** **02 19 11.5 +0.1**
ASAJ pmax pmax
comp=Z,336nm,1.4s
JKA Kamikawa-asahi 27.55 34 P **P** **02 19 11.4 0.0**
KLR Kul'dur 27.65 15 P **P** **02 19 12.4 +0.1**
comp=Z,9.1nm,0.8s,baz=201,slow=7.6,SNR=19
KLR ScP **ScP** **02 26 06.1 -1.2**
comp=Z,2.1nm,0.7s,baz=193,slow=5.3,SNR=5.6
KLR LR LR 02 31 28.7
comp=Z,5μm,18.1s,baz=199,slow=39
KLR Kul'dur 27.65 15⇓ *eP* **P** **02 19 13.3 +1.0**

KLR pmax pmax
comp=Z,55nm,1.0s
FAKI Fak Fak 27.67 156 P **P** **02 19 13.3 +0.5**
comp=Z,56nm,0.9s
FAKI Fak Fak 27.67 156 P **P** **02 19 13.2 +0.5**
FAKI IAmb IAmb 02 19 18.7
comp=Z,41nm,0.8s
FAKI Fak Fak 27.67 156 P **P** **02 19 14.5 +1.8**
KAPI Kappang 27.67 183 P **P** **02 19 12.3 -0.4**
comp=Z,20nm,0.5s,baz=192,slow=19,SNR=4.1
KAPI ScP **ScP** **02 26 06.0 -1.8**
comp=Z,9.2nm,0.9s,baz=36,slow=2.4,SNR=5.2
KAPI Kappang 27.67 183 P **P** **02 19 11.6 -1.1**
KAPI pmax pmax
comp=Z,62nm,0.8s
KAPI Kappang 27.67 183 P **P** **02 19 11.6 -1.1**
KAPI IAmb IAmb 02 19 22.4
comp=Z,62nm,0.8s
KAPI Kappang 27.67 183 P **P** **02 19 15.1 +2.4**
SONM Songino Array 27.72 338 P **P** **02 19 12.8 -0.3**
comp=Z,16nm,0.6s,baz=158,slow=9.9,SNR=53
SONM Songino Array 27.72 338 P **P** **02 19 12.5 -0.6**
SONM pmax pmax
comp=Z,107nm,1.5s
SONM Songino Array 27.72 338 P **P** **02 19 12.5 -0.6**
SONM IAmb IAmb 02 19 16.7
comp=Z,107nm,1.5s
LSA Lhasa 27.90 291 P **P** **02 19 17.6 +2.3**
LSA S **S** **02 24 03.8 +6.5**
LSA LR LR
comp=Z,6μm,19.2s
LSA LR LR
comp=Z,10μm,20.6s
LSA LR LR
comp=Z,8μm,22.1s
BKSI Bulukumba 27.96 183 P **P** **02 19 16.4 +1.1**
comp=Z,30nm,1.1s
BNDI Bandanaira 28.39 162 P **P** **02 19 21.9 +2.7**
DGPR DIGLIPUR 28.62 255 *eP* **P** **02 19 22.3 +1.0**
TPI Tanjungpandan 28.69 210 P **P** **02 19 23.2 +1.4**
comp=Z,63nm,1.4s
BSSI Bau Bau, Buton 28.76 182 P **P** **02 19 24.0 +1.6**
comp=Z,16nm,1.2s
PSI Prapat 29.45 231 P **P** **02 19 29.7 +0.9**
comp=Z,22nm,1.0s,baz=3.1,slow=4.0,SNR=13
PSI ScP **ScP** **02 26 10.9 -2.7**
comp=Z,5.1nm,0.6s,baz=7.2,slow=6.1,SNR=6.0
PSI LR LR 02 31 09.1
comp=Z,2μm,21.9s,baz=42,slow=36
YSS Yuzh-Sakhalins 29.64 30 *eP* **P** **02 19 30.3 +0.3**
YSS *e* 02 19 37.5
YSS *eS* **S** **02 24 22.4 -1.0**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS pmax pmax
comp=E,40nm,1.2s
YSS pmax pmax
comp=Z,500nm,5.5s
YSS MLR MLR
comp=E,2μm,15.0s
YSS MLR MLR
comp=Z,3μm,15.0s
YSS Yuzh-Sakhalins 29.64 30 P **P** **02 19 27.5 -2.5**
SMPI Sarmi 29.88 143 P **P** **02 19 32.9 +0.5**
comp=Z,12nm,1.3s
GTK Tadong 29.96 285 *eP* **P** **02 19 37.3 +4.0**
MNSI Mandailing Nat 30.43 227 P **P** **02 19 37.9 +0.6**
comp=Z,85nm,0.7s
KMMI Kalianget 30.52 195 P **P** **02 19 38.3 +0.3**
comp=Z,24nm,0.8s
ZAK Zakamensk 30.97 337 *eP* **P** **02 19 40.5 -1.3**
ZAK pmax pmax
comp=Z,19nm,1.2s
ZEA Zeya 31.23 7 *eP* **P** **02 19 46.5 +2.5**
ZEA *e* 02 20 02.7
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.4s
ZEA MLR MLR
comp=N,4μm,18.0s
ZEA MLR MLR
comp=Z,4μm,15.0s
MMRI Maumere 31.23 178 P **P** **02 19 44.0 -0.3**
comp=Z,173nm,1.7s
MMRI Maumere 31.23 178 P **P** **02 19 43.6 -0.8**
MMRI Maumere 31.23 178 P **P** **02 19 44.5 +0.2**
BLJI Banyuglugur 31.27 195 P **P** **02 19 46.5 +1.8**
comp=Z,46nm,0.9s
EDFI Ende, Flores 31.34 179 P **P** **02 19 44.3 -1.1**
comp=Z,71nm,1.1s
KRJI Kerinci 31.43 221 P **P** **02 19 48.6 +2.4**
comp=Z,442nm,0.6s
JAY Jayapura 31.44 141 LR LR 02 31 09.1
comp=Z,2μm,21.5s,baz=336,slow=34
KLSI 31.77 213 P **P** **02 19 50.7 +1.6**
comp=Z,959nmcomp=Z,56nm,1.7s
MASI Maura Aman, Be 31.81 218 P **P** **02 19 50.9 +1.4**
comp=Z,158nm,1.0s
JAGI Jajag, Banyuwa 31.85 194 P **P** **02 19 51.9 +2.1**
comp=Z,24nm,1.2s
JAGI Jajag, Banyuwa 31.85 194 P **P** **02 19 51.2 +1.4**
KLI Kotabumi 31.86 212 P **P** **02 19 50.6 +0.7**
comp=Z,112nm,0.7s
MDSI Maura Dua 31.88 214 P **P** **02 19 51.0 +1.0**
comp=Z,64nm,1.2s
IRK Irkutsk 32.21 340 *eP* P 02 19 45.8 -6.9
IRK pmax pmax
comp=Z,115nm,0.3s
WBSI Waikabubak, Su 32.28 184 P **P** **02 19 51.1 -2.5**
comp=Z,55nm,0.7s
YOGI Yogyakarta 32.28 201 P **P** **02 19 54.2 +0.6**
comp=Z,121nm,1.5s
UGM Wanagama 32.30 200 P **P** **02 19 54.7 +1.0**
comp=Z,149nm,1.4s
UGM Wanagama 32.30 200 P **P** **02 19 53.2 -0.5**
UGM Wanagama 32.30 200 P **P** **02 19 54.4 +0.7**
SISI Saibi 32.33 225 P **P** **02 19 54.7 +0.7**
comp=Z,25nm,1.3s
PCJI Pacitan 32.36 199 P **P** **02 19 55.8 +1.6**
comp=Z,34nm,1.1s
GUN Gumba 32.39 287 *eP* **P** **02 19 57.8 +2.9**
comp=Z,102nm,1.0s
LWLI Liwa 32.39 214 P **P** **02 19 55.2 +0.5**
comp=Z,78μmcomp=Z,154nm,0.8s
SOEI Soe 32.46 175 P **P** **02 19 55.0 -0.3**
comp=Z,56nm,1.2s
SOEI Soe 32.46 175 P **P** **02 19 53.7 -1.5**
SOEI Soe 32.46 175 P **P** **02 19 55.0 -0.3**
DBJI Dramaga 32.47 208 P **P** **02 19 56.3 +1.1**
comp=Z,11μmcomp=Z,86nm,1.0s
BOK Bokaro 32.55 279 *eP* **P** **02 19 57.5 +1.6**
TYV Tymovskoe 32.57 25 *eP* **P** **02 19 57.2 +1.4**
TYV *eS* **S** **02 25 12.1 +3.1**
TYV pmax pmax
comp=Z,53nm,1.5s
TYV smax smax
comp=N,900nm,6.6s
TYV smax smax
comp=E,1μm,6.6s
TYV MLR MLR
comp=N,2μm,13.0s
TYV MLR MLR
comp=Z,3μm,13.0s
KASI Kota Agung 32.61 212 P **P** **02 19 56.2 -0.2**
comp=Z,88nm,1.4s
BASI Baing, Sumba 32.80 181 P **P** **02 19 58.8 +0.7**
comp=Z,86nm,1.1s
PKI Pulchoki 32.80 286 *eP* **P** **02 20 00.5 +2.0**
PKIN Phulchoki 32.81 286 *eP* **P** **02 20 00.7 +2.1**
MOY Mondy 32.85 336 *eP* **P** **02 19 57.9 -0.5**
MOY pmax pmax
comp=Z,90nm,1.8s
BATI Baumata 32.86 176 P **P** **02 19 57.7 -1.0**
comp=Z,47nm,0.8s,baz=132,slow=1.9,SNR=7.6
BATI Baumata 32.86 176 P **P** **02 19 56.3 -2.4**
comp=Z,30nm,1.1s
KKN Kakani 32.92 286 *eP* **P** **02 20 02.0 +2.6**
comp=Z,4.0nm,0.2s
CNJI Cibinong 32.99 207 P **P** **02 20 00.5 +0.8**
comp=Z,65nm,1.0s
CGJI Cibinong 32.99 210 P **P** **02 19 59.0 -0.8**
DMN Daman 33.07 286 *eP* **P** **02 20 03.3 +2.5**
GKN Gorkha 33.49 287 *eP* **P** **02 20 07.3 +3.0**
DANN Dangsing 34.27 287 *eP* **P** **02 20 14.5 +3.3**
comp=Z,79nm,1.2s

KOLN Koldanda 34.41 286 *eP* **P** **02 20 14.7 +2.3**
comp=Z,91nm,1.1s
WMQ Urumqi 34.75 315 *eP* **P** **02 20 16.3 +1.4**
WMQ pP pP 02 20 25.1 +0.6
WMQ sP sP 02 20 29.4 +1.4
WMQ PP **PP** **02 21 33.3 -0.7**
WMQ S **S** **02 25 46.5 +3.4**
WMQ ScS **ScS** **02 30 31.5 -2.9**
WMQ pmax pmax
comp=Z,30nm,1.1s
WMQ pmax pmax
comp=Z,600nm,4.5s
WMQ LR LR
comp=Z,5μm,10.3s
WMQ LR LR
comp=Z,3μm,12.1s
WMQ LR LR
comp=Z,2μm,16.3s
PYUN Piuthan 34.95 287 *eP* **P** **02 20 19.6 +2.6**
comp=Z,81nm,1.1s
DGZ Jazzator, Alta 37.81 324⇓ *iP* **P** **02 20 41.9 +0.8**
DGZ pmax pmax
comp=Z,29nm,1.3s
ZSN Zaisan 38.16 319 *eP* **P** **02 20 44.2 +0.4**
ZSN Zaisan 38.16 319 *eP* **P** **02 20 44.3 +0.4**
baz=319
PATS Pohnpei 38.94 108 P **P** **02 20 50.2 -0.6**
RPR Rampur 39.41 272 *eP* **P** **02 20 56.0 +1.2**
MK31 Makanchi Array 39.46 317 *i* P **P** **02 20 55.2 +0.4**
MK31 Makanchi Array 39.46 317 P **P** **02 20 55.0 +0.1**
MK31 IAmb IAmb 02 21 01.6
comp=Z,51nm,0.8s
MKAR Makanchi Array 39.46 317 P **P** **02 20 55.4 +0.5**
comp=Z,19nm,0.7s,baz=111,slow=9.8,SNR=75
MKAR ScP **ScP** **02 26 46.2 -2.4**
comp=Z,2.2nm,0.7s,baz=109,slow=6.6,SNR=5.1
MKAR Makanchi Array 39.46 317 P **P** **02 20 54.4 -0.4**
YAK Yakutsk 39.64 6 P **P** **02 20 56.7 +0.7**
comp=Z,6.8nm,0.3s,baz=193,slow=5.5,SNR=4.8
YAK Yakutsk 39.64 6*deP* **P** **02 20 55.7 -0.3**
YAK pmax pmax
comp=Z,68nm,1.5s
YAK Yakutsk 39.64 6 P **P** **02 20 54.9 -1.1**
YAK IAmb IAmb 02 21 00.1
comp=Z,90nm,1.5s
MAKZ Makanchi 39.66 317 P **P** **02 20 55.7 -0.8**
MAKZ pmax pmax
comp=Z,65nm,0.8s
MAKZ MLR MLR
comp=Z,3μm,18.0s
MAKZ Makanchi 39.66 317 P **P** **02 20 55.7 -0.8**
MAKZ IAMs_20 IAMs_20 02 38 31.6
comp=Z,3μm,18.0s
NJS Nagarjunasagar 39.98 269 *eP* **P** **02 20 59.3 -0.1**
SMLA Simla 40.04 292 *eP* **P** **02 21 02.0 +2.2**
SMLA IAmb IAmb 02 21 19.4
comp=Z,512nm,2.3s
SHLS Shalkode 40.08 311 *eP* **P** **02 20 58.4 -1.8**
SHLS *eS* **S** **02 27 01.0 -3.3**
SHLS Shalkode 40.08 311 *eP* **P** **02 20 58.4 -1.8**
baz=311
SHLS *eS* **S** **02 27 01.1 -3.3**
baz=311
PDGK Podgornoye 40.11 311 P **P** **02 21 01.1 +0.7**
CUPL Choutuppal 40.14 270 *eP* **P** **02 21 00.5 -0.3**
CUPL *ep*P **pP** **02 21 08.4 -1.9**
SRSP Sriramsagar 40.27 273 *eP* **P** **02 21 01.7 -0.2**
SRSP *ep*P **pP** **02 21 09.3 -2.1**
BHPL Bhopal 40.32 280 *ex* x 02 21 14.6
UZB Uzynbulak 40.39 310 *eP* **P** **02 21 03.3 +0.6**
UZB pmax pmax
comp=Z,56nm,2.5s
UZB Uzynbulak 40.39 310 *eP* **P** **02 21 03.4 +0.6**
comp=Z,56nm,2.5s,baz=310
HYBB Hyderabad (bro 40.45 270 *eP* **P** **02 21 04.9 +1.5**
RCLA Racherla 40.61 267 *eP* **P** **02 21 04.7 0.0**
PMG Port Moresby 40.77 139⇑ *iP* **P** **02 21 06.3 +0.4**
PMG pmax pmax
comp=Z,29nm,0.8s
PMG Port Moresby 40.77 139 P **P** **02 21 05.1 -0.9**
PMG Port Moresby 40.77 139 P **P** **02 21 06.7 +0.8**
PMG Port Moresby 40.77 139 P **P** **02 21 06.8 +0.8**
ZHN Zhinishke 40.80 310 *eP* **P** **02 21 06.9 +0.8**
ZHN *eS* **S** **02 27 16.5 +1.4**
ZHN Zhinishke 40.80 310 *eP* **P** **02 21 07.0 +0.8**
baz=310
ZHN *eS* **S** **02 27 16.6 +1.4**
baz=310
DHRM DHARAMSHALA 40.81 293 *eP* **P** **02 21 08.9 +2.5**
DHRM IAmb IAmb 02 21 23.4
comp=Z,54nm,1.7s
FITZ Fitzroy Crossi 40.84 174 P **P** **02 21 04.4 -2.1**
comp=Z,26nm,1.2s,baz=12,slow=8.0
PEA0B Petropavlovsk- 40.95 33⇓ *eP* **P** **02 21 07.2 +0.2**
PETK Petropavlovsk- 40.95 33 P **P** **02 21 05.8 -1.2**
comp=Z,18nm,1.0s,baz=214,slow=4.5,SNR=11
PETK LR LR 02 38 11.5
comp=Z,2μm,20.0s,baz=233,slow=36
TDK Taldyqorghan 41.36 313 *eP* **P** **02 21 11.7 +1.2**
TDK *eS* **S** **02 27 24.9 +1.8**
TDK pmax pmax
comp=Z,23nm,0.9s
TDK Taldyqorghan 41.36 313 *eP* **P** **02 21 11.8 +1.2**
comp=Z,23nm,0.9s,baz=313
TDK *eS* **S** **02 27 24.9 +1.8**
baz=313
PET Petropavlovsk 41.38 34 *eP* **P** **02 21 10.7 +0.1**
PET *eS* **S** **02 27 22.7 -0.4**
PET pmax pmax
comp=Z,137nm,1.1s
PET MLR MLR
comp=Z,2μm,17.0s
PET MLR MLR
comp=Z,2μm,17.0s
PET Petropavlovsk 41.38 34 P **P** **02 21 09.2 -1.4**
PET Petropavlovsk 41.38 34 P **P** **02 21 11.3 +0.7**
ZALV Zalesovo Beam 41.51 328 P **P** **02 21 11.0 -0.6**
comp=Z,58nm,0.6s,baz=117,slow=8.2,SNR=130
ZALV ScP **ScP** **02 26 53.0 -3.5**
comp=Z,3.0nm,1.0s,baz=147,slow=3.0,SNR=3.7
ZALV Zalesovo Beam 41.51 328 P **P** **02 21 11.1 -0.5**
ZALV Zalesovo Beam 41.51 328 P **P** **02 21 11.1 -0.5**
ARXS Arharly 41.52 312 *eP* **P** **02 21 12.2 +0.2**
MDOK Medeo 41.78 310 *eP* **P** **02 21 14.4 +0.2**
MDOK *eS* **S** **02 27 30.4 +0.8**
MDOK Medeo 41.78 310 *eP* **P** **02 21 14.4 +0.2**
baz=310
MDOK *eS* **S** **02 27 30.5 +0.8**
baz=310
KSH Kashi 41.80 304 P **P** **02 21 19.1 +4.7**
KSH pP sP 02 21 28.4 +0.8
KSH sP pP 02 21 33.0 +8.9
KSH PP **PnPn** **02 23 00.1 +3.6**
KSH PcP **PcP** **02 23 13.6 +3.4**
KSH S **S** **02 27 38.4 +8.4**
KSH pmax pmax
comp=Z,21nm,1.9s
KSH LR LR
comp=Z,2μm,15.1s
KSH LR LR
comp=Z,4μm,15.5s
KSH LR LR
comp=Z,3μm,12.9s
TNSS Tian-Shan 41.82 310 *eP* **P** **02 21 15.1 +0.2**
baz=310
CHKK Chushkaly 42.00 311 *eP* **P** **02 21 16.2 +0.3**
baz=311
PALK Pallekele 42.01 255 LR LR 02 39 37.9
comp=Z,3μm,19.8s,baz=160,slow=37
PALK Pallekele 42.01 255 IAMs_20 IAMs_20 02 38 35.5
comp=Z,3μm,20.0s
ULHL Ulahol 42.14 308 P P 02 21 23.0 +5.7
SNR=6.6
SEM Semipalatinsk 42.20 321 *eP* **P** **02 21 17.3 -0.3**
SEM *eS* **S** **02 27 36.0 +0.3**
SEM pmax pmax
comp=Z,48nm,1.5s
SEM Semipalatinsk 42.20 321 *eP* **P** **02 21 17.4 -0.3**
comp=Z,48nm,1.5s,baz=321
SEM *eS* **S** **02 27 36.0 +0.3**
baz=321
MA2 Magadan 42.22 22⇑ *eP* **P** **02 21 17.8 +0.4**
MA2 pmax pmax
comp=Z,60nm,1.1s
MA2 Magadan 42.22 22 P **P** **02 21 15.7 -1.6**

MA2 IAmb IAmb 02 21 19.7
comp=Z,57nm,1.1s
MA2 Magadan 42.22 22 P **P 02 21 17.8 +0.4**
COEN Coen 42.31 148 P **P 02 21 17.1 -1.5**
COEN IAmb IAmb 02 21 22.4
comp=Z,45nm,0.6s
COEN Coen 42.31 148 P **P 02 21 18.4 -0.1**
URV Uravakonda 42.32 267 *e*P **P 02 21 19.0 +0.2**
URV *e*pP **pP 02 21 26.4 -1.9**
H11N1 WAKE ISLAND Hy 42.43 85 T T 03 06 36.3
baz=282,slow=75,SNR=901
H11N2 WAKE ISLAND Hy 42.43 85 T T 03 06 35.0
baz=282,slow=75,SNR=1042
H11N3 WAKE ISLAND Hy 42.44 85 T T 03 06 35.1
baz=282,slow=75,SNR=914
KUU Kurty 42.47 311 *e*P **P 02 21 19.8 +0.2**
KUU pmax pmax
comp=Z,124nm,2.0s
KUU Kurty 42.47 311 *e*P **P 02 21 19.9 +0.2**
comp=Z,124nm,2.0s,baz=311
H11S3 WAKE ISLAND Hy 42.52 87 T T 03 06 42.1
baz=284,slow=75,SNR=3392
H11S1 WAKE ISLAND Hy 42.52 87 T T 03 06 42.8
baz=284,slow=75,SNR=708
KST Kastek 42.52 309 *e*P **P 02 21 20.7 +0.4**
comp=Z,52nm,1.5s,baz=309
H11S2 WAKE ISLAND Hy 42.53 87 T T 03 06 43.5
baz=284,slow=75,SNR=713
KBK Karagaybulak 43.16 309 P **P 02 21 28.5 +2.9**
SNR=12
KURK Kurchatov 43.27 321*c i*P **P 02 21 26.0 0.0**
KURK pmax pmax
comp=Z,63nm,1.1s
KURK Kurchatov 43.27 321 P **P 02 21 25.3 -0.7**
KURK IAmb IAmb 02 21 31.7
comp=Z,55nm,1.1s
KURBB Kurchatov Arra 43.28 321 P **P 02 21 25.2 -0.9**
CHMS Chumysh 43.38 309 P **P 02 21 28.7 +1.6**
SNR=9.2
UCH Uchtor 43.39 308 P **P 02 21 30.4 +2.7**
SNR=30
NIL Nilore 43.41 295 IAms_20 IAms_20 02 41 40.8
comp=Z,3μm,21.0s
AAK Ala-Archa 43.49 309 P **P 02 21 29.9 +1.7**
SNR=8.2
AAK Ala-Archa 43.49 309*ce*P **P 02 21 29.8 +1.7**
AAK pmax pmax
comp=Z,28nm,1.1s
AAK Ala-Archa 43.49 309 P **P 02 21 27.8 -0.3**
AAK IAms_20 IAms_20 02 39 47.3
comp=Z,4μm,22.0s
SGDS Sogindy 43.57 310 *e*P **P 02 21 31.7 +3.1**
SGDS Sogindy 43.57 310 *e*P **P 02 21 28.9 +0.2**
baz=310
MBWA Marble Bar 43.70 182 P **P 02 21 30.0 +0.3**
AML Almayashu 43.97 308 P **P 02 21 35.3 +3.0**
SNR=24
EKS2 Erkin-Say 44.01 308 P **P 02 21 35.7 +3.4**
SNR=8.6
PSA00 Pilbara Seismi 44.11 182 IAmb IAmb 02 21 37.2
comp=Z,45nm,0.9s
PSA00 Pilbara Seismi 44.11 182 IAmb IAmb 02 21 36.5
comp=Z,65nm,1.5s
PSA00 Pilbara Seismi 44.11 182 P **P 02 21 34.5 +1.5**
WRAB Tennant Creek 44.31 162*de*P **P 02 21 32.6 -2.0**
WRAB pmax pmax
comp=Z,23nm,0.8s
WRA Warramunga Arr 44.31 162 P **P 02 21 32.5 -2.2**
comp=Z,6.1nm,0.5s,baz=345,slow=8.6,SNR=50
WRA ScP **ScP 02 27 04.8 -3.4**
comp=Z,5.6nm,0.8s,baz=347,slow=4.3,SNR=11
WRA Warramunga Arr 44.31 162 *i* P **P 02 21 33.0 -1.7**
WRA pmax pmax
comp=Z,11nm,0.6s
BTLS Baital 44.34 312 *e*P **P 02 21 34.8 +0.1**
BTLS Baital 44.34 312 *e*P **P 02 21 34.9 +0.2**
baz=312
POO Poona 44.51 274 *e*P **P 02 21 40.9 +4.4**
POO IAmb IAmb 02 21 54.9
comp=Z,20nm,1.7s
SEY Seymchan 45.24 19 LR LR 02 43 52.0
comp=Z,1μm,18.2s,baz=213,slow=40
GIRL Giralia 45.68 189 P **P 02 21 44.9 -0.5**
GIRL Giralia 45.68 189 P **P 02 21 47.0 +1.5**
DZA Taraz 45.83 308 *e*P **P 02 21 47.0 +0.4**
DZA Taraz 45.83 308 *e*P **P 02 21 47.0 +0.4**
baz=308
OTUK Ortayu 46.30 316 P **P 02 21 50.7 +0.5**
MTSU Mount Surprise 46.45 149 P **P 02 21 52.6 +0.9**
comp=Z,51nm,0.7s
KKAR Karatay Array 46.45 308 P **P 02 21 50.9 -0.6**
KKAR Karatay Array 46.45 308 P **P 02 21 50.9 -0.6**
BRZS Berezniki 46.57 318 *e*P **P 02 21 52.4 +0.1**
BRZS pmax pmax
comp=Z,18nm,0.9s
BRZS Berezniki 46.57 318 *e*P **P 02 21 52.4 +0.1**
comp=Z,18nm,0.9s,baz=318
QIS Mount Isa 46.61 156 P **P 02 21 52.3 -0.6**
comp=Z,45nm,0.9s
IUG Iuzhnay 46.66 307 *e*P **P 02 21 53.3 +0.1**
IUG Iuzhnay 46.66 307 *e*P **P 02 21 53.4 +0.1**
baz=307
BRLS Borolday 46.93 308 *e*P **P 02 21 55.8 +0.5**
BRLS Borolday 46.93 308 *e*P **P 02 21 55.8 +0.5**
baz=308
CHGR Chuyangaron 46.97 302 P **P 02 21 55.4 -0.3**
AS31 Alice Springs 47.75 164 P **P 02 22 01.3 -0.4**
ASAR Alice Springs 47.75 164 P **P 02 22 00.7 -1.1**
comp=Z,3.2nm,0.4s,baz=340,slow=6.7,SNR=29
ASAR ScP **ScP 02 27 18.9 -3.6**
comp=Z,9.5nm,0.8s,baz=351,slow=4.3,SNR=26
WRKA Warakurna 48.01 172 P **P 02 22 03.0 -0.7**
BRVK Borovoye 48.93 321*c i*P **P 02 22 10.6 +0.1**
BRVK pmax pmax
comp=Z,49nm,1.1s
BRVK Borovoye 48.93 321 P **P 02 22 10.6 +0.1**
BRVK Borovoye 48.93 321 IAms_20 IAms_20 02 41 25.8
comp=Z,2μm,18.0s
CTA Charters Tower 49.05 148 P **P 02 22 11.1 -0.7**
comp=Z,38nm,0.9s,baz=330,slow=8.7,SNR=20
CTA Charters Tower 49.05 148 P **P 02 22 11.6 -0.2**
CTAO Charters Tower 49.05 148 P **P 02 22 11.8 0.0**
CTAO pmax pmax
comp=Z,32nm,0.9s
CTAO Charters Tower 49.05 148 P **P 02 22 11.8 0.0**
CTAO IAmb IAmb 02 22 16.7
comp=Z,32nm,0.8s
CTAO Charters Tower 49.05 148 P **P 02 22 11.7 0.0**
TIXI Tiksi 49.08 3⇓ *e*P **P 02 22 10.9 -0.5**
TIXI pmax pmax
comp=Z,22nm,1.5s
TIXI Tiksi 49.08 3 P **P 02 22 10.4 -1.0**
SHEM Shemya Is, Ala 49.80 39 LR LR 02 41 56.5
comp=Z,373nm,21.0s,baz=276,slow=34
NRIK Noril'sk 50.79 345 P **P 02 22 23.8 -0.7**
comp=Z,7.9nm,0.5s,baz=142,slow=5.7,SNR=13
NRIK Noril'sk 50.79 345⇓ *e*P **P 02 22 23.6 -0.8**
NRIK pmax pmax
comp=Z,49nm,2.0s
NRIK Noril'sk 50.79 345 IAmb IAmb 02 22 38.2
comp=Z,32nm,1.1s
OOD Oodnadatta 52.15 164 P **P 02 22 34.8 -0.2**
BILL Bilibino 52.95 19*ce*P **P 02 22 41.4 +0.9**
BILL *e* 02 23 49.6
BILL *e* 02 24 43.1
BILL *i* S S 02 29 57.2 -10
BILL pmax pmax
comp=Z,18nm,0.8s
BILL MLR MLR
comp=Z,1μm,17.0s
BILL Bilibino 52.95 19 P **P 02 22 40.6 +0.1**
BILL IAms_20 IAms_20 02 48 40.9
comp=Z,1μm,18.0s
FORT Forrest 53.64 173 P **P 02 22 46.1 +0.1**
FORT Forrest 53.64 173 P **P 02 22 45.5 -0.5**
QLP Quilpie 53.84 154 P **P 02 22 47.4 -0.1**
MULG Mulgathing 54.15 166 P **P 02 22 49.7 0.0**
KLBR Kellerberrin 54.17 184 P **P 02 22 51.8 +1.9**
AB31 Akbulak array 54.53 315 *i* P **P 02 22 52.3 -0.1**
SVE Sverdlovsk 55.27 324 *e*P **P 02 22 58.1 +0.5**
SVE pmax pmax
comp=Z,108nm,1.5s
GEYT Alibeck 55.65 301 P **P 02 23 01.6 +0.9**
comp=Z,9.2nm,0.7s,baz=224,slow=4.1,SNR=10.0
GEYT Alibeck 55.65 301 IAmb IAmb 02 23 21.5
comp=Z,36nm,1.0s
ARU Arti 56.32 324*c i*P **P 02 23 04.6 -0.6**
ARU S **S 02 30 53.9 +0.8**
ARU SS **SS 02 34 41.1 +1.2**
ARU pmax pmax
comp=Z,61nm,1.2s
ARU Arti 56.32 324 P **P 02 23 04.5 -0.6**
ARU IAMs_20 IAMs_20 02 46 43.2
comp=Z,2μm,21.0s
BBOO Buckleboo 57.03 165 IAmb IAmb 02 23 12.6
comp=Z,45nm,1.2s
WSAR Wadi Sarin 57.31 284 LR LR 02 51 54.7
comp=Z,1μm,19.7s,baz=96,slow=40
STKA Stephens Creek 57.70 160 P **P 02 23 14.7 -0.4**
comp=Z,11nm,0.7s,baz=339,slow=8.7,SNR=11
STKA ScP **ScP 02 28 02.8 -2.7**
comp=Z,1.8nm,0.8s,baz=358,slow=12,SNR=3.7
UOSS Minazif 59.10 286 IAMs_20 IAMs_20 02 52 53.2
comp=Z,2μm,21.0s
ARMA Armidale 60.36 150 P **P 02 23 33.6 -0.1**
ARMA IAmb IAmb 02 23 38.1
comp=Z,21nm,0.8s
KIRV Kirov 61.46 325*c i*P **P 02 23 40.1 -0.6**
TNA Tin City 61.52 27 P **P 02 23 44.3 +3.3**
baz=262
BELG Belogornoye 62.44 318*ce*P **P 02 23 46.7 -0.7**
BELG pmax pmax
comp=Z,13nm,1.3s
ANM Nome 62.49 28 P **P 02 23 51.2 +3.6**
baz=265
DZM Mont Dzumac 62.58 132 P **P 02 23 48.9 0.0**
comp=Z,8.1nm,1.1s,baz=328,slow=12,SNR=3.0
DZM LR LR 02 50 26.2
comp=Z,412nm,18.2s,baz=321,slow=36
DZM Mont Dzumac 62.58 132 *e*LR LR 02 42 24.8
comp=Z,2μm,29.6s
DZM Mont Dzumac 62.58 132 IAmb IAmb 02 24 06.4
comp=Z,43nm,1.5s
LKRN Lenkeran, Azer 62.87 303 P **P 02 23 52.7 +2.1**
MAK Makhachkala 63.26 308 *e*P **P 02 23 50.2 -2.9**
MAK *e* 02 26 09.5
MAK *e*S **S 02 32 18.4 -4.5**
MAK *e*SSS SSS 02 39 23.2
MAK pmax pmax
comp=Z,194nm,1.2s
MAK MLR MLR
comp=Z,1μm,19.0s
CAN Canberra 63.45 155 P **P 02 23 55.2 +0.8**
CAN pmax pmax
comp=Z,15nm,0.9s
CAN Canberra 63.45 155 P **P 02 23 55.2 +0.8**
CAN IAmb IAmb 02 23 57.9
comp=Z,15nm,0.9s
PRGR Permogore 63.45 329 *e*P **P 02 23 52.7 -1.3**
PRGR *e* 02 24 29.6
PRGR pmax pmax
comp=Z,7.0nm,0.9s
SEKA Sheki 63.72 306 P **P 02 23 58.0 +1.7**
MNGR Mingechevir, A 63.87 305 P **P 02 23 59.4 +2.3**
TOO Toolangi 64.19 159 P **P 02 23 59.8 +0.6**
TOO pmax pmax
comp=Z,33nm,0.9s
TOO Toolangi 64.19 159 P **P 02 23 59.8 +0.6**
GANJ Ganja 64.46 305 P **P 02 24 01.7 +0.6**
NAX Nakhchivan 65.33 304 P **P 02 24 08.9 +2.1**
GNI Garni 65.73 305⇑ *e*P **P 02 24 11.2 +1.7**
GNI pmax pmax
comp=Z,46nm,1.7s
GNI Garni 65.73 305 IAMs_20 IAMs_20 02 57 11.3
comp=Z,1μm,19.0s
NCK Nalchik 66.02 309⇑ *e*P **P 02 24 11.8 +0.7**
A21K Barrow 66.06 20 IAMs_20 IAMs_20 02 56 20.7
comp=Z,1μm,20.0s
GOF Gofitskoye 66.16 311⇑ *e*P **P 02 24 13.1 +1.1**
GOF pmax pmax
comp=Z,51nm,1.4s
VRH Novokhopyorsk 66.19 317 *e*P **P 02 24 11.3 -0.7**
VRH pmax pmax
comp=Z,50nm,0.8s
KLMR Klimovskoe 66.43 328 *e*P **P 02 24 11.2 -2.2**
KLMR *e*S **S 02 32 56.9 -4.3**
KLMR *e*SSS SSS 02 40 21.6
KLMR pmax pmax
comp=Z,93nm,1.4s
KLMR MLR MLR
comp=Z,2μm,16.0s
KLMR Klimovskoe 66.43 328 *e*P **P 02 24 11.2 -2.2**
KLMR AMP 02 24 17.6
comp=Z,93nm,1.4s
KLMR *e*S **S 02 32 56.9 -4.3**
KLMR *e*S **S 02 32 56.9 -4.3**
KLMR *e*SSS SSS 02 40 21.7
KLMR *e*SSS SSS 02 40 21.7
KLMR LQ LQ 02 46 42.9
KLMR LQ LQ 02 46 42.9
KLMR LR LR 02 51 30.6
KLMR AMP 02 56 49.2
comp=Z,2μm,16.2s
AKH Akhalkalaki 66.44 307⇑ P **P 02 24 15.7 +1.6**
KBZ Khabaz 66.48 309 P **P 02 24 14.9 +0.9**
comp=Z,13nm,0.8s,baz=163,slow=8.2,SNR=15
KBZ Khabaz 66.48 309⇓ *i*P **P 02 24 14.7 +0.7**
KBZ pmax pmax
comp=Z,38nm,1.3s
KIV Kislovodsk 66.59 310 *e*P **P 02 24 15.4 +0.5**
KIV *e*S **S 02 33 04.6 +0.6**
KIV pmax pmax
comp=Z,48nm,1.0s
KIV pmax pmax
comp=Z,21nm,3.3s
KIV MLR MLR
comp=Z,987nm,17.0s
KIV Kislovodsk 66.59 310 P **P 02 24 15.0 +0.1**
KIV IAMs_20 IAMs_20 02 55 33.8
comp=Z,1μm,20.0s
TTA Tatalina 66.64 30 P **P 02 24 14.5 -0.3**
TTA pmax pmax
comp=Z,32nm,1.4s
TTA Tatalina 66.64 30 P **P 02 24 14.5 -0.3**
TTA IAmb IAmb 02 24 25.6
comp=Z,32nm,1.4s
TTA Tatalina 66.64 30 P **P 02 24 15.2 +0.4**
baz=274
L19K White Mountain 67.24 30 IAmb IAmb 02 24 29.9
comp=Z,40nm,1.2s
O18K Koktuh Hills 67.32 33 IAmb IAmb 02 24 30.4
comp=Z,29nm,1.1s
O18K Koktuh Hills 67.32 33 P **P 02 24 20.1 +0.9**
baz=276
J20K Nowinta River 67.36 28 IAmb IAmb 02 24 25.4
comp=Z,15nm,0.8s
J20K Nowinta River 67.36 28 P **P 02 24 20.2 +0.9**
baz=276
K20K Telida 67.48 29 IAmb IAmb 02 24 30.9
comp=Z,46nm,1.4s
K20K Telida 67.48 29 P **P 02 24 19.3 -0.8**
baz=276
M19K Big River Lodg 67.49 31 IAmb IAmb 02 24 31.6
comp=Z,30nm,1.1s
L20K Farewell, AK 67.66 30 P **P 02 24 25.3 +4.0**
baz=277
VORR Voronezh 67.68 318 *e*P **P 02 24 20.9 -0.6**
VORR pmax pmax
comp=Z,69nm,0.7s
LPSR Galich'ya Gora 67.71 319 *e*P **P 02 24 21.3 -0.4**
LPSR pmax pmax
comp=Z,50nm,0.8s
VORD Divnogorie 67.74 317 *e*P **P 02 24 21.9 0.0**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 67.78 318 *e*P **P 02 24 21.5 -0.6**
VSR pmax pmax
comp=Z,50nm,1.1s
H21K Melozitna Rive 67.78 27 IAmb IAmb 02 24 27.9
comp=Z,18nm,0.8s
H21K Melozitna Rive 67.78 27 P **P 02 24 22.9 +0.9**
baz=276
MOS Moscow 68.00 323 *e*P **P 02 24 19.6 -3.9**
MOS *e* 02 26 48.8
MOS pmax pmax
comp=Z,46nm,0.8s
MOS MLR MLR
comp=Z,1μm,19.0s
SIRT Sirnak 68.01 303 P **P 02 24 23.5 -0.5**
CAST Castle Rocks 68.36 29 IAmb IAmb 02 24 31.4
comp=Z,16nm,0.8s
CAST Castle Rocks 68.36 29 P **P 02 24 26.1 +0.5**
baz=278
PPLA Purkeypile 68.39 29 P **P 02 24 29.3 +3.3**
baz=278
APA Apatity 68.40 336⇓ *i*P **P 02 24 24.9 -0.8**
APA *i* 02 24 45.0
APA *i* 02 26 52.9
APA *i* S **S 02 33 21.0 -3.7**
APA *i* 02 34 10.0
APA pmax pmax
comp=Z,20μm,1.1s
APA MLR MLR
comp=Z,2μm,13.0s
MSVF Nonsavu 68.50 121 P **P 02 24 28.4 +1.2**
comp=Z,16nm,0.9s,baz=314,slow=8.1,SNR=8.8
MSVF Nonsavu 68.50 121 P **P 02 24 28.2 +1.0**
MSVF pmax pmax
comp=Z,32nm,1.1s
MSVF Nonsavu 68.50 121 P **P 02 24 28.2 +1.0**
MSVF IAmb IAmb 02 24 32.8
comp=Z,32nm,1.1s
COLD Coldfoot 68.63 25 P **P 02 24 29.4 +2.1**
baz=278
OBN Obninsk 68.70 322*de*P **P 02 24 27.1 -0.7**
OBN *e* 02 24 54.6
OBN *e* 02 27 00.1
OBN *i* S **S 02 33 32.5 +3.9**
OBN *e*SS **SS 02 37 47.9 -5.1**
OBN pmax pmax
comp=Z,93nm,1.9s
OBN MLR MLR
comp=Z,993nm,17.0s
OBN Obninsk 68.70 322 IAMs_20 IAMs_20 02 54 34.6
comp=Z,1μm,18.0s
MLY Manley 68.72 27 IAmb IAmb 02 24 38.6
comp=Z,27nm,1.2s
MLY Manley 68.72 27 P **P 02 24 28.5 +0.6**
baz=278
SOC Sochi 68.78 310 *e*P **P 02 24 25.8 -2.8**
SOC *e*PPP PPP 02 28 33.7
SOC *e*S **S 02 33 27.4 -2.6**
SOC *e*SS **SS 02 37 49.4 -5.4**
SOC MLR MLR
comp=Z,873nm,19.0s
RAYN Ar Rayn 68.91 287 P **P 02 24 29.8 0.0**
RAYN pmax pmax
comp=Z,37nm,1.2s
RAYN MLR MLR
comp=Z,1μm,21.0s
RAYN Ar Rayn 68.91 287 P **P 02 24 29.8 0.0**
RAYN IAmb IAmb 02 24 42.4
comp=Z,37nm,1.2s
RAYN Ar Rayn 68.91 287 IAMs_20 IAMs_20 02 55 39.0
comp=Z,982nm,21.0s
KDAK Kodiak Island 68.96 35 LR LR 02 56 10.9
comp=Z,498nm,19.7s,baz=266,slow=37
TRF Thorofare Moun 69.16 29 P **P 02 24 33.7 +2.9**
baz=279
I23K Minto, Yukon-K 69.28 27 P **P 02 24 34.5 +3.3**
baz=280
NEA2 Nenana 69.50 27 IAmb IAmb 02 24 49.6
comp=Z,17nm,0.9s
MCK McKinley 69.70 28 IAmb IAmb 02 24 55.3
comp=Z,46nm,1.5s
RND Reindeer 69.80 29 IAmb IAmb 02 24 47.5
comp=Z,28nm,0.9s
RC01 Rabbit Creek A 69.82 31 P **P 02 24 35.3 +0.7**
baz=281
PMR Palmer 70.01 31 P **P 02 24 38.4 +2.6**
baz=281
WAT1 Susitna Watana 70.04 29 P **P 02 24 37.9 +1.8**
baz=281
KNK Knik Glacier 70.36 31 P **P 02 24 40.5 +2.5**
baz=282
ILAR Eielson Array 70.39 27 P **P 02 24 36.6 -1.5**
comp=Z,1.0nm,0.5s,baz=251,slow=4.4,SNR=5.0
HDA Harding Lake 70.43 27 P **P 02 24 38.1 -0.3**
SCM Sheep Creek Mo 70.80 30 P **P 02 24 43.8 +3.0**
baz=282
SPA0 Spitsbergen Ar 70.88 348 *e*P **P 02 24 40.4 -0.6**
ARA0 ARCESS Array S 70.89 338 *e*P **P 02 24 39.9 -1.3**
ARCES ARCESS Array B 70.89 338 P **P 02 24 40.6 -0.5**
comp=Z,5.7nm,0.8s,baz=67,slow=9.1,SNR=19
ARCES ARCESS Array B 70.89 338 IAmb IAmb 02 24 50.8
comp=Z,45nm,1.4s
HAMF Hammerfest 71.22 340 *e*P **P 02 24 43.6 +0.6**
KBS Kingsbay 71.43 349 *e*P **P 02 24 43.0 -1.2**
KBS Kingsbay 71.43 349 IAMs_20 IAMs_20 03 01 42.3
comp=Z,2μm,19.0s
HSPB Hornsund (broa 71.45 347 *e*P **P 02 24 42.4 -2.0**
KLU Klutina 71.53 30 P **P 02 24 49.2 +3.9**
baz=284
SCRK Sand Creek 71.79 28 IAmb IAmb 02 25 06.8
comp=Z,24nm,1.3s
KTK1 Kautokeino 71.81 338 *e*P **P 02 24 46.4 -0.3**
J26L Joseph Creek 71.84 27 IAmb IAmb 02 25 06.6
comp=Z,34nm,1.5s
BMRM Bremner River 72.28 31 P **P 02 24 49.4 -0.3**
BMRM IAmb IAmb 02 25 03.8
comp=Z,30nm,1.0s
SIM Simferopol' 72.38 312 *e*P **P 02 24 49.9 -0.6**
SIM pmax pmax
comp=Z,91nm,1.1s
M26K Nabesna, AK 72.64 29 IAmb IAmb 02 25 11.8
comp=Z,52nm,1.4s
FIA1 FINESS Array S 72.73 330 IAmb IAmb 02 24 57.4
comp=Z,25nm,1.1s
FINES FINESS Array B 72.73 330 P **P 02 24 52.0 -0.3**
comp=Z,12nm,0.8s,baz=54,slow=5.7,SNR=60
FINES FINESS Array B 72.73 330 P **P 02 24 51.3 -0.9**
EGAK Eagle 72.76 26 P **P 02 24 51.0 -1.4**
L27K Beaver Creek, 72.97 28 IAmb IAmb 02 25 14.5
comp=Z,29nm,1.2s
L27K Beaver Creek, 72.97 28 P **P 02 24 54.4 +0.7**
baz=287
TRO Tromso 73.08 339 *e*P **P 02 24 54.9 +0.7**
VSU Vasula 73.23 327*c i*P **P 02 24 54.5 -0.8**
VSU pmax pmax
comp=Z,160nm,1.1s
VSU Vasula 73.23 327 *e*P **P 02 24 54.4 -0.9**
DAWY Dawson 73.71 27 P **P 02 24 58.0 -0.1**
DAWY IAmb IAmb 02 25 15.9
comp=Z,42nm,1.4s
MNK Minsk 73.73 323 *i* P **P 02 24 58.9 +0.6**
MNK *i* 02 25 14.2
MNK *i* 02 27 43.4
MNK *i* PPP PPP 02 29 28.6
MNK *i* S **S 02 34 27.3 +0.4**
MNK *i* 02 35 05.6
MNK *i* SS **SS 02 39 09.4 -0.8**
MNK pmax pmax
comp=Z,36nm,1.0s
MNK pmax pmax
comp=N,21nm,1.1s
MNK pmax pmax
comp=E,5.0nm,1.1s
MNK MLR MLR
comp=Z,784nm,18.0s
MNK MLR MLR
comp=E,89nm,18.0s
MNK MLR MLR
comp=N,536nm,17.0s
MNK Minsk 73.73 323 *i* P **P 02 24 59.0 +0.6**
comp=E,5.0nm,1.1s
MNK *i* P **P 02 24 59.0 +0.6**
comp=N,21nm,1.1s
MNK *i* P **P 02 24 59.0 +0.6**
comp=Z,36nm,1.0s,baz=253
MNK *i* PP **PP 02 27 43.4 +0.8**
MNK *i* PPP PPP 02 29 28.6
MNK *i* S **S 02 34 27.3 +0.4**
MNK *i* SS **SS 02 39 09.4 -0.8**
MNK *i* SSS SSS 02 42 34.9
MNK *i* LQ LQ 02 51 41.3
MNK *i* LR LR 02 57 05.2
MNK *i* LRM MLR 03 00 03.2
comp=Z,784nm,18.1s
MNK *i* LRM MLR 03 00 09.0
comp=E,89nm,18.1s
MNK *i* LRM MLR 03 00 15.5
comp=N,536nm,16.6s
CTG Chitna Glacier 73.81 30 P **P 02 24 58.6 -0.2**
baz=288
AKASG Malin Array Be 74.02 319 P **P 02 24 59.3 -0.7**
comp=N,11nm,0.7s,baz=60,slow=6.0,SNR=19
AKASG Malin Array Be 74.02 319 *i* P **P 02 24 59.2 -0.9**

AKASG pmax pmax
comp=Z,11nm,0.7s
AKBB Malin Array Si 74.02 319⇓ *e*P P 02 24 59.4 -0.7
AKBB pmax pmax
comp=Z,51nm,2.2s
BR131 Keskin Array S 74.13 307⇓ *e*P P 02 25 02.6 +1.5
BR131 Keskin Array S 74.13 307 IAmb IAmb 02 25 11.6
comp=Z,51nm,1.4s
BRTR Keskin Array B 74.13 307 P **P 02 25 01.2 +0.1**
comp=Z,6.0nm,0.8s,baz=110,slow=6.7,SNR=11
BRTR Keskin Array B 74.13 307 *i* P **P 02 25 03.0 +1.9**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
IDID Didziasalis 74.13 324 *e*P **P 02 25 00.9 +0.3**
NACGM Naroch 74.23 323 *i* P **P 02 25 02.0 +0.8**
IIGN Ignalina 74.40 324 *e*P **P 02 25 03.1 +0.9**
INK Inuvik 74.46 22 P **P 02 25 02.6 +0.3**
baz=292
STEI Steigen 74.95 338 *e*P **P 02 25 04.0 -1.1**
FAUS Fauske 75.15 337 *e*P **P 02 25 05.5 -0.8**
M30M Minto, Yukon 75.32 28 IAmb IAmb 02 25 28.1
comp=Z,47nm,1.4s
M30M Minto, Yukon 75.32 28 P **P 02 25 08.0 +0.5**
baz=291
SORM Soroca 75.32 316 ⇓P **P 02 25 06.2 -1.4**
MILM Milestii Mici 75.39 315 *e*P **P 02 25 09.0 +0.9**
comp=Z,18nm,1.0s
MILM *e*LQ LQ 02 53 40.0
comp=Z,1µm,24.0s
MILM *e*LR LR 02 58 19.0
comp=Z,1µm,20.0s
MILM Milestii Mici 75.39 315 ⇓P **P 02 25 07.8 -0.2**
MILM Milestii Mici 75.39 315 *e*P **P 02 25 09.0 +0.9**
MILM pmax pmax
comp=Z,18nm,1.0s
MILM MLR MLR
comp=Z,1µm,20.0s
MILM MLR MLR
comp=E,1µm,18.5s
LOF Lofoten 75.45 338 *e*P **P 02 25 07.5 -0.5**
PABE Paberze 75.58 324 *e*P **P 02 25 08.7 -0.2**
PABE Paberze 75.58 324 P **P 02 25 08.9 0.0**
MOR8 Moi Rana 75.95 336 *e*P **P 02 25 08.3 -2.6**
AAL Aland 75.96 330 *e*P **P 02 25 12.8 +1.8**
TPGR Topolog 76.29 313 ⇑P **P 02 25 13.9 +0.6**
KONS Konsvik 76.30 337 *e*P **P 02 25 13.7 +0.9**
CFR Carcaliu 76.38 313 ⇑P **P 02 25 15.1 +1.3**
SUW Suwalki 76.51 323 *e*P **P 02 25 14.9 +0.7**
SUW *e*L L 03 01 48.5
comp=E,1µm,20.1s
SUW Suwalki 76.51 323 *e*P **P 02 25 14.1 -0.2**
SUW Suwalki 76.51 323 IAms_20 IAms_20 03 03 47.0
comp=Z,1µm,20.0s
TESR Tescani 76.93 315 ⇑P **P 02 25 16.6 -0.3**
ICOR Ion Corvin 76.95 312 ⇓P **P 02 25 16.5 -0.5**
C36M Paulatuk 77.07 19 P **P 02 25 16.9 -0.3**
baz=301
VRI Vrincioaia 77.09 314 ⇑P **P 02 25 19.0 +1.2**
PLOR Plostina 77.15 314 ⇑P **P 02 25 19.2 +1.1**
UPP Uppsala 77.18 330 *e*P **P 02 25 17.8 -0.2**
COVR Voineasa-Covas 77.44 315 ⇑P **P 02 25 20.3 +0.5**
LVV L'vov 77.46 319 *e*P **P 02 25 21.3 +1.5**
LVV *e* 02 28 11.0
LVV *e*S **S 02 35 06.1 -2.3**
BURAR Bucovina Array 77.48 316 ⇑P **P 02 25 20.1 0.0**
NSS Namsos 77.60 335 *e*P **P 02 25 18.6 -1.7**
OZUR 77.63 315 ⇑P **P 02 25 21.3 +0.4**
MLR Muntele Rosu 77.73 314 ⇑P **P 02 25 21.5 -0.1**
MLR Muntele Rosu 77.73 314 IAms_20 IAms_20 03 04 09.2
comp=Z,1µm,20.0s
DAG Danmarks Havn 77.77 351 *i* P **P 02 25 19.0 -2.0**
DAG IAmb IAmb 02 25 24.1
comp=Z,45nm,1.5s
SECR 77.81 314 ⇑P **P 02 25 22.3 +0.5**
DOPR Dopca 77.94 315 ⇑P **P 02 25 23.0 +0.5**
ARCR ARCALIA 78.22 316 ⇓P **P 02 25 24.8 +0.8**
KWP Kalwaria Pacla 78.33 319 *e*P **P 02 25 27.4 +2.8**
KWP *e*L L 03 04 44.1
comp=Z,2µm,18.6s
VOIR 78.34 314 ⇑P **P 02 25 24.8 -0.1**
ARR Arges 78.64 314 ⇑P **P 02 25 27.2 +0.6**
HUMR Humele 78.71 314 ⇑P **P 02 25 27.0 +0.2**
HFS Hagfors 78.86 331 LR LR 03 03 39.6
comp=Z,4µm,18.7s,baz=64,slow=38
UZH Uzhgorod 78.95 318 *e*P **P 02 25 28.2 +0.2**
UZH *i* 02 25 37.8
CRVS Cervenica-Dubn 79.36 319 *e*P **P 02 25 30.2 -0.1**
CRVS Cervenica-Dubn 79.36 319 *e*P **P 02 25 30.2 -0.1**
DRGR 79.37 316 ⇓P **P 02 25 30.7 +0.2**
NB2 NORSAR Subarra 79.53 332 P **P 02 25 29.2 -1.8**
comp=Z,12nm,0.8s,baz=62,slow=5.3
NB2 NORSAR Subarra 79.53 332 P **P 02 25 29.2 -1.8**
baz=62,slow=5.3
NOA NORSAR Array B 79.53 332 P **P 02 25 29.0 -2.0**
comp=Z,1.8nm,0.6s,baz=81,slow=5.5,SNR=19
NC602 NORSAR Array S 79.54 332 *e*P **P 02 25 30.3 -0.7**
NC204 NORSAR Array S 79.61 333 IAmb IAmb 02 25 49.7
comp=Z,51nm,1.2s
OJC Ojcow 79.85 320 *e*P **P 02 25 33.2 +0.3**
OJC *e*L L 03 01 35.9
comp=Z,1µm,19.4s
OJC Ojcow 79.85 320 IAmb IAmb 02 25 36.2
comp=Z,22nm,0.8s
GZR Gura Zlata 79.85 315 ⇓P **P 02 25 34.2 +1.1**
NIE Niedzica 79.86 319 *e*P **P 02 25 36.8 +3.7**
NIE *e*L L 03 06 35.0
comp=Z,856nm,19.7s
NEEM North Greenlan 79.89 358 *i* P **P 02 25 31.5 -1.5**
DOMB Dombas 79.95 334 *e*P **P 02 25 32.8 -0.5**
DBG Daneborg 80.00 350 *i* P **P 02 25 31.5 -1.8**
DLBC Dease Lake 80.07 30 LR LR 03 02 21.6
comp=Z,285nm,21.1s,baz=300,slow=37
SIRR Siria 80.24 316 ⇑P **P 02 25 35.4 +0.2**
OSL Oslo 80.28 331 *e*P **P 02 25 34.3 -0.6**
HERR Herculane 80.28 315 ⇑P **P 02 25 35.8 +0.5**
LANS Liptovska Anna 80.47 319 *e*P **P 02 25 37.7 +1.3**
LANS Liptovska Anna 80.47 319 *e*P **P 02 25 37.7 +1.3**
BZS Buzias 80.52 315 ⇑P **P 02 25 37.6 +1.0**
VTS Vitosha 80.59 312 ⇑P **P 02 25 38.5 +1.2**
VTS Vitosha 80.59 312 P P 02 25 48.7 +11
VTS Vitosha 80.59 312 IAmb IAmb 02 25 48.0
comp=Z,43nm,1.2s
PSZ Piszkesteto 80.70 318 ⇑P **P 02 25 37.9 +0.2**
PSZ Piszkesteto 80.70 318 P **P 02 25 41.8 +4.1**
PSZ Piszkesteto 80.70 318 IAmb IAmb 02 25 41.6
comp=Z,44nm,1.5s
PSZ IAms_20 IAms_20 03 04 49.5
comp=Z,1µm,20.0s
PSZ Piszkesteto 80.70 318 P **P 02 25 37.1 -0.6**
TULEG Thule 80.71 2 IAms_20 IAms_20 03 00 01.1
comp=Z,1µm,21.0s
AKN Aaknes 80.71 334 *e*P **P 02 25 36.4 -0.9**
BSZH Besenyszg 80.72 317 P **P 02 25 37.6 -0.1**
ZAPS Zavoj 80.75 313 *e*P P 02 25 43.0 +5.0
MDVR Moldovita 80.78 315 ⇑P **P 02 25 37.6 -0.5**
AMBH Ambrzfalva 80.81 316 P **P 02 25 38.4 +0.3**
ZAGS Zajecar 80.81 314 *e*P **P 02 25 39.6 +1.4**
KONO Kongsberg 80.91 331 *e*P **P 02 25 37.8 -0.7**
SKAR Skarslia 80.95 333 *e*P **P 02 25 38.1 -0.6**
OKC Ostrava-Krasne 80.97 320 AMS AMS 03 01 40.0
comp=Z,900nm,16.2s
VYHS Vyhne 81.12 319 *e*P **P 02 25 40.6 +0.8**
VYHS pmax pmax
comp=Z,28nm,1.1s
VYHS Vyhne 81.12 319 *e*P **P 02 25 40.6 +0.8**
BOSS Bosilegrad 81.15 312 *e*P **P 02 25 40.4 +0.3**
MORC Moravsky Berou 81.36 320 ⇑P **P 02 25 41.7 +0.7**
MORC Moravsky Berou 81.36 320 P P 02 25 51.4 +10
MORC Moravsky Berou 81.36 320 *e*P **P 02 25 41.6 +0.5**
BARS Barje 81.48 313 *e*P **P 02 25 37.3 -4.5**
BARS Barje 81.48 313 *e*P **P 02 25 43.5 +1.7**
VAY Valandovo 81.54 311 *i* P **P 02 25 43.0 +0.8**
KSP Ksiaz 81.62 322 *e*P **P 02 25 43.0 +0.6**
KSP *e*L L 03 07 07.2
comp=Z,2µm,19.3s
STIP Stip 81.66 312 *i* P **P 02 25 42.0 -0.8**
JAVC Velka Javorina 81.67 320 *e*P **P 02 25 44.3 +1.5**
KRLC Kraliky 81.67 321 *e*P **P 02 25 42.9 +0.2**
KRLC MLR MLR
comp=Z,1µm,20.6s
KRLC Kraliky 81.67 321 *e*P **P 02 25 42.9 +0.2**
KRLC AMS AMS 03 03 40.0
comp=Z,1µm,20.6s

SELS Selova 81.79 313 *e*P **P 02 25 44.8 +1.3**
GRUS Gruza 81.79 314 *e*P **P 02 25 45.0 +1.6**
OSTC Ostas 81.79 322 *e*P **P 02 25 44.0 +0.7**
OSTC AMS AMS 03 05 40.0
comp=Z,1µm,18.6s
DPC Dobruska-Polom 81.82 321 *e*P **P 02 25 43.8 +0.3**
DPC MLR MLR
comp=Z,1µm,17.6s
DPC Dobruska-Polom 81.82 321 *e*P **P 02 25 43.8 +0.3**
DPC AMS AMS 03 03 50.0
comp=Z,1µm,17.6s
TRUS Trudelj 81.86 315 *e*P **P 02 25 45.4 +1.6**
CHVC Chvalec 81.87 322 *e*P **P 02 25 44.1 +0.4**
CHVC AMS AMS 03 05 40.0
comp=Z,1µm,20.2s
FRGS Fruska Gora 81.87 316 ⇑P **P 02 25 43.6 -0.2**
FRGS Fruska Gora 81.87 316 *e*P **P 02 25 42.6 -1.3**
UPC Upice 81.93 322 AMS AMS 03 05 40.0
comp=Z,1µm,18.0s
SMOL Smolenice 81.96 319 *e*P **P 02 25 45.4 +1.2**
SMOL Smolenice 81.96 319 *e*P **P 02 25 45.4 +1.2**
ODD1 Odda 82.06 332⇑ *e*P **P 02 25 43.9 -0.7**
SKO Skopje 82.07 312 *i* P **P 02 25 46.9 +1.9**
MODS Modra-Piesok 82.11 319 *e*P **P 02 25 46.6 +1.6**
MODS Modra-Piesok 82.11 319 *e*P **P 02 25 46.6 +1.6**
VRAC Vranov 82.12 320 ⇑P **P 02 25 46.1 +1.0**
VRAC Vranov 82.12 320 P P 02 25 53.9 +8.9
VRAC Vranov 82.12 320 *e*P **P 02 25 44.5 -0.5**
DIVS Divibare 82.19 315 IAms_20 IAms_20 03 06 21.0
comp=Z,775nm,20.0s
DIVS Divibare 82.19 315 *e*P **P 02 25 46.2 +0.6**
RUE Ruedersdorf 82.29 324 *e*P **P 02 25 46.0 +0.1**
IVAS Ivanjica 82.29 314 *e*P **P 02 25 48.7 +2.6**
KRUC Moravsky 82.34 320 *e*P **P 02 25 47.1 +0.9**
TIH Tihany 82.36 318 P **P 02 25 47.6 +1.2**
MPLH Magyarpolny 82.47 318 P **P 02 25 46.8 -0.1**
EGYH Egyhazaskeszo 82.49 318 P **P 02 25 49.5 +2.5**
SJES Sjenica 82.54 314 *e*P **P 02 25 50.4 +2.9**
KOVH Kovagotottos 82.58 317 P **P 02 25 47.5 0.0**
PVCC Panska Ves 82.75 322 *e*P **P 02 25 51.1 +2.8**
PVCC MLR MLR
comp=Z,2µm,18.3s
PVCC Panska Ves 82.75 322 *e*P **P 02 25 51.1 +2.8**
PVCC AMS AMS 03 07 30.0
comp=Z,2µm,18.3s
TREC Trest 82.77 321 *e*P **P 02 25 48.6 +0.1**
TREC MLR MLR
comp=Z,1µm,17.1s
TREC Trest 82.77 321 *e*P **P 02 25 48.6 +0.1**
TREC AMS AMS 03 07 00.0
comp=Z,1µm,17.1s
SOP Sopron 82.84 319 P **P 02 25 49.1 +0.2**
BRG Berggiesshubel 82.94 322 *e*P **P 02 25 49.4 0.0**
BRG Amp 02 25 55.1
comp=Z,20nm,1.5s
BRG Amp 03 04 16.0
comp=E,1.3nm,14.7s
BRG Amp 03 04 31.0
comp=Z,1.4nm,13.5s
BRG Amp 03 04 35.0
comp=N,1.8nm,14.7s
BRG Berggiesshubel 82.94 322 *e*P **P 02 25 49.3 0.0**
BRG pmax pmax
comp=Z,20nm,1.5s
BRG MLR MLR
comp=E,1µm,14.7s
BRG MLR MLR
comp=Z,1µm,13.5s
BRG MLR MLR
comp=N,2µm,14.7s
PRU Pruhonice 83.01 322 *e*P **P 02 25 49.2 -0.4**
PRU MLR MLR
comp=Z,1µm,19.1s
PRU Pruhonice 83.01 322 *e*P **P 02 25 49.2 -0.4**
PRU AMS AMS 03 07 30.0
comp=Z,1µm,19.1s
KBN Korca 83.06 311 IAmb IAmb 02 25 59.7
comp=Z,31nm,1.0s
CONA Conrad Observa 83.16 319 *e*P **P 02 25 51.7 +1.1**
comp=Z,14nm,1.3s
CLL Collm 83.26 323 *i* P **P 02 25 50.8 -0.1**
CLL *i* 02 25 57.1
CLL pmax pmax
comp=Z,24nm,1.1s
CLL Collm 83.26 323 *i* P **P 02 25 50.8 -0.1**
comp=Z,24nm,1.1s
CLL *i* (PcP) **PcP 02 25 57.1 +1.7**
CLL *e*PP **PP 02 29 04.0 +1.8**
CLL *e*Sx Sx 02 36 06.0
CLL Lm MLR 03 08 00.0
comp=N,1µm,19.0s
CLL Lm MLR 03 08 00.0
comp=E,2µm,19.5s
CLL Lm MLR 03 08 00.0
comp=Z,3µm,18.8s
CLL Collm 83.26 323 *e*P **P 02 25 50.4 -0.5**
comp=Z,24nm,1.1s,baz=66,slow=4.9
CLL *e*L L 03 08 19.6
comp=Z,3µm,18.8s
CLL Collm 83.26 323 IAmb IAmb 02 25 53.7
comp=Z,17nm,1.0s
PDG Podgorica 83.36 313 IAms_20 IAms_20 03 08 41.2
comp=Z,887nm,19.0s
TIR Tirane 83.40 312 ⇑P **P 02 25 52.2 +0.4**
BSEG Bad Segeberg 83.42 326 *e*L L 03 05 27.0
comp=Z,2µm,18.3s
ARSA Arzberg 83.67 319 *e*P **P 02 25 53.8 +0.7**
comp=Z,6.3nm,0.9s
CKRC Cesky Krumlov 83.68 321 *e*P **P 02 25 52.9 -0.3**
FLTG Flechtingen 83.73 325 *e*P **P 02 25 53.0 -0.3**
comp=Z,28nm,1.2s,baz=66,slow=4.9
SUMG Summit 83.91 354 *i* P **P 02 25 53.0 -1.3**
SUMG Summit 83.91 354 IAmb IAmb 02 26 07.3
comp=Z,16nm,0.9s
KHC Kasperske Hory 83.96 321⇓ *i* P **P 02 25 54.9 +0.3**
KHC pmax pmax
comp=Z,36nm,1.5s
KHC Kasperske Hory 83.96 321 *e*P **P 02 25 54.6 0.0**
KHC AMS AMS 03 05 10.0
comp=Z,1µm,18.5s
KHC Kasperske Hory 83.96 321 IAmb IAmb 02 26 02.9
comp=Z,24nm,1.5s
GEC2 GERESS Array S 84.02 321 *e*P **P 02 25 54.9 -0.1**
comp=Z,12nm,1.0s,baz=66,slow=4.9
GEC2 *e*L L 03 04 50.1
comp=Z,919nm,18.3s
GEC2 GERESS Array S 84.02 321 IAmb IAmb 02 26 02.9
comp=Z,16nm,1.2s
GERES GERESS Array B 84.02 321 P **P 02 25 54.4 -0.6**
comp=Z,4.7nm,0.8s,baz=66,slow=4.5,SNR=25
NKC Novy Kostel 84.08 322 *e*P **P 02 25 55.9 +0.7**
NKC MLR MLR
comp=Z,1µm,14.6s
NKC Novy Kostel 84.08 322 *e*P **P 02 25 55.9 +0.7**
NKC AMS AMS 03 05 50.0
comp=Z,1µm,14.6s
GUNZ Gunzen 84.09 323 *e*P **P 02 25 55.2 0.0**
comp=Z,21nm,1.2s,baz=66,slow=4.9
MOA Molln 84.15 320 *e*P **P 02 25 56.4 +0.8**
comp=Z,11nm,0.7s
YKA Yellowknife Ar 84.20 23 P **P 02 25 54.6 -0.9**
comp=Z,3.1nm,0.6s,baz=309,slow=4.8,SNR=34
YKA PKKPbc **PKKPbc 02 44 06.1 -3.8**
comp=Z,0.6nm,0.5s,baz=132,slow=2.5,SNR=14
YKA LR LR 03 06 53.9
comp=Z,540nm,18.3s,baz=304,slow=38
YKA Yellowknife Ar 84.20 23 *i* P **P 02 25 56.7 +1.2**
YKA pmax pmax
comp=Z,5.0nm,0.7s
SOKA Soboth 84.22 318 *e*P **P 02 25 55.4 -0.7**
comp=Z,9.8nm,1.0s
MOX Moxa 84.35 323 *e*L L 03 09 00.7
comp=Z,2µm,18.7s
WET Wettzell 84.36 321 *e*L L 03 05 55.3
comp=Z,2µm,20.7s
CLZ Clausthal 84.44 324 *e*P **P 02 25 57.2 +0.2**
comp=Z,30nm,1.1s,baz=66,slow=4.9
OBKA Obir 84.60 318 *e*P **P 02 25 58.4 +0.4**
comp=Z,9.9nm,0.9s
UPNV Upernavik 84.67 359 *i* P **P 02 25 53.4 -4.2**
KMBO Kilima Mbogo 84.99 267 P **P 02 26 00.6 -0.1**
comp=Z,3.0nm,0.5s,baz=54,slow=7.7,SNR=2.1
KMBO LR LR 03 02 18.4
comp=Z,434nm,21.5s,baz=62,slow=34
GRF Grafenberg Arr 85.04 322 *e*P **P 02 25 59.7 -0.4**
comp=Z,34nm,1.8s,baz=66,slow=4.9

GRF *e*L L 03 09 28.5
comp=Z,2µm,19.2s
KBA Koelnbreinsper 85.06 319 *e*P **P 02 26 00.5 0.0**
comp=Z,14nm,1.1s
VOI Vohitsoka 85.10 244 P P 02 26 07.7 +6.8
ABTA Abfaltersbach 85.72 319 *e*P **P 02 26 03.0 -0.6**
comp=Z,8.2nm,0.9s
FUR Furstenfeldbru 85.76 321 *e*L L 03 10 33.5
comp=Z,2µm,18.0s
STAL STALIGIAL 85.84 319 IAmb IAmb 02 26 06.0
comp=Z,22nm,1.2s
WATA Walderalm 86.00 320 *e*P **P 02 26 04.8 -0.3**
comp=Z,11nm,1.2s
WTTA Wattenberg 86.00 320 *e*P **P 02 26 05.0 0.0**
comp=Z,9.9nm,0.9s
SQTA Sankt Quirin 86.27 320 *i* P **P 02 26 06.3 0.0**
comp=Z,14nm,1.7s
MOTA Moosalm 86.27 320 *e*P **P 02 26 06.3 -0.1**
comp=Z,12nm,1.3s
TNS Taunus Mts 86.31 324 *e*L L 03 06 45.1
comp=Z,1µm,19.6s
RETA Reutte 86.40 320 *e*P **P 02 26 07.8 +0.9**
comp=Z,7.1nm,1.5s
TIP Timpagrande 86.48 311 IAms_20 IAms_20 03 10 44.9
comp=Z,864nm,21.0s
FETA Feichten 86.66 320 *e*P **P 02 26 08.0 -0.3**
comp=Z,10nm,1.5s
AQU L'Aquila 87.27 315 IAms_20 IAms_20 03 11 32.5
comp=Z,901nm,18.0s
DAVOX Davos/Dischmat 87.28 320 LR LR 03 06 02.3
comp=Z,1µm,18.6s,baz=50,slow=36
ICESG Greenland Ices 87.36 353 *i* P **P 02 26 08.4 -3.1**
BFO Black Forest 87.37 322 *e*L L 03 10 45.4
comp=Z,2µm,18.9s
MEM Membach 87.42 325 PcP **PcP 02 26 14.2 +0.5**
CEL Celeste 87.49 311 IAms_20 IAms_20 03 12 15.8
comp=Z,745nm,20.0s
ECH Echery 88.10 322 IAms_20 IAms_20 03 11 06.6
comp=Z,1µm,18.0s
BORG Borgarnes 88.11 345 LR LR 03 08 47.1
comp=Z,869nm,20.6s,baz=32,slow=38
VLC Villacollemand 88.31 318 IAms_20 IAms_20 03 10 01.6
comp=Z,1µm,22.0s
RAR Rarotonga 88.41 114 LR LR 03 00 25.8
comp=Z,185nm,21.3s,baz=265,slow=32
DOU Dourbes 88.46 325 PcP **PcP 02 26 18.6 +0.3**
VAE Valguarnera 88.89 310 LR LR 03 13 58.2
comp=Z,438nm,18.2s,baz=34,slow=41
EKA Eskdalemuir Ar 89.02 332 LR LR 03 10 42.6
comp=Z,3µm,18.2s,baz=46,slow=39
EDM Edmonton 90.75 29 IAmb IAmb 02 26 40.5
comp=Z,12nm,0.9s
VSL Villasalto 91.34 314 IAms_20 IAms_20 03 07 56.2
comp=Z,664nm,20.0s
YBH Yreka Blue Hor 92.68 42 LR LR 03 04 06.2
comp=Z,186nm,19.7s,baz=316,slow=33
KEST Kesra 93.30 311 P **P 02 26 40.2 +0.6**
comp=Z,11nm,1.1s,baz=288,slow=5.1,SNR=3.5
FRB Frobisher Bay 93.41 4 LR LR 03 13 11.9
comp=Z,810nm,19.4s,baz=350,slow=38
FCC Fort Churchill 93.63 18 IAmb IAmb 02 26 54.5
comp=Z,14nm,1.3s
PPT Papeete 95.81 107 LR LR 03 00 48.7
comp=Z,195nm,22.0s,baz=264,slow=30
PPT2 Papeete2 95.82 107 *e*S **S 02 38 06.7 -0.7**
comp=Z,382nm,27.2s
PPT2 Papeete2 95.82 107 *e*LR LR 02 57 55.8
comp=Z,660nm,25.2s
NVAR Mina Array Bea 97.35 43 P Pdif 02 26 59.0 +0.7
comp=Z,0.6nm,0.7s,baz=293,slow=5.0,SNR=4.2
NVAR LR LR 03 06 52.0
comp=Z,179nm,20.0s,baz=328,slow=33
NVAR Mina Array Bea 97.35 43 P **P 02 26 55.1 -3.1**
LSZ Lusaka 98.63 257 LR LR 03 07 58.7
comp=Z,745nm,21.9s,baz=74,slow=31
LSZ Lusaka 98.63 257 P **P 02 27 01.4 -2.7**
LSZ pmax pmax
comp=Z,9.0nm,0.9s
LSZ Lusaka 98.63 257 P **P 02 27 01.4 -2.7**
LSZ IAmb IAmb 02 27 08.6
comp=Z,8.8nm,0.9s
CART Cartagena 99.12 317 IAms_20 IAms_20 03 13 25.9
comp=Z,881nm,22.0s
ESDC Sonseca Array 99.61 320 LR LR 03 13 45.6
comp=Z,708nm,19.8s,baz=46,slow=36
PDAR Pineidale Array 99.67 35 PP **PP 02 31 16.1 +4.0**
comp=Z,0.6nm,1.0s,baz=276,slow=4.0,SNR=4.0
MAW Mawson 99.83 199 LR LR 03 07 45.8
comp=Z,162nm,20.0s,baz=52,slow=33
PAB San Pablo 99.92 320 IAms_20 IAms_20 03 14 20.8
comp=Z,1µm,18.0s
MVO Moncorvo 100.38 323 *e*LR LR 03 05 10.9
comp=Z,1µm,18.0s
PGAV Gavieira, Arco 100.51 324 *e*LR LR 03 05 54.6
comp=Z,2µm,20.0s
TAOE Nuku Hiva Isla 101.17 95 *e*LR LR 03 00 18.7
comp=Z,350nm,22.8s
MTE Manteigas 101.19 323 *e*LR LR 03 05 57.4
comp=Z,968nm,20.0s
PMRV Marv??o 101.76 322 *e*LR LR 03 02 06.2
comp=Z,990nm,18.0s
PVAQ Vaqueiros 103.32 321 *e*LR LR 03 01 21.3
comp=Z,730nm,20.0s
SYO Syowa Base 108.15 202⇓ *e*Pdiff **Pdif 02 27 49.4 +4.3**
TORD Torodi Ar. Bea 110.97 295 PKiKP **PKiKP 02 31 58.5 +0.1**
comp=Z,0.5nm,0.4s,baz=23,slow=1.9,SNR=3.4
TORD PKKPbc **PKKPbc 02 42 58.0 +2.9**
comp=Z,0.4nm,0.4s,baz=253,slow=1.8,SNR=6.1
OK031 S. Brethren Rd 111.31 33 IAms_20 IAms_20 03 02 45.2
comp=Z,490nm,20.0s
OK034 N. Norfolk Rd. 111.33 32 IAms_20 IAms_20 03 10 07.7
comp=Z,792nm,19.0s
PMOZ Porto Moniz, M 112.01 323 *e*LR LR 03 09 17.8
comp=Z,584nm,18.0s
TXAR Lajitas Array 112.46 42 PKiKP **PKiKP 02 32 00.8 -0.3**
comp=Z,0.4nm,0.4s,baz=209,slow=1.6,SNR=12
TXAR PKKPbc **PKKPbc 02 42 53.8 +3.1**
comp=Z,0.4nm,0.9s,baz=149,slow=5.3,SNR=3.9
JCT Junction City 113.93 38 IAms_20 IAms_20 03 12 03.1
comp=Z,741nm,20.0s
DBIC Dimbokro 119.81 293 PKP **PKPdf 02 32 15.2 -0.2**
comp=Z,3.4nm,0.7s,baz=143,slow=2.4,SNR=4.8
KIC Kosan Boka 119.87 292 *e*P **PKiKP 02 32 16.1 +0.4**
comp=Z,8.4nm,0.5s
TIC Toumodi 119.97 293 *e*P **PKiKP 02 32 16.2 +0.3**
LIC Lamto 120.19 292 *e*P **PKiKP 02 32 18.0 +1.7**
comp=Z,55nm,1.5s
SDDR Presa de Saban 136.69 18 IAms_20 IAms_20 03 36 28.9
comp=Z,641nm,21.0s
SJG San Juan 138.70 11 IAms_20 IAms_20 03 32 54.7
comp=Z,471nm,21.0s
SMRT St. Maarten 139.19 6 IAms_20 IAms_20 03 30 45.3
comp=Z,539nm,21.0s
SEUS St. Eustatius 139.75 6 IAms_20 IAms_20 03 37 24.7
comp=Z,399nm,20.0s
BCIP Isla Barro Col 142.07 35 IAms_20 IAms_20 03 37 19.6
comp=Z,689nm,22.0s
CRJC Cerrejon, Guaj 143.63 24 *e*P **PKiKP 02 33 06.4 +2.8**
HATO Hato, Curacao 143.82 17 IAms_20 IAms_20 03 42 08.6
comp=Z,483nm,20.0s
DABV Dabajuro 144.50 21 *e*P **PKPab 02 32 58.7 -1.2**
LL6C La Loma 6 Bece 144.65 25 *e*P PKPbc 02 33 00.9 +0.3
SMLC San Martn de 145.17 27 *e*P **PKiKP 02 33 14.1 +7.4**
UREC San Jos de Ur 145.44 30 *e*P PKiKP 02 33 19.9 +13
DBBC Dabeiba 145.76 32 *e*P **PKPdf 02 33 03.5 -0.4**
ZARC Zaragoza, Cauc 145.98 30 *e*P **PKPab 02 33 05.3 -0.1**
OCAC Ocana 145.99 27 *e*P **PKPdf 02 33 04.5 +0.1**
SDV Santo Domingo 146.41 22 *e*P **PKPdf 02 33 03.5 -1.6**
SDV Santo Domingo 146.41 22 PKPdf **PKPdf 02 33 04.6 -0.6**
SDV Santo Domingo 146.41 22 IAms_20 IAms_20 03 35 34.9
comp=Z,633nm,21.0s
HELC Santa Helena 146.81 32 *e*P **PKiKP 02 33 11.6 +1.0**
CBOC Ciudad Bolivar 146.85 33 *e*P **PKPdf 02 33 05.4 -0.4**
SOCV Socops 146.89 23 *e*P **PKPab 02 33 09.3 +0.4**
PTBC PUERTO BERRIO 147.01 30 *e*P **PKPdf 02 33 04.5 -1.5**
PAMC Pamplona, Colo 147.06 26 *e*P **PKPdf 02 33 07.4 +0.8**
BAUV El Baul 147.16 17 **PKPdf 02 33 05.0 -1.2**
BARC Barichara 147.53 28 *e*P **PKPdf 02 33 07.4 +0.3**
PLMC San Jos del P 147.53 34 *e*P **PKPdf 02 33 03.5 -3.4**
GUY2C Guyana, Caldas 147.72 32 *e*P **PKPbc 02 33 11.2 +0.7**
SPBC San Pablo de B 147.97 30 *e*P **PKPbc 02 33 11.2 +0.5**
RUSC La Rusia 148.19 28 *e*P **PKPbc 02 33 10.2 -1.5**
YOTC Yotoco, Valle 148.27 35 *e*P **PKPdf 02 33 08.3 +0.1**
ROSC El Rosal 148.56 31 PKPbc **PKPbc 02 33 11.2 -1.4**
comp=Z,5.4nm,0.3s,baz=330,slow=20,SNR=2.7
ROSC El Rosal 148.56 31 PKiKP **PKPdf 02 33 09.6 +0.6**
ROSC El Rosal 148.56 31 *e*P **PKPdf 02 33 06.4 -2.6**

ROSC	El Rosal	148.56	31			PKPdf	02 33 09.6	+0.6
CHIC	Chingaza	149.02	30		eP	PKPdf	02 33 09.3	-0.5
MG05	Puerto Natales	149.22	163			PKPdf	02 33 09.7	+1.3
PRAC	Prado	149.26	33		eP	PKPdf	02 33 11.2	+1.5
POPC	Popayan, Colom	149.29	37		eP	PKPdf	02 33 11.2	+1.2
VILC	Villavicencio,	149.50	31		eP	PKPbc	02 33 14.1	-0.6
GO09	Cerro Castillo	149.64	163			PKPdf	02 33 09.4	+0.3
SOTA	Rioblanco	149.66	38		eP	PKPbc	02 33 16.0	+0.5
OTAV	Otavalo	150.08	43	PKIKP		PKPdf	02 33 10.7	-0.8
OTAV	Otavalo	150.08	43		eP	PKPdf	02 32 58.7	-13
OTAV	Otavalo	150.08	43			PKPdf	02 33 10.7	-0.8
PTGC	Puerto Gaitan,	150.12	28		eP	PKPdf	02 33 09.3	-1.7
GARC	Garzon, Huila	150.24	36		eP	PKPbc	02 33 17.0	+0.4
MACC	Macarena, Meta	151.13	33		eP	PKPbc	02 33 17.1	-1.4
PTLC	Puerto Leguiza	152.29	37		eP	PKPbc	02 33 17.9	-3.2
COYC	Coyhaique	154.76	157			PKPab	02 33 41.1	+0.7
PLCA	Paso Flores	159.47	153	PKPab		PKPab	02 34 01.3	+0.3
comp=Z,1.8nm,0.7s,baz=244,slow=5.2,SNR=6.5								
PLCA	Paso Flores	159.47	153	PKP2		PKPab	02 34 01.0	0.0
PLCA	Paso Flores	159.47	153			PKPab	02 34 01.0	0.0
MT01	Popeta	164.36	138			PKPab	02 34 21.6	-0.9
BDFB	Brasilia	167.71	303	PKP		PKPdf	02 33 31.6	+0.1
comp=Z,1.2nm,0.4s,baz=168,slow=8.9,SNR=3.4								
LPAZ	La Paz	168.97	56	PKP		PKPdf	02 33 33.3	+0.3
comp=Z,3.3nm,1.0s,baz=7.3,slow=2.4,SNR=6.0								
LPAZ	La Paz	168.97	56	PKIKP		PKPdf	02 33 32.0	-1.0
LPAZ	La Paz	168.97	56			PKPdf	02 33 32.0	-1.0
SIV	San Ignacio	172.87	19	PKP		PKPdf	02 33 34.6	+0.3
comp=Z,1.7nm,0.6s,baz=357,slow=1.3,SNR=8.2								

*UPA **19** 02:29:27.4±0.6, 9.°25N×83.°27W, h3km±2km, MW4.1*
ISC 19 02:29:27.0±1.6, **9.°28N**±0.°04×**83.°26W**±0.°04, **h3**km±13km,
n11, σ0°**72**/21, **1C-1D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.74	131	eP	Pb	02 29 42.6	-0.1
BRU2	Volcan	0.74	131⇑	eP	Pb	02 29 42.7	-0.1
BRU2				eS	Sb	02 29 54.8	+1.5
CNI2	El Empalme, Bo	0.79	80⇓	eP	Pg	02 29 43.2	+1.0
CNI2				eS	Sb	02 29 54.4	-0.1
CDITO	Canoas	0.80	152	eP	Pb	02 29 43.5	-0.1
CDITO				eS	Sb	02 29 55.2	+0.3
PIRO	Carate, Puerto	0.88	185	eP	Pg	02 29 44.1	+0.2
PIRO				eS	Sb	02 29 57.3	+0.3
BCO2	Palmira	0.91	128	eP	Pb	02 29 45.8	+0.1
BCO2				eS	Sn	02 29 59.9	-0.8
HDC	Heredia	1.10	310	eP	Pg	02 29 47.4	-0.8
HDC				eS	Sb	02 30 05.1	+1.3
PTPM	Petroterminale	1.14	161	eP	Pg	02 29 48.9	+0.1
PTPM				eS	Sb	02 30 04.5	0.0
CHGR2	Aguacate	1.15	107	eP	Pg	02 29 48.0	-1.2
CHGR2				eS	Sb	02 30 05.5	+0.5
DVD	David	1.16	136	eP	Pg	02 29 49.6	+0.3
DVD				eS	Sn	02 30 06.1	-0.5
JTS	Las Juntas de	1.95	301	eP	Pn	02 30 00.8	-0.3
JTS				eS	Sn	02 30 26.5	+0.5

*IDC **19** 02:46:38.0±1.0, 8.°89N×126.°22E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/42, mbtmp3.7/6, Error ellipse: s-maj=56.6km s-min=19.6km az=86.0*
*MAN **19** 02:46:41.4, 8.°67N×125.°78E, h3km, mb5.1, ML4.1, MS4.2*
MAN INTENSITY II - BAYUGAN CITY AND PROSPERIDAD, AGUSAN DEL SUR.
ISC 19 02:46:39.8±1.4, **8.79N**±0.°03×**126.°00E**±0.°05, **h13**km±9km,
n21, σ1°**56**/32, **mb3.8/6, 6C-7D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.42	295⇓	eP	Pb	02 46 49.0	-0.1
BUTP				eS	Sb	02 46 56.6	+1.3
BIPH	Bislig	0.70	149⇓	iP	Pb	02 46 53.4	-0.5
BIPH				i S	Sn	02 47 08.7	+2.5
SCPH	Surigao	1.11	333⇑	eP	Pn	02 47 01.7	+0.6
BUKP	Musuan	1.30	226⇓	eP	Pn	02 47 01.5	-2.3
BUKP				eS	Sb	02 47 19.6	-1.2
MSLP	Maasin	1.75	320⇓	eP	Pg	02 47 12.6	-0.8
MSLP				eS	Sb	02 47 34.3	+0.6
DAV	Davao City (W)	1.76	194	Pn	Pg	02 47 13.0	-0.7
98nm,0.3s,baz=66,slow=5.6,SNR=2.4							
DAV				Sn	Sg	02 47 41.6	+5.1
68nm,0.3s,baz=106,slow=22,SNR=4.7							
MATI	Mati	1.85	172⇑	iP	Pn	02 47 11.3	0.0
MATI				eS	Sn	02 47 34.7	+0.1
KCP	Kidapawan	1.99	207⇓	iP	Pn	02 47 13.2	-0.1
KCP				i S	Sn	02 47 37.6	-0.5
TBP	Tagbilaran	2.29	293	eP	Pn	02 47 18.1	+0.7
TBP				i S	Sn	02 47 46.2	+0.6
CTBH	Cotabato--PC H	2.33	228⇑	iP	Pn	02 47 17.1	-1.0
DCPH	Dipolog City	2.63	266⇑	eP	Pn	02 47 20.7	-1.3
DCPH				eS	Sb	02 47 59.5	+0.4
DDMP	Don Marcelino,	2.68	186⇓	eP	Pb	02 47 25.7	-2.1
DDMP				eS	Sb	02 48 01.7	+1.0
PAGZ	Pagadian	2.76	250⇑	iP	Pn	02 47 25.6	+1.7
BESP	Borongan	2.85	349⇓	eP	Pb	02 47 29.9	-0.7
BESP				eS	Sg	02 48 09.6	-1.8
RCP	Roxas	4.22	311⇑	eP	Pn	02 47 46.7	+2.7
WRA	Warramunga Arr	29.71	164	P	P	02 52 45.8	-0.1
0.3nm,0.8s,baz=333,slow=11,SNR=1.9							
ASAR	Alice Springs	33.17	167	P	P	02 53 16.5	+0.1
0.4nm,0.4s,baz=342,slow=7.2,SNR=8.9							
USRK	Ussuriysk Ar.	35.66	7	P	P	02 53 36.4	-1.3
1.4nm,0.7s,baz=188,slow=6.9,SNR=5.7							
MKAR	Makanchi Array	53.05	324	P	P	02 55 57.0	+0.2
0.2nm,0.6s,baz=120,slow=8.5,SNR=2.4							
FINES	FINESS Array B	87.06	332	P	P	02 59 24.9	-0.2
11nm,1.3s,baz=98,slow=3.9,SNR=3.9							
YKA	Yellowknife Ar	95.21	24	P	P	03 00 03.5	+0.5
0.3nm,0.7s,baz=300,slow=4.1,SNR=5.3							

IDC 19 02:49:23.3±5.4, **23.°80S**×**177.°53W**, **h0**km, **mb4.3**/4,
mb1 4.5/4, **mb1mx3.9**/29, **mbtmp4.3**/4, **Error ellipse:**
s-maj=222.7km s-min=52.8km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.74	269	P	P	02 56 08.1	+1.3
2.2nm,0.3s,baz=100,slow=12,SNR=2.3							
ASAR	Alice Springs	44.28	260	P	P	02 57 34.5	-0.5
0.8nm,0.6s,baz=88,slow=6.0,SNR=16							
WRA	Warramunga Arr	44.67	265	P	P	02 57 37.4	-0.8
4.3nm,0.5s,baz=104,slow=7.9,SNR=56							
FITZ	Fitzroy Crossi	53.09	265	P	P	02 58 43.1	+0.2
4.9nm,0.9s,baz=112,slow=7.0,SNR=14							
AKASG	Malin Array Be	146.08	329	PKPbc	PKPdf	03 09 04.2	0.0
1.0nm,0.4s,baz=43,slow=4.6,SNR=9.1							

*JMA **19** 03:04:23.6±0.2, 43.°74N×147.°22E, h43km, M3.6*
*SKHL **19** 03:04:23.9±0.3, 43.°90N×147.°20E, h60km±5km, mb4.3/3*
ISC 19 03:04:22.7±2.1, **43.°8N**±0.°1×**147.°3E**±0.°1, **h56**km±13km, **n13**,
σ0°**83**/21, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.36	280	eP	Pn	03 04 33.5	+0.6
SHO				AMB	AMB	03 04 33.9	
150nm,0.2s							
SHO				eS	Sn	03 04 40.7	+0.4
SHO				A	A	03 04 41.4	
270nm,0.2s							
SHO				A	A	03 04 41.4	
510nm,0.2s							
YUK	Yuzh-Kuril'sk	1.07	283	eP	Pn	03 04 41.0	-0.6
YUK				AMB	AMB	03 04 46.2	
350nm,0.3s							
YUK				eS	Sn	03 04 54.1	-1.5
YUK				A	A	03 04 55.8	
270nm,0.3s							
YUK				A	A	03 04 55.8	
380nm,0.3s							
NEM2	Nemuro 2	1.23	249	P	Pn	03 04 43.5	-0.1
NEM2				S	Sn	03 04 58.1	-1.1
NMR	Nemuro--Hokkai	1.23	250	eP	Pn	03 04 43.4	-0.3
NMR				eS	Sn	03 04 58.0	-1.4
KUR	Kuril'sk	1.48	15	eP	Pn	03 04 47.2	+0.2
KUR				AMB	AMB	03 04 48.0	
30nm,0.5s							
KUR				eS	Sn	03 05 04.5	-0.7
KUR				A	A	03 05 05.0	
190nm,0.2s							
KUR				A	A	03 05 05.0	
120nm,0.2s							
JRA	Rausu	1.59	275	P	Pn	03 04 49.3	+0.8
JRA				eS	Sn	03 05 08.2	+0.2
JNSB	Nemuroshibetsu	1.67	270	P	Pn	03 04 50.4	+0.7
JAK	Akkeshi	2.08	248	P	Pn	03 04 55.3	+0.2
JAK				eS	Sn	03 05 19.2	-0.6
JTKR	Abashiri--Toko	2.47	275	P	Pn	03 05 01.2	+0.7
JAR	Ashorobuto	2.63	260	P	Pn	03 05 03.7	+1.0
JAR				eS	Sn	03 05 33.8	+0.4
JOB	Onbets	2.70	252	eS	Sn	03 05 35.2	+0.2
JCH	Churui	3.13	249	eS	Sn	03 05 44.8	-0.8
JNBK	Urakawa-nobuka	3.68	247	P	Pn	03 05 18.0	+0.9

IDC 19 03:06:33.8±2.0, **4.°17N**×**127.°25E**, **h0**km, **mb3.6**/4,
mb1 3.8/4, **mb1mx3.5**/33, **mbtmp3.6**/4, **Error ellipse:**
s-maj=102.8km s-min=27.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.18	184	P	P	03 11 32.2	+0.5
0.5nm,0.4s,baz=6.4,slow=10,SNR=6.0							
WRA	Warramunga Arr	24.95	164	P	P	03 11 58.8	-0.3
1.9nm,0.8s,baz=343,slow=10,SNR=16							
STKA	Stephens Creek	38.36	160	P	P	03 13 56.7	-0.1
1.0nm,0.4s,baz=319,slow=9.1,SNR=4.6							
MKAR	Makanchi Array	57.49	325	P	P	03 16 24.9	0.0
0.1nm,0.4s,baz=118,slow=8.5,SNR=1.8							

*NOU **19** 03:12:28.7, 38.°21S×176.°82E, h188km, MLv4.1/7, North Island, New Zealand*
*WEL **19** 03:12:37.9±1.0, 38.°5±5.°×17.°7E±.°, h99km±8km, M2.8/23, ML2.9/19, MLv2.8/23, Error ellipse: s-maj=0.0km s-min=0.0km az=65.3*
ISC 19 03:12:33.0±1.7, **38.°45S**±0.°05×**176.°47E**±0.°04, **h142**km±8km,
n125, σ1°**72**/126, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRRZ	Plateau Road	0.08	231	P	Pn	03 12 52.8	+0.8
RRRZ	Republican Roa	0.11	17	P	Pn	03 12 52.9	+0.7
RRRZ				S	Sn	03 13 03.9	-2.8
ALRZ	Allen Road	0.15	222	P	Pn	03 12 53.0	+0.8
HRRZ	Handcock Road	0.16	291	P	Pn	03 12 53.1	+0.9
TARZ	Mount Tarawera	0.21	7	P	Pn	03 12 53.3	+0.9
MUGZ	Murupara	0.24	97	P	Pn	03 12 53.0	+0.7
WPRZ	Whakapapatarin	0.25	254	P	Pn	03 12 53.5	+1.1
GRRZ	Galatos Road	0.30	289	P	Pn	03 12 53.9	+1.4
MKRZ	Makatiti	0.31	359	P	Pn	03 12 54.5	+1.7
UTU	Utuhina	0.35	321	P	Pn	03 12 54.4	+1.6
OMRZ	Omania	0.35	347	P	Pn	03 12 53.8	+1.0
MRHZ	Matea Rd	0.39	186	P	Pn	03 12 53.9	+1.0
MRHZ				S	Sn	03 13 06.0	-2.1
RTZ	Ruatahuna	0.43	113	P	Pn	03 12 54.0	+0.9
RTZ				S	Sn	03 13 06.8	-1.6
WHTZ	Whakaora	0.46	242	P	Pn	03 12 55.0	+1.7
KARZ	Kaharoa	0.46	337	P	Pn	03 12 54.7	+1.4
MTHZ	Maungataniwha	0.50	144	P	Pn	03 12 54.5	+1.1
MTHZ				S	Sn	03 13 07.1	-1.9
KUTZ	Kaahu Road	0.51	265	P	Pn	03 12 55.1	+1.7
HATZ	Hinemaiaia	0.53	214	P	Pn	03 12 54.8	+1.2
URZ	Urewera	0.54	70	P	Pn	03 12 54.2	+0.6
URZ				S	Sn	03 13 06.4	-2.7
URZ	Urewera	0.54	70	P	Pn	03 12 54.1	+0.6
OPRZ	Ohinepanea	0.61	6	P	Pn	03 12 55.0	+1.0
WATZ	Wairara	0.63	246	P	Pn	03 12 55.5	+1.3
RAHZ	Arahi	0.67	134	P	Pn	03 12 56.2	+1.8
RAHZ				S	Sn	03 13 10.4	-0.4
RATZ	Rangitukua	0.69	232	P	Pn	03 12 56.1	+1.6
NMHZ	Naumai	0.70	158	P	Pn	03 12 56.8	+2.2
NMHZ				S	Sn	03 13 11.2	0.0
RITZ	Rihia Road	0.71	222	P	Pn	03 12 56.7	+2.0
TGRZ	Tauranga	0.74	347	P	Pn	03 12 56.6	+1.8
RAGZ	Rawiri	0.74	94	P	Pn	03 12 56.4	+1.4
RAGZ				S	Sn	03 13 10.8	-0.8
TLZ	Tolley Road	0.74	279	P	Pn	03 12 57.0	+2.1
KATZ	Kakaramea	0.80	229	P	Pn	03 12 57.2	+1.7
MWZ	Matawai	0.84	82	P	Pn	03 12 56.9	+1.3
TMVZ	Te Maari	0.90	222	P	Pn	03 12 58.2	+2.0
NTVZ	North Tongarir	0.90	224	P	Pn	03 12 58.2	+1.9
ETVZ	East Tongariro	0.91	221	P	Pn	03 12 58.4	+2.0
ARHZ	Aropaoanui	0.91	153	P	Pn	03 12 58.3	+2.2
KRVZ	Karewarewa	0.92	225	P	Pn	03 12 58.4	+2.0
OTVZ	Oturere	0.95	221	P	Pn	03 12 58.9	+2.2
NNVZ	North Ngauruho	0.96	224	P	Pn	03 12 58.9	+2.1
WTVZ	West Tongariro	0.96	226	P	Pn	03 12 58.7	+2.0
KWHZ	Kaweka Forest	0.97	182	P	Pn	03 12 58.9	+2.0
SNVZ	South Ngauruho	0.98	221	P	Pn	03 12 59.2	+2.2
NGZ	Ngauruhoe	0.99	223	P	Pn	03 12 59.4	+2.3
MCHZ	McNeill Hill	1.01	170	P	Pn	03 12 59.5	+2.4
TWVZ	Taurewa	1.02	232	P	Pn	03 12 59.4	+2.1
TUVZ	Tukino	1.04	218	P	Pn	03 12 59.7	+2.2
RIGZ	Rimuhau	1.04	105	P	Pn	03 12 59.3	+2.0
TOZ	Tahuroa Road	1.05	313	P	Pn	03 12 59.9	+2.5
RUGZ	Raukumara Rang	1.06	63	P	Pn	03 12 58.5	+0.8
FWVZ	Far West T-bar	1.08	221	P	Pn	03 12 60.0	+2.0
TKGZ	Te Karaka	1.08	90	P	Pn	03 12 59.9	+2.2
WHVZ	Whangaehu Hut	1.08	219	P	Pn	03 13 00.1	+2.1
BHHZ	Black Hill Sta	1.09	197	P	Pn	03 12 59.7	+1.9
DRZ	Done Shelter	1.09	220	P	Pn	03 13 00.3	+2.2
KNZ	Kokohu	1.10	122	P	Pn	03 12 59.8	+1.9
MOVZ	Moawhango	1.11	210	P	Pn	03 12 59.8	+1.7
WNVZ	Wahianoa	1.11	218	P	Pn	03 13 00.2	+2.0
TRVZ	Turoa	1.11	220	P	Pn	03 13 00.5	+2.2
KRHZ	Kereru	1.20	184	P	Pn	03 13 00.7	+1.9
PRGZ	Paritu Road	1.20	114	P	Pn	03 13 00.9	+2.0
PKVZ	Pokaka	1.22	226	P	Pn	03 13 01.4	+2.4
TWGZ	Tauwhareparae	1.22	78	P	Pn	03 13 01.3	+2.2
MTVZ	Mangateitei	1.22	220	P	Pn	03 13 01.5	+2.4
HAZ	Te Kaha	1.24	57	P	Pn	03 13 00.4	+1.1
HIZ	Hauiti	1.27	267	P	Pn	03 13 02.4	+2.9
HIZ	Hauiti	1.27	267	P	Pn	03 13 02.4	+2.9
CKHZ	Cape Kidnapper	1.30	159	P	Pn	03 13 02.1	+2.4
MHGZ	Mahia Peninsul	1.32	123	P	Pn	03 13 02.6	+2.6
CNGZ	Carnagh Statio	1.36	92	P	Pn	03 13 03.0	+2.5
KAHZ	Kahuranaki	1.38	167	P	Pn	03 13 03.1	+2.4
PKGZ	Pakihiroa	1.38	67	P	Pn	03 13 02.7	+2.0
PUZ	Puketiti	1.46	76	P	Pn	03 13 03.2	+1.8
PNHZ	Pukenui	1.48	188	P	Pn	03 13 03.4	+1.7
VRZ	Vera Road	1.50	243	P	Pn	03 13 05.1	+3.2
PXZ	Pawanui	1.61	169	P	Pn	03 13 05.2	+2.1
WPHZ	Waipukurau	1.61	181	P	Pn	03 13 05.1	+1.9
TSZ	Takapari Road	1.66	194	P	Pn	03 13 05.4	+1.8
WMGZ	Waiomatatini S	1.66	68	P	Pn	03 13 05.6	+2.0
MXZ	Matakaoa Point	1.70	59	P	Pn	03 13 06.4	+2.4
WAZ	Wanganui	1.74	221	P	Pn	03 13 07.5	+2.9
PRHZ	Porangahau	1.82	176	P	Pn	03 13 07.4	+1.9
DVHZ	Dannevirke	1.86	187	P	Pn	03 13 07.5	+1.5
AWAZ	Awhitu Peninsu	2.00	313	P	Pn	03 13 11.1	+3.5
ANWZ	Angora Road	2.01	180	P	Pn	03 13 09.7	+2.0
POWZ	Post Office Ro	2.02	195	P	Pn	03 13 09.6	+1.8
NEZ	North Egmont	2.03	245	P	Pn	03 13 11.9	+3.9
KHEZ	Kahui Hut	2.10	245	P	Pn	03 13 12.6	+3.8
WTAZ	Waiatarua	2.13	315	P	Pn	03 13 12.1	+2.9
PRWZ	Pori Road	2.14	190	P	Pn	03 13 11.3	+2.0
BFZ	Birch Farm	2.24	184	P	Pn	03 13 12.0	+1.5
BFZ	Birch Farm	2.24	184	P	Pn	03 13 12.3	+1.9
MRZ	Mangatainoka R	2.31	197	P	Pn	03 13 12.8	+1.4
GRZ	Great Barrier	2.34	339	P	Pn	03 13 14.7	+3.0
TIWZ	Tintock	2.37	191	P	Pn	03 13 13.7	+1.6
CPWZ	Castlepoint	2.47	185	P	Pn	03 13 15.4	+2.2
HOWZ	Holdsworth Sta	2.56	196	P	Pn	03 13 15.5	+1.2
OGWZ	Otaki Gorge	2.57	203	P	Pn	03 13 16.0	+1.4
TMWZ	Te Maipa	2.69	189	P	Pn	03 13 17.4	+1.3
KIW	Kapiti Island	2.69	206	P	Pn	03 13 17.3	+1.2
MTW	Mount Morrison	2.81	195	P	Pn	03 13 18.5	+0.9
CAW	Cannon Point	2.87	202	P	Pn	03 13 19.3	+1.0
TRWZ	Traveller	3.01	191	P	Pn	03 13 21.2	+1.1
PAWZ	Paruwai Farm	3.04	195	P	Pn	03 13 21.2	+0.7
DUWZ	D'Urville Isla	3.07	219	P	Pn	03 13 22.1	+1.2
MSWZ	Moikau Station	3.11	197	P	Pn	03 13 22.0	+0.6
SNZO	South Karori	3.17	205	P	Pn	03 13 23.8	+1.7
BHW	Baring Head	3.20	202	P	Pn	03 13 23.1	+0.5
TCW	Tory Channel	3.23	211	P	Pn	03 13 23.8	+0.8
PLWZ	Palliser	3.25	196	P	Pn	03 13 23.7	+0.5
TUWZ	Tuamarina	3.56	212	P	Pn	03 13 27.9	+0.8
BSWZ	Blackbirch Sta	3.82	211	P	Pn	03 13 31.2	+0.6
QRZ	Quartz Range	3.86	231	P	Pn	03 13 32.6	+1.5
QRZ	Quartz Range	3.86	231	P	Pn	03 13 32.6	+1.5
THZ	Tophouse	4.29	218	P	Pn	03 13 38.2	+1.3
KHZ	Kahutara	4.55	209	P	Pn	03 13 40.4	+0.2
KHZ	Kahutara	4.55	209	P	Pn	03 13 40.5	+0.3
GVZ	Greta Valley S	5.21	209	P	Pn	03 13 48.7	-0.4
LTZ	Lake Taylor	5.38	215	P	Pn	03 13 51.2	-0.1
OKCZ	Okains Bay	5.87	205	P	Pn	03 13 57.5	-0.3
MQZ	McQueen's Vall	5.99	208	P	Pn	03 13 58.4	-1.0
AKCZ	Akaroa Harbour	6.05	205	P	Pn	03 13 59.8	-0.4
WACZ	Wakanui South	6.50	211	P	Pn	03 14 06.3	0.0
TMZ	Timaru	7.21	213	P	Pn	03 14 15.6	-0.1
ODZ	Otahua Downs	7.90	212	P	Pn	03 14 24.7	-0.3
ODZ	Otahua Downs	7.90	212	P	Pn	03 14 25.5	+0.6
JCZ	Jackson Bay	8.06	223	P	Pn	03 14 27.5	+0.3

*MOS **19** 03:21:58.3±1.0, 6.°63S×155.°08E, h28km, mb5.3/36, Error ellipse: s-maj=9.1km s-min=7.6km az=113.5*
*IDC **19** 03:22:00.3±2.2, 6.°73S×155.°16E, h35km±17km, mb4.8/20, mb1 4.9/24, mb1mx4.8/33, mbtmp5.0/24, ML4.2/4, MS4.2/42, Ms1 4.2/42, ms1mx4.1/63, Error ellipse: s-maj=14.9km s-min=11.9km az=70.0*
*NEIC **19** 03:22:02.4±1.6, 6.°76S±0.°08×155.°15E±0.°07, h46km±5km, mb5.2/173, Error ellipse: s-maj=12.9km s-min=8.9km az=215.0*
*GCMT **19** 03:22:02.4±0.2, 6.°94S±0.°02×155.°01E±0.°02, h33km, MW5.1/70, Moment Tensor Solution. s70,c91; s67,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.94±.24; $M_{\theta\theta}$-3.78±.17; $M_{\phi\phi}$-2.16±.17; $M_{r\theta}$1.82±.22; $M_{r\phi}$2.68±.14; $M_{\theta\phi}$-1.71±.23; Best double couple: $M_0$6.36500×10^{16} NP1:ϕ_s304.00000°, δ34.00000°, λ86.00000°. NP2: ϕ_s129.00000°, δ57.00000°, λ93.00000°. Principal axes: T 6.4560, Plg78.0000°, Azm49.0000°; N -0.1820, Plg2.0000°, Azm308.0000°; P -6.2740, Plg11.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **19** 03:22:02.4±0.5, 7.°5±3.°×15.°5E±.°, h50km±5km, M5.0/65, mb5.1/65, mB5.5/20, MLv5.1/1, Mw(mB)5.0/20, MwMwp5.0/3, Mwp5.3/3*
*BJI **19** 03:22:04.9±0.0, 6.°62S×155.°06E, h83km, mb4.9/49, mB5.2/19, Ms5.0/7, Ms7 4.6/6*
ISC 19 03:22:02.1±0.6, **6.72S**±0.°04×**155.°14E**±0.°05, **h52**km±5km,
n710, σ1°**55**/672, **mb5.2**/175, **MS4.3**/46, **30C-17D,**
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.88	310	P	Pn	03 23 00.4	+1.1
RABL				Sn	Sn	03 23 44.7	+1.1
RABL	Rabaul	3.88	310	P	Pn	03 23 07.1	+7.8
KRVT	Keravat (AS076	3.91	308	Pn	Pn	03 22 59.8	+0.1
HNR	Honiara	5.47	120	Pn	Pn	03 23 19.7	-1.4
15nm,0.3s,baz=264,slow=7.7,SNR=1.6							
HNR				LR	LR	03 25 30.8	
comp=Z,7μm,19.0s,baz=280,slow=39							
HNR	Honiara	5.47	120	P	Pn	03 23 20.9	-0.2
HNR	Honiara	5.47	120	Pn	Pn	03 23 20.9	-0.2
PMG	Port Moresby	8.34	251⇓	eP	Pn	03 24 01.5	+1.1
PMG				pmax	pmax		
comp=Z,81nm,0.8s							
PMG	Port Moresby	8.34	251	Pn	Pn	03 23 59.6	-0.8
PMG	Port Moresby	8.34	251	P	Pn	03 24 01.7	+1.3
MANU	Manus Island	9.03	301		Pn	03 24 10.4	+0.5
COEN	Coen	13.79	238	Pn	Pn	03 25 14.9	0.0
COEN	Coen	13.79	238	P	Pn	03 25 15.2	+0.3
PATS	Pohnpei	13.83	13	Pn	Pn	03 25 15.7	+0.2
SANVU	Saraoutou	14.67	127	Pn	Pn	03 25 25.9	-0.7
JAY	Jayapura	14.97	286	Pn	Pn	03 25 30.1	-0.5
comp=Z,0.3nm,0.3s,baz=312,slow=6.4,SNR=4.1							
JAY	Jayapura	14.97	286	P	Pn	03 25 29.9	-0.8
comp=Z,18nm,1.1s							
MTSU	Mount Surprise	15.49	222	P	Pn	03 25 37.9	+0.6
baz=16,SNR=24							
CTA	Charters Tower	15.84	212	Pn	Pn	03 25 41.6	-0.2
comp=Z,0.9nm,0.3s,baz=33,slow=16,SNR=8.7							
CTA				LR	LR	03 31 28.6	
comp=Z,2μm,18.2s,baz=39,slow=36			

MSVF Nonsavu 24.89 118 P **P** **03 27 21.8 +1.5**
CMSA Cobar Meteorol 26.22 198 P **P** **03 27 32.3 +0.2**
baz=26,SNR=14
AS31 Alice Springs 26.46 228 P **P** **03 27 33.5 -0.9**
ASAR Alice Springs 26.46 228 P **P** **03 27 34.1 -0.3**
comp=Z,4.4nm,0.7s,baz=60,slow=8.6,SNR=52
ASAR PcP **PcP** **03 30 59.5 +0.7**
comp=Z,6.9nm,0.8s,baz=65,slow=2.4,SNR=10
ASAR ScP **ScP** **03 34 37.0 +2.6**
comp=Z,1.8nm,0.8s,baz=59,slow=3.0,SNR=6.3
ASAR Alice Springs 26.46 228 P **P** **03 27 33.4 -1.0**
ASAR 03 30 58.4
ASAR Alice Springs 26.46 228 P **P** **03 27 33.4 -1.0**
ASAR **PcP** **03 30 58.4 -0.3**
ASAR ScP **ScP** **03 34 32.3 -2.2**
KNRA Kununurra 27.33 249 P **P** **03 27 42.0 -0.3**
baz=27,SNR=15
KNRA Kununurra 27.33 249 P **P** **03 27 40.4 -1.8**
KNRA IAmb IAmb 03 27 56.9
comp=Z,40nm,1.0s
KNRA Kununurra 27.33 249 P **P** **03 27 42.4 +0.1**
H11S3 WAKE ISLAND Hy 27.52 24 T T 03 56 07.5
baz=204,slow=75,SNR=89
H11S2 WAKE ISLAND Hy 27.53 24 T T 03 55 55.0
baz=204,slow=75,SNR=109
H11S1 WAKE ISLAND Hy 27.54 24 T T 03 55 53.2
baz=204,slow=75,SNR=61
OOD Oodnadatta 27.92 219 P **P** **03 27 47.0 -0.4**
STKA Stephens Creek 28.04 205 P **P** **03 27 48.2 -0.3**
comp=Z,9.8nm,0.9s,baz=32,slow=13,SNR=7.8
STKA PcP **PcP** **03 31 02.7 +0.4**
comp=Z,6.9nm,0.7s,baz=60,slow=2.3,SNR=6.1
STKA ScP **ScP** **03 34 41.5 +2.5**
comp=Z,1.3nm,0.7s,baz=302,slow=3.5,SNR=4.8
STKA LR LR 03 39 04.5
comp=Z,1μm,18.5s,baz=6.7,slow=36
STKA Stephens Creek 28.04 205 P **P** **03 27 50.2 +1.7**
baz=28,SNR=14
STKA Stephens Creek 28.04 205 P **P** **03 27 47.7 -0.7**
STKA **PcP** **03 31 03.0 +0.7**
LBMI Labuha 28.22 281 P **P** **03 27 52.5 +2.2**
comp=Z,2μmcomp=Z,173nm,1.2s
LCRK Leigh Creek 28.45 212 P **P** **03 27 51.5 -0.6**
SANI Sanana 29.42 278 P **P** **03 28 01.1 +0.2**
comp=Z,31nm,1.0s
SOEI Soe 30.69 262 P **P** **03 28 14.5 +2.2**
comp=Z,38nm,1.3s
FITZ Fitzroy Crossi 30.89 246 LR LR 03 41 06.6
comp=Z,775nm,18.8s,slow=37
BATI Baumata 31.31 261 LR LR 03 43 28.0
comp=Z,860nm,19.1s,baz=128,slow=41
BATI Baumata 31.31 261 P P 03 28 12.6 -5.1
BBOO Buckleboo 31.44 212 P **P** **03 28 17.8 -0.8**
baz=32,SNR=7.8
WRKA Warakurna 31.48 232 P **P** **03 28 18.4 -0.6**
baz=32,SNR=14
ARPS Mount Arapiles 32.28 200 P **P** **03 28 26.2 +0.3**
baz=32,SNR=5.0
DAV Davao City (W) 32.51 294 LR LR 03 39 42.8
comp=Z,228nm,20.6s,baz=118,slow=33
GTOI Gorontalo 32.88 282 P **P** **03 28 33.5 +2.1**
comp=Z,247nmcomp=Z,22nm,1.0s
EDFI Ende, Flores 33.20 264 P **P** **03 28 33.8 -0.5**
comp=Z,24nm,0.8s
AFI Afiamalu 33.30 105 LR LR 03 40 15.5
comp=Z,453nm,18.8s,baz=244,slow=33
MRSI Marisa 33.88 281 P **P** **03 28 41.2 +1.0**
comp=Z,28nm,1.2s
BASI Baing, Sumba 34.34 262 P **P** **03 28 45.6 +1.4**
comp=Z,894nmcomp=Z,99nm,1.1s
BSSI Bau Bau, Buton 34.43 269 P **P** **03 28 45.9 +1.0**
comp=Z,1μmcomp=Z,98nm,1.0s
BKSI Bulukumba 34.84 270 P **P** **03 28 48.6 +0.1**
comp=Z,30nm,1.2s
BNSI Bone 34.93 272 P **P** **03 28 51.0 +1.7**
comp=Z,27nm,1.5s
TOLI2 Tolitoli 35.16 282 P **P** **03 28 51.0 -0.2**
TOLI2 IAmb IAmb 03 29 06.0
comp=Z,21nm,1.1s
TOLI2 **PcP** **03 31 21.7 -0.1**
TOLI2 Tolitoli 35.16 282 P **P** **03 28 53.1 +1.9**
KAPI Kappang 35.23 271 P **P** **03 28 52.7 +0.8**
KAPI pmax pmax
comp=Z,71nm,1.4s
KAPI Kappang 35.23 271 P **P** **03 28 52.7 +0.8**
KAPI IAmb IAmb 03 29 00.4
comp=Z,71nm,1.4s
SPSI Sidrap Palu 35.31 273 P **P** **03 28 53.3 +0.8**
comp=Z,18nm,1.1s
WBSI Waikabubak, Su 35.49 263 P **P** **03 28 53.3 -0.8**
comp=Z,62nm,0.9s
MPSI Mapaga 35.85 280 P **P** **03 28 54.8 -2.3**
comp=Z,18nm,0.9s
PSA00 Pilbara Seismi 37.15 243 P **P** **03 29 07.9 -0.2**
PSA00 IAmb IAmb 03 29 19.2
comp=Z,31nm,1.1s
PSA00 Pilbara Seismi 37.15 243 P **P** **03 29 07.5 -0.6**
PSA00 IAmb IAmb 03 29 19.2
comp=Z,14nm,0.9s
PSA00 **PcP** **03 31 27.7 +0.1**
BKZ Black Stump Fm 37.61 152 P **P** **03 29 12.0 +0.2**
THZ Tophouse 38.30 158 P **P** **03 29 17.5 -0.2**
THZ IAmb IAmb 03 29 33.8
comp=Z,55nm,1.2s
MYLDM Lahad Datu 38.43 287 P **P** **03 29 18.2 -0.8**
MYLDM IAmb IAmb 03 29 23.1
comp=Z,75nm,1.3s
BFZ Birch Farm 38.73 154 P **P** **03 29 20.9 -0.3**
KHZ Kahutara 39.10 158 P **P** **03 29 23.6 -0.7**
comp=Z,39nm,2.3s
SRBI Singaraja 39.60 265 P **P** **03 29 28.8 0.0**
comp=Z,25nm,1.0s
MEEK Meekatharra 39.98 236 P **P** **03 29 32.2 +0.4**
baz=40,SNR=6.1
BBKI Banjar Baru 40.26 273 P **P** **03 29 36.3 +2.0**
comp=Z,5μmcomp=Z,39nm,1.2s
ABJI Asem Bagus 40.58 266 P **P** **03 29 37.4 +0.5**
comp=Z,45nm,0.9s
JAGI Jajag, Banyuwa 40.65 265 P **P** **03 29 36.3 -1.2**
comp=Z,78nm,0.9s
PCJI Pacitan 43.60 265 P **P** **03 30 01.3 -0.2**
comp=Z,1μmcomp=Z,104nm,1.0s
UGM Wanagama 44.25 266 P **P** **03 30 06.9 +0.1**
comp=Z,58nm,1.3s
UGM Wanagama 44.25 266 P **P** **03 30 07.2 +0.4**
UGM IAmb IAmb 03 30 23.4
comp=Z,52nm,1.0s
MJAR Matsushiro Arr 45.87 341 LR LR 03 47 41.1
comp=Z,185nm,20.6s,baz=160,slow=34
RAR Rarotonga 45.89 113 LR LR 03 45 59.6
comp=Z,448nm,21.3s,baz=258,slow=31
LEM Lembang 47.17 267 LR LR 03 52 32.5
comp=Z,132nm,20.8s,baz=140,slow=39
TPI Tanjungpandan 47.47 272 P **P** **03 30 33.0 +0.8**
comp=Z,33nm,1.1s
CNJI Cibinong 47.63 266 P **P** **03 30 32.7 -0.8**
comp=Z,1μmcomp=Z,123nm,1.1s
CGJI Cibinong 49.09 267 P **P** **03 30 43.4 -1.3**
comp=Z,84nm,0.9s
DLV T Lat 49.96 292 P **P** **03 30 50.5 -1.0**
KASI Kota Agung 50.35 268 P **P** **03 30 52.0 -2.3**
comp=Z,42nm,0.9s
MDSI Maura Dua 50.74 270 P **P** **03 30 55.5 -1.8**
comp=Z,880nmcomp=Z,5.9nm,0.6s
KSRS Korea Array 50.76 332 P **P** **03 30 57.0 +0.1**
comp=Z,6.5nm,0.8s,baz=148,slow=7.9,SNR=12
KSRS LR LR 03 52 37.8
comp=Z,40nm,18.0s,baz=115,slow=36
NJ2 Nanjing 51.79 320 *e*P **P** **03 31 08.1 +3.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
ASAJ Asahikawa 51.85 349 LR LR 03 50 32.1
comp=Z,246nm,21.1s,baz=186,slow=33
WHN Wuhan 53.84 316 ⇑P **P** **03 31 21.8 +1.9**
USRK Ussuriysk Ar. 54.82 340 P **P** **03 31 26.8 0.0**
comp=Z,6.3nm,0.9s,baz=186,slow=5.7,SNR=8.9
USRK Ussuriysk Ar. 54.82 340 P **P** **03 31 27.7 +0.9**
USRK Ussuriysk Ar. 54.82 340 P **P** **03 31 27.6 +0.9**
IPM Ipoh 55.15 280 P **P** **03 31 29.4 -0.3**
IPM IAmb IAmb 03 31 30.7
comp=Z,22nm,0.8s
MNSI Mandailing Nat 55.94 276 P **P** **03 31 34.7 -0.7**
comp=Z,23nm,0.9s
CN2 Changchun 57.00 335 *e*P **P** **03 31 40.9 -1.5**
CN2 PP **PP** **03 33 51.1 +1.4**
CN2 S **S** **03 39 28.3 -4.7**
CN2 pmax pmax
comp=Z,20nm,1.2s
GYA Guiyang 57.40 307 ⇑P **P** **03 31 47.8 +2.1**
GYA sP sP 03 32 16.0 +10
GYA pmax pmax
comp=Z,27nm,0.7s
SLVN Son La 57.47 300 P **P** **03 31 47.1 +0.9**
SLVN IAmb IAmb 03 31 48.8
comp=Z,28nm,0.9s
LYN LuoYang 57.51 318 *e*P P 03 31 53.1 +6.9
LYN pmax pmax
comp=Z,10.0nm,0.4s
HNS HongShan 57.87 322 ⇓P **P** **03 31 47.8 -0.8**
HNS pmax pmax
comp=Z,13nm,1.1s
GSI Gunungsitoli 57.99 276 P **P** **03 31 49.2 -0.8**
comp=Z,2μmcomp=Z,47nm,1.0s
GSI Gunungsitoli 57.99 276 P **P** **03 31 48.7 -1.2**
KLR Kul'dur 59.35 342 *j*/P **P** **03 31 59.3 +0.6**
KLR pmax pmax
comp=Z,21nm,1.4s
PET Petropavlovsk 59.59 2 *e*P **P** **03 32 01.5 +1.3**
PET *e* 03 32 47.4
PET *e*S **S** **03 40 03.8 -2.5**
PET pmax pmax
comp=Z,40nm,0.8s
PET MLR MLR
comp=Z,400nm,18.0s
XAN Xi'an 59.61 316 P **P** **03 32 00.8 -0.1**
XAN pmax pmax
comp=Z,17nm,0.7s
PEA0B Petropavlovsk- 59.64 2 ⇑*e*P **P** **03 32 00.7 +0.1**
PEA0B Petropavlovsk- 59.64 2 P **P** **03 32 01.9 +1.3**
PETK Petropavlovsk- 59.64 2 P **P** **03 32 01.8 +1.1**
comp=Z,28nm,0.9s,baz=168,slow=7.6,SNR=17
PETK LR LR 03 54 21.2
comp=Z,160nm,22.0s,baz=169,slow=32
PETK Petropavlovsk- 59.64 2 P **P** **03 32 01.3 +0.7**
PETK Petropavlovsk- 59.64 2 P **P** **03 32 01.3 +0.7**
KMI Kunming 59.98 304 ⇑P **P** **03 32 05.5 +1.7**
KMI pP sP 03 32 26.3 +2.2
KMI sP PcP 03 32 35.1 -14
KMI pmax pmax
comp=Z,58nm,1.0s
CM31 Chiang Mai Arr 60.79 295 P **P** **03 32 10.1 +0.9**
CMAR Chiang Mai Arr 60.79 295 P **P** **03 32 10.8 +1.5**
comp=Z,63nm,0.8s,baz=116,slow=5.0,SNR=205
CMAR LR LR 03 58 58.6
comp=Z,67nm,19.1s,baz=115,slow=36
CMAR PKPPKP **P'P'df** **04 01 30.6 +1.7**
comp=Z,1.7nm,0.3s,baz=279,slow=3.4,SNR=4.8
CMAR Chiang Mai Arr 60.79 295 P **P** **03 32 10.6 +1.3**
CHTO Chiang Mai 60.91 296 P **P** **03 32 11.0 +1.0**
CHTO pmax pmax
comp=Z,58nm,1.0s
CHTO Chiang Mai 60.91 296 P **P** **03 32 10.9 +1.0**
PZH PanZhiHua 61.37 305 P **P** **03 32 14.1 +1.0**
PZH pmax pmax
comp=Z,110nm,0.8s
PZH pmax pmax
comp=Z,140nm,4.1s
SHEM Shemya Is, Ala 61.38 13 LR LR 03 54 19.2
comp=Z,364nm,21.9s,baz=134,slow=32
XLT XiLinHaoTe 61.49 329 *e*P **P** **03 32 13.4 -0.2**
XLT pP sP 03 32 38.4 +4.4
XLT sP PcP 03 32 48.0 -7.1
XLT pmax pmax
comp=Z,41nm,0.8s
XLT pmax pmax
comp=Z,470nm,7.5s
HHC Hu-ho-hao-te 61.95 324 *e*P **P** **03 32 19.6 +2.8**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,210nm,6.5s
HIA Hailar 63.73 335 ⇓*e*P **P** **03 32 28.9 +0.6**
HIA pmax pmax
comp=Z,12nm,0.7s
TAOE Nuku Hiva Isla 64.09 97 *e*LR LR 03 51 35.2
comp=Z,285nm,22.1s
LZH Lanzhou 64.22 315 ⇓P **P** **03 32 33.5 +1.5**
LZH pmax pmax
comp=Z,28nm,1.4s
ZEA Zeya 64.66 342 *e*P **P** **03 32 35.3 +1.1**
ZEA pmax pmax
comp=Z,20nm,0.8s
MA2 Magadan 66.17 358 *c e*P **P** **03 32 44.5 +0.6**
MA2 pmax pmax
comp=Z,19nm,0.8s
MA2 Magadan 66.17 358 P **P** **03 32 43.7 -0.2**
MA2 IAmb IAmb 03 32 59.7
comp=Z,34nm,1.0s
NIKH Nikolski High 66.84 23 P **P** **03 32 48.9 +0.6**
baz=219
UNV Unalaska Valle 68.42 23 P **P** **03 32 58.6 +0.4**
baz=221
GTA Gaotai 68.64 317 ⇑P **P** **03 33 00.8 +0.7**
GTA pP sP 03 33 21.0 +0.3
GTA sP PcP 03 33 31.6 +6.8
GTA pmax pmax
comp=Z,14nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.8s
GTA LR LR
comp=Z,140nm,19.3s
GTA LR LR
comp=Z,190nm,18.9s
GTA LR LR
comp=Z,190nm,22.5s
ULN Ulaanbaatar 68.85 328 *c j*P **P** **03 33 01.7 +0.4**
ULN pmax pmax
comp=Z,26nm,1.7s
SONM Songino Array 69.18 327 P **P** **03 33 04.1 +0.8**
comp=Z,9.7nm,0.8s,baz=133,slow=6.2,SNR=62
SONM PKPPKP **P'P'df** **04 01 15.3 +2.5**
comp=Z,3.1nm,0.9s,baz=278,slow=2.5,SNR=19
SONM Songino Array 69.18 327 P **P** **03 33 03.9 +0.6**
SONM pmax pmax
comp=Z,11nm,0.8s
SONM Songino Array 69.18 327 P **P** **03 33 03.9 +0.6**
SHL Shillong 69.28 300 P **P** **03 33 05.0 +0.6**
SHL pmax pmax
comp=Z,84nm,1.0s
SHL Shillong 69.28 300 P **P** **03 33 05.0 +0.6**
SEY Seymchan 69.48 359 LR LR 03 59 43.8
comp=Z,102nm,20.8s,baz=232,slow=33
FALS False Pass 70.39 24 P **P** **03 33 10.7 +0.4**
baz=224
GOMU GeErMu 70.77 312 P **P** **03 33 15.6 +2.0**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,170nm,5.5s
VNDA Vanda 70.85 178 P **P** **03 33 13.4 +0.5**
comp=Z,6.6nm,0.8s,baz=328,slow=6.7,SNR=20
VNDA Vanda 70.85 178 P **P** **03 33 13.6 +0.7**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
VNDA Vanda 70.85 178 P **P** **03 33 13.6 +0.7**
LSA Lhasa 71.23 304 P **P** **03 33 18.3 +1.6**
YAK Yakutsk 71.32 348 LR LR 04 01 53.9
comp=Z,63nm,21.9s,baz=92,slow=34
YAK Yakutsk 71.32 348 ⇑*e*P **P** **03 33 17.5 +1.6**
YAK pmax pmax
comp=Z,12nm,0.7s
ZAK Zakamensk 72.33 328 *e*P **P** **03 33 22.3 -0.1**
ZAK pmax pmax
comp=Z,21nm,1.0s
MOY Mondy 74.25 328 *e*P **P** **03 33 34.0 +0.3**
MOY pmax pmax
comp=Z,22nm,1.4s
GAMB Gambell 74.62 15 P **P** **03 33 36.5 +1.2**
baz=214
BILL Bilibino 75.00 4 *d j*P **P** **03 33 38.3 +0.8**
BILL *e* 03 33 53.4
BILL *e* 03 36 28.8
BILL *e*S **SKiKP** **03 43 04.2 +7.1**
BILL pmax pmax
comp=Z,41nm,0.9s
BILL MLR MLR
comp=Z,85nm,17.0s
BILL Bilibino 75.00 4 P **P** **03 33 38.4 +0.9**
BILL IAmb IAmb 03 33 39.6
comp=Z,32nm,0.8s
GUN Gumba 75.10 301 *e*P **P** **03 33 40.3 +0.9**
comp=Z,160nm,0.7s
PKI Pulchoki 75.40 301 *e*P **P** **03 33 41.1 0.0**
PKIN Phulchoki 75.42 301 *e*P **P** **03 33 41.7 +0.6**
comp=Z,12nm,0.4s
SII Sitkinak Islan 75.42 26 P **P** **03 33 40.9 +0.7**
baz=232
PALK Pallekele 75.53 279 P **P** **03 33 42.2 +0.4**
PALK pmax pmax
comp=Z,16nm,0.9s
PALK Pallekele 75.53 279 P **P** **03 33 42.2 +0.4**
PALK IAmb IAmb 03 33 43.5
comp=Z,16nm,0.8s
KKN Kakani 75.57 301 *e*P **P** **03 33 42.6 +0.6**
comp=Z,77nm,0.7s
DMN Daman 75.67 301 *e*P **P** **03 33 43.4 +0.8**
comp=Z,176nm,0.9s
GKN Gorkha 76.18 301 *e*P **P** **03 33 45.9 +0.6**
OHAK Old Harbor 76.22 26 P **P** **03 33 45.4 +0.8**
baz=233
P18K Big Mountain, 76.75 24 P **P** **03 33 48.2 +0.5**
baz=231
KDAK Kodiak Island 76.86 26 LR LR 04 03 33.0
comp=Z,96nm,21.0s,baz=245,slow=32
KDAK Kodiak Island 76.86 26 P **P** **03 33 48.9 +0.6**
baz=234
ANM Nome 76.93 16 P **P** **03 33 50.2 +1.6**
ANM pmax pmax
comp=Z,22nm,1.0s
ANM Nome 76.93 16 P **P** **03 33 50.2 +1.6**
ANM IAmb IAmb 03 33 51.3
comp=Z,22nm,1.0s
ANM Nome 76.93 16 P **P** **03 33 50.2 +1.6**
baz=220
KOLN Koldanda 77.00 300 *e*P **P** **03 33 49.9 -0.2**
comp=Z,130nm,1.0s
DANN Dangsing 77.02 301 *e*P **P** **03 33 50.5 +0.3**
comp=Z,103nm,1.0s
TNA Tin City 77.02 15 P **P** **03 33 51.0 +1.9**
TNA Tin City 77.02 15 P **P** **03 33 50.3 +1.3**
baz=216
O18K Koktuh Hills 77.05 23 P **P** **03 33 50.3 +1.0**
baz=231
Q19K Cape Douglas, 77.10 25 P **P** **03 33 49.9 +0.2**
baz=232
MYLAV Mylavaram 77.23 289 *e*P **P** **03 33 52.1 +0.8**
SKHT Srikalahasti 77.56 286 *e*P **P** **03 33 53.6 +0.5**
O19K Port Alsworth 77.61 23 P **P** **03 33 52.4 0.0**
baz=232
PYUN Piuthan 77.61 301 *e*P **P** **03 33 53.1 -0.4**
comp=Z,116nm,1.1s
ADKI Addanki 77.69 288 *e*P **P** **03 33 53.3 -0.5**
SVW2 Sparrevohn 77.69 22 P **P** **03 33 54.6 +1.7**
SVW2 IAmb IAmb 03 33 56.6
comp=Z,26nm,1.0s
N19K Bonanza Creek 77.93 23 P **P** **03 33 55.6 +1.2**
N19K Bonanza Creek 77.93 23 P **P** **03 33 55.0 +0.6**
baz=231
O20K Slope Mountain 78.21 24 P **P** **03 33 56.1 +0.2**
baz=233
HOM Homer 78.36 25 P **P** **03 33 57.1 +0.5**
baz=234
NJS Nagarjunasagar 78.45 288 *e*P **P** **03 33 57.5 -0.5**
NJS *e*PcP **PcP** **03 34 06.7 -0.3**
CNPM China Poot 78.45 25 P **P** **03 33 58.8 +1.6**
RCLA Racherla 78.58 287 *e*P **P** **03 33 59.3 +0.5**
RCLA *e*PcP **PcP** **03 34 07.4 -0.3**
M19K Big River Lodg 78.64 22 P **P** **03 34 00.0 +1.8**
M19K IAmb IAmb 03 34 01.7
comp=Z,38nm,0.8s
M19K Big River Lodg 78.64 22 P **P** **03 33 59.9 +1.8**
baz=231
L19K White Mountain 78.65 22 P **P** **03 34 00.0 +1.8**
L19K White Mountain 78.65 22 P **P** **03 33 59.8 +1.6**
baz=231,SNR=25
TTA Tatalina 78.72 21 P **P** **03 34 00.3 +1.6**
TTA pmax pmax
comp=Z,19nm,0.8s
TTA Tatalina 78.72 21 P **P** **03 34 00.3 +1.6**
TTA IAmb IAmb 03 34 00.9
comp=Z,19nm,0.8s
TTA Tatalina 78.72 21 P **P** **03 33 59.9 +1.3**
baz=230,SNR=18
WMQ Urumqi 78.72 317 *e*P **P** **03 34 00.8 +1.7**
WMQ LR LR
comp=Z,250nm,17.3s
WMQ LR LR
comp=Z,130nm,22.3s
SRLM Srisailam 78.75 288 *e*P **P** **03 34 00.1 +0.3**
SRLM *e*PcP **PcP** **03 34 08.4 0.0**
BRSE Bradley Lake S 78.78 25 P **P** **03 33 60.0 +1.0**
baz=235
RPR Rampur 78.89 291 *e*P **P** **03 34 00.7 +0.3**
RPR *e*PcP **PcP** **03 34 09.2 +0.2**
CUPL Choutuppal 78.94 289 *e*P **P** **03 34 00.7 -0.1**
CUPL *e*PcP **PcP** **03 34 09.4 +0.2**
L20K Farewell, AK 79.19 22 P **P** **03 34 02.7 +1.5**
baz=232
CAPN Captain Cook N 79.21 24 P **P** **03 34 03.3 +2.1**
CAPN Captain Cook N 79.21 24 P **P** **03 34 02.8 +1.6**
baz=234
HYBB Hyderabad (bro 79.31 289 *e*P **P** **03 34 02.5 -0.3**
HYBB *e*PcP **PcP** **03 34 11.2 +0.3**
HYBB *e*sP **sP** **03 34 22.3 -1.3**
HYBB *e*PP **PP** **03 37 02.9 -0.5**
HYBB *e*S **S** **03 43 58.1 -1.8**
SEW Seward 79.52 25 P **P** **03 34 03.5 +0.6**
baz=236
GCSA Galena City Sc 79.62 19 P **P** **03 34 04.2 +0.8**
baz=228
K20K Telida 79.67 21 P **P** **03 34 05.2 +1.4**
baz=231
SRSP Sriramsagar 79.78 291 *e*P **P** **03 34 05.2 -0.1**
SRSP *e*PcP **PcP** **03 34 13.1 +0.2**
RC01 Rabbit Creek A 79.96 24 P **P** **03 34 06.2 +0.8**
RC01 Rabbit Creek A 79.96 24 P **P** **03 34 05.9 +0.6**
baz=236,SNR=11
PPLA Purkeypile 80.07 22 P **P** **03 34 06.7 +0.5**
PPLA Purkeypile 80.07 22 P **P** **03 34 06.6 +0.5**
baz=233
TIXI Tiksi 80.10 352 LR LR 04 05 36.9
comp=Z,60nm,22.0s,baz=198,slow=33
TIXI Tiksi 80.10 352 ⇓*j*/P **P** **03 34 06.0 +0.1**
TIXI pmax pmax
comp=Z,9.0nm,1.7s
TIXI Tiksi 80.10 352 P **P** **03 34 05.8 -0.1**
URV Uravakonda 80.10 286 *e*P **P** **03 34 07.5 +0.3**
URV *e*PcP **PcP** **03 34 14.3 0.0**
J20K Nowinta River 80.16 20 P **P** **03 34 08.0 +1.7**
J20K IAmb IAmb 03 34 09.0
comp=Z,26nm,0.8s
J20K Nowinta River 80.16 20 P **P** **03 34 07.9 +1.5**
baz=231
M22K Willow 80.18 23 P **P** **03 34 06.4 -0.1**
M22K Willow 80.18 23 P **P** **03 34 06.7 +0.2**
baz=235
PWL Port Wells 80.40 24 P **P** **03 34 08.8 +1.0**
PWL Port Wells 80.40 24 P **P** **03 34 08.6 +0.8**
baz=237,SNR=14
CAST Castle Rocks 80.42 21 P **P** **03 34 08.2 +0.4**
CAST IAmb IAmb 03 34 09.1
comp=Z,36nm,0.9s
CAST Castle Rocks 80.42 21 P **P** **03 34 08.0 +0.2**
baz=233,SNR=26
PMR Palmer 80.48 24 P **P** **03 34 08.4 +0.3**
PMR pmax pmax
comp=Z,31nm,0.8s
PMR Palmer 80.48 24 P **P** **03 34 08.4 +0.3**
PMR IAmb IAmb 03 34 09.6
comp=Z,31nm,0.8s
PMR Palmer 80.48 24 P **P** **03 34 08.6 +0.5**
baz=236,SNR=9.5
Q23K Middleton Isla 80.49 26 P **P** **03 34 08.4 +0.3**
baz=239
CUT Chulitna 80.50 23 P **P** **03 34 09.0 +0.8**
CUT IAmb IAmb 03 34 18.0
comp=Z,50nm,1.0s
CUT Chulitna 80.50 23 P **P** **03 34 08.4 +0.2**
baz=235
CHUM Lake Minchumin 80.61 21 P **P** **03 34 09.7 +0.9**
baz=233,SNR=16
KNK Knik Glacier 80.65 24 P **P** **03 34 09.8 +0.7**
baz=237
GHO Glory Hole Cre 80.66 24 P **P** **03 34 10.2 +1.0**
GHO IAmb IAmb 03 34 10.9
comp=Z,38nm,0.8s
KTH Kantishna Hill 80.92 22 P **P** **03 34 10.4 -0.1**

KTH IAmb IAmb 03 34 11.4
comp=Z,28nm,0.9s
SML Sawmill 80.92 24 P **P 03 34 11.8 +1.2**
SML Sawmill 80.92 24 P **P 03 34 11.2 +0.6**
baz=237,SNR=13
GLI Glacier Island 80.92 25 P **P 03 34 11.1 +0.5**
baz=238
DGZ Jazzator, Alta 81.01 323⇑ *iP* **P 03 34 10.5 -0.9**
DGZ pmax pmax
comp=Z,13nm,1.1s
TRF Thorofare Moun 81.09 22 P **P 03 34 11.6 0.0**
TRF IAmb IAmb 03 34 14.2
comp=Z,33nm,0.8s
TRF Thorofare Moun 81.09 22 P **P 03 34 11.2 -0.4**
baz=235,SNR=11
BPAW Bear Paw Mtn. 81.22 21 P **P 03 34 12.0 -0.1**
baz=234
KLRI Killari 81.26 289 *eP* **P 03 34 12.9 -0.4**
EYAK Cordova Ski Ar 81.32 25 P **P 03 34 12.9 +0.3**
baz=240
SCM Sheep Creek Mo 81.33 24 P **P 03 34 13.8 +1.0**
SCM pmax pmax
comp=Z,51nm,1.0s
SCM Sheep Creek Mo 81.33 24 P **P 03 34 13.8 +1.0**
SCM Sheep Creek Mo 81.33 24 P **P 03 34 13.7 +1.0**
baz=238,SNR=7.5
WAT1 Susitna Watana 81.39 23 P **P 03 34 13.4 +0.3**
baz=237
IMAR Indian Mountai 81.42 19 P **P 03 34 14.5 +1.4**
I21K Tanana 81.51 20 P **P 03 34 14.8 +1.3**
I21K IAmb IAmb 03 34 17.2
comp=Z,30nm,0.9s
I21K Tanana 81.51 20 P **P 03 34 14.8 +1.3**
baz=233
H21K Melozitna Rive 81.53 19 P **P 03 34 15.2 +1.5**
H21K Melozitna Rive 81.53 19 P **P 03 34 14.7 +1.1**
baz=232,SNR=10
WAT6 Susitna Watana 81.57 23 P **P 03 34 14.7 +0.6**
baz=237,SNR=9.4
RND Reindeer 81.60 22 P **P 03 34 14.5 +0.3**
RND pmax pmax
comp=Z,38nm,0.8s
RND Reindeer 81.60 22 P **P 03 34 14.5 +0.3**
DIV Divide 81.61 25 P **P 03 34 15.2 +0.9**
DIV IAmb IAmb 03 34 16.3
comp=Z,24nm,0.8s
KLU Klutina 81.73 25 P **P 03 34 15.5 +0.6**
KLU Klutina 81.73 25 P **P 03 34 16.1 +1.2**
baz=239,SNR=13
MCK McKinley 81.75 22 P **P 03 34 14.6 -0.3**
MCK pmax pmax
comp=Z,65nm,0.8s
MCK McKinley 81.75 22 P **P 03 34 14.6 -0.3**
MCK McKinley 81.75 22 P **P 03 34 15.0 +0.1**
baz=236,SNR=32
ZSN Zaisan 81.82 320 *eP* **P 03 34 14.2 -1.4**
ZSN Zaisan 81.82 320 *eP* **P 03 34 14.3 -1.4**
baz=320
MLY Manley 81.85 20 P **P 03 34 16.2 +0.8**
MLY IAmb IAmb 03 34 17.0
comp=Z,18nm,0.7s
MLY Manley 81.85 20 P **P 03 34 16.0 +0.6**
baz=234
M24K Tolsona, Glenn 81.94 24 P **P 03 34 17.1 +1.2**
M24K Tolsona, Glenn 81.94 24 P **P 03 34 17.3 +1.3**
baz=239,SNR=8.2
DHY Denali Highway 81.98 23 P **P 03 34 17.3 +1.0**
DHY IAmb IAmb 03 34 26.4
comp=Z,37nm,1.2s
DHY Denali Highway 81.98 23 P **P 03 34 16.8 +0.5**
baz=238,SNR=10
BMRM Bremner River 82.02 25 P **P 03 34 17.4 +1.0**
baz=240
NEA2 Nenana 82.18 21 P **P 03 34 16.7 -0.5**
NEA2 IAmb IAmb 03 34 18.0
comp=Z,23nm,0.8s
NEA2 Nenana 82.18 21 P **P 03 34 17.0 -0.1**
baz=236,SNR=6.9
N25K Chitina, Valde 82.33 25 P **P 03 34 18.8 +0.7**
N25K IAmb IAmb 03 34 20.4
comp=Z,25nm,0.8s
N25K Chitina, Valde 82.33 25 P **P 03 34 19.2 +1.2**
baz=240
I23K Minto, Yukon-K 82.39 21 P **P 03 34 19.7 +1.5**
I23K Minto, Yukon-K 82.39 21 P **P 03 34 18.8 +0.6**
baz=236
WRH Wood River Hil 82.47 21 P **P 03 34 18.5 -0.1**
WRH IAmb IAmb 03 34 19.5
comp=Z,33nm,1.2s
HARP HAARP 82.50 24 P **P 03 34 20.0 +1.2**
baz=240
GLB Gilahina Butte 82.58 25 P **P 03 34 20.6 +1.2**
VRDI Verde Repeater 82.63 25 P **P 03 34 20.8 +1.0**
VRDI IAmb IAmb 03 34 21.8
comp=Z,28nm,0.9s
PAX Paxson 82.67 23 P **P 03 34 20.5 +0.7**
PAX pmax pmax
comp=Z,25nm,1.4s
PAX Paxson 82.67 23 P **P 03 34 20.5 +0.7**
PAX IAmb IAmb 03 34 29.1
comp=Z,25nm,1.4s
PAX Paxson 82.67 23 P **P 03 34 20.2 +0.4**
baz=239
CCB Clear Creek Bu 82.67 21 P **P 03 34 19.4 -0.2**
CCB IAmb IAmb 03 34 20.4
comp=Z,24nm,1.0s
MDM Murphy Dome 82.69 21 P **P 03 34 20.0 +0.2**
MDM IAmb IAmb 03 34 20.7
comp=Z,38nm,1.4s
TCOL CIGO, UAF Yank 82.77 21 P **P 03 34 20.1 -0.1**
TCOL CIGO, UAF Yank 82.77 21 P **P 03 34 20.1 -0.1**
baz=237
COLA College 82.78 21 *c iP* **P 03 34 19.7 -0.4**
COLA pmax pmax
comp=Z,34nm,0.8s
COLA College 82.78 21 P **P 03 34 19.8 -0.4**
COLA College 82.78 21 P **P 03 34 20.1 -0.1**
baz=237
MESA MESA 82.80 27 P **P 03 34 21.4 +0.7**
baz=243
ISLE Juniper Island 82.82 26 P **P 03 34 21.1 +0.4**
HDA Harding Lake 82.85 22 P **P 03 34 21.1 +0.5**
HDA IAmb IAmb 03 34 22.5
comp=Z,21nm,1.0s
HDA Harding Lake 82.85 22 P **P 03 34 20.6 0.0**
baz=238,SNR=9.3
POKR Poker Plat Res 83.06 21 P **P 03 34 21.9 +0.3**
POKR IAmb IAmb 03 34 22.3
comp=Z,14nm,0.9s
POKR Poker Plat Res 83.06 21 P **P 03 34 21.4 -0.3**
baz=237
IL31 83.07 21 P **P 03 34 21.4 -0.3**
IL31 IAmb IAmb 03 34 22.4
comp=Z,16nm,0.8s
ILAR Eielson Array 83.07 21 P **P 03 34 21.1 -0.6**
comp=Z,12nm,0.8s,baz=252,slow=5.3,SNR=74
ILAR LR LR 04 06 35.1
comp=Z,357nm,21.7s,baz=245,slow=32
ILAR Eielson Array 83.07 21 P **P 03 34 21.4 -0.3**
ILAR Eielson Array 83.07 21 P **P 03 34 21.4 -0.3**
GRNC Granite Creek 83.14 26 P **P 03 34 23.3 +0.9**
GRNC IAmb IAmb 03 34 24.9
comp=Z,26nm,0.8s
QSPA South Pole Qui 83.25 180 P **P 03 34 23.3 +0.4**
H24K Noodor Dome 83.29 20 P **P 03 34 22.9 0.0**
baz=237
MK31 Makanchi Array 83.29 319 P **P 03 34 23.4 +0.1**
MK31 pmax pmax
comp=Z,11nm,0.9s
MK31 Makanchi Array 83.29 319 P **P 03 34 23.4 +0.1**
MKAR Makanchi Array 83.29 319 P **P 03 34 23.3 0.0**
comp=Z,13nm,0.9s,baz=106,slow=5.3,SNR=64
MKAR PKKPbc **PKKPbc 03 52 43.5 -1.8**
comp=Z,1.3nm,0.9s,baz=307,slow=2.4,SNR=9.0
MKAR PKPPKP **P'P'df 04 00 49.7 +1.5**
comp=Z,0.9nm,0.9s,baz=280,slow=2.2,SNR=6.8
MKAR LR LR 04 12 40.3
comp=Z,72nm,19.0s,baz=86,slow=36
MKAR Makanchi Array 83.29 319 P **P 03 34 23.1 -0.2**
MKAR Makanchi Array 83.29 319 P **P 03 34 23.1 -0.2**
RIDG Independent Ri 83.30 23 IAmb IAmb 03 34 24.9
comp=Z,31nm,0.9s
RIDG Independent Ri 83.30 23 P **P 03 34 23.7 +0.7**
baz=240,SNR=7.4
COLD Coldfoot 83.31 19 P **P 03 34 24.4 +1.5**
baz=235

MENT Mentasta 83.35 24 IAmb IAmb 03 34 33.9
comp=Z,17nm,0.8s
M26K Nabesna, AK 83.38 24 IAmb IAmb 03 34 25.8
comp=Z,20nm,0.9s
M26K Nabesna, AK 83.38 24 P **P 03 34 24.4 +1.0**
baz=242,SNR=6.2
CTG Chitna Glacier 83.42 26 P **P 03 34 25.0 +1.2**
baz=243,SNR=11
MAKZ Makanchi 83.50 319 P **P 03 34 24.5 +0.1**
MAKZ pmax pmax
comp=Z,17nm,0.9s
MAKZ Makanchi 83.50 319 P **P 03 34 24.5 +0.1**
MAKZ IAmb IAmb 03 34 34.0
comp=Z,17nm,0.9s
PINM Pinnacle 83.52 27 P **P 03 34 25.3 +1.1**
baz=244
L26K Log Cabin Wild 83.54 24 IAmb IAmb 03 34 26.4
comp=Z,22nm,0.8s
L26K Log Cabin Wild 83.54 24 P **P 03 34 25.3 +1.1**
baz=241,SNR=12
J25K Salcha River, 83.54 22 P **P 03 34 24.8 +0.6**
baz=239,SNR=31
PNL Peninsula 83.73 28 P **P 03 34 26.4 +1.2**
baz=245
SCRK Sand Creek 83.75 23 IAmb IAmb 03 34 27.2
comp=Z,24nm,0.9s
SCRK Sand Creek 83.75 23 P **P 03 34 26.2 +0.8**
baz=241,SNR=15
M27K Edge Creek, AK 83.82 25 P **P 03 34 27.5 +1.7**
baz=243
ZALV Zalesovo Beam 84.03 326 P **P 03 34 25.9 -0.9**
comp=Z,4.1nm,0.6s,baz=104,slow=6.3,SNR=19
ZALV PKKPbc **PKKPbc 03 52 42.4 -1.4**
comp=Z,0.6nm,0.5s,baz=343,slow=4.6,SNR=4.2
ZALV PKPPKP **P'P'df 04 00 50.5 +4.2**
comp=Z,1.4nm,0.8s,baz=318,slow=2.0,SNR=5.7
ZALV LR LR 04 12 51.9
comp=Z,95nm,20.9s,baz=120,slow=36
ZALV Zalesovo Beam 84.03 326 *i P* **P 03 34 25.8 -1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
YUK3 Moose Creek 84.16 26 P **P 03 34 28.8 +1.1**
baz=244,SNR=10
J26L Joseph Creek 84.17 22 IAmb IAmb 03 34 29.4
comp=Z,14nm,0.8s
J26L Joseph Creek 84.17 22 P **P 03 34 28.4 +0.9**
baz=241,SNR=18
L27K Beaver Creek, 84.17 24 IAmb IAmb 03 34 30.1
comp=Z,23nm,0.9s
L27K Beaver Creek, 84.17 24 P **P 03 34 28.9 +1.5**
baz=243
SHLS Shalkode 84.22 315 *eP* **P 03 34 25.4 -2.9**
SHLS Shalkode 84.22 315 *eP* **P 03 34 25.5 -2.9**
baz=315
BVCY Beaver Creek 84.27 25 P **P 03 34 29.3 +1.3**
baz=244,SNR=11
UZB Uzynbulak 84.53 314 *eP* **P 03 34 28.9 -0.9**
UZB Uzynbulak 84.53 314 *eP* **P 03 34 29.0 -0.9**
baz=314
MAW Mawson 84.70 203 P **P 03 34 29.1 -0.9**
comp=Z,14nm,0.8s,baz=97,slow=5.6,SNR=7.8
MAW LR LR 04 11 13.7
comp=Z,154nm,18.0s,baz=244,slow=35
MAW Mawson 84.70 203 P **P 03 34 30.6 +0.6**
MAW Mawson 84.70 203 P **P 03 34 30.6 +0.6**
EGAK Eagle 85.21 23 P **P 03 34 33.7 +1.2**
baz=243,SNR=21
SKAG Skagway 85.56 29 IAmb IAmb 03 34 45.5
comp=Z,32nm,1.2s
SKAG Skagway 85.56 29 P **P 03 34 35.0 +0.6**
baz=249
DAWY Dawson 85.59 24 IAmb IAmb 03 34 38.6
comp=Z,14nm,0.8s
DAWY Dawson 85.59 24 P **P 03 34 35.9 +1.4**
baz=245,SNR=20
KSH Kashi 85.94 310 P **P 03 34 39.3 +2.3**
KSH pP sP 03 35 03.8 +5.9
KSH S **S 03 45 01.5 -5.4**
KSH pmax pmax
comp=Z,11nm,1.0s
MDOK Medeo 85.94 314 *eP* **P 03 34 35.7 -1.2**
MDOK *eS* S 03 44 54.4 -12
MDOK Medeo 85.94 314 *eP* **P 03 34 35.8 -1.2**
baz=314
WRAK Wrangell Islan 86.03 32 P **P 03 34 38.0 +1.1**
baz=252
M30M Minto, Yukon 86.06 26 IAmb IAmb 03 34 39.5
comp=Z,34nm,1.3s
M30M Minto, Yukon 86.06 26 P **P 03 34 38.4 +1.5**
baz=247
N31M Braeburn, Yuko 86.09 27 P **P 03 34 38.6 +1.5**
baz=248,SNR=12
CHKK Chushkaly 86.14 315 *eP* **P 03 34 36.7 -1.0**
baz=315
WHY Whitehorse 86.20 28 IAmb IAmb 03 34 40.0
comp=Z,13nm,1.0s
WHY Whitehorse 86.20 28 P **P 03 34 38.9 +1.2**
baz=249
J29M Klondike Camp 86.22 24 P **P 03 34 38.5 +0.8**
baz=246
I29M Ogilvie Camp, 86.55 23 P **P 03 34 40.3 +1.0**
I29M Ogilvie Camp, 86.55 23 P **P 03 34 40.3 +1.0**
baz=246,SNR=19
KUU Kurty 86.61 315 *eP* **P 03 34 38.8 -1.2**
KUU Kurty 86.61 315 *eP* **P 03 34 38.9 -1.2**
baz=315
KST Kastek 86.69 314 *eP* **P 03 34 39.3 -1.3**
baz=314
KURK Kurchatov 86.70 322⇓ *eP* **P 03 34 39.5 -0.8**
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURBB Kurchatov Arra 86.73 322 P **P 03 34 39.6 -0.8**
comp=Z,0.8nm,0.7s,baz=104,slow=3.3,SNR=3.3
MAYO Mayo, Yukon 86.83 25 P **P 03 34 42.0 +1.4**
baz=248,SNR=8.5
M31M Drury Creek, Y 86.96 26 P **P 03 34 42.3 +1.0**
M31M IAmb IAmb 03 34 43.3
comp=Z,21nm,0.9s
M31M Drury Creek, Y 86.96 26 P **P 03 34 42.3 +1.0**
baz=250,SNR=9.3
NIL Nilore 86.97 304 P **P 03 34 42.0 0.0**
NIL pmax pmax
comp=Z,20nm,1.0s
NIL Nilore 86.97 304 P **P 03 34 42.0 0.0**
NIL IAmb IAmb 03 34 43.1
comp=Z,20nm,0.9s
P33M Teslin, Yukon 87.01 28 P **P 03 34 42.5 +0.8**
baz=251
BBB Bella Bella 87.22 37 LR LR 04 15 11.9
comp=Z,346nm,18.1s,baz=255,slow=37
FARO Faro, Yukon 87.43 26 P **P 03 34 44.3 +0.7**
baz=250,SNR=11
AAK Ala-Archa 87.67 313 P **P 03 34 45.5 +0.1**
comp=Z,4.1nm,0.9s,baz=344,slow=2.3,SNR=7.4
AAK Ala-Archa 87.67 313⇓ *eP* **P 03 34 45.5 +0.1**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 87.67 313 P **P 03 34 45.3 -0.1**
DLBC Dease Lake 87.83 31 LR LR 04 14 34.2
comp=Z,111nm,18.0s,baz=258,slow=36
DLBC Dease Lake 87.83 31 P **P 03 34 46.4 +0.8**
O02D Mt. Diablo Mer 88.27 49 IAmb IAmb 03 34 51.0
comp=Z,16nm,1.0s
O02D Mt. Diablo Mer 88.27 49 P **P 03 34 48.7 +0.5**
baz=260
BTLS Baital 88.45 316 *eP* **P 03 34 47.5 -1.2**
BTLS Baital 88.45 316 *eP* **P 03 34 47.6 -1.2**
baz=316
N02D Trinity Center 88.47 49 P **P 03 34 49.3 +0.2**
baz=260
I03D Drain, OR 88.50 46 P **P 03 34 50.0 +1.0**
baz=259
NRIK Noril'sk 88.52 341 P **P 03 34 47.5 -1.0**
comp=Z,2.4nm,0.6s,baz=73,slow=2.3,SNR=3.8
NRIK Noril'sk 88.52 341⇓ *eP* **P 03 34 47.9 -0.7**
NRIK pmax pmax
comp=Z,6.0nm,1.1s
YBH Yreka Blue Hor 88.60 48 LR LR 04 07 38.2
comp=Z,452nm,21.6s,baz=289,slow=31
O03E Paynes Creek 89.03 49 IAmb IAmb 03 35 07.6
comp=Z,12nm,1.0s
O03E Paynes Creek 89.03 49 P **P 03 34 52.7 +0.9**
baz=260
ORV Oroville 89.14 50 IAmb IAmb 03 34 54.7
comp=Z,10.0nm,1.2s
INK Inuvik 89.41 21 LR LR 04 11 27.4
comp=Z,248nm,19.3s,baz=230,slow=33

INK Inuvik 89.41 21 P **P 03 34 53.5 +0.7**
baz=250
J05D Fort Rock, OR 89.94 47 P **P 03 34 56.7 +0.7**
baz=261
VOG Valley Oaks Go 90.31 54 P **P 03 34 58.6 +0.9**
baz=262
VCNR Virginia City 90.52 51 IAmb IAmb 03 35 02.7
comp=Z,8.8nm,1.0s
PNTR Pine Nut 90.53 51 IAmb IAmb 03 35 02.8
comp=Z,14nm,0.8s
ARVC Arvin 90.59 55 P **P 03 34 60.0 +0.9**
baz=262
CIS Catalina Islan 90.70 57 P **P 03 35 00.3 +0.7**
baz=262
PAHR Pah Rah Range 90.78 50 IAmb IAmb 03 35 03.1
comp=Z,11nm,1.0s
YERR Yerington 90.79 51 IAmb IAmb 03 35 03.8
comp=Z,8.7nm,1.0s
ISA Isabella, Lake 90.95 54 P **P 03 35 01.6 +0.8**
baz=262
EDW2 Edwards Air Fo 91.24 55 P **P 03 35 03.4 +1.3**
baz=263,SNR=10.0
LHV Little Huntoon 91.26 52 IAmb IAmb 03 35 06.8
comp=Z,15nm,1.0s
RYN Ryan 91.30 51 IAmb IAmb 03 35 06.2
comp=Z,12nm,1.0s
TIN Tinemaha, Big 91.32 53 P **P 03 35 04.3 +1.7**
baz=262
CWC Cottonwood Cre 91.36 54 P **P 03 35 04.0 +1.2**
baz=263
BFSC Mount Baldy Ra 91.43 56 P **P 03 35 04.1 +0.9**
baz=263
NVAR Mina Array Bea 91.44 52 P **P 03 35 03.8 +0.5**
comp=Z,13nm,0.9s,baz=253,slow=6.2,SNR=29
NVAR LR LR 04 08 46.6
comp=Z,252nm,21.7s,baz=294,slow=31
NV11 Mina Array Sit 91.56 52 IAmb IAmb 03 35 07.2
comp=Z,13nm,0.9s
LRMC Laurel Mtn Rad 91.56 55 P **P 03 35 05.0 +1.3**
baz=263
KVN Kaiserville 91.68 51 IAmb IAmb 03 35 07.9
comp=Z,10nm,0.9s
WVOR Wild Horse Val 91.71 48 IAmb IAmb 03 35 07.4
comp=Z,8.9nm,1.2s
MURC Murrieta 91.74 57 P **P 03 35 05.2 +0.8**
baz=263
MPMC Manual Prospec 91.79 54 P **P 03 35 06.1 +1.2**
baz=263
RPN Rapa Nui 91.87 117 LR LR 04 07 51.9
comp=Z,219nm,21.9s,baz=292,slow=30
J08A Circle Bar Ran 91.94 47 IAmb IAmb 03 35 06.2
comp=Z,8.5nm,1.1s
BBRC Big Bear Solar 92.04 56 P **P 03 35 07.1 +1.0**
baz=263
RRX Edison Barstow 92.05 55 P **P 03 35 06.2 +0.4**
baz=263
WRGLY Wrigley 92.09 27 P **P 03 35 06.8 +1.5**
baz=259
BRVK Borovoye 92.23 323⇓ *eP* **P 03 35 04.5 -1.7**
BRVK pmax pmax
comp=Z,5.0nm,1.1s
GSC Goldstone, Bar 92.25 55 P **P 03 35 08.4 +1.5**
baz=263
QSM Queen of Sheba 92.28 54 IAmb IAmb 03 35 08.6
comp=Z,5.9nm,0.9s
MONP2 Monument Peak 92.30 57 P **P 03 35 08.6 +1.3**
baz=263
PFO Pinyon Flats O 92.35 57 LR LR 04 12 35.8
comp=Z,245nm,18.2s,baz=289,slow=33
PFO Pinyon Flats O 92.35 57 P **P 03 35 07.4 0.0**
PFO pmax pmax
comp=Z,6.0nm,0.9s
PFO Pinyon Flats O 92.35 57 P **P 03 35 07.4 0.0**
PFO IAmb IAmb 03 35 09.1
comp=Z,5.7nm,0.9s
PFO Pinyon Flats O 92.35 57 P **P 03 35 08.2 +0.8**
baz=263
TPFO Pinon Flats 92.35 57 P **P 03 35 08.3 +0.9**
baz=263
BMN Battle Mountai 92.52 50 IAmb IAmb 03 35 11.7
comp=Z,15nm,1.0s
HEC Hector,Ludlow 92.59 55 P **P 03 35 09.5 +1.1**
baz=264
SYO Syowa Base 92.63 199⇓ *iPcP* **PcP 03 35 10.8 +2.4**
SYO Syowa Base 92.63 199⇓ *epP* pP 03 35 21.0 -1.5
SHOC Shoshone, Teco 92.75 54 P **P 03 35 10.5 +1.4**
baz=264
BELC Belle Mtn. Jos 92.77 56 P **P 03 35 10.5 +1.1**
baz=264,SNR=5.8
TPNV Topopah Spring 92.89 53 P **P 03 35 10.8 +0.9**
baz=264,SNR=6.8
TUQ Turquoise Moun 92.99 55 P **P 03 35 11.2 +0.9**
baz=264
C36M Paulatuk 93.00 21 P **P 03 35 09.7 +0.4**
baz=259
GMRC Granite Mounta 93.13 56 P **P 03 35 12.1 +1.1**
baz=264,SNR=5.2
A36M Sachs Harbour 93.14 18 P **P 03 35 10.3 +0.3**
baz=258
BC3 Big Chuckawall 93.19 57 P **P 03 35 12.5 +1.2**
baz=264
NEW Newport 93.46 42 LR LR 04 10 10.6
comp=Z,547nm,21.0s,baz=271,slow=31
NEW Newport 93.46 42 P **P 03 35 12.7 +0.6**
baz=264,SNR=5.0
IRM Iron Mountain 93.49 56 P **P 03 35 13.6 +1.1**
baz=264,SNR=9.3
R11A Troy Canyon, C 93.55 52 IAmb IAmb 03 35 15.2
comp=Z,6.2nm,1.1s
R11A Troy Canyon, C 93.55 52 P **P 03 35 13.7 +0.8**
baz=264,SNR=8.1
SHPR Sheep Range 93.71 54 P **P 03 35 14.1 +0.4**
SHPR IAmb IAmb 03 35 15.8
comp=Z,6.8nm,1.0s
PRN Pahroc Range 93.88 53 IAmb IAmb 03 35 17.2
comp=Z,15nm,1.3s
ELK Elko 94.05 50 LR LR 04 11 21.2
comp=Z,211nm,20.3s,baz=256,slow=32
ELK Elko 94.05 50 IAmb IAmb 03 35 17.2
comp=Z,7.4nm,1.1s
PDMCI Parker Dam,Lak 94.33 56 P **P 03 35 17.9 +1.6**
baz=265
SPR3 Spring Creek 3 94.59 51 P **P 03 35 18.2 +0.3**
SPR3 IAmb IAmb 03 35 20.3
comp=Z,18nm,1.2s
HLID Hailey 94.91 47 P **P 03 35 19.7 +0.7**
baz=265
CCUT Cedar City 95.23 53 IAmb IAmb 03 35 24.7
comp=Z,5.2nm,1.0s
KNB Kanab 95.62 53 IAmb IAmb 03 35 26.6
comp=Z,7.9nm,1.0s
DUG Dugway, Tooele 95.85 50 P **P 03 35 24.4 +1.0**
baz=266
HVU Hansel Valley 95.98 49 IAmb IAmb 03 35 25.6
comp=Z,6.8nm,0.8s
U15A North Rim 96.01 54 IAmb IAmb 03 35 27.1
comp=Z,8.0nm,1.4s
YKA Yellowknife Ar 96.03 28 P **P 03 35 24.0 +0.6**
comp=Z,19nm,0.9s,baz=265,slow=4.6,SNR=173
YKA PKiKP **PKiKP 03 40 01.9 -0.1**
comp=Z,0.6nm,0.6s,baz=267,slow=1.5,SNR=14
YKA PKKPbc **PKKPbc 03 52 10.4 -3.4**
comp=Z,1.0nm,0.7s,baz=87,slow=2.7,SNR=18
YKA LR LR 04 19 36.4
comp=Z,76nm,18.3s,baz=311,slow=36
PKCU Pink Cliffs 96.06 53 IAmb IAmb 03 35 29.3
comp=Z,14nm,1.0s
MTPU Mount Pierson 96.20 52 IAmb IAmb 03 35 29.7
comp=Z,6.4nm,1.0s
NLU North Lily Min 96.40 51 IAmb IAmb 03 35 28.0
comp=Z,5.4nm,1.1s
LPIG La Paz 96.85 67 LR LR 04 12 12.5
comp=Z,385nm,20.1s,baz=260,slow=31
BOZ Bozeman (W) 97.01 45 P **P 03 35 28.4 -0.1**
baz=268
TMUT Trail Mountain 97.03 51 IAmb IAmb 03 35 31.2
comp=Z,8.8nm,1.0s
AHID Auburn Hatcher 97.28 48 IAmb IAmb 03 35 32.7
comp=Z,5.5nm,1.1s
H17A Grant Village 97.72 46 P **P 03 35 32.8 +0.9**
baz=268
W18A Petrified Fore 98.01 56 P **P 03 35 34.3 +1.0**
baz=267
RDMU Red Mountain 98.34 50 IAmb IAmb 03 35 37.7
comp=Z,10nm,1.0s
EGMT Eagleton 98.37 43 P **P 03 35 34.9 +0.4**
baz=269
BW06 Boulder Array 98.41 48 P **P 03 35 35.0 0.0**

baz=269
PDAR Pinedale Array 98.41 48 P P 03 35 34.8 -0.2
comp=Z,3.5nm,0.9s,baz=242,slow=2.3,SNR=22
PDAR PP **PP 03 39 36.1 +0.4**
comp=Z,0.9nm,1.0s,baz=258,slow=7.0,SNR=4.2
PDAR PKiKP **PKiKP 03 40 07.7 +0.6**
comp=Z,0.2nm,0.5s,baz=96,slow=3.0,SNR=3.7
PDAR LR LR 04 16 57.2
comp=Z,144nm,18.7s,baz=248,slow=34
WSAR Wadi Sarin 98.57 292 LR LR 04 20 55.4
comp=Z,40nm,21.6s,baz=136,slow=36
RLMT Red Lodge 98.67 45 P P 03 35 37.1 +1.0
baz=269
PV23 Carpenter Ridg 98.72 52 IAmb IAmb 03 35 40.1
comp=Z,6.6nm,0.9s
ARU Arti 99.20 326 LR LR 04 23 22.1
comp=Z,88nm,19.4s,baz=102,slow=37
ARU Arti 99.20 326ij *eP* **Pdif 03 35 39.7 +1.9**
ARU pmax pmax
comp=Z,8.0nm,1.7s
O20A White River Ci 99.35 51 P Pdif 03 35 39.3 +0.1
baz=269
AKTO Aktyubinsk 99.68 320 LR LR 04 20 14.7
comp=Z,42nm,21.7s,baz=65,slow=35
K22A Casper 100.65 48 P Pdif 03 35 45.2 +0.3
baz=271
LAO LASA Array 100.78 44 P Pdif 03 35 46.2 +1.0
baz=272
N23A Red Feather La 101.10 50 P Pdif 03 35 47.7 +0.7
baz=271
ISCO Idaho Springs 101.37 51 P Pdif 03 35 48.8 +0.5
baz=271
SDCO Great Sand Dun 101.48 53 P Pdif 03 35 48.9 +0.1
baz=270
RSSD Black Hills 102.42 46 P Pdif 03 35 53.1 +0.3
baz=273
WMOK Wichita Mounta 107.01 56 P PKiKP 03 40 22.2 -0.5
baz=274
ECSD EROS Data Cent 107.79 46 P PKiKP 03 40 23.3 -0.6
baz=278
ARCES ARCESS Array B 109.37 343 PKiKP **PKiKP 03 40 26.5 +0.4**
comp=Z,2.0nm,0.8s,baz=125,slow=2.6,SNR=6.8
U40A Yellville 111.66 54 P PKiKP 03 40 30.9 -0.4
baz=278
SOC Sochi 112.93 315 *i* PKIKP **PKiKP 03 40 30.5 -3.0**
SOC *e* 03 41 19.0
SOC *e*PPP PPP 03 43 42.8
SOC *e*SSS SSS 04 01 12.2
HDIL Hopedale 113.70 49 P PKiKP 03 40 35.0 -0.1
baz=282
FINES FINESS Array B 113.74 336 PKKPbc PKKPbc 03 51 17.3 -2.5
comp=Z,1.0nm,0.6s,baz=214,slow=2.1,SNR=7.4
WVT Waverly 115.70 53 P PKPdf 03 40 38.3 -0.8
baz=281
MNK Minsk 116.43 329 *i* P **Pdif 03 36 43.4 -11**
MNK *i* 03 47 41.4
MNK *i* PS **PS 03 51 21.9 -7.9**
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,1.0s
MNK MLR MLR
comp=Z,75nm,18.0s
MNK MLR MLR
comp=E,11nm,17.0s
MNK MLR MLR
comp=N,98nm,20.0s
MNK Minsk 116.43 329 *i* P **Pdif 03 36 43.5 -11**
comp=E,2.0nm,1.0s
MNK *i* P **Pdif 03 36 43.5 -11**
comp=N,15nm,0.8s
MNK *i* P **Pdif 03 36 43.5 -11**
comp=Z,6.0nm,1.0s,baz=62
MNK *i* PKP PKPpre 03 40 31.7
MNK *i* pPKP pPKPdf 03 40 51.8 -3.8
MNK *i* PP PP 03 41 38.8 -7.8
MNK *i* PPP PPP 03 44 06.6
MNK *i* SKS **SKSdf 03 47 41.4 -6.1**
MNK *i* PS **PS 03 51 21.9 -7.8**
MNK *i* SS **SS 03 57 39.3 -7.9**
MNK *i* SSS SSS 04 02 01.7
MNK *i* LR LR 04 25 15.2
MNK *i* LRM MLR 04 30 12.0
comp=Z,75nm,17.6s
MNK *i* LRM MLR 04 30 22.9
comp=E,11nm,16.9s
MNK *i* LRM MLR 04 30 31.7
comp=N,98nm,20.4s
WCI Wyandotte Cave 116.47 51 P PKPdf 03 40 39.7 -0.7
baz=283
PLCA Paso Flores 116.85 142 PKP **PKPdf 03 40 41.6 +0.3**
comp=N,3.2nm,0.7s,baz=238,slow=1.9,SNR=12
CLTN Cedars of Leba 116.90 53 PKPdf 03 40 41.0 -0.4
P49A Miami Univ. Ec 117.35 49 P PKPdf 03 40 41.9 -0.3
baz=285
N49A Columbus Grove 117.38 47 PKPdf 03 40 41.9 -0.3
AKASG Malin Array Be 117.40 325 PKP **PKPdf 03 40 41.3 -0.5**
comp=N,3.2nm,0.8s,baz=61,slow=2.1,SNR=13
AKASG PKKPbc **PKKPbc 03 51 05.3 -1.4**
comp=N,1.8nm,0.7s,baz=261,slow=3.7,SNR=9.1
T50A Nancy 117.87 52 PKPdf 03 40 42.4 -0.8
BRTR Keskin Array B 118.31 312 PKP **PKPdf 03 40 43.9 -0.3**
comp=N,1.5nm,0.7s,baz=134,slow=4.2,SNR=2.9
ACSO Alum Creek Sta 118.45 48 P PKPdf 03 40 43.6 -0.6
baz=286
TZTN Tazewell 118.99 52 P PKPdf 03 40 45.2 -0.2
baz=284
P52A Corning 119.25 48 P PKPdf 03 40 44.9 -0.9
baz=287
HFS Hagfors 119.30 339 PKP **PKPdf 03 40 44.1 -1.2**
comp=N,1.4nm,0.6s,baz=106,slow=5.3,SNR=5.2
NOA NORSAR Array B 119.49 341 PKKPbc PKKPbc 03 50 57.7 -1.9
comp=N,1.0nm,0.8s,baz=42,slow=3.6,SNR=4.9
O53A New Philadelph 119.74 47 P PKPdf 03 40 46.8 0.0
baz=288
M53A Wt Miller and 119.75 46 P PKPdf 03 40 46.4 -0.3
baz=289
BOSA Boshof 120.30 231 PKP **PKPdf 03 40 48.9 +0.5**
comp=N,6.1nm,0.8s,baz=112,slow=1.5,SNR=14
BOSA Boshof 120.30 231 PKIKP **PKPdf 03 40 48.4 +0.1**
BOSA Boshof 120.30 231 PKPdf 03 40 48.4 +0.1
N54A Moraine State 120.40 46 P PKPdf 03 40 47.8 -0.2
baz=289
M54A Oil Creek Stat 120.45 45 P PKPdf 03 40 47.5 -0.5
baz=290
MCWV Mont Chateau 120.92 47 P PKPdf 03 40 48.6 -0.4
baz=288
KMSC Kings Mountain 121.08 53 P PKPdf 03 40 49.3 -0.1
baz=285
BURAR Bucovina Array 121.12 323 ⇑P **PKPdf 03 40 49.0 -0.3**
BURAR Bucovina Array 121.12 323 ⇑PKIKP **PKPdf 03 40 49.0 -0.3**
BLA Blacksburg 121.23 50 P PKPdf 03 40 49.5 -0.2
baz=287
SCHQ Schefferville 121.47 27 PKP **PKPdf 03 40 50.0 +0.4**
comp=N,3.8nm,0.6s,baz=321,slow=1.7,SNR=8.9
MLR Muntele Rosu 121.61 320 ⇑P **PKPdf 03 40 48.5 -1.8**
MLR Muntele Rosu 121.61 320 PKP **PKPdf 03 40 50.2 -0.1**
comp=N,3.1nm,0.9s,baz=2.9,slow=11,SNR=3.6
MLR Muntele Rosu 121.61 320 ⇑PKIKP **PKPdf 03 40 48.5 -1.8**
O56A Blue Knob Stat 121.65 46 P PKPdf 03 40 50.6 +0.2
baz=290
DOPR Dopca 121.75 321 ⇑P **PKPdf 03 40 49.5 -1.0**
SSPA Standing Stone 122.01 46 P PKPdf 03 40 50.9 -0.2
baz=291
VOIR 122.20 320 ⇑P **PKPdf 03 40 48.0 -3.4**
VOIR 122.20 320 ⇑PKIKP **PKPdf 03 40 48.0 -3.4**
CO03 El Pedregal 122.41 133 PKPdf 03 40 52.0 -0.3
ARR Arges 122.49 321 ⇑P **PKPdf 03 40 50.3 -1.6**
NHSC New Hope 122.52 55 P PKPdf 03 40 52.5 +0.3
baz=284
CRVS Cervenica-Dubn 122.68 325 *e*PKIKP **PKPdf 03 40 53.1 +1.0**
CRVS Cervenica-Dubn 122.68 325 *e*PKP **PKPdf 03 40 53.1 +1.0**
BINY Binghamton 122.75 43 P PKPdf 03 40 52.6 +0.1
baz=293
DRGR 123.01 323 ⇓P **PKPdf 03 40 51.4 -1.5**
DRGR 123.01 323 ⇓PKIKP **PKPdf 03 40 51.4 -1.5**
LSZ Lusaka 123.08 247 PKIKP **PKPdf 03 40 53.7 -0.3**
LSZ Lusaka 123.08 247 PKPdf 03 40 53.7 -0.3
CBN Corbin Frederi 123.22 48 P PKPdf 03 40 53.6 +0.2
baz=290
LCO Las Campanas 123.37 131 PKIKP **PKPdf 03 40 54.8 +0.4**
LCO Las Campanas 123.37 131 PKPdf **PKPdf 03 40 54.8 +0.4**
N59A State Game Lan 123.40 45 P PKPdf 03 40 53.8 +0.1
baz=293

GZR Gura Zlata 123.64 321 ⇑P **PKPdf 03 40 53.1 -1.1**
GZR Gura Zlata 123.64 321 ⇑PKIKP **PKPdf 03 40 53.1 -1.1**
LANS Liptovska Anna 123.65 327 *e*PKIKP **PKiKP 03 40 56.6 +2.3**
LANS Liptovska Anna 123.65 327 *e*PKP **PKiKP 03 40 56.6 +2.3**
CNNC Cliffs of the 123.76 52 P **PKPdf 03 40 54.4 -0.1**
baz=287
P60A Greenville 123.91 46 P PKPdf 03 40 54.9 +0.2
baz=292
PSZ Piszkesteto 124.08 325 ⇑P **PKPdf 03 40 55.5 +0.6**
PSZ Piszkesteto 124.08 325 ⇑PKIKP **PKPdf 03 40 55.5 +0.6**
BZS Buzias 124.25 322 ⇑P **PKPdf 03 40 54.9 -0.3**
BZS Buzias 124.25 322 ⇑PKIKP **PKPdf 03 40 54.9 -0.3**
MORC Moravsky Berou 124.33 328 ⇑P **PKPdf 03 40 54.6 -0.7**
MORC Moravsky Berou 124.33 328 ⇑PKIKP **PKPdf 03 40 54.6 -0.7**
MORC Moravsky Berou 124.33 328 *e*PKP **PKPdf 03 40 56.1 +0.8**
MORC *e* 03 41 04.5
OSTC Ostas 124.55 329 *e*PKPDF **PKiKP 03 40 57.1 +1.1**
KRLC Kraliky 124.55 329 *e*PKIKP **PKPdf 03 40 56.5 +0.8**
KRLC *e* 03 41 04.6
KRLC Kraliky 124.55 329 *e*PKPDF **PKPdf 03 40 56.5 +0.8**
KRLC *ex* x 03 41 04.6
CHVC Chvalec 124.61 330 *e*PKPDF **PKPdf 03 40 56.8 +1.0**
CHVC *ex* x 03 41 04.5
VTS Vitosha 124.61 318 ⇑P **PKPdf 03 40 56.9 +0.7**
VTS Vitosha 124.61 318 ⇑PKIKP **PKPdf 03 40 56.9 +0.7**
VTS Vitosha 124.61 318 PKPdf **PKPdf 03 40 56.2 0.0**
DPC Dobruska-Polom 124.62 329 *e*PKIKP **PKPdf 03 40 56.3 +0.5**
DPC *e* 03 41 01.9
DPC Dobruska-Polom 124.62 329 *e*PKPDF **PKPdf 03 40 56.3 +0.5**
DPC *ex* x 03 41 01.9
PAL Palisades 124.66 44 P **PKPdf 03 40 56.4 +0.2**
baz=294
ZAPS Zavoj 124.72 319 *e*P **PKPdf 03 40 55.9 -0.3**
JAVC Velka Javorina 124.79 327 *e*PKP **PKiKP 03 40 58.1 +1.5**
L61B Northampton 124.88 42 P **PKPdf 03 40 56.8 +0.3**
baz=296
BSEG Bad Segeberg 125.01 335 *e*L L 04 37 48.0
comp=N,129nm,18.6s
VRAC Vranov 125.10 328 PKP **PKPdf 03 40 57.9 +1.2**
comp=N,2.3nm,0.6s,baz=78,slow=5.4,SNR=4.0
VRAC Vranov 125.10 328 *e*PKP **PKPdf 03 40 57.7 +0.9**
VRAC *e* 03 41 05.7
BOSS Bosilegrad 125.17 318 *e*P **PKPdf 03 40 57.0 -0.1**
MODS Modra-Piesok 125.29 327 *e*PKIKP **PKiKP 03 40 59.1 +1.6**
MODS Modra-Piesok 125.29 327 *e*PKP **PKiKP 03 40 59.1 +1.6**
KRUC Moravsky 125.36 328 *e*PKP **PKPdf 03 40 58.0 +0.8**
KRUC *e* 03 41 06.1
PVCC Panska Ves 125.39 330 *e*PKIKP **PKPdf 03 40 58.4 +1.2**
PVCC *e* 03 41 06.2
PVCC Panska Ves 125.39 330 *e*PKPDF **PKPdf 03 40 58.4 +1.2**
PVCC *ex* x 03 41 06.2
BARS Barje 125.46 319 *e*P **PKPdf 03 40 57.4 -0.2**
BRG Berggiesshubel 125.47 331 *e*PKP **PKPdf 03 40 58.1 +0.7**
BRG Amp 03 40 59.7
comp=Z,13nm,1.2s
BRG *ex* x 03 41 06.4
BRG Amp 03 41 07.4
comp=Z,13nm,1.2s
BRG Berggiesshubel 125.47 331 *e*PKIKP **PKPdf 03 40 58.1 +0.7**
BRG *e* 03 41 06.4
BRG pmax pmax
comp=Z,13nm,1.2s
BRG Berggiesshubel 125.47 331 *e*PKPdf **PKPdf 03 40 57.8 +0.4**
baz=48,slow=1.1
FRGS Fruska Gora 125.58 322 ⇑P **PKPdf 03 40 57.9 +0.1**
FRGS Fruska Gora 125.58 322 *e*P **PKPdf 03 40 56.9 -0.9**
CLL Collm 125.64 332 *i* PKIKP **PKPdf 03 40 58.4 +0.7**
CLL *i* 03 41 06.7
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 125.64 332 *i* PKPdf **PKPdf 03 40 58.4 +0.7**
comp=Z,9.0nm,1.1s
CLL *i* x x 03 41 06.7
comp=Z,8.0nm,1.0s
CLL Collm 125.64 332 *e*PKPdf **PKPdf 03 40 58.2 +0.6**
baz=48,slow=1.1
CLL *e*L L 04 32 05.2
comp=Z,92nm,21.1s
CLL Collm 125.64 332 PKPdf **PKPdf 03 40 58.3 +0.7**
GRUS Gruza 125.66 321 *e*P **PKPdf 03 40 58.2 +0.2**
PKME Peaks-Kenny Pk 125.68 37 P **PKPdf 03 40 58.5 +0.6**
baz=301
PQI Presque Isle 125.68 35 PKPdf **PKPdf 03 40 57.8 -0.1**
TRUS Trudelj 125.69 321 *e*P **PKPdf 03 40 57.8 -0.2**
TREC Trest 125.69 329 *e*PKIKP **PKPdf 03 40 58.9 +1.0**
TREC *e* 03 41 06.8
TREC Trest 125.69 329 *e*PKPDF **PKPdf 03 40 58.9 +1.0**
TREC *ex* x 03 41 06.8
FBE Freiberg 125.72 331 *e*PKPdf **PKPdf 03 40 58.7 +0.9**
baz=48,slow=1.1
PRU Pruhonice 125.74 330 *e*PKIKP PKiKP 03 41 06.7 +8.4
DIVS Divibare 126.01 321 *e*P **PKPdf 03 40 57.3 -1.4**
IVAS Ivanjica 126.16 320 *e*P **PKPdf 03 40 58.4 -0.6**
IDI Anoyia 126.28 309 PKP **PKPdf 03 41 00.5 +0.9**
comp=Z,21nm,0.9s,baz=91,slow=4.3,SNR=4.0
CONA Conrad Observa 126.32 327 *e*P **PKPdf 03 40 58.5 -0.8**
comp=Z,5.6nm,1.1s
CLZ Clausthal 126.47 334 *e*PKPdf **PKPdf 03 40 59.9 +0.6**
baz=48,slow=1.1
BBLS Lazići 126.49 321 *e*P **PKPdf 03 40 59.5 -0.2**
GUNZ Gunzen 126.58 331 *e*PKPdf **PKPdf 03 41 00.5 +0.9**
baz=48,slow=1.1
CKRC Cesky Krumlov 126.59 329 *e*PKPDF **PKPdf 03 41 00.0 +0.4**
CKRC *ex* x 03 41 08.1
WERN Wernitzgruen 126.61 331 *e*PKPdf **PKPdf 03 41 00.3 +0.6**
baz=48,slow=1.1
NKC Novy Kostel 126.61 331 *e*PKIKP **PKPdf 03 41 00.6 +1.0**
NKC *e* 03 41 09.2
NKC Novy Kostel 126.61 331 *e*PKP **PKPdf 03 41 00.6 +1.0**
NKC *ex* x 03 41 09.2
FNA Florina 126.67 317 PKIKP **PKPdf 03 41 00.1 0.0**
FNA Florina 126.67 317 PKPdf **PKPdf 03 41 00.1 0.0**
MOX Moxa 126.73 332 *e*L L 04 40 18.3
comp=Z,103nm,21.0s
KHC Kasperske Hory 126.77 329 *e*PKIKP **PKPdf 03 41 00.6 +0.6**
KHC *e* 03 41 08.6
KHC Kasperske Hory 126.77 329 *e*PKPDF **PKPdf 03 41 00.6 +0.6**
KHC *ex* x 03 41 08.6
GTTG Gottingen 126.86 334 *e*PKPdf **PKPdf 03 41 00.6 +0.6**
baz=48,slow=1.1
GEC2 GERESS Array S 126.89 329 *e*PKPdf **PKPdf 03 41 00.8 +0.5**
baz=48,slow=1.1
GEC2 *e*L L 04 37 20.0
comp=Z,83nm,19.5s
GERES GERESS Array B 126.89 329 PKP **PKPdf 03 41 00.8 +0.5**
comp=Z,4.2nm,0.8s,baz=48,slow=2.0,SNR=31
WET Wettzell 127.11 330 *e*L L 04 37 33.7
comp=Z,130nm,21.0s
GCUF Volcan Galeras 127.39 94 *e*P **PKPdf 03 41 03.6 +0.9**
SOKA Soboth 127.51 326 *e*P **PKPdf 03 41 01.0 -0.6**
comp=Z,4.3nm,1.1s
GRF Grafenberg Arr 127.56 331 *e*PKPdf **PKPdf 03 41 01.0 -0.5**
baz=48,slow=1.1
GRF *e*L L 04 44 11.1
comp=Z,71nm,19.0s
KBA Koelnbreinsper 128.19 327 *e*P **PKPdf 03 41 01.9 -1.0**
comp=Z,8.9nm,1.3s
POPC Popayan, Colom 128.21 92 *e*P **PKPdf 03 41 03.2 -0.8**
TNS Taunus Mts 128.48 333 *e*L L 04 42 18.4
comp=Z,146nm,18.2s
EKA Eskdalemuir Ar 128.51 344 PKP **PKPdf 03 41 03.5 +0.5**
comp=Z,0.3nm,0.4s,baz=20,slow=2.8,SNR=8.3
FUR Furstenfeldbru 128.56 330 *e*L L 04 42 43.8
comp=Z,92nm,18.3s
PLMC San Jos del P 128.83 89 *e*P **PKiKP 03 41 08.0 +2.3**
ABTA Abfaltersbach 128.84 328 *e*P **PKPdf 03 41 03.2 -0.9**
comp=Z,8.3nm,1.2s
WATA Walderalm 128.95 329 *e*P **PKPdf 03 41 03.9 -0.5**
comp=Z,6.1nm,1.3s
WTTA Wattenberg 128.97 329 *i* P **PKPdf 03 41 04.3 -0.1**
comp=Z,11nm,1.0s
DBBC Dabeiba 129.04 86 *e*P **PKPdf 03 41 06.4 +1.1**
FLOC Florencia 129.11 93 *e*P **PKPdf 03 41 05.3 -0.2**
CBOC Ciudad Bolivar 129.17 88 *e*P **PKPdf 03 41 05.1 -0.7**
MOTA Moosalm 129.19 329 *e*P **PKPdf 03 41 05.5 +0.6**
comp=Z,10nm,1.0s
SQTA Sankt Quirin 129.22 329 *e*P **PKPdf 03 41 04.3 -0.6**
comp=Z,8.8nm,1.1s
RETA Reutte 129.27 329 *e*P **PKPdf 03 41 03.6 -1.3**
comp=Z,7.2nm,1.5s
FETA Feichten 129.59 329 *e*P **PKPdf 03 41 06.6 +1.0**
comp=Z,9.8nm,1.2s
GUY2C Guyana, Caldas 129.77 89 *e*P **PKPdf 03 41 07.1 -0.1**
ORTC Ortega, Tolima 129.78 90 *e*P **PKPdf 03 41 05.7 -1.0**

BFO Black Forest 129.88 332 *e*L L 04 37 47.5
comp=Z,70nm,21.9s
PRAC Prado 130.11 91 *e*P **PKPdf 03 41 07.1 -0.3**
ZARC Zaragoza, Cauc 130.41 86 PKPdf 03 41 07.2 -0.6
ROSC El Rosal 130.78 89 *e*P **PKPdf 03 41 08.9 -0.1**
MACC Macarena, Meta 130.97 93 *e*P **PKPdf 03 41 08.8 -0.2**
CHIC Chingaza 131.34 90 *e*P **PKPdf 03 41 08.9 -1.2**
LPAZ La Paz 131.47 119 PKP **PKPdf 03 41 11.4 +0.9**
comp=Z,4.6nm,0.8s,baz=305,slow=3.0,SNR=9.1
RUSC La Rusia 132.08 88 *e*P **PKPdf 03 41 07.0 -4.7**
CPUP Villa Florida 134.49 138 PKP **PKPdf 03 41 15.1 -0.2**
comp=Z,8.9nm,0.7s,baz=328,slow=1.5,SNR=15
DABV Dabajuro 134.61 81 *e*P PKPdf 03 41 07.8 -7.9
SDV Santo Domingo 134.62 84 PKPdf **PKPdf 03 41 15.7 -0.3**
KEST Kesra 137.38 318 PKP **PKPdf 03 41 20.6 +0.1**
comp=Z,10nm,1.1s,baz=296,slow=8.2,SNR=4.4
SJG San Juan 138.22 70 PKIKP **PKPdf 03 41 21.9 -0.4**
SJG San Juan 138.22 70 PKPdf 03 41 21.9 -0.4
ESDC Sonseca Array 142.19 333 PKP **PKPdf 03 41 29.9 +0.8**
comp=Z,0.7nm,0.9s,baz=355,slow=2.6,SNR=5.1
PVIS Viseu 142.90 338 *e*PKP **PKPdf 03 41 29.1 -1.2**
PCBR Castelo Branco 143.51 337 *e*PKP PKPbc 03 41 30.1 +1.5
PMRV Marv??o 143.83 337 *e*PKP PKPbc 03 41 30.8 +1.2
BOAV Boa Vista 144.21 95 PKPdf **PKPab 03 41 31.0 -0.1**
PMTG Montargil 144.47 337 *e*PKP **PKPab 03 41 32.3 +1.0**
EVO Evora 144.85 337 *e*PKP PKPbc 03 41 34.2 +1.4
PMAFR Mafra 144.96 339 *e*PKP **PKPab 03 41 34.7 +1.6**
LIS Lisbon 145.12 338 *e*PKP **PKPbc 03 41 34.6 +1.0**
PBEJ Beja 145.23 336 *e*PKP **PKPdf 03 41 35.7 +1.3**
PNCL Nicolau / Gran 145.41 337 *e*PKP **PKPdf 03 41 35.2 +0.6**
MESJ Messejana 145.53 336 *e*PKP **PKPdf 03 41 35.4 +0.5**
MESJ Messejana 145.53 336 *e*PKP **PKPdf 03 41 35.4 +0.5**
PCVE Castro Verde 145.63 336 *e*PKP **PKPbc 03 41 36.7 +1.4**
PVAQ Vaqueiros 145.70 335 *e*PKP **PKPdf 03 41 33.3 -1.9**
PBDV Barranco-do-Ve 145.92 335 *e*PKP **PKPbc 03 41 37.6 +1.3**
PTEO Sao Teotonio 145.98 337 *e*PKP **PKPbc 03 41 37.6 +1.2**
MORF Marmelete 146.16 336 *e*PKP **PKPdf 03 41 36.6 +0.6**
MORF Marmelete 146.16 336 *e*PKP **PKPbc 03 41 38.0 +1.0**
PFVI Vila Bisbo 146.38 336 *e*PKP **PKPbc 03 41 38.7 +1.1**
BDFB Brasilia 148.07 134 PKPbc **PKPdf 03 41 40.9 +1.0**
comp=Z,60nm,0.8s,baz=199,slow=3.3,SNR=51
BDFB Brasilia 148.07 134 PKIKP **PKPdf 03 41 39.2 -0.7**
BDFB Brasilia 148.07 134 PKPdf **PKPdf 03 41 39.2 -0.7**
TORD Torodi Ar. Bea 153.09 286 PKP **PKPdf 03 41 47.2 -0.3**
comp=Z,1.5nm,0.7s,baz=92,slow=0.7,SNR=9.0
TORD PKPbc **PKPbc 03 41 54.6 -0.3**
comp=Z,18nm,0.9s,baz=47,slow=2.1,SNR=50
PMAR Madeira 153.09 345 *e*PKP **PKPbc 03 41 55.7 +1.0**
KIC Kosan Boka 160.00 270 *e*PKP1 **PKPab 03 42 36.7 +0.3**
comp=Z,9.0nm,0.6s
LIC Lamto 160.28 270 *e*PKP1 **PKPab 03 42 36.9 -0.7**
comp=Z,30nm,0.9s
TIC Toumodi 160.29 271 *e*PKP1 **PKPab 03 42 38.1 +0.5**

IDC 19 03:32:33.4±14.0, 18°.02S×167°.21E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/31, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=242.9km s-min=39.1km az=70.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.10**	**190**	Pn	Pn	03 33 37.2	-0.2
	1.6nm,0.3s,baz=84,slow=6.8,SNR=17						
DZM				Sn	Sn	03 34 26.2	+0.1
	4.1nm,0.3s,baz=316,slow=16,SNR=3.9						
STKA	**Stephens Creek**	**26.93**	**234**	P	P	03 38 17.1	+0.6
	1.4nm,0.8s,baz=50,slow=7.9,SNR=3.0						
WRA	**Warramunga Arr**	**31.12**	**261**	P	P	03 38 53.6	-0.3
	0.4nm,0.6s,baz=83,slow=7.6,SNR=8.0						
ASAR	**Alice Springs**	**31.58**	**254**	P	P	03 38 58.0	0.0
	1.0nm,0.6s,baz=78,slow=8.9,SNR=13						

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*DDA **19** 03:44:06.3±0.0, 38°.36N×27°.72E, h7km±1km, ML1.6*
*ISK **19** 03:44:06.6, 38°.44N×27°.69E, h9km, ML2.6/4*
ISC 19 03:44:06.9±1.5, 38°.42N±0°.07×27°.67E±0°.08, h4km±15km, n8, σ0°36/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMA	**Golmarmara-Man**	**0.34**	**34**	PG	**Pg**	**03 44 13.6**	**+0.1**
GOMA				SG	**Sg**	**03 44 18.5**	**+0.4**
ZEDA	**zmir-Bergama**	**0.71**	**320**	P	**Pb**	**03 44 21.4**	**-0.5**
ZEDA				*i* AML	AML	03 44 31.0	
	comp=E,15nm,0.6s						
ZEDA				S	**Sb**	**03 44 31.6**	**-0.4**
ZEDA				*i* AML	AML	03 44 32.0	
	comp=N,15nm,0.4s						
DGB	**zmir**	**0.72**	**239**	P	**Pg**	**03 44 20.6**	**-0.1**
DGB				S	**Sg**	**03 44 30.1**	**0.0**
DGB				*i* AML	AML	03 44 33.0	
	comp=N,17nm,0.2s						
DGB				*i* AML	AML	03 44 33.0	
	comp=E,24nm,0.6s						
URLA	**Izmir**	**0.85**	**266**	PG	**Pb**	**03 44 23.8**	**-0.3**
URLA				SG	**Sb**	**03 44 35.8**	**0.0**
DKL	**Dikili**	**0.88**	**318**	PG	**Pg**	**03 44 24.0**	**+0.2**
DKL				SG	**Sb**	**03 44 36.7**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**0.94**	**259**	P	**Pg**	**03 44 25.0**	**+0.2**
ZEYE				S	**Sb**	**03 44 38.7**	**+0.3**
ZEYE				*i* AML	AML	03 44 39.0	
	comp=N,22nm,0.3s						
ZEYE				*i* AML	AML	03 44 41.0	
	comp=E,23nm,0.2s						
STEP	**BALIKESIR_Sava**	**0.95**	**2**	P	**Pb**	**03 44 25.6**	**-0.4**
STEP				*i* AML	AML	03 44 40.0	
	comp=N,50nm,0.5s						
STEP				*i* AML	AML	03 44 41.0	
	comp=E,23nm,0.7s						
CHOS	**Chios island**	**1.27**	**269**	PN	**Pg**	**03 44 31.2**	**0.0**
CHOS				SN	**Sn**	**03 44 49.5**	**+0.6**

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*IDC **19** 04:04:57.8±1.4, 38°.53N×20°.33E, h0km, mb3.5/7, mb1 3.6/11, mb1mx3.5/42, mbtmp3.5/11, ML3.3/4, Error ellipse: s-maj=24.6km s-min=20.3km az=65.0*
*THE **19** 04:05:00.3, 38°.51N×20°.51E, h14km, ML3.6/8, Error ellipse: s-maj=0.7km s-min=0.2km az=282.0*
*BEO **19** 04:05:01.9±0.7, 38°.62N×20°.35E, h12km±2km, ML3.3/14*
ISC 19 04:04:59.7±0.8, 38°.55N±0°.02×20°.44E±0°.03, h19km±2km, n106, σ1°82/150, mb3.6/7, 5C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.14**	**134**	P	**Pg**	**04 05 03.1**	**-0.8**
FSK				S	**Sg**	**04 05 05.1**	**-1.7**
	63μm,0.3s						
DRAG	**Dragano-Lefkad**	**0.17**	**39**	P	**Pg**	**04 05 04.5**	**+0.1**
DRAG				S	**Sg**	**04 05 08.0**	**+0.4**
EVGI	**Lefkada island**	**0.18**	**68**	P	**Pg**	**04 05 04.2**	**-0.4**
EVGI				S	**Sg**	**04 05 07.1**	**-0.8**
	51μm,0.1s						
NYDR	**Nydri-Lefkada**	**0.26**	**52**	P	**Pg**	**04 05 05.5**	**-0.2**
NYDR				S	**Sg**	**04 05 09.7**	**-0.1**
LKD2	**Lefkada island**	**0.29**	**36**	P	**Pg**	**04 05 06.4**	**+0.2**
LKD2				S	**Sg**	**04 05 11.2**	**+0.5**
	9μm,0.3s						
KEF4	**Livadi, Kephal**	**0.29**	**182**	P	**Pg**	**04 05 05.9**	**-0.3**
KEF4				S	**Sg**	**04 05 10.2**	**-0.5**
TSLK	**Tsoukalades, L**	**0.32**	**32**	P	**Pg**	**04 05 07.2**	**+0.5**
TSLK				S	**Sb**	**04 05 12.9**	**+1.3**
	12μm,0.4s						
KEF3	**Kipouria, Keph**	**0.36**	**191**	P	**Pg**	**04 05 06.5**	**-0.8**
KEF3				S	**Sg**	**04 05 11.6**	**-0.8**
VLS	**Valsamata**	**0.39**	**162**	P	**Pg**	**04 05 07.0**	**-0.9**
VLS				S	**Sg**	**04 05 12.0**	**-1.5**
	26μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.45**	**165**	P	**Pg**	**04 05 08.1**	**-0.9**
PSDA				S	**Sg**	**04 05 14.5**	**-0.7**
VTN	**Vitineika**	**0.87**	**137**	P	**Pb**	**04 05 15.7**	**-0.3**
LTHK	**Lithakia**	**0.90**	**159**	P	**Pb**	**04 05 15.5**	**-1.1**
RLS	**Riolos of Patr**	**0.95**	**121**	P	**Pb**	**04 05 16.8**	**-0.6**
IGT	**Igoumenitsa**	**0.98**	**355**	P	**Pg**	**04 05 19.6**	**+0.8**
IGT				S	**Sn**	**04 05 34.6**	**+2.8**
UPR	**University Cam**	**1.09**	**104**	P	**Pn**	**04 05 19.4**	**-0.5**
JAN	**Janina**	**1.15**	**16**	P	**Pg**	**04 05 22.1**	**+0.1**
EFP	**Efpalio**	**1.16**	**96**	P	**Pn**	**04 05 20.1**	**-0.7**
EFP				S	**Sb**	**04 05 36.3**	**+0.6**
	2μm,0.4s						
ANX	**Ano Chora**	**1.16**	**88**	P	**Pn**	**04 05 20.6**	**-0.4**
DRO	**Drossia**	**1.17**	**120**	P	**Pn**	**04 05 20.4**	**-0.6**
DRO				S	**Sb**	**04 05 35.8**	**-0.1**

2μm,0.3s
LAKA Lakka 1.25 104 P **Pn 04 05 21.6 -0.5**
LAKA S **Sb 04 05 38.2 -0.1**
3μm,0.6s
SERG Sergoula 1.28 96 P **Pn 04 05 22.4 -0.1**
TRIZ Trizonia 1.30 98 P **Pn 04 05 22.5 -0.2**
ALIK Aliki, Aigiali 1.35 102 P **Pn 04 05 23.5 +0.1**
KLV Kalavryta, Ach 1.44 110 P **Pn 04 05 24.6 -0.1**
OHR Ohrid 2.57 6 *i* Pn **Pb 04 05 44.2 -1.0**
TIR Tirane 2.83 351 ⇓P **Pb 04 05 47.1 -2.3**
TIR Tirane 2.83 351 *e*Pn **Pn 04 05 46.8 +3.1**
TIR *e*Sn **Sn 04 06 19.4 +2.2**
TIP Timpagrande 2.94 283 ⇑P **Pn 04 05 48.2 +2.8**
VAY Valandovo 3.21 30 *i* Pn **Pb 04 05 54.9 -1.2**
VAY Valandovo 3.21 30 *e*Pn **Pn 04 05 52.3 +3.2**
VAY *e*Sn **Sn 04 06 29.3 +2.5**
STIP Stip 3.41 23 *i* Pn **Pb 04 05 56.5 -2.9**
SKO Skopje 3.50 12 *i* Pn **Pg 04 06 04.8 -1.9**
MATE Matera 3.56 307 ⇑P **Pn 04 05 57.0 +3.2**
DRME Dracevica, Mon 3.75 346 *e*Pn **Pn 04 05 58.6 +2.1**
PDG Podgorica 3.98 347 ⇑P **Pn 04 06 01.3 +1.8**
PDG Podgorica 3.98 347 *e*Pn **Pn 04 06 01.3 +1.8**
PDG Podgorica 3.98 347 *e*Pn **Pn 04 06 01.6 +2.1**
PDG *e*Sn **Sn 04 06 46.2 +0.6**
PRVS Prvonek 4.14 17 *e*Pn **Pn 04 06 03.9 +2.0**
HCY Herceg Novi 4.16 340 *e*Pn **Pn 04 06 02.5 +0.4**
BOSS Bosilegrad 4.24 21 *e*Pn **Pn 04 06 05.0 +1.9**
BOSS *e*Sn **Sn 04 06 53.3 +1.3**
BARS Barje 4.39 13 *e*Pn **Pn 04 06 07.6 +2.4**
BARS *e*Sn **Sn 04 06 56.3 +0.6**
TREB Trebinje 4.45 340 *e*Pn **Pn 04 06 07.1 +1.0**
TREB Trebinje 4.45 340 *e*Pn **Pn 04 06 07.1 +1.0**
TREB *e*Sn **Sn 04 06 57.2 -0.2**
BRY Bratogost 4.58 342 *e*Pn **Pn 04 06 09.2 +1.3**
VTS Vitosha 4.58 27 ⇑P **Pn 04 06 09.0 +0.9**
VTS Vitosha 4.58 27 *e*Pn **Pn 04 06 09.9 +1.8**
VTS *e*Sn **Sn 04 07 01.1 +0.3**
SELS Selova 4.69 6 *e*Pn **Pn 04 06 10.8 +1.4**
SELS *e*Sn **Sn 04 07 03.1 -0.2**
SJES Sjenica 4.72 356 *e*Pn **Pn 04 06 12.3 +2.5**
SJES *e*Sn **Sn 04 07 03.5 -0.5**
STON Ston 4.79 335 *e*Pn **Pn 04 06 11.3 +0.6**
STON Sn **Sn 04 07 03.5 -2.1**
UPM Unac-Piva 4.79 346 *e*Pn **Pn 04 06 13.0 +2.1**
IDI Anoyia 4.83 131 Pn **Pn 04 06 14.3 +2.9**
0.4nm,0.3s,baz=237,slow=17,SNR=1.1
IDI Sn **Sn 04 07 06.8 0.0**
2.0nm,0.3s,baz=253,slow=18,SNR=7.1
VAE Valguarnera 4.88 259 Pn **Pn 04 06 16.7 +4.7**
0.3nm,0.3s,baz=135,slow=16,SNR=1.1
VAE Sn **Sn 04 07 10.8 +2.9**
1.1nm,0.3s,baz=166,slow=17,SNR=2.0
LSTV Lastovo 5.00 329 *e*Pn **Pn 04 06 14.7 +1.1**
LSTV Sn **Sn 04 07 08.5 -2.3**
ZAPS Zavoj 5.00 19 *e*Pn **Pn 04 06 16.2 +2.5**
IVAS Ivanjica 5.02 358 *e*Pn **Pn 04 06 15.5 +1.5**
RUDO Rudo 5.12 351 *e*Pn **Pn 04 06 14.6 -0.7**
GRUS Gruza 5.33 2 *e*Pn **Pn 04 06 19.9 +1.7**
BBLS Lazići 5.37 352 *e*Pn **Pn 04 06 20.3 +1.6**
BBLS Lazići 5.37 352 *e*Pn **Pn 04 06 20.0 +1.3**
BBLS *e*Sn **Sn 04 07 19.8 -0.1**
MAKA Makarska 5.39 332 *e*Pn **Pn 04 06 19.1 +0.2**
MAKA Sn **Sn 04 07 18.0 -2.5**
HVAR Hvar 5.52 328 *e*Pn **Pn 04 06 21.6 +0.9**
HVAR Sn **Sn 04 07 21.1 -2.6**
RICI Ricice 5.53 334 *e*Pn **Pn 04 06 21.1 +0.1**
RICI Sn **Sn 04 07 22.6 -1.4**
DIVS Divibare 5.55 357 *e*Pn **Pn 04 06 22.5 +1.2**
DIVS Divibare 5.55 357 *e*Pn **Pn 04 06 22.5 +1.2**
DIVS *e*Sn **Sn 04 07 23.3 -1.2**
TRUS Trudelj 5.67 360 *e*Pn **Pn 04 06 24.3 +1.5**
KIJV Kijevo 6.24 332 *e*Pn **Pn 04 06 32.5 +1.9**
KIJV Sn **Sn 04 07 39.7 -1.6**
ZIRJ Zirje 6.25 326 *e*Pn **Pn 04 06 31.8 +1.1**
ZIRJ Sn **Sn 04 07 39.6 -2.0**
MGRS Mrkonjic Grad 6.38 338 *e*Pn **Pn 04 06 33.5 +1.0**
MORI Morici 6.39 328 *e*Pn **Pn 04 06 34.6 +1.8**
MORI Sn **Sn 04 07 42.9 -2.2**
FRGS Fruska Gora 6.62 356 *e*Pn **Pn 04 06 35.3 -0.5**
FRGS Fruska Gora 6.62 356 *e*Pn **Pn 04 06 36.1 +0.3**
BLY Banja Luka 6.65 340 *e*Pn **Pn 04 06 38.7 +2.4**
BLY Banja Luka 6.65 340 *e*Pn **Pn 04 06 38.2 +1.9**
DUGI Dugi Otok 6.78 325 *e*Pn **Pn 04 06 39.3 +1.3**
DUGI Sn **Sn 04 07 52.3 -2.3**
UDBI Udbina 6.92 331 *e*Pn **Pn 04 06 41.8 +1.8**
UDBI Sn **Sn 04 07 56.3 -2.0**
MRAK Mrakovica 6.97 339 *e*Pn **Pn 04 06 42.0 +1.2**
PLIT Plitvice 7.27 332 *e*Pn **Pn 04 06 46.1 +1.2**
PLIT Sn **Sn 04 08 03.8 -3.1**
NVLJ Novalja 7.31 327 *e*Pn **Pn 04 06 47.0 +1.7**
NVLJ Sn **Sn 04 08 05.2 -2.5**
RABC Rab 7.50 327 *e*Pn **Pn 04 06 49.3 +1.4**
RABC Sn **Sn 04 08 09.3 -3.0**
MOSL Moslavina 7.57 340 *e*Pn **Pn 04 06 49.5 +0.6**
MOSL Sn **Sn 04 08 11.7 -2.4**
MORH Mrgy, Hungar 7.77 351 *e*Pn **Pn 04 06 50.3 -1.3**
OZLJ Ozalj 7.96 334 *e*Pn **Pn 04 06 55.1 +0.8**
OZLJ Sn **Sn 04 08 21.3 -2.5**
SMRN Sveta Marina 8.00 326 *e*Pn **Pn 04 06 55.9 +1.1**
SMRN Sn **Sn 04 08 21.1 -3.4**
MLR Muntele Rosu 8.05 29 ⇑P Pn 04 07 02.3 +6.7
MLR Muntele Rosu 8.05 29 Pn **Pn 04 07 00.1 +4.5**
0.1nm,0.3s,baz=229,slow=10,SNR=2.0
BRJN Brijuni 8.08 324 *e*Pn **Pn 04 06 56.6 +0.8**
BRJN Sn **Sn 04 08 23.1 -3.4**
RIY Rijeka 8.09 329 *e*Pn **Pn 04 06 57.0 +1.0**
RIY Sn **Sn 04 08 23.6 -3.3**
CRES Cresnjev 8.15 335 *e*Pn **Pn 04 06 58.0 +1.1**
CEY Cerknica 8.45 330 *e*Pn **Pn 04 07 02.6 +1.6**
SOKA Soboth 9.04 336 *e*Pn **Pn 04 07 10.1 +1.0**
4.5nm,0.6s,SNR=6.3
OBKA Obir 9.06 333 *i* Pn **Pn 04 07 11.9 +2.5**
2.2nm,0.4s
KBA Koelnbreinsper 9.98 331 *e*Pn **Pn 04 07 24.2 +2.1**
1.6nm,0.5s
MOA Molln 10.32 336 *e*Pn **Pn 04 07 28.3 +1.7**
1.7nm,0.3s,SNR=6.1
WTTA Wattenberg 10.83 326 *i* Pn **Pn 04 07 36.5 +2.8**
2.1nm,0.3s
SQTA Sankt Quirin 10.99 325 *i* Pn **Pn 04 07 38.8 +3.0**
1.4nm,0.3s
MOTA Moosalm 11.13 325 *i* Pn **Pn 04 07 40.6 +2.8**
4.8nm,0.8s,SNR=5.6
DAVOX Davos/Dischmat 11.31 320 Pn **Pn 04 07 41.8 +1.6**
0.2nm,0.3s,baz=237,slow=11,SNR=3.1
GERES GERESS Array B 11.38 337 Pn **Pn 04 07 41.2 0.0**
0.2nm,0.3s,baz=158,slow=14,SNR=7.9
AKASG Malin Array Be 13.65 24 Sn **Sn 04 10 36.2 -6.7**
0.3nm,0.3s,baz=239,slow=15,SNR=4.5
HFS Hagfors 22.02 351 P **P 04 09 54.7 +2.1**
2.1nm,0.6s,baz=179,slow=15,SNR=6.3
EKA Eskdalemuir Ar 23.09 324 P **P 04 10 05.2 +1.2**
1.4nm,0.7s,baz=120,slow=9.5,SNR=4.9
FINES FINESS Array B 23.18 7 P **P 04 10 06.1 +1.3**
1.4nm,0.6s,baz=174,slow=11,SNR=7.2
NOA NORSAR Array B 23.24 349 P **P 04 10 07.0 +1.5**
0.2nm,0.5s,baz=165,slow=10,SNR=2.6
TORD Torodi Ar. Bea 30.28 218 P **P 04 11 10.1 +0.5**
0.6nm,0.9s,baz=38,slow=10,SNR=1.7
MKAR Makanchi Array 45.16 59 P **P 04 13 15.4 +0.4**
0.2nm,0.4s,baz=277,slow=7.5,SNR=3.2
ZALV Zalesovo Beam 45.49 48 P **P 04 13 18.2 +0.8**
1.0nm,0.5s,baz=257,slow=9.5,SNR=4.8

IDC 19 04:29:11.2±1.9, 6°.18S×129°.59E, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.1/47, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=93.5km s-min=26.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.45**	**198**	Pn	Pn	04 32 11.1	+1.2
	0.2nm,0.3s,baz=28,slow=8.8,SNR=7.7						
WRA	**Warramunga Arr**	**14.44**	**162**	Pn	Pn	04 32 36.1	-0.9
	0.1nm,0.3s,baz=339,slow=13,SNR=4.4						
WRA				Sn	Sn	04 35 02.6	-15
	0.6nm,0.3s,baz=343,slow=19,SNR=7.5						
ASAR	**Alice Springs**	**17.87**	**167**	P	Pn	04 33 20.9	-0.5
	0.2nm,0.3s,baz=341,slow=10,SNR=16						
ASAR				S	Sn	04 36 26.2	-15
	0.2nm,0.3s,baz=354,slow=27,SNR=5.4						
MKAR	**Makanchi Array**	**67.32**	**327**	P	P	04 40 08.0	0.0
	0.3nm,0.6s,baz=120,slow=8.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**71.60**	**329**	P	P	04 40 34.4	+0.1
	0.1nm,0.4s,baz=122,slow=4.6,SNR=4.4						

IDC 19 04:30:21.7±0.7, 17°.29N×147°.26E, h0km, mb4.1/23, mb1 4.3/24, mb1mx4.1/55, mbtmp4.2/24, ML4.7/1, MS3.6/16, Ms1 3.6/16, ms1mx3.3/81, Error ellipse: s-maj=23.2km s-min=12.1km az=98.0

NEIC 19 04:30:26.1±1.1, 17°.32N±0°.09×147°.3E±0°.1, h26km±4km, mb4.6/18, Error ellipse: s-maj=19.0km s-min=8.8km az=127.0

ISC 19 04:30:23.5±0.6, 17°.36N±0°.07×147°.3E±0°.1, h10km, n60, σ1§14/51, mb4.4/28, MS3.7/15, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.43**	**213**	Pn	**Pn**	**04 31 29.4**	**-1.3**
	42nm,0.3s,baz=131,slow=6.3,SNR=7.5						
GUMO				Sn	**Sn**	**04 32 27.7**	**+5.2**
	16nm,0.3s,baz=165,slow=22,SNR=1.6						
GUMO				LR	LR	04 33 15.9	
	comp=Z,448nm,18.5s,baz=94,slow=40						
GUMO	**Guam**	**4.43**	**213**		**Pn**	**04 31 30.1**	**-0.7**
GUMO	**Guam**	**4.43**	**213**	P	Pb	04 31 34.0	-7.4
JGF	**Kuroka**	**20.21**	**336**	P	**P**	**04 34 59.2**	**+0.6**
JGF				IAmb	IAmb	04 35 02.3	
	comp=Z,87nm,1.5s						
MJAR	**Matsushiro Arr**	**20.74**	**339**	P	**P**	**04 35 05.6**	**+1.3**
	comp=Z,11nm,0.9s,baz=169,slow=10,SNR=7.3						
MJAR	**Matsushiro Arr**	**20.74**	**339**	P	**P**	**04 35 04.0**	**-0.2**
MAJO	**Matsushiro**	**20.74**	**339**	P	**P**	**04 35 04.3**	**0.0**
MAJO				IAmb	IAmb	04 35 09.4	
	comp=Z,16nm,0.8s						
JSU	**Suzuyama**	**20.79**	**316**	P	**P**	**04 35 04.7**	**-0.2**
JAY	**Jayapura**	**20.80**	**199**	P	**P**	**04 35 05.8**	**+0.7**
	comp=Z,19nm,1.0s,baz=79,slow=3.1,SNR=3.6						
RABL	**Rabaul**	**21.94**	**167**	P	**P**	**04 35 17.6**	**+0.2**
DAV	**Davao City (W)**	**23.55**	**247**	LR	LR	04 43 04.8	
	comp=Z,121nm,20.4s,baz=342,slow=32						
SIJI	**Sorong**	**24.05**	**223**	P	**P**	**04 35 36.6**	**-2.4**
	comp=Z,10nm,0.6s,baz=62,slow=7.5,SNR=4.7						
SIJI				LR	LR	04 43 10.5	
	comp=Z,122nm,21.9s,baz=274,slow=32						
KSRS	**Korea Array**	**26.30**	**323**	P	**P**	**04 35 59.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=152,slow=10.0,SNR=1.7						
HNR	**Honiara**	**29.40**	**154**	LR	LR	04 47 06.8	
	comp=Z,98nm,21.8s,baz=332,slow=34						
USRK	**Ussuriysk Ar.**	**29.71**	**337**	P	**P**	**04 36 30.5**	**+0.7**
	comp=Z,5.2nm,1.1s,baz=152,slow=14,SNR=2.1						
KLR	**Kul'dur**	**34.20**	**342**	P	**P**	**04 37 09.9**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=181,slow=10,SNR=14						
PETK	**Petropavlovsk-**	**36.59**	**11**	LR	LR	04 50 56.7	
	comp=Z,44nm,21.2s,baz=168,slow=34						
CTA	**Charters Tower**	**37.23**	**182**	LR	LR	04 52 02.3	
	comp=Z,63nm,19.7s,baz=338,slow=35						
WB0	**Warramunga Arr**	**39.02**	**200**	P	**P**	**04 37 49.5**	**-1.0**
WB0				IAmb	IAmb	04 37 50.0	
	comp=Z,7.5nm,0.9s						
WR0	**Warramunga Arr**	**39.15**	**199**	P	**P**	**04 37 50.3**	**-1.3**
WR0				IAmb	IAmb	04 37 51.2	
	comp=Z,10nm,1.1s						
WRAB	**Tennant Creek**	**39.19**	**200**	P	**P**	**04 37 50.9**	**-1.0**
WRAB				IAmb	IAmb	04 37 51.5	
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**39.20**	**200**	P	**P**	**04 37 50.6**	**-1.3**
WB2				IAmb	IAmb	04 37 51.6	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**39.20**	**200**	P	**P**	**04 37 50.6**	**-1.3**
	comp=Z,5.9nm,0.7s,baz=22,slow=9.1,SNR=28						
WRA				PcP	**PcP**	**04 40 01.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=17,slow=3.5,SNR=5.1						
WRA	**Warramunga Arr**	**39.20**	**200**	P	**P**	**04 37 50.0**	**-2.0**
WRA					**PcP**	**04 40 00.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.19**	**212**	P	**P**	**04 38 07.3**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=33,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**42.83**	**198**	P	**P**	**04 38 20.6**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=24,slow=7.4,SNR=10						
ASAR				PcP	**PcP**	**04 40 13.3**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=30,slow=3.5,SNR=5.0						
SONM	**Songino Array**	**45.14**	**321**	P	**P**	**04 38 41.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=139,slow=7.4,SNR=5.8						
SONM				LR	LR	04 57 39.8	
	comp=Z,97nm,19.9s,baz=94,slow=36						
SONM	**Songino Array**	**45.14**	**321**	P	**P**	**04 38 40.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**45.93**	**279**	P	**P**	**04 38 47.4**	**+0.5**
	comp=Z,2.5nm,0.5s,baz=70,slow=6.2,SNR=9.4						
CMAR	**Chiang Mai Arr**	**45.93**	**279**	P	**P**	**04 38 46.5**	**-0.4**
GSI	**Gunungsitoli**	**51.41**	**257**	P	**P**	**04 39 28.3**	**-0.8**
KDAK	**Kodiak Island**	**59.64**	**33**	LR	LR	05 01 51.6	
	comp=Z,62nm,21.6s,baz=145,slow=32						
ZALV	**Zalesovo Beam**	**60.01**	**323**	P	**P**	**04 40 29.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=118,slow=7.5,SNR=3.9						
ZALV				LR	LR	05 06 37.1	
	comp=Z,47nm,19.0s,baz=44,slow=36						
MK31	**Makanchi Array**	**60.49**	**314**	P	**P**	**04 40 33.9**	**+0.1**
MKAR	**Makanchi Array**	**60.49**	**314**	P	**P**	**04 40 32.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=91,slow=7.9,SNR=8.6						
MKAR	**Makanchi Array**	**60.49**	**314**	P	**P**	**04 40 33.7**	**0.0**
KURK	**Kurchatov**	**63.29**	**318**	P	**P**	**04 40 52.0**	**-0.4**
KURK				IAmb	IAmb	04 40 58.1	
	comp=Z,5.2nm,1.1s						
KURBB	**Kurchatov Arra**	**63.34**	**318**	P	**P**	**04 40 52.1**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=94,slow=7.3,SNR=24						
NRIK	**Noril'sk**	**63.39**	**340**	P	**P**	**04 40 53.4**	**+0.6**
	comp=Z,1.7nm,0.4s,baz=84,slow=2.5,SNR=4.4						
NRIK	**Noril'sk**	**63.39**	**340**	P	**P**	**04 40 52.4**	**-0.4**
NRIK				IAmb	IAmb	04 41 07.7	
	comp=Z,14nm,1.4s						
ILAR	**Eielson Array**	**64.17**	**26**	P	**P**	**04 40 58.2**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=244,slow=5.3,SNR=4.7						
BVAR	**Borovoye Array**	**68.48**	**321**	P	**P**	**04 41 25.4**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=82,slow=11,SNR=14						
INK	**Inuvik**	**70.00**	**23**	P	**P**	**04 41 35.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=268,slow=10,SNR=4.1						
INK	**Inuvik**	**70.00**	**23**	P	**P**	**04 41 35.8**	**+0.9**
A36M	**Sachs Harbour**	**72.83**	**19**	P	**P**	**04 41 53.4**	**+1.3**
A36M				IAmb	IAmb	04 42 02.2	
	comp=Z,4.3nm,0.9s						
BBB	**Bella Bella**	**73.18**	**40**	LR	LR	05 07 17.0	
	comp=Z,96nm,20.8s,baz=238,slow=30						
ARU	**Arti**	**75.04**	**325**	P	**P**	**04 42 04.4**	**-0.8**
	comp=Z,2.5nm,0.2s,baz=42,slow=2.9,SNR=3.8						
ABKAR	**Akbulak array**	**75.36**	**317**	P	**P**	**04 42 06.4**	**-0.9**
ABKAR				IAmb	IAmb	04 42 23.9	
	comp=Z,6.7nm,1.5s						
AKTO	**Aktyubinsk**	**76.38**	**319**	LR	LR	05 17 56.4	
	comp=Z,44nm,18.3s,baz=51,slow=37						
YKA	**Yellowknife Ar**	**78.44**	**28**	P	**P**	**04 42 24.6**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=283,slow=5.7,SNR=21						
NEW	**Newport**	**80.86**	**42**	LR	LR	05 13 26.2	
	comp=Z,61nm,20.9s,baz=270,slow=32						
NVAR	**Mina Array Bea**	**82.75**	**52**	P	**P**	**04 42 48.8**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=276,slow=4.8,SNR=4.0						
ARCES	**ARCESS Array B**	**84.23**	**343**	P	**P**	**04 42 55.5**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=66,slow=6.8,SNR=4.3						
ARCES	**ARCESS Array B**	**84.23**	**343**	P	**P**	**04 42 54.9**	**0.0**
ELK	**Elko**	**84.33**	**49**	LR	LR	05 15 12.7	
	comp=Z,64nm,19.3s,baz=208,slow=32						
FINES	**FINESS Array B**	**88.73**	**336**	P	**P**	**04 43 16.5**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=71,slow=4.5,SNR=10						
LPIG	**La Paz**	**93.82**	**63**	LR	LR	05 18 04.7	
	comp=Z,32nm,19.6s,baz=256,slow=30						
FRB	**Frobisher Bay**	**94.51**	**15**	LR	LR	05 28 24.8	
	comp=Z,34nm,18.9s,baz=226,slow=37						
SFJD	**Kangerlussuaq**	**94.84**	**7**	LR	LR	05 32 50.8	
	comp=Z,29nm,18.2s,baz=156,slow=40						
TORD	**Torodi Ar. Bea**	**134.49**	**310**	PKP	**PKPdf**	**04 49 43.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=11,slow=1.3,SNR=4.2						

TUL 19 04:38:35.2±1.5, 36°.26N±0°.02×98°.43W±0°.02, h5km±1km, ML2.7, mb_Lg2.6/28(NEIC), Error ellipse: s-maj=2.6km s-min=2.2km az=47.0

NEIC 19 04:38:35.1±1.0, 36°.25N±0°.01×98°.42W±0°.02, h5km±2km, Error ellipse: s-maj=3.1km s-min=3.0km az=236.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**53**	Pg	Pg	04 38 44.1	+0.6
CROK				Sg	Sg	04 38 50.4	+1.2
U32A	**Winter Ranch,**	**0.49**	**286**	Pg	Pg	04 38 44.8	+0.2
U32A				Sg	Sg	04 38 51.6	+0.6
OK035	**E0210 Rd and N**	**0.52**	**333**	Pg	Pg	04 38 45.4	+0.2
OK035				Sg	Sg	04 38 52.7	+0.7
OK032	**Salt Plains WL**	**0.58**	**16**	Pg	Pg	04 38 46.4	+0.1
GC02	**Grant County #**	**0.75**	**36**	Pg	Pg	04 38 49.7	+0.1
GC02				Sg	Sg	04 39 00.0	+0.7
KAN14	**Manchester OK**	**0.80**	**27**	Pg	Pg	04 38 50.4	-0.1
KAN14				Sg	Sg	04 39 01.4	+0.5
BCOK	**Bluff Creek, N**	**0.88**	**132**	Pg	Pg	04 38 51.9	0.0
BCOK				Sg	Sb	04 39 04.2	-0.7
KAN10	**Anthony SW Sta**	**0.91**	**16**	Pg	Pg	04 38 52.5	-0.2
KAN17	**Caldwell West**	**0.95**	**33**		Pg	04 38 53.3	-0.2
KAN17				Sg	Sg	04 39 06.2	+0.4
KAN05	**Bluff City Nor**	**0.97**	**27**	Pg	Pg	04 38 53.4	-0.3
KAN05				Sg	Sg	04 39 06.5	+0.3
KAN16	**Harper SW Stat**	**1.02**	**16**	Pg	Pg	04 38 54.4	-0.3
KAN08	**Anthony NE Sta**	**1.04**	**20**		Pg	04 38 54.8	-0.3
KAN13	**South Haven SW**	**1.07**	**44**	Pg	Pg	04 38 55.5	-0.2
BLOK	**Blackwell**	**1.09**	**62**	Pg	Pg	04 38 56.0	-0.1
OK025	**Westminster Rd**	**1.10**	**127**		Pg	04 38 56.0	-0.2
KAN12	**Harper NE Stat**	**1.10**	**18**	Pg	Pg	04 38 56.0	-0.3
OKCFA	**Oklahoma City**	**1.14**	**136**	Pg	Pg	04 38 56.6	-0.4
OKCSW	**OKLAHOMA CITY**	**1.15**	**136**	Pg	Pg	04 38 56.8	-0.5
FNO	**Franklin**	**1.28**	**140**		Pn	04 38 59.3	-0.4
OK031	**S. Brethren Rd**	**1.31**	**102**	Pn	Pn	04 38 59.4	-0.7
OK030	**Cody Creek RV**	**1.36**	**103**		Pn	04 39 00.1	-0.7
QUOK	**Quay**	**1.38**	**93**		Pn	04 39 00.6	-0.5
OK034	**N. Norfolk Rd.**	**1.40**	**99**		Pn	04 39 00.8	-0.5
WMOK	**Wichita Mounta**	**1.53**	**191**		Pn	04 39 02.5	-0.7
W35A	**Tecumseh**	**1.66**	**131**	Pn	Pn	04 39 04.5	-0.5
T35A	**Sooner Cattle**	**1.67**	**66**		Pn	04 39 05.1	0.0
T35A				IAmb_Lg		04 39 31.7	
	comp=Z,31nm,1.1s						
X34A	**Smith Ranch, M**	**1.71**	**164**		Pn	04 39 06.3	+0.7
TUL1	**Leonard**	**2.15**	**98**		Pn	04 39 11.8	+0.2
R32A	**Long Quarter,**	**2.19**	**354**		Pn	04 39 11.7	-0.5
LOOK	**Love County**	**2.46**	**155**	IAmb_Lg		04 39 56.2	
	comp=Z,22nm,1.0s						
CBKS	**Cedar Bluff**	**2.77**	**338**	Pn	Pn	04 39 19.9	-0.4
CBKS				IAmb_Lg		04 40 05.4	
	comp=Z,20nm,0.8s						
X37A	**Clayton**	**2.98**	**123**	Pn	Pn	04 39 23.2	+0.1
AMTX	**Amarillo**	**2.99**	**244**	Pn	Pn	04 39 23.5	+0.2
AMTX				IAmb_Lg		04 40 17.0	
	comp=Z,17nm,1.0s						
KSU1	**Kansas State U**	**3.19**	**26**	IAmb_Lg		04 40 20.0	
	comp=Z,18nm,1.0s						
U38A	**Gravette**	**3.26**	**85**	Pn	Pn	04 39 26.4	-0.5
ABTX	**Abilene, Hawle**	**3.75**	**196**	Pn	Pn	04 39 33.3	-0.4
ABTX				IAmb_Lg		04 40 36.6	
	comp=Z,17nm,1.1s						
MIAR	**Mount Ida**	**4.30**	**112**	Pn	Pn	04 39 41.9	+0.7
WHTX	**Lake Whitney,**	**4.32**	**169**	Pn	Pn	04 39 42.8	+1.3
S39A	**Bolivar**	**4.33**	**69**	Pn	Pn	04 39 42.1	+0.5
KSCO	**Kaye Shedlock'**	**4.34**	**311**	IAmb_Lg		04 41 01.8	
	comp=Z,10.0nm,0.7s						
U40A	**Yellville**	**4.49**	**87**	IAmb_Lg		04 41 00.2	
	comp=Z,10.0nm,0.8s						
X40A	**Basin Creek Fa**	**4.88**	**109**	IAmb_Lg		04 41 14.6	
	comp=Z,9.4nm,0.8s						
T25A	**Trinidad**	**4.90**	**282**	Pn	Pn	04 39 49.2	-0.5
T25A				IAmb_Lg		04 41 08.5	
	comp=Z,13nm,0.8s						
MGMO	**Mountain Grove**	**5.02**	**78**	Pn	Pn	04 39 51.8	+0.6
WHAR	**Wooly Hollow**	**5.07**	**99**	Pn	Pn	04 39 51.7	-0.1
P38A	**Dawn**	**5.13**	**47**	Pn	Pn	04 39 53.1	+0.5
P38A				IAmb_Lg		04 41 26.9	
	comp=Z,12nm,0.8s						
R40A	**Maddies Statio**	**5.31**	**66**	IAmb_Lg		04 41 30.6	
	comp=Z,8.4nm,0.8s						
Z41A	**Richland Creek**	**5.50**	**121**	IAmb_Lg		04 41 42.8	
	comp=Z,9.6nm,0.8s						
PBMO	**Poplar Bluff**	**6.45**	**83**	IAmb_Lg		04 42 02.2	
	comp=Z,6.9nm,0.7s						

SSNC 19 04:45:10.4±1.9, 19°.72N×76°.10W, h5km, MD3.4, ML3.5, MW3.5

JSN 19 04:45:13.2±0.7, 16°.95N×75°.74W, h7km±157km, MD4.2

ISC 19 04:45:09.3±1.3, 19°.75N±0°.05×76°.15W±0°.03, h21km±6km, n13, σ0§97/22, 3C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.49**	**60**	*e*P	**Pb**	**04 45 18.6**	**-0.5**
RCC				*e*S	**Sb**	**04 45 25.1**	**-0.8**
RCC				IAML		04 45 27.3	
	comp=E,1μm,0.3s						
RCC				IAML		04 45 27.4	
	comp=N,1μm,0.3s						
LMGC	**Las Mercedes**	**0.87**	**291**	*e*P	**Pb**	**04 45 26.1**	**+0.5**
LMGC				*e*S	**Sn**	**04 45 38.4**	**+0.2**
LMGC				IAML		04 45 42.0	
	comp=E,768nm,0.2s						
LMGC				IAML		04

PB04	**IPOC Station P**	**1.15 298**	⇑	*i*P	**Pn**	**05 20 43.5**	**+0.5**
PB04				*e*S	**Sn**	**05 20 59.4**	**-0.1**
PB04				IAML		05 21 01.6	
	comp=N,3μm,0.2s						
PB07	**IPOC Station P**	**1.38 326**	⇑	*i*P	**Pn**	**05 20 46.5**	**+0.7**
PB07				*e*S	**Sn**	**05 21 04.7**	**+0.3**
PB07				IAML		05 21 06.6	
	comp=E,2μm,0.2s						
PB10	**IPOC Station P**	**1.53 245**	⇑	*i*P	**Pn**	**05 20 47.6**	**+0.1**
PB10				*e*S	**Sn**	**05 21 06.8**	**-0.6**
PB10				IAML		05 21 13.4	
	comp=E,441nm,0.2s						
PB02	**IPOC Station P**	**1.74 333**	⇑	*e*P	**Pn**	**05 20 50.8**	**+0.6**
PB02				*e*S	**Sn**	**05 21 12.6**	**+0.4**
PB02				IAML		05 21 16.6	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**1.87 347**	⇓	*i*P	**Pn**	**05 20 52.7**	**+0.8**
PB01				*e*S	**Sn**	**05 21 16.1**	**+0.9**
PB01				IAML		05 21 19.7	
	comp=E,734nm,0.2s						
PATCX	**Punta Patache**	**2.29 333**	⇑	*e*P	**Pn**	**05 20 57.4**	**-0.1**
PATCX				*e*S	**Sn**	**05 21 21.7**	**-3.4**
LPAZ	**La Paz**	**6.61 8**		P	**Pn**	**05 21 55.4**	**-1.0**
	comp=E,0.3nm,0.3s,baz=180,slow=6.1,SNR=2.4						
SIV	**San Ignacio**	**10.17 49**		P	**Pn**	**05 22 42.3**	**-2.0**
	comp=E,0.6nm,0.3s,baz=275,slow=4.7,SNR=11						
CPUP	**Villa Florida**	**11.20 110**		P	**Pn**	**05 22 59.2**	**+0.9**
	comp=E,0.1nm,0.3s,baz=276,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**77.94 70**		P	**P**	**05 32 09.3**	**-0.3**
	comp=E,0.3nm,0.5s,baz=257,slow=5.1,SNR=9.2						
YKA	**Yellowknife Ar**	**92.44 341**		P	**P**	**05 33 21.3**	**+0.2**
	comp=E,0.3nm,0.7s,baz=136,slow=4.6,SNR=7.6						
MKAR	**Makanchi Array**	**146.81 37**		PKPbc	**PKPdf**	**05 39 51.6**	**+0.9**
	comp=E,0.6nm,0.8s,baz=322,slow=2.3,SNR=5.2						

*JMA **19** 05:35:05.0±0.1, 22°.79N×121°.32E, h31km±4km, M3.5*
*TAP **19** 05:35:06.0, 22°.78N×121°.32E, h28km, ML3.2, B*
ISC 19 05:35:05.7±0.9, **22°.77N**±0°.02×**121°.37E**±0°.02, **h33**km±4km, **n113**, σ1°.**04**/139, **6C-6D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.13**	**135**	⇑ *i*P	**Pb**	**05 35 11.8**	**+0.2**
LDUT	baz=121			*i* S	**Sb**	**05 35 15.9**	**+0.3**
TTN	**Taitung**	**0.20**	**267**	⇓ *i*P	**Pb**	**05 35 12.2**	**0.0**
TTN	baz=260			*i* S	**Sb**	**05 35 16.9**	**+0.2**
EDH	**Donghe**	**0.21**	**344**	⇑ *i*P	**Pb**	**05 35 12.0**	**-0.4**
EDH	baz=348			S	**Sb**	**05 35 16.2**	**-0.8**
LONT	**Longtian**	**0.26**	**303**	⇓ *i*P	**Pb**	**05 35 12.4**	**-0.6**
TWGBT	baz=305 **Beinan**	**0.27**	**281**	⇓ *i*P	**Pb**	**05 35 12.2**	**-0.8**
TWGBT	baz=279			*i* S	**Sb**	**05 35 16.6**	**-1.5**
CHKT	**Chengkung**	**0.33**	**359**	⇑ *i*P	**Pn**	**05 35 13.6**	**-0.6**
CHKT	baz=14			S	**Sn**	**05 35 19.0**	**-0.8**
ECS	**Chishang**	**0.36**	**337**	*e*P	**Pb**	**05 35 14.0**	**-0.2**
ECS	baz=330			*e*S	**Sn**	**05 35 20.1**	**-0.3**
ECL	**Taimali**	**0.42**	**246**	⇓ *i*P	**Pb**	**05 35 13.8**	**-1.2**
ECL	baz=251			S	**Sb**	**05 35 19.0**	**-2.5**
FULB	**Fuli**	**0.44**	**351**	P	**Pb**	**05 35 14.9**	**-0.4**
FULB	baz=344			*i* S	**Sn**	**05 35 22.2**	**-0.3**
ELDTW	**Lidau**	**0.53**	**323**	*e*P	**Pb**	**05 35 15.4**	**-1.4**
ECBN	**Changbin**	**0.55**	**8**	*e*P	**Pn**	**05 35 17.0**	**-0.2**
ECBN	baz=14			*e*S	**Sn**	**05 35 24.9**	**-0.4**
EYUL	**Yuli**	**0.58**	**355**	*e*P	**Pb**	**05 35 17.4**	**-0.2**
TWF1	**Yuli**	**0.59**	**354**	*e*P	**Pb**	**05 35 16.3**	**-1.4**
TAW	**Tawu**	**0.60**	**227**	*e*P	**Pb**	**05 35 18.1**	**+0.3**
EAST	**Anshuo**	**0.61**	**232**	⇑ *i*P	**Pb**	**05 35 17.0**	**-1.1**
TAWH	**Dawu Township**	**0.61**	**226**	*e*P	**Pb**	**05 35 16.9**	**-1.2**
YULB	**Yu-li**	**0.63**	**354**	⇑ *i*P	**Pb**	**05 35 16.8**	**-1.6**
TSMG	**Majia**	**0.67**	**265**	*e*P	**Pb**	**05 35 17.8**	**-1.2**
STYH	**Taoyuan**	**0.68**	**307**	*e*P	**Pb**	**05 35 18.3**	**-0.8**
SSD	**Sandimen**	**0.68**	**269**	⇓P	**Pb**	**05 35 17.9**	**-1.3**
STYT	**Tauyuan**	**0.69**	**305**	*e*P	**Pb**	**05 35 18.4**	**-1.0**
MASBT	**Mashibuluo**	**0.70**	**257**	⇓ *i*P	**Pb**	**05 35 18.5**	**-1.0**
SLGT	**Liugui**	**0.70**	**289**	*e*P	**Pb**	**05 35 19.0**	**-0.6**
HGSD	**Ruisui**	**0.72**	**4**	*e*P	**Pb**	**05 35 19.3**	**-0.6**
EHY	**Hungye**	**0.74**	**357**	*e*P	**Pb**	**05 35 18.4**	**-1.8**
LAY	**Lan-yu**	**0.74**	**167**	*e*P	**Pb**	**05 35 19.7**	**-0.5**
LAY	baz=165			*e*S	**Sb**	**05 35 29.8**	**-0.4**
SLIU	**Shizi**	**0.76**	**224**	*e*P	**Pb**	**05 35 19.1**	**-1.4**
LYUB	**Lan-yu**	**0.79**	**165**	*e*P	**Pb**	**05 35 19.2**	**-1.8**
LYUB	baz=164			*e*S	**Sb**	**05 35 29.0**	**-2.3**
SGST	**Jiashian**	**0.79**	**294**	P	**Pb**	**05 35 20.0**	**-1.0**
SGST	baz=300			*e*S	**Sb**	**05 35 30.1**	**-1.4**
SSPT	**Xinbi**	**0.79**	**249**	*e*P	**Pb**	**05 35 20.7**	**-0.3**
SCZT	**Fangliau**	**0.80**	**241**	*e*P	**Pb**	**05 35 20.9**	**-0.2**
YUS	**Yu-Shan**	**0.82**	**332**	*e*P	**Pb**	**05 35 21.4**	**-0.3**
WTP	**Ta-pu**	**0.84**	**305**	P	**Pb**	**05 35 21.6**	**-0.3**
TPUB	**Ta-pu**	**0.86**	**308**	*e*P	**Pb**	**05 35 21.8**	**-0.5**
TPUB	baz=309			*e*S	**Sb**	**05 35 33.3**	**-0.3**
TWM1	**Shoushan**	**0.88**	**274**	*e*P	**Pn**	**05 35 23.2**	**+1.5**
CHN1	**Nanshi**	**0.88**	**298**	*e*P	**Pn**	**05 35 22.6**	**+0.9**
CHN1	baz=302			S	**Sb**	**05 35 34.4**	**+0.3**
SMST	**Manzhou Townsh**	**0.89**	**214**	*e*P	**Pb**	**05 35 21.5**	**-1.2**
EGFH	**Guangfu**	**0.90**	**3**	*e*P	**Pb**	**05 35 21.9**	**-1.0**
ALS	**Alishan**	**0.91**	**325**	*e*P	**Pb**	**05 35 22.4**	**-0.7**
CHN4	**Tsaushan**	**0.92**	**309**	P	**Pn**	**05 35 23.2**	**+0.9**
CHN4	baz=310			S	**Sb**	**05 35 35.2**	**0.0**
SNST	**Tainan City**	**0.92**	**300**	*e*P	**Pn**	**05 35 23.2**	**+0.9**
TEGC	**Jichi Village**	**0.95**	**9**	*e*P	**Pn**	**05 35 23.8**	**+1.1**
TWK	**Hsinying**	**0.95**	**302**	*e*P	**Pb**	**05 35 23.4**	**-0.4**
TWK	baz=310			*e*S	**Sb**	**05 35 36.4**	**+0.2**
HEN	**Hengchun**	**0.95**	**218**	*e*P	**Pb**	**05 35 23.9**	**+0.1**
TSEB	**Hengchuen, Pin**	**0.96**	**207**	*e*P	**Pn**	**05 35 24.2**	**+1.3**
TWKBT	**Hengchun**	**0.97**	**212**	P	**Pb**	**05 35 22.7**	**-1.3**
TWK1	**Hengchun**	**0.97**	**213**	*e*P	**Pb**	**05 35 22.6**	**-1.4**
SHHT	**Tainan City**	**0.97**	**285**	*e*P	**Pn**	**05 35 24.8**	**+1.7**
WLCH	**Liuqiu**	**1.00**	**246**	*e*P	**Pb**	**05 35 26.3**	**+1.7**
VWDT	**VWDT**	**1.01**	**348**	P	**Pb**	**05 35 23.3**	**-1.3**
CHN5	**Tsauling**	**1.04**	**323**	⇑P	**Pn**	**05 35 25.0**	**+0.9**
CHN5	baz=323			*e*S	**Sb**	**05 35 37.8**	**-1.0**
ESL	**Shilin**	**1.04**	**3**	*e*P	**Pn**	**05 35 24.5**	**+0.4**
SSLB	**Suanglung**	**1.09**	**340**	*e*P	**Pn**	**05 35 24.9**	**+0.3**
TEYL	**Yanliau Villag**	**1.12**	**11**	*e*P	**Pb**	**05 35 26.9**	**+0.4**
CHY	**Chiayi**	**1.14**	**310**	*e*P	**Pn**	**05 35 26.0**	**+0.7**
SMLT	**Sun Moon Lake**	**1.19**	**339**	P	**Pb**	**05 35 27.4**	**-0.4**
SMLT	baz=339			*e*S	**Sn**	**05 35 42.6**	**+1.2**
WDLH	**Douliu**	**1.20**	**320**	*e*P	**Pb**	**05 35 27.9**	**0.0**
OWD	**Renai**	**1.20**	**352**	*e*P	**Pn**	**05 35 26.7**	**+0.4**
ETM	**Tongmen**	**1.20**	**5**	*e*P	**Pn**	**05 35 26.1**	**-0.1**
WJS	**Zhushan**	**1.21**	**331**	*e*P	**Pb**	**05 35 28.5**	**+0.5**
TYC	**Yuchr**	**1.23**	**338**	*e*P	**Pb**	**05 35 28.2**	**-0.1**
WNT	**Mingjian**	**1.27**	**331**	*e*P	**Pb**	**05 35 29.3**	**+0.2**
WNT	baz=331			*e*S	**Sb**	**05 35 46.4**	**+1.2**
WSL	**Shuilin Townsh**	**1.29**	**306**	*e*P	**Pn**	**05 35 28.1**	**+0.6**
WPL	**Puli Township**	**1.30**	**343**	*e*P	**Pb**	**05 35 28.6**	**-0.9**
CHGB	**Renai**	**1.30**	**352**	*e*P	**Pn**	**05 35 28.2**	**+0.4**
WNT1	**Nantou City**	**1.30**	**331**	*e*P	**Pb**	**05 35 29.6**	**0.0**
TWD	**Chiawan**	**1.32**	**9**	*e*P	**Pn**	**05 35 27.7**	**-0.2**
DPDB	**Guoxing**	**1.33**	**342**	*e*P	**Pb**	**05 35 29.2**	**-0.8**
WCS	**Beigang Elemen**	**1.35**	**342**	*e*P	**Pn**	**05 35 29.2**	**+0.9**
WHF	**Hehuan Shan**	**1.38**	**356**	*e*P	**Pn**	**05 35 29.3**	**+0.3**
WWF	**Wufeng**	**1.41**	**334**	*e*P	**Pb**	**05 35 30.9**	**-0.6**
NACB	**Ninganchiao**	**1.42**	**8**	*e*P	**Pn**	**05 35 28.6**	**-0.6**
ETLH	**Xiulin Townshi**	**1.44**	**4**	*e*P	**Pn**	**05 35 28.5**	**-1.1**
FUSS	**Fushou**	**1.48**	**356**	*e*P	**Pn**	**05 35 31.2**	**+0.9**
TWT	**Tachien**	**1.49**	**353**	*e*P	**Pn**	**05 35 31.3**	**+0.9**
TDCB	**Techi**	**1.49**	**353**	*e*P	**Pn**	**05 35 31.4**	**+1.1**
WHP	**Taichung City**	**1.55**	**346**	*e*P	**Pb**	**05 35 33.6**	**-0.4**
NNSB	**Datong**	**1.66**	**0**	*e*P	**Pn**	**05 35 33.2**	**+0.6**
NNS	**Nan Shan**	**1.67**	**0**	*e*P	**Pb**	**05 35 34.4**	**-1.5**
TWQ1	**Liyutan**	**1.67**	**341**	*e*P	**Pb**	**05 35 34.9**	**-0.9**
ENA	**Nanau**	**1.69**	**12**	*e*P	**Pn**	**05 35 33.6**	**+0.7**
NSY	**Sanyi**	**1.73**	**341**	*e*P	**Pb**	**05 35 36.0**	**-0.9**
PHUB	**P'eng-hu**	**1.81**	**295**	*e*P	**Pn**	**05 35 35.0**	**+0.4**
PHUB	baz=295			*e*S	**Sn**	**05 35 56.1**	**-0.4**
NDT	**Datong Townshi**	**1.83**	**4**	*e*P	**Pn**	**05 35 36.5**	**+1.6**
VCHM	**Qimei**	**1.84**	**284**	*e*P	**Pn**	**05 35 36.0**	**+1.0**
PNG	**Penghu**	**1.85**	**296**	*e*P	**Pn**	**05 35 36.0**	**+0.9**
PNG	baz=297			*e*S	**Sn**	**05 35 57.2**	**-0.2**
NFF	**Wufeng Townshi**	**1.87**	**353**	*e*P	**Pb**	**05 35 37.4**	**-2.0**
ENTT	**Niaudou**	**1.88**	**5**	*e*P	**Pn**	**05 35 36.8**	**+1.3**
NDS	**Dongshan**	**1.89**	**10**	*e*P	**Pn**	**05 35 37.1**	**+1.5**
TWC	**Suao**	**1.89**	**13**	*e*P	**Pn**	**05 35 37.1**	**+1.5**
YHNB	**Yeheng**	**1.90**	**0**	*e*P	**Pn**	**05 35 36.9**	**+1.1**
LIOB	**Emei**	**1.90**	**350**	*e*P	**Pb**	**05 35 37.7**	**-2.0**
NSK	**Sanguang**	**1.90**	**360**	*e*P	**Pn**	**05 35 37.5**	**+1.6**
NWLT	**Wulai**	**2.01**	**3**	*e*P	**Pn**	**05 35 38.8**	**+1.4**
TIPB	**Shuangxi**	**2.24**	**11**	*e*P	**Pn**	**05 35 41.6**	**+1.2**
YOJ	**Yonaguni jima**	**2.26**	**41**	P	**Pn**	**05 35 42.5**	**+1.7**
YOJ				*e*S	**Sn**	**05 36 09.4**	**+1.8**
YOJ	**Yonaguni jima**	**2.26**	**41**	*e*P	**Pn**	**05 35 42.1**	**+1.3**
TWB1	**Santiao Chiao**	**2.30**	**14**	*e*P	**Pn**	**05 35 43.4**	**+2.1**
NWF	**Wu-fen Shan**	**2.33**	**9**	*e*P	**Pn**	**05 35 43.3**	**+1.6**
WFSB	**Wu-fen Shan**	**2.33**	**9**	*e*P	**Pn**	**05 35 43.2**	**+1.6**
HATJ	**Hateruma jima**	**2.58**	**60**	P	**Pn**	**05 35 46.2**	**+1.0**
HATJ				*e*S	**Sn**	**05 36 15.9**	**+0.5**
IRIF	**Iriomote-Funau**	**2.67**	**54**	*e*S	**Sn**	**05 36 18.7**	**+1.1**
JKRS	**Kuro-shima**	**2.83**	**58**	P	**Pn**	**05 35 50.0**	**+1.4**
JKRS				*e*S	**Sn**	**05 36 22.2**	**+0.6**
JIJ	**Ishigaki jima**	**3.00**	**57**	P	**Pn**	**05 35 51.5**	**+0.6**
JIJ				S	**Sn**	**05 36 25.9**	**+0.1**
PTMZ	**Houxiangcun**	**3.06**	**318**	*e*P	**Pn**	**05 35 52.6**	**+0.9**
KNM	**Kinmen**	**3.15**	**302**	*e*P	**Pn**	**05 35 55.1**	**+2.1**
KNMB	**Chin-men Tao**	**3.21**	**302**	*e*P	**Pn**	**05 35 55.3**	**+1.4**
JISG	**Ishigakijimahi**	**3.25**	**56**	P	**Pn**	**05 35 55.3**	**+0.9**
JISG				*e*S	**Sn**	**05 36 31.3**	**-0.6**
JTJ	**Tarama**	**3.58**	**58**	*e*S	**Sn**	**05 36 41.0**	**+0.9**
MATB	**Ma-tsu**	**3.61**	**339**	*e*P	**Pn**	**05 36 00.1**	**+0.7**
AXDP	**Jialang**	**3.77**	**305**	*e*P	**Pn**	**05 36 02.2**	**+0.7**
LYJJ	**Jianjiangzhen**	**4.04**	**339**	*e*P	**Pn**	**05 36 06.1**	**+0.9**
SXFK	**Yanhouchang**	**4.96**	**318**	*e*P	**Pn**	**05 36 18.6**	**+0.7**

*NEIC **19** 05:36:31.5±2.5, 30°.89S±0°.06×178°.7W±0°.2, h91km±6km, mb4.7/24, Error ellipse: s-maj=20.2km s-min=5.1km az=109.0*
*IDC **19** 05:36:34.9±1.1, 30°.59S×178°.73W, h127km±11km, mb4.2/8, mb1 4.4/8, mb1mx3.9/35, mbtmp4.6/8, MS3.9/2, Ms1 3.9/2, ms1mx3.0/53, Error ellipse: s-maj=18.0km s-min=16.0km az=124.0*
ISC 19 05:36:31.4±0.5, **30°.94S**±0°.06×**178°.58W**±0°.10, **h100**km, **n127**, σ2°.**02**/136, **mb4.6**/19, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.77**	**19**	P	**Pn**	**05 37 01.4**	**+0.5**
GLKZ				S	**Sn**	**05 37 23.1**	**-0.3**
RAO	**Raoul Island**	**1.77**	**19**	P	**Pn**	**05 37 00.8**	**-0.3**
RAO	460nm,0.3s,baz=264,slow=23,SNR=4.1			S	**Sn**	**05 37 24.4**	**+0.8**
RAO	2μm,0.3s,baz=71,slow=20,SNR=8.1			LR	LR	05 37 37.2	
	comp=Z,664nm,19.2s,baz=107,slow=41						
RIZ	**Raoul Island**	**1.78**	**19**	P	**Pn**	**05 37 00.5**	**-0.6**
RIZ				S	**Sn**	**05 37 25.0**	**+1.3**
MXZ	**Matakaoa Point**	**7.09**	**200**	S	**Sn**	**05 39 32.1**	**+0.6**
MXZ	**Matakaoa Point**	**7.09**	**200**	Pn	**Pn**	**05 38 11.5**	**-0.9**
WMGZ	**Waiomatatini S**	**7.30**	**199**	P	**Pn**	**05 38 14.9**	**-0.4**
WMGZ				S	**Sn**	**05 39 39.0**	**+2.5**
HAZ	**Te Kaha**	**7.44**	**203**	P	**Pn**	**05 38 16.9**	**-0.2**
HAZ				S	**Sn**	**05 39 43.7**	**+3.9**
PKGZ	**Pakihiroa**	**7.46**	**201**	P	**Pn**	**05 38 16.2**	**-1.3**
PKGZ				S	**Sn**	**05 39 40.8**	**+0.3**
KUZ	**Kuaotunu**	**7.48**	**218**	P	**Pn**	**05 38 21.7**	**+4.0**
PUZ	**Puketiti**	**7.58**	**199**	P	**Pn**	**05 38 17.8**	**-1.3**
PUZ				S	**Sn**	**05 39 41.5**	**-1.9**
RUGZ	**Raukumara Rang**	**7.66**	**203**	P	**Pn**	**05 38 19.4**	**-0.9**
TWGZ	**Tauwhareparae**	**7.76**	**200**	P	**Pn**	**05 38 20.6**	**-0.9**
TWGZ				S	**Sn**	**05 39 48.6**	**+0.8**
OPRZ	**Ohinepanea**	**7.97**	**209**	P	**Pn**	**05 38 24.5**	**+0.1**
CNGZ	**Carnagh Statio**	**7.98**	**198**	P	**Pn**	**05 38 23.1**	**-1.4**
MWZ	**Matawai**	**8.04**	**202**	P	**Pn**	**05 38 23.7**	**-1.7**
MWZ				S	**Sn**	**05 39 54.7**	**0.0**
URZ	**Urewera**	**8.12**	**205**	P	**Pn**	**05 38 25.1**	**-1.3**
URZ				S	**Sn**	**05 39 57.6**	**+1.1**
URZ	**Urewera**	**8.12**	**205**	Pn	**Pn**	**05 38 25.3**	**-1.1**
RIGZ	**Rimuhau**	**8.31**	**200**	P	**Pn**	**05 38 26.9**	**-2.2**
RIGZ				S	**Sn**	**05 40 00.3**	**-0.9**
PRGZ	**Paritu Road**	**8.48**	**199**	P	**Pn**	**05 38 30.8**	**-0.5**
PRGZ				S	**Sn**	**05 40 05.0**	**-0.3**
KNZ	**Kokohu**	**8.63**	**200**	P	**Pn**	**05 38 29.8**	**-3.5**
ALRZ	**Allen Road**	**8.68**	**207**	P	**Pn**	**05 38 34.0**	**0.0**
MHGZ	**Mahia Peninsul**	**8.69**	**198**	P	**Pn**	**05 38 31.8**	**-2.3**
RAHZ	**Arahi**	**8.72**	**203**	P	**Pn**	**05 38 32.1**	**-2.4**
RAHZ				S	**Sn**	**05 40 12.0**	**+0.9**
NMHZ	**Naumai**	**8.97**	**204**	P	**Pn**	**05 38 35.3**	**-2.8**
NMHZ				S	**Sn**	**05 40 17.1**	**-0.3**
ARHZ	**Aropaoanui**	**9.06**	**202**	P	**Pn**	**05 38 36.4**	**-2.8**
ARHZ				S	**Sn**	**05 40 18.9**	**-0.5**
BKZ	**Black Stump Fm**	**9.15**	**205**	P	**Pn**	**05 38 37.5**	**-2.9**
HIZ	**Hauiti**	**9.29**	**214**	P	**Pn**	**05 38 44.9**	**+2.6**
HIZ	**Hauiti**	**9.29**	**214**	Pn	**Pn**	**05 38 41.6**	**-0.7**
MCHZ	**McNeill Hill**	**9.32**	**203**	P	**Pn**	**05 38 40.1**	**-2.6**
MCHZ				S	**Sn**	**05 40 24.5**	**-1.3**
CKHZ	**Cape Kidnapper**	**9.39**	**201**	P	**Pn**	**05 38 40.3**	**-3.5**
CKHZ				S	**Sn**	**05 40 24.2**	**-3.3**
KWHZ	**Kaweka Forest**	**9.40**	**204**	P	**Pn**	**05 38 40.7**	**-3.2**
KWHZ				S	**Sn**	**05 40 26.5**	**-1.3**
NTVZ	**North Tongarir**	**9.40**	**208**	P	**Pn**	**05 38 42.4**	**-1.6**
OTVZ	**Oturere**	**9.46**	**208**	P	**Pn**	**05 38 47.0**	**+2.2**
OTVZ				S	**Sn**	**05 40 28.7**	**-0.7**
KAHZ	**Kahuranaki**	**9.58**	**201**	P	**Pn**	**05 38 42.2**	**-4.1**
KAHZ				S	**Sn**	**05 40 29.7**	**-2.4**
BHHZ	**Black Hill Sta**	**9.59**	**206**	P	**Pn**	**05 38 43.7**	**-2.7**
BHHZ				S	**Sn**	**05 40 29.0**	**-3.3**
KRHZ	**Kereru**	**9.61**	**204**	P	**Pn**	**05 38 42.9**	**-3.9**
KRHZ				S	**Sn**	**05 40 28.7**	**-4.2**
WNVZ	**Wahianoa**	**9.63**	**208**	P	**Pn**	**05 38 46.7**	**-0.4**
PXZ	**Pawanui**	**9.80**	**201**	P	**Pn**	**05 38 44.8**	**-4.4**
PXZ				S	**Sn**	**05 40 32.5**	**-4.8**
PNHZ	**Pukenui**	**9.91**	**204**	P	**Pn**	**05 38 46.4**	**-4.5**
TSZ	**Takapari Road**	**10.13**	**205**	P	**Pn**	**05 38 49.2**	**-4.6**
ANWZ	**Angora Road**	**10.31**	**202**	P	**Pn**	**05 38 51.9**	**-4.3**
BFZ	**Birch Farm**	**10.59**	**202**	P	Pn	05 38 54.4	-5.6
MRZ	**Mangatainoka R**	**10.79**	**204**	P	Pn	05 38 57.4	-5.4
HOWZ	**Holdsworth Sta**	**11.03**	**204**	P	Pn	05 38 59.2	-6.7
OGWZ	**Otaki Gorge**	**11.08**	**205**	P	Pn	05 39 00.3	-6.3
TMWZ	**Te Maipa**	**11.09**	**202**	P	Pn	05 39 00.4	-6.4
KIW	**Kapiti Island**	**11.22**	**206**	P	Pn	05 39 02.4	-6.1
MTW	**Mount Morrison**	**11.26**	**203**	P	Pn	05 39 02.0	-7.1
DUWZ	**D'Urville Isla**	**11.56**	**210**	P	**Pn**	**05 39 08.6**	**-4.5**
MSWZ	**Moikau Station**	**11.58**	**204**	P	Pn	05 39 07.1	-6.3
MSWZ	**Moikau Station**	**11.58**	**204**	Pn	**Pn**	**05 39 10.8**	**-2.6**
PLWZ	**Palliser**	**11.71**	**203**	P	Pn	05 39 09.8	-5.4
TCW	**Tory Channel**	**11.76**	**207**	P	Pn	05 39 10.3	-5.4
TUMZ	**Tuamarina**	**12.08**	**208**	P	**Pn**	**05 39 16.6**	**-3.4**
QRZ	**Quartz Range**	**12.21**	**214**	P	**Pn**	**05 39 19.5**	**-2.2**
QRZ	**Quartz Range**	**12.21**	**214**	Pn	**Pn**	**05 39 21.5**	**-0.3**
BSWZ	**Blackbirch Sta**	**12.35**	**207**	P	**Pn**	**05 39 19.0**	**-4.6**
BSWZ	**Blackbirch Sta**	**12.35**	**207**	Pn	**Pn**	**05 39 21.4**	**-2.2**
THZ	**Tophouse**	**12.79**	**210**	P	Pn	05 39 24.1	-5.3
LTZ	**Lake Taylor**	**13.89**	**209**	P	Pn	05 39 38.5	-5.4
ARMA	**Armidale**	**25.59**	**263**	P	**P**	**05 41 54.4**	**+3.0**
	baz=25,SNR=3.9						
ARMA	**Armidale**	**25.59**	**263**	P	**P**	**05 41 50.8**	**-0.6**
MGCD	**Mangrove Creek**	**25.74**	**257**	P	**P**	**05 41 54.8**	**+2.2**
	baz=25,SNR=6.0						
EIDS	**Eidsvold**	**27.27**	**274**	P	**P**	**05 42 05.7**	**-0.7**
CAN	**Canberra**	**27.43**	**252**	P	**P**	**05 42 07.4**	**-0.4**
CAN				IAmb	IAmb	05 42 11.0	
	comp=Z,18nm,1.4s						
RMQ	**Roma**	**28.93**	**271**	P	**P**	**05 42 23.4**	**+2.3**
	baz=28,SNR=6.2						
TAU	**Tasmania Unive**	**29.57**	**237**	P	**P**	**05 42 27.9**	**+1.3**
TOO	**Toolangi**	**30.29**	**248**	P	**P**	**05 42 33.0**	**-0.2**
TOO				IAmb	IAmb	05 42 42.4	
	comp=Z,18nm,1.5s						
CMSA	**Cobar Meteorol**	**30.47**	**259**	P	**P**	**05 42 35.8**	**+1.0**
	baz=30,SNR=34						
QLP	**Quilpie**	**32.78**	**268**	P	**P**	**05 42 55.7**	**+0.6**
	baz=32,SNR=4.3						
CTAO	**Charters Tower**	**33.39**	**280**	P	**P**	**05 43 01.4**	**+1.0**
CTAO				IAmb	IAmb	05 43 02.7	
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**33.87**	**258**	P	**P**	**05 43 06.1**	**+1.6**
	comp=Z,41nm,0.8s,baz=102,slow=11,SNR=50						
STKA	**Stephens Creek**	**33.87**	**258**	P	**P**	**05 43 05.4**	**+0.9**
	baz=33,SNR=28						
STKA	**Stephens Creek**	**33.87**	**258**	P	**P**	**05 43 06.0**	**+1.6**
STKA				IAmb	IAmb	05 43 09.3	
	comp=Z,8.2nm,0.8s						
HTT	**Hallett**	**35.87**	**255**	P	**P**	**05 43 22.7**	**+1.0**
	baz=35,SNR=17						
MTSU	**Mount Surprise**	**35.91**	**282**	P	**P**	**05 43 23.0**	**+0.9**
	baz=36,SNR=5.9						
BBOO	**Buckleboo**	**38.34**	**255**	P	**P**	**05 43 42.7**	**+0.1**
	baz=38,SNR=19						
BBOO	**Buckleboo**	**38.34**	**255**	P	**P**	**05 43 42.9**	**+0.3**
QIS	**Mount Isa**	**38.86**	**275**	P	**P**	**05 43 46.8**	**-0.2**
	baz=38,SNR=4.3						
COEN	**Coen**	**38.94**	**287**	P	**P**	**05 43 47.8**	**+0.1**
COEN				IAmb	IAmb	05 43 49.0	
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**42.58**	**268**	P	**P**	**05 44 16.6**	**-1.1**
ASAR	**Alice Springs**	**42.58**	**268**	P	**P**	**05 44 17.2**	**-0.5**
	comp=Z,5.9nm,0.8s,baz=109,slow=7.9,SNR=50						
ASAR	**Alice Springs**	**42.58**	**268**	P	**P**	**05 44 16.7**	**-1.0**
WR0	**Warramunga Arr**	**43.44**	**273**	P	**P**	**05 44 23.5**	**-1.1**
WR0				IAmb	IAmb	05 44 24.9	
	comp=Z,22nm,1.2s						
WB2	**Warramunga Arr**	**43.61**	**273**	P	**P**	**05 44 25.6**	**-0.3**
WB2				IAmb	IAmb	05 44 26.1	
	comp=Z,29nm,1.2s						
WRAB	**Tennant Creek**	**43.61**	**273**	P	**P**	**05 44 25.4**	**-0.6**
WRAB				IAmb	IAmb	05 44 26.1	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**43.62**	**273**	P	**P**	**05 44 25.4**	**-0.6**
	comp=Z,11nm,0.7s,baz=112,slow=7.5,SNR=110						
WRA	**Warramunga Arr**	**43.62**	**273**	P	**P**	**05 44 24.5**	**-1.5**
WB0	**Warramunga Arr**	**43.65**	**273**	P	**P**	**05 44 25.4**	**-0.9**
FORT	**Forrest**	**45.43**	**256**	P	**P**	**05 44 40.0**	**-0.3**
	baz=45,SNR=15						
FORT	**Forrest**	**45.43**	**256**	P	**P**	**05 44 40.0**	**-0.3**
WRKA	**Warakurna**	**46.92**	**263**	P	**P**	**05 44 50.8**	**-1.2**
	ba

USRK Ussuriysk Ar. 87.33 327 LR LR 06 19 29.5
comp=Z,103nm,21.8s,baz=38,slow=30
NVAR Mina Array Bea 88.97 43 P **P 05 49 15.4 +0.4**
comp=Z,2.0nm,0.8s,baz=223,slow=8.7,SNR=17
X16A Lo Mia Camp, P 90.68 50 P **P 05 49 25.1 +2.1**
X16A IAmb IAmb 05 49 25.3
comp=Z,3.1nm,1.0s
KLR Kul'dur 91.25 330 P **P 05 49 24.0 -1.0**
comp=Z,1.7nm,0.8s,baz=282,slow=2.4,SNR=4.5
U15A North Rim 91.36 48 P **P 05 49 27.7 +1.4**
U15A IAmb IAmb 05 49 27.9
comp=Z,3.2nm,0.8s
PDAR Pinedale Array 96.87 44 LR LR 06 23 49.6
comp=Z,35nm,21.9s,baz=296,slow=29
BOSA Boshof 116.57 203 PKP **PKiKP 05 55 04.6 +0.4**
comp=Z,1.3nm,0.7s,baz=195,slow=3.1,SNR=3.7
MKAR Makanchi Array 117.73 310 PKP **PKPdf 05 55 03.5 -2.1**
comp=Z,0.3nm,0.5s,baz=177,slow=2.7,SNR=4.7
ARCES ARCESS Array B 139.00 347 PKhKP PKPpre 05 55 38.1
comp=Z,3.3nm,0.9s,baz=19,slow=4.4,SNR=4.3
ARCES PKP **PKPdf 05 55 45.6 +0.3**
comp=Z,4.6nm,0.8s,baz=45,slow=2.4,SNR=10
ONI Oni 144.71 301 PKPbc 05 55 55.5 0.0
KBZ Khabaz 144.99 303 PKP **PKPdf 05 55 56.7 +0.1**
comp=Z,2.3nm,0.7s,baz=107,slow=1.8,SNR=3.8
FIA1 FINESS Array S 145.47 339 **PKPdf 05 55 55.3 -1.6**
FINES FINESS Array B 145.47 339 PKPbc **PKPdf 05 55 54.8 -2.1**
comp=Z,16nm,0.7s,baz=56,slow=3.2,SNR=49
NB2 NORSAR Subarra149.20 351 PKP **PKPbc 05 56 05.4 -2.1**
comp=Z,3.3nm,0.6s,baz=15,slow=2.6
NOA NORSAR Array B 149.20 351 PKPbc **PKPbc 05 56 07.6 +0.1**
comp=Z,1.4nm,0.6s,baz=40,slow=1.2,SNR=12
AKASG Malin Array Be 151.41 322 PKPbc **PKPbc 05 56 11.2 -1.8**
comp=Z,4.4nm,0.6s,baz=49,slow=2.6,SNR=16
BRTR Keskin Array B 152.41 297 PKPbc **PKPbc 05 56 14.5 -1.4**
comp=Z,1.8nm,0.5s,baz=117,slow=4.3,SNR=5.0
CLL Collm 157.91 340 *i* PKPab **PKPab 05 56 48.3 -1.0**
comp=Z,4.0nm,0.8s
GERES GERESS Array B 159.83 336 PKPab **PKPab 05 56 56.4 -1.5**
comp=Z,0.5nm,0.7s,baz=306,slow=3.1,SNR=4.2
TORD Torodi Ar. Bea 162.29 181 PKP **PKPdf 05 56 21.2 -0.6**
comp=Z,1.2nm,1.0s,baz=307,slow=2.3,SNR=4.6
TORD PKPab **PKPab 05 57 09.4 +0.2**
comp=Z,4.3nm,0.6s,baz=182,slow=3.1,SNR=20

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*IDC **19** 05:51:41.7±1.1, 60.58N×149.85W, h0km, mb3.7/4, mb1 3.9/8, mb1mx3.4/39, mbtmp3.6/8, ML3.4/4, MS2.9/2, Ms1 2.9/2, ms1mx2.5/91, Error ellipse: s-maj=22.5km s-min=9.6km az=108.0*
*ANF **19** 05:51:43.2±0.1, 60.86N×150.50W, h55km±4km, ML4.0/62, Error ellipse: s-maj=1.8km s-min=1.3km az=137.0*
*AEIC **19** 05:51:43±1.8, 60.88N±0.03×150.56W±0.06, h48km±6km, ML3.6, ML3.7/154(NEIC), Error ellipse: s-maj=4.4km s-min=3.9km az=157.0*
*NEIC **19** 05:51:43.3±1.9, 60.89N±0.03×150.55W±0.05, h44km±9km, Error ellipse: s-maj=4.2km s-min=3.5km az=171.0*
ISC 19 05:51:44.1±0.8, 60.86N±0.02×150.51W±0.02, h52km±6km, n267, σ1$24/260, mb3.4/4, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.32**	**27**		**Pn**	**05 51 52.8**	**-0.8**
FIS	**Fire Island**	**0.32**	**27**		**Sn**	**05 52 00.5**	**+0.2**
FIS	**Fire Island**	**0.32**	**27**	IAML		05 52 00.0	
	comp=E,4μm,0.2s						
CAPN	**Captain Cook N**	**0.33**	**254**		**Pn**	**05 51 53.4**	**-0.2**
CAPN	**Captain Cook N**	**0.33**	**254**	IAML		05 51 57.6	
	comp=E,2μm,0.2s						
CAPN				IAML		05 52 00.4	
	comp=N,3μm,0.2s						
CAPN	**Captain Cook N**	**0.33**	**254**	P	**Pn**	**05 51 53.4**	**-0.2**
	baz=67,SNR=121						
CAPN				S	**Sn**	**05 52 02.1**	**+1.7**
	baz=67						
SLKM	**Skilak Lake**	**0.38**	**158**		**Pn**	**05 51 53.1**	**-1.1**
SLKM					**Sn**	**05 52 01.0**	**-0.4**
RC01	**Rabbit Creek A**	**0.44**	**58**		**Pn**	**05 51 53.3**	**-1.5**
RC01	**Rabbit Creek A**	**0.44**	**58**	IAML		05 51 59.2	
	comp=N,4μm,0.3s						
RC01				IAML		05 52 02.4	
	comp=E,5μm,0.4s						
RC01	**Rabbit Creek A**	**0.44**	**58**	P	**Pn**	**05 51 53.3**	**-1.5**
	baz=244,SNR=325						
RC01				S	**Sn**	**05 52 01.4**	**-1.1**
	baz=244						
SPU	**Mount Spurr**	**0.82**	**294**		**Pn**	**05 51 57.4**	**-2.0**
SPCG	**Spurr Capps Gl**	**0.85**	**301**		**Pn**	**05 51 58.1**	**-1.9**
SPCG					**Sn**	**05 52 09.9**	**-1.7**
STLK	**Strandline Lak**	**0.91**	**316**		**Pn**	**05 51 58.9**	**-1.7**
M22K	**Willow**	**0.92**	**12**		**Pn**	**05 51 59.2**	**-1.5**
M22K					**Sn**	**05 52 12.1**	**-0.7**
M22K	**Willow**	**0.92**	**12**	P	**Pn**	**05 51 59.1**	**-1.6**
	baz=194,SNR=95						
M22K				S	**Sn**	**05 52 11.5**	**-1.3**
	baz=194						
SEW	**Seward**	**0.92**	**145**		**Pn**	**05 51 59.9**	**-0.9**
SEW	**Seward**	**0.92**	**145**	P	**Pn**	**05 51 59.8**	**-0.9**
	baz=326,SNR=36						
SEW				S	**Sn**	**05 52 13.2**	**+0.1**
	baz=326						
PMR	**Palmer**	**0.99**	**42**		**Pn**	**05 52 00.5**	**-1.1**
PMR					**Sn**	**05 52 14.0**	**-0.7**
PMR	**Palmer**	**0.99**	**42**	IAML		05 52 14.9	
	comp=N,3μm,0.7s						
PMR				IAML		05 52 15.2	
	comp=E,3μm,0.4s						
PMR	**Palmer**	**0.99**	**42**	P	**Pn**	**05 52 00.3**	**-1.4**
	baz=225,SNR=139						
PMR				S	**Sn**	**05 52 13.9**	**-0.7**
	baz=225						
PWL	**Port Wells**	**1.06**	**89**		**Pn**	**05 52 02.0**	**-0.7**
PWL					**Sn**	**05 52 16.7**	**+0.2**
PWL	**Port Wells**	**1.06**	**89**	IAML		05 52 19.5	
	comp=E,3μm,0.5s						
PWL	**Port Wells**	**1.06**	**89**	P	**Pn**	**05 52 02.0**	**-0.7**
	baz=272,SNR=57						
PWL				S	**Sn**	**05 52 16.9**	**+0.4**
	baz=272						
DFR	**Drift River**	**1.10**	**257**		**Pn**	**05 52 01.4**	**-1.8**
DFR					**Sn**	**05 52 16.1**	**-1.4**
BRLK	**Bradley Lake**	**1.12**	**190**		**Pn**	**05 52 03.0**	**-0.4**
BRSE	**Bradley Lake S**	**1.13**	**186**		**Pn**	**05 52 02.9**	**-0.7**
BRSE	**Bradley Lake S**	**1.13**	**186**	P	**Pn**	**05 52 02.9**	**-0.7**
	baz=4.4,SNR=29						
BRSE				S	**Sn**	**05 52 18.2**	**+0.1**
	baz=4.4						
KNK	**Knik Glacier**	**1.14**	**60**		**Pn**	**05 52 02.9**	**-0.8**
KNK					**Sn**	**05 52 18.6**	**+0.3**
KNK	**Knik Glacier**	**1.14**	**60**	IAML		05 52 20.6	
	comp=E,3μm,0.5s						
KNK	**Knik Glacier**	**1.14**	**60**	P	**Pn**	**05 52 02.9**	**-0.8**
	baz=244,SNR=116						
KNK				S	**Sn**	**05 52 18.2**	**-0.1**
	baz=244						
RDJH	**Redoubt Jeurge**	**1.16**	**257**		**Pn**	**05 52 02.5**	**-1.6**
RDJH					**Sn**	**05 52 18.0**	**-0.9**
RSO	**Redoubt South**	**1.17**	**251**		**Pn**	**05 52 02.8**	**-1.6**
GHO	**Glory Hole Cre**	**1.19**	**39**		**Pn**	**05 52 03.3**	**-1.2**
GHO					**Sn**	**05 52 19.6**	**-0.1**
RED	**Redoubt Volcan**	**1.20**	**249**		**Pn**	**05 52 03.0**	**-1.6**
RED					**Sn**	**05 52 19.0**	**-0.8**
RDWB	**Redoubt West**	**1.21**	**253**		**Pn**	**05 52 03.1**	**-1.7**
NCT	**North Crescent**	**1.23**	**257**		**Pn**	**05 52 03.3**	**-1.6**
NCT					**Sn**	**05 52 19.3**	**-1.2**
O20K	**Slope Mountain**	**1.31**	**234**		**Pn**	**05 52 05.4**	**-0.5**
O20K	**Slope Mountain**	**1.31**	**234**	P	**Pn**	**05 52 05.5**	**-0.5**
	baz=51,SNR=43						
O20K				S	**Sn**	**05 52 22.3**	**-0.1**
	baz=51						
HOM	**Homer**	**1.33**	**206**		**Pn**	**05 52 06.3**	**0.0**
HOM					**Sn**	**05 52 24.6**	**+1.7**
HOM	**Homer**	**1.33**	**206**	P	**Pn**	**05 52 06.1**	**-0.2**
	baz=23,SNR=11						
HOM				S	**Sn**	**05 52 24.2**	**+1.4**
	baz=23						
CNPM	**China Poot**	**1.39**	**195**		**Pn**	**05 52 06.5**	**-0.5**
SML	**Sawmill**	**1.42**	**47**		**Pn**	**05 52 06.5**	**-1.0**
SML					**Sn**	**05 52 24.9**	**-0.2**
SML	**Sawmill**	**1.42**	**47**	P	**Pn**	**05 52 06.6**	**-1.0**
	baz=230,SNR=78						
SML				S	**Sn**	**05 52 24.4**	**-0.6**
	baz=230						
ILIM	**Iliamna**	**1.44**	**238**		**Pn**	**05 52 06.8**	**-1.1**
CUT	**Chulitna**	**1.55**	**4**		**Pn**	**05 52 08.4**	**-0.8**
CUT	**Chulitna**	**1.55**	**4**	P	**Pn**	**05 52 08.4**	**-0.8**
	baz=186,SNR=18						
CUT				S	**Sn**	**05 52 28.9**	**+0.6**
	baz=186						
GLI	**Glacier Island**	**1.67**	**88**		**Pn**	**05 52 09.1**	**-1.9**
GLI	**Glacier Island**	**1.67**	**88**	IAML		05 52 37.0	
	comp=N,816nm,0.6s						
GLI				IAML		05 52 41.0	
	comp=E,1μm,0.6s						
GLI	**Glacier Island**	**1.67**	**88**	P	**Pn**	**05 52 09.0**	**-1.9**
	baz=272,SNR=14						
GLI				S	**Sn**	**05 52 29.8**	**-1.4**
	baz=272						
SCM	**Sheep Creek Mo**	**1.82**	**56**		**Pn**	**05 52 12.1**	**-0.8**
SCM	**Sheep Creek Mo**	**1.82**	**56**	IAML		05 52 36.3	
	comp=E,819nm,0.3s						
SCM				IAML		05 52 41.3	
	comp=N,950nm,0.6s						
SCM	**Sheep Creek Mo**	**1.82**	**56**	P	**Pn**	**05 52 12.2**	**-0.8**
	baz=240,SNR=53						
SCM				S	**Sn**	**05 52 34.5**	**-0.4**
	baz=240						
OPT	**Oil Point**	**1.82**	**229**		**Pn**	**05 52 12.8**	**-0.1**
JPK	**Jack Peak**	**1.92**	**82**		**Pn**	**05 52 12.9**	**-1.5**
N19K	**Bonanza Creek**	**1.95**	**270**		**Pn**	**05 52 13.4**	**-1.3**
N19K	**Bonanza Creek**	**1.95**	**270**	IAML		05 52 41.0	
	comp=N,449nm,0.8s						
N19K				IAML		05 52 42.2	
	comp=E,437nm,0.7s						
N19K	**Bonanza Creek**	**1.95**	**270**	P	**Pn**	**05 52 13.5**	**-1.2**
	baz=86,SNR=52						
N19K				S	**Sn**	**05 52 37.2**	**-0.8**
	baz=86						
FID	**Port Fidalgo**	**1.98**	**91**		**Pn**	**05 52 13.1**	**-2.1**
FID					**Sn**	**05 52 37.1**	**-1.6**
FID	**Port Fidalgo**	**1.98**	**91**	IAML		05 52 44.6	
	comp=E,1μm,0.5s						
O19K	**Port Alsworth**	**2.00**	**252**		**Pn**	**05 52 14.3**	**-1.0**
O19K	**Port Alsworth**	**2.00**	**252**	P	**Pn**	**05 52 14.3**	**-1.0**
	baz=68,SNR=123						
O19K				S	**Sn**	**05 52 38.8**	**-0.3**
	baz=68						
VMT	**TAPS Tl Valdez**	**2.03**	**82**		**Sn**	**05 52 39.1**	**-0.8**
AU22	**Augustine Moun**	**2.06**	**225**		**Pn**	**05 52 15.8**	**-0.4**
AUL	**Augustine Lava**	**2.08**	**226**		**Pn**	**05 52 16.6**	**+0.1**
AUQ	**Augustine Qik'**	**2.10**	**225**		**Pn**	**05 52 16.9**	**+0.1**
AGU	**Augustine-Summ**	**2.10**	**225**		**Pn**	**05 52 16.8**	**0.0**
WAT7	**Susitna Watana**	**2.13**	**21**		**Pn**	**05 52 17.3**	**+0.1**
M19K	**Big River Lodg**	**2.14**	**301**		**Pn**	**05 52 16.2**	**-1.1**
WAT6	**Susitna Watana**	**2.17**	**36**		**Pn**	**05 52 16.6**	**-1.3**
WAT6	**Susitna Watana**	**2.17**	**36**	P	**Pn**	**05 52 16.6**	**-1.3**
	baz=220,SNR=64						
WAT6				S	**Sn**	**05 52 42.3**	**-1.4**
	baz=220						
WAT1	**Susitna Watana**	**2.18**	**24**		**Pn**	**05 52 17.9**	**0.0**
WAT1	**Susitna Watana**	**2.18**	**24**	P	**Pn**	**05 52 17.4**	**-0.5**
	baz=207						
WAT1				S	**Sn**	**05 52 43.7**	**-0.1**
	baz=207						
PPLA	**Purkeypile**	**2.19**	**339**		**Pn**	**05 52 17.5**	**-0.6**
PPLA	**Purkeypile**	**2.19**	**339**	P	**Pn**	**05 52 17.3**	**-0.8**
	baz=158,SNR=21						
PPLA				S	**Sn**	**05 52 43.4**	**-0.7**
	baz=158						
L20K	**Farewell, AK**	**2.28**	**317**		**Pn**	**05 52 17.9**	**-1.4**
L20K	**Farewell, AK**	**2.28**	**317**	P	**Pn**	**05 52 17.9**	**-1.4**
	baz=134						
KLU	**Klutina**	**2.31**	**72**		**Pn**	**05 52 18.5**	**-1.2**
KLU	**Klutina**	**2.31**	**72**	IAML		05 52 47.3	
	comp=E,347nm,0.3s						
KLU				IAML		05 52 47.8	
	comp=N,487nm,0.4s						
KLU	**Klutina**	**2.31**	**72**	P	**Pn**	**05 52 18.5**	**-1.2**
	baz=257,SNR=50						
KLU				S	**Sn**	**05 52 46.0**	**-1.0**
	baz=257						
DIV	**Divide**	**2.33**	**81**		**Pn**	**05 52 18.5**	**-1.4**
EYAK	**Cordova Ski Ar**	**2.36**	**96**		**Pn**	**05 52 18.5**	**-1.8**
EYAK	**Cordova Ski Ar**	**2.36**	**96**	P	**Pn**	**05 52 18.4**	**-1.9**
	baz=280,SNR=7.4						
M24K	**Tolsona, Glenn**	**2.43**	**57**		**Pn**	**05 52 21.2**	**-0.1**
M24K	**Tolsona, Glenn**	**2.43**	**57**	P	**Pn**	**05 52 20.9**	**-0.4**
	baz=242,SNR=92						
M24K				S	**Sn**	**05 52 50.7**	**+0.9**
	baz=242						
L19K	**White Mountain**	**2.47**	**304**		**Pn**	**05 52 21.0**	**-0.8**
L19K	**White Mountain**	**2.47**	**304**	IAML		05 52 51.7	
	comp=E,264nm,0.5s						
L19K	**White Mountain**	**2.47**	**304**	P	**Pn**	**05 52 21.0**	**-0.8**
	baz=120						
SVW2	**Sparrevohn**	**2.48**	**278**		**Pn**	**05 52 20.2**	**-1.8**
SVW2	**Sparrevohn**	**2.48**	**278**	IAML		05 52 58.8	
	comp=N,407nm,0.4s						
Q19K	**Cape Douglas,**	**2.50**	**221**		**Pn**	**05 52 22.1**	**-0.2**
Q19K	**Cape Douglas,**	**2.50**	**221**	P	**Pn**	**05 52 22.0**	**-0.2**
	baz=37,SNR=38						
MID	**Middleton Isla**	**2.53**	**123**		**Pn**	**05 52 22.4**	**-0.3**
MID	**Middleton Isla**	**2.53**	**123**	IAML		05 53 32.8	
	comp=E,482nm,1.5s						
MID				IAML		05 53 35.1	
	comp=N,440nm,2.1s						
O18K	**Koktuh Hills**	**2.54**	**249**		**Pn**	**05 52 21.4**	**-1.4**
O18K	**Koktuh Hills**	**2.54**	**249**	IAML		05 53 08.4	
	comp=N,235nm,0.9s						
O18K	**Koktuh Hills**	**2.54**	**249**	P	**Pn**	**05 52 21.4**	**-1.4**
	baz=64,SNR=47						
TRF	**Thorofare Moun**	**2.60**	**2**		**Pn**	**05 52 23.9**	**+0.1**
TRF	**Thorofare Moun**	**2.60**	**2**	IAML		05 53 07.8	
	comp=N,645nm,0.7s						
TRF				IAML		05 53 08.6	
	comp=E,451nm,0.8s						
TRF	**Thorofare Moun**	**2.60**	**2**	P	**Pn**	**05 52 23.2**	**-0.5**
	baz=183,SNR=35						
DHY	**Denali Highway**	**2.67**	**32**		**Pn**	**05 52 24.6**	**-0.1**
DHY	**Denali Highway**	**2.67**	**32**	IAML		05 53 03.5	
	comp=N,372nm,0.7s						
DHY				IAML		05 53 03.8	
	comp=E,506nm,0.7s						
DHY	**Denali Highway**	**2.67**	**32**	P	**Pn**	**05 52 23.8**	**-0.9**
	baz=216,SNR=39						
RND	**Reindeer**	**2.67**	**16**		**Pn**	**05 52 24.9**	**+0.3**
RND	**Reindeer**	**2.67**	**16**	IAML		05 53 08.6	
	comp=N,227nm,1.0s						
RND				IAML		05 53 09.8	
	comp=E,274nm,0.8s						
CAST	**Castle Rocks**	**2.67**	**345**		**Pn**	**05 52 23.6**	**-1.0**
CAST	**Castle Rocks**	**2.67**	**345**	P	**Pn**	**05 52 23.6**	**-1.0**
	baz=164,SNR=25						
PS12	**TAPS Pump St12**	**2.67**	**74**		**Pn**	**05 52 23.2**	**-1.4**
KTH	**Kantishna Hill**	**2.71**	**356**		**Pn**	**05 52 25.5**	**+0.4**
KTH	**Kantishna Hill**	**2.71**	**356**	IAML		05 53 02.5	
	comp=N,286nm,0.8s						
KTH				IAML		05 53 12.5	
	comp=E,298nm,0.9s						
PS11	**TAPS Pump St11**	**2.71**	**61**		**Pn**	**05 52 24.9**	**-0.2**
P18K	**Big Mountain,**	**2.78**	**240**		**Pn**	**05 52 25.0**	**-1.2**
P18K	**Big Mountain,**	**2.78**	**240**	P	**Pn**	**05 52 25.1**	**-1.0**
	baz=55,SNR=6.9						
GOAT	**Goat Mountain**	**2.86**	**93**		**Pn**	**05 52 25.2**	**-1.9**
BMRM	**Bremner River**	**2.89**	**85**		**Pn**	**05 52 25.6**	**-1.9**
BMRM	**Bremner River**	**2.89**	**85**	IAML		05 53 11.2	
	comp=N,388nm,0.6s						
BMRM				IAML		05 53 11.7	
	comp=E,432nm,0.4s						
BMRM	**Bremner River**	**2.89**	**85**	P	**Pn**	**05 52 25.7**	**-1.9**
	baz=271,SNR=10						
N25K	**Chitina, Valde**	**2.96**	**73**		**Pn**	**05 52 27.4**	**-1.1**
N25K	**Chitina, Valde**	**2.96**	**73**	IAML		05 53 02.9	
	comp=E,180nm,0.5s						
N25K				IAML		05 53 03.9	
	comp=N,216nm,0.6s						
N25K	**Chitina, Valde**	**2.96**	**73**	P	**Pn**	**05 52 27.4**	**-1.1**
	baz=259,SNR=12						
MCK	**McKinley**	**2.98**	**14**		**Pn**	**05 52 29.6**	**+0.9**
MCK	**McKinley**	**2.98**	**14**	IAML		05 53 15.8	
	comp=N,310nm,1.0s						
MCK				IAML		05 53 17.7	
	comp=E,349nm,0.7s						
HARP	**HAARP**	**2.99**	**57**		**Pn**	**05 52 29.4**	**+0.6**
HARP	**HAARP**	**2.99**	**57**	P	**Pn**	**05 52 28.0**	**-0.9**
	baz=242,SNR=34						
K20K	**Telida**	**3.01**	**328**		**Pn**	**05 52 28.0**	**-1.2**
K20K	**Telida**	**3.01**	**328**	P	**Pn**	**05 52 28.1**	**-1.2**
	baz=145						
HMT	**Hamilton**	**3.13**	**97**		**Pn**	**05 52 28.5**	**-2.3**
CHUM	**Lake Minchumin**	**3.15**	**345**		**Pn**	**05 52 30.5**	**-0.5**
CHUM	**Lake Minchumin**	**3.15**	**345**	P	**Pn**	**05 52 30.5**	**-0.5**
	baz=164,SNR=49						
PAX	**Paxson**	**3.19**	**46**		**Pn**	**05 52 31.6**	**-0.2**
PAX	**Paxson**	**3.19**	**46**	P	**Pn**	**05 52 31.4**	**-0.3**
	baz=231,SNR=32						
BPAW	**Bear Paw Mtn.**	**3.26**	**356**		**Pn**	**05 52 32.3**	**-0.3**
BPAW	**Bear Paw Mtn.**	**3.26**	**356**	IAML		05 53 28.5	
	comp=E,179nm,0.6s						
BPAW	**Bear Paw Mtn.**	**3.26**	**356**	P	**Pn**	**05 52 32.3**	**-0.3**
	baz=176,SNR=6.2						
KDAK	**Kodiak Island**	**3.27**	**200**	Pn	**Pn**	**05 52 31.0**	**-1.6**
	comp=E,6.2nm,0.3s,baz=35,slow=12,SNR=152						
KDAK				Sn	**Sn**	**05 53 07.4**	**-2.8**
	comp=E,14nm,0.3s,baz=192,slow=15,SNR=10						
KDAK				Lg	Lg	05 53 20.9	
	comp=E,20nm,0.3s,baz=245,slow=13,SNR=9.7						
KDAK	**Kodiak Island**	**3.27**	**200**	IAML		05 53 21.6	
	comp=E,177nm,0.7s						
KDAK				IAML		05 53 28.0	
	comp=E,206nm,0.5s						
KDAK	**Kodiak Island**	**3.27**	**200**	P	**Pn**	**05 52 31.0**	**-1.6**
	baz=18						
GLB	**Gilahina Butte**	**3.30**	**77**		**Pn**	**05 52 31.9**	**-1.3**
GLB	**Gilahina Butte**	**3.30**	**77**	IAML		05 53 34.3	
	comp=N,147nm,0.8s						
TT01	**Tatalina**	**3.32**	**311**		**Pn**	**05 52 31.8**	**-1.6**
TTA	**Tatalina**	**3.33**	**311**		**Pn**	**05 52 32.0**	**-1.7**
TTA	**Tatalina**	**3.33**	**311**	P	**Pn**	**05 52 31.9**	**-1.7**
	baz=126,SNR=13						
BERG	**Berg Lake**	**3.39**	**95**		**Pn**	**05 52 31.8**	**-2.6**
VRDI	**Verde Repeater**	**3.45**	**81**		**Pn**	**05 52 33.8**	**-1.7**
VRDI	**Verde Repeater**	**3.45**	**81**	IAML		05 53 28.9	
	comp=N,117nm,1.2s						
KABU	**Katmai Buttres**	**3.56**	**225**		**Pn**	**05 52 36.4**	**-0.3**
GRIN	**Grindle Hills**	**3.60**	**96**		**Pn**	**05 52 34.8**	**-2.4**
KHIT	**Khitrov Hills**	**3.60**	**94**		**Pn**	**05 52 34.8**	**-2.5**
CAHL	**Cahill**	**3.73**	**223**		**Pn**	**05 52 39.0**	**-0.1**
J20K	**Nowinta River**	**3.73**	**335**		**Pn**	**05 52 37.9**	**-1.1**
J20K	**Nowinta River**	**3.73**	**335**	IAML		05 53 48.6	
	comp=N,110nm,0.6s						
J20K	**Nowinta River**	**3.73**	**335**	P	**Pn**	**05 52 38.0**	**-1.0**
	baz=152,SNR=48						
TGL	**Tana Glacier**	**3.77**	**88**		**Pn**	**05 52 37.6**	**-2.0**
TGL	**Tana Glacier**	**3.77**	**88**	IAML		05 53 40.2	
	comp=E,118nm,0.6s						
TGL				IAML		05 53 56.2	
	comp=N,152nm,1.1s						
WRH	**Wood River Hil**	**3.79**	**16**		**Pn**	**05 52 39.6**	**-0.3**
WRH	**Wood River Hil**	**3.79**	**16**	IAML		05 53 47.1	
	comp=N,90nm,0.7s						
WAX	**Waxell Ridge**	**3.79**	**93**		**Pn**	**05 52 37.6**	**-2.3**
WAX	**Waxell Ridge**	**3.79**	**93**	IAML		05 53 39.9	
	comp=E,167nm,0.6s						
NEA2	**Nenana**	**3.81**	**9**		**Pn**	**05 52 38.5**	**-1.5**
NEA2	**Nenana**	**3.81**	**9**	P	**Pn**	**05 52 38.7**	**-1.4**
	baz=191						
MENT	**Mentasta**	**3.83**	**54**		**Pn**	**05 52 39.6**	**-0.8**
MENT				IAML		05 53 39.6	
	comp=N,205nm,0.7s						
SNH	**Sunshine Point**	**3.85**	**97**	Pn	**Pn**	**05 52 39.2**	**-1.5**
SNH				IAML		05 54 19.1	
	comp=N,181nm,2.7s						
SNH				IAML		05 54 23.9	
	comp=E,135nm,2.4s						
M26K	**Nabesna, AK**	**3.91**	**63**		**Pn**	**05 52 41.0**	**-0.5**
M26K	**Nabesna, AK**	**3.91**	**63**	IAML		05 53 43.1	
	comp=N,85nm,0.7s						
M26K	**Nabesna, AK**	**3.91**	**63**	P	**Pn**	**05 52 41.0**	**-0.5**
	baz=250						
RIDG	**Independent Ri**	**3.92**	**40**		**Pn**	**05 52 41.7**	**+0.1**
RIDG	**Independent Ri**	**3.92**	**40**	IAML		05 53 39.4	
	comp=N,163nm,0.7s						
RIDG				IAML		05 53 51.8	
	comp=E,193nm,0.6s						
RIDG	**Independent Ri**	**3.92**	**40**	P	**Pn**	**05 52 41.1**	**-0.5**
	baz=226,SNR=18						
OHAK	**Old Harbor**	**3.92**	**203**		**Pn**	**05 52 39.8**	**-1.9**
OHAK	**Old Harbor**	**3.92**	**203**	IAML		05 53 43.8	
	comp=E,180nm,0.9s						
OHAK				IAML		05 53 43.9	
	comp=N,111nm,0.8s						
OHAK	**Old Harbor**	**3.92**	**203**	P	**Pn**	**05 52 39.7**	**-1.9**
	baz=20						
HDA	**Harding Lake**	**3.92**	**23**		**Pn**	**05 52 42.2**	**+0.5**
HDA				IAML		05 53 38.5	
	comp=N,156nm,0.6s						
HDA				IAML		05 53 47.4	
	comp=E,140nm,0.6s						
HDA	**Harding Lake**	**3.92**	**23**	P	**Pn**	**05 52 41.8**	**+0.1**
	baz=207,SNR=12						
PTPK	**Patty Peak**	**3.93**	**82**		**Pn**	**05 52 40.8**	**-1.2**
KIAG	**Kiagna River**	**3.98**	**86**		**Pn**	**05 52 40.9**	**-1.8**
BALM	**Baldy**	**3.99**	**84**		**Pn**	**05 52 41.0**	**-1.7**
CCB	**Clear Creek Bu**	**4.00**	**17**		**Pn**	**05 52 42.2**	**-0.5**
CCB	**Clear Creek Bu**	**4.00**	**17**	IAML		05 53 45.5	
	comp=E,85nm,0.9s						
L26K	**Log Cabin Wild**	**4.02**	**54**		**Pn**	**05 52 42.8**	**-0.3**
L26K				IAML		05 53 49.4	
	comp=N,109nm,0.5s						
L26K				IAML		05 53 53.4	
	comp=E,140nm,0.6s						
ISLE	**Juniper Island**	**4.02**	**90**		**Pn**	**05 52 41.5**	**-1.7**
ISLE	**Juniper Island**	**4.02**	**90**	IAML		05 53 51.8	
	comp=E,117nm,0.9s						
ISLE				IAML		05 53 52.0	
	comp=N,144nm,1.9s						
PS08	**TAPS Pump Stn8**	**4.07**	**23**		**Pn**	**05 52 41.7**	**-1.9**
DOT	**Dot Lake**	**4.11**	**44**		**

M27K	Edge Creek, AK	4.39	66	P		Pn	05 52 47.6	-0.6
	baz=254							
J25K	Salcha River,	4.45	30			Pn	05 52 48.9	0.0
J25K	Salcha River,	4.45	30	IAML			05 53 52.9	
	comp=N,79nm,0.5s							
J25K	Salcha River,	4.45	30	P		Pn	05 52 48.9	0.0
	baz=215,SNR=29							
CTG	Chitna Glacier	4.48	85	P		Pn	05 52 48.2	-1.2
	baz=273							
CTGM	Chitina Glacie	4.48	85			Pn	05 52 48.0	-1.4
CTGM	Chitina Glacie	4.48	85	IAML			05 54 06.9	
	comp=N,50nm,0.7s							
POKR	Poker Plat Res	4.50	17			Pn	05 52 49.2	-0.4
POKR	Poker Plat Res	4.50	17	IAML			05 54 05.9	
	comp=E,65nm,1.2s							
POKR				IAML			05 54 13.8	
	comp=N,56nm,0.8s							
POKR	Poker Plat Res	4.50	17	P		Pn	05 52 49.5	-0.1
	baz=200,SNR=14							
TABL	Table Mountain	4.63	91			Pn	05 52 49.5	-2.1
TABL	Table Mountain	4.63	91	IAML			05 54 03.2	
	comp=E,54nm,1.8s							
TABL				IAML			05 54 19.0	
	comp=N,57nm,0.9s							
L27K	Beaver Creek,	4.66	58			Pn	05 52 50.7	-1.0
L27K	Beaver Creek,	4.66	58	P		Pn	05 52 50.8	-1.0
	baz=246,SNR=8.5							
BC03		4.67	58			Pn	05 52 51.1	-0.8
SII	Sitkinak Islan	4.72	206			Pn	05 52 51.0	-1.6
SII	Sitkinak Islan	4.72	206	P		Pn	05 52 51.1	-1.6
	baz=22							
YUK2	White River	4.75	75			Pn	05 52 52.1	-1.0
J26L	Joseph Creek	4.86	38			Pn	05 52 54.0	-0.6
BVCY	Beaver Creek	4.86	67			Pn	05 52 54.2	-0.3
BVCY	Beaver Creek	4.86	67	P		Pn	05 52 54.0	-0.6
	baz=256							
SAMH	Samovar Hills	4.87	94			Pn	05 52 54.7	-0.1
GCSA	Galena City Sc	4.87	326			Pn	05 52 53.8	-0.8
GCSA	Galena City Sc	4.87	326	P		Pn	05 52 54.1	-0.5
	baz=140							
H21K	Melozitna Rive	4.92	349			Pn	05 52 54.9	-0.5
H21K	Melozitna Rive	4.92	349	P		Pn	05 52 55.1	-0.3
	baz=167,SNR=26							
YUK3	Moose Creek	4.93	75			Pn	05 52 54.7	-1.0
YUK3	Moose Creek	4.93	75	P		Pn	05 52 54.7	-1.0
	baz=264							
PCA	Pinnacle	5.13	94			Pn	05 52 56.1	-2.2
PINM	Pinnacle	5.13	94	P		Pn	05 52 56.1	-2.2
	baz=283							
H24K	Noodor Dome	5.13	12			Pn	05 52 57.9	-0.4
H24K				IAML			05 54 33.2	
	comp=E,42nm,1.7s							
H24K	Noodor Dome	5.13	12	P		Pn	05 52 58.2	-0.1
	baz=195							
PRP	Porcupine Dome	5.19	24	P		Pn	05 52 58.9	-0.3
	baz=208							
IM03		5.34	346			Pn	05 52 59.8	-1.2
IMAR	Indian Mountai	5.34	346	Pn		Pn	05 53 00.2	-0.9
PNL	Peninsula	5.66	97			Pn	05 53 03.4	-2.2
PNL	Peninsula	5.66	97	P		Pn	05 53 03.6	-2.0
	baz=287							
CHIR	Chirikof Islan	5.72	210			Pn	05 53 04.6	-1.7
CHIR	Chirikof Islan	5.72	210	P		Pn	05 53 04.5	-1.9
	baz=26							
EGAK	Eagle	5.81	43			Pn	05 53 06.8	-0.7
EGAK	Eagle	5.81	43	P		Pn	05 53 06.7	-0.9
	baz=232							
DAWY	Dawson	6.08	53	Pn		Pn	05 53 10.3	-0.9
COLD	Coldfoot	6.39	1			Pn	05 53 13.0	-2.5
COLD	Coldfoot	6.39	1	P		Pn	05 53 15.6	+0.1
	baz=182							
BM03	Burnt Mountain	7.07	19			Pn	05 53 23.9	-0.9
BMAR	Burnt Mountain	7.08	19	Pn		Pn	05 53 24.1	-0.8
BM01	Burnt Mountain	7.11	19			Pn	05 53 24.0	-1.3
WHY	Whitehorse	7.66	85			Pn	05 53 30.9	-2.0
WHY	Whitehorse	7.66	85	P		Pn	05 53 31.4	-1.5
	baz=279							
ANM	Nome	7.77	305	P		Pn	05 53 33.7	-0.6
	baz=112							
TNA	Tin City	9.15	308			Pn	05 53 53.1	-0.1
TNA	Tin City	9.15	308	P		Pn	05 53 53.0	-0.2
	baz=113							
INK	Inuvik	10.40	37	Pn		Pn	05 54 11.7	+1.4
	comp=E,0.2nm,0.3s,baz=229,slow=12,SNR=8.0							
INK				Sn		Sn	05 56 10.7	+5.5
	comp=E,0.3nm,0.3s,baz=280,slow=27,SNR=6.9							
YKA	Yellowknife Ar	16.98	69	Pn		Pn	05 55 37.0	-0.6
	comp=E,0.1nm,0.3s,baz=276,slow=10,SNR=27							
ELK	Elko	29.48	117	P		P	05 57 43.9	+0.8
	comp=E,0.3nm,0.3s,baz=328,slow=11,SNR=7.0							
NVAR	Mina Array Bea	30.11	123	P		P	05 57 49.4	+0.7
	comp=E,0.7nm,0.7s,baz=315,slow=9.4,SNR=6.2							
PDAR	Pinedale Array	30.44	108	P		P	05 57 51.8	+0.2
	comp=E,0.3nm,0.4s,baz=334,slow=4.9,SNR=9.2							
TXAR	Lajitas Array	44.16	114	P		P	05 59 47.9	+0.3
	comp=E,0.4nm,0.7s,baz=334,slow=6.2,SNR=5.6							
EIL	Elat	89.69	355	LR		LR	06 52 42.4	
	comp=E,14nm,18.1s,baz=322,slow=41							

AEIC ***19*** *05:59:45*±*1.9, 51°.51N*±*0°.07×175°.28W*±*0°.08, h26km*±*3km, Error ellipse: s-maj=9.8km s-min=6.2km az=160.0*

NEIC ***19*** *05:59:47.5*±*1.6, 51°.64N*±*0°.08×175°.37W*±*0°.07, h46km*±*6km, mb4.5/123, ML4.4(AEIC), Error ellipse: s-maj=11.9km s-min=5.8km az=165.0*

IDC ***19*** *05:59:47.9*±*3.2, 51°.83N×175°.46W, h49km*±*30km, mb3.9/25, mb1 4.1/28, mb1mx4.0/41, mbtmp4.2/28, ML4.1/3, MS3.6/35, Ms1 3.6/35, ms1mx3.4/91, Error ellipse: s-maj=18.4km s-min=10.1km az=174.0*

ISC 19 05:59:46.9±**0.4, 51°.59N**±**0°.07×175°.40W**±**0°.04, h47**km**, n347,** σ**0°91/281, mb4.5**/71**, MS3.6**/34**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.52	321		Pn	05 59 58.0	-0.2
GSMY	Great Sitkin M	0.61	318		Pn	05 59 59.5	+0.1
GSCK	Great Sitkin C	0.64	312		Pn	05 59 59.8	+0.1
GSTD	Great Sitkin T	0.66	316		Pn	06 00 00.2	+0.1
ETKA	Kagalaska Isla	0.69	294		Pn	06 00 00.2	-0.1
GSSP	Great Sitkin S	0.70	317		Pn	06 00 00.8	+0.3
ADAG	Mount Adagdak	0.85	298		Pn	06 00 03.3	+0.8
ADK	Adak	0.85	291		Pn	06 00 02.6	0.0
ATKA	Atka Island	0.97	50		Pn	06 00 02.7	-1.4
ATKA					Sn	06 00 14.6	-2.1
KOKL	Mount Kliuchef	1.04	45		Pn	06 00 04.5	-0.6
KOFP	Korovin Flat P	1.06	49		Pn	06 00 04.6	-0.7
KIRH	Kanaga Island	1.10	287		Pn	06 00 06.5	+0.6
KIWB	Kanaga Island	1.12	284		Pn	06 00 06.4	+0.2
KIKV	Kanaga Island	1.14	286		Pn	06 00 06.9	+0.4
KIMD	Kanaga Island	1.16	279		Pn	06 00 06.7	+0.1
KICM	Kanaga Island	1.17	287		Pn	06 00 07.3	+0.5
TAFL	Tanaga Flats	1.57	277		Pn	06 00 13.0	+0.7
TAFP	Tanaga Falls P	1.64	282		Pn	06 00 14.3	+1.0
TASE	Tanaga Southea	1.66	280		Pn	06 00 14.7	+1.1
GAEA	Gareloi East	2.10	277		Pn	06 00 20.7	+1.2
GALAA	Gareloi Lava P	2.11	276		Pn	06 00 20.9	+1.3
GANO	Gareloi North	2.13	278		Pn	06 00 21.5	+1.5
GASW	Gareloi Southw	2.16	276		Pn	06 00 21.9	+1.5
CLES	Cleveland East	3.60	68		Pn	06 00 40.0	-0.1
CLCO	Concord Point,	3.69	69		Pn	06 00 41.5	+0.1
NIKH	Nikolski High	4.25	68		Pn	06 00 49.0	0.0
NIKH					Sn	06 01 37.7	+0.4
NIKH	Nikolski High	4.25	68	P	Pn	06 00 48.2	-0.8
	baz=252						
OKSP	Okmok Steeple	4.66	66		Pn	06 00 55.7	+1.1
MSW	Makushin Switc	5.73	63		Pn	06 01 10.2	+1.0
MSW					Sn	06 02 14.6	+1.0
UNV	Unalaska Valle	5.86	64		Pn	06 01 12.7	+1.6
UNV					Sn	06 02 17.3	+0.6
UNV	Unalaska Valle	5.86	64	P	Pn	06 01 11.1	+0.1
	baz=250						
AKBBA	Akutan Broad B	6.26	63		Pn	06 01 18.4	+1.8
AKGG	Akutan Green G	6.26	62		Pn	06 01 18.2	+1.6
SPIA	Saint Paul Isl	6.36	26		Pn	06 01 19.9	+2.0
SPIA					Sn	06 02 31.9	+2.9
SPIA	Saint Paul Isl	6.36	26	P	Pn	06 01 19.2	+1.4
	baz=209						
WECS	Westdahl Cape	7.04	61		Pn	06 01 29.5	+2.1
ISLZ	Isanotski Laza	7.70	61		Pn	06 01 37.0	+0.8
FALS	False Pass	7.90	61		Pn	06 01 40.4	+1.4
FALS	False Pass	7.90	61	P	Pn	06 01 39.0	0.0
	baz=250						
SDPT	Sand Point	9.66	61		Pn	06 02 03.8	+0.8
SDPT	Sand Point	9.66	61	P	Pn	06 02 03.4	+0.3
	baz=253						
GAMB	Gambell	12.38	8		Pn	06 02 40.5	+0.4
GAMB	Gambell	12.38	8	P	Pn	06 02 40.8	+0.6
	baz=190						
CHIR	Chirikof Islan	12.45	62	Pn	Pn	06 02 40.7	-0.5
SII	Sitkinak Islan	13.39	60	Pn	Pn	06 02 54.1	0.0
O18K	Koktuh Hills	14.02	46	P	Pn	06 03 02.2	-0.3
	baz=242						
ANM	Nome	14.02	18	P	Pn	06 03 04.0	+1.4
	baz=206,SNR=8.2						
OHAK	Old Harbor	14.02	58	Pn	Pn	06 03 00.8	-1.9
OHAK	Old Harbor	14.02	58	P	Pn	06 03 00.5	-2.1
	baz=255						
Q19K	Cape Douglas,	14.37	51	Pn	Pn	06 03 09.1	+1.9
Q19K	Cape Douglas,	14.37	51	P	Pn	06 03 09.0	+1.7
	baz=248						
TNA	Tin City	14.53	12	P	Pn	06 03 09.5	+0.2
	baz=198						
KDAK	Kodiak Island	14.54	56	P	Pn	06 03 07.4	-2.0
	0.9nm,0.3s,baz=302,slow=4.6,SNR=17						
KDAK				S	Sn	06 05 55.4	+6.4
	0.3nm,0.3s,baz=8.1,slow=14,SNR=1.4						
KDAK	Kodiak Island	14.54	56	P	Pn	06 03 08.5	-0.9
	baz=254						
N19K	Bonanza Creek	14.79	43	P	Pn	06 03 12.7	-0.2
	baz=240						
O20K	Slope Mountain	15.29	47	P	Pn	06 03 19.5	+0.1
	baz=246						
L19K	White Mountain	15.37	38	P	P	06 03 24.1	-0.1
L19K				IAmb	IAmb	06 03 27.4	
	comp=Z,26nm,0.9s						
L19K	White Mountain	15.37	38	P	Pn	06 03 20.8	+0.4
	baz=235						
TTA	Tatalina	15.38	35	P	P	06 03 23.4	-1.0
TTA	Tatalina	15.38	35	P	Pn	06 03 19.5	-1.1
	baz=231,SNR=6.3						
RSO	Redoubt South	15.39	46	P	P	06 03 24.9	+0.2
L20K	Farewell, AK	15.91	38	P	Pn	06 03 26.9	-0.4
	baz=236						
BRSE	Bradley Lake S	16.05	50	P	Pn	06 03 28.4	-0.6
	baz=250						
CAPN	Captain Cook N	16.23	46	P	Pn	06 03 30.7	-0.7
	baz=246						
GCSA	Galena City Sc	16.32	29	P	Pn	06 03 32.1	-0.2
	baz=224						
K20K	Telida	16.34	36	P	Pn	06 03 31.1	-1.6
	baz=233						
PETK	Petropavlovsk-	16.48	286	P	Pn	06 03 35.4	+0.9
	comp=Z,0.7nm,0.3s,baz=94,slow=16,SNR=2.0						
PETK				LR	LR	06 09 20.4	
	comp=Z,159nm,21.6s,baz=95,slow=35						
SEW	Seward	16.78	49	P	Pn	06 03 36.3	-1.9
	baz=251						
PPLA	Purkeypile	16.79	39		P	06 03 41.0	+0.9
PPLA	Purkeypile	16.79	39	P	Pn	06 03 38.5	0.0
	baz=238						
J20K	Nowinta River	16.82	33	P	P	06 03 41.6	+1.3
J20K	Nowinta River	16.82	33	P	Pn	06 03 38.7	+0.1
	baz=231,SNR=5.5						
RC01	Rabbit Creek A	17.00	46	P	Pn	06 03 41.1	+0.1
	baz=247						
CAST	Castle Rocks	17.11	37	P	P	06 03 44.2	+0.7
CAST	Castle Rocks	17.11	37	P	P	06 03 43.4	-0.2
	baz=237,SNR=6.9						
CHUM	Lake Minchumin	17.29	36	P	Pn	06 03 45.0	+0.5
	baz=235						
CUT	Chulitna	17.32	42	P	P	06 03 45.9	+0.1
CUT				IAmb	IAmb	06 03 58.8	
	comp=Z,51nm,1.4s						
PWL	Port Wells	17.55	48	P	Pn	06 03 46.9	-0.9
	baz=250						
KTH	Kantishna Hill	17.63	38	P	P	06 03 50.3	+1.1
KTH				IAmb	IAmb	06 03 53.6	
	comp=Z,44nm,1.0s						
KNK	Knik Glacier	17.69	46	P	Pn	06 03 49.5	-0.1
KNK				IAmb	IAmb	06 04 03.8	
	comp=Z,35nm,1.4s						
KNK	Knik Glacier	17.69	46	P	Pn	06 03 48.7	-0.9
	baz=248						
TRF	Thorofare Moun	17.82	39	P	P	06 03 52.6	+1.2
TRF	Thorofare Moun	17.82	39	P	P	06 03 51.7	+0.2
	baz=240						
BPAW	Bear Paw Mtn.	17.89	36	P	Pn	06 03 51.3	-0.7
	baz=237						
SML	Sawmill	17.90	45	P	Pn	06 03 52.1	0.0
SML	Sawmill	17.90	45	P	Pn	06 03 51.3	-0.8
	baz=247						
I21K	Tanana	18.17	33	P	Pn	06 03 55.7	+0.4
	baz=232						
H21K	Melozitna Rive	18.20	31	P	Pn	06 03 57.4	+1.7
H21K	Melozitna Rive	18.20	31	P	Pn	06 03 56.8	+1.1
	baz=230						
WAT1	Susitna Watana	18.22	42	P	P	06 03 55.5	-0.3
	baz=244						
SCM	Sheep Creek Mo	18.35	45	P	P	06 03 56.8	-0.5
SCM				IAmb	IAmb	06 04 12.2	
	comp=Z,70nm,1.4s						
SCM	Sheep Creek Mo	18.35	45	P	P	06 03 56.7	-0.5
	baz=248						
WAT6	Susitna Watana	18.46	43	P	P	06 03 57.9	-0.6
	baz=246						
MCK	McKinley	18.48	39	P	Pn	06 03 59.1	0.0
MCK	McKinley	18.48	39	P	P	06 03 58.5	-0.2
	baz=241						
MLY	Manley	18.51	34	P	Pn	06 04 00.6	+1.1
MLY	Manley	18.51	34	P	P	06 03 59.3	+0.4
	baz=235						
BILL	Bilibino	18.76	338	P	Pn	06 04 03.4	+1.0
BILL				IAmb	IAmb	06 04 04.4	
	comp=Z,28nm,1.2s						
DHY	Denali Highway	18.82	42	P	P	06 04 01.9	-0.5
	baz=245						
KLU	Klutina	18.86	47	P	P	06 04 03.1	+0.2
KLU				IAmb	IAmb	06 04 06.8	
	comp=Z,35nm,1.4s						
KLU	Klutina	18.86	47	P	P	06 04 02.4	-0.5
	baz=251						
NEA2	Nenana	18.86	36	P	P	06 04 02.6	-0.2
	baz=238						
M24K	Tolsona, Glenn	18.96	45	P	P	06 04 04.1	+0.3
	baz=249						
I23K	Minto, Yukon-K	19.06	35	P	Pn	06 04 06.0	0.0
I23K				IAmb	IAmb	06 04 08.3	
	comp=Z,12nm,0.7s						
I23K	Minto, Yukon-K	19.06	35	P	P	06 04 05.5	+0.7
	baz=237,SNR=7.6						
WRH	Wood River Hil	19.17	37	P	P	06 04 05.0	-1.1
BMRM	Bremner River	19.32	49	P	Pn	06 04 09.7	+0.4
BMRM				IAmb	IAmb	06 04 17.7	
	comp=Z,49nm,1.4s						
CCB	Clear Creek Bu	19.36	37	P	P	06 04 07.3	-0.9
CCB				IAmb	IAmb	06 04 31.2	
	comp=Z,18nm,1.2s						
MDM	Murphy Dome	19.36	36	P	P	06 04 08.3	+0.1
MDM				IAmb	IAmb	06 04 14.1	
	comp=Z,10nm,0.6s						
N25K	Chitina, Valde	19.50	47	P	P	06 04 09.9	0.0
	baz=253						
HARP	HAARP	19.50	45	P	P	06 04 09.5	-0.3
	baz=250						
PAX	Paxson	19.57	43		P	06 04 10.8	+0.1
PAX	Paxson	19.57	43	P	P	06 04 10.7	0.0
	baz=248						
HDA	Harding Lake	19.57	38	IAmb	IAmb	06 04 12.4	
	comp=Z,24nm,0.4s						
HDA	Harding Lake	19.57	38	P	P	06 04 10.5	0.0
	baz=242,SNR=15						
POKR	Poker Plat Res	19.73	36	P	P	06 04 12.2	-0.1
	baz=240						
ILAR	Eielson Array	19.77	37	P	P	06 04 10.7	-2.0
	comp=Z,2.4nm,0.3s,baz=221,slow=9.4,SNR=72						
H24K	Noodor Dome	19.95	34	IAmb	IAmb	06 04 17.0	
	comp=Z,16nm,0.8s						
H24K	Noodor Dome	19.95	34	P	P	06 04 15.4	+0.7
	baz=237,SNR=15						
COLD	Coldfoot	20.01	29	P	Pn	06 04 17.1	-0.3
COLD				IAmb	IAmb	06 04 20.6	
	comp=Z,16nm,0.8s						
COLD	Coldfoot	20.01	29	P	Pn	06 04 16.5	-0.8
	baz=231,SNR=21						
RIDG	Independent Ri	20.13	41	P	P	06 04 16.2	-0.4
	baz=247,SNR=6.1						
J25K	Salcha River,	20.28	38	IAmb	IAmb	06 04 33.7	
	comp=Z,17nm,0.7s						
J25K	Salcha River,	20.28	38	P	P	06 04 16.9	-1.3
	baz=244,SNR=15						
MENT	Mentasta	20.31	44	IAmb	IAmb	06 04 30.8	
	comp=Z,22nm,1.4s						
DOT	Dot Lake	20.41	42	IAmb	IAmb	06 04 31.1	
	comp=Z,16nm,0.8s						
MESA	MESA	20.43	52	P	P	06 04 20.1	0.0
	baz=260						
M26K	Nabesna, AK	20.46	46	P	P	06 04 19.6	-0.6
	baz=253						
L26K	Log Cabin Wild	20.50	44	P	P	06 04 21.2	+0.5
L26K				IAmb	IAmb	06 04 37.1	
	comp=Z,11nm,0.7s						
L26K	Log Cabin Wild	20.50	44	P	P	06 04 19.6	-1.0
	baz=251						
SEY	Seymchan	20.55	316	P	P	06 04 19.8	-1.3
	comp=Z,5.3nm,0.8s,baz=110,slow=12,SNR=6.0						
SEY				LR	LR	06 11 47.5	
	comp=Z,236nm,21.1s,baz=102,slow=35						
SCRK	Sand Creek	20.57	41		P	06 04 20.6	-0.8
SCRK				IAmb	IAmb	06 04 36.1	
	comp=Z,34nm,0.7s						
SCRK	Sand Creek	20.57	41	P	P	06 04 20.3	-1.2
	baz=247,SNR=22						
CTGM	Chitina Glacie	20.88	50		pP	06 04 43.0	+7.3
M27K	Edge Creek, AK	20.95	46	IAmb	IAmb	06 04 48.2	
	comp=Z,12nm,0.9s						
M27K	Edge Creek, AK	20.95	46	P	P	06 04 25.4	-0.2
	baz=254						
L27K	Beaver Creek,	21.17	44	P	P	06 04 27.5	-0.4
	baz=252						
BVCY	Beaver Creek	21.42	46	P	P	06 04 30.5	0.0
	baz=255						
YUK3	Moose Creek	21.46	48	P	P	06 04 30.6	-0.5
	baz=257						
BMAR	Burnt Mountain	21.91	32		P	06 04 35.9	+0.1
EGAK	Eagle	22.01	40	IAmb	IAmb	06 04 53.0	
	comp=Z,18nm,0.8s						
EGAK	Eagle	22.01	40	P	P	06 04 35.6	-1.1
	baz=249,SNR=14						
DAWY	Dawson	22.51	42		P	06 04 42.0	-0.2
DAWY	Dawson	22.51	42	P	P	06 04 42.0	-0.2
	baz=253						
I29M	Ogilvie Camp,	23.34	40	IAmb	IAmb	06 04 51.2	
	comp=Z,12nm,1.1s						
I29M	Ogilvie Camp,	23.34	40	P	P	06 04 50.7	0.0
	baz=251						
MAYO	Mayo, Yukon	23.90	45	P	P	06 04 55.1	-0.7
	baz=258						
M31M	Drury Creek, Y	24.35	48	P	P	06 05 00.3	+0.2
	baz=263						
FARO	Faro, Yukon	24.84	48	P	P	06 05 04.7	+0.2
	baz=264						
P33M	Teslin, Yukon	24.97	53	P	P	06 05 05.4	-0.3
	baz=269						
INK	Inuvik	26.07	34	P	P	06 05 14.2	-1.4
	comp=Z,1.5nm,0.3s,baz=224,slow=5.3,SNR=17						
INK				LR	LR	06 17 12.5	
	comp=Z,121nm,18.2s,baz=174,slow=40						
INK	Inuvik	26.07	34	P	P	06 05 14.8	-0.8
INK				IAmb	IAmb	06 05 19.4	
	comp=Z,12nm,1.4s						
INK	Inuvik	26.07	34	P	P	06 05 14.4	-1.1
	baz=251,SNR=5.8						
BBB	Bella Bella	28.79	70	LR	LR	06 15 30.0	
	comp=Z,95nm,18.3s,baz=291,slow=33						
ASAJ	Asahikawa	28.83	272	P	P	06 05 41.4	+0.9
	comp=Z,13nm,0.7s,baz=81,slow=14,SNR=4.2						
C36M	Paulatuk	29.66	34	P	P	06 05 46.9	-0.6
	baz=260						
A36M	Sachs Harbour	29.88	29	P	P	06 05 49.6	+0.3
A36M				IAmb	IAmb	06 05 50.4	
	comp=Z,14nm,0.7s						
A36M	Sachs Harbour	29.88	29	P	P	06 05 49.2	-0.1
	baz=254,SNR=15						
YAK	Yakutsk	30.88	311	LR	LR	06 18 26.2	
	comp=Z,136nm,19.5s,baz=88,slow=36						
TIXI	Tiksi	31.51	330	P	P	06 06 03.6	-0.2
	comp=Z,1.1nm,0.3s,baz=114,slow=18,SNR=1.1						
TIXI				PcP	PcP	06 08 55.7	+0.3
	comp=Z,4.3nm,0.5s,baz=106,slow=1.7,SNR=14						
TIXI	Tiksi	31.51	330	IAmb	IAmb	06 06 05.1	
	comp=Z,5.3nm,1.5s						
KLR	Kul'dur	33.16	287	LR	LR	06 19 20.2	
	comp=Z,51nm,21.7s,baz=68,slow=36						
YKA	Yellowknife Ar	33.54	47	P	P	06 06 20.6	-1.0
	comp=Z,0.6nm,0.4s,baz=279,slow=9.2,SNR=25						
YKA				PcP	PcP	06 09 02.0	+0.9
	comp=Z,0.5nm,0.3s,baz=282,slow=3.0,SNR=20						
YKA				LR	LR	06 20 35.5	
	comp=Z,118nm,18.2s,baz=136,slow=37						
H11N2	WAKE ISLAND Hy	34.70	210	T	T	06 43 40.1	
	baz=19,slow=76,SNR=258						
H11N3	WAKE ISLAND Hy	34.71	210	T	T	06 43 17.4	
	baz=19,slow=76,SNR=269						
H11N1	WAKE ISLAND Hy	34.72	210	T	T	06 43 45.7	
	baz=19,slow=76,SNR=290						
USRK	Ussuriysk Ar.	35.37	279	P	P	06 06 37.5	-0.2
	comp=Z,4.5nm,0.7s,baz=58,slow=6.9,SNR=16						
B08A	Colville Reser	35.45	73	IAmb	IAmb	06 06 40.6	
	comp=Z,11nm,1.2s						
H11S1	WAKE ISLAND Hy	35.91	210	T	T	06 45 14.6	
	baz=19,slow=76,SNR=297						
MJAR	Matsushiro Arr	35.92	264	LR	LR	06 19 32.0	
	comp=Z,24nm,19.8s,baz=80,slow=33						
H11S2	WAKE ISLAND Hy	35.92	210	T	T	06 45 11.2	
	baz=19,slow=76,SNR=321						
H11S3	WAKE ISLAND Hy	35.93	210	T	T	06 45 20.4	
	baz=19,slow=76,SNR=172						
HAWA	Hanford	36.26	76	IAmb	IAmb	06 06 57.9	
	comp=Z,6.0nm,0.7s						
YBH	Yreka Blue Hor	36.74	84	LR	LR	06 18 32.2	
	comp=Z,65nm,18.9s,baz=331,slow=31						
NEW	Newport	36.81	72	P	P	06 06 51.1	+1.1
	comp=Z,4.1nm,0.4s,baz=297,slow=8.9,SNR=26						
NEW				LR	LR	06 19 20.8	
	comp=Z,69nm,21.8s,baz=252,slow=32						
NEW	Newport	36.81	72	IAmb	IAmb	06 06 52.7	
	comp=Z,11nm,1.2s						
NEW	Newport	36.81	72	P	P	06 06 50.4	+0.

baz=309
DUG Dugway, Tooele 43.74 80 P P 06 07 46.8 -0.7
baz=307
LAO LASA Array 43.98 68 IAmb IAmb 06 07 53.3
comp=Z,9.5nm,1.2s
LAO LASA Array 43.98 68 P P 06 07 48.7 -0.6
baz=303
PRN Pahroc Range 44.06 84 IAmb IAmb 06 08 07.2
comp=Z,5.5nm,0.9s
DGMT Dagmar 44.18 65 IAmb IAmb 06 07 52.9
comp=Z,19nm,1.1s
DGMT Dagmar 44.18 65 P P 06 07 50.4 -0.4
baz=302,SNR=5.6
BW06 Boulder Array 44.21 74 IAmb IAmb 06 07 53.0
comp=Z,8.7nm,0.7s
BW06 Boulder Array 44.21 74 P P 06 07 51.8 +0.4
baz=305,SNR=14
PD31 Pinedale Array 44.21 74 IAmb IAmb 06 07 53.0
comp=Z,7.7nm,0.7s
PDAR Pinedale Array 44.21 74 P P 06 07 52.1 +0.7
comp=Z,7.3nm,0.6s,baz=304,slow=4.1,SNR=92
FCC Fort Churchill 44.26 48 IAmb IAmb 06 07 52.2
comp=Z,5.9nm,1.1s
NLU North Lily Min 44.34 79 P P 06 07 53.5 +1.1
TMUT Trail Mountain 45.27 79 IAmb IAmb 06 08 07.4
comp=Z,4.4nm,0.7s
RDMU Red Mountain 45.50 77 IAmb IAmb 06 08 05.0
comp=Z,7.4nm,0.9s
PFO Pinyon Flats O 45.63 89 LR LR 06 23 48.8
comp=Z,63nm,18.2s,baz=292,slow=32
P18A Preston Nutter 45.66 78 IAmb IAmb 06 08 26.9
comp=Z,4.6nm,1.0s
SRU San Rafael Swe 45.80 79 IAmb IAmb 06 08 15.5
comp=Z,5.0nm,0.9s
K22A Casper 46.09 73 P P 06 08 05.5 -0.7
baz=306
U15A North Rim 46.40 83 IAmb IAmb 06 08 36.9
comp=Z,4.0nm,0.8s
O20A White River Ci 46.57 77 IAmb IAmb 06 08 11.4
comp=Z,8.9nm,0.9s
O20A White River Ci 46.57 77 P P 06 08 10.2 +0.2
baz=308,SNR=7.8
RSSD Black Hills 46.70 70 P P 06 08 10.6 -0.4
baz=306
MDND Maddock 47.10 63 P P 06 08 13.4 -0.4
baz=304
PV11 David Mesa, Pa 47.32 79 IAmb IAmb 06 08 35.9
comp=Z,6.5nm,0.6s
PV13 Radium Mtn., P 47.44 79 IAmb IAmb 06 08 33.9
comp=Z,6.2nm,0.7s
N23A Red Feather La 47.49 74 P P 06 08 16.9 -0.4
baz=308
ULM Lac du Bonnet 47.77 58 P P 06 08 18.7 -0.3
comp=Z,2.3nm,0.4s,baz=35,slow=11,SNR=2.7
ULM Lac du Bonnet 47.77 58 P P 06 08 18.9 -0.2
ULM IAmb IAmb 06 08 19.5
comp=Z,3.0nm,0.6s
SONM Songino Array 48.44 298 P P 06 08 24.2 -0.1
comp=Z,0.4nm,0.5s,baz=67,slow=8.1,SNR=2.8
SONM PcP **PcP 06 09 49.7 -0.3**
comp=Z,1.5nm,0.6s,baz=53,slow=2.9,SNR=8.7
SONM LR LR 06 28 42.7
comp=Z,67nm,21.1s,baz=354,slow=36
S22A 4UR Ranch, Cre 48.92 78 P P 06 08 28.2 -0.1
baz=310
SDCO Great Sand Dun 49.73 77 IAmb IAmb 06 08 39.2
comp=Z,3.0nm,0.9s
SDCO Great Sand Dun 49.73 77 P P 06 08 34.8 +0.2
baz=310
OGNE Ogallala 49.80 72 P P 06 08 34.6 -0.2
baz=308
TUC Tucson 50.04 86 P P 06 08 35.9 -0.8
baz=313
F33A 5 Mile Ranch, 50.11 63 IAmb IAmb 06 08 37.7
comp=Z,8.4nm,0.8s
SPITS Spitsbergen Ar 50.30 357 LR LR 06 30 31.8
comp=Z,80nm,19.1s,baz=310,slow=37
KSCO Kaye Shedlock' 50.66 74 P P 06 08 41.5 +0.1
baz=310
T25A Trinidad 50.78 77 IAmb IAmb 06 08 46.0
comp=Z,7.1nm,0.8s
T25A Trinidad 50.78 77 P P 06 08 42.0 -0.4
baz=310,SNR=8.7
ANMO Albuquerque 50.96 81 LR LR 06 31 20.2
comp=Z,35nm,18.1s,baz=294,slow=37
ECSD EROS Data Cent 51.22 66 P P 06 08 44.9 -0.5
ECSD IAmb IAmb 06 08 45.1
comp=Z,4.1nm,0.7s
ECSD EROS Data Cent 51.22 66 P P 06 08 44.8 -0.5
baz=308
EYMN Ely 51.46 59 P P 06 08 46.8 -0.3
baz=308
F36A Milaca 51.63 62 IAmb IAmb 06 08 48.6
comp=Z,7.7nm,0.8s
SPMN Marine on St. 52.43 62 P P 06 08 53.5 -0.8
baz=309
CBKS Cedar Bluff 52.51 73 P P 06 08 54.7 -0.5
baz=310
MNTX Cornudas Mount 53.81 83 P P 06 09 04.0 -0.7
baz=313
MSTX Muleshoe 53.88 79 P P 06 09 04.8 -0.5
baz=312
SCIA State Center 54.31 66 P P 06 09 08.1 -0.1
baz=310
SFJD Kangerlussuaq 54.64 23 LR LR 06 35 14.6
comp=Z,55nm,18.4s,baz=270,slow=39
JFWS Jewell Farm 55.32 63 P P 06 09 14.4 -1.1
baz=311
ZALV Zalesovo Beam 55.41 315 PcP **PcP 06 10 15.9 +0.2**
comp=Z,1.2nm,0.7s,baz=35,slow=5.4,SNR=4.6
ZALV LR LR 06 34 47.1
comp=Z,81nm,18.4s,baz=65,slow=38
LPIG La Paz 56.12 93 LR LR 06 28 01.1
comp=Z,72nm,19.8s,baz=13,slow=30
TX32 Lajitas Array 56.52 84 IAmb IAmb 06 09 32.1
comp=Z,5.4nm,1.2s
TXAR Lajitas Array 56.52 84 P P 06 09 24.8 +0.4
comp=Z,1.2nm,0.7s,baz=300,slow=6.0,SNR=12
P40A Paris 56.54 67 IAmb IAmb 06 09 25.0
comp=Z,9.5nm,0.8s
L44A Lake County Fo 57.10 62 P P 06 09 26.8 -1.3
baz=312
GLMI Grayling 57.11 58 P P 06 09 27.5 -0.7
baz=312
R40A Maddies Statio 57.25 68 IAmb IAmb 06 09 35.5
comp=Z,5.5nm,0.6s
JMIC Jan Mayen 57.37 5 LR LR 06 37 41.0
comp=Z,17nm,18.1s,baz=276,slow=40
HDIL Hopedale 57.42 64 P P 06 09 29.9 -0.6
baz=312
CCM Cathedral Cave 58.00 68 P P 06 09 34.2 -0.4
baz=313
JCT Junction City 58.10 80 P P 06 09 35.0 -0.4
baz=315
ARCES ARCESS Array B 58.22 352 P P 06 09 34.6 -1.1
comp=Z,1.8nm,0.7s,baz=3.8,slow=7.8,SNR=10
ARCES PcP **PcP 06 10 25.8 -0.7**
comp=Z,2.9nm,0.8s,baz=32,slow=4.8,SNR=6.8
ARCES LR LR 06 35 54.7
comp=Z,23nm,19.9s,baz=301,slow=37
W39A Magazine 58.47 72 P P 06 09 37.2 -0.7
baz=314
WHTX Lake Whitney, 58.48 77 IAmb IAmb 06 09 39.3
comp=Z,7.6nm,0.8s
WHTX Lake Whitney, 58.48 77 P P 06 09 37.1 -0.9
baz=314
SCHQ Schefferville 58.50 40 P P 06 09 36.9 -0.9
comp=Z,2.1nm,0.6s,baz=319,slow=10,SNR=5.9
SFIN Lafayette 58.77 63 P P 06 09 39.6 -0.3
baz=313,SNR=5.9
FCAR Ozark Folk Cen 58.97 70 IAmb IAmb 06 09 50.4
comp=Z,5.2nm,0.9s
MIAR Mount Ida 59.04 72 P P 06 09 41.5 -0.3
baz=314
AAM Ann Arbor 59.34 60 P P 06 09 43.6 -0.1
baz=314
X40A Basin Creek Fa 59.52 72 P P 06 09 45.3 +0.1
baz=314
833A Chaparral WMA, 59.87 82 P P 06 09 47.8 +0.1
baz=316
KURK Kurchatov 60.39 315 P P 06 09 51.0 +0.2
KURK IAmb IAmb 06 09 52.0
comp=Z,4.5nm,0.5s
P49A Miami Univ. Ec 60.67 62 P P 06 09 51.6 -1.4
baz=314
WCI Wyandotte Cave 60.70 65 P P 06 09 52.6 -0.6
baz=314
ACSO Alum Creek Sta 61.14 61 P P 06 09 55.6 -0.5
baz=315
ERPA Erie 61.42 58 P P 06 09 57.0 -1.0
baz=315
M53A WI Miller and 61.53 58 P P 06 09 58.3 -0.4
baz=315
MK31 Makanchi Array 61.55 310 P P 06 09 58.2 -0.7
MKAR Makanchi Array 61.55 310 P P 06 09 57.4 -1.4
comp=Z,0.9nm,0.4s,baz=38,slow=6.4,SNR=29
MKAR LR LR 06 37 12.6
comp=Z,68nm,20.2s,baz=32,slow=37
M54A Oil Creek Stat 62.02 58 P P 06 10 01.8 -0.3
baz=315
P52A Corning 62.02 61 P P 06 10 01.4 -0.8
baz=315
O53A New Philadelph 62.09 60 P P 06 10 02.3 -0.3
baz=315
N54A Moraine State 62.23 58 P P 06 10 03.5 -0.1
baz=315,SNR=6.8
LONY Lake Ozonia 62.39 52 P P 06 10 03.4 -1.1
baz=316
MCWV Mont Chateau 63.24 59 P P 06 10 10.3 +0.1
baz=316
BINY Binghamton 63.43 55 P P 06 10 11.9 +0.4
baz=316
M57A Sunshine Farm, 63.47 56 P P 06 10 12.0 +0.3
O56A Blue Knob Stat 63.49 58 P P 06 10 11.3 -0.6
baz=316
ARU Arti 63.52 330 LR LR 06 40 54.9
comp=Z,49nm,18.1s,baz=91,slow=39
SSPA Standing Stone 63.58 57 P P 06 10 12.9 +0.5
SSPA Standing Stone 63.58 57 P P 06 10 12.3 -0.1
baz=316
CPCT Cooper Cave 63.67 66 P P 06 10 13.0 -0.2
CPCT IAmb IAmb 06 10 13.6
comp=Z,3.1nm,0.5s
TKL Tuckaleechee C 63.95 65 LR LR 06 36 53.2
comp=Z,54nm,19.3s,baz=310,slow=35
HNR Honiara 64.39 207 LR LR 06 32 33.5
comp=Z,38nm,20.1s,baz=122,slow=30
N59A State Game Lan 64.48 56 P P 06 10 18.5 +0.2
baz=317
BLA Blacksburg 64.70 62 P P 06 10 19.8 -0.1
baz=317
CBN Corbin Frederi 65.62 59 P P 06 10 25.5 -0.2
baz=317
KMSC Kings Mountain 65.69 64 P P 06 10 26.4 +0.1
baz=317
GOGA Godfrey 65.75 66 P P 06 10 26.0 -0.7
baz=317
FINES FINESS Array B 66.02 349 P P 06 10 26.9 -1.0
comp=Z,1.9nm,0.9s,baz=13,slow=3.0,SNR=5.3
FINES LR LR 06 43 22.4
comp=Z,35nm,18.4s,baz=3.5,slow=40
Q61A Milford 66.21 57 P P 06 10 29.0 -0.6
baz=318
T59A Double "B" Far 66.43 60 P P 06 10 31.3 +0.3
TIGA Tifton 67.12 68 P P 06 10 34.7 -0.8
baz=317
NOA NORSAR Array B 67.60 357 P P 06 10 37.5 -0.6
comp=Z,0.2nm,0.4s,baz=8.0,slow=5.3,SNR=7.2
NOA LR LR 06 40 18.3
comp=Z,19nm,20.7s,baz=305,slow=36
HFS Hagfors 68.39 355 LR LR 06 41 48.3
comp=Z,26nm,19.5s,baz=46,slow=37
AKTO Aktyubinsk 68.72 327 LR LR 06 42 55.8
comp=Z,35nm,20.8s,baz=42,slow=38
CMIG Matias Romero 70.94 86 LR LR 06 41 23.4
comp=Z,75nm,19.2s,baz=260,slow=35
SHL Shillong 72.02 288 P P **06 11 06.5 +0.5**
PPT Papeete 72.47 154 LR LR 06 38 46.9
comp=Z,115nm,20.4s,baz=72,slow=32
CMAR Chiang Mai Arr 73.10 278 P P **06 11 12.8 +0.5**
comp=Z,2.7nm,0.4s,baz=25,slow=7.3,SNR=18
GUN Gumba 73.73 294 *eP* P **06 11 15.7 -0.6**
comp=Z,19nm,0.4s
KKN Kakani 74.16 295 *eP* P **06 11 17.1 -1.6**
comp=Z,3.8nm,0.3s
PKI Pulchoki 74.26 294 *eP* P **06 11 18.2 -1.2**
comp=Z,1.8nm,0.3s
PKIN Phulchoki 74.26 294 *eP* P **06 11 17.7 -1.6**
comp=Z,3.9nm,0.4s
GKN Gorkha 74.36 295 *eP* P **06 11 19.1 -0.7**
comp=Z,3.3nm,0.3s
DMN Daman 74.40 295 *eP* P **06 11 18.3 -1.8**
comp=Z,7.0nm,0.4s
DANN Dangsing 74.59 296 *eP* P **06 11 21.6 +0.3**
comp=Z,2.3nm,0.2s
DZM Mont Dzumac 75.05 197 LR LR 06 42 10.8
comp=Z,62nm,19.5s,baz=200,slow=34
KOLN Koldanda 75.13 296 *eP* P **06 11 23.9 -0.3**
comp=Z,4.5nm,0.3s
PYUN Piuthan 75.21 296 *eP* P **06 11 24.7 -0.1**
AKASG Malin Array Be 75.97 344 P P **06 11 27.1 -1.3**
comp=Z,0.8nm,0.3s,baz=17,slow=6.0,SNR=6.7
AKASG LR LR 06 48 21.5
comp=Z,33nm,19.6s,baz=69,slow=38
AKASG Malin Array Be 75.97 344 IAmb IAmb 06 11 32.7
comp=Z,3.2nm,1.4s
CLL Collm 77.23 355 *eP* P **06 11 35.1 -0.4**
comp=Z,4.0nm,0.6s
VRAC Vranov 78.96 352 LR LR 06 48 29.0
comp=Z,22nm,19.9s,baz=349,slow=37
MTN Manton Dam 79.07 233 P P **06 11 46.9 +0.8**
GEYT Alibeck 79.34 320 LR LR 06 49 14.7
comp=Z,69nm,21.6s,baz=44,slow=38
GERES GERESS Array B 79.64 354 P P **06 11 48.6 -0.5**
comp=Z,0.4nm,0.6s,baz=16,slow=10.0,SNR=4.2
DAVOX Davos/Dischmat 81.91 356 LR LR 06 51 04.0
comp=Z,41nm,19.4s,baz=94,slow=38
WRA Warramunga Arr 83.67 227 P P **06 12 10.0 -0.4**
comp=Z,1.2nm,0.4s,baz=39,slow=6.3,SNR=13
AS31 Alice Springs 87.11 225 P P **06 12 28.5 +1.0**
ASAR Alice Springs 87.11 225 P P **06 12 28.5 +1.0**
comp=Z,2.9nm,0.8s,baz=29,slow=4.4,SNR=30
STKA Stephens Creek 91.29 215 P P **06 12 48.6 +1.7**
comp=Z,2.8nm,0.6s,baz=2.3,slow=4.8,SNR=7.5
STKA Stephens Creek 91.29 215 IAmb IAmb 06 12 49.2
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 115.49 3 PKP **PKiKP 06 18 23.6 -0.1**
comp=Z,0.9nm,0.5s,baz=347,slow=2.6,SNR=6.3
H03N2 Juan Fernandez 119.17 108 T T 08 28 58.4
baz=313,slow=76,SNR=102
H03N1 Juan Fernandez 119.18 108 T T 08 28 59.7
baz=309,slow=76,SNR=115
H03N3 Juan Fernandez 119.18 108 T T 08 29 58.2
SNR=119
DBIC Dimbokro 121.41 11 PKP **PKPdf 06 18 35.0 -0.1**
comp=Z,1.0nm,0.4s,baz=13,slow=4.8,SNR=7.3
PLCA Paso Flores 129.01 109 PKP **PKPdf 06 18 49.3 +0.4**
comp=Z,1.4nm,1.0s,baz=231,slow=1.3,SNR=4.9
MAW Mawson 147.95 218 PKPbc **PKPbc 06 19 26.1 +0.8**
comp=Z,8.1nm,0.8s,baz=106,slow=2.9,SNR=6.2
BOSA Boshof 152.33 318 PKPbc **PKPbc 06 19 37.8 +0.4**
comp=Z,7.7nm,0.7s,baz=34,slow=2.4,SNR=17
BOSA Boshof 152.33 318 PKPbc 06 19 37.7 +0.3

*BUT **19** 06:29:09.9±2.1, 44.°45N±0.°04×114.°13W±0.°04, h8km±5km, ML3.8/26, ML3.3/60(NEIC), Error ellipse: s-maj=5.7km s-min=3.8km az=152.0*
*NEIC **19** 06:29:10.1±2.0, 44.°48N±0.°02×114.°18W±0.°05, h2km±6km, Error ellipse: s-maj=5.4km s-min=1.1km az=117.0*
*IDC **19** 06:29:12.2±0.2, 44.°82N×113.°79W, h0km, mb1 3.6/5, mb1mx3.4/49, mbtmp2.2/5, ML3.3/5, Error ellipse: s-maj=7.0km s-min=1.7km az=51.0*
ISC 19 06:29:10.1±0.8, 44.°51N±0.°03×114.°17W±0.°03, h6km, n56, σ1°64/56, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCYI	**Bear Canyon**	**0.58**	**110**		**Pg**	**06 29 20.2**	**-1.1**
HLID	**Hailey**	**0.96**	**191**		**Pg**	**06 29 27.2**	**-1.4**
HLID				Sg	**Sg**	**06 29 38.9**	**-2.2**
HLID				IAML		06 29 40.5	
	689nm,0.2s						
HLID				IAML		06 29 40.6	
	1μm,0.2s						
MCMT	**McKenzie Canyo**	**0.99**	**71**		**Pg**	**06 29 28.7**	**-0.5**
DLMT	**Dillon**	**1.40**	**52**		**Pn**	**06 29 36.5**	**+0.1**
DLMT					**Sn**	**06 29 55.9**	**+0.6**
PLID	**Pearl Lake**	**1.43**	**295**		**Pn**	**06 29 37.2**	**+0.4**
PLID					**Sb**	**06 29 57.0**	**+1.2**
PLID				IAML		06 29 58.5	
	482nm,0.2s						
PLID				IAML		06 29 58.9	
	527nm,0.2s						
MFID	**Camas Ranch**	**1.62**	**228**		**Pn**	**06 29 39.1**	**-0.2**
MFID					**Sn**	**06 30 01.3**	**+0.7**
LRM	**Limekiln Ridge**	**1.79**	**42**		**Pn**	**06 29 41.4**	**-0.4**
CMI	**Centennial Mou**	**1.82**	**89**		**Pn**	**06 29 41.9**	**-0.4**
BOZ	**Bozeman (W)**	**2.10**	**58**		**Pn**	**06 29 46.1**	**+0.1**
YHB	**Horse Butte**	**2.14**	**82**		**Pn**	**06 29 47.0**	**+0.5**
MCID	**Moose Creek**	**2.17**	**97**		**Pn**	**06 29 47.0**	**+0.1**
YPWB	**West Boundary**	**2.19**	**86**		**Pn**	**06 29 48.5**	**+1.2**
GCR	**Grayling Creek**	**2.20**	**81**		**Pb**	**06 29 50.0**	**-0.5**
BMO	**Blue Mountains**	**2.27**	**280**	Pn	**Pn**	**06 29 48.1**	**-0.1**
BMO				IAML		06 30 24.4	
	160nm,0.3s						
BMO				IAML		06 30 25.3	
	148nm,0.3s						
YMC	**Maple Creek**	**2.27**	**83**		**Pn**	**06 29 48.9**	**+0.5**
YMR	**Madison River**	**2.29**	**85**		**Pn**	**06 29 49.0**	**+0.4**
MSO	**Missoula**	**2.33**	**4**		**Pn**	**06 29 48.9**	**-0.1**
MSO				IAML		06 30 25.4	
	294nm,0.2s						
ECR	**Eagle Creek**	**2.49**	**125**		**Pn**	**06 29 51.9**	**+0.4**
FLWY	**Flagg Ranch**	**2.53**	**99**		**Pn**	**06 29 52.4**	**+0.5**
FLWY				IAML		06 30 29.3	
	123nm,0.9s						
FLWY				IAML		06 30 35.5	
	156nm,0.9s						
MOOW	**Moose Ponds**	**2.58**	**106**		**Pn**	**06 29 52.9**	**+0.3**
F10A	**Beach Ranch, E**	**2.61**	**305**		**Pn**	**06 29 54.2**	**+1.3**
REDW	**Red Top Meadow**	**2.66**	**114**		**Pn**	**06 29 54.1**	**+0.4**
REDW	**Red Top Meadow**	**2.66**	**114**	IAML		06 30 37.0	
	120nm,0.7s						
LKWY	**Lake**	**2.69**	**88**		**Pn**	**06 29 55.4**	**+1.1**
LKWY				IAML		06 30 39.2	
	119nm,0.8s						
LOHW	**Long Hollow**	**2.72**	**108**		**Pn**	**06 29 54.7**	**+0.2**
HRY	**Holter Researc**	**2.75**	**36**		**Pn**	**06 29 54.6**	**-0.2**
AHID	**Auburn Hatcher**	**2.83**	**127**		**Pb**	**06 29 58.4**	**-2.7**
AHID	**Auburn Hatcher**	**2.83**	**127**	IAML		06 30 39.4	
	99nm,0.7s						
AHID				IAML		06 30 41.7	
	134nm,1.0s						
YPSB	**Soda Butte**	**2.89**	**81**		**Pb**	**06 30 03.2**	**+1.0**
YHR	**Hawk`s Rest**	**2.96**	**96**		**Pb**	**06 30 03.3**	**-0.2**
LNOR	**Lincton Mounta**	**3.21**	**296**		**Pn**	**06 30 02.4**	**+1.3**
JTMT	**Jette**	**3.24**	**359**	Pn	**Pn**	**06 30 02.2**	**+0.6**
JTMT				IAML		06 30 59.7	
	comp=N,114nm,0.8s						
J08A	**Circle Bar Ran**	**3.32**	**251**		**Pn**	**06 30 02.9**	**+0.3**
J08A				IAML		06 30 59.3	
	comp=E,91nm,0.5s						
J08A				IAML		06 31 08.9	
	comp=N,83nm,1.1s						
GCMT	**Greycliff**	**3.43**	**67**		**Pn**	**06 30 05.2**	**+1.0**
G08A	**Pilot Rock**	**3.49**	**285**		**Pn**	**06 30 05.8**	**+0.7**
RLMT	**Red Lodge**	**3.54**	**78**		**Pn**	**06 30 08.7**	**+2.9**
RLMT	**Red Lodge**	**3.54**	**78**	IAML		06 31 05.5	
	comp=N,95nm,0.6s						
RLMT				IAML		06 31 07.0	
	comp=N,130nm,0.5s						
BGU	**Big Grassy Mou**	**3.68**	**166**	Pn	**Pn**	**06 30 11.0**	**+3.4**
PD31	**Pinedale Array**	**3.77**	**116**	Pn	**Pn**	**06 30 12.7**	**+3.7**
PDAR	**Pinedale Array**	**3.77**	**116**	Pn	**Pn**	**06 30 11.6**	**+2.5**
	comp=N,0.4nm,0.3s,baz=308,slow=12,SNR=15						
PDAR				Lg	Lg	06 31 04.5	
	comp=N,0.4nm,0.3s,baz=312,slow=24,SNR=1.9						
PDAR	**Pinedale Array**	**3.77**	**116**	Pn	**Pb**	**06 30 13.7**	**-3.5**
ELK	**Elko**	**3.84**	**192**		**Pn**	**06 30 10.6**	**+0.6**
I07A	**Izee**	**3.85**	**265**		**Pn**	**06 30 10.8**	**+0.7**
I07A				IAML		06 31 16.2	
	comp=N,37nm,2.1s						
I07A				IAML		06 31 23.8	
	comp=E,38nm,1.1s						
WVOR	**Wild Horse Val**	**3.86**	**239**		**Pn**	**06 30 10.3**	**+0.2**
WVOR				IAML		06 31 23.3	
	comp=E,35nm,1.0s						
HAWA	**Hanford**	**4.22**	**298**	Pn	**Pn**	**06 30 16.4**	**+1.5**
HAWA				IAML		06 31 36.2	
	comp=E,26nm,1.5s						
NEW	**Newport**	**4.28**	**332**	Pn	**Pn**	**06 30 16.2**	**+0.5**
	comp=E,3.1nm,0.3s,baz=145,slow=11,SNR=34						
NEW				Lg	Lg	06 31 25.6	
	comp=E,17nm,0.3s,baz=93,slow=19,SNR=13						
NEW	**Newport**	**4.28**	**332**	Pn	**Pn**	**06 30 16.5**	**+0.7**
NEW				IAML		06 31 31.1	
	comp=E,50nm,0.7s						
OD2	**Odessa Site #2**	**4.28**	**314**		**Pn**	**06 30 17.9**	**+2.1**
DUG	**Dugway, Tooele**	**4.43**	**166**	Pn	**Pn**	**06 30 21.5**	**+3.6**
DUG				IAML		06 31 39.4	
	comp=E,23nm,1.1s						
EGMT	**Eagleton**	**4.66**	**39**		**Pn**	**06 30 20.9**	**-0.1**
BMN	**Battle Mountai**	**4.66**	**210**	Pn	**Pn**	**06 30 24.9**	**+3.8**
BMN				IAML		06 31 33.0	
	comp=N,20nm,0.8s						
BMN				IAML		06 31 48.6	
	comp=E,20nm,2.5s						
B08A	**Colville Reser**	**5.25**	**319**	Pn	**Pn**	**06 30 28.1**	**-1.1**
B08A				IAML		06 31 58.5	
	comp=E,24nm,0.5s						
B08A				IAML		06 32 03.6	
	comp=N,32nm,0.6s						
LTY	**Liberty**	**5.31**	**303**	Pn	**Pn**	**06 30 29.5**	**-0.4**
LTY				IAML		06 32 05.7	
	comp=E,23nm,3.4s						
LTY				IAML		06 32 21.5	
	comp=N,19nm,4.4s						
NVAR	**Mina Array Bea**	**6.82**	**208**	Pn	Pn	06 30 58.4	+7.5
	comp=N,0.1nm,0.3s,baz=24,slow=34,SNR=6.1						
TXAR	**Lajitas Array**	**17.29**	**148**	P	**P**	**06 33 18.2**	**+4.4**
	comp=N,0.0nm,0.3s,baz=342,slow=12,SNR=3.5						
YKA	**Yellowknife Ar**	**18.02**	**359**	P	**Pn**	**06 33 18.6**	**-2.3**
	comp=N,0.1nm,0.3s,baz=180,slow=12,SNR=12						
YKA				Lg	Lg	06 38 32.1	
	baz=172,slow=28,SNR=3.0						

*NNC **19** 06:48:22.3±1.6, 54.°29N×87.°30E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=13.8km s-min=7.4km az=14.0, Suspected Mining explosion.*
*IDC **19** 06:48:25.7±3.0, 54.°34N×86.°97E, h0km, mb1 2.7/2, mb1mx2.6/55, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=26.7km s-min=17.9km az=52.0*
ISC 19 06:48:27.1±1.9, 52.°80N±0.°04×85.°9E±0.°1, h0km, n9, σ2°83/11, 8C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.30**	**332**	⇑P	**Pg**	**06 48 49.4**	**-2.5**
	0.3nm,0.5s						
ZAA0				⇓S	**Sg**	**06 49 10.4**	**+1.5**
	1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**1.30**	**332**	Pg	**Pg**	**06 48 49.8**	**-2.2**
	1.5nm,0.3s,baz=71,slow=16,SNR=22						
ZALV				Lg	Lg	06 49 08.2	
	1.8nm,0.3s,baz=71,slow=28,SNR=13						
I46RU	**ZALESOVO INFRA**	**1.30**	**332**	*i*		06 55 41.7	
	baz=74,slow=353,SNR=14						
KURK	**Kurchatov**	**4.95**	**248**	⇑Pn	**Pg**	**06 49 59.5**	**-2.4**
	1.4nm,0.9s						
KURK				⇑Lg	Lg	06 51 45.6	
	3.2nm,1.0s						
KURBB	**Kurchatov Arra**	**5.05**	**247**	Pn	**Pg**	**06 50 00.9**	**-2.8**
	0.1nm,0.3s,baz=52,slow=14,SNR=3.4						
KURBB				Lg	Lg	06 51 50.4	
	0.0nm,0.3s,baz=53,slow=35,SNR=2.3						
KURBB	**Kurchatov Arra**	**5.05**	**247**	⇓Pn	**Pb**	**06 49 57.9**	**+1.8**
	0.8nm,0.3s						
KURBB				⇑Lg	Lg	06 51 45.1	
	3.1nm,0.7s						
MK31	**Makanchi Array**	**6.44**	**202**	⇓Pn	**Pb**	**06 50 22.7**	**+2.7**
	0.5nm,0.6s,baz=29,slow=13,SNR=8.2						
MK31				⇓Sn	**Sg**	**06 51 56.0**	**+2.1**
	0.8nm,0.8s						
MK31				⇑Lg	Lg	06 52 43.4	
	2.2nm,1.2s,baz=20,slow=29						
MKAR	**Makanchi Array**	**6.44**	**202**	Pn	**Pg**	**06 50 26.4**	**-4.0**
	0.0nm,0.3s,baz=26,slow=14,SNR=6.0						
MAKZ	**Makanchi**	**6.50**	**204**	⇑Pn	**Pb**	**06 50 23.2**	**+2.2**
	0.7nm,0.6s						
MAKZ				⇑Sn	**Sg**	**06 51 56.5**	**+0.7**
	0.6nm,0.5s						
MAKZ				⇑Lg	Lg	06 52 41.6	
	2.4nm,1.4s						

*SOME **19** 06:57:58.0, 44.°52N×80.°62E, h20km*

*NNC **19** 06:57:58.0±0.5, 44°.53N×80°.55E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=4.3km s-min=3.1km az=109.0*

ISC 19 06:57:57.5±1.2, 44°.51N±0°.03×80°.66E±0°.03, h10km±10km, n60, σ1§45/91, 11C-9D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent** 50nm,0.0s	**0.65**	**254**	*eP*	**Pg**	**06 58 10.0**	**0.0**
DJR	247nm,0.2s			*eS*	**Sg**	**06 58 18.6**	**+0.1**
DJR	**Jarkent** 63nm,0.1s	**0.65**	**254**	P	**Pg**	**06 58 10.0**	**0.0**
DJR	247nm,0.2s			S	**Sg**	**06 58 18.6**	**+0.1**
KNOS	**Konyrlen** 48nm,0.3s	**1.07**	**262**	*eP*	**Pg**	**06 58 17.6**	**-0.4**
KNOS	314nm,0.1s			*eS*	**Sg**	**06 58 31.4**	**-0.6**
KTMS	**Ketmen** 17nm,0.1s	**1.09**	**192**	*eP*	**Pg**	**06 58 18.4**	**0.0**
KTMS	344nm,0.1s			*eS*	**Sg**	**06 58 32.9**	**+0.4**
KTMS	**Ketmen** 17nm,0.1s	**1.09**	**192**	P	**Pg**	**06 58 18.4**	**0.0**
KTMS	344nm,0.1s			S	**Sg**	**06 58 32.9**	**+0.4**
KAPS	**Kapalarasan** 61nm,0.2s	**1.21**	**310**	*eP*	**Pb**	**06 58 19.4**	**-1.1**
KAPS	94nm,0.1s			*eS*	**Sb**	**06 58 34.4**	**-1.7**
KAPS	**Kapalarasan** 61nm,0.2s	**1.21**	**310**	P	**Pb**	**06 58 19.4**	**-1.1**
KAPS	94nm,0.1s			S	**Sb**	**06 58 34.4**	**-1.7**
PDGK	**Podgornoye** 24nm,0.3s	**1.45**	**216**	⇑P	**Pn**	**06 58 24.2**	**+0.3**
PDGK	72nm,0.5s			⇓S	**Sb**	**06 58 43.5**	**+0.3**
SHLS	**Shalkode** 41nm,0.1s	**1.61**	**213**	*eP*	**Pn**	**06 58 24.8**	**-1.2**
SHLS	260nm,0.4s			*eS*	**Sn**	**06 58 44.5**	**-2.3**
SHLS	**Shalkode** 41nm,0.1s	**1.61**	**213**	P	**Pn**	**06 58 24.8**	**-1.2**
SHLS	260nm,0.4s			S	**Sn**	**06 58 44.6**	**-2.3**
BLB	**Baldybastay** 130nm,0.1s	**1.62**	**256**	*eP*	**Pb**	**06 58 27.3**	**-0.2**
BLB	208nm,0.1s			*eS*	**Sg**	**06 58 48.5**	**-1.0**
BLB	**Baldybastay** 131nm,0.3s	**1.62**	**256**	P	**Pb**	**06 58 27.3**	**-0.2**
BLB	208nm,0.2s			S	**Sg**	**06 58 48.5**	**-1.0**
TDK	**Taldyqorghan** 116nm,0.4s	**1.68**	**288**	*eP*	**Pb**	**06 58 27.9**	**-0.5**
TDK	217nm,0.5s			*eS*	**Sb**	**06 58 49.1**	**-0.6**
TDK	**Taldyqorghan** 116nm,0.4s	**1.68**	**288**	P	**Pb**	**06 58 27.9**	**-0.5**
TDK	217nm,0.5s			S	**Sb**	**06 58 49.1**	**-0.6**
UZB	**Uzynbulak** 42nm,0.1s	**1.81**	**222**	*eP*	**Pb**	**06 58 30.1**	**-0.6**
UZB	140nm,0.2s			*eS*	**Sb**	**06 58 53.9**	**+0.4**
UZB	**Uzynbulak** 42nm,0.2s	**1.81**	**222**	P	**Pb**	**06 58 30.1**	**-0.6**
UZB	140nm,0.2s			S	**Sb**	**06 58 53.9**	**+0.4**
ARXS	**Arharly** 58nm,0.2s	**2.05**	**263**	*eP*	**Pb**	**06 58 34.9**	**0.0**
ARXS	247nm,0.4s			*eS*	**Sb**	**06 59 01.6**	**+1.1**
ARXS	**Arharly** 58nm,0.2s	**2.05**	**263**	Pg	**Pb**	**06 58 34.9**	**0.0**
ARXS	247nm,0.4s			Lg	Lg	06 59 01.6	
KURS	**Kuram** 26nm,0.5s	**2.07**	**241**	*eP*	**Pb**	**06 58 34.5**	**-0.6**
KURS	26nm,0.3s			*eS*	**Sb**	**06 59 01.2**	**+0.4**
KURS	**Kuram** 26nm,0.5s	**2.07**	**241**	Pg	**Pb**	**06 58 34.5**	**-0.6**
KURS	26nm,0.3s			Lg	Lg	06 59 01.2	
ZHN	**Zhinishke** 91nm,0.2s	**2.10**	**231**	*eP*	**Pb**	**06 58 35.6**	**-0.1**
ZHN	246nm,0.2s			*eS*	**Sb**	**06 59 02.6**	**+0.9**
ZHN	**Zhinishke** 91nm,0.2s	**2.10**	**231**	Pg	**Pb**	**06 58 35.6**	**-0.1**
ZHN	246nm,0.2s			Lg	Lg	06 59 02.6	
SATY	**Saty** 65nm,0.1s	**2.18**	**229**	*eP*	**Pb**	**06 58 36.8**	**-0.4**
SATY	247nm,0.2s			*eS*	**Sb**	**06 59 05.3**	**+1.0**
SATY	**Saty** 65nm,0.1s	**2.18**	**229**	Pg	**Pb**	**06 58 36.8**	**-0.4**
SATY	247nm,0.2s			Lg	Lg	06 59 05.3	
MAKZ	**Makanchi** 1.4nm,0.3s	**2.48**	**21**	⇓Pn	**Pn**	**06 58 40.1**	**+2.3**
MAKZ	12nm,0.4s			⇑Lg	Lg	06 59 13.8	
MK31	**Makanchi Array** 2.2nm,0.3s,baz=205,slow=16,SNR=8.5	**2.55**	**26**	⇓Pn	**Pn**	**06 58 41.8**	**+2.8**
MK31	10nm,0.2s,baz=207,slow=24,SNR=26			⇓Lg	Lg	06 59 14.8	
CHKK	**Chushkaly** 7.6nm,0.0s	**2.72**	**257**	*eP*	**Pb**	**06 58 46.3**	**+0.1**
CHKK	147nm,0.2s			*eS*	**Sb**	**06 59 20.9**	**+1.3**
CHKK	**Chushkaly** 8.6nm,0.2s	**2.72**	**257**	Pg	**Pb**	**06 58 46.3**	**+0.1**
CHKK	147nm,0.2s			Lg	Lg	06 59 20.9	
KOTS	**Kotyrbulak** 10nm,0.2s	**2.87**	**245**	*eP*	**Pb**	**06 58 49.0**	**+0.2**
KOTS	40nm,0.3s			*eS*	**Sb**	**06 59 25.3**	**+1.3**
KOTS	**Kotyrbulak** 19nm,0.3s	**2.87**	**245**	Pg	**Pb**	**06 58 49.0**	**+0.2**
KOTS	40nm,0.3s			Lg	Lg	06 59 25.3	
MDOK	**Medeo** 14nm,0.4s	**2.94**	**244**	*eP*	**Pb**	**06 58 50.1**	**0.0**
MDOK	30nm,0.3s			*eS*	**Sb**	**06 59 27.5**	**+1.4**
MDOK	**Medeo** 8.8nm,0.4s	**2.94**	**244**	⇑Pn	**Pb**	**06 58 48.6**	**-1.5**
MDOK	14nm,0.5s			⇑Lg	Lg	06 59 31.2	
MDOK	**Medeo** 14nm,0.4s	**2.94**	**244**	Pg	**Pb**	**06 58 50.1**	**0.0**
MDOK	30nm,0.3s			Lg	Lg	06 59 27.5	
KNDC	**Almaty** 20nm,0.4s	**2.97**	**245**	⇑Pn	**Pb**	**06 58 48.5**	**-2.0**
KNDC	32nm,0.4s			⇑Lg	Lg	06 59 32.5	
KTBS	**Karatobe** 7.7nm,0.3s	**2.97**	**256**	*eP*	**Pb**	**06 58 50.8**	**+0.3**
KTBS	58nm,0.5s			*eS*	**Sb**	**06 59 28.3**	**+1.3**
KTBS	**Karatobe** 8.4nm,0.4s	**2.97**	**256**	Pg	**Pb**	**06 58 50.8**	**+0.3**
KTBS	58nm,0.5s			Lg	Lg	06 59 28.3	
TNSS	**Tian-Shan** 15nm,0.3s	**3.07**	**243**	*eP*	**Pb**	**06 58 52.6**	**+0.2**
TNSS	7.6nm,0.4s			*eS*	**Sb**	**06 59 31.3**	**+1.3**
TNSS	**Tian-Shan** 15nm,0.3s	**3.07**	**243**	Pg	**Pb**	**06 58 52.6**	**+0.2**
TNSS	7.6nm,0.4s			Lg	Lg	06 59 31.3	
KUU	**Kurty** 5.6nm,0.4s	**3.17**	**260**	*eP*	**Pb**	**06 58 53.6**	**-0.3**
KUU	64nm,0.3s			*eS*	**Sb**	**06 59 33.0**	**+0.5**
KUU	**Kurty** 5.6nm,0.4s	**3.17**	**260**	Pg	**Pb**	**06 58 53.6**	**-0.3**
KUU	64nm,0.3s			Lg	Lg	06 59 33.0	
MTBS	**Maitube** 14nm,0.2s	**3.36**	**247**	*eP*	**Pb**	**06 58 57.7**	**+0.6**
MTBS	44nm,0.3s			*eS*	**Sb**	**06 59 40.1**	**+2.1**
MTBS	**Maitube** 19nm,0.7s	**3.36**	**247**	Pg	**Pb**	**06 58 57.7**	**+0.6**
MTBS	44nm,0.3s			Lg	Lg	06 59 40.1	
KRBS	**Karabastau** 5.2nm,0.5s	**3.68**	**259**	*eP*	**Pb**	**06 59 02.9**	**+0.2**
KRBS	18nm,0.4s			*eS*	**Sb**	**06 59 48.9**	**+1.5**
KRBS	**Karabastau** 5.2nm,0.5s	**3.68**	**259**	Pg	**Pb**	**06 59 02.9**	**+0.2**
KRBS	18nm,0.4s			Lg	Lg	06 59 48.9	
KST	**Kastek** 15nm,0.0s	**3.70**	**248**	*eP*	**Pb**	**06 59 03.4**	**+0.3**
KST	17nm,0.6s			*eS*	**Sb**	**06 59 49.8**	**+1.8**
KST	**Kastek** 15nm,0.4s	**3.70**	**248**	Pg	**Pb**	**06 59 03.4**	**+0.3**
KST	17nm,0.6s			Lg	Lg	06 59 49.8	
DGS	**Degeres** 12nm,0.1s	**3.75**	**252**	*eP*	**Pb**	**06 59 03.8**	**-0.1**
DGS	20nm,0.6s			*eS*	**Sb**	**06 59 50.7**	**+1.2**
DGS	**Degeres** 17nm,0.3s	**3.75**	**252**	Pg	**Pb**	**06 59 03.8**	**-0.1**
DGS	20nm,0.6s			Lg	Lg	06 59 50.7	
TKM2	**Tokmak 2** 3.2nm,0.4s	**4.00**	**248**	⇑Pg	**Pb**	**06 59 10.5**	**+2.4**
TKM2	4.6nm,0.3s			⇑Lg	Lg	07 00 04.8	
ZSN	**Zaisan** 3.5nm,0.3s	**4.15**	**43**	*eP*	**Pb**	**06 59 09.5**	**-1.1**
ZSN	15nm,0.0s			*eS*	**Sb**	**07 00 00.0**	**-0.8**
ZSN	**Zaisan** 3.5nm,0.3s	**4.15**	**43**	Pg	**Pb**	**06 59 09.5**	**-1.1**
ZSN	15nm,0.0s			Lg	Lg	07 00 00.0	
SGDS	**Sogindy** 2.5nm,0.5s	**4.48**	**258**	*eP*	**Pb**	**06 59 19.3**	**+3.1**
SGDS	11nm,0.6s			*eS*	**Sg**	**07 00 17.2**	**-4.0**
SGDS	**Sogindy** 2.5nm,0.5s	**4.48**	**258**	Pg	**Pb**	**06 59 19.3**	**+3.1**
SGDS	11nm,0.6s			Lg	Lg	07 00 17.2	
BTLS	**Baital** 1.2nm,0.3s	**4.74**	**279**	*eP*	**Pb**	**06 59 23.8**	**+3.2**
BTLS	3.3nm,0.3s			*eS*	**Sg**	**07 00 25.0**	**-4.6**
BTLS	**Baital** 1.2nm,0.3s	**4.74**	**279**	Pg	**Pb**	**06 59 23.8**	**+3.2**
BTLS	3.3nm,0.3s			Lg	Lg	07 00 25.0	
AAK	**Ala-Archa** 1.5nm,0.4s	**4.86**	**249**	⇑Pg	**Pb**	**06 59 25.7**	**+3.0**
AAK	7.7nm,0.7s			⇓Lg	Lg	07 00 33.1	
KURBB	**Kurchatov Arra** 0.8nm,0.3s	**6.28**	**348**	⇓Pn	**Pn**	**06 59 33.1**	**+3.0**
KURBB	19nm,0.8s			⇓Lg	Lg	07 01 22.0	
KURK	**Kurchatov** 1.9nm,0.8s	**6.36**	**348**	⇑Pn	**Pn**	**06 59 34.0**	**+2.8**
KURK	15nm,1.1s			⇑Lg	Lg	07 01 21.6	
OTUK	**Ortayu** 9.3nm,0.7s	**6.86**	**306**	⇓Lg	Lg	07 01 35.7	
KK02	**Karatay Array** 4.1nm,0.7s	**7.47**	**263**	⇓Lg	Lg	07 01 55.1	

IDC 19 07:08:05.7±2.6, 7°.20N×125°.06E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/31, mbtmp3.7/3, Error ellipse: s-maj=280.0km s-min=9.3km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=341,slow=9.1,SNR=2.8	**28.47**	**161**	P	P	07 14 02.6	-0.1
ASAR	**Alice Springs** 0.4nm,0.4s,baz=343,slow=6.8,SNR=9.4	**31.87**	**165**	P	P	07 14 32.8	0.0
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=120,slow=7.5,SNR=9.5	**53.78**	**325**	P	P	07 17 29.9	-0.1

*IDC **19** 07:08:47.5±1.4, 32°.03S×71°.05W, h73km±14km, mb3.8/2, mb1 3.7/4, mb1mx3.4/22, mbtmp3.8/4, Error ellipse: s-maj=36.3km s-min=10.7km az=93.0*

*NEIC **19** 07:08:48.0±1.6, 31°.93S±0°.02×71°.24W±0°.09, h75km±6km, mb4.3/12, ML4.1(GUC), Error ellipse: s-maj=11.4km s-min=3.3km az=94.0*

*GUC **19** 07:08:48.9±0.7, 32°.11S×71°.22W, h83km±3km, ML4.1*

ISC 19 07:08:47.4±0.8, 31°.92S±0°.04×71°.28W±0°.08, h75km±8km, n54, σ0§89/72, mb4.2/7, 1C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.64**	**182**	⇓*iP*	**Pn**	**07 09 03.1**	**+1.0**
VA06				*i* S	**Sn**	**07 09 14.2**	**+1.2**
VA06	comp=N,11μm,0.3s			IAML		07 09 14.6	
VA03	**San Esteban**	**1.04**	**144**	⇓*iP*	**Pn**	**07 09 07.2**	**+0.4**
VA03				*i* S	**Sn**	**07 09 21.7**	**+0.4**
VA03	comp=E,11μm,0.1s			IAML		07 09 22.3	
VA03	**San Esteban**	**1.04**	**144**		**Pn**	**07 09 07.3**	**+0.4**
VA03				Sn	**Sn**	**07 09 21.5**	**+0.2**
ROCH	**El Roble**	**1.07**	**168**	⇓*iP*		07 09 07.7	
ROCH				⇓*iP*	**Pn**	**07 09 06.9**	**-0.4**
ROCH				*i* S	**Sn**	**07 09 22.0**	**-0.2**
ROCH				*i* S	**Sn**	**07 09 22.7**	**+0.5**
ROCH	comp=E,4μm,0.5s			IAML		07 09 24.1	
ROCH	comp=N,5μm,0.3s			IAML		07 09 25.0	
VA01	**Torpederas**	**1.15**	**196**	⇓*iP*	**Pn**	**07 09 08.4**	**+0.4**
VA01				*i* S	**Sn**	**07 09 23.7**	**+0.3**
VA01	comp=N,7μm,0.1s			IAML		07 09 25.2	
VA01	**Torpederas**	**1.15**	**196**	Pn	**Pn**	**07 09 08.3**	**+0.3**
VA01				Sn	**Sn**	**07 09 24.3**	**+0.9**
CO03	**El Pedregal**	**1.19**	**25**	⇑*iP*	**Pn**	**07 09 09.4**	**+0.8**
CO03	**El Pedregal**	**1.19**	**25**		**Pn**	**07 09 09.5**	**+0.8**
CO03				Sn	**Sn**	**07 09 25.3**	**+0.8**
PEL	**Peldehue**	**1.32**	**158**		**Pn**	**07 09 10.9**	**+0.6**
PEL				Sn	**Sn**	**07 09 27.9**	**+0.4**
MT02	**Curacav**	**1.34**	**175**	⇓*iP*	**Pn**	**07 09 10.7**	**+0.2**
MT02				*i* S	**Sn**	**07 09 27.7**	**-0.2**
MT02	**Curacav**	**1.34**	**175**		**Pn**	**07 09 10.7**	**+0.2**
MT02				Sn	**Sn**	**07 09 27.7**	**-0.2**
MT05	**Renca**	**1.54**	**163**	⇓*iP*	**Pn**	**07 09 13.8**	**+0.6**
MT05				*i* S	**Sn**	**07 09 32.6**	**+0.1**
MT05	comp=N,5μm,0.1s			IAML		07 09 35.5	
MT05	**Renca**	**1.54**	**163**	Pn	**Pn**	**07 09 13.8**	**+0.6**
VA05	**Santo Domingo**	**1.76**	**189**	⇓*iP*	**Pn**	**07 09 16.2**	**+0.3**
VA05				*i* S	**Sn**	**07 09 36.8**	**-0.8**
VA05	comp=E,4μm,0.3s			IAML		07 09 40.8	
VA05	**Santo Domingo**	**1.76**	**189**	Pn	**Pn**	**07 09 16.4**	**+0.4**
GO04	**Tololo Observa**	**1.79**	**13**		**Pn**	**07 09 17.7**	**+1.1**
MT09	**Talagante**	**1.87**	**173**	⇓*iP*	**Pn**	**07 09 18.3**	**+0.7**
MT09				*i* S	**Sn**	**07 09 40.3**	**-0.2**
MT09	comp=E,4μm,0.3s			IAML		07 09 42.4	
MT01	**Popeta**	**1.94**	**179**	⇓*iP*	**Pn**	**07 09 18.8**	**+0.4**
MT01				*i* S	**Sn**	**07 09 41.1**	**-0.9**
MT01	comp=E,2μm,0.2s			IAML		07 09 45.5	
BO04	**La Punta**	**2.14**	**165**	⇓*iP*	**Pn**	**07 09 21.8**	**+0.7**
BO04				*i* S	**Sn**	**07 09 46.8**	**0.0**
BO04	comp=E,1μm,0.1s			IAML		07 09 49.1	
BO01	**Tunca**	**2.47**	**176**	*eP*	**Pn**	**07 09 25.7**	**+0.2**
BO01				*i* S	**Sn**	**07 09 53.3**	**-1.5**
BO01	**Tunca**	**2.47**	**176**	Pn	**Pn**	**07 09 25.4**	**-0.1**
BO02	**Sierra Bellavi**	**2.90**	**172**	⇓*eP*	**Pn**	**07 09 31.9**	**+0.5**
BO02				*eS*	**Sn**	**07 10 04.7**	**-0.4**
BO02	comp=N,1μm,0.1s			IAML		07 10 08.9	
BO02	**Sierra Bellavi**	**2.90**	**172**	Pn	**Pn**	**07 09 32.5**	**+1.2**
LCO	**Las Campanas**	**2.94**	**10**		**Pn**	**07 09 32.8**	**+0.6**
AC04	**Llanos de Chal**	**3.71**	**3**	Pn	**Pn**	**07 09 42.2**	**-0.1**
ML02	**Panimavida**	**3.84**	**182**	Pn	**Pn**	**07 09 43.5**	**-0.6**
GO03	**Copiap**	**4.40**	**12**	Pn	**Pn**	**07 09 51.9**	**0.0**
AC02	**Maricunga**	**5.40**	**21**		**Pn**	**07 10 06.0**	**+0.1**
LC01	**Cunco**	**6.98**	**184**	Pn	**Pn**	**07 10 25.7**	**-1.3**
PLCA	**Paso Flores**	**8.82**	**176**	P	**Pn**	**07 10 50.6**	**-1.5**
PLCA	**Paso Flores** comp=N,0.1nm,0.3s,baz=352,slow=14,SNR=1.3	**8.82**	**176**	Pn	**Pn**	**07 10 51.7**	**-0.4**
LL04	**Puerto Octay**	**9.02**	**185**	Pn	**Pn**	**07 10 53.3**	**-1.5**
LVC	**Limon Verde**	**9.51**	**13**	Pn	**Pn**	**07 10 58.1**	**-3.8**
LL05	**Los Muermos**	**9.63**	**190**	Pn	**Pn**	**07 11 04.8**	**+1.7**
PB16	**IPOC Station P**	**13.62**	**7**		**Pn**	**07 11 59.3**	**+1.5**
LPAZ	**La Paz** comp=N,0.2nm,0.3s,baz=190,slow=9.7,SNR=7.3	**15.82**	**11**	P	**Pn**	**07 12 27.4**	**+1.0**
LPAZ	**La Paz**	**15.82**	**11**		**Pn**	**07 12 26.7**	**+0.4**
PTLB	**Pontes e Lacer**	**19.78**	**37**	P	**P**	**07 13 11.0**	**-0.7**
VILB	**Vilhena**	**21.45**	**31**	P	**P**	**07 13 28.7**	**-0.9**
VILB	comp=Z,5.4nm,0.6s			IAmb	IAmb	07 13 31.5	
ETMB	**Extrema**	**22.49**	**13**	P	**P**	**07 13 41.6**	**+0.9**
ETMB	comp=Z,5.5nm,0.7s			IAmb	IAmb	07 13 42.8	
BDFB	**Brasilia** comp=Z,2.0nm,0.5s,baz=245,slow=8.4,SNR=4.3	**26.66**	**58**	P	**P**	**07 14 18.7**	**-0.9**
BDFB	**Brasilia** comp=Z,18nm,1.5s	**26.66**	**58**	P	**P**	**07 14 18.3**	**-1.3**
BDFB				IAmb	IAmb	07 14 19.6	
BOAV	**Boa Vista** comp=Z,9.4nm,1.5s	**35.62**	**19**	P	**P**	**07 15 37.4**	**-0.7**
BOAV				IAmb	IAmb	07 15 41.6	
OCAC	**Ocana** comp=Z,8.8nm,1.3s	**39.98**	**357**	P	**P**	**07 16 14.4**	**-0.6**
SRBA	**San Rafael, Bu**	**42.52**	**342**	P	**P**	**07 16 36.5**	**+0.7**
DUNO	**Dulce Nombre,**	**43.92**	**340**	P	**P**	**07 16 46.7**	**-0.2**
SNAA	**Sanae**	**53.27**	**158**	P	**P**	**07 17 59.3**	**+1.1**
VNDA	**Vanda** comp=Z,9.4nm,1.5s	**66.26**	**191**	P	**P**	**07 19 27.1**	**0.0**
VNDA				IAmb	IAmb	07 19 51.2	
TXAR	**Lajitas Array** comp=Z,4.1nm,1.2s	**68.25**	**330**	P	**P**	**07 19 41.1**	**+0.8**
LCAR	**Lake Charles**	**70.15**	**343**	P	**P**	**07 19 52.1**	**+0.3**
LCAR				IAmb	IAmb	07 20 07.7	
BATG	**Bathurst New B** comp=Z,0.8nm,0.8s,baz=247,slow=2.6,SNR=4.2	**78.97**	**4**	P	**P**	**07 20 44.0**	**+1.4**
TORD	**Torodi Ar. Bea** comp=Z,1.7nm,0.5s,baz=303,slow=1.0,SNR=6.9	**82.90**	**70**	P	**P**	**07 21 04.2**	**-0.1**
ZALV	**Zalesovo Beam**	**152.12**	**31**	PKPbc	**PKPbc**	**07 28 33.8**	**+0.1**
ZALV	**Zalesovo Beam**	**152.12**	**31**	PKPbc	**PKiKP**	**07 28 34.0**	**0.0**

*NNC **19** 07:24:26.5±1.1, 50°.06N×78°.93E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=18.4km s-min=5.5km az=69.0, Suspected Mining explosion.*

*IDC **19** 07:24:31.3±3.9, 50°.01N×79°.30E, h0km, mb1 2.8/2, mb1mx2.8/46, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=60.6km s-min=23.5km az=82.0*

ISC 19 07:24:22.1±1.0, 50°.17N±0°.06×79°.30E±0°.07, h0km, n8, σ1§33/12, 9C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 16nm,0.3s	**0.67**	**313**	⇑P	**Pn**	**07 24 38.6**	**-0.3**
KURBB	61nm,0.5s			⇓S	**Sb**	**07 24 47.5**	**+1.0**
KURK	**Kurchatov** 8.5nm,0.4s	**0.70**	**322**	⇑P	**Pn**	**07 24 39.9**	**+0.7**
KURK	19nm,0.7s			⇑S	**Sn**	**07 24 49.4**	**-1.4**
MAKZ	**Makanchi** 0.9nm,0.6s	**3.81**	**151**	⇓Pg	**Pg**	**07 25 36.0**	**+1.0**
MAKZ	2.7nm,0.5s			⇑Lg	Lg	07 26 26.2	
MK31	**Makanchi Array** 0.1nm,0.2s,baz=336,slow=12,SNR=22	**3.92**	**148**	⇑Pn	**Pb**	**07 25 30.8**	**-1.3**
MK31	0.8nm,0.4s,baz=335,slow=15,SNR=21			⇓Pg	**Pg**	**07 25 39.7**	**+2.5**
MK31	2.0nm,0.4s,baz=330,slow=28,SNR=11			⇑Lg	Lg	07 26 32.1	
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=324,slow=10.0,SNR=34	**3.92**	**148**	Pn	**Pb**	**07 25 30.9**	**-1.2**
MKAR	0.5nm,0.3s,baz=326,slow=15,SNR=15			Pg	**Pg**	**07 25 37.9**	**+0.7**
MKAR	1.2nm,0.3s,baz=330,slow=27,SNR=14			Lg	Lg	07 26 31.8	
OTUK	**Ortayu** 1.8nm,0.5s	**4.96**	**250**	⇑Pn	**Pn**	**07 25 37.1**	**-0.7**
OTUK	0.8nm,0.5s			⇑Pg	**Pb**	**07 25 49.5**	**-0.2**
OTUK	1.4nm,0.5s			⇑Lg	Lg	07 26 50.5	
I46RU	**ZALESOVO INFRA** baz=220,slow=330,SNR=2.0	**5.09**	**40**	*i*		07 56 40.0	
ZALV	**Zalesovo Beam** 0.9nm,0.3s,baz=233,slow=16,SNR=6.5	**5.09**	**40**	Pn	**Pb**	**07 25 50.9**	**-1.1**

*IDC **19** 07:39:31.8±0.6, 2°.32S×133°.28E, h0km, mb4.3/13, mb1 4.6/19, mb1mx4.4/41, mbtmp4.5/19, ML4.7/6, MS4.6/51, Ms1 4.6/51, ms1mx4.6/68, Error ellipse: s-maj=21.2km s-min=12.4km az=76.0*

*DJA **19** 07:39:33.5±0.1, 2°.5±2°.×13°.3E±°, h10km, M4.9/66, mb5.0/66, mB5.4/44, MLv5.3/15, Mw(mB)4.8/44, MwMwp5.0/14, Mwp5.3/14*

*BJI **19** 07:39:34.6±0.0, 2°.69S×133°.29E, h36km, mb4.6/37, mB5.2/22, Ms5.0/30, Ms7 4.7/29*

*GCMT **19** 07:39:34.1±0.1, 2°.34S±0°.01×133°.35E±0°.01, h12km, MW5.3/137, Moment Tensor Solution. s91, c131; s137, c228; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.03±.01; $M_{\theta\theta}$-0.73±.01; $M_{\phi\phi}$0.70±.01; $M_{r\theta}$0.04±.04; $M_{\theta\phi}$0.71±.01; $M_{\phi r}$0.29±.04; Best double couple: $M_0$1.05300×10^{17} NP1:$\phi_0$69.00000°, δ76.00000°, λ8.00000°. NP2:$\theta_0$337.00000°, δ82.00000°, λ166.00000°. Principal axes: T 1.0770, Plg15.0000°, Azm292.0000°; N -0.0470, Plg74.0000°, Azm127.0000°; P -1.0300, Plg4.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **19** 07:39:37.1±2.2, 2°.39S±0°.08×133°.35E±0°.07, h35km±5km, mb4.8/40 Error ellipse: s-maj=12.1km s-min=10.6km az=180.0*

ISC 19 07:39:33.3±0.3, 2°.40S±0°.04×133°.41E±0°.04, h10km, n211, σ1§92/188, mb4.8/46, MS4.7/58, 2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.27**	**246**	P	**Pn**	**07 39 57.3**	**+0.1**
FAKI				S	**Sg**	**07 40 15.3**	**+1.0**
FAKI	**Fak Fak**	**1.27**	**246**		**Pn**	**07 39 56.5**	**-0.6**
SIJI	**Sorong** 84nm,0.3s,baz=247,slow=22,SNR=150	**2.63**	**305**	Pn	**Pn**	**07 40 14.1**	**-1.8**
SIJI	195nm,0.3s,baz=102,slow=9.8,SNR=5.6			Sn	**Sn**	**07 40 48.7**	**+0.8**
SWI	**Sorong**	**2.64**	**305**	P	**Pn**	**07 40 14.1**	**-1.9**
SWI				S	**Sn**	**07 40 49.0**	**+0.9**
SRPI	**Serui, Papua**	**2.88**	**80**	P	**Pn**	**07 40 19.2**	**0.0**
SRPI				S	**Sn**	**07 40 52.9**	**-1.0**
BAKI	**Biak**	**2.95**	**66**	P	**Pn**	**07 40 20.4**	**+0.1**
MSAI	**Masohi**	**4.58**	**258**	P	**Pn**	**07 40 44.4**	**+1.8**
SMPI	**Sarmi** 1.1nm6μm3μm210nm,0.8s	**5.31**	**86**	P	**Pn**	**07 40 53.3**	**+0.6**
AAI	**Ambon** 2.7nm5μm356nm,0.8s	**5.37**	**256**	P	**Pn**	**07 40 53.9**	**+0.4**
SAUI	**Saumlaki** 3.4nm16μm22μm313nm,0.9s	**5.93**	**201**	P	**Pn**	**07 41 03.4**	**+2.1**
LBMI	**Labuha** 2.5nm8μm4μm170nm,0.6s	**6.16**	**286**	P	**Pn**	**07 41 04.1**	**-0.4**
GENI	**Genyem** 1.5nm8μm4μm308nm,0.8s	**6.75**	**92**	P	**Pn**	**07 41 12.2**	**-0.4**
TNTI	**Ternate** 0.8nm7μm3μm73nm,1.0s	**6.82**	**297**	P	**Pn**	**07 41 13.8**	**+0.3**
JAY	**Jayapura** 3.9nm,0.3s,baz=189,slow=14,SNR=13	**7.29**	**91**	Pn	**Pn**	**07 41 21.8**	**+1.9**
JAY	comp=Z,14μm,20.4s,baz=290,slow=48			LR	LR	07 45 24.6	
JAY	**Jayapura** 0.2nm730nm44nm,0.9s	**7.29**	**91**	P	**Pn**	**07 41 20.6**	**+0.6**
SANI	**Sanana**	**7.43**	**273**	P	**Pn**	**07 41 20.8**	**-1.0**

0.7nm5µm2µm139nm,0.7s
KMSI Cibinong 9.88 287 P **Pn 07 41 55.9 +0.4**
KDU Kakadu 10.26 185 P **Pn 07 41 59.2 -1.5**
baz=10,SNR=112
MTN Manton Dam 10.62 192 P **Pn 07 42 03.9 -1.7**
baz=11,SNR=240
MTN Manton Dam 10.62 192 Pn **Pn 07 42 05.0 -0.7**
LUWI Luwuk 10.72 277 P **Pn 07 42 06.9 -0.2**
4µm145nm,0.5s
GTOI Gorontalo 10.83 286 P **Pn 07 42 10.3 +1.8**
760nm50nm,0.7s
BBSI Bau Bau 11.24 254 P **Pn 07 42 14.3 +0.1**
16nm,0.9s
MRSI Marisa 11.82 284 P **Pn 07 42 21.6 -0.5**
57nm,0.6s
APSI Ampana 11.85 277 P **Pn 07 42 22.7 +0.2**
2µm2µm146nm,0.6s
DAV Davao City (W) 12.23 320 LR LR 07 47 10.8
comp=Z,4µm,18.8s,baz=138,slow=38
BATI Baumata 12.41 231 Pn **Pn 07 42 30.3 +0.1**
7.8nm,0.3s,baz=292,slow=7.1,SNR=2.0
BATI LR LR 07 48 38.3
comp=Z,7µm,19.8s,baz=56,slow=44
BATI Baumata 12.41 231 P **Pn 07 42 30.8 +0.6**
56nm,0.8s
MMRI Maumere 12.73 240 P **Pn 07 42 34.9 +0.4**
2µm3µm74nm,0.8s
TOLI2 Tolitoli 13.10 285 **Pn 07 42 38.8 -0.8**
EDFI Ende, Flores 13.26 241 P **Pn 07 42 43.0 +1.1**
631nm24nm,1.4s
BSSI Bau Bau, Buton 13.41 253 P **Pn 07 42 44.6 +0.7**
774nm37nm,1.0s
BNSI Bone 13.43 261 P **Pn 07 42 44.5 +0.4**
1µm70nm,1.9s
BKSI Bulukumba 13.57 257 P **Pn 07 42 46.1 0.0**
1µm65nm,0.9s
TTSI Tana Toraja 13.59 267 P **Pn 07 42 46.1 -0.2**
2µm74nm,1.6s
SPSI Sidrap Palu 13.71 263 P **Pn 07 42 47.3 -0.6**
1µm66nm,1.6s
MPSI Mapaga 13.78 281 P **Pn 07 42 49.7 +0.8**
4µm21nm,1.9s
KAPI Kappang 13.88 259 Pn **Pn 07 42 48.7 -1.6**
2.0nm,0.3s,baz=132,slow=8.1,SNR=7.1
KAPI LR LR 07 49 39.3
comp=Z,900nm,18.8s,baz=112,slow=44
KAPI Kappang 13.88 259 Pn **Pn 07 42 51.5 +1.3**
MANU Manus Island 13.95 89 **Pn 07 42 53.7 +2.5**
KNRA Kununurra 13.97 199 P **Pn 07 42 49.0 -2.4**
baz=14,SNR=148
KNRA Kununurra 13.97 199 Pn **Pn 07 42 48.4 -3.0**
BASI Baing, Sumba 14.93 238 P **Pn 07 43 05.9 +1.3**
927nm82nm,1.2s
COEN Coen 15.00 140 Pn **Pn 07 43 03.2 -2.3**
COEN IAmb IAmb 07 43 16.3
comp=Z,60nm,1.5s
PMG Port Moresby 15.34 118 **Pn 07 43 08.6 -1.4**
WBSI Waikabubak, Su 15.68 242 P **Pn 07 43 13.8 -0.8**
comp=Z,858nmcomp=Z,74nm,0.8s
MYLDM Lahad Datu 16.69 297 P **P 07 43 31.5 +1.6**
MYLDM IAmb IAmb 07 43 54.0
comp=Z,94nm,1.2s
KBKI Kotabaru 17.25 267 P **P 07 43 35.9 -0.1**
comp=Z,2µmcomp=Z,74nm,1.0s
WB0 Warramunga Arr 17.29 177 P **Pn 07 43 34.0 -1.0**
WB0 IAmb IAmb 07 43 47.8
comp=Z,126nm,1.4s
FITZ Fitzroy Crossi 17.36 206 P **Pn 07 43 34.1 -1.9**
comp=Z,6.8nm,0.3s,baz=37,slow=12,SNR=151
FITZ S Sn 07 46 36.7 -13
comp=Z,4.2nm,0.3s,baz=181,slow=12,SNR=8.0
FITZ LR LR 07 51 45.5
comp=Z,988nm,18.6s,baz=24,slow=42
WRAB Tennant Creek 17.45 177 P **Pn 07 43 35.8 -1.2**
WRAB IAmb IAmb 07 43 48.7
comp=Z,137nm,1.4s
WRA Warramunga Arr 17.46 177 P **Pn 07 43 36.7 -0.5**
comp=Z,2.2nm,0.3s,baz=359,slow=12,SNR=32
WRA S Sn 07 46 39.5 -12
comp=Z,1.9nm,0.3s,baz=356,slow=23,SNR=5.3
WRA LR LR 07 51 25.4
comp=Z,8µm,19.3s,baz=352,slow=41
WRA Warramunga Arr 17.46 177 P **Pn 07 43 36.6 -0.5**
WB2 Warramunga Arr 17.46 177 P **Pn 07 43 37.3 +0.1**
WB2 IAmb IAmb 07 43 53.0
comp=Z,55nm,0.8s
WR0 Warramunga Arr 17.49 176 P **Pn 07 43 37.8 +0.3**
WR0 IAmb IAmb 07 43 53.9
comp=Z,94nm,1.0s
MTKI Muara Teweh, K 18.56 274 P **Pn 07 43 51.6 +0.8**
BBKI Banjar Baru 18.58 266 P **Pn 07 43 52.3 +1.4**
comp=Z,6µmcomp=Z,78nm,0.8s
RABL Rabaul 18.80 96 P **Pn 07 43 55.2 +1.4**
MTSU Mount Surprise 18.94 146 P **P 07 43 54.2 -0.5**
baz=19,SNR=46
SRBI Singaraja 18.98 252 P **P 07 43 55.5 +0.4**
comp=Z,2µmcomp=Z,2µmcomp=Z,95nm,0.8s
QIS Mount Isa 19.03 162 P **P 07 43 55.7 +0.1**
baz=19,SNR=18
KKM Kota Kinabalu 19.11 296 P **P 07 43 57.0 +0.3**
KKM IAmb IAmb 07 44 07.4
comp=Z,122nm,1.5s
DNP Denpasar 19.15 250 P **P 07 43 57.7 +0.7**
comp=Z,245nm,0.4s
IGBI Denpasar 19.26 250 P **P 07 43 58.9 +0.7**
comp=Z,101nm,0.8s
GUMO Guam 19.53 35 LR LR 07 51 00.5
comp=Z,2µm,19.9s,baz=210,slow=35
ABJI Asem Bagus 19.83 254 P **P 07 44 05.3 +0.8**
comp=Z,2µmcomp=Z,140nm,1.6s
KMMI Kalianget 19.92 256 P **Pn 07 44 06.9 -0.2**
comp=Z,2µmcomp=Z,81nm,0.7s
JAGI Jajag, Banyuwa 20.09 252 P **P 07 44 06.1 -1.2**
comp=Z,1µmcomp=Z,82nm,0.8s
JAGI Jajag, Banyuwa 20.09 252 P **P 07 44 05.7 -1.6**
BLJI Banyuglugur 20.43 254 P **P 07 44 11.6 +0.6**
comp=Z,1µmcomp=Z,64nm,0.9s
GMJI Gumukmas 20.71 253 P **P 07 44 12.9 -1.2**
comp=Z,42nm,0.8s
AS31 Alice Springs 21.14 179 P **P 07 44 17.9 -0.8**
AS31 IAmb IAmb 07 44 24.2
comp=Z,29nm,0.6s
ASAR Alice Springs 21.15 179 P **P 07 44 19.6 +0.9**
comp=Z,123nm,0.8s,baz=3.1,slow=12,SNR=678
ASAR S **S 07 48 08.4 -5.7**
comp=Z,6.8nm,0.7s,baz=358,slow=26,SNR=6.4
ASAR LR LR 07 53 39.8
comp=Z,7µm,19.2s,baz=6.5,slow=40
CTA Charters Tower 21.60 145 P **P 07 44 25.3 +1.8**
comp=Z,16nm,1.1s,baz=314,slow=12,SNR=3.1
CTAO Charters Tower 21.60 145 P **P 07 44 24.8 +1.2**
CTAO IAmb IAmb 07 44 42.3
comp=Z,34nm,1.2s
SBUM Sibu 21.73 283 P **P 07 44 25.6 +0.6**
STKI Sintang 22.07 276 P **P 07 44 29.4 +0.7**
comp=Z,22nm,1.2s
UWJI Ujung Watu 22.75 259 P **P 07 44 36.4 +0.5**
comp=Z,2µmcomp=Z,122nm,0.7s
PCJI Pacitan 22.87 255 P **P 07 44 38.0 +0.8**
comp=Z,55nm,0.6s
WRKA Warakurna 23.04 192 P **P 07 44 39.0 +0.1**
baz=23,SNR=76
PSA00 Pilbara Seismi 23.18 214 P **P 07 44 39.4 -1.0**
SMRI Semarang 23.35 258 P **P 07 44 43.0 +0.8**
comp=Z,135nm,1.5s
SMRI Semarang 23.35 258 P **P 07 44 42.8 +0.6**
UGM Wanagama 23.44 256 P **P 07 44 43.0 -0.1**
comp=Z,49nm,1.9s
CMJI Cimerak 25.42 257 P **P 07 45 02.0 +0.5**
comp=Z,30nm,0.7s
TPI Tanjungpandan 25.73 269 P **P 07 45 04.6 +0.3**
comp=Z,493nmcomp=Z,18nm,1.4s
LEM Lembang 26.08 259 P **P 07 45 08.1 +0.5**
comp=Z,21nm,0.6s
QLP Quilpie 26.19 158 P **P 07 45 08.6 +0.3**
baz=26,SNR=4.5
CNJI Cibinong 26.63 259 P **P 07 45 12.7 +0.3**
comp=Z,135nm,1.4s
CBJI Citeko 26.78 261 P **P 07 45 13.7 0.0**
comp=Z,141nm,0.6s
HNR Honiara 27.29 106 LR LR 07 58 04.9
comp=Z,2µm,18.0s,baz=287,slow=41
GIRL Giralia 27.41 221 P **P 07 45 18.4 -0.9**
EIDS Eidsvold 28.48 145 P **P 07 45 29.2 +0.3**
FORT Forrest 28.68 190 P **P 07 45 31.2 +0.7**
baz=29,SNR=18
FORT Forrest 28.68 190 P **P 07 45 30.6 +0.1**

XMIS Christmas Isla 28.71 253 P **P 07 45 30.2 -0.8**
XMIS IAmb IAmb 07 45 38.2
comp=Z,27nm,0.8s
JOW Kunigami 29.48 351 LR LR 07 56 23.2
comp=Z,2µm,20.1s,baz=222,slow=34
STKA Stephens Creek 30.32 166 P **P 07 45 46.0 +0.9**
comp=Z,4.3nm,0.7s,baz=339,slow=6.9,SNR=13
STKA LR LR 07 58 50.6
comp=Z,3µm,19.8s,baz=340,slow=38
STKA Stephens Creek 30.32 166 P **P 07 45 45.3 +0.2**
baz=30,SNR=5.0
STKA Stephens Creek 30.32 166 P **P 07 45 45.4 +0.3**
BBOO Buckleboo 30.35 176 P **P 07 45 45.6 +0.2**
BBOO IAmb IAmb 07 46 13.2
comp=Z,34nm,1.5s
CMSA Cobar Meteorol 31.21 159 P **P 07 45 52.5 -0.5**
baz=31,SNR=11
MORW Morawa 31.25 210 P **P 07 45 53.0 -0.5**
MORW IAmb IAmb 07 46 11.1
comp=Z,24nm,1.4s
QIZ Qiongzhong 31.47 314 P **P 07 45 56.8 +1.3**
QIZ pP **sP 07 46 04.9 +5.1**
QIZ S **S 07 51 03.5 -0.2**
QIZ sS sS 07 51 18.8 +10
QIZ LR LR
comp=Z,1µm,10.6s
QIZ LR LR
comp=Z,1µm,11.2s
QIZ LR LR
comp=Z,1µm,20.6s
BLDU Ballidu 32.21 208 P **P 07 46 02.5 +0.7**
baz=32,SNR=4.8
ARMA Armidale 32.78 150 P **P 07 46 06.3 -0.5**
baz=33,SNR=8.4
ARMA Armidale 32.78 150 P **P 07 46 06.4 -0.5**
ARMA IAmb IAmb 07 46 32.1
comp=Z,9.8nm,0.9s
PSI Prapat 34.86 278 LR LR 08 02 18.0
comp=Z,901nm,19.8s,baz=135,slow=39
ARPS Mount Arapiles 35.08 168 P **P 07 46 27.1 +0.4**
baz=35,SNR=6.4
SSE Sheshan 35.29 342 P **P 07 46 27.8 -0.7**
SSE pmax pmax
comp=Z,9.0nm,0.6s
SSE pmax pmax
comp=Z,150nm,4.2s
SSE LR LR
comp=Z,600nm,10.8s
SSE LR LR
comp=Z,810nm,12.3s
JNU Nakatsue 35.41 356 P **P 07 46 28.9 -0.8**
comp=Z,18nm,0.9s,baz=151,slow=7.8,SNR=4.2
JNU LR LR 08 00 42.9
comp=Z,1µm,18.9s,baz=180,slow=36
JHJ Hachijo jima 2 35.84 9 LR LR 07 57 51.5
comp=Z,2µm,20.8s,baz=224,slow=31
TOO Toolangi 36.72 164 P **P 07 46 41.2 +0.3**
NJ2 Nanjing 36.94 339 *e*P **P 07 46 45.1 +2.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 LR LR
comp=Z,1µm,16.2s
NJ2 LR LR
comp=Z,2µm,16.6s
NJ2 LR LR
comp=Z,1µm,16.7s
DZM Mont Dzumac 37.58 124 *e*S **S 07 52 42.4 +4.3**
comp=Z,450nm,31.1s
DZM *e*LR LR 07 57 01.0
comp=Z,5µm,25.0s
MJAR Matsushiro Arr 39.00 6 LR LR 08 00 39.7
comp=Z,1µm,20.1s,baz=182,slow=33
CMAR Chiang Mai Arr 39.76 303 P **P 07 47 06.4 -0.2**
comp=Z,1.2nm,0.3s,baz=126,slow=6.7,SNR=4.4
CMAR Chiang Mai Arr 39.76 303 P **P 07 47 05.4 -1.2**
KSRS Korea Array 39.98 353 P **P 07 47 08.2 0.0**
comp=Z,1.5nm,0.5s,baz=178,slow=10,SNR=4.4
KSRS LR LR 08 03 05.8
comp=Z,849nm,19.4s,baz=170,slow=36
PZH PanZhiHua 41.97 315 P **P 07 47 26.6 +1.7**
PZH S **S 07 53 36.3 -7.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,250nm,5.7s
PZH LR LR
comp=Z,590nm,17.6s
PZH LR LR
comp=Z,670nm,18.0s
PZH LR LR
comp=Z,840nm,18.6s
HNS HongShan 43.24 338 ||P **P 07 47 34.6 -0.3**
HNS S **S 07 53 55.8 -6.2**
HNS pmax pmax
comp=Z,16nm,0.9s
HNS LR LR
comp=Z,800nm,14.5s
HNS LR LR
comp=Z,1µm,15.7s
HNS LR LR
comp=Z,980nm,19.3s
BJI Beijing 45.09 341 P **P 07 47 49.8 +0.1**
BJI pP **sP 07 47 58.3 +4.2**
BJI sP pP 07 48 03.5 +11
BJI pmax pmax
comp=Z,11nm,0.7s
MSVF Nonsavu 46.36 112 LR LR 08 06 09.7
comp=Z,1µm,20.9s,baz=289,slow=34
USA0B Ussuriysk Arra 46.41 359 P **P 07 47 58.8 -1.3**
USA0B IAmb IAmb 07 48 10.2
comp=Z,10nm,1.0s
USRK Ussuriysk Ar. 46.41 359 P **P 07 47 59.2 -0.8**
comp=Z,4.7nm,0.8s,baz=170,slow=6.1,SNR=8.5
USRK Ussuriysk Ar. 46.41 359 P **P 07 47 59.0 -1.0**
ASAJ Asahikawa 47.03 9 LR LR 08 07 54.7
comp=Z,638nm,19.5s,baz=335,slow=36
LZH Lanzhou 47.19 327 *e*P **P 07 48 08.0 +1.4**
LZH pP sP 07 48 19.9 +8.9
LZH sP pP 07 48 25.8 +16
LZH S **S 07 54 52.3 -7.4**
LZH SS **SS 07 58 22.0 -5.1**
LZH pmax pmax
comp=Z,17nm,1.4s
LZH LR LR
comp=Z,780nm,19.0s
LZH LR LR
comp=Z,710nm,19.5s
LZH LR LR
comp=Z,1µm,18.4s
HHC Hu-ho-hao-te 47.44 337 *e*P **P 07 48 10.8 +2.5**
HHC sP sP 07 48 27.5 +15
HHC S **S 07 55 03.8 +1.0**
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,250nm,6.7s
HHC LR LR
comp=Z,660nm,17.4s
HHC LR LR
comp=Z,710nm,14.1s
HHC LR LR
comp=Z,1µm,16.7s
KLR Kul'dur 51.44 359 LR LR 08 10 28.8
comp=Z,413nm,19.1s,baz=182,slow=36
GTA Gaotai 51.80 327 *e*P **P 07 48 42.3 +0.6**
GTA pP sP 07 48 56.6 +11
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,210nm,5.1s
GTA LR LR
comp=Z,620nm,18.2s
GTA LR LR
comp=Z,750nm,17.8s
GTA LR LR
comp=Z,840nm,20.4s
GOMU GeErMu 52.62 321 P **P 07 48 48.5 +0.4**
GOMU S **S 07 56 18.4 +2.6**
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,160nm,6.3s
GOMU LR LR
comp=Z,320nm,15.7s
GOMU LR LR
comp=Z,360nm,15.9s

GOMU LR LR
comp=Z,430nm,15.7s
TUWZ Tuamarina 53.24 142 P **P 07 48 51.0 -1.2**
RAO Raoul Island 53.36 125 LR LR 08 10 27.0
comp=Z,1µm,20.4s,baz=358,slow=35
PALK Pallekele 53.47 281 LR LR 08 13 40.8
comp=Z,736nm,21.0s,baz=214,slow=38
AFI Afiamalu 55.32 105 LR LR 08 11 45.2
comp=Z,505nm,20.0s,baz=253,slow=35
SONM Songino Array 55.32 338 P **P 07 49 05.8 -1.5**
comp=Z,0.8nm,0.8s,baz=167,slow=8.8,SNR=4.7
SONM Songino Array 55.32 338 P **P 07 49 06.3 -1.0**
PETK Petropavlovsk- 58.95 17 P **P 07 49 33.4 +0.6**
comp=Z,3.8nm,0.9s,baz=193,slow=5.9,SNR=2.8
PETK LR LR 08 17 29.2
comp=Z,259nm,18.4s,baz=205,slow=39
PETK Petropavlovsk- 58.95 17 P **P 07 49 32.8 0.0**
WMQ Urumqi 61.56 324 *e*P P 07 49 57.0 +6.1
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ LR LR
comp=Z,860nm,12.5s
WMQ LR LR
comp=Z,590nm,15.3s
WMQ LR LR
comp=Z,480nm,24.1s
YAK Yakutsk 64.32 358 LR LR 08 15 18.5
comp=Z,398nm,21.5s,baz=223,slow=33
SHEM Shemya Is, Ala 64.68 26 LR LR 08 14 12.6
comp=Z,531nm,21.7s,baz=258,slow=32
MK31 Makanchi Array 66.38 324 P **P 07 50 22.2 -0.4**
MKAR Makanchi Array 66.38 324 P **P 07 50 21.8 -0.7**
comp=Z,3.1nm,0.6s,baz=111,slow=7.9,SNR=42
MKAR LR LR 08 20 20.0
comp=Z,551nm,21.7s,baz=117,slow=37
MAKZ Makanchi 66.57 324 P **P 07 50 23.3 -0.5**
MAKZ IAmb IAmb 07 50 50.5
comp=Z,7.2nm,0.9s
SEY Seymchan 66.72 9 P **P 07 50 24.2 -0.1**
comp=Z,2.8nm,0.6s,baz=201,slow=3.3,SNR=14
KSH Kashi 67.07 315 P **P 07 50 28.3 +1.0**
KSH sP PcP 07 50 46.1 -9.4
RAR Rarotonga 67.54 112 LR LR 08 18 31.3
comp=Z,289nm,21.8s,baz=270,slow=35
ZAA0 Zalesovo Array 69.08 332 P **P 07 50 38.3 -1.1**
ZAA0 IAmb IAmb 07 50 39.8
comp=Z,14nm,1.5s
ZALV Zalesovo Beam 69.08 332 P **P 07 50 37.7 -1.7**
comp=Z,2.4nm,0.5s,baz=123,slow=7.0,SNR=11
ZALV LR LR 08 25 36.6
comp=Z,128nm,18.0s,baz=124,slow=40
ZALV Zalesovo Beam 69.08 332 P **P 07 50 38.1 -1.3**
AAK Ala-Archa 69.36 318 LR LR 08 24 14.4
comp=Z,234nm,18.0s,baz=104,slow=39
KURK Kurchatov 70.48 327 P **P 07 50 47.4 -0.7**
KURK IAmb IAmb 07 51 02.8
comp=Z,8.1nm,1.0s
KKAR Karatay Array 72.24 317 P **P 07 50 57.6 -1.3**
BRVK Borovoye 76.15 326 P **P 07 51 20.8 -0.7**
BRVK IAmb IAmb 07 51 21.6
comp=Z,6.8nm,1.0s
VNDA Vanda 76.60 174 P **P 07 51 24.0 +0.3**
comp=Z,1.4nm,0.7s,baz=308,slow=12,SNR=2.3
VNDA LR LR 08 24 37.8
comp=Z,2µm,18.9s,baz=353,slow=35
VNDA Vanda 76.60 174 P **P 07 51 24.7 +1.0**
PPT Papeete 76.90 107 LR LR 08 24 56.0
comp=Z,202nm,18.9s,baz=262,slow=35
PPT2 Papeete2 76.90 107 *e*LR LR 08 15 14.0
comp=Z,558nm,24.0s
WSAR Wadi Sarin 77.00 294 LR LR 08 27 09.3
comp=Z,132nm,21.8s,baz=124,slow=37
NRIK Noril'sk 77.99 345 LR LR 08 26 26.0
comp=Z,967nm,21.2s,baz=139,slow=36
GEYT Alibeck 79.92 309 LR LR 08 31 34.2
comp=Z,188nm,19.9s,baz=100,slow=39
MAW Mawson 80.45 201 LR LR 08 26 47.7
comp=Z,401nm,18.1s,baz=66,slow=35
MAW Mawson 80.45 201 P **P 07 51 46.0 +1.0**
ABKAR Akbulak array 81.09 321 P **P 07 51 47.7 -1.1**
ABKAR Akbulak array 81.09 321 P **P 07 51 47.2 -1.6**
AKTO Aktyubinsk 82.58 321 LR LR 08 30 34.2
comp=Z,429nm,21.9s,baz=107,slow=37
KDAK Kodiak Island 83.55 31 LR LR 08 24 05.4
comp=Z,692nm,19.9s,baz=264,slow=32
KDAK Kodiak Island 83.55 31 P **P 07 52 00.8 -0.7**
J20K Nowinta River 84.57 25 P **P 07 52 07.6 +1.1**
PPLA Purkeypile 85.06 26 P **P 07 52 08.8 -0.5**
PPLA IAmb IAmb 07 52 12.5
comp=Z,16nm,1.4s
TAOE Nuku Hiva Isla 86.12 99 *e*LR LR 08 19 37.2
comp=Z,390nm,23.5s
RND Reindeer 86.65 26 P **P 07 52 16.4 -0.7**
MCK McKinley 86.69 26 P **P 07 52 17.2 0.0**
QSPA South Pole Qui 87.55 180 LR LR 08 32 05.3
comp=Z,936nm,18.9s,baz=12,slow=36
QSPA South Pole Qui 87.55 180 P **P 07 52 21.9 +0.4**
QSPA IAmb IAmb 07 52 36.6
comp=Z,12nm,1.4s
ILAR Eielson Array 87.77 25 P **P 07 52 20.6 -1.8**
comp=Z,0.4nm,0.5s,baz=259,slow=4.1,SNR=5.9
ILAR LR LR 08 25 59.5
comp=Z,385nm,21.6s,baz=260,slow=32
ILAR Eielson Array 87.77 25 P **P 07 52 19.9 -2.4**
KIRV Kirov 88.89 329 LR LR 08 34 13.8
comp=Z,234nm,21.1s,baz=93,slow=37
SYO Syowa Base 89.15 201 ||*e*pP pP 07 52 41.8 +10
BELG Belogornoye 89.31 322 LR LR 08 33 55.8
comp=Z,223nm,20.6s,baz=126,slow=37
GNI Garni 90.51 310 LR LR 08 38 32.9
comp=Z,75nm,20.0s,baz=100,slow=39
ATD Arta Tunnel 91.03 281 LR LR 08 33 33.5
comp=Z,208nm,19.6s,baz=72,slow=36
INK Inuvik 93.35 22 LR LR 08 29 52.3
comp=Z,224nm,21.7s,baz=210,slow=32
DLBC Dease Lake 95.48 32 LR LR 08 34 12.7
comp=Z,377nm,18.7s,baz=282,slow=34
KMBO Kilima Mbogo 96.11 269 LR LR 08 34 38.0
comp=Z,278nm,20.1s,baz=93,slow=34
BBB Bella Bella 97.09 38 LR LR 08 28 47.5
comp=Z,418nm,21.8s,baz=274,slow=30
SPITS Spitsbergen Ar 97.72 349 LR LR 08 40 44.8
comp=Z,231nm,20.3s,baz=249,slow=38
MMAI Mount Meron Ar 98.02 303 LR LR 08 45 50.5
comp=Z,161nm,19.2s,baz=256,slow=41
ARCES ARCESS Array B 98.45 340 LR LR 08 38 44.6
comp=Z,243nm,22.0s,baz=98,slow=36
BRTR Keskin Array B 99.05 310 LR LR 08 42 41.3
comp=Z,60nm,20.9s,baz=85,slow=38
MNK Minsk 100.94 325 *i* P **Pdif 07 53 22.5 -0.4**
comp=E,3.0nm,0.9s
MNK *i* P **Pdif 07 53 22.5 -0.4**
comp=N,9.0nm,0.8s
MNK *i* P **Pdif 07 53 22.5 -0.4**
comp=Z,6.0nm,0.6s,baz=259
MNK *i* PP **PP 07 57 30.7 -0.2**
MNK *i* PPP PPP 07 59 39.1
MNK *i* SKS 08 03 51.9
MNK *i* S **Sdif 08 05 14.3 +13**
MNK *i* PS **PS 08 06 38.0 +5.0**
MNK *i* SS SS 08 11 37.9 -21
MNK *i* SSS SSS 08 15 50.1
MNK *i* LR LR 08 37 09.6
MNK *i* LRM MLR 08 39 22.5
comp=N,140nm,17.2s
MNK *i* LRM MLR 08 39 23.1
comp=Z,165nm,20.4s
MNK *i* LRM MLR 08 39 28.4
comp=E,30nm,17.9s
TXAR Lajitas Array 119.63 57 PKP **PKPdf 07 58 24.4 -0.1**
comp=E,0.2nm,0.6s,baz=202,slow=1.9,SNR=2.7
PLCA Paso Flores 131.82 156 PKP **PKiKP 07 58 48.6 +0.2**
comp=E,0.9nm,1.0s,baz=165,slow=2.5,SNR=3.2
PLCA Paso Flores 131.82 156 **PKiKP 07 58 48.1 -0.3**
PAC1 Pacto, Paraso 147.74 93 *e*P **PKPab 07 59 22.2 +0.1**
OTAV Otavalo 148.07 93 *e*P **PKPdf 07 59 19.3 +1.4**
CUSE Cuicocha Este 148.13 93 *e*P PKPab 07 59 36.7 +13
CPUP Villa Florida 149.61 161 PKPbc **PKiKP 07 59 25.1 0.0**
comp=E,3.5nm,0.8s,baz=7.3,slow=0.3,SNR=4.8
CPUP Villa Florida 149.61 161 **PKPbc 07 59 24.8 +0.8**
PLMC San Jos del P 150.26 84 *e*P **PKPab 07 59 29.8 -2.4**
GUY2C Guyana, Caldas 151.15 84 *e*P **PKPbc 07 59 26.0 -2.7**
ORTC Ortega, Tolima 151.35 86 *e*P **PKPbc 07 59 26.9 -1.7**
PRAC Prado 151.71 87 *e*P **PKPbc 07 59 27.9 -1.6**
LPAZ La Paz 151.75 132 PKPbc **PKiKP 07 59 30.8 +0.2**
comp=E,3.4nm,0.6s,baz=259,slow=3.1,SNR=9.8

LPAZ	La Paz	151.75	132	eP	PKPbc	07 59 29.8	-0.3
LPAZ	La Paz	151.75	132		PKiKP	07 59 32.0	+1.5
ROSC	El Rosal	152.22	84	PKPbc	PKiKP	07 59 32.5	+1.2
	comp=E,3.4nm,0.5s,baz=43,slow=22,SNR=1.5						
MACC	Macarena, Meta	152.76	90	eP	PKPbc	07 59 28.8	-2.9
OCAC	Ocana	152.77	77	eP	PKiKP	07 59 34.5	+2.4

*EAF **19** 07:58:10.0±1.7,25°.84S×27°.70E, h0km±34km, MD4.1*
*BUL **19** 07:58:10.0±1.7,25°.84S×27°.70E, h0km±34km, MD4.4*
*PRE **19** 07:58:17.0±1.0,25°.78S×27°.29E, h2km, ML2.4*
ISC 19 07:58:16.6±1.3,25°.75S±0°.05×27°.26E±0°.03, h3km±10km, n18,σ1°.44/22, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	Koster	0.34	252	eP	Pg	07 58 23.9	+0.6
KSR				eS	Sg	07 58 29.3	+1.6
KSR				IAML		07 58 32.1	
	comp=Z,1μm,0.6s						
HRAO	HartRAO	0.41	110	eP	Pg	07 58 24.0	-0.7
HRAO				eS	Sg	07 58 29.4	-0.6
HRAO				IAML		07 58 32.7	
	comp=Z,441nm,0.7s						
SLR	Silverton	0.93	89	eP	Pg	07 58 34.0	-0.4
SLR				eS	Sg	07 58 46.1	-0.3
SLR				IAML		07 58 48.1	
	comp=Z,93nm,0.9s						
PRYS	Parys	1.18	175	eP	Pg	07 58 38.9	-0.3
PRYS				eS	Sb	07 58 55.4	0.0
PRYS				IAML		07 59 00.5	
	comp=Z,139nm,0.2s						
LBTB	Lobatse	1.67	296	iP	Pn	07 58 45.5	-1.3
LBTB	Lobatse	1.67	296	iP	Pn	07 58 45.5	-1.3
SWZ	Schweizer	2.24	230	eP	Pn	07 58 56.2	+1.4
SWZ				eS	Sn	07 59 24.0	+1.1
SWZ				IAML		07 59 37.1	
	comp=Z,30nm,0.5s						
CRLN	Carolina, Mapu	2.50	96	eP	Pn	07 59 00.1	+1.7
CRLN				eS	Sn	07 59 29.6	0.0
CRLN				IAML		07 59 37.9	
	comp=Z,9.4nm,0.3s						
SNKL	Senekal, Frees	2.56	170	eP	Pn	07 59 00.3	+1.2
SNKL				eS	Sn	07 59 31.5	+0.7
SNKL				IAML		07 59 46.5	
	comp=Z,52nm,0.6s						
BOSA	Boshof	3.36	212	iP	Pn	07 59 06.9	-3.3
BOSA				iSg	Sb	07 59 58.3	-0.1
BOSA	Boshof	3.36	212	iP	Pn	07 59 06.9	-3.3
BOSA				iSg	Sb	07 59 58.3	-0.1
MOPA	Mopani	4.38	60	eP	Pn	07 59 24.7	+0.7
MOPA				eS	Sn	08 00 15.6	+0.1
MOPA				IAML		08 00 24.2	
	comp=Z,7.6nm,3.5s						
CNG	Changalane	4.47	98	iP	Pn	07 59 13.3	-12
CNG				iS	Sn	07 59 58.0	-20
CNG	Changalane	4.47	98	iP	Pn	07 59 13.3	-12
CNG				iS	Sn	07 59 58.0	-20
MATP	Matopo	5.42	12	iS	Sn	08 00 30.6	-11
MATP	Matopo	5.42	12	iS	Sn	08 00 30.6	-11
BLWY	Bulawayo	5.72	13	iS	Sn	08 00 38.5	-10
BLWY	Bulawayo	5.72	13	iS	Sn	08 00 38.5	-10

IDC 19 08:04:08.6±2.7,53°.72N×86°.86E, h0km, mb1 3.1/2, mb1mx2.9/58, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=23.9km s-min=14.9km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.23	282	i		08 11 16.5	
	baz=99,slow=354,SNR=12						
ZALV	Zalesovo Beam	1.23	282	Pg	Pg	08 04 31.6	-0.6
	0.8nm,0.3s,baz=102,slow=16,SNR=5.6						
ZALV				Lg	Lg	08 04 48.7	
	1.0nm,0.3s,baz=101,slow=28,SNR=5.3						
KURBB	Kurchatov Arra	5.99	242	Pn	Pn	08 05 39.4	+1.0
	0.1nm,0.3s,baz=56,slow=13,SNR=1.9						
KURBB				Lg	Lg	08 07 18.1	
	0.1nm,0.3s,baz=54,slow=25,SNR=2.0						
MKAR	Makanchi Array	7.52	205	Pn	Pn	08 06 00.6	+1.1
	0.1nm,0.3s,baz=28,slow=12,SNR=4.7						

*IDC **19** 08:18:58.8±1.1,40°.53N×110°.82E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.3/50, mbtmp3.4/7, ML3.7/1, Error ellipse: s-maj=31.7km s-min=20.4km az=74.0*
ISC 19 08:19:04.0±1.1,40°.5N±0°.1×110°.8E±0°.2, h35km, n7, σ0°.32/7, mb3.4/6, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	7.95	338	Pn	Pn	08 20 56.9	-0.2
	1.0nm,0.3s,baz=161,slow=14,SNR=16						
SONM				Lg	Lg	08 23 09.4	
	1.2nm,0.3s,baz=156,slow=29,SNR=9.0						
MKAR	Makanchi Array	21.46	296	P	P	08 23 49.1	0.0
	0.6nm,0.7s,baz=95,slow=12,SNR=6.7						
CMAR	Chiang Mai Arr	24.24	208	P	P	08 24 17.8	+0.2
	1.1nm,0.3s,baz=17,slow=9.7,SNR=1.8						
KURBB	Kurchatov Arra	24.54	305	P	P	08 24 20.2	+0.1
	0.5nm,0.5s,baz=101,slow=9.4,SNR=1.0						
ILAR	Eielson Array	59.00	29	P	P	08 28 59.5	-0.2
	0.2nm,0.5s,baz=297,slow=8.0,SNR=1.6						
ASAR	Alice Springs	67.40	157	P	P	08 29 55.6	-0.2
	0.2nm,0.6s,baz=340,slow=6.5,SNR=5.1						
YKA	Yellowknife Ar	71.05	20	P	P	08 30 18.5	+0.5
	0.2nm,0.7s,baz=327,slow=5.2,SNR=6.1						

IDC 19 08:31:07.0±2.7,53°.95N×86°.48E, h0km, mb1 2.7/2, mb1mx2.6/53, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=20.8km s-min=12.9km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.98	271	i		08 37 10.0	
	baz=88,slow=353,SNR=11						
ZALV	Zalesovo Beam	0.98	271	Pg	Pg	08 31 24.5	-1.3
	0.5nm,0.3s,baz=92,slow=16,SNR=5.4						
ZALV				Lg	Lg	08 31 39.7	
	1.3nm,0.3s,baz=94,slow=29,SNR=11						
KURBB	Kurchatov Arra	5.91	239	Pn	Pn	08 32 37.3	+1.6
	0.1nm,0.3s,baz=53,slow=13,SNR=4.2						
KURBB				Lg	Lg	08 34 14.8	
	0.1nm,0.3s,baz=60,slow=19,SNR=1.8						
MKAR	Makanchi Array	7.64	202	Pn	Pn	08 33 00.1	+0.5
	0.1nm,0.3s,baz=25,slow=14,SNR=2.3						
MKAR				Lg	Lg	08 35 10.8	
	0.0nm,0.3s,baz=21,slow=20,SNR=2.3						

*IDC **19** 08:33:51.7±1.0,7°.57S×154°.90E, h0km, mb4.1/16, mb1 4.2/17, mb1mx3.9/51, mbtmp4.1/17, ML2.3/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/59, Error ellipse: s-maj=33.6km s-min=16.7km az=127.0*
*NEIC **19** 08:33:59.5±2.9, 7°.46S±0°.07×154°.69E±0°.10, h46km±9km, mb4.2/12, Error ellipse: s-maj=16.2km s-min=5.9km az=55.0*
ISC 19 08:33:57.0±0.7,7°.51S±0°.09×154°.8E±0°.1, h31km, n38, σ1°.05/39, mb4.2/21, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	4.22	321	Pn	Pn	08 34 58.1	-1.1
PMG	Port Moresby	7.81	255	Pn	Pn	08 35 49.3	+0.7
	2.5nm,0.3s,baz=53,slow=15,SNR=4.2						
PMG				Sn	Sn	08 37 16.8	+0.8
	5.3nm,0.3s,baz=20,slow=21,SNR=3.3						
PMG				LR	LR	08 38 29.1	
	comp=Z,244nm,18.3s,baz=314,slow=35						
PMG	Port Moresby	7.81	255		Pn	08 35 49.8	+1.2
CTAO	Charters Tower	15.01	213	Pn	Pn	08 37 26.0	-1.1
WB0	Warramunga Arr	23.26	236	P	P	08 38 59.6	-2.5
WB2	Warramunga Arr	23.38	236	P	P	08 39 02.9	-0.3
WB2				IAmb	IAmb	08 39 04.9	
	comp=Z,9.0nm,1.4s						
WRA	Warramunga Arr	23.39	236	P	P	08 39 02.3	-1.0
	comp=Z,3.4nm,0.8s,baz=59,slow=9.7,SNR=12						
MTN	Manton Dam	23.90	255	P	P	08 39 06.4	-1.9
MTN				IAmb	IAmb	08 39 30.3	
	comp=Z,4.7nm,0.7s						
AS31	Alice Springs	25.71	229	P	P	08 39 24.1	-0.7
ASAR	Alice Springs	25.71	229	P	P	08 39 24.4	-0.4
	comp=Z,1.4nm,0.9s,baz=65,slow=9.0,SNR=8.9						
KNRA	Kununurra	26.76	250	P	P	08 39 34.2	0.0
KNRA				IAmb	IAmb	08 39 44.8	
	comp=Z,4.3nm,0.7s						
STKA	Stephens Creek	27.20	205	P	P	08 39 37.7	-0.3
	comp=Z,1.5nm,0.8s,baz=5.5,slow=15,SNR=2.0						
STKA				LR	LR	08 49 55.2	
	comp=Z,116nm,18.8s,baz=27,slow=36						
STKA	Stephens Creek	27.20	205	P	P	08 39 36.9	-1.2
FITZ	Fitzroy Crossi	30.29	247	P	P	08 40 04.2	-1.5
	comp=Z,1.0nm,0.6s,baz=36,slow=8.7,SNR=2.9						
USRK	Ussuriysk Ar.	55.45	340	P	P	08 43 30.2	+1.6
	comp=Z,1.6nm,0.7s,baz=132,slow=6.0,SNR=1.9						
KLR	Kul'dur	60.00	343	P	P	08 44 00.6	+0.1
	comp=Z,1.5nm,0.8s,baz=142,slow=7.7,SNR=3.8						
PETK	Petropavlovsk-	60.43	2	P	P	08 44 03.1	-0.3
	comp=Z,2.2nm,0.7s,baz=180,slow=8.6,SNR=2.3						
CMAR	Chiang Mai Arr	60.85	296	P	P	08 44 07.5	+0.6
	comp=Z,0.9nm,0.3s,baz=127,slow=5.7,SNR=8.2						
SONM	Songino Array	69.67	327	P	P	08 45 04.5	+0.7
	comp=Z,3.4nm,0.9s,baz=139,slow=7.2,SNR=5.2						
SONM	Songino Array	69.67	327	P	P	08 45 03.9	+0.1
SONM				IAmb	IAmb	08 45 05.2	
	comp=Z,2.9nm,0.9s						
QSPA	South Pole Qui	82.47	180	P	P	08 46 17.2	+0.8
QSPA				IAmb	IAmb	08 46 24.4	
	comp=Z,3.1nm,1.1s						
MK31	Makanchi Array	83.67	319	P	P	08 46 23.2	+0.4
MK31				IAmb	IAmb	08 46 23.8	
	comp=Z,1.9nm,0.8s						
MKAR	Makanchi Array	83.67	319	P	P	08 46 23.0	+0.2
	comp=Z,1.6nm,0.7s,baz=102,slow=5.5,SNR=19						
MKAR	Makanchi Array	83.67	319	P	P	08 46 22.8	0.0
MAKZ	Makanchi	83.88	319	P	P	08 46 23.6	-0.2
IL31		83.91	22	P	P	08 46 22.8	-0.7
ILAR	Eielson Array	83.91	22	P	P	08 46 23.1	-0.5
	comp=Z,1.2nm,0.6s,baz=253,slow=6.0,SNR=10						
ILAR	Eielson Array	83.91	22	P	P	08 46 23.7	+0.2
ZALV	Zalesovo Beam	84.50	326	P	P	08 46 26.0	-0.8
	comp=Z,2.9nm,0.5s,baz=115,slow=5.5,SNR=14						
ZALV	Zalesovo Beam	84.50	326	P	P	08 46 25.8	-1.0
BCAR	Beaver Creek A	85.03	24	P	P	08 46 31.4	+2.1
BMAR	Burnt Mountain	86.09	20	P	P	08 46 36.5	+2.0
DAWY	Dawson	86.43	24		P	08 46 37.8	+1.5
KURBB	Kurchatov Arra	87.15	322	P	P	08 46 39.5	-0.5
	comp=Z,0.3nm,0.5s,baz=103,slow=4.0,SNR=2.6						
NVAR	Mina Array Bea	92.17	52	P	P	08 47 03.5	-0.6
	comp=Z,0.4nm,0.6s,baz=263,slow=5.3,SNR=4.4						
BVAR	Borovoye Array	92.60	323	P	P	08 47 04.3	-1.2
	comp=Z,0.6nm,0.6s,baz=108,slow=9.5,SNR=3.9						
YKA	Yellowknife Ar	96.86	28	P	P	08 47 25.1	+0.3
	comp=Z,0.4nm,0.9s,baz=265,slow=4.7,SNR=5.2						
TORD	Torodi Ar. Bea	152.99	284	PKPbc	PKiKP	08 53 52.4	-0.1
	comp=Z,1.4nm,0.6s,baz=64,slow=2.3,SNR=9.3						

*SSNC **19** 08:42:33.7±1.7, 19°.68N×76°.10W, h5km, ML3.9, MW3.7*
*JSN **19** 08:42:34.5±0.7, 19°.55N×76°.16W, h0km±707km, MD3.9*
ISC 19 08:42:34.5±1.3,19°.77N±0°.05×76°.20W±0°.04, h29km±14km, n18,σ1°.54/20, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	0.81	291	eP	Pb	08 42 49.5	-0.7
LMGC				eS	Sb	08 43 01.4	+0.5
LMGC				IAML		08 43 04.6	
	comp=E,2μm,0.2s						
LMGC				IAML		08 43 04.8	
	comp=N,2μm,0.1s						
GTBY	Guantanamo Bay	1.04	81	eP	Pn	08 42 50.9	-2.2
GTBY	Guantanamo Bay	1.04	81	eP	Pn	08 42 50.9	-2.2
GTMO	Guantanamo	1.04	73	eP	Pn	08 42 52.0	-1.2
GTMO				eS	Sb	08 43 06.5	-0.8
HLGC	Holguin	1.12	7	eP	Pn	08 42 54.2	-0.1
HLGC				eS	Sb	08 43 10.3	+0.7
HLGC				IAML		08 43 13.8	
	comp=N,3μm,0.5s						
HLGC				IAML		08 43 14.0	
	comp=E,5μm,0.3s						
MOAC	Moa	1.46	52	eP	Pn	08 42 57.0	-1.9
MOAC				eS	Sn	08 43 16.2	-0.9
GWJ	Greenwich	1.76	197	iP	Pn	08 43 02.0	-1.2
STH	Stony Hill	1.78	199	iP	Pn	08 43 02.1	-1.3
HOJ	Hope	1.83	197	iP	Pn	08 43 03.4	-0.6
MASC	Masc	1.89	77	eP	Pn	08 43 02.5	-2.4
MASC				eS	Sn	08 43 27.0	-0.8
MTDJ	Mount Denham	1.99	220	eP	Pn	08 43 05.3	-1.0
MTDJ	Mount Denham	1.99	220	eP	Pn	08 43 05.5	-0.8
MTDJ				eS	Sn	08 43 27.5	-2.8
CCCC	Cccc	2.05	314	eP	Pn	08 43 05.3	-1.7
CCCC				eS	Sn	08 43 30.2	-1.3
CCCC				IAML		08 43 34.0	
	comp=N,262nm,0.3s						
MCJ	Malvern	2.31	218	iP	Pn	08 43 10.8	0.0
MCJ				iS	Sn	08 43 37.9	-0.4
SMLC	San Martn de	11.10	169	eP	Pn	08 45 12.5	+1.2
UREC	San Jos de Ur	11.96	177	eP	Pn	08 45 25.8	+2.5
ZARC	Zaragoza, Cauc	12.27	174	eP	Pn	08 45 30.7	+3.3
TULM	Tulcn-Chalpat	19.00	185	eP	Pn	08 47 09.1	+14

*IDC **19** 08:43:43.2±2.2, 29°.66S×69°.26W, h95km±19km, mb3.9/14, mb1 4.0/19, mb1mx3.9/26, mbtmp4.1/19, Error ellipse: s-maj=20.5km s-min=13.3km az=78.0*
*NEIC **19** 08:43:44.4±1.2, 29°.69S±0°.06×69°.16W±0°.09, h110km±6km, mb4.6/41, Error ellipse: s-maj=11.2km s-min=8.6km az=89.0*
*VAO **19** 08:43:46.8±0.4, 29°.90S×69°.38W, h148km, mb4.1*
ISC 19 08:43:44.6±0.4,29°.66S±0°.05×69°.30W±0°.07, h112km, n109,σ0°.98/111, mb4.5/30, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	1.38	298		Pn	08 44 11.7	+1.3
GO04	Tololo Observa	1.40	248		Pn	08 44 11.4	+0.9
CO03	El Pedregal	1.68	225		Pn	08 44 14.6	+0.8
AC04	Llanos de Chal	2.12	313		Pn	08 44 20.2	+1.0
MT02	Curacav	3.92	203	Pn	Pn	08 44 41.7	-1.2
PB14	IPOC Station P	5.11	349	Pn	Pn	08 44 60.0	+0.7
LVC	Limon Verde	7.03	3	P	Pn	08 45 24.6	-0.7
	1.6nm,0.3s,baz=177,slow=6.1,SNR=23						
LVC				S	Sn	08 46 42.0	-1.9
	2.8nm,0.3s,baz=184,slow=19,SNR=1.9						
ITQB	Itaqui	11.03	93	Pn	Pn	08 46 17.0	-2.1
CPUP	Villa Florida	11.09	75	P	Pn	08 46 17.6	-2.3
	1.0nm,0.3s,baz=255,slow=13,SNR=9.5						
PLCA	Paso Flores	11.09	185	P	Pn	08 46 18.9	-1.1
	0.1nm,0.3s,baz=333,slow=6.8,SNR=1.3						
PLCA	Paso Flores	11.09	185	eP	Pn	08 46 17.4	-2.5
PLCA	Paso Flores	11.09	185		Pn	08 46 18.5	-1.4
LL04	Puerto Octay	11.51	192	Pn	Pn	08 46 23.5	-1.8
LPAZ	La Paz	13.35	5	P	Pn	08 46 49.8	-0.5
	0.1nm,0.3s,baz=202,slow=8.2,SNR=2.7						
LPAZ	La Paz	13.35	5	eP	P	08 46 53.6	-2.3
PLTB	Pedras Altas	13.67	103	Pn	Pn	08 46 52.1	-1.8
ITAB	Concordia	15.30	85	eP	Pn	08 47 14.9	+0.4
ITAB	Concordia	15.30	85		Pn	08 47 13.8	-0.8
ITAB				IAmb	IAmb	08 47 19.5	
	comp=Z,19nm,0.8s						
AQDB	Aquidauana	15.34	56		Pn	08 47 15.3	+0.2
SIV	San Ignacio	15.57	31	P	Pn	08 47 15.9	-2.1
	comp=Z,0.2nm,0.3s,baz=218,slow=11,SNR=5.4						
PTLB	Pontes e Lacer	16.96	36	eP	P	08 47 37.0	+1.8
PTLB	Pontes e Lacer	16.96	36		P	08 47 36.6	+1.4
TER01	Tubaro-SC	17.67	91	eP	Pn	08 47 44.9	+1.2
PP1B	Ponte de Pedra	17.83	51	eP	Pn	08 47 47.8	+2.1
PCMB	Pacaembu	18.12	68	eP	Pn	08 47 48.9	-0.3
TIJ01	Guaruva-PR	18.52	81	eP	Pn	08 47 53.3	-0.6
SALV	Santo Antonio	18.55	45	eP	Pn	08 47 54.6	+0.4
VILB	Vilhena	18.65	29	eP	Pn	08 47 55.8	+0.3
VILB	Vilhena	18.65	29	P	Pn	08 47 55.0	-0.4
VILB				IAmb	IAmb	08 47 56.2	
	comp=Z,24nm,0.7s						
ITRB	Iturama	19.84	64	eP	Pn	08 48 08.1	-1.3
ETMB	Extrema	19.95	9	eP	Pn	08 48 09.8	-0.9
ETMB	Extrema	19.95	9	P	P	08 48 09.3	+1.3
PET01	Itanhaem-SP	20.34	80	eP	P	08 48 12.8	+0.7
BB19B	Bebedouro	20.61	70	eP	P	08 48 15.7	+0.6
VAO	Valinhos	21.07	77	eP	P	08 48 20.7	+0.7
ARAG	Araguaiana, MT	21.25	53	eP	P	08 48 21.9	0.0
PDRB	Porto dos Gac	21.44	36	eP	P	08 48 26.0	+2.1
CZSB	Cruzeiro do Su	22.05	351	eP	P	08 48 31.4	+1.1
PARB	Paraibuna	22.09	79	eP	P	08 48 30.6	-0.3
IPMB	Ipameri, GO	22.48	64	eP	P	08 48 34.6	-0.3
CLDB	Colider	22.54	37	eP	P	08 48 37.9	+2.5
ATAH	Atahualpa	23.98	337	P	P	08 48 49.5	+0.2
	comp=Z,2.6nm,0.9s,baz=97,slow=8.1,SNR=2.0						
BDFB	Brasilia	24.04	59	P	P	08 48 49.2	-0.3
	comp=Z,4.8nm,0.8s,baz=236,slow=9.6,SNR=5.7						
BDFB	Brasilia	24.04	59	P	P	08 48 47.2	-2.3
SNDB	Serra Nova Dou	24.29	47	eP	P	08 48 51.7	0.0
USHA	Ushuaia	25.16	179	P	P	08 48 59.2	0.0
	comp=Z,9.2nm,0.9s,baz=98,slow=10,SNR=2.3						
TBTG	Tabatinga, AM	25.34	359	eP	P	08 49 03.0	+1.9
DIAM	Diamantina, MG	25.95	70	eP	P	08 49 06.9	0.0
PEXB	Peixe	26.19	53	eP	P	08 49 10.2	+1.3
JANB	Januaria	27.22	63	eP	P	08 49 17.9	-0.3
ITTB	Itaituba	28.25	30	eP	P	08 49 27.2	-0.1
SDBA	SAO DESIDERIO	28.42	58	eP	P	08 49 29.8	+1.0
NAN01	Guarapari, ES	29.10	73	eP	P	08 49 34.9	+0.1
OTAV	Otavalo	30.98	342	eP	P	08 49 52.5	+0.5
NBPN	Ponto Novo - B	32.95	61	eP	P	08 50 08.9	+0.2
BOAV	Boa Vista	32.96	16	eP	P	08 50 09.5	+0.7
NBMA	Muriti-CE	36.27	58	eP	P	08 50 37.9	+0.6
ZARC	Zaragoza, Cauc	37.32	351	P	P	08 50 46.0	-0.2
ZARC				IAmb	IAmb	08 50 47.1	
	comp=Z,3.2nm,0.8s						
BAUV	El Baul	38.40	2	P	P	08 50 54.5	-0.7
BAUV				IAmb	IAmb	08 50 56.4	
	comp=Z,11nm,1.0s						
SJCC	San Jacinto, C	39.73	351	P	P	08 51 06.6	+0.2
SVN	Savane Anatole	44.93	11	P	P	08 51 47.6	-0.8
GTBY	Guantanamo Bay	49.62	353	P	P	08 52 24.9	+0.2
GTBY				IAmb	IAmb	08 52 25.4	
	comp=Z,13nm,0.9s						
SOR	Soroa	53.79	344	P	P	08 52 55.1	-0.5
SNAA	Sanae	54.76	159	P	P	08 53 02.5	+0.3
	comp=Z,5.2nm,0.5s,baz=280,slow=9.3,SNR=11						
SNAA	Sanae	54.76	159	P	P	08 53 01.8	-0.5
SNAA				IAmb	IAmb	08 53 03.3	
	comp=Z,14nm,1.2s						
QSPA	South Pole Qui	60.56	180	P	P	08 53 43.1	+0.1
QSPA				IAmb	IAmb	08 53 44.3	
	comp=Z,7.5nm,0.8s						
833A	Chaparral WMA,	64.43	331	P	P	08 54 09.5	+0.5
CPCT	Cooper Cave	66.33	346	P	P	08 54 20.2	-0.8
CPCT				IAmb	IAmb	08 54 42.1	
	comp=Z,13nm,1.3s						
TKL	Tuckaleechee C	66.38	347	P	P	08 54 20.4	-1.0
TKL				IAmb	IAmb	08 54 36.6	
	comp=Z,20nm,1.4s						
JCT	Junction City	66.49	331	P	P	08 54 22.3	+0.1
JCT				IAmb	IAmb	08 54 23.9	
	comp=Z,5.1nm,0.6s						
TXAR	Lajitas Array	67.21	328	P	P	08 54 27.8	+0.9
	comp=Z,1.2nm,0.6s,baz=153,slow=8.6,SNR=18						
TXAR	Lajitas Array	67.21	328	P	P	08 54 27.4	+0.5
TX31	Lajitas Ar. Si	67.21	328	P	P	08 54 27.9	+0.9
TX31				IAmb	IAmb	08 54 28.7	
	comp=Z,5.3nm,0.8s						
TX32	Lajitas Array	67.21	328	P	P	08 54 26.8	-0.1
WVT	Waverly	67.72	344	P	P	08 54 29.4	-0.5
WHAR	Wooly Hollow	68.14	340	P	P	08 54 33.0	+0.5
WHAR				IAmb	IAmb	08 54 46.1	
	comp=Z,9.8nm,1.4s						
LCAR	Lake Charles	68.54	341	P	P	08 54 35.3	+0.4
FCAR	Ozark Folk Cen	68.65	340	P	P	08 54 35.6	-0.1
FCAR				IAmb	IAmb	08 55 02.8	
	comp=Z,8.9nm,1.3s						
PARMO	Parma	68.71	342	P	P	08 54 36.1	+0.1
VNDA	Vanda	68.79	190	P	P	08 54 37.4	+1.3
	comp=Z,1.5nm,0.9s,baz=129,slow=6.5,SNR=2.3						
VNDA	Vanda	68.79	190	P	P	08 54 36.9	+0.8
VNDA				IAmb	IAmb	08 54 49.8	
	comp=Z,11nm,1.5s						
PBMO	Poplar Bluff	69.00	342	P	P	08 54 37.7	-0.1
MNTX	Cornudas Mount	69.99	328	P	P	08 54 43.9	-0.1
FVM	French Village	70.13	342	P	P	08 54 45.1	+0.3
FVM				IAmb	IAmb	08 54 45.6	
	comp=Z,8.9nm,0.7s						
CCM	Cathedral Cave	70.42	342	P	P	08 54 46.2	-0.3
CCM				IAmb	IAmb	08 54 47.1	
	comp=Z,6.0nm,0.6s						
S39A	Bolivar	70.67	340	P	P	08 54 47.9	-0.1
S39A				IAmb	IAmb	08 54 49.1	
	comp=Z,7.8nm,0.8s						
R40A	Maddies Statio	70.92	341	P	P	08 54 48.9	-0.6
R40A				IAmb	IAmb	08 54 50.4	
	comp=Z,12nm,0.8s						
DBIC	Dimbokro	71.57	71	P	P	08 54 54.6	+0.6
	comp=Z,3.1nm,0.9s,baz=213,slow=7.1,SNR=4.2						
ANMO	Albuquerque	73.19	329	P	P	08 55 04.0	+0.6
MAW	Mawson	76.65	163	P	P	08 55 23.2	+0.5
	comp=Z,5.4nm,0.9s,baz=198,slow=3.2,SNR=1.9						
PV13	Radium Mtn., P	76.92	329	P	P	08 55 25.4	+0.6
ECSD	EROS Data Cent	77.21	340	P	P	08 55 25.6	-0.4
ECSD				IAmb	IAmb	08 55 26.9	
	comp=Z,5.6nm,0.7s						
CCUT	Cedar City	78.56	326	P	P	08 55 34.0	+0.1
BOSA	Boshof	80.00	117	P	P	08 55 42.1	+0.1
	comp=Z,1.9nm,0.5s,baz=263,slow=3.3,SNR=7.3						
BOSA	Boshof	80.00	117	P	P	08 55 41.6	-0

H11S2 WAKE ISLAND Hy 21.77 95 T T 09 12 03.5
baz=283
USRK Ussuriysk Ar. 24.16 339 P **P** **08 49 34.2 +2.1**
comp=Z,2.6nm,0.8s,baz=159,slow=8.8,SNR=4.4
KLR Kul'dur 28.77 343 P **P** **08 50 14.5 +1.1**
comp=Z,5.2nm,0.6s,baz=163,slow=8.3,SNR=22
PEA0B Petropavlovsk- 32.79 16 P **P** **08 50 48.6 -0.1**
COEN Coen 35.78 181 P **P** **08 51 14.3 -0.6**
COEN IAmb IAmb 08 51 16.9
comp=Z,3.9nm,0.8s
MTN Manton Dam 36.83 201 P **P** **08 51 23.5 -0.2**
MTN IAmb IAmb 08 51 33.1
comp=Z,6.2nm,1.1s
MMRI Maumere 37.10 217 P **P** **08 51 26.5 +0.4**
SONM Songino Array 39.44 320 P **P** **08 51 46.2 +0.7**
comp=Z,0.8nm,0.7s,baz=133,slow=9.1,SNR=6.0
SONM Songino Array 39.44 320 P **P** **08 51 45.8 +0.3**
JAGI Jajag, Banyuwa 42.01 227 P **P** **08 52 07.6 +0.8**
JAGI IAmb IAmb 08 52 13.7
comp=Z,20nm,1.1s
WB2 Warramunga Arr 42.74 193 P **P** **08 52 12.5 0.0**
WRA Warramunga Arr 42.74 193 P **P** **08 52 11.9 -0.7**
comp=Z,0.3nm,0.3s,baz=16,slow=8.9,SNR=3.6
AS31 Alice Springs 46.44 193 P **P** **08 52 41.8 0.0**
ASAR Alice Springs 46.44 193 P **P** **08 52 41.0 -0.9**
comp=Z,0.4nm,0.6s,baz=12,slow=7.4,SNR=6.3
ASAR Alice Springs 46.44 193 P **P** **08 52 42.1 +0.2**
PSA00 Pilbara Seismi 49.24 210 P **P** **08 53 03.2 -0.2**
PSA00 IAmb IAmb 08 53 09.5
comp=Z,18nm,1.4s
STKA Stephens Creek 53.65 182 P **P** **08 53 34.9 -1.1**
comp=Z,0.4nm,0.3s,baz=12,slow=7.4,SNR=4.0
STKA Stephens Creek 53.65 182 P **P** **08 53 35.4 -0.6**
ZALV Zalesovo Beam 54.30 321 P **P** **08 53 40.5 0.0**
comp=Z,1.3nm,0.5s,baz=107,slow=8.8,SNR=3.7
FORT Forrest 54.65 197 P **P** **08 53 43.3 +0.1**
FORT IAmb IAmb 08 53 50.5
comp=Z,19nm,1.2s
MKAR Makanchi Array 54.88 312 P **P** **08 53 46.5 +1.5**
comp=Z,1.4nm,1.0s,baz=88,slow=10,SNR=2.4
BBOO Buckleboo 55.04 188 P **P** **08 53 45.5 -0.6**
BBOO IAmb IAmb 08 53 50.5
comp=Z,17nm,1.5s
KURK Kurchatov 57.61 317 P **P** **08 54 04.6 +0.4**
KURK IAmb IAmb 08 54 10.9
comp=Z,2.4nm,0.9s
KURBB Kurchatov Arra 57.66 317 P **P** **08 54 05.0 +0.6**
comp=Z,1.8nm,0.5s,baz=92,slow=7.7,SNR=12
BOOM Boomskoye usch 59.35 307 P **P** **08 54 16.7 +0.1**
BVAR Borovoye Array 62.78 319 P **P** **08 54 40.0 +0.7**
comp=Z,1.0nm,0.4s,baz=76,slow=11,SNR=6.4
BRVK Borovoye 62.84 319 P **P** **08 54 39.5 -0.1**
BRVK IAmb IAmb 08 54 42.5
comp=Z,2.7nm,1.1s
KKAR Karatay Array 63.29 308 P **P** **08 54 43.3 +0.4**
BCAR Beaver Creek A 63.53 29 P **P** **08 54 43.8 -0.3**
ABKAR Akbulak array 69.70 316 P **P** **08 55 23.2 -0.2**
EUNU Eureka 74.68 8 P **P** **08 55 53.2 +0.7**
YKA Yellowknife Ar 75.89 28 P **P** **08 55 59.8 +0.2**
comp=Z,0.2nm,0.5s,baz=291,slow=5.8,SNR=6.3
NVAR Mina Array Bea 82.48 52 P **P** **08 56 36.6 +0.3**
comp=Z,0.2nm,0.5s,baz=292,slow=7.4,SNR=1.6
FINES FINESS Array B 83.12 335 P **P** **08 56 38.3 -0.4**
comp=Z,1.1nm,0.8s,baz=2,3,slow=7.0,SNR=2.0
FINES FINESS Array B 83.12 335 P **P** **08 56 38.1 -0.6**
SOCY Socotra 85.34 281 P **P** **08 56 49.8 -1.1**
SOCY IAmb IAmb 08 57 19.2
comp=Z,13nm,1.0s
SUMG Summit 85.61 1 P **P** **08 56 52.0 +0.3**
SUMG IAmb IAmb 08 56 57.5
comp=Z,8.2nm,1.4s
PLCA Paso Flores 145.55 131 PKPbc **PKPdf** **09 03 51.1 +0.5**
comp=Z,1.1nm,0.8s,baz=238,slow=5.5,SNR=3.9
PLCA Paso Flores 145.55 131 **PKPdf** **09 03 50.0 -0.6**

*IDC **19** 08:51:06.6±1.2, 19°.16N×145°.63E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.2/46, mbtmp3.6/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/84, Error ellipse: s-maj=39.5km s-min=32.7km az=115.0*

ISC 19 08:51:30.9±1.1, 19°.0N±0°.2×145°.5E±0°.3, h214km, n7, σ1§03/6, mb3.4/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**21.91**	**193**	LR	LR	09 03 27.2	
	comp=Z,79nm,21.2s,baz=350,slow=34						
ASAR	**Alice Springs**	**43.90**	**195**	P	**P**	**08 59 16.4**	**-0.2**
	0.2nm,0.9s,baz=29,slow=8.6,SNR=1.6						
MKAR	**Makanchi Array**	**58.10**	**314**	P	**P**	**09 01 02.6**	**+0.5**
	0.4nm,0.6s,baz=90,slow=8.3,SNR=4.4						
ILAR	**Eielson Array**	**63.45**	**26**	P	**P**	**09 01 36.4**	**-1.3**
	12nm,0.3s,baz=251,slow=5.6,SNR=2.9						
BVAR	**Borovoye Array**	**66.11**	**320**	P	**P**	**09 01 54.8**	**-0.3**
	0.8nm,0.5s,baz=90,slow=10,SNR=5.4						
YKA	**Yellowknife Ar**	**77.80**	**28**	P	**P**	**09 03 04.6**	**+0.3**
	0.4nm,0.6s,baz=289,slow=5.7,SNR=6.0						
NVAR	**Mina Array Bea**	**83.10**	**52**	P	**P**	**09 03 34.2**	**+1.0**
	0.7nm,0.7s,baz=273,slow=4.8,SNR=6.1						

*LDG **19** 08:53:34.5±0.4, 36°.43N×12°.32E, h10km, Ml3.3/5, Error ellipse: s-maj=11.2km s-min=3.1km az=27.0*
*ROM **19** 08:53:34.4±0.2, 36°.47N±0°.02×11°.97E±0°.01, h39km, ML3.3/9, Error ellipse: s-maj=2.4km s-min=0.9km az=353.0*

ISC 19 08:53:35.7±1.4, 36°.51N±0°.08×12°.08E±0°.06, h35km, n22, σ1§15/33, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPDG	**Lampedusa Capo**	**1.09**	**155**	P	**Pn**	**08 53 54.8**	**+0.3**
CLTB	**Caltabellotta**	**1.40**	**40**	P	**Pn**	**08 53 59.5**	**+0.7**
FAVR	**Favara**	**1.48**	**59**	P	**Pn**	**08 54 00.6**	**+0.7**
CLTA	**Licata**	**1.65**	**66**	P	**Pn**	**08 54 02.1**	**0.0**
CLTA				S	**Sn**	**08 54 22.2**	**+0.1**
MCT	**Mte Cammarata**	**1.67**	**48**	P	**Pn**	**08 54 03.5**	**+0.8**
RAFF	**Raffo Rosso**	**1.97**	**68**	P	**Pn**	**08 54 06.6**	**0.0**
RAFF				S	**Sn**	**08 54 31.7**	**+1.7**
RAFF				AML	AML		
	comp=N,268μm,1.5s						
RAFF				AML	AML		
	comp=E,326μm,0.7s						
RAFF				END			
WDD	**Wied Dalam**	**2.09**	**108**	P	**Pn**	**08 54 08.5**	**+0.2**
WDD				S	**Sn**	**08 54 33.0**	**-0.1**
HMDC	**Modica**	**2.22**	**78**	P	**Pn**	**08 54 09.0**	**-1.0**
HMDC				S	**Sn**	**08 54 35.2**	**-1.1**
HMDC				AML	AML		
	comp=N,495μm,0.8s						
HMDC				AML	AML		
	comp=E,350μm,0.8s						
HMDC				END			
CAGR	**Agira**	**2.23**	**60**	P	**Pn**	**08 54 12.2**	**+2.0**
GALF	**Gagliano Caste**	**2.32**	**58**	P	**Pn**	**08 54 12.7**	**+1.2**
GALF				AML	AML		
	comp=E,392μm,0.6s						
GALF				AML	AML		
	comp=N,406μm,0.5s						
MEU	**Monte Lauro**	**2.37**	**75**	P	**Pn**	**08 54 10.8**	**-1.3**
MEU				S	**Sn**	**08 54 38.2**	**-1.8**
MEU				AML	AML		
	comp=N,668μm,1.2s						
MEU				AML	AML		
	comp=E,450μm,0.9s						
MEU				END			
HLNI	**Lentini**	**2.39**	**69**	P	**Pn**	**08 54 12.2**	**-0.2**
HLNI				S	**Sn**	**08 54 40.9**	**+0.4**
HLNI				AML	AML		
	comp=E,264μm,0.2s						
HLNI				AML	AML		
	comp=N,228μm,1.4s						
HLNI				END			
HPAC	**Pachino**	**2.45**	**85**	P	**Pn**	**08 54 11.8**	**-1.4**
SSY	**Sortino**	**2.49**	**74**	P	**Pn**	**08 54 13.3**	**-0.5**
SSY				S	**Sn**	**08 54 44.2**	**+1.3**
SSY				AML	AML		
	comp=E,360μm,0.6s						
SSY				AML	AML		
	comp=N,478μm,1.6s						
HAVL	**Avola**	**2.49**	**79**	P	**Pn**	**08 54 12.9**	**-0.9**
HAVL				AML	AML		
	comp=N,364μm,1.1s						
HAVL				AML	AML		
	comp=E,362μm,0.3s						
ESLN	**Serra La Nave**	**2.60**	**62**	P	**Pn**	**08 54 16.3**	**+0.8**
ESLN				AML	AML		
	comp=N,612μm,1.0s						
ESLN				AML	AML		
	comp=E,734μm,1.2s						
AIO	**Antillo**	**2.91**	**59**	P	**Pn**	**08 54 20.1**	**+0.6**
AIO				AML	AML		
	comp=E,67μm,0.5s						
AIO				AML	AML		
	comp=N,98μm,0.3s						
PGF	**Pioggiola**	**6.48**	**339**	*e*Pn	**Pn**	**08 55 10.0**	**+1.4**
PGF				*e*Sn	**Sn**	**08 56 20.5**	**-0.9**
	comp=N,13nm,0.6s						
LMR	**La Mourre**	**8.04**	**330**	*e*Pn	**Pn**	**08 55 31.0**	**+1.0**
LMR				*e*Sn	**Sn**	**08 56 58.3**	**-1.3**
	comp=N,1.0nm,0.3s						
SBF	**Sospel**	**8.15**	**336**	*e*Pn	**Pn**	**08 55 32.7**	**+1.1**
SBF				*e*Sn	**Sn**	**08 57 00.8**	**-1.7**
	comp=N,1.5nm,0.2s						
MBDF	**Montbardon**	**9.14**	**335**	*e*Pn	**Pn**	**08 55 46.2**	**+1.0**
MBDF				*e*Sn	**Sn**	**08 57 24.6**	**-2.2**
	comp=N,2.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**9.62**	**333**	*e*Pn	**Pn**	**08 55 52.9**	**+1.2**

*IDC **19** 08:57:00.8±1.6, 2°.48S×133°.13E, h0km, mb3.8/2, mb1 4.0/6, mb1mx3.6/32, mbtmp3.9/6, ML3.6/4, Error ellipse: s-maj=39.2km s-min=23.0km az=65.0*
*DJA **19** 08:57:03.7±1.4, 2°.5±4°.×13°.3E±°., h19km±11km, M4.2/6, MLv4.2/6*

ISC 19 08:57:05.1±0.9, 2°.46S±0°.07×133°.24E±0°.06, h35km, n10, σ2§14/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.09**	**245**	P	**Pn**	**08 57 23.6**	**-0.3**
FAKI				S	**Sn**	**08 57 41.6**	**+3.8**
SIJI	**Sorong**	**2.53**	**309**	Pn	**Pn**	**08 57 42.2**	**-1.5**
	8.2nm,0.3s,baz=91,slow=23,SNR=57						
SIJI				Sn	**Sn**	**08 58 15.2**	**+1.8**
	17nm,0.3s,baz=114,slow=20,SNR=6.4						
SWI	**Sorong**	**2.54**	**309**	P	**Pn**	**08 57 41.2**	**-2.6**
SRPI	**Serui, Papua**	**3.05**	**79**	P	**Pn**	**08 57 52.4**	**+1.4**
BAKI	**Biak**	**3.13**	**66**	P	**Pn**	**08 57 50.3**	**-1.7**
JAY	**Jayapura**	**7.46**	**91**	Pn	**Pn**	**08 58 52.4**	**+0.8**
	0.5nm,0.3s,baz=305,slow=16,SNR=1.5						
FITZ	**Fitzroy Crossi**	**17.24**	**205**	P	**Pn**	**09 01 01.8**	**-1.5**
	0.4nm,0.3s,baz=35,slow=12,SNR=14						
WRA	**Warramunga Arr**	**17.41**	**177**	P	**Pn**	**09 01 05.4**	**0.0**
	0.2nm,0.3s,baz=354,slow=12,SNR=9.1						
WRA				S	**Sn**	**09 04 18.8**	**+0.5**
	0.2nm,0.3s,baz=7.0,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**21.09**	**178**	P	**P**	**09 01 46.9**	**+0.1**
	7.2nm,0.7s,baz=2.9,slow=12,SNR=65						
ASAR				S	**S**	**09 05 35.9**	**-3.9**
	0.1nm,0.4s,baz=352,slow=26,SNR=2.0						
MKAR	**Makanchi Array**	**66.33**	**324**	P	**P**	**09 07 51.0**	**+0.7**
	0.2nm,0.5s,baz=114,slow=8.3,SNR=3.7						

IDC 19 09:08:57.4±2.8, 54°.03N×86°.55E, h0km, mb1 2.5/2, mb1mx2.5/61, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=22.8km s-min=13.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**266**	*i*		09 14 57.4	
	baz=84,slow=352,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.02**	**266**	Pg	Pg	09 09 15.4	-1.5
	0.4nm,0.3s,baz=85,slow=20,SNR=4.6						
ZALV				Lg	Lg	09 09 31.6	
	0.8nm,0.3s,baz=86,slow=28,SNR=8.4						
ZALV				Rg	Rg	09 09 38.2	
	4.0nm,0.7s,baz=85,slow=31,SNR=5.7						
KURBB	**Kurchatov Arra**	**5.98**	**238**	Pn	Pn	09 10 28.4	+1.4
	0.1nm,0.3s,baz=55,slow=13,SNR=4.5						
MKAR	**Makanchi Array**	**7.73**	**202**	Pn	Pn	09 10 52.0	+0.8
	0.1nm,0.3s,baz=24,slow=14,SNR=5.3						

*IDC **19** 09:08:57.9±0.6, 9°.00S×157°.95E, h0km, mb4.4/17, mb1 4.5/20, mb1mx4.2/43, mbtmp4.4/20, ML4.0/3, MS3.6/10, Ms1 3.6/10, ms1mx3.2/56, Error ellipse: s-maj=20.7km s-min=16.3km az=137.0*
*NEIC **19** 09:08:59.9±1.8, 9°.0S±0°.1×157°.97E±0°.07, h10km±1km, mb4.8/49, Error ellipse: s-maj=18.2km s-min=12.2km az=189.0*

ISC 19 09:08:59.7±0.4, 9°.03S±0°.07×158°.00E±0°.06, h10km, n106, σ1§06/100, mb4.7/52, MS3.5/7, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.97**	**102**	Pn	**Pn**	**09 09 32.7**	**-0.3**
	55nm,0.3s,baz=269,slow=7.5,SNR=13						
HNR				LR	LR	09 09 54.0	
	comp=Z,514nm,18.2s,baz=302,slow=28						
HNR				Sn	**Sn**	**09 09 55.7**	**-2.1**
	200nm,0.3s,baz=284,slow=20,SNR=9.3						
PMG	**Port Moresby**	**10.71**	**267**	LR	LR	09 15 25.8	
	comp=Z,376nm,20.3s,baz=143,slow=36						
PMG	**Port Moresby**	**10.71**	**267**	Pn	**Pn**	**09 11 33.0**	**-0.2**
SANVU	**Saraoutou**	**11.03**	**126**	Pn	**Pn**	**09 11 39.4**	**+1.9**
MANU	**Manus Island**	**12.65**	**303**		**Pn**	**09 11 59.8**	**0.0**
COEN	**Coen**	**15.33**	**250**	Pn	**Pn**	**09 12 36.6**	**+0.4**
COEN	**Coen**	**15.33**	**250**	P	**P**	**09 12 40.1**	**-0.9**
	27nm,1.1s						
CTA	**Charters Tower**	**15.80**	**225**	Pn	**Pn**	**09 12 41.4**	**-1.1**
	0.2nm,0.3s,baz=51,slow=13,SNR=4.9						
CTA				LR	LR	09 18 21.7	
	comp=Z,145nm,18.4s,baz=77,slow=36						
CTAO	**Charters Tower**	**15.80**	**225**	Pn	**Pn**	**09 12 42.2**	**-0.2**
EIDS	**Eidsvold**	**17.53**	**201**	P	**P**	**09 13 08.6**	**+3.1**
	13nm,2.1s						
JAY	**Jayapura**	**18.37**	**290**	P	**P**	**09 13 15.3**	**+0.4**
	0.7nm,0.3s,baz=90,slow=8.1,SNR=1.5						
JAY	**Jayapura**	**18.37**	**290**	P	**P**	**09 13 15.0**	**+0.1**
	14nm,1.0s						
RMQ	**Roma**	**19.45**	**206**	P	**Pn**	**09 13 28.7**	**+1.0**
	24nm,1.0s						
SMPI	**Sarmi**	**20.42**	**289**	P	**P**	**09 13 38.2**	**+1.0**
	32nm,0.8s						
QIS	**Mount Isa**	**21.13**	**235**	P	**P**	**09 13 45.9**	**+1.0**
	18nm,1.2s						
QLP	**Quilpie**	**21.79**	**215**	P	**P**	**09 13 52.7**	**+0.8**
	33nm,1.1s						
ARMA	**Armidale**	**22.10**	**195**	P	**P**	**09 13 53.4**	**-1.9**
WR0	**Warramunga Arr**	**25.14**	**242**	P	**P**	**09 14 23.7**	**-1.5**
WR0				IAmb	IAmb	09 14 33.6	
	comp=Z,22nm,1.1s						
CMSA	**Cobar Meteorol**	**25.15**	**205**	P	**P**	**09 14 26.1**	**+1.0**
	comp=Z,17nm,1.0s						
WB0	**Warramunga Arr**	**25.20**	**242**	P	**P**	**09 14 25.1**	**-0.7**
WB0				IAmb	IAmb	09 14 34.1	
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**25.30**	**242**	P	**P**	**09 14 26.3**	**-0.3**
WRAB				IAmb	IAmb	09 14 36.1	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	**25.30**	**242**	P	**P**	**09 14 25.4**	**-1.2**
WB2				IAmb	IAmb	09 14 44.0	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**25.31**	**242**	P	**P**	**09 14 26.0**	**-0.8**
	comp=Z,8.6nm,0.9s,baz=68,slow=9.0,SNR=19						
WRA				LR	LR	09 23 47.4	
	comp=Z,147nm,20.9s,baz=25,slow=35						
WRA	**Warramunga Arr**	**25.31**	**242**	P	**P**	**09 14 25.7**	**-1.1**
KDU	**Kakadu**	**25.32**	**259**	P	**P**	**09 14 27.0**	**+0.1**
	comp=Z,12nm,0.8s						
MTN	**Manton Dam**	**26.64**	**259**	P	**P**	**09 14 37.9**	**-0.9**
AS31	**Alice Springs**	**27.25**	**235**	P	**P**	**09 14 42.8**	**-1.5**
ASAR	**Alice Springs**	**27.25**	**235**	P	**P**	**09 14 43.1**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=64,slow=9.0,SNR=27						
ASAR				PcP	**PcP**	**09 18 04.4**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=62,slow=2.4,SNR=4.6						
ASAR				LR	LR	09 24 58.6	
	comp=Z,134nm,18.9s,baz=46,slow=35						
ASAR	**Alice Springs**	**27.25**	**235**	P	**P**	**09 14 43.2**	**-1.1**
STKA	**Stephens Creek**	**27.36**	**212**	P	**P**	**09 14 45.3**	**+0.1**
	comp=Z,5.5nm,0.7s,baz=36,slow=8.7,SNR=8.1						
STKA				LR	LR	09 24 55.3	
	comp=Z,138nm,20.0s,baz=33,slow=35						
STKA	**Stephens Creek**	**27.36**	**212**	P	**P**	**09 14 45.2**	**0.0**
KNRA	**Kununurra**	**29.29**	**254**	P	**P**	**09 15 00.8**	**-1.7**
BBOO	**Buckleboo**	**31.17**	**217**	P	**P**	**09 15 17.7**	**-1.2**
BBOO				IAmb	IAmb	09 15 24.4	
	comp=Z,12nm,0.9s						
BATI	**Baumata**	**33.86**	**265**	LR	LR	09 30 29.5	
	comp=Z,213nm,19.5s,baz=276,slow=38						
FORT	**Forrest**	**35.31**	**228**	P	**P**	**09 15 54.7**	**-0.4**
FORT				IAmb	IAmb	09 16 04.3	
	comp=Z,21nm,1.1s						
KAPI	**Kappang**	**38.15**	**273**	LR	LR	09 34 31.9	
	comp=Z,46nm,19.5s,baz=229,slow=40						
PSA00	**Pilbara Seismi**	**38.74**	**247**	P	**P**	**09 16 23.4**	**-1.1**
KSRS	**Korea Array**	**54.14**	**331**	P	**P**	**09 18 23.0**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=149,slow=7.0,SNR=3.4						
NJ2	**Nanjing**	**55.38**	**319**	*e*P	**P**	**09 18 35.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**57.98**	**338**	P	**P**	**09 18 52.4**	**0.0**
	comp=Z,2.5nm,0.9s,baz=141,slow=6.2,SNR=1.9						
PEA0B	**Petropavlovsk-**	**61.89**	**360**	P	**P**	**09 19 19.5**	**+0.3**
PETK	**Petropavlovsk-**	**61.89**	**360**	P	**P**	**09 19 18.5**	**-0.7**
	comp=Z,10nm,0.8s,baz=167,slow=7.6,SNR=11						
PETK	**Petropavlovsk-**	**61.89**	**360**	P	**P**	**09 19 19.3**	**+0.1**
SHEM	**Shemya Is, Ala**	**63.04**	**11**	LR	LR	09 43 51.4	
	comp=Z,39nm,20.1s,baz=349,slow=33						
CMAR	**Chiang Mai Arr**	**64.34**	**295**	P	**P**	**09 19 36.9**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=120,slow=5.1,SNR=13						
PZH	**PanZhiHua**	**65.01**	**305**	P	**P**	**09 19 42.5**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,4.6s						
HHC	**Hu-ho-hao-te**	**65.49**	**323**	*e*P	**P**	**09 19 44.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,370nm,5.8s						
LZH	**Lanzhou**	**67.84**	**315**	*e*P	**P**	**09 19 59.4**	**+0.8**
LZH				pP	sP	09 20 02.8	+0.8
LZH				pmax	pmax		
	comp=Z,28nm,1.4s						
MA2	**Magadan**	**68.62**	**356**	P	**P**	**09 20 01.9**	**-0.8**
MA2				IAmb	IAmb	09 20 03.0	
	comp=Z,10.0nm,0.9s						
GTA	**Gaotai**	**72.25**	**316**	*e*P	**P**	**09 20 28.0**	**+2.5**
GTA				pP	pwP	09 20 34.1	+3.0
GTA				sP	PcP	09 20 37.1	-6.6
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SONM	**Songino Array**	**72.65**	**326**	P	**P**	**09 20 28.1**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=141,slow=5.7,SNR=11						
SONM	**Songino Array**	**72.65**	**326**	IAmb	IAmb	09 20 32.9	
	comp=Z,2.2nm,0.8s						
YAK	**Yakutsk**	**74.19**	**347**	P	**P**	**09 20 36.0**	**-0.2**
	comp=Z,3.9nm,0.3s,baz=87,slow=0.8,SNR=4.1						
YAK	**Yakutsk**	**74.19**	**347**	IAmb	IAmb	09 20 36.9	
	comp=Z,18nm,0.8s						
BILL	**Bilibino**	**77.10**	**3**	P	**P**	**09 20 53.0**	**+0.1**
BILL				IAmb	IAmb	09 20 54.0	
	comp=Z,12nm,1.0s						
M19K	**Big River Lodg**	**79.75**	**21**	P	**P**	**09 21 08.8**	**+1.1**
M19K				IAmb	IAmb	09 21 10.8	
	comp=Z,8.7nm,0.8s						
L19K	**White Mountain**	**79.78**	**20**	P	**P**	**09 21 08.9**	**+1.1**
L19K				IAmb	IAmb	09 21 10.7	
	comp=Z,8.4nm,0.8s						
TTA	**Tatalina**	**79.90**	**20**	P	**P**	**09 21 08.7**	**+0.1**
TTA				IAmb	IAmb	09 21 10.6	
	comp=Z,13nm,1.3s						
J20K	**Nowinta River**	**81.37**	**19**	P	**P**	**09 21 16.9**	**+0.7**
J20K				IAmb	IAmb	09 21 18.1	
	comp=Z,9.8nm,1.1s						
CAST	**Castle Rocks**	**81.55**	**20**	P	**P**	**09 21 16.7**	**-0.6**
CAST				IAmb	IAmb	09 21 17.8	
	comp=Z,5.9nm,0.8s						
WMQ	**Urumqi**	**82.33**	**317**	*e*P	**P**	**09 21 23.3**	**+1.4**
MCK	**McKinley**	**82.85**	**21**	P	**P**	**09 21 24.0**	**-0.1**
NEA2	**Nenana**	**83.33**	**20**	P	**P**	**09 21 26.4**	**-0.2**
WRH	**Wood River Hil**	**83.59**	**21**	P	**P**	**09 21 27.0**	**-0.8**
CCB	**Clear Creek Bu**	**83.80**	**21**	P	**P**	**09 21 27.8**	**-1.1**
CCB				IAmb	IAmb	09 21 29.0	
	comp=Z,5.1nm,1.0s						
MDM	**Murphy Dome**	**83.84**	**20**	P	**P**	**09 21 28.7**	**-0.5**
MDM				IAmb	IAmb	09 21 29.4	
	comp=Z,9.2nm,1.1s						
HDA	**Harding Lake**	**83.96**	**21**	P	**P**	**09 21 30.0**	**+0.2**
HDA				IAmb	IAmb	09 21 31.9	
	comp=Z,14nm,1.5s						
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**09 21 29.9**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=255,slow=5.0,SNR=8.6						
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**09 21 30.6**	**-0.3**
J25K	**Salcha River,**	**84.63**	**21**	P	**P**	**09 21 32.4**	**-0.9**
SCRK	**Sand Creek**	**84.79**	**22**	P	**P**	**09 21 34.1**	**-0.1**
SCRK				IAmb	IAmb	09 21 35.4	
	comp=Z,4.5nm,0.9s						
BCAR	**Beaver Creek A**	**85.15**	**23**	P	**P**	**09 21 36.1**	**+0.2**
EGAK	**Eagle**	**86.25**	**22**	P	**P**	**09 21 41.5**	**+0.3**
EGAK				IAmb	IAmb	09 21 43.1	
	comp=Z,5.4nm,0.9s						
N31M	**Braeburn, Yuko**	**86.89**	**26**	P	**P**	**09 21 43.7**	**-0.8**
MK31	**Makanchi Array**	**86.89**	**318**	P	**P**	**09 21 43.9**	**-0.9**
MKAR	**Makanchi Array**	**86.89**	**318**	P	**P**	**09 21 44.5**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=103,slow=5.7,SNR=20						
MKAR	**Makanchi Array**	**86.89**	**318**	P	**P**	**09 21 44.2**	**-0.7**
MAKZ	**Makanchi**	**87.10**	**318**	P	**P**	**09 21 44.9**	**-0.9**
ZALV	**Zalesovo Beam**	**87.52**	**326**	P	**P**	**09 21 45.8**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=109,slow=4.9,SNR=4.3						
KSH	**Kashi**	**89.59**	**310**	P	**P**	**09 21 58.8**	**+0.8**
KSH				pP	pwP	09 22 04.6	+1.1
KSH				pmax	pmax		
	comp=Z,5.0nm,2.5s						
KURBB	**Kurchatov Arra**	**90.30**	**321**	P	**P**	**09 21 59.6**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=103,slow=3.8,SNR=2.4						
LHV	**Little Huntoon**	**90.46**	**51**	P	**P**	**09 22 02.7**	**+0.8**
RYN	**Ryan**	**90.52**	**51**	P	**P**	**09 22 02.3**	**-0.1**
RYN				IAmb	IAmb	09 22 04.4	
	comp=Z,7.3nm,1.1s						
INK	**Inuvik**	**90.57**	**20**	P	**P**	**09 22 01.7**	**0.0**
INK				IAmb	IAmb	09 22 03.2	
	comp=Z,8.9nm,1.4s						
NVAR	**Mina Array Bea**	**90.65**	**51**	P	**P**	**09 22 04.5**	**+1.4**
	comp=Z,4.9nm,0.9s,baz=247,slow=6.9,SNR=30						
NVAR	**Mina Array Bea**	**90.65**	**51**	P	**P**	**09 22

Ms1 3.5/1, ms1mx2.5/94, Error ellipse: s-maj=50.5km s-min=25.5km az=156.0
*KRSC **19** 09:14:00.5±1.3, 54°.09N×162°.40E, h48km±18km, ML3.9*
ISC 19 09:14:02.1±2.7, 54°.11N±0°.04×162°.41E±0°.04, h31km±20km, n43, σ1°22/66, mb3.8/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.60**	**319**	*eP*	**Pn**	**09 14 14.1**	**-0.4**
MKZ				*eS*	**Sn**	**09 14 22.2**	**-0.9**
TUMD	**Tumrok D**	**1.60**	**314**	*eP*	**Pn**	**09 14 27.9**	**-0.4**
TUMD				*eS*	**Sn**	**09 14 47.0**	**-1.0**
KII	**Karymskiy**	**1.75**	**269**	*eP*	**Pn**	**09 14 30.7**	**+0.3**
KII				*eS*	**Sn**	**09 14 50.5**	**-1.1**
SPN	**Mys Shipunski**	**1.75**	**235**	*eP*	**Pn**	**09 14 30.4**	**+0.1**
TUMR	**Tumrok**	**1.76**	**313**	*eP*	**Pn**	**09 14 30.9**	**+0.3**
TUMR				*eS*	**Sn**	**09 14 52.3**	**+0.2**
KMNR	**Kamenistaya**	**2.07**	**324**	*eP*	**Pn**	**09 14 35.9**	**+1.0**
KMNR				*eS*	**Sb**	**09 15 03.3**	**-1.1**
KBTR	**Krutoberegovo**	**2.12**	**6**	*eP*	**Pn**	**09 14 35.4**	**0.0**
KBTR				*eS*	**Sn**	**09 15 00.3**	**-0.3**
ZLN	**Zelenaya**	**2.12**	**335**	*eP*	**Pn**	**09 14 37.6**	**+2.0**
ZLN				*eS*	**Sn**	**09 15 03.4**	**+2.5**
KBG	**Krutoberegovo**	**2.16**	**4**	*eP*	**Pn**	**09 14 36.8**	**+0.9**
KBG				*eS*	**Sn**	**09 15 02.0**	**+0.4**
KIRR	**Kirishev**	**2.20**	**328**	*eS*	**Sn**	**09 15 04.4**	**+1.6**
LGNR	**Loginova**	**2.21**	**334**	*eP*	**Pn**	**09 14 38.8**	**+1.9**
CIRR	**Tsirk**	**2.22**	**335**	*eS*	**Sn**	**09 15 05.6**	**+2.1**
KPT	**Kopyto**	**2.25**	**327**	*eP*	**Pn**	**09 14 38.8**	**+1.5**
SDLR	**Sedlovina**	**2.25**	**250**	*eP*	**Pn**	**09 14 38.4**	**+1.0**
SDLR				*eS*	**Sn**	**09 15 04.6**	**+0.4**
SMAR	**Somma**	**2.31**	**250**	*eP*	**Pn**	**09 14 39.3**	**+1.1**
SMAR				*eS*	**Sn**	**09 15 06.0**	**+0.4**
UGLR	**Uglovaya**	**2.32**	**248**	*eP*	**Pn**	**09 14 39.3**	**+1.1**
UGLR				*eS*	**Sn**	**09 15 07.1**	**+1.4**
KRER	**Koryakskii**	**2.32**	**251**	*eP*	**Pn**	**09 14 39.8**	**+1.4**
KRER				*eS*	**Sn**	**09 15 06.7**	**+0.8**
AVH	**Avacha**	**2.34**	**250**	*eP*	**Pn**	**09 14 40.0**	**+1.4**
AVH				*eS*	**Sn**	**09 15 07.4**	**+1.1**
BKI	**Bering**	**2.34**	**61**	*eP*	**Pn**	**09 14 39.5**	**+1.0**
BKI				*eS*	**Sn**	**09 15 05.1**	**-1.1**
KRSR	**Krestovskiy**	**2.36**	**334**	*eP*	**Pn**	**09 14 40.0**	**+1.1**
KOK	**Koryaka**	**2.39**	**251**	*eP*	**Pn**	**09 14 40.5**	**+1.3**
KOK				*eS*	**Sn**	**09 15 06.8**	**-0.7**
KLY	**Klyuchi**	**2.43**	**336**	*eP*	**Pn**	**09 14 40.3**	**+0.7**
KLY				S	**Sn**	**09 15 08.4**	**+0.2**
DALK	**Dalny**	**2.43**	**245**	*eP*	**Pn**	**09 14 40.9**	**+1.2**
DALK				*eS*	**Sn**	**09 15 08.4**	**0.0**
PET	**Petropavlovsk**	**2.49**	**246**	*eP*	**Pn**	**09 14 40.7**	**+0.2**
PET				*eS*	**Sn**	**09 15 09.5**	**-0.3**
SMKR	**Semkarok**	**2.54**	**348**	*eP*	**Pn**	**09 14 42.8**	**+1.6**
SMKR				*eS*	**Sn**	**09 15 14.1**	**+3.0**
SRKR	**Sorokina**	**2.65**	**345**	*eP*	**Pn**	**09 14 44.1**	**+1.4**
GNL	**Ganaly**	**2.67**	**263**	*eP*	**Pn**	**09 14 44.8**	**+1.6**
GNL				*eS*	**Sn**	**09 15 15.3**	**+0.7**
ESO	**Esso**	**2.80**	**312**	*eP*	**Pn**	**09 14 45.7**	**+0.8**
ESO				*eS*	**Sn**	**09 15 17.1**	**-0.5**
KRMR	**Karymshinskiy**	**2.86**	**245**	*eP*	**Pn**	**09 14 47.2**	**+1.6**
KRMR				*eS*	**Sn**	**09 15 19.4**	**+0.5**
RUS	**Russkaya**	**2.88**	**236**	*eP*	**Pn**	**09 14 47.3**	**+1.4**
RUS				*eS*	**Sn**	**09 15 18.8**	**-0.6**
PETK	**Petropavlovsk-**	**2.98**	**252**	Pn	**Pn**	**09 14 48.2**	**+1.0**
	7.0nm,0.3s,baz=81,slow=15,SNR=84						
PETK				Sn	**Sn**	**09 15 23.3**	**+1.3**
	4.8nm,0.3s,baz=80,slow=28,SNR=12						
MTVR	**Mutnovka**	**3.01**	**239**	*eP*	**Pn**	**09 14 49.4**	**+1.5**
MTVR				*eS*	**Sn**	**09 15 23.3**	**+0.3**
GRL	**Gorelyy**	**3.03**	**241**	*eP*	**Pn**	**09 14 49.9**	**+1.8**
GRL				*eS*	**Sn**	**09 15 24.4**	**+1.0**
KDTR	**Khodutka, Kamc**	**3.49**	**230**	P	**Pn**	**09 14 55.9**	**+1.7**
KDTR				*eS*	**Sn**	**09 15 33.2**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**34.49**	**173**	T	T	09 58 09.8	
	baz=355,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**34.51**	**172**	T	T	09 58 12.5	
	baz=355,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**34.51**	**173**	T	T	09 58 07.4	
	baz=355,slow=76,SNR=12						
KURBB	**Kurchatov Arra**	**48.46**	**302**	P	**P**	**09 22 39.8**	**-1.6**
	0.3nm,0.3s,baz=58,slow=7.4,SNR=2.1						
MKAR	**Makanchi Array**	**48.95**	**296**	LR	LR	09 42 41.9	
	comp=Z,46nm,19.4s,baz=294,slow=35						
BVAR	**Borovoye Array**	**50.83**	**309**	P	**P**	**09 22 57.6**	**-1.8**
	0.6nm,0.5s,baz=46,slow=11,SNR=2.6						
FINES	**FINESS Array B**	**59.72**	**337**	P	**P**	**09 24 02.5**	**-0.7**
	1.7nm,0.8s,baz=39,slow=8.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**59.73**	**259**	P	**P**	**09 24 04.7**	**+0.8**
	0.9nm,0.4s,baz=16,slow=6.8,SNR=1.4						
TXAR	**Lajitas Array**	**68.98**	**69**	P	**P**	**09 25 04.8**	**+0.4**
	0.1nm,0.4s,baz=325,slow=6.1,SNR=1.7						

DJA 19 09:16:12.1±2.1, 2°S±6°×13°3E±°, h21km±19km, M3.6/4, MLv3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.35**	**246**	P	Pn	09 16 35.8	+0.1
FAKI				S	Sn	09 16 52.9	-0.1
SWI	**Sorong**	**2.67**	**304**	P	Pn	09 16 53.7	-0.2
SWI				S	Sn	09 17 26.8	+1.1

*IDC **19** 09:33:56.4±4.7, 4°.81S×129°.54E, h200km±45km, mb3.7/8, mb1 3.9/11, mb1mx3.6/33, mbtmp4.3/11, Error ellipse: s-maj=50.6km s-min=16.2km az=67.0*
*NEIC **19** 09:33:57.5±2.9, 4°.95S±0°.09×128°.8E±0°.1, h190km±11km, mb4.3/14, Error ellipse: s-maj=18.8km s-min=12.6km az=81.0*
*DJA **19** 09:34:00.1±0.3, 5°S±3°×12°9E±°, h218km±5km, M4.4/11, mb4.5/6, mB4.8/5, MLv4.5/11, Mw(mB)4.1/5*
ISC 19 09:33:58.1±0.6, 5°.04S±0°.06×129°.36E±0°.07, h200km, n42, σ2°38/43, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.74**	**346**	P	**Pn**	**09 34 37.7**	**+3.6**
MSAI				S	**Sn**	**09 35 04.4**	**+2.3**
AAI	**Ambon**	**1.78**	**319**	P	**Pn**	**09 34 38.0**	**+3.6**
AAI				S	**Sn**	**09 35 06.7**	**+4.0**
SAUI	**Saumlaki**	**3.50**	**147**	P	Pn	**09 34 58.5**	**+4.8**
SAUI	**Saumlaki**	**3.50**	**147**	Pn	Pn	09 34 59.0	+5.3
FAKI	**Fak Fak**	**3.57**	**54**	P	**Pn**	**09 34 56.7**	**+2.1**
FAKI				S	**Sn**	**09 35 39.5**	**+0.6**
FAKI	**Fak Fak**	**3.57**	**54**	**Pn**	**Pn**	**09 34 57.7**	**+3.1**
SANI	**Sanana**	**4.49**	**311**	P	**Pn**	**09 35 07.2**	**+1.1**
SWI	**Sorong**	**4.56**	**25**	P	**Pn**	**09 35 07.9**	**+0.9**
LBMI	**Labuha**	**4.75**	**337**	P	**Pn**	**09 35 11.3**	**+1.9**
MTN	**Manton Dam**	**7.95**	**167**	Pn	**Pn**	**09 35 52.9**	**+2.3**
GTOI	**Gorontalo**	**8.49**	**311**	P	**Pn**	**09 36 01.6**	**+3.8**
	5.6nm,0.9s						
KNRA	**Kununurra**	**10.58**	**183**	Pn	**Pn**	**09 36 26.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**13.47**	**195**	P	**Pn**	**09 37 01.8**	**+0.2**
	1.6nm,0.3s,baz=28,slow=10,SNR=38						
FITZ				S	S	09 39 24.6	-7.3
	0.2nm,0.3s,baz=224,slow=21,SNR=2.1						
WB0	**Warramunga Arr**	**15.43**	**162**	Pn	**Pn**	**09 37 26.0**	**+0.3**
WRA	**Warramunga Arr**	**15.58**	**162**	P	**P**	**09 37 28.2**	**+0.7**
	4.3nm,0.3s,baz=348,slow=12,SNR=37						
WRA				S	**S**	**09 40 16.7**	**-3.8**
	1.6nm,0.3s,baz=338,slow=22,SNR=5.7						
WRA	**Warramunga Arr**	**15.58**	**162**	P	**P**	**09 37 28.5**	**+1.0**
WB2	**Warramunga Arr**	**15.59**	**162**		**P**	**09 37 28.1**	**+0.6**
WB2				IAmb	IAmb	09 37 28.9	
	comp=Z,24nm,0.8s						
WR0	**Warramunga Arr**	**15.66**	**162**	P	**P**	**09 37 28.6**	**+0.3**
WR0				IAmb	IAmb	09 37 29.6	
	comp=Z,12nm,0.7s						
COEN	**Coen**	**16.24**	**124**	P	**P**	**09 37 37.5**	**+2.7**
COEN				IAmb	IAmb	09 37 38.4	
	comp=Z,10nm,1.2s						
PSA00	**Pilbara Seismi**	**18.84**	**208**	P	P	09 37 58.5	-4.7
PSA00				IAmb	IAmb	09 38 06.2	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**19.02**	**167**	P	**P**	**09 38 06.9**	**+1.7**
AS31				IAmb	IAmb	09 38 13.5	
	comp=Z,7.9nm,0.3s						
ASAR	**Alice Springs**	**19.02**	**167**	P	**P**	**09 38 06.8**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=350,slow=12,SNR=46						
ASAR				S	**S**	**09 41 27.1**	**-3.4**
	comp=Z,0.9nm,0.3s,baz=348,slow=23,SNR=38						
ASAR	**Alice Springs**	**19.02**	**167**	P	**P**	**09 38 07.1**	**+2.0**
MORW	**Morawa**	**27.02**	**206**	P	**P**	**09 39 21.2**	**-0.6**
BBOO	**Buckleboo**	**28.32**	**168**	P	**P**	**09 39 33.7**	**+0.4**
STKA	**Stephens Creek**	**29.05**	**158**	P	**P**	**09 39 41.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**38.01**	**309**	P	**P**	**09 40 54.9**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=135,slow=7.2,SNR=6.5						
USRK	**Ussuriysk Ar.**	**49.08**	**2**	P	P	09 42 20.5	-4.6
	comp=Z,1.4nm,0.8s,baz=174,slow=5.8,SNR=1.6						
MK31	**Makanchi Array**	**66.25**	**327**	P	**P**	**09 44 23.0**	**-1.8**
MKAR	**Makanchi Array**	**66.25**	**327**	P	**P**	**09 44 22.9**	**-1.9**
	comp=Z,1.8nm,0.4s,baz=114,slow=8.0,SNR=54						
AAK	**Ala-Archa**	**68.65**	**320**	P	**P**	**09 44 38.8**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=166,slow=8.3						
AAK	**Ala-Archa**	**68.65**	**320**	IAmb	IAmb	09 44 39.4	
	comp=Z,1.7nm,0.7s						
ZAA0	**Zalesovo Array**	**69.56**	**334**	P	**P**	**09 44 42.5**	**-2.6**
ZAA0				IAmb	IAmb	09 44 43.6	
	comp=Z,5.0nm,1.4s						
ZALV	**Zalesovo Beam**	**69.56**	**334**	P	**P**	**09 44 42.6**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=132,slow=6.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**69.56**	**334**	P	**P**	**09 44 41.7**	**-3.4**
KURBB	**Kurchatov Arra**	**70.52**	**328**	P	**P**	**09 44 49.1**	**-2.0**
	comp=Z,2.4nm,0.6s,baz=129,slow=5.3,SNR=29						
KURK	**Kurchatov**	**70.53**	**329**	P	**P**	**09 44 48.8**	**-2.3**
KURK				IAmb	IAmb	09 44 50.0	
	comp=Z,3.2nm,0.8s						
KKAR	**Karatay Array**	**71.46**	**319**	P	**P**	**09 44 55.2**	**-1.7**
VNDA	**Vanda**	**74.45**	**173**	P	**P**	**09 45 12.6**	**-1.2**
	comp=Z,1.3nm,1.0s,baz=331,slow=10,SNR=1.5						
BVAR	**Borovoye Array**	**76.08**	**328**	P	**P**	**09 45 20.9**	**-2.7**
	comp=Z,1.9nm,0.9s,baz=84,slow=14,SNR=5.1						
TORD	**Torodi Ar. Bea**	**127.79**	**283**	PKP	**PKPdf**	**09 52 38.2**	**-2.7**
	comp=Z,0.6nm,0.7s,baz=91,slow=1.5,SNR=3.1						
CPUP	**Villa Florida**	**148.14**	**169**	PKPbc	**PKPdf**	**09 53 19.2**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=115,slow=1.8,SNR=3.8						

WEL 19 09:42:59.2, 42°S±4°×17°4E±°, h20km±7km, M2.3/13, ML2.8/21, MLv2.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=121.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.20**	**236**	P	Pb	09 43 04.7	+0.1
BHW	**Baring Head**	**0.40**	**55**	P	Pb	09 43 07.9	+0.4
BHW	**Baring Head**	**0.40**	**55**	P	Pb	09 43 08.2	+0.7
BSWZ	**Blackbirch Sta**	**0.42**	**260**	P	Pb	09 43 08.3	+0.4
TUWZ	**Tuamarina**	**0.42**	**300**	P	Pb	09 43 08.2	+0.3
WEL	**Wellington**	**0.44**	**35**	P	Pb	09 43 08.6	+0.5
TCW	**Tory Channel**	**0.45**	**345**	P	Pb	09 43 08.4	+0.2
PLWZ	**Palliser**	**0.62**	**84**	P	Pb	09 43 12.4	-0.4
MSWZ	**Moikau Station**	**0.65**	**70**	P	Pn	09 43 12.7	-0.5
CAW	**Cannon Point**	**0.71**	**42**	P	Pb	09 43 13.3	+0.4
PAWZ	**Paruwai Farm**	**0.79**	**71**	P	Pn	09 43 15.2	0.0
KIW	**Kapiti Island**	**0.86**	**25**	P	Pn	09 43 15.8	-0.3
NNZ	**Nelson**	**0.90**	**298**	P	Pn	09 43 16.5	-0.1
DUWZ	**D'Urville Isla**	**0.92**	**335**	P	Pn	09 43 17.0	0.0
MTW	**Mount Morrison**	**0.94**	**59**	P	Pn	09 43 17.4	+0.2
TRWZ	**Traveller**	**0.97**	**76**	P	Pn	09 43 17.7	0.0
OGWZ	**Otaki Gorge**	**0.99**	**34**	P	Pn	09 43 18.1	+0.2
KHZ	**Kahutara**	**1.02**	**220**	P	Pn	09 43 18.5	+0.1
HOWZ	**Holdsworth Sta**	**1.10**	**48**	P	Pb	09 43 19.8	+0.3
THZ	**Tophouse**	**1.15**	**263**	P	Pb	09 43 21.1	+0.7
TMWZ	**Te Maipa**	**1.22**	**65**	P	Pn	09 43 21.0	-0.1
MRZ	**Mangatainoka R**	**1.31**	**42**	P	Pb	09 43 22.9	-0.1
QRZ	**Quartz Range**	**1.65**	**299**	P	Pb	09 43 29.0	+0.1
BFZ	**Birch Farm**	**1.67**	**56**	P	Pb	09 43 28.2	-1.0
GVZ	**Greta Valley S**	**1.68**	**218**	P	Pn	09 43 27.2	-0.2
WAZ	**Wanganui**	**1.93**	**13**	P	Pb	09 43 36.2	+2.5
LTZ	**Lake Taylor**	**1.97**	**234**	P	Pn	09 43 31.5	+0.1
DSZ	**Denniston Nort**	**1.97**	**266**	P	Pb	09 43 33.6	-0.7
OKCZ	**Okains Bay**	**2.31**	**205**	P	Pn	09 43 35.0	-1.2
MOZ	**McQueen's Vall**	**2.45**	**212**	P	Pn	09 43 36.2	-1.7
PKE	**Pukeiti**	**2.47**	**352**	P	Pb	09 43 46.1	+3.3
INZ	**Inchbonnie**	**2.47**	**243**	P	Pb	09 43 40.8	-2.0
BHHZ	**Black Hill Sta**	**2.48**	**31**	P	Pb	09 43 45.6	+2.5
VRZ	**Vera Road**	**2.52**	**6**	P	Pb	09 43 44.3	+0.5
OTVZ	**Oturere**	**2.65**	**21**	P	Pn	09 43 42.7	+1.8
WTVZ	**West Tongariro**	**2.67**	**20**	P	Pb	09 43 48.3	+1.9
HIZ	**Hauiti**	**3.14**	**6**	P	Pb	09 43 55.4	+1.2
MSZ	**Milford Sound**	**5.64**	**235**	P	Pn	09 44 26.8	+5.0

*INMG **19** 09:45:52.5, 38°.10N×26°.29W, h7km, ML4.1*
*NEIC **19** 09:45:55.8±1.9, 38°.07N±0°.09×26°.41W±0°.08, h10km±1km, mb4.1/7, ML4.3(PDA), Error ellipse: s-maj=18.0km s-min=3.2km az=37.0*
*IDC **19** 09:45:56.0±1.2, 38°.18N×26°.28W, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.8/52, mbtmp3.8/13, MS3.5/6, Ms1 3.5/6, ms1mx3.0/93, Error ellipse: s-maj=28.5km s-min=22.0km az=13.0*
*PDA **19** 09:45:58±3.9, 38°.1N±0°.1×26°.30W±0°.09, h5km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=125.0*
*SVSA **19** 09:45:59.1±1.2, 38°.10N×26°.30W, h7km±6km, ML4.1(INMG), Error ellipse: s-maj=6.8km s-min=2.6km az=36.0*
ISC 19 09:45:55.4±1.1, 38°.05N±0°.07×26°.40W±0°.04, h8km±7km, n83, σ2°17/85, mb3.9/16, MS3.5/6, 2D, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**0.58**	**112**	*eP*	**Pb**	**09 46 08.2**	**+0.4**
PSET				*eS*	**Sg**	**09 46 15.3**	**+1.1**
PSET				A	A	09 46 16.5	
	6μm,0.2s						
PDA	**Ponta Delgada**	**0.66**	**117**	*eP*	**Pb**	**09 46 09.3**	**+0.3**
PDA				A	A	09 46 18.1	
	5μm,0.2s						
PDA	**Ponta Delgada**	**0.66**	**117**		**Pg**	**09 46 08.8**	**+0.8**
PDA					**Sg**	**09 46 17.7**	**+1.1**
GRON	**Grota Negra**	**0.74**	**112**	*eS*	**Sg**	**09 46 20.1**	**+0.8**
GRON				A	A	09 46 23.5	
	5μm,0.2s						
CMLA	**Cha da Macela**	**0.75**	**112**	*eP*	**Pg**	**09 46 10.5**	**+0.7**
CMLA				*eS*	**Sg**	**09 46 19.4**	**-0.1**
CMLA				A	A	09 46 22.3	
	14μm,0.2s						
PCALD	**Caldeiras da R**	**0.76**	**109**	*eP*	**Pg**	**09 46 10.6**	**+0.5**
PCALD				*eS*	**Sg**	**09 46 19.4**	**-0.6**
PCALD				A	A	09 46 22.4	
	11μm,0.5s						
ADH	**Angra Heroismo**	**0.90**	**313**	*eP*	**Pg**	**09 46 12.8**	**+0.2**
ADH				*eS*	**Sg**	**09 46 24.3**	**+0.1**
ADH				A	A	09 46 35.4	
	2μm,0.6s						
ADH	**Angra Heroismo**	**0.90**	**313**		**Pb**	**09 46 12.9**	**-0.2**
ADH					**Sg**	**09 46 23.7**	**-0.6**
PAGU	**Agualva, Azore**	**0.95**	**320**	*eP*	**Pb**	**09 46 14.1**	**0.0**
PAGU				*eS*	**Sg**	**09 46 25.9**	**0.0**
PAGU				A	A	09 46 26.9	
	9μm,0.3s						
PTOPO	**Topo S. Jorge**	**1.18**	**296**	*eS*	**Sb**	**09 46 31.9**	**-1.5**
PID	**Ribeirinha**	**1.41**	**287**	*eP*	**Pb**	**09 46 21.8**	**-0.2**
PID				*eS*	**Sb**	**09 46 37.9**	**-2.2**
PID				A	A	09 46 45.8	
	676nm,0.7s						
PMAN	**Manadas**	**1.45**	**294**	*eP*	**Pn**	**09 46 22.0**	**+0.1**
PMAN				*eS*	**Sn**	**09 46 38.9**	**-2.2**
PMAN				A	A	09 46 41.2	
	610nm,0.6s						
PSMA	**Santa Maria**	**1.46**	**136**	*eP*	**Pn**	**09 46 20.9**	**-1.1**
PSMA				*eS*	**Sn**	**09 46 37.1**	**-4.1**
PSMA				A	A	09 46 40.1	
	995nm,0.2s						
PSMN	**Pico do Norte,**	**1.49**	**134**	*eP*	**Pn**	**09 46 21.4**	**-1.0**
PSMN				*eS*	**Sn**	**09 46 37.6**	**-4.4**
PSMN				A	A	09 46 43.4	
	462nm,0.4s						
PGRA	**Graciosa**	**1.58**	**309**	*eP*	**Pn**	**09 46 23.8**	**+0.1**
PGRA				*eS*	**Sn**	**09 46 41.6**	**-2.8**
PGRA				A	A	09 46 46.5	
	443nm,0.5s						
ROSA	**Rosais**	**1.60**	**295**	*eP*	**Pn**	**09 46 23.8**	**-0.1**
ROSA				*eS*	**Sn**	**09 46 42.3**	**-2.4**
ROSA				A	A	09 46 44.7	
	515nm,0.4s						
ROSA	**Rosais**	**1.60**	**295**	Pn	**Pn**	**09 46 22.8**	**-1.1**
ROSA				Sn	**Sn**	**09 46 42.6**	**-2.1**
PICO	**Pico**	**1.66**	**287**	*eP*	**Pn**	**09 46 24.9**	**+0.1**
PICO				*eS*	**Sn**	**09 46 44.3**	**-2.0**
PICO				A	A	09 46 45.0	
	691nm,0.6s						
PCAN	**Candelaria**	**1.69**	**285**	*eP*	**Pn**	**09 46 25.6**	**+0.3**
PCAN				*eS*	**Sn**	**09 46 45.3**	**-1.9**
PCAN				A	A	09 46 52.1	
	541nm,0.5s						
HOR	**Horta**	**1.82**	**286**	*eP*	**Pn**	**09 46 27.0**	**0.0**
HOR				*eS*	**Sn**	**09 46 48.1**	**-2.1**
HOR				A	A	09 46 55.7	
	409nm,0.3s						
PFCBR	**Castelo Branco**	**1.88**	**285**	*eP*	**Pn**	**09 46 28.0**	**+0.1**
PFCBR				*eS*	**Sn**	**09 46 50.1**	**-1.7**
PFCBR				A	A	09 46 54.6	
	127nm,0.5s						
CALA	**Caldeira**	**1.89**	**287**	*eP*	**Pn**	**09 46 28.0**	**0.0**
CALA				*eS*	**Sn**	**09 46 49.9**	**-2.1**
CALA				A	A	09 46 55.3	
	790nm,0.6s						
PCED	**Cedros**	**1.90**	**289**	*eP*	**Pn**	**09 46 27.8**	**-0.3**
PCED				*eS*	**Sn**	**09 46 49.6**	**-2.6**
PCED				A	A	09 46 59.0	
	368nm,0.5s						
PMOZ	**Porto Moniz, M**	**9.14**	**122**	Pn	**Pn**	**09 48 08.1**	**+0.5**
PMAFR	**Mafra**	**13.44**	**81**	*eP*	**Pn**	**09 49 04.3**	**-2.1**
PFVI	**Vila Bisbo**	**13.97**	**88**	*eP*	Pn	09 49 08.9	-4.7
PFVI	**Vila Bisbo**	**13.97**	**88**	Pn	Pn	09 49 08.2	-5.4
PTEO	**Sao Teotonio**	**13.99**	**87**	*eP*	**Pn**	**09 49 12.0**	**-1.9**
MORF	**Marmelete**	**14.08**	**88**	*eP*	Pn	09 49 10.1	-5.1
PNCL	**Nicolau / Gran**	**14.08**	**84**	*eP*	**Pn**	**09 49 11.4**	**-3.7**
PNCL				*eS*	Sn	09 51 33.8	-18
PMTG	**Montargil**	**14.26**	**80**	*eP*	**Pn**	**09 49 14.4**	**-3.2**
PGAV	**Gavieira, Arco**	**14.43**	**69**	*eP*	Pn	09 49 15.3	-4.7
PGAV				*eS*	Sn	09 51 38.2	-22
EVO	**Evora**	**14.45**	**82**	*eP*	**Pn**	**09 49 16.1**	**-4.1**
EVO				*eS*	Sn	09 51 45.3	-15
PCVE	**Castro Verde**	**14.52**	**86**	*eP*	**Pn**	**09 49 18.4**	**-2.7**
PVIS	**Viseu**	**14.56**	**74**	*eP*	Pn	09 49 16.6	-5.1
PCAB	**Cabril**	**14.57**	**70**	*eP*	**Pn**	**09 49 17.8**	**-4.1**
PBEJ	**Beja**	**14.61**	**84**	*eP*	Pn	09 49 17.6	-4.8
PBDV	**Barranco-do-Ve**	**14.66**	**87**	*eP*	**Pn**	**09 49 19.4**	**-3.6**
POLO	**Lamas de Olo**	**14.70**	**71**	*eP*	**Pn**	**09 49 19.3**	**-4.4**
PESTR	**Estremoz**	**14.76**	**81**	*eP*	**Pn**	**09 49 22.6**	**-1.9**
PVAQ	**Vaqueiros**	**14.80**	**87**	*eP*	**Pn**	**09 49 21.5**	**-3.5**
PVAQ				*eS*	Sn	09 51 51.0	-18
PVAQ	**Vaqueiros**	**14.80**	**87**	Pn	**Pn**	**09 49 20.7**	**-4.3**
MTE	**Manteigas**	**14.80**	**75**	*eP*	Pn	09 49 19.9	-5.2
MTE	**Manteigas**	**14.80**	**75**	Pn	Pn	09 49 19.2	-5.9
PCBR	**Castelo Branco**	**14.84**	**77**	*eP*	**Pn**	**09 49 21.7**	**-3.7**
PMRV	**Marv??o**	**14.90**	**79**	*eP*	**Pn**	**09 49 23.1**	**-3.2**
PMRV				*eS*	Sn	09 51 55.2	-16
MVO	**Moncorvo**	**15.25**	**72**	*eP*	**Pn**	**09 49 25.6**	**-5.4**
PBRG	**Braganca**	**15.54**	**70**	*eP*	**Pn**	**09 49 28.8**	**-6.0**
PAB	**San Pablo**	**17.25**	**78**	Pn	**Pn**	**09 49 53.5**	**-3.2**
PAB				IAmb	IAmb	09 49 57.6	
	comp=Z,9.8nm,1.2s						
ESDC	**Sonseca Array**	**17.55**	**78**	P	**Pn**	**09 49 56.9**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=269,slow=13,SNR=13						
ESDC	**Sonseca Array**	**17.55**	**78**	Pn	**Pn**	**09 49 59.9**	**-0.5**
ESBB	**Sonseca Array**	**17.55**	**78**		**Pn**	**09 50 00.3**	**-0.1**
ESBB				IAmb	IAmb	09 50 13.6	
	comp=Z,8.4nm,1.2s						
EKA	**Eskdalemuir Ar**	**23.34**	**35**	P	**P**	**09 51 04.3**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=242,slow=8.1,SNR=5.3						
NOA	**NORSAR Array B**	**32.80**	**33**	P	**P**	**09 52 29.8**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=231,slow=7.8,SNR=2.3						
NOA				LR	LR	10 04 10.4	
	comp=Z,89nm,18.4s,baz=250,slow=34						
TORD	**Torodi Ar. Bea**	**35.20**	**127**	P	**P**	**09 52 52.1**

baz=83,slow=352,SNR=11
ZALV Zalesovo Beam 1.00 265 Pg Pg 09 47 05.1 -1.5
1.9nm,0.3s,baz=83,slow=17,SNR=19
ZALV Lg Lg 09 47 21.0
4.4nm,0.3s,baz=83,slow=27,SNR=13
ZALV Rg Rg 09 47 26.0
7.0nm,0.6s,baz=81,slow=37,SNR=8.5
KURBB Kurchatov Arra 5.97 238 Pn Pn 09 48 18.3 +1.3
0.2nm,0.3s,baz=54,slow=13,SNR=17
KURBB Lg Lg 09 49 59.3
0.1nm,0.3s,baz=50,slow=34,SNR=2.6
MKAR Makanchi Array 7.74 202 Pn Pn 09 48 42.5 +1.2
0.4nm,0.3s,baz=26,slow=14,SNR=33
MKAR Sn Sn 09 50 07.3 -2.3
0.1nm,0.3s,baz=20,slow=27,SNR=6.1

IDC 19 09:47:20.2±2.3, 54°.25N×86°.04E, h0km, mb1 3.3/2, mb1mx2.6/58, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=17.3km s-min=10.2km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=66,slow=350,SNR=23	**0.78**	**248**	*i*		09 52 09.8	
ZALV	**Zalesovo Beam** 1.8nm,0.3s,baz=69,slow=17,SNR=5.6	**0.78**	**248**	Pg	Pg	09 47 33.6	-1.6
ZALV	6.0nm,0.3s,baz=69,slow=30,SNR=17			Lg	Lg	09 47 46.1	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=51,slow=13,SNR=15	**5.86**	**235**	Pn	Pn	09 48 49.2	+1.0
KURBB	0.1nm,0.3s,baz=50,slow=33,SNR=2.6			Lg	Lg	09 50 29.2	
MKAR	**Makanchi Array** 0.5nm,0.3s,baz=22,slow=12,SNR=13	**7.84**	**199**	Pn	Pn	09 49 16.2	+0.8
MKAR	0.1nm,0.3s,baz=20,slow=26,SNR=3.6			Sn	Sn	09 50 44.8	0.0
MKAR	baz=19,slow=31,SNR=3.0			Lg	Lg	09 51 28.2	

*JMA **19** 09:49:19.3, 37°.70N×141°.74E, h47km±1km, M4.3 Broadband fault plane solution: P waves. NP1: ϕ_s188.00000°, δ13.00000°, λ43.00000°. NP2:ϕ_s55.00000°, δ81.00000°, λ100.00000°. Principal axes: T Plg53.0000°, Azm337.0000°; N Plg10.0000°, Azm234.0000°; P Plg35.0000°, Azm137.0000°;*
JMA Felt II J1.
*NIED **19** 09:49:19.3, 37°.70N×141°.75E, h47km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.11; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-0.91; $M_{r\theta}$0.00; $M_{\theta\phi}$-0.28; $M_{\phi r}$-0.30; Fault plane solution: $M_0$1.10000×10^{15} NP1: ϕ_s194.00000°, δ53.00000°, λ84.00000°. NP2:ϕ_s24.00000°, δ38.00000°, λ97.00000°.*
*NEIC **19** 09:49:21.0±2.0, 37°.73N±0°.03×141°.7E±0°.1, h57km±5km, mb4.4/23 Error ellipse: s-maj=11.6km s-min=4.9km az=94.0*
*IDC **19** 09:49:21.8±2.5, 37°.71N×141°.62E, h71km±23km, mb3.7/19, mb1 3.9/22, mb1mx3.7/47, mbtmp4.0/22, MS3.0/4, Ms1 3.0/4, ms1mx2.6/87, Error ellipse: s-maj=18.2km s-min=15.0km az=92.0*
ISC 19 09:49:19.2±1.3, 37°.69N±0°.04×141°.79E±0°.07, h46km±11km, n89, σ1^{s}23/100, mb4.2/30, 3C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.67**	**338**	⇓P	**Pn**	**09 49 32.4**	**0.0**
JIKH				S	**Sn**	**09 49 41.5**	**-0.3**
JMST	**Minamisoumatoc**	**0.71**	**273**	⇓P	**Pn**	**09 49 32.7**	**-0.3**
JMST				S	**Sn**	**09 49 42.3**	**-0.6**
JFK	**Kawauchi**	**0.80**	**246**	⇑P	**Pn**	**09 49 33.9**	**-0.2**
JFK				S	**Sn**	**09 49 44.0**	**-0.9**
JMM	**Marumori**	**0.81**	**283**	⇓P	**Pn**	**09 49 34.1**	**-0.1**
JMM				S	**Sn**	**09 49 44.6**	**-0.5**
JMM	**Marumori**	**0.81**	**283**		**Pn**	**09 49 34.1**	**-0.1**
JIO	**Ouri**	**0.83**	**336**	⇓P	**Pn**	**09 49 34.7**	**+0.1**
JIO				S	**Sn**	**09 49 45.4**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.98**	**233**	⇑P	**Pn**	**09 49 36.4**	**-0.3**
ONAJ				S	**Sn**	**09 49 48.8**	**-0.7**
JOU	**Okura**	**1.11**	**307**	⇓P	**Pn**	**09 49 38.4**	**0.0**
JOU				S	**Sn**	**09 49 52.9**	**+0.3**
JKMT	**Kesennumamotoy**	**1.14**	**348**	⇓P	**Pn**	**09 49 38.9**	**+0.1**
JKMT				S	**Sn**	**09 49 53.3**	**0.0**
JFT	**Otama**	**1.17**	**262**	⇓P	**Pn**	**09 49 39.7**	**+0.6**
JFT				S	**Sn**	**09 49 54.6**	**+0.7**
JMK	**Ichinoseki**	**1.33**	**341**	⇓P	**Pn**	**09 49 41.8**	**+0.4**
JMK				S	**Sn**	**09 49 58.3**	**+0.4**
JYS	**Shirataka**	**1.46**	**292**	P	**Pn**	**09 49 43.4**	**+0.3**
JYS				*e*S	**Sn**	**09 50 02.0**	**+0.9**
JYK	**Kaneyama**	**1.66**	**318**	⇓P	**Pn**	**09 49 46.3**	**+0.4**
JYK				*e*S	**Sn**	**09 50 06.8**	**+0.8**
JFY	**Yanaizu**	**1.68**	**261**	⇓P	**Pn**	**09 49 46.5**	**+0.4**
JFY				*e*S	**Sn**	**09 50 07.1**	**+0.6**
JOM	**Ohasama**	**1.82**	**348**	⇑P	**Pn**	**09 49 48.7**	**+0.7**
JOM				S	**Sn**	**09 50 11.2**	**+1.3**
JYT	**Yasato**	**1.94**	**222**	Pn	**Pn**	**09 49 49.7**	**0.0**
JSD	**Sado**	**2.81**	**278**	Pn	**Pn**	**09 50 00.1**	**-1.5**
MJAR	**Matsushiro Arr** 2.3nm,0.3s,baz=53,slow=11,SNR=51	**3.08**	**249**	P	**Pn**	**09 50 06.5**	**+1.1**
MJAR	1.4nm,0.3s,baz=76,slow=30,SNR=5.2			S	**Sn**	**09 50 44.2**	**+3.2**
MJAR	comp=Z,282nm,19.4s,baz=48,slow=47			LR	LR	09 51 40.1	
MJAR	**Matsushiro Arr**	**3.08**	**249**		**Pn**	**09 50 06.7**	**+1.3**
MAJO	**Matsushiro**	**3.08**	**249**		**Pn**	**09 50 07.3**	**+1.9**
MAT	**Matsushiro**	**3.08**	**249**	P	**Pn**	**09 50 06.9**	**+1.5**
MAT				*e*S	**Sn**	**09 50 41.2**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.08**	**249**	Pn	**Pn**	**09 50 07.2**	**+1.8**
JTM	**Tenmabayashi**	**3.14**	**350**		**Pn**	**09 50 07.2**	**+1.0**
JGF	**Kuroka**	**4.13**	**241**		**Pn**	**09 50 22.3**	**+2.5**
ERM	**Erimo**	**4.44**	**13**	Pn	**Pn**	**09 50 26.3**	**+2.3**
INU	**Inuyama**	**4.50**	**240**		**Pn**	**09 50 27.1**	**+2.3**
JHJ2	**Mitsune**	**4.85**	**200**	Pn	**Pn**	**09 50 31.4**	**+1.8**
JHJ	**Hachijo jima 2** 35nm,0.3s,baz=74,slow=20,SNR=2.0	**4.85**	**200**	P	**Pn**	**09 50 31.0**	**+1.4**
JHJ				S	**Sn**	**09 51 22.4**	**-2.1**
JEW	**Eniwo**	**5.15**	**357**	Pn	**Pn**	**09 50 34.6**	**+0.9**
ASAJ	**Asahikawa** 3.0nm,0.3s,baz=220,slow=11,SNR=9.4	**6.45**	**5**	P	**Pn**	**09 50 50.7**	**-0.8**
ASAJ				S	**Sn**	**09 52 02.8**	**-0.9**
JKA	**Kamikawa-asahi**	**6.45**	**5**		**Pn**	**09 50 50.7**	**-0.8**
JHS	**Saijyo**	**7.50**	**252**	Pn	**Pn**	**09 51 09.0**	**+3.0**
JMN	**Monobe**	**7.55**	**241**	Pn	**Pn**	**09 51 08.7**	**+2.0**
USA0B	**Ussuriysk Arra**	**9.85**	**314**	Pn	**Pn**	**09 51 39.5**	**+1.3**
USRK	**Ussuriysk Ar.** baz=128,slow=13,SNR=14	**9.85**	**314**	P	**Pn**	**09 51 39.2**	**+1.1**
USRK	comp=Z,96nm,19.1s,baz=217,slow=34			LR	LR	09 54 52.7	
JNU	**Nakatsue** comp=Z,171nm,21.0s,baz=80,slow=38	**10.00**	**246**	LR	LR	09 55 37.9	
KSRS	**Korea Array** 0.4nm,0.3s,baz=83,slow=14,SNR=6.1	**11.01**	**273**	P	**Pn**	**09 51 58.1**	**+4.2**
KSRS	comp=Z,43nm,18.6s,baz=70,slow=38			LR	LR	09 56 22.1	
SEY	**Seymchan** 2.5nm,0.8s,baz=192,slow=9.0,SNR=7.0	**26.09**	**11**	P	**P**	**09 54 48.4**	**+0.2**
SONM	**Songino Array** 1.4nm,0.5s,baz=109,slow=9.0,SNR=6.8	**27.67**	**303**	P	**P**	**09 55 03.7**	**+0.9**
H11N2	**WAKE ISLAND Hy 28.24** baz=316,slow=75,SNR=344	**122**		T	T	10 25 25.9	
H11N1	**WAKE ISLAND Hy 28.25** baz=316,slow=75,SNR=254	**122**		T	T	10 25 35.9	
H11N3	**WAKE ISLAND Hy 28.26** baz=316,slow=75,SNR=258	**122**		T	T	10 25 24.8	
H11S1	**WAKE ISLAND Hy 28.98** baz=317,slow=76,SNR=113	**124**		T	T	10 26 27.5	
H11S3	**WAKE ISLAND Hy 28.98** baz=317,slow=76,SNR=146	**124**		T	T	10 26 24.9	
H11S2	**WAKE ISLAND Hy 28.99** baz=317,slow=76,SNR=121	**124**		T	T	10 26 28.8	
TIXI	**Tiksi** 1.4nm,0.3s,baz=119,slow=5.4,SNR=5.1	**34.67**	**353**	P	**P**	**09 56 03.1**	**-0.8**
TIXI	**Tiksi** comp=Z,2.0nm,0.8s	**34.67**	**353**	P	**P**	**09 56 03.4**	**-0.5**
TIXI				IAmb	IAmb	09 56 05.9	
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.5s,baz=79,slow=7.5,SNR=3.3	**41.69**	**312**	P	**P**	**09 57 01.7**	**-1.5**
ZALV	**Zalesovo Beam**	**41.69**	**312**	P	**P**	**09 57 00.5**	**-2.7**
NRIK	**Noril'sk** comp=Z,1.6nm,0.3s,baz=90,slow=1.0,SNR=4.8	**42.80**	**335**	P	**P**	**09 57 10.2**	**-1.7**
MK31	**Makanchi Array**	**44.02**	**302**	P	**P**	**09 57 21.9**	**-0.2**
MKAR	**Makanchi Array** comp=Z,1.1nm,0.6s,baz=91,slow=9.1,SNR=13	**44.02**	**302**	P	**P**	**09 57 21.1**	**-1.1**
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**09 57 21.7**	**-0.5**
MAKZ	**Makanchi**	**44.23**	**302**	P	**P**	**09 57 24.6**	**+0.8**
KURK	**Kurchatov**	**45.76**	**308**	P	**P**	**09 57 35.2**	**-0.7**
KURK	comp=Z,4.4nm,0.7s			IAmb	IAmb	09 57 39.4	
ILAR	**Eielson Array** comp=Z,1.3nm,0.9s,baz=256,slow=6.3,SNR=7.0	**48.78**	**33**	P	**P**	**09 57 59.6**	**+0.4**
KLU	**Klutina**	**49.46**	**37**	P	**P**	**09 58 05.8**	**+1.3**
BOOM	**Boomskoye usch**	**49.47**	**297**	P	**P**	**09 58 04.4**	**-0.6**
AAK	**Ala-Archa** comp=Z,1.3nm,0.5s,baz=170,slow=6.1,SNR=3.0	**50.44**	**298**	P	**P**	**09 58 12.4**	**+0.1**
BCAR	**Beaver Creek A**	**51.18**	**35**	P	**P**	**09 58 19.1**	**+1.6**
M27K	**Edge Creek, AK**	**51.24**	**36**	P	**P**	**09 58 18.2**	**+0.1**
M27K	comp=Z,11nm,1.4s			IAmb	IAmb	09 58 20.0	
KKAR	**Karatay Array**	**53.05**	**300**	P	**P**	**09 58 33.2**	**+1.6**
M30M	**Minto, Yukon**	**53.52**	**35**	P	**P**	**09 58 37.5**	**+2.7**
M30M	comp=Z,2.8nm,1.4s			IAmb	IAmb	09 58 42.7	
INK	**Inuvik** comp=Z,0.9nm,0.5s,baz=17,slow=1.7,SNR=5.7	**53.66**	**27**	P	**P**	**09 58 36.5**	**+0.8**
INK	**Inuvik**	**53.66**	**27**	P	**P**	**09 58 36.6**	**+1.0**
INK	comp=Z,5.3nm,1.5s			IAmb	IAmb	09 58 39.8	
KNRA	**Kununurra**	**54.48**	**195**	P	**P**	**09 58 43.0**	**+0.9**
A36M	**Sachs Harbour**	**55.54**	**22**	P	**P**	**09 58 50.9**	**+1.7**
A36M	comp=Z,5.5nm,1.1s			IAmb	IAmb	09 58 51.9	
CHGR	**Chuyangaron**	**55.65**	**295**	P	**P**	**09 58 50.8**	**+0.1**
CHGR	comp=Z,6.2nm,0.9s			IAmb	IAmb	09 58 53.2	
WB0	**Warramunga Arr**	**57.58**	**188**	P	**P**	**09 59 03.9**	**-0.4**
WB0	comp=Z,2.6nm,0.7s			IAmb	IAmb	09 59 04.4	
ABKAR	**Akbulak array**	**57.74**	**310**	P	**P**	**09 59 04.7**	**-0.6**
ABKAR	comp=Z,2.5nm,1.2s			IAmb	IAmb	09 59 05.3	
WR0	**Warramunga Arr**	**57.75**	**188**	P	**P**	**09 59 05.5**	**+0.1**
WR0	comp=Z,4.8nm,1.1s			IAmb	IAmb	09 59 07.6	
WB2	**Warramunga Arr**	**57.75**	**188**	P	**P**	**09 59 06.7**	**+1.1**
WB2	comp=Z,4.6nm,0.6s			IAmb	IAmb	09 59 17.2	
WRA	**Warramunga Arr** comp=Z,1.7nm,0.5s,baz=7.4,slow=7.2,SNR=2.5	**57.75**	**188**	P	**P**	**09 59 05.1**	**-0.4**
EUNU	**Eureka**	**59.49**	**9**	P	**P**	**09 59 16.2**	**-0.8**
EUNU	comp=Z,2.7nm,0.8s			IAmb	IAmb	09 59 32.3	
ASAR	**Alice Springs** comp=Z,0.9nm,0.7s,baz=11,slow=5.6,SNR=12	**61.48**	**188**	P	**P**	**09 59 30.9**	**-0.3**
RES	**Resolute Bay**	**61.89**	**15**	P	**P**	**09 59 33.5**	**+0.2**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.6s,baz=302,slow=6.8,SNR=13	**63.09**	**30**	P	**P**	**09 59 41.6**	**+0.2**
FINES	**FINESS Array B** comp=Z,3.8nm,1.0s,baz=57,slow=8.8,SNR=4.8	**68.37**	**332**	P	**P**	**10 00 14.0**	**-1.5**
FCC	**Fort Churchill**	**73.28**	**27**	P	**P**	**10 00 45.5**	**+0.2**
FCC	comp=Z,5.0nm,1.3s			IAmb	IAmb	10 01 01.8	
LRM	**Limekiln Ridge**	**73.47**	**45**	P	**P**	**10 00 47.7**	**+0.6**
NC405	**NORSAR Array S**	**73.48**	**337**	P	**P**	**10 00 45.6**	**-1.0**
NC204	**NORSAR Array S**	**73.65**	**338**	P	**P**	**10 00 47.7**	**+0.1**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.7s,baz=39,slow=5.7,SNR=3.4	**73.69**	**337**	P	**P**	**10 00 46.1**	**-1.7**
AKASG	**Malin Array Be** comp=Z,1.0nm,0.4s,baz=46,slow=6.1,SNR=10.0	**73.96**	**322**	P	**P**	**10 00 48.6**	**-0.9**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.7s,baz=283,slow=5.5,SNR=3.9	**74.36**	**53**	P	**P**	**10 00 53.2**	**+0.9**
PDAR	**Pinedale Array** comp=Z,0.6nm,0.6s,baz=284,slow=2.5,SNR=8.3	**76.99**	**46**	P	**P**	**10 01 07.8**	**+0.4**
GERES	**GERESS Array B** comp=Z,0.4nm,0.5s,baz=15,slow=4.1,SNR=2.2	**82.31**	**328**	P	**P**	**10 01 35.4**	**-0.5**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.7s,baz=301,slow=3.4,SNR=6.1	**89.48**	**53**	P	**P**	**10 02 12.3**	**+0.6**
TXAR	**Lajitas Array**	**89.48**	**53**	P	**P**	**10 02 11.9**	**+0.2**

*THE **19** 09:53:54.6, 38°.13N×20°.35E, h15km, ML2.9/5, Error ellipse: s-maj=0.8km s-min=0.4km az=250.0*
ISC 19 09:53:53.3±1.2, 38°.16N±0°.07×20°.33E±0°.05, h24km±6km, n22, σ1^{s}20/41, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.04**	**21**	P	**Pb**	**09 53 57.5**	**+0.1**
KEF3				S	**Sb**	**09 53 59.8**	**-0.4**
KEF4	**Livadi, Kephal**	**0.12**	**38**	P	**Pb**	**09 53 58.1**	**+0.2**
KEF4				S	**Sb**	**09 54 01.0**	**-0.1**
VLS	**Valsamata**	**0.21**	**86**	P	**Pb**	**09 53 59.0**	**+0.1**
VLS	3μm,0.1s			S	**Sb**	**09 54 02.3**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.21**	**103**	P	**Pb**	**09 53 58.8**	**-0.1**
FSK	**Fiskardo**	**0.35**	**32**	P	**Pn**	**09 54 02.1**	**-0.8**
FSK	5μm,0.3s			S	**Sn**	**09 54 07.8**	**-1.3**
EVGI	**Lefkada island**	**0.53**	**29**	P	**Pn**	**09 54 05.2**	**-0.1**
EVGI	4μm,0.2s			S	**Sn**	**09 54 13.0**	**-0.5**
DRAG	**Dragano-Lefkad**	**0.56**	**20**	P	**Pn**	**09 54 05.6**	**-0.1**
DRAG				S	**Sn**	**09 54 14.4**	**+0.2**
NYDR	**Nydri-Lefkada**	**0.62**	**28**	P	**Pn**	**09 54 06.6**	**0.0**
LKD2	**Lefkada island**	**0.68**	**22**	P	**Pn**	**09 54 07.8**	**+0.4**
LKD2	622nm,0.2s			S	**Sn**	**09 54 18.3**	**+1.0**
TSLK	**Tsoukalades, L**	**0.71**	**21**	P	**Pn**	**09 54 08.4**	**+0.6**
TSLK	1μm,0.4s			S	**Sn**	**09 54 19.4**	**+1.4**
VTN	**Vitineika**	**0.72**	**110**	P	**Pn**	**09 54 07.9**	**0.0**
VTN				S	**Sn**	**09 54 18.2**	**0.0**
RLS	**Riolos of Patr**	**0.90**	**96**	P	**Pn**	**09 54 11.0**	**+0.5**
STON	**Ston**	**5.11**	**338**	*e*Pn	**Pn**	**09 55 09.7**	**+1.4**
STON				Sn	**Sn**	**09 56 06.2**	**-0.3**
LSTV	**Lastovo**	**5.29**	**331**	*e*Pn	**Pn**	**09 55 11.8**	**+1.0**
LSTV				Sn	**Sn**	**09 56 09.2**	**-1.9**
MAKA	**Makarska**	**5.70**	**335**	*e*Pn	**Pn**	**09 55 18.2**	**+1.8**
MAKA				Sn	**Sn**	**09 56 20.2**	**-0.9**
HVAR	**Hvar**	**5.81**	**331**	*e*Pn	**Pn**	**09 55 18.9**	**+0.9**
HVAR				Sn	**Sn**	**09 56 23.1**	**-0.8**
RICI	**Ricice**	**5.85**	**337**	*e*Pn	**Pn**	**09 55 20.0**	**+1.5**
RICI				Sn	**Sn**	**09 56 23.8**	**-1.1**
ZIRJ	**Zirje**	**6.53**	**329**	*e*Pn	**Pn**	**09 55 28.6**	**+0.7**
ZIRJ				Sn	**Sn**	**09 56 39.1**	**-2.4**
KJIV	**Kijevo**	**6.54**	**334**	*e*Pn	**Pn**	**09 55 29.8**	**+1.8**
KJIV				Sn	**Sn**	**09 56 41.4**	**-0.5**
MORI	**Morici**	**6.68**	**330**	*e*Pn	**Pn**	**09 55 31.7**	**+1.8**
MORI				Sn	**Sn**	**09 56 44.0**	**-1.3**
DUGI	**Dugi Otok**	**7.05**	**327**	*e*Pn	**Pn**	**09 55 36.4**	**+1.5**
DUGI				Sn	**Sn**	**09 56 52.3**	**-2.1**
NVLJ	**Novalja**	**7.60**	**329**	*e*Pn	**Pn**	**09 55 44.1**	**+1.7**
NVLJ				Sn	**Sn**	**09 57 05.1**	**-2.6**

*IDC **19** 10:00:48.1±2.5, 35°.62N×68°.32E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.0/41, mbtmp3.3/4, ML2.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/59, Error ellipse: s-maj=78.3km s-min=41.0km az=100.0*
*NNC **19** 10:01:17.4±14.0, 36°.93N×69°.63E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=113.6km s-min=97.1km az=174.0*
ISC 19 10:00:54.9±2.3, 35°.8N±0°.1×69°.5E±0°.3, h10km, n9, σ3^{s}56/6, mb3.3/3, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array** 1.6nm,0.5s,baz=185,slow=13	**7.38**	**6**	⇑P	Pn	10 02 51.9	+9.2
KK02	2.9nm,0.8s,baz=194,slow=29			⇓S	**Sn**	**10 04 05.6**	**-0.8**
AAK	**Ala-Archa** 2.8nm,0.6s	**7.88**	**28**	⇓P	Pn	10 02 59.1	+9.4
AAK	2.5nm,0.4s			⇑S	**Sn**	**10 04 16.3**	**-2.7**
TKM2	**Tokmak 2** 1.4nm,0.3s	**8.56**	**31**	⇑P	Pn	10 03 07.7	+8.6
TKM2	1.7nm,0.6s			⇓S	**Sn**	**10 04 33.3**	**-2.5**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=224,slow=12,SNR=4.0	**14.60**	**37**	Pn	**Pn**	**10 04 26.0**	**+4.5**
KURBB	**Kurchatov Arra** comp=Z,44nm,19.8s,baz=237,slow=42	**16.23**	**21**	LR	LR	10 12 24.4	
ZALV	**Zalesovo Beam**	**21.09**	**26**	P	**P**	**10 05 38.0**	**-1.3**
USRK	**Ussuriysk Ar.** 1.2nm,0.4s,baz=223,slow=10,SNR=6.6	**47.58**	**60**	LR	LR	10 30 24.3	
YKA	**Yellowknife Ar** comp=Z,110nm,19.3s,baz=351,slow=37	**82.03**	**2**	P	P	10 13 11.1	-3.8
ASAR	**Alice Springs** 0.1nm,0.5s,baz=348,slow=5.1,SNR=3.7	**84.82**	**124**	P	**P**	**10 13 28.4**	**-1.5**
	0.1nm,0.5s,baz=311,slow=5.6,SNR=1.1						

*IDC **19** 10:02:56.1±6.2, 6°.89S×154°.69E, h73km±51km, mb3.4/5, mb1 3.6/5, mb1mx3.1/32, mbtmp3.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/30, Error ellipse: s-maj=51.9km s-min=21.3km az=98.0*
ISC 19 10:02:53.3±1.1, 7°.0S±0°.1×154°.9E±0°.2, h50km, n8, σ1^{s}15/8, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** baz=218,slow=20	**3.87**	**313**	P	**Pn**	**10 03 51.4**	**+1.2**
KRVT	baz=180,slow=20			S	**Sn**	**10 04 33.4**	**-1.0**
HNR	**Honiara** comp=Z,85nm,18.7s,baz=268,slow=35	**5.59**	**117**	LR	LR	10 06 20.1	
ASAR	**Alice Springs** 0.5nm,0.8s,baz=58,slow=9.4,SNR=5.8	**26.12**	**228**	P	**P**	**10 08 21.4**	**-1.4**
STKA	**Stephens Creek** 1.6nm,0.8s,baz=0.2,slow=13,SNR=5.3	**27.73**	**205**	P	**P**	**10 08 38.3**	**+1.1**
SONM	**Songino Array** 0.3nm,0.5s,baz=136,slow=6.2,SNR=1.0	**69.23**	**327**	P	**P**	**10 13 55.5**	**+0.3**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=248,slow=5.2,SNR=4.6	**83.37**	**22**	P	**P**	**10 15 14.0**	**-0.8**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=267,slow=4.7,SNR=4.3	**96.35**	**28**	P	**P**	**10 16 16.6**	**+0.2**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=93,slow=3.0,SNR=1.6	**152.90**	**285**	PKPbc	**PKPbc**	**10 22 45.8**	**-0.2**

IDC 19 10:15:40.2±2.3, 4°.37N×126°.25E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/37, mbtmp3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/51, Error ellipse: s-maj=210.7km s-min=28.2km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** comp=Z,49nm,18.5s,baz=75,slow=37	**7.22**	**136**	LR	LR	10 20 10.1	
WRA	**Warramunga Arr** 2.2nm,0.7s,baz=341,slow=10,SNR=5.9	**25.43**	**162**	P	P	10 21 09.7	-0.2
ASAR	**Alice Springs** 0.2nm,0.7s,baz=344,slow=11,SNR=2.6	**28.85**	**165**	P	P	10 21 40.5	-0.1
STKA	**Stephens Creek** 1.1nm,0.6s,baz=307,slow=5.1,SNR=4.6	**38.89**	**159**	P	P	10 23 07.7	+0.1
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=130,slow=7.1,SNR=2.0	**56.76**	**325**	P	P	10 25 26.1	0.0

*NNC **19** 10:17:46.5±1.3, 42°.99N×81°.07E, h2km±5km, mb3.8, mpv3.6, Error ellipse: s-maj=9.2km s-min=5.2km az=143.0*
*SOME **19** 10:17:46.3, 42°.90N×81°.00E, h15km*
ISC 19 10:17:47.9±1.7, 42°.97N±0°.06×80°.90E±0°.05, h14km±10km, n59, σ2^{s}26/94, 8C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 26nm,0.1s	**0.62**	**320**	⇓*e*P	**Pn**	**10 18 01.2**	**-1.2**
KTMS	218nm,0.0s			*e*S	**Sn**	**10 18 12.1**	**-0.2**
KTMS	**Ketmen** 26nm,0.1s	**0.62**	**320**	P	**Pn**	**10 18 01.2**	**-1.2**
KTMS	218nm,0.2s			S	**Sn**	**10 18 12.1**	**-0.2**
SHLS	**Shalkode** 90nm,0.1s	**1.07**	**281**	⇑*e*P	**Pn**	**10 18 04.0**	**-4.5**
SHLS	337nm,0.3s			*e*S	**Sb**	**10 18 17.2**	**-4.8**
SHLS	**Shalkode** 90nm,0.1s	**1.07**	**281**	P	**Pn**	**10 18 04.1**	**-4.5**
SHLS	337nm,0.3s			S	**Sb**	**10 18 17.2**	**-4.8**
UZB	**Uzynbulak** 60nm,0.1s	**1.38**	**278**	*e*P	**Pb**	**10 18 14.3**	**+0.6**
UZB	204nm,0.1s			*e*S	**Sg**	**10 18 34.7**	**+2.1**
UZB	**Uzynbulak** 60nm,0.2s	**1.38**	**278**	P	**Pb**	**10 18 14.3**	**+0.6**
UZB	126nm,0.3s			S	**Sg**	**10 18 34.7**	**+2.1**
DJR	**Jarkent** 63nm,0.2s	**1.58**	**330**	*e*P	**Pb**	**10 18 17.2**	**+0.3**
DJR	378nm,0.2s			*e*S	**Sg**	**10 18 39.4**	**+0.7**
DJR	**Jarkent** 63nm,0.2s	**1.58**	**330**	P	**Pb**	**10 18 17.2**	**+0.3**
DJR	378nm,0.3s			S	**Sg**	**10 18 39.4**	**+0.7**
KPKS	**Kokpek** 45nm,0.3s	**1.69**	**288**	*e*P	**Pb**	**10 18 19.8**	**+1.0**
KPKS	313nm,0.3s			*e*S	**Sg**	**10 18 44.4**	**+2.1**
ZHN	**Zhinishke** 60nm,0.2s	**1.81**	**277**	*e*P	**Pb**	**10 18 21.4**	**+0.5**
ZHN	278nm,0.0s			*e*S	**Sg**	**10 18 46.8**	**+0.6**
ZHN	**Zhinishke** 60nm,0.2s	**1.81**	**277**	P	**Pb**	**10 18 21.4**	**+0.5**
ZHN	285nm,0.3s			S	**Sg**	**10 18 46.8**	**+0.6**
SATY	**Saty** 16nm,0.1s	**1.83**	**274**	*e*P	**Pb**	**10 18 22.2**	**+1.0**
SATY	252nm,0.1s			*e*S	**Sg**	**10 18 48.4**	**+1.7**
SATY	**Saty** 16nm,0.2s	**1.83**	**274**	Pg	**Pb**	**10 18 22.2**	**+1.0**
SATY				Lg	Lg	10 18 48.4	
KNOS	**Konyrlen** 42nm,0.1s	**1.86**	**319**	*e*P	**Pg**	**10 18 23.0**	**-0.6**
KNOS	241nm,1.2s			*e*S	**Sg**	**10 18 49.3**	**+1.4**
KURS	**Kuram** 4.6nm,0.3s	**2.06**	**285**	*e*P	**Pb**	**10 18 26.3**	**+1.2**
KURS	38nm,0.4s			*e*S	**Sg**	**10 18 55.2**	**+1.1**
KURS	**Kuram** 12nm,0.4s	**2.06**	**285**	Pg	**Pb**	**10 18 26.3**	**+1.2**
KURS	38nm,0.4s			Lg	Lg	10 18 55.2	
BLB	**Baldybastay** 26nm,0.0s	**2.09

27nm,0.1s
MDOK Medeo 2.83 275 Pg Pg 10 18 40.9 -1.1
7.4nm,0.8s
MDOK Lg Lg 10 19 17.0
21nm,0.5s
MDOK Medeo 2.83 275 Pg Pb 10 18 39.0 +0.8
2.4nm,0.1s
MDOK Lg Lg 10 19 17.2
20nm,0.4s
TNSS Tian-Shan 2.90 273 *eP* **Pb 10 18 40.8 +1.2**
4.3nm,0.8s
TNSS *eS* **Sg 10 19 20.1 -0.9**
15nm,0.2s
TNSS Tian-Shan 2.90 273 Pg Pb 10 18 40.8 +1.2
4.3nm,0.4s
TNSS Lg Lg 10 19 20.1
15nm,0.2s
CHKK Chushkaly 2.98 289 *eP* **Pb 10 18 42.7 +1.9**
1.4nm,0.2s
CHKK *eS* **Sg 10 19 23.1 -0.5**
37nm,0.3s
CHKK Chushkaly 2.98 289 Pg Pb 10 18 42.7 +1.9
1.4nm,0.2s
CHKK Lg Lg 10 19 23.1
37nm,0.3s
IZV Izvestkoviy 3.14 273 *eP* **Pb 10 18 45.6 +2.0**
7.2nm,0.0s
IZV *eS* **Sg 10 19 28.2 -0.6**
24nm,0.1s
IZV Izvestkoviy 3.14 273 Pg Pb 10 18 45.6 +2.0
7.2nm,0.2s
IZV Lg Lg 10 19 28.2
24nm,0.5s
KTBS Karatobe 3.16 285 *eP* **Pb 10 18 45.5 +1.6**
6.5nm,0.3s
KTBS *eS* **Sg 10 19 28.0 -1.4**
32nm,0.5s
KTBS Karatobe 3.16 285 Pg Pb 10 18 45.5 +1.6
6.5nm,0.3s
KTBS Lg Lg 10 19 28.0
32nm,0.5s
MTBS Maitube 3.28 274 *eP* **Pb 10 18 47.9 +2.1**
4.0nm,0.0s
MTBS *eS* **Sg 10 19 32.2 -1.0**
25nm,0.2s
MTBS Maitube 3.28 274 Pg Pb 10 18 47.9 +2.1
4.0nm,0.3s
MTBS Lg Lg 10 19 32.2
25nm,0.2s
KUU Kurty 3.44 287 *eP* **Pb 10 18 50.3 +1.7**
1.8nm,0.3s
KUU *eS* **Sb 10 19 36.2 +5.8**
14nm,0.2s
KUU Kurty 3.44 287 Pg Pb 10 18 50.3 +1.7
2.3nm,0.3s
KUU Lg Lg 10 19 36.2
14nm,0.2s
KST Kastek 3.62 273 *eP* **Pb 10 18 54.1 +2.4**
5.0nm,0.5s
KST *eS* **Sg 10 19 42.9 -1.2**
26nm,0.6s
KST Kastek 3.62 273 Pg Pb 10 18 54.1 +2.4
5.0nm,0.5s
KST Lg Lg 10 19 42.9
26nm,0.6s
DGS Degeres 3.76 276 *eP* **Pb 10 18 55.7 +1.6**
6.0nm,0.1s
DGS *eS* **Sb 10 19 45.8 +6.2**
18nm,0.2s
DGS Degeres 3.76 276 Pg Pb 10 18 55.7 +1.6
6.0nm,0.5s
DGS Lg Lg 10 19 45.8
18nm,0.7s
KRBS Karabastau 3.88 283 *eP* **Pb 10 18 58.6 +2.6**
2.8nm,0.4s
KRBS *eS* **Sg 10 19 50.4 -1.9**
16nm,0.2s
KRBS Karabastau 3.88 283 Pg Pb 10 18 58.6 +2.6
2.8nm,0.4s
KRBS Lg Lg 10 19 50.4
16nm,0.2s
TKM2 Tokmak 2 3.89 271 ⇑Pg **Pb 10 18 58.7 +2.3**
2.5nm,0.6s
TKM2 ⇑Lg Lg 10 19 50.6
9.0nm,0.5s
MAKZ Makanchi 3.91 11 ⇑Pn **Pn 10 18 48.7 +1.1**
1.9nm,0.3s
MAKZ ⇑Sn **Sn 10 19 29.0 -4.3**
6.5nm,0.8s
MAKZ ⇓Lg Lg 10 19 48.3
7.0nm,0.5s
MK31 Makanchi Array 3.95 14 Pn **Pn 10 18 48.4 +0.3**
0.3nm,0.2s,baz=201,slow=13,SNR=99
MK31 ⇑Sn **Sn 10 19 35.1 +0.9**
1.4nm,0.3s,baz=50,slow=16,SNR=4.0
MK31 ⇓Lg Lg 10 19 51.1
7.1nm,0.5s,baz=191,slow=29,SNR=18
SGDS Sogindy 4.61 278 *eP* **Pb 10 19 12.6 +4.1**
1.3nm,0.1s
SGDS *eS* **Sg 10 20 14.9 -0.8**
5.1nm,0.2s
SGDS Sogindy 4.61 278 Pg Pb 10 19 12.6 +4.1
1.5nm,0.5s
SGDS Lg Lg 10 20 14.9
4.9nm,0.6s
AAK Ala-Archa 4.72 268 ⇓Pg **Pg 10 19 19.1 +0.8**
3.6nm,0.9s
AAK ⇓Lg Lg 10 20 16.1
12nm,0.9s
ZSN Zaisan 5.29 31 *eP* **Pb 10 19 21.8 +1.8**
3.2nm,0.1s
ZSN *eS* **Sg 10 20 30.8 -6.7**
7.5nm,0.2s
ZSN Zaisan 5.29 31 Pg Pb 10 19 22.0 +2.0
3.4nm,0.5s
ZSN Lg Lg 10 20 30.7
7.7nm,0.6s
BTLS Baital 5.36 295 *eP* **Pg 10 19 27.5 -2.9**
1.9nm,0.6s
BTLS *eS* **Sg 10 20 40.2 +0.5**
2.6nm,0.4s
BTLS Baital 5.36 295 Pg Pg 10 19 27.5 -2.9
1.9nm,0.6s
BTLS Lg Lg 10 20 40.2
2.6nm,0.7s
MRKS Merke 5.64 270 *eP* **Pg 10 19 32.2 -3.6**
1.1nm,0.0s
MRKS *eS* **Sg 10 20 48.0 -0.9**
4.3nm,0.5s
KURBB Kurchatov Arra 7.82 349 ⇑Pn **Pn 10 19 43.4 +2.2**
14nm,1.1s
KURBB ⇓Lg Lg 10 21 53.4
13nm,0.7s
KURK Kurchatov 7.90 349 ⇓Pn **Pn 10 19 44.2 +1.9**
14nm,1.1s
KURK ⇑Lg Lg 10 21 51.7
11nm,1.2s

*UCR **19** 10:20:55.7±1.7,8.′12N×83.′12W,h5km,MW4.1*
*UPA **19** 10:20:58.5±1.1,8.′32N×82.′93W,h12km±2km,MW4.5*
ISC 19 10:20:58.1±1.0,8.′32N±0.′04×82.′96W±0.′03,h18km±5km,
n25,σ1⅝33/41,1C-9D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.14**	**145**	*eP*	**Pg**	**10 21 01.8**	**-0.4**
PTPM				*eS*	**Sg**	**10 21 06.1**	**+1.1**
LESP3	**La Esperanza,**	**0.19**	**63**	⇓*eP*	**Pg**	**10 21 02.8**	**0.0**
LESP3				*eS*	**Sg**	**10 21 06.9**	**+0.8**
CDITO	**Canoas**	**0.27**	**19**	⇓*iP*	**Pg**	**10 21 03.9**	**-0.1**
CDITO				*eS*	**Sg**	**10 21 08.5**	**+0.4**
PIRO	**Carate, Puerto**	**0.38**	**283**	*eP*	**Pg**	**10 21 04.7**	**-1.4**
PIRO				*eS*	**Sb**	**10 21 13.4**	**+1.5**
DVD	**David**	**0.52**	**77**	⇑*eP*	**Pg**	**10 21 08.2**	**-0.2**
DVD				*eS*	**Sb**	**10 21 15.7**	**-0.2**
BRU2	**Volcan**	**0.54**	**30**	⇓*eP*	**Pg**	**10 21 09.2**	**+0.2**
BRU2				*eS*	**Sb**	**10 21 18.5**	**+1.8**
LOMA3	**Las Lomas, Chi**	**0.57**	**79**	⇓*eP*	**Pg**	**10 21 09.2**	**-0.4**
LOMA3				*eS*	**Sb**	**10 21 18.0**	**+0.5**
BCO2	**Palmira**	**0.58**	**47**	*eP*	**Pg**	**10 21 09.9**	**+0.1**
BCO2				*eS*	**Sb**	**10 21 19.1**	**+1.2**
CHIR3	**Chiriqui UPA,**	**0.63**	**83**	⇓*iP*	**Pg**	**10 21 10.0**	**-0.6**
CHIR3				*eS*	**Sb**	**10 21 19.9**	**+0.8**
SRBA	**San Rafael, Bu**	**0.99**	**336**	⇓*eP*	**Pg**	**10 21 15.6**	**-1.8**
SRBA				*eS*	**Sg**	**10 21 30.3**	**-0.1**
CHGR2	**Aguacate**	**1.01**	**53**	*eP*	**Pg**	**10 21 14.7**	**-3.1**
CHGR2				*eS*	**Sg**	**10 21 29.9**	**-1.3**
REME3	**Remedios, Chir**	**1.12**	**95**	*eP*	**Pb**	**10 21 17.7**	**-1.3**
CNI2	**El Empalme, Bo**	**1.20**	**24**	*eP*	**Pb**	**10 21 19.7**	**-0.6**
CNI2				*eS*	**Sb**	**10 21 35.2**	**-0.3**
PEZE	**Perez Zeledon,**	**1.27**	**326**	⇓*eP*	**Pn**	**10 21 20.2**	**-0.9**
EDDO	**Dominical**	**1.29**	**316**	*eP*	**Pn**	**10 21 18.4**	**-2.8**
EDDO				*eS*	**Sb**	**10 21 39.2**	**+1.1**
CDM	**Cerro de Muert**	**1.46**	**327**	*eP*	**Pn**	**10 21 23.7**	**-0.3**
MRVA	**Moravia de Chi**	**1.57**	**342**	⇓*eP*	**Pn**	**10 21 25.1**	**-0.1**
MRVA				*eS*	**Sn**	**10 21 46.4**	**+1.1**
RIMA	**Rio Macho**	**1.69**	**328**	*eP*	**Pn**	**10 21 26.8**	**-0.2**
LCR2	**La Lucha 2**	**1.75**	**324**	⇓*eP*	**Pn**	**10 21 28.7**	**+0.9**
LCR2				*eS*	**Sn**	**10 21 52.1**	**+2.3**
GMAL	**Guarumal, Vera**	**1.80**	**108**	*eP*	**Pn**	**10 21 26.4**	**-1.9**
JACO	**JACO, Garabito**	**2.14**	**309**	*eP*	**Pn**	**10 21 32.0**	**-1.0**
LAFE	**Finca La Fe, P**	**2.43**	**308**	*eP*	**Pn**	**10 21 36.1**	**-0.8**
AZU	**Azuero**	**2.71**	**101**	*eP*	**Pn**	**10 21 42.8**	**+2.0**
JTS	**Las Juntas de**	**2.77**	**315**	*eP*	**Pn**	**10 21 43.5**	**+1.8**
JTS	**Las Juntas de**	**2.77**	**315**	*eP*	**Pn**	**10 21 43.9**	**+2.1**
JTS				*eS*	**Sn**	**10 22 16.3**	**+1.4**

*IDC **19** 10:21:05.7±1.8,34.′53N×116.′31W,h0km,mb3.1/1,*
mb1 3.5/4,mb1mx3.3/37,mbtmp3.0/4,ML3.6/3,Error
ellipse: s-maj=28.9km s-min=10.2km az=47.0
*ANF **19** 10:21:06.3±0.1,34.′69N×116.′23W,h13km±1km,ML3.8/38,*
Error ellipse: s-maj=1.0km s-min=0.9km az=36.0
*NEIC **19** 10:21:06.7±2.2,34.′67N±0.′04×116.′22W±0.′05,h4km±2km,*
Error ellipse: s-maj=6.4km s-min=6.3km az=109.0
*PAS **19** 10:21:07.0±1.9,34.′69N±0.′04×116.′24W±0.′05,h2km±7km,*
ML3.9/229,ML3.6/96(NEIC),Error ellipse: s-maj=6.6km
s-min=6.2km az=216.0
ISC 19 10:21:06.8±0.9,34.′70N±0.′02×116.′24W±0.′02,h11km±7km,
n109,σ1⅝21/135,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.15**	**328**	P	**Pg**	**10 21 10.4**	**+0.1**
HEC	baz=150,SNR=1000			S	**Sg**	**10 21 12.9**	**+0.1**
GMRC	**Granite Mounta**	**0.48**	**80**	P	**Pg**	**10 21 16.2**	**-0.1**
GMRC	baz=259,SNR=621			S	**Sg**	**10 21 22.9**	**+0.2**
RRX	**Edison Barstow**	**0.65**	**286**	P	**Pb**	**10 21 19.4**	**-0.7**
RRX	baz=106,SNR=33			S	**Sb**	**10 21 28.4**	**-0.7**
BBRC	**Big Bear Solar**	**0.71**	**232**	P	**Pg**	**10 21 20.4**	**-0.2**
BBRC	baz=52,SNR=171			S	**Sg**	**10 21 30.3**	**+0.2**
BELC	**Belle Mtn. Jos**	**0.73**	**164**	P	**Pg**	**10 21 20.6**	**-0.3**
BELC	baz=344,SNR=418			S	**Sg**	**10 21 30.2**	**-0.2**
GSC	**Goldstone, Bar**	**0.76**	**322**		**Pb**	**10 21 21.5**	**-0.5**
GSC	**Goldstone, Bar**	**0.76**	**322**	P	**Pb**	**10 21 21.6**	**-0.4**
GSC	baz=142,SNR=1000			S	**Sb**	**10 21 32.0**	**-0.3**
TUQ	**Turquoise Moun**	**0.78**	**19**	P	**Pb**	**10 21 21.8**	**-0.5**
TUQ	baz=199,SNR=372			S	**Sb**	**10 21 32.5**	**-0.4**
IRM	**Iron Mountain**	**1.05**	**121**	P	**Pg**	**10 21 26.2**	**-0.8**
IRM	baz=301,SNR=375			S	**Sg**	**10 21 40.6**	**-0.2**
PFO	**Pinyon Flats O**	**1.10**	**190**		**Pg**	**10 21 27.5**	**-0.5**
PFO	2μm,0.4s			IAML		10 21 45.4	
PFO	**Pinyon Flats O**	**1.10**	**190**	P	**Pg**	**10 21 27.1**	**-0.9**
PFO	baz=9.6,SNR=246			S	**Sg**	**10 21 42.0**	**-0.3**
SHOC	**Shoshone, Teco**	**1.19**	**359**	P	**Pg**	**10 21 28.9**	**-0.8**
SHOC	baz=178,SNR=325			S	**Sn**	**10 21 45.4**	**-0.2**
BC3	**Big Chuckawall**	**1.23**	**148**	P	**Pg**	**10 21 29.0**	**-1.4**
BC3	baz=328,SNR=300			S	**Sg**	**10 21 45.7**	**-0.8**
BFSC	**Mount Baldy Ra**	**1.26**	**249**	P	**Pg**	**10 21 30.1**	**-0.9**
BFSC	baz=68,SNR=213			S	**Sg**	**10 21 46.7**	**-0.7**
NEE2	**Needles Airpor**	**1.33**	**87**	P	**Pn**	**10 21 30.2**	**-1.1**
NEE2	baz=267			Sb	**Sn**	**10 21 50.2**	**+1.1**
MURC	**Murrieta**	**1.36**	**216**	P	**Pn**	**10 21 31.3**	**-0.3**
MURC	baz=36,SNR=161			S	**Sb**	**10 21 48.9**	**-0.6**
QSM	**Queen of Sheba**	**1.36**	**338**	Pn	**Pn**	**10 21 31.4**	**-0.3**
LRMC	**Laurel Mtn Rad**	**1.42**	**304**	P	**Pn**	**10 21 32.3**	**-0.3**
LRMC	baz=123,SNR=832			S	**Sb**	**10 21 51.1**	**-0.3**
EDW2	**Edwards Air Fo**	**1.46**	**278**	P	**Pn**	**10 21 32.2**	**-0.9**
EDW2	baz=97,SNR=189			S	**Sb**	**10 21 51.7**	**-0.7**
GWY	**Greenwater Val**	**1.52**	**347**		**Pn**	**10 21 33.6**	**-0.5**
MWC	**Mount Wilson**	**1.58**	**253**		**Pn**	**10 21 35.3**	**+0.5**
MWC	comp=E,889nm,0.5s			IAML		10 22 00.2	
MWC	comp=N,1μm,0.5s			IAML		10 22 00.9	
PASC	**Pasadena Art C**	**1.69**	**252**		**Pb**	**10 21 38.0**	**+0.1**
PASC	comp=N,737nm,0.8s			IAML		10 22 03.2	
PASC	comp=E,639nm,0.4s			IAML		10 22 04.0	
MPMC	**Manual Prospec**	**1.69**	**323**	P	**Pn**	**10 21 36.1**	**-0.4**
MPMC	baz=143,SNR=380			S	**Sn**	**10 21 57.3**	**-1.0**
PDMCI	**Parker Dam,Lak**	**1.78**	**102**	P	**Pn**	**10 21 36.2**	**-1.2**
PDMCI	baz=283			S	**Sn**	**10 21 59.2**	**-0.8**
DECC	**Green Verdugo**	**1.79**	**256**	Pb	**Pb**	**10 21 39.5**	**0.0**
SWSC	**Sam W. Stewart**	**1.79**	**168**	P	**Pn**	**10 21 36.3**	**-1.3**
MONP2	**Monument Peak**	**1.81**	**185**	P	**Pn**	**10 21 37.2**	**-0.9**
109C	**Camp Elliot, M**	**1.95**	**202**		**Pn**	**10 21 41.3**	**+1.5**
109C	comp=E,336nm,0.6s			IAML		10 22 11.9	
109C	**Camp Elliot, M**	**1.95**	**202**	P	**Pn**	**10 21 39.3**	**-0.4**
109C	baz=22			Sb	**Sb**	**10 22 06.9**	**+0.3**
W13A	**Hualapai Mount**	**1.97**	**78**	Pn	**Pn**	**10 21 39.9**	**-0.4**
W13A	comp=N,442nm,0.9s			IAML		10 22 10.5	
W13A	comp=E,295nm,0.7s			IAML		10 22 15.1	
SHPR	**Sheep Range**	**2.00**	**26**		**Pn**	**10 21 41.0**	**+0.3**
GLA	**Glamis**	**2.02**	**144**		**Pn**	**10 21 39.6**	**-1.2**
GLA	**Glamis**	**2.02**	**144**	P	**Pn**	**10 21 39.6**	**-1.2**
GLA	baz=325,SNR=14			Sb	**Sb**	**10 22 10.2**	**+1.5**
BAR	**Barrett**	**2.05**	**190**		**Pn**	**10 21 41.3**	**+0.1**
BAR	comp=E,308nm,1.2s			IAML		10 22 14.4	
IKP	**In-Ko-Pah, Jac**	**2.05**	**177**	P	**Pn**	**10 21 40.6**	**-0.6**
IKP	baz=357			S	**Sn**	**10 22 04.8**	**-2.1**
OSI	**Osito Audit: C**	**2.05**	**268**		**Pn**	**10 21 42.2**	**+1.0**
OSI	**Osito Audit: C**	**2.05**	**268**	Pb	**Pb**	**10 21 44.1**	**0.0**
OSI	baz=87			S	**Sn**	**10 22 06.2**	**-0.7**
ISA	**Isabella, Lake**	**2.07**	**298**	Pn	**Pn**	**10 21 41.2**	**-0.3**
ISA	comp=E,375nm,0.4s			IAML		10 22 14.9	
ISA	comp=N,394nm,0.7s			IAML		10 22 15.1	
ISA	**Isabella, Lake**	**2.07**	**298**	P	**Pn**	**10 21 41.2**	**-0.3**
ISA	baz=117,SNR=243			Sb	**Sg**	**10 22 12.4**	**-0.8**
TKX	**Tecate**	**2.15**	**188**	Pn	**Pn**	**10 21 42.9**	**+0.3**
TKX	comp=E,238nm,0.8s			IAML		10 22 14.8	
ARVC	**Arvin**	**2.17**	**282**	Pb	**Pb**	**10 21 46.4**	**+0.3**
ARVC	baz=101			Sb	**Sg**	**10 22 14.5**	**-2.1**
CIS	**Catalina Islan**	**2.23**	**235**	Pb	**Pb**	**10 21 46.6**	**-0.4**
CIS	baz=54			Sb	**Sb**	**10 22 15.8**	**+1.3**
TPNV	**Topopah Spring**	**2.24**	**360**		**Pn**	**10 21 44.8**	**+0.9**
TPNV	comp=E,238nm,0.6s			IAML		10 22 20.3	
TPNV	comp=E,237nm,0.8s			IAML		10 22 24.5	
TPNV	**Topopah Spring**	**2.24**	**360**	P	**Pn**	**10 21 44.4**	**+0.4**
CWC	**Cottonwood Cre**	**2.29**	**320**	P	**Pn**	**10 21 44.5**	**-0.2**
TJIG	**Tijuana**	**2.29**	**189**		**Pn**	**10 21 46.0**	**+1.5**
CBX	**Cerro Bola**	**2.41**	**189**		**Pn**	**10 21 46.5**	**+0.3**
CBX	comp=E,320nm,0.9s			IAML		10 22 30.5	
LCH	**Last Change Ra**	**2.77**	**336**		**Pn**	**10 21 51.5**	**+0.3**
LCH	comp=E,180nm,0.8s			IAML		10 22 40.7	
Y14A	**Wickenburg**	**2.78**	**105**		**Pn**	**10 21 50.7**	**-0.6**
Y14A	comp=N,288nm,0.7s			IAML		10 22 37.3	
Y14A	comp=E,165nm,0.7s			IAML		10 22 38.1	
113A	**Mohawk Valley,**	**2.82**	**132**	Pn	**Pn**	**10 21 50.9**	**-0.9**
113A	comp=N,148nm,0.7s			IAML		10 22 38.3	
PRN	**Pahroc Range**	**2.87**	**19**		**Pn**	**10 21 53.4**	**+0.9**
PRN	comp=E,307nm,0.9s			IAML		10 22 51.0	
PRN	comp=N,202nm,1.1s			IAML		10 22 53.1	
S11A	**Rachel**	**2.96**	**8**	Pn	**Pn**	**10 21 56.0**	**+2.2**
VOG	**Valley Oaks Go**	**3.03**	**303**	P	**Pn**	**10 21 54.8**	**+0.2**
SMMC	**Simmler**	**3.14**	**282**	P	**Pn**	**10 21 55.9**	**-0.4**
LCMT	**Little Creek M**	**3.35**	**46**		**Pn**	**10 21 60.0**	**+0.8**
MLAC	**Mammoth, Mammo**	**3.60**	**325**	Pg	**Pg**	**10 22 15.0**	**-0.7**
KNB	**Kanab**	**3.61**	**49**	Pn	**Pn**	**10 22 03.7**	**+0.9**
KNB	comp=N,109nm,1.0s			IAML		10 23 07.6	
KNB	comp=E,99nm,1.1s			IAML		10 23 08.4	
U15A	**North Rim**	**3.65**	**61**		**Pn**	**10 22 04.3**	**+0.9**
U15A	comp=N,132nm,0.8s			IAML		10 23 13.4	
U15A	comp=E,124nm,1.1s			IAML		10 23 14.6	
CCUT	**Cedar City**	**3.67**	**38**	Pn	**Pn**	**10 22 04.9**	**+1.2**
R11A	**Troy Canyon, C**	**3.68**	**8**	P	**Pn**	**10 22 04.2**	**+0.5**
SZCU	**Shurtz Canyon**	**3.85**	**41**		**Pn**	**10 22 06.8**	**+0.7**
214A	**Organ Pipe Nat**	**3.97**	**133**	Pn	**Pn**	**10 22 06.6**	**-1.0**
214A	comp=N,65nm,0.8s			IAML		10 23 20.2	
214A	comp=E,71nm,1.1s			IAML		10 23 21.4	
214A	**Organ Pipe Nat**	**3.97**	**133**	P	**Pn**	**10 22 06.3**	**-1.3**
X16A	**Lo Mia Camp, P**	**3.97**	**93**		**Pn**	**10 22 08.0**	**+0.3**
X16A	comp=E,73nm,1.0s			IAML		10 23 24.0	
X16A	comp=N,86nm,1.1s			IAML		10 23 28.9	
LHV	**Little Huntoon**	**3.98**	**333**		**Pn**	**10 22 09.5**	**+1.7**
LHV	comp=E,83nm,2.0s			IAML		10 23 18.2	
LHV	comp=N,99nm,1.7s			IAML		10 23 20.6	
PMPB	**Monarch Peak**	**4.02**	**293**	Pn	**Pn**	**10 22 09.7**	**+1.4**
NV11	**Mina Array Sit**	**4.03**	**338**		**Pn**	**10 22 10.2**	**+1.7**
WUAZ	**Wupatki**	**4.07**	**77**	Pn	**Pn**	**10 22 10.1**	**+1.0**
WUAZ	comp=N,118nm,0.7s			IAML		10 23 23.0	
WUAZ	**Wupatki**	**4.07**	**77**	P	**Pn**	**10 22 09.7**	**+0.6**
NVAR	**Mina Array Bea**	**4.07**	**337**	Pn	**Pn**	**10 22 10.9**	**+1.7**
NVAR	comp=N,0.8nm,0.3s,baz=162,slow=15,SNR=13			Pg	**Pg**	**10 22 22.0**	**-2.8**
NVAR	comp=N,4.2nm,0.3s,baz=160,slow=18,SNR=65			Lg	Lg	10 23 16.2	
NVAR	**Mina Array Bea**	**4.07**	**337**		**Pn**	**10 22 10.2**	**+1.0**
PKCU	**Pink Cliffs**	**4.20**	**48**	Pn	**Pn**	**10 22 11.6**	**+0.6**
PKCU	comp=N,113nm,1.6s			IAML		10 23 27.2	
PSUT	**Pine Spring**	**4.28**	**26**	Pn	**Pn**	**10 22 12.7**	**+0.8**
PSUT	comp=E,61nm,1.0s			IAML		10 23 36.6	
PSUT	comp=N,58nm,1.3s			IAML		10 23 37.6	
RYN	**Ryan**	**4.33**	**336**		**Pn**	**10 22 11.6**	**-1.1**
BBGB	**Big Mountain B**	**4.33**	**297**		**Pn**	**10 22 12.2**	**-0.5**
SPR3	**Spring Creek 3**	**4.55**	**19**	Pn	**Pn**	**10 22 15.7**	**-0.2**
SPR3	comp=E,39nm,1.1s			IAML		10 23 39.7	
SPR3	comp=N,45nm,1.2s			IAML		10 23 43.0	
KVN	**Kaiserville**	**4.59**	**342**	Pn	**Pn**	**10 22 17.6**	**+1.4**
KVN	comp=N,38nm,1.2s			IAML		10 23 40.8	
KVN	comp=E,33nm,1.3s			IAML		10 23 41.2	
MTPU	**Mount Pierson**	**4.67**	**43**		**Pn**	**10 22 19.6**	**+2.0**
MTPU	comp=N,30nm,1.2s			IAML		10 23 44.3	
SAO	**San Andreas Ge**	**4.71**	**297**	Pn	**Pn**	**10 22 18.0**	**+0.3**
CMB	**Columbia Colle**	**4.72**	**316**	Pn	**Pn**	**10 22 20.1**	**+2.3**
CMB	comp=N,42nm,0.6s			IAML		10 23 43.3	
YERR	**Yerington**	**4.91**	**331**	Pn	**Pn**	**10 22 19.4**	**-1.2**
YERR	comp=E,33nm,2.3s			IAML		10 24 08.8	
TCRU	**Three Creeks R**	**4.95**	**37**		**Pn**	**10 22 22.2**	**+1.0**
TCRU	comp=N,25nm,0.8s			IAML		10 24 04.3	
MVU	**Marysvale**	**4.99**	**39**		**Pn**	**10 22 23.6**	**+1.8**
MSU	**Marysvale**	**5.01**	**39**		**Pn**	**10 22 24.5**	**+2.4**
PNTR	**Pine Nut**	**5.14**	**329**	Pn	**Pn**	**10 22 24.0**	**+0.2**
PNTR	comp=N,40nm,1.3s			IAML		10 24 10.7	
PNTR	comp=E,39nm,3.3s			IAML		10 24 17.9	
TUC	**Tucson**	**5.14**	**116**	Pn	**Pn**	**10 22 23.2**	**-0.5**
TUC	comp=E,35nm,1.3s			IAML		10 23 54.9	
TUC	comp=E,27nm,1.1s			IAML		10 23 55.7	
TUC	**Tucson**	**5.14**	**116**	P	**Pn**	**10 22 23.0**	**-0.8**
W18A	**Petrified Fore**	**5.36**	**84**	Pn	**Pn**	**10 22 28.8**	**+2.0**
W18A	**Petrified Fore**	**5.36**	**84**	Pg	**Pg**	**10 22 45.4**	**-4.0**
BMN	**Battle Mountai**	**5.77**	**353**	Pn	**Pn**	**10 22 35.2**	**+2.7**
Q16A	**Castle Valley**	**5.85**	**43**	Pn	**Pn**	**10 22 33.7**	**+0.1**
BGU	**Big Grassy Mou**	**6.71**	**21**	Pn	**Pn**	**10 22 45.6**	**+0.3**
319A	**Douglas**	**6.72**	**118**		**Pn**	**10 22 46.0**	**+0.5**
MVCO	**Mesa Verde**	**6.76**	**66**		**Pn**	**10 22 46.4**	**+0.3**
P18A	**Preston Nutter**	**6.86**	**42**	Pn	**Pn**	**10 22 47.1**	**-0.5**
PV13	**Radium Mtn., P**	**6.90**	**58**	Pn	**Pn**	**10 22 50.2**	**+2.2**
PV23	**Carpenter Ridg**	**6.91**	**55**		**Pn**	**10 22 49.1**	**+0.8**
PV11	**David Mesa, Pa**	**6.93**	**57**		**Pn**	**10 22 49.3**	**+0.9**
121A	**Cookes Peak, D**	**7.38**	**105**	Pn	**Pn**	**10 22 55.7**	**+1.2**
121A	**Cookes Peak, D**	**7.38**	**105**	P	**Pn**	**10 22 55.2**	**+0.7**
Y22D	**IRIS PASSCAL I**	**7.73**	**92**	Pn	**Pn**	**10 22 58.1**	**-1.2**
MNTX	**Cornudas Mount**	**9.58**	**105**	Pn	**Pn**	**10 23 25.7**	**+1.2**
PDAR	**Pinedale Array**	**9.59**	**31**	Pn	**Pn**	**10 23 29.6**	**+4.7**
PDAR	comp=E,0.1nm,0.3s,baz=206,slow=10.0,SNR=2.5			Lg	Lg	10 26 14.2	
PDAR	comp=E,0.0nm,0.3s,baz=206,slow=33,SNR=2.4						

PDAR	**Pinedale Array**	**9.59**	**31**		**Pn**	**10 23 26.2**	**+1.3**
TX31	**Lajitas Ar. Si**	**11.93**	**113**		**Pn**	**10 23 59.2**	**+2.3**
TX32	**Lajitas Array**	**11.93**	**113**		**Pn**	**10 23 59.1**	**+2.2**
TXAR	**Lajitas Array**	**11.93**	**113**	Pn	**Pn**	**10 23 58.9**	**+1.9**
	comp=E,0.2nm,0.3s,baz=292,slow=12,SNR=23						
TXAR				Lg	Lg	10 27 22.4	
	comp=E,0.0nm,0.3s,baz=290,slow=27,SNR=6.6						
TXAR	**Lajitas Array**	**11.93**	**113**	Pn	**Pn**	**10 23 59.1**	**+2.2**
YKA	**Yellowknife Ar**	**27.83**	**2**	P	**P**	**10 26 57.8**	**+2.0**
	comp=E,0.2nm,0.8s,baz=182,slow=8.4,SNR=3.0						

*IDC **19** 10:30:49.5±0.9, 9°.58S×159°.84E, $h0^{km}$, mb4.0/9, mb1 4.2/10, mb1mx4.0/32, mbtmp4.0/10, ML3.2/1, MS3.6/6, Ms1 3.6/6, ms1mx3.0/60, Error ellipse: s-maj=35.7km s-min=7.6km az=135.0*

*NEIC **19** 10:30:53.6±0.9, 9°.75S±0°.1×159°.9E±0°.1, $h26^{km}\pm7^{km}$, mb4.1/8, Error ellipse: s-maj=17.5km s-min=14.9km az=161.0*

ISC 19 10:30:54.1±0.7, 9°.64S±0°.09×159°.9E±0°.1, $h35^{km}$, n30, σ0s96/21, mb3.9/12, MS3.7/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.21**	**6**	Pn	**Pn**	**10 30 60.0**	**-1.1**
	4μm,0.3s,baz=200,slow=5.8,SNR=459						
HNR				Sn	**Sn**	**10 31 04.6**	**-1.2**
	24μm,0.3s,baz=158,slow=22,SNR=76						
SANVU	**Saraoutou**	**9.15**	**130**	Pn	**Pn**	**10 33 03.5**	**-0.2**
PMG	**Port Moresby**	**12.60**	**270**	LR	LR	10 38 26.9	
	comp=Z,264nm,19.2s,baz=144,slow=37						
DZM	**Mont Dzumac**	**13.85**	**154**	Pn	**Pn**	**10 34 10.1**	**+1.9**
	0.1nm,0.3s,baz=354,slow=19,SNR=1.5						
DZM	**Mont Dzumac**	**13.85**	**154**		**Pn**	**10 34 06.6**	**-1.6**
CTA	**Charters Tower**	**16.79**	**230**	LR	LR	10 40 55.0	
	comp=Z,187nm,18.4s,baz=72,slow=36						
WR0	**Warramunga Arr**	**26.56**	**244**	P	**P**	**10 36 28.4**	**-0.7**
WR0				IAmb	IAmb	10 36 29.5	
	comp=Z,5.8nm,1.1s						
WB0	**Warramunga Arr**	**26.63**	**245**	P	**P**	**10 36 29.6**	**-0.2**
WB0				IAmb	IAmb	10 36 30.1	
	comp=Z,4.9nm,0.9s						
WB2	**Warramunga Arr**	**26.73**	**245**	P	**P**	**10 36 30.3**	**-0.3**
WB2				IAmb	IAmb	10 36 31.0	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**26.74**	**245**	P	**P**	**10 36 30.0**	**-0.7**
	comp=Z,4.6nm,0.8s,baz=72,slow=9.6,SNR=16						
STKA	**Stephens Creek**	**27.90**	**215**	P	**P**	**10 36 40.6**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=31,slow=12,SNR=1.9						
AS31	**Alice Springs**	**28.49**	**237**	P	**P**	**10 36 45.8**	**-0.6**
ASAR	**Alice Springs**	**28.49**	**237**	P	**P**	**10 36 45.0**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=62,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.49**	**237**	P	**P**	**10 36 45.7**	**-0.7**
SIJI	**Sorong**	**29.81**	**285**	LR	LR	10 50 49.7	
	comp=Z,65nm,18.6s,baz=62,slow=40						
H11N1	**WAKE ISLAND Hy**	**29.96**	**13**	T	T	11 07 29.7	
	baz=193,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**29.97**	**13**	T	T	11 07 07.9	
	baz=193,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**29.98**	**13**	T	T	11 07 28.5	
	baz=193,slow=76,SNR=19						
KNRA	**Kununurra**	**30.97**	**256**	P	**P**	**10 37 08.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**34.28**	**252**	LR	LR	10 49 53.3	
	comp=Z,136nm,20.4s,baz=42,slow=33						
PSA00	**Pilbara Seismi**	**40.26**	**248**	P	**P**	**10 38 27.8**	**-0.3**
JOW	**Kunigami**	**47.52**	**321**	LR	LR	10 56 33.7	
	comp=Z,83nm,19.1s,baz=286,slow=33						
CMAR	**Chiang Mai Arr**	**66.32**	**295**	P	**P**	**10 41 40.7**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=132,slow=5.0,SNR=5.3						
SONM	**Songino Array**	**74.22**	**326**	P	**P**	**10 42 29.0**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=142,slow=6.0,SNR=5.2						
SONM	**Songino Array**	**74.22**	**326**	IAmb	IAmb	10 42 46.3	
	comp=Z,1.5nm,0.9s						
ILAR	**Eielson Array**	**84.09**	**20**	P	**P**	**10 43 21.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=248,slow=5.7,SNR=9.4						
MKAR	**Makanchi Array**	**88.61**	**318**	P	**P**	**10 43 43.9**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=106,slow=5.0,SNR=8.1						
KURBB	**Kurchatov Arra**	**91.97**	**321**	P	**P**	**10 43 59.4**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=117,slow=4.5,SNR=3.9						
NEW	**Newport**	**92.46**	**42**	LR	LR	11 22 25.1	
	comp=Z,30nm,19.3s,baz=249,slow=34						
YKA	**Yellowknife Ar**	**96.38**	**28**	P	**P**	**10 44 19.6**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=266,slow=5.1,SNR=3.1						

*HEL **19** 10:39:40.9±0.5, 67°.63N×33°.82E, $h0^{km}$, ML2.1, Explosion*
*KOLA **19** 10:39:41.7, 67°.67N×33°.74E, $h0^{km}$, ML2.2*
*NAO **19** 10:39:42.1±1.3, 67°.69N×33°.65E, ML2.7*

ISC 19 10:39:41.3±1.2, 67°.69N±0°.04×33°.66E±0°.05, $h0^{km}$, n31, σ1s35/49, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**220**	P	**Pg**	**10 39 44.8**	**+0.6**
APA	**Apatity**	**0.15**	**220**	S	**Sg**	**10 39 46.9**	**+0.7**
APZ9	**Apatity**	**0.15**	**220**	Pg	**Pg**	**10 39 44.9**	**+0.7**
APZ9				Lg	Lg	10 39 47.0	
APZ9				Rg	Rg	10 39 48.0	
APZ9	**Apatity**	**0.15**	**220**	Pg	**Pg**	**10 39 44.9**	**+0.7**
APZ9				Sg	**Sg**	**10 39 47.0**	**+0.9**
APA0	**Apatity Array**	**0.27**	**253**	Pg	**Pg**	**10 39 47.0**	**+0.6**
	baz=86,slow=16						
APA0				Lg	Lg	10 39 51.0	
	baz=86,slow=37						
APA0				Rg	Rg	10 39 52.3	
APA0	**Apatity Array**	**0.27**	**253**	Pg	**Pg**	**10 39 47.0**	**+0.6**
	baz=86,slow=16						
APA0				Sg	**Sg**	**10 39 51.0**	**+1.1**
	baz=86,slow=37						
APA0	**Apatity Array**	**0.27**	**253**	P	**Pg**	**10 39 46.5**	**+0.1**
APA0	**Apatity Array**	**0.27**	**253**	S	**Sg**	**10 39 51.0**	**+1.1**
VRF	**Varrio**	**1.54**	**274**	PG	**Pn**	**10 40 09.6**	**-0.5**
	baz=89						
VRF				MSG		10 40 29.1	
	comp=Z,21nm,0.2s						
VRF				SN	**Sg**	**10 40 30.0**	**-0.9**
TERR	**Teriberka**	**1.61**	**19**	P	**Pn**	**10 40 10.5**	**-0.5**
TERR	**Teriberka**	**1.61**	**19**	S	**Sn**	**10 40 31.6**	**-0.9**
KU6	**Riekki**	**2.23**	**223**	PG	**Pn**	**10 40 20.6**	**+1.0**
	baz=45						
KU6				MSG		10 40 47.0	
	comp=Z,7.2nm,0.2s						
KU6				SG	**Sb**	**10 40 50.8**	**+0.1**
MSF	**Maaselka**	**2.55**	**228**	PG	**Pn**	**10 40 26.0**	**+2.1**
MSF				SG	**Sb**	**10 40 59.8**	**0.0**
SGF	**Sodankyl**	**2.75**	**268**	PG	**Pb**	**10 40 30.3**	**-0.9**
SGF				SG	**Sb**	**10 41 05.5**	**+0.1**
RNF	**Rovaniemi**	**3.17**	**254**	PN	**Pn**	**10 40 32.8**	**+0.4**
	baz=70						
RNF				SN	**Sn**	**10 41 11.9**	**+1.0**
KEV	**Kevo**	**3.19**	**314**	Pn	**Pn**	**10 40 34.0**	**+1.3**
KEV				Sn	**Sn**	**10 41 12.1**	**+0.7**
KEV	**Kevo**	**3.19**	**314**	*e*P	**Pn**	**10 40 33.8**	**+1.1**
KEV				*e*S	**Sn**	**10 41 12.1**	**+0.7**
KEV	**Kevo**	**3.19**	**314**	PN	**Pn**	**10 40 33.8**	**+1.1**
KEV				SN	**Sn**	**10 41 12.0**	**+0.7**
ARA0	**ARCESS Array S**	**3.52**	**306**	Pn	**Pn**	**10 40 37.6**	**+0.4**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**10 40 46.0**	**+1.6**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**10 41 18.4**	**-1.0**
	baz=131,slow=28						
ARA0				Lg	Lg	10 41 29.4	
	baz=108,slow=37						
ARA0	**ARCESS Array S**	**3.52**	**306**	Pn	**Pn**	**10 40 37.6**	**+0.4**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**10 40 46.0**	**+1.6**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**10 41 18.4**	**-1.0**
	baz=131,slow=28						
ARA0				Sg	**Sb**	**10 41 29.4**	**+1.8**
	baz=108,slow=37						
ARA0				IAML		10 41 35.6	
	comp=Z,9.0nm,0.4s						
ARA0	**ARCESS Array S**	**3.52**	**306**	PN	**Pn**	**10 40 37.6**	**+0.4**
ARA0				SN	**Sn**	**10 41 18.4**	**-1.0**
HEF	**Hetta**	**3.82**	**286**	*e*P	**Pn**	**10 40 41.5**	**+0.1**
HEF				*e*S	**Sn**	**10 41 26.3**	**-0.7**
HEF	**Hetta**	**3.82**	**286**	SN	**Sn**	**10 41 26.4**	**-0.6**
TOF	**Tornio**	**4.02**	**251**	PG	**Pb**	**10 40 54.5**	**+1.6**
OUL	**Oulu**	**4.07**	**234**	PB	**Pb**	**10 40 50.6**	**-3.1**
	baz=43						
KTK1	**Kautokeino**	**4.08**	**294**	*e*P	**Pn**	**10 40 44.6**	**-0.4**
KTK1				*e*S	**Sn**	**10 41 30.5**	**-2.8**
KTK1				IAML		10 41 49.0	
	comp=Z,8.7nm,0.4s						
LANU	**Lannavaara**	**4.43**	**280**	PN	**Pn**	**10 40 49.9**	**+0.2**
KALU	**Kalix**	**4.47**	**251**	SG	**Sg**	**10 42 00.7**	**-4.1**
ERTU	**Ertsjaerv**	**4.62**	**261**	SN	**Sn**	**10 41 45.6**	**-0.9**
SPA0	**Spitsbergen Ar**	**11.61**	**342**	Pn	**Pn**	**10 42 25.5**	**-2.5**
	baz=132,slow=18						
SPA0	**Spitsbergen Ar**	**11.61**	**342**	Pn	**Pn**	**10 42 25.5**	**-2.5**
	baz=132,slow=18						

DJA 19 10:40:37.5±0.3, 1°.S±3°.×12°.1E±°, $h10^{km}$, M3.2/7, MLv3.2/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.32**	**83**	P	Pg	10 40 43.6	-0.3
APSI				S	Sg	10 40 49.2	+1.0
LUWI	**Luwuk**	**1.44**	**94**	P	Pn	10 41 03.7	0.0
LUWI				S	Sg	10 41 23.6	-0.4
MRSI	**Marisa**	**1.54**	**23**	P	Pn	10 41 04.6	-0.5
MRSI				S	Sb	10 41 25.7	-0.1
MPSI	**Mapaga**	**1.92**	**312**	P	Pn	10 41 09.8	-0.5
GTOI	**Gorontalo**	**2.30**	**47**	P	Pn	10 41 15.9	+0.4
TTSI	**Tana Toraja**	**2.57**	**216**	P	Pg	10 41 25.5	-1.3
SPSI	**Sidrap Palu**	**3.38**	**207**	P	Pn	10 41 30.2	-0.1
BNSI	**Bone**	**3.64**	**200**	P	Pn	10 41 33.8	-0.1

*NNC **19** 10:51:04.2±1.1, 50°.85N×73°.66E, $h0^{km}$, mb3.0, mpv2.7, Error ellipse: s-maj=10.4km s-min=9.0km az=9.0, Suspected Mining explosion.*
*IDC **19** 10:51:12.7±1.3, 51°.35N×74°.13E, $h0^{km}$, mb1 2.4/4, mb1mx2.4/51, mbtmp2.4/4, ML1.7/2, Error ellipse: s-maj=38.5km s-min=9.7km az=29.0*

ISC 19 10:51:10.7±1.3, 51°.0N±0°.1×73°.69E±0°.07, $h0^{km}$, n10, σ2s62/10, 7C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.84**	**199**	⇑Pg	**Pn**	**10 51 53.9**	**-3.5**
	2.4nm,0.8s						
OTUK				⇓Lg	Lg	10 52 32.7	
	8.2nm,0.8s						
BVAR	**Borovoye Array**	**2.92**	**317**	Pn	**Pn**	**10 51 59.8**	**+1.5**
	0.4nm,0.3s,baz=138,slow=21,SNR=7.3						
BVAR				Lg	Lg	10 52 41.1	
	1.2nm,0.3s,baz=127,slow=30,SNR=11						
BRVK	**Borovoye**	**2.99**	**316**	⇑Pg	**Pn**	**10 52 00.6**	**+1.4**
	1.5nm,0.7s						
BRVK				⇑Lg	Lg	10 52 39.4	
	6.0nm,0.6s						
KURBB	**Kurchatov Arra**	**3.09**	**94**	Pn	**Pn**	**10 51 58.3**	**-2.3**
	0.0nm,0.3s,baz=280,slow=13,SNR=12						
KURBB				Lg	Lg	10 52 44.1	
	0.1nm,0.3s,baz=278,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**3.09**	**94**	⇑Pg	**Pn**	**10 51 58.9**	**-1.7**
	3.6nm,0.7s,baz=276,slow=13						
KURBB				⇑Lg	Lg	10 52 44.6	
	24nm,0.8s,baz=275,slow=31						
KURK	**Kurchatov**	**3.13**	**92**	⇑Pg	**Pn**	**10 52 02.2**	**+0.9**
	2.1nm,0.9s						
KURK				⇓Lg	Lg	10 52 45.7	
	7.7nm,1.0s						
MK31	**Makanchi Array**	**7.03**	**123**	⇑Lg	Lg	10 54 49.8	
	2.0nm,0.8s,baz=322,slow=26,SNR=4.7						
MKAR	**Makanchi Array**	**7.03**	**123**	Pn	**Pn**	**10 52 57.4**	**+2.6**
	baz=316,slow=10,SNR=3.8						
MKAR				Pg	**Pb**	**10 53 12.5**	**-1.1**
	baz=310,slow=14,SNR=3.6						
MKAR				Sn	**Sn**	**10 54 18.3**	**+2.9**
	0.1nm,0.3s,baz=321,slow=14,SNR=2.6						
MKAR				Lg	Lg	10 54 45.2	
	0.1nm,0.3s,baz=306,slow=27,SNR=4.3						
I46RU	**ZALESOVO INFRA**	**7.43**	**62**	*i*		11 37 20.0	
	baz=245,slow=335,SNR=1.1						
ZALV	**Zalesovo Beam**	**7.43**	**62**	Pn	**Pn**	**10 52 57.8**	**-2.5**
	baz=234,slow=17,SNR=1.3						

*IDC **19** 10:52:38.7±1.9, 5°.53S×147°.28E, $h185^{km}\pm15^{km}$, mb3.4/4, mb1 3.6/7, mb1mx3.3/29, mbtmp4.0/7, Error ellipse: s-maj=31.9km s-min=15.3km az=108.0*
*NEIC **19** 10:52:39.5±1.4, 5°.57S±0°.10×147°.14E±0°.09, $h167^{km}\pm23^{km}$, mb4.0/8, Error ellipse: s-maj=17.3km s-min=7.3km az=138.0*

ISC 19 10:52:39.7±0.8, 5°.59S±0°.08×147°.2E±0°.1, $h200^{km}$, n21, σ1s73/25, mb4.0/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.53**	**3**	Pn	**Pn**	**10 53 34.4**	**-1.3**
PMG	**Port Moresby**	**3.79**	**180**	P	**Pn**	**10 53 38.0**	**-0.8**
	16nm,0.3s,baz=350,slow=11,SNR=32						
PMG				S	**Sn**	**10 54 21.4**	**-4.0**
	9.5nm,0.3s,baz=76,slow=21,SNR=7.8						
PMG	**Port Moresby**	**3.79**	**180**	Pn	**Pn**	**10 53 38.6**	**-0.3**
RABL	**Rabaul**	**5.16**	**75**	Pn	**Pn**	**10 53 56.4**	**+0.2**
JAY	**Jayapura**	**7.14**	**295**	P	**Pn**	**10 54 19.9**	**-2.0**
	0.9nm,0.3s,baz=153,slow=9.0,SNR=4.2						
COEN	**Coen**	**9.20**	**205**	Pn	**Pn**	**10 54 50.5**	**+1.9**
MTN	**Manton Dam**	**17.39**	**244**	P	**Pn**	**10 56 29.7**	**-1.0**
MTN				IAmb	IAmb	10 56 30.4	
	comp=Z,5.6nm,0.7s						
WB0	**Warramunga Arr**	**18.79**	**220**	P	**P**	**10 56 45.1**	**+0.9**
WB0				IAmb	IAmb	10 56 46.4	
	comp=Z,9.3nm,1.2s						
WR0	**Warramunga Arr**	**18.84**	**220**	P	**P**	**10 56 45.9**	**+1.2**
WRAB	**Tennant Creek**	**18.94**	**220**	P	**Pn**	**10 56 47.2**	**-1.7**
WRAB				IAmb	IAmb	10 56 50.4	
	comp=Z,7.5nm,0.9s						
WB2	**Warramunga Arr**	**18.95**	**220**	P	**Pn**	**10 56 47.3**	**-1.7**
WRA	**Warramunga Arr**	**18.96**	**220**	P	**P**	**10 56 47.3**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=41,slow=12,SNR=22						
WRA				S	**S**	**11 00 10.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=41,slow=21,SNR=5.1						
WRA				PcP	**PcP**	**11 01 03.6**	**+0.7**
	baz=35,slow=1.7,SNR=1.1						
WRA	**Warramunga Arr**	**18.96**	**220**	P	**Pn**	**10 56 47.8**	**-1.3**
KNRA	**Kununurra**	**20.67**	**240**	P	**P**	**10 57 05.2**	**+0.9**
AS31	**Alice Springs**	**22.05**	**214**	P	**P**	**10 57 20.4**	**+1.8**
AS31				IAmb	IAmb	10 57 25.2	
	comp=Z,2.8nm,0.5s						
ASAR	**Alice Springs**	**22.05**	**214**	P	**P**	**10 57 20.1**	**+1.6**
	comp=Z,4.2nm,0.6s,baz=50,slow=9.1,SNR=37						
ASAR				S	**S**	**11 01 10.5**	**+3.3**
	comp=Z,2.0nm,0.8s,baz=30,slow=23,SNR=14						
ASAR	**Alice Springs**	**22.05**	**214**	P	**P**	**10 57 19.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.43**	**238**	P	**P**	**10 57 42.5**	**+2.3**
	comp=Z,3.3nm,0.5s,baz=63,slow=12,SNR=14						
SONM	**Songino Array**	**64.14**	**331**	P	**P**	**11 02 54.1**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=120,slow=5.7,SNR=1.7						
ILAR	**Eielson Array**	**85.04**	**23**	P	**P**	**11 04 51.5**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=258,slow=4.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**145.16**	**285**	PKPbc	**PKPab**	**11 11 54.6**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=69,slow=3.3,SNR=2.0						

*LDG **19** 10:54:04.1±0.6, 36°.48N×12°.70E, $h10^{km}$, Ml3.1/2, Error ellipse: s-maj=14.0km s-min=3.7km az=21.0*
*ROM **19** 10:54:06.4±0.2, 36°.53N±0°.01×12°.79E±0°.02, $h21^{km}\pm1^{km}$, ML3.2/3, Error ellipse: s-maj=1.5km s-min=1.1km az=263.0*

ISC 19 10:54:05.7±1.7, 36°.52N±0°.05×12°.75E±0°.05, $h19^{km}\pm4^{km}$, n35, σ1s20/53, 3C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPDG	**Lampedusa Capo**	**1.01**	**185**	P	**Pn**	**10 54 25.1**	**+0.3**
FAVR	**Favara**	**1.05**	**45**	P	**Pn**	**10 54 25.5**	**+0.1**
FAVR				S	**Sg**	**10 54 39.7**	**-0.2**
CLTB	**Caltabellotta**	**1.12**	**20**	P	**Pb**	**10 54 26.1**	**-0.4**
CLTB				S	**Sb**	**10 54 41.1**	**+0.4**
MMGO	**Monte Magaggia**	**1.15**	**9**	P	**Pn**	**10 54 26.9**	**+0.1**
CLTA	**Licata**	**1.16**	**57**	P	**Pg**	**10 54 27.7**	**-0.6**
CLTA				S	**Sb**	**10 54 42.4**	**+0.5**
CMDO	**Montedoro**	**1.28**	**42**	P	**Pn**	**10 54 28.7**	**+0.1**
MCT	**Mte Cammarata**	**1.31**	**32**	P	**Pb**	**10 54 30.0**	**+0.1**
CORL	**Corleone**	**1.44**	**18**	P	**Pn**	**10 54 31.2**	**+0.4**
CORL				S	**Sb**	**10 54 50.2**	**+0.3**
RAFF	**Raffo Rosso**	**1.47**	**61**	⇑P	**Pn**	**10 54 31.8**	**+0.5**
RAFF				S	**Sb**	**10 54 50.8**	**0.0**
RAFF				AML	AML		
	comp=E,939μm,0.7s						
RAFF				AML	AML		
	comp=N,491μm,0.8s						
RESU	**Resuttano**	**1.54**	**43**	P	**Pb**	**10 54 33.7**	**+0.1**
WDD	**Wied Dalam**	**1.59**	**115**	P	**Pb**	**10 54 34.1**	**-0.4**
WDD				S	**Sn**	**10 54 53.1**	**+0.2**
SOLUN	**Solunto**	**1.69**	**22**	P	**Pn**	**10 54 34.7**	**+0.6**
HMDC	**Modica**	**1.69**	**75**	⇓P	**Pn**	**10 54 34.3**	**0.0**
HMDC				S	**Sn**	**10 54 55.3**	**-0.1**
HMDC				AML	AML		
	comp=N,494μm,1.0s						
HMDC				AML	AML		
	comp=E,452μm,1.5s						
PETRA	**Petralia Sopra**	**1.71**	**40**	P	**Pn**	**10 54 35.3**	**+0.7**
MPG	**Monte Pellegri**	**1.71**	**17**	P	**Pn**	**10 54 35.2**	**+0.7**
MPG				S	**Sb**	**10 54 57.4**	**-0.2**
HVZN	**Vizzini**	**1.71**	**67**	P	**Pn**	**10 54 35.0**	**+0.4**
HVZN				S	**Sn**	**10 54 56.3**	**+0.4**
CSLB	**Castelbuono**	**1.76**	**36**	⇑P	**Pn**	**10 54 36.2**	**+1.0**
CAGR	**Agira**	**1.78**	**51**	P	**Pb**	**10 54 37.2**	**-0.6**
GIB	**Gibilmanna**	**1.79**	**35**	P	**Pb**	**10 54 36.9**	**-0.9**
MEU	**Monte Lauro**	**1.85**	**71**	P	**Pn**	**10 54 36.1**	**-0.4**
MEU				S	**Sn**	**10 54 58.2**	**-1.1**
MEU				AML	AML		
	comp=E,900μm,0.3s						
MEU				AML	AML		
	comp=N,1845μm,1.5s						
GALF	**Gagliano Caste**	**1.88**	**50**	P	**Pb**	**10 54 39.2**	**-0.3**
GALF				S	**Sn**	**10 55 01.1**	**+1.0**
HLNI	**Lentini**	**1.89**	**64**	⇑P	**Pn**	**10 54 37.4**	**+0.4**
HLNI				S	**Sn**	**10 55 00.2**	**-0.1**
ECNV	**Catenanuova**	**1.90**	**55**	P	**Pb**	**10 54 39.2**	**-0.7**
HPAC	**Pachino**	**1.91**	**84**	P	**Pn**	**10 54 36.8**	**-0.5**
HPAC				S	**Sn**	**10 54 59.7**	**-1.0**
HAVL	**Avola**	**1.96**	**76**	P	**Pn**	**10 54 37.9**	**0.0**
HAVL				S	**Sn**	**10 55 01.7**	**-0.3**
SSY	**Sortino**	**1.97**	**71**	P	**Pn**	**10 54 38.8**	**+0.7**
SSY				S	**Sn**	**10 55 02.5**	**+0.2**
ESML	**S. M. di Licod**	**2.03**	**57**	P	**Pb**	**10 54 40.7**	**-1.2**
ESML				S	**Sn**	**10 55 03.7**	**+0.1**
HAGA	**Augusta**	**2.08**	**68**	P	**Pn**	**10 54 39.5**	**0.0**
HAGA				S	**Sn**	**10 55 04.6**	**-0.3**
MSFR	**San Fratello**	**2.11**	**44**	P	**Pb**	**10 54 42.5**	**-0.9**
EPZF	**Pizzo Felice**	**2.13**	**52**	P	**Pn**	**10 54 41.8**	**+1.5**
AIO	**Antillo**	**2.46**	**53**	P	**Pn**	**10 54 46.3**	**+1.5**
MCSR	**Castroreale**	**2.52**	**52**	P	**Pn**	**10 54 46.7**	**+1.0**
PGF	**Pioggiola**	**6.68**	**335**	*e*P	**Pn**	**10 55 45.6**	**+2.8**
PGF				*e*Sn	**Sn**	**10 56 52.6**	**-5.8**
	comp=N,1.7nm,0.3s						
STON	**Ston**	**7.40**	**30**	*e*Pg	**Pb**	**10 56 14.7**	**+1.2**
SBF	**Sospel**	**8.38**	**333**	*e*P	**Pb**	**10 56 09.2**	**+3.0**

*IDC **19** 11:18:45.5±3.5, 5°.63S×147°.72E, $h181^{km}\pm39^{km}$, mb3.1/4, mb1 3.4/6, mb1mx3.1/25, mbtmp3.7/6, Error ellipse: s-maj=62.8km s-min=25.5km az=125.0*

ISC 19 11:18:44.9±1.2, 5°.6S±0°.1×147°.5E±0°.2, $h170^{km}$, n7, σ1s80/10, mb3.4/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.78**	**186**	P	**Pn**	**11 19 44.3**	**+1.5**
	19nm,0.3s,baz=352,slow=7.1,SNR=48						
PMG				S	**Sn**	**11 20 26.8**	**-1.3**
	8.5nm,0.3s,baz=91,slow=24,SNR=7.7						
WRA	**Warramunga Arr**	**19.16**	**221**	P	**P**	**11 22 57.1**	**+1.6**
	0.3nm,0.3s,baz=48,slow=11,SNR=19						
WRA				S	**S**	**11 26 21.4**	**-2.4**
	0.0nm,0.3s,baz=40,slow=21,SNR=6.5						
ASAR	**Alice Springs**	**22.23**	**215**	P	**P**	**11 23 29.2**	**+1.3**
	0.7nm,0.7s,baz=45,slow=8.9,SNR=12						
ASAR				S	**S**	**11 27 18.0**	**-2.2**
	0.1nm,0.2s,baz=34,slow=20,SNR=2.3						
FITZ	**Fitzroy Crossi**	**24.72**	**238**	P	**P**	**11 23 51.0**	**+0.4**
	1.2nm,0.4s,baz=53,slow=11,SNR=7.9						
SONM	**Songino Array**	**64.34**	**331**	P	**P**	**11 29 03.4**	**+0.9**
	0.4nm,0.5s,baz=139,slow=7.3,SNR=2.3						
ILAR	**Eielson Array**	**84.93**	**23**	P	**P**	**11 30 58.9**	**-1.6**
	0.3nm,0.8s,baz=255,slow=5.4,SNR=1.4						
TORD	**Torodi Ar. Bea**	**145.51**	**285**	PKPbc	**PKPdf**	**11 38 03.0**	**-0.8**
	0.4nm,0.4s,baz=64,slow=2.8,SNR=3.4						

*UPP **19** 11:35:35.8±0.2, 58°.20N×11°.27E, $h0^{km}$, ML2.4, Explosion*
*NAO **19** 11:35:36.4±2.0, 58°.25N×10°.98E, ML2.4*
*DNK **19** 11:35:36.0±1.5, 58°.27N×11°.36E, $h0^{km}$, Mc3.4, ML2.7, Explosion*
*BER **19** 11:35:36.9±1.8, 58°.21N×11°.27E, $h0^{km}$, ML1.7, Suspected explosion*
*IDC **19** 11

KON Sn **Sg** **11 36 29.4 +0.8**
KONO Kongsberg 1.68 330 *e*P **Pn** **11 36 05.4 +0.1**
KONO Kongsberg 1.68 330 *e*P Pg 11 36 13.7 +6.9
KONO *e*S Sg 11 36 37.6 +9.0
KONO IAML 11 36 39.4
comp=Z,13nm,0.5s
KONO Kongsberg 1.68 330 *e*P **Pn** **11 36 05.4 +0.1**
DEL Delary 2.24 140 *i* P **Pb** **11 36 15.4 -0.5**
HFS Hagfors 2.30 32 Pn **Pn** **11 36 14.8 +1.0**
baz=211,slow=14
HFS Hagfors 2.30 32 Pn **Pn** **11 36 14.8 +1.0**
baz=211,slow=14
NC602 NORSAR Array S 2.54 3 *e*P **Pn** **11 36 16.8 -0.2**
NC602 *e*S **Sn** **11 36 48.2 -0.4**
NC602 NORSAR Array S 2.54 3 *e*P **Pg** **11 36 24.9 +1.7**
NC602 *e*S **Sg** **11 36 55.4 -0.7**
NC602 NORSAR Array S 2.54 3 *e*P **Pn** **11 36 16.8 -0.2**
NC602 *e*S **Sn** **11 36 48.2 -0.4**
NRA0 NORESS Array S 2.54 3 Pn **Pn** **11 36 17.7 +0.6**
baz=179,slow=11
NRA0 Sn **Sb** **11 36 52.3 -0.4**
baz=181,slow=28
NRA0 NORESS Array S 2.54 3 Pn **Pn** **11 36 17.7 +0.6**
baz=179,slow=11
NRA0 Sn **Sb** **11 36 52.3 -0.4**
baz=181,slow=28
BLS5 Blasjo 2.78 298 *e*P **Pn** **11 36 19.1 -1.3**
BLS5 Blasjo 2.78 298 *e*P **Pn** **11 36 19.1 -1.3**
NB2 NORSAR Subarra 2.84 360 Pn **Pn** **11 36 21.4 +0.1**
baz=179,slow=16
NB2 NORSAR Subarra 2.84 360 Pn **Pn** **11 36 21.4 +0.1**
baz=179,slow=16
NOA NORSAR Array B 2.84 360 Pn **Pn** **11 36 21.4 +0.1**
comp=Z,0.0nm,0.3s,baz=185,slow=12,SNR=2.5
NOA Lg Lg 11 37 00.4
comp=Z,0.2nm,0.3s,baz=192,slow=17,SNR=7.6
SKAR Skarslia 2.91 330 *e*P **Pn** **11 36 21.6 -0.5**
SKAR *e*S **Sn** **11 36 57.8 0.0**
SKAR IAML 11 37 07.6
comp=Z,6.5nm,0.4s
SKAR Skarslia 2.91 330 *e*P **Pn** **11 36 21.6 -0.5**
SKAR *e*S **Sn** **11 36 57.8 0.0**
SKAR IAML 11 37 07.6
comp=Z,6.5nm,0.4s
BLEU Blekinge 3.12 126 *e*P **Pn** **11 36 25.5 +0.5**
AKN Aaknes 4.52 334 Pn **Pn** **11 36 44.2 +0.1**
AKN Sn **Sn** **11 37 36.3 -1.0**
AKN Aaknes 4.52 334 Pn **Pn** **11 36 44.2 +0.1**
AKN Sn **Sn** **11 37 36.3 -1.0**
FIA0 FINESS Array S 8.13 60 Pn **Pn** **11 37 34.5 +0.8**
baz=253,slow=11
FIA0 Sn **Sn** **11 39 03.8 -2.4**
baz=262,slow=22
FIA0 FINESS Array S 8.13 60 Pn **Pn** **11 37 34.5 +0.8**
baz=253,slow=11
FIA0 Sn **Sn** **11 39 03.8 -2.4**
baz=262,slow=22
FINES FINESS Array B 8.13 60 Pn **Pn** **11 37 34.6 +0.8**
comp=Z,0.2nm,0.3s,baz=256,slow=11,SNR=5.9
FINES Sn **Sn** **11 39 04.0 -2.3**
comp=Z,0.3nm,0.3s,baz=254,slow=21,SNR=2.1
FINES Lg Lg 11 39 53.6
comp=Z,0.5nm,0.3s,baz=261,slow=28,SNR=2.0
EKA Eskdalemuir Ar 8.43 256 Pn **Pn** **11 37 41.8 +3.9**
baz=66,slow=14,SNR=1.4
ARCES ARCESS Array B 12.93 23 Pn **Pn** **11 38 36.3 -3.1**
baz=214,slow=14,SNR=2.2

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*NEIC **19** 11:39:39.9±2.1,22°.95S±0°.04×68°.93W±0°.08,h85km±5km, Error ellipse: s-maj=10.5km s-min=5.2km az=89.0*
*SJA **19** 11:39:40.2±0.7,22°.93S×69°.02W,h92km±3km,ML4.5, MW4.4*
*GUC **19** 11:39:40.6±0.6,22°.97S×69°.01W,h96km±2km,ML5.1, MW4.7*
*VAO **19** 11:39:40.2±0.5,22°.95S×68°.92W,h81km,mb4.5*
*IDC **19** 11:39:41.3±0.7,22°.88S×68°.82W,h93km±4km,mb4.0/9, mb1 4.2/11,mb1mx4.1/24,mbtmp4.4/11,MS3.2/6, Ms1 3.2/6,ms1mx3.0/54,Error ellipse: s-maj=25.8km s-min=16.7km az=27.0*
ISC 19 11:39:40.2±0.4,22°.96S±0°.03×69°.00W±0°.04,h93km±3km, n263,σ1§36/287,mb4.7/54,7C-7D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.36**	**14**	LR	LR	11 39 39.1	
comp=Z,52nm,21.3s,baz=238,slow=7.7							
LVC	**Limon Verde**	**0.36**	**14**	*e*P	**Pn**	**11 39 54.6**	**-0.1**
LVC				*e*S	**Sn**	**11 40 05.6**	**+0.1**
LVC	**Limon Verde**	**0.36**	**14**	Pn	**Pn**	**11 39 55.0**	**+0.3**
LVC	**Limon Verde**	**0.36**	**14**	*e*P	**Pn**	**11 39 55.2**	**+0.5**
LVC				*e*S	**Sn**	**11 40 06.1**	**+0.6**
LVC				IAML		11 40 10.4	
comp=Z,8μm,0.5s							
PB15	**IPOC Station P**	**0.50**	**240**	*e*P	**Pn**	**11 39 56.2**	**+0.8**
PB15				*e*S	**Sn**	**11 40 07.7**	**+0.9**
PB15	**IPOC Station P**	**0.50**	**240**		**Pn**	**11 39 55.2**	**-0.2**
PB15	**IPOC Station P**	**0.50**	**240**	*e*P	**Pn**	**11 39 56.3**	**+0.9**
PB15				*e*S	**Sn**	**11 40 07.8**	**+1.0**
PB15				IAML		11 40 10.1	
comp=Z,113μm,0.3s							
PB06	**IPOC Station P**	**0.58**	**295**	⇑*i*P	**Pn**	**11 39 56.5**	**+0.5**
PB06				*i* S	**Sn**	**11 40 08.4**	**+0.5**
PB06				IAML		11 40 08.9	
comp=E,104μm,0.1s							
PB06	**IPOC Station P**	**0.58**	**295**	Pn	**Pn**	**11 39 55.6**	**-0.4**
PB06	**IPOC Station P**	**0.58**	**295**	*e*P	**Pn**	**11 39 56.6**	**+0.5**
PB06				*e*S	**Sn**	**11 40 08.8**	**+0.9**
PB06				IAML		11 40 10.1	
comp=Z,19μm,0.1s							
PB03	**IPOC Station P**	**1.14**	**322**	⇑*i*P	**Pn**	**11 40 02.4**	**+0.6**
PB03				*i* S	**Sn**	**11 40 18.9**	**+0.8**
PB03				IAML		11 40 20.5	
comp=N,40μm,0.5s							
PB03	**IPOC Station P**	**1.14**	**322**	*e*P	**Pn**	**11 40 02.4**	**+0.6**
PB03				*e*S	**Sn**	**11 40 18.4**	**+0.3**
PB03				IAML		11 40 21.5	
comp=Z,26μm,0.2s							
PB09	**IPOC Station P**	**1.18**	**349**	⇑*i*P	**Pn**	**11 40 03.6**	**+1.3**
PB09				*i* S	**Sn**	**11 40 20.3**	**+1.4**
PB09	**IPOC Station P**	**1.18**	**349**	Pn	**Pn**	**11 40 03.7**	**+1.3**
PB09	**IPOC Station P**	**1.18**	**349**	*e*P	**Pn**	**11 40 03.6**	**+1.3**
PB09				*e*S	**Sn**	**11 40 20.7**	**+1.8**
PB09				IAML		11 40 23.8	
comp=Z,9μm,0.4s							
PB04	**IPOC Station P**	**1.23**	**300**	⇑*i*P	**Pn**	**11 40 03.4**	**+0.5**
PB04				*i* S	**Sn**	**11 40 20.6**	**+0.6**
PB04				IAML		11 40 24.7	
comp=N,24μm,0.2s							
PB04	**IPOC Station P**	**1.23**	**300**	Pn	**Pn**	**11 40 02.6**	**-0.3**
PB04	**IPOC Station P**	**1.23**	**300**	*e*P	**Pn**	**11 40 03.4**	**+0.5**
PB04				*e*S	**Sn**	**11 40 20.9**	**+0.9**
PB04				IAML		11 40 24.9	
comp=Z,16μm,0.4s							
PB07	**IPOC Station P**	**1.47**	**326**	⇑*i*P	**Pn**	**11 40 06.7**	**+0.8**
PB07				*i* S	**Sn**	**11 40 26.2**	**+0.9**
PB07				IAML		11 40 27.3	
comp=E,26μm,0.3s							
PB07	**IPOC Station P**	**1.47**	**326**	Pn	**Pn**	**11 40 05.9**	**0.0**
PB07	**IPOC Station P**	**1.47**	**326**	*e*P	**Pn**	**11 40 06.7**	**+0.8**
PB07				*e*S	**Sn**	**11 40 26.4**	**+1.1**
PB07				IAML		11 40 29.2	
comp=Z,17μm,0.3s							
PB10	**IPOC Station P**	**1.53**	**249**	⇑*i*P	**Pn**	**11 40 06.8**	**+0.4**
PB10				*i* S	**Sn**	**11 40 25.5**	**-0.9**
PB10	**IPOC Station P**	**1.53**	**249**	Pn	**Pn**	**11 40 06.8**	**+0.4**
PB10	**IPOC Station P**	**1.53**	**249**	*e*P	**Pn**	**11 40 06.8**	**+0.4**
PB10				*e*S	**Sn**	**11 40 28.9**	**+2.6**
PB10				IAML		11 40 34.5	
comp=Z,4μm,0.3s							
PB02	**IPOC Station P**	**1.83**	**333**	⇓*i*P	**Pn**	**11 40 11.1**	**+0.7**
PB02				*i* S	**Sn**	**11 40 34.0**	**+0.7**
PB02				IAML		11 40 37.6	
comp=E,27μm,0.2s							
PB02	**IPOC Station P**	**1.83**	**333**	*e*P	**Pn**	**11 40 11.1**	**+0.7**
PB02				*e*S	**Sn**	**11 40 34.2**	**+0.9**
PB02				IAML		11 40 38.8	
comp=Z,24μm,0.5s							
PB01	**IPOC Station P**	**1.96**	**347**	⇓*i*P	**Pn**	**11 40 12.8**	**+0.8**
PB01				*i* S	**Sn**	**11 40 37.7**	**+1.5**
PB01				IAML		11 40 46.0	
comp=E,14μm,0.2s							
PB01	**IPOC Station P**	**1.96**	**347**	Pn	**Pn**	**11 40 12.8**	**+0.8**
PB01	**IPOC Station P**	**1.96**	**347**	*e*P	**Pn**	**11 40 12.9**	**+0.8**
PB01				*e*S	**Sn**	**11 40 38.2**	**+1.9**
PB01				IAML		11 40 40.7	
comp=Z,5μm,0.2s							
PB14	**IPOC Station P**	**2.10**	**217**	*e*P	**Pn**	**11 40 14.8**	**+0.7**
PB14	**IPOC Station P**	**2.10**	**217**	Pn	**Pn**	**11 40 14.5**	**+0.4**
PB14	**IPOC Station P**	**2.10**	**217**	*e*P	**Pn**	**11 40 15.7**	**+1.6**
PB14				*e*S	**Sn**	**11 40 42.7**	**+2.8**
PB14				IAML		11 40 48.0	
comp=Z,6μm,0.4s							
PATCX	**Punta Patache**	**2.38**	**333**	⇓*i*P	**Pn**	**11 40 17.3**	**-0.3**
PATCX				*i* S	**Sn**	**11 40 47.2**	**+1.0**
PATCX				IAML		11 40 55.1	
comp=N,9μm,0.4s							
PATCX	**Punta Patache**	**2.38**	**333**		**Pn**	**11 40 17.3**	**-0.3**
PATCX	**Punta Patache**	**2.38**	**333**	*e*P	**Pn**	**11 40 17.5**	**-0.1**
PATCX				*e*P	**Pn**	**11 40 17.5**	**-0.1**
PATCX				*e*P	**Pn**	**11 40 17.6**	**0.0**
PATCX				IAML		11 40 54.1	
comp=Z,4μm,0.5s							
TA01	**Diego Aracena**	**2.62**	**335**	⇓*i*P	**Pn**	**11 40 19.9**	**-0.7**
TA01				*i* S	**Sn**	**11 40 53.0**	**+1.2**
TA01				IAML		11 41 01.4	
comp=N,7μm,0.5s							
TA01	**Diego Aracena**	**2.62**	**335**	Pn	**Pn**	**11 40 19.9**	**-0.7**
TA01	**Diego Aracena**	**2.62**	**335**	*e*P	**Pn**	**11 40 20.2**	**-0.4**
TA01				*e*S	Sn	11 40 40.4	-11
TA01				IAML		11 40 59.6	
comp=Z,5μm,0.7s							
HMBC	**Humberstone**	**2.79**	**343**	⇓*i*P	**Pn**	**11 40 22.5**	**-0.6**
HMBC				IAML		11 41 05.3	
comp=N,8μm,0.6s							
PB08	**IPOC Station P**	**2.81**	**357**	⇓*i*P	**Pn**	**11 40 24.2**	**+0.7**
PB08				IAML		11 41 07.7	
comp=E,2μm,0.7s							
PB08	**IPOC Station P**	**2.81**	**357**	Pn	**Pn**	**11 40 23.7**	**+0.2**
PB08	**IPOC Station P**	**2.81**	**357**	*e*P	Pn	11 40 18.4	-5.1
PB08				*e*P	**Pn**	**11 40 24.3**	**+0.7**
PB08				*e*S	Sn	11 40 44.9	-12
PB08				IAML		11 41 07.4	
comp=Z,1μm,0.6s							
TA02	**Huaiquique**	**2.87**	**338**	IAML		11 41 07.8	
comp=E,7μm,0.3s							
TA02	**Huaiquique**	**2.87**	**338**	Pn	**Pn**	**11 40 23.4**	**-0.6**
TA02	**Huaiquique**	**2.87**	**338**	*e*P	**Pn**	**11 40 23.5**	**-0.6**
TA02				*e*S	**Sn**	**11 40 58.4**	**+0.6**
TA02				IAML		11 41 06.6	
comp=Z,4μm,0.8s							
PB11	**IPOC Station P**	**3.24**	**349**	⇓*i*P	**Pn**	**11 40 28.4**	**-0.8**
PB11				*i* S	**Sn**	**11 41 07.8**	**+0.9**
PB11				IAML		11 41 16.1	
comp=N,5μm,0.6s							
PB11	**IPOC Station P**	**3.24**	**349**	Pn	**Pn**	**11 40 28.4**	**-0.8**
PB11	**IPOC Station P**	**3.24**	**349**	*e*P	**Pn**	**11 40 28.7**	**-0.5**
PB11				*e*S	**Sn**	**11 41 02.4**	**-4.5**
PB11				IAML		11 41 15.0	
comp=Z,3μm,0.5s							
PB11				*e*S	Sn	11 41 19.4	+13
GO01	**Chusmiza**	**3.28**	**357**	*i* P	**Pn**	**11 40 30.1**	**+0.1**
GO01	**Chusmiza**	**3.28**	**357**		**Pn**	**11 40 30.1**	**+0.1**
GO01	**Chusmiza**	**3.28**	**357**	*e*P	**Pn**	**11 40 30.2**	**+0.2**
GO01				*e*S	Sn	11 40 52.4	-16
GO01				*e*S	Sn	11 40 58.4	-10
YJA	**Yavi**	**3.32**	**77**	*e*P	**Pn**	**11 40 28.9**	**-1.5**
YJA				*e*P	**Pn**	**11 40 33.9**	**+3.5**
YJA				IAML		11 41 16.0	
comp=Z,25nm,0.6s							
HJA	**Humahuaca**	**3.32**	**95**	*e*P	Pn	11 40 20.9	-9.5
HJA				*e*P	**Pn**	**11 40 33.9**	**+3.5**
HJA				*e*P	**Pn**	**11 40 33.9**	**+3.5**
HJA				IAML		11 40 54.1	
comp=Z,73nm,0.7s							
SLA	**San Lorenzo**	**3.65**	**119**	*e*P	**Pn**	**11 40 38.1**	**+3.5**
SLA				IAML		11 41 53.5	
comp=Z,56nm,2.5s							
AC02	**Maricunga**	**3.86**	**182**	Pn	**Pn**	**11 40 39.3**	**+1.5**
FSA	**Cafayete**	**4.17**	**139**	*e*S	Sn	11 41 16.4	-13
PB12	**IPOC Station P**	**4.50**	**344**	Pn	**Pn**	**11 40 44.1**	**-2.0**
PB16	**IPOC Station P**	**4.62**	**354**	Pn	**Pn**	**11 40 48.3**	**+0.1**
GO03	**Copiap**	**4.75**	**193**	Pn	**Pn**	**11 40 48.1**	**-1.4**
AHML	**Horco Molle**	**5.06**	**140**	*e*P	**Pn**	**11 40 56.2**	**+2.5**
AHML				IAML		11 41 59.3	
comp=Z,36nm,2.2s							
AC04	**Llanos de Chal**	**5.55**	**199**	Pn	**Pn**	**11 40 57.2**	**-3.1**
LCO	**Las Campanas**	**6.22**	**194**	Pn	**Pn**	**11 41 07.3**	**-2.3**
GO04	**Tololo Observa**	**7.36**	**192**	Pn	**Pn**	**11 41 23.0**	**-2.2**
CO03	**El Pedregal**	**7.99**	**190**		**Pn**	**11 41 30.7**	**-2.9**
ZON	**Zonda**	**8.56**	**178**	Pn	**Pn**	**11 41 38.3**	**-3.0**
VA03	**San Esteban**	**9.86**	**188**		**Pn**	**11 41 55.6**	**-3.5**
SIV	**San Ignacio**	**10.19**	**49**	LR	LR	11 46 35.4	
comp=Z,30nm,21.3s,baz=186,slow=41							
MT09	**Talagante**	**10.92**	**189**	Pn	**Pn**	**11 42 09.6**	**-3.9**
MT01	**Popeta**	**11.04**	**190**	Pn	**Pn**	**11 42 11.7**	**-3.4**
CPUP	**Villa Florida**	**11.13**	**110**	P	**Pn**	**11 42 16.3**	**0.0**
comp=Z,0.9nm,0.3s,baz=292,slow=12,SNR=22							
CPUP				LR	LR	11 47 03.1	
comp=Z,118nm,18.1s,baz=246,slow=40							
CPUP	**Villa Florida**	**11.13**	**110**		**Pn**	**11 42 13.3**	**-3.0**
BO01	**Tunca**	**11.54**	**189**		Pn	11 42 16.7	-5.0
PTLB	**Pontes e Lacer**	**11.94**	**53**	*e*P	**Pn**	**11 42 25.0**	**-2.2**
PTLB	**Pontes e Lacer**	**11.94**	**53**	Pn	**Pn**	**11 42 25.9**	**-1.3**
AQDB	**Aquidauana**	**12.61**	**81**	*e*P	**Pn**	**11 42 36.8**	**+0.6**
AQDB	**Aquidauana**	**12.61**	**81**	Pn	**Pn**	**11 42 34.7**	**-1.5**
ITQB	**Itaqui**	**12.95**	**124**	*e*P	**Pn**	**11 42 40.1**	**-0.6**
VILB	**Vilhena**	**13.00**	**42**		**Pn**	**11 42 39.6**	**-1.9**
NNA	**Nana**	**13.22**	**324**	LR	LR	11 47 14.5	
comp=Z,48nm,20.4s,baz=186,slow=34							
ETMB	**Extrema**	**13.34**	**12**		**Pn**	**11 42 42.7**	**-3.1**
PP1B	**Ponte de Pedra**	**14.28**	**71**	*e*P	**Pn**	**11 42 59.2**	**+1.2**
SALV	**Santo Antonio**	**14.38**	**63**	*e*P	**Pn**	**11 42 60.0**	**+0.6**
CZSB	**Cruzeiro do Su**	**15.55**	**346**	*e*P	**Pn**	**11 43 14.2**	**-0.1**
CZSB	**Cruzeiro do Su**	**15.55**	**346**	Pn	**Pn**	**11 43 13.5**	**-0.9**
CPSB	**Cacapava Do Su**	**15.75**	**121**	*e*P	**Pn**	**11 43 15.7**	**-1.1**
ITAB	**Concordia**	**15.86**	**109**	*e*P	**Pn**	**11 43 18.2**	**+0.1**
ITAB	**Concordia**	**15.86**	**109**	Pn	**Pn**	**11 43 17.4**	**-0.7**
ITAB					**P**	**11 43 17.8**	**-2.2**
ITAB				IAmb	IAmb	11 43 20.7	
comp=Z,42nm,0.8s							
LC01	**Cunco**	**16.08**	**188**		**Pn**	**11 43 20.7**	**-0.1**
PLTB	**Pedras Altas**	**16.24**	**126**	*e*P	**Pn**	**11 43 20.9**	**-1.8**
PLTB	**Pedras Altas**	**16.24**	**126**	Pn	**Pn**	**11 43 20.2**	**-2.6**
PDRB	**Porto dos Gac**	**16.25**	**48**	*e*P	**Pn**	**11 43 22.7**	**-0.4**
PCMB	**Pacaembu**	**16.48**	**89**	*e*P	**P**	**11 43 26.4**	**-0.5**
CLDB	**Colider**	**17.42**	**49**	*e*P	**Pn**	**11 43 38.3**	**+0.9**
ITRB	**Iturama**	**17.67**	**83**	*e*P	**Pn**	**11 43 40.0**	**-0.4**
ARAG	**Araguaiana, MT**	**17.75**	**69**	*e*P	**Pn**	**11 43 41.4**	**+0.1**
PLCA	**Paso Flores**	**17.77**	**184**	P	**Pn**	**11 43 42.8**	**+1.3**
comp=Z,0.1nm,0.3s,baz=6.5,slow=13,SNR=8.7							
PLCA	**Paso Flores**	**17.77**	**184**	*e*P	**Pn**	**11 43 42.9**	**+1.3**
PLCA	**Paso Flores**	**17.77**	**184**	P	**Pn**	**11 43 42.6**	**+1.1**
FRTB	**Fartura**	**17.88**	**95**	*e*P	**P**	**11 43 42.4**	**-0.1**
LLI04	**Puerto Octay**	**18.13**	**188**	P	**P**	**11 43 44.1**	**-0.8**
TIJ01	**Guaruva-PR**	**18.40**	**101**	*e*P	**Pn**	**11 43 48.7**	**-0.6**
TBTG	**Tabatinga, AM**	**18.68**	**357**	*e*P	**Pn**	**11 43 52.8**	**+0.2**
TBTG	**Tabatinga, AM**	**18.68**	**357**	P	**P**	**11 43 50.0**	**-1.2**
TER01	**Tubaro-SC**	**18.74**	**111**	*e*P	**Pn**	**11 43 52.2**	**-0.9**
BB19B	**Bebedouro**	**19.08**	**88**	*e*P	**P**	**11 43 54.9**	**-0.6**
RCLB	**Rio Claro- Sao**	**19.82**	**93**	*e*P	**P**	**11 44 03.6**	**0.0**
PET01	**Itanhaem-SP**	**19.95**	**98**	*e*P	**P**	**11 44 04.8**	**-0.1**
IPMB	**Ipameri, GO**	**20.09**	**80**	*e*P	**P**	**11 44 06.5**	**-0.1**
SNDB	**Serra Nova Dou**	**20.09**	**60**	*e*P	**P**	**11 44 04.8**	**-1.7**
VAO	**Valinhos**	**20.29**	**94**	*e*P	**P**	**11 44 08.7**	**0.0**
NPGB	**Novo Progresso**	**20.56**	**42**	*e*P	**P**	**11 44 10.8**	**-0.9**
BDFB	**Brasilia**	**21.09**	**74**	P	**P**	**11 44 16.3**	**-1.1**
comp=Z,9.5nm,0.5s,baz=250,slow=10.0,SNR=16							
BDFB	**Brasilia**	**21.09**	**74**	P	**P**	**11 44 15.9**	**-1.5**
BDFB				IAmb	IAmb	11 44 18.9	
comp=Z,23nm,1.1s							
MACA	**Manacapuru-AM**	**21.27**	**23**	*e*P	**P**	**11 44 19.9**	**+0.7**
MACA	**Manacapuru-AM**	**21.27**	**23**	P	**P**	**11 44 18.0**	**-1.2**
MACA				IAmb	IAmb	11 44 20.5	
comp=Z,24nm,0.5s							
PARB	**Paraibuna**	**21.50**	**96**	*e*P	**P**	**11 44 20.8**	**-0.9**
ITTB	**Itaituba**	**22.50**	**37**	*e*P	**P**	**11 44 31.1**	**-1.1**
BSCB	**Bom Sucesso**	**22.55**	**90**	*e*P	**P**	**11 44 32.9**	**+0.1**
MAN01	**Angra dos Reis**	**23.06**	**95**	*e*P	**P**	**11 44 37.6**	**-0.3**
DIAM	**Diamantina, MG**	**24.14**	**84**	*e*P	**P**	**11 44 48.7**	**+0.8**
SMTB	**Santa Maria do**	**24.86**	**59**	*e*P	**P**	**11 44 55.7**	**+1.4**
PRPB	**Paraiapebas**	**24.91**	**51**	*e*P	**P**	**11 44 55.0**	**+0.3**
SDBA	**SAO DESIDERIO**	**25.20**	**70**	*e*P	**P**	**11 44 57.3**	**-0.1**
SOTA	**Rioblanco**	**26.02**	**342**	*e*P	**P**	**11 45 09.2**	**+3.9**
SJMB	**Sao Joao De Ma**	**26.32**	**86**	*e*P	**P**	**11 45 07.7**	**+0.1**
POPC	**Popayan, Colom**	**26.43**	**343**	*e*P	**P**	**11 45 09.1**	**+0.4**
BOAV	**Boa Vista**	**26.52**	**19**	*e*P	**P**	**11 45 10.4**	**+1.2**
RIB01	**Linhares ES**	**26.91**	**88**	*e*P	**P**	**11 45 13.0**	**+0.3**
ORTC	**Ortega, Tolima**	**27.39**	**346**	*e*P	**P**	**11 45 16.7**	**-0.4**
YOTC	**Yotoco, Valle**	**27.72**	**344**	*e*P	**P**	**11 45 23.6**	**+3.5**
MCPB	**Macapa, AP**	**27.86**	**39**	*e*P	**P**	**11 45 23.1**	**+1.8**
ROSC	**El Rosal**	**28.11**	**349**	LR	LR	11 57 25.3	
comp=Z,80nm,19.4s,baz=138,slow=38							
GUA01	**Guaratinga, BA**	**28.17**	**82**	*e*P	**P**	**11 45 24.7**	**+0.7**
GUY2C	**Guyana, Caldas**	**28.69**	**347**	*e*P	**P**	**11 45 29.8**	**+0.7**
CMC01	**Camacan, BA**	**28.82**	**80**	*e*P	**P**	**11 45 30.1**	**+0.3**
NORC	**Norcasia**	**28.92**	**348**	*e*P	**P**	**11 45 29.1**	**-1.7**
RUSC	**La Rusia**	**28.95**	**352**	*e*P	**P**	**11 45 31.8**	**+0.3**
NBIT	**Itapeh - BA**	**29.04**	**79**	*e*P	**P**	**11 45 32.7**	**+0.9**
GDU01	**Guandu, BA**	**29.36**	**77**	*e*P	**P**	**11 45 34.8**	**+0.2**
PTBC	**PUERTO BERRIO,**	**29.80**	**349**	*e*P	**P**	**11 45 35.7**	**-2.7**
ZARC	**Zaragoza, Cauc**	**30.80**	**349**	P	**P**	**11 45 46.6**	**-0.7**
ZARC				IAmb	IAmb	11 45 47.2	
comp=Z,13nm,1.5s							
BAUV	**El Baul**	**31.72**	**2**	P	**P**	**11 45 52.6**	**-2.7**
BAUV				IAmb	IAmb	11 45 55.2	
comp=Z,13nm,0.8s							
SMLC	**San Martn de**	**31.95**	**351**	*e*P	**P**	**11 45 53.8**	**-3.6**
NBLA	**Lagarto - SE**	**32.06**	**73**	*e*P	**P**	**11 45 58.8**	**+0.4**
MDP	**Montagnes des**	**32.15**	**32**	LR	LR	12 00 34.9	
comp=Z,46nm,18.0s,baz=267,slow=39							
NBPS	**Pedro II - PI**	**32.40**	**59**	*e*P	**P**	**11 46 02.2**	**+0.7**
NBMA	**Muriti-CE**	**32.94**	**67**	*e*P	**P**	**11 46 05.8**	**-0.4**
NBAN	**Anadia - AL**	**33.98**	**73**	*e*P	**P**	**11 46 16.1**	**+1.0**
RCBR	**Riachuelo**	**36.16**	**67**	P	**P**	**11 46 33.6**	**-0.4**
RCBR				IAmb	IAmb	11 46 52.4	
comp=Z,12nm,1.2s							
NBPV	**Pedro Velho**	**36.38**	**68**	*e*P	**P**	**11 46 37.8**	**+2.0**
PDPR	**Patillas Dam,**	**40.83**	**4**	P	**P**	**11 47 11.4**	**-1.4**
PDPR				IAmb	IAmb	11 47 15.7	
comp=Z,14nm,1.1s							
CELP	**Cerrillos**	**40.85**	**4**	P	**P**	**11 47 11.0**	**-2.0**
CELP				IAmb	IAmb	11 47 13.1	
comp=Z,15nm,0.7s							
250A	**Grady**	**57.07**	**343**	P	**P**	**11 49 16.0**	**-0.7**
250A				IAmb	IAmb	11 49 17.3	
comp=Z,13nm,0.8s							
VNA3	**Neumayer Olymp**	**58.73**	**161**	P	**P**	**11 49 29.1**	**+1.1**
Z47A	**Carrollton**	**58.73**	**341**	P	**P**	**11 49 27.8**	**-0.5**
833A	**Chaparral WMA,**	**58.81**	**329**	P	**P**	**11 49 29.8**	**+0.8**
Y49A	**Blount Mountai**	**58.88**	**343**	P	**P**	**11 49 28.1**	**-1.2**
VNA1	**Neumayer--Stat**	**58.95**	**160**	P	**P**	**11 49 25.7**	**-3.6**
BG3	**Lake Jocassee**	**59.13**	**347**	P	**P**	**11 49 29.7**	**-1.3**
BG3				IAmb	IAmb	11 49 56.7	
comp=Z,18nm,1.5s							
X51A	**Calhoun**	**59.16**	**345**	P	**P**	**11 49 30.4**	**-0.8**
VNA2	**Neumayer--Watz**	**59.31**	**160**	P	**P**	**11 49 33.3**	**+1.4**
baz=281,slow=9.0							
FPAL	**Fort Paine**	**59.32**	**344**	P	**P**	**11 49 31.7**	**-0.7**
W52A	**Murphy**	**59.45**	**346**	P	**P**	**11 49 31.9**	**-1.4**
W52A				IAmb	IAmb	11 49 34.1	
comp=Z,6.5nm,0.8s							
X48A	**Hartselle**	**59.61**	**343**	P	**P**	**11 49 33.9**	**-0.4**
V55A	**Taylorsville**	**59.62**	**349**	P	**P**	**11 49 34.9**	**+0.5**
W50A	**Signal Mountai**	**59.87**	**345**	P	**P**	**11 49 35.8**	**-0.4**
TKL	**Tuckaleechee C**	**59.95**	**346**	P	**P**	**11 49 36.3**	**-0.4**
SWET	**Sewanee**	**60.04**	**344**	P	**P**	**11 49 36.9**	**-0.4**
V52A	**Sevierville**	**60.09**	**346**	P	**P**	**11 49 38.0**	**+0.3**
U54A	**Nelsons Funny**	**60.38**	**348**	P	**P**	**11 49 39.8**	**+0.1**
V48A	**Smith Brothers**	**60.77**	**343**	P	**P**	**11 49 41.6**	**-0.6**
JCT	**Junction City**	**60.81**	**330**	P	**P**	**11 49 42.5**	**-0.2**
JCT				IAmb	IAmb	11 49 44.4	
comp=Z,6.8nm,0.7s							
WLAR	**White Oak Lake**	**60.83**	**337**	P	**P**	**11 49 43.6**	**+0.9**
W45A	**Hickory Valley**	**60.88**	**341**	P	**P**	**11 49 42.7**	**-0.4**
CLTN	**Cedars of Leba**	**60.97**	**344**	P	**P**	**11 49 44.0**	**+0.4**
CLTN				IAmb	IAmb

ISCO	Idaho Springs	71.17	331	P	P	11 50 51.2	+1.9
SRU	San Rafael Swe	72.95	327	P	P	11 51 01.5	+1.8
SRU				IAmb	IAmb	11 51 02.5	
comp=Z,5.2nm,0.7s							
MTPU	Mount Pierson	72.98	326	P	P	11 51 02.6	+2.4
P18A	Preston Nutter	73.21	328	P	P	11 51 03.2	+1.8
SHPR	Sheep Range	73.46	323	P	P	11 51 05.1	+2.3
RDMU	Red Mountain	73.61	329	P	P	11 51 05.8	+2.1
RSSD	Black Hills	74.07	335	P	P	11 51 07.2	+1.0
RSSD				IAmb	IAmb	11 51 08.7	
comp=Z,5.4nm,0.8s							
TPNV	Topopah Spring	74.39	322	P	P	11 51 10.4	+2.2
JLU	Jordanelle	74.55	328	P	P	11 51 11.0	+1.9
ISA	Isabella, Lake	74.77	320	P	P	11 51 11.2	+0.8
ISA				IAmb	IAmb	11 51 13.8	
comp=Z,6.4nm,0.8s							
SYO	Syowa Base	75.17	159⇑	eP	P	11 51 09.6	-2.5
PD31	Pinedale Array	75.33	330	P	P	11 51 12.7	-0.9
PDAR	Pinedale Array	75.33	330	P	P	11 51 14.5	+0.9
comp=Z,0.7nm,0.6s,baz=129,slow=7.4,SNR=10.0							
PDAR	Pinedale Array	75.33	330	P	P	11 51 14.0	+0.5
AHID	Auburn Hatcher	76.04	329	P	P	11 51 17.3	-0.3
AHID				IAmb	IAmb	11 51 19.7	
comp=Z,6.8nm,0.7s							
REDW	Red Top Meadow	76.39	330	P	P	11 51 20.4	+0.9
NVAR	Mina Array Bea	76.59	322	P	P	11 51 23.1	+2.2
comp=Z,1.5nm,0.8s,baz=154,slow=6.1,SNR=13							
NVAR				pP	pP	11 51 47.0	+1.5
comp=Z,0.4nm,0.6s,baz=134,slow=6.8,SNR=2.4							
NVAR	Mina Array Bea	76.59	322	P	P	11 51 21.7	+0.9
ULM	Lac du Bonnet	76.67	343	P	P	11 51 21.2	+0.5
comp=Z,4.3nm,0.5s,baz=152,slow=5.2,SNR=5.3							
ULM	Lac du Bonnet	76.67	343	IAmb	IAmb	11 51 22.1	
comp=Z,1.5nm,1.4s							
KVN	Kaiserville	76.90	323	P	P	11 51 23.4	+0.8
LAO	LASA Array	77.06	335	P	P	11 51 24.5	+1.4
LAO				IAmb	IAmb	11 51 25.0	
comp=Z,6.0nm,0.8s							
SCHQ	Schefferville	77.49	1	P	P	11 51 25.9	+0.7
comp=Z,3.1nm,0.8s,baz=197,slow=11,SNR=4.1							
DGMT	Dagmar	77.77	337	P	P	11 51 28.1	+1.2
DGMT				IAmb	IAmb	11 51 29.1	
comp=Z,9.2nm,0.7s							
TORD	Torodi Ar. Bea	77.93	70	P	P	11 51 28.7	+0.2
comp=Z,3.0nm,0.5s,baz=257,slow=5.4,SNR=11							
TORD				pP	pP	11 51 52.8	-0.8
comp=Z,8.1nm,0.8s,baz=256,slow=5.4,SNR=9.2							
ORV	Oroville	79.17	321	P	P	11 51 36.6	+1.8
PLID	Pearl Lake	80.12	328	P	P	11 51 41.9	+1.7
PLID				IAmb	IAmb	11 51 42.7	
comp=Z,5.8nm,0.8s							
J08A	Circle Bar Ran	80.12	326	P	P	11 51 42.0	+2.0
BMO	Blue Mountains	80.59	327	P	P	11 51 44.2	+1.8
JTMT	Jette	81.29	331	P	P	11 51 47.1	+1.0
PINE	Pine Mountain	81.72	325	P	P	11 51 47.9	-0.7
PINE				IAmb	IAmb	11 51 51.7	
comp=Z,8.7nm,0.8s							
MDT	Midelt	82.75	50	LR	LR	12 28 48.3	
comp=Z,31nm,18.1s,baz=149,slow=36							
MAW	Mawson	82.97	163	pP	pP	11 52 20.6	+0.7
comp=Z,5.2nm,0.7s,baz=214,slow=7.3,SNR=4.0							
FCC	Fort Churchill	84.03	347	P	P	11 52 00.8	+0.9
FCC				IAmb	IAmb	11 52 01.2	
comp=Z,4.4nm,0.6s							
YKA	Yellowknife Ar	92.53	341	P	P	11 52 41.2	+0.7
comp=Z,2.9nm,0.8s,baz=138,slow=4.5,SNR=59							
YKA				pP	pP	11 53 06.0	+0.1
comp=Z,1.1nm,0.7s,baz=137,slow=4.5,SNR=6.0							
YKA				sP	sP	11 53 16.6	+0.6
comp=Z,1.2nm,0.6s,baz=135,slow=4.5,SNR=5.8							
ASAR	Alice Springs	128.58	207	PKP	PKiKP	11 58 37.9	0.0
comp=Z,0.7nm,0.7s,baz=144,slow=1.9,SNR=15							
ASAR				pPKP	pPKPdf	11 59 03.5	-0.2
comp=Z,0.4nm,0.7s,baz=142,slow=2.0,SNR=2.9							
SEY	Seymchan	131.40	336	PKP	PKiKP	11 58 43.2	+1.1
comp=Z,0.3nm,0.3s,baz=124,slow=3.6,SNR=4.4							
WRA	Warramunga Arr	131.66	210	PKP	PKiKP	11 58 44.3	+0.2
comp=Z,0.7nm,0.5s,baz=152,slow=1.7,SNR=13							
WRA				pPKP	pPKPdf	11 59 09.8	+0.2
comp=Z,0.5nm,0.6s,baz=154,slow=1.6,SNR=2.9							
BVAR	Borovoye Array	137.03	35	PKP	PKiKP	11 58 54.1	+0.3
comp=Z,0.8nm,0.7s,baz=48,slow=2.1,SNR=4.0							
KURK	Kurchatov	142.58	34		PKPdf	11 58 59.2	-3.0
KURBB	Kurchatov Arra	142.59	34	PKhKP	PKPpre	11 58 59.2	
comp=Z,0.3nm,0.5s,baz=300,slow=3.2,SNR=5.4							
ZALV	Zalesovo Beam	143.30	26	PKP	PKPdf	11 59 02.1	-1.2
comp=Z,1.8nm,0.6s,baz=281,slow=2.8,SNR=8.6							
ZALV	Zalesovo Beam	143.30	26		PKPbc	11 59 01.8	+1.1
AAK	Ala-Archa	143.95	48	PKP	PKPdf	11 59 05.1	0.0
comp=Z,0.7nm,0.3s,baz=325,slow=2.5,SNR=3.9							
KSH	Kashi	146.06	53	PKPbc	PKPab	11 59 11.3	+0.8
KSH				pPKP	pPKPab	11 59 36.4	-0.1
MKAR	Makanchi Array	146.85	37	PKPbc	PKPbc	11 59 11.2	-0.4
comp=Z,4.2nm,0.8s,baz=336,slow=2.2,SNR=29							
MKAR				pPKPbc	pPKPdf	11 59 36.7	+0.4
comp=Z,3.2nm,0.9s,baz=312,slow=2.5,SNR=7.1							
KLR	Kul'dur	149.08	333	PKPbc	PKiKP	11 59 18.2	-0.5
comp=Z,2.4nm,0.8s,baz=31,slow=2.0,SNR=7.0							
PZH	PanZhiHua	170.88	65	PKP	PKPdf	11 59 38.0	-0.2

*DNK **19** 11:47:32.2±1.1, 58.°34N×11.°04E, h0km, Mc2.0, ML2.3, Explosion*
*UPP **19** 11:47:34.6±0.2, 58.°21N×11.°27E, h0km, ML2.3, Explosion*
*BER **19** 11:47:34.9±1.2, 58.°18N×11.°33E, h0km, ML1.7, Suspected explosion*
*IDC **19** 11:47:37.2±2.0, 58.°37N×11.°12E, h0km, mb1 3.4/3, mb1mx3.0/52, mbtmp3.4/3, ML2.2/4, Error ellipse: s-maj=14.9km s-min=13.2km az=68.0*
ISC 19 11:47:33.1±0.7, 58.°20N±0.°03×11.°25E±0.°03, h0km, n36, σ0°99/56, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TJOU	Tjoern	0.26	130	P		Pb	11 47 39.8	-0.9
TJOU				S		Sg	11 47 43.2	+1.8
TJOU	Tjoern	0.26	130	P		Pb	11 47 39.8	-0.9
TJOU				S		Sg	11 47 43.2	+1.8
VANU	Vaenersborg	0.53	56	P		Pg	11 47 44.4	+1.2
VANU	Vaenersborg	0.53	56	P		Pg	11 47 44.4	+1.2
STRU	Stroemstad	0.84	358	eP		Pg	11 47 50.1	+1.0
STRU				P		Pg	11 47 50.1	+1.0
STRU				eS		Sg	11 48 01.7	+1.7
STRU	Stroemstad	0.84	358	eP		Pg	11 47 50.1	+1.0
STRU				eS		Sg	11 48 01.7	+1.7
STRU	Stroemstad	0.84	358	P		Pg	11 47 50.1	+1.0
ONAU	Onsala	0.88	156	P		Pb	11 47 51.2	0.0
ONAU				eP		Pb	11 47 51.3	0.0
ONAU	Onsala	0.88	156	P		Pb	11 47 51.2	0.0
BORU	Boraas	0.99	124	P		Pg	11 47 52.8	+0.7
BORU				eP		Pb	11 47 53.0	-0.1
BORU	Boraas	0.99	124	P		Pg	11 47 52.8	+0.7
NASU	Vaermlandsnaes	1.25	53	P		Pg	11 47 57.3	+0.3
NASU	Vaermlandsnaes	1.25	53	P		Pg	11 47 57.3	+0.3
FKPU	Falk	1.31	91	P		Pg	11 47 58.3	+0.1
FKPU	Falk	1.31	91	P		Pg	11 47 58.3	+0.1
FINU	Finntorp	1.37	27	P		Pn	11 47 59.7	+0.3
FINU	Finntorp	1.37	27	P		Pn	11 47 59.7	+0.3
FABU	Falkenberg	1.44	146	P		Pn	11 48 00.6	+0.3
FABU				eP		Pb	11 48 00.8	+0.1
FABU	Falkenberg	1.44	146	P		Pn	11 48 00.6	+0.3
HOMB	Homborsund	1.45	274	eP		Pn	11 48 00.5	0.0
HOMB				eP		Pn	11 48 00.5	0.0
HOMB				eS		Sb	11 48 19.5	-0.4
HOMB				eS		Sn	11 48 20.0	-0.2
HOMB				IAML			11 48 22.4	
comp=Z,9.2nm,0.2s								
HOMB	Homborsund	1.45	274	eP		Pn	11 48 00.5	0.0
HOMB				eS		Sb	11 48 19.5	-0.4
HOMB				IAML			11 48 22.4	
comp=Z,9.2nm,0.2s								
GNOU	Gnosjoe	1.63	123	P		Pb	11 48 03.8	-0.1
GNOU	Gnosjoe	1.63	123	P		Pb	11 48 03.8	-0.1
KONO	Kongsberg	1.69	330	eP		Pn	11 48 04.1	+0.3
KONO				eS		Sn	11 48 25.8	-0.3
KONO				IAML			11 48 30.4	
comp=Z,12nm,0.6s								
KONO	Kongsberg	1.69	330	eP		Pn	11 48 04.1	+0.3
KONO				eS		Sn	11 48 25.8	-0.3
KONO				IAML			11 48 30.4	
comp=Z,12nm,0.6s								
SNART	Snartemo	2.14	275	eP		Pn	11 48 11.0	+1.0
SNART				IAML			11 48 45.1	
comp=Z,14nm,0.5s								
SNART	Snartemo	2.14	275	eP		Pn	11 48 11.0	+1.0
SNART				IAML			11 48 45.1	
comp=Z,14nm,0.5s								
DEL	Delary	2.24	140	i P		Pb	11 48 14.0	-0.4
DEL				eS		Sb	11 48 43.5	+0.9
HFS	Hagfors	2.31	32	Pn		Pn	11 48 13.2	+0.8
comp=Z,2.9nm,0.3s,baz=213,slow=14,SNR=112								
HFS				Sn		Sn	11 48 41.4	-0.2
comp=Z,1.6nm,0.3s,baz=213,slow=24,SNR=7.8								
HFS				Lg		Lg	11 48 46.8	
comp=Z,7.3nm,0.3s,baz=199,slow=27,SNR=30								
NC602	NORSAR Array S	2.55	3	eP		Pn	11 48 16.2	+0.5
NC602				IAML			11 49 01.4	
comp=Z,7.1nm,0.4s								
NC602	NORSAR Array S	2.55	3	eP		Pn	11 48 16.2	+0.5
NC602				IAML			11 49 01.4	
comp=Z,7.1nm,0.4s								
BLS5	Blasjo	2.78	298	eP		Pn	11 48 19.9	+1.1
BLS5				eS		Sn	11 48 53.3	+0.3
BLS5				IAML			11 49 06.2	
comp=Z,6.2nm,0.4s								
BLS5	Blasjo	2.78	298	eP		Pn	11 48 19.9	+1.1
BLS5				eS		Sn	11 48 53.3	+0.3
BLS5				IAML			11 49 06.2	
comp=Z,6.2nm,0.4s								
NOA	NORSAR Array B	2.85	360	Pn		Pn	11 48 20.4	+0.6
comp=Z,0.1nm,0.3s,baz=186,slow=12,SNR=5.6								
NOA				Sn		Sn	11 48 52.4	-2.4
comp=Z,0.1nm,0.3s,baz=247,slow=21,SNR=2.7								
NOA				Lg		Lg	11 49 01.1	
comp=Z,0.2nm,0.3s,baz=181,slow=18,SNR=6.3								
FINES	FINESS Array B	8.15	60	Pn		Pn	11 49 33.3	+0.9
comp=Z,0.2nm,0.3s,baz=253,slow=11,SNR=11								
FINES				Sn		Sn	11 51 02.2	-2.8
comp=Z,0.2nm,0.3s,baz=249,slow=23,SNR=6.1								
FINES				Lg		Lg	11 51 46.8	
comp=Z,0.2nm,0.3s,baz=245,slow=26,SNR=1.4								
ARCES	ARCESS Array B	12.94	23	Pn		Pn	11 50 35.3	-2.7
baz=215,slow=14,SNR=1.1								

*NEIC **19** 12:01:09.4±0.7, 20.°8S±0.°2×178.°12W±0.°06, h534km±11km, mb4.1/15, Error ellipse: s-maj=34.4km s-min=7.6km az=183.0*
*IDC **19** 12:01:12.9±12.0, 20.°91S×178.°32W, h576km±123km, mb3.2/5, mb1 3.4/5, mb1mx3.0/42, mbtmp4.2/5, Error ellipse: s-maj=87.2km s-min=51.5km az=117.0*
ISC 19 12:01:04.1±1.5, 20.°9S±0.°3×177.°8W±0.°2, h495km, n25, σ0°92/27, mb4.0/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.00	308	P		P	12 02 35.7	+4.8
CTAO	Charters Tower	33.60	265	P		P	12 07 03.5	+0.7
PMG	Port Moresby	35.57	283	P		P	12 07 19.4	0.0
STKA	Stephens Creek	37.75	245	P		P	12 07 37.3	+0.2
1.3nm,0.7s,baz=77,slow=12,SNR=3.6								
STKA	Stephens Creek	37.75	245	P		P	12 07 38.4	+1.3
BBOO	Buckleboo	42.50	244	P		P	12 08 16.2	+1.0
BBOO				IAmb		IAmb	12 08 33.9	
comp=Z,19nm,1.4s								
WR0	Warramunga Arr	44.50	262	P		P	12 08 30.5	-0.5
WR0				IAmb		IAmb	12 08 41.0	
comp=Z,5.1nm,1.2s								
AS31	Alice Springs	44.57	257	P		P	12 08 31.7	+0.1
AS31				IAmb		IAmb	12 08 32.5	
comp=Z,1.4nm,0.7s								
ASAR	Alice Springs	44.57	257	P		P	12 08 31.7	0.0
comp=Z,4.1nm,0.6s,baz=96,slow=7.5,SNR=108								
ASAR				PcP		PcP	12 10 04.2	-0.1
comp=Z,0.1nm,0.3s,baz=114,slow=3.4,SNR=4.4								
WB0	Warramunga Arr	44.67	263	P		P	12 08 32.1	-0.3
WB0				IAmb		IAmb	12 08 32.6	
comp=Z,6.0nm,0.5s								
WB2	Warramunga Arr	44.68	262	P		P	12 08 32.2	-0.3
WB2				IAmb		IAmb	12 08 32.8	
comp=Z,4.3nm,0.9s								
WRAB	Tennant Creek	44.68	262	P		P	12 08 32.1	-0.4
WRAB				IAmb		IAmb	12 08 32.4	
comp=Z,2.9nm,0.7s								
WRA	Warramunga Arr	44.69	262	P		P	12 08 31.9	-0.7
comp=Z,1.6nm,0.3s,baz=97,slow=7.8,SNR=71								
WRA	Warramunga Arr	44.69	262	P		P	12 08 32.5	-0.1
FORT	Forrest	49.27	247	P		P	12 09 07.2	+0.2
FORT				IAmb		IAmb	12 09 31.1	
comp=Z,11nm,0.9s								
MTN	Manton Dam	49.31	271	P		P	12 09 07.4	-0.1
MTN				IAmb		IAmb	12 09 07.7	
comp=Z,5.0nm,0.8s								
KNRA	Kununurra	50.78	266	P		P	12 09 18.2	-0.1
KNRA				IAmb		IAmb	12 09 41.7	
comp=Z,6.2nm,1.2s								
SIJI	Sorong	53.48	285	P		P	12 09 37.6	-0.3
comp=Z,6.6nm,0.6s,baz=107,slow=4.8,SNR=6.1								
PSA00	Pilbara Seismi	57.72	257	P		P	12 10 07.2	-0.1
MYLDM	Lahad Datu	67.58	285	P		P	12 11 10.3	-1.0
ILAR	Eielson Array	88.67	13	P		P	12 13 05.7	+2.1
comp=Z,0.7nm,1.1s,baz=214,slow=6.2,SNR=2.1								
AKASG	Malin Array Be	143.43	331	PKP		PKPdf	12 19 39.5	-2.1
comp=Z,0.8nm,0.5s,baz=38,slow=4.0,SNR=8.5								
AKASG	Malin Array Be	143.43	331			PKPdf	12 19 40.4	-1.2
GERES	GERESS Array B	150.62	344	PKPbc		PKPbc	12 20 00.6	+0.9
comp=Z,0.4nm,0.6s,baz=29,slow=2.2,SNR=2.4								
GERES	GERESS Array B	150.62	344	PKPdf		PKPdf	12 19 51.9	-1.8
GERES						PKPbc	12 19 59.3	-0.4
GERES				PKPab		PKPab	12 20 08.8	+0.1

*EAF **19** 12:02:24.6±1.7, 23.°63S×27.°47E, h0km±16km, MD4.5*
BUL 19 12:02:24.6±1.7, 23.°63S×27.°47E, h0km±16km, MD5.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	2.20	231	i P		Pn	12 03 01.3	-1.2
LBTB				i Sg		Sb	12 03 33.2	0.0
LBTB	Lobatse	2.20	231	i P		Pn	12 03 01.3	-1.2
LBTB				i Sg		Sb	12 03 33.2	0.0
MATP	Matopo	3.33	17	i P		Pn	12 03 17.4	-0.6
MATP				i Sg		Sb	12 04 07.7	+2.0
MATP	Matopo	3.33	17	i P		Pn	12 03 17.4	-0.6
MATP				i Sg		Sb	12 04 07.7	+2.0
BOSA	Boshof	5.35	201	i P		Pn	12 03 46.6	+0.8
BOSA				i Sg		Sb	12 05 09.8	+5.9
BOSA	Boshof	5.35	201	i P		Pn	12 03 46.6	+0.8
BOSA				i Sg		Sb	12 05 09.8	+5.9

*IDC **19** 12:02:28.0±1.9, 0.°40N×17.°12W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/53, mbtmp3.9/5, ML4.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/80, Error ellipse: s-maj=66.0km s-min=34.0km az=162.0*
ISC 19 12:02:30.3±1.7, 0.°7N±0.°4×17.°0W±0.°2, h10km, n14, σ2°75/10, mb3.6/4, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	8.78	164	T		T	12 13 31.5	
baz=341,slow=74,SNR=89								
H10N3	ASCENSION HYDR	8.79	164	T		T	12 13 29.6	
baz=341,slow=74,SNR=113								
H10N1	ASCENSION HYDR	8.80	164	T		T	12 13 32.9	
baz=341,slow=74,SNR=154								
H10S3	ASCENSION HYDR	9.82	166	T		T	12 14 41.4	
baz=344,slow=74,SNR=23								
H10S2	ASCENSION HYDR	9.83	166	T		T	12 14 47.7	
baz=236,slow=74,SNR=19								
LIC	Lamto	13.16	65	eP		Pn	12 05 39.4	+1.9
13nm,0.5s								
TIC	Toumodi	13.35	63	eP		Pn	12 05 40.8	+0.8
KIC	Kosan Boka	13.48	65	eP		Pn	12 05 42.7	+0.9
9.1nm,0.4s								
DBIC	Dimbokro	13.50	63	Pn		Pn	12 05 42.6	+0.5
1.8nm,0.3s,baz=265,slow=12,SNR=16								
DBIC				Sn		Sn	12 08 05.5	-6.9
1.0nm,0.3s,baz=172,slow=14,SNR=4.4								
DBIC				LR		LR	12 10 02.7	
comp=Z,108nm,19.5s,baz=230,slow=33								
TORD	Torodi Ar. Bea	22.29	55	P		P	12 07 29.5	+1.4
8.3nm,0.9s,baz=237,slow=9.7,SNR=21								
TORD				S		S	12 11 27.5	-6.0
0.4nm,0.5s,baz=231,slow=23,SNR=1.9								
GERES	GERESS Array B	54.80	24	P		P	12 12 03.1	+2.5
0.2nm,0.2s,baz=213,slow=6.8,SNR=1.6								
TXAR	Lajitas Array	86.78	299	P		P	12 15 14.9	-0.6
0.1nm,0.5s,baz=90,slow=4.5,SNR=2.2								
YKA	Yellowknife Ar	92.95	333	P		P	12 15 42.5	-1.1
0.2nm,0.8s,baz=93,slow=5.2,SNR=2.6								
YKA				LR		LR	12 53 42.4	
comp=Z,16nm,20.2s,baz=307,slow=33								
WRA	Warramunga Arr	146.02	126	PKPbc		PKPbc	12 22 10.3	-1.2
0.2nm,0.8s,baz=240,slow=4.4,SNR=2.4								

*JMA **19** 12:04:04.9±0.2, 23.°87N×121.°67E, h0km, M3.0*
*TAP **19** 12:04:06.1, 23.°90N×121.°57E, h10km, ML3.7, C*
ISC 19 12:04:06.1±0.8, 23.°87N±0.°01×121.°63E±0.°02, h14km±4km, n125, σ1°07/187, 6C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TEYL	Yanliau Villag	0.03	258	⇓i P		Pg	12 04 08.5	-0.2
baz=72								
TEYL				i S		Sg	12 04 10.1	-0.4
baz=72								
HWA	Hwalien	0.10	349	⇓i P		Pg	12 04 09.2	-0.2
baz=23								
HWA				S		Sg	12 04 11.5	-0.1
baz=23								
ETM	Tongmen	0.15	306	⇓i P		Pg	12 04 09.0	-1.1
baz=314								
ETM				i S		Sg	12 04 10.8	-1.9
baz=314								
TEGC	Jichi Village	0.18	206	⇑i P		Pg	12 04 11.1	+0.6
baz=188								
TEGC				S		Sg	12 04 15.2	+1.8
baz=188								
ESL	Shilin	0.19	251	⇑i P		Pg	12 04 09.6	-1.0
baz=244								
ESL				i S		Sg	12 04 11.8	-1.7
baz=244								
TWD	Chiawan	0.21	352	⇓i P		Pg	12 04 10.4	-0.4
baz=1.0								
TWD				S		Sg	12 04 13.5	-0.6
baz=1.0								
EGFH	Guangfu	0.28	222	⇑i P		Pg	12 04 11.8	-0.2
baz=222								
EGFH				eS		Sg	12 04 14.8	-1.1
baz=222								
ETL	Fush Village	0.28	359	P		Pg	12 04 11.7	-0.5
baz=7.0								
ETL				S		Sg	12 04 15.4	-0.9
baz=7.0								
NACB	Ninganchiao	0.30	354	⇓i P		Pg	12 04 11.9	-0.6
baz=3.0								
NACB				i S		Sg	12 04 15.2	-1.5
baz=3.0								
ETLH	Xiulin Townshi	0.36	338	⇓i P		Pg	12 04 12.8	-0.7
baz=344								
ETLH				S		Sg	12 04 16.9	-1.6
baz=344								
OWD	Renai	0.42	281	⇑i P		Pg	12 04 13.9	-0.8
baz=280								
OWD				eS		Sg	12 04 19.9	-0.6
baz=280								
HGSD	Ruisui	0.42	206	eP		Pb	12 04 15.3	-0.1
baz=211								
HGSD				S		Sb	12 04 21.6	0.0
baz=211								
WHF	Hehuan Shan	0.43	309	⇓i P		Pg	12 04 13.9	-0.9
baz=312								
WHF				eS		Sg	12 04 19.3	-1.5
baz=312								
CHGB	Renai	0.45	294	P		Pg	12 04 14.6	-0.7
baz=295								
CHGB				i S		Sg	12 04 20.1	-1.4
baz=295								
EHY	Hungye	0.46	217	⇑i P		Pg	12 04 14.8	-0.5
baz=219								
EHY				eS		Sg	12 04 21.4	-0.1
baz=219								
VWDT	VWDT	0.46	255	⇑i P		Pg	12 04 15.0	-0.4
baz=259								
VWDT				S		Sg	12 04 20.6	-1.0
baz=259								
FUSS	Fushou	0.51	317	⇓i P		Pg	12 04 15.9	-0.5
baz=319								
FUSS				eS		Sg	12 04 21.6	-1.6
baz=319								
ENA	Nanau	0.56	11	eP		Pg	12 04 16.9	-0.3
baz=3.0								
ENA				eS		Sb	12 04 24.7	-0.9
baz=3.0								
YULB	Yu-li	0.57	212	eP		Pg	12 04 16.7	-0.6
baz=221								
YULB				eS		Sg	12 04 23.5	-1.4
baz=221								
TDCB	Techi	0.57	311	⇓i P		Pg	12 04 17.0	-0.5
baz=305								
TDCB				eS		Sg	12 04 23.3	-1.8
baz=305								
ECBN	Changbin	0.58	196	eP		Pb	12 04 18.2	+0.2
baz=182								
EWUT	Wuta	0.58	14	⇓P		Pb	12 04 17.5	-0.7
baz=7.0								
EWUT				eS		Sg	12 04 25.1	-0.4
baz=7.0								
NNSB	Datong	0.59	338	⇓i P		Pg	12 04 17.5	-0.4
baz=339								
NNSB				eS		Sg	12 04 23.5	-2.3
baz=339								
EYUL	Yuli	0.60	208	eP		Pb	12 04 18.2	-0.1
baz=217								
NNS	Nan Shan	0.61	338	⇓i P		Pg	12 04 17.7	-0.5
baz=340								
NNS				eS		Sg	12 04 25.5	-0.8
baz=340								
SSLB	Suanglung	0.62	262	eP		Pg	12 04 17.8	-0.6
baz=268								
SSLB				S		Sg	12 04 25.0	-1.7
baz=268								
SSLB	Suanglung	0.62	262	P		Pg	12 04 17.9	-0.5
SMLT	Sun Moon Lake	0.67	271	eP		Pg	12 04 18.7

WNT	baz=270			eS	Sb	12 04 35.4	+1.1
ELDTW	Lidau	0.88	220	eP	Pg	12 04 21.9	-1.4
NFF	baz=218 Wufeng Townshi	0.89	328	eP	Pb	12 04 23.3	-0.1
NFF	baz=329			eS	Sg	12 04 33.0	-2.0
ILA	Ilan	0.89	7	eP	Pb	12 04 23.3	-0.2
NWLT	baz=8.0 Wulai	0.91	353	P	Pb	12 04 23.4	-0.2
NWLT	baz=353			eS	Sg	12 04 35.0	-0.6
TCU	baz=353 Taichung	0.91	288	eP	Pn	12 04 25.0	+0.5
TWQ1	baz=288 Liyutan	0.91	301	eP	Pn	12 04 24.6	0.0
TWQ1	baz=302			eS	Sb	12 04 35.5	-0.2
CHN5	baz=302 Tsauling	0.91	253	eP	Pb	12 04 24.3	+0.6
CHN5	baz=241			eS	Sg	12 04 35.4	-0.4
EDH	baz=241 Donghe	0.94	198	eP	Pg	12 04 23.8	-0.7
NSTT	baz=187 Nanjuang	0.95	323	eP	Pb	12 04 24.5	+0.2
NSTT	baz=324			eS	Sb	12 04 37.0	+0.4
LIOB	baz=324 Emei	0.95	324	eP	Pb	12 04 24.7	+0.4
LIOB	baz=325			eS	Sb	12 04 37.2	+0.4
NSY	baz=325 Sanyi	0.96	304	eP	Pn	12 04 25.8	+0.7
NSY	baz=305			eS	Sb	12 04 37.7	+0.7
NTC	baz=305 Toucheng	0.99	11	eP	Pb	12 04 25.1	0.0
NTC	baz=1.0			eS	Sn	12 04 40.3	+0.9
WCHH	baz=1.0 Zhanghua	1.00	282	eP	Pn	12 04 25.9	+0.2
EGS	baz=282	1.01	16	eP	Pn	12 04 27.4	+1.6
NMLH	baz=17 Miaoli	1.01	311	eP	Pn	12 04 26.4	+0.5
NMLH	baz=322			eS	Sb	12 04 38.7	+0.2
WDLH	baz=322 Douliu	1.01	260	eP	Pn	12 04 26.0	+0.1
WDLH	baz=261			eS	Sb	12 04 39.5	+0.9
WDJ	baz=261 Dajia District	1.02	298	P	Pn	12 04 26.7	+0.8
STYH	baz=298 Taoyuan	1.05	228	eP	Pg	12 04 25.4	-1.0
LONT	baz=215 Longtian	1.07	205	eP	Pg	12 04 24.7	-2.0
TPUB	baz=205 Ta-pu	1.08	238	P	Pb	12 04 26.8	+0.2
TPUB	baz=238 Ta-pu	1.08	238	P	Pn	12 04 27.0	+0.2
CHN4	baz=238 Tsaushan	1.08	241	P	Pn	12 04 27.2	+0.3
CHN4	baz=231			eS	Sn	12 04 42.0	+0.4
SBCB	baz=231 Hsinchu	1.09	327	eP	Pn	12 04 27.8	+0.9
NHDH	baz=328 Xindian Distri	1.09	355	eP	Pn	12 04 27.0	+0.1
HSN	baz=355 Hsinchu	1.10	327	eP	Pn	12 04 27.9	+0.8
HSN	baz=338			eS	Sn	12 04 43.0	+0.9
TWA	baz=338 Mucha	1.10	358	eP	Pb	12 04 26.7	-0.3
TWA	baz=349			eS	Sb	12 04 41.5	+0.3
TIPB	baz=349 Shuangxi	1.11	9	eP	Pg	12 04 26.6	-0.9
CHN2	baz=356 Minshiung	1.11	252	eP	Pn	12 04 28.7	+1.5
WTP	baz=253 Ta-pu	1.12	236	P	Pb	12 04 27.5	+0.2
WTP	baz=238			eS	Sg	12 04 41.7	-0.8
WRL	baz=238 Guolierlin Hig	1.15	272	eP	Pn	12 04 27.9	+0.2
WTK	baz=272 Tuku	1.15	261	eP	Pb	12 04 27.6	-0.1
WTK	baz=263			eS	Sn	12 04 43.7	+0.4
NCUH	baz=263 Zhongli	1.16	340	eP	Pn	12 04 28.8	+0.8
NCUH	baz=348			eS	Sn	12 04 45.3	+1.7
NCU	baz=348 National Centr	1.16	340	eP	Pn	12 04 28.2	+0.2
NCU	baz=349			eS	Sn	12 04 44.0	+0.4
CHY	baz=349 Chiayi	1.17	251	P	Pb	12 04 28.0	0.0
CHY	baz=253			eS	Sn	12 04 44.4	+0.8
TWGBT	baz=253 Beinan	1.17	206	eP	Pg	12 04 25.6	-3.0
TWB1	baz=205 Santiao Chiao	1.18	16	eP	Pn	12 04 28.6	+0.4
NWF	baz=8.0 Wu-fen Shan	1.20	7	eP	Pn	12 04 28.9	+0.4
LDUT	baz=7.0 Ludao	1.20	187	eP	Pg	12 04 26.2	-3.2
TWK	baz=166 Hsinying	1.21	240	eP	Pn	12 04 29.1	+0.5
TWK	baz=242			eS	Sn	12 04 45.8	+1.0
CHN1	baz=242 Nanshi	1.22	236	eP	Pn	12 04 29.3	+0.5
CHN1	baz=237			eS	Sn	12 04 46.6	+1.6
SNST	baz=237 Tainan City	1.23	238	eP	Pn	12 04 29.6	+0.8
TWS1	baz=250 Kuangyinshan	1.24	351	eP	Pg	12 04 28.6	-1.4
SGST	baz=1.0 Jiashian	1.24	231	eP	Pg	12 04 28.8	-1.3
SLGT	baz=219 Liugui	1.26	226	eP	Pn	12 04 29.9	+0.6
SLGT	baz=231			eS	Sn	12 04 48.0	+2.1
YM01	baz=231 YM01	1.27	358	eP	Pg	12 04 29.3	-1.3
NTST	baz=359 Danshui	1.29	353	eP	Pb	12 04 31.0	+0.7
WSF	baz=2.0 Szhu	1.31	260	eP	Pg	12 04 30.6	-0.8
ANP	baz=261 Anpu	1.31	356	eP	Pb	12 04 30.7	+0.1
WSL	baz=357 Shuilin Townsh	1.33	255	eP	Pb	12 04 30.8	-0.1
JYNG	baz=256 Yonagunijimaku	1.33	64	eS	Sn	12 04 50.6	+2.8
ICHU	Yijhu	1.34	248	eP	Pn	12 04 30.9	+0.5
ICHU	baz=251			eS	Sn	12 04 49.0	+1.1
YOJ	baz=251 Yonaguni jima	1.39	65	P	Pg	12 04 32.2	-0.8
YOJ				eS	Sn	12 04 52.0	+2.7
YOJ	Yonaguni jima	1.39	65	eP	Pn	12 04 31.3	+0.2
CHN3	baz=65 Shinhua	1.41	236	eP	Pg	12 04 33.6	+0.4
CHN3	baz=239			eS	Sn	12 04 54.4	+4.8
ECL	baz=239 Taimali	1.41	206	eP	Pn	12 04 30.1	-1.3
SSD	baz=190 Sandimen	1.45	219	eP	Pn	12 04 32.2	+0.3
SHHT	baz=212 Tainan City	1.45	234	eP	Pg	12 04 33.9	-0.1
TSMG	baz=236 Majia	1.47	218	eP	Pn	12 04 32.8	+0.6
TWM1	baz=211 Shoushan	1.52	227	eP	Pg	12 04 35.1	-0.3
MASBT	baz=228 Mashibuluo	1.55	216	eP	Pn	12 04 32.9	-0.4
SNJT	baz=206 Kaohsiung City	1.63	227	eP	Pb	12 04 36.3	+0.4
EAST	baz=229 Anshuo	1.65	206	eP	Pn	12 04 33.5	-1.2
TAW	baz=193 Tawu	1.65	204	eP	Pn	12 04 34.7	0.0
TAWH	baz=189 Dawu Township	1.67	204	eP	Pn	12 04 34.7	-0.3
SSPT	baz=189 Xinbi	1.69	215	eP	Pb	12 04 37.1	+0.1
SCZT	baz=208 Fangliau	1.76	212	eP	Pn	12 04 36.3	+0.2
SLIU	baz=213 Shizi	1.82	205	eP	Pn	12 04 38.4	+1.4
LAY	baz=191 Lan-yu	1.83	182	eP	Pn	12 04 35.0	-2.1
LYUB	baz=163 Lan-yu	1.86	181	eP	Pn	12 04 34.5	-3.1
WDGT	baz=165 Dungji	1.91	252	eP	Pn	12 04 38.6	+0.5
PHUB	baz=254 P'eng-hu	1.92	260	eP	Pn	12 04 37.9	-0.4
PNG	baz=262 Penghu	1.92	261	eP	Pn	12 04 39.0	+0.6
IRIF	baz=263 Iriomote-Funau	1.98	76	P	Pb	12 04 41.1	-0.7
HATJ	Hateruma jima	2.00	84	eS	Sn	12 05 06.0	+1.7
TWKBT	Hengchun	2.07	201	eP	Pn	12 04 40.2	-0.2
TSEB	baz=186 Hengchuen, Pin	2.08	199	eP	Pn	12 04 41.4	+0.9
VCHM	baz=202 Qimei	2.12	252	eP	Pn	12 04 42.1	+1.0
JKRS	baz=255 Kuro-shima	2.21	80	P	Pn	12 04 44.1	+1.8
JIJ	Ishigaki jima	2.35	78	P	Pn	12 04 44.9	+0.6
JIJ				eS	Sn	12 05 13.4	+0.5
JISG	Ishigakijimahi	2.55	73	P	Pn	12 04 47.6	+0.6
JISG				eS	Sn	12 05 18.0	+0.1
PTMZ	Houxiangcun	2.56	297	eP	Pn	12 04 47.3	+0.1
JTJ	baz=300 Tarama	2.91	74	P	Pn	12 04 53.2	+1.2
JTJ				eS	Sn	12 05 28.9	+2.2

*IDC **19** 12:05:49.2±1.6, 31°.23N×128°.12E, h0km, mb3.1/3, mb1 3.4/5, mb1mx3.0/57, mbtmp3.2/5, ML3.2/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/22, Error ellipse: s-maj=33.2km s-min=21.2km az=93.0*

*JMA **19** 12:05:50.9±0.4, 31°.33N×128°.73E, h10km±3km, M3.8*

*NIED **19** 12:05:51.0, 31°.33N×128°.73E, h10km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr=0.36; Mθθ=1.68; Mφφ2.05; Mrθ=3.22; Mφφ7.06; Mθr=1.33; Fault plane solution: M08.05000×1014 NP1: φs263.00000°, δ87.00000°, λ24.00000°. NP2: φs171.00000°, δ66.00000°, λ177.00000°.*

ISC 19 12:05:50.5±1.1, 31°.24N±0°.07×128°.73E±0°.08, h10km, n11, σ2§14/12, mb3.1/3, MS3.3/3, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.95	62	P	Pg	12 06 07.8	-1.0
JSJ				eS	Sg	12 06 19.7	-1.5
JYAK	Yakushimahirau	1.83	123	P	Pn	12 06 21.5	-0.4
JTN	Tanegashima 3	2.02	106	P	Pn	12 06 26.0	+1.4
JTZ	Takazaki	2.12	71	P	Pn	12 06 26.4	+0.4
JNU	Nakatsue	2.62	44	Pn	Pb	12 06 38.0	+0.5
	7.8nm,0.3s,baz=262,slow=5.5,SNR=22						
JNU				Sn	Sg	12 07 14.1	-0.5
	7.2nm,0.3s,baz=282,slow=14,SNR=2.6						
KSRS	Korea Array	6.24	354	Pn	Pn	12 07 23.2	+0.7
	0.2nm,0.3s,baz=173,slow=14,SNR=2.0						
KSRS				Sn	Sn	12 08 35.1	+1.2
	0.3nm,0.3s,baz=174,slow=25,SNR=1.2						
KSRS				Lg	Lg	12 09 05.8	
	0.7nm,0.3s,baz=176,slow=29,SNR=5.1						
KSRS				LR	LR	12 10 01.7	
	comp=Z,101nm,19.6s,baz=175,slow=41						
GUMO	Guam	22.99	136	LR	LR	12 18 40.6	
	comp=Z,28nm,19.0s,baz=287,slow=33						
SONM	Songino Array	23.78	321	P	P	12 10 58.3	-5.0
	0.3nm,0.7s,baz=122,slow=10,SNR=1.8						
SONM				LR	LR	12 21 26.0	
	comp=Z,136nm,18.5s,baz=9.5,slow=40						
ZALV	Zalesovo Beam	38.65	319	LR	LR	12 30 46.5	
	comp=Z,44nm,18.4s,baz=93,slow=39						
ASAR	Alice Springs	54.81	174	P	P	12 15 21.2	+0.4
	0.2nm,0.7s,baz=15,slow=9.2,SNR=2.1						
YKA	Yellowknife Ar	73.83	26	P	P	12 17 27.8	+2.9
	0.1nm,0.5s,baz=301,slow=5.8,SNR=2.0						

*IDC **19** 12:13:16.1±2.1, 20°.99N×145°.76E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.4/49, mbtmp3.8/5, Error ellipse: s-maj=289.7km s-min=22.2km az=110.0*

*NEIC **19** 12:13:28.9±1.6, 20°.9N±0°.1×145°.7E±0°.2, h92km±5km, mb4.5/12, Error ellipse: s-maj=31.4km s-min=13.1km az=103.0*

ISC 19 12:13:28.8±0.7, 20°.89N±0°.08×145°.8E±0°.2, h100km, n21, σ1§19/20, mb4.3/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	7.31	187	Pn	Pn	12 15 11.4	-1.6
JSU	Suzuyama	17.31	311	P	Pn	12 17 25.4	+1.2
JMM	Marumori	17.46	347	P	Pn	12 17 26.1	+0.2
JMM				IAmb	IAmb	12 17 50.3	
	comp=Z,39nm,1.3s						
USRK	Ussuriysk Ar.	25.91	337	P	P	12 18 49.9	-1.6
COEN	Coen	34.72	184	P	P	12 20 12.3	+2.8
MTN	Manton Dam	36.48	204	P	P	12 20 22.6	-1.9
MTN				IAmb	IAmb	12 20 27.8	
	comp=Z,11nm,1.5s						
KNRA	Kununurra	39.99	206	P	P	12 20 52.3	-1.6
KNRA				IAmb	IAmb	12 20 53.5	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	41.91	196	P	P	12 21 09.8	+0.1
WB0				IAmb	IAmb	12 21 17.5	
	comp=Z,5.8nm,1.4s						
WR0	Warramunga Arr	42.06	196	P	P	12 21 11.0	+0.2
WRAB	Tennant Creek	42.08	196	P	P	12 21 11.4	+0.4
WRAB				IAmb	IAmb	12 21 11.5	
	comp=Z,4.8nm,0.5s						
WB2	Warramunga Arr	42.09	196	P	P	12 21 11.1	0.0
WB2				IAmb	IAmb	12 21 11.6	
	comp=Z,4.2nm,0.3s						
WRA	Warramunga Arr	42.09	196	P	P	12 21 10.6	-0.6
	comp=Z,2.4nm,0.4s,baz=15,slow=8.4,SNR=60						
WRA	Warramunga Arr	42.09	196	IAmb	IAmb	12 21 12.0	
	comp=Z,0.2nm,0.9s						
ASAR	Alice Springs	45.77	195	P	P	12 21 40.2	-0.4
	comp=Z,1.1nm,0.5s,baz=13,slow=8.1,SNR=28						
STKA	Stephens Creek	52.62	184	P	P	12 22 32.8	+0.2
	comp=Z,1.6nm,0.8s,baz=27,slow=8.2,SNR=4.5						
BBOO	Buckleboo	54.20	190	P	P	12 22 44.3	+0.2
ILAR	Eielson Array	61.67	27	P	P	12 23 35.2	-0.8
	comp=Z,0.2nm,0.4s,baz=257,slow=5.6,SNR=2.0						
BCAR	Beaver Creek A	63.64	29	P	P	12 23 50.3	+1.1
YKA	Yellowknife Ar	76.04	28	P	P	12 25 04.7	-0.2
	comp=Z,0.2nm,0.3s,baz=291,slow=5.9,SNR=4.9						
PLCA	Paso Flores	143.42	131	PKP	PKPdf	12 32 51.0	-0.9
	comp=Z,1.0nm,0.7s,baz=261,slow=3.9,SNR=5.4						
PLCA	Paso Flores	143.42	131		PKPdf	12 32 51.7	-0.2

*IDC **19** 12:14:56.7±1.1, 15°.11N×59°.42W, h0km, mb3.9/11, mb1 4.2/14, mb1mx4.0/38, mbtmp4.0/14, ML3.5/3, MS3.4/5, Ms1 3.4/5, ms1mx2.9/83, Error ellipse: s-maj=31.7km s-min=18.3km az=155.0*

*TRN **19** 12:15:00.2, 15°.00N×59°.58W, h26km, MD4.3*

*NEIC **19** 12:15:01.6±1.6, 15°.04N±0°.05×59°.56W±0°.09, h24km±5km, mb4.3/13, Error ellipse: s-maj=12.5km s-min=6.8km az=74.0*

ISC 19 12:14:58.5±2.9, 15°.02N±0°.03×59°.48W±0°.05, h14km±18km, n134, σ1§10/156, mb4.1/13, MS3.4/3, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	Ilet Lapin Mar	1.37	260	eP	Pn	12 15 23.1	-0.1
ILAM	Ilet Lapin Mar	1.37	260		Pn	12 15 23.1	-0.1
H05S1	Guadeloupe/Mar	1.44	246	Pn	Pn	12 15 24.5	+0.3
H05S1				Sn	Sn	12 15 42.3	-0.6
MVM	Montagne Vaucl	1.45	251	eP	Pn	12 15 24.7	+0.4
MPOM	Morne Pois Mar	1.45	247	eP	Pn	12 15 24.2	-0.2
MPOM				eS	Sb	12 15 43.6	-0.1
MPOM	Morne Pois Mar	1.45	247		Pn	12 15 24.3	0.0
LPMF	Morne Lapointe	1.51	253	eP	Pn	12 15 24.9	-0.2
ZAM	Aeronautique	1.56	254	eP	Pn	12 15 26.1	+0.3
TRMF	Trois Ilets	1.60	253	eP	Pn	12 15 26.6	+0.3
BIM	Bigot	1.62	252	eP	Pn	12 15 26.8	+0.1
BIM				eS	Sn	12 15 47.2	-0.2
BIM	Bigot	1.62	252		Pn	12 15 26.8	+0.1
BAMF	Morne Balai	1.63	263	eP	Pn	12 15 27.6	+0.8
FDF	Fort de France	1.64	260	eP	Pn	12 15 27.5	+0.5
FDF	Fort de France	1.64	260		Pn	12 15 26.8	-0.2
SVN	Savane Anatole	1.64	264	eP	Pn	12 15 27.8	+0.8
SVN	Savane Anatole	1.64	264		Pn	12 15 27.1	+0.1
GBMF	Grand Be	1.65	262	eP	Pn	12 15 27.9	+0.9
PML	Morne Lenard	1.67	262	eP	Pn	12 15 28.1	+0.8
PCM	Pelee Case Pet	1.69	263	eP	Pn	12 15 27.8	+0.2
PCM	Pelee Case Pet	1.69	263	eP	Pn	12 15 28.6	+1.0
DLPL	La Plaine	1.73	280	eP	Pb	12 15 29.8	-0.4
DLPL				eS	Sn	12 15 50.3	+0.1
DLPL	La Plaine	1.73	280		Pn	12 15 29.0	+0.7
SLBI	Saint Lucia, B	1.76	236	eP	Pn	12 15 28.5	0.0
SLBI				eS	Sn	12 15 49.4	-1.3
SLCP	Castries, St.	1.78	236	eS	Sn	12 15 50.6	-0.6
MDN	Morne-Daniel	1.87	279	eP	Pb	12 15 32.2	-0.2
MDN				eS	Sn	12 15 53.3	-0.2
BBGH	Gun Hill	1.87	182	eP	Pb	12 15 31.8	-0.7
BBGH				eS	Sb	12 15 55.1	-0.6
BBGH	Gun Hill	1.87	182	Pn	Pb	12 15 32.2	-0.3
BCHC	Barbados, Cave	1.88	184	eP	Pb	12 15 32.2	-0.5
BCHC				eS	Sb	12 15 56.5	+0.4
BBSP	Saint Philip	1.91	179	eS	Sb	12 15 56.6	-0.1
BBSP	Saint Philip	1.91	179	eP	Pb	12 15 33.3	+0.2
DSLB	Salisbury	1.92	283	eP	Pb	12 15 32.4	-0.9
DSLB				eS	Sn	12 15 55.8	+1.0
MCLT	Moule a Chique	1.93	228	eP	Pn	12 15 30.2	-0.7
MCLT				eS	Sn	12 15 53.5	-1.5
MCLT	Moule a Chique	1.93	228		Pn	12 15 29.3	-1.6
MDVC	Dominica, Viel	1.95	288	eP	Pn	12 15 32.4	+1.2
MDVC				eS	Sn	12 15 55.0	-0.4
MAGL	Barre de l'ile	1.97	298	eP	Pn	12 15 32.7	+1.3
MAGL				eS	Sn	12 15 56.7	+0.8
MAGL	Barre de l'ile	1.97	298	Pn	Pn	12 15 32.7	+1.3
H05N1	Guadeloupe/Mar	1.99	310	Pn	Pn	12 15 32.1	+0.3
H05N1				Sn	Sn	12 15 54.4	-2.1
	SNR=959						
GDSD	La Dsirade Is	2.00	310	Pn	Pn	12 15 31.9	+0.1
MDCT	Cottage Hill,	2.00	287	eP	Pb	12 15 33.6	-1.1
MDCT				eS	Sn	12 15 57.2	+0.4
TDBA	Terre de Bas,	2.24	292	eP	Pb	12 15 37.1	-1.6
TDBA				eS	Sn	12 16 03.5	+0.9
TDBA	Terre de Bas,	2.24	292	Pn	Pn	12 15 36.2	+1.1
TBG	Guadaloupe-3	2.25	292	eS	Sn	12 16 03.7	+0.9
TBG	Guadaloupe-3	2.25	292	eP	Pn	12 15 36.8	+1.6
CBE	Ff, Capester	2.30	297	eP	Pn	12 15 38.0	+2.0
CBE				eS	Sn	12 16 04.4	+0.2
CBE	Ff, Capester	2.30	297	Pn	Pn	12 15 37.8	+1.7
SVV	Soufriere Volc	2.39	225	eS	Sn	12 16 06.1	-0.3
ABD	La Joyeuse, An	2.41	307	eP	Pn	12 15 38.5	+1.0
ABD				eS	Sn	12 16 07.0	+0.1
ABD	La Joyeuse, An	2.41	307	Pn	Pn	12 15 38.4	+0.8
SVB	Belmont	2.45	225	eP	Pn	12 15 39.2	+1.2
SVB				eS	Sn	12 16 08.4	+0.7
SVB	Belmont	2.45	225		Pn	12 15 38.9	+0.9
SVOC	Richmond Hill,	2.51	222	eP	Pn	12 15 40.9	+1.9
SVOC				eS	Sn	12 16 09.1	-0.3
GDHS	Morne Mazeau,	2.53	300	Pn	Pn	12 15 40.7	+1.5
ANBD	Bethesda, Anti	2.98	313	eP	Pn	12 15 46.5	+1.1
ANBD				eS	Sn	12 16 21.4	+0.5
GCMP	Grenada, Carri	3.15	217	eP	Pn	12 15 49.3	+1.6
GCMP				eS	Sn	12 16 24.1	-1.1
ANWB	Willy Bob	3.44	320	eP	Pn	12 15 52.0	+0.4
ANWB				eS	Sn	12 16 31.9	-0.3
ANWB	Willy Bob	3.44	320		Pn	12 15 52.6	+0.9
GRGR	Grenville	3.57	217	eS	Sn	12 16 34.8	-0.6
GRGR	Grenville	3.57	217		Pn	12 15 55.9	+2.4
GRGR	Grenville	3.57	217	eP	Pn	12 15 54.6	+1.1
GRFF	Grenada Fort F	3.68	217	eP	Pn	12 15 57.0	+1.9
GRFF				eS	Sn	12 16 38.4	+0.1
TOSP	Speyside	3.84	196	eP	Pn	12 15 59.5	+2.2
TOSP				eS	Sn	12 16 40.5	-1.7
TOSP	Speyside	3.84	196	Pn	Pn	12 15 59.5	+2.2
SKI	Saint Kitts	3.88	307	eP	Pn	12 15 59.5	+1.7
SKI				eS	Sn	12 16 43.5	+0.3
SEUS	St. Eustatius	4.16	307	eP	Pn	12 16 02.8	+1.1
SEUS	St. Eustatius	4.16	307	eS	Sn	12 16 50.5	+0.3
SMRT	St. Maarten	4.58	312	eP	Pn	12 16 08.0	+0.6
SMRT	St. Maarten	4.58	312	eS	Sn	12 16 58.9	-1.5
SMRT	St. Maarten	4.58	312		Pn	12 16 06.9	-0.4
TRN	Trinidad (W)	4.74	204	eP	Pn	12 16 11.7	+2.2
TRN	Trinidad (W)	4.74	204	eS	Sn	12 17 01.9	-2.4
TBH	Brigand Hill	4.77	199	eP	Pn	12 16 12.6	+2.6
TBH	Brigand Hill	4.77	199	eS	Sn	12 17 05.3	+0.2
STVI	Saint Thomas	6.20	303	Pn	Pn	12 16 31.8	+2.1
CUPR	Culebra, Puert	6.45	301	Pn	Pn	12 16 34.5	+1.4
MTP	Monte Pirata	6.58	299	Pn	Pn	12 16 36.4	+1.5
CBYP	Canovanas	6.91	299	Pn	Pn	12 16 40.2	+0.7
PLCV	Puerto La Cruz	6.94	227		Pn	12 16 41.0	+1.1
PDPR	Patillas Dam,	6.95	296	Pn	Pn	12 16 40.7	+0.8
PCRV	Puerto La Cruz	6.97	227	Pn	Pn	12 16 41.0	+0.7
	1.1nm,0.3s,baz=14,slow=21,SNR=2.6						
PCRV				Sn	Sn	12 18 01.5	+2.2
	1.1nm,0.3s,baz=353,slow=16,SNR=1.3						
SJG	San Juan	7.09	297	Pn	Pn	12 16 42.2	+0.3
GCPR	Guaynabo City	7.12	298		Pn	12 16 44.1	+1.8
ICMP	Isla Caja de M	7.34	294	Pn	Pn	12 16 46.2	+0.9
CELP	Cerrillos	7.45	295		Pn	12 16 48.3	+1.4
OBIP	Obispado Ponce	7.46	295	Pn	Pn	12 16 47.4	+0.4
AOPR	Arecibo Observ	7.71	296	eP	Pn	12 16 52.3	+1.8
AOPR	Arecibo Observ	7.71	296		Pn	12 16 51.0	+0.6
MLPR	Magueyes Islan	7.83	293	Pn	Pn	12 16 52.8	+0.8
CRPR	Cabo Rojo, PR	7.90	293		Pn	12 16 54.1	+1.2
BIRV	Birongo	8.02	236	Pn	Pn	12 16 56.1	+1.4
BAUV	El Baul	10.33	235	Pn	Pn	12 17 27.1	+0.8
MDP	Montagnes des	11.94	145	Pn	Pn	12 17 43.6	-4.7
	0.7nm,0.3s,baz=38,slow=12,SNR=2.1						
MDP				Sn	Sn	12 19 46.4	-15
	6.0nm,0.3s,baz=246,slow=18,SNR=18						
SDDR	Presa de Saban	11.96	291		Pn	12 17 49.1	+0.4
SDV	Santo Domingo	12.50	242	Pn	Pn	12 17 56.8	+0.6
	0.7nm,0.3s,baz=39,slow=7.9,SNR=4.4						
SDV				LR	LR	12 24 26.5	
	comp=Z,150nm,18.7s,baz=86,slow=45						
PAMC	Pamplona, Colo	15.04	241	eP	P	12 18 37.1	+0.5
OCAC	Ocana	15.13	245	eP	Pn	12 18 33.8	+1.6
OCAC	Ocana	15.13	245		Pn	12 18 33.1	+1.0
OCAC				IAmb	IAmb	12 18 38.8	
	comp=Z,23nm,0.9s						
SMLC	San Martn de	15.55	248	eP	Pn	12 18 36.6	-1.0
SJCC	San Jacinto, C	16.15	253		Pn	12 18 44.8	-0.5
SJCC				IAmb	IAmb	12 18 55.3	
	comp=Z,16nm,0.8s						
RUSC	La Rusia	16.15	237	eP	P	12 18 48.8	-0.2
ZARC	Zaragoza, Cauc	16.83	245	eP	Pn	12 18 52.7	-1.2
ZARC	Zaragoza, Cauc	16.83	245	Pn	Pn	12 18 54.7	+0.8
ZARC				IAmb	IAmb	12 19 06.1	
	comp=Z,8.6nm,0.6s						
PTBC	PUERTO BERRIO,	16.95	242	eP	Pn	12 18 54.0	-1.4
SPBC	San Pablo de B	17.10	239	eP	Pn	12 18 55.9	-1.4
CHIC	Chingaza	17.42	235	eP	P	12 19 03.9	+1.0
VILC	Villavicencio,	17.70	234	eP	P	12 19 07.0	+1.2
ROSC	El Rosal	17.76	237	P	P	12 19 07.7	+1.0
	comp=Z,6.0nm,0.3s,baz=43,slow=3.0,SNR=5.9						
ROSC				LR	LR	12 28 03.5	
	comp=Z,102nm,19.1s,baz=40,slow=44						
ROSC	El Rosal	17.76	237		P	12 19 07.7	+1.0
ROSC				IAmb	IAmb	12 19 10.7	
	comp=Z,43nm,1.2s						
NORC	Norcasia	17.81	240	eP	Pn	12 19 06.2	+0.1
GUY2C	Guyana, Caldas	18.41	240	eP	Pn	12 19 14.2	+0.3
ANIL	Santa

MSTX			IAmb	IAmb	12 23 17.5
	comp=Z,11nm,1.3s				
LENM	**Lemitar**	**46.74 303**	P	**P**	**12 23 28.7 +1.0**
BW06	**Boulder Array**	**50.88 313**	P	**P**	**12 24 01.3 +1.8**
PD31	**Pinedale Array**	**50.88 313**	P	**P**	**12 24 01.0 +1.6**
PD31			IAmb	IAmb	12 24 20.2
	comp=Z,3.2nm,1.3s				
PDAR	**Pinedale Array**	**50.88 313**	P	**P**	**12 24 00.8 +1.3**
	comp=Z,1.4nm,0.7s,baz=116,slow=8.8,SNR=10.0				
PDAR	**Pinedale Array**	**50.88 313**	P	**P**	**12 23 59.9 +0.5**
RLMT	**Red Lodge**	**51.42 316**	P	**P**	**12 24 04.7 +1.3**
RLMT			IAmb	IAmb	12 24 06.1
	comp=Z,4.4nm,0.8s				
NVAR	**Mina Array Bea**	**56.48 306**	P	**P**	**12 24 41.2 +0.7**
	comp=Z,0.7nm,0.7s,baz=105,slow=6.7,SNR=6.3				
TORD	**Torodi Ar. Bea**	**59.20 83**	P	**P**	**12 25 00.3 +0.6**
	comp=Z,0.7nm,0.8s,baz=333,slow=5.5,SNR=3.0				
YKA	**Yellowknife Ar**	**61.01 334**	P	**P**	**12 25 10.9 -0.4**
	comp=Z,1.1nm,0.6s,baz=107,slow=7.5,SNR=28				
NOA	**NORSAR Array B**	**67.64 30**	P	**P**	**12 25 53.4 -1.4**
	comp=Z,0.6nm,0.9s,baz=264,slow=5.9,SNR=2.9				
GERES	**GERESS Array B**	**67.78 43**	P	**P**	**12 25 56.1 0.0**
	comp=Z,0.2nm,0.4s,baz=241,slow=1.4,SNR=4.0				
INK	**Inuvik**	**70.25 338**	P	**P**	**12 26 10.4 -0.4**
	comp=Z,2.1nm,1.0s,baz=87,slow=6.1,SNR=4.8				
ARCES	**ARCESS Array B**	**74.29 21**	P	**P**	**12 26 34.9 -0.1**
	comp=Z,2.6nm,0.8s,baz=354,slow=3.7,SNR=4.7				
FINES	**FINESS Array B**	**74.82 30**	P	**P**	**12 26 38.6 +0.4**
	comp=Z,1.0nm,0.5s,baz=294,slow=1.9,SNR=7.5				
ILAR	**Eielson Array**	**75.44 334**	P	**P**	**12 26 42.2 +0.5**
	comp=Z,0.2nm,0.4s,baz=75,slow=7.2,SNR=3.1				
MATP	**Matopo**	**93.29 110**	LR	LR	13 03 12.7
	comp=Z,30nm,19.6s,baz=200,slow=31				

TAP 19 12:17:23.6, 22°.81N×121°.32E, h26km, ML2.2, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.17**	**354**	P	Pb	12 17 29.3	+0.2
	baz=346						
EDH				S	Sb	12 17 33.2	+0.5
	baz=346						
TTN	**Taitung**	**0.17**	**253**	*e*P	Pb	12 17 29.4	+0.4
	baz=253						
TTN				*e*S	Sb	12 17 34.0	+1.2
	baz=253						
LDUT	**Ludao**	**0.19**	**134**	*e*P	Pb	12 17 29.4	+0.2
	baz=128						
LDUT				*e*S	Sb	12 17 33.6	+0.5
	baz=128						
LONT	**Longtian**	**0.21**	**299**	*e*P	Pb	12 17 29.7	+0.2
	baz=300						
LONT				*e*S	Sb	12 17 34.4	+0.9
	baz=300						
TWGBT	**Beinan**	**0.23**	**273**	P	Pb	12 17 29.5	-0.2
	baz=273						
TWGBT				*e*S	Sb	12 17 34.9	+1.0
	baz=273						
CHKT	**Chengkung**	**0.29**	**7**	P	Pb	12 17 30.7	0.0
	baz=15						
CHKT				S	Sb	12 17 36.3	+0.8
	baz=15						
FULB	**Fuli**	**0.39**	**356**	*e*P	Pb	12 17 32.3	+0.1
	baz=342						
FULB				*e*S	Sb	12 17 38.7	+0.6
	baz=342						
ECL	**Taimali**	**0.40**	**239**	*e*P	Pb	12 17 31.3	-1.0
	baz=248						
ECL				*e*S	Sb	12 17 38.6	+0.5
	baz=248						
ELDTW	**Lidau**	**0.48**	**324**	*e*P	Pb	12 17 33.1	-0.4
	baz=317						
ELDTW				*e*S	Sb	12 17 39.6	-0.7
	baz=317						
EYUL	**Yuli**	**0.54**	**360**	*e*P	Pb	12 17 34.5	-0.1
	baz=346						
EYUL				*e*S	Sb	12 17 42.8	+0.8
	baz=346						
YULB	**Yu-li**	**0.58**	**358**	*e*P	Pb	12 17 34.4	-1.0
	baz=345						
YULB				*e*S	Sb	12 17 43.0	-0.3
	baz=345						
EAST	**Anshuo**	**0.61**	**226**	*e*P	Pb	12 17 35.0	-0.7
	baz=234						
EAST				*e*S	Sb	12 17 43.4	-0.5
	baz=234						
TAWH	**Dawu Township**	**0.61**	**221**	*e*P	Pb	12 17 35.0	-0.8
	baz=229						
TAWH				*e*S	Sb	12 17 43.4	-0.7
	baz=229						
STYH	**Taoyuan**	**0.62**	**306**	*e*P	Pb	12 17 35.7	-0.3
	baz=299						
STYH				*e*S	Sb	12 17 44.5	+0.1
	baz=299						
TSMG	**Majia**	**0.64**	**261**	*e*P	Pb	12 17 35.5	-0.6
	baz=257						
SSD	**Sandimen**	**0.64**	**265**	*e*P	Pb	12 17 35.1	-1.1
	baz=269						
SLGT	**Liugui**	**0.65**	**287**	*e*P	Pb	12 17 36.2	-0.3
	baz=287						
SLGT				*e*S	Sb	12 17 45.7	+0.5
	baz=287						
MASBT	**Mashibuluo**	**0.67**	**253**	P	Pb	12 17 35.7	-1.0
	baz=252						
MASBT				*e*S	Sb	12 17 45.1	-0.5
	baz=252						
HGSD	**Ruisui**	**0.69**	**8**	*e*S	Sb	12 17 46.5	+0.3
	baz=17						
EHY	**Hungye**	**0.70**	**360**	*e*S	Sb	12 17 45.8	-0.7
	baz=347						
SGST	**Jiashian**	**0.74**	**292**	*e*P	Pb	12 17 37.7	-0.2
	baz=292						
SGST				*e*S	Sn	12 17 48.6	-0.2
	baz=292						
SLIU	**Shizi**	**0.76**	**220**	*e*P	Pb	12 17 37.9	-0.4
	baz=221						
SLIU				*e*S	Sb	12 17 48.5	+0.2
	baz=221						
SSPT	**Xinbi**	**0.77**	**246**	*e*P	Pb	12 17 38.0	-0.4
	baz=244						
SSPT				*e*S	Sb	12 17 48.1	-0.3
	baz=244						
SCZT	**Fangliau**	**0.78**	**237**	*e*P	Pb	12 17 38.0	-0.6
	baz=235						
SCZT				*e*S	Sb	12 17 48.3	-0.5
	baz=235						
WTP	**Ta-pu**	**0.79**	**304**	*e*P	Pb	12 17 38.7	-0.1
	baz=304						
WTP				*e*S	Sn	12 17 49.7	-0.4
	baz=304						
LAY	**Lan-yu**	**0.79**	**165**	*e*P	Pb	12 17 37.7	-1.1
	baz=166						
LAY				*e*S	Sb	12 17 48.7	-0.5
	baz=166						
TPUB	**Ta-pu**	**0.81**	**308**	*e*P	Pb	12 17 39.1	0.0
	baz=307						
TPUB				*e*S	Sn	12 17 50.3	-0.3
	baz=307						
CHN1	**Nanshi**	**0.82**	**297**	*e*P	Pn	12 17 39.7	+0.1
	baz=302						
CHN1				*e*S	Sn	12 17 51.8	+0.8
	baz=302						
LYUB	**Lan-yu**	**0.83**	**163**	*e*P	Pb	12 17 38.3	-1.3
	baz=165						
LYUB				*e*S	Sb	12 17 49.6	-0.8
	baz=165						
ALS	**Alishan**	**0.85**	**326**	*e*P	Pb	12 17 39.9	-0.1
	baz=325						
ALS				*e*S	Sb	12 17 51.4	+0.3
	baz=325						
SNST	**Tainan City**	**0.87**	**299**	*e*P	Pn	12 17 40.2	+0.1
	baz=306						
SNST				*e*S	Sn	12 17 52.2	+0.2
	baz=306						
TWK	**Hsinying**	**0.90**	**301**	*e*P	Pb	12 17 40.4	-0.2
	baz=301						
TWK				*e*S	Sn	12 17 52.8	0.0
	baz=301						
CHN5	**Tsauling**	**0.99**	**323**	*e*P	Pb	12 17 42.1	-0.1
	baz=321						
CHN5				*e*S	Sn	12 17 55.5	+0.4
	baz=321						

*ISK **19** 12:18:09.0, 34°.37N×32°.93E, h21km, ML3.3/5*
*DDA **19** 12:18:11.6±0.0, 34°.68N×32°.98E, h2km±2km, ML2.8*
*NIC **19** 12:18:13.4±0.0, 34°.69N×32°.89E, h19km±1km, Ml2.9/7*
*GII **19** 12:18:14.5±0.0, 34°.63N×32°.85E, h30km±2km, MD3.1/3, Mm3.2/4*

ISC 19 12:18:12.9±1.0, 34°.67N±0°.03×32°.89E±0°.03, h18km±4km, n37, σ0°.92/66, 2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni**	**0.09**	**357**	⇓*i*P	**Pg**	**12 18 17.1**	**+0.6**
SZAC				S	**Sg**	**12 18 19.9**	**+0.9**
SZAC				AML	AML	12 18 21.0	
	55nm,0.6s						
SZAC				AML	AML	12 18 21.0	
	55nm,0.6s						
SZAC				AML	AML	12 18 21.2	
	50nm,0.5s						
SZAC				AML	AML	12 18 21.2	
	50nm,0.5s						
NATA	**Nata**	**0.28**	**293**	P	**Pb**	**12 18 19.5**	**-0.1**
NATA				S	**Sb**	**12 18 24.9**	**+1.0**
NATA				AML	AML	12 18 30.2	
	18nm,0.6s						
NATA				AML	AML	12 18 30.2	
	18nm,0.6s						
NATA				AML	AML	12 18 33.2	
	15nm,0.8s						
NATA				AML	AML	12 18 33.2	
	15nm,0.8s						
ASGA	**Asgata**	**0.32**	**68**	⇓P	**Pb**	**12 18 20.2**	**+0.1**
ASGA				S	**Sb**	**12 18 26.2**	**+1.3**
ASGA				AML	AML	12 18 29.8	
	6.9nm,0.3s						
ASGA				AML	AML	12 18 29.8	
	6.9nm,0.3s						
ASGA				AML	AML	12 18 30.3	
	11nm,0.4s						
ASGA				AML	AML	12 18 30.3	
	11nm,0.4s						
LEF	**Lefka**	**0.45**	**0**	PG	**Pn**	**12 18 23.9**	**-0.6**
LEF				SG	**Sn**	**12 18 35.1**	**+2.9**
CSS	**Mathiatis**	**0.47**	**51**	PG	**Pb**	**12 18 22.8**	**+0.1**
CSS	**Mathiatis**	**0.47**	**51**	P	**Pb**	**12 18 22.6**	**-0.1**
CSS				S	**Sb**	**12 18 30.2**	**+0.9**
CSS				AML	AML	12 18 36.8	
	1.2nm,0.4s						
CSS				AML	AML	12 18 36.8	
	1.2nm,0.4s						
ALFC	**Alefka**	**0.54**	**334**	S	**Sb**	**12 18 32.1**	**+0.7**
ALFC				AML	AML	12 18 38.8	
	5.1nm,0.5s						
ALFC				AML	AML	12 18 42.0	
	3.3nm,0.4s						
AKMS	**Akamas**	**0.57**	**308**	P	**Pb**	**12 18 24.7**	**+0.3**
AKMS				S	**Sb**	**12 18 34.0**	**+1.8**
AKMS				AML	AML	12 18 34.9	
	2.6nm,0.8s						
AKMS				AML	AML	12 18 34.9	
	2.6nm,0.8s						
AKMS				AML	AML	12 18 38.1	
	2.7nm,0.4s						
AKMS				AML	AML	12 18 38.1	
	2.7nm,0.4s						
MVOU	**Mavrovouni**	**0.70**	**60**	P	**Pb**	**12 18 27.2**	**+0.5**
MVOU				S	**Sn**	**12 18 37.4**	**-1.0**
MVOU				AML	AML	12 18 41.7	
	2.0nm,0.7s						
MVOU				AML	AML	12 18 41.7	
	2.0nm,0.7s						
MVOU				AML	AML	12 18 44.8	
	1.8nm,0.7s						
MVOU				AML	AML	12 18 44.8	
	1.8nm,0.7s						
LFK	**Lefkose**	**0.81**	**41**	PG	**Pb**	**12 18 28.9**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.48**	**7**	PN	**Pn**	**12 18 39.4**	**+0.7**
TEKE				SN	**Sg**	**12 19 01.2**	**+0.4**
AKKU	**Akkuyu-Mersin**	**1.58**	**20**	PN	**Pn**	**12 18 40.4**	**+0.3**
AKKU				SN	**Sg**	**12 19 03.3**	**-0.7**
GULN	**MERSIN_Gulnar**	**1.60**	**19**	P	**Pn**	**12 18 40.5**	**+0.1**
GULN				S	**Sg**	**12 19 04.1**	**-0.6**
BERE	**Bereket-Mersin**	**1.70**	**9**	PN	**Pn**	**12 18 42.4**	**+0.6**
BERE				SN	**Sg**	**12 19 06.5**	**-1.2**
SILI	**Silifke-Mersin**	**1.89**	**26**	PN	**Pn**	**12 18 44.7**	**+0.3**
KIZK	**Mersin**	**2.08**	**29**	P	**Pb**	**12 18 49.8**	**-0.3**
KIZK				S	**Sg**	**12 19 17.5**	**-2.3**
HNTI	**Hanita**	**2.47**	**129**	Pn	**Pn**	**12 18 52.6**	**+0.2**
HNTI				Sn	**Sn**	**12 19 22.2**	**+0.1**
KKBE	**Karaman, Kazim**	**2.54**	**1**	P	**Pb**	**12 18 56.7**	**-1.4**
KKBE				S	**Sb**	**12 19 30.0**	**+0.8**
KKBE				*i* AML	AML	12 19 44.0	
	comp=N,34nm,0.9s						
MMA0B	**Mount Meron ar**	**2.67**	**128**	Pn	**Pn**	**12 18 54.5**	**-0.6**
MMA0B				Sn	**Sn**	**12 19 26.2**	**-0.8**
OFRI	**`Ofer**	**2.69**	**139**	Pn	**Pn**	**12 18 55.3**	**-0.1**
OFRI				Sn	**Sn**	**12 19 26.2**	**-1.3**
GEM	**Giv'at Ha'Em**	**2.73**	**121**	Pn	**Pn**	**12 18 56.4**	**+0.5**
GEM				Sn	**Sn**	**12 19 28.7**	**+0.3**
NATI	**Neve Ativ**	**2.75**	**120**	Pn	**Pn**	**12 18 57.2**	**+1.0**
KERG	**Konya-Eregli**	**2.92**	**20**	P	**Pb**	**12 19 02.0**	**-2.5**
KERG				S	**Sb**	**12 19 40.4**	**+0.4**
KERG				*i* AML	AML	12 20 07.0	
	comp=N,49nm,1.5s						
SEDI	**Konya, Seydise**	**2.92**	**342**	P	**Pb**	**12 19 02.8**	**-1.9**
SEDI				S	**Sb**	**12 19 40.1**	**0.0**
SEDI				*i* AML	AML	12 19 46.0	
	comp=N,25nm,0.5s						
MMLI	**Mount Malkishu**	**3.07**	**136**	Pn	**Pn**	**12 19 00.8**	**+0.2**
MMLI				Sn	**Sn**	**12 19 36.2**	**-0.7**
HMDT	**Nahal Hemdat**	**3.27**	**137**	Pn	**Pn**	**12 19 04.1**	**+0.8**
HMDT				Sn	**Sn**	**12 19 42.2**	**+0.5**
AMAZ	**Amatzia**	**3.56**	**151**	Pn	**Pn**	**12 19 08.0**	**+0.7**
AMAZ				Sn	**Sn**	**12 19 49.2**	**+0.2**
FETY	**Fethiye**	**3.67**	**303**	P	**Pn**	**12 19 07.8**	**-1.0**
FETY				*i* AML	AML	12 19 55.0	
	comp=E,28nm,0.5s						
GOLH	**Golhisar**	**3.72**	**314**	P	**Pn**	**12 19 10.3**	**+0.7**
DSI	**Dead Sea**	**3.73**	**145**	Pn	**Pn**	**12 19 10.4**	**+0.7**
DSI				Sn	**Sn**	**12 19 52.9**	**-0.3**
YTIR	**Yattir**	**3.79**	**150**	Pn	**Pn**	**12 19 10.9**	**+0.3**
YTIR				Sn	**Sn**	**12 19 55.2**	**+0.4**
MSBI	**Mazada**	**3.94**	**148**	Pn	**Pn**	**12 19 13.1**	**+0.6**
MSBI				Sn	**Sn**	**12 19 58.2**	**0.0**
TAVA	**DENIZLI_Tavas**	**4.26**	**312**	P	**Pn**	**12 19 17.3**	**+0.2**
PRNI	**Paran**	**4.66**	**157**	Pn	**Pn**	**12 19 22.1**	**-0.4**
PRNI				Sn	**Sn**	**12 20 15.7**	**-0.5**
HRFI	**Mount Harif**	**4.96**	**158**	Pn	**Pn**	**12 19 26.3**	**-0.3**
HRFI				Sn	**Sn**	**12 20 22.4**	**-1.2**
MBRI	**Mt Berech**	**5.16**	**160**	Pn	**Pn**	**12 19 29.4**	**+0.1**
MBRI				Sn	**Sn**	**12 20 28.4**	**0.0**
EIL	**Elat**	**5.28**	**160**	Pn	**Pn**	**12 19 31.3**	**+0.3**
EIL				Sn	**Sn**	**12 20 30.2**	**-1.2**

IDC 19 12:21:04.7±4.3, 18°.34S×177°.95W, h558km±22km, mb3.3/4, mb1 3.5/5, mb1mx3.1/29, mbtmp4.3/5, Error ellipse: s-maj=78.5km s-min=56.3km az=124.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.86**	**278**	P	P	12 22 26.0	-0.2
	4.4nm,0.3s,baz=128,slow=13,SNR=24						
STKA	**Stephens Creek**	**36.81**	**242**	P	P	12 27 43.0	+0.6
	0.6nm,0.5s,baz=78,slow=9.3,SNR=5.1						
WRA	**Warramunga Arr**	**44.99**	**260**	P	P	12 28 30.6	-0.6
	1.0nm,0.5s,baz=97,slow=6.9,SNR=32						
WRA				PcP	PcP	12 29 59.7	-0.6
	1.0nm,1.2s,baz=100,slow=3.3,SNR=1.4						
ASAR	**Alice Springs**	**45.10**	**255**	P	P	12 28 32.2	+0.2
	5.9nm,0.5s,baz=88,slow=8.9,SNR=128						
ASAR				PcP	PcP	12 30 00.3	-0.4
	0.4nm,0.6s,baz=104,slow=3.7,SNR=4.3						
SIJI	**Sorong**	**52.76**	**283**	P	P	12 29 28.1	-0.6
	3.5nm,0.5s,baz=43,slow=10,SNR=2.2						

*SOME **19** 12:30:14.7, 41°.03N×70°.13E, h0km*
*NNC **19** 12:30:16.1±3.2, 40°.90N×70°.24E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=23.7km s-min=12.0km az=30.0*
*KRNET **19** 12:30:17.0±0.1, 41°.17N×70°.18E, h5km, mb2.4*

ISC 19 12:30:16.8±2.3, 41°.12N±0°.06×70°.22E±0°.07, h5km±16km, n15, σ1°.70/24, 8C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.81**	**59**	⇑*i*P	**Pg**	**12 30 31.9**	**-0.4**
	baz=68						
TRKS				⇑*i*S	**Sg**	**12 30 43.9**	**+1.2**
	baz=68						
BTK	**Batken**	**1.16**	**157**	⇓*i*P	**Pn**	**12 30 39.9**	**+0.1**
	baz=56						
BTK				⇓*i*S	**Sn**	**12 30 56.5**	**+0.5**
	baz=56						
ARK	**Arkit**	**1.48**	**62**	⇑*i*P	**Pb**	**12 30 45.0**	**+0.2**
	baz=64						
ARK				⇑*i*S	**Sb**	**12 31 04.6**	**+0.7**
	baz=64						
BRLS	**Borolday**	**1.93**	**352**	*e*P	**Pn**	**12 30 49.4**	**-1.0**
	3.2nm,0.0s						
BRLS				*e*S	**Sb**	**12 31 15.5**	**-1.5**
	15nm,0.3s						
BRLS	**Borolday**	**1.93**	**352**	Pg	**Pn**	**12 30 49.4**	**-1.0**
	5.8nm,0.2s						
BRLS				Lg	Lg	12 31 15.5	
	15nm,0.3s						
KK02	**Karatay Array**	**1.99**	**6**	⇑Pn	**Pg**	**12 30 54.4**	**-0.6**
	3.3nm,0.5s						
KK02				⇓Sn	**Sg**	**12 31 24.1**	**+3.2**
	9.0nm,0.6s						
MNAS	**Manas**	**2.19**	**51**	⇓*e*P	**Pb**	**12 30 56.4**	**-0.6**
	baz=52						
MNAS				⇓*i*S	**Sb**	**12 31 24.6**	**+0.1**
	baz=52						
MRKS	**Merke**	**2.77**	**53**	*e*P	**Pb**	**12 31 08.4**	**+1.5**
	2.5nm,0.4s						
MRKS				*e*S	**Sg**	**12 31 47.8**	**+2.0**
	5.0nm,0.2s						
MRKS	**Merke**	**2.77**	**53**	Pg	**Pb**	**12 31 08.4**	**+1.5**
	2.5nm,0.4s						
MRKS				Lg	Lg	12 31 47.8	
	4.4nm,0.4s						
AAK	**Ala-Archa**	**3.53**	**63**	⇓Pg	**Pg**	**12 31 23.9**	**-0.6**
	1.5nm,0.8s						
AAK				⇑Lg	Lg	12 32 10.2	
	3.5nm,0.8s						
SGDS	**Sogindy**	**4.02**	**53**	*e*P	**Pb**	**12 31 30.0**	**+1.9**
	0.6nm,0.2s						
SGDS				*e*S	**Sg**	**12 32 24.7**	**-1.1**
	1.8nm,0.1s						
SGDS	**Sogindy**	**4.02**	**53**	Pg	**Pb**	**12 31 30.0**	**+1.9**
	0.6nm,0.2s						
SGDS				Lg	Lg	12 32 24.7	
	1.7nm,0.5s						
TKM2	**Tokmak 2**	**4.39**	**64**	⇑Pg	**Pg**	**12 31 38.3**	**-2.6**
	1.7nm,0.8s						
TKM2				⇑Lg	Lg	12 32 34.3	
	6.2nm,1.0s						
KST	**Kastek**	**4.69**	**64**	*e*P	**Pg**	**12 31 43.7**	**-2.8**
	2.3nm,0.5s						
KST				*e*S	**Sg**	**12 32 48.1**	**+0.8**
	5.7nm,0.2s						
KST	**Kastek**	**4.69**	**64**	Pg	**Pg**	**12 31 43.7**	**-2.8**
	2.3nm,0.5s						
KST				Lg	Lg	12 32 48.1	
	5.7nm,0.8s						

*UUSS **19** 12:30:40.7±1.2, 37°.49N±0°.02×113°.92W±0°.02, h5km, ML2.6/7, ML2.7/93(NEIC), Error ellipse: s-maj=3.3km s-min=2.5km az=186.0*
*ANF **19** 12:30:41.0±0.4, 37°.51N×113°.89W, h10km, ML2.9/7, Error ellipse: s-maj=5.6km s-min=4.0km az=116.0*

NEIC 19 12:30:40.8±1.1, 37°.51N±0°.02×113°.92W±0°.02, h6km±7km, Error ellipse: s-maj=3.1km s-min=2.0km az=165.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.36**	**180**		Pg	12 30 47.8	0.0
ICU					Sg	12 30 53.0	+0.3
CCUT	**Cedar City**	**0.45**	**85**	Pg	Pg	12 30 49.8	+0.4
CCUT				Sg	Sg	12 30 55.8	+0.5
ARUT	**Antelope Range**	**0.47**	**54**		Pg	12 30 50.2	+0.3
ZNPU	**Zion National**	**0.65**	**104**		Pg	12 30 53.5	+0.2
SZCU	**Shurtz Canyon**	**0.67**	**83**		Pg	12 30 54.0	+0.3
SZCU				Sg	Sg	12 31 02.7	+0.3
SZCU				IAML		12 31 06.5	
	comp=E,383nm,0.3s						
SZCU				IAML		12 31 16.2	
	comp=N,294nm,0.3s						
LCMT	**Little Creek M**	**0.73**	**133**		Pg	12 30 54.7	-0.3
LCMT				Sg	Sg	12 31 05.0	+0.4
LCMT				IAML		12 31 07.4	
	comp=E,297nm,0.2s						
PRN	**Pahroc Range**	**0.91**	**264**		Pg	12 30 57.9	-0.3
PRN				Sg	Sg	12 31 10.2	+0.3
DWU	**Dry Willow Pea**	**0.94**	**51**		Pg	12 30 58.9	0.0
KNB	**Kanab**	**1.01**	**119**		Pg	12 30 59.7	-0.4
KNB	**Kanab**	**1.01**	**119**	Sg	Sg	12 31 12.9	-0.3
PSUT	**Pine Spring**	**1.02**	**3**		Pg	12 31 00.7	+0.2
PSUT				Sg	Sg	12 31 13.7	0.0
IMU	**Iron Mountain**	**1.27**	**28**		Pg	12 31 04.9	-0.3
NMUT	**North Mineral**	**1.31**	**40**		Pn	12 31 05.2	-0.7
SHPR	**Sheep Range**	**1.41**	**225**	Pn	Pn	12 31 06.5	-0.8
SHPR				IAML		12 31 28.0	
	comp=E,92nm,0.4s						
SHPR				IAML		12 31 28.3	
	comp=N,104nm,0.3s						
S11A	**Rachel**	**1.46**	**276**		Pn	12 31 07.7	-0.2
MTPU	**Mount Pierson**	**1.47**	**68**		Pg	12 31 09.1	0.0
SPR3	**Spring Creek 3**	**1.52**	**348**		Pn	12 31 07.7	-1.2
SPR3				IAML		12 31 28.9	
	comp=E,137nm,0.4s						
SPR3				IAML		12 31 29.9	
	comp=N,148nm,0.4s						
R11A	**Troy Canyon, C**	**1.56**	**303**		Pn	12 31 09.2	-0.1
R11A				IAML		12 31 33.8	
	comp=N,71nm,0.4s						
R11A				IAML		12 31 33.8	
	comp=E,76nm,0.6s						
R11A	**Troy Canyon, C**	**1.56**	**303**	P	Pn	12 31 08.8	-0.5
	baz=122,SNR=131						
R11A				S	Sn	12 31 29.8	-0.2
	baz=122						
MVU	**Marysvale**	**1.67**	**53**		Pb	12 31 11.7	-0.6
U15A	**North Rim**	**1.69**	**129**		Pb	12 31 12.0	-0.6
U15A				IAML		12 31 36.1	
	comp=E,67nm,0.4s						
U15A				IAML		12 31 37.1	
	comp=N,76nm,0.7s						
MSU	**Marysvale**	**1.70**	**54**		Pb	12 31 12.0	-0.7
TPNV	**Topopah Spring**	**1.94**	**254**	Pn	Pn	12 31 14.4	-0.2
TPNV				IAML		12 31 43.9	
	comp=N,52nm,0.5s						
TPNV				IAML		12 31 44.3	
	comp=N,42nm,0.7s						
TPNV	**Topopah Spring**	**1.94**	**254**	P	Pn	12 31 14.4	-0.2
	baz=72,SNR=26						
TPNV				S	Sn	12 31 39.0	-0.3
	baz=72						
W13A	**Hualapai Mount**	**2.41**	**179**		Pn	12 31 20.5	-0.5
W13A				IAML		12 31 59.7	
	comp=E,26nm,0.7s						
GWY	**Greenwater Val**	**2.57**	**240**		Pn	12 31 22.9	-0.3
GWY				IAML		12 32 04.6	
	comp=E,46nm,0.6s						
GWY				IAML		12 32 05.8	
	comp=N,38nm,0.4s						
Q16A	**Castle Valley**	**2.58**	**56**		Pn	12 31 23.3	-0.1
TUQ	**Turquoise Moun**	**2.63**	**219**	P	Pn	12 31 23.9	0.0
	baz=37,SNR=34						
TUQ				S	Sn	12 31 56.4	+0.2
	baz=37						
TPH	**Tonopah**	**2.67**	**283**		Pn	12 31 24.6	-0.1
TMUT	**Trail Mountain**	**2.78**	**49**		Pn	12 31 25.4	-0.8
DUG	**Dugway, Tooele**	**2.82**	**18**		Pn	12 31 26.1	-0.5
DUG				IAML		12 32 11.9	
	comp=N,19nm,1.8s						

	baz=315						
WUAZ				Sb	Sb	12 32 08.6	+0.9
	baz=315						
Q09A	**Carvers**	**2.89 298**			Pn	12 31 26.3	-1.3
Q09A				IAML		12 32 24.4	
	comp=E,41nm,0.8s						
LCH	**Last Change Ra**	**2.98 266**			Pn	12 31 28.4	-0.5
LCH				IAML		12 32 20.7	
	comp=N,16nm,2.2s						
LCH				IAML		12 32 24.0	
	comp=E,17nm,0.6s						
GMRC	**Granite Mounta**	**3.06 208**		P	Pn	12 31 29.6	-0.4
	baz=27						
GMRC				S	Sn	12 32 05.4	-1.6
	baz=27						
SRU	**San Rafael Swe**	**3.11 58**			Pn	12 31 30.9	+0.2
SRU				IAML		12 32 46.1	
	comp=E,15nm,3.9s						
P17A	**Butcher Ranch,**	**3.17 51**			Pn	12 31 31.5	0.0
GSC	**Goldstone, Bar**	**3.21 227**		Pn	Pn	12 31 34.1	+2.2
GSC				IAML		12 32 29.9	
	comp=E,28nm,1.4s						
GSC				IAML		12 32 32.6	
	comp=N,21nm,3.1s						
MPMC	**Manual Prospec**	**3.21 244**		P	Pn	12 31 31.6	-0.4
	baz=62,SNR=7.0						
MPMC				Sb	Sg	12 32 22.0	-2.0
	baz=62						
HEC	**Hector,Ludlow**	**3.31 217**		Pb	Pb	12 31 41.6	+1.5
	baz=35						
HEC				Sb	Sb	12 32 23.7	+3.0
	baz=35						
ELK	**Elko**	**3.39 343**		Pn	Pn	12 31 33.8	-0.8
NV11	**Mina Array Sit**	**3.47 287**			Pn	12 31 35.1	-0.5
NV11				IAML		12 32 39.4	
	comp=N,14nm,1.6s						
NV11				IAML		12 32 44.1	
	comp=E,14nm,4.5s						
BGU	**Big Grassy Mou**	**3.48 11**			Pn	12 31 35.9	+0.2
BGU				IAML		12 32 51.3	
	comp=E,14nm,2.2s						
BGU				IAML		12 32 54.6	
	comp=N,10nm,2.2s						
IRM	**Iron Mountain**	**3.49 197**		P	Pn	12 31 35.6	-0.1
	baz=16						
IRM				Sb	Sb	12 32 29.2	+3.4
	baz=16						
P18A	**Preston Nutter**	**3.57 53**			Pn	12 31 40.0	+2.9
P18A				IAML		12 32 39.8	
	comp=N,12nm,4.0s						
P18A				IAML		12 33 06.3	
	comp=E,10nm,4.6s						
NVAR	**Mina Array Bea**	**3.58 286**		Pn	Pn	12 31 36.6	-0.6
CTU	**Camp Tracy**	**3.60 27**			Pn	12 31 38.2	+0.8
KVN	**Kaiserville**	**3.63 296**		Pn	Pn	12 31 38.1	+0.3
KVN				IAML		12 32 38.0	
	comp=N,10nm,3.5s						
KVN				IAML		12 32 43.2	
	comp=E,14nm,3.9s						
JLU	**Jordanelle**	**3.64 31**			Pn	12 31 37.5	-0.5
JLU				IAML		12 32 56.9	
	comp=N,9.3nm,4.7s						
Y14A	**Wickenburg**	**3.64 168**			Pn	12 31 37.6	-0.2
Y14A				IAML		12 32 39.6	
	comp=E,20nm,0.7s						
Y14A				IAML		12 32 39.9	
	comp=N,19nm,0.9s						
X16A	**Lo Mia Camp, P**	**3.69 146**			Pn	12 31 39.5	+1.0
X16A				IAML		12 32 40.2	
	comp=E,12nm,1.3s						
X16A				IAML		12 32 40.5	
	comp=N,9.1nm,1.7s						
LHV	**Little Huntoon**	**3.70 283**			Pn	12 31 38.7	+0.2
LHV				IAML		12 32 44.4	
	comp=E,19nm,0.7s						
RYN	**Ryan**	**3.80 288**			Pn	12 31 39.3	-0.8
RYN				IAML		12 32 47.8	
	comp=N,18nm,3.2s						
BMN	**Battle Mountai**	**3.89 320**			Pn	12 31 41.2	-0.2
BMN				IAML		12 32 48.2	
	comp=E,13nm,0.7s						
BMN				IAML		12 32 50.0	
	comp=N,12nm,0.8s						
PV11	**David Mesa, Pa**	**4.07 77**			Pn	12 31 44.3	+0.4
MVCO	**Mesa Verde**	**4.33 92**			Pn	12 31 47.2	-0.3
HVU	**Hansel Valley**	**4.35 11**			Pn	12 31 47.8	+0.1
X18A	**Snowflake**	**4.38 132**			Pn	12 31 48.4	+0.3
X18A				IAML		12 33 00.5	
	comp=N,13nm,0.7s						
MWC	**Mount Wilson**	**4.70 227**		Pn	Pn	12 31 50.5	-1.9
214A	**Organ Pipe Nat**	**5.62 170**		Pn	Pn	12 32 03.1	-1.9

IDC 19 12:37:25.8±1.3, 3°92N×127°08E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.2/42, mbtmp3.4/5, Error ellipse: s-maj=101.0km s-min=19.4km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.93**	**184**	P	P	12 42 22.5	+1.5
	0.9nm,0.8s,baz=9.7,slow=11,SNR=1.0						
WRA	**Warramunga Arr**	**24.76**	**164**	P	P	12 42 48.6	-0.8
	1.0nm,0.7s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.21**	**167**	P	P	12 43 20.4	-0.1
	0.1nm,0.6s,baz=344,slow=7.2,SNR=5.8						
SONM	**Songino Array**	**47.23**	**341**	P	P	12 46 00.9	+0.2
	0.2nm,0.5s,baz=171,slow=13,SNR=2.9						
SONM				PcP	PcP	12 47 32.5	+0.3
	0.2nm,0.4s,baz=156,slow=4.0,SNR=2.5						
MKAR	**Makanchi Array**	**57.60**	**325**	P	P	12 47 17.1	-0.6
	0.5nm,0.6s,baz=116,slow=7.6,SNR=10.0						
MKAR				PcP	PcP	12 48 11.0	+0.1
	0.2nm,0.6s,baz=117,slow=3.3,SNR=1.5						

*TUL **19** 12:41:07.9±1.0, 35°50N±0°01×96°75W±0°01, h5km±4km, ML2.5, mb_Lg3.3/4(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=152.0*

NEIC 19 12:41:08.3±0.9, 35°49N±0°01×96°743W±0°010, h7km±5km, Error ellipse: s-maj=1.8km s-min=1.2km az=180.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK011	**Prague**	**0.05**	**101**	Pg	Pg	12 41 09.7	-0.1
OK011				Sg	Sg	12 41 10.8	0.0
W35A	**Tecumseh**	**0.36**	**198**		Pg	12 41 15.1	-0.2
W35A				Sg	Sg	12 41 20.2	+0.3
OK030	**Cody Creek RV**	**0.43**	**356**		Pg	12 41 16.8	+0.1
OK030				Sg	Sg	12 41 23.0	+0.6
OK031	**S. Brethren Rd**	**0.47**	**350**		Pg	12 41 17.3	0.0
OK031				Sg	Sg	12 41 23.8	+0.5
OK025	**Westminster Rd**	**0.49**	**280**		Pg	12 41 17.5	-0.2
OK025				Sg	Sg	12 41 24.7	+0.5
OK034	**N. Norfolk Rd.**	**0.52**	**3**	Pg	Pg	12 41 18.2	0.0
OK034					Sg	12 41 25.2	+0.3
OKCSW	**OKLAHOMA CITY**	**0.57**	**261**	Pg	Pg	12 41 19.2	-0.1
OKCSW				Sg	Sg	12 41 27.1	+0.2
OKCFA	**Oklahoma City**	**0.58**	**262**		Pg	12 41 19.3	-0.2
OKCFA				Sg	Sg	12 41 27.8	+0.7
FNO	**Franklin**	**0.59**	**246**		Pg	12 41 19.1	-0.4
FNO				Sg	Sg	12 41 27.6	+0.4
QUOK	**Quay**	**0.68**	**2**		Pg	12 41 21.0	-0.3
QUOK				IAmb_Lg		12 41 29.5	
	comp=Z,11nm,0.7s						
QUOK				Sg	Sg	12 41 30.4	+0.3
BCOK	**Bluff Creek, N**	**0.72**	**283**	Pg	Pg	12 41 22.1	-0.1
BCOK				Sg	Sg	12 41 31.7	+0.1
TUL1	**Leonard**	**0.88**	**62**	Pg	Pg	12 41 24.8	-0.3
TUL1				Sg	Sg	12 41 36.4	-0.2
X34A	**Smith Ranch, M**	**1.26**	**225**		Pn	12 41 32.0	-0.4
X34A				Sg	Sn	12 41 49.8	+0.1
BLOK	**Blackwell**	**1.32**	**343**	Pn	Pn	12 41 32.1	-1.1
CROK	**Carrier**	**1.42**	**315**		Pn	12 41 34.0	-0.7
T35A	**Sooner Cattle**	**1.43**	**7**	Pn	Pn	12 41 33.8	-1.0
X37A	**Clayton**	**1.44**	**128**		Pn	12 41 34.1	-0.7
LOOK	**Love County**	**1.54**	**194**	Pn	Pn	12 41 36.3	+0.1
GC02	**Grant County #**	**1.63**	**327**	Pn	Pn	12 41 37.1	-0.3
KAN14	**Manchester OK**	**1.76**	**326**	Pn	Pn	12 41 39.2	-0.1
WMOK	**Wichita Mounta**	**1.83**	**246**		Pn	12 41 40.2	-0.1
U38A	**Gravette**	**2.13**	**63**	Pn	Pn	12 41 43.0	-1.3
HHAR	**Hobbs**	**2.41**	**70**	Pn	Pn	12 41 48.7	+0.5
W39A	**Magazine**	**2.44**	**96**		Pn	12 41 49.1	+0.5
W41B	**Gary Mavity, V**	**3.69**	**94**	Pn	Pn	12 42 06.0	+0.2
MGMO	**Mountain Grove**	**3.98**	**64**		Pn	12 42 07.5	-2.2
X43A	**Marvell**	**4.91**	**100**	IAmb_Lg		12 43 55.4	
	comp=Z,2μm,0.8s						

*SOME **19** 12:41:24.3, 43°65N×69°68E*
*NNC **19** 12:41:25.8±0.7, 43°61N×69°69E, h0km, mb3.6, mpv3.0, Error ellipse: s-maj=3.8km s-min=3.4km az=128.0, Suspected Mining explosion.*
*KRNET **19** 12:41:25.7±0.1, 43°91N×69°35E, mb3.1*

ISC 19 12:41:30.2±1.9, 43°65N±0°07×69°91E±0°09, h0km, n17, σ1§47/25, 9C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.62**	**185**	P	**Pg**	**12 41 41.4**	**-0.8**
	1.3nm,0.5s						
BRLS				S	**Sb**	**12 41 53.7**	**+0.3**
	12nm,0.6s						
KK02	**Karatay Array**	**0.70**	**141**	⇑P	**Pg**	**12 41 41.1**	**-2.6**
	3.7nm,0.4s						
KK02				⇓S	**Sg**	**12 41 52.2**	**-0.6**
	18nm,0.5s						
MNAS	**Manas**	**2.23**	**121**	⇑*i*P	**Pn**	**12 42 08.6**	**0.0**
	baz=21						
MNAS				⇑*i*S	**Sb**	**12 42 40.3**	**+0.6**
	baz=21						
TRKS	**Terek-Say**	**2.31**	**156**	⇓*i*P	**Pn**	**12 42 09.8**	**+0.1**
	baz=51						
TRKS				⇓*i*S	**Sb**	**12 42 42.2**	**+0.3**
	baz=51						
ARK	**Arkit**	**2.39**	**140**	⇑*i*P	**Pn**	**12 42 11.5**	**+0.7**
	baz=37						
ARK				⇑*i*S	**Sb**	**12 42 44.5**	**+0.2**
	baz=37						
MRKS	**Merke**	**2.59**	**109**	Pg	**Pb**	**12 42 16.0**	**-1.6**
	4.0nm,0.5s						
MRKS				Lg	Lg	12 42 53.5	
	7.9nm,0.9s						
EKS2	**Erkin-Say**	**3.00**	**108**	⇑*i*P	**Pn**	**12 42 19.4**	**+0.3**
	baz=10.0						
EKS2				⇑*i*S	**Sn**	**12 42 58.8**	**+3.0**
	baz=10.0						
BTLS	**Baital**	**3.28**	**63**	Pg	**Pg**	**12 42 30.6**	**-2.4**
	11nm,0.6s						
BTLS				Lg	Lg	12 43 17.7	
	4.9nm,0.7s						
USP	**Ospenovka**	**3.37**	**95**	⇓*i*P	**Pn**	**12 42 24.3**	**+0.2**
	baz=98						
USP				⇓*i*S	**Sn**	**12 43 07.4**	**+2.6**
	baz=98						
SGDS	**Sogindy**	**3.44**	**92**	Pg	**Pb**	**12 42 31.1**	**-1.0**
	2.8nm,0.6s						
SGDS				Lg	Lg	12 43 19.0	
	5.3nm,0.5s						
AAK	**Ala-Archa**	**3.50**	**105**	Pg	**Pb**	**12 42 31.9**	**-1.4**
	3.8nm,0.5s						
AAK				Lg	Lg	12 43 22.4	
	6.2nm,0.8s						
AAK	**Ala-Archa**	**3.50**	**105**	⇑*i*P	**Pn**	**12 42 26.5**	**+0.4**
	baz=7.0						
AAK				⇑*i*S	**Sn**	**12 43 11.2**	**+2.8**
	baz=7.0						
KRBS	**Karabastau**	**4.18**	**87**	Pg	**Pb**	**12 42 44.7**	**0.0**
	3.2nm,0.7s						
KRBS				Lg	Lg	12 43 42.1	
	8.5nm,0.7s						
TKM2	**Tokmak 2**	**4.22**	**98**	⇓Pg	**Pb**	**12 42 44.6**	**-0.8**
	3.2nm,0.8s						
TKM2				⇓Lg	Lg	12 43 43.6	
	4.3nm,0.8s						
DGS	**Degeres**	**4.29**	**93**	Pg	**Pb**	**12 42 47.0**	**+0.4**
	3.1nm,0.4s						
DGS				Lg	Lg	12 43 46.0	
	4.9nm,0.6s						
KUU	**Kurty**	**4.66**	**85**	Pg	**Pb**	**12 42 54.2**	**+1.4**
	1.5nm,0.3s						
KUU				Lg	Lg	12 43 58.5	
	4.9nm,0.5s						
KTBS	**Karatobe**	**4.91**	**87**	Pg	**Pb**	**12 42 58.1**	**+0.9**
	0.9nm,0.4s						
KTBS				Lg	Lg	12 44 05.1	
	8.8nm,0.9s						

*NEIC **19** 12:52:07.5±1.2, 8°13S±0°09×75°2W±0°1, h128km±8km, mb4.1/11, Error ellipse: s-maj=17.7km s-min=11.2km az=119.0*
*IDC **19** 12:52:07.5±2.1, 8°15S×75°20W, h124km±21km, mb3.4/8, mb1 3.7/12, mb1mx3.6/37, mbtmp3.9/12, Error ellipse: s-maj=26.1km s-min=10.7km az=57.0*
*VAO **19** 12:52:18.5±0.9, 8°24S±74°23W, h132km±5km, mbR4.2*

ISC 19 12:52:08.6±0.5, 8°11S±0°06×75°23W±0°06, h138km, n54, σ1§57/57, mb3.7/11, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.52**	**82**	*e*P	**Pn**	**12 52 49.4**	**-0.2**
CZSB	**Cruzeiro do Su**	**2.52**	**82**	Pn	**Pn**	**12 52 49.3**	**-0.2**
ATAH	**Atahualpa**	**3.29**	**287**	P	**Pn**	**12 52 59.6**	**-0.1**
	92nm,0.3s,baz=58,slow=3.9,SNR=347						
ATAH				S	**Sn**	**12 53 38.1**	**-0.9**
	70nm,0.3s,baz=102,slow=23,SNR=12						
NNA	**Nana**	**4.17**	**202**	P	**Pn**	**12 53 10.5**	**-0.4**
	26nm,0.3s,baz=38,slow=7.0,SNR=40						
NNA				S	**Sn**	**12 53 56.5**	**-2.6**
	53nm,0.3s,baz=307,slow=20,SNR=14						
NNA	**Nana**	**4.17**	**202**	Pn	**Pn**	**12 53 09.8**	**-1.0**
TBTG	**Tabatinga, AM**	**6.57**	**54**	*e*P	**Pn**	**12 53 41.8**	**-1.1**
TBTG	**Tabatinga, AM**	**6.57**	**54**	Pn	**Pn**	**12 53 41.7**	**-1.1**
ETMB	**Extrema**	**9.06**	**101**	*e*P	**Pn**	**12 54 12.8**	**-3.5**
ETMB	**Extrema**	**9.06**	**101**	Pn	**Pn**	**12 54 13.0**	**-3.4**
LPAZ	**La Paz**	**10.68**	**140**	P	**Pn**	**12 54 37.0**	**-1.5**
	0.2nm,0.3s,baz=329,slow=10,SNR=3.5						
LPAZ	**La Paz**	**10.68**	**140**	*e*P	**Pn**	**12 54 37.4**	**-1.1**
LPAZ	**La Paz**	**10.68**	**140**		**Pn**	**12 54 36.5**	**-2.0**
PB16	**IPOC Station P**	**11.58**	**152**	Pn	**Pn**	**12 54 48.6**	**-1.8**
PB11	**IPOC Station P**	**12.78**	**156**	Pn	**Pn**	**12 55 03.5**	**-2.0**
MACA	**Manacapuru-AM**	**15.28**	**72**	*e*P	**Pn**	**12 55 36.0**	**-1.3**
VILB	**Vilhena**	**15.53**	**109**	*e*P	**Pn**	**12 55 39.7**	**-0.7**
LVC	**Limon Verde**	**15.64**	**158**	*e*P	**P**	**12 55 45.4**	**+2.2**
SIV	**San Ignacio**	**15.89**	**121**	P	**Pn**	**12 55 44.0**	**-0.8**
	0.9nm,0.3s,baz=299,slow=11,SNR=10						
PB15	**IPOC Station P**	**15.99**	**160**		**Pn**	**12 55 45.1**	**-1.1**
PB15				IAmb	IAmb	12 55 49.9	
	comp=Z,9.9nm,1.1s						
PTLB	**Pontes e Lacer**	**17.35**	**116**	*e*P	**Pn**	**12 56 01.8**	**-0.6**
SDV	**Santo Domingo**	**17.50**	**15**	P	**P**	**12 55 58.8**	**-4.7**
	comp=Z,1.8nm,0.3s,baz=268,slow=11,SNR=3.1						
BOAV	**Boa Vista**	**18.00**	**55**	*e*P	**Pn**	**12 56 11.3**	**+1.1**
BOAV	**Boa Vista**	**18.00**	**55**	P	**P**	**12 56 07.1**	**-1.8**
BAUV	**El Baul**	**18.39**	**23**	P	**P**	**12 56 11.8**	**-1.4**
BAUV				IAmb	IAmb	12 56 30.0	
	comp=Z,8.8nm,0.8s						
PDRB	**Porto dos Gac**	**18.55**	**102**	*e*P	**P**	**12 56 14.2**	**-0.7**
CLDB	**Colider**	**19.36**	**100**	*e*P	**P**	**12 56 23.9**	**+0.2**
AC02	**Maricunga**	**19.50**	**163**	P	**P**	**12 56 24.5**	**-1.1**
AC02				IAmb	IAmb	12 56 31.1	
	comp=Z,9.8nm,1.5s						
NPGB	**Novo Progresso**	**19.72**	**88**	*e*P	**P**	**12 56 26.3**	**-1.4**
ITTB	**Itaituba**	**19.73**	**80**	*e*P	**P**	**12 56 27.3**	**-0.4**
URIC	**Uribia, Colomb**	**19.95**	**9**	P	**P**	**12 56 28.6**	**-1.4**
URIC				IAmb	IAmb	12 56 34.0	
	comp=Z,10nm,1.1s						
BIRV	**Birongo**	**20.51**	**26**	P	**P**	**12 56 34.0**	**-2.0**
MALB	**Monte Alegre**	**21.78**	**75**	*e*P	**P**	**12 56 50.5**	**+0.8**
SNDB	**Serra Nova Dou**	**23.87**	**101**	*e*P	**P**	**12 57 10.8**	**+1.1**
ARAG	**Araguaiana, MT**	**24.10**	**110**	*e*P	**P**	**12 57 12.6**	**+0.9**
MCPB	**Macapa, AP**	**24.34**	**73**	*e*P	**P**	**12 57 15.6**	**+1.7**
CPUP	**Villa Florida**	**24.85**	**139**	*e*P	**P**	**12 57 22.1**	**+3.7**
PEXB	**Peixe**	**26.79**	**101**	*e*P	**P**	**12 57 37.5**	**+1.4**
LC01	**Cunco**	**30.80**	**175**	P	**P**	**12 58 10.6**	**-0.7**
LC01				IAmb	IAmb	12 58 12.4	
	comp=Z,2.8nm,0.7s						
PLCA	**Paso Flores**	**32.75**	**173**	P	**P**	**12 58 28.9**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=282,slow=7.9,SNR=3.3						
NBLA	**Lagarto - SE**	**37.01**	**97**	*e*P	**P**	**12 59 07.8**	**+2.5**
TX32	**Lajitas Array**	**46.22**	**325**	P	**P**	**13 00 19.3**	**-0.9**
TXAR	**Lajitas Array**	**46.22**	**325**	P	**P**	**13 00 20.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=148,slow=9.2,SNR=7.9						
TXAR				PcP	**PcP**	**13 01 54.1**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=123,slow=6.1,SNR=3.5						
TXAR	**Lajitas Array**	**46.22**	**325**	P	**P**	**13 00 20.0**	**-0.2**
TX31	**Lajitas Ar. Si**	**46.22**	**325**	P	**P**	**13 00 21.3**	**+1.1**
TX31				IAmb	IAmb	13 00 37.9	
	comp=Z,5.1nm,1.5s						
SDCO	**Great Sand Dun**	**53.67**	**330**	P	**P**	**13 01 16.4**	**-0.1**
SDCO				IAmb	IAmb	13 01 18.5	
	comp=Z,2.7nm,0.9s						
PDAR	**Pinedale Array**	**59.52**	**331**	P	**P**	**13 01 57.8**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=119,slow=7.3,SNR=2.6						
NVAR	**Mina Array Bea**	**61.23**	**322**	P	**P**	**13 02 10.5**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=116,slow=9.2,SNR=3.3						
DBIC	**Dimbokro**	**71.68**	**80**	P	**P**	**13 03 16.4**	**+0.3**
	comp=Z,2.8nm,0.4s,baz=257,slow=4.1,SNR=2.2						
YKA	**Yellowknife Ar**	**76.64**	**342**	P	**P**	**13 03 43.9**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=141,slow=5.8,SNR=17						
TORD	**Torodi Ar. Bea**	**79.25**	**75**	P	**P**	**13 03 59.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=266,slow=4.2,SNR=2.2						
ILAR	**Eielson Array**	**89.61**	**336**	P	**P**	**13 04 50.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=152,slow=4.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**131.54**	**16**	PKP	**PKiKP**	**13 11 06.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=298,slow=3.1,SNR=1.7						
ASAR	**Alice Springs**	**137.48**	**221**	PKhKP	PKPpre	13 11 08.0	
	comp=Z,0.2nm,0.6s,baz=127,slow=2.3,SNR=4.4						
ASAR				PKP	**PKiKP**	**13 11 17.9**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=137,slow=1.7,SNR=9.7						
WRA	**Warramunga Arr**	**139.70**	**226**	PKhKP	PKPpre	13 11 14.2	
	comp=Z,0.3nm,0.7s,baz=140,slow=2.4,SNR=1.6						
WRA				PKP	**PKPdf**	**13 11 22.0**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=120,slow=2.2,SNR=4.6						

*SNET **19** 13:00:33.2±1.0, 14°33N×91°58W, h104km±10km, ML4.4*
*UCR **19** 13:00:33.2±1.0, 14°30N×91°59W, h103km±12km, ML4.2, mb4.6(NEIC)*
*GCG **19** 13:00:34.2±0.6, 14°51N×91°56W, h98km, MD4.5*
*IDC **19** 13:00:34.4±0.8, 14°68N×91°21W, h103km±6km, mb3.9/17, mb1 4.1/19, mb1mx3.8/41, mbtmp4.3/19, MS3.4/10, Ms1 3.4/10, ms1mx3.0/66, Error ellipse: s-maj=20.7km s-min=8.9km az=53.0*
*NEIC **19** 13:00:35.1±2.4, 14°59N±0°07×91°42W±0°06, h101km±3km, mb4.6/206, Error ellipse: s-maj=12.6km s-min=4.7km az=219.0*

ISC 19 13:00:34.0±0.5, 14°55N±0°05×91°48W±0°04, h103km±4km, n392, σ1§10/412, mb4.5/101, 1C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.19**	**331**	⇓*i*P	**Pn**	**13 00 49.2**	**+0.4**
RTAL	**Retalhuleu**	**0.21**	**264**	Pn	**Pn**	**13 00 48.2**	**-0.4**
RTAL				Sn	**Sn**	**13 00 58.8**	**-0.7**
RTAL	**Retalhuleu**	**0.21**	**264**	*e*P	**Pn**	**13 00 48.4**	**-0.3**
RTAL				*e*S	**Sn**	**13 00 59.4**	**-0.1**
RTAL				IAML		13 01 00.9	
	comp=Z,14μm,0.2s						
FUG	**Fuego 3**	**0.62**	**99**	⇓*e*P	**Pn**	**13 00 51.9**	**+0.6**
HUEH	**Huehuetenango**	**0.77**	**358**	Pn	**Pn**	**13 00 54.2**	**+1.6**
HUEH				Sn	**Sn**	**13 01 06.9**	**+0.4**
PCG	**Pacaya**	**0.86**	**100**	⇑*i*P	**Pn**	**13 00 54.5**	**+1.0**
PCG				*e*S	**Sn**	**13 01 11.7**	**+3.7**
NBG	**Las Nubes**	**1.09**	**88**	⇓*e*P	**Pn**	**13 00 57.7**	**+1.7**
NBG				*e*S	**Sn**	**13 01 14.5**	**+2.0**
NUBE	**Las Nubes**	**1.77**	**111**	*e*P	**Pn**	**13 01 03.6**	**-0.3**
NUBE				*e*S	**Sn**	**13 01 27.2**	**+0.6**
NUBE				IAML		13 01 30.9	
	comp=Z,1μm,0.5s						
NUBE	**Las Nubes**	**1.77**	**111**	*e*P	**Pn**	**13 01 03.6**	**-0.3**
NUBE				*e*S	**Sn**	**13 01 27.2**	**+0.6**
NUBE				IAML		13 01 30.9	
	comp=Z,1μm,0.5s						
MRL	**Marmol**	**1.81**	**73**	⇓*e*P	**Pn**	**13 01 06.7**	**+2.1**
MRL				*e*S	**Sn**	**13 01 28.6**	**+0.8**
CCIG	**Comitan**	**1.84**	**340**	Pn	**Pn**	**13 01 07.1**	**+2.2**
RTR	**El Retiro**	**1.89**	**110**	*e*P	**Pn**	**13 01 05.6**	**+0.1**
RTR	**El Retiro**	**1.89**	**110**	*e*P	**Pn**	**13 01 05.6**	**+0.1**
SBLS	**San Blas**	**1.93**	**111**	*e*P	**Pn**	**13 01 05.9**	**-0.1**
SBLS				*e*S	**Sn**	**13 01 32.4**	**+1.9**
SBLS	**San Blas**	**1.93**	**111**	*e*P	**Pn**	**13 01 05.9**	**-0.1**
SBLS				*e*S	**Sn**	**13 01 32.4**	**+1.9**
CEVE	**Cerro Verde**	**1.93**	**111**	*e*P	**Pn**	**13 01 06.1**	**0.0**
CEVE				IAML		13 01 36.4	
	comp=Z,5μm,0.6s						
CEVE	**Cerro Verde**	**1.93**	**111**	*e*P	**Pn**	**13 01 06.1**	**0.0**
CEVE				IAML		13 01 36.4	
	comp=Z,5μm,0.6s						
MTO3	**Montecristo**	**2.06**	**94**	Pn	**Pn**	**13 01 07.7**	**+0.1**
ESQI	**Esquipulas**	**2.07**	**89**	Pn	**Pn**	**13 01 08.1**	**+0.4**
JAYA	**Jayaque - finc**	**2.16**	**114**	*e*P	**Pn**	**13 01 08.7**	**-0.2**
JAYA				*e*S	**Sn**	**13 01 36.6**	**+1.0**
JAYA				IAML		13 01 42.3	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**2.16**	**114**	*e*P	**Pn**	**13 01 08.7**	**-0.2**
JAYA				*e*S	**Sn**	**13 01 36.6**	**+1.0**
JAYA				IAML		13 01 42.3	
	comp=Z,1μm,0.2s						
COEG	**Centro de Oper**	**2.68**	**110**	*e*P	**Pn**	**13 01 16.0**	**+0.3**
COEG				*e*S	**Sn**	**13 01 49.6**	**+1.8**
COEG	**Centro de Oper**	**2.68**	**110**	*e*P	**Pn**	**13 01 16.0**	**+0.3**
COEG				*e*S	**Sn**	**13 01 49.6**	**+1.8**
PETF	**Flores**	**2.82**	**33**	Pn	**Pn**	**13 01 19.0**	**+1.5**
TGUH	**Tegucigalpa,Un**	**4.10**	**96**	Pn	**Pn**	**13 01 35.0**	**+0.1**
CMIG	**Matias Romero**	**4.14**	**308**	P	**Pn**	**13 01 35.7**	**+0.5**
	comp=Z,12nm,0.3s,baz=118,slow=9.7,SNR=104						
CMIG				S	**Sn**	**13 02 26.5**	**+3.8**
	comp=Z,16nm,0.3s

WLAR IAmb IAmb 13 05 12.6
comp=Z,26nm,0.6s
Y45A Yeager Farm, C 19.32 5 P Pn 13 04 52.1 -1.1
Y45A IAmb IAmb 13 05 16.2
comp=Z,63nm,1.5s
Z35A Perchaven, San 19.42 345 P Pn 13 04 53.6 -0.9
Z35A IAmb IAmb 13 04 54.6
comp=Z,20nm,0.7s
ABTX Abilene, Hawle 19.48 339 P Pn 13 04 54.4 -0.8
ABTX IAmb IAmb 13 04 55.4
comp=Z,26nm,0.7s
ABTX Abilene, Hawle 19.48 339 P Pn 13 04 54.3 -0.8
baz=156,SNR=6.3
154A Montrose 19.54 22 P Pn 13 04 55.0 -0.8
Y49A Blount Mountai 19.77 13 P Pn 13 04 57.7 -0.8
X40A Basin Creek Fa 19.89 357 P P 13 04 56.8 -0.5
baz=176
MIAR Mount Ida 20.00 355 P P 13 04 58.8 +0.3
MIAR Mount Ida 20.00 355 P P 13 04 58.9 +0.3
baz=174
LOOK Love County 20.04 346 P Pn 13 05 00.3 -1.3
GOGA Godfrey 20.14 20 P P 13 05 01.0 +1.0
GOGA IAmb IAmb 13 05 02.7
comp=Z,23nm,0.9s
GOGA Godfrey 20.14 20 P P 13 04 59.9 -0.1
baz=203
X37A Clayton 20.27 351 P P 13 05 02.1 +0.8
X37A IAmb IAmb 13 05 11.8
comp=Z,12nm,0.8s
Y52A Lilburn 20.37 18 P P 13 05 03.6 +1.1
Y52A IAmb IAmb 13 05 07.2
comp=Z,26nm,0.6s
W41B Gary Mavity, V 20.55 358 P P 13 05 05.8 +1.3
W41B Gary Mavity, V 20.55 358 P P 13 05 04.9 +0.4
baz=178
FPAL Fort Paine 20.60 14 P P 13 05 05.4 +0.4
FPAL IAmb IAmb 13 05 08.2
comp=Z,39nm,1.2s
W39A Magazine 20.67 355 P P 13 05 06.8 +1.1
W39A Magazine 20.67 355 P P 13 05 05.8 +0.1
baz=174
W35A Tecumseh 21.09 348 P P 13 05 10.0 -0.2
W35A IAmb IAmb 13 05 34.7
comp=Z,18nm,0.8s
WMOK Wichita Mounta 21.16 343 P P 13 05 10.7 -0.3
WMOK IAmb IAmb 13 05 34.8
comp=Z,25nm,1.5s
WMOK Wichita Mounta 21.16 343 P P 13 05 11.4 +0.4
baz=160
SDV Santo Domingo 21.16 103 P P 13 05 10.4 -1.0
comp=Z,6.7nm,0.6s,baz=293,slow=4.6,SNR=2.9
FCAR Ozark Folk Cen 21.26 359 P P 13 05 12.0 -0.1
FCAR IAmb IAmb 13 05 14.6
comp=Z,13nm,0.7s
MNTX Cornudas Mount 21.29 326 P P 13 05 13.3 +0.8
MNTX Cornudas Mount 21.29 326 P P 13 05 13.4 +0.8
baz=140,SNR=9.3
FNO Franklin 21.30 347 P P 13 05 12.6 +0.1
FNO IAmb IAmb 13 05 40.7
comp=Z,28nm,0.9s
W50A Signal Mountai 21.30 14 P P 13 05 13.8 +1.3
W50A IAmb IAmb 13 05 21.1
comp=Z,44nm,1.4s
LCAR Lake Charles 21.44 1 P P 13 05 13.3 -0.6
LCAR IAmb IAmb 13 05 16.4
comp=Z,32nm,0.6s
CPCT Cooper Cave 21.73 15 P P 13 05 18.0 +0.9
CPCT IAmb IAmb 13 05 27.9
comp=Z,22nm,1.2s
WVT Waverly 21.74 8 P P 13 05 16.8 -0.3
WVT IAmb IAmb 13 05 42.2
comp=Z,29nm,1.5s
WVT Waverly 21.74 8 P P 13 05 17.0 -0.2
baz=189
U40A Yellville 21.76 357 P P 13 05 16.5 -0.8
U40A Yellville 21.76 357 P P 13 05 17.7 +0.4
baz=176
HHAR Hobbs 21.76 355 P P 13 05 16.3 -1.1
MSTX Muleshoe 21.88 334 P P 13 05 19.3 +0.5
MSTX Muleshoe 21.88 334 P P 13 05 19.2 +0.5
baz=149
PARMO Parma 22.08 4 P P 13 05 20.8 +0.1
TKL Tuckaleechee C 22.13 17 P P 13 05 20.9 -0.4
comp=Z,17nm,0.7s,baz=182,slow=12,SNR=19
TKL LR LR 13 14 24.9
comp=Z,101nm,20.0s,baz=188,slow=38
TKL Tuckaleechee C 22.13 17 P P 13 05 22.0 +0.7
TKL IAmb IAmb 13 05 23.7
comp=Z,23nm,0.8s
PBMO Poplar Bluff 22.16 2 P P 13 05 21.1 -0.5
PBMO IAmb IAmb 13 05 23.8
comp=Z,26nm,0.8s
AMTX Amarillo 22.24 337 P P 13 05 22.4 -0.2
AMTX IAmb IAmb 13 05 49.4
comp=Z,21nm,0.9s
AMTX Amarillo 22.24 337 P P 13 05 22.6 +0.1
baz=153
T42A Van Buren 22.40 1 P P 13 05 23.3 -0.7
T42A IAmb IAmb 13 05 25.1
comp=Z,17nm,0.6s
V53A Saluda 22.43 19 P P 13 05 25.5 +1.0
V53A IAmb IAmb 13 05 26.2
comp=Z,13nm,0.7s
KMSC Kings Mountain 22.45 22 P P 13 05 24.3 -0.3
baz=206
U49A Red Boiling Sp 22.46 12 P P 13 05 24.5 -0.2
U49A IAmb IAmb 13 05 50.2
comp=Z,28nm,1.1s
T45A Paducah 22.52 6 P P 13 05 25.3 0.0
MGMO Mountain Grove 22.53 358 P P 13 05 25.0 -0.4
MGMO IAmb IAmb 13 05 27.2
comp=Z,22nm,0.9s
T47A Sharon Grove 22.69 9 P P 13 05 27.0 0.0
T47A IAmb IAmb 13 05 52.1
comp=Z,30nm,0.8s
TZTN Tazewell 23.02 16 P P 13 05 30.4 +0.1
TZTN IAmb IAmb 13 05 32.4
comp=Z,33nm,1.1s
TZTN Tazewell 23.02 16 P P 13 05 30.3 0.0
baz=200,SNR=5.6
S39A Bolivar 23.11 356 P P 13 05 30.5 -0.7
S39A IAmb IAmb 13 05 32.7
comp=Z,29nm,0.6s
S44A Carbondale 23.14 4 P P 13 05 31.0 -0.4
S44A IAmb IAmb 13 05 33.2
comp=Z,32nm,0.7s
T50A Nancy 23.15 14 P P 13 05 30.9 -0.6
121A Cookes Peak, D 23.27 323 P P 13 05 34.0 +1.1
baz=136
FVM French Village 23.36 2 P P 13 05 32.7 -0.8
CCM Cathedral Cave 23.42 0 P P 13 05 33.2 -0.8
CCM Cathedral Cave 23.42 0 P P 13 05 33.6 -0.4
baz=180
U54A Nelsons Funny 23.53 20 P P 13 05 35.4 +0.3
U54A IAmb IAmb 13 05 37.6
comp=Z,57nm,1.3s
R40A Maddies Statio 23.66 358 P P 13 05 35.9 -0.3
R40A IAmb IAmb 13 05 37.5
comp=Z,28nm,0.9s
BNM Barren Site 23.85 328 P P 13 05 39.9 +1.7
SLM Saint Louis 24.02 2 P P 13 05 39.7 +0.3
WCI Wyandotte Cave 24.03 10 P P 13 05 39.0 -0.5
WCI IAmb IAmb 13 05 41.3
comp=Z,18nm,0.8s
WCI Wyandotte Cave 24.03 10 P P 13 05 39.2 -0.3
baz=192
S51A Beattyville 24.04 16 P P 13 05 40.1 +0.5
S51A IAmb IAmb 13 06 09.3
comp=Z,12nm,0.8s
ANMO Albuquerque 24.39 329 P P 13 05 44.8 +1.8
comp=Z,1.5nm,0.8s,baz=132,slow=5.4,SNR=4.7
ANMO Albuquerque 24.39 329 P P 13 05 44.5 +1.6
ANMO Albuquerque 24.39 329 P P 13 05 44.0 +1.0
baz=143
BLA Blacksburg 24.63 22 P P 13 05 43.7 -1.3
baz=206
S54A Dingess, Beckl 24.86 19 P P 13 05 46.5 -0.6
S54A IAmb IAmb 13 05 47.6
comp=Z,11nm,0.6s
P40A Paris 24.89 359 P P 13 05 46.6 -0.7
P40A IAmb IAmb 13 05 49.0
comp=Z,16nm,0.6s
TUC Tucson 24.96 318 P P 13 05 50.2 +2.1
TUC Tucson 24.96 318 P P 13 05 48.8 +0.7
baz=131

ATAH Atahualpa 25.15 148 P P 13 05 52.0 +1.7
comp=Z,18nm,0.8s,baz=7.5,slow=4.7,SNR=11
ATAH LR LR 13 14 05.3
comp=Z,74nm,20.1s,baz=348,slow=32
CBKS Cedar Bluff 25.25 345 P P 13 05 52.3 +1.7
baz=161
T25A Trinidad 25.28 335 P P 13 05 51.6 +0.5
baz=149
Q51A Peebles 25.42 15 P P 13 05 51.1 -1.0
Q51A IAmb IAmb 13 06 19.3
comp=Z,54nm,1.3s
T59A Double "B" Far 25.55 27 P P 13 05 53.7 +0.5
T59A IAmb IAmb 13 05 54.3
comp=Z,10nm,0.8s
Q52A Bidwell 25.64 17 P P 13 05 54.2 +0.1
Q52A IAmb IAmb 13 06 21.9
comp=Z,20nm,1.1s
214A Organ Pipe Nat 26.08 315 P P 13 06 00.6 +2.4
214A IAmb IAmb 13 06 01.6
comp=Z,7.3nm,0.7s
214A Organ Pipe Nat 26.08 315 P P 13 05 59.2 +1.0
baz=127,SNR=6.7
Q54A Coxs Mills 26.09 19 P P 13 05 58.2 0.0
Q54A IAmb IAmb 13 05 59.0
comp=Z,12nm,0.7s
W18A Petrified Fore 26.26 325 P P 13 06 01.3 +1.3
W18A Petrified Fore 26.26 325 P P 13 06 01.4 +1.5
baz=137
P52A Corning 26.31 16 P P 13 06 00.1 0.0
baz=201
ACSO Alum Creek Sta 26.65 15 P P 13 06 03.4 +0.2
baz=198
X16A Lo Mia Camp, P 26.77 321 P P 13 06 06.9 +2.3
S22A 4UR Ranch, Cre 26.83 332 P P 13 06 06.0 +0.9
baz=145
MVCO Mesa Verde 27.19 329 P P 13 06 09.7 +1.4
baz=142
113A Mohawk Valley, 27.21 316 P P 13 06 09.8 +1.5
O54A Avella 27.33 19 P P 13 06 09.1 -0.1
O54A IAmb IAmb 13 06 12.2
comp=Z,8.0nm,0.8s
L40A Anamosa 27.42 0 P P 13 06 09.8 -0.3
L40A IAmb IAmb 13 06 35.5
comp=Z,22nm,1.2s
Y14A Wickenburg 27.43 319 P P 13 06 12.3 +2.0
WUAZ Wupatki 27.48 323 P P 13 06 12.9 +2.0
WUAZ Wupatki 27.48 323 P P 13 06 12.7 +1.8
baz=134,SNR=6.2
O56A Blue Knob Stat 28.01 21 P P 13 06 15.4 0.0
baz=207
N54A Moraine State 28.16 19 P P 13 06 16.8 +0.1
baz=204
JFWS Jewell Farm 28.29 2 P P 13 06 18.8 +1.0
JFWS IAmb IAmb 13 06 20.3
comp=Z,11nm,0.7s
JFWS Jewell Farm 28.29 2 P P 13 06 18.5 +0.8
baz=182
PDMCI Parker Dam,Lak 28.39 318 P P 13 06 20.8 +2.0
baz=128
SSPA Standing Stone 28.57 22 P P 13 06 20.1 -0.3
SSPA IAmb IAmb 13 06 29.4
comp=Z,23nm,1.4s
SSPA Standing Stone 28.57 22 P P 13 06 20.3 0.0
baz=208
U15A North Rim 28.65 323 P P 13 06 23.4 +2.0
ANWB Willy Bob 28.68 80 P P 13 06 21.6 +0.1
IKP In-Ko-Pah, Jac 28.77 313 P P 13 06 23.9 +1.7
baz=123
BC3 Big Chuckawall 28.88 315 P P 13 06 25.5 +2.3
baz=125,SNR=6.8
CZSB Cruzeiro do Su 28.92 139 P P 13 06 24.6 +0.9
CZSB IAmb IAmb 13 06 26.1
comp=Z,20nm,1.0s
IRM Iron Mountain 28.96 317 P P 13 06 25.8 +1.9
baz=127
MONP2 Monument Peak 29.12 313 P P 13 06 27.6 +2.1
baz=123
KNB Kanab 29.36 324 P P 13 06 30.1 +2.5
KNB IAmb IAmb 13 06 31.5
comp=Z,5.9nm,0.8s
O20A White River Ci 29.41 333 P P 13 06 29.4 +1.3
baz=145
ECSD EROS Data Cent 29.42 352 P P 13 06 28.1 +0.3
ECSD EROS Data Cent 29.42 352 P P 13 06 28.2 +0.4
baz=170
BELC Belle Mtn. Jos 29.44 315 P P 13 06 29.8 +1.5
baz=125
M57A Sunshine Farm, 29.46 22 P P 13 06 28.5 +0.3
M57A IAmb IAmb 13 06 55.8
comp=Z,35nm,1.5s
TPFO Pinon Flats 29.53 314 P P 13 06 31.3 +2.2
baz=124
PFO Pinyon Flats O 29.54 314 PcP PcP 13 09 32.5 +0.5
comp=Z,0.8nm,0.6s,baz=32,slow=0.6,SNR=3.9
PFO Pinyon Flats O 29.54 314 P P 13 06 31.1 +2.0
baz=124
LCMT Little Creek M 29.61 323 P P 13 06 32.4 +2.7
GMRC Granite Mounta 29.68 317 P P 13 06 32.6 +2.2
baz=127,SNR=5.4
MTPU Mount Pierson 29.73 326 P P 13 06 33.5 +2.4
WVNY West Valley, N 29.90 19 P P 13 06 31.8 -0.4
L56A Greenwood 30.01 21 P P 13 06 32.7 -0.4
L56A IAmb IAmb 13 06 45.0
comp=Z,29nm,1.4s
CCUT Cedar City 30.05 324 P P 13 06 35.1 +1.4
MSU Marysvale 30.07 326 P P 13 06 36.7 +2.8
MVU Marysvale 30.08 326 P P 13 06 37.0 +3.0
MVU IAmb IAmb 13 06 45.5
comp=Z,18nm,1.2s
HEC Hector,Ludlow 30.15 316 P P 13 06 36.3 +1.8
baz=126
TUQ Turquoise Moun 30.24 318 P P 13 06 37.1 +1.8
baz=127
SPMN Marine on St. 30.60 358 P P 13 06 37.6 -0.6
BINY Binghamton 30.64 23 P P 13 06 38.9 +0.4
baz=210
MEDO Medina 30.64 19 P P 13 06 38.4 -0.1
GSC Goldstone, Bar 30.74 317 P P 13 06 41.7 +2.0
baz=126
WSPT Westport, CT 30.87 27 P P 13 06 40.6 0.0
K57A Scipio Center 30.90 22 P P 13 06 40.7 -0.2
L59A Walton 30.99 24 P P 13 06 42.3 +0.6
BBGH Gun Hill 31.01 89 P P 13 06 42.7 +0.5
KSCT Kent School, K 31.25 26 P P 13 06 44.6 +0.6
F36A Milaca 31.27 357 P P 13 06 43.1 -0.9
EDW2 Edwards Air Fo 31.30 315 P P 13 06 46.1 +1.5
baz=124
TPNV Topopah Spring 31.38 320 P P 13 06 48.3 +2.9
baz=129
LRMC Laurel Mtn Rad 31.43 316 P P 13 06 47.1 +1.4
baz=125
SPR3 Spring Creek 3 31.60 325 P P 13 06 49.8 +2.3
SPR3 PcP PcP 13 09 38.1 +0.6
MPMC Manual Prospec 31.63 317 P P 13 06 49.8 +2.1
baz=126,SNR=7.7
PECO Prince Edward 31.80 20 P P 13 06 48.8 +0.1
UCCT U. Connecticut 31.86 28 P P 13 06 49.6 +0.3
R11A Troy Canyon, C 31.88 323 P P 13 06 51.3 +1.5
R11A Troy Canyon, C 31.88 323 P P 13 06 52.2 +2.4
baz=132
SADO Sadowa 31.90 17 LR LR 13 19 54.4
comp=Z,51nm,21.0s,baz=204,slow=37
SADO Sadowa 31.90 17 P P 13 06 48.5 -1.0
SADO IAmb IAmb 13 07 02.6
comp=Z,22nm,1.2s
J58A Remsen 31.90 23 P P 13 06 49.4 -0.3
ARVC Arvin 32.01 315 P P 13 06 53.2 +2.4
baz=123
ISA Isabella, Lake 32.06 316 P P 13 06 53.4 +2.1
baz=124
PDAR Pinedale Array 32.14 335 P P 13 06 52.1 0.0
comp=Z,0.2nm,0.6s,baz=134,slow=8.9,SNR=2.7
PDAR PcP PcP 13 09 38.8 -0.1
comp=Z,0.6nm,0.5s,baz=136,slow=5.5,SNR=12
PDAR ScP ScP 13 13 13.1 -0.2
comp=Z,1.2nm,0.9s,baz=141,slow=5.0,SNR=7.7
PDAR LR LR 13 21 17.4
comp=Z,47nm,18.1s,baz=268,slow=39
L61B Northampton 32.19 27 P P 13 06 54.2 +2.0
baz=216
J59A Piesco 32.28 23 P P 13 06 52.6 -0.4
J59A IAmb IAmb 13 06 53.0
comp=Z,21nm,1.4s
LCH Last Change Ra 32.43 319 P P 13 06 56.6 +2.0
VES Vestal, Richgr 32.57 316 P P 13 06 57.1 +1.4
baz=124

HVU Hansel Valley 32.81 330 P P 13 06 59.1 +1.2
NCB Newcomb 32.82 23 P P 13 06 57.4 -0.3
NCB IAmb IAmb 13 07 19.4
comp=Z,17nm,1.1s
REDW Red Top Meadow 33.18 334 P P 13 07 01.4 +0.3
REDW IAmb IAmb 13 07 28.4
comp=Z,9.3nm,1.1s
LONY Lake Ozonia 33.24 22 P P 13 07 01.3 0.0
baz=211
LOHW Long Hollow 33.27 334 P P 13 07 01.6 -0.3
ELK Elko 33.32 326 P P 13 07 03.9 +1.6
MOOW Moose Ponds 33.44 334 P P 13 07 03.9 +0.5
NV11 Mina Array Sit 33.48 320 P P 13 07 05.7 +1.9
NV11 IAmb IAmb 13 07 07.6
comp=Z,7.0nm,0.8s
NVAR Mina Array Bea 33.57 320 P P 13 07 07.4 +2.8
comp=Z,7.6nm,0.6s,baz=133,slow=8.4,SNR=76
NVAR pP pP 13 07 28.0 -0.1
comp=Z,0.9nm,0.7s,baz=138,slow=7.4,SNR=2.3
NVAR PcP PcP 13 09 44.2 +1.3
comp=Z,2.2nm,0.7s,baz=143,slow=2.9,SNR=12
NVAR ScP ScP 13 13 20.0 +1.7
comp=Z,0.3nm,0.6s,baz=172,slow=4.0,SNR=3.9
NVAR Mina Array Bea 33.57 320 P P 13 07 07.3 +2.7
LHV Little Huntoon 33.59 320 P P 13 07 07.7 +3.2
LHV IAmb IAmb 13 07 09.0
comp=Z,7.6nm,0.7s
B35A Bob, Littlefor 33.77 357 P P 13 07 04.5 -1.3
B35A IAmb IAmb 13 07 17.8
comp=Z,11nm,1.1s
RYN Ryan 33.83 320 P P 13 07 08.4 +1.6
KVN Kaiserville 33.83 321 P P 13 07 09.2 +2.4
KVN IAmb IAmb 13 07 10.4
comp=Z,7.3nm,1.1s
YERR Yerington 34.49 320 P P 13 07 13.9 +1.4
YERR IAmb IAmb 13 07 16.2
comp=Z,19nm,1.5s
ETMB Extrema 34.83 133 P P 13 07 15.4 -0.1
ETMB IAmb IAmb 13 07 15.8
comp=Z,4.5nm,0.8s
HLID Hailey 34.95 330 P P 13 07 17.5 +1.1
baz=139
PAHR Pah Rah Range 35.02 321 P P 13 07 18.8 +1.8
MCMT McKenzie Canyo 35.21 333 P P 13 07 20.5 +1.8
G62A West of Eustis 35.34 26 P P 13 07 20.1 +0.7
ULM Lac du Bonnet 35.79 355 P P 13 07 21.7 -1.5
comp=Z,2.2nm,0.5s,baz=171,slow=8.3,SNR=4.4
ULM Lac du Bonnet 35.79 355 IAmb IAmb 13 07 22.3
comp=Z,3.3nm,0.7s
LRM Limekiln Ridge 35.84 335 P P 13 07 25.2 +1.2
WVOR Wild Horse Val 36.33 325 P P 13 07 30.4 +2.3
F63A Nahmakanta, Br 36.34 27 P P 13 07 28.1 +0.2
MCCM Marconi Confer 36.37 316 P P 13 07 29.0 +0.6
G65A Princeton 36.64 29 P P 13 07 30.6 0.0
EGMT Eagleton 36.66 339 P P 13 07 30.9 +0.2
EGMT IAmb IAmb 13 07 57.5
comp=Z,10.0nm,1.2s
EGMT Eagleton 36.66 339 P P 13 07 30.9 +0.2
baz=149
F64A Sherman 36.79 27 P P 13 07 32.4 +0.6
PLID Pearl Lake 36.85 331 P P 13 07 33.3 +0.7
J08A Circle Bar Ran 36.86 327 P P 13 07 34.2 +1.6
E62A Clayton Lake 36.88 25 P P 13 07 32.8 +0.2
LMQ La Malbaie 37.31 24 P P 13 07 35.8 -0.4
D62A Allapoint, All 37.45 25 P P 13 07 36.9 -0.4
I07A Izee 37.90 327 P P 13 07 42.5 +1.1
F10A Beach Ranch, E 38.08 331 P P 13 07 44.7 +1.9
F10A IAmb IAmb 13 07 45.4
comp=Z,5.6nm,0.8s
JTMT Jette 38.13 335 PcP PcP 13 09 56.1 0.0
M02C Callahan 38.15 321 P P 13 07 43.2 -0.2
M02C IAmb IAmb 13 08 11.8
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 38.26 321 P P 13 07 44.1 -0.3
YBH IAmb IAmb 13 07 48.9
comp=Z,6.4nm,1.4s
LPAZ La Paz 38.35 142 P P 13 07 45.4 -0.5
comp=Z,1.5nm,0.8s,baz=335,slow=11,SNR=5.8
LPAZ La Paz 38.35 142 IAmb IAmb 13 07 46.8
comp=Z,2.1nm,0.9s
PB12 IPOC Station P 38.99 147 P P 13 07 51.4 +0.8
PB12 IAmb IAmb 13 08 10.9
comp=Z,11nm,0.8s
KSXB Camp Six Broad 39.03 321 P P 13 07 52.3 +1.5
PB16 IPOC Station P 39.20 146 P P 13 07 53.8 +0.8
PB16 IAmb IAmb 13 07 54.9
comp=Z,6.1nm,0.9s
G05D Wamic, OR 39.64 327 P P 13 07 56.8 +1.0
baz=131
NEW Newport 39.74 333 LR LR 13 25 26.1
comp=Z,18nm,19.3s,baz=192,slow=38
GBN Guysborough 39.82 33 P P 13 07 57.1 -0.1
PB11 IPOC Station P 40.29 147 P P 13 08 02.0 +0.5
PB11 IAmb IAmb 13 08 02.8
comp=Z,14nm,0.9s
GO01 Chusmiza 40.46 147 P P 13 08 04.5 +1.2
GO01 IAmb IAmb 13 08 05.3
comp=Z,7.1nm,0.7s
PB08 IPOC Station P 40.87 147 P P 13 08 07.6 +1.1
PB08 IAmb IAmb 13 08 08.3
comp=Z,4.9nm,0.8s
PB07 IPOC Station P 41.81 149 P P 13 08 14.7 +0.7
PB09 IPOC Station P 42.19 148 P P 13 08 18.3 +1.1
PB09 IAmb IAmb 13 08 19.2
comp=Z,21nm,1.2s
EDM Edmonton 42.29 341 P P 13 08 17.1 -0.3
SIV San Ignacio 42.70 134 P P 13 08 19.9 -1.3
comp=Z,1.3nm,0.4s,baz=287,slow=6.0,SNR=5.8
SIV pP pP 13 08 45.1 +0.1
comp=Z,2.9nm,0.8s,baz=318,slow=7.7,SNR=4.2
SIV PcP PcP 13 10 10.9 -0.3
comp=Z,2.6nm,0.7s,baz=253,slow=4.0,SNR=6.8
FCC Fort Churchill 44.18 358 P P 13 08 31.8 -0.6
FCC IAmb IAmb 13 08 32.4
comp=Z,6.4nm,0.6s
DRLN Deer Lake 44.38 32 P P 13 08 32.9 -1.3
SCHQ Schefferville 44.54 20 P P 13 08 34.4 -1.0
comp=Z,13nm,0.7s,baz=222,slow=7.0,SNR=21
SCHQ LR LR 13 27 17.6
comp=Z,82nm,18.6s,baz=82,slow=36
SCHQ Schefferville 44.54 20 P P 13 08 34.2 -1.2
SCHQ IAmb IAmb 13 08 35.0
comp=Z,11nm,0.7s
YKA Yellowknife Ar 50.62 346 P P 13 09 21.9 -0.3
comp=Z,2.4nm,0.6s,baz=149,slow=7.5,SNR=54
YKA pP pP 13 09 46.6 -0.9
comp=Z,1.9nm,0.8s,baz=148,slow=7.4,SNR=7.9
YKA PcP PcP 13 10 37.0 -1.3
comp=Z,0.7nm,0.7s,baz=149,slow=3.5,SNR=6.2
YKA ScP ScP 13 14 24.0 -1.2
comp=Z,0.3nm,0.8s,baz=147,slow=4.3,SNR=4.8
YKA Yellowknife Ar 50.62 346 P P 13 09 21.8 -0.5
MT09 Talagante 51.87 158 P P 13 09 32.6 +0.4
MT09 IAmb IAmb 13 09 32.7
comp=Z,4.6nm,0.8s
DLBC Dease Lake 52.37 336 P P 13 09 37.2 +1.7
DLBC IAmb IAmb 13 09 42.6
comp=Z,10nm,1.3s
LC01 Cunco 56.24 162 P P 13 10 03.5 -0.2
LC01 IAmb IAmb 13 10 04.5
comp=Z,12nm,1.1s
PLCA Paso Flores 58.32 161 P P 13 10 18.3 -0.1
comp=Z,3.8nm,0.9s,baz=356,slow=5.9,SNR=7.1
PLCA Paso Flores 58.32 161 P P 13 10 18.6 +0.2
PLCA IAmb IAmb 13 10 19.3
comp=Z,12nm,1.4s
CTGM Chitina Glacie 58.51 334 P P 13 10 19.6 +0.1
SFJD Kangerlussuaq 58.85 17 LR LR 13 36 02.4
comp=Z,60nm,18.3s,baz=222,slow=36
M27K Edge Creek, AK 59.43 335 P P 13 10 26.6 +0.8
M27K IAmb IAmb 13 10 49.3
comp=Z,4.9nm,1.1s
BCAR Beaver Creek A 59.75 336 P P 13 10 28.2 +0.3
L27K Beaver Creek, 59.76 336 P P 13 10 28.2 +0.2
L27K IAmb IAmb 13 10 28.9
comp=Z,2.5nm,0.8s
L27K Beaver Creek, 59.76 336 P P 13 10 28.2 +0.2
baz=120
EPYK Eagle Plains 59.79 341 P P 13 10 28.3 +0.2
baz=127
M26K Nabesna, AK 59.90 335 P P 13 10 29.6 +0.6
M26K IAmb IAmb 13 10 41.5
comp=Z,12nm,1.5s
M26K Nabesna, AK 59.90 335 P P 13 10 28.8 -0.2
baz=119

BMRM	Bremner River	59.91	333	P	P	13 10 30.3	+1.2
BMRM	Bremner River	59.91	333	P	P	13 10 29.0	-0.1
	baz=116						
Q23K	Middleton Isla	60.05	331	P	P	13 10 30.5	+0.6
	baz=114						
INK	Inuvik	60.06	343	P	P	13 10 28.9	-1.0
	comp=Z,1.9nm,0.6s,baz=125,slow=6.5,SNR=12						
INK	Inuvik	60.06	343	P	P	13 10 29.5	-0.4
INK				IAmb	IAmb	13 10 30.3	
	comp=Z,1.8nm,0.7s						
INK	Inuvik	60.06	343	P	P	13 10 29.7	-0.2
	baz=132						
RES	Resolute Bay	60.17	359	LR	LR	13 38 50.3	
	comp=Z,48nm,19.3s,baz=26,slow=38						
RES	Resolute Bay	60.17	359	P	P	13 10 29.0	-1.5
N25K	Chitina, Valde	60.20	334	P	P	13 10 32.2	+1.1
N25K	Chitina, Valde	60.20	334	P	P	13 10 31.6	+0.5
	baz=117						
EYAK	Cordova Ski Ar	60.24	332	P	P	13 10 32.4	+1.2
L26K	Log Cabin Wild	60.35	336	P	P	13 10 32.0	0.0
	baz=119						
EGAK	Eagle	60.40	338	P	P	13 10 32.2	0.0
MENT	Mentasta	60.45	335	P	P	13 10 33.4	+0.7
MENT				IAmb	IAmb	13 10 37.6	
	comp=Z,6.7nm,1.3s						
KLU	Klutina	60.72	333	P	P	13 10 35.3	+0.7
KLU				IAmb	IAmb	13 10 38.9	
	comp=Z,3.3nm,0.9s						
KLU	Klutina	60.72	333	P	P	13 10 34.6	-0.1
	baz=115						
A36M	Sachs Harbour	60.82	349	P	P	13 10 34.0	-1.0
A36M	Sachs Harbour	60.82	349	P	P	13 10 33.7	-1.3
	baz=142						
DOT	Dot Lake	60.93	336	P	P	13 10 35.9	0.0
SCRK	Sand Creek	61.06	336	P	P	13 10 37.8	+0.9
SCRK				IAmb	IAmb	13 10 39.2	
	comp=Z,5.0nm,1.4s						
SCRK	Sand Creek	61.06	336	P	P	13 10 37.3	+0.4
	baz=118						
M24K	Tolsona, Glenn	61.09	334	P	P	13 10 37.9	+0.8
M24K	Tolsona, Glenn	61.09	334	P	P	13 10 37.4	+0.3
	baz=115						
J26L	Joseph Creek	61.15	337	P	P	13 10 38.0	+0.5
	baz=119						
PAX	Paxson	61.18	335	P	P	13 10 37.6	-0.1
PAX				IAmb	IAmb	13 10 38.1	
	comp=Z,11nm,1.5s						
PAX	Paxson	61.18	335	P	P	13 10 37.4	-0.3
	baz=116						
SCM	Sheep Creek Mo	61.47	333	P	P	13 10 40.0	+0.3
SCM	Sheep Creek Mo	61.47	333	P	P	13 10 40.2	+0.5
	baz=114						
PWL	Port Wells	61.53	332	P	P	13 10 39.7	-0.4
	baz=113						
KNK	Knik Glacier	61.80	333	P	P	13 10 42.0	+0.2
J25K	Salcha River,	61.89	337	P	P	13 10 42.6	+0.2
J25K				IAmb	IAmb	13 10 43.6	
	comp=Z,5.7nm,1.2s						
J25K	Salcha River,	61.89	337	P	P	13 10 43.0	+0.5
	baz=118						
SML	Sawmill	61.90	333	P	P	13 10 42.6	+0.1
GHO	Glory Hole Cre	62.14	333	P	P	13 10 44.8	+0.6
GHO				IAmb	IAmb	13 10 47.2	
	comp=Z,11nm,1.1s						
PMR	Palmer	62.16	333	P	P	13 10 44.5	+0.3
PMR	Palmer	62.16	333	P	P	13 10 44.1	0.0
	baz=112						
CNPM	China Poot	62.40	330	P	P	13 10 45.5	-0.4
HDA	Harding Lake	62.41	336	P	P	13 10 45.3	-0.5
HDA				IAmb	IAmb	13 11 10.2	
	comp=Z,6.5nm,1.4s						
KDAK	Kodiak Island	62.52	328	P	P	13 10 47.4	+0.8
IL31		62.54	337	P	P	13 10 46.1	-0.5
ILAR	Eielson Array	62.54	337	P	P	13 10 46.5	-0.3
	comp=Z,0.9nm,0.6s,baz=172,slow=4.9,SNR=22						
ILAR	Eielson Array	62.54	337	P	P	13 10 46.6	-0.1
OHAK	Old Harbor	62.73	327	P	P	13 10 48.8	+0.8
RND	Reindeer	62.75	335	P	P	13 10 48.6	+0.4
RND				IAmb	IAmb	13 10 50.6	
	comp=Z,4.8nm,0.9s						
CCB	Clear Creek Bu	62.84	336	P	P	13 10 48.1	-0.6
MCK	McKinley	62.92	335	P	P	13 10 48.9	-0.4
MCK				IAmb	IAmb	13 10 53.2	
	comp=Z,6.5nm,1.2s						
MCK	McKinley	62.92	335	P	P	13 10 49.4	+0.1
	baz=114						
BMAR	Burnt Mountain	62.96	340	P	P	13 10 49.5	0.0
CUT	Chulitna	62.97	333	P	P	13 10 50.0	+0.4
	baz=112						
TRF	Thorofare Moun	63.37	335	P	P	13 10 52.1	-0.3
TRF				IAmb	IAmb	13 10 54.6	
	comp=Z,5.8nm,0.8s						
TRF	Thorofare Moun	63.37	335	P	P	13 10 52.7	+0.3
	baz=112						
H24K	Noodor Dome	63.38	337	P	P	13 10 52.0	-0.3
H24K	Noodor Dome	63.38	337	P	P	13 10 52.2	-0.1
	baz=116						
Q19K	Cape Douglas,	63.39	329	P	P	13 10 52.6	+0.1
	baz=107						
KTH	Kantishna Hill	63.67	335	P	P	13 10 53.9	-0.3
KTH				IAmb	IAmb	13 11 08.1	
	comp=Z,8.8nm,1.3s						
BPAW	Bear Paw Mtn.	63.90	335	P	P	13 10 55.4	-0.3
BPAW				IAmb	IAmb	13 11 03.5	
	comp=Z,11nm,1.0s						
PPLA	Purkeypile	63.97	334	P	P	13 10 55.7	-0.6
PPLA				IAmb	IAmb	13 10 58.8	
	comp=Z,18nm,1.4s						
CAST	Castle Rocks	64.11	334	P	P	13 10 56.4	-0.7
	baz=110						
N19K	Bonanza Creek	64.34	331	P	P	13 10 58.5	-0.3
N19K				IAmb	IAmb	13 11 00.7	
	comp=Z,13nm,1.2s						
N19K	Bonanza Creek	64.34	331	P	P	13 10 58.6	-0.2
	baz=107						
CHUM	Lake Minchumin	64.36	335	P	P	13 10 57.0	-1.7
	baz=110						
O18K	Koktuh Hills	64.42	330	P	P	13 10 59.1	-0.1
L20K	Farewell, AK	64.57	333	P	P	13 11 00.2	0.0
	baz=108						
COLD	Coldfoot	64.81	338	P	P	13 11 01.6	0.0
	baz=114						
K20K	Telida	64.93	334	P	P	13 11 01.9	-0.5
K20K				IAmb	IAmb	13 11 05.3	
	comp=Z,20nm,1.5s						
K20K	Telida	64.93	334	P	P	13 11 02.4	0.0
	baz=108						
SVW2	Sparrevohn	64.94	331	P	P	13 11 01.9	-0.6
SVW2				IAmb	IAmb	13 11 25.4	
	comp=Z,9.3nm,1.2s						
H21K	Melozitna Rive	65.18	336	P	P	13 11 03.3	-0.8
H21K	Melozitna Rive	65.18	336	P	P	13 11 03.2	-0.8
	baz=110						
J20K	Nowinta River	65.22	335	P	P	13 11 03.5	-0.8
J20K				IAmb	IAmb	13 11 03.6	
	comp=Z,6.0nm,1.4s						
J20K	Nowinta River	65.22	335	P	P	13 11 03.5	-0.8
	baz=109						
EUNU	Eureka	65.58	1	P	P	13 11 05.4	-1.0
EUNU				IAmb	IAmb	13 11 33.7	
	comp=Z,8.8nm,1.4s						
TTA	Tatalina	65.64	333	P	P	13 11 06.0	-1.2
TTA				IAmb	IAmb	13 11 33.2	
	comp=Z,6.4nm,1.4s						
TTA	Tatalina	65.64	333	P	P	13 11 06.3	-0.8
	baz=106						
SDPT	Sand Point	66.23	324	P	P	13 11 10.4	-0.4
	baz=99						
GCSA	Galena City Sc	66.53	335	P	P	13 11 12.4	-0.1
	baz=106						
FALS	False Pass	67.84	324	P	P	13 11 21.7	+0.6
	baz=96						
A21K	Barrow	68.44	342	P	P	13 11 24.4	-0.2
	baz=109						
UNV	Unalaska Valle	69.56	322	P	P	13 11 32.5	+0.7
ADK	Adak	75.76	320	P	P	13 12 07.3	-1.2
NOA	NORSAR Array B	83.43	29	LR	LR	13 49 22.5	
	comp=Z,12nm,18.8s,baz=345,slow=35						
ARCES	ARCESS Array B	85.46	18	P	P	13 12 57.7	-2.3
	comp=Z,1.7nm,0.8s,baz=305,slow=3.2,SNR=4.6						
ARCES	ARCESS Array B	85.46	18	P	P	13 12 58.4	-1.7
TIXI	Tiksi	89.83	348	P	P	13 13 19.4	-1.5
	comp=Z,0.9nm,0.4s,baz=5.5,slow=3.9,SNR=5.2						
TIXI	Tiksi	89.83	348	P	P	13 13 19.6	-1.3
TIXI				IAmb	IAmb	13 13 20.1	
	comp=Z,1.5nm,0.5s						
PETK	Petropavlovsk-	90.48	326	P	P	13 13 24.2	-0.1
	comp=Z,2.1nm,0.8s,baz=26,slow=6.9,SNR=1.7						
SONM	Songino Array	115.88	347	PKP	PKiKP	13 19 04.7	-0.3
	comp=Z,0.6nm,0.8s,baz=349,slow=1.5,SNR=3.5						
KSRS	Korea Array	116.38	326	PKP	PKPdf	13 19 05.7	-0.3
	comp=Z,1.0nm,0.6s,baz=346,slow=2.9,SNR=2.1						
MKAR	Makanchi Array	118.69	5	PKP	PKPdf	13 19 08.5	-1.8
	comp=Z,0.3nm,0.7s,baz=354,slow=2.9,SNR=2.9						
KSH	Kashi	124.96	12	PKP	PKiKP	13 19 24.5	+1.4
WRA	Warramunga Arr	136.02	256	PKP	PKPdf	13 19 44.9	+0.9
	comp=Z,0.9nm,0.7s,baz=91,slow=1.3,SNR=6.5						
ASAR	Alice Springs	136.32	251	PKhKP	PKPpre	13 19 34.2	
	comp=Z,0.4nm,0.9s,baz=109,slow=3.5,SNR=3.1						
ASAR				PKP	PKPdf	13 19 44.8	+0.3
	comp=Z,0.5nm,0.7s,baz=100,slow=1.8,SNR=6.6						
PZH	PanZhiHua	137.22	342	PKP	PKPdf	13 19 46.3	+0.1
CMAR	Chiang Mai Arr	145.63	342	PKPbc	PKPdf	13 20 00.8	-0.5
	comp=Z,6.9nm,0.8s,baz=332,slow=3.4,SNR=39						
CMAR	Chiang Mai Arr	145.63	342	PKPdf	PKPdf	13 20 00.4	-0.9

IDC 19 13:02:56.1±4.3, 28°.52N×85°.74E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.1/53, mbtmp3.5/4, ML2.9/2, MS3.7/1, Ms1 3.7/1, ms1mx2.5/79, Error ellipse: s-maj=199.2km s-min=35.6km az=66.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.70	127	Pn	Pn	13 06 39.3	+0.5
	0.0nm,0.3s,baz=310,slow=14,SNR=1.5						
MKAR	Makanchi Array	18.45	353	P	Pn	13 07 13.2	-0.1
	0.0nm,0.3s,baz=171,slow=11,SNR=5.2						
LEM	Lembang	40.99	146	LR	LR	13 30 13.3	
	comp=Z,93nm,19.6s,baz=256,slow=40						
WRA	Warramunga Arr	67.27	130	P	P	13 13 52.0	-0.8
	0.4nm,0.7s,baz=316,slow=5.4,SNR=3.3						
ASAR	Alice Springs	69.60	133	P	P	13 14 08.0	+0.6
	0.4nm,0.8s,baz=319,slow=6.1,SNR=5.6						

*IDC **19** 13:04:08.8±0.6, 60°.41S×27°.14W, h0km, mb4.5/9, mb1 4.5/9, mb1mx4.3/27, mbtmp4.5/9, MS3.7/15, Ms1 3.7/15, ms1mx3.5/42, Error ellipse: s-maj=26.0km s-min=17.7km az=55.0*

*NEIC **19** 13:04:10.3±1.1, 60°.3S±0°.1×26°.5W±0°.2, h10km±1km, mb4.7/32, Error ellipse: s-maj=21.5km s-min=17.7km az=223.0*

ISC 19 13:04:10.3±0.5, 60°.29S±0°.09×26°.64W±0°.10, h10km, n64, σ0.92/51, mb4.7/20, MS3.8/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.04	314	Pn	Pn	13 06 08.4	+1.5
VNA1	Neumayer--Stat	12.82	152	P	Pn	13 07 06.5	-5.8
VNA3	Neumayer Olymp	12.94	155	P	Pn	13 07 07.5	-6.6
VNA3				S	Sn	13 09 17.0	-21
ESPZ	Base Esperanza	14.58	245	Pn	Pn	13 07 37.6	+1.2
SNAA	Sanae	14.82	150	P	Pn	13 07 33.8	-5.8
SNAA				S	Sn	13 10 03.7	-20
SNAA	Sanae	14.82	150	LR	LR	13 11 45.6	
	comp=Z,416nm,19.7s,baz=347,slow=31						
SNAA	Sanae	14.82	150	Pn	Pn	13 07 33.7	-5.9
PMSA	Palmer Station	17.63	239		P	13 08 18.3	+1.6
QSPA	South Pole Qui	29.95	180	P	P	13 10 18.7	+0.3
	3.3nm,0.5s,baz=215,slow=1.2,SNR=23						
QSPA				LR	LR	13 21 43.2	
	comp=Z,199nm,19.9s,baz=208,slow=35						
QSPA	South Pole Qui	29.95	180	P	P	13 10 18.2	-0.2
QSPA				IAmb	IAmb	13 10 27.7	
	comp=Z,11nm,1.1s						
PLTB	Pedras Altas	33.65	316	P	P	13 10 49.7	-1.3
BO02	Sierra Bellavi	38.12	292	P	P	13 11 29.9	+0.5
MT09	Talagante	39.05	292	P	P	13 11 37.0	-0.3
MT09				IAmb	IAmb	13 11 57.1	
	comp=Z,20nm,1.1s						
MT01	Popeta	39.10	292	P	P	13 11 37.0	-0.5
PEL	Peldehue	39.44	293	P	P	13 11 40.7	+0.3
PEL				IAmb	IAmb	13 11 58.1	
	comp=Z,12nm,0.7s						
MT02	Curacav	39.55	293	P	P	13 11 41.3	0.0
CPUP	Villa Florida	39.92	314	P	P	13 11 44.3	0.0
	comp=Z,3.4nm,0.3s,baz=149,slow=5.0,SNR=12						
CPUP				LR	LR	13 26 24.2	
	comp=Z,52nm,21.5s,baz=175,slow=34						
CPUP	Villa Florida	39.92	314	P	P	13 11 44.6	+0.2
SUR	Sutherland	41.66	70	LR	LR	13 25 56.4	
	comp=Z,72nm,20.0s,baz=186,slow=31						
CO06	Fray Jorge	41.95	294	P	P	13 12 01.2	+0.1
GO04	Tololo Observa	42.00	296	P	P	13 12 02.4	+0.6
GO04				IAmb	IAmb	13 12 28.1	
	comp=Z,23nm,1.3s						
VNDA	Vanda	42.34	183	P	P	13 12 02.2	-1.5
	comp=Z,2.2nm,0.8s,baz=190,slow=6.1,SNR=2.0						
VNDA	Vanda	42.34	183	P	P	13 12 04.6	+0.8
AC04	Llanos de Chal	43.81	297	P	P	13 12 16.4	+0.2
AC04				IAmb	IAmb	13 12 26.8	
	comp=Z,9.7nm,0.7s						
AC02	Maricunga	44.15	300	P	P	13 12 19.5	0.0
AC02				IAmb	IAmb	13 12 21.5	
	comp=Z,8.9nm,0.8s						
AQDB	Aquidauana	44.78	320	P	P	13 12 23.9	0.0
BOSA	Boshof	46.89	71	P	P	13 12 43.9	+3.1
	comp=Z,2.5nm,0.7s,baz=198,slow=8.6,SNR=5.5						
BOSA				LR	LR	13 28 39.9	
	comp=Z,59nm,18.6s,baz=199,slow=31						
BOSA	Boshof	46.89	71	P	P	13 12 41.3	+0.5
BOSA				IAmb	IAmb	13 12 46.4	
	comp=Z,6.8nm,1.1s						
LVC	Limon Verde	47.77	303	P	P	13 12 46.5	-1.5
	comp=Z,3.6nm,0.6s,baz=208,slow=7.3,SNR=4.4						
LVC				LR	LR	13 31 17.6	
	comp=Z,36nm,21.6s,baz=182,slow=34						
PB09	IPOC Station P	48.63	303	P	P	13 12 54.8	+0.4
PB07	IPOC Station P	48.96	302	P	P	13 12 56.8	-0.1
PB01	IPOC Station P	49.41	303	P	P	13 13 00.0	-0.2
CASY	Casey	49.82	159	P	P	13 13 02.4	-0.3
CASY				IAmb	IAmb	13 13 14.1	
	comp=Z,17nm,1.4s						
PB08	IPOC Station P	50.07	304	P	P	13 13 05.7	+0.1
PB08				IAmb	IAmb	13 13 08.9	
	comp=Z,17nm,1.5s						
LBTB	Lobatse	50.10	69	LR	LR	13 30 03.7	
	comp=Z,67nm,18.2s,baz=187,slow=31						
GO01	Chusmiza	50.51	304	P	P	13 13 08.8	-0.3
GO01				IAmb	IAmb	13 13 15.4	
	comp=Z,8.1nm,0.8s						
PTLB	Pontes e Lacer	50.60	318	P	P	13 13 09.0	-0.2
PTLB				IAmb	IAmb	13 13 09.9	
	comp=Z,10nm,0.9s						
PB11	IPOC Station P	50.62	304	P	P	13 13 09.2	-0.3
PB11				IAmb	IAmb	13 13 14.5	
	comp=Z,14nm,1.2s						
SIV	San Ignacio	50.76	315	P	P	13 13 09.6	-0.8
	baz=149,slow=9.9						
SIV				LR	LR	13 34 54.9	
	comp=Z,56nm,19.5s,baz=188,slow=36						
TSUM	Tsumeb	51.62	57	LR	LR	13 32 07.7	
	comp=Z,74nm,18.1s,baz=158,slow=32						
PB16	IPOC Station P	51.84	305	P	P	13 13 19.2	+0.1
LPAZ	La Paz	53.13	307	P	P	13 13 27.8	-1.0
	comp=Z,2.8nm,0.5s,baz=126,slow=5.5,SNR=16						
LPAZ	La Paz	53.13	307	P	P	13 13 27.9	-0.8
LPAZ				IAmb	IAmb	13 13 30.7	
	comp=Z,5.8nm,0.9s						
VILB	Vilhena	53.29	318	P	P	13 13 29.2	-0.1
ETMB	Extrema	58.31	312	P	P	13 14 03.6	-1.6
LSZ	Lusaka	59.74	66	LR	LR	13 36 25.4	
	comp=Z,79nm,19.8s,baz=162,slow=32						
BOAV	Boa Vista	67.84	323	P	P	13 15 06.4	-2.1
BOAV				IAmb	IAmb	13 15 07.7	
	comp=Z,5.7nm,0.8s						
MDP	Montagnes des	68.32	332	LR	LR	13 42 39.4	
	comp=Z,56nm,20.9s,baz=140,slow=34						
MBAR	Mbarara	73.89	61	LR	LR	13 46 04.7	
	comp=Z,54nm,18.2s,baz=214,slow=34						
TORD	Torodi Ar. Bea	76.64	28	P	P	13 16 02.5	+1.5
	comp=Z,10.0nm,0.6s,baz=197,slow=6.2,SNR=66						
SDV	Santo Domingo	77.23	315	P	P	13 16 03.9	-0.7
	comp=Z,3.0nm,0.4s,baz=150,slow=7.7,SNR=6.4						
SDV	Santo Domingo	77.23	315	P	P	13 16 03.6	-1.1
SDV				IAmb	IAmb	13 16 04.5	
	comp=Z,8.3nm,0.9s						
STKA	Stephens Creek	87.66	170	LR	LR	13 54 01.3	
	comp=Z,76nm,18.4s,baz=202,slow=34						
ASAR	Alice Springs	94.85	162	P	P	13 17 31.0	-1.4
	comp=Z,0.5nm,0.7s,baz=183,slow=4.5,SNR=9.2						
ASAR				LR	LR	13 58 57.2	
	comp=Z,85nm,18.2s,baz=199,slow=35						
CTA	Charters Tower	99.70	173	LR	LR	14 01 06.7	
	comp=Z,82nm,20.4s,baz=240,slow=34						
CMAR	Chiang Mai Arr	123.23	113	PKP	PKiKP	13 23 07.0	-0.2
	comp=Z,1.0nm,0.3s,baz=231,slow=4.3,SNR=2.4						
NVAR	Mina Array Bea	123.23	290	PKP	PKiKP	13 23 07.3	+0.3
	comp=Z,0.3nm,0.5s,baz=120,slow=3.2,SNR=3.3						
FINES	FINESS Array B	127.99	29	PKP	PKPdf	13 23 14.6	-0.1
	comp=Z,2.6nm,0.8s,baz=197,slow=1.8,SNR=6.2						
ARCES	ARCESS Array B	134.77	23	PKP	PKPdf	13 23 26.9	-0.5
	comp=Z,1.7nm,0.7s,baz=205,slow=1.8,SNR=5.2						
YKA	Yellowknife Ar	139.44	314	PKP	PKPdf	13 23 36.0	-0.2
	comp=Z,1.4nm,0.8s,baz=128,slow=2.2,SNR=22						
ZALV	Zalesovo Beam	143.82	69	PKhKP	PKPpre	13 23 41.2	
	comp=Z,0.7nm,0.5s,baz=218,slow=3.2,SNR=3.8						
ZALV				PKP	PKPdf	13 23 45.1	+0.8
	comp=Z,0.7nm,0.5s,baz=222,slow=3.5,SNR=3.8						
SONM	Songino Array	150.44	94	PKPbc	PKPbc	13 24 00.8	-0.2
	comp=Z,2.4nm,0.8s,baz=212,slow=2.0,SNR=15						
KDAK	Kodiak Island	152.72	289	PKPbc	PKPbc	13 24 05.5	-0.2
	comp=Z,5.0nm,0.7s,baz=86,slow=6.7,SNR=6.4						
ILAR	Eielson Array	152.99	305	PKPbc	PKPbc	13 24 05.5	-0.8
	comp=Z,1.2nm,0.8s,baz=161,slow=2.8,SNR=13						

*IDC **19** 13:50:28.1±8.5, 37°.73N×72°.08E, h137km±56km, mb3.0/2, mb1 2.8/6, mb1mx2.7/44, mbtmp3.2/6, Error ellipse: s-maj=73.8km s-min=53.1km az=172.0*

*NNC **19** 13:50:29.1±5.4, 38°.03N×71°.73E, h209km±85km, mb1.9, mpv3.0, Error ellipse: s-maj=57.7km s-min=29.8km az=13.0*

ISC 19 13:50:29.9±2.1, 38°.0N±0°.2×71°.7E±0°.1, h150km, n10, σ1.64/14, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.14	24	P	Pn	13 51 44.3	-0.9
	0.4nm,0.3s,baz=182,slow=7.9,SNR=7.0						
AAK				S	Sn	13 52 44.6	+0.6
	0.8nm,0.3s,baz=166,slow=23,SNR=9.2						
AAK	Ala-Archa	5.14	24	⇑P	Pn	13 51 44.4	-0.9
	0.6nm,0.5s						
AAK				⇑S	Sn	13 52 44.7	+0.6
	5.1nm,0.7s						
KK02	Karatay Array	5.22	350	⇓P	Pn	13 51 46.7	+0.5
	1.2nm,0.3s,baz=171,slow=13						
KK02				⇑S	Sn	13 52 45.9	+0.1
	13nm,0.6s,baz=165,slow=21						
TKM2	Tokmak 2	5.78	30	⇓P	Pn	13 51 51.0	-2.8
	1.0nm,0.8s						
TKM2				⇓S	Sn	13 53 01.4	+2.0
	4.4nm,1.1s						
MKAR	Makanchi Array	11.79	38	P	Pn	13 53 12.5	-0.8
	0.0nm,0.3s,baz=221,slow=12,SNR=1.8						
AB31	Akbulak array	14.13	327	⇓P	Pn	13 53 41.2	-2.1
	0.1nm,0.3s,baz=138,slow=11,SNR=6.3						
AB31				⇑S	Sn	13 56 15.1	-4.6
	0.7nm,0.5s,baz=152,slow=23,SNR=10						
BVAR	Borovoye Array	15.10	357	P	Pn	13 53 56.3	+1.0
	0.2nm,0.3s,baz=170,slow=14,SNR=5.6						
ZALV	Zalesovo Beam	18.36	25	P	Pn	13 54 33.0	-1.7
	0.1nm,0.3s,baz=224,slow=10,SNR=2.0						
FINES	FINESS Array B	36.61	325	P	P	13 57 23.7	+2.5
	1.0nm,0.7s,baz=113,slow=11,SNR=1.7						
YKA	Yellowknife Ar	79.77	3	P	P	14 02 21.4	+0.6
	0.1nm,0.4s,baz=352,slow=5.4,SNR=5.0						

IDC 19 13:51:19.4±44.0, 19°.84S×178°.75W, h650km±431km, mb2.7/3, mb1 2.9/3, mb1mx2.6/24, mbtmp3.8/3, Error ellipse: s-maj=411.5km s-min=153.5km az=116.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.86	263	P	P	13 57 03.5	+0.6
	3.2nm,0.8s,baz=90,slow=6.6,SNR=2.2						
ASAR	Alice Springs	43.98	256	P	P	13 58 32.0	-0.1
	0.4nm,0.6s,baz=87,slow=8.8,SNR=24						
WRA	Warramunga Arr	43.99	262	P	P	13 58 32.3	0.0
	0.3nm,0.3s,baz=98,slow=7.3,SNR=5.1						
GERES	GERESS Array B	149.37	344	PKPbc	PKPbc	14 09 56.7	-0.2
	0.2nm,0.5s,baz=20,slow=6.3,SNR=1.5						

*EAF **19** 13:53:35.5±2.9, 25°.77S×29°.16E, h3km±55km, MD4.0*

BUL 19 13:53:35.5±2.9, 25°.77S×29°.16E, h3km±55km, MD4.3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	3.31	282	*i* P	Pn	13 54 27.4	-0.8
LBTB				*i* Sg	Sg	13 55 19.1	-2.8
LBTB	Lobatse	3.31	282	*i* P	Pn	13 54 27.4	-0.8
LBTB				*i* Sg	Sg	13 55 19.1	-2.8
BOSA	Boshof	4.48	230	*i* P	Pn	13 54 46.0	+1.5
BOSA				*i* Sg	Sb	13 55 52.8	+3.3
BOSA	Boshof	4.48	230	*i* P	Pn	13 54 46.0	+1.5
BOSA				*i* Sg	Sb	13 55 52.8	+3.3
MATP	Matopo	5.35	353	*i* P	Pn	13 54 56.0	-0.5
MATP				*i* S	Sn	13 55 52.7	-5.9
MATP	Matopo	5.35	353	*i* P	Pn	13 54 56.0	-0.5
MATP				*i* S	Sn	13 55 52.7	-5.9

*TUL **19** 14:09:06.6±2.0, 36°.52N±0°.04×98°.99W±0°.06, h4km±7km, ML2.6, mb_Lg2.7/21(NEIC), Error ellipse: s-maj=6.8km s-min=5.1km az=72.0*

NEIC 19 14:09:06.6±2.4, 36°.59N±0°.04×99°.13W±0°.09, h24km±8km, Error ellipse: s-maj=10.2km s-min=6.0km az=100.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.24	154	Pg	Pb	14 09 10.0	-2.7
OK035	E

*NEIC **19** 14:26:50.9±1.2, 4°.81S±0°.10×153°.9E±0°.1, h92km±6km, mb4.4/18, Error ellipse: s-maj=17.2km s-min=12.5km az=58.0*
*IDC **19** 14:26:53.6±4.4, 4°.87S×153°.81E, h120km±37km, mb3.6/12, mb1 3.8/13, mb1mx3.5/45, mbtmp4.1/13, Error ellipse: s-maj=33.7km s-min=18.0km az=104.0*
ISC 19 14:26:51.4±0.6, 4°.80S±0°.07×153°.88E±0°.09, h105km, n40, σ0°.88/42, mb4.1/22, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.82**	**289**	Pn	**Pn**	**14 27 21.3**	**-0.5**
PMG	**Port Moresby**	**8.09**	**235**	P	**Pn**	**14 28 47.4**	**+1.3**
19nm,0.3s,baz=32,slow=5.4,SNR=40							
PMG				S	**Sn**	**14 30 15.4**	**-0.6**
5.4nm,0.3s,baz=21,slow=23,SNR=6.0							
PMG	**Port Moresby**	**8.09**	**235**		**Pn**	**14 28 46.7**	**+0.5**
PATS	**Pohnpei**	**12.37**	**21**	Pn	**Pn**	**14 29 41.3**	**-2.6**
JAY	**Jayapura**	**13.35**	**279**	P	**P**	**14 30 02.0**	**-0.5**
0.8nm,0.3s,baz=118,slow=7.5,SNR=4.9							
COEN	**Coen**	**13.94**	**229**	Pn	**Pn**	**14 30 05.1**	**+0.7**
EIDS	**Eidsvold**	**20.63**	**187**	P	**P**	**14 31 20.9**	**-1.7**
OUENC	**Ouen Island, N**	**21.54**	**146**	P	**P**	**14 31 31.2**	**-1.1**
OUENC				IAmb	IAmb	14 31 52.2	
comp=Z,34nm,1.4s							
FAKI	**Fak Fak**	**21.67**	**274**	P	**P**	**14 31 33.0**	**-0.8**
FAKI				IAmb	IAmb	14 31 55.0	
comp=Z,29nm,1.1s							
SIJI	**Sorong**	**22.92**	**279**	P	**P**	**14 31 46.4**	**-0.3**
comp=Z,3.0nm,0.4s,baz=52,slow=15,SNR=5.0							
WB0	**Warramunga Arr**	**24.12**	**230**	P	**P**	**14 31 57.7**	**0.0**
WB0				IAmb	IAmb	14 31 59.2	
comp=Z,8.7nm,0.6s							
WR0	**Warramunga Arr**	**24.12**	**230**	P	**P**	**14 31 57.6**	**-0.1**
WR0				IAmb	IAmb	14 31 59.2	
comp=Z,5.9nm,0.8s							
WB2	**Warramunga Arr**	**24.25**	**230**	P	**P**	**14 31 58.9**	**0.0**
WB2				IAmb	IAmb	14 32 00.5	
comp=Z,7.4nm,0.6s							
WRA	**Warramunga Arr**	**24.26**	**230**	P	**P**	**14 31 59.4**	**+0.4**
comp=Z,6.3nm,0.6s,baz=54,slow=9.7,SNR=69							
WRA	**Warramunga Arr**	**24.26**	**230**	P	**P**	**14 31 58.3**	**-0.6**
ARMA	**Armidale**	**25.57**	**185**	P	**P**	**14 32 11.6**	**+0.8**
ARMA				IAmb	IAmb	14 32 34.4	
comp=Z,13nm,1.4s							
AS31	**Alice Springs**	**26.89**	**224**	P	**P**	**14 32 22.2**	**-0.5**
ASAR	**Alice Springs**	**26.89**	**224**	P	**P**	**14 32 22.6**	**-0.1**
comp=Z,2.0nm,0.9s,baz=44,slow=6.0,SNR=5.1							
ASAR				PcP	**PcP**	**14 35 43.0**	**+0.4**
comp=Z,0.2nm,0.8s,baz=22,slow=3.0,SNR=1.4							
ASAR	**Alice Springs**	**26.89**	**224**	P	**P**	**14 32 22.3**	**-0.4**
KNRA	**Kununurra**	**26.94**	**244**	P	**P**	**14 32 22.8**	**-0.4**
KNRA				IAmb	IAmb	14 32 45.8	
comp=Z,4.2nm,0.8s							
STKA	**Stephens Creek**	**29.30**	**202**	P	**P**	**14 32 43.9**	**-0.1**
comp=Z,2.5nm,0.6s,baz=37,slow=14,SNR=17							
STKA	**Stephens Creek**	**29.30**	**202**	P	**P**	**14 32 43.6**	**-0.3**
BBOO	**Buckleboo**	**32.46**	**209**	P	**P**	**14 33 11.2**	**-0.7**
BBOO				IAmb	IAmb	14 33 28.4	
comp=Z,22nm,1.4s							
FORT	**Forrest**	**35.48**	**220**	P	**P**	**14 33 37.6**	**-0.4**
PSA00	**Pilbara Seismi**	**36.96**	**240**	P	**P**	**14 33 50.0**	**-0.8**
PSA00				IAmb	IAmb	14 33 51.0	
comp=Z,3.3nm,0.8s							
TAU	**Tasmania Unive**	**38.40**	**188**	P	**P**	**14 34 03.5**	**+1.0**
MLZ	**Mavora Lakes**	**42.28**	**165**	P	**P**	**14 34 34.9**	**+0.3**
MLZ				IAmb	IAmb	14 34 35.7	
comp=Z,15nm,1.1s							
WHZ	**Wether Hill Ro**	**42.73**	**166**	P	**P**	**14 34 38.2**	**+0.4**
MORW	**Morawa**	**43.19**	**232**	P	**P**	**14 34 41.3**	**-0.8**
PETK	**Petropavlovsk-**	**57.78**	**3**	P	**P**	**14 36 32.4**	**+1.0**
comp=Z,1.8nm,0.8s,baz=152,slow=6.7,SNR=7.4							
PETK	**Petropavlovsk-**	**57.78**	**3**	P	**P**	**14 36 31.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**58.85**	**295**	P	**P**	**14 36 40.8**	**+1.2**
comp=Z,0.6nm,0.5s,baz=109,slow=5.4,SNR=5.8							
SONM	**Songino Array**	**66.90**	**327**	P	**P**	**14 37 33.7**	**+1.2**
comp=Z,0.5nm,0.5s,baz=145,slow=5.8,SNR=5.4							
SEY	**Seymchan**	**67.55**	**359**	P	**P**	**14 37 38.0**	**+1.9**
comp=Z,0.3nm,0.3s,baz=71,slow=22,SNR=4.5							
MKAR	**Makanchi Array**	**81.03**	**319**	P	**P**	**14 38 55.8**	**+1.0**
comp=Z,0.4nm,0.4s,baz=96,slow=8.2,SNR=20							
MKAR	**Makanchi Array**	**81.03**	**319**	P	**P**	**14 38 55.5**	**+0.7**
ZALV	**Zalesovo Beam**	**81.75**	**326**	P	**P**	**14 38 58.2**	**-0.2**
comp=Z,0.6nm,0.5s,baz=119,slow=7.3,SNR=3.9							
ILAR	**Eielson Array**	**81.75**	**22**	P	**P**	**14 38 59.0**	**+0.8**
comp=Z,0.4nm,0.5s,baz=261,slow=4.6,SNR=6.5							
BVAR	**Borovoye Array**	**89.89**	**323**	P	**P**	**14 39 37.9**	**-0.7**
comp=Z,1.1nm,0.8s,baz=100,slow=8.1,SNR=6.9							
TORD	**Torodi Ar. Bea**	**151.33**	**289**	PKPbc	**PKPbc**	**14 46 33.5**	**-0.4**
comp=Z,0.8nm,0.3s,baz=81,slow=1.8,SNR=8.9							

WEL 19 14:28:27.6±0.7, 40°.S±4°.×17°.7E±°., h42km±6km, M3.3/15, ML3.6/15, MLv3.3/15, Error ellipse: s-maj=0.0km s-min=0.0km az=112.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPHZ	**Waipukurau**	**0.14**	**291**	P	Pn	14 28 36.5	+1.7
WPHZ				S	Sn	14 28 43.1	+3.4
PRHZ	**Porangahau**	**0.15**	**175**	P	Pn	14 28 36.1	+1.3
PRHZ				S	Sn	14 28 42.5	+2.7
PXZ	**Pawanui**	**0.21**	**65**	P	Pn	14 28 36.3	+1.1
PXZ				S	Sn	14 28 43.0	+2.6
ANWZ	**Angora Road**	**0.36**	**198**	P	Pn	14 28 37.8	+1.1
KAHZ	**Kahuranaki**	**0.38**	**32**	P	Pn	14 28 38.0	+1.0
PNHZ	**Pukenui**	**0.38**	**302**	P	Pn	14 28 38.3	+1.3
PNHZ				S	Sn	14 28 46.1	+2.6
DVHZ	**Dannevirke**	**0.39**	**242**	P	Pn	14 28 38.3	+1.2
DVHZ				S	Sn	14 28 46.2	+2.4
TSZ	**Takapari Road**	**0.51**	**276**	P	Pn	14 28 39.6	+1.1
TSZ				S	Sn	14 28 48.2	+1.9
KRHZ	**Kereru**	**0.51**	**338**	P	Pn	14 28 39.6	+0.9
KRHZ				S	Sn	14 28 48.5	+2.1
CKHZ	**Cape Kidnapper**	**0.58**	**38**	P	Pn	14 28 39.9	+0.4
BFZ	**Birch Farm**	**0.63**	**207**	P	Pn	14 28 40.8	+0.6
BFZ				S	Sn	14 28 50.9	+1.7
PRWZ	**Pori Road**	**0.66**	**228**	P	Pn	14 28 41.6	+1.0
MCHZ	**McNeill Hill**	**0.68**	**5**	P	Pn	14 28 42.0	+1.2
POWZ	**Post Office Ro**	**0.71**	**247**	P	Pn	14 28 42.2	+1.0
KWHZ	**Kaweka Forest**	**0.71**	**348**	P	Pn	14 28 42.1	+0.8
BHHZ	**Black Hill Sta**	**0.76**	**326**	P	Pn	14 28 43.1	+1.1
CPWZ	**Castlepoint**	**0.85**	**202**	P	Pn	14 28 44.1	+0.9
TIWZ	**Tintock**	**0.86**	**220**	P	Pn	14 28 43.8	+0.4
ARHZ	**Aropaoanui**	**0.90**	**19**	P	Pn	14 28 44.8	+0.9
MRZ	**Mangatainoka R**	**0.96**	**235**	P	Pn	14 28 45.1	+0.4
MOVZ	**Moawhango**	**0.97**	**317**	P	Pn	14 28 46.5	+1.5
OHWZ	**Ohakea**	**1.00**	**265**	P	Pn	14 28 47.1	+1.9
NMHZ	**Naumai**	**1.03**	**8**	P	Pn	14 28 46.7	+1.0
WNVZ	**Wahianoa**	**1.11**	**315**	P	Pn	14 28 48.8	+1.9
TUVZ	**Tukino**	**1.13**	**318**	P	Pn	14 28 49.1	+2.0
TMWZ	**Te Maipa**	**1.13**	**209**	P	Pn	14 28 46.8	-0.3
HOWZ	**Holdsworth Sta**	**1.15**	**227**	P	Pn	14 28 47.1	-0.2
MTVZ	**Mangateitei**	**1.15**	**309**	P	Pn	14 28 49.2	+1.9
WHVZ	**Whangaehu Hut**	**1.15**	**316**	P	Pn	14 28 49.3	+1.8
TRVZ	**Turoa**	**1.16**	**314**	P	Pn	14 28 49.5	+1.9
DRZ	**Dome Shelter**	**1.17**	**316**	P	Pn	14 28 49.7	+1.8
FWVZ	**Far West T-bar**	**1.19**	**316**	P	Pn	14 28 49.7	+1.7
SNVZ	**South Ngauruho**	**1.20**	**321**	P	Pn	14 28 49.7	+1.7
OTVZ	**Oturere**	**1.20**	**322**	P	Pn	14 28 49.8	+1.7
ETVZ	**East Tongariro**	**1.20**	**324**	P	Pn	14 28 49.8	+1.6
NGZ	**Ngauruhoe**	**1.22**	**320**	P	Pn	14 28 50.1	+1.7
TMVZ	**Te Maari**	**1.22**	**325**	P	Pn	14 28 50.0	+1.6
NTVZ	**North Tongarir**	**1.25**	**324**	P	Pn	14 28 50.3	+1.5
NNVZ	**North Ngauruho**	**1.25**	**321**	P	Pn	14 28 50.4	+1.6
RAHZ	**Arahi**	**1.25**	**17**	P	Pn	14 28 49.2	+0.5
KRVZ	**Karewarewa**	**1.27**	**323**	P	Pn	14 28 50.6	+1.6
MTHZ	**Maungataniwha**	**1.27**	**8**	P	Pn	14 28 49.6	+0.5
WTVZ	**West Tongariro**	**1.28**	**321**	P	Pn	14 28 50.7	+1.6
RITZ	**Rihia Road**	**1.28**	**332**	P	Pn	14 28 50.7	+1.6
PKVZ	**Pokaka**	**1.28**	**310**	P	Pn	14 28 51.0	+1.8
HATZ	**Hinemaiaia**	**1.29**	**341**	P	Pn	14 28 50.2	+1.0
MRHZ	**Matea Rd**	**1.29**	**353**	P	Pn	14 28 50.3	+1.1
WAZ	**Wanganui**	**1.31**	**286**	P	Pn	14 28 51.7	+2.2
OGWZ	**Otaki Gorge**	**1.31**	**237**	P	Pn	14 28 49.5	+0.1
MTW	**Mount Morrison**	**1.34**	**219**	P	Pn	14 28 49.1	-0.8
KATZ	**Kakaramea**	**1.34**	**328**	P	Pn	14 28 51.6	+1.5
KNZ	**Kokohu**	**1.36**	**37**	P	Pn	14 28 49.7	-0.5
MHGZ	**Mahia Peninsul**	**1.39**	**46**	P	Pn	14 28 50.0	-0.5
TWVZ	**Taurewa**	**1.39**	**319**	P	Pn	14 28 51.9	+1.3
RATZ	**Rangitukua**	**1.41**	**332**	P	Pn	14 28 52.1	+1.2
TRWZ	**Traveller**	**1.46**	**209**	P	Pn	14 28 50.7	-0.9
KIW	**Kapiti Island**	**1.50**	**240**	P	Pn	14 28 52.2	+0.1
RTZ	**Ruatahuna**	**1.53**	**11**	P	Pn	14 28 52.7	+0.2
WHTZ	**Whakaora**	**1.54**	**340**	P	Pn	14 28 53.9	+1.2
CAW	**Cannon Point**	**1.54**	**230**	P	Pn	14 28 52.1	-0.5
PRGZ	**Paritu Road**	**1.54**	**40**	P	Pn	14 28 52.1	-0.5
PAWZ	**Paruwai Farm**	**1.55**	**215**	P	Pn	14 28 52.3	-0.6
WATZ	**Wairara**	**1.56**	**334**	P	Pn	14 28 53.8	+0.8
ALRZ	**Allen Road**	**1.57**	**352**	P	Pn	14 28 53.5	+0.5
PRRZ	**Plateau Road**	**1.62**	**354**	P	Pn	14 28 54.3	+0.5
WPRZ	**Whakapapatarin**	**1.63**	**347**	P	Pn	14 28 54.4	+0.5
MUGZ	**Murupara**	**1.64**	**4**	P	Pn	14 28 54.2	+0.1
MSWZ	**Moikau Station**	**1.66**	**218**	P	Pn	14 28 53.3	-1.0
KUTZ	**Kaahu Road**	**1.74**	**339**	P	Pn	14 28 56.1	+0.7
HRRZ	**Handcock Road**	**1.74**	**351**	P	Pn	14 28 56.2	+0.7
VRZ	**Vera Road**	**1.75**	**304**	P	Pn	14 28 56.7	+1.3
RRRZ	**Republican Roa**	**1.78**	**357**	P	Pn	14 28 56.1	+0.2
PLWZ	**Palliser**	**1.78**	**215**	P	Pn	14 28 54.6	-1.4
GRRZ	**Galatos Road**	**1.81**	**347**	P	Pn	14 28 57.0	+0.7
HSRZ	**Hossack Road**	**1.83**	**351**	P	Pn	14 28 57.1	+0.5
WEL	**Wellington**	**1.83**	**230**	P	Pn	14 28 56.0	-0.6
LREZ	**Lake Rotokare**	**1.83**	**290**	P	Pn	14 28 58.9	+2.3
BHW	**Baring Head**	**1.85**	**225**	P	Pn	14 28 55.6	-1.2
TARZ	**Mount Tarawera**	**1.88**	**357**	P	Pn	14 28 57.8	+0.4
MWZ	**Matawai**	**1.92**	**22**	P	Pn	14 28 57.4	-0.5
TKGZ	**Te Karaka**	**1.93**	**30**	P	Pn	14 28 57.3	-0.7
TLZ	**Tolley Road**	**1.97**	**334**	P	Pn	14 28 59.1	+0.5
CNGZ	**Carnagh Statio**	**2.04**	**38**	P	Pn	14 28 59.3	-0.2
PREZ	**Palmer Road**	**2.05**	**291**	P	Pn	14 29 02.3	+2.7
MHEZ	**Mangahewa**	**2.06**	**300**	P	Pn	14 29 01.9	+2.2
DREZ	**Durham Road**	**2.08**	**296**	P	Pn	14 29 02.3	+2.3
TCW	**Tory Channel**	**2.09**	**238**	P	Pn	14 28 59.6	-0.6
HIZ	**Hauiti**	**2.10**	**319**	P	Pn	14 29 01.4	+1.0
NEZ	**North Egmont**	**2.12**	**293**	P	Pn	14 29 03.2	+2.6
DUWZ	**D'Urville Isla**	**2.17**	**251**	P	Pn	14 29 01.0	-0.3
KHEZ	**Kahui Hut**	**2.17**	**291**	P	Pn	14 29 04.0	+2.6
TWGZ	**Tauwhareparae**	**2.21**	**29**	P	Pn	14 29 02.6	+0.7
NMEZ	**Namu Road**	**2.23**	**288**	P	Pn	14 29 04.5	+2.5
PKE	**Pukeiti**	**2.23**	**294**	P	Pn	14 29 04.5	+2.4
NBEZ	**Newall Road No**	**2.29**	**291**	P	Pn	14 29 05.1	+2.3
TUWZ	**Tuamarina**	**2.42**	**236**	P	Pn	14 29 03.4	-1.3
TOZ	**Tahuroa Road**	**2.54**	**340**	P	Pn	14 29 06.8	+0.5
BSWZ	**Blackbirch Sta**	**2.62**	**232**	P	Pn	14 29 06.2	-1.3
NNZ	**Nelson**	**2.70**	**245**	P	Pn	14 29 08.1	-0.3
QRZ	**Quartz Range**	**3.20**	**256**	P	Pn	14 29 14.7	-0.7
THZ	**Tophouse**	**3.26**	**238**	P	Pn	14 29 14.8	-1.5
KHZ	**Kahutara**	**3.27**	**224**	P	Pn	14 29 14.1	-2.2
AWAZ	**Awhitu Peninsu**	**3.42**	**332**	P	Pn	14 29 19.5	+1.1
ETAZ	**East Tamaki Re**	**3.42**	**337**	P	Pn	14 29 18.5	0.0
WIAZ	**Waiheke Island**	**3.52**	**340**	P	Pn	14 29 20.7	+0.9
MBAZ	**Motutapu North**	**3.60**	**337**	P	Pn	14 29 21.8	+0.8
RVAZ	**Riverhead Bore**	**3.71**	**334**	P	Pn	14 29 23.4	+1.1
GVZ	**Greta Valley S**	**3.92**	**222**	P	Pn	14 29 23.7	-1.6
DSZ	**Denniston Nort**	**3.99**	**244**	P	Pn	14 29 24.7	-1.7
LTZ	**Lake Taylor**	**4.21**	**229**	P	Pn	14 29 26.9	-2.5
OKCZ	**Okains Bay**	**4.47**	**215**	P	Pn	14 29 30.4	-2.5
MQZ	**McQueen's Vall**	**4.65**	**218**	P	Pn	14 29 32.5	-2.7
INZ	**Inchbonnie**	**4.68**	**235**	P	Pn	14 29 33.5	-2.2
MHCZ	**Mount Hutt**	**5.09**	**226**	P	Pn	14 29 39.5	-1.9
OUZ	**Omahuta**	**5.44**	**333**	P	Pn	14 29 47.5	+1.3
TMZ	**Timaru**	**5.96**	**222**	P	Pn	14 29 51.0	-2.3
FOZ	**Fox Glacier**	**6.12**	**234**	P	Pn	14 29 53.5	-2.0
CTZ	**Chatham Island**	**6.21**	**128**	P	Pn	14 29 55.6	-1.1
LBZ	**Lake Benmore**	**6.40**	**226**	P	Pn	14 29 56.7	-2.6
ODZ	**Otahua Downs**	**6.61**	**220**	P	Pn	14 30 00.2	-1.9

*ANF **19** 14:34:28.2±0.1, 34°.69N×116°.24W, h14km±1km, ML3.1/20, Error ellipse: s-maj=1.2km s-min=1.0km az=59.0*
*PAS **19** 14:34:29.0±1.4, 34°.69N±0°.02×116°.24W±0°.03, h2km±1km, ML3.0/136, ML2.8/77(NEIC), Error ellipse: s-maj=3.3km s-min=3.0km az=91.0*
*NEIC **19** 14:34:28.4±1.2, 34°.68N±0°.02×116°.23W±0°.02, h4km±7km, Error ellipse: s-maj=3.0km s-min=1.4km az=143.0*
ISC 19 14:34:28.7±0.9, 34°.68N±0°.02×116°.23W±0°.02, h9km±8km, n58, σ0°.61/75, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.17**	**330**	P	**Pg**	**14 34 32.4**	**-0.1**
baz=150,SNR=1000							
HEC				S	**Sg**	**14 34 35.0**	**0.0**
baz=150							
GMRC	**Granite Mounta**	**0.48**	**77**	P	**Pg**	**14 34 38.3**	**+0.2**
baz=259,SNR=169							
GMRC				S	**Sg**	**14 34 45.0**	**+0.5**
baz=259							
RRX	**Edison Barstow**	**0.66**	**287**	P	**Pg**	**14 34 41.5**	**-0.1**
baz=106,SNR=7.4							
RRX				S	**Sg**	**14 34 50.4**	**+0.2**
baz=106							
BELC	**Belle Mtn. Jos**	**0.70**	**164**	P	**Pg**	**14 34 42.6**	**+0.3**
baz=344,SNR=96							
BELC				S	**Sb**	**14 34 52.4**	**-0.7**
baz=344							
BBRC	**Big Bear Solar**	**0.71**	**234**	P	**Pg**	**14 34 42.5**	**+0.1**
baz=53,SNR=12							
BBRC				S	**Sg**	**14 34 52.3**	**+0.6**
baz=53							
GSC	**Goldstone, Bar**	**0.78**	**323**		**Pg**	**14 34 43.4**	**-0.4**
GSC				Sg	**Sg**	**14 34 53.4**	**-0.5**
GSC	**Goldstone, Bar**	**0.78**	**323**	P	**Pg**	**14 34 43.7**	**-0.1**
baz=142,SNR=398							
GSC				S	**Sg**	**14 34 54.2**	**+0.2**
baz=142							
TUQ	**Turquoise Moun**	**0.80**	**18**	P	**Pg**	**14 34 43.8**	**-0.3**
baz=199,SNR=146							
TUQ				S	**Sg**	**14 34 54.6**	**+0.1**
baz=199							
IRM	**Iron Mountain**	**1.04**	**120**	P	**Pg**	**14 34 48.2**	**-0.5**
baz=301,SNR=119							
IRM				S	**Sb**	**14 35 02.6**	**0.0**
baz=301							
PFO	**Pinyon Flats O**	**1.08**	**190**	Pg	**Pg**	**14 34 48.3**	**-1.2**
PFO				Sg	**Sg**	**14 35 03.0**	**-0.6**
PFO				IAML		14 35 07.2	
202nm,0.4s							
PFO	**Pinyon Flats O**	**1.08**	**190**	P	**Pg**	**14 34 48.3**	**-1.2**
baz=9.6							
PFO				S	**Sg**	**14 35 03.6**	**0.0**
baz=9.6							
BC3	**Big Chuckawall**	**1.21**	**148**	P	**Pg**	**14 34 51.1**	**-0.8**
baz=328,SNR=102							
BC3				S	**Sb**	**14 35 08.3**	**+0.8**
baz=328							
SHOC	**Shoshone, Teco**	**1.22**	**358**	S	**Sg**	**14 35 07.6**	**-0.3**
baz=178							
BFSC	**Mount Baldy Ra**	**1.26**	**250**	Pg	**Pg**	**14 34 52.5**	**-0.5**
baz=68,SNR=50							
BFSC				S	**Sg**	**14 35 09.0**	**-0.3**
baz=68							
NEE2	**Needles Airpor**	**1.33**	**86**	Pg	**Pn**	**14 34 53.8**	**+0.4**
baz=267,SNR=12							
NEE2				S	**Sb**	**14 35 11.2**	**+0.3**
baz=267							
MURC	**Murrieta**	**1.34**	**217**	Pg	**Pn**	**14 34 54.0**	**+0.4**
baz=36,SNR=24							
MURC				Sb	**Sn**	**14 35 12.0**	**+0.4**
baz=36							
QSM	**Queen of Sheba**	**1.38**	**338**		**Pn**	**14 34 53.2**	**-1.0**
QSM				IAML		14 35 14.5	
comp=E,207nm,0.3s							
QSM				IAML		14 35 16.9	
comp=N,228nm,0.7s							
LRMC	**Laurel Mtn Rad**	**1.43**	**304**	Sg	**Sn**	**14 35 15.2**	**+1.2**
baz=123							
EDW2	**Edwards Air Fo**	**1.47**	**278**	P	**Pn**	**14 34 54.1**	**-1.2**
baz=97,SNR=29							
EDW2				S	**Sb**	**14 35 14.4**	**-0.5**
baz=97							
GWY	**Greenwater Val**	**1.54**	**347**		**Pn**	**14 34 56.1**	**-0.5**
MWC	**Mount Wilson**	**1.58**	**254**		**Pn**	**14 34 57.2**	**+0.1**
MWC				IAML		14 35 21.1	
comp=E,94nm,0.5s							
MWC				IAML		14 35 24.9	
comp=N,97nm,0.6s							
PASC	**Pasadena Art C**	**1.69**	**253**		**Pb**	**14 34 59.7**	**-0.3**
PASC				IAML		14 35 24.7	
comp=N,80nm,1.0s							
PASC				IAML		14 35 26.1	
comp=E,79nm,0.5s							
MPMC	**Manual Prospec**	**1.72**	**324**	P	**Pn**	**14 34 57.7**	**-1.3**
baz=143,SNR=72							
MPMC				Sg	**Sg**	**14 35 24.0**	**+0.1**
baz=143							
PDMCI	**Parker Dam,Lak**	**1.77**	**102**	S	**Sn**	**14 35 21.0**	**-1.0**
baz=283							
DECC	**Green Verdugo**	**1.79**	**257**	Sg	**Sg**	**14 35 27.3**	**+1.1**
baz=75							
109C	**Camp Elliot, M**	**1.93**	**202**	Pn	**Pn**	**14 35 02.3**	**+0.6**
109C				IAML		14 35 36.3	
comp=E,57nm,0.5s							
W13A	**Hualapai Mount**	**1.97**	**77**		**Pn**	**14 35 01.7**	**-0.8**
W13A				IAML		14 35 33.3	
comp=E,69nm,0.5s							
W13A				IAML		14 35 33.6	
comp=N,103nm,0.3s							
GLA	**Glamis**	**2.00**	**144**		**Pn**	**14 35 02.5**	**-0.2**
GLA	**Glamis**	**2.00**	**144**	Pg	**Pg**	**14 35 06.4**	**-0.6**
baz=325							
SHPR	**Sheep Range**	**2.02**	**25**	Pn	**Pn**	**14 35 02.4**	**-0.6**
BAR	**Barrett**	**2.03**	**191**	Pn	**Pn**	**14 35 03.0**	**-0.1**
OSI	**Osito Audit: C**	**2.06**	**269**		**Pb**	**14 35 06.7**	**+0.5**
OSI				IAML		14 35 38.9	
comp=E,121nm,0.9s							
RMX	**La Rumorosa**	**2.08**	**176**	Pn	**Pn**	**14 35 05.3**	**+1.5**
ISA	**Isabella, Lake**	**2.08**	**299**		**Pb**	**14 35 06.9**	**+0.2**
TPNV	**Topopah Spring**	**2.26**	**360**	Pn	**Pn**	**14 35 06.5**	**0.0**
TPNV				IAML		14 35 46.6	
comp=E,35nm,0.4s							
CBX	**Cerro Bola**	**2.39**	**189**	Pn	**Pn**	**14 35 08.9**	**+0.8**
CBX				IAML		14 35 48.6	
comp=E,33nm,0.9s							
Y14A	**Wickenburg**	**2.77**	**105**		**Pn**	**14 35 12.7**	**-0.6**
LCH	**Last Change Ra**	**2.79**	**336**		**Pn**	**14 35 13.0**	**-0.7**
113A	**Mohawk Valley,**	**2.80**	**132**	Pn	**Pn**	**14 35 13.8**	**+0.1**
113A				IAML		14 36 00.2	
comp=N,34nm,0.7s							
113A				IAML		14 36 02.1	
comp=E,21nm,1.1s							
PRN	**Pahroc Range**	**2.88**	**19**		**Pn**	**14 35 14.9**	**0.0**
PRN				IAML		14 36 12.9	
comp=E,36nm,0.8s							
PRN				IAML		14 36 15.0	
comp=N,30nm,0.9s							
S11A	**Rachel**	**2.98**	**7**	Pn	**Pn**	**14 35 17.6**	**+1.2**
S11A				IAML		14 36 11.5	
comp=E,52nm,1.0s							
S11A				IAML		14 36 14.6	
comp=N,44nm,0.7s							
SNCC	**San Nicolas Is**	**3.09**	**243**	Pn	**Pn**	**14 35 17.9**	**+0.2**
LCMT	**Little Creek M**	**3.36**	**45**		**Pn**	**14 35 21.7**	**+0.2**
KNB	**Kanab**	**3.62**	**49**	Pn	**Pn**	**14 35 25.5**	**+0.4**
KNB				IAML		14 36 52.2	
comp=E,11nm,3.4s							
KNB				IAML		14 36 53.8	
comp=N,14nm,4.2s							
U15A	**North Rim**	**3.65**	**60**		**Pn**	**14 35 26.1**	**+0.5**
U15A				IAML		14 36 28.1	
comp=N,21nm,0.8s							
U15A				IAML		14 36 28.6	
comp=E,21nm,1.0s							
CCUT	**Cedar City**	**3.69**	**38**		**Pn**	**14 35 26.8**	**+0.7**
SZCU	**Shurtz Canyon**	**3.86**	**40**	Pn	**Pn**	**14 35 29.1**	**+0.6**
SZCU				IAML		14 36 18.0	
comp=E,11nm,3.5s							
SZCU				IAML		14 36 41.0	
comp=N,9.2nm,0.4s							
214A	**Organ Pipe Nat**	**3.95**	**133**	Pn	**Pn**	**14 35 29.6**	**+0.2**
214A				IAML		14 36 39.5	
comp=E,16nm,0.4s							
214A				IAML		14 36 44.1	
comp=N,11nm,1.8s							
X16A	**Lo Mia Camp, P**	**3.96**	**92**		**Pn**	**14 35 29.8**	**0.0**
X16A				IAML		14 36 45.8	
comp=E,14nm,1.5s							
X16A				IAML		14 36 48.5	
comp=N,13

baz=144
H08S3 Diego Garcia H 70.05 282 T T 16 12 44.5
baz=144
CMAR Chiang Mai Arr 77.55 320 P P 14 57 34.0 -0.1
0.1nm,0.4s,baz=170,slow=6.2,SNR=1.6
CMAR LR LR 15 33 06.1
comp=Z,38nm,19.6s,baz=225,slow=37

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*IDC **19** 14:53:09.6±1.1, 35°.09N×137°.74E, h0km, mb3.3/6, mb1 3.4/7, mb1mx3.0/77, mbtmp3.4/7, ML3.6/1, Error ellipse: s-maj=29.5km s-min=17.6km az=80.0*
*JMA **19** 14:53:11.7±0.1, 35°.89N×140°.00E, h65km±1km, M3.0 Broadband fault plane solution: P waves. NP1: ϕ_s121.00000°, δ37.00000°, λ37.00000°. NP2:ϕ_s1.00000°, δ69.00000°, λ121.00000°. Principal axes: T Plg55.0000°, Azm311.0000°; N Plg29.0000°, Azm168.0000°; P Plg18.0000°, Azm68.0000°;*
ISC 19 14:53:10.7±0.9, 35°.85N±0°.04×140°.02E±0°.06, h65km, n18, σ1^{9}06/28, mb3.3/6, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.40**	**20**	⇑P	**Pn**	**14 53 23.0**	**+0.9**
JYT				S	**Sn**	**14 53 31.1**	**+0.6**
JAG	**Ashikaga**	**0.74**	**322**	P	**Pn**	**14 53 26.4**	**+0.7**
JRY	**Ryogami san**	**0.92**	**281**	⇓P	**Pn**	**14 53 29.1**	**+1.1**
JRY				S	**Sn**	**14 53 41.9**	**+1.1**
JOD2	**Odawara 2**	**0.96**	**233**	⇓P	**Pn**	**14 53 29.1**	**+0.7**
JOD2				S	**Sn**	**14 53 41.7**	**+0.1**
JKT	**Katashina**	**1.11**	**326**	P	**Pn**	**14 53 31.3**	**+0.9**
JKT				S	**Sn**	**14 53 45.2**	**+0.1**
BSO3	**Boso 3**	**1.12**	**159**	⇑P	**Pn**	**14 53 31.3**	**+1.1**
JIM2	**Oshima 3**	**1.23**	**203**	P	**Pn**	**14 53 32.2**	**+0.3**
JIM2				S	**Sn**	**14 53 47.7**	**0.0**
JYN	**Shimob**	**1.25**	**254**	⇓P	**Pn**	**14 53 33.2**	**+0.9**
JYN				S	**Sn**	**14 53 49.1**	**+0.7**
JFNN	**Fujinakano**	**1.27**	**239**	⇓P	**Pn**	**14 53 33.3**	**+0.9**
JFNN				S	**Sn**	**14 53 49.3**	**+0.6**
MJAR	**Matsushiro Arr**	**1.62**	**296**	Pn	**Pn**	**14 53 38.0**	**+0.9**
2.5nm,0.3s,baz=144,slow=10,SNR=71							
MJAR				Sn	**Sn**	**14 53 57.8**	**+0.7**
2.1nm,0.3s,baz=178,slow=28,SNR=5.1							
MAT	**Matsushiro**	**1.62**	**296**	P	**Pn**	**14 53 38.2**	**+1.1**
MAT				eS	**Sn**	**14 53 56.1**	**-1.0**
JHJ	**Hachijo jima 2**	**2.73**	**184**	Pn	**Pn**	**14 53 53.3**	**+1.2**
25nm,0.3s,baz=121,slow=21,SNR=6.5							
JHJ				Sn	**Sn**	**14 54 23.0**	**-1.0**
61nm,0.3s,baz=259,slow=23,SNR=9.9							
SONM	**Songino Array**	**27.55**	**306**	P	**P**	**14 58 49.9**	**-1.5**
0.1nm,0.4s,baz=97,slow=10,SNR=1.5							
ZALV	**Zalesovo Beam**	**41.90**	**313**	P	**P**	**15 00 54.5**	**+0.1**
0.4nm,0.4s,baz=90,slow=10,SNR=2.1							
MKAR	**Makanchi Array**	**43.81**	**303**	P	**P**	**15 01 07.0**	**-3.0**
0.3nm,0.7s,baz=93,slow=10,SNR=4.3							
KURBB	**Kurchatov Arra**	**45.85**	**309**	P	**P**	**15 01 25.6**	**-0.6**
0.3nm,0.5s,baz=84,slow=7.5,SNR=2.6							
WRA	**Warramunga Arr**	**55.75**	**186**	P	**P**	**15 02 41.4**	**+0.6**
0.2nm,0.5s,baz=0.1,slow=7.5,SNR=1.7							
ASAR	**Alice Springs**	**59.47**	**187**	P	**P**	**15 03 07.8**	**+0.9**
0.2nm,1.0s,baz=8.0,slow=7.0,SNR=1.3							

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*IDC **19** 14:56:04.7±3.4, 26°.08S×29°.03E, h0km, mb1 3.0/4, mb1mx2.8/52, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=30.4km s-min=23.0km az=103.0*
*EAF **19** 14:56:15.3±3.3, 25°.86S×28°.47E, h0km±67km, MD4.4*
*BUL **19** 14:56:15.3±3.3, 25°.86S×28°.47E, h0km±67km, MD4.8*
ISC 19 14:56:11.8±1.8, 25°.91S±0°.07×28°.7E±0°.1, h9km, n12, σ3^{9}86/15, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.95**	**287**	Pn	**Pn**	**14 56 58.8**	**-0.1**
0.1nm,0.3s,baz=108,slow=3.2,SNR=1.8							
LBTB				Pg	**Pb**	**14 57 05.5**	**+0.9**
2.5nm,0.3s,baz=106,slow=17,SNR=38							
LBTB				Lg	Lg	14 57 48.4	
6.5nm,0.3s,baz=15,slow=22,SNR=32							
LBTB	**Lobatse**	**2.95**	**287**	*e*P	**Pn**	**14 57 02.0**	**+3.1**
LBTB	**Lobatse**	**2.95**	**287**	*e*P	**Pn**	**14 57 02.0**	**+3.1**
BOSA	**Boshof**	**4.08**	**228**	Pn	Pn	14 57 10.0	-4.6
0.1nm,0.3s,baz=62,slow=13,SNR=1.6							
BOSA				Pg	**Pb**	**14 57 22.2**	**-1.8**
0.7nm,0.3s,baz=54,slow=15,SNR=9.4							
BOSA				Lg	Lg	14 58 16.0	
2.5nm,0.3s,baz=140,slow=16,SNR=7.9							
BOSA	**Boshof**	**4.08**	**228**	*i* P	**Pn**	**14 57 17.8**	**+3.3**
BOSA				*i* Sg	**Sb**	**14 58 16.8**	**+3.2**
BOSA	**Boshof**	**4.08**	**228**	*i* P	**Pn**	**14 57 17.8**	**+3.3**
BOSA				*i* Sg	**Sb**	**14 58 16.8**	**+3.2**
I47ZA	**BOSHOF INFRASO**	**4.10**	**228**	*i*		15 22 20.0	
baz=52,slow=305,SNR=2.2							
MATP	**Matopo**	**5.46**	**358**	Pn	Pn	14 57 28.6	-4.9
0.1nm,0.3s,baz=205,slow=4.8,SNR=1.1							
MATP				Sn	**Sn**	**14 58 32.1**	**-4.4**
0.2nm,0.3s,baz=229,slow=5.5,SNR=1.7							
MATP				Lg	Lg	14 58 55.4	
0.8nm,0.3s,baz=95,slow=22,SNR=10							
MATP	**Matopo**	**5.46**	**358**	*i* P	**Pn**	**14 57 37.0**	**+3.5**
MATP				*i* S	**Sn**	**14 58 33.7**	**-2.9**
MATP	**Matopo**	**5.46**	**358**	*i* P	**Pn**	**14 57 37.0**	**+3.5**
MATP				*i* S	**Sn**	**14 58 33.7**	**-2.9**
SUR	**Sutherland**	**9.44**	**225**	Pn	Pn	14 58 23.3	-4.9
0.2nm,0.3s,baz=58,slow=12,SNR=1.1							
SUR				Sn	**Sn**	**15 00 07.3**	**-7.2**
0.3nm,0.3s,baz=358,slow=22,SNR=1.2							
I35NA	**TSUMEB INFRASO**	**12.26**	**301**	*i*		16 12 03.8	
baz=124,slow=304,SNR=3.2							

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*TAP **19** 15:17:10.7, 23°.84N×122°.62E, h17km±1km, ML2.7, D*
*JMA **19** 15:17:11.2±0.2, 23°.90N×122°.60E, h15km±4km, M2.2*
ISC 19 15:17:10.7±1.1, 23°.86N±0°.03×122°.61E±0°.02, h15km±9km, n50, σ0^{9}51/84, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.66**	**27**	P	**Pg**	**15 17 23.5**	**-0.1**
JYNG				S	**Sg**	**15 17 31.5**	**-0.9**
YOJ	**Yonaguni jima**	**0.70**	**31**	P	**Pg**	**15 17 24.1**	**-0.2**
YOJ				S	**Sb**	**15 17 34.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.70**	**31**	P	**Pg**	**15 17 24.5**	**+0.2**
baz=29							
YOJ				*e*S	**Sn**	**15 17 35.5**	**-1.2**
baz=29							
ETL	**Fush Village**	**0.95**	**288**	*e*P	**Pn**	**15 17 29.9**	**+0.3**
baz=289							
ETL				*e*S	**Sn**	**15 17 43.0**	**0.0**
baz=289							
EWUT	**Wuta**	**0.96**	**308**	P	**Pg**	**15 17 29.4**	**+0.2**
baz=308							
EWUT				*e*S	**Sg**	**15 17 41.7**	**-0.1**
baz=308							
ENA	**Nanau**	**0.97**	**306**	*i* P	**Pg**	**15 17 29.5**	**0.0**
baz=306							
ENA				S	**Sn**	**15 17 44.0**	**+0.6**
baz=306							
NACB	**Ninganchiao**	**0.98**	**289**	P	**Pb**	**15 17 29.2**	**-0.2**
baz=289							
ETM	**Tongmen**	**1.03**	**276**	P	**Pb**	**15 17 29.8**	**-0.4**
baz=276							
ETM				S	**Sg**	**15 17 44.3**	**+0.3**
baz=276							
ETLH	**Xiulin Townshi**	**1.09**	**289**	P	**Pb**	**15 17 30.8**	**-0.5**
baz=289							
ETLH				*e*S	**Sb**	**15 17 45.4**	**0.0**
baz=289							
EGFH	**Guangfu**	**1.10**	**260**	P	**Pb**	**15 17 31.5**	**0.0**
baz=260							
EGFH				*e*S	**Sg**	**15 17 47.2**	**+0.9**
baz=260							
HATJ	**Hateruma jima**	**1.11**	**80**	P	**Pb**	**15 17 31.8**	**+0.2**
NDS	**Dongshan**	**1.12**	**313**	P	**Pn**	**15 17 32.1**	**+0.2**
baz=313							
NDS				S	**Sg**	**15 17 47.3**	**+0.4**
baz=313							
IRIF	**Iriomote-Funau**	**1.13**	**65**	P	**Pn**	**15 17 32.1**	**+0.2**
IRIF				*e*S	**Sb**	**15 17 46.8**	**+0.4**
HGSD	**Ruisui**	**1.15**	**252**	P	**Pn**	**15 17 32.1**	**-0.1**
baz=252							
HGSD				*e*S	**Sb**	**15 17 47.2**	**+0.2**
baz=252							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**1.19**	**243**	*e*P	**Pn**	**15 17 30.8**	**-2.1**
baz=243							
ECBN				*e*S	**Sb**	**15 17 48.5**	**+0.2**
baz=243							
LATG	**Datong**	**1.20**	**304**	P	**Pb**	**15 17 33.4**	**+0.2**
baz=304							
TWE	**Neicheng**	**1.21**	**315**	P	**Pb**	**15 17 33.3**	**0.0**
baz=315							
TWE				S	**Sn**	**15 17 49.6**	**+0.2**
baz=315							
NTC	**Toucheng**	**1.22**	**324**	*e*P	**Pn**	**15 17 31.6**	**-1.6**
baz=324							
NTC				S	**Sg**	**15 17 50.1**	**+0.1**
baz=324							
ENTT	**Nioudou**	**1.23**	**309**	P	**Pn**	**15 17 33.3**	**-0.1**
baz=309							
ENTT				S	**Sn**	**15 17 49.9**	**+0.1**
baz=309							
EHY	**Hungye**	**1.23**	**254**	*e*P	**Pn**	**15 17 33.3**	**-0.2**
baz=253							
EHY				*e*S	**Sb**	**15 17 49.7**	**+0.3**
baz=253							
NDT	**Datong Townshi**	**1.24**	**307**	*e*P	**Pg**	**15 17 35.4**	**+0.7**
baz=306							
NDT				S	**Sn**	**15 17 50.3**	**+0.1**
baz=306							
NNSB	**Datong**	**1.25**	**297**	P	**Pn**	**15 17 33.9**	**0.0**
baz=297							
WHF	**Hehuan Shan**	**1.26**	**283**	P	**Pn**	**15 17 34.0**	**-0.2**
baz=283							
WHF				S	**Sb**	**15 17 50.5**	**-0.3**
baz=283							
EYUL	**Yuli**	**1.29**	**247**	*e*P	**Pb**	**15 17 35.2**	**+0.5**
baz=247							
EYUL				*e*S	**Sn**	**15 17 51.4**	**+0.1**
baz=247							
FUSB	**Fushanzhiwuyua**	**1.29**	**314**	P	**Pb**	**15 17 35.1**	**+0.3**
baz=314							
FUSB				S	**Sg**	**15 17 51.9**	**-0.6**
baz=314							
YULB	**Yu-li**	**1.29**	**249**	*e*P	**Pn**	**15 17 34.3**	**0.0**
baz=249							
YULB				*e*S	**Sn**	**15 17 51.5**	**+0.1**
baz=249							
FUSS	**Fushou**	**1.31**	**287**	P	**Pn**	**15 17 34.9**	**+0.2**
baz=287							
FUSS				S	**Sn**	**15 17 51.9**	**-0.2**
baz=287							
OWD	**Renai**	**1.32**	**274**	P	**Pn**	**15 17 34.6**	**-0.1**
baz=274							
TIPB	**Shuangxi**	**1.32**	**327**	*i* P	**Pb**	**15 17 35.5**	**+0.3**
baz=327							
TIPB				S	**Sn**	**15 17 52.0**	**+0.1**
baz=327							
CHGB	**Renai**	**1.33**	**279**	P	**Pn**	**15 17 34.9**	**0.0**
baz=279							
CHGB				*e*S	**Sn**	**15 17 52.6**	**+0.1**
baz=279							
JKRS	**Kuro-shima**	**1.33**	**73**	*e*S	**Sn**	**15 17 52.1**	**-0.2**
VWDT	**VWDT**	**1.35**	**266**	P	**Pn**	**15 17 35.4**	**+0.3**
baz=266							
VWDT				S	**Sg**	**15 17 53.9**	**-0.3**
baz=266							
NWLT	**Wulai**	**1.36**	**312**	*e*P	**Pg**	**15 17 36.9**	**0.0**
baz=312							
WUSB	**Renai**	**1.37**	**276**	P	**Pn**	**15 17 35.7**	**+0.2**
baz=276							
WUSB				S	**Sb**	**15 17 53.7**	**+0.1**
baz=276							
FULB	**Fuli**	**1.38**	**242**	*i* P	**Pn**	**15 17 35.4**	**-0.1**
baz=242							
FULB				S	**Sn**	**15 17 53.4**	**0.0**
baz=242							
YHNB	**Yeheng**	**1.38**	**306**	P	**Pn**	**15 17 35.8**	**+0.2**
baz=306							
SXI1	**Grass Mountain**	**1.40**	**332**	P	**Pn**	**15 17 35.5**	**-0.2**
baz=331							
SXI1				S	**Sb**	**15 17 54.5**	**+0.3**
baz=331							
NWF	**Wu-fen Shan**	**1.42**	**328**	*i* P	**Pn**	**15 17 35.8**	**-0.3**
baz=328							
NWF				S	**Sb**	**15 17 55.0**	**0.0**
baz=328							
WFSB	**Wu-fen Shan**	**1.42**	**328**	P	**Pn**	**15 17 35.8**	**-0.2**
baz=328							
WFSB				S	**Sg**	**15 17 55.7**	**-0.8**
baz=328							
JIJ	**Ishigaki jima**	**1.49**	**70**	*e*S	**Sn**	**15 17 55.5**	**-0.6**
EDH	**Donghe**	**1.49**	**234**	P	**Pn**	**15 17 36.7**	**-0.3**
baz=234							
EDH				*e*S	**Sn**	**15 17 54.4**	**-1.8**
baz=234							
SSLB	**Suanglung**	**1.52**	**268**	*e*P	**Pn**	**15 17 37.7**	**+0.3**
baz=267							
NFF	**Wufeng Townshi**	**1.56**	**300**	*e*P	**Pb**	**15 17 39.4**	**0.0**
baz=299							
NFF				S	**Sb**	**15 17 59.3**	**+0.2**
baz=299							
WHP	**Taichung City**	**1.58**	**286**	*e*P	**Pb**	**15 17 40.2**	**+0.6**
baz=285							
LDUT	**Ludao**	**1.58**	**222**	*e*P	**Pn**	**15 17 38.3**	**+0.1**
baz=222							
LDUT				*e*S	**Sn**	**15 17 57.5**	**-0.9**
baz=222							
YM01	**YM01**	**1.59**	**324**	*e*P	**Pg**	**15 17 41.0**	**-0.3**
baz=323							
LIOB	**Emei**	**1.65**	**299**	*e*P	**Pb**	**15 17 40.9**	**0.0**
baz=298							
JISG	**Ishigakijimahi**	**1.71**	**65**	*e*S	**Sn**	**15 18 02.4**	**+0.7**
JTJ	**Tarama**	**2.06**	**67**	*e*S	**Sn**	**15 18 10.9**	**+0.6**
JMJ	**Miyako jima 2**	**2.62**	**68**	*e*P	**Pn**	**15 17 53.2**	**+0.6**
baz=68							

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*JMA **19** 15:22:36.3±0.4, 32°.32N×138°.07E, h373km, M3.4*
*IDC **19** 15:22:36.6±7.0, 32°.05N×137°.16E, h312km±147km, mb2.6/3, mb1 2.8/4, mb1mx2.3/46, mbtmp3.3/4, Error ellipse: s-maj=253.9km s-min=24.4km az=61.0*
ISC 19 15:22:37.8±1.1, 32°.4N±0°.1×138°.1E±0°.1, h350km, n18, σ1^{9}30/21, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.62**	**61**	S	**S**	**15 24 08.2**	**+2.5**
13nm,0.3s,baz=354,slow=10,SNR=1.7							
TTO1	**TONANKAI O.B.S**	**1.68**	**319**	P	**Pn**	**15 23 28.5**	**+2.0**
JIE	**Ise**	**2.34**	**331**	P	**Pn**	**15 23 32.7**	**+1.2**
JKN2	**Miekihoku**	**2.42**	**322**	P	**Pn**	**15 23 32.9**	**+0.8**
JTNC	**Tanabenakahech**	**2.55**	**306**	P	**Pn**	**15 23 33.5**	**+0.3**
JAO	**Obara**	**2.99**	**347**	P	**Pn**	**15 23 38.4**	**+1.4**
JOD2	**Odawara 2**	**3.02**	**16**	P	**Pn**	**15 23 39.1**	**+1.8**
BSO3	**Boso 3**	**3.17**	**39**	P	**Pn**	**15 23 39.0**	**+0.7**
BSO3				*e*S	**S**	**15 24 27.0**	**-0.1**
BSO4	**Boso 4**	**3.23**	**35**	S	**S**	**15 24 28.3**	**-0.1**
BSO1	**Boso 1**	**3.33**	**46**	S	**S**	**15 24 29.4**	**+0.1**
JHU	**Hanno**	**3.63**	**15**	P	**Pn**	**15 23 43.9**	**+0.9**
JHU				*e*S	**S**	**15 24 35.2**	**-0.3**
JRY	**Ryogami san**	**3.72**	**10**	P	**Pn**	**15 23 45.7**	**+1.8**
JRY				*e*S	**S**	**15 24 38.7**	**+1.5**
MJAR	**Matsushiro Arr**	**4.18**	**1**	P	**Pn**	**15 23 49.5**	**+1.0**
0.2nm,0.3s,baz=186,slow=12,SNR=7.4							
JAG	**Ashikaga**	**4.22**	**15**	P	**Pn**	**15 23 48.5**	**-0.4**
JHO	**Hitachi**	**4.72**	**25**	P	**Pn**	**15 23 53.2**	**-1.0**
MKAR	**Makanchi Array**	**44.46**	**306**	P	**P**	**15 30 13.5**	**-1.8**
0.4nm,0.6s,baz=91,slow=9.6,SNR=5.3							
WRA	**Warramunga Arr**	**52.12**	**184**	P	**P**	**15 31 12.6**	**-0.8**
0.2nm,0.3s,baz=360,slow=7.6,SNR=6.7							
ASAR	**Alice Springs**	**55.84**	**185**	P	**P**	**15 31 40.1**	**+0.1**
0.2nm,0.6s,baz=13,slow=13,SNR=6.6							

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*JMA **19** 15:23:42.6±0.1, 40°.22N×142°.33E, h37km±1km, M4.1*
JMA Felt II J1.
*MOS **19** 15:23:42.8±1.0, 40°.27N×142°.27E, h61km, mb4.6/15, Error ellipse: s-maj=9.5km s-min=5.8km az=85.6*
*NIED **19** 15:23:42.7, 40°.22N×142°.33E, h37km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.77; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$-0.36; $M_{r\theta}$0.33; $M_{\theta\phi}$-0.58; $M_{\phi r}$1.43; Fault plane solution: $M_0$1.71000×10^{15} NP1:ϕ_s19.00000°, δ76.00000°, λ73.00000°. NP2:ϕ_s251.00000°, δ22.00000°, λ140.00000°.*
*BJI **19** 15:23:42.3±0.0, 40°.02N×141°.99E, h47km, mb4.4/28, mB5.0/11, Ms4.3/2, Ms7 3.9/1*
*IDC **19** 15:23:43.1±0.9, 40°.17N×142°.35E, h51km±7km, mb3.7/20, mb1 3.9/24, mb1mx3.7/45, mbtmp4.0/24, MS3.3/13, Ms1 3.3/13, ms1mx2.9/91, Error ellipse: s-maj=16.9km s-min=11.4km az=104.0*
*NEIC **19** 15:23:44.1±2.3, 40°.30N±0°.06×142°.09E±0°.09, h47km±7km, mb4.4/25, Error ellipse: s-maj=10.3km s-min=7.7km az=111.0*
ISC 19 15:23:42.2±0.6, 40°.20N±0°.04×142°.34E±0°.04, h40km±5km, n135, σ1^{9}48/141, mb4.2/50, MS3.4/10, 6C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.45**	**234**	⇓P	**Pn**	**15 23 52.6**	**+0.2**
JTH				S	**Sn**	**15 23 59.6**	**+0.2**
JKEN	**Kujiedanarisaw**	**0.48**	**271**	⇓P	**Pn**	**15 23 52.6**	**-0.2**
JKEN				S	**Sn**	**15 23 59.6**	**-0.6**
JANG	**Nango**	**0.65**	**285**	⇓P	**Pn**	**15 23 55.1**	**0.0**
JANG				S	**Sn**	**15 24 04.0**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.74**	**213**	P	**Pn**	**15 23 56.6**	**+0.3**
MIYJ				S	**Sn**	**15 24 06.7**	**+0.3**
JKZ	**Kuzumaki**	**0.81**	**255**	⇓P	**Pn**	**15 23 57.7**	**+0.5**
JKZ				S	**Sn**	**15 24 08.4**	**+0.4**
JOM	**Ohasama**	**1.09**	**228**	⇓P	**Pn**	**15 24 01.9**	**+0.9**
JOM				*e*S	**Sn**	**15 24 15.9**	**+1.1**
JARK	**Aomorirokkasho**	**1.09**	**318**	⇓P	**Pn**	**15 24 01.4**	**+0.3**
JARK				S	**Sn**	**15 24 15.2**	**+0.2**
JTM	**Tenmabayashi**	**1.13**	**301**	⇓P	**Pn**	**15 24 02.0**	**+0.4**
JTM				*e*S	**Sn**	**15 24 15.9**	**0.0**
JTM	**Tenmabayashi**	**1.13**	**301**	Pn	**Pn**	**15 24 02.0**	**+0.4**
JAH	**Hinai**	**1.31**	**270**	⇓P	**Pn**	**15 24 04.8**	**+0.8**
JAH				*e*S	**Sn**	**15 24 21.5**	**+1.3**
JMK	**Ichinoseki**	**1.52**	**215**	P	**Pn**	**15 24 08.2**	**+1.3**
JOT	**Ohata**	**1.53**	**321**	P	**Pn**	**15 24 07.5**	**+0.4**
JOT				*e*S	**Sn**	**15 24 26.7**	**+0.9**
JRG	**Rokugo**	**1.54**	**239**	P	**Pn**	**15 24 08.9**	**+1.7**
ERM	**Erimo**	**1.91**	**19**	*ce*P	**Pn**	**15 24 13.7**	**+1.4**
ERM				pmax	pmax		
comp=Z,137nm,0.7s							
ERM	**Erimo**	**1.91**	**19**		**Pn**	**15 24 13.5**	**+1.2**
JEM	**Erimo**	**1.91**	**19**	Pn	**Sn**	**15 24 39.2**	**+4.0**
JMM	**Marumori**	**2.63**	**208**		**Pn**	**15 24 24.1**	**+2.0**
JEW	**Eniwo**	**2.72**	**346**		**Pn**	**15 24 25.3**	**+1.9**
JKA	**Kamikawa-asahi**	**3.92**	**3**		**Pn**	**15 24 41.8**	**+2.0**
ASAJ	**Asahikawa**	**3.92**	**3**	P	**Pn**	**15 24 42.3**	**+2.5**
comp=Z,15nm,0.3s,baz=218,slow=11,SNR=38							
ASAJ				S	**Sn**	**15 25 27.8**	**+3.3**
comp=Z,5.3nm,0.3s,baz=168,slow=11,SNR=3.8							
ASAJ				LR	LR	15 26 15.3	
comp=Z,123nm,21.8s,baz=226,slow=38							
NMR	**Nemuro--Hokkai**	**4.05**	**38**	*e*P	**Pn**	**15 24 42.1**	**+0.4**
NMR				*e*S	**Sn**	**15 25 25.1**	**-2.7**
JYT	**Yasato**	**4.31**	**204**	Pn	**Pn**	**15 24 43.4**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**4.64**	**33**	*i* P	Pn	15 24 55.1	+5.4
MJAR	**Matsushiro Arr**	**4.89**	**223**	P	**Pn**	**15 24 55.4**	**+2.1**
comp=Z,0.7nm,0.3s,baz=32,slow=14,SNR=49							
MJAR				LR	LR	15 26 57.3	
comp=Z,205nm,20.2s,baz=28,slow=40							
MJB9	**Matsu-Tunnel**	**4.89**	**223**		**Pn**	**15 24 55.2**	**+2.0**
MAJO	**Matsushiro**	**4.89**	**223**	*i* P	**Pn**	**15 24 56.4**	**+3.2**
MAJO	**Matsushiro**	**4.89**	**223**		**Pn**	**15 24 55.4**	**+2.2**
MAT	**Matsushiro**	**4.89**	**223**	P	**Pn**	**15 24 56.4**	**+3.2**
MAT				*e*S	**Sn**	**15 25 51.2**	**+2.6**
SHO	**Shikotan**	**4.96**	**41**	*e*P	**Pn**	**15 24 53.5**	**-0.6**
SHO				*e*S	**Sn**	**15 25 45.6**	**-4.6**
SHO				smax	smax		
comp=N,117nm,0.4s							
SHO				smax	smax		
comp=E,187nm,0.2s							
JGF	**Kuroka**	**6.05**	**222**		**Pn**	**15 25 09.7**	**+0.5**
KUR	**Kuril'sk**	**6.47**	**37**	P	**Pn**	**15 25 15.7**	**+0.9**
KUR				S	**Sn**	**15 26 26.9**	**-0.4**
YSS	**Yuzh-Sakhalins**	**6.75**	**2**	*i* P	**Pn**	**15 25 21.2**	**+2.4**
USRK	**Ussuriysk Ar.**	**8.66**	**301**	P	**Pn**	**15 25 47.4**	**+2.5**
baz=102,slow=14,SNR=15							
USRK				LR	LR	15 28 51.6	
comp=E,146nm,21.0s,baz=89,slow=36							
USRK	**Ussuriysk Ar.**	**8.66**	**301**		**Pn**	**15 25 44.0**	**-0.9**
JHS	**Saijyo**	**8.97**	**238**	Pn	**Pn**	**15 25 46.8**	**-2.5**
KSRS	**Korea Array**	**11.58**	**261**	P	**Pn**	**15 26 28.0**	**+3.2**
comp=E,0.1nm,0.3s,baz=68,slow=13,SNR=2.7							
KSRS				LR	LR	15 30 30.7	
comp=E,135nm,18.6s,baz=70,slow=35							
KSRS	**Korea Array**	**11.58**	**261**	P	**Pn**	**15 26 28.0**	**+3.2**
KLR	**Kul'dur**	**11.74**	**324**	LR	LR	15 31 03.1	
comp=E,98nm,20.0s,baz=212,slow=37							
KLR	**Kul'dur**	**11.74**	**324**	*i* P	**Pn**	**15 26 24.2**	**-2.9**
KLR				pmax	pmax		
comp=Z,6.0nm,1.1s							
ZEA	**Zeya**	**16.96**	**328**	*e*P	**Pn**	**15 27 36.1**	**-0.2**
ZEA				pmax	pmax		
comp=Z,10.0nm,1.6s							
NJ2	**Nanjing**	**20.60**	**254**	*e*P	**P**	**15 28 16.3**	**-1.5**
NJ2				pmax	pmax		
comp=Z,12nm,0.5s							
YAK	**Yakutsk**	**23.17**	**345**	LR	LR	15 38 55.3	
comp=Z,48nm,18.9s,baz=38,slow=39							
YAK	**Yakutsk**	**23.17**	**345**	*e*P	**P**	**15 28 42.3**	**-2.6**
YAK				pmax	pmax		
comp=Z,12nm,1.1s							
HHC	**Hu-ho-hao-te**	**23.35**	**282**	*e*P	**P**	**15 28 46.9**	**-0.1**
HHC				pmax	pmax		
comp=Z,9.0nm,0.9s							
HHC				pmax	pmax		
comp=Z,220nm,5.6s							
SEY	**Seymchan**	**23.55**	**12**	P	**P**	**15 28 48.5**	**0.0**
comp=Z,1.4nm,0.7s,baz=184,slow=8.7,SNR=8.3							
YULB	**Yu-li**	**24.41**	**233**	P	**P**	**15 28 55.6**	**-1.4**
TPUB	**Ta-pu**	**24.89**	**234**	P	**P**	**15 29 00.3**	**-1.0**
ULN	**Ulaanbaatar**	**26.32**	**299**	P	**P**	**15 29 13.1**

comp=Z,34nm,18.2s,baz=94,slow=38
ZALV Zalesovo Beam 40.38 310 P **P 15 31 16.1 +0.2**
CMAR Chiang Mai Arr 43.07 253 P **P 15 31 38.1 -0.2**
comp=Z,0.7nm,0.6s,baz=49,slow=6.7,SNR=8.1
CMAR LR LR 15 49 07.4
comp=Z,26nm,18.3s,baz=60,slow=35
MK31 Makanchi Array 43.12 299 P **P 15 31 37.9 -0.6**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 43.12 299 P **P 15 31 37.9 -0.6**
MKAR Makanchi Array 43.12 299 P **P 15 31 38.2 -0.3**
comp=Z,1.5nm,0.7s,baz=85,slow=9.8,SNR=18
MKAR Makanchi Array 43.12 299 P **P 15 31 38.0 -0.5**
MAKZ Makanchi 43.33 300 P **P 15 31 38.2 -1.9**
MAKZ pmax pmax
comp=Z,8.0nm,1.5s
MAKZ Makanchi 43.33 300 P **P 15 31 38.2 -1.9**
MAKZ IAmb IAmb 15 31 41.1
comp=Z,8.2nm,1.5s
KURK Kurchatov 44.61 306 *ce*P **P 15 31 50.5 +0.2**
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 44.61 306 P **P 15 31 49.8 -0.5**
KURK IAmb IAmb 15 31 53.8
comp=Z,5.1nm,0.7s
KURBB Kurchatov Arra 44.69 306 P **P 15 31 50.8 -0.1**
comp=Z,3.8nm,0.6s,baz=80,slow=8.7,SNR=22
KURBB PcP **PcP 15 33 32.3 -0.5**
comp=Z,0.4nm,0.7s,baz=67,slow=5.1,SNR=1.2
ILAR Eielson Array 46.45 34 P **P 15 32 05.3 +0.7**
comp=Z,0.4nm,0.6s,baz=264,slow=5.7,SNR=5.0
ILAR pP **sP 15 32 19.8 -0.8**
comp=Z,1.2nm,0.8s,baz=269,slow=6.3,SNR=5.8
GUN Gumba 47.63 273 *e*P **P 15 32 14.7 -0.1**
KKN Kakani 48.15 274 *e*P **P 15 32 19.0 +0.3**
PKI Pulchoki 48.16 273 *e*P **P 15 32 18.5 -0.4**
GKN Gorkha 48.54 274 *e*P **P 15 32 21.7 +0.1**
comp=Z,8.3nm,0.5s
L27K Beaver Creek, 48.87 36 P **P 15 32 25.7 +2.2**
L27K IAmb IAmb 15 32 27.9
comp=Z,3.3nm,1.4s
BCAR Beaver Creek A 48.89 36 P **P 15 32 25.7 +2.0**
BVAR Borovoye Array 49.02 310 P **P 15 32 24.9 +0.1**
comp=Z,1.7nm,0.5s,baz=66,slow=13,SNR=16
DANN Dangsing 49.03 275 *e*P **P 15 32 25.8 +0.3**
comp=Z,35nm,0.7s
BRVK Borovoye 49.08 311 *ce*P **P 15 32 24.5 -0.7**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
BRVK Borovoye 49.08 311 P **P 15 32 25.3 +0.1**
BRVK IAmb IAmb 15 32 32.4
comp=Z,2.0nm,0.7s
KOLN Koldanda 49.45 274 *e*P **P 15 32 29.0 +0.4**
PYUN Piuthan 49.74 275 *e*P **P 15 32 30.8 -0.1**
INK Inuvik 51.25 28 P **P 15 32 41.4 0.0**
comp=Z,0.9nm,0.5s,baz=282,slow=4.5,SNR=4.9
INK Inuvik 51.25 28 IAmb IAmb 15 33 02.4
comp=Z,1.9nm,1.1s
ARU Arti 54.50 317 P **P 15 33 05.4 -0.1**
comp=Z,1.9nm,0.6s,baz=348,slow=2.6,SNR=11
ARU Arti 54.50 317 *c i*P **P 15 33 05.5 -0.1**
ARU *PP **pP 15 33 17.7 +0.6**
ARU 15 34 08.0
ARU 15 35 04.7
ARU S **S 15 40 40.5 -0.9**
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 54.50 317 P **P 15 33 05.1 -0.5**
ABKAR Akbulak array 56.49 309 P **P 15 33 18.1 -1.9**
ABKAR IAmb IAmb 15 33 20.6
comp=Z,3.1nm,0.9s
KBL Kabul 57.00 289 P **P 15 33 23.1 -1.0**
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 57.00 289 P **P 15 33 23.1 -1.0**
KBL IAmb IAmb 15 33 24.2
comp=Z,5.1nm,0.8s
WB0 Warramunga Arr 60.12 189 P **P 15 33 44.7 -0.7**
WB0 IAmb IAmb 15 34 12.4
comp=Z,2.4nm,0.8s
WB2 Warramunga Arr 60.30 189 P **P 15 33 46.0 -0.7**
WB2 IAmb IAmb 15 34 14.7
comp=Z,6.7nm,1.4s
WRA Warramunga Arr 60.30 189 P **P 15 33 46.1 -0.6**
comp=Z,1.0nm,0.6s,baz=3.3,slow=6.9,SNR=7.2
WRA Warramunga Arr 60.30 189 P **P 15 33 45.3 -1.4**
YKA Yellowknife Ar 60.72 31 P **P 15 33 48.3 -0.8**
comp=Z,0.2nm,0.7s,baz=306,slow=6.6,SNR=3.0
YKA pP **pP 15 34 01.9 +1.3**
comp=Z,0.3nm,0.6s,baz=300,slow=6.6,SNR=3.5
ARCES ARCESS Array B 61.30 339 P **P 15 33 52.9 -0.1**
comp=Z,5.6nm,1.1s,baz=57,slow=7.4,SNR=5.1
ARCES LR LR 16 03 42.4
comp=Z,34nm,19.0s,baz=11,slow=39
KLMR Klimovskoe 61.48 327 *e*P **P 15 33 52.7 -1.6**
KLMR pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 61.48 327 *e*P **P 15 33 52.7 -1.6**
KLMR AMP 15 33 56.2
comp=Z,13nm,1.3s
BELG Belogornoye 62.00 316 P **P 15 33 57.7 -0.3**
comp=Z,8.1nm,0.7s,baz=83,slow=17,SNR=5.1
AS31 Alice Springs 64.02 189 P **P 15 34 11.4 -0.2**
ASAR Alice Springs 64.02 189 P **P 15 34 11.6 -0.1**
comp=Z,0.7nm,0.7s,baz=1.5,slow=5.5,SNR=17
COR Corvallis 65.91 51 P **P 15 34 26.6 +2.8**
COR pmax pmax
comp=Z,82nm,1.4s
COR Corvallis 65.91 51 P **P 15 34 26.6 +2.8**
OBN Obninsk 66.01 323 *e*P **P 15 34 23.5 -0.7**
OBN *e* 15 34 54.5
OBN *e* 15 36 51.4
OBN *e*SS SS 15 47 27.1 +3.4
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,42nm,14.0s
KEBM Edson Butte 66.22 53 P **P 15 34 29.0 +3.1**
FINES FINESS Array B 66.36 332 P **P 15 34 25.8 -0.5**
comp=Z,2.2nm,0.7s,baz=52,slow=12,SNR=7.3
FINES LR LR 16 05 08.9
comp=Z,42nm,18.6s,baz=40,slow=37
FINES FINESS Array B 66.36 332 P **P 15 34 26.1 -0.3**
FINES FINESS Array B 66.36 332 P **P 15 34 26.1 -0.3**
SUMG Summit 67.52 0 P **P 15 34 34.9 +0.8**
SUMG pmax pmax
comp=Z,7.0nm,1.4s
SUMG Summit 67.52 0 P **P 15 34 34.9 +0.8**
SUMG IAmb IAmb 15 34 35.5
comp=Z,7.5nm,1.4s
G08A Pilot Rock 68.06 49 P **P 15 34 40.1 +2.5**
KBZ Khabaz 69.40 310 P **P 15 34 45.5 -0.3**
comp=Z,2.4nm,0.9s,baz=59,slow=2.8,SNR=4.2
KBZ Khabaz 69.40 310 *i* P **P 15 34 48.4 +2.6**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
NACGM Naroch 70.48 326 *i* P P 15 34 38.6 -14
HFS Hagfors 71.50 336 LR LR 16 11 46.7
comp=Z,37nm,18.0s,baz=68,slow=40
NB2 NORSAR Subarra 71.55 337 P **P 15 34 58.5 -0.2**
comp=Z,0.7nm,0.7s,baz=39,slow=5.9
NOA NORSAR Array B 71.55 337 P **P 15 34 58.4 -0.3**
comp=Z,1.7nm,0.8s,baz=40,slow=6.0,SNR=4.8
NOA pP **pP 15 35 11.3 +0.7**
comp=Z,0.9nm,0.7s,baz=38,slow=6.1,SNR=3.4
NOA LR LR 16 09 16.6
comp=Z,20nm,20.1s,baz=15,slow=38
AKASG Malin Array Be 72.24 322 P **P 15 35 02.6 -0.3**
comp=Z,2.0nm,0.6s,baz=44,slow=6.3,SNR=6.1
AKASG Malin Array Be 72.24 322 IAmb IAmb 15 35 03.8
comp=Z,1.7nm,1.2s
NVAR Mina Array Bea 72.53 54 pP pP 15 35 20.7 +3.7
comp=Z,0.6nm,0.7s,baz=288,slow=5.0,SNR=2.8
PDAR Pinedale Array 74.94 46 pP pP 15 35 34.1 +3.0
comp=Z,0.8nm,0.6s,baz=315,slow=1.0,SNR=3.7
BUR08 Bucovina Ar. S 76.27 322 P **P 15 35 26.6 0.0**
BUR08 IAmb IAmb 15 35 31.3
comp=Z,11nm,1.4s
BURAR Bucovina Array 76.28 322 P **P 15 35 26.5 -0.2**
BURAR IAmb IAmb 15 35 27.8
comp=Z,2.3nm,0.8s
CLL Collm 78.71 330 *e*P **P 15 35 40.0 0.0**
CLL Collm 78.71 330 *e*P **P 15 35 40.0 0.0**
GERES GERESS Array B 80.40 328 P **P 15 35 49.2 -0.2**
comp=Z,0.2nm,0.4s,baz=354,slow=4.0,SNR=3.9
TXAR Lajitas Array 87.62 53 pP pP 15 36 39.5 +0.9
comp=Z,0.4nm,0.7s,baz=301,slow=3.9,SNR=4.4

*JMA **19** 15:26:40.1±0.1, 43°.15N×145°.52E, h55km±1km, M3.3*
JMA Felt I J1.
*SKHL **19** 15:26:41.1±0.2, 43°.10N×145°.50E, h35km±5km, mb4.4/2*
ISC 19 15:26:39.8±1.8, **43°.14N**±0°.08×**145°.55E**±0°.05, **h56**km±11km,
n13, σ0°.**48**/24, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMR	**Nemuro--Hokkai**	**0.26**	**30**	*eP*	**Pn**	**15 26 49.3**	**+0.1**
NMR				*eS*	**Sn**	**15 26 55.6**	**-0.3**
NEM2	**Nemuro 2**	**0.26**	**33**	P	**Pn**	**15 26 49.4**	**+0.2**
NEM2				*eS*	**Sn**	**15 26 56.1**	**+0.2**
JKHN	**Kushirohamanak**	**0.29**	**258**	P	**Pn**	**15 26 49.8**	**+0.4**
JKHN				*eS*	**Sn**	**15 26 56.8**	**+0.5**
AKK	**Akkeshi**	**0.53**	**257**	*eP*	**Pn**	**15 26 51.7**	**-0.1**
AKK				*eS*	**Sn**	**15 26 59.7**	**-0.8**
JAK	**Akkeshi**	**0.64**	**257**	P	**Pn**	**15 26 53.0**	**0.0**
JAK				*eS*	**Sn**	**15 27 02.3**	**-0.4**
JNSB	**Nemuroshibetsu**	**0.75**	**328**	P	**Pn**	**15 26 54.4**	**0.0**
JNSB				*eS*	**Sn**	**15 27 05.0**	**0.0**
JNK	**Nakash**	**0.75**	**306**	P	**Pn**	**15 26 54.1**	**-0.3**
JNK				*eS*	**Sn**	**15 27 04.0**	**-1.1**
JRA	**Rausu**	**0.85**	**339**	P	**Pn**	**15 26 55.9**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.92**	**14**	*eP*	**Pn**	**15 26 57.3**	**+0.7**
YUK				AMB	AMB	15 26 58.7	
	190nm,0.3s						
YUK				*eS*	**Sn**	**15 27 08.9**	**-0.1**
YUK				A	A	15 27 10.6	
	440nm,0.2s						
YUK				A	A	15 27 10.6	
	410nm,0.2s						
SHO	**Shikotan**	**1.18**	**52**	*eP*	**Pn**	**15 27 00.1**	**0.0**
SHO				AMB	AMB	15 27 01.3	
	160nm,0.4s						
SHO				*eS*	**Sn**	**15 27 14.3**	**-0.9**
SHO				A	A	15 27 16.0	
	640nm,0.4s						
SHO				A	A	15 27 16.0	
	890nm,0.4s						
JOB	**Onbets**	**1.28**	**260**	P	**Pn**	**15 27 01.7**	**+0.3**
JOB				*eS*	**Sn**	**15 27 17.5**	**0.0**
JAR	**Ashorobuto**	**1.31**	**277**	P	**Pn**	**15 27 02.0**	**+0.2**
JAR				*eS*	**Sn**	**15 27 18.4**	**+0.2**
JTKR	**Abashiri--Toko**	**1.45**	**305**	P	**Pn**	**15 27 04.3**	**+0.6**

*IDC **19** 15:40:35.1±0.9, 30°.74N×141°.36E, h0km, mb3.7/9,*
mb1 3.8/13, mb1mx3.6/34, mbtmp3.7/13, ML3.2/4, MS3.2/2,
Ms1 3.2/2, ms1mx2.6/84, Error ellipse: s-maj=36.6km
s-min=16.2km az=75.0
ISC 19 15:40:39.4±0.9, **30°.7N**±0°.1×**141°.3E**±0°.2, **h28**km, **n20**,
σ0°.**81**/15, **mb3.7/9, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.72**	**331**	Pn	**Pn**	**15 41 20.2**	**-1.0**
	12nm,0.3s,baz=72,slow=16,SNR=1.5						
JHJ				Sn	**Sn**	**15 41 54.5**	**+1.2**
	26nm,0.3s,baz=273,slow=22,SNR=2.3						
MJAR	**Matsushiro Arr**	**6.36**	**337**	Pn	**Pn**	**15 42 10.6**	**-0.6**
	0.5nm,0.3s,baz=166,slow=11,SNR=5.9						
MJAR				LR	LR	15 44 43.8	
	comp=Z,240nm,18.1s,baz=170,slow=39						
KSRS	**Korea Array**	**12.98**	**305**	LR	LR	15 48 29.1	
	comp=Z,74nm,18.2s,baz=110,slow=36						
USRK	**Ussuriysk Ar.**	**15.34**	**334**	Pn	**Pn**	**15 44 14.3**	**+0.4**
	baz=152,slow=13,SNR=2.4						
KLR	**Kul'dur**	**19.85**	**341**	P	**P**	**15 45 06.6**	**-1.4**
	0.2nm,0.3s,baz=190,slow=7.8,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**25.52**	**109**	T	T	16 12 33.0	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**25.53**	**109**	T	T	16 12 39.4	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**25.54**	**109**	T	T	16 12 35.9	
	baz=305						
H11S3	**WAKE ISLAND Hy**	**26.00**	**112**	T	T	16 13 09.9	
	baz=304,slow=74,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**26.00**	**112**	T	T	16 13 10.6	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**26.01**	**112**	T	T	16 13 09.5	
	baz=304,slow=74,SNR=5.2						
SONM	**Songino Array**	**31.65**	**313**	P	**P**	**15 47 01.3**	**+1.1**
	0.6nm,0.7s,baz=118,slow=9.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**46.30**	**317**	P	**P**	**15 49 02.2**	**-0.2**
	0.3nm,0.3s,baz=112,slow=7.6,SNR=2.1						
MKAR	**Makanchi Array**	**47.65**	**307**	P	**P**	**15 49 13.4**	**+0.3**
	0.4nm,0.4s,baz=85,slow=9.9,SNR=13						
MKAR				PcP	**PcP**	**15 50 41.7**	**-0.6**
	0.3nm,0.9s,baz=87,slow=4.5,SNR=2.0						
WRA	**Warramunga Arr**	**50.83**	**189**	P	**P**	**15 49 37.8**	**+0.2**
	0.7nm,0.4s,baz=5.8,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**54.56**	**188**	P	**P**	**15 50 05.1**	**0.0**
	0.4nm,0.6s,baz=360,slow=4.5,SNR=23						
ILAR	**Eielson Array**	**54.91**	**30**	P	**P**	**15 50 07.7**	**+0.4**
	0.2nm,0.5s,baz=248,slow=6.6,SNR=2.7						
FINES	**FINESS Array B**	**74.37**	**333**	P	**P**	**15 52 13.8**	**-0.4**
	1.7nm,0.8s,baz=86,slow=6.2,SNR=8.2						
AKASG	**Malin Array Be**	**79.26**	**323**	P	**P**	**15 52 41.6**	**-0.4**
	0.3nm,0.4s,baz=51,slow=5.4,SNR=2.9						
TXAR	**Lajitas Array**	**94.00**	**52**	P	**P**	**15 53 55.9**	**+0.6**
	0.2nm,0.6s,baz=275,slow=4.4,SNR=2.7						

*TUL **19** 15:54:43.7±0.8, 36°.48N±0°.01×98°.75W±0°.02, h8km±6km,*
ML2.6, mb_Lg2.6/19(NEIC), Error ellipse: s-maj=3.0km
s-min=1.1km az=50.0
NEIC 19 15:54:43.6±1.1, **36°.48N**±0°.01×**98°.726W**±0°.007, **h5**km±2km,
Error ellipse: s-maj=3.0km s-min=2.4km az=300.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.23**	**3**	Pg	Pg	15 54 48.7	+0.6
OK035				Sg	Sg	15 54 51.5	+0.4
U32A	**Winter Ranch,**	**0.24**	**246**	Pg	Pg	15 54 48.5	+0.2
U32A				Sg	Sg	15 54 52.2	+0.6
CROK	**Carrier**	**0.60**	**88**	Pg	Pg	15 54 55.4	+0.3
CROK				Sg	Sg	15 55 03.7	+0.8
KAN14	**Manchester OK**	**0.78**	**52**	Pg	Pg	15 54 58.5	+0.1
KAN14				Sg	Sg	15 55 08.8	+0.3
GC02	**Grant County #**	**0.79**	**62**	Pg	Pg	15 54 58.6	-0.1
GC02				Sg	Sg	15 55 09.3	+0.4
KAN10	**Anthony SW Sta**	**0.82**	**38**	Pg	Pg	15 54 59.1	-0.2
KAN16	**Harper SW Stat**	**0.91**	**35**	Pg	Pg	15 55 00.9	-0.1
KAN05	**Bluff City Nor**	**0.93**	**47**	Pg	Pg	15 55 01.4	0.0
KAN05				Sg	Sg	15 55 13.7	+0.3
KAN17	**Caldwell West**	**0.95**	**54**	Pg	Pg	15 55 01.7	-0.2
KAN17				Sg	Sg	15 55 14.5	+0.2
KAN08	**Anthony NE Sta**	**0.96**	**39**	Pg	Pg	15 55 02.0	0.0
KAN12	**Harper NE Stat**	**1.00**	**35**	Pg	Pg	15 55 02.7	-0.1
KAN12				Sg	Sg	15 55 16.2	+0.4
KAN01	**Argonia South**	**1.02**	**49**	Pg	Pg	15 55 03.2	0.0
KAN06	**Argonia West S**	**1.03**	**42**	Pg	Pg	15 55 03.4	0.0
KAN13	**South Haven SW**	**1.13**	**62**	Pg	Pg	15 55 05.0	-0.4
BCOK	**Bluff Creek, N**	**1.22**	**132**		Pg	15 55 06.7	-0.3
OK029	**Liberty Lake**	**1.23**	**123**		Pg	15 55 06.5	-0.7
BLOK	**Blackwell**	**1.25**	**77**		Pg	15 55 06.4	-1.1
OK025	**Westminster Rd**	**1.44**	**128**	Pn	Pn	15 55 09.8	-0.5
OK031	**S. Brethren Rd**	**1.61**	**109**	Pn	Pb	15 55 13.9	0.0
FNO	**Franklin**	**1.63**	**138**	Pn	Pn	15 55 13.1	+0.2
QUOK	**Quay**	**1.66**	**100**		Pn	15 55 13.8	+0.5
OK030	**Cody Creek RV**	**1.67**	**109**	Pn	Pn	15 55 13.9	+0.5
WMOK	**Wichita Mounta**	**1.74**	**182**	Pn	Pn	15 55 14.1	-0.4
T35A	**Sooner Cattle**	**1.83**	**76**	Pn	Pb	15 55 16.6	-0.9
R32A	**Long Quarter,**	**1.94**	**0**	Pn	Pn	15 55 18.2	+1.0
W35A	**Tecumseh**	**2.00**	**131**	Pn	Pb	15 55 19.4	-1.1
X34A	**Smith Ranch, M**	**2.01**	**159**		Pb	15 55 19.6	-1.1
LOOK	**Love County**	**2.79**	**153**	Pn	Pn	15 55 30.2	+1.4
AMTX	**Amarillo**	**2.89**	**237**	IAmb_Lg		15 56 19.6	
	comp=Z,15nm,0.7s						
U38A	**Gravette**	**3.50**	**89**	IAmb_Lg		15 56 35.0	
	comp=Z,10nm,0.8s						
HHAR	**Hobbs**	**3.87**	**92**	IAmb_Lg		15 56 48.2	
	comp=Z,13nm,1.1s						
KSCO	**Kaye Shedlock'**	**3.99**	**310**	IAmb_Lg		15 56 58.6	
	comp=Z,12nm,0.8s						
W39A	**Magazine**	**4.21**	**106**	IAmb_Lg		15 57 04.6	
	comp=Z,12nm,0.8s						
U40A	**Yellville**	**4.74**	**90**	IAmb_Lg		15 57 11.0	
	comp=Z,8.9nm,0.8s						
P38A	**Dawn**	**5.16**	**51**	IAmb_Lg		15 57 28.8	
	comp=Z,10nm,1.2s						
L34A	**Svendsen Farm,**	**5.77**	**18**	IAmb_Lg		15 57 55.2	
	comp=Z,18nm,0.7s						
P40A	**Paris**	**6.09**	**58**	IAmb_Lg		15 57 59.6	
	comp=Z,7.4nm,1.0s						
I37A	**Lemond, Waseca**	**8.55**	**27**	IAmb_Lg		15 59 26.2	
	comp=Z,7.5nm,1.1s						

KRSC 19 16:02:38.1±1.7, **49°.96N**×**157°.11E**, **h60**km±29km, **ML3.6,**
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.96**	**319**	*eP*	Pn	16 02 56.0	+0.4
SKR				*eS*	Sn	16 03 08.4	-0.2
PAU	**Pauzhetka**	**1.52**	**353**	*eP*	Pn	16 03 05.1	+2.1
PAU				*eS*	Sn	16 03 23.9	+2.1
KDTR	**Khodutka, Kamc**	**1.95**	**18**	*eP*	Pn	16 03 11.7	+2.9
KDTR				*eS*	Sn	16 03 35.6	+3.4
MTVR	**Mutnovka**	**2.62**	**15**	*eP*	Pn	16 03 21.0	+2.9
MTVR				*eS*	Sn	16 03 52.3	+3.6
RUS	**Russkaya**	**2.63**	**19**	*eP*	Pn	16 03 20.4	+2.3
RUS				*eS*	Sn	16 03 51.6	+2.8
GRL	**Gorelyy**	**2.67**	**13**	*eP*	Pn	16 03 21.9	+3.2
GRL				*eS*	Sn	16 03 54.2	+4.3
KRMR	**Karymshinskiy**	**2.95**	**12**	*eP*	Pn	16 03 26.5	+4.1
APC	**Apacha**	**2.97**	**1**	*eP*	Pn	16 03 24.9	+2.2
PET	**Petropavlovsk**	**3.22**	**17**	*eP*	Pn	16 03 28.9	+2.8
PET				*eS*	Sn	16 04 06.2	+3.0
DALK	**Dalny**	**3.24**	**18**	*eP*	Pn	16 03 29.3	+2.8
DALK				*eS*	Sn	16 04 06.2	+2.4
UGLR	**Uglovaya**	**3.43**	**18**	*eP*	Pn	16 03 32.5	+3.4
AVH	**Avacha**	**3.46**	**16**	*eP*	Pn	16 03 33.6	+4.0
KOK	**Koryaka**	**3.47**	**15**	*eP*	Pn	16 03 33.5	+3.8
SMAR	**Somma**	**3.47**	**17**	*eP*	Pn	16 03 33.3	+3.5
SDLR	**Sedlovina**	**3.50**	**18**	*eP*	Pn	16 03 33.0	+2.9
SPN	**Mys Shipunski**	**3.63**	**29**	*eP*	Pn	16 03 35.1	+3.3
SPN				*eS*	Sn	16 04 15.8	+2.5
MKZ	**Mys Kozlova**	**5.41**	**30**	*eP*	Pn	16 03 58.0	+1.9
TUMR	**Tumrok**	**5.64**	**18**	*eP*	Pn	16 04 05.0	+5.6
KBTR	**Krutoberegovo**	**7.14**	**27**	*eP*	Pn	16 04 23.0	+3.2

*DDA **19** 16:13:50.6±0.0, 39°.40N×44°.12E, h7km±3km, ML2.0*
*ISK **19** 16:13:51.3, 39°.46N×44°.04E, h5km, ML2.5/3*
ISC 19 16:13:51.7±1.4, **39°.40N**±0°.03×**44°.03E**±0°.05, **h3**km±12km,
n9, σ1°.**41**/18, **Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.30**	**299**	P	**Pg**	**16 13 57.6**	**0.0**
DYDN				S	**Sb**	**16 14 04.0**	**-1.4**
DYDN				*i* AML	AML	16 14 09.0	
	comp=N,185nm,0.3s						
DYDN				*i* AML	AML	16 14 12.0	
	comp=E,153nm,0.5s						
IGDI	**IGDIR**	**0.47**	**4**	P	**Pg**	**16 14 00.3**	**-0.5**
IGDI				S	**Sg**	**16 14 07.3**	**+0.3**
VMUR	**Van-Muradiye**	**0.54**	**221**	P	**Pg**	**16 14 01.8**	**-0.3**
VMUR				S	**Sb**	**16 14 11.3**	**-0.9**
OZAP	**Van, Ozalp-Mer**	**0.73**	**182**	P	**Pg**	**16 14 05.5**	**-0.3**
OZAP				S	**Sn**	**16 14 19.6**	**-1.4**
AGRB	**Hanur-Agry**	**0.82**	**283**	PG	**Pg**	**16 14 07.5**	**0.0**
AGRB				SG	**Sn**	**16 14 20.9**	**-2.3**
GNI	**Garni**	**0.93**	**36**	PG	**Pg**	**16 14 09.3**	**-0.3**
GNI				SG	**Sb**	**16 14 22.6**	**-0.9**
VANB	**Van**	**0.94**	**212**	PG	**Pn**	**16 14 13.1**	**+1.1**
VANB				SG	**Sn**	**16 14 29.0**	**+2.9**
TVAN	**Van**	**0.99**	**210**	P	**Pb**	**16 14 11.9**	**+0.2**
TVAN				S	**Sn**	**16 14 26.2**	**-1.2**
TVAN				*i* AML	AML	16 14 29.0	
	comp=E,30nm,0.4s						
TVAN				*i* AML	AML	16 14 30.0	
	comp=N,41nm,0.6s						
DIGO	**Kars**	**1.14**	**334**	P	**Pn**	**16 14 15.1**	**+0.4**
DIGO				S	**Sn**	**16 14 33.2**	**+2.2**
DIGO				*i* AML	AML	16 14 38.0	
	comp=N,51nm,0.6s						
DIGO				*i* AML	AML	16 14 44.0	
	comp=E,63nm,0.6s						

*EAF **19** 16:35:10.2±3.1, 26°.00S×28°.77E, h0km±65km, MD5.0*
BUL 19 16:35:10.2±3.1, **26°.00S**×**28°.77E**, **h0**km±65km, **MD5.7,**
South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.03**	**288**	*i* P	Pn	16 36 01.3	+1.7
LBTB	**Lobatse**	**3.03**	**288**	*i* P	Pn	16 36 01.3	+1.7
BOSA	**Boshof**	**4.07**	**229**	*i* P	Pn	16 36 13.8	0.0
BOSA				*i* Sg	Sb	16 37 15.0	+2.4
BOSA	**Boshof**	**4.07**	**229**	*i* P	Pn	16 36 13.8	0.0
BOSA				*i* Sg	Sb	16 37 15.0	+2.4
MATP	**Matopo**	**5.56**	**357**	*i* P	Pn	16 36 33.6	-0.7
MATP				*i* S	Sn	16 37 32.3	-6.7
MATP	**Matopo**	**5.56**	**357**	*i* P	Pn	16 36 33.6	-0.7
MATP				*i* S	Sn	16 37 32.3	-6.7

*IDC **19** 16:35:55.7±5.9, 6°.41S×151°.57E, h48km±48km, mb3.4/4,*
mb1 3.8/5, mb1mx3.2/34, mbtmp3.8/5, ML2.4/1, Error
ellipse: s-maj=90.9km s-min=34.5km az=131.0
ISC 19 16:35:56.3±2.1, **6°.2S**±0°.7×**151°.4E**±0°.7, **h50**km, **n6**, σ0°.**73**/7,
mb3.5/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**233**	P	**Pn**	**16 37 13.6**	**+0.9**
	7.8nm,0.3s,baz=50,slow=6.1,SNR=28						
PMG				S	**Sn**	**16 38 11.4**	**-0.9**
	7.9nm,0.3s,baz=202,slow=5.5,SNR=7.5						
WRA	**Warramunga Arr**	**21.49**	**229**	P	**P**	**16 40 40.8**	**-0.1**
	1.3nm,0.8s,baz=57,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**24.19**	**222**	P	**P**	**16 41 07.8**	**-0.4**
	0.9nm,0.7s,baz=56,slow=9.0,SNR=28						
FITZ	**Fitzroy Crossi**	**27.79**	**243**	P	**P**	**16 41 41.0**	**+0.3**
	0.7nm,0.4s,baz=58,slow=9.3,SNR=12						
ILAR	**Eielson Array**	**83.98**	**22**	P	**P**	**16 48 20.8**	**-0.1**
	0.7nm,0.9s,baz=224,slow=3.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.40**	**285**	PKPbc	**PKPbc**	**16 55 40.4**	**-0.5**
	0.9nm,0.8s,baz=60,slow=2.9,SNR=4.7						

*BJI **19** 16:54:21.0±0.0, 22°.85S×171°.65E, h6km, mb5.2/55,*
mB5.6/31, Ms5.3/11, Ms7 4.9/12
*IDC **19** 16:54:21.3±0.5, 22°.81S×171°.63E, h0km, mb5.0/25,*
mb1 5.1/28, mb1mx4.9/42, mbtmp5.0/28, ML4.6/3, MS4.5/52,
Ms1 4.5/52, ms1mx4.4/57, Error ellipse: s-maj=16.1km
s-min=12.8km az=178.0
*NEIC **19** 16:54:23.8±1.9, 22°.91S±0°.07×171°.48E±0°.07, h10km±1km,*
mb5.3/159, Error ellipse: s-maj=12.0km s-min=11.1km
az=167.0
*MOS **19** 16:54:23.8±1.2, 22°.86S×171°.50E, h20km, mb5.4/20, Error*

PINNC Pines Island, 3.69 274 P **Pn** **16 55 23.5 +0.2**
OUENC Ouen Island, N 4.27 276 Pn **Pn** **16 55 29.6 -1.6**
OUENC Ouen Island, N 4.27 276 P **Pn** **16 55 30.4 -0.9**
LIFNC LIFOU 4.45 298 **Pn** **16 55 31.9 -1.9**
LIFNC LIFOU 4.45 298 P **Pn** **16 55 34.0 +0.2**
ONTNC Ouen Toro 4.64 277 Pn **Pn** **16 55 34.6 -1.8**
ONTNC Ouen Toro 4.64 277 P **Pn** **16 55 36.5 +0.1**
DZM Mont Dzumac 4.69 280 Pn **Pn** **16 55 35.8 -1.4**
11nm,0.3s,baz=125,slow=13,SNR=565
DZM Sn **Sn** **16 56 29.5 -0.9**
40nm,0.3s,baz=107,slow=20,SNR=11
DZM LR LR 16 57 28.9
comp=Z,6µm,18.8s,baz=172,slow=39
DZM Mont Dzumac 4.69 280 *e*Pn **Pn** **16 55 35.9 -1.3**
211nm,0.3s
DZM *e*Sn **Sn** **16 56 27.6 -2.8**
171nm,0.3s
DZM Mont Dzumac 4.69 280 Pn **Pn** **16 55 35.4 -1.7**
NOUC Port Laguerre 4.81 279 P **Pn** **16 55 38.6 -0.2**
RTV Rentapao 5.85 331 P **Pn** **16 55 55.3 +2.3**
DVP Devils Point 6.02 329 P **Pn** **16 55 57.8 +2.5**
MSVF Nonsavu 8.09 51 Pn **Pn** **16 56 24.7 +0.9**
1.5nm,0.3s,baz=240,slow=11,SNR=21
MSVF LR LR 16 58 42.6
comp=Z,3µm,18.0s,baz=239,slow=33
MSVF Nonsavu 8.09 51 *i* P **Pn** **16 56 23.3 -0.6**
MSVF Nonsavu 8.09 51 Pn **Pn** **16 56 24.4 +0.5**
MSVF Nonsavu 8.09 51 P **Pn** **16 56 25.4 +1.5**
SANVU Saraoutou 8.46 331 Pn **Pn** **16 56 27.8 -1.0**
DGTI Dogotuki 10.24 51 P **Pn** **16 56 56.0 +2.7**
TAVE Taveuni 10.25 54 P **Pn** **16 56 55.3 +2.0**
LKBA Tubou, Lakemba 10.27 65 P **Pn** **16 56 57.4 +3.8**
RAO Raoul Island 11.45 125 LR LR 17 00 40.6
comp=Z,4µm,19.1s,baz=330,slow=33
OUZ Omahuta 12.38 172 Pn **Pn** **16 57 20.1 -2.2**
LHI Lord Howe Isla 13.91 230 Pn **Pn** **16 57 39.7 -3.6**
HIZ Hauiti 15.79 170 P **Pn** **16 58 09.0 +1.1**
HIZ Hauiti 15.79 170 **Pn** **16 58 08.1 +0.2**
HIZ IAmb IAmb 16 58 19.9
comp=Z,408nm,1.3s
URZ Urewera 16.02 164 P **P** **16 58 12.4 -1.1**
URZ IAmb IAmb 16 58 24.2
comp=Z,186nm,1.1s
BKZ Black Stump Fm 16.73 166 P **P** **16 58 22.6 +1.1**
KRHZ Kereru 17.17 167 P **P** **16 58 27.6 +1.4**
HNR Honiara 17.36 319 P **Pn** **16 58 25.4 -2.3**
comp=Z,2.3nm,0.3s,baz=130,slow=17,SNR=4.0
HNR LR LR 17 04 04.0
comp=Z,1µm,20.2s,baz=152,slow=34
HNR Honiara 17.36 319 IAmb IAmb 16 58 31.5
comp=Z,314nm,1.0s
HNR Honiara 17.36 319 P **P** **16 58 28.7 +0.1**
ANWZ Angora Road 17.98 167 P **Pn** **16 58 34.8 -0.3**
MRZ Mangatainoka R 18.01 170 P **P** **16 58 35.0 -0.5**
OGWZ Otaki Gorge 18.09 171 P **Pn** **16 58 37.3 +0.8**
BFZ Birch Farm 18.14 168 P **P** **16 58 35.8 -1.2**
BFZ Birch Farm 18.14 168 P **P** **16 58 36.5 -0.5**
BFZ Birch Farm 18.14 168 P **Pn** **16 58 37.5 +0.3**
AFI Afiamalu 18.28 63 P **P** **16 58 34.9 -3.8**
comp=Z,3.7nm,0.3s,baz=254,slow=15,SNR=2.2
AFI LR LR 17 04 49.5
comp=Z,708nm,19.3s,baz=220,slow=35
NNZ Nelson 18.29 175 P **Pn** **16 58 40.7 +1.8**
CAW Cannon Point 18.36 171 P **Pn** **16 58 39.8 -0.1**
TCW Tory Channel 18.37 173 P **Pn** **16 58 40.8 +1.0**
MTW Mount Morrison 18.48 170 P **P** **16 58 40.2 -0.5**
SNZO South Karori 18.52 172 P **P** **16 58 41.3 +0.2**
SNZO IAmb IAmb 16 58 57.8
comp=Z,194nm,1.1s
SNZO South Karori 18.52 172 P **Pn** **16 58 41.6 0.0**
MSWZ Moikau Station 18.69 171 P **P** **16 58 42.7 -0.3**
MSWZ Moikau Station 18.69 171 P **P** **16 58 42.0 -1.0**
EIDS Eidsvold 18.72 259 P **Pn** **16 58 45.6 +1.3**
THZ Tophouse 18.80 177 P **Pn** **16 58 45.5 +0.3**
PLWZ Palliser 18.84 171 P **P** **16 58 44.2 -0.6**
PLWZ Palliser 18.84 171 P **P** **16 58 43.4 -1.4**
ARMA Armidale 19.18 243 P **P** **16 58 48.4 -0.2**
ARMA Armidale 19.18 243 P **Pn** **16 58 50.8 +1.0**
RK1H Rockhampton Ha 19.25 265 P **Pn** **16 58 51.0 +0.3**
KHZ Kahutara 19.50 175 P **P** **16 58 51.4 -0.4**
KHZ IAmb IAmb 16 59 08.9
comp=Z,244nm,1.4s
LTZ Lake Taylor 19.79 178 **P** **16 58 55.7 +0.6**
LTZ IAmb IAmb 16 58 57.3
comp=Z,146nm,0.7s
OXZ Oxford 20.33 179 P **P** **16 59 01.1 +0.2**
OXZ IAmb IAmb 16 59 12.4
comp=Z,161nm,1.0s
FOZ Fox Glacier 20.57 183 P **P** **16 59 03.7 +0.2**
RPZ Rata Peaks 20.72 181 P **P** **16 59 05.5 +0.5**
RPZ IAmb IAmb 16 59 12.6
comp=Z,248nm,1.2s
MQZ McQueen's Vall 20.73 177 P **P** **16 59 04.3 -0.8**
RMQ Roma 20.89 256 P Pn 16 59 10.1 +0.1
SYDH Sydney Hard Ro 21.11 235 P **P** **16 59 12.3 +2.9**
LBZ Lake Benmore 21.41 182 P **P** **16 59 12.8 +0.3**
LBZ IAmb IAmb 16 59 30.5
comp=Z,199nm,1.3s
WKZ Wanaka 21.91 185 P **P** **16 59 17.5 -0.4**
WKZ IAmb IAmb 16 59 46.3
comp=Z,123nm,1.0s
ODZ Otahua Downs 22.05 181 P **P** **16 59 18.9 -0.5**
ODZ IAmb IAmb 16 59 33.3
comp=Z,133nm,1.3s
CNB Canberra Magne 22.82 232 P **P** **16 59 29.9 +2.2**
WHZ Wether Hill Ro 23.07 186 P **P** **16 59 29.9 -0.2**
CAN Canberra 23.09 233 P **P** **16 59 29.4 -1.0**
CAN pmax pmax
comp=Z,47nm,1.0s
CAN Canberra 23.09 233 P **P** **16 59 29.4 -1.0**
CAN Canberra 23.09 233 P **P** **16 59 32.7 +2.3**
CTA Charters Tower 23.58 272 P **P** **16 59 36.5 +1.2**
comp=Z,19nm,0.8s,baz=95,slow=10,SNR=14
CTA LR LR 17 08 43.6
comp=Z,600nm,18.0s,baz=91,slow=36
CTAO Charters Tower 23.58 272 P **P** **16 59 35.6 +0.3**
CTAO pmax pmax
comp=Z,74nm,1.2s
CTAO Charters Tower 23.58 272 P **P** **16 59 35.6 +0.3**
CTAO IAmb IAmb 16 59 51.8
comp=Z,74nm,1.2s
CTAO Charters Tower 23.58 272 P **P** **16 59 37.1 +1.8**
CMSA Cobar Meteorol 24.39 244 P **P** **16 59 44.3 +1.8**
QLP Quilpie 24.94 256 P **P** **16 59 49.3 +1.7**
MTSU Mount Surprise 25.82 276 P **P** **16 59 57.3 +1.6**
RABL Rabaul 26.36 312 P **P** **16 59 58.2 -2.4**
RABL IAmb IAmb 17 00 14.4
comp=Z,42nm,0.7s
RABL Rabaul 26.36 312 P **P** **17 00 00.6 0.0**
TOO Toolangi 26.61 231 P **P** **17 00 00.6 -2.1**
TOO pmax pmax
comp=Z,28nm,0.9s
TOO Toolangi 26.61 231 P **P** **17 00 00.6 -2.1**
TOO Toolangi 26.61 231 P **P** **17 00 04.9 +2.2**
RAR Rarotonga 26.73 92 LR LR 17 10 28.7
comp=Z,465nm,18.1s,baz=262,slow=36
PMG Port Moresby 26.86 296 P **P** **17 00 04.4 -0.6**
comp=Z,44nm,0.8s,baz=124,slow=7.9,SNR=14
PMG LR LR 17 09 33.3
comp=Z,1µm,20.4s,baz=136,slow=34
PMG Port Moresby 26.86 296 *ce*P **P** **17 00 05.5 +0.4**
PMG pmax pmax
comp=Z,79nm,1.3s
PMG Port Moresby 26.86 296 P **P** **17 00 03.9 -1.1**
PMG IAmb IAmb 17 00 11.0
comp=Z,73nm,0.8s
PMG Port Moresby 26.86 296 P **P** **17 00 05.2 +0.1**
STKA Stephens Creek 27.86 245 P **P** **17 00 15.1 +1.1**
comp=Z,7.3nm,0.8s,baz=90,slow=11,SNR=13
STKA LR LR 17 10 21.9
comp=Z,476nm,19.5s,baz=73,slow=34
STKA Stephens Creek 27.86 245 P **P** **17 00 15.8 +1.8**
INKA Innaminka 28.10 254 P **P** **17 00 18.4 +2.3**
COEN Coen 28.21 284 P **P** **17 00 18.5 +1.3**
COEN Coen 28.21 284 P **P** **17 00 18.8 +1.6**
ARPS Mount Arapiles 28.99 235 P **P** **17 00 25.7 +1.8**
QIS Mount Isa 29.62 268 P **P** **17 00 32.3 +2.6**
HTT Hallett 30.38 243 P **P** **17 00 38.0 +1.6**
LCRK Leigh Creek 30.52 249 P **P** **17 00 39.0 +1.5**
NAPP Napperby 30.97 243 P **P** **17 00 44.3 +2.8**
TWOA Tennyson Woods 31.02 240 P **P** **17 00 43.0 +1.1**
MANU Manus Island 31.25 308 P **P** **17 00 43.0 -1.1**
WHYH Whyalla 31.42 244 P **P** **17 00 46.7 +1.3**

OOD Oodnadatta 32.58 254 P **P** **17 00 57.3 +1.6**
BBOO Buckleboo 32.64 245 P **P** **17 00 56.9 +0.6**
BBOO IAmb IAmb 17 01 11.8
comp=Z,37nm,1.0s
BBOO Buckleboo 32.64 245 P **P** **17 00 56.8 +0.6**
MULG Mulgathing 34.08 250 P **P** **17 01 09.3 +0.5**
ASAR Alice Springs 34.41 261 P **P** **17 01 11.8 +0.1**
comp=Z,14nm,0.9s,baz=85,slow=8.8,SNR=119
ASAR LR LR 17 15 00.3
comp=Z,394nm,18.4s,baz=106,slow=36
WRAB Tennant Creek 34.58 268 *ce*P **P** **17 01 12.7 -0.5**
WRAB pmax pmax
comp=Z,37nm,2.5s
WRAB Tennant Creek 34.58 268 P **P** **17 01 12.3 -0.9**
WRAB Tennant Creek 34.58 268 P **P** **17 01 12.3 -0.9**
WRA Warramunga Arr 34.59 268 P **P** **17 01 12.6 -0.8**
comp=Z,5.8nm,0.5s,baz=96,slow=8.4,SNR=60
WRA LR LR 17 16 09.2
comp=Z,585nm,18.6s,baz=18,slow=38
WRA Warramunga Arr 34.59 268 P **P** **17 01 12.1 -1.2**
JAY Jayapura 36.04 300 P **P** **17 01 25.8 -0.1**
comp=Z,87nm,0.9s,baz=128,slow=3.3,SNR=25
JAY LR LR 17 16 05.9
comp=Z,553nm,19.6s,baz=106,slow=36
JAY Jayapura 36.04 300 P **P** **17 01 25.1 -0.7**
comp=Z,742nmcomp=Z,66nm,1.0s
GENI Genyem 36.43 299 P **P** **17 01 29.1 0.0**
comp=Z,2µmcomp=Z,120nm,1.0s
GENI Genyem 36.43 299 P **P** **17 01 29.8 +0.7**
PPT2 Papeete2 36.89 89 *e*LR LR 17 11 34.9
comp=Z,370nm,22.5s
PPT Papeete 36.90 89 P **P** **17 01 31.9 -1.1**
comp=Z,24nm,0.6s,baz=214,slow=18,SNR=2.6
PPT LR LR 17 13 09.6
comp=Z,328nm,18.8s,baz=263,slow=31
PPTF Pamatai, Papee 36.90 89 P **P** **17 01 33.6 +0.4**
KDU Kakadu 38.36 279 P **P** **17 01 45.4 0.0**
FORT Forrest 39.27 249 P **P** **17 01 52.4 -0.5**
FORT IAmb IAmb 17 02 05.3
comp=Z,70nm,1.0s
FORT Forrest 39.27 249 P **P** **17 01 53.6 +0.7**
WRKA Warakurna 39.34 258 P **P** **17 01 54.0 +0.4**
MTN Manton Dam 39.52 278 P **P** **17 01 54.8 -0.4**
MTN IAmb IAmb 17 02 07.4
comp=Z,59nm,0.8s
MTN Manton Dam 39.52 278 P **P** **17 01 55.2 0.0**
DRS Darwin Rock St 39.88 278 P **P** **17 01 58.6 +0.4**
SRPI Serui, Papua 40.05 296 P **P** **17 02 00.1 +0.6**
comp=Z,2µmcomp=Z,84nm,1.0s
BAKI Biak 40.54 297 P **P** **17 02 04.4 +0.8**
comp=Z,3µmcomp=Z,217nm,1.1s
KNRA Kununurra 40.80 272 P **P** **17 02 05.7 -0.1**
KNRA Kununurra 40.80 272 P **P** **17 02 07.3 +1.6**
SAUI Saumlaki 41.27 285 P **P** **17 02 10.9 +1.2**
comp=Z,92nm,1.1s
SAUI Saumlaki 41.27 285 P **P** **17 02 08.2 -1.5**
H11S2 WAKE ISLAND Hy 41.44 353 T T 17 45 56.0
baz=174,slow=78,SNR=6.3
H11S3 WAKE ISLAND Hy 41.45 353 T T 17 45 58.5
baz=174,slow=78,SNR=4.4
H11S1 WAKE ISLAND Hy 41.46 353 T T 17 46 06.5
baz=174,slow=78,SNR=3.8
FAKI Fak Fak 42.84 292 P **P** **17 02 21.8 -0.6**
FAKI IAmb IAmb 17 02 28.0
comp=Z,114nm,1.5s
FITZ Fitzroy Crossi 43.02 268 P **P** **17 02 24.8 +0.9**
comp=Z,38nm,0.8s,baz=122,slow=7.9,SNR=95
BNDI Bandanaira 44.08 288 P **P** **17 02 32.1 -0.3**
comp=Z,140nm,1.0s
GUMO Guam 44.66 322 LR LR 17 21 43.5
comp=Z,608nm,18.4s,baz=140,slow=37
SIJI Sorong 44.75 294 P **P** **17 02 37.5 -0.3**
comp=Z,41nm,0.9s,baz=97,slow=7.0,SNR=32
SIJI LR LR 17 22 30.5
comp=Z,922nm,18.0s,baz=141,slow=38
SWI Sorong 44.75 294 P **P** **17 02 37.5 -0.3**
comp=Z,1µmcomp=Z,89nm,1.1s
AAI Ambon 45.97 288 P **P** **17 02 43.8 -3.7**
comp=Z,48nm,1.1s
PSA00 Pilbara Seismi 47.55 261 P **P** **17 02 58.2 -1.6**
PSA00 Pilbara Seismi 47.55 261 P **P** **17 03 00.4 +0.6**
MBWA Marble Bar 47.75 262 P **P** **17 03 01.8 +0.5**
MEEK Meekatharra 47.81 254 P **P** **17 03 02.3 +0.5**
LBMI Labuha 48.08 291 P **P** **17 03 04.9 +1.0**
comp=Z,840nmcomp=Z,52nm,1.2s
KLBR Kellerberrin 48.08 248 P **P** **17 03 04.3 +0.5**
TAOE Nuku Hiva Isla 48.41 81 *e*LR LR 17 16 54.8
comp=Z,409nm,23.3s
NWAO Narrogin (SRO) 48.45 246 P **P** **17 03 06.4 -0.2**
NWAO pmax pmax
comp=Z,33nm,1.0s
NWAO Narrogin (SRO) 48.45 246 P **P** **17 03 06.4 -0.2**
NWAO IAmb IAmb 17 03 18.2
comp=Z,33nm,0.9s
SANI Sanana 48.69 289 P **P** **17 03 08.8 +0.2**
comp=Z,1µmcomp=Z,130nm,1.1s
SANI Sanana 48.69 289 P **P** **17 03 09.5 +0.9**
TNTI Ternate 48.92 293 P **P** **17 03 10.8 +0.5**
comp=Z,723nmcomp=Z,23nm,1.0s
TNTI Ternate 48.92 293 P **P** **17 03 10.6 +0.2**
TNTI IAmb IAmb 17 03 34.2
comp=Z,26nm,1.0s
MMRI Maumere 49.19 279 P **P** **17 03 12.8 +0.3**
comp=Z,1µmcomp=Z,92nm,0.7s
MMRI Maumere 49.19 279 P **P** **17 03 12.0 -0.5**
MMRI Maumere 49.19 279 P **P** **17 03 12.9 +0.4**
MORW Morawa 49.78 251 P **P** **17 03 16.4 -0.4**
MORW IAmb IAmb 17 03 30.2
comp=Z,58nm,1.2s
MORW Morawa 49.78 251 P **P** **17 03 19.4 +2.6**
comp=Z,46nm,1.3s
BASI Baing, Sumba 50.12 276 P **P** **17 03 21.2 +1.7**
comp=Z,2µmcomp=Z,154nm,0.8s
BBSI Bau Bau 50.16 283 P **P** **17 03 21.2 +1.3**
comp=Z,105nmcomp=Z,4.8nm,1.0s
WBSI Waikabubak, Su 51.42 276 P **P** **17 03 30.2 +0.8**
comp=Z,1µmcomp=Z,142nm,1.0s
LUWI Luwuk 51.99 288 P **P** **17 03 34.8 +1.3**
comp=Z,2µmcomp=Z,210nm,0.9s
LUWI Luwuk 51.99 288 P **P** **17 03 33.3 -0.2**
LUWI Luwuk 51.99 288 P **P** **17 03 35.7 +2.2**
comp=Z,210nm,0.9s
GIRL Giralia 52.42 258 P **P** **17 03 37.0 +0.3**
GIRL Giralia 52.42 258 P **P** **17 03 39.3 +2.6**
BKSI Bulukumba 52.44 281 P **P** **17 03 36.9 0.0**
comp=Z,674nmcomp=Z,58nm,1.0s
GTOI Gorontalo 52.59 290 P **P** **17 03 39.5 +1.5**
comp=Z,490nmcomp=Z,34nm,1.1s
BNSI Bone 52.85 282 P **P** **17 03 40.6 +0.7**
comp=Z,39nm,1.0s
KAPI Kappang 52.91 282 P **P** **17 03 41.6 +1.2**
comp=Z,10nm,0.4s,baz=111,slow=5.1,SNR=10.0
KAPI LR LR 17 25 18.8
comp=Z,328nm,21.6s,baz=126,slow=35
KAPI Kappang 52.91 282 P **P** **17 03 42.6 +2.2**
comp=Z,78nm,1.4s
APSI Ampana 53.04 287 P **P** **17 03 43.1 +1.8**
comp=Z,826nmcomp=Z,65nm,1.2s
WMR Waimanalo Ridg 53.31 37 P **P** **17 03 43.0 -0.1**
SPSI Sidrap Palu 53.34 283 P **P** **17 03 46.4 +2.9**
comp=Z,38nm,1.2s
TTSI Tana Toraja 53.69 284 P **P** **17 03 48.2 +2.1**
comp=Z,34nm,1.3s
DAV Davao City (W) 53.85 298 LR LR 17 27 27.5
comp=Z,188nm,19.1s,baz=168,slow=37
TOLI2 Tolitoli 54.76 289 P **P** **17 03 53.2 -0.7**
TOLI2 IAmb IAmb 17 03 55.0
comp=Z,41nm,0.9s
TOLI2 Tolitoli 54.76 289 P **P** **17 03 53.6 -0.3**
VNDA Vanda 54.82 183 LR LR 17 23 49.0
comp=Z,430nm,20.6s,baz=11,slow=32
VNDA Vanda 54.82 183 P **P** **17 03 52.5 -0.9**
VNDA pmax pmax
comp=Z,20nm,1.2s
VNDA Vanda 54.82 183 P **P** **17 03 52.5 -0.9**
SBA Scott Base 55.01 181 P **P** **17 03 55.2 +0.5**
SBA pmax pmax
comp=Z,112nm,1.2s
SBA Scott Base 55.01 181 P **P** **17 03 55.2 +0.5**
MPSI Mapaga 55.17 287 P **P** **17 03 57.1 +0.3**
comp=Z,717nmcomp=Z,47nm,0.8s
IGBI Denpasar 55.61 275 P **P** **17 04 01.0 +0.9**
comp=Z,1µmcomp=Z,112nm,1.2s
SRBI Singaraja 55.82 276 P **P** **17 04 02.2 +0.6**
comp=Z,938nmcomp=Z,86nm,1.4s
JAGI Jajag, Banyuwa 56.65 275 P **P** **17 04 07.6 +0.1**
comp=Z,90nm,1.3s
JAGI Jajag, Banyuwa 56.65 275 P **P** **17 04 07.1 -0.5**
JAGI Jajag, Banyuwa 56.65 275 P **P** **17 04 07.6 +0.1**
comp=Z,91nm,1.3s
ABJI Asem Bagus 56.83 276 P **P** **17 04 08.8 0.0**
comp=Z,45nm,1.0s
GMJI Gumukmas 57.38 275 P **P** **17 04 11.7 -0.9**
comp=Z,974nmcomp=Z,48nm,1.1s
CASY Casey 57.59 205 P **P** **17 04 12.5 -0.9**
CASY IAmb IAmb 17 04 19.9
comp=Z,50nm,1.4s
BBKI Banjar Baru 58.00 281 P **P** **17 04 18.0 +1.0**
comp=Z,858nmcomp=Z,28nm,1.3s
MTKI Muara Teweh, K 59.03 283 P **P** **17 04 23.9 -0.3**
comp=Z,2µmcomp=Z,13nm,0.9s
UGM Wanagama 60.20 274 P **P** **17 04 32.4 +0.1**
comp=Z,135nm,1.2s
UGM Wanagama 60.20 274 P **P** **17 04 32.5 +0.3**
UGM Wanagama 60.20 274 P **P** **17 04 33.4 +1.1**
KKM Kota Kinabalu 61.15 291 P **P** **17 04 39.4 +0.6**
KKM Kota Kinabalu 61.15 291 P **P** **17 04 40.2 +1.4**
PBKI Pangkalan Bun 61.19 280 P **P** **17 04 40.0 +1.0**
comp=Z,106nm,0.9s
TGY Tagaytay City 61.63 302 P **P** **17 04 42.3 +0.4**
comp=Z,140nm,0.3s,baz=90,slow=5.4
STKI Sintang 62.54 283 P **P** **17 04 49.1 +1.0**
comp=Z,23nm,1.0s
SBUM Sibu 62.93 285 P **P** **17 04 51.1 +0.5**
LEM Lembang 63.27 274 P **P** **17 04 54.1 +1.0**
comp=Z,28nm,0.7s,baz=91,slow=6.3,SNR=7.6
LEM LR LR 17 33 15.6
comp=Z,267nm,19.7s,baz=146,slow=37
XMIS Christmas Isla 63.76 269 P **P** **17 04 56.3 +0.1**
DBJI Dramaga 64.17 274 P **P** **17 04 59.2 +0.3**
comp=Z,85nm,1.1s
KSM Kuching 64.20 284 P **P** **17 04 59.5 +0.4**
KSM Kuching 64.20 284 P **P** **17 05 01.1 +2.0**
JOW Kunigami 64.73 317 LR LR 17 32 59.7
comp=Z,214nm,18.6s,baz=78,slow=36
CGJI Cibinong 65.12 273 P **P** **17 05 04.7 -0.4**
comp=Z,69nm,0.8s
BLSI Bandar Lampung 66.00 274 P **P** **17 05 10.7 -0.1**
comp=Z,95nm,0.7s
JGF Kuroka 66.57 330 P **P** **17 05 14.2 +0.3**
KASI Kota Agung 66.63 274 P **P** **17 05 17.9 +3.1**
comp=Z,76nm,0.7s
MJAR Matsushiro Arr 66.97 331 P **P** **17 05 14.5 -1.9**
comp=Z,8.0nm,0.8s,baz=135,slow=4.9,SNR=8.3
MJAR LR LR 17 35 07.1
comp=Z,232nm,18.8s,baz=138,slow=36
MJAR Matsushiro Arr 66.97 331 P **P** **17 05 17.1 +0.7**
MJAR pmax pmax
comp=Z,7.0nm,0.8s
MJAR Matsushiro Arr 66.97 331 P **P** **17 05 17.1 +0.7**
MAJO Matsushiro 66.97 331 P **P** **17 05 17.6 +1.2**
MAJO pmax pmax
comp=Z,22nm,1.0s
MAJO Matsushiro 66.97 331 P **P** **17 05 17.6 +1.2**
MAJO IAmb IAmb 17 05 20.5
comp=Z,22nm,0.9s
MAT Matsushiro 66.97 331 P **P** **17 05 14.7 -1.7**
MAT *e*S **S** **17 14 09.8 +3.6**
MJB9 Matsu-Tunnel 66.97 331 P **P** **17 05 17.4 +0.9**
MJB9 IAmb IAmb 17 05 20.4
comp=Z,23nm,1.0s
QSPA South Pole Qui 67.13 180 P **P** **17 05 17.4 +0.2**
comp=Z,19nm,1.0s,baz=11,slow=3.6,SNR=20
QSPA LR LR 17 32 37.7
comp=Z,450nm,18.6s,baz=44,slow=34
QSPA South Pole Qui 67.13 180 P **P** **17 05 17.4 +0.2**
LWLI Liwa 67.23 274 P **P** **17 05 18.4 -0.3**
comp=Z,162nm,0.8s
MDSI Maura Dua 67.32 275 P **P** **17 05 18.4 -0.8**
comp=Z,448nmcomp=Z,50nm,0.8s
TPUB Ta-pu 67.47 310 P **P** **17 05 18.4 -1.4**
SSLB Suanglung 67.55 310 P **P** **17 05 18.6 -1.8**
SSLB IAmb IAmb 17 05 19.9
comp=Z,22nm,0.8s
YHNB Yeheng 67.82 311 P **P** **17 05 21.7 -0.4**
JNU Nakatsue 67.85 324 P **P** **17 05 20.8 -1.3**
comp=Z,21nm,1.1s,baz=93,slow=10,SNR=3.6
JNU Nakatsue 67.85 324 P **P** **17 05 21.3 -0.8**
TATO Taipei 67.94 311 P **P** **17 05 22.3 -0.4**
MASI Maura Aman, Be 69.63 275 P **P** **17 05 34.4 +0.8**
comp=Z,217nm,0.9s
MYKOM Kota Tinggi 70.16 281 P **P** **17 05 36.5 -0.4**
MYKOM IAmb IAmb 17 05 50.2
comp=Z,26nm,0.9s
DLV T Lat 70.69 293 P **P** **17 05 40.7 +0.4**
RPN Rapa Nui 70.78 112 LR LR 17 29 18.2
comp=Z,238nm,20.2s,baz=224,slow=30
ASAJ Asahikawa 71.78 339 LR LR 17 31 23.8
comp=Z,485nm,21.9s,baz=159,slow=31
TJN Taejon 72.20 324 *ce*P **P** **17 05 49.7 +1.1**
KSRS Korea Array 72.70 325 P **P** **17 05 51.9 +0.3**
comp=Z,12nm,0.8s,baz=144,slow=6.3,SNR=24
KSAR Wonju Array Be 72.71 325 P **P** **17 05 50.9 -0.8**
KSAR Wonju Array Be 72.71 325 P **P** **17 05 50.9 -0.8**
KS19 Wonju Array Si 72.77 325 P **P** **17 05 51.2 -0.8**
KS19 IAmb IAmb 17 06 02.5
comp=Z,64nm,1.4s
MNSI Mandailing Nat 73.63 278 P **P** **17 05 57.2 -0.5**
comp=Z,2µmcomp=Z,76nm,0.6s
IPM Ipoh 73.85 282 P **P** **17 05 58.9 -0.1**
IPM IAmb IAmb 17 06 12.3
comp=Z,23nm,0.8s
YSS Yuzh-Sakhalins 74.24 340 *e*P **P** **17 06 04.5 +4.1**
YSS *e* 17 06 12.5
YSS pmax pmax
comp=Z,30nm,0.8s
NJ2 Nanjing 74.28 316 *e*P **P** **17 06 02.0 +1.0**
NJ2 pmax pmax
comp=Z,12nm,0.5s
KULM Kulim 74.53 283 P **P** **17 06 02.8 -0.1**
KULM IAmb IAmb 17 06 11.2
comp=Z,27nm,0.6s
UBPT Khong Chiam 74.88 294 P **P** **17 06 05.1 +0.3**
UBPT IAmb IAmb 17 06 06.7
comp=Z,30nm,1.1s
PSI Prapat 75.05 280 LR LR 17 42 20.2
comp=Z,188nm,18.6s,baz=111,slow=38
KIWB Kanaga Island 75.15 7 P **P** **17 06 06.9 +1.4**
SHEM Shemya Is, Ala 75.39 2 LR LR 17 32 55.3
comp=Z,477nm,20.1s,baz=170,slow=31
MAW Mawson 75.78 202 P **P** **17 06 09.9 +0.8**
comp=Z,38nm,0.9s,baz=113,slow=6.5,SNR=11
MAW LR LR 17 36 05.8
comp=Z,89nm,18.2s,baz=78,slow=33
MAW Mawson 75.78 202 P **P** **17 06 09.9 +0.8**
USA0B Ussuriysk Arra 75.95 332 P **P** **17 06 10.1 -0.2**
USA0B pmax pmax
comp=Z,29nm,1.2s
USA0B Ussuriysk Arra 75.95 332 P **P** **17 06 10.1 -0.2**
USA0B IAmb IAmb 17 06 22.6
comp=Z,29nm,1.1s
USRK Ussuriysk Ar. 75.95 332 P **P** **17 06 09.8 -0.6**
comp=Z,8.0nm,0.8s,baz=130,slow=4.2,SNR=9.0
USRK LR LR 17 35 54.3
comp=Z,185nm,21.0s,baz=139,slow=33
USRK Ussuriysk Ar. 75.95 332 P **P** **17 06 10.1 -0.2**
USRK Ussuriysk Ar. 75.95 332 P **P** **17 06 10.1 -0.2**
PEA0B Petropavlovsk- 76.67 352 P **P** **17 06 13.0 -1.2**
PEA0B pmax pmax
comp=Z,40nm,1.2s
PEA0B Petropavlovsk- 76.67 352 P **P** **17 06 13.0 -1.2**
PEA0B IAmb IAmb 17 06 28.8
comp=Z,40nm,1.2s
PETK Petropavlovsk- 76.67 352 P **P** **17 06 13.2 -1.1**
comp=Z,6.1nm,0.8s,baz=170,slow=11,SNR=6.7
PETK LR LR 17 34 18.4
comp=Z,612nm,21.1s,baz=158,slow=31
PETK Petropavlovsk- 76.67 352 P **P** **17 06 12.6 -1.6**
NIKH Nikolski High 77.52 12 P **P** **17 06 17.5 -1.5**
NIKH Nikolski High 77.52 12 P **P** **17 06 17.8 -1.2**
baz=198
LHMI Lhok Sumawe 77.85 281 P **P** **17 06 18.8 -3.0**
TIA Tai'an 78.06 318 ⇑P **P** **17 06 22.1 -0.3**
TIA pmax pmax
comp=Z,39nm,0.7s
CN2 Changchun 78.67 328 *e*P **P** **17 06 24.3 -1.3**
CN2 pmax pmax
comp=Z,40nm,0.8s
UNV Unalaska Valle 78.82 13 P **P** **17 06 24.1 -2.0**
UNV IAmb IAmb 17 06 44.3
comp=Z,54nm,1.5s
BNX BinXian 79.19 330 ⇓P **P** **17 06 27.6 -0.8**

BNX pmax pmax
comp=Z,15nm,1.0s
BNX pmax pmax
comp=Z,990nm,4.9s
ENH Enshi 79.59 309 P **P 17 06 29.7 -1.3**
ENH IAmb IAmb 17 06 31.9
comp=Z,44nm,1.0s
GYA Guiyang 79.60 304 ⇑P **P 17 06 31.5 +0.2**
GYA pP PcP 17 06 37.8 -1.2
GYA pmax pmax
comp=Z,21nm,0.9s
GRNR Gornyy 79.63 338⇑*i*P **P 17 06 30.7 0.0**
GRNR pmax pmax
comp=Z,4.0nm,0.9s
SMAI San Martin Ant 79.68 161 P **P 17 06 30.8 0.0**
SMAI IAmb IAmb 17 06 37.1
comp=Z,36nm,1.1s
LYN LuoYang 80.01 314 *e*P **P 17 06 32.6 -0.5**
LYN pmax pmax
comp=Z,20nm,0.8s
KLR Kul'dur 80.08 335 LR LR 17 40 47.4
comp=Z,155nm,19.1s,baz=150,slow=35
KLR Kul'dur 80.08 335*ce*P **P 17 06 34.1 +1.0**
KLR pmax pmax
comp=Z,15nm,1.2s
HNS HongShan 80.31 318 ⇑P **P 17 06 34.8 +0.2**
HNS S **S 17 16 37.8 +1.2**
HNS pmax pmax
comp=Z,23nm,1.4s
HNS LR LR
comp=Z,420nm,21.4s
HNS LR LR
comp=Z,380nm,16.9s
BJT Baijiatuau 81.08 320 P **P 17 06 38.1 -0.6**
BJT pmax pmax
comp=Z,19nm,1.0s
BJT Baijiatuau 81.08 320 P **P 17 06 38.1 -0.6**
BJT IAmb IAmb 17 06 39.4
comp=Z,19nm,1.0s
BJI Beijing 81.09 320 P **P 17 06 38.6 -0.1**
BJI pmax pmax
comp=Z,20nm,1.0s
CM31 Chiang Mai Arr 81.87 294 P **P 17 06 44.9 +1.5**
CMAR Chiang Mai Arr 81.87 294 P **P 17 06 45.0 +1.6**
comp=Z,25nm,0.8s,baz=138,slow=4.1,SNR=181
CMAR PP **PP 17 09 47.5 -4.0**
comp=Z,1.3nm,0.9s,baz=115,slow=5.1,SNR=4.0
CMAR PKKPbc **PKKPbc 17 25 14.6 +0.6**
comp=Z,1.0nm,0.7s,baz=290,slow=4.5,SNR=8.9
CMAR LR LR 17 47 07.0
comp=Z,58nm,18.0s,baz=125,slow=39
CMAR Chiang Mai Arr 81.87 294 *i* P **P 17 06 45.5 +2.1**
CMAR pmax pmax
comp=Z,25nm,0.8s
CMAR Chiang Mai Arr 81.87 294 P **P 17 06 45.2 +1.8**
SYO Syowa Base 81.95 196⇑*i*P **P 17 06 42.0 -0.9**
SYO Syowa Base 81.95 196⇓*e*PcP **PcP 17 06 50.8 +2.4**
KMI Kunming 81.95 301 ⇑P **P 17 06 45.5 +1.5**
KMI sP PcP 17 06 51.0 +1.6
KMI pmax pmax
comp=Z,34nm,1.1s
CHTO Chiang Mai 82.04 294 P **P 17 06 45.5 +1.2**
CHTO pmax pmax
comp=Z,58nm,1.0s
CHTO Chiang Mai 82.04 294 P **P 17 06 45.5 +1.2**
XAN Xi'an 82.10 312 P **P 17 06 44.8 +0.4**
XAN pP PcP 17 06 51.8 +2.1
XAN sP pP 17 06 58.5 +1.5
XAN pmax pmax
comp=Z,30nm,1.0s
PMSA Palmer Station 82.74 159 LR LR 17 36 08.0
comp=Z,225nm,19.3s,baz=227,slow=30
PZH PanZhiHua 83.41 302 ⇑P **P 17 06 51.8 +0.4**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,180nm,5.5s
XLT XiLinHaoTe 83.62 323 *e*P **P 17 06 51.8 -0.3**
XLT pmax pmax
comp=Z,45nm,1.0s
XLT pmax pmax
comp=Z,540nm,6.0s
MA2 Magadan 83.96 350 *i* P **P 17 06 55.1 +1.9**
MA2 pmax pmax
comp=Z,5.0nm,0.9s
CD2 Chengdu 84.09 307 P **P 17 06 55.3 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 84.35 319 *e*P **P 17 06 55.8 0.0**
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,390nm,5.0s
DGPR DIGLIPUR 84.77 287 *e*P **P 17 07 02.7 +4.3**
BTO Baotou 85.15 318 *e*P **P 17 07 01.0 +1.1**
OHAK Old Harbor 85.18 18 P **P 17 06 58.0 -1.4**
baz=212
HIA Hailar 85.33 329 P **P 17 06 59.8 -0.7**
HIA pmax pmax
comp=Z,10.0nm,1.1s
HIA Hailar 85.33 329 P **P 17 06 59.8 -0.7**
ZEA Zeya 85.36 335 *e*P **P 17 07 00.4 0.0**
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,20nm,1.3s
NVL N'lazarevskaya 85.44 187 *e*P P 17 07 08.6 +7.8
NVL pmax pmax
comp=Z,26nm,0.9s
SNAA Sanae 85.55 182 P **P 17 07 00.6 -0.9**
SNAA Sanae 85.55 182 sP **P 17 07 05.8 +4.4**
SNAA Sanae 85.55 182 P **P 17 07 00.7 -0.8**
comp=Z,7.4nm,1.0s,baz=196,slow=8.3,SNR=3.7
SNAA LR LR 17 43 56.9
comp=Z,794nm,18.2s,baz=146,slow=35
SNAA Sanae 85.55 182*ce*P **P 17 07 02.1 +0.7**
SNAA pmax pmax
comp=Z,959nm,1.0s
SNAA Sanae 85.55 182 P **P 17 07 01.8 +0.4**
SNAA IAmb IAmb 17 07 06.5
comp=Z,29nm,1.1s
KDAK Kodiak Island 85.86 18 LR LR 17 41 00.8
comp=Z,381nm,18.5s,baz=227,slow=33
VNA3 Neumayer Olymp 86.06 180 P **P 17 07 02.8 -1.1**
VNA2 Neumayer--Watz 86.38 180 P **P 17 07 04.7 -0.8**
baz=161,slow=3.6
VNA2 Neumayer--Watz 86.38 180 sP **P 17 07 10.0 +4.5**
baz=168,slow=4.1
P18K Big Mountain, 86.50 16 P **P 17 07 04.4 -1.6**
baz=210
VNA1 Neumayer--Stat 86.66 180 P **P 17 07 05.5 -1.3**
VNA1 Neumayer--Stat 86.66 180 sP **P 17 07 11.1 +4.3**
LZH Lanzhou 86.71 311 ⇑P **P 17 07 08.9 +1.1**
LZH pP PcP 17 07 14.5 +4.4
LZH sP pP 17 07 17.0 -3.6
LZH pmax pmax
comp=Z,33nm,1.4s
SEY Seymchan 86.91 351 LR LR 17 41 24.9
comp=Z,825nm,20.4s,baz=163,slow=32
O19K Port Alsworth 87.43 16 P **P 17 07 09.7 -0.7**
baz=211
O02D Mt. Diablo Mer 87.67 44 P **P 17 07 12.8 +0.6**
O02D Mt. Diablo Mer 87.67 44 P **P 17 07 12.5 +0.2**
baz=237,SNR=6.1
VES Vestal, Richgr 87.91 50 P **P 17 07 13.0 -0.4**
baz=240
WDC Whiskeytown Da 88.05 44 P **P 17 07 13.2 -0.7**
WDC pmax pmax
comp=Z,34nm,1.4s
WDC Whiskeytown Da 88.05 44 P **P 17 07 13.2 -0.7**
WDC IAmb IAmb 17 07 15.2
comp=Z,34nm,1.4s
BFSC Mount Baldy Ra 88.13 52 P **P 17 07 13.6 -1.0**
baz=240
MURC Murrieta 88.16 52 P **P 17 07 14.4 -0.2**
baz=241
N02D Trinity Center 88.16 44 P **P 17 07 14.8 +0.4**
N02D Trinity Center 88.16 44 P **P 17 07 14.9 +0.4**
baz=237
ORV Oroville 88.18 45 P **P 17 07 14.0 -0.6**
ORV pmax pmax
comp=Z,14nm,1.1s
ORV Oroville 88.18 45 P **P 17 07 14.0 -0.6**
ORV IAmb IAmb 17 07 15.0
comp=Z,14nm,1.1s

EDW2 Edwards Air Fo 88.21 51 P **P 17 07 14.7 -0.2**
baz=240,SNR=8.2
L02E Cave Junction 88.24 42 P **P 17 07 15.7 +0.9**
baz=237
ISA Isabella, Lake 88.25 50 P **P 17 07 14.3 -0.8**
ISA pmax pmax
comp=Z,17nm,0.9s
ISA Isabella, Lake 88.25 50 P **P 17 07 14.3 -0.8**
ISA IAmb IAmb 17 07 16.2
comp=Z,17nm,0.8s
ISA Isabella, Lake 88.25 50 P **P 17 07 15.1 0.0**
baz=240,SNR=13
M02C Callahan 88.29 43 P **P 17 07 15.2 +0.1**
M02C Callahan 88.29 43 P **P 17 07 15.8 +0.6**
baz=237,SNR=6.3
O03E Paynes Creek 88.38 45 P **P 17 07 14.9 -0.6**
O03E Paynes Creek 88.38 45 P **P 17 07 15.3 -0.3**
baz=238,SNR=5.4
MONP2 Monument Peak 88.38 53 P **P 17 07 16.0 0.0**
baz=241
K02D Willamette Mer 88.49 42 P **P 17 07 16.3 +0.2**
baz=236
IKP In-Ko-Pah, Jac 88.50 54 P **P 17 07 15.8 -0.6**
baz=241
YBH Yreka Blue Hor 88.56 43 LR LR 17 43 13.0
comp=Z,123nm,18.1s,baz=244,slow=33
YBH Yreka Blue Hor 88.56 43 P **P 17 07 16.7 +0.2**
YBH pmax pmax
comp=Z,32nm,1.3s
YBH Yreka Blue Hor 88.56 43 P **P 17 07 16.7 +0.2**
YBH IAmb IAmb 17 07 26.0
comp=Z,32nm,1.2s
J01E Myrtle Point 88.59 41 P **P 17 07 15.7 -0.7**
baz=236
PFO Pinyon Flats O 88.70 53 LR LR 17 41 43.1
comp=Z,226nm,18.4s,baz=246,slow=32
TPFO Pinon Flats 88.70 53 P **P 17 07 16.7 -0.6**
baz=241
LRMC Laurel Mtn Rad 88.72 50 P **P 17 07 17.3 -0.2**
baz=240
IMP Imphal 88.87 297 *e*P **P 17 07 18.8 +0.6**
HUMO Hull Mountain 88.88 42 P **P 17 07 18.0 +0.2**
HUMO IAmb IAmb 17 07 28.2
comp=Z,28nm,1.1s
CWC Cottonwood Cre 88.91 49 P **P 17 07 18.4 +0.1**
baz=240
MOKO MOKOCHONG 89.06 299 *e*P **P 17 07 18.8 -0.4**
L04D Klamath Falls 89.08 43 P **P 17 07 18.8 -0.2**
baz=238
KOHI KOHIMA 89.13 298 *e*P **P 17 07 19.9 +0.3**
M04C Macdoel 89.14 43 P **P 17 07 19.0 -0.2**
M04C IAmb IAmb 17 07 19.8
comp=Z,35nm,1.2s
M04C Macdoel 89.14 43 P **P 17 07 19.4 +0.2**
baz=238
MPMC Manual Prospec 89.14 50 P **P 17 07 18.9 -0.5**
baz=241,SNR=7.3
PNTR Pine Nut 89.20 47 P **P 17 07 19.0 -0.7**
LPIG La Paz 89.20 63 LR LR 17 41 09.1
comp=Z,199nm,18.2s,baz=238,slow=32
BELC Belle Mtn. Jos 89.22 52 P **P 17 07 19.4 -0.4**
baz=242,SNR=8.3
I03D Drain, OR 89.24 41 P **P 17 07 19.8 +0.4**
baz=237
GSC Goldstone, Bar 89.26 51 P **P 17 07 18.8 -1.1**
GSC pmax pmax
comp=Z,27nm,1.5s
GSC Goldstone, Bar 89.26 51 P **P 17 07 18.8 -1.1**
GSC IAmb IAmb 17 07 20.9
comp=Z,26nm,1.5s
GSC Goldstone, Bar 89.26 51 P **P 17 07 19.6 -0.3**
baz=241,SNR=5.5
VCNR Virginia City 89.27 46 P **P 17 07 19.1 -0.9**
VCNR IAmb IAmb 17 07 29.3
comp=Z,13nm,1.0s
SLBS Sierra La Lagu 89.33 64 P **P 17 07 19.9 -0.6**
HEC Hector,Ludlow 89.37 52 P **P 17 07 20.0 -0.4**
baz=241,SNR=7.5
YERR Yerington 89.39 47 P **P 17 07 20.1 -0.4**
YERR IAmb IAmb 17 07 21.5
comp=Z,27nm,1.1s
BC3 Big Chuckawall 89.46 53 P **P 17 07 20.8 -0.1**
baz=242,SNR=5.6
LHV Little Huntoon 89.52 48 P **P 17 07 20.8 -0.1**
LHV IAmb IAmb 17 07 22.3
comp=Z,25nm,1.0s
QSM Queen of Sheba 89.54 50 P **P 17 07 20.2 -0.8**
LCH Last Change Ra 89.61 49 P **P 17 07 20.9 -0.6**
GLA Glamis 89.64 54 P **P 17 07 21.3 -0.4**
GLA pmax pmax
comp=Z,16nm,0.9s
GLA Glamis 89.64 54 P **P 17 07 21.2 -0.4**
GLA IAmb IAmb 17 07 23.1
comp=Z,16nm,0.8s
GLA Glamis 89.64 54 P **P 17 07 21.3 -0.4**
baz=242
K04D Chiloquin, OR 89.64 43 P **P 17 07 21.3 -0.2**
baz=238
PAHR Pah Rah Range 89.66 46 P **P 17 07 21.3 -0.4**
PAHR IAmb IAmb 17 07 22.8
comp=Z,26nm,1.0s
RYN Ryan 89.69 47 P **P 17 07 21.4 -0.6**
RYN IAmb IAmb 17 07 31.1
comp=Z,18nm,1.0s
NVAR Mina Array Bea 89.74 48 P **P 17 07 22.2 0.0**
comp=Z,12nm,0.7s,baz=226,slow=8.4,SNR=65
NVAR LR LR 17 39 47.6
comp=Z,329nm,20.4s,baz=269,slow=30
NVAR Mina Array Bea 89.74 48 P **P 17 07 21.6 -0.6**
J04D Umpqua Nationa 89.75 42 P **P 17 07 21.7 -0.5**
baz=238
GWY Greenwater Val 89.78 50 P **P 17 07 21.5 -0.9**
GMRC Granite Mounta 89.84 52 P **P 17 07 22.3 -0.3**
baz=242
NV11 Mina Array Sit 89.85 48 P **P 17 07 21.9 -0.7**
NV11 IAmb IAmb 17 07 23.4
comp=Z,21nm,0.9s
IRM Iron Mountain 89.92 53 P **P 17 07 22.9 -0.1**
baz=242,SNR=11
TUQ Turquoise Moun 89.96 51 P **P 17 07 23.1 -0.1**
baz=242
GLI Glacier Island 90.02 19 P **P 17 07 23.3 +0.7**
baz=216
H04D Lebanon 90.06 41 P **P 17 07 23.4 +0.1**
baz=237
ITAN ITANAGAR 90.06 299 *e*P **P 17 07 25.6 +1.9**
CIT Chita 90.11 328 *e*P **P 17 07 23.3 -0.1**
CIT *e* 17 07 29.0
CIT *e* 17 07 36.1
CIT pmax pmax
comp=Z,113nm,1.5s
MOD Modoc Plateau 90.18 44 P **P 17 07 23.7 -0.4**
MOD IAmb IAmb 17 07 25.0
comp=Z,22nm,1.1s
KVN Kaiserville 90.19 47 P **P 17 07 23.9 -0.4**
KVN pmax pmax
comp=Z,25nm,0.9s
KVN Kaiserville 90.19 47 P **P 17 07 23.9 -0.4**
KVN IAmb IAmb 17 07 25.1
comp=Z,24nm,0.9s
K05A Summer Lake 90.23 43 P **P 17 07 24.3 -0.1**
K05A IAmb IAmb 17 07 25.2
comp=Z,31nm,1.0s
113A Mohawk Valley, 90.30 54 P **P 17 07 23.9 -0.7**
113A IAmb IAmb 17 07 25.9
comp=Z,15nm,1.2s
TPH Tonopah 90.31 48 P **P 17 07 24.2 -0.7**
TPH pmax pmax
comp=Z,107nm,1.1s
TPH Tonopah 90.31 48 P **P 17 07 24.2 -0.7**
J05D Fort Rock, OR 90.31 42 P **P 17 07 24.5 -0.2**
baz=238
SML Sawmill 90.40 18 P **P 17 07 24.2 -0.3**
baz=216
TPNV Topopah Spring 90.45 50 P **P 17 07 24.9 -0.6**
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 90.45 50 P **P 17 07 24.9 -0.6**
TPNV Topopah Spring 90.45 50 P **P 17 07 25.0 -0.5**
baz=241,SNR=11
H04A Detroit Lake 90.47 41 P **P 17 07 24.5 -0.8**
H04A IAmb IAmb 17 07 38.0
comp=Z,18nm,0.9s
DIV Divide 90.61 19 P **P 17 07 24.2 -1.3**
DIV IAmb IAmb 17 07 24.7
comp=Z,23nm,1.3s

214A Organ Pipe Nat 90.66 55 P **P 17 07 25.6 -0.9**
214A Organ Pipe Nat 90.66 55 P **P 17 07 26.2 -0.2**
baz=243
E03A Lebam 90.67 39 P **P 17 07 25.6 -0.4**
PDMCI Parker Dam,Lak 90.73 53 P **P 17 07 26.2 -0.4**
baz=242,SNR=7.5
CAST Castle Rocks 90.73 16 P **P 17 07 26.0 0.0**
baz=213
PINE Pine Mountain 90.76 42 P **P 17 07 26.6 -0.2**
BILL Bilibino 90.79 358*ce*P **P 17 07 24.8 -1.3**
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL Bilibino 90.79 358 P **P 17 07 24.8 -1.3**
I05D Terrebonne, OR 90.80 41 P **P 17 07 25.9 -0.9**
baz=238
BMRM Bremner River 90.85 20 P **P 17 07 25.0 -1.6**
baz=220
KLU Klutina 90.85 19 P **P 17 07 25.0 -1.6**
baz=219
SHL Shillong 90.88 297 P **P 17 07 27.5 -0.3**
SHL pmax pmax
comp=Z,29nm,1.0s
SHL Shillong 90.88 297 *e*P **P 17 07 28.2 +0.5**
SHL Shillong 90.88 297 P **P 17 07 27.5 -0.3**
SHPR Sheep Range 91.01 51 P **P 17 07 27.7 -0.4**
YAK Yakutsk 91.01 342*ce*P **P 17 07 26.9 -0.3**
YAK pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 91.04 323*ce*P **P 17 07 28.0 0.0**
ULN pmax pmax
comp=Z,13nm,0.8s
ULN Ulaanbaatar 91.04 323 P **P 17 07 27.3 -0.6**
S11A Rachel 91.13 49 P **P 17 07 27.2 -1.4**
S11A IAmb IAmb 17 07 29.4
comp=Z,13nm,0.9s
GTA Gaotai 91.14 313 ⇑P **P 17 07 29.0 +0.4**
GTA pP PcP 17 07 34.1 +4.6
GTA sP pP 17 07 37.8 -3.6
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,150nm,4.0s
GTA LR LR
comp=Z,150nm,17.8s
GTA LR LR
comp=Z,240nm,18.5s
GTA LR LR
comp=Z,200nm,18.9s
WAT1 Susitna Watana 91.17 17 P **P 17 07 26.8 -1.2**
baz=216
WAT6 Susitna Watana 91.19 18 P **P 17 07 26.8 -1.5**
baz=217
CRAG Craig 91.20 28 P **P 17 07 26.6 -1.7**
baz=229
TRF Thorofare Moun 91.21 16 P **P 17 07 26.5 -1.9**
baz=215
E04D Cinebar 91.25 39 P **P 17 07 25.5 -3.3**
baz=237
W13A Hualapai Mount 91.28 52 P **P 17 07 28.8 -0.7**
N25K Chitina, Valde 91.34 19 P **P 17 07 27.1 -1.9**
baz=220
SONM Songino Array 91.39 322 P **P 17 07 29.4 -0.2**
comp=Z,15nm,0.9s,baz=141,slow=4.3,SNR=64
SONM LR LR 17 48 59.3
comp=Z,154nm,19.2s,baz=112,slow=36
SONM Songino Array 91.39 322 P **P 17 07 29.0 -0.6**
SONM pmax pmax
comp=Z,29nm,1.1s
SONM Songino Array 91.39 322 P **P 17 07 29.0 -0.6**
Y14A Wickenburg 91.40 54 P **P 17 07 29.3 -0.6**
BMN Battle Mountai 91.46 46 P **P 17 07 29.7 -0.4**
BMN pmax pmax
comp=Z,25nm,1.1s
BMN Battle Mountai 91.46 46 P **P 17 07 29.6 -0.4**
BMN IAmb IAmb 17 07 31.1
comp=Z,25nm,1.1s
BBB Bella Bella 91.47 32 LR LR 17 44 42.9
comp=Z,225nm,18.0s,baz=262,slow=33
D03D Eldon 91.48 38 P **P 17 07 29.4 -0.4**
baz=237
PRN Pahroc Range 91.51 50 P **P 17 07 29.8 -0.5**
PRN IAmb IAmb 17 07 31.8
comp=Z,17nm,0.9s
WVOR Wild Horse Val 91.52 44 P **P 17 07 29.8 -0.5**
WVOR pmax pmax
comp=Z,15nm,1.0s
WVOR Wild Horse Val 91.52 44 P **P 17 07 29.8 -0.5**
WVOR IAmb IAmb 17 07 31.3
comp=Z,15nm,0.9s
F05D White Salmon 91.55 40 P **P 17 07 29.3 -0.8**
baz=238
R11A Troy Canyon, C 91.57 49 P **P 17 07 29.8 -0.9**
R11A Troy Canyon, C 91.57 49 P **P 17 07 29.7 -1.0**
baz=242,SNR=8.8
HARP HAARP 91.79 19 P **P 17 07 29.5 -1.4**
baz=219
I07A Izee 91.80 42 P **P 17 07 30.8 -0.7**
I07A IAmb IAmb 17 07 32.5
comp=Z,14nm,0.9s
BARN Barnard Glacie 91.86 21 P **P 17 07 29.8 -1.6**
CTG Chitna Glacier 91.89 21 P **P 17 07 30.0 -1.5**
baz=222
J08A Circle Bar Ran 92.08 43 P **P 17 07 31.5 -1.4**
J08A IAmb IAmb 17 07 33.6
comp=Z,16nm,0.9s
PAX Paxson 92.14 18 P **P 17 07 31.5 -1.1**
baz=219
TUC Tucson 92.36 56 P **P 17 07 33.3 -1.1**
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC Tucson 92.36 56 P **P 17 07 33.3 -1.1**
B05A Bryant 92.44 38 P **P 17 07 33.8 -0.4**
baz=238
H21K Melozitna Rive 92.45 14 P **P 17 07 32.8 -1.1**
baz=213
H03S2 Juan Fernandez 92.47 128 T T 18 50 45.5
baz=238
H03S1 Juan Fernandez 92.48 128 T T 18 50 46.8
baz=238
H03S3 Juan Fernandez 92.49 128 T T 18 50 42.8
baz=238
LCMT Little Creek M 92.61 51 P **P 17 07 35.3 -0.2**
LCMT IAmb IAmb 17 07 36.5
comp=Z,11nm,1.0s
SPR3 Spring Creek 3 92.75 49 P **P 17 07 35.2 -1.1**
G08A Pilot Rock 92.75 41 P **P 17 07 34.8 -1.1**
G08A IAmb IAmb 17 07 36.4
comp=Z,11nm,0.8s
M27K Edge Creek, AK 92.75 20 P **P 17 07 33.7 -1.8**
baz=222
CCUT Cedar City 92.77 50 P **P 17 07 35.7 -0.6**
CCUT IAmb IAmb 17 07 46.4
comp=Z,11nm,1.0s
X16A Lo Mia Camp, P 92.77 54 P **P 17 07 36.0 -0.4**
X16A IAmb IAmb 17 07 37.6
comp=Z,10nm,1.0s
YUK3 Moose Creek 92.78 21 P **P 17 07 34.4 -1.4**
baz=223
L26K Log Cabin Wild 92.81 19 P **P 17 07 34.5 -1.1**
baz=221
I23K Minto, Yukon-K 92.84 16 P **P 17 07 34.3 -1.3**
baz=216
E07A Sunnyside 92.85 40 P **P 17 07 35.5 -0.7**
E07A IAmb IAmb 17 07 36.9
comp=Z,12nm,0.6s
HDA Harding Lake 92.86 17 P **P 17 07 37.0 +1.2**
HDA IAmb IAmb 17 07 43.5
comp=Z,7.0nm,0.9s
HDA Harding Lake 92.86 17 P **P 17 07 33.9 -1.9**
baz=218
KNB Kanab 92.91 51 P **P 17 07 36.2 -0.7**
KNB pmax pmax
comp=Z,9.0nm,0.9s
KNB Kanab 92.91 51 P **P 17 07 36.2 -0.7**
KNB IAmb IAmb 17 07 38.2
comp=Z,9.1nm,0.9s
RIDG Independent Ri 92.92 18 P **P 17 07 34.2 -2.0**
baz=220
ELK Elko 92.93 47 LR LR 17 43 03.1
comp=Z,356nm,19.0s,baz=262,slow=32
ELK Elko 92.93 47 P **P 17 07 36.2 -0.8**
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 92.93 47 P **P 17 07 36.2 -0.8**
HAWA Hanford 92.96 40 P **P 17 07 35.8 -0.9**
HAWA IAmb IAmb 17 07 37.4

comp=Z,12nm,0.8s
SZCU Shurtz Canyon 92.98 50 P P 17 07 36.3 -1.0
SZCU IAmb IAmb 17 07 38.0
comp=Z,10nm,1.1s
U15A North Rim 93.03 52 P P 17 07 37.4 -0.3
U15A IAmb IAmb 17 07 38.9
comp=Z,14nm,0.8s
BVCY Beaver Creek 93.12 20 P P 17 07 34.1 -2.9
baz=223
ILAR Eielson Array 93.17 17 P P 17 07 34.8 -2.4
comp=Z,2.3nm,0.8s,baz=235,slow=5.5,SNR=15
ILAR PKKPbc **PKKPbc 17 24 49.5 +1.1**
comp=Z,0.9nm,0.9s,baz=344,slow=1.8,SNR=7.4
ILAR LR LR 17 43 37.0
comp=Z,397nm,20.3s,baz=234,slow=32
GOMU GeErMu 93.17 308 P P 17 07 38.4 0.0
GOMU pP PcP 17 07 40.8 +1.8
GOMU sP pP 17 07 45.1 -6.2
GOMU pmax pmax
comp=Z,3.0nm,1.1s
GOMU pmax pmax
comp=Z,110nm,5.1s
E08A Dider Farm, El 93.29 40 P P 17 07 37.6 -0.6
E08A IAmb IAmb 17 07 38.7
comp=Z,11nm,1.0s
L27K Beaver Creek, 93.29 19 P P 17 07 36.0 -1.9
baz=222
WUAZ Wupatki 93.30 53 P P 17 07 38.2 -0.6
WUAZ IAmb IAmb 17 07 39.9
comp=Z,8.6nm,1.0s
WUAZ Wupatki 93.30 53 P P 17 07 35.2 -3.6
baz=244
SCRK Sand Creek 93.34 18 P P 17 07 36.5 -1.7
SCRK Sand Creek 93.34 18 P P 17 07 36.2 -2.0
baz=220
PALK Pallekele 93.46 276 LR LR 17 51 17.1
comp=Z,149nm,19.4s,baz=223,slow=36
D08A Wollman Farm, 93.65 40 P P 17 07 38.6 -1.3
D08A IAmb IAmb 17 07 40.4
comp=Z,9.9nm,1.0s
MTPU Mount Pierson 93.82 50 P P 17 07 40.8 -0.5
J26L Joseph Creek 93.86 18 P P 17 07 39.3 -1.2
J26L Joseph Creek 93.86 18 P P 17 07 39.0 -1.6
baz=221
F10A Beach Ranch, E 94.14 41 P P 17 07 41.2 -1.0
F10A IAmb IAmb 17 07 51.8
comp=Z,9.1nm,0.9s
COLD Coldfoot 94.34 14 P P 17 07 41.9 -0.7
baz=215
DLBC Dease Lake 94.40 27 LR LR 17 42 06.9
comp=Z,260nm,20.8s,baz=255,slow=30
P33M Teslin, Yukon 94.41 24 P P 17 07 41.7 -1.4
baz=230
PLCA Paso Flores 94.42 138 LR LR 17 40 56.5
comp=Z,94nm,20.7s,baz=214,slow=30
PLID Pearl Lake 94.48 43 P P 17 07 41.9 -2.1
ZAK Zakamensk 94.48 323 *e*P **P 17 07 42.7 -1.0**
ZAK pmax pmax
comp=Z,21nm,1.3s
ZAK pmax pmax
comp=Z,6.0nm,1.1s
EGAK Eagle 94.76 18 P P 17 07 42.5 -2.0
EGAK Eagle 94.76 18 P P 17 07 43.2 -1.3
baz=223
DAWY Dawson 94.77 20 P P 17 07 43.1 -1.6
baz=224
HLID Hailey 94.78 45 P P 17 07 45.3 -0.1
TMUT Trail Mountain 95.05 49 P P 17 07 46.6 -0.2
HVU Hansel Valley 95.06 47 P P 17 07 45.7 -1.0
HVU pmax pmax
comp=Z,5.0nm,0.8s
HVU Hansel Valley 95.06 47 P P 17 07 45.7 -1.0
NEW Newport 95.31 40 LR LR 17 42 06.0
comp=Z,184nm,21.8s,baz=256,slow=30
SRU San Rafael Swe 95.45 50 P P 17 07 47.2 -1.4
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 95.45 50 P P 17 07 47.2 -1.4
I29M Ogilvie Camp, 96.02 19 P P 17 07 48.8 -1.5
baz=225
ANMO Albuquerque 96.73 55 LR LR 17 45 04.5
comp=Z,212nm,18.9s,baz=264,slow=32
ANMO Albuquerque 96.73 55 *e*P **P 17 07 54.3 -0.2**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
TX31 Lajitas Ar. Si 96.75 61 P P 17 07 52.5 -2.0
TX31 IAmb IAmb 17 08 02.3
comp=Z,23nm,1.5s
TX32 Lajitas Array 96.75 61 P P 17 07 52.7 -1.9
TXAR Lajitas Array 96.75 61 P P 17 07 52.9 -1.6
comp=Z,1.1nm,1.0s,baz=232,slow=4.4,SNR=5.9
TXAR PKKPbc **PKKPbc 17 24 38.1 +0.7**
comp=Z,0.5nm,0.8s,baz=90,slow=2.0,SNR=2.6
TXAR LR LR 17 44 32.1
comp=Z,214nm,18.8s,baz=255,slow=31
PDAR Pinedale Array 97.64 47 P P 17 07 56.7 -1.7
comp=Z,0.4nm,0.6s,baz=189,slow=2.4,SNR=4.6
PDAR LR LR 17 46 52.4
comp=Z,181nm,18.1s,baz=264,slow=32
TIXI Tiksi 98.78 347 *i* P Pdif 17 08 04.7 +2.2
TIXI pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 99.41 18 LR LR 17 46 42.3
comp=Z,341nm,20.7s,baz=206,slow=32
CMIG Matias Romero 99.78 76 LR LR 17 43 50.8
comp=Z,120nm,20.1s,baz=212,slow=30
WMQ Urumqi 101.22 313 *e*P **Pdif 17 08 15.3 +1.1**
WMQ LR LR
comp=Z,420nm,21.1s
WMQ LR LR
comp=Z,210nm,22.7s
YKA Yellowknife Ar 103.01 27 P Pdif 17 08 19.8 -1.7
comp=Z,0.7nm,0.9s,baz=252,slow=4.6,SNR=6.6
YKA PP **PP 17 12 34.0 -2.8**
comp=Z,0.4nm,0.8s,baz=252,slow=7.7,SNR=4.8
MKAR Makanchi Array 105.79 314 Pdiff **Pdif 17 08 32.4 -2.0**
comp=Z,0.2nm,0.6s,baz=96,slow=6.4,SNR=2.7
MKAR PKiKP **PKiKP 17 12 45.3 -1.7**
comp=Z,0.6nm,0.7s,baz=97,slow=4.4,SNR=4.7
MKAR PKKPbc **PKKPbc 17 24 11.7 +0.1**
comp=Z,1.1nm,0.8s,baz=301,slow=2.7,SNR=8.6
ZALV Zalesovo Beam 106.29 322 Pdiff **Pdif 17 08 35.0 -1.3**
comp=Z,1.8nm,0.8s,baz=117,slow=5.2,SNR=5.7
ZALV PKiKP **PKiKP 17 12 45.7 -1.9**
comp=Z,0.6nm,0.5s,baz=93,slow=2.9,SNR=3.5
NRIK Noril'sk 109.12 338 PKiKP **PKiKP 17 12 51.6 -0.7**
comp=Z,1.2nm,0.5s,baz=70,slow=3.3,SNR=3.6
KURK Kurchatov 109.14 318 P **Pdif 17 08 50.5 +1.4**
KURK Kurchatov 109.14 318 Pdif 17 08 50.5 +1.4
KURBB Kurchatov Arra 109.18 318 Pdiff **Pdif 17 08 50.5 +1.2**
comp=Z,0.2nm,0.3s,baz=96,slow=3.8,SNR=2.1
KURBB PKiKP **PKiKP 17 12 52.3 -0.7**
comp=Z,1.8nm,0.8s,baz=109,slow=2.0,SNR=18
AAK Ala-Archa 110.10 309 PKiKP **PKiKP 17 12 55.2 -0.1**
comp=Z,1.3nm,0.7s,baz=128,slow=10,SNR=5.2
AAK Ala-Archa 110.10 309 *i* PKIKP **PKiKP 17 12 55.0 -0.3**
BVAR Borovoye Array 114.55 319 PKiKP PKPdf 17 13 02.5 -0.7
comp=Z,3.7nm,0.8s,baz=70,slow=4.9,SNR=21
BRVK Borovoye 114.62 319 *e* PKIKP PKPdf 17 13 03.2 -0.1
BRVK pmax pmax
comp=Z,5.0nm,1.3s
ABKAR Akbulak array 120.93 315 PKPdf **PKPdf 17 13 14.8 -0.8**
ARU Arti 121.42 323 PKP **PKPdf 17 13 15.5 -0.9**
comp=Z,4.8nm,0.7s,baz=102,slow=0.9,SNR=28
ARU Arti 121.42 323 *i* PKIKP **PKPdf 17 13 15.4 -0.9**
ARU 17 20 27.3
ARU SP SP 17 24 31.4 -3.5
ARU MLR MLR
comp=Z,249nm,19.0s
ARU Arti 121.42 323 PKPdf **PKPdf 17 13 15.3 -0.9**
GEYT Alibeck 121.72 301 PKP **PKPdf 17 13 17.6 0.0**
comp=Z,6.4nm,0.8s,baz=211,slow=8.1,SNR=9.1
GEYT Alibeck 121.72 301 PKPdf 17 13 17.0 -0.5
BDFB Brasilia 125.59 131 PKP **PKPdf 17 13 25.6 -0.1**
comp=Z,2.6nm,0.5s,baz=186,slow=3.6,SNR=3.5
KIRV Kirov 125.89 327 PKP **PKPdf 17 13 24.1 -0.7**
comp=Z,14nm,0.8s,baz=142,slow=4.3,SNR=6.2
KIRV Kirov 125.89 327 *c i* PKIKP **PKPdf 17 13 24.7 -0.1**
HUMP Col San Antoni 126.43 84 PKPdf 17 13 25.9 -1.2
PRGR Permogore 126.73 331 *e*PKIKP **PKPdf 17 13 25.3 -1.0**
PRGR pmax pmax
comp=Z,43nm,1.1s
BELG Belogornoye 128.36 320 *i* PKIKP **PKiKP 17 13 30.5 +0.2**
APA Apatity 128.39 341 ⇓*i* PKIKP PKiKP 17 13 39.2 +9.2
APA *i* 17 15 35.9
APA pmax pmax
comp=Z,5.0nm,1.0s
APA MLR MLR
comp=Z,800nm,21.0s
ARCES ARCESS Array B 129.16 345 PKP **PKPdf 17 13 29.7 -1.1**
comp=Z,2.1nm,0.8s,baz=76,slow=0.4,SNR=8.6
KLMR Klimovskoe 129.75 332 *e*PKIKP **PKPdf 17 13 30.6 -1.5**
KLMR pmax pmax
comp=Z,16nm,1.1s
KLMR Klimovskoe 129.75 332 *e*PKPdf **PKPdf 17 13 30.7 -1.4**
KLMR AMP 17 13 32.9
comp=Z,16nm,1.1s
MAK Makhachkala 129.86 307 *i* P **Pdif 17 10 17.6 -3.8**
MAK pmax pmax
comp=Z,100nm,1.4s
RAYN Ar Rayn 130.56 282 PKIKP **PKPdf 17 13 34.0 -0.9**
RAYN Ar Rayn 130.56 282 PKPdf **PKPdf 17 13 34.0 -0.9**
GROC Groznyy 131.08 308 *e*PKIKP **PKPdf 17 13 35.2 0.0**
GROC pmax pmax
comp=Z,10.0nm,0.4s
VRH Novokhopyorsk 132.21 319 *e*PKIKP **PKPdf 17 13 36.5 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KBZ Khabaz 133.10 309 PKP **PKPdf 17 13 38.1 -0.9**
comp=Z,3.4nm,0.9s,baz=63,slow=4.5,SNR=3.6
KBZ Khabaz 133.10 309 *c i* PKIKP **PKiKP 17 13 39.6 -0.5**
KIV Kislovodsk 133.22 309 *i* PKIKP **PKiKP 17 13 40.5 -0.1**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,136nm,23.0s
LPSR Galich'ya Gora 133.40 322 *e*PKIKP **PKPdf 17 13 38.6 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 133.70 326 *c i* PKIKP **PKPdf 17 13 38.8 -0.9**
OBN pmax pmax
comp=Z,7.0nm,0.8s
VSR Storozhevoye 133.73 320 *e*PKIKP **PKPdf 17 13 39.2 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 133.74 320 *e*PKIKP **PKPdf 17 13 38.8 -1.1**
VORD pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 134.78 337 PKhKP PKPpre 17 13 35.6
comp=Z,1.7nm,0.8s,baz=79,slow=3.0,SNR=6.2
FINES PKP **PKPdf 17 13 41.6 +0.1**
comp=Z,1.2nm,0.6s,baz=90,slow=3.3,SNR=6.9
MNK Minsk 138.36 329 *i* PKIKP **PKiKP 17 13 50.8 +0.3**
MNK *i* 17 16 40.6
MNK *i* PPP PPP 17 19 38.2
MNK *i* 17 21 01.4
MNK *i* SS SS 17 34 54.3 +7.1
MNK *i* SSS SSS 17 40 02.7
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,19nm,1.0s
MNK MLR MLR
comp=N,257nm,22.0s
MNK MLR MLR
comp=E,16nm,22.0s
MNK MLR MLR
comp=Z,153nm,23.0s
MNK Minsk 138.36 329 *i* PKP **PKiKP 17 13 50.8 +0.3**
comp=E,1.0nm,0.8s
MNK *i* PKP **PKiKP 17 13 50.8 +0.3**
comp=N,19nm,1.0s
MNK *i* PKP **PKiKP 17 13 50.8 +0.3**
comp=Z,16nm,0.8s,baz=54
MNK *i* PP **PP 17 16 40.6 +2.3**
MNK *i* PPP PPP 17 19 38.3
MNK *i* SKS **SKSdf 17 21 01.4 +6.6**
MNK *i* SKKS **SKKSdf 17 30 34.2 +4.4**
MNK *i* SS **SS 17 34 54.3 +7.1**
MNK *i* SSS SSS 17 40 02.7
MNK *i* LR LR 18 12 13.1
MNK *i* LRM MLR 18 14 07.5
comp=N,257nm,21.7s
MNK *i* LRM MLR 18 14 19.1
comp=E,16nm,22.4s
MNK *i* LRM MLR 18 14 19.1
comp=Z,153nm,23.2s
IDID Didziasalis 138.42 330 *e*P **PKPdf 17 13 49.2 +0.7**
IIGN Ignalina 138.64 330 *e*P **PKPdf 17 13 49.4 +0.5**
NACGM Naroch 138.65 330 *i* PKP **PKPdf 17 13 48.6 -0.4**
NB2 NORSAR Subarra 139.53 345 PKPdf **PKPdf 17 13 46.4 -4.1**
comp=Z,0.9nm,0.7s,baz=44,slow=1.9
NOA NORSAR Array B 139.53 345 PKP **PKPdf 17 13 48.1 -2.3**
comp=Z,1.1nm,0.8s,baz=19,slow=5.1,SNR=3.5
AKASG Malin Array Be 139.67 323 PKhKP PKPpre 17 13 47.7
comp=Z,1.5nm,0.7s,baz=52,slow=3.2,SNR=5.5
BRTR Keskin Array B 140.65 305 PKhKP PKPpre 17 13 49.0
comp=Z,2.5nm,0.9s,baz=102,slow=3.4,SNR=2.6
BRTR Keskin Array B 140.65 305 PKIKP **PKPdf 17 13 49.0 -4.3**
JURR Jurilovca 142.50 315 ⇑P PKiKP 17 14 09.9 +11
LVV L'vov 142.97 325 *e*PKIKP **PKPdf 17 13 53.4 -3.5**
VRI Vrincioaia 143.42 317 ⇑P PKPbc 17 13 55.9 +0.8
VRI Vrincioaia 143.42 317 ⇑PKIKP PKPbc 17 13 55.9 +0.7
PLOR Plostina 143.47 317 ⇓P PKPbc 17 13 55.5 +0.1
PLOR Plostina 143.47 317 ⇓PKIKP PKPbc 17 13 55.5 +0.1
BUR08 Bucovina Ar. S 143.49 321 PKPdf **PKPdf 17 13 57.6 -0.5**
BURAR Bucovina Array 143.49 321 ⇑P PKPbc 17 13 56.6 +1.2
BURAR Bucovina Array 143.49 321 ⇑PKIKP PKPbc 17 13 56.6 +1.2
BURAR Bucovina Array 143.49 321 PKPbc 17 13 56.0 +0.6
BISRR Bisoca 143.57 317 ⇑P **PKPdf 17 13 57.0 -1.2**
COVR Voineasa-Covas 143.75 318 ⇓P PKPbc 17 13 56.4 +0.3
KWP Kalwaria Pacla 143.78 325 PKIKP PKPbc 17 13 55.8 -0.3
KWP Kalwaria Pacla 143.78 325 PKPpre 17 13 55.8
ISR Istrita 143.86 316 ⇓P PKPbc 17 13 57.4 +0.8
ISR Istrita 143.86 316 ⇓PKIKP PKPbc 17 13 57.4 +0.9
NEHR Nehoiu 143.88 317 ⇑P PKPbc 17 13 57.6 +1.0
OZUR 143.89 318 ⇓P PKPbc 17 13 57.4 +0.8
MLR Muntele Rosu 144.08 317 ⇓P PKPbc 17 13 57.7 +0.4
MLR Muntele Rosu 144.08 317 ⇓PKIKP PKPbc 17 13 57.7 +0.4
MLR Muntele Rosu 144.08 317 PKPdf PKPbc 17 13 57.5 +0.2
ELL Elmali 144.15 301 PKIKP PKPbc 17 13 57.8 0.0
ELL Elmali 144.15 301 PKPbc 17 13 57.8 0.0
DOPR Dopca 144.20 318 ⇑P PKPbc 17 13 58.4 +0.9
SECR 144.20 316 ⇓P **PKPdf 17 13 58.6 -0.6**
SULR 144.24 316 ⇓P **PKPdf 17 13 58.5 -0.7**
ARCR ARCALIA 144.27 321 ⇑P **PKPdf 17 13 58.9 -0.4**
TGMR Targu Mures 144.45 320 ⇑P **PKPdf 17 14 00.1 +0.5**
BMR Baia Mare 144.45 322 ⇑P **PKPdf 17 13 59.1 -0.5**
BMR Baia Mare 144.45 322 ⇑PKIKP **PKPdf 17 13 59.1 -0.5**
RAZG Razgrad 144.54 314 ⇑P **PKPdf 17 13 59.8 -0.1**
UZH Uzhgorod 144.59 324 *e*PKIKP **PKPab 17 13 58.4 0.0**
UZH *i* 17 14 08.4
VOIR 144.66 318 ⇑P **PKPdf 17 14 00.6 +0.5**
VOIR 144.66 318 ⇑PKIKP **PKPdf 17 14 00.6 +0.5**
KULA Kula-Manisa 144.70 305 P PKPbc 17 13 59.6 +0.2
MTUR Matau 144.75 317 ⇑P PKPbc 17 13 59.7 +0.3
MTUR Matau 144.75 317 ⇑PKIKP PKPbc 17 13 59.7 +0.4
CRVS Cervenica-Dubn 144.87 325 *e*PKIKP PKPbc 17 13 59.9 +0.4
CRVS Cervenica-Dubn 144.87 325 *e*PKP PKPbc 17 13 59.9 +0.4
OJC Ojcow 144.90 328 *e*PKP **PKPab 17 13 59.4 -0.2**
OJC *e*L L 18 18 59.0
comp=Z,236nm,20.6s
OJC Ojcow 144.90 328 PKIKP **PKPab 17 13 58.8 -0.7**
OJC Ojcow 144.90 328 PKPdf **PKPab 17 13 58.8 -0.7**
CBBR Cluj-Babes-Bol 144.90 321 ⇑P **PKPdf 17 14 01.0 +0.6**
CJR Cluj-Napoca 144.90 320 ⇓P **PKPdf 17 14 01.0 +0.5**
CJR Cluj-Napoca 144.90 320 ⇓PKIKP **PKPdf 17 14 01.0 +0.5**
ARR Arges 144.95 318 ⇓P **PKPdf 17 14 01.2 +0.5**
BALB Balikesir 144.97 307 PKPbc 17 13 59.8 -0.3
HUMR Humele 145.12 316 ⇓P **PKPdf 17 14 00.8 -0.1**
COPA Copaceanca 145.15 316 ⇓P **PKPdf 17 14 01.4 +0.1**
NIE Niedzica 145.16 326 *e*PKP **PKPdf 17 14 01.8 +1.0**
NIE *e*L L 18 18 59.9
comp=Z,112nm,20.2s
YER Yerkesik 145.33 303 P **PKPbc 17 13 58.4 -3.0**
DRGR 145.38 321 ⇑P **PKPab 17 14 02.6 +1.1**
DRGR 145.38 321 ⇑PKIKP **PKPab 17 14 02.6 +1.1**
LOT Lotru 145.44 318 ⇓P **PKPab 17 14 02.0 +0.1**
LTVH Ltavrtes, Hu 145.51 323 ⇓P **PKPab 17 14 02.5 +0.6**
LTVH Ltavrtes, Hu 145.51 323 PKPDF **PKPdf 17 14 01.2 -0.2**
LTVH Ltavrtes, Hu 145.51 323 ⇑PKPB 17 14 02.5
KECS Kecovo 145.64 325 *e*PKIKP **PKPab 17 14 02.7 +0.4**
KECS Kecovo 145.64 325 *e*PKP **PKPab 17 14 02.7 +0.4**
VLAD Vladila 145.73 316 ⇓P **PKPab 17 14 03.4 +0.7**
BORR Bors 145.75 322 ⇑P **PKiKP 17 14 04.5 -1.4**
DEV Deva 145.75 320 ⇓P **PKPab 17 14 02.9 +0.1**
DEV Deva 145.75 320 ⇓PKP2 **PKPab 17 14 02.9 +0.1**
ENEZ Enez 145.86 310 P **PKPbc 17 14 02.6 -0.3**
ALN Alexandroupoli 145.88 310 P **PKPdf 17 14 02.5 +0.3**
ALN Alexandroupoli 145.88 310 PKP2 **PKPdf 17 14 02.3 0.0**
ALN Alexandroupoli 145.88 310 PKPdf **PKPdf 17 14 02.3 0.0**
RUE Ruedersdorf 145.91 335 *e*P **PKPbc 17 14 02.7 +0.1**
RUE Ruedersdorf 145.91 335 *e*PKPbc **PKPbc 17 14 02.7 +0.1**
baz=37,slow=2.6
BSEG Bad Segeberg 145.93 340 *e*PKPbc **PKPbc 17 14 02.4 -0.3**
baz=37,slow=2.6
BSEG *e*L L 18 20 26.8
comp=Z,216nm,18.3s
OKC Ostrava-Krasne 145.95 329 *e*PKP2 **PKPbc 17 14 02.5 -0.4**
OKC Ostrava-Krasne 145.95 329 *e*PKP **PKPbc 17 14 02.5 -0.4**
DAT Datca 145.98 302 P **PKPdf 17 14 03.0 +0.3**
IZAB Izabela 145.99 326 *e*PKP2 **PKPab 17 14 04.0 +0.4**
EZN Ezine 146.05 308 P **PKPbc 17 14 03.4 -0.1**
GZR Gura Zlata 146.07 319 ⇓P **PKPab 17 14 04.9 +0.7**
GZR Gura Zlata 146.07 319 ⇓PKIKP **PKPab 17 14 04.9 +0.7**
KSP Ksiaz 146.10 331 *e*PKP **PKPbc 17 14 03.5 +0.2**
RDO Rodhopi 146.15 311 P **PKPbc 17 14 03.5 -0.2**
SRE Strehaia 146.18 318 ⇓P **PKPab 17 14 04.9 +0.4**
SRE Strehaia 146.18 318 ⇓PKP2 **PKPab 17 14 04.9 +0.4**
SIRR Siria 146.27 321 ⇑P **PKPbc 17 14 04.2 +0.2**
PRK Paraskevi 146.28 307 P **PKPab 17 14 05.2 +0.2**
MORC Moravsky Berou 146.28 329 ⇑P **PKPbc 17 14 03.4 -0.5**
MORC Moravsky Berou 146.28 329 ⇑PKP2 **PKPbc 17 14 03.4 -0.5**
MORC Moravsky Berou 146.28 329 *e*PKP **PKPbc 17 14 03.6 -0.3**
MORC Moravsky Berou 146.28 329 PKPdf **PKPdf 17 14 02.5 -0.3**
PSZ Piszkesteto 146.30 325 ⇓P **PKPbc 17 14 03.8 -0.3**
PSZ Piszkesteto 146.30 325 ⇓PKP2 **PKPbc 17 14 03.8 -0.3**
PSZ Piszkesteto 146.30 325 PKPdf **PKPdf 17 14 02.9 0.0**
PSZ Piszkesteto 146.30 325 PKPDF **PKPdf 17 14 02.0 -0.8**
PSZ Piszkesteto 146.30 325 ⇑PKPB 17 14 04.2
SMG Samos 146.30 304 P **PKPbc 17 14 03.8 -0.5**
OSTC Ostas 146.34 331 *e*PKP **PKPbc 17 14 04.2 +0.1**
CHVC Chvalec 146.39 331 *e*PKP **PKPbc 17 14 04.2 0.0**
SMTH Samothraki Isl 146.40 309 P **PKPbc 17 14 03.9 -0.6**
KRLC Kraliky 146.43 330 *e*PKP2 **PKPbc 17 14 04.0 -0.4**
KRLC Kraliky 146.43 330 *e*PKP **PKPbc 17 14 04.0 -0.4**
DPC Dobruska-Polom 146.44 331 *e*PKP2 **PKPdf 17 14 03.2 +0.2**
DPC Dobruska-Polom 146.44 331 *e*PKP **PKPdf 17 14 03.2 +0.2**
UPC Upice 146.47 331 *e*PKP2 **PKPbc 17 14 04.4 0.0**
UPC Upice 146.47 331 *e*PKP **PKPbc 17 14 04.4 0.0**
UPC *ex* x 17 14 13.3
BSZH Besenyszg 146.47 324 PKPDF **PKPbc 17 14 04.2 -0.3**
BSZH PPKPDF **pPKPdf 17 14 17.0 +0.3**
VYHS Vyhne 146.49 326 *e*PKP2 **PKPbc 17 14 04.8 +0.2**
VYHS Vyhne 146.49 326 *e*PKP **PKPbc 17 14 04.8 +0.2**
HERR Herculane 146.56 318 ⇑P **PKPab 17 14 05.8 -0.1**
SIGR SIGRI 146.59 307 P **PKPbc 17 14 05.0 -0.1**
BZS Buzias 146.65 320 ⇑P **PKPdf 17 14 04.0 +0.6**
BZS Buzias 146.65 320 ⇑PKP2 **PKPdf 17 14 04.0 +0.6**
KOLL Kolacno 146.66 327 *e*PKP **PKPab 17 14 05.6 -0.6**
AMBH Ambrzfalva 146.76 322 PKPDF **PKPbc 17 14 06.0 +0.6**
AMBH Ambrzfalva 146.76 322 ⇑PKPB 17 14 06.9
JAVC Velka Javorina 146.84 328 *e*PKP **PKPab 17 14 06.8 -0.2**
KAVA Kavala 146.92 311 P **PKPbc 17 14 05.7 -0.3**
FLTG Flechtingen 146.96 338 *e*PKPbc **PKPbc 17 14 05.2 -0.5**
baz=37,slow=2.6
BUD Budapest 147.03 325 PKPDF **PKPbc 17 14 05.7 -0.3**
BUD Budapest 147.03 325 ⇑PKPB 17 14 06.6
MDVR Moldovita 147.04 319 ⇑P **PKPab 17 14 07.1 -0.8**
VRAC Vranov 147.05 329 ⇑P **PKPbc 17 14 06.7 +0.6**
VRAC Vranov 147.05 329 ⇑PKP2 **PKPbc 17 14 06.7 +0.6**
VRAC Vranov 147.05 329 *e*PKP **PKPbc 17 14 06.2 +0.1**
PVCC Panska Ves 147.08 333 *e*PKP2 **PKPbc 17 14 05.8 -0.3**
PVCC Panska Ves 147.08 333 *e*PKP **PKPbc 17 14 05.8 -0.3**
BRG Berggiesshubel 147.08 333 *e*PKP **PKPbc 17 14 05.5 -0.7**
BRG Amp 17 14 09.3
comp=Z,55nm,1.2s
BRG *ex* x 17 14 15.4
BRG Amp 17 14 19.8
comp=Z,44nm,1.1s
BRG Berggiesshubel 147.08 333 *e*PKP2 **PKPbc 17 14 05.4 -0.7**
BRG pmax pmax
comp=Z,55nm,1.2s
BRG Berggiesshubel 147.08 333 *e*PKPbc **PKPbc 17 14 05.8 -0.3**
baz=37,slow=2.6
VTS Vitosha 147.12 314 ⇓P **PKPab 17 14 07.7 -0.7**
VTS Vitosha 147.12 314 ⇓PKP2 **PKPab 17 14 07.7 -0.7**
VTS Vitosha 147.12 314 PKPdf **PKPdf 17 14 04.2 -0.3**
CLL **Collm 147.12 335** ⇑*i* PKP2 **PKPbc 17 14 05.8 -0.4**
CLL pmax pmax
comp=Z,42nm,1.1s
CLL Collm 147.12 335 ⇑*i* PKPbc **PKPbc 17 14 05.8 -0.4**
comp=Z,42nm,1.1s
CLL *i* pPKPdf **PKPab 17 14 07.8 -0.1**
comp=Z,34nm,1.0s
CLL *ex* x 17 14 13.0
CLL Lm MLR 18 22 00.0
comp=N,200nm,21.6s
CLL Lm MLR 18 22 00.0
comp=E,100nm,19.4s
CLL Lm MLR 18 22 00.0
comp=Z,200nm,20.6s
CLL Collm 147.12 335 *e*PKPbc **PKPbc 17 14 05.8 -0.4**
baz=37,slow=2.6
CLL *e*L L 18 21 53.3
comp=Z,212nm,20.7s
CLL Collm 147.12 335 **PKPbc 17 14 05.2 -1.0**
SMOL Smolenice 147.19 327 *e*PKP2 **PKPbc 17 14 07.3 +0.8**
SMOL Smolenice 147.19 327 *e*PKP **PKPbc 17 14 07.3 +0.8**
SRO2 Moca 147.19 326 *e*PKP2 **PKPbc 17 14 06.1 -0.4**
SRO2 Moca 147.19 326 *e*PKP **PKPbc 17 14 06.1 -0.4**
SRO Srobarova 147.19 326 *e*PKP2 **PKPbc 17 14 06.9 +0.4**
SRO Srobarova 147.19 326 *e*PKP **PKPbc 17 14 06.9 +0.4**
ZAGS Zajecar 147.20 317 *e*P **PKPbc 17 14 05.7 -1.0**
ZAPS Zavoj 147.21 316 *e*P **PKPbc 17 14 07.4 +0.6**
NRDL Niedersach Rie 147.21 339 *e*PKPbc **PKPbc 17 14 06.1 -0.2**
baz=37,slow=2.6
NVR Nevrokopi 147.23 312 P **PKPbc 17 14 06.5 -0.4**
RETH Rethem/Aller, 147.25 340 *e*PKPbc **PKPbc 17 14 06.1 -0.4**
baz=37,slow=2.6
KUBS Kucevo 147.25 318 *e*P **PKPbc 17 14 05.9 -0.9**
FBE Freiberg 147.28 334 *e*PKPbc **PKPbc 17 14 06.7 +0.1**
baz=37,slow=2.6
KRUC Moravsky 147.31 329 *e*PKP **PKPbc 17 14 06.7 -0.1**
ASSE Asse, Remlinge 147.32 338 *e*PKPbc **PKPbc 17 14 06.4 -0.3**
baz=37,slow=2.6
KOKK Kokkinochori, 147.35 311 P **PKPbc 17 14 06.8 -0.4**
MODS Modra-Piesok 147.35 327 *e*PKP2 **PKPab 17 14 08.0 -1.0**
MODS Modra-Piesok 147.35 327 *e*PKP **PKPab 17 14 08.0 -1.0**
ZKR Zakros 147.42 300 P **PKiKP 17 14 12.9 +3.1**
PRU Pruhonice 147.49 332 *e*PKP2 **PKPbc 17 14 07.1 -0.2**
PRU Pruhonice 147.49 332 *e*PKP **PKPbc 17 14 07.1 -0.2**
PRU *ex* x 17 14 11.0
CSKK Cskako 147.51 325 PKPDF **PKPbc 17 14 06.5 -0.9**
CSKK Cskako 147.51 325 ⇑PKPB 17 14 07.7
SRS Serrai 147.51 312 P **PKPbc 17 14 06.8 -0.9**
ZST Bratislava 147.56 327 *e*PKP2 **PKPbc 17 14 08.2 +0.7**
ZST Bratislava 147.56 327 *e*PKP **PKPbc 17 14 08.2 +0.7**
TREC Trest 147.57 330 *e*PKP2 **PKPbc 17 14 07.6 0.0**
TREC Trest 147.57 330 *e*PKP **PKPbc 17 14 07.6 0.0**
SVIS Svilajnac 147.61 318 *e*P **PKPbc 17 14 07.5 -0.3**
BOVS Bovan 147.62 317 *e*P **PKPbc 17 14 07.5 -0.4**
CLZ Clausthal 147.67 338 *e*PKPbc **PKPbc 17 14 07.7 -0.1**
baz=37,slow=2.6
BOSS Bosilegrad 147.67 314 *e*P **PKPbc 17 14 07.8 -0.3**
NEUB Neuenburg 147.67 336 *e*PKPbc **PKPbc 17 14 07.7 0.0**
baz=37,slow=2.6
SANT Santorini 147.72 302 **PKPbc 17 14 07.4 -1.0**
PRVS Prvonek 147.93 315 *e*P **PKPbc 17 14 09.0 +0.2**
BARS Barje 147.95 315 *e*P **PKPdf 17 14 04.9 -0.8**
BARS Barje 147.95 315 *e*P **PKPbc 17 14 09.1 +0.3**
PBCC Pribram 147.95 332 *e*PKP **PKPbc 17 14 08.2 -0.4**
EGYH Egyhazaskeszo 147.96 326 PKPDF **PKPbc 17 14 07.9 -0.7**
EGYH Egyhazaskeszo 147.96 326 ⇑PKPB 17 14 09.2
FRGS Fruska Gora 147.97 321 ⇓P **PKPbc 17 14 08.6 -0.2**
FRGS Fruska Gora 147.97 321 ⇑*i* P **PKPbc 17 14 08.0 -0.8**
FRGS Fruska Gora 147.97 321 *e*P **PKPbc 17 14 08.2 -0.6**
KNT Kendrikon 147.97 312 P **PKPbc 17 14 07.9 -1.0**
TIH Tihany 148.00 325 PKPDF **PKPdf 17 14 07.1 +1.5**
TIH Tihany 148.00 325 ⇑PKPB 17 14 08.6
MPLH Magyarpolny 148.01 325 PKPDF **PKPdf 17 14 05.3 -0.3**
MPLH Magyarpolny 148.01 325 ⇑PKPB 17 14 07.6
MORH Mrgy, Hungar 148.01 323 ⇑P **PKPbc 17 14 08.8 0.0**
MORH Mrgy, Hungar 148.01 323 ⇑*i* P **PKPbc 17 14 08.5 -0.3**
KARY Karystos 148.02 306 P **PKPbc 17 14 08.5 -0.6**
TANN Tannenbergstha 148.04 334 *e*PKPbc **PKPbc 17 14 08.7 -0.1**
baz=37,slow=2.6
GTTG Gottingen 148.05 338 *e*PKPbc **PKPbc 17 14 08.8 0.0**
baz=37,slow=2.6

WERD	Werda	148.07	334	ePKPbc	PKPbc	17 14 08.8	-0.1
	baz=37,slow=2.6						
PLN	Plauen	148.10	335	ePKPbc	PKPbc	17 14 08.8	-0.2
	baz=37,slow=2.6						
GRUS	Gruza	148.11	318	eP	PKPbc	17 14 09.4	+0.2
TRUS	Trudelj	148.12	319	eP	PKPbc	17 14 09.3	+0.1
GUNZ	Gunzen	148.13	334	ePKPbc	PKPbc	17 14 09.1	0.0
	baz=37,slow=2.6						
VAY	Valandovo	148.13	312	i P	PKPbc	17 14 08.2	-1.1
VAY	Valandovo	148.13	312	i P	PKPbc	17 14 08.1	-1.2
WERN	Wernitzgruen	148.17	334	ePKPbc	PKPbc	17 14 09.3	+0.1
	baz=37,slow=2.6						
NKC	Novy Kostel	148.18	334	ePKP2	PKPbc	17 14 08.9	-0.3
NKC	Novy Kostel	148.18	334	ePKP	PKPbc	17 14 08.9	-0.3
NKC				ex	x	17 14 12.2	
MOX	Moxa	148.19	335	ePKPbc	PKPbc	17 14 08.9	-0.3
	baz=37,slow=2.6						
MOX				eL	L	18 23 32.0	
	comp=Z,234nm,18.4s						
SELS	Selova	148.20	317	eP	PKPbc	17 14 09.1	-0.4
STIP	Stip	148.22	313	i P	PKPbc	17 14 08.1	-1.4
STIP	Stip	148.22	313	i P	PKPbc	17 14 08.4	-1.1
CONA	Conrad Observa	148.35	328	i P	PKPbc	17 14 09.5	-0.3
	comp=Z,33nm,0.8s,SNR=13						
DION	Dionisos Attik	148.38	306	P	PKPbc	17 14 09.4	-0.7
IDI	Anoyia	148.44	300	P	PKPbc	17 14 10.3	-0.1
DIVS	Divibare	148.44	319⇑	iP	PKPbc	17 14 10.2	+0.1
DIVS	Divibare	148.44	319	PKPdf	PKPdf	17 14 06.2	-0.3
DIVS	Divibare	148.44	319	eP	PKPbc	17 14 10.0	-0.1
CKRC	Cesky Krumlov	148.45	331	ePKP	PKPdf	17 14 06.3	-0.1
CKRC				ex	x	17 14 09.8	
NEO	Neokhori	148.48	309	P	PKPbc	17 14 09.3	-1.0
MANZ	Manzenberg	148.51	334	ePKPbc	PKPbc	17 14 09.9	-0.1
	baz=37,slow=2.6						
ATHU	Athens Univers	148.53	306	P	PKPbc	17 14 09.6	-0.9
KHC	Kasperske Hory	148.55	332	ePKP2	PKPbc	17 14 10.0	-0.2
KHC	Kasperske Hory	148.55	332	ePKP	PKPbc	17 14 10.0	-0.2
KHC				ex	x	17 14 20.5	
VLY	Voula,Athens	148.56	306	P	PKPbc	17 14 09.6	-0.9
SKO	Skopje	148.59	314	i P	PKPbc	17 14 10.7	+0.2
SKO	Skopje	148.59	314	i P	PKPbc	17 14 10.7	+0.2
IVAS	Ivanjica	148.62	318	eP	PKPbc	17 14 10.1	-0.5
ROTZ	Rotzenmuhle	148.64	334	ePKPbc	PKPbc	17 14 10.3	-0.1
	baz=37,slow=2.6						
GEC2	GERESS Array S	148.71	331	ePKPbc	PKPbc	17 14 10.5	-0.2
	baz=37,slow=2.6						
GEC2				eL	L	18 18 09.1	
	comp=Z,166nm,22.0s						
GEC2	GERESS Array S	148.71	331	PKPdf	PKPdf	17 14 06.5	-0.3
GERES	GERESS Array B	148.71	331	PKPbc	PKPbc	17 14 10.3	-0.3
	comp=Z,18nm,0.8s,baz=22,slow=1.4,SNR=101						
GERES	GERESS Array B	148.71	331	PKPdf	PKPdf	17 14 06.2	-0.7
VILL	Villia	148.82	306	P	PKPbc	17 14 10.0	-1.2
WET	Wettzell	148.84	332	ePKPbc	PKPbc	17 14 10.8	-0.1
	baz=37,slow=2.6						
WET				eL	L	18 22 58.0	
	comp=Z,171nm,20.3s						
ATAL	Atalanti	148.85	308	P	PKPbc	17 14 10.2	-1.0
LKR	Lokris	148.88	308	P	PKPbc	17 14 10.4	-0.9
SJES	Sjenica	148.90	317	eP	PKPbc	17 14 11.8	+0.4
BBLS	Lazići	148.93	319⇑	iP	PKPbc	17 14 11.6	+0.2
BBLS	Lazići	148.93	319	eP	PKPbc	17 14 11.8	+0.4
VAM	Vamos	148.95	301	P	PKiKP	17 14 12.3	-0.6
ARSA	Arzberg	148.99	327	i P	PKPbc	17 14 11.1	-0.3
	comp=Z,13nm,1.1s,SNR=5.7						
TYRN	Tyrnavos	149.03	310	P	PKPbc	17 14 10.3	-1.3
GRA1	Grafenberg Arr	149.10	335		PKPbc	17 14 11.1	-0.4
GRF	Grafenberg Arr	149.10	335	PKP2	PKPbc	17 14 11.1	-0.4
GRF	Grafenberg Arr	149.10	335	ePKPbc	PKPbc	17 14 11.4	-0.2
	baz=37,slow=2.6						
GRF				eL	L	18 24 22.0	
	comp=Z,254nm,19.1s						
KZN	Kozani	149.11	311	P	PKPbc	17 14 10.9	-1.1
IMMV	Iera Moni Meta	149.11	301	P	PKPbc	17 14 12.0	0.0
LTK	Loutraki	149.12	306	P	PKPbc	17 14 10.8	-1.2
EPID	Epidavros	149.15	306	P	PKPbc	17 14 11.1	-1.0
KOGS	Kog	149.15	326	i PKPbc	PKPbc	17 14 11.2	-0.5
MOA	Molln	149.18	329	i P	PKPbc	17 14 11.3	-0.5
	comp=Z,11nm,0.6s,SNR=9.5						
FNA	Florina	149.18	312	P	PKPbc	17 14 11.3	-0.8
FNA	Florina	149.18	312	PKIKP	PKPdf	17 14 07.4	-0.4
FNA	Florina	149.18	312	PKPdf	PKPdf	17 14 07.4	-0.4
GVDS	Gavdos	149.18	300	P	PKPbc	17 14 11.8	-0.4
KRND	KRANIDI	149.20	305	P	PKPbc	17 14 11.0	-1.1
AGG	Agios Georgios	149.23	309	P	PKPbc	17 14 11.3	-0.9
AGG	Agios Georgios	149.23	309	PKP2	PKPbc	17 14 11.4	-0.9
AGG	Agios Georgios	149.23	309		PKPbc	17 14 11.4	-0.9
THL	Klokotos Trika	149.24	310	P	PKPdf	17 14 02.0	-5.9
THAL	Thalero	149.34	307	P	PKPbc	17 14 11.7	-0.8
MAKR	Makrakomi, Fth	149.37	309	P	PKPbc	17 14 12.2	-0.4
PHP	Peshkopia	149.39	314	P	PKPbc	17 14 12.2	-0.4
OHR	Ohrid	149.42	313	i P	PKPbc	17 14 12.6	0.0
OHR	Ohrid	149.42	313	i P	PKPbc	17 14 12.7	0.0
KPRO	Kipourio	149.54	311	P	PKPbc	17 14 12.1	-0.9
PERS	Pernice	149.61	327	i PKPbc	PKPbc	17 14 12.4	-0.6
KTHA	Kythira Island	149.61	303	P	PKPbc	17 14 13.0	-0.2
SOKA	Soboth	149.62	327	i P	PKPdf	17 14 07.8	-0.6
	comp=Z,38nm,1.0s,SNR=33						
EVR	Evrytania	149.64	309	P	PKPbc	17 14 13.1	-0.2
KBN	Korca	149.65	312	P	PKPbc	17 14 13.0	-0.3
KBN	Korca	149.65	312	PKP2	PKPbc	17 14 12.9	-0.3
KBN	Korca	149.65	312	PKPbc	PKPbc	17 14 12.9	-0.3
SERG	Sergoula	149.65	308	P	PKPbc	17 14 13.0	-0.3
KTHR	Kythira	149.65	303	P	PKPdf	17 14 10.9	+2.2
ANX	Ano Chora	149.69	308	P	PKPbc	17 14 13.8	+0.3
TNS	Taunus Mts	149.69	338	ePKPbc	PKPbc	17 14 12.7	-0.3
	baz=37,slow=2.6						
TNS				eL	L	18 19 20.4	
	comp=Z,237nm,18.2s						
MRAK	Mrakovica	149.72	323⇑	iP	PKPbc	17 14 13.0	-0.3
KLV	Kalavryta, Ach	149.72	307	P	PKPbc	17 14 13.4	-0.1
BLY	Banja Luka	149.72	322⇑	iP	PKPbc	17 14 13.1	-0.1
EFP	Efpalio	149.76	308	P	PKPbc	17 14 13.4	-0.1
LAKA	Lakka	149.77	307	P	PKPbc	17 14 13.8	+0.2
PDG	Podgorica	149.78	317	⇑P	PKPbc	17 14 13.3	-0.1
PDG	Podgorica	149.78	317	⇑iP	PKPbc	17 14 13.1	-0.3
PDG	Podgorica	149.78	317	PKPbc	PKPbc	17 14 13.1	-0.3
PDG	Podgorica	149.78	317	eP	PKPbc	17 14 13.1	-0.3
TIR	Tirane	149.93	314	⇓P	PKiKP	17 14 14.5	-0.2
TIR	Tirane	149.93	314	P	PKPbc	17 14 14.1	+0.3
TIR	Tirane	149.93	314	⇓PKP2	PKiKP	17 14 14.5	-0.2
TIR	Tirane	149.93	314		PKPbc	17 14 13.6	-0.2
DRME	Dracevica, Mon	149.95	316⇑	iP	PKPbc	17 14 13.6	-0.3
MGRS	Mrkonjic Grad	149.98	322⇑	iP	PKPbc	17 14 13.7	-0.2
CRES	Cresnjev	149.98	325⇑	iP	PKPbc	17 14 13.6	-0.2
BRY	Bratogost	149.98	318⇑	iP	PKPbc	17 14 13.6	-0.5
OBKA	Obir	149.98	327	i P	PKPbc	17 14 13.1	-0.8
	comp=Z,18nm,0.9s,SNR=9.2						
JAN	Janina	150.02	311	P	PKPbc	17 14 13.3	-0.9
BTNL	Ternell	150.12	341	PKPbc	PKPbc	17 14 13.4	-0.6
MEM	Membach	150.13	341	PKPbc	PKPbc	17 14 13.4	-0.6
KBA	Koelnbreinsper	150.16	329	i P	PKPbc	17 14 13.3	-1.2
	comp=Z,37nm,1.0s,SNR=13						
TREB	Trebinje	150.20	318	eP	PKPbc	17 14 13.7	-0.7
TREB	Trebinje	150.20	318	eP	PKPbc	17 14 13.6	-0.8
RLS	Riolos of Patr	150.22	307	P	PKiKP	17 14 15.2	-0.2
HCY	Herceg Novi	150.25	317⇑	iP	PKPbc	17 14 13.9	-0.7
FUR	Furstenfeldbru	150.28	333	eL	L	18 20 27.1	
	comp=Z,127nm,20.7s						
BSTI	Sart Tilman	150.29	342	PKPbc	PKPbc	17 14 14.0	-0.3
LJU	Ljubljana	150.31	327⇑	iP	PKPbc	17 14 14.4	-0.2
LJU	Ljubljana	150.31	327	i PKPdf	PKPdf	17 14 08.9	-0.5
LJU				i PKPbc	PKPbc	17 14 14.5	-0.2
MYKA	Terra Mystica	150.34	328	i P	PKPbc	17 14 13.8	-0.9
	comp=Z,25nm,0.8s,SNR=14						
BHOU	Houvegnez	150.36	341	PKPbc	PKPbc	17 14 14.6	0.0
PYL	PYLOS	150.42	305	P	PKPbc	17 14 14.5	-0.7
IGT	Igoumenitsa	150.44	311	P	PKPbc	17 14 14.9	-0.2
BCLA	Clavier	150.51	342	PKPab	PKPab	17 14 20.8	-0.8
SRN	Sarande	150.52	312	P	PKPbc	17 14 14.7	-0.6
LKD2	Lefkada island	150.52	309	P	PKPbc	17 14 15.4	0.0
NYDR	Nydri-Lefkada	150.52	309	P	PKPbc	17 14 15.2	-0.1
CEY	Cerknica	150.57	326⇑	iP	PKPbc	17 14 14.9	-0.4
CEY	Cerknica	150.57	326	i PKPdf	PKPdf	17 14 08.8	-1.0
CEY				i PKPbc	PKPbc	17 14 14.9	-0.4
EVGI	Lefkada island	150.59	309	P	PKPbc	17 14 15.0	-0.5
STU	Stuttgart	150.63	336	ePKPbc	PKPbc	17 14 15.3	0.0
	baz=37,slow=2.6						
FSK	Fiskardo	150.72	309	P	PKPbc	17 14 15.8	0.0
BMRD	Maredsous	150.77	342	PKPdf	PKPdf	17 14 11.1	+1.2
BMRD				PKPbc	PKPbc	17 14 15.4	-0.1
WATA	Walderalm	150.78	331	i P	PKPbc	17 14 15.2	-0.7
	comp=Z,28nm,0.8s,SNR=12						
ABTA	Abfaltersbach	150.80	330	i P	PKPbc	17 14 14.7	-1.1
	comp=Z,41nm,0.8s,SNR=12						
WTTA	Wattenberg	150.81	331	i P	PKPbc	17 14 15.4	-0.6
	comp=Z,44nm,0.8s,SNR=11						
WLF	Walferdange	150.92	340	PKIKP	PKPbc	17 14 15.6	-0.3
WLF	Walferdange	150.92	340	ePKPbc	PKPbc	17 14 16.0	+0.1
	baz=37,slow=2.6						
WLF	Walferdange	150.92	340		PKPbc	17 14 15.6	-0.3
WLF	Walferdange	150.92	340	PKPbc	PKiKP	17 14 16.4	-0.1
MOTA	Moosalm	150.98	332	i P	PKPbc	17 14 15.7	-0.7
	comp=Z,42nm,0.8s,SNR=16						
DOU	Dourbes	151.00	342	PKPbc	PKPbc	17 14 15.6	-0.5
DOU				PKPab	PKPab	17 14 22.3	-1.3
RETA	Reutte	151.02	332	i P	PKPbc	17 14 15.7	-0.7
	comp=Z,16nm,0.9s,SNR=6.1						
SQTA	Sankt Quirin	151.03	332	i P	PKPbc	17 14 16.0	-0.4
	comp=Z,41nm,0.7s,SNR=17						
STAL	STALIGIAL	151.06	329		PKPbc	17 14 15.1	-1.3
UBR	Ueberruh	151.14	333	ePKPbc	PKPbc	17 14 16.1	-0.6
	baz=37,slow=2.6						
BFO	Black Forest	151.32	336	PKIKP	PKPbc	17 14 16.5	-0.4
BFO	Black Forest	151.32	336	ePKPbc	PKPbc	17 14 16.3	-0.7
	baz=37,slow=2.6						
BFO				eL	L	18 20 33.3	
	comp=Z,187nm,20.5s						
BFO	Black Forest	151.32	336		PKPbc	17 14 16.5	-0.4
FETA	Feichten	151.40	332	i P	PKPbc	17 14 17.4	+0.1
	comp=Z,45nm,1.0s,SNR=15						
DAVA	Damuels	151.55	333	i P	PKPbc	17 14 17.4	-0.3
	comp=Z,14nm,0.8s,SNR=7.2						
CTI	Castel Tesino	151.72	329	PKIKP	PKPbc	17 14 16.3	-1.7
CTI	Castel Tesino	151.72	329		PKPbc	17 14 16.3	-1.7
ECH	Echery	151.84	337	PKIKP	PKPbc	17 14 17.7	-0.4
ECH	Echery	151.84	337		PKPbc	17 14 17.7	-0.4
TEOL	Teolo	152.21	328		PKPbc	17 14 18.2	-0.9
SGRT	San Giovanni R	152.34	318		PKPbc	17 14 19.0	-0.5
MATE	Matera	152.35	316	⇓P	PKiKP	17 14 19.7	0.0
TUE	Stuetta	152.42	333	PKPbc	PKPbc	17 14 18.9	-0.8
NRCA	Norcia	153.21	323		PKPbc	17 14 20.8	-0.6
MURB	Monte Urbino	153.25	324		PKiKP	17 14 21.6	0.0
ZCCA	Zocca	153.28	328		PKiKP	17 14 22.0	+0.3
SENIN	Lac Senin/Sane	153.34	335		PKPbc	17 14 20.9	-0.9
AQU	L'Aquila	153.36	322	PKIKP	PKPbc	17 14 21.3	-0.5
AQU	L'Aquila	153.36	322	PKPbc	PKPbc	17 14 21.3	-0.5
BNI	Bardonecchia	154.67	334	PKIKP	PKPbc	17 14 24.3	-0.3
BNI	Bardonecchia	154.67	334		PKPbc	17 14 24.3	-0.3
ESDC	Sonseca Array	162.87	348	PKPab	PKPab	17 15 13.1	-1.8
	comp=Z,1.2nm,0.8s,baz=6.7,slow=3.6,SNR=5.4						
LIC	Lamto	163.03	192	ePKP1	PKPab	17 15 21.1	+5.0
	comp=Z,28nm,1.0s						
KIC	Kosan Boka	163.10	193	ePKP1	PKPab	17 15 21.3	+4.8
	comp=Z,7.4nm,0.7s						
TIC	Toumodi	163.43	192	ePKP1	PKPab	17 15 22.6	+4.6
TORD	Torodi Ar. Bea	166.21	227	PKP	PKPdf	17 14 29.1	-0.2
	comp=Z,3.5nm,0.9s,baz=9.1,slow=1.4,SNR=14						
TORD				PKPab	PKPab	17 15 31.4	+1.1
	comp=Z,3.4nm,0.8s,baz=134,slow=2.9,SNR=5.8						
TORD	Torodi Ar. Bea	166.21	227		PKPdf	17 14 28.9	-0.4

*DJA **19** 16:56:57.7±1.5,2°N±4°×9°8E±°, h20km±18km, M3.9/9, MLv3.9/9*
*NEIC **19** 16:56:58.9±0.7,2°.08N±0°.06×97°.86E±0°.07, h60km±8km, mb4.2/16, Error ellipse: s-maj=11.1km s-min=7.4km az=123.0*
*IDC **19** 16:56:58.8±4.8,2°.07N×97°.91E, h64km±39km, mb3.6/8, mb1 3.7/9, mb1mx3.4/52, mbtmp3.9/9, ML3.8/1, Error ellipse: s-maj=48.9km s-min=19.6km az=57.0*

ISC 19 16:56:57.0±0.6, 2°.11N±0°.04×97°.86E±0°.06, h46km, n40, σ1°.42/40, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.85	200	P	Pn	16 57 14.0	+1.4
GSI	Gunungsitoli	0.85	200	Pn	Pn	16 57 14.4	+1.8
GSI				Sn	Sn	16 57 26.1	+2.1
RPSI	Rantau Prapat	1.21	61	P	Pn	16 57 19.8	+2.3
PSI	Prapat	1.27	57	P	Pn	16 57 19.8	+1.4
	10nm,0.3s,baz=238,slow=5.4,SNR=65						
PSI				S	Sn	16 57 35.2	+0.9
	11nm,0.3s,baz=224,slow=7.8,SNR=16						
KCSI	Kotacane, Aceh	1.41	356	P	Pn	16 57 21.7	+1.4
TSI	Tuntungan	1.55	27	P	Pn	16 57 25.2	+3.0
MNSI	Mandailing Nat	2.15	127	P	Pn	16 57 32.9	+2.4
LHMI	Lhok Sumawe	3.23	344	P	Pn	16 57 47.1	+1.8
LHMI	Lhok Sumawe	3.23	344	Pn	Pn	16 57 46.7	+1.4
PPI	Padang Panjang	3.59	135	P	Pn	16 57 53.2	+3.0
IPM	Ipoh	3.94	53	Pn	Pn	16 57 57.8	+2.7
KULM	Kulim	4.21	41	Pn	Pn	16 58 00.9	+2.1
MYKOM	Kota Tinggi	5.99	93	Pn	Pn	16 58 21.5	-1.7
UGM	Wanagama	16.08	128	Pn	Pn	17 00 39.3	-0.8
UGM				IAmb	IAmb	17 00 44.8	
	comp=Z,40nm,1.2s						
CMAR	Chiang Mai Arr	16.29	4	P	Pn	17 00 43.1	+0.5
	comp=Z,0.1nm,0.3s,baz=196,slow=11,SNR=9.3						
CHTO	Chiang Mai	16.64	4	Pn	Pn	17 00 47.3	+0.2
WRA	Warramunga Arr	41.96	123	P	P	17 04 43.8	-0.1
	comp=Z,1.0nm,0.4s,baz=302,slow=9.2,SNR=5.7						
ASAR	Alice Springs	43.42	128	P	P	17 04 54.2	-1.4
	comp=Z,0.3nm,0.6s,baz=295,slow=6.8,SNR=1.2						
SONM	Songino Array	46.15	8	P	P	17 05 17.3	+0.2
	comp=Z,0.8nm,0.5s,baz=189,slow=10.0,SNR=7.4						
SONM	Songino Array	46.15	8	IAmb	IAmb	17 05 35.7	
	comp=Z,2.3nm,1.5s						
MK31	Makanchi Array	46.53	345	P	P	17 05 20.3	+0.3
MKAR	Makanchi Array	46.53	345	P	P	17 05 20.5	+0.5
	comp=Z,1.2nm,0.5s,baz=157,slow=8.8,SNR=28						
MKAR	Makanchi Array	46.53	345	P	P	17 05 20.0	0.0
MAKZ	Makanchi	46.63	345	P	P	17 05 20.9	+0.2
MAKZ				IAmb	IAmb	17 05 21.7	
	comp=Z,1.6nm,0.6s						
KURK	Kurchatov	51.10	344	P	P	17 05 55.4	+0.5
KURK				IAmb	IAmb	17 05 56.7	
	comp=Z,2.1nm,0.8s						
USA0B	Ussuriysk Arra	51.66	31	P	P	17 05 59.3	0.0
USRK	Ussuriysk Ar.	51.66	31	P	P	17 05 59.5	+0.3
CTAO	Charters Tower	52.32	117	P	P	17 06 03.9	-0.7
ZAA0	Zalesovo Array	52.78	350	P	P	17 06 07.7	+0.3
ZAA0				IAmb	IAmb	17 06 08.4	
	comp=Z,3.2nm,0.5s						
ZALV	Zalesovo Beam	52.78	350	P	P	17 06 07.6	+0.2
	comp=Z,2.8nm,0.3s,baz=166,slow=7.3,SNR=28						
ZALV	Zalesovo Beam	52.78	350	P	P	17 06 07.7	+0.3
BRVK	Borovoye	55.68	340	P	P	17 06 28.3	-0.2
BRVK				IAmb	IAmb	17 06 29.1	
	comp=Z,2.4nm,0.8s						
ABKAR	Abkulak array	57.04	331	P	P	17 06 35.9	-2.3
TIXI	Tiksi	72.19	10	P	P	17 08 15.9	-0.8
TIXI				IAmb	IAmb	17 08 34.4	
	comp=Z,1.6nm,0.8s						
AKASG	Malin Array Be	74.95	322	P	P	17 08 32.8	-0.5
	comp=Z,0.4nm,0.5s,baz=91,slow=4.8,SNR=3.1						
AKASG	Malin Array Be	74.95	322	IAmb	IAmb	17 08 41.7	
	comp=Z,1.8nm,1.4s						
BURAR	Bucovina Array	76.79	318	P	P	17 08 43.8	-0.2
FIA1	FINESS Array S	79.51	332	P	P	17 08 58.7	+0.1
FINES	FINESS Array B	79.51	332	P	P	17 08 58.6	0.0
	comp=Z,0.4nm,0.4s,baz=106,slow=4.5,SNR=5.2						
ARCES	ARCESS Array B	81.91	340	P	P	17 09 11.6	+0.3
	comp=Z,2.3nm,0.9s,baz=90,slow=5.4,SNR=1.5						

MAN 19 16:59:57.7, 7°.22N×123°.57E, h27km, mb4.6, ML3.5, MS3.3, 6C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.65	343⇑	iP	Pn	17 00 11.0	-0.1
PAGZ				i S	Sn	17 00 21.1	+0.5
CTBH	Cotabato--PC H	0.67	90⇓	iP	Pb	17 00 09.2	-1.6
CTBH				i S	Sb	17 00 17.6	-2.2
DCPH	Dipolog City	1.37	351⇑	eP	Pb	17 00 22.6	-0.1
DCPH				i S	Sb	17 00 40.6	+0.8
KCP	Kidapawan	1.52	98⇓	eP	Pn	17 00 21.6	-1.6
KCP				i S	Sb	17 00 50.8	+6.5
BUKP	Musuan	1.62	66⇑	iP	Pn	17 00 24.5	0.0
BUKP				eS	Sn	17 00 45.4	+0.9
GSPH	General Santos	1.77	129⇑	eP	Pb	17 00 29.7	+0.1
GSPH				i S	Sb	17 00 54.6	+3.0
SNPH	Sibulan	2.13	351⇓	eP	Pn	17 00 33.5	+1.9
SNPH				eS	Sb	17 01 01.4	-0.4
DDMP	Don Marcelino,	2.40	117⇓	eP	Pn	17 00 35.6	+0.4
DDMP				eS	Sn	17 01 04.3	+0.5
TBP	Tagbilaran	2.47	7	eP	Pn	17 00 37.1	+0.9
TBP				eS	Sn	17 01 04.7	-0.8
BUTP	Butuan	2.67	49⇑	iP	Pn	17 00 41.6	+2.6
CNOP	Candoni, Negro	2.75	340⇓	iP	Pn	17 00 41.3	+1.2
CNOP				i S	Sb	17 01 28.9	+9.5
MSLP	Maasin	3.16	24⇑	iP	Pn	17 00 46.5	+0.7
MSLP				eS	Sn	17 01 20.8	-1.8
JAP	San Jose, Anti	3.85	336⇓	eP	Pn	17 00 57.3	+2.1

*IDC **19** 17:02:09.8±1.0, 30°.76S×72°.66W, h0km, mb3.8/2, mb1 4.1/5, mb1mx3.9/27, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=42.0km s-min=29.9km az=106.0*
*GUC **19** 17:02:12.4±0.6, 30°.48S×72°.52W, h29km, ML3.6*

ISC 19 17:02:10.9±2.7, 30°.68S±0°.05×72°.59W±0°.09, h15km±16km, n25, σ1°.55/26, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.82	90⇓	iP	Pb	17 02 27.1	+0.2
CO06				i S	Sg	17 02 37.8	+0.1
CO06				IAML		17 02 39.3	
	comp=N,2μm,0.2s						
GO04	Tololo Observa	1.63	72⇓	iP	Pn	17 02 39.3	0.0
GO04				i S	Sn	17 02 58.6	-1.4
GO04				IAML		17 03 03.2	
	comp=N,3μm,0.4s						
CO03	El Pedregal	1.64	96	eP	Pn	17 02 39.9	+0.5
CO03				i S	Sn	17 02 59.9	-0.4
CO03				IAML		17 03 03.8	
	comp=E,950nm,0.5s						
VA06	Catapilco	2.17	150⇓	iP	Pn	17 02 46.4	-0.2
VA06				i S	Sn	17 03 10.6	-2.7
VA06				IAML		17 03 12.6	
	comp=N,546nm,0.2s						
LCO	Las Campanas	2.34	45⇓	iP	Pn	17 02 49.0	-0.1
LCO				i S	Sn	17 03 16.1	-1.6
VA03	San Esteban	2.71	141	IAML		17 03 29.3	
	comp=E,271nm,0.2s						
AC04	Llanos de Chal	2.80	29⇑	iP	Pn	17 02 53.9	-1.2
AC04				IAML		17 03 27.3	
	comp=E,147nm,0.1s						
MT02	Curacav	2.85	155	eP	Pn	17 02 55.8	-0.1
MT02				IAML		17 03 31.9	
	comp=N,76nm,0.8s						
VA05	Santo Domingo	3.08	165	IAML		17 03 34.6	
	comp=N,221nm,0.4s						
MT01	Popeta	3.37	161	eP	Pn	17 03 02.0	-1.0
MT01				IAML		17 03 43.2	
	comp=E,84nm,0.2s						
GO03	Copiap	3.70	34⇑	iP	Pn	17 03 06.7	-0.9
GO03				IAML		17 03 54.2	
	comp=E,82nm,0.3s						
BO01	Tunca	3.91	161	eP	Pn	17 03 10.5	0.0
BO01				i S	Sn	17 03 52.7	-3.5
H03N1	Juan Fernandez	6.03	241	T	T	17 09 46.2	
	baz=68						
H03N2	Juan Fernandez	6.05	241	T	T	17 09 46.7	
	baz=68						
H03N3	Juan Fernandez	6.05	241	T	T	17 09 45.1	
	baz=68						
PLCA	Paso Flores	10.17	171	Pn	Pn	17 04 37.2	+0.9
	comp=E,0.3nm,0.3s,baz=340,slow=15,SNR=7.3						
LPAZ	La Paz	14.90	17	Pn	P	17 05 43.8	-3.5
	comp=E,0.3nm,0.3s,baz=186,slow=6.8,SNR=8.6						
SIV	San Ignacio	18.02	38	P	P	17 06 22.7	+1.3
	comp=E,0.2nm,0.3s,baz=228,slow=12,SNR=18						
BDFB	Brasilia

KURK Kurchatov 50.80 345 P P 17 13 52.6 -0.1
KURK Kurchatov 50.80 345 IAmb IAmb 17 13 56.3
comp=Z,4.5nm,1.1s
BBOO Buckleboo 50.92 136 P P 17 13 54.9 +0.9
USA0B Ussuriysk Arra 52.33 32 P P 17 14 02.9 -1.5
USRK Ussuriysk Ar. 52.33 32 P P 17 14 04.8 +0.5
ZAA0 Zalesovo Array 52.60 351 P P 17 14 05.9 -0.2
ZALV Zalesovo Beam 52.60 351 P P 17 14 06.5 +0.3
comp=Z,4.9nm,0.6s,baz=174,slow=7.1,SNR=18
ZALV Zalesovo Beam 52.60 351 P P 17 14 06.1 -0.1
BVAR Borovoye Array 55.23 341 P P 17 14 25.5 +0.1
comp=Z,1.2nm,0.7s,baz=101,slow=7.5,SNR=2.4
BRVK Borovoye 55.29 341 P P 17 14 25.9 0.0
BRVK IAmb IAmb 17 14 27.4
comp=Z,4.6nm,1.4s
ABKAR Akbulak array 56.47 332 P P 17 14 34.5 +0.2
ERM Erimo 57.58 40 P P 17 14 44.5 +2.2
FINES FINESS Array B 78.95 333 P P 17 16 56.1 +0.3
comp=Z,1.9nm,0.9s,baz=102,slow=4.6,SNR=1.7
ARCES ARCESS Array B 81.51 340 P P 17 17 09.5 0.0
comp=Z,2.8nm,1.0s,baz=85,slow=5.5,SNR=4.7
SPITS Spitsbergen Ar 85.97 348 LR LR 18 04 33.7
comp=Z,105nm,19.0s,baz=258,slow=42

NIC 19 17:12:07.8±0.0, 34°.77N×33°.14E, h18km, Ml2.0/2, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	Asgata	0.09	83	P	Pg	17 12 11.6	+0.1
ASGA				S	Sg	17 12 14.5	+0.5
ASGA				AML	AML	17 12 14.6	
	1.2nm,0.1s						
ASGA				AML	AML	17 12 14.6	
	1.2nm,0.1s						
ASGA				AML	AML	17 12 14.9	
	1.7nm,0.2s						
ASGA				AML	AML	17 12 14.9	
	1.7nm,0.2s						
SZAC	Souni	0.21	265	P	Pg	17 12 13.1	+0.1
SZAC				S	Sg	17 12 17.1	+0.6
SZAC				AML	AML	17 12 18.3	
	0.7nm,0.1s						
SZAC				AML	AML	17 12 18.3	
	0.7nm,0.1s						
CSS	Mathiatis	0.25	41	P	Pg	17 12 13.7	+0.1
CSS				S	Sg	17 12 18.2	+0.7
MVOU	Mavrovouni	0.47	59	P	Pg	17 12 17.4	0.0

PGC 19 17:22:49.4±0.8, 48°.69N×129°.00W, h10km, MLSn3.1/25, Mw3.7/25, 231km west of Tofino, Bc Vancouver Island, Canada Region
IDC 19 17:22:53.0±1.4, 48°.93N×128°.35W, h0km, mb3.5/4, mb1 3.7/14, mb1mx3.6/51, mbtmp3.5/14, ML3.1/9, MS3.3/6, Ms1 3.3/6, ms1mx3.0/65, Error ellipse: s-maj=28.0km s-min=9.5km az=65.0

ISC 19 17:22:52.5±2.4, 48°.94N±0°.05×128°.55W±0°.05, h2km±15km, n70, σ1§45/93, mb3.5/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	NEPTUNE Canada	1.05	201	P	Pb	17 23 02.1	-11
NC89	ODP889	1.15	103	Pn	Pb	17 23 13.5	-1.5
NC27	ODP1027	1.29	156	P	Pn	17 23 09.7	-7.4
EDB	Eliza Dome	1.32	44	Pn	Pn	17 23 17.0	-0.9
EDB				Sn	Sg	17 23 36.1	+1.2
PACB	Port Alice, BC	1.65	24	Pn	Pn	17 23 21.1	-1.3
PACB				Sn	Sn	17 23 43.6	-0.6
MAYB	Maynard	1.72	31	Pn	Pn	17 23 22.7	-0.8
MAYB				Sn	Sb	17 23 47.1	+0.2
HOLB	Holberg	1.73	9	Pn	Pn	17 23 23.6	+0.1
HOLB				Sn	Sn	17 23 44.6	-1.5
TOFB	Tofino	1.75	82	Pn	Pn	17 23 22.8	-1.0
TOFB				Sn	Sb	17 23 45.9	-1.7
WOSB	Woss	1.78	46	Pn	Pn	17 23 24.4	+0.1
WOSB				Sn	Sg	17 23 49.6	+0.1
GDR	Gold River	1.85	62	Pn	Pn	17 23 24.7	-0.5
GDR				Sn	Sb	17 23 49.5	-1.1
PHC	Port Hardy	1.91	22	Pn	Pn	17 23 25.3	-0.7
PHC				Sn	Sn	17 23 50.7	0.0
TLCB	Telegraph Cove	1.96	34	Pn	Pn	17 23 26.8	+0.2
TLCB				Sn	Sb	17 23 53.3	-0.3
BTB	Buttle Lake	2.06	74	Pn	Pn	17 23 27.5	-0.7
BTB				Sn	Sb	17 23 55.3	-1.3
SPLB	Strathcona Par	2.12	62	Sn	Sb	17 23 57.9	-0.4
NCRB	Newcastle Ridg	2.19	47	Pn	Pn	17 23 30.4	+0.4
NCRB				Sn	Sb	17 23 59.9	-0.4
BFSB	Bamfield	2.25	91	Pn	Pn	17 23 29.8	-1.0
BFSB				Sn	Sn	17 23 58.4	-0.6
B928	Bamfield	2.25	91	Pn	Pn	17 23 28.9	-1.8
B928				Sn	Sn	17 23 58.1	-0.9
CBB	Campbell River	2.35	61	Pn	Pn	17 23 32.6	+0.5
CBB				Sn	Sb	17 24 04.0	-0.9
MGB	Mount Grey	2.54	87	Pn	Pn	17 23 33.1	-1.7
MGB				Sn	Sn	17 24 05.5	-0.9
PFB	Port Renfrew	2.74	96	Sn	Sn	17 24 09.1	-2.1
TXB	Texada	2.80	73	Pn	Pn	17 23 38.3	+0.1
TXB				Sn	Sb	17 24 14.8	-3.0
GHNB	Nanoose	2.86	81	Pn	Pn	17 23 39.0	+0.1
B926	Mesachie Lake	2.92	91	Pn	Pn	17 23 38.9	-1.0
B926				Sn	Sn	17 24 15.1	-0.4
CLRS	Cowichan Lake	2.92	91	Pn	Pn	17 23 38.7	-1.1
CLRS				Sn	Sn	17 24 14.8	-0.7
NLLB	Nanaimo Lost L	3.01	83	Pn	Pn	17 23 41.3	+0.2
NLLB				Sn	Sb	17 24 19.4	-4.6
SHB	Sechelt	3.13	76	Pn	Pn	17 23 42.8	-0.1
SHB				Sn	Sn	17 24 22.1	+1.1
BBB	Bella Bella	3.26	5	Pn	Pn	17 23 44.1	-0.5
	33nm,0.3s,baz=197,slow=7.4,SNR=187						
BBB				Sn	Sn	17 24 22.7	-1.3
	15nm,0.3s,baz=251,slow=21,SNR=7.8						
BBB				LR	LR	17 24 22.8	
	comp=Z,141nm,20.4s,baz=225,slow=28						
BBB	Bella Bella	3.26	5	Pn	Pn	17 23 43.6	-1.0
BBB				Sn	Sn	17 24 22.9	-1.0
GOBB	Galiano Island	3.32	88	Pn	Pn	17 23 45.4	0.0
B010	North Saanich	3.38	93	Pn	Pn	17 23 45.5	-0.7
B010				Sn	Sn	17 24 27.0	+0.1
PGC	Sidney	3.38	93	Pn	Pn	17 23 45.0	-1.2
PGC				Sn	Sn	17 24 27.2	+0.3
B011	North Saanich	3.38	93	Pn	Pn	17 23 45.0	-1.2
B011				Sn	Sn	17 24 26.9	-0.1
BIB	Bowen Island	3.47	80	Pn	Pn	17 23 47.6	+0.2
BIB				Sn	Sb	17 24 31.5	-5.7
VGZ	Gonzales	3.50	97	Sn	Sn	17 24 28.4	-1.4
HNBB	Haney	3.94	83	Sn	Sn	17 24 41.6	+0.9
BUTB	Butedale	4.13	1	Pn	Pn	17 23 56.2	-0.5
BUTB				Sn	Sn	17 24 43.8	-1.8
VDB	Vedder Mountai	4.25	86	Pn	Pn	17 23 58.2	0.0
VDB				Sn	Sn	17 24 50.1	+1.8
A05A	Maple Falls	4.26	87	Pn	Pn	17 23 58.1	-0.1
A05A				Sn	Sn	17 24 49.9	+1.4
CMW	Cultus Mountai	4.29	94	Pn	Pn	17 23 58.9	+0.1
LLLB	Lillooet	4.63	66	Pn	Pn	17 24 04.7	+1.2
LLLB				Sn	Sn	17 25 00.4	+2.5
HWKB	Hawksbury Isla	4.68	356	Pn	Pn	17 24 03.9	-0.3
HWKB				Sn	Sn	17 24 56.7	-2.4
RPW	Rockport	4.68	93	Pn	Pn	17 24 04.0	-0.2
HOPB	Hope	4.70	82	Pn	Pn	17 24 04.7	+0.4
HOPB				Sn	Sn	17 25 00.6	+1.2
KITB	Kitimat	5.15	359	Pn	Pn	17 24 10.8	+0.3
FSJB	Fort St James	6.13	24	Pn	Pn	17 24 26.4	+2.4
BLBC	Blue River	6.70	59	Pn	Pn	17 24 34.8	+2.7
SLEB	Sale Mountain	7.07	68	Pn	Pn	17 24 38.6	+1.6
MNB	Mounoet Dainar	7.25	59	Pn	Pn	17 24 41.9	+2.3
NEW	Newport	7.61	91	Pn	Pn	17 24 43.7	-0.6
	0.2nm,0.3s,baz=309,slow=14,SNR=1.7						
NEW				LR	LR	17 28 06.0	
	comp=Z,197nm,18.4s,baz=285,slow=42						
YBH	Yreka Blue Hor	8.29	148	Pn	Pn	17 24 56.0	+2.3
	0.2nm,0.3s,baz=288,slow=6.4,SNR=4.3						
YBH				LR	LR	17 27 57.6	
	comp=Z,61nm,20.3s,baz=240,slow=37						
NBC5	NorthernBC 5	9.29	20	Pn	Pn	17 25 09.8	+2.4
DLBC	Dease Lake	9.56	355	Pn	Pn	17 25 13.3	+2.2
	0.1nm,0.3s,baz=173,slow=12,SNR=2.4						
FNBB	Fort Nelson	10.49	16	Pn	Pn	17 25 25.4	+1.7
ELK	Elko	12.49	126	Pn	Pn	17 25 51.9	+0.6
	0.1nm,0.3s,baz=297,slow=6.8,SNR=1.6						
NVAR	Mina Array Bea	12.84	141	Pn	Pn	17 25 57.7	+1.5
	0.1nm,0.3s,baz=324,slow=10,SNR=4.5						
PDAR	Pinedale Array	14.58	108	Pn	Pn	17 26 21.9	+1.9
	0.0nm,0.3s,baz=307,slow=15,SNR=5.8						
YKA	Yellowknife Ar	15.64	25	Pn	Pn	17 26 31.2	-2.4
	0.0nm,0.3s,baz=211,slow=13,SNR=6.1						
YKA				LR	LR	17 33 06.1	
	comp=Z,154nm,18.9s,baz=316,slow=39						
ILAR	Eielson Array	18.65	335	P	P	17 27 12.0	+0.8
	0.0nm,0.3s,baz=147,slow=12,SNR=4.2						
INK	Inuvik	19.59	354	P	Pn	17 27 23.5	+0.8
	0.1nm,0.3s,baz=170,slow=8.0,SNR=4.8						
ULM	Lac du Bonnet	21.13	74	P	P	17 27 38.4	0.0
	3.8nm,0.6s,baz=277,slow=10.0,SNR=3.4						
ULM				LR	LR	17 36 07.1	
	comp=Z,165nm,19.9s,baz=256,slow=38						
ANMO	Albuquerque	21.47	122	P	P	17 27 42.6	+0.2
	2.1nm,0.9s,baz=308,slow=7.6,SNR=3.9						
TXAR	Lajitas Array	27.28	127	P	P	17 28 39.2	+0.9
	0.4nm,0.8s,baz=345,slow=6.5,SNR=1.6						
H11N2	WAKE ISLAND Hy	58.72	264	T	T	18 36 02.1	
	baz=44,slow=76,SNR=36						
H11N3	WAKE ISLAND Hy	58.72	264	T	T	18 36 02.1	
	baz=44,slow=76,SNR=37						
H11N1	WAKE ISLAND Hy	58.74	264	T	T	18 36 03.3	
	baz=44,slow=76,SNR=28						
H11S1	WAKE ISLAND Hy	59.73	264	T	T	18 37 12.0	
	baz=40,slow=30,SNR=7.4						
H11S2	WAKE ISLAND Hy	59.74	264	T	T	18 37 15.3	
	baz=40,slow=30,SNR=7.9						
H11S3	WAKE ISLAND Hy	59.75	264	T	T	18 37 12.6	
	baz=40,slow=30,SNR=4.9						
KIRV	Kirov	72.83	1	LR	LR	18 12 46.3	
	comp=Z,115nm,18.2s,baz=48,slow=41						
MKAR	Makanchi Array	80.95	339	P	P	17 35 08.8	+0.6
	0.3nm,0.7s,baz=20,slow=4.7,SNR=2.5						

PGC 19 17:34:04.1±1.1, 48°.62N×128°.96W, h10km, MLSn2.9/12, Mw3.5/12, 230km west of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	NEPTUNE Canada	0.68	188	P	Pg	17 34 15.8	-1.4
NC27	ODP1027	1.18	136	P	Pn	17 34 24.5	-1.7
EDB	Eliza Dome	1.74	43	Pn	Pn	17 34 32.9	-1.4
PACB	Port Alice, BC	2.05	27	Pn	Pn	17 34 36.0	-2.6
PACB				Sn	Sn	17 35 00.9	-3.3
TOFB	Tofino	2.08	74	Sn	Sn	17 35 00.6	-4.4
HOLB	Holberg	2.09	15	Sn	Sn	17 35 01.9	-3.4
MAYB	Maynard	2.13	33	Pn	Pn	17 34 38.0	-1.8
WOSB	Woss	2.19	44	Pn	Pn	17 34 38.9	-1.8
WOSB				Sn	Sn	17 35 03.9	-4.0
GDR	Gold River	2.24	58	Pn	Pn	17 34 39.7	-1.5
PHC	Port Hardy	2.31	25	Sn	Sn	17 35 04.8	-5.8
TLCB	Telegraph Cove	2.37	35	Pn	Pn	17 34 42.3	-0.7
BTB	Buttle Lake	2.42	68	Pn	Pn	17 34 42.0	-1.8
BTB				Sn	Sn	17 35 09.3	-4.2
BFSB	Bamfield	2.54	84	Sn	Sn	17 35 12.8	-3.5
B928	Bamfield	2.54	84	Sn	Sn	17 35 12.9	-3.3
NCRB	Newcastle Ridg	2.60	46	Pn	Pn	17 34 44.8	-1.5
NCRB				Sn	Sn	17 35 14.5	-3.4
MGB	Mount Grey	2.85	81	Pn	Pn	17 34 47.4	-2.3
MGB				Sn	Sn	17 35 20.2	-3.8
TXB	Texada	3.16	68	Pn	Pn	17 34 52.4	-1.4
TXB				Sn	Sn	17 35 28.9	-2.7
B926	Mesachie Lake	3.20	85	Sn	Sn	17 35 28.7	-4.0
NLLB	Nanaimo Lost L	3.33	78	Sn	Sn	17 35 32.9	-3.0
SHB	Sechelt	3.48	72	Pn	Pn	17 34 57.6	-0.8
BBB	Bella Bella	3.61	8	Pn	Pn	17 34 58.6	-1.4
BBB				Sn	Sn	17 35 37.9	-4.7
BUTB	Butedale	4.46	4	Pn	Pn	17 35 10.4	-1.4
BUTB				Sn	Sn	17 35 59.3	-4.5

UPP 19 18:01:47.0±0.1, 67°.07N×20°.92E, h0km, ML2.2, Explosion
IDC 19 18:01:48.6±1.0, 67°.05N×21°.29E, h0km, mb1 2.9/4, mb1mx2.5/53, mbtmp2.9/4, ML2.0/4, Error ellipse: s-maj=18.1km s-min=8.3km az=108.0

ISC 19 18:01:47.0±0.9, 67°.07N±0°.03×20°.90E±0°.04, h0km, n18, σ0§79/23, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.58	47	P	Pg	18 01 58.0	-0.2
MASU				S	Sg	18 02 05.2	-0.4
ERTU	Ertsjaerv	0.73	135	P	Pg	18 02 00.5	-0.4
ERTU				S	Sg	18 02 10.5	+0.2
PAJU	Pajala	0.87	92	P	Pg	18 02 03.0	-0.7
PAJU				S	Sg	18 02 14.9	0.0
HARU	Harads	0.91	178	P	Pg	18 02 04.1	-0.4
KUA	Kurravaara	0.92	347	P	Pg	18 02 04.0	-0.6
SALU	Saltoluokta	0.98	290	eP	Pg	18 02 05.1	-0.7
SALU	Saltoluokta	0.98	290	P	Pg	18 02 05.5	-0.3
LANU	Lannavaara	1.07	23	P	Pg	18 02 06.4	-1.1
NIKU	Nikkaluokta	1.08	319	P	Pg	18 02 07.0	-0.6
KOVU	Salmi	1.19	347	P	Pg	18 02 09.2	-0.6
KALU	Kalix	1.57	140	P	Pn	18 02 15.7	-0.3
SJUU	Sjulsmark	1.59	169	P	Pn	18 02 16.4	0.0
HEF	Hetta	1.71	37	eP	Pn	18 02 17.9	-0.1
I37NO	I37NO	2.19	338	i		18 17 49.3	
	baz=148,slow=330,SNR=5.3						
ARCES	ARCESS Array B	3.01	33	Pn	Pn	18 02 36.2	+0.3
	baz=211,slow=14,SNR=79						
ARCES				Sn	Sn	18 03 14.7	+2.1
	baz=211,slow=21,SNR=10.0						
FINES	FINESS Array B	6.08	156	Pn	Pn	18 03 19.1	+1.1
	0.1nm,0.3s,baz=342,slow=12,SNR=5.2						
FINES				Sn	Sn	18 04 27.3	-0.9
	0.2nm,0.3s,baz=333,slow=27,SNR=1.7						
FINES				Lg	Lg	18 04 58.0	
	0.3nm,0.3s,baz=342,slow=30,SNR=1.8						
NOA	NORSAR Array B	7.38	220	Pn	Pn	18 03 37.2	+1.2
	0.0nm,0.3s,baz=31,slow=10,SNR=1.4						
HFS	Hagfors	7.66	208	Pn	Pn	18 03 39.8	+0.1
	0.1nm,0.3s,baz=6.7,slow=14,SNR=1.4						
HFS				Sn	Sn	18 05 06.3	-0.8
	0.1nm,0.3s,baz=31,slow=25,SNR=2.0						

IDC 19 18:12:01.1±2.5, 6°.69S×131°.17E, h0km, mb3.9/1, mb1 3.6/3, mb1mx3.0/36, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=159.5km s-min=30.9km az=72.0

ISC 19 18:12:00.7±0.9, 6°.68S±0°.07×131°.5E±0°.2, h10km, n11, σ4§50/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.66	324	P	Pg	18 12 50.6	-1.1
FAKI	Fak Fak	3.81	12	P	Pb	18 13 06.1	-2.0
DRS	Darwin Rock St	5.74	186	P	Pn	18 13 33.0	+6.9
KDU	Kakadu	6.05	171	P	Pn	18 13 36.8	+6.5
SANI	Sanana	7.15	310	P	Pb	18 13 52.2	-13
KNRA	Kununurra	9.33	196	P	Pn	18 14 20.8	+5.5
WRA	Warramunga Arr	13.47	168	Pn	Pn	18 15 13.5	+1.5
	0.2nm,0.3s,baz=350,slow=13,SNR=18						
WRA				Sn	Sn	18 17 36.4	-5.6
	0.9nm,0.3s,baz=350,slow=22,SNR=9.3						
MTSU	Mount Surprise	16.92	133	P	P	18 16 03.7	+3.9
	1.9nm,0.8s						
ASAR	Alice Springs	17.05	172	P	P	18 16 02.5	+1.3
	0.1nm,0.3s,baz=0.0,slow=11,SNR=13						
ASAR				S	Sn	18 19 02.4	-6.7
	0.2nm,0.3s,baz=336,slow=12,SNR=5.8						
WRKA	Warakurna	18.51	189	P	Pn	18 16 21.7	+4.3
MKAR	Makanchi Array	68.77	326	P	P	18 23 06.1	+1.1
	0.6nm,0.4s,baz=112,slow=8.6,SNR=26						

IDC 19 18:14:18.1±0.9, 7°.21N×33°.77W, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/43, mbtmp3.9/11, Error ellipse: s-maj=30.8km s-min=20.2km az=152.0
NEIC 19 18:14:21.1±2.1, 7°.3N±0°.1×33°.8W±0°.1, h15km±4km, mb4.5/8, Error ellipse: s-maj=20.6km s-min=12.8km az=135.0

ISC 19 18:14:20.2±0.6, 7°.2N±0°.1×33°.8W±0°.1, h15km, n27, σ0§86/17, mb4.0/12, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACV	Santiago Islan	12.66	52	Pn	Pn	18 17 13.7	-6.2
RCBR	Riachuelo	13.10	189	Pn	Pn	18 17 26.0	+0.1
H10N3	ASCENSION HYDR	24.39	127	T	T	18 44 42.3	
	baz=307,slow=75,SNR=222						
H10N2	ASCENSION HYDR	24.39	127	T	T	18 44 42.6	
	baz=307,slow=75,SNR=190						
H10N1	ASCENSION HYDR	24.41	127	T	T	18 44 43.8	
	baz=307,slow=75,SNR=221						
ASCN	Ascension	24.55	127	P	P	18 19 39.9	+0.2
H10S3	ASCENSION HYDR	24.95	130	T	T	18 45 24.7	
	baz=307,slow=74,SNR=121						
H10S2	ASCENSION HYDR	24.97	130	T	T	18 45 26.0	
	baz=273,slow=74,SNR=47						
BBGH	Gun Hill	25.99	285	P	P	18 19 52.6	-0.1
BOAV	Boa Vista	27.01	261	P	P	18 20 00.8	-1.2
BOAV				IAmb	IAmb	18 20 13.0	
	comp=Z,14nm,1.3s						
H05S1	Guadeloupe/Mar	27.46	287	T	T	18 48 50.6	
	SNR=27						
H05N1	Guadeloupe/Mar	28.12	291	T	T	18 49 38.2	
	SNR=4.8						
TORD	Torodi Ar. Bea	35.44	77	P	P	18 21 14.9	-1.4
	comp=Z,1.9nm,0.8s,baz=272,slow=8.7,SNR=5.9						
SIV	San Ignacio	35.47	229	P	P	18 21 17.3	+0.8
	comp=Z,0.5nm,0.3s,baz=90,slow=9.1,SNR=1.2						
AUA1	Aruba	36.01	281	P	P	18 21 19.4	-1.7
LPAZ	La Paz	41.19	235	P	P	18 22 05.9	+0.6
	comp=Z,0.9nm,0.5s,baz=63,slow=2.3,SNR=4.1						
DAVOX	Davos/Dischmat	54.32	36	P	P	18 23 46.2	-0.1
	comp=Z,2.2nm,0.8s,baz=273,slow=11,SNR=4.4						
GERES	GERESS Array B	57.59	35	P	P	18 24 10.5	+0.8
	comp=Z,0.4nm,0.5s,baz=262,slow=6.7,SNR=3.6						
ULM	Lac du Bonnet	66.79	322	P	P	18 25 10.8	-0.4
	comp=Z,4.3nm,0.6s,baz=81,slow=7.0,SNR=3.8						
AKASG	Malin Array Be	67.55	38	P	P	18 25 16.5	+0.5
	comp=Z,0.8nm,0.7s,baz=252,slow=6.4,SNR=4.0						
AKASG	Malin Array Be	67.55	38	IAmb	IAmb	18 25 43.0	
	comp=Z,2.4nm,1.4s						
TXAR	Lajitas Array	68.94	299	P	P	18 25 26.5	+1.2
	comp=Z,0.5nm,0.9s,baz=117,slow=6.2,SNR=3.8						
PDAR	Pinedale Array	74.67	312	P	P	18 26 00.3	+0.6
	comp=Z,0.6nm,0.6s,baz=107,slow=6.5,SNR=5.7						
YKA	Yellowknife Ar	79.39	332	P	P	18 26 25.6	+0.1
	comp=Z,0.6nm,0.8s,baz=94,slow=5.5,SNR=9.2						
INK	Inuvik	86.94	338	P	P	18 27 04.7	+0.4
	comp=Z,1.5nm,1.0s,baz=70,slow=4.9,SNR=3.1						
INK	Inuvik	86.94	338	IAmb	IAmb	18 27 09.1	
	comp=Z,13nm,1.6s						
ASAR	Alice Springs	159.83	146	PKPab	PKPab	18 34 58.4	-0.1
	comp=Z,0.4nm,0.8s,baz=197,slow=2.9,SNR=2.7						

IDC 19 18:16:26.0±1.8, 51°.88N×169°.67W, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.3/46, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=53.9km s-min=29.7km az=153.0
AEIC 19 18:16:29±3.7, 51°.93N±0°.06×169°.47W±0°.09, h18km±1km, Error ellipse: s-maj=9.6km s-min=7.6km az=140.0
NEIC 19 18:16:32.1±2.9, 52°.07N±0°.09×169°.58W±0°.09, h67km±10km, mb4.0/14, ML2.7(AEIC), Error ellipse: s-maj=13.8km s-min=7.3km az=163.0

ISC 19 18:16:30.4±1.0, 51°.94N±0°.08×169°.52W±0°.06, h30km, n44, σ1§63/47, mb3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	Concord Point,	0.85	352		Pn	18 16 46.1	-0.3
CLCO					Sb	18 16 59.0	+1.2
CLES	Cleveland East	0.91	346		Pn	18 16 46.1	-1.0
CLES	Cleveland East	0.91	346		Sb	18 17 00.8	+1.3
NIKH	Nikolski High	1.11	21		Pn	18 16 49.3	-0.5
NIKH	Nikolski High	1.11	21		Sb	18 17 06.4	+1.3
OKSP	Okmok Steeple	1.51	29		Pn	18 16 55.2	-0.3
OKWE	Okmok W'ng Wal	1.72	26		Pn	18 16 58.9	+0.6
OKFG	Magazine Ridge	1.77	33		Pn	18 16 59.3	+0.4
OKFG					Sn	18 17 22.0	+1.6
MAPS	Pakushin South	2.44	39		Pn	18 17 08.5	+0.3
MAPS					Sn	18 17 38.7	+1.8
MSW	Makushin Switc	2.58	39		Pn	18 17 10.7	+0.6
UNV	Unalaska Valle	2.64	43		Pn	18 17 11.6	+0.7
MTBL	Makushin Table	2.66	39		Pn	18 17 12.4	+1.2
ATKA	Atka Island	2.90	277		Pn	18 17 15.4	+1.1
ADK	Adak	4.43	272	Pn	Pn	18 17 37.3	+1.7
FALS	False Pass	4.68	49	Pn	Pn	18 17 41.8	+3.0
SDPT	Sand Point	6.37	54	Pn	Pn	18 18 04.3	+2.3
O18K	Koktuh Hills	11.27	40	Pn	Pn	18 19 10.8	+1.6
KDAK	Kodiak Island	11.36	52	Pn	Pn	18 19 09.7	-0.8
Q19K	Cape Douglas,	11.39	46	Pn	Pn	18 19 12.8	+1.9
CNPM	China Poot	12.77	46	Pn	Pn	18 19 29.3	-0.3
BRLK	Bradley Lake	13.04	46	Pn	Pn	18 19 33.2	-0.1
SEW	Seward	13.84	46	Pn	Pn	18 19 43.2	-1.0
PWL	Port Wells	14.68	44	Pn	Pn	18 19 53.1	-2.6
GLI	Glacier Island	15.23	45	Pn	Pn	18 20 01.2	-1.7
FID	Port Fidalgo	15.44	46	Pn	Pn	18 20 02.6	-3.3
FID				IAmb	IAmb	18 20 27.1	
	comp=Z,28nm,1.2s						
SCM	Sheep Creek Mo	15.57	42	Pn	Pn	18 20 05.9	-1.7
KLU	Klutina	16.01	44	Pn	Pn	18 20 10.6	-2.5
KLU				IAmb	IAmb	18 20 34.1	
	comp=Z,18nm,1.6s						
N25K	Chitina, Valde	16.63	45	Pn	Pn	18 20 19.4	-1.6
N25K				IAmb	IAmb	18 20 20.0	
	comp=Z,18nm,1.6s						
VRDI	Verde Repeater	16.99	47	Pn	Pn	18 20 23.7	-2.0
VRDI				IAmb	IAmb	18 20 45.3	
	comp=Z,20nm,1.6s						
ILAR	Eielson Array	17.36	34	P	Pn	18 20 29.0	-1.1
	comp=Z,0.1nm,0.3s,baz=234,slow=9.9,SNR=4.0						
G

MDT Midelt 36.57 44 P **P 18 24 18.1 -1.6**
1.6nm,0.7s,baz=250,slow=13,SNR=4.4
ROSC El Rosal 40.19 268 LR LR 18 40 11.2
comp=Z,138nm,21.9s,baz=115,slow=34
CPUP Villa Florida 41.18 213 LR LR 18 41 07.3
comp=Z,168nm,18.4s,baz=32,slow=35
LPAZ La Paz 41.67 234 P **P 18 25 01.6 -1.5**
1.2nm,0.7s,baz=256,slow=9.0,SNR=4.0
LPAZ LR LR 18 41 44.4
comp=Z,42nm,18.5s,baz=49,slow=35
LVC Limon Verde 45.94 227 LR LR 18 45 07.6
comp=Z,109nm,19.4s,baz=24,slow=36
ATAH Atahualpa 46.83 252 LR LR 18 44 32.7
comp=Z,78nm,21.4s,baz=59,slow=35
NNA Nana 47.11 245 LR LR 18 45 21.5
comp=Z,117nm,18.9s,baz=31,slow=36
TKL Tuckaleechee C 52.89 309 LR LR 18 46 44.1
comp=Z,62nm,18.8s,baz=152,slow=34
SADO Sadowa 53.32 321 LR LR 18 46 08.8
comp=Z,94nm,18.5s,baz=162,slow=33
DAVOX Davos/Dischmat 53.56 36 P **P 18 26 34.0 -0.7**
0.5nm,0.3s,baz=201,slow=8.6,SNR=1.5
DAVOX LR LR 18 47 57.4
comp=Z,105nm,18.9s,baz=256,slow=34
PLCA Paso Flores 59.24 212 LR LR 18 52 36.8
comp=Z,209nm,18.5s,baz=48,slow=36
CMIG Matias Romero 59.85 285 LR LR 18 54 15.2
comp=Z,61nm,18.1s,baz=60,slow=37
IDI Anoyia 59.97 54 LR LR 18 54 10.9
comp=Z,93nm,20.5s,baz=204,slow=37
NOA NORSAR Array B 62.36 23 LR LR 18 51 51.6
comp=Z,84nm,20.3s,baz=215,slow=33
HFS Hagfors 62.81 25 LR LR 18 52 29.9
comp=Z,62nm,20.7s,baz=238,slow=34
SUR Sutherland 66.01 131 LR LR 18 50 03.8
comp=Z,98nm,19.9s,baz=311,slow=30
AKASG Malin Array Be 66.82 38 P **P 18 28 05.3 +0.1**
0.1nm,0.4s,baz=252,slow=5.7,SNR=2.0
BRTR Keskin Array B 67.59 50 LR LR 18 58 20.3
comp=Z,52nm,19.0s,baz=234,slow=36
BOSA Boshof 67.86 125 LR LR 18 52 21.0
comp=Z,54nm,18.7s,baz=306,slow=31
TXAR Lajitas Array 68.30 298 LR LR 18 59 60.0
comp=Z,46nm,18.1s,baz=68,slow=38
FINES FINESS Array B 68.75 27 LR LR 18 55 29.3
comp=Z,76nm,21.4s,baz=237,slow=33
ANMO Albuquerque 70.95 304 LR LR 18 55 41.1
comp=Z,66nm,21.6s,baz=92,slow=32
PDAR Pinedale Array 73.84 312 P **P 18 28 49.6 +0.8**
0.1nm,0.5s,baz=77,slow=8.6,SNR=1.8
PDAR LR LR 18 59 00.9
comp=Z,56nm,18.9s,baz=92,slow=34
YKA Yellowknife Ar 78.39 332 P **P 18 29 15.3 +1.4**
0.2nm,0.8s,baz=100,slow=5.3,SNR=4.5
ASAR Alice Springs 160.78 144 PKPab **PKPab 18 37 57.8 +1.2**
0.3nm,0.8s,baz=209,slow=3.8,SNR=4.4

IDC 19 18:37:52.0±10.0, 3°.58S×142°.59E, h0km, mb2.9/2, mb1 3.1/3, mb1mx3.0/33, mbtmp2.9/3, ML3.1/1, Error ellipse: s-maj=367.8km s-min=35.2km az=93.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.15**	**206**	P	Pn	18 42 04.7	-1.0
	0.1nm,0.3s,baz=25,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**21.66**	**202**	P	P	18 42 44.8	+0.4
	0.1nm,0.6s,baz=24,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**72.86**	**321**	P	P	18 49 23.1	+0.1
	0.2nm,0.8s,baz=116,slow=6.6,SNR=1.8						

*NEIC **19** 18:44:47.4±2.4, 25°.8S±0°.1×177°.3W±0°.1, h145km±5km, mb4.5/25, Error ellipse: s-maj=18.9km s-min=18.0km az=147.0*
*IDC **19** 18:44:51.9±4.0, 25°.90S×177°.65W, h176km±34km, mb3.9/12, mb1 4.0/13, mb1mx3.8/34, mbtmp4.4/13, Error ellipse: s-maj=21.7km s-min=19.7km az=77.0*
ISC 19 18:44:49.3±0.6, 25°.80S±0°.10×177°.38W±0°.09, h161km, n60, σ1§24/54, mb4.2/22, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.08**	**331**	P	**Pn**	**18 46 59.2**	**+2.1**
	1.5nm,0.3s,baz=141,slow=15,SNR=46						
MSVF	**Nonsavu**	**9.08**	**331**		**Pn**	**18 46 58.6**	**+1.5**
NIUE	**Niue**	**9.60**	**47**	Pn	**Pn**	**18 47 01.0**	**-2.9**
AFI	**Afiamalu**	**12.95**	**25**	P	Pn	18 47 43.0	-4.6
	11nm,0.3s,baz=192,slow=0.1,SNR=6.0						
AFI				S	Sn	18 49 54.7	-16
	5.8nm,0.3s,baz=50,slow=16,SNR=2.1						
MARNC	**Mare, Loyalty**	**14.04**	**285**	P	**P**	**18 48 03.3**	**-0.9**
PINNC	**Pines Island,**	**14.21**	**280**	P	**P**	**18 48 05.9**	**-0.1**
LIFNC	**LIFOU**	**14.99**	**286**	P	**P**	**18 48 14.4**	**-0.3**
DZM	**Mont Dzumac**	**15.25**	**281**	P	**P**	**18 48 18.6**	**+1.0**
	0.2nm,0.3s,baz=76,slow=13,SNR=4.7						
DZM	**Mont Dzumac**	**15.25**	**281**	IAmb	IAmb	18 48 21.1	
	comp=Z,12nm,1.0s						
SANVU	**Saraoutou**	**17.71**	**303**	P	**Pn**	**18 48 45.9**	**-0.3**
SANVU				IAmb	IAmb	18 48 50.3	
	comp=Z,29nm,0.7s						
EIDS	**Eidsvold**	**28.42**	**264**	P	**P**	**18 50 30.6**	**+1.6**
EIDS				IAmb	IAmb	18 50 44.2	
	comp=Z,21nm,1.6s						
CTAO	**Charters Tower**	**33.90**	**272**	P	**P**	**18 51 18.0**	**+1.0**
STKA	**Stephens Creek**	**36.29**	**251**	P	**P**	**18 51 36.7**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=90,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**36.29**	**251**	IAmb	IAmb	18 51 43.7	
	comp=Z,0.9nm,1.4s						
PMG	**Port Moresby**	**37.37**	**289**	P	**P**	**18 51 46.7**	**+0.1**
	comp=Z,6.7nm,0.5s,baz=94,slow=2.2,SNR=4.0						
COEN	**Coen**	**38.78**	**280**	P	**P**	**18 51 58.7**	**+0.3**
COEN				IAmb	IAmb	18 52 00.1	
	comp=Z,8.2nm,0.8s						
BBOO	**Buckleboo**	**40.94**	**249**	P	**P**	**18 52 14.9**	**-1.2**
BBOO				IAmb	IAmb	18 52 24.7	
	comp=Z,16nm,1.5s						
ASAR	**Alice Springs**	**44.10**	**262**	P	**P**	**18 52 40.9**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=94,slow=7.4,SNR=44						
ASAR				pP	**pP**	**18 53 17.8**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=107,slow=8.9,SNR=10						
ASAR				PcP	**PcP**	**18 54 25.3**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=133,slow=3.2,SNR=1.6						
WR0	**Warramunga Arr**	**44.49**	**267**	P	**P**	**18 52 43.2**	**-1.6**
WB2	**Warramunga Arr**	**44.66**	**267**	P	**P**	**18 52 45.1**	**-1.1**
WB2				IAmb	IAmb	18 52 46.6	
	comp=Z,5.7nm,0.8s						
WRAB	**Tennant Creek**	**44.67**	**267**	P	**P**	**18 52 44.8**	**-1.5**
WRAB				IAmb	IAmb	18 52 46.9	
	comp=Z,4.4nm,0.7s						
WRA	**Warramunga Arr**	**44.67**	**267**	P	**P**	**18 52 44.4**	**-1.9**
	comp=Z,3.7nm,0.6s,baz=99,slow=6.8,SNR=67						
WRA				pP	**pwP**	**18 53 22.6**	**-2.1**
	comp=Z,3.3nm,1.0s,baz=102,slow=8.4,SNR=6.8						
WRA				PcP	**PcP**	**18 54 26.0**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=110,slow=3.6,SNR=2.1						
WRA	**Warramunga Arr**	**44.67**	**267**	P	**P**	**18 52 45.1**	**-1.3**
WB0	**Warramunga Arr**	**44.68**	**267**	P	**P**	**18 52 45.0**	**-1.3**
WB0				IAmb	IAmb	18 52 47.0	
	comp=Z,5.9nm,0.7s						
FORT	**Forrest**	**47.91**	**251**	P	**P**	**18 53 09.2**	**-2.3**
FORT				IAmb	IAmb	18 53 39.2	
	comp=Z,19nm,1.1s						
KNRA	**Kununurra**	**51.07**	**270**	P	**P**	**18 53 34.7**	**-0.8**
KNRA				IAmb	IAmb	18 53 36.8	
	comp=Z,23nm,1.4s						
FAKI	**Fak Fak**	**53.41**	**287**	P	**P**	**18 53 51.2**	**-1.6**
SIJI	**Sorong**	**55.29**	**288**	P	**P**	**18 54 05.8**	**-0.6**
	comp=Z,28nm,0.5s,baz=94,slow=6.7,SNR=42						
PSA00	**Pilbara Seismi**	**57.17**	**260**	P	**P**	**18 54 19.9**	**+0.2**
PSA00				IAmb	IAmb	18 54 24.6	
	comp=Z,4.3nm,1.4s						
QSPA	**South Pole Qui**	**64.29**	**180**	P	**P**	**18 55 08.3**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=51,slow=3.8,SNR=4.7						
QSPA	**South Pole Qui**	**64.29**	**180**	IAmb	IAmb	18 55 14.7	
	comp=Z,2.7nm,1.2s						
TOLI2	**Tolitoli**	**65.36**	**284**	P	**P**	**18 55 15.6**	**+0.9**
TOLI2				IAmb	IAmb	18 55 43.2	
	comp=Z,9.6nm,1.1s						
JAGI	**Jajag, Banyuwa**	**67.01**	**272**	P	**P**	**18 55 23.5**	**-1.8**
UGM	**Wanagama**	**70.51**	**271**	P	**P**	**18 55 45.3**	**-1.7**
LEM	**Lembang**	**73.58**	**270**	P	**P**	**18 56 04.6**	**-0.9**
	comp=Z,9.9nm,0.4s,baz=186,slow=23,SNR=3.7						
ADK	**Adak**	**77.35**	**0**	P	**P**	**18 56 25.6**	**-0.2**
UNV	**Unalaska Valle**	**79.87**	**7**	P	**P**	**18 56 39.2**	**-0.3**
PEA0B	**Petropavlovsk-**	**81.52**	**345**	P	**P**	**18 56 48.6**	**+0.3**
PETK	**Petropavlovsk-**	**81.52**	**345**	P	**P**	**18 56 49.0**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=104,slow=9.3,SNR=10						
PETK	**Petropavlovsk-**	**81.52**	**345**	P	**P**	**18 56 47.7**	**-0.7**
H03S2	**Juan Fernandez**	**82.55**	**124**	T	T	20 28 58.5	
	SNR=4.1						
H03S1	**Juan Fernandez**	**82.56**	**124**	T	T	20 28 59.9	
	SNR=4.8						
H03S3	**Juan Fernandez**	**82.57**	**124**	T	T	20 29 03.3	
	SNR=4.6						
SNAA	**Sanae**	**82.72**	**178**	P	**P**	**18 56 55.1**	**+0.5**
SNAA	**Sanae**	**82.72**	**178**	P	**P**	**18 56 54.7**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=330,slow=9.5,SNR=2.9						
SNAA	**Sanae**	**82.72**	**178**	IAmb	IAmb	18 57 02.8	
	comp=Z,10nm,1.4s						
VNA3	**Neumayer Olymp**	**82.84**	**176**	P	**P**	**18 56 55.6**	**+0.4**
VNA2	**Neumayer--Watz**	**83.28**	**177**	P	**P**	**18 56 58.2**	**+0.8**
	baz=180,slow=3.8						
PLCA	**Paso Flores**	**85.23**	**133**	P	**P**	**18 57 09.1**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=172,slow=6.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**92.41**	**289**	P	**P**	**18 57 43.2**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=144,slow=3.1,SNR=6.9						
ILAR	**Eielson Array**	**93.34**	**13**	P	**P**	**18 57 48.4**	**+3.1**
	comp=Z,0.4nm,0.8s,baz=216,slow=4.5,SNR=2.1						
ILAR	**Eielson Array**	**93.34**	**13**	P	**P**	**18 57 46.7**	**+1.4**
MKAR	**Makanchi Array**	**115.19**	**312**	PKP	**PKPdf**	**19 03 10.7**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=178,slow=1.8,SNR=4.6						
FINES	**FINESS Array B**	**140.99**	**342**	PKhKP	PKPpre	19 03 52.5	
	comp=Z,1.4nm,0.8s,baz=62,slow=4.5,SNR=5.0						
NB2	**NORSAR Subarra1**	**144.29**	**353**	PKP	**PKPab**	**19 04 04.3**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=13,slow=3.5						
NOA	**NORSAR Array B**	**144.29**	**353**	PKP	**PKPab**	**19 04 04.1**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=18,slow=2.8,SNR=9.9						
HFS	**Hagfors**	**144.84**	**350**	PKP	PKPbc	19 04 06.1	+0.2
	comp=Z,5.2nm,0.6s,baz=67,slow=4.8						
AKASG	**Malin Array Be**	**147.85**	**328**	PKPbc	**PKPbc**	**19 04 14.9**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=44,slow=4.1,SNR=14						
BRTR	**Keskin Array B**	**150.62**	**306**	PKPab	**PKPab**	**19 04 30.5**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=109,slow=5.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**167.38**	**176**	PKPab	**PKPab**	**19 05 42.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=192,slow=2.1,SNR=3.2						

IDC 19 18:46:11.7±7.2, 1°.55S×15°.15W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/42, mbtmp3.8/3, ML3.7/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/81, Error ellipse: s-maj=157.1km s-min=40.9km az=104.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.28**	**174**	T	T	18 54 23.8	
	baz=350,slow=73,SNR=54						
H10N3	**ASCENSION HYDR**	**6.29**	**174**	T	T	18 54 25.5	
	baz=350,slow=73,SNR=71						
H10N1	**ASCENSION HYDR**	**6.29**	**174**	T	T	18 54 27.5	
	baz=350,slow=73,SNR=74						
H10S3	**ASCENSION HYDR**	**7.38**	**176**	T	T	18 55 47.3	
	baz=229,slow=74,SNR=22						
H10S2	**ASCENSION HYDR**	**7.38**	**176**	T	T	18 55 46.8	
	baz=351,slow=74,SNR=6.6						
DBIC	**Dimbokro**	**13.12**	**51**	Pn	Pn	18 49 20.1	+0.6
	0.4nm,0.3s,baz=245,slow=12,SNR=5.0						
DBIC				LR	LR	18 53 29.6	
	comp=Z,166nm,18.5s,baz=232,slow=33						
TORD	**Torodi Ar. Bea**	**22.19**	**48**	P	P	18 51 09.7	-0.2
	0.9nm,0.7s,baz=230,slow=10,SNR=7.1						
MDT	**Midelt**	**35.60**	**15**	LR	LR	19 07 01.1	
	comp=Z,52nm,19.4s,baz=164,slow=35						
ESDC	**Sonseca Array**	**42.28**	**13**	LR	LR	19 11 54.1	
	comp=Z,64nm,18.3s,baz=184,slow=36						
SUR	**Sutherland**	**45.66**	**136**	LR	LR	19 11 12.9	
	comp=Z,92nm,18.2s,baz=312,slow=33						
BOSA	**Boshof**	**47.00**	**129**	P	P	18 54 45.0	-0.1
	2.7nm,0.8s,baz=312,slow=6.1,SNR=5.2						
PLCA	**Paso Flores**	**63.33**	**224**	LR	LR	19 23 42.7	
	comp=Z,68nm,18.3s,baz=160,slow=36						
NOA	**NORSAR Array B**	**65.54**	**14**	LR	LR	19 25 05.7	
	comp=Z,14nm,19.7s,baz=285,slow=36						
KBZ	**Khabaz**	**68.59**	**41**	LR	LR	19 30 46.8	
	comp=Z,27nm,18.2s,baz=208,slow=39						
KIRV	**Kirov**	**78.34**	**29**	LR	LR	19 34 29.0	
	comp=Z,40nm,18.0s,baz=224,slow=37						
ASAR	**Alice Springs**	**140.84**	**132**	PKP	PKPdf	19 05 44.5	-0.2
	0.3nm,0.8s,baz=225,slow=2.5,SNR=3.1						

*IDC **19** 18:49:59.5±0.7, 20°.55N×120°.05E, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.0/48, mbtmp4.0/18, ML4.1/2, MS3.3/7, Ms1 3.3/7, ms1mx2.9/86, Error ellipse: s-maj=23.5km s-min=13.5km az=76.0*
*NEIC **19** 18:50:02.0±2.7, 20°.66N±0°.06×119°.99E±0°.07, h16km±4km, mb4.6/58, Error ellipse: s-maj=10.6km s-min=8.3km az=129.0*
*JMA **19** 18:50:01.7±0.6, 20°.80N×120°.33E, h0km, M4.5*
*MAN **19** 18:50:03.0, 20°.41N×120°.20E, h15km, mb4.5, ML3.3, MS3.2*
ISC 19 18:50:02.6±0.4, 20°.62N±0°.03×120°.08E±0°.04, h25km, n121, σ1§67/128, mb4.5/41, MS3.3/6, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.78**	**95**	⇑iP	**Pn**	**18 50 30.7**	**-1.0**
BBP				*i* S	**Sb**	**18 50 54.0**	**-2.4**
TWG	**Pinlang**	**2.38**	**23**		**Pn**	**18 50 39.6**	**-0.4**
TWG				Sn	**Sn**	**18 51 06.9**	**-1.6**
SIPP	**Brgy, Tapao**	**2.70**	**172**	⇓iP	**Pb**	**18 50 48.4**	**-1.8**
SIPP				*e*S	Sb	18 51 33.2	+10
TPUB	**Ta-pu**	**2.72**	**11**		**Pn**	**18 50 43.6**	**-1.1**
TPUB				Sn	**Sn**	**18 51 13.2**	**-3.7**
YULB	**Yu-li**	**2.99**	**22**	Pn	**Pn**	**18 50 47.7**	**-0.7**
YULB				Sn	**Sn**	**18 51 22.5**	**-1.0**
SGCP	**Gonzaga**	**3.00**	**141**	⇑iP	**Pn**	**18 50 48.2**	**-0.4**
SSLB	**Suanglung**	**3.26**	**14**	Pn	**Pn**	**18 50 51.3**	**-0.9**
SSLB				Sn	**Sn**	**18 51 27.9**	**-2.3**
SAMP	**Sagada Mountai**	**3.60**	**167**	⇓*e*P	**Pn**	**18 50 56.4**	**-0.4**
SAMP				*e*S	**Sn**	**18 51 37.1**	**-1.5**
NACB	**Ninganchiao**	**3.81**	**21**		**Pn**	**18 50 59.8**	**+0.1**
NACB				Sn	**Sn**	**18 51 40.0**	**-3.7**
KNMB	**Chin-men Tao**	**4.14**	**338**	Pn	**Pn**	**18 51 02.5**	**-1.7**
KNMB				Sn	**Sn**	**18 51 47.0**	**-4.7**
YHNB	**Yeheng**	**4.21**	**16**	Pn	**Pn**	**18 51 06.1**	**+0.8**
YHNB				Sn	**Sn**	**18 51 53.2**	**-0.5**
SMPP	**San Manuel, Pa**	**4.48**	**173**	⇑iP	**Pn**	**18 51 08.9**	**0.0**
SMPP				*e*S	**Sn**	**18 51 59.1**	**-1.1**
TATO	**Taipei**	**4.53**	**16**	Pn	**Pn**	**18 51 09.5**	**-0.1**
JYNG	**Yonagunijimaku**	**4.65**	**34**	P	**Pn**	**18 51 11.9**	**+0.7**
JYNG				S	**Sn**	**18 52 02.9**	**-1.5**
YOJ	**Yonaguni jima**	**4.69**	**35**	P	**Pn**	**18 51 11.9**	**+0.1**
YOJ				*e*S	**Sn**	**18 52 04.1**	**-1.4**
HATJ	**Hateruma jima**	**4.86**	**45**	P	**Pn**	**18 51 14.4**	**+0.2**
HATJ				S	**Sn**	**18 52 06.9**	**-2.8**
IRIF	**Iriomote-Funau**	**5.01**	**42**	P	**Pn**	**18 51 16.9**	**+0.7**
IRIF				S	**Sn**	**18 52 10.4**	**-3.0**
JKRS	**Kuro-shima**	**5.12**	**45**	P	**Pn**	**18 51 18.4**	**+0.7**
JKRS				S	**Sn**	**18 52 14.7**	**-1.4**
JIJ	**Ishigaki jima**	**5.30**	**44**	P	**Pn**	**18 51 19.8**	**-0.3**
JIJ				S	**Sn**	**18 52 16.5**	**-3.9**
JISG	**Ishigakijimahi**	**5.56**	**44**	P	**Pn**	**18 51 23.5**	**-0.3**
JISG				S	**Sn**	**18 52 22.9**	**-4.0**
HKPS	**Hong Kong Po S**	**5.77**	**288**	Pn	**Pn**	**18 51 24.9**	**-1.7**
JTJ	**Tarama**	**5.86**	**46**	P	**Pn**	**18 51 28.1**	**+0.3**
JTJ				*e*S	**Sn**	**18 52 31.6**	**-2.6**
JIRB	**Irabujima**	**6.30**	**47**	*e*S	**Sn**	**18 52 41.5**	**-3.7**
JMJ2	**Miyako jima3**	**6.35**	**49**	S	**Sn**	**18 52 43.9**	**-2.5**
QIZ	**Qiongzhong**	**9.76**	**262**	Pn	**Pn**	**18 52 20.8**	**-0.7**
DLV	**T Lat**	**14.07**	**234**	Pn	**Pn**	**18 53 20.8**	**+0.2**
KKM	**Kota Kinabalu**	**14.96**	**195**	Pn	**Pn**	**18 53 30.1**	**-2.6**
MYLDM	**Lahad Datu**	**15.42**	**186**	Pn	**Pn**	**18 53 38.9**	**+0.4**
MYLDM				IAmb	IAmb	18 53 51.4	
	comp=Z,24nm,1.1s						
JNU	**Nakatsue**	**15.73**	**35**	Pn	**P**	**18 53 44.7**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=256,slow=5.1,SNR=7.7						
JNU	**Nakatsue**	**15.73**	**35**	Pn	**Pn**	**18 53 42.8**	**+0.2**
JNU				IAmb	IAmb	18 54 02.3	
	comp=Z,130nm,1.6s						
KSRS	**Korea Array**	**18.11**	**20**	P	**P**	**18 54 12.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=199,slow=11,SNR=10.0						
KSRS				LR	LR	19 02 56.3	
	comp=Z,87nm,18.1s,baz=205,slow=43						
TOLI2	**Tolitoli**	**19.40**	**178**	P	**P**	**18 54 25.3**	**-1.6**
SBUM	**Sibu**	**19.61**	**204**		**P**	**18 54 29.1**	**-0.1**
CHTO	**Chiang Mai**	**19.97**	**268**	P	**P**	**18 54 32.9**	**-0.3**
CM31	**Chiang Mai Arr**	**20.03**	**267**	P	**P**	**18 54 33.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**20.03**	**267**	P	**P**	**18 54 35.1**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=78,slow=8.9,SNR=13						
CMAR				LR	LR	19 03 01.8	
	comp=Z,156nm,18.4s,baz=85,slow=39						
CMAR	**Chiang Mai Arr**	**20.03**	**267**	P	**P**	**18 54 33.5**	**-0.3**
LZH	**Lanzhou**	**20.97**	**321**	*e*P	P	18 54 52.3	+8.3
LZH				pP	pwP	18 54 56.5	+2.0
KSM	**Kuching**	**21.28**	**208**	P	**P**	**18 54 45.9**	**-1.5**
JGF	**Kuroka**	**21.29**	**42**	P	**P**	**18 54 48.7**	**+1.4**
JGF				IAmb	IAmb	18 55 27.8	
	comp=Z,63nm,1.5s						
MJAR	**Matsushiro Arr**	**22.42**	**41**	P	**P**	**18 55 01.2**	**+1.7**
	comp=Z,7.1nm,0.8s,baz=245,slow=10,SNR=5.0						
MJAR	**Matsushiro Arr**	**22.42**	**41**	P	**P**	**18 55 00.1**	**+0.7**
MJAR				IAmb	IAmb	18 55 11.5	
	comp=Z,19nm,1.4s						
SIJI	**Sorong**	**24.00**	**152**	P	**P**	**18 55 16.4**	**+0.9**
	comp=Z,8.5nm,0.5s,baz=347,slow=14,SNR=8.8						
SIJI				LR	LR	19 05 52.5	
	comp=Z,34nm,19.8s,baz=149,slow=40						
KULM	**Kulim**	**24.25**	**234**	P	**P**	**18 55 16.5**	**-1.3**
KULM				IAmb	IAmb	18 55 24.7	
	comp=Z,12nm,1.1s						
IPM	**Ipoh**	**24.50**	**232**	P	**P**	**18 55 19.0**	**-1.1**
GUMO	**Guam**	**24.68**	**102**	LR	LR	19 03 00.6	
	comp=Z,34nm,21.0s,baz=336,slow=32						
USRK	**Ussuriysk Ar.**	**25.52**	**20**	P	**P**	**18 55 32.4**	**+3.3**
	comp=Z,2.0nm,0.7s,baz=158,slow=4.7,SNR=4.1						
USRK	**Ussuriysk Ar.**	**25.52**	**20**	P	**P**	**18 55 30.2**	**+1.1**
GTA	**Gaotai**	**25.56**	**322**	⇑P	P	18 55 40.8	+11
GTA				pP	pwP	18 55 49.9	+9.4
GTA				sP	sP	18 55 55.0	+16
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FAKI	**Fak Fak**	**26.26**	**152**	P	**P**	**18 55 37.5**	**+1.5**
FAKI				IAmb	IAmb	18 55 52.6	
	comp=Z,16nm,1.0s						
SONM	**Songino Array**	**29.32**	**341**	P	**P**	**18 56 04.3**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=173,slow=9.6,SNR=2.0						
ASAJ	**Asahikawa**	**30.00**	**33**	LR	LR	19 09 39.7	
	comp=Z,67nm,18.2s,baz=195,slow=39						
KLR	**Kul'dur**	**30.04**	**15**	LR	LR	19 10 32.3	
	comp=Z,112nm,19.1s,baz=198,slow=41						
MTN	**Manton Dam**	**34.98**	**161**	P	**P**	**18 56 51.4**	**-1.7**
KNRA	**Kununurra**	**37.06**	**166**	P	**P**	**18 57 09.2**	**-1.6**
KNRA				IAmb	IAmb	18 57 25.7	
	comp=Z,26nm,1.8s						
RABL	**Rabaul**	**39.99**	**124**	P	**P**	**18 57 36.0**	**+0.5**
RABL				IAmb	IAmb	18 57 40.6	
	comp=Z,11nm,0.6s						
MK31	**Makanchi Array**	**40.27**	**319**	P	**P**	**18 57 36.4**	**-1.2**
MKAR	**Makanchi Array**	**40.27**	**319**	P	**P**	**18 57 39.0**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=120,slow=9.2,SNR=9.8						
MKAR	**Makanchi Array**	**40.27**	**319**	P	**P**	**18 57 37.7**	**+0.1**
PALK	**Pallekele**	**40.32**	**257**	P	**P**	**18 57 38.5**	**+0.2**
PALK				IAmb	IAmb	18 57 44.5	
	comp=Z,14nm,1.1s						
YAK	**Yakutsk**	**41.92**	**7**	P	**P**	**18 57 51.8**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=192,slow=1.9,SNR=4.1						
YAK	**Yakutsk**	**41.92**	**7**	IAmb	IAmb	18 57 53.0	
	comp=Z,7.8nm,0.5s						
WB0	**Warramunga Arr**	**42.51**	**160**	P	**P**	**18 57 54.8**	**-1.3**
WB0				IAmb	IAmb	18 58 03.5	
	comp=Z,10nm,0.6s						
WRAB	**Tennant Creek**	**42.65**	**160**	P	**P**	**18 57 56.2**	**-1.1**
WRAB				IAmb	IAmb	18 58 05.3	
	comp=Z,8.7nm,0.7s						
WRA	**Warramunga Arr**	**42.66**	**160**	P	**P**	**18 57 56.9**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=342,slow=9.1,SNR=34						
WRA	**Warramunga Arr**	**42.66**	**160**	P	**P**	**18 57 56.7**	**-0.6**
WB2	**Warramunga Arr**	**42.66**	**160**	P	**P**	**18 57 55.8**	**-1.6**
WB2				IAmb	IAmb	18 58 05.4	
	comp=Z,12nm,0.7s						
ZAA0	**Zalesovo Array**	**42.74**	**330**	P	**P**	**18 57 56.4**	**-1.3**
ZALV	**Zalesovo Beam**	**42.74**	**330**	P	**P**	**18 57 57.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=107,slow=9.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**42.74**	**330**	P	**P**	**18 57 55.9**	**-1.7**
WR0	**Warramunga Arr**	**42.74**	**160**	P	**P**	**18 57 57.1**	**-0.9**
WR0				IAmb	IAmb	18 58 05.9	
	comp=Z,11nm,0.6s						
PEA0B	**Petropavlovsk-**	**43.40**	**32**	P	**P**	**18 58 01.4**	**-1.7**
PETK	**Petropavlovsk-**	**43.40**	**32**	LR

comp=Z,0.4nm,0.6s,baz=57,slow=4.9,SNR=4.6
YKA Yellowknife Ar 86.64 22 P P 19 02 45.0 +1.2
comp=Z,2.4nm,0.6s,baz=311,slow=4.7,SNR=43
PMAR Madeira 112.90 321 *e*T T 18 51 12.8
FUL Funchal 112.94 321 *e*T T 18 51 11.9
PMOZ Porto Moniz, M 112.99 322 *e*T T 18 51 13.5

NEIC ***19*** *19:04:42.6±2.2,36°.64N±0°.07×26°.97E±0°.06,h142km±6km, mb4.7/81,ML4.3(THE),Error ellipse: s-maj=10.2km s-min=7.0km az=167.0*
MOS ***19*** *19:04:43.9±1.0,36°.76N×26°.88E,h169km,mb4.6/16,Error ellipse: s-maj=5.4km s-min=3.5km az=89.8*
MED_RC ***19*** *19:04:43.0±0.9,36°.37N×26°.86E,h150km±4km,MW4.5/15, Moment Tensor Solution.Mantle waves: s15,c15; Duration: 1s1 Moment tensor: Scale 10^15^Nm; M_{rr}0.34±.52; $M_{\theta\theta}$-4.47±.41; $M_{\phi\phi}$4.13±.50; $M_{r\theta}$-2.19±.61; $M_{\theta\phi}$3.80±.78; $M_{r\phi}$3.43±.41; Best double couple: $M_0$7.01000×10^15^ NP1:ϕ_s155.00000°,δ90.00000°, λ-145.00000°. NP2:ϕ_{sp}65.00000°,δ55.00000°,λ0.00000°. Principal axes: T 6.6500, Plg24.0000°, Azm284.0000°; N 0.7200, Plg55.0000°, Azm155.0000°; P -7.3700, Plg24.0000°, Azm26.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
DDA ***19*** *19:04:43.6±0.0,36°.67N×26°.95E,h35km±3km,MW4.5*
ISK ***19*** *19:04:43.0,36°.72N×26°.94E,h143km,ML4.1/31*
IDC ***19*** *19:04:44.2±0.9,36°.79N×26°.84E,h150km±7km,mb4.2/27, mb1 4.2/36,mb1mx4.1/61,mbtmp4.6/36,MS3.8/2, Ms1 3.8/2,ms1mx2.5/89,Error ellipse: s-maj=12.6km s-min=7.5km az=159.0*
GII ***19*** *19:04:44.3±0.0,36°.33N×27°.19E,h20km,mb4.7/4, MD4.6/4,Mm4.8/4*
THE ***19*** *19:04:46.3,36°.65N×26°.94E,h137km±1km,ML4.4/22, Error ellipse: s-maj=1.8km s-min=0.8km az=82.0*
ISC 19 19:04:42.5±0.4,36°.67N±0°.03×26°.94E±0°.03,h146km±3km, n659,σ1§45/768,mb4.6/80,113C-166D,Fault plane solution: NP1:ϕ_s44.93443°,δ43.86668°,λ12.03554°. NP2:ϕ_{sp}306.19583°,δ81.69170°,λ133.23076°. Principal axes: T Plg37.7320°, Azm253.9580°; N Plg42.6681°, Azm118.4601°; P Plg24.0551°, Azm4.1643°;

Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KOSK	**Kos Island**	**0.09**	**21**	PG	**Pn**		**19 05 02.5**	**+0.4**
KOSK				SG	**Sn**		**19 05 16.7**	**-0.3**
NISR	**Nisiros**	**0.16**	**109**	P	**Pn**		**19 05 02.7**	**+0.5**
NISR				S	**Sn**		**19 05 17.5**	**+0.4**
	7μm,0.6s							
NIS1	**Nisyros Isl.**	**0.20**	**108**	P	**Pn**		**19 05 02.5**	**+0.2**
NIS1				S	**Sn**		**19 05 18.0**	**+0.7**
	11μm,0.7s							
NIS1	**Nisyros Isl.**	**0.20**	**108**	PG	**Pn**		**19 05 02.7**	**+0.4**
BODT	**Bodrum**	**0.50**	**37**	P	**Pn**		**19 05 03.7**	**+0.3**
BODT				S	**Sn**		**19 05 17.8**	**-1.5**
BODT	**Bodrum**	**0.50**	**37**	PG	**Pn**		**19 05 03.7**	**+0.3**
BODT				SG	**Sn**		**19 05 18.8**	**-0.5**
DAT	**Datca**	**0.52**	**83**	P	**Pn**		**19 05 04.1**	**+0.5**
DAT				S	**Sn**		**19 05 17.6**	**-2.0**
DAT	**Datca**	**0.52**	**83**	PG	**Pn**		**19 05 04.2**	**+0.6**
DAT				SG	**Sn**		**19 05 19.3**	**-0.3**
DAT	**Datca**	**0.52**	**83**	P	**Pn**		**19 05 04.2**	**+0.6**
DAT				S	**Sn**		**19 05 19.2**	**-0.4**
YKAV	**Yalikavak-Bodr**	**0.54**	**31**	PG	**Pn**		**19 05 03.9**	**+0.4**
YKAV				SG	**Sn**		**19 05 19.1**	**-0.5**
DDIM	**Aydin, Didim**	**0.83**	**17**	P	**Pn**		**19 05 06.4**	**+0.9**
DDIM				S	**Sn**		**19 05 20.8**	**-2.2**
SMG	**Samos**	**1.04**	**356**	P	**Pn**		**19 05 07.5**	**+0.2**
SMG				S	**Sn**		**19 05 24.3**	**-2.0**
	2μm,0.8s							
TURN	**Turunc**	**1.06**	**84**	PG	**Pn**		**19 05 07.9**	**+0.6**
TURN				SG	**Sn**		**19 05 25.5**	**-0.7**
TURN	**Turunc**	**1.06**	**84**	P	**Pn**		**19 05 07.9**	**+0.6**
TURN				S	**Sn**		**19 05 25.0**	**-1.2**
ARG	**Arkhangelos**	**1.06**	**115**	P	**Pn**		**19 05 08.4**	**+1.0**
ARG				S	**Sn**		**19 05 24.4**	**-1.9**
	22μm,0.4s							
ARG	**Arkhangelos**	**1.06**	**115**	PG	**Pn**		**19 05 08.3**	**+0.9**
GCAM	**G?zelcaml?**	**1.06**	**13**	PG	**Pn**		**19 05 07.9**	**+0.6**
GCAM				SG	**Sn**		**19 05 25.9**	**-0.5**
GCAM	**G?zelcaml?**	**1.06**	**13**	P	**Pn**		**19 05 08.0**	**+0.6**
GCAM				S	**Sn**		**19 05 25.4**	**-1.1**
YER	**Yerkesik**	**1.18**	**66**	P	**Pn**		**19 05 09.6**	**+1.1**
YER	**Yerkesik**	**1.18**	**66**	PN	**Pn**		**19 05 09.1**	**+0.6**
YER				SN	**Sn**		**19 05 28.0**	**-0.4**
SANT	**Santorini**	**1.23**	**257**	P	**Pn**		**19 05 09.9**	**+0.8**
SANT	**Santorini**	**1.23**	**257**	PN	**Pn**		**19 05 09.7**	**+0.7**
SANT	**Santorini**	**1.23**	**257**		**Pn**		**19 05 09.8**	**+0.8**
SANT				Sn	**Sn**		**19 05 28.9**	**-0.3**
THR2	**Thira island,**	**1.23**	**260**	P	**Pn**		**19 05 10.0**	**+1.0**
SFIR	**Foira Santorin**	**1.24**	**259**	P	**Pn**		**19 05 10.3**	**+1.2**
CMBO	**Columbo, Santo**	**1.25**	**262**	P	**Pn**		**19 05 10.2**	**+1.0**
CMBO				S	**Sn**		**19 05 28.7**	**-0.8**
	9μm,0.6s							
MULA	**Mugla, Merkez-**	**1.25**	**62**	P	**Pn**		**19 05 10.4**	**+1.1**
MULA				S	**Sn**		**19 05 28.4**	**-1.4**
STAX	**Taxiarchis Har**	**1.26**	**258**	P	**Pn**		**19 05 10.3**	**+1.0**
THR6	**Thira Island,**	**1.28**	**257**	P	**Pn**		**19 05 10.6**	**+1.1**
DGB	**zmir**	**1.39**	**358**	P	**Pn**		**19 05 10.8**	**+0.2**
DGB				S	**Sn**		**19 05 29.5**	**-2.5**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**30**	PN	**Pn**		**19 05 12.1**	**+0.3**
ZEYE	**Izmir, Urla-Ze**	**1.61**	**348**	P	**Pn**		**19 05 13.4**	**+0.5**
ZEYE				S	**Sn**		**19 05 34.2**	**-2.0**
ZKR	**Zakros**	**1.65**	**201**	P	**Pn**		**19 05 14.9**	**+1.4**
ZKR				S	**Sn**		**19 05 36.4**	**-0.7**
	13μm,0.9s							
ZKR	**Zakros**	**1.65**	**201**	PN	**Pn**		**19 05 14.9**	**+1.4**
URLA	**Izmir**	**1.71**	**351**	PN	**Pn**		**19 05 14.7**	**+0.6**
URLA	**Izmir**	**1.71**	**351**	P	**Pn**		**19 05 14.6**	**+0.5**
URLA				S	**Sn**		**19 05 37.1**	**-1.3**
FETY	**Fethiye**	**1.73**	**90**	P	**Pn**		**19 05 14.7**	**+0.5**
FETY				S	**Sn**		**19 05 38.3**	**-0.2**
FETY	**Fethiye**	**1.73**	**90**	PN	**Pn**		**19 05 14.9**	**+0.6**
FETY	**Fethiye**	**1.73**	**90**	P	**Pn**		**19 05 14.7**	**+0.5**
FETY				S	**Sn**		**19 05 37.2**	**-1.4**
NPS	**Neapolis**	**1.77**	**218**	P	**Pn**		**19 05 15.4**	**+0.7**
NPS				S	**Sn**		**19 05 38.9**	**-0.4**
	11μm,0.4s							
TAVA	**DENIZLI_Tavas**	**1.77**	**63**	P	**Pn**		**19 05 15.7**	**+0.9**
TAVA				S	**Sn**		**19 05 37.8**	**-1.7**
CHOS	**Chios island**	**1.86**	**338**	P	**Pn**		**19 05 16.5**	**+0.7**
CHOS				S	**Sn**		**19 05 41.2**	**-0.2**
	1μm,1.1s							
CHOS	**Chios island**	**1.86**	**338**	PN	**Pn**		**19 05 16.3**	**+0.5**
FRMA	**Ierapetra Chan**	**1.92**	**211**	P	**Pn**		**19 05 17.5**	**+1.1**
FRMA				S	**Sn**		**19 05 40.8**	**-1.6**
	2μm,0.5s							
CAEL	**Denizli, Camel**	**1.96**	**76**	SPECP			19 05 18.0	
CAEL				P	**Pn**		**19 05 18.1**	**+1.0**
CAEL				S	**Sn**		**19 05 41.4**	**-2.2**
HRKL	**Herakleio**	**2.01**	**228**	P	**Pn**		**19 05 18.5**	**+1.0**
HRKL				S	**Sn**		**19 05 44.5**	**+0.2**
	21μm,0.5s							
HRKL	**Herakleio**	**2.01**	**228**	PN	**Pn**		**19 05 18.9**	**+1.4**
IACM	**Heraklion**	**2.03**	**229**	P	**Pn**		**19 05 18.9**	**+1.1**
IACM				S	**Sn**		**19 05 45.2**	**+0.4**
KSTL	**Kastelli Herak**	**2.03**	**229**	P	**Pn**		**19 05 17.5**	**-0.3**
KSTL				S	**Sn**		**19 05 42.3**	**-2.5**
	3μm,0.4s							
MHLO	**Agia Marina, M**	**2.04**	**271**	P	**Pn**		**19 05 19.9**	**+2.1**
FOCM	**Foa**	**2.05**	**355**	PN	**Pn**		**19 05 17.9**	**0.0**
IDI	**Anoyia**	**2.16**	**231**	P	**Pn**		**19 05 19.9**	**+0.6**
	431nm,0.3s,baz=48,slow=10,SNR=4015							
IDI				S	**Sn**		**19 05 46.3**	**-1.3**
	1μm,0.3s,baz=311,slow=22,SNR=26							
IDI	**Anoyia**	**2.16**	**231**	P	**Pn**		**19 05 19.9**	**+0.6**
IDI				S	**Sn**		**19 05 46.1**	**-1.4**
	8μm,0.4s							
GOLH	**Golhisar**	**2.18**	**74**	SPECP			19 05 21.0	
GOLH				P	**Pn**		**19 05 21.0**	**+1.4**
GOLH				S	**Sn**		**19 05 47.3**	**-0.8**
GOMA	**Golmarmara-Man**	**2.18**	**21**	PN	**Pn**		**19 05 20.0**	**+0.5**
AKAS	**Kas**	**2.19**	**101**	PN	**Pn**		**19 05 20.6**	**+0.8**
AKAS	**Kas**	**2.19**	**101**	P	**Pn**		**19 05 19.9**	**+0.1**
AKAS				S	**Sn**		**19 05 47.3**	**-1.2**
CAND	**Candarli**	**2.29**	**357**	PN	**Pn**		**19 05 21.4**	**+0.6**
KULA	**Kula-Manisa**	**2.30**	**36**	P	**Pn**		**19 05 21.8**	**+0.8**
KULA	**Kula-Manisa**	**2.30**	**36**	PN	**Pn**		**19 05 21.5**	**+0.5**
ZEDA	**zmir-Bergama**	**2.30**	**3**	SPECP			19 05 21.0	
ZEDA				P	**Pn**		**19 05 21.2**	**+0.3**
AKHS	**Akhisar**	**2.32**	**17**	SPECP			19 05 21.0	
AKHS				P	**Pn**		**19 05 21.5**	**+0.3**
AKHS				S	**Sn**		**19 05 47.7**	**-3.3**
AKS	**Akhisar**	**2.32**	**17**	PN	**Pn**		**19 05 21.4**	**+0.2**
PRNS	**Prines Rethymn**	**2.36**	**237**	P	**Pn**		**19 05 22.7**	**+1.0**
PRNS				S	**Sn**		**19 05 51.7**	**-0.2**
	2μm,0.4s							
TMBK	**Timbaki Herakl**	**2.37**	**229**	P	**Pn**		**19 05 23.3**	**+1.4**
ELL	**Elmali**	**2.39**	**87**	PN	**Pn**		**19 05 22.7**	**+0.5**
ELL	**Elmali**	**2.39**	**87**		**Pn**		**19 05 23.4**	**+1.2**
ELL				Sn	**Sn**		**19 05 51.1**	**-1.6**
DKL	**Dikili**	**2.40**	**359**	PN	**Pn**		**19 05 22.5**	**+0.3**
KARY	**Karystos**	**2.42**	**305**	P	**Pn**		**19 05 23.6**	**+1.2**
DEMR	**Demre-Antalya**	**2.43**	**99**	PN	**Pn**		**19 05 22.9**	**+0.3**
VAM	**Vamos**	**2.55**	**241**	P	**Pn**		**19 05 24.5**	**+0.4**
USAK	**Uak-Merkez**	**2.63**	**38**	P	**Pn**		**19 05 26.1**	**+1.0**
PRK	**Paraskevi**	**2.63**	**349**	P	**Pn**		**19 05 26.8**	**+1.8**
PRK				S	**Sn**		**19 05 57.5**	**-0.3**
	2μm,1.0s							
PASA	**Karahalli, USA**	**2.63**	**50**	P	**Pn**		**19 05 26.2**	**+1.0**
PASA				S	**Sn**		**19 05 56.6**	**-1.4**
KHL	**Karahalli**	**2.64**	**50**	PN	**Pn**		**19 05 26.0**	**+0.8**
AYVA	**Ayvalik**	**2.65**	**356**	S	**Sn**		**19 05 57.1**	**-1.1**
IMMV	**Iera Moni Meta**	**2.68**	**244**	P	**Pn**		**19 05 26.6**	**+0.9**
IMMV				S	**Sn**		**19 05 58.3**	**-0.6**
	13μm,0.7s							
IMMV	**Iera Moni Meta**	**2.68**	**244**	PN	**Pn**		**19 05 27.3**	**+1.6**
SIGR	**SIGRI**	**2.68**	**342**	P	**Pn**		**19 05 26.3**	**+0.6**
SIGR				S	**Sn**		**19 05 59.6**	**+0.6**
	855nm,1.0s							
SIGR	**SIGRI**	**2.68**	**342**	PN	**Pn**		**19 05 25.6**	**-0.1**
BRDR	**BURDUR-Merkez**	**2.70**	**67**	P	**Pn**		**19 05 26.7**	**+0.8**
BRDR				S	**Sn**		**19 05 57.3**	**-2.2**
DEMI	**Demirci**	**2.76**	**30**	P	**Pn**		**19 05 27.5**	**+0.8**
DEMI				S	**Sn**		**19 05 52.7**	**-8.2**
AKUM	**Antalya-Kumluc**	**2.77**	**96**	SPECP			19 05 27.0	
AKUM				P	**Pn**		**19 05 27.4**	**+0.7**
AKUM				S	**Sn**		**19 05 57.1**	**-3.7**
VLY	**Voula,Athens**	**2.77**	**296**	P	**Pn**		**19 05 28.3**	**+1.5**
STEP	**BALIKESIR_Sava**	**2.78**	**13**	SPECP			19 05 27.0	
STEP				P	**Pn**		**19 05 27.4**	**+0.5**
STEP				S	**Sn**		**19 05 59.2**	**-2.0**
DION	**Dionisos Attik**	**2.78**	**301**	P	**Pn**		**19 05 28.4**	**+1.5**
DION				S	**Sn**		**19 06 01.5**	**+0.3**
	1μm,0.9s							
BASM	**Basmaki-Afyon**	**2.78**	**62**	PN	**Pn**		**19 05 27.7**	**+0.7**
ATHU	**Athens Univers**	**2.83**	**298**	P	**Pn**		**19 05 29.0**	**+1.5**
BUHA	**Balikesir, Bur**	**2.83**	**2**	SPECP			19 05 28.0	
BUHA				P	**Pn**		**19 05 28.7**	**+1.1**
BUHA				S	**Sn**		**19 05 59.4**	**-3.0**
KOCA	**Canakkale, Ayv**	**2.90**	**348**	P	**Pn**		**19 05 29.1**	**+0.7**
KOCA				S	**Sn**		**19 06 03.9**	**-0.1**
SIMA	**Simav-Kutahya**	**2.91**	**33**	PN	**Pn**		**19 05 29.3**	**+0.7**
SKY	**Skiros Island**	**2.91**	**320**	P	**Pn**		**19 05 29.9**	**+1.4**
KEMT	**Kemer-ANTALYA**	**2.91**	**90**	PN	**Pn**		**19 05 29.8**	**+1.3**
SMAA	**Simav-Kutahya**	**2.92**	**33**	PN	**Pn**		**19 05 29.5**	**+0.8**
GVDS	**Gavdos**	**2.94**	**233**	PN	**Pn**		**19 05 30.9**	**+1.9**
GVD	**Gavdhos**	**2.95**	**233**	PN	**Pn**		**19 05 30.6**	**+1.5**
BUCA	**Burdur, Bucak-**	**2.97**	**76**	SPECP			19 05 30.0	
BUCA				P	**Pn**		**19 05 30.7**	**+1.3**
BUCA				S	**Sn**		**19 06 03.9**	**-1.7**
ANTB	**Antalya**	**2.99**	**84**	PN	**Pn**		**19 05 30.8**	**+1.2**
KZIL	**AFYON_Kizioren**	**3.00**	**57**	P	**Pn**		**19 05 30.7**	**+0.9**
KZIL				S	**Sn**		**19 06 01.9**	**-4.6**
BCK	**Bucak**	**3.03**	**74**	PN	**Pn**		**19 05 31.1**	**+1.0**
ANKY	**Antikythira Is**	**3.04**	**256**	P	**Pn**		**19 05 31.4**	**+1.1**
BALB	**Balikesir**	**3.06**	**14**	PN	**Pn**		**19 05 31.3**	**+0.8**
BALB	**Balikesir**	**3.06**	**14**		**Pn**		**19 05 31.2**	**+0.7**
ISP	**Isparta**	**3.08**	**67**	P	**Pn**		**19 05 31.7**	**+0.9**
ISP							19 06 08.0	
ISP	**Isparta**	**3.08**	**67**	PN	**Pn**		**19 05 31.8**	**+0.9**
ISP	**Isparta**	**3.08**	**67**		**Pn**		**19 05 31.7**	**+0.9**
ISP				Sn	**Sn**		**19 06 08.0**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**3.09**	**354**	SPECP			19 05 31.0	
BAYC				P	**Pn**		**19 05 31.4**	**+0.6**
BAYC				S	**Sn**		**19 06 06.7**	**-1.5**
BALY	**Balya**	**3.12**	**10**	SPECP			19 05 31.0	
BALY				P	**Pn**		**19 05 32.0**	**+0.7**
BALY				S	**Sn**		**19 06 06.5**	**-2.5**
DURS	**Dursunbey**	**3.17**	**22**	SPECP			19 05 32.0	
DURS				P	**Pn**		**19 05 32.2**	**+0.2**
DURS				S	**Sn**		**19 06 06.0**	**-4.3**
EZN	**Ezine**	**3.19**	**351**	PN	**Pn**		**19 05 32.3**	**+0.2**
DST	**Dursunbey**	**3.22**	**24**	PN	**Pn**		**19 05 32.9**	**+0.3**
BOZC	**Bozcaada**	**3.25**	**348**	PN	**Pn**		**19 05 32.7**	**-0.1**
BOZC	**Bozcaada**	**3.25**	**348**	P	**Pn**		**19 05 33.1**	**+0.3**
AFYN	**Afyon-Dinar-K**	**3.26**	**59**	P	**Pn**		19 05 44.4	+11
AFYN				S	**Sn**		19 06 23.4	+11
BAGO	**Egridir - ISPA**	**3.34**	**66**	SPECP			19 05 35.0	
BAGO				P	**Pn**		**19 05 35.2**	**+1.0**
BAGO				S	**Sn**		**19 06 08.4**	**-5.8**
SUTC	**Sutluce-Ispart**	**3.35**	**75**	PN	**Pn**		**19 05 35.3**	**+1.0**
AFYO	**Afyonkarahisar**	**3.40**	**51**	SPECP			19 05 37.0	
AFYO				P	**Pn**		**19 05 37.0**	**+2.0**
AFYO				S	**Sn**		**19 06 13.9**	**-1.7**
TVSB	**Tavsanli**	**3.42**	**35**	PN	**Pn**		**19 05 35.9**	**+0.7**
ECEA	**Canakkale, Ece**	**3.43**	**350**	SPECP			19 05 35.0	
ECEA				P	**Pn**		**19 05 35.8**	**+0.7**
ECEA				S	**Sn**		**19 06 12.0**	**-4.0**
GONE	**Gonen-Balikesi**	**3.43**	**10**	PN	**Pn**		**19 05 35.3**	**+0.1**
SHUT	**Suhut-Afyon**	**3.43**	**56**	PN	**Pn**		**19 05 36.3**	**+0.9**
GOKA	**anakkale-Gk**	**3.61**	**347**	SPECP			19 05 38.0	
GOKA				P	**Pn**		**19 05 38.1**	**+0.6**
GADA	**Gvkgeada**	**3.61**	**347**	PN	**Pn**		**19 05 37.5**	**-0.1**
KNL	**Balıkesir**	**3.63**	**7**	P	**Pn**		**19 05 38.7**	**+0.9**
ANDZ	**Kutahya, Merke**	**3.68**	**39**	P	**Pn**		**19 05 38.7**	**+0.2**
ANDZ				S	**Sn**		**19 06 20.8**	**-1.1**
YVAC	**Isparta, Yalva**	**3.78**	**64**	SPECP			19 05 40.0	
YVAC				P	**Pn**		**19 05 40.8**	**+0.9**
YVAC				S	**Sn**		**19 06 21.8**	**-2.6**
AUKIR	**Kırka- Seyitga**	**3.85**	**46**	P	**Pn**		**19 05 43.1**	**+2.3**
ULDT	**Uludag**	**3.88**	**26**	SPECP			19 05 42.0	
ULDT				P	**Pn**		**19 05 42.1**	**+0.9**
STBT	**Saitabat**	**3.92**	**27**	SPECP			19 05 42.0	
STBT				P	**Pn**		**19 05 42.6**	**+1.1**
YYLC	**Yaylacik**	**3.92**	**22**	SPECP			19 05 41.0	
YYLC				P	**Pn**		**19 05 41.9**	**+0.3**
IGD	**Bursa**	**4.01**	**26**	SPECP			19 05 43.0	
IGD				P	**Pn**		**19 05 43.3**	**+0.6**
AVDN	**Avdancik/Bursa**	**4.02**	**25**	SPECP			19 05 43.0	
AVDN				P	**Pn**		**19 05 43.6**	**+0.7**
SART	**Tekirdag**	**4.02**	**3**	SPECP			19 05 43.0	
SART				P	**Pn**		**19 05 43.4**	**+0.4**
DOGA	**KONYA_Doganhis**	**4.03**	**68**	SPECP			19 05 44.0	
DOGA				P	**Pn**		**19 05 44.6**	**+1.4**
DOGA				S	**Sn**		**19 06 29.6**	**-0.8**
CAVK	**Edirne/Enez-Ca**	**4.07**	**352**	SPECP			19 05 44.0	
CAVK				P	**Pn**		**19 05 44.3**	**+0.8**
KESN	**Edirne-Kesan**	**4.16**	**357**	SPECP			19 05 45.0	
KESN				P	**Pn**		**19 05 45.1**	**0.0**
BILE	**Bilecik/Merkez**	**4.18**	**33**	SPECP	**P**		**19 05 46.0**	**+0.9**
BILE				P	**P**		**19 05 46.0**	**+0.9**
BILE				S	**Sn**		**19 06 31.8**	**-2.1**
SGAZ	**Eskisehir, Sey**	**4.20**	**46**	SPECP			19 05 46.0	
SGAZ				P	**Pn**		**19 05 46.6**	**+1.3**
BORA	**Eskisehir**	**4.24**	**40**	SPECP			19 05 47.0	
BORA				P	**Pn**		**19 05 47.4**	**+1.6**
ALN	**Alexandroupoli**	**4.28**	**351**	P	**Pn**		**19 05 47.1**	**+0.8**
ALN	**Alexandroupoli**	**4.28**	**351**	Pn	**Pn**		**19 05 47.1**	**+0.8**
AGG	**Agios Georgios**	**4.34**	**304**	P	**Pn**		**19 05 48.7**	**+1.6**
AGG	**Agios Georgios**	**4.34**	**304**	Pn	**Pn**		**19 05 48.7**	**+1.6**
GAZI	**Gazipasa**	**4.36**	**94**	P	**Pn**		**19 05 46.1**	**-1.2**
GAZI				S	**Sn**		**19 06 28.6**	**-9.1**
KMER	**Konya-Meram**	**4.47**	**74**	P	**Pn**		**19 05 49.7**	**+0.8**
KONT	**Konya--Tatoy**	**4.51**	**72**	SPECP			19 05 50.0	
KONT				P	**Pn**		**19 05 50.9**	**+1.5**
KDHN	**Kadinhani**	**4.51**	**64**	SPECP			19 05 50.0	
KDHN				P	**Pn**		**19 05 50.4**	**+0.9**
AUSIV	**SIVRIHISAR**	**4.57**	**51**	P	**Pn**		**19 05 51.6**	**+1.4**
GEYV	**SAKARYA_Geyve**	**4.63**	**34**	SPECP			19 05 52.0	
GEYV				P	**Pn**		**19 05 52.3**	**+1.4**
ERMK	**Ermenek**	**4.80**	**88**	SPECP	**P**		**19 05 55.0**	**+1.5**
ERMK				P	**P**		**19 05 55.0**	**+1.5**
ERMK				S	**Sn**		**19 06 47.9**	**-0.8**
KKBE	**Karaman, Kazim**	**4.84**	**82**	SPECP			19 05 54.0	
KKBE				P	**Pn**		**19 05 54.9**	**+1.0**
KKBE				S	**Sn**		**19 06 49.6**	**+0.3**
MDUB	**Mudurnu**	**5.06**	**40**	Pn	**Pn**		**19 05 58.5**	**+1.8**
LEF	**Lefka**	**5.07**	**106**	⇑P	**Pn**		**19 05 55.2**	**-1.6**
KDZ	**Kurdzhali**	**5.12**	**347**	*e*P	**Pn**		**19 05 58.2**	**+0.8**
RZN	**Rozhen**	**5.30**	**342**	*e*P	**Pn**		**19 06 01.5**	**+1.5**
CSS	**Mathiatis**	**5.46**	**106**	Pn	**Pn**		**19 06 00.9**	**-1.1**
DIM	**Dimitrovgrad**	**5.49**	**349**	*e*P	**Pn**		**19 06 03.2**	**+0.9**
MMB	**Musomiste**	**5.51**	**334**	*e*P	**Pn**		**19 06 03.9**	**+1.2**
BR231	**Keskin MP Arra**	**5.58**	**54**		**Pn**		**19 06 05.5**	**+1.8**
ANTO	**Ankara**	**5.61**	**53**	P	**Pn**		**19 06 05.8**	**+1.8**
ANTO	**Ankara**	**5.61**	**53**	Pn	**Pn**		**19 06 05.8**	**+1.8**
PLD	**Plovdiv**	**5.70**	**343**	*e*P	**Pn**		**19 06 06.6**	**+1.5**
VAY	**Valandovo**	**5.76**	**325**	*i* P	**Pn**		**19 06 07.8**	**+1.8**
VAY	**Valandovo**	**5.76**	**325**	*e*P	**Pn**		**19 06 07.2**	**+1.3**
FNA	**Florina**	**5.98**	**315**	P	**Pn**		**19 06 10.9**	**+1.9**
FNA	**Florina**	**5.98**	**315**	Pn	**Pn**		**19 06 10.9**	**+1.9**
BR131	**Keskin Array S**	**6.10**	**58**	*i* P	**Pn**		**19 06 11.8**	**+1.2**
BR131	**Keskin Array S**	**6.10**	**58**		**Pn**		**19 06 12.4**	**+1.8**
BRTR	**Keskin Array B**	**6.10**	**58**	P	**Pn**		**19 06 12.7**	**+2.1**
	4.5nm,0.3s,baz=215,slow=16,SNR=63							
BRTR				S	**Sn**		**19 07 21.6**	**+2.2**
	2.0nm,0.3s,baz=238,slow=23,SNR=7.9							
BRTR	**Keskin Array B**	**6.10**	**58**	*i* P	**Pn**		**19 06 12.6**	**+2.0**
BRTR				pmax	pmax			
	comp=Z,33nm,0.6s							
BRTR	**Keskin Array B**	**6.10**	**58**	Pn	**Pn**		**19 06 11.9**	**+1.4**
KBN	**Korca**	**6.23**	**311**	P	**Pn**		**19 06 14.2**	**+2.0**
KBN	**Korca**	**6.23**	**311**		**Pn**		**19 06 14.2**	**+2.0**
STIP	**Stip**	**6.23**	**325**	*i* P	**Pn**		**19 06 13.0**	**+0.8**
OHR	**Ohrid**	**6.53**	**315**	*i* P	**Pn**		**19 06 19.0**	**+2.7**
PRD	**Provadia**	**6.54**	**3**	*e*P	**Pn**		**19 06 16.2**	**-0.1**
VTS	**Vitosha**	**6.60**	**335**	⇓P	**Pn**		**19 06 16.8**	**-0.4**
VTS	**Vitosha**	**6.60**	**335**	P	**Pn**		**19 06 18.6**	**+1.4**
VTS	**Vitosha**	**6.60**	**335**	Pn	**Pn**		**19 06 18.6**	**+1.4**
VTS	**Vitosha**	**6.60**	**335**	*e*P	**Pn**		**19 06 18.6**	**+1.4**
VTS	**Vitosha**	**6.60**	**335**	*e*P	**Pn**		**19 06 18.4**	**+1.2**
SZH	**Strazhica**	**6.64**	**354**	*e*P	**Pn**		**19 06 17.8**	**+0.2**
BOSS	**Bosilegrad**	**6.76**	**331**	*e*P	**Pn**		**19 06 21.2**	**+1.9**
SKO	**Skopje**	**6.80**	**323**	*i* P	**Pn**		**19 06 24.5**	**+4.7**
KALB	**Balgarevo**	**6.83**	**9**	⇓P	**Pn**		**19 06 20.6**	**+0.4**
RAZG	**Razgrad**	**6.90**	**357**	⇓P	**Pn**		**19 06 21.4**	**+0.3**
PRVS	**Prvonek**	**6.94**	**329**	*e*P	**Pn**		**19 06 22.9**	**+1.2**
VLO	**Vlora**	**6.96**	**305**	P	**Pn**		**19 06 23.3**	**+1.4**
VLO	**Vlora**	**6.96**	**305**		**Pn**		**19 06 23.2**	**+1.4**
TIR	**Tirane**	**7.22**	**312**	P	**Pn**		**19 06 26.7**	**+1.2**
TIR	**Tirane**	**7.22**	**312**		**Pn**		**19 06 26.7**	**+1.2**
BARS	**Barje**	**7.30**	**329**	*e*P	**Pn**		**19 06 28.3**	**+1.8**
ZAPS	**Zavoj**	**7.38**

VAE S **Sn** **19 08 47.5 -6.8**
comp=N,28nm,0.3s,baz=166,slow=9.3,SNR=8.2
FRGS Fruska Gora 10.05 330 *e*Pn **Pn** **19 07 02.8 -0.4**
FRGS Fruska Gora 10.05 330 *e*P **Pn** **19 07 03.4 +0.2**
SGRT San Giovanni R 10.06 304 Pn **Pn** **19 07 02.1 -1.3**
RAFF Raffo Rosso 10.08 277 **Pn** **19 07 01.9 -1.8**
MILM Milestii Mici 10.34 7 *e*P **Pn** **19 07 10.0 +3.0**
comp=N,80nm,1.2s
MILM pmax pmax
MILM Milestii Mici 10.34 7 *e*P **Pn** **19 07 10.0 +3.0**
comp=Z,80nm,1.2s
PAOL Paolisi 10.59 298 **Pn** **19 07 09.8 -0.6**
DRGR 10.60 344 ⇑P **Pn** **19 07 10.8 +0.3**
MGRS Mrkonjic Grad 10.77 319 *e*Pn **Pn** **19 07 12.8 +0.1**
CORL Corleone 10.93 281 **Pn** **19 07 14.3 -0.6**
BLY Banja Luka 10.95 321 *e*Pn **Pn** **19 07 14.7 -0.3**
CLTB Caltabellotta 11.00 279 Pn **Pn** **19 07 16.6 +0.8**
BURAR Bucovina Array 11.02 354 ⇑P **Pn** **19 07 17.4 +1.4**
BURAR Bucovina Array 11.02 354 **Pn** **19 07 16.6 +0.6**
BUR08 Bucovina Ar. S 11.05 354 Pn **Pn** **19 07 17.1 +0.7**
MRAK Mrakovica 11.28 321 *e*Pn **Pn** **19 07 18.8 -0.6**
MORH Mrgy, Hungar 11.38 330 ⇑P **Pn** **19 07 22.1 +1.4**
MORH Mrgy, Hungar 11.38 330 *e*Pn **Pn** **19 07 21.2 +0.5**
MORH Mrgy, Hungar 11.38 330 PN **Pn** **19 07 21.6 +0.9**
SORM Soroca 11.51 5 ⇑P **Pn** **19 07 22.4 0.0**
KOVH Kovagotottos 11.51 328 PN **Pn** **19 07 22.4 0.0**
AQU L'Aquila 11.89 303 P **Pn** **19 07 29.1 +1.6**
AQU L'Aquila 11.89 303 *e*Pn **Pn** **19 07 30.3 +2.8**
AQU L'Aquila 11.89 303 Pn **Pn** **19 07 29.1 +1.6**
TIH Tihany 12.24 329 PN **P** **19 07 35.3 -2.9**
TIH Tihany 12.24 329 P **P** **19 07 41.9 +3.6**
NRCA Norcia 12.29 304 **Pn** **19 07 32.5 -0.2**
PSZ Piszkesteto 12.39 337 ⇓P **Pn** **19 07 35.9 +2.0**
PSZ Piszkesteto 12.39 337 P **P** **19 07 38.7 -1.2**
PSZ Piszkesteto 12.39 337 Pn **P** **19 07 38.7 -1.2**
PSZ Piszkesteto 12.39 337 P **P** **19 07 41.2 +1.2**
SIRT Sirnak 12.41 81 Pn **Pn** **19 07 35.4 +1.1**
UZH Uzhgorod 12.43 346 *e*P **Pn** **19 07 35.0 +0.6**
BOJS Bojanci 12.47 319 *i* Pn **Pn** **19 07 34.5 -0.4**
BOJS *i* P **P** **19 07 38.7 -2.0**
CRES Cresnjev 12.57 320 *e*Pn **Pn** **19 07 35.6 -0.7**
MPLH Magyarpolny 12.61 329 PN **Pn** **19 07 36.3 -0.4**
GBRS Gornja Briga 12.72 318 *i* Pn **Pn** **19 07 38.2 0.0**
SRO2 Moca 12.76 333 *e*P **P** **19 07 45.4 +1.4**
SRO2 Moca 12.76 333 *e*P **P** **19 07 45.4 +1.4**
SRO Srobarova 12.83 333 *e*P **P** **19 07 47.1 +2.3**
SRO Srobarova 12.83 333 *e*P **P** **19 07 47.1 +2.3**
MURB Monte Urbino 12.86 305 **Pn** **19 07 40.7 +0.6**
CEY Cerknica 13.06 318 *e*Pn **Pn** **19 07 41.5 -1.0**
CEY Cerknica 13.06 318 *i* Pn **Pn** **19 07 44.0 +1.4**
CEY *i* P **P** **19 07 46.0 -1.4**
LJU Ljubljana 13.20 319 *e*Pn **Pn** **19 07 44.5 +0.2**
KARS Kars 13.22 68 P **P** **19 07 50.0 +0.6**
KARS Kars 13.22 68 **P** **19 07 50.0 +0.6**
VYHS Vyhne 13.23 336 *e*P **P** **19 07 51.5 +2.2**
VYHS Vyhne 13.23 336 *e*P **P** **19 07 51.5 +2.2**
LVV L'vov 13.32 352 *e*P **P** **19 07 51.3 +1.1**
KWP Kalwaria Pacla 13.32 348 P **P** **19 07 49.7 -0.5**
KWP Kalwaria Pacla 13.32 348 P **P** **19 07 49.7 -0.5**
SOKA Soboth 13.37 322 *i* Pn **Pn** **19 07 48.2 +1.6**
comp=Z,5.9nm,0.6s,SNR=17
KOLL Kolacno 13.45 335 *e*P **P** **19 07 54.0 +2.3**
OBKA Obir 13.50 321 *i* Pn **Pn** **19 07 49.9 +1.7**
comp=Z,9.9nm,0.5s,SNR=11
ARSA Arzberg 13.55 325 *e*Pn **P** **19 07 51.1 -1.7**
comp=Z,3.6nm,0.6s
MODS Modra-Piesok 13.68 332 *e*P **P** **19 07 57.0 +2.7**
MODS Modra-Piesok 13.68 332 *e*P **P** **19 07 57.0 +2.7**
SMOL Smolenice 13.74 332 *e*P **P** **19 07 56.4 +1.5**
SMOL Smolenice 13.74 332 *e*P **P** **19 07 56.4 +1.5**
NEY Neytrino 13.77 57 *i* P **Pn** **19 07 53.1 +1.4**
CASP Castiglione de 13.79 301 **Pn** **19 07 51.8 -0.1**
OSSC Osservatorio P 13.82 305 P **Pn** **19 07 51.1 -1.1**
CONA Conrad Observa 13.91 327 *e*Pn **Pn** **19 07 54.4 +1.0**
comp=Z,1.5nm,0.5s
SHA1 Shidzhatmaz 13.93 55 *i* P **P** **19 07 55.9 -1.3**
JAVC Velka Javorina 13.94 334 *e*P **P** **19 08 00.4 +3.2**
ONI Oni 14.03 60 P **Pn** **19 07 55.8 +0.8**
ONI Oni 14.03 60 **Pn** **19 07 55.8 +0.8**
KIV Kislovodsk 14.04 54 ⇓P **P** **19 08 00.1 +1.8**
KIV Kislovodsk 14.04 54 *e*P **P** **19 07 59.0 +0.7**
KIV pmax pmax
comp=Z,51nm,1.0s
KIV Kislovodsk 14.04 54 **P** **19 07 59.6 +1.3**
KVAR Kislovodsk Arr 14.04 54 P **P** **19 08 01.5 +3.1**
baz=90,slow=23,SNR=8.0
MYKA Terra Mystica 14.05 319 *e*Pn **Pn** **19 07 56.4 +1.2**
comp=Z,6.5nm,0.6s
KBZ Khabaz 14.08 55 P **P** **19 07 58.4 -0.2**
comp=Z,2.1nm,0.3s,baz=249,slow=5.8,SNR=43
KBZ Khabaz 14.08 55 *ce*P **P** **19 07 57.8 -0.9**
VSL Villasalto 14.12 287 P **Pn** **19 07 56.7 +0.6**
AKASG Malin Array Be 14.13 6 P **Pn** **19 07 55.7 -0.3**
comp=Z,3.6nm,0.3s,baz=195,slow=11,SNR=85
AKASG ScP **ScP** **19 16 23.1 -0.8**
comp=Z,0.7nm,0.3s,baz=164,slow=1.1,SNR=9.1
AKASG Malin Array Be 14.13 6 **Pn** **19 07 54.9 -1.1**
AKBB Malin Array Si 14.13 6 *ce*P **Pn** **19 07 56.1 +0.1**
AKBB Malin Array Si 14.13 6 **Pn** **19 07 54.7 -1.3**
KEST Kesra 14.24 271 P **P** **19 07 59.3 -1.4**
comp=Z,0.6nm,0.3s,baz=102,slow=2.5,SNR=10
KEST S **Sn** **19 10 28.4 -7.0**
comp=Z,0.8nm,0.3s,baz=76,slow=22,SNR=10
KEST Kesra 14.24 271 P **Pn** **19 07 56.8 -0.9**
STAL STALIGIAL 14.32 316 **Pn** **19 07 58.0 -0.6**
PYA1 Pyatigorsk 14.35 54 *i* P **P** **19 08 01.4 -0.3**
ZCCA Zocca 14.35 307 P **Pn** **19 07 59.8 +0.8**
GNI Garni 14.39 71 P **P** **19 08 02.8 +0.5**
comp=Z,0.6nm,0.3s,baz=28,slow=21,SNR=4.1
TEOL Teolo 14.41 312 **Pn** **19 07 58.9 -0.9**
OJC Ojcow 14.50 341 *e*P **P** **19 08 06.7 +3.4**
OJC *e*S **S** **19 10 51.3 +1.2**
OJC Ojcow 14.50 341 P **P** **19 08 02.1 -1.2**
OJC Ojcow 14.50 341 **P** **19 08 02.1 -1.2**
KBA Koelnbreinsper 14.50 320 *i* Pn **P** **19 08 02.4 -1.1**
comp=Z,20nm,0.6s,SNR=11
MOA Molln 14.57 324 *e*Pn **P** **19 08 05.5 +1.4**
comp=Z,3.3nm,0.4s
KRUC Moravsky 14.58 331 *e*P **P** **19 08 05.0 +0.8**
VLC Villacollemand 14.65 306 P **Pn** **19 08 01.9 -0.7**
VRAC Vranov 14.71 332 ⇓P **P** **19 08 06.9 +1.2**
VRAC Vranov 14.71 332 P **P** **19 08 06.2 +0.5**
comp=Z,1.4nm,0.3s,baz=145,slow=11,SNR=14
VRAC Vranov 14.71 332 *e*P **P** **19 08 07.3 +1.6**
ABTA Abfaltersbach 14.73 318 *i* Pn **Pn** **19 08 04.4 +0.7**
comp=Z,8.6nm,0.8s,SNR=16
MORC Moravsky Berou 14.77 335 P **Pn** **19 08 04.8 +0.7**
MORC Moravsky Berou 14.77 335 *e*P **P** **19 08 08.0 +1.6**
MORC Moravsky Berou 14.77 335 P **Pn** **19 08 04.8 +0.7**
GOF Gofitskoye 14.77 50 ⇑*e*P **P** **19 08 05.5 -0.9**
GOF pmax pmax
comp=Z,35nm,0.7s
CTI Castel Tesino 14.80 314 P **Pn** **19 08 03.7 -0.9**
CTI Castel Tesino 14.80 314 **Pn** **19 08 03.7 -0.9**
PRMA PARMA 14.96 308 P **Pn** **19 08 06.6 +0.1**
TREC Trest 15.13 330 *e*P **P** **19 08 11.9 +1.6**
TREC Trest 15.13 330 *e*P **P** **19 08 11.9 +1.6**
SALO Salr 15.24 311 P **Pn** **19 08 09.8 -0.2**
SALO IAmb IAmb 19 08 19.5
comp=Z,40nm,0.8s
CKRC Cesky Krumlov 15.26 327 *e*P **P** **19 08 12.9 +1.1**
MSSA Maissana 15.28 305 P **Pn** **19 08 09.8 -0.8**
KRLC Kraliky 15.28 334 *e*P **P** **19 08 14.5 +2.5**
KRLC Kraliky 15.28 334 *e*P **P** **19 08 14.5 +2.5**
WTTA Wattenberg 15.52 318 *i* Pn **P** **19 08 16.4 +1.6**
comp=Z,12nm,0.9s,SNR=7.3
GEC2 GERESS Array S 15.55 326 *e*P **P** **19 08 15.5 +0.5**
comp=Z,14nm,1.1s,baz=133,slow=11
GEC2 GERESS Array S 15.55 326 P **Pn** **19 08 13.9 0.0**
GERES GERESS Array B 15.55 326 P **P** **19 08 15.4 +0.3**
comp=Z,1.2nm,0.3s,baz=140,slow=13,SNR=38
GERES ScP **ScP** **19 16 26.1 -0.7**
comp=Z,0.3nm,0.3s,baz=143,slow=2.8,SNR=10
GERES GERESS Array B 15.55 326 P **Pn** **19 08 14.3 +0.4**
GERES GERESS Array B 15.55 326 **Pn** **19 08 14.3 +0.4**
GERES **ScP** **19 16 25.3 -1.4**
WATA Walderalm 15.59 318 *i* Pn **P** **19 08 17.2 +1.6**
comp=Z,8.5nm,0.5s,SNR=12
DPC Dobruska-Polom 15.67 334 *e*P **P** **19 08 17.0 +0.6**
DPC Dobruska-Polom 15.67 334 *e*P **P** **19 08 17.0 +0.6**
SQTA Sankt Quirin 15.72 317 *i* Pn **P** **19 08 18.8 +1.8**
comp=Z,12nm,0.5s,SNR=9.9

KHC Kasperske Hory 15.81 326 *i* P **P** **19 08 17.7 -0.2**
KHC Kasperske Hory 15.81 326 *e*P **P** **19 08 18.7 +0.8**
KHC *ex* x 19 08 42.0
KHC Kasperske Hory 15.81 326 P **Pn** **19 08 17.1 0.0**
MOTA Moosalm 15.86 317 *i* Pn **P** **19 08 19.9 +1.4**
comp=Z,16nm,0.7s,SNR=9.8
FETA Feichten 15.87 316 *i* Pn **P** **19 08 19.7 +1.0**
comp=Z,36nm,0.6s,SNR=22
OSTC Ostas 15.88 334 *e*P **P** **19 08 19.2 +0.5**
UPC Upice 15.91 334 *e*P **P** **19 08 21.8 +2.8**
UPC Upice 15.91 334 *e*P **P** **19 08 21.8 +2.8**
CHVC Chvalec 15.97 334 *e*P **P** **19 08 21.9 +2.3**
PRU Pruhonice 16.05 330 *e*P **P** **19 08 22.7 +2.2**
PRU Pruhonice 16.05 330 *e*P **P** **19 08 22.7 +2.2**
RETA Reutte 16.13 317 *e*Pn **P** **19 08 22.4 +0.9**
comp=Z,1.6nm,0.2s
WET Wettzell 16.14 325 *e*P **P** **19 08 22.2 +0.6**
comp=Z,15nm,1.2s,baz=133,slow=11
DAVOX Davos/Dischmat 16.23 314 P **P** **19 08 24.5 +1.8**
comp=Z,0.9nm,0.3s,baz=148,slow=17,SNR=20
FUR Furstenfeldbru 16.27 320 *e*P **P** **19 08 23.5 +0.6**
comp=Z,39nm,1.2s,baz=133,slow=11
TUE Stuetta 16.38 312 P **Pn** **19 08 23.0 -1.2**
TUE IAmb IAmb 19 08 40.9
comp=Z,34nm,0.7s
PVCC Panska Ves 16.47 331 *e*P **P** **19 08 28.4 +3.3**
PVCC Panska Ves 16.47 331 *e*P **P** **19 08 28.4 +3.3**
DAVA Damuels 16.50 315 *i* Pn **P** **19 08 26.6 +1.0**
comp=Z,24nm,0.4s,SNR=18
UBR Ueberruh 16.60 317 *e*P **Pn** **19 08 27.7 +1.0**
comp=Z,326nm,2.7s,baz=133,slow=11
VORD Divnogorie 16.81 28 *e*P **Pn** **19 08 30.0 +0.9**
VORD pmax pmax
comp=Z,60nm,0.6s
VSR Storozhevoye 16.97 27 *e*P **Pn** **19 08 31.1 +0.1**
VSR pmax pmax
comp=Z,20nm,0.6s
BRG Berggiesshubel 16.98 331 *e*P **Pn** **19 08 33.1 +1.9**
BRG Amp 19 08 36.5
comp=Z,4.7nm,0.9s
BRG Berggiesshubel 16.98 331 *e*P **Pn** **19 08 33.1 +1.9**
BRG pmax pmax
comp=Z,5.0nm,1.0s
MANZ Manzenberg 17.09 326 *e*P **Pn** **19 08 33.6 +1.0**
comp=Z,4.6nm,1.2s,baz=133,slow=11
NKC Novy Kostel 17.12 327 *e*P **Pn** **19 08 33.9 +1.0**
NKC Novy Kostel 17.12 327 *e*P **Pn** **19 08 33.9 +1.0**
WERN Wernitzgruen 17.19 327 *e*P **Pn** **19 08 35.1 +1.3**
comp=Z,16nm,1.2s,baz=133,slow=11
TANN Tannenbergstha 17.25 327 *e*P **Pn** **19 08 35.1 +0.6**
comp=Z,14nm,1.3s,baz=133,slow=11
GRA1 Grafenberg Arr 17.30 324 P **P** **19 08 34.4 +0.1**
GRF Grafenberg Arr 17.30 324 P **P** **19 08 34.4 +0.1**
GRF pmax pmax
comp=Z,14nm,1.0s
GRF Grafenberg Arr 17.30 324 *e*P **P** **19 08 34.4 +0.1**
comp=Z,16nm,1.0s,baz=133,slow=11
GRF *e*L L 19 14 18.3
comp=Z,70nm,19.2s
GRFO Grafenberg 17.30 324 P **P** **19 08 33.9 -0.4**
GRFO pmax pmax
comp=Z,14nm,1.0s
GRFO Grafenberg 17.30 324 P **P** **19 08 33.9 -0.4**
PLN Plauen 17.43 327 *e*P **Pn** **19 08 37.4 +0.8**
comp=Z,15nm,0.7s,baz=133,slow=11
BNI Bardonecchia 17.43 305 P **Pn** **19 08 36.6 -0.3**
BNI pmax pmax
comp=Z,67nm,1.6s
BNI Bardonecchia 17.43 305 **Pn** **19 08 36.5 -0.3**
BNI IAmb IAmb 19 08 42.9
comp=Z,67nm,1.6s
SUW Suwalki 17.54 353 *e*P **Pn** **19 08 37.4 -0.5**
SUW *e*S S 19 11 40.2 -12
SUW Suwalki 17.54 353 P **P** **19 08 35.8 -1.0**
SUW pmax pmax
comp=Z,58nm,0.8s
SUW Suwalki 17.54 353 *e*P **Pn** **19 08 37.4 -0.5**
SUW Suwalki 17.54 353 P **P** **19 08 35.8 -1.0**
SUW IAmb IAmb 19 08 39.4
comp=Z,58nm,0.8s
SENIN Lac Senin/Sane 17.57 310 P **P** **19 08 37.6 +0.1**
CLL Collm 17.70 330 ⇓*i*P **Pn** **19 08 39.9 +0.1**
CLL pmax pmax
comp=Z,12nm,0.6s
CLL Collm 17.70 330 ⇓*i*P **Pn** **19 08 39.9 +0.1**
comp=Z,12nm,0.6s
CLL *i* x x 19 08 42.7
CLL *ex* x 19 08 51.0
CLL Collm 17.70 330 *e*P **Pn** **19 08 39.9 +0.1**
comp=Z,12nm,0.7s,baz=133,slow=11
CLL Collm 17.70 330 P **P** **19 08 38.3 -0.3**
STU Stuttgart 17.73 319 P **P** **19 08 39.0 0.0**
STU pmax pmax
comp=Z,38nm,0.7s
STU Stuttgart 17.73 319 *e*P **Pn** **19 08 41.3 +1.0**
comp=Z,107nm,0.7s,baz=133,slow=11
STU Stuttgart 17.73 319 P **P** **19 08 39.0 0.0**
STU IAmb IAmb 19 08 42.0
comp=Z,38nm,0.7s
MOX Moxa 17.79 327 *e*L L 19 15 17.6
comp=Z,24nm,18.6s
MNK Minsk 17.85 2 *i* P **P** **19 08 39.2 -1.0**
MNK *i* S **S** **19 11 56.1 -1.6**
MNK pmax pmax
comp=Z,59nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,63nm,1.0s
MNK MLR MLR
comp=E,6.0nm,14.0s
MNK MLR MLR
comp=Z,60nm,16.0s
MNK MLR MLR
comp=N,145nm,20.0s
MNK Minsk 17.85 2 *i* P **P** **19 08 39.3 -0.9**
comp=E,4.0nm,0.9s
MNK *i* P **P** **19 08 39.3 -0.9**
comp=N,63nm,1.0s
MNK *i* P **P** **19 08 39.3 -0.9**
comp=Z,59nm,0.8s,baz=3.0
MNK *i* pP **pP** **19 09 03.3 -2.2**
MNK *i* S **S** **19 11 56.1 -1.6**
MNK *i* LRM MLR 19 16 42.0
comp=E,6.0nm,13.8s
MNK *i* LRM MLR 19 16 52.3
comp=Z,60nm,16.4s
MNK *i* LRM MLR 19 17 17.2
comp=N,145nm,19.8s
GKP Gorka Klasztor 17.94 341 *e*P **Pn** **19 08 43.5 +1.0**
GKP Gorka Klasztor 17.94 341 *e*P **Pn** **19 08 43.6 +1.0**
BFO Black Forest 17.95 316 P **P** **19 08 41.6 +0.2**
BFO pmax pmax
comp=Z,15nm,0.6s
BFO Black Forest 17.95 316 *e*P **Pn** **19 08 43.8 +0.9**
comp=Z,17nm,0.6s,baz=133,slow=11
BFO Black Forest 17.95 316 **P** **19 08 41.6 +0.2**
BFO IAmb IAmb 19 08 45.1
comp=Z,16nm,0.6s
VRH Novokhopyorsk 17.96 31 *e*P **Pn** **19 08 42.6 -0.3**
VRH pmax pmax
comp=Z,60nm,0.6s
LPSR Galich'ya Gora 18.03 24 *e*P **P** **19 08 42.8 +0.6**
LPSR pmax pmax
comp=Z,100nm,0.9s
NACGM Naroch 18.24 360 *i* P **P** **19 08 42.6 -1.9**
ECH Echery 18.55 315 P **P** **19 08 47.7 -0.3**
ECH pmax pmax
comp=Z,24nm,1.3s
ECH Echery 18.55 315 P **P** **19 08 47.7 -0.3**
IDID Didziasalis 18.65 360 *e*P **P** **19 08 49.5 +0.6**
IDID IAmb IAmb 19 09 00.0
comp=Z,4.3nm,0.5s
IIGN Ignalina 18.70 359 *e*P **P** **19 08 50.1 +0.6**
IIGN IAmb IAmb 19 08 54.1
comp=Z,6.6nm,0.6s
SSB Saint Sauveur 18.93 304 P **P** **19 08 50.6 -1.5**
SSB pmax pmax
comp=Z,15nm,1.0s
SSB Saint Sauveur 18.93 304 P **P** **19 08 50.6 -1.5**
PABE Paberze 18.95 355 *e*P **P** **19 08 52.7 +0.5**
PABE Paberze 18.95 355 P **P** **19 08 51.2 -1.0**
TNS Taunus Mts 19.00 321 *e*P **P** **19 08 53.6 +0.7**
comp=Z,18nm,0.7s,baz=133,slow=11
GTTG Gottingen 19.16 326 *e*P **P** **19 08 55.6 +1.1**
comp=Z,34nm,1.1s,baz=133,slow=11
OBN Obninsk 19.60 17 P **P** **19 08 59.3 +0.2**
comp=Z,1.5nm,0.3s,baz=39,slow=5.3,SNR=6.8
OBN Obninsk 19.60 17 *d i*P **P** **19 08 58.6 -0.5**
OBN pmax pmax
comp=Z,74nm,1.0s
OBN Obninsk 19.60 17 P **P** **19 08 58.1 -1.0**
OBN IAmb IAmb 19 09 02.8
comp=Z,53nm,0.8s
WLF Walferdange 19.88 317 P **P** **19 09 02.0 -0.3**
WLF pmax pmax
comp=Z,14nm,0.8s
WLF Walferdange 19.88 317 P **P** **19 09 02.0 -0.3**
WLF Walferdange 19.88 317 P **P** **19 09 03.3 +1.0**
comp=Z,13nm,0.8s
BHOU Houvegnez 20.34 319 P **P** **19 09 08.8 +1.6**
comp=Z,11nm,0.8s
BTNL Ternell 20.41 320 P **P** **19 09 09.3 +1.3**
comp=Z,8.1nm,0.7s
MOS Moscow 20.42 17 *e*P **P** **19 09 06.0 -1.9**
MOS *e* 19 09 56.3
MOS pmax pmax
comp=Z,41nm,0.7s
MEM Membach 20.49 319 P **P** **19 09 09.9 +1.1**
comp=Z,12nm,0.8s
RCHB Rochefort 20.65 318 P **P** **19 09 10.7 +0.2**
comp=Z,10nm,0.7s
RAYN Ar Rayn 20.68 124 P **P** **19 09 10.7 -0.5**
RAYN pmax pmax
comp=Z,4.0nm,1.1s
RAYN Ar Rayn 20.68 124 P **P** **19 09 10.7 -0.5**
BSTI Sart Tilman 20.70 319 P **P** **19 09 12.5 +1.4**
BCLA Clavier 20.75 318 P **P** **19 09 11.6 -0.1**
comp=Z,23nm,0.8s
BGES Gesves 20.85 318 P **P** **19 09 13.4 +0.8**
comp=Z,19nm,0.9s
DOU Dourbes 20.97 317 P **P** **19 09 14.1 +0.2**
comp=Z,17nm,0.6s
BMRD Maredsous 20.98 317 P **P** **19 09 14.2 +0.2**
comp=Z,10nm,0.8s
SNF Seneffe 21.35 318 P **P** **19 09 18.2 +0.2**
comp=Z,17nm,0.7s
CLF Chambon-Foret 21.39 310 P **P** **19 09 18.2 -0.2**
CLF IAmb IAmb 19 09 22.2
comp=Z,40nm,1.0s
BELG Belogornoye 21.44 36 P **P** **19 09 19.4 +0.5**
comp=Z,27nm,0.4s,baz=271,slow=1.8,SNR=60
BELG ScP **ScP** **19 16 39.1 -0.3**
comp=Z,5.6nm,0.7s,baz=280,slow=5.1,SNR=4.4
VSU Vasula 21.81 360 *e*P **P** **19 09 22.9 +0.1**
ESBB Sonseca Array 24.42 287 P **P** **19 09 46.8 -0.8**
ESBB IAmb IAmb 19 09 49.6
comp=Z,20nm,0.7s
ESDC Sonseca Array 24.42 287 P **P** **19 09 48.7 +1.2**
comp=Z,20nm,0.6s,baz=82,slow=9.3,SNR=185
ESDC ScP **ScP** **19 16 47.9 +0.2**
comp=Z,0.9nm,1.1s,baz=42,slow=2.1,SNR=5.0
ESDC Sonseca Array 24.42 287 P **P** **19 09 47.8 +0.2**
PAB San Pablo 24.72 286 P **P** **19 09 49.7 -0.7**
PAB pmax pmax
comp=Z,19nm,0.8s
PAB San Pablo 24.72 286 P **P** **19 09 49.7 -0.7**
PAB IAmb IAmb 19 09 52.4
comp=Z,19nm,0.8s
GEYT Alibeck 24.78 78 P **P** **19 09 52.1 +1.3**
comp=Z,2.5nm,0.5s,baz=246,slow=6.1,SNR=2.0
FINES FINESS Array B 24.81 359 P **P** **19 09 50.7 0.0**
comp=Z,13nm,0.5s,baz=160,slow=10,SNR=80
FINES ScP **ScP** **19 16 47.2 -0.9**
comp=Z,3.8nm,0.9s,baz=114,slow=2.3,SNR=5.7
FINES FINESS Array B 24.81 359 P **P** **19 09 50.4 -0.3**
FIA1 FINESS Array S 24.81 359 P **P** **19 09 50.5 -0.2**
FIA1 IAmb IAmb 19 09 52.7
comp=Z,16nm,0.6s
HFS Hagfors 24.98 344 P **P** **19 09 52.5 +0.2**
comp=Z,6.6nm,0.4s,baz=154,slow=12,SNR=61
HFS ScP **ScP** **19 16 48.9 +0.2**
comp=Z,2.9nm,0.9s,baz=204,slow=3.2,SNR=2.0
KLMR Klimovskoe 25.50 14 *e*P **P** **19 09 55.6 -1.4**
KLMR pmax pmax
comp=Z,8.0nm,0.6s
KLMR Klimovskoe 25.50 14 *e*P **P** **19 09 55.6 -1.4**
KLMR AMP 19 10 00.1
comp=Z,8.0nm,0.6s
KLMR *e*ScP **ScP** **19 16 48.6 -1.5**
KONO Kongsberg 25.59 339 P **P** **19 09 57.7 -0.1**
KONO pmax pmax
comp=Z,37nm,1.7s
KONO Kongsberg 25.59 339 P **P** **19 09 57.7 -0.1**
KONO IAmb IAmb 19 10 28.2
comp=Z,37nm,1.6s
NC602 NORSAR Array S 26.01 343 P **P** **19 10 01.3 -0.3**
MDT Midelt 26.14 271 P **P** **19 10 04.7 +1.4**
comp=Z,7.1nm,0.8s,baz=70,slow=13,SNR=12
NAO01 NORSAR Array S 26.26 342 P **P** **19 10 03.9 0.0**
NAO01 IAmb IAmb 19 10 06.4
comp=Z,37nm,1.4s
NC405 NORSAR Array S 26.30 343 P **P** **19 10 02.3 -2.0**
NB201 NORSAR Array S 26.34 343 P **P** **19 10 03.9 -0.8**
NB2 NORSAR Subarra 26.35 343 P **P** **19 10 04.8 0.0**
comp=Z,1.0nm,0.6s,baz=160,slow=6.5
NOA NORSAR Array B 26.35 343 P **P** **19 10 04.4 -0.4**
comp=Z,0.4nm,0.3s,baz=140,slow=9.6,SNR=8.9
KIRV Kirov 26.41 27 P **P** **19 10 05.4 +0.2**
comp=Z,8.7nm,0.5s,baz=207,slow=7.4,SNR=4.5
KIRV Kirov 26.41 27 *ce*P **P** **19 10 05.6 +0.4**
NBO00 NORSAR Array S 26.45 342 P **P** **19 10 04.7 -1.0**
NC303 NORSAR Array S 26.48 343 P **P** **19 10 05.3 -0.6**
NC303 IAmb IAmb 19 10 30.7
comp=Z,42nm,1.7s
PBRG Braganca 26.48 292 *e*P **P** **19 10 06.9 +0.8**
comp=Z,42nm,1.7s
PBRG *e*pP **pP** **19 10 38.6 +1.9**
NC300 NORSAR Array S 26.50 343 P **P** **19 10 05.1 -0.9**
NC300 IAmb IAmb 19 10 14.5
comp=Z,13nm,1.1s
NC204 NORSAR Array S 26.67 343 P **P** **19 10 08.0 +0.4**
NC204 IAmb IAmb 19 10 19.1
comp=Z,19nm,1.1s
MVO Moncorvo 26.70 290 *e*P **P** **19 10 08.9 +0.7**
AB31 Akbulak array 27.01 52 P **P** **19 10 11.0 +0.3**
ABKAR Akbulak array 27.01 52 P **P** **19 10 10.4 -0.3**
PMRV Marv??o 27.08 286 *e*P **P** **19 10 12.2 +0.7**
PCBR Castelo Branco 27.11 287 *e*P **P** **19 10 12.8 +1.0**
comp=Z,27nm,1.4s
MTE Manteigas 27.13 289 *e*P **P** **19 10 13.0 +1.0**
MTE *i* LQ LQ 19 11 04.1
MTE Manteigas 27.13 289 P **P** **19 10 12.3 +0.3**
MTE IAmb IAmb 19 10 13.7
comp=Z,20nm,0.8s
PVRL Vila Real 27.22 290 *e*P **P** **19 10 14.6 +1.8**
POLO Lamas de Olo 27.27 291 *e*P **P** **19 10 14.4 +1.1**
PESTR Estremoz 27.29 285 *e*P **P** **19 10 13.8 +0.4**
PESTR Estremoz 27.29 285 P **P** **19 10 13.5 +0.2**
PVIS Viseu 27.38 289 *e*P **P** **19 10 15.4 +1.2**
comp=Z,38nm,1.4s
PCAB Cabril 27.44 291 *e*P **P** **19 10 15.8 +1.1**
PVAQ Vaqueiros 27.59 282 *e*P **P** **19 10 16.6 +0.6**
comp=Z,35nm,2.2s
PVAQ Vaqueiros 27.59 282 P **P** **19 10 16.6 +0.6**
PVAQ IAmb IAmb 19 10 17.6
comp=Z,15nm,0.9s
PBEJ Beja 27.61 283 *e*P **P** **19 10 17.3 +1.1**
PBEJ *e*pP **pP** **19 10 49.0 +2.2**
PBEJ *i* LQ LQ 19 11 10.7
PGAV Gavieira, Arco 27.62 292 *e*P **P** **19 10 17.7 +1.3**
EVO Evora 27.66 285 *e*P **P** **19 10 17.4 +0.8**
comp=Z,22nm,2.1s
EKA Eskdalemuir Ar 27.70 322 P **P** **19 10 15.9 -0.9**
comp=Z,2.2nm,0.6s,baz=118,slow=11,SNR=13
EKA PcP **PcP** **19 13 30.7 +0.9**
comp=Z,0.5nm,0.5s,baz=101,slow=3.0,SNR=2.4
EKA ScP **ScP** **19 16 56.8 0.0**
comp=Z,0.4nm,0.4s,baz=115,slow=5.6,SNR=5.4
ESK Eskdalemuir 27.71 322 P **P** **19 10 16.8 -0.1**
ESK pmax pmax
comp=Z,38nm,1.7s
ESK Eskdalemuir 27.71 322 P **P** **19 10 16.8 -0.1**
ESK IAmb IAmb 19 10 34.6
comp=Z,38nm,1.6s
PMTG Montargil 27.76 286 *e*P **P** **19 10 18.5 +1.0**
comp=Z,35nm,1.9s
PBDV Barranco-do-Ve 27.78 282 *e*P **P** **19 10 18.7 +0.9**
COI Coimbra 27.80 288 *e*P **P** **19 10 19.5 +1.6**
PCVE Castro Verde 27.80 283 *e*P **P** **19 10 18.7 +0.8**

PFVI Vila Bisbo 28.50 282 P **P** 19 10 22.3 -1.8
ARU Arti 28.99 37 P **P** 19 10 28.8 +0.6
comp=Z,2.5nm,0.4s,baz=241,slow=7.3,SNR=14
ARU ScP **ScP** 19 17 00.7 -0.1
comp=Z,2.5nm,0.5s,baz=191,slow=5.7,SNR=13
ARU Arti 28.99 37 *d i*P **P** 19 10 28.3 +0.1
ARU 19 11 21.2
ARU S **S** 19 15 10.5 +2.2
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 28.99 37 P **P** 19 10 27.1 -1.1
ARU IAmb IAmb 19 10 30.0
comp=Z,8.0nm,0.6s
ARU **ScP** 19 17 00.3 -0.5
APA Apatity 31.17 5⇓ *i*P **P** 19 10 44.2 -3.1
APA pmax pmax
comp=Z,6.0nm,0.7s
APA MLR MLR
comp=Z,800nm,12.0s
TORD Torodi Ar. Bea 32.56 231 P **P** 19 11 01.8 +1.8
comp=Z,13nm,0.5s,baz=34,slow=8.9,SNR=64
TORD Torodi Ar. Bea 32.56 231 IAmb IAmb 19 11 40.3
comp=Z,27nm,0.9s
ARCES ARCESS Array B 32.94 359 P **P** 19 11 02.4 -0.3
comp=Z,1.9nm,0.5s,baz=170,slow=8.5,SNR=31
ARCES ARCESS Array B 32.94 359 P **P** 19 11 02.4 -0.3
ARCES IAmb IAmb 19 11 08.6
comp=Z,33nm,1.6s
KEV Kevo 33.15 0 P **P** 19 11 04.2 -0.3
KEV pmax pmax
comp=Z,106nm,1.8s
KEV Kevo 33.15 0 P **P** 19 11 04.2 -0.3
CHGR Chuyangaron 33.27 74 P **P** 19 11 06.6 +0.4
KKAR Karatay Array 33.75 65 P **P** 19 11 10.5 +0.4
KKAR Karatay Array 33.75 65 P **P** 19 11 10.5 +0.4
BRVK Borovoye 34.21 47 *ce*P **P** 19 11 15.7 +1.8
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 34.21 47 P **P** 19 11 14.1 +0.2
BRVK IAmb IAmb 19 11 16.2
comp=Z,10nm,1.3s
BTK Batken 34.32 71 P **P** 19 11 14.2 -0.9
BTK pmax pmax
comp=Z,6.0nm,1.2s
BTK Batken 34.32 71 P **P** 19 11 14.2 -0.9
SOCY Socotra 34.42 128 P **P** 19 11 13.0 -3.3
SOCY IAmb IAmb 19 11 40.6
comp=Z,40nm,1.3s
DRK Karamyk 35.16 71 P **P** 19 11 21.5 -1.1
PMAR Madeira 36.04 277 *e*P **P** 19 11 32.4 +2.4
AAK Ala-Archa 36.71 66 P **P** 19 11 37.7 +2.1
comp=Z,6.3nm,0.5s,baz=260,slow=3.7,SNR=22
AAK ScP **ScP** 19 17 29.0 +0.9
comp=Z,1.8nm,0.7s,baz=256,slow=6.4,SNR=6.0
AAK Ala-Archa 36.71 66 *ce*P **P** 19 11 35.1 -0.5
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 36.71 66 P **P** 19 11 35.7 0.0
AAK IAmb IAmb 19 11 38.5
comp=Z,8.5nm,1.1s
NIL Nilore 37.70 81 P **P** 19 11 44.7 +0.7
NIL pmax pmax
comp=Z,10.0nm,0.8s
NIL Nilore 37.70 81 P **P** 19 11 44.7 +0.7
NIL IAmb IAmb 19 11 47.1
comp=Z,10nm,0.8s
BOOM Boomskoye usch 37.79 66 P **P** 19 11 46.4 +1.7
BOOM pmax pmax
comp=Z,41nm,1.3s
BOOM Boomskoye usch 37.79 66 P **P** 19 11 46.4 +1.7
BOOM IAmb IAmb 19 12 15.2
comp=Z,41nm,1.3s
KDJ Kajisay 38.75 66 P **P** 19 11 54.6 +1.8
KDJ pmax pmax
comp=Z,12nm,0.8s
KDJ Kajisay 38.75 66 P **P** 19 11 54.5 +1.8
KDJ IAmb IAmb 19 11 56.0
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 39.06 52 P **P** 19 11 56.2 +1.3
comp=Z,21nm,0.4s,baz=272,slow=8.6,SNR=216
KURBB PP **PP** 19 13 28.2 +0.9
comp=Z,1.7nm,0.8s,baz=270,slow=12,SNR=4.8
KURBB ScP **ScP** 19 17 37.0 +0.4
comp=Z,1.3nm,0.8s,baz=267,slow=5.1,SNR=5.8
KURBB Kurchatov Arra 39.06 52 P **P** 19 11 55.3 +0.3
KURK Kurchatov 39.12 52 *ce*P **P** 19 11 56.6 +1.1
KURK pmax pmax
comp=Z,28nm,1.3s
KURK Kurchatov 39.12 52 P **P** 19 11 56.0 +0.6
KURK IAmb IAmb 19 11 57.4
comp=Z,26nm,1.1s
KURK Kurchatov 39.12 52 PP 19 13 28.2 +0.3
TARG Taragay, Kyrgy 39.28 67 P **P** 19 12 00.1 +2.6
MAKZ Makanchi 41.53 58 P **P** 19 12 16.2 +0.7
MAKZ pmax pmax
comp=Z,12nm,0.5s
MAKZ Makanchi 41.53 58 P **P** 19 12 16.1 +0.7
MAKZ IAmb IAmb 19 12 17.6
comp=Z,12nm,0.5s
DBIC Dimbokro 41.63 232 P **P** 19 12 17.8 +1.2
comp=Z,5.7nm,0.7s,baz=44,slow=7.2,SNR=9.8
DBIC Dimbokro 41.63 232 P **P** 19 12 17.7 +1.2
MK31 Makanchi Array 41.75 58 *e*P **P** 19 12 18.6 +1.4
MK31 Makanchi Array 41.75 58 P **P** 19 12 18.5 +1.2
MKAR Makanchi Array 41.75 58 P **P** 19 12 18.8 +1.5
comp=Z,23nm,0.4s,baz=268,slow=8.5,SNR=1043
MKAR ScP **ScP** 19 17 47.4 +0.1
comp=Z,1.6nm,0.5s,baz=266,slow=3.6,SNR=13
MKAR Makanchi Array 41.75 58 P **P** 19 12 18.1 +0.9
TIC Toumodi 41.75 232 *e*P **P** 19 12 18.5 +0.9
KIC Kosan Boka 41.80 232 *e*P **P** 19 12 19.1 +1.2
comp=Z,5.7nm,0.4s
SPITS Spitsbergen Ar 41.86 357 P **P** 19 12 17.8 +0.1
comp=Z,6.5nm,0.7s,baz=134,slow=12,SNR=5.6
LIC Lamto 42.08 232 *e*P **P** 19 12 21.2 +1.0
comp=Z,21nm,0.7s
SCO Scoresbysund 42.47 338 P **P** 19 12 23.7 +1.1
SCO pmax pmax
comp=Z,31nm,1.7s
SCO Scoresbysund 42.47 338 P **P** 19 12 23.7 +1.1
SCO IAmb IAmb 19 12 46.0
comp=Z,31nm,1.7s
ZAA0 Zalesovo Array 42.92 47 P **P** 19 12 26.7 +0.1
ZALV Zalesovo Beam 42.92 47 P **P** 19 12 27.3 +0.8
comp=Z,35nm,0.4s,baz=270,slow=8.7,SNR=233
ZALV ScP **ScP** 19 17 51.4 -0.4
comp=Z,1.5nm,0.7s,baz=255,slow=4.7,SNR=6.6
ZALV Zalesovo Beam 42.92 47 P **P** 19 12 26.8 +0.3
DGZ Jazzator, Alta 44.82 53 *d i*P **P** 19 12 43.1 +1.1
DGZ pmax pmax
comp=Z,12nm,0.5s
NRIK Noril'sk 45.90 26 P **P** 19 12 51.5 +1.5
comp=Z,7.2nm,0.5s,baz=239,slow=4.1,SNR=13
NRIK Noril'sk 45.90 26 *ce*P **P** 19 12 50.3 +0.3
NRIK pmax pmax
comp=Z,5.0nm,0.9s
NRIK Noril'sk 45.90 26 P **P** 19 12 51.0 +1.0
NRIK IAmb IAmb 19 12 51.9
comp=Z,7.4nm,0.6s
PYUN Piuthan 47.53 84 *e*P **P** 19 13 04.4 +0.9
comp=Z,2.5nm,0.3s
PYUN Piuthan 47.53 84 *e*P **P** 19 13 05.0 +1.5
DANN Dangsing 48.03 83 *e*P **P** 19 13 07.9 +0.4
comp=Z,16nm,0.5s
DANN Dangsing 48.03 83 *e*P **P** 19 13 09.2 +1.7
comp=Z,20nm,0.5s
SUMG Summit 48.10 338 P **P** 19 13 07.6 +0.1
SUMG Summit 48.10 338 P **P** 19 13 07.6 +0.1
KOLN Koldanda 48.16 84 *e*P **P** 19 13 09.4 +1.1
KOLN Koldanda 48.16 84 *e*P **P** 19 13 12.2 +3.9
comp=Z,1.1nm,0.2s
GKN Gorkha 48.88 83 *e*P **P** 19 13 14.9 +1.1
comp=Z,8.7nm,0.6s
GKN Gorkha 48.88 83 *e*P **P** 19 13 18.4 +4.6
comp=Z,2.7nm,0.3s
DMN Daman 49.43 83 *e*P **P** 19 13 19.4 +1.3
DMN Daman 49.43 83 *e*P P 19 13 27.1 +9.0
comp=Z,4.2nm,0.4s
KKN Kakani 49.49 83 *e*P **P** 19 13 19.3 +0.8
KKN Kakani 49.49 83 *e*P P 19 13 26.9 +8.4
comp=Z,1.9nm,0.2s
PKIN Phulchoki 49.67 83 *e*P **P** 19 13 20.8 +0.9
PKIN Phulchoki 49.67 83 *e*P P 19 13 30.5 +11
PKI Pulchoki 49.69 83 *e*P P 19 13 30.6 +10
GUN Gumba 49.91 82 *e*P **P** 19 13 22.8 +1.0
GUN Gumba 49.91 82 *e*P P 19 13 32.4 +11
comp=Z,3.9nm,0.2s
NRS Narsarsuaq 50.35 323 P **P** 19 13 23.7 -0.4
NRS pmax pmax
comp=Z,49nm,0.8s
NRS Narsarsuaq 50.35 323 P **P** 19 13 23.7 -0.4
ZAK Zakamensk 54.67 50 *e*P **P** 19 13 57.1 +0.8
ZAK pmax pmax
comp=Z,6.0nm,1.2s
GTA Gaotai 55.99 63 ⇑P **P** 19 14 07.8 +1.8
GTA pmax pmax
comp=Z,5.0nm,0.9s
TSUM Tsumeb 56.26 191 LR LR 19 40 35.9
comp=Z,74nm,18.5s,baz=152,slow=38
SONM Songino Array 57.42 52 P **P** 19 14 17.4 +1.5
comp=Z,5.5nm,0.5s,baz=286,slow=7.6,SNR=77
SONM ScP **ScP** 19 18 54.8 +0.6
comp=Z,1.1nm,1.0s,baz=278,slow=6.3,SNR=5.8
SONM Songino Array 57.42 52 P **P** 19 14 17.0 +1.1
SONM IAmb IAmb 19 14 18.1
comp=Z,3.5nm,0.6s
ULN Ulaanbaatar 57.83 52 *ce*P **P** 19 14 20.3 +1.5
ULN pmax pmax
comp=Z,16nm,2.5s
ULN Ulaanbaatar 57.83 52 P **P** 19 14 18.4 -0.4
ULN IAmb IAmb 19 14 20.9
comp=Z,6.1nm,0.7s
EUNU Eureka 57.99 349 P **P** 19 14 19.8 +0.4
EUNU IAmb IAmb 19 14 21.0
comp=Z,13nm,1.8s
TIXI Tiksi 59.25 21 *ce*P **P** 19 14 28.7 +0.7
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 59.25 21 P **P** 19 14 28.4 +0.4
TIXI IAmb IAmb 19 14 29.4
comp=Z,6.4nm,0.8s
DRLN Deer Lake 59.99 311 P **P** 19 14 33.6 +0.2
LZH Lanzhou 60.25 65 *e*P **P** 19 14 33.9 -1.8
LZH pmax pmax
comp=Z,19nm,1.4s
SCHQ Schefferville 62.98 320 P **P** 19 14 53.3 -0.2
comp=Z,3.8nm,0.4s,baz=70,slow=6.5,SNR=12
SCHQ Schefferville 62.98 320 P **P** 19 14 53.2 -0.3
SCHQ IAmb IAmb 19 14 53.8
comp=Z,24nm,1.6s
YAK Yakutsk 63.85 31 *e*P **P** 19 14 58.9 -0.1
YAK pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 63.85 31 P **P** 19 14 58.8 -0.2
YAK IAmb IAmb 19 14 59.6
comp=Z,14nm,0.7s
GBN Guysborough 64.07 308 P **P** 19 15 01.5 +0.8
CMAR Chiang Mai Arr 64.98 85 P **P** 19 15 08.2 +1.0
comp=Z,1.0nm,0.7s,baz=301,slow=8.3,SNR=12
HAL Halifax 65.73 308 P **P** 19 15 12.1 +0.6
HAL pmax pmax
comp=Z,63nm,1.1s
HAL Halifax 65.73 308 P **P** 19 15 12.1 +0.6
BATG Bathurst New B 66.00 312 P **P** 19 15 14.1 +0.9
ENH Enshi 67.14 69 P **P** 19 15 20.5 -0.3
ENH IAmb IAmb 19 15 21.4
comp=Z,13nm,1.4s
PQI Presque Isle 67.46 312 P **P** 19 15 22.0 -0.5
D62A Allapoint, All 67.87 313 P **P** 19 15 26.1 +1.2
F64A Sherman 68.07 311 P **P** 19 15 27.2 +0.9
SUR Sutherland 68.93 186 LR LR 19 49 52.4
comp=Z,56nm,18.4s,baz=172,slow=39
BILL Bilibino 71.25 15 *ce*P **P** 19 15 45.7 +0.3
BILL *e* 19 18 20.8
BILL *e*S **S** 19 24 43.5 -6.9
BILL pmax pmax
comp=Z,7.0nm,1.7s
KLR Kul'dur 71.69 42 P **P** 19 15 48.9 +0.6
comp=Z,0.9nm,0.5s,baz=317,slow=12,SNR=7.2
KLR Kul'dur 71.69 42 *i*P **P** 19 15 48.2 -0.1
KLR pmax pmax
comp=Z,1.0nm,0.9s
C36M Paulatuk 72.16 350 P **P** 19 15 50.6 -0.2
MA2 Magadan 73.50 26 *ce*P **P** 19 16 00.4 +1.5
MA2 pmax pmax
comp=Z,15nm,2.5s
USRK Ussuriysk Ar. 74.76 46 P **P** 19 16 06.9 +0.5
comp=Z,4.0nm,0.5s,baz=288,slow=4.6,SNR=20
KSRS Korea Array 76.23 54 P **P** 19 16 15.7 +0.8
comp=Z,1.9nm,0.7s,baz=312,slow=3.6,SNR=5.0
YKA Yellowknife Ar 76.45 343 P **P** 19 16 15.3 -0.4
comp=Z,0.5nm,0.5s,baz=30,slow=5.3,SNR=13
ILAR Eielson Array 78.78 357 P **P** 19 16 28.8 +0.2
comp=Z,0.4nm,0.8s,baz=337,slow=4.1,SNR=2.6
TKL Tuckaleechee C 83.48 310 P **P** 19 16 54.9 +0.8
comp=Z,3.6nm,0.6s,baz=158,slow=7.5,SNR=4.6

*IDC **19** 19:27:31.5±1.6,2°.44N×95°.95E,h0km,mb3.9/6,mb1 4.0/8, mb1mx3.4/45,mbtmp3.9/8,ML3.7/2,MS2.7/2,Ms1 2.9/2, ms1mx2.5/84 Error ellipse: s-maj=43.9km s-min=18.3km az=50.0*
*DJA **19** 19:27:34.1±1.1,2°.N±5°.×9°.6E±°,h10km,M4.2/10,mb4.2/3, mB4.5/1,MLv4.1/10,Mw(mB)3.7/1*
*NEIC **19** 19:27:37.1±1.7,2°.53N±0°.08×96°.15E±0°.08,h29km±7km, mb4.2/18,Error ellipse: s-maj=15.5km s-min=5.5km az=48.0*

ISC 19 19:27:35.3±0.8,2°.50N±0°.06×96°.11E±0°.07,h25km,n49, σ1900/46,mb4.3/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.89**	**129**	P	**Pn**	**19 28 07.0**	**+1.1**
GSI	**Gunungsitoli**	**1.89**	**129**		**Pn**	**19 28 06.4**	**+0.5**
GSI				Sn	**Sn**	**19 28 29.5**	**+0.5**
KCSI	**Kotacane, Aceh**	**1.95**	**58**	P	**Pn**	**19 28 08.1**	**+1.3**
KCSI				S	**Sb**	**19 28 34.5**	**+0.4**
TSI	**Tuntungan**	**2.65**	**68**	P	**Pn**	**19 28 18.3**	**+1.9**
RPSI	**Rantau Prapat**	**2.82**	**86**		**Pn**	**19 28 20.6**	**+1.8**
PSI	**Prapat**	**2.83**	**84**	Pn	**Pn**	**19 28 20.6**	**+1.6**
	6.1nm,0.3s,baz=171,slow=18,SNR=15						
PSI				Sn	**Sb**	**19 28 57.9**	**-1.6**
	3.6nm,0.3s,baz=272,slow=12,SNR=4.8						
PSI				LR	LR	19 29 38.8	
	comp=Z,110nm,19.7s,baz=252,slow=43						
LHMI	**Lhok Sumawe**	**2.84**	**17**	P	**Pn**	**19 28 20.0**	**+0.9**
LHMI	**Lhok Sumawe**	**2.84**	**17**		**Pn**	**19 28 19.9**	**+0.9**
MNSI	**Mandailing Nat**	**3.86**	**116**	P	**Pn**	**19 28 34.8**	**+1.7**
IPM	**Ipoh**	**5.29**	**68**		**Pn**	**19 28 53.8**	**+0.9**
KULM	**Kulim**	**5.31**	**58**		**Pn**	**19 28 53.7**	**+0.6**
MYKOM	**Kota Tinggi**	**7.77**	**95**	Pn	**Pn**	**19 29 26.0**	**-0.9**
UBPT	**Khong Chiam**	**15.70**	**35**	Pn	**Pn**	**19 31 14.2**	**-0.8**
UBPT				IAmb	IAmb	19 31 27.7	
	comp=Z,17nm,1.4s						
CMAR	**Chiang Mai Arr**	**16.10**	**10**	Pn	**Pn**	**19 31 21.7**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=198,slow=11,SNR=20						
CMAR				LR	LR	19 37 23.1	
	comp=Z,37nm,20.5s,baz=210,slow=36						
CMAR	**Chiang Mai Arr**	**16.10**	**10**		**Pn**	**19 31 21.1**	**+0.9**
IMP	**Imphal**	**22.30**	**355**	*e*P	**P**	**19 32 29.1**	**-2.0**
KOHI	**KOHIMA**	**23.17**	**355**	*e*P	**P**	**19 32 39.9**	**-0.4**
KOHI				IAmb	IAmb	19 32 41.6	
	comp=Z,4.9nm,0.8s						
MOKO	**MOKOCHONG**	**23.74**	**356**	*e*P	**P**	**19 32 45.6**	**-0.3**
LKP	**Lekhapani**	**24.70**	**359**	*e*P	**P**	**19 32 53.0**	**-1.5**
TOLI2	**Tolitoli**	**24.70**	**93**	P	**P**	**19 32 53.3**	**-1.5**
TOLI2				IAmb	IAmb	19 33 04.2	
	comp=Z,11nm,1.1s						
H08S2	**Diego Garcia H**	**25.62**	**247**	T	T	19 59 32.1	
	baz=68,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**25.62**	**247**	T	T	19 59 38.2	
	baz=68,slow=76,SNR=23						
H08S1	**Diego Carcia H**	**25.64**	**247**	T	T	19 59 35.1	
	baz=68,slow=76,SNR=18						
YULB	**Yu-li**	**32.04**	**47**	P	**P**	**19 34 00.1**	**-0.1**
H01W3	**Cape Leeuwin H**	**40.85**	**157**	T	T	20 18 33.4	
	baz=333,slow=76,SNR=42						
H01W2	**Cape Leeuwin H**	**40.87**	**157**	T	T	20 18 34.4	
	baz=333,slow=76,SNR=50						
H01W1	**Cape Leeuwin H**	**40.87**	**157**	T	T	20 18 34.6	
	baz=333,slow=76,SNR=36						
TARG	**Taragay, Kyrgy**	**42.38**	**340**	P	**P**	**19 35 27.5**	**-0.7**
TARG				IAmb	IAmb	19 36 00.8	
	comp=Z,4.5nm,1.2s						
DRK	**Karamyk**	**42.94**	**332**	P	**P**	**19 35 33.9**	**+1.3**
CHGR	**Chuyangaron**	**43.60**	**329**	P	**P**	**19 35 36.6**	**-1.1**
CHGR				IAmb	IAmb	19 36 04.6	
	comp=Z,6.1nm,1.1s						
WB0	**Warramunga Arr**	**43.61**	**122**	P	**P**	**19 35 38.4**	**+0.4**
WB0				IAmb	IAmb	19 36 23.0	
	comp=Z,9.1nm,1.6s						
WRA	**Warramunga Arr**	**43.65**	**122**	P	**P**	**19 35 39.1**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=302,slow=9.0,SNR=11						
WB2	**Warramunga Arr**	**43.66**	**122**	P	**P**	**19 35 38.8**	**+0.5**
WR0	**Warramunga Arr**	**43.82**	**122**	P	**P**	**19 35 39.8**	**+0.1**
ASAR	**Alice Springs**	**45.04**	**127**	P	**P**	**19 35 50.0**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=273,slow=8.6,SNR=5.6						
ASAR	**Alice Springs**	**45.04**	**127**	P	**P**	**19 35 49.5**	**0.0**
MK31	**Makanchi Array**	**45.73**	**347**	P	**P**	**19 35 54.7**	**+0.2**
MK31				IAmb	IAmb	19 35 55.7	
	comp=Z,5.1nm,1.2s						
MKAR	**Makanchi Array**	**45.73**	**347**	P	**P**	**19 35 54.7**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=157,slow=9.0,SNR=137						
MKAR	**Makanchi Array**	**45.73**	**347**	P	**P**	**19 35 54.5**	**0.0**
SONM	**Songino Array**	**46.03**	**10**	P	**P**	**19 35 56.8**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=190,slow=9.5,SNR=14						
SONM	**Songino Array**	**46.03**	**10**	P	**P**	**19 35 56.2**	**-0.8**
SONM				PcP	**PcP**	**19 37 34.5**	**+1.3**
KURBB	**Kurchatov Arra**	**50.21**	**346**	P	**P**	**19 36 29.7**	**+0.7**
	comp=Z,0.7nm,0.2s,baz=168,slow=6.5						
MJAR	**Matsushiro Arr**	**51.49**	**44**	P	**P**	**19 36 38.7**	**-0.3**
ZAA0	**Zalesovo Array**	**52.12**	**352**	P	**P**	**19 36 42.6**	**-0.7**
ZAA0				IAmb	IAmb	19 36 43.7	
	comp=Z,1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**52.12**	**352**	P	**P**	**19 36 43.4**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=174,slow=7.0,SNR=16						
ZALV	**Zalesovo Beam**	**52.12**	**352**	P	**P**	**19 36 43.1**	**-0.2**
ABKAR	**Akbulak array**	**55.87**	**332**	P	**P**	**19 37 11.2**	**+0.4**
ABKAR				IAmb	IAmb	19 37 12.0	
	comp=Z,2.4nm,0.9s						
ABKAR	**Akbulak array**	**55.87**	**332**	P	**P**	**19 37 10.8**	**+0.1**
JEM	**Erimo**	**57.58**	**40**	P	P	19 37 29.1	+6.0

NNC 19 19:36:14.2±5.5,36°.17N×70°.22E,h78km±159km,mb3.5, mpv3.5,4C-3D,Error ellipse: s-maj=48.8km s-min=38.8km az=134.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.93**	**2**	⇓P	Pn	19 37 54.7	+1.7
	1.4nm,0.3s						
KK02				⇓S	Sn	19 39 10.9	+0.6
	2.0nm,0.3s						
AAK	**Ala-Archa**	**7.26**	**26**	P	Pn	19 37 56.8	-0.9
	1.7nm,0.5s						
AAK				⇑S	Sn	19 39 19.7	+1.1
	3.4nm,0.9s						
TKM2	**Tokmak 2**	**7.92**	**30**	⇓P	Pn	19 38 05.5	-1.2
	1.5nm,0.6s						
TKM2				⇑S	Sn	19 39 35.5	+0.7
	2.3nm,1.1s						
AB31	**Akbulak array**	**15.09**	**333**	⇑P	Pn	19 39 44.2	+1.4
	1.0nm,0.3s,baz=157,slow=12,SNR=48						
AB31				⇑S	Sn	19 42 26.5	-2.4
	1.1nm,0.8s,baz=157,slow=23,SNR=6.7						

SSNC 19 19:40:15.2±1.1,19°.88N×76°.11W,h5km±7km,MD2.0, ML1.4,MW1.9,Cuba region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.86**	**282**	*e*P	Pg	19 40 30.7	-1.1
LMGC				*e*S	Sg	19 40 41.9	-1.0
LMGC				IAML		19 40 42.8	
	comp=N,22nm,0.1s						
LMGC				IAML		19 40 42.9	
	comp=E,18nm,0.1s						
LMGC	**Las Mercedes**	**0.86**	**282**	*e*P	Pg	19 40 30.6	-1.2
LMGC				*e*S	Sg	19 40 41.9	-1.0
LMGC				IAML		19 40 42.4	
	comp=N,20nm,0.1s						
LMGC				IAML		19 40 42.6	
	comp=E,15nm,0.1s						
GTBY	**Guantanamo Bay**	**0.94**	**87**	*e*P	Pg	19 40 31.9	-1.4
GTBY				*e*S	Sg	19 40 44.9	-0.6
GTBY	**Guantanamo Bay**	**0.94**	**87**	*e*P	Pg	19 40 31.6	-1.7
GTBY				*e*S	Sg	19 40 45.0	-0.5

*TUL **19** 19:41:57.2±1.2,36°.50N±0°.02×98°.71W±0°.04,h6km±7km, ML3.0,mb_Lg2.9/36(NEIC),Error ellipse: s-maj=5.0km s-min=2.6km az=93.0*

NEIC 19 19:41:57.4±1.5,36°.49N±0°.03×98°.70W±0°.04,h11km±3km, Error ellipse: s-maj=5.5km s-min=3.2km az=112.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.27**	**246**	Pg	Pg	19 42 02.7	-0.1
U32A				Sg	Sg	19 42 05.0	-1.5
OK032	**Salt Plains WL**	**0.51**	**51**	Pg	Pg	19 42 07.1	-0.1
OK032				Sg	Sg	19 42 13.8	-0.1
CROK	**Carrier**	**0.58**	**88**	Pg	Pg	19 42 08.6	0.0
CROK				Sg	Sg	19 42 16.6	+0.4
KAN14	**Manchester OK**	**0.76**	**51**		Pg	19 42 11.6	-0.3
KAN14				Sg	Sg	19 42 21.5	-0.3
GC02	**Grant County #**	**0.77**	**61**	Pg	Pg	19 42 11.9	-0.3
GC02				Sg	Sg	19 42 22.5	+0.3
KAN10	**Anthony SW Sta**	**0.80**	**37**		Pg	19 42 12.2	-0.5
KAN16	**Harper SW Stat**	**0.90**	**34**	Pg	Pg	19 42 14.1	-0.5
KAN05	**Bluff City Nor**	**0.91**	**47**		Pg	19 42 14.4	-0.4
KAN05				Sg	Sg	19 42 26.7	0.0
KAN17	**Caldwell West**	**0.93**	**53**		Pg	19 42 15.0	-0.4
KAN17				Sg	Sg	19 42 27.2	-0.3
KAN08	**Anthony NE Sta**	**0.94**	**38**	Pg	Pg	19 42 15.0	-0.5
KAN12	**Harper NE Stat**	**0.98**	**35**		Pg	19 42 15.9	-0.5
KAN01	**Argonia South**	**1.01**	**48**		Pg	19 42 16.2	-0.6
KAN06	**Argonia West S**	**1.02**	**41**	Pg	Pg	19 42 16.3	-0.6
KAN13	**South Haven SW**	**1.11**	**61**		Pb	19 42 18.1	-0.5
BCOK	**Bluff Creek, N**	**1.21**	**133**	Pg	Pn	19 42 19.9	-0.4
BCOK				Sg	Sg	19 42 36.4	+0.1
BLOK	**Blackwell**	**1.23**	**77**		Pn	19 42 20.1	-0.3
BLOK				Sg	Sb	19 42 36.1	-0.3
OK009	**Oakdale Elemen**	**1.37**	**131**	Pn	Pn	19 42 22.8	+0.3
OKCFA	**Oklahoma City**	**1.47**	**136**		Pn	19 42 24.0	+0.1
OKCSW	**OKLAHOMA CITY**	**1.49**	**136**	Pn	Pn	19 42 24.2	+0.1
FNO	**Franklin**	**1.62**	**139**		Pb	19 42 26.7	-0.5
QUOK	**Quay**	**1.64**	**100**		Pb	19 42 27.0	-0.6
WMOK	**Wichita Mounta**	**1.75**	**182**	Pn	Pn	19 42 27.8	+0.2
T35A	**Sooner Cattle**	**1.81**	**76**	Pn	Pb	19 42 29.8	-0.7
T35A				IAmb_Lg		19 42 57.3	
	comp=Z,50nm,0.9s						
R32A	**Long Quarter,**	**1.93**	**360**		Pb	19 42 31.6	-1.0
W35A	**Tecumseh**	**1.99**	**131**	Pn	Pn	19 42 32.0	+0.9
X34A	**Smith Ranch, M**	**2.01**	**159**	Pn	Pb	19 42 33.2	-0.7
X34A				IAmb_Lg		19 43 02.1	
	comp=Z,41nm,1.1s						
TUL1	**Leonard**	**2.42**	**103**		Pn	19 42 37.1	+0.2
TUL1				IAmb_Lg		19 43 16.8	
	comp=Z,46nm,0.8s						
CBKS	**Cedar Bluff**	**2.46**	**341**		Pn	19 42 38.8	+1.3
LOOK	**Love County**	**2.78**	**153**	Pn	Pn	19 42 42.6	+0.7
AMTX	**Amarillo**	**2.91**	**237**	Pn	Pn	19 42 44.0	+0.3
KSU1	**Kansas State U**	**3.09**	**32**	Pn	Pn	19 42 47.3	+1.2
X37A	**Clayton**	**3.31**	**124**	Pn	Pn	19 42 48.9	-0.3
X37A				IAmb_Lg		19 43 51.9	
	comp=Z,36nm,1.1s						
U38A	**Gravette**	**3.48**	**90**		Pn	19 42 52.3	+0.9
U38A				IAmb_Lg		19 43 50.6	
	comp=Z,24nm,0.7s						
HHAR	**Hobbs**	**3.85**	**92**		Pn	19 42 57.2	+0.7
ABTX	**Abilene, Hawle**	**3.93**	**192**	Pn	Pn	19 42 56.2	-1.5
KSCO	**Kaye Shedlock'**	**4.00**	**310**		Pn	19 42 59.1	+0.3
KSCO				IAmb_Lg		19 44 13.2	
	comp=Z,33nm,0.8s						
MSTX	**Muleshoe**	**4.17**	**234**	Pn	Pn	19 43 01.5	+0.3
W39A	**Magazine**	**4.20**	**106**		Pn	19 43 02.4	+1.1
Z38A	**Mt. Pleasant**	**4.44**	**135**	Pn	Pn	19 43 05.3	+0.7
Z38A				IAmb_Lg		19 44 27.8	
	comp=Z,24nm,0.8s						
S39A	**Bolivar**	**4.46**	**73**		Pn	19 43 06.6	+1.6
S39A				IAmb_Lg		19 44 22.7	
	comp=Z,17nm,0.7s						
WHTX	**Lake Whitney,**	**4.60**	**167**	Pn	Pn	19 43 07.5	+0.6
MIAR	**Mount Ida**	**4.61**	**113**	Pn	Pn	19 43 07.6	+0.7
T25A	**Trinidad**	**4.63**	**280**		Pn	19 43 08.2	+0.7
T25A				IAmb_Lg		19 44 27.7	
	comp=Z,32nm,1.1s						
U40A	**Yellville**	**4.72**	**90**	Pn	Pn	19 43 09.6	+1.

BGNE **Belgrade** 4.93 5 Pn Pn 19 43 12.4 +0.9
N35A **Tabor** 4.98 28 Pn Pn 19 43 14.3 +2.2
OGNE **Ogallala** 5.16 331 Pn Pn 19 43 15.1 +0.5
OGNE IAmb_Lg 19 44 41.0
comp=Z,27nm,0.8s
X40A **Basin Creek Fa** 5.18 111 Pn Pn 19 43 15.6 +0.7
WHAR **Wooly Hollow** 5.34 101 Pn Pn 19 43 17.8 +0.8
WHAR IAmb_Lg 19 44 58.8
comp=Z,22nm,0.8s
FCAR **Ozark Folk Cen** 5.35 94 IAmb_Lg 19 44 50.2
comp=Z,19nm,0.9s
W41B **Gary Mavity, V** 5.40 102 Pn Pn 19 43 17.4 -0.5
R40A **Maddies Statio** 5.43 69 Pn Pn 19 43 18.8 +0.6
SDCO **Great Sand Dun** 5.58 285 Pn Pn 19 43 19.7 -0.9
Q24A **Divide** 5.68 298 Pn Pn 19 43 21.6 -0.4
JCT **Junction City** 6.06 189 IAmb_Lg 19 45 24.5
comp=Z,14nm,0.8s
N38A **Joes South For** 6.06 43 Pn Pn 19 43 25.8 -1.1
P40A **Paris** 6.07 58 Pn Pn 19 43 25.5 -1.5
P40A IAmb_Lg 19 45 15.5
comp=Z,18nm,0.8s
LCAR **Lake Charles** 6.11 92 Pn Pn 19 43 28.7 +1.1
K31A **O'Neill** 6.13 360 Pn Pn 19 43 26.5 -1.4
K31A IAmb_Lg 19 45 25.8
comp=Z,18nm,0.8s
T42A **Van Buren** 6.13 83 Pn Pn 19 43 27.8 -0.1
CCM **Cathedral Cave** 6.15 73 Pn Pn 19 43 27.5 -0.6
CCM IAmb_Lg 19 45 09.9
comp=Z,18nm,0.8s
ISCO **Idaho Springs** 6.37 303 Pn Pn 19 43 32.4 +0.9
ANMO **Albuquerque** 6.50 259 Pn Pn 19 43 32.9 -0.2
PBMO **Poplar Bluff** 6.66 85 Pn Pn 19 43 32.8 -2.3
FVM **French Village** 6.77 75 Pn Pn 19 43 35.6 -1.0
N23A **Red Feather La** 7.17 310 Pn Pn 19 43 41.1 -1.3
ECSD **EROS Data Cent** 7.41 12 Pn Pn 19 43 44.9 -0.6
S44A **Carbondale** 7.64 78 IAmb_Lg 19 46 09.2
comp=Z,14nm,0.8s
TX32 **Lajitas Array** 8.26 212 Pn Pn 19 43 56.1 -1.2
TXAR **Lajitas Array** 8.26 212 Pn Pn 19 43 56.2 -1.1

IDC 19 19:47:21.1±2.8, 6°91S×155°33E, h0^{km}, mb3.4/4, mb1 3.7/4, mb1mx3.5/35, mbtmp3.4/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/31, Error ellipse: s-maj=75.9km s-min=37.8km az=107.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	5.22	119	LR	LR	19 50 53.5	
	comp=Z,115nm,19.4s,baz=356,slow=41						
WRA	**Warramunga Arr**	24.14	235	P	P	19 52 39.0	0.0
	0.3nm,0.4s,baz=58,slow=9.3,SNR=10						
WRA				PcP	PcP	19 56 20.2	-0.2
	0.2nm,0.5s,baz=65,slow=2.6,SNR=6.3						
ASAR	**Alice Springs**	26.48	229	P	P	19 52 59.8	-0.5
	0.1nm,0.4s,baz=60,slow=9.7,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	27.62	24	T	T	20 21 37.1	
	baz=203,slow=76,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	27.62	24	T	T	20 21 35.5	
	baz=203,slow=76,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	27.64	24	T	T	20 21 39.7	
	baz=203,slow=76,SNR=3.1						
CMAR	**Chiang Mai Arr**	61.04	295	P	P	19 57 37.7	+0.5
	0.5nm,0.3s,baz=115,slow=5.4,SNR=11						
MKAR	**Makanchi Array**	83.56	319	P	P	19 59 50.6	-0.6
	0.2nm,0.7s,baz=101,slow=4.4,SNR=2.5						

*PGC **19** 19:54:40.5±0.8, 48°.63N×129°.01W, h10^{km}, mb4.5, MLSn3.3/32, Mw4.0/32, 233km west of Tofino, Bc Vancouver Island, Canada Region*
*NEIC **19** 19:54:41.9±2.8, 48°.90N±0°.06×128°.6W±0°.1, h10^{km}±1km, mb4.5/80, Mwr4.4/18, Mwr4.0(OTT), Error ellipse: s-maj=12.9km s-min=9.1km az=238.0*
*NEIC **19** 19:54:41.9, 48°.88N×128°.65W, h5^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=2.51; $M_{\theta\theta}$=2.28; $M_{\phi\phi}$=4.79; $M_{r\theta}$=3.35; $M_{\theta\phi}$=-0.20; $M_{\phi r}$=0.59; Fault plane solution: M_0=5.37000×10^{15} NP1:ϕ_s=212.38000°, δ=53.69000°, λ=-32.01000°. NP2:ϕ_s=322.69000°, δ=64.71000°, λ=-139.09000°. Principal axes: T 4.8771, Plg7.0000°, Azm85.0000°; N 0.8799, Plg43.0000°, Azm349.0000°; P -5.7571, Plg46.0000°, Azm182.0000°;*
*IDC **19** 19:54:42.8±0.8, 48°.81N×128°.77W, h0^{km}, mb3.9/14, mb1 4.1/24, mb1mx3.9/53, mbtmp4.0/24, ML3.4/8, MS3.9/63, Ms1 3.9/63, ms1mx3.8/90 Error ellipse: s-maj=18.9km s-min=9.4km az=59.0*
*GCMT **19** 19:54:44.8±0.3, 48°.58N±0°.02×128°.89W±0°.03, h28^{km}±1km, MW4.9/81, Moment Tensor Solution. s15,c16; s81,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.87±.22; $M_{\theta\theta}$=-2.09±.13; $M_{\phi\phi}$=2.96±.15; $M_{r\theta}$=0.06±.26; $M_{\theta\phi}$=0.67±.13; $M_{\phi r}$=0.34±.19; Best double couple: M_0=2.62600×10^{16} NP1:ϕ_s=142.00000°, δ=86.00000°, λ=177.00000°. NP2: ϕ_s=232.00000°, δ=87.00000°, λ=4.00000°. Principal axes: T 3.0760, Plg5.0000°, Azm97.0000°; N -0.9000, Plg85.0000°, Azm272.0000°; P -2.1760, Plg0.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 19:54:40.6±1.3, 48°.80N±0°.02×128°.76W±0°.02, h1^{km}±9km, n369, σ1$31/292, mb4.4/37, MS3.9/55, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	0.88	195	P	Pg	19 54 53.7	-3.8
NC27	**ODP1027**	1.23	147	P	Pn	19 55 01.2	-3.4
NC89	**ODP889**	1.27	95	Pn	Pn	19 55 04.8	-0.5
BPBC	**Brooks Peninsu**	1.50	25	Pn	Pn	19 55 09.1	+0.3
EDB	**Eliza Dome**	1.52	44	Pn	Pn	19 55 08.6	-0.3
EDB				Sn	Sn	19 55 28.9	-0.4
ETB	**Estevan Point**	1.57	68	Pn	Pn	19 55 09.9	+0.3
PACB	**Port Alice, BC**	1.83	26	Pn	Pn	19 55 12.7	-0.5
PACB				Sn	Sn	19 55 35.2	-1.8
HOLB	**Holberg**	1.89	12		Pn	19 55 12.7	-1.3
HOLB	**Holberg**	1.89	12	Pn	Pn	19 55 13.4	-0.7
HOLB				Sn	Sn	19 55 36.2	-2.2
MAYB	**Maynard**	1.91	32	Pn	Pn	19 55 14.5	+0.1
TOFB	**Tofino**	1.91	78	Pn	Pn	19 55 13.8	-0.5
TOFB				Sn	Sn	19 55 37.7	-1.3
WOSB	**Woss**	1.97	46	Pn	Pn	19 55 15.8	+0.6
GDR	**Gold River**	2.04	60	Pn	Pn	19 55 16.2	+0.1
PHC	**Port Hardy**	2.10	24	Pn	Pn	19 55 17.0	+0.2
B012	**Ucluelet**	2.13	85	Sn	Sn	19 55 42.9	-1.4
TLCB	**Telegraph Cove**	2.15	35		Pn	19 55 16.6	-1.0
TLCB	**Telegraph Cove**	2.15	35	Sn	Sn	19 55 45.9	+1.0
BTB	**Buttle Lake**	2.23	71	Pn	Pn	19 55 19.4	+0.5
BTB				Sn	Sn	19 55 48.0	+0.8
SPLB	**Strathcona Par**	2.31	61	Pn	Pn	19 55 21.0	+1.2
SPLB				Sn	Sn	19 55 49.7	+0.9
NCRB	**Newcastle Ridg**	2.38	47	Pn	Pn	19 55 22.1	+1.2
BFSB	**Bamfield**	2.40	88	Pn	Pn	19 55 20.7	-0.3
BFSB				Sn	Sn	19 55 49.6	-1.3
B928	**Bamfield**	2.40	88	Pn	Pn	19 55 20.5	-0.4
B928				Sn	Sn	19 55 49.6	-1.2
MWAB	**Mount Washingt**	2.45	66	Sn	Sn	19 55 53.3	+0.8
CBB	**Campbell River**	2.54	60	Pn	Pn	19 55 22.7	-0.2
CBB	**Campbell River**	2.54	60	Pn	Pn	19 55 24.2	+1.3
CBB				Sn	Sn	19 55 54.3	-0.2
MGB	**Mount Grey**	2.69	84	Pn	Pn	19 55 24.6	-0.5
MGB				Sn	Sn	19 55 57.0	-1.4
PFB	**Port Renfrew**	2.87	93	Pn	Pn	19 55 27.2	-0.4
PFB				Sn	Sn	19 56 00.5	-2.2
TXB	**Texada**	2.97	71	Pn	Pn	19 55 29.8	+0.9
TXB				Sn	Sn	19 56 04.8	-0.5
GHNB	**Nanoose**	3.02	79	Pn	Pn	19 55 30.6	+1.1
GHNB				Sn	Sn	19 56 06.2	-0.1
B926	**Mesachie Lake**	3.06	88	Pn	Pn	19 55 29.9	-0.2
B926				Sn	Sn	19 56 05.5	-1.8
CLRS	**Cowichan Lake**	3.06	88		Pn	19 55 29.4	-0.6
CLRS	**Cowichan Lake**	3.06	88	Pn	Pn	19 55 29.8	-0.3
CLRS				Sn	Sn	19 56 05.6	-1.7
NLLB	**Nanaimo Lost L**	3.17	80	Pn	Pn	19 55 32.6	+1.0
NLLB				Sn	Sn	19 56 11.4	+1.3
SHB	**Sechelt**	3.30	74	Pn	Pn	19 55 34.4	+0.9
SHB				Sn	Sn	19 56 14.6	+1.1
BBB	**Bella Bella**	3.42	7	Pn	Pn	19 55 36.2	+1.3
	44nm,0.3s,baz=179,slow=7.8,SNR=250						
BBB				Sn	Sn	19 56 15.1	-0.9
	13nm,0.3s,baz=287,slow=20,SNR=4.5						
BBB				LR	LR	19 57 00.3	
	comp=Z,3μm,18.0s,baz=205,slow=40						
BBB	**Bella Bella**	3.42	7		Pn	19 55 34.4	-0.6
BBB	**Bella Bella**	3.42	7	Pn	Pn	19 55 35.7	+0.8
BBB				Sn	Sn	19 56 14.7	-1.3
OSD	**Olympics--Snow**	3.52	104	Pn	Pn	19 55 37.0	+0.5
B009	**North Saanich**	3.52	90	Sn	Sn	19 56 18.2	-0.3
B010	**North Saanich**	3.52	90	Pn	Pn	19 55 36.5	+0.1
B010				Sn	Sn	19 56 18.4	-0.2
PGC	**Sidney**	3.52	90		Pn	19 55 36.0	-0.4
PGC	**Sidney**	3.52	90	Pn	Pn	19 55 36.2	-0.1
PGC				Sn	Sn	19 56 18.4	-0.2
B011	**North Saanich**	3.52	90	Pn	Pn	19 55 36.5	+0.2
B011				Sn	Sn	19 56 17.8	-0.8
NLWA	**Neilton Lookou**	3.57	111		Pn	19 55 37.5	+0.4
B04A	**Port Angeles**	3.58	100	Pn	Pn	19 55 36.8	-0.4
VGZ	**Gonzales**	3.63	94	Sn	Sn	19 56 20.2	-1.1
BIB	**Bowen Island**	3.63	78	Pn	Pn	19 55 39.0	+1.0
SNB	**Saturna Island**	3.70	88	Sn	Sn	19 56 23.3	+0.3
WPB	**Watts Point**	3.74	75	Pn	Pn	19 55 40.9	+1.5
WISH	**Wishkah**	3.75	115	Pn	Pn	19 55 39.4	-0.2
HG4B	**Hotspring**	3.83	337	Pn	Pn	19 55 39.6	-1.1
HNBB	**Haney**	4.10	81	Sn	Sn	19 56 32.4	-0.6
E03A	**Lebam**	4.17	121	Pn	Pn	19 55 46.1	+0.8
BUTB	**Butedale**	4.27	2	Pn	Pn	19 55 47.5	+0.6
BUTB				Sn	Sn	19 56 36.7	-0.7
VDB	**Vedder Mountai**	4.40	85	Pn	Pn	19 55 49.5	+1.1
VDB				Sn	Sn	19 56 40.2	-0.1
A05A	**Maple Falls**	4.41	85	Pn	Pn	19 55 49.7	+1.1
A05A				Sn	Sn	19 56 41.4	+0.8
CMW	**Cultus Mountai**	4.42	92	Pn	Pn	19 55 50.2	+1.3
E04D	**Cinebar**	4.75	116	Pn	Pn	19 55 54.0	+0.7
MOBC	**Moresby Island**	4.80	336	Pn	Pn	19 55 53.8	-0.3
HWKB	**Hawksbury Isla**	4.81	357	Pn	Pn	19 55 54.9	+0.7
LLLB	**Lillooet**	4.82	65	Pn	Pn	19 55 56.0	+1.7
LLLB	**Lillooet**	4.82	65	Pn	Pn	19 55 56.5	+2.2
RPW	**Rockport**	4.82	91	Pn	Pn	19 55 55.4	+1.1
D05A	**Enumclaw**	4.82	107	Pn	Pn	19 55 53.7	-0.6
B06A	**Marblemount**	4.83	91	Pn	Pn	19 55 52.9	-1.5
HOPB	**Hope**	4.86	80	Pn	Pn	19 55 56.2	+1.5
DIB	**Dawson Inlet,**	4.99	333	Pn	Pn	19 55 55.9	-0.8
GRNB	**Grenville Isla**	5.11	352	Pn	Pn	19 55 57.9	-0.4
GRNB	**Grenville Isla**	5.11	352	Pn	Pn	19 55 58.7	+0.4
GPW	**Glacier Peak**	5.12	95	Pn	Pn	19 56 00.0	+1.4
FMW	**Mount Fremont**	5.12	109	Pn	Pn	19 56 00.3	+1.7
F04A	**Amboy**	5.17	121	Pn	Pn	19 55 58.6	-0.5
LTY	**Liberty**	5.64	103		Pn	19 56 07.5	+1.8
LTY	**Liberty**	5.64	103	Pn	Pn	19 56 07.2	+1.6
LTY				Sn	Sn	19 57 11.7	+0.6
COR	**Corvallis**	5.64	136	Pn	Pn	19 56 06.7	+1.1
H04D	**Lebanon**	5.96	134	Pn	Pn	19 56 12.2	+2.3
HOOD	**Mount Hood Mea**	5.97	123		Pn	19 56 11.8	+1.5
BUCK	**Buck Mountain**	6.09	137	Pn	Pn	19 56 12.4	+0.7
H04A	**Detroit Lake**	6.11	130	Pn	Pn	19 56 13.9	+1.9
B08A	**Colville Reser**	6.27	90		Pn	19 56 16.1	+1.9
E07A	**Sunnyside**	6.42	107		Pn	19 56 18.3	+2.1
J01E	**Myrtle Point**	6.56	147	Pn	Pn	19 56 18.3	+0.1
F07A	**Phinny Hill Vi**	6.67	113	Pn	Pn	19 56 19.4	-0.3
KEBM	**Edson Butte**	6.68	151	Pn	Pn	19 56 20.6	+0.7
HAWA	**Hanford**	6.69	108	Pn	Pn	19 56 19.2	-0.7
D08A	**Wollman Farm,**	6.84	101	Pn	Pn	19 56 21.5	-0.5
BLBC	**Blue River**	6.89	58	Pn	Pn	19 56 25.6	+2.6
E08A	**Ider Farm, El**	6.95	106	Pn	Pn	19 56 23.3	-0.2
C09A	**Chrisman Ranch**	7.07	94		Pn	19 56 25.1	0.0
CRAG	**Craig**	7.20	340	Pn	Pn	19 56 22.8	-4.1
J04D	**Umpqua Nationa**	7.23	138	Pn	Pn	19 56 27.2	-0.4
SLEB	**Sale Mountain**	7.25	67	Pn	Pn	19 56 30.4	+2.5
KBO	**Bosley Butte**	7.32	153	Pn	Pn	19 56 27.8	-0.8
PINE	**Pine Mountain**	7.37	130	Pn	Pn	19 56 27.7	-1.8
MNB	**Mounoet Dainar**	7.44	59	Pn	Pn	19 56 33.3	+2.9
E09A	**Wood Farm, Sta**	7.52	104	Pn	Pn	19 56 29.4	-2.0
G08A	**Pilot Rock**	7.56	114	Pn	Pn	19 56 31.5	-0.5
NEW	**Newport**	7.75	90	Pn	Pn	19 56 36.3	+1.8
	0.2nm,0.3s,baz=299,slow=9.5,SNR=3.1						
NEW				LR	LR	19 59 41.2	
	comp=Z,2μm,18.7s,baz=277,slow=38						
NEW	**Newport**	7.75	90	Pn	Pn	19 56 32.5	-2.0
KSXB	**Camp Six Broad**	7.77	152	Pn	Pn	19 56 36.0	+1.1
L04D	**Klamath Falls**	7.99	143		Pn	19 56 39.9	+1.9
K05A	**Summer Lake**	8.19	135	Pn	Pn	19 56 41.6	+0.9
YBH	**Yreka Blue Hor**	8.25	147	Pn	Pn	19 56 45.6	+4.1
	0.2nm,0.3s,baz=338,slow=14,SNR=9.6						
YBH	**Yreka Blue Hor**	8.25	147	Pn	Pn	19 56 44.9	+3.4
F10A	**Beach Ranch, E**	8.32	106		Pn	19 56 42.8	+0.4
M02C	**Callahan**	8.50	148		Pn	19 56 47.9	+3.0
M04C	**Macdoel**	8.54	143	Pn	Pn	19 56 47.0	+1.5
KHMM	**Horse Mountain**	8.69	154	Pn	Pn	19 56 48.7	+1.1
BMO	**Blue Mountains**	8.79	112	Pn	Pn	19 56 49.3	+0.5
N02D	**Trinity Center**	8.92	149	Pn	Pn	19 56 47.0	-3.6
J08A	**Circle Bar Ran**	8.98	123		Pn	19 56 50.2	-1.3
MOD	**Modoc Plateau**	9.11	136	Pn	Pn	19 56 54.1	+0.8
KMRM	**Mail Ridge**	9.30	155	Pn	Pn	19 56 57.9	+2.1
WAC	**Whiskeytown Da**	9.33	149	Pn	Pn	19 56 58.3	+2.1
NBC5	**NorthernBC 5**	9.47	20	Pn	Pn	19 57 01.8	+3.7
PLID	**Pearl Lake**	9.48	108	Pn	Pn	19 56 59.7	+1.2
WVOR	**Wild Horse Val**	9.53	128		Pn	19 57 02.1	+3.2
DLBC	**Dease Lake**	9.69	356	Pn	Pn	19 57 07.2	+6.1
	0.2nm,0.3s,baz=166,slow=11,SNR=6.1						
DLBC				LR	LR	20 00 36.4	
	comp=Z,924nm,21.3s,baz=136,slow=36						
DLBC	**Dease Lake**	9.69	356	Pn	Pn	19 57 04.4	+3.4
JTMT	**Jette**	9.71	91		Pn	19 57 02.2	+0.6
WALA	**Waterton Lakes**	9.78	83	Pn	Pn	19 57 01.5	-1.0
MFID	**Camas Ranch**	10.46	116	Pn	Pn	19 57 11.8	0.0
ORV	**Oroville**	10.61	148	Pn	Pn	19 57 13.7	+0.1
FNBB	**Fort Nelson**	10.66	16	Pn	Pn	19 57 17.2	+2.9
EDM	**Edmonton**	10.67	60	Pn	Pn	19 57 12.7	-1.7
HLID	**Hailey**	11.23	112	Pn	Pn	19 57 24.5	+2.0
PAHR	**Pah Rah Range**	11.30	140	Pn	Pn	19 57 23.0	-0.2
SKAG	**Skagway**	11.35	343	Pn	Pn	19 57 22.8	-0.9
MPK	**Martis Peak**	11.38	143	Pn	Pn	19 57 24.5	-0.1
LRM	**Limekiln Ridge**	11.47	99	Pn	Pn	19 57 24.1	-1.5
MCCM	**Marconi Confer**	11.47	156	Pn	Pn	19 57 26.1	+0.7
BCYI	**Bear Canyon**	11.48	107	Pn	Pn	19 57 24.0	-1.8
VCNR	**Virginia City**	11.53	142		Pn	19 57 26.2	-0.3
NBC2	**NorthernBC 2**	11.59	16	Pn	Pn	19 57 29.7	+2.7
MCMT	**McKenzie Canyo**	11.60	104	Pn	Pn	19 57 26.9	-0.6
P33M	**Teslin, Yukon**	11.67	350	Pn	Pn	19 57 25.2	-3.0
BMN	**Battle Mountai**	11.72	131		Pn	19 57 32.0	+3.0
PNTR	**Pine Nut**	11.73	142	Pn	Pn	19 57 29.2	0.0
BOZ	**Bozeman (W)**	12.08	99	Pn	Pn	19 57 32.3	-1.7
WHY	**Whitehorse**	12.39	346		Pn	19 57 36.9	-1.2
WHY	**Whitehorse**	12.39	346	Pn	Pn	19 57 43.8	+5.7
KVN	**Kaiserville**	12.40	138	Pn	Pn	19 57 36.5	-1.8
ELK	**Elko**	12.52	125	Pn	Pn	19 57 46.6	+6.5
	0.1nm,0.3s,baz=311,slow=13,SNR=4.0						
ELK				LR	LR	20 02 45.1	
	comp=Z,504nm,20.9s,baz=314,slow=38						
ELK	**Elko**	12.52	125	Pn	Pn	19 57 37.6	-2.5
RYN	**Ryan**	12.56	140	Pn	Pn	19 57 38.1	-2.5
EGMT	**Eagleton**	12.65	86	Pn	Pn	19 57 37.5	-4.2
NVAR	**Mina Array Bea**	12.82	140	Pn	Pn	19 57 49.3	+5.1
	baz=307,slow=10,SNR=11						
NVAR	**Mina Array Bea**	12.82	140	Pn	Pn	19 57 41.8	-2.4
YMR	**Madison River**	12.88	102		Pn	19 57 43.2	-1.8
NV11	**Mina Array Sit**	12.89	140		Pn	19 57 44.2	-0.8
LHV	**Little Huntoon**	12.89	141	Pn	Pn	19 57 44.3	-0.5
Q09A	**Carvers**	12.99	136	Pn	Pn	19 57 44.6	-1.8
YNR	**Norris Junctio**	13.05	101	Pn	Pn	19 57 44.4	-2.8
SAO	**San Andreas Ge**	13.16	153	Pn	Pn	19 57 46.9	-1.7
HVU	**Hansel Valley**	13.25	116		Pn	19 57 48.6	-1.3
H17A	**Grant Village**	13.25	103	Pn	Pn	19 57 48.6	-1.4
LKWY	**Lake**	13.29	102	Pn	Pn	19 57 47.2	-3.4
GCMT	**Greycliff**	13.30	96	Pn	Pn	19 57 47.4	-3.2
FLWY	**Flagg Ranch**	13.31	104	Pn	Pn	19 57 52.3	+1.5
N31M	**Braeburn, Yuko**	13.32	345	Pn	Pn	19 57 54.7	+4.0
YMP	**Mirror Lake Pl**	13.38	101	Pn	Pn	19 57 50.9	-0.9
MOOW	**Moose Ponds**	13.44	105	Pn	Pn	19 57 50.1	-2.4
REDW	**Red Top Meadow**	13.56	107	Pn	Pn	19 57 50.7	-3.5
SNOW	**Snow King Moun**	13.57	106	Pn	Pn	19 57 51.1	-3.3
TPH	**Tonopah**	13.59	138		Pn	19 57 55.9	+1.3
LOHW	**Long Hollow**	13.59	106	Pn	Pn	19 57 52.4	-2.2
BGU	**Big Grassy Mou**	13.64	119		Pn	19 57 55.8	+0.6
TABL	**Table Mountain**	13.66	333	Pn	Pn	19 57 54.7	-0.8
AHID	**Auburn Hatcher**	13.71	109	Pn	Pn	19 57 51.7	-4.5
M31M	**Drury Creek, Y**	13.80	349		Pn	19 57 54.4	-2.7
RLMT	**Red Lodge**	13.81	98	Pn	Pn	19 57 56.8	-0.8
PMPB	**Monarch Peak**	13.87	152	Pn	Pn	19 57 56.5	-1.8
LOGN	**Logan Glacier**	13.93	334	Pn	Pn	19 57 53.4	-5.7
SNH	**Sunshine Point**	13.99	330	Pn	Pn	19 57 59.3	-0.5
GRNC	**Granite Creek**	14.08	333	Pn	Pn	19 58 00.6	-0.5
LCH	**Last Change Ra**	14.11	141	P	Pn	19 57 59.6	-2.1
DUG	**Dugway, Tooele**	14.24	121	P	Pn	19 58 00.8	-2.7
SPR3	**Spring Creek 3**	14.27	128	Pn	Pn	19 58 02.1	-1.9
BARN	**Barnard Glacie**	14.31	334		Pn	19 58 01.5	-2.8
BERG	**Berg Lake**	14.44	329	Pn	Pn	19 58 05.5	-0.5
PAGB	**Antelope Grade**	14.48	151	Pn	Pn	19 58 06.3	-0.4
M30M	**Minto, Yukon**	14.51	345		Pn	19 58 05.8	-1.2
CTU	**Camp Tracy**	14.53	118	Pn	Pn	19 58 06.6	-0.9
HMT	**Hamilton**	14.59	328	Pn	Pn	19 58 07.9	-0.2
S11A	**Rachel**	14.61	135		Pn	19 58 09.1	+0.5
BW06	**Boulder Array**	14.68	107		Pn	19 58 08.2	-1.3
PD31	**Pinedale Array**	14.68	107		Pn	19 58 08.4	-1.0
PDAR	**Pinedale Array**	14.68	107	Pn	P	19 58 14.1	-1.9
	0.1nm,0.3s,baz=168,slow=15,SNR=3.8						
PDAR				LR	LR	20 04 18.3	
	comp=Z,1μm,18.6s,baz=303,slow=39						
PDAR	**Pinedale Array**	14.68	107		Pn	19 58 07.3	-2.2
JLU	**Jordanelle**	14.76	117	P	Pn	19 58 06.9	-3.8
NLU	**North Lily Min**	14.82	120	P	Pn	19 58 07.8	-3.7
PSUT	**Pine Spring**	14.86	128	P	Pn	19 58 09.6	-2.4
TPNV	**Topopah Spring**	14.95	138		Pn	19 58 13.9	+0.7
PRN	**Pahroc Range**	15.13	134		Pn	19 58 15.6	0.0
PRN				IAmb	IAmb	19 58 34.3	
	comp=Z,25nm,1.1s						
ISA	**Isabella, Lake**	15.16	146	P	Pn	19 58 15.6	-0.2
ISA				IAmb	IAmb	19 58 33.3	
	comp=Z,20nm,1.2s						
GLB	**Gilahina Butte**	15.26	332		Pn	19 58 16.6	-0.4
GLB				IAmb	IAmb	19 58 26.7	
	comp=Z,27nm,1.4s						
LAO	**LASA Array**	15.30	89	Pn	Pn	19 58 16.1	-1.6
GWY	**Greenwater Val**	15.41	140	P	Pn	19 58 18.6	-0.7
M27K	**Edge Creek, AK**	15.43	337	P	Pn	19 58 18.0	-1.4
QSM	**Queen of Sheba**	15.52	141	P	Pn	19 58 20.5	-0.1
QSM				IAmb	IAmb	19 58 29.8	
	comp=Z,24nm,1.1s						
N25K	**Chitina, Valde**	15.63	331	P	Pn	19 58 19.9	-2.0
N25K				IAmb	IAmb	19 58 33.6	
	comp=Z,52nm,1.8s						
M26K	**Nabesna, AK**	15.77	335	P	Pn	19 58 23.6	-0.1
SHPR	**Sheep Range**	15.81	136	P	Pn	19 58 24.7	+0.1
YKA	**Yellowknife Ar**	15.82	25	Pn	Pn	19 58 24.8	+0.5
	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=18						
YKA				LR	LR	20 04 41.8	
	comp=Z,815nm,18.1s,baz=230,slow=38						
RDMU	**Red Mountain**	15.90	114	P	Pn	19 58 26.2	+0.4
BCAR	**Beaver Creek A**	16.00	338	P	Pn	19 58 26.9	+0.2
L27K	**Beaver Creek,**	16.01	338	P	Pn	19 58 27.0	+0.2
GSC	**Goldstone, Bar**	16.12	142		Pn	19 58 28.9	+0.5
DGMT	**Dagmar**	16.23	82		Pn	19 58 29.5	-0.2
DAWY	**Dawson**	16.35	343	P	Pn	19 58 31.4	+0.1
DAWY				IAmb	IAmb	19 58 47.0	
	comp=Z,50nm,1.8s						
MWC	**Mount Wilson**	16.60	147	P	Pn	19 58 35.3	+0.7
KDAK	**Kodiak Island**	16.76	311	LR	LR	20 03 22.8	
	comp=Z,482nm,20.1s,baz=139,slow=31						
SCRK	**Sand Creek**	17.31	337	P	Pn	19 58 43.5	+0.1
RSSD	**Black Hills**	17.63	96		Pn	19 58 46.8	-0.8
J26L	**

	comp=Z,26nm,1.2s						
IMAR	Indian Mountai	21.60	332	P	P	19 59 32.8	+1.3
AGMN	Agassiz Nation	21.70	79	P	P	19 59 31.1	-1.7
AGMN				IAmb	IAmb	19 59 36.2	
	comp=Z,25nm,0.9s						
K31A	O'Neill	21.75	95	P	P	19 59 33.7	+0.3
BNM	Barren Site	22.01	124	P	P	19 59 36.9	+0.4
F33A	5 Mile Ranch,	22.12	85	P	P	19 59 36.5	-0.8
F33A				IAmb	IAmb	19 59 50.4	
	comp=Z,40nm,1.3s						
FCC	Fort Churchill	22.53	51	P	P	19 59 39.7	-1.9
FCC				IAmb	IAmb	19 59 49.7	
	comp=Z,29nm,1.1s						
ECSD	EROS Data Cent	22.69	91	P	P	19 59 43.0	-0.4
BGNE	Belgrade	22.72	97	P	P	19 59 44.0	+0.2
B35A	Bob, Littlefor	23.06	78	P	P	19 59 46.1	-1.2
A36M	Sachs Harbour	23.32	3	P	P	19 59 48.5	-1.2
A36M				IAmb	IAmb	20 00 03.9	
	comp=Z,13nm,1.1s						
F36A	Milaca	23.93	84	P	P	19 59 54.7	-1.3
MSTX	Muleshoe	24.33	118	P	P	19 59 59.1	-0.8
MNTX	Cornudas Mount	24.55	125	P	P	20 00 01.9	+0.1
MNTX				IAmb	IAmb	20 00 12.2	
	comp=Z,40nm,1.9s						
N35A	Tabor	24.64	96	P	P	19 59 59.8	-2.8
K38A	Parkersburg	25.69	90	P	P	20 00 13.6	+1.5
N38A	Joes South For	26.26	94	P	P	20 00 17.2	0.0
L40A	Anamosa	26.98	90	P	P	20 00 23.2	-0.5
TXAR	Lajitas Array	27.31	126	P	P	20 00 29.4	+2.5
	comp=Z,0.5nm,0.8s,baz=321,slow=7.0,SNR=2.8						
TXAR				PcP	PcP	20 03 47.5	+1.1
	comp=Z,0.3nm,0.7s,baz=33,slow=2.2,SNR=2.5						
TXAR				LR	LR	20 12 14.5	
	comp=Z,300nm,19.4s,baz=318,slow=38						
S39A	Bolivar	27.86	100	P	P	20 00 31.3	-0.3
LPIG	La Paz	28.62	143	LR	LR	20 12 42.1	
	comp=Z,110nm,20.3s,baz=36,slow=38						
MGMO	Mountain Grove	28.85	100	P	P	20 00 41.2	+0.7
RES	Resolute Bay	29.64	17	P	P	20 00 50.5	+3.5
	comp=Z,1.2nm,0.8s,baz=240,slow=7.1,SNR=4.3						
RES				LR	LR	20 11 18.6	
	comp=Z,156nm,21.3s,baz=274,slow=34						
RES	Resolute Bay	29.64	17	IAmb	IAmb	20 01 45.1	
	comp=Z,19nm,1.9s						
W41B	Gary Mavity, V	30.05	103	P	P	20 00 50.5	-0.6
LCAR	Lake Charles	30.21	101	P	P	20 00 53.0	+0.5
LCAR				IAmb	IAmb	20 00 57.2	
	comp=Z,12nm,1.2s						
S44A	Carbondale	30.52	96	P	P	20 00 55.1	-0.1
SADO	Sadowa	33.73	78	LR	LR	20 15 30.0	
	comp=Z,657nm,20.4s,baz=348,slow=37						
FRB	Frobisher Bay	35.11	42	LR	LR	20 15 44.5	
	comp=Z,174nm,19.6s,baz=254,slow=36						
TKL	Tuckaleechee C	35.29	95	LR	LR	20 16 38.1	
	comp=Z,543nm,18.5s,baz=312,slow=37						
SCHQ	Schefferville	37.63	57	LR	LR	20 16 00.3	
	comp=Z,280nm,19.4s,baz=281,slow=34						
SFJD	Kangerlussuaq	41.99	35	LR	LR	20 20 04.1	
	comp=Z,184nm,20.4s,baz=286,slow=36						
SEY	Seymchan	43.48	319	P	P	20 02 46.5	+1.6
	comp=Z,1.3nm,0.8s,baz=63,slow=12,SNR=3.9						
PETK	Petropavlovsk-	44.64	305	LR	LR	20 22 24.0	
	comp=Z,75nm,18.1s,baz=78,slow=37						
TIXI	Tiksi	48.19	335	LR	LR	20 25 38.8	
	comp=Z,99nm,18.2s,baz=18,slow=38						
SPITS	Spitsbergen Ar	51.52	9	LR	LR	20 25 00.5	
	comp=Z,56nm,20.9s,baz=352,slow=35						
JMIC	Jan Mayen	53.16	21	LR	LR	20 28 36.5	
	comp=Z,77nm,19.8s,baz=338,slow=38						
YAK	Yakutsk	53.19	325	LR	LR	20 26 34.6	
	comp=Z,66nm,19.5s,baz=86,slow=36						
ASAJ	Asahikawa	57.88	302	LR	LR	20 26 56.5	
	comp=Z,57nm,21.2s,baz=280,slow=33						
TAOE	Nuku Hiva Isla	58.27	193	eLR	LR	20 21 24.5	
	comp=Z,322nm,25.9s						
H11N2	WAKE ISLAND Hy	58.57	264	T	T	21 07 59.7	
	baz=44,slow=75,SNR=78						
H11N3	WAKE ISLAND Hy	58.57	264	T	T	21 07 59.8	
	baz=44,slow=75,SNR=68						
H11N1	WAKE ISLAND Hy	58.59	264	T	T	21 08 00.9	
	baz=44,slow=75,SNR=78						
NRIK	Noril'sk	59.18	346	P	P	20 04 45.8	+3.3
	comp=Z,2.6nm,0.7s,baz=46,slow=7.5,SNR=5.1						
NRIK				LR	LR	20 32 34.7	
	comp=Z,63nm,19.0s,baz=55,slow=38						
NRIK	Noril'sk	59.18	346	IAmb	IAmb	20 04 49.5	
	comp=Z,28nm,1.8s						
H11S1	WAKE ISLAND Hy	59.57	264	T	T	21 09 14.7	
	baz=43,slow=74,SNR=18						
H11S2	WAKE ISLAND Hy	59.58	263	T	T	21 09 15.6	
	baz=43,slow=74,SNR=32						
H11S3	WAKE ISLAND Hy	59.59	264	T	T	21 09 25.0	
	baz=43,slow=74,SNR=10.0						
KLR	Kul'dur	60.33	312	LR	LR	20 29 20.9	
	comp=Z,69nm,21.5s,baz=39,slow=34						
SDV	Santo Domingo	62.60	109	LR	LR	20 36 16.4	
	comp=Z,36nm,18.2s,baz=351,slow=40						
ROSC	El Rosal	63.51	115	LR	LR	20 37 53.6	
	comp=Z,56nm,18.2s,baz=254,slow=41						
NOA	NORSAR Array B	65.86	20	P	P	20 05 30.4	+3.1
	comp=Z,0.6nm,0.7s,baz=299,slow=12,SNR=2.6						
NOA				LR	LR	20 32 43.2	
	comp=Z,79nm,19.3s,baz=330,slow=35						
EKA	Eskdalemuir Ar	66.69	30	LR	LR	20 33 14.8	
	comp=Z,123nm,19.0s,baz=326,slow=35						
HFS	Hagfors	67.23	19	LR	LR	20 33 21.2	
	comp=Z,86nm,18.8s,baz=322,slow=34						
FINES	FINESS Array B	68.26	13	LR	LR	20 36 05.9	
	comp=Z,122nm,18.3s,baz=348,slow=36						
PPT2	Papeete2	68.64	201	eLR	LR	20 26 07.5	
	comp=Z,188nm,27.5s						
KSRS	Korea Array	70.54	305	LR	LR	20 38 16.9	
	comp=Z,26nm,18.0s,baz=15,slow=37						
SONM	Songino Array	72.55	325	P	P	20 06 12.4	+3.3
	comp=Z,1.2nm,0.9s,baz=72,slow=4.8,SNR=8.1						
SONM				LR	LR	20 39 40.9	
	comp=Z,71nm,19.7s,baz=334,slow=37						
KIRV	Kirov	72.97	1	LR	LR	20 43 25.0	
	comp=Z,37nm,18.9s,baz=13,slow=40						
ZAA0	Zalesovo Array	73.77	340	P	P	20 06 16.7	+0.6
ZAA0				IAmb	IAmb	20 06 20.0	
	comp=Z,16nm,1.7s						
ZALV	Zalesovo Beam	73.77	340	P	P	20 06 17.2	+1.2
	comp=Z,1.0nm,0.6s,baz=35,slow=5.4,SNR=7.3						
ZALV				LR	LR	20 41 14.4	
	comp=Z,69nm,18.1s,baz=22,slow=38						
ZALV	Zalesovo Beam	73.77	340	P	P	20 06 16.5	+0.4
ARU	Arti	74.96	356	LR	LR	20 42 39.5	
	comp=Z,26nm,18.9s,baz=112,slow=38						
BRG	Berggiesshubel	75.69	23	eP	P	20 06 31.7	+4.4
BRG				Amp		20 06 37.8	
	comp=Z,16nm,1.6s						
OBN	Obninsk	75.73	9	LR	LR	20 41 46.0	
	comp=Z,22nm,18.8s,baz=42,slow=37						
PTGA	Pitinga	76.72	107	LR	LR	20 42 14.4	
	comp=Z,28nm,21.7s,baz=360,slow=37						
DPC	Dobruska-Polom	76.78	22	eP	P	20 06 36.8	+3.3
MDP	Montagnes des	77.04	97	LR	LR	20 46 06.3	
	comp=Z,70nm,18.6s,baz=340,slow=40						
KRLC	Kralicky	77.15	22	eP	P	20 06 40.0	+4.4
KHC	Kasperske Hory	77.18	24	eP	P	20 06 39.8	+4.0
KHC	Kasperske Hory	77.18	24	P	P	20 06 36.0	+0.1
GERES	GERESS Array B	77.48	24	P	P	20 06 40.9	+3.3
	comp=Z,1.1nm,0.9s,baz=350,slow=6.8,SNR=8.8						
GERES				LR	LR	20 42 45.8	
	comp=Z,73nm,19.0s,baz=318,slow=37						
GUMO	Guam	77.53	276	LR	LR	20 35 56.1	
	comp=Z,47nm,19.9s,baz=78,slow=32						
MORC	Moravsky Berou	77.61	22	eP	P	20 06 40.8	+2.6
DAVA	Damuels	77.78	27	eP	P	20 06 43.4	+4.1
	comp=Z,6.0nm,1.1s						
VRAC	Vranov	77.81	22	LR	LR	20 41 37.0	
	comp=Z,71nm,18.8s,baz=342,slow=36						
VRAC	Vranov	77.81	22	eP	P	20 06 42.0	+2.7
KRUC	Moravsky	77.99	23	eP	P	20 06 42.9	+2.6
MOTA	Moosalm	78.10	27	eP	P	20 06 45.9	+4.8
	comp=Z,9.0nm,1.4s						
KURBB	Kurchatov Arra	78.23	343	P	P	20 06 44.0	+2.5
	comp=Z,1.6nm,0.9s,baz=15,slow=5.1,SNR=7.5						
DAVOX	Davos/Dischmat	78.23	28	LR	LR	20 41 29.7	
	comp=Z,120nm,19.6s,baz=323,slow=36						
SQTA	Sankt Quirin	78.24	27	eP	P	20 06 46.3	+4.4
	comp=Z,7.1nm,1.4s						
WATA	Walderalm	78.24	26	eP	P	20 06 50.7	+8.8
	comp=Z,10nm,1.3s						
FETA	Feichten	78.28	27	eP	P	20 06 46.8	+4.7
	comp=Z,6.0nm,1.2s						
WTTA	Wattenberg	78.33	26	eP	P	20 06 46.6	+4.2
	comp=Z,9.2nm,1.1s						
MOA	Molln	78.54	24	eP	P	20 06 52.1	+8.8
	comp=Z,4.0nm,1.6s						
CONA	Conrad Observa	78.89	23	eP	P	20 06 49.7	+4.3
	comp=Z,5.4nm,1.4s						
KBA	Koelnbreinsper	78.99	25	eP	P	20 06 50.6	+4.6
	comp=Z,8.8nm,1.1s						
ABTA	Abfaltersbach	79.05	26	eP	P	20 06 50.5	+4.2
	comp=Z,4.4nm,1.4s						
AKASG	Malin Array Be	79.10	14	P	P	20 06 49.4	+3.1
	comp=Z,0.1nm,0.3s,baz=340,slow=5.2,SNR=1.2						
AKASG				LR	LR	20 42 19.2	
	comp=Z,113nm,18.4s,baz=4.0,slow=36						
BELG	Belogornoye	79.14	2	LR	LR	20 46 18.8	
	comp=Z,42nm,20.0s,baz=88,slow=39						
ESDC	Sonseca Array	79.29	40	P	P	20 06 48.9	+1.2
	comp=Z,2.3nm,1.2s,baz=331,slow=8.5,SNR=4.6						
ESDC				LR	LR	20 39 45.8	
	comp=Z,86nm,18.3s,baz=286,slow=34						
SOKA	Soboth	79.82	24	eP	P	20 06 54.2	+3.7
	comp=Z,13nm,1.3s						
OBKA	Obir	79.84	25	eP	P	20 06 52.1	+1.4
	comp=Z,5.2nm,0.9s						
ETMB	Extrema	80.02	117	P	P	20 06 50.3	-1.4
ETMB				IAmb	IAmb	20 06 54.9	
	comp=Z,9.5nm,1.2s						
AKTO	Aktyubinsk	80.97	356	LR	LR	20 48 05.2	
	comp=Z,34nm,18.3s,baz=16,slow=40						
MK31	Makanchi Array	81.03	339	P	P	20 06 55.7	-1.2
MK31				IAmb	IAmb	20 07 04.4	
	comp=Z,8.6nm,1.5s						
MKAR	Makanchi Array	81.03	339	P	P	20 06 57.5	+0.6
	comp=Z,0.9nm,0.8s,baz=35,slow=4.4,SNR=8.6						
MKAR				LR	LR	20 44 37.9	
	comp=Z,47nm,21.8s,baz=12,slow=37						
MKAR	Makanchi Array	81.03	339	P	P	20 06 55.2	-1.7
ABKAR	Akbulak array	82.04	354	P	P	20 07 01.9	-0.2
LPAZ	La Paz	84.13	123	LR	LR	20 48 07.8	
	comp=Z,54nm,19.7s,baz=12,slow=38						
HNR	Honiara	85.00	250	LR	LR	20 39 49.2	
	comp=Z,68nm,19.4s,baz=40,slow=32						
AAK	Ala-Archa	86.67	343	LR	LR	20 50 58.3	
	comp=Z,45nm,19.5s,baz=329,slow=39						
SIV	San Ignacio	87.94	117	LR	LR	20 49 55.2	
	comp=Z,37nm,21.8s,baz=278,slow=38						
DZM	Mont Dzumac	91.09	237	LR	LR	20 39 22.9	
	comp=Z,53nm,20.8s,baz=120,slow=29						
DZM	Mont Dzumac	91.09	237	eLR	LR	20 36 38.0	
	comp=Z,93nm,22.2s						
GNI	Garni	91.25	5	LR	LR	20 52 06.7	
	comp=Z,62nm,19.4s,baz=1.5,slow=38						
JAY	Jayapura	92.23	269	LR	LR	20 42 11.9	
	comp=Z,88nm,20.3s,baz=21,slow=31						
PMG	Port Moresby	93.12	259	LR	LR	20 44 46.3	
	comp=Z,46nm,19.4s,baz=182,slow=32						
GEYT	Ailbeck	93.43	355	LR	LR	20 55 19.2	
	comp=Z,26nm,18.5s,baz=26,slow=39						
DAV	Davao City (W)	94.90	286	LR	LR	20 43 24.6	
	comp=Z,125nm,21.9s,baz=326,slow=31						
SIJI	Sorong	97.23	277	LR	LR	20 43 36.2	
	comp=Z,61nm,21.5s,baz=20,slow=30						
CPUP	Villa Florida	98.16	121	LR	LR	20 58 06.1	
	comp=Z,39nm,18.0s,baz=9.0,slow=39						
BOSA	Boshof	151.64	54	PKPbc	PKiKP	20 14 38.5	+1.4
	comp=Z,2.7nm,1.0s,baz=203,slow=2.7,SNR=3.2						

IDC 19 20:10:19.7±2.3, 2°84N×127°87E, h0km, mb3.1/3, mb1 3.3/3, mb1mx2.8/49, mbtmp3.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/23, Error ellipse: s-maj=171.6km s-min=26.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.52	165	P	P		20 15 31.6	0.0
	0.4nm,0.5s,baz=344,slow=11,SNR=7.3							
ASAR	Alice Springs	26.99	168	P	P		20 16 03.4	-0.1
	0.1nm,0.5s,baz=354,slow=8.4,SNR=1.5							
MJAR	Matsushiro Arr	34.87	15	LR	LR		20 29 05.6	
	comp=Z,56nm,20.8s,baz=60,slow=32							
MKAR	Makanchi Array	58.93	325	P	P		20 20 20.8	0.0
	0.1nm,0.3s,baz=121,slow=6.9,SNR=5.4							

FUNV 19 20:14:37.0, 8°50N×71°41W, h5km, MW3.6
IDC 19 20:14:38.2±4.2, 8°83N×69°92W, h42km±32km, mb3.2/2, mb1 3.6/2, mb1mx3.1/55, mbtmp3.4/2, Error ellipse: s-maj=49.0km s-min=43.1km az=47.0
ISC 19 20:14:35.4±1.1, 8°48N±0°02×71°35W±0°02, h3km±9km, n44, σ1§63/75, 4C, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VIGV	El Vigia	0.35	358↑	ePg	Pg		20 14 42.0	-0.2
VIGV				eS	Sg		20 14 47.7	+0.9
SOCV	Socops	0.53	112	eP	Pb		20 14 47.4	0.0
SOCV				eS	Sb		20 14 55.3	0.0
SOCV	Socops	0.53	112↑	iP	Pb		20 14 47.2	-0.1
SOCV				eS	Sb		20 14 55.4	0.0
SDV	Santo Domingo	0.81	61	P	Pb		20 14 52.3	0.0
	15nm,0.3s,baz=188,slow=7.1,SNR=60							
SDV				S	Sb		20 15 03.4	-0.4
	58nm,0.3s,baz=65,slow=9.4,SNR=23							
SDV				LR	LR		20 15 32.9	
	comp=Z,64nm,20.9s,baz=185,slow=77							
SDV	Santo Domingo	0.81	61	eP	Pb		20 14 52.1	-0.2
SDV				eS	Sg		20 15 02.2	+0.6
SDV				i			20 15 15.1	
	comp=Z,183nm,0.5s							
CAPV	Capacho	1.13	237	eP	Pb		20 14 57.2	-0.5
CAPV				eS	Sb		20 15 12.6	-0.4
PAMC	Pamplona, Colo	1.75	230	eP	Pg		20 15 10.3	+1.2
PAMC				eS	Sg		20 15 35.1	+3.3
PAMC				i			20 15 38.4	
	comp=Z,217nm,0.3s							
MCQV	Machiques	1.94	323	eP	Pn		20 15 09.6	+0.2
MCQV				eS	Sn		20 15 33.9	-0.4
OCAC	Ocana	1.96	263	eP	Pb		20 15 11.4	-0.5
OCAC				eS	Sg		20 15 38.0	-0.5
OCAC				i			20 15 39.1	
	comp=Z,743nm,0.2s							
SANV	Sanarito	2.06	60	eP	Pb		20 15 12.7	-0.8
SANV				eS	Sb		20 15 38.9	-0.7
TAMC	Tame, Arauca	2.08	192	eP	Pg		20 15 14.7	-0.6
TAMC				eS	Sg		20 15 42.6	+0.3
TAMC				i			20 15 49.0	
	comp=Z,225nm,0.3s							
LL6C	La Loma 6 Bece	2.27	303	eP	Pb		20 15 14.9	-2.1
LL6C				eS	Sn		20 15 42.9	+0.7
LL6C				i			20 15 47.1	
	comp=Z,90nm,0.3s							
ELOV	Elorza	2.37	128	eP	Pn		20 15 16.3	+1.2
ELOV				eS	Sn		20 15 46.0	+1.3
DABV	Dabajuro	2.52	16	eP	Pb		20 15 19.5	-1.8
DABV				eS	Sn		20 15 50.5	+1.9
DABV	Dabajuro	2.52	16	eP	Pn		20 15 18.0	+0.7
DABV				eS	Sn		20 15 48.6	0.0
BARC	Barichara	2.61	224	eP	Pg		20 15 25.4	-0.1
BARC				eS	Sg		20 15 57.7	-1.7
BARC				i			20 16 05.2	
	comp=Z,93nm,0.4s							
SIQV	Siquisique	2.64	35	eP	Pn		20 15 20.1	+1.2
SIQV				eS	Sn		20 15 51.5	+0.2
SMLC	San Martn de	2.71	277	eP	Pn		20 15 20.5	+0.7
SMLC				eS	Sn		20 15 53.6	+0.5
CRJC	Cerrejon, Guaj	2.94	329	eP	Pn		20 15 23.4	+0.4
CRJC				eS	Sn		20 15 59.4	+0.5
RUSC	La Rusia	3.10	214	eP	Pb		20 15 28.8	-2.5
RUSC				eS	Sb		20 16 07.7	-2.1
RUSC				i			20 16 22.0	
	comp=Z,29nm,0.5s							
MAPV	Macapo	3.16	65	eP	Pn		20 15 27.1	+1.0
MAPV				eS	Sn		20 16 04.3	+0.1
URIC	Uribia, Colomb	3.26	349	eP	Pb		20 15 33.8	-0.1
BAUV	El Baul	3.31	82↑	eP	Pn		20 15 29.5	+1.5
BAUV				eS	Sn		20 16 08.1	+0.3
ZARC	Zaragoza, Cauc	3.61	254	eP	Pn		20 15 33.8	+1.6
PTBC	PUERTO BERRIO,	3.63	238	eP	Pn		20 15 30.9	-1.6
MONV	Montecano	3.71	21	eP	Pn		20 15 34.1	+0.6
MONV				eS	Sn		20 16 16.2	-1.6
SPBC	San Pablo de B	3.90	224	eP	Pb		20 15 40.5	-4.4
TURV	Turiamo	3.98	60	eP	Pn		20 15 38.5	+1.2
TURV				eS	Sn		20 16 23.5	-1.0
BENV	Beln	3.99	68	eP	Pn		20 15 38.2	+0.7
BENV				eS	Sn		20 16 23.9	-0.9
SJCC	San Jacinto, C	4.03	291	eP	Pn		20 15 40.2	+2.1
SJCC				eS	Sn		20 16 29.0	+3.1
UREC	San Jos de Ur	4.20	260	eP	Pn		20 15 42.4	+2.0
MOTC	Monteria, Cord	4.28	274	eP	Pn		20 15 42.4	+1.0
CHIC	Chingaza	4.50	212	eP	Pn		20 15 48.0	+3.2
CHIC				eS	Sn		20 16 39.7	+1.8
CHIC				i			20 16 45.6	
	comp=Z,14nm,0.3s							
NORC	Norcasia	4.54	230	eP	Pn		20 15 49.1	+4.0
PAYV	Puerto Ayacuch	4.77	129	eP	Pn		20 15 49.4	+1.2
PAYV				eS	Sn		20 16 42.8	-1.2
MERV	Las Mercedes	5.05	81	eP	Pn		20 15 52.4	+0.3
MERV				eS	Sn		20 16 48.7	-2.3
GUY2C	Guyana, Caldas	5.13	231	eP	Pn		20 15 56.9	+3.2
GUY2C				eS	Sn		20 16 56.3	+2.7
BIRV	Birongo	5.39	68	eP	Pn		20 15 56.9	+0.2
BIRV				eS	Sn		20 16 56.7	-2.7
ORTC	Ortega, Tolima	5.97	221	eP	Pn		20 16 02.5	-2.3
PLMC	San Jos del P	6.05	234↑	eP	Pn		20 16 10.1	+4.2
PDAR	Pinedale Array	47.81	322	P	P		20 23 15.6	+1.0
	comp=Z,0.3nm,0.5s,baz=130,slow=11,SNR=3.7							
YKA	Yellowknife Ar	62.33	339	P	P		20 24 58.0	-0.9
	comp=Z,0.3nm,0.6s,baz=126,slow=7.1,SNR=6.0							
ASAR	Alice Springs	151.50	235	PKPbc	PKiKP		20 34 31.8	-0.5
	comp=Z,0.7nm,1.0s,baz=103,slow=2.3,SNR=2.8							
WRA	Warramunga Arr	152.66	243	PKPbc	PKPbc		20 34 34.2	-0.3
	comp=Z,0.2nm,0.4s,baz=110,slow=2.5,SNR=7.8							

SKHL 19 20:17:41.2±0.4, 44°40N×148°10E, h42km±6km, mb4.2/3
JMA 19 20:17:42.2±0.8, 43°98N×147°71E, h0km, M3.6
ISC 19 20:17:39.0±3.7, 44°3N±0°1×147°9E±0°2, h10km±23km, n13, σ1§36/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.92	357	eP	Pb		20 17 56.5	-0.4
KUR				AMB	AMB		20 17 57.0	
	200nm,0.4s							
KUR				eS	Sg		20 18 08.1	-0.5
KUR				A	A		20 18 09.0	
	150nm,0.3s							
KUR				A	A		20 18 09.0	
	490nm,0.3s							
SHO	Shikotan	0.92	241	eP	Pn		20 17 58.0	+0.1
SHO				AMB	AMB		20 17 58.3	
	90nm,0.3s							
SHO				eS	Sb		20 18 10.3	+1.1
SHO				A	A		20 18 11.3	
	240nm,0.3s							
SHO				A	A		20 18 11.3	
	590nm,0.3s							
YUK	Yuzh-Kuril'sk	1.52	260	eP	Pn		20 18 06.4	+0.2
YUK				AMB	AMB		20 18 09.6	
	40nm,0.2s							
YUK				eS	Sn		20 18 25.5	-0.5
YUK				A	A		20 18 31.3	
	440nm,0.4s							
YUK				A	A		20 18 31.3	
	400nm,0.4s							
NEM2	Nemuro 2	1.85	240	P	Pn		20 18 10.8	+0.1
NEM2				eS	Sn		20 18 31.8	-2.4
NMR	Nemuro--Hokkai	1.86	240	eP	Pn		20 18 10.7	-0.1
NMR				eS	Sn		20 18 32.9	-1.5
JRA	Rausu	2.07	260	P	Pb		20 18 15.9	-0.6
JNSB	Nemuroshibetsu	2.19	257	P	Pb		20 18 17.8	-0.8
JNK	Nakash	2.44	254	P	Pn		20 18 20.4	+1.6
AKK	Akkeshi	2.60	241	eP	Pn		20 18 22.7	+1.7
AKK				eS	Sn		20 18 52.4	-0.1
JAK	Akkeshi	2.70	242	P	Pn		20 18 23.1	+0.7
JAR	Ashorobuto	3.19	253	P	Pn		20 18 31.6	+2.5
JCH	Churui	3.74	245	P	Pn		20 18 38.4	+1.7
JNBK	Urakawa-nobuka	4.30	244	P	Pn		20 18 45.7	+1.3

IDC 19 20:41:54.3±1.6, 6°59S×128°63E, h264km±21km, mb3.0/1, mb1 2.8/6, mb1mx2.6/41, mbtmp3.5/6, Error ellipse: s-maj=27.4km s-min=14.2km az=91.0
ISC 19 20:41:54.2±0.9, 6°63S±0°07×128°7E±0°1, h250km, n6, σ1§16/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.27	24	P	Pn		20 43 27.0	+1.2
	baz=291,slow=17,SNR=1.3							
SIJI				S	S		20 44 38.9	-0.3
	0.3nm,0.3s,baz=297,slow=23,SNR=1.2							
KAPI	Kappang	9.03	280	P	Pn		20 44 01.1	+0.6
	1.2nm,0.3s,baz=167,slow=19,SNR=5.6							
FITZ	Fitzroy Crossi	11.78	194	P	Pn		20 44 36.2	+1.1
	0.1nm,0.3s,baz=356,slow=11,SNR=2.2							
FITZ				S	S		20 46 45.7	-0.9
	0.1nm,0.3s,baz=342,slow=19,SNR=2.5							
WRA	Warramunga Arr	14.33	158	P	Pn		20 45 05.8	-0.6
	0.1nm,0.3s,baz=334,slow=12,SNR=7.8							
WRA				S	S		20 47 45.7	+0.5
	0.0nm,0.3s,baz=326,slow=23,SNR=1.8							
ASAR	Alice Springs	17.67	164	P	P		20 45 43.5	+0.2
	0.1nm,0.3s,baz=340,slow=12,SNR=5.3							
MKAR	Makanchi Array	67.20	327	P	P		20 52 19.7	-1.9
	0.3nm,0.4s,baz=118,slow=7.9

OK009 Sn Sg 20 46 42.4 +0.1
OK025 Westminster Rd 1.46 129 Pn 20 46 24.1 +0.4
OK025 Sn Sg 20 46 43.9 0.0
OK001 Jones High Sch 1.50 128 Pn Pb 20 46 25.1 -0.1
OK001 Sn Sb 20 46 44.9 +0.5
OKCFA Oklahoma City 1.50 136 Pb 20 46 24.9 -0.3
OKCFA Sn Sg 20 46 45.2 -0.2
OK005 Luther M Schoo 1.51 124 Pb 20 46 25.0 -0.3
OK005 Sn Sg 20 46 45.4 -0.2
OKCSW OKLAHOMA CITY 1.52 136 Pb 20 46 25.1 -0.4
OKCSW Sn Sg 20 46 45.7 -0.1
OK031 S. Brethren Rd 1.63 109 Pb 20 46 26.8 -0.5
OK031 Sn Sg 20 46 49.0 -0.3
FNO Franklin 1.65 139 Pn Pb 20 46 27.1 -0.6
FNO Sn Sb 20 46 49.5 +0.9
QUOK Quay 1.67 101 Pb 20 46 27.5 -0.5
QUOK Sn Sb 20 46 50.0 +0.8
OK030 Cody Creek RV 1.68 109 Pb 20 46 27.6 -0.6
OK030 Sn Sb 20 46 49.5 +0.1
OK034 N. Norfolk Rd. 1.70 106 Pb 20 46 28.2 -0.4
OK034 Sn Sb 20 46 50.9 +0.6
WMOK Wichita Mounta 1.76 181 Pn Pn 20 46 28.5 +0.7
WMOK Sn Sb 20 46 51.9 0.0
WMOK Wichita Mounta 1.76 181 P Pn 20 46 28.6 +0.7
baz=1.8,SNR=315
WMOK S Sb 20 46 52.1 +0.2
baz=1.8
T35A Sooner Cattle 1.83 76 Pn 20 46 29.8 +0.9
T35A Sn Sb 20 46 54.6 +0.7
T35A lAmb_Lg 20 46 55.6
comp=Z,1µm,0.8s
R32A Long Quarter, 1.92 0 Pb 20 46 31.8 -0.5
OK011 Prague 1.94 121 Pn 20 46 31.4 +1.0
W35A Tecumseh 2.02 131 Pn Pn 20 46 32.5 +1.0
X34A Smith Ranch, M 2.03 159 Pn Pb 20 46 33.7 -0.6
X34A lAmb_Lg 20 47 06.5
comp=Z,2µm,1.0s
CBKS Cedar Bluff 2.44 341 Pn Pn 20 46 38.1 +0.9
CBKS lAmb_Lg 20 47 18.5
comp=Z,683nm,0.7s
CBKS Cedar Bluff 2.44 341 P Pn 20 46 38.7 +1.4
baz=160,SNR=127
CBKS Sb Sb 20 47 12.9 +1.4
baz=160
TUL1 Leonard 2.45 103 Pn Pn 20 46 38.1 +0.7
TUL1 lAmb_Lg 20 47 17.8
comp=Z,959nm,0.8s
TUL1 Leonard 2.45 103 P Pn 20 46 38.3 +1.0
baz=285,SNR=62
TUL1 Sb Sb 20 47 12.9 +1.2
baz=285
LOOK Love County 2.81 153 Pn Pn 20 46 43.1 +0.8
LOOK lAmb_Lg 20 47 33.7
comp=Z,681nm,0.9s
AMTX Amarillo 2.89 237 Pn Pn 20 46 43.5 -0.1
AMTX lAmb_Lg 20 47 34.3
comp=Z,1µm,0.8s
AMTX Amarillo 2.89 237 P Pn 20 46 45.6 +2.1
baz=55
AMTX Sb Sg 20 47 28.0 -2.1
baz=55
KSU1 Kansas State U 3.09 32 Pn Pn 20 46 47.5 +1.3
KSU1 lAmb_Lg 20 47 42.8
comp=Z,551nm,0.9s
KSU1 Kansas State U 3.09 32 P Pn 20 46 47.9 +1.7
baz=213,SNR=15
KSU1 Sb Sb 20 47 32.3 +2.1
baz=213
X37A Clayton 3.34 124 Pn Pn 20 46 50.2 +0.6
Z35A Perchaven, San 3.39 159 Pn Pn 20 46 51.1 +0.8
U38A Gravette 3.50 90 Pn Pn 20 46 53.2 +1.4
U38A lAmb_Lg 20 47 54.8
comp=Z,516nm,0.7s
HHAR Hobbs 3.87 92 Pn 20 46 56.6 -0.3
HHAR lAmb_Lg 20 48 05.3
comp=Z,484nm,0.7s
ABTX Abilene, Hawle 3.94 191 Pn Pn 20 46 59.0 +1.1
ABTX Abilene, Hawle 3.94 191 P Pn 20 46 59.0 +1.1
baz=11
ABTX S Sn 20 47 46.3 +2.0
baz=11
KSCO Kaye Shedlock' 3.98 310 Pn 20 46 59.8 +1.3
KSCO lAmb_Lg 20 48 13.7
comp=Z,708nm,0.8s
KSCO Kaye Shedlock' 3.98 310 P Pn 20 47 00.0 +1.6
baz=128
KSCO Sb Sg 20 48 01.3 -3.4
baz=128
MSTX Muleshoe 4.16 234 Pn Pn 20 47 02.4 +1.4
MSTX lAmb_Lg 20 48 13.3
comp=Z,484nm,0.8s
MSTX Muleshoe 4.16 234 P Pn 20 47 02.6 +1.6
baz=51,SNR=7.5
MSTX Sb Sg 20 48 06.7 -4.1
baz=51
W39A Magazine 4.22 107 Pn 20 47 02.3 +0.6
W39A Magazine 4.22 107 P Pn 20 47 02.3 +0.6
baz=290,SNR=11
W39A Sb Sb 20 48 06.3 +3.5
baz=290
N33A J Bar K, Exete 4.35 13 Pn 20 47 03.5 0.0
N33A lAmb_Lg 20 48 22.7
comp=Z,610nm,1.0s
Z38A Mt. Pleasant 4.47 135 Pn Pn 20 47 05.8 +0.7
Z38A lAmb_Lg 20 48 19.9
comp=Z,463nm,0.8s
S39A Bolivar 4.48 73 Pn Pn 20 47 05.8 +0.4
S39A lAmb_Lg 20 48 19.0
comp=Z,384nm,0.9s
T25A Trinidad 4.60 280 Pn 20 47 08.5 +1.4
T25A Trinidad 4.60 280 P Pn 20 47 08.7 +1.6
baz=96,SNR=36
WHTX Lake Whitney, 4.62 166 Pn Pn 20 47 06.4 +0.4
WHTX Lake Whitney, 4.62 166 P Pn 20 47 08.1 +0.9
baz=347
MIAR Mount Ida 4.64 113 Pn Pn 20 47 08.3 +0.9
MIAR lAmb_Lg 20 48 35.3
comp=Z,678nm,1.1s
MIAR Mount Ida 4.64 113 P Pn 20 47 08.1 +0.7
baz=297
MIAR S Sn 20 48 01.5 +0.2
baz=297
U40A Yellville 4.74 90 Pn Pn 20 47 09.6 +0.7
U40A lAmb_Lg 20 48 32.0
comp=Z,476nm,0.9s
U40A Yellville 4.74 90 P Pn 20 47 09.5 +0.6
baz=274,SNR=8.1
BGNE Belgrade 4.92 5 Pn 20 47 11.7 +0.4
BGNE Belgrade 4.92 5 P Pn 20 47 12.1 +0.8
baz=185,SNR=14
BGNE S Sn 20 48 10.2 +1.8
baz=185
N35A Tabor 4.98 28 Pn Pn 20 47 12.8 +0.7
237A Washetta, Mont 5.10 151 Pn 20 47 13.5 -0.3
237A lAmb_Lg 20 48 52.8
comp=Z,611nm,1.1s
OGNE Ogallala 5.13 331 Pn Pn 20 47 14.5 +0.2
OGNE lAmb_Lg 20 48 41.9
comp=Z,480nm,0.7s
OGNE Ogallala 5.13 331 P Pn 20 47 16.3 +2.0
baz=149,SNR=22
P38A Dawn 5.15 51 Pn Pn 20 47 15.5 +1.0
X40A Basin Creek Fa 5.21 111 Pn Pn 20 47 15.9 +0.6
X40A Basin Creek Fa 5.21 111 P Pn 20 47 16.3 +0.9
baz=295,SNR=6.2
X40A S Sn 20 48 15.3 -0.4
baz=295
MGMO Mountain Grove 5.23 81 Pn 20 47 15.8 +0.3
WHAR Wooly Hollow 5.37 101 Pn 20 47 17.6 +0.1
WHAR lAmb_Lg 20 49 01.0
comp=Z,496nm,0.8s
FCAR Ozark Folk Cen 5.38 95 Pn 20 47 17.7 +0.1
FCAR lAmb_Lg 20 48 52.0
comp=Z,382nm,0.7s
WLAR White Oak Lake 5.39 120 Pn 20 47 16.9 -0.9
W41B Gary Mavity, V 5.43 102 Pn 20 47 18.6 +0.3
W41B lAmb_Lg 20 49 03.9
comp=Z,422nm,0.7s
W41B Gary Mavity, V 5.43 102 P Pn 20 47 18.9 +0.6
baz=286,SNR=11
W41B S Sn 20 48 19.2 -1.8
baz=286
R40A Maddies Statio 5.45 69 Pn 20 47 18.5 -0.1
R40A lAmb_Lg 20 48 52.7
comp=Z,285nm,0.8s

SDCO Great Sand Dun 5.55 285 Pn Pn 20 47 21.2 +1.0
SDCO lAmb_Lg 20 49 03.2
comp=Z,310nm,0.9s
SDCO Great Sand Dun 5.55 285 P Pn 20 47 21.9 +1.6
baz=101,SNR=52
Q24A Divide 5.65 298 Pn 20 47 22.5 +0.9
Q24A lAmb_Lg 20 49 05.4
comp=Z,493nm,1.0s
Q24A Divide 5.65 298 P Pn 20 47 22.8 +1.2
baz=114,SNR=9.3
L34A Svendsen Farm, 5.75 18 Pn Pn 20 47 22.4 -0.4
NATX Nacogdoches 5.81 143 Pn 20 47 23.4 -0.2
NATX Nacogdoches 5.81 143 S Sn 20 48 29.1 -1.2
baz=326
Z41A Richland Creek 5.85 122 Pn 20 47 24.2 +0.2
Z41A lAmb_Lg 20 49 13.6
comp=Z,405nm,0.8s
Z41A Richland Creek 5.85 122 S Sn 20 48 30.8 -0.4
baz=306
N38A Joes South For 6.07 43 Pn 20 47 26.6 -0.5
JCT Junction City 6.07 189 Pn Pn 20 47 26.6 -0.6
JCT lAmb_Lg 20 49 25.3
comp=Z,544nm,0.9s
JCT Junction City 6.07 189 P Pn 20 47 27.9 +0.7
baz=8.3
P40A Paris 6.08 58 Pn 20 47 27.1 -0.2
P40A lAmb_Lg 20 49 14.5
comp=Z,482nm,0.8s
K31A O'Neill 6.11 360 Pn 20 47 26.3 -1.4
K31A lAmb_Lg 20 49 16.1
comp=Z,463nm,0.8s
LCAR Lake Charles 6.14 92 Pn 20 47 28.4 +0.4
LCAR lAmb_Lg 20 49 11.6
comp=Z,293nm,0.7s
T42A Van Buren 6.16 83 Pn 20 47 28.8 +0.6
CCM Cathedral Cave 6.17 73 Pn Pn 20 47 27.7 -0.7
CCM lAmb_Lg 20 49 15.6
comp=Z,373nm,0.9s
CCM Cathedral Cave 6.17 73 P Pn 20 47 28.8 +0.3
baz=258
CCAR Cane Creek 6.25 112 Pn Pn 20 47 29.5 -0.1
ISCO Idaho Springs 6.34 303 Pn Pn 20 47 30.9 -0.2
ISCO lAmb_Lg 20 49 20.6
comp=Z,222nm,0.8s
ISCO Idaho Springs 6.34 303 P Pn 20 47 32.4 +1.2
baz=119,SNR=17
ANMO Albuquerque 6.47 258 Pn Pn 20 47 34.7 +1.9
comp=Z,1.0nm,0.3s,baz=82,slow=14,SNR=20
ANMO Pg Pb 20 47 55.1 +5.1
comp=Z,3.9nm,0.3s,baz=77,slow=16,SNR=15
ANMO Lg Lg 20 49 19.5
comp=Z,12nm,0.3s,baz=331,slow=19,SNR=7.1
ANMO LR LR 20 50 19.4
comp=Z,180nm,20.7s,baz=66,slow=41
ANMO Albuquerque 6.47 258 Pn Pn 20 47 34.0 +1.2
ANMO Albuquerque 6.47 258 P Pn 20 47 34.7 +1.9
baz=74
S22A 4UR Ranch, Cre 6.59 283 Pn Pn 20 47 35.2 +0.7
S22A 4UR Ranch, Cre 6.59 283 P Pn 20 47 36.4 +1.9
baz=98
PBMO Poplar Bluff 6.68 85 Pn 20 47 35.2 -0.3
PBMO lAmb_Lg 20 49 27.4
comp=Z,338nm,0.8s
X43A Marvell 6.70 105 Pn 20 47 35.6 -0.1
X43A Marvell 6.70 105 P Pn 20 47 35.6 -0.1
baz=290
FVM French Village 6.79 75 Pn 20 47 36.4 -0.6
FVM lAmb_Lg 20 49 30.7
comp=Z,253nm,0.7s
BNM Barren Site 6.87 252 Pn Pn 20 47 40.0 +1.7
SCIA State Center 6.89 37 Pn Pn 20 47 37.1 -1.2
SCIA lAmb_Lg 20 49 49.1
comp=Z,412nm,0.8s
SCIA State Center 6.89 37 P Pn 20 47 38.9 +0.6
baz=220,SNR=5.4
SMCO Snowmass 7.05 295 Pn 20 47 40.1 -0.8
SLM Saint Louis 7.08 70 Pn 20 47 41.8 +0.9
SLM lAmb_Lg 20 49 51.2
comp=Z,266nm,0.8s
PHWY Pilot Hill 7.10 314 lAmb_Lg 20 49 43.5
comp=Z,320nm,0.9s
Y22D IRIS PASSCAL I 7.12 253 lAmb_Lg 20 49 54.4
comp=Z,281nm,0.8s
LENM Lemitar 7.13 253 Pn 20 47 46.5 +4.7
143A Socs Landing, 7.13 120 Pn Pn 20 47 40.6 -1.0
143A lAmb_Lg 20 49 55.2
comp=Z,291nm,0.8s
N23A Red Feather La 7.14 310 Pn Pn 20 47 43.9 +1.8
N23A Red Feather La 7.14 310 P Pn 20 47 43.7 +1.6
baz=126,SNR=6.3
PEBM Pemiscott Bayo 7.17 90 Pn Pn 20 47 41.5 -0.8
PARMO Parma 7.23 86 Pn 20 47 43.8 +0.9
MET Memphis--Engin 7.28 98 lAmb_Lg 20 50 03.4
comp=Z,388nm,0.7s
MNTX Cornudas Mount 7.30 231 Pn Pn 20 47 45.4 +1.3
MNTX lAmb_Lg 20 49 48.7
comp=Z,190nm,0.8s
MNTX Cornudas Mount 7.30 231 P Pn 20 47 44.6 +0.6
baz=47,SNR=13
ECSD EROS Data Cent 7.40 12 Pn Pn 20 47 44.5 -0.9
ECSD lAmb_Lg 20 50 01.9
comp=Z,177nm,0.9s
ECSD EROS Data Cent 7.40 12 P Pn 20 47 44.4 -1.0
baz=193,SNR=13
N41A Harden Midland 7.46 53 Pn 20 47 45.5 -0.7
LNXT Lenox 7.47 90 Pn Pn 20 47 44.7 -1.6
HALT Halls 7.62 92 Pn Pn 20 47 47.0 -1.3
HALT lAmb_Lg 20 50 02.8
comp=Z,381nm,0.8s
GLAT Glass 7.62 89 Pn Pn 20 47 48.0 -0.4
HICK Hickman 7.65 87 Pn Pn 20 47 50.1 +1.3
735A Kenedy 7.67 174 Pn Pn 20 47 48.7 -0.3
735A lAmb_Lg 20 50 18.5
comp=Z,218nm,0.9s
S44A Carbondale 7.67 78 Pn 20 47 48.6 -0.4
S44A lAmb_Lg 20 50 12.5
comp=Z,302nm,0.8s
K38A Parkersburg 7.67 35 Pn 20 47 48.2 -0.9
MVCO Mesa Verde 7.86 278 Pn Pn 20 50 50.6 -1.4
MVCO lAmb_Lg 20 50 22.8
comp=Z,191nm,1.2s
W45A Hickory Valley 7.87 97 Pn Pn 20 47 49.8 -2.0
W45A lAmb_Lg 20 50 19.3
comp=Z,352nm,0.8s
SUSD Miller 7.93 359 Pn 20 47 51.4 -1.3
SUSD lAmb_Lg 20 50 32.4
comp=Z,187nm,0.8s
SUSD Miller 7.93 359 P Pn 20 47 52.9 +0.3
baz=179
Y45A Yeager Farm, C 7.97 107 lAmb_Lg 20 50 28.1
comp=Z,283nm,0.9s
PV15 Paradox Valley 7.97 286 Pn Pn 20 47 52.7 -0.7
PV01 Paradox Valley 8.01 285 Pn Pn 20 47 53.9 -0.1
L40A Anamosa 8.04 44 Pn 20 47 53.4 -0.7
Q44A Meyer Farm, Va 8.06 70 Pn Pn 20 47 54.5 0.0
T45A Paducah 8.11 83 Pn Pn 20 47 53.3 -1.9
PV07 Paradox Valley 8.12 287 Pn Pn 20 47 53.6 -1.8
PV02 Paradox Valley 8.15 285 Pn Pn 20 47 55.8 0.0
833A Chaparral WMA, 8.17 184 Pn Pn 20 47 55.6 -0.4
PV13 Radium Mtn., P 8.21 285 Pn 20 47 56.1 -0.6
PV12 Saucer Basin, 8.22 286 Pn Pn 20 47 55.5 -1.3
PV03 Paradox Valley 8.24 285 Pn Pn 20 47 57.5 +0.4
TX31 Lajitas Ar. Si 8.26 212 Pn Pn 20 47 58.6 +1.3
TX32 Lajitas Array 8.26 212 Pn Pn 20 47 58.7 +1.4
TXAR Lajitas Array 8.26 212 Pn Pn 20 47 58.8 +1.4
comp=Z,1.7nm,0.3s,baz=31,slow=11,SNR=24
TXAR Pg Pb 20 48 21.4 +1.0
comp=Z,2.5nm,0.3s,baz=18,slow=12,SNR=4.5
TXAR Lg Lg 20 50 15.4
comp=Z,9.3nm,0.3s,baz=19,slow=31,SNR=4.3
TXAR Lajitas Array 8.26 212 Pn 20 47 58.1 +0.8
PV11 David Mesa, Pa 8.27 286 Pn 20 47 58.4 +0.9
PV18 Skein Mesa, Pa 8.29 285 Pn Pn 20 47 56.6 -1.2
PV16 Nyswonger Mesa 8.30 286 Pn Pn 20 47 58.2 +0.2
O20A White River Ci 8.31 299 Pn Pn 20 47 57.2 -0.8
PV04 Paradox Valley 8.31 286 Pn Pn 20 47 58.2 +0.2
PV17 East Wray Mesa 8.33 285 Pn Pn 20 47 58.1 -0.3
344A Westbrook Farm 8.34 125 Pn Pn 20 47 59.5 +1.3
PV20 West Nyswonger 8.35 286 Pn Pn 20 47 57.2 -1.4
PV19 Morning Glory 8.36 286 Pn Pn 20 47 56.9 -1.8
RWWY Rawlins 8.38 311 Pn Pn 20 47 58.8 -0.2
RWWY lAmb_Lg 20 50 35.3
comp=Z,316nm,1.2s
PV21 Cone Mtn., Par 8.39 287 Pn Pn 20 47 58.9 -0.4
PV14 Lion Creek, Pa 8.40 286 Pn Pn 20 48 02.1 +2.9

PV23 Carpenter Ridg 8.40 286 Pn 20 47 59.0 -0.4
PV10 Paradox Valley 8.41 286 Pn Pn 20 47 60.0 +0.5
PV05 Paradox Valley 8.41 284 Pn Pn 20 47 58.1 -1.4
HDIL Hopedale 8.43 58 Pn 20 48 00.4 +0.9
HDIL Hopedale 8.43 58 P Pn 20 47 59.7 +0.2
baz=244,SNR=34
121A Cookes Peak, D 8.45 245 Pn Pn 20 48 00.4 +0.4
121A Cookes Peak, D 8.45 245 P Pn 20 48 01.2 +1.2
baz=60
I37A Lemond, Waseca 8.54 27 Pn 20 48 00.2 -0.8
I37A lAmb_Lg 20 50 39.2
comp=Z,240nm,0.9s
K22A Casper 8.59 318 Pn 20 48 02.2 +0.3
K22A lAmb_Lg 20 50 45.1
comp=Z,306nm,1.1s
K22A Casper 8.59 318 P Pn 20 48 03.1 +1.2
baz=133
RSSD Black Hills 8.62 334 Pn Pn 20 48 02.4 +0.1
RSSD lAmb_Lg 20 50 36.7
comp=Z,169nm,1.1s
RSSD Black Hills 8.62 334 P Pn 20 48 04.1 +1.8
baz=150
OLIL Olney 8.73 72 Pn 20 48 03.3 -0.2
PLAL Pickwick Lake 8.80 97 Pn Pn 20 48 04.7 +0.2
WVT Waverly 8.81 89 Pn Pn 20 48 04.4 -0.3
WVT Waverly 8.81 89 P Pn 20 48 05.3 +0.6
baz=276
O44A Mansfield 8.85 63 Pn 20 48 05.4 +0.2
146A Union 8.86 113 lAmb_Lg 20 50 58.9
comp=Z,143nm,0.8s
L42A Oliver, Polo 8.92 49 Pn 20 48 04.9 -1.3
L42A lAmb_Lg 20 50 47.3
comp=Z,292nm,0.9s
KVTX Kingsville 8.96 175 Pn Pn 20 48 06.9 +0.1
W18A Petrified Fore 9.04 264 Pn Pn 20 48 07.1 -1.0
JFWS Jewell Farm 9.15 43 Pn Pn 20 48 07.3 -2.0
JFWS lAmb_Lg 20 50 53.1
comp=Z,254nm,0.8s
JFWS Jewell Farm 9.15 43 P Pn 20 48 09.2 -0.1
baz=228,SNR=8.1
T47A Sharon Grove 9.35 84 Pn 20 48 11.5 -0.5
X18A Snowflake 9.36 261 Pn Pn 20 48 11.4 -0.9
Z47A Carrollton 9.36 107 Pn Pn 20 48 12.8 +0.5
F33A 5 Mile Ranch, 9.51 10 Pn 20 48 13.7 -0.6
P18A Preston Nutter 9.60 292 Pn 20 48 16.3 +0.5
I40A Norwalk 9.64 38 Pn 20 48 16.8 +0.7
I40A lAmb_Lg 20 51 10.2
comp=Z,162nm,1.0s
M44A Midewin, Midew 9.65 56 Pn 20 48 15.9 -0.3
X48A Hartselle 9.75 99 Pn Pn 20 48 17.1 -0.4
SFIN Lafayette 9.91 64 Pn Pn 20 48 19.9 +0.1
SFIN Lafayette 9.91 64 P Pn 20 48 19.8 0.0
baz=251,SNR=8.7
BLO Bloomington 10.02 71 Pn 20 48 20.2 -1.0
CLTN Cedars of Leba 10.02 89 Pn Pn 20 48 21.0 -0.3
WCI Wyandotte Cave 10.05 76 Pn 20 48 20.3 -1.4
WCI Wyandotte Cave 10.05 76 P Pn 20 48 21.9 +0.2
baz=264
L44A Lake County Fo 10.11 53 P Pn 20 48 23.0 +0.5
baz=239
K43A Burlington 10.13 49 Pn Pn 20 48 22.7 -0.1
F36A Milaca 10.14 21 Pn Pn 20 48 21.5 -1.3
319A Douglas 10.14 243 Pn Pn 20 48 21.9 -1.2
E28A Huff 10.17 352 Pn Pn 20 48 23.1 -0.3
WUAZ Wupatki 10.29 268 Pn 20 48 25.5 +0.4
WUAZ Wupatki 10.29 268 P Pn 20 48 27.3 +2.1
baz=81
BW06 Boulder Array 10.43 310 Pn 20 48 25.6 -1.5
BW06 Boulder Array 10.43 310 P Pn 20 48 27.6 +0.5
baz=123
PD31 Pinedale Array 10.43 310 Pn 20 48 26.1 -1.0
PDAR Pinedale Array 10.43 310 Pn Pn 20 48 29.0 +1.9
comp=Z,0.6nm,0.3s,baz=127,slow=14,SNR=15
PDAR Pg 20 49 09.7
comp=Z,1.4nm,0.3s,baz=124,slow=15,SNR=8.8
PDAR Lg Lg 20 51 20.1
comp=Z,2.0nm,0.3s,baz=120,slow=31,SNR=3.1
PDAR LR LR 20 52 38.8
comp=Z,91nm,18.1s,baz=114,slow=39
PDAR Pinedale Array 10.43 310 Pn 20 48 27.0 0.0
U49A Red Boiling Sp 10.43 86 Pn 20 48 26.6 -0.3
I42A Draeger Farm, 10.52 42 Pn Pn 20 48 27.5 -0.7
JLU Jordanelle 10.77 296 Pn Pn 20 48 32.0 +0.3
MSU Marysvale 10.87 285 Pn Pn 20 48 32.2 -0.9
G40A Rib Lake 10.87 34 Pn 20 48 32.2 -0.8
P48A Milroy 10.91 70 Pn 20 48 32.9 -0.6
U15A North Rim 10.92 274 Pn 20 48 33.5 -0.4
R49A Shelbyville 10.94 77 Pn 20 48 34.2 +0.4
N47A Urbana 11.09 63 Pn 20 48 35.1 -0.8
L46A Eue Claire 11.10 56 Pn Pn 20 48 35.2 -0.8
T50A Nancy 11.16 83 Pn Pn 20 48 36.1 -0.8
KNB Kanab 11.32 277 Pn Pn 20 48 39.8 +0.6
E38A The Farm, Brul 11.43 26 Pn Pn 20 48 39.9 -0.7
P49A Miami Univ. Ec 11.46 70 Pn 20 48 40.2 -0.8
P49A Miami Univ. Ec 11.46 70 P Pn 20 48 40.8 -0.2
baz=259
X51A Calhoun 11.47 96 Pn Pn 20 48 41.5 +0.4
H43A Windswept, Lux 11.52 43 Pn 20 48 40.6 -1.2
LOHW Long Hollow 11.53 312 Pn 20 48 42.2 0.0
REDW Red Top Meadow 11.55 310 Pn Pn 20 48 43.4 +1.0
CPCT Cooper Cave 11.56 91 Pn Pn 20 48 42.3 -0.1
Z51A Franklin 11.57 102 Pn Pn 20 48 42.7 +0.1
R50A Paris 11.60 77 Pn 20 48 41.4 -1.5
LAO LASA Array 11.61 334 Pn Pn 20 48 42.3 -0.8
LAO LASA Array 11.61 334 P Pn 20 48 43.6 +0.5
baz=149
V51A Loudon 11.65 89 Pn 20 48 43.5 -0.1
LCMT Little Creek M 11.65 277 Pn Pn 20 48 44.0 +0.2
MOOW Moose Ponds 11.69 312 Pn Pn 20 48 43.1 -1.3
RLMT Red Lodge 11.73 320 Pn Pn 20 48 44.4 -0.5
RLMT Red Lodge 11.73 320 P Pn 20 48 46.1 +1.2
baz=134
O49A Covington 11.89 68 Pn 20 48 44.4 -2.5
AGMN Agassiz Nation 11.98 9 Pn 20 48 47.4 -0.6
AGMN Agassiz Nation 11.98 9 P Pn 20 48 47.4 -0.6
baz=191
LKWY Lake 11.98 316 Pn Pn 20 48 48.3 0.0
W52A Murphy 12.11 92 Pn 20 48 49.7 -0.1
TKL Tuckaleechee C 12.13 90 Pn Pn 20 48 51.5 +1.2
comp=Z,2.4nm,0.3s,baz=237,slow=8.2,SNR=30
TKL Lg Lg 20 52 12.5
comp=Z,4.7nm,0.3s,baz=173,slow=23,SNR=6.1
TKL LR LR 20 53 34.5
comp=Z,76nm,18.1s,baz=306,slow=38
TKL Tuckaleechee C 12.13 90 Pn 20 48 49.6 -0.6
S51A Beattyville 12.15 80 Pn Pn 20 48 50.1 -0.3
N49A Columbus Grove 12.19 64 Pn Pn 20 48 49.7 -1.3
TZTN Tazewell 12.22 85 Pn 20 48 51.0 -0.4
TZTN Tazewell 12.22 85 P Pn 20 48 52.7 +1.3
baz=274
L48A N Adams 12.34 60 Pn 20 48 52.5 -0.6
GCMT Greycliff 12.40 322 Pn 20 48 55.2 +1.3
Q51A Peebles 12.44 74 Pn 20 48 54.0 -0.4
DGMT Dagmar 12.62 343 Pn Pn 20 48 55.5 -1.3
DGMT Dagmar 12.62 343 P Pn 20 48 56.1 -0.7
baz=159
P51A Williamsport 12.72 72 Pn Pn 20 48 57.5 -0.7
ACSO Alum Creek Sta 12.91 68 Pn 20 48 59.3 -1.5
ACSO Alum Creek Sta 12.91 68 P Pn 20 48 59.4 -1.4
baz=258
AAM Ann Arbor 13.01 59 Pn 20 49 02.0 -0.1
AAM Ann Arbor 13.01 59 P Pn 20 49 01.8 -0.4
baz=248
M50A Fremont 13.15 63 Pn 20 49 02.4 -1.7
Q52A Bidwell 13.26 74 Pn 20 49 05.3 -0.3
P52A Corning 13.45 72 Pn 20 49 07.0 -1.2
P52A Corning 13.45 72 P Pn 20 49 06.9 -1.2
baz=262
R53A Hurricane 13.47 77 Pn 20 49 08.2 -0.2
N51A Ashland 13.51 66 Pn 20 49 07.8 -1.2
GLMI Grayling 13.55 48 Pn 20 49 07.5 -2.0
GLMI Grayling 13.55 48 P Pn 20 49 07.3 -2.1
baz=237
ELK Elko 13.58 293 Lg Lg 20 53 00.7
comp=Z,0.1nm,0.3s,baz=94,slow=15,SNR=1.9
U54A Nelsons Funny 13.61 85 Pn 20 49 11.2 +0.8
ULM Lac du Bonnet 13.90 8 Pn Pn 20 49 10.1 -4.1
comp=Z,0.6nm,0.3s,baz=186,slow=9.7,SNR=3.4
ULM Sn Sn 20 51 37.4 -11
comp=Z,1.3nm,0.3s,baz=90,slow=16,SNR=2.4
ULM Lg Lg 20 53 04.2
comp=Z,0.6nm,0.3s,baz=90,slow=19,SNR=1.9
ULM Lac du Bonnet 13.90 8 Pn Pn 20 49 07.8 -6.4

P53A	**Whipple**	**14.00**	**72**	Pn	**Pn**	**20 49 14.0**	**-1.7**
EGMT	**Eagleton**	**14.09**	**328**	Pn	**Pn**	**20 49 16.8**	**-0.2**
V55A	**Taylorsville**	**14.17**	**87**	Pn	**Pn**	**20 49 17.5**	**-0.5**
KMSC	**Kings Mountain**	**14.19**	**90**	P	**Pn**	**20 49 17.4**	**-0.8**
baz=281							
O53A	**New Philadelph**	**14.24**	**69**	Pn	**Pn**	**20 49 16.2**	**-2.8**
O53A	**New Philadelph**	**14.24**	**69**	P	**Pn**	**20 49 18.2**	**-0.9**
baz=260							
Q54A	**Coxs Mills**	**14.38**	**75**		**Pn**	**20 49 19.6**	**-1.3**
M52A	**Chesterland**	**14.41**	**64**	Pn	**Pn**	**20 49 18.8**	**-2.5**
E46A	**Sault Ste Mari**	**14.61**	**43**	Pn	**Pn**	**20 49 19.9**	**-4.1**
N53A	**Lisbon**	**14.62**	**67**		**Pn**	**20 49 20.9**	**-3.4**
BLA	**Blacksburg**	**14.68**	**82**	P	**Pn**	**20 49 24.1**	**-0.9**
baz=273							
TPH	**Tonopah**	**14.81**	**282**	Pn	**Pn**	**20 49 25.8**	**-1.1**
O54A	**Avella**	**14.86**	**70**		**Pn**	**20 49 25.9**	**-1.6**
M53A	**WI Miller and**	**14.88**	**65**	Pn	**Pn**	**20 49 23.8**	**-3.9**
R55A	**Marlinton**	**14.90**	**78**		**Pn**	**20 49 25.9**	**-2.2**
N54A	**Moraine State**	**15.29**	**67**	Pn	**Pn**	**20 49 29.3**	**-3.8**
T57A	**Hurt**	**15.62**	**82**		**Pn**	**20 49 37.0**	**-0.5**
T57A				IAmb	IAmb	20 49 40.4	
comp=Z,19nm,0.8s							
M54A	**Oil Creek Stat**	**15.64**	**66**	Pn	**Pn**	**20 49 34.0**	**-3.8**
LPIG	**La Paz**	**15.88**	**222**	Sn	**Sn**	**20 52 41.4**	**+4.3**
comp=Z,30nm,0.3s,baz=219,slow=18,SNR=3.6							
M55A	**Ridgway**	**16.29**	**66**	Pn	**Pn**	**20 49 43.3**	**-2.9**
M55A				IAmb	IAmb	20 50 00.6	
comp=Z,39nm,1.4s							
SSPA	**Standing Stone**	**16.81**	**69**	Pn	**Pn**	**20 49 49.8**	**-2.9**
SADO	**Sadowa**	**16.98**	**55**	Pn	**Pn**	**20 49 53.2**	**-1.6**
comp=Z,0.5nm,0.3s,baz=272,slow=14,SNR=1.6							
SADO				Lg	Lg	20 54 42.5	
comp=Z,0.4nm,0.3s,baz=90,slow=8.1,SNR=2.7							
L56A	**Greenwood**	**17.31**	**65**	Pn	**Pn**	**20 49 57.6**	**-1.4**
L56A				IAmb	IAmb	20 50 21.7	
comp=Z,17nm,0.8s							
M57A	**Sunshine Farm,**	**17.48**	**67**	Pn	**Pn**	**20 49 58.3**	**-2.9**
M57A				IAmb	IAmb	20 50 05.4	
comp=Z,37nm,1.6s							
N58A	**Sunbury**	**17.72**	**69**	Pn	**Pn**	**20 50 02.5**	**-1.6**
N58A				IAmb	IAmb	20 50 04.5	
comp=Z,33nm,1.4s							
DELO	**Deloro Mine**	**17.91**	**57**	Pn	**Pn**	**20 50 03.6**	**-2.8**
DELO				IAmb	IAmb	20 50 19.7	
comp=Z,30nm,1.1s							
NEW	**Newport**	**17.91**	**317**	P	**Pn**	**20 50 02.8**	**-3.7**
J57A	**Williamstown**	**18.71**	**61**	P	**P**	**20 50 13.1**	**-2.8**
J58A	**Remsen**	**19.21**	**62**	P	**P**	**20 50 20.0**	**-1.4**
J58A				IAmb	IAmb	20 50 48.7	
comp=Z,16nm,1.0s							
YBH	**Yreka Blue Hor**	**19.30**	**293**	P	**Pn**	**20 50 26.7**	**+3.2**
comp=Z,0.3nm,0.3s,baz=68,slow=7.3,SNR=6.1							
ODNJ	**Ogdensburg**	**19.33**	**69**	P	**P**	**20 50 21.1**	**-1.6**
ODNJ				IAmb	IAmb	20 50 50.9	
comp=Z,41nm,1.5s							
J59A	**Piesco**	**19.79**	**62**	P	**P**	**20 50 28.2**	**+0.5**
J59A				IAmb	IAmb	20 50 46.1	
comp=Z,21nm,1.2s							
NCB	**Newcomb**	**20.10**	**61**	P	**P**	**20 50 27.9**	**-3.1**
ACCN	**Adirondack Com**	**20.36**	**63**	P	**P**	**20 50 33.8**	**-0.2**
ACCN				IAmb	IAmb	20 50 54.6	
comp=Z,16nm,1.2s							
FCC	**Fort Churchill**	**22.48**	**6**	P	**P**	**20 50 55.5**	**-1.1**
YKA	**Yellowknife Ar**	**27.82**	**344**	P	**P**	**20 51 47.6**	**+1.1**
comp=Z,0.8nm,0.8s,baz=147,slow=8.8,SNR=11							
YKA				Lg	Lg	21 00 39.0	
comp=Z,1.0nm,0.9s,baz=149,slow=27,SNR=4.9							
BERG	**Berg Lake**	**37.14**	**324**	P	**P**	**20 53 07.9**	**-0.1**
ILAR	**Eielson Array**	**40.05**	**330**	P	**P**	**20 53 34.1**	**+1.8**
comp=Z,0.9nm,0.8s,baz=108,slow=7.1,SNR=7.4							
EKA	**Eskdalemuir Ar**	**63.81**	**39**	P	**P**	**20 56 31.1**	**+1.6**
comp=Z,0.7nm,0.6s,baz=294,slow=6.0,SNR=4.1							
ARCES	**ARCESS Array B**	**66.73**	**18**	P	**P**	**20 56 49.7**	**+1.4**
comp=Z,2.8nm,1.0s,baz=318,slow=7.3,SNR=5.3							
FINES	**FINESS Array B**	**72.64**	**24**	P	**P**	**20 57 26.4**	**+1.6**
comp=Z,2.1nm,1.0s,baz=286,slow=7.1,SNR=4.0							

*NEIC **19** 20:51:28.4±2.2, 1°.82N±0°.06×124°.15E±0°.07, h300km±7km, mb4.5/62, Error ellipse: s-maj=10.7km s-min=8.7km az=88.0*

*DJA **19** 20:51:29.4±0.3, 2°N±3°×12°4E±°, h289km±3km, M4.3/26, mB4.8/13, mb4.4/26, MLv4.6/21, Mw(mB)4.1/13*

*IDC **19** 20:51:30.2±0.9, 1°.84N×124°.22E, h328km±9km, mb3.9/17, mb1 4.0/23, mb1mx3.6/55, mbtmp4.6/23, Error ellipse: s-maj=11.8km s-min=6.1km az=75.0*

ISC 19 20:51:29.8±0.3, 1°.82N±0°.04×124°.14E±0°.05, h323km, n155, σ1°53/164, mb4.4/45, 3C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.24**	**188**	P	**Pn**	**20 52 11.0**	**-2.9**
GTOI	**Gorontalo**	**1.63**	**224**	P	**Pn**	**20 52 13.1**	**-3.0**
MRSI	**Marisa**	**2.57**	**239**	P	**Pn**	**20 52 21.6**	**-1.7**
LUWI	**Luwuk**	**3.15**	**206**	P	**Pn**	**20 52 25.3**	**-3.4**
LUWI	**Luwuk**	**3.15**	**206**	Pn	**Pn**	**20 52 25.2**	**-3.5**
LUWI				Sn	**S**	**20 53 08.7**	**-7.2**
LUWI	**Luwuk**	**3.15**	**206**	P	**Pn**	**20 52 25.9**	**-2.8**
TNTI	**Ternate**	**3.38**	**108**	P	**Pn**	**20 52 27.7**	**-3.3**
TNTI	**Ternate**	**3.38**	**108**	Pn	**Pn**	**20 52 27.3**	**-3.7**
TNTI	**Ternate**	**3.38**	**108**	P	**Pn**	**20 52 28.5**	**-2.5**
TOLI2	**Tolitoli**	**3.43**	**258**	Pn	**Pn**	**20 52 28.7**	**-2.7**
TOLI2	**Tolitoli**	**3.43**	**258**	P	**Pn**	**20 52 29.4**	**-2.0**
APSI	**Ampana**	**3.68**	**223**	P	**Pn**	**20 52 31.7**	**-2.3**
LBMI	**Labuha**	**4.15**	**126**	P	**Pn**	**20 52 35.8**	**-3.1**
SANI	**Sanana**	**4.26**	**154**	P	**Pn**	**20 52 36.1**	**-4.0**
SANI	**Sanana**	**4.26**	**154**	P	**Pn**	**20 52 36.4**	**-3.7**
GSPH	**General Santos**	**4.32**	**11**	⇑iP	**Pn**	**20 52 38.9**	**-2.0**
MPSI	**Mapaga**	**4.49**	**251**	P	**Pn**	**20 52 41.1**	**-1.5**
DDMP	**Don Marcelino,**	**4.54**	**20**	⇑iP	**Pn**	**20 52 40.2**	**-3.0**
KCP	**Kidapawan**	**5.25**	**10**	⇑iP	**Pn**	**20 52 48.5**	**-2.6**
DAV	**Davao City (W)**	**5.41**	**15**	P	**Pn**	**20 52 52.1**	**-0.9**
29nm,0.3s,baz=246,slow=10.0,SNR=1.4							
DAV				S	**S**	**20 53 59.0**	**-1.2**
57nm,0.3s,baz=143,slow=20,SNR=2.2							
MATI	**Mati**	**5.51**	**22**	⇓eP	Pn	20 52 49.4	-4.8
MATI				eS	S	20 53 52.3	-10
TTSI	**Tana Toraja**	**6.48**	**222**	P	**Pn**	**20 53 05.0**	**-0.5**
0.8nm2μm210nm,1.0s							
MYLDM	**Lahad Datu**	**6.55**	**301**	Pn	**Pn**	**20 53 05.7**	**-0.6**
BIPH	**Bislig**	**6.70**	**19**	⇓iP	**Pn**	**20 53 07.5**	**-0.6**
AAI	**Ambon**	**6.80**	**143**	P	**Pn**	**20 53 08.1**	**-1.2**
0.3nm50nm,1.0s							
MSAI	**Masohi**	**7.01**	**137**	P	**Pn**	**20 53 11.5**	**-0.3**
0.1nm12nm,0.7s							
SPSI	**Sidrap Palu**	**7.22**	**217**	P	**Pn**	**20 53 12.4**	**-1.9**
0.3nm777nm82nm,0.8s							
BUTP	**Butuan**	**7.26**	**12**	⇓eP	**Pn**	**20 53 12.7**	**-2.0**
BNSI	**Bone**	**7.38**	**213**	P	**Pn**	**20 53 15.5**	**-0.7**
1.1nm4μm350nm,0.9s							
BBSI	**Bau Bau**	**7.42**	**192**	P	**Pn**	**20 53 15.9**	**-0.8**
0.0nm11nm,1.0s							
SWI	**Sorong**	**7.60**	**110**	P	**Pn**	**20 53 17.1**	**-1.7**
0.3nm974nm73nm,1.0s							
SIJI	**Sorong**	**7.60**	**110**	P	**Pn**	**20 53 18.2**	**-0.8**
10nm,0.3s,baz=308,slow=10,SNR=63							
SIJI				S	**S**	**20 54 47.0**	**-0.6**
1.2nm,0.3s,baz=202,slow=19,SNR=1.4							
KAPI	**Kappang**	**8.08**	**213**	P	**Pn**	**20 53 24.2**	**-0.5**
4.8nm,0.3s,baz=41,slow=8.0,SNR=10							
KAPI	**Kappang**	**8.08**	**213**	Pn	**Pn**	**20 53 23.4**	**-1.2**
KAPI	**Kappang**	**8.08**	**213**	P	**Pn**	**20 53 24.7**	**+0.1**
51nm,1.1s							
BKSI	**Bulukumba**	**8.15**	**210**	P	**Pn**	**20 53 24.0**	**-1.5**
680nm88nm,0.9s							
BSSI	**Bau Bau, Buton**	**8.71**	**205**	P	**Pn**	**20 53 29.9**	**-2.3**
22nm,0.7s							
KKM	**Kota Kinabalu**	**8.96**	**298**		**Pn**	**20 53 33.0**	**-2.3**
KKM	**Kota Kinabalu**	**8.96**	**298**	P	**Pn**	**20 53 35.3**	**0.0**
30nm,0.8s							
FAKI	**Fak Fak**	**9.37**	**120**	P	**Pn**	**20 53 38.0**	**-2.3**
24nm,0.8s							
FAKI	**Fak Fak**	**9.37**	**120**	Pn	**Pn**	**20 53 38.6**	**-1.6**
MMRI	**Maumere**	**10.55**	**190**	P	**Pn**	**20 53 54.3**	**-0.3**
45nm,0.9s							
MMRI	**Maumere**	**10.55**	**190**	Pn	**Pn**	**20 53 54.1**	**-0.6**
MMRI	**Maumere**	**10.55**	**190**	P	**Pn**	**20 53 55.6**	**+1.0**
45nm,0.9s							
BBKI	**Banjar Baru**	**10.67**	**241**	P	**Pn**	**20 53 56.5**	**+0.4**
6μm15nm,0.8s							
SBUM	**Sibu**	**11.93**	**273**		**Pn**	**20 54 10.6**	**-0.6**
SAUI	**Saumlaki**	**12.07**	**144**	P	**Pn**	**20 54 12.1**	**-0.8**
SAUI	**Saumlaki**	**12.07**	**144**	P	**Pn**	**20 54 12.2**	**-0.8**
WBSI	**Waikabubak, Su**	**12.33**	**203**	P	**Pn**	**20 54 15.3**	**-0.7**
588nm73nm,0.7s							
BAKI	**Biak**	**12.33**	**104**	P	**Pn**	**20 54 15.4**	**-0.6**
164nm,0.7s							
BASI	**Baing, Sumba**	**12.47**	**196**	P	**Pn**	**20 54 15.9**	**-1.8**
522nm27nm,0.4s							
SRPI	**Serui, Papua**	**12.64**	**107**	P	**Pn**	**20 54 19.5**	**-0.2**
2μm117nm,0.7s							
SRBI	**Singaraja**	**13.27**	**222**	P	**Pn**	**20 54 28.2**	**+1.0**
44nm,0.9s							
KSM	**Kuching**	**13.83**	**269**		**Pn**	**20 54 34.2**	**+0.3**
KSM	**Kuching**	**13.83**	**269**	P	**Pn**	**20 54 37.4**	**+3.5**
22nm,1.7s							
IGBI	**Denpasar**	**13.86**	**220**	P	**Pn**	**20 54 35.1**	**+0.9**
36nm,0.9s							
JAGI	**Jajag, Banyuwa**	**14.27**	**224**	P	**Pn**	**20 54 39.3**	**+0.2**
903nm36nm,0.7s							
JAGI	**Jajag, Banyuwa**	**14.27**	**224**		**P**	**20 54 37.1**	**-0.7**
JAGI	**Jajag, Banyuwa**	**14.27**	**224**	P	**Pn**	**20 54 41.6**	**+2.5**
SMPI	**Sarmi**	**15.05**	**104**	P	**Pn**	**20 54 48.3**	**+0.1**
DRS	**Darwin Rock St**	**15.66**	**155**	P	**Pn**	**20 54 57.0**	**+1.7**
MTN	**Manton Dam**	**16.13**	**155**	P	**P**	**20 54 57.8**	**-0.4**
MTN				IAmb	IAmb	20 55 30.1	
comp=Z,9.3nm,0.5s							
MTN					**S**	**20 57 52.6**	**+1.5**
GENI	**Genyem**	**16.61**	**105**	P	**Pn**	**20 55 05.0**	**-1.4**
JAY	**Jayapura**	**17.11**	**105**	P	**P**	**20 55 08.5**	**-0.3**
comp=Z,2.2nm,0.3s,baz=143,slow=11,SNR=7.6							
KNRA	**Kununurra**	**17.97**	**165**	P	**P**	**20 55 17.5**	**-0.5**
KNRA				IAmb	IAmb	20 55 37.3	
comp=Z,11nm,0.6s							
LEM	**Lembang**	**18.59**	**242**	P	**P**	**20 55 27.2**	**+2.4**
comp=Z,2.2nm,0.3s,baz=43,slow=11,SNR=7.0							
FITZ	**Fitzroy Crossi**	**19.84**	**176**	P	**P**	**20 55 37.0**	**-0.9**
comp=Z,3.5nm,0.3s,baz=4.5,slow=9.9,SNR=83							
FITZ				S	**S**	**20 59 01.6**	**-0.7**
baz=302,slow=13							
TWG	**Pinlang**	**21.09**	**352**	P	**P**	**20 55 49.3**	**-0.6**
YULB	**Yu-li**	**21.63**	**353**	P	**P**	**20 55 53.6**	**-1.1**
YULB				IAmb	IAmb	20 55 55.1	
comp=Z,26nm,0.7s							
TPUB	**Ta-pu**	**21.63**	**351**	P	**P**	**20 55 53.5**	**-1.2**
SSLB	**Suanglung**	**22.06**	**352**	P	**P**	**20 55 58.2**	**-0.5**
SSLB				IAmb	IAmb	20 56 02.2	
comp=Z,48nm,0.8s							
NACB	**Ninganchiao**	**22.36**	**354**	P	**P**	**20 56 00.4**	**-1.0**
NACB				IAmb	IAmb	20 56 07.7	
comp=Z,28nm,0.9s							
HKPS	**Hong Kong Po S**	**22.55**	**335**	P	**P**	**20 56 02.5**	**-0.6**
YHNB	**Yeheng**	**22.88**	**354**	P	**P**	**20 56 05.7**	**-0.5**
PSA00	**Pilbara Seismi**	**23.62**	**190**	P	**P**	**20 56 13.4**	**+0.6**
PSA00				IAmb	IAmb	20 56 23.2	
comp=Z,29nm,1.5s							
PSA00	**Pilbara Seismi**	**23.62**	**190**	P	**P**	**20 56 11.9**	**-1.0**
PSA00				IAmb	IAmb	20 56 23.4	
comp=Z,11nm,1.6s							
WB0	**Warramunga Arr**	**23.69**	**155**	P	**P**	**20 56 13.5**	**-0.1**
WB0				IAmb	IAmb	20 56 14.5	
comp=Z,14nm,0.8s							
WRAB	**Tennant Creek**	**23.82**	**156**	P	**P**	**20 56 14.8**	**+0.1**
WRAB				IAmb	IAmb	20 56 15.8	
comp=Z,15nm,0.8s							
WRA	**Warramunga Arr**	**23.82**	**156**	P	**P**	**20 56 15.0**	**+0.2**
comp=Z,9.9nm,0.6s,baz=335,slow=9.9,SNR=114							
WRA				S	**S**	**21 00 04.0**	**-2.4**
comp=Z,2.2nm,0.8s,baz=341,slow=15,SNR=6.5							
WRA	**Warramunga Arr**	**23.82**	**156**	P	**P**	**20 56 13.4**	**-1.3**
WB2	**Warramunga Arr**	**23.83**	**156**	P	**P**	**20 56 14.9**	**+0.1**
WB2				IAmb	IAmb	20 56 15.9	
comp=Z,16nm,0.8s							
WR0	**Warramunga Arr**	**23.92**	**155**	P	**P**	**20 56 15.8**	**+0.1**
WR0				IAmb	IAmb	20 56 16.7	
comp=Z,6.6nm,0.6s							
COEN	**Coen**	**24.52**	**130**	P	**P**	**20 56 20.5**	**-0.7**
RPSI	**Rantau Prapat**	**25.21**	**272**	P	**P**	**20 56 28.0**	**+0.6**
PSI	**Prapat**	**25.22**	**273**	P	**P**	**20 56 28.0**	**+0.5**
comp=Z,4.9nm,0.8s,baz=104,slow=12,SNR=5.0							
PMG	**Port Moresby**	**25.49**	**116**	P	**P**	**20 56 30.4**	**+0.6**
comp=Z,15nm,0.8s,baz=282,slow=9.3,SNR=5.2							
AS31	**Alice Springs**	**27.05**	**160**	P	**P**	**20 56 44.2**	**+0.7**
ASAR	**Alice Springs**	**27.05**	**160**	P	**P**	**20 56 44.4**	**+0.8**
comp=Z,2.4nm,0.5s,baz=340,slow=7.4,SNR=81							
ASAR				S	**S**	**21 00 57.6**	**+0.3**
comp=Z,0.8nm,0.6s,baz=326,slow=13,SNR=6.5							
ASAR				ScP	**ScP**	**21 03 04.9**	**+0.1**
comp=Z,0.5nm,0.6s,baz=318,slow=1.2,SNR=4.4							
ASAR	**Alice Springs**	**27.05**	**160**		**P**	**20 56 44.2**	**+0.6**
RABL	**Rabaul**	**28.63**	**102**	P	**P**	**20 56 58.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**29.73**	**305**	ScP	**ScP**	**21 03 15.8**	**+2.4**
comp=Z,0.3nm,0.3s,baz=113,slow=1.4,SNR=4.2							
ENH	**Enshi**	**31.53**	**335**	P	**P**	**20 57 22.7**	**-0.2**
ENH				IAmb	IAmb	20 57 24.8	
comp=Z,7.5nm,0.6s							
MORW	**Morawa**	**31.68**	**194**	P	**P**	**20 57 24.5**	**+0.4**
MORW				IAmb	IAmb	20 57 49.6	
comp=Z,52nm,1.6s							
JNU	**Nakatsue**	**31.78**	**11**	P	**P**	**20 57 24.3**	**-0.7**
FORT	**Forrest**	**32.63**	**174**	P	**P**	**20 57 33.2**	**+0.9**
PBA	**Port Blair**	**32.64**	**289**	P	**P**	**20 57 31.8**	**-0.9**
JMN	**Monobe**	**33.03**	**15**	P	**P**	**20 57 36.2**	**+0.4**
JHS	**Saijyo**	**34.06**	**13**	P	**P**	**20 57 44.5**	**0.0**
NWAO	**Narrogin (SRO)**	**35.17**	**190**	P	**P**	**20 57 54.8**	**+0.8**
INU	**Inuyama**	**35.45**	**18**	P	**P**	**20 57 56.0**	**-0.3**
INU				IAmb	IAmb	20 58 04.5	
comp=Z,41nm,1.4s							
KSRS	**Korea Array**	**35.64**	**5**	P	**P**	**20 57 57.3**	**-0.6**
comp=Z,2.3nm,0.8s,baz=177,slow=8.9,SNR=4.7							
JGF	**Kuroka**	**35.79**	**19**	P	**P**	**20 57 59.3**	**0.0**
JGF				IAmb	IAmb	20 58 00.5	
comp=Z,24nm,1.1s							
BBOO	**Buckleboo**	**36.23**	**163**	P	**P**	**20 58 03.7**	**+0.7**
BBOO				IAmb	IAmb	20 58 36.6	
comp=Z,27nm,1.6s							
MAJO	**Matsushiro**	**36.92**	**19**	P	**P**	**20 58 07.7**	**-1.1**
MAJO				IAmb	IAmb	20 58 14.2	
comp=Z,25nm,1.2s							
MJAR	**Matsushiro Arr**	**36.92**	**19**	P	**P**	**20 58 07.6**	**-1.2**
comp=Z,8.2nm,0.7s,baz=196,slow=9.0,SNR=14							
MJAR	**Matsushiro Arr**	**36.92**	**19**	IAmb	IAmb	20 58 22.9	
comp=Z,16nm,1.6s							
MJB9	**Matsu-Tunnel**	**36.92**	**19**	P	**P**	**20 58 07.6**	**-1.2**
MJB9				IAmb	IAmb	20 58 14.2	
comp=Z,26nm,1.2s							
STKA	**Stephens Creek**	**37.38**	**155**	P	**P**	**20 58 13.8**	**+1.3**
comp=Z,4.4nm,0.4s,baz=322,slow=8.8,SNR=16							
STKA				ScP	**ScP**	**21 03 38.6**	**-1.4**
comp=Z,0.9nm,0.6s,baz=150,slow=5.4,SNR=3.7							
STKA	**Stephens Creek**	**37.38**	**155**	P	**P**	**20 58 13.4**	**+0.8**
EIDS	**Eidsvold**	**37.56**	**138**	P	**P**	**20 58 14.0**	**-0.2**
BJT	**Baijiatuau**	**38.71**	**350**	P	**P**	**20 58 22.9**	**-0.7**
JMM	**Marumori**	**39.00**	**21**	P	**P**	**20 58 25.7**	**-0.2**
JMM				IAmb	IAmb	20 58 28.3	
comp=Z,66nm,1.4s							
ARMA	**Armidale**	**41.40**	**143**	P	**P**	**20 58 47.8**	**+2.0**
JTM	**Tenmabayashi**	**41.71**	**19**	P	**P**	**20 58 47.3**	**-0.6**
XLT	**XiLinHaoTe**	**42.51**	**351**	eP	**P**	**20 58 55.8**	**+1.4**
XLT				pmax	pmax		
comp=Z,16nm,1.0s							
XLT				pmax	pmax		
comp=Z,250nm,5.4s							
USA0B	**Ussuriysk Arra**	**42.77**	**8**	P	**P**	**20 58 56.3**	**-0.1**
USA0B				IAmb	IAmb	20 59 28.8	
comp=Z,20nm,1.2s							
USRK	**Ussuriysk Ar.**	**42.77**	**8**	P	**P**	**20 58 56.4**	**0.0**
comp=Z,4.4nm,0.3s,baz=192,slow=7.4,SNR=47							
USRK	**Ussuriysk Ar.**	**42.77**	**8**	P	**P**	**20 58 56.5**	**+0.1**
MDJ	**Mudanjiang**	**42.89**	**6**	P	**P**	**20 58 56.4**	**-0.9**
MDJ				IAmb	IAmb	20 59 24.5	
comp=Z,26nm,1.5s							
GTA	**Gaotai**	**43.49**	**332**	eP	**P**	**20 59 03.8**	**+1.4**
GTA				pmax	pmax		
comp=Z,6.0nm,1.0s							
PALK	**Pallekele**	**43.62**	**279**	P	**P**	**20 59 05.1**	**+1.4**
comp=Z,7.6nm,1.0s,baz=112,slow=5.4,SNR=4.0							
CAN	**Canberra**	**43.65**	**150**	P	**P**	**20 59 06.4**	**+2.8**
CAN				IAmb	IAmb	20 59 07.2	
comp=Z,15nm,0.6s							
TOO	**Toolangi**	**43.90**	**155**	P	**P**	**20 59 06.9**	**+1.4**
ULN	**Ulaanbaatar**	**48.20**	**345**	P	**P**	**20 59 38.6**	**-0.1**
SONM	**Songino Array**	**48.35**	**344**	P	**P**	**20 59 39.3**	**-0.5**
comp=Z,3.2nm,0.8s,baz=157,slow=8.6,SNR=23							
SONM	**Songino Array**	**48.35**	**344**	P	**P**	**20 59 39.3**	**-0.5**
MK31	**Makanchi Array**	**57.70**	**327**	P	**P**	**21 00 47.2**	**-0.2**
MKAR	**Makanchi Array**	**57.70**	**327**	P	**P**	**21 00 47.0**	**-0.4**
comp=Z,3.5nm,0.4s,baz=124,slow=7.7,SNR=64							
MKAR	**Makanchi Array**	**57.70**	**327**	P	**P**	**21 00 47.0**	**-0.4**
MKAR				PcP	**PcP**	**21 01 36.5**	**+0.1**
MAKZ	**Makanchi**	**57.88**	**327**	P	**P**	**21 00 48.3**	**-0.4**
MAKZ				IAmb	IAmb	21 00 50.1	
comp=Z,3.8nm,0.6s							
KDJ	**Kajisay**	**58.10**	**320**	P	**P**	**21 00 52.1**	**+1.6**
KDJ				IAmb	IAmb	21 01 16.0	
comp=Z,12nm,1.1s							
PEA0B	**Petropavlovsk-**	**58.18**	**23**	P	**P**	**21 00 51.1**	**+0.5**
PETK	**Petropavlovsk-**	**58.18**	**23**	P	**P**	**21 00 50.5**	**-0.1**
comp=Z,3.4nm,0.6s,baz=192,slow=2.7,SNR=8.8							
PETK	**Petropavlovsk-**	**58.18**	**23**	P	**P**	**21 00 51.2**	**+0.6**
YAK	**Yakutsk**	**60.21**	**3**	P	**P**	**21 01 04.2**	**0.0**
MLZ	**Mavora Lakes**	**61.00**	**146**	P	**P**	**21 01 09.4**	**-0.5**
MLZ				IAmb	IAmb	21 01 19.0	
comp=Z,48nm,1.7s							
QRZ	**Quartz Range**	**61.10**	**140**	P	**P**	**21 01 11.0**	**+0.4**
ZAA0	**Zalesovo Array**	**61.16**	**335**	P	**P**	**21 01 11.2**	**+0.4**
ZALV	**Zalesovo Beam**	**61.16**	**335**	P	**P**	**21 01 10.9**	**+0.2**
comp=Z,1.7nm,0.4s,baz=141,slow=5.7,SNR=11							
ZALV	**Zalesovo Beam**	**61.16**	**335**	P	**P**	**21 01 09.3**	**-1.4**
MA2	**Magadan**	**61.20**	**15**	P	**P**	**21 01 10.8**	**-0.1**
MA2				IAmb	IAmb	21 01 12.7	
comp=Z,11nm,0.7s							
LBZ	**Lake Benmore**	**61.61**	**144**	P	**P**	**21 01 16.1**	**+2.1**
LBZ				IAmb	IAmb	21 01 48.2	
comp=Z,39nm,1.6s							
KURK	**Kurchatov**	**62.00**	**329**	P	**P**	**21 01 16.7**	**+0.4**
KURK				IAmb	IAmb	21 01 17.8	
comp=Z,11nm,0.5s							
TUWZ	**Tuamarina**	**62.33**	**140**	P	**P**	**21 01 20.5**	**+1.8**
KHZ	**Kahutara**	**62.58**	**141**	P	**P**	**21 01 21.5**	**+1.2**
KHZ				IAmb	IAmb	21 01 47.9	
comp=Z,43nm,1.4s							
KHZ				PcP	**PcP**	**21 01 57.5**	**+1.5**
BRVK	**Borovoye**	**67.61**	**328**	P	**P**	**21 01 51.5**	**-0.8**
TIXI	**Tiksi**	**69.80**	**2**	P	**P**	**21 02 04.7**	**-0.6**
comp=Z,5.0nm,0.4s,baz=167,slow=5.6,SNR=37							
TIXI	**Tiksi**	**69.80**	**2**	P	**P**	**21 02 04.3**	**-1.0**
TIXI				IAmb	IAmb	21 02 05.4	
comp=Z,6.1nm,0.5s							
NRIK	**Noril'sk**	**71.69**	**347**	P	**P**	**21 02 16.6**	**-0.1**
comp=Z,3.4nm,0.6s,baz=145,slow=3.8,SNR=6.8							
NRIK	**Noril'sk**	**71.69**	**347**	P	**P**	**21 02 16.3**	**-0.4**
NRIK				IAmb	IAmb	21 02 19.5	
comp=Z,3.7nm,0.7s							
ABKAR	**Akbulak array**	**72.01**	**322**	P	**P**	**21 02 18.2**	**-0.8**
ABKAR	**Akbulak array**	**72.01**	**322**	P	**P**	**21 02 18.3**	**-0.7**
ABKAR				IAmb	IAmb	21 02 21.0	
comp=Z,2.0nm,1.1s							
VNDA	**Vanda**	**81.88**	**172**	P	**P**	**21 03 14.3**	**+1.3**
comp=Z,4.6nm,1.2s,baz=323,slow=4.9,SNR=5.8							
VNDA	**Vanda**	**81.88**	**172**	P	**P**	**21 03 14.4**	**+1.3**
VNDA				IAmb	IAmb	21 03 24.2	
comp=Z,17nm,1.6s							
ARCES	**ARCESS Array B**	**91.34**	**340**	P	**P**	**21 03 57.8**	**-1.1**
com

LANS			eLG	Lg	21 41 06.1	
KRLC	**Kraliky**	**1.40 263**	ePG	**Pn**	**21 40 52.5**	**-1.0**
DPC	**Dobruska-Polom**	**1.68 274**	ePG	**Pn**	**21 40 57.3**	**0.0**

*PRU **19** 21:40:27.2±0.0, 50.°27N×18.°97E, h0km*
*IPEC **19** 21:41:24.6±0.2, 50.°17N×18.°99E, h1km, ML2.1/3, Error ellipse: s-maj=2.4km s-min=1.0km az=167.0*
*VIE **19** 21:41:24.2±0.4, 50.°27N×18.°94E, h0km, mb2.3/4, ml2.4/4, ms3.4/1, Error ellipse: s-maj=4.1km s-min=2.5km az=168.0 3 km WNW of Katowice Suspected Mining induced.*
ISC 19 21:41:24.5±0.8, 50.°20N±0.°03×18.°97E±0.°02, h0km, n43, σ1§09/77, 12C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.53**	**88**	ePg	**Pg**	**21 41 34.7**	**0.0**
OJC				eSg	**Sg**	**21 41 42.7**	**+1.0**
OKC	**Ostrava-Krasne**	**0.64**	**236**	ePG	**Pb**	**21 41 37.7**	**-0.9**
OKC				eSG	**Sg**	**21 41 45.5**	**+0.4**
	comp=Z,38nm,0.7s						
MORC	**Moravsky Berou**	**1.01**	**246**	⇑P	**Pg**	**21 41 44.4**	**+0.5**
MORC				⇓S	**Sb**	**21 41 59.0**	**+0.1**
MORC	**Moravsky Berou**	**1.01**	**246**	ePg	**Pg**	**21 41 44.0**	**+0.1**
	baz=66						
MORC				eSg	**Sg**	**21 41 56.2**	**-0.8**
	27nm,0.2s,baz=66						
LANS	**Liptovska Anna**	**1.10**	**163**	ePG	**Pb**	**21 41 46.5**	**0.0**
LANS				eSG	**Sb**	**21 42 01.6**	**+0.2**
LANS				eLG	Lg	21 42 03.9	
NIE	**Niedzica**	**1.17**	**132**	ePg	**Pb**	**21 41 47.7**	**+0.1**
NIE				eSg	**Sn**	**21 42 05.5**	**+0.7**
KRLC	**Kraliky**	**1.41**	**266**	ePG	**Pn**	**21 41 50.5**	**-1.0**
KRLC				eSG	**Sg**	**21 42 09.4**	**-0.4**
	comp=Z,36nm,0.8s						
JAVC	**Velka Javorina**	**1.59**	**213**	ePn	**Pn**	**21 41 53.7**	**-0.2**
	baz=33						
JAVC	**Velka Javorina**	**1.59**	**213**	ePN	**Pn**	**21 41 53.8**	**-0.2**
STHS	**Stebnicka Huta**	**1.67**	**117**	ePN	**Pb**	**21 41 55.9**	**-0.3**
DPC	**Dobruska-Polom**	**1.70**	**276**	ePG	**Pn**	**21 41 55.4**	**-0.1**
DPC				eSG	**Sg**	**21 42 19.4**	**+0.2**
	comp=Z,20nm,0.4s						
VYHS	**Vyhne**	**1.71**	**183**	ePN	**Pn**	**21 41 55.4**	**-0.2**
VYHS				eSN	**Sn**	**21 42 18.3**	**+0.1**
VYHS				eLG	Lg	21 42 20.9	
VRAC	**Vranov**	**1.78**	**241**	⇑P	**Pb**	**21 41 57.6**	**-0.4**
VRAC				⇑S	**Sg**	**21 42 21.4**	**-0.3**
VRAC	**Vranov**	**1.78**	**241**	ePn	**Pn**	**21 41 56.3**	**-0.2**
	baz=60						
VRAC				eSg	**Sb**	**21 42 20.5**	**-0.4**
	18nm,0.3s,baz=60						
OSTC	**Ostas**	**1.80**	**282**	ePG	**Pn**	**21 41 56.6**	**-0.2**
OSTC				eSG	**Sg**	**21 42 22.5**	**+0.3**
	comp=Z,10nm,0.6s						
KSP	**Ksiaz**	**1.82**	**292**	ePb	**Pn**	**21 41 56.9**	**-0.2**
KSP				ePg	**Pg**	**21 41 59.2**	**-0.3**
KSP				eSg	**Sg**	**21 42 23.6**	**+0.6**
CHVC	**Chvalec**	**1.90**	**283**	ePG	**Pn**	**21 41 58.3**	**+0.1**
CHVC				eSG	**Sg**	**21 42 26.5**	**+0.9**
	comp=Z,7.2nm,0.3s						
UPC	**Upice**	**1.92**	**280**	ePG	**Pn**	**21 41 59.2**	**+0.8**
UPC				eSG	**Sg**	**21 42 27.1**	**+1.0**
	comp=Z,8.9nm,0.3s						
SMOL	**Smolenice**	**1.97**	**211**	eSG	**Sg**	**21 42 30.0**	**+2.3**
KECS	**Kecovo**	**1.99**	**149**	ePN	**Pn**	**21 41 59.6**	**+0.2**
KECS				eSN	**Sb**	**21 42 26.4**	**-0.4**
KRUC	**Moravsky**	**2.02**	**237**	ePn	**Pn**	**21 41 59.3**	**-0.6**
	baz=56						
KRUC				eSg	**Sb**	**21 42 27.5**	**-0.3**
	10nm,0.3s,baz=56						
KRUC	**Moravsky**	**2.02**	**237**	ePN	**Pn**	**21 41 59.4**	**-0.5**
KRUC				eSG	**Sb**	**21 42 27.6**	**-0.3**
CRVS	**Cervenica-Dubn**	**2.08**	**128**	ePN	**Pb**	**21 42 02.2**	**-0.9**
CRVS				eSN	**Sn**	**21 42 27.2**	**-0.1**
MODS	**Modra-Piesok**	**2.14**	**212**	eSG	**Sg**	**21 42 34.4**	**+1.2**
PSZ	**Piszkesteto**	**2.37**	**165**	⇑P	**Pn**	**21 42 04.3**	**-0.4**
PSZ				⇑S	**Sn**	**21 42 32.8**	**-1.6**
TREC	**Trest**	**2.43**	**249**	ePG	**Pb**	**21 42 08.4**	**-0.7**
TREC				eSG	**Sg**	**21 42 41.9**	**-0.7**
	comp=Z,8.2nm,0.3s						
PVCC	**Panska Ves**	**2.83**	**278**	eSG	**Sg**	**21 42 55.5**	**0.0**
	comp=Z,9.9nm,0.2s						
PRU	**Pruhonice**	**2.86**	**267**	ePG	**Pb**	**21 42 16.2**	**-0.2**
PRU				eSG	**Sg**	**21 42 55.5**	**-0.8**
	comp=Z,12nm,0.8s						
CONA	**Conrad Observa**	**3.06**	**223**	ePn	**Pn**	**21 42 13.9**	**-0.3**
	0.4nm,0.3s						
CONA				eSn	**Sn**	**21 42 52.9**	**+1.4**
	2.3nm,0.3s						
BRG	**Berggiesshubel**	**3.27**	**284**	Pg	**Pg**	**21 42 26.4**	**-0.9**
BRG				Sg	**Sg**	**21 43 11.5**	**+1.9**
BRG				Amp		21 43 27.0	
	comp=Z,7.9nm,0.7s						
CKRC	**Cesky Krumlov**	**3.34**	**247**	ePN	**Pn**	**21 42 18.8**	**+0.9**
CKRC				ePG	**Pb**	**21 42 25.1**	**+0.6**
CKRC				eSG	**Sg**	**21 43 10.9**	**-0.7**
KHC	**Kasperske Hory**	**3.66**	**255**	ePN	**Pn**	**21 42 22.4**	**0.0**
KHC				eSN	**Sn**	**21 43 05.0**	**-1.3**
KHC				eSG	**Sg**	**21 43 21.5**	**-0.6**
	comp=Z,13nm,0.6s						
ARSA	**Arzberg**	**3.73**	**219**	eSg	**Sg**	**21 43 29.5**	**+5.2**
	comp=Z,2.6nm,0.7s						
MOA	**Molln**	**3.89**	**235**	ePn	**Pn**	**21 42 25.4**	**-0.1**
	comp=Z,0.4nm,0.2s						
MOA				eSn	**Sn**	**21 43 13.6**	**+1.7**
	comp=Z,1.3nm,0.4s						
BMR	**Baia Mare**	**3.91**	**129**	⇑P	**Pn**	**21 42 25.7**	**-0.1**
CLL	**Collm**	**3.95**	**289**	ePg	**Pb**	**21 42 36.0**	**+1.1**
CLL				eSg	**Sg**	**21 43 34.0**	**+2.8**
	comp=Z,6.0nm,0.6s						
MORH	**Mrgy, Hungar**	**4.00**	**183**	⇑P	**Pn**	**21 42 26.9**	**0.0**
MORH				⇑S	**Sn**	**21 43 12.2**	**-2.3**
DRGR		**4.22**	**142**	⇑P	**Pn**	**21 42 30.0**	**-0.2**
DRGR				⇓S	**Sn**	**21 43 19.1**	**-1.1**
SIRR	**Siria**	**4.33**	**154**	⇑S	**Sn**	**21 43 21.3**	**-1.4**
BURAR	**Bucovina Array**	**4.87**	**120**	⇑P	**Pn**	**21 42 39.2**	**+0.2**
BZS	**Buzias**	**4.92**	**158**	⇑P	**Pn**	**21 42 39.0**	**-0.7**
BZS				⇓S	**Sn**	**21 43 36.2**	**-1.2**
GZR	**Gura Zlata**	**5.45**	**150**	⇓P	**Pn**	**21 42 47.0**	**-0.1**
WTTA	**Wattenberg**	**5.67**	**242**	eSg	**Sg**	**21 44 29.1**	**+2.5**
	comp=Z,2.7nm,0.4s						

*RSNC **19** 21:42:48.6±1.0, 6.°83N×73.°12W, h147km±4km, ML3.3, Mw3.7*
*IDC **19** 21:42:51.1±5.8, 6.°81N×75.°44W, h143km±78km, mb3.3/1, mb1 3.7/2, mb1mx3.0/27, mbtmp3.8/2, Error ellipse: s-maj=208.4km s-min=43.5km az=83.0*
ISC 19 21:42:47.7±1.0, 6.°85N±0.°03×73.°11W±0.°03, h153km±6km, n40, σ1§64/75, 2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**196**	⇓iP	**Pn**	**21 43 08.9**	**0.0**
BARC				eS	**Sn**	**21 43 23.6**	**-1.4**
BARC				i		21 43 25.1	
	comp=Z,506nm,0.2s						
PAMC	**Pamplona, Colo**	**0.63**	**40**	⇑eP	**Pn**	**21 43 11.7**	**+1.0**
PAMC				eS	**Sn**	**21 43 28.6**	**+0.2**
PAMC				i		21 43 31.1	
	comp=Z,437nm,0.5s						
RUSC	**La Rusia**	**0.95**	**179**	⇓eP	**Pn**	**21 43 12.8**	**-0.2**
RUSC				eS	**Sn**	**21 43 31.7**	**-0.6**
RUSC				i		21 43 33.2	
	comp=Z,192nm,0.4s						
TAMC	**Tame, Arauca**	**1.37**	**107**	⇓iP	**Pn**	**21 43 17.4**	**+1.1**
TAMC				eS	**Sn**	**21 43 37.4**	**-0.8**
TAMC				i		21 43 38.2	
	comp=Z,154nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	eP	**Pn**	**21 43 15.6**	**-0.7**
PTBC				eS	**Sn**	**21 43 36.5**	**-1.6**
PTBC				i		21 43 43.0	
	comp=Z,174nm,0.2s						
OCAC	**Ocana**	**1.40**	**351**	eP	**Pn**	**21 43 16.9**	**+0.2**
OCAC				eS	**Sn**	**21 43 38.9**	**-0.1**
OCAC				i		21 43 47.3	
	comp=Z,428nm,0.2s						
SPBC	**San Pablo de B**	**1.53**	**219**	eP	**Pn**	**21 43 17.7**	**-0.3**
SPBC				eS	**Sn**	**21 43 40.1**	**-1.0**
SPBC				i		21 43 44.5	
	comp=Z,376nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	eP	**Pn**	**21 43 21.6**	**+0.2**
ZARC				eS	**Sn**	**21 43 46.4**	**-0.8**
ZARC				i		21 43 52.0	
	comp=Z,224nm,0.4s						
SMLC	**San Martn de**	**2.16**	**334**	eP	**Pn**	**21 43 25.0**	**0.0**
SMLC				eS	**Sn**	**21 43 55.2**	**+1.5**
SMLC				i		21 43 57.4	
	comp=Z,232nm,0.1s						
NORC	**Norcasia**	**2.17**	**234**	eP	**Pn**	**21 43 24.9**	**-0.2**
NORC				eS	**Sn**	**21 43 53.6**	**-0.2**
NORC				i		21 43 58.8	
	comp=Z,160nm,0.2s						
CHIC	**Chingaza**	**2.29**	**196**	eP	**Pn**	**21 43 26.9**	**0.0**
CHIC				eS	**Sn**	**21 43 56.4**	**-0.7**
CHIC				i		21 43 59.9	
	comp=Z,172nm,0.6s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**21 43 29.2**	**+1.8**
	comp=Z,36nm,0.3s,baz=324,slow=7.8,SNR=36						
ROSC				S	**Sn**	**21 43 58.9**	**+1.0**
	comp=Z,36nm,0.3s,baz=121,slow=18,SNR=7.9						
ROSC	**El Rosal**	**2.33**	**211**	eP	**Pn**	**21 43 28.9**	**+1.5**
ROSC				eS	**Sn**	**21 43 56.8**	**-1.2**
ROSC				i		21 44 03.4	
	comp=Z,363nm,0.5s						
HELC	**Santa Helena**	**2.49**	**255**	eP	**Pn**	**21 43 30.3**	**+1.0**
HELC				eS	**Sn**	**21 44 00.8**	**-0.5**
HELC				i		21 44 07.0	
	comp=Z,119nm,0.3s						
UREC	**San Jos de Ur**	**2.57**	**291**	eP	**Pn**	**21 43 28.9**	**-1.0**
UREC				eS	**Sn**	**21 43 59.2**	**-3.2**
SOCV	**Socops**	**2.65**	**57**	⇑eP	**Pn**	**21 43 30.7**	**-0.2**
SOCV				eS	**Sn**	**21 44 01.7**	**-2.6**
LL1C	**La Loma 1 Cana**	**2.71**	**351**	eP	**Pn**	**21 43 34.2**	**+2.5**
LL1C				eS	**Sn**	**21 44 09.7**	**+4.0**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	eP	**Pn**	**21 43 33.0**	**+0.2**
GUY2C				eS	**Sn**	**21 44 09.1**	**+1.6**
GUY2C				i		21 44 15.1	
	comp=Z,106nm,0.3s						
VILC	**Villavicencio,**	**2.78**	**192**	eP	**Pn**	**21 43 32.4**	**-0.3**
VILC				eS	**Sn**	**21 44 06.9**	**-0.4**
PTGC	**Puerto Gaitan,**	**2.80**	**160**	eP	**Pn**	**21 43 32.0**	**-0.8**
PTGC				eS	**Sn**	**21 44 05.4**	**-2.3**
PTGC				i		21 44 07.3	
	comp=Z,122nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.87**	**357**	eP	**Pn**	**21 43 33.5**	**-0.1**
LL6C				eS	**Sn**	**21 44 08.2**	**-1.0**
LL6C				i		21 44 14.9	
	comp=Z,61nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.05**	**251**	eP	**Pn**	**21 43 36.6**	**+0.6**
CBOC				eS	**Sn**	**21 44 13.6**	**+0.3**
CBOC				i		21 44 18.7	
	comp=Z,30nm,0.5s						
DBBC	**Dabeiba**	**3.08**	**273**	eP	**Pn**	**21 43 36.6**	**+0.2**
DBBC				eS	**Sn**	**21 44 12.9**	**-1.2**
DBBC				i		21 44 14.4	
	comp=Z,291nm,0.3s						
MOTC	**Monteria, Cord**	**3.18**	**307**	eP	**Pn**	**21 43 35.9**	**-1.6**
MOTC				eS	**Sn**	**21 44 14.5**	**-1.6**
MOTC				i		21 44 15.2	
	comp=Z,26nm,0.2s						
SDV	**Santo Domingo**	**3.18**	**50**	eP	**Pn**	**21 43 38.4**	**+0.7**
SDV				eS	**Sn**	**21 44 15.8**	**-0.6**
SDV				i		21 44 19.1	
	comp=Z,35nm,0.3s						
ARGC	**Ariguani, Magd**	**3.20**	**339**	eP	**Pn**	**21 43 39.1**	**+1.4**
ARGC				eS	**Sn**	**21 44 17.9**	**+1.3**
ARGC				i		21 44 30.8	
	comp=Z,42nm,0.4s						
ANIL	**Santa Ana**	**3.27**	**224**	eP	**Pn**	**21 43 40.1**	**+1.1**
ANIL				eS	**Sn**	**21 44 18.5**	**-0.2**
PRAC	**Prado**	**3.58**	**210**	eP	**Pn**	**21 43 42.5**	**-0.3**
PRAC				eS	**Sn**	**21 44 24.0**	**-1.4**
PRAC				i		21 44 29.1	
	comp=Z,115nm,0.5s						
ORTC	**Ortega, Tolima**	**3.61**	**216**	eP	**Pn**	**21 43 43.0**	**-0.1**
ORTC				eS	**Sn**	**21 44 25.6**	**-0.6**
ORTC				i		21 44 30.3	
	comp=Z,82nm,0.2s						
CVALL	**Valledupar, Ce**	**3.64**	**358**	eP	**Pn**	**21 43 42.9**	**-0.6**
CVALL				eS	**Sn**	**21 44 26.0**	**-0.8**
SJCC	**San Jacinto, C**	**3.66**	**326**	eP	**Pn**	**21 43 42.8**	**-0.9**
SJCC				eS	**Sn**	**21 44 24.0**	**-3.2**
SJCC				i		21 44 38.7	
	comp=Z,35nm,0.7s						
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	eP	**Pn**	**21 43 49.1**	**-1.1**
CRJC				eS	**Sn**	**21 44 36.5**	**-2.3**
CRJC				i		21 44 44.1	
	comp=Z,59nm,0.4s						
YOTC	**Yotoco, Valle**	**4.30**	**229**	eP	**Pn**	**21 43 51.0**	**-1.2**
SMRC	**Santa Marta, M**	**4.43**	**346**	eP	**Pn**	**21 43 53.2**	**-0.5**
SMRC				eS	**Sn**	**21 44 41.9**	**-3.2**
SMRC				i		21 44 45.3	
	comp=Z,29nm,0.3s						
MACC	**Macarena, Meta**	**4.73**	**189**	eP	**Pn**	**21 43 56.1**	**-1.6**
MACC				eS	**Sn**	**21 44 47.1**	**-5.2**
URIC	**Uribia, Colomb**	**4.95**	**13**	eP	**Pn**	**21 43 59.0**	**-1.5**
URIC				eS	**Sn**	**21 44 52.5**	**-4.9**
PCON	**Cinco Dias**	**5.56**	**216**	eP	**Pn**	**21 44 09.8**	**+0.6**
POPC	**Popayan, Colom**	**5.56**	**220**	eP	**Pn**	**21 44 08.4**	**-0.6**
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**21 52 59.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=132,slow=6.6,SNR=12						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPdf**	**22 02 20.8**	**+4.2**
	comp=Z,0.2nm,0.9s,baz=106,slow=2.7,SNR=1.3						

*SJA **19** 21:45:21.0±0.6, 30.°39S×72.°31W, h14km, ML4.4, MW4.2*
*IDC **19** 21:45:23.8±1.0, 31.°03S×71.°00W, h0km, mb4.0/4, mb1 4.0/8, mb1mx3.9/25, mbtmp3.9/8, ML3.8/4, MS3.3/5, Ms1 3.3/5, ms1mx3.0/51, Error ellipse: s-maj=32.9km s-min=26.6km az=142.0*
*GUC **19** 21:45:26.4±0.5, 30.°47S×71.°70W, h31km±6km, ML4.5*
*NEIC **19** 21:45:28.0±1.3, 30.°44S±0.°03×71.°63W±0.°09, h28km±5km, mb4.2/8, Mwr4.0/24, ML4.2(GUC), Error ellipse: s-maj=11.7km s-min=4.6km az=81.0*
*NEIC **19** 21:45:27.8, 30.°44S×71.°62W, h39km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.71; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-0.61; $M_{r\theta}$0.07; $M_{\theta\phi}$0.11; $M_{\phi r}$-1.32; Fault plane solution: M_o1.49000×10^{15} NP1:ϕ_s175.96000°, δ76.72000°, λ92.79000°. NP2:ϕ_s343.97000°, δ13.57000°, λ78.33000°. Principal axes: T 1.5266, Plg58.0000°, Azm90.0000°; N -0.0849, Plg3.0000°, Azm355.0000°; P -1.4417, Plg32.0000°, Azm264.0000°;*
ISC 19 21:45:27.3±0.8, 30.°45S±0.°02×71.°56W±0.°04, h28km±6km, n116, σ2§25/142, mb4.1/6, 12C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.24**	**197**	⇓iP	**Pb**	**21 45 33.9**	**+0.2**
CO06				i S	**Sb**	**21 45 38.3**	**+0.2**
CO06				IAML		21 45 38.9	
	comp=N,48μm,0.2s						
CO06	**Fray Jorge**	**0.24**	**197**		**Pb**	**21 45 34.0**	**+0.2**
CO06				Sg	**Sb**	**21 45 38.4**	**+0.2**
CO05	**La Serena**	**0.59**	**28**	⇓iP	**Pn**	**21 45 40.1**	**+0.2**
CO05				i S	**Sn**	**21 45 49.1**	**+0.5**
CO05				IAML		21 45 49.9	
	comp=N,25μm,0.2s						
CO05	**La Serena**	**0.59**	**28**		**Pn**	**21 45 40.2**	**+0.3**
CO05				Sn	**Sn**	**21 45 48.3**	**-0.3**
GO04	**Tololo Observa**	**0.71**	**68**	eP	**Pn**	**21 45 42.6**	**+0.9**
GO04				i S	**Sn**	**21 45 53.8**	**+2.0**
GO04	**Tololo Observa**	**0.71**	**68**		**Pn**	**21 45 42.8**	**+1.1**
GO04	**Tololo Observa**	**0.71**	**68**	eP	**Pn**	**21 45 44.0**	**+2.3**
GO04				eS	**Sb**	**21 45 48.3**	**-2.4**
CO03	**El Pedregal**	**0.84**	**118**	i S	**Sn**	**21 45 56.2**	**+1.3**
CO03				IAML		21 45 58.4	
	comp=E,15μm,0.4s						
CO03	**El Pedregal**	**0.84**	**118**	⇓iP	**Pn**	**21 45 44.7**	**+1.3**
CO03				i S	**Sn**	**21 45 57.2**	**+2.3**
CO03				IAML		21 45 58.5	
	comp=N,14μm,0.3s						
CO03	**El Pedregal**	**0.84**	**118**		**Pn**	**21 45 44.7**	**+1.3**
CO03				Sn	**Sn**	**21 45 57.0**	**+2.0**
CO03	**El Pedregal**	**0.84**	**118**	eP	**Pn**	**21 45 44.7**	**+1.3**
CO03				eS	**Sn**	**21 45 57.9**	**+3.0**
CO03				IAML		21 45 57.9	
	comp=Z,5μm,0.6s						
LCO	**Las Campanas**	**1.61**	**28**	⇑eP	**Pb**	**21 45 55.7**	**-0.8**
LCO				i S	**Sb**	**21 46 17.6**	**+1.0**
LCO	**Las Campanas**	**1.61**	**28**	eP	**Pb**	**21 45 55.7**	**-0.8**
LCO				i S	**Sb**	**21 46 17.3**	**+0.8**
LCO	**Las Campanas**	**1.61**	**28**	Pn	**Pn**	**21 45 55.5**	**+1.3**
LCO				Sn	**Sb**	**21 46 17.2**	**+0.6**
LCO	**Las Campanas**	**1.61**	**28**	eP	**Pb**	**21 45 56.0**	**-0.5**
VA06	**Catapilco**	**2.12**	**174**	eP	**Pn**	**21 46 01.4**	**+0.5**
VA06				IAML		21 46 39.6	
	comp=E,3μm,0.4s						
VA06	**Catapilco**	**2.12**	**174**	eP	**Pn**	**21 46 01.1**	**+0.2**
VA06				i S	**Sn**	**21 46 28.3**	**+1.9**
VA06				IAML		21 46 39.6	
	comp=E,3μm,0.2s						
AC04	**Llanos de Chal**	**2.27**	**11**	⇑iP	**Pn**	**21 46 03.3**	**+0.3**
AC04				i S	**Sb**	**21 46 37.3**	**+2.0**
AC04				IAML		21 46 47.9	
	comp=E,2μm,0.6s						
AC04	**Llanos de Chal**	**2.27**	**11**	eP	**Pn**	**21 46 03.3**	**+0.3**
AC04				IAML		21 46 47.9	
	comp=E,2μm,0.6s						
AC04	**Llanos de Chal**	**2.27**	**11**		**Pn**	**21 46 03.9**	**+0.9**
AC04	**Llanos de Chal**	**2.27**	**11**	eP	**Pn**	**21 46 03.0**	**0.0**
AC04				eS	**Sn**	**21 46 30.8**	**+0.7**
AC04				IAML		21 46 43.3	
	comp=Z,1μm,0.6s						
VA03	**San Esteban**	**2.46**	**160**	eP	**Pb**	**21 46 08.6**	**-2.4**
VA03				i S	**Sn**	**21 46 38.0**	**+2.9**
VA03				IAML		21 46 52.8	
	comp=N,3μm,0.7s						
VA03	**San Esteban**	**2.46**	**160**	⇑eP	**Pn**	**21 46 08.1**	**+2.4**
VA03				i S	**Sb**	**21 46 40.8**	**-0.2**
VA03				IAML		21 46 49.8	
	comp=N,2μm,0.4s						
VA03	**San Esteban**	**2.46**	**160**		**Pn**	**21 46 07.7**	**+1.9**
VA03	**San Esteban**	**2.46**	**160**	eP	**Pn**	**21 46 08.1**	**+2.4**
VA03				eS	**Sb**	**21 46 39.8**	**-1.1**
VA03				IAML		21 46 57.6	
	comp=Z,1μm,0.5s						
ROCH	**El Roble**	**2.56**	**170**	⇑eP	**Pn**	**21 46 08.3**	**+1.1**
ROCH				⇑iP	**Pn**	**21 46 07.5**	**+0.3**
ROCH				i S	**Sn**	**21 46 39.5**	**+1.9**
ROCH				i S	**Sb**	**21 46 39.8**	**-4.1**
ROCH				IAML		21 46 49.6	
	comp=N,3μm,0.5s						
ROCH				IAML		21 46 50.0	
	comp=N,4μm,0.5s						
ROCH	**El Roble**	**2.56**	**170**	eP	**Pn**	**21 46 08.3**	**+1.1**
ROCH				i S	**Sb**	**21 46 42.8**	**-1.0**
ROC1	**El Roble**	**2.56**	**170**	eP	Pn	21 45 55.0	-12
ROC1				eP	Pb	21 46 07.0	-5.8
ROC1				eS	**Sb**	**21 46 48.3**	**+4.4**
VA01	**Torpederas**	**2.57**	**182**	eP	**Pb**	**21 46 09.9**	**-2.8**
VA01	**Torpederas**	**2.57**	**182**	Pn	**Pn**	**21 46 08.8**	**+1.7**
PEL	**Peldehue**	**2.79**	**165**	⇑iP	**Pn**	**21 46 11.1**	**+0.9**
PEL				i S	**Sn**	**21 46 45.5**	**+2.5**
PEL				IAML		21 47 02.5	
	comp=E,4μm,0.9s						
PEL	**Peldehue**	**2.79**	**165**	⇑iP	**Pn**	**21 46 11.9**	**+1.7**
PEL				i S	**Sb**	**21 46 48.2**	**-2.0**
PEL				IAML		21 47 02.6	
	comp=E,1μm,0.6s						
PEL	**Peldehue**	**2.79**	**165**		**Pn**	**21 46 11.3**	**+1.1**
PEL	**Peldehue**	**2.79**	**165**	eP	**Pn**	**21 46 12.1**	**+2.0**
PEL				eS	**Sb**	**21 46 48.3**	**-1.9**
PEL				eS	**Sn**	**21 46 49.8**	**+6.9**
MT02	**Curacav**	**2.83**	**173**	⇑eP	**Pn**	**21 46 11.3**	**+0.6**
MT02				IAML		21 47 07.6	
	comp=E,771nm,0.7s						
MT02	**Curacav**	**2.83**	**173**	eP	**Pn**	**21 46 11.4**	**+0.7**
MT02	**Curacav**	**2.83**	**173**		**Pn**	**21 46 11.0**	**+0.3**
MT02	**Curacav**	**2.83**	**173**	eP	**Pn**	**21 46 11.3**	**+0.6**
MT02				eS	**Sn**	**21 46 46.8**	**+3.0**
MT02				IAML		21 47 00.5	
	comp=Z,1μm,0.5s						
MT05	**Renca**	**3.02**	**167**	eP	**Pn**	**21 46 13.5**	**+0.2**
MT05				i S	**Sn**	**21 46 50.7**	**+2.0**
MT05				IAML		21 47 06.8	
	comp=N,3μm,0.4s						
MT05	**Renca**	**3.02**	**167**		**Pn**	**21 46 14.5**	**+1.1**
MT05	**Renca**	**3.02**	**167**	eP	**Pn**	**21 46 15.2**	**+1.9**
MT05				eS	**Sb**	**21 46 56.8**	**0.0**
MT05				IAML		21 47 09.5	
	comp=Z,1μm,0.9s						
GO03	**Copiap**	**3.07**	**22**	eP	**Pn**	**21 46 15.2**	**+1.2**
GO03				IAML		21 47 10.4	
	comp=E,2μm,0.1s						
GO03	**Copiap**	**3.07**	**22**	Pn	**Pn**	**21 46 15.7**	**+1.7**
GO03	**Copiap**	**3.07**	**22**	eP	**Pn**	**21 46 15.7**	**+1.7**
GO03				eS	**Sb**	**21 47 06.9**	**+8.7**
ASAL	**Salagasta**	**3.16**	**133**	eP	**Pb**	**21 46 21.2**	**-1.5**
ASAL				eS	**Sb**	**21 47 08.3**	**+7.5**
VA05	**Santo Domingo**	**3.20**	**181**	IAML		21 47 19.1	
	comp=N,972nm,0.3s						
VA05	**Santo Domingo**	**3.20**	**181**	i S	**Sb**	**21 47 02.2**	**+0.1**
VA05				IAML		21 47 14.4	
	comp=E,898nm,0.4s						
VA05	**Santo Domingo**	**3.20**	**181**		**Pn**	**21 46 15.6**	**-0.1**
ARCO	**CERRO ARCO**	**3.27**	**138**	eP	**Pb**	**21 46 23.0**	**-1.8**
ARCO				eS	Sb	21 47 13.7	+10
ARCO				IAML		21 47 14.8	
	comp=Z,610nm,0.5s						
MT09	**Talagante**	**3.35**	**172**	⇑eP	**Pn**	**21 46 18.9**	**+0.9**
MT09				IAML		21 47 19.1	
	comp=E,1μm,0.5s						
MT09	**Talagante**	**3.35**	**

AHML *e*S **Sn** **21 48 22.8 +6.6**
AHML IAML 21 49 05.4
comp=Z,46nm,0.8s
H03N1 Juan Fernandez 6.93 243 T T 21 54 11.0
baz=69,slow=72,SNR=3309
H03N2 Juan Fernandez 6.94 243 T T 21 54 15.0
baz=69,slow=72,SNR=3948
H03N3 Juan Fernandez 6.94 242 T T 21 54 02.8
baz=69,slow=72,SNR=3290
PB15 IPOC Station P 7.45 15 **Pn** **21 47 13.9 -0.4**
LVC Limon Verde 8.15 17 Pn **Pn** **21 47 25.5 +1.3**
comp=Z,0.6nm,0.3s,baz=191,slow=22,SNR=8.0
LVC Sn Sn 21 49 09.4 +14
comp=Z,2.5nm,0.3s,baz=232,slow=8.5,SNR=4.3
LVC Limon Verde 8.15 17 *e*P **Pn** **21 47 24.0 -0.2**
LC01 Cunco 8.44 182 Pn **Pn** **21 47 26.6 -1.1**
LC01 Cunco 8.44 182 *e*P **Pn** **21 47 30.0 +2.3**
PB07 IPOC Station P 8.81 10 **Pn** **21 47 31.5 -1.5**
PATCX Punta Patache 9.67 8 Pn **Pn** **21 47 44.5 -0.2**
PLCA Paso Flores 10.30 176 Pn Pn 21 47 46.2 -7.1
comp=Z,0.1nm,0.3s,baz=352,slow=15,SNR=1.4
PLCA Paso Flores 10.30 176 **Pn** **21 47 53.9 +0.6**
LL04 Puerto Octay 10.46 184 Pn **Pn** **21 47 55.3 -0.1**
ITQB Itaqui 12.96 90 Pn **Pn** **21 48 28.4 -1.2**
CPUP Villa Florida 13.18 75 Pn Pn 21 48 28.1 -4.5
comp=Z,0.1nm,0.3s,baz=183,slow=19,SNR=1.6
CPUP Sn **Sn** **21 50 52.8 -5.4**
baz=235,slow=18,SNR=1.8
CPUP LR LR 21 53 08.8
comp=Z,46nm,19.7s,baz=243,slow=36
CPUP Villa Florida 13.18 75 Pn **Pn** **21 48 31.1 -1.5**
LPAZ La Paz 14.44 13 Pn **P** **21 48 55.9 -1.2**
comp=Z,0.3nm,0.3s,baz=206,slow=10,SNR=7.6
LPAZ La Paz 14.44 13 **Pn** **21 48 51.8 +1.3**
PLTB Pedras Altas 15.44 99 Pn **Pn** **21 49 05.0 +1.8**
SIV San Ignacio 17.30 36 P **P** **21 49 28.6 +0.4**
comp=Z,0.7nm,0.3s,baz=205,slow=7.4,SNR=6.7
SIV LR LR 21 57 14.4
comp=Z,85nm,21.0s,baz=188,slow=41
ITAB Concordia 17.32 84 Pn **Pn** **21 49 27.7 +0.6**
ITAB IAmb IAmb 21 49 45.2
comp=Z,24nm,1.2s
NNA Nana 19.01 344 LR LR 21 55 23.8
comp=Z,49nm,20.8s,baz=194,slow=30
ETMB Extrema 21.12 15 P **P** **21 50 10.8 +0.9**
ETMB IAmb IAmb 21 50 26.8
comp=Z,9.0nm,1.2s
BDFB Brasilia 26.12 61 P **P** **21 50 58.2 -1.0**
comp=Z,2.9nm,0.5s,baz=187,slow=3.5,SNR=5.7
BDFB Brasilia 26.12 61 P **P** **21 50 58.8 -0.5**
BDFB IAmb IAmb 21 51 11.6
comp=Z,6.3nm,1.1s
BOAV Boa Vista 34.31 20 P **P** **21 52 11.4 -0.1**
MDP Montagnes des 39.72 30 LR LR 22 11 14.8
comp=Z,67nm,19.0s,baz=203,slow=39
SNAA Sanae 54.73 159 LR LR 22 19 09.0
comp=Z,98nm,18.7s,baz=123,slow=38
SNAA Sanae 54.73 159 P **P** **21 54 54.1 +0.3**
SNAA IAmb IAmb 21 55 08.0
comp=Z,5.1nm,1.1s
TXAR Lajitas Array 66.86 330 P P 21 56 23.9 +7.0
comp=Z,0.3nm,0.6s,baz=161,slow=8.0,SNR=5.2
DBIC Dimbokro 73.67 72 P **P** **21 56 59.3 +0.5**
comp=Z,2.5nm,0.6s,baz=243,slow=4.5,SNR=6.4
DBIC Dimbokro 73.67 72 P **P** **21 56 59.1 +0.3**
TORD Torodi Ar. Bea 82.62 70 P **P** **21 57 48.6 +0.2**
comp=Z,0.7nm,0.4s,baz=279,slow=4.9,SNR=9.6
TORD Torodi Ar. Bea 82.62 70 P **P** **21 57 48.5 +0.2**
WRA Warramunga Arr 124.05 210 PKP **PKPdf** **22 04 22.9 -0.9**
comp=Z,0.3nm,0.5s,baz=157,slow=1.8,SNR=7.7
H11S2 WAKE ISLAND Hyl 26.16 271 T T 00 23 08.8
baz=114,slow=75,SNR=52
H11S1 WAKE ISLAND Hyl 26.17 271 T T 00 23 10.8
baz=114,slow=75,SNR=68
H11S3 WAKE ISLAND Hyl 26.18 271 T T 00 23 12.2
baz=114,slow=75,SNR=72
ZALV Zalesovo Beam 150.97 29 PKPbc **PKiKP** **22 05 17.5 -0.1**
comp=Z,6.2nm,0.5s,baz=307,slow=3.4,SNR=36
ZALV Zalesovo Beam 150.97 29 **PKPbc** **22 05 17.3 +0.3**
MKAR Makanchi Array 154.02 44 PKPbc **PKPbc** **22 05 24.1 0.0**
comp=Z,0.4nm,0.6s,baz=271,slow=1.8,SNR=8.0

*NEIC **19** 21:52:28.3±1.8, 31°.38N±0°.04×115°.47W±0°.03, h7km±6km, Error ellipse: s-maj=6.7km s-min=1.8km az=156.0*
*ANF **19** 21:52:30.5±1.0, 31°.61N×115°.50W, h7km±2km, ML3.0/10, Error ellipse: s-maj=5.1km s-min=2.1km az=173.0*
*ECX **19** 21:52:31.4±0.6, 31°.48N×115°.53W, h15km±8km, MD2.8, ML3.1*
*PAS **19** 21:52:31.3±2.2, 31°.53N±0°.04×115°.60W±0°.03, h6km±2km, Error ellipse: s-maj=7.4km s-min=3.4km az=161.0*
*MEX **19** 21:52:32.1±0.4, 31°.46N×115°.50W, h3km±7km, MD3.7*
ISC 19 21:52:29.1±1.2, 31°.53N±0°.03×115°.50W±0°.03, h2km±11km, n43, σ0°81/63, 1C-5D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.49**	**177**	*e*P	**Pb**	**21 52 39.7**	**-0.9**
SPIG				*i* S	**Sg**	21 52 46.1	+1.3
SPIG	**San Pedro Mart**	**0.49**	**177**	⇓*i*P	**Pb**	**21 52 39.7**	**-0.9**
SPIG				*e*S	**Sg**	21 52 46.0	+1.2
SVX	**San Vicente**	**0.68**	**252**	⇑*i*P	**Pb**	**21 52 42.9**	**-0.7**
SVX				*e*S	**Sg**	21 52 51.1	+0.3
GUVIX	**Guadalupe Vict**	**0.85**	**25**	Pg	**Pn**	**21 52 47.7**	**-0.3**
GUVIX				Sg	**Sb**	21 52 59.1	+0.7
CPBX	**Cerro Prieto**	**0.90**	**10**	Pg	**Pn**	**21 52 48.6**	**-0.1**
CPBX				Sg	**Sn**	21 53 01.3	-1.0
MBIG	**Mexicali**	**0.91**	**16**	*e*P	**Pn**	**21 52 48.6**	**-0.2**
MBIG				*e*S	**Sn**	21 53 01.6	-1.0
CCX	**Cicese**	**1.05**	**289**		**Pb**	**21 52 49.9**	**-0.1**
CCX				Sg	**Sb**	21 53 04.0	-0.2
CCX				IAML		21 53 04.6	
	comp=E,512nm,0.5s						
CCX				IAML		21 53 04.8	
	comp=N,573nm,0.5s						
CCX	**Cicese**	**1.05**	**289**	⇓*e*P	**Pb**	**21 52 49.9**	**-0.1**
CCX				*e*S	**Sb**	21 53 03.8	-0.4
UABX	**UABC, Campus M**	**1.10**	**3**	Pg	**Pn**	**21 52 53.3**	**+0.8**
UABX				Sg	**Sn**	21 53 07.7	+0.5
YUH2	**Yuha Desert**	**1.17**	**342**	*e*P	**Pb**	**21 52 51.6**	**-0.4**
RMX	**La Rumorosa**	**1.17**	**335**		**Pg**	**21 52 51.1**	**-0.6**
RMX				IAML		21 53 07.6	
	comp=E,368nm,0.3s						
RMX				IAML		21 53 08.8	
	comp=N,462nm,0.5s						
RMX	**La Rumorosa**	**1.17**	**335**	*e*P	**Pg**	**21 52 51.0**	**-0.6**
RMX				⇓*e*		21 53 07.7	
RMX				IAML		21 53 07.7	
	comp=E,359nm,0.3s						
RMX				IAML		21 53 08.6	
	comp=N,439nm,0.3s						
IKP	**In-Ko-Pah, Jac**	**1.23**	**335**	*e*P	**Pb**	**21 52 53.0**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**1.23**	**335**	P	**Pb**	**21 52 53.0**	**-0.1**
	baz=159,SNR=70						
IKP				S	**Sb**	**21 53 09.1**	**-0.4**
	baz=159						
CBX	**Cerro Bola**	**1.26**	**308**		**Pn**	**21 52 53.7**	**-0.2**
CBX				IAML		21 53 11.1	
	comp=N,413nm,0.3s						
CBX				IAML		21 53 11.6	
	comp=E,377nm,0.3s						
CBX	**Cerro Bola**	**1.26**	**308**	*e*P	**Pn**	**21 52 53.6**	**-0.2**
CBX				*e*S	**Sb**	**21 53 10.0**	**-0.4**
CBX	**Cerro Bola**	**1.26**	**308**	⇓*e*P	**Pn**	**21 52 53.7**	**-0.2**
CBX				*e*S	**Sb**	**21 53 10.3**	**-0.1**
CBX				⇓*e*		21 53 11.1	
CBX				IAML		21 53 11.1	
	comp=N,408nm,0.2s						
TJIG	**Tijuana**	**1.34**	**312**	*e*P	**Pg**	**21 52 54.8**	**-0.1**
TJIG				*e*S	**Sg**	**21 53 12.2**	**-0.1**
TJIG	**Tijuana**	**1.34**	**312**	*e*P	**Pg**	**21 52 54.8**	**-0.1**
TJIG				*e*S	**Sg**	**21 53 12.2**	**-0.1**
TKX	**Tecate**	**1.40**	**318**		**Pg**	**21 52 55.7**	**-0.2**
TKX				IAML		21 53 15.8	
	comp=N,527nm,0.2s						
TKX				IAML		21 53 17.2	
	comp=E,698nm,0.2s						
TKX	**Tecate**	**1.40**	**318**	*e*P	**Pb**	**21 52 56.0**	**0.0**
TKX				*e*S	**Sb**	**21 53 14.1**	**-0.2**
SWSC	**Sam W. Stewart**	**1.43**	**350**	Pb	**Pg**	**21 52 56.6**	**0.0**
	baz=173,SNR=22						
BAR	**Barrett**	**1.52**	**319**		**Pb**	**21 52 57.6**	**-0.3**
BAR				IAML		21 53 19.8	
	comp=N,587nm,0.2s						
BAR				IAML		21 53 20.0	
	comp=E,736nm,0.2s						
BAR	**Barrett**	**1.52**	**319**	*e*P	**Pb**	**21 52 57.7**	**-0.3**
MONP2	**Monument Peak**	**1.56**	**330**	P	**Pn**	**21 52 58.1**	**0.0**
	baz=153,SNR=60						
MONP2				S	**Sb**	**21 53 18.9**	**-0.4**
	baz=153						
GLA	**Glamis**	**1.62**	**20**		**Pn**	**21 52 58.7**	**-0.1**
GLA				IAML		21 53 22.7	
	comp=E,250nm,0.5s						
GLA				IAML		21 53 23.1	
	comp=N,199nm,0.4s						
GLA	**Glamis**	**1.62**	**20**	P	**Pn**	**21 52 58.4**	**-0.3**
	baz=203						
GLA				Sb	**Sg**	**21 53 20.7**	**-0.4**
	baz=203						
TJX	**Tijuana**	**1.64**	**307**		**Pg**	**21 53 00.9**	**+0.3**
SDRC	**San Diego Road**	**1.71**	**315**	*e*P	**Pb**	**21 53 01.1**	**-0.3**
113A	**Mohawk Valley,**	**1.92**	**50**		**Pn**	**21 53 02.2**	**-0.5**
109C	**Camp Elliot, M**	**1.92**	**315**		**Pb**	**21 53 04.1**	**-0.7**
109C				IAML		21 53 29.5	
	comp=E,303nm,0.3s						
109C				IAML		21 53 30.9	
	comp=N,332nm,0.3s						
109C	**Camp Elliot, M**	**1.92**	**315**	Pb	**Pb**	**21 53 04.6**	**-0.2**
	baz=136						
109C				Sb	**Sb**	**21 53 29.0**	**-0.2**
	baz=136						
PFO	**Pinyon Flats O**	**2.23**	**339**		**Pn**	**21 53 06.8**	**-0.4**
PFO	**Pinyon Flats O**	**2.23**	**339**	Pb	**Pb**	**21 53 10.5**	**+0.4**
	baz=160						
PFO				Sb	**Sg**	**21 53 39.3**	**-1.4**
	baz=160						
214A	**Organ Pipe Nat**	**2.33**	**79**		**Pn**	**21 53 07.9**	**-0.6**
214A	**Organ Pipe Nat**	**2.33**	**79**	P	**Pn**	**21 53 07.8**	**-0.7**
	baz=260,SNR=10						
MURC	**Murrieta**	**2.51**	**326**	Pb	**Pb**	**21 53 14.5**	**-0.4**
	baz=146						
MURC				Sb	**Sb**	**21 53 47.0**	**+0.7**
	baz=146						
CIS	**Catalina Islan**	**3.09**	**308**	Sb	**Sb**	**21 54 05.5**	**+2.5**
	baz=128						
DECC	**Green Verdugo**	**3.61**	**319**	Sb	**Sb**	**21 54 19.8**	**+1.8**
	baz=139						
W13A	**Hualapai Mount**	**3.80**	**20**		**Pn**	**21 53 31.8**	**+2.8**
X16A	**Lo Mia Camp, P**	**4.46**	**49**		**Pn**	**21 53 38.7**	**+0.8**
X16A				IAML		21 55 06.9	
	comp=N,9.5nm,2.8s						
X16A				IAML		21 55 13.8	
	comp=E,13nm,4.5s						
U15A	**North Rim**	**5.56**	**28**	Pn	**Pn**	**21 53 54.8**	**+1.6**
KNB	**Kanab**	**5.90**	**21**	Pn	**Pn**	**21 53 59.1**	**+1.4**

*BJI **19** 22:03:59.3±0.0, 0°.90N×127°.74E, h149km, mb5.0/61, mB5.1/28*
*GCMT **19** 22:04:05.3±0.4, 1°.62N±0°.03×127°.14E±0°.03, h166km±5km, MW4.9/71, Moment Tensor Solution. s16,c16; s71,c92; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}1.99±.14; $M_{\theta\theta}$-1.48±.15; $M_{\phi\phi}$-0.51±.18; $M_{r\theta}$0.87±.11; $M_{r\phi}$1.24±.13; $M_{\theta\phi}$1.56±.14; Best double couple: $M_0$2.73200×10^16 NP1:φ97.00000°, δ51.00000°, λ46.00000°. NP2: φ334.00000°, δ56.00000°, λ130.00000°. Principal axes: T 3.1270, Plg57.0000°, Azm302.0000°; N -0.7940, Plg32.0000°, Azm128.0000°; P -2.3360, Plg3.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **19** 22:04:06.5±0.8, 1°.45N×127°.36E, h173km, mb4.5/16 Error ellipse: s-maj=10.4km s-min=5.7km az=119.1*
*KLM **19** 22:04:06, 1°.43N×127°.54E, h155km, mb5.0*
*DJA **19** 22:04:06.6±0.2, 2°N±2°×12°.7E±°, h149km±2km, M4.7/48, mb4.9/48, mB5.2/31, MLv5.1/19, Mw(mB)4.6/31, MwMwp6.0/3, Mwp6.0/3*
*NEIC **19** 22:04:07.3±1.7, 1°.43N±0°.07×127°.34E±0°.07, h161km±6km, mb5.0/120, Error ellipse: s-maj=10.9km s-min=8.7km az=220.0*
*IDC **19** 22:04:07.4±1.1, 1°.44N×127°.37E, h167km±9km, mb4.2/30, mb1 4.3/35, mb1mx4.2/49, mbtmp4.7/35, MS3.5/6, Ms1 3.5/6, ms1mx2.9/75, Error ellipse: s-maj=12.3km s-min=6.1km az=70.0*
*DSN **19** 22:04:08.5±1.5, 1°.68N×127°.00E, h149km, mb5.1/12, Error ellipse: s-maj=39.0km s-min=20.6km az=97.0*
ISC 19 22:04:07.0±0.6, 1°.43N±0°.03×127°.36E±0°.04, h162km±5km, n399, σ1°90/00/424, mb4.8/124, 34C-7D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.65**	**179**	P	**Pn**	**22 04 29.6**	**-0.9**
TNTI	**Ternate**	**0.65**	**179**		**Pn**	**22 04 29.9**	**-0.7**
TNTI	**Ternate**	**0.65**	**179**	P	**Pn**	**22 04 30.2**	**-0.3**
LBMI	**Labuha**	**2.06**	**176**	P	**Pn**	**22 04 43.6**	**0.0**
SGSI	**Sangihe**	**2.89**	**321**	P	**Pn**	**22 04 51.4**	**-2.1**
KMSI	**Cibinong**	**3.48**	**256**	P	**Pn**	**22 04 59.8**	**-1.1**
SANI	**Sanana**	**3.72**	**202**	P	**Pn**	**22 05 02.4**	**-1.6**
SANI	**Sanana**	**3.72**	**202**	P	**Pn**	**22 05 03.1**	**-0.9**
GTOI	**Gorontalo**	**4.42**	**260**	P	**Pn**	**22 05 13.4**	**+0.4**
SWI	**Sorong**	**4.52**	**120**	P	**Pn**	**22 05 15.3**	**+1.0**
SIJI	**Sorong**	**4.53**	**120**	P	**Pn**	**22 05 15.7**	**+1.3**
	12nm,0.3s,baz=318,slow=15,SNR=36						
SIJI				S	**Sn**	**22 06 07.5**	**+0.4**
	2.7nm,0.3s,baz=327,slow=22,SNR=1.1						
MSAI	**Masohi**	**5.00**	**162**	P	**Pn**	**22 05 22.3**	**+1.7**
	0.4nm951nm17nm,0.4s						
AAI	**Ambon**	**5.15**	**171**	P	**Pn**	**22 05 23.6**	**+1.0**
	2.0nm8μm395nm,0.9s						
LUWI	**Luwuk**	**5.20**	**242**	P	**Pn**	**22 05 23.5**	**+0.2**
	13nm14μm1μm,0.9s						
LUWI	**Luwuk**	**5.20**	**242**	Pn	**Pn**	**22 05 22.4**	**-0.9**
GSPH	**General Santos**	**5.21**	**333**	⇑*i*P	**Pn**	**22 05 21.0**	**-2.6**
GSPH				*e*S	**Sn**	**22 06 17.3**	**-6.2**
MRSI	**Marisa**	**5.50**	**260**	P	**Pn**	**22 05 26.0**	**-1.2**
	1.4nm1μm5μm353nm,0.5s						
DAV	**Davao City (W)**	**5.88**	**342**	P	**Pn**	**22 05 31.6**	**-0.6**
	62nm,0.3s,baz=154,slow=1.2,SNR=3.6						
DAV				S	**Sn**	**22 06 38.1**	**-0.9**
	58nm,0.3s,baz=284,slow=24,SNR=1.7						
DAV	**Davao City (W)**	**5.88**	**342**		**Pn**	**22 05 30.6**	**-1.7**
APSI	**Ampana**	**6.17**	**248**	P	**Pn**	**22 05 34.6**	**-1.4**
	3.6nm9μm537nm,0.5s						
FAKI	**Fak Fak**	**6.52**	**131**	P	**Pn**	**22 05 42.7**	**+1.9**
	0.1nm684nm42nm,0.8s						
FAKI	**Fak Fak**	**6.52**	**131**	Pn	**Pn**	**22 05 41.8**	**+1.0**
TOLI2	**Tolitoli**	**6.58**	**267**	Pn	**Pn**	**22 05 40.0**	**-1.5**
TOLI2	**Tolitoli**	**6.58**	**267**	P	**Pn**	**22 05 40.6**	**-1.0**
MPSI	**Mapaga**	**7.54**	**262**	P	**Pn**	**22 05 53.5**	**-0.8**
	0.5nm2μm89nm,0.5s						
BBSI	**Bau Bau**	**8.37**	**215**	P	**Pn**	**22 06 06.0**	**+0.6**
	324nm33nm,1.0s						
TTSI	**Tana Toraja**	**8.75**	**239**	P	**Pn**	**22 06 09.5**	**-0.9**
	6μm297nm,0.8s						
BAKI	**Biak**	**9.13**	**107**	P	**Pn**	**22 06 17.2**	**+1.8**
	36nm,0.8s						
BNSI	**Bone**	**9.28**	**231**	P	**Pn**	**22 06 16.6**	**-0.7**
	7μm2μm252nm,1.1s						
SPSI	**Sidrap Palu**	**9.29**	**235**	P	**Pn**	**22 06 17.3**	**-0.2**
	4μm319nm,0.4s						
MYLDM	**Lahad Datu**	**9.60**	**293**	Pn	**Pn**	**22 06 24.2**	**+2.6**
BKSI	**Bulukumba**	**9.86**	**227**	P	**Pn**	**22 06 24.4**	**-0.6**
	2μm124nm,1.0s						
KAPI	**Kappang**	**9.94**	**230**	P	**Pn**	**22 06 25.8**	**-0.2**
	32nm,0.3s,baz=153,slow=2.4,SNR=34						
KAPI				S	**Sn**	**22 08 14.6**	**-1.7**
	8.2nm,0.3s,baz=174,slow=23,SNR=12						
KAPI				LR	LR	22 10 51.9	
	comp=Z,137nm,20.3s,baz=70,slow=41						
KAPI	**Kappang**	**9.94**	**230**	P	**Pn**	**22 06 26.0**	**-0.1**
KAPI	**Kappang**	**9.94**	**230**	Pn	**Pn**	**22 06 26.0**	**-0.1**
KAPI	**Kappang**	**9.94**	**230**	P	**Pn**	**22 06 26.8**	**+0.8**
SGKI	**Sangatta, Kali**	**9.95**	**259**	P	**Pn**	**22 06 24.1**	**-2.1**
	165nm,0.5s						
SAUI	**Saumlaki**	**10.14**	**157**	P	**Pn**	**22 06 28.9**	**+0.1**
	13μm166nm,1.0s						
SAUI	**Saumlaki**	**10.14**	**157**	Pn	**Pn**	**22 06 27.7**	**-1.1**
BSSI	**Bau Bau, Buton**	**10.18**	**222**	P	**Pn**	**22 06 28.9**	**-0.4**
	849nm80nm,1.1s						
MMRI	**Maumere**	**11.23**	**207**	Pn	**Pn**	**22 06 42.4**	**-0.6**
SPMM	**Sapulut**	**11.35**	**287**	P	**Pn**	**22 06 45.0**	**+0.3**
KKM	**Kota Kinabalu**	**12.03**	**293**	Pn	**Pn**	**22 06 52.1**	**-1.4**
BASI	**Baing, Sumba**	**13.40**	**210**	P	**Pn**	**22 07 09.4**	**-1.5**
	1μm105nm,0.8s						
BBKI	**Banjar Baru**	**13.42**	**249**	P	**Pn**	**22 07 11.6**	**+0.3**
	41nm,1.4s						
WBSI	**Waikabubak, Su**	**13.56**	**216**	P	**Pn**	**22 07 12.5**	**-0.5**
	961nm104nm,0.9s						
JAY	**Jayapura**	**13.91**	**106**	P	**Pn**	**22 07 18.2**	**+0.8**
	1.4nm,0.3s,baz=277,slow=3.7,SNR=7.6						
DRS	**Darwin Rock St**	**14.21**	**166**	P	**Pn**	**22 07 20.9**	**-0.3**
MTN	**Manton Dam**	**14.67**	**165**		**Pn**	**22 07 25.3**	**-1.5**
KDU	**Kakadu**	**14.92**	**160**	P	**Pn**	**22 07 28.5**	**-1.4**
SBUM	**Sibu**	**15.16**	**274**		**Pn**	**22 07 32.8**	**-0.3**
SRBI	**Singaraja**	**15.36**	**232**	P	**P**	**22 07 37.2**	**+0.7**
	1μm57nm,1.7s						
KMMI	**Kalianget**	**15.80**	**238**	P	**P**	**22 07 41.9**	**+0.6**
	39nm,0.6s						
IGBI	**Denpasar**	**15.87**	**230**	P	**P**	**22 07 43.8**	**+1.7**
	2μm77nm,0.4s						
JAGI	**Jajag, Banyuwa**	**16.43**	**233**	P	**Pn**	**22 07 50.1**	**+1.6**
	1μm48nm,2.2s						
JAGI	**Jajag, Banyuwa**	**16.43**	**233**		**Pn**	**22 07 49.1**	**+0.6**
JAGI				IAmb	IAmb	22 07 56.6	
	comp=Z,242nm,1.9s						
GMJI	**Gumukmas**	**16.89**	**235**	P	**Pn**	**22 07 55.4**	**+1.3**
	comp=Z,1μmcomp=Z,43nm,1.2s						
KSM	**Kuching**	**17.05**	**270**	P	**P**	**22 07 55.2**	**+0.1**
KSM	**Kuching**	**17.05**	**270**	P	**Pn**	**22 07 57.0**	**+1.1**
KNRA	**Kununurra**	**17.05**	**175**	P	**P**	**22 07 54.8**	**-0.3**
KNRA				IAmb	IAmb	22 07 58.3	
	comp=Z,68nm,0.6s						
KNRA	**Kununurra**	**17.05**	**175**	P	**Pn**	**22 07 55.9**	**-0.1**
PCJI	**Pacitan**	**18.75**	**239**	P	**Pn**	**22 08 16.1**	**0.0**
UGM	**Wanagama**	**19.18**	**241**	P	**P**	**22 08 19.3**	**+0.8**
UGM				IAmb	IAmb	22 08 33.6	
	comp=Z,158nm,1.4s						
UGM	**Wanagama**	**19.18**	**241**	P	**P**	**22 08 19.7**	**+1.2**
YOGI	**Yogyakarta**	**19.34**	**241**	P	**Pn**	**22 08 22.4**	**-0.6**
	comp=Z,2μmcomp=Z,144nm,1.9s						
FITZ	**Fitzroy Crossi**	**19.48**	**185**	P	**P**	**22 08 21.1**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=18,slow=9.7,SNR=54						
FITZ				S	**S**	**22 11 48.5**	**-4.6**
	baz=204,slow=16						
DLV	**T Lat**	**21.43**	**300**	P	**P**	**22 08 42.9**	**+0.1**
DLV				IAmb	IAmb	22 08 51.8	
	comp=Z,91nm,1.6s						
COEN	**Coen**	**21.89**	**135**	P	**P**	**22 08 46.6**	**-0.7**
TWG	**Pinlang**	**22.12**	**344**	P	**P**	**22 08 47.5**	**-2.1**
WB0	**Warramunga Arr**	**22.17**	**162**	P	**P**	**22 08 48.9**	**-1.2**
WB0				IAmb	IAmb	22 08 57.7	
	comp=Z,54nm,1.0s						
WRAB	**Tennant Creek**	**22.31**	**162**	*ce*P	**P**	**22 08 51.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,28nm,1.3s						
WRAB	**Tennant Creek**	**22.31**	**162**	P	**P**	**22 08 51.4**	**0.0**
WRA	**Warramunga Arr**	**22.32**	**162**	P	**P**	**22 08 51.1**	**-0.3**
	comp=Z,18nm,0.5s,baz=339,slow=11,SNR=336						
WRA				PcP	**PcP**	**22 12 40.8**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=344,slow=1.8,SNR=2.9						
WRA				ScP	**ScP**	**22 16 01.6**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=324,slow=2.8,SNR=3.1						
WRA	**Warramunga Arr**	**22.32**	**162**	P	**P**	**22 08 50.0**	**-1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**22.32**	**162**	P	**P**	**22 08 50.0**	**-1.5**
PMG	**Port Moresby**	**22.47**	**119**	*i* P	**P**	**22 08 52.6**	**-0.4**
PMG				pmax	pmax		
	comp=Z,12nm,1.0s						
PMG	**Port Moresby**	**22.47**	**119**	P	**P**	**22 08 53.3**	**+0.3**
TPUB	**Ta-pu**	**22.70**	**344**	P	**P**	**22 08 53.7**	**-1.3**
TPUB	**Ta-pu**	**22.70**	**344**	P	**P**	**22 08 54.6**	**-0.4**
SSLB	**Suanglung**	**23.07**	**345**	P	**P**	**22 08 58.1**	**-0.4**
SSLB				IAmb	IAmb	22 09 02.1	
	comp=Z,29nm,0.7s						
SSLB	**Suanglung**	**23.07**	**345**	P	**P**	**22 08 58.4**	**-0.1**
MYKOM	**Kota Tinggi**	**23.50**	**271**	P	**P**	**22 09 03.0**	**+0.5**
YHNB	**Yeheng**	**23.82**	**346**	P	**P**	**22 09 05.3**	**0.0**
YHNB	**Yeheng**	**23.82**	**346**	P	**P**	**22 09 05.7**	**+0.4**
MDSI	**Maura Dua**	**23.90**	**256**	P	**P**	**22 09 07.4**	**+1.3**
	comp=Z,14nm,0.9s						
PSA00	**Pilbara Seismi**	**24.01**	**197**	P	**P**	**22 09 07.3**	**+0.3**
PSA00				IAmb	IAmb	22 09 08.2	
	comp=Z,31nm,1.2s						
PSA00	**Pilbara Seismi**	**24.01**	**197**	P	**P**	**22 09 06.5**	**-0.5**
PSA00				IAmb	IAmb	22 09 08.2	
	comp=Z,11nm,1.2s						
PSA00	**Pilbara Seismi**	**24.01**	**197**	P	**P**	**22 09 07.4**	**+0.4**
LWLI	**Liwa**	**24.14**	**254**	P	**P**	**22 09 09.9**	**+1.5**
	comp=Z,166μmcomp=Z,54nm,0.8s						
QIZ	**Qiongzhong**	**24.51**	**317**	P	**P**	**22 09 11.8**	**+0.2**
QIZ				IAmb	IAmb	22 09 14.6	
	comp=Z,105nm,1.2s						
QZH	**Quanzhou**	**24.86**	**341**	*e*P	**P**	**22 09 15.0**	**+0.3**
JRMM	**Jerantut**	**24.97**	**276**	P	**P**	**22 09 17.0**	**+1.1**
UBPT	**Khong Chiam**	**25.61**	**304**	P	**P**	**22 09 23.8**	**+2.2**
UBPT				IAmb	IAmb	22 09 25.0	
	comp=Z,44nm,0.7s						
AS31	**Alice Springs**	**25.75**	**166**	P	**P**	**22 09 21.9**	**-0.8**
ASAR	**Alice Springs**	**25.75**	**166**	P	**P**	**22 09 22.4**	**-0.3**
	comp=Z,5.0nm,0.4s,baz=347,slow=7.5,SNR=109						
ASAR				PcP	**PcP**	**22 12 48.9**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=342,slow=2.0,SNR=1.8						
ASAR				S	**S**	**22 13 38.3**	**-1.5**
	comp=Z,1.6nm,0.9s,baz=346,slow=21,SNR=5.2						
ASAR				ScP	**ScP**	**22 16 13.3**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=343,slow=2.9,SNR=4.6						
ASAR				LR	LR	22 20 12.2	
	comp=Z,104nm,18.2s,baz=318,slow=38						
ASAR	**Alice Springs**	**25.75**	**166**	P	**P

KMI Kunming 33.46 317 ⇓P **P 22 10 33.6 +2.5**
KMI pmax pmax
comp=Z,11nm,1.0s
JHS Saijyo 33.83 9 P **P 22 10 34.2 +0.4**
KLBR Kellerberrin 34.08 195 P **P 22 10 36.6 +0.5**
HNR Honiara 34.20 109 P **P 22 10 36.5 -0.9**
HNR pmax pmax
comp=Z,91nm,0.5s
HNR Honiara 34.20 109 P **P 22 10 36.5 -0.9**
MUN Mundaring 34.87 197 P **P 22 10 43.1 +0.2**
INU Inuyama 34.92 14 P **P 22 10 43.0 -0.3**
BBOO Buckleboo 35.03 167 P **P 22 10 43.6 -0.6**
BBOO IAmb IAmb 22 11 34.1
comp=Z,31nm,1.4s
BBOO Buckleboo 35.03 167 P **P 22 10 44.1 -0.2**
PZH PanZhiHua 35.04 318 P **P 22 10 45.9 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,80nm,6.0s
EIDS Eidsvold 35.17 141 P **P 22 10 45.0 -0.6**
NWAO Narrogin (SRO) 35.49 195 P **P 22 10 48.0 -0.1**
NWAO pmax pmax
comp=Z,48nm,1.3s
NWAO Narrogin (SRO) 35.49 195 P **P 22 10 48.0 -0.1**
NWAO IAmb IAmb 22 10 53.5
comp=Z,48nm,1.3s
NWAO Narrogin (SRO) 35.49 195 P **P 22 10 48.6 +0.5**
LYN LuoYang 35.76 339 ⇑P **P 22 10 51.8 +1.3**
LYN pP pP 22 11 22.8 -1.5
LYN S **S 22 16 15.6 0.0**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN pmax pmax
comp=Z,240nm,5.3s
STKA Stephens Creek 35.77 159 P **P 22 10 51.0 +0.4**
comp=Z,7.6nm,0.6s,baz=331,slow=9.1,SNR=25
STKA PP **PP 22 12 15.2 -0.1**
comp=Z,5.1nm,0.8s,baz=325,slow=10.0,SNR=3.8
STKA PcP **PcP 22 13 14.6 -0.3**
comp=Z,2.9nm,0.5s,baz=3.1,slow=2.1,SNR=4.2
STKA S **S 22 16 14.5 -1.3**
comp=Z,2.0nm,0.7s,baz=116,slow=15,SNR=3.0
STKA LR LR 22 26 31.6
comp=Z,77nm,19.4s,baz=14,slow=38
STKA Stephens Creek 35.77 159 P **P 22 10 50.5 -0.1**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 35.77 159 P **P 22 10 50.5 -0.1**
KSAR Wonju Array Be 35.84 1 P **P 22 10 51.4 +0.4**
KSAR Wonju Array Be 35.84 1 P **P 22 10 51.4 +0.4**
KSRS Korea Array 35.85 1 P **P 22 10 51.6 +0.5**
comp=Z,9.5nm,0.6s,baz=177,slow=9.6,SNR=34
KSRS PcP **PcP 22 13 14.7 -0.3**
comp=Z,1.3nm,0.7s,baz=196,slow=2.7,SNR=2.5
KS19 Wonju Array Si 35.90 1 P **P 22 10 51.4 -0.2**
HTT Hallett 36.35 164 P **P 22 10 56.5 +1.0**
MJAR Matsushiro Arr 36.35 15 P **P 22 10 53.4 -2.1**
comp=Z,5.8nm,0.6s,baz=192,slow=8.5,SNR=9.1
MAT Matsushiro 36.35 15 P **P 22 10 53.3 -2.2**
XAN Xi'an 36.74 334 P **P 22 10 59.0 +0.1**
XAN pmax pmax
comp=Z,53nm,0.8s
CD2 Chengdu 36.87 325 P **P 22 10 59.8 -0.2**
CD2 pmax pmax
comp=Z,30nm,0.5s
CMSA Cobar Meteorol 37.12 154 P **P 22 11 03.1 +1.1**
HNS HongShan 37.65 343 ⇓P **P 22 11 06.3 0.0**
HNS pmax pmax
comp=Z,12nm,1.1s
JMM Marumori 38.31 17 P **P 22 11 11.8 -0.1**
ARMA Armidale 39.22 146 P **P 22 11 20.6 +0.9**
ARMA IAmb IAmb 22 11 22.6
comp=Z,11nm,0.7s
BJT Baijiatuau 39.73 347 P **P 22 11 23.6 -0.1**
BJT pmax pmax
comp=Z,17nm,0.6s
BJT Baijiatuau 39.73 347 P **P 22 11 23.6 -0.1**
BJT IAmb IAmb 22 11 24.8
comp=Z,17nm,0.6s
BJI Beijing 39.75 347 P **P 22 11 23.6 -0.3**
BJI PcP **PcP 22 13 26.5 -0.5**
BJI pmax pmax
comp=Z,23nm,0.6s
LZH Lanzhou 40.80 330 ⇑P **P 22 11 33.9 +1.2**
LZH pP pP 22 12 02.8 -4.6
LZH sP sP 22 12 19.6 -5.7
LZH pmax pmax
comp=Z,62nm,1.3s
JTM Tenmabayashi 41.10 16 P **P 22 11 34.9 0.0**
SHL Shillong 41.76 308 P **P 22 11 41.0 +0.2**
SHL pmax pmax
comp=Z,38nm,0.6s
SHL Shillong 41.76 308 P **P 22 11 41.0 +0.2**
SHL IAmb IAmb 22 11 42.1
comp=Z,38nm,0.6s
HHC Hu-ho-hao-te 41.77 342 *e*P **P 22 11 42.3 +1.8**
HHC pmax pmax
comp=Z,8.0nm,1.1s
HHC pmax pmax
comp=Z,280nm,5.6s
CAN Canberra 41.79 153 P **P 22 11 41.5 +0.8**
CAN pmax pmax
comp=Z,32nm,1.4s
CAN Canberra 41.79 153 P **P 22 11 41.5 +0.8**
CAN IAmb IAmb 22 12 18.5
comp=Z,32nm,1.4s
CAN Canberra 41.79 153 P **P 22 11 42.3 +1.6**
CNB Canberra Magne 41.95 153 P **P 22 11 43.4 +1.4**
TOO Toolangi 42.28 158 P **P 22 11 45.6 +1.0**
TOO pmax pmax
comp=Z,41nm,1.9s
TOO Toolangi 42.28 158 P **P 22 11 45.6 +1.0**
TOO IAmb IAmb 22 12 08.2
comp=Z,41nm,1.9s
USA0B Ussuriysk Arra 42.78 5 P **P 22 11 48.7 +0.2**
USA0B pmax pmax
comp=Z,137nm,2.0s
USA0B Ussuriysk Arra 42.78 5 P **P 22 11 48.7 +0.2**
USA0B IAmb IAmb 22 12 40.4
comp=Z,137nm,1.9s
USRK Ussuriysk Ar. 42.78 5 P **P 22 11 48.8 +0.3**
comp=Z,8.3nm,0.7s,baz=183,slow=6.8,SNR=19
USRK Ussuriysk Ar. 42.78 5 P **P 22 11 48.5 0.0**
USRK Ussuriysk Ar. 42.78 5 P **P 22 11 48.5 0.0**
XLT XiLinHaoTe 43.46 348 *e*P **P 22 11 54.0 -0.1**
XLT pmax pmax
comp=Z,22nm,0.6s
XLT pmax pmax
comp=Z,490nm,6.8s
LSA Lhasa 44.44 313 P **P 22 12 04.3 +1.7**
LSA pmax pmax
comp=Z,170nm,0.7s
DZM Mont Dzumac 44.72 124 P **P 22 12 04.8 +0.3**
DZM IAmb IAmb 22 13 46.4
comp=Z,42nm,1.8s
GTA Gaotai 45.38 330 ⇑P **P 22 12 09.8 +0.3**
GTA sP sP 22 13 04.5 +1.9
GTA PcP **PcP 22 13 47.0 +0.9**
GTA pmax pmax
comp=Z,18nm,1.0s
TARA Tarawa 45.55 90 P **P 22 12 11.5 +0.5**
GOMU GeErMu 45.88 323 P **P 22 12 14.6 +0.9**
GOMU pmax pmax
comp=Z,7.0nm,1.3s
GOMU pmax pmax
comp=Z,64nm,5.7s
PALK Pallekele 46.86 279 P **P 22 12 21.2 -0.1**
PALK pmax pmax
comp=Z,23nm,1.4s
PALK Pallekele 46.86 279 P **P 22 12 21.1 -0.1**
GUN Gumba 47.59 307 *e*P **P 22 12 27.6 +0.4**
KLR Kul'dur 47.77 4 P **P 22 12 27.6 -0.1**
comp=Z,8.2nm,0.7s,baz=187,slow=4.9,SNR=18
KLR Kul'dur 47.77 4 *ce*P **P 22 12 26.7 -1.0**
KLR pmax pmax
comp=Z,7.0nm,0.9s
PKI Pulchoki 47.82 307 *e*P **P 22 12 28.8 -0.1**
PKIN Phulchoki 47.84 307 *e*P **P 22 12 29.0 +0.1**
comp=Z,11nm,0.3s
KKN Kakani 48.02 307 *e*P **P 22 12 30.0 -0.3**
DMN Daman 48.08 307 *e*P **P 22 12 31.3 +0.5**
comp=Z,58nm,0.9s
MYLAV Mylavaram 48.42 291 *e*P **P 22 12 34.3 +1.1**
GKN Gorkha 48.62 307 *e*P **P 22 12 34.8 0.0**

ADKI Addanki 48.84 290 *e*P **P 22 12 37.2 +0.8**
KOLN Koldanda 49.36 306 *e*P **P 22 12 41.0 +0.5**
comp=Z,213nm,0.5s
DANN Dangsing 49.47 307 *e*P **P 22 12 41.6 +0.1**
comp=Z,219nm,0.6s
ULN Ulaanbaatar 49.48 342 *ce*P **P 22 12 41.5 +0.5**
ULN pmax pmax
comp=Z,21nm,1.7s
ULN Ulaanbaatar 49.48 342 P **P 22 12 40.9 -0.1**
NJS Nagarjunasagar 49.62 291 *e*P **P 22 12 40.4 -2.0**
SONM Songino Array 49.66 342 P **P 22 12 42.5 +0.1**
comp=Z,5.0nm,0.6s,baz=157,slow=8.2,SNR=49
SONM PcP **PcP 22 14 01.1 -0.1**
comp=Z,2.4nm,0.7s,baz=160,slow=4.9,SNR=5.5
SONM Songino Array 49.66 342 P **P 22 12 42.3 0.0**
SONM pmax pmax
comp=Z,6.0nm,0.6s
SONM Songino Array 49.66 342 P **P 22 12 42.3 0.0**
RCLA Racherla 49.72 289 *e*P **P 22 12 43.4 +0.2**
SRLM Srisailam 49.91 290 *e*P **P 22 12 44.4 -0.2**
PYUN Piuthan 49.99 306 *e*P **P 22 12 45.6 +0.4**
comp=Z,195nm,0.5s
CUPL Choutuppal 50.14 291 *e*P **P 22 12 46.4 +0.1**
RPR Rampur 50.16 293 *e*P **P 22 12 47.1 +0.6**
HYBB Hyderabad (bro 50.51 291 *e*P **P 22 12 49.4 +0.3**
SRSP Sriramsagar 51.05 293 *e*P **P 22 12 54.1 +1.0**
URV Uravakonda 51.23 288 *e*P **P 22 12 54.7 +0.2**
KLRI Killari 52.47 292 *e*P **P 22 13 04.3 +0.6**
MSVF Nonsavu 53.41 113 P **P 22 13 11.6 +1.0**
comp=Z,3.0nm,0.5s,baz=315,slow=10.0
WMQ Urumqi 54.96 326 *e*P **P 22 13 22.8 +1.4**
WMQ pP pwP 22 13 59.6 -1.4
WMQ sP sP 22 14 16.5 +1.0
WMQ PcP **PcP 22 14 19.4 -1.8**
WMQ pmax pmax
comp=Z,47nm,0.9s
WMQ pmax pmax
comp=Z,200nm,4.7s
PEA0B Petropavlovsk- 57.32 21 *i*P **P 22 13 37.8 0.0**
PEA0B Petropavlovsk- 57.32 21 P **P 22 13 37.9 0.0**
PETK Petropavlovsk- 57.32 21 P **P 22 13 38.5 +0.6**
comp=Z,6.9nm,0.5s,baz=182,slow=3.6,SNR=23
PETK Petropavlovsk- 57.32 21 P **P 22 13 37.9 0.0**
PETK Petropavlovsk- 57.32 21 P **P 22 13 37.9 0.0**
DGZ Jazzator, Alta 58.89 331 *i*P **P 22 13 49.0 -0.1**
DGZ pmax pmax
comp=Z,5.0nm,0.6s
MLZ Mavora Lakes 58.92 147 P **P 22 13 49.0 -0.1**
LBZ Lake Benmore 59.44 146 P **P 22 13 52.8 +0.1**
THZ Tophouse 59.51 142 P **P 22 13 52.9 -0.4**
THZ IAmb IAmb 22 13 54.8
comp=Z,26nm,0.7s
MK31 Makanchi Array 59.79 326 P **P 22 13 54.9 -0.2**
MK31 pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 59.79 326 P **P 22 13 54.9 -0.2**
MK31 IAmb IAmb 22 13 56.6
comp=Z,13nm,0.8s
MKAR Makanchi Array 59.79 326 P **P 22 13 55.1 0.0**
comp=Z,17nm,0.4s,baz=114,slow=7.8,SNR=407
MKAR PcP **PcP 22 14 39.9 -0.3**
comp=Z,7.4nm,0.6s,baz=121,slow=4.1,SNR=11
MKAR Makanchi Array 59.79 326 *i*P **P 22 13 54.9 -0.2**
MKAR pmax pmax
comp=Z,17nm,0.4s
MKAR Makanchi Array 59.79 326 P **P 22 13 54.8 -0.4**
NIL Nilore 59.83 309 P **P 22 13 55.8 +0.2**
NIL pmax pmax
comp=Z,17nm,0.6s
NIL Nilore 59.83 309 P **P 22 13 55.8 +0.2**
NIL IAmb IAmb 22 13 57.2
comp=Z,17nm,0.6s
PRZ Przheval'sk 59.85 320 P **P 22 13 57.3 +1.5**
PRZ pmax pmax
comp=Z,25nm,0.5s
PRZ Przheval'sk 59.85 320 P **P 22 13 57.3 +1.5**
TARG Taragay, Kyrgy 59.88 319 P **P 22 13 57.2 +0.9**
TARG IAmb IAmb 22 14 00.2
comp=Z,9.6nm,0.6s
MAKZ Makanchi 59.98 326 P **P 22 13 56.1 -0.3**
MAKZ pmax pmax
comp=Z,26nm,1.1s
MAKZ Makanchi 59.98 326 P **P 22 13 56.1 -0.3**
MAKZ IAmb IAmb 22 13 57.8
comp=Z,26nm,1.1s
TUWZ Tuamarina 59.98 141 P **P 22 13 55.9 -0.6**
KSH Kashi 60.11 316 P **P 22 13 59.1 +1.5**
KSH pP pwP 22 14 39.1 +1.2
KSH PcP **PcP 22 14 43.3 +1.6**
KSH PP **PP 22 16 19.3 +7.2**
KSH pmax pmax
comp=Z,23nm,0.6s
BKZ Black Stump Fm 60.47 137 P **P 22 13 59.5 -0.4**
BKZ IAmb IAmb 22 15 18.2
comp=Z,37nm,1.5s
KDJ Kajisay 60.48 319 P **P 22 14 00.8 +0.7**
KDJ pmax pmax
comp=Z,20nm,0.5s
KDJ Kajisay 60.48 319 P **P 22 14 00.8 +0.7**
YAK Yakutsk 60.48 1 P **P 22 13 59.4 +0.1**
comp=Z,24nm,0.7s,baz=49,slow=0.0,SNR=20
YAK Yakutsk 60.48 1 *e*P **P 22 13 58.9 -0.5**
YAK pmax pmax
comp=Z,38nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK Yakutsk 60.48 1 P **P 22 13 59.5 +0.1**
MA2 Magadan 60.77 13 *ce*P **P 22 14 02.5 +1.0**
MA2 pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 60.77 13 P **P 22 14 01.5 0.0**
MA2 IAmb IAmb 22 14 03.4
comp=Z,14nm,0.8s
BOOM Boomskoye usch 61.46 319 P **P 22 14 07.0 +0.3**
BOOM pmax pmax
comp=Z,47nm,1.3s
BOOM Boomskoye usch 61.46 319 P **P 22 14 07.0 +0.3**
BOOM IAmb IAmb 22 15 22.5
comp=Z,47nm,1.3s
TKM2 Tokmak 2 61.88 319 P **P 22 14 10.2 +0.6**
SNR=14
KBK Karagaybulak 62.19 319 P **P 22 14 12.4 +0.8**
SNR=6.7
UCH Uchtor 62.29 318 P **P 22 14 13.8 +1.2**
SNR=23
CHMS Chumysh 62.47 319 P **P 22 14 13.3 0.0**
SNR=8.9
AAK Ala-Archa 62.48 318 LR LR 22 42 44.7
comp=Z,48nm,20.9s,baz=164,slow=37
AAK Ala-Archa 62.48 318 P **P 22 14 14.2 +0.7**
SNR=6.5
AAK Ala-Archa 62.48 318 *ce*P **P 22 14 15.1 +1.6**
AAK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 62.48 318 P **P 22 14 13.9 +0.4**
AAK IAmb IAmb 22 14 18.1
comp=Z,18nm,1.7s
AAK Ala-Archa 62.48 318 *i*P **P 22 14 13.9 +0.4**
SNR=7.9
USP Ospenovka 62.75 319 P **P 22 14 15.4 +0.2**
SNR=22
AML Almayashu 62.80 318 P **P 22 14 16.9 +1.0**
SNR=12
AML Almayashu 62.80 318 *i*P **P 22 14 16.6 +0.8**
SNR=12
ZAA0 Zalesovo Array 62.91 333 P **P 22 14 14.8 -1.0**
ZAA0 IAmb IAmb 22 14 16.0
comp=Z,20nm,1.6s
ZALV Zalesovo Beam 62.91 333 P **P 22 14 14.2 -1.6**
comp=Z,2.5nm,0.4s,baz=134,slow=7.1,SNR=20
ZALV Zalesovo Beam 62.91 333 *i*P **P 22 14 15.0 -0.9**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 62.91 333 P **P 22 14 14.7 -1.1**
EKS2 Erkin-Say 62.97 318 P **P 22 14 17.3 +0.6**
SNR=19
DRK Karamyk 63.05 314 P **P 22 14 18.3 +0.9**
DRK IAmb IAmb 22 14 19.4
comp=Z,27nm,0.7s
KBL Kabul 63.42 308 P **P 22 14 19.6 -0.3**
KBL pmax pmax
comp=Z,32nm,0.8s
KBL Kabul 63.42 308 P **P 22 14 19.6 -0.3**

BTK Batken 63.96 315 P **P 22 14 23.2 0.0**
BTK pmax pmax
comp=Z,12nm,0.7s
BTK Batken 63.96 315 P **P 22 14 23.2 0.0**
BTK IAmb IAmb 22 14 33.9
comp=Z,12nm,0.7s
KURK Kurchatov 64.01 328 *ce*P **P 22 14 22.8 -0.3**
KURK pmax pmax
comp=Z,29nm,0.7s
KURK Kurchatov 64.01 328 P **P 22 14 22.6 -0.5**
KURK IAmb IAmb 22 14 24.1
comp=Z,30nm,0.8s
SEY Seymchan 64.12 12 P **P 22 14 24.4 +0.7**
comp=Z,15nm,0.8s,baz=218,slow=5.4,SNR=44
CHGR Chuyangaron 64.67 313 P **P 22 14 27.4 -0.4**
CHGR IAmb IAmb 22 14 29.8
comp=Z,52nm,1.4s
KKAR Karatay Array 65.34 318 P **P 22 14 31.6 -0.3**
KKAR Karatay Array 65.34 318 P **P 22 14 31.6 -0.3**
TAS Tashkent 65.51 315 P **P 22 14 32.9 -0.2**
TAS pmax pmax
comp=Z,35nm,0.7s
TAS Tashkent 65.51 315 P **P 22 14 32.9 -0.2**
HRA Herat 68.79 306 P **P 22 14 53.6 -0.6**
BRVK Borovoye 69.65 327 *ce*P **P 22 14 58.5 -0.3**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 69.65 327 P **P 22 14 58.2 -0.6**
BRVK IAmb IAmb 22 14 59.7
comp=Z,18nm,0.9s
TIXI Tiksi 70.12 1 P **P 22 15 00.7 -0.5**
comp=Z,9.1nm,0.3s,baz=147,slow=6.7,SNR=66
TIXI Tiksi 70.12 1 *ce*P **P 22 15 00.6 -0.7**
TIXI pmax pmax
comp=Z,11nm,1.3s
TIXI Tiksi 70.12 1 P **P 22 15 00.2 -1.1**
TIXI IAmb IAmb 22 15 01.3
comp=Z,9.7nm,0.4s
BILL Bilibino 71.61 14 ⇓*e*P **P 22 15 10.5 +0.2**
BILL *e**PP **pP 22 15 51.6 +2.6**
BILL *e* 22 17 47.8
BILL *e*S **SKSac 22 24 58.1 0.0**
BILL *e*SS **SS 22 28 52.9 -2.0**
BILL pmax pmax
comp=Z,2.0nm,0.6s
BILL Bilibino 71.61 14 P **P 22 15 10.4 +0.1**
SHAO Shalim 72.19 288 P **P 22 15 14.6 -0.3**
UOSS Minazif 72.33 296 P **P 22 15 14.8 -0.7**
UOSS Minazif 72.33 296 P **P 22 15 15.2 -0.3**
BANOM Banah 72.36 297 P **P 22 15 16.4 +0.7**
HATD Hatta, Dubai 72.38 295 P **P 22 15 16.0 +0.1**
ASHO Ashiyiah 72.43 295 *i*P **P 22 15 16.2 0.0**
SNR=7.4
ALNE Al Ain 72.64 295 *i*P **P 22 15 17.9 +0.5**
SNR=19
NRIK Noril'sk 72.80 346 P **P 22 15 16.6 -0.7**
comp=Z,8.1nm,0.5s,baz=130,slow=6.2,SNR=15
NRIK Noril'sk 72.80 346 *ce*P **P 22 15 16.8 -0.6**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
NRIK Noril'sk 72.80 346 P **P 22 15 17.1 -0.3**
GEYT Alibeck 72.82 309 P **P 22 15 19.0 +0.8**
comp=Z,9.2nm,0.6s,baz=111,slow=8.1,SNR=12
GEYT Alibeck 72.82 309 P **P 22 15 18.7 +0.5**
GEYT IAmb IAmb 22 15 20.0
comp=Z,12nm,0.7s
GYA0B ALIBECK ARRAY 72.82 309 P **P 22 15 18.4 +0.2**
GYA0B IAmb IAmb 22 15 19.9
comp=Z,14nm,0.7s
FAQ Al Faqa, Dubai 72.86 295 *i*P **P 22 15 17.7 -0.9**
SNR=10
ASUD Al Ashush, Dub 73.08 295 P **P 22 15 19.8 -0.1**
SOCY Socotra 73.45 282 P **P 22 15 21.6 -0.8**
SOCY IAmb IAmb 22 15 23.0
comp=Z,22nm,0.9s
ABKAR Akbulak array 74.32 321 P **P 22 15 25.5 -1.1**
ABKAR Akbulak array 74.32 321 P **P 22 15 25.8 -0.9**
ABKAR IAmb IAmb 22 15 27.3
comp=Z,10nm,0.9s
UNV Unalaska Valle 74.95 34 P **P 22 15 30.7 +0.5**
AKUT Akutan 75.45 34 P **P 22 15 33.2 +0.2**
ARU Arti 77.20 328 *d i*P **P 22 15 42.5 -0.4**
ARU 22 18 36.4
ARU S **S 22 25 20.0 +1.1**
ARU SS **SS 22 30 19.4 -0.8**
ARU pmax pmax
comp=Z,12nm,0.7s
ARU Arti 77.20 328 P **P 22 15 41.6 -1.3**
ARU IAmb IAmb 22 15 42.9
comp=Z,12nm,0.8s
SDPT Sand Point 78.74 34 P **P 22 15 51.1 -0.3**
VNDA Vanda 81.08 173 P **P 22 16 03.9 +0.4**
comp=Z,2.2nm,0.5s,baz=314,slow=7.3,SNR=17
VNDA Vanda 81.08 173 P **P 22 16 03.1 -0.4**
VNDA pmax pmax
comp=Z,18nm,1.5s
VNDA Vanda 81.08 173 P **P 22 16 03.1 -0.4**
ABPO Ambohimpanom 81.14 251 P **P 22 16 05.5 +0.2**
ABPO pmax pmax
comp=Z,64nm,2.0s
ABPO Ambohimpanom 81.14 251 P **P 22 16 05.5 +0.2**
ABPO IAmb IAmb 22 17 35.1
comp=Z,64nm,2.0s
VOI Vohitsoka 81.78 248 P **P 22 16 08.3 -0.2**
VOI IAmb IAmb 22 16 19.4
comp=Z,80nm,1.9s
RAYN Ar Rayn 81.96 293 P **P 22 16 08.9 -0.4**
RAYN pmax pmax
comp=Z,10.0nm,1.0s
RAYN Ar Rayn 81.96 293 P **P 22 16 08.9 -0.5**
RAYN Ar Rayn 81.96 293 P **P 22 16 09.0 -0.4**
O18K Koktuh Hills 82.46 30 P **P 22 16 12.2 +1.1**
O18K IAmb IAmb 22 16 28.8
comp=Z,35nm,1.4s
KIRV Kirov 82.50 329 *ce*P **P 22 16 11.6 +0.3**
BELG Belogornoye 82.60 323 *i*P **P 22 16 12.2 +0.3**
BELG pmax pmax
comp=Z,3.0nm,0.9s
TTA Tatalina 82.66 27 P **P 22 16 12.5 +0.3**
TTA pmax pmax
comp=Z,9.0nm,0.6s
TTA Tatalina 82.66 27 P **P 22 16 12.5 +0.3**
TTA IAmb IAmb 22 16 14.1
comp=Z,8.5nm,0.6s
N19K Bonanza Creek 82.98 29 P **P 22 16 15.0 +1.1**
N19K IAmb IAmb 22 16 16.7
comp=Z,19nm,0.8s
KDAK Kodiak Island 83.49 32 LR LR 22 49 02.7
comp=Z,38nm,20.6s,baz=213,slow=32
KDAK Kodiak Island 83.49 32 P **P 22 16 16.8 +0.4**
KDAK pmax pmax
comp=Z,113nm,1.7s
KDAK Kodiak Island 83.49 32 P **P 22 16 16.8 +0.4**
J20K Nowinta River 83.71 26 P **P 22 16 18.4 +1.0**
J20K IAmb IAmb 22 16 19.8
comp=Z,30nm,1.7s
IMAR Indian Mountai 84.18 24 P **P 22 16 20.5 +0.8**
A21K Barrow 84.19 18 P **P 22 16 21.0 +1.3**
A21K IAmb IAmb 22 16 22.0
comp=Z,22nm,0.7s
H21K Melozitna Rive 84.51 24 P **P 22 16 22.3 +0.8**
H21K IAmb IAmb 22 16 23.6
comp=Z,26nm,1.9s
ONI Oni 84.54 312 P **P 22 16 22.8 +0.6**
ONI pmax pmax
comp=Z,18nm,1.4s
ONI Oni 84.54 312 P **P 22 16 22.8 +0.6**
ONI IAmb IAmb 22 19 29.0
comp=Z,18nm,1.4s
KBZ Khabaz 85.01 314 P **P 22 16 23.8 -0.6**
comp=Z,2.8nm,0.6s,baz=126,slow=5.7,SNR=12
SIRT Sirnak 85.10 307 P **P 22 16 25.1 0.0**
KIV Kislovodsk 85.17 314 ⇑P **P 22 16 26.0 +0.7**
KIV Kislovodsk 85.17 314 ⇑P **P 22 16 26.0 +0.7**
KIV Kislovodsk 85.17 314 P **P 22 16 25.8 +0.4**
KIV Kislovodsk 85.17 314 P **P 22 16 26.1 +0.7**
RC01 Rabbit Creek A 85.31 29 P **P 22 16 25.1 -0.5**
RC01 IAmb IAmb 22 16 26.4
comp=Z,10nm,0.7s
GURO Guroymak-BITLI 85.45 308 P **P 22 16 27.0 +0.1**
GURO IAmb IAmb 22 16 28.8
comp=Z,18nm,1.2s
CHVG Ch'k'valeri 85.56 313 ⇑P **P 22 16 28.2 +1.0**
CHVG Ch'k'valeri 85.56 313 ⇑P **P 22 16 28.2 +1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLD	Coldfoot	85.75	23	P	P	22 16 28.2	+0.6
RND	Reindeer	85.94	27	P	P	22 16 27.5	-1.2
RND				pmax	pmax		
	comp=Z,7.0nm,0.6s						
RND	Reindeer	85.94	27	P	P	22 16 27.5	-1.2
WRH	Wood River Hil	86.36	26	P	P	22 16 30.4	-0.2
WRH				IAmb	IAmb	22 16 45.4	
	comp=Z,21nm,1.8s						
H24K	Noodor Dome	86.55	24	P	P	22 16 31.9	+0.3
ILAR	Eielson Array	86.90	25	P	P	22 16 31.9	-1.3
	comp=Z,1.1nm,0.7s,baz=242,slow=5.2,SNR=16						
ILAR	Eielson Array	86.90	25	P	P	22 16 31.8	-1.4
ILAR	Eielson Array	86.90	25	P	P	22 16 31.8	-1.4
KLMR	Klimovskoe	87.70	331	*e*P	P	22 16 32.1	-5.0
KLMR				*e**PP	pP	22 17 15.3	-1.8
KLMR				pmax	pmax		
	comp=Z,17nm,1.4s						
KLMR	Klimovskoe	87.70	331	*e*P	P	22 16 32.1	-5.0
KLMR				AMP		22 16 37.1	
	comp=Z,17nm,1.4s						
KLMR				*e*pP	pP	22 17 15.3	-1.8
BMAR	Burnt Mountain	87.94	23	P	P	22 16 38.3	+0.1
DOT	Dot Lake	88.09	27	P	P	22 16 38.0	-1.0
J26L	Joseph Creek	88.32	26	P	P	22 16 39.3	-0.9
L27K	Beaver Creek,	89.11	27	P	P	22 16 44.0	+0.2
BCAR	Beaver Creek A	89.12	27	P	P	22 16 44.0	+0.1
BARN	Barnard Glacie	89.24	29	P	P	22 16 44.8	+0.2
BARN				IAmb	IAmb	22 17 39.9	
	comp=Z,27nm,1.4s						
KMBO	Kilima Mbogo	90.13	269	P	P	22 16 50.9	+1.0
DAWY	Dawson	90.15	26	P	P	22 16 48.8	+0.1
SYO	Syowa Base	90.52	201⇑	*e*P	P	22 16 49.6	-0.5
QSPA	South Pole Qui	91.35	180	P	P	22 16 54.7	+0.4
	comp=Z,1.6nm,0.4s,baz=257,slow=7.4,SNR=3.9						
BRTR	Keskin Array B	91.96	310	P	P	22 16 56.5	-1.2
	comp=Z,2.0nm,0.7s,baz=115,slow=6.6,SNR=3.2						
INK	Inuvik	92.06	22	P	P	22 16 56.5	-0.7
	comp=Z,1.8nm,0.7s,baz=249,slow=1.9,SNR=4.6						
ARCES	ARCESS Array B	92.81	340	P	P	22 16 59.8	-1.0
	comp=Z,5.0nm,0.6s,baz=83,slow=5.6,SNR=22						
ARCES	ARCESS Array B	92.81	340	P	P	22 16 59.6	-1.1
AKASG	Malin Array Be	94.06	321	P	P	22 17 05.0	-1.9
	comp=Z,0.3nm,0.4s,baz=70,slow=3.9,SNR=3.0						
FINES	FINESS Array B	94.14	332	P	P	22 17 05.8	-1.2
	comp=Z,0.9nm,0.5s,baz=58,slow=5.2,SNR=15						
C36M	Paulatuk	95.15	20	P	P	22 17 10.8	-0.7
C36M				IAmb	IAmb	22 17 11.7	
	comp=Z,8.4nm,1.0s						
HARR	Harsova	95.71	315	P	P	22 17 14.0	-0.6
HARR	Harsova	95.71	315	P	P	22 17 14.0	-0.6
TESR	Tescani	96.34	317	⇑P	P	22 17 16.6	-0.8
VRI	Vrincioaia	96.38	316	⇑P	P	22 17 17.6	-0.1
VRI	Vrincioaia	96.38	316	⇑P	P	22 17 17.6	-0.1
PLOR	Plostina	96.44	316	⇑P	P	22 17 17.4	-0.5
PLOR	Plostina	96.44	316	⇑P	P	22 17 17.4	-0.5
NEHR	Nehoiu	96.75	316	⇑P	P	22 17 18.5	-0.8
MLR	Muntele Rosu	96.98	316	⇓P	P	22 17 20.0	-0.5
MLR	Muntele Rosu	96.98	316	⇓P	P	22 17 20.0	-0.5
BURAR	Bucovina Array	97.12	318	⇑P	P	22 17 20.6	-0.5
BURAR	Bucovina Array	97.12	318	⇑P	P	22 17 20.6	-0.5
BUR08	Bucovina Ar. S	97.13	318	P	P	22 17 20.8	-0.4
BUR08				IAmb	IAmb	22 20 58.9	
	comp=Z,20nm,1.8s						
DOPR	Dopca	97.29	317	⇑P	P	22 17 21.1	-0.7
VOIR		97.61	316	⇑P	P	22 17 22.3	-1.0
VOIR		97.61	316	⇑P	P	22 17 22.3	-1.0
LOT	Lotru	98.50	316	P	P	22 17 26.8	-0.5
DRGR		98.96	318	⇑P	P	22 17 28.5	-0.8
DRGR		98.96	318	⇑P	P	22 17 28.5	-0.8
NB2	NORSAR Subarra	101.11	334	P	Pdif	22 17 36.7	-1.8
	comp=Z,0.6nm,0.6s,baz=66,slow=4.8						
NOA	NORSAR Array B	101.11	334	P	Pdif	22 17 36.9	-1.6
	comp=Z,0.9nm,0.7s,baz=68,slow=4.6,SNR=4.5						
YKA	Yellowknife Ar	101.31	25	P	Pdif	22 17 38.6	-0.7
	comp=Z,0.4nm,0.5s,baz=297,slow=4.5,SNR=8.6						
YKA	Yellowknife Ar	101.31	25	*i* P	Pdif	22 17 39.4	+0.1
PDAR	Pinedale Array	112.65	42	PKKPbc	PKKPbc	22 33 13.6	-1.7
	comp=Z,0.3nm,0.5s,baz=108,slow=5.8,SNR=3.5						
TXAR	Lajitas Array	122.48	54	PKP	PKPdf	22 22 43.8	-0.2
	comp=Z,0.6nm,0.7s,baz=132,slow=1.3,SNR=4.8						
TXAR				PKKPbc	PKKPab	22 32 39.8	-0.1
	comp=Z,0.3nm,0.5s,baz=121,slow=7.0,SNR=5.0						
SCHQ	Schefferville	122.72	10	PKP	PKPdf	22 22 43.6	+0.1
	comp=Z,5.5nm,1.0s,baz=46,slow=3.3,SNR=5.2						
TORD	Torodi Ar. Bea	124.20	287	PKP	PKPdf	22 22 47.4	-0.1
	comp=Z,2.4nm,0.7s,baz=42,slow=2.3,SNR=19						
TORD				PKKPbc	PKKPab	22 32 33.0	+0.6
	comp=Z,1.1nm,0.6s,baz=245,slow=2.9,SNR=8.4						
KIC	Kosan Boka	131.56	280	*e*PKIKP	PKiKP	22 23 02.1	-0.5
	comp=Z,4.6nm,0.5s						
DBIC	Dimbokro	131.63	280	PKP	PKPdf	22 23 02.0	+0.3
	comp=Z,3.0nm,0.8s,baz=150,slow=1.3,SNR=5.4						
TIC	Toumodi	131.80	280	*e*PKIKP	PKiKP	22 23 02.6	-0.5
LIC	Lamto	131.86	280	*e*PKIKP	PKPdf	22 23 02.6	+0.5
	comp=Z,47nm,1.9s						
PLCA	Paso Flores	137.65	160	PKP	PKPdf	22 23 13.0	+0.7
	comp=Z,1.5nm,0.6s,baz=349,slow=1.0,SNR=6.0						

IDC ***19*** *22:12:23.6± 1.1, 44°.24N× 140°.19E, h235km± 11km, mb3.4/15, mb1 3.5/19, mb1mx3.4/51, mbtmp3.9/19, Error ellipse: s-maj=12.1km s-min=10.4km az=119.0*
JMA ***19*** *22:12:23.7± 0.5, 44°.22N× 140°.15E, h242km± 5km, M3.4*
NEIC ***19*** *22:12:23.6± 1.1, 44°.25N± 0°.09× 140°.3E± 0°.1, h236km± 6km, mb4.0/38, Error ellipse: s-maj=13.1km s-min=11.9km az=130.0*
ISC 19 22:12:23.1±0.5, 44°.20N±0°.06×140°.19E±0°.06, h234km, n87, σ 0.97/92, mb3.9/32, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	Shakotan	0.87	166	P	Pn	22 12 57.3	+1.6
JHR	Hokuryu	1.20	112	P	Pn	22 12 59.7	+2.0
JEW	Eniwo	1.63	146	Pn	Pn	22 13 01.8	+0.7
JWK2	Keihoku	1.65	47	P	Pn	22 13 03.1	+2.0
ASAJ	Asahikawa	1.73	92	P	Pn	22 13 02.9	+1.1
	5.4nm,0.3s,baz=230,slow=9.8,SNR=7.2						
JKA	Kamikawa-asahi	1.73	92		Pn	22 13 02.2	+0.4
JKK2	Kamakawa 2	1.87	99	P	Pn	22 13 04.6	+1.5
JKK2				*e*S	S	22 13 36.3	+2.0
JFR	Furan	2.02	120	P	Pn	22 13 06.0	+1.5
JOSM	Okushiri--Mats	2.18	194	P	Pn	22 13 07.5	+1.5
JNBK	Urakawa-nobuka	2.68	135	P	Pn	22 13 12.3	+1.2
JNBK				*e*S	S	22 13 50.1	+4.4
JAR	Ashorobuto	2.74	108	P	Pn	22 13 13.2	+1.4
JCH	Churui	2.80	123	P	Pn	22 13 12.5	+0.1
JCH				*e*S	S	22 13 48.8	-2.3
JOT	Ohata	2.88	167	P	Pn	22 13 14.7	+1.4
JOT				*e*S	S	22 13 54.1	+1.3
ERM	Erimo	3.08	134	Pn	Pn	22 13 16.5	+1.1
JTM	Tenmabayashi	3.47	169	Pn	Pn	22 13 20.4	+0.5
JANG	Nango	3.94	165	P	Pn	22 13 25.4	-0.2
JANG				*e*S	S	22 14 11.0	-3.9
USA0B	Ussuriysk Arra	5.90	273	Pn	Pn	22 13 50.5	+0.9
USRK	Ussuriysk Ar.	5.90	273	P	Pn	22 13 50.6	+1.1
	baz=86,slow=12,SNR=10						
JSD	Sado	6.32	194	Pn	Pn	22 13 55.7	+0.7
JMM	Marumori	6.34	176	Pn	Pn	22 13 54.7	-0.6
KLR	Kul'dur	7.68	314	P	Pn	22 14 12.2	0.0
	0.2nm,0.3s,baz=127,slow=15,SNR=4.2						
MJAR	Matsushiro Arr	7.79	192	P	Pn	22 14 13.9	+0.1
	0.2nm,0.3s,baz=14,slow=13,SNR=6.5						
MJAR	Matsushiro Arr	7.79	192		Pn	22 14 14.5	+0.8
JGF	Kuroka	8.86	195	Pn	Pn	22 14 27.4	0.0
KSRS	Korea Array	11.47	238	P	Pn	22 15 00.7	+0.3
	0.1nm,0.3s,baz=46,slow=11,SNR=1.9						
PETK	Petropavlovsk-	14.57	46		Pn	22 15 38.0	-0.6
SEY	Seymchan	20.05	16	P	P	22 16 37.2	-1.2
	0.6nm,0.3s,baz=199,slow=11,SNR=5.7						
SONM	Songino Array	23.64	291	P	P	22 17 13.6	+0.3
	0.7nm,0.8s,baz=88,slow=8.1,SNR=3.8						
ZAA0	Zalesovo Array	36.69	305	P	P	22 19 07.2	-0.1
ZAA0				IAmb	IAmb	22 19 08.8	
	comp=Z,2.5nm,0.7s						
ZALV	Zalesovo Beam	36.69	305	P	P	22 19 08.3	+1.0
	comp=Z,2.1nm,0.5s,baz=90,slow=8.2,SNR=11						
ZALV	Zalesovo Beam	36.69	305	P	P	22 19 07.5	+0.2
MK31	Makanchi Array	39.88	295	P	P	22 19 34.7	+0.6
MKAR	Makanchi Array	39.88	295	P	P	22 19 35.2	+1.2
	comp=Z,0.4nm,0.5s,baz=82,slow=13,SNR=5.6						
MKAR	Makanchi Array	39.88	295	P	P	22 19 34.7	+0.6
MAKZ	Makanchi	40.08	295	P	P	22 19 36.8	+1.1
TTA	Tatalina	40.27	39	P	P	22 19 36.6	-0.5
O18K	Koktuh Hills	40.94	44	P	P	22 19 43.1	+0.6
J20K	Nowinta River	41.03	37	P	P	22 19 42.5	-0.7
J20K				IAmb	IAmb	22 19 53.7	
	comp=Z,8.6nm,1.5s						
KURK	Kurchatov	41.07	302	P	P	22 19 44.0	+0.3
KURK				IAmb	IAmb	22 19 45.3	
	comp=Z,12nm,1.5s						
CNPM	China Poot	42.98	44	P	P	22 19 58.7	-0.3
BRLK	Bradley Lake	43.11	44	P	P	22 19 59.1	-0.9
MCK	McKinley	43.36	38	P	P	22 20 01.7	-0.3
MCK				IAmb	IAmb	22 20 04.9	
	comp=Z,5.9nm,1.3s						
WRH	Wood River Hil	43.62	37	P	P	22 20 03.6	-0.5
GHO	Glory Hole Cre	43.68	41	P	P	22 20 04.6	-0.1
SML	Sawmill	43.95	40	P	P	22 20 06.8	+0.1
SML				IAmb	IAmb	22 20 26.8	
	comp=Z,13nm,1.2s						
KNK	Knik Glacier	43.97	41	P	P	22 20 06.8	0.0
KNK				IAmb	IAmb	22 20 26.7	
	comp=Z,17nm,1.4s						
IL31		44.09	36	P	P	22 20 07.0	-0.7
ILAR	Eielson Array	44.09	36	P	P	22 20 07.7	-0.1
	comp=Z,1.4nm,0.7s,baz=274,slow=9.6,SNR=14						
ILAR	Eielson Array	44.09	36	P	P	22 20 07.4	-0.3
DHY	Denali Highway	44.16	39	P	P	22 20 07.9	-0.6
DHY				IAmb	IAmb	22 20 08.7	
	comp=Z,4.7nm,0.5s						
EYAK	Cordova Ski Ar	45.45	42	P	P	22 20 18.4	0.0
SCRK	Sand Creek	45.48	37	P	P	22 20 18.0	-0.8
SCRK				IAmb	IAmb	22 20 18.6	
	comp=Z,4.7nm,0.5s						
DOT	Dot Lake	45.52	37	P	P	22 20 17.7	-1.3
DOT				IAmb	IAmb	22 20 24.9	
	comp=Z,4.3nm,1.1s						
VRDI	Verde Repeater	46.36	41	P	P	22 20 26.2	+0.4
VRDI				IAmb	IAmb	22 20 50.2	
	comp=Z,7.6nm,1.2s						
L27K	Beaver Creek,	46.63	38	P	P	22 20 27.7	0.0
L27K				IAmb	IAmb	22 20 28.8	
	comp=Z,2.2nm,0.7s						
BCAR	Beaver Creek A	46.65	38	P	P	22 20 28.6	+0.7
BARN	Barnard Glacie	47.25	40	P	P	22 20 33.5	+0.8
BARN				IAmb	IAmb	22 20 44.9	
	comp=Z,20nm,1.4s						
CTGM	Chitina Glacie	47.43	40	P	P	22 20 34.6	+0.7
INK	Inuvik	48.53	30	P	P	22 20 41.9	-0.2
	comp=Z,2.8nm,0.3s,baz=295,slow=8.6,SNR=41						
INK	Inuvik	48.53	30	P	P	22 20 41.6	-0.5
INK				IAmb	IAmb	22 20 42.4	
	comp=Z,3.2nm,0.4s						
ABKAR	Akbulak array	52.80	306	P	P	22 21 14.7	+0.5
ABKAR	Akbulak array	52.80	306	P	P	22 21 14.7	+0.5
ABKAR				IAmb	IAmb	22 21 17.6	
	comp=Z,1.6nm,0.8s						
EUNU	Eureka	53.26	9	P	P	22 21 16.1	-1.0
RES	Resolute Bay	55.92	15	P	P	22 21 34.9	-1.3
RES				IAmb	IAmb	22 21 36.3	
	comp=Z,1.4nm,0.7s						
ARCES	ARCESS Array B	57.00	338	P	P	22 21 43.1	-0.8
	comp=Z,2.9nm,1.0s,baz=67,slow=3.0,SNR=3.7						
YKA	Yellowknife Ar	58.15	32	P	P	22 21 51.8	-0.2
	comp=Z,0.5nm,0.5s,baz=306,slow=6.5,SNR=10						
KNRA	Kununurra	60.49	193	P	P	22 22 08.8	+0.4
KNRA				IAmb	IAmb	22 22 09.4	
	comp=Z,3.9nm,0.8s						
FIA1	FINESS Array S	62.09	330	P	P	22 22 18.2	-0.5
FINES	FINESS Array B	62.09	330	P	P	22 22 18.4	-0.2
	comp=Z,1.7nm,0.5s,baz=64,slow=7.2,SNR=16						
FINES	FINESS Array B	62.09	330	P	P	22 22 18.1	-0.6
SUMG	Summit	63.53	360	P	P	22 22 28.3	-0.1
WB0	Warramunga Arr	63.87	186	P	P	22 22 30.7	-0.1
WB0				IAmb	IAmb	22 22 41.0	
	comp=Z,3.8nm,1.2s						
WRA	Warramunga Arr	64.05	186	P	P	22 22 31.8	-0.1
	comp=Z,0.5nm,0.4s,baz=1.9,slow=6.8,SNR=32						
WRA	Warramunga Arr	64.05	186	P	P	22 22 31.9	-0.1
NOA	NORSAR Array B	67.25	336	P	P	22 22 51.5	-0.5
	comp=Z,0.6nm,0.7s,baz=39,slow=6.3,SNR=2.1						
ASAR	Alice Springs	67.77	186	P	P	22 22 57.0	+1.3
	comp=Z,1.1nm,0.6s,baz=2.0,slow=5.3,SNR=20						
ASAR	Alice Springs	67.77	186	P	P	22 22 56.8	+1.2
FCC	Fort Churchill	68.03	27	P	P	22 22 56.5	-0.3
FCC				IAmb	IAmb	22 23 12.7	
	comp=Z,4.1nm,1.5s						
AKASG	Malin Array Be	68.13	320	P	P	22 22 56.9	-0.7
	comp=Z,0.2nm,0.3s,baz=43,slow=6.5,SNR=3.3						
NVAR	Mina Array Bea	71.50	54	P	P	22 23 20.0	+1.4
	comp=Z,1.2nm,0.7s,baz=302,slow=6.2,SNR=7.9						
BUR08	Bucovina Ar. S	72.16	320	P	P	22 23 22.2	-0.1
BUR08				IAmb	IAmb	22 23 29.4	
	comp=Z,5.4nm,1.4s						
BURAR	Bucovina Array	72.18	320	P	P	22 23 22.0	-0.3
R11A	Troy Canyon, C	73.12	53	P	P	22 23 27.5	-0.7
R11A				IAmb	IAmb	22 23 53.0	
	comp=Z,3.0nm,1.4s						
PD31	Pinedale Array	73.34	46	P	P	22 23 29.5	+0.1
PD31				IAmb	IAmb	22 23 30.2	
	comp=Z,4.3nm,1.4s						
PDAR	Pinedale Array	73.34	46	P	P	22 23 30.0	+0.6
	comp=Z,1.5nm,0.7s,baz=295,slow=2.1,SNR=15						
PDAR	Pinedale Array	73.34	46	P	P	22 23 29.5	+0.1
FORT	Forrest	75.43	191	P	P	22 23 42.2	+1.2

IDC ***19*** *22:12:43.0± 1.6, 14°.51S× 73°.39W, h71km± 15km, mb4.0/12, mb1 4.2/18, mb1mx4.0/43, mbtmp4.3/18, MS3.5/3, Ms1 3.5/3, ms1mx2.8/61, Error ellipse: s-maj=22.3km s-min=11.1km az=38.0*
NEIC ***19*** *22:12:42.7± 1.8, 14°.59S± 0°.06× 73°.45W± 0°.08, h63km± 6km, mb4.7/25, Error ellipse: s-maj=12.1km s-min=7.4km az=63.0*
VAO ***19*** *22:12:43.2± 0.4, 14°.56S× 73°.44W, h59km, mb4.4*
ISC 19 22:12:43.8±0.4, 14°.62S±0°.05×73°.47W±0°.06, h87km, n127, σ 1.52/128, mb4.5/20, 3C-1D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.20	308	P	Pn	22 13 45.3	-0.2
	25nm,0.3s,baz=140,slow=12,SNR=24						
NNA				S	Sn	22 14 32.2	-1.3
	86nm,0.3s,baz=38,slow=20,SNR=9.8						
NNA	Nana	4.20	308	Pn	Pn	22 13 44.5	-1.1
NNA				Sn	Sn	22 14 31.5	-2.0
AP01	Chacalluta	4.79	142	Pn	Pn	22 13 53.1	-0.4
AP01				Sn	Sn	22 14 44.9	-2.9
PB12	IPOC Station P	4.99	143	↑*i*P	Pn	22 13 55.6	-0.7
PB12				*i* S	Sn	22 14 49.7	-3.0
PB12	IPOC Station P	4.99	143	Pn	Pn	22 13 55.3	-1.0
PB16	IPOC Station P	5.30	135	↑*i*P	Pn	22 14 02.3	+1.3
PB16	IPOC Station P	5.30	135		Pn	22 14 02.2	+1.1
LPAZ	La Paz	5.41	109	P	Pn	22 14 05.8	+3.3
	19nm,0.3s,baz=290,slow=10,SNR=164						
LPAZ				S	Sn	22 14 50.0	-14
	baz=238,slow=15,SNR=1.0						
LPAZ	La Paz	5.41	109	↑*i*P	Pn	22 14 05.6	+3.0
LPAZ	La Paz	5.41	109	Pn	Pn	22 14 04.7	+2.1
MNMC	Minye Minye	5.82	141		Pn	22 14 07.2	-0.7
PB11	IPOC Station P	6.28	145		Pn	22 14 12.7	-1.3
TA02	Huaiquique	6.46	151		Pn	22 14 15.5	-0.8
GO01	Chusmiza	6.47	141	Pn	Pn	22 14 16.5	-0.5
TA01	Diego Aracena	6.69	153		Pn	22 14 18.3	-1.2
PB08	IPOC Station P	6.87	144		Pn	22 14 21.4	-0.8
CZSB	Cruzeiro do Su	6.89	6	*e*P	Pn	22 14 21.4	-0.8
CZSB	Cruzeiro do Su	6.89	6	Pn	Pn	22 14 20.8	-1.4
PB01	IPOC Station P	7.43	150		Pn	22 14 27.8	-1.8
PB07	IPOC Station P	7.85	155		Pn	22 14 32.6	-2.8
PB09	IPOC Station P	8.19	151		Pn	22 14 38.9	-1.2
PB04	IPOC Station P	8.29	158	Pn	Pn	22 14 38.9	-2.6
ETMB	Extrema	8.55	57	*e*P	Pn	22 14 44.2	-0.7
ETMB	Extrema	8.55	57	Pn	Pn	22 14 43.7	-1.2
PB06	IPOC Station P	8.85	156	Pn	Pn	22 14 46.8	-2.2
ATAH	Atahualpa	8.87	326	P	Pn	22 14 48.4	-1.2
	0.2nm,0.3s,baz=114,slow=14,SNR=1.5						
ATAH				S	Sn	22 16 23.2	-4.9
	0.5nm,0.3s,baz=85,slow=23,SNR=1.6						
LVC	Limon Verde	9.05	152	P	Pn	22 14 51.3	-0.6
	2.1nm,0.3s,baz=344,slow=8.4,SNR=27						
LVC				S	Sn	22 16 28.1	-4.1
	3.7nm,0.3s,baz=320,slow=23,SNR=7.4						
LVC	Limon Verde	9.05	152	*e*P		22 14 51.3	-0.6
LVC	Limon Verde	9.05	152	Pn	Pn	22 14 50.6	-1.3
PB15	IPOC Station P	9.34	157		Pn	22 14 52.6	-3.2
PB14	IPOC Station P	10.36	164	Pn	Pn	22 15 05.7	-4.1
TBTG	Tabatinga, AM	10.95	19	*e*P	Pn	22 15 15.6	-1.9
TBTG	Tabatinga, AM	10.95	19	Pn	Pn	22 15 14.1	-3.5
SIV	San Ignacio	12.04	98	P	Pn	22 15 31.4	-1.0
	7.6nm,0.3s,baz=278,slow=10,SNR=53						
VILB	Vilhena	13.00	84	*e*P	Pn	22 15 43.3	-2.0
VILB	Vilhena	13.00	84	Pn	Pn	22 15 42.9	-2.3
PTLB	Pontes e Lacer	13.87	95	*e*P	Pn	22 15 56.7	0.0
PTLB	Pontes e Lacer	13.87	95		Pn	22 15 55.7	-1.0
OTAV	Otavalo	15.56	341	*e*P	Pn	22 16 17.8	-1.0
PDRB	Porto dos Gac	16.58	82	*e*P	Pn	22 16 30.8	-0.3
MACA	Manacapuru-AM	16.99	49	Pn	Pn	22 16 33.8	-2.3
MACA				IAmb	IAmb	22 16 45.6	
	comp=Z,37nm,0.7s						
SALV	Santo Antonio	17.20	97	*e*P	P	22 16 38.7	-0.3
CLDB	Colider	17.64	80	*e*P	Pn	22 16 44.4	+0.4
AQDB	Aquidauana	17.91	111	*e*P	Pn	22 16 48.8	+1.5
AQDB	Aquidauana	17.91	111	P	P	22 16 46.2	-0.6
CPUP	Villa Florida	19.07	130	P	Pn	22 17 00.7	-0.3
	comp=Z,0.4nm,0.3s,baz=308,slow=10,SNR=4.9						
CPUP				S	S	22 20 28.2	-2.9
	comp=Z,0.3nm,0.3s,baz=181,slow=13,SNR=1.6						
CPUP	Villa Florida	19.07	130	*e*P	Pn	22 17 00.7	-0.3
PTGA	Pitinga	19.20	45	P	P	22 17 00.9	-0.1
	comp=Z,5.2nm,0.3s,baz=214,slow=22,SNR=53						
PTGA				S	S	22 20 20.8	-13
	comp=Z,0.4nm,0.3s,baz=326,slow=19,SNR=3.0						
NPGB	Novo Progresso	19.31	69	*e*P	P	22 17 02.8	+0.6
ITTB	Itaituba	20.23	61	*e*P	P	22 17 12.4	+0.4
BO02	Sierra Bellavi	20.23	174	P	Pn	22 17 13.8	-0.9
BO02				IAmb	IAmb	22 17 40.9	
	comp=Z,14nm,0.5s						
ARAG	Araguaiana, MT	20.93	96	*e*P	P	22 17 20.2	+0.5
BOAV	Boa Vista	21.22	38	*e*P	P	22 17 23.8	+1.0
BOAV	Boa Vista	21.22	38	P	P	22 17 23.0	+0.2
BOAV				IAmb	IAmb	22 17 26.9	
	comp=Z,20nm,0.7s						
ITQB	Itaqui	21.59	137	*e*P	P	22 17 28.1	+1.5
SNDB	Serra Nova Dun	21.74	86	*e*P	P	22 17 28.7	+0.4
ZARC	Zaragoza, Cauc	22.01	356	P	P	22 17 31.1	-0.1
PCMB	Pacaembu	22.21	111	*e*P	P	22 17 35.0	+1.7
PTGB	Pitanga	22.49	120	*e*P	P	22 17 38.0	+1.6
ITRB	Iturama	22.65	106	*e*P	P	22 17 38.6	+0.6
MALB	Monte Alegre	22.82	58	*e*P	P	22 17 40.1	+0.4
ITAB	Concordia	23.51	126	*e*P	P	22 17 47.2	+1.1
ITAB	Concordia	23.51	126	P	P	22 17 46.6	+0.4
ITAB				IAmb	IAmb	22 17 53.9	
	comp=Z,10nm,0.6s						
SDV	Santo Domingo	23.52	7	LR	LR	22 28 52.6	
	comp=Z,70nm,18.5s,baz=185,slow=41						
SDV	Santo Domingo	23.52	7	*e*P	P	22 17 47.8	+1.2
BAUV	El Baul	24.02	13	P	P	22 17 50.0	-0.8
CPSB	Cacapava Do Su	24.21	134	*e*P	P	22 17 53.7	+1.3
LC01	Cunco	24.22	177	P	P	22 17 52.8	+0.3
IPMB	Ipameri, GO	24.47	101	*e*P	P	22 17 56.1	+1.1
BB19B	Bebedouro	24.58	109	*e*P	P	22 17 58.8	+2.9
BDFB	Brasilia	24.59	96	P	P	22 17 56.6	+0.5
	comp=Z,1.3nm,0.4s,baz=51,slow=25,SNR=2.4						
PRPB	Paraiapebas	24.71	73	*e*P	P	22 17 58.4	+1.3
SMTB	Santa Maria do	25.97	80	*e*P	P	22 18 09.3	+0.8
PLCA	Paso Flores	26.14	175	P	P	22 18 11.5	+1.6
	comp=Z,1.6nm,0.8s,baz=351,slow=11,SNR=4.9						
PLCA	Paso Flores	26.14	175	*e*P	P	22 18 11.7	+1.8
PLCA	Paso Flores	26.14	175	P	P	22 18 11.0	+1.1
ROSB	Rosario	31.20	71	*e*P	P	22 18 56.5	+1.4
NBPB	Pedra_Branca-C	34.52	78	*e*P	P	22 19 25.6	+1.5

JMA 19 22:14:17.7±0.5, 44°.54N×148°.40E, h103km, M4.1
ISC 19 22:14:14.6±0.8, 44°.87N±0°.07×148°.33E±0°.08, h129km±6km, n47, σ1°81/56, mb3.4/9, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.49**	**318**	*c iPN*	**Pn**	**22 14 33.2**	**-0.2**
KUR				*i S*	**Sn**	**22 14 46.3**	**-1.5**
KUR				pmax	pmax		
	comp=Z,608nm,0.1s						
KUR				pmax	pmax		
	comp=N,97nm,0.2s						
KUR				pmax	pmax		
	comp=E,15nm,0.1s						
KUR				smax	smax		
	comp=E,2μm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR	**Kuril'sk**	**0.49**	**318**	*eP*	**Pn**	**22 14 33.3**	**-0.2**
KUR				AMB	AMB	22 14 34.4	
	comp=N,380nm,0.5s						
KUR				*eS*	**Sn**	**22 14 46.5**	**-1.3**
KUR				A	A	22 14 46.9	
	comp=N,1μm,0.3s						
KUR				A	A	22 14 46.9	
	comp=N,2μm,0.3s						
SHO	**Shikotan**	**1.47**	**228**	*e*PN	**Pn**	**22 14 43.0**	**+0.8**
SHO				*e*S	**Sn**	**22 15 02.7**	**-0.5**
SHO				pmax	pmax		
	comp=Z,301nm,0.3s						
SHO				pmax	pmax		
	comp=E,299nm,0.2s						
SHO				pmax	pmax		
	comp=N,147nm,0.3s						
SHO				smax	smax		
	comp=N,1μm,0.3s						
SHO				smax	smax		
	comp=E,724nm,0.2s						
SHO	**Shikotan**	**1.47**	**228**	*e*P	**Pn**	**22 14 43.0**	**+0.8**
SHO				AMB	AMB	22 14 44.1	
	comp=E,310nm,0.3s						
SHO				*e*S	**Sn**	**22 15 03.1**	**-0.1**
SHO				A	A	22 15 04.0	
	comp=E,1μm,0.3s						
SHO				A	A	22 15 04.0	
	comp=E,720nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.95**	**246**	*e*PN	**Pn**	**22 14 49.6**	**+1.7**
YUK				*e*S	**Sn**	**22 15 13.4**	**+0.1**
YUK				pmax	pmax		
	comp=Z,862nm,0.4s						
YUK				smax	smax		
	comp=N,746nm,0.5s						
YUK				smax	smax		
	comp=E,609nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.95**	**246**	*e*P	**Pn**	**22 14 49.0**	**+1.1**
YUK				AMB	AMB	22 14 49.9	
	comp=E,430nm,0.4s						
YUK				*e*S	**Sn**	**22 15 15.0**	**+1.7**
YUK				A	A	22 15 19.2	
	comp=E,750nm,0.5s						
YUK				A	A	22 15 19.2	
	comp=E,610nm,0.5s						
NEM2	**Nemuro 2**	**2.39**	**232**	P	**Pn**	**22 14 54.0**	**+0.7**
NEM2				*e*S	**Sn**	**22 15 22.2**	**-0.9**
NMR	**Nemuro--Hokkai**	**2.40**	**232**	*e*PN	**Pn**	**22 14 54.2**	**+0.8**
NMR				*e*S	**Sn**	**22 15 22.5**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.40**	**232**	*e*P	**Pn**	**22 14 54.2**	**+0.8**
NMR				*e*S	**Sn**	**22 15 22.5**	**-0.7**
JNSB	**Nemuroshibetsu**	**2.62**	**247**	P	**Pn**	**22 14 58.8**	**+2.6**
JNK	**Nakash**	**2.89**	**245**	P	**Pn**	**22 15 01.5**	**+1.8**
JKHN	**Kushirohamanak**	**2.90**	**233**	P	**Pn**	**22 15 00.8**	**+1.0**
JKHN				*e*S	**Sn**	**22 15 34.0**	**-0.7**
AKK	**Akkeshi**	**3.12**	**235**	*e*P	**Pn**	**22 15 03.6**	**+0.9**
AKK				*e*S	**Sn**	**22 15 39.0**	**-0.9**
JAK	**Akkeshi**	**3.22**	**236**	P	**Pn**	**22 15 05.1**	**+1.1**
JAK				*e*S	**Sn**	**22 15 41.8**	**-0.4**
JAR	**Ashorobuto**	**3.64**	**246**	P	**Pn**	**22 15 11.9**	**+2.4**
JCH	**Churui**	**4.25**	**240**	P	**Pn**	**22 15 19.2**	**+1.7**
JCH				*e*S	**Sn**	**22 16 05.0**	**-1.3**
YSS	**Yuzh-Sakhalins**	**4.41**	**300**	*e*PN	**Pn**	**22 15 22.6**	**+2.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
JNBK	**Urakawa-nobuka**	**4.81**	**239**	P	**Pn**	**22 15 25.4**	**+0.4**
JNBK				*e*S	**Sn**	**22 16 17.5**	**-2.3**
JKB	**Kayabe**	**6.09**	**243**	*e*S	**Sn**	**22 16 47.1**	**-3.6**
JOT	**Ohata**	**6.36**	**239**	*e*S	**Sn**	**22 16 51.4**	**-5.8**
JMK	**Ichinoseki**	**7.94**	**224**	*e*S	**Sn**	**22 17 30.4**	**-4.9**
PAU	**Pauzhetka**	**8.70**	**38**	*e*P	**Pn**	**22 16 15.7**	**-1.5**
PAU				AMB	AMB	22 16 16.4	
	comp=Z,40nm,0.5s						
PETK	**Petropavlovsk-**	**10.28**	**33**	P	**Pn**	**22 16 37.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=204,slow=12,SNR=12						
USRK	**Ussuriysk Ar.**	**11.68**	**272**	P	**Pn**	**22 16 57.1**	**-0.1**
	baz=78,slow=15,SNR=3.0						
SEY	**Seymchan**	**18.25**	**6**	P	**Pn**	**22 18 17.2**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=216,slow=8.7,SNR=4.7						
SONM	**Songino Array**	**28.84**	**291**	P	**P**	**22 20 00.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=87,slow=8.6,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**29.43**	**142**	T	T	22 51 17.6	
	baz=333,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.45**	**142**	T	T	22 51 19.0	
	baz=333,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.45**	**142**	T	T	22 51 22.3	
	baz=333,slow=76						
H11S1	**WAKE ISLAND Hy**	**30.43**	**144**	T	T	22 52 34.3	
	baz=334,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.44**	**144**	T	T	22 52 33.0	
	baz=334,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.45**	**144**	T	T	22 52 33.4	
	baz=334,slow=76						
MKAR	**Makanchi Array**	**44.82**	**297**	P	**P**	**22 22 14.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=74,slow=8.3,SNR=9.1						
MKAR				PcP	**PcP**	**22 23 56.2**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=79,slow=5.2,SNR=2.6						
GUN	**Gumba**	**51.79**	**273**	*e*P	**P**	**22 23 10.8**	**+1.3**
KKN	**Kakani**	**52.29**	**273**	*e*P	**P**	**22 23 14.6**	**+1.6**
DMN	**Daman**	**52.52**	**273**	*e*P	**P**	**22 23 16.0**	**+1.2**
GKN	**Gorkha**	**52.62**	**274**	*e*P	**P**	**22 23 16.8**	**+1.4**
DANN	**Dangsing**	**53.04**	**275**	*e*P	**P**	**22 23 19.8**	**+1.2**
KOLN	**Koldanda**	**53.49**	**275**	*e*P	**P**	**22 23 22.6**	**+0.8**
PYUN	**Piuthan**	**53.73**	**275**	*e*P	**P**	**22 23 24.8**	**+1.3**
YKA	**Yellowknife Ar**	**54.40**	**35**	P	**P**	**22 23 26.9**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=298,slow=7.1,SNR=2.0						
FINES	**FINESS Array B**	**64.26**	**333**	P	**P**	**22 24 32.9**	**-2.5**
	comp=Z,1.5nm,0.8s,baz=34,slow=7.1,SNR=7.5						
WRA	**Warramunga Arr**	**65.75**	**194**	P	**P**	**22 24 47.6**	**+2.2**
	comp=Z,0.3nm,0.9s,baz=16,slow=4.2,SNR=2.0						
NVAR	**Mina Array Bea**	**66.27**	**59**	P	**P**	**22 24 48.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=298,slow=8.1,SNR=2.5						
PDAR	**Pinedale Array**	**68.54**	**51**	P	**P**	**22 25 04.4**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=351,slow=2.0,SNR=4.3						
NOA	**NORSAR Array B**	**68.86**	**339**	P	**P**	**22 25 01.9**	**-2.7**
	comp=Z,0.9nm,0.8s,baz=28,slow=6.5,SNR=2.6						
TXAR	**Lajitas Array**	**81.33**	**57**	P	**P**	**22 26 18.9**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=292,slow=3.4,SNR=4.9						

DJA 19 22:14:29.0±0.3, 9°.S±8°.×11°.3E±°., h110km±7km, M3.7/15, mb4.1/5, MLv3.6/15, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.03**	**61**	P	Pn	22 14 51.1	+0.6
GMJI				S	Sn	22 15 07.6	+0.9
PCJI	**Pacitan**	**1.46**	**293**	P	Pn	22 14 56.0	+0.7
BLJI	**Banyuglugur**	**1.47**	**46**	P	Pn	22 14 56.0	+0.6
BLJI				S	Sn	22 15 15.3	-0.1
JAGI	**Jajag, Banyuwa**	**1.63**	**80**	P	Pn	22 14 58.3	+0.9
JAGI				S	Sn	22 15 19.8	+0.8
ABJI	**Asem Bagus**	**1.94**	**60**	P	Pn	22 15 02.7	+1.4
UGM	**Wanagama**	**2.16**	**293**	P	Pn	22 15 04.8	+0.7
KMMI	**Kalianget**	**2.22**	**40**	P	Pn	22 15 03.7	-1.2
YOGI	**Yogyakarta**	**2.41**	**293**	P	Pn	22 15 07.7	+0.5
IGBI	**Denpasar**	**2.59**	**91**	P	Pn	22 15 10.8	+1.3
SRBI	**Singaraja**	**2.74**	**76**	P	Pn	22 15 11.7	+0.1
CMJI	**Cimerak**	**4.16**	**283**	P	Pn	22 15 30.2	-0.3
CNJI	**Cibinong**	**5.54**	**285**	P	Pn	22 15 49.4	+0.2
	0.3nm57nm,1.4s						
WBSI	**Waikabubak, Su**	**6.83**	**98**	P	Pn	22 16 05.2	-1.5
	0.1nm10nm,0.8s						
BASI	**Baing, Sumba**	**8.07**	**101**	P	Pn	22 16 23.2	-0.3

RSNC 19 22:15:29.8±1.2, 6°.83N×73°.16W, h149km±5km, ML3.0, Mw3.5, 4C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**187**	⇑*iP*	Pn	22 15 50.0	-0.3
BARC				*eS*	Sn	22 16 05.3	-0.7
BARC				*i*		22 16 06.4	
	comp=Z,206nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**42**	⇑*eP*	Pn	22 15 52.9	+0.3
PAMC				*eS*	Sn	22 16 10.4	+0.4
PAMC				*i*		22 16 13.2	
	comp=Z,118nm,0.4s						
RUSC	**La Rusia**	**0.93**	**176**	*eP*	Pn	22 15 54.0	-0.5
RUSC				*eS*	Sn	22 16 12.8	-0.5
RUSC				*i*		22 16 13.9	
	comp=Z,145nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*eP*	Pn	22 15 56.8	-0.7
PTBC				*eS*	Sn	22 16 17.2	-1.5
PTBC				*i*		22 16 23.4	
	comp=Z,88nm,0.2s						
OCAC	**Ocana**	**1.41**	**353**	*eP*	Pn	22 15 58.1	-0.4
OCAC				*eS*	Sn	22 16 20.1	-0.5
OCAC				*i*		22 16 28.6	
	comp=Z,226nm,0.4s						
TAMC	**Tame, Arauca**	**1.41**	**106**	⇑*iP*	Pn	22 15 58.5	+0.1
TAMC				*eS*	Sn	22 16 20.3	0.0
TAMC				*i*		22 16 21.4	
	comp=Z,57nm,0.5s						
SPBC	**San Pablo de B**	**1.48**	**218**	*eP*	Pn	22 15 59.0	-0.2
SPBC				*eS*	Sn	22 16 21.0	-0.8
SPBC				*i*		22 16 22.8	
	comp=Z,174nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	*eP*	Pn	22 16 02.9	+0.1
ZARC				*eS*	Sn	22 16 28.0	0.0
ZARC				*i*		22 16 33.4	
	comp=Z,128nm,0.6s						
NORC	**Norcasia**	**2.12**	**234**	*eP*	Pn	22 16 06.2	-0.2
NORC				*eS*	Sn	22 16 33.3	-1.1
NORC				*i*		22 16 40.7	
	comp=Z,58nm,0.2s						
SMLC	**San Martn de**	**2.16**	**335**	*eP*	Pn	22 16 06.2	-0.6
SMLC				*eS*	Sn	22 16 34.7	-0.5
SMLC				*i*		22 16 38.6	
	comp=Z,146nm,0.3s						
CHIC	**Chingaza**	**2.26**	**195**	*eP*	Pn	22 16 08.3	-0.1
CHIC				*eS*	Sn	22 16 37.7	-0.4
CHIC				*i*		22 16 43.8	
	comp=Z,47nm,0.3s						
ROSC	**El Rosal**	**2.29**	**210**	*eP*	Pn	22 16 09.9	+1.2
ROSC				*eS*	Sn	22 16 39.1	+0.5
ROSC				*i*		22 16 44.8	
	comp=Z,143nm,0.4s						
HELC	**Santa Helena**	**2.44**	**255**	*eP*	Pn	22 16 11.3	+0.8
HELC				*eS*	Sn	22 16 42.4	+0.5
HELC				*i*		22 16 50.2	
	comp=Z,34nm,0.2s						
UREC	**San Jos de Ur**	**2.53**	**291**	*eP*	Pn	22 16 10.8	-0.5
UREC				*eS*	Sn	22 16 39.9	-3.3
SOCV	**Socops**	**2.70**	**57**	⇑*eP*	Pn	22 16 11.8	-1.6
SOCV				*eS*	Sn	22 16 42.4	-4.6
GUY2C	**Guyana, Caldas**	**2.71**	**234**	*eP*	Pn	22 16 15.1	+1.1
GUY2C				*eS*	Sn	22 16 47.5	-0.5
GUY2C				*i*		22 17 00.3	
	comp=Z,44nm,0.5s						
VILC	**Villavicencio,**	**2.75**	**191**	*eP*	Pn	22 16 13.6	-0.5
VILC				*eS*	Sn	22 16 47.4	-1.0
PTGC	**Puerto Gaitan,**	**2.80**	**159**	*eP*	Pn	22 16 13.3	-1.4
PTGC				*eS*	Sn	22 16 46.7	-2.7
PTGC				*i*		22 16 49.1	
	comp=Z,49nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.89**	**358**	*eP*	Pn	22 16 15.7	-0.1
LL6C				*eS*	Sn	22 16 48.3	-3.0
LL6C				*i*		22 17 03.9	
	comp=Z,25nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.00**	**252**	*eP*	Pn	22 16 18.0	+0.7
CBOC				*eS*	Sn	22 16 52.9	-1.1
CBOC				*i*		22 17 05.1	
	comp=Z,15nm,0.5s						
DBBC	**Dabeiba**	**3.04**	**274**	*eP*	Pn	22 16 18.3	+0.5
DBBC				*eS*	Sn	22 16 53.6	-1.1
DBBC				*i*		22 16 57.7	
	comp=Z,106nm,0.5s						
MOTC	**Monteria, Cord**	**3.15**	**308**	*eP*	Pn	22 16 17.1	-1.9
MOTC				*eS*	Sn	22 16 56.1	-1.1
MOTC				*i*		22 17 09.5	
	comp=Z,35nm,0.5s						
ANIL	**Santa Ana**	**3.23**	**224**	*eP*	Pn	22 16 21.7	+1.4
ANIL				*eS*	Sn	22 16 59.8	+0.5
ANIL				*i*		22 17 06.3	
	comp=Z,113nm,0.3s						
SDV	**Santo Domingo**	**3.23**	**51**	*eP*	Pn	22 16 19.7	-0.5
SDV				*eS*	Sn	22 16 57.3	-2.0
SDV				*i*		22 16 59.0	
	comp=Z,14nm,0.4s						
PRAC	**Prado**	**3.54**	**209**	*eP*	Pn	22 16 23.5	-0.7
PRAC				*eS*	Sn	22 17 05.3	-1.0
PRAC				*i*		22 17 12.4	
	comp=Z,53nm,0.3s						
ORTC	**Ortega, Tolima**	**3.57**	**216**	*eP*	Pn	22 16 24.3	-0.2
ORTC				*eS*	Sn	22 17 07.3	+0.4
ORTC				*i*		22 17 13.7	
	comp=Z,27nm,0.6s						
SJCC	**San Jacinto, C**	**3.65**	**327**	*eP*	Pn	22 16 23.6	-1.9
SJCC				*eS*	Sn	22 17 05.2	-3.5
SJCC				*i*		22 17 20.1	
	comp=Z,16nm,0.3s						
PLMC	**San Jos del P**	**3.65**	**239**	*eP*	Pn	22 16 25.7	+0.1
PLMC				*eS*	Sn	22 17 05.9	-3.0
PLMC				*i*		22 17 13.6	
	comp=Z,11nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	*eP*	Pn	22 16 30.6	-1.9
CRJC				*eS*	Sn	22 17 17.5	-3.6
CRJC				*i*		22 17 24.4	
	comp=Z,23nm,0.2s						
YOTC	**Yotoco, Valle**	**4.25**	**228**	*eP*	Pn	22 16 34.3	+0.8
YOTC				*eS*	Sn	22 17 25.5	+2.5

IDC 19 22:25:36.4±0.8, 12°.39N×144°.04E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/44, mbtmp3.9/8, MS3.2/2, Ms1 3.2/2, ms1mx2.6/77, Error ellipse: s-maj=33.5km s-min=16.6km az=114.0
NEIC 19 22:25:38.3±0.8, 12°.31N±0°.10×144°.1E±0°.2, h10km±1km, mb4.4/11, Error ellipse: s-maj=32.0km s-min=4.1km az=120.0
ISC 19 22:25:40.3±0.7, 12°.3N±0°.1×144°.0E±0°.2, h27km, n31, σ0°87/28, mb4.2/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.48**	**33**	Pn	**Pn**	**22 26 05.2**	**0.0**
	120nm,0.3s,baz=21,slow=5.5,SNR=22						
GUMO				Sn	**Sn**	**22 26 23.5**	**-0.3**
	60nm,0.3s,baz=16,slow=18,SNR=5.3						
GUMO	**Guam**	**1.48**	**33**		**Pn**	**22 26 05.1**	**-0.2**
GUMO				Sn	**Sn**	**22 26 23.9**	**+0.2**
JAY	**Jayapura**	**15.12**	**193**	LR	LR	22 34 12.0	
	comp=Z,73nm,21.4s,baz=342,slow=34						
H11N1	**WAKE ISLAND Hy**	**23.14**	**69**	T	T	22 54 43.8	
	baz=255,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**23.15**	**69**	T	T	22 54 44.8	
	baz=255,slow=75,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**23.16**	**69**	T	T	22 54 44.5	
	baz=255,slow=75,SNR=16						
COEN	**Coen**	**26.14**	**182**	P	**P**	**22 31 12.2**	**-0.2**
COEN				IAmb	IAmb	22 31 31.8	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**33.43**	**196**	P	**P**	**22 32 16.3**	**-0.7**
WR0				IAmb	IAmb	22 32 44.3	
	comp=Z,5.5nm,1.4s						
WRA	**Warramunga Arr**	**33.47**	**197**	P	**P**	**22 32 17.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=22,slow=9.5,SNR=6.6						
WRA	**Warramunga Arr**	**33.47**	**197**	P	**P**	**22 32 16.9**	**-0.5**
ASAR	**Alice Springs**	**37.13**	**196**	P	**P**	**22 32 49.8**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=18,slow=9.8,SNR=9.0						
KLR	**Kul'dur**	**38.17**	**347**	LR	LR	22 47 44.9	
	comp=Z,46nm,19.4s,baz=159,slow=35						
SONM	**Songino Array**	**47.30**	**326**	P	**P**	**22 34 11.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=134,slow=7.3,SNR=2.1						
SONM	**Songino Array**	**47.30**	**326**	P	**P**	**22 34 11.5**	**-0.2**
SONM				IAmb	IAmb	22 34 24.1	
	comp=Z,2.3nm,1.4s						
MK31	**Makanchi Array**	**61.84**	**317**	P	**P**	**22 35 58.4**	**+1.3**
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**22 35 58.2**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=92,slow=9.0,SNR=14						
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**22 35 57.8**	**+0.7**
MAKZ	**Makanchi**	**62.05**	**317**	P	**P**	**22 35 59.6**	**+1.1**
MAKZ				IAmb	IAmb	22 36 00.5	
	comp=Z,2.1nm,0.7s						
KÜRK	**Kurchatov**	**65.02**	**320**	P	**P**	**22 36 18.6**	**+0.6**
KÜRK				IAmb	IAmb	22 36 19.4	
	comp=Z,3.1nm,1.1s						
ILAR	**Eielson Array**	**70.04**	**25**	P	**P**	**22 36 48.0**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=264,slow=4.3,SNR=6.2						
ILAR	**Eielson Array**	**70.04**	**25**	P	**P**	**22 36 48.4**	**-1.1**
BRVK	**Borovoye**	**70.48**	**322**	P	**P**	**22 36 52.7**	**+0.3**
BRVK				IAmb	IAmb	22 36 54.4	
	comp=Z,4.4nm,1.2s						
RIDG	**Independent Ri**	**70.68**	**26**	P	**P**	**22 36 53.4**	**-0.1**
ABKAR	**Akbulak array**	**76.93**	**318**	P	**P**	**22 37 30.8**	**+0.5**
ABKAR				IAmb	IAmb	22 37 31.4	
	comp=Z,2.3nm,0.7s						
ABKAR	**Akbulak array**	**76.93**	**318**	P	**P**	**22 37 30.6**	**+0.3**
YKA	**Yellowknife Ar**	**84.34**	**27**	P	**P**	**22 38 09.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=287,slow=5.5,SNR=11						
RES	**Resolute Bay**	**85.95**	**13**	P	**P**	**22 38 18.4**	**+0.8**
NVAR	**Mina Array Bea**	**88.33**	**51**	P	**P**	**22 38 31.6**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=262,slow=4.5,SNR=5.5						
FINES	**FINESS Array B**	**91.95**	**335**	P	**P**	**22 38 44.9**	**-1.4**
	comp=Z,1.4nm,0.9s,baz=42,slow=5.9,SNR=5.4						
FINES	**FINESS Array B**	**91.95**	**335**	P	**P**	**22 38 45.3**	**-1.0**
DBIC	**Dimbokro**	**143.77**	**300**	PKP	**PKPdf**	**22 45 12.5**	**-1.6**
	comp=Z,4.0nm,0.9s,baz=37,slow=5.1,SNR=3.4						

IDC 19 23:37:42.0±1.7, 0°.98N×127°.39E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/41, mbtmp3.7/5, MS2.9/2, Ms1 3.0/2, ms1mx2.6/63, Error ellipse: s-maj=160.4km s-min=20.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.29**	**115**	LR	LR	23 40 10.5	
	comp=Z,184nm,21.7s,baz=338,slow=35						
WRA	**Warramunga Arr**	**21.88**	**162**	P	P	23 42 36.7	0.0
	1.3nm,0.6s,baz=341,slow=11,SNR=17						
ASAR	**Alice Springs**	**25.31**	**166**	P	P	23 43 10.5	0.0
	1.8nm,0.7s,baz=341,slow=9.8,SNR=23						
CMAR	**Chiang Mai Arr**	**32.88**	**304**	LR	LR	23 57 01.8	
	comp=Z,20nm,20.9s,baz=120,slow=35						
STKA	**Stephens Creek**	**35.34**	**159**	P	P	23 44 39.1	-0.1
	1.5nm,0.7s,baz=324,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**60.18**	**326**	P	P	23 47 52.2	+0.5
	0.5nm,0.8s,baz=126,slow=6.7,SNR=6.2						
KURBB	**Kurchatov Arra**	**64.40**	**328**	P	P	23 48 19.1	-0.8
	0.2nm,0.3s,baz=134,slow=6.4,SNR=2.9						

IDC 19 23:38:18.4±0.8, 0°.88N×127°.30E, h0km, mb4.2/8, mb1 4.3/12, mb1mx4.0/45, mbtmp4.2/12, ML3.5/3, MS3.4/4, Ms1 3.4/4, ms1mx2.8/65, Error ellipse: s-maj=32.5km s-min=14.0km az=62.0
NEIC 19 23:38:20.4±1.4, 0°.97N±0°.06×127°.46E±0°.07, h12km±6km, mb4.6/21, Error ellipse: s-maj=11.2km s-min=8.3km az=114.0
DJA 19 23:38:21.4±0.5, 1°.N±5°.×12°.7E±°., h10km, M4.4/12, mb4.6/7, mB5.1/3, MLv4.2/12, Mw(mB)4.4/3
ISC 19 23:38:20.6±0.5, 0°.94N±0°.05×127°.44E±0°.06, h10km, n68, σ1°26/67, mb4.6/24, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.18**	**203**	P	**Pg**	**23 38 25.1**	**+0.7**
TNTI	**Ternate**	**0.18**	**203**		**Pg**	**23 38 25.1**	**+0.7**
TNTI				Sg	**Sg**	**23 38 28.3**	**+1.2**
SANI	**Sanana**	**3.30**	**206**	P	**Pn**	**23 39 12.7**	**+0.3**
SANI	**Sanana**	**3.30**	**206**	P	**Pn**	**23 39 13.1**	**+0.7**
KMSI	**Cibinong**	**3.48**	**264**	P	**Pn**	**23 39 15.4**	**+0.7**
SWI	**Sorong**	**4.22**	**115**	P	**Pn**	**23 39 26.4**	**+1.4**
SIJI	**Sorong**	**4.23**	**115**	Pn	**Pn**	**23 39 26.6**	**+1.4**
	2.4nm,0.3s,baz=320,slow=9.1,SNR=12						
SIJI				Sn	**Sn**	**23 40 15.3**	**+0.7**
	1.9nm,0.3s,baz=19,slow=23,SNR=1.2						
GTOI	**Gorontalo**	**4.44**	**266**	P	**Pn**	**23 39 30.8**	**+2.8**
AAI	**Ambon**	**4.66**	**171**	P	**Pn**	**23 39 32.4**	**+1.4**
LUWI	**Luwuk**	**5.06**	**247**	P	**Pn**	**23 39 36.5**	**-0.1**
	0.7nm5μm125nm,1.2s						
MRSI	**Marisa**	**5.51**	**265**	P	**Pn**	**23 39 43.3**	**+0.5**
	0.2nm852nm55nm,0.9s						
APSI	**Ampana**	**6.07**	**252**	P	**Pn**	**23 39 50.8**	**+0.3**
	0.3nm44nm,1.3s						
FAKI	**Fak Fak**	**6.15**	**129**	Pn	**Pn**	**23 39 52.2**	**+0.6**
TOLI2	**Tolitoli**	**6.66**	**272**		**Pn**	**23 39 59.5**	**+1.0**
TOLI2	**Tolitoli**	**6.66**	**272**	P	Pn	23 40 07.7	+9.2
MPSI	**Mapaga**	**7.56**	**266**	P	**Pn**	**23 40 11.4**	**+0.5**
	0.2nm18nm,1.6s						
TTSI	**Tana Toraja**	**8.58**	**243**	P	**Pn**	**23 40 25.8**	**+0.9**
	32nm,0.8s						
BNSI	**Bone**	**9.04**	**234**	P	**Pn**	**23 40 32.2**	**+0.9**
	37nm,1.5s						
SPSI	**Sidrap Palu**	**9.08**	**238**	P	**Pn**	**23 40 33.5**	**+1.7**
	46nm,0.6s						
BKSI	**Bulukumba**	**9.59**	**230**	P	**Pn**	**23 40 41.1**	**+2.3**
KAPI	**Kappang**	**9.69**	**232**	Pn	**Pn**	**23 40 37.8**	**-2.4**
	baz=101,Slow=16,SNR=1.1						
KAPI				LR	LR	23 45 17.6	
	comp=Z,51nm,19.0s,baz=68,slow=44						
JAY	**Jayapura**	**

ULN	**Ulaanbaatar**	**49.97**	**342**	P	**P**	**23 47 15.3**	**+0.3**
ULN				IAmb	IAmb	23 47 17.6	
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**50.15**	**342**	P	**P**	**23 47 15.7**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=151,slow=5.3,SNR=7.1						
SONM	**Songino Array**	**50.15**	**342**	P	**P**	**23 47 16.0**	**-0.4**
WMQ	**Urumqi**	**55.41**	**326**	*eP*	**P**	**23 47 56.0**	**+0.7**
WMQ				sP	sP	23 48 01.3	+1.6
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,240nm,4.1s						
NIL	**Nilore**	**60.20**	**309**	P	**P**	**23 48 28.1**	**-1.0**
NIL				IAmb	IAmb	23 48 34.0	
	comp=Z,9.5nm,1.3s						
MK31	**Makanchi Array**	**60.24**	**326**	P	**P**	**23 48 27.5**	**-1.6**
MK31				IAmb	IAmb	23 48 33.9	
	comp=Z,2.6nm,0.9s						
MKAR	**Makanchi Array**	**60.24**	**326**	P	**P**	**23 48 28.2**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=119,slow=6.8,SNR=20						
MKAR	**Makanchi Array**	**60.24**	**326**	P	**P**	**23 48 27.7**	**-1.4**
MAKZ	**Makanchi**	**60.43**	**326**	P	**P**	**23 48 29.2**	**-1.2**
MAKZ				IAmb	IAmb	23 48 35.6	
	comp=Z,6.0nm,1.1s						
KSH	**Kashi**	**60.52**	**316**	P	**P**	**23 48 33.4**	**+2.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,2.3s						
AAK	**Ala-Archa**	**62.90**	**319**	P	**P**	**23 48 46.6**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=72,slow=6.4,SNR=1.4						
KBL	**Kabul**	**63.78**	**308**	P	**P**	**23 48 52.7**	**-0.7**
KBL				IAmb	IAmb	23 49 01.8	
	comp=Z,7.7nm,1.2s						
KURBB	**Kurchatov Arra**	**64.46**	**328**	P	**P**	**23 48 56.4**	**-0.9**
	comp=Z,4.1nm,0.9s,baz=122,slow=6.2,SNR=17						
KURK	**Kurchatov**	**64.46**	**328**	P	**P**	**23 48 56.2**	**-1.0**
CHGR	**Chuyangaron**	**65.06**	**313**	P	**P**	**23 49 00.5**	**-1.1**
KKAR	**Karatay Array**	**65.75**	**318**	P	**P**	**23 49 03.3**	**-2.5**
QSPA	**South Pole Qui**	**90.86**	**180**	LR	LR	00 33 03.2	
	comp=Z,108nm,18.7s,baz=248,slow=36						

IDC 19 23:49:11.9±2.3, 0°.80N×127°.23E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.3/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/28, Error ellipse: s-maj=173.7km s-min=28.4km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**13.87**	**104**	LR	LR	23 57 34.6	
	comp=Z,100nm,18.3s,baz=331,slow=36						
WRA	**Warramunga Arr**	**21.76**	**162**	P	P	23 54 05.4	+0.1
	0.6nm,0.6s,baz=340,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**25.17**	**165**	P	P	23 54 39.2	-0.1
	0.5nm,0.7s,baz=345,slow=11,SNR=8.3						
MKAR	**Makanchi Array**	**60.24**	**326**	P	P	23 59 22.0	0.0
	0.3nm,0.9s,baz=107,slow=7.0,SNR=2.5						

IDC 19 23:53:05.3±1.8, 3°.97N×126°.90E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/38, mbtmp3.5/5, Error ellipse: s-maj=104.7km s-min=25.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.96**	**183**	P	P	23 58 00.9	0.0
	0.5nm,0.3s,baz=11,slow=12						
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	23 58 29.1	-0.8
	2.2nm,0.7s,baz=343,slow=10,SNR=15						
ASAR	**Alice Springs**	**28.31**	**166**	P	P	23 59 00.7	-0.2
	0.1nm,0.3s,baz=358,slow=9.3,SNR=1.4						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	00 00 28.7	+1.0
	0.7nm,0.4s,baz=334,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	00 02 56.0	-0.1
	0.2nm,0.5s,baz=117,slow=7.9,SNR=4.5						

*TUL **19** 23:57:07.3±1.0, 36°.83N±0°.04×97°.77W±0°.06, h4km±7km, ML3.3, mb_Lg3.0/69(NEIC), Error ellipse: s-maj=7.6km s-min=2.4km az=53.0*

NEIC 19 23:57:07.6±1.0, 36°.79N±0°.03×97°.78W±0°.06, h4km±7km, Error ellipse: s-maj=7.7km s-min=2.4km az=56.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.09**	**315**	Pg	Pg	23 57 09.4	0.0
GC02				Sg	Sg	23 57 10.8	0.0
KAN14	**Manchester OK**	**0.22**	**319**	Pg	Pg	23 57 11.8	-0.1
KAN14				Sg	Sg	23 57 14.7	-0.1
KAN17	**Caldwell West**	**0.26**	**3**	Pg	Pg	23 57 12.2	-0.3
CROK	**Carrier**	**0.33**	**210**		Pg	23 57 14.7	+0.8
CROK				Sg	Sg	23 57 19.8	+1.6
KAN05	**Bluff City Nor**	**0.33**	**347**	Pg	Pg	23 57 13.5	-0.4
KAN05				Sg	Sg	23 57 17.8	-0.4
KAN13	**South Haven SW**	**0.33**	**47**	Pg	Pg	23 57 13.7	-0.3
KAN13				Sg	Sg	23 57 17.9	-0.4
KAN01	**Argonia South**	**0.36**	**3**	Pg	Pg	23 57 14.2	-0.5
KAN10	**Anthony SW Sta**	**0.42**	**323**	Pg	Pg	23 57 15.4	-0.2
KAN10				Sg	Sg	23 57 20.9	-0.2
BLOK	**Blackwell**	**0.46**	**93**	Pg	Pg	23 57 16.2	-0.1
KAN06	**Argonia West S**	**0.46**	**352**	Pg	Pg	23 57 16.1	-0.4
KAN08	**Anthony NE Sta**	**0.46**	**341**	Pg	Pg	23 57 16.1	-0.4
KAN08				Sg	Sg	23 57 22.5	0.0
KAN16	**Harper NW Stat**	**0.49**	**333**	Pg	Pg	23 57 16.6	-0.5
KAN16				Sg	Sg	23 57 23.1	-0.3
KAN12	**Harper NE Stat**	**0.54**	**341**	Pg	Pg	23 57 18.1	+0.3
OK035	**E0210 Rd and N**	**0.75**	**264**		Pg	23 57 21.9	-0.1
T35A	**Sooner Cattle**	**1.03**	**83**		Pg	23 57 26.4	-0.8
QUOK	**Quay**	**1.06**	**125**		Pg	23 57 27.6	-0.4
U32A	**Winter Ranch,**	**1.06**	**248**	Pg	Pg	23 57 27.4	-0.6
OK031	**S. Brethren Rd**	**1.13**	**137**		Pg	23 57 28.9	-0.4
BCOK	**Bluff Creek, N**	**1.14**	**173**	Pg	Pg	23 57 29.2	-0.2
OK025	**Westminster Rd**	**1.26**	**163**		Pg	23 57 31.2	-0.5
OKCFA	**Oklahoma City**	**1.40**	**169**		Pn	23 57 33.8	-0.1
OKCFA				IAmb_Lg		23 57 54.9	
	comp=Z,99nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**1.41**	**168**	Pn	Pn	23 57 33.8	-0.3
FNO	**Franklin**	**1.56**	**168**	Pn	Pn	23 57 36.1	0.0
R32A	**Long Quarter,**	**1.79**	**336**		Pn	23 57 39.5	+0.2
W35A	**Tecumseh**	**1.79**	**155**	IAmb_Lg		23 58 09.3	
	comp=Z,82nm,0.7s						
TUL1	**Leonard**	**1.83**	**118**	Pn	Pn	23 57 39.9	+0.1
X34A	**Smith Ranch, M**	**2.18**	**181**	Pn	Pn	23 57 45.6	+1.0
X34A				IAmb_Lg		23 58 22.6	
	comp=Z,54nm,0.7s						
WMOK	**Wichita Mounta**	**2.20**	**202**	IAmb_Lg		23 58 19.9	
	comp=Z,52nm,0.8s						
KSU1	**Kansas State U**	**2.49**	**22**	Pn	Pn	23 57 48.9	+0.1
CBKS	**Cedar Bluff**	**2.55**	**323**	Pn	Pn	23 57 49.6	-0.1
U38A	**Gravette**	**2.75**	**96**	Pn	Pn	23 57 52.6	+0.1
LOOK	**Love County**	**2.83**	**170**	Pn	Pn	23 57 53.9	+0.3
X37A	**Clayton**	**2.94**	**138**	Pn	Pn	23 57 55.5	+0.4
X37A				IAmb_Lg		23 58 42.9	
	comp=Z,59nm,0.8s						
HHAR	**Hobbs**	**3.13**	**98**		Pn	23 57 58.2	+0.4
Z35A	**Perchaven, San**	**3.48**	**173**	Pn	Pn	23 58 02.8	+0.4
W39A	**Magazine**	**3.61**	**115**	Pn	Pn	23 58 05.4	+1.1
W39A				IAmb_Lg		23 59 06.6	
	comp=Z,64nm,0.7s						
S39A	**Bolivar**	**3.67**	**74**	Pn	Pn	23 58 04.7	-0.4
AMTX	**Amarillo**	**3.69**	**240**	IAmb_Lg		23 59 11.4	
	comp=Z,41nm,0.8s						
N33A	**J Bar K, Exete**	**3.95**	**4**	Pn	Pn	23 58 08.7	-0.3
U40A	**Yellville**	**3.99**	**95**	Pn	Pn	23 58 09.5	0.0
U40A				IAmb_Lg		23 59 13.5	
	comp=Z,38nm,0.8s						
MIAR	**Mount Ida**	**4.09**	**122**	Pn	Pn	23 58 10.9	0.0
MIAR				IAmb_Lg		23 59 23.7	
	comp=Z,33nm,0.8s						
Z38A	**Mt. Pleasant**	**4.20**	**146**	Pn	Pn	23 58 13.1	+0.6
Z38A				IAmb_Lg		23 59 31.2	
	comp=Z,54nm,0.8s						
P38A	**Dawn**	**4.38**	**48**	Pn	Pn	23 58 15.0	+0.1
P38A				IAmb_Lg		23 59 25.2	
	comp=Z,31nm,0.7s						
N35A	**Tabor**	**4.40**	**22**	Pn	Pn	23 58 15.1	0.0
KSCO	**Kaye Shedlock'**	**4.43**	**302**	Pn	Pn	23 58 16.3	+0.6
KSCO				IAmb_Lg		23 59 33.5	
	comp=Z,44nm,0.7s						
ABTX	**Abilene, Hawle**	**4.43**	**201**	Pn	Pn	23 58 16.6	+1.0
ABTX				IAmb_Lg		23 59 29.3	
	comp=Z,29nm,1.1s						
MGMO	**Mountain Grove**	**4.43**	**84**	Pn	Pn	23 58 15.4	-0.1
MGMO				IAmb_Lg		23 59 28.1	
	comp=Z,28nm,0.7s						
BGNE	**Belgrade**	**4.62**	**357**	Pn	Pn	23 58 17.3	-0.9
BGNE				IAmb_Lg		23 59 42.4	
	comp=Z,49nm,0.8s						
R40A	**Maddies Statio**	**4.63**	**69**	Pn	Pn	23 58 18.0	-0.3
R40A				IAmb_Lg		23 59 35.0	
	comp=Z,25nm,0.8s						
X40A	**Basin Creek Fa**	**4.64**	**118**	Pn	Pn	23 58 18.3	-0.1
X40A				IAmb_Lg		23 59 43.4	
	comp=Z,21nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.66**	**99**	Pn	Pn	23 58 19.9	+1.3
WHAR	**Wooly Hollow**	**4.70**	**107**	Pn	Pn	23 58 19.2	0.0
WHAR				IAmb_Lg		23 59 39.3	
	comp=Z,35nm,0.9s						
W41B	**Gary Mavity, V**	**4.77**	**108**	Pn	Pn	23 58 19.6	-0.6
W41B				IAmb_Lg		23 59 40.4	
	comp=Z,22nm,0.7s						
WHTX	**Lake Whitney,**	**4.79**	**177**	Pn	Pn	23 58 20.7	+0.1
WLAR	**White Oak Lake**	**4.92**	**128**	IAmb_Lg		23 59 50.0	
	comp=Z,26nm,0.9s						
P40A	**Paris**	**5.28**	**57**	IAmb_Lg		23 59 57.6	
	comp=Z,31nm,0.8s						
L34A	**Svendsen Farm,**	**5.28**	**11**	IAmb_Lg		23 59 56.7	
	comp=Z,37nm,0.8s						
OGNE	**Ogallala**	**5.31**	**323**	Pn	Pn	23 58 27.0	-0.8
N38A	**Joes South For**	**5.35**	**40**	Pn	Pn	23 58 26.9	-1.3
CCM	**Cathedral Cave**	**5.36**	**74**	Pn	Pn	23 58 27.3	-0.9
CCM				IAmb_Lg		00 00 00.5	
	comp=Z,33nm,0.9s						
T42A	**Van Buren**	**5.37**	**85**	Pn	Pn	23 58 29.1	+0.7
LCAR	**Lake Charles**	**5.39**	**96**	Pn	Pn	23 58 29.0	+0.2
Z41A	**Richland Creek**	**5.39**	**129**	IAmb_Lg		00 00 09.8	
	comp=Z,25nm,0.8s						
PBMO	**Poplar Bluff**	**5.90**	**88**	IAmb_Lg		00 00 25.1	
	comp=Z,19nm,0.8s						
Q24A	**Divide**	**6.22**	**293**	IAmb_Lg		00 00 28.6	
	comp=Z,17nm,0.8s						
SDCO	**Great Sand Dun**	**6.23**	**281**	Pn	Pn	23 58 41.5	+1.0
JCT	**Junction City**	**6.51**	**196**	IAmb_Lg		00 00 52.8	
	comp=Z,16nm,0.8s						
N41A	**Harden Midland**	**6.68**	**52**	IAmb_Lg		00 00 38.6	
	comp=Z,31nm,0.9s						
ISCO	**Idaho Springs**	**6.85**	**298**	Pn	Pn	23 58 48.7	-0.4
S44A	**Carbondale**	**6.86**	**80**	Pn	Pn	23 58 48.3	-0.6
S44A				IAmb_Lg		00 00 55.0	
	comp=Z,20nm,0.8s						
ECSD	**EROS Data Cent**	**6.99**	**7**	Pn	Pn	23 58 49.0	-1.8
L40A	**Anamosa**	**7.31**	**42**	Pn	Pn	23 58 53.7	-1.5
L40A				IAmb_Lg		00 00 57.6	
	comp=Z,26nm,0.8s						
T45A	**Paducah**	**7.33**	**85**	IAmb_Lg		00 01 16.7	
	comp=Z,22nm,0.8s						
HDIL	**Hopedale**	**7.63**	**58**	Pn	Pn	23 58 59.6	+0.1
SUSD	**Miller**	**7.70**	**354**	IAmb_Lg		00 01 19.5	
	comp=Z,15nm,0.8s						
O44A	**Mansfield**	**8.04**	**62**	IAmb_Lg		00 01 38.6	
	comp=Z,22nm,0.8s						
MNTX	**Cornudas Mount**	**8.08**	**233**	Pn	Pn	23 59 06.2	+0.4
JFWS	**Jewell Farm**	**8.42**	**41**	IAmb_Lg		00 01 35.8	
	comp=Z,18nm,0.7s						
RSSD	**Black Hills**	**8.73**	**329**	Pn	Pn	23 59 15.2	+0.3
K22A	**Casper**	**8.92**	**314**	IAmb_Lg		00 02 03.3	
	comp=Z,14nm,0.8s						

*SOME **20** 00:06:21.5, 39°.68N×74°.20E, h15km*
*KRNET **20** 00:06:22.3±0.1, 39°.71N×74°.32E, h14km, mb3.3*
*NNC **20** 00:06:26.8±1.7, 39°.89N×74°.21E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=14.1km s-min=8.4km az=155.0*

ISC 20 00:06:22.7±1.5, 39°.78N±0°.05×74°.22E±0°.03, h11km±11km, n43, σ2s10/71, 25C-20D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.60**	**293**	⇑*eP*	**Pn**	**00 06 36.2**	**-1.2**
	baz=96						
SFK				⇑*eS*	**Sn**	**00 06 46.0**	**-1.2**
	baz=96						
SALK	**Salom-Alik**	**1.14**	**345**	⇑*eP*	**Pg**	**00 06 45.7**	**+1.1**
	baz=42						
SALK				⇑*eS*	**Sg**	**00 07 03.2**	**+3.7**
	baz=42						
OHH	**Osh**	**1.32**	**305**	⇑*iP*	**Pg**	**00 06 49.3**	**+1.1**
	baz=5.0						
OHH				⇑*iS*	**Sg**	**00 07 09.3**	**+3.9**
	baz=5.0						
DRK	**Karamyk**	**1.89**	**262**	⇓*iP*	**Pg**	**00 06 58.9**	**-0.1**
	baz=64						
DRK				⇓*iS*	**Sg**	**00 07 25.4**	**+1.9**
	baz=64						
ARLS	**Aral**	**2.08**	**2**	⇓*iP*	**Pb**	**00 07 01.4**	**+0.8**
	baz=0.0						
ARLS				⇓*iS*	**Sg**	**00 07 30.2**	**+0.6**
	baz=0.0						
UCH	**Uchtor**	**2.45**	**5**	⇑*eP*	**Pb**	**00 07 06.9**	**-0.3**
	baz=3.0						
UCH				⇑*iS*	**Sb**	**00 07 39.3**	**+1.7**
	baz=3.0						
BTK	**Batken**	**2.63**	**277**	⇑*iP*	**Pb**	**00 07 09.4**	**-0.5**
	baz=78						
BTK				⇑*iS*	**Sg**	**00 07 44.1**	**-3.1**
	baz=78						
ARK	**Arkit**	**2.64**	**320**	⇑*iP*	**Pb**	**00 07 10.0**	**-0.2**
	baz=20						
ARK				⇑*iS*	**Sb**	**00 07 44.8**	**+2.1**
	baz=20						
AAK	**Ala-Archa**	**2.86**	**4**	⇓Pn	**Pb**	**00 07 13.8**	**-0.1**
	22nm,0.5s						
AAK				⇓Lg	Lg	00 07 55.1	
	30nm,0.8s						
AAK	**Ala-Archa**	**2.86**	**4**	⇓*iP*	**Pb**	**00 07 12.5**	**-1.4**
	baz=3.0						
AAK				⇓*iS*	**Sb**	**00 07 49.1**	**+0.1**
	baz=3.0						
EKS2	**Erkin-Say**	**2.90**	**354**	⇑*eP*	**Pb**	**00 07 13.2**	**-1.3**
	baz=52						
EKS2				⇑*iS*	**Sb**	**00 07 50.3**	**+0.3**
	baz=52						
ULHL	**Ulahol**	**2.90**	**31**	⇑*eP*	**Pb**	**00 07 12.4**	**-2.2**
	baz=29						
ULHL				⇑*iS*	**Sb**	**00 07 48.9**	**-1.3**
	baz=29						
TRKS	**Terek-Say**	**2.92**	**308**	⇑*iP*	**Pb**	**00 07 13.1**	**-1.8**
	baz=7.0						
TRKS				⇑*iS*	**Sb**	**00 07 50.0**	**-0.7**
	baz=7.0						
KBK	**Karagaybulak**	**2.92**	**11**	⇓*eP*	**Pb**	**00 07 13.3**	**-1.7**
	baz=9.0						
KBK				⇓*iS*	**Sb**	**00 07 50.4**	**-0.5**
	baz=9.0						
MNAS	**Manas**	**3.00**	**335**	⇓*iP*	**Pb**	**00 07 14.8**	**-1.4**
	baz=34						
MNAS				⇓*iS*	**Sb**	**00 07 53.1**	**+0.2**
	baz=34						
BOOM	**Boomskoye usch**	**3.00**	**25**	⇑*eP*	**Pb**	**00 07 14.0**	**-2.3**
	baz=23						
BOOM				⇑*iS*	**Sb**	**00 07 51.9**	**-1.2**
	baz=23						
FRU1	**Bishkek**	**3.04**	**6**	⇓*iP*	**Pb**	**00 07 15.2**	**-1.7**
	baz=4.0						
FRU1				⇓*iS*	**Sb**	**00 07 53.8**	**-0.3**
	baz=4.0						
MRKS	**Merke**	**3.05**	**346**	*eP*	**Pg**	**00 07 20.9**	**-0.4**
	16nm,0.6s						
MRKS				*eS*	**Sg**	**00 08 02.7**	**+1.9**
	29nm,0.5s						
MRKS	**Merke**	**3.05**	**346**	Pg	**Pg**	**00 07 20.3**	**-0.9**
	16nm,0.6s						
MRKS				Lg	Lg	00 08 02.4	
	29nm,0.5s						
TKM2	**Tokmak 2**	**3.30**	**18**	⇓Pn	**Pb**	**00 07 20.2**	**-1.2**
	3.4nm,0.6s						
TKM2				⇑Lg	Lg	00 08 09.5	
	12nm,0.8s						
TKM2	**Tokmak 2**	**3.30**	**18**	⇓*iP*	**Pb**	**00 07 18.3**	**-3.2**
	baz=16						
TKM2				⇓*iS*	**Sb**	**00 07 59.3**	**-2.5**
	baz=16						
TARG	**Taragay, Kyrgy**	**3.35**	**53**	⇑*eP*	**Pn**	**00 07 18.0**	**+2.6**
	baz=52						
TARG				⇑*iS*	**Sn**	**00 07 58.9**	**+3.5**
	baz=52						
USP	**Ospenovka**	**3.49**	**3**	⇓*iP*	**Pb**	**00 07 21.3**	**-3.2**
	baz=2.0						
USP				⇓*iS*	**Sb**	**00 08 04.2**	**-2.8**
	baz=2.0						
KST	**Kastek**	**3.51**	**21**	*eP*	**Pb**	**00 07 26.6**	**+1.6**
	6.9nm,0.3s						
KST				*eS*	**Sb**	**00 08 12.8**	**+5.0**
	26nm,0.6s						
KST	**Kastek**	**3.51**	**21**	Pg	**Pb**	**00 07 26.6**	**+1.6**
	9.7nm,0.7s						
KST				Lg	Lg	00 08 12.8	
	26nm,0.6s						
MTBS	**Maitube**	**3.74**	**26**	*eP*	**Pb**	**00 07 31.5**	**+2.8**
	7.6nm,0.6s						
MTBS				*eS*	**Sg**	**00 08 21.5**	**-1.1**
	9.1nm,0.6s						
MTBS	**Maitube**	**3.74**	**26**	Pg	**Pb**	**00 07 31.6**	**+2.8**
	7.7nm,0.9s						
MTBS				Lg	Lg	00 08 21.5	
	9.0nm,0.7s						
TNSS	**Tian-Shan**	**3.85**	**31**	*eP*	**Pg**	**00 07 35.1**	**-1.3**
	7.7nm,0.4s						
TNSS				*eS*	**Sg**	**00 08 27.4**	**+1.2**
	4.4nm,0.6s						
TNSS	**Tian-Shan**	**3.85**	**31**	Pg	**Pg**	**00 07 35.1**	**-1.3**
	7.7nm,0.4s						
TNSS				Lg	Lg	00 08 27.4	
	4.4nm,0.6s						
MDOK	**Medeo**	**3.99**	**31**	*eP*	**Pg**	**00 07 37.4**	**-1.8**
	14nm,0.6s						
MDOK				*eS*	**Sg**	**00 08 31.8**	**+0.9**
	6.8nm,0.8s						
MDOK	**Medeo**	**3.99**	**31**	Lg	Lg	00 08 30.5	
	14nm,0.9s						
MDOK	**Medeo**	**3.99**	**31**	Pg	**Pg**	**00 07 37.4**	**-1.8**
	14nm,0.6s						
MDOK				Lg	Lg	00 08 31.8	
	6.8nm,0.8s						
KRBS	**Karabastau**	**4.06**	**15**	*eP*	**Pg**	**00 07 38.7**	**-1.8**
	3.2nm,0.6s						
KRBS				*eS*	**Sg**	**00 08 33.8**	**+0.8**
	5.5nm,0.7s						
KRBS	**Karabastau**	**4.06**	**15**	Pg	**Pg**	**00 07 38.7**	**-1.8**
	3.2nm,0.6s						
KRBS				Lg	Lg	00 08 33.8	
	5.5nm,0.7s						
KK01	**Karatay Array**	**4.34**	**321**	⇓Pn	Pn	00 07 32.7	+4.1
	1.7nm,0.7s,baz=133,slow=12						
KK01				⇑Pg	**Pg**	**00 07 42.5**	**-3.3**
	2.5nm,0.7s						
KK01				⇑Lg	Lg	00 08 42.5	
	7.2nm,0.7s,baz=138,slow=29						
KTBS	**Karatobe**	**4.34**	**24**	*eP*	**Pg**	**00 07 43.6**	**-2.2**
	3.6nm,0.6s						
KTBS				*eS*	**Sg**	**00 08 42.5**	**+0.5**
	11nm,0.8s						
KTBS	**Karatobe**	**4.34**	**24**	Pg	**Pg**	**00 07 43.6**	**-2.2**
	3.6nm,0.6s						
KTBS				Lg	Lg	00 08 42.5	
	11nm,0.8s						
BRLS	**Borolday**	**4.62**	**316**	*eP*	**Pb**	**00 07 46.5**	**+2.7**
	3.2nm,0.7s						
BRLS				*eS*	**Sg**	**00 08 47.0**	**-4.1**
	4.5nm,0.4s						
BRLS	**Borolday**	**4.62**	**316**	Pg	**Pb**	**00 07 46.5**	**+2.7**
	3.2nm,0.7s						
BRLS				Lg	Lg	00 08 47.0	
	4.5nm,0.4s						
ARXS	**Arharly**	**5.18**	**30**	*eP*	**Pg**	**00 07 58.8**	**-3.1**
	4.7nm,0.8s						
ARXS				*eS*	**Sg**	**00 09 07.9**	**-1.1**
	10.0nm,0.4s						
ARXS	**Arharly**	**5.18**	**30**	Pg	**Pg**	**00 07 58.8**	**-3.1**
	4.7nm,0.8s						
ARXS				Lg	Lg	00 09 07.9	
	10.0nm,0.4s						
BTLS	**Baital**	**5.26**	**359**	*eP*	**Pg**	**00 08 01.6**	**-1.8**
	1.8nm,0.5s						
BTLS				*eS*	**Sg**	**00 09 13.8**	**+2.3**
	3.1nm,0.7s						
BTLS	**Baital**	**5.26**	**359**	Pg	**Pg**	**00 08 01.6**	**-1.8**
	1.8nm,0.5s						
BTLS				Lg	Lg	00 09 13.7	
	3.1nm,0.7s						

IDC 20 00:07:26.5±2.0, 3°.82N×126°.95E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/68, Error ellipse: s-maj=172.3km s-min=25.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.35**	**137**	LR	LR	00 11 43.7	
	comp=Z,86nm,20.6s,baz=141,slow=40						
WRA	**Warramunga Arr**	**24.70**	**163**	P	P	00 12 49.1	-0.4
	1.6nm,0.8s,baz=343,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.15**	**166**	P	P	00 13 21.9	+1.3
	0.3nm,0.9s,baz=342,slow=11,SNR=2.3						
STKA	**Stephens Creek**	**38.13**	**160**	P	P	00 14 46.8	-0.7
	1.1nm,0.5s,baz=315,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	00 17 18.3	-0.1
	0.5nm,0.6s,baz=126,slow=7.3,SNR=5.7						

*NEIC **20** 00:09:44.8±2.6, 56°.56S±0°.09×28°.2W±0°.3, h144km±9km, mb4.0/10, Error ellipse: s-maj=27.4km s-min=5.8km az=62.0*
*IDC **20** 00:09:50.3±18.0, 56°.31S×27°.83W, h203km±164km, mb3.6/3, mb1 3.8/3, mb1mx3.2/17, mbtmp4.0/3, Error ellipse: s-maj=99.3km s-min=26.1km az=59.0*

ISC 20 00:09:44.2±1.2, 56°.4S±0°.2×28°.1W±0°.2, h150km, n20, σ1s33/20, mb4.0/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.26**	**290**	Pn	**Pn**	**00 11 00.4**	**-0.6**
VNA3	**Neumayer Olymp**	**16.81**	**159**	P	**Pn**	**00 13 31.8**	**+1.4**
VNA2	**Neumayer--Watz**	**17.04**	**157**	P	**Pn**	**00 13 33.9**	**+0.8**
	baz=316,slow=12						
SNAA	**Sanae**	**18.61**	**155**	P	**Pn**	**00 13 50.7**	**-1.1**
SNAA	**Sanae**	**18.61**	**155**	P	**Pn**	**00 13 50.5**	**-1.3**
SNAA		

LKD2	**Lefkada island**	**0.14**	**11**	P	**Pn**	**00 26 04.2**	**-0.9**
LKD2				S	**Sb**	**00 26 06.9**	**+0.1**
	2μm,0.3s						
TSLK	**Tsoukalades, L**	**0.17**	**8**	P	**Pn**	**00 26 04.9**	**-0.6**
TSLK				S	**Sb**	**00 26 08.2**	**+0.9**
	2μm,0.4s						
FSK	**Fiskardo**	**0.20**	**194**	P	**Pn**	**00 26 05.5**	**-0.3**
FSK				S	**Sb**	**00 26 08.4**	**+0.7**
	1μm,0.3s						
KEF4	**Livadi, Kephal**	**0.42**	**202**	P	**Pn**	**00 26 09.0**	**+0.1**
KEF4				S	**Sn**	**00 26 15.6**	**-0.3**
	4μm,0.2s						
VLS	**Valsamata**	**0.47**	**183**	P	**Pn**	**00 26 09.8**	**+0.2**
VLS				S	**Sn**	**00 26 17.4**	**+0.2**
	570nm,0.2s						
KEF3	**Kipouria, Keph**	**0.50**	**206**	P	**Pn**	**00 26 09.6**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.54**	**183**	P	**Pn**	**00 26 10.6**	**+0.1**
IGT	**Igoumenitsa**	**0.91**	**346**	P	**Pn**	**00 26 17.2**	**+1.6**
STON	**Ston**	**4.76**	**333**	*e*Pn	**Pn**	**00 27 10.5**	**+1.9**
STON				Sn	**Sn**	**00 28 01.0**	**-2.0**
LSTV	**Lastovo**	**5.00**	**327**	*e*Pn	**Pn**	**00 27 12.9**	**+1.1**
LSTV				Sn	**Sn**	**00 28 06.9**	**-1.8**
MAKA	**Makarska**	**5.37**	**331**	*e*Pn	**Pn**	**00 27 18.2**	**+1.2**
MAKA				Sn	**Sn**	**00 28 16.7**	**-1.3**
RICI	**Ricice**	**5.51**	**333**	*e*Pn	**Pn**	**00 27 20.7**	**+1.9**
RICI				Sn	**Sn**	**00 28 20.5**	**-0.9**
HVAR	**Hvar**	**5.52**	**326**	*e*Pn	**Pn**	**00 27 20.4**	**+1.4**
HVAR				Sn	**Sn**	**00 28 20.4**	**-1.2**
KIJV	**Kijevo**	**6.22**	**331**	*e*Pn	**Pn**	**00 27 30.1**	**+1.5**
KIJV				Sn	**Sn**	**00 28 36.9**	**-1.9**
MORI	**Morici**	**6.39**	**326**	*e*Pn	**Pn**	**00 27 33.0**	**+2.1**
MORI				Sn	**Sn**	**00 28 40.9**	**-2.1**

NNC 20 00:33:15.7±7.8, 37°.01N×70°.34E, h0km, mb3.6, mpv3.4, 4C-3D, Error ellipse: s-maj=64.0km s-min=48.8km az=161.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK01	**Karatay Array**	**6.09**	**1**	⇑Pn	Pn	00 34 49.5	+2.4
	1.6nm,0.7s,baz=173,slow=12						
KK01				⇑Sn	Sn	00 35 59.3	+1.8
	2.0nm,0.6s,baz=185,slow=23						
AAK	**Ala-Archa**	**6.47**	**28**	⇓Pn	Pn	00 34 52.8	+0.4
	1.4nm,0.7s						
AAK				⇑Sn	Sn	00 36 08.8	+1.8
	3.0nm,0.8s						
TKM2	**Tokmak 2**	**7.16**	**33**	⇓Pn	Pn	00 35 01.8	0.0
	3.6nm,0.6s						
TKM2				⇓Sn	Sn	00 36 22.7	-1.2
	8.0nm,1.4s						
AB31	**Akbulak array**	**14.39**	**332**	⇑Pn	Pn	00 36 35.0	-5.5
	0.1nm,0.4s,baz=156,slow=10,SNR=5.1						

*NEIC **20** 00:49:52.9±2.1, 17°.7S±0°.2×178°.9W±0°.1, h558km±9km, mb4.2/27, Error ellipse: s-maj=24.1km s-min=17.6km az=159.0*
*IDC **20** 00:49:54.4±1.4, 17°.48S×179°.05W, h569km±9km, mb3.3/8, mb1 3.5/10, mb1mx3.3/36, mbtmp4.2/10, Error ellipse: s-maj=54.1km s-min=15.7km az=150.0*
ISC 20 00:49:51.4±0.7, 17°.7S±0°.1×178°.8W±0°.1, h539km, n43, σ1°58/45, mb4.2/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.05**	**269**	P	**P**	**00 51 09.1**	**+3.2**
	16nm,0.3s,baz=118,slow=4.9,SNR=124						
MSVF				S	**S**	**00 52 12.0**	**+5.4**
	baz=291,slow=22,SNR=12						
MSVF	**Nonsavu**	**3.05**	**269**	P	**P**	**00 51 08.8**	**+2.9**
DZM	**Mont Dzumac**	**14.59**	**250**	P	**P**	**00 52 55.9**	**-1.0**
	0.3nm,0.3s,baz=72,slow=20,SNR=3.8						
DZM	**Mont Dzumac**	**14.59**	**250**	P	**P**	**00 52 56.3**	**-0.6**
OUZ	**Omahuta**	**18.73**	**200**	P	**P**	**00 53 39.3**	**+3.0**
URZ	**Urewera**	**20.80**	**189**	P	**P**	**00 53 52.8**	**-2.3**
BKZ	**Black Stump Fm**	**21.79**	**190**	P	**P**	**00 54 03.0**	**-1.0**
BKZ				IAmb	IAmb	00 54 18.6	
	comp=Z,8.3nm,1.2s						
QRZ	**Quartz Range**	**24.24**	**196**	P	**P**	**00 54 27.5**	**+1.6**
KHZ	**Kahutara**	**25.50**	**193**	P	**P**	**00 54 35.1**	**-1.8**
FOZ	**Fox Glacier**	**27.51**	**198**	P	**P**	**00 54 54.3**	**-0.3**
WKZ	**Wanaka**	**28.93**	**198**	P	**P**	**00 55 06.0**	**-1.0**
EIDS	**Eidsvold**	**29.03**	**250**	P	**P**	**00 55 07.7**	**-0.5**
EIDS				IAmb	IAmb	00 55 08.3	
	comp=Z,5.5nm,0.8s						
MLZ	**Mavora Lakes**	**29.69**	**199**	P	**P**	**00 55 14.0**	**+0.4**
MLZ				IAmb	IAmb	00 55 42.4	
	comp=Z,11nm,1.1s						
ARMA	**Armidale**	**29.77**	**239**	P	**P**	**00 55 15.3**	**+0.8**
ARMA				IAmb	IAmb	00 55 16.2	
	comp=Z,6.3nm,0.6s						
COEN	**Coen**	**36.78**	**270**	P	**P**	**00 56 12.4**	**-1.4**
COEN				IAmb	IAmb	00 56 37.6	
	comp=Z,7.0nm,1.1s						
TOO	**Toolangi**	**37.05**	**230**	P	**P**	**00 56 16.8**	**+1.0**
TOO				IAmb	IAmb	00 56 17.4	
	comp=Z,9.9nm,0.9s						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**00 56 27.4**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=82,slow=9.8,SNR=13						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**00 56 27.4**	**+0.2**
BBOO	**Buckleboo**	**43.22**	**241**	P	**P**	**00 57 05.0**	**-0.2**
BBOO				IAmb	IAmb	00 57 06.2	
	comp=Z,13nm,0.9s						
WB0	**Warramunga Arr**	**44.32**	**260**	P	**P**	**00 57 12.4**	**-1.5**
WB0				IAmb	IAmb	00 57 13.1	
	comp=Z,4.6nm,1.1s						
WB2	**Warramunga Arr**	**44.34**	**259**	P	**P**	**00 57 12.4**	**-1.6**
WB2				IAmb	IAmb	00 57 13.4	
	comp=Z,3.5nm,0.8s						
WRA	**Warramunga Arr**	**44.35**	**259**	P	**P**	**00 57 12.5**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=95,slow=8.1,SNR=31						
WRA				PcP	**PcP**	**00 58 45.6**	**-0.9**
	comp=Z,0.9nm,1.0s,baz=79,slow=4.3,SNR=2.6						
WRA	**Warramunga Arr**	**44.35**	**259**	P	**P**	**00 57 12.2**	**-2.0**
AS31	**Alice Springs**	**44.53**	**254**	P	**P**	**00 57 14.7**	**-0.8**
AS31				IAmb	IAmb	00 57 15.8	
	comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**00 57 14.8**	**-0.8**
	comp=Z,17nm,0.6s,baz=86,slow=8.4,SNR=198						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**00 57 14.9**	**-0.6**
FORT	**Forrest**	**49.80**	**244**	P	**P**	**00 57 54.1**	**-0.9**
KNRA	**Kununurra**	**50.19**	**264**	P	**P**	**00 57 55.5**	**-2.5**
KNRA				IAmb	IAmb	00 57 57.8	
	comp=Z,9.8nm,0.8s						
SIJI	**Sorong**	**51.87**	**283**	P	**P**	**00 58 08.8**	**-1.6**
	comp=Z,8.7nm,0.5s,baz=65,slow=7.9,SNR=4.7						
PSA00	**Pilbara Seismi**	**57.65**	**255**	P	**P**	**00 58 50.3**	**-0.4**
PSA00				IAmb	IAmb	00 58 58.3	
	comp=Z,9.0nm,1.1s						
MORW	**Morawa**	**60.27**	**246**	P	**P**	**00 59 07.9**	**-0.2**
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**	**01 01 02.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=233,slow=5.5,SNR=3.0						
O18K	**Koktuh Hills**	**79.61**	**12**	P	**P**	**01 01 02.2**	**-0.1**
O18K				IAmb	IAmb	01 01 29.6	
	comp=Z,3.4nm,0.8s						
KVN	**Kaiserville**	**79.97**	**44**	P	**P**	**01 01 05.8**	**+0.9**
N25K	**Chitina, Valde**	**83.59**	**16**	P	**P**	**01 01 22.8**	**+0.1**
N25K				IAmb	IAmb	01 01 49.5	
	comp=Z,6.4nm,1.1s						
TRF	**Thorofare Moun**	**83.88**	**12**	P	**P**	**01 01 23.6**	**-0.7**
DHY	**Denali Highway**	**84.17**	**14**	P	**P**	**01 01 25.3**	**-0.3**
DHY				IAmb	IAmb	01 01 48.3	
	comp=Z,4.5nm,1.2s						
ILAR	**Eielson Array**	**85.76**	**13**	P	**P**	**01 01 32.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=227,slow=5.3,SNR=7.2						
ILAR	**Eielson Array**	**85.76**	**13**	P	**P**	**01 01 31.7**	**-1.4**
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**01 01 36.8**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=219,slow=6.0,SNR=7.6						
PDAR	**Pinedale Array**	**87.42**	**44**	P	**P**	**01 01 42.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=209,slow=3.4,SNR=4.8						
PDAR	**Pinedale Array**	**87.42**	**44**	P	**P**	**01 01 42.5**	**+0.6**
GERES	**GERESS Array B**	**147.32**	**345**	PKPbc	**PKPbc**	**01 08 34.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=349,slow=1.5,SNR=2.6						

IDC 20 00:51:19.8±1.9, 19°.05S×173°.91E, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/36, mbtmp4.3/4, ML5.1/1, Error ellipse: s-maj=136.0km s-min=30.4km az=163.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.14**	**72**	Pn	Pn	00 52 24.4	0.0
	4.3nm,0.3s,baz=332,slow=23,SNR=5.5						
STKA	**Stephens Creek**	**37.72**	**240**	P	P	00 57 46.3	+0.8
	1.6nm,0.5s,baz=91,slow=10.0,SNR=4.0						
WRA	**Warramunga Arr**	**37.26**	**262**	P	P	00 58 32.8	-0.8
	0.7nm,0.3s,baz=97,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**37.46**	**256**	P	P	00 58 35.2	0.0
	6.7nm,0.5s,baz=90,slow=8.0,SNR=23						

*DJA **20** 00:59:36.4±0.6, 3°.N±5°.×12°.7E±°, h55km±29km, M4.2/7, mb4.2/4, mB5.0/2, MLv4.2/7, Mw(mB)4.3/2*
*IDC **20** 00:59:37.1±3.8, 2°.90N×127°.47E, h93km±38km, mb3.4/7, mb1 3.6/8, mb1mx3.3/48, mbtmp3.8/8, MS2.6/1, Ms1 2.6/1, ms1mx2.3/32, Error ellipse: s-maj=53.7km s-min=16.7km az=69.0*
*MAN **20** 01:00:16.9, 5°.93N×125°.95E, h93km, mb4.3, ML3.1, MS2.9*
ISC 20 00:59:33.4±0.8, 3°.13N±0°.07×127°.58E±0°.08, h49km, n18, σ2°56/20, mb3.6/7, 4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.12**	**285**	P	**Pn**	**01 00 08.3**	**+1.9**
SGSI				S	**Sn**	**01 00 32.9**	**+1.3**
TNTI	**Ternate**	**2.35**	**185**	P	**Pn**	**01 00 13.0**	**+3.5**
DDMP	**Don Marcelino,**	**3.50**	**328**	⇓*e*P	**Pn**	**01 00 27.2**	**+2.0**
MATI	**Mati**	**4.02**	**341**	⇓*e*P	Pn	01 00 37.7	+5.3
KCP	**Kidapawan**	**4.58**	**327**	⇓*e*P	**Pn**	**01 00 43.4**	**+3.2**
GTOI	**Gorontalo**	**5.20**	**242**	P	**Pn**	**01 00 51.4**	**+2.8**
	0.0nm8.1nm,1.1s						
SANI	**Sanana**	**5.38**	**197**	P	**Pn**	**01 00 53.6**	**+2.4**
	0.2nm2μm16nm,0.5s						
SWI	**Sorong**	**5.41**	**137**	P	**Pn**	**01 00 54.7**	**+3.2**
	0.1nm37nm,0.6s						
SIJI	**Sorong**	**5.42**	**137**	P	**Pn**	**01 00 54.9**	**+3.2**
	10nm,0.3s,baz=339,slow=22,SNR=12						
SIJI				S	**Sn**	**01 01 54.8**	**+2.1**
	2.9nm,0.3s,baz=218,slow=23,SNR=6.5						
PAGZ	**Pagadian**	**6.28**	**318**	⇓*e*P	**Pn**	**01 01 05.9**	**+2.4**
KAPI	**Kappang**	**11.25**	**224**	LR	LR	01 07 31.8	
	comp=Z,31nm,19.0s,baz=114,slow=43						
FITZ	**Fitzroy Crossi**	**21.18**	**185**	P	**P**	**01 04 12.6**	**-2.2**
	0.7nm,0.3s,baz=12,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**23.87**	**164**	P	**P**	**01 04 39.8**	**-2.7**
	1.1nm,0.5s,baz=343,slow=10.0,SNR=18						
WRA				PcP	**PcP**	**01 08 22.6**	**-2.0**
	0.7nm,1.2s,baz=342,slow=2.3,SNR=2.4						
ASAR	**Alice Springs**	**27.34**	**167**	P	**P**	**01 05 11.9**	**-2.0**
	0.4nm,0.3s,baz=339,slow=9.7,SNR=7.3						
ASAR				PcP	**PcP**	**01 08 30.4**	**-2.0**
	0.4nm,0.4s,baz=353,slow=2.5,SNR=5.5						
STKA	**Stephens Creek**	**37.27**	**160**	P	**P**	**01 06 38.2**	**-2.5**
	1.6nm,0.4s,baz=331,slow=10,SNR=6.2						
SONM	**Songino Array**	**48.14**	**341**	P	**P**	**01 08 10.6**	**+1.9**
	0.4nm,0.7s,baz=159,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**58.53**	**325**	P	**P**	**01 09 24.1**	**-0.8**
	0.4nm,0.5s,baz=116,slow=7.9,SNR=11						
KURBB	**Kurchatov Arra**	**62.70**	**327**	P	**P**	**01 09 52.2**	**-1.0**
	0.5nm,0.5s,baz=123,slow=6.8,SNR=1.9						

BJI 20 01:04:59.6±0.0, 35°.74N×115°.45E, h6km, mb4.0/1, ML4.0/19, 2C-1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.44**	**70**	⇓Pg	Pn	01 05 26.1	-0.1
TIA				Sg	Sn	01 05 45.5	+0.1
TIA				smax	smax		
	comp=N,3μm,0.7s						
TIA				smax	smax		
	comp=E,1μm,0.7s						
HNS	**HongShan**	**1.76**	**340**	⇑Pn	Pn	01 05 29.8	-0.8
HNS				Pg	Pb	01 05 31.4	-0.9
HNS				Sg	Sn	01 05 52.6	-0.7
HNS				smax	smax		
	comp=N,3μm,0.8s						
HNS				smax	smax		
	comp=E,3μm,0.8s						
LYN	**LuoYang**	**2.72**	**245**	⇑Pn	Pn	01 05 43.8	0.0
LYN				Pg	Pb	01 05 48.9	+0.3
LYN				Sn	Sn	01 06 16.3	-0.6
LYN				Sg	Sb	01 06 23.9	+1.7
LYN				smax	smax		
	comp=N,1μm,0.5s						
LYN				smax	smax		
	comp=E,340nm,0.7s						
BJI	**Beijing**	**4.33**	**7**	Pn	Pn	01 06 05.3	-0.7
BJI				Pg	Pg	01 06 20.5	-2.1
BJI				Sn	Sn	01 06 56.4	-0.4
BJI				Sg	Sg	01 07 20.8	+2.1
NJ2	**Nanjing**	**4.64**	**141**	*e*Pn	Pn	01 06 10.3	+0.1
NJ2				Pg	Pg	01 06 27.4	-1.1
NJ2				Sn	Sn	01 07 05.3	+0.9
NJ2				Sg	Sg	01 07 23.3	-5.4
NJ2				smax	smax		
	comp=N,110nm,0.5s						
NJ2				smax	smax		
	comp=E,140nm,0.5s						
WHN	**Wuhan**	**5.26**	**190**	Pn	Pn	01 06 18.3	-0.5
WHN				Pg	Pg	01 06 37.5	-2.9
WHN				Sg	Sb	01 07 41.4	+5.9
WHN				smax	smax		
	comp=N,340nm,0.7s						
WHN				smax	smax		
	comp=E,270nm,0.9s						
XAN	**Xi'an**	**5.63**	**254**	Pn	Pn	01 06 23.3	-0.6
XAN				Sn	Sn	01 07 32.8	+4.0
XAN				Sg	Sg	01 08 00.9	+0.6
XAN				smax	smax		
	comp=N,97nm,0.8s						
XAN				smax	smax		
	comp=E,75nm,0.7s						
BTO	**Baotou**	**6.47**	**320**	*e*Pg	Pb	01 06 49.8	-2.8
BTO				Sg	Sg	01 08 22.0	-5.3
BTO				smax	smax		
	comp=N,190nm,0.6s						
BTO				smax	smax		
	comp=E,260nm,0.8s						
GTA	**Gaotai**	**12.93**	**291**	*e*P	Pn	01 08 02.0	-2.0
GTA				pP		01 08 05.1	
GTA				sP		01 08 07.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				smax	smax		
	comp=N,13nm,1.5s						
GTA				smax	smax		
	comp=N,7.0nm,1.6s						
WMQ	**Urumqi**	**22.73**	**299**	*e*P	P	01 10 05.5	+3.2

*ANF **20** 01:06:06.4±0.2, 61°.46N×146°.57W, h33km±2km, ML3.7/55, Error ellipse: s-maj=2.2km s-min=1.6km az=177.0*
*AEIC **20** 01:06:06±1.4, 61°.43N±0°.02×146°.56W±0°.05, h38km±8km, ML3.4, ML3.5/150(NEIC), Error ellipse: s-maj=3.5km s-min=2.4km az=102.0*
*NEIC **20** 01:06:06.2±1.2, 61°.45N±0°.02×146°.58W±0°.04, h33km±6km, Error ellipse: s-maj=2.9km s-min=2.5km az=108.0*
ISC 20 01:06:06.3±1.0, 61°.45N±0°.02×146°.59W±0°.02, h33km±2km, n190, σ0°62/215, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLU	**Klutina**	**0.32**	**82**		**Pn**	**01 06 14.6**	**0.0**
KLU					**Sb**	**01 06 21.0**	**+1.1**
KLU				IAML		01 06 21.5	
	comp=N,8μm,0.4s						
KLU	**Klutina**	**0.32**	**82**	P	**Pn**	**01 06 14.7**	**0.0**
	baz=259,SNR=604						
KLU				S	**Sb**	**01 06 21.1**	**+1.1**
	baz=259						
VMT	**TAPS TI Valdez**	**0.38**	**164**		**Pb**	**01 06 15.0**	**-0.1**
VMT					**Sn**	**01 06 21.8**	**+0.3**
JPK	**Jack Peak**	**0.40**	**181**		**Pb**	**01 06 15.3**	**-0.1**
DIV	**Divide**	**0.51**	**129**		**Sn**	**01 06 24.6**	**-0.3**
DIV	**Divide**	**0.51**	**129**		**Pb**	**01 06 16.4**	**-0.7**
SCM	**Sheep Creek Mo**	**0.52**	**318**		**Pb**	**01 06 17.0**	**-0.3**
SCM				Sn	**Sn**	**01 06 25.3**	**+0.1**
SCM	**Sheep Creek Mo**	**0.52**	**318**	P	**Pb**	**01 06 17.0**	**-0.3**
	baz=138,SNR=254						
SCM				S	**Sn**	**01 06 25.5**	**+0.3**
	baz=138						
GLI	**Glacier Island**	**0.62**	**204**		**Pn**	**01 06 18.1**	**-0.6**
GLI				Sn	**Sn**	**01 06 27.8**	**+0.2**
GLI				IAML		01 06 29.0	
	comp=E,2μm,0.6s						
GLI				IAML		01 06 29.0	
	comp=N,3μm,0.3s						
GLI	**Glacier Island**	**0.62**	**204**	P	**Pn**	**01 06 18.3**	**-0.5**
	baz=24,SNR=24						
GLI				S	**Sn**	**01 06 28.2**	**+0.6**
	baz=24						
M24K	**Tolsona, Glenn**	**0.69**	**16**		**Pn**	**01 06 19.4**	**-0.4**
M24K				Sn	**Sn**	**01 06 30.4**	**+1.1**
M24K				IAML		01 06 31.1	
	comp=N,3μm,0.6s						
M24K	**Tolsona, Glenn**	**0.69**	**16**	P	**Pn**	**01 06 19.6**	**-0.2**
	baz=196,SNR=138						
PS12	**TAPS Pump St12**	**0.69**	**87**		**Pn**	**01 06 18.9**	**-0.8**
PS12					**Sn**	**01 06 29.2**	**-0.1**
FID	**Port Fidalgo**	**0.70**	**176**		**Pn**	**01 06 19.8**	**-0.1**
FID				Sn	**Sb**	**01 06 30.6**	**+1.0**
FID				IAML		01 06 31.3	
	comp=N,2μm,0.6s						
FID				IAML		01 06 32.5	
	comp=E,2μm,0.5s						
PS11	**TAPS Pump St11**	**0.82**	**39**		**Pb**	**01 06 21.8**	**-0.5**
KNK	**Knik Glacier**	**0.90**	**269**	Pn	**Pn**	**01 06 22.4**	**-0.3**
KNK				Sn	**Sn**	**01 06 34.8**	**+0.3**
KNK	**Knik Glacier**	**0.90**	**269**	P	**Pn**	**01 06 22.6**	**0.0**
	baz=88,SNR=337						
KNK				S	**Sb**	**01 06 35.2**	**0.0**
	baz=88						
SML	**Sawmill**	**0.91**	**294**		**Pn**	**01 06 22.1**	**-0.7**
SML				Sn	**Sn**	**01 06 34.3**	**-0.4**
SML				IAML		01 06 35.7	
	comp=N,2μm,0.8s						
SML				IAML		01 06 36.8	
	comp=E,1μm,0.7s						
SML	**Sawmill**	**0.91**	**294**	P	**Pn**	**01 06 22.1**	**-0.7**
	baz=113,SNR=217						
SML				S	**Sn**	**01 06 34.5**	**-0.2**
	baz=113						
N25K	**Chitina, Valde**	**0.97**	**80**		**Pn**	**01 06 23.0**	**-0.6**
N25K				Sn	**Sn**	**01 06 35.6**	**-0.5**
N25K				IAML		01 06 37.0	
	comp=E,1μm,0.5s						
N25K				IAML		01 06 40.0	
	comp=N,1μm,0.5s						
N25K	**Chitina, Valde**	**0.97**	**80**	P	**Pn**	**01 06 23.0**	**-0.6**
	baz=260,SNR=166						
N25K				S	**Sn**	**01 06 35.9**	**-0.3**
	baz=260						
EYAK	**Cordova Ski Ar**	**0.99**	**155**	Pn	**Pn**	**01 06 24.1**	**+0.3**
EYAK	**Cordova Ski Ar**	**0.99**	**155**	P	**Pn**	**01 06 24.0**	**+0.1**
	baz=336,SNR=158						
PWL	**Port Wells**	**1.03**	**236**		**Pn**	**01 06 24.3**	**-0.2**
PWL				IAML		01 06 39.5	
	comp=E,1μm,0.7s						
PWL				IAML		01 06 41.6	
	comp=N,937nm,0.4s						
PWL	**Port Wells**	**1.03**	**236**	P	**Pn**	**01 06 24.3**	**-0.2**
	baz=55,SNR=37						
BMRM	**Bremner River**	**1.07**	**116**		**Pn**	**01 06 24.1**	**-0.9**
BMRM					**Sn**	**01 06 39.2**	**+0.4**
BMRM				IAML		01 06 40.4	
	comp=E,1μm,0.4s						
BMRM				IAML		01 06 40.8	
	comp=N,1μm,0.4s						
BMRM	**Bremner River**	**1.07**	**116**	P	**Pn**	**01 06 24.2**	**-0.9**
	baz=297,SNR=278						
GHO	**Glory Hole Cre**	**1.16**	**287**		**Pn**	**01 06 26.1**	**-0.2**
HARP	**HAARP**	**1.17**	**35**		**Pn**	**01 06 26.5**	**+0.2**
HARP					**Sb**	**01 06 43.2**	**+0.4**
HARP	**HAARP**	**1.17**	**35**	P	**Pn**	**01 06 26.5**	**+0.2**
	baz=215,SNR=107						
PMR	**Palmer**	**1.23**	**278**		**Pn**	**01 06 27.1**	**+0.1**
PMR				IAML		01 06 45.6	
	comp=N,828nm,0.4s						
PMR	**Palmer**	**1.23**	**278**	P	**Pn**	**01 06 27.1**	**+0.1**
	baz=96,SNR=365						
WAT6	**Susitna Watana**	**1.26**	**335**		**Pn**	**01 06 26.9**	**-0.8**
WAT6	**Susitna Watana**	**1.26**	**335**	P	**Pn**	**01 06 27.0**	**-0.8**
	baz=154,SNR=130						
WAT6				S	**Sn**	**01 06 43.4**	**-0.2**
	baz=154						
GLB	**Gilahina Butte**	**1.33**	**89**		**Pn**	**01 06 28.3**	**-0.3**
GLB					**Sn**	**01 06 45.1**	**-0.1**
GLB				IAML		01 06 47.2	
	comp=N,987nm,0.8s						
GLB				IAML		01 06 48.1	
	comp=E,610nm,0.3s						
RAGM	**Ragged Mountai**	**1.42**	**138**	Pn	**Pn**	**01 06 29.8**	**+0.1**
VRDI	**Verde Repeater**	**1.53**	**97**	Pn	**Pn**	**01 06 30.7**	**-0.7**
VRDI				IAML		01 06 52.8	
	comp=N,486nm,0.5s						
RC01	**Rabbit Creek A**	**1.56**	**258**	Pn	**Pn**	**01 06 32.1**	**+0.5**
RC01					**Sn**	**01 06 51.8**	**+1.0**
RC01				IAML		01 06 54.8	
	comp=E,699nm,0.5s						
RC01	**Rabbit Creek A**	**1.56**	**258**	P	**Pn**	**01 06 32.2**	**+0.5**
	baz=76,SNR=96						
HMT	**Hamilton**	**1.59**	**133**	Pn	**Pn**	**01 06 31.6**	**-0.5**
PAX	**Paxson**	**1.61**	**18**	Pn	**Pn**	**01 06 32.0**	**-0.5**
PAX	**Paxson**	**1.61**	**18**	P	**Pn**	**01 06 32.6**	**+0.1**
	baz=199,SNR=69						
DHY	**Denali Highway**	**1.67**	**348**		**Pn**	**01 06 33.4**	**+0.1**
DHY				Sn	**Sn**	**01 06 53.5**	**-0.2**
DHY				IAML		01 06 55.4	
	comp=E,554nm,0.5s						
DHY				IAML		01 06 55.6	
	comp=N,428nm,0.3s						
DHY	**Denali Highway**	**1.67**	**348**	P	**Pn**	**01 06 33.5**	**+0.1**
	baz=167,SNR=133						
MCARA	**McCarthy VSAT**	**1.71**	**91**	Pn	**Pn**	**01 06 33.8**	**0.0**
MCARA	**McCarthy VSAT**	**1.71**	**91**	P	**Pn**	**01 06 33.6**	**-0.2**
	baz=273,SNR=60						
M22K	**Willow**	**1.72**	**282**		**Pn**	**01 06 34.1**	**+0.3**
M22K	**Willow**	**1.72**	**282**	P	**Pn**	**01 06 34.2**	**+0.5**
	baz=99						
M22K				S	**Sb**	**01 06 56.9**	**-1.5**
	baz=99						
WAT7	**Susitna Watana**	**1.75**	**324**		**Pn**	**01 06 34.5**	**+0.2**
BERG	**Berg Lake**	**1.76**	**126**	Pn	**Pn**	**01

L26K	**Log Cabin Wild**	**2.19**	**42**	Pn	**Pn**	**01 06 41.5**	**+1.1**
L26K				IAML		01 07 22.1	
	comp=E,287nm,0.4s						
L26K	**Log Cabin Wild**	**2.19**	**42**	P	**Pn**	**01 06 41.7**	**+1.3**
	baz=225,SNR=35						
RND	**Reindeer**	**2.23**	**333**		**Pn**	**01 06 41.3**	**+0.4**
RND				IAML		01 07 13.3	
	comp=N,411nm,0.6s						
RND				IAML		01 07 19.4	
	comp=E,277nm,0.5s						
ISLE	**Juniper Island**	**2.23**	**110**		**Pn**	**01 06 40.6**	**-0.5**
ISLE				IAML		01 07 17.9	
	comp=E,324nm,0.5s						
ISLE				IAML		01 07 29.8	
	comp=N,316nm,1.0s						
SNH	**Sunshine Point**	**2.23**	**123**	Pn	**Pn**	**01 06 40.8**	**-0.2**
SNH				IAML		01 07 21.3	
	comp=E,222nm,0.5s						
CAPN	**Captain Cook N**	**2.32**	**255**	Pn	**Pn**	**01 06 43.2**	**+1.2**
BAGL	**Bagley Icefiel**	**2.40**	**112**		**Pn**	**01 06 42.8**	**-0.3**
M27K	**Edge Creek, AK**	**2.41**	**66**	Pn	**Pn**	**01 06 43.5**	**0.0**
M27K	**Edge Creek, AK**	**2.41**	**66**	P	**Pn**	**01 06 44.2**	**+0.7**
	baz=249						
BARN	**Barnard Glacie**	**2.41**	**97**	Pn	**Pn**	**01 06 43.0**	**-0.6**
BARN				IAML		01 07 23.9	
	comp=E,194nm,0.5s						
BARN				IAML		01 07 27.4	
	comp=N,243nm,0.7s						
RIDG	**Independent Ri**	**2.44**	**19**	Pn	**Pn**	**01 06 44.8**	**+1.0**
RIDG				IAML		01 07 30.3	
	comp=E,302nm,0.8s						
RIDG	**Independent Ri**	**2.44**	**19**	P	**Pn**	**01 06 44.5**	**+0.8**
	baz=200,SNR=53						
GRNC	**Granite Creek**	**2.46**	**105**	Pn	**Pn**	**01 06 43.2**	**-0.9**
GRNC				IAML		01 07 21.7	
	comp=N,237nm,0.5s						
DOT	**Dot Lake**	**2.50**	**27**	Pn	**Pn**	**01 06 45.1**	**+0.5**
MCK	**McKinley**	**2.54**	**336**	Pn	**Pn**	**01 06 44.6**	**-0.5**
MCK				IAML		01 07 23.9	
	comp=E,232nm,0.7s						
MCK				IAML		01 07 32.5	
	comp=N,205nm,1.1s						
MCK	**McKinley**	**2.54**	**336**	P	**Pn**	**01 06 45.8**	**+0.7**
	baz=154,SNR=53						
CTG	**Chitna Glacier**	**2.58**	**99**	P	**Pn**	**01 06 45.8**	**-0.1**
	baz=283,SNR=26						
CTGM	**Chitina Glacie**	**2.59**	**99**	Pn	**Pn**	**01 06 45.9**	**-0.1**
CTGM				IAML		01 07 26.6	
	comp=N,165nm,0.4s						
YAH	**Yahtse**	**2.60**	**113**	Pn	**Pn**	**01 06 45.5**	**-0.7**
YAH				IAML		01 07 29.7	
	comp=E,149nm,0.6s						
YAH				IAML		01 07 30.2	
	comp=N,237nm,0.6s						
MESA	**MESA**	**2.60**	**117**	Pn	**Pn**	**01 06 46.1**	**-0.1**
MESA	**MESA**	**2.60**	**117**	P	**Pn**	**01 06 45.9**	**-0.3**
	baz=301						
MESA				S	**Sn**	**01 07 17.4**	**+0.6**
	baz=301						
SPCG	**Spurr Capps Gl**	**2.62**	**269**		**Pn**	**01 06 47.0**	**+0.7**
TRF	**Thorofare Moun**	**2.65**	**321**		**Pn**	**01 06 47.0**	**+0.3**
TRF				IAML		01 07 20.5	
	comp=E,250nm,0.7s						
TRF				IAML		01 07 26.4	
	comp=N,236nm,0.6s						
TRF	**Thorofare Moun**	**2.65**	**321**	P	**Pn**	**01 06 47.0**	**+0.3**
	baz=138,SNR=36						
SPU	**Mount Spurr**	**2.65**	**267**	Pn	**Pn**	**01 06 47.5**	**+0.8**
BRSE	**Bradley Lake S**	**2.67**	**232**		**Pn**	**01 06 46.7**	**-0.3**
BRSE	**Bradley Lake S**	**2.67**	**232**	P	**Pn**	**01 06 46.8**	**-0.1**
	baz=49,SNR=6.9						
SPCP	**Crater Peak Br**	**2.69**	**269**		**Pn**	**01 06 47.6**	**+0.3**
BRLK	**Bradley Lake**	**2.71**	**233**	Pn	**Pn**	**01 06 47.3**	**-0.2**
BRLK				IAML		01 07 35.1	
	comp=N,125nm,0.7s						
L27K	**Beaver Creek,**	**2.75**	**52**	Pn	**Pn**	**01 06 48.0**	**0.0**
L27K	**Beaver Creek,**	**2.75**	**52**	P	**Pn**	**01 06 48.5**	**+0.4**
	baz=236						
YUK2	**White River**	**2.77**	**80**		**Pn**	**01 06 48.8**	**+0.4**
BC03		**2.77**	**52**		**Pn**	**01 06 48.9**	**+0.7**
BCAR	**Beaver Creek A**	**2.77**	**52**	Pn	**Pn**	**01 06 48.8**	**+0.4**
LOGN	**Logan Glacier**	**2.78**	**101**	Pn	**Pn**	**01 06 48.0**	**-0.6**
LOGN				IAML		01 07 36.4	
	comp=N,121nm,0.7s						
SCRK	**Sand Creek**	**2.81**	**24**	Pn	**Pn**	**01 06 49.3**	**+0.4**
SCRK	**Sand Creek**	**2.81**	**24**	P	**Pn**	**01 06 49.5**	**+0.6**
	baz=206,SNR=24						
TABL	**Table Mountain**	**2.84**	**108**	Pn	**Pn**	**01 06 48.6**	**-0.9**
BVCY	**Beaver Creek**	**2.88**	**68**		**Pn**	**01 06 50.6**	**+0.8**
BVCY	**Beaver Creek**	**2.88**	**68**	P	**Pn**	**01 06 50.5**	**+0.7**
	baz=252,SNR=10						
KTH	**Kantishna Hill**	**2.92**	**318**	Pn	**Pn**	**01 06 50.7**	**+0.4**
KTH				IAML		01 07 38.9	
	comp=N,211nm,0.9s						
KTH				IAML		01 07 44.4	
	comp=E,155nm,0.7s						
YUK3	**Moose Creek**	**2.94**	**81**		**Pn**	**01 06 51.0**	**+0.1**
YUK3	**Moose Creek**	**2.94**	**81**	P	**Pn**	**01 06 50.8**	**-0.1**
	baz=266,SNR=14						
HDA	**Harding Lake**	**2.98**	**357**	Pn	**Pn**	**01 06 50.9**	**-0.2**
HDA	**Harding Lake**	**2.98**	**357**	P	**Pn**	**01 06 50.9**	**-0.2**
	baz=176,SNR=42						
PPLA	**Purkeypile**	**3.00**	**301**	Pn	**Pn**	**01 06 51.8**	**+0.2**
PPLA	**Purkeypile**	**3.00**	**301**	P	**Pn**	**01 06 51.5**	**-0.1**
	baz=117,SNR=73						
CNPM	**China Poot**	**3.00**	**232**	Pn	**Pn**	**01 06 51.4**	**-0.1**
CNPM				IAML		01 07 47.0	
	comp=E,126nm,0.8s						
BWN	**Browne**	**3.04**	**335**	Pn	**Pn**	**01 06 50.9**	**-1.0**
DFR	**Drift River**	**3.09**	**257**		**Pn**	**01 06 52.2**	**-0.6**
PS08	**TAPS Pump Stn8**	**3.11**	**358**		**Pn**	**01 06 52.5**	**-0.4**
WRH	**Wood River Hil**	**3.11**	**348**	Pn	**Pn**	**01 06 52.4**	**-0.6**
WRH				IAML		01 07 44.5	
	comp=E,110nm,1.1s						
SAMH	**Samovar Hills**	**3.14**	**112**		**Pn**	**01 06 53.9**	**+0.4**
RSO	**Redoubt South**	**3.17**	**254**	Pn	**Pn**	**01 06 53.2**	**-0.7**
RDWB	**Redoubt West**	**3.20**	**255**		**Pn**	**01 06 54.6**	**+0.3**
NCT	**North Crescent**	**3.21**	**257**		**Pn**	**01 06 54.0**	**-0.5**
J25K	**Salcha River,**	**3.22**	**9**	Pn	**Pn**	**01 06 54.2**	**-0.4**
J25K	**Salcha River,**	**3.22**	**9**	P	**Pn**	**01 06 54.3**	**-0.4**
	baz=190						
CAST	**Castle Rocks**	**3.23**	**310**	Pn	**Pn**	**01 06 54.2**	**-0.5**
CAST				IAML		01 07 47.0	
	comp=N,173nm,0.8s						
CAST	**Castle Rocks**	**3.23**	**310**	P	**Pn**	**01 06 54.5**	**-0.1**
	baz=125,SNR=18						
CCB	**Clear Creek Bu**	**3.26**	**351**		**Pn**	**01 06 54.6**	**-0.3**
O20K	**Slope Mountain**	**3.26**	**248**	P	**Pn**	**01 06 55.2**	**+0.1**
	baz=63						
IL31		**3.34**	**358**	Pn	**Pn**	**01 06 54.8**	**-1.2**
ILAR	**Eielson Array**	**3.34**	**358**	Pn	**Pn**	**01 06 54.9**	**-1.1**
BPAW	**Bear Paw Mtn.**	**3.34**	**325**	Pn	**Pn**	**01 06 55.6**	**-0.6**
BPAW				IAML		01 07 50.6	
	comp=E,137nm,1.1s						
BPAW	**Bear Paw Mtn.**	**3.34**	**325**	P	**Pn**	**01 06 56.0**	**-0.1**
	baz=141,SNR=5.4						
NEA2	**Nenana**	**3.35**	**341**	Pn	**Pn**	**01 06 55.0**	**-1.3**
NEA2				IAML		01 07 57.6	
	comp=E,72nm,0.9s						
NEA2	**Nenana**	**3.35**	**341**	P	**Pn**	**01 06 55.9**	**-0.4**
	baz=159,SNR=8.6						
J26L	**Joseph Creek**	**3.36**	**23**	Pn	**Pn**	**01 06 56.8**	**+0.3**
J26L	**Joseph Creek**	**3.36**	**23**	P	**Pn**	**01 06 56.6**	**+0.2**
	baz=205						
PCA	**Pinnacle**	**3.39**	**111**	Pn	**Pn**	**01 06 57.1**	**+0.3**
PINM	**Pinnacle**	**3.39**	**111**	P	**Pn**	**01 06 57.2**	**+0.3**
	baz=296,SNR=5.7						
COLA	**College**	**3.49**	**351**	Pn	**Pn**	**01 06 58.2**	**+0.1**
COLA	**College**	**3.49**	**351**	P	**Pn**	**01 06 58.1**	**0.0**
	baz=170						
L20K	**Farewell, AK**	**3.59**	**290**	P	**Pn**	**01 06 58.9**	**-0.7**
	baz=104						
CHUM	**Lake Minchumin**	**3.60**	**315**	P	**Pn**	**01 06 59.5**	**-0.1**
	baz=130						
MDM	**Murphy Dome**	**3.60**	**349**		**Pn**	**01 06 59.2**	**-0.5**
POKR	**Poker Plat Res**	**3.70**	**354**	Pn	**Pn**	**01 07 00.3**	**-0.8**
POKR	**Poker Plat Res**	**3.70**	**354**	P	**Pn**	**01 07 00.4**	**-0.8**
	baz=174						
M19K	**Big River Lodg**	**3.75**	**280**	Pn	**Pn**	**01 07 03.5**	**+1.8**
M19K				IAML		01 08 02.6	
	comp=N,53nm,0.7s						
M19K				IAML		01 08 07.4	
	comp=E,61nm,0.8s						
M19K	**Big River Lodg**	**3.75**	**280**	P	**Pn**	**01 07 01.6**	**-0.1**
	baz=94						
I23K	**Minto, Yukon-K**	**3.92**	**343**	Pn	**Pn**	**01 07 03.0**	**-1.0**
I23K				IAML		01 08 08.4	
	comp=E,64nm,0.8s						
I23K				IAML		01 08 10.6	
	comp=N,78nm,0.7s						
I23K	**Minto, Yukon-K**	**3.92**	**343**	P	**Pn**	**01 07 03.7**	**-0.3**
	baz=160						
K20K	**Telida**	**3.97**	**302**	Pn	**Pn**	**01 07 03.9**	**-0.9**
K20K				IAML		01 08 11.5	
	comp=N,55nm,0.7s						
K20K	**Telida**	**3.97**	**302**	P	**Pn**	**01 07 04.1**	**-0.7**
	baz=116,SNR=10						
L19K	**White Mountain**	**3.99**	**284**	Pn	**Pn**	**01 07 04.7**	**-0.4**
L19K				IAML		01 08 14.9	
	comp=E,46nm,1.1s						
L19K	**White Mountain**	**3.99**	**284**	P	**Pn**	**01 07 04.4**	**-0.6**
	baz=97,SNR=10.0						
PRP	**Porcupine Dome**	**4.11**	**6**	Pn	**Pn**	**01 07 06.4**	**-0.4**
PRP				IAML		01 08 25.9	
	comp=N,54nm,1.0s						
PRP	**Porcupine Dome**	**4.11**	**6**	P	**Pn**	**01 07 06.3**	**-0.5**
	baz=187						
EGAK	**Eagle**	**4.15**	**34**	Pn	**Pn**	**01 07 07.2**	**0.0**
EGAK				IAML		01 08 22.8	
	comp=N,70nm,0.8s						
EGAK				IAML		01 08 30.9	
	comp=N,48nm,0.9s						
DAWY	**Dawson**	**4.22**	**48**	Pn	**Pn**	**01 07 08.9**	**+0.6**
DAWY	**Dawson**	**4.22**	**48**	P	**Pn**	**01 07 08.5**	**+0.2**
	baz=234						
Q19K	**Cape Douglas,**	**4.34**	**237**	Pn	**Pn**	**01 07 10.1**	**+0.3**
J20K	**Nowinta River**	**4.42**	**312**	Pn	**Pn**	**01 07 09.8**	**-1.1**
J20K				IAML		01 08 27.5	
	comp=E,53nm,0.7s						
J20K				IAML		01 08 31.3	
	comp=N,68nm,1.0s						
J20K	**Nowinta River**	**4.42**	**312**	P	**Pn**	**01 07 10.4**	**-0.5**
	baz=125						
H24K	**Noodor Dome**	**4.44**	**353**	Pn	**Pn**	**01 07 11.7**	**+0.4**
H24K				IAML		01 08 41.7	
	comp=E,32nm,1.2s						
H24K	**Noodor Dome**	**4.44**	**353**	P	**Pn**	**01 07 11.7**	**+0.4**
	baz=172						
I21K	**Tanana**	**4.46**	**329**	Pn	**Pn**	**01 07 10.7**	**-0.8**
I21K				IAML		01 08 31.8	
	comp=E,38nm,1.3s						
I21K				IAML		01 08 34.1	
	comp=N,40nm,1.0s						
I21K	**Tanana**	**4.46**	**329**	P	**Pn**	**01 07 11.3**	**-0.2**
	baz=145						
O18K	**Koktuh Hills**	**4.53**	**253**	Pn	**Pn**	**01 07 10.6**	**-2.0**
O18K				IAML		01 08 33.3	
	comp=N,40nm,1.0s						
TTA	**Tatalina**	**4.66**	**293**	Pn	**Pn**	**01 07 12.9**	**-1.3**
TTA				IAML		01 08 33.8	
	comp=N,27nm,1.0s						
TTA				IAML		01 08 34.3	
	comp=E,31nm,1.4s						
TTA	**Tatalina**	**4.66**	**293**	P	**Pn**	**01 07 13.2**	**-1.1**
	baz=105,SNR=8.8						
H21K	**Melozitna Rive**	**5.05**	**329**	Pn	**Pn**	**01 07 18.7**	**-1.0**
H21K				IAML		01 08 50.5	
	comp=E,35nm,1.1s						
H21K				IAML		01 08 51.1	
	comp=N,28nm,1.6s						
H21K	**Melozitna Rive**	**5.05**	**329**	P	**Pn**	**01 07 19.2**	**-0.5**
	baz=144						
OHAK	**Old Harbor**	**5.45**	**222**	Pn	**Pn**	**01 07 24.2**	**-0.8**
IMAR	**Indian Mountai**	**5.55**	**328**	Pn	**Pn**	**01 07 25.6**	**-0.8**
WHY	**Whitehorse**	**5.74**	**93**	Pn	**Pn**	**01 07 29.0**	**-0.1**
WHY	**Whitehorse**	**5.74**	**93**	P	**Pn**	**01 07 28.7**	**-0.4**
	baz=283						
M31M	**Drury Creek, Y**	**5.83**	**77**	Pn	**Pn**	**01 07 29.9**	**-0.4**
SKAG	**Skagway**	**5.92**	**105**	Pn	**Pn**	**01 07 31.0**	**-0.4**
COLD	**Coldfoot**	**6.01**	**346**	Pn	**Pn**	**01 07 33.7**	**+1.0**
COLD	**Coldfoot**	**6.01**	**346**	P	**Pn**	**01 07 32.7**	**0.0**
	baz=163						
BMAR	**Burnt Mountain**	**6.07**	**7**	Pn	**Pn**	**01 07 35.2**	**+1.6**
P33M	**Teslin, Yukon**	**6.84**	**94**	Pn	**Pn**	**01 07 43.6**	**-0.6**
JIS	**Juneau Island**	**6.92**	**112**	Pn	**Pn**	**01 07 44.6**	**-0.5**
SIT	**Sitka**	**7.26**	**122**	Pn	**Pn**	**01 07 47.9**	**-1.9**
ANM	**Nome**	**9.08**	**298**	Pn	**Pn**	**01 08 16.0**	**+1.1**
TNA	**Tin City**	**10.36**	**303**	Pn	**Pn**	**01 08 32.8**	**+0.5**
C36M	**Paulatuk**	**12.19**	**40**	Pn	**Pn**	**01 08 57.8**	**+0.5**
A36M	**Sachs Harbour**	**13.41**	**29**	Pn	**Pn**	**01 09 13.5**	**-0.3**

IDC 20 01:25:57.7±1.6,**3°94N**×**126°88E**,**h0**km,**mb3.8**/5,
mb1 3.9/5,**mb1mx3.6**/47,**mbtmp3.8**/5,**MS2.9**/1,**Ms1 2.9**/1,
ms1mx2.2/80,**Error ellipse: s-maj=156.7km**
s-min=20.0km az=65.0,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.84**	**163**	P	P	01 31 22.0	0.0
	3.9nm,0.7s,baz=343,slow=10,SNR=29						
ASAR	**Alice Springs**	**28.28**	**166**	P	P	01 31 53.4	+0.2
	0.2nm,0.5s,baz=346,slow=7.3,SNR=1.9						
STKA	**Stephens Creek**	**38.27**	**160**	P	P	01 33 19.7	-0.2
	3.4nm,0.7s,baz=329,slow=11,SNR=9.4						
ASAJ	**Asahikawa**	**42.34**	**17**	LR	LR	01 55 20.6	
	comp=Z,14nm,18.4s,baz=196,slow=42						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	01 35 48.6	0.0
	0.3nm,0.4s,baz=118,slow=7.5,SNR=7.5						
KURBB	**Kurchatov Arra**	**61.64**	**327**	P	P	01 36 17.2	-0.1
	0.3nm,0.4s,baz=127,slow=6.3,SNR=4.4						

*ISK **20** 01:33:42.5,34°77N×25°27E,h17km,ML2.6/3*
*THE **20** 01:33:43.6,34°84N×25°34E,h39km±7km,ML2.6/4,Error ellipse: s-maj=7.8km s-min=1.8km az=336.0*
ISC 20 01:33:43.8±1.5,**34°93N**±0°08×**25°27E**±0°04,**h22**km±9km,
n11,σ0°71/18,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.39**	**284**	P	**Pn**	**01 33 53.4**	**-0.8**
SIVA				S	**Sn**	**01 34 01.2**	**+0.2**
	2μm,0.6s						
HRKL	**Herakleio**	**0.41**	**340**	P	**Pn**	**01 33 53.9**	**-0.6**
HRKL				S	**Sn**	**01 34 02.4**	**+1.0**
	790nm,0.6s						
HRKL	**Herakleio**	**0.41**	**340**	PG	**Pn**	**01 33 53.9**	**-0.6**
HRKL				SG	**Sn**	**01 34 02.5**	**+1.0**
KSTL	**Kastelli Herak**	**0.41**	**336**	P	**Pb**	**01 33 52.0**	**-0.4**
NPS	**Neapolis**	**0.44**	**39**	P	**Pn**	**01 33 54.0**	**-0.9**
TMBK	**Timbaki Herakl**	**0.44**	**290**	P	**Pn**	**01 33 54.0**	**-0.9**
TMBK				S	**Sn**	**01 34 03.0**	**+0.8**
	415nm,0.8s						
IDI	**Anoyia**	**0.48**	**319**	P	**Pb**	**01 33 54.3**	**+0.6**
IDI				S	**Sn**	**01 34 03.3**	**0.0**
	262nm,0.5s						
ZKR	**Zakros**	**0.80**	**76**	PG	**Pn**	**01 33 59.4**	**-0.4**
ZKR				SG	**Sn**	**01 34 11.8**	**+0.8**
GVD	**Gavdhos**	**0.98**	**265**	PG	**Pn**	**01 34 02.1**	**-0.2**
GVD				SG	**Sn**	**01 34 15.8**	**+0.3**
VAM	**Vamos**	**1.00**	**299**	P	**Pb**	**01 34 02.6**	**+0.1**
IMMV	**Iera Moni Meta**	**1.19**	**297**	PN	**Pb**	**01 34 05.9**	**+0.3**

*IDC **20** 01:36:53.1±1.4,36°61N×69°78E,h0km,mb3.5/6,*
mb1 3.7/11,mb1mx3.5/48,mbtmp3.6/11,ML3.3/5,Error ellipse: s-maj=27.0km s-min=22.7km az=109.0
*NNC **20** 01:37:01.9±5.3,37°03N×69°49E,h148km±118km,mb3.1,*
mpv3.9,Error ellipse: s-maj=48.4km s-min=28.9km az=28.0
ISC 20 01:37:03.2±1.1,**37°13N**±0°09×**69°40E**±0°07,**h100**km,**n24**,
σ1°50/28,**mb3.2**/5,**4C-4D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.00**	**32**	P	**Pn**	**01 38 28.9**	**-0.8**
	SNR=9.5						
KK01	**Karatay Array**	**6.03**	**8**	⇓P	**Pn**	**01 38 30.6**	**+0.8**
	2.3nm,0.8s						
KK01				⇓S	**Sn**	**01 39 39.6**	**+2.1**
	3.1nm,0.7s						
UCH	**Uchtor**	**6.44**	**36**	P	**Pn**	**01 38 35.0**	**-0.8**
	SNR=13						
EKS2	**Erkin-Say**	**6.47**	**30**	P	**Pn**	**01 38 35.9**	**0.0**
	SNR=8.3						
AAK	**Ala-Archa**	**6.75**	**34**	Pn	**Pn**	**01 38 39.5**	**-0.3**
	2.9nm,0.3s,baz=160,slow=3.5,SNR=34						
AAK				Sn	**Sn**	**01 39 54.3**	**-1.0**
	baz=15,slow=21,SNR=1.5						
AAK	**Ala-Archa**	**6.75**	**34**	P	**Pn**	**01 38 39.2**	**-0.6**
	SNR=13						
AAK	**Ala-Archa**	**6.75**	**34**	⇑P	**Pn**	**01 38 38.9**	**-0.9**
	3.8nm,0.4s						
AAK				⇓S	**Sn**	**01 39 56.9**	**+1.6**
	5.7nm,0.6s						
KBK	**Karagaybulak**	**6.98**	**36**	P	**Pn**	**01 38 42.5**	**-0.3**
	SNR=7.6						
CHMS	**Chumysh**	**7.16**	**33**	P	**Pn**	**01 38 44.5**	**-0.6**
	SNR=15						
USP	**Ospenovka**	**7.27**	**31**	P	**Pn**	**01 38 45.7**	**-1.0**
	SNR=10						
TKM2	**Tokmak 2**	**7.49**	**37**	P	**Pn**	**01 38 48.9**	**-0.9**
	SNR=6.4						
TKM2	**Tokmak 2**	**7.49**	**37**	⇑P	**Pn**	**01 38 48.6**	**-1.3**
	7.5nm,0.8s						
TKM2				⇓S	**Sn**	**01 40 12.8**	**-0.4**
	3.6nm,0.8s						
MDOK	**Medeo**	**8.40**	**42**	⇑P	**Pn**	**01 39 00.6**	**-1.6**
	5.1nm,0.5s						
GEYT	**Alibeck**	**9.00**	**279**	Pn	**Pn**	**01 39 08.1**	**-2.2**
	0.4nm,0.3s,baz=121,slow=14,SNR=2.0						
GEYT				Sn	**Sn**	**01 40 52.5**	**+2.7**
	0.6nm,0.3s,baz=248,slow=43,SNR=2.5						
MKAR	**Makanchi Array**	**13.59**	**41**	Pn	**Pn**	**01 40 09.9**	**-1.8**
	0.0nm,0.3s,baz=219,slow=13,SNR=7.4						
AB31	**Akbulak array**	**13.93**	**333**	P	**Pn**	**01 40 16.0**	**-0.1**
	0.5nm,0.3s,baz=174,slow=11,SNR=28						
AB31				⇑S	**Sn**	**01 42 48.0**	**-1.4**
	0.7nm,0.6s,baz=159,slow=22,SNR=3.1						
KURBB	**Kurchatov Arra**	**14.99**	**23**	Pn	**Pn**	**01 40 26.6**	**-3.0**
	0.0nm,0.3s,baz=213,slow=9.2,SNR=2.3						
BVAR	**Borovoye Array**	**15.91**	**2**	Pn	**P**	**01 40 42.2**	**-0.6**
	0.3nm,0.3s,baz=153,slow=13,SNR=7.7						
ZALV	**Zalesovo Beam**	**19.91**	**27**	P	**Pn**	**01 41 28.3**	**-0.9**
	1.6nm,0.5s,baz=216,slow=11,SNR=10						
SONM	**Songino Array**	**29.05**	**57**	P	**P**	**01 42 56.9**	**+3.0**
	0.3nm,0.5s,baz=267,slow=8.4,SNR=3.3						
FINES	**FINESS Array B**	**36.25**	**326**	P	P	01 44 02.6	+6.3
	1.8nm,0.9s,baz=122,slow=5.2,SNR=1.8						
YKA	**Yellowknife Ar**	**80.67**	**2**	P	P	01 49 10.9	+6.2
	0.2nm,0.6s,baz=349,slow=5.4,SNR=5.7						
WRA	**Warramunga Arr**	**83.41**	**121**	P	**P**	**01 49 18.8**	**-0.7**
	0.4nm,1.0s,baz=321,slow=5.1,SNR=2.2						
ASAR	**Alice Springs**	**85.67**	**124**	P	**P**	**01 49 31.8**	**+0.9**
	0.2nm,0.7s,baz=317,slow=4.1,SNR=2.4						

*KRNET **20** 02:00:58.7±0.1,39°43N×71°62E,h15km,mb3.3*
*ISU **20** 02:00:59,39°37N×71°57E,h5km*
*NNC **20** 02:01:05.4±3.7,39°75N×71°75E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=35.9km s-min=19.5km az=175.0
ISC 20 02:00:59.4±1.5,**39°40N**±0°06×**71°68E**±0°03,**h3**km±9km,
n33,σ1°84/56,**26C-13D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.13**	**48**	⇓*i*P	**Pg**	**02 01 01.5**	**-0.5**
	baz=69						
DRK				⇓*i*S	**Sg**	**02 01 04.2**	**+0.4**
	baz=69						
BTK	**Batken**	**0.94**	**315**	⇑*i*P	**Pg**	**02 01 15.6**	**-1.8**
	baz=16						
BTK				⇑*i*S	**Sg**	**02 01 28.1**	**-1.4**
	baz=16						
BTK	**Batken**	**0.94**	**315**	*i* P	**Pg**	**02 01 16.0**	**-1.4**
BTK				*i* S	**Sb**	**02 01 31.0**	**-0.3**
FRG	**Fergana**	**0.98**	**5**	*e*P	**Pg**	**02 01 19.0**	**+0.8**
FRG				*e*S	**Sn**	**02 01 34.0**	**-0.7**
OHH	**Osh**	**1.41**	**37**	*e*P	**Pg**	**02 01 28.0**	**+1.5**
OHH				*e*S	**Sg**	**02 01 46.0**	**+1.2**
OHH	**Osh**	**1.41**	**37**	⇑*i*P	**Pn**	**02 01 25.8**	**-0.4**
	baz=39						
OHH				⇑*i*S	**Sn**	**02 01 45.1**	**-0.3**
	baz=39						
SFK	**Sufi-Kurgan**	**1.54**	**66**	⇑*e*P	**Pn**	**02 01 27.9**	**-0.1**
	baz=67						
SFK				⇑*e*S	**Sn**	**02 01 49.6**	**+0.9**
	baz=67						
CHGR	**Chuyangaron**	**2.10**	**250**	⇑*i*P	**Pn**	**02 01 36.9**	**+1.3**
	baz=49						
CHGR				⇑*i*S	**Sn**	**02 02 04.3**	**+2.1**
	baz=49						
TRKS	**Terek-Say**	**2.17**	**349**	⇓*i*P	**Pn**	**02 01 37.1**	**+0.4**
	baz=51						
TRKS				⇓*i*S	**Sn**	**02 02 04.3**	**+0.1**
	baz=51						
SALK	**Salom-Alik**	**2.21**	**47**	⇓*e*P	**Pn**	**02 01 38.6**	**+1.3**
	baz=49						
SALK				⇓*e*S	**Sb**	**02 02 08.6**	**+0.5**
	baz=49						
ARK	**Arkit**	**2.41**	**5**	*e*P	**Pb**	**02 01 44.0**	**+0.5**
ARK				*e*S	**Sg**	**02 02 17.0**	**+0.2**
ARK	**Arkit**	**2.41**	**5**	⇑*e*P	**Pn**	**02 01 41.3**	**+1.4**
	baz=6.0						
ARK				⇑*i*S	**Sb**	**02 02 11.9**	**-1.8**
	baz=6.0						
YBZ	**Yangibazar**	**2.49**	**321**	*e*P	**Pb**	**02 01 46.0**	**+1.2**
YBZ				*e*S	**Sg**	**02 02 24.0**	**+4.7**
CHMG	**Chimgan**	**2.50**	**330**	*e*P	**Pb**	**02 01 46.0**	**+0.9**
CHMG				*e*S	**Sg**	**02 02 20.0**	**+0.3**
YNGY	**Yangiyul**	**2.65**	**311**	*e*P	**Pb**	**02 01 48.0**	**+0.5

*IDC **20** 02:03:43.0±1.2, 5°.88S×150°.07E, h81km±13km, mb3.6/7, mb1 3.8/8, mb1mx3.5/29, mbtmp4.0/8, MS2.9/2, Ms1 2.8/2, ms1mx2.4/45, Error ellipse: s-maj=24.5km s-min=8.5km az=133.0*
*NEIC **20** 02:03:44.7±2.5, 5°.92S±0°.08×150°.27E±0°.04, h98km±10km, mb4.1/14, Error ellipse: s-maj=11.2km s-min=6.4km az=185.0*
ISC 20 02:03:44.7±0.6, **5°.92S**±0°.08×**150°.19E**±0°.07, **h100**km, **n32**, σ1°**14**/35, **mb4.0**/8, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.43**	**49**	P	**Pn**	**02 04 21.4**	**-1.5**
KRVT				S	**Sn**	**02 04 51.7**	**-0.6**
RABL	**Rabaul**	**2.61**	**49**	P	**Pn**	**02 04 23.5**	**-1.8**
PMG	**Port Moresby**	**4.58**	**221**	P	**Pn**	**02 04 51.3**	**-0.5**
	13nm,0.3s,baz=35,slow=6.9,SNR=13						
PMG				S	**Sn**	**02 05 40.6**	**-3.3**
	15nm,0.3s,baz=26,slow=13,SNR=9.4						
PMG				LR	LR	02 06 13.2	
	comp=Z,60nm,19.2s,baz=330,slow=33						
PMG	**Port Moresby**	**4.58**	**221**	Pn	**Pn**	**02 04 51.9**	**+0.1**
MANU	**Manus Island**	**4.77**	**324**	Pn	**Pn**	**02 04 54.7**	**+0.3**
COEN	**Coen**	**10.56**	**220**	Pn	**Pn**	**02 06 11.9**	**-1.2**
CTAO	**Charters Tower**	**14.59**	**195**	P	**P**	**02 07 12.2**	**+2.2**
EIDS	**Eidsvold**	**19.36**	**178**	P	**Pn**	**02 08 04.3**	**-0.2**
EIDS				IAmb	IAmb	02 08 07.3	
	comp=Z,7.2nm,0.9s						
MTN	**Manton Dam**	**20.01**	**249**	P	**P**	**02 08 08.9**	**-0.7**
MTN				IAmb	IAmb	02 08 09.5	
	comp=Z,16nm,0.5s						
WB0	**Warramunga Arr**	**20.62**	**227**	P	**P**	**02 08 16.4**	**+0.1**
WB0				IAmb	IAmb	02 08 38.9	
	comp=Z,8.9nm,1.5s						
WR0	**Warramunga Arr**	**20.64**	**226**	P	**P**	**02 08 16.4**	**0.0**
WRAB	**Tennant Creek**	**20.76**	**226**	P	**P**	**02 08 17.6**	**-0.1**
WRAB				IAmb	IAmb	02 08 21.1	
	comp=Z,6.5nm,0.9s						
WB2	**Warramunga Arr**	**20.77**	**226**	P	**P**	**02 08 17.9**	**+0.1**
WB2				IAmb	IAmb	02 08 24.3	
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**20.77**	**226**	P	**P**	**02 08 18.1**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=50,slow=10,SNR=17						
WRA				S	**S**	**02 12 02.5**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=38,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**20.77**	**226**	P	**P**	**02 08 17.0**	**-0.8**
DZM	**Mont Dzumac**	**22.46**	**137**	P	**P**	**02 08 36.8**	**+0.9**
	comp=Z,5.7nm,0.5s,baz=325,slow=12,SNR=9.9						
DZM	**Mont Dzumac**	**22.46**	**137**	P	**P**	**02 08 36.2**	**+0.4**
DZM				IAmb	IAmb	02 08 38.2	
	comp=Z,21nm,1.3s						
KNRA	**Kununurra**	**23.15**	**244**	P	**P**	**02 08 40.9**	**-1.7**
KNRA				IAmb	IAmb	02 08 45.7	
	comp=Z,6.8nm,0.5s						
AS31	**Alice Springs**	**23.60**	**220**	P	**P**	**02 08 47.4**	**+0.7**
ASAR	**Alice Springs**	**23.60**	**220**	P	**P**	**02 08 47.1**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=51,slow=8.7,SNR=15						
ASAR	**Alice Springs**	**23.60**	**220**	P	**P**	**02 08 47.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**26.84**	**241**	P	**P**	**02 09 15.8**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=50,slow=7.9,SNR=49						
FITZ				PcP	**PcP**	**02 12 37.6**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=44,slow=1.6,SNR=4.1						
STKA	**Stephens Creek**	**27.04**	**196**	LR	LR	02 18 58.5	
	comp=Z,43nm,19.3s,baz=207,slow=34						
TOO	**Toolangi**	**31.79**	**187**	P	**P**	**02 10 00.5**	**+0.8**
TOO				IAmb	IAmb	02 10 16.8	
	comp=Z,5.8nm,1.1s						
FORT	**Forrest**	**32.30**	**217**	P	**P**	**02 10 04.3**	**+0.1**
GIRL	**Giralia**	**38.45**	**241**	P	**P**	**02 10 58.1**	**+1.0**
SONM	**Songino Array**	**65.92**	**329**	P	**P**	**02 14 20.4**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=132,slow=2.1,SNR=4.2						
VNDA	**Vanda**	**71.82**	**177**	P	**P**	**02 14 57.1**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=347,slow=4.6,SNR=2.0						
VNDA	**Vanda**	**71.82**	**177**	P	**P**	**02 14 56.5**	**+0.5**
MKAR	**Makanchi Array**	**79.48**	**320**	P	**P**	**02 15 39.2**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=98,slow=10,SNR=1.7						
MKAR	**Makanchi Array**	**79.48**	**320**	P	**P**	**02 15 38.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**148.14**	**285**	PKPbc	**PKPbc**	**02 23 19.0**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=83,slow=2.8,SNR=4.2						

*ISK **20** 02:15:21.8, 35°.11N×26°.72E, h5km, ML3.0/14*
*DDA **20** 02:15:22.4±0.0, 34°.98N×27°.10E, h7km±1km, ML2.9*
*THE **20** 02:15:22.6, 34°.97N×26°.66E, h0km±2km, ML2.5/4, Error ellipse: s-maj=5.7km s-min=1.1km az=157.0*
*GII **20** 02:15:27.8±0.0, 34°.39N×27°.15E, h2km, Mm3.1/1*
ISC 20 02:15:19.7±1.4, **34°.95N**±0°.05×**26°.76E**±0°.03, **h5**km±11km, **n45**, σ1°**72**/62, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.48**	**290**	P	**Pb**	**02 15 30.8**	**+0.2**
ZKR				S	**Sb**	**02 15 37.5**	**-0.4**
	2μm,0.3s						
ZKR	**Zakros**	**0.48**	**290**	PG	**Pb**	**02 15 30.9**	**+0.3**
ZKR				SG	**Sb**	**02 15 37.8**	**-0.1**
FRMA	**Ierapetra Chan**	**0.85**	**275**	P	**Pg**	**02 15 35.4**	**-0.5**
FRMA				S	**Sg**	**02 15 46.4**	**-0.5**
	315nm,0.4s						
NPS	**Neapolis**	**0.99**	**289**	P	**Pg**	**02 15 39.9**	**+1.2**
NPS				S	**Sn**	**02 15 55.1**	**+0.4**
	555nm,0.7s						
HRKL	**Herakleio**	**1.41**	**285**	PN	**Pg**	**02 15 48.9**	**+2.2**
HRKL				SN	**Sn**	**02 16 08.2**	**+3.3**
KSTL	**Kastelli Herak**	**1.43**	**285**	P	**Pn**	**02 15 43.7**	**-2.6**
KSTL				S	**Sb**	**02 16 00.5**	**-4.8**
	145nm,0.7s						
IDI	**Anoyia**	**1.57**	**283**	P	**Pg**	**02 15 50.6**	**+0.8**
ARG	**Arkhangelos**	**1.68**	**41**	P	**Pg**	**02 15 52.9**	**+1.0**
ARG	**Arkhangelos**	**1.68**	**41**	PN	**Pg**	**02 15 52.4**	**+0.5**
ARG				SN	**Sg**	**02 16 14.4**	**+0.6**
NIS1	**Nisyros Isl.**	**1.68**	**12**	P	**Pg**	**02 15 51.3**	**-0.7**
NIS1	**Nisyros Isl.**	**1.68**	**12**	PN	**Pg**	**02 15 51.3**	**-0.7**
NIS1				SN	**Sg**	**02 16 13.1**	**-0.7**
SANT	**Santorini**	**1.77**	**324**	P	**Pn**	**02 15 51.7**	**+0.7**
SANT	**Santorini**	**1.77**	**324**	PN	**Pg**	**02 15 52.8**	**-0.8**
THR6	**Thira Island,**	**1.79**	**322**	P	**Pg**	**02 15 53.7**	**-0.3**
THR8	**Santorini-Mono**	**1.79**	**325**	P	**Pb**	**02 15 52.0**	**-0.9**
KOSK	**Kos Island**	**1.81**	**6**	PN	**Pg**	**02 15 53.2**	**-1.1**
THR3	**Thira Island,**	**1.83**	**323**	P	**Pb**	**02 15 52.8**	**-0.8**
THR5	**Thira Island,**	**1.86**	**322**	P	**Pb**	**02 15 53.9**	**-0.3**
CMBO	**Columbo, Santo**	**1.88**	**324**	P	**Pg**	**02 15 54.8**	**-0.8**
DAT	**Datca**	**1.90**	**20**	P	**Pb**	**02 15 54.4**	**-0.4**
DAT	**Datca**	**1.90**	**20**	PN	**Pb**	**02 15 54.5**	**-0.4**
DAT	**Datca**	**1.90**	**20**	P	**Pb**	**02 15 54.5**	**-0.4**
DAT				S	**Sb**	**02 16 17.1**	**-1.7**
BODT	**Bodrum**	**2.15**	**12**	P	**Pb**	**02 15 58.3**	**-0.9**
BODT	**Bodrum**	**2.15**	**12**	PN	**Pb**	**02 15 58.1**	**-1.1**
TURN	**Turunc**	**2.18**	**33**	PN	**Pb**	**02 15 58.9**	**-0.8**
TURN	**Turunc**	**2.18**	**33**	P	**Pb**	**02 15 59.7**	**+0.1**
TURN				S	**Sb**	**02 16 26.7**	**-0.3**
GVD	**Gavdhos**	**2.20**	**268**	PN	**Pb**	**02 16 00.9**	**+0.9**
IMMV	**Iera Moni Meta**	**2.33**	**283**	PN	**Pb**	**02 16 01.7**	**-0.5**
YER	**Yerkesik**	**2.50**	**29**	PN	**Pn**	**02 16 03.4**	**+2.3**
FETY	**Fethiye**	**2.53**	**48**	PN	**Pn**	**02 16 04.4**	**+3.0**
FETY	**Fethiye**	**2.53**	**48**	P	**Pn**	**02 16 03.7**	**+2.2**
FETY				S	**Sb**	**02 16 34.8**	**-2.1**
MULA	**Mugla, Merkez-**	**2.62**	**28**	P	**Pb**	**02 16 06.1**	**-1.1**
MULA				S	**Sb**	**02 16 38.9**	**-0.9**
AKAS	**Kas**	**2.65**	**60**	PN	**Pn**	**02 16 04.9**	**+1.7**
AKAS	**Kas**	**2.65**	**60**	P	**Pn**	**02 16 04.7**	**+1.5**
AKAS				S	**Sn**	**02 16 36.5**	**+0.7**
AKAS				*i* AML	AML	02 16 40.0	
	comp=N,60nm,0.7s						
AKAS				*i* AML	AML	02 17 19.0	
	comp=E,46nm,2.0s						
CAEL	**Denizli, Camel**	**3.00**	**43**	P	**Pn**	**02 16 10.8**	**+2.7**
CAEL				S	**Sg**	**02 16 55.9**	**-0.2**
CAEL				*i* AML	AML	02 17 20.0	
	comp=E,72nm,1.4s						
CAEL				*i* AML	AML	02 17 25.0	
	comp=Z,46nm,0.7s						
CAEL				*i* AML	AML	02 17 29.0	
	comp=N,61nm,1.1s						
TAVA	**DENIZLI_Tavas**	**3.06**	**34**	P	**Pn**	**02 16 11.0**	**+2.3**
TAVA				S	**Sn**	**02 16 48.1**	**+2.4**
ELL	**Elmali**	**3.12**	**54**	PN	**Pn**	**02 16 12.6**	**+2.9**
AYDB	**Zeytinkoy-Aydi**	**3.13**	**17**	PN	**Pn**	**02 16 12.0**	**+2.3**
GOLH	**Golhisar**	**3.22**	**44**	P	**Pn**	**02 16 13.7**	**+2.7**
GOLH				S	**Sb**	**02 16 53.8**	**-3.1**
GOLH				*i* AML	AML	02 17 32.0	
	comp=N,40nm,2.1s						
CHOS	**Chios island**	**3.48**	**351**	PN	**Pn**	**02 16 16.2**	**+1.7**
KZIT	**Kziot**	**7.58**	**120**	Pn	**Pn**	**02 17 12.3**	**+1.5**
KRMI	**Paran Flat**	**8.27**	**123**	Pn	**Pn**	**02 17 21.4**	**+1.1**
PRNI	**Paran**	**8.32**	**121**	Pn	**Pn**	**02 17 21.4**	**+0.3**
PRNI				Sn	**Sn**	**02 18 51.4**	**-4.1**
HRFI	**Mount Harif**	**8.53**	**123**	Pn	**Pn**	**02 17 25.6**	**+1.6**
HRFI				Sn	Sn	02 18 55.9	-4.8
MBRI	**Mt Berech**	**8.60**	**124**	Pn	**Pn**	**02 17 26.1**	**+1.2**
MBRI				Sn	Sn	02 18 57.7	-4.6

*TUL **20** 02:27:28.3±1.2, 36°.08N±0°.01×97°.20W±0°.01, h8km±4km, ML2.8, mb_Lg2.4/13(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=111.0*
NEIC 20 02:27:28.2±1.1, **36°.09N**±0°.01×**97°.20W**±0°.01, **h5**km±7km, **Error ellipse: s-maj=1.8km s-min=1.1km az=156.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.32**	**114**		Pg	02 27 34.9	+0.4
OK031				Sg	Sg	02 27 39.4	+0.8
QUOK	**Quay**	**0.41**	**78**	Pg	Pg	02 27 36.5	+0.5
QUOK				Sg	Sg	02 27 42.4	+1.0
OK025	**Westminster Rd**	**0.52**	**193**	Pg	Pg	02 27 38.1	0.0
OK025				Sg	Sg	02 27 45.2	+0.4
BCOK	**Bluff Creek, N**	**0.54**	**218**	Pg	Pg	02 27 38.5	-0.1
BCOK				Sg	Sg	02 27 46.1	+0.4
BLOK	**Blackwell**	**0.67**	**359**	Pg	Pg	02 27 41.4	+0.2
BLOK				Sg	Sg	02 27 50.6	+0.7
OKCFA	**Oklahoma City**	**0.70**	**197**	Pg	Pg	02 27 41.5	-0.2
OKCFA				Sg	Sg	02 27 51.0	+0.3
OKCSW	**OKLAHOMA CITY**	**0.71**	**196**		Pg	02 27 41.4	-0.4
OKCSW				Sg	Sg	02 27 51.1	+0.2
CROK	**Carrier**	**0.76**	**304**	Pg	Pg	02 27 42.7	-0.1
CROK				Sg	Sg	02 27 53.3	+0.6
FNO	**Franklin**	**0.84**	**191**	Pg	Pg	02 27 43.9	-0.5
FNO				Sg	Sg	02 27 55.4	0.0
GC02	**Grant County #**	**0.93**	**325**	Pg	Pg	02 27 45.8	-0.3
KAN13	**South Haven SW**	**0.95**	**346**	Pg	Pg	02 27 46.3	-0.2
KAN13				Sg	Sg	02 27 59.2	+0.3
W35A	**Tecumseh**	**0.97**	**164**	Pg	Pg	02 27 45.6	-1.2
W35A				Sg	Sg	02 27 58.8	-0.5
T35A	**Sooner Cattle**	**1.00**	**33**	Pg	Pg	02 27 47.2	-0.1
T35A				Sg	Sg	02 28 00.4	+0.2
KAN17	**Caldwell West**	**1.06**	**335**	Pg	Pg	02 27 48.3	-0.3
KAN17				Sg	Sg	02 28 02.1	-0.2
KAN14	**Manchester OK**	**1.07**	**325**	Pg	Pg	02 27 48.1	-0.6
KAN14				Sg	Sg	02 28 02.2	-0.3
TUL1	**Leonard**	**1.15**	**98**	Pg	Pg	02 27 49.2	-1.1
TUL1				Sg	Sg	02 28 05.1	-0.2
KAN05	**Bluff City Nor**	**1.16**	**332**	Pg	Pg	02 27 49.8	-0.6
KAN01	**Argonia South**	**1.16**	**337**	Pg	Pg	02 27 50.0	-0.4
KAN01				Sg	Sg	02 28 05.5	0.0
KAN10	**Anthony SW Sta**	**1.26**	**325**	Pn	Pg	02 27 51.8	-0.7
KAN08	**Anthony NE Sta**	**1.30**	**332**		Pn	02 27 52.3	-0.7
KAN16	**Harper SW Stat**	**1.33**	**329**		Pn	02 27 52.9	-0.6
OK035	**E0210 Rd and N**	**1.37**	**297**	Pn	Pn	02 27 53.3	-0.7
KAN12	**Harper NE Stat**	**1.37**	**332**		Pn	02 27 53.5	-0.5
U32A	**Winter Ranch,**	**1.49**	**282**	Pn	Pn	02 27 55.2	-0.4
X34A	**Smith Ranch, M**	**1.57**	**200**	Pn	Pn	02 27 56.8	+0.1
WMOK	**Wichita Mounta**	**1.87**	**224**	Pn	Pn	02 28 01.0	+0.2
LOOK	**Love County**	**2.09**	**180**	Pn	Pn	02 28 04.4	+0.6
X37A	**Clayton**	**2.11**	**134**	Pn	Pn	02 28 04.3	+0.2
R32A	**Long Quarter,**	**2.63**	**333**	Pn	Pn	02 28 10.9	-0.4
R32A				IAmb_Lg		02 28 57.0	
	comp=Z,11nm,0.7s						
MIAR	**Mount Ida**	**3.34**	**116**	Pn	Pn	02 28 21.4	+0.4
CBKS	**Cedar Bluff**	**3.39**	**324**	Pn	Pn	02 28 23.3	+1.5
CBKS				IAmb_Lg		02 29 24.1	
	comp=Z,8.8nm,0.8s						
S39A	**Bolivar**	**3.50**	**62**	Pn	Pn	02 28 23.2	+0.1
S39A				IAmb_Lg		02 29 21.3	
	comp=Z,7.8nm,0.8s						
X40A	**Basin Creek Fa**	**3.91**	**113**	Pn	Pn	02 28 30.1	+1.2
MGMO	**Mountain Grove**	**4.11**	**73**	Pn	Pn	02 28 31.3	-0.3
MGMO				IAmb_Lg		02 29 47.3	
	comp=Z,9.1nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.12**	**91**	IAmb_Lg		02 29 38.8	
	comp=Z,6.1nm,0.7s						
W41B	**Gary Mavity, V**	**4.13**	**101**	Pn	Pn	02 28 32.2	+0.3
T42A	**Van Buren**	**5.00**	**77**	IAmb_Lg		02 30 16.2	
	comp=Z,7.0nm,0.9s						
L34A	**Svendsen Farm,**	**5.91**	**6**	IAmb_Lg		02 30 40.7	
	comp=Z,11nm,0.8s						

*EAF **20** 03:03:01.2±2.9, 20°.62S×22°.28E, h10km, MD5.0*
*BUL **20** 03:03:06.7±4.3, 20°.71S×22°.87E, h10km, MD5.9*
*PRE **20** 03:03:13.0±0.9, 20°.52S×23°.37E, h5km, ML2.9*
ISC 20 03:03:11.5±1.2, **20°.45S**±0°.08×**23°.37E**±0°.07, **h10**km, **n18**, σ2°**25**/24, **Botswana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.81**	**91**	*i* P	Pn	03 04 29.9	+5.8
MATP	**Matopo**	**4.81**	**91**	*i* P	Pn	03 04 29.9	+5.8
WIN	**Windhoek**	**6.21**	**249**	*e*P	**Pn**	**03 04 45.9**	**+2.5**
WIN				*e*S	**Sn**	**03 05 55.1**	**+0.6**
WIN				IAML		03 06 30.4	
	comp=Z,10.0nm,1.0s						
MSNA	**Messina**	**6.48**	**108**	*e*P	**Pn**	**03 04 50.2**	**+3.2**
MSNA				*e*S	**Sn**	**03 06 00.5**	**-0.6**
MSNA				IAML		03 06 44.9	
	comp=Z,38nm,0.7s						
MSNA	**Messina**	**6.48**	**108**	*i* P	**Pn**	**03 04 48.1**	**+1.1**
MSNA	**Messina**	**6.48**	**108**	*i* P	**Pn**	**03 04 48.1**	**+1.1**
LSZ	**Lusaka**	**6.89**	**42**	*i* P	**Pn**	**03 04 50.7**	**-2.1**
LSZ	**Lusaka**	**6.89**	**42**	*i* P	**Pn**	**03 04 50.7**	**-2.1**
SWZ	**Schweizer**	**6.94**	**165**	*e*P	**Pn**	**03 04 54.8**	**+1.4**
SWZ				*e*S	**Sn**	**03 06 10.4**	**-2.0**
SWZ				IAML		03 06 23.5	
	comp=Z,11nm,1.6s						
MOPA	**Mopani**	**8.05**	**114**	*e*P	**Pn**	**03 05 11.2**	**+2.7**
MOPA				*e*S	**Sn**	**03 06 38.4**	**-1.4**
MOPA				IAML		03 06 48.7	
	comp=Z,9.5nm,1.5s						
MOPA	**Mopani**	**8.05**	**114**	*i* P	**Pn**	**03 05 09.8**	**+1.2**
MOPA				*i* S	**Sn**	**03 06 39.7**	**0.0**
MOPA	**Mopani**	**8.05**	**114**	*i* P	**Pn**	**03 05 09.8**	**+1.2**
MOPA				*i* S	**Sn**	**03 06 39.7**	**0.0**
UPI	**Upington**	**8.11**	**193**	*e*P	**Pn**	**03 05 11.4**	**+2.0**
UPI				*e*S	**Sn**	**03 06 38.5**	**-2.7**
UPI				IAML		03 07 35.9	
	comp=Z,6.8nm,2.1s						
ARMS	**Ukamas**	**8.25**	**203**	*e*P	**Pn**	**03 05 12.8**	**+1.5**
ARMS				*e*S	**Sn**	**03 06 41.2**	**-3.5**
ARMS				IAML		03 07 43.1	
	comp=Z,9.5nm,0.8s						
BOSA	**Boshof**	**8.31**	**168**	*e*P	**Pn**	**03 05 15.3**	**+3.1**
BOSA				*e*S	**Sn**	**03 06 43.4**	**-2.8**
BOSA				IAML		03 06 56.5	
	comp=Z,12nm,3.4s						
SNKL	**Senekal, Frees**	**8.76**	**154**	*e*P	**Pn**	**03 05 21.5**	**+3.0**
SNKL				*e*S	**Sn**	**03 06 54.6**	**-2.8**
SNKL				IAML		03 07 03.2	
	comp=Z,12nm,1.8s						
CNG	**Changalane**	**9.97**	**127**	*i* P	Pn	03 05 29.5	-5.4
CNG	**Changalane**	**9.97**	**127**	*i* P	Pn	03 05 29.5	-5.4

*TUL **20** 03:18:38.9±0.9, 36°.61N±0°.02×98°.35W±0°.02, h5km±1km, ML2.5, mb_Lg2.3/8(NEIC), Error ellipse: s-maj=2.4km s-min=1.8km az=140.0*
NEIC 20 03:18:39.2±1.5, **36°.61N**±0°.02×**98°.35W**±0°.01, **h16**km±3km, **Error ellipse: s-maj=2.2km s-min=1.5km az=192.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.30**	**289**	Pg	Pg	03 18 45.0	-0.7
OK035				Sg	Sg	03 18 49.9	-0.2
CROK	**Carrier**	**0.32**	**110**	Pg	Pg	03 18 45.4	-0.5
CROK				Sg	Sg	03 18 49.9	-0.6
GC02	**Grant County #**	**0.46**	**59**	Pg	Pg	03 18 48.2	-0.3
GC02				Sg	Sg	03 18 54.8	0.0
KAN10	**Anthony SW Sta**	**0.55**	**22**	Pg	Pg	03 18 49.9	-0.2
KAN10				Sg	Sg	03 18 57.6	+0.1
U32A	**Winter Ranch,**	**0.57**	**246**	Pg	Pg	03 18 49.9	-0.6
U32A				Sg	Sg	03 18 58.0	-0.1
KAN05	**Bluff City Nor**	**0.63**	**38**	Pg	Pg	03 18 50.9	-0.7
KAN05				Sg	Sg	03 18 59.9	0.0
KAN17	**Caldwell West**	**0.64**	**47**	Pg	Pg	03 18 51.4	-0.4
KAN17				Sg	Sg	03 19 00.3	0.0
KAN16	**Harper SW Stat**	**0.65**	**21**	Pg	Pg	03 18 51.5	-0.6
KAN16				Sg	Sb	03 19 01.0	-0.1
KAN01	**Argonia South**	**0.72**	**41**		Pg	03 18 53.0	-0.3
KAN12	**Harper NE Stat**	**0.74**	**23**	Pg	Pg	03 18 53.3	-0.4
KAN06	**Argonia West S**	**0.75**	**32**		Pg	03 18 53.5	-0.3
KAN13	**South Haven SW**	**0.81**	**60**		Pb	03 18 54.2	-0.6
BLOK	**Blackwell**	**0.93**	**80**		Pb	03 18 56.4	-0.4
BCOK	**Bluff Creek, N**	**1.13**	**147**	Pg	Pn	03 18 59.7	-0.6
OK025	**Westminster Rd**	**1.32**	**141**		Pn	03 19 03.0	+0.1
OK031	**S. Brethren Rd**	**1.39**	**118**		Pb	03 19 04.5	-0.2
QUOK	**Quay**	**1.40**	**108**	Pn	Pb	03 19 04.8	-0.1
T35A	**Sooner Cattle**	**1.51**	**78**	Pn	Pb	03 19 06.6	-0.2
FNO	**Franklin**	**1.56**	**150**	Pn	Pb	03 19 07.0	-0.6
R32A	**Long Quarter,**	**1.83**	**351**		Pb	03 19 11.4	-0.8
R32A				IAmb_Lg		03 19 38.0	
	comp=Z,7.9nm,0.8s						
W35A	**Tecumseh**	**1.89**	**140**	Pn	Pb	03 19 12.1	-1.2
WMOK	**Wichita Mounta**	**1.90**	**191**	Pn	Pb	03 19 12.3	-1.2
X34A	**Smith Ranch, M**	**2.05**	**168**		Pn	03 19 14.2	+1.2
TUL1	**Leonard**	**2.19**	**108**	Pn	Pn	03 19 16.2	+1.4
CBKS	**Cedar Bluff**	**2.46**	**334**	IAmb_Lg		03 19 55.2	
	comp=Z,12nm,1.2s						
KSU1	**Kansas State U**	**2.84**	**29**	Pn	Pn	03 19 24.9	+1.0
U38A	**Gravette**	**3.20**	**92**	Pn	Pn	03 19 29.8	+1.0
AMTX	**Amarillo**	**3.21**	**238**	Pn	Pn	03 19 31.7	+2.7
AMTX				IAmb_Lg		03 20 28.8	
	comp=Z,6.7nm,0.7s						
HHAR	**Hobbs**	**3.57**	**94**	Pn	Pn	03 19 34.3	+0.4
N35A	**Tabor**	**4.74**	**26**	IAmb_Lg		03 21 17.5	
	comp=Z,12nm,0.8s						

*LDG **20** 03:57:56.6±0.4, 36°.39N×12°.57E, h35km, Ml2.9/5, Error ellipse: s-maj=11.5km s-min=2.9km az=22.0*
*ROM **20** 03:57:57.5±0.5, 36°.48N±0°.02×12°.71E±0°.03, h22km±2km, ML3.4/10, Error ellipse: s-maj=2.7km s-min=1.3km az=242.0*
ISC 20 03:57:57.6±2.0, **36°.47N**±0°.07×**12°.77E**±0°.07, **h15**km±11km, **n31**, σ0°**66**/41, **1C-2D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAVR	**Favara**	**1.08**	**42**	⇑P	**Pg**	**03 58 18.8**	**+0.4**
FAVR				S	**Sg**	**03 58 32.7**	**+0.2**
FAVR				AML	AML		
	comp=E,1040μm,0.7s						
FAVR				AML	AML		
	comp=N,974μm,0.9s						
CLTB	**Caltabellotta**	**1.17**	**18**	P	**Pn**	**03 58 18.1**	**-1.4**
CLTB				AML	AML		
	comp=E,1590μm,0.4s						
CLTB				AML	AML		
	comp=N,3985μm,0.6s						
CLTA	**Licata**	**1.18**	**54**	⇓P	**Pn**	**03 58 19.9**	**+0.3**
CLTA				S	**Sn**	**03 58 35.8**	**+0.3**
CLTA				AML	AML		
	comp=E,905μm,1.3s						
CLTA				AML	AML		
	comp=N,1300μm,1.5s						
CMDO	**Montedoro**	**1.31**	**40**	P	**Pg**	**03 58 23.1**	**+0.3**
RAFF	**Raffo Rosso**	**1.49**	**59**	P	**Pn**	**03 58 23.8**	**0.0**
RAFF				S	**Sn**	**03 58 43.2**	**+0.2**
CORL	**Corleone**	**1.49**	**17**	P	**Pn**	**03 58 23.3**	**-0.5**
CORL				S	**Sn**	**03 58 43.1**	**0.0**
WDD	**Wied Dalam**	**1.56**	**113**	P	**Pn**	**03 58 24.0**	**-0.7**
WDD				S	**Sb**	**03 58 46.1**	**+0.6**
RESU	**Resuttano**	**1.57**	**41**	P	**Pg**	**03 58 27.3**	**-0.4**
HMDC	**Modica**	**1.69**	**73**	P	**Pn**	**03 58 26.3**	**-0.4**
HMDC				S	**Sn**	**03 58 48.0**	**-0.1**
HMDC				AML	AML		
	comp=N,468μm,1.1s						
HMDC				AML	AML		
	comp=E,480μm,0.2s						
SOLUN	**Solunto**	**1.73**	**20**	P	**Pn**	**03 58 26.9**	**-0.3**
SOLUN				S	**Sn**	**03 58 48.9**	**-0.2**
MPG	**Monte Pellegri**	**1.76**	**15**	P	**Pn**	**03 58 27.0**	**-0.6**
MPG				S	**Sn**	**03 58 49.7**	**0.0**
CSLB	**Castelbuono**	**1.79**	**35**	P	**Pn**	**03 58 28.4**	**+0.3**
CSLB				S	**Sn**	**03 58 51.7**	**+1.1**
MEU	**Monte Lauro**

*NEIC **20** 04:09:34.9±1.2, 13°.55N±0°.10×91°.16W±0°.06, h33km±9km, mb3.7/3, Md3.7(SNET), Error ellipse: s-maj=16.5km s-min=4.1km az=211.0*
*GCG **20** 04:09:35.2±0.8, 13°.65N×91°.21W, h24km±8km, MD3.9*
ISC 20 04:09:33.7±2.1, 13°.49N±0°.08×91°.15W±0°.05, h32km±13km, n33, σ1°23/49, mb3.7/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.00**	**17**	*eP*	**Pn**	**04 09 52.2**	**+0.5**
FUG				*eS*	**Sb**	**04 10 09.2**	**+3.7**
PCG	**Pacaya**	**1.04**	**30**	*eP*	**Pn**	**04 09 52.7**	**+0.4**
RTAL	**Retalhuleu**	**1.16**	**333**	Pn	**Pn**	**04 09 53.9**	**+0.2**
RTAL				Sn	**Sn**	**04 10 06.9**	**-1.6**
STG3	**Santiaguito 3,**	**1.28**	**341**	*eP*	**Pn**	**04 09 55.6**	**0.0**
NBG	**Las Nubes**	**1.34**	**35**	*eP*	**Pn**	**04 09 57.9**	**+1.4**
NBG				*eS*	**Sb**	**04 10 15.7**	**+0.4**
CEVE	**Cerro Verde**	**1.52**	**77**	*eP*	**Pn**	**04 09 58.8**	**-0.1**
CEVE				*eS*	**Sn**	**04 10 17.2**	**-0.5**
CEVE				IAML		04 10 21.3	
	comp=Z,3μm,0.3s						
CEVE	**Cerro Verde**	**1.52**	**77**	*eP*	**Pn**	**04 09 58.8**	**-0.1**
CEVE				*eS*	**Sn**	**04 10 17.2**	**-0.5**
CEVE				IAML		04 10 21.3	
	comp=Z,3μm,0.3s						
JAYA	**Jayaque - finc**	**1.66**	**84**	*eP*	**Pn**	**04 10 00.8**	**+0.1**
JAYA				*eS*	**Sn**	**04 10 21.8**	**+0.7**
JAYA				IAML		04 10 22.6	
	comp=Z,2μm,0.2s						
JAYA	**Jayaque - finc**	**1.66**	**84**	*eP*	**Pn**	**04 10 00.8**	**+0.1**
JAYA				*eS*	**Sn**	**04 10 21.8**	**+0.7**
JAYA				IAML		04 10 22.6	
	comp=Z,2μm,0.2s						
BOQS	**Boqueron**	**1.83**	**82**	*eP*	**Pn**	**04 10 03.6**	**+0.4**
BOQS	**Boqueron**	**1.83**	**82**	*eP*	**Pn**	**04 10 03.6**	**+0.4**
HUEH	**Huehuetenango**	**1.85**	**349**	*eP*	**Pb**	**04 10 05.5**	**-1.5**
HUEH				*eS*	**Sb**	**04 10 30.9**	**+1.1**
HUEH				IAML		04 10 31.9	
	comp=Z,532nm,0.5s						
HUEH	**Huehuetenango**	**1.85**	**349**	Pn	**Pn**	**04 10 05.2**	**+1.7**
HUEH				Sn	**Sn**	**04 10 25.7**	**-0.2**
HUEH	**Huehuetenango**	**1.85**	**349**	*eP*	**Pb**	**04 10 05.5**	**-1.5**
HUEH				*eS*	**Sb**	**04 10 30.9**	**+1.1**
HUEH				IAML		04 10 31.9	
	comp=Z,532nm,0.5s						
SNET	**Serv Nac Est T**	**1.87**	**84**	Pn	**Pn**	**04 10 04.2**	**+0.6**
MTO3	**Montecristo**	**1.96**	**62**	Pn	**Pn**	**04 10 05.6**	**+0.7**
MTO3				Sn	**Sn**	**04 10 28.9**	**+0.5**
ESQI	**Esquipulas**	**2.05**	**59**	*eP*	**Pn**	**04 10 07.3**	**+1.2**
ESQI				*eS*	**Sb**	**04 10 34.3**	**-1.1**
ESQI				IAML		04 10 35.9	
	comp=Z,363nm,0.5s						
MRL	**Marmol**	**2.12**	**42**	*eP*	**Pn**	**04 10 09.3**	**+2.1**
MRL				*eS*	**Sb**	**04 10 35.7**	**-2.0**
COEB	**Comit de Eme**	**2.54**	**90**	*eP*	**Pn**	**04 10 13.6**	**+0.7**
COEB				*eS*	**Sn**	**04 10 43.3**	**+0.4**
COEB				IAML		04 10 47.9	
	comp=Z,396nm,0.4s						
COEB	**Comit de Eme**	**2.54**	**90**	*eP*	**Pn**	**04 10 13.6**	**+0.7**
COEB				*eS*	**Sn**	**04 10 43.3**	**+0.4**
COEB				IAML		04 10 47.9	
	comp=Z,396nm,0.4s						
CMIG	**Matias Romero**	**5.08**	**315**	Pn	**Pn**	**04 10 48.8**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=138,slow=11,SNR=16						
CMIG				Sn	**Sn**	**04 11 44.6**	**-0.8**
	comp=Z,3.0nm,0.3s,baz=77,slow=22,SNR=6.4						
CMIG				LR	LR	04 13 10.5	
	comp=Z,71nm,19.7s,baz=118,slow=40						
BOAB	**BOACO BROADBAN**	**6.44**	**100**	Pn	**Pn**	**04 10 51.0**	**-1.6**
HZTE	**Horizontes, Gu**	**6.09**	**116**	Pn	**Pn**	**04 11 03.6**	**+2.0**
ORTG	**Ortega, Santa**	**6.38**	**119**	Pn	**Pn**	**04 11 07.2**	**+1.6**
TXAR	**Lajitas Array**	**19.58**	**326**	P	**Pn**	**04 14 01.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=152,slow=14,SNR=9.4						
TXAR	**Lajitas Array**	**19.58**	**326**	P	**P**	**04 13 59.0**	**-0.3**
TX31	**Lajitas Ar. Si**	**19.58**	**326**	P	**P**	**04 13 59.4**	**+0.1**
TX31				IAmb	IAmb	04 14 11.5	
	comp=Z,9.0nm,1.5s						
GOGA	**Godfrey**	**21.03**	**18**	P	**P**	**04 14 14.8**	**0.0**
GOGA				IAmb	IAmb	04 14 18.8	
	comp=Z,3.3nm,1.0s						
MNTX	**Cornudas Mount**	**22.34**	**327**	P	**P**	**04 14 29.8**	**+0.8**
MNTX				IAmb	IAmb	04 14 31.1	
	comp=Z,3.2nm,1.1s						
NVAR	**Mina Array Bea**	**34.59**	**321**	P	**P**	**04 16 22.1**	**+2.1**
	comp=Z,0.8nm,0.6s,baz=135,slow=9.0,SNR=9.7						
NVAR	**Mina Array Bea**	**34.59**	**321**	P	**P**	**04 16 21.1**	**+1.1**
YKA	**Yellowknife Ar**	**51.71**	**346**	P	**P**	**04 18 35.3**	**-2.3**
	comp=Z,0.1nm,0.4s,baz=151,slow=7.6,SNR=4.2						
CMAR	**Chiang Mai Arr**	**146.73**	**342**	PKPbc	**PKPdf**	**04 29 11.2**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=343,slow=2.8,SNR=5.2						

*GCG **20** 04:29:50.1±0.3, 13°.68N×91°.48W, h5km, MD3.5*
*UCR **20** 04:29:54.3±1.5, 13°.95N×91°.20W, h15km±8km, ML3.5*
*SNET **20** 04:29:54.1±1.5, 13°.96N×91°.20W, h15km±8km, ML3.5*
ISC 20 04:29:46.5±2.8, 13°.5N±0°.1×91°.4W±0°.1, h7km±13km, n23, σ0°65/36, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.11**	**31**	*eP*	**Pn**	**04 30 09.0**	**+0.2**
PCG	**Pacaya**	**1.21**	**42**	*eP*	**Pn**	**04 30 11.2**	**+1.1**
STG3	**Santiaguito 3,**	**1.22**	**354**	*eP*	**Pn**	**04 30 09.8**	**-0.5**
NBG	**Las Nubes**	**1.52**	**44**	*eP*	**Pb**	**04 30 16.6**	**+1.3**
NBG				*eS*	**Sn**	**04 30 34.2**	**-0.4**
NUBE	**Las Nubes**	**1.67**	**76**	*eP*	**Pg**	**04 30 18.3**	**-0.2**
NUBE				*eS*	**Sn**	**04 30 37.1**	**-1.0**
NUBE				IAML		04 30 38.0	
	comp=Z,224nm,0.3s						
NUBE	**Las Nubes**	**1.67**	**76**	*eP*	**Pg**	**04 30 18.3**	**-0.2**
NUBE				*eS*	**Sn**	**04 30 37.1**	**-1.0**
NUBE				IAML		04 30 38.0	
	comp=Z,224nm,0.3s						
SLOZ	**Alcaldia de Sa**	**1.70**	**72**	*eP*	**Pg**	**04 30 18.7**	**-0.4**
SLOZ				*eS*	**Sn**	**04 30 37.6**	**-1.0**
SLOZ				*eS*	**Sb**	**04 30 38.6**	**-1.1**
SLOZ				IAML		04 30 42.5	
	comp=Z,522nm,0.9s						
RTR	**El Retiro**	**1.79**	**77**	*eP*	**Pg**	**04 30 21.5**	**+0.5**
RTR	**El Retiro**	**1.79**	**77**	*eP*	**Pg**	**04 30 21.5**	**+0.5**
CEVE	**Cerro Verde**	**1.80**	**79**	*eP*	**Pg**	**04 30 20.8**	**-0.2**
CEVE				*eS*	**Sb**	**04 30 42.7**	**-0.1**
CEVE				IAML		04 30 48.1	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**1.80**	**79**	*eP*	**Pg**	**04 30 20.8**	**-0.2**
CEVE				*eS*	**Sb**	**04 30 42.7**	**-0.1**
CEVE				IAML		04 30 48.1	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.80**	**79**	*eP*	**Pg**	**04 30 20.9**	**-0.2**
SBLS				*eS*	**Sn**	**04 30 41.8**	**+0.2**
SBLS	**San Blas**	**1.80**	**79**	*eP*	**Pg**	**04 30 20.9**	**-0.2**
SBLS				*eS*	**Sn**	**04 30 41.8**	**+0.2**
SNJE	**San Jose**	**1.82**	**78**	*eP*	**Pg**	**04 30 21.6**	**+0.1**
SNJE	**San Jose**	**1.82**	**78**	*eP*	**Pg**	**04 30 21.6**	**+0.1**
UNIC	**Universidad Ca**	**1.90**	**75**	*eP*	**Pg**	**04 30 22.2**	**-0.9**
UNIC	**Universidad Ca**	**1.90**	**75**	*eP*	**Pg**	**04 30 22.2**	**-0.9**
JAYA	**Jayaque - finc**	**1.94**	**85**	*eP*	**Pb**	**04 30 22.9**	**+0.5**
JAYA				*eS*	**Sn**	**04 30 46.0**	**+1.1**
JAYA				IAML		04 30 49.1	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.94**	**85**	*eP*	**Pb**	**04 30 22.9**	**+0.5**
JAYA				*eS*	**Sn**	**04 30 46.0**	**+1.1**
JAYA				IAML		04 30 49.1	
	comp=Z,1μm,0.2s						
SJTE	**Alcalda de S**	**2.37**	**87**	*eP*	**Pb**	**04 30 29.9**	**+0.2**
SJTE				*eS*	**Sb**	**04 30 58.9**	**-0.3**
SJTE	**Alcalda de S**	**2.37**	**87**	*eP*	**Pb**	**04 30 29.9**	**+0.2**
SJTE				*eS*	**Sb**	**04 30 58.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**2.65**	**85**	*eP*	**Pb**	**04 30 34.0**	**-0.3**
SCLA	**Alcaldia de Sa**	**2.65**	**85**	*eP*	**Pb**	**04 30 34.0**	**-0.3**

IDC 20 04:41:13.4±1.7, 3°.99N×126°.92E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/44, mbtmp3.7/5, Error ellipse: s-maj=99.2km s-min=23.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	P	04 46 08.8	-0.5
	0.8nm,0.4s,baz=5.9,slow=11,SNR=10						
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	04 46 37.3	-0.7
	3.2nm,0.7s,baz=344,slow=10,SNR=23						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	04 47 10.3	+1.1
	0.2nm,0.3s,baz=344,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	04 48 36.0	+0.1
	1.4nm,0.4s,baz=325,slow=8.7,SNR=4.8						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	04 51 04.1	-0.1
	0.3nm,0.6s,baz=120,slow=7.9,SNR=6.3						

*TUL **20** 04:41:57.4±0.6, 36°.46N±0°.01×97°.73W±0°.02, h8km±6km, ML3.0, mb_Lg2.9/43(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=79.0*
NEIC 20 04:41:57.4±0.7, 36°.448N±0°.008×97°.73W±0°.02, h6km±7km, Error ellipse: s-maj=2.4km s-min=1.1km az=82.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.21**	**286**	Pg	Pg	04 42 01.9	+0.4
CROK				Sg	Sg	04 42 05.1	+0.8
GC02	**Grant County #**	**0.42**	**346**	Pg	Pg	04 42 05.6	+0.2
BLOK	**Blackwell**	**0.52**	**53**	Pg	Pg	04 42 07.5	+0.1
BLOK				Sg	Sg	04 42 14.2	+0.1
KAN14	**Manchester OK**	**0.54**	**340**		Pg	04 42 07.8	+0.1
KAN14				Sg	Sg	04 42 15.2	+0.4
KAN17	**Caldwell West**	**0.60**	**358**	Pg	Pg	04 42 08.8	0.0
KAN17				Sg	Sg	04 42 17.0	+0.3
KAN13	**South Haven SW**	**0.60**	**20**	Pg	Pg	04 42 08.6	-0.3
KAN13				Sg	Sg	04 42 17.1	+0.3
KAN05	**Bluff City Nor**	**0.67**	**350**		Pg	04 42 10.2	-0.1
KAN05				Sg	Sg	04 42 18.9	0.0
KAN01	**Argonia South**	**0.70**	**358**		Pg	04 42 10.8	-0.1
KAN01				Sg	Sg	04 42 20.3	+0.2
KAN10	**Anthony SW Sta**	**0.73**	**337**	Pg	Pg	04 42 11.3	-0.1
KAN10				Sg	Sg	04 42 21.2	+0.2
BCOK	**Bluff Creek, N**	**0.80**	**173**	Pg	Pg	04 42 12.7	0.0
BCOK				Sg	Sg	04 42 23.5	+0.5
KAN08	**Anthony NE Sta**	**0.80**	**346**	Pg	Pg	04 42 12.7	-0.1
KAN06	**Argonia West S**	**0.81**	**353**		Pg	04 42 12.7	-0.1
KAN06				Sg	Sb	04 42 24.6	-0.4
KAN16	**Harper SW Stat**	**0.82**	**341**	Pg	Pg	04 42 13.0	-0.2
QUOK	**Quay**	**0.87**	**108**	Pg	Pg	04 42 14.0	-0.1
KAN12	**Harper NE Stat**	**0.87**	**346**	Pg	Pg	04 42 14.0	-0.2
OK031	**S. Brethren Rd**	**0.88**	**124**		Pg	04 42 14.2	0.0
OK025	**Westminster Rd**	**0.92**	**160**	Pg	Pg	04 42 15.0	-0.1
U32A	**Winter Ranch,**	**1.03**	**267**		Pg	04 42 16.7	-0.4
OKCFA	**Oklahoma City**	**1.05**	**167**		Pg	04 42 17.3	-0.3
OKCSW	**OKLAHOMA CITY**	**1.07**	**167**		Pg	04 42 17.6	-0.3
T35A	**Sooner Cattle**	**1.09**	**64**	Pg	Pg	04 42 17.9	-0.4
FNO	**Franklin**	**1.22**	**167**	Pn	Pg	04 42 20.2	-0.5
W35A	**Tecumseh**	**1.47**	**151**		Pn	04 42 24.2	-0.2
TUL1	**Leonard**	**1.66**	**108**		Pn	04 42 27.2	+0.1
TUL1				IAmb_Lg		04 42 51.7	
	comp=Z,86nm,1.0s						
X34A	**Smith Ranch, M**	**1.84**	**183**		Pn	04 42 29.4	-0.2
X34A				IAmb_Lg		04 42 57.1	
	comp=Z,40nm,0.9s						
WMOK	**Wichita Mounta**	**1.91**	**207**		Pn	04 42 30.4	-0.1
R32A	**Long Quarter,**	**2.12**	**339**		Pn	04 42 33.0	-0.4
LOOK	**Love County**	**2.49**	**169**	Pn	Pn	04 42 38.5	-0.1
X37A	**Clayton**	**2.67**	**133**		Pn	04 42 41.1	0.0
X37A				IAmb_Lg		04 43 24.9	
	comp=Z,34nm,0.7s						
U38A	**Gravette**	**2.70**	**89**		Pn	04 42 41.2	-0.1
KSU1	**Kansas State U**	**2.79**	**18**	Pn	Pn	04 42 43.5	+0.8
KSU1				IAmb_Lg		04 43 25.4	
	comp=Z,25nm,1.2s						
CBKS	**Cedar Bluff**	**2.85**	**327**	Pn	Pn	04 42 42.9	-0.6
HHAR	**Hobbs**	**3.07**	**92**		Pn	04 42 46.3	-0.1
Z35A	**Perchaven, San**	**3.13**	**173**	Pn	Pn	04 42 47.2	-0.1
W39A	**Magazine**	**3.44**	**110**	IAmb_Lg		04 43 55.1	
	comp=Z,34nm,0.8s						
AMTX	**Amarillo**	**3.57**	**245**	Pn	Pn	04 42 53.0	-0.5
S39A	**Bolivar**	**3.74**	**69**		Pn	04 42 55.6	0.0
MIAR	**Mount Ida**	**3.89**	**118**	IAmb_Lg		04 44 10.2	
	comp=Z,26nm,1.0s						
Z38A	**Mt. Pleasant**	**3.90**	**144**	Pn	Pn	04 42 57.3	-0.6
U40A	**Yellville**	**3.94**	**90**	Pn	Pn	04 42 58.0	-0.4
U40A				IAmb_Lg		04 44 02.7	
	comp=Z,36nm,0.9s						
ABTX	**Abilene, Hawle**	**4.13**	**203**	IAmb_Lg		04 44 09.2	
	comp=Z,22nm,0.9s						
X40A	**Basin Creek Fa**	**4.45**	**115**	Pn	Pn	04 43 05.2	-0.3
X40A				IAmb_Lg		04 44 19.5	
	comp=Z,20nm,0.8s						
WHAR	**Wooly Hollow**	**4.57**	**103**	Pn	Pn	04 43 06.8	-0.3
WHAR				IAmb_Lg		04 44 23.5	
	comp=Z,21nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.57**	**95**	Pn	Pn	04 43 06.8	-0.4
P38A	**Dawn**	**4.59**	**45**	Pn	Pn	04 43 06.9	-0.5
P38A				IAmb_Lg		04 44 34.8	
	comp=Z,19nm,0.8s						
W41B	**Gary Mavity, V**	**4.63**	**104**	Pn	Pn	04 43 08.2	+0.2
W41B				IAmb_Lg		04 44 26.7	
	comp=Z,17nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.65**	**305**	IAmb_Lg		04 44 25.7	
	comp=Z,18nm,0.8s						
R40A	**Maddies Statio**	**4.72**	**65**	Pn	Pn	04 43 09.3	+0.1
BGNE	**Belgrade**	**4.96**	**356**	Pn	Pn	04 43 12.1	-0.5
BGNE				IAmb_Lg		04 44 41.7	
	comp=Z,28nm,0.8s						
CCM	**Cathedral Cave**	**5.42**	**71**	IAmb_Lg		04 44 57.7	
	comp=Z,23nm,1.1s						
P40A	**Paris**	**5.44**	**54**	IAmb_Lg		04 44 49.3	
	comp=Z,20nm,0.7s						
N38A	**Joes South For**	**5.59**	**38**	IAmb_Lg		04 44 58.7	
	comp=Z,21nm,0.8s						
435B	**Jarrell**	**5.65**	**179**	IAmb_Lg		04 45 07.0	
	comp=Z,20nm,1.0s						
PBMO	**Poplar Bluff**	**5.88**	**85**	IAmb_Lg		04 45 03.3	
	comp=Z,11nm,0.8s						
K31A	**O'Neill**	**6.22**	**353**	IAmb_Lg		04 45 27.4	
	comp=Z,18nm,0.7s						
SDCO	**Great Sand Dun**	**6.34**	**284**	IAmb_Lg		04 45 26.5	
	comp=Z,14nm,1.2s						
S44A	**Carbondale**	**6.89**	**77**	IAmb_Lg		04 45 43.1	
	comp=Z,10.0nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.33**	**68**	IAmb_Lg		04 45 59.1	
	comp=Z,12nm,0.7s						

*MAN **20** 04:52:26.7, 6°.98N×126°.06E, h16km, mb4.2, ML3.0, MS2.7*
*IDC **20** 04:52:27.4±1.2, 6°.72N×125°.73E, h58km±10km, mb3.5/7, mb1 3.7/7, mb1mx3.3/46, mbtmp3.8/7, MS2.7/1, Ms1 2.7/1, ms1mx2.3/49, Error ellipse: s-maj=121.2km s-min=17.1km az=70.0*
*NEIC **20** 04:52:28.6±1.2, 6°.7N±0°.1×125°.7E±0°.4, h62km±8km, mb4.2/11, Error ellipse: s-maj=56.0km s-min=3.9km az=69.0*
ISC 20 04:52:26.5±0.7, 6°.77N±0°.05×126°.13E±0°.07, h50km, n33, σ1°13/34, mb4.0/13, 2C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.21**	**35**	‖*eP*	Pn	04 52 33.0	-2.0
DAV	**Davao City (W)**	**0.62**	**299**	P	**Pn**	**04 52 39.3**	**0.0**
	443nm,0.3s,baz=23,slow=1.4,SNR=17						
DAV	**Davao City (W)**	**0.62**	**299**		**Pn**	**04 52 39.4**	**+0.1**
DDMP	**Don Marcelino,**	**0.78**	**212**	‖*eP*	**Pn**	**04 52 41.2**	**-0.1**
KCP	**Kidapawan**	**1.06**	**283**	‖*iP*	**Pn**	**04 52 44.1**	**-1.0**
KCP				*i* S	**Sn**	**04 52 59.7**	**+0.8**
GSPH	**General Santos**	**1.36**	**240**	‖*eP*	**Pn**	**04 52 47.6**	**-1.6**
GSPH				*i* S	**Sn**	**04 53 04.7**	**-1.5**
BIPH	**Bislig**	**1.42**	**9**	‖*iP*	Pn	04 52 48.2	-1.8
BIPH				*i* S	**Sn**	**04 53 06.2**	**-1.4**
CTBH	**Cotabato--PC H**	**1.93**	**284**	‖*iP*	**Pn**	**04 52 56.3**	**-0.5**
CTBH				*i* S	**Sn**	**04 53 21.7**	**+1.8**
BUTP	**Butuan**	**2.24**	**347**	‖*iP*	**Pn**	**04 53 00.5**	**-0.7**
PAGZ	**Pagadian**	**2.93**	**292**	‖*iP*	**Pn**	**04 53 10.6**	**0.0**
TPUB	**Ta-pu**	**17.27**	**343**		**Pn**	**04 56 24.8**	**+0.6**
TPUB				IAmb	IAmb	04 56 33.0	
	comp=Z,72nm,1.5s						
JOW	**Kunigami**	**20.06**	**6**	LR	LR	05 06 40.9	
	comp=Z,20nm,18.1s,baz=289,slow=42						
KNRA	**Kununurra**	**22.45**	**173**	P	**P**	**04 57 22.6**	**+1.1**
KNRA				IAmb	IAmb	04 57 24.9	
	comp=Z,6.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.71**	**181**	P	**P**	**04 57 43.1**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=19,slow=11,SNR=2.6						
WB0	**Warramunga Arr**	**27.59**	**163**	P	**P**	**04 58 10.0**	**+0.8**
WB0				IAmb	IAmb	04 58 21.5	
	comp=Z,5.1nm,1.4s						
WRA	**Warramunga Arr**	**27.75**	**163**	P	**P**	**04 58 12.5**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=342,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**27.75**	**163**	P	**P**	**04 58 12.2**	**+1.6**
WB2	**Warramunga Arr**	**27.75**	**163**	P	**P**	**04 58 10.3**	**-0.3**
WB2				IAmb	IAmb	04 58 22.0	
	comp=Z,7.3nm,1.5s						
WR0	**Warramunga Arr**	**27.82**	**163**	P	**P**	**04 58 11.1**	**-0.1**
KSAR	**Wonju Array Be**	**30.57**	**3**	P	**P**	**04 58 37.0**	**+1.5**
ASAR	**Alice Springs**	**31.19**	**166**	P	**P**	**04 58 40.6**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=343,slow=7.3,SNR=6.0						
ASAR	**Alice Springs**	**31.19**	**166**	P	**P**	**04 58 41.6**	**+0.5**
FORT	**Forrest**	**37.38**	**177**	P	**P**	**04 59 34.6**	**+0.1**
BBOO	**Buckleboo**	**40.48**	**167**	P	**P**	**04 59 59.3**	**-1.2**
BBOO				IAmb	IAmb	04 59 59.9	
	comp=Z,13nm,1.5s						
MK31	**Makanchi Array**	**54.74**	**324**	P	**P**	**05 01 49.9**	**-1.1**
MK31				IAmb	IAmb	05 01 56.3	
	comp=Z,1.8nm,1.2s						
MKAR	**Makanchi Array**	**54.74**	**324**	P	**P**	**05 01 49.8**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=114,slow=8.7,SNR=6.8						
MKAR	**Makanchi Array**	**54.74**	**324**	P	**P**	**05 01 50.1**	**-0.9**
KURK	**Kurchatov**	**58.88**	**327**	P	**P**	**05 02 19.0**	**-1.2**
KURK				IAmb	IAmb	05 02 36.9	
	comp=Z,2.7nm,1.2s						
KURBB	**Kurchatov Arra**	**58.88**	**327**	P	**P**	**05 02 19.1**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=126,slow=6.0,SNR=7.3						
DCZ	**Deep Cove**	**63.63**	**149**	P	**P**	**05 02 54.4**	**+2.0**
ARCES	**ARCESS Array B**	**87.41**	**340**	P	**P**	**05 05 08.0**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=71,slow=7.1,SNR=1.1						
FINES	**FINESS Array B**	**88.89**	**332**	P	**P**	**05 05 14.1**	**-1.2**
	comp=Z,2.8nm,1.1s,baz=91,slow=10,SNR=3.4						
FINES	**FINESS Array B**	**88.89**	**332**	P	**P**	**05 05 13.6**	**-1.7**

WEL 20 04:55:59.4±0.8, 33°S±13°×18°0W±2°4, h351km±14km, M3.9/19, mB4.5/13, ML4.3/8, MLv4.4/19, Mw(mB)3.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=115.9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.73**	**199**	P	Pn	04 57 17.1	+1.1
MXZ				S	S	04 58 15.4	-2.5
WMGZ	**Waiomatatini S**	**4.94**	**197**	P	Pn	04 57 17.3	-1.0
WMGZ				S	S	04 58 24.6	+2.5
HAZ	**Te Kaha**	**5.07**	**203**	P	Pn	04 57 17.7	-1.8
HAZ				S	S	04 58 25.9	+1.4
PKGZ	**Pakihiroa**	**5.10**	**200**	P	Pn	04 57 20.7	+0.6
PKGZ				S	S	04 58 26.3	+1.0
PUZ	**Puketiti**	**5.22**	**197**	P	Pn	04 57 20.2	-1.1
PUZ				S	S	04 58 28.0	+0.2
RUGZ	**Raukumara Rang**	**5.29**	**202**	P	Pn	04 57 20.8	-1.4
RUGZ				S	S	04 58 28.5	-0.8
TWGZ	**Tauwhareparae**	**5.39**	**199**	P	Pn	04 57 23.7	+0.4
TWGZ				S	S	04 58 34.1	+2.9
CNGZ	**Carnagh Statio**	**5.63**	**196**	P	Pn	04 57 25.8	0.0
MWZ	**Matawai**	**5.67**	**202**	P	Pn	04 57 25.1	-1.3
MWZ				S	S	04 58 37.4	+0.4
URZ	**Urewera**	**5.75**	**205**	P	Pn	04 57 26.9	-0.3
URZ				S	S	04 58 39.4	+1.0
RIGZ	**Rimuhau**	**5.95**	**199**	P	Pn	04 57 29.5	0.0
RIGZ				S	S	04 58 43.3	+0.6
MUGZ	**Murupara**	**6.07**	**207**	P	Pn	04 57 31.1	+0.3
RTZ	**Ruatahuna**	**6.11**	**205**	P	Pn	04 57 31.4	0.0
KNZ	**Kokohu**	**6.27**	**199**	P	Pn	04 57 32.9	-0.2
KNZ				S	S	04 58 47.3	-2.0
MHGZ	**Mahia Peninsul**	**6.33**	**197**	P	Pn	04 57 35.1	+1.2
MTHZ	**Maungataniwha**	**6.37**	**205**	P	Pn	04 57 34.6	+0.2
MTHZ				S	S	04 58 50.9	-0.6
KUTZ	**Kaahu Road**	**6.47**	**212**	P	Pn	04 57 37.6	+2.1
MCHZ	**McNeill Hill**	**6.95**	**203**	P	Pn	04 57 41.2	+0.1
MCHZ				S	S	04 59 07.0	+3.2
KWHZ	**Kaweka Forest**	**7.03**	**205**	P	Pn	04 57 41.9	-0.1
KWHZ				S	S	04 59 07.8	+2.3
CKHZ	**Cape Kidnapper**	**7.03**	**200**	P	P	04 57 42.9	-0.5
CKHZ				S	S	04 59 07.9	+2.5
NTVZ	**North Tongarir**	**7.04**	**210**	P	P	04 57 43.3	-0.3
**TMV

GOMA			SG	**Sg**	**06 07 58.4**	**+0.6**
BALB	**Balikesir**	**0.54 357**	PG	**Pg**	**06 07 55.3**	**+0.2**
BALB			SG	**Sb**	**06 08 03.4**	**0.0**
DEMI	**Demirci**	**0.63 95**	P	**Pg**	**06 07 56.8**	**0.0**
DEMI			S	**Sg**	**06 08 04.8**	**-0.4**
DEMI			*i* AML	AML	06 08 06.0	
	comp=Z,2μm,0.5s					
DEMI			*i* AML	AML	06 08 06.0	
	comp=N,4μm,0.3s					
DEMI			*i* AML	AML	06 08 06.0	
	comp=E,3μm,0.2s					
DURS	**Dursunbey**	**0.66 41**	P	**Pg**	**06 07 56.8**	**-0.7**
DURS			S	**Sg**	**06 08 05.9**	**-0.3**
DURS			*i* AML	AML	06 08 10.0	
	comp=E,3μm,0.3s					
DURS			*i* AML	AML	06 08 11.0	
	comp=N,1μm,0.2s					
DURS			*i* AML	AML	06 08 13.0	
	comp=Z,690nm,0.3s					
ZEDA	**zmir-Bergama**	**0.66 258**	P	**Pg**	**06 07 57.7**	**+0.2**
ZEDA			S	**Sg**	**06 08 06.3**	**+0.1**
ZEDA			*i* AML	AML	06 08 08.0	
	comp=Z,2μm,0.4s					
ZEDA			*i* AML	AML	06 08 08.0	
	comp=N,2μm,0.3s					
ZEDA			*i* AML	AML	06 08 08.0	
	comp=E,2μm,0.4s					
BALY	**Balya**	**0.68 341**	P	**Pg**	**06 07 57.8**	**+0.1**
BALY			S	**Sg**	**06 08 07.0**	**+0.3**
BALY			*i* AML	AML	06 08 08.0	
	comp=Z,871nm,0.2s					
BALY			*i* AML	AML	06 08 08.0	
	comp=E,2μm,0.4s					
BALY			*i* AML	AML	06 08 10.0	
	comp=N,1μm,0.4s					
DST	**Dursunbey**	**0.74 47**	PG	**Pg**	**06 07 58.7**	**-0.3**
DST			SG	**Sb**	**06 08 09.7**	**+0.3**
BUHA	**Balikesir, Bur**	**0.76 302**	P	**Pg**	**06 07 59.3**	**0.0**
BUHA			S	**Sb**	**06 08 09.8**	**0.0**
BUHA			*i* AML	AML	06 08 12.0	
	comp=N,2μm,0.4s					
BUHA			*i* AML	AML	06 08 13.0	
	comp=Z,786nm,0.2s					
BUHA			*i* AML	AML	06 08 14.0	
	comp=E,1μm,0.7s					
DKL	**Dikili**	**0.78 268**	PG	**Pg**	**06 07 59.8**	**+0.1**
DKL			SG	**Sb**	**06 08 10.9**	**+0.5**
KULA	**Kula-Manisa**	**0.83 135**	P	**Pg**	**06 08 00.5**	**-0.1**
KULA			S	**Sg**	**06 08 10.3**	**-1.2**
KULA	**Kula-Manisa**	**0.83 135**	PG	**Pg**	**06 08 00.5**	**-0.1**
SMAA	**Simav-Kutahya**	**0.83 90**	PG	**Pg**	**06 08 00.5**	**-0.2**
SIMA	**Simav-Kutahya**	**0.83 91**	PG	**Pg**	**06 08 00.7**	**0.0**
USAK	**Uak-Merkez**	**0.95 114**	P	**Pb**	**06 08 02.7**	**-0.1**
USAK			S	**Sg**	**06 08 13.9**	**-1.4**
USAK			*i* AML	AML	06 08 18.0	
	comp=N,494nm,0.6s					
USAK			*i* AML	AML	06 08 18.0	
	comp=E,440nm,0.6s					
USAK			*i* AML	AML	06 08 19.0	
	comp=Z,377nm,0.9s					
GONE	**Gonen-Balikesi**	**0.96 350**	PG	**Pb**	**06 08 02.9**	**-0.1**
AYVA	**Ayvalik**	**0.97 283**	P	**Pg**	**06 08 03.5**	**+0.2**
AYVA			S	**Sg**	**06 08 16.7**	**+0.7**
AYVA			*i* AML	AML	06 08 19.0	
	comp=E,2μm,0.3s					
AYVA			*i* AML	AML	06 08 20.0	
	comp=Z,2μm,0.3s					
AYVA			*i* AML	AML	06 08 20.0	
	comp=N,2μm,0.3s					
FOCM	**Foa**	**1.00 247**	PG	**Pb**	**06 08 03.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.15 181**	PN	**Pb**	**06 08 06.1**	**-0.3**
KNL	**Balıkesir**	**1.20 346**	P	**Pb**	**06 08 07.2**	**+0.1**
KNL			S	**Sb**	**06 08 22.3**	**-0.3**
KNL			*i* AML	AML	06 08 26.0	
	comp=Z,502nm,0.3s					
KNL			*i* AML	AML	06 08 26.0	
	comp=E,1μm,0.5s					
KNL			*i* AML	AML	06 08 30.0	
	comp=N,695nm,0.6s					
KCTX	**Karacabey (Bur**	**1.21 16**	PN	**Pn**	**06 08 07.1**	**0.0**
ORLT	**Orhaneli**	**1.21 39**	PN	**Pg**	**06 08 07.7**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.23 302**	P	**Pg**	**06 08 08.1**	**-0.2**
BAYC			S	**Sb**	**06 08 23.6**	**+0.2**
BAYC			*i* AML	AML	06 08 26.0	
	comp=N,870nm,0.4s					
BAYC			*i* AML	AML	06 08 26.0	
	comp=E,701nm,0.2s					
BAYC			*i* AML	AML	06 08 28.0	
	comp=Z,378nm,0.5s					
EDC	**Edincik**	**1.24 358**	PN	**Pb**	**06 08 08.1**	**+0.3**
TVSB	**Tavsanli**	**1.25 73**	PN	**Pb**	**06 08 08.3**	**+0.3**
URLA	**Izmir**	**1.27 235**	PN	**Pb**	**06 08 08.5**	**+0.3**
URLA	**Izmir**	**1.27 235**	P	**Pn**	**06 08 07.6**	**-0.3**
URLA			S	**Sg**	**06 08 25.2**	**-0.3**
URLA			*i* AML	AML	06 08 32.0	
	comp=E,450nm,0.4s					
URLA			*i* AML	AML	06 08 34.0	
	comp=Z,168nm,0.7s					
URLA			*i* AML	AML	06 08 34.0	
	comp=N,468nm,0.5s					
PRK	**Paraskevi**	**1.28 277**	P	**Pg**	**06 08 09.3**	**+0.1**
PRK			S	**Sn**	**06 08 25.3**	**+0.3**
	4μm,0.6s					
DGB	**zmir**	**1.32 218**	P	**Pn**	**06 08 08.3**	**-0.3**
DGB			S	**Sg**	**06 08 26.9**	**-0.2**
DGB			*i* AML	AML	06 08 28.0	
	comp=E,330nm,0.3s					
DGB			*i* AML	AML	06 08 29.0	
	comp=N,347nm,0.3s					
DGB			*i* AML	AML	06 08 32.0	
	comp=Z,103nm,0.2s					
KRBG	**Karabiga-Canak**	**1.37 340**	PN	**Pb**	**06 08 09.9**	**-0.1**
YYLC	**Yaylacik**	**1.39 30**	SPECP		06 08 09.0	
YYLC			P	**Pn**	**06 08 09.7**	**+0.2**
YYLC			S	**Sb**	**06 08 28.4**	**+0.5**
YYLC			*i* AML	AML	06 08 31.0	
	comp=E,2μm,0.7s					
YYLC			*i* AML	AML	06 08 32.0	
	comp=N,2μm,0.4s					
YYLC			*i* AML	AML	06 08 34.0	
	comp=Z,826nm,0.3s					
ZEYE	**Izmir, Urla-Ze**	**1.40 232**	SPECP		06 08 09.0	
ZEYE			P	**Pn**	**06 08 09.3**	**-0.4**
ZEYE			S	**Sg**	**06 08 30.5**	**+0.9**
ZEYE			*i* AML	AML	06 08 36.0	
	comp=Z,499nm,0.6s					
ZEYE			*i* AML	AML	06 08 38.0	
	comp=E,701nm,0.5s					
ZEYE			*i* AML	AML	06 08 39.0	
	comp=N,470nm,0.4s					
ULDT	**Uludag**	**1.41 42**	SPECP		06 08 10.0	
ULDT			P	**Pn**	**06 08 10.3**	**+0.4**
ULDT			S	**Sn**	**06 08 28.0**	**-0.3**
ULDT			*i* AML	AML	06 08 30.0	
	comp=E,1μm,0.5s					
ULDT			*i* AML	AML	06 08 32.0	
	comp=Z,764nm,0.4s					
ULDT			*i* AML	AML	06 08 32.0	
	comp=N,832nm,0.3s					
EZN	**Ezine**	**1.43 301**	P	**Pn**	**06 08 10.4**	**+0.4**
EZN			S	**Sn**	**06 08 27.8**	**-0.7**
	720nm,0.3s					
EZN	**Ezine**	**1.43 301**	PN	**Pb**	**06 08 10.9**	**0.0**
KOCA	**Canakkale, Ayv**	**1.43 287**	SPECP		06 08 10.0	
KOCA			P	**Pn**	**06 08 10.2**	**+0.1**
KOCA			S	**Sn**	**06 08 28.8**	**0.0**
KOCA			*i* AML	AML	06 08 31.0	
	comp=N,1μm,0.5s					
KOCA			*i* AML	AML	06 08 33.0	
	comp=Z,616nm,0.3s					
KOCA			*i* AML	AML	06 08 35.0	
	comp=E,892nm,0.2s					
PASA	**Karahalli, USA**	**1.45 121**	P	**Pn**	**06 08 10.8**	**+0.5**
PASA			S	**Sn**	**06 08 29.2**	**0.0**
PASA			*i* AML	AML	06 08 34.0	
	comp=Z,54nm,0.3s					
PASA			*i* AML	AML	06 08 36.0	
	comp=N,103nm,0.9s					
PASA			*i* AML	AML	06 08 42.0	
	comp=E,81nm,0.7s					
STBT	**Saitabat**	**1.46 44**	SPECP		06 08 10.0	
STBT			P	**Pn**	**06 08 10.6**	**0.0**
STBT			S	**Sb**	**06 08 30.1**	**+0.1**
STBT			*i* AML	AML	06 08 33.0	
	comp=N,3μm,0.4s					
STBT			*i* AML	AML	06 08 33.0	
	comp=E,3μm,0.3s					
STBT			*i* AML	AML	06 08 34.0	
	comp=Z,881nm,0.4s					
MDNY	**Mudanya-Bursa**	**1.47 30**	PN	**Pn**	**06 08 11.1**	**+0.5**
GCAM	**G?zelcaml?**	**1.50 201**	PN	**Pn**	**06 08 11.3**	**+0.3**
GCAM	**G?zelcaml?**	**1.50 201**	P	**Pn**	**06 08 09.9**	**-1.1**
GCAM			S	**Sb**	**06 08 31.2**	**+0.2**
GCAM			*i* AML	AML	06 08 35.0	
	comp=E,186nm,0.4s					
GCAM			*i* AML	AML	06 08 37.0	
	comp=Z,189nm,0.9s					
GCAM			*i* AML	AML	06 08 38.0	
	comp=N,216nm,0.3s					
MRMT	**Marmara Adasi**	**1.52 351**	PN	**Pb**	**06 08 12.1**	**-0.4**
IGD	**Bursa**	**1.53 40**	SPECP		06 08 11.0	
IGD			P	**Pn**	**06 08 11.3**	**-0.2**
IGD			S	**Sb**	**06 08 31.9**	**0.0**
IGD			*i* AML	AML	06 08 34.0	
	comp=Z,249nm,0.3s					
IGD			*i* AML	AML	06 08 34.0	
	comp=E,272nm,0.3s					
IGD			*i* AML	AML	06 08 35.0	
	comp=N,405nm,0.4s					
AVDN	**Avdancik/Bursa**	**1.53 39**	SPECP		06 08 11.0	
AVDN			P	**Pn**	**06 08 11.6**	**+0.1**
AVDN			S	**Sn**	**06 08 31.0**	**-0.3**
AVDN			*i* AML	AML	06 08 35.0	
	comp=N,610nm,0.5s					
AVDN			*i* AML	AML	06 08 35.0	
	comp=E,719nm,0.3s					
AVDN			*i* AML	AML	06 08 36.0	
	comp=Z,364nm,0.5s					
LPK	**Lapseki**	**1.55 325**	PN	**Pn**	**06 08 12.2**	**+0.5**
ANDZ	**Kutahya, Merke**	**1.59 75**	SPECP		06 08 12.0	
ANDZ			P	**Pn**	**06 08 12.9**	**+0.4**
ANDZ			S	**Sb**	**06 08 34.6**	**+0.7**
ANDZ			*i* AML	AML	06 08 38.0	
	comp=N,618nm,0.5s					
ANDZ			*i* AML	AML	06 08 38.0	
	comp=E,669nm,0.4s					
ANDZ			*i* AML	AML	06 08 39.0	
	comp=Z,180nm,0.7s					
SIGR	**SIGRI**	**1.60 275**	P	**Pn**	**06 08 12.6**	**+0.2**
SIGR			S	**Sb**	**06 08 33.9**	**-0.1**
	2μm,0.5s					
SIGR	**SIGRI**	**1.60 275**	PN	**Pb**	**06 08 13.5**	**-0.4**
BOZC	**Bozcaada**	**1.62 298**	PN	**Pb**	**06 08 13.7**	**-0.5**
BOZC	**Bozcaada**	**1.62 298**	SPECP		06 08 15.0	
BOZC			P	**Pg**	**06 08 15.2**	**-0.4**
BOZC			S	**Sn**	**06 08 32.0**	**-1.3**
BOZC			*i* AML	AML	06 08 38.0	
	comp=N,1μm,0.3s					
BOZC			*i* AML	AML	06 08 39.0	
	comp=Z,184nm,0.4s					
BOZC			*i* AML	AML	06 08 39.0	
	comp=E,518nm,0.2s					
CHOS	**Chios island**	**1.62 244**	P	**Pn**	**06 08 12.8**	**+0.1**
CHOS			S	**Sb**	**06 08 35.0**	**+0.5**
	1μm,0.6s					
CHOS	**Chios island**	**1.62 244**	PN	**Pb**	**06 08 13.8**	**-0.4**
SMG	**Samos**	**1.63 212**	P	**Pn**	**06 08 12.6**	**-0.2**
SMG			S	**Sb**	**06 08 35.7**	**+0.9**
	592nm,0.4s					
ECEA	**Canakkale, Ece**	**1.64 306**	SPECP		06 08 13.0	
ECEA			P	**Pn**	**06 08 13.7**	**+0.7**
ECEA			S	**Sb**	**06 08 34.7**	**-0.4**
ECEA			*i* AML	AML	06 08 38.0	
	comp=E,788nm,0.4s					
ECEA			*i* AML	AML	06 08 39.0	
	comp=N,1μm,0.3s					
ECEA			*i* AML	AML	06 08 40.0	
	comp=Z,226nm,0.4s					
GEMT	**Gemlik**	**1.66 36**	PN	**Pb**	**06 08 14.4**	**-0.4**
MAR6	**Marsite Statio**	**1.68 343**	PN	**Pb**	**06 08 14.7**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.68 341**	PN	**Pb**	**06 08 14.7**	**-0.6**
SART	**Tekirdag**	**1.68 341**	SPECP		06 08 14.0	
SART			P	**Pn**	**06 08 14.2**	**+0.6**
SART			S	**Sn**	**06 08 34.6**	**-0.4**
SART			*i* AML	AML	06 08 39.0	
	comp=Z,138nm,0.7s					
SART			*i* AML	AML	06 08 41.0	
	comp=E,415nm,0.4s					
SART			*i* AML	AML	06 08 44.0	
	comp=N,308nm,0.5s					
GELI	**Tayfur-Gelibol**	**1.70 320**	PN	**Pb**	**06 08 14.9**	**-0.7**
GZKV	**Gazikoy-Tekird**	**1.70 345**	PN	**Pb**	**06 08 14.9**	**-0.7**
MAR3	**Marsite Statio**	**1.71 344**	PN	**Pb**	**06 08 15.0**	**-0.7**
DDIM	**Aydin, Didim**	**1.73 198**	SPECP		06 08 17.0	
DDIM			P	**Pg**	**06 08 17.0**	**-0.6**
DDIM			S	**Sg**	**06 08 39.1**	**-0.9**
DDIM			*i* AML	AML	06 08 52.0	
	comp=E,279nm,0.8s					
DDIM			*i* AML	AML	06 08 53.0	
	comp=Z,181nm,1.4s					
DDIM			*i* AML	AML	06 08 54.0	
	comp=N,222nm,0.7s					
ESNK	**Esenk†jy**	**1.73 28**	P	**Pn**	**06 08 13.3**	**-0.9**
ESNK			S	**Sn**	**06 08 35.6**	**-0.5**
TRML	**Termal-Yalova**	**1.79 32**	PN	**Pb**	**06 08 16.2**	**-0.9**
TAVA	**DENIZLI_Tavas**	**1.81 154**	SPECP		06 08 15.0	
TAVA			P	**Pn**	**06 08 15.3**	**-0.2**
TAVA			S	**Sn**	**06 08 37.9**	**-0.4**
TAVA			*i* AML	AML	06 08 46.0	
	comp=E,63nm,0.5s					
TAVA			*i* AML	AML	06 08 49.0	
	comp=N,60nm,0.6s					
TAVA			*i* AML	AML	06 08 58.0	
	comp=Z,36nm,0.9s					
YLV	**Yalova**	**1.84 37**	PN	**Pn**	**06 08 16.9**	**+1.0**
BILE	**Bilecik/Merkez**	**1.85 54**	SPECP		06 08 18.0	
BILE			P	**Pb**	**06 08 18.3**	**+0.1**
BILE			S	**Sg**	**06 08 43.7**	**-0.3**
BILE			*i* AML	AML	06 08 45.0	
	comp=Z,259nm,0.7s					
BILE			*i* AML	AML	06 08 48.0	
	comp=E,423nm,0.4s					
BILE			*i* AML	AML	06 08 49.0	
	comp=N,682nm,0.4s					
CAVI	**Cavuskoy**	**1.85 53**	PN	**Pn**	**06 08 16.9**	**+1.0**
MULA	**Mugla, Merkez-**	**1.87 170**	SPECP		06 08 17.0	
MULA			P	**Pn**	**06 08 17.1**	**+0.9**
MULA			S	**Sn**	**06 08 38.8**	**-0.9**
MULA			*i* AML	AML	06 08 47.0	
	comp=Z,127nm,0.5s					
MULA			*i* AML	AML	06 08 47.0	
	comp=N,140nm,0.6s					
MULA			*i* AML	AML	06 08 50.0	
	comp=E,175nm,0.4s					
AFYO	**Afyonkarahisar**	**1.89 99**	SPECP		06 08 21.0	
AFYO			P	**Pg**	**06 08 21.8**	**+1.0**
AFYO			S	**Sg**	**06 08 45.1**	**-0.2**
AFYO			*i* AML	AML	06 08 51.0	
	comp=Z,195nm,0.6s					
AFYO			*i* AML	AML	06 08 52.0	
	comp=N,332nm,0.7s					
AFYO			*i* AML	AML	06 09 00.0	
	comp=E,222nm,0.5s					
GADA	**Gvkgeada**	**1.90 306**	PN	**Pn**	**06 08 17.6**	**+1.1**
ERIK	**Erikli-Kesan**	**1.90 326**	PN	**Pn**	**06 08 17.8**	**+1.3**
ADVT	**Abdulvahap**	**1.94 46**	PN	**Pn**	**06 08 18.4**	**+1.4**
KZIL	**AFYON_Kizioren**	**1.94 115**	SPECP		06 08 17.0	
KZIL			P	**Pn**	**06 08 17.9**	**+0.7**
KZIL			S	**Sg**	**06 08 48.3**	**+1.4**
KZIL			*i* AML	AML	06 08 52.0	
	comp=Z,42nm,0.5s					
KZIL			*i* AML	AML	06 08 56.0	
	comp=N,106nm,0.8s					
KZIL			*i* AML	AML	06 08 56.0	
	comp=E,92nm,0.9s					
KESN	**Edirne-Kesan**	**1.96 332**	SPECP		06 08 17.0	
KESN			P	**Pn**	**06 08 18.0**	**+0.2**
KESN			S	**Sn**	**06 08 41.4**	**-1.0**
KESN			*i* AML	AML	06 08 49.0	
	comp=Z,150nm,0.5s					
KESN			*i* AML	AML	06 08 49.0	
	comp=E,296nm,0.3s					
KESN			*i* AML	AML	06 08 51.0	
	comp=N,338nm,0.4s					
YER	**Yerkesik**	**1.99 171**	P	**Pn**	**06 08 17.4**	**-0.4**
YER	**Yerkesik**	**1.99 171**	PN	**Pn**	**06 08 18.8**	**+1.0**
AUKIR	**Kırka- Seyitga**	**2.04 84**	P	**Pg**	**06 08 22.9**	**-0.8**
AUKIR			S	**Sg**	**06 08 49.9**	**-0.3**
AUKIR			*i* AML	AML	06 08 53.0	
	comp=E,402nm,0.8s					
AUKIR			*i* AML	AML	06 08 58.0	
	comp=Z,313nm,1.0s					
AUKIR			*i* AML	AML	06 09 04.0	
	comp=N,308nm,0.8s					
BASM	**Basmaki-Afyon**	**2.05 124**	PN	**Pn**	**06 08 19.7**	**+1.0**
BODT	**Bodrum**	**2.09 193**	P	**Pn**	**06 08 18.8**	**-0.4**
BODT	**Bodrum**	**2.09 193**	PN	**Pn**	**06 08 20.4**	**+1.2**
SHUT	**Suhut-Afyon**	**2.13 104**	PN	**Pn**	**06 08 20.9**	**+1.0**
GOLH	**Golhisar**	**2.27 145**	SPECP		06 08 22.0	
GOLH			P	**Pn**	**06 08 22.6**	**+0.8**
GOLH			S	**Sg**	**06 08 58.4**	**+0.8**
GOLH			*i* AML	AML	06 09 08.0	
	comp=E,80nm,1.7s					
GOLH			*i* AML	AML	06 09 09.0	
	comp=Z,48nm,0.8s					
GOLH			*i* AML	AML	06 09 09.0	
	comp=N,42nm,0.5s					
TURN	**Turunc**	**2.34 173**	PN	**Pn**	**06 08 23.8**	**+1.2**
EDRB	**Edirne**	**2.88 342**	P	**Pn**	**06 08 30.5**	**+0.4**
VTS	**Vitosha**	**4.99 316**	*e*Pn	**Pn**	**06 08 59.5**	**+0.3**
STIP	**Stip**	**5.08 302**	*i* Pn	**Pn**	**06 08 59.8**	**-0.4**
BOSS	**Bosilegrad**	**5.34 311**	*e*Pn	**Pn**	**06 09 06.3**	**+2.5**
PRVS	**Prvonek**	**5.58 309**	*e*Pn	**Pn**	**06 09 07.8**	**+0.6**
ZAPS	**Zavoj**	**5.76 318**	*e*Pn	**Pn**	**06 09 12.7**	**+3.0**
SELS	**Selova**	**6.57 311**	*e*Pn	**Pn**	**06 09 20.5**	**-0.3**
GRUS	**Gruza**	**7.21 314**	*e*Pn	**Pn**	**06 09 30.3**	**+0.8**

IDC 20 06:12:08.0±3.8, 55°.57N×86°.04E, h0km, mb1 2.5/2, mb1mx2.5/38, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=31.1km s-min=24.2km az=36.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77 204**		*i*		06 22 47.8	
	baz=21, slow=344, SNR=6.8						
ZALV	**Zalesovo Beam**	**1.77 204**		Pg	Pn	06 12 39.8	-0.1
	1.0nm, 0.3s, baz=24, slow=17, SNR=11						
ZALV				Lg	Lg	06 13 04.5	
	0.6nm, 0.3s, baz=23, slow=29, SNR=5.4						
KURBB	**Kurchatov Arra**	**6.71 225**		Pn	Pn	06 13 48.2	+0.6
	0.0nm, 0.3s, baz=42, slow=14, SNR=4.1						
MKAR	**Makanchi Array**	**9.10 197**		Pn	Pn	06 14 19.7	-0.7
	0.0nm, 0.3s, baz=14, slow=13, SNR=1.5						

IDC 20 06:14:46.9±2.5, 54°.12N×86°.47E, h0km, mb1 2.9/2, mb1mx2.8/41, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=19.9km s-min=11.8km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99 261**		*i*		06 20 19.8	
	baz=80, slow=341, SNR=2.3						
ZALV	**Zalesovo Beam**	**0.99 261**		Pg	Pg	06 15 05.4	-0.5
	0.5nm, 0.3s, baz=81, slow=18, SNR=5.5						
ZALV				Lg	Lg	06 15 19.9	
	1.2nm, 0.3s, baz=79, slow=30, SNR=10						
KURBB	**Kurchatov Arra**	**5.99 237**		Pn	Pn	06 16 17.2	+0.4
	0.1nm, 0.3s, baz=54, slow=13, SNR=5.4						
KURBB				Lg	Lg	06 17 56.9	
	0.0nm, 0.3s, baz=54, slow=33, SNR=1.7						
MKAR	**Makanchi Array**	**7.80 202**		Pn	Pn	06 16 42.8	+1.1
	0.2nm, 0.3s, baz=24, slow=12, SNR=13						
MKAR				Sn	Sn	06 18 10.6	-0.1
	0.1nm, 0.3s, baz=32, slow=5.6, SNR=5.5						
MKAR				Lg	Lg	06 18 53.5	
	0.0nm, 0.3s, baz=24, slow=22, SNR=2.7						

*IDC **20** 06:22:55.4±2.0, 36°.65N×140°.73E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/50, mbtmp3.4/3, Error ellipse: s-maj=39.3km s-min=24.6km az=56.0*
*JMA **20** 06:22:58.5, 36°.67N×140°.64E, h10km±1km, M3.3*
JMA Felt II J1.

ISC 20 06:22:57.4±1.1, 36°.66N±0°.03×140°.70E±0°.05, h13km±6km, n20, σ0s57/25, mb3.5/3, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.12 244**		**⇑P**	**Pg**	**06 23 00.9**	**+0.3**
JHO				S	**Sg**	**06 23 02.5**	**-0.3**
JHYU	**Hitachinakayam**	**0.33 196**		**⇓P**	**Pb**	**06 23 05.2**	**0.0**
JHYU				*e*S	**Sb**	**06 23 10.1**	**-0.3**
JFFD	**Fukushimafurud**	**0.44 346**		P	**Pb**	**06 23 06.8**	**-0.3**
JFFD				S	**Sg**	**06 23 12.4**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.45 10**		P	**Pb**	**06 23 07.1**	**-0.1**
ONAJ				S	**Sb**	**06 23 12.9**	**-0.9**
JYT	**Yasato**	**0.59 223**		P	**Pg**	**06 23 09.4**	**+0.4**
JYT				S	**Sg**	**06 23 17.1**	**+0.2**
JSB	**Shiboa**	**0.69 296**		**⇑P**	**Pb**	**06 23 11.6**	**+0.2**
JSB				*e*S	**Sg**	**06 23 20.6**	**+0.5**
JFK	**Kawauchi**	**0.72 11**		P	**Pb**	**06 23 11.8**	**0.0**
JFK				S	**Sb**	**06 23 21.6**	**+0.1**
JFT	**Otama**	**0.90 341**		**⇑P**	**Pn**	**06 23 15.2**	**-0.6**
JFT				S	**Sb**	**06 23 26.7**	**-0.1**
JAG	**Ashikaga**	**1.03 257**		P	**Pb**	**06 23 16.3**	**-0.8**
JAG				S	**Sb**	**06 23 29.8**	**-0.7**
MJAR	**Matsushiro Arr**	**2.01 267**		Pn	**Pn**	**06 23 31.1**	**+0.2**
	1.7nm, 0.3s, baz=84, slow=16, SNR=32						
MJAR				Sn	**Sn**	**06 23 56.0**	**+0.1**
	2.2nm, 0.3s, baz=87, slow=30, SNR=8.8						
MAT	**Matsushiro**	**2.01 267**		P	**Pb**	**06 23 33.0**	**-0.8**
MAT				S	**Sn**	**06 23 57.7**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**28.46 119**		T	T	06 58 37.9	
	baz=312, slow=75, SNR=221						
H11N1	**WAKE ISLAND Hy**	**28.47 119**		T	T	06 58 38.0	
	baz=312, slow=75, SNR=158						
H11N3	**WAKE ISLAND Hy**	**28.48 119**		T	T	06 58 39.3	
	baz=312, slow=75, SNR=151						
H11S1	**WAKE ISLAND Hy**	**29.15 121**		T	T	06 59 28.6	
	baz=314, slow=75, SNR=632						
H11S3	**WAKE ISLAND Hy**	**29.15 121**		T	T	06 59 28.7	
	baz=314, slow=75, SNR=477						
H11S2	**WAKE ISLAND Hy**	**29.16 121**		T	T	06 59 32.5	
	baz=314, slow=75, SNR=323						
KURBB	**Kurchatov Arra**	**45.78 308**		P	**P**	**06 31 18.3**	**-0.2**
	0.5nm, 0.5s, baz=83, slow=7.7, SNR=5.5						
WRA	**Warramunga Arr**	**56.62 187**		P	**P**	**06 32 40.0**	**0.0**
	0.2nm, 0.4s, baz=3.3, slow=7.4, SNR=4.6						
ASAR	**Alice Springs**	**60.34 187**		P	**P**	**06 33 06.1**	**0.0**
	0.1nm, 0.3s, baz=15, slow=8.0, SNR=1.9						

IDC 20 06:28:56.8±2.6, 54°.19N×86°.35E, h0km, mb1 2.7/2, mb1mx2.7/58, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=19.9km s-min=12.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94 256**		*i*		06 34 21.9	
	baz=74, slow=338, SNR=3.8						
ZALV	**Zalesovo Beam**	**0.94 256**		Pg	Pg	06 29 13.6	-1.1
	1.2nm, 0.3s, baz=75, slow=17, SNR=18						
ZALV				Lg	Lg	06 29 28.0	
	3.3nm, 0.3s, baz=75, slow=28, SNR=23						
KURBB	**Kurchatov Arra**	**5.97 236**		Pn	Pn	06 30 28.1	+1.7
	0.1nm, 0.3s, baz=53, slow=14, SNR=4.3						
KURBB				Lg	Lg	06 32 07.9	
	0.0nm, 0.3s, baz=50, slow=33, SNR=6.0						
MKAR	**Makanchi

STVI					Sb	06 35 39.6 +0.2
CUPR	**Culebra, Puert**	**1.62 195**	⌈	*e*P	Pb	06 35 21.5 -0.5
CUPR	**Culebra, Puert**	**1.62 195**		*e*S	Sb	06 35 42.4 +0.2
CUPR	**Culebra, Puert**	**1.62 195**			Pb	06 35 21.5 -0.5
CUPR					Sb	06 35 42.4 +0.2
CUPR	**Culebra, Puert**	**1.62 195**		IAML		06 35 43.6
	comp=E,114nm,0.3s					
CBYP	**Canovanas**	**1.86 211**	⌈	*e*P	Pn	06 35 24.4 +0.6
CBYP	**Canovanas**	**1.86 211**		*e*S	Sn	06 35 47.1 +0.2
CBYP	**Canovanas**	**1.86 211**			Pn	06 35 24.4 +0.6
CBYP					Sn	06 35 47.1 +0.2
MTP	**Monte Pirata**	**1.90 201**			Pn	06 35 25.5 +1.3
MTP				IAML		06 35 50.8
	comp=E,162nm,0.3s					
MTP				IAML		06 35 51.1
	comp=N,119nm,0.2s					
GCPR	**Guaynabo City**	**1.95 217**	⌈	*e*P	Pn	06 35 25.3 +0.3
GCPR	**Guaynabo City**	**1.95 217**		*e*S	Sn	06 35 49.0 -0.1
GCPR	**Guaynabo City**	**1.95 217**			Pn	06 35 25.3 +0.3
GCPR					Sn	06 35 49.0 -0.1
EMPR	**Esperanza - Ma**	**2.12 229**	⌈	*e*P	Pn	06 35 28.0 +0.8
EMPR	**Esperanza - Ma**	**2.12 229**		*e*S	Sn	06 35 53.5 +0.4
EMPR	**Esperanza - Ma**	**2.12 229**			Pn	06 35 28.0 +0.8
EMPR					Sn	06 35 53.5 +0.4
EMPR	**Esperanza - Ma**	**2.12 229**		IAML		06 35 55.8
	comp=N,106nm,0.9s					
SJG	**San Juan**	**2.15 215**		Pn	Pn	06 35 28.2 +0.5
SJG				IAML		06 35 54.5
	comp=N,74nm,0.3s					
SJG				IAML		06 35 56.8
	comp=N,66nm,0.3s					
PDPR	**Patillas Dam,**	**2.16 211**		Pn	Pn	06 35 28.5 +0.7
PDPR				IAML		06 35 59.1
	comp=E,56nm,0.1s					
IGPR	**InterUniversit**	**2.25 212**	⌈	*e*P	Pn	06 35 29.9 +0.9
IGPR	**InterUniversit**	**2.25 212**		*e*S	Sn	06 35 55.9 -0.4
AOPR	**Arecibo Observ**	**2.36 230**	⌈	*e*P	Pn	06 35 31.1 +0.5
AOPR	**Arecibo Observ**	**2.36 230**		*e*S	Sn	06 35 59.8 +0.6
AOPR	**Arecibo Observ**	**2.36 230**		*e*P	Pn	06 35 30.5 -0.1
AOPR				*e*S	Sn	06 35 58.5 -0.7
AOPR	**Arecibo Observ**	**2.36 230**			Pn	06 35 31.1 +0.5
AOPR					Sn	06 35 59.8 +0.6
CELP	**Cerrillos**	**2.43 223**	⌈	*e*P	Pn	06 35 32.1 +0.6
CELP	**Cerrillos**	**2.43 223**		*e*S	Sn	06 36 00.1 -0.8
CELP	**Cerrillos**	**2.43 223**		Pn	Pn	06 35 32.2 +0.6
CELP	**Cerrillos**	**2.43 223**			Sn	06 36 00.1 -0.8
OBIP	**Obispado Ponce**	**2.47 223**	⌈	*e*P	Pn	06 35 32.7 +0.6
OBIP	**Obispado Ponce**	**2.47 223**		*e*S	Sn	06 36 02.1 +0.2
OBIP	**Obispado Ponce**	**2.47 223**			Pn	06 35 32.7 +0.6
OBIP					Sn	06 36 02.1 +0.2
OBIP	**Obispado Ponce**	**2.47 223**		IAML		06 36 03.5
	comp=N,45nm,0.3s					
AGPR	**Aguadilla, PR**	**2.56 237**	⌈	*e*P	Pn	06 35 34.0 +0.6
AGPR	**Aguadilla, PR**	**2.56 237**		*e*S	Sn	06 36 04.8 +0.7
AGPR	**Aguadilla, PR**	**2.56 237**			Pn	06 35 34.0 +0.6
AGPR					Sn	06 36 04.8 +0.7
AGPR	**Aguadilla, PR**	**2.56 237**		IAML		06 36 09.0
	comp=E,59nm,0.4s					
LSP	**Las Mesas**	**2.71 232**	⌈	*e*P	Pn	06 35 36.2 +0.7
LSP	**Las Mesas**	**2.71 232**		*e*S	Sn	06 36 06.9 -1.1
MLPR	**Magueyes Islan**	**2.82 228**	⌈	*e*P	Pn	06 35 36.4 -0.5
MLPR	**Magueyes Islan**	**2.82 228**		*e*S	Sn	06 36 09.5 -0.9
MLPR	**Magueyes Islan**	**2.82 228**			Pn	06 35 36.4 -0.5
MLPR					Sn	06 36 09.5 -0.9
MLPR	**Magueyes Islan**	**2.82 228**		IAML		06 36 10.1
	comp=N,41nm,0.3s					
MLPR				IAML		06 36 14.3
	comp=E,35nm,0.4s					
CRPR	**Cabo Rojo, PR**	**2.84 229**	⌈	*e*P	Pn	06 35 37.5 +0.3
CRPR	**Cabo Rojo, PR**	**2.84 229**		*e*S	Sn	06 36 10.1 -0.9
CRPR	**Cabo Rojo, PR**	**2.84 229**			Pn	06 35 37.5 +0.3
CRPR					Sn	06 36 10.1 -0.9
CRPR	**Cabo Rojo, PR**	**2.84 229**		IAML		06 36 12.5
	comp=E,43nm,0.5s					
ANWB	**Willy Bob**	**3.64 127**		*e*P	Pn	06 35 47.6 -0.6
ANWB				*e*S	Sn	06 36 29.9 -0.9
ANDO	**Antigua, Disas**	**3.97 133**		*e*P	Pn	06 35 54.0 +1.2
ANDO	**Antigua, Disas**	**3.97 133**		*e*S	Sn	06 36 41.5 +2.5
ANBD	**Bethesda, Anti**	**4.06 133**		*e*P	Pn	06 35 53.8 -0.1
ANBD	**Bethesda, Anti**	**4.06 133**		*e*S	Sn	06 36 39.1 -2.0
CBE	**Ff, Capester**	**4.89 140**		*e*P	Pn	06 36 06.3 +1.0
MAGL	**Barre de l'ile**	**5.18 138**		*e*P	Pb	06 36 22.2 -0.6
DSLB	**Salisbury**	**5.50 143**		*e*P	Pn	06 36 14.8 +1.1
SDDR	**Presa de Saban**	**6.14 263**		Pn	Pn	06 36 22.9 +0.2

*IDC **20** 06:39:32.2±1.2, 2°.54S×140°.06E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.8/29, mbtmp3.9/5, ML4.3/1, Error ellipse: s-maj=18.6km s-min=8.7km az=161.0*

ISC 20 06:39:35.5±1.0, 2°.6S±0°.1×140°.2E±0°.1, h25km, n6, σ≥39/9, mb3.8/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.50**	**78**	Pg	**Pb**	**06 39 44.9**	**-0.9**
	518nm,0.3s,baz=255,slow=9.5,SNR=425						
JAY				Lg	Lg	06 39 53.4	
	458nm,0.3s,baz=343,slow=19,SNR=13						
WRA	**Warramunga Arr**	**18.15**	**198**	P	**Pn**	**06 43 46.6**	**+0.6**
	0.9nm,0.3s,baz=23,slow=12,SNR=34						
WRA				S	**Sn**	**06 47 04.6**	**-3.3**
	0.1nm,0.3s,baz=28,slow=24,SNR=4.2						
FITZ	**Fitzroy Crossi**	**20.99**	**222**	P	**P**	**06 44 17.2**	**0.0**
	3.0nm,0.7s,baz=44,slow=10.0,SNR=5.1						
FITZ				S	**S**	**06 48 07.7**	**-2.3**
	4.9nm,1.1s,baz=133,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**21.79**	**196**	P	**P**	**06 44 26.9**	**+1.2**
	3.3nm,0.6s,baz=26,slow=9.8,SNR=39						
ASAR				S	**S**	**06 48 29.6**	**+3.8**
	1.3nm,0.9s,baz=13,slow=27,SNR=6.1						
MKAR	**Makanchi Array**	**70.64**	**322**	P	**P**	**06 50 48.5**	**-0.5**
	0.6nm,0.7s,baz=125,slow=6.4,SNR=4.3						
ILAR	**Eielson Array**	**85.13**	**24**	P	**P**	**06 52 10.0**	**+0.9**
	0.2nm,0.6s,baz=235,slow=3.2,SNR=1.7						

*IDC **20** 06:55:26.2±1.2, 34°.39N×136°.15E, h365km±13km, mb2.8/6, mb1 3.1/11, mb1mx2.9/47, mbtmp3.7/11, Error ellipse: s-maj=19.1km s-min=15.3km az=104.0*

*JMA **20** 06:55:27.0±0.1, 34°.58N×136°.01E, h365km±1km, M2.9*

ISC 20 06:55:27.4±1.0, 34°.6N±0°.1×135°.99E±0°.07, h350km, n24, σ1≥58/24, mb3.0/6, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.25**	**279**	P	**Pn**	**06 56 12.4**	**+1.2**
JHE				*e*S	**S**	**06 56 48.6**	**+2.2**
JIE	**Ise**	**0.64**	**110**	P	**Pn**	**06 56 13.4**	**+1.4**
JWT	**Wachi**	**0.82**	**324**	P	**Pn**	**06 56 14.1**	**+1.7**
JTNC	**Tanabenakahech**	**0.85**	**201**	S	**S**	**06 56 50.7**	**+1.7**
JYTA	**Yamagatataniai**	**1.15**	**32**	P	**Pn**	**06 56 15.5**	**+1.8**
JAI	**Aioi**	**1.51**	**238**	P	**Pn**	**06 56 16.8**	**+1.2**
TK02	**Tokai 2**	**1.61**	**114**	P	**Pn**	**06 56 17.3**	**+1.4**
JKG	**Kaga**	**1.68**	**10**	P	**Pn**	**06 56 18.1**	**+1.6**
JYN	**Shimob**	**2.28**	**67**	P	**Pn**	**06 56 21.4**	**+0.7**
MAT	**Matsushiro**	**2.64**	**43**	P	**Pn**	**06 56 24.4**	**+0.9**
MAT				*e*S	**S**	**06 57 12.1**	**+3.3**
MAT	**Matsushiro**	**2.64**	**43**	P	**Pn**	**06 56 24.5**	**+0.9**
MJAR	**Matsushiro Arr**	**2.64**	**43**	P	**Pn**	**06 56 24.6**	**+1.0**
	0.7nm,0.3s,baz=217,slow=7.8,SNR=19						
JRY	**Ryogami san**	**2.76**	**59**	P	**Pn**	**06 56 25.5**	**+0.9**
JTO	**Tosashimizu**	**3.18**	**237**	P	**Pn**	**06 56 29.1**	**+0.7**
JNU	**Nakatsue**	**4.50**	**252**	P	**Pn**	**06 56 42.2**	**+0.5**
	0.6nm,0.3s,baz=80,slow=4.5,SNR=4.1						
KSRS	**Korea Array**	**7.12**	**296**	P	**Pn**	**06 57 12.5**	**+1.4**
	0.4nm,0.3s,baz=114,slow=12,SNR=7.4						
USRK	**Ussuriysk Ar.**	**10.06**	**343**	P	**P**	**06 57 46.6**	**-0.6**
	baz=163,slow=11,SNR=6.0						
ASAJ	**Asahikawa**	**10.78**	**26**	P	**P**	**06 57 54.8**	**-0.5**
	1.1nm,0.3s,baz=188,slow=15,SNR=2.8						
SONM	**Songino Array**	**25.70**	**310**	P	**P**	**07 00 28.4**	**+1.5**
	0.3nm,0.4s,baz=123,slow=10,SNR=1.9						
MKAR	**Makanchi Array**	**41.72**	**304**	P	**P**	**07 02 42.0**	**-1.2**
	0.5nm,0.5s,baz=84,slow=10,SNR=11						
ILAR	**Eielson Array**	**53.87**	**31**	P	**P**	**07 04 13.2**	**-1.9**
	0.4nm,0.6s,baz=267,slow=5.7,SNR=7.4						
WRA	**Warramunga Arr**	**54.28**	**182**	P	P	07 04 14.3	-4.3
	0.3nm,0.3s,baz=360,slow=7.7,SNR=6.6						
ASAR	**Alice Springs**	**57.99**	**182**	P	P	07 04 40.5	-4.1
	0.3nm,0.6s,baz=21,slow=11,SNR=4.8						
YKA	**Yellowknife Ar**	**68.06**	**28**	P	**P**	**07 05 47.8**	**-1.9**
	0.1nm,0.4s,baz=300,slow=6.0,SNR=5.2						

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*JMA **20** 06:57:28.0±0.1, 23°.79N×122°.50E, h27km, M3.0*

*TAP **20** 06:57:28.4, 23°.76N×122°.59E, h43km±1km, ML3.5, D*

ISC 20 06:57:26.5±1.1, 23°.73N±0°.02×122°.55E±0°.02, h15km±9km, n105, σ0≥86/197, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.81**	**27**	P	**Pb**	**06 57 42.5**	**+0.2**
JYNG				S	**Sg**	**06 57 52.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.84**	**30**	P	**Pb**	**06 57 43.2**	**+0.3**
YOJ				S	**Sg**	**06 57 53.0**	**-1.0**
YOJ	**Yonaguni jima**	**0.84**	**30**	*e*P	**Pb**	**06 57 43.4**	**+0.5**
	baz=28						
YOJ				S	**Sb**	**06 57 54.4**	**+0.3**
	baz=28						
TEYL	**Yanliau Villag**	**0.88**	**279**	P	**Pb**	**06 57 44.5**	**+0.9**
	baz=279						
TEYL				S	**Sb**	**06 57 56.5**	**+1.3**
	baz=279						
TWD	**Chiawan**	**0.94**	**292**	P	**Pb**	**06 57 44.4**	**-0.2**
	baz=290						
TWD				S	**Sb**	**06 57 57.3**	**+0.5**
	baz=290						
ETL	**Fush Village**	**0.95**	**297**	*e*P	**Pb**	**06 57 44.9**	**+0.2**
	baz=285						
NACB	**Ninganchiao**	**0.98**	**297**	*e*P	**Pb**	**06 57 44.9**	**-0.3**
	baz=295						
NACB				S	**Sg**	**06 57 58.6**	**+0.3**
	baz=295						
ETM	**Tongmen**	**1.00**	**284**	P	**Pb**	**06 57 45.1**	**-0.4**
	baz=277						
ETM				*e*S	**Sb**	**06 57 57.0**	**-1.5**
	baz=277						
EWUT	**Wuta**	**1.00**	**316**	P	**Pn**	**06 57 46.2**	**+0.1**
	baz=313						
EWUT				S	**Sn**	**06 58 00.1**	**+0.1**
	baz=313						
ENA	**Nanau**	**1.02**	**314**	*i* P	**Pg**	**06 57 46.3**	**+0.1**
	baz=320						
ENA				S	**Sn**	**06 57 59.8**	**-0.6**
	baz=320						
ESL	**Shilin**	**1.03**	**275**	P	**Pb**	**06 57 45.3**	**-0.8**
	baz=265						
ESL				*e*S	**Sb**	**06 57 58.6**	**-0.8**
	baz=265						
EGFH	**Guangfu**	**1.03**	**267**	*i* P	**Pb**	**06 57 46.8**	**+0.7**
	baz=265						
EGFH				*i* S	**Sb**	**06 57 59.7**	**+0.2**
	baz=265						
HGSD	**Ruisui**	**1.06**	**258**	*i* P	**Pb**	**06 57 46.5**	**-0.1**
	baz=256						
HGSD				*i* S	**Sb**	**06 57 59.8**	**-0.5**
	baz=256						
TWC	**Suao**	**1.09**	**324**	*i* P	**Pb**	**06 57 47.2**	**+0.2**
	baz=322						
TWC				*i* S	**Sn**	**06 58 01.6**	**-0.4**
	baz=322						
ECBN	**Changbin**	**1.09**	**248**	P	**Pb**	**06 57 47.5**	**+0.5**
	baz=237						
ECBN				S	**Sb**	**06 58 00.8**	**-0.3**
	baz=237						
ETLH	**Xiulin Townshi**	**1.09**	**296**	P	**Pb**	**06 57 46.7**	**-0.4**
	baz=294						
ETLH				*i* S	**Sb**	**06 58 01.0**	**-0.2**
	baz=294						
EHY	**Hungye**	**1.15**	**259**	*i* P	**Pb**	**06 57 48.2**	**+0.1**
	baz=258						
EHY				*e*S	**Sb**	**06 58 01.7**	**-1.2**
	baz=258						
NDS	**Dongshan**	**1.18**	**320**	P	**Pn**	**06 57 48.9**	**+0.3**
	baz=318						
NDS				S	**Sn**	**06 58 04.5**	**+0.1**
	baz=318						
EYUL	**Yuli**	**1.19**	**252**	P	**Pn**	**06 57 48.8**	**+0.1**
	baz=244						
EYUL				S	**Sb**	**06 58 03.7**	**-0.4**
	baz=244						
HATJ	**Hateruma jima**	**1.20**	**74**	P	**Pg**	**06 57 49.8**	**+0.2**
HATJ				*e*S	**Sg**	**06 58 05.4**	**+0.2**
YULB	**Yu-li**	**1.20**	**254**	*i* P	**Pn**	**06 57 49.1**	**+0.3**
	baz=246						
YULB				*i* S	**Sb**	**06 58 04.0**	**-0.2**
	baz=246						
TWF1	**Yuli**	**1.21**	**252**	*i* P	**Pn**	**06 57 49.1**	**+0.1**
	baz=244						
TWF1				S	**Sb**	**06 58 02.6**	**-2.0**
	baz=244						
IRIF	**Iriomote-Funau**	**1.24**	**60**	P	**Pg**	**06 57 50.3**	**-0.1**
IRIF				S	**Sg**	**06 58 06.9**	**+0.4**
WHF	**Hehuan Shan**	**1.25**	**290**	*i* P	**Pn**	**06 57 49.4**	**-0.4**
	baz=279						
WHF				S	**Sn**	**06 58 07.2**	**+0.5**
	baz=279						
EGS		**1.25**	**333**	*e*P	**Pg**	**06 57 51.0**	**+0.4**
	baz=331						
CHKT	**Chengkung**	**1.25**	**240**	*i* P	**Pn**	**06 57 49.1**	**-0.4**
	baz=232						
CHKT				*i* S	**Sb**	**06 58 04.2**	**-1.7**
	baz=232						
FULB	**Fuli**	**1.27**	**246**	*i* P	**Pn**	**06 57 49.7**	**0.0**
	baz=236						
FULB				*i* S	**Sb**	**06 58 05.7**	**-0.7**
	baz=236						
NNSB	**Datong**	**1.27**	**303**	*e*P	**Pn**	**06 57 49.7**	**-0.2**
	baz=301						
TWE	**Neicheng**	**1.28**	**321**	*i* P	**Pb**	**06 57 50.5**	**+0.2**
	baz=319						
TWE				S	**Sg**	**06 58 07.0**	**-0.7**
	baz=319						
ENTT	**Nioudou**	**1.28**	**316**	*e*P	**Pb**	**06 57 50.6**	**+0.3**
	baz=313						
ENTT				*e*S	**Sb**	**06 58 05.5**	**-1.2**
	baz=313						
OWD	**Renai**	**1.28**	**281**	P	**Pn**	**06 57 49.4**	**-0.6**
	baz=279						
OWD				S	**Sb**	**06 58 05.6**	**-1.1**
	baz=279						
NDT	**Datong Townshi**	**1.29**	**313**	P	**Pn**	**06 57 50.5**	**+0.4**
	baz=311						
NDT				*e*S	**Sn**	**06 58 07.2**	**+0.2**
	baz=311						
NNS	**Nan Shan**	**1.29**	**304**	P	**Pn**	**06 57 50.3**	**+0.1**
	baz=302						
VWDT	**VWDT**	**1.29**	**271**	*i* P	**Pn**	**06 57 50.2**	**+0.2**
	baz=270						
VWDT				S	**Sb**	**06 58 06.1**	**-0.9**
	baz=270						
NTC	**Toucheng**	**1.30**	**330**	P	**Pg**	**06 57 51.4**	**-0.1**
	baz=328						
NTC				*e*S	**Sg**	**06 58 08.4**	**-0.1**
	baz=328						
CHGB	**Renai**	**1.30**	**285**	P	**Pn**	**06 57 50.4**	**0.0**
	baz=277						
CHGB				S	**Sb**	**06 58 06.5**	**-1.0**
	baz=277						
FUSS	**Fushou**	**1.30**	**294**	*i* P	**Pn**	**06 57 50.4**	**0.0**
	baz=292						
FUSS				*e*S	**Sb**	**06 58 07.5**	**-0.1**
	baz=292						
EDH	**Donghe**	**1.37**	**237**	*i* P	**Pn**	**06 57 50.9**	**-0.3**
	baz=230						
EDH				*i* S	**Sn**	**06 58 07.7**	**-1.4**
	baz=230						
ECS	**Chishang**	**1.37**	**243**	*e*S	**Sn**	**06 58 08.8**	**-0.4**
	baz=234						
TWB1	**Santiao Chiao**	**1.38**	**338**	P	**Pb**	**06 57 51.7**	**-0.2**
	baz=349						
TWB1				S	**Sn**	**06 58 09.1**	**-0.1**
	baz=349						
TDCB	**Techi**	**1.38**	**293**	P	**Pn**	**06 57 51.9**	**+0.5**
	baz=284						
TIPB	**Shuangxi**	**1.41**	**332**	P	**Pn**	**06 57 52.0**	**+0.3**
	baz=330						
TIPB				S	**Sg**	**06 58 10.7**	**-1.2**
	baz=330						
NWLT	**Wulai**	**1.42**	**318**	P	**Pb**	**06 57 52.6**	**-0.2**
	baz=316						
NWLT				S	**Sn**	**06 58 09.5**	**-0.8**
	baz=316						
YHNB	**Yeheng**	**1.43**	**311**	P	**Pn**	**06 57 52.3**	**+0.3**
	baz=310						
YHNB				S	**Sn**	**06 58 09.7**	**-0.9**
	baz=310						
JKRS	**Kuro-shima**	**1.43**	**69**	P	**Pb**	**06 57 53.4**	**+0.5**
JKRS				S	**Sb**	**06 58 11.4**	**+0.5**
NSK	**Sanguang**	**1.44**	**311**	P	**Pn**	**06 57 52.8**	**+0.6**
	baz=309						
LDUT	**Ludao**	**1.45**	**224**	*e*P	**Pn**	**06 57 52.5**	**+0.3**
	baz=223						
LDUT				S	**Sn**	**06 58 08.7**	**-2.2**
	baz=223						
SSLB	**Suanglung**	**1.46**	**273**	P	**Pn**	**06 57 52.7**	**+0.3**
	baz=271						
SSLB				S	**Sn**	**06 58 10.7**	**-0.7**
	baz=271						
ELDTW	**Lidau**	**1.51**	**249**	*i* P	**Pn**	**06 57 53.1**	**0.0**
	baz=248						
ELDTW				S	**Sn**	**06 58 11.0**	**-1.6**
	baz=248						
NWF	**Wu-fen Shan**	**1.51**	**333**	*i* P	**Pn**	**06 57 53.5**	**+0.4**
	baz=331						
NWF				S	**Sb**	**06 58 12.8**	**-0.6**
	baz=331						
WFSB	**Wu-fen Shan**	**1.51**	**333**	P	**Pn**	**06 57 53.3**	**+0.2**
	baz=331						
WFSB				*e*S	**Sn**	**06 58 11.8**	**-0.7**
	baz=331						
SMLT	**Sun Moon Lake**	**1.52**	**276**	P	**Pn**	**06 57 54.0**	**+0.6**
	baz=275						
SMLT				S	**Sn**	**06 58 13.7**	**+0.7**
	baz=275						
TWA	**Mucha**	**1.53**	**325**	*i* P	**Pb**	**06 57 55.0**	**+0.4**
	baz=337						
TWA				S	**Sb**	**06 58 14.3**	**+0.5**
	baz=337						
WCS	**Beigang Elemen**	**1.54**	**283**	P	**Pn**	**06 57 54.3**	**+0.8**
	baz=275						
WCS				*e*S	**Sb**	**06 58 14.5**	**+0.5**
	baz=275						
LONT	**Longtian**	**1.54**	**238**	*e*P	**Pn**	**06 57 53.1**	**-0.4**
	baz=232						
LONT				*e*S	**Sn**	**06 58 12.6**	**-0.7**
	baz=232						
NHDH	**Xindian Distri**	**1.55**	**323**	*e*P	**Pb**	**06 57 55.0**	**+0.2**
	baz=334						
TYC	**Yuchr**	**1.56**	**277**	P	**Pn**	**06 57 55.0**	**+1.2**
	baz=275						
TYC				S	**Sn**	**06 58 14.2**	**+0.5**
	baz=275						
WHP	**Taichung City**	**1.57**	**291**	P	**Pb**	**06 57 56.3**	**+1.1**
	baz=289						
WHP				*e*S	**Sb**	**06 58 15.5**	**+0.5**
	baz=289						
NFF	**Wufeng Townshi**	**1.59**	**305**	P	**Pb**	**06 57 55.6**	**0.0**
	baz=303						
NFF				*e*S	**Sb**	**06 58 15.8**	**+0.2**
	baz=303						
JIJ	**Ishigaki jima**	**1.59**	**66**	P	**Pn**	**06 57 54.8**	**+0.6**
JIJ				S	**Sn**	**06 58 14.2**	**-0.3**
ALS	**Alishan**	**1.61**	**263**	P	**Pn**	**06 57 56.1**	**+1.3**
	baz=261						
ALS				S	**Sn**	**06 58 16.5**	**+0.9**
	baz=261						
TWGBT	**Beinan**	**1.63**	**236**	P	**Pn**	**06 57 54.5**	**-0.2**
	baz=229						
TWGBT				S	**Sn**	**06 58 13.4**	**-2.0**
	baz=229						
TWG	**Pinlang**	**1.63**	**237**	P	**Pn**	**06 57 55.1**	**+0.3**
	baz=229						
TWG				S	**Sn**	**06 58 14.2**	**-1.3**
	baz=229						
WJS	**Zhushan**	**1.67**	**274**	*e*P	**Pb**	**06 57 58.4**	**+1.3**
	baz=265						
WJS				S	**Sb**	**06 58 19.3**	**+1.3**
	baz=265						
YM01	**YM01**	**1.67**	**328**	P	**Pb**	**06 57 56.4**	**-0.6**
	baz=339						
YM01				S	**Sn**	**06 58 16.6**	**0.0**
	baz=339						
LIOB	**Emei**	**1.67**	**303**	*i* P	**Pb**	**06 57 57.1**	**+0.1**
	baz=293						
LIOB				*i* S	**Sb**	**06 58 17.7**	**-0.3**
	baz=293						
NSTT	**Nanjuang**	**1.68**	**303**	*i* P	**Pb**	**06 57 57.1**	**0.0**
	baz=293						
NSTT				*i* S	**Sn**	**06 58 17.4**	**+0.7**
	baz=293						
TWS1	**Kuangyinshan**	**1.71**	**323**	*e*P	**Pn**	**06 57 56.7**	**+0.8**
	baz=335						
WNT	**Mingjian**	**1.72**	**275**	P	**Pb**	**06 57 57.9**	**+0.1**
	baz=274						
WNT				S	**Sb**	**06 58 19.3**	**+0.1**
	baz=274						
STYH	**Taoyuan**	**1.72**	**252**	*e*P	**Pn**	**06 57 57.2**	**+1.2**
	baz=244						
STYH				*e*S	**Sn**	**06 58 17.9**	**+0.2**
	baz=244						
TWQ1	**Liyutan**	**1.74**	**291**	*i* P	**Pb**	**06 57 58.1**	**0.0**
	baz=290						
TWQ1				S	**Sb**	**06 58 20.0**	**+0.2**
	baz=290						
TCU	**Taichung**	**1.77**	**284**	*e*P	**Pb**	**06 57 59.1**	**+0.5**
	baz=283						
TCU				*e*S	**Sb**	**06 58 21.2**	**+0.6**
	baz=283						
NSY	**Sanyi**	**1.77**	**293**	*e*P	**Pb**	**06 57 58.9**	**+0.2**
	baz=292						
NMLH	**Miaoli**	**1.80**	**297**	*e*P	**Pb**	**06 57 58.8**	**-0.4**
	baz=296						
NMLH				*e*S	**Sb**	**06 58 20.9**	**-0.7**
	baz=296						
TPUB	**Ta-pu**	**1.81**	**257**	*i* P	**Pn**	**06 57 59.3**	**+2.0**
	baz=251						
TPUB				*i* S	**Sn**	**06 58 22.0**	**+2.0**
	baz=251						
JISG	**Ishigakijimahi**	**1.82**	**62**	P	**Pn**	**06 57 57.8**	**+0.4**
JISG				S	**Sn**	**06 58 19.2**	**-1.0**
CHN4	**Tsaushan**	**1.83**	**259**	*i* P	**Pb**	**06 57 59.9**	**0.0**
	baz=250						
CHN4				S	**Sb**	**06 58 22.8**	**+0.1**
	baz=250						
WTP	**Ta-pu**	**1.84**	**255**	*i* P	**Pb**	**06 57 60.0**	**0.0**
	baz=254						
WTP				*i* S	**Sb**	**06 58 23.0**	**+0.1**
	baz=254						
WDLH	**Douliu**	**1.84**	**269**	*e*P	**Pb**	**06 58 00.2**	**+0.2**
	baz=268						
WDLH				*e*S	**Sn**	**06 58 22.0**	**+1.3**
	baz=268						
ECL	**Taimali**	**1.85**	**233**	*e*P	**Pn**	**06 57 58.1**	**+0.4**
	baz=242						
ECL				*e*S	**Sn**	**06 58 19.8**	**-1.1**
	baz=242						
SGST	**Jiashian**	**1.92**	**251**	P	**Pb**	**06 58 01.0**	**-0.2**
	baz=242						
SGST				S	**Sn**	**06 58 24.7**	**+2.1**
	baz=242						
CHN1	**Nanshi**	**1.93**	**254**	*i* P	**Pb**	**06 58 01.3**	**-0.2**
	baz=253

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAWH				*e*S	**Sn**	**06 58 25.5**	**-0.7**
	baz=236						
MASBT	**Mashibuluo**	**2.08**	**238**	P	**Pn**	**06 58 01.9**	**+1.0**
	baz=234						
MASBT				S	**Sn**	**06 58 26.4**	**-0.3**
	baz=234						
ICHU	**Yijhu**	**2.12**	**261**	S	**Sn**	**06 58 29.9**	**+2.4**
	baz=259						
WSL	**Shuilin Townsh**	**2.14**	**265**	*e*P	**Pn**	**06 58 03.7**	**+2.0**
	baz=264						
WSL				*e*S	**Sn**	**06 58 29.1**	**+1.0**
	baz=264						
SHHT	**Tainan City**	**2.14**	**251**	*e*S	**Sb**	**06 58 31.6**	**+0.2**
	baz=250						
SSPT	**Xinbi**	**2.20**	**236**	*e*P	**Pn**	**06 58 03.7**	**+1.0**
	baz=231						
SSPT				*e*S	**Sn**	**06 58 31.4**	**+1.8**
	baz=231						
SLIU	**Shizi**	**2.21**	**227**	*e*P	**Pn**	**06 58 03.4**	**+0.7**
	baz=227						
SLIU				*e*S	**Sn**	**06 58 29.9**	**+0.2**
	baz=227						
SCZT	**Fangliau**	**2.23**	**233**	P	**Pn**	**06 58 04.5**	**+1.5**
	baz=232						
SCZT				*e*S	**Sn**	**06 58 30.7**	**+0.4**
	baz=232						
TWKBT	**Hengchun**	**2.39**	**222**	*e*P	**Pn**	**06 58 06.3**	**+1.1**
	baz=222						
TWKBT				*e*S	**Sn**	**06 58 34.7**	**+0.4**
	baz=222						
PHUB	**P'eng-hu**	**2.74**	**266**	P	**Pn**	**06 58 11.7**	**+1.7**
	baz=265						
PHUB				S	**Sn**	**06 58 43.4**	**+0.6**
	baz=265						
MATB	**Ma-tsu**	**3.38**	**316**	*e*P	**Pn**	**06 58 19.3**	**+0.5**
	baz=316						
MATB				*e*S	**Sn**	**06 58 56.8**	**-1.9**
	baz=316						
PTMZ	**Houxiangcun**	**3.39**	**293**	*e*P	**Pn**	**06 58 19.5**	**+0.6**
	baz=283						
PTMZ				S	**Sn**	**06 58 57.5**	**-1.4**
	baz=283						
XPSS	**Dashiqiu**	**3.84**	**327**	P	**Pn**	**06 58 25.0**	**-0.1**
	baz=335						
KNMB	**Chin-men Tao**	**3.87**	**282**	P	**Pn**	**06 58 25.7**	**+0.1**
	baz=282						
KNMB				*e*S	**Sn**	**06 59 09.2**	**-1.7**
	baz=282						
AXDP	**Jialang**	**4.34**	**287**	P	**Pn**	**06 58 32.6**	**+0.6**
	baz=287						
AXDP				S	**Sn**	**06 59 21.1**	**-1.3**
	baz=287						

NNC ***20*** *07:11:41.4±0.8, 50°.00N×78°.70E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=8.5km s-min=3.6km az=67.0, Suspected Mining explosion.*

IDC ***20*** *07:11:42.1±1.0, 50°.03N×78°.80E, h0km, mb1 2.9/3, mb1mx2.9/52, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=14.1km s-min=7.2km az=58.0*

ISC 20 07:11:41.9±0.8, 49°.97N±0°.04×78°.62E±0°.04, h0km, n13, σ1§20/18, 8C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.65**	**355**	Pg	**Pg**	**07 11 53.7**	**-0.7**
	3.7nm,0.3s,baz=165,slow=19,SNR=72						
KURBB				Lg	Lg	07 12 02.8	
	5.9nm,0.3s,baz=144,slow=43,SNR=18						
KURBB	**Kurchatov Arra**	**0.65**	**355**	⇑P	**Pg**	**07 11 53.7**	**-0.7**
	27nm,0.4s						
KURBB				⇑S	**Sg**	**07 12 03.1**	**+0.2**
	171nm,0.5s						
KURK	**Kurchatov**	**0.74**	**0**	⇑P	**Pg**	**07 11 54.9**	**-1.2**
	11nm,0.4s						
KURK				⇑S	**Sg**	**07 12 05.1**	**-0.6**
	23nm,0.5s						
SEM	**Semipalatinsk**	**1.14**	**67**	P	**Pg**	**07 12 01.6**	**-2.0**
	8.4nm,0.2s						
SEM				S	**Sg**	**07 12 17.1**	**-1.2**
	61nm,0.3s						
BRZS	**Berezniki**	**3.83**	**272**	Pg	**Pg**	**07 12 53.1**	**-2.2**
	5.3nm,0.3s						
BRZS				Lg	Lg	07 13 45.3	
	7.0nm,0.3s						
MAKZ	**Makanchi**	**3.88**	**143**	⇑Pn	**Pn**	**07 12 43.6**	**+0.9**
	0.4nm,0.5s						
MAKZ				⇑Pg	**Pb**	**07 12 50.7**	**-0.4**
	2.9nm,0.7s						
MAKZ				⇑Lg	Lg	07 13 41.9	
	11nm,0.7s						
MK31	**Makanchi Array**	**4.01**	**141**	⇑Pn	**Pn**	**07 12 45.7**	**+1.1**
	0.2nm,0.3s,baz=322,slow=11,SNR=40						
MK31				⇓Pg	**Pb**	**07 12 53.6**	**+0.1**
	1.2nm,0.4s,baz=318,slow=13,SNR=24						
MK31				Lg	Lg	07 13 47.6	
	13nm,0.6s,baz=328,slow=27,SNR=13						
MKAR	**Makanchi Array**	**4.01**	**141**	Pn	**Pn**	**07 12 45.0**	**+0.4**
	0.4nm,0.3s,baz=322,slow=10,SNR=55						
MKAR				Lg	Lg	07 13 46.8	
	1.3nm,0.3s,baz=306,slow=33,SNR=5.9						
KAPS	**Kapalarasan**	**4.72**	**174**	Pg	**Pb**	**07 13 06.5**	**+1.1**
	2.7nm,0.3s						
KAPS				Lg	Lg	07 14 08.7	
	18nm,0.7s						
ZSN	**Zaisan**	**4.84**	**119**	Pg	**Pb**	**07 13 09.6**	**+2.1**
	3.5nm,0.1s						
ZSN				Lg	Lg	07 14 13.2	
	12nm,0.5s						
ZALV	**Zalesovo Beam**	**5.53**	**42**	Pn	**Pn**	**07 13 05.9**	**+0.6**
	1.1nm,0.3s,baz=232,slow=14,SNR=15						
I46RU	**ZALESOVO INFRA**	**5.53**	**42**	*i*		07 46 20.0	
	baz=221,slow=340,SNR=2.6						
BVAR	**Borovoye Array**	**5.98**	**304**	Pn	**Pn**	**07 13 11.9**	**+0.3**
	0.2nm,0.3s,baz=296,slow=41,SNR=1.9						
BVAR				Sn	**Sn**	**07 14 21.1**	**+0.5**
	1.1nm,0.3s,baz=99,slow=29,SNR=15						
BVAR				Lg	Lg	07 14 52.5	
	0.8nm,0.3s,baz=118,slow=31,SNR=5.2						

MOS ***20*** *07:16:50.1±1.1, 30°.22N×140°.71E, h74km, mb4.8/22, Error ellipse: s-maj=11.7km s-min=5.6km az=99.4*

JMA ***20*** *07:16:50.5±0.1, 30°.42N×141°.31E, h88km, M4.7*

NIED ***20*** *07:16:50.5, 30°.42N×141°.31E, h88km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.39; Mθθ-3.04; Mφφ2.65; Mrθ2.09; Mθφ-4.52; Mφr0.66; Fault plane solution: M0 5.71000×10^15 NP1: φs287.00000°, δ81.00000°, λ-163.00000°. NP2: φs195.00000°, δ73.00000°, λ-9.00000°.*

BJI ***20*** *07:16:50.0±0.0, 30°.20N×140°.80E, h69km, mb4.3/25, mB4.9/18, Ms4.5/2, Ms7 4.3/2*

IDC ***20*** *07:16:52.4±0.6, 30°.20N×140°.68E, h82km±4km, mb4.1/26, mb1 4.3/31, mb1mx4.1/55, mbtmp4.4/31, MS3.3/24, Ms1 3.3/24, ms1mx3.1/88, Error ellipse: s-maj=13.7km s-min=9.0km az=81.0*

NEIC ***20*** *07:16:52.5±2.2, 30°.25N±0°.06×140°.9E±0°.1, h73km±6km, mb4.8/56, Error ellipse: s-maj=15.4km s-min=8.7km az=72.0*

ISC 20 07:16:54.2±0.4, 30°.45N±0°.06×140°.91E±0°.07, h91km, n331, σ1§29/328, mb4.6/69, 12C-8D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.23**	**334**	P	**Pn**	**07 17 29.3**	**-0.3**
JHJ2	**Mitsune**	**2.81**	**341**	P	**Pn**	**07 17 36.4**	**-0.9**
JHJ2				S	**Sn**	**07 18 08.9**	**-1.4**
JHJ2	**Mitsune**	**2.81**	**341**	Pn	**Pn**	**07 17 36.9**	**-0.4**
JHJ	**Hachijo jima 2**	**2.83**	**341**	P	**Pn**	**07 17 36.6**	**-0.9**
	281nm,0.3s,baz=24,slow=22,SNR=24						
JHJ				S	**Sn**	**07 18 07.7**	**-3.1**
	247nm,0.3s,baz=67,slow=22,SNR=5.1						
JCJ	**Chichijima**	**3.52**	**161**		Pn	07 17 40.9	-6.0
BSO1	**Boso 1**	**4.19**	**1**	P	**Pn**	**07 17 53.8**	**-1.6**
BSO3	**Boso 3**	**4.35**	**356**	P	**Pn**	**07 17 56.5**	**-1.3**
BSO4	**Boso 4**	**4.55**	**354**	P	**Pn**	**07 17 59.5**	**-1.2**
TTO1	**TONANKAI O.B.S**	**4.72**	**313**	P	**Pn**	**07 18 03.9**	**+1.1**
JSG	**Sagara**	**4.80**	**332**		**Pn**	**07 18 06.0**	**+1.9**
JOD2	**Odawara 2**	**5.04**	**343**	P	**Pn**	**07 18 06.9**	**-0.5**
JOD2				*e*S	**Sn**	**07 19 05.0**	**+0.7**
HMMJ	**Hamamatsu 2**	**5.15**	**329**	P	**Pn**	**07 18 10.1**	**+1.2**
JIE	**Ise**	**5.30**	**319**	P	**Pn**	**07 18 12.1**	**+1.2**
JKN2	**Miekihoku**	**5.45**	**315**	P	**Pn**	**07 18 13.8**	**+0.9**
JNY	**Yasuok**	**5.53**	**333**	P	**Pn**	**07 18 17.1**	**+3.0**
JHU	**Hanno**	**5.56**	**346**	P	**Pn**	**07 18 13.9**	**-0.5**
JHU				*e*S	**Sn**	**07 19 16.2**	**-0.8**
JTNC	**Tanabenakahech**	**5.61**	**308**	P	**Pn**	**07 18 15.7**	**+0.5**
JAO	**Obara**	**5.70**	**328**	P	**Pn**	**07 18 18.8**	**+2.4**
JYT	**Yasato**	**5.79**	**354**	P	**Pn**	**07 18 16.4**	**-1.2**
JYT	**Yasato**	**5.79**	**354**	Pn	**Pn**	**07 18 16.4**	**-1.2**
INU	**Inuyama**	**5.88**	**327**	Pn	**Pn**	**07 18 21.0**	**+2.2**
JGF	**Kuroka**	**5.94**	**331**	Pn	**Pn**	**07 18 22.1**	**+2.4**
JEG	**Eigenji**	**6.03**	**322**	P	**Pn**	**07 18 23.4**	**+2.6**
JAG	**Ashikaga**	**6.08**	**349**	P	**Pn**	**07 18 19.3**	**-2.3**
JHO	**Hitachi**	**6.15**	**357**	P	**Pn**	**07 18 20.2**	**-2.3**
MJAR	**Matsushiro Arr**	**6.48**	**340**	P	**Pn**	**07 18 27.2**	**+0.2**
	2.8nm,0.3s,baz=166,slow=6.0,SNR=44						
MJAR				S	**Sn**	**07 19 38.8**	**-0.6**
	baz=161,slow=38,SNR=1.7						
MJAR				LR	LR	07 20 34.5	
	comp=Z,105nm,20.9s,baz=174,slow=33						
MJAR	**Matsushiro Arr**	**6.48**	**340**	P	**Pn**	**07 18 27.6**	**+0.6**
MJAR						07 19 38.9	
MJAR	**Matsushiro Arr**	**6.48**	**340**	Pn	**Pn**	**07 18 27.6**	**+0.6**
MAJO	**Matsushiro**	**6.48**	**340**	*de*P	**Pn**	**07 18 27.1**	**+0.1**
MAJO	**Matsushiro**	**6.48**	**340**	Pn	**Pn**	**07 18 28.0**	**+0.9**
MAT	**Matsushiro**	**6.48**	**340**	P	**Pn**	**07 18 26.6**	**-0.4**
MAT				S	**Sn**	**07 19 38.4**	**-1.1**
MJB9	**Matsu-Tunnel**	**6.49**	**340**		**Pn**	**07 18 27.9**	**+0.7**
JFK	**Kawauchi**	**6.90**	**360**	P	**Pn**	**07 18 29.8**	**-2.9**
JFK				S	**Sn**	**07 19 43.6**	**-6.1**
JMM	**Marumori**	**7.40**	**359**		**Pn**	**07 18 36.8**	**-2.6**
JMK	**Ichinoseki**	**8.49**	**2**	P	**Pn**	**07 18 52.0**	**-2.3**
JMK				S	**Sn**	**07 20 20.9**	**-7.4**
JNU	**Nakatsue**	**8.94**	**290**	P	**Pn**	**07 19 01.5**	**+0.9**
	1.3nm,0.3s,baz=183,slow=8.1,SNR=9.1						
JNU				LR	LR	07 22 15.7	
	comp=Z,183nm,20.1s,baz=126,slow=36						
JOW	**Kunigami**	**11.67**	**255**	LR	LR	07 23 49.3	
	comp=Z,39nm,18.7s,baz=70,slow=36						
ERM	**Erimo**	**11.69**	**8**	⇓*e*P	**Pn**	**07 19 35.6**	**-2.1**
ERM				pmax	pmax		
	comp=Z,34nm,0.7s						
KSRS	**Korea Array**	**12.84**	**306**	P	**Pn**	**07 19 51.7**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=63,slow=29,SNR=1.3						
KSRS				LR	LR	07 24 37.7	
	comp=Z,110nm,18.3s,baz=125,slow=36						
ASAJ	**Asahikawa**	**13.71**	**5**	P	**Pn**	**07 20 02.3**	**-2.3**
	comp=Z,3.8nm,0.3s,baz=222,slow=10.0,SNR=12						
ASAJ				LR	LR	07 25 39.6	
	comp=Z,92nm,21.7s,baz=112,slow=38						
JKA	**Kamikawa-asahi**	**13.71**	**5**		**Pn**	**07 20 02.3**	**-2.3**
USRK	**Ussuriysk Ar.**	**15.44**	**335**	P	**Pn**	**07 20 25.9**	**-0.9**
	baz=147,slow=8.8,SNR=9.3						
USRK				LR	LR	07 25 46.5	
	comp=Z,102nm,19.3s,baz=152,slow=34						
USRK	**Ussuriysk Ar.**	**15.44**	**335**	P	**Pn**	**07 20 27.9**	**+1.1**
USRK	**Ussuriysk Ar.**	**15.44**	**335**	Pn	**Pn**	**07 20 27.9**	**+1.1**
KUR	**Kuril'sk**	**15.74**	**18**	⇑*e*P	**Pn**	**07 20 29.4**	**-1.1**
KUR				pmax	pmax		
	comp=Z,475nm,1.5s						
YSS	**Yuzh-Sakhalins**	**16.54**	**4**	*e*P	**Pn**	**07 20 41.2**	**+0.7**
YSS				pmax	pmax		
	comp=Z,40nm,1.3s						
GUMO	**Guam**	**17.17**	**167**	P	**Pn**	**07 20 46.4**	**-2.0**
	comp=Z,11nm,0.3s,baz=0.0,slow=10,SNR=1.6						
GUMO				LR	LR	07 25 53.7	
	comp=Z,117nm,18.0s,baz=18,slow=32						
CN2	**Changchun**	**18.11**	**322**	*e*P	**P**	**07 20 59.8**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNX	**BinXian**	**18.56**	**329**	⇓P	**P**	**07 21 03.8**	**0.0**
BNX				pmax	pmax		
	comp=Z,21nm,0.9s						
BNX				pmax	pmax		
	comp=Z,290nm,5.2s						
NJ2	**Nanjing**	**18.92**	**281**	*e*P	**P**	**07 21 07.0**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
KLR	**Kul'dur**	**20.00**	**342**	P	**P**	**07 21 18.6**	**-0.9**
	comp=Z,6.3nm,0.3s,baz=163,slow=8.9,SNR=35						
KLR				LR	LR	07 27 38.9	
	comp=Z,62nm,21.2s,baz=203,slow=32						
KLR	**Kul'dur**	**20.00**	**342**	⇑*e*P	**P**	**07 21 20.4**	**+0.9**
TYV	**Tymovskoe**	**20.44**	**3**	*e*P	Pn	07 21 28.4	+1.4
TYV				pmax	pmax		
	comp=Z,700nm,5.7s						
TYV				pmax	pmax		
	comp=Z,24nm,0.9s						
ZEA	**Zeya**	**25.30**	**341**	*e*P	**P**	**07 22 12.8**	**+0.8**
ZEA				pmax	pmax		
	comp=N,30nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,60nm,0.7s						
PETK	**Petropavlovsk-**	**25.75**	**24**	LR	LR	07 33 34.1	
	comp=Z,19nm,20.6s,baz=231,slow=38						
H11N2	**WAKE ISLAND Hy**	**25.78**	**108**	T	T	07 50 03.3	
	baz=300,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**25.79**	**108**	T	T	07 49 55.8	
	baz=300,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**25.80**	**108**	T	T	07 49 57.7	
	baz=300,slow=75,SNR=23						
HHC	**Hu-ho-hao-te**	**25.90**	**302**	*e*P	**P**	**07 22 18.4**	**+0.6**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,380nm,6.9s						
H11S3	**WAKE ISLAND Hy**	**26.24**	**111**	T	T	07 51 29.8	
	baz=303,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**26.24**	**111**	T	T	07 51 31.6	
	baz=303,slow=75,SNR=53						
H11S2	**WAKE ISLAND Hy**	**26.26**	**111**	T	T	07 51 31.0	
	baz=303,slow=75,SNR=48						
ULN	**Ulaanbaatar**	**31.16**	**314**	⇑*e*P	**P**	**07 23 03.8**	**-0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM	**Songino Array**	**31.57**	**313**	P	**P**	**07 23 07.0**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=112,slow=8.0,SNR=5.7						
SONM				PcP	**PcP**	**07 25 58.6**	**0.0**
	comp=Z,0.7nm,0.4s,baz=116,slow=3.1,SNR=5.5						
SONM				ScP	**ScP**	**07 29 33.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=122,slow=4.0,SNR=4.6						
SONM				LR	LR	07 35 29.9	
	comp=Z,80nm,18.1s,baz=16,slow=35						
YAK	**Yakutsk**	**32.43**	**350**	⇓*e*P	**P**	**07 23 16.7**	**+1.4**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SEY	**Seymchan**	**33.33**	**10**	P	**P**	**07 23 23.9**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=197,slow=8.3,SNR=4.4						
PZH	**PanZhiHua**	**34.53**	**273**	P	**P**	**07 23 34.3**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,4.9s						
CMAR	**Chiang Mai Arr**	**39.81**	**262**	P	**P**	**07 24 16.6**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=148,slow=45,SNR=1.3						
CMAR				pP	**pP**	**07 24 35.5**	**-4.2**
	comp=Z,1.6nm,0.3s,baz=61,slow=6.7,SNR=2.6						
CMAR				ScP	**ScP**	**07 30 05.0**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=30,slow=3.1,SNR=4.8						
CMAR				LR	LR	07 40 11.4	
	comp=Z,32nm,21.1s,baz=245,slow=35						
BILL	**Bilibino**	**40.47**	**14**	*i* P	**P**	**07 24 24.2**	**+0.6**
BILL				*i*		07 26 24.3	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,59nm,18.0s						
TIXI	**Tiksi**	**41.77**	**354**	P	**P**	**07 24 34.4**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=124,slow=8.3,SNR=9.8						
TIXI	**Tiksi**	**41.77**	**354**	⇑*e*P	**P**	**07 24 34.3**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**41.77**	**354**	P	**P**	**07 24 34.1**	**0.0**
SPIA	**Saint Paul Isl**	**42.91**	**37**	P	**P**	**07 24 45.5**	**+2.0**
	baz=253						
WMQ	**Urumqi**	**43.76**	**303**	*e*P	**P**	**07 24 52.8**	**+2.0**
MTN	**Manton Dam**	**44.06**	**194**	P	P	07 24 50.3	-2.9
DGZ	**Jazzator, Alta**	**44.18**	**312**	⇑*e*P	**P**	**07 24 52.5**	**-1.6**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
UNV	**Unalaska Valle**	**44.19**	**42**	P	**P**	**07 24 54.4**	**+0.5**
GAMB	**Gambell**	**44.64**	**28**	P	**P**	**07 24 59.4**	**+2.1**
	baz=245						
ZALV	**Zalesovo Beam**	**46.25**	**317**	P	**P**	**07 25 09.6**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=84,slow=9.0,SNR=5.1						
ZALV				PcP	**PcP**	**07 26 43.7**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=113,slow=2.1,SNR=4.5						
ZALV				LR	LR	07 44 39.9	
	comp=Z,35nm,20.6s,baz=102,slow=36						
ZALV	**Zalesovo Beam**	**46.25**	**317**	*i* P	**P**	**07 25 11.6**	**+1.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TNA	**Tin City**	**46.86**	**26**	P	**P**	**07 25 16.8**	**+2.0**
	baz=247						
KNRA	**Kununurra**	**47.33**	**196**	P	P	07 25 15.7	-3.2
ANM	**Nome**	**47.51**	**28**	P	**P**	**07 25 20.1**	**+0.3**
ANM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ANM	**Nome**	**47.51**	**28**	P	**P**	**07 25 20.1**	**+0.3**
ANM				IAmb	IAmb	07 25 22.7	
	comp=Z,6.8nm,0.8s						
ANM	**Nome**	**47.51**	**28**	P	**P**	**07 25 21.6**	**+1.7**
	baz=251,SNR=5.0						
MK31	**Makanchi Array**	**47.52**	**307**	P	**P**	**07 25 19.7**	**-0.6**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK31	**Makanchi Array**	**47.52**	**307**	P	**P**	**07 25 19.7**	**-0.6**
MKAR	**Makanchi Array**	**47.52**	**307**	P	**P**	**07 25 19.0**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=84,slow=10,SNR=14						
MKAR				ScP	**ScP**	**07 30 34.2**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=86,slow=5.0,SNR=4.0						
MKAR				S	S	07 31 58.0	-10
	comp=Z,0.4nm,0.7s,baz=37,slow=30,SNR=5.3						
MKAR				LR	LR	07 46 01.5	
	comp=Z,34nm,18.5s,baz=46,slow=37						
MKAR	**Makanchi Array**	**47.52**	**307**	P	**P**	**07 25 20.0**	**-0.3**
MKAR	**Makanchi Array**	**47.52**	**307**	P	**P**	**07 25 20.0**	**-0.3**
CHNA	**Chernabura Isl**	**48.33**	**42**	P	**P**	**07 25 26.9**	**+0.6**
	baz=265						
CHGN	**Chignik**	**49.13**	**40**	P	**P**	**07 25 31.9**	**-0.5**
CHGN	**Chignik**	**49.13**	**40**	P	**P**	**07 25 32.9**	**+0.6**
	baz=264						
NRIK	**Noril'sk**	**49.13**	**338**	P	**P**	**07 25 32.4**	**+0.2**
	comp=Z,3.2nm,0.4s,baz=120,slow=7.1,SNR=8.0						
NRIK	**Noril'sk**	**49.13**	**338**	⇑*e*P	**P**	**07 25 32.9**	**+0.7**
NRIK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NRIK	**Noril'sk**	**49.13**	**338**	P	**P**	**07 25 32.9**	**+0.7**
WRAB	**Tennant Creek**	**50.49**	**188**	⇑*e*P	P	07 25 40.0	-3.1
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	**Tennant Creek**	**50.49**	**188**	P	P	07 25 39.7	-3.4
WRA	**Warramunga Arr**	**50.50**	**188**	P	P	07 25 38.9	-4.3
	comp=Z,3.9nm,0.4s,baz=4.9,slow=7.4,SNR=25						
WRA				PcP	**PcP**	**07 26 59.2**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=1.4,slow=4.0,SNR=6.3						
WRA				ScP	**ScP**	**07 30 46.6**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=5.0,slow=4.7,SNR=7.6						
WRA				S	S	07 32 41.3	-9.0
	comp=Z,0.6nm,1.0s,baz=6.9,slow=14,SNR=2.8						
WRA				LR	LR	07 47 33.7	
	comp=Z,56nm,18.3s,baz=38,slow=37						
WRA	**Warramunga Arr**	**50.50**	**188**	P	P	07 25 39.7	-3.5
CTA	**Charters Tower**	**50.51**	**173**	LR	LR	07 45 42.8	
	comp=Z,20nm,21.2s,baz=326,slow=34						
GCSA	**Galena City Sc**	**51.08**	**29**	P	**P**	**07 25 48.1**	**+1.1**
	baz=259						
P18K	**Big Mountain,**	**51.11**	**36**	P	**P**	**07 25 48.7**	**+1.3**
	baz=265						
TTA	**Tatalina**	**51.15**	**32**	P	**P**	**07 25 49.2**	**+1.4**
	baz=261						
O18K	**Koktuh Hills**	**51.16**	**36**	P	**P**	**07 25 49.4**	**+1.6**
	baz=264						
N19K	**Bonanza Creek**	**51.61**	**34**	P	**P**	**07 25 52.6**	**+1.4**
	baz=264						
O19K	**Port Alsworth**	**51.63**	**35**	P	**P**	**07 25 52.6**	**+1.4**
	baz=265						
OHAK	**Old Harbor**	**52.00**	**39**	P	**P**	**07 25 54.3**	**+0.3**
OHAK	**Old Harbor**	**52.00**	**39**	P	**P**	**07 25 54.7**	**+0.7**
	baz=268						
L20K	**Farewell, AK**	**52.07**	**32**	P	**P**	**07 25 55.5**	**+1.0**
	baz=264						
K20K	**Telida**	**52.09**	**31**	P	**P**	**07 25 55.4**	**+0.8**
	baz=263						
J20K	**Nowinta River**	**52.16**	**30**	P	**P**	**07 25 56.7**	**+1.7**
J20K				IAmb	IAmb	07 25 57.8	
	comp=Z,9.7nm,0.8s						
J20K	**Nowinta River**	**52.16**	**30**	P	**P**	**07 25 55.8**	**+0.7**
	baz=262						
KDAK	**Kodiak Island**	**52.40**	**38**	P	**P**	**07 25 57.6**	**+0.7**
	baz=268						
A21K	**Barrow**	**52.70**	**21**	P	**P**	**07 26 00.5**	**+1.5**
A21K				IAmb	IAmb	07 26 21.8	
	comp=Z,11nm,0.8s						
A21K	**Barrow**	**52.70**	**21**	P	**P**	**07 25 59.9**	**+0.9**
	baz=254						
PPLA	**Purkeypile**	**52.89**	**32**	P	**P**	**07 26 01.6**	**+0.9**
	baz=265						
CHUM	**Lake Minchumin**	**52.92**	**31**	P	**P**	**07 26 01.9**	**+1.2**
	baz=264						
H21K	**Melozitna Rive**	**52.93**	**28**	IAmb	IAmb	07 26 03.4	
	comp=Z,7.4nm,0.9s						
H21K	**Melozitna Rive**	**52.93**	**28**	P	**P**	**07 26 02.0**	**+1.3**
	baz=262						
CAST	**Castle Rocks**	**52.98**	**31**	P	**P**	**07 26 02.7**	**+1.5**
	baz=265						
SKT	**Skwentna**	**53.12**	**33**	P	**P**	**07 26 03.2**	**+1.0**
	baz=266						
BRLK	**Bradley Lake**	**53.33**	**36**	P	**P**	**07 26 03.7**	**-0.2**
SUA	**Susitna One**	**53.47**	**34**	P	**P**	**07 26 05.7**	**+0.8**
	baz=267						
M22K	**Willow**	**53.78**	**33**	P	**P**	**07 26 07.7**	**+0.8**
	baz=268						
TRF	**Thorofare Moun**	**53.79**	**31**	P	**P**	**07 26 08.0**	**+0.7**
	baz=266						
**RC01

KLU	Klutina	55.78	34	P	P	07 26 22.7	+1.1
	baz=272						
PRP	Porcupine Dome	55.93	29	P	P	07 26 23.6	+0.9
	baz=269						
PAX	Paxson	55.96	32	P	P	07 26 23.8	+0.9
	baz=271						
HARP	HAARP	56.12	33	P	P	07 26 25.1	+1.2
	baz=272						
BMRM	Bremner River	56.44	34	P	P	07 26 27.5	+1.2
	baz=273						
DOT	Dot Lake	56.58	31	P	P	07 26 28.0	+0.8
DOT				IAmb	IAmb	07 27 05.1	
	comp=Z,8.7nm,1.2s						
KAIM	Kayak Island	56.59	36	P	P	07 26 27.9	+0.6
	baz=274						
SCRK	Sand Creek	56.60	31	P	P	07 26 28.5	+1.1
SCRK	Sand Creek	56.60	31	P	P	07 26 28.6	+1.1
	baz=272						
J26L	Joseph Creek	56.77	30	IAmb	IAmb	07 26 30.0	
	comp=Z,8.2nm,0.7s						
L26K	Log Cabin Wild	56.93	32	P	P	07 26 30.9	+1.3
	baz=273						
L27K	Beaver Creek,	57.62	32	IAmb	IAmb	07 26 37.0	
	comp=Z,5.1nm,0.8s						
L27K	Beaver Creek,	57.62	32	P	P	07 26 35.5	+1.0
	baz=274						
BCAR	Beaver Creek A	57.63	32	P	P	07 26 36.6	+2.0
M27K	Edge Creek, AK	57.65	33	P	P	07 26 36.0	+1.2
	baz=274						
DZM	Mont Dzumac	57.70	152	P	P	07 26 34.7	-0.8
	comp=Z,1.9nm,0.4s,baz=296,slow=6.2,SNR=10						
EGAK	Eagle	57.80	30	P	P	07 26 36.0	+0.4
EGAK				IAmb	IAmb	07 27 23.6	
	comp=Z,7.2nm,1.1s						
EGAK	Eagle	57.80	30	P	P	07 26 36.6	+0.9
	baz=274						
CHGR	Chuyangaron	58.30	299	P	P	07 26 39.4	-0.4
YUK3	Moose Creek	58.36	33	P	P	07 26 40.8	+0.8
	baz=276						
I29M	Ogilvie Camp,	58.95	29	P	P	07 26 44.8	+1.0
	baz=276						
EPYK	Eagle Plains	59.49	28	P	P	07 26 48.5	+1.1
	baz=276,SNR=6.4						
INK	Inuvik	60.47	25	P	P	07 26 54.5	+0.5
	comp=Z,1.3nm,0.4s,baz=328,slow=8.0,SNR=13						
INK	Inuvik	60.47	25	IAmb	IAmb	07 27 19.0	
	comp=Z,12nm,1.6s						
N31M	Braeburn, Yuko	60.62	33	P	P	07 26 56.7	+1.5
	baz=280						
ARU	Arti	61.11	321	*de*P	P	07 26 58.1	-0.5
ARU				pmax	pmax		
	comp=Z,19nm,1.7s						
M31M	Drury Creek, Y	61.13	32	P	P	07 26 60.0	+1.3
	baz=281						
WHY	Whitehorse	61.20	34	P	P	07 27 00.5	+1.2
	baz=281						
SKAG	Skagway	61.22	35	P	P	07 27 00.8	+1.5
	baz=282						
FARO	Faro, Yukon	61.61	32	P	P	07 27 03.5	+1.6
	baz=282						
ABKAR	Akbulak array	61.98	313	P	P	07 27 03.7	-0.9
ABKAR	Akbulak array	61.98	313	P	P	07 27 03.9	-0.6
ABKAR				IAmb	IAmb	07 27 07.3	
	comp=Z,4.0nm,0.5s						
STKA	Stephens Creek	61.99	179	P	P	07 27 02.5	-2.2
	comp=Z,1.9nm,0.4s,baz=358,slow=7.5,SNR=12						
STKA				LR	LR	07 54 38.1	
	comp=Z,38nm,18.2s,baz=48,slow=37						
P33M	Teslin, Yukon	62.30	34	P	P	07 27 08.5	+1.9
P33M				IAmb	IAmb	07 27 09.2	
	comp=Z,9.0nm,1.2s						
P33M	Teslin, Yukon	62.30	34	P	P	07 27 08.1	+1.5
	baz=283						
A36M	Sachs Harbour	62.54	20	P	P	07 27 09.2	+1.3
	baz=284						
AKTO	Aktyubinsk	62.87	315	LR	LR	07 55 03.1	
	comp=Z,42nm,18.1s,baz=100,slow=36						
KIRV	Kirov	65.31	325	P	P	07 27 26.6	+0.4
	comp=Z,10nm,0.5s,baz=77,slow=10,SNR=4.2						
KIRV				LR	LR	07 59 02.2	
	comp=Z,31nm,18.2s,baz=95,slow=39						
KIRV	Kirov	65.31	325	*ce*P	P	07 27 26.5	+0.3
WRGLY	Wrigley	65.72	30	P	P	07 27 30.1	+1.3
	baz=289,SNR=5.8						
CAN	Canberra	65.86	173	P	P	07 27 29.0	-1.1
CAN				pmax	pmax		
	comp=Z,134nm,2.0s						
CAN	Canberra	65.86	173	P	P	07 27 29.0	-1.1
EUNU	Eureka	66.75	8	P	P	07 27 35.7	+0.4
EUNU				IAmb	IAmb	07 28 11.4	
	comp=Z,17nm,1.6s						
BELG	Belogornoye	68.40	319	P	P	07 27 45.9	-0.1
	comp=Z,17nm,0.8s,baz=240,slow=0.6,SNR=7.0						
BELG	Belogornoye	68.40	319	*ce*P	P	07 27 45.1	-0.9
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	Yellowknife Ar	69.74	29	P	P	07 27 54.5	+0.3
	comp=Z,2.1nm,0.8s,baz=292,slow=6.0,SNR=20						
YKA				pP	PcP	07 28 15.4	-0.9
	comp=Z,1.7nm,0.8s,baz=290,slow=6.2,SNR=6.8						
ARCES	ARCESS Array B	70.02	340	P	P	07 27 56.1	+0.4
	comp=Z,1.1nm,0.5s,baz=64,slow=6.8,SNR=9.0						
ARCES				LR	LR	08 03 21.6	
	comp=Z,30nm,18.3s,baz=221,slow=40						
VRH	Novokhopyorsk	72.23	319	*e*P	P	07 28 10.2	+0.8
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
B05A	Bryant	72.25	44	P	P	07 28 10.6	+1.1
	baz=296						
LPSR	Galich'ya Gora	73.13	321	*e*P	P	07 28 15.9	+1.2
LPSR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
OBN	Obninsk	73.15	324	⇑*i*P	P	07 28 15.3	+0.6
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
B08A	Colville Reser	73.85	43	P	P	07 28 20.4	+1.3
B08A				IAmb	IAmb	07 28 21.4	
	comp=Z,8.3nm,0.8s						
I04A	Tendick Farm,	74.04	48	P	P	07 28 21.4	+1.1
	baz=297						
FINES	FINESS Array B	74.46	333	P	P	07 28 22.6	+0.4
	comp=Z,2.4nm,0.4s,baz=68,slow=5.0,SNR=37						
I05D	Terrebonne, OR	74.48	48	P	P	07 28 24.1	+1.3
	baz=297						
J04D	Umpqua Nationa	74.48	49	P	P	07 28 24.1	+1.0
	baz=297						
D08A	Wollman Farm,	74.71	44	P	P	07 28 24.9	+0.9
D08A				IAmb	IAmb	07 28 26.3	
	comp=Z,10.0nm,1.0s						
EDM	Edmonton	74.81	37	P	P	07 28 25.0	+0.4
EDM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
EDM	Edmonton	74.81	37	P	P	07 28 24.9	+0.4
EDM				IAmb	IAmb	07 28 26.3	
	comp=Z,8.0nm,0.7s						
L04D	Klamath Falls	74.83	50	P	P	07 28 26.2	+1.2
	baz=297						
KBZ	Khabaz	74.93	312	P	P	07 28 25.5	+0.2
	comp=Z,3.9nm,0.6s,baz=95,slow=4.5,SNR=6.2						
KBZ	Khabaz	74.93	312	⇑*e*P	P	07 28 26.0	+0.7
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
J05D	Fort Rock, OR	75.03	48	P	P	07 28 26.9	+0.7
	baz=298						
N02D	Trinity Center	75.13	51	P	P	07 28 27.3	+0.7
	baz=297						
NEW	Newport	75.20	43	P	P	07 28 27.8	+0.9
NEW				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NEW	Newport	75.20	43	P	P	07 28 27.8	+0.9
NEW	Newport	75.20	43	P	P	07 28 28.0	+1.1
	baz=299						
M04C	Macdoel	75.33	50	P	P	07 28 28.5	+0.6
	baz=298						
O03E	Paynes Creek	76.05	51	P	P	07 28 32.5	+0.5
	baz=298						
WALA	Waterton Lakes	76.64	41	P	P	07 28 36.6	+1.4
WALA				IAmb	IAmb	07 28 37.4	
	comp=Z,8.8nm,0.6s						
J08A	Circle Bar Ran	76.77	47	P	P	07 28 37.6	+1.6
J08A				IAmb	IAmb	07 28 38.2	
	comp=Z,10nm,0.6s						
JTMT	Jette	77.11	42	P	P	07 28 39.3	+1.5
JTMT				IAmb	IAmb	07 28 39.8	
	comp=Z,8.0nm,0.6s						
MSO	Missoula	77.78	43	P	P	07 28 42.2	+0.6
	baz=301						
HRY	Holter Researc	79.07	42	P	P	07 28 50.0	+1.3
RYN	Ryan	79.08	52	P	P	07 28 50.5	+1.5
RYN				IAmb	IAmb	07 28 50.9	
	comp=Z,7.3nm,0.6s						
HLID	Hailey	79.21	46	P	P	07 28 50.9	+1.3
	baz=302,SNR=5.2						
AKASG	Malin Array Be	79.27	323	P	P	07 28 48.1	-1.4
	comp=Z,1.3nm,0.4s,baz=51,slow=5.0,SNR=10						
AKASG				LR	LR	08 05 28.8	
	comp=Z,51nm,19.3s,baz=39,slow=37						
NVAR	Mina Array Bea	79.33	52	P	P	07 28 51.9	+1.5
	comp=Z,8.5nm,0.7s,baz=292,slow=5.8,SNR=71						
NVAR				pP	pP	07 29 13.8	+0.7
	comp=Z,2.9nm,0.6s,baz=286,slow=6.2,SNR=5.7						
EGMT	Eagleton	79.53	40	P	P	07 28 52.0	+1.0
	baz=304						
BOZ	Bozeman (W)	79.80	43	P	P	07 28 53.8	+1.1
	baz=303,SNR=7.2						
PKM	Mcpherson Peak	80.06	55	P	P	07 28 55.2	+0.8
	baz=300						
NB2	NORSAR Subarra	80.09	338	P	P	07 28 53.1	-0.7
	comp=Z,0.5nm,0.5s,baz=41,slow=5.6						
NOA	NORSAR Array B	80.09	338	P	P	07 28 53.5	-0.3
	comp=Z,0.9nm,0.8s,baz=44,slow=5.4,SNR=4.9						
NOA				LR	LR	08 07 15.7	
	comp=Z,18nm,18.4s,baz=325,slow=38						
VES	Vestal, Richgr	80.09	54	P	P	07 28 55.0	+0.7
	baz=300						
ELK	Elko	80.17	48	P	P	07 28 56.3	+1.4
ELK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ELK	Elko	80.17	48	P	P	07 28 56.3	+1.4
LCH	Last Change Ra	80.39	53	P	P	07 28 57.4	+1.4
CWC	Cottonwood Cre	80.49	53	P	P	07 28 57.1	+0.5
	baz=301						
ISA	Isabella, Lake	80.61	54	P	P	07 28 57.4	+0.2
	baz=301						
ARVC	Arvin	80.64	55	P	P	07 28 57.9	+0.7
	baz=300						
GCMT	Greycliff	80.83	42	P	P	07 28 59.8	+1.6
H17A	Grant Village	81.09	43	P	P	07 29 02.4	+2.7
	baz=304,SNR=8.1						
MPMC	Manual Prospec	81.10	53	P	P	07 29 00.9	+1.0
	baz=301,SNR=6.4						
HVU	Hansel Valley	81.19	47	P	P	07 29 01.6	+1.4
HVU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HVU	Hansel Valley	81.19	47	P	P	07 29 01.6	+1.4
R11A	Troy Canyon, C	81.20	51	P	P	07 29 01.6	+1.2
	baz=302,SNR=7.2						
LRMC	Laurel Mtn Rad	81.26	54	P	P	07 29 01.8	+1.1
	baz=301						
EDW2	Edwards Air Fo	81.35	55	P	P	07 29 02.2	+1.1
	baz=301						
DECC	Green Verdugo	81.43	55	P	P	07 29 02.6	+1.1
	baz=301						
RLMT	Red Lodge	81.44	42	P	P	07 29 03.0	+1.4
RLMT				IAmb	IAmb	07 29 04.0	
	comp=Z,29nm,1.6s						
RLMT	Red Lodge	81.44	42	P	P	07 29 03.2	+1.6
	baz=305,SNR=9.4						
S11A	Rachel	81.46	51	P	P	07 29 02.4	+0.6
S11A				IAmb	IAmb	07 29 04.0	
	comp=Z,9.6nm,0.7s						
TPNV	Topopah Spring	81.49	52	P	P	07 29 03.0	+1.1
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TPNV	Topopah Spring	81.49	52	P	P	07 29 03.0	+1.1
TPNV				IAmb	IAmb	07 29 04.0	
	comp=Z,8.4nm,0.7s						
TPNV	Topopah Spring	81.49	52	P	P	07 29 03.0	+1.1
	baz=302,SNR=19						
GWY	Greenwater Val	81.60	53	P	P	07 29 03.5	+1.0
GWY				IAmb	IAmb	07 29 04.5	
	comp=Z,13nm,0.7s						
CIS	Catalina Islan	81.81	56	P	P	07 29 04.2	+0.7
	baz=301						
BFSC	Mount Baldy Ra	81.92	55	P	P	07 29 04.5	+0.3
	baz=301						
GSC	Goldstone, Bar	81.97	54	P	P	07 29 05.2	+0.9
	baz=302						
SHOC	Shoshone, Teco	82.02	53	P	P	07 29 05.6	+1.1
	baz=302						
DUG	Dugway, Tooele	82.03	48	P	P	07 29 05.9	+1.2
DUG				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DUG	Dugway, Tooele	82.03	48	P	P	07 29 05.8	+1.2
DUG				IAmb	IAmb	07 29 07.0	
	comp=Z,10nm,1.1s						
DUG	Dugway, Tooele	82.03	48	P	P	07 29 06.0	+1.4
	baz=303,SNR=11						
LAO	LASA Array	82.26	40	P	P	07 29 06.7	+1.1
	baz=307						
DGMT	Dagmar	82.28	38	P	P	07 29 06.6	+1.0
	baz=308						
BBRC	Big Bear Solar	82.43	55	P	P	07 29 07.6	+0.7
	baz=302						
TUQ	Turquoise Moun	82.51	53	P	P	07 29 08.4	+1.1
	baz=302,SNR=6.2						
HEC	Hector,Ludlow	82.54	54	P	P	07 29 08.4	+1.0
	baz=302						
MURC	Murrieta	82.58	55	P	P	07 29 08.2	+0.7
	baz=302						
BW06	Boulder Array	82.62	44	P	P	07 29 08.4	+0.6
	baz=305						
PDAR	Pinedale Array	82.62	44	P	P	07 29 08.5	+0.7
	comp=Z,1.7nm,0.6s,baz=358,slow=1.0,SNR=19						
PDAR				pP	pP	07 29 31.1	+0.4
	comp=Z,0.7nm,0.7s,baz=290,slow=1.8,SNR=3.3						
BR131	Keskin Array S	82.92	312	‖*e*P	P	07 29 09.8	+0.5
BRTR	Keskin Array B	82.92	312	P	P	07 29 09.4	+0.1
	comp=Z,3.4nm,0.8s,baz=145,slow=3.2,SNR=7.1						
BRTR				LR	LR	08 09 05.6	
	comp=Z,36nm,19.3s,baz=60,slow=38						
109C	Camp Elliot, M	83.02	56	P	P	07 29 09.9	+0.2
	baz=302						
GMRC	Granite Mounta	83.04	54	P	P	07 29 11.1	+1.2
	baz=302,SNR=5.5						
PFO	Pinyon Flats O	83.09	55	P	P	07 29 10.9	+0.6
PFO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PFO	Pinyon Flats O	83.09	55	P	P	07 29 10.8	+0.6
PFO				IAmb	IAmb	07 29 11.8	
	comp=Z,6.8nm,0.7s						
PFO	Pinyon Flats O	83.09	55	P	P	07 29 10.8	+0.6
	baz=302						
TPFO	Pinon Flats	83.10	55	P	P	07 29 10.9	+0.6
	baz=302						
CCUT	Cedar City	83.11	50	P	P	07 29 11.9	+1.4
BELC	Belle Mtn. Jos	83.22	55	P	P	07 29 11.5	+0.6
	baz=302						
MSU	Marysvale	83.36	49	P	P	07 29 13.3	+1.6
MSU	Marysvale	83.36	49	P	P	07 29 13.3	+1.6
MONP2	Monument Peak	83.50	56	P	P	07 29 13.1	+0.6
	baz=302						
IRM	Iron Mountain	83.73	54	P	P	07 29 14.3	+0.9
	baz=302						
BC3	Big Chuckawall	83.78	55	P	P	07 29 14.6	+0.8
	baz=302						
IKP	In-Ko-Pah, Jac	83.85	56	P	P	07 29 14.9	+0.8
	baz=302						
SWSC	Sam W. Stewart	83.92	55	P	P	07 29 15.3	+1.0
	baz=302						
SRU	San Rafael Swe	84.10	48	P	P	07 29 16.5	+1.1
SRU				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SRU	San Rafael Swe	84.10	48	P	P	07 29 16.5	+1.1
SRU				IAmb	IAmb	07 29 17.3	
	comp=Z,10nm,0.8s						
PDMCI	Parker Dam,Lak	84.35	53	P	P	07 29 17.6	+1.1
	baz=303						
K22A	Casper	84.50	43	P	P	07 29 18.1	+0.7
	baz=307						
O20A	White River Ci	84.95	46	P	P	07 29 20.5	+0.8
	baz=306						
RSSD	Black Hills	85.04	41	P	P	07 29 20.9	+0.8
	baz=308						
113A	Mohawk Valley,	85.45	55	P	P	07 29 23.2	+1.1
PV10	Paradox Valley	85.47	48	P	P	07 29 23.5	+1.1
WUAZ	Wupatki	85.57	51	P	P	07 29 24.0	+1.2
	baz=304,SNR=5.5						
N23A	Red Feather La	85.90	44	P	P	07 29 25.4	+0.9
	baz=307						
VRAC	Vranov	86.41	327	LR	LR	08 09 26.8	
	comp=Z,19nm,18.4s,baz=338,slow=36						
MVCO	Mesa Verde	86.50	48	P	P	07 29 28.2	+0.8
	baz=306						
214A	Organ Pipe Nat	86.57	55	P	P	07 29 28.7	+1.0
	baz=304						
ISCO	Idaho Springs	86.77	45	P	P	07 29 29.8	+1.0
	baz=308						
W18A	Petrified Fore	86.90	51	P	P	07 29 30.5	+1.1
	baz=305						
S22A	4UR Ranch, Cre	87.25	47	P	P	07 29 32.1	+0.9
	baz=307						
TUC	Tucson	87.79	54	P	P	07 29 34.9	+1.3
	baz=305						
SDCO	Great Sand Dun	88.08	47	P	P	07 29 36.1	+0.9
	baz=308						
ANMO	Albuquerque	89.17	49	‖*e*P	P	07 29 41.4	+1.2
ANMO				pmax	pmax		
	comp=Z,8.0nm,2.5s						
ANMO	Albuquerque	89.17	49	P	P	07 29 41.2	+1.0
	baz=307						
ECSD	EROS Data Cent	89.36	38	P	P	07 29 41.0	+0.4
	baz=313						
SPMN	Marine on St.	90.25	35	P	P	07 29 45.1	+0.4
	baz=316						
CBKS	Cedar Bluff	90.91	43	P	P	07 29 48.4	+0.3
	baz=311						
MNTX	Cornudas Mount	91.85	51	P	P	07 29 53.0	+0.5
	baz=308						
AMTX	Amarillo	92.28	47	P	P	07 29 55.4	+0.9
	baz=310						
SCIA	State Center	92.42	37	P	P	07 29 55.6	+0.7
	baz=316						
KSU1	Kansas State U	92.53	41	P	P	07 29 56.0	+0.5
	baz=313						
JFWS	Jewell Farm	93.20	35	P	P	07 29 58.8	+0.3
	baz=318						
WMOK	Wichita Mounta	94.18	45	P	P	07 30 03.7	+0.5
	baz=312						
TX32	Lajitas Array	94.47	52	P	P	07 30 05.9	+1.2
TXAR	Lajitas Array	94.47	52	P	P	07 30 06.0	+1.2
	comp=Z,4.3nm,0.8s,baz=296,slow=2.4,SNR=52						
TXAR				pP	pP	07 30 27.6	-0.4
	comp=Z,2.1nm,0.6s,baz=280,slow=2.1,SNR=7.3						
TXAR	Lajitas Array	94.47	52	P	P	07 30 06.1	+1.4
ABTX	Abilene, Hawle	95.03	48	P	P	07 30 07.6	+0.5
	baz=311						
HDIL	Hopedale	95.43	36	P	P	07 30 08.8	+0.1
	baz=318						
CCM	Cathedral Cave	96.24	39	P	P	07 30 12.7	+0.2
	baz=317						
SFIN	Lafayette	96.66	35	P	P	07 30 14.1	-0.2
	baz=320						
TORD	Torodi Ar. Bea	121.53	312	PKP	PKPdf	07 35 36.9	-1.0
	comp=Z,0.7nm,0.5s,baz=72,slow=0.4,SNR=7.5						
LPAZ	La Paz	149.96	69	PKPbc	PKPdf	07 36 34.9	+4.4
	comp=Z,6.8nm,1.0s,baz=28,slow=20,SNR=3.9						
PLCA	Paso Flores	152.57	121	PKPbc	PKPbc	07 36 40.1	0.0
	comp=Z,0.7nm,0.6s,baz=199,slow=6.6,SNR=4.8						

SJA ***20*** *07:24:24.1±0.7, 30°.61S×71°.94W, h14km, ML4.4, MW4.0*
IDC ***20*** *07:24:24.1±1.4, 30°.76S×71°.64W, h0km, mb3.4/3,*
mb1 3.5/7, mb1mx3.5/25, mbtmp3.3/7, ML3.2/4, Error
ellipse: s-maj=47.6km s-min=30.8km az=92.0

ISC 20 07:24:25.4±1.8, 30°.67S±0°.03×71°.82W±0°.06, h17km±12km,
n32, σ2°.60/42, mb3.4/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	El Pedregal	0.99	100	*e*P	Pb	07 24 44.5	+0.4
GO04	Tololo Observa	1.01	61	*e*P	Pb	07 24 44.5	-0.1
GO04				*e*P	Pn	07 24 45.0	-0.1
GO04				*e*P	Pg	07 24 45.5	+0.4
LCO	Las Campanas	1.92	31	*e*P	Pb	07 24 59.0	-1.1
VA03	San Esteban	2.35	153	*e*P	Pb	07 25 06.0	-1.3
VA03				IAML		07 26 08.5	
	comp=Z,3μm,0.6s						
ROC1	El Roble	2.40	164	*e*P	Pn	07 25 05.5	+1.4
RTLS	Leoncito	2.44	118	*e*P	Pb	07 25 09.0	0.0
RTLS				*e*S	Sn	07 25 31.8	-2.5
RTLS				IAML		07 26 12.6	
	comp=Z,1μm,0.9s						
AC04	Llanos de Chal	2.54	15	*e*P	Pb	07 25 07.0	-3.6
AC04				*e*S	Sn	07 25 35.8	-0.7
AUSP	Uspallata	2.59	127	*e*P	Pn	07 25 05.5	-1.3
AUSP				*e*P	Pb	07 25 11.0	-0.6
AUSP				*e*S	Sn	07 25 34.5	-3.6
MT02	Curacav	2.64	167	*e*P	Pn	07 25 10.0	+2.7
MT02				*e*S	Sn	07 25 33.5	-5.4
MT02				IAML		07 26 16.2	
	comp=Z,944nm,0.5s						
PEL	Peldehue	2.65	159	*e*P	Pb	07 25 10.5	-1.9
ZON	Zonda	2.83	109	*e*P	Pb	07 25 14.5	-1.1
ZON				*e*S	Sn	07 25 37.4	-6.3
ZON				IAML		07 26 23.7	
	comp=Z,1μm,0.5s						
MT05	Renca	2.86	162	*e*P	Pb	07 25 14.3	-1.8
MT05				*e*S	Sn	07 25 36.5	-7.9
MT05				IAML		07 26 19.7	
	comp=Z,1μm,0.3s						
ASAL	Salagasta	3.19	128	*e*P	Pn	07 25 14.5	-0.3
ASAL				*e*P	Pb	07 25 20.0	-1.6
ASAL				*e*S	Sn	07 25 42.5	-10
MT01	Popeta	3.22	171	*e*P	Pn	07 25 14.5	-0.7
MT01				*e*P	Pb	07 25 18.0	-4.1
MT01				*e*S	Sn	07 25 43.0	-10
MT01				IAML		07 26 34.3	
	comp=Z,500nm,0.2s						
ARCO	CERRO ARCO	3.28	132	*e*P	Pn	07 25 17.5	+1.4
ARCO				*e*S	Sn	07 25 45.5	-9.3
ARCO				IAML		07 26 35.9	
	comp=Z,811nm,0.6s						
GO03	Copiap	3.37	25	*e*P	Pn	07 25 14.5	-2.7
GO03				*e*P	Pb	07 25 19.0	-5.7
GO03				*e*S	Sn	07 25 46.8	-10
AAGR	Agrelo	3.50	134	*e*P	Pb	07 25 25.0	-2.0
VCA	Vinchina	3.69	59	*e*P	Pb	07 25 27.0	-3.2
VCA				IAML		07 26 45.5	
	comp=Z,857nm,0.8s						
BO01	Tunca	3.76	171	*e*P	Pn	07 25 26.0	+3.4
AVFE	Valle Fertil	3.76	91	*e*P	Pn	07 25 26.0	+3.3
AVFE				*e*P	Pb	07 25 26.1	-5.3
AVFE				IAML		07 26 50.2	
	comp=Z,852nm,0.7s						
BO02	Sierra Bellavi	4.20	168	*e*P	Pn	07 25 31.8	+3.0
BO02				IAML		07 27 00.7	
	comp=Z,580nm,0.3s						
AC02	Maricunga	4.50	32	*e*P	Pn	07 25 35.3	+2.1
AC02				IAML		07 27 09.8	
	comp=Z,298nm,1.0s						
RFA	San Rafael	4.97	146	*e*P	Pn	07 25 43.5	+4.2
RFA				*e*P	Pb	07 25 45.5	-6.5
TCA	Tanti	6.24	98	*e*P	Pn	07 25 59.0	+2.3
LVC	Limon Verde	8.44	19	Pn	Pn	07 26 29.0	+1.7
	comp=Z,0.2nm,0.3s,baz=162,slow=15,SNR=2.2						
PLCA	Paso Flores	10.09	174	Pn	Pn	07 26 50.9	+1.3
	comp=Z,0.1nm,0.3s,baz=0,0,slow=13,SNR=1.4						
LPAZ	La Paz	14.71	14	Pn	P	07 27 56.4	-3.0
	comp=Z,0.1nm,0.3s,baz=283,slow=21,SNR=2.2						
SIV	San Ignacio	17.62	36	P	P	07 28 32.0	+0.9
	comp=Z,0.1nm,0.3s,ba

baz=278
EWUT Wuta 0.96 318 *e*P Pn 07 25 01.2 +1.7
baz=327
EWUT *e*S Sn 07 25 14.2 +1.0
baz=327
ESL Shilin 0.97 275 *e*P Pb 07 24 59.2 +0.4
baz=264
ESL *e*S Sb 07 25 11.6 -0.1
baz=264
ENA Nanau 0.97 315 P Pn 07 25 00.5 +0.9
baz=324
ENA S Sn 07 25 13.3 -0.1
baz=324
EGFH Guangfu 0.98 267 *e*P Pn 07 25 00.8 +1.2
baz=262
HGSD Ruisui 1.01 257 P Pn 07 25 00.3 +0.3
baz=252
HGSD S Sb 07 25 13.2 +0.5
baz=252
ETLH Xiulin Townshi 1.04 297 P Pn 07 25 00.6 +0.1
baz=296
ETLH S Sb 07 25 13.6 0.0
baz=296
ECBN Changbin 1.04 247 *e*P Pn 07 25 01.2 +0.7
baz=232
ECBN *e*S Sb 07 25 14.7 +1.0
baz=232
TWC Suao 1.05 326 *e*P Pn 07 25 01.1 +0.4
baz=328
TWC *e*S Sn 07 25 15.4 0.0
baz=328
EHY Hungye 1.09 258 P Pn 07 25 02.2 +1.0
baz=254
EHY *e*S Sb 07 25 15.9 +0.6
baz=254
EYUL Yuli 1.14 251 *e*P Pb 07 25 02.3 +0.7
baz=246
EYUL *e*S Sb 07 25 16.8 +0.3
baz=246
NDS Dongshan 1.14 322 *e*P Pn 07 25 02.8 +0.8
baz=331
NDS *e*S Sn 07 25 17.5 -0.2
baz=331
YULB Yu-li 1.15 253 P Pn 07 25 02.8 +0.9
baz=249
YULB *e*S Sb 07 25 17.0 +0.3
baz=249
TWF1 Yuli 1.16 251 *e*P Pb 07 25 02.5 +0.5
baz=247
TWF1 *e*S Sn 07 25 18.1 0.0
baz=247
WHF Hehuan Shan 1.19 290 P Pn 07 25 03.2 +0.2
baz=281
WHF *e*S Sb 07 25 17.9 -0.6
baz=281
CHKT Chengkung 1.21 239 *e*P Pn 07 25 04.2 +1.3
baz=226
CHKT *e*S Sg 07 25 18.2 -0.7
baz=226
FULB Fuli 1.22 244 *e*P Pg 07 25 03.5 +0.2
baz=230
FULB *e*S Sg 07 25 18.9 -0.3
baz=230
NNSB Datong 1.23 305 *e*P Pn 07 25 03.5 +0.3
baz=304
ENTT Nioudou 1.24 317 *e*P Pn 07 25 04.6 +1.3
baz=318
ENTT *e*S Sn 07 25 19.5 -0.5
baz=318
VWDT VWDT 1.24 271 P Pn 07 25 04.2 +1.0
baz=268
VWDT *e*S Sb 07 25 18.9 -0.4
baz=268
NNS Nan Shan 1.24 305 *e*P Pn 07 25 04.1 +0.7
baz=304
CHGB Renai 1.25 285 P Pn 07 25 04.1 +0.5
baz=278
CHGB S Sg 07 25 18.8 -1.4
baz=278
FUSS Fushou 1.25 294 *e*P Pn 07 25 04.3 +0.7
baz=293
FUSS *e*S Sb 07 25 19.2 -0.7
baz=293
IRIF Iriomote-Funau 1.28 62 P Pn 07 25 03.8 0.0
EDH Donghe 1.33 236 *e*P Pn 07 25 04.9 +0.5
baz=225
EDH *e*S Sb 07 25 21.3 -0.6
baz=225
ECS Chishang 1.33 242 *e*P Pn 07 25 04.5 0.0
baz=230
TIPB Shuangxi 1.38 334 *e*P Pg 07 25 07.3 +1.0
baz=349
TIPB *e*S Sn 07 25 23.8 +0.3
baz=349
YHNB Yeheng 1.38 313 P Pg 07 25 05.8 -0.6
baz=313
YHNB S Sb 07 25 22.4 -1.2
baz=313
NSK Sanguang 1.40 313 *e*P Pg 07 25 06.3 -0.4
baz=313
SSLB Suanglung 1.41 273 *e*P Pg 07 25 06.6 -0.3
baz=270
SSLB *e*S Sb 07 25 22.8 -1.5
baz=270
ELDTW Lidau 1.46 249 *e*P Pn 07 25 06.9 +0.6
baz=244
ELDTW *e*S Sb 07 25 23.8 -2.0
baz=244
JKRS Kuro-shima 1.48 70 *e*S Sn 07 25 24.8 -1.1
WCS Beigang Elemen 1.48 283 *e*P Pg 07 25 08.4 +0.1
baz=286
NWF Wu-fen Shan 1.48 334 *e*P Pg 07 25 09.3 +1.0
baz=349
WFSB Wu-fen Shan 1.48 334 *e*P Pb 07 25 07.3 -0.2
baz=349
LONT Longtian 1.50 237 *e*P Pn 07 25 07.7 +0.9
baz=227
LONT *e*S Sn 07 25 25.6 -0.8
baz=227
TYC Yuchr 1.51 277 *e*P Pg 07 25 08.5 -0.3
baz=274
WHP Taichung City 1.51 291 *e*P Pg 07 25 09.6 +0.7
baz=290
NFF Wufeng Townshi 1.54 306 *e*P Pg 07 25 09.8 +0.3
baz=305
ALS Alishan 1.56 262 *e*P Pb 07 25 09.2 +0.2
baz=268
ALS *e*S Sn 07 25 26.5 -1.9
baz=268
TWGBT Beinan 1.58 235 *e*P Pn 07 25 08.5 +0.5
baz=242
TWGBT *e*S Sn 07 25 27.6 -0.9
baz=242
LIOB Emei 1.62 304 *e*P Pg 07 25 10.9 -0.2
baz=315
JIJ Ishigaki jima 1.64 67 P Pn 07 25 09.1 +0.4
JIJ *e*S Sn 07 25 28.6 -1.2
STYH Taoyuan 1.67 251 *e*P Pn 07 25 10.0 +0.8
baz=241
STYH *e*S Sn 07 25 30.0 -0.6
baz=241
TPUB Ta-pu 1.76 256 *e*P Pb 07 25 12.7 +0.4
baz=248
TPUB *e*S Sb 07 25 34.6 +0.2
baz=248
CHN4 Tsaushan 1.78 258 *e*P Pg 07 25 14.7 +0.7
baz=255
WTP Ta-pu 1.79 255 *e*P Pn 07 25 11.9 +1.0
baz=251
CHN1 Nanshi 1.88 254 *e*P Pb 07 25 14.7 +0.4
baz=250
TWK Hsinying 1.90 256 *e*P Pn 07 25 12.9 +0.6
baz=252
LYUB Lan-yu 1.91 206 *e*P Pn 07 25 13.4 +0.8
baz=210
SSD Sandimen 1.97 241 *e*P Pn 07 25 14.0 +0.7
baz=232
MASBT Mashibuluo 2.04 237 *e*P Pn 07 25 16.0 +1.7
baz=227

*IDC **20** 07:24:45.5±0.7,30.°69S×71.°65W,h0km,mb4.2/9, mb1 4.2/13,mb1mx4.1/25,mbtmp4.0/13,ML4.0/4,MS3.4/3, Ms1 3.4/3,ms1mx3.0/46,Error ellipse: s-maj=25.0km s-min=22.5km az=72.0*
*NEIC **20** 07:24:50.7±1.9,30.°58S±0.°04×71.°7W±0.°1,h29km±3km, mb4.5/8,ML4.7(GUC),Error ellipse: s-maj=12.9km s-min=4.9km az=100.0*
*GUC **20** 07:24:50.1±0.6,30.°69S×71.°70W,h36km±1km,ML4.7*
ISC 20 07:24:50.0±0.8,30.°59S±0.°03×71.°67W±0.°06,h31km±5km, n87,σ1§46/78,mb4.4/11,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.09**	**157**	*e*P	**Pb**	**07 24 55.3**	**-0.2**
CO06				*i* S	**Sb**	**07 24 59.3**	**+0.1**
CO06				IAML		07 24 60.0	
	comp=N,162μm,0.2s						
CO06	**Fray Jorge**	**0.09**	**157**		**Pb**	**07 24 55.8**	**+0.4**
CO05	**La Serena**	**0.77**	**29**	Pn	**Pb**	**07 25 06.2**	**+1.2**
GO04	**Tololo Observa**	**0.86**	**61**	IAML		07 25 27.3	
	comp=N,53μm,0.4s						
GO04	**Tololo Observa**	**0.86**	**61**	Pn	**Pb**	**07 25 08.0**	**+1.3**
GO04	**Tololo Observa**	**0.86**	**61**	*e*S	**Sn**	**07 25 20.9**	**+3.0**
CO03	**El Pedregal**	**0.88**	**106**	*e*P	**Pn**	**07 25 06.5**	**+0.2**
CO03				*e*S	**Sn**	**07 25 18.2**	**0.0**
CO03				IAML		07 25 19.2	
	comp=N,46μm,0.5s						
CO03	**El Pedregal**	**0.88**	**106**	Pn	**Pb**	**07 25 06.8**	**-0.2**
CO03	**El Pedregal**	**0.88**	**106**	*e*S	**Sn**	**07 25 18.3**	**0.0**
LCO	**Las Campanas**	**1.79**	**28**	*e*P	**Pb**	**07 25 21.7**	**-0.6**
LCO				*e*S	**Sb**	**07 25 46.4**	**+2.0**
LCO	**Las Campanas**	**1.79**	**28**	Pn	**Pb**	**07 25 21.1**	**-1.2**
LCO					**Pb**	**07 25 21.7**	**-0.6**
VA06	**Catapilco**	**1.99**	**171**	*e*P	**Pn**	**07 25 22.0**	**+0.5**
VA06				*e*S	**Sn**	**07 25 45.5**	**+0.2**
VA06				IAML		07 25 54.7	
	comp=N,9μm,0.5s						
VA03	**San Esteban**	**2.37**	**156**	*e*P	**Pn**	**07 25 29.4**	**+2.5**
VA03				*e*S	**Sn**	**07 25 56.0**	**+1.1**
VA03				IAML		07 26 05.6	
	comp=N,6μm,0.3s						
VA03	**San Esteban**	**2.37**	**156**	Pn	**Pn**	**07 25 28.1**	**+1.3**
VA03	**San Esteban**	**2.37**	**156**	*e*S	**Sb**	**07 25 59.3**	**-1.6**
VA01	**Torpederas**	**2.42**	**179**	Pn	**Pn**	**07 25 28.8**	**+1.4**
AC04	**Llanos de Chal**	**2.44**	**13**	*e*P	**Pn**	**07 25 27.6**	**-0.1**
AC04	**Llanos de Chal**	**2.44**	**13**	Pn	**Pn**	**07 25 29.3**	**+1.7**
ROCH	**El Roble**	**2.44**	**167**	*e*P	**Pn**	**07 25 28.2**	**+0.3**
ROCH				IAML		07 26 05.8	
	comp=N,3μm,0.2s						
ROC1	**El Roble**	**2.44**	**167**	*e*S	**Sn**	**07 25 54.3**	**-2.6**
PEL	**Peldehue**	**2.68**	**162**	*e*P	**Pn**	**07 25 31.9**	**+0.9**
PEL				*e*S	**Sn**	**07 26 01.3**	**-1.2**
PEL				IAML		07 26 13.2	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**2.68**	**162**	Pn	**Pn**	**07 25 32.0**	**+0.9**
PEL	**Peldehue**	**2.68**	**162**	*e*S	**Pn**	**07 25 32.3**	**+1.2**
PEL	**Peldehue**	**2.68**	**162**	*e*S	**Sn**	**07 26 05.5**	**+3.0**
MT02	**Curacav**	**2.70**	**170**	Pn	**Pn**	**07 25 32.6**	**+1.3**
ZON	**Zonda**	**2.74**	**111**	Pn	**Pn**	**07 25 33.3**	**+1.4**
MT05	**Renca**	**2.90**	**164**	*e*P	**Pn**	**07 25 35.4**	**+1.3**
MT05				IAML		07 26 21.8	
	comp=E,4μm,0.5s						
MT05	**Renca**	**2.90**	**164**	Pn	**Pn**	**07 25 35.5**	**+1.4**
VA05	**Santo Domingo**	**3.06**	**179**	Pn	**Pn**	**07 25 35.9**	**-0.2**
MT09	**Talagante**	**3.23**	**170**	*e*P	**Pn**	**07 25 39.2**	**+0.6**
MT09				*e*S	**Sn**	**07 26 16.0**	**-0.1**
MT09				IAML		07 26 31.8	
	comp=N,2μm,0.7s						
MT09	**Talagante**	**3.23**	**170**	Pn	**Pn**	**07 25 40.0**	**+1.4**
MT01	**Popeta**	**3.28**	**174**	Pn	**Pn**	**07 25 40.3**	**+1.0**
BO04	**La Punta**	**3.50**	**165**	*e*P	**Pn**	**07 25 43.2**	**+0.8**
BO04				*e*S	**Sn**	**07 26 22.8**	**-0.1**
BO04				IAML		07 26 40.8	
	comp=N,1μm,0.3s						
GO05	**Huala**	**4.41**	**183**	Pn	**Pn**	**07 25 53.4**	**-1.4**
ML02	**Panimavida**	**5.16**	**178**	Pn	**Pn**	**07 26 04.7**	**-0.4**
H03N1	**Juan Fernandez**	**6.77**	**243**	T	T	07 33 18.0	
	baz=73,slow=72,SNR=3020						
H03N3	**Juan Fernandez**	**6.79**	**243**	T	T	07 33 19.1	
	baz=73,slow=72,SNR=3325						
H03N2	**Juan Fernandez**	**6.79**	**243**	T	T	07 33 22.2	
	baz=73,slow=72,SNR=3033						
H03S3	**Juan Fernandez**	**6.93**	**240**	T	T	07 33 52.6	
	SNR=9.7						
H03S1	**Juan Fernandez**	**6.93**	**240**	T	T	07 33 44.5	
	SNR=11						
H03S2	**Juan Fernandez**	**6.94**	**240**	T	T	07 33 38.7	
	SNR=12						
PB06	**IPOC Station P**	**8.08**	**14**		**Pn**	**07 26 41.1**	**-4.3**
LC01	**Cunco**	**8.29**	**181**		**Pn**	**07 26 47.1**	**-0.9**
LVC	**Limon Verde**	**8.32**	**18**	Pn	Pn	07 26 42.7	-6.2
	comp=N,1.2nm,0.3s,baz=214,slow=7.0,SNR=12						
LVC				Sn	**Sn**	**07 28 18.8**	**-3.3**
	comp=N,1.4nm,0.3s,baz=130,slow=19,SNR=1.2						
LVC				LR	LR	07 30 27.9	
	comp=N,139nm,19.9s,baz=212,slow=41						
PB09	**IPOC Station P**	**9.03**	**15**	Pn	**Pn**	**07 26 55.7**	**-2.7**
PLCA	**Paso Flores**	**10.16**	**175**	Pn	**Pn**	**07 27 12.7**	**-1.1**
	comp=N,0.2nm,0.3s,baz=344,slow=12,SNR=8.6						
PLCA				Sn	Sn	07 28 56.4	-10
	comp=N,0.0nm,0.3s,baz=25,slow=15,SNR=0.9						
PLCA	**Paso Flores**	**10.16**	**175**	Pn	**Pn**	**07 27 13.3**	**-0.4**
GO01	**Chusmiza**	**11.11**	**12**		**Pn**	**07 27 25.4**	**-1.8**
MNMC	**Minye Minye**	**11.57**	**10**		**Pn**	**07 27 33.1**	**-0.2**
PB16	**IPOC Station P**	**12.36**	**10**		**Pn**	**07 27 46.3**	**+1.9**
CPUP	**Villa Florida**	**13.31**	**75**	Pn	**Pn**	**07 27 57.2**	**+0.3**
	comp=N,0.4nm,0.3s,baz=243,slow=11,SNR=5.5						
CPUP				Sn	**Sn**	**07 30 21.3**	**-2.5**
	comp=N,0.3nm,0.3s,baz=173,slow=16,SNR=1.5						
LPAZ	**La Paz**	**14.60**	**14**	Pn	**Pn**	**07 28 16.9**	**+1.8**
	comp=N,0.3nm,0.3s,baz=191,slow=9.0,SNR=8.9						
SIV	**San Ignacio**	**17.48**	**36**	P	**P**	**07 28 52.3**	**-0.2**
	comp=N,0.3nm,0.3s,baz=230,slow=9.8,SNR=11						
SIV				LR	LR	07 36 43.8	
	comp=N,104nm,21.6s,baz=256,slow=41						
PTLB	**Pontes e Lacer**	**18.96**	**40**	P	**P**	**07 29 08.6**	**-0.1**
ETMB	**Extrema**	**21.29**	**15**	P	**P**	**07 29 34.3**	**+0.2**
BDFB	**Brasilia**	**26.28**	**61**	P	**P**	**07 30 22.6**	**-0.4**
	comp=N,4.2nm,0.8s,baz=230,slow=7.8,SNR=4.7						
OTAV	**Otavalo**	**31.33**	**347**	P	**P**	**07 31 04.3**	**-3.9**
OTAV				IAmb	IAmb	07 31 06.6	
	comp=Z,3.3nm,0.5s						
H06E1	**SOCORRO T-PHAS**	**31.93**	**317**	T	T	08 42 26.7	
	SNR=3.0						
TXAR	**Lajitas Array**	**66.94**	**330**	P	**P**	**07 35 41.0**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=150,slow=8.7,SNR=7.8						
ANMO	**Albuquerque**	**72.96**	**331**	LR	LR	08 03 22.5	
	comp=Z,41nm,19.3s,baz=212,slow=32						
LIC	**Lamto**	**73.42**	**72**	*e*P	**P**	**07 36 19.4**	**-0.2**
	comp=Z,24nm,1.1s						
TIC	**Toumodi**	**73.67**	**72**	*e*P	**P**	**07 36 20.0**	**-1.1**
KIC	**Kosan Boka**	**73.73**	**72**	*e*P	**P**	**07 36 21.7**	**+0.3**
	comp=Z,7.4nm,0.7s						
DBIC	**Dimbokro**	**73.81**	**72**	P	**P**	**07 36 22.1**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=249,slow=6.8,SNR=6.1						
MAW	**Mawson**	**76.35**	**164**	P	**P**	**07 36 36.3**	**+0.7**
	comp=Z,10nm,1.0s,baz=114,slow=2.7,SNR=1.8						
MAW	**Mawson**	**76.35**	**164**	IAmb	IAmb	07 36 45.6	
	comp=Z,13nm,1.4s						
P18A	**Preston Nutter**	**78.52**	**331**	P	**P**	**07 36 50.5**	**+2.0**
PDAR	**Pinedale Array**	**80.88**	**333**	P	**P**	**07 37 01.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=140,slow=7.4,SNR=4.8						
NVAR	**Mina Array Bea**	**81.28**	**325**	P	**P**	**07 37 05.4**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=116,slow=37,SNR=2.9						
BOSA	**Boshof**	**81.39**	**118**	P	**P**	**07 37 04.7**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=319,slow=3.7,SNR=4.2						
BOSA	**Boshof**	**81.39**	**118**	IAmb	IAmb	07 37 06.7	
	comp=Z,6.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.76**	**70**	P	**P**	**07 37 11.7**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=281,slow=6.3,SNR=17						
TORD	**Torodi Ar. Bea**	**82.76**	**70**	IAmb	IAmb	07 37 23.6	
	comp=Z,3.4nm,0.9s						
RSD	**Rainshed**	**94.42**	**290**	P	**P**	**07 38 09.0**	**+1.6**
YKA	**Yellowknife Ar**	**98.94**	**341**	P	Pdif	07 38 26.7	0.0
	comp=Z,0.2nm,0.6s,baz=143,slow=4.4,SNR=3.9						
ASAR	**Alice Springs**	**120.73**	**207**	PKP	**PKPdf**	**07 43 38.6**	**-0.9**
	comp=Z,0.5nm,1.0s,baz=174,slow=1.9,SNR=2.0						
WRA	**Warramunga Arr**	**123.87**	**210**	PKP	**PKPdf**	**07 43 45.0**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=158,slow=1.5,SNR=8.3						
H11S2	**WAKE ISLAND Hyl**	**26.06**	**271**	T	T	10 02 35.3	
	baz=115,slow=75,SNR=45						
H11S1	**WAKE ISLAND Hyl**	**26.08**	**271**	T	T	10 02 37.5	
	baz=115,slow=75,SNR=47						
H11S3	**WAKE ISLAND Hyl**	**26.08**	**271**	T	T	10 02 36.5	
	baz=115,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hyl**	**26.39**	**273**	T	T	10 03 06.8	
	baz=120,slow=74,SNR=4.0						
H11N1	**WAKE ISLAND Hyl**	**26.40**	**273**	T	T	10 03 03.4	
H11N2	**WAKE ISLAND Hyl**	**26.41**	**273**	T	T	10 03 04.0	
	baz=154,slow=74,SNR=6.3						
KURBB	**Kurchatov Arra**	**150.12**	**39**	PKPbc	**PKiKP**	**07 44 37.8**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=303,slow=3.3,SNR=4.4						
KURK	**Kurchatov**	**150.12**	**39**		**PKiKP**	**07 44 37.8**	**-0.3**
ZALV	**Zalesovo Beam**	**151.15**	**29**	PKPbc	**PKPbc**	**07 44 39.4**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=298,slow=3.2,SNR=13						
MKAR	**Makanchi Array**	**154.19**	**44**	PKPbc	**PKiKP**	**07 44 47.5**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=252,slow=1.4,SNR=2.8						

*NNC **20** 07:24:56.6±0.6,50.°06N×78.°85E,h0km,mb3.3,mpv2.8, Error ellipse: s-maj=11.5km s-min=3.0km az=71.0, Suspected Mining explosion.*
*IDC **20** 07:24:59.9±3.8,50.°01N×79.°04E,h0km,mb1 2.8/2, mb1mx2.8/40,mbtmp2.8/2,ML2.4/2,Error ellipse: s-maj=61.4km s-min=22.5km az=76.0*
ISC 20 07:24:53.5±1.2,50.°00N±0.°04×78.°07E±0.°07,h0km,n8, σ0§97/11,5C-6D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.69**	**25**	⇑P	**Pb**	**07 25 08.4**	**+0.1**
	6.2nm,0.2s						
KURBB				⇓S	**Sb**	**07 25 17.1**	**-1.3**
	91nm,0.7s						
KURK	**Kurchatov**	**0.80**	**26**	⇓P	**Pb**	**07 25 09.9**	**-0.4**
	2.9nm,0.3s						
KURK				⇑S	**Sg**	**07 25 19.0**	**0.0**
	36nm,1.1s						
MAKZ	**Makanchi**	**4.12**	**139**	⇑Pg	**Pb**	**07 26 06.4**	**-0.5**
	1.3nm,0.6s						
MAKZ				⇓Lg	Lg	07 26 58.4	
	4.5nm,0.8s						
OTUK	**Ortayu**	**4.16**	**247**	⇑Pn	**Pb**	**07 26 07.1**	**-0.4**
	4.2nm,0.8s						
OTUK				⇓Lg	Lg	07 27 21.4	
	4.1nm,0.5s						
MK31	**Makanchi Array**	**4.27**	**137**	⇑Pn	**Pn**	**07 26 00.8**	**+1.1**
	0.9nm,0.6s,baz=322,slow=10,SNR=7.8						
MK31				⇓Pg	**Pb**	**07 26 09.2**	**-0.2**
	1.1nm,0.6s,baz=320,slow=14,SNR=7.4						
MK31				⇓Lg	Lg	07 27 01.8	
	5.5nm,0.7s,baz=329,slow=26,SNR=7.3						
MKAR	**Makanchi Array**	**4.27**	**137**	Pn	**Pn**	**07 26 00.9**	**+1.2**
	0.3nm,0.3s,baz=332,slow=12,SNR=12						
MKAR				Sn	**Sn**	**07 26 49.1**	**-1.1**
	0.5nm,0.3s,baz=339,slow=17,SNR=5.1						
MKAR				Lg	Lg	07 27 01.3	
	1.1nm,0.3s,baz=330,slow=25,SNR=12						
I46RU	**ZALESOVO INFRA**	**5.74**	**44**	*i*		08 00 00.0	
	baz=223,slow=343,SNR=3.9						
ZALV	**Zalesovo Beam**	**5.74**	**44**	Pn	**Pn**	**07 26 21.2**	**+1.2**
	0.5nm,0.3s,baz=233,slow=14,SNR=7.0						

*TUL **20** 07:37:20±0.7,36.°41N±0.°02×98.°14W±0.°02,h7km±7km, ML2.8,mb_Lg2.5/12(NEIC),Error ellipse: s-maj=2.7km s-min=2.6km az=143.0*
NEIC 20 07:37:19.8±0.5,36.°41N±0.°02×98.°13W±0.°04,h15km±4km, Error ellipse: s-maj=5.8km s-min=1.3km az=61.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.15**	**52**	Pg	Pg	07 37 23.6	-0.2
GC02	**Grant County #**	**0.49**	**26**	Pg	Pg	07 37 29.6	+0.1
KAN14	**Manchester OK**	**0.56**	**14**		Pg	07 37 30.9	0.0
KAN17	**Caldwell West**	**0.70**	**25**	Pg	Pg	07 37 33.4	-0.1
U32A	**Winter Ranch,**	**0.70**	**268**	Pg	Pg	07 37 33.5	-0.1
KAN10	**Anthony SW Sta**	**0.71**	**2**	Pg	Pg	07 37 33.6	-0.1
KAN05	**Bluff City Nor**	**0.73**	**17**		Pg	07 37 33.8	-0.2
KAN13	**South Haven SW**	**0.80**	**41**		Pg	07 37 35.2	-0.1
KAN01	**Argonia South**	**0.80**	**22**		Pg	07 37 35.1	-0.2
KAN16	**Harper SW Stat**	**0.81**	**4**	Pg	Pg	07 37 35.5	-0.1
BLOK	**Blackwell**	**0.82**	**64**	Pg	Pg	07 37 35.5	-0.1
KAN08	**Anthony NE Sta**	**0.82**	**9**		Pg	07 37 35.8	-0.1
BCOK	**Bluff Creek, N**	**0.86**	**150**	Pg	Pb	07 37 36.3	-0.1
KAN06	**Argonia West S**	**0.86**	**15**		Pb	07 37 36.2	-0.3
KAN12	**Harper NE Stat**	**0.89**	**7**	Pg	Pb	07 37 37.0	0.0
OK025	**Westminster Rd**	**1.05**	**142**		Pb	07 37 39.6	0.0
OKCFA	**Oklahoma City**	**1.14**	**151**		Pn	07 37 41.3	+0.1
OK031	**S. Brethren Rd**	**1.14**	**113**		Pg	07 37 41.6	-0.2
QUOK	**Quay**	**1.18**	**101**		Pg	07 37 42.1	-0.3
FNO	**Franklin**	**1.29**	**152**	Pn	Pb	07 37 44.2	+0.3
T35A	**Sooner Cattle**	**1.40**	**68**		Pb	07 37 46.0	+0.4
W35A	**Tecumseh**	**1.62**	**140**	Pn	Pb	07 37 49.1	-0.3
WMOK	**Wichita Mounta**	**1.75**	**198**	Pn	Pb	07 37 51.2	-0.4
WMOK				IAmb_Lg		07 38 16.3	
	comp=Z,23nm,0.9s						
TUL1	**Leonard**	**1.96**	**104**	IAmb_Lg		07 38 23.4	
	comp=Z,22nm,0.9s						
W39A	**Magazine**	**3.74**	**108**	IAmb_Lg		07 39 29.4	
	comp=Z,9.6nm,0.7s						
S39A	**Bolivar**	**4.05**	**70**	IAmb_Lg		07 39 32.6	
	comp=Z,11nm,0.8s						
U40A	**Yellville**	**4.26**	**89**	IAmb_Lg		07 39 39.3	
	comp=Z,8.9nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.41**	**307**	IAmb_Lg		07 39 46.0	
	comp=Z,10.0nm,0.9s						

*IDC **20** 07:38:14.5±9.7,15.°28N×145.°79E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/38,mbtmp3.4/4,ML4.6/1,Error ellipse: s-maj=269.9km s-min=41.1km az=1.0*
*NEIC **20** 07:38:23.8±1.9,14.°52N±0.°10×145.°8E±0.°2,h95km±9km, mb3.5/1,Error ellipse: s-maj=31.6km s-min=6.6km az=114.0*
ISC 20 07:38:23.9±1.3,14.°7N±0.°1×145.°5E±0.°2,h100km,n10, σ1§47/8,mb3.6/5,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.25**	**211**	Pn	**Pn**	**07 38 47.5**	**+0.4**
GUMO				Sn	**Sn**	**07 39 04.0**	**-0.7**
JOW	**Kunigami**	**20.14**	**310**	P	**P**	**07 42 48.6**	**-1.5**
	2.4nm,0.3s,baz=95,slow=11,SNR=2.1						
H11S3	**WAKE ISLAND Hy**	**20.63**	**76**	T	T	08 04 22.1	
	baz=265						
H11S1	**WAKE ISLAND Hy**	**20.64**	**76**	T	T	08 04 26.5	
	baz=265						
H11S2	**WAKE ISLAND Hy**	**20.65**	**76**	T	T	08 04 21.5	
	baz=265						
MK31	**Makanchi Array**	**61.17**	**316**	P	**P**	**07 48 29.8**	**+1.8**
MK31				IAmb	IAmb	07 48 39.7	
	comp=Z,0.6nm,1.1s						
MKAR	**Makanchi Array**	**61.17**	**316**	P	**P**	**07 48 29.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=92,slow=8.5,SNR=6.3						
KURBB	**Kurchatov Arra**	**64.22**	**319**	P	**P**	**07 48 48.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=100,slow=7.4,SNR=6.6						
ILAR	**Eielson Array**	**67.32**	**25**	P	**P**	**07 49 06.7**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=249,slow=5.5,SNR=1.4						
YKA	**Yellowknife Ar**	**81.61**	**28**	P	**P**	**07 50 31.0**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=285,slow=5.6,SNR=1.5						

*NNC **20** 07:48:16.4±2.8,54.°51N×86.°27E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=29.5km s-min=15.7km az=158.0, Suspected Mining explosion.*
*IDC **20** 07:48:18.2±2.3,54.°49N×86.°19E,h0km,mb1 3.1/3, mb1mx3.0/52,mbtmp3.1/3,ML2.9/3,Error ellipse: s-maj=18.5km s-min=11.5km az=55.0*
ISC 20 07:48:19.0±3.6,54.°5N±0.°2×86.°1E±0.°2,h0km,n11, σ0§64/14,6C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**236**	*i*		07 54 30.0	
	baz=52,slow=339,SNR=14						
ZAA0	**Zalesovo Array**	**0.90**	**236**	P	**Pg**	**07 48 35.3**	**-1.0**
ZAA0	**Zalesovo Array**	**0.90**	**236**	S	**Sb**	**07 48 50.8**	**+0.8**
ZALV	**Zalesovo Beam**	**0.90**	**236**	Pg	**Pg**	**07 48 35.4**	**-0.8**
	2.6nm,0.3s,baz=53,slow=17,SNR=22						
ZALV				Lg	Lg	07 48 51.6	
	12nm,0.3s,baz=55,slow=28,SNR=10						
KURK	**Kurchatov**	**5.89**	**234**	⇑Pn	**Pn**	**07 49 47.5**	**0.0**
	1.5nm,0.7s						
KURK				⇑Sn	**Sn**	**07 50 55.6**	**-0.1**
	0.5nm,0.5s						
KURK				⇑Lg	Lg	07 51 27.

KURBB	Kurchatov Arra	6.00	233	⇑Pn	Pn	07 49 49.2 +0.2
	4.4nm,0.9s					
KURBB				⇑Sn	Sn	07 50 58.1 -0.1
	1.6nm,0.6s					
KURBB				⇑Lg	Lg	07 51 31.3
	4.3nm,0.7s					
MK31	Makanchi Array	8.04	199	⇓Pn	Pn	07 50 16.7 -0.2
	0.3nm,0.5s,baz=26,slow=13,SNR=15					
MK31				Sn	Sn	07 51 49.0 +0.5
	0.4nm,0.5s,baz=31,slow=26,SNR=12					
MK31				Lg	Lg	07 52 36.9
	4.7nm,1.1s,baz=27,slow=31,SNR=4.8					
MKAR	Makanchi Array	8.04	199	Pn	Pn	07 50 17.2 +0.2
	0.3nm,0.3s,baz=21,slow=12,SNR=19					
MKAR				Sn	Sn	07 51 49.0 +0.5
	0.4nm,0.3s,baz=37,slow=26,SNR=8.7					
MKAR				Lg	Lg	07 52 33.3
	0.0nm,0.3s,baz=22,slow=27,SNR=1.8					
MAKZ	Makanchi	8.09	200	⇓Lg	Lg	07 52 36.4
	3.4nm,1.4s					
BVAR	Borovoye Array	9.41	268	Pn	Pn	07 50 36.9 +1.1
	0.1nm,0.3s,baz=56,slow=21,SNR=2.4					
BVAR				Lg	Lg	07 53 18.0
	0.2nm,0.3s,baz=157,slow=23,SNR=6.2					

*IDC **20** 07:56:00.7±1.1, 21°.54N×122°.26E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/55, mbtmp3.6/6, Error ellipse: s-maj=61.2km s-min=22.1km az=64.0*
*TAP **20** 07:56:15.7, 21°.51N×121°.74E, h127km, ML4.2, D*
*MAN **20** 07:56:18.6, 20°.56N×123°.04E, h10km, mb4.4, ML3.3, MS3.1*

ISC 20 07:56:15.3±0.9, 21°.45N±0°.05×121°.75E±0°.06, h125km±6km, n101, σ0.9s85/141, mb3.5/6, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	Lan-yu	0.57	344	*i* P	Pn	07 56 34.3	+0.1
	baz=343						
LYUB				S	Sn	07 56 48.6	0.0
	baz=343						
LAY	Lan-yu	0.61	342	P	Pn	07 56 34.5	-0.1
	baz=341						
LAY				*i* S	Sn	07 56 48.9	-0.3
	baz=341						
TSEB	Hengchuen, Pin	0.91	299	*e*S	Sn	07 56 54.2	+0.9
	baz=295						
TWKBT	Hengchun	1.00	299	P	Pn	07 56 38.6	+0.9
	baz=296						
TWKBT				S	Sn	07 56 54.7	-0.1
	baz=296						
TWK1	Hengchun	1.01	299	P	Pn	07 56 38.6	+0.8
	baz=296						
TWK1				S	Sn	07 56 54.7	-0.2
	baz=296						
SMST	Manzhou Townsh	1.02	304	P	Pn	07 56 38.5	+0.5
	baz=301						
SMST				S	Sn	07 56 55.1	0.0
	baz=301						
BBP	Basco	1.03	169	⇓*e*P	Pn	07 56 37.4	-0.7
SNW	Nanwan	1.06	299	S	Sn	07 56 56.4	+0.5
	baz=295						
HEN	Hengchun	1.09	300	P	Pn	07 56 39.7	+1.0
	baz=298						
HEN				*e*S	Sn	07 56 56.3	-0.1
	baz=298						
SLIU	Shizi	1.17	311	P	Pn	07 56 39.8	+0.3
	baz=308						
SLIU				*e*S	Sn	07 56 57.4	-0.4
	baz=308						
TAWH	Dawu Township	1.19	318	P	Pn	07 56 39.5	-0.2
	baz=316						
TAWH				*e*S	Sn	07 56 56.9	-1.4
	baz=316						
TAW	Tawu	1.20	319	*i* P	Pn	07 56 39.9	+0.1
	baz=317						
TAW				*i* S	Sn	07 56 57.5	-0.9
	baz=317						
LDUT	Ludao	1.24	348	P	Pn	07 56 39.4	-0.8
	baz=347						
LDUT				*e*S	Sn	07 56 58.6	-0.6
	baz=347						
EAST	Anshuo	1.25	318	*i* P	Pn	07 56 40.3	-0.1
	baz=316						
EAST				*e*S	Sn	07 56 59.1	-0.3
	baz=316						
ECL	Taimali	1.36	327	P	Pn	07 56 41.7	+0.2
	baz=326						
ECL				*e*S	Sn	07 56 59.3	-2.1
	baz=326						
SCZT	Fangliau	1.39	311	P	Pn	07 56 42.3	+0.4
	baz=309						
SCZT				*e*S	Sn	07 57 01.6	-0.5
	baz=309						
TTN	Taitung	1.41	337	*i* P	Pn	07 56 42.9	+0.9
	baz=336						
TWGBT	Beinan	1.49	335	P	Pn	07 56 42.5	-0.5
	baz=334						
TWGBT				*e*S	Sn	07 57 02.5	-1.7
	baz=334						
SSPT	Xinbi	1.50	313	P	Pn	07 56 43.8	+0.7
	baz=311						
MASBT	Mashibuluo	1.55	318	P	Pn	07 56 44.0	+0.3
	baz=316						
MASBT				*e*S	Sn	07 57 04.0	-1.3
	baz=316						
LONT	Longtian	1.56	338	P	Pn	07 56 43.6	-0.2
	baz=337						
LONT				*e*S	Sn	07 57 04.5	-1.0
	baz=337						
WLCH	Liuqiu	1.56	305	P	Pn	07 56 44.4	+0.7
	baz=303						
WLCH				*e*S	Sn	07 57 07.6	+2.2
	baz=303						
EDH	Donghe	1.57	345	P	Pn	07 56 44.0	+0.1
	baz=344						
EDH				*e*S	Sn	07 57 05.6	0.0
	baz=344						
TSMG	Majia	1.61	321	P	Pn	07 56 44.7	+0.2
	baz=319						
TSMG				S	Sn	07 57 05.3	-1.3
	baz=319						
SSD	Sandimen	1.65	321	*i* P	Pn	07 56 45.1	+0.2
	baz=320						
SSD				S	Sn	07 57 06.3	-1.1
	baz=320						
CHKT	Chengkung	1.68	348	*i* P	Pn	07 56 45.0	-0.1
	baz=347						
FULB	Fuli	1.79	346	*i* P	Pn	07 56 47.0	+0.5
	baz=346						
TWM1	Shoushan	1.84	318	P	Pn	07 56 48.3	+1.2
	baz=317						
ELDTW	Lidau	1.86	339	*i* P	Pn	07 56 47.4	0.0
	baz=338						
ECBN	Changbin	1.88	352	P	Pn	07 56 48.2	+0.7
	baz=351						
EYUL	Yuli	1.93	348	P	Pn	07 56 48.4	+0.2
	baz=347						
STYH	Taoyuan	1.93	332	P	Pn	07 56 48.8	+0.6
	baz=331						
STYH				*e*S	Sn	07 57 13.0	-0.3
	baz=331						
STYT	Tauyuan	1.94	332	*i* P	Pn	07 56 48.9	+0.6
	baz=331						
TWF1	Yuli	1.94	348	P	Pn	07 56 49.3	+1.1
	baz=347						
SGST	Jiashian	1.95	326	*e*P	Pn	07 56 47.9	-0.6
	baz=325						
SGST				S	Sn	07 57 12.3	-1.5
	baz=325						
YULB	Yu-li	1.98	348	P	Pn	07 56 48.2	-0.5
	baz=347						
SHHT	Tainan City	2.03	320	*e*P	Pn	07 56 50.6	+1.2
	baz=319						
HGSD	Ruisui	2.05	352	P	Pn	07 56 50.2	+0.6
	baz=351						
CHN1	Nanshi	2.06	327	*i* P	Pn	07 56 50.1	+0.3
	baz=326						
CHN1				*i* S	Sn	07 57 15.1	-1.2
	baz=326						
CHN3	Shinhua	2.06	322	P	Pn	07 56 51.3	+1.5
	baz=320						
WTP	Ta-pu	2.07	330	*i* P	Pn	07 56 50.2	+0.3
	baz=329						
EHY	Hungye	2.08	349	*e*P	Pn	07 56 49.8	-0.3
	baz=349						
SNST	Tainan City	2.11	327	*i* P	Pn	07 56 50.7	+0.3
	baz=325						
TPUB	Ta-pu	2.11	331	*e*P	Pn	07 56 50.7	+0.2
	baz=329						
TPUB				*e*S	Sn	07 57 16.1	-1.3
	baz=329						
TAI1	Yung-k'ang	2.12	318	S	Sn	07 57 17.4	0.0
	baz=317						
TWK	Hsinying	2.15	327	*i* P	Pn	07 56 51.1	+0.2
	baz=326						
SSHA	Shanhua	2.15	321	*e*S	Sn	07 57 19.4	+1.2
	baz=320						
YUS	Yu-Shan	2.16	340	*i* P	Pn	07 56 52.3	+0.9
	baz=339						
CHN4	Tsaushan	2.17	331	*i* P	Pn	07 56 51.4	+0.2
	baz=329						
ALS	Alishan	2.23	337	P	Pn	07 56 52.5	+0.4
	baz=336						
ALS				*e*S	Sn	07 57 19.7	-0.7
	baz=336						
SCLT	Jiali	2.24	320	P	Pn	07 56 52.4	+0.4
	baz=319						
SCLT				S	Sn	07 57 20.0	-0.1
	baz=319						
ICHU	Yijhu	2.34	325	P	Pn	07 56 53.5	+0.3
	baz=323						
VWDT	VWDT	2.36	346	*e*P	Pn	07 56 54.7	+1.2
	baz=346						
CHN8	Yiju	2.36	323	P	Pn	07 56 53.7	+0.2
	baz=322						
CHY	Chiayi	2.38	329	P	Pn	07 56 53.6	-0.2
	baz=328						
CHY				S	Sn	07 57 22.0	-1.3
	baz=328						
SSLB	Suanglung	2.44	343	*e*P	Pn	07 56 54.6	+0.1
	baz=342						
WDLH	Douliu	2.49	333	P	Pn	07 56 55.3	+0.1
	baz=332						
WDLH				S	Sn	07 57 24.9	-0.9
	baz=332						
WSL	Shuilin Townsh	2.50	326	*e*P	Pn	07 56 55.3	0.0
	baz=325						
WSL				*e*S	Sn	07 57 24.8	-1.2
	baz=325						
WJS	Zhushan	2.54	338	P	Pn	07 56 56.3	+0.4
	baz=337						
SMLT	Sun Moon Lake	2.54	342	*e*P	Pn	07 56 56.2	+0.2
	baz=341						
WTK	Tuku	2.56	331	*e*P	Pn	07 56 55.8	-0.2
	baz=330						
WTK				*e*S	Sn	07 57 25.8	-1.6
	baz=330						
TYC	Yuchr	2.58	341	P	Pn	07 56 56.6	+0.3
	baz=341						
TYC				*e*S	Sn	07 57 27.8	0.0
	baz=341						
WSF	Szhu	2.59	327	P	Pn	07 56 56.4	-0.1
	baz=326						
WSF				S	Sn	07 57 26.8	-1.4
	baz=326						
WNT	Mingjian	2.61	338	P	Pn	07 56 56.8	+0.1
	baz=337						
WNT				S	Sn	07 57 27.6	-1.0
	baz=337						
TWD	Chiawan	2.62	357	P	Pn	07 56 57.2	+0.4
	baz=357						
WDGT	Dungji	2.64	313	*e*P	Pn	07 56 56.8	-0.3
	baz=312						
WDGT				*e*S	Sn	07 57 26.8	-2.5
	baz=312						
CHGB	Renai	2.65	348	P	Pn	07 56 58.4	+1.0
	baz=348						
CHGB				*e*S	Sn	07 57 30.1	+0.2
	baz=348						
WCS	Beigang Elemen	2.71	344	*e*P	Pn	07 56 58.1	+0.2
	baz=343						
NACB	Ninganchiao	2.71	357	*e*P	Pn	07 56 58.3	+0.3
	baz=357						
WHF	Hehuan Shan	2.72	351	*e*P	Pn	07 56 59.4	+0.8
	baz=350						
WRL	Guolierlin Hig	2.75	333	P	Pn	07 56 58.0	-0.5
	baz=332						
WRL				*e*S	Sn	07 57 30.1	-1.6
	baz=332						
ETLH	Xiulin Townshi	2.75	355	P	Pn	07 56 58.9	+0.3
	baz=354						
VCHM	Qimei	2.77	310	*e*P	Pn	07 56 58.5	-0.3
	baz=308						
FUSS	Fushou	2.82	351	*e*P	Pn	07 57 00.9	+1.2
	baz=350						
WCHH	Zhanghua	2.84	337	P	Pn	07 56 59.8	+0.2
	baz=336						
WCHH				*e*S	Sn	07 57 33.5	-0.3
	baz=336						
TCU	Taichung	2.86	340	P	Pn	07 57 00.4	+0.4
	baz=339						
PHUB	P'eng-hu	2.88	316	*e*P	Pn	07 56 59.6	-0.6
	baz=314						
WHP	Taichung City	2.91	345	*e*P	Pn	07 57 01.1	+0.4
	baz=345						
PNG	Penghu	2.92	316	*e*P	Pn	07 57 00.3	-0.4
	baz=315						
PNG				*e*S	Sn	07 57 33.3	-2.6
	baz=315						
TWQ1	Liyutan	3.02	343	P	Pn	07 57 02.5	+0.5
	baz=342						
TWC	Suao	3.14	2	P	Pn	07 57 04.4	+0.8
	baz=1.0						
NDS	Dongshan	3.17	359	P	Pn	07 57 05.0	+1.0
	baz=359						
YHNB	Yeheng	3.22	354	*e*P	Pn	07 57 06.0	+1.3
	baz=353						
TIPB	Shuangxi	3.50	1	*e*P	Pn	07 57 10.6	+2.2
	baz=1.0						
TWB1	Santiao Chiao	3.55	3	P	Pn	07 57 09.4	+0.4
	baz=3.0						
APYP	Conner	3.60	188	⇓*e*P	Pn	07 57 10.2	+0.4
KNM	Kinmen	4.25	315	P	Pn	07 57 19.2	+1.0
	baz=312						
KNM				S	Sn	07 58 07.2	0.0
	baz=312						
KNMB	Chin-men Tao	4.31	315	*e*P	Pn	07 57 19.0	-0.1
	baz=313						
PTMZ	Houxiangcun	4.31	326	*e*P	Pn	07 57 18.7	-0.4
	baz=325						
ZPLA	Ao Xicun	4.44	304	P	Pn	07 57 20.8	0.0
	baz=303						
ZPLA				*e*S	Sn	07 58 10.8	-0.9
	baz=303						
AXDP	Jialang	4.89	315	*e*P	Pn	07 57 26.8	0.0
	baz=314						
MATB	Ma-tsu	4.96	341	*e*P	Pn	07 57 26.7	-1.1
	baz=340						
SMPP	San Manuel, Pa	5.37	191	⇓*e*P	Pn	07 57 33.9	+0.5
LYJJ	Jianjiangzhen	5.39	341	P	Pn	07 57 32.7	-0.8
	baz=340						
SXFK	Yanhouchang	6.19	323	*e*P	Pn	07 57 44.2	-0.2
	baz=322						
MKAR	Makanchi Array	40.68	318	P	P	08 03 45.3	+1.9
	1.0nm,0.6s,baz=112,slow=10,SNR=14						
ZALV	Zalesovo Beam	42.83	328	P	P	08 04 01.2	+0.5
	0.7nm,0.5s,baz=124,slow=7.4,SNR=3.6						
WRA	Warramunga Arr	42.94	162	P	P	08 04 00.6	-1.4
	0.3nm,0.8s,baz=344,slow=8.9,SNR=2.8						
KURBB	Kurchatov Arra	44.55	322	P	P	08 04 15.6	+1.1
	0.2nm,0.2s,baz=113,slow=7.1,SNR=4.6						
ASAR	Alice Springs	46.38	165	P	P	08 04 28.9	-0.4
	0.1nm,0.3s,baz=348,slow=7.3,SNR=1.5						
YKA	Yellowknife Ar	85.27	23	P	P	08 08 37.9	+0.1
	0.5nm,0.7s,baz=313,slow=4.8,SNR=14						

*DJA **20** 08:16:25.9±1.1, 4°.5S±6°.×12°.7E±°, h15km±12km, M4.1/12, mB5.2/3, mb4.4/7, MLv4.0/12, Mw(mB)4.5/3*
*IDC **20** 08:16:34.3±6.2, 3°.81S×127°.53E, h76km±70km, mb3.8/4, mb1 4.0/5, mb1mx3.3/48, mbtmp4. 1/5, ML3.9/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/71, Error ellipse: s-maj=53.3km s-min=23.6km az=88.0*

ISC 20 08:16:28.7±1.0, 4°.01S±0°.09×127°.44E±0°.06, h34km, n18, σ1.9s91/19, mb4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.82	67	P	Pb	08 16 44.1	-0.5
AAI				S	Sb	08 16 56.1	+0.8
MSAI	Masohi	1.62	66	P	Pb	08 16 55.7	-2.4
SANI	Sanana	2.43	323	P	Pn	08 17 04.2	-1.9
LBMI	Labuha	3.35	1	P	Pn	08 17 18.3	-0.5
LBMI				S	Sn	08 18 00.6	+3.2
FAKI	Fak Fak	4.92	77	P	Pn	08 17 38.6	-1.7
	0.1nm20nm,0.9s						
SWI	Sorong	4.93	51	P	Pn	08 17 42.1	+1.6
	0.2nm42nm,0.6s						
SIJI	Sorong	4.93	51	P	Pn	08 17 42.2	+1.7
	4.9nm,0.3s,baz=232,slow=6.5,SNR=8.0						
SIJI				S	Sn	08 18 38.2	+1.7
	0.8nm,0.3s,baz=254,slow=23,SNR=1.9						
LUWI	Luwuk	5.52	302	P	Pn	08 17 45.6	-3.0
	0.5nm6μm82nm,0.5s						
APSI	Ampana	6.56	298	P	Pn	08 18 01.0	-1.9
	0.3nm678nm83nm,0.9s						
MRSI	Marisa	7.08	309	P	Pn	08 18 08.0	-2.0
	0.3nm1μm97nm,1.0s						
BKSI	Bulukumba	7.41	260	P	Pn	08 18 14.7	+0.1
	0.1nm11nm,1.1s						
KAPI	Kappang	7.73	262	P	Pn	08 18 21.3	+2.3
	1.2nm,0.3s,baz=112,slow=8.3,SNR=5.3						
WRA	Warramunga Arr	17.20	158	P	P	08 20 26.7	-1.1
	0.1nm,0.3s,baz=346,slow=13,SNR=14						
WRA				LR	LR	08 27 11.7	
	comp=Z,48nm,21.4s,baz=294,slow=37						
PMG	Port Moresby	20.29	106	LR	LR	08 31 50.8	
	comp=Z,30nm,18.2s,baz=110,slow=45						
ASAR	Alice Springs	20.51	163	P	Pn	08 21 08.5	+2.0
	11nm,0.8s,baz=343,slow=11,SNR=68						
ASAR				LR	LR	08 30 27.9	
	comp=Z,38nm,19.6s,baz=158,slow=40						
CMAR	Chiang Mai Arr	35.88	309	P	P	08 23 27.4	+1.5
	0.8nm,0.3s,baz=149,slow=7.3,SNR=4.5						
MKAR	Makanchi Array	64.35	327	P	P	08 27 01.6	+0.4
	1.0nm,0.6s,baz=116,slow=9.1,SNR=9.6						
KURBB	Kurchatov Arra	68.65	329	P	P	08 27 27.9	-0.7
	0.9nm,0.5s,baz=135,slow=5.9,SNR=5.4						

NNC 20 08:16:45.0±2.0, 53°.82N×90°.50E, h0km, mb4.0, mpv3.7, 8C-5D, Error ellipse: s-maj=14.8km s-min=11.0km az=56.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.36	274	⇓Pg	Pb	08 17 46.2	+0.7
	6.9nm,0.8s						
ZAA0				⇓Lg	Lg	08 18 32.0	
	25nm,1.0s						
KURK	Kurchatov	7.92	252	⇑Pn	Pn	08 18 41.7	+0.3
	9.8nm,0.9s						
KURK				⇑Sn	Sn	08 20 12.1	+0.5
	22nm,0.9s						
KURK				⇑Lg	Lg	08 20 58.1	
	36nm,0.9s						
KURBB	Kurchatov Arra	8.02	251	⇑Pn	Pn	08 18 43.0	+0.4
	11nm,0.9s						
KURBB				⇓Sn	Sn	08 20 14.8	+0.9
	71nm,0.8s						
KURBB				⇑Lg	Lg	08 21 04.5	
	28nm,0.7s						
MK31	Makanchi Array	8.77	220	Pn	Pn	08 18 53.5	+0.5
	0.5nm,0.4s,baz=36,slow=12,SNR=28						
MK31				⇑Sn	Sn	08 20 34.9	+2.3
	3.9nm,0.8s,baz=43,slow=25,SNR=4.0						
MK31				⇑Lg	Lg	08 21 17.8	
	33nm,1.2s,baz=34,slow=30,SNR=4.8						
MAKZ	Makanchi	8.88	221	⇓Pn	Pn	08 18 53.7	-0.9
	4.6nm,1.2s						
MAKZ				⇑Sn	Sn	08 20 36.9	+1.7
	7.2nm,0.7s						
MAKZ				⇓Lg	Lg	08 21 24.6	
	30nm,1.1s						

*KRNET **20** 08:16:53.1±0.1, 39°.17N×71°.48E, h13km, mb3.4*
*SOME **20** 08:16:53.1, 39°.23N×71°.43E, h10km*
*NNC **20** 08:16:57.5±3.1, 39°.28N×71°.32E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=23.3km s-min=13.3km az=8.0*
*ISU **20** 08:16:59, 39°.50N×71°.40E, h5km*

ISC 20 08:16:54.0±1.3, 39°.26N±0°.05×71°.47E±0°.03, h10km±9km, n43, σ2.9s50/66, 22C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.34	50	⇑*i*P	Pg	08 17 01.0	+0.1
	baz=39						
DRK				⇑*i*S	Sg	08 17 06.8	+1.3
	baz=39						
BTK	Batken	0.94	328	*i* P	Pb	08 17 12.0	-0.4
BTK				*i* S	Sn	08 17 27.0	+0.1
BTK	Batken	0.94	328	⇑*i*P	Pn	08 17 12.5	-0.8
	baz=30						
BTK				⇑*i*S	Sn	08 17 26.7	-0.2
	baz=30						
FRG	Fergana	1.14	12	*e*P	Pg	08 17 19.0	+3.1
FRG				*e*S	Sn	08 17 34.0	+2.3
OHH	Osh	1.62	38	*e*P	Pg	08 17 26.0	+0.9
OHH				*e*S	Sg	08 17 48.0	+1.9
OHH	Osh	1.62	38	⇓*i*P	Pg	08 17 24.5	-0.6
	baz=36						
OHH				⇓*i*S	Sg	08 17 47.4	+1.3
	baz=36						
SFK	Sufi-Kurgan	1.74	64	⇑*e*P	Pb	08 17 26.2	0.0
	baz=61						
SFK				⇑*e*S	Sg	08 17 50.3	+0.2
	baz=61						
CHGR	Chuyangaron	1.90	252	⇑*i*P	Pb	08 17 28.0	-0.7
	baz=55						
CHGR				⇑*i*S	Sg	08 17 53.4	-1.6
	baz=55						
TRKS	Terek-Say	2.28	354	⇑*i*P	Pb	08 17 34.2	-1.1
	baz=54						
TRKS				⇑*i*S	Sb	08 18 04.0	+0.4
	baz=54						
SALK	Salom-Alik	2.42	47	⇑*e*P	Pb	08 17 36.7	-1.1
	baz=46						
SALK				⇑*e*S	Sb	08 18 08.4	+0.6
	baz=46						
YBZ	Yangibazar	2.50	325	*e*P	Pg	08 17 43.0	+1.2
YBZ				*e*S	Sg	08 18 18.0	+3.8
ARK	Arkit	2.56	8	⇑*e*P	Pb	08 17 39.0	-1.1
	baz=8.0						
ARK				⇑*i*S	Sb	08 18 12.5	+0.8
	baz=8.0						
CHRV	Charvak	2.64	335	*e*P	Pg	08 17 45.0	+0.3
TAS	Tashkent	2.65	322	⇓*i*P	Pb	08 17 40.0	-1.5
	baz=23						
TAS				⇓*i*S	Sb	08 18 14.2	+0.2
	baz=23						
IUG	Iuzhnay	3.08	340	*e*P	Pg	08 17 52.2	-0.9
	771nm,0.4s						
IUG				*e*S	Sg	08 18 34.4	+1.3
	130nm,0.6s						
IUG	Iuzhnay	3.08	340	Pg	Pg	08 17 52.5	-0.6
	664nm,0.4s						
IUG				Lg	Lg	08 18 31.4	
	117nm,0.5s						
MNAS	Manas	3.32	13	⇑*e*P	Pb	08 17 49.5	-3.5
	baz=13						
MNAS				⇑*i*S	Sb	08 18 30.6	-2.8
	baz=13						
AML	Almayashu	3.33	30	P	Pb	08 17 52.2	-1.1
	SNR=29						
ARLS	Aral	3.39	39	⇓*e*P	Pn	08 17 50.2	+3.2
	baz=38						
ARLS				⇓*i*S	Sb	08 18 31.7	-3.8
	baz=38						
MRKS	Merke	3.73	20	*e*P	Pg	08 18 03.1	-2.3
	6.7nm,0.4s						
MRKS				*e*S	Sg	08 18 54.3	+0.7
	22nm,0.4s						
MRKS	Merke	3.73	20	Pg	Pg	08 18 06.1	+0.7
MRKS				Lg	Lg	08 18 54.8	
UCH	Uchtor	3.76	37	P	Pb	08 17 58.5	-2.2
	SNR=24						
EKS2	Erkin-Say	3.82	27	P	Pb	08 17 59.1	-2.5
	SNR=5.9						
EKS2	Erkin-Say	3.82	27	⇑*i*P	Pn	08 17 56.4	+3.4
	baz=26						
EKS2				⇑*i*S	Sn	08 18 42.5	+4.5
	baz=26						
KK01	Karatay Array	3.91	350	⇑Pn	Pb	08 17 59.1	-3.9
	4.9nm,0.3s						
KK01				⇑Sn	Sb	08 18 46.5	-3.8
	11nm,0.5s						
BRLS	Borolday	3.96	342	*e*P	Pb	08 18 03.6	-0.3
	1.6nm,0.2s						
BRLS				*e*S	Sb	08 18 54.2	+2.3

11nm,1.0s
BRLS Boroldy 3.96 342 Pg **Pg 08 18 06.4 -3.5**
4.1nm,0.2s
BRLS Lg Lg 08 18 55.8
21nm,0.3s
AAK Ala-Archa 4.08 33 P **Pb 08 18 02.4 -3.5**
SNR=15
AAK Ala-Archa 4.08 33 ⇓Pn **Pb 08 18 02.1 -3.8**
7.4nm,0.3s
AAK ⇑Sn **Sb 08 18 54.8 -0.6**
8.9nm,0.6s
KBK Karagaybulak 4.30 37 P **Pb 08 18 06.5 -3.1**
SNR=10
CHMS Chumysh 4.48 33 P Pb 08 18 07.8 -5.0
SNR=7.9
USP Ospenovka 4.61 29 P Pb 08 18 09.1 -5.8
SNR=5.5
TKM2 Tokmak 2 4.81 39 P Pb 08 18 13.0 -5.4
SNR=8.7
TKM2 Tokmak 2 4.81 39 ⇓Pn Pn 08 18 12.0 +5.4
9.1nm,0.9s
TKM2 ⇓Sn **Sb 08 19 10.2 -6.2**
4.8nm,0.6s
KST Kastek 5.08 40 *e*P **Pb 08 18 26.6 +3.6**
6.3nm,0.4s
KST *e*S **Sg 08 19 35.5 -1.5**
10nm,0.8s
KST Kastek 5.08 40 Pg **Pg 08 18 29.9 -1.4**
5.0nm,0.4s
KST Lg Lg 08 19 35.3
5.1nm,0.4s
DGS Degeres 5.13 38 *e*P **Pg 08 18 28.6 -3.7**
6.0nm,0.4s
DGS *e*S **Sg 08 19 37.4 -1.4**
8.0nm,0.7s
DGS Degeres 5.13 38 Pg **Pg 08 18 30.5 -1.8**
6.1nm,0.7s
DGS Lg Lg 08 19 37.4
8.0nm,0.7s
KRBS Karabastau 5.44 34 *e*P **Pb 08 18 33.1 +4.0**
2.8nm,0.4s
KRBS *e*S **Sg 08 19 45.9 -2.8**
6.1nm,0.6s
KRBS Karabastau 5.44 34 Pg **Pg 08 18 35.7 -2.5**
2.8nm,0.5s
KRBS Lg Lg 08 19 45.9
6.1nm,0.6s
KTBS Karatobe 5.92 40 *e*P **Pb 08 18 41.7 +4.4**
1.7nm,0.8s
KTBS *e*S **Sg 08 19 60.0 -4.2**
10nm,0.5s
KTBS Karatobe 5.92 40 Pg **Pg 08 18 44.2 -3.2**
2.9nm,1.0s
KTBS Lg Lg 08 19 60.0
10nm,0.5s
AB31 Akbulak array 12.95 324 Pn **Pn 08 19 58.7 +0.8**
0.6nm,0.5s,baz=137,slow=12,SNR=35
AB31 ⇑Sn **Sn 08 22 20.5 -1.4**
1.4nm,0.6s,baz=137,slow=24,SNR=8.5

*IDC **20** 08:17:40.9±2.3, 30°.67N×132°.67E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.3/53, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=55.7km s-min=36.2km az=118.0*
*JMA **20** 08:17:43.0±0.2, 30°.65N×132°.83E, h64km, M3.4*
ISC 20 08:17:42.3±3.7, 30°.69N±0°.05×132°.80E±0°.07, h17km±23km, n13, σ1§93/23, mb3.6/3, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**1.55**	**303**	P	**Pb**	**08 18 10.0**	**-0.5**
JNAR				*e*S	**Sb**	**08 18 29.7**	**-0.1**
JNKG	**Nichinankitago**	**1.55**	**309**	P	**Pb**	**08 18 09.7**	**-0.9**
JNKG				*e*S	**Sb**	**08 18 30.0**	**+0.1**
JTN	**Tanegashima 3**	**1.57**	**269**	P	**Pn**	**08 18 09.4**	**+0.1**
JTN				*e*S	**Sn**	**08 18 28.8**	**-0.4**
JMTN	**Minamitane**	**1.66**	**260**	P	**Pn**	**08 18 10.9**	**+0.3**
JMTN				*e*S	**Sb**	**08 18 31.8**	**-1.3**
JTSR	**Tashiro 2**	**1.68**	**287**	P	**Pn**	**08 18 11.2**	**+0.3**
JTSR				*e*S	**Sb**	**08 18 33.1**	**-0.5**
JTZ	**Takazaki**	**1.89**	**310**	P	**Pn**	**08 18 14.4**	**+0.6**
JTZ				*e*S	**Sn**	**08 18 37.6**	**+0.3**
JTO	**Tosashimizu**	**2.16**	**0**	P	**Pn**	**08 18 16.8**	**-0.7**
JTO				*e*S	**Sn**	**08 18 39.3**	**-4.5**
JNA	**Nagahama**	**2.87**	**355**	P	**Pn**	**08 18 27.5**	**+0.3**
JNA				*e*S	**Sn**	**08 18 57.4**	**-3.9**
JNU	**Nakatsue**	**2.92**	**327**	Pn	**Pn**	**08 18 29.6**	**+1.7**
6.8nm,0.3s,baz=192,slow=9.8,SNR=41							
JNU				Sn	**Sn**	**08 19 01.8**	**-0.8**
3.7nm,0.3s,baz=60,slow=0.6,SNR=4.3							
JOW	**Kunigami**	**5.53**	**227**	Pn	**Pn**	**08 19 04.1**	**+0.3**
4.9nm,0.3s,baz=143,slow=24,SNR=13							
JOW				Sn	**Sn**	**08 20 02.6**	**-4.4**
1.3nm,0.3s,baz=116,slow=20,SNR=2.4							
FINES	**FINESS Array B**	**70.95**	**331**	P	**P**	**08 28 58.8**	**+0.4**
0.4nm,0.4s,baz=73,slow=6.4,SNR=4.9							
YKA	**Yellowknife Ar**	**72.77**	**27**	P	**P**	**08 29 12.0**	**+2.7**
0.3nm,0.9s,baz=306,slow=5.3,SNR=2.3							
AKASG	**Malin Array Be**	**74.73**	**320**	P	**P**	**08 29 21.8**	**+0.8**
0.2nm,0.3s,baz=54,slow=5.9,SNR=5.1							

*IDC **20** 08:20:45.1±1.1, 8°.36S×124°.47E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.6/45, mbtmp3.8/7, ML3.9/3, Error ellipse: s-maj=103.4km s-min=19.9km az=63.0*
*DJA **20** 08:20:58.1±0.6, 9°.5±6°.×12°.4E±°, h94km±8km, M4.1/5, mb4.4/3, MLv3.9/5*
ISC 20 08:20:47.9±1.2, 8°.5S±0°.1×125°.0E±0°.2, h24km, n8, σ2§86/10, mb3.8/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.70**	**266**	P	**Pn**	**08 21 29.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**9.61**	**176**	Pn	**Pn**	**08 23 05.5**	**+0.8**
0.4nm,0.3s,baz=359,slow=10.0,SNR=14							
FITZ				Sn	Sn	08 24 41.1	-11
1.9nm,0.3s,baz=90,slow=13,SNR=13							
WRA	**Warramunga Arr**	**14.59**	**143**	Pn	**P**	**08 24 18.2**	**-1.0**
0.7nm,0.3s,baz=316,slow=12,SNR=18							
WRA				Sn	**Sn**	**08 26 52.5**	**-1.4**
0.6nm,0.3s,baz=318,slow=25,SNR=9.3							
ASAR	**Alice Springs**	**17.38**	**152**	P	**P**	**08 24 52.4**	**+2.2**
0.4nm,0.3s,baz=330,slow=13,SNR=15							
ASAR				S	**Sn**	**08 27 57.1**	**-4.8**
0.3nm,0.3s,baz=319,slow=21,SNR=8.3							
STKA	**Stephens Creek**	**27.97**	**149**	P	**P**	**08 26 41.5**	**+4.7**
0.9nm,0.4s,baz=341,slow=18,SNR=4.9							
MKAR	**Makanchi Array**	**66.82**	**330**	P	**P**	**08 31 37.2**	**-0.5**
0.7nm,0.9s,baz=126,slow=7.4,SNR=5.0							
ZALV	**Zalesovo Beam**	**70.78**	**336**	P	**P**	**08 32 00.8**	**-1.3**
0.7nm,0.8s,baz=120,slow=5.7,SNR=2.3							
KURBB	**Kurchatov Arra**	**71.23**	**331**	P	**P**	**08 32 04.1**	**-0.9**
0.4nm,0.7s,baz=139,slow=5.1,SNR=5.4							

*IDC **20** 08:29:02.3±8.6, 36°.70N×71°.20E, h243km±54km, mb3.2/3, mb1 3.1/8, mb1mx2.8/42, mbtmp3.7/8, Error ellipse: s-maj=84.7km s-min=40.8km az=0.0*
ISC 20 08:28:54.7±2.7, 36°.3N±0°.2×71°.0E±0°.2, h188km, n8, σ1§29/9, mb3.5/3, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.92**	**22**	P	**Pn**	**08 30 36.0**	**+2.1**
2.3nm,0.3s,baz=170,slow=5.2,SNR=12							
AAK				S	**Sn**	**08 31 50.9**	**-1.4**
0.4nm,0.3s,baz=150,slow=23,SNR=1.6							
MKAR	**Makanchi Array**	**13.49**	**35**	P	**Pn**	**08 31 59.0**	**+0.3**
0.1nm,0.3s,baz=227,slow=13,SNR=8.0							
KURBB	**Kurchatov Arra**	**15.35**	**18**	P	**Pn**	**08 32 20.4**	**-1.0**
0.0nm,0.3s,baz=214,slow=8.5,SNR=2.3							
BVAR	**Borovoye Array**	**16.75**	**359**	P	**Pn**	**08 32 38.9**	**+0.4**
0.2nm,0.3s,baz=231,slow=42,SNR=3.0							
AKTO	**Aktyubinsk**	**16.96**	**331**	P	**Pn**	**08 32 40.9**	**0.0**
0.6nm,0.3s,baz=131,slow=10.0,SNR=7.7							
BELG	**Belogornoye**	**23.05**	**322**	P	**P**	**08 33 44.1**	**+0.9**
5.2nm,0.8s,baz=256,slow=17,SNR=4.4							
ARCES	**ARCESS Array B**	**41.34**	**338**	P	**P**	**08 36 20.8**	**-0.8**
1.3nm,0.9s,baz=121,slow=8.5,SNR=1.0							
YKA	**Yellowknife Ar**	**81.47**	**3**	P	**P**	**08 40 49.7**	**-0.8**
0.1nm,0.4s,baz=351,slow=5.2,SNR=5.5							

IDC 20 08:39:08.0±2.7, 53°.38N×87°.46E, h0km, mb1 2.7/2, mb1mx2.6/55, mbtmp2.7/2, ML2.4/2, 3C-1D, Error ellipse: s-maj=28.1km s-min=15.0km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**291**	*i*		08 48 10.0	
baz=107,slow=341,SNR=1.4							
ZALV	**Zalesovo Beam**	**1.67**	**291**	Pg	Pn	08 39 37.5	-1.1
0.5nm,0.3s,baz=107,slow=16,SNR=14							
ZALV				Lg	Lg	08 40 02.0	
0.6nm,0.3s,baz=116,slow=26,SNR=7.4							
KURK	**Kurchatov**	**6.07**	**247**	⇓Pn	Pg	08 41 03.4	-0.9
5.1nm,1.4s							
KURK				⇑Sn	Sn	08 41 30.9	-18
3.3nm,0.8s							
KURBB	**Kurchatov Arra**	**6.17**	**247**	Pn	Pn	08 40 41.2	+1.0
0.1nm,0.3s,baz=62,slow=14,SNR=2.7							
KURBB	**Kurchatov Arra**	**6.17**	**247**	⇑Pn	Pg	08 41 02.7	-3.4
1.4nm,0.4s,baz=298,slow=16							
KURBB				⇑Sn	Sn	08 41 29.0	-22
7.3nm,0.6s,baz=300,slow=27							
MKAR	**Makanchi Array**	**7.39**	**209**	Pn	Pn	08 40 57.9	+0.8
0.1nm,0.3s,baz=30,slow=14,SNR=6.8							
SONM	**Songino Array**	**13.23**	**107**	Lg	Lg	08 46 12.6	
0.8nm,0.3s,baz=52,slow=27,SNR=8.2							

IDC 20 08:40:46.7±2.9, 53°.57N×87°.92E, h0km, mb1 3.0/3, mb1mx2.8/55, mbtmp3.0/3, ML2.7/3, Error ellipse: s-maj=26.5km s-min=15.1km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**283**	*i*		08 51 20.0	
baz=99,slow=344,SNR=3.0							
ZALV	**Zalesovo Beam**	**1.88**	**283**	Pg	Pn	08 41 19.8	-0.3
2.0nm,0.3s,baz=96,slow=16,SNR=21							
ZALV				Lg	Lg	08 41 45.7	
4.3nm,0.3s,baz=96,slow=24,SNR=16							
KURBB	**Kurchatov Arra**	**6.49**	**247**	Pn	Pn	08 42 23.5	+0.1
0.1nm,0.3s,baz=63,slow=14,SNR=4.3							
KURBB				Lg	Lg	08 44 15.2	
0.1nm,0.3s,baz=343,slow=26,SNR=4.5							
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn	08 42 40.9	+1.2
0.1nm,0.3s,baz=28,slow=13,SNR=6.2							
MKAR				Sn	Sn	08 44 05.8	-1.6
0.1nm,0.3s,baz=35,slow=24,SNR=2.8							
BVAR	**Borovoye Array**	**10.51**	**274**	Pn	Pn	08 43 18.7	+0.3
0.2nm,0.3s,baz=228,slow=43,SNR=1.9							

*ANF **20** 08:55:56.7±0.5, 35°.85N×97°.40W, h5km, ML4.2/7, Error ellipse: s-maj=6.9km s-min=3.3km az=171.0*
*IDC **20** 08:55:56.3±2.5, 35°.82N×97°.34W, h0km, mb1 3.5/3, mb1mx3.3/45, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=34.1km s-min=15.7km az=103.0*
*TUL **20** 08:55:58±1.2, 35°.75N±0°.01×97°.36W±0°.02, h6km±6km, ML3.6, mb_Lg3.4/82(NEIC), Error ellipse: s-maj=2.7km s-min=1.8km az=114.0*
*NEIC **20** 08:55:58.2±0.9, 35°.76N±0°.02×97°.36W±0°.02, h10km±5km, Error ellipse: s-maj=3.0km s-min=2.1km az=131.0*
ISC 20 08:55:57.5±1.0, 35°.79N±0°.02×97°.36W±0°.02, h7km±9km, n88, σ0§79/67, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK025	**Westminster Rd**	**0.21**	**175**		**Pg**	**08 56 01.7**	**+0.1**
OK025				Sg	**Sg**	**08 56 04.4**	**0.0**
OK009	**Oakdale Elemen**	**0.21**	**194**		**Pg**	**08 56 01.8**	**+0.1**
OK009				Sg	**Sg**	**08 56 04.6**	**0.0**
OK001	**Jones High Sch**	**0.23**	**166**	Pg	**Pg**	**08 56 02.2**	**+0.1**
OK001				Sg	**Sg**	**08 56 05.4**	**+0.2**
BCOK	**Bluff Creek, N**	**0.24**	**238**	Pg	**Pg**	**08 56 02.6**	**+0.3**
BCOK				Sg	**Sg**	**08 56 06.0**	**+0.5**
OKCFA	**Oklahoma City**	**0.38**	**192**	Pg	**Pg**	**08 56 04.9**	**0.0**
OKCFA				Sg	**Sg**	**08 56 09.9**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.39**	**190**		**Pg**	**08 56 05.0**	**-0.1**
OKCSW				Sg	**Sg**	**08 56 10.2**	**+0.1**
OK031	**S. Brethren Rd**	**0.45**	**68**		**Pg**	**08 56 07.3**	**+1.0**
OK031				Sg	**Sb**	**08 56 13.9**	**-1.0**
FNO	**Franklin**	**0.53**	**184**	Pg	**Pg**	**08 56 07.7**	**-0.1**
FNO				Sg	**Sg**	**08 56 14.7**	**+0.1**
QUOK	**Quay**	**0.65**	**54**	Pg	**Pb**	**08 56 11.1**	**-0.2**
QUOK				Sg	**Sb**	**08 56 20.3**	**-0.3**
W35A	**Tecumseh**	**0.75**	**148**	Pg	**Pg**	**08 56 11.4**	**-0.5**
W35A				Sg	**Sg**	**08 56 21.2**	**-0.4**
CROK	**Carrier**	**0.88**	**325**	Pg	**Pb**	**08 56 15.2**	**0.0**
BLOK	**Blackwell**	**0.98**	**7**	Pg	**Pb**	**08 56 17.1**	**+0.2**
GC02	**Grant County #**	**1.14**	**339**		**Pn**	**08 56 20.0**	**0.0**
KAN13	**South Haven SW**	**1.23**	**356**		**Pn**	**08 56 21.6**	**+0.5**
X34A	**Smith Ranch, M**	**1.25**	**198**	Pg	**Pn**	**08 56 20.8**	**-0.6**
X34A				Sg	**Sg**	**08 56 37.8**	**+0.2**
KAN14	**Manchester OK**	**1.27**	**338**		**Pn**	**08 56 22.1**	**+0.4**
TUL1	**Leonard**	**1.28**	**84**		**Pn**	**08 56 21.1**	**-0.8**
TUL1	**Leonard**	**1.28**	**84**	P	**Pn**	**08 56 21.0**	**-0.8**
baz=264							
TUL1				S	**Sg**	**08 56 38.9**	**+0.3**
baz=264							
KAN17	**Caldwell West**	**1.30**	**345**		**Pb**	**08 56 22.8**	**+0.5**
T35A	**Sooner Cattle**	**1.32**	**31**		**Pg**	**08 56 22.9**	**0.0**
KAN05	**Bluff City Nor**	**1.38**	**343**		**Pg**	**08 56 24.2**	**+0.1**
KAN01	**Argonia South**	**1.40**	**347**		**Pg**	**08 56 24.4**	**0.0**
OK035	**E0210 Rd and N**	**1.43**	**311**		**Pn**	**08 56 24.3**	**+0.4**
U32A	**Winter Ranch,**	**1.46**	**294**		**Pn**	**08 56 24.8**	**+0.4**
KAN10	**Anthony SW Sta**	**1.46**	**336**		**Pb**	**08 56 25.2**	**+0.1**
KAN06	**Argonia West S**	**1.51**	**345**		**Pg**	**08 56 26.3**	**-0.3**
KAN08	**Anthony NE Sta**	**1.52**	**341**		**Pg**	**08 56 26.6**	**-0.1**
KAN16	**Harper SW Stat**	**1.54**	**339**		**Pb**	**08 56 26.7**	**+0.2**
WMOK	**Wichita Mounta**	**1.56**	**228**		**Pn**	**08 56 25.7**	**-0.1**
WMOK	**Wichita Mounta**	**1.56**	**228**	P	**Pn**	**08 56 25.7**	**-0.1**
baz=48							
WMOK				S	**Sn**	**08 56 46.6**	**+0.2**
baz=48							
KAN12	**Harper NE Stat**	**1.59**	**341**		**Pb**	**08 56 27.2**	**-0.2**
LOOK	**Love County**	**1.80**	**175**	Pn	**Pn**	**08 56 29.2**	**+0.3**
X37A	**Clayton**	**2.02**	**126**	IAmb_Lg		08 57 01.7	
comp=Z,108nm,0.7s							
Z35A	**Perchaven, San**	**2.45**	**178**		**Pn**	**08 56 38.6**	**+0.6**
U38A	**Gravette**	**2.49**	**74**		**Pn**	**08 56 39.5**	**+0.9**
HHAR	**Hobbs**	**2.81**	**79**		**Pn**	**08 56 43.8**	**+0.8**
W39A	**Magazine**	**2.98**	**100**		**Pn**	**08 56 45.9**	**+0.7**
W39A				IAmb_Lg		08 57 39.1	
comp=Z,119nm,0.9s							
W39A	**Magazine**	**2.98**	**100**	P	**Pn**	**08 56 46.2**	**+1.0**
baz=282							
W39A				S	**Sn**	**08 57 21.9**	**+0.8**
baz=282							
Z38A	**Mt. Pleasant**	**3.19**	**141**		**Pn**	**08 56 48.7**	**+0.5**
Z38A				IAmb_Lg		08 57 39.4	
comp=Z,83nm,0.9s							
MIAR	**Mount Ida**	**3.34**	**111**	IAmb_Lg		08 57 50.2	
comp=Z,95nm,0.8s							
MIAR	**Mount Ida**	**3.34**	**111**	S	**Sn**	**08 57 31.8**	**+1.8**
baz=292							
KSU1	**Kansas State U**	**3.36**	**10**	IAmb_Lg		08 57 50.5	
comp=Z,102nm,0.9s							
CBKS	**Cedar Bluff**	**3.57**	**329**	Pn	**Pn**	**08 56 55.0**	**+1.6**
CBKS				IAmb_Lg		08 57 57.7	
comp=Z,121nm,0.9s							
CBKS	**Cedar Bluff**	**3.57**	**329**	Pg	**Pg**	**08 57 03.5**	**-2.4**
baz=148							
AMTX	**Amarillo**	**3.65**	**257**	Pb	**Pb**	**08 57 01.9**	**-0.5**
baz=75							
U40A	**Yellville**	**3.69**	**80**		**Pn**	**08 56 55.4**	**+0.3**
S39A	**Bolivar**	**3.76**	**58**	IAmb_Lg		08 58 01.8	
comp=Z,101nm,0.7s							
WHTX	**Lake Whitney,**	**3.79**	**181**	P	**Pn**	**08 56 56.4**	**+0.1**
baz=1.2							
X40A	**Basin Creek Fa**	**3.93**	**108**	IAmb_Lg		08 58 05.6	
comp=Z,113nm,0.9s							
WLAR	**White Oak Lake**	**4.08**	**120**	IAmb_Lg		08 58 10.7	
comp=Z,59nm,0.7s							
WHAR	**Wooly Hollow**	**4.16**	**95**		**Pn**	**08 57 01.9**	**+0.3**
WHAR				IAmb_Lg		08 58 10.2	
comp=Z,87nm,0.9s							
W41B	**Gary Mavity, V**	**4.21**	**97**	P	**Pn**	**08 57 02.8**	**+0.6**
baz=280							
W41B				Sb	**Sg**	**08 58 09.4**	**-3.6**
baz=280							
FCAR	**Ozark Folk Cen**	**4.25**	**87**		**Pn**	**08 57 02.9**	**+0.1**
MGMO	**Mountain Grove**	**4.32**	**70**		**Pn**	**08 57 04.7**	**+1.0**
MGMO				IAmb_Lg		08 58 14.3	
comp=Z,90nm,0.8s							
R40A	**Maddies Statio**	**4.78**	**57**	IAmb_Lg		08 58 37.9	
comp=Z,53nm,0.8s							
MSTX	**Muleshoe**	**4.80**	**249**		**Pn**	**08 57 11.2**	**+0.8**
P38A	**Dawn**	**4.89**	**37**		**Pn**	**08 57 12.7**	**+1.3**
P38A				IAmb_Lg		08 58 44.5	
comp=Z,53nm,0.9s							
CCAR	**Cane Creek**	**4.96**	**110**	IAmb_Lg		08 58 42.4	
comp=Z,65nm,0.8s							
LCAR	**Lake Charles**	**5.04**	**85**	IAmb_Lg		08 58 44.4	
comp=Z,47nm,1.0s							
KSCO	**Kaye Shedlock'**	**5.29**	**309**	IAmb_Lg		08 58 58.1	
comp=Z,36nm,0.9s							
CCM	**Cathedral Cave**	**5.40**	**63**	IAmb_Lg		08 58 56.2	
comp=Z,39nm,0.9s							
BGNE	**Belgrade**	**5.65**	**354**	IAmb_Lg		08 59 14.2	
comp=Z,63nm,1.0s							
JCT	**Junction City**	**5.67**	**202**	IAmb_Lg		08 59 01.1	
comp=Z,73nm,0.7s							
PBMO	**Poplar Bluff**	**5.68**	**78**	IAmb_Lg		08 59 03.4	
comp=Z,53nm,0.7s							
FVM	**French Village**	**5.97**	**66**	IAmb_Lg		08 59 07.5	
comp=Z,54nm,0.9s							
PARMO	**Parma**	**6.21**	**80**	IAmb_Lg		08 59 17.7	
comp=Z,68nm,0.8s							
OGNE	**Ogallala**	**6.32**	**326**	IAmb_Lg		08 59 20.8	
comp=Z,41nm,0.8s							
SLM	**Saint Louis**	**6.36**	**61**	IAmb_Lg		08 59 19.0	
comp=Z,42nm,0.9s							
GLAT	**Glass**	**6.56**	**83**	IAmb_Lg		08 59 25.3	
comp=Z,67nm,0.8s							
HICK	**Hickman**	**6.62**	**81**	IAmb_Lg		08 59 39.8	
comp=Z,70nm,0.7s							
W45A	**Hickory Valley**	**6.70**	**93**	IAmb_Lg		08 59 43.9	
comp=Z,42nm,0.7s							
Y45A	**Yeager Farm, C**	**6.71**	**104**	IAmb_Lg		08 59 37.0	
comp=Z,35nm,1.0s							
S44A	**Carbondale**	**6.78**	**71**	IAmb_Lg		08 59 37.8	
comp=Z,43nm,0.7s							
UTMT	**University of**	**6.90**	**83**	IAmb_Lg		08 59 53.1	
comp=Z,59nm,0.8s							
K31A	**O'Neill**	**6.91**	**351**	IAmb_Lg		08 59 43.4	
comp=Z,55nm,0.8s							
SCIA	**State Center**	**6.91**	**27**	IAmb_Lg		08 59 50.2	
comp=Z,63nm,0.8s							
T45A	**Paducah**	**7.13**	**78**	IAmb_Lg		08 59 49.6	
comp=Z,34nm,0.8s							
P43A	**Skaggs, Pawnee**	**7.31**	**56**	IAmb_Lg		08 59 58.6	
comp=Z,56nm,0.8s							
L40A	**Anamosa**	**7.88**	**35**	IAmb_Lg		09 00 13.1	
comp=Z,32nm,0.9s							
Y22D	**IRIS PASSCAL I**	**8.04**	**260**	IAmb_Lg		09 00 30.0	
comp=Z,43nm,0.9s							
TXAR	**Lajitas Array**	**8.35**	**221**	Pn	**Pn**	**08 57 58.4**	**-0.7**
comp=Z,0.1nm,0.3s,baz=35,slow=11,SNR=2.0							
TXAR				Lg	Lg	09 00 13.7	
comp=Z,1.9nm,0.3s,baz=39,slow=24,SNR=8.0							
PHWY	**Pilot Hill**	**8.40**	**313**	IAmb_Lg		09 00 30.1	
comp=Z,28nm,1.1s							
SUSD	**Miller**	**8.73**	**352**	IAmb_Lg		09 00 43.1	
comp=Z,20nm,0.7s							
JFWS	**Jewell Farm**	**9.00**	**36**	IAmb_Lg		09 01 05.5	
comp=Z,35nm,0.7s							
I40A	**Norwalk**	**9.61**	**31**	IAmb_Lg		09 01 13.1	
comp=Z,34nm,1.1s							
K22A	**Casper**	**9.87**	**317**	IAmb_Lg		09 01 30.0	
comp=Z,27nm,1.0s							
PDAR	**Pinedale Array**	**11.74**	**310**	Pn	**Pn**	**08 58 45.5**	**-0.2**
comp=Z,0.1nm,0.3s,baz=124,slow=13,SNR=4.7							
PDAR				Lg	Lg	09 02 04.2	
comp=Z,0.2nm,0.3s,baz=114,slow=32,SNR=3.3							
ULM	**Lac du Bonnet**	**14.50**	**4**	Pn	Pn	08 59 16.6	-6.4
comp=Z,0.2nm,0.3s,baz=209,slow=10,SNR=1.5							
ULM				Lg	Lg	09 03 21.9	
comp=Z,0.2nm,0.3s,baz=200,slow=19,SNR=1.9							

IDC 20 09:08:14.8±2.7, 54°.45N×86°.93E, h0km, mb1 3.0/2, mb1mx2.8/43, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=22.6km s-min=16.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**249**	*i*		09 15 23.4	
baz=69,slow=340,SNR=7.9							
ZALV	**Zalesovo Beam**	**1.34**	**249**	Pg	Pg	09 08 38.7	-1.7
1.0nm,0.3s,baz=70,slow=15,SNR=18							
ZALV				Lg	Lg	09 08 57.9	
2.0nm,0.3s,baz=70,slow=26,SNR=13							
ZALV				Rg	Rg	09 09 08.7	
2.9nm,0.3s,baz=70,slow=31,SNR=11							
KURBB	**Kurchatov Arra**	**6.40**	**237**	Pn	Pn	09 09 50.7	+0.5
0.1nm,0.3s,baz=54,slow=14,SNR=15							
KURBB				Sn	Sn	09 11 02.1	-1.7
0.1nm,0.3s,baz=309,slow=41,SNR=1.2							
KURBB				Lg	Lg	09 11 39.9	
0.0nm,0.3s,baz=47,slow=34,SNR=3.0							
MKAR	**Makanchi Array**	**8.21**	**203**	Pn	Pn	09 10 16.3	+1.2
0.1nm,0.3s,baz=27,slow=14,SNR=7.7							
MKAR				Sn	Sn	09 11 49.2	+0.7
0.1nm,0.3s,baz=19,slow=30,SNR=5.9							
MKAR				Lg	Lg	09 12 34.7	
0.0nm,0.3s,baz=28,slow=32,SNR=5.4							

*IDC **20** 09:08:18.9±2.8, 19°.71S×176°.75W, h540km±26km, mb3.0/6, mb1 3.2/7, mb1mx3.0/25, mbtmp3.8/7, Error ellipse: s-maj=39.4km s-min=23.7km az=134.0*
ISC 20 09:08:15.2±1.3, 20°.0S±0°.2×176°.3W±0°.2, h500km, n8, σ1§99/8, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.76**	**292**	P	**P**	**09 09 51.4**	**+2.1**
3.5nm,0.3s,baz=216,slow=3.5,SNR=16							
STKA	**Stephens Creek**	**39.42**	**244**	P	**P**	**09 15 02.2**	**+0.7**
0.7nm,0.5s,baz=98,slow=9.8,SNR=3.6							
ASAR	**Alice Springs**	**46.16**	**256**	P	**P**	**09 15 52.9**	**-1.6**
2.4nm,0.7s,baz=88,slow=7.8,SNR=32							
ASAR				PcP	**PcP**	**09 17 20.2**	**-0.2**
0.3nm,0.4s,baz=106,slow=4.3,SNR=5.4							
WRA	**Warramunga Arr**	**46.22**	**261**	P	**P**	**09 15 51.8**	**-3.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**22.18**	**241**	LR	LR	09 42 34.8	
	comp=Z,118nm,18.1s,baz=48,slow=45						
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	09 31 20.4	-0.3
	1.1nm,0.6s,baz=344,slow=10,SNR=12						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	09 33 18.8	+0.2
	1.3nm,0.7s,baz=336,slow=9.2,SNR=5.0						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	09 35 47.1	-0.1
	0.1nm,0.4s,baz=136,slow=8.6,SNR=4.3						

*DDA **20** 09:28:41.0±0.0, 39°.96N×39°.91E, h7km±3km, ML2.1*
*ISK **20** 09:28:41.3, 39°.96N×39°.90E, h12km, ML2.6/10*
ISC 20 09:28:41.4±1.0, 39°.97N±0°.02×39°.91E±0°.03, h12km±9km, n20, σ0s57/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	**Uzumlu**	**0.30**	**212**	P	**Pg**	**09 28 47.4**	**-0.2**
EUZM				S	**Sb**	**09 28 52.6**	**-1.3**
BAYB	**BAYBURT**	**0.40**	**42**	P	**Pg**	**09 28 48.8**	**-0.6**
BAYB				S	**Sg**	**09 28 55.0**	**+0.3**
BAYB				*i* AML	AML	09 28 57.0	
	comp=N,192nm,0.4s						
ERZN	**Erzincan**	**0.40**	**201**	PG	**Pg**	**09 28 49.6**	**+0.1**
ERZN				SG	**Sb**	**09 28 55.7**	**-1.1**
BAYT	**Aydıntepe-Bayb**	**0.46**	**23**	PG	**Pb**	**09 28 51.3**	**-0.4**
BAYT				SG	**Sb**	**09 28 58.1**	**-0.6**
YEDI	**Yedisu-Bingol**	**0.72**	**137**	PG	**Pb**	**09 28 55.7**	**-0.3**
KRIK	**Erzurum-spir**	**0.87**	**64**	P	**Pb**	**09 28 59.2**	**+0.6**
KRIK				S	**Sn**	**09 29 12.0**	**-0.4**
TNCL	**Tunceli-Merkez**	**0.90**	**199**	P	**Pb**	**09 28 59.2**	**+0.2**
TNCL				S	**Sb**	**09 29 11.0**	**0.0**
TNCL				*i* AML	AML	09 29 14.0	
	comp=N,77nm,0.5s						
ALUC	**Giresun/Alucra**	**0.95**	**294**	P	**Pg**	**09 28 59.4**	**-0.4**
ALUC				S	**Sb**	**09 29 12.8**	**+0.1**
ALUC				*i* AML	AML	09 29 13.0	
	comp=N,78nm,0.5s						
MACK	**Trabzon**	**0.98**	**354**	P	**Pb**	**09 29 00.4**	**0.0**
KTUT	**Trabzon**	**1.03**	**354**	PG	**Pn**	**09 29 01.6**	**-0.1**
KARO	**Karliova-Bingo**	**1.10**	**126**	PN	**Pn**	**09 29 02.9**	**0.0**
KARO				SN	**Sn**	**09 29 18.6**	**+0.5**
BNGB	**Bingl**	**1.14**	**148**	PN	**Pn**	**09 29 03.9**	**+0.5**
ILIC	**ilic-Erzincan**	**1.15**	**244**	PN	**Pn**	**09 29 04.4**	**+0.8**
ILIC				SN	**Sn**	**09 29 19.9**	**+0.5**
KOVA	**Elazig, Kovanc**	**1.26**	**183**	P	**Pn**	**09 29 04.6**	**-0.4**
KOVA				S	**Sn**	**09 29 22.7**	**+0.7**
KEMA	**Kemaliye**	**1.29**	**238**	P	**Pn**	**09 29 05.2**	**-0.3**
KEMA				S	**Sn**	**09 29 23.2**	**+0.4**
CHOM	**Cayeli-Rize**	**1.30**	**30**	PN	**Pb**	**09 29 06.1**	**+0.2**
CHOM				SN	**Sg**	**09 29 24.3**	**+0.8**
SUSE	**Susehri**	**1.33**	**281**	P	**Pg**	**09 29 06.9**	**-0.1**
SUSE				S	**Sg**	**09 29 25.1**	**+0.8**
SUSE				*i* AML	AML	09 29 30.0	
	comp=E,28nm,0.8s						
VRTB	**Varto-Mus**	**1.44**	**123**	PN	**Pn**	**09 29 07.9**	**+0.3**
ARPR	**Arapgir-MALATY**	**1.50**	**235**	PN	**Pb**	**09 29 08.6**	**-0.7**
ELZG	**Elazig**	**1.63**	**206**	P	**Pb**	**09 29 11.1**	**-0.5**
ELZG				S	**Sg**	**09 29 34.4**	**+0.5**

IDC 20 09:36:59.6±684.0, 53°.17N×3°.32E, h0km, Error ellipse: s-maj=326.5km s-min=134.8km az=113.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.85**	**119**	*i*		10 26 50.0	
	baz=308,slow=328,SNR=1.2						
I48TN	**KESRA INFRASONI**	**7.88**	**164**	*i*		11 29 10.0	
	baz=348,slow=315,SNR=0.4						
I43RU	**DUBNA INFRASONI**	**9.67**	**66**	*i*		11 37 50.0	
	baz=272,slow=324,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**45.84**	**55**	*i*		14 24 00.0	
	baz=308,slow=343,SNR=1.1						

*NOU **20** 09:40:45.7, 29°.02S×116°.94E, h0km, MLv3.9/5, Western Australia*
*AUST **20** 09:40:50.1±8.6, 29°.34S×116°.63E, h7km±84km, Error ellipse: s-maj=71.8km s-min=31.0km az=77.0*
ISC 20 09:40:48.0±1.1, 29°.16S±0°.05×116°.81E±0°.07, h10km, n10, σ0s79/14, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORW	**Morawa**	**0.68**	**278**	P	**Pg**	**09 41 01.6**	**+0.6**
	baz=0.6,SNR=74						
MORW				S	**Sg**	**09 41 09.3**	**-0.6**
	baz=0.6						
MORW	**Morawa**	**0.68**	**278**	P	**Pg**	**09 41 00.8**	**-0.2**
BLDU	**Ballidu**	**1.45**	**183**	P	**Pb**	**09 41 15.0**	**-0.1**
	baz=1.3,SNR=200						
BLDU				S	**Sn**	**09 41 32.0**	**-1.4**
	baz=1.3						
BLDU	**Ballidu**	**1.45**	**183**	P	**Pn**	**09 41 14.4**	**+0.1**
KLBR	**Kellerberrin**	**2.56**	**162**	P	**Pn**	**09 41 30.0**	**+0.5**
	baz=2.5,SNR=13						
KLBR	**Kellerberrin**	**2.56**	**162**	P	**Pn**	**09 41 29.8**	**+0.3**
MUN	**Mundaring**	**2.86**	**190**	P	**Pn**	**09 41 33.7**	**+0.1**
	baz=2.7,SNR=7.9						
MUN				S	**Sn**	**09 42 08.6**	**+0.5**
	baz=2.7						
MUN	**Mundaring**	**2.86**	**190**	P	**Pn**	**09 41 35.1**	**+1.5**
MEEK	**Meekatharra**	**2.98**	**33**	P	**Pn**	**09 41 36.0**	**+0.7**
	baz=3.2,SNR=6.1						
MEEK				S	**Sn**	**09 42 10.3**	**-0.9**
	baz=3.2						
NWAO	**Narrogin (SRO)**	**3.77**	**175**	P	**Pn**	**09 41 46.6**	**+0.4**

MAN 20 09:55:20.3, 16°.97N×122°.56E, h42km, mb4.2, ML3.0, MS2.7, 5C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**1.54**	**218⇑**	*e*P	Pn	09 55 46.0	+0.6
SAMP	**Sagada Mountai**	**1.59**	**274⇑**	*e*P	Pn	09 55 46.0	0.0
SMPP	**San Manuel, Pa**	**1.98**	**246⇑**	*e*P	Pn	09 55 52.3	+0.9
PCPH	**Palayan**	**1.98**	**225⇑**	*e*P	Pn	09 55 52.9	+1.4
PCPH				*e*S	Sn	09 56 16.9	+1.9
BOLP	**Bolinao**	**2.60**	**257⇓**	*e*P	Pn	09 56 02.1	+2.2
JCNP	**Jose Panganiba**	**2.67**	**177⇓**	*i*P	Pn	09 56 02.7	+1.9
JCNP				*i* S	Sn	09 56 32.9	+1.0
MACP	**Maragondon, Ca**	**3.22**	**214⇓**	*i*P	Pn	09 56 09.8	+1.3
BATP	**Bataraza**	**9.35**	**210⇓**	*i*P	Pn	09 57 30.1	-2.6

*HEL **20** 09:58:34.1±0.1, 64°.74N×30°.66E, h0km, ML2.2, Explosion*
*KOLA **20** 09:58:34.9, 64°.76N×30°.69E, h0km, ML2.2*
*IDC **20** 09:58:34.5±2.9, 64°.67N×31°.22E, h0km, mb1 3.0/3, mb1mx2.9/50, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=47.0km s-min=10.4km az=106.0*
*NAO **20** 09:58:36.5±1.6, 64°.80N×30°.42E, ML2.5*
*UPP **20** 09:58:37.8±2.7, 64°.82N×30°.23E, h0km, ML2.1, Suspected explosion*
*BER **20** 09:58:38.1±3.5, 64°.85N×30°.14E, h0km, ML2.5(NAO), Suspected explosion*
ISC 20 09:58:34.7±0.9, 64°.83N±0°.02×30°.56E±0°.04, h0km, n56, σ1s69/83, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.23**	**347**	PG	**Pg**	**09 58 58.0**	**-0.3**
	baz=165						
KU6				MSG		09 59 14.3	
	comp=Z,13nm,0.2s						
KU6				SG	**Sg**	**09 59 15.0**	**+0.7**
MSF	**Maaselka**	**1.26**	**330**	PG	**Pg**	**09 58 58.4**	**-0.4**
MSF				SG	**Sg**	**09 59 16.1**	**+1.0**
JOF	**Joensuu**	**1.95**	**170**	PG	**Pn**	**09 59 07.3**	**-1.7**
JOF				SG	**Sb**	**09 59 34.9**	**-1.0**
OUL	**Oulu**	**2.00**	**279**	PG	**Pn**	**09 59 11.2**	**+1.5**
OUL				SG	**Sb**	**09 59 37.9**	**+0.6**
OUF	**Merijarvi**	**2.56**	**262**	PB	**Pn**	**09 59 18.7**	**+1.3**
	baz=76						
OUF				MSG		09 59 50.3	
	comp=Z,26nm,0.2s						
OUF				SG	**Sb**	**09 59 53.5**	**+0.2**
RNF	**Rovaniemi**	**2.59**	**316**	PB	**Pn**	**09 59 19.7**	**+1.9**
	baz=128						
RNF				SB	**Sb**	**09 59 54.4**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBF0	**Syolatti, Pyha**	**2.74**	**266**	PG	**Pb**	**09 59 23.0**	**-1.5**
OBF0				SG	**Sb**	**10 00 00.9**	**+2.3**
SUF	**Sumiainen**	**2.89**	**225**	PB	**Pn**	**09 59 23.2**	**+1.3**
SUF				MSG		09 59 58.0	
	comp=Z,12nm,0.2s						
SUF				SG	**Sb**	**10 00 02.4**	**-0.4**
TOF	**Tornio**	**2.89**	**299**	PB	**Pn**	**09 59 24.0**	**+2.0**
	baz=109						
TOF				MSG		10 00 01.4	
	comp=Z,9.0nm,0.2s						
TOF				SB	**Sb**	**10 00 01.9**	**-1.0**
VRF	**Varrio**	**2.96**	**353**	PN	**Pn**	**09 59 23.8**	**+0.9**
VRF				MSG		10 00 03.8	
	comp=Z,3.9nm,0.2s						
VRF				SG	**Sb**	**10 00 06.0**	**+1.2**
APA0	**Apatity Array**	**2.96**	**18**	Pn	**Pn**	**09 59 23.5**	**+0.6**
	baz=188,slow=18						
APA0				Sn	**Sn**	**10 00 01.5**	**+2.5**
APA0	**Apatity Array**	**2.96**	**18**	Pn	**Pn**	**09 59 23.5**	**+0.6**
	baz=188,slow=18						
APA0				Sn	**Sn**	**10 00 01.5**	**+2.5**
APA0	**Apatity Array**	**2.96**	**18**	P	**Pn**	**09 59 23.4**	**+0.6**
APA0	**Apatity Array**	**2.96**	**18**	S	**Sn**	**10 00 00.1**	**+1.1**
SGF	**Sodankyl**	**3.09**	**330**	PN	**Pn**	**09 59 25.5**	**+0.8**
SGF				SB	**Sb**	**10 00 08.5**	**-0.2**
KALU	**Kalix**	**3.19**	**292**	P	**Pn**	**09 59 28.2**	**+2.1**
KALU				S	**Sn**	**10 00 02.6**	**-2.1**
KALU	**Kalix**	**3.19**	**292**	PB	**Pn**	**09 59 28.2**	**+2.1**
KAF	**Kangasniemi**	**3.33**	**217**	PB	**Pn**	**09 59 29.6**	**+1.6**
	baz=38						
KEF	**Keuruu**	**3.69**	**226**	PB	**Pn**	**09 59 34.9**	**+1.9**
PAJU	**Pajala**	**3.76**	**309**	P	**Pn**	**09 59 34.8**	**+0.8**
PAJU	**Pajala**	**3.76**	**309**	PN	**Pn**	**09 59 34.8**	**+0.8**
PAJU				SG	**Sg**	**10 00 33.4**	**-2.1**
SJUU	**Sjulsmark**	**3.84**	**284**	P	**Pn**	**09 59 35.9**	**+0.9**
ERTU	**Ertsjaerv**	**3.87**	**300**	P	**Pn**	**09 59 36.8**	**+1.4**
ERTU	**Ertsjaerv**	**3.87**	**300**	PN	**Pn**	**09 59 37.2**	**+1.8**
VAF	**Ylistaro**	**3.92**	**246**	PB	**Pn**	**09 59 37.7**	**+1.7**
VAF				SG	**Sb**	**10 00 37.5**	**+5.0**
BURU	**Burvik**	**3.95**	**271**	P	**Pn**	**09 59 36.9**	**+0.4**
BURU				S	**Sn**	**10 00 23.1**	**-0.4**
BURU	**Burvik**	**3.95**	**271**	PN	**Pn**	**09 59 36.9**	**+0.4**
	baz=88						
FIA0	**FINESS Array S**	**3.96**	**213**	Pn	**Pn**	**09 59 37.0**	**+0.3**
	baz=33,slow=12						
FIA0				Sn	**Sn**	**10 00 23.9**	**+0.2**
	baz=25,slow=28						
FIA0				Lg	Lg	10 00 36.8	
	baz=25,slow=37						
FIA0	**FINESS Array S**	**3.96**	**213**	Pn	**Pn**	**09 59 37.0**	**+0.3**
	baz=33,slow=12						
FIA0				Sn	**Sn**	**10 00 23.9**	**+0.2**
	baz=25,slow=28						
FIA0				Sg	**Sb**	**10 00 36.8**	**+3.1**
	baz=25,slow=37						
FIA0	**FINESS Array S**	**3.96**	**213**	PN	**Pn**	**09 59 37.0**	**+0.3**
FIA0				SN	**Sn**	**10 00 24.3**	**+0.6**
FINES	**FINESS Array B**	**3.96**	**213**	Pn	**Pn**	**09 59 37.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=38,slow=13,SNR=13						
FINES				Sn	**Sn**	**10 00 24.7**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=38,slow=22,SNR=6.2						
FINES				Lg	Lg	10 00 37.2	
	comp=Z,2.2nm,0.3s,baz=23,slow=26,SNR=6.7						
MASU	**Masugnsbyn**	**4.36**	**311**	P	**Pn**	**09 59 43.3**	**+1.2**
HEF	**Hetta**	**4.52**	**326**	PN	**Pn**	**09 59 45.4**	**+1.1**
HEF				SG	**Sb**	**10 00 55.0**	**+5.1**
VJF	**Virojoki**	**4.53**	**199**	SG	**Sb**	**10 00 53.9**	**+4.0**
LILU	**Lilltraesk**	**4.56**	**281**	P	**Pn**	**09 59 45.6**	**+0.7**
DUNU	**Dundret**	**4.69**	**304**	P	**Pn**	**09 59 47.9**	**+1.2**
SVAU	**Svanoeiden**	**4.73**	**271**	P	**Pn**	**09 59 47.8**	**+0.6**
TERR	**Teriberka**	**4.74**	**20**	P	**Pn**	**09 59 47.2**	**-0.1**
TERR	**Teriberka**	**4.74**	**20**	S	**Sn**	**10 00 41.5**	**-1.3**
PRVG	**Vayda Guba**	**4.98**	**7**	P	**Pn**	**09 59 50.0**	**-0.6**
PRVG	**Vayda Guba**	**4.98**	**7**	S	**Sn**	**10 00 46.1**	**-2.6**
ARA0	**ARCESS Array S**	**5.12**	**340**	Pn	**Pn**	**09 59 52.7**	**+0.1**
	baz=153,slow=14						
ARA0				Sn	**Sn**	**10 00 50.4**	**-1.8**
	baz=157,slow=28						
ARA0				Lg	Lg	10 01 12.9	
	baz=149,slow=37						
ARA0	**ARCESS Array S**	**5.12**	**340**	Pn	**Pn**	**09 59 52.7**	**+0.1**
	baz=153,slow=14						
ARA0				Sn	**Sn**	**10 00 50.4**	**-1.8**
	baz=157,slow=28						
ARA0				Sg	**Sb**	**10 01 12.9**	**+5.9**
	baz=149,slow=37						
ARCES	**ARCESS Array B**	**5.12**	**340**	Pn	**Pn**	**09 59 52.8**	**+0.3**
	baz=155,slow=13,SNR=97						
ARCES				Sn	**Sn**	**10 00 50.4**	**-1.8**
	baz=154,slow=26,SNR=6.0						
ARCES				Lg	Lg	10 01 13.2	
	baz=150,slow=33,SNR=5.2						
ARCES	**ARCESS Array B**	**5.12**	**340**	P	**Pn**	**09 59 52.8**	**+0.3**
ARCES	**ARCESS Array B**	**5.12**	**340**	S	**Sn**	**10 00 51.5**	**-0.7**
KEV	**Kevo**	**5.13**	**346**	*e*P	**Pn**	**09 59 52.9**	**+0.2**
HFS	**Hagfors**	**9.10**	**247**	Pn	**Pn**	**10 00 46.7**	**-0.4**
	baz=56,slow=14						
HFS	**Hagfors**	**9.10**	**247**	Pn	**Pn**	**10 00 46.7**	**-0.4**
	baz=56,slow=14						
NB2	**NORSAR Subarra**	**9.58**	**256**	Pn	**Pn**	**10 00 54.5**	**+0.7**
	baz=62,slow=16						
NB2	**NORSAR Subarra**	**9.58**	**256**	Pn	**Pn**	**10 00 54.5**	**+0.7**
	baz=62,slow=16						
NOA	**NORSAR Array B**	**9.58**	**256**	Pn	**Pn**	**10 00 53.3**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=83,slow=8.2,SNR=3.8						
NOA				Lg	Lg	10 03 35.9	
	comp=Z,0.0nm,0.3s,baz=8.5,slow=12,SNR=3.2						
NRA0	**NORESS Array S**	**9.61**	**253**	Pn	**Pn**	**10 00 53.2**	**-0.9**
	baz=59,slow=9.3						
NRA0	**NORESS Array S**	**9.61**	**253**	Pn	**Pn**	**10 00 53.2**	**-0.9**
	baz=59,slow=9.3						
SPA0	**Spitsbergen Ar**	**14.07**	**348**	Pn	**Pn**	**10 01 53.0**	**-1.9**
	baz=145,slow=16						
SPA0	**Spitsbergen Ar**	**14.07**	**348**	Pn	**Pn**	**10 01 53.0**	**-1.9**
	baz=145,slow=16						

*IDC **20** 10:01:58.2±3.0, 18°.50S×177°.93W, h442km±27km, mb3.3/8, mb1 3.6/9, mb1mx3.4/31, mbtmp4.1/9, Error ellipse: s-maj=75.8km s-min=15.9km az=147.0*
ISC 20 10:01:58.9±1.3, 18°.48S±0°.4×178°.0W±0°.2, h450km, n10, σ0s53/10, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.79**	**280**	P	**P**	**10 03 12.1**	**-0.3**
	1.5nm,0.3s,baz=240,slow=23,SNR=6.6						
DZM	**Mont Dzumac**	**15.02**	**253**	P	**P**	**10 05 09.9**	**-0.5**
	0.4nm,0.3s,baz=79,slow=18,SNR=6.8						
STKA	**Stephens Creek**	**38.70**	**242**	P	**P**	**10 08 43.0**	**+0.2**
	4.5nm,0.5s,baz=86,slow=9.4,SNR=24						
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**10 09 32.5**	**+0.3**
	1.0nm,0.5s,baz=97,slow=6.3,SNR=31						
ASAR	**Alice Springs**	**45.00**	**255**	P	**P**	**10 09 33.5**	**+0.4**
	5.9nm,0.5s,baz=90,slow=8.5,SNR=189						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**10 13 18.8**	**+0.5**
	0.8nm,0.7s,baz=223,slow=8.2,SNR=7.6						
TXAR	**Lajitas Array**	**85.97**	**57**	P	**P**	**10 13 50.6**	**-0.3**
	0.8nm,0.7s,baz=214,slow=6.2,SNR=9.6						
ILAR	**Eielson Array**	**86.31**	**13**	P	**P**	**10 13 51.8**	**+0.2**
	0.4nm,0.4s,baz=216,slow=5.0,SNR=12						
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**10 13 57.0**	**-0.9**
	0.7nm,1.0s,baz=70,slow=1.7,SNR=3.6						
YKA	**Yellowknife Ar**	**94.65**	**25**	P	**P**	**10 14 30.5**	**+0.3**
	0.1nm,0.5s,baz=237,slow=4.6,SNR=2.9						

WEL 20 10:04:30.9±1.4, 34°.S±44°.×17°.8E±6°.1, h550km±36km, M4.0/2, MLv4.0/2, Error ellipse: s-maj=0.1km s-min=0.0km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**3.78**	**185**	P	P	10 05 50.2	-0.8
HAZ				S	S	10 06 58.5	+2.0
WMGZ	**Waiomatatini S**	**3.83**	**178**	P	P	10 05 51.3	-0.1
PKGZ	**Pakihiroa**	**3.90**	**182**	P	P	10 05 51.9	0.0
PKGZ				S	S	10 06 59.0	+0.8
RUGZ	**Raukumara Rang**	**4.00**	**186**	P	P	10 05 52.6	-0.2
RUGZ				S	S	10 06 59.5	-0.2
PUZ	**Puketiti**	**4.08**	**180**	P	P	10 05 53.2	0.0
URZ	**Urewera**	**4.36**	**192**	P	P	10 05 54.8	-0.6
URZ				S	S	10 07 03.8	-0.7
MWZ	**Matawai**	**4.38**	**187**	P	P	10 05 55.4	-0.2
MWZ				S	S	10 07 04.3	-0.6
BKZ	**Black Stump Fm**	**5.36**	**195**	P	P	10 06 03.9	+0.2
OTVZ	**Oturere**	**5.57**	**201**	P	P	10 06 06.4	+0.7
KWHZ	**Kaweka Forest**	**5.62**	**194**	P	P	10 06 07.0	+1.0
BHHZ	**Black Hill Sta**	**5.77**	**197**	P	P	10 06 07.3	0.0
MRZ	**Mangatainoka R**	**6.99**	**197**	P	P	10 06 18.5	-0.1

*SOME **20** 10:04:45.5, 38°.60N×71°.42E, h0km*
*IDC **20** 10:04:48.9±8.1, 37°.74N×72°.29E, h207km±50km, mb2.8/1, mb1 2.9/6, mb1mx2.7/62, mbtmp3.5/6, Error ellipse: s-maj=77.2km s-min=49.9km az=179.0*
*NNC **20** 10:04:50.4±3.8, 38°.05N×72°.10E, h248km±52km, mb2.4, mpv3.7, Error ellipse: s-maj=42.4km s-min=23.8km az=17.0*
ISC 20 10:04:49.1±2.1, 37°.9N±0°.1×71°.89E±0°.10, h200km, n21, σ1s76/27, 7C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.44**	**18**	P	**Pn**	**10 05 56.7**	**-0.1**
	SNR=169						
UCH	**Uchtor**	**4.76**	**24**	P	**Pn**	**10 06 00.5**	**-0.4**
	SNR=8.7						
MRKS	**Merke**	**4.94**	**12**	*e*P	**Pn**	**10 06 05.9**	**+3.1**
	15nm,0.5s						
MRKS				*e*S	**Sn**	**10 07 03.1**	**+2.2**
	20nm,0.6s						
EKS2	**Erkin-Say**	**4.96**	**16**	P	**Pn**	**10 06 03.6**	**+0.5**
	SNR=28						
AAK	**Ala-Archa**	**5.13**	**22**	P	**Pn**	**10 06 05.4**	**+0.2**
	4.9nm,0.3s,baz=180,slow=5.8,SNR=37						
AAK				S	**Sn**	**10 07 06.5**	**+1.1**
	0.7nm,0.3s,baz=327,slow=20,SNR=7.6						
AAK	**Ala-Archa**	**5.13**	**22**	P	**Pn**	**10 06 05.3**	**+0.1**
	SNR=13						
AAK	**Ala-Archa**	**5.13**	**22**	⇑P	**Pn**	**10 06 04.9**	**-0.3**
	8.6nm,0.4s						
AAK				⇑S	**Sn**	**10 07 06.4**	**+1.1**
	5.8nm,0.8s						
KBK	**Karagaybulak**	**5.29**	**25**	P	**Pn**	**10 06 08.7**	**+1.4**
	SNR=6.2						
KK01	**Karatay Array**	**5.29**	**349**	⇑P	**Pn**	**10 06 08.6**	**+1.4**
	4.5nm,0.4s						
KK01				⇑S	**Sn**	**10 07 10.7**	**+1.7**
	7.2nm,0.4s						
BRLS	**Borolday**	**5.35**	**344**	*e*P	**Pn**	**10 06 08.0**	**+0.1**
	10.0nm,0.1s						
BRLS				*e*S	**Sn**	**10 07 06.6**	**-3.6**
	18nm,0.3s						
ULHL	**Ulahol**	**5.47**	**36**	P	**Pn**	**10 06 08.0**	**-1.7**
	SNR=5.6						
CHMS	**Chumysh**	**5.53**	**22**	P	**Pn**	**10 06 10.6**	**+0.3**
	SNR=5.3						
TKM2	**Tokmak 2**	**5.75**	**28**	P	**Pn**	**10 06 13.2**	**-0.1**
	SNR=6.7						
TKM2	**Tokmak 2**	**5.75**	**28**	⇑P	**Pn**	**10 06 12.0**	**-1.2**
	1.8nm,0.3s						
TKM2				⇑S	**Sn**	**10 07 19.0**	**-0.8**
	4.6nm,0.9s						
SGDS	**Sogindy**	**5.92**	**20**	*e*P	Pn	10 06 27.4	+12
	1.2nm,0.2s						
SGDS				*e*S	Sn	10 07 39.9	+16
	11nm,0.3s						
MKAR	**Makanchi Array**	**11.74**	**38**	P	**Pn**	**10 07 30.5**	**-0.1**
	0.0nm,0.3s,baz=209,slow=12,SNR=1.6						
AB31	**Akbulak array**	**14.24**	**327**	P	**P**	**10 08 04.3**	**+0.9**
	0.4nm,0.3s,baz=133,slow=12,SNR=17						
AB31				⇑S	**S**	**10 10 36.3**	**-3.9**
	0.4nm,0.4s,baz=136,slow=25,SNR=9.5						
BVAR	**Borovoye Array**	**15.15**	**357**	P	**P**	**10 08 14.8**	**+1.3**
	0.1nm,0.3s,baz=141,slow=14,SNR=6.6						
AKTO	**Aktyubinsk**	**15.96**	**326**	P	**Pn**	**10 08 25.6**	**+2.9**
	0.4nm,0.3s,baz=117,slow=9.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**18.34**	**25**	P	**Pn**	**10 08 48.7**	**-2.1**
	baz=217,slow=9.1,SNR=2.4						
YKA	**Yellowknife Ar**	**79.80**	**3**	P	**P**	**10 16 34.0**	**-0.6**
	0.1nm,0.4s,baz=348,slow=5.6,SNR=5.4						

IDC 20 10:06:11.6±437.0, 51°.19N×47°.43E, h0km, Error ellipse: s-maj=172.7km s-min=131.0km az=82.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.77**	**93**	*i*		10 45 20.0	
	baz=282,slow=324,SNR=1.2						
I43RU	**DUBNA INFRASON**	**8.18**	**317**	*i*		10 58 10.0	
	baz=131,slow=341,SNR=1.3						
I46RU	**ZALESOVO INFRA**	**22.72**	**68**	*i*		12 24 30.0	
	baz=281,slow=345,SNR=1.9						
I34MN	**SONGINO INFRAS**	**37.57**	**71**	*i*		13 59 40.0	
	baz=292,slow=338,SNR=1.2						

*IDC **20** 10:25:40.8±2.7, 16°.82S×168°.08E, h0km, mb4.2/4, mb1 4.4/5, mb1mx4.0/43, mbtmp4.3/5, ML4.9/1, MS3.3/9, Ms1 3.3/9, ms1mx3.0/58, Error ellipse: s-maj=57.1km s-min=42.9km az=114.0*
*NEIC **20** 10:25:41.6±1.0, 16°.96S±0°.04×168°.3E±0°.1, h10km±2km, mb4.3/10, Error ellipse: s-maj=22.0km s-min=3.1km az=72.0*
*NOU **20** 10:25:43.0, 16°.96S×168°.07E, h13km, MLv5.2/17, Vanuatu Islands*
ISC 20 10:25:43.0±1.1, 16°.93S±0°.06×168°.2E±0°.1, h21km, n43, σ0s93/40, mb4.3/10, MS3.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.79**	**178**	P	**Pn**	**10 25 58.4**	**-0.6**
RTV	**Rentapao**	**0.90**	**164**	P	**Pn**	**10 26 00.2**	**-0.2**

comp=Z,6.2nm,0.6s,baz=79,slow=8.6,SNR=147
ASAR LR LR 10 44 30.9
comp=Z,120nm,18.9s,baz=89,slow=34
ASAR Alice Springs 32.77 252 P P 10 32 15.6 +0.8
BBOO Buckleboo 32.98 235 P P 10 32 15.8 -0.8
MTN Manton Dam 35.98 271 P P 10 32 42.8 +0.1
MTN IAmb IAmb 10 32 54.3
comp=Z,6.9nm,1.2s
KNRA Kununurra 37.80 266 P P 10 32 58.3 +0.2
KNRA IAmb IAmb 10 33 07.3
comp=Z,4.9nm,0.6s
GUMO Guam 38.06 321 LR LR 10 48 47.5
comp=Z,13nm,21.0s,baz=113,slow=37
SIJI Sorong 39.67 290 LR LR 10 48 56.2
comp=Z,79nm,21.5s,baz=114,slow=35
FITZ Fitzroy Crossi 40.51 262 P P 10 33 21.4 +0.6
comp=Z,1.4nm,0.8s,baz=84,slow=10,SNR=2.7
PETK Petropavlovsk- 70.33 353 LR LR 11 01 04.5
comp=Z,79nm,21.9s,baz=220,slow=30
QSPA South Pole Qui 73.11 180 P P 10 37 14.1 +2.4
QSPA IAmb IAmb 10 37 34.7
comp=Z,2.4nm,0.8s
ARCES ARCESS Array B 122.58 345 PKP PKiKP 10 44 37.5 +0.9
comp=Z,4.3nm,1.0s,baz=48,slow=1.8,SNR=3.5

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*IDC **20** 10:31:36.3±1.3, 36°.71N×141°.38E, h120km±14km, mb3.1/2, mb1 3.1/4, mb1mx2.9/67, mbtmp3.4/4, Error ellipse: s-maj=23.2km s-min=17.3km az=5.0*
*JMA **20** 10:31:43.6±0.1, 37°.16N×140°.60E, h77km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs=156.00000°, δ22.00000°, λ-128.00000°. NP2: φs=16.00000°, δ72.00000°, λ-76.00000°. Principal axes: T Plg26.0000°, Azm95.0000°; N Plg13.0000°, Azm192.0000°; P Plg60.0000°, Azm306.0000°;*
JMA Felt I J1.
ISC 20 10:31:40.9±1.5, 37°.10N±0°.08×140°.82E±0°.09, h91km±8km, n15, σ2°19/26, 4C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.01**	**275**	⇓P	**Pn**	**10 31 55.1**	**+1.4**
ONAJ				S	**Sn**	**10 32 03.8**	**+0.5**
JFFD	**Fukushimafurud**	**0.20**	**267**	⇓P	**Pn**	**10 31 54.8**	**+0.8**
JFFD				S	**Sn**	**10 32 02.7**	**-1.1**
JFK	**Kawauchi**	**0.27**	**10**	⇓P	**Pn**	**10 31 55.7**	**+1.3**
JFK				*e*S	**Sn**	**10 32 04.7**	**+0.3**
JFT	**Otama**	**0.56**	**318**	⇑P	**Pn**	**10 31 56.7**	**+0.4**
JFT				S	**Sn**	**10 32 06.4**	**-1.4**
JMM	**Marumori**	**0.76**	**359**	⇓P	**Pn**	**10 31 59.4**	**+1.3**
JMM				S	**Sn**	**10 32 10.7**	**-0.3**
JFY	**Yanaizu**	**0.94**	**289**	⇑P	**Pn**	**10 31 59.8**	**-0.2**
JFY				*e*S	**Sn**	**10 32 12.1**	**-2.2**
JYS	**Shirataka**	**1.27**	**332**	P	**Pn**	**10 32 04.9**	**+1.1**
JYS				S	**Sn**	**10 32 21.0**	**-0.1**
JOU	**Okura**	**1.27**	**355**	⇑P	**Pn**	**10 32 05.6**	**+1.8**
JOU				S	**Sn**	**10 32 22.1**	**+1.0**
JAG	**Ashikaga**	**1.28**	**239**	⇑P	**Pn**	**10 32 05.1**	**+1.1**
JIO	**Ouri**	**1.42**	**17**	P	**Pn**	**10 32 07.7**	**+2.1**
JIO				S	**Sn**	**10 32 25.3**	**+1.0**
MJAR	**Matsushiro Arr**	**2.16**	**256**	P	**Pn**	**10 32 16.4**	**+1.1**
	0.8nm,0.3s,baz=66,slow=10,SNR=22						
MJAR				S	**Sn**	**10 32 47.9**	**+6.3**
	0.6nm,0.3s,baz=74,slow=25,SNR=7.1						
MAT	**Matsushiro**	**2.17**	**256**	P	**Pn**	**10 32 16.8**	**+1.5**
MAT				*e*S	**Sn**	**10 32 41.9**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.76**	**319**	P	**Pn**	**10 34 01.8**	**+3.7**
	baz=143,slow=14,SNR=4.1						
ZALV	**Zalesovo Beam**	**41.52**	**312**	P	**P**	**10 39 17.7**	**-1.1**
	0.6nm,0.5s,baz=98,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**43.68**	**302**	P	**P**	**10 39 31.9**	**-4.6**
	0.3nm,0.7s,baz=87,slow=10.0,SNR=3.2						

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*IDC **20** 10:32:30.0±1.2, 63°.18N×151°.31W, h107km±12km, mb3.7/20, mb1 3.8/25, mb1mx3.6/68, mbtmp4.0/25, Error ellipse: s-maj=12.3km s-min=9.5km az=103.0*
*ANF **20** 10:32:32.7±0.1, 63°.16N×150°.86W, h132km±2km, ML4.1/61, Error ellipse: s-maj=1.5km s-min=1.3km az=101.0*
*NEIC **20** 10:32:32.8±1.1, 63°.16N±0°.04×150°.90W±0°.07, h134km±4km, Error ellipse: s-maj=5.2km s-min=4.7km az=163.0*
*AEIC **20** 10:32:33±1.2, 63°.15N±0°.04×150°.85W±0°.08, h130km±4km, ML3.7, mb4.0/17(NEIC), ML3.9/156(NEIC), Error ellipse: s-maj=5.3km s-min=4.8km az=225.0*
ISC 20 10:32:32.8±0.6, 63°.16N±0°.03×150°.93W±0°.03, h136km±5km, n292, σ0°88/329, mb3.9/28, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.40**	**1**		**Pn**	**10 32 52.2**	**+0.1**
KTH	**Kantishna Hill**	**0.40**	**1**	IAML		10 32 52.7	
	comp=E,654nm,0.2s						
KTH				IAML		10 32 53.5	
	comp=N,813nm,0.3s						
KTH					**Sn**	**10 33 05.9**	**-1.0**
TRF	**Thorofare Moun**	**0.41**	**44**		**Pn**	**10 32 52.4**	**0.0**
TRF	**Thorofare Moun**	**0.41**	**44**	IAML		10 32 53.0	
	comp=N,2μm,0.2s						
TRF				IAML		10 32 53.1	
	comp=E,2μm,0.3s						
TRF					**Sn**	**10 33 06.9**	**-0.3**
TRF	**Thorofare Moun**	**0.41**	**44**	P	**Pn**	**10 32 52.4**	**0.0**
	baz=220,SNR=1000						
TRF				S	**Sn**	**10 33 06.6**	**-0.6**
	baz=220						
CAST	**Castle Rocks**	**0.58**	**297**		**Pn**	**10 32 53.0**	**0.0**
CAST	**Castle Rocks**	**0.58**	**297**	IAML		10 32 54.2	
	comp=E,145nm,0.3s						
CAST				IAML		10 33 04.5	
	comp=N,120nm,0.7s						
CAST					**Sn**	**10 33 07.4**	**-1.1**
CAST	**Castle Rocks**	**0.58**	**297**	P	**Pn**	**10 32 53.1**	**0.0**
	baz=116,SNR=199						
CAST				S	**Sn**	**10 33 07.4**	**-1.1**
	baz=116						
PPLA	**Purkeypile**	**0.63**	**246**		**Pn**	**10 32 53.9**	**+0.4**
PPLA					**Sn**	**10 33 08.9**	**-0.3**
PPLA	**Purkeypile**	**0.63**	**246**	P	**Pn**	**10 32 53.9**	**+0.4**
	baz=67,SNR=210						
PPLA				S	**Sn**	**10 33 08.8**	**-0.3**
	baz=67						
CUT	**Chulitna**	**0.82**	**158**		**Pn**	**10 32 54.6**	**-0.1**
CUT	**Chulitna**	**0.82**	**158**		**Sn**	**10 33 11.0**	**-0.3**
CUT				IAML		10 33 12.1	
	comp=E,8μm,0.5s						
CUT				IAML		10 33 14.6	
	comp=N,5μm,0.5s						
CUT	**Chulitna**	**0.82**	**158**	P	**Pn**	**10 32 54.6**	**-0.1**
	baz=340,SNR=251						
CUT				S	**Sn**	**10 33 11.2**	**-0.1**
	baz=340						
BPAW	**Bear Paw Mtn.**	**0.95**	**359**		**Pn**	**10 32 55.6**	**-0.1**
BPAW					**Sn**	**10 33 12.1**	**-1.3**
BPAW	**Bear Paw Mtn.**	**0.95**	**359**	P	**Pn**	**10 32 55.6**	**-0.1**
	baz=176,SNR=88						
BPAW				S	**Sn**	**10 33 12.1**	**-1.3**
	baz=176						
CHUM	**Lake Minchumin**	**0.95**	**320**		**Pn**	**10 32 56.1**	**+0.3**
CHUM					**Sn**	**10 33 12.6**	**-0.7**
CHUM	**Lake Minchumin**	**0.95**	**320**	P	**Pn**	**10 32 56.1**	**+0.3**
	baz=138,SNR=274						
CHUM				S	**Sn**	**10 33 12.8**	**-0.5**
	baz=138						
RND	**Reindeer**	**0.97**	**74**		**Pn**	**10 32 55.8**	**-0.3**
RND					**Sn**	**10 33 13.2**	**-0.6**
RND				IAML		10 33 15.0	
	comp=E,2μm,0.4s						
WAT7	**Susitna Watana**	**1.01**	**108**		**Pn**	**10 32 55.9**	**-0.5**
WAT7					**Sn**	**10 33 13.4**	**-1.0**
MCK	**McKinley**	**1.07**	**56**		**Pn**	**10 32 56.9**	**0.0**
MCK				IAML		10 33 15.9	
	comp=E,2μm,0.4s						
MCK				IAML		10 33 16.3	
	comp=N,3μm,0.5s						
MCK	**McKinley**	**1.07**	**56**	P	**Pn**	**10 32 56.8**	**0.0**
	baz=236,SNR=356						
MCK				S	**Sn**	**10 33 14.0**	**-1.2**
	baz=236						
BWN	**Browne**	**1.21**	**32**		**Pn**	**10 32 58.8**	**+0.6**
BWN					**Sn**	**10 33 17.6**	**0.0**
BWN				IAML		10 33 18.2	
	comp=N,1μm,0.9s						
SKT	**Skwentna**	**1.21**	**193**		**Pn**	**10 32 58.4**	**0.0**
SKT				IAML		10 33 19.0	
	comp=E,3μm,0.4s						
SKT				IAML		10 33 19.3	
	comp=N,3μm,0.5s						
SKT	**Skwentna**	**1.21**	**193**	P	**Pn**	**10 32 58.3**	**0.0**
	baz=15						
SKT				S	**Sn**	**10 33 17.3**	**-0.4**
	baz=15						
K20K	**Telida**	**1.43**	**279**		**Pn**	**10 33 00.8**	**+0.2**
K20K				IAML		10 33 21.9	
	comp=E,946nm,0.8s						
K20K	**Telida**	**1.43**	**279**	P	**Pn**	**10 33 00.8**	**+0.2**
	baz=97						
K20K				S	**Sn**	**10 33 20.9**	**-0.9**
	baz=97						
M22K	**Willow**	**1.46**	**165**		**Pn**	**10 33 00.8**	**0.0**
L20K	**Farewell, AK**	**1.52**	**245**		**Pn**	**10 33 01.6**	**+0.2**
L20K	**Farewell, AK**	**1.52**	**245**	P	**Pn**	**10 33 01.7**	**+0.2**
	baz=63						
L20K				S	**Sn**	**10 33 22.8**	**-0.6**
	baz=63						
WAT6	**Susitna Watana**	**1.57**	**110**		**Pn**	**10 33 01.5**	**-0.8**
WAT6					**Sn**	**10 33 22.6**	**-2.2**
WAT6	**Susitna Watana**	**1.57**	**110**	P	**Pn**	**10 33 01.6**	**-0.7**
	baz=293,SNR=124						
WAT6				S	**Sn**	**10 33 23.3**	**-1.5**
	baz=293						
DHY	**Denali Highway**	**1.62**	**91**		**Pn**	**10 33 02.7**	**0.0**
DHY	**Denali Highway**	**1.62**	**91**	P	**Pn**	**10 33 02.5**	**-0.3**
	baz=274,SNR=262						
DHY				S	**Sn**	**10 33 25.0**	**-0.7**
	baz=274						
NEA2	**Nenana**	**1.66**	**29**		**Pn**	**10 33 02.6**	**-0.4**
NEA2				IAML		10 33 24.6	
	comp=E,549nm,0.6s						
NEA2	**Nenana**	**1.66**	**29**	P	**Pn**	**10 33 02.6**	**-0.4**
	baz=209,SNR=154						
NEA2				S	**Sn**	**10 33 24.2**	**-2.0**
	baz=209						
GHO	**Glory Hole Cre**	**1.68**	**145**		**Pn**	**10 33 03.2**	**-0.2**
GHO					**Sn**	**10 33 26.1**	**-0.6**
GHO				IAML		10 33 33.6	
	comp=E,2μm,0.4s						
SUA	**Susitna One**	**1.70**	**177**		**Pn**	**10 33 03.7**	**0.0**
SUA				IAML		10 33 31.6	
	comp=E,937nm,0.7s						
SUA				IAML		10 33 34.4	
	comp=N,810nm,0.7s						
SUA	**Susitna One**	**1.70**	**177**	P	**Pn**	**10 33 03.5**	**-0.2**
	baz=358,SNR=97						
SUA				S	**Sn**	**10 33 26.9**	**-0.4**
	baz=358						
J20K	**Nowinta River**	**1.76**	**307**		**Pn**	**10 33 04.5**	**+0.3**
J20K					**Sn**	**10 33 27.5**	**-0.7**
J20K				IAML		10 33 27.9	
	comp=E,397nm,0.7s						
J20K				IAML		10 33 28.8	
	comp=N,460nm,0.9s						
PMR	**Palmer**	**1.78**	**151**		**Pn**	**10 33 03.9**	**-0.5**
PMR				IAML		10 33 34.1	
	comp=E,1μm,0.5s						
PMR				IAML		10 33 35.5	
	comp=N,998nm,0.6s						
PMR	**Palmer**	**1.78**	**151**	P	**Pn**	**10 33 03.9**	**-0.5**
	baz=334,SNR=145						
PMR				S	**Sn**	**10 33 27.6**	**-1.1**
	baz=334						
SML	**Sawmill**	**1.82**	**137**		**Pn**	**10 33 04.3**	**-0.6**
SML				IAML		10 33 29.4	
	comp=E,1μm,0.4s						
SML				IAML		10 33 30.6	
	comp=N,2μm,0.4s						
SML	**Sawmill**	**1.82**	**137**	P	**Pn**	**10 33 04.3**	**-0.6**
	baz=320,SNR=46						
SML				S	**Sn**	**10 33 28.6**	**-0.9**
	baz=320						
WRH	**Wood River Hil**	**1.82**	**42**		**Pn**	**10 33 04.7**	**-0.3**
SPCG	**Spurr Capps Gl**	**1.94**	**196**		**Pn**	**10 33 06.7**	**+0.2**
SPCP	**Crater Peak Br**	**1.98**	**197**		**Pn**	**10 33 07.3**	**+0.3**
SPCP					**Sn**	**10 33 33.7**	**+0.5**
CCB	**Clear Creek Bu**	**2.04**	**41**		**Pn**	**10 33 07.1**	**-0.3**
SPU	**Mount Spurr**	**2.05**	**195**	Pn	**Pn**	**10 33 07.7**	**0.0**
L19K	**White Mountain**	**2.06**	**243**		**Pn**	**10 33 07.9**	**+0.1**
I21K	**Tanana**	**2.08**	**348**		**Pn**	**10 33 08.1**	**+0.2**
I21K	**Tanana**	**2.08**	**348**	P	**Pn**	**10 33 08.1**	**+0.2**
	baz=166						
I21K				S	**Sn**	**10 33 33.8**	**-1.2**
	baz=166						
KNK	**Knik Glacier**	**2.10**	**145**		**Pn**	**10 33 07.8**	**-0.5**
KNK				Sn	**Sn**	**10 33 34.4**	**-1.0**
KNK	**Knik Glacier**	**2.10**	**145**	P	**Pn**	**10 33 07.8**	**-0.5**
	baz=328,SNR=124						
KNK				S	**Sn**	**10 33 34.6**	**-0.9**
	baz=328						
I23K	**Minto, Yukon-K**	**2.11**	**18**		**Pn**	**10 33 08.4**	**+0.1**
I23K				IAML		10 33 35.6	
	comp=N,474nm,0.8s						
I23K	**Minto, Yukon-K**	**2.11**	**18**	P	**Pn**	**10 33 08.4**	**+0.1**
	baz=199,SNR=189						
I23K				S	**Sn**	**10 33 34.2**	**-1.6**
	baz=199						
SCM	**Sheep Creek Mo**	**2.14**	**127**		**Pn**	**10 33 08.0**	**-0.8**
SCM				IAML		10 33 43.9	
	comp=E,1μm,0.7s						
SCM	**Sheep Creek Mo**	**2.14**	**127**	P	**Pn**	**10 33 07.8**	**-0.9**
	baz=310,SNR=40						
SCM				S	**Sn**	**10 33 35.7**	**-0.7**
	baz=310						
RC01	**Rabbit Creek A**	**2.15**	**164**		**Pn**	**10 33 08.5**	**-0.4**
RC01				IAML		10 33 37.0	
	comp=N,1μm,0.3s						
RC01				IAML		10 33 37.2	
	comp=E,1μm,0.2s						
RC01	**Rabbit Creek A**	**2.15**	**164**	P	**Pn**	**10 33 08.6**	**-0.3**
	baz=346,SNR=43						
RC01				S	**Sn**	**10 33 35.7**	**-0.9**
	baz=346						
MDM	**Murphy Dome**	**2.16**	**32**		**Pn**	**10 33 08.9**	**-0.1**
HDA	**Harding Lake**	**2.17**	**53**		**Pn**	**10 33 08.6**	**-0.5**
HDA				IAML		10 33 37.5	
	comp=N,491nm,0.7s						
HDA				IAML		10 33 39.9	
	comp=E,538nm,0.3s						
HDA	**Harding Lake**	**2.17**	**53**	P	**Pn**	**10 33 08.6**	**-0.5**
	baz=236,SNR=122						
HDA				S	**Sn**	**10 33 35.7**	**-1.3**
	baz=236						
HDA				S	**Sn**	**10 33 35.7**	**-1.3**
	baz=236						
TCOL	**CIGO, UAF Yank**	**2.19**	**37**		**Pn**	**10 33 09.2**	**-0.1**
TCOL				IAML		10 33 38.3	
	comp=N,768nm,0.6s						
TCOL				IAML		10 33 39.5	
	comp=E,878nm,0.6s						
TCOL	**CIGO, UAF Yank**	**2.19**	**37**	P	**Pn**	**10 33 09.1**	**-0.1**
	baz=218,SNR=70						
TCOL				S	**Sn**	**10 33 36.0**	**-1.4**
	baz=218						
COLA	**College**	**2.19**	**37**		**Pn**	**10 33 09.0**	**-0.3**
COLA	**College**	**2.19**	**37**	IAML		10 33 38.3	
	comp=E,826nm,0.6s						
COLA				IAML		10 33 39.5	
	comp=E,977nm,0.6s						
COLA	**College**	**2.19**	**37**	P	**Pn**	**10 33 09.2**	**-0.1**
	baz=218						
COLA				S	**Sn**	**10 33 35.7**	**-1.7**
	baz=218						
PS08	**TAPS Pump Stn8**	**2.29**	**51**		**Pn**	**10 33 10.1**	**-0.4**
TTA	**Tatalina**	**2.33**	**267**		**Pn**	**10 33 11.2**	**+0.1**
TTA	**Tatalina**	**2.33**	**267**	P	**Pn**	**10 33 11.2**	**+0.1**
	baz=82,SNR=289						
TT01	**Tatalina**	**2.33**	**266**		**Pn**	**10 33 11.1**	**0.0**
PS10	**TAPS Pump St10**	**2.35**	**81**		**Pn**	**10 33 11.8**	**+0.5**
IL31		**2.41**	**46**		**Pn**	**10 33 11.6**	**-0.4**
ILAR	**Eielson Array**	**2.41**	**46**	P	**Pn**	**10 33 11.2**	**-0.8**
	comp=E,49nm,0.3s,baz=227,slow=12,SNR=2115						
ILAR				S	**Sn**	**10 33 40.5**	**-1.8**
	comp=E,15nm,0.3s,baz=232,slow=16,SNR=5.9						
ILAR	**Eielson Array**	**2.41**	**46**	Pn	**Pn**	**10 33 11.7**	**-0.4**
M24K	**Tolsona, Glenn**	**2.44**	**114**		**Pn**	**10 33 12.4**	**-0.1**
M24K	**Tolsona, Glenn**	**2.44**	**114**	P	**Pn**	**10 33 12.4**	**-0.1**
	baz=298,SNR=139						
PS07	**TAPS Pump Stn7**	**2.45**	**27**		**Pn**	**10 33 12.4**	**-0.2**
PAX	**Paxson**	**2.50**	**92**		**Pn**	**10 33 13.1**	**-0.2**
PAX	**Paxson**	**2.50**	**92**	P	**Pn**	**10 33 13.0**	**-0.2**
	baz=276,SNR=231						
POKR	**Poker Plat Res**	**2.50**	**36**		**Pn**	**10 33 13.2**	**+0.1**
POKR	**Poker Plat Res**	**2.50**	**36**	P	**Pn**	**10 33 13.1**	**0.0**
	baz=219,SNR=70						
PWL	**Port Wells**	**2.61**	**151**		**Pn**	**10 33 14.1**	**-0.6**
PWL				IAML		10 33 58.9	
	comp=E,955nm,0.8s						
PWL	**Port Wells**	**2.61**	**151**	P	**Pn**	**10 33 14.0**	**-0.6**
	baz=334,SNR=26						
H21K	**Melozitna Rive**	**2.64**	**343**		**Pn**	**10 33 15.0**	**+0.1**
H21K	**Melozitna Rive**	**2.64**	**343**	P	**Pn**	**10 33 15.0**	**+0.1**
	baz=160						
SLKM	**Skilak Lake**	**2.68**	**172**		**Pn**	**10 33 15.4**	**-0.2**
DFR	**Drift River**	**2.71**	**199**		**Pn**	**10 33 16.2**	**+0.3**
PS11	**TAPS Pump St11**	**2.75**	**111**		**Pn**	**10 33 16.4**	**+0.2**
PS06	**TAPS Pump Stn6**	**2.76**	**10**		**Pn**	**10 33 16.7**	**+0.3**
HARP	**HAARP**	**2.76**	**103**		**Pn**	**10 33 16.5**	**-0.1**
HARP	**HAARP**	**2.76**	**103**	P	**Pn**	**10 33 16.3**	**-0.2**
	baz=288,SNR=71						
NCT	**North Crescent**	**2.77**	**201**		**Pn**	**10 33 17.2**	**+0.5**
RIDG	**Independent Ri**	**2.80**	**75**		**Pn**	**10 33 16.9**	**-0.1**
RIDG				IAML		10 33 53.4	
	comp=E,440nm,0.7s						
RIDG				IAML		10 33 56.7	
	comp=N,744nm,0.7s						
RIDG	**Independent Ri**	**2.80**	**75**	P	**Pn**	**10 33 16.8**	**-0.1**
	baz=260,SNR=132						
RDWB	**Redoubt West**	**2.83**	**199**		**Pn**	**10 33 17.8**	**+0.3**
RSO	**Redoubt South**	**2.84**	**199**		**Pn**	**10 33 18.0**	**+0.3**
J25K	**Salcha River,**	**2.86**	**57**		**Pn**	**10 33 17.4**	**-0.4**
J25K				IAML		10 33 56.2	
	comp=N,364nm,0.6s						
J25K				IAML		10 33 56.4	
	comp=E,425nm,0.5s						
KLU	**Klutina**	**2.87**	**123**		**Pn**	**10 33 16.9**	**-1.1**
KLU				IAML		10 34 04.8	
	comp=E,693nm,0.5s						
KLU	**Klutina**	**2.87**	**123**	P	**Pn**	**10 33 16.8**	**-1.3**
	baz=308,SNR=75						
RED	**Redoubt Volcan**	**2.88**	**198**		**Pn**	**10 33 18.6**	**+0.4**
N19K	**Bonanza Creek**	**2.89**	**217**		**Pn**	**10 33 18.4**	**+0.2**
N19K	**Bonanza Creek**	**2.89**	**217**	P	**Pn**	**10 33 18.4**	**+0.2**
	baz=35						
GLI	**Glacier Island**	**2.92**	**140**		**Pn**	**10 33 17.5**	**-1.0**
GLI	**Glacier Island**	**2.92**	**140**	P	**Pn**	**10 33 17.5**	**-1.0**
	baz=324,SNR=12						
JPK	**Jack Peak**	**2.93**	**134**		**Pn**	**10 33 17.6**	**-1.1**
H24K	**Noodor Dome**	**3.00**	**25**		**Pn**	**10 33 19.0**	**-0.5**
H24K	**Noodor Dome**	**3.00**	**25**	P	**Pn**	**10 33 19.3**	**-0.2**
	baz=207						
SVW2	**Sparrevohn**	**3.01**	**229**		**Pn**	**10 33 19.6**	**-0.1**
GCSA	**Galena City Sc**	**3.07**	**304**		**Pn**	**10 33 20.8**	**+0.4**
GCSA	**Galena City Sc**	**3.07**	**304**	P	**Pn**	**10 33 20.8**	**+0.4**
	baz=118,SNR=36						
IM05	**Indian Mountai**	**3.08**	**338**		**Pn**	**10 33 20.6**	**+0.1**
IM03		**3.09**	**338**		**Pn**	**10 33 20.7**	**+0.1**
IMAR	**Indian Mountai**	**3.09**	**338**	Pn	**Pn**	**10 33 20.6**	**0.0**
DOT	**Dot Lake**	**3.13**	**78**		**Pn**	**10 33 20.6**	**-0.7**
SEW	**Seward**	**3.15**	**166**		**Pn**	**10 33 20.9**	**-0.5**
SEW	**Seward**	**3.15**	**166**	P	**Pn**	**10 33 20.8**	**-0.5**
	baz=348,SNR=9.3						
DIV	**Divide**	**3.17**	**128**		**Pn**	**10 33 20.1**	**-1.7**
O20K	**Slope Mountain**	**3.19**	**195**		**Pn**	**10 33 22.3**	**+0.2**
O20K	**Slope Mountain**	**3.19**	**195**	P	**Pn**	**10 33 22.3**	**+0.2**
	baz=15						
FID	**Port Fidalgo**	**3.20**	**137**		**Pn**	**10 33 21.1**	**-1.1**
SCRK	**Sand Creek**	**3.21**	**72**		**Pn**	**10 33 21.9**	**-0.6**
SCRK				IAML		10 34 04.1	
	comp=N,171nm,0.4s						
SCRK				IAML		10 34 04.4	
	comp=E,440nm,0.8s						
SCRK	**Sand Creek**	**3.21**	**72**	P	**Pn**	**10 33 21.7**	**-0.7**
	baz=258,SNR=301						
MENT	**Mentasta**	**3.29**	**91**		**Pn**	**10 33 23.1**	**-0.2**
MENT				IAML		10 34 09.8	
	comp=E,525nm,0.7s						
N25K	**Chitina, Valde**	**3.34**	**115**		**Pn**	**10 33 23.2**	**-0.7**
N25K				IAML		10 34 04.4	
	comp=E,281nm,0.5s						
N25K				IAML		10 34 04.8	
	comp=N,434nm,0.8s						
N25K	**Chitina, Valde**	**3.34**	**115**	P	**Pn**	**10 33 23.3**	**-0.7**
	baz=301,SNR=39						
PRP	**Porcupine Dome**	**3.34**	**42**		**Pn**	**10 33 23.4**	**-0.6**
PRP				IAML		10 34 06.0	
	comp=N,156nm,0.6s						
PRP	**Porcupine Dome**	**3.34**	**42**	P	**Pn**	**10 33 23.6**	**-0.5**
	baz=227,SNR=41						
O19K	**Port Alsworth**	**3.38**	**210**		**Pn**	**10 33 24.8**	**+0.3**
O19K				IAML		10 34 07.4	
	comp=N,214nm,0.4s						
O19K				IAML		10 34 08.8	
	comp=E,317nm,0.4s						
O19K	**Port Alsworth**	**3.38**	**210**	P	**Pn**	**10 33 24.5**	**+0.1**
	baz=28,SNR=25						
BRLK	**Bradley Lake**	**3.41**	**180**		**Pn**	**10 33 24.9**	**0.0**
BRLK				IAML		10 34 06.4	
	comp=N,454nm,0.1s						
BRLK				IAML		10 34 06.7	
	comp=E,352nm,0.1s						
BRSE	**Bradley Lake S**	**3.43**	**178**		**Pn**	**10 33 24.8**	**-0.3**
BRSE	**Bradley Lake S**	**3.43**	**178**	P	**Pn**	**10 33 24.8**	**-0.3**
	baz=359						
L26K	**Log Cabin Wild**	**3.45**	**89**		**Pn**	**10 33 24.9**	**-0.5**
L26K	**Log Cabin Wild**	**3.45**	**89**	P	**Pn**	**10 33 24.9**	**-0.5**
	baz=275,SNR=61						
HOM	**Homer**	**3.53**	**186**	Pn	**Pn**	**10 33 27.1**	**+0.7**
HOM	**Homer**	**3.53**	**186**	P	**Pn**	**10 33 26.7**	**+0.3**
	baz=5.9						
J26L	**Joseph Creek**	**3.53**	**64**		**Pn**	**10 33 26.5**	**0.0**
J26L				IAML		10 34 10.4	
	comp=E,393nm,0.6s						
J26L				IAML		10 34 11.1	
	comp=N,361nm,0.5s						
EYAK	**Cordova Ski Ar**	**3.59**	**135**		**Pn**	**10 33 26.5**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.59**	**135**	P	**Pn**	**10 33 26.5**	**-0.7**
	baz=319						
CNPM	**China Poot**	**3.65**	**182**		**Pn**	**10 33 27.9**	**-0.1**
PS05	**TAPS Pump Stn5**	**3.67**	**2**		**Pn**	**10 33 28.8**	**+0.6**
OPT	**Oil Point**	**3.69**	**198**		**Pn**	**10 33 29.4**	**+0.9**
BMRM	**Bremner River**	**3.70**	**124**		**Pn**	**10 33 27.2**	**-1.5**
BMRM				IAML		10 34 33.9	
	comp=E,363nm,0.6s						
BMRM	**Bremner River**	**3.70**	**124**	P	**Pn**	**10 33 27.2**	**-1.5**
	baz=309,SNR=8.2						
M26K	**Nabesna, AK**	**3.73**	**98**		**Pn**	**10 33 28.4**	**-0.7**
M26K				IAML		10 34 34.4	
	comp=E,211nm,0.6s						
M26K				IAML		10 34 34.7	
	com

	comp=N,104nm,1.0s						
M27K				IAML		10 34 51.5	
	comp=E,71nm,0.9s						
M27K	**Edge Creek, AK**	**4.24**	**97**	P	**Pn**	**10 33 35.6**	**-0.2**
	baz=285						
HMT	**Hamilton**	**4.25**	**129**		**Pn**	**10 33 35.1**	**-0.8**
P18K	**Big Mountain,**	**4.31**	**211**		**Pn**	**10 33 36.6**	**-0.1**
P18K	**Big Mountain,**	**4.31**	**211**	P	**Pn**	**10 33 36.8**	**+0.1**
	baz=27						
Q23K	**Middleton Isla**	**4.34**	**147**	P	**Pn**	**10 33 36.8**	**-0.3**
	baz=332						
BERG	**Berg Lake**	**4.41**	**126**		**Pn**	**10 33 37.1**	**-1.0**
PTPK	**Patty Peak**	**4.43**	**113**		**Pn**	**10 33 37.9**	**-0.6**
Q19K	**Cape Douglas,**	**4.44**	**198**		**Pn**	**10 33 38.1**	**-0.4**
Q19K				IAML		10 34 57.0	
	comp=N,168nm,0.8s						
Q19K	**Cape Douglas,**	**4.44**	**198**	P	**Pn**	**10 33 38.4**	**-0.1**
	baz=17						
KAIM	**Kayak Island**	**4.50**	**133**	P	**Pn**	**10 33 38.6**	**-0.6**
	baz=319						
TGL	**Tana Glacier**	**4.52**	**119**		**Pn**	**10 33 38.5**	**-1.0**
KHIT	**Khitrov Hills**	**4.55**	**123**		**Pn**	**10 33 38.8**	**-1.2**
BALM	**Baldy**	**4.56**	**114**		**Pn**	**10 33 39.1**	**-1.0**
EGAK	**Eagle**	**4.60**	**65**		**Pn**	**10 33 39.8**	**-0.8**
EGAK				IAML		10 34 49.2	
	comp=N,118nm,0.9s						
EGAK				IAML		10 34 59.6	
	comp=N,102nm,0.7s						
EGAK	**Eagle**	**4.60**	**65**	P	**Pn**	**10 33 39.8**	**-0.8**
	baz=253,SNR=54						
KIAG	**Kiagna River**	**4.62**	**115**		**Pn**	**10 33 39.7**	**-1.2**
BVCY	**Beaver Creek**	**4.69**	**95**		**Pn**	**10 33 41.0**	**-0.7**
BVCY	**Beaver Creek**	**4.69**	**95**	P	**Pn**	**10 33 40.9**	**-0.8**
	baz=284,SNR=21						
WAX	**Waxell Ridge**	**4.70**	**122**		**Pn**	**10 33 41.0**	**-0.9**
BGLC	**Bering Glacier**	**4.75**	**126**	P	**Pn**	**10 33 42.6**	**+0.1**
	baz=313						
ISLE	**Juniper Island**	**4.81**	**118**		**Pn**	**10 33 41.9**	**-1.5**
ISLE				IAML		10 35 03.0	
	comp=E,153nm,0.5s						
BARN	**Barnard Glacie**	**4.84**	**112**		**Pn**	**10 33 43.8**	**0.0**
BARN				IAML		10 35 02.3	
	comp=N,77nm,0.6s						
BARN				IAML		10 35 06.5	
	comp=E,78nm,0.7s						
SNH	**Sunshine Point**	**4.88**	**124**	Pn	**Pn**	**10 33 44.1**	**-0.1**
YUK2	**White River**	**4.88**	**102**		**Pn**	**10 33 44.2**	**-0.1**
GRNC	**Granite Creek**	**4.97**	**115**		**Pn**	**10 33 44.4**	**-1.3**
GRNC				IAML		10 35 04.3	
	comp=E,74nm,0.6s						
GRNC				IAML		10 35 05.6	
	comp=N,120nm,0.6s						
BAGL	**Bagley Icefiel**	**4.97**	**119**		**Pn**	**10 33 44.7**	**-0.7**
CTG	**Chitina Glacier**	**5.02**	**112**	P	**Pn**	**10 33 45.8**	**-0.5**
	baz=300,SNR=9.8						
CTGM	**Chitina Glacie**	**5.02**	**112**		**Pn**	**10 33 45.9**	**-0.4**
CTGM				IAML		10 34 46.2	
	comp=E,39nm,0.6s						
CTGM				IAML		10 35 14.4	
	comp=N,51nm,1.4s						
BM03	**Burnt Mountain**	**5.03**	**29**		**Pn**	**10 33 46.2**	**-0.1**
BMAR	**Burnt Mountain**	**5.05**	**29**		**Pn**	**10 33 46.2**	**-0.2**
YUK3	**Moose Creek**	**5.05**	**101**		**Pn**	**10 33 46.7**	**-0.1**
YUK3	**Moose Creek**	**5.05**	**101**	P	**Pn**	**10 33 46.7**	**-0.1**
	baz=290,SNR=42						
BM01	**Burnt Mountain**	**5.08**	**29**		**Pn**	**10 33 46.8**	**-0.1**
YAH	**Yahtse**	**5.19**	**119**		**Pn**	**10 33 47.4**	**-1.1**
YAH				IAML		10 35 10.5	
	comp=N,104nm,0.7s						
YAH				IAML		10 35 13.3	
	comp=E,90nm,1.0s						
MESA	**MESA**	**5.22**	**121**		**Pn**	**10 33 48.1**	**-0.8**
MESA	**MESA**	**5.22**	**121**	P	**Pn**	**10 33 48.1**	**-0.8**
	baz=309,SNR=5.3						
DAWY	**Dawson**	**5.23**	**75**	Pn	**Pn**	**10 33 48.6**	**-0.4**
DAWY				IAML		10 35 04.5	
	comp=E,64nm,0.9s						
DAWY				IAML		10 35 08.9	
	comp=N,72nm,0.6s						
DAWY	**Dawson**	**5.23**	**75**	P	**Pn**	**10 33 48.3**	**-0.6**
	baz=265,SNR=273						
LOGN	**Logan Glacier**	**5.23**	**112**		**Pn**	**10 33 48.6**	**-0.5**
LOGN				IAML		10 35 12.5	
	comp=E,54nm,0.6s						
LOGN				IAML		10 35 13.5	
	comp=N,56nm,0.7s						
TABL	**Table Mountain**	**5.38**	**116**		**Pn**	**10 33 50.1**	**-1.1**
TABL				IAML		10 35 16.7	
	comp=N,92nm,0.8s						
TABL				IAML		10 36 32.4	
	comp=E,54nm,0.6s						
KDAK	**Kodiak Island**	**5.46**	**189**	P	**Pn**	**10 33 49.8**	**-2.1**
	comp=E,3.9nm,0.3s,baz=60,slow=7.0,SNR=69						
KDAK				S	**Sn**	**10 34 48.7**	**-5.0**
	comp=E,9.3nm,0.3s,baz=143,slow=22,SNR=19						
KDAK	**Kodiak Island**	**5.46**	**189**		**Pn**	**10 33 51.2**	**-0.7**
KDAK	**Kodiak Island**	**5.46**	**189**	P	**Pn**	**10 33 50.9**	**-1.0**
	baz=8.3						
CHX	**Chaix Hills**	**5.62**	**119**		**Pn**	**10 33 53.5**	**-0.7**
SAMH	**Samovar Hills**	**5.71**	**118**		**Pn**	**10 33 55.5**	**+0.1**
J29M	**Klondike Camp**	**5.78**	**71**		**Pn**	**10 33 56.0**	**-0.3**
J29M	**Klondike Camp**	**5.78**	**71**	P	**Pn**	**10 33 55.9**	**-0.4**
	baz=262						
I29M	**Ogilvie Camp,**	**5.93**	**63**		**Pn**	**10 33 57.3**	**-1.0**
I29M	**Ogilvie Camp,**	**5.93**	**63**	P	**Pn**	**10 33 57.0**	**-1.2**
	baz=254,SNR=64						
PCA	**Pinnacle**	**5.94**	**116**		**Pn**	**10 33 57.8**	**-0.8**
PINM	**Pinnacle**	**5.95**	**116**	P	**Pn**	**10 33 57.8**	**-0.8**
	baz=306,SNR=20						
OHAK	**Old Harbor**	**6.07**	**192**	Pn	**Pn**	**10 33 58.1**	**-2.0**
OHAK	**Old Harbor**	**6.07**	**192**	P	**Pn**	**10 33 58.3**	**-1.8**
	baz=10						
BCPM	**Bancas Point**	**6.28**	**116**		**Pn**	**10 34 02.5**	**-0.5**
ANM	**Nome**	**6.53**	**289**	Pn	**Pn**	**10 34 07.8**	**+1.5**
ANM	**Nome**	**6.53**	**289**	P	**Pn**	**10 34 05.8**	**-0.5**
	baz=96,SNR=11						
PNL	**Peninsula**	**6.55**	**117**		**Pn**	**10 34 05.7**	**-0.8**
PNL	**Peninsula**	**6.55**	**117**	P	**Pn**	**10 34 05.4**	**-1.1**
	baz=307						
MAYO	**Mayo, Yukon**	**6.78**	**80**	P	**Pn**	**10 34 08.0**	**-1.6**
	baz=273						
EPYK	**Eagle Plains**	**6.87**	**56**		**Pn**	**10 34 09.6**	**-1.3**
EPYK	**Eagle Plains**	**6.87**	**56**	P	**Pn**	**10 34 09.5**	**-1.4**
	baz=248,SNR=23						
RDOG	**Red Dog Mine**	**6.97**	**320**	P	Pn	10 34 24.1	+12
	baz=129						
N31M	**Braeburn, Yuko**	**7.25**	**97**		**Pn**	**10 34 16.8**	**+0.7**
N31M	**Braeburn, Yuko**	**7.25**	**97**	P	**Pn**	**10 34 16.1**	**+0.1**
	baz=290						
M31M	**Drury Creek, Y**	**7.67**	**90**		**Pn**	**10 34 21.3**	**-0.3**
M31M	**Drury Creek, Y**	**7.67**	**90**	P	**Pn**	**10 34 20.9**	**-0.7**
	baz=284						
TNA	**Tin City**	**7.75**	**296**	P	**Pn**	**10 34 22.8**	**+0.2**
	baz=100,SNR=9.6						
CHGN	**Chignik**	**7.84**	**212**	Pn	**Pn**	**10 34 22.8**	**-1.1**
WHY	**Whitehorse**	**7.98**	**101**	Pn	**Pn**	**10 34 25.9**	**+0.1**
WHY	**Whitehorse**	**7.98**	**101**	P	**Pn**	**10 34 25.2**	**-0.6**
	baz=295						
FARO	**Faro, Yukon**	**8.14**	**89**	P	**Pn**	**10 34 27.8**	**-0.1**
	baz=284						
SKAG	**Skagway**	**8.37**	**109**	Pn	**Pn**	**10 34 30.5**	**-0.4**
SKAG	**Skagway**	**8.37**	**109**	P	**Pn**	**10 34 30.2**	**-0.7**
	baz=303						
INK	**Inuvik**	**8.81**	**47**	P	**Pn**	**10 34 35.6**	**-1.2**
	comp=E,0.4nm,0.3s,baz=249,slow=12,SNR=14						
INK				S	**Sn**	**10 36 13.7**	**-0.5**
	comp=E,0.2nm,0.3s,baz=206,slow=8.7,SNR=3.6						
INK	**Inuvik**	**8.81**	**47**		**Pn**	**10 34 35.8**	**-1.0**
INK	**Inuvik**	**8.81**	**47**	P	**Pn**	**10 34 35.7**	**-1.0**
	baz=242						
BESE	**Bessie Mountai**	**9.07**	**113**		**Pn**	**10 34 39.4**	**-1.1**
P33M	**Teslin, Yukon**	**9.09**	**101**	P	**Pn**	**10 34 40.2**	**-0.6**
	baz=297						
JIS	**Juneau Island**	**9.46**	**114**		**Pn**	**10 34 44.3**	**-1.2**
SIT	**Sitka**	**9.89**	**121**	Pn	**Pn**	**10 34 51.4**	**+0.1**
SIT	**Sitka**	**9.89**	**121**	P	**Pn**	**10 34 50.9**	**-0.4**
	baz=315						
DLBC	**Dease Lake**	**11.23**	**105**	P	**Pn**	**10 35 08.6**	**-0.5**
	comp=E,0.2nm,0.3s,baz=289,slow=12,SNR=9.1						
DLBC	**Dease Lake**	**11.23**	**105**	Pn	**Pn**	**10 35 10.0**	**+0.8**
WRAK	**Wrangell Islan**	**11.51**	**117**	Pn	**Pn**	**10 35 14.2**	**+1.4**
WRAK	**Wrangell Islan**	**11.51**	**117**	P	**Pn**	**10 35 12.4**	**-0.4**
	baz=314						
C36M	**Paulatuk**	**12.38**	**48**	P	**Pn**	**10 35 20.3**	**-3.7**
	baz=253						
A36M	**Sachs Harbour**	**13.07**	**37**		**Pn**	**10 35 31.3**	**-1.6**
A36M	**Sachs Harbour**	**13.07**	**37**	P	**Pn**	**10 35 30.9**	**-2.1**
	baz=240,SNR=18						
YKA	**Yellowknife Ar**	**16.47**	**76**	P	**Pn**	**10 36 14.8**	**-0.8**
	comp=E,0.7nm,0.3s,baz=284,slow=9.4,SNR=38						
EDM	**Edmonton**	**21.84**	**100**	P	**P**	**10 37 15.0**	**+1.0**
RES	**Resolute Bay**	**22.12**	**36**	P	**P**	**10 37 17.2**	**+0.6**
	comp=E,0.7nm,0.5s,baz=243,slow=14,SNR=8.0						
RES	**Resolute Bay**	**22.12**	**36**	P	**P**	**10 37 17.3**	**+0.6**
LTY	**Liberty**	**23.16**	**119**	P	**P**	**10 37 28.5**	**+1.6**
LTY				IAmb	IAmb	10 37 56.8	
	comp=Z,10nm,1.4s						
WALA	**Waterton Lakes**	**24.56**	**108**	P	**P**	**10 37 40.9**	**+1.2**
WALA				IAmb	IAmb	10 37 42.0	
	comp=Z,11nm,1.4s						
SEY	**Seymchan**	**24.99**	**295**	P	**P**	**10 37 42.8**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=64,slow=23,SNR=8.9						
MSO	**Missoula**	**26.27**	**111**	P	**P**	**10 37 56.4**	**+1.2**
MSO				IAmb	IAmb	10 37 58.4	
	comp=Z,1.6nm,0.8s						
MSO	**Missoula**	**26.27**	**111**	P	**P**	**10 37 56.0**	**+0.8**
	baz=322						
PLID	**Pearl Lake**	**26.81**	**116**	P	**P**	**10 38 01.1**	**+0.9**
YBH	**Yreka Blue Hor**	**27.09**	**129**	P	**P**	**10 38 04.5**	**+2.0**
	comp=Z,1.6nm,0.9s,baz=351,slow=8.8,SNR=1.8						
FCC	**Fort Churchill**	**27.15**	**73**	P	**P**	**10 38 03.4**	**+0.7**
FCC				IAmb	IAmb	10 38 26.6	
	comp=Z,4.2nm,1.4s						
EGMT	**Eagleton**	**27.16**	**104**	P	**P**	**10 38 04.4**	**+1.4**
EGMT				IAmb	IAmb	10 38 05.0	
	comp=Z,12nm,1.5s						
EGMT	**Eagleton**	**27.16**	**104**	P	**P**	**10 38 03.8**	**+0.8**
	baz=319						
PETK	**Petropavlovsk-**	**28.14**	**273**	P	**P**	**10 38 10.2**	**-1.4**
	comp=Z,6.8nm,1.0s,baz=80,slow=16,SNR=3.0						
PDAR	**Pinedale Array**	**31.39**	**111**	P	**P**	**10 38 42.5**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=328,slow=5.3,SNR=7.2						
PDAR	**Pinedale Array**	**31.39**	**111**	P	**P**	**10 38 42.1**	**+1.4**
NVAR	**Mina Array Bea**	**31.59**	**126**	P	**P**	**10 38 44.2**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=320,slow=9.9,SNR=9.5						
NV11	**Mina Array Sit**	**31.64**	**126**	P	**P**	**10 38 44.5**	**+1.7**
RSSD	**Black Hills**	**32.70**	**103**	P	**P**	**10 38 53.6**	**+1.6**
SRU	**San Rafael Swe**	**34.03**	**116**	P	**P**	**10 39 06.2**	**+2.5**
SRU				IAmb	IAmb	10 39 06.5	
	comp=Z,2.3nm,1.0s						
CCUT	**Cedar City**	**34.24**	**121**	P	**P**	**10 39 07.8**	**+2.3**
CCUT				IAmb	IAmb	10 39 08.6	
	comp=Z,1.1nm,0.7s						
G40A	**Rib Lake**	**38.04**	**89**	P	**P**	**10 39 39.0**	**+1.5**
TXAR	**Lajitas Array**	**45.31**	**116**	P	**P**	**10 40 38.9**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=329,slow=7.3,SNR=6.4						
TXAR	**Lajitas Array**	**45.31**	**116**	P	**P**	**10 40 38.4**	**+1.5**
ARCES	**ARCESS Array B**	**47.56**	**2**	P	**P**	**10 40 52.7**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=8.9,slow=8.6,SNR=6.4						
KSRS	**Korea Array**	**53.47**	**282**	P	**P**	**10 41 37.6**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=16,slow=7.4,SNR=2.8						
SONM	**Songino Array**	**53.75**	**305**	P	**P**	**10 41 40.9**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=46,slow=10,SNR=3.9						
ZALV	**Zalesovo Beam**	**55.41**	**324**	P	**P**	**10 41 52.3**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=29,slow=7.3,SNR=6.8						
FINES	**FINESS Array B**	**55.70**	**2**	P	**P**	**10 41 54.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=354,slow=9.8,SNR=1.7						
ARU	**Arti**	**58.58**	**341**	P	**P**	**10 42 14.2**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=348,slow=9.6,SNR=3.7						
BVAR	**Borovoye Array**	**59.72**	**332**	P	**P**	**10 42 22.4**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=37,slow=12,SNR=10						
KURBB	**Kurchatov Arra**	**60.07**	**326**	P	**P**	**10 42 24.3**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=32,slow=6.7,SNR=4.5						
MKAR	**Makanchi Array**	**62.57**	**322**	P	**P**	**10 42 40.9**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=42,slow=6.9,SNR=25						
MKAR	**Makanchi Array**	**62.57**	**322**	P	**P**	**10 42 41.6**	**-0.1**
MAKZ	**Makanchi**	**62.64**	**322**	P	**P**	**10 42 42.2**	**-0.1**
BELG	**Belogornoye**	**63.87**	**347**	P	**P**	**10 42 49.8**	**-0.3**
	comp=Z,9.1nm,0.7s,baz=325,slow=3.9,SNR=6.2						
AKTO	**Aktyubinsk**	**64.47**	**340**	P	**P**	**10 42 54.2**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=351,slow=4.3,SNR=5.6						
AKASG	**Malin Array Be**	**66.48**	**360**	P	**P**	**10 43 06.9**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=3.0,slow=6.3,SNR=8.8						
AKASG	**Malin Array Be**	**66.48**	**360**	P	**P**	**10 43 06.8**	**-0.2**
AKASG				IAmb	IAmb	10 43 07.9	
	comp=Z,1.4nm,1.3s						
AKBB	**Malin Array Si**	**66.48**	**360**	P	**P**	**10 43 07.1**	**+0.1**
AKBB				IAmb	IAmb	10 43 17.8	
	comp=Z,7.3nm,1.5s						
CMAR	**Chiang Mai Arr**	**82.41**	**296**	P	**P**	**10 44 39.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=17,slow=5.4,SNR=5.4						
CMAR	**Chiang Mai Arr**	**82.41**	**296**	P	**P**	**10 44 39.6**	**+0.1**

*ISK **20** 10:34:17.9, 38°.83N×37°.83E, h1km, ML3.3/31*
*DDA **20** 10:34:18.6±0.0, 38°.82N×37°.85E, h7km±2km, ML3.5*
ISC 20 10:34:18.4±1.1, 38°.83N±0°.02×37°.91E±0°.02, h3km±10km, n49, σ1°18/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.42**	**232**	PG	**Pg**	**10 34 26.3**	**-0.3**
DARE				SG	**Sg**	**10 34 32.5**	**+0.4**
ARPR	**Arapgir-MALATY**	**0.42**	**51**	PG	**Pb**	**10 34 28.2**	**-0.5**
ARPR				SG	**Sb**	**10 34 35.8**	**+0.3**
CUGUR	**Gurin_SVAS**	**0.51**	**258**	P	**Pg**	**10 34 28.0**	**-0.2**
CUGUR				*i* AML	AML	10 34 35.0	
	comp=N,1μm,0.4s						
CUGUR				S	**Sg**	**10 34 35.2**	**+0.3**
CUGUR				*i* AML	AML	10 34 36.0	
	comp=E,1μm,0.4s						
AKCD	**Akcadag**	**0.53**	**179**	P	**Pg**	**10 34 29.2**	**+0.5**
AKCD				S	**Sb**	**10 34 37.6**	**-1.0**
AKCD				*i* AML	AML	10 34 39.0	
	comp=E,6μm,0.2s						
AKCD				*i* AML	AML	10 34 39.0	
	comp=N,7μm,0.2s						
CUKAN	**kangal_SIVAS**	**0.60**	**325**	P	**Pg**	**10 34 29.9**	**0.0**
CUKAN				S	**Sg**	**10 34 37.7**	**0.0**
KEMA	**Kemaliye**	**0.63**	**46**	P	**Pb**	**10 34 31.5**	**-0.7**
KEMA				S	**Sn**	**10 34 41.7**	**-3.3**
ELBS	**KAHRAMANMARAS**	**0.79**	**231**	P	**Pg**	**10 34 33.0**	**-0.6**
ELBS				S	**Sg**	**10 34 44.4**	**+0.5**
ELBS				*i* AML	AML	10 34 45.0	
	comp=E,3μm,0.7s						
ELBS				*i* AML	AML	10 34 45.0	
	comp=N,2μm,0.5s						
ILIC	**ilic-Erzincan**	**0.81**	**39**	PG	**Pn**	**10 34 35.2**	**-1.6**
ELZG	**Elazig**	**0.90**	**111**	P	**Pb**	**10 34 36.3**	**-0.5**
ELZG				S	**Sb**	**10 34 49.2**	**-0.1**
ELZG				*i* AML	AML	10 34 52.0	
	comp=N,2μm,0.3s						
ELZG				*i* AML	AML	10 34 53.0	
	comp=E,1μm,0.3s						
CUAYA	**Sivas-Altinyay**	**1.01**	**296**	P	**Pg**	**10 34 36.6**	**-1.1**
CUAYA				S	**Sg**	**10 34 51.0**	**+0.3**
CUZAR	**Zara_SIVAS**	**1.06**	**354**	P	**Pn**	**10 34 39.0**	**-1.4**
CUZAR				S	**Sn**	**10 34 56.0**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.18**	**112**	PN	**Pn**	**10 34 41.0**	**-1.0**
SCER	**sogukcermik**	**1.20**	**330**	P	**Pg**	**10 34 40.5**	**-0.9**
SCER				S	**Sn**	**10 34 58.3**	**-0.7**
SCER				*i* AML	AML	10 35 02.0	
	comp=N,655nm,0.7s						
SARI	**SarD1z-Kayseri**	**1.24**	**251**	PN	**Pn**	**10 34 41.6**	**-1.3**
REFA	**Refahiye_ERZN**	**1.26**	**31**	P	**Pn**	**10 34 43.2**	**+0.1**
REFA				S	**Sn**	**10 35 03.3**	**+2.6**
SVSK	**Karacayir**	**1.30**	**327**	PN	**Pg**	**10 34 42.9**	**-0.4**
TNCL	**Tunceli-Merkez**	**1.30**	**77**	P	**Pg**	**10 34 43.6**	**+0.2**
TNCL				S	**Sn**	**10 35 02.2**	**+0.6**
TNCL				*i* AML	AML	10 35 05.0	
	comp=E,675nm,0.4s						
TNCL				*i* AML	AML	10 35 10.0	
	comp=N,691nm,0.7s						
SUSE	**Susehri**	**1.40**	**9**	P	**Pg**	**10 34 47.3**	**+2.1**
SUSE				S	**Sn**	**10 35 07.9**	**+3.9**
CUSAR	**Sarkisla-SIVAS**	**1.42**	**295**	P	**Pb**	**10 34 45.1**	**-0.6**
CUSAR				S	**Sg**	**10 35 05.0**	**+0.8**
KHMN	**Narli-Kahraman**	**1.55**	**203**	PN	**Pb**	**10 34 47.4**	**-0.5**
URFA	**Urfa**	**1.56**	**152**	PN	**Pg**	**10 34 48.2**	**-0.2**
ERZN	**Erzincan**	**1.60**	**61**	PN	**Pg**	**10 34 49.0**	**-0.1**
BNN	**Bunyan**	**1.61**	**271**	PN	**Pn**	**10 34 47.4**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.63**	**344**	PN	**Pb**	**10 34 48.3**	**-0.9**
ALUC	**Giresun/Alucra**	**1.65**	**23**	P	**Pg**	**10 34 50.2**	**0.0**
ALUC				S	**Sg**	**10 35 14.9**	**+3.3**
ALUC				*i* AML	AML	10 35 15.0	
	comp=E,408nm,0.5s						
SAIM	**ADANA**	**1.67**	**240**	P	**Pb**	**10 34 49.3**	**-0.6**
SAIM				S	**Sb**	**10 35 11.3**	**0.0**
GAZ	**Gaziantep**	**1.74**	**199**	PN	**Pn**	**10 34 49.9**	**+0.2**
TOKT	**Tokat**	**1.82**	**325**	PN	**Pn**	**10 34 50.8**	**0.0**
DYBB	**Diyarbakir**	**1.96**	**116**	PN	**Pb**	**10 34 54.2**	**-0.6**
KOZT	**Kozan**	**2.12**	**231**	PN	**Pn**	**10 34 55.1**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.14**	**73**	PN	**Pb**	**10 34 56.8**	**-1.1**
BNGB	**Bingl**	**2.17**	**85**	PN	**Pb**	**10 34 57.3**	**-1.0**
YOZ	**Yozgat**	**2.17**	**293**	PN	**Pn**	**10 34 55.7**	**+0.1**
BAYT	**Aydintepe-Bayb**	**2.33**	**47**	PN	**Pb**	**10 34 59.3**	**-1.8**
KOZK	**Kozakli-Nevseh**	**2.40**	**280**	PN	**Pn**	**10 34 58.6**	**-0.1**
KARO	**Karliova-Bingo**	**2.49**	**78**	PN	**Pb**	**10 35 01.9**	**-2.0**
CEYT	**Ceyhan**	**2.50**	**224**	PN	**Pn**	**10 35 00.4**	**+0.5**
CMRD	**Camardi-Nigde**	**2.58**	**244**	PN	**Pn**	**10 35 01.3**	**+0.1**
KTUT	**Trabzon**	**2.58**	**33**	PN	**Pb**	**10 35 03.1**	**-2.3**
KVT	**Kavak**	**2.67**	**328**	PN	**Pn**	**10 35 02.8**	**+0.5**
KARA	**Karaisali**	**2.75**	**236**	PN	**Pn**	**10 35 03.9**	**+0.5**
TAHT	**Tahtakopru-Hat**	**2.81**	**210**	PN	**Pn**	**10 35 05.3**	**+1.1**
CORM	**Corum**	**2.87**	**299**	PN	**Pn**	**10 35 05.8**	**+0.6**
YAYL	**Yayladag**	**3.14**	**208**	PN	**Pn**	**10 35 09.9**	**+1.0**
KAMT	**Kaman**	**3.31**	**281**	PN	**Pn**	**10 35 11.7**	**+0.5**
SERE	**Sereflikochisa**	**3.39**	**273**	PN	**Pn**	**10 35 12.9**	**+0.5**
BRTR	**Keskin Array B**	**3.43**	**286**	PN	**Pn**	**10 35 13.4**	**+0.4**
YESY	**Yesilyurt**	**3.44**	**254**	PN	**Pn**	**10 35 13.7**	**+0.7**
CHBY	**Cihanbeyli**	**3.94**	**268**	PN	**Pn**	**10 35 20.9**	**+1.1**

*NNC **20** 10:52:20.2±24.0, 36°.90N×70°.47E, h0km, mb3.9, mpv3.7,*
Error ellipse: s-maj=193.7km s-min=141.2km az=165.0
*IDC **20** 10:52:26.1±9.0, 36°.80N×71°.20E, h135km±58km, mb3.3/3,*
mb1 3.1/9, mb1mx2.9/45, mbtmp3.5/9, Error ellipse:
s-maj=77.7km s-min=42.5km az=176.0
ISC 20 10:52:22.8±1.9, 36.7N±0°.1×70.9E±0°.1, h100km, n13,
σ1°37/16, mb3.9/3, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.39**	**358**	⇑P	**Pn**	**10 53 55.5**	**+1.1**
	2.7nm,0.3s,baz=175,slow=12						
KK01	**Karatay Array**	**6.39**	**358**	⇑S	**Sn**	**10 55 06.9**	**+1.0**
	3.3nm,0.5s,baz=183,slow=24						
AAK	**Ala-Archa**	**6.54**	**24**	P	**Pn**	**10 53 57.0**	**+0.4**
	1.5nm,0.3s,baz=173,slow=6.5,SNR=5.9						
AAK				S	**Sn**	**10 55 09.5**	**-0.2**
	1.7nm,0.3s,baz=356,slow=22,SNR=12						
AAK	**Ala-Archa**	**6.54**	**24**	⇓P	**Pn**	**10 53 57.3**	**+0.7**
	2.5nm,0.5s						
AAK				⇑S	**Sn**	**10 55 09.8**	**+0.1**
	23nm,0.7s						
MKAR	**Makanchi Array**	**13.18**	**37**	P	**Pn**	**10 55 26.6**	**+0.7**
	baz=213,slow=10,SNR=1.6						
AB31	**Akbulak array**	**14.85**	**331**	⇑P	**Pn**	**10 55 49.1**	**+1.6**
	0.3nm,0.3s,baz=163,slow=13,SNR=21						
AB31				S	**Sn**	**10 58 28.4**	**-2.7**
	0.9nm,0.5s,baz=165,slow=21,SNR=4.1						
KURBB	**Kurchatov Arra**	**14.95**	**19**	P	**Pn**	**10 55 48.7**	**0.0**
	0.0nm,0.3s,baz=207,slow=10,SNR=4.3						
BVAR	**Borovoye Array**	**16.32**	**359**	P	**Pn**	**10 56 07.1**	**+1.3**
	0.2nm,0.3s,baz=156,slow=14,SNR=2.3						
AKTO	**Aktyubinsk**	**16.55**	**330**	P	**Pn**	**10 56 10.7**	**+2.0**
	0.3nm,0.3s,baz=126,slow=7.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**19.76**	**25**	P	**P**	**10 56 42.8**	**-1.8**
	0.4nm,0.3s,baz=210,slow=9.9,SNR=7.0						
FINES	**FINESS Array B**	**37.25**	**326**	P	**P**	**10 59 24.8**	**+0.4**
	1.7nm,0.9s,baz=123,slow=10,SNR=1.9						
ARCES	**ARCESS Array B**	**40.91**	**338**	P	**P**	**10 59 54.3**	**-0.5**
	1.6nm,0.9s,baz=101,slow

*MOS **20** 11:08:06.2±0.9, 42°.22N×84°.34E, h18km, mb4.4/11, Error ellipse: s-maj=7.1km s-min=5.3km az=115.4*
*NEIC **20** 11:08:06.9±2.2, 42°.24N±0°.08×84°.4E±0°.1, h10km±1km, mb4.6/15, ML4.5(BJI), Error ellipse: s-maj=15.5km s-min=13.6km az=127.0*
*NNC **20** 11:08:08.8±2.2, 42°.31N×83°.89E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=19.7km s-min=11.4km az=155.0*
ISC 20 11:08:06.2±0.4, 42°.19N±0°.04×84°.35E±0°.03, h10km, n171, σ1§91/184, mb4.3/33, 29C-13D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.94**	**55**	*e*Pn	**Pb**	**11 08 55.8**	**-3.0**
WMQ				Sg	**Sg**	**11 09 41.3**	**+0.6**
WMQ				smax	smax		
	comp=N,2μm,0.7s						
WMQ				smax	smax		
	comp=E,2μm,0.5s						
KTMS	**Ketmen**	**3.20**	**294**	*e*P	**Pn**	**11 08 54.4**	**-2.3**
	99nm,0.0s						
KTMS				*e*S	**Sn**	**11 09 32.9**	**-2.1**
	962nm,0.5s						
KTMS	**Ketmen**	**3.20**	**294**	Pg	**Pn**	**11 08 53.4**	**-3.3**
	119nm,0.5s						
KTMS				Lg	Lg	11 09 32.4	
	962nm,0.5s						
PDGK	**Podgornoye**	**3.76**	**289**	⇓Pn	**Pn**	**11 09 04.7**	**+0.3**
	3.0nm,0.4s						
PDGK				⇑Pg	**Pb**	**11 09 10.9**	**-1.8**
	58nm,0.5s						
PDGK				⇓Lg	Lg	11 09 60.0	
	246nm,0.4s						
DJR	**Jarkent**	**3.96**	**304**	*e*P	**Pb**	**11 09 14.4**	**-1.8**
	20nm,0.2s						
DJR				*e*S	**Sb**	**11 10 07.4**	**+3.3**
	380nm,0.9s						
DJR	**Jarkent**	**3.96**	**304**	Pg	**Pb**	**11 09 14.3**	**-1.8**
	52nm,0.4s						
DJR				Lg	Lg	11 10 07.4	
	402nm,0.7s						
UZB	**Uzynbulak**	**4.05**	**285**	*e*P	**Pn**	**11 09 09.8**	**+1.5**
UZB	**Uzynbulak**	**4.05**	**285**	*e*P	Pn	11 09 14.0	+5.6
	28nm,0.2s						
UZB				*e*S	**Sb**	**11 10 07.6**	**+0.9**
	273nm,0.5s						
UZB	**Uzynbulak**	**4.05**	**285**	*e*P	**Pn**	**11 09 09.8**	**+1.5**
	baz=285						
UZB	**Uzynbulak**	**4.05**	**285**	Pg	Pn	11 09 14.0	+5.6
	33nm,0.3s						
UZB				Lg	Lg	11 10 07.2	
	343nm,0.4s						
PRZ	**Przheval'sk**	**4.42**	**276**	P	**Pn**	**11 09 15.3**	**+1.7**
PRZ	**Przheval'sk**	**4.42**	**276**		**Pn**	**11 09 15.3**	**+1.7**
ZHN	**Zhinishke**	**4.47**	**285**	*e*P	**Pn**	**11 09 15.0**	**+0.9**
ZHN	**Zhinishke**	**4.47**	**285**	*e*P	Pn	11 09 19.9	+5.7
	77nm,0.3s						
ZHN				*e*S	**Sb**	**11 10 17.8**	**-1.1**
	260nm,0.4s						
ZHN	**Zhinishke**	**4.47**	**285**	*e*P	**Pn**	**11 09 15.1**	**+0.9**
	baz=285						
ZHN	**Zhinishke**	**4.47**	**285**	Pg	**Pb**	**11 09 22.7**	**-2.2**
	77nm,0.3s						
ZHN				Lg	Lg	11 10 22.2	
	237nm,0.5s						
SATY	**Saty**	**4.47**	**283**	*e*P	**Pn**	**11 09 14.8**	**+0.6**
SATY	**Saty**	**4.47**	**283**	*e*P	Pb	11 09 21.0	-3.9
	42nm,0.3s						
SATY				*e*S	**Sb**	**11 10 19.8**	**+0.8**
	193nm,2.1s						
SATY	**Saty**	**4.47**	**283**	*e*P	**Pn**	**11 09 14.9**	**+0.6**
	baz=283						
SATY	**Saty**	**4.47**	**283**	Pg	**Pb**	**11 09 23.5**	**-1.5**
	45nm,0.4s						
SATY				Lg	Lg	11 10 24.0	
	402nm,0.3s						
KAPS	**Kapalarasan**	**4.76**	**312**	*e*P	**Pb**	**11 09 27.1**	**-2.6**
	20nm,0.2s						
KAPS				*e*S	**Sb**	**11 10 29.7**	**+2.6**
	187nm,0.8s						
KAPS	**Kapalarasan**	**4.76**	**312**	Pg	**Pb**	**11 09 28.6**	**-1.2**
	39nm,0.4s						
KAPS				Lg	Lg	11 10 31.8	
	230nm,0.5s						
MK31	**Makanchi Array**	**4.83**	**343**	P	**Pn**	**11 09 20.8**	**+1.8**
MK31	**Makanchi Array**	**4.83**	**343**	⇑Pn	**Pn**	**11 09 20.9**	**+1.9**
	4.9nm,0.3s,baz=148,slow=14,SNR=205						
MK31				⇓Pg	**Pg**	**11 09 35.5**	**-3.2**
	83nm,0.6s,baz=154,slow=15,SNR=52						
MK31				Lg	Lg	11 10 36.6	
	242nm,0.6s,baz=169,slow=28,SNR=13						
MK31	**Makanchi Array**	**4.83**	**343**	Pn	**Pn**	**11 09 20.8**	**+1.8**
MKAR	**Makanchi Array**	**4.83**	**343**	Pn	**Pn**	**11 09 20.7**	**+1.7**
	1.4nm,0.3s,baz=157,slow=14,SNR=50						
MKAR				Pg	**Pb**	**11 09 34.1**	**+3.2**
	36nm,0.3s,baz=159,slow=16,SNR=48						
MKAR				Lg	Lg	11 10 38.0	
	70nm,0.3s,baz=173,slow=28,SNR=10.0						
MKAR	**Makanchi Array**	**4.83**	**343**	P	**Pn**	**11 09 20.9**	**+1.9**
MKAR	**Makanchi Array**	**4.83**	**343**	Pn	**Pn**	**11 09 20.9**	**+1.9**
MAKZ	**Makanchi**	**4.92**	**341**	P	**Pn**	**11 09 23.2**	**+3.0**
MAKZ	**Makanchi**	**4.92**	**341**	⇑Pn	**Pn**	**11 09 22.1**	**+1.9**
	3.0nm,0.3s						
MAKZ				⇑Pg	**Pb**	**11 09 35.2**	**+2.8**
	67nm,0.5s						
MAKZ				⇑Lg	Lg	11 10 38.6	
	219nm,0.9s						
MAKZ	**Makanchi**	**4.92**	**341**	Pn	**Pn**	**11 09 23.2**	**+3.0**
TDK	**Taldyqorghan**	**5.15**	**305**	*e*P	**Pn**	**11 09 24.7**	**+1.3**
TDK	**Taldyqorghan**	**5.15**	**305**	*e*P	**Pn**	**11 09 24.8**	**+1.3**
	baz=305						
ARXS	**Arharly**	**5.18**	**295**	*e*P	Pb	11 09 32.6	-4.4
	24nm,0.8s						
ARXS				*e*S	**Sb**	**11 10 38.9**	**-0.4**
	288nm,1.2s						
ARXS	**Arharly**	**5.18**	**295**	Pg	**Pb**	**11 09 35.6**	**-1.4**
	36nm,0.3s						
ARXS				Lg	Lg	11 10 44.3	
	339nm,0.5s						
ZSN	**Zaisan**	**5.27**	**4**	*e*P	**Pn**	**11 09 27.5**	**+2.5**
ZSN	**Zaisan**	**5.27**	**4**	*e*P	**Pn**	**11 09 27.5**	**+2.5**
	baz=4.2						
KDJ	**Kajisay**	**5.33**	**272**	P	**Pn**	**11 09 27.8**	**+1.7**
KDJ	**Kajisay**	**5.33**	**272**	Pn	**Pn**	**11 09 27.8**	**+1.7**
MDOK	**Medeo**	**5.47**	**283**	*e*P	**Pn**	**11 09 29.3**	**+1.3**
MDOK	**Medeo**	**5.47**	**283**	*e*P	**Pb**	**11 09 39.0**	**-3.0**
	24nm,0.4s						
MDOK				*e*S	**Sb**	**11 10 49.9**	**+2.1**
	114nm,1.3s						
MDOK	**Medeo**	**5.47**	**283**	*e*P	**Pn**	**11 09 29.3**	**+1.3**
	baz=283						
MDOK	**Medeo**	**5.47**	**283**	⇑Pn	**Pn**	**11 09 28.5**	**+0.5**
	23nm,0.5s						
MDOK				⇑Lg	Lg	11 10 52.1	
	214nm,0.8s						
MDOK	**Medeo**	**5.47**	**283**	Pg	**Pb**	**11 09 40.1**	**-1.9**
	24nm,0.4s						
MDOK				Lg	Lg	11 10 52.0	
	165nm,0.8s						
TNSS	**Tian-Shan**	**5.53**	**281**	*e*P	Pb	11 09 39.0	-4.1
	18nm,0.3s						
TNSS				*e*S	**Sb**	**11 10 50.7**	**+1.0**
	69nm,0.0s						
TNSS	**Tian-Shan**	**5.53**	**281**	Pg	**Pb**	**11 09 41.5**	**-1.6**
	16nm,0.4s						
TNSS				Lg	Lg	11 10 54.3	
	77nm,0.8s						
KNDC	**Almaty**	**5.54**	**283**	⇓Lg	Lg	11 10 59.2	
	409nm,0.7s						
CHKK	**Chushkaly**	**5.65**	**290**	*e*P	**Pb**	**11 09 43.0**	**-1.9**
	7.6nm,0.8s						
CHKK				*e*S	**Sb**	**11 10 56.9**	**+4.3**
	122nm,0.5s						
CHKK	**Chushkaly**	**5.65**	**290**	Pg	**Pb**	**11 09 43.8**	**-1.1**
	13nm,0.4s						
CHKK				Lg	Lg	11 10 59.2	
	122nm,0.5s						
IZV	**Izvestkoviy**	**5.77**	**281**	*e*P	**Pb**	**11 09 47.7**	**+0.5**
	58nm,0.5s						
IZV				*e*S	**Sb**	**11 11 04.7**	**+8.3**
	193nm,0.6s						
IZV	**Izvestkoviy**	**5.77**	**281**	Pg	Pb	11 09 42.2	-5.0
	27nm,0.6s						
IZV				Lg	Lg	11 10 56.2	
	203nm,0.7s						
KTBS	**Karatobe**	**5.83**	**288**	*e*P	**Pb**	**11 09 45.8**	**-2.2**
	8.0nm,0.7s						
KTBS				*e*S	**Sb**	**11 11 02.3**	**+4.4**
	283nm,1.1s						
KTBS	**Karatobe**	**5.83**	**288**	Pg	**Pb**	**11 09 47.7**	**-0.3**
	10nm,0.4s						
KTBS				Lg	Lg	11 11 05.2	
	165nm,0.7s						
MTBS	**Maitube**	**5.92**	**282**	*e*P	**Pb**	**11 09 46.0**	**-3.6**
	10nm,0.4s						
MTBS				*e*S	**Sb**	**11 11 02.3**	**+1.8**
	58nm,0.6s						
MTBS	**Maitube**	**5.92**	**282**	Pg	**Pb**	**11 09 48.3**	**-1.3**
	17nm,0.3s						
MTBS				Lg	Lg	11 11 06.7	
	90nm,0.4s						
KUU	**Kurty**	**6.11**	**289**	*e*P	**Pn**	**11 09 37.2**	**+0.6**
KUU	**Kurty**	**6.11**	**289**	*e*P	**Pn**	**11 09 37.3**	**+0.6**
	baz=289						
BOOM	**Boomskoye usch**	**6.24**	**276**	P	**Pn**	**11 09 40.2**	**+1.6**
BOOM	**Boomskoye usch**	**6.24**	**276**	Pn	**Pn**	**11 09 40.2**	**+1.6**
KST	**Kastek**	**6.25**	**281**	*e*P	**Pn**	**11 09 40.1**	**+1.4**
	baz=281						
DGS	**Degeres**	**6.41**	**282**	*e*P	**Pb**	**11 09 55.0**	**-2.9**
	8.0nm,0.5s						
DGS				*e*S	**Sb**	**11 11 17.8**	**+3.2**
	100nm,0.8s						
DGS	**Degeres**	**6.41**	**282**	Pg	**Pb**	**11 09 57.4**	**-0.5**
	7.5nm,0.5s						
DGS				Lg	Lg	11 11 22.0	
	123nm,0.6s						
TKM2	**Tokmak 2**	**6.51**	**279**	⇑Pn	**Pn**	**11 09 43.6**	**+1.4**
	19nm,0.6s						
TKM2				⇑Lg	Lg	11 11 30.5	
	81nm,0.8s						
KRBS	**Karabastau**	**6.54**	**286**	*e*P	**Pb**	**11 09 59.0**	**-1.2**
	9.0nm,0.7s						
KRBS				*e*S	**Sb**	**11 11 25.3**	**+6.8**
	60nm,0.5s						
KRBS	**Karabastau**	**6.54**	**286**	Pg	**Pb**	**11 10 01.3**	**+1.1**
	12nm,0.2s						
KRBS				Lg	Lg	11 11 28.2	
	60nm,0.5s						
KSH	**Kashi**	**6.89**	**250**	Pn	Pn	11 09 54.8	+7.4
KSH				Sn	**Sn**	**11 11 12.8**	**+6.8**
KSH				smax	smax		
	comp=N,140nm,0.8s						
KSH				smax	smax		
	comp=E,170nm,1.2s						
SGDS	**Sogindy**	**7.26**	**283**	*e*P	**Pb**	**11 10 14.4**	**+2.0**
	4.6nm,0.1s						
SGDS				*e*S	Sb	11 11 50.5	+11
	26nm,1.4s						
SGDS	**Sogindy**	**7.26**	**283**	Pg	**Pb**	**11 10 15.9**	**+3.6**
	4.1nm,0.2s						
SGDS				Lg	Lg	11 11 53.4	
	46nm,0.8s						
AAK	**Ala-Archa**	**7.31**	**277**	Pn	**Pn**	**11 09 54.6**	**+1.4**
	0.9nm,0.3s,baz=134,slow=13,SNR=5.5						
AAK				Lg	Lg	11 11 53.4	
	2.8nm,0.3s,baz=321,slow=14,SNR=4.4						
AAK				LR	LR	11 12 58.1	
	comp=Z,171nm,19.9s,baz=86,slow=40						
AAK	**Ala-Archa**	**7.31**	**277**	⇑*i*P	**Pn**	**11 09 54.4**	**+1.2**
AAK	**Ala-Archa**	**7.31**	**277**	⇑Pn	**Pn**	**11 09 55.4**	**+2.2**
	17nm,0.8s						
AAK				⇓Lg	Lg	11 11 55.4	
	34nm,0.6s						
AAK	**Ala-Archa**	**7.31**	**277**	Pn	**Pn**	**11 09 55.1**	**+1.9**
DGZ	**Jazzator, Alta**	**7.81**	**15**	*i*P	**Pn**	**11 10 03.2**	**+3.2**
SEM	**Semipalatinsk**	**8.69**	**342**	*e*P	**Pn**	**11 10 14.1**	**+1.9**
SEM	**Semipalatinsk**	**8.69**	**342**	*e*P	**Pn**	**11 10 14.1**	**+1.9**
	baz=343						
KURBB	**Kurchatov Arra**	**9.34**	**337**	Pn	**Pn**	**11 10 21.6**	**+0.8**
	0.3nm,0.3s,baz=161,slow=12,SNR=20						
KURBB				Lg	Lg	11 13 00.1	
	1.1nm,0.3s,baz=152,slow=30,SNR=6.6						
KURBB	**Kurchatov Arra**	**9.34**	**337**	⇑Pn	**Pn**	**11 10 21.0**	**+0.2**
	7.8nm,0.9s						
KURBB				⇑Lg	Lg	11 12 56.9	
	145nm,0.8s						
KURK	**Kurchatov**	**9.39**	**337**	*ce*P	**Pn**	**11 10 23.4**	**+1.8**
KURK				pmax	pmax		
	comp=Z,11nm,2.5s						
KURK	**Kurchatov**	**9.39**	**337**	⇑Pn	**Pn**	**11 10 22.5**	**+0.9**
	comp=Z,5.7nm,1.2s						
KURK				⇑Lg	Lg	11 12 59.3	
	comp=Z,61nm,0.5s						
KURK	**Kurchatov**	**9.39**	**337**	Pn	**Pn**	**11 10 23.1**	**+1.6**
DRK	**Karamyk**	**9.89**	**258**	Pn	**Pn**	**11 10 31.9**	**+3.2**
GOMU	**GeErMu**	**10.08**	**123**	P	**Pn**	**11 10 32.3**	**+0.9**
GOMU				S	**Sn**	**11 12 22.5**	**-2.2**
GOMU				LR	LR		
	comp=Z,110nm,5.6s						
GOMU				LR	LR		
	comp=Z,89nm,5.0s						
GOMU				LR	LR		
	comp=Z,60nm,5.2s						
KK02	**Karatay Array**	**10.24**	**280**	⇓Lg	Lg	11 13 25.5	
	comp=Z,14nm,0.8s						
OTUK	**Ortayu**	**10.41**	**310**	⇑Pn	**Pn**	**11 10 37.1**	**+1.5**
	comp=Z,2.0nm,0.6s						
OTUK				⇑Lg	Lg	11 13 30.7	
	comp=Z,46nm,0.9s						
BRLS	**Boroldoy**	**10.74**	**279**	*e*P	**Pn**	**11 10 43.1**	**+3.1**
BRLS	**Boroldoy**	**10.74**	**279**	*e*P	**Pn**	**11 10 43.1**	**+3.1**
	baz=278						
ZAA0	**Zalesovo Array**	**11.77**	**1**	⇑Pn	**Pn**	**11 10 55.0**	**+1.0**
	comp=Z,0.9nm,0.8s						
ZAA0				⇑Sn	**Sn**	**11 13 01.9**	**-3.5**
	comp=Z,1.6nm,0.5s						
ZAA0	**Zalesovo Array**	**11.77**	**1**	Pn	**Pn**	**11 10 53.8**	**-0.3**
ZALV	**Zalesovo Beam**	**11.77**	**1**	Pn	**Pn**	**11 10 53.5**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=179,slow=13,SNR=15						
ZALV				Sn	**Sn**	**11 13 03.1**	**-2.2**
	comp=Z,2.0nm,0.3s,baz=169,slow=27,SNR=5.3						
ZALV				Lg	Lg	11 14 19.7	
	comp=Z,0.7nm,0.3s,baz=205,slow=28,SNR=4.0						
ZALV				LR	LR	11 15 45.8	
	comp=Z,83nm,18.4s,baz=160,slow=39						
ZALV	**Zalesovo Beam**	**11.77**	**1**	P	**Pn**	**11 10 53.8**	**-0.2**
ZALV	**Zalesovo Beam**	**11.77**	**1**	Pn	**Pn**	**11 10 53.8**	**-0.2**
GTA	**Gaotai**	**12.04**	**98**	*e*P	**Pn**	**11 10 58.6**	**+0.6**
GTA				pP		11 11 07.3	
GTA				sP		11 11 11.0	
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,100nm,4.6s						
GTA				LR	LR		
	comp=Z,160nm,13.5s						
GTA				LR	LR		
	comp=Z,160nm,12.7s						
GTA				LR	LR		
	comp=Z,220nm,12.0s						
CHGR	**Chuyangaron**	**12.11**	**258**	P	**Pn**	**11 11 00.5**	**+1.7**
CHGR	**Chuyangaron**	**12.11**	**258**		**Pn**	**11 11 00.5**	**+1.7**
CHCP	**Chirah Chowk**	**12.21**	**229**	P	**Pn**	**11 10 58.7**	**-1.5**
NIL	**Nilore**	**12.22**	**229**	P	**Pn**	**11 10 58.4**	**-2.0**
NIL	**Nilore**	**12.22**	**229**	Pn	**Pn**	**11 10 58.4**	**-2.0**
CEP	**Cherat**	**12.88**	**234**	P	**Pn**	**11 11 06.6**	**-2.8**
CEP				S	Sn	11 13 25.0	-7.9
THW	**Thamme Wali**	**13.71**	**231**	P	Pn	11 11 16.3	-4.4
BVA1	**Borovoye Array**	**14.33**	**324**	⇑Pn	**Pn**	**11 11 31.6**	**+2.5**
	comp=Z,3.6nm,0.6s						
BVAR	**Borovoye Array**	**14.33**	**324**	Pn	**Pn**	**11 11 28.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=153,slow=11,SNR=6.0						
BVAR				Lg	Lg	11 15 41.4	
	comp=Z,0.5nm,0.3s,baz=106,slow=32,SNR=4.8						
BRVK	**Borovoye**	**14.40**	**324**	⇓*i*P	**Pn**	**11 11 30.0**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRVK	**Borovoye**	**14.40**	**324**	⇑Pn	**Pn**	**11 11 31.7**	**+1.7**
	comp=Z,8.1nm,0.7s						
BRVK				⇓Lg	Lg	11 15 37.0	
	comp=Z,69nm,1.6s						
BRVK	**Borovoye**	**14.40**	**324**	Pn	**Pn**	**11 11 31.2**	**+1.2**
ZAK	**Zakamensk**	**15.40**	**51**	*e*P	**Pn**	**11 11 45.0**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,11nm,0.9s						
LZH	**Lanzhou**	**16.29**	**106**	*e*P	**Pn**	**11 11 56.6**	**+1.4**
LZH				pP	sP	11 12 04.1	+0.7
LZH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SONM	**Songino Array**	**16.55**	**63**	Pn	**Pn**	**11 11 59.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=246,slow=11,SNR=8.6						
SONM				Lg	Lg	11 16 55.9	
	comp=Z,0.2nm,0.3s,baz=256,slow=24,SNR=3.5						
SONM	**Songino Array**	**16.55**	**63**		**Pn**	**11 11 58.5**	**+0.1**
ULN	**Ulaanbaatar**	**16.99**	**63**	⇓*e*P	**P**	**11 12 06.0**	**0.0**
ULN				pmax	pmax		
	comp=Z,11nm,1.3s						
ULN	**Ulaanbaatar**	**16.99**	**63**		**Pn**	**11 12 03.1**	**-0.9**
ULN					**P**	**11 12 05.4**	**-0.5**
SHL	**Shillong**	**17.71**	**157**	P	**P**	**11 12 14.6**	**+0.6**
SHL				pmax	pmax		
	comp=Z,14nm,1.1s						
SHL	**Shillong**	**17.71**	**157**	P	**P**	**11 12 14.6**	**+0.6**
SHL				IAmb	IAmb	11 12 19.4	
	comp=Z,14nm,1.1s						
AB31	**Akbulak array**	**18.40**	**301**	⇓Pn	**P**	**11 12 21.0**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=101,slow=12,SNR=28						
ABKAR	**Akbulak array**	**18.40**	**301**	P	**P**	**11 12 21.1**	**-0.1**
ABKAR	**Akbulak array**	**18.40**	**301**	P	**P**	**11 12 19.6**	**-1.6**
AKTO	**Aktyubinsk**	**19.89**	**304**	P	**P**	**11 12 37.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=103,slow=12,SNR=5.9						
AKTO				LR	LR	11 20 36.4	
	comp=Z,48nm,20.0s,baz=110,slow=38						
AKTO	**Aktyubinsk**	**19.89**	**304**	⇑Pn	**P**	**11 12 36.9**	**-0.8**
	comp=Z,4.3nm,1.1s						
HHC	**Hu-ho-hao-te**	**20.39**	**85**	*e*P	Pn	11 12 45.0	-0.3
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,7.9s						
PZH	**PanZhiHua**	**21.17**	**132**	P	**P**	**11 12 53.1**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.2s						
ARU	**Arti**	**21.86**	**320**	P	**P**	**11 12 58.9**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=131,slow=7.2,SNR=6.4						
ARU	**Arti**	**21.86**	**320**	⇓*e*P	**P**	**11 12 58.5**	**-0.3**
ARU				pmax	pmax		
	comp=Z,13nm,1.3s						
BOD	**Bodaibo**	**24.37**	**40**	*e*P	**P**	**11 13 25.8**	**+1.5**
BOD				*e*		11 13 26.7	
BELG	**Belogornoye**	**26.65**	**305**	⇑*e*P	**P**	**11 13 48.0**	**+3.1**
BELG				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**26.72**	**148**	P	**P**	**11 13 44.8**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=323,slow=8.8,SNR=17						
CMAR	**Chiang Mai Arr**	**26.72**	**148**	*i*P	**P**	**11 13 46.7**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**26.72**	**148**	P	**P**	**11 13 46.6**	**+0.8**
KIRV	**Kirov**	**27.24**	**319**	⇑*e*P	**P**	**11 13 50.8**	**+0.7**
NRIK	**Noril'sk**	**27.26**	**2**	P	**P**	**11 13 51.1**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=136,slow=5.4,SNR=3.6						
NRIK	**Noril'sk**	**27.26**	**2**	*ce*P	**P**	**11 13 50.4**	**+0.1**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NJ2	**Nanjing**	**29.14**	**99**	*e*P	**P**	**11 14 07.9**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ZEA	**Zeya**	**30.49**	**53**	*e*P	**P**	**11 14 21.1**	**+1.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**33.23**	**38**	*de*P	**P**	**11 14 43.3**	**+0.2**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KLR	**Kul'dur**	**33.38**	**61**	*ce*P	**P**	**11 14 45.4**	**+0.9**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
OBN	**Obninsk**	**33.43**	**309**	⇑*e*P	**P**	**11 14 44.7**	**-0.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TIXI	**Tiksi**	**36.63**	**22**	P	**P**	**11 15 12.1**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=250,slow=3.2,SNR=5.6						
TIXI	**Tiksi**	**36.63**	**22**	⇓*e*P	**P**	**11 15 12.4**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TIXI	**Tiksi**	**36.63**	**22**	P	**P**	**11 15 11.6**	**-0.7**
TIXI				IAmb	IAmb	11 16 27.9	
	comp=Z,2.2nm,0.7s						
BRTR	**Keskin Array B**	**37.92**	**284**	P	**P**	**11 15 23.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.8,SNR=1.6						
AKASG	**Malin Array Be**	**38.13**	**302**	P	**P**	**11 15 24.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=69,slow=7.3,SNR=2.6						
FINES	**FINESS Array B**	**39.23**	**320**	P	**P**	**11 15 34.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=102,slow=8.2,SNR=6.5						
FINES	**FINESS Array B**	**39.23**	**320**	*i*P	**P**	**11 15 37.5**	**+3.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**40.40**	**332**	P	**P**	**11 15 44.4**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=92,slow=7.9,SNR=23						
ARCES	**ARCESS Array B**	**40.40**	**332**	P	**P**	**11 15 44.0**	**0.0**
ARCES				pmax	pmax		
	comp=Z,61nm,1.7s						
ARCES	**ARCESS Array B**	**40.40**	**332**	P	**P**	**11 15 44.0**	**0.0**
DIVS	**Divibare**	**45.92**	**295**	P	**P**	**11 16 29.0**	**-0.1**
DIVS				IAmb	IAmb	11 17 37.9	
	comp=Z,12nm,1.7s						
NB2	**NORSAR Subarra**	**46.41**	**320**	P	**P**	**11 16 32.1**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=79,slow=8.6						
NOA	**NORSAR Array B**	**46.41**	**320**	P	**P**	**11 16 31.8**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=80,slow=8.1,SNR=5.3						
CLL	**Collm**	**47.93**	**307**	*i*P	**P**	**11 16 44.2**	**-0.3**
CLL				*i*		11 16 49.5	
CLL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CLL	**Collm**	**47.93**	**307**	*i*P	**P**	**11 16 44.2**	**-0.3**
	comp=Z,4.0nm,0.7s						
CLL				*i*(sP)	**pP**	**11 16 49.5**	**+1.1**
GERES	**GERESS Array B**	**48.32**	**303**	P	**P**	**11 16 48.0**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=51,slow=7.8,SNR=2.1						
PETK	**Petropavlovsk-**	**48.53**	**50**	P	**P**	**11 16 48.1**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=270,slow=12,SNR=1.1						
BILL	**Bilibino**	**48.75**	**30**	*i*

GLKZ	**Green Lake**	**3.50 359**	P		**Pn**	**11 11 17.2**	**+2.3**
GLKZ			S		**Sn**	**11 11 52.9**	**-2.2**
MXZ	**Matakaoa Point**	**5.71 212**	S		**Sn**	**11 12 46.0**	**-3.5**
WMGZ	**Waiomatatini S**	**5.87 210**	P		**Pn**	**11 11 50.2**	**+2.7**
WMGZ			S		**Sn**	**11 12 52.7**	**-0.9**
PKGZ	**Pakihiroa**	**6.08 212**	P		**Pn**	**11 11 51.6**	**+1.2**
HAZ	**Te Kaha**	**6.11 214**	P		**Pn**	**11 11 52.3**	**+1.7**
HAZ			S		**Sn**	**11 13 02.1**	**+2.8**
PUZ	**Puketiti**	**6.15 210**	P		**Pn**	**11 11 53.0**	**+1.6**
PUZ			S		**Sn**	**11 13 02.0**	**+1.4**
RUGZ	**Raukumara Rang**	**6.32 214**	P		**Pn**	**11 11 54.5**	**+0.7**
RUGZ			S		**Sn**	**11 13 05.3**	**+0.5**
TWGZ	**Tauwhareparae**	**6.36 211**	P		**Pn**	**11 11 56.3**	**+2.1**
TWGZ			S		**Sn**	**11 13 05.5**	**-0.1**
CNGZ	**Carnagh Statio**	**6.53 208**	P		**Pn**	**11 11 58.6**	**+2.2**
TKGZ	**Te Karaka**	**6.64 210**	P		**Pn**	**11 11 58.9**	**+1.0**
TKGZ			S		**Sn**	**11 13 09.2**	**-3.1**
MWZ	**Matawai**	**6.69 213**	P		**Pn**	**11 11 58.8**	**0.0**
MWZ			S		**Sn**	**11 13 12.3**	**-1.4**
OPRZ	**Ohinepanea**	**6.80 220**	P		**Pn**	**11 12 02.3**	**+2.1**
URZ	**Urewera**	**6.83 215**	P		**Pn**	**11 12 00.5**	**-0.1**
RIGZ	**Rimuhau**	**6.90 210**	P		**Pn**	**11 12 04.9**	**+3.3**
PRGZ	**Paritu Road**	**7.03 208**	P		**Pn**	**11 12 06.2**	**+2.7**
MUGZ	**Murupara**	**7.16 216**	P		**Pn**	**11 12 04.6**	**-0.6**
MHGZ	**Mahia Peninsul**	**7.22 207**	P		**Pn**	**11 12 07.5**	**+1.5**
MTHZ	**Maungataniwha**	**7.43 214**	P		**Pn**	**11 12 10.3**	**+1.5**
ARHZ	**Aropaoanui**	**7.69 211**	P		**Pn**	**11 12 15.0**	**+2.6**
BKZ	**Black Stump Fm**	**7.84 214**	P		**Pn**	**11 12 13.5**	**-1.0**
MCHZ	**McNeill Hill**	**7.97 212**	P		**Pn**	**11 12 15.9**	**-0.3**
KAHZ	**Kahuranaki**	**8.18 210**	P		**Pn**	**11 12 19.9**	**+0.6**
SNVZ	**South Ngauruho**	**8.28 218**	P		**Pn**	**11 12 22.8**	**+2.2**
BHHZ	**Black Hill Sta**	**8.30 214**	P		**Pn**	**11 12 22.5**	**+1.6**
ASAR	**Alice Springs**	**43.13 269**	P		P	11 18 08.5	-12
	1.9nm,0.7s,baz=112,slow=7.5,SNR=21						
WRA	**Warramunga Arr**	**44.34 275**	P		P	11 18 17.3	-13
	1.5nm,0.3s,baz=112,slow=7.9,SNR=52						
BVAR	**Borovoye Array**	**128.15 314**	PKP		PKPdf	11 29 17.9	-7.0
	0.5nm,0.3s,baz=102,slow=5.0,SNR=5.3						
ARU	**Arti**	**134.97 319**	PKP		**PKPdf**	**11 29 32.7**	**-4.9**
	0.7nm,0.3s,baz=90,slow=14,SNR=3.6						
FINES	**FINESS Array B**	**147.40 339**	PKPbc		**PKPdf**	**11 29 56.6**	**-3.1**
	6.9nm,0.6s,baz=55,slow=3.7,SNR=30						
NOA	**NORSAR Array B**	**151.10 351**	PKPbc		**PKPdf**	**11 30 06.7**	**+1.0**
	1.3nm,0.5s,baz=16,slow=4.2,SNR=9.0						
HFS	**Hagfors**	**151.58 348**	PKPbc		**PKPdf**	**11 30 07.7**	**+1.3**
	3.8nm,0.7s,baz=46,slow=6.2,SNR=6.3						
AKASG	**Malin Array Be**	**153.21 320**	PKPbc		**PKPdf**	**11 30 10.7**	**+1.6**
	1.1nm,0.4s,baz=58,slow=2.1,SNR=9.7						
TORD	**Torodi Ar. Bea**	**160.46 179**	PKPab		**PKPab**	**11 30 59.1**	**-1.4**
	0.3nm,0.5s,baz=183,slow=3.8,SNR=5.3						

IDC 20 11:11:23.8±999.0, 51°.18N×49°.63E, h0km, Error ellipse: s-maj=884.5km s-min=113.7km az=93.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.39**	**95**	*i*		11 41 10.0	
	baz=282,slow=323,SNR=2.1						
I46RU	**ZALESOVO INFRA**	**21.43**	**69**	*i*		13 21 50.0	
	baz=280,slow=345,SNR=1.5						
I34MN	**SONGINO INFRAS**	**36.26**	**72**	*i*		14 58 10.0	
	baz=293,slow=338,SNR=1.4						

*EAF **20** 11:16:29.9±2.2, 25°.77S×29°.80E, h0km±27km, MD4.1*
BUL 20 11:16:28.8±3.0, 25°.84S×29°.69E, h0km±37km, MD4.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.29**	**102**	*i* P	Pn	11 17 07.3	-0.5
CNG				*i* Sg	Sb	11 17 38.3	-1.6
CNG	**Changalane**	**2.29**	**102**	*i* P	Pn	11 17 07.3	-0.5
CNG				*i* Sg	Sb	11 17 38.3	-1.6
MOPA	**Mopani**	**2.78**	**34**	*eP*	Pn	11 17 12.9	-1.7
MOPA				*i* Sg	Sb	11 17 53.0	-1.1
MOPA	**Mopani**	**2.78**	**34**	*eP*	Pn	11 17 12.9	-1.7
MOPA				*i* Sg	Sb	11 17 53.0	-1.1
MSNA	**Messina**	**3.49**	**5**	*i* Sg	Sb	11 18 17.4	+2.9
MSNA	**Messina**	**3.49**	**5**	*i* Sg	Sb	11 18 17.4	+2.9
MATP	**Matopo**	**5.50**	**348**	*eP*	Pn	11 17 52.6	+0.5
MATP				*i* Sg	Sb	11 19 17.7	+5.3
MATP	**Matopo**	**5.50**	**348**	*eP*	Pn	11 17 52.6	+0.5
MATP				*i* Sg	Sb	11 19 17.7	+5.3
BLWY	**Bulawayo**	**5.76**	**350**	*i* P	Pn	11 17 56.3	+0.6
BLWY				*i* Sg	Sb	11 19 25.4	+5.5
BLWY	**Bulawayo**	**5.76**	**350**	*i* P	Pn	11 17 56.3	+0.6
BLWY				*i* Sg	Sb	11 19 25.4	+5.5

*IDC **20** 11:19:12.9±2.1, 5°.63N×126°.88E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/46, mbtmp3.6/4, Error ellipse: s-maj=181.2km s-min=21.7km az=67.0*
*MAN **20** 11:19:26.1, 5°.73N×127°.21E, h10km, mb4.3, ML3.2, MS2.9*
ISC 20 11:19:27.3±1.2, 4°.7N±0°.1×125°.2E±0°.3, h100km, n7, σ1§76/7, mb3.6/4, 3C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.51**	**18**	⇑*eP*	**Pn**	**11 19 53.5**	**-0.2**
KCP	**Kidapawan**	**2.34**	**356**	⇑*eP*	**Pn**	**11 20 06.4**	**+2.0**
BUKP	**Musuan**	**3.21**	**357**	⇑*eP*	**Pn**	**11 20 16.7**	**+0.8**
WRA	**Warramunga Arr**	**26.03**	**160**	P	**P**	**11 24 52.9**	**+1.6**
	0.4nm,0.4s,baz=345,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**29.39**	**164**	P	**P**	**11 25 21.4**	**+0.1**
	0.2nm,0.3s,baz=339,slow=6.9,SNR=4.6						
MKAR	**Makanchi Array**	**55.96**	**326**	P	**P**	**11 28 54.4**	**-0.9**
	0.5nm,0.4s,baz=115,slow=7.3,SNR=18						
KURBB	**Kurchatov Arra**	**60.17**	**328**	P	**P**	**11 29 22.4**	**-2.1**
	0.6nm,0.3s,baz=128,slow=7.5,SNR=6.3						

*NNC **20** 11:22:37.3±1.5, 43°.69N×69°.65E, h0km, mb3.7, mpv3.0, Error ellipse: s-maj=8.1km s-min=5.1km az=135.0, Suspected Mining explosion.*
*SOME **20** 11:22:37.0, 43°.68N×69°.67E*
*KRNET **20** 11:22:38.3±0.1, 43°.84N×69°.38E, mb3.1*
ISC 20 11:22:44.3±1.3, 43°.60N±0°.07×69°.92E±0°.06, h0km, n16, σ1§64/25, 13C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.57**	**186**	P	**Pg**	**11 22 54.7**	**-0.6**
	1.7nm,0.4s						
BRLS				S	**Sb**	**11 23 07.1**	**+1.1**
	16nm,0.4s						
KK09	**Karatay Array**	**0.64**	**138**	⇑P	**Pg**	**11 22 53.5**	**-3.0**
	3.1nm,0.6s,baz=322,slow=18						
KK09				⇓S	**Sg**	**11 23 05.5**	**+0.7**
	19nm,0.4s,baz=311,slow=31						
MNAS	**Manas**	**2.20**	**120**	⇓*iP*	**Pn**	**11 23 21.8**	**-0.4**
	baz=19						
MNAS				⇓*iS*	**Sb**	**11 23 53.9**	**+1.1**
	baz=19						
TRKS	**Terek-Say**	**2.26**	**156**	⇑*iP*	**Pn**	**11 23 22.7**	**-0.3**
	baz=50						
TRKS				⇑*iS*	**Sb**	**11 23 55.4**	**+0.8**
	baz=50						
ARK	**Arkit**	**2.35**	**139**	⇑*iP*	**Pn**	**11 23 24.0**	**-0.3**
	baz=36						
ARK				⇑*iS*	**Sb**	**11 23 56.9**	**-0.2**
	baz=36						
MRKS	**Merke**	**2.57**	**108**	Pg	**Pb**	**11 23 29.8**	**-1.4**
	5.0nm,0.5s						
MRKS				Lg	Lg	11 24 07.0	
	17nm,0.6s						
EKS2	**Erkin-Say**	**2.98**	**107**	⇑*eP*	**Pn**	**11 23 32.6**	**-0.3**
	baz=9.0						
EKS2				⇑*iS*	**Sn**	**11 24 12.6**	**+3.2**
	baz=9.0						
AAK	**Ala-Archa**	**3.48**	**104**	⇓Pg	**Pb**	**11 23 45.0**	**-2.0**
	5.0nm,0.5s						
AAK				⇓Lg	Lg	11 24 34.0	
	5.1nm,0.6s						
AAK	**Ala-Archa**	**3.48**	**104**	⇓*iP*	**Pn**	**11 23 39.6**	**-0.3**
	baz=6.0						
AAK				⇓*iS*	**Sn**	**11 24 24.7**	**+2.7**
	baz=6.0						
UCH	**Uchtor**	**3.64**	**111**	⇑*eP*	**Pn**	**11 23 42.2**	**-0.2**
	baz=11						
UCH				⇑*iS*	**Sn**	**11 24 28.6**	**+2.3**
	baz=11						
ARLS	**Aral**	**3.68**	**117**	⇑*eP*	**Pn**	**11 23 42.6**	**0.0**
	baz=17						
ARLS				⇑*iS*	**Sn**	**11 24 29.8**	**+3.0**
	baz=17						
KRBS	**Karabastau**	**4.18**	**87**	Pg	**Pb**	**11 23 58.2**	**-0.5**
	4.3nm,0.6s						
KRBS				Lg	Lg	11 24 55.7	
	7.2nm,0.4s						
TKM2	**Tokmak 2**	**4.20**	**97**	⇑Pg	**Pb**	**11 23 56.8**	**-2.4**
	2.9nm,0.6s						
TKM2				⇑Lg	Lg	11 24 58.2	
	4.2nm,0.6s						
DGS	**Degeres**	**4.28**	**93**	Pg	**Pb**	**11 23 59.8**	**-0.7**
	2.6nm,0.5s						
DGS				Lg	Lg	11 24 59.2	
	6.9nm,0.5s						
KTBS	**Karatobe**	**4.91**	**86**	Pg	**Pb**	**11 24 11.8**	**+0.6**
	3.6nm,0.5s						
KTBS				Lg	Lg	11 25 19.5	
	7.5nm,0.8s						
NB2	**NORSAR Subarra**	**38.38**	**318**	PKP	**P**	**11 30 07.0**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=18,slow=2.6						

*ASRS **20** 11:35:44.2±0.5, 48°.N±3°×8°.5E±°, h5km, MLh3.1/8, Error ellipse: s-maj=8.8km s-min=2.6km az=139.8*
*SOME **20** 11:35:46.1, 47°.50N×85°.10E, h0km*
*NNC **20** 11:35:49.1±4.4, 47°.49N×84°.99E, h0km, mb3.2, mpv3.2, Error ellipse: s-maj=27.5km s-min=22.6km az=95.0*
ISC 20 11:35:46.5±1.2, 47°.17N±0°.05×85°.20E±0°.05, h10km, n22, σ2§47/31, 3C-5D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.36**	**322**	*eP*	**Pg**	**11 35 54.5**	**+0.8**
	33nm,0.1s						
ZSN				*eS*	**Sg**	**11 35 59.7**	**+1.2**
	404nm,0.2s						
ZSN	**Zaisan**	**0.36**	**322**	P	**Pg**	**11 35 54.5**	**+0.8**
	33nm,0.1s						
ZSN				S	**Sg**	**11 35 59.7**	**+1.2**
	404nm,0.2s						
MK31	**Makanchi Array**	**2.02**	**260**	⇑Pg	Pg	11 36 26.8	+1.5
	2.1nm,0.2s,baz=76,slow=18,SNR=129						
MK31				⇓Lg	Lg	11 36 57.2	
	7.5nm,0.2s,baz=71,slow=32,SNR=4.8						
MKAR	**Makanchi Array**	**2.02**	**260**	Pg	Pg	11 36 27.4	+2.0
MKAR				Sg	Sg	11 36 57.2	+5.6
MAKZ	**Makanchi**	**2.23**	**262**	⇓Pg	**Pg**	**11 36 30.0**	**+0.7**
	3.5nm,0.5s						
MAKZ				⇓Lg	Lg	11 37 03.1	
	28nm,0.5s						
MAKZ	**Makanchi**	**2.23**	**262**	Pg	**Pg**	**11 36 30.4**	**+1.0**
MAKZ				Sg	Sg	11 37 03.1	+4.8
DGZ	**Jazzator, Alta**	**2.94**	**30**	Pg	**Pn**	**11 36 31.1**	**-2.3**
DGZ				Sg	**Sn**	**11 37 04.1**	**-4.7**
CHBI	**Chibit, Altay**	**3.50**	**25**	Pn	**Pn**	**11 36 39.8**	**-1.3**
CHBI				Pg	Pb	11 36 42.6	-6.0
CHBI				Sg	**Sn**	**11 37 22.4**	**-0.2**
AKAR	**Aktash**	**3.54**	**26**	Pg	**Pn**	**11 36 43.7**	**+2.0**
AKAR				Sg	**Sn**	**11 37 24.2**	**+0.6**
CUR	**Chagan-Uzun**	**3.60**	**34**	Pn	**Pn**	**11 36 39.8**	**-2.8**
CUR				Pg	Pb	11 36 44.9	-5.5
CUR				Sg	**Sn**	**11 37 26.2**	**+1.0**
UKR	**Ust'-Kan**	**3.78**	**356**	Pn	**Pn**	**11 36 42.4**	**-2.6**
UKR				Pg	Pb	11 36 47.2	-6.2
UKR				Sg	**Sn**	**11 37 31.2**	**+1.6**
ULGR	**Ulagan, Altay**	**3.91**	**27**	Pn	**Pn**	**11 36 46.4**	**-0.3**
ULGR				Pg	Pb	11 36 50.9	-4.7
ULGR				Sg	**Sn**	**11 37 38.1**	**+5.4**
KAPS	**Kapalarasan**	**4.47**	**247**	*eP*	**Pg**	**11 37 11.9**	**-0.2**
	0.6nm,0.1s						
KAPS				*eS*	**Sg**	**11 38 12.8**	**+2.8**
	7.5nm,0.4s						
KAPS	**Kapalarasan**	**4.47**	**247**	Pg	**Pg**	**11 37 11.9**	**-0.2**
	0.6nm,0.1s						
KAPS				Lg	Lg	11 38 12.8	
	7.5nm,0.4s						
SEM	**Semipalatinsk**	**4.60**	**317**	*eP*	**Pb**	**11 37 08.0**	**+0.5**
	4.2nm,0.2s						
SEM				*eS*	**Sb**	**11 38 07.1**	**+4.0**
	16nm,0.2s						
SEM	**Semipalatinsk**	**4.60**	**317**	Pg	**Pb**	**11 37 08.0**	**+0.5**
	4.2nm,0.2s						
SEM				Lg	Lg	11 38 07.1	
	16nm,0.2s						
DJR	**Jarkent**	**4.73**	**235**	*eP*	**Pg**	**11 37 17.6**	**+0.5**
	0.8nm,0.1s						
DJR				*eS*	Sg	11 38 23.7	+5.4
	4.8nm,0.5s						
DJR	**Jarkent**	**4.73**	**235**	Pg	**Pg**	**11 37 17.6**	**+0.5**
	0.8nm,0.1s						
DJR				Lg	Lg	11 38 23.7	
	4.8nm,0.5s						
ARTR	**Artybash**	**4.83**	**16**	Pg	Pn	11 37 06.7	+7.4
ARTR				Sg	**Sb**	**11 38 06.6**	**-2.7**
KURBB	**Kurchatov Arra**	**5.59**	**311**	⇓Pn	**Pn**	**11 37 07.8**	**-1.9**
	0.3nm,0.2s						
KURBB				⇑Lg	Lg	11 38 40.5	
	30nm,0.7s						
KURK	**Kurchatov**	**5.60**	**312**	⇓Pn	**Pn**	**11 37 07.1**	**-2.7**
	1.4nm,0.9s						
KURK				⇑Lg	Lg	11 38 40.2	
	8.0nm,0.5s						
KURK	**Kurchatov**	**5.60**	**312**	Pn	**Pn**	**11 37 06.8**	**-3.0**
KURK				S	**Sn**	**11 38 08.5**	**-5.7**

*STR **20** 12:00:51.8±0.3, 46°.N±3°×±°, h7km±6km, MLv1.0/6, preliminary*
ZUR 20 12:00:51.4, 46°.33N×7°.35E, h5km, MLh0.9/22, 4C-4D, Error ellipse: s-maj=1.3km s-min=0.4km az=286.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin/Sane**	**0.05**	**310**	⇓Pg	Pg	12 00 53.1	+0.2
	0.7nm,SNR=13						
SENIN				⇓Pg	Pg	12 00 53.1	+0.2
SENIN				Sg	Sg	12 00 54.3	+0.2
SIOV	**Sion-Valere**	**0.10**	**175**	Pg	Pg	12 00 53.6	+0.2
	0.8nm,SNR=6.8						
SIOV				Pg	Pg	12 00 53.6	+0.2
SIOV				Sg	Sg	12 00 55.1	+0.2
SIOO	**Sion-Ophtalmol**	**0.10**	**168**	Sg	Sg	12 00 55.8	+0.8
SIEB	**Ecole de Borzu**	**0.13**	**106**	Pg	Pg	12 00 54.3	+0.2
	0.3nm,SNR=2.7						
SIEB				Pg	Pg	12 00 54.3	+0.2
SIEB				Sg	Sg	12 00 56.3	+0.4
GRYON	**Gryon**	**0.19**	**244**	⇑Pg	Pg	12 00 55.2	+0.1
GRYON				⇑Pg	Pg	12 00 55.2	+0.1
	0.2nm,SNR=4.8						
GRYON				Sg	Sg	12 00 58.0	+0.5
LKBD	**Leukerbad**	**0.20**	**74**	Pg	Pg	12 00 55.4	+0.1
	0.1nm,SNR=1.5						
LKBD				Pg	Pg	12 00 55.4	+0.1
LKBD				Sg	Sg	12 00 58.4	+0.4
LKBD2	**Leukerbad 2**	**0.21**	**78**	Pg	Pg	12 00 55.7	+0.2
LKBD2				Pg	Pg	12 00 55.7	+0.2
	0.1nm,SNR=1.3						
VANNI	**Vissoie, Val d**	**0.21**	**126**	Sg	Sg	12 00 58.6	+0.4
DIX	**Grande Dixence**	**0.26**	**171**	⇓Pg	Pg	12 00 56.6	+0.2
	0.1nm,SNR=2.6						
DIX				⇓Pg	Pg	12 00 56.6	+0.2
DIX				Sg	Sg	12 00 59.9	+0.1
DIX	**Grande Dixence**	**0.26**	**171**	Pg	Pg	12 00 56.7	+0.3
AIGLE	**Aigle**	**0.28**	**272**	Sg	Sg	12 01 01.2	+0.8
AIGLE	**Aigle**	**0.28**	**272**	Sg	Sg	12 01 01.3	+0.8
AIGLE	**Aigle**	**0.28**	**272**	Pg	Pg	12 00 57.2	+0.4
LAUCH	**Lauchernalp**	**0.30**	**74**	⇑Pg	Pg	12 00 57.5	+0.2
	0.3nm,SNR=7.5						
LAUCH				⇑Pg	Pg	12 00 57.5	+0.2
SALAN	**Lac Salanfe**	**0.32**	**235**	Pg	Pg	12 00 57.8	+0.1
	0.1nm,SNR=2.3						
SALAN				Pg	Pg	12 00 57.8	+0.1
EMBD	**Embd, Matterta**	**0.35**	**109**	Pg	Pg	12 00 58.5	+0.3
	0.1nm,SNR=1.2						
EMBD				Pg	Pg	12 00 58.5	+0.3
EMBD				Sg	Sg	12 01 02.7	-0.1
EMBD	**Embd, Matterta**	**0.35**	**109**	Pg	Pg	12 00 58.4	+0.1
BRANT	**Les Verrieres**	**0.86**	**315**	Pg	Pn	12 01 10.0	-0.1
BRANT				Pn	Pb	12 01 10.9	+2.2
BALST	**Balsthal**	**1.03**	**13**	Pg	Pn	12 01 12.3	-0.2
BALST				Pn	Pb	12 01 13.1	+1.4
CHMF	**Charmoille**	**1.03**	**333**	Pn	Pn	12 01 12.9	+0.3

*IDC **20** 12:01:09.9±0.6, 15°.75S×73°.99W, h53km±4km, mb4.3/16, mb1 4.5/22, mb1mx4.4/40, mbtmp4.6/22, MS4.0/48, Ms1 3.9/48, ms1mx3.9/61, Error ellipse: s-maj=17.6km s-min=11.1km az=47.0*
*VAO **20** 12:01:10.1±0.4, 15°.76S×73°.98W, h50km, mb4.9*
*MOS **20** 12:01:10.3±1.4, 15°.83S×74°.08W, h65km, mb5.0/10, Error ellipse: s-maj=17.3km s-min=8.3km az=114.8*
*NEIC **20** 12:01:10±1.7, 15°.88S±0°.07×74°.04W±0°.09, h49km±5km, mb5.0/201, ML5.1(ARE), Error ellipse: s-maj=13.4km s-min=8.6km az=61.0*
*GCMT **20** 12:01:14.0±0.3, 15°.84S±0°.02×74°.24W±0°.02, h56km±1km, MW5.0/77, Moment Tensor Solution. s41,c54; s77,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.05±.19; $M_{\theta\theta}$3.21±.11; $M_{\phi\phi}$-1.16±.15; $M_{r\theta}$0.64±.09; $M_{\theta\phi}$0.21±.11; $M_{\phi r}$-2.68±.10; Best double couple: $M_0$3.83300×10^{16} NP1:ϕ_s56.00000°, δ50.00000°, λ-145.00000°. NP2: ϕ_s302.00000°, δ64.00000°, λ-45.00000°. Principal axes: T 3.2920, Plg8.0000°, Azm2.0000°; N 1.0820, Plg39.0000°, Azm99.0000°; P -4.3740, Plg50.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ARE **20** 12:01:28±0.9, 16°.0S±0°.3×74°.2W±0°.5, h61km±7km Error ellipse: s-maj=76.1km s-min=36.8km az=62.0*
ISC 20 12:01:10.0±0.3, 15°.84S±0°.05×73°.95W±0°.06, h54km, n460, σ0§94/353, mb5.0/108, MS4.0/50, 7C-8D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.28**	**127**	*eP*	**Pn**	**12 02 12.4**	**-0.1**
AP01				*eS*	**Sn**	**12 03 02.4**	**+1.2**
AP01	**Chacalluta**	**4.28**	**127**		**Pn**	**12 02 12.8**	**+0.3**
PB12	**IPOC Station P**	**4.43**	**129**	Pn	**Pn**	**12 02 15.2**	**+0.4**
NNA	**Nana**	**4.75**	**323**	P	**Pn**	**12 02 18.1**	**-1.0**
	50nm,0.3s,baz=151,slow=11,SNR=51						
NNA				S	**Sn**	**12 03 18.1**	**+5.3**
	464nm,0.3s,baz=181,slow=5.6,SNR=14						
NNA	**Nana**	**4.75**	**323**	*ceP*	**Pn**	**12 02 18.8**	**-0.3**
NNA				pmax	pmax		
	comp=Z,2μm,1.0s						
NNA	**Nana**	**4.75**	**323**	Pn	**Pn**	**12 02 18.6**	**-0.5**
PB16	**IPOC Station P**	**4.92**	**121**		**Pn**	**12 02 23.3**	**+1.3**
MNMC	**Minye Minye**	**5.29**	**129**		**Pn**	**12 02 27.1**	**+0.3**
LPAZ	**La Paz**	**5.62**	**95**	P	**Pn**	**12 02 33.6**	**+2.0**
	comp=Z,14nm,0.3s,baz=272,slow=11,SNR=78						
LPAZ				LR	LR	12 04 55.3	
	comp=Z,1μm,19.5s,baz=274,slow=40						
LPAZ	**La Paz**	**5.62**	**95**	*eP*	Pn	12 02 36.9	+5.3
LPAZ	**La Paz**	**5.62**	**95**	*eP*	Pn	12 02 36.8	+5.3
LPAZ	**La Paz**	**5.62**	**95**	*eP*	Pn	12 02 37.0	+5.5
LPAZ	**La Paz**	**5.62**	**95**	Pn	**Pn**	**12 02 36.1**	**+4.5**
PB11	**IPOC Station P**	**5.66**	**134**		**Pn**	**12 02 32.0**	**+0.3**
TA02	**Huaiquique**	**5.71**	**141**		**Pn**	**12 02 32.3**	**0.0**
TA01	**Diego Aracena**	**5.91**	**143**	Pn	**Pn**	**12 02 35.0**	**-0.1**
GO01	**Chusmiza**	**5.92**	**131**	Pn	**Pn**	**12 02 36.7**	**+1.1**
PATCX	**Punta Patache**	**6.13**	**145**		**Pn**	**12 02 38.1**	**-0.1**
PB08	**IPOC Station P**	**6.26**	**134**		**Pn**	**12 02 40.7**	**+0.5**
PB01	**IPOC Station P**	**6.69**	**141**		**Pn**	**12 02 45.7**	**-0.1**
PB07	**IPOC Station P**	**7.01**	**147**		**Pn**	**12 02 49.8**	**-0.4**
PB04	**IPOC Station P**	**7.39**	**151**		**Pn**	**12 02 53.8**	**-1.7**
PB09	**IPOC Station P**	**7.42**	**144**		**Pn**	**12 02 56.6**	**+0.8**
PB06	**IPOC Station P**	**7.99**	**149**		**Pn**	**12 03 02.9**	**-0.7**
CZSB	**Cruzeiro do Su**	**8.15**	**9**	*eP*	**Pn**	**12 03 04.6**	**-1.2**
CZSB	**Cruzeiro do Su**	**8.15**	**9**	Pn	**Pn**	**12 03 06.2**	**+0.4**
LVC	**Limon Verde**	**8.25**	**146**	P	**Pn**	**12 03 08.3**	**+0.9**
	comp=Z,23nm,0.3s,baz=330,slow=8.6,SNR=162						
LVC				S	**Sn**	**12 04 37.4**	**-2.0**
	comp=Z,23nm,0.3s,baz=81,slow=11,SNR=5.6						
LVC				Lg	Lg	12 05 27.8	
	comp=Z,2.2nm,0.3s,baz=230,slow=20,SNR=12						
LVC	**Limon Verde**	**8.25**	**146**	*eP*	**Pn**	**12 03 08.4**	**+1.0**
LVC	**Limon Verde**	**8.25**	**146**	*eP*	**Pn**	**12 03 08.2**	**+0.7**
LVC	**Limon Verde**	**8.25**	**146**	Pn	**Pn**	**12 03 08.2**	**+0.7**
PB10	**IPOC Station P**	**8.28**	**158**	Pn	**Pn**	**12 03 05.8**	**-1.7**
PB15	**IPOC Station P**	**8.46**	**151**		**Pn**	**12 03 09.3**	**-0.9**
PB14	**IPOC Station P**	**9.36**	**160**	Pn	**Pn**	**12 03 20.0**	**-2.5**
ETMB	**Extrema**	**9.63**	**53**	*eP*	**Pn**	**12 03 27.2**	**+1.2**
ETMB	**Extrema**	**9.63**	**53**	Pn	**Pn**	**12 03 27.1**	**+1.0**
ATAH	**Atahualpa**	**9.68**	**333**	P	**Pn**	**12 03 27.3**	**+0.2**
	comp=Z,8.8nm,0.3s,baz=154,slow=8.8,SNR=27						
AC02	**Maricunga**	**11.83**	**158**	Pn	**Pn**	**12 03 56.5**	**0.0**
GO03	**Copiap**	**12.20**	**164**	Pn	**Pn**	**12 04 00.4**	**-0.7**
TBTG	**Tabatinga, AM**	**12.24**	**19**	*eP*	**Pn**	**12 04 00.7**	**-1.0**
TBTG	**Tabatinga, AM**	**12.24**	**19**	Pn	**Pn**	**12 04 00.5**	**-1.3**
SIV	**San Ignacio**	**12.39**	**92**	P	**Pn**	**12 04 03.2**	**-0.6**
	comp=Z,2.1

ITRB Iturama 22.79 103 *eP* **P 12 06 09.0 +0.7**
LC01 Cunco 23.05 176 P **P 12 06 10.3 -0.4**
LC01 IAmb IAmb 12 06 33.3
comp=Z,52nm,1.1s
ZARC Zaragoza, Cauc 23.20 358 P **P 12 06 12.7 +0.3**
ZARC IAmb IAmb 12 06 36.5
comp=Z,47nm,0.8s
ITAB Concordia 23.21 123 *eP* **P 12 06 13.4 +0.9**
ITAB Concordia 23.21 123 P **P 12 06 12.9 +0.4**
CPSB Cacapava Do Su 23.74 131 *eP* **P 12 06 17.6 +0.3**
MALB Monte Alegre 23.87 56 *eP* **P 12 06 19.2 +0.5**
OCAC Ocana 23.93 2 P **P 12 06 19.4 0.0**
FRTB Fartura 24.14 112 *eP* **P 12 06 21.8 +0.6**
PLTB Pedras Altas 24.39 134 *eP* **P 12 06 24.1 +0.8**
PLTB Pedras Altas 24.39 134 P **P 12 06 22.8 -0.6**
PLTB IAmb IAmb 12 06 52.3
comp=Z,47nm,1.1s
BB19B Bebedouro 24.66 106 *eP* **P 12 06 26.7 +0.7**
IPMB Ipameri, GO 24.72 99 *eP* **P 12 06 27.2 +0.7**
SDV Santo Domingo 24.78 8 P **P 12 06 27.5 +0.3**
comp=Z,11nm,0.8s,baz=238,slow=6.6,SNR=7.4
SDV LR LR 12 17 09.3
comp=Z,511nm,18.3s,baz=196,slow=39
SDV Santo Domingo 24.78 8 *eP* **P 12 06 27.2 0.0**
SDV Santo Domingo 24.78 8 P **P 12 06 27.7 +0.5**
SDV IAmb IAmb 12 06 52.2
comp=Z,62nm,0.9s
BDFB Brasilia 24.96 93 P **P 12 06 30.1 +1.2**
comp=Z,4.6nm,0.7s,baz=257,slow=16,SNR=5.1
BDFB LR LR 12 18 00.1
comp=Z,187nm,19.0s,baz=301,slow=40
BDFB Brasilia 24.96 93 P **P 12 06 29.4 +0.5**
BDFB pmax pmax
comp=Z,24nm,1.0s
BDFB Brasilia 24.96 93 P **P 12 06 29.4 +0.5**
PLCA Paso Flores 24.98 174 P **P 12 06 29.8 +1.1**
comp=Z,7.5nm,0.8s,baz=341,slow=11,SNR=24
PLCA PcP **PcP 12 10 04.0 +1.2**
comp=Z,4.3nm,0.9s,baz=346,slow=5.8,SNR=3.7
PLCA LR LR 12 14 40.8
comp=Z,234nm,20.4s,baz=317,slow=32
PLCA Paso Flores 24.98 174 *eP* **P 12 06 30.5 +1.8**
PLCA Paso Flores 24.98 174 *eP* **P 12 06 30.0 +1.3**
PLCA Paso Flores 24.98 174 P **P 12 06 29.7 +1.0**
PLCA IAmb IAmb 12 06 52.4
comp=Z,28nm,0.8s
LL04 Puerto Octay 25.02 177 P **P 12 06 30.0 +1.0**
TIJ01 Guaruva-PR 25.15 116 *eP* **P 12 06 31.3 +0.9**
PEXB Peixe 25.16 85 *eP* **P 12 06 30.7 +0.1**
BAUV El Baul 25.31 14 P **P 12 06 32.0 +0.2**
PRPB Parauapebas 25.54 71 *eP* **P 12 06 33.9 -0.1**
RCLB Rio Claro- Sao 25.79 109 *eP* **P 12 06 36.8 +0.6**
TER01 Tubaro-SC 26.16 123 *eP* **P 12 06 40.3 +0.8**
PET01 Itanhaem-SP 26.40 113 *eP* **P 12 06 42.4 +0.8**
VAO Valinhos 26.40 110 *eP* **P 12 06 42.3 +0.5**
MCPB Macapa, AP 26.52 57 *eP* **P 12 06 43.8 +0.9**
SMTB Santa Maria do 26.65 78 *eP* **P 12 06 44.5 +0.5**
JTS Las Juntas de 28.15 337 LR LR 12 18 18.9
comp=Z,155nm,20.5s,slow=37
JANB Januaria 28.57 92 *eP* **P 12 07 01.8 +0.5**
DIAM Diamantina, MG 29.04 99 *eP* **P 12 07 06.3 +0.8**
MAN01 Angra dos Reis 29.11 109 *eP* **P 12 07 07.1 +1.1**
MDP Montagnes des 29.63 47 LR LR 12 19 56.3
comp=Z,1µm,19.8s,baz=242,slow=38
BSFB Barra de Sao F 31.72 100 *eP* **P 12 07 29.4 +0.5**
ROSB Rosrio 32.05 69 *eP* **P 12 07 32.5 +0.5**
RIB01 Linhares ES 32.15 101 *eP* **P 12 07 33.3 +0.5**
GUA01 Guaratinga, BA 32.78 96 *eP* **P 12 07 39.3 +1.0**
CMC01 Camacan, BA 33.15 94 *eP* **P 12 07 42.3 +0.8**
NBPN Ponto Novo - B 33.19 86 *eP* **P 12 07 42.9 +0.9**
NBIT Itapeh - BA 33.27 93 *eP* **P 12 07 43.7 +1.0**
GDU01 Guandu, BA 33.29 91 *eP* **P 12 07 43.5 +0.8**
MTO3 Montecristo 33.68 332 P **P 12 07 47.5 +1.2**
MTO3 IAmb IAmb 12 07 48.5
comp=Z,25nm,1.1s
JAKH Jacmel 33.89 2 P **P 12 07 48.6 +0.8**
NBPS Pedro II - PI 33.90 74 *eP* **P 12 07 48.9 +0.6**
PDPR Patillas Dam, 34.54 13 P **P 12 07 53.0 -0.5**
PDPR IAmb IAmb 12 08 20.5
comp=Z,17nm,0.9s
RPN Rapa Nui 34.67 245 LR LR 12 18 20.9
comp=Z,411nm,20.9s,baz=81,slow=30
APG El Apazote 34.72 331 LR LR 12 21 50.8
comp=Z,149nm,19.5s,baz=116,slow=36
NBPB Pedra_Branca-C 35.23 77 *eP* **P 12 08 00.0 +0.4**
NBMA Muriti-CE 35.44 80 *eP* **P 12 08 02.0 +0.6**
NBLA Lagarto - SE 35.48 87 *eP* **P 12 08 02.3 +0.6**
NBMO Morrinhos-CE 35.61 73 *eP* **P 12 08 03.4 +0.5**
NBCL Cascavel-CE 36.89 76 *eP* **P 12 08 14.7 +0.9**
NBAN Anadia - AL 37.22 85 *eP* **P 12 08 17.2 +0.6**
NBPA Parau_RN 37.49 79 *eP* **P 12 08 18.5 -0.4**
EFI East Falkland 37.94 164⇓ *eP* **P 12 08 21.1 -1.0**
EFI pmax pmax
comp=Z,14nm,0.7s
NBRF Rio Formoso - 38.55 84 *eP* **P 12 08 28.4 +0.5**
RCBR Riachuelo 38.61 79 *eP* **P 12 08 28.6 +0.3**
CMIG Matias Romero 38.69 327 LR LR 12 23 43.6
comp=Z,92nm,21.5s,baz=156,slow=35
ZAIG Zacatecas 47.50 323 P **P 12 09 40.4 +0.1**
ZAIG IAmb IAmb 12 09 42.8
comp=Z,14nm,1.1s
PMSA Palmer Station 49.35 174 LR LR 12 27 19.5
comp=Z,96nm,21.1s,baz=326,slow=32
PMSA Palmer Station 49.35 174 *eP* **P 12 09 54.6 +0.9**
GOGA Godfrey 49.81 350 P **P 12 09 56.7 -0.8**
GOGA pmax pmax
comp=Z,14nm,1.2s
GOGA Godfrey 49.81 350 P **P 12 09 56.7 -0.8**
GOGA IAmb IAmb 12 09 57.3
comp=Z,14nm,1.1s
GOGA Godfrey 49.81 350 P **P 12 09 56.4 -1.1**
baz=168
HKT Hockley 50.17 335⇓ *iP* **P 12 10 00.3 +0.1**
HKT pmax pmax
comp=Z,10.0nm,1.2s
HKT Hockley 50.17 335 P **P 12 10 00.1 -0.1**
HKT IAmb IAmb 12 10 01.7
comp=Z,15nm,1.1s
JSC Jenkinsville 50.32 352 IAmb IAmb 12 10 06.4
comp=Z,28nm,1.3s
833A Chaparral WMA, 50.34 331 P **P 12 10 00.5 -1.1**
baz=148
BIRD Birdtown, Kers 50.58 353 IAmb IAmb 12 10 07.2
comp=Z,16nm,0.8s
W57A Gilead 51.03 354 IAmb IAmb 12 10 10.9
comp=Z,17nm,0.8s
KMSC Kings Mountain 51.18 352 P **P 12 10 07.4 -0.4**
baz=171
FPAL Fort Paine 51.31 348 IAmb IAmb 12 10 23.2
comp=Z,13nm,0.9s
SWET Sewanee 52.03 348 P **P 12 10 13.5 -0.8**
SWET IAmb IAmb 12 10 33.6
comp=Z,21nm,1.1s
TKL Tuckaleechee C 52.05 350 LR LR 12 34 45.8
comp=Z,88nm,19.3s,baz=174,slow=39
JCT Junction City 52.34 332 IAmb IAmb 12 10 20.0
comp=Z,16nm,0.9s
JCT Junction City 52.34 332 P **P 12 10 16.2 -0.5**
baz=148
HPIG 52.50 324 IAmb IAmb 12 10 19.5
comp=Z,21nm,1.3s
U54A Nelsons Funny 52.60 352 IAmb IAmb 12 10 21.9
comp=Z,18nm,1.0s
WHTX Lake Whitney, 52.62 335 P **P 12 10 17.6 -1.1**
baz=151,SNR=8.3
T59A Double "B" Far 52.63 356 IAmb IAmb 12 10 22.8
comp=Z,17nm,0.8s
V48A Smith Brothers 52.72 347 IAmb IAmb 12 10 44.3
comp=Z,24nm,1.2s
TZTN Tazewell 52.88 350 P **P 12 10 20.0 -0.5**
baz=169
BLA Blacksburg 53.11 354 P **P 12 10 22.1 -0.1**
baz=172
LPIG La Paz 53.26 317 LR LR 12 27 59.5
comp=Z,78nm,19.7s,baz=126,slow=30
TX32 Lajitas Array 53.29 327 IAmb IAmb 12 10 24.5
comp=Z,12nm,0.8s
TXAR Lajitas Array 53.29 327 P **P 12 10 23.4 -0.3**
comp=Z,10nm,0.7s,baz=150,slow=9.2,SNR=132
TXAR LR LR 12 31 01.3
comp=Z,91nm,18.1s,baz=132,slow=34
WVT Waverly 53.33 346 P **P 12 10 22.6 -1.2**
baz=164
MIAR Mount Ida 53.47 340 IAmb IAmb 12 10 25.4
comp=Z,17nm,1.2s
MIAR Mount Ida 53.47 340 P **P 12 10 24.2 -0.7**
baz=156
S57A Dark Hollow, R 53.52 355 IAmb IAmb 12 10 26.1
comp=Z,13nm,0.8s
W41B Gary Mavity, V 53.62 341 P **P 12 10 25.3 -0.6**
baz=158
WHAR Wooly Hollow 53.74 341 P **P 12 10 26.2 -0.6**
WHAR IAmb IAmb 12 10 27.2
comp=Z,15nm,1.0s
ABTX Abilene, Hawle 54.10 333 P **P 12 10 29.3 -0.2**
baz=149,SNR=23
LCAR Lake Charles 54.13 343 IAmb IAmb 12 10 49.0
comp=Z,9.4nm,0.9s
W39A Magazine 54.13 340 IAmb IAmb 12 10 31.0
comp=Z,20nm,1.2s
W39A Magazine 54.13 340 P **P 12 10 29.3 -0.3**
baz=156
PBMO Poplar Bluff 54.59 344 IAmb IAmb 12 10 54.6
comp=Z,14nm,0.9s
Q56A Snyder Ridge, 54.81 355 IAmb IAmb 12 10 35.9
comp=Z,16nm,0.8s
U40A Yellville 54.90 341 P **P 12 10 34.7 -0.5**
baz=158
WCI Wyandotte Cave 55.01 348 P **P 12 10 34.9 -1.1**
WCI pmax pmax
comp=Z,41nm,1.0s
WCI Wyandotte Cave 55.01 348 P **P 12 10 34.9 -1.1**
WCI Wyandotte Cave 55.01 348 P **P 12 10 35.1 -0.9**
baz=166
X34A Smith Ranch, M 55.06 336 **P 12 10 36.4 -0.1**
S44A Carbondale 55.16 345 P **P 12 10 36.2 -0.9**
S44A IAmb IAmb 12 10 58.9
comp=Z,17nm,0.8s
P60A Greenville 55.38 358 P **P 12 10 38.3 -0.2**
baz=178
MGMO Mountain Grove 55.46 342 IAmb IAmb 12 11 04.1
comp=Z,24nm,1.1s
TUL1 Leonard 55.46 338 P **P 12 10 38.1 -1.2**
baz=154
MCWV Mont Chateau 55.48 354 P **P 12 10 39.2 -0.1**
baz=173
WMOK Wichita Mounta 55.56 335 P **P 12 10 39.5 -0.5**
baz=151,SNR=6.7
P52A Corning 55.71 352 P **P 12 10 40.1 -0.9**
baz=171
OK031 S. Brethren Rd 55.88 338 IAmb IAmb 12 10 42.4
comp=Z,22nm,1.1s
O56A Blue Knob Stat 55.98 356 P **P 12 10 42.5 -0.5**
baz=175
CCM Cathedral Cave 56.01 344 P **P 12 10 41.9 -1.3**
baz=160
MNTX Cornudas Mount 56.06 328 IAmb IAmb 12 10 43.8
comp=Z,13nm,0.9s
MNTX Cornudas Mount 56.06 328 P **P 12 10 42.7 -1.1**
baz=143
O53A New Philadelph 56.20 353 P **P 12 10 43.9 -0.6**
baz=172
S39A Bolivar 56.27 342 P **P 12 10 44.5 -0.6**
S39A IAmb IAmb 12 11 06.7
comp=Z,14nm,0.8s
SSPA Standing Stone 56.30 356 P **P 12 10 45.5 +0.3**
SSPA IAmb IAmb 12 10 49.8
comp=Z,15nm,0.8s
SSPA Standing Stone 56.30 356 P **P 12 10 45.4 +0.2**
baz=176
ACSO Alum Creek Sta 56.41 352 P **P 12 10 44.9 -1.0**
ACSO Alum Creek Sta 56.41 352 P **P 12 10 45.2 -0.7**
baz=170
R40A Maddies Statio 56.52 343 IAmb IAmb 12 11 02.5
comp=Z,13nm,1.1s
MSTX Muleshoe 56.63 331 IAmb IAmb 12 10 48.0
comp=Z,23nm,1.1s
MSTX Muleshoe 56.63 331 P **P 12 10 46.7 -1.1**
baz=146,SNR=7.4
BLOK Blackwell 56.73 338 IAmb IAmb 12 10 51.6
comp=Z,19nm,0.9s
N54A Moraine State 56.78 355 P **P 12 10 48.1 -0.5**
baz=173
AMTX Amarillo 56.91 333 P **P 12 10 48.4 -1.3**
baz=148
KAN13 South Haven SW 57.05 338 IAmb IAmb 12 11 16.6
comp=Z,13nm,0.9s
P43A Skaggs, Pawnee 57.07 346 IAmb IAmb 12 11 15.1
comp=Z,19nm,1.0s
N49A Columbus Grove 57.26 351 IAmb IAmb 12 10 52.2
comp=Z,22nm,1.1s
M54A Oil Creek Stat 57.30 355 P **P 12 10 52.2 -0.1**
baz=174
M53A WI Miller and 57.33 354 P **P 12 10 51.0 -1.4**
baz=172
KAN08 Anthony NE Sta 57.43 337 IAmb IAmb 12 10 55.6
comp=Z,16nm,0.9s
N47A Urbana 57.47 349 IAmb IAmb 12 11 12.3
comp=Z,14nm,0.9s
KAN12 Harper NE Stat 57.50 337 IAmb IAmb 12 10 55.1
comp=Z,13nm,0.7s
P40A Paris 57.61 343 IAmb IAmb 12 11 19.9
comp=Z,12nm,1.1s
BINY Binghamton 57.77 358 P **P 12 10 54.7 -0.9**
baz=178
ERPA Erie 57.93 355 P **P 12 10 56.0 -0.7**
baz=173
121A Cookes Peak, D 57.98 326 P **P 12 10 57.1 -0.3**
baz=141
P38A Dawn 58.12 342 IAmb IAmb 12 11 25.1
comp=Z,8.9nm,0.7s
ANMO Albuquerque 59.19 329 LR LR 12 35 24.9
comp=Z,48nm,18.4s,baz=144,slow=35
ANMO Albuquerque 59.19 329 *d iP* **P 12 11 05.7 -0.1**
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO Albuquerque 59.19 329 P **P 12 11 05.9 0.0**
ANMO IAmb IAmb 12 11 06.9
comp=Z,11nm,0.9s
ANMO Albuquerque 59.19 329 P **P 12 11 05.2 -0.6**
baz=143
TUC Tucson 59.46 324 P **P 12 11 07.2 -0.4**
TUC pmax pmax
comp=Z,10.0nm,1.0s
TUC Tucson 59.46 324 P **P 12 11 07.2 -0.4**
TUC IAmb IAmb 12 11 08.7
comp=Z,9.6nm,0.9s
TUC Tucson 59.46 324 P **P 12 11 07.7 +0.1**
baz=138
J47A Sumner 59.62 351 P **P 12 11 06.7 -1.7**
T25A Trinidad 60.00 332 P **P 12 11 10.8 -0.6**
baz=146,SNR=13
214A Organ Pipe Nat 60.38 322 IAmb IAmb 12 11 15.5
comp=Z,16nm,0.9s
214A Organ Pipe Nat 60.38 322 P **P 12 11 13.4 -0.4**
baz=136,SNR=12
SADO Sadowa 60.50 356 LR LR 12 40 57.4
comp=Z,52nm,18.3s,baz=190,slow=40
KSCO Kaye Shedlock' 60.80 335 P **P 12 11 16.4 -0.3**
baz=148
SDCO Great Sand Dun 60.99 332 P **P 12 11 18.0 -0.3**
SDCO Great Sand Dun 60.99 332 P **P 12 11 18.2 -0.1**
baz=145,SNR=30
W18A Petrified Fore 61.00 327 P **P 12 11 18.0 -0.2**
baz=140
BGNE Belgrade 61.20 339 P **P 12 11 18.1 -1.1**
baz=154
X16A Lo Mia Camp, P 61.39 325 IAmb IAmb 12 11 22.6
comp=Z,17nm,1.0s
113A Mohawk Valley, 61.52 322 IAmb IAmb 12 11 23.0
comp=Z,8.0nm,1.0s
S22A 4UR Ranch, Cre 61.61 331 P **P 12 11 22.4 -0.1**
baz=144,SNR=13
Q24A Divide 61.83 333 P **P 12 11 23.2 -0.8**
baz=146
Y14A Wickenburg 61.92 324 IAmb IAmb 12 11 25.8
comp=Z,14nm,0.9s
MVCO Mesa Verde 61.99 329 IAmb IAmb 12 11 26.1
comp=Z,10.0nm,1.1s
MVCO Mesa Verde 61.99 329 P **P 12 11 24.2 -0.7**
baz=142,SNR=7.6
WUAZ Wupatki 62.18 326 IAmb IAmb 12 11 27.9
comp=Z,18nm,1.1s
WUAZ Wupatki 62.18 326 P **P 12 11 26.6 +0.5**
baz=139,SNR=12
OGNE Ogallala 62.21 336 P **P 12 11 25.9 -0.2**
OGNE IAmb IAmb 12 11 46.6
comp=Z,9.5nm,0.7s
OGNE Ogallala 62.21 336 P **P 12 11 26.4 +0.2**
baz=149
ISCO Idaho Springs 62.73 333 P **P 12 11 29.7 -0.2**
baz=146
ECSD EROS Data Cent 62.81 342 P **P 12 11 28.9 -1.1**
ECSD IAmb IAmb 12 11 30.1
comp=Z,15nm,1.1s
ECSD EROS Data Cent 62.81 342 P **P 12 11 29.1 -0.9**
baz=156
SMCO Snowmass 62.83 332 IAmb IAmb 12 11 53.5
comp=Z,8.5nm,0.8s
IKP In-Ko-Pah, Jac 62.85 320 P **P 12 11 30.9 +0.4**
baz=134
SWSC Sam W. Stewart 62.86 321 P **P 12 11 31.2 +0.7**
baz=134
PV13 Radium Mtn., P 62.89 330 IAmb IAmb 12 11 32.0
comp=Z,20nm,1.4s
TKX Tecate 63.10 320 IAmb IAmb 12 11 33.9
comp=Z,16nm,1.2s
SPMN Marine on St. 63.14 345 P **P 12 11 31.1 -1.0**
baz=160
BC3 Big Chuckawall 63.15 322 P **P 12 11 32.6 +0.1**
baz=135,SNR=6.7
MONP2 Monument Peak 63.21 320 P **P 12 11 33.2 +0.1**
baz=134
IRM Iron Mountain 63.32 322 P **P 12 11 33.4 -0.1**
baz=135,SNR=13
U15A North Rim 63.35 326 IAmb IAmb 12 11 35.9
comp=Z,9.7nm,1.0s
109C Camp Elliot, M 63.62 320 P **P 12 11 36.2 +0.6**
baz=133
BELC Belle Mtn. Jos 63.71 322 P **P 12 11 36.9 +0.5**
baz=134
TPFO Pinon Flats 63.72 321 P **P 12 11 36.8 +0.5**
baz=134,SNR=10.0
PFO Pinyon Flats O 63.72 321 LR LR 12 36 50.9
comp=Z,52nm,20.4s,baz=140,slow=34
PFO Pinyon Flats O 63.72 321 *eP* **P 12 11 37.2 +0.8**
PFO Pinyon Flats O 63.72 321 P **P 12 11 37.0 +0.6**
PFO IAmb IAmb 12 11 38.3
comp=Z,14nm,0.9s
PFO Pinyon Flats O 63.72 321 P **P 12 11 36.6 +0.2**
baz=134,SNR=11
N23A Red Feather La 63.77 333 P **P 12 11 36.6 -0.1**
baz=146
GMRC Granite Mounta 64.06 322 P **P 12 11 39.3 +0.7**
baz=135
E38A The Farm, Brul 64.15 347 IAmb IAmb 12 11 38.6
comp=Z,13nm,0.8s
MURC Murrieta 64.16 321 P **P 12 11 39.5 +0.3**
baz=133
O20A White River Ci 64.18 331 IAmb IAmb 12 12 02.1
comp=Z,11nm,1.0s
O20A White River Ci 64.18 331 P **P 12 11 39.2 -0.1**
baz=143
LCMT Little Creek M 64.30 326 IAmb IAmb 12 11 41.8
comp=Z,11nm,1.1s
SRU San Rafael Swe 64.47 329 IAmb IAmb 12 11 42.4
comp=Z,16nm,1.3s
HEC Hector,Ludlow 64.49 322 P **P 12 11 41.7 +0.4**
baz=134,SNR=6.6
SZCU Shurtz Canyon 64.64 326 IAmb IAmb 12 11 44.2
comp=Z,13nm,1.3s
TUQ Turquoise Moun 64.67 323 P **P 12 11 42.9 +0.3**
baz=135,SNR=6.9
CCUT Cedar City 64.76 326 IAmb IAmb 12 11 45.5
comp=Z,12nm,1.0s
TAOE Nuku Hiva Isla 64.82 268 *e*LR LR 12 30 51.0
comp=Z,541nm,26.6s
P17A Butcher Ranch, 64.85 329 IAmb IAmb 12 11 44.9
comp=Z,32nm,1.5s
GSC Goldstone, Bar 65.09 322 P **P 12 11 45.8 +0.5**
baz=134,SNR=5.8
RDMU Red Mountain 65.14 331 IAmb IAmb 12 12 08.2
comp=Z,9.4nm,0.8s
SHOC Shoshone, Teco 65.20 323 P **P 12 11 46.3 +0.4**
baz=135,SNR=5.7
K22A Casper 65.46 334 P **P 12 11 47.2 -0.4**
baz=146
EDW2 Edwards Air Fo 65.52 321 P **P 12 11 48.7 +0.7**
baz=133
QSM Queen of Sheba 65.59 323 IAmb IAmb 12 11 49.9
comp=Z,13nm,1.1s
RSSD Black Hills 65.69 337 P **P 12 11 48.8 -0.3**
baz=148
LRMC Laurel Mtn Rad 65.73 322 P **P 12 11 50.0 +0.6**
baz=133
NLU North Lily Min 65.89 329 IAmb IAmb 12 11 52.1
comp=Z,13nm,1.3s
TPNV Topopah Spring 65.92 324 P **P 12 11 51.3 +0.6**
baz=135,SNR=10
MPMC Manual Prospec 66.02 322 P **P 12 11 51.8 +0.4**
baz=134
S11A Rachel 66.13 325 IAmb IAmb 12 12 08.4
comp=Z,14nm,1.2s
ARVC Arvin 66.19 321 P **P 12 11 53.0 +0.8**
baz=132
ISA Isabella, Lake 66.33 321 P **P 12 11 53.9 +0.7**
baz=133,SNR=7.3
SPR3 Spring Creek 3 66.34 327 IAmb IAmb 12 11 54.9
comp=Z,12nm,1.1s
DUG Dugway, Tooele 66.44 328 P **P 12 11 54.6 +0.7**
baz=139
R11A Troy Canyon, C 66.54 325 P **P 12 11 55.5 +0.8**
baz=136,SNR=7.1
CWC Cottonwood Cre 66.63 322 P **P 12 11 55.6 +0.4**
baz=133
PKM Mcpherson Peak 66.63 320 P **P 12 11 55.4 +0.1**
baz=132,SNR=5.0
AGMN Agassiz Nation 66.77 344 IAmb IAmb 12 11 55.9
comp=Z,16nm,0.8s
AGMN Agassiz Nation 66.77 344 P **P 12 11 55.2 -0.4**
baz=157
VES Vestal, Richgr 66.82 321 P **P 12 11 56.7 +0.5**
baz=132
PDAR Pinedale Array 66.87 332 P **P 12 11 55.7 -1.0**
comp=Z,1.0nm,0.8s,baz=153,slow=5.7,SNR=5.9
PDAR pP **pP 12 12 10.2 -2.2**
comp=Z,2.9nm,1.0s,baz=139,slow=5.7,SNR=9.1
PDAR LR LR 12 43 13.1
comp=Z,62nm,19.4s,baz=140,slow=38
PDAR Pinedale Array 66.87 332 P **P 12 11 56.6 -0.1**
BW06 Boulder Array 66.87 332 P **P 12 11 56.5 -0.3**
baz=143
LCH Last Change Ra 66.92 323 P **P 12 11 55.9 -1.1**
VNA3 Neumayer Olymp 66.94 162 P **P 12 11 58.2 +1.6**
VNA3 Neumayer Olymp 66.94 162 pP pP 12 12 12.4 +0.5
SMMC Simmler 67.03 320 P **P 12 11 58.7 +1.1**
baz=131
VNA1 Neumayer--Stat 67.18 161 P **P 12 11 59.7 +1.7**
VNA1 Neumayer--Stat 67.18 161 pP pP 12 12 14.3 +0.9
VNA2 Neumayer--Watz 67.54 161 P **P 12 12 01.9 +1.6**
baz=300,slow=7.5
VNA2 Neumayer--Watz 67.54 161 pP pP 12 12 16.1 +0.4
baz=291,slow=7.5
AHID Auburn Hatcher 67.57 331 IAmb IAmb 12 12 23.6
comp=Z,14nm,1.1s
HVU Hansel Valley 67.61 330 IAmb IAmb 12 12 17.3
comp=Z,11nm,0.8s
MLAC Mammoth, Mammo 67.88 323 P **P 12 12 02.3 -0.9**
baz=133
NV11 Mina Array Sit 68.03 324 IAmb IAmb 12 12 05.8
comp=Z,17nm,1.5s
ELK Elko 68.09 327 LR LR 12 41 55.7
comp=Z,81nm,20.1s,baz=113,slow=36
LHV Little Huntoon 68.11 323 IAmb IAmb 12 12 06.6
comp=Z,11nm,1.0s
NVAR Mina Array Bea 68.12 324 P **P 12 12 04.5 -0.1**
comp=Z,4.1nm,1.0s,baz=150,slow=6.8,SNR=20
NVAR pP **pP 12 12 19.6 -0.6**
comp=Z,1.8nm,0.7s,baz=142,slow=7.5,SNR=7.0
NVAR LR LR 12 39 21.3
comp=Z,50nm,21.4s,baz=156,slow=34
FLWY Flagg Ranch 68.42 332 IAmb IAmb 12 12 23.1
comp=Z,19nm,0.8s
ULM Lac du Bonnet 68.58 345 P **P 12 12 06.2 -0.7**
comp=Z,12nm,0.7s,baz=154,slow=5.5,SNR=14
ULM LR LR 12 44 18.4
comp=Z,80nm,18.5s,baz=122,slow=38
ULM Lac du Bonnet 68.58 345 IAmb IAmb 12 12 06.8
comp=Z,16nm,0.8s
RLMT Red Lodge 68.62 334 P **P 12 12 07.8 +0.1**
baz=144
LAO LASA Array 68.68 337 P **P 12 12 07.6 -0.2**
baz=147
YERR Yerington 69.03 324 IAmb IAmb 12 12 12.3
comp=Z,19nm,1.2s
SNAA Sanae 69.16 161 P **P 12 12 11.7 +1.2**
SNAA Sanae 69.16 161 pP pP 12 12 25.8 -0.1
SNAA Sanae 69.16 161 LR LR 12 41 25.8
comp=Z,125nm,18.6s,baz=334,slow=35
SNAA Sanae 69.16 161⇓ *eP* **P 12 12 11.8 +1.3**
SNAA pmax pmax

comp=Z,430nm,0.9s
SNAA Sanae 69.16 161 P **P 12 12 11.5 +1.0**
SNAA IAmb IAmb 12 12 26.9
comp=Z,13nm,0.7s
PNTR Pine Nut 69.31 324 IAmb IAmb 12 12 39.8
comp=Z,16nm,0.9s
DGMT Dagmar 69.45 339 P **P 12 12 12.8 +0.3**
baz=149
PAHR Pah Rah Range 69.60 324 IAmb IAmb 12 12 15.9
comp=Z,14nm,0.9s
MFID Camas Ranch 70.33 329 IAmb IAmb 12 12 34.8
comp=Z,15nm,0.8s
SCHQ Schefferville 70.65 4 P **P 12 12 19.0 -0.7**
comp=Z,5.0nm,0.8s,baz=276,slow=4.0,SNR=4.1
SCHQ LR LR 12 47 11.1
comp=Z,40nm,18.2s,baz=155,slow=39
ORV Oroville 70.72 323 IAmb IAmb 12 12 22.5
comp=Z,23nm,1.1s
EGMT Eagleton 71.15 335 P **P 12 12 23.2 +0.2**
baz=144
DBIC Dimbokro 71.95 77 P **P 12 12 27.9 -0.4**
comp=Z,5.1nm,0.6s,baz=252,slow=6.5,SNR=8.7
DBIC LR LR 12 43 00.0
comp=Z,302nm,19.3s,baz=247,slow=35
DBIC Dimbokro 71.95 77 P **P 12 12 28.0 -0.4**
DBIC pmax pmax
comp=Z,13nm,0.9s
DBIC Dimbokro 71.95 77 P **P 12 12 28.0 -0.4**
DBIC IAmb IAmb 12 12 49.3
comp=Z,13nm,0.8s
PPT2 Papeete2 71.97 256 *e*LR LR 12 34 11.4
comp=Z,281nm,24.0s
PPT Papeete 71.98 256 LR LR 12 37 47.3
comp=Z,102nm,20.8s,baz=114,slow=30
M04C Macdoel 72.38 324 P **P 12 12 30.5 0.0**
baz=132
K05A Summer Lake 72.49 326 P **P 12 12 31.8 +0.5**
K05A IAmb IAmb 12 12 56.6
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 72.84 324 LR LR 12 42 03.8
comp=Z,88nm,21.7s,baz=121,slow=34
I05D Terrebonne, OR 73.82 327 P **P 12 12 39.3 +0.4**
baz=133
QSPA South Pole Qui 74.32 180 P **P 12 12 42.6 +0.9**
QSPA IAmb IAmb 12 13 04.8
comp=Z,26nm,1.2s
NEW Newport 74.50 332 LR LR 12 48 37.9
comp=Z,56nm,19.1s,baz=123,slow=38
TORD Torodi Ar. Bea 80.15 73 P **P 12 13 15.1 0.0**
comp=Z,7.8nm,0.7s,baz=260,slow=5.2,SNR=50
TORD pP **pP 12 13 29.6 -1.6**
comp=Z,16nm,0.7s,baz=262,slow=4.5,SNR=18
TORD Torodi Ar. Bea 80.15 73 IAmb IAmb 12 13 30.5
comp=Z,14nm,0.8s
RAR Rarotonga 80.62 251 LR LR 12 39 46.5
comp=Z,160nm,22.0s,baz=198,slow=29
VNDA Vanda 81.54 190 P **P 12 13 22.3 +0.9**
comp=Z,3.3nm,0.9s,baz=132,slow=3.9,SNR=4.6
VNDA LR LR 12 43 13.0
comp=Z,156nm,18.8s,baz=136,slow=31
MDT Midelt 81.98 53 LR LR 12 47 12.5
comp=Z,181nm,21.9s,baz=326,slow=34
YKA Yellowknife Ar 84.33 342 P **P 12 13 35.0 -0.8**
comp=Z,6.9nm,0.8s,baz=138,slow=5.2,SNR=130
YKA pP **pP 12 13 50.4 -1.3**
comp=Z,3.6nm,0.7s,baz=139,slow=5.3,SNR=8.3
YKA LR LR 12 53 52.0
comp=Z,74nm,18.0s,baz=324,slow=38
PAB San Pablo 84.99 47 P **P 12 13 40.4 +0.6**
PAB pmax pmax
comp=Z,20nm,1.2s
PAB San Pablo 84.99 47 P **P 12 13 40.4 +0.6**
PAB IAmb IAmb 12 14 03.1
comp=Z,20nm,1.1s
ESDC Sonseca Array 85.31 47 P **P 12 13 41.4 0.0**
comp=Z,2.9nm,0.9s,baz=250,slow=5.2,SNR=13
ESDC pP **pP 12 13 56.9 -0.8**
comp=Z,7.1nm,1.0s,baz=251,slow=5.7,SNR=14
ESDC LR LR 12 49 50.0
comp=Z,140nm,19.6s,baz=249,slow=34
ESDC Sonseca Array 85.31 47 P **P 12 13 42.5 +1.1**
ESDC IAmb IAmb 12 13 58.3
comp=Z,12nm,1.1s
SUR Sutherland 85.59 122 LR LR 12 50 13.4
comp=Z,73nm,18.9s,baz=267,slow=34
TSUM Tsumeb 86.32 109 P **P 12 13 47.5 +0.6**
comp=Z,1.8nm,0.7s,baz=196,slow=4.1,SNR=4.4
TSUM pP **pP 12 14 02.3 -0.9**
comp=Z,6.7nm,0.8s,baz=251,slow=4.0,SNR=8.6
TSUM LR LR 12 50 52.0
comp=Z,65nm,18.7s,baz=271,slow=34
DLBC Dease Lake 87.03 334 IAmb IAmb 12 13 50.9
comp=Z,13nm,0.9s
WRGLY Wrigley 87.64 340 P **P 12 13 51.7 -0.5**
baz=133
SIT Sitka 88.58 331 P **P 12 13 55.9 -0.8**
baz=122
P33M Teslin, Yukon 89.22 335 IAmb IAmb 12 14 01.2
comp=Z,9.0nm,0.9s
P33M Teslin, Yukon 89.22 335 P **P 12 14 00.1 +0.3**
baz=125
BORG Borgarnes 89.68 20 LR LR 12 51 04.3
comp=Z,63nm,21.7s,baz=228,slow=33
SKAG Skagway 89.87 333 P **P 12 14 04.8 +2.1**
baz=122
BOSA Boshof 90.36 120 LR LR 12 52 27.5
comp=Z,43nm,19.1s,baz=243,slow=34
FARO Faro, Yukon 90.58 336 P **P 12 14 06.9 +0.8**
baz=124
M31M Drury Creek, Y 90.97 336 P **P 12 14 07.7 -0.2**
baz=123
MAW Mawson 91.06 165 LR LR 12 52 06.8
comp=Z,116nm,22.0s,baz=238,slow=34
N31M Braeburn, Yuko 91.14 335 P **P 12 14 09.5 +0.8**
baz=122
SUMG Summit 91.29 10 P **P 12 14 09.8 +0.2**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 91.29 10 P **P 12 14 09.8 +0.2**
RES Resolute Bay 91.29 355 LR LR 12 57 36.0
comp=Z,65nm,21.1s,baz=330,slow=37
LBTB Lobatse 91.77 116 LR LR 12 50 57.6
comp=Z,104nm,21.5s,baz=239,slow=32
KEST Kesra 93.80 54 LR LR 12 56 39.2
comp=Z,93nm,20.4s,baz=276,slow=36
DAWY Dawson 93.88 336 P **P 12 14 20.9 -0.4**
baz=119
INK Inuvik 94.05 341 LR LR 13 00 09.8
comp=Z,92nm,19.4s,baz=104,slow=38
INK Inuvik 94.05 341 P **P 12 14 21.4 -0.4**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 94.05 341 P **P 12 14 21.4 -0.4**
INK IAmb IAmb 12 14 42.7
comp=Z,4.8nm,1.0s
INK Inuvik 94.05 341 P **P 12 14 21.6 -0.2**
baz=124
EPYK Eagle Plains 94.05 339 P **P 12 14 21.6 -0.4**
baz=121
I29M Ogilvie Camp, 94.11 338 IAmb IAmb 12 14 44.2
comp=Z,6.5nm,1.1s
I29M Ogilvie Camp, 94.11 338 P **P 12 14 22.3 +0.1**
baz=120
L27K Beaver Creek, 94.38 335 P **P 12 14 23.9 +0.3**
baz=117
URZ Urewera 94.51 228 LR LR 12 47 05.3
comp=Z,93nm,19.9s,baz=30,slow=29
EGAK Eagle 94.89 337 P **P 12 14 25.6 -0.2**
baz=117
ILAR Eielson Array 97.12 336 P **P 12 14 34.6 -1.4**
comp=Z,0.4nm,0.8s,baz=140,slow=2.1,SNR=7.6
ILAR PP **PP 12 18 29.9 -2.9**
comp=Z,0.5nm,0.9s,baz=116,slow=7.4,SNR=5.0
ILAR LR LR 13 02 53.4
comp=Z,43nm,18.3s,baz=133,slow=38
LSZ Lusaka 97.14 108 LR LR 12 56 52.0
comp=Z,63nm,19.7s,baz=228,slow=34
JMIC Jan Mayen 97.19 17 LR LR 12 55 04.9
comp=Z,51nm,20.9s,baz=239,slow=33
DAVOX Davos/Dischmat 97.24 44 LR LR 12 57 17.1
comp=Z,51nm,19.3s,baz=265,slow=35
COLA College 97.54 336⇑ *e*P **P 12 14 37.2 -0.7**
COLA pmax pmax
comp=Z,3.0nm,1.0s
SKT Skwentna 98.12 332 P Pdif 12 14 41.2 +0.5
baz=108
CHNA Chernabura Isl 100.30 324 P **Pdif 12 14 50.9 +0.5**
baz=103

DZM Mont Dzumac 109.86 239 *e*LR LR 12 51 52.1
comp=Z,304nm,29.9s
H11N3 WAKE ISLAND Hyl 22.17 284 T T 14 33 50.8
baz=98,slow=74,SNR=102
H11N2 WAKE ISLAND Hyl 22.19 284 T T 14 33 48.0
baz=98,slow=74,SNR=61
H11N1 WAKE ISLAND Hyl 22.19 284 T T 14 33 48.4
baz=98,slow=74,SNR=70
H11S2 WAKE ISLAND Hyl 22.21 282 T T 14 33 51.6
baz=98,slow=75,SNR=26
H11S1 WAKE ISLAND Hyl 22.22 282 T T 14 33 49.6
baz=98,slow=75,SNR=38
H11S3 WAKE ISLAND Hyl 22.23 282 T T 14 33 51.6
baz=98,slow=75,SNR=36
TIXI Tiksi 122.57 352 *d i*PKIKP **PKPdf 12 19 58.3 -0.5**
TIXI pmax pmax
comp=Z,4.0nm,1.7s
NRIK Noril'sk 125.28 8‖ *i*PKIKP **PKiKP 12 20 05.1 +0.6**
ARU Arti 125.94 30 *i* PKIKP **PKiKP 12 20 06.6 +0.5**
ARU 12 22 02.8
ARU 12 27 12.3
ARU SS SS 12 38 56.9 +0.5
YAK Yakutsk 130.91 346 *c i*PKIKP **PKPdf 12 20 15.4 +0.4**
YAK pmax pmax
comp=Z,21nm,2.5s
ASAR Alice Springs 132.22 215 PKP **PKPdf 12 20 17.9 -0.9**
comp=Z,2.7nm,0.8s,baz=124,slow=2.1,SNR=18
ASAR Alice Springs 132.22 215 PKIKP **PKPdf 12 20 18.3 -0.5**
ASAR Alice Springs 132.22 215 PKPdf **PKPdf 12 20 18.2 -0.5**
WRA Warramunga Arr 134.86 219 PKhKP PKPpre 12 20 16.6
comp=Z,0.7nm,0.9s,baz=130,slow=0.6,SNR=4.9
WRA PKP **PKPdf 12 20 23.8 0.0**
comp=Z,5.5nm,0.7s,baz=145,slow=1.6,SNR=33
WRAB Tennant Creek 134.86 219 *d i*PKIKP **PKPdf 12 20 23.8 0.0**
WRAB pmax pmax
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 138.51 19 PKP **PKPdf 12 20 28.9 -0.6**
comp=Z,5.9nm,0.8s,baz=302,slow=2.8,SNR=27
KURK Kurchatov 138.81 26⇑ *i*PKIKP **PKiKP 12 20 31.5 -0.8**
KURK pmax pmax
comp=Z,7.0nm,2.5s
KURBB Kurchatov Arra 138.84 27 PKP **PKPdf 12 20 29.4 -0.7**
comp=Z,1.9nm,0.8s,baz=304,slow=2.7,SNR=14
AAK Ala-Archa 142.03 39‖ *e*PKIKP **PKPdf 12 20 36.2 -0.3**
DGZ Jazzator, Alta 142.99 20‖ *e*PKIKP **PKPdf 12 20 34.7 -3.2**
MKAR Makanchi Array 143.35 28 PKP PKPbc 12 20 35.5 -0.2
comp=Z,2.0nm,0.7s,baz=335,slow=2.5,SNR=21
USRK Ussuriysk Ar. 144.19 327 PKP **PKPab 12 20 37.8 0.0**
comp=Z,4.5nm,0.8s,baz=57,slow=5.8,SNR=4.7
KSH Kashi 144.71 42 PKP **PKPdf 12 20 41.4 +0.2**
KSH pPKP pPKPdf 12 20 54.5 -3.4
MJAR Matsushiro Arr 144.78 312 PKP **PKPab 12 20 39.8 -0.5**
comp=Z,9.5nm,0.9s,baz=126,slow=1.6,SNR=11
MAJO Matsushiro 144.78 312‖ *e*PKIKP **PKPab 12 20 39.9 -0.4**
ZAK Zakamensk 145.47 3 *e*PKIKP **PKPbc 12 20 42.2 0.0**
ZAK pmax pmax
comp=Z,11nm,1.2s
WMQ Urumqi 148.04 25 *e*PKPbc **PKPdf 12 20 47.3 +0.7**
WMQ LR LR
comp=Z,110nm,24.9s
ULN Ulaanbaatar 148.05 359‖ *e*PKIKP **PKPdf 12 20 46.3 -0.4**
SONM Songino Array 148.09 360 PKPbc **PKPdf 12 20 47.9 +1.2**
comp=Z,8.4nm,0.8s,baz=298,slow=1.1,SNR=35
SONM Songino Array 148.09 360 PKIKP **PKPdf 12 20 47.7 +1.0**
SONM 12 20 53.3
SONM Songino Array 148.09 360 **PKPdf 12 20 47.7 +1.0**
SONM PKPab **PKPab 12 20 53.3 +0.6**
SIJI Sorong 150.06 239 PKPbc **PKPbc 12 20 55.8 0.0**
comp=Z,10nm,0.7s,baz=13,slow=4.6,SNR=7.7
XLT XiLinHaoTe 150.76 345 *e*P **PKPbc 12 20 56.5 -0.1**
XLT XiLinHaoTe 150.76 345 pmax pmax
comp=Z,35nm,0.9s
XLT XiLinHaoTe 150.76 345 pmax pmax
comp=Z,240nm,5.1s
KSRS Korea Array 151.05 322 PKP **PKPdf 12 20 52.5 +1.0**
comp=Z,2.0nm,0.7s,baz=61,slow=2.1,SNR=4.6
KSRS PKPbc **PKPbc 12 20 57.4 +0.1**
comp=Z,9.7nm,0.9s,baz=33,slow=1.3,SNR=6.2
HHC Hu-ho-hao-te 154.62 350 *e*PKPbc **PKPdf 12 20 56.6 -0.2**
GTA Gaotai 155.89 12 *e*PKP **PKPdf 12 20 59.8 +1.2**
GTA pPKP pPKPdf 12 21 08.5 -6.9
GTA sPKP 12 21 14.1
LZH Lanzhou 159.74 5 *e*PKP **PKPdf 12 20 59.3 -4.2**
NJ2 Nanjing 160.09 326 *e*PKP **PKPdf 12 21 04.1 +0.3**
CD2 Chengdu 164.85 8 PKP **PKPdf 12 21 07.1 -1.5**
PZH PanZhiHua 168.66 20 PKP **PKPdf 12 21 09.1 -2.6**
CMAR Chiang Mai Arr 172.73 68 PKP **PKPdf 12 21 14.1 +0.1**
comp=Z,0.3nm,0.3s,baz=262,slow=2.2,SNR=6.7
CMAR PKPab **PKPab 12 22 40.0 0.0**
comp=Z,0.5nm,0.4s,baz=269,slow=4.3,SNR=5.8
CMAR Chiang Mai Arr 172.73 68 PKIKP **PKPdf 12 21 14.1 +0.1**
CMAR 12 22 39.7
CMAR Chiang Mai Arr 172.73 68 **PKPdf 12 21 14.1 +0.1**
CMAR PKPab **PKPab 12 22 39.7 -0.3**

IDC 20 12:12:08.2±854.0, 52°.80N×4°.75E, h0km, Error ellipse: s-maj=387.9km s-min=133.2km az=112.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	6.92	121	*i*		12 53 20.0	
baz=309,slow=327,SNR=1.8							
I43RU	DUBNA INFRASON	9.04	65	*i*		14 10 40.0	
baz=273,slow=326,SNR=1.8							
I46RU	ZALESOVO INFRA	45.35	55	*i*		16 54 20.0	
baz=307,slow=342,SNR=2.8							

*IDC **20** 12:12:21.7±7.6, 3°.07S×128°.84E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.2/41, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=159.9km s-min=26.1km az=115.0*
*DJA **20** 12:12:23.2±0.6, 3°.S±6°.6×12°.9E±°, h17km±8km, M3.1/6, MLv3.1/6*
ISC 20 12:12:24.9±1.0, 2°.97S±0°.07×128°.77E±0°.06, h33km, n9, σ1§30/12, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.41	156	P	Pb	12 12 33.8	-0.3
MSAI				S	Sn	12 12 41.7	+0.8
AAI	Ambon	0.91	219	P	Pb	12 12 41.6	-0.7
AAI				S	Sb	12 12 55.5	+1.4
LBMI	Labuha	2.64	331	P	Pn	12 13 05.0	-0.2
SANI	Sanana	2.92	288	P	Pn	12 13 08.7	-0.3
SWI	Sorong	3.25	50	P	Pn	12 13 11.3	-2.3
SIJI	Sorong	3.26	50	Pn	Pn	12 13 14.8	+1.2
2.9nm,0.3s,baz=282,slow=23,SNR=9.1							
SIJI				Sn	Sn	12 13 52.8	+1.5
1.6nm,0.3s,baz=72,slow=22,SNR=7.9							
WRA	Warramunga Arr	17.73	163	P	Pn	12 16 27.7	-1.6
0.1nm,0.3s,baz=344,slow=12,SNR=4.7							
ASAR	Alice Springs	21.17	167	P	P	12 17 08.2	+0.6
0.4nm,0.4s,baz=347,slow=12,SNR=8.6							
STKA	Stephens Creek	31.19	159	P	P	12 18 41.4	+0.3
0.5nm,0.5s,baz=323,slow=13,SNR=3.3							

*DJA **20** 12:12:47.2±0.6, 8°.S±9°.×11°.3E±°, h128km±9km, M3.6/12, MLv3.6/12*
*IDC **20** 12:12:55.3±9.2, 7°.85S×113°.24E, h229km±96km, mb3.3/6, mb1 3.4/7, mb1mx3.1/46, mbtmp3.8/7, Error ellipse: s-maj=156.6km s-min=16.9km az=51.0*
ISC 20 12:12:45.9±0.8, 8°.45S±0°.10×112°.62E±0°.05, h150km, n18, σ2§27/21, mb3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	0.84	78	P	Pn	12 13 09.1	-0.3
BLJI	Banyuglugur	1.20	54	P	Pn	12 13 12.6	+0.1
BLJI				S	Sn	12 13 31.7	-1.0
PCJI	Pacitan	1.45	280	P	Pn	12 13 15.0	0.0
JAGI	Jajag, Banyuwa	1.52	91	P	Pn	12 13 15.6	-0.1
JAGI				S	Sn	12 13 37.0	-1.4
ABJI	Asem Bagus	1.73	68	P	Pn	12 13 19.0	+1.0
KMMI	Kalianget	1.93	44	P	Pn	12 13 19.8	-0.5
UGM	Wanagama	2.14	284	P	Pn	12 13 22.9	+0.1
IGBI	Denpasar	2.52	98	P	Pn	12 13 28.9	+1.6
SMRI	Semarang	2.57	303	P	Pn	12 13 28.9	+0.9
SRBI	Singaraja	2.59	82	P	Pn	12 13 29.4	+1.2
CMJI	Cimerak	4.18	279	P	Pn	12 13 48.0	-0.6
FITZ	Fitzroy Crossi	15.88	128	P	P	12 16 24.5	+2.5
0.3nm,0.3s,baz=294,slow=12,SNR=13							
FITZ				S	Sn	12 19 10.2	-8.0
0.2nm,0.3s,baz=215,slow=22,SNR=6.7							
WRA	Warramunga Arr	23.92	121	P	P	12 17 47.1	+0.9
1.0nm,0.4s,baz=297,slow=11,SNR=18							
ASAR	Alice Springs	25.38	129	P	P	12 18 00.9	+1.4
0.9nm,0.7s,baz=309,slow=8.9,SNR=11							
CMAR	Chiang Mai Arr	29.95	333	P	P	12 18 40.6	+0.4
1.0nm,0.9s,baz=169,slow=8.3,SNR=7.6							
STKA	Stephens Creek	35.61	135	P	P	12 19 31.6	+2.3
1.6nm,0.6s,baz=322,slow=8.5,SNR=5.4							
MKAR	Makanchi Array	61.28	337	P	P	12 22 44.2	-1.1
0.5nm,0.4s,baz=149,slow=7.1,SNR=9.1							
ZALV	Zalesovo Beam	66.45	342	P	P	12 23 17.4	-1.5
0.8nm,0.4s,baz=142,slow=6.0,SNR=4.5							

IDC 20 12:21:54.8±1.1, 3°.89N×126°.71E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.3/52, mbtmp3.5/5, MS3.6/1, Ms1 3.6/1, ms1mx2.3/43, Error ellipse: s-maj=62.1km s-min=16.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.87	183	P	P	12 26 49.4	-0.1
0.8nm,0.4s,baz=6.6,slow=11,SNR=1.7							
WRA	Warramunga Arr	24.84	163	P	P	12 27 19.1	0.0
1.3nm,0.6s,baz=343,slow=10,SNR=14							
ASAR	Alice Springs	28.27	166	P	P	12 27 49.4	-0.7
0.1nm,0.5s,baz=345,slow=11,SNR=3.2							
STKA	Stephens Creek	38.28	159	P	P	12 29 17.2	+0.1
1.3nm,0.7s,baz=332,slow=11,SNR=4.0							
MSVF	Nonsavu	54.99	115	LR	LR	12 50 39.1	
comp=Z,54nm,21.6s,baz=102,slow=31							
MKAR	Makanchi Array	57.42	325	P	P	12 31 45.3	-0.1
0.2nm,0.5s,baz=119,slow=8.3,SNR=2.3							

*HEL **20** 12:29:28.2±0.1, 63°.94N×28°.13E, h0km, ML1.6, Explosion*
*IDC **20** 12:29:28.2±2.0, 63°.93N×28°.49E, h0km, mb1 2.8/2, mb1mx2.7/46, mbtmp2.8/2, ML1.7/2, Error ellipse: s-maj=46.1km s-min=9.2km az=96.0*
ISC 20 12:29:27.5±0.9, 63°.94N±0°.03×27°.99E±0°.04, h0km, n20, σ1§31/34, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	Oulu	1.46	323	PG	Pn	12 29 55.0	-0.1
OUL				SN	Sn	12 30 17.4	+2.4
SUF	Sumiainen	1.48	215	PG	Pb	12 29 56.1	+0.2
SUF				MSG		12 30 14.6	
comp=Z,2.0nm,0.2s							
SUF				SN	Sn	12 30 15.9	+0.5
OUF	Merijarvi	1.49	288	PG	Pn	12 29 55.7	+0.2
OUF				MSG		12 30 14.3	
comp=Z,3.9nm,0.2s							
OUF				SN	Sn	12 30 16.1	+0.5
OBF0	Syolatti, Pyha	1.73	290	PG	Pb	12 30 00.2	0.0
baz=106							
OBF0				SN	Sg	12 30 25.7	+2.6
JOF	Joensuu	1.81	123	PG	Pn	12 30 00.5	+0.6
JOF				SN	Sn	12 30 23.5	-0.1
KAF	Kangasniemi	1.99	203	PG	Pb	12 30 04.7	+0.2
baz=21							
KAF				SG	Sg	12 30 31.5	+0.1
MSF	Maaselka	2.03	12	PG	Pn	12 30 03.2	+0.3
baz=195							
MSF				SG	Sn	12 30 28.7	-0.2
KU6	Riekki	2.24	20	PG	Pn	12 30 07.3	+1.4
baz=196							
KU6				MSG		12 30 33.0	
comp=Z,3.7nm,0.2s							
KU6				SB	Sn	12 30 34.5	+0.3
KEF	Keuruu	2.28	220	PG	Pb	12 30 09.6	+0.1
KEF				MSG		12 30 37.6	
comp=Z,3.1nm,0.2s							
KEF				SG	Sg	12 30 39.6	-1.0
VAF	Ylistaro	2.55	252	PG	Pb	12 30 13.7	-0.4
baz=66							
VAF				MSG		12 30 45.4	
comp=Z,2.3nm,0.2s							
VAF				SG	Sg	12 30 47.3	-2.1
TOF	Tornio	2.65	326	PN	Pn	12 30 12.6	+1.2
baz=139							
TOF				MSG		12 30 46.2	
comp=Z,1.2nm,0.2s							
TOF				SG	Sb	12 30 49.2	+0.4
FIA0	FINESS Array S	2.66	200	PB	Pb	12 30 15.0	-1.0
baz=20							
FIA0				SG	Sb	12 30 49.6	+0.6
FINES	FINESS Array B	2.66	200	Pn	Pb	12 30 14.9	-1.0
comp=Z,0.3nm,0.3s,baz=22,slow=15,SNR=12							
FINES				Sn	Sb	12 30 49.6	+0.6
comp=Z,0.7nm,0.3s,baz=24,slow=25,SNR=17							
RNF	Rovaniemi	2.80	344	PB	Pb	12 30 16.7	-1.7
SGF	Sodankyl	3.57	351	PN	Pn	12 30 25.7	+1.7
baz=166							
SGF				SN	Sn	12 31 06.8	+0.1
ERTU	Ertsjaerv	3.58	320	PN	Pn	12 30 25.8	+1.6
PAJU	Pajala	3.70	329	PN	Pn	12 30 25.3	-0.6
HEMU	Hemsoen	4.67	259	SG	Sg	12 31 53.9	-3.4
ARCES	ARCESS Array B	5.70	351	Pn	Pn	12 30 54.1	+0.8
baz=161,slow=12,SNR=5.5							
ARCES				Sn	Sn	12 31 56.7	-2.7
baz=171,slow=23,SNR=1.5							
ARCES				Lg	Lg	12 32 28.8	
baz=155,slow=32,SNR=4.9							
I43RU	DUBNA INFRASON	8.56	144	*i*		13 23 30.0	
baz=338,slow=325,SNR=1.1							

*IDC **20** 12:33:44.9±8.9, 21°.53S×174°.84W, h75km±66km, mb3.6/6, mb1 3.9/7, mb1mx3.7/26, mbtmp3.9/7, ML3.8/1, MS3.6/5, Ms1 3.6/5, ms1mx3.0/56, Error ellipse: s-maj=90.7km s-min=25.0km az=146.0*
ISC 20 12:33:41.3±1.4, 21°.85±0°.3×174°.6W±0°.2, h50km, n12, σ1§30/9, mb4.0/6, MS3.8/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.99	299	P	Pn	12 35 35.6	+0.8
0.0nm,0.3s,baz=128,slow=17,SNR=1.5							
MSVF				LR	LR	12 38 33.3	
comp=Z,392nm,20.3s,baz=116,slow=38							
DZM	Mont Dzumac	17.57	265	LR	LR	12 42 51.0	
comp=Z,62nm,19.8s,baz=194,slow=31							
ASAR	Alice Springs	47.31	257	P	P	12 42 10.1	-0.2
1.4nm,0.7s,baz=99,slow=7.7,SNR=9.6							
WRA	Warramunga Arr	47.56	262	P	P	12 42 10.8	-1.5
1.8nm,0.9s,baz=101,slow=8.5,SNR=17							
WRA				PcP	PcP	12 43 43.1	+1.5
0.5nm,0.7s,baz=104,slow=2.5,SNR=2.2							
MJAR	Matsushiro Arr	73.12	322	LR	LR	13 13 36.4	
comp=Z,85nm,18.9s,baz=60,slow=33							
SHEM	Shemya Is, Ala	74.83	353	LR	LR	13 10 55.6	
comp=Z,44nm,20.4s,baz=302,slow=30							
PETK	Petropavlovsk-	78.34	343	P	P	12 45 34.1	-1.9
2.4nm,0.7s,baz=118,slow=6.9,SNR=4.3							
NVAR	Mina Array Bea	79.83	42	P	P	12 45 44.3	-0.4
0.7nm,0.7s,baz=224,slow=7.8,SNR=5.8							
CMIG	Matias Romero	87.09	70	LR	LR	13 17 50.8	
comp=Z,39nm,20.3s,baz=180,slow=30							
PDAR	Pinedale Array	87.76	42	P	P	12 46 25.7	+0.5
0.4nm,0.8s,baz=256,slow=7.3,SNR=2.7							
YKA	Yellowknife Ar	96.37	24	P	P	12 47 05.2	+0.9
0.3nm,0.8s,baz=243,slow=4.0,SNR=4.2							
AKASG	Malin Array Be	145.61	333	PKPbc	PKPbc	12 53 14.6	+0.5
2.0nm,0.8s,baz=34,slow=3.8,SNR=6.6							

*SOME **20** 12:40:12.3, 39°.65N×76°.67E, h10km*
*KRNET **20** 12:40:14.1±0.1, 39°.45N×77°.08E, mb3.6*
*NNC **20** 12:40:16.7±1.4, 39°.79N×76°.79E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=10.5km s-min=8.6km az=157.0*
ISC 20 12:40:13.7±2.1, 39°.68N±0°.10×76°.65E±0°.04, h10km, n58, σ2§10/86, 24C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	2.22	23⇑	*i*P	Pb	12 40 55.0	+0.7
baz=13							
TARG				⇑*i*S	Sg	12 41 24.9	-0.4
baz=13							
KDJ	Kajisay	2.48	9⇑	*i*P	Pg	12 40 59.7	-1.5
baz=2.0							
KDJ				⇑*i*S	Sg	12 41 32.9	-0.5

	baz=2.0						
ULHL	Ulahol	2.58	353	P		Pg	12 41 02.6 -0.5
	SNR=33						
ULHL	Ulahol	2.58	353	⇑eP		Pg	12 41 02.3 -0.9
	baz=47						
ULHL				⇑iS		Sg	12 41 37.4 +0.8
	baz=47						
ARLS	Aral	2.81	322	⇑iP		Pg	12 41 06.8 -0.7
	baz=20						
ARLS				⇑iS		Sg	12 41 45.1 +1.2
	baz=20						
BOOM	Boomskoye usch	2.86	349	⇑iP		Pb	12 41 06.4 +1.5
	baz=45						
BOOM				⇑iS		Sg	12 41 44.5 -1.0
	baz=45						
UCH	Uchtor	3.02	328	P		Pb	12 41 07.4 -0.4
	SNR=16						
UCH	Uchtor	3.02	328	⇑eP		Pb	12 41 09.5 +1.7
	baz=26						
UCH				⇑iS		Sg	12 41 50.0 -0.6
	baz=26						
ANVS	Anan'yevo	3.19	14	⇑iP		Pb	12 41 09.2 -1.4
	baz=7.0						
ANVS				⇑iS		Sb	12 41 49.4 -0.2
	baz=7.0						
KBK	Karagaybulak	3.24	337	P		Sg	12 42 00.3 +2.6
	SNR=7.6						
AML	Almayashu	3.32	318	P		Pb	12 41 11.5 -1.4
	SNR=9.3						
TKM2	Tokmak 2	3.33	347	P		Pb	12 41 12.4 -0.6
	SNR=7.8						
TKM2	Tokmak 2	3.33	347	⇓Pn		Pb	12 41 12.1 -0.9
	5.9nm,0.5s						
TKM2				⇑Lg		Lg	12 42 01.9
	16nm,0.5s						
TKM2	Tokmak 2	3.33	347	⇑iP		Pb	12 41 13.1 +0.1
	baz=43						
TKM2				⇑iS		Sb	12 41 56.2 +2.5
	baz=43						
TNSS	Tian-Shan	3.36	4	eP		Pb	12 41 15.6 +2.0
	27nm,0.3s						
TNSS				eS		Sg	12 42 00.9 -0.8
	54nm,1.1s						
TNSS	Tian-Shan	3.36	4	Pg		Pb	12 41 15.1 +1.5
	27nm,0.3s						
TNSS				Lg		Lg	12 42 00.9
	54nm,1.1s						
AAK	Ala-Archa	3.37	332	⇑Pn		Pb	12 41 12.4 -1.3
	4.1nm,0.8s						
AAK				⇓Pg		Pg	12 41 18.0 -0.4
	8.2nm,0.6s						
AAK				⇓Lg		Lg	12 42 03.0
	55nm,0.6s						
KST	Kastek	3.40	351	eP		Pg	12 41 16.8 -2.1
	12nm,0.7s						
KST				eS		Sg	12 42 03.7 +0.8
	62nm,0.9s						
KST	Kastek	3.40	351	Pg		Pg	12 41 16.8 -2.1
	12nm,0.7s						
KST				Lg		Lg	12 42 03.7
	62nm,0.9s						
MTBS	Maitube	3.45	357	eP		Pb	12 41 16.6 +1.6
	19nm,0.8s						
MTBS				eS		Sg	12 42 03.4 -1.1
	70nm,0.7s						
MTBS	Maitube	3.45	357	Pg		Pb	12 41 16.6 +1.6
	19nm,0.8s						
MTBS				Lg		Lg	12 42 03.4
	70nm,0.7s						
MDOK	Medeo	3.49	5	eP		Pb	12 41 17.7 +2.0
	21nm,0.2s						
MDOK				eS		Sg	12 42 05.1 -0.8
	68nm,0.6s						
MDOK	Medeo	3.49	5	⇑Pg		Pb	12 41 17.9 +2.2
	14nm,0.5s						
MDOK				Lg		Lg	12 42 04.8
	82nm,0.7s						
MDOK	Medeo	3.49	5	Pg		Pb	12 41 17.7 +2.0
	21nm,0.2s						
MDOK				Lg		Lg	12 42 05.1
	68nm,0.6s						
DGS	Degeres	3.62	350	eP		Pb	12 41 20.1 +2.2
	10nm,0.7s						
DGS				eS		Sg	12 42 09.4 -0.5
	28nm,0.6s						
DGS	Degeres	3.62	350	Pg		Pb	12 41 20.1 +2.2
	10nm,0.7s						
DGS				Lg		Lg	12 42 09.4
	28nm,0.6s						
SATY	Saty	3.62	21	eP		Pb	12 41 19.2 +1.3
	13nm,0.5s						
SATY				eS		Sg	12 42 07.8 -2.2
	34nm,0.7s						
SATY	Saty	3.62	21	Pg		Pb	12 41 19.2 +1.3
	13nm,0.5s						
SATY				Lg		Lg	12 42 07.8
	34nm,0.7s						
EKS2	Erkin-Say	3.68	325	P		Pb	12 41 17.2 -1.8
	SNR=6.7						
ZHN	Zhinishke	3.73	20	eP		Pb	12 41 21.9 +2.1
	10nm,0.2s						
ZHN				eS		Sg	12 42 11.9 -1.7
	36nm,0.5s						
ZHN	Zhinishke	3.73	20	Pg		Pb	12 41 21.9 +2.1
	10nm,0.2s						
ZHN				Lg		Lg	12 42 11.9
	36nm,0.5s						
UZB	Uzynbulak	3.89	26	eP		Pb	12 41 24.9 +2.3
	12nm,0.3s						
UZB				eS		Sg	12 42 17.3 -1.4
	17nm,0.6s						
UZB	Uzynbulak	3.89	26	Pg		Pb	12 41 24.9 +2.3
	12nm,0.3s						
UZB				Lg		Lg	12 42 17.3
	17nm,0.6s						
USP	Ospenovka	3.93	336	P		Sg	12 42 20.8 +0.8
	SNR=6.8						
KURS	Kuram	3.97	16	eP		Pb	12 41 24.7 +0.9
	5.1nm,0.4s						
KURS				eS		Sg	12 42 17.3 -3.8
	15nm,0.8s						
KURS	Kuram	3.97	16	Pg		Pb	12 41 24.7 +0.9
	5.1nm,0.4s						
KURS				Lg		Lg	12 42 17.3
	15nm,0.8s						
MRKS	Merke	4.00	321	eP		Pb	12 41 26.0 +1.5
	4.9nm,0.6s						
MRKS				eS		Sg	12 42 19.1 -3.3
	44nm,0.7s						
MRKS	Merke	4.00	321	Pg		Pb	12 41 26.0 +1.5
	4.9nm,0.6s						
MRKS				Lg		Lg	12 42 19.1
	44nm,0.7s						
KTBS	Karatobe	4.03	0	eP		Pb	12 41 27.1 +2.3
	9.7nm,0.5s						
KTBS				eS		Sg	12 42 21.4 -1.6
	24nm,0.6s						
KTBS	Karatobe	4.03	0	Pg		Pb	12 41 27.1 +2.3
	9.7nm,0.5s						
KTBS				Lg		Lg	12 42 21.4
	24nm,0.6s						
SGDS	Sogindy	4.06	339	eP		Pg	12 41 28.8 -2.7
	1.6nm,0.1s						
SGDS				eS		Sg	12 42 23.9 -0.2
	20nm,0.6s						
SGDS	Sogindy	4.06	339	Pg		Pg	12 41 28.8 -2.7
	1.6nm,0.1s						
SGDS				Lg		Lg	12 42 23.9
	20nm,0.6s						
KRBS	Karabastau	4.08	350	eP		Pg	12 41 29.2 -2.6
	5.8nm,0.3s						
KRBS				eS		Sg	12 42 24.9 +0.3
	17nm,0.5s						
KRBS	Karabastau	4.08	350	Pg		Pg	12 41 29.2 -2.6
	5.8nm,0.3s						
KRBS				Lg		Lg	12 42 24.9
	17nm,0.5s						
CHKK	Chushkaly	4.18	3	eP		Pb	12 41 29.7 +2.4
	13nm,0.4s						
CHKK				eS		Sg	12 42 25.8 -2.0
	36nm,0.6s						
CHKK	Chushkaly	4.18	3	Pg		Pb	12 41 29.7 +2.4
	13nm,0.4s						
CHKK				Lg		Lg	12 42 25.8
	36nm,0.6s						
MNAS	Manas	4.21	313	⇑iP		Pb	12 41 26.4 -1.5
	baz=13						
MNAS				⇑iS		Sb	12 42 19.2 +0.4
	baz=13						
PDGK	Podgornoye	4.22	29	⇓Pn		Pn	12 41 21.3 +3.1
	12nm,1.2s						
PDGK				⇑Pg		Pb	12 41 29.6 +1.5
	22nm,0.9s						
PDGK				⇓Lg		Lg	12 42 27.6
	20nm,0.6s						
ARXS	Arharly	4.61	11	eP		Pb	12 41 37.4 +2.6
	12nm,0.5s						
ARXS				eS		Sg	12 42 38.6 -3.1
	24nm,0.8s						
ARXS	Arharly	4.61	11	Pg		Pb	12 41 37.4 +2.6
	12nm,0.5s						
ARXS				Lg		Lg	12 42 38.6
	24nm,0.8s						
DJR	Jarkent	5.20	26	eP		Pb	12 41 47.8 +3.0
	2.1nm,0.3s						
DJR				eS		Sg	12 42 56.5 -4.1
	8.7nm,0.4s						
DJR	Jarkent	5.20	26	Pg		Pb	12 41 47.8 +3.0
	2.1nm,0.3s						
DJR				Lg		Lg	12 42 56.5
	8.7nm,0.4s						
BTLS	Baital	5.69	341	eP		Pg	12 41 58.0 -4.7
	0.7nm,0.2s						
BTLS				eS		Sg	12 43 14.1 -2.3
	8.7nm,0.8s						
BTLS	Baital	5.69	341	Pg		Pb	12 41 57.0 +3.9
	0.7nm,0.2s						
BTLS				Lg		Lg	12 43 14.1
	8.7nm,0.8s						
KK02	Karatay Array	5.75	308	⇑Lg		Lg	12 43 18.2
	5.1nm,0.7s,baz=125,slow=28						
KK04	Karatay Array	5.75	309	⇑Pg		Pg	12 42 01.5 -2.4
	2.1nm,0.7s,baz=124,slow=16						
KAPS	Kapalarasan	5.94	19	eP		Pg	12 42 03.3 -4.3
	2.9nm,0.5s						
KAPS				eS		Sg	12 43 23.8 -0.8
	4.7nm,0.8s						
KAPS	Kapalarasan	5.94	19	Pg		Pg	12 42 03.3 -4.3
	2.9nm,0.5s						
KAPS				Lg		Lg	12 43 23.8
	4.7nm,0.8s						

*INET **20** 12:56:39.1±0.7, 11°.89N×85°.99W, h203km±6km, ML2.9*
*IDC **20** 12:56:40.0±1.3, 11°.94N×85°.91W, h161km±30km, mb3.4/2, mb1 3.5/3, mb1mx3.0/36, mbtmp3.7/3, Error ellipse: s-maj=62.3km s-min=20.3km az=35.0*
*UCR **20** 12:56:43.1±1.2, 11°.51N×86°.11W, h181km±5km, MW3.6*

ISC 20 12:56:41.1±0.8, 11°.7N±0°.1×86°.2W±0°.1, h184km±7km, n27, σ1§02/39, 3C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMN	Momotombo	0.80	332	eP	Pn	12 57 07.3	-0.6
MOMN				eS	Sn	12 57 29.9	+1.1
HZTE	Horizontes, Gu	1.12	150	eP	Pn	12 57 10.7	+0.5
HZTE				eS	Sn	12 57 32.6	-0.1
GBS3	Finca Las Img	1.14	143	iP	Pn	12 57 10.6	+0.2
GBS3				iS	Sn	12 57 32.8	-0.2
BUAI	Buenos Aires	1.15	135	iP	Pn	12 57 10.8	+0.4
BUAI				iS	Sn	12 57 33.1	-0.1
BUEV	Buena Vista	1.16	140	iP	Pn	12 57 11.2	+0.6
BUEV				iS	Sn	12 57 34.2	+0.8
LAPC	Finca la Perla	1.17	142	⇓iP	Pn	12 57 10.7	+0.1
GPS2	Hotel Rincn d	1.23	140	iP	Pn	12 57 11.7	+0.5
CRIN	San Cristobal	1.32	319	⇓iP	Pn	12 57 11.9	-0.1
CRIN				eS	Sn	12 57 37.1	+1.3
CRIN				IAML		12 57 43.6	
	comp=E,73nm,0.5s						
COLC	Colonia	1.39	137	iP	Pn	12 57 13.2	+0.7
CUI	Cuipilapa	1.42	136	iP	Pn	12 57 13.4	+0.6
ACAL	Aguas Claras	1.53	134	iP	Pn	12 57 14.7	+0.8
GUAI	GÜAI	1.56	156	iP	Pn	12 57 14.7	+0.7
SAJU	San Juanillo,	1.68	165	⇑eP	Pn	12 57 15.6	+0.4
SAJU				eS	Sn	12 57 40.2	-1.5
JTS	Las Juntas de	1.83	140	P	Pn	12 57 16.5	-0.3
JTS				S	Sn	12 57 41.1	-3.3
JTS	Las Juntas de	1.83	140	eP	Pn	12 57 16.9	+0.1
JTS				eS	Sn	12 57 43.3	-1.2
JTS	Las Juntas de	1.83	140	eP	Pn	12 57 17.0	+0.2
ARE1	Arenal 1	1.87	131	eP	Pn	12 57 17.8	+0.6
ARE1				eS	Sn	12 57 45.6	+0.5
LAFE	Finca La Fe, P	2.24	147	⇑eP	Pn	12 57 21.5	+0.3
JACO	JACO, Garabito	2.50	144	⇑eP	Pn	12 57 24.7	+0.6
LCR2	La Lucha 2	2.88	132	eP	Pn	12 57 29.8	+1.1
RIMA	Rio Macho	2.96	130	eP	Pn	12 57 30.1	+0.3
RIMA				eS	Sn	12 58 07.6	-0.1
SRBA	San Rafael, Bu	3.69	131	eP	Pn	12 57 39.8	+1.2
CMIG	Matias Romero	10.01	303	P	Pn	12 59 01.1	+0.4
	comp=E,0.3nm,0.3s,baz=140,slow=11,SNR=6.3						
CMIG				S	Sn	13 00 50.7	-1.5
	comp=E,0.2nm,0.3s,baz=346,slow=24,SNR=2.0						
TXAR	Lajitas Array	23.96	320	P	P	13 01 40.5	+1.8
	comp=E,0.3nm,0.5s,baz=144,slow=10,SNR=9.0						
SCHQ	Schefferville	45.65	16	P	P	13 04 41.0	-2.1
	comp=E,6.4nm,1.2s,baz=209,slow=10,SNR=1.5						
ASAR	Alice Springs	140.15	247	PKP	PKPdf	13 15 49.0	+0.4
	comp=E,0.3nm,0.5s,baz=87,slow=2.1,SNR=5.6						
WRA	Warramunga Arr	140.26	253	PKP	PKPdf	13 15 49.5	+0.6
	comp=E,0.2nm,0.5s,baz=93,slow=2.3,SNR=6.1						

NNC 20 12:57:24.5±17.0, 36°.77N×70°.54E, h0km, mb3.5, mpv3.1, 2C-2D, Error ellipse: s-maj=140.4km s-min=122.2km az=170.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	6.33	360	⇑Pn	Pn	12 59 00.3	+1.2
	0.7nm,0.4s,baz=184,slow=14						
KK01	Karatay Array	6.33	360	⇓Sn	Sn	13 00 15.0	+2.9
	0.8nm,0.5s,baz=185,slow=24						
AAK	Ala-Archa	6.61	26	⇑Pn	Pn	12 59 02.4	-0.7
	0.9nm,0.5s						
AAK				⇓Sn	Sn	13 00 17.8	-1.4
	6.7nm,1.2s						

*ISK **20** 13:03:45.2, 37°.85N×26°.10E, h9km, ML2.8/17*
*DDA **20** 13:03:45.0±0.0, 37°.79N×26°.08E, h7km±5km, ML2.6*
*ATH **20** 13:03:45.2, 37°.78N×26°.09E, h10km±3km, ML2.5/2, Error ellipse: s-maj=3.6km s-min=1.1km az=31.0*

ISC 20 13:03:45.0±1.1, 37°.80N±0°.03×26°.09E±0°.02, h7km±10km, n33, σ0§65/49, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEYE	Izmir, Urla-Ze	0.55	36	P	Pg	13 03 56.4	+0.7
ZEYE				S	Sb	13 04 05.1	+0.1
CHOS	Chios island	0.59	357	P	Pg	13 03 56.4	-0.1
CHOS				S	Sg	13 04 04.8	+0.7
CHOS				AML	AML	13 04 08.7	
	comp=N,599μm,0.4s						
CHOS				AML	AML	13 04 09.9	
	comp=E,954μm,0.3s						
CHOS	Chios island	0.59	357	PG	Pg	13 03 56.0	-0.4
CHOS				SG	Sg	13 04 03.8	-0.3
SMG	Samos	0.60	98	P	Pg	13 03 56.4	-0.2
SMG				S	Sg	13 04 05.1	+0.7
SMG				AML	AML	13 04 07.3	
	comp=N,2482μm,0.4s						
SMG				AML	AML	13 04 07.8	
	comp=E,1309μm,0.3s						
DGB	zmir	0.68	68	P	Pg	13 03 56.8	-1.2
DGB				S	Sg	13 04 07.6	+0.7
DGB				i AML	AML	13 04 09.0	
	comp=E,228nm,0.5s						
URLA	Izmir	0.69	35	PG	Pg	13 03 58.1	-0.2
URLA				SG	Sg	13 04 07.4	+0.1
URLA	Izmir	0.69	35	P	Pg	13 03 58.2	-0.2
URLA				S	Sb	13 04 09.1	0.0
URLA				i AML	AML	13 04 10.0	
	comp=E,327nm,0.4s						
URLA				i AML	AML	13 04 11.0	
	comp=E,556nm,0.6s						
TNSA	Tinos	0.78	251	P	Pg	13 03 59.4	-0.6
TNSA				S	Sg	13 04 10.5	+0.4
PSRA	Psara	0.85	331	P	Pg	13 04 02.0	+0.6
PSRA				S	Sb	13 04 13.6	-0.1
GCAM	G?zelcaml?	0.91	96	PG	Pg	13 04 02.9	+0.3
GCAM				SG	Sn	13 04 16.5	-1.1
GCAM	G?zelcaml?	0.91	96	P	Pg	13 04 02.5	-0.1
GCAM				S	Sb	13 04 15.6	+0.1
GCAM				i AML	AML	13 04 19.0	
	comp=E,118nm,0.6s						
DDIM	Aydin, Didim	0.98	110	P	Pn	13 04 05.3	+0.2
DDIM				S	Sn	13 04 18.3	-0.8
DDIM				i AML	AML	13 04 20.0	
	comp=E,304nm,0.5s						
DDIM				i AML	AML	13 04 48.0	
	comp=E,285nm,1.3s						
FOCM	Foa	1.04	29	PG	Pg	13 04 04.6	-0.5
FOCM				SG	Sg	13 04 18.8	+0.2
BODT	Bodrum	1.22	127	PN	Pg	13 04 09.3	+0.9
BODT				SN	Sn	13 04 27.0	+1.8
KARY	Karystos	1.33	281	P	Pn	13 04 09.5	-0.4
ZEDA	zmir-Bergama	1.40	33	P	Pn	13 04 10.2	-0.7
ZEDA				S	Sb	13 04 29.7	+0.2
DKL	Dikili	1.42	27	PN	Pn	13 04 11.1	-0.1
SIGR	SIGRI	1.42	353	PN	Pn	13 04 11.1	-0.1
PRK	Paraskevi	1.45	6	P	Pn	13 04 12.2	+0.5
NIS1	Nisyros Isl.	1.48	144	P	Pn	13 04 11.4	-0.6
SANT	Santorini	1.51	200	PN	Pg	13 04 13.9	-0.1
DAT	Datca	1.60	131	PN	Pb	13 04 14.9	0.0
DION	Dionisos Attik	1.73	280	P	Pb	13 04 16.6	-0.5
YER	Yerkesik	1.87	110	PN	Pb	13 04 18.5	-1.0
BUHA	Balikesir, Bur	1.87	24	P	Pn	13 04 18.2	+0.8
BUHA				S	Sb	13 04 44.4	+1.4
ATH	Athens Observa	1.89	276	P	Pn	13 04 18.6	+1.0
TURN	Turunc	2.00	120	PN	Pb	13 04 20.5	-1.2
EZN	Ezine	2.03	5	PN	Pn	13 04 19.8	+0.2
BOZC	Bozcaada	2.04	359	PN	Pn	13 04 19.9	+0.1
KULA	Kula-Manisa	2.15	70	PN	Pn	13 04 21.9	+0.6
GELI	Tayfur-Gelibol	2.61	6	PN	Pn	13 04 28.1	+0.5
LPK	Lapseki	2.62	11	PN	Pn	13 04 28.2	+0.4
KRBG	Karabiga-Canak	2.76	20	PN	Pn	13 04 29.4	-0.2

*IDC **20** 13:13:57.5±1.3, 27°.24N×128°.87E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/43, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=34.7km s-min=17.3km az=137.0*
*JMA **20** 13:14:01.3, 27°.32N×128°.87E, h31km±1km, M3.6*
JMA Felt I J1.
*NIED **20** 13:14:01.3, 27°.32N×128°.87E, h31km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}1.16; $M_{\theta\theta}$1.23; $M_{\phi\phi}$-2.38; $M_{r\theta}$5.43; $M_{\theta\phi}$-0.71; $M_{\phi r}$6.60; Fault plane solution: $M_0$8.81000×10^{14} NP1:ϕ_s39.00000°, δ85.00000°, λ101.00000°. NP2:ϕ_s152.00000°, δ12.00000°, λ23.00000°.*

ISC 20 13:14:00.3±1.1, 27°.28N±0°.03×128°.95E±0°.04, h24km±10km, n21, σ0§94/37, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.34	284	P	Pn	13 14 08.3	-1.5
JOKE				eS	Sb	13 14 13.2	0.0
JTK	Tokunoshima	0.50	0	P	Pn	13 14 11.1	-0.9
JTK				eS	Sn	13 14 17.9	-2.0
JYRO	Yoronjima	0.51	240	P	Pb	13 14 11.1	+0.4
JYRO				eS	Sb	13 14 17.7	0.0
JOW	Kunigami	0.75	234	Pn	Pb	13 14 14.9	+0.3
	baz=78,slow=13						
JOW				Sn	Sb	13 14 24.6	0.0
	baz=253,slow=19						
JOW	Kunigami	0.75	234	P	Pb	13 14 15.0	+0.3
JOW				eS	Sb	13 14 24.4	-0.1
JIH	Iheya	0.91	255	P	Pb	13 14 16.9	-0.5
JIH				eS	Sb	13 14 28.2	-0.9
JAMN	Amaminishikomi	0.98	12	P	Pn	13 14 18.4	-0.2
JAMN				eS	Sn	13 14 31.0	-0.7
JNTH	Nagotoyohara	1.12	228	P	Pn	13 14 20.7	+0.2
JNTH				eS	Sb	13 14 35.0	-0.2
JAM	Amami Oshima	1.27	27	P	Pb	13 14 23.3	-0.2
JAM				eS	Sb	13 14 39.1	-0.3
JZK	Kikaishima	1.37	41	eS	Sb	13 14 42.5	0.0
JJT3	Tamagusuku3	1.54	223	P	Pn	13 14 27.0	+0.8
JJT3				eS	Sn	13 14 45.4	-0.1
JAGN	Aguni-jima	1.67	246	P	Pn	13 14 28.2	+0.1
JAGN				eS	Sn	13 14 48.4	-0.3
JTAJ	Takarajima	1.88	7	P	Pn	13 14 31.0	+0.1
JTAJ				eS	Sn	13 14 53.6	-0.3
JKE	Kume jima 2	2.15	244	P	Pn	13 14 35.1	+0.4
JKE				eS	Sn	13 14 59.0	-1.6
JKDJ	Kitadaitoujima	2.48	122	P	Pn	13 14 39.2	-0.1
JKDJ				eS	Sn	13 15 07.3	-1.5
JMZ	Minamidaito 2	2.50	125	P	Pn	13 14 39.1	-0.4
JMZ				eS	Sn	13 15 07.0	-2.2
JYAK	Yakushimahirau	3.25	25	P	Pn	13 14 50.1	+0.3
JYAK				eS	Sn	13 15 28.1	+0.4
JNU	Nakatsue	6.06	16	Pn	Pn	13 15 30.8	+2.4
	0.4nm,0.3s,baz=279,slow=20,SNR=1.5						
WRA	Warramunga Arr	47.23	173	P	P	13 22 31.1	-0.4
	0.5nm,0.6s,baz=354,slow=8.6,SNR=7.4						
ASAR	Alice Springs	50.87	174	P	P	13 23 00.8	+1.5
	0.4nm,0.7s,baz=354,slow=7.4,SNR=14						
YKA	Yellowknife Ar	77.31	25	P	P	13 25 52.9	+0.4
	0.2nm,0.7s,baz=302,slow=6.0,SNR=3.1						

*UCR **20** 13:26:39.8±0.9, 12°.53N×88°.03W, h39km±82km, ML3.8*
*INET **20** 13:26:39.5±0.9, 12°.47N×87°.92W, h37km±74km, ML3.5, MW4.2*
*SNET **20** 13:26:39.7±0.9, 12°.55N×88°.03W, h32km±5km, ML3.8*
*IDC **20** 13:27:10.8±12.0, 15°.39N×89°.79W, h0km, mb3.2/2, mb1 3.7/3, mb1mx3.4/29, mbtmp3.3/3, Error ellipse: s-maj=258.7km s-min=105.2km az=5.0*

ISC 20 13:26:35.5±1.7, 12°.39N±0°.08×88°.01W±0°.04, h20km±7km, n35, σ0§73/50, 2C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.90	11	eP	Pn	13 26 53.9	+0.6
CNCH	Conchagua	0.90	11	eP	Pn	13 26 53.9	+0.6
LCND	La Caada	0.93	7	⇓iP	Pn	13 26 54.1	+0.7
LCND				eS	Sn	13 27 06.4	+0.2
LCND				IAML		13 27 11.2	
	comp=Z,3μm,0.3s						
LCND	La Caada	0.93	7	⇓iP	Pn	13 26 54.1	+0.7
LCND				eS	Sn	13 27 06.4	+0.2
LCND				IAML		13 27 11.2	
	comp=Z,3μm,0.3s						
CRIN	San Cristobal	0.99	71	eP	Pn	13 26 55.7	+1.3
CRIN				IAML		13 27 10.8	
	comp=N,3μm,0.4s						
LCY	Lacayo	1.07	345	eP	Pn	13 26 56.3	+0.8
LCY	Lacayo	1.07	345	eP	Pn	13 26 56.3	+0.8
ALJI	Alcalda de J	1.08	330	eP	Pg	13 26 56.7	+0.1
ALJI				eS	Sb	13 27 09.4	0.0
ALJI				IAML		13 27 11.5	
	comp=Z,4μm,0.2s						
ALJI	Alcalda de J	1.08	330	eP	Pg	13 26 56.7	+0.1
ALJI				eS	Sb	13 27 09.4	0.0
ALJI				IAML		13 27 11.5	
	comp=Z,4μm,0.2s						
PACA	Pacayal	1.12	344	eP	Pg	13 26 57.1	-0.2
PACA				eS	Sn	13 27 11.0	-0.1
PACA				IAML		13 27 13.8	
	comp=Z,3μm,0.1s						
PACA	Pacayal	1.12	344	eP	Pg	13 26 57.1	-0.2
PACA				eS	Sn	13 27 11.0	-0.1
PACA				IAML		13 27 13.8	
	comp=Z,3μm,0.1s						
COEB	Comit de Eme	1.22	335	eP	Pg	13 26 58.8	-0.4
COEB				eS	Sn	13 27 13.5	0.0
COEB	Comit de Eme	1.22	335	eP	Pg	13 26 58.8	-0.4
COEB				eS	Sn	13 27 13.5	0.0
TECO	Alcaldia de Te	1.37	327	eS	Sn	13 27 16.4	-0.8
TECO	Alcaldia de Te	1.37	327	eS	Sn	13 27 16.4	-0.8
MOMN	Momotombo	1.44	89	eP	Pb	13 27 01.2	-0.4
MOMN				eS	Sn	13 27 18.3	-

comp=Z,1μm,0.2s
SJTE Alcalda de S 1.56 322 *e*P **Pb 13 27 03.6 -0.2**
SJTE *e*S **Sn 13 27 21.8 -0.2**
SJTE IAML 13 27 23.7
comp=Z,1μm,0.2s
LFRS El Faro 1.60 320⇑ *i*P **Pb 13 27 04.3 -0.2**
LFRS El Faro 1.60 320⇑ *i*P **Pb 13 27 04.3 -0.2**
MGAN Managua 1.74 98 *e*P **Pn 13 27 05.4 +0.7**
TGUH Tegucigalpa,Un 1.81 23⇓ *e*P **Pn 13 27 06.5 +0.8**
TGUH Tegucigalpa,Un 1.81 23⇓ *i*P **Pn 13 27 06.5 +0.8**
TGUH IAML 13 27 33.2
comp=Z,530nm,0.4s
TGUH Tegucigalpa,Un 1.81 23⇓ *e*P **Pn 13 27 06.5 +0.8**
JAYA Jayaque - finc 1.89 312 *e*P **Pb 13 27 08.2 -1.2**
JAYA *e*S **Sn 13 27 29.6 -0.5**
JAYA IAML 13 27 31.8
comp=Z,2μm,0.2s
JAYA Jayaque - finc 1.89 312 *e*P **Pb 13 27 08.2 -1.2**
JAYA *e*S **Sn 13 27 29.6 -0.5**
JAYA IAML 13 27 31.8
comp=Z,2μm,0.2s
TACO Tacachico 2.05 320 *e*P **Pb 13 27 10.6 -1.5**
TACO Tacachico 2.05 320 *e*P **Pb 13 27 10.6 -1.5**
NUBE Las Nubes 2.29 311 *e*P **Pn 13 27 14.2 +1.8**
NUBE *e*S **Sn 13 27 40.2 +0.1**
NUBE IAML 13 27 42.3
comp=Z,520nm,0.2s
NUBE Las Nubes 2.29 311 *e*P **Pn 13 27 14.2 +1.8**
NUBE *e*S **Sn 13 27 40.2 +0.1**
NUBE IAML 13 27 42.3
comp=Z,520nm,0.2s
TXAR Lajitas Array 22.28 322 P **P 13 31 31.2 -0.5**
baz=133,slow=10.0,SNR=5.7
NVAR Mina Array Bea 37.39 319 P P 13 33 57.1 +10
comp=Z,0.2nm,0.7s,baz=126,slow=10,SNR=2.3
YKA Yellowknife Ar 53.53 345 P P 13 36 08.3 +14
comp=Z,0.2nm,0.7s,baz=136,slow=8.1,SNR=4.2

*ISK **20** 13:31:46.3,37°.78N×26°.02E,h5km,ML3.3/20*
*DDA **20** 13:31:46.5±0.0,37°.78N×25°.99E,h21km±1km,ML3.0*
*THE **20** 13:31:48.6,37°.88N×26°.17E,h2km±2km,ML2.9/7,Error ellipse: s-maj=2.1km s-min=0.5km az=67.0*
ISC 20 13:31:48.7±1.1,37°.83N±0°.02×26°.05E±0°.03,h23km±13km, n41,σ1§77/65,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEYE	**Izmir, Urla-Ze**	**0.54**	**41**	P	**Pb**	**13 31 59.0**	**-0.5**
ZEYE				*i* AML	AML	13 32 08.0	
	comp=N,867nm,0.5s						
ZEYE				S	**Sn**	**13 32 08.1**	**-1.1**
ZEYE				*i* AML	AML	13 32 11.0	
	comp=E,815nm,0.3s						
CHOS	**Chios island**	**0.55**	**1**	P	**Pb**	**13 31 59.0**	**-0.8**
CHOS				S	**Sb**	**13 32 06.5**	**-0.8**
	1μm,0.3s						
SMG	**Samos**	**0.64**	**101**	P	**Pb**	**13 31 59.6**	**-1.6**
SMG				S	**Sb**	**13 32 07.7**	**-2.0**
	4μm,0.3s						
URLA	**Izmir**	**0.68**	**39**	PG	**Pn**	**13 32 01.6**	**-1.3**
URLA				SG	**Sn**	**13 32 13.2**	**+0.4**
DGB	**zmir**	**0.69**	**71**	P	**Pb**	**13 32 00.6**	**-1.5**
DGB				S	**Sn**	**13 32 11.8**	**-1.3**
DGB				*i* AML	AML	13 32 12.0	
	comp=N,957nm,0.5s						
DGB				*i* AML	AML	13 32 13.0	
	comp=E,868nm,0.3s						
GCAM	**G?zelcaml?**	**0.95**	**98**	PG	**Pn**	**13 32 06.1**	**-0.4**
GCAM				SG	**Sn**	**13 32 20.6**	**+1.3**
DDIM	**Aydin, Didim**	**1.02**	**111**	P	**Pn**	**13 32 06.2**	**-1.3**
DDIM				S	**Sn**	**13 32 21.5**	**+0.5**
DDIM				*i* AML	AML	13 32 23.0	
	comp=E,1μm,0.5s						
DDIM				*i* AML	AML	13 32 24.0	
	comp=N,2μm,0.4s						
FOCM	**Foa**	**1.03**	**31**	PN	**Pb**	**13 32 08.4**	**+0.6**
YKAV	**Yalikavak-Bodr**	**1.21**	**125**	PN	**Pb**	**13 32 10.5**	**-0.4**
BODT	**Bodrum**	**1.27**	**127**	P	**Pb**	**13 32 10.7**	**-1.1**
BODT				S	**Sb**	**13 32 29.5**	**+1.8**
BODT	**Bodrum**	**1.27**	**127**	PN	**Pb**	**13 32 11.1**	**-0.7**
BODT				SN	**Sb**	**13 32 29.9**	**+2.2**
CAND	**Candarli**	**1.27**	**28**	PN	**Pb**	**13 32 12.7**	**+0.8**
CAND				SN	**Sb**	**13 32 31.9**	**+4.2**
KOSK	**Kos Island**	**1.31**	**145**	PN	**Pb**	**13 32 11.9**	**-0.7**
KOSK				SN	**Sb**	**13 32 30.9**	**+2.0**
SIGR	**SIGRI**	**1.38**	**354**	P	**Pb**	**13 32 12.3**	**-1.5**
SIGR				S	**Sb**	**13 32 33.2**	**+2.1**
	498nm,0.6s						
ZEDA	**zmir-Bergama**	**1.39**	**35**	P	**Pn**	**13 32 11.6**	**-1.1**
ZEDA				S	**Sb**	**13 32 35.8**	**+4.5**
ZEDA				*i* AML	AML	13 32 44.0	
	comp=N,169nm,0.6s						
DKL	**Dikili**	**1.41**	**28**	PN	**Pb**	**13 32 14.5**	**+0.3**
DKL				SN	**Sb**	**13 32 35.8**	**+4.0**
PRK	**Paraskevi**	**1.42**	**7**	P	**Pb**	**13 32 13.4**	**-1.1**
PRK				S	**Sb**	**13 32 32.7**	**+0.5**
	788nm,0.7s						
CMBO	**Columbo, Santo**	**1.45**	**201**	P	**Pb**	**13 32 14.9**	**-0.1**
CMBO				S	**Sb**	**13 32 36.0**	**+2.9**
	2μm,0.5s						
SANT	**Santorini**	**1.53**	**198**	P	**Pb**	**13 32 16.4**	**0.0**
SANT	**Santorini**	**1.53**	**198**	PN	**Pb**	**13 32 15.3**	**-1.1**
SANT				SN	**Sb**	**13 32 36.2**	**+0.8**
DAT	**Datca**	**1.64**	**132**	PN	**Pb**	**13 32 17.1**	**-1.3**
DAT	**Datca**	**1.64**	**132**	P	**Pb**	**13 32 18.1**	**-0.2**
DAT				S	**Sb**	**13 32 39.7**	**+1.0**
KOCA	**Canakkale, Ayv**	**1.67**	**2**	P	**Pb**	**13 32 16.6**	**-2.1**
KOCA				S	**Sb**	**13 32 41.8**	**+2.5**
KOCA				*i* AML	AML	13 32 49.0	
	comp=N,179nm,0.5s						
GOMA	**Golmarmara-Man**	**1.71**	**59**	PN	**Pb**	**13 32 19.2**	**-0.2**
MHLO	**Agia Marina, M**	**1.74**	**230**	P	**Pb**	**13 32 19.3**	**-0.6**
BUHA	**Balikesir, Bur**	**1.85**	**25**	P	**Pb**	**13 32 21.9**	**+0.1**
BUHA				S	**Sb**	**13 32 47.2**	**+2.7**
BUHA				*i* AML	AML	13 32 53.0	
	comp=N,104nm,0.6s						
BUHA				*i* AML	AML	13 32 56.0	
	comp=E,138nm,0.7s						
MULA	**Mugla, Merkez-**	**1.90**	**107**	P	**Pb**	**13 32 22.8**	**+0.2**
MULA				S	**Sb**	**13 32 47.4**	**+1.5**
MULA				*i* AML	AML	13 32 55.0	
	comp=E,136nm,0.5s						
YER	**Yerkesik**	**1.91**	**111**	PN	**Pb**	**13 32 21.6**	**-1.2**
BAYC	**CANAKKALE_Bayr**	**1.94**	**11**	P	**Pn**	**13 32 20.6**	**+0.4**
BAYC				S	**Sb**	**13 32 49.4**	**+2.2**
EZN	**Ezine**	**2.00**	**6**	PN	**Pb**	**13 32 23.4**	**-1.0**
BOZC	**Bozcaada**	**2.00**	**0**	PN	**Pb**	**13 32 23.2**	**-1.2**
TURN	**Turunc**	**2.04**	**120**	PN	**Pb**	**13 32 23.2**	**-1.9**
KULA	**Kula-Manisa**	**2.17**	**71**	PN	**Pb**	**13 32 25.7**	**-1.6**
LIA	**Limnos Island**	**2.17**	**342**	P	**Pb**	**13 32 24.2**	**-3.0**
LIA				S	**Sb**	**13 32 52.8**	**-0.9**
	88nm,0.8s						
BALB	**Balikesir**	**2.30**	**38**	PN	**Pb**	**13 32 27.9**	**-1.6**
GADA	**Gvkgeada**	**2.36**	**357**	PN	**Pb**	**13 32 28.6**	**-1.8**
GELI	**Tayfur-Gelibol**	**2.58**	**7**	PN	**Pb**	**13 32 31.6**	**-2.7**
LPK	**Lapseki**	**2.59**	**12**	PN	**Pb**	**13 32 31.8**	**-2.7**
SIMA	**Simav-Kutahya**	**2.62**	**61**	PN	**Pb**	**13 32 32.1**	**-2.9**
SMTH	**Samothraki Isl**	**2.66**	**351**	P	**Pn**	**13 32 30.3**	**+0.1**
SMTH				S	**Sn**	**13 33 03.8**	**+2.1**
	60nm,1.5s						
IDI	**Anoyia**	**2.71**	**200**	P	**Pn**	**13 32 30.1**	**-0.7**

*IDC **20** 13:34:44.3±4.7,29°.54N×141°.30E,h45km±45km,mb3.2/5, mb1 3.5/6,mb1mx3.2/30,mbtmp3.5/6,ML2.8/1,Error ellipse: s-maj=57.7km s-min=22.4km az=87.0*
ISC 20 13:34:44.3±1.2,29°.5N±0°.1×141°.3E±0°.3,h46km,n6, σ0§29/6,mb3.4/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.44**	**341**	P	**Pn**	**13 36 30.1**	**-0.1**
	0.1nm,0.3s,baz=161,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**48.32**	**308**	P	**P**	**13 43 21.0**	**-0.1**
	0.2nm,0.7s,baz=95,slow=7.0,SNR=2.5						
WRA	**Warramunga Arr**	**49.65**	**189**	P	**P**	**13 43 31.4**	**-0.1**
	0.6nm,0.7s,baz=6.2,slow=7.6,SNR=8.7						
ASAR	**Alice Springs**	**53.37**	**188**	P	**P**	**13 43 59.2**	**0.0**
	0.3nm,0.7s,baz=2.7,slow=5.5,SNR=7.1						
YKA	**Yellowknife Ar**	**70.38**	**29**	P	**P**	**13 45 53.0**	**-0.1**
	0.1nm,0.7s,baz=292,slow=6.7,SNR=1.6						
FINES	**FINESS Array B**	**75.40**	**333**	P	**P**	**13 46 23.3**	**+0.4**

1.1nm,0.9s,baz=64,slow=6.3,SNR=4.8

*ANF **20** 13:43:09.6±0.1,34°.69N×116°.23W,h9km±1km,ML3.2/26, Error ellipse: s-maj=1.2km s-min=1.0km az=58.0*
*PAS **20** 13:43:10.0±0.8,34°.69N±0°.02×116°.24W±0°.03,h1km±7km, ML3.2/138,ML3.0/30(NEIC),Error ellipse: s-maj=3.8km s-min=3.5km az=63.0*
NEIC 20 13:43:09.7±0.7,34°.68N±0°.02×116°.22W±0°.02,h4km±9km, Error ellipse: s-maj=3.7km s-min=1.7km az=214.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.18**	**327**	P	Pg	13 43 13.5	+0.2
	baz=150,SNR=354						
HEC				S	Sg	13 43 16.0	+0.3
	baz=150						
GMRC	**Granite Mounta**	**0.47**	**77**	P	Pg	13 43 19.2	+0.4
	baz=259,SNR=121						
GMRC				S	Sg	13 43 25.9	+1.0
	baz=259						
RRX	**Edison Barstow**	**0.67**	**287**	P	Pg	13 43 22.3	-0.3
	baz=106,SNR=11						
RRX				S	Sg	13 43 31.6	+0.3
	baz=106						
BELC	**Belle Mtn. Jos**	**0.70**	**165**	P	Pg	13 43 23.5	+0.4
	baz=344,SNR=150						
BELC				S	Sb	13 43 34.0	-0.6
	baz=344						
BBRC	**Big Bear Solar**	**0.71**	**235**	P	Pg	13 43 23.7	+0.2
	baz=52,SNR=31						
BBRC				S	Sg	13 43 33.7	+1.0
	baz=52						
GSC	**Goldstone, Bar**	**0.79**	**322**	Pg	Pg	13 43 24.8	0.0
GSC	**Goldstone, Bar**	**0.79**	**322**	P	Pg	13 43 24.7	-0.1
	baz=142,SNR=299						
GSC				S	Sg	13 43 35.4	+0.3
	baz=142						
TUQ	**Turquoise Moun**	**0.79**	**18**	P	Pg	13 43 25.0	0.0
	baz=199,SNR=152						
TUQ				S	Sg	13 43 36.0	+0.7
	baz=199						
IRM	**Iron Mountain**	**1.03**	**120**	P	Pg	13 43 29.2	-0.2
	baz=301,SNR=168						
IRM				S	Sb	13 43 44.0	+0.1
	baz=301						
PFO	**Pinyon Flats O**	**1.08**	**191**		Pg	13 43 30.5	0.0
PFO				IAML		13 43 48.8	
	454nm,0.3s						
PFO	**Pinyon Flats O**	**1.08**	**191**	P	Pg	13 43 30.4	-0.1
	baz=9.6						
PFO				S	Sb	13 43 45.3	-0.3
	baz=9.6						
BC3	**Big Chuckawall**	**1.20**	**148**	P	Pb	13 43 32.9	-0.1
	baz=328,SNR=110						
BC3				S	Sn	13 43 50.0	-0.2
	baz=328						
SHOC	**Shoshone, Teco**	**1.22**	**358**	P	Pg	13 43 32.3	-0.8
	baz=178,SNR=77						
SHOC				S	Sg	13 43 49.2	+0.2
	baz=178						
BFSC	**Mount Baldy Ra**	**1.27**	**250**	P	Pg	13 43 33.6	-0.4
	baz=68,SNR=50						
BFSC				S	Sg	13 43 50.3	-0.2
	baz=68						
NEE2	**Needles Airpor**	**1.32**	**86**	P	Pn	13 43 34.8	-0.1
	baz=267,SNR=32						
NEE2				S	Sn	13 43 53.1	+0.1
	baz=267						
MURC	**Murrita**	**1.35**	**217**	P	Pn	13 43 35.1	-0.2
	baz=36,SNR=36						
MURC				S	Sn	13 43 54.0	+0.3
	baz=36						
QSM	**Queen of Sheba**	**1.39**	**338**		Pn	13 43 35.8	-0.2
QSM				IAML		13 43 56.7	
	comp=E,325nm,0.4s						
LRMC	**Laurel Mtn Rad**	**1.44**	**304**	P	Pn	13 43 35.8	-1.0
	baz=123,SNR=135						
LRMC				S	Sb	13 43 55.2	-0.8
	baz=123						
EDW2	**Edwards Air Fo**	**1.48**	**278**	P	Pn	13 43 36.1	-1.1
	baz=97,SNR=34						
EDW2				S	Sb	13 43 56.3	-0.6
	baz=97						
GWY	**Greenwater Val**	**1.55**	**346**		Pn	13 43 38.4	+0.1
MWC	**Mount Wilson**	**1.59**	**254**		Pn	13 43 39.2	+0.4
MWC				IAML		13 44 05.3	
	comp=N,256nm,0.4s						
MWC				IAML		13 44 06.1	
	comp=E,168nm,0.7s						
MPMC	**Manual Prospec**	**1.73**	**323**	P	Pn	13 43 39.3	-1.4
	baz=143,SNR=83						
MPMC				Sb	Sg	13 44 05.0	-0.2
	baz=143						
PDMCI	**Parker Dam,Lak**	**1.75**	**102**	S	Sn	13 44 02.4	-1.3
	baz=283						
DECC	**Green Verdugo**	**1.80**	**257**	Pb	Pb	13 43 43.5	+0.3
	baz=75,SNR=8.1						
109C	**Camp Elliot, M**	**1.93**	**203**	Sb	Sb	13 44 10.7	+0.8
	baz=22						
W13A	**Hualapai Mount**	**1.96**	**77**		Pn	13 43 43.2	-0.8
W13A				IAML		13 44 14.9	
	comp=E,73nm,0.5s						
W13A				IAML		13 44 14.0	
	comp=N,96nm,0.6s						
GLA	**Glamis**	**1.99**	**144**	Pg	Pg	13 43 47.6	-0.2
	baz=325,SNR=46						
GLA				Sb	Sg	13 44 13.6	-0.1
	baz=325						
OSI	**Osito Audit: C**	**2.07**	**269**	Pg	Pg	13 43 48.7	-0.7
	baz=87						
ISA	**Isabella, Lake**	**2.09**	**299**		Pn	13 43 44.6	-1.0
ISA				IAML		13 44 25.0	
	comp=E,66nm,0.8s						
ISA	**Isabella, Lake**	**2.09**	**299**	P	Pn	13 43 44.6	-1.0
	baz=117,SNR=43						
ISA				Sb	Sb	13 44 15.8	+1.1
	baz=117						
ARVC	**Arvin**	**2.19**	**283**	Pg	Pg	13 43 51.2	-0.6
	baz=101						
CIS	**Catalina Islan**	**2.23**	**236**	Pb	Pb	13 43 50.3	-0.2
	baz=54						
CIS				Sb	Sb	13 44 19.1	+0.7
	baz=54						
TPNV	**Topopah Spring**	**2.27**	**359**	P	Pn	13 43 48.0	-0.1
	baz=180,SNR=22						
PRN	**Pahroc Range**	**2.88**	**19**		Pn	13 43 56.5	-0.1
PRN				IAML		13 44 54.5	
	comp=E,51nm,1.0s						
PRN				IAML		13 44 56.6	
	comp=N,46nm,0.8s						
LCMT	**Little Creek M**	**3.35**	**45**		Pn	13 44 03.0	-0.1
U15A	**North Rim**	**3.65**	**60**		Pn	13 44 07.4	+0.2
U15A				IAML		13 45 15.9	
	comp=E,27nm,0.7s						
U15A				IAML		13 45 16.5	
	comp=N,27nm,1.0s						
CCUT	**Cedar City**	**3.68**	**38**		Pn	13 44 08.4	+0.8
X16A	**Lo Mia Camp, P**	**3.95**	**92**		Pn	13 44 10.8	-0.5
X16A				IAML		13 45 27.4	
	comp=E,19nm,1.3s						
X16A				IAML		13 45 32.4	
	comp=N,16nm,1.1s						
LHV	**Little Huntoon**	**4.01**	**333**		Pn	13 44 12.1	+0.1
LHV				IAML		13 45 27.3	
	comp=N,18nm,1.6s						
LHV				IAML		13 45 39.2	
	comp=E,24nm,3.0s						

*EAF **20** 13:52:50.7±1.7,25°.87S×29°.36E,h0km±15km,MD3.7*
BUL 20 13:52:50.8±1.3,25°.88S×29°.36E,h0km±12km,MD3.9, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.58**	**100**	*i* P	Pn	13 53 33.6	-0.2
CNG				*i* Sg	Sb	13 54 10.7	+0.5
CNG	**Changalane**	**2.58**	**100**	*i* P	Pn	13 53 33.6	-0.2
CNG				*i* Sg	Sb	13 54 10.7	+0.5
MOPA	**Mopani**	**2.99**	**39**	*i* P	Pn	13 53 37.5	-2.1
MOPA	**Mopani**	**2.99**	**39**	*i* P	Pn	13 53 37.5	-2.1
LBTB	**Lobatse**	**3.51**	**283**	*i* P	Pn	13 53 47.6	+0.9
LBTB				*i* Sg	Sb	13 54 39.5	+2.4
LBTB	**Lobatse**	**3.51**	**283**	*i* P	Pn	13 53 47.6	+0.9
LBTB				*i* Sg	Sb	13 54 39.5	+2.4
MSNA	**Messina**	**3.57**	**10**	*i* P	Pn	13 53 46.9	-0.6
MSNA	**Messina**	**3.57**	**10**	*i* P	Pn	13 53 46.9	-0.6
BOSA	**Boshof**	**4.56**	**232**	*i* Sg	Sb	13 55 11.6	+4.3
BOSA	**Boshof**	**4.56**	**232**	*i* Sg	Sb	13 55 11.6	+4.3
MATP	**Matopo**	**5.48**	**352**	*i* S	Sn	13 55 12.7	-5.2
MATP	**Matopo**	**5.48**	**352**	*i* S	Sn	13 55 12.7	-5.2
BLWY	**Bulawayo**	**5.75**	**353**	*i* P	Pn	13 54 16.9	-0.8
BLWY				*i* S	Sn	13 55 19.0	-5.5
BLWY	**Bulawayo**	**5.75**	**353**	*i* P	Pn	13 54 16.9	-0.8
BLWY				*i* S	Sn	13 55 19.0	-5.5

IDC 20 14:28:42.5±2.7,12°.57S×165°.41E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.5/30,mbtmp3.7/4,Error ellipse: s-maj=119.1km s-min=34.6km az=135.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.13**	**225**	P	P	14 34 45.5	+0.2
	1.3nm,0.9s,baz=56,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**30.68**	**252**	P	P	14 34 59.3	+0.1
	0.2nm,0.7s,baz=87,slow=8.7,SNR=4.7						
ASAR	**Alice Springs**	**31.84**	**245**	P	P	14 35 09.2	-0.2
	1.1nm,0.7s,baz=69,slow=9.9,SNR=26						
ILAR	**Eielson Array**	**85.06**	**19**	P	P	14 41 19.7	-0.1
	0.2nm,0.6s,baz=220,slow=8.3,SNR=1.4						

IDC 20 14:50:40.3±1.7,9°.44N×56°.90E,h0km,mb3.4/5,mb1 3.7/5, mb1mx3.4/40,mbtmp3.4/5,MS2.9/1,Ms1 2.9/1, ms1mx2.3/57,Error ellipse: s-maj=58.1km s-min=34.6km az=33.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**13.82**	**7**	LR	LR	14 58 13.2	
	comp=Z,49nm,18.8s,baz=176,slow=33						
CMAR	**Chiang Mai Arr**	**41.69**	**73**	P	P	14 58 32.6	+1.5
	0.6nm,0.8s,baz=270,slow=7.2,SNR=0.9						
ZALV	**Zalesovo Beam**	**49.71**	**21**	P	P	14 59 32.6	-1.4
	0.4nm,0.3s,baz=226,slow=9.8,SNR=1.8						
ESDC	**Sonseca Array**	**61.68**	**310**	P	P	15 01 01.1	+0.7
	0.3nm,0.4s,baz=91,slow=7.7,SNR=2.6						
WRA	**Warramunga Arr**	**81.57**	**112**	P	P	15 03 00.1	-0.5
	0.2nm,0.8s,baz=300,slow=4.1,SNR=1.6						
ASAR	**Alice Springs**	**82.04**	**116**	P	P	15 03 02.6	-0.4
	0.2nm,0.7s,baz=294,slow=4.6,SNR=4.0						

*GCG **20** 15:01:33.1±0.3,13°.32N×92°.14W,h35km±999km,MD4.1*
*IDC **20** 15:01:33.6±0.8,13°.89N×91°.03W,h0km,mb4.0/11, mb1 4.2/12,mb1mx4.0/47,mbtmp4.0/12,ML4.2/1,MS3.5/3, Ms1 3.5/3,ms1mx2.8/65,Error ellipse: s-maj=40.7km s-min=17.1km az=60.0*
*SNET **20** 15:01:37.5±0.9,13°.65N×91°.74W,h30km,ML4.0*
*UCR **20** 15:01:37.6±1.0,13°.65N×91°.73W,h30km,ML3.8, mb4.3(NEIC)*
*NEIC **20** 15:01:40.5±2.7,13°.72N±0°.08×91°.65W±0°.07,h33km±6km, mb4.3/39,Error ellipse: s-maj=13.3km s-min=7.4km az=221.0*
ISC 20 15:01:38.0±0.6,13°.62N±0°.06×91°.73W±0°.04,h28km,n109, σ1§46/114,mb4.3/30,MS3.4/3,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.91**	**2**		**Pb**	**15 01 54.5**	**-0.6**
STG3	**Santiaguito 3,**	**1.10**	**8**	*e*P	**Pb**	**15 01 58.0**	**-0.5**
PCG	**Pacaya**	**1.34**	**55**	*e*P	**Pb**	**15 02 01.3**	**-1.2**
NBG	**Las Nubes**	**1.66**	**54**	*e*P	**Pb**	**15 02 07.5**	**-0.5**
NBG				*e*S	**Sb**	**15 02 34.4**	**+5.8**
HUEH	**Huehuetenango**	**1.71**	**7**		**Pn**	**15 02 05.8**	**-0.3**
NUBE	**Las Nubes**	**1.92**	**81**	*e*P	**Pn**	**15 02 08.0**	**-0.9**
NUBE	**Las Nubes**	**1.92**	**81**	*e*P	**Pn**	**15 02 08.0**	**-0.9**
RTR	**El Retiro**	**2.05**	**82**	*e*P	**Pn**	**15 02 10.8**	**+0.1**
RTR	**El Retiro**	**2.05**	**82**	*e*P	**Pn**	**15 02 10.8**	**+0.1**
CEVE	**Cerro Verde**	**2.06**	**84**	*e*P	**Pn**	**15 02 10.4**	**-0.5**
CEVE				IAML		15 02 42.5	
	comp=Z,1μm,0.2s						
CEVE	**Cerro Verde**	**2.06**	**84**	*e*P	**Pn**	**15 02 10.4**	**-0.5**
CEVE				IAML		15 02 42.5	
	comp=Z,1μm,0.2s						
SBLS	**San Blas**	**2.06**	**84**	*e*P	**Pn**	**15 02 10.3**	**-0.7**
SBLS	**San Blas**	**2.06**	**84**	*e*P	**Pn**	**15 02 10.3**	**-0.7**
JAYA	**Jayaque - finc**	**2.22**	**89**	*e*P	**Pn**	**15 02 12.2**	**-0.9**
JAYA				*e*S	**Sn**	**15 02 39.4**	**-0.3**
JAYA				IAML		15 02 48.9	
	comp=Z,810nm,0.2s						
JAYA	**Jayaque - finc**	**2.22**	**89**	*e*P	**Pn**	**15 02 12.2**	**-0.9**
JAYA				*e*S	**Sn**	**15 02 39.4**	**-0.3**
JAYA				IAML		15 02 48.9	
	comp=Z,810nm,0.2s						
TACO	**Tacachico**	**2.34**	**81**	*e*P	**Pn**	**15 02 14.7**	**+0.2**
TACO	**Tacachico**	**2.34**	**81**	*e*P	**Pn**	**15 02 14.7**	**+0.2**
MTO3	**Montecristo**	**2.43**	**71**	*e*P	**Pn**	**15 02 16.3**	**+0.2**
MTO3	**Montecristo**	**2.43**	**71**	Pn	**Pn**	**15 02 15.6**	**-0.4**
MTO3	**Montecristo**	**2.43**	**71**	*e*P	**Pn**	**15 02 16.3**	**+0.2**
SNET	**Serv Nac Est T**	**2.43**	**88**	Pn	**Pn**	**15 02 17.0**	**+1.1**
MRL	**Marmol**	**2.46**	**53**	*e*P	**Pb**	**15 02 18.6**	**-3.1**
MRL				*e*S	**Sb**	**15 02 52.1**	**+0.4**
ESQI	**Esquipulas**	**2.50**	**68**	Pn	**Pn**	**15 02 17.2**	**+0.3**
LFRS	**El Faro**	**2.60**	**89**	*e*P	**Pn**	**15 02 18.2**	**0.0**
LFRS	**El Faro**	**2.60**	**89**	*e*P	**Pn**	**15 02 18.2**	**0.0**
SJTE	**Alcalda de S**	**2.65**	**90**	*e*P	**Pn**	**15 02 19.3**	**+0.4**
SJTE				*e*S	**Sn**	**15 02 51.0**	**+0.8**
SJTE	**Alcalda de S**	**2.65**	**90**	*e*P	**Pn**	**15 02 19.3**	**+0.4**
SJTE				*e*S	**Sn**	**15 02 51.0**	**+0.8**
CCIG	**Comitan**	**2.68**	**352**	Pn	**Pb**	**15 02 22.1**	**-3.3**
PETF	**Flores**	**3.74**	**28**	Pn	**Pn**	**15 02 35.6**	**+1.7**
LCND	**La Caada**	**3.75**	**94**	*e*P	**Pn**	**15 02 33.9**	**-0.1**
LCND				IAML		15 03 23.4	
	comp=Z,206nm,0.5s						
LCND	**La Caada**	**3.75**	**94**	*e*P	**Pn**	**15 02 33.9**	**-0.1**
LCND				IAML		15 03 23.4	
	comp=Z,206nm,0.5s						
TGUH	**Tegucigalpa,Un**	**4.35**	**84**	Pn	**Pn**	**15 02 41.5**	**-1.0**
CMIG	**Matias Romero**	**4.60**	**319**	Pn	**Pn**	**15 02 44.9**	**-0.9**
	comp=Z,3.8nm,0.3s,baz=139,slow=10,SNR=18						
CMIG				Sn	**Sn**	**15 03 37.5**	**-0.9**
	comp=Z,11nm,0.3s,baz=108,slow=14,SNR=4.3						
CRIN	**San Cristobal**	**4.65**	**101**	Pn	**Pn**	**15 02 46.7**	**+0.3**
ORTG	**Ortega, Santa**	**6.94**	**117**	Pn	**Pn**	**15 03 18.4**	**+0.5**
JTS	**Las Juntas de**	**7.41**	**116**	Pn	**Pn**	**15 03 24.

121A IAmb IAmb 15 06 55.1
comp=Z,7.6nm,0.8s
319A Douglas 23.93 321 P **P** **15 06 52.3 +2.4**
319A IAmb IAmb 15 06 56.3
comp=Z,8.5nm,1.0s
BNM Barren Site 24.51 329 P **P** **15 06 56.9 +1.6**
ANMO Albuquerque 25.06 330 P **P** **15 07 02.3 +2.1**
comp=Z,1.7nm,0.5s,baz=149,slow=12,SNR=5.7
ANMO Albuquerque 25.06 330 P **P** **15 07 02.9 +2.6**
PFO Pinyon Flats O 30.02 316 LR LR 15 19 43.8
comp=Z,132nm,20.6s,baz=132,slow=36
BOAV Boa Vista 32.80 107 P **P** **15 08 07.7 -1.5**
BOAV IAmb IAmb 15 08 18.9
comp=Z,6.5nm,1.1s
SADO Sadowa 32.85 17 LR LR 15 22 34.4
comp=Z,70nm,18.7s,baz=195,slow=39
BW06 Boulder Array 32.88 335 P **P** **15 08 10.5 +0.7**
BW06 IAmb IAmb 15 08 39.5
comp=Z,5.0nm,1.5s
PD31 Pinedale Array 32.88 335 P **P** **15 08 10.8 +1.0**
PDAR Pinedale Array 32.88 335 P **P** **15 08 10.8 +1.0**
comp=Z,0.2nm,0.5s,baz=134,slow=9.8,SNR=4.9
PDAR Pinedale Array 32.88 335 P **P** **15 08 09.8 0.0**
BGU Big Grassy Mou 32.96 330 P **P** **15 08 13.1 +2.6**
BGU IAmb IAmb 15 08 16.6
comp=Z,3.9nm,1.1s
REDW Red Top Meadow 33.90 335 P **P** **15 08 20.3 +1.5**
REDW IAmb IAmb 15 08 31.2
comp=Z,3.8nm,0.9s
NV11 Mina Array Sit 34.04 321 P **P** **15 08 22.4 +2.4**
NV11 IAmb IAmb 15 08 44.4
comp=Z,5.4nm,1.4s
NVAR Mina Array Bea 34.13 321 P **P** **15 08 23.6 +2.7**
comp=Z,1.4nm,0.6s,baz=137,slow=7.7,SNR=11
NVAR PcP **PcP** **15 10 58.8 +1.0**
comp=Z,0.1nm,0.4s,baz=126,slow=1.6,SNR=2.3
NVAR Mina Array Bea 34.13 321 P **P** **15 08 19.8 -1.0**
MCMT McKenzie Canyo 35.93 334 P **P** **15 08 38.9 +2.6**
EGMT Eagleton 37.44 340 P **P** **15 08 49.5 +0.7**
EGMT IAmb IAmb 15 08 50.5
comp=Z,8.5nm,1.4s
J08A Circle Bar Ran 37.50 327 P **P** **15 08 52.4 +2.9**
PLID Pearl Lake 37.54 331 P **P** **15 08 51.4 +1.5**
PLID IAmb IAmb 15 08 56.1
comp=Z,6.0nm,1.4s
LPAZ La Paz 37.77 141 P **P** **15 08 51.4 -1.2**
comp=Z,1.2nm,0.6s,baz=320,slow=8.1,SNR=4.6
LPAZ La Paz 37.77 141 P **P** **15 08 51.2 -1.4**
F10A Beach Ranch, E 38.77 331 P **P** **15 09 02.6 +2.5**
H04A Detroit Lake 40.38 326 P **P** **15 09 16.0 +2.5**
SIV San Ignacio 42.24 133 P **P** **15 09 27.0 -2.1**
comp=Z,0.6nm,0.4s,baz=299,slow=10,SNR=4.9
SCHQ Schefferville 45.49 20 P **P** **15 09 51.6 -3.2**
comp=Z,5.7nm,0.8s,baz=217,slow=4.4,SNR=5.2
YKA Yellowknife Ar 51.46 347 P **P** **15 10 39.3 -1.2**
comp=Z,1.6nm,0.7s,baz=148,slow=7.5,SNR=32
YKA PcP **PcP** **15 11 54.2 -0.4**
comp=Z,0.4nm,0.7s,baz=154,slow=3.6,SNR=7.2
FRB Frobisher Bay 52.63 13 P **P** **15 10 45.6 -3.6**
comp=Z,2.7nm,0.6s,baz=212,slow=9.6,SNR=6.3
DLBC Dease Lake 53.11 336 P **P** **15 10 54.8 +1.8**
DLBC IAmb IAmb 15 10 57.0
comp=Z,5.0nm,0.9s
M27K Edge Creek, AK 60.17 336 P **P** **15 11 45.6 +2.5**
BCAR Beaver Creek A 60.49 336 P **P** **15 11 45.7 +0.5**
INK Inuvik 60.88 344 P **P** **15 11 46.9 -0.8**
comp=Z,1.7nm,0.6s,baz=128,slow=8.7,SNR=11
INK Inuvik 60.88 344 P **P** **15 11 47.8 +0.1**
RES Resolute Bay 61.09 359 P **P** **15 11 45.5 -3.5**
comp=Z,1.1nm,0.6s,baz=276,slow=1.8,SNR=10
ILULI Ilulissat 61.19 15 P **P** **15 11 51.3 +1.5**
J26L Joseph Creek 61.91 337 P **P** **15 11 55.6 +0.8**
J26L IAmb IAmb 15 12 07.6
comp=Z,3.3nm,1.1s
ILAR Eielson Array 63.29 337 P **P** **15 12 04.4 +0.4**
comp=Z,0.9nm,0.6s,baz=93,slow=6.1,SNR=18
ILAR Eielson Array 63.29 337 P **P** **15 12 05.1 +1.1**
CCB Clear Creek Bu 63.59 336 P **P** **15 12 06.4 +0.4**
BMAR Burnt Mountain 63.74 340 P **P** **15 12 07.9 +1.0**
MDM Murphy Dome 63.89 337 P **P** **15 12 08.1 +0.1**
MDM IAmb IAmb 15 12 18.8
comp=Z,3.8nm,1.2s
H24K Noodor Dome 64.14 338 P **P** **15 12 10.7 +1.0**
H24K IAmb IAmb 15 12 19.9
comp=Z,3.3nm,1.1s
I23K Minto, Yukon-K 64.41 337 P **P** **15 12 12.7 +1.4**
J20K Nowinta River 65.95 335 P **P** **15 12 22.4 +1.1**
J20K IAmb IAmb 15 12 41.6
comp=Z,4.6nm,1.2s
STKA Stephens Creek 128.09 240 PKP **PKPdf** **15 20 41.4 -0.6**
comp=Z,0.4nm,0.6s,baz=88,slow=6.2,SNR=1.2
STKA Stephens Creek 128.09 240 **PKiKP** **15 20 44.3 +1.6**
WRA Warramunga Arr 135.55 255 PKP **PKPdf** **15 20 56.1 -0.3**
comp=Z,0.3nm,0.8s,baz=134,slow=4.7,SNR=1.9
ASAR Alice Springs 135.78 250 PKP **PKPdf** **15 20 56.3 -0.5**
comp=Z,0.4nm,0.9s,baz=80,slow=3.2,SNR=1.9
PZH PanZhiHua 138.03 342 PKP **PKPdf** **15 21 00.6 -0.5**
CMAR Chiang Mai Arr 146.44 341 PKPbc **PKPbc** **15 21 17.3 0.0**
comp=Z,1.5nm,0.7s,baz=345,slow=4.2,SNR=8.8
CMAR Chiang Mai Arr 146.44 341 **PKPdf** **15 21 16.4 +0.3**

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*SOME **20** 15:03:54.9, 41.°33N×83.°32E, h0km*
*NNC **20** 15:03:56.0±1.5, 41.°58N×83.°52E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=10.7km s-min=6.5km az=151.0*
ISC 20 15:03:56.7±2.3,**41.°5N**±0.°1×**83.°39E**±0.°07,**h10**km,**n32,**
σ**2°85**/51,**3C-8D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.42**	**304**	⇑Pn	**Pn**	**15 04 50.9**	**+0.7**
	4.8nm,0.6s						
PDGK				⇓Pg	**Pb**	**15 04 59.2**	**+1.7**
	8.2nm,0.5s						
PDGK				⇓Sn	**Sn**	**15 05 35.1**	**+4.2**
	18nm,0.5s						
PDGK				⇓Lg	Lg	15 05 47.5	
	40nm,0.7s						
UZB	**Uzynbulak**	**3.64**	**299**	*eP*	**Pb**	**15 05 03.3**	**+2.2**
	16nm,0.6s						
UZB				*eS*	**Sg**	**15 05 53.0**	**-0.5**
	31nm,1.1s						
UZB	**Uzynbulak**	**3.64**	**299**	Pg	**Pb**	**15 05 03.7**	**+2.5**
	16nm,0.6s						
UZB				Lg	Lg	15 05 53.0	
	40nm,0.6s						
DJR	**Jarkent**	**3.88**	**318**	*eP*	**Pg**	**15 05 10.4**	**-0.7**
	11nm,0.7s						
DJR				*eS*	**Sg**	**15 06 04.7**	**+3.3**
	23nm,0.6s						
DJR	**Jarkent**	**3.88**	**318**	Pg	**Pg**	**15 05 08.0**	**-3.0**
	11nm,0.7s						
DJR				Lg	Lg	15 06 00.9	
	23nm,0.6s						
ZHN	**Zhinishke**	**4.04**	**296**	*eP*	**Pb**	**15 05 09.6**	**+1.6**
	12nm,0.3s						
ZHN				*eS*	**Sg**	**15 06 03.6**	**-2.8**
	38nm,0.6s						
ZHN	**Zhinishke**	**4.04**	**296**	Pg	**Pb**	**15 05 09.6**	**+1.6**
	12nm,0.3s						
ZHN				Lg	Lg	15 06 03.6	
	38nm,0.6s						
KURS	**Kuram**	**4.35**	**299**	*eP*	**Pb**	**15 05 16.5**	**+3.3**
	7.7nm,0.5s						
KURS				*eS*	**Sg**	**15 06 15.3**	**-0.9**
	13nm,0.9s						
KURS	**Kuram**	**4.35**	**299**	Pg	**Pb**	**15 05 16.5**	**+3.3**
	7.7nm,0.5s						
KURS				Lg	Lg	15 06 15.3	
	13nm,0.9s						
KAPS	**Kapalarasan**	**4.80**	**324**	*eP*	**Pg**	**15 05 25.9**	**-2.7**
	5.7nm,0.6s						
KAPS				*eS*	**Sg**	**15 06 31.1**	**+0.4**
	20nm,0.6s						
KAPS	**Kapalarasan**	**4.80**	**324**	Pg	**Pb**	**15 05 23.7**	**+2.8**
	5.7nm,0.6s						
KAPS				Lg	Lg	15 06 27.6	
	20nm,0.6s						
ARXS	**Arharly**	**4.91**	**306**	*eP*	**Pb**	**15 05 26.2**	**+3.4**
	4.4nm,0.7s						
ARXS				*eS*	**Sg**	**15 06 32.1**	**-2.3**
	22nm,0.9s						
ARXS	**Arharly**	**4.91**	**306**	Pg	**Pb**	**15 05 26.2**	**+3.4**
	4.4nm,0.7s						
ARXS				Lg	Lg	15 06 32.1	
	22nm,0.9s						
MDOK	**Medeo**	**4.99**	**292**	*eP*	**Pb**	**15 05 26.6**	**+2.4**
MDOK				*eS*	**Sg**	**15 06 32.6**	**-4.2**
MDOK	**Medeo**	**4.99**	**292**	Pg	**Pb**	**15 05 26.6**	**+2.4**
MDOK				Lg	Lg	15 06 32.6	
TNSS	**Tian-Shan**	**5.03**	**290**	*eP*	**Pg**	**15 05 29.6**	**-3.4**
	5.0nm,0.7s						
TNSS				*eS*	**Sg**	**15 06 37.2**	**-0.8**
	13nm,0.9s						
TNSS	**Tian-Shan**	**5.03**	**290**	Pg	**Pg**	**15 05 29.6**	**-3.4**
	5.0nm,0.7s						
TNSS				Lg	Lg	15 06 37.2	
	13nm,0.9s						
TDK	**Taldyqorghan**	**5.06**	**316**	*eP*	**Pg**	**15 05 30.9**	**-2.6**
	20nm,0.4s						
TDK				*eS*	**Sg**	**15 06 39.9**	**+0.8**
	33nm,1.0s						
TDK	**Taldyqorghan**	**5.06**	**316**	Pg	**Pg**	**15 05 30.9**	**-2.6**
	20nm,0.4s						
TDK				Lg	Lg	15 06 39.9	
	33nm,1.0s						
CHKK	**Chushkaly**	**5.28**	**299**	*eP*	**Pb**	**15 05 33.4**	**+4.4**
	1.2nm,0.1s						
CHKK				*eS*	**Sg**	**15 06 44.3**	**-1.8**
	14nm,0.7s						
CHKK	**Chushkaly**	**5.28**	**299**	Pg	**Pb**	**15 05 33.4**	**+4.4**
	1.2nm,0.1s						
CHKK				Lg	Lg	15 06 44.3	
	14nm,0.7s						
MK31	**Makanchi Array**	**5.37**	**352**	Pn	**Pn**	**15 05 16.1**	**-0.7**
	0.1nm,0.2s,baz=166,slow=14,SNR=15						
MK31				⇓Pg	**Pb**	**15 05 30.2**	**-0.3**
	0.3nm,0.3s,baz=172,slow=16,SNR=5.3						
MK31				⇓Sn	**Sn**	**15 06 17.6**	**-1.0**
	1.1nm,0.4s,baz=182,slow=26,SNR=4.0						
MK31				⇑Lg	Lg	15 06 44.5	
	23nm,0.8s,baz=167,slow=27,SNR=4.8						
MAKZ	**Makanchi**	**5.42**	**350**	⇓Pn	**Pn**	**15 05 18.6**	**+1.0**
	0.2nm,0.5s						
MAKZ				⇑Pg	**Pb**	**15 05 31.7**	**+0.3**
	1.0nm,0.8s						
MAKZ				⇓Sn	**Sn**	**15 06 20.7**	**+0.8**
	6.9nm,0.8s						
MAKZ				⇓Lg	Lg	15 06 46.6	
	14nm,0.9s						
KTBS	**Karatobe**	**5.43**	**296**	*eP*	**Pb**	**15 05 35.0**	**+3.4**
	2.9nm,0.4s						
KTBS				*eS*	**Sg**	**15 06 47.2**	**-3.7**
	21nm,0.7s						
KTBS	**Karatobe**	**5.43**	**296**	Pg	**Pb**	**15 05 35.0**	**+3.4**
	2.9nm,0.4s						
KTBS				Lg	Lg	15 06 47.2	
	21nm,0.7s						
KST	**Kastek**	**5.72**	**288**	*eP*	**Pb**	**15 05 40.7**	**+4.0**
	13nm,0.7s						
KST				*eS*	**Sg**	**15 06 56.8**	**-3.7**
	19nm,0.8s						
KST	**Kastek**	**5.72**	**288**	Pg	**Pb**	**15 05 40.7**	**+4.0**
KST				Lg	Lg	15 06 56.7	
DGS	**Degeres**	**5.91**	**290**	*eP*	**Pb**	**15 05 44.5**	**+4.6**
	3.3nm,0.5s						
DGS				*eS*	**Sg**	**15 07 03.5**	**-2.8**
	15nm,0.6s						
DGS	**Degeres**	**5.91**	**290**	Pg	**Pb**	**15 05 44.4**	**+4.6**
	3.3nm,0.5s						
DGS				Lg	Lg	15 07 03.5	
	15nm,0.6s						
ZSN	**Zaisan**	**6.06**	**10**	*eP*	**Pg**	**15 05 50.0**	**-2.7**
	2.8nm,0.6s						
ZSN				*eS*	**Sg**	**15 07 12.4**	**+1.3**
	29nm,1.0s						
KRBS	**Karabastau**	**6.11**	**294**	*eP*	Pb	15 05 48.5	+5.4
	1.5nm,0.7s						
KRBS				*eS*	**Sg**	**15 07 10.2**	**-2.4**
	7.0nm,0.6s						
KRBS	**Karabastau**	**6.11**	**294**	Pg	Pb	15 05 48.5	+5.4
	1.5nm,0.7s						
KRBS				Lg	Lg	15 07 10.2	
	7.0nm,0.6s						

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*DJA **20** 15:04:07.8±0.3, 8.°S±4.°×11.°3E±.°, h10km, M3.7/13, MLv3.7/13*
*IDC **20** 15:04:19.4±6.3, 8.°95S×114.°03E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.1/33, mbtmp3.3/3, Error ellipse: s-maj=146.4km s-min=91.6km az=33.0*
ISC 20 15:04:07.3±0.9,**8.°37S**±0.°09×**112.°62E**±0.°04,**h10**km,**n15,**
σ**0°99**/19,**mb3.3/3,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.82**	**84**	P	**Pg**	**15 04 22.1**	**-1.0**
GMJI				S	**Sg**	**15 04 32.9**	**-0.8**
BLJI	**Banyuglugur**	**1.14**	**57**	P	**Pb**	**15 04 28.9**	**-0.3**
BLJI				S	**Sg**	**15 04 44.5**	**+0.3**
PCJI	**Pacitan**	**1.44**	**277**	P	**Pn**	**15 04 33.3**	**-0.2**
PCJI				S	**Sn**	**15 04 51.7**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.52**	**94**	P	**Pn**	**15 04 33.5**	**-1.0**
JAGI				S	**Sn**	**15 04 54.2**	**-0.1**
ABJI	**Asem Bagus**	**1.69**	**71**	P	**Pn**	**15 04 38.2**	**+1.3**
KMMI	**Kalianget**	**1.87**	**46**	P	**Pn**	**15 04 39.6**	**+0.3**
UGM	**Wanagama**	**2.13**	**282**	P	**Pn**	**15 04 44.2**	**+1.2**
SMRI	**Semarang**	**2.53**	**301**	P	**Pn**	**15 04 48.6**	**+0.1**
IGBI	**Denpasar**	**2.53**	**100**	P	**Pn**	**15 04 49.8**	**+1.3**
UWJI	**Ujung Watu**	**2.55**	**319**	P	**Pn**	**15 04 49.6**	**+0.9**
SRBI	**Singaraja**	**2.58**	**84**	P	**Pn**	**15 04 50.7**	**+1.6**
CMJI	**Cimerak**	**4.17**	**278**	P	**Pn**	**15 05 11.7**	**+0.6**
WRA	**Warramunga Arr**	**23.96**	**121**	P	**P**	**15 09 20.6**	**-1.5**
	0.2nm,0.4s,baz=297,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**25.43**	**129**	P	**P**	**15 09 36.2**	**+0.8**
	0.4nm,0.6s,baz=304,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**35.66**	**135**	P	**P**	**15 11 06.8**	**+1.0**
	1.1nm,0.8s,baz=309,slow=13,SNR=2.4						

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*IDC **20** 15:05:19.0±0.4, 56.°25S×139.°18W, h0km, mb4.5/13, mb1 4.7/13, mb1mx4.4/32, mbtmp4.5/13, MS4.9/15, Ms1 4.9/15, ms1mx4.8/20, Error ellipse: s-maj=22.6km s-min=13.6km az=2.0*
*NEIC **20** 15:05:19.8±1.7, 56.°2S±0.°1×139.°2W±0.°1, h10km±1km, mb5.1/58, Mwc5.4(GCMT), Error ellipse: s-maj=22.6km s-min=9.2km az=210.0*
*MOS **20** 15:05:19.4±1.5, 56.°48S×139.°00W, h10km, mb5.0/8, Error ellipse: s-maj=22.3km s-min=20.8km az=142.0*
*GCMT **20** 15:05:22.8±0.1, 56.°52S±0.°01×139.°16W±0.°01, h12km, MW5.4/141, Moment Tensor Solution. s103, c180; s141, c249; Duration: 1±2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.26±.02; $M_{\theta\theta}$1.34±.02; $M_{\phi\phi}$=-1.07±.01; $M_{r\theta}$0.05±.04; $M_{\theta\phi}$0.90±.02; $M_{\phi r}$0.00±.04; Best double couple: $M_0$1.50300×10^{17} NP1:ϕ_s27.00000°, δ89.00000°, λ179.00000°. NP2:ϕ_s117.00000°, δ89.00000°, λ1.00000°. Principal axes: T 1.6380, Plg1.0000°, Azm342.0000°; N -0.2640, Plg88.0000°, Azm139.0000°; P -1.3670, Plg1.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 15:05:20.4±0.3,**56.°15S**±0.°09×**139.°01W**±0.°06,**h10**km,
n219,σ**1°83**/193,**mb5.1**/38,**MS4.9**/22,**10C-1D,**
Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**29.38**	**202**	P	**P**	**15 11 23.1**	**+0.1**
	6.6nm,1.3s,baz=59,slow=7.7,SNR=3.3						
VNDA				LR	LR	15 20 02.9	
	comp=Z,3μm,20.1s,baz=81,slow=30						
VNDA	**Vanda**	**29.38**	**202**	P	**P**	**15 11 21.4**	**-1.7**
VNDA				IAmb	IAmb	15 11 30.8	
	comp=Z,57nm,1.9s						
PLWZ	**Palliser**	**32.76**	**277**	P	**P**	**15 11 49.6**	**-3.6**
SMAI	**San Martin Ant**	**33.54**	**140**	P	**P**	**15 11 59.9**	**+0.3**
QSPA	**South Pole Qui**	**34.01**	**180**	P	**P**	**15 12 04.2**	**+0.1**
	comp=Z,7.1nm,0.9s,baz=84,slow=3.2,SNR=21						
QSPA				PcP	**PcP**	**15 14 42.2**	**+0.7**
	comp=Z,6.1nm,1.1s,baz=99,slow=1.3,SNR=2.7						
QSPA				LR	LR	15 24 08.6	
	comp=Z,5μm,18.3s,baz=72,slow=33						
QSPA	**South Pole Qui**	**34.01**	**180**	P	**P**	**15 12 03.8**	**-0.2**
QSPA				IAmb	IAmb	15 12 05.3	
	comp=Z,39nm,1.3s						
NNZ	**Nelson**	**34.04**	**276**	P	**P**	**15 12 01.7**	**-2.6**
NNZ				IAmb	IAmb	15 12 02.2	
	comp=Z,44nm,1.1s						
URZ	**Urewera**	**34.04**	**283**	LR	LR	15 22 34.9	
	comp=Z,2μm,21.7s,baz=135,slow=30						
PMSA	**Palmer Station**	**35.80**	**135**	LR	LR	15 22 56.9	
	comp=Z,2μm,20.2s,baz=242,slow=30						
RAR	**Rarotonga**	**38.15**	**328**	LR	LR	15 24 00.6	
	comp=Z,2μm,19.6s,baz=166,slow=29						
GO09	**Cerro Castillo**	**38.37**	**112**	P	**P**	**15 12 41.3**	**+0.1**
ESPZ	**Base Esperanza**	**39.19**	**135**	P	**P**	**15 12 47.7**	**-0.3**
PPT2	**Papeete2**	**39.32**	**344**	*eS*	**S**	**15 18 49.0**	**-1.5**
	comp=Z,614nm,26.5s						
PPT2				*e*LQ	LQ	15 21 53.5	
	comp=Z,921nm,24.5s						
PPT2				*e*LR	LR	15 23 36.2	
	comp=Z,10μm,25.5s,baz=175						
PPT	**Papeete**	**39.34**	**344**	LR	LR	15 24 30.4	
	comp=Z,4μm,18.9s,baz=171,slow=29						
VAH	**Vaihoa**	**41.37**	**347**	*e*T	T	15 57 10.4	
	comp=Z,19nm,0.3s						
COYC	**Coyhaique**	**41.93**	**105**	P	**P**	**15 13 10.6**	**-0.3**
LL02	**Futaleuf**	**43.61**	**102**	P	**P**	**15 13 24.1**	**-0.4**
LL04	**Puerto Octay**	**44.84**	**99**	P	**P**	**15 13 35.0**	**+0.6**
PLCA	**Paso Flores**	**45.99**	**101**	P	**P**	**15 13 43.9**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=212,slow=9.5,SNR=9.7						
PLCA				LR	LR	15 28 18.5	
	comp=Z,1μm,19.6s,baz=227,slow=30						
PLCA	**Paso Flores**	**45.99**	**101**	P	**P**	**15 13 42.2**	**-1.3**
H03S2	**Juan Fernandez**	**46.24**	**87**	T	T	16 03 27.1	
	SNR=276						
H03S1	**Juan Fernandez**	**46.25**	**87**	T	T	16 03 28.9	
	SNR=261						
H03S3	**Juan Fernandez**	**46.26**	**87**	T	T	16 03 26.7	
	SNR=339						
H03N3	**Juan Fernandez**	**46.52**	**87**	T	T	16 03 46.6	
	baz=223,slow=72,SNR=548						
H03N2	**Juan Fernandez**	**46.53**	**87**	T	T	16 03 50.5	
	baz=223,slow=72,SNR=672						
LC01	**Cunco**	**46.53**	**98**	P	**P**	**15 13 47.0**	**-0.8**
LC01				IAmb	IAmb	15 13 54.8	
	comp=Z,19nm,0.8s						
H03N1	**Juan Fernandez**	**46.54**	**87**	T	T	16 03 43.5	
	baz=223,slow=72,SNR=716						
TAOE	**Nuku Hiva Isla**	**47.19**	**358**	*e*S	**S**	**15 20 43.5**	**-2.3**
	comp=Z,532nm,26.6s						
TAOE				*e*LR	LR	15 27 12.5	
	comp=Z,5μm,26.7s,baz=179						
VNA3	**Neumayer Olymp**	**47.98**	**160**	P	**P**	**15 13 57.3**	**-1.3**
VNA2	**Neumayer--Watz**	**48.66**	**161**	P	**P**	**15 14 02.9**	**-1.0**
	baz=217,slow=7.9						
VNA1	**Neumayer--Stat**	**48.73**	**160**	P	**P**	**15 14 03.6**	**-0.8**
SNAA	**Sanae**	**48.82**	**163**	P	**P**	**15 14 03.9**	**-1.2**
SNAA	**Sanae**	**48.82**	**163**	P	**P**	**15 14 03.7**	**-1.5**
	comp=Z,9.0nm,0.7s,baz=219,slow=5.8,SNR=25						
SNAA				LR	LR	15 32 42.4	
	comp=Z,1μm,20.0s,baz=236,slow=34						
SNAA	**Sanae**	**48.82**	**163**	⇑*eP*	**P**	**15 14 02.5**	**-2.7**
SNAA				pmax	pmax		
	comp=Z,628nm,0.8s						
SNAA	**Sanae**	**48.82**	**163**	P	**P**	**15 14 03.3**	**-1.9**
AFI	**Afiamalu**	**49.09**	**316**	LR	LR	15 30 02.2	
	comp=Z,1μm,19.9s,baz=163,slow=30						
BO02	**Sierra Bellavi**	**50.09**	**95**	P	**P**	**15 14 14.2**	**-1.2**
BO02				IAmb	IAmb	15 14 22.3	
	comp=Z,19nm,0.7s						
MSVF	**Nonsavu**	**50.11**	**302**	LR	LR	15 30 27.4	
	comp=Z,1μm,21.8s,baz=150,slow=30						
BO01	**Tunca**	**50.22**	**94**	P	**P**	**15 14 15.4**	**-0.8**
MT01	**Popeta**	**50.51**	**94**	P	**P**	**15 14 18.1**	**-0.4**
MT01				IAmb	IAmb	15 14 25.2	
	comp=Z,26nm,1.1s						
MT09	**Talagante**	**50.72**	**94**	P	**P**	**15 14 20.6**	**+0.4**
MT09				IAmb	IAmb	15 14 26.8	
	comp=Z,20nm,0.9s						
MT02	**Curacav**	**51.02**	**93**	P	**P**	**15 14 22.4**	**0.0**
MT05	**Renca**	**51.15**	**94**	P	**P**	**15 14 22.9**	**-0.5**
PEL	**Peldehue**	**51.36**	**94**	P	**P**	**15 14 24.5**	**-0.4**
PEL				pmax	pmax		
	comp=Z,36nm,0.9s						
PEL	**Peldehue**	**51.36**	**94**	P	**P**	**15 14 24.5**	**-0.4**
PEL				IAmb	IAmb	15 14 31.9	
	comp=Z,36nm,0.9s						
VA03	**San Esteban**	**51.72**	**93**	P	**P**	**15 14 27.6**	**-0.1**
VA03				IAmb	IAmb	15 14 34.4	
	comp=Z,29nm,0.8s						
DZM	**Mont Dzumac**	**52.36**	**287**	*eP*	**P**	**15 14 32.5**	**0.0**
	comp=Z,80nm,1.4s						
DZM				*e*S	**S**	**15 21 58.6**	**+0.5**
	comp=Z,776nm,34.2s						
DZM				*e*LQ	LQ	15 27 26.2	
	comp=Z,3μm,26.9s						
DZM				*e*LR	LR	15 29 36.3	
	comp=Z,1μm,23.6s						
DZM	**Mont Dzumac**	**52.36**	**287**	P	**P**	**15 14 31.0**	**-1.5**
DZM				IAmb	IAmb	15 14 38.9	
	comp=Z,51nm,1.4s						
CO06	**Fray Jorge**	**52.69**	**91**	P	**P**	**15 14 35.2**	**+0.4**
CO03	**El Pedregal**	**53.09**	**92**	P	**P**	**15 14 37.4**	**-0.5**
CO03				IAmb	IAmb	15 14 45.0	
	comp=Z,18nm,1.0s						
CO05	**La Serena**	**53.48**	**90**	P	**P**	**15 14 40.5**	**-0.2**
ZON	**Zonda**	**53.68**	**94**	P	**P**	**15 14 42.2**	**0.0**
ZON				pmax	pmax		
	comp=Z,25nm,1.1s						
ZON	**Zonda**	**53.68**	**94**	P	**P**	**15 14 42.2**	**0.0**
ZON				IAmb	IAmb	15 14 48.9	
	comp=Z,25nm,1.1s						
ARMA	**Armidale**	**53.99**	**268**	P	**P**	**15 14 43.8**	**-0.7**
ARMA				IAmb	IAmb	15 14 55.0	
	comp=Z,26nm,1.3s						
AC04	**Llanos de Chal**	**54.89**	**89**	P	**P**	**15 14 50.8**	**-0.1**
AC04				IAmb	IAmb	15 14 57.4	
	comp=Z,14nm,0.8s						
SYO	**Syowa Base**	**55.14**	**179**	⇓*es*P	sP	15 14 53.8	-1.5
MAW	**Mawson**	**55.49**	**190**	LR	LR	15 36 14.6	
	comp=Z,1μm,20.1s,baz=160,slow=34						
AC02	**Maricunga**	**57.04**	**90**	P	**P**	**15 15 06.6**	**-0.3**
AC02				IAmb	IAmb	15 15 14.2	
	comp=Z,21nm,1.2s						
EIDS	**Eidsvold**	**58.19**	**271**	P	**P**	**15 15 13.8**	**-0.7**
EIDS				IAmb	IAmb	15 15 15.6	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**58.45**	**259**	P	**P**	**15 15 16.3**	**+0.1**
	comp=Z,6.9nm,1.0s,baz=124,slow=7.6,SNR=9.5						
STKA				LR	LR	15 36 17.6	
	comp=Z,2μm,19.5s,baz=134,slow=32						
STKA	**Stephens Creek**	**58.45**	**259**	*eP*	**P**	**15 15 15.6**	**-0.6**
STKA	**Stephens Creek**	**58.45**	**259**	P	**P**	**15 15 15.6**	**-0.6**
LVC	**Limon Verde**	**60.48**	**87**	LR	LR	15 34 50.9	
	comp=Z,583nm,18.9s,baz=232,slow=29						
LVC	**Limon Verde**	**60.48**	**87**	*eP*	**P**	**15 15 31.3**	**+0.6**
LVC	**Limon Verde**	**60.48**	**87**	P	**P**	**15 15 31.4**	**+0.6**
LVC				IAmb	IAmb	15 15 38.4	
	comp=Z,22nm,1.0s						
PB07	**IPOC Station P**	**60.63**	**85**	P	**P**	**15 15 31.3**	**-0.3**
PB07	

ASAR Alice Springs 69.09 259 P **P 15 16 24.6 -1.9**
comp=Z,14nm,1.1s,baz=140,slow=6.0,SNR=64
ASAR Alice Springs 69.09 259 P **P 15 16 24.4 -2.1**
AQDB Aquidauana 69.56 96 P **P 15 16 27.7 -1.7**
H01W1 Cape Leeuwin H 70.20 237 T T 16 33 39.5
baz=145,slow=76,SNR=114
H01W2 Cape Leeuwin H 70.20 237 T T 16 33 39.9
baz=145,slow=76,SNR=133
H01W3 Cape Leeuwin H 70.22 237 T T 16 33 40.8
baz=145,slow=76,SNR=112
CZSB Cruzeiro do Su 70.51 74 P **P 15 16 35.4 +0.1**
WR0 Warramunga Arr 71.71 261 P **P 15 16 40.8 -1.7**
WR0 IAmb IAmb 15 16 55.6
comp=Z,26nm,1.3s
WB2 Warramunga Arr 71.83 261 P **P 15 16 41.8 -1.5**
WRA Warramunga Arr 71.83 261 P **P 15 16 41.2 -2.0**
comp=Z,6.3nm,0.9s,baz=144,slow=5.3,SNR=30
WRA Warramunga Arr 71.83 261 *e*P **P 15 16 42.3 -1.0**
WRA Warramunga Arr 71.83 261 P **P 15 16 42.3 -1.0**
WRAB Tennant Creek 71.84 261⇑*i*P **P 15 16 42.6 -0.7**
WRAB pmax pmax
comp=Z,17nm,1.1s
WRAB Tennant Creek 71.84 261 P **P 15 16 41.8 -1.5**
WRAB IAmb IAmb 15 16 43.8
comp=Z,15nm,1.1s
WB0 Warramunga Arr 71.95 261 P **P 15 16 41.9 -2.0**
ETMB Extrema 72.33 81 P **P 15 16 45.6 -0.6**
VILB Vilhena 73.12 88 P **P 15 16 50.9 -0.1**
VILB IAmb IAmb 15 17 01.9
comp=Z,22nm,1.0s
PMG Port Moresby 73.24 278 LR LR 15 44 38.1
comp=Z,238nm,19.1s,baz=157,slow=32
PMG Port Moresby 73.24 278⇑*e*P **P 15 16 53.0 +1.4**
PMG pmax pmax
comp=Z,11nm,1.0s
RABL Rabaul 74.83 286 P **P 15 17 00.7 -0.2**
BDFB Brasilia 77.72 100 P **P 15 17 17.1 -0.4**
comp=Z,4.3nm,0.8s,baz=217,slow=9.5,SNR=4.1
BDFB Brasilia 77.72 100 P **P 15 17 16.3 -1.2**
BDFB IAmb IAmb 15 17 24.1
comp=Z,16nm,1.2s
FITZ Fitzroy Crossi 78.09 255 P **P 15 17 19.3 -0.1**
comp=Z,7.6nm,1.1s,baz=127,slow=7.8,SNR=7.5
KNRA Kununurra 78.37 259 P **P 15 17 17.5 -3.4**
MTN Manton Dam 79.37 263 P **P 15 17 25.5 -1.0**
MTN IAmb IAmb 15 17 31.6
comp=Z,22nm,1.1s
MACA Manacapuru-AM 80.88 82 P **P 15 17 34.1 -0.6**
BOAV Boa Vista 85.57 79 P **P 15 17 57.7 -1.1**
BOAV IAmb IAmb 15 18 05.6
comp=Z,18nm,0.9s
BAUV El Baul 87.00 69 P **P 15 18 04.6 -1.2**
H11S2 WAKE ISLAND Hy 87.20 310 T T 16 54 54.2
baz=148,slow=76,SNR=35
H11S3 WAKE ISLAND Hy 87.22 310 T T 16 54 55.6
baz=148,slow=76,SNR=17
H11S1 WAKE ISLAND Hy 87.22 310 T T 16 54 55.7
baz=148,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 88.20 310 T T 16 56 01.9
baz=145,slow=74,SNR=9.2
H11N1 WAKE ISLAND Hy 88.21 310 T T 16 56 04.0
baz=145,slow=74,SNR=10
H11N2 WAKE ISLAND Hy 88.22 310 T T 16 56 00.6
baz=145,slow=74,SNR=10
TXAR Lajitas Array 90.31 30 P **P 15 18 21.9 +0.7**
comp=Z,0.4nm,0.9s,baz=164,slow=3.6,SNR=2.7
GUMO Guam 93.61 289 LR LR 15 56 52.0
comp=Z,63nm,19.0s,baz=116,slow=33
ANMO Albuquerque 94.88 26⇑*e*P **P 15 18 42.7 +0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
H10S3 ASCENSION HYDR 100.59 124 T T 17 11 57.1
baz=207,slow=74,SNR=45
H10S2 ASCENSION HYDR 100.59 124 T T 17 12 04.9
baz=13,slow=74,SNR=22
H10N3 ASCENSION HYDR 101.64 124 T T 17 13 25.5
baz=206,slow=74,SNR=71
H10N1 ASCENSION HYDR 101.65 124 T T 17 13 32.0
baz=206,slow=74,SNR=104
H10N2 ASCENSION HYDR 101.66 124 T T 17 13 26.4
baz=206,slow=74,SNR=95
YKA Yellowknife Ar 119.83 13 PKP **PKiKP 15 24 10.4 +1.1**
comp=Z,0.3nm,0.7s,baz=208,slow=2.1,SNR=2.8
YKA PKKPbc **PKKPbc 15 34 23.6 +4.8**
comp=Z,0.8nm,0.8s,baz=7.8,slow=3.6,SNR=9.8
PETK Petropavlovsk- 120.64 321 PKP **PKiKP 15 24 11.6 +0.4**
comp=Z,1.4nm,0.6s,baz=171,slow=4.7,SNR=4.8
IL31 120.75 356 PKPdf 15 24 10.5 -0.3
ILAR Eielson Array 120.75 356 PKP **PKPdf 15 24 10.8 -0.2**
comp=Z,1.9nm,0.9s,baz=214,slow=2.1,SNR=12
ILAR Eielson Array 120.75 356 PKIKP **PKPdf 15 24 10.4 -0.6**
ILAR Eielson Array 120.75 356 PKPdf 15 24 10.4 -0.6
COLA College 120.89 356⇑*i*PKIKP **PKiKP 15 24 14.9 +3.6**
MDM Murphy Dome 120.99 355 *i*PKPdf **PKPdf 15 24 11.0 -0.4**
PRP Porcupine Dome 121.45 357 PKPdf **PKPdf 15 24 12.0 -0.4**
ANM Nome 122.07 347 PKIKP **PKiKP 15 24 14.0 +0.3**
ANM Nome 122.07 347 PKPdf **PKiKP 15 24 14.0 +0.3**
IMAR Indian Mountai 122.32 353 PKPdf **PKPdf 15 24 13.6 -0.4**
NJ2 Nanjing 122.52 280 *e*PKP **PKiKP 15 24 15.8 +0.2**
CMAR Chiang Mai Arr 122.86 253 PKP **PKiKP 15 24 16.6 -0.1**
comp=Z,1.0nm,0.6s,baz=192,slow=2.8,SNR=6.4
BMAR Burnt Mountain 123.33 357 PKiKP 15 24 16.3 +0.1
COLD Coldfoot 123.35 355 PKiKP 15 24 16.9 +0.8
INK Inuvik 124.21 2 PKP **PKiKP 15 24 19.6 +1.8**
comp=Z,1.7nm,0.9s,baz=80,slow=5.6,SNR=4.1
INK Inuvik 124.21 2 PKIKP **PKiKP 15 24 18.0 +0.3**
INK Inuvik 124.21 2 PKPdf **PKiKP 15 24 18.0 +0.3**
KMI Kunming 126.16 262⇑PKP **PKiKP 15 24 23.9 +0.6**
KMI LR LR
comp=Z,390nm,22.8s
TORD Torodi Ar. Bea 127.53 129 PKP **PKPdf 15 24 24.4 -1.1**
comp=Z,1.3nm,0.7s,baz=232,slow=0.8,SNR=5.6
TORD Torodi Ar. Bea 127.53 129 PKPdf **PKPdf 15 24 24.9 -0.6**
PZH PanZhiHua 127.80 262 PKP **PKiKP 15 24 27.4 +1.0**
PZH PP **PP 15 26 32.8 +4.7**
PZH AMB AMB
comp=Z,180nm,5.5s
PZH LR LR
comp=Z,460nm,19.8s
PZH LR LR
comp=Z,400nm,18.0s
PZH LR LR
comp=Z,580nm,21.4s
A36M Sachs Harbour 128.21 5 PKPdf 15 24 25.3 +0.3
KLR Kul'dur 128.39 303 *i*PKIKP **PKiKP 15 24 29.7 +3.0**
CD2 Chengdu 130.07 267 PKP **PKPdf 15 24 28.9 -1.1**
BILL Bilibino 130.26 336⇑*i*PKIKP **PKiKP 15 24 29.7 -0.2**
BILL pmax pmax
comp=Z,2.0nm,1.2s
HHC Hu-ho-hao-te 132.94 282 *e*PKP **PKPdf 15 24 32.3 -2.8**
YAK Yakutsk 137.47 316⇑*i*PKIKP **PKiKP 15 24 46.9 +2.3**
GTA Gaotai 138.46 272 *e*PKPbc **PKiKP 15 24 52.3 +4.7**
GTA pPKP sPKPdf 15 24 58.8 +10
GTA PP **PP 15 27 37.3 +1.0**
GTA LR LR
comp=N,130nm,20.0s
GTA LR LR
comp=E,120nm,20.0s
GTA LR LR
comp=Z,180nm,20.7s
SONM Songino Array 140.29 286 PKP **PKiKP 15 24 50.6 -0.5**
comp=Z,0.4nm,0.5s,baz=129,slow=1.8,SNR=4.0
SONM Songino Array 140.29 286 PKIKP **PKPdf 15 24 46.4 -2.2**
SONM Songino Array 140.29 286 PKPdf **PKPdf 15 24 46.4 -2.2**
TIXI Tiksi 142.44 329⇑*e*PKIKP **PKPdf 15 24 52.1 +0.6**
PBDV Barranco-do-Ve 142.46 99 *e*PKP **PKiKP 15 24 55.7 0.0**
PBEJ Beja 143.05 98 *e*LQ LQ 15 27 05.0
ZAK Zakamensk 143.44 288 *e*PKIKP PKPab 15 24 50.4 +0.1
ZAK *e* 15 28 13.4
ZAK pmax pmax
comp=Z,7.0nm,1.3s
ZAK pmax pmax
comp=Z,3.0nm,1.6s
IRK Irkutsk 143.93 291 *e*PKIKP **PKPdf 15 24 55.5 +0.8**
IRK pmax pmax
comp=Z,33nm,2.9s
PCBR Castelo Branco 144.54 97 *e*PKP **PKPdf 15 24 56.0 -0.2**
PCBR *i*LQ LQ 15 25 00.8
MTE Manteigas 144.89 96 *e*PKP **PKPab 15 24 54.3 -1.8**
MTE *i*LQ LQ 15 25 01.8
MTE *e*LQ LQ 15 26 40.4
MTE Manteigas 144.89 96 PKPbc 15 24 56.4 +0.3
SUMG Summit 145.20 31 PKIKP **PKPab 15 24 56.7 0.0**
SUMG Summit 145.20 31 *i*P **PKPdf 15 24 57.0 +0.1**
SUMG Summit 145.20 31 PKPbc **PKPab 15 24 56.7 0.0**
MOY Mondy 145.35 288 *e*PKIKP **PKPab 15 24 57.5 0.0**
MOY pmax pmax
comp=Z,69nm,3.5s
PVRL Vila Real 145.39 94 *e*PKP **PKPab 15 24 58.8 +1.0**
PVRL *i*LQ LQ 15 25 03.5
POLO Lamas de Olo 145.41 94 *e*PKP **PKPab 15 24 58.9 +0.9**
POLO *i*LQ LQ 15 25 03.2
PGAV Gavieira, Arco 145.54 93 *e*PKP **PKPab 15 24 58.5 +0.1**
PGAV *i*LQ LQ 15 25 04.0
MVO Moncorvo 145.69 95 *e*PKP **PKPab 15 24 59.4 +0.4**
MVO *i*LQ LQ 15 25 04.9
MVO *e*LQ LQ 15 26 43.4
PBRG Braganca 146.28 95 *e*PKP **PKPab 15 25 01.3 +0.1**
PBRG *i*LQ LQ 15 25 06.0
ESDC Sonseca Array 146.37 100 PKPbc **PKPbc 15 25 00.8 0.0**
comp=Z,3.1nm,0.8s,baz=237,slow=3.5,SNR=18
ESDC Sonseca Array 146.37 100 PKPbc 15 25 00.5 -0.2
WMQ Urumqi 148.17 267 *e*PKPbc **PKPdf 15 25 02.9 +0.6**
WMQ LR LR
comp=Z,320nm,21.5s
NIL Nilore 148.41 238 PKP2 **PKPbc 15 25 04.9 -1.6**
NIL Nilore 148.41 238 PKPbc 15 25 04.9 -1.6
KEST Kesra 150.40 120 PKPbc **PKPbc 15 25 11.4 0.0**
comp=Z,3.7nm,0.9s,baz=212,slow=5.4,SNR=2.4
KSH Kashi 151.63 249 PKPbc **PKPdf 15 25 09.8 +1.8**
DGZ Jazzator, Alta 151.72 277⇑*e*PKIKP **PKPdf 15 25 09.9 +2.1**
MK31 Makanchi Array 153.00 267 PKIKP **PKPbc 15 25 15.3 -1.7**
MK31 Makanchi Array 153.00 267 PKPbc **PKPbc 15 25 15.3 -1.7**
MKAR Makanchi Array 153.00 267 PKPbc **PKPbc 15 25 16.6 -0.4**
comp=Z,4.6nm,0.9s,baz=115,slow=4.6,SNR=16
MKAR PP **PP 15 29 01.8 -0.6**
comp=Z,1.5nm,1.0s,baz=122,slow=6.3,SNR=4.0
MKAR Makanchi Array 153.00 267 PKIKP **PKPdf 15 25 13.0 +3.3**
MKAR Makanchi Array 153.00 267 PKPbc **PKPdf 15 25 13.0 +3.3**
MAKZ Makanchi 153.18 267 PKIKP **PKPbc 15 25 16.0 -1.4**
MAKZ Makanchi 153.18 267 PKPbc **PKPbc 15 25 16.0 -1.4**
EIL Elat 153.19 168 PKPbc **PKPbc 15 25 16.2 -1.7**
comp=Z,1.7nm,0.8s,baz=141,slow=6.4,SNR=1.5
AAK Ala-Archa 154.64 252 PKPbc **PKiKP 15 25 22.5 +1.7**
comp=Z,1.6nm,0.9s,baz=22,slow=5.4,SNR=2.1
ZALV Zalesovo Beam 155.11 283 PKPbc PKPbc 15 25 21.5
comp=Z,1.0nm,0.7s,baz=127,slow=4.4,SNR=5.4
ZALV PKPab **PKPab 15 25 36.5 -0.6**
comp=Z,1.9nm,0.8s,baz=151,slow=3.4,SNR=4.0
ASF Jabal al Asfar 155.86 171 PKPab **PKPab 15 25 41.2 +0.2**
comp=Z,3.7nm,0.7s,baz=5.5,slow=6.3,SNR=3.1
KURK Kurchatov 157.14 272 PKP2 **PKPab 15 25 45.1 -0.9**
KURBB Kurchatov Arra 157.15 272 PKPbc PKPbc 15 25 24.0
comp=Z,1.1nm,1.0s,baz=114,slow=2.1,SNR=5.8
KURBB PKPab **PKPab 15 25 45.1 -0.9**
comp=Z,1.8nm,1.0s,baz=111,slow=3.2,SNR=4.7
KURBB PP **PP 15 29 31.8 +6.3**
comp=Z,0.4nm,0.7s,baz=121,slow=3.7,SNR=4.4
GRF Grafenberg Arr 161.03 97 *e*PKPdf **PKPdf 15 25 22.1 +2.3**
baz=238,slow=1.7
GRF *e*L L 16 44 58.6
comp=Z,353nm,19.8s
WET Wettzell 161.65 101 *e*L L 16 49 33.2
comp=Z,332nm,20.6s
MOX Moxa 161.73 95 *e*L L 16 45 39.7
comp=Z,246nm,21.2s
GEC2 GERESS Array S 161.94 102 *e*L L 16 49 35.2
comp=Z,426nm,20.9s
GERES GERESS Array B 161.94 102 PKP **PKPdf 15 25 20.6 -0.2**
comp=Z,0.8nm,0.8s,baz=338,slow=10,SNR=4.1
GERES PKPab **pPKPab 15 26 08.9 -0.6**
comp=Z,0.7nm,0.6s,baz=199,slow=2.8,SNR=3.9
GERES GERESS Array B 161.94 102 PKIKP **PKPdf 15 25 19.5 -1.4**
GERES GERESS Array B 161.94 102 PKPdf 15 25 19.5 -1.4
KHC Kasperske Hory 162.03 101 *e*PKIKP **PKPdf 15 25 28.6 +7.8**
KHC *e* 15 26 07.0
KHC Kasperske Hory 162.03 101 *e*pPKP **PKPdf 15 25 28.6 +7.8**
KHC *e*PKPAB **PKPab 15 26 07.0 -0.4**
BVAR Borovoye Array 162.74 272 PKP **PKPdf 15 25 22.7 +1.3**
comp=Z,1.7nm,1.0s,baz=157,slow=8.0,SNR=4.6
BVAR PKPab **PKPab 15 26 10.2 -0.2**
comp=Z,4.7nm,1.0s,baz=103,slow=6.7,SNR=6.7
BRTR Keskin Array B 162.86 160 PKPab **PKPab 15 26 10.8 -0.5**
comp=Z,1.1nm,0.6s,baz=197,slow=3.9,SNR=3.9
BRTR Keskin Array B 162.86 160 PKIKP **PKPdf 15 25 20.0 -2.1**
BRTR Keskin Array B 162.86 160 PKPdf **PKPdf 15 25 20.0 -2.1**
BRTR **pPKPab 15 26 13.3 -0.3**
VYHS Vyhne 164.49 110 *e*PKIKP **PKPdf 15 25 28.9 +5.7**
VYHS Vyhne 164.49 110 *e*PKP **PKPdf 15 25 28.9 +5.7**
MLR Muntele Rosu 165.74 132 PKPab **PKPab 15 26 24.3 +0.5**
comp=Z,5.0nm,1.0s,baz=146,slow=7.2,SNR=4.8
MLR Muntele Rosu 165.74 132 PKPab 15 26 24.8 +0.9
CRVS Cervenica-Dubn 166.11 113 *e*PKIKP **PKPdf 15 25 28.8 +4.3**
CRVS Cervenica-Dubn 166.11 113 *e*PKP **PKPdf 15 25 28.8 +4.3**
MAK Makhachkala 166.15 200 *e*PKIKP **PKPdf 15 25 18.3 -6.4**
MAK pmax pmax
comp=Z,138nm,1.6s
ABKAR Akbulak array 166.62 247 PKPab 15 26 25.0 -2.5
KIV Kislovodsk 167.74 186 *e*PKIKP **PKPdf 15 25 25.5 -0.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
AKTO Aktyubinsk 168.33 248 PKPab **PKPab 15 26 34.8 -0.2**
comp=Z,5.3nm,0.9s,baz=118,slow=5.1,SNR=8.7
AKASG Malin Array Be 171.11 123 PKP **PKPdf 15 25 28.7 +1.1**
comp=Z,0.1nm,0.3s,baz=244,slow=0.4,SNR=5.4
AKASG PKPab **PKPab 15 26 48.2 +0.9**
comp=Z,0.2nm,0.4s,baz=231,slow=5.1,SNR=6.0
KLMR Klimovskoe 175.22 9 *e*PKIKP **PKPdf 15 25 29.5 +0.5**
KLMR pmax pmax
comp=Z,15nm,1.5s
KLMR Klimovskoe 175.22 9 *e*PKPdf **PKPdf 15 25 29.5 +0.5**
KLMR AMP 15 25 43.1
comp=Z,15nm,1.5s

*IDC **20** 15:07:01.9±0.7, 56°.16S×139°.22W, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/30, mbtmp4.2/5, Error ellipse: s-maj=32.3km s-min=16.1km az=174.0*
*NEIC **20** 15:07:04.4±1.1, 56°.2S±0°.2×139°.4W±0°.1, h10km±1km, mb4.7/12, Error ellipse: s-maj=38.3km s-min=11.7km az=353.0*
ISC 20 15:07:03.3±1.0,**56°.1S**±0°.2×**139°.1W**±0°.1,**h10**km,**n22,**
σ1§**06**/20,**mb4.6**/10,**1C-1D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.05**	**180**	P	**P**	**15 13 47.2**	**-0.1**
	3.8nm,1.0s,baz=86,slow=7.0,SNR=2.8						
QSPA	**South Pole Qui**	**34.05**	**180**	P	**P**	**15 13 49.4**	**+2.0**
QSPA				IAmb	IAmb	15 13 50.6	
	comp=Z,20nm,1.4s						
PLCA	**Paso Flores**	**46.05**	**101**	P	**P**	**15 15 25.6**	**-1.5**
	comp=Z,2.8nm,0.9s,baz=215,slow=2.4,SNR=3.1						
PLCA	**Paso Flores**	**46.05**	**101**	P	**P**	**15 15 25.3**	**-1.8**
SNAA	**Sanae**	**48.88**	**163**	P	**P**	**15 15 47.8**	**-0.8**
SYO	**Syowa Base**	**55.19**	**179**⇓	*e*pP	pP	15 16 36.6	-1.1
SYO	**Syowa Base**	**55.19**	**179**⇑	*e*sP	sP	15 16 38.6	0.0
PB16	**IPOC Station P**	**63.62**	**84**	P	**P**	**15 17 36.5**	**+1.5**
PB16				IAmb	IAmb	15 17 37.3	
	comp=Z,3.2nm,0.8s						
LPAZ	**La Paz**	**66.04**	**84**	P	**P**	**15 17 51.8**	**+0.9**
	comp=Z,2.2nm,0.5s,baz=204,slow=1.7,SNR=5.0						
LPAZ	**La Paz**	**66.04**	**84**	P	**P**	**15 17 52.9**	**+2.0**
AS31	**Alice Springs**	**69.04**	**259**	P	**P**	**15 18 08.6**	**-0.5**
ASAR	**Alice Springs**	**69.04**	**259**	P	**P**	**15 18 08.8**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=140,slow=6.4,SNR=3.6						
ASAR	**Alice Springs**	**69.04**	**259**	P	**P**	**15 18 09.4**	**+0.3**
WB2	**Warramunga Arr**	**71.77**	**261**	P	**P**	**15 18 25.9**	**0.0**
WB2				IAmb	IAmb	15 18 32.8	
	comp=Z,6.5nm,1.1s						
WRA	**Warramunga Arr**	**71.78**	**261**	P	**P**	**15 18 25.5**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=145,slow=5.5,SNR=4.4						
WRA	**Warramunga Arr**	**71.78**	**261**	P	**P**	**15 18 25.8**	**-0.1**
WRAB	**Tennant Creek**	**71.78**	**261**	P	**P**	**15 18 25.8**	**0.0**
WRAB				IAmb	IAmb	15 18 37.6	
	comp=Z,12nm,1.5s						
WB0	**Warramunga Arr**	**71.89**	**261**	P	**P**	**15 18 26.4**	**-0.1**
WB0				IAmb	IAmb	15 18 33.6	
	comp=Z,6.4nm,1.2s						
PSA00	**Pilbara Seismi**	**78.29**	**249**	P	**P**	**15 19 03.5**	**+0.1**
MTN	**Manton Dam**	**79.32**	**263**	P	**P**	**15 19 08.5**	**-0.6**
MTN				IAmb	IAmb	15 19 12.7	
	comp=Z,5.4nm,0.9s						
ESDC	**Sonseca Array**	**146.44**	**100**	PKPbc	**PKPab**	**15 26 45.1**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=231,slow=3.7,SNR=4.0						
MKAR	**Makanchi Array**	**152.94**	**268**	PKPbc	**PKPbc**	**15 26 58.9**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=124,slow=3.8,SNR=2.8						

IDC 20 15:09:20.2±15.0,**11°.31N**×**92°.77E, h0**km,**mb3.6**/2,
mb1 3.5/3,**mb1mx3.0**/43,**mbtmp3.4**/3,**ML3.7**/1,**MS3.6**/1,
Ms1 3.6/1,**ms1mx2.5**/75,**Error ellipse: s-maj=268.8km**
s-min=69.7km az=170.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.28**	**39**	Pn	Pn	15 11 35.5	+0.1
	0.2nm,0.3s,baz=234,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**36.46**	**348**	P	P	15 16 27.4	+0.4
	0.1nm,0.3s,baz=158,slow=9.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.00**	**353**	P	P	15 17 20.6	-0.7
	0.5nm,0.3s,baz=162,slow=7.3,SNR=4.3						
YAK	**Yakutsk**	**57.21**	**20**	LR	LR	15 47 04.1	
	comp=Z,50nm,21.2s,baz=100,slow=40						

*IDC **20** 15:10:43.7±2.2, 60°.15N×16°.34E, h0km, mb1 3.3/2, mb1mx3.0/34, mbtmp3.2/2, ML1.9/3, Error ellipse: s-maj=36.3km s-min=9.8km az=179.0*
*UPP **20** 15:10:43.7±0.1, 60°.33N×16°.25E, h0km, ML2.2, Explosion*
*DNK **20** 15:10:44.1±0.3, 60°.33N×16°.24E, h0km, ML2.2(UPP), Explosion*
ISC 20 15:10:43.6±1.0,**60°.33N**±0°.03×**16°.26E**±0°.02,**h0**km,**n31,**
σ0§**60**/37,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALU	**Falun**	**0.27**	**308**	P	**Pg**	**15 10 48.9**	**+0.2**
FALU				S	**Sg**	**15 10 52.3**	**+0.1**
FALU	**Falun**	**0.27**	**308**	P	**Pg**	**15 10 48.9**	**+0.2**
FALU				S	**Sg**	**15 10 52.3**	**+0.1**
OSTU	**Oestervaala**	**0.45**	**103**	P	**Pg**	**15 10 52.5**	**+0.3**
OSTU				S	**Sg**	**15 10 58.4**	**+0.4**
OSTU	**Oestervaala**	**0.45**	**103**	P	**Pg**	**15 10 52.5**	**+0.3**
OSTU				S	**Sg**	**15 10 58.4**	**+0.4**
FIBU	**Brunna**	**0.70**	**128**	P	**Pg**	**15 10 56.8**	**-0.1**
FIBU	**Brunna**	**0.70**	**128**	P	**Pg**	**15 10 56.8**	**-0.1**
IGGU	**Iggoen**	**0.76**	**43**	P	**Pg**	**15 10 58.0**	**-0.1**
IGGU	**Iggoen**	**0.76**	**43**	P	**Pg**	**15 10 58.0**	**-0.1**
UPP	**Uppsala**	**0.83**	**124**	P	**Pg**	**15 10 59.2**	**-0.3**
FLYU	**Flymyra**	**0.84**	**103**	P	**Pg**	**15 10 59.5**	**-0.1**
FLYU	**Flymyra**	**0.84**	**103**	P	**Pg**	**15 10 59.5**	**-0.1**
FORU	**Forsmark**	**0.96**	**86**	P	**Pg**	**15 11 01.6**	**-0.3**
FORU	**Forsmark**	**0.96**	**86**	P	**Pg**	**15 11 01.6**	**-0.3**
NRAU	**Nora**	**0.98**	**219**	P	**Pg**	**15 11 01.9**	**-0.3**
NRAU	**Nora**	**0.98**	**219**	P	**Pg**	**15 11 01.9**	**-0.3**
ESKU	**Eskilstuna**	**1.10**	**176**	P	**Pg**	**15 11 04.3**	**-0.4**
ESKU	**Eskilstuna**	**1.10**	**176**	P	**Pg**	**15 11 04.3**	**-0.4**
GRAU	**Graesoe**	**1.14**	**89**	P	**Pg**	**15 11 04.8**	**-0.5**
GRAU	**Graesoe**	**1.14**	**89**	P	**Pg**	**15 11 04.8**	**-0.5**
UDD	**Uddeholm**	**1.35**	**261**	P	**Pg**	**15 11 08.2**	**-1.1**
NRTU	**Norrtaelje**	**1.36**	**118**	P	**Pg**	**15 11 09.0**	**-0.7**
NRTU	**Norrtaelje**	**1.36**	**118**	P	**Pg**	**15 11 09.0**	**-0.7**
ARNU	**Arnoeviken**	**1.47**	**21**	P	**Pn**	**15 11 10.8**	**-0.5**
ARNU	**Arnoeviken**	**1.47**	**21**	P	**Pn**	**15 11 10.8**	**-0.5**
HUDU	**Hudiksvall**	**1.47**	**16**	P	**Pn**	**15 11 10.9**	**-0.5**
HUDU	**Hudiksvall**	**1.47**	**16**	P	**Pn**	**15 11 10.9**	**-0.5**
NYNU	**Nynaeshamn**	**1.60**	**146**	P	**Pn**	**15 11 13.2**	**+0.1**
NYNU	**Nynaeshamn**	**1.60**	**146**	P	**Pn**	**15 11 13.2**	**+0.1**
NOA	**NORSAR Array B**	**2.58**	**288**	Pn	**Pn**	**15 11 26.9**	**+0.3**
	0.0nm,0.3s,baz=110,slow=17,SNR=1.4						
NOA				Sn	**Sn**	**15 12 00.3**	**+1.6**
	0.1nm,0.3s,baz=155,slow=19,SNR=8.2						
FINES	**FINESS Array B**	**4.92**	**73**	Pn	**Pn**	**15 11 59.9**	**+1.2**
	0.2nm,0.3s,baz=262,slow=12,SNR=8.1						
FINES				Sn	**Sn**	**15 12 55.7**	**-0.6**
	0.1nm,0.3s,baz=258,slow=21,SNR=1.7						
FINES				Lg	Lg	15 13 16.7	
	0.3nm,0.3s,baz=256,slow=23,SNR=4.1						
ARCES	**ARCESS Array B**	**10.02**	**19**	Pn	**Pn**	**15 13 07.0**	**-1.6**
	baz=202,slow=14,SNR=1.9						

*IDC **20** 15:35:41.5±1.2, 22°.64N×121°.46E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/40, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=46.3km s-min=22.3km az=64.0*
*JMA **20** 15:35:44.8±0.1, 22°.79N×121°.44E, h21km±3km, M4.3*
*NIED **20** 15:35:44.9, 22°.79N×121°.44E, h21km, MW3.8, Moment Tensor Solution. s1 Moment tensor: Scale 10^14Nm; Mrr=5.64; Mθθ5.93; Mφφ-0.28; Mrθ-0.46; Mθφ0.02; Mφr2.23; Fault plane solution: M0=6.21000×10^14 NP1: φs=109.00000°, δ51.00000°, λ-64.00000°. NP2: φs=251.00000°, δ46.00000°, λ-118.00000°.*
*NEIC **20** 15:35:44.9±1.5, 22°.77N±0°.03×121°.44E±0°.04, h17km±3km, mb4.1/8, ML4.4(TAP) Error ellipse: s-maj=6.6km s-min=3.2km az=126.0*
*TAP **20** 15:35:46.2, 22°.77N×121°.33E, h30km, ML4.2, B*
ISC 20 15:35:45.8±0.7,**22°.74N**±0°.02×**121°.39E**±0°.02,**h31**km±4km,
n191,σ1§**11**/311,**mb3.9**/8,**49C-8D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.10**	**132**⇑	*i*P	**Pb**	**15 35 51.8**	**+0.5**
	baz=128						
LDUT				*i*S	**Sb**	**15 35 55.8**	**+0.8**
	baz=128						
TTN	**Taitung**	**0.23**	**274**⇓	*i*P	**Pb**	**15 35 52.5**	**+0.1**
	baz=263						
TTN				*i*S	**Sb**	**15 35 57.3**	**+0.3**
	baz=263						
EDH	**Donghe**	**0.24**	**341**⇑	*i*P	**Pb**	**15 35 52.4**	**-0.3**
	baz=352						
EDH				*i*S	**Sb**	**15 35 56.8**	**-0.6**
	baz=352						
LONT	**Longtian**	**0.29**	**305**⇓	*i*P	**Pb**	**15 35 52.8**	**-0.5**
	baz=306						
LONT				S	**Sb**	**15 35 57.5**	**-0.9**
	baz=306						
TWGBT	**Beinan**	**0.30**	**285**⇓	*i*P	**Pb**	**15 35 52.7**	**-0.6**
	baz=281						
TWGBT				*i*S	**Sb**	**15 35 57.2**	**-1.3**
	baz=281						
TWG	**Pinlang**	**0.30**	**285**⇓	*i*P	**Pb**	**15 35 52.7**	**-0.7**
	baz=281						
TWG				S	**Sb**	**15 35 57.2**	**-1.5**
	baz=281						
TWG	**Pinlang**	**0.30**	**285**	Pg	**Pb**	**15 35 52.3**	**-1.1**
TWG				Sg	**Sb**	**15 35 56.6**	**-2.1**
CHKT	**Chengkung**	**0.36**	**356**⇑	*i*P	**Pb**	**15 35 54.0**	**-0.2**
	baz=7.0						
CHKT				*i*S	**Sn**	**15 35 59.8**	**-1.2**
	baz=7.0						
ECS	**Chishang**	**0.39**	**336**⇑	*i*P	**Pb**	**15 35 54.5**	**-0.2**
	baz=342						
ECS				*e*S	**Sn**	**15 36 02.4**	**+0.7**
	baz=342						
ECL	**Taimali**	**0.43**	**251**⇓	*i*P	**Pb**	**15 35 54.1**	**-1.0**
	baz=243						
ECL				*i*S	**Sb**	**15 35 59.7**	**-1.9**
	baz=243						
FULB	**Fuli**	**0.47**	**349**⇑	*i*P	**Pb**	**15 35 55.4**	**-0.4**
	baz=355						
FULB				S	**Sn**	**15 36 02.7**	**-0.9**
	baz=355						
ELDTW	**Lidau**	**0.56**	**322**⇑	*i*P	**Pb**	**15 35 56.0**	**-1.5**
	baz=326						
ELDTW				*e*S	**Sb**	**15 36 02.5**	**-2.9**
	baz=326						

YULB	Yu-li	0.66	352	⇑	iP	Pb	15 35 57.3 -1.6
	baz=357						
YULB					eS	Sn	15 36 08.9 +0.6
	baz=357						
YULB	Yu-li	0.66	352	Pg		Pb	15 35 57.0 -1.9
TSMG	Majia	0.69	267	⇓	iP	Pb	15 35 58.3 -1.2
	baz=264						
TSMG					eS	Sb	15 36 05.8 -3.0
	baz=264						
SSD	Sandimen	0.70	271	⇓	iP	Pb	15 35 58.3 -1.3
	baz=268						
SSD					eS	Sb	15 36 06.2 -2.9
	baz=268						
STYH	Taoyuan	0.71	307	⇑	iP	Pb	15 35 58.8 -1.0
	baz=309						
STYH					i S	Sb	15 36 07.5 -1.8
	baz=309						
MASBT	Mashibuluo	0.71	260	⇓	iP	Pb	15 35 58.8 -1.0
	baz=256						
MASBT					i S	Sb	15 36 06.9 -2.4
	baz=256						
LAY	Lan-yu	0.71	168	⇑	iP	Pb	15 35 59.6 -0.3
	baz=164						
LAY					S	Sb	15 36 09.8 +0.4
	baz=164						
STYT	Tauyuan	0.72	306	⇑	iP	Pb	15 35 59.0 -1.0
	baz=307						
STYT					eS	Sb	15 36 07.9 -1.7
	baz=307						
SLGT	Liugui	0.73	290		eP	Pb	15 35 59.5 -0.6
	baz=289						
SLGT					eS	Sb	15 36 09.9 0.0
	baz=289						
HGSD	Ruisui	0.75	2	⇑	iP	Pb	15 35 59.5 -0.9
	baz=7.0						
HGSD					eS	Sn	15 36 12.2 +1.6
	baz=7.0						
LYUB	Lan-yu	0.76	166	⇑	iP	Pb	15 35 59.0 -1.5
	baz=163						
LYUB					eS	Sb	15 36 08.6 -1.9
	baz=163						
SLIU	Shizi	0.76	227	⇑	iP	Pn	15 35 59.3 -1.1
	baz=222						
SLIU					eS	Sb	15 36 08.2 -2.4
	baz=222						
EHY	Hungye	0.77	355	⇑	P	Pb	15 35 59.0 -1.8
	baz=360						
EHY					eS	Sn	15 36 10.3 -0.7
	baz=360						
SCZT	Fangliau	0.80	243	⇑	iP	Pn	15 36 00.4 -0.6
	baz=238						
SCZT					eS	Sb	15 36 10.3 -1.6
	baz=238						
SSPT	Xinbi	0.80	252		eP	Pn	15 36 01.1 +0.1
	baz=248						
SSPT					eS	Sb	15 36 11.7 -0.2
	baz=248						
SGST	Jiashian	0.82	295		P	Pn	15 36 00.4 -0.8
	baz=294						
SGST					eS	Sb	15 36 11.5 -0.9
	baz=294						
TSPT	Pingtung City	0.83	266		eP	Pn	15 36 01.7 +0.4
	baz=263						
SGLT	Jiouru	0.83	269		eP	Pb	15 36 01.8 0.0
	baz=266						
YUS	Yu-Shan	0.85	332	⇑	eP	Pn	15 36 01.1 -1.0
	baz=334						
WTP	Ta-pu	0.88	305	⇑	iP	Pn	15 36 02.2 +0.1
	baz=306						
WTP					eS	Sn	15 36 14.1 +0.3
	baz=306						
SMST	Manzhou Townsh	0.88	216	⇑	iP	Pn	15 36 01.5 -0.5
	baz=212						
SMST					eS	Sn	15 36 12.4 -1.4
	baz=212						
TPUB	Ta-pu	0.90	309	⇑	iP	Pn	15 36 02.5 +0.2
	baz=309						
TPUB					eS	Sb	15 36 14.0 -0.6
	baz=309						
TPUB	Ta-pu	0.90	309		Pg	Pn	15 36 02.5 +0.2
TPUB					Sg	Sb	15 36 13.7 -0.9
TWM1	Shoushan	0.90	276		eP	Pb	15 36 03.4 +0.5
	baz=273						
CHN1	Nanshi	0.91	299	⇑	P	Pb	15 36 03.2 0.0
	baz=299						
CHN1					eS	Sb	15 36 15.6 +0.6
	baz=299						
EGFH	Guangfu	0.93	2		eP	Pn	15 36 01.3 -1.4
	baz=6.0						
EGFH					eS	Sn	15 36 16.7 +1.7
	baz=6.0						
ALS	Alishan	0.94	325	⇑	P	Pn	15 36 03.0 -0.2
	baz=327						
ALS					eS	Sn	15 36 16.3 +0.6
	baz=327						
HEN	Hengchun	0.95	220		i P	Pn	15 36 03.0 0.0
	baz=215						
HEN					eS	Sn	15 36 15.4 -0.1
	baz=215						
TSEB	Hengchuen, Pin	0.95	209		eP	Pn	15 36 03.1 +0.1
	baz=207						
TSEB					eS	Sn	15 36 16.4 +0.9
	baz=207						
SNST	Tainan City	0.95	300		eP	Pb	15 36 03.8 -0.1
	baz=300						
SNST					eS	Sb	15 36 17.0 +0.9
	baz=300						
CHN4	Tsaushan	0.95	310	⇑	eP	Pb	15 36 03.6 -0.2
	baz=310						
CHN4					eS	Sb	15 36 16.5 +0.3
	baz=310						
TWKBT	Hengchun	0.96	214	⇑	iP	Pn	15 36 02.8 -0.4
	baz=210						
TWKBT					eS	Sn	15 36 15.0 -0.7
	baz=210						
TWK1	Hengchun	0.96	215	⇑	iP	Pn	15 36 02.8 -0.4
	baz=210						
TWK1					eS	Sn	15 36 15.0 -0.8
	baz=210						
SNJT	Kaohsiung City	0.97	271		eP	Pb	15 36 05.8 +1.6
	baz=269						
TEGC	Jichi Village	0.97	8		eP	Pn	15 36 02.9 -0.5
	baz=12						
TEGC					eS	Sb	15 36 16.7 -0.1
	baz=12						
SNW	Nanwan	0.98	218		eP	Pn	15 36 03.5 +0.1
	baz=214						
TWK	Hsinying	0.98	302	⇑	P	Pb	15 36 04.1 -0.3
	baz=303						
TWK					eS	Sb	15 36 17.8 +0.7
	baz=303						
SHHT	Tainan City	1.00	286		eP	Pb	15 36 05.8 +1.2
	baz=285						
CHN3	Shinhua	1.00	290		eP	Pb	15 36 06.1 +1.5
	baz=289						
WLCH	Liuqiu	1.01	248		eP	Pb	15 36 07.1 +2.3
	baz=245						
KAU	Kaohsiung	1.01	261		eP	Pb	15 36 07.2 +2.3
	baz=258						
TWP	Hsiaoliuchiu	1.03	248		eP	Pb	15 36 07.3 +2.2
	baz=245						
VWDT	VWDT	1.03	347	⇑	iP	Pn	15 36 03.8 -0.4
	baz=350						
VWDT					eS	Sb	15 36 19.4 +1.0
	baz=350						
ESL	Shilin	1.07	2		eP	Pn	15 36 03.1 -1.6
	baz=6.0						
ESL					eS	Sn	15 36 16.6 -2.0
	baz=6.0						
CHN5	Tsauling	1.08	323	⇑	P	Pb	15 36 05.6 -0.4
	baz=324						
CHN5					eS	Sb	15 36 20.4 +0.6
	baz=324						
SSLB	Suanglung	1.12	339	⇑	P	Pn	15 36 05.3 -0.1
	baz=341						
SSLB					eS	Sb	15 36 21.4 +0.5
	baz=341						
SSLB	Suanglung	1.12	339			Pn	15 36 05.1 -0.3
SSLB					Sg	Sn	15 36 19.3 -0.5
TEYL	Yanliau Villag	1.14	10		eP	Pn	15 36 05.2 -0.4
	baz=12						
CHN2	Minshiung	1.16	313		eP	Pb	15 36 07.4 +0.2
	baz=314						
CHY	Chiayi	1.17	310		eP	Pb	15 36 07.1 -0.3
	baz=311						
CHY					eS	Sb	15 36 22.8 +0.5
	baz=311						
SCLT	Jiali	1.19	292		eP	Pb	15 36 07.8 +0.1
	baz=291						
ICHU	Yijhu	1.20	301		eP	Pb	15 36 07.6 -0.3
	baz=301						
ICHU					eS	Sb	15 36 23.2 +0.2
	baz=301						
WGK	Gukeng	1.21	321	⇑	eP	Pb	15 36 08.3 +0.1
	baz=322						
WGK					eS	Sb	15 36 24.5 +1.0
	baz=322						
ETM	Tongmen	1.22	4		eP	Pn	15 36 05.8 -1.0
	baz=7.0						
OWD	Renai	1.23	351		eP	Pn	15 36 06.3 -0.7
	baz=353						
OWD					eS	Sb	15 36 24.3 +0.2
	baz=353						
SMLT	Sun Moon Lake	1.23	338		P	Pb	15 36 07.5 -1.0
	baz=341						
SMLT					eS	Sb	15 36 25.0 +1.0
	baz=341						
WDLH	Douliu	1.23	320	⇑	P	Pb	15 36 08.4 0.0
	baz=321						
WDLH					eS	Sb	15 36 23.5 -0.5
	baz=321						
WJS	Zhushan	1.24	331	⇑	eP	Pb	15 36 08.6 0.0
	baz=332						
CHN8	Yiju	1.24	299		eP	Pn	15 36 07.9 +0.8
	baz=299						
CHN8					eS	Sb	15 36 25.1 +0.7
	baz=299						
HWA	Hwalien	1.25	9		eP	Pb	15 36 07.6 -1.2
	baz=12						
TYC	Yuchr	1.26	337	⇑	eP	Pb	15 36 08.2 -0.8
	baz=339						
WUSB	Renai	1.27	349	⇑	P	Pn	15 36 07.3 -0.3
	baz=351						
WUSB					eS	Sn	15 36 22.9 -0.7
	baz=351						
WNT	Mingjian	1.31	330		eP	Pb	15 36 09.6 -0.2
	baz=332						
WNT					eS	Sb	15 36 26.7 +0.5
	baz=332						
WTK	Tuku	1.32	316		eP	Pb	15 36 09.1 -0.9
	baz=316						
WTK					eS	Sb	15 36 26.0 -0.6
	baz=316						
WSL	Shuilin Townsh	1.32	306	⇑	P	Pb	15 36 09.2 -0.9
	baz=306						
WSL					eS	Sb	15 36 25.9 -0.8
	baz=306						
WPL	Puli Township	1.33	343		eP	Pb	15 36 09.1 -1.1
	baz=344						
CHGB	Renai	1.33	351	⇑	P	Pn	15 36 08.2 -0.2
	baz=354						
CHGB					eS	Sb	15 36 25.9 -1.3
	baz=354						
WNT1	Nantou City	1.33	331		eP	Pb	15 36 10.2 0.0
	baz=332						
TWD	Chiawan	1.35	8		eP	Pn	15 36 07.7 -0.8
	baz=11						
DPDB	Guoxing	1.36	342	⇑	eP	Pb	15 36 09.8 -0.9
	baz=343						
DPDB					eS	Sb	15 36 26.9 -0.8
	baz=343						
WCS	Beigang Elemen	1.38	342	⇑	eP	Pb	15 36 10.2 -0.9
	baz=343						
WSF	Szhu	1.40	310	⇑	eP	Pn	15 36 10.1 +0.9
	baz=310						
WSF					eS	Sb	15 36 28.3 -0.5
	baz=310						
WHF	Hehuan Shan	1.40	355		eP	Pn	15 36 08.9 -0.8
	baz=358						
WHF					eS	Sn	15 36 27.4 0.0
	baz=358						
WYL	Yuanlin Townsh	1.43	329		eP	Pb	15 36 11.1 -0.7
	baz=330						
ETL	Fush Village	1.43	9		eP	Pn	15 36 10.2 +0.5
	baz=11						
NACB	Ninganchiao	1.44	7		eP	Pn	15 36 08.4 -1.4
	baz=10.0						
NACB					eS	Sn	15 36 27.9 +0.2
	baz=10.0						
NACB	Ninganchiao	1.44	7		Pn	Pn	15 36 07.9 -1.9
WWF	Wufeng	1.45	334		eP	Pb	15 36 11.8 -0.4
	baz=335						
WWF					eS	Sb	15 36 31.3 +1.1
	baz=335						
ETLH	Xiulin Townshi	1.46	3		eP	Pn	15 36 09.0 -1.2
	baz=5.0						
ETLH					eS	Sb	15 36 29.0 -1.8
	baz=5.0						
WRL	Guolierlin Hig	1.48	321		eP	Pn	15 36 11.3 +0.9
	baz=322						
FUSS	Fushou	1.51	355	⇑	eP	Pn	15 36 10.9 -0.1
	baz=357						
FUSS					eS	Sn	15 36 30.0 +0.3
	baz=357						
WTCT	Ta-ch'eng	1.52	318		eP	Pb	15 36 11.9 -1.4
	baz=319						
TWT	Tachien	1.52	353		eP	Pn	15 36 11.4 +0.4
	baz=354						
TDCB	Techi	1.52	352		eP	Pb	15 36 12.3 -1.2
	baz=354						
WCHH	Zhanghua	1.54	330	⇑	eP	Pb	15 36 12.8 -0.9
	baz=331						
WCHH					eS	Sb	15 36 32.6 -0.2
	baz=331						
TCU	Taichung	1.55	335		eP	Pb	15 36 13.1 -0.8
	baz=336						
WHP	Taichung City	1.58	345		eP	Pb	15 36 13.4 -1.2
	baz=347						
WHP					eS	Sb	15 36 35.0 +0.8
	baz=347						
WDGT	Dungji	1.68	288		eP	Pn	15 36 13.4 +0.4
	baz=287						
WDGT					eS	Sn	15 36 32.2 -1.3
	baz=287						
NNSB	Datong	1.68	360		eP	Pn	15 36 13.2 -0.1
	baz=2.0						
NNS	Nan Shan	1.69	359		eP	Pn	15 36 13.4 0.0
	baz=2.0						
NNS					eS	Sb	15 36 36.5 -0.9
	baz=2.0						
TWQ1	Liyutan	1.70	341		eP	Pb	15 36 15.2 -1.3
	baz=342						
TWQ1					eS	Sb	15 36 37.7 +0.3
	baz=342						
ENA	Nanau	1.71	11		eP	Pn	15 36 13.1 -0.4
	baz=13						
EWUT	Wuta	1.73	12		eP	Pn	15 36 13.9 +0.1
	baz=14						
EWUT					eS	Sn	15 36 35.8 +0.9
	baz=14						
WDJ	Dajia District	1.74	337		eP	Pb	15 36 15.7 -1.5
	baz=338						
WDJ					eS	Sb	15 36 39.5 +0.8
	baz=338						
NSY	Sanyi	1.77	341		eP	Pb	15 36 16.2 -1.4
	baz=342						
NSY					eS	Sb	15 36 40.1 +0.7
	baz=342						
LATG	Datong	1.79	4		eP	Pn	15 36 14.4 -0.4
	baz=6.0						
PHUB	P'eng-hu	1.84	295		eP	Pn	15 36 15.6 +0.3
	baz=295						
PHUB					eS	Sn	15 36 36.6 -0.9
	baz=295						
NDT	Datong Townshi	1.86	3		eP	Pn	15 36 16.2 +0.7
	baz=5.0						
VCHM	Qimei	1.87	285		eP	Pn	15 36 16.1 +0.5
	baz=284						
VCHM					eS	Sn	15 36 37.7 -0.5
	baz=284						
NMLH	Miaoli	1.87	343		eP	Pb	15 36 17.3 -2.1
	baz=344						
PNG	Penghu	1.88	296		eP	Pn	15 36 16.3 +0.5
	baz=296						
PNG					eS	Sn	15 36 37.4 -1.1
	baz=296						
ENTT	Nioudou	1.90	5		eP	Pn	15 36 16.2 0.0
	baz=7.0						
ENTT					eS	Sn	15 36 38.6 -0.4
	baz=7.0						
NFF	Wufeng Townshi	1.90	352	⇑	eP	Pb	15 36 17.9 -2.0
	baz=354						
NFF					eS	Sn	15 36 40.4 +1.3
	baz=354						
TWC	Suao	1.91	13		eP	Pn	15 36 16.8 +0.6
	baz=15						
TWC					eS	Sn	15 36 40.3 +1.1
	baz=15						
NDS	Dongshan	1.91	9		eP	Pn	15 36 16.4 +0.2
	baz=11						
NDS					eS	Sb	15 36 41.2 -2.3
	baz=11						
NSTT	Nanjuang	1.92	349	⇑	eP	Pb	15 36 17.9 -2.3
	baz=351						
NSTT					eS	Sb	15 36 42.6 -1.1
	baz=351						
YHNB	Yeheng	1.92	360		eP	Pn	15 36 17.0 +0.5
	baz=1.0						
YHNB					eS	Sn	15 36 40.3 +0.6
	baz=1.0						
YHNB	Yeheng	1.92	360		Pn	Pn	15 36 17.1 +0.5
LIOB	Emei	1.93	350	⇑	eP	Pb	15 36 18.1 -2.2
	baz=351						
LIOB					eS	Sb	15 36 42.6 -1.4
	baz=351						
NSK	Sanguang	1.93	359		eP	Pn	15 36 17.2 +0.6
	baz=1.0						
NSK					eS	Sn	15 36 39.9 +0.1
	baz=1.0						
TWE	Neicheng	1.99	7		eP	Pn	15 36 17.4 +0.1
	baz=9.0						
TWE					eS	Sn	15 36 42.1 +0.9
	baz=9.0						
FUSB	Fushanzhiwuyua	2.02	5		eP	Pn	15 36 18.3 +0.5
	baz=7.0						
FUSB					eS	Sn	15 36 43.3 +1.3
	baz=7.0						
NWLT	Wulai	2.03	3		eP	Pn	15 36 18.6 +0.7
	baz=4.0						
NWLT					eS	Sn	15 36 43.2 +0.9
	baz=4.0						
SBCB	Hsinchu	2.08	350		eP	Pn	15 36 20.0 +1.4
	baz=351						
NTC	Toucheng	2.14	11		eP	Pn	15 36 20.5 +1.0
	baz=12						
NTC					eS	Sn	15 36 46.2 +1.2
	baz=12						
NHDH	Xindian Distri	2.22	3		eP	Pn	15 36 21.4 +0.9
	baz=5.0						
NHDH					eS	Sn	15 36 47.4 +0.6
	baz=5.0						
JYNG	Yonagunijimaku	2.22	40		P	Pn	15 36 21.1 +0.6
JYNG					S	Sn	15 36 47.1 +0.2
NCUH	Zhongli	2.23	355		eP	Pn	15 36 22.3 +1.7
	baz=356						
TATO	Taipei	2.23	2		eP	Pn	15 36 21.5 +0.9
	baz=4.0						
TATO	Taipei	2.23	2		Pn	Pn	15 36 21.0 +0.4
TWA	Mucha	2.24	4		eP	Pn	15 36 21.7 +0.9
	baz=6.0						
TIPB	Shuangxi	2.26	10		eP	Pn	15 36 22.3 +1.2
	baz=12						
TIPB					eS	Sb	15 36 50.1 -3.4
	baz=12						
YOJ	Yonaguni jima	2.27	41		P	Pn	15 36 22.3 +1.1
YOJ					S	Sn	15 36 48.5 +0.4
YOJ	Yonaguni jima	2.27	41		eP	Pn	15 36 22.4 +1.2
	baz=42						
YOJ					eS	Sn	15 36 48.5 +0.4
	baz=42						
YOJ	Yonaguni jima	2.27	41		Pn	Pn	15 36 20.9 -0.2
NHW	Xinwu Township	2.28	352		eP	Pn	15 36 22.4 +1.1
	baz=353						
TWB1	Santiao Chiao	2.32	13		eP	Pn	15 36 23.8 +1.9
	baz=15						
NWF	Wu-fen Shan	2.35	9		eP	Pn	15 36 23.2 +0.9
	baz=10.0						
NWF					eS	Sb	15 36 53.4 -2.7
	baz=10.0						
WFSB	Wu-fen Shan	2.35	9		eP	Pn	15 36 23.2 +0.9
	baz=10.0						
WFSB					eS	Sb	15 36 53.4 -2.7
	baz=10.0						
TWS1	Kuangyinshan	2.35	1		eP	Pn	15 36 23.5 +1.2
	baz=2.0						
SXI1	Grass Mountain	2.39	11		eP	Pn	15 36 24.1 +1.3
	baz=12						
YM01	YM01	2.40	4		eP	Pn	15 36 23.6 +0.5
	baz=5.0						
NTST	Danshui	2.42	1		eP	Pn	15 36 24.2 +1.1
	baz=3.0						
ANP	Anpu	2.44	3		eP	Pn	15 36 24.4 +0.8
	baz=4.0						
YM08	YM08	2.44	4		eP	Pn	15 36 23.9 +0.3
	baz=6.0						
HATJ	Hateruma jima	2.58	59		P	Pn	15 36 26.2 +0.8
HATJ					S	Sn	15 36 55.7 0.0
IRIF	Iriomote-Funau	2.67	53		P	Pn	15 36 28.0 +1.3
IRIF					S	Sn	15 36 58.8 +0.8
JKRS	Kuro-shima	2.83	58		P	Pn	15 36 30.0 +1.1
JKRS					S	Sn	15 37 02.2 +0.3
JIJ	Ishigaki jima	3.00	57		P	Pn	15 36 32.1 +0.9
JIJ					S	Sn	15 37 05.5 -0.6
PTMZ	Houxiangcun	3.09	318	⇑	eP	Pn	15 36 32.9 +0.4
	baz=318						
PTMZ					eS	Sn	15 37 06.9 -1.5
	baz=318						
KNM	Kinmen	3.19	302		eP	Pn	15 36 35.6 +1.8
	baz=300						
KNM					eS	Sn	15 37 12.0 +1.3
	baz=300						
KNMB	Chin-men Tao	3.25	303		eP	Pn	15 36 34.8 +0.2
	baz=302						
KNMB					eS	Sn	15 37 10.3 -1.9
	baz=302						
KNMB	Chin-men Tao	3.25	303		Pn	Pn	15 36 34.5 -0.1
JISG	Ishigakijimahi	3.25	55		P	Pn	15 36 35.4 +0.8
JISG					S	Sn	15 37 11.4 -0.8
ZPLA	Ao Xicun	3.55	290		eP	Pn	15 36 39.2 +0.5
	baz=289						
ZPLA					eS	Sn	15 37 18.2 -1.5
	baz=289						
JTJ	Tarama	3.58	57		P	Pn	15 36 40.4 +1.2
JTJ					S	Sn	15 37 20.9 +0.5
MATB	Ma-tsu	3.64	339		eP	Pn	15 36 40.0 -0.1
	baz=339						
MATB					eS	Sn	15 37 19.9 -2.1
	baz=339						
DSXP	Dongshan	3.77	286		eP	Pn	15 36 42.5 +0.6
	baz=285						
DSXP					eS	Sn	15 37 23.3 -1.9
	baz=285						
AXDP	Jialang	3.80	305		eP	Pn	15 36 42.5 +0.3
	baz=304						
AXDP					eS	Sn	15 37 23.6 -2.3
	baz=304						
JIRB	Irabujima	4.04	58		P	Pn	15 36 46.6 +1.1
JIRB					S	Sn	15 37 31.2 -0.6
LYJJ	Jianjiangzhen	4.07	339		eP	Pn	15 36 46.0 0.0
	baz=339						
JMJ2	Miyako jima3	4.12	60		P	Pn	15 36 47.8 +1.2
JMJ2					S	Sn	15 37 34.4 +0.6
JMJ	Miyako jima 2	4.13	59		eP	Pn	15 36 47.8 +1.1
	baz=61						
JIKM	Ikemajima	4.15	58		P	Pn	15 36 48.8 +1.8
JIKM					S	Sn	15 37 33.3 -1.1
JOGS	Gusukube	4.19	61		P	Pn	15 36 49.0 +1.4
JOGS					S	Sn	15 37 36.9 +1.3
XPSS	Dashiqiu	4.31	346		eP	Pn	15 36 48.9 -0.3
	baz=346						
SXFK	Yanhouchang	4.99	318		eP	Pn	15 36 58.7 0.0
	baz=317						
HKPS	Hong Kong Po S	6.72	267		Pn	Pn	15 37 23.9 +1.5
JOW	Kunigami	7.46	56		Pn	Pn	15 37 31.8 -0.8
	1.2nm,0.3s,baz=168,slow=21,SNR=1.6						
JOW					Sn	Sn	15 38 52.8 -3.4
	2.0nm,0.3s,baz=205,slow=20,SNR=1.5						
JOW	Kunigami	7.46	56		Pn	Pn	15 37 32.4 -0.2
MTN	Manton Dam	36.63	164		P	P	15 42 51.7 +2.1
MK31	Makanchi Array	39.51	317		P	P	15 43 15.8 +2.1
MKAR	Makanchi Array	39.51	317		P	P	15 43 15.3 +1.6
	0.9nm,0.7s,baz=112,slow=9.7,SNR=11						
ZAA0	Zalesovo Array	41.56	328		P	P	15 43 31.1 +0.7
ZAA0					IAmb	IAmb	15 43 35.2
	comp=Z,1.7nm,0.8s						
ZALV	Zalesovo Beam	41.56	328		P	P	15 43 31.0 +0.6
	comp=Z,1.3nm,0.4s,baz=124,slow=7.2,SNR=5.0						
ZALV	Zalesovo Beam	41.56	328		P	P	15 43 30.6 +0.1
WB0	Warramunga Arr	44.11	162		P	P	15 43 50.1 -1.4
WB0					IAmb	IAmb	15 44 14.8
	comp=Z,2.2nm,1.1s						
WRA	Warramunga Arr	44.27	162		P	P	15 43 51.4 -1.3

comp=Z,0.3nm,0.8s,baz=344,slow=9.4,SNR=2.5
WB2 Warramunga Arr 44.27 162 P **P 15 43 52.0 -0.7**
WB2 IAmb IAmb 15 44 20.1
comp=Z,6.0nm,1.4s
WR0 Warramunga Arr 44.34 162 P **P 15 43 53.2 -0.1**
WR0 IAmb IAmb 15 44 19.8
comp=Z,4.6nm,1.3s
AS31 Alice Springs 47.70 164 P **P 15 44 19.9 +0.1**
ASAR Alice Springs 47.70 164 P **P 15 44 19.7 -0.1**
comp=Z,0.1nm,0.3s,baz=342,slow=7.2,SNR=7.9
EIDS Eidsvold 55.82 147 P **P 15 45 21.5 +1.2**

*IDC **20** 15:48:07.0±0.9, 40°.61N×144°.84E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.5/68, mbtmp3.6/11, ML3.2/1, MS4.4/5, Ms1 4.4/5, ms1mx3.1/90, Error ellipse: s-maj=27.8km s-min=19.2km az=92.0*
*JMA **20** 15:48:08.6±0.2, 40°.65N×145°.01E, h68km±4km, M3.8*
*NEIC **20** 15:48:10.5±1.6, 40°.61N±0°.07×144°.68E±0°.09, h19km±4km, mb4.4/7, Error ellipse: s-maj=10.6km s-min=8.8km az=47.0*
ISC 20 15:48:13.0±0.9, 40°.59N±0°.04×144°.9E±0°.1, h34km±3km, n57, σ2°83/42, mb4.0/14, MS4.3/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.93**	**318**	Pn	Pn	15 48 39.2	-4.1
JEM	**Erimo**	**1.93**	**318**	P	Pn	15 48 40.2	-3.2
JEM				*e*S	**Sn**	**15 49 02.6**	**-3.8**
JTHR	**Tokachihiroo**	**2.08**	**326**	P	Pn	15 48 42.1	-3.3
JTHR				S	**Sn**	**15 49 05.3**	**-4.8**
JCH	**Churui**	**2.32**	**331**	P	Pn	15 48 45.4	-3.4
JCH				*e*S	**Sn**	**15 49 11.2**	**-5.0**
JNBK	**Urakawa-nobuka**	**2.33**	**317**	P	Pn	15 48 46.4	-2.5
JNBK				*e*S	**Sn**	**15 49 13.8**	**-2.5**
JAK	**Akkeshi**	**2.41**	**357**	S	**Sn**	**15 49 13.1**	**-5.2**
JOB	**Onbets**	**2.44**	**342**	S	**Sn**	**15 49 15.4**	**-3.7**
JANG	**Nango**	**2.58**	**266**	P	Pn	15 48 49.2	-3.1
JAR	**Ashorobuto**	**2.83**	**343**	P	Pn	15 48 52.0	-3.8
JAR				S	**Sn**	**15 49 23.2**	**-5.5**
NEM2	**Nemuro 2**	**2.85**	**13**	P	Pn	15 48 51.6	-4.4
JTM	**Tenmabayashi**	**2.91**	**275**	Pn	Pn	15 48 54.6	-2.2
JOM	**Ohasama**	**2.97**	**249**	P	Pn	15 48 55.7	-2.0
JOM				S	**Sn**	**15 49 28.9**	**-3.3**
JOT	**Ohata**	**3.01**	**287**	P	Pn	15 48 55.6	-2.6
JOT				S	**Sn**	**15 49 28.5**	**-4.6**
JFR	**Furan**	**3.09**	**327**	P	Pn	15 48 56.4	-2.9
JFR				S	**Sn**	**15 49 30.0**	**-5.1**
JKB	**Kayabe**	**3.18**	**295**	P	Pn	15 48 58.4	-2.2
JKB				S	**Sn**	**15 49 33.2**	**-4.1**
JMK	**Ichinoseki**	**3.26**	**241**	P	Pn	15 48 59.5	-2.2
JMK				S	**Sn**	**15 49 35.6**	**-3.7**
JEW	**Eniwo**	**3.42**	**312**	S	**Sn**	**15 49 40.9**	**-2.2**
JEW	**Eniwo**	**3.42**	**312**	Pn	Pn	15 49 01.7	-2.1
JEW					**Sn**	**15 49 40.1**	**-3.0**
JTKR	**Abashiri--Toko**	**3.46**	**348**	S	**Sn**	**15 49 39.7**	**-4.4**
JYK	**Kaneyama**	**3.87**	**246**	P	Pn	15 49 08.2	-1.8
JYK				*e*S	**Sn**	**15 49 50.8**	**-3.4**
JKA	**Kamikawa-asahi**	**3.91**	**335**		Pn	15 49 07.4	-3.2
ASAJ	**Asahikawa**	**3.91**	**335**	Pn	Pn	15 49 07.9	-2.7
	1.4nm,0.3s,baz=196,slow=16,SNR=12						
ASAJ				Sn	**Sn**	**15 49 54.9**	**-0.4**
	1.9nm,0.3s,baz=258,slow=29,SNR=7.3						
JHR	**Hokuryu**	**3.93**	**324**	*e*S	**Sn**	**15 49 53.2**	**-2.6**
JMM	**Marumori**	**4.18**	**231**	Pn	Pn	15 49 11.1	-3.2
JYT	**Yasato**	**5.70**	**222**	Pn	Pn	15 49 32.3	-2.9
MAJO	**Matsushiro**	**6.61**	**234**	Pn	**Pn**	**15 49 46.6**	**-1.1**
MJB9	**Matsu-Tunnel**	**6.61**	**234**	Pn	Pn	15 49 46.4	-1.3
USA0B	**Ussuriysk Arra**	**10.20**	**295**	Pn	Pn	15 50 35.4	-1.4
USRK	**Ussuriysk Ar.**	**10.20**	**295**	LR	LR	15 54 02.0
	comp=Z,50nm,18.8s,baz=259,slow=35						
SHEM	**Shemya Is, Ala**	**23.26**	**49**	LR	LR	16 05 28.0
	comp=Z,486nm,19.1s,baz=164,slow=45						
PPLA	**Purkeypile**	**42.70**	**37**	P	**P**	**15 56 07.1**	**+0.7**
PPLA				IAmb	IAmb	15 56 25.8
	comp=Z,22nm,1.5s						
MKAR	**Makanchi Array**	**44.62**	**300**	P	**P**	**15 56 20.8**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=81,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**44.62**	**300**	P	**P**	**15 56 19.7**	**-2.2**
ILAR	**Eielson Array**	**45.04**	**34**	P	**P**	**15 56 23.9**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=255,slow=6.5,SNR=6.2						
ILAR	**Eielson Array**	**45.04**	**34**	P	**P**	**15 56 24.3**	**-0.7**
BMAR	**Burnt Mountain**	**45.91**	**30**	P	**P**	**15 56 32.4**	**+0.5**
KURBB	**Kurchatov Arra**	**46.04**	**306**	P	**P**	**15 56 31.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=77,slow=8.5,SNR=2.2						
INK	**Inuvik**	**49.98**	**29**	P	**P**	**15 57 02.4**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=306,slow=1.9						
INK	**Inuvik**	**49.98**	**29**	P	**P**	**15 57 02.7**	**-0.5**
INK				IAmb	IAmb	15 57 19.3
	comp=Z,2.7nm,1.2s						
ABKAR	**Akbulak array**	**57.75**	**309**	P	**P**	**15 57 59.5**	**-0.8**
RES	**Resolute Bay**	**58.47**	**16**	P	**P**	**15 58 03.4**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=296,slow=14,SNR=3.7						
WB0	**Warramunga Arr**	**60.83**	**191**	P	**P**	**15 58 20.9**	**-1.0**
WB0				IAmb	IAmb	15 58 32.4
	comp=Z,6.2nm,1.2s						
WR0	**Warramunga Arr**	**61.00**	**191**	P	**P**	**15 58 21.6**	**-1.4**
WR0				IAmb	IAmb	15 58 33.8
	comp=Z,1.8nm,0.8s						
WRAB	**Tennant Creek**	**61.00**	**191**	P	**P**	**15 58 21.6**	**-1.4**
WB2	**Warramunga Arr**	**61.01**	**191**	P	**P**	**15 58 21.9**	**-1.2**
WB2				IAmb	IAmb	15 58 26.4
	comp=Z,4.3nm,1.2s						
WRA	**Warramunga Arr**	**61.01**	**191**	P	**P**	**15 58 22.0**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=8.9,slow=6.6,SNR=8.2						
WRA	**Warramunga Arr**	**61.01**	**191**	P	**P**	**15 58 22.3**	**-0.7**
ASAR	**Alice Springs**	**64.74**	**191**	P	**P**	**15 58 47.5**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=357,slow=5.6,SNR=4.0						
ASAR	**Alice Springs**	**64.74**	**191**	P	**P**	**15 58 47.9**	**+0.1**
FINES	**FINESS Array B**	**66.92**	**333**	P	**P**	**15 59 00.8**	**-0.6**
	comp=Z,2.1nm,1.1s,baz=58,slow=12,SNR=4.0						
JMIC	**Jan Mayen**	**67.10**	**351**	LR	LR	16 30 25.1
	comp=Z,311nm,18.0s,baz=286,slow=38						
GNI	**Garni**	**71.73**	**307**	LR	LR	16 35 50.4
	comp=Z,188nm,20.2s,baz=198,slow=40						
HFS	**Hagfors**	**71.94**	**337**	LR	LR	16 37 60.0
	comp=Z,166nm,18.2s,baz=348,slow=42						
AKASG	**Malin Array Be**	**73.11**	**323**	P	**P**	**15 59 38.8**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=42,slow=6.3,SNR=2.5						
TXAR	**Lajitas Array**	**85.83**	**55**	P	**P**	**16 00 49.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=295,slow=2.7,SNR=4.9						
TXAR	**Lajitas Array**	**85.83**	**55**	P	**P**	**16 00 49.0**	**-0.3**
ESDC	**Sonseca Array**	**95.22**	**336**	LR	LR	16 50 55.2
	comp=Z,288nm,18.6s,baz=28,slow=40						

*IDC **20** 15:52:37.5±1.0, 8°.63S×158°.70E, h191km±21km, mb3.4/6, mb1 3.6/8, mb1mx3.4/38, mbtmp4.1/8, MS3.8/1, Ms1 3.8/1, ms1mx2.9/30, Error ellipse: s-maj=37.6km s-min=20.4km az=111.0*
ISC 20 15:52:37.7±1.0, 8°.6S±0°.2×158°.8E±0°.1, h200km, n10, σ0°68/10, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.36**	**125**	P	**Pn**	**15 53 10.0**	**-0.3**
	626nm,0.3s,baz=229,slow=3.7,SNR=359						
HNR				S	**Sn**	**15 53 35.5**	**0.0**
	256nm,0.3s,baz=36,slow=21,SNR=19						
CTA	**Charters Tower**	**16.64**	**226**	P	**Pn**	**15 56 20.1**	**+0.2**
	0.4nm,0.3s,baz=48,slow=11,SNR=6.8						
JAY	**Jayapura**	**19.02**	**288**	P	**P**	**15 56 44.7**	**-0.1**
	1.3nm,0.3s,baz=125,slow=5.3,SNR=7.1						
WRA	**Warramunga Arr**	**26.20**	**242**	P	**P**	**15 57 53.4**	**-0.9**
	0.8nm,0.3s,baz=66,slow=9.3,SNR=24						
STKA	**Stephens Creek**	**28.12**	**212**	P	**P**	**15 58 12.0**	**+0.9**
	1.2nm,0.5s,baz=52,slow=15,SNR=8.2						
ASAR	**Alice Springs**	**28.13**	**235**	P	**P**	**15 58 10.8**	**-0.7**
	1.2nm,0.5s,baz=61,slow=9.9,SNR=74						
FITZ	**Fitzroy Crossi**	**33.56**	**250**	LR	LR	16 12 25.2
	comp=Z,147nm,18.0s,baz=315,slow=36						
CMAR	**Chiang Mai Arr**	**64.91**	**295**	P	**P**	**16 02 56.0**	**-0.3**
	0.3nm,0.3s,baz=106,slow=4.7,SNR=4.4						
SONM	**Songino Array**	**72.78**	**326**	P	**P**	**16 03 45.4**	**+0.9**
	1.2nm,0.6s,baz=145,slow=5.3,SNR=7.0						
MKAR	**Makanchi Array**	**87.14**	**318**	P	**P**	**16 05 00.8**	**-0.4**
	0.3nm,0.5s,baz=95,slow=7.5,SNR=2.5						

*IDC **20** 15:56:14.2±2.6, 36°.34N×70°.46E, h193km±23km, mb3.4/9, mb1 3.5/15, mb1mx3.2/67, mbtmp4.0/15, Error ellipse: s-maj=22.4km s-min=16.2km az=49.0*
*SOME **20** 15:56:16.4, 37°.80N×71°.02E, h30km*
*NNC **20** 15:56:18.5±6.7, 36°.86N×69°.99E, h196km±76km, mb3.4, mpv4.6, Error ellipse: s-maj=60.5km s-min=33.3km az=3.0*
ISC 20 15:56:15.7±0.7, 36°.52N±0°.06×70°.35E±0°.08, h200km, n50, σ1°85/54, mb3.6/9, 3C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.98**	**154**	P	Pn	15 57 06.7	+1.4
CEP				S	**Sn**	**15 57 44.0**	**+0.1**
CHCP	**Chirah Chowk**	**3.72**	**139**	P	Pn	15 57 15.6	+1.5
THW	**Thamme Wali**	**3.89**	**162**	P	**Pn**	**15 57 17.0**	**+0.8**
CHM	**Chimkent**	**5.82**	**355**	*e*P	**Pn**	**15 57 43.5**	**+3.0**
	63nm,0.4s						
CHM				*e*S	**Sn**	**15 58 46.3**	**-1.5**
	306nm,0.4s						
AML	**Almayashu**	**6.18**	**24**	P	**Pn**	**15 57 46.3**	**+0.8**
	SNR=239						
DZA	**Taraz**	**6.41**	**6**	*e*P	**Pn**	**15 57 51.9**	**+3.7**
	102nm,0.1s						
DZA				*e*S	**Sn**	**15 59 00.5**	**-1.1**
	242nm,0.6s						
DZA	**Taraz**	**6.41**	**6**	Pg	**Pn**	**15 57 50.5**	**+2.3**
	157nm,0.1s						
DZA				Lg	Lg	15 59 00.5
	242nm,0.6s						
BRLS	**Borolday**	**6.52**	**357**	*e*P	**Pn**	**15 57 48.4**	**-1.2**
	10nm,0.2s						
BRLS				*e*S	Sn	15 58 54.9	-9.2
	20nm,0.4s						
BRLS	**Borolday**	**6.52**	**357**	Pg	**Pn**	**15 57 47.0**	**-2.6**
	10nm,0.2s						
BRLS				Lg	Lg	15 58 54.9
	20nm,0.4s						
UCH	**Uchtor**	**6.55**	**28**	P	**Pn**	**15 57 51.3**	**+0.9**
	SNR=86						
KK02	**Karatay Array**	**6.58**	**1**	⇑P	**Pn**	**15 57 50.4**	**0.0**
	11nm,0.3s,baz=177,slow=13						
KK02				⇑S	**Sn**	**15 58 59.9**	**-5.5**
	baz=190,slow=24						
MRKS	**Merke**	**6.60**	**19**	*e*P	**Pn**	**15 57 54.2**	**+3.4**
	31nm,0.3s						
MRKS				*e*S	**Sn**	**15 59 04.3**	**-1.9**
	70nm,0.8s						
MRKS	**Merke**	**6.60**	**19**	Pg	**Pn**	**15 57 52.3**	**+1.6**
	66nm,0.2s						
MRKS				Lg	Lg	15 59 04.3
	70nm,0.8s						
EKS2	**Erkin-Say**	**6.68**	**22**	P	**Pn**	**15 57 52.7**	**+0.9**
	SNR=102						
AAK	**Ala-Archa**	**6.90**	**26**	P	**Pn**	**15 57 55.4**	**+0.7**
	9.9nm,0.3s,baz=195,slow=6.0,SNR=147						
AAK				S	**Sn**	**15 59 13.3**	**+0.1**
	3.4nm,0.3s,baz=0.1,slow=21,SNR=16						
AAK	**Ala-Archa**	**6.90**	**26**	P	**Pn**	**15 57 55.7**	**+1.0**
	SNR=36						
AAK	**Ala-Archa**	**6.90**	**26**	⇓P	**Pn**	**15 57 55.4**	**+0.7**
	22nm,0.6s						
AAK				S	**Sn**	**15 59 13.1**	**-0.2**
	33nm,0.5s						
KBK	**Karagaybulak**	**7.08**	**29**	P	**Pn**	**15 57 58.3**	**+1.2**
	SNR=23						
CHMS	**Chumysh**	**7.31**	**26**	P	**Pn**	**15 58 00.4**	**+0.5**
	SNR=18						
ULHL	**Ulahol**	**7.32**	**37**	P	**Pn**	**15 58 00.5**	**+0.4**
	SNR=17						
USP	**Ospenovka**	**7.46**	**24**	P	**Pn**	**15 58 02.2**	**+0.4**
	SNR=9.4						
TKM2	**Tokmak 2**	**7.56**	**31**	P	**Pn**	**15 58 04.1**	**+0.7**
	SNR=19						
TKM2	**Tokmak 2**	**7.56**	**31**	⇓P	**Pn**	**15 58 04.0**	**+0.7**
	42nm,0.6s						
TKM2				⇑S	**Sn**	**15 59 27.7**	**-1.3**
	12nm,0.8s						
DGS	**Degeres**	**7.90**	**30**	*e*P	Pn	15 58 15.5	+7.8
	7.4nm,0.6s						
DGS				*e*S	**Sn**	**15 59 41.6**	**+4.7**
	6.2nm,1.9s						
KRBS	**Karabastau**	**8.25**	**28**	*e*P	Pn	15 58 26.5	+14
	16nm,0.7s						
KRBS				*e*S	Sn	16 00 00.7	+16
	8.9nm,0.7s						
MDOK	**Medeo**	**8.40**	**36**	P	**Pn**	**15 58 14.4**	**+0.2**
MDOK				S	**Sn**	**15 59 51.3**	**+2.6**
	31nm,0.9s						
KTBS	**Karatobe**	**8.67**	**32**	*e*P	Pn	15 58 32.2	+15
	5.2nm,0.6s						
KTBS				*e*S	Sn	16 00 10.2	+15
	14nm,0.9s						
CHKK	**Chushkaly**	**8.91**	**33**	*e*P	Pn	15 58 38.0	+17
	2.0nm,0.5s						
CHKK				*e*S	Sn	16 00 19.0	+18
	4.6nm,0.7s						
GEYT	**Alibeck**	**9.86**	**282**	P	**Pn**	**15 58 33.3**	**+0.2**
	0.4nm,0.3s,baz=84,slow=16,SNR=2.1						
MAKZ	**Makanchi**	**13.45**	**37**	⇓P	**Pn**	**15 59 18.2**	**-0.4**
	6.5nm,0.6s						
MK31	**Makanchi Array**	**13.59**	**37**	P	**Pn**	**15 59 20.4**	**0.0**
	2.4nm,0.6s,baz=212,slow=13,SNR=53						
MKAR	**Makanchi Array**	**13.59**	**37**	P	**Pn**	**15 59 20.6**	**+0.2**
	0.3nm,0.3s,baz=217,slow=14,SNR=23						
MKAR				S	S	16 01 37.4	-14
	0.4nm,0.3s,baz=198,slow=23,SNR=5.5						
AB31	**Akbulak array**	**14.82**	**332**	P	**Pn**	**15 59 34.5**	**-1.0**
	2.2nm,0.5s,baz=152,slow=12,SNR=46						
WMQ	**Urumqi**	**15.12**	**56**	*e*P	**Pn**	**15 59 33.9**	**-5.4**
WMQ				smax	smax		
	comp=N,12nm,0.9s						
WMQ				smax	smax		
	comp=E,15nm,1.1s						
KURBB	**Kurchatov Arra**	**15.28**	**20**	P	**Pn**	**15 59 40.8**	**-0.3**
	comp=E,0.2nm,0.3s,baz=209,slow=10,SNR=8.8						
KURBB	**Kurchatov Arra**	**15.28**	**20**	⇓P	**Pn**	**15 59 40.2**	**-0.9**
	comp=E,2.8nm,0.6s						
BVAR	**Borovoye Array**	**16.51**	**0**	P	**Pn**	**15 59 56.1**	**+0.3**
	comp=E,1.0nm,0.3s,baz=147,slow=7.7,SNR=14						
AKTO	**Aktyubinsk**	**16.51**	**331**	P	**P**	**15 59 55.0**	**0.0**
	comp=E,0.5nm,0.3s,baz=137,slow=8.5,SNR=16						
AKTO	**Aktyubinsk**	**16.51**	**331**	⇓P	**P**	**15 59 56.0**	**+1.0**
	comp=E,6.1nm,0.8s						
BRVK	**Borovoye**	**16.54**	**360**	⇓P	**P**	**15 59 55.2**	**-0.1**
	comp=E,7.4nm,0.9s						
ZALV	**Zalesovo Beam**	**20.12**	**25**	P	**P**	**16 00 34.9**	**+0.8**
	comp=E,2.7nm,0.4s,baz=218,slow=10.0,SNR=11						
LZH	**Lanzhou**	**26.93**	**81**	*e*P	P	16 01 55.5	+17
LZH				pP	pP	16 02 08.8	-12
LZH				sP	PP	16 02 16.3	-27
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.93**	**118**	P	**P**	**16 02 12.6**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=305,slow=8.1,SNR=5.7						
FINES	**FINESS Array B**	**37.18**	**326**	P	**P**	**16 03 08.2**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=116,slow=9.4,SNR=2.2						
ARCES	**ARCESS Array B**	**40.93**	**338**	P	**P**	**16 03 39.6**	**+1.4**
	comp=Z,3.2nm,1.1s,baz=113,slow=7.0,SNR=1.7						
TIXI	**Tiksi**	**45.95**	**22**	P	**P**	**16 04 19.1**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=230,slow=5.5,SNR=3.8						
ILAR	**Eielson Array**	**74.90**	**16**	P	**P**	**16 07 33.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=294,slow=4.3,SNR=4.6						
YKA	**Yellowknife Ar**	**81.25**	**2**	P	**P**	**16 08 09.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=347,slow=5.2,SNR=9.2						
YKA				pP	**pP**	**16 08 58.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=353,slow=5.3,SNR=6.4						
WRA	**Warramunga Arr**	**82.45**	**121**	P	**P**	**16 08 13.6**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=321,slow=4.6,SNR=9.4						
ASAR	**Alice Springs**	**84.70**	**124**	P	**P**	**16 08 25.4**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=313,slow=4.9,SNR=20						

*IDC **20** 15:56:37.4±9.1, 34°.53N×78°.73E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.4/60, mbtmp3.8/6, ML3.8/2, MS4.3/1, Ms1 4.3/1, ms1mx2.8/85, Error ellipse: s-maj=153.7km s-min=64.9km az=137.0*
ISC 20 15:56:58.9±1.1, 35°.7N±0°.2×76°.6E±0°.3, h35km, n17, σ1°34/16, mb3.9/3, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.80**	**353**	P	**Pn**	**15 57 53.8**	**-1.3**
KSH				sP		15 58 06.3	
KSH				pmax	pmax		
	comp=Z,140nm,0.6s						
PYUN	**Piuthan**	**9.35**	**143**	*e*P	**Pn**	**15 59 11.8**	**+0.3**
	comp=Z,9.2nm,0.3s						
PYUN				*e*S	**Sn**	**16 00 54.7**	**-0.8**
DANN	**Dangsing**	**9.55**	**139**	*e*P	**Pn**	**15 59 14.0**	**-0.2**
	comp=Z,6.5nm,0.4s						
KOLN	**Koldanda**	**9.93**	**141**	*e*P	**Pn**	**15 59 19.3**	**0.0**
	comp=Z,6.0nm,0.3s						
GKN	**Gorkha**	**10.30**	**136**	*e*P	**Pn**	**15 59 25.7**	**+1.3**
	comp=Z,8.0nm,0.4s						
KKN	**Kakani**	**10.83**	**135**	*e*P	**Pn**	**15 59 32.5**	**+0.8**
DMN	**Daman**	**10.87**	**136**	*e*P	**Pn**	**15 59 33.3**	**+1.0**
PKIN	**Phulchoki**	**11.06**	**135**	*e*P	**Pn**	**15 59 35.8**	**+0.9**
PKI	**Pulchoki**	**11.07**	**135**	*e*P	**Pn**	**15 59 35.8**	**+0.7**
GUN	**Gumba**	**11.10**	**132**	*e*P	**Pn**	**15 59 36.1**	**+0.7**
MKAR	**Makanchi Array**	**11.84**	**19**	Pn	Pn	15 59 37.1	-8.1
	comp=Z,0.5nm,0.3s,baz=139,slow=12,SNR=9.5						
BVAR	**Borovoye Array**	**17.83**	**348**	P	**P**	**16 01 06.6**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=139,slow=12,SNR=4.5						
AKTO	**Aktyubinsk**	**19.91**	**323**	P	**Pn**	**16 01 31.9**	**+2.7**
	comp=Z,1.9nm,0.5s,baz=122,slow=16,SNR=3.8						
FINES	**FINESS Array B**	**40.66**	**325**	P	**P**	**16 04 34.9**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=114,slow=7.3,SNR=11						
ARCES	**ARCESS Array B**	**43.60**	**337**	P	**P**	**16 04 57.9**	**-1.4**
	comp=Z,3.9nm,1.0s,baz=112,slow=8.8,SNR=2.7						
NOA	**NORSAR Array B**	**47.70**	**323**	P	**P**	**16 05 30.6**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=91,slow=7.7,SNR=1.5						
DAVOX	**Davos/Dischmat**	**49.95**	**304**	LR	LR	16 32 15.8
	comp=Z,282nm,19.3s,baz=260,slow=41						

NOU 20 16:08:29.6, 15°.84S×167°.64E, h4km, MLv4.8/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.57**	**313**	P	Pg	16 08 40.7	+0.1
DVP	**Devils Point**	**1.95**	**164**	P	Pn	16 09 03.4	-0.1
RTV	**Rentapao**	**2.08**	**159**	P	Pn	16 09 06.0	+0.7
KOUNC	**Koumac, New Ca**	**5.67**	**214**	P	Pn	16 09 54.3	-0.3
YATNC	**Mamie plateau,**	**6.23**	**186**	P	Pn	16 10 01.2	-1.1
DZM	**Mont Dzumac**	**6.30**	**190**	P	Pn	16 10 03.0	-0.4
NOUC	**Port Laguerre**	**6.36**	**191**	P	Pn	16 10 05.0	+0.9
	13nm,0.6s						
OUENC	**Ouen Island, N**	**6.59**	**186**	P	Pn	16 10 06.8	-0.5
PINNC	**Pines Island,**	**6.74**	**182**	P	Pn	16 10 09.4	0.0

*EAF **20** 16:19:05.9±2.5, 25°.97S×29°.39E, h0km±26km, MD3.6*
BUL 20 16:19:06.3±2.0, 25°.96S×29°.36E, h0km±22km, MD3.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.06**	**38**	*i* P	Pn	16 19 53.2	-2.7
MOPA	**Mopani**	**3.06**	**38**	*i* P	Pn	16 19 53.2	-2.7
LBTB	**Lobatse**	**3.53**	**285**	*i* P	Pn	16 20 03.7	+1.2
LBTB				*i* Sg	Sb	16 20 55.6	+2.4
LBTB	**Lobatse**	**3.53**	**285**	*i* P	Pn	16 20 03.7	+1.2
LBTB				*i* Sg	Sb	16 20 55.6	+2.4
MSNA	**Messina**	**3.65**	**10**	*i* P	Pn	16 20 03.7	-0.4
MSNA	**Messina**	**3.65**	**10**	*i* P	Pn	16 20 03.7	-0.4
BOSA	**Boshof**	**4.51**	**233**	*i* P	Pn	16 20 16.0	0.0
BOSA				*i* Sg	Sb	16 21 25.0	+3.6
BOSA	**Boshof**	**4.51**	**233**	*i* P	Pn	16 20 16.0	0.0
BOSA				*i* Sg	Sb	16 21 25.0	+3.6
MATP	**Matopo**	**5.56**	**352**	*i* P	Pn	16 20 29.5	-1.1
MATP				*i* S	Sn	16 21 29.1	-6.1
MATP	**Matopo**	**5.56**	**352**	*i* P	Pn	16 20 29.5	-1.1
MATP				*i* S	Sn	16 21 29.1	-6.1
BLWY	**Bulawayo**	**5.83**	**353**	*i* P	Pn	16 20 34.1	-0.1
BLWY				*i* S	Sn	16 21 36.6	-5.3
BLWY	**Bulawayo**	**5.83**	**353**	*i* P	Pn	16 20 34.1	-0.1
BLWY				*i* S	Sn	16 21 36.6	-5.3

*DJA **20** 16:36:14.5±0.3, 4°.5S×134°.13E±°, h49km±12km, M4.1/6, mB5.0/3, mb4.1/6, MLv4.1/6, Mw(mB)4.4/3*
*NEIC **20** 16:36:15.2±1.2, 4°.1S±0°.1×135°.77E±0°.07, h37km±14km, mb4.0/10, Error ellipse: s-maj=15.6km s-min=9.5km az=161.0*
*IDC **20** 16:36:15.1±2.4, 4°.11S×135°.69E, h45km±27km, mb3.4/3, mb1 3.8/7, mb1mx3.6/28, mbtmp3.9/7, ML4.2/5, Error ellipse: s-maj=31.0km s-min=19.1km az=68.0*
ISC 20 16:36:14.0±0.7, 4°.11S±0°.07×135°.77E±0°.06, h35km, n44, σ2°04/46, mb3.7/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.27**	**12**	P	**Pn**	**16 36 48.5**	**-0.6**
BAKI	**Biak**	**2.91**	**7**	P	**Pn**	**16 36 59.0**	**+1.1**
SMPI	**Sarmi**	**3.61**	**54**	P	**Pn**	**16 37 09.0**	**+1.5**
FAKI	**Fak Fak**	**3.71**	**288**	P	**Pn**	**16 37 09.1**	**+0.2**
FAKI	**Fak Fak**	**3.71**	**288**		**Pn**	**

*BEO **20** 16:39:36.8±0.4, 43°.29N×17°.93E, h17km±2km, ML3.4/19*
*PDG **20** 16:39:36.7±0.6, 43°.16N×17°.84E, h29km±1km, MD3.6/12, ML3.8/12, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
*RHSSO **20** 16:39:37.2±0.2, 43°.22N×17°.92E, h21km±2km, ML3.6/14*
*PRU **20** 16:39:38.4±0.0, 43°.41N×17°.80E, h0km*
*LDG **20** 16:39:38.0, 43°.35N×17°.99E, h28km*

ISC 20 16:39:35.2±1.0, 43°.25N±0°.02×17°.83E±0°.02, h15km±7km, n175, σ2§20/304, 37C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.38	194	ePg	Pn	16 39 45.3	-0.9
STON				Sg	Sb	16 39 51.4	+2.0
RICI	Ricice	0.56	296	ePg	Pn	16 39 49.0	+0.3
RICI				Sg	Sn	16 39 57.6	-0.3
MAKA	Makarska	0.59	274	ePg	Pn	16 39 49.2	+0.1
MAKA				Sg	Sn	16 39 58.3	-0.1
BRY	Bratogost	0.62	123	ePg	Pb	16 39 48.6	+0.7
BRY				eSg	Sb	16 39 57.6	+1.1
BRY	Bratogost	0.62	123	ePg	Pb	16 39 48.4	+0.5
BRY				*i* Sg	Sb	16 39 57.6	+1.1
TREB	Trebinje	0.65	144	ePg	Pb	16 39 48.9	+0.6
TREB				eSg	Sb	16 39 58.3	+1.1
TREB	Trebinje	0.65	144	ePg	Pb	16 39 48.8	+0.5
TREB				eSg	Sb	16 39 58.2	+1.1
UPM	Unac-Piva	0.79	93	ePg	Pn	16 39 51.7	-0.3
UPM				eSg	Sb	16 40 01.9	+0.6
UPM	Unac-Piva	0.79	93	⇓*i*Pg	Pn	16 39 52.1	+0.1
UPM				*i* Sg	Sn	16 40 04.1	+0.5
LSTV	Lastovo	0.84	236	*i* Pg	Pn	16 39 52.5	+0.1
LSTV				Sg	Sn	16 40 04.4	0.0
HCY	Herceg Novi	0.94	148	ePg	Pn	16 39 53.4	-0.4
HCY				eSg	Sn	16 40 06.4	-0.5
HCY	Herceg Novi	0.94	148	ePg	Pb	16 39 53.3	+0.2
HCY				*i* Sg	Sn	16 40 06.3	-0.6
NKME	Niksic	0.95	120	⇓*i*Pg	Pn	16 39 54.2	+0.1
NKME				*i* Sg	Sn	16 40 07.7	+0.3
NKY	Niksic	0.96	116	⇓*i*Pg	Pn	16 39 54.2	0.0
NKY				*i* Sg	Sn	16 40 07.9	+0.3
HVAR	Hvar	1.01	267	*i* Pg	Pn	16 39 56.1	+1.3
HVAR				Sg	Sn	16 40 10.1	+1.3
CEME	Cevo	1.06	131	⇑*i*Pg	Pn	16 39 55.7	+0.1
CEME				*i* Sg	Sn	16 40 10.3	+0.2
PLE	Pljevlja	1.14	85	ePg	Pn	16 39 57.7	+0.9
PLE				*i* Sg	Sn	16 40 14.0	+1.8
RUDO	Rudo	1.18	71	⇑*i*Pg	Pn	16 39 58.1	+0.9
RUDO				eSg	Sn	16 40 13.0	-0.1
BUM	Brajici-Budva	1.23	140	ePg	Pb	16 39 57.8	-0.3
BUM				*i* Sg	Sn	16 40 14.2	0.0
KIJV	Kijevo	1.28	307	ePg	Pg	16 40 01.4	+1.5
KIJV				Sg	Sn	16 40 19.0	+3.5
MGRS	Mrkonjic Grad	1.29	336	⇑*i*Pg	Pg	16 40 01.4	+1.4
MGRS				eSg	Sn	16 40 18.8	+3.0
KOME	Kolasin	1.30	107	ePg	Pg	16 39 59.4	-0.8
KOME				*i* Sg	Sn	16 40 16.9	+0.9
BBLS	Lazići	1.30	61	ePg	Pg	16 40 00.4	+0.1
BBLS				eSg	Sn	16 40 17.9	+1.8
BBLS	Lazići	1.30	61	ePg	Pg	16 39 59.9	-0.4
BBLS				eSg	Sb	16 40 15.9	-0.1
PDG	Podgorica	1.33	127	⇓S	Sg	16 40 18.4	+0.4
PDG	Podgorica	1.33	127	⇑*i*Pg	Pg	16 39 59.8	-1.0
PDG				eSg	Sg	16 40 17.7	-0.3
PDG	Podgorica	1.33	127	ePg	Pg	16 39 59.7	-1.0
PDG				eSg	Sg	16 40 17.7	-0.3
TTG	Podgorica	1.33	127	ePg	Pb	16 39 59.4	-0.4
TTG				*i* Sg	Sn	16 40 16.9	+0.3
DRME	Dracevica, Mon	1.46	136	⇑*i*Pg	Pb	16 40 01.9	-0.1
DRME				eSg	Sg	16 40 21.1	-0.6
DRME	Dracevica, Mon	1.46	136	ePg	Pn	16 40 01.0	+0.1
DRME				*i* Sg	Sn	16 40 19.7	-0.1
DOB	Doboj	1.50	7	ePn	Pb	16 40 02.6	-0.2
DOB				eSn	Sg	16 40 23.0	-0.6
IVA	Berane	1.56	103	ePg	Pn	16 40 03.0	+0.5
IVA				*i* Sg	Sb	16 40 23.4	0.0
SJES	Sjenica	1.57	89	ePg	Pg	16 40 04.4	-0.9
SJES				eSg	Sb	16 40 23.9	+0.3
BLY	Banja Luka	1.57	343	ePn	Pg	16 40 05.4	0.0
BLY				eSn	Sg	16 40 25.5	-0.4
BLY	Banja Luka	1.57	343	ePg	Pg	16 40 05.9	+0.5
BLY				eSg	Sg	16 40 26.3	+0.4
ZIRJ	Zirje	1.64	285	ePn	Pb	16 40 05.4	+0.2
ZIRJ				Sn	Sg	16 40 27.2	-0.8
ULC	Ulcinj	1.65	140	ePn	Pn	16 40 03.7	0.0
ULC				*i* Sn	Sn	16 40 24.5	-0.2
MORI	Morici	1.66	293	ePn	Pg	16 40 06.3	-0.8
MORI				Sn	Sg	16 40 28.6	-0.2
PVY	Plav	1.69	112	ePn	Pn	16 40 04.8	+0.4
PVY				*i* Sn	Sn	16 40 26.3	+0.4
IVAS	Ivanjica	1.73	78	ePn	Pb	16 40 05.6	-1.0
IVAS				eSn	Sn	16 40 26.0	-0.5
DIVS	Divibare	1.79	61	⇑*i*Pn	Pb	16 40 06.6	-1.1
DIVS				eSn	Sn	16 40 28.3	+0.2
DIVS	Divibare	1.79	61	ePn	Pb	16 40 06.6	-1.1
DIVS				eSn	Sn	16 40 28.0	-0.1
BLJ	Bijeljina	1.85	34	ePn	Pn	16 40 06.3	-0.1
BLJ				eSn	Sn	16 40 29.2	-0.4
MRAK	Mrakovica	1.89	340	⇑*i*Pn	Pb	16 40 09.6	+0.2
MRAK				eSn	Sb	16 40 32.8	-0.1
PRIJ	Prijedor	1.91	336	ePn	Pb	16 40 09.8	+0.1
PRIJ				eSn	Sn	16 40 32.5	+1.6
UDBI	Udbina	1.97	311	ePn	Pb	16 40 11.6	+0.8
TRUS	Trudelj	2.11	61	ePn	Pn	16 40 10.9	+0.9
TRUS				eSn	Sn	16 40 35.1	-0.8
DUGI	Dugi Otok	2.15	291	ePn	Pb	16 40 12.8	-0.9
DUGI				Sn	Sb	16 40 39.9	-0.3
GRUS	Gruza	2.19	72	ePn	Pn	16 40 12.2	+1.1
GRUS				eSn	Sn	16 40 37.4	-0.6
PLIT	Plitvice	2.28	317	ePn	Pb	16 40 15.0	-1.1
PLIT				Sn	Sb	16 40 42.9	-1.1
FRGS	Fruska Gora	2.38	36	⇓P	Pn	16 40 13.6	-0.1
FRGS				⇑S	Sn	16 40 41.5	-1.3
FRGS	Fruska Gora	2.38	36	eSn	Sn	16 40 42.9	+0.1
FRGS	Fruska Gora	2.38	36	ePn	Pn	16 40 13.7	-0.1
FRGS				eSn	Sn	16 40 41.7	-1.1
SELS	Selova	2.41	89	ePn	Pn	16 40 15.0	+1.0
SELS				eSn	Sn	16 40 42.7	-0.5
MOSL	Moslavina	2.49	342	ePn	Pn	16 40 17.3	+2.1
MOSL				Sn	Sn	16 40 47.0	+1.6
NVLJ	Novalja	2.51	303	ePn	Pn	16 40 17.6	+2.2
NVLJ				Sn	Sn	16 40 48.1	+2.4
SVIS	Svilajnac	2.66	66	eSn	Sn	16 40 48.0	-1.4
RABC	Rab	2.66	305	ePn	Pn	16 40 19.6	+2.1
RABC				Sn	Sb	16 40 53.2	-1.9
KOVH	Kovagotottos	2.85	4	PN	Pn	16 40 21.3	+1.2
KOVH				PB	Pb	16 40 21.9	-3.9
KOVH				SN	Sn	16 40 54.1	-0.1
BOVS	Bovan	2.85	81	⇑P	Pn	16 40 20.4	+0.3
BOVS				⇑S	Sn	16 40 53.4	-0.8
BOVS	Bovan	2.85	81	ePn	Pn	16 40 20.4	+0.3
BOVS				eSn	Sn	16 40 53.3	-0.9
OZLJ	Ozalj	2.91	325	ePn	Pn	16 40 23.3	+2.3
OZLJ				Sn	Sn	16 40 57.8	+2.2
BOJS	Bojanci	2.92	322	*i* Pn	Pn	16 40 23.9	+2.8
BOJS				eSn	Sn	16 40 59.6	+3.8
SKO	Skopje	2.95	114	*i* Pn	Pn	16 40 23.1	+1.6
BARS	Barje	2.95	97	ePn	Pn	16 40 23.8	+2.2
BARS				eSn	Sn	16 40 59.1	+2.3
PTJ	Puntijarka	2.98	334	ePn	Pn	16 40 24.2	+2.2
PTJ				Sn	Sn	16 40 59.3	+1.9
KUBS	Kucevo	3.02	66	ePn	Pn	16 40 22.0	-0.5
KUBS				eSn	Sn	16 40 57.2	-1.1
MORH	Mrgy, Hungar	3.03	11	⇑P	Pn	16 40 23.6	+1.1
MORH				⇓S	Sn	16 40 58.0	-0.5
MORH	Mrgy, Hungar	3.03	11	ePn	Pn	16 40 23.4	+0.9
MORH				eSn	Sn	16 40 59.1	+0.6
MORH	Mrgy, Hungar	3.03	11	PN	Pn	16 40 23.5	+0.9
MORH				SN	Sn	16 40 57.0	-1.5
KALN	Kalnik	3.05	342	ePn	Pn	16 40 24.8	+1.9
KALN				Sn	Sn	16 41 01.2	+2.1
OHR	Ohrid	3.07	133	*i* Pn	Pn	16 40 25.0	+1.8
CRES	Cresnjev	3.09	328	ePn	Pn	16 40 25.7	+2.3
CRES				eSn	Sn	16 41 02.3	+2.2
CRES	Cresnjev	3.09	328	*i* Pn	Pn	16 40 26.0	+2.6
GBRS	Gornja Briga	3.15	318	*i* Pn	Pn	16 40 27.3	+3.1
LOBO	Lobor	3.17	337	ePn	Pn	16 40 26.2	+1.7
LOBO				Sn	Sn	16 41 02.9	+0.8
RIY	Rijeka	3.18	312	ePn	Pn	16 40 27.7	+3.1
RIY				Sn	Sn	16 41 04.9	+2.6
SMRN	Sveta Marina	3.19	305	ePn	Pn	16 40 27.2	+2.4
SMRN				Sn	Sn	16 41 04.5	+1.9
MDVR	Moldovita	3.20	60	⇑P	Pn	16 40 25.4	+0.4
MDVR				⇑S	Sn	16 41 00.8	-1.9
PRVS	Prvonek	3.21	102	ePn	Pn	16 40 26.0	+0.9
PRVS				eSn	Sn	16 41 02.7	-0.4
ZAGS	Zajecar	3.25	78	ePn	Pn	16 40 26.2	+0.5
ZAGS				eSn	Sn	16 41 02.2	-1.9
BRJN	Brijuni	3.38	301	ePn	Pn	16 40 29.2	+1.9
BRJN				Sn	Sn	16 41 09.1	+2.0
AQU	L'Aquila	3.38	256	ePn	Pn	16 40 29.0	+1.6
AQU				eSn	Sn	16 41 09.1	+1.8
CEY	Cerknica	3.48	317	⇑*i*Pn	Pn	16 40 31.8	+2.9
CEY				eSn	Sn	16 41 11.9	+2.0
BOSS	Bosilegrad	3.50	101	ePn	Pn	16 40 29.8	+0.7
BOSS				eSn	Sn	16 41 09.3	-0.9
BLKB	Belogradchik	3.55	82	⇑S	Sn	16 41 10.1	-1.5
SKDS	Skadanscina	3.57	311	*i* Pn	Pn	16 40 31.8	+1.7
STIP	Stip	3.58	114	*i* Pn	Pn	16 40 32.9	+2.7
STIP				*i* Sn	Sn	16 41 16.0	+3.9
BZS	Buzias	3.60	48	⇓P	Pn	16 40 31.0	+0.5
BZS				⇑S	Sn	16 41 11.3	-1.5
GROS	Grobnik	3.62	334	*i* Pn	Pn	16 40 33.0	+2.3
GROS				eSn	Sn	16 41 13.9	+0.7
GROS				IAML		16 41 19.6	
	comp=Z,11nm,0.2s						
TIH	Tihany	3.66	1	PN	Pn	16 40 32.2	+1.0
TIH				SN	Sn	16 41 13.8	-0.2
LJU	Ljubljana	3.66	321	⇑*i*Pn	Pn	16 40 34.0	+2.8
LJU				eSn	Sn	16 41 15.9	+1.8
DJES	Djerdap	3.67	66	⇑S	Sn	16 41 12.9	-1.6
HERR	Herculane	3.69	62	⇑P	Pn	16 40 32.1	+0.4
HERR				⇑S	Sn	16 41 13.0	-1.8
PUNG	Punghina	3.84	73	⇑P	Pn	16 40 33.9	+0.2
PUNG				⇓S	Sn	16 41 16.3	-2.2
MPLH	Magyarpolny	3.93	357	PN	Pn	16 40 37.3	+2.3
SOKA	Soboth	3.96	331	Pn	Pn	16 40 38.3	+2.7
	comp=Z,6.2nm,0.2s,SNR=9.0						
SOKA				eSn	Sn	16 41 23.5	+1.7
	comp=Z,15nm,0.3s						
VAY	Valandovo	4.01	117	*i* Pn	Pn	16 40 36.9	+0.9
OBKA	Obir	4.01	326	Pn	Pn	16 40 40.0	+3.8
	comp=Z,2.7nm,0.2s,SNR=10.0						
VTS	Vitosha	4.02	97	⇑P	Pn	16 40 37.6	+1.3
VTS				⇑S	Sn	16 41 22.7	-0.6
VTS	Vitosha	4.02	97	ePn	Pn	16 40 37.5	+1.2
VTS				eSn	Sn	16 41 22.0	-1.2
SIRR	Siria	4.07	41	⇑P	Pn	16 40 36.8	-0.1
SIRR				⇑S	Sn	16 41 22.5	-1.9
SRE	Strehaia	4.13	68	⇑P	Pn	16 40 38.5	+0.8
SRE				⇓S	Sn	16 41 24.1	-1.7
GZR	Gura Zlata	4.15	57	⇑P	Pn	16 40 38.8	+0.7
GZR				⇑S	Sn	16 41 24.4	-1.9
ARSA	Arzberg	4.32	339	Pn	Pn	16 40 43.2	+2.8
	comp=Z,4.4nm,0.2s,SNR=12						
ARSA				eSn	Sn	16 41 32.8	+2.3
	comp=Z,11nm,0.4s						
DEV	Deva	4.48	52	⇑S	Sn	16 41 32.7	-1.8
MYKA	Terra Mystica	4.50	320	ePn	Pn	16 40 42.7	-0.2
	comp=Z,1.8nm,0.3s						
MYKA				eSn	Sn	16 41 40.4	+5.3
	comp=Z,6.0nm,0.2s						
SRO	Srobarova	4.58	4	ePN	Pn	16 40 47.8	+3.9
SRO				eSN	Sn	16 41 39.7	+2.9
BORR	Bors	4.75	35	⇑S	Sn	16 41 39.6	-1.5
LOT	Lotru	4.80	61	⇓P	Pn	16 40 47.0	0.0
LOT				⇑S	Sn	16 41 40.8	-1.6
CONA	Conrad Observa	4.88	344	Pn	Pn	16 40 51.3	+3.2
	comp=Z,1.6nm,0.3s,SNR=8.8						
CONA				eSn	Sn	16 41 45.5	+1.1
	comp=Z,14nm,0.4s						
PSZ	Piszkesteto	4.89	17	⇓P	Pn	16 40 49.5	+1.2
PSZ				⇑S	Sn	16 41 43.2	-1.5
DRGR		4.96	43	⇓S	Sn	16 41 44.3	-1.9
KBA	Koelnbreinsper	4.97	322	ePn	Pn	16 40 52.9	+3.4
	comp=Z,3.3nm,0.4s						
KBA				eSn	Sn	16 41 48.8	+1.9
	comp=Z,11nm,0.4s						
ZST	Bratislava	4.98	354	ePN	Pn	16 40 51.7	+2.3
ZST				eSN	Sn	16 41 46.3	-0.3
MODS	Modra-Piesok	5.14	356	ePN	Pn	16 40 54.8	+3.1
MODS				eSN	Sn	16 41 50.6	-0.2
ABTA	Abfaltersbach	5.14	315	Pn	Pn	16 40 54.0	+2.2
	comp=Z,1.6nm,0.3s,SNR=4.6						
MOA	Molln	5.24	333	Pn	Pn	16 40 56.3	+3.3
	comp=Z,1.8nm,0.2s,SNR=11						
MOA				eSn	Sn	16 41 55.2	+2.1
	comp=Z,21nm,0.5s						
SMOL	Smolenice	5.28	357	ePN	Pn	16 40 55.8	+2.3
SMOL				eSN	Sn	16 41 53.2	-0.8
VYHS	Vyhne	5.30	7	ePN	Pn	16 40 55.6	+1.8
VYHS				eSN	Sn	16 41 53.7	-0.8
ARR	Arges	5.33	64	⇑P	Pn	16 40 54.4	+0.2
KOLL	Kolacno	5.35	4	ePN	Pn	16 40 57.7	+3.2
KOLL				eSN	Sn	16 41 55.9	+0.1
JAVC	Velka Javorina	5.62	359	ePN	Pn	16 40 59.6	+1.4
VOIR		5.62	65	⇑P	Pn	16 40 58.4	0.0
VOIR				⇑S	Sn	16 42 01.3	-1.4
KRUC	Moravsky	5.90	351	ePN	Pn	16 41 04.0	+1.9
KRUC				eSN	Sn	16 42 07.3	-2.1
WTTA	Wattenberg	5.94	315	ePn	Pn	16 41 05.9	+3.2
	comp=Z,4.2nm,0.3s						
WTTA				eSn	Sn	16 42 13.8	+3.3
	comp=Z,14nm,0.4s						
WATA	Walderalm	6.01	315	ePn	Pn	16 41 07.1	+3.4
	comp=Z,2.2nm,0.2s						
WATA				eSn	Sn	16 42 16.0	+3.6
	comp=Z,5.4nm,0.2s						
CKRC	Cesky Krumlov	6.09	338	ePN	Pn	16 41 08.6	+3.9
CKRC				eSN	Sn	16 42 13.2	-0.9
VRAC	Vranov	6.12	352	ePN	Pn	16 41 07.8	+2.7
VRAC				eSN	Sn	16 42 13.1	-1.8
SQTA	Sankt Quirin	6.13	313	ePn	Pn	16 41 08.4	+3.1
	comp=Z,2.3nm,0.2s						
SQTA				eSn	Sn	16 42 19.5	+4.2
	comp=Z,11nm,0.3s						
CRVS	Cervenica-Dubn	6.20	23	ePN	Pn	16 41 09.0	+2.9
MLR	Muntele Rosu	6.24	66	⇑P	Pn	16 41 06.9	+0.2
MOTA	Moosalm	6.27	313	ePn	Pn	16 41 10.4	+3.2
	comp=Z,1.3nm,0.2s						
MOTA				eSn	Sn	16 42 21.3	+2.7
	comp=Z,8.2nm,0.4s						
FETA	Feichten	6.28	309	ePn	Pn	16 41 11.9	+4.5
	comp=Z,0.8nm,0.4s						
FETA				eSn	Sn	16 42 22.0	+3.0
	comp=Z,0.5nm,0.2s						
PGF	Pioggiola	6.52	267	ePn	Pn	16 41 11.1	+0.4
PGF				eSn	Sn	16 42 21.4	-3.4
	comp=Z,1.4nm,0.4s						
MORC	Moravsky Berou	6.54	358	⇓P	Pn	16 41 13.3	+2.5
MORC	Moravsky Berou	6.54	358	ePN	Pn	16 41 13.9	+3.1
MORC				eSN	Sn	16 42 24.8	-0.3
RETA	Reutte	6.54	313	ePn	Pn	16 41 14.6	+3.7
	comp=Z,1.2nm,0.3s						
RETA				eSn	Sn	16 42 28.8	+3.6
	comp=Z,8.8nm,0.4s						
KHC	Kasperske Hory	6.58	335	ePN	Pn	16 41 14.7	+3.2
KHC				eSN	Sn	16 42 26.1	-0.1
BURAR	Bucovina Array	6.79	47	⇑P	Pn	16 41 14.6	+0.3
KRLC	Kraliky	6.87	354	ePN	Pn	16 41 17.9	+2.5
KRLC				eSN	Sn	16 42 32.0	-1.3
DAVA	Damuels	6.91	309	ePn	Pn	16 41 21.1	+5.0
	comp=Z,1.6nm,0.4s						
DAVA				eSn	Sn	16 42 37.2	+2.7
	comp=Z,8.6nm,0.6s						
SBF	Sospel	7.58	278	ePn	Pn	16 41 25.3	+0.2
SBF	Sospel	7.58	278	eP	Pn	16 41 30.7	+5.6
SBF				eSn	Sn	16 42 46.7	-4.0
	comp=Z,9.1nm,0.2s						
CFR	Carcaliu	7.65	72	⇓P	Pn	16 41 26.2	+0.1
NKC	Novy Kostel	7.91	334	eSN	Sn	16 42 56.2	-2.5
MBDF	Montbardon	8.11	284	ePn	Pn	16 41 32.1	-0.4
MBDF				eSn	Sn	16 42 59.6	-4.4
	comp=Z,4.4nm,0.3s						
LPG	La Plagne	8.25	290	ePn	Pn	16 41 34.8	+0.3
LPG	La Plagne	8.25	290	eP	Pn	16 41 40.4	+5.9
LPG				eSn	Sn	16 43 02.4	-5.2
	comp=Z,11nm,0.4s						
LMR	La Mourre	8.26	274	ePn	Pn	16 41 34.9	+0.5
LMR	La Mourre	8.26	274	eP	Pn	16 41 40.2	+5.8
LMR				eSn	Sn	16 43 02.9	-4.5
	comp=Z,3.2nm,0.3s						
LPL	La Plagne	8.27	290	ePn	Pn	16 41 34.9	+0.2
LPL	La Plagne	8.27	290	eP	Pn	16 41 41.1	+6.4
LPL				eSn	Sn	16 43 03.4	-4.5
	comp=Z,7.2nm,0.2s						
ORIF	Oris-en-Rattie	8.76	285	ePn	Pn	16 41 41.9	+0.5
ORIF				eSn	Sn	16 43 15.2	-4.7
	comp=Z,11nm,0.4s						
SMRF	Simiane la Rot	8.92	279	ePn	Pn	16 41 44.1	+0.6
SMRF				eSn	Sn	16 43 18.8	-5.0
	comp=Z,2.4nm,0.5s						
HINF	Hinteralfeld	8.96	304	ePn	Pn	16 41 44.2	+0.2
HINF	Hinteralfeld	8.96	304	eP	Pn	16 41 50.1	+6.1
HINF				eSn	Sn	16 43 19.7	-4.9
	comp=Z,8.7nm,0.6s						
CDF	Champ du Feu	9.00	309	ePn	Pn	16 41 45.4	+0.8
CDF	Champ du Feu	9.00	309	eP	Pn	16 41 48.8	+4.2
CDF				eSn	Sn	16 43 20.7	-4.9
	comp=Z,2.5nm,0.4s						
HAU	Haudompre	9.34	305	ePn	Pn	16 41 49.4	+0.1
HAU	Haudompre	9.34	305	eP	Pn	16 41 54.3	+5.0
HAU				eSn	Sn	16 43 29.1	-5.0
	comp=Z,6.0nm,0.4s						
VIVF	Saint-Julien-l	9.61	284	ePn	Pn	16 41 52.4	-0.6
VIVF				eSn	Sn	16 43 35.4	-5.3
	comp=Z,2.6nm,0.3s						
LASF	Ste Croix	10.16	279	ePn	Pn	16 42 00.4	-0.1
LASF				eSn	Sn	16 43 48.5	-5.7
	comp=Z,1.0nm,0.4s						
SMF	Signal de Mont	10.48	294	ePn	Pn	16 42 04.6	-0.3
SMF				eSn	Sn	16 43 56.1	-5.9
	comp=Z,6.4nm,0.4s						
LOR	Lormes	10.64	297	ePn	Pn	16 42 06.9	-0.1
	baz=113						
LOR				eSn	Sn	16 43 59.8	-6.0
	comp=Z,3.9nm,0.3s						
SSF	Saint Saulge	10.81	296	ePn	Pn	16 42 09.3	0.0
SSF				eSn	Sn	16 44 03.9	-6.1
	comp=Z,2.9nm,0.4s						
AVF	Avril sur Loir	10.84	294	ePn	Pn	16 42 09.8	0.0
AVF				eSn	Sn	16 44 04.7	-6.1
	comp=Z,0.7nm,0.3s						
BGF	Bois d'Agland	11.13	292	ePn	Pn	16 42 13.6	-0.1
BGF				eSn	Sn	16 44 11.5	-6.4
	comp=Z,4.2nm,0.3s						
MTLF	Montolieu	11.38	276	ePn	Pn	16 42 17.0	-0.2
MTLF				eSn	Sn	16 44 17.8	-6.2
	comp=Z,0.4nm,0.2s						
CAF	Calviac	11.46	284	ePn	Pn	16 42 19.9	+1.6
CAF				eSn	Sn	16 44 19.7	-6.4
	comp=Z,1.1nm,0.3s						
TCF	Toulx Ste Croi	11.51	291	ePn	Pn	16 42 18.9	-0.1
TCF				eSn	Sn	16 44 19.7	-7.6
	comp=Z,1.6nm,0.2s						
RJF	Les Rejaudoux	11.88	286	eP	Pn	16 42 29.6	+5.7
RJF				eSn	Sn	16 44 29.7	-6.4
	comp=Z,2.5nm,0.4s						
LFF	La Frestale	12.41	284	eP	Pn	16 42 38.2	+7.1
EPF	Esparros	12.78	275	ePn	Pn	16 42 37.1	+0.8
EPF	Esparros	12.78	275	eP	Pn	16 42 41.0	+4.7

*DJA **20** 16:49:53.3±0.5, 6°.S±4°×15°.5E±°, h79km±7km, M4.8/15, mB4.4/2, mb4.4/15, MLv5.0/2, Mw(mB)3.6/2*
*NEIC **20** 16:49:54.8±2.3, 6°.19S±0°.09×154°.72E±0°.05, h66km±7km, mb4.5/23, Error ellipse: s-maj=13.6km s-min=7.0km az=194.0*
*IDC **20** 16:49:56.1±1.7, 6°.31S×154°.62E, h80km±15km, mb3.9/7, mb1 4.1/11, mb1mx3.8/36, mbtmp4.3/11, MS3.5/12, Ms1 3.5/12, ms1mx3.4/59, Error ellipse: s-maj=18.3km s-min=13.2km az=20.0*

ISC 20 16:49:54.0±0.5, 6°.23S±0°.06×154°.71E±0°.06, h61km, n68, σ1§60/68, mb4.5/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.25	308	Pn	Pn	16 50 42.3	-0.2
RABL	Rabaul	3.25	308	P	Pn	16 50 45.1	+2.6
KRVT	Keravat (AS076	3.29	305	P	Pn	16 50 44.8	+1.7
	baz=142,slow=19						
KRVT				S	Sn	16 51 26.6	+5.7
	baz=270,slow=20						
HNR	Honiara	6.08	122	P	Pn	16 51 24.0	+2.7
	21nm,0.3s,baz=189,slow=5.0,SNR=22						
HNR				S	Sn	16 52 34.3	+4.7
	10nm,0.3s,baz=296,slow=9.8,SNR=7.6						
HNR				LR	LR	16 53 43.1	
	comp=Z,334nm,18.7s,baz=254,slow=37						
HNR	Honiara	6.08	122	Pn	Pn	16 51 22.6	+1.2
HNR	Honiara	6.08	122	P	Pn	16 51 25.1	+3.8
PMG	Port Moresby	8.12	247	P	Pn	16 51 50.1

comp=Z,128nm,20.5s,baz=52,slow=35
ASAR Alice Springs 26.48 227 P P 16 55 24.0 -1.7
CMSA Cobar Meteorol 26.56 197 P P 16 55 26.6 +0.3
KNRA Kununurra 27.12 248 P P 16 55 30.6 -0.9
LBMI Labuha 27.71 281 P P 16 55 34.4 -2.5
comp=Z,19nm,1.2s
OOD Oodnadatta 28.04 218 P P 16 55 38.4 -1.2
STKA Stephens Creek 28.31 204 P P 16 55 40.5 -1.4
comp=Z,2.7nm,0.6s,baz=20,slow=9.9,SNR=13
STKA LR LR 17 06 21.2
comp=Z,123nm,20.0s,baz=25,slow=35
STKA Stephens Creek 28.31 204 P P 16 55 40.5 -1.4
STKA Stephens Creek 28.31 204 P P 16 55 41.0 -1.0
FITZ Fitzroy Crossi 30.71 245 LR LR 17 09 00.2
comp=Z,119nm,18.7s,baz=80,slow=37
WRKA Warakurna 31.46 231 P P 16 56 08.7 -1.3
BBOO Buckleboo 31.64 211 P P 16 56 09.5 -2.0
BBOO IAmb IAmb 16 56 28.4
comp=Z,12nm,1.4s
AFI Afiamalu 33.83 106 LR LR 17 07 27.0
comp=Z,102nm,20.5s,baz=261,slow=31
PSA00 Pilbara Seismi 37.00 242 P P 16 56 57.6 -0.3
PSA00 IAmb IAmb 16 57 18.4
comp=Z,15nm,1.3s
URZ Urewera 37.81 151 LR LR 17 10 31.5
comp=Z,117nm,19.6s,baz=30,slow=33
URZ Urewera 37.81 151 P P 16 57 05.2 +0.7
RPZ Rata Peaks 40.01 161 P P 16 57 22.6 -0.2
MORW Morawa 42.98 233 P P 16 57 46.8 -0.7
KSRS Korea Array 50.13 332 P P 16 58 45.0 +1.8
comp=Z,1.2nm,0.8s,baz=143,slow=6.5,SNR=2.8
CM31 Chiang Mai Arr 60.20 295 P P 16 59 56.5 +0.3
CM31 IAmb IAmb 16 59 57.5
comp=Z,4.2nm,1.0s
CMAR Chiang Mai Arr 60.20 295 P P 16 59 56.6 +0.5
comp=Z,1.0nm,0.6s,baz=114,slow=5.0,SNR=12
CMAR Chiang Mai Arr 60.20 295 P P 16 59 56.4 +0.2
MK31 Makanchi Array 82.65 319 P P 17 02 10.6 -0.3
MKAR Makanchi Array 82.65 319 P P 17 02 09.8 -1.1
comp=Z,0.4nm,0.6s,baz=92,slow=7.5,SNR=5.6
MKAR Makanchi Array 82.65 319 P P 17 02 10.4 -0.5
QSPA South Pole Qui 83.74 180 P P 17 02 15.6 -0.7
QSPA IAmb IAmb 17 02 17.3
comp=Z,10nm,1.4s
NVAR Mina Array Bea 91.47 52 P P 17 02 54.8 +0.6
comp=Z,0.5nm,0.6s,baz=266,slow=5.5,SNR=4.0
NVAR Mina Array Bea 91.47 52 P P 17 02 51.9 -2.4
TORD Torodi Ar. Bea 152.55 287 PKPbc **PKPbc 17 09 42.6 -2.0**
comp=Z,0.8nm,0.8s,baz=65,slow=2.0,SNR=4.3
TORD Torodi Ar. Bea 152.55 287 PKPbc 17 09 42.7 -1.9

IDC 20 17:02:22.7±2.6, 23°.85N×90°.75E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/37, mbtmp3.2/4, Error ellipse: s-maj=127.5km s-min=25.9km az=59.0, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.34**	**124**	Pn	Pn	17 04 38.4	-0.4
baz=301,slow=14,SNR=7.2							
MKAR	**Makanchi Array**	**23.88**	**346**	P	P	17 07 37.9	-0.1
0.4nm,0.5s,baz=171,slow=7.8,SNR=14							
WRA	**Warramunga Arr**	**60.82**	**132**	P	P	17 12 37.1	0.0
0.2nm,0.6s,baz=321,slow=7.2,SNR=5.4							
ASAR	**Alice Springs**	**63.13**	**135**	P	P	17 12 52.7	+0.1
0.1nm,0.3s,baz=314,slow=6.4,SNR=1.5							

IDC 20 17:05:26.4±306.0, 38°.30N×10°.77E, h0km, Error ellipse: s-maj=121.2km s-min=88.2km az=20.0, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**2.75**	**205**	*i*		17 22 30.0	
baz=20,slow=221,SNR=0.5							
I26DE	**FREYUNG INFRAS**	**10.76**	**10**	*i*		18 13 50.0	
baz=188,slow=338,SNR=2.5							
I43RU	**DUBNA INFRASON**	**25.40**	**35**	*i*		19 40 50.0	
baz=230,slow=334,SNR=1.2							

*IDC **20** 17:13:11.8±0.3, 37°.70N×101°.70E, h0km, mb5.7/46, mb1 5.7/49, mb1mx5.7/56, mbtmp5.7/49, ML5.0/3, MS5.5/86, Ms1 5.5/86, ms1mx5.5/95, Error ellipse: s-maj=9.9km s-min=7.9km az=26.0*

*MOS **20** 17:13:12.1±0.8, 37°.69N×101°.66E, h14km, mb6.2/46, MS5.8/102, Error ellipse: s-maj=4.6km s-min=3.1km az=129.3*

*BJI **20** 17:13:12.0±0.0, 37°.66N×101°.65E, h10km, mb5.7/43, mB6.3/48, ML6.0/17, Ms6.6/82, Ms7 6.4/75*

*NEIC **20** 17:13:13, 37°.72N×101°.59E, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}6.48; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$-5.92; $M_{r\theta}$-0.27; $M_{\theta\phi}$3.52; $M_{\phi r}$2.68; Fault plane solution: $M_0$7.64000×10^{17} NP1:ϕ_s143.97000°, δ35.95000°, λ75.04000°. NP2:ϕ_s342.24000°, δ55.45000°, λ100.60000°. Principal axes: T 7.0651, Plg77.0000°, Azm287.0000°; N 1.0412, Plg9.0000°, Azm156.0000°; P -8.1062, Plg10.0000°, Azm65.0000°;*

*NEIC **20** 17:13:13.7±1.8, 37°.67N±0°.06×101°.64E±0°.08, h9km±1km, mb6.2/624, Ms_20 5.8/337, Mwb5.9/35, Mww5.9 Error ellipse: s-maj=10.9km s-min=10.6km az=264.0*

*GCMT **20** 17:13:14.6±0.1, 37°.67N×101°.68E, h14km, MW5.9/159, Moment Tensor Solution. s157,c319; s159,c525; Duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.87±.01; $M_{\theta\theta}$-0.17±.01; $M_{\phi\phi}$-0.70±.01; $M_{r\theta}$0.02±.01; $M_{\theta\phi}$0.44±.00; $M_{\phi r}$0.09±.01; Best double couple: $M_0$0.91900×10^{18} NP1:ϕ_s146.00000°, δ43.00000°, λ83.00000°. NP2:ϕ_s335.00000°, δ47.00000°, λ96.00000°. Principal axes: T 0.8800, Plg85.0000°, Azm304.0000°; N 0.0780, Plg4.0000°, Azm151.0000°; P -0.9580, Plg2.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*DSN **20** 17:13:14.6±2.3, 37°.46N×101°.61E, h10km, mb6.1/23, Ms5.8/14 Error ellipse: s-maj=42.0km s-min=19.1km az=75.0*

*BGR **20** 17:13:17.7±0.0, 37°.06N×101°.16E, h33km, mb6.4, mB_BB6.7, Ms5.8*

*NEIC **20** 17:13:18, 37°.72N×101°.71E, h20km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^{17}Nm; M_{rr}8.28; $M_{\theta\theta}$-2.44; $M_{\phi\phi}$-5.85; $M_{r\theta}$1.76; $M_{\theta\phi}$3.11; $M_{\phi r}$-0.33; Fault plane solution: $M_0$8.20000×10^{17} NP1: ϕ_s337.00000°, δ41.00000°, λ103.00000°. NP2: ϕ_s141.00000°, δ50.00000°, λ79.00000°. Principal axes: T 8.5682, Plg81.0000°, Azm356.0000°; N -0.7870, Plg8.0000°, Azm148.0000°; P -7.7812, Plg4.0000°, Azm239.0000°;*

ISC 20 17:13:13.3±0.4, 37°.65N±0°.02×101°.64E±0°.02, h10km±2km, h10km:pP-P, n2427, σ1°.939/2637, mb6.2/640, MS5.8/353, 613C-133D, Fault plane solution: NP1:ϕ_s353.72723°, δ52.43169°, λ104.64669°. **NP2:**ϕ_s150.52483°, δ39.92641°, λ71.80335°. **Principal axes:** T Plg76.7518°, Azm315.0057°; N Plg11.5616°, Azm164.6734°; P Plg6.3805°, Azm73.3626°; **Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.27**	**322**	Pg	**Pn**	**17 13 52.1**	**+1.1**
GTA				Sg	**Sb**	**17 14 22.4**	**-0.3**
GTA				smax	smax		
comp=N,58μm,0.7s							
GTA				smax	smax		
comp=E,69μm,0.7s							
LZH	**Lanzhou**	**2.36**	**131**	Pg	**Pb**	**17 13 55.3**	**-0.7**
LZH	**Lanzhou**	**2.36**	**131**	Pn	**Pb**	**17 13 55.2**	**-0.7**
LZH				Sg	**Sb**	**17 14 26.8**	**+1.6**
LZH				smax	smax		
comp=N,223μm,1.1s							
LZH				smax	smax		
comp=E,187μm,1.1s							
GOMU	**GeErMu**	**5.65**	**257**	Pn	**Pn**	**17 14 38.6**	**+0.8**
GOMU				Sn	**Sn**	**17 15 41.2**	**-1.8**
GOMU				Sg	**Sb**	**17 16 01.3**	**+1.0**
GOMU				smax	smax		
comp=N,9μm,1.1s							
GOMU				smax	smax		
comp=E,5μm,0.8s							
GOMU				LR	LR		
comp=N,52μm,8.7s							
GOMU				LR	LR		
comp=E,151μm,9.4s							
GOMU				LR	LR		
comp=Z,130μm,8.7s							
XAN	**Xi'an**	**6.92**	**119**	Pn	**Pn**	**17 14 55.3**	**+0.4**
XAN				Sg	**Sg**	**17 16 53.8**	**-1.7**
XAN				smax	smax		
comp=N,13μm,1.7s							
XAN				smax	smax		
comp=E,12μm,1.6s							
XAN				LR	LR		
comp=N,344μm,4.6s							
XAN				LR	LR		
comp=E,280μm,5.0s							
XAN				LR	LR		
comp=Z,207μm,7.0s							
CD2	**Chengdu**	**6.95**	**165**	Pn	**Pn**	**17 14 57.8**	**+2.6**
CD2				Sn	**Sn**	**17 16 20.0**	**+5.7**
CD2				LR	LR		
comp=N,37μm,6.9s							
CD2				LR	LR		
comp=E,271μm,13.7s							
CD2				LR	LR		
comp=Z,449μm,8.1s							
BTO	**Baotou**	**7.16**	**63**	*e*Pn	**Pn**	**17 14 56.5**	**-1.6**
BTO				Sn	**Sn**	**17 16 19.7**	**+0.1**
BTO				LR	LR		
comp=E,420μm,3.9s							
HHC	**Hu-ho-hao-te**	**8.34**	**64**	*e*P	**Pn**	**17 15 14.6**	**+0.2**
HHC				S	**Sn**	**17 16 48.2**	**-0.5**
HHC				pmax	pmax		
comp=Z,910nm,0.7s							
HHC				pmax	pmax		
comp=Z,7μm,5.8s							
HHC				LR	LR		
comp=N,142μm,5.4s							
HHC				LR	LR		
comp=E,106μm,5.7s							
HHC				LR	LR		
comp=Z,153μm,6.7s							
TIY	**Taiyuan**	**8.56**	**86**	*e*P	**Pn**	**17 15 17.0**	**-0.4**
TIY				smax	smax		
comp=N,34μm,1.4s							
TIY				smax	smax		
comp=E,14μm,1.3s							
LYN	**LuoYang**	**9.29**	**106**	⇑P	**Pn**	**17 15 26.6**	**-0.8**
LYN				pmax	pmax		
comp=Z,3μm,9.8s							
LYN				LR	LR		
comp=N,393μm,9.4s							
LYN				LR	LR		
comp=E,148μm,12.2s							
LYN				LR	LR		
comp=Z,232μm,11.2s							
ENH	**Enshi**	**9.82**	**136**	Pn	**Pn**	**17 15 34.2**	**-0.5**
HNS	**HongShan**	**10.39**	**87**	⇓P	**Pn**	**17 15 40.7**	**-1.6**
HNS				S	**Sn**	**17 17 39.0**	**+0.2**
HNS				SS	**SnSn**	**17 17 53.7**	**+3.4**
HNS				pmax	pmax		
comp=Z,280nm,0.8s							
HNS				pmax	pmax		
comp=Z,3μm,5.2s							
HNS				LR	LR		
comp=N,66μm,11.2s							
HNS				LR	LR		
comp=E,264μm,10.2s							
HNS				LR	LR		
comp=Z,233μm,10.3s							
I34MN	**SONGINO INFRAS**	**10.74**	**18**	Lg	Lg	17 18 48.6	
baz=197,slow=28,SNR=2.4							
I34MN				*i*		18 19 50.0	
baz=193,slow=344,SNR=1.0							
SONM	**Songino Array**	**10.76**	**17**	Pn	**Pn**	**17 15 47.5**	**-0.1**
44nm,0.3s,baz=200,slow=14,SNR=295							
SONM				Lg	Lg	17 18 52.5	
45nm,0.3s,baz=212,slow=31,SNR=7.9							
ULN	**Ulaanbaatar**	**10.96**	**20**	*de*P	**Pn**	**17 15 50.5**	**+0.2**
ULN	**Ulaanbaatar**	**10.96**	**20**	P	**Pn**	**17 15 50.2**	**-0.1**
ULN				P	**Pn**	**17 15 50.2**	**-0.1**
ULN				S	**Sn**	**17 18 01.1**	**+8.1**
ULN				S	**Sn**	**17 18 01.1**	**+8.1**
ULN	**Ulaanbaatar**	**10.96**	**20**	Pn	**Pn**	**17 15 50.0**	**-0.2**
PZH	**PanZhiHua**	**11.11**	**180**	⇑P	**Pn**	**17 15 54.4**	**+2.0**
PZH				sP		17 16 01.3	
PZH				PP	**PnPn**	**17 16 05.0**	**+4.8**
PZH				S	**Sn**	**17 18 04.3**	**+7.5**
PZH				ScP	**ScP**	**17 25 25.4**	**+3.2**
PZH				ScS	**ScS**	**17 28 52.8**	**-4.9**
PZH				pmax	pmax		
comp=Z,240nm,0.9s							
PZH				pmax	pmax		
comp=Z,4μm,5.4s							
PZH				LR	LR		
comp=N,120μm,9.0s							
PZH				LR	LR		
comp=E,155μm,10.4s							
PZH				LR	LR		
comp=Z,151μm,9.8s							
LKP	**Lekhapani**	**11.38**	**207**	*e*P	**Pn**	**17 15 57.6**	**+1.6**
LKP				IAMs_20	IAMs_20	17 20 37.7	
comp=Z,126μm,8.7s							
BJT	**Baijiatuau**	**11.58**	**74**	P	**Pn**	**17 15 57.8**	**-0.9**
BJT	**Baijiatuau**	**11.58**	**74**	Pn	**Pn**	**17 15 57.8**	**-0.9**
BJI	**Beijing**	**11.59**	**74**	P	**Pn**	**17 15 58.9**	**+0.1**
BJI				S	**Sn**	**17 18 11.8**	**+3.6**
BJI				pmax	pmax		
comp=Z,62nm,1.1s							
BJI				pmax	pmax		
comp=Z,2μm,3.7s							
BJI				LR	LR		
comp=Z,84μm,9.0s							
BJI				LR	LR		
comp=Z,169μm,9.7s							
BJI				LR	LR		
comp=Z,204μm,9.9s							
LSA	**Lhasa**	**11.79**	**231**	P	**Pn**	**17 16 02.2**	**+0.2**
LSA				S	**Sn**	**17 18 17.5**	**+3.6**
LSA				pmax	pmax		
comp=Z,170nm,0.7s							
LSA				LR	LR		
comp=Z,176μm,6.8s							
LSA				LR	LR		
comp=Z,139μm,9.6s							
LSA				LR	LR		
comp=Z,264μm,8.5s							
GYA	**Guiyang**	**11.94**	**158**	⇑*i*P	**Pn**	**17 16 04.1**	**+0.4**
GYA				S	**Sn**	**17 18 20.3**	**+3.2**
GYA				pmax	pmax		
comp=Z,580nm,1.2s							
GYA				pmax	pmax		
comp=Z,4μm,3.5s							
GYA				LR	LR		
comp=Z,58μm,7.1s							
GYA				LR	LR		
comp=Z,82μm,5.8s							
GYA				LR	LR		
comp=Z,112μm,12.7s							
WMQ	**Urumqi**	**12.24**	**305**	*e*P	**Pn**	**17 16 06.7**	**-1.0**
WMQ				pP		17 16 13.7	
WMQ				sP		17 16 16.3	
WMQ				S	**Sn**	**17 18 29.3**	**+5.1**
WMQ				SS		17 18 39.2	
WMQ				pmax	pmax		
comp=Z,280nm,0.9s							
WMQ				pmax	pmax		
comp=Z,6μm,5.7s							
WMQ				LR	LR		
comp=Z,50μm,9.7s							
WMQ				LR	LR		
comp=Z,57μm,8.7s							
WMQ				LR	LR		
comp=Z,32μm,15.5s							
ITAN	**ITANAGAR**	**12.42**	**215**	*e*P	**Pn**	**17 16 10.9**	**+0.8**
ITAN				IAMs_20	IAMs_20	17 21 32.3	
comp=Z,72μm,8.7s							
TIA	**Tai'an**	**12.48**	**92**	⇑P	**Pn**	**17 16 09.9**	**-1.1**
TIA				pmax	pmax		
comp=Z,190nm,1.1s							
TIA				pmax	pmax		
comp=Z,3μm,7.5s							
TIA				LR	LR		
comp=Z,100μm,10.0s							
TIA				LR	LR		
comp=Z,111μm,11.8s							
TIA				LR	LR		
comp=Z,117μm,11.2s							
KMI	**Kunming**	**12.52**	**175**	⇑P	**Pn**	**17 16 11.8**	**0.0**
KMI				pP		17 16 16.8	
KMI				sP		17 16 18.8	
KMI				PP	**PnPn**	**17 16 25.7**	**+6.0**
KMI				S	**Sn**	**17 18 33.2**	**+1.7**
KMI				pmax	pmax		
comp=Z,73nm,0.9s							
KMI				pmax	pmax		
comp=Z,3μm,4.9s							
KMI				LR	LR		
comp=Z,106μm,9.1s							
KMI				LR	LR		
comp=Z,64μm,8.3s							
KMI				LR	LR		
comp=Z,90μm,8.9s							
XLT	**XiLinHaoTe**	**12.60**	**56**	*e*P	**Pn**	**17 16 10.8**	**-1.9**
XLT				pP		17 16 14.0	
XLT				S	**Sn**	**17 18 31.4**	**-1.7**
XLT				SS		17 18 47.2	
XLT				pmax	pmax		
comp=Z,200nm,1.0s							
XLT				pmax	pmax		
comp=Z,3μm,3.9s							
XLT				LR	LR		
comp=Z,153μm,5.9s							
XLT				LR	LR		
comp=Z,101μm,7.8s							
XLT				LR	LR		
comp=Z,81μm,8.0s							
WHN	**Wuhan**	**12.69**	**120**	⇑P	**Pn**	**17 16 13.1**	**-0.8**
WHN				S	**Sn**	**17 18 36.1**	**+0.9**
WHN				pmax	pmax		
comp=Z,1μm,1.0s							
WHN				LR	LR		
comp=Z,272μm,15.4s							
WHN				LR	LR		
comp=Z,216μm,12.8s							
WHN				LR	LR		
comp=Z,265μm,12.1s							
ZAK	**Zakamensk**	**12.79**	**5**	*e*P	**Pn**	**17 16 15.8**	**+0.6**
ZAK				pmax	pmax		
comp=Z,208nm,1.0s							
MOKO	**MOKOCHONG**	**12.80**	**210**	*e*P	**Pn**	**17 16 14.9**	**-0.7**
MOKO				IAMs_20	IAMs_20	17 21 42.0	
comp=Z,112μm,9.7s							
CNSH	**ChangSha**	**13.37**	**132**	⇓P	**Pn**	**17 16 21.2**	**-2.0**
CNSH				S	**Sn**	**17 18 47.4**	**-4.5**
CNSH				LR	LR		
comp=Z,107μm,10.3s							
CNSH				LR	LR		
comp=Z,114μm,9.9s							
CNSH				LR	LR		
comp=Z,170μm,9.5s							
MOY	**Mondy**	**14.03**	**358**	*e*P	**Pn**	**17 16 32.5**	**+0.4**
MOY				pmax	pmax		
comp=Z,551nm,2.5s							
IMP	**Imphal**	**14.36**	**209**	*e*P	**Pn**	**17 16 35.9**	**-0.9**
IMP				IAmb	IAmb	17 16 43.7	
comp=Z,228nm,0.7s							
IMP				IAMs_20	IAMs_20	17 22 36.1	
comp=Z,45μm,11.6s							
GULI	**GuiLin**	**14.38**	**146**	⇑P	**Pn**	**17 16 35.1**	**-2.0**
GULI				pP	P	17 16 38.4	-5.7
GULI				sP		17 16 44.6	
GULI				pmax	pmax		
comp=Z,340nm,1.1s							
GULI				LR	LR		
comp=Z,80μm,11.9s							
GULI				LR	LR		
comp=Z,39μm,11.9s							
GULI				LR	LR		
comp=Z,131μm,11.4s							
SHL	**Shillong**	**14.62**	**217**	*e*P	**Pn**	**17 16 36.9**	**-3.6**
SHL	**Shillong**	**14.62**	**217**	P	**Pn**	**17 16 37.1**	**-3.4**
SNR=81							
IRK	**Irkutsk**	**14.71**	**6**	*e*P	**Pn**	**17 16 42.2**	**+0.8**
IRK				pmax	pmax		
comp=Z,1μm,2.0s							
NJ2	**Nanjing**	**15.19**	**106**	⇓*i*P	**Pn**	**17 16 46.5**	**-1.4**
NJ2				pP	**P**	**17 16 49.8**	**-3.2**
NJ2				sP	**pP**	**17 16 53.3**	**-3.6**
NJ2				S	**Sn**	**17 19 36.7**	**+0.4**
NJ2				SS	**S**	**17 19 57.1**	**+3.8**
NJ2				pmax	pmax		
comp=Z,6μm,3.6s							
NJ2				LR	LR		
comp=Z,121μm,10.4s							
NJ2				LR	LR		
comp=Z,180μm,10.8s							
NJ2				LR	LR		
comp=Z,238μm,11.2s							
ZSN	**Zaisan**	**15.74**	**314**	*e*P	**Pn**	**17 16 53.7**	**-1.4**
ZSN				pmax	pmax		
comp=Z,1μm,3.3s							
ZSN	**Zaisan**	**15.74**	**314**	*e*P	**Pn**	**17 16 53.8**	**-1.4**
comp=Z,1μm,3.3s,baz=314							
DL2	**Dalian**	**15.75**	**79**	⇓*i*P	**Pn**	**17 16 55.1**	**-0.1**
DL2				sP	**sP**	**17 17 04.8**	**-0.1**
DL2				S	**Sn**	**17 19 51.4**	**+1.5**
DL2				sS	**S**	**17 19 59.7**	**-5.0**
DL2				pmax	pmax		
comp=Z,150nm,1.7s							
DL2				pmax	pmax		
comp=Z,5μm,4.3s							
DL2				LR	LR		
comp=Z,39μm,14.7s							
DL2				LR	LR		
comp=Z,59μm,14.3s							
DL2				LR	LR		
comp=Z,55μm,13.5s							
DGZ	**Jazzator, Alta**	**15.80**	**324**	*ce*P	**Pn**	**17 16 54.5**	**-1.5**
DGZ				pmax	pmax		
comp=Z,33nm,1.1s							
SLVN	**Son La**	**16.38**	**172**		**Pn**	**17 17 02.7**	**-0.7**
GUN	**Gumba**	**16.41**	**238**	*e*P	**Pn**	**17 17 00.2**	**-3.9**
CIT	**Chita**	**16.64**	**26**	*e*P	**Pn**	**17 17 06.4**	**-0.2**
CIT				pmax	pmax		
comp=Z,3μm,2.9s							
BELO	**BELONIA**	**16.81**	**214**	*e*P	**Pn**	**17 17 08.7**	**-0.1**
KKN	**Kakani**	**16.89**	**239**	*e*P	**Pn**	**17 17 06.8**	**-3.3**
comp=Z,940nm,0.9s							
PKI	**Pulchoki**	**16.94**	**238**	*e*P	**Pn**	**17 17 07.2**	**-3.7**
PKIN	**Phulchoki**	**16.95**	**238**	*e*P	**Pn**	**17 17 07.2**	**-3.7**
MK31	**Makanchi Array**	**16.96**	**309**	*i* P	**Pn**	**17 17 09.4**	**-1.3**
MK31				pmax	pmax		
comp=Z,276nm,0.9s							
MK31	**Makanchi Array**	**16.96**	**309**		**Pn**	**17 17 09.4**	**-1.3**
MKAR	**Makanchi Array**	**16.96**	**309**	Pn	**Pn**	**17 17 09.6**	**-1.1**
comp=Z,1.2nm,0.3s,baz=115,slow=11,SNR=251							
MKAR				Lg	Lg	17 22 14.0	
comp=Z,1.5nm,0.3s,baz=140,slow=5.9,SNR=1.9							
MKAR	**Makanchi Array**	**16.96**	**309**	P	**Pn**	**17 17 10.2**	**-0.5**
MKAR	**Makanchi Array**	**16.96**	**309**	Pn	**Pn**	**17 17 10.2**	**-0.5**
DMN	**Daman**	**17.12**	**239**	*e*P	**Pn**	**17 17 09.7**	**-3.4**
comp=Z,863nm,0.9s							
MAKZ	**Makanchi**	**17.16**	**308**	P	**Pn**	**17 17 11.9**	**-1.3**
MAKZ				pmax	pmax		
comp=Z,1μm,1.4s							
MAKZ	**Makanchi**	**17.16**	**308**		**Pn**	**17 17 11.9**	**-1.3**
GKN	**Gorkha**	**17.20**	**241**	*e*P	**Pn**	**17 17 10.9**	**-3.0**
BRDH	**Bariadhala**	**17.22**	**213**	P	**P**	**17 17 15.1**	**-0.5**
comp=Z,0.1nm,0.3s,baz=360,slow=24,SNR=7.3							
SNY	**Shenyang**	**17.37**	**69**	⇓P	**Pn**	**17 17 15.3**	**-0.5**
SNY				S	**Sn**	**17 20 27.7**	**-1.5**
SNY				pmax	pmax		
comp=Z,760nm,1.7s							
SNY				LR	LR		
comp=Z,34μm,8.3s							
SNY				LR	LR		
comp=Z,40μm,8.1s							
SNY				LR	LR		
comp=Z,55μm,7.6s							
SSE	**Sheshan**	**17.40**	**106**	P	**P**	**17 17 18.5**	**+1.0**
SSE				S	**Sn**	**17 20 32.5**	**+2.6**
SSE				pmax	pmax		
comp=Z,170nm,1.7s							
SSE				pmax	pmax		
comp=Z,2μm,5.6s							
SSE				LR	LR		
comp=Z,32μm,16.8s							
SSE				LR	LR		
comp=Z,53μm,16.8s							
SSE				LR	LR		
comp=Z,69μm,16.9s							

HIA	**Hailar**	**17.49**	**43**	P	**Pn**	**17 17 15.7**	**-1.6**
HIA				pmax	pmax		
	comp=Z,1μm,2.0s						
HIA	**Hailar**	**17.49**	**43**	Pn	**Pn**	**17 17 15.7**	**-1.6**
DANN	**Dangsing**	**17.61**	**243**	*e*P	**Pn**	**17 17 16.1**	**-3.0**
	comp=Z,1μm,0.9s						
GZH	**Guangzhou**	**17.66**	**142**	P	**Pn**	**17 17 17.1**	**-2.3**
GZH				S	**Sn**	**17 20 30.2**	**-6.0**
GZH				LR	LR		
	comp=Z,87μm,9.7s						
GZH				LR	LR		
	comp=Z,127μm,9.7s						
PDGK	**Podgornoye**	**17.76**	**296**	P	**Pn**	**17 17 20.3**	**-0.4**
SUJ	**Sinuiju**	**17.96**	**75**	P	**P**	**17 17 24.0**	**+0.4**
SUJ				pP	**sP**	**17 17 30.6**	**+1.3**
SUJ				S	**S**	**17 20 47.3**	**-2.4**
SUJ				AMS	AMS		
	comp=N,75μm,4.0s						
SUJ				AMS	AMS		
	comp=E,121μm,6.5s						
SUJ				AMS	AMS		
	comp=Z,140μm,7.6s						
UZB	**Uzynbulak**	**18.06**	**295**	*e*P	**Pn**	**17 17 24.1**	**-0.4**
UZB				*e*S	**Sn**	**17 20 46.4**	**+0.4**
UZB				pmax	pmax		
	comp=Z,1μm,2.6s						
UZB	**Uzynbulak**	**18.06**	**295**	*e*P	**Pn**	**17 17 24.1**	**-0.4**
	comp=Z,1μm,2.6s,baz=294						
UZB				*e*S	**Sn**	**17 20 46.5**	**+0.4**
	baz=294						
KOLN	**Koldanda**	**18.07**	**242**	*e*P	**Pn**	**17 17 21.6**	**-3.1**
PYUN	**Piuthan**	**18.30**	**244**	*e*P	**Pn**	**17 17 24.0**	**-3.6**
	comp=Z,1μm,1.1s						
PRZ	**Przheval'sk**	**18.41**	**292**	P	**Pn**	**17 17 29.8**	**+1.0**
PRZ				pmax	pmax		
	comp=Z,700nm,1.2s						
PRZ	**Przheval'sk**	**18.41**	**292**	P	**Pn**	**17 17 29.8**	**+1.0**
ZHN	**Zhinishke**	**18.49**	**295**	*i* P	**P**	**17 17 29.1**	**-0.4**
ZHN	**Zhinishke**	**18.49**	**295**	*i* P	**P**	**17 17 29.2**	**-0.4**
	baz=294						
SATY	**Saty**	**18.49**	**294**	*e*P	**Pn**	**17 17 30.1**	**+0.4**
SATY	**Saty**	**18.49**	**294**	*e*P	**Pn**	**17 17 30.1**	**+0.4**
	baz=294						
MCO	**Taipa Grande**	**18.58**	**143**	P	**Pn**	**17 17 31.0**	**+0.2**
HKC	**Hong Kong Obse**	**18.73**	**141**	⇑P	**Pn**	**17 17 34.0**	**+1.4**
HKPS	**Hong Kong Po S**	**18.73**	**141**	P	**Pn**	**17 17 33.9**	**+1.2**
TARG	**Taragay, Kyrgy**	**18.77**	**290**	P	**Pn**	**17 17 34.2**	**+0.8**
TDK	**Taldyqorghan**	**18.89**	**300**	*e*P	**P**	**17 17 33.3**	**-0.6**
TDK				pmax	pmax		
	comp=Z,2μm,1.9s						
TDK				MLR	MLR		
	comp=Z,30μm,12.0s						
TDK	**Taldyqorghan**	**18.89**	**300**	*e*P	**P**	**17 17 33.3**	**-0.6**
	comp=Z,2μm,1.9s,baz=300						
TDK				LR	LR	17 24 27.6	
	comp=Z,30μm,12.0s,baz=300						
CHTO	**Chiang Mai**	**18.91**	**188**	P	**Pn**	**17 17 35.4**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,461nm,1.3s						
CHTO	**Chiang Mai**	**18.91**	**188**	P	**Pn**	**17 17 35.0**	**+0.2**
CHTO				P	**Pn**	**17 17 35.0**	**+0.2**
CHTO				S	**S**	**17 21 07.9**	**-1.3**
CHTO				S	**S**	**17 21 07.9**	**-1.3**
CHTO	**Chiang Mai**	**18.91**	**188**	P	**Pn**	**17 17 35.4**	**+0.6**
CHTO	**Chiang Mai**	**18.91**	**188**	P	**Pn**	**17 17 36.4**	**+1.6**
PYAG	**Pyongyang**	**18.96**	**78**	P	**Pn**	**17 17 36.5**	**+1.2**
PYAG				pP	**pP**	**17 17 39.0**	**+0.5**
PYAG				S	**S**	**17 21 09.4**	**-0.6**
PYAG				AMS	AMS		
	comp=N,39μm,5.4s						
PYAG				AMS	AMS		
	comp=E,58μm,8.0s						
PYAG				AMS	AMS		
	comp=Z,70μm,9.6s						
HJU	**Haeju**	**19.02**	**81**	P	**Pn**	**17 17 37.3**	**+1.3**
CN2	**Changchun**	**19.03**	**64**	*e*P	**Pn**	**17 17 35.9**	**-0.3**
CN2				*e*pP	sP	17 17 40.0	-0.8
CN2				*e*S	**Sn**	**17 21 04.1**	**-5.2**
CN2				pmax	pmax		
	comp=Z,15μm,4.0s						
CN2				LR	LR		
	comp=Z,53μm,9.0s						
CN2				LR	LR		
	comp=Z,70μm,9.0s						
CN2				LR	LR		
	comp=Z,74μm,9.0s						
QZH	**Quanzhou**	**19.20**	**126**	⇑*i* P	**Pn**	**17 17 38.4**	**+0.1**
QZH				S	**Sn**	**17 21 14.0**	**+0.4**
QZH				sS	**S**	**17 21 18.0**	**+2.9**
QZH				pmax	pmax		
	comp=Z,370nm,2.2s						
QZH				pmax	pmax		
	comp=Z,9μm,6.1s						
QZH				LR	LR		
	comp=Z,47μm,6.6s						
QZH				LR	LR		
	comp=Z,65μm,7.1s						
QZH				LR	LR		
	comp=Z,48μm,10.4s						
CM31	**Chiang Mai Arr**	**19.26**	**188**	P	**Pn**	**17 17 39.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**19.26**	**188**	P	**Pn**	**17 17 39.1**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=357,slow=9.4,SNR=315						
CMAR				PcP	**PcP**	**17 22 01.7**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=318,slow=1.8,SNR=9.4						
CMAR				LR	LR	17 25 50.8	
	comp=Z,31μm,18.4s,baz=5.0,slow=39						
CMAR				PKiKP	**PKiKP**	**17 29 49.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=354,slow=0.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**19.26**	**188**	P	**Pn**	**17 17 38.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.26**	**188**	P	**Pn**	**17 17 38.8**	**-0.3**
CMAR				PcP	**PcP**	**17 22 01.2**	**+0.2**
KDJ	**Kajisay**	**19.27**	**291**	P	**P**	**17 17 38.2**	**-0.1**
KDJ				pmax	pmax		
	comp=Z,909nm,1.4s						
KDJ	**Kajisay**	**19.27**	**291**	P	**P**	**17 17 38.2**	**-0.1**
BOK	**Bokaro**	**19.30**	**229**	*e*P	**P**	**17 17 36.3**	**-2.2**
BOK				IAmb	IAmb	17 17 50.6	
	comp=Z,176nm,0.6s						
BOK				*i* x	**Sn**	**17 21 14.2**	**-1.8**
KNMB	**Chin-men Tao**	**19.42**	**128**	P	**Pn**	**17 17 41.1**	**+0.2**
KNMB				IAmb	IAmb	17 17 45.4	
	comp=Z,2μm,1.6s						
MDOK	**Medeo**	**19.49**	**294**	*e*P	**P**	**17 17 40.4**	**-0.2**
MDOK				*e*S	**S**	**17 21 20.8**	**-0.1**
MDOK				MLR	MLR		
	comp=Z,23μm,12.0s						
MDOK	**Medeo**	**19.49**	**294**	*e*P	**P**	**17 17 40.4**	**-0.2**
	baz=294						
MDOK				*e*S	**S**	**17 21 20.8**	**-0.1**
	baz=294						
MDOK				LR	LR	17 25 38.0	
	comp=Z,23μm,11.6s,baz=294						
KNDC	**Almaty**	**19.55**	**294**	P	**Pn**	**17 17 43.5**	**+1.0**
CHKK	**Chushkaly**	**19.64**	**296**	*e*P	**P**	**17 17 41.6**	**-0.5**
	baz=296						
INCN	**Inchon**	**19.80**	**83**	P	**P**	**17 17 44.3**	**+0.3**
INCN				pmax	pmax		
	comp=Z,697nm,1.5s						
INCN	**Inchon**	**19.80**	**83**	P	**Pn**	**17 17 48.0**	**+2.5**
INCN				P	**Pn**	**17 17 48.0**	**+2.5**
INCN				S	**S**	**17 21 24.4**	**-2.6**
INCN				S	**S**	**17 21 24.4**	**-2.6**
INCN	**Inchon**	**19.80**	**83**	P	**P**	**17 17 44.3**	**+0.3**
QIZ	**Qiongzhong**	**19.89**	**157**	P	**Pn**	**17 17 46.3**	**-0.2**
QIZ				S	**Sn**	**17 21 32.6**	**+2.4**
QIZ				pmax	pmax		
	comp=Z,9μm,7.8s						
QIZ				LR	LR		
	comp=Z,54μm,8.8s						
QIZ				LR	LR		
	comp=Z,26μm,8.6s						
QIZ				LR	LR		
	comp=Z,51μm,16.5s						
QIZ	**Qiongzhong**	**19.89**	**157**		**Pn**	**17 17 46.0**	**-0.6**
QIZ	**Qiongzhong**	**19.89**	**157**	P	**Pn**	**17 17 47.1**	**+0.6**
SEM	**Semipalatinsk**	**19.89**	**317**	⇑*i*P	**P**	**17 17 44.5**	**-0.5**
SEM				*e*S	**S**	**17 21 28.6**	**-0.4**
SEM				pmax	pmax		
	comp=Z,911nm,1.8s						
SEM				MLR	MLR		
	comp=Z,13μm,10.0s						
SEM	**Semipalatinsk**	**19.89**	**317**	⇑*i*P	**P**	**17 17 44.6**	**-0.5**
	comp=Z,911nm,1.8s,baz=316						
SEM				*e*S	**S**	**17 21 28.6**	**-0.4**
	baz=316						
SEM				LR	LR	17 24 18.1	
	comp=Z,13μm,10.4s,baz=316						
ZAA0	**Zalesovo Array**	**20.00**	**330**	P	**P**	**17 17 44.6**	**-1.3**
ZALV	**Zalesovo Beam**	**20.00**	**330**	P	**P**	**17 17 44.9**	**-0.9**
	comp=Z,7.4nm,0.3s,baz=126,slow=9.8,SNR=185						
ZALV				LR	LR	17 26 02.0	
	comp=Z,12μm,20.1s,baz=138,slow=39						
ZALV				PKiKP	**PKiKP**	**17 29 48.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=211,slow=0.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**20.00**	**330**	P	**P**	**17 17 44.5**	**-1.4**
KSH	**Kashi**	**20.13**	**283**	P	Pn	17 17 52.2	+2.7
KSH				sP	sP	17 18 01.4	+8.2
KSH				S	Sn	17 21 43.2	+7.1
KSH				pmax	pmax		
	comp=Z,20μm,6.9s						
KSH				LR	LR		
	comp=Z,55μm,12.7s						
KSH				LR	LR		
	comp=Z,63μm,14.4s						
KSH				LR	LR		
	comp=Z,71μm,12.7s						
BOOM	**Boomskoye usch**	**20.22**	**292**	P	**P**	**17 17 48.2**	**-0.4**
BOOM				pmax	pmax		
	comp=Z,558nm,1.5s						
BOOM	**Boomskoye usch**	**20.22**	**292**	P	**P**	**17 17 48.2**	**-0.4**
KST	**Kastek**	**20.26**	**293**	*e*P	**P**	**17 17 49.7**	**+0.7**
	comp=Z,2μm,2.3s,baz=293						
KST				*e*S	Sn	17 21 38.0	-1.1
	baz=293						
HHU	**Hamhung**	**20.29**	**76**	P	Pn	17 17 52.2	+1.0
HHU				pP	sP	17 17 54.8	-0.1
HHU				S	Sn	17 21 40.3	+0.7
HHU				AMS	AMS		
	comp=N,82μm,8.3s						
HHU				AMS	AMS		
	comp=E,99μm,10.1s						
HHU				AMS	AMS		
	comp=Z,83μm,8.4s						
TKM2	**Tokmak 2**	**20.51**	**293**	P	Pn	17 17 53.1	-1.0
	SNR=67						
TKM2	**Tokmak 2**	**20.51**	**293**	*i* P	**P**	**17 17 52.0**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,2μm,1.1s						
TJN	**Taejon**	**20.57**	**86**	*ce*P	**P**	**17 17 52.9**	**+0.7**
TJN	**Taejon**	**20.57**	**86**	P	**P**	**17 17 52.4**	**+0.2**
TJN	**Taejon**	**20.57**	**86**	P	Pn	17 17 55.7	+1.3
KS19	**Wonju Array Si**	**20.77**	**82**	P	**P**	**17 17 55.1**	**+0.7**
KSAR	**Wonju Array Be**	**20.80**	**82**	P	**P**	**17 17 54.4**	**-0.3**
KSAR	**Wonju Array Be**	**20.80**	**82**	P	**P**	**17 17 54.4**	**-0.3**
BNX	**BinXian**	**20.81**	**59**	⇑P	**P**	**17 17 55.5**	**+0.7**
BNX				pP	**pP**	**17 17 58.3**	**-0.1**
BNX				sP	**sP**	**17 17 59.6**	**-0.5**
BNX				PP	**PnPn**	**17 18 14.3**	**+1.4**
BNX				S	**S**	**17 21 46.0**	**-0.8**
BNX				sS	Sn	17 21 50.4	-1.6
BNX				pmax	pmax		
	comp=Z,260nm,0.9s						
BNX				pmax	pmax		
	comp=Z,8μm,4.9s						
BNX				LR	LR		
	comp=Z,36μm,8.7s						
BNX				LR	LR		
	comp=Z,57μm,8.1s						
BNX				LR	LR		
	comp=Z,67μm,8.1s						
KSRS	**Korea Array**	**20.82**	**82**	P	**P**	**17 17 54.5**	**-0.4**
	comp=Z,175nm,0.7s,baz=280,slow=9.5,SNR=146						
KSRS				LR	LR	17 25 37.0	
	comp=Z,8μm,19.4s,baz=280,slow=36						
KURK	**Kurchatov**	**20.94**	**316**	*c i* P	**P**	**17 17 55.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,3μm,1.3s						
KURK				MLR	MLR		
	comp=Z,15μm,12.0s						
KURK	**Kurchatov**	**20.94**	**316**	P	**P**	**17 17 56.3**	**+0.1**
KURK				P	**P**	**17 17 56.3**	**+0.1**
KURK				S	**S**	**17 21 49.7**	**+0.3**
KURK				S	**S**	**17 21 49.7**	**+0.3**
KURK	**Kurchatov**	**20.94**	**316**		**P**	**17 17 55.9**	**-0.3**
KURBB	**Karatay Arra**	**20.95**	**316**	P	**P**	**17 17 56.0**	**-0.2**
	comp=Z,2μm,1.1s,baz=119,slow=11,SNR=661						
KURBB				LR	LR	17 26 36.7	
	comp=Z,24μm,19.8s,baz=106,slow=38						
KURBB				PKiKP	**PKiKP**	**17 29 50.0**	**-0.8**
	comp=Z,5.6nm,1.1s,baz=59,slow=0.1,SNR=4.3						
KURBB	**Kurchatov Arra**	**20.95**	**316**	P	**P**	**17 17 56.5**	**+0.3**
KBK	**Karagaybulak**	**20.96**	**292**	P	**P**	**17 17 57.8**	**+1.1**
	SNR=51						
TATO	**Taipei**	**21.09**	**121**	P	**P**	**17 18 02.4**	**+4.4**
TATO				S	Sn	17 21 57.5	-1.7
TATO	**Taipei**	**21.09**	**121**	P	**P**	**17 18 00.2**	**+2.2**
CHMS	**Chumysh**	**21.14**	**293**	P	**P**	**17 17 59.1**	**+0.7**
	SNR=84						
SMLA	**Simla**	**21.18**	**259**	*e*P	**P**	**17 17 58.6**	**-0.3**
SMLA				*i* x	**S**	**17 21 49.4**	**-5.0**
FRU1	**Bishkek**	**21.21**	**293**	P	**P**	**17 18 00.0**	**+0.8**
FRU1				pmax	pmax		
	comp=Z,993nm,1.3s						
FRU1	**Bishkek**	**21.21**	**293**	P	**P**	**17 17 60.0**	**+0.8**
FRU1				IAmb	IAmb	17 18 15.4	
	comp=Z,993nm,1.2s						
YHNB	**Yeheng**	**21.22**	**122**	P	**P**	**17 18 00.8**	**+1.4**
YHNB				IAmb	IAmb	17 18 06.5	
	comp=Z,1μm,1.6s						
YHNB	**Yeheng**	**21.22**	**122**	P	**P**	**17 18 01.9**	**+2.4**
UCH	**Uchtor**	**21.25**	**291**	P	**P**	**17 18 01.6**	**+1.4**
	SNR=78						
SGDS	**Sogindy**	**21.28**	**294**	*e*P	**P**	**17 18 00.5**	**+0.6**
SGDS	**Sogindy**	**21.28**	**294**	⇑*i*P	**P**	**17 18 00.6**	**+0.6**
	comp=Z,2μm,2.9s,baz=294						
AAK	**Ala-Archa**	**21.30**	**292**	P	**P**	**17 18 01.3**	**+1.1**
	comp=Z,123nm,0.9s,baz=100,slow=8.9,SNR=77						
AAK				LR	LR	17 25 55.1	
	comp=Z,32μm,21.7s,baz=86,slow=36						
AAK	**Ala-Archa**	**21.30**	**292**	P	**P**	**17 18 01.3**	**+1.1**
	SNR=57						
AAK	**Ala-Archa**	**21.30**	**292**	*c i* P	**P**	**17 18 00.8**	**+0.5**
AAK				MLR	MLR		
	comp=Z,24μm,17.0s						
AAK	**Ala-Archa**	**21.30**	**292**	P	**P**	**17 18 01.6**	**+1.3**
AAK				P	**P**	**17 18 01.6**	**+1.3**
AAK				S	**S**	**17 21 59.4**	**+2.5**
AAK				S	**S**	**17 21 59.4**	**+2.5**
AAK	**Ala-Archa**	**21.30**	**292**	P	**P**	**17 17 60.0**	**-0.3**
AAK	**Ala-Archa**	**21.30**	**292**	IAMs_20	IAMs_20	17 25 43.0	
	comp=Z,36μm,19.0s						
AAK	**Ala-Archa**	**21.30**	**292**	*i* P	**P**	**17 18 00.4**	**+0.1**
	SNR=135						
USP	**Ospenovka**	**21.35**	**294**	P	**P**	**17 18 01.7**	**+1.0**
	SNR=75						
DHRM	**DHARAMSHALA**	**21.43**	**263**	*e*P	**P**	**17 18 01.2**	**-0.5**
DHRM				IAmb	IAmb	17 18 04.6	
	comp=Z,1μm,1.2s						
SSLB	**Suanglung**	**21.54**	**124**	P	**P**	**17 18 04.2**	**+1.3**
SSLB	**Suanglung**	**21.54**	**124**	P	**P**	**17 18 05.4**	**+2.5**
TPUB	**Ta-pu**	**21.68**	**126**	P	**P**	**17 18 05.9**	**+1.6**
TPUB				IAmb	IAmb	17 18 17.6	
	comp=Z,2μm,1.4s						
TPUB	**Ta-pu**	**21.68**	**126**	P	**P**	**17 18 07.6**	**+3.3**
NACB	**Ninganchiao**	**21.70**	**123**	P	**P**	**17 18 06.0**	**+1.5**
NACB				IAmb	IAmb	17 18 15.1	
	comp=Z,2μm,1.7s						
NACB				IAMs_20	IAMs_20	17 27 11.0	
	comp=Z,36μm,20.0s						
BOD	**Bodaibo**	**21.76**	**18**	*e*P	**P**	**17 18 04.7**	**-0.2**
BOD				*e*		17 18 25.0	
EKS2	**Erkin-Say**	**21.83**	**292**	P	**P**	**17 18 06.8**	**+0.9**
	SNR=49						
AML	**Almayashu**	**21.86**	**291**	P	**P**	**17 18 07.4**	**+0.8**
	SNR=75						
AML	**Almayashu**	**21.86**	**291**	P	**P**	**17 18 08.1**	**+1.6**
AML	**Almayashu**	**21.86**	**291**	*i* P	**P**	**17 18 07.1**	**+0.5**
	SNR=135						
BTLS	**Baital**	**21.92**	**298**	*c i*P	**P**	**17 18 06.1**	**-0.6**
BTLS				*e*S	**S**	**17 22 09.2**	**+0.4**
BTLS				pmax	pmax		
	comp=Z,230nm,0.9s						
BTLS	**Baital**	**21.92**	**298**	⇑*i*P	**P**	**17 18 06.2**	**-0.6**
	comp=Z,230nm,0.9s,baz=298						
BTLS				*e*S	**S**	**17 22 09.2**	**+0.4**
	baz=298						
YULB	**Yu-li**	**22.04**	**125**	P	**P**	**17 18 09.7**	**+1.5**
YULB				IAmb	IAmb	17 18 14.3	
	comp=Z,1μm,1.5s						
MDJ	**Mudanjiang**	**22.11**	**63**	P	**P**	**17 18 10.1**	**+1.3**
MDJ				pP	pP	17 18 13.1	+0.7
MDJ				S	**S**	**17 22 12.3**	**-0.1**
MDJ				sS	pS	17 22 16.9	-1.1
MDJ				pmax	pmax		
	comp=Z,10μm,11.5s						
MDJ				LR	LR		
	comp=Z,36μm,9.9s						
MDJ				LR	LR		
	comp=Z,65μm,8.2s						
MDJ				LR	LR		
	comp=Z,82μm,14.2s						
MDJ	**Mudanjiang**	**22.11**	**63**	P	**P**	**17 18 09.4**	**+0.6**
MDJ	**Mudanjiang**	**22.11**	**63**	P	**P**	**17 18 10.4**	**+1.6**
NDI	**New Delhi**	**22.26**	**254**	*e*P	**P**	**17 18 08.0**	**-2.5**
TWG	**Pinlang**	**22.30**	**126**	P	**P**	**17 18 12.8**	**+1.8**
TWG				IAmb	IAmb	17 18 17.2	
	comp=Z,1μm,1.1s						
UBPT	**Khong Chiam**	**22.54**	**170**	P	**P**	**17 18 12.9**	**-0.5**
UBPT				IAmb	IAmb	17 18 21.4	
	comp=Z,747nm,1.3s						
JTU	**Tsushima**	**22.62**	**89**	P	**P**	**17 18 13.9**	**-0.4**
MSHR	**Mys Shultsa**	**23.05**	**68**	⇑*e*P	**P**	**17 18 19.5**	**+0.8**
MSHR				pmax	pmax		
	comp=Z,241nm,1.0s						
MSHR				MLR	MLR		
	comp=Z,8μm,15.0s						
DRK	**Karamyk**	**23.36**	**284**	P	**P**	**17 18 21.9**	**-0.4**
NIL	**Nilore**	**23.37**	**269**	P	**P**	**17 18 21.4**	**-0.7**
NIL				pmax	pmax		
	comp=Z,653nm,1.0s						
NIL	**Nilore**	**23.37**	**269**	P	**P**	**17 18 22.1**	**0.0**
NIL	**Nilore**	**23.37**	**269**	P	**P**	**17 18 21.4**	**-0.7**
NIL				IAmb	IAmb	17 18 29.5	
	comp=Z,653nm,1.0s						
JBP	**Jabalpur**	**23.52**	**238**	⇓*e*P	**P**	**17 18 22.9**	**-0.8**
JBP				IAmb	IAmb	17 18 26.9	
	comp=Z,261nm,0.8s						
JBP				*e*S	**S**	**17 22 38.0**	**+0.3**
VLA	**Vladivostok**	**23.61**	**67**	*ce*P	**P**	**17 18 25.2**	**+0.9**
VLA				pmax	pmax		
	comp=Z,187nm,1.1s						
VLA				MLR	MLR		
	comp=Z,17μm,12.0s						
DZA	**Taraz**	**23.64**	**292**	*e*P	**P**	**17 18 24.8**	**+0.1**
DZA				pmax	pmax		
	comp=Z,728nm,1.7s						
DZA	**Taraz**	**23.64**	**292**	*e*P	**P**	**17 18 24.8**	**+0.1**
	comp=Z,728nm,1.7s,baz=292						
USA0B	**Ussuriysk Arra**	**23.76**	**64**	P	**P**	**17 18 25.9**	**0.0**
USA0B				pmax	pmax		
	comp=Z,287nm,1.4s						
USA0B	**Ussuriysk Arra**	**23.76**	**64**	P	**P**	**17 18 25.9**	**0.0**
USRK	**Ussuriysk Ar.**	**23.76**	**64**	P	**P**	**17 18 25.8**	**0.0**
	comp=Z,69nm,0.9s,baz=262,slow=8.6,SNR=56						
USRK				LR	LR	17 28 44.7	
	comp=Z,19μm,18.4s,baz=264,slow=39						
USRK	**Ussuriysk Ar.**	**23.76**	**64**	P	**P**	**17 18 24.8**	**-1.1**
USRK	**Ussuriysk Ar.**	**23.76**	**64**	P	**P**	**17 18 24.8**	**-1.1**
OTUK	**Ortayu**	**23.78**	**306**	P	**P**	**17 18 24.7**	**-1.4**
ZEA	**Zeya**	**23.87**	**39**	*e*P	**P**	**17 18 28.5**	**+1.7**
ZEA				*e*S	**S**	**17 22 39.5**	**-3.2**
ZEA				pmax	pmax		
	comp=N,160nm,1.0s						
ZEA				pmax	pmax		
	comp=E,230nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,420nm,0.9s						
ZEA				pmax	pmax		
	comp=E,4μm,3.2s						
ZEA				pmax	pmax		
	comp=Z,7μm,4.2s						
ZEA				smax	smax		
	comp=E,17μm,15.2s						
ZEA				smax	smax		
	comp=N,18μm,13.6s						
ZEA				MLR	MLR		
	comp=E,53μm,8.0s						
ZEA				MLR	MLR		
	comp=N,49μm,11.0s						
ZEA				MLR	MLR		
	comp=Z,78μm,10.0s						
BTK	**Batken**	**24.06**	**285**	P	**P**	**17 18 29.0**	**+0.1**
BTK				pmax	pmax		
	comp=Z,253nm,1.2s						
BTK	**Batken**	**24.06**	**285**	P	**P**	**17 18 29.0**	**+0.1**
BRZS	**Berezniki**	**24.10**	**310**	*c i*P	**P**	**17 18 28.9**	**-0.1**
BRZS				pmax	pmax		
	comp=Z,821nm,1.6s						
BRZS	**Berezniki**	**24.10**	**310**	⇑*i*P	**P**	**17 18 29.0**	**-0.1**
	comp=Z,821nm,1.6s,baz=310						
JNU	**Nakatsue**	**24.21**	**92**	P	**P**	**17 18 30.4**	**+0.1**
	comp=Z,124nm,1.1s,baz=287,slow=3.5,SNR=28						
JNU				PcP	**PcP**	**17 22 10.7**	**+0.1**
	comp=Z,67nm,0.9s,baz=39,slow=3.8,SNR=5.7						
JNU	**Nakatsue**	**24.21**	**92**	P	**P**	**17 18 30.3**	**+0.1**
JNU				IAmb	IAmb	17 18 32.4	
	comp=Z,1μm,1.9s						
JNU					**PcP**	**17 22 09.3**	**-1.3**
JNU	**Nakatsue**	**24.21**	**92**	P	**P**	**17 18 30.6**	**+0.3**
KKAR	**Karatay Array**	**24.25**	**293**	P	**P**	**17 18 30.2**	**-0.3**
KKAR	**Karatay Array**	**24.25**	**293**	P	**P**	**17 18 30.2**	**-0.3**
JSU	**Suzuyama**	**24.45**	**96**	P	**P**	**17 18 32.4**	**0.0**
CHLP	**Challavanipeta**	**24.50**	**224**	*e*P	**P**	**17 18 32.1**	**-0.8**
KLR	**Kul'dur**	**24.57**	**52**	P	**P**	**17 18 33.8**	**+0.5**
	comp=Z,152nm,0.9s,baz=267,slow=10.0,SNR=128						
BBP	**Basco**	**24.60**	**129**	⇑*e*P	**P**	**17 18 34.9**	**+1.1**
BRLS	**Borolday**	**24.74**	**293**	*i* P	**P**	**17 18 36.1**	**+1.2**
BRLS				*e*S	**S**	**17 22 59.9**	**+3.0**
BRLS	**Borolday**	**24.74**	**293**	*i* P	**P**	**17 18 36.1**	**+1.2**
	baz=292						
BRLS				*e*S	**S**	**17 22 60.0**	**+3.0**
	baz=292						
JOW	**Kunigami**	**24.90**	**108**	P	**P**	**17 18 35.5**	**-1.0**
	comp=Z,102nm,0.9s,baz=271,slow=9.3,SNR=18						
JOW				LR	LR	17 29 07.8	
	comp=Z,22μm,19.4s,baz=300,slow=38						
JOW	**Kunigami**	**24.90**	**108**	P	**P**	**17 18 35.2**	**-1.3**
JOW	**Kunigami**	**24.90**	**108**	P	**P**	**17 18 37.7**	**+1.2**
TAS	**Tashkent**	**25.15**	**289**	P	**P**	**17 18 38.7**	**+0.1**
TAS				pmax	pmax		
	comp=Z,247nm,1.1s						
TAS	**Tashkent**	**25.15**	**289**	P	**P**	**17 18 38.7**	**+0.1**
BHPL	**Bhopal**	**25.24**	**242**	*e*P	**P**	**17 18 39.0**	**-0.6**
BHPL				IAmb	IAmb	17 18 46.3	
	comp=Z,396nm,1.2s						
BHPL				*e*S	**S**	**17 23 01.9**	**-3.4**
BHPL				*i* x	**S**	**17 23 07.1**	**+1.8**
JHS	**Saijyo**	**25.44**	**86**	P	**P**	**17 18 41.4**	**+0.1**
CHGR	**Chuyangaron**	**25.49**	**282**	P	**P**	**17 18 42.1**

BRVK IAmb IAmb 17 18 55.0
comp=Z,601nm,1.1s
BRVK Borovoye 26.61 315 IAMs_20 IAMs_20 17 29 39.3
comp=Z,25μm,21.0s
BOLP Bolinao 26.62 138⇑ *e*P **P 17 18 55.1 +3.0**
RPR Rampur 27.04 232 *e*P **P 17 18 55.5 -0.4**
PBA Port Blair 27.08 199 *e*P **P 17 18 55.6 -0.6**
PBA Port Blair 27.08 199 P **P 17 18 56.2 0.0**
SNR=5.2
PBA Port Blair 27.08 199 P **P 17 18 56.1 -0.1**
TEY Ternei 27.11 63⇑ *e*P **P 17 18 57.9 +1.6**
TEY *e* 17 23 30.7
TEY pmax pmax
comp=E,40nm,1.2s
TEY pmax pmax
comp=Z,70nm,1.2s
TEY MLR MLR
comp=E,5μm,8.0s
TEY MLR MLR
comp=N,2μm,9.0s
TEY MLR MLR
comp=Z,6μm,7.0s
SCZP Santa Cruz 27.12 139⇑ *e*P **P 17 18 57.6 +1.0**
SMPP San Manuel, Pa 27.22 137⇑ *e*P **P 17 18 58.2 +0.7**
SRSP Sriramsagar 27.59 234 *e*P **P 17 18 59.7 -1.1**
MYLAV Mylavaram 27.85 227 *e*P **P 17 19 02.0 -1.1**
GRNR Gornyy 27.89 51⇓ *i*P **P 17 19 04.3 +1.0**
GRNR *e*S **S 17 23 51.4 +4.7**
GRNR pmax pmax
comp=N,10.0nm,0.8s
GRNR pmax pmax
comp=E,50nm,0.8s
GRNR pmax pmax
comp=Z,90nm,0.7s
GRNR smax smax
comp=N,5.0nm,0.9s
GRNR MLR MLR
comp=E,23μm,12.0s
GRNR MLR MLR
comp=N,11μm,20.0s
GRNR MLR MLR
comp=Z,39μm,12.0s
PCPH Palayan 27.93 137⇑ *e*P **P 17 19 05.5 +1.6**
BALP Baler 28.05 136⇑ *e*P **P 17 19 07.1 +2.2**
INU Inuyama 28.43 84 P **P 17 19 07.2 -1.1**
INU PcP **PcP 17 22 21.1 +0.8**
HYBB Hyderabad (bro 28.59 231 *e*P **P 17 19 08.6 -1.2**
HYBB *e*PcP **PcP 17 22 19.2 -1.7**
HYBB *e*S **S 17 23 57.6 -0.5**
HYBB *e*ScS **ScS 17 29 53.6 -2.2**
HYB Hyderabad 28.59 231 *e*P **P 17 19 09.4 -0.4**
HYB IAmb IAmb 17 19 11.5
comp=Z,62nm,0.6s
JGF Kuroka 28.64 83 P **P 17 19 10.5 +0.4**
NJS Nagarjunasagar 28.79 229 *e*P **P 17 19 10.6 -0.9**
ADKI Addanki 28.95 227 *e*pP **P 17 19 14.2 +1.2**
SRIT Nakonsritamara 28.98 184 P **P 17 19 13.2 0.0**
LUBP Lubang 29.01 140⇑ *e*P **P 17 19 15.3 +1.8**
TGY Tagaytay City 29.06 139 LR LR 17 30 59.8
comp=Z,22μm,18.9s,baz=92,slow=37
MJB9 Matsu-Tunnel 29.07 81 P **P 17 19 12.5 -1.5**
MAJO Matsushiro 29.08 81⇓ *e*P **P 17 19 13.2 -0.8**
MAJO pmax pmax
comp=Z,141nm,2.1s
MAJO MLR MLR
comp=Z,8μm,15.0s
MAJO Matsushiro 29.08 81 P **P 17 19 12.2 -1.8**
MAJO PcP **PcP 17 22 21.4 -0.6**
MAT Matsushiro 29.08 81 P **P 17 19 13.3 -0.7**
MAT S **S 17 24 03.4 -2.2**
MJAR Matsushiro Arr 29.08 81 P **P 17 19 12.7 -1.3**
comp=Z,17nm,0.7s,baz=296,slow=9.8,SNR=22
MJAR PcP **PcP 17 22 21.9 0.0**
comp=Z,33nm,1.0s,baz=292,slow=3.1,SNR=9.6
MJAR LR LR 17 30 44.6
comp=Z,5μm,19.5s,baz=292,slow=36
MJAR Matsushiro Arr 29.08 81 P **P 17 19 13.8 -0.2**
MJAR 17 22 21.7
MJAR pmax pmax
comp=Z,173nm,2.0s
MJAR Matsushiro Arr 29.08 81 P **P 17 19 13.8 -0.2**
MJAR PcP **PcP 17 22 21.7 -0.3**
SRLM Srisailam 29.39 229 *e*P **P 17 19 16.6 -0.3**
PGP Puerto Galera 29.57 139⇑ *e*P **P 17 19 18.0 -0.5**
RCLA Racherla 29.85 228 *e*P **P 17 19 20.1 -0.9**
YAK Yakutsk 29.93 26 P **P 17 19 20.4 -0.8**
comp=Z,67nm,0.9s,baz=212,slow=3.2,SNR=63
YAK Yakutsk 29.93 26 *c i*P **P 17 19 20.9 -0.3**
YAK *e**PP **sP 17 19 28.8 +1.9**
YAK *e* 17 20 24.9
YAK *e*PPP PPP 17 20 38.8
YAK *e* 17 22 23.9
YAK *e*S **S 17 24 18.2 -0.2**
YAK *e**SS **sS 17 24 29.2 +4.5**
YAK *e*SS **SnSn 17 25 55.9 +6.7**
YAK *e*SSS SSS 17 26 09.6
YAK *e* 17 29 54.7
YAK pmax pmax
comp=Z,126nm,0.9s
YAK pmax pmax
comp=N,49nm,1.1s
YAK pmax pmax
comp=E,52nm,1.3s
YAK pmax pmax
comp=Z,109nm,1.4s
YAK pmax pmax
comp=N,82nm,1.1s
YAK pmax pmax
comp=E,53nm,1.1s
YAK smax smax
comp=E,372nm,2.8s
YAK smax smax
comp=N,2μm,4.0s
YAK MLR MLR
comp=Z,42μm,12.0s
YAK MLR MLR
comp=N,23μm,12.0s
YAK MLR MLR
comp=E,21μm,10.0s
YAK Yakutsk 29.93 26 P **P 17 19 20.3 -0.9**
BOAC Boac 30.07 138⇑ *e*P **P 17 19 24.5 +1.6**
JEW Eniwo 30.62 68 P **P 17 19 26.3 -1.3**
JYT Yasato 30.71 81 P **P 17 19 26.4 -2.0**
ENPP El Nido 30.79 144⇑ *e*P **P 17 19 30.7 +1.5**
JMM Marumori 30.81 77 P **P 17 19 26.9 -2.3**
POO Poona 30.86 240 *e*P **P 17 19 28.9 -1.0**
BHUJ Bhuj 30.91 252 *e*P **P 17 19 31.0 +0.7**
BHUJ IAmb IAmb 17 19 33.2
comp=Z,223nm,0.9s
NKL Nikolayevsk 31.04 47 *e*P **P 17 19 26.3 -4.8**
NKL *e* 17 22 24.0
NKL *e*S **S 17 24 38.3 +2.4**
NKL pmax pmax
comp=E,7.0nm,1.1s
NKL pmax pmax
comp=N,1μm,0.9s
NKL pmax pmax
comp=Z,319nm,0.9s
NKL pmax pmax
comp=Z,260nm,3.6s
NKL smax smax
comp=E,4.0nm,4.1s
NKL smax smax
comp=N,1μm,2.0s
NKL MLR MLR
comp=N,9μm,13.0s
NKL MLR MLR
comp=Z,26μm,9.0s
UGL Uglegorsk 31.18 55 *e*P **P 17 19 32.7 +0.3**
UGL *e*S **S 17 24 38.5 +0.2**
UGL pmax pmax
comp=Z,160nm,0.8s
UGL pmax pmax
comp=Z,3μm,7.4s
UGL smax smax
comp=E,15μm,14.0s
UGL smax smax
comp=N,2μm,9.0s
UGL MLR MLR
comp=N,35μm,11.0s
UGL MLR MLR
comp=Z,111μm,11.0s
URV Uravakonda 31.27 230 *e*P **P 17 19 32.9 -0.6**
ASAJ Asahikawa 31.39 65 P **P 17 19 33.6 -0.7**
comp=Z,78nm,0.8s,baz=283,slow=10,SNR=15
ASAJ LR LR 17 32 31.4
comp=Z,7μm,19.0s,baz=284,slow=37
JKA Kamikawa-asahi 31.39 65 P **P 17 19 33.5 -0.8**
YSS Yuzh-Sakhalins 31.49 60 *de*P **P 17 19 33.9 -1.3**
YSS *e**SP **pP 17 19 38.7 -0.4**
YSS *e*PPP PPP 17 20 49.6
YSS *e* 17 22 34.0
YSS *e*S **S 17 24 37.3 -5.9**
YSS *e* 17 24 42.4
YSS pmax pmax
comp=Z,70nm,1.0s
YSS MLR MLR
comp=Z,23μm,9.0s
YSS MLR MLR
comp=E,22μm,15.0s
YSS Yuzh-Sakhalins 31.49 60 P **P 17 19 34.3 -0.9**
TYV Tymovskoe 31.79 52 *e*P **P 17 19 39.1 +1.4**
TYV *e*S **S 17 24 51.8 +4.1**
TYV pmax pmax
comp=Z,165nm,1.0s
TYV pmax pmax
comp=Z,3μm,3.0s
TYV smax smax
comp=N,27nm,1.7s
TYV smax smax
comp=N,3μm,8.8s
TYV smax smax
comp=E,4μm,8.8s
TYV MLR MLR
comp=E,42μm,13.0s
TYV MLR MLR
comp=Z,49μm,13.0s
CUYO Cuyo Island 31.86 142⇑ *e*P **P 17 19 42.2 +3.5**
HRA Herat 31.87 276 P **P 17 19 39.6 +0.7**
ERM Erimo 31.95 69⇑ *e*P **P 17 19 40.1 +0.8**
ERM pmax pmax
comp=Z,33nm,0.6s
ERM MLR MLR
comp=Z,8μm,15.0s
ERM Erimo 31.95 69 P **P 17 19 39.5 +0.2**
ERM Erimo 31.95 69 P **P 17 19 40.5 +1.2**
AB31 Akbulak array 32.02 305 *i* P **P 17 19 40.7 +0.9**
ABKAR Akbulak array 32.02 305 P **P 17 19 40.2 +0.3**
ABKAR Akbulak array 32.02 305 P **P 17 19 40.3 +0.5**
ABKAR IAmb IAmb 17 19 42.5
comp=Z,240nm,0.9s
RCP Roxas 32.14 138⇑ *e*P **P 17 19 41.6 +0.5**
KULM Kulim 32.22 182 P **P 17 19 40.7 -1.1**
BATP Bataraza 32.23 149⇑ *e*P **P 17 19 43.0 +1.1**
NRIK Noril'sk 32.66 351 P **P 17 19 45.0 -0.2**
comp=Z,497nm,0.9s,baz=148,slow=7.7,SNR=449
NRIK LR LR 17 33 32.8
comp=Z,19μm,18.2s,baz=164,slow=37
NRIK Noril'sk 32.66 351 *c i*P **P 17 19 44.8 -0.4**
NRIK pmax pmax
comp=Z,686nm,1.0s
NRIK MLR MLR
comp=Z,20μm,15.0s
NRIK Noril'sk 32.66 351 P **P 17 19 44.5 -0.7**
IPM Ipoh 33.02 181 P **P 17 19 47.3 -1.5**
IPM IAMs_20 IAMs_20 17 34 35.2
comp=Z,20μm,19.0s
GOA Goa 33.03 236 *e*P **P 17 19 48.7 -0.3**
GOA IAmb IAmb 17 19 51.9
comp=Z,191nm,1.4s
SVE Sverdlovsk 33.13 319 *d i*P **P 17 19 50.1 +0.6**
SVE *e*S **S 17 25 08.8 +0.2**
SVE pmax pmax
comp=Z,1μm,1.2s
SVE pmax pmax
comp=Z,1μm,7.1s
SVE MLR MLR
comp=Z,12μm,11.0s
SVE MLR MLR
comp=E,8μm,11.0s
AKTO Aktyubinsk 33.38 307 LR LR 17 34 10.3
comp=E,24μm,19.0s,baz=105,slow=38
CNOP Candoni, Negro 33.55 140⇑ *e*P **P 17 19 54.1 +0.7**
YUK Yuzh-Kuril'sk 33.74 65 *e* 17 21 03.8
YUK *e*PPP PPP 17 21 31.1
YUK *e*SS SS 17 27 24.2 -20
YUK *e*SSS SSS 17 27 48.6
YUK pmax pmax
comp=Z,2μm,1.6s
YUK pmax pmax
comp=Z,1μm,1.2s
YUK pmax pmax
comp=N,904nm,1.3s
YUK pmax pmax
comp=E,365nm,1.3s
YUK MLR MLR
comp=Z,7μm,19.0s
LLP Lapu-Lapu 33.82 138⇑ *e*P **P 17 19 57.7 +1.8**
TSI Tuntungan 34.10 185 P **P 17 19 59.0 +0.8**
comp=Z,5μmcomp=Z,6μmcomp=Z,305nm,1.0s
ARU Arti 34.12 317 LR LR 17 34 31.6
comp=Z,13μm,21.1s,baz=111,slow=38
ARU Arti 34.12 317 *c i*P **P 17 19 58.3 +0.2**
ARU pmax pmax
comp=Z,2μm,1.3s
ARU MLR MLR
comp=Z,14μm,17.0s
ARU Arti 34.12 317 P **P 17 19 57.9 -0.1**
ARU IAMs_20 IAMs_20 17 34 27.9
comp=Z,16μm,18.0s
KKM Kota Kinabalu 34.14 154 P **P 17 19 58.5 -0.3**
KKM IAmb IAmb 17 20 02.6
comp=Z,556nm,1.9s
KKM Kota Kinabalu 34.14 154 P **P 17 19 59.5 +0.8**
KCSI Kotacane, Aceh 34.15 187 P **P 17 19 56.8 -1.9**
comp=Z,1μmcomp=Z,78nm,0.9s
GEYT Alibeck 34.16 284 P **P 17 20 00.3 +1.6**
comp=Z,227nm,0.9s,baz=101,slow=6.2,SNR=169
GEYT LR LR 17 36 44.8
comp=Z,10μm,18.7s,baz=109,slow=41
GEYT Alibeck 34.16 284 P **P 17 19 59.9 +1.1**
GEYT IAmb IAmb 17 20 02.4
comp=Z,235nm,0.8s
GYA0B ALIBECK ARRAY 34.16 284 P **P 17 19 59.9 +1.1**
GYA0B IAmb IAmb 17 20 02.3
comp=Z,267nm,0.8s
TBP Tagbilaran 34.29 139⇑ *e*P **P 17 20 00.9 +1.0**
TBP *i* S **S 17 25 27.8 +0.6**
MSLP Maasin 34.46 137⇑ *e*P **P 17 20 02.5 +1.2**
PSI Prapat 34.77 185 LR LR 17 33 28.4
comp=Z,9μm,19.0s,baz=340,slow=35
KUR Kuril'sk 35.08 63 *e*P **P 17 20 05.3 -1.2**
KUR *e*S **S 17 25 35.4 -3.5**
PAGZ Pagadian 35.61 141⇑ *e*P **P 17 20 12.2 +0.9**
PALK Pallekele 35.71 217 LR LR 17 36 14.5
comp=Z,5μm,19.7s,baz=144,slow=39
PALK Pallekele 35.71 217 P **P 17 20 11.8 -0.4**
PALK pmax pmax
comp=Z,161nm,1.2s
PALK MLR MLR
comp=Z,6μm,18.0s
PALK Pallekele 35.71 217 P **P 17 20 13.5 +1.3**
PALK P **P 17 20 13.5 +1.3**
PALK S **S 17 25 46.8 -2.4**
PALK S **S 17 25 46.8 -2.4**
PALK Pallekele 35.71 217 P **P 17 20 11.8 -0.4**
MYKOM Kota Tinggi 35.74 176 P **P 17 20 11.6 -0.8**
MYKOM IAMs_20 IAMs_20 17 36 28.4
comp=Z,17μm,20.0s
MYLDM Lahad Datu 35.79 150 P **P 17 20 14.2 +1.4**
MYLDM IAmb IAmb 17 20 21.8
comp=Z,559nm,1.2s
MYLDM IAMs_20 IAMs_20 17 35 30.7
comp=Z,12μm,18.0s
BUTP Butuan 35.84 137⇑ *e*P **P 17 20 15.2 +2.0**
SBSI Sibolga 36.01 185 P **P 17 20 16.9 +2.2**
comp=Z,5μmcomp=Z,858nmcomp=Z,31nm,1.5s
SBUM Sibu 36.35 162 P **P 17 20 18.5 +0.9**
GSI Gunungsitoli 36.36 187 P **P 17 20 17.3 -0.4**
comp=Z,6μmcomp=Z,5μmcomp=Z,174nm,2.0s
GSI Gunungsitoli 36.36 187 P **P 17 20 16.7 -1.0**
GSI IAMs_20 IAMs_20 17 37 03.8
comp=Z,14μm,19.0s
GSI Gunungsitoli 36.36 187 P **P 17 20 18.7 +1.0**
TRD Trivandrum 36.60 224 *e*P **P 17 20 19.5 -0.3**
MNSI Mandailing Nat 36.72 183 P **P 17 20 20.9 +0.1**
comp=Z,1μmcomp=Z,24nm,1.3s
TIXI Tiksi 36.83 14 P **P 17 20 20.1 -1.0**
comp=Z,94nm,0.8s,baz=203,slow=5.5,SNR=6.2
TIXI LR LR 17 35 04.0
comp=Z,8μm,19.1s,baz=245,slow=36
TIXI Tiksi 36.83 14 *c i*P **P 17 20 20.0 -1.1**
TIXI pmax pmax
comp=Z,124nm,0.8s
TIXI MLR MLR
comp=Z,8μm,16.0s
TIXI Tiksi 36.83 14 P **P 17 20 20.2 -1.0**
TIXI IAMs_20 IAMs_20 17 34 43.5
comp=Z,12μm,18.0s
KSM Kuching 36.87 165 P **P 17 20 22.8 +0.8**
KSM PcP **PcP 17 22 42.9 -0.9**
KSM Kuching 36.87 165 P **P 17 20 23.5 +1.4**
BKNI Bangkinang 37.14 181 P **P 17 20 25.6 +1.3**
comp=Z,6μmcomp=Z,6μmcomp=Z,359nm,1.4s
BKNI Bangkinang 37.14 181 P **P 17 20 23.9 -0.4**
BKNI IAmb IAmb 17 20 31.1
comp=Z,899nm,1.6s
KCP Kidapawan 37.20 139⇑ *e*P **P 17 20 26.2 +1.2**
DAV Davao City (W) 37.40 138 LR LR 17 37 08.7
comp=Z,22μm,18.4s,baz=348,slow=38
DAV Davao City (W) 37.40 138 P **P 17 20 29.0 +2.3**
DAV P **P 17 20 29.0 +2.3**
DAV S **S 17 26 14.1 -0.8**
DAV S **S 17 26 14.1 -0.8**
DAV Davao City (W) 37.40 138 P **P 17 20 28.6 +2.0**
RGRI Rengat 37.81 179 P **P 17 20 31.3 +1.3**
comp=Z,63nm,0.8s
MATI Mati 37.87 138⇑ *e*P **P 17 20 31.9 +1.4**
MA2 Magadan 38.01 39 *c i*P **P 17 20 31.3 0.0**
MA2 pmax pmax
comp=Z,216nm,0.8s
MA2 MLR MLR
comp=Z,10μm,13.0s
MA2 Magadan 38.01 39 P **P 17 20 31.0 -0.3**
MA2 Magadan 38.01 39 P **P 17 20 32.6 +1.3**
DSRI Dabo 38.03 175 P **P 17 20 32.6 +0.7**
comp=Z,2μmcomp=Z,96nm,1.5s
STKI Sintang 38.48 164 P **P 17 20 36.7 +1.0**
comp=Z,3μmcomp=Z,89nm,1.5s
SISI Saibi 38.85 184 P **P 17 20 38.4 -0.4**
comp=Z,3μmcomp=Z,3μmcomp=Z,157nm,1.3s
JMBI JAMBI 39.13 177 P **P 17 20 41.8 +0.7**
comp=Z,3μmcomp=Z,104nm,0.8s
JLN Jalan Bani Buh 39.38 259 P **P 17 20 44.6 +1.4**
SNR=28
JLN P **P 17 20 44.6 +1.4**
SNR=28
JLN S **S 17 26 43.7 -1.1**
JLN S **S 17 26 43.7 -1.1**
KIRV Kirov 39.39 319 LR LR 17 38 08.1
comp=Z,12μm,18.9s,baz=104,slow=38
KIRV Kirov 39.39 319 *c i*P **P 17 20 42.6 -0.3**
WSAR Wadi Sarin 39.42 261 P **P 17 20 44.9 +1.4**
comp=Z,205nm,0.8s,baz=105,slow=4.7,SNR=128
WSAR PcP **PcP 17 22 52.6 +0.9**
comp=Z,51nm,0.9s,baz=72,slow=6.9,SNR=4.7
WSAR LR LR 17 41 14.5
comp=Z,5μm,18.5s,baz=58,slow=43
WBK Wadi Bani Khal 39.48 260 P **P 17 20 45.6 +1.5**
SNR=20
WBK P **P 17 20 45.6 +1.5**
SNR=20
WBK S **S 17 26 45.7 -0.7**
WBK S **S 17 26 45.7 -0.7**
SEY Seymchan 39.59 34 P **P 17 20 44.5 0.0**
comp=Z,15nm,0.8s,baz=264,slow=9.2,SNR=32
SEY PcP **PcP 17 22 52.2 +0.7**
comp=Z,69nm,1.0s,baz=248,slow=2.8,SNR=8.9
SEY LR LR 17 39 11.9
comp=Z,10μm,18.4s,baz=267,slow=40
BIDO Bidbid 39.67 262 P **P 17 20 46.8 +1.2**
SNR=18
PPBI Pangkal Pinang 39.83 173 P **P 17 20 48.3 +1.4**
comp=Z,4μmcomp=Z,161nm,1.5s
BANOM Banah 39.92 266 P **P 17 20 49.1 +1.3**
SNR=16
BANOM P **P 17 20 49.1 +1.3**
SNR=16
BANOM Banah 39.92 266 *i* P **P 17 20 48.4 +0.6**
SNR=29
BELG Belogornoye 39.96 309 LR LR 17 38 02.0
comp=Z,22μm,18.3s,baz=93,slow=37
BELG Belogornoye 39.96 309 *c i*P **P 17 20 47.7 0.0**
BELG pmax pmax
comp=Z,226nm,1.0s
BELG MLR MLR
comp=Z,3μm,18.0s
SMDO Samad 39.97 261 P **P 17 20 49.6 +1.3**
SNR=41
SMDO P **P 17 20 49.6 +1.3**
SNR=41
SMDO P **P 17 20 49.6 +1.3**
SNR=41
SMDO S **S 17 26 46.0 -7.7**
SMDO S **S 17 26 46.0 -7.7**
SMDO S **S 17 26 46.0 -7.7**
SHME Shamm 39.99 267 P **P 17 20 49.6 +1.3**
SNR=20
SHME P **P 17 20 49.6 +1.3**
SNR=20
SHME P **P 17 20 49.6 +1.3**
SNR=20
SHME S **S 17 26 53.8 -0.1**
SHME S **S 17 26 53.8 -0.1**
SHME S **S 17 26 53.8 -0.1**
SHME Shamm 39.99 267 *i* P **P 17 20 48.4 +0.2**
SNR=34
PPSI Pulau Pagai 40.23 183 P **P 17 20 51.5 +1.2**
comp=Z,3μmcomp=Z,106nm,1.2s
HOQ Hoqain 40.28 263 P **P 17 20 51.6 +0.9**
SNR=20
HOQ P **P 17 20 51.6 +0.9**
SNR=20
JMDO Jabal Madar 40.29 260 P **P 17 20 52.3 +1.5**
SNR=20
JMDO P **P 17 20 52.3 +1.5**
SNR=20
JMDO S **S 17 26 58.0 -0.4**
JMDO S **S 17 26 58.0 -0.4**
MASF Masafi 40.30 266 P **P 17 20 51.9 +1.0**
SNR=25
MASF P **P 17 20 51.9 +1.0**
SNR=25
MASF P **P 17 20 51.9 +1.0**
SNR=25
MSFE Esma-Masafi 40.30 266 *i* P **P 17 20 50.9 -0.1**
SNR=33
SKR Severo-Kuril's 40.30 53 *e*PPP PPP 17 22 29.2
SKR pmax pmax
comp=Z,2μm,5.9s
SKR pmax pmax
comp=Z,1μm,5.2s
SKR MLR MLR
comp=Z,2μm,18.0s
SKR MLR MLR
comp=Z,3μm,18.0s
MTKI Muara Teweh, K 40.31 159 P **P 17 20 52.5 +1.6**
comp=Z,3μmcomp=Z,4μmcomp=Z,93nm,1.7s
TOLI2 Tolitoli 40.41 150 P **P 17 20 52.4 +0.6**
TOLI2 Tolitoli 40.41 150 P **P 17 20 53.3 +1.5**
UOSS Minazif 40.47 265 P **P 17 20 53.0 +0.7**
UOSS P **P 17 20 53.0 +0.7**
UOSS P **P 17 20 53.0 +0.7**
UOSS Minazif 40.47 265 P **P 17 20 51.6 -0.7**
UOSS Minazif 40.47 265 *i* P **P 17 20 52.6 +0.3**
SNR=13
PMBI Palembang 40.47 175 P **P 17 20 52.7 +0.4**
comp=Z,4μmcomp=Z,5μmcomp=Z,286nm,1.1s
PMBI Palembang 40.47 175 P **P 17 20 52.9 +0.6**
PMBI IAmb IAmb 17 21 00.3
comp=Z,514nm,1.3s
SMKI Samarinda 40.54 156 P **P 17 20 53.7 +0.8**
comp=Z,7μmcomp=Z,402nm,0.6s
HATD Hatta, Dubai 40.58 265 P **P 17 20 54.1 +0.8**
SNR=13
HATD P **P 17 20 54.1 +0.8**
SNR=13
HATD P **P 17 20 54.1 +0.8**
SNR=13
HATD Hatta, Dubai 40.58 265 *i* P **P 17 20 54.1 +0.8**
SNR=14
TPI Tanjungpandan 40.58 171 P **P 17 20 54.5 +1.3**
comp=Z,3μmcomp=Z,71nm,1.9s
MASI Maura Aman, Be 40.59 179 P **P 17 20 53.2 -0.1**
comp=Z,6μmcomp=Z,476nm,1.6s
UMQ Umm Al-Quwin 40.62 266 P **P 17 20 55.6 +2.1**

SNR=8.2
UMQ P **P** **17 20 55.6 +2.1**
SNR=8.2
UMQ P **P** **17 20 55.6 +2.1**
SNR=8.2
UMQ Umm Al-Quwin 40.62 266 *i* P **P** **17 20 55.3 +1.8**
SNR=6.2
ASHO Ashiyiah 40.71 265 P **P** **17 20 56.2 +1.8**
SNR=31
ASHO P **P** **17 20 56.2 +1.8**
SNR=31
ASHO Ashiyiah 40.71 265 *i* P **P** **17 20 55.6 +1.2**
SNR=53
MPSI Mapaga 40.77 151 P **P** **17 20 56.2 +1.4**
comp=Z,4μmcomp=Z,3μmcomp=Z,115nm,1.8s
BSY Bisya 40.80 262 P **P** **17 20 56.5 +1.5**
SNR=38
BSY P **P** **17 20 56.5 +1.5**
SNR=38
BSY P **P** **17 20 56.5 +1.5**
SNR=38
NAZ Nazwa, Dubai 40.88 266 P **P** **17 20 57.0 +1.3**
SNR=35
NAZ P **P** **17 20 57.0 +1.3**
SNR=35
NAZ Nazwa, Dubai 40.88 266 *i* P **P** **17 20 56.5 +0.9**
SNR=39
ARQ Araqi 41.02 263 P **P** **17 20 58.7 +1.7**
SNR=28
ARQ P **P** **17 20 58.7 +1.7**
SNR=28
ARQ P **P** **17 20 58.7 +1.7**
SNR=28
ARQ S **S** **17 27 02.6 -6.8**
ARQ S **S** **17 27 02.6 -6.8**
ARQ S **S** **17 27 02.6 -6.8**
MAK Makhachkala 41.02 295 *e*P P 17 20 49.9 -6.7
MAK *e*PPP PPP 17 22 53.1
MAK *e*S S 17 26 58.4 -11
MAK pmax pmax
comp=Z,211nm,1.4s
MAK MLR MLR
comp=Z,13μm,12.0s
FAQ Al Faqa, Dubai 41.05 265 P **P** **17 20 58.4 +1.3**
SNR=25
FAQ P **P** **17 20 58.4 +1.3**
SNR=25
FAQ P **P** **17 20 58.4 +1.3**
SNR=25
FAQ Al Faqa, Dubai 41.05 265 *i* P **P** **17 20 58.0 +0.9**
SNR=19
LKRN Lenkeran, Azer 41.08 288 P **P** **17 20 58.6 +1.4**
PEA0B Petropavlovsk- 41.20 49⇑*e*P **P** **17 20 57.7 -0.3**
PEA0B Petropavlovsk- 41.20 49 P **P** **17 20 58.1 +0.1**
PETK Petropavlovsk- 41.20 49 P **P** **17 20 57.9 -0.1**
comp=Z,86nm,0.8s,baz=219,slow=13,SNR=30
PETK PcP **PcP** **17 22 56.7 -0.2**
comp=Z,22nm,0.9s,baz=212,slow=5.1,SNR=3.6
PETK LR LR 17 38 39.4
comp=Z,3μm,18.5s,baz=268,slow=37
PETK Petropavlovsk- 41.20 49 P **P** **17 20 57.5 -0.4**
PBKI Pangkalan Bun 41.21 165 P **P** **17 20 59.2 +0.8**
comp=Z,5μmcomp=Z,385nm,1.1s
ALNE Al Ain 41.27 264 P **P** **17 21 00.1 +1.2**
SNR=22
ALNE P **P** **17 21 00.1 +1.2**
SNR=22
ALNE Al Ain 41.27 264 *i* P **P** **17 20 60.0 +1.1**
SNR=26
ASUD Al Ashush, Dub 41.32 265 P **P** **17 21 00.9 +1.7**
SNR=31
ASUD P **P** **17 21 00.9 +1.7**
SNR=31
ASUD Al Ashush, Dub 41.32 265 *i* P **P** **17 21 00.4 +1.1**
SNR=39
MRSI Marisa 41.46 148 P **P** **17 21 02.2 +1.8**
comp=Z,6μmcomp=Z,8μmcomp=Z,307nm,1.7s
AJN Ajban 41.62 266 P **P** **17 21 02.5 +0.8**
SNR=18
AJN P **P** **17 21 02.5 +0.8**
SNR=18
AJN P **P** **17 21 02.5 +0.8**
SNR=18
AJN Ajban 41.62 266 P **P** **17 21 01.9 +0.2**
SEKA Sheki 41.63 292 P **P** **17 21 02.5 +0.8**
PRGR Permogore 41.73 323 *e*P **P** **17 21 02.6 +0.4**
PRGR *e* 17 22 42.3
PRGR pmax pmax
comp=Z,1μm,1.0s
PET Petropavlovsk 41.78 50 *e*P **P** **17 21 03.0 +0.3**
PET *e* 17 22 44.5
PET *e* 17 22 59.3
PET *e*S **S** **17 27 17.2 -2.7**
PET pmax pmax
comp=Z,5μm,7.3s
PET pmax pmax
comp=Z,93nm,1.0s
PET pmax pmax
comp=Z,2μm,11.8s
PET smax smax
comp=E,3μm,20.1s
PET MLR MLR
comp=Z,35μm,13.0s
PET MLR MLR
comp=Z,39μm,14.0s
PET Petropavlovsk 41.78 50 P **P** **17 21 02.4 -0.3**
MNAI Manna 41.81 178 IAMs_20 IAMs_20 17 39 59.3
comp=Z,13μm,19.0s
MNGR Mingechevir, A 41.81 292 P **P** **17 21 05.1 +1.9**
MDSI Maura Dua 41.98 176 P **P** **17 21 05.4 +0.7**
comp=Z,3μmcomp=Z,2μmcomp=Z,40nm,1.2s
GROC Groznyy 42.20 296 *e*P **P** **17 21 05.6 -0.7**
GROC *e* 17 22 41.2
GROC *e* 17 22 58.5
GROC *e*S **S** **17 27 28.4 +2.0**
GROC pmax pmax
comp=Z,804nm,1.0s
GROC pmax pmax
comp=N,395nm,0.9s
GROC pmax pmax
comp=E,184nm,1.3s
KLSI 42.22 175 P **P** **17 21 07.5 +0.9**
comp=E,3μmcomp=E,3μmcomp=E,60nm,1.7s
KMSI Cibinong 42.25 146 P **P** **17 21 08.6 +1.7**
comp=E,722nmcomp=E,5μmcomp=E,260nm,1.1s
KLI Kotabumi 42.40 175 P **P** **17 21 09.2 +1.1**
comp=E,6μmcomp=E,5μmcomp=E,306nm,1.0s
GANJ Ganja 42.41 292 P **P** **17 21 08.9 +0.8**
UMZA Um Al Zommool 42.42 263 P **P** **17 21 09.1 +0.8**
UMZA P **P** **17 21 09.1 +0.8**
UMZA P **P** **17 21 09.1 +0.8**
UMZA S **S** **17 27 31.9 +1.9**
UMZA S **S** **17 27 31.9 +1.9**
UMZA S **S** **17 27 31.9 +1.9**
LWLI Liwa 42.50 176 P **P** **17 21 10.2 +1.1**
comp=E,107nm,1.0s
APSI Ampana 42.59 150 P **P** **17 21 11.7 +2.0**
comp=E,4μmcomp=E,8μmcomp=E,315nm,1.5s
BBKI Banjar Baru 42.70 160 P **P** **17 21 12.1 +1.5**
comp=E,3μmcomp=E,105nm,2.3s
MZWR Madinat Zayed 42.89 265 P **P** **17 21 12.6 +0.4**
MZWR P **P** **17 21 12.6 +0.4**
MZWR S **S** **17 27 37.2 +0.2**
MZWR S **S** **17 27 37.2 +0.2**
KBKI Kotabaru 42.91 158 P **P** **17 21 13.2 +0.9**
comp=E,416nmcomp=E,2μmcomp=E,141nm,1.0s
BLSI Bandar Lampung 42.92 175 P **P** **17 21 13.6 +1.2**
comp=E,3μmcomp=E,57nm,0.6s
KASI Kota Agung 43.03 176 P **P** **17 21 14.4 +1.2**
comp=E,4μmcomp=E,79nm,0.9s
LUWI Luwuk 43.17 148 P **P** **17 21 15.3 +0.9**
LUWI IAmb IAmb 17 21 55.0
comp=Z,790nm,1.4s
NAX Nakhchivan 43.41 290 P **P** **17 21 17.9 +1.6**
GHWR Ruwais 43.59 266 P **P** **17 21 17.8 0.0**
GHWR P **P** **17 21 17.8 0.0**
GHWR S S 17 27 37.3 -10
GHWR S S 17 27 37.3 -10
MZR Muzera 43.59 265 P **P** **17 21 18.2 +0.3**
SNR=37
MZR P **P** **17 21 18.2 +0.3**
SNR=37
MZR S **S** **17 27 48.0 +0.7**
MZR S **S** **17 27 48.0 +0.7**
MZR Muzera 43.59 265 *i* P **P** **17 21 17.7 -0.2**
SNR=87

ZEI Tsey 43.65 296 *e*P **P** **17 21 18.7 +0.4**
ZEI pmax pmax
comp=Z,107nm,1.3s
TNTI Ternate 43.69 141 P **P** **17 21 19.4 +0.8**
comp=Z,4μmcomp=Z,7μmcomp=Z,293nm,1.5s
TNTI Ternate 43.69 141 P **P** **17 21 18.3 -0.3**
TNTI IAmb IAmb 17 21 24.8
comp=Z,839nm,1.6s
VRH Novokhopyorsk 43.69 308 *e*P **P** **17 21 18.5 +0.3**
VRH *e*S **S** **17 27 43.3 -4.7**
VRH *e*SS **SS** **17 31 02.2 -0.8**
VRH pmax pmax
comp=Z,620nm,0.8s
VRH smax smax
comp=E,2μm,6.8s
VRH MLR MLR
comp=Z,8μm,12.0s
GNI Garni 43.70 292 LR LR 17 43 40.6
comp=Z,6μm,18.6s,baz=92,slow=42
GNI Garni 43.70 292*c i*P **P** **17 21 20.3 +1.5**
GNI pmax pmax
comp=Z,386nm,1.3s
GNI MLR MLR
comp=Z,6μm,14.0s
GNI Garni 43.70 292 P **P** **17 21 21.0 +2.2**
GNI Garni 43.70 292 P **P** **17 21 20.0 +1.3**
GNI IAmb IAmb 17 21 30.8
comp=Z,456nm,1.1s
GNI Garni 43.70 292 P **P** **17 21 20.2 +1.5**
NCK Nalchik 43.70 297⇑*i*P **P** **17 21 18.8 +0.3**
NCK pmax pmax
comp=Z,196nm,1.0s
NCK MLR MLR
comp=Z,15μm,15.0s
GOF Gofitskoye 43.76 299⇑*i*P **P** **17 21 19.9 +1.0**
GOF pmax pmax
comp=Z,967nm,0.9s
KHOR Al-Khor Airpor 43.86 269 P **P** **17 21 20.0 +0.1**
KHOR S S 17 27 40.6 -11
TTSI Tana Toraja 43.86 153 P **P** **17 21 20.9 +0.9**
comp=Z,5μmcomp=Z,8μmcomp=Z,446nm,1.7s
ONI Oni 44.02 295 P **P** **17 21 22.5 +1.4**
ONI pmax pmax
comp=Z,362nm,1.4s
ONI Oni 44.02 295 P **P** **17 21 22.5 +1.4**
ONI IAmb IAmb 17 21 25.6
comp=Z,362nm,1.4s
KBZ Khabaz 44.15 297 P **P** **17 21 22.6 +0.6**
comp=Z,170nm,1.1s,baz=96,slow=6.7,SNR=103
KBZ LR LR 17 44 12.0
comp=Z,7μm,18.5s,baz=76,slow=42
KBZ Khabaz 44.15 297*c i*P **P** **17 21 22.3 +0.3**
KBZ pmax pmax
comp=Z,258nm,1.3s
KBZ MLR MLR
comp=Z,12μm,16.0s
SHMA Al-Shehemyia 44.19 270 P **P** **17 21 22.4 -0.1**
SHMA S **S** **17 27 52.3 -3.6**
CGJI Cibinong 44.19 174 P **P** **17 21 20.9 -1.7**
comp=Z,1μmcomp=Z,62nm,1.8s
DBJI Dramaga 44.23 173 P **P** **17 21 23.6 +0.7**
comp=Z,3μmcomp=Z,66nm,1.7s
KVAR Kislovodsk Arr 44.24 298 LR LR 17 40 20.9
comp=Z,15μm,21.9s,baz=316,slow=37
KIV Kislovodsk 44.24 298 *e*P **P** **17 21 23.6 +0.6**
KIV *e* 17 23 06.5
KIV *e*S **S** **17 27 58.0 +1.4**
KIV *e*SS **SS** **17 31 17.5 +3.1**
KIV pmax pmax
comp=Z,1μm,4.3s
KIV pmax pmax
comp=Z,384nm,1.1s
KIV MLR MLR
comp=Z,6μm,16.0s
KIV Kislovodsk 44.24 298 P **P** **17 21 24.1 +1.1**
KIV P **P** **17 21 24.1 +1.1**
KIV S **S** **17 27 57.4 +0.9**
KIV S **S** **17 27 57.4 +0.9**
KIV Kislovodsk 44.24 298 P **P** **17 21 23.5 +0.6**
KIV IAmb IAmb 17 21 26.6
comp=Z,338nm,1.0s
KIV Kislovodsk 44.24 298 *i* P **P** **17 21 23.5 +0.6**
SNR=102
AKH Akhalkalaki 44.28 294 ⇓P **P** **17 21 25.2 +1.8**
NEY Neytrino 44.38 297*c i*P **P** **17 21 25.7 +1.5**
NEY pmax pmax
comp=Z,60nm,1.0s
NEY MLR MLR
comp=Z,5μm,15.0s
SAKB Bahrain 44.47 270 P **P** **17 21 24.8 0.0**
SAKB S **S** **17 27 56.4 -3.6**
SLWR Sila 44.47 267 P **P** **17 21 24.8 0.0**
SLWR P **P** **17 21 24.8 0.0**
SLWR P **P** **17 21 24.8 0.0**
SLWR S **S** **17 27 57.6 -2.5**
SLWR S **S** **17 27 57.6 -2.5**
SLWR S **S** **17 27 57.6 -2.5**
TRNA Turayna 44.53 268 P **P** **17 21 24.9 -0.4**
LEM Lembang 44.59 172 LR LR 17 39 57.4
comp=Z,9μm,19.3s,baz=326,slow=36
LEM Lembang 44.59 172 P **P** **17 21 26.3 +0.3**
comp=Z,5μmcomp=Z,2μmcomp=Z,60nm,1.5s
KLMR Klimovskoe 44.60 322*c i*P **P** **17 21 24.3 -1.1**
KLMR *e* 17 23 07.6
KLMR *e*S **S** **17 27 59.9 -1.0**
KLMR *e*SS **SS** **17 31 21.3 +0.8**
KLMR pmax pmax
comp=Z,2μm,1.8s
KLMR pmax pmax
comp=Z,1μm,1.2s
KLMR MLR MLR
comp=Z,7μm,10.0s
KLMR Klimovskoe 44.60 322⇑*i*P **P** **17 21 25.2 -0.2**
KLMR ⇓*i*P **P** **17 21 25.2 -0.2**
KLMR ⇓*i*P **P** **17 21 25.2 -0.2**
KLMR AMP 17 21 30.1
comp=Z,1μm,1.2s
KLMR *e*PP **PcP** **17 23 07.6 -0.5**
KLMR *e*S **S** **17 28 00.0 -1.0**
KLMR *e*S **S** **17 28 00.0 -1.0**
KLMR *e*SS **SS** **17 31 21.4 +0.9**
KLMR *e*SS **SS** **17 31 21.4 +0.9**
KLMR LQ LQ 17 37 01.6
KLMR LQ LQ 17 37 01.6
KLMR LR LR 17 39 37.0
KLMR AMP 17 40 19.5
comp=Z,7μm,9.7s
SHAO Shalim 44.63 257 P **P** **17 21 26.9 +0.7**
SHAO P **P** **17 21 26.9 +0.7**
SHAO P **P** **17 21 26.9 +0.7**
SHAO S **S** **17 28 01.3 -1.2**
SHAO S **S** **17 28 01.3 -1.2**
SHAO S **S** **17 28 01.3 -1.2**
SHAO Shalim 44.63 257 *i* P **P** **17 21 26.4 +0.2**
SNR=9.9
UWJI Ujung Watu 44.69 167 P **P** **17 21 27.3 +0.7**
comp=Z,5μmcomp=Z,294nm,1.6s
SPSI Sidrap Palu 44.70 154 P **P** **17 21 27.3 +0.6**
comp=Z,6μmcomp=Z,12μmcomp=Z,600nm,1.2s
KARS Kars 44.79 293 P **P** **17 21 29.1 +1.6**
KARS pmax pmax
comp=Z,1μm,1.4s
KARS Kars 44.79 293 P **P** **17 21 29.1 +1.6**
CHVG Ch'k'valeri 44.96 296⇑P **P** **17 21 30.4 +1.8**
LBMI Labuha 44.97 142 P **P** **17 21 28.9 +0.1**
comp=Z,4μmcomp=Z,6μmcomp=Z,398nm,2.1s
SMRI Semarang 45.22 168 P **P** **17 21 31.5 +0.7**
comp=Z,12μmcomp=Z,11μmcomp=Z,361nm,1.6s
SMRI Semarang 45.22 168 P **P** **17 21 28.2 -2.6**
BNSI Bone 45.22 154 P **P** **17 21 31.2 +0.4**
comp=Z,5μmcomp=Z,4μmcomp=Z,238nm,1.3s
GUMO Guam 45.22 110 P **P** **17 21 30.7 -0.2**
comp=Z,225nm,1.1s,baz=210,slow=7.6,SNR=5.1
GUMO LR LR 17 40 57.6
comp=Z,3μm,18.3s,baz=308,slow=37
GUMO Guam 45.22 110 P **P** **17 21 31.8 +0.9**
GUMO pmax pmax
comp=Z,709nm,1.5s
GUMO Guam 45.22 110 P **P** **17 21 31.8 +0.9**
GUMO IAmb IAmb 17 21 37.3
comp=Z,708nm,1.4s
VORD Divnogorie 45.24 308 *e*P **P** **17 21 30.8 +0.2**
VORD pmax pmax
comp=Z,230nm,1.0s
LPSR Galich'ya Gora 45.25 310 *e*P **P** **17 21 30.9 +0.2**

LPSR *e*S S 17 28 00.4 -10
LPSR *e*SS **ScS** **17 31 20.2 -7.3**
LPSR pmax pmax
comp=Z,870nm,0.9s
LPSR smax smax
comp=N,1μm,5.6s
LPSR MLR MLR
comp=Z,8μm,11.0s
VSR Storozhevoye 45.28 308 *e*P **P** **17 21 30.9 -0.1**
VSR *e*S **S** **17 28 08.1 -3.1**
VSR *e*SS **ScS** **17 31 18.3 -9.4**
VSR pmax pmax
comp=Z,740nm,0.8s
VSR smax smax
comp=N,730nm,4.1s
VSR MLR MLR
comp=Z,7μm,11.0s
DMTO DMTO 45.34 257 P **P** **17 21 32.3 +0.5**
SNR=5.2
DMTO P **P** **17 21 32.3 +0.5**
SNR=5.2
DMTO P **P** **17 21 32.3 +0.5**
SNR=5.2
DMTO S **S** **17 28 07.0 -5.7**
DMTO S **S** **17 28 07.0 -5.7**
DMTO S **S** **17 28 07.0 -5.7**
KAAM Kaadhehdhoo 45.43 222 P **P** **17 21 32.7 +0.2**
KAAM Kaadhehdhoo 45.43 222 P **P** **17 21 33.4 +0.9**
KAAM IAmb IAmb 17 21 35.7
comp=Z,214nm,1.1s
DOK Doka 45.45 259 P **P** **17 21 32.7 0.0**
SNR=8.6
DOK P **P** **17 21 32.7 0.0**
SNR=8.6
DOK S **S** **17 28 14.0 -0.4**
DOK S **S** **17 28 14.0 -0.4**
SANI Sanana 45.48 145 P **P** **17 21 32.2 -0.7**
comp=Z,6μmcomp=Z,7μmcomp=Z,290nm,1.1s
SANI Sanana 45.48 145 P **P** **17 21 33.1 +0.2**
GEVA Gevas 45.49 290 P **P** **17 21 33.7 +0.7**
BATM Batumi 45.53 295 ⇓P **P** **17 21 35.1 +1.9**
KAPI Kappang 45.67 154 LR LR 17 42 44.7
comp=Z,2μm,20.0s,baz=358,slow=39
KAPI Kappang 45.67 154 P **P** **17 21 34.6 +0.2**
KAPI pmax pmax
comp=Z,593nm,1.3s
KAPI Kappang 45.67 154 P **P** **17 21 34.8 +0.4**
KAPI P **P** **17 21 34.8 +0.4**
KAPI P **P** **17 21 34.8 +0.4**
KAPI S **S** **17 28 18.6 +1.2**
KAPI S **S** **17 28 18.6 +1.2**
KAPI S **S** **17 28 18.6 +1.2**
KAPI Kappang 45.67 154 P **P** **17 21 34.6 +0.2**
MOS Moscow 45.71 315 *e*P P 17 21 28.7 -5.6
MOS *e* 17 23 06.5
MOS *e* 17 23 21.2
MOS *e*S **S** **17 28 10.8 -6.4**
MOS *e* 17 31 21.8
MOS pmax pmax
comp=Z,3μm,1.8s
MOS pmax pmax
comp=N,720nm,1.3s
MOS pmax pmax
comp=E,1μm,1.3s
MOS pmax pmax
comp=Z,2μm,1.3s
MOS smax smax
comp=N,2μm,5.9s
MOS smax smax
comp=E,2μm,5.9s
MOS MLR MLR
comp=E,8μm,15.0s
MOS MLR MLR
comp=Z,9μm,15.0s
KMMI Kalianget 45.93 163 P **P** **17 21 37.9 +1.5**
comp=Z,8μmcomp=Z,8μmcomp=Z,332nm,1.4s
RBK Rabkut 46.03 258 P **P** **17 21 37.3 -0.1**
RBK P **P** **17 21 37.3 -0.1**
RBK P **P** **17 21 37.3 -0.1**
UGM Wanagama 46.08 168 P **P** **17 21 38.1 +0.5**
comp=Z,6μmcomp=Z,218nm,1.1s
UGM Wanagama 46.08 168 P **P** **17 21 38.3 +0.7**
UGM IAmb IAmb 17 21 48.0
comp=Z,470nm,1.4s
UGM IAMs_20 IAMs_20 17 42 28.3
comp=Z,11μm,19.0s
UGM Wanagama 46.08 168 P **P** **17 21 39.4 +1.8**
BKSI Bulukumba 46.09 154 P **P** **17 21 38.2 +0.6**
comp=Z,5μmcomp=Z,5μmcomp=Z,175nm,1.8s
WHFO Wadi Hawf 46.13 258 P **P** **17 21 37.4 -0.7**
SNR=9.9
WHFO P **P** **17 21 37.4 -0.7**
SNR=9.9
WHFO P **P** **17 21 37.4 -0.7**
SNR=9.9
SIRT Sirnak 46.21 289 P **P** **17 21 39.2 +0.5**
BILL Bilibino 46.26 28*d i*P **P** **17 21 38.8 +0.4**
BILL *i* 17 21 45.2
BILL *i* 17 23 13.5
BILL *i*S **S** **17 28 24.1 -0.7**
BILL pmax pmax
comp=Z,326nm,1.0s
BILL MLR MLR
comp=Z,5μm,12.0s
BILL Bilibino 46.26 28 P **P** **17 21 38.4 0.0**
BILL IAmb IAmb 17 21 41.3
comp=Z,311nm,1.0s
OBN Obninsk 46.37 314 LR LR 17 41 36.7
comp=Z,2μm,21.9s,baz=88,slow=37
OBN Obninsk 46.37 314*c i*P **P** **17 21 39.1 -0.3**
OBN *e* 17 23 28.8
OBN *e*S **S** **17 28 33.0 +6.4**
OBN pmax pmax
comp=Z,1μm,1.3s
OBN MLR MLR
comp=Z,8μm,16.0s
OBN Obninsk 46.37 314 P **P** **17 21 38.7 -0.7**
SOC Sochi 46.42 298 *e*P **P** **17 21 37.5 -2.6**
SOC *e* 17 23 24.5
SOC *e*S **S** **17 28 25.4 -2.4**
SOC *e*SS **ScS** **17 31 44.2 +8.8**
SOC *e*SSS SSS 17 32 46.5
SOC pmax pmax
comp=Z,190nm,1.0s
SOC pmax pmax
comp=Z,2μm,2.8s
SOC MLR MLR
comp=Z,8μm,15.0s
PCJI Pacitan 46.47 167 P **P** **17 21 41.8 +1.2**
comp=Z,4μmcomp=Z,149nm,0.8s
BLJI Banyuglugur 46.52 164 P **P** **17 21 41.8 +0.8**
comp=Z,3μmcomp=Z,51nm,1.3s
ABJI Asem Bagus 46.71 163 P **P** **17 21 43.4 +0.8**
comp=Z,9μmcomp=Z,6μmcomp=Z,154nm,1.3s
ABTO Aybut 46.83 258 P **P** **17 21 43.2 -0.4**
SNR=5.3
ABTO P **P** **17 21 43.2 -0.4**
SNR=5.3
ABTO S **S** **17 28 34.1 -0.1**
ABTO S **S** **17 28 34.1 -0.1**
KOPT Kop Dagi 46.86 293 P **P** **17 21 44.9 +1.0**
KOPT IAmb IAmb 17 21 49.2
comp=Z,223nm,1.1s
BSSI Bau Bau, Buton 46.98 154 P **P** **17 21 44.1 -0.6**
comp=Z,3μmcomp=Z,3μmcomp=Z,222nm,1.1s
GMJI Gumukmas 46.99 164 P **P** **17 21 45.2 +0.4**
comp=Z,4μmcomp=Z,149nm,1.4s
SWI Sorong 47.09 138 P **P** **17 21 45.5 -0.1**
comp=Z,4μmcomp=Z,4μmcomp=Z,129nm,1.5s
SIJI Sorong 47.10 138 P **P** **17 21 45.2 -0.4**
comp=Z,28nm,0.6s,baz=355,slow=6.6,SNR=24
SIJI PcP **PcP** **17 23 17.9 +0.4**
comp=Z,47nm,1.1s,baz=359,slow=4.8,SNR=4.7
SIJI LR LR 17 43 23.0
comp=Z,2μm,18.0s,baz=346,slow=38
KTUT Trabzon 47.10 294 ⇓P **P** **17 21 47.1 +1.6**
LVZ Lovozero 47.12 332*c i*P **P** **17 21 44.5 -0.8**
LVZ pmax pmax
comp=Z,386nm,2.5s
LVZ MLR MLR
comp=Z,17μm,14.0s
LVZ Lovozero 47.12 332 P **P** **17 21 44.1 -1.2**
LVZ IAmb IAmb 17 21 48.2
comp=Z,360nm,1.6s
LVZ IAMs_20 IAMs_20 17 42 07.3

comp=Z,10μm,22.0s
BBSI Bau Bau 47.14 151 P P 17 21 47.4 +1.5
comp=Z,397nmcomp=Z,27nm,1.4s
SRBI Singaraja 47.23 162 P P 17 21 47.7 +1.1
comp=Z,9μmcomp=Z,7μmcomp=Z,227nm,1.6s
JAGI Jajag, Banyuwa 47.35 163 P P 17 21 47.5 0.0
comp=Z,5μmcomp=Z,5μmcomp=Z,258nm,1.0s
JAGI Jajag, Banyuwa 47.35 163 P P 17 21 46.7 -0.8
JAGI IAmb IAmb 17 21 53.9
comp=Z,202nm,0.9s
JAGI Jajag, Banyuwa 47.35 163 P P 17 21 47.9 +0.4
APA Apatity 47.58 331 ⇓*i*P **P 17 21 45.6 -3.2**
APA *i* 17 23 16.7
APA *i* 17 23 39.3
APA *i* S S 17 28 34.0 -10
APA *i* 17 31 39.0
APA pmax pmax
comp=Z,39nm,1.3s
APA MLR MLR
comp=Z,36μm,13.0s
IGBI Denpasar 47.92 162 P P 17 21 52.8 +0.9
comp=Z,2μmcomp=Z,87nm,1.2s
AAI Ambon 47.95 143 P P 17 21 52.2 -0.1
comp=Z,4μmcomp=Z,4μmcomp=Z,173nm,2.0s
MSAI Masohi 48.01 142 P P 17 21 53.8 +1.1
comp=Z,22nm,0.7s
XMIS Christmas Isla 48.02 175 P P 17 21 51.1 -1.7
PUL Pulkovo 49.21 321*c i*P **P 17 22 01.8 +0.4**
PUL pmax pmax
comp=Z,1μm,1.3s
PUL MLR MLR
comp=Z,13μm,16.0s
PUL Pulkovo 49.21 321 *e*P **P 17 22 01.4 0.0**
FAKI Fak Fak 49.34 138 P P 17 22 02.7 -0.3
comp=Z,4μmcomp=Z,4μmcomp=Z,195nm,1.4s
FAKI Fak Fak 49.34 138 P P 17 22 02.7 -0.3
FAKI IAmb IAmb 17 22 04.8
comp=Z,770nm,2.0s
FAKI Fak Fak 49.34 138 P P 17 22 03.1 +0.1
SOCY Socotra 49.43 252 P P 17 22 01.9 -1.9
SNR=8.0
SOCY Socotra 49.43 252 P P 17 22 01.6 -2.2
SOCY IAmb IAmb 17 22 05.2
comp=Z,368nm,1.4s
RAYN Ar Rayn 49.66 270 P P 17 22 04.4 -1.0
RAYN pmax pmax
comp=Z,33nm,0.8s
RAYN Ar Rayn 49.66 270 P P 17 22 05.3 -0.2
RAYN Ar Rayn 49.66 270 P P 17 22 04.4 -1.0
RAYN Ar Rayn 49.66 270 *i* P **P 17 22 04.6 -0.8**
SNR=12
TOKA Tokat 49.69 295 P P 17 22 05.1 -0.4
WBSI Waikabubak, Su 49.89 157 P P 17 22 05.1 -2.1
comp=Z,9μmcomp=Z,907nm,1.0s
MMRI Maumere 49.91 153 P P 17 22 06.7 -0.6
comp=Z,5μmcomp=Z,9μmcomp=Z,530nm,1.7s
MMRI Maumere 49.91 153 P P 17 22 05.8 -1.5
KEV Kevo 49.95 334 P P 17 22 06.2 -0.8
KEV pmax pmax
comp=Z,281nm,1.3s
KEV MLR MLR
comp=Z,7μm,19.0s
KEV Kevo 49.95 334 P P 17 22 06.2 -0.8
KEV IAmb IAmb 17 22 09.4
comp=Z,281nm,1.3s
KEV IAMs_20 IAMs_20 17 45 00.0
comp=Z,7μm,19.0s
SNOP Sinop 50.05 297 P P 17 22 08.4 +0.3
SNOP IAmb IAmb 17 22 10.8
comp=Z,403nm,1.6s
BAKI Biak 50.08 132 P P 17 22 09.7 +1.1
comp=Z,8μmcomp=Z,7μmcomp=Z,280nm,1.8s
GAZ Gaziantep 50.24 290 P P 17 22 09.2 -0.5
ARA0 ARCESS Array S 50.49 334 *e*P **P 17 22 13.2 +2.2**
ARCES ARCESS Array B 50.49 334 P P 17 22 10.9 -0.2
comp=Z,127nm,0.9s,baz=76,slow=6.9,SNR=89
ARCES PcP **PcP 17 23 28.9 -0.1**
comp=Z,64nm,1.1s,baz=71,slow=5.3,SNR=5.1
ARCES LR LR 17 45 06.7
comp=Z,5μm,20.2s,baz=76,slow=38
ARCES ARCESS Array B 50.49 334 P P 17 22 10.6 -0.4
ARCES IAmb IAmb 17 22 13.5
comp=Z,302nm,1.2s
HOPEN Hopen 50.63 343 ⇑*i*P **P 17 22 12.7 +0.7**
BNN Bunyan 50.64 293 P P 17 22 13.2 +0.3
BNN IAmb IAmb 17 22 16.2
comp=Z,539nm,1.4s
SRPI Serui, Papua 50.71 133 P P 17 22 14.4 +1.0
comp=Z,3μmcomp=Z,3μmcomp=Z,174nm,1.0s
BASI Baing, Sumba 50.81 156 P P 17 22 13.2 -0.9
comp=Z,3μmcomp=Z,8μmcomp=Z,557nm,1.8s
BZK Bozkurt 50.92 297 ⇑P **P 17 22 15.2 +0.5**
BZK Bozkurt 50.92 297 P P 17 22 15.4 +0.7
HAMF Hammerfest 51.05 335 ⇑*i*P **P 17 22 15.4 +0.2**
FIA1 FINESS Array S 51.06 323 P P 17 22 15.2 -0.2
FIA1 IAmb IAmb 17 22 17.7
comp=Z,402nm,1.2s
FINES FINESS Array B 51.06 323 P P 17 22 15.0 -0.4
comp=Z,128nm,0.8s,baz=84,slow=7.9,SNR=192
FINES PP **PP 17 24 15.9 +4.2**
comp=Z,35nm,1.0s,baz=98,slow=10,SNR=5.3
FINES LR LR 17 45 20.4
comp=Z,5μm,19.5s,baz=94,slow=38
FINES FINESS Array B 51.06 323 *i* P **P 17 22 15.6 +0.1**
FINES pmax pmax
comp=Z,128nm,0.8s
FINES FINESS Array B 51.06 323 P P 17 22 14.8 -0.7
SHEM Shemya Is, Ala 51.08 48 LR LR 17 43 46.4
comp=Z,3μm,21.7s,baz=296,slow=36
SMY Shemya 51.08 48 P P 17 22 15.2 -0.5
SMY pmax pmax
comp=Z,161nm,0.8s
SMY Shemya 51.08 48 P P 17 22 15.2 -0.5
VSU Vasula 51.24 319*c i*P **P 17 22 16.7 -0.1**
VSU pmax pmax
comp=Z,870nm,1.0s
VSU MLR MLR
comp=Z,25μm,18.0s
VSU Vasula 51.24 319 *e*P **P 17 22 17.2 +0.4**
KTK1 Kautokeino 51.33 333 *e*P **P 17 22 16.9 -0.5**
ILGA Ilgaz 51.42 296 P P 17 22 19.3 +0.5
ILGA IAmb IAmb 17 22 21.6
comp=Z,318nm,0.8s
MNK Minsk 51.42 314 *i* P **P 17 22 19.2 +0.9**
MNK *i* 17 23 32.8
MNK *i* 17 24 15.4
MNK *i* PPP PPP 17 25 15.4
MNK *i* S **S 17 29 39.9 +2.0**
MNK *i* 17 32 09.7
MNK *i* SS **SS 17 33 17.3 +4.1**
MNK *i* SSS SSS 17 34 52.5
MNK pmax pmax
comp=E,37nm,0.9s
MNK pmax pmax
comp=Z,314nm,0.9s
MNK pmax pmax
comp=N,55nm,0.9s
MNK MLR MLR
comp=Z,6μm,16.0s
MNK MLR MLR
comp=E,757nm,16.0s
MNK MLR MLR
comp=N,4μm,15.0s
MNK Minsk 51.42 314 *i* P **P 17 22 19.2 +0.9**
comp=E,37nm,0.9s
MNK *i* P **P 17 22 19.2 +0.9**
comp=N,55nm,0.9s
MNK *i* P **P 17 22 19.2 +0.9**
comp=Z,314nm,0.9s,baz=77
MNK *i* PcP **PcP 17 23 32.9 +0.2**
MNK *i* PP **PP 17 24 15.4 +0.3**
MNK *i* PPP PPP 17 25 15.5
MNK *i* S **S 17 29 39.9 +2.1**
MNK *i* SS **SS 17 33 17.3 +4.1**
MNK *i* SSS SSS 17 34 52.5
MNK *i* LQ LQ 17 40 28.5
MNK *i* LR LR 17 42 46.6
MNK *i* LRM MLR 17 44 21.7
comp=Z,6μm,15.6s
MNK *i* LRM MLR 17 44 22.4
comp=E,757nm,15.6s
MNK *i* LRM MLR 17 46 23.1
comp=N,4μm,14.6s
AKASG Malin Array Be 51.54 309 P P 17 22 18.9 -0.3
comp=N,81nm,0.7s,baz=64,slow=7.3,SNR=265
AKASG LR LR 17 44 55.6
comp=N,11μm,19.5s,baz=76,slow=37
AKASG Malin Array Be 51.54 309 P P 17 22 18.6 -0.6
AKASG IAmb IAmb 17 22 24.7
comp=Z,211nm,0.9s
AKBB Malin Array Si 51.54 309*c i*P **P 17 22 18.9 -0.3**
AKBB Malin Array Si 51.54 309 P P 17 22 18.5 -0.7
AKBB IAmb IAmb 17 22 24.0
comp=Z,410nm,1.3s
IDID Didziasalis 51.88 315 *e*P **P 17 22 23.2 +1.5**
BR131 Keskin Array S 51.94 295*c i*P **P 17 22 22.6 0.0**
BR131 Keskin Array S 51.94 295 P P 17 22 22.7 +0.2
BR131 IAmb IAmb 17 22 25.3
comp=Z,884nm,1.9s
BRTR Keskin Array B 51.94 295 P P 17 22 22.8 +0.2
comp=Z,66nm,0.8s,baz=100,slow=6.6,SNR=140
BRTR LR LR 17 48 16.1
comp=Z,1μm,19.0s,baz=88,slow=40
BRTR Keskin Array B 51.94 295 P P 17 22 22.5 0.0
NACGM Naroch 51.95 315 *i* P **P 17 22 22.4 +0.2**
IIGN Ignalina 52.16 316 *e*P **P 17 22 25.4 +1.6**
BJO1 Bjornoya 52.18 340 ⇑*i*P **P 17 22 23.5 -0.1**
JETT Jettan, Norway 52.27 334 *e*P **P 17 22 25.6 +1.1**
SMPI Sarmi 52.27 130 P P 17 22 26.1 +1.1
comp=Z,4μmcomp=Z,4μmcomp=Z,216nm,1.9s
HWQ Hawqa 52.30 287 *e*P **P 17 22 25.1 -0.2**
PURM Purcari 52.30 304 ⇑P **P 17 22 25.6 +0.6**
DGAR Diego Garcia 52.46 218 ⇓*e*P **P 17 22 27.3 +0.9**
DGAR pmax pmax
comp=Z,671nm,1.7s
DGAR MLR MLR
comp=Z,2μm,16.0s
ANTO Ankara 52.49 295 P P 17 22 26.8 +0.2
ANTO pmax pmax
comp=Z,196nm,1.4s
ANTO MLR MLR
comp=Z,2μm,21.0s
ANTO Ankara 52.49 295 P P 17 22 26.8 +0.2
SPB2 Spitsbergen Ar 52.51 345 P P 17 22 26.2 +0.2
SPB2 IAmb IAmb 17 22 28.5
comp=Z,318nm,1.1s
SPA0 Spitsbergen Ar 52.51 345 *e*P **P 17 22 26.1 0.0**
SPITS Spitsbergen Ar 52.51 345 LR LR 17 48 06.1
comp=Z,12μm,19.8s,baz=232,slow=40
SPITS Spitsbergen Ar 52.51 345 P P 17 22 26.3 +0.2
SPITS pmax pmax
comp=Z,419nm,1.1s
BR231 Keskin MP Arra 52.52 295 P P 17 22 27.6 +0.7
BR231 IAmb IAmb 17 22 29.9
comp=Z,520nm,1.9s
BHL Bhannes 52.67 287 *e*P **P 17 22 27.8 -0.2**
MTSE Matsula 52.68 320 *e*P **P 17 22 28.0 +0.4**
RCY Rachaya 52.70 287 *e*P **P 17 22 29.0 +0.7**
TRO Tromso 52.77 334 *e*P **P 17 22 28.1 0.0**
HSPB Hornsund (broa 52.80 344 *i* P **P 17 22 28.7 +0.5**
HSPB *e*L L 17 48 47.0
comp=Z,16μm,19.8s
HSPB Hornsund (broa 52.80 344 ⇑*i*P **P 17 22 28.7 +0.5**
DQRL Deir Qamar 52.82 287 *e*P **P 17 22 29.7 +0.6**
KIS Kishinev 52.85 305 ⇑*i*P **P 17 22 28.4 -0.6**
comp=Z,1μm,3.3s
KIS Kishinev 52.85 305 *e*PP PP 17 24 34.0 +5.8
comp=Z,600nm,9.5s
KIS Kishinev 52.85 305*c i*P **P 17 22 28.5 -0.6**
KIS *e* 17 22 39.0
KIS *e* 17 24 34.0
KIS *e*PPP PPP 17 25 29.0
KIS *e*S **S 17 29 54.0 -3.7**
KIS pmax pmax
comp=Z,1μm,3.3s
KIS pmax pmax
comp=E,740nm,2.9s
KIS pmax pmax
comp=Z,600nm,9.5s
KIS MLR MLR
comp=Z,2μm,16.5s
MILM Milestii Mici 52.88 305 ⇑*i*P **P 17 22 28.5 -0.7**
comp=Z,190nm,0.6s
MILM Milestii Mici 52.88 305 *e*PP PP 17 24 34.0 +5.5
MILM Milestii Mici 52.88 305 ⇑P **P 17 22 29.7 +0.4**
MILM Milestii Mici 52.88 305*c i*P **P 17 22 28.5 -0.7**
MILM *e* 17 23 33.0
MILM *e* 17 24 34.0
MILM *e*PPP PPP 17 25 30.0
MILM *e*S **S 17 29 56.0 -2.0**
MILM pmax pmax
comp=Z,190nm,0.6s
MILM MLR MLR
comp=Z,6μm,13.0s
MILM MLR MLR
comp=E,6μm,17.0s
SAUI Saumlaki 53.18 142 P P 17 22 32.1 +0.3
comp=E,10μmcomp=E,10μmcomp=E,448nm,1.3s
SAUI Saumlaki 53.18 142 P P 17 22 31.6 -0.2
MMAI Mount Meron Ar 53.23 286 LR LR 17 50 10.2
comp=E,3μm,18.7s,baz=262,slow=42
KBS Kingsbay 53.30 346 P P 17 22 31.7 -0.2
KBS pmax pmax
comp=Z,162nm,1.0s
KBS MLR MLR
comp=Z,11μm,18.0s
KBS Kingsbay 53.30 346 *e*P **P 17 22 31.5 -0.5**
KBS Kingsbay 53.30 346 P P 17 22 31.7 -0.2
PABE Paberze 53.37 316 *e*P **P 17 22 33.4 +0.7**
PABE Paberze 53.37 316 P P 17 22 33.0 +0.3
LEOM Leova 53.39 304 ⇑P **P 17 22 33.9 +0.9**
MDUB Mudurnu 53.42 296 P P 17 22 33.7 +0.2
TLCR 53.43 303 ⇓P **P 17 22 34.0 +0.7**
IAS Iasi 53.60 305 ⇑P **P 17 22 35.0 +0.5**
GENI Genyem 53.63 129 P P 17 22 36.7 +1.6
comp=Z,6μmcomp=Z,10μmcomp=Z,445nm,1.5s
VASR Vaslui 53.63 305 ⇑P **P 17 22 35.0 +0.2**
VLDR Vladesti 53.70 304 ⇑P **P 17 22 35.6 +0.3**
SLIT Slitere, Latvi 53.73 319 *e*P **P 17 22 35.0 -0.3**
GIUM Giurgiulesti 53.73 303 ⇓P **P 17 22 37.2 +1.6**
TATR Tatarca 53.80 303 ⇑P **P 17 22 36.8 +0.7**
TPGR Topolog 53.80 302 ⇓P **P 17 22 37.0 +0.9**
SCTR Scanteiesti 53.81 304 ⇓P **P 17 22 36.8 +0.6**
VARL Varlezi 53.84 304 ⇑P **P 17 22 36.8 +0.5**
GHAJ Ghor Haditha 53.84 284 P P 17 22 36.9 +0.4
BIR Birlad 53.86 304 ⇓P **P 17 22 37.5 +1.0**
CFR Carcaliu 53.88 303 ⇓P **P 17 22 36.9 +0.3**
JAY Jayapura 53.90 129 P P 17 22 37.8 +0.7
comp=Z,30nm,0.8s,baz=303,slow=5.8,SNR=12
JAY LR LR 17 44 41.0
comp=Z,2μm,19.7s,baz=331,slow=35
JAY Jayapura 53.90 129 P P 17 22 37.9 +0.8
comp=Z,2μmcomp=Z,36nm,1.7s
EFOR EFORIE 53.92 301 ⇓P **P 17 22 38.2 +1.2**
TIRR Tirgusor 53.94 302 ⇑P **P 17 22 37.3 +0.2**
TIRR Tirgusor 53.94 302 P P 17 22 37.1 0.0
TIRR pmax pmax
comp=Z,118nm,0.8s
TIRR MLR MLR
comp=Z,24μm,18.0s
TIRR Tirgusor 53.94 302 P P 17 22 37.1 0.0
SCHL Schela 53.98 303 ⇑P **P 17 22 37.8 +0.5**
CSS Mathiatis 53.99 289 P P 17 22 37.6 0.0
SLCR Slobozia Conac 53.99 304 ⇑P **P 17 22 38.1 +0.7**
IZVR Izvoarele 54.01 303 ⇓P **P 17 22 38.4 +0.8**
MFTR Murfatlar 54.03 302 ⇓P **P 17 22 38.7 +0.9**
MANR Mangalia 54.05 301 ⇓P **P 17 22 39.2 +1.3**
GHRR 54.07 304 ⇓P **P 17 22 39.3 +1.3**
TLBR Topalu 54.16 302 ⇑P **P 17 22 39.3 +0.7**
BORA Eskisehir 54.17 296 P P 17 22 38.8 -0.1
HARR Harsova 54.19 302 ⇓P **P 17 22 39.5 +0.6**
SUW Suwalki 54.22 315 *i* P **P 17 22 38.9 -0.1**
SUW *e*L L 17 47 19.5
comp=Z,10μm,20.0s
SUW Suwalki 54.22 315 P P 17 22 38.4 -0.5
SUW pmax pmax
comp=Z,934nm,1.2s
SUW MLR MLR
comp=Z,10μm,22.0s
SUW Suwalki 54.22 315 *e*P **P 17 22 39.0 +0.1**
SUW Suwalki 54.22 315 P P 17 22 38.4 -0.5
SUW IAMs_20 IAMs_20 17 47 09.3
comp=Z,10μm,22.0s
AAL Aland 54.24 322 *e*P **P 17 22 38.7 -0.2**
LEF Lefka 54.25 290 ⇓P **P 17 22 39.8 +0.3**
KALB Balgarevo 54.30 301 ⇑P **P 17 22 40.0 +0.3**
PBUR Paburge 54.34 317 *e*P **P 17 22 40.1 +0.3**
PSN Preselentsi 54.37 301 P P 17 22 41.0 +0.8
ODBI Odobesti 54.40 304 ⇑P **P 17 22 42.0 +1.5**
TESR Tescani 54.42 305 ⇑P **P 17 22 41.0 +0.4**
ICOR Ion Corvin 54.47 302 ⇑P **P 17 22 42.0 +1.1**
FAUS Fauske 54.52 332 ⇑*i*P **P 17 22 40.4 -0.6**
VRI Vrincioaia 54.58 304 ⇑P **P 17 22 42.4 +0.6**
GRER 54.59 303 ⇑P **P 17 22 43.4 +1.6**
AMRR Amara 54.61 302 ⇑P **P 17 22 43.0 +1.1**
PLOR Plostina 54.64 304 ⇓P **P 17 22 43.5 +1.3**
BISRR Bisoca 54.70 304 ⇓P **P 17 22 44.3 +1.5**
ISK Istanbul-Kandi 54.71 298 P P 17 22 42.6 -0.1
PGOR Pogoanele 54.74 303 ⇑P **P 17 22 44.4 +1.5**
RASA Rasa 54.88 302 ⇓P **P 17 22 45.3 +1.4**
ISP Isparta 54.91 294*c i*P **P 17 22 43.8 -0.6**
ISP pmax pmax
comp=Z,377nm,1.0s
ISP MLR MLR
comp=Z,4μm,24.0s
ISP Isparta 54.91 294 P P 17 22 44.3 -0.1
ISP IAmb IAmb 17 22 46.6
comp=Z,396nm,1.0s
COVR Voineasa-Covas 54.94 304 ⇑P **P 17 22 45.1 +0.7**
BURAR Bucovina Array 54.97 307 P P 17 22 44.5 -0.2
BUR01 Bucovina Ar. S 54.97 307 ⇑P **P 17 22 45.4 +0.7**
BUR08 Bucovina Ar. S 54.97 307 P P 17 22 44.6 -0.1
BUR08 IAmb IAmb 17 22 47.6
comp=Z,291nm,1.6s
LOF Lofoten 54.98 333 *e*P **P 17 22 43.2 -1.0**
LVV L'vov 54.99 309*d i*P **P 17 22 45.0 +0.4**
LVV *e*S **S 17 30 23.3 -3.2**
LVV MLR MLR
comp=Z,8μm,17.0s
LEHL Lehliu 55.01 302 ⇓P **P 17 22 46.6 +1.7**
NEHR Nehoiu 55.02 304 ⇓P **P 17 22 46.2 +1.2**
EIL Elat 55.04 283 LR LR 17 49 54.6
comp=Z,4μm,18.7s,baz=87,slow=40
PRD Provadia 55.07 301 P P 17 22 45.0 -0.3
OZUR 55.12 305 ⇑P **P 17 22 46.6 +0.8**
MOR8 Moi Rana 55.14 330 *e*P **P 17 22 43.7 -1.8**
MLR Muntele Rosu 55.23 304 ⇓P **P 17 22 47.8 +1.2**
MLR Muntele Rosu 55.23 304 LR LR 17 47 50.4
comp=Z,11μm,20.5s,baz=80,slow=38
MLR Muntele Rosu 55.23 304 P P 17 22 46.9 +0.3
MLR pmax pmax
comp=Z,187nm,1.1s
MLR Muntele Rosu 55.23 304 P P 17 22 46.9 +0.3
MLR IAmb IAmb 17 22 51.8
comp=Z,186nm,1.1s
SECR 55.31 303 ⇓P **P 17 22 48.2 +1.2**
SULR 55.31 303 ⇑P **P 17 22 48.6 +1.6**
DOPR Dopca 55.43 305 ⇓P **P 17 22 49.2 +1.3**
UPP Uppsala 55.47 322 *e*P **P 17 22 48.0 +0.1**
RAZG Razgrad 55.54 302 ⇓P **P 17 22 49.9 +1.1**
GAMB Gambell 55.57 33 P P 17 22 48.6 +0.1
GAMB Gambell 55.57 33 P P 17 22 47.9 -0.7
baz=286,SNR=27
GAMB S **S 17 30 32.2 -1.6**
baz=286
KONS Konsvik 55.57 331 *e*P **P 17 22 48.2 -0.4**
SGRR Singureni 55.66 302 ⇑P **P 17 22 50.4 +0.8**
KLNR Kaliningrad 55.70 316*c i*P **P 17 22 49.5 -0.1**
KLNR pmax pmax
comp=Z,954nm,1.1s
KLNR MLR MLR
comp=Z,7μm,17.0s
ARCR ARCALIA 55.70 306 ⇑P **P 17 22 51.5 +1.7**
ELL Elmali 55.79 293 P P 17 22 50.1 -0.7
ELL pmax pmax
comp=Z,790nm,1.2s
ELL Elmali 55.79 293 P P 17 22 50.1 -0.7
TGMR Targu Mures 55.79 306 ⇑P **P 17 22 51.4 +0.9**
VOIR 55.84 304 ⇑P **P 17 22 51.7 +0.8**
KWP Kalwaria Pacla 55.86 310 *i* P **P 17 22 52.0 +1.0**
KWP *e*L L 17 47 31.3
comp=Z,14μm,20.0s
KWP Kalwaria Pacla 55.86 310 P P 17 22 51.4 +0.4
KWP Kalwaria Pacla 55.86 310 P P 17 22 51.4 +0.4
MTUR Matau 55.91 304 ⇓P **P 17 22 52.8 +1.4**
KULA Kula-Manisa 55.98 295 P P 17 22 50.2 -1.8
MDB Medias 56.02 305 ⇑P **P 17 22 53.5 +1.3**
EDRB Edirne 56.03 300 P P 17 22 50.8 -1.4
SZH Strazhica 56.04 301 P P 17 22 52.0 -0.3
BMR Baia Mare 56.05 307 ⇓P **P 17 22 53.7 +1.4**
BALB Balikesir 56.09 297 P P 17 22 52.7 0.0
STFAR Stefanesti-Arg 56.10 304 ⇑P **P 17 22 54.1 +1.3**
ARR Arges 56.14 304 ⇓P **P 17 22 54.1 +1.0**
COPA Copaceanca 56.20 303 ⇑P **P 17 22 54.0 +0.6**
HUMR Humele 56.21 303 ⇓P **P 17 22 54.2 +0.7**
BEL Belsk 56.27 313 *i* P **P 17 22 54.4 +0.6**
BEL *e*L L 17 48 39.6
comp=Z,11μm,17.2s
ZIMR 56.28 302 ⇑P **P 17 22 55.3 +1.3**
CJR Cluj-Napoca 56.32 306 ⇓P **P 17 22 55.5 +1.2**
CBBR Cluj-Babes-Bol 56.33 306 ⇑P **P 17 22 55.9 +1.5**
UZH Uzhgorod 56.46 309*d i*P **P 17 22 55.2 0.0**
UZH *e*S **S 17 30 42.0 -4.2**
UZH pmax pmax
comp=Z,200nm,10.0s
UZH MLR MLR
comp=Z,2μm,14.0s
MESR Meseseni 56.58 307 ⇑P **P 17 22 57.3 +1.2**
TNA Tin City 56.60 30 P P 17 22 55.9 0.0
TNA IAmb IAmb 17 22 58.4
comp=Z,203nm,1.0s
TNA Tin City 56.60 30 P P 17 22 55.8 0.0
baz=286,SNR=118
TNA S **S 17 30 48.0 +0.5**
baz=288
NSS Namsos 56.61 329 *e*P **P 17 22 55.0 -1.0**
LOT Lotru 56.67 305 ⇑P **P 17 22 57.9 +0.9**
VLAD Vladila 56.80 303 ⇑P **P 17 22 58.7 +1.0**
STHS Stebnicka Huta 56.83 310 *e*P **P 17 22 58.2 +0.3**
STHS Stebnicka Huta 56.83 310 *e*P **P 17 22 58.2 +0.3**
DRGR 56.86 306 ⇑P **P 17 22 59.2 +1.0**
ALN Alexandroupoli 56.88 299 P P 17 22 57.1 -1.2
ALN Alexandroupoli 56.88 299 P P 17 22 58.5 +0.2
ALN pmax pmax
comp=Z,245nm,1.4s
ALN Alexandroupoli 56.88 299 P P 17 22 58.5 +0.2
ALN IAmb IAmb 17 23 00.9
comp=Z,245nm,1.4s
CRVS Cervenica-Dubn 56.88 309 *e*P **P 17 22 58.3 +0.1**
CRVS pmax pmax
comp=Z,235nm,1.8s
CRVS Cervenica-Dubn 56.88 309 *e*P **P 17 22 58.3 +0.1**
CRVS *e*PP **PP 17 25 03.3 -1.0**
CRVS *e*S **S 17 30 58.6 +6.8**
CRVS *e*SS SS 17 35 33.8 +54
CRVS *e*L L 17 48 26.7
DRS Darwin Rock St 56.88 145 P P 17 22 58.7 +0.2
NOR Nord 56.89 351 *i* P **P 17 22 57.4 -0.4**
NOR IAmb IAmb 17 22 59.6
comp=Z,347nm,1.1s
KDZ Kurdzhali 57.02 300 P P 17 22 59.0 -0.3
DEV Deva 57.07 305 ⇓P **P 17 23 00.8 +1.2**
RDO Rodhopi 57.13 299 P P 17 22 59.0 -1.1
LTVH Ltavrtes, Hu 57.16 307 ⇑P **P 17 23 01.4 +1.2**
LTVH Ltavrtes, Hu 57.16 307 P P 17 23 01.0 +0.8
HFS Hagfors 57.26 324 LR LR 17 48 49.9
comp=Z,5μm,20.2s,baz=80,slow=37
GADA Gvkgeada 57.27 298 P P 17 22 59.7 -1.3
PLD Plovdiv 57.33 301 P P 17 23 02.0 +0.5
SRE Strehaia 57.34 304 ⇓P **P 17 23 02.1 +0.6**
GZR Gura Zlata 57.34 305 ⇑P **P 17 23 02.3 +0.7**
MTN Manton Dam 57.35 145 P P 17 23 00.7 -1.1
MTN Manton Dam 57.35 145 P P 17 23 01.7 -0.1
NIE Niedzica 57.41 310 *i* P **P 17 23 03.6 +1.6**
NIE *e*PP **PP 17 25 09.6 +0.6**
NIE *e*S **S 17 31 02.2 +3.5**
NIE *e*L L 17 48 44.8
comp=Z,9μm,19.6s
SMTH Samothraki Isl 57.41 298 P P 17 22 59.7 -2.4
OJC Ojcow 57.42 311 *i* P **P 17 23 02.4 +0.4**
OJC *e*PP **PP 17 25 07.6 -1.4**
OJC *e*S **S 17 31 01.8 +3.0**
OJC *e*L L 17 48 38.5
comp=Z,10μm,22.4s
OJC Ojcow 57.42 311 P P 17 23 02.0 0.0
OJC pmax pmax
comp=Z,282nm,0.9s
OJC Ojcow 57.42 311 P P 17 23 02.0 0.0
OJC IAmb IAmb 17 23 04.3
comp=Z,282nm,0.9s
RZN Rozhen 57.48 300 P P 17 23 03.0 +0.2

BAIL Bailesti 57.49 303 ⇓P **P 17 23 03.7 +1.1**
BLEU Blekinge 57.51 319 *i* P **P 17 23 00.8 -1.7**
PGB Panagyurishte 57.52 301 P **P 17 23 04.0 +1.1**
KECS Kecovo 57.64 309 *e*P **P 17 23 04.5 +1.0**
KECS pmax pmax
comp=Z,71nm,1.2s
KECS Kecovo 57.64 309 *e*P **P 17 23 04.5 +1.0**
KECS *e*PP **PP 17 25 13.1 +2.1**
RDOG Red Dog Mine 57.64 26 IAMs_20 IAMs_20 17 51 39.9
comp=Z,8μm,18.0s
RDOG Red Dog Mine 57.64 26 P P 17 23 14.6 +11
baz=291
RDOG S S 17 31 12.2 +11
baz=291
PUNG Punghina 57.67 304 ⇓P **P 17 23 04.4 +0.6**
SIRR Siria 57.73 306 ⇓P **P 17 23 04.9 +0.6**
HERR Herculane 57.77 304 ⇓P **P 17 23 05.4 +0.9**
DJES Djerdap 57.79 304 *e*P **P 17 23 06.2 +1.5**
GKP Gorka Klasztor 57.80 315 *i* P **P 17 23 05.2 +0.5**
GKP *e*PP **PP 17 25 12.2 -0.1**
GKP *e*L L 17 49 45.6
comp=Z,11μm,16.7s
GKP Gorka Klasztor 57.80 315 *e*P **P 17 23 05.3 +0.7**
KDU Kakadu 57.83 144 P **P 17 23 05.5 +0.3**
MQOL MQOL 57.83 272 *i* P **P 17 23 05.3 0.0**
MQOL AMP 17 23 14.9
comp=N,609nm,0.1s
NC405 NORSAR Array S 57.84 325 P **P 17 23 03.4 -1.4**
MANU Manus Island 57.84 122 P **P 17 23 05.7 +0.3**
KAVA Kavala 57.90 299 P **P 17 23 05.4 -0.1**
ANM Nome 57.95 31 P **P 17 23 05.4 -0.1**
ANM pmax pmax
comp=Z,511nm,1.9s
ANM MLR MLR
comp=Z,10μm,18.0s
ANM Nome 57.95 31 P **P 17 23 05.4 -0.1**
ANM IAmb IAmb 17 23 08.0
comp=Z,511nm,1.9s
ANM Nome 57.95 31 P **P 17 23 05.8 +0.3**
baz=291
ANM S **S 17 31 06.5 +1.1**
baz=291
NC303 NORSAR Array S 57.96 325 P **P 17 23 04.5 -1.1**
NC303 IAmb IAmb 17 23 07.5
comp=Z,347nm,1.2s
BZS Buzias 58.01 305 ⇓P **P 17 23 07.1 +0.9**
LANS Liptovska Anna 58.01 310 *e*P **P 17 23 07.5 +1.3**
LANS Liptovska Anna 58.01 310 *e*P **P 17 23 07.5 +1.3**
NC602 NORSAR Array S 58.06 325 P **P 17 23 05.3 -1.0**
NB201 NORSAR Array S 58.06 325 P **P 17 23 05.4 -0.9**
IZAB Izabela 58.08 309 *e*P **P 17 23 07.6 +0.9**
IZAB *e* 17 25 17.7
NB2 NORSAR Subarra 58.10 325 P **P 17 23 06.0 -0.6**
comp=Z,457nm,1.2s,baz=70,slow=7.4
NB2 NORSAR Subarra 58.10 325 P **P 17 23 06.0 -0.6**
baz=70,slow=7.4
NOA NORSAR Array B 58.10 325 P **P 17 23 05.7 -1.0**
comp=Z,150nm,0.9s,baz=70,slow=7.0,SNR=212
NOA PP **PP 17 25 12.9 -2.0**
comp=Z,44nm,1.0s,baz=65,slow=8.3,SNR=7.2
NOA LR LR 17 49 33.3
comp=Z,7μm,18.8s,baz=75,slow=38
VTS Vitosha 58.12 302 ⇑P **P 17 23 08.1 +0.9**
VTS Vitosha 58.12 302 P **P 17 23 07.6 +0.4**
VTS pmax pmax
comp=Z,134nm,0.8s
VTS Vitosha 58.12 302 P **P 17 23 07.6 +0.4**
VTS IAmb IAmb 17 23 10.0
comp=Z,134nm,0.8s
VTS Vitosha 58.12 302 *e*P **P 17 23 08.4 +1.2**
VTS Vitosha 58.12 302 P **P 17 23 08.0 +0.8**
NVR Nevrokopi 58.21 300 P **P 17 23 06.0 -1.7**
PSZ Piszkesteto 58.22 308 P **P 17 23 07.4 -0.3**
PSZ pmax pmax
comp=Z,281nm,1.4s
PSZ MLR MLR
comp=Z,11μm,18.0s
PSZ Piszkesteto 58.22 308 P **P 17 23 07.4 -0.3**
PSZ IAmb IAmb 17 23 11.0
comp=Z,281nm,1.4s
PSZ Piszkesteto 58.22 308 P **P 17 23 08.4 +0.7**
NC204 NORSAR Array S 58.22 325 P **P 17 23 06.6 -0.9**
TIM Timisoara 58.22 306 ⇑P **P 17 23 08.6 +1.0**
BSZH Besenyszg 58.22 308 P **P 17 23 08.7 +1.1**
MDVR Moldovita 58.27 304 ⇓P **P 17 23 08.7 +0.6**
AMBH Ambrzfalva 58.30 306 ⇑P **P 17 23 09.3 +1.1**
AMBH Ambrzfalva 58.30 306 P **P 17 23 08.3 +0.1**
NBO00 NORSAR Array S 58.30 325 P **P 17 23 05.8 -2.2**
ZAGS Zajecar 58.31 303 *e*P **P 17 23 08.3 -0.1**
NAO01 NORSAR Array S 58.32 325 *e*P **P 17 23 06.9 -1.2**
NAO01 NORSAR Array S 58.32 325 P **P 17 23 06.9 -1.2**
ATD Arta Tunnel 58.41 260 LR LR 17 50 27.6
comp=Z,2μm,21.8s,baz=52,slow=38
ATD Arta Tunnel 58.41 260 P **P 17 23 09.1 -0.4**
ATD Arta Tunnel 58.41 260 P **P 17 23 10.2 +0.8**
BSD Bornholm Skovb 58.41 318 ⇑*i*P **P 17 23 07.8 -1.0**
BSD IAmb IAmb 17 23 10.2
comp=Z,288nm,1.1s
BSD IVmB_BB 17 23 10.4
comp=Z,3μm,4.9s
BSD Bornholm Skovb 58.41 318 *e*P **P 17 23 08.2 -0.6**
BANR Banloc 58.41 305 ⇓P **P 17 23 10.4 +1.4**
A21K Barrow 58.42 22 P **P 17 23 08.8 +0.2**
A21K Barrow 58.42 22 P **P 17 23 08.9 +0.2**
baz=294,SNR=84
A21K S **S 17 31 11.8 +0.5**
baz=294
RAC Raciborz 58.43 311 *e*P **P 17 23 09.9 +0.9**
RAC *e*S **S 17 31 15.0 +3.0**
RAC LMZ LR 17 49 05.1
comp=Z,12nm,18.2s
RAC Raciborz 58.43 311 *e*P **P 17 23 09.9 +0.9**
RAC *e*S **S 17 31 15.0 +3.0**
RAC MLR MLR
comp=Z,12μm,18.2s
MMPI Merauke 58.44 133 P **P 17 23 09.7 +0.2**
comp=Z,9μmcomp=Z,509nm,1.2s
KUBS Kucevo 58.44 304 *e*P **P 17 23 09.0 -0.3**
DEL Delary 58.46 319 *i* P **P 17 23 09.0 -0.1**
SRS Serrai 58.49 300 P **P 17 23 07.3 -2.4**
OKC Ostrava-Krasne 58.55 311 *e*P **P 17 23 10.4 +0.5**
OKC MLR MLR
comp=Z,9μm,13.1s
OKC Ostrava-Krasne 58.55 311 *e*P **P 17 23 10.4 +0.5**
OKC AMS AMS 17 49 00.0
comp=Z,9μm,13.1s
BORU Boraas 58.59 321 *i* P **P 17 23 09.2 -0.9**
VYHS Vyhne 58.65 309 *e*P **P 17 23 11.2 +0.5**
VYHS pmax pmax
comp=Z,477nm,1.5s
VYHS Vyhne 58.65 309 *e*P **P 17 23 11.2 +0.5**
VYHS *e*PP **PP 17 25 21.1 +1.1**
VYHS *e*S **S 17 31 21.2 +6.2**
VYHS *e*L L 17 49 38.2
BOSS Bosilegrad 58.68 302 *e*P **P 17 23 10.9 -0.1**
DOMB Dombas 58.69 327 ⇑*i*P **P 17 23 10.0 -0.7**
OSL Oslo 58.73 324 *e*P **P 17 23 10.7 -0.3**
BOVS Bovan 58.74 303 ⇑P **P 17 23 11.6 +0.3**
BOVS Bovan 58.74 303 *e*P **P 17 23 10.7 -0.6**
SVIS Svilajnac 58.80 304 *e*P **P 17 23 14.2 +2.4**
STRU Stroemstad 58.85 323 *i* P **P 17 23 10.4 -1.4**
FABU Falkenberg 58.85 320 *i* P **P 17 23 10.4 -1.5**
KNRA Kununurra 58.86 149 P **P 17 23 12.3 0.0**
KNRA Kununurra 58.86 149 P **P 17 23 12.8 +0.5**
KOLL Kolacno 58.88 310 *e*P **P 17 23 13.7 +1.5**
PLG Polygyros 58.90 299 P **P 17 23 11.5 -1.1**
BUD Budapest 58.93 308 P **P 17 23 12.9 +0.3**
MORC Moravsky Berou 58.93 311 ⇓P **P 17 23 13.7 +1.0**
MORC Moravsky Berou 58.93 311 P **P 17 23 12.8 +0.1**
MORC pmax pmax
comp=Z,511nm,1.5s
MORC Moravsky Berou 58.93 311 ⇑*i*P **P 17 23 12.8 +0.1**
MORC *e*PP **PP 17 25 21.8 -0.8**
MORC *e*S **S 17 31 16.1 -2.6**
MORC Moravsky Berou 58.93 311 P **P 17 23 12.8 +0.1**
KNT Kendrikon 58.95 300 P **P 17 23 12.3 -0.5**
PRVS Prvonek 58.95 302 *e*P **P 17 23 13.3 +0.4**
BARS Barje 59.00 302 *e*P P 17 23 07.6 -5.6
TJOU Tjoern 59.01 322 *i* P **P 17 23 11.0 -2.0**
HORT Hortiatis 59.04 300 P **P 17 23 12.3 -1.3**
ONAU Onsala 59.10 321 *i* P **P 17 23 12.2 -1.4**
VAY Valandovo 59.10 300 *i* Pg **P 17 23 13.6 -0.3**
MOL Molde 59.15 327 *e*P **P 17 23 13.6 -0.2**

SRO2 Moca 59.21 309 *e*P **P 17 23 15.1 +0.6**
SRO2 pmax pmax
comp=Z,145nm,1.1s
SRO2 Moca 59.21 309 *e*P **P 17 23 15.1 +0.6**
STIP Stip 59.21 301 *i* Pg **P 17 23 13.2 -1.5**
JAVC Velka Javorina 59.22 310 ⇑*i*P **P 17 23 16.1 +1.5**
JAVC *e*PP **PP 17 25 26.4 +1.3**
SRO Srobarova 59.24 309 *e*P **P 17 23 16.1 +1.4**
SRO pmax pmax
comp=Z,160nm,1.2s
SRO Srobarova 59.24 309 *e*P **P 17 23 16.1 +1.4**
SRO *e*PP **PP 17 25 28.9 +3.7**
KSP Ksiaz 59.26 313 *i* P **P 17 23 15.3 +0.5**
KSP *e*PP **PP 17 25 23.9 -1.4**
KSP *e*L L 17 49 25.9
comp=Z,11μm,17.7s
KRLC Kraliky 59.27 312 *e*P **P 17 23 14.8 -0.2**
KRLC MLR MLR
comp=Z,9μm,18.3s
KRLC Kraliky 59.27 312 *e*P **P 17 23 14.8 -0.2**
KRLC AMS AMS 17 49 10.0
comp=Z,9μm,18.3s
GRUS Gruza 59.29 304 *e*P **P 17 23 15.7 +0.6**
SELS Selova 59.30 303 *e*P **P 17 23 15.0 -0.3**
TRUS Trudelj 59.35 304 *e*P **P 17 23 15.9 +0.3**
FRGS Fruska Gora 59.36 306 ⇓P **P 17 23 15.8 +0.1**
FRGS Fruska Gora 59.36 306 ⇑*i*P **P 17 23 14.8 -0.9**
FRGS Fruska Gora 59.36 306 *e*P **P 17 23 14.9 -0.8**
KONO Kongsberg 59.36 324 *c i*P **P 17 23 14.5 -0.9**
KONO pmax pmax
comp=Z,312nm,1.3s
KONO MLR MLR
comp=Z,5μm,15.0s
KONO Kongsberg 59.36 324 *e*P **P 17 23 14.2 -1.2**
KONO Kongsberg 59.36 324 P **P 17 23 15.0 -0.4**
KONO IAmb IAmb 17 23 17.4
comp=Z,406nm,1.4s
KONO Kongsberg 59.36 324 IAMs_20 IAMs_20 17 49 23.0
comp=Z,6μm,18.0s
GRG Griva 59.37 300 P **P 17 23 13.6 -2.2**
OSTC Ostas 59.41 312 *e*P **P 17 23 16.3 +0.4**
OSTC AMS AMS 17 49 10.0
comp=Z,9μm,15.4s
CSKK Cskako 59.45 308 P **P 17 23 16.2 0.0**
RGN Rugen 59.48 317 *e*P **P 17 23 16.2 0.0**
RGN Rugen 59.48 317 *e*P **P 17 23 17.2 +1.0**
comp=Z,1μm,1.4s,baz=64,slow=6.7
RGN Rugen 59.48 317 P **P 17 23 16.7 +0.5**
CHVC Chvalec 59.50 312 *e*P **P 17 23 16.5 0.0**
CHVC AMS AMS 17 49 00.0
comp=Z,8μm,15.4s
SMOL Smolenice 59.50 310 *e*P **P 17 23 17.7 +1.1**
SMOL pmax pmax
comp=Z,198nm,1.5s
SMOL Smolenice 59.50 310 *e*P **P 17 23 17.7 +1.1**
AKN Aaknes 59.54 327 *e*P **P 17 23 16.9 +0.3**
DION Dionisos Attik 59.54 297 P **P 17 23 16.1 -0.9**
SKAR Skarslia 59.55 325 *e*P **P 17 23 16.9 +0.1**
UPC Upice 59.55 312 *e*P **P 17 23 17.6 +0.7**
UPC MLR MLR
comp=Z,9μm,15.3s
UPC Upice 59.55 312 *e*P **P 17 23 17.6 +0.7**
UPC AMS AMS 17 50 30.0
comp=Z,9μm,15.3s
PTL Penteli 59.60 297 P **P 17 23 15.5 -1.9**
SKO Skopje 59.60 302 *i* Pg **P 17 23 17.4 +0.1**
MODS Modra-Piesok 59.65 310 *e*P **P 17 23 19.3 +1.7**
MODS pmax pmax
comp=Z,388nm,1.5s
MODS Modra-Piesok 59.65 310 *e*P **P 17 23 19.3 +1.7**
MODS *e*PP **PP 17 25 31.2 +2.3**
MODS *e*S **S 17 31 29.9 +2.0**
MODS *e*L L 17 54.1
PATS Pohnpei 59.67 106 P **P 17 23 18.9 +0.7**
MORH Mrgy, Hungar 59.67 307 ⇓P **P 17 23 18.4 +0.7**
MORH Mrgy, Hungar 59.67 307 ⇑*i*P **P 17 23 17.8 0.0**
MORH Mrgy, Hungar 59.67 307 P **P 17 23 17.0 -0.7**
DIVS Divibare 59.68 304 ⇑*i*P **P 17 23 17.7 -0.2**
DIVS Divibare 59.68 304 P **P 17 23 17.5 -0.5**
DIVS Divibare 59.68 304 *e*P **P 17 23 14.6 -3.3**
VRAC Vranov 59.69 311 ⇑P **P 17 23 18.6 +0.8**
VRAC Vranov 59.69 311 LR LR 17 50 09.6
comp=Z,7μm,18.3s,baz=86,slow=37
VRAC Vranov 59.69 311 ⇑*i*P **P 17 23 18.2 +0.4**
VRAC *e*PP **PP 17 25 29.2 0.0**
IVAS Ivanjica 59.79 304 *e*P **P 17 23 17.7 -1.0**
ZST Bratislava 59.83 310 *e*P **P 17 23 20.1 +1.3**
ZST pmax pmax
comp=Z,855nm,1.6s
ZST Bratislava 59.83 310 *e*P **P 17 23 20.0 +1.3**
ZST *e*PP **PP 17 25 31.6 +1.2**
ZST *e*S **S 17 31 30.8 +0.6**
TIH Tihany 59.87 308 P **P 17 23 18.6 -0.5**
FITZ Fitzroy Crossi 59.87 153 LR LR 17 52 55.9
comp=Z,2μm,19.6s,baz=324,slow=40
KRUC Moravsky 59.91 311 ⇑*i*P **P 17 23 19.7 +0.4**
KRUC *e*PP **PP 17 25 31.5 +0.4**
KSTL Kastelli Herak 59.95 293 P **P 17 23 18.0 -1.8**
MPLH Magyarpolny 59.98 308 P **P 17 23 20.0 +0.2**
OVD Ostervraa, Den 59.99 321 *i* P **P 17 23 19.5 -0.2**
OVD IAmb IAmb 17 23 21.6
comp=Z,580nm,1.0s
OVD IAmb IAmb 17 23 21.6
comp=Z,600nm,1.0s
OVD IVmB_BB 17 23 21.8
comp=Z,8μm,2.7s
EGYH Egyhazaskeszo 60.00 309 P **P 17 23 20.5 +0.5**
DAG Danmarks Havn 60.02 347 *i* P **P 17 23 18.0 -1.7**
DAG IAmb IAmb 17 23 20.2
comp=Z,132nm,0.9s
TYRN Tyrnavos 60.02 299 P **P 17 23 17.4 -2.9**
SJES Sjenica 60.04 303 *e*P **P 17 23 20.8 +0.3**
RUE Ruedersdorf 60.04 315 *e*P **P 17 23 20.1 0.0**
RUE Ruedersdorf 60.04 315 *e*P **P 17 23 20.7 +0.5**
comp=Z,612nm,1.4s,baz=64,slow=6.7
KOVH Kovagotottos 60.07 307 P **P 17 23 20.1 -0.4**
MSEY Mahe Island 60.08 236 P **P 17 23 21.0 0.0**
MSEY pmax pmax
comp=Z,396nm,2.0s
MSEY MLR MLR
comp=Z,4μm,18.0s
MSEY Mahe Island 60.08 236 P **P 17 23 19.8 -1.1**
MSEY P **P 17 23 19.8 -1.1**
MSEY P **P 17 23 19.8 -1.1**
MSEY Mahe Island 60.08 236 P **P 17 23 21.0 0.0**
MSEY IAmb IAmb 17 23 24.1
comp=Z,396nm,1.9s
MSEY Mahe Island 60.08 236 *i* P **P 17 23 20.3 -0.6**
SNR=6.2
KZN Kozani 60.09 300 P **P 17 23 18.6 -2.2**
IDI Anoyia 60.09 293 P **P 17 23 19.9 -1.0**
FNA Florina 60.15 300 P **P 17 23 19.9 -1.3**
FNA Florina 60.15 300 P **P 17 23 20.2 -1.0**
FNA pmax pmax
comp=Z,67nm,0.9s
FNA Florina 60.15 300 P **P 17 23 20.2 -1.0**
BBLS Lazići 60.16 304 ⇑*i*P **P 17 23 21.3 +0.1**
BBLS Lazići 60.16 304 *e*P **P 17 23 21.5 +0.3**
THL Klokotos Trika 60.24 299 P **P 17 23 19.3 -2.4**
AGG Agios Georgios 60.26 298 P **P 17 23 19.9 -2.0**
AGG Agios Georgios 60.26 298 P **P 17 23 20.6 -1.3**
AGG pmax pmax
comp=Z,476nm,1.5s
AGG Agios Georgios 60.26 298 P **P 17 23 20.6 -1.3**
AGG IAmb IAmb 17 23 23.1
comp=Z,476nm,1.5s
IVA Berane 60.26 303 *e*P **P 17 23 22.0 0.0**
RUDO Rudo 60.29 304 *e*P **P 17 23 20.2 -1.8**
HYA Hoyanger 60.30 326 *e*P **P 17 23 21.3 -0.5**
TREC Trest 60.35 311 *e*P **P 17 23 23.0 +0.6**
TREC MLR MLR
comp=Z,9μm,23.3s
TREC Trest 60.35 311 *e*P **P 17 23 23.0 +0.6**
TREC AMS AMS 17 49 50.0
comp=Z,9μm,23.3s
SOP Sopron 60.37 309 P **P 17 23 23.0 +0.5**
PVCC Panska Ves 60.39 313 *e*P **P 17 23 23.3 +0.7**
PVCC MLR MLR
comp=Z,8μm,15.2s
PVCC Panska Ves 60.39 313 *e*P **P 17 23 23.3 +0.7**
PVCC AMS AMS 17 49 50.0
comp=Z,8μm,15.2s
PLE Pljevlja 60.40 304 *e*P **P 17 23 22.7 -0.2**

PHP Peshkopia 60.40 302 P **P 17 23 20.6 -2.3**
OHR Ohrid 60.40 301 *i* Pg **P 17 23 23.9 +0.9**
HOMB Homborsund 60.43 323 *i* P **P 17 23 21.7 -1.0**
HOMB Homborsund 60.43 323 ⇑*i*P **P 17 23 22.3 -0.5**
KOME Kolasin 60.52 303 *e*P **P 17 23 23.7 0.0**
KPRO Kipourio 60.52 300 P **P 17 23 21.8 -2.0**
NEST Nestorio 60.53 300 P **P 17 23 22.4 -1.5**
PENT Pentalofos 60.57 300 P **P 17 23 22.4 -1.7**
GOET G??ttrup 60.59 321 *i* P **P 17 23 24.3 +0.4**
GOET IAmb IAmb 17 23 26.4
comp=Z,450nm,1.0s
BRG Berggiesshubel 60.61 313 ⇑*i*P **P 17 23 24.1 0.0**
BRG Amp 17 23 25.9
comp=Z,396nm,1.6s
BRG *e*x x 17 23 54.0
BRG Amp 17 23 55.5
comp=Z,39nm,1.4s
BRG ⇑PP **PcP 17 24 09.0 +0.6**
BRG PP **PP 17 25 31.6 -5.7**
BRG Amp 17 25 40.7
comp=Z,84nm,1.4s
BRG Berggiesshubel 60.61 313 S **S 17 31 47.0 +6.9**
BRG Berggiesshubel 60.61 313 ⇑*i*P **P 17 23 24.1 0.0**
BRG 17 24 09.0
BRG pmax pmax
comp=Z,396nm,1.6s
BRG MLR MLR
comp=E,7μm,17.3s
BRG MLR MLR
comp=Z,8μm,16.5s
BRG MLR MLR
comp=N,3μm,17.3s
BRG Berggiesshubel 60.61 313 *e*P **P 17 23 24.4 +0.3**
comp=N,393nm,1.6s,baz=64,slow=6.7
FOO Floro 60.62 327 ⇑*i*P **P 17 23 23.5 -0.4**
KBN Korca 60.62 300 P **P 17 23 23.1 -1.3**
KBN Korca 60.62 300 P **P 17 23 23.2 -1.3**
KBN pmax pmax
comp=Z,172nm,1.1s
KBN Korca 60.62 300 P **P 17 23 23.2 -1.3**
KBN IAmb IAmb 17 23 25.8
comp=Z,172nm,1.1s
PRU Pruhonice 60.63 312 *e*P **P 17 23 24.6 +0.4**
PRU MLR MLR
comp=Z,11μm,17.8s
PRU Pruhonice 60.63 312 *e*P **P 17 23 24.6 +0.4**
PRU AMS AMS 17 50 00.0
comp=Z,11μm,17.8s
ODD1 Odda 60.63 325 *e*P **P 17 23 23.7 -0.5**
EVR Evrytania 60.67 298 P **P 17 23 22.4 -2.4**
IMMV Iera Moni Meta 60.67 294 P **P 17 23 23.7 -1.1**
CONA Conrad Observa 60.70 310 *i* P **P 17 23 25.7 +0.8**
comp=Z,200nm,1.2s,SNR=100
ANX Ano Chora 60.73 298 P **P 17 23 24.4 -0.9**
NIKH Nikolski High 60.76 44 P **P 17 23 25.3 +0.2**
baz=295
UPM Unac-Piva 60.77 304 ⇑*i*P **P 17 23 26.2 +0.6**
UPM Unac-Piva 60.77 304 *e*P **P 17 23 25.2 -0.4**
EFP Efpalio 60.82 298 P **P 17 23 23.1 -2.6**
VLI Veliai 60.85 296 P **P 17 23 21.8 -4.2**
MUD Monsted U'grnd 60.86 321 *i* P **P 17 23 26.1 +0.4**
MUD IAmb IAmb 17 23 28.2
comp=Z,731nm,1.2s
PDG Podgorica 60.87 303 ⇑P **P 17 23 26.6 +0.5**
PDG Podgorica 60.87 303 ⇑*i*P **P 17 23 26.2 +0.2**
PDG Podgorica 60.87 303 P **P 17 23 25.8 -0.3**
PDG IAmb IAmb 17 23 28.6
comp=Z,367nm,1.3s
PDG IAMs_20 IAMs_20 17 51 50.9
comp=Z,6μm,21.0s
PDG Podgorica 60.87 303 *e*P **P 17 23 26.3 +0.2**
TTG Podgorica 60.87 303 *e*P **P 17 23 26.5 +0.5**
BLS5 Blasjo 60.92 324 ⇑*i*P **P 17 23 25.7 -0.4**
MBWA Marble Bar 60.92 161 P **P 17 23 27.0 +0.5**
MBWA P **P 17 23 27.0 +0.5**
MBWA Marble Bar 60.92 161 P **P 17 23 27.2 +0.8**
FBE Freiberg 60.93 314 *e*P **P 17 23 26.7 +0.5**
comp=Z,474nm,1.7s,baz=64,slow=6.7
NKME Niksic 60.93 303 *e*P **P 17 23 26.5 0.0**
TIR Tirane 60.93 302 P **P 17 23 26.0 -0.5**
TIR pmax pmax
comp=Z,168nm,0.9s
TIR MLR MLR
comp=Z,6μm,20.0s
TIR Tirane 60.93 302 P **P 17 23 25.9 -0.5**
TIR IAmb IAmb 17 23 28.2
comp=Z,168nm,0.9s
TIR IAMs_20 IAMs_20 17 51 43.7
comp=Z,6μm,20.0s
CLL Collm 60.97 314 ⇑*i*P **P 17 23 26.4 -0.1**
CLL *e* 17 24 10.0
CLL *e*S **S 17 31 48.0 +3.3**
CLL pmax pmax
comp=Z,387nm,1.5s
CLL Collm 60.97 314 ⇑*i*P **P 17 23 26.4 -0.1**
comp=Z,387nm,1.5s
CLL *e*Plp 17 23 29.0
comp=Z,1μm,17.4s
CLL *e*Pmax 17 23 31.0
CLL *e*PcP **PcP 17 24 10.0 +0.2**
comp=Z,121nm,1.7s
CLL *e*PP **PP 17 25 37.0 -3.4**
CLL *e*PPP PPP 17 27 05.0
CLL *e*S **S 17 31 48.0 +3.3**
CLL *e*SS SS 17 36 00.0 +17
CLL *e*x x 17 36 36.0
CLL *e*SSS SSS 17 38 24.0
CLL *e*PKPPKPdf 17 52 48.0
comp=Z,124nm,2.2s
CLL Lmax 17 55 00.0
CLL Collm 60.97 314 *e*P **P 17 23 26.5 -0.1**
comp=Z,387nm,1.5s,baz=64,slow=6.7
CLL *e*L L 17 51 09.6
comp=Z,6μm,20.3s
CLL Collm 60.97 314 P **P 17 23 26.0 -0.5**
CLL IAmb IAmb 17 23 28.9
comp=Z,231nm,1.2s
SUE Sulen 60.98 326 *e*P **P 17 23 25.8 -0.6**
JMIC Jan Mayen 60.99 339 LR LR 17 53 19.2
comp=Z,3μm,19.3s,baz=62,slow=40
BER Bergen 61.01 326 ⇑*i*P **P 17 23 26.4 -0.2**
DRME Dracevica, Mon 61.02 303 ⇑*i*P **P 17 23 27.2 +0.1**
DRME Dracevica, Mon 61.02 303 *e*P **P 17 23 27.4 +0.3**
SNART Snartemo 61.03 323 *i* P **P 17 23 26.5 -0.3**
SNART Snartemo 61.03 323 *e*P **P 17 23 26.5 -0.3**
ASK Askoy 61.03 326 ⇑*i*P **P 17 23 26.3 -0.4**
CEME Cevo 61.05 303 *e*P **P 17 23 27.5 +0.2**
PBCC Pribram 61.07 312 *e*P **P 17 23 27.2 -0.1**
KOGS Kog 61.08 308 *e*P **P 17 23 27.1 -0.3**
KOGS *e* 17 27 10.5
KOGS *e*S **S 17 31 45.2 -1.2**
ULC Ulcinj 61.08 302 *e*P **P 17 23 27.4 -0.1**
GIRL Giralia 61.13 167 P **P 17 23 27.9 +0.1**
GIRL Giralia 61.13 167 P **P 17 23 29.9 +2.1**
BRY Bratogost 61.14 304 ⇑*i*P **P 17 23 28.4 +0.3**
BRY Bratogost 61.14 304 *e*P **P 17 23 27.9 -0.2**
BUM Brajici-Budva 61.17 303 *e*P **P 17 23 28.0 -0.2**
ARSA Arzberg 61.19 309 *i* P **P 17 23 28.4 +0.2**
comp=Z,72nm,0.9s,SNR=38
GCSA Galena City Sc 61.21 29 P **P 17 23 27.5 -0.4**
baz=298,SNR=40
GCSA S **S 17 31 49.8 +2.5**
baz=298
BLY Banja Luka 61.22 306 ⇑*i*P **P 17 23 28.5 +0.1**
CKRC Cesky Krumlov 61.26 311 *e*P **P 17 23 28.9 +0.3**
MRAK Mrakovica 61.29 306 ⇑*i*P **P 17 23 28.0 -0.9**
BSEG Bad Segeberg 61.34 318 *e*P **P 17 23 29.8 +0.9**
comp=Z,706nm,1.2s,baz=64,slow=6.7
BSEG *e*L L 17 50 58.0
comp=Z,5μm,18.6s
PSA00 Pilbara Seismi 61.35 161 P **P 17 23 29.4 0.0**
PSA00 Pilbara Seismi 61.35 161 P **P 17 23 28.9 -0.5**
PSA00 IAmb IAmb 17 23 35.8
comp=Z,462nm,1.9s
PSA00 Pilbara Seismi 61.35 161 P **P 17 23 30.2 +0.9**
TREB Trebinje 61.35 303 ⇑*i*P **P 17 23 28.5 -0.8**
TREB Trebinje 61.35 303 *e*P **P 17 23 28.2 -1.1**
ITM Ithomi 61.37 296 P **P 17 23 28.2 -1.3**
HCY Herceg Novi 61.37 303 ⇑*i*P **P 17 23 29.9 +0.5**
HCY Herceg Novi 61.37 303 *e*P **P 17 23 30.0 +0.5**
IGT Igoumenitsa 61.42 299 P **P 17 23 26.2 -3.6**
MGRS Mrkonjic Grad 61.43 306 ⇑*i*P **P 17 23 30.7 +0.9**
SILA Clinic, Silare 61.50 264 P **P 17 23 31.3 +0.4**

FLTG Flechtingen 61.52 316 *eP* **P 17 23 30.1 -0.2**
comp=Z,377nm,1.3s,baz=64,slow=6.7
KHC Kasperske Hory 61.56 312 *eP* **P 17 23 30.5 -0.1**
KHC *e* 17 23 38.5
KHC MLR MLR
comp=Z,11µm,24.2s
KHC Kasperske Hory 61.56 312 *eP* **P 17 23 30.5 -0.1**
KHC *ex* x 17 23 38.5
KHC *ex* x 17 25 39.5
KHC AMS AMS 17 50 40.0
comp=Z,11µm,24.2s
KHC Kasperske Hory 61.56 312 P **P 17 23 30.6 -0.1**
KHC IAmb IAmb 17 23 33.6
comp=Z,268nm,1.6s
KMY Karmoy 61.57 324 *eP* **P 17 23 29.8 -0.6**
GEC2 GERESS Array S 61.61 311 *eP* **P 17 23 31.5 +0.4**
comp=Z,274nm,1.5s,baz=64,slow=6.7
GEC2 *eL* L 17 51 16.9
comp=Z,7µm,20.1s
GEC2 GERESS Array S 61.61 311 P **P 17 23 31.1 +0.1**
GEC2 IAmb IAmb 17 23 33.8
comp=Z,253nm,1.4s
GERES GERESS Array B 61.61 311 P **P 17 23 31.1 +0.1**
comp=Z,64nm,1.0s,baz=64,slow=6.1,SNR=223
GERES PP **PP 17 25 44.1 -2.2**
comp=Z,19nm,1.0s,baz=57,slow=8.3,SNR=5.2
GERES LR LR 17 51 37.6
comp=Z,7µm,19.5s,baz=80,slow=37
GERES PKPPKP **P'P'df 17 52 51.9 +2.4**
comp=Z,2.4nm,1.0s,baz=260,slow=5.3,SNR=6.9
GERES GERESS Array B 61.61 311 P **P 17 23 30.9 -0.2**
TANN Tannenbergstha 61.66 313 *eP* **P 17 23 31.6 +0.3**
comp=Z,286nm,1.5s,baz=64,slow=6.7
UNV Unalaska Valle 61.66 42 P **P 17 23 29.7 -1.4**
UNV Unalaska Valle 61.66 42 P **P 17 23 30.7 -0.5**
baz=296
UNV S **S 17 31 56.6 +3.2**
baz=296
MOA Molln 61.70 310 *i* P **P 17 23 32.2 +0.5**
comp=Z,118nm,1.0s,SNR=96
NEUB Neuenburg 61.70 314 *eP* **P 17 23 31.8 +0.3**
comp=Z,577nm,1.5s,baz=64,slow=6.7
WERD Werda 61.73 313 *eP* **P 17 23 32.1 +0.3**
comp=Z,318nm,1.6s,baz=64,slow=6.7
SOKA Soboth 61.74 309 *i* P **P 17 23 32.0 0.0**
comp=Z,296nm,1.2s,SNR=188
NKC Novy Kostel 61.74 313 *eP* **P 17 23 31.8 0.0**
NKC MLR MLR
comp=Z,11µm,12.0s
NKC Novy Kostel 61.74 313 *eP* **P 17 23 31.8 0.0**
NKC AMS AMS 17 51 10.0
comp=Z,11µm,12.0s
GUNZ Gunzen 61.75 313 *eP* **P 17 23 32.3 +0.4**
comp=Z,342nm,1.6s,baz=64,slow=6.7
WERN Wernitzgruen 61.76 313 *eP* **P 17 23 32.5 +0.5**
comp=Z,344nm,1.6s,baz=64,slow=6.7
IMAR Indian Mountai 61.77 27 P **P 17 23 31.4 -0.3**
PLN Plauen 61.80 314 *eP* **P 17 23 32.6 +0.3**
comp=Z,294nm,1.6s,baz=64,slow=6.7
CRES Cresnjev 61.85 308 ⇑*iP* **P 17 23 32.7 0.0**
CRES Cresnjev 61.85 308 *eP* **P 17 23 32.6 0.0**
CRES *eS* **S 17 31 55.1 -1.1**
CRES *e* 17 45 36.0
DBG Daneborg 61.89 345 *i* P **P 17 23 31.4 -0.9**
DBG IAmb IAmb 17 23 33.7
comp=Z,209nm,1.2s
ASSE Asse, Remlinge 61.92 316 *eP* **P 17 23 33.2 +0.3**
comp=Z,203nm,1.6s,baz=64,slow=6.7
AKUT Akutan 61.92 42 P **P 17 23 32.0 -0.9**
AKUT IAmb IAmb 17 23 33.0
comp=Z,115nm,0.8s
WET Wettzell 61.97 312 *eP* **P 17 23 33.9 +0.5**
comp=Z,347nm,1.6s,baz=64,slow=6.7
WET *eL* L 17 51 29.5
comp=Z,8µm,22.0s
ANKE Ethiopia-Afar 62.01 260 *eP* **P 17 23 35.7 +1.2**
ANKE *eS* **S 17 32 03.8 +4.2**
ANKE IAMs_20 IAMs_20 17 39 40.9
comp=N,285nm,13.2s
GOND University, Go 62.03 264 P **P 17 23 35.3 +0.8**
MOX Moxa 62.04 314 *eP* **P 17 23 34.2 +0.4**
comp=N,304nm,1.5s,baz=64,slow=6.7
MOX *eL* L 17 55 39.9
comp=N,4µm,19.0s
MANZ Manzenberg 62.05 313 *eP* **P 17 23 34.3 +0.4**
comp=N,57nm,1.4s,baz=64,slow=6.7
NRDL Niedersach Rie 62.07 316 *eP* **P 17 23 34.9 +1.0**
comp=N,649nm,1.3s,baz=64,slow=6.7
ROTZ Rotzenmuhle 62.09 313 *eP* **P 17 23 34.8 +0.6**
comp=N,104nm,1.5s,baz=64,slow=6.7
OBKA Obir 62.12 309 *i* P **P 17 23 34.5 0.0**
comp=N,110nm,1.1s,SNR=55
CLZ Clausthal 62.22 315 *eP* **P 17 23 35.7 +0.6**
comp=N,522nm,1.2s,baz=64,slow=6.7
H21K Melozitna Rive 62.27 27 P **P 17 23 35.4 +0.3**
H21K IAMs_20 IAMs_20 17 51 59.8
comp=Z,5µm,18.0s
H21K Melozitna Rive 62.27 27 P **P 17 23 35.7 +0.5**
baz=300
LJU Ljubljana 62.34 308 ⇑*iP* **P 17 23 35.4 -0.5**
LJU Ljubljana 62.34 308 *iP* **P 17 23 35.9 0.0**
LJU *ePP* **PP 17 25 54.0 +1.3**
LJU *e* 17 27 25.4
LJU *eS* **S 17 32 00.3 -1.9**
COLD Coldfoot 62.36 25 P **P 17 23 35.9 +0.2**
COLD Coldfoot 62.36 25 P **P 17 23 36.1 +0.4**
baz=302,SNR=505
COLD S **S 17 32 02.2 +0.3**
baz=302
RETH Rethem/Aller, 62.37 317 *eP* **P 17 23 36.5 +0.6**
comp=Z,478nm,1.4s,baz=64,slow=6.7
MERTO Secondary Scho 62.39 262 P **P 17 23 37.4 +0.4**
TTA Tatalina 62.41 30 P **P 17 23 36.4 +0.2**
TTA pmax pmax
comp=Z,143nm,1.2s
TTA Tatalina 62.41 30 P **P 17 23 36.4 +0.2**
TTA IAmb IAmb 17 23 38.4
comp=Z,143nm,1.2s
TTA Tatalina 62.41 30 P **P 17 23 36.0 -0.2**
baz=299,SNR=53
TTA S **S 17 32 02.2 -0.6**
baz=299
GBAS Gorenja Brezov 62.44 308 *i* P **P 17 23 36.2 -0.4**
SCTE Santa Cesarea 62.45 301 P **P 17 23 36.5 -0.3**
EUNU Eureka 62.46 2 P **P 17 23 36.2 0.0**
EUNU IAmb IAmb 17 23 46.0
comp=Z,297nm,1.6s
J20K Nowinta River 62.52 29 P **P 17 23 37.0 +0.2**
J20K IAmb IAmb 17 23 39.6
comp=Z,237nm,0.8s
CEY Cerknica 62.53 308 ⇑*iP* **P 17 23 36.9 -0.3**
GTTG Gottingen 62.58 315 *eP* **P 17 23 38.1 +0.7**
comp=Z,610nm,1.4s,baz=64,slow=6.7
KBA Koelnbreinsper 62.60 310 *iP* **P 17 23 38.0 +0.1**
comp=Z,166nm,0.9s,SNR=63
MYKA Terra Mystica 62.62 309 *iP* **P 17 23 37.8 0.0**
comp=Z,95nm,1.5s,SNR=22
RABL Rabaul 62.67 120 P **P 17 23 39.6 +1.1**
BAHR High School, B 62.68 263 P **P 17 23 38.0 -0.8**
GRA1 Grafenberg Arr 62.69 313 P **P 17 23 38.1 -0.1**
GRF Grafenberg Arr 62.69 313 P **P 17 23 38.1 -0.1**
GRF pmax pmax
comp=Z,477nm,1.3s
GRF MLR MLR
comp=Z,9µm,19.0s
GRF Grafenberg Arr 62.69 313 *eP* **P 17 23 39.0 +0.8**
comp=Z,625nm,1.5s,baz=64,slow=6.7
GRF *eL* L 17 51 58.1
comp=Z,7µm,21.3s
GRFO Grafenberg 62.69 313 P **P 17 23 38.6 +0.4**
GRFO pmax pmax
comp=Z,451nm,1.3s
GRFO MLR MLR
comp=Z,9µm,20.0s
GRFO Grafenberg 62.69 313 P **P 17 23 38.6 +0.4**
GINR Hospital, Gini 62.75 257 P **P 17 23 39.7 +0.3**
I21K Tanana 62.81 27 P **P 17 23 39.1 +0.3**
I21K IAMs_20 IAMs_20 17 50 24.1
comp=Z,8µm,21.0s
I21K Tanana 62.81 27 P **P 17 23 39.4 +0.6**
baz=301,SNR=172
I21K S **S 17 32 08.9 +1.3**
baz=301
FALS False Pass 62.83 40 P **P 17 23 38.8 -0.1**
baz=297
SKDS Skadanscina 62.88 308 *i* P **P 17 23 38.9 -0.6**

UBBA Unterbreizbach 62.88 315 *eP* **P 17 23 39.6 +0.3**
comp=Z,377nm,1.8s,baz=64,slow=6.7
K20K Telida 62.97 29 P **P 17 23 40.0 +0.2**
K20K IAmb IAmb 17 23 42.6
comp=Z,155nm,0.8s
K20K IAMs_20 IAMs_20 17 55 27.8
comp=Z,6µm,18.0s
K20K Telida 62.97 29 P **P 17 23 40.3 +0.5**
baz=300
K20K S **S 17 32 10.8 +1.2**
baz=300
MUKA Police Camp, M 63.18 265 P **P 17 23 42.0 0.0**
L19K White Mountain 63.25 31 P **P 17 23 42.2 +0.5**
L19K IAmb IAmb 17 23 44.4
comp=Z,181nm,1.0s
L19K White Mountain 63.25 31 P **P 17 23 42.2 +0.5**
baz=300,SNR=75
L19K S **S 17 32 15.6 +2.4**
baz=300
PMG Port Moresby 63.26 128 LR LR 17 53 30.6
comp=Z,1µm,18.0s,baz=295,slow=38
PMG Port Moresby 63.26 128 *c iP* **P 17 23 42.5 +0.2**
PMG pmax pmax
comp=Z,231nm,1.7s
PMG Port Moresby 63.26 128 P **P 17 23 42.5 +0.2**
PMG IAmb IAmb 17 23 44.9
comp=Z,460nm,1.8s
ABTA Abfaltersbach 63.26 310 *i P* **P 17 23 41.4 -0.7**
comp=Z,135nm,1.1s,SNR=81
MELAE School, Dubaba 63.31 265 P **P 17 23 42.3 -0.6**
FUR Furstenfeldbru 63.35 311 *eP* **P 17 23 43.5 +0.9**
comp=Z,779nm,1.5s,baz=64,slow=6.7
FUR *eL* L 17 52 11.8
comp=Z,6µm,18.2s
STAL STALIGIAL 63.36 309 P **P 17 23 41.8 -1.0**
STAL IAmb IAmb 17 23 44.3
comp=Z,223nm,1.0s
CHUM Lake Minchumin 63.37 28 P **P 17 23 43.0 +0.6**
baz=302,SNR=80
CHUM S **S 17 32 16.7 +2.2**
baz=302
MATE Matera 63.38 302 ⇑P **P 17 23 42.9 0.0**
IBBN Ibbenburen 63.44 317 *eP* **P 17 23 43.5 +0.4**
comp=Z,500nm,1.5s,baz=64,slow=6.7
L20K Farewell, AK 63.49 30 P **P 17 23 43.8 +0.5**
baz=301
L20K S **S 17 32 19.5 +3.3**
baz=301
SVW2 Sparrevohn 63.49 32 P **P 17 23 43.6 +0.3**
SVW2 IAmb IAmb 17 23 46.3
comp=Z,210nm,1.1s
SGRT San Giovanni R 63.51 304 P **P 17 23 43.0 -0.9**
SGRT IAmb IAmb 17 23 46.0
comp=Z,253nm,1.6s
WTTA Wattenberg 63.55 310 *i P* **P 17 23 44.3 +0.1**
comp=Z,315nm,1.0s,SNR=102
WATA Walderalm 63.56 311 *i P* **P 17 23 44.0 -0.1**
comp=Z,262nm,1.1s,SNR=100
M19K Big River Lodg 63.58 31 P **P 17 23 44.2 +0.4**
M19K IAmb IAmb 17 23 46.9
comp=Z,156nm,0.8s
M19K IAMs_20 IAMs_20 17 49 41.9
comp=Z,7µm,20.0s
CAST Castle Rocks 63.70 29 P **P 17 23 44.9 +0.2**
CAST IAmb IAmb 17 23 48.3
comp=Z,134nm,0.8s
CAST IAMs_20 IAMs_20 17 49 58.1
comp=Z,6µm,21.0s
CAST Castle Rocks 63.70 29 P **P 17 23 44.9 +0.2**
baz=302,SNR=105
CAST S **S 17 32 19.3 +0.5**
baz=302
CHGE School, Chagni 63.71 264 P **P 17 23 45.9 +0.3**
BPAW Bear Paw Mtn. 63.75 28 P **P 17 23 45.4 +0.4**
BPAW IAmb IAmb 17 23 49.2
comp=Z,209nm,1.0s
BPAW IAMs_20 IAMs_20 17 50 52.4
comp=Z,7µm,20.0s
BPAW Bear Paw Mtn. 63.75 28 P **P 17 23 45.4 +0.4**
baz=302,SNR=42
BPAW S **S 17 32 20.4 +1.0**
baz=302
I23K Minto, Yukon-K 63.77 26 P **P 17 23 45.4 +0.4**
I23K IAMs_20 IAMs_20 17 51 04.9
comp=Z,6µm,20.0s
I23K Minto, Yukon-K 63.77 26 P **P 17 23 45.5 +0.4**
baz=303,SNR=171
I23K S **S 17 32 21.3 +1.8**
baz=303
SQTA Sankt Quirin 63.83 311 *i P* **P 17 23 45.9 -0.1**
comp=Z,237nm,1.0s,SNR=96
MOTA Moosalm 63.84 311 *i P* **P 17 23 45.8 -0.2**
comp=Z,249nm,1.0s,SNR=120
H24K Noodor Dome 63.90 25 P **P 17 23 46.3 +0.3**
H24K Noodor Dome 63.90 25 P **P 17 23 46.6 +0.6**
baz=304
H24K S **S 17 32 22.6 +1.3**
baz=304
PPLA Purkeypile 63.94 29 P **P 17 23 46.6 +0.2**
PPLA Purkeypile 63.94 29 P **P 17 23 46.8 +0.4**
baz=302,SNR=82
PPLA S **S 17 32 23.6 +1.6**
baz=302
NEEM North Greenlan 63.95 354 *i P* **P 17 23 46.7 +0.2**
NEEM IAmb IAmb 17 23 48.6
comp=Z,504nm,1.0s
RETA Reutte 63.98 311 *i P* **P 17 23 47.1 +0.3**
comp=Z,145nm,1.4s,SNR=46
KIRE School, Kiremu 64.03 262 P **P 17 23 48.4 +0.5**
TNS Taunus Mts 64.04 314 *eP* **P 17 23 47.4 +0.3**
comp=Z,250nm,1.6s,baz=64,slow=6.7
TNS *eL* L 17 53 04.1
comp=Z,4µm,18.6s
TIP Timpagrande 64.04 301 ⇓P **P 17 23 47.1 -0.3**
TIP Timpagrande 64.04 301 P **P 17 23 47.2 -0.1**
TIP IAmb IAmb 17 23 49.8
comp=Z,257nm,1.3s
BMAR Burnt Mountain 64.06 23 P **P 17 23 47.8 +0.8**
KTH Kantishna Hill 64.07 28 P **P 17 23 47.3 +0.2**
KTH IAMs_20 IAMs_20 17 50 10.9
comp=Z,5µm,20.0s
SDPT Sand Point 64.08 39 P **P 17 23 45.9 -1.4**
baz=299
SDPT S **S 17 32 22.8 -0.9**
baz=299
N19K Bonanza Creek 64.10 32 P **P 17 23 47.7 +0.2**
N19K IAmb IAmb 17 23 50.2
comp=Z,185nm,0.9s
N19K IAMs_20 IAMs_20 17 53 33.2
comp=Z,5µm,18.0s
N19K Bonanza Creek 64.10 32 P **P 17 23 48.1 +0.7**
baz=301
N19K S **S 17 32 25.3 +1.3**
baz=301
CTI Castel Tesino 64.11 309 P **P 17 23 46.8 -1.0**
CTI pmax pmax
comp=Z,128nm,1.2s
CTI Castel Tesino 64.11 309 P **P 17 23 46.8 -1.0**
BUG Bochum--Univer 64.12 316 *eP* **P 17 23 48.1 +0.6**
comp=Z,518nm,1.4s,baz=64,slow=6.7
NEA2 Nenana 64.18 27 P **P 17 23 47.7 -0.1**
NEA2 IAMs_20 IAMs_20 17 54 40.7
comp=Z,5µm,19.0s
NEA2 Nenana 64.18 27 P **P 17 23 47.9 +0.1**
baz=304,SNR=111
NEA2 S **S 17 32 26.0 +1.3**
baz=304
FETA Feichten 64.22 311 *i P* **P 17 23 48.3 -0.2**
comp=Z,249nm,1.2s,SNR=88
BWN Browne 64.27 27 P **P 17 23 49.0 +0.7**
BWN IAMs_20 IAMs_20 17 53 31.7
comp=Z,7µm,19.0s
MDM Murphy Dome 64.27 26 P **P 17 23 48.5 0.0**
MDM IAMs_20 IAMs_20 17 50 58.2
comp=Z,5µm,18.0s
UBR Ueberruh 64.28 311 *eP* **P 17 23 49.0 +0.2**
comp=Z,494nm,1.5s,baz=64,slow=6.7
O18K Koktuh Hills 64.29 33 P **P 17 23 48.7 +0.1**
O18K IAmb IAmb 17 23 51.2
comp=Z,152nm,1.1s
O18K Koktuh Hills 64.29 33 P **P 17 23 48.7 +0.1**
baz=301,SNR=21
O18K S **S 17 32 28.3 +2.2**
baz=301
STU Stuttgart 64.30 313 P **P 17 23 48.6 -0.2**
STU pmax pmax
comp=Z,105nm,1.0s

STU MLR MLR
comp=Z,6µm,21.0s
STU Stuttgart 64.30 313 *eP* **P 17 23 49.1 +0.3**
comp=Z,1µm,2.0s,baz=64,slow=6.7
STU Stuttgart 64.30 313 P **P 17 23 48.6 -0.2**
STU IAMs_20 IAMs_20 17 53 06.0
comp=Z,6µm,21.0s
FYU Fort Yukon 64.36 24 P **P 17 23 49.5 +0.7**
FYU IAmb IAmb 17 23 52.0
comp=Z,261nm,1.2s
FYU IAMs_20 IAMs_20 17 49 34.4
comp=Z,7µm,22.0s
TRF Thorofare Moun 64.36 28 P **P 17 23 49.4 +0.2**
TRF IAmb IAmb 17 23 53.6
comp=Z,133nm,1.2s
TRF IAMs_20 IAMs_20 17 51 13.6
comp=Z,6µm,19.0s
TRF Thorofare Moun 64.36 28 P **P 17 23 49.2 0.0**
baz=303,SNR=23
TRF S **S 17 32 26.0 -1.3**
baz=303
JAWL J.Aulia 64.43 270 *i* P **P 17 23 49.6 -0.5**
JAWL *i* 17 24 00.7
baz=349,slow=22
TEOL Teolo 64.43 309 P **P 17 23 49.1 -0.6**
TCOL CIGO, UAF Yank 64.45 26 P **P 17 23 49.8 +0.3**
TCOL CIGO, UAF Yank 64.45 26 P **P 17 23 49.8 +0.3**
baz=305,SNR=206
TCOL S **S 17 32 27.4 -0.6**
baz=305
COLA College 64.45 26 *c iP* **P 17 23 49.6 +0.1**
COLA pmax pmax
comp=Z,783nm,0.9s
COLA MLR MLR
comp=Z,5µm,16.0s
COLA College 64.45 26 P **P 17 23 49.8 +0.3**
COLA College 64.45 26 P **P 17 23 50.1 +0.6**
baz=305
COLA S **S 17 32 28.5 +0.5**
baz=305
POKR Poker Plat Res 64.46 26 P **P 17 23 50.0 +0.4**
POKR IAMs_20 IAMs_20 17 51 01.2
comp=Z,7µm,20.0s
POKR Poker Plat Res 64.46 26 P **P 17 23 49.7 +0.1**
baz=305,SNR=111
POKR S **S 17 32 29.8 +1.6**
baz=305
COEN Coen 64.47 134 P **P 17 23 50.4 +0.1**
COEN IAmb IAmb 17 23 52.5
comp=Z,174nm,1.1s
COEN Coen 64.47 134 P **P 17 23 51.1 +0.9**
O19K Port Alsworth 64.49 32 P **P 17 23 50.1 +0.3**
O19K IAmb IAmb 17 23 52.3
comp=Z,386nm,1.6s
O19K IAMs_20 IAMs_20 17 55 41.6
comp=Z,6µm,20.0s
O19K Port Alsworth 64.49 32 P **P 17 23 50.1 +0.3**
baz=302,SNR=24
O19K S **S 17 32 29.3 +0.7**
baz=302
GUBA Police Station 64.50 265 P **P 17 23 50.0 -0.8**
P18K Big Mountain, 64.52 34 P **P 17 23 50.3 +0.2**
P18K IAMs_20 IAMs_20 17 49 59.9
comp=Z,5µm,21.0s
P18K Big Mountain, 64.52 34 P **P 17 23 50.0 -0.1**
baz=301,SNR=22
P18K S **S 17 32 30.6 +1.6**
baz=301
HARO School, Haroo 64.54 263 P **P 17 23 50.5 -0.6**
DEBR School, Debre 64.58 264 P **P 17 23 51.3 -0.2**
WRH Wood River Hil 64.60 27 P **P 17 23 49.8 -0.7**
WRH IAmb IAmb 17 23 53.5
comp=Z,247nm,0.9s
CCB Clear Creek Bu 64.60 27 P **P 17 23 50.0 -0.5**
DAVA Damuels 64.60 311 *i P* **P 17 23 50.9 -0.1**
comp=Z,80nm,0.9s,SNR=19
CHGN Chignik 64.63 37 P **P 17 23 49.3 -1.4**
CHGN IAmb IAmb 17 23 52.0
comp=Z,171nm,1.3s
CHGN Chignik 64.63 37 P **P 17 23 49.0 -1.7**
baz=300
PAOL Paolisi 64.63 303 P **P 17 23 50.3 -0.9**
AHRW Bad Neuenahr-A 64.66 315 *eP* **P 17 23 51.7 +0.6**
comp=Z,359nm,1.2s,baz=64,slow=6.7
SKT Skwentna 64.69 30 P **P 17 23 50.7 -0.5**
SKT IAmb IAmb 17 23 54.0
comp=Z,450nm,1.7s
SKT IAMs_20 IAMs_20 17 55 05.2
comp=Z,5µm,18.0s
SKT Skwentna 64.69 30 P **P 17 23 50.5 -0.7**
baz=303,SNR=33
SKT S **S 17 32 32.5 +1.4**
baz=303
MCK McKinley 64.71 28 P **P 17 23 50.7 -0.6**
MCK pmax pmax
comp=Z,160nm,1.0s
MCK MLR MLR
comp=Z,7µm,21.0s
MCK McKinley 64.71 28 P **P 17 23 50.6 -0.6**
MCK IAmb IAmb 17 23 53.2
comp=Z,160nm,1.0s
MCK IAMs_20 IAMs_20 17 51 21.8
comp=Z,7µm,21.0s
MCK McKinley 64.71 28 P **P 17 23 50.6 -0.7**
baz=304,SNR=69
MCK S **S 17 32 29.5 -1.9**
baz=304
NRCA Norcia 64.72 306 P **P 17 23 51.9 +0.1**
NGLE Hospital, Nege 64.76 257 P **P 17 23 52.3 -0.2**
AQU L'Aquila 64.76 305 P **P 17 23 52.2 +0.2**
AQU pmax pmax
comp=Z,187nm,0.9s
AQU MLR MLR
comp=Z,8µm,18.0s
AQU L'Aquila 64.76 305 ⇑*iP* **P 17 23 52.3 +0.2**
AQU L'Aquila 64.76 305 P **P 17 23 52.2 +0.2**
AQU IAmb IAmb 17 23 54.4
comp=Z,186nm,0.9s
CHNA Chernabura Isl 64.78 39 P **P 17 23 50.3 -1.6**
baz=300,SNR=21
CNBA Chernabura Isl 64.79 39 P **P 17 23 50.6 -1.3**
CNBA IAMs_20 IAMs_20 17 50 50.3
comp=Z,5µm,19.0s
MABI Malga Bissina 64.81 310 S **P 17 23 52.3 -0.1**
SCO Scoresbysund 64.83 342 P **P 17 23 51.3 -0.6**
SCO pmax pmax
comp=Z,171nm,1.1s
SCO MLR MLR
comp=Z,5µm,20.0s
SCO Scoresbysund 64.83 342 *i* P **P 17 23 52.2 +0.3**
SCO IAmb IAmb 17 23 54.2
comp=Z,206nm,1.2s
SCO IVmB_BB 17 23 54.5
comp=Z,3µm,8.9s
SCO Scoresbysund 64.83 342 P **P 17 23 51.3 -0.6**
SCO IAmb IAmb 17 23 54.6
comp=Z,171nm,1.1s
SCO IAMs_20 IAMs_20 17 53 38.0
comp=Z,5µm,20.0s
DAVOX Davos/Dischmat 64.84 311 LR LR 17 53 54.0
comp=Z,6µm,18.8s,baz=64,slow=38
DAVOX Davos/Dischmat 64.84 311 P **P 17 23 52.4 -0.3**
IL31 64.85 26 P **P 17 23 51.2 -0.9**
ILAR Eielson Array 64.85 26 P **P 17 23 51.2 -0.9**
comp=Z,244nm,0.8s,baz=287,slow=4.7,SNR=825
ILAR LR LR 17 51 34.2
comp=Z,4µm,19.6s,baz=316,slow=36
ILAR PKPPKP **P'P'df 17 52 37.2 -7.6**
comp=Z,3.7nm,1.1s,baz=168,slow=0.9,SNR=5.8
PRP Porcupine Dome 64.88 25 P **P 17 23 52.5 0.0**
PRP IAmb IAmb 17 23 56.0
comp=Z,213nm,1.0s
PRP IAMs_20 IAMs_20 17 54 39.3
comp=Z,7µm,19.0s
PRP Porcupine Dome 64.88 25 P **P 17 23 52.9 +0.4**
baz=306,SNR=150
PRP S **S 17 32 34.8 +1.1**
baz=306
MURB Monte Urbino 64.89 306 P **P 17 23 53.3 +0.4**
WB0 Warramunga Arr 64.90 146 P **P 17 23 52.4 -0.6**
SPU Mount Spurr 64.91 31 P **P 17 23 52.5 -0.1**
RND Reindeer 64.92 28 P **P 17 23 51.7 -1.1**
RND pmax pmax
comp=Z,290nm,1.3s
RND MLR MLR
comp=Z,7µm,19.0s

RND	**Reindeer**	**64.92**	**28**	P	**P**	**17 23 51.7**	**-1.1**
RND				IAmb	IAmb	17 23 54.5	
	comp=Z,290nm,1.3s						
RND				IAMs_20	IAMs_20	17 51 31.4	
	comp=Z,7µm,19.0s						
CUT	**Chulitna**	**64.95**	**29**	P	**P**	**17 23 52.4**	**-0.4**
CUT				IAMs_20	IAMs_20	17 50 37.3	
	comp=Z,5µm,20.0s						
CUT	**Chulitna**	**64.95**	**29**	P	**P**	**17 23 52.0**	**-0.8**
	baz=304,SNR=88						
CUT				S	**S**	**17 32 31.1**	**-3.1**
	baz=304						
RSO	**Redoubt South**	**65.01**	**32**	P	**P**	**17 23 53.5**	**0.0**
SALO	**Salr**	**65.01**	**309**	P	**P**	**17 23 52.4**	**-1.2**
SALO				IAmb	IAmb	17 23 55.6	
	comp=Z,152nm,1.2s						
SALO	**Salr**	**65.01**	**309**	P	**P**	**17 23 52.4**	**-1.2**
BFO	**Black Forest**	**65.01**	**313**	P	**P**	**17 23 53.1**	**-0.4**
BFO				pmax	pmax		
	comp=Z,210nm,1.3s						
BFO				MLR	MLR		
	comp=Z,6µm,18.0s						
BFO	**Black Forest**	**65.01**	**313**	*e*P	**P**	**17 23 53.4**	**-0.1**
	comp=Z,267nm,1.4s,baz=64,slow=6.7						
BFO				*e*L	L	17 53 01.2	
	comp=Z,8µm,18.7s						
BFO	**Black Forest**	**65.01**	**313**	P	**P**	**17 23 53.1**	**-0.4**
BFO				IAmb	IAmb	17 23 55.8	
	comp=Z,210nm,1.3s						
BFO				IAMs_20	IAMs_20	17 54 10.0	
	comp=Z,6µm,18.0s						
LMD	**Lutirano**	**65.02**	**307**	P	**P**	**17 23 54.2**	**+0.6**
WRAB	**Tennant Creek**	**65.03**	**146***c*	*i*P	**P**	**17 23 53.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,406nm,2.5s						
WRAB	**Tennant Creek**	**65.03**	**146**	P	**P**	**17 23 53.5**	**-0.3**
WRAB				IAmb	IAmb	17 23 59.8	
	comp=Z,453nm,1.6s						
WRAB	**Tennant Creek**	**65.03**	**146**	P	**P**	**17 23 54.1**	**+0.3**
MTRZ	**Monterenzio**	**65.03**	**308**	P	**P**	**17 23 55.8**	**+2.1**
WRA	**Warramunga Arr**	**65.03**	**146**	P	**P**	**17 23 53.5**	**-0.3**
	comp=Z,67nm,0.9s,baz=343,slow=6.8,SNR=414						
WRA				PKPPKP	**P'P'df**	**17 52 34.1**	**+2.4**
	comp=Z,4.8nm,1.0s,baz=191,slow=2.5,SNR=8.9						
WRA	**Warramunga Arr**	**65.03**	**146**	P	**P**	**17 23 53.3**	**-0.5**
WB2	**Warramunga Arr**	**65.03**	**146**	P	**P**	**17 23 53.6**	**-0.3**
HDA	**Harding Lake**	**65.04**	**26**	P	**P**	**17 23 52.0**	**-1.4**
HDA				IAmb	IAmb	17 23 54.5	
	comp=Z,124nm,0.9s						
HDA				IAMs_20	IAMs_20	17 51 31.5	
	comp=Z,5µm,20.0s						
HDA	**Harding Lake**	**65.04**	**26**	P	**P**	**17 23 52.3**	**-1.1**
	baz=305,SNR=81						
HDA				S	**S**	**17 32 33.2**	**-2.2**
	baz=305						
HDA				S	**S**	**17 32 33.2**	**-2.2**
	baz=305						
DILA	**Dilla**	**65.07**	**258**	*e*P	**P**	**17 23 55.6**	**+1.1**
DILA				*e*S	**S**	**17 32 42.1**	**+4.7**
DILA				IAMs_20	IAMs_20	17 40 26.3	
	comp=E,2µm,17.3s						
CEL	**Celeste**	**65.07**	**300**	P	**P**	**17 23 53.5**	**-0.6**
WR0	**Warramunga Arr**	**65.13**	**146**	P	**P**	**17 23 54.0**	**-0.5**
WR0				IAmb	IAmb	17 24 00.5	
	comp=Z,482nm,1.9s						
BTNL	**Ternell**	**65.16**	**316**	P	**P**	**17 23 55.0**	**+0.5**
	comp=Z,87nm,1.2s						
MEM	**Membach**	**65.22**	**316**	P	**P**	**17 23 54.8**	**0.0**
	comp=Z,84nm,1.2s						
VDL	**Val di Lei**	**65.25**	**311**	P	**P**	**17 23 54.9**	**-0.4**
O20K	**Slope Mountain**	**65.27**	**32**	P	**P**	**17 23 54.3**	**-0.8**
	baz=303						
SUA	**Susitna One**	**65.28**	**30**	P	**P**	**17 23 54.6**	**-0.6**
SUA				IAMs_20	IAMs_20	17 51 32.0	
	comp=Z,6µm,21.0s						
SUA	**Susitna One**	**65.28**	**30**	P	**P**	**17 23 54.8**	**-0.4**
	baz=304,SNR=125						
SUA				S	**S**	**17 32 38.7**	**+0.1**
	baz=304						
SHERE	**Police Station**	**65.30**	**264**	P	**P**	**17 23 55.5**	**-0.4**
BEBN	**Eben Emael**	**65.31**	**316**	⇑P	**P**	**17 23 55.5**	**+0.2**
	comp=Z,96nm,1.1s						
BEBN				PcP	**PcP**	**17 24 27.4**	**-0.1**
TUE	**Stuetta**	**65.31**	**311**	P	**P**	**17 23 55.1**	**-0.7**
TUE				IAmb	IAmb	17 24 01.2	
	comp=Z,164nm,0.9s						
TUE	**Stuetta**	**65.31**	**311**	P	**P**	**17 23 55.2**	**-0.5**
BHOU	**Houvegnez**	**65.35**	**315**	⇑P	**P**	**17 23 56.0**	**+0.4**
	comp=Z,37nm,1.3s						
ZCCA	**Zocca**	**65.35**	**308**	P	**P**	**17 23 57.7**	**+1.9**
ZCCA				IAmb	IAmb	17 24 04.1	
	comp=Z,239nm,1.0s						
ZCCA	**Zocca**	**65.35**	**308**	P	**P**	**17 23 57.2**	**+1.4**
M22K	**Willow**	**65.37**	**30**	P	**P**	**17 23 55.0**	**-0.5**
M22K	**Willow**	**65.37**	**30**	P	**P**	**17 23 54.9**	**-0.7**
	baz=304						
Q19K	**Cape Douglas,**	**65.45**	**33**	P	**P**	**17 23 55.4**	**-0.9**
Q19K				IAmb	IAmb	17 23 57.9	
	comp=Z,183nm,0.7s						
Q19K				IAMs_20	IAMs_20	17 53 21.7	
	comp=Z,6µm,19.0s						
Q19K	**Cape Douglas,**	**65.45**	**33**	P	**P**	**17 23 54.5**	**-1.7**
	baz=302,SNR=7.7						
J25K	**Salcha River,**	**65.47**	**26**	P	**P**	**17 23 54.5**	**-1.8**
J25K				IAmb	IAmb	17 23 57.3	
	comp=Z,106nm,0.8s						
J25K				IAMs_20	IAMs_20	17 54 03.9	
	comp=Z,6µm,18.0s						
BSTI	**Sart Tilman**	**65.47**	**316**	P	**P**	**17 23 56.9**	**+0.4**
	comp=Z,13nm,0.9s						
CAPN	**Captain Cook N**	**65.50**	**31**	P	**P**	**17 23 57.5**	**+1.1**
CAPN	**Captain Cook N**	**65.50**	**31**	P	**P**	**17 23 57.0**	**+0.6**
	baz=304,SNR=7.9						
PRMA	**PARMA**	**65.56**	**309**	P	**P**	**17 23 57.1**	**+0.1**
OSSC	**Osservatorio P**	**65.58**	**307**	P	**P**	**17 23 56.8**	**-0.5**
OSSC				IAmb	IAmb	17 23 59.5	
	comp=Z,140nm,1.2s						
WLF	**Walferdange**	**65.61**	**315**	P	**P**	**17 23 57.9**	**+0.6**
WLF				pmax	pmax		
	comp=Z,444nm,1.2s						
WLF				MLR	MLR		
	comp=Z,7µm,18.0s						
WLF	**Walferdange**	**65.61**	**315**	*e*P	**P**	**17 23 58.2**	**+0.9**
	comp=Z,573nm,1.3s,baz=64,slow=6.7						
WLF	**Walferdange**	**65.61**	**315**	P	**P**	**17 23 57.9**	**+0.6**
WLF	**Walferdange**	**65.61**	**315**	P	**P**	**17 23 58.2**	**+0.9**
	comp=Z,170nm,1.2s						
DHY	**Denali Highway**	**65.66**	**28**	P	**P**	**17 23 56.8**	**-0.8**
DHY				IAMs_20	IAMs_20	17 51 53.0	
	comp=Z,7µm,19.0s						
DHY	**Denali Highway**	**65.66**	**28**	P	**P**	**17 23 56.8**	**-0.8**
	baz=306,SNR=98						
DHY				S	**S**	**17 32 41.1**	**-2.2**
	baz=306						
LATE	**Laterza**	**65.67**	**306**	P	**P**	**17 23 57.7**	**-0.2**
LATE				IAmb	IAmb	17 24 01.0	
	comp=Z,324nm,1.3s						
FIS	**Fire Island**	**65.67**	**30**	P	**P**	**17 23 57.6**	**+0.1**
FIS				IAMs_20	IAMs_20	17 53 12.5	
	comp=Z,5µm,21.0s						
BCLA	**Clavier**	**65.70**	**316**	P	**P**	**17 23 57.9**	**0.0**
	comp=Z,69nm,1.3s						
ECH	**Echery**	**65.75**	**313**	P	**P**	**17 23 57.6**	**-0.7**
ECH				pmax	pmax		
	comp=Z,186nm,1.4s						
ECH				MLR	MLR		
	comp=Z,7µm,21.0s						
ECH	**Echery**	**65.75**	**313**	P	**P**	**17 23 57.6**	**-0.7**
ECH				IAmb	IAmb	17 24 00.5	
	comp=Z,186nm,1.4s						
ECH				IAMs_20	IAMs_20	17 54 07.5	
	comp=Z,7µm,21.0s						
MUGIO	**Muggio**	**65.77**	**310**	P	**P**	**17 23 57.1**	**-1.4**
VLC	**Villacollemand**	**65.81**	**308**	P	**P**	**17 23 60.0**	**+1.2**
VLC				IAMs_20	IAMs_20	17 54 30.3	
	comp=Z,6µm,21.0s						
WAT6	**Susitna Watana**	**65.81**	**28**	P	**P**	**17 23 57.9**	**-0.7**
	baz=306,SNR=49						
WAT6				S	**S**	**17 32 42.9**	**-2.3**
	baz=306						
GHO	**Glory Hole Cre**	**65.83**	**29**	P	**P**	**17 23 58.8**	**+0.1**
GHO				IAmb	IAmb	17 24 08.4	
	comp=Z,123nm,0.9s						
BGES	**Gesves**	**65.84**	**316**	⇑P	**P**	**17 23 58.8**	**0.0**
	comp=Z,57nm,1.2s						
A36M	**Sachs Harbour**	**65.84**	**14**	P	**P**	**17 23 58.3**	**-0.1**
A36M	**Sachs Harbour**	**65.84**	**14**	P	**P**	**17 23 58.5**	**+0.1**
	baz=321,SNR=268						
A36M				S	**S**	**17 32 43.7**	**-1.2**
	baz=321						
PMR	**Palmer**	**65.85**	**30**	P	**P**	**17 23 58.4**	**-0.3**
PMR				pmax	pmax		
	comp=Z,235nm,0.9s						
PMR	**Palmer**	**65.85**	**30**	P	**P**	**17 23 58.4**	**-0.3**
PMR				IAmb	IAmb	17 24 00.5	
	comp=Z,235nm,0.9s						
PMR	**Palmer**	**65.85**	**30**	P	**P**	**17 23 58.0**	**-0.7**
	baz=305,SNR=62						
PMR				S	**S**	**17 32 44.7**	**-0.5**
	baz=305						
RCHB	**Rochefort**	**65.88**	**316**	P	**P**	**17 23 58.9**	**-0.2**
	comp=Z,110nm,1.3s						
RC01	**Rabbit Creek A**	**65.90**	**30**	P	**P**	**17 23 58.6**	**-0.4**
RC01				IAmb	IAmb	17 24 00.8	
	comp=Z,322nm,1.2s						
RC01				IAMs_20	IAMs_20	17 51 53.3	
	comp=Z,5µm,18.0s						
RC01	**Rabbit Creek A**	**65.90**	**30**	P	**P**	**17 23 58.5**	**-0.4**
	baz=305,SNR=27						
RC01				S	**S**	**17 32 45.4**	**-0.5**
	baz=305						
MEEK	**Meekatharra**	**65.90**	**163**	P	**P**	**17 24 00.1**	**+0.7**
MLA1	**Latheron**	**65.92**	**326**⇑	*e*P	**P**	**17 23 58.4**	**-0.7**
HOM	**Homer**	**65.92**	**32**	P	**P**	**17 23 58.9**	**-0.2**
HOM	**Homer**	**65.92**	**32**	P	**P**	**17 23 58.6**	**-0.5**
	baz=304						
TULEG	**Thule**	**65.93**	**358**	*i* P	**P**	**17 23 58.3**	**-0.7**
TULEG				IAmb	IAmb	17 24 00.5	
	comp=Z,320nm,1.3s						
TULEG	**Thule**	**65.93**	**358**	P	**P**	**17 23 58.1**	**-0.9**
TULEG				IAmb	IAmb	17 24 01.0	
	comp=Z,292nm,1.3s						
UCC	**Uccle**	**66.03**	**316**	P	**P**	**17 24 00.1**	**+0.1**
UCC				pmax	pmax		
	comp=Z,47nm,1.0s						
UCC	**Uccle**	**66.03**	**316**	P	**P**	**17 24 00.1**	**+0.1**
UCC	**Uccle**	**66.03**	**316**	P	**P**	**17 24 00.1**	**+0.1**
	comp=Z,29nm,1.0s						
SML	**Sawmill**	**66.04**	**29**	P	**P**	**17 23 59.4**	**-0.5**
SML				IAMs_20	IAMs_20	17 50 60.0	
	comp=Z,5µm,20.0s						
SML	**Sawmill**	**66.04**	**29**	P	**P**	**17 23 59.9**	**-0.1**
	baz=305,SNR=77						
SML				S	**S**	**17 32 47.9**	**+0.1**
	baz=305						
BIGH	**Upper Bighouse**	**66.06**	**326**	*e*P	**P**	**17 23 59.5**	**-0.5**
BIGH				IAmb	IAmb	17 24 02.0	
	comp=Z,497nm,1.1s						
BMRD	**Maredsous**	**66.06**	**316**	⇑P	**P**	**17 24 00.2**	**0.0**
	comp=Z,78nm,1.2s						
J26L	**Joseph Creek**	**66.16**	**25**	P	**P**	**17 23 59.7**	**-1.0**
J26L				IAmb	IAmb	17 24 02.3	
	comp=Z,384nm,1.5s						
J26L				IAMs_20	IAMs_20	17 56 42.1	
	comp=Z,5µm,20.0s						
J26L	**Joseph Creek**	**66.16**	**25**	P	**P**	**17 24 00.2**	**-0.5**
	baz=308						
J26L				S	**S**	**17 32 47.0**	**-2.2**
	baz=308						
CNPM	**China Poot**	**66.16**	**32**	P	**P**	**17 24 01.0**	**+0.2**
CNPM				IAmb	IAmb	17 24 03.4	
	comp=Z,135nm,0.9s						
CNPM				IAMs_20	IAMs_20	17 52 56.4	
	comp=Z,5µm,18.0s						
GOREE	**District Admin**	**66.17**	**262**	P	**P**	**17 24 02.5**	**+0.8**
BRLK	**Bradley Lake**	**66.18**	**32**	P	**P**	**17 24 00.2**	**-0.7**
BRLK				IAmb	IAmb	17 24 01.9	
	comp=Z,174nm,0.8s						
RIDG	**Independent Ri**	**66.18**	**26**	P	**P**	**17 23 59.9**	**-1.0**
RIDG				IAMs_20	IAMs_20	17 53 15.7	
	comp=Z,5µm,18.0s						
RIDG	**Independent Ri**	**66.18**	**26**	P	**P**	**17 24 00.2**	**-0.7**
	baz=307						
RIDG				S	**S**	**17 32 46.8**	**-2.6**
	baz=307						
CASP	**Castiglione de**	**66.18**	**306**	P	**P**	**17 23 59.0**	**-2.1**
CASP				IAmb	IAmb	17 24 02.8	
	comp=Z,321nm,1.9s						
CHIR	**Chirikof Islan**	**66.22**	**37**	P	**P**	**17 24 00.9**	**-0.2**
CHIR				IAMs_20	IAMs_20	17 51 46.4	
	comp=Z,7µm,19.0s						
CHIR	**Chirikof Islan**	**66.22**	**37**	P	**P**	**17 24 00.6**	**-0.5**
	baz=302						
CHIR				S	**S**	**17 32 48.0**	**-1.9**
	baz=302						
KNK	**Knik Glacier**	**66.22**	**30**	P	**P**	**17 24 00.9**	**-0.2**
KNK	**Knik Glacier**	**66.22**	**30**	P	**P**	**17 24 01.0**	**0.0**
	baz=305,SNR=53						
KNK				S	**S**	**17 32 49.4**	**-0.4**
	baz=305						
SNF	**Seneffe**	**66.22**	**316**	P	**P**	**17 24 01.5**	**+0.3**
	comp=Z,99nm,1.0s						
BRSE	**Bradley Lake S**	**66.25**	**32**	P	**P**	**17 23 60.0**	**-1.3**
	baz=304,SNR=15						
BRSE				S	**S**	**17 32 46.5**	**-3.7**
	baz=304						
DOU	**Dourbes**	**66.26**	**316**	⇑P	**P**	**17 24 01.2**	**-0.3**
	comp=Z,68nm,1.2s						
MCD	**Coleburn Disti**	**66.26**	**325**⇑	*e*P	**P**	**17 24 01.0**	**-0.4**
MSSA	**Maissana**	**66.27**	**308**	P	**P**	**17 24 01.2**	**-0.6**
MSSA				IAmb	IAmb	17 24 06.4	
	comp=Z,166nm,1.2s						
DRUM	**Mains of Drumt**	**66.28**	**324**⇑	*e*P	**P**	**17 24 00.7**	**-0.8**
DRUM				IAmb	IAmb	17 24 03.2	
	comp=Z,459nm,1.1s						
SCRK	**Sand Creek**	**66.34**	**26**	P	**P**	**17 24 00.7**	**-1.2**
SCRK				IAMs_20	IAMs_20	17 54 06.8	
	comp=Z,7µm,21.0s						
SCRK	**Sand Creek**	**66.34**	**26**	P	**P**	**17 24 01.2**	**-0.8**
	baz=308						
SCRK				S	**S**	**17 32 48.6**	**-2.9**
	baz=308						
GIDAE	**Health Center,**	**66.40**	**263**	P	**P**	**17 24 03.5**	**+0.4**
SCM	**Sheep Creek Mo**	**66.41**	**29**	P	**P**	**17 24 02.4**	**0.0**
SCM				pmax	pmax		
	comp=Z,617nm,0.9s						
SCM				MLR	MLR		
	comp=Z,5µm,18.0s						
SCM	**Sheep Creek Mo**	**66.41**	**29**	P	**P**	**17 24 02.4**	**0.0**
SCM				IAMs_20	IAMs_20	17 51 11.8	
	comp=Z,5µm,18.0s						
SCM	**Sheep Creek Mo**	**66.41**	**29**	P	**P**	**17 24 02.3**	**-0.1**
	baz=306,SNR=81						
SCM				S	**S**	**17 32 52.2**	**-0.1**
	baz=306						
PAX	**Paxson**	**66.43**	**27**	P	**P**	**17 24 01.4**	**-1.1**
PAX				pmax	pmax		
	comp=Z,201nm,0.9s						
PAX	**Paxson**	**66.43**	**27**	P	**P**	**17 24 01.4**	**-1.1**
PAX				IAmb	IAmb	17 24 04.3	
	comp=Z,200nm,0.9s						
PAX	**Paxson**	**66.43**	**27**	P	**P**	**17 24 02.1**	**-0.4**
	baz=307,SNR=92						
PAX				S	**S**	**17 32 51.5**	**-1.0**
	baz=307						
VAE	**Valguarnera**	**66.48**	**300**	LR	LR	17 56 31.5	
	comp=Z,3µm,21.0s,baz=35,slow=39						
SII	**Sitkinak Islan**	**66.50**	**36**	P	**P**	**17 24 02.7**	**-0.2**
SII	**Sitkinak Islan**	**66.50**	**36**	P	**P**	**17 24 01.5**	**-1.4**
	baz=303,SNR=8.9						
DOT	**Dot Lake**	**66.52**	**26**	P	**P**	**17 24 02.0**	**-1.0**
DOT				IAmb	IAmb	17 24 05.6	
	comp=Z,166nm,0.8s						
OHAK	**Old Harbor**	**66.54**	**35**	P	**P**	**17 24 02.0**	**-1.1**
OHAK	**Old Harbor**	**66.54**	**35**	P	**P**	**17 24 02.4**	**-0.7**
	baz=303,SNR=10						
KDAK	**Kodiak Island**	**66.55**	**34**	P	**P**	**17 24 02.1**	**-1.1**
	comp=Z,170nm,0.9s,baz=317,slow=4.8,SNR=56						
KDAK				LR	LR	17 53 50.8	
	comp=Z,6µm,20.6s,baz=343,slow=37						
KDAK	**Kodiak Island**	**66.55**	**34**	P	**P**	**17 24 02.9**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,258nm,1.0s						
KDAK				MLR	MLR		
	comp=Z,6µm,21.0s						
KDAK	**Kodiak Island**	**66.55**	**34**	P	**P**	**17 24 02.9**	**-0.3**
KDAK				IAmb	IAmb	17 24 05.4	
	comp=Z,258nm,1.0s						
KDAK	**Kodiak Island**	**66.55**	**34**	IAMs_20	IAMs_20	17 55 31.7	
	comp=Z,6µm,21.0s						
KDAK	**Kodiak Island**	**66.55**	**34**	P	**P**	**17 24 02.3**	**-0.9**
	baz=304						
SEW	**Seward**	**66.58**	**31**	P	**P**	**17 24 02.4**	**-0.9**
SEW				IAmb	IAmb	17 24 04.6	
	comp=Z,240nm,1.0s						
SEW	**Seward**	**66.58**	**31**	P	**P**	**17 24 02.3**	**-1.1**
	baz=305,SNR=15						
PWL	**Port Wells**	**66.59**	**30**	P	**P**	**17 24 03.2**	**-0.3**
PWL				IAmb	IAmb	17 24 05.4	
	comp=Z,288nm,1.1s						
PWL				IAMs_20	IAMs_20	17 53 28.7	
	comp=Z,6µm,20.0s						
PWL	**Port Wells**	**66.59**	**30**	P	**P**	**17 24 02.9**	**-0.6**
	baz=306,SNR=16						
PWL				S	**S**	**17 32 53.0**	**-1.4**
	baz=306						
SENIN	**Lac Senin/Sane**	**66.60**	**311**	P	**P**	**17 24 03.2**	**-0.8**
SENIN				IAmb	IAmb	17 24 06.3	
	comp=Z,482nm,1.9s						
SUMG	**Summit**	**66.64**	**348**	P	**P**	**17 24 02.7**	**-1.4**
SUMG				pmax	pmax		
	comp=Z,347nm,1.1s						
SUMG				MLR	MLR		
	comp=Z,10µm,19.0s						
SUMG	**Summit**	**66.64**	**348**	*i* P	**P**	**17 24 03.4**	**-0.7**
SUMG				IAmb	IAmb	17 24 05.6	
	comp=Z,356nm,1.1s						
SUMG	**Summit**	**66.64**	**348**	P	**P**	**17 24 02.7**	**-1.4**
INK	**Inuvik**	**66.67**	**19**	P	**P**	**17 24 03.6**	**-0.2**
	comp=Z,290nm,0.9s,baz=324,slow=7.6,SNR=364						
INK				LR	LR	17 57 39.2	
	comp=Z,4µm,18.4s,baz=298,slow=40						
INK	**Inuvik**	**66.67**	**19**	P	**P**	**17 24 03.1**	**-0.6**
INK	**Inuvik**	**66.67**	**19**	P	**P**	**17 24 03.9**	**+0.1**
	baz=315,SNR=376						
INK				S	**S**	**17 32 53.7**	**-1.3**
	baz=315						
M24K	**Tolsona, Glenn**	**66.69**	**28**	P	**P**	**17 24 04.6**	**+0.5**
M24K	**Tolsona, Glenn**	**66.69**	**28**	P	**P**	**17 24 04.7**	**+0.5**
	baz=307,SNR=100						
M24K				S	**S**	**17 32 57.5**	**+1.9**
	baz=307						
EDU	**Dundee**	**66.72**	**324**⇑	*e*P	**P**	**17 24 03.8**	**-0.5**
EGAK	**Eagle**	**66.79**	**24**	P	**P**	**17 24 04.1**	**-0.6**
EGAK				IAmb	IAmb	17 24 06.7	
	comp=Z,144nm,0.9s						
EGAK	**Eagle**	**66.79**	**24**	P	**P**	**17 24 04.5**	**-0.2**
	baz=310,SNR=89						
GDLE	**Glaisdale, N Y**	**66.83**	**322**	*e*P	**P**	**17 24 04.3**	**-0.7**
GDLE				IAmb	IAmb	17 24 06.4	
	comp=Z,339nm,1.4s						
GDLE				IAMs_20	IAMs_20	17 55 24.3	
	comp=Z,11µm,14.7s						
MDO	**Dochfour**	**66.84**	**326**⇑	*e*P	**P**	**17 24 03.9**	**-1.2**
ESY	**Stoneypath**	**66.88**	**324**⇑	*e*P	**P**	**17 24 04.4**	**-1.0**
HARP	**HAARP**	**66.89**	**28**	P	**P**	**17 24 06.0**	**+0.6**
	baz=308,SNR=73						
HARP				S	**S**	**17 32 58.4**	**+0.4**
	baz=308						
WACR	**West Acre**	**67.01**	**320**⇑	*e*P	**P**	**17 24 05.8**	**-0.4**
WACR				IAmb	IAmb	17 24 08.0	
	comp=Z,1µm,1.0s						
GLI	**Glacier Island**	**67.07**	**30**	P	**P**	**17 24 06.5**	**0.0**
GLI				IAmb	IAmb	17 24 08.3	
	comp=Z,111nm,0.9s						
GLI	**Glacier Island**	**67.07**	**30**	P	**P**	**17 24 06.0**	**-0.5**
	baz=307						
GLI				S	**S**	**17 33 00.7**	**+0.6**
	baz=307						
MENT	**Mentasta**	**67.08**	**27**	P	**P**	**17 24 06.0**	**-0.6**
LMK	**Market Rasen**	**67.10**	**321**⇑	*e*P	**P**	**17 24 06.3**	**-0.4**
LMK				IAmb	IAmb	17 24 08.7	
	comp=Z,966nm,1.0s						
EPYK	**Eagle Plains**	**67.12**	**22**	P	**P**	**17 24 06.2**	**-0.6**
EPYK	**Eagle Plains**	**67.12**	**22**	P	**P**	**17 24 06.2**	**-0.6**
	baz=313,SNR=155						
EPYK				S	**S**	**17 32 58.6**	**-2.1**
	baz=313						
EDI	**Edinburgh**	**67.14**	**324**	*e*P	**P**	**17 24 06.4**	**-0.6**
EDI				IAmb	IAmb	17 24 08.6	
	comp=Z,310nm,1.2s						
KLU	**Klutina**	**67.15**	**29**	P	**P**	**17 24 06.9**	**-0.2**
KLU				IAMs_20	IAMs_20	17 51 35.5	
	comp=Z,6µm,20.0s						
KLU	**Klutina**	**67.15**	**29**	P	**P**	**17 24 07.4**	**+0.2**
	baz=307,SNR=171						
KLU				S	**S**	**17 33 01.6**	**+0.3**
	baz=307						
L26K	**Log Cabin Wild**	**67.16**	**27**	P	**P**	**17 24 06.4**	**-0.7**
L26K				IAmb	IAmb	17 24 16.0	
	comp=Z,264nm,1.9s						
L26K	**Log Cabin Wild**	**67.16**	**27**	P	**P**	**17 24 06.7**	**-0.3**
	baz=309,SNR=25						
L26K				S	**S**	**17 32 59.7**	**-1.5**
	baz=309						
ELMS	**Elmsett, Ipswi**	**67.16**	**319**⇑	*e*P	**P**	**17 24 06.8**	**-0.3**
ELMS				IAmb	IAmb	17 24 08.9	
	comp=Z,343nm,1.2s						
ELMS				IAMs_20	IAMs_20	18 00 58.4	
	comp=Z,7µm,14.6s						
EBL	**Broad Law**	**67.16**	**324**⇑	*e*P	**P**	**17 24 06.1**	**-1.0**
EDMD	**Edmundbyers**	**67.17**	**322**⇑	*e*P	**P**	**17 24 06.2**	**-1.0**
EDMD				IAmb	IAmb	17 24 08.4	
	comp=Z,268nm,1.1s						
EDMD				IAMs_20	IAMs_20	17 56 27.2	
	comp=Z,7µm,13.4s						
WRKA	**Warakurna**	**67.20**	**154**	P	**P**	**17 24 08.6**	**+0.9**
CLTB	**Caltabellotta**	**67.25**	**301**	P	**P**	**17 24 06.4**	**-1.8**
INVG	**Invergeldie, C**	**67.26**	**325**	*e*P	**P**	**17 24 06.8**	**-1.0**
INVG				IAmb	IAmb	17 24 09.2	
	comp=Z,704nm,2.0s						
I29M	**Ogilvie Camp,**	**67.32**	**23**	P	**P**	**17 24 07.0**	**-1.0**
I29M				IAmb	IAmb	17 24 09.7	
	comp=Z,412nm,1.8s						
I29M	**Ogilvie Camp,**	**67.32**	**23**	P	**P**	**17 24 07.3**	**-0.8**
	baz=312,SNR=92						
I29M				S	**S**	**17 33 01.8**	**-1.3**
	baz=312						
FID	**Port Fidalgo**	**67.39**	**30**	P	**P**	**17 24 08.7**	**+0.2**
FID				IAMs_20	IAMs_20	17 53 59.8	
	comp=Z,5µm,19.0s						
RES	**Resolute Bay**	**67.41**	**5**	LR	LR	17 55 05.5	
	comp=Z,3µm,19.3s,baz=345,slow=37						
RES	**Resolute Bay**	**67.41**	**5**	P	**P**	**17 24 08.0**	**-0.4**
RES				pmax	pmax		
	comp=Z,288nm,1.0s						
RES	**Resolute Bay**	**67.41**	**5**	P	**P**	**17 24 08.0**	**-0.4**
DIV	**Divide**

ELSH IAmb IAmb 17 24 11.9
comp=Z,739nm,1.1s
ELSH IAms_20 IAms_20 17 55 58.7
comp=Z,9μm,13.1s
BNI Bardonecchia 67.64 310 P **P 17 24 09.8 -0.8**
BNI pmax pmax
comp=Z,178nm,1.1s
BNI MLR MLR
comp=Z,5μm,20.0s
BNI Bardonecchia 67.64 310 P **P 17 24 09.8 -0.8**
BNI IAmb IAmb 17 24 15.6
comp=Z,178nm,1.1s
BNI IAms_20 IAms_20 17 58 02.7
comp=Z,5μm,20.0s
L27K Beaver Creek, 67.67 26 P **P 17 24 10.4 +0.1**
L27K IAmb IAmb 17 24 13.1
comp=Z,179nm,0.9s
L27K IAms_20 IAms_20 17 54 59.4
comp=Z,6μm,21.0s
L27K Beaver Creek, 67.67 26 P **P 17 24 10.9 +0.6**
baz=310
L27K S **S 17 33 08.3 +0.9**
baz=310
M26K Nabesna, AK 67.68 27 P **P 17 24 10.5 +0.1**
M26K IAms_20 IAms_20 17 53 28.2
comp=Z,6μm,21.0s
M26K Nabesna, AK 67.68 27 P **P 17 24 10.9 +0.5**
baz=309,SNR=149
BCAR Beaver Creek A 67.68 26 P **P 17 24 10.4 0.0**
MORW Morawa 67.72 166 P **P 17 24 11.8 +0.9**
MORW IAmb IAmb 17 24 18.1
comp=Z,232nm,1.4s
MORW Morawa 67.72 166 P **P 17 24 12.2 +1.3**
EYAK Cordova Ski Ar 67.80 30 P **P 17 24 11.7 +0.6**
EYAK Cordova Ski Ar 67.80 30 P **P 17 24 11.4 +0.3**
baz=308,SNR=29
EYAK S **S 17 33 10.8 +2.0**
baz=308
PGBU Glenifferbraes 67.81 324⇑ *e*P **P 17 24 10.9 -0.4**
PGBU IAmb IAmb 17 24 13.2
comp=Z,505nm,1.1s
LBWR Ladybower, Pea 67.83 321⇑ *e*P **P 17 24 10.6 -0.9**
LBWR IAmb IAmb 17 24 13.1
comp=Z,561nm,1.1s
DAWY Dawson 67.84 25 P **P 17 24 10.8 -0.6**
DAWY IAmb IAmb 17 24 13.3
comp=Z,163nm,0.9s
DAWY Dawson 67.84 25 P **P 17 24 11.0 -0.4**
baz=312,SNR=155
DAWY S **S 17 33 09.4 0.0**
baz=312
KESW Keswick, Cumbr 67.85 323⇑ *e*P **P 17 24 10.9 -0.6**
KESW IAmb IAmb 17 24 13.8
comp=Z,504nm,1.2s
KESW IAms_20 IAms_20 17 56 55.8
comp=Z,10μm,15.7s
J29M Klondike Camp 67.96 24 P **P 17 24 12.0 -0.2**
J29M Klondike Camp 67.96 24 P **P 17 24 12.5 +0.3**
baz=312,SNR=28
J29M S **S 17 33 11.4 +0.4**
baz=312
BMRM Bremner River 67.98 29 P **P 17 24 12.0 -0.3**
BMRM IAms_20 IAms_20 17 52 01.3
comp=Z,7μm,21.0s
BMRM Bremner River 67.98 29 P **P 17 24 12.5 +0.2**
baz=308,SNR=95
BMRM S **S 17 33 11.9 +0.8**
baz=308
GLB Gilahina Butte 67.98 28 P **P 17 24 12.7 +0.4**
GLB IAmb IAmb 17 24 14.9
comp=Z,182nm,1.0s
GLB IAms_20 IAms_20 17 54 33.4
comp=Z,6μm,19.0s
CWF Charnwood Fore 67.99 320 *e*P **P 17 24 10.9 -1.5**
CWF IAmb IAmb 17 24 13.8
comp=Z,150nm,1.1s
CWF IAms_20 IAms_20 17 56 27.4
comp=Z,9μm,14.9s
QIS Mount Isa 68.03 142 P **P 17 24 13.2 +0.2**
NEWG New Galloway 68.09 323⇑ *e*P **P 17 24 12.2 -0.8**
NEWG IAmb IAmb 17 24 14.7
comp=Z,314nm,1.1s
M27K Edge Creek, AK 68.11 27 P **P 17 24 13.6 +0.4**
M27K IAms_20 IAms_20 17 56 03.5
comp=Z,5μm,19.0s
M27K Edge Creek, AK 68.11 27 P **P 17 24 14.1 +0.9**
baz=310,SNR=134
AS31 Alice Springs 68.12 148 P **P 17 24 13.3 -0.3**
ASAR Alice Springs 68.12 148 P **P 17 24 13.6 0.0**
comp=Z,37nm,0.6s,baz=338,slow=6.5,SNR=662
PKPPKP **P'P'df 17 52 33.6 +7.3**
comp=Z,8.2nm,0.9s,baz=146,slow=2.6,SNR=17
ASAR Alice Springs 68.12 148 P **P 17 24 13.2 -0.4**
C36M Paulatuk 68.16 16 P **P 17 24 12.3 -0.9**
C36M Paulatuk 68.16 16 P **P 17 24 12.4 -0.8**
baz=322,SNR=139
C36M S **S 17 33 10.5 -2.3**
baz=322
HMNX Herstmonceux 68.16 318 *e*P **P 17 24 13.3 -0.2**
HMNX IAmb IAmb 17 24 15.8
comp=Z,957nm,1.1s
HMNX IAms_20 IAms_20 17 56 18.1
comp=Z,11μm,13.7s
Q23K Middleton Isla 68.24 31 IAms_20 IAms_20 17 50 48.4
comp=Z,6μm,19.0s
Q23K Middleton Isla 68.24 31 P **P 17 24 13.9 0.0**
baz=308
VRDI Verde Repeater 68.25 28 P **P 17 24 14.0 -0.2**
VRDI IAmb IAmb 17 24 16.8
comp=Z,229nm,1.0s
VRDI IAms_20 IAms_20 17 55 41.5
comp=Z,5μm,19.0s
RAGM Ragged Mountai 68.31 29 P **P 17 24 15.6 +1.2**
RAGM IAms_20 IAms_20 17 52 11.1
comp=Z,6μm,21.0s
BVCY Beaver Creek 68.43 26 P **P 17 24 15.9 +0.8**
baz=311,SNR=117
BVCY S **S 17 33 18.2 +1.8**
baz=311
GAL1 Galloway 68.46 323 *e*P **P 17 24 14.7 -0.6**
GAL1 IAmb IAmb 17 24 17.0
comp=Z,342nm,1.5s
MTSU Mount Surprise 68.48 136 P **P 17 24 17.0 +1.1**
HMT Hamilton 68.51 29 P **P 17 24 16.1 +0.5**
HMT IAmb IAmb 17 24 18.3
comp=Z,273nm,1.0s
HMT IAms_20 IAms_20 17 51 38.3
comp=Z,5μm,18.0s
BORG Borgarnes 68.64 337 LR LR 17 56 49.8
comp=Z,3μm,20.1s,baz=46,slow=38
BORG Borgarnes 68.64 337 P **P 17 24 18.0 +1.7**
BORG pmax pmax
comp=Z,405nm,1.6s
BORG Borgarnes 68.64 337 P **P 17 24 18.0 +1.7**
BORG IAmb IAmb 17 24 20.4
comp=Z,405nm,1.6s
CLF Chambon-Foret 68.65 315 P **P 17 24 16.4 -0.2**
BERG Berg Lake 68.69 29 P **P 17 24 16.5 -0.2**
KAIM Kayak Island 68.70 30 P **P 17 24 17.2 +0.4**
KAIM IAmb IAmb 17 24 19.7
comp=Z,253nm,1.0s
KAIM Kayak Island 68.70 30 P **P 17 24 17.1 +0.3**
baz=309
IOMK Kirk Michael 68.74 323⇑ *e*P **P 17 24 16.6 -0.5**
IOMK IAmb IAmb 17 24 18.9
comp=Z,698nm,1.2s
SOEG Soedalen 68.78 343 *e*P **P 17 24 16.2 -0.9**
SOEG IAmb IAmb 17 24 18.6
comp=Z,143nm,1.1s
TGL Tana Glacier 68.79 28 P **P 17 24 17.5 0.0**
TGL IAms_20 IAms_20 17 51 01.7
comp=Z,5μm,21.0s
UPNV Upernavik 68.79 353 *i* P **P 17 24 17.1 0.0**
UPNV IAmb IAmb 17 24 19.1
comp=Z,202nm,0.9s
SSB Saint Sauveur 68.81 311 P **P 17 24 16.9 -0.9**
SSB pmax pmax
comp=Z,169nm,1.4s
SSB MLR MLR
comp=Z,5μm,18.0s
SSB Saint Sauveur 68.81 311 P **P 17 24 16.9 -0.9**
SSB IAmb IAmb 17 24 19.9
comp=Z,169nm,1.4s
SSB Saint Sauveur 68.81 311 IAms_20 IAms_20 17 59 47.5
comp=Z,5μm,18.0s
VSL Villasalto 68.83 304 P **P 17 24 17.7 -0.3**

WIM Isle of Man 68.86 323⇑ *e*P **P 17 24 17.2 -0.7**
SUCK Suckling Hills 68.86 29 P **P 17 24 19.4 +1.6**
SUCK IAmb IAmb 17 24 20.9
comp=Z,238nm,1.0s
SUCK IAms_20 IAms_20 17 55 30.6
comp=Z,4μm,19.0s
HLM1 Long Mynd 68.91 321⇑ *e*P **P 17 24 17.6 -0.6**
HLM1 IAmb IAmb 17 24 20.0
comp=Z,542nm,1.2s
HLM1 IAms_20 IAms_20 18 03 23.7
comp=Z,9μm,13.7s
SWN1 Swindon 68.93 319⇑ *e*P **P 17 24 17.8 -0.5**
SWN1 IAmb IAmb 17 24 20.0
comp=Z,805nm,1.1s
STRD Stroud 68.97 320⇑ *e*P **P 17 24 17.7 -0.8**
STRD IAmb IAmb 17 24 20.9
comp=Z,738nm,1.1s
WAX Waxell Ridge 68.98 29 P **P 17 24 18.9 +0.3**
WAX IAmb IAmb 17 24 21.3
comp=Z,402nm,1.5s
WAX IAms_20 IAms_20 17 54 59.6
comp=Z,5μm,18.0s
CLGH Cloghs, Cushen 68.99 324 *e*P **P 17 24 18.0 -0.7**
CLGH IAmb IAmb 17 24 20.3
comp=Z,204nm,1.1s
YUK3 Moose Creek 68.99 27 P **P 17 24 19.2 +0.3**
baz=311,SNR=61
YUK3 S **S 17 33 26.0 +2.5**
baz=311
BGLC Bering Glacier 69.02 29 P **P 17 24 19.7 +1.0**
baz=310
BARN Barnard Glacie 69.03 28 P **P 17 24 19.2 +0.2**
BARN IAms_20 IAms_20 17 54 23.9
comp=Z,6μm,20.0s
ISLE Juniper Island 69.07 28 P **P 17 24 18.9 -0.3**
ISLE IAmb IAmb 17 24 21.6
comp=Z,138nm,1.0s
ISLE IAms_20 IAms_20 17 51 21.1
comp=Z,6μm,22.0s
WME Myndd Eilian 69.11 322⇑ *e*P **P 17 24 18.5 -0.9**
SNH Sunshine Point 69.16 29 P **P 17 24 20.8 +1.2**
WPS Cemaes, Angles 69.20 322⇑ *e*P **P 17 24 19.1 -0.9**
WPS IAmb IAmb 17 24 21.6
comp=Z,197nm,1.2s
CTG Chitna Glacier 69.21 28 P **P 17 24 20.8 +0.7**
baz=311,SNR=61
CTG S **S 17 33 27.0 +1.1**
baz=311
GRNC Granite Creek 69.21 28 P **P 17 24 20.7 +0.5**
GRNC IAmb IAmb 17 24 22.9
comp=Z,196nm,1.0s
GRNC IAms_20 IAms_20 17 56 21.1
comp=Z,5μm,19.0s
CTGM Chitina Glacie 69.21 28 P **P 17 24 20.3 +0.2**
LODK Lodwar 69.21 258 P **P 17 24 20.9 +0.2**
SNR=18
LODK Lodwar 69.21 258 P **P 17 24 20.4 -0.3**
WLF1 Llynfaes 69.22 322⇑ *e*P **P 17 24 19.4 -0.6**
WLF1 IAmb IAmb 17 24 21.8
comp=Z,702nm,1.2s
WLF1 IAms_20 IAms_20 17 56 48.6
comp=Z,15μm,18.2s
MCH1 Michaelchurch 69.27 320⇑ *e*P **P 17 24 19.7 -0.7**
MCH1 IAmb IAmb 17 24 21.9
comp=Z,472nm,1.1s
MCH1 IAms_20 IAms_20 18 00 55.0
comp=Z,8μm,15.1s
MAYO Mayo, Yukon 69.30 24 P **P 17 24 20.5 +0.1**
baz=314,SNR=27
MAYO S **S 17 33 25.6 -1.1**
baz=314
YRC Rhoscolyn 69.33 322⇑ *e*P **P 17 24 20.0 -0.7**
BLDU Ballidu 69.36 166 P **P 17 24 21.5 +0.4**
LOGN Logan Glacier 69.42 28 P **P 17 24 21.8 +0.4**
LOGN IAmb IAmb 17 24 24.5
comp=Z,441nm,1.5s
LOGN IAms_20 IAms_20 17 54 15.4
comp=Z,7μm,21.0s
YAH Yahtse 69.45 28 P **P 17 24 21.9 +0.1**
YAH IAmb IAmb 17 24 24.7
comp=Z,259nm,1.0s
YAH IAms_20 IAms_20 17 54 19.2
comp=Z,7μm,20.0s
MESA MESA 69.49 29 P **P 17 24 22.5 +0.5**
MESA IAms_20 IAms_20 17 53 10.4
comp=Z,7μm,19.0s
MESA MESA 69.49 29 P **P 17 24 22.5 +0.5**
baz=311,SNR=14
MESA S **S 17 33 29.2 -0.3**
baz=311
TABL Table Mountain 69.63 28 P **P 17 24 23.2 +0.4**
TABL IAms_20 IAms_20 17 54 34.8
comp=Z,6μm,21.0s
ICESG Greenland Ices 69.80 346 *i* P **P 17 24 23.3 -0.5**
ICESG IAmb IAmb 17 24 25.3
comp=Z,497nm,1.0s
RSBS Rosebush, Pemb 70.17 321⇑ *e*P **P 17 24 25.4 -0.6**
RSBS IAmb IAmb 17 24 27.5
comp=Z,324nm,1.3s
RSBS IAms_20 IAms_20 17 57 19.1
comp=Z,9μm,16.6s
PCA Pinnacle 70.19 28 P **P 17 24 26.2 +0.2**
PINM Pinnacle 70.19 28 P **P 17 24 26.6 +0.6**
baz=312,SNR=31
PINM S **S 17 33 39.3 +2.0**
baz=312
SBV Sambava 70.26 234 P **P 17 24 27.3 +0.4**
SBV Sambava 70.26 234 P **P 17 24 29.1 +2.2**
JQE Queens East 70.37 317⇑ *e*P **P 17 24 26.3 -0.9**
JSA Saint Aubin 70.44 317⇑ *e*P **P 17 24 26.6 -1.1**
JSA IAmb IAmb 17 24 29.4
comp=Z,555nm,1.3s
JSA IAms_20 IAms_20 17 57 14.5
comp=Z,8μm,22.5s
JVM Valle D.L. Mar 70.45 317⇑ *e*P **P 17 24 27.1 -0.7**
KLBR Kellerberrin 70.51 165 P **P 17 24 28.9 +0.8**
comp=Z,143nm,0.9s
BCPM Bancas Point 70.51 28 P **P 17 24 28.2 +0.3**
BCPM IAmb IAmb 17 24 32.1
comp=Z,356nm,1.5s
MUN Mundaring 70.59 167 P **P 17 24 29.4 +0.8**
KMBO Kilima Mbogo 70.66 253 P **P 17 24 30.1 +0.3**
comp=Z,56nm,0.9s,baz=38,slow=9.4,SNR=96
KMBO LR LR 17 55 40.8
comp=Z,2μm,20.9s,baz=56,slow=36
KMBO Kilima Mbogo 70.66 253⇑ *i* P **P 17 24 30.0 +0.2**
KMBO IAmb IAmb 17 24 32.3
comp=Z,758nm,1.6s
KMBO Kilima Mbogo 70.66 253 P **P 17 24 30.4 +0.6**
KMBO Kilima Mbogo 70.66 253 P **P 17 24 29.9 0.0**
KMBO IAmb IAmb 17 24 32.7
comp=Z,240nm,1.6s
KMBO Kilima Mbogo 70.66 253 P **P 17 24 30.1 +0.3**
KMBO Kilima Mbogo 70.66 253 *i* P **P 17 24 30.1 +0.3**
SNR=27
M31M Drury Creek, Y 70.77 24 P **P 17 24 29.3 -0.3**
M31M IAmb IAmb 17 24 32.7
comp=Z,230nm,1.4s
M31M Drury Creek, Y 70.77 24 P **P 17 24 29.1 -0.5**
baz=316,SNR=57
M31M S **S 17 33 43.6 -0.4**
baz=316
PNL Peninsula 70.80 28 P **P 17 24 30.4 +0.6**
baz=313,SNR=26
PNL S **S 17 33 45.8 +1.4**
baz=313
N31M Braeburn, Yuko 70.82 25 P **P 17 24 29.9 0.0**
N31M Braeburn, Yuko 70.82 25 P **P 17 24 30.2 +0.3**
baz=315,SNR=110
N31M S **S 17 33 45.5 +0.8**
baz=315
KIBK Kibwezi 70.85 251 P **P 17 24 31.1 +0.4**
SNR=27
KIBK Kibwezi 70.85 251 P **P 17 24 30.3 -0.5**
KEST Kesra 70.86 301 P **P 17 24 30.7 +0.1**
comp=Z,62nm,0.9s,baz=325,slow=2.2,SNR=46
KEST LR LR 18 00 29.3
comp=Z,3μm,18.4s,baz=358,slow=40
KEST Kesra 70.86 301 P **P 17 24 30.4 -0.3**
IWEX Carrickbyrne, 70.92 322 *e*P **P 17 24 30.1 -0.4**
IWEX IAmb IAmb 17 24 33.2
comp=Z,463nm,1.4s
FARO Faro, Yukon 71.09 24 P **P 17 24 31.4 -0.1**
baz=317,SNR=27
FARO S **S 17 33 47.1 -0.6**
baz=317

CTA Charters Tower 71.13 136 LR LR 17 56 14.3
comp=Z,2μm,21.4s,baz=320,slow=36
CTAO Charters Tower 71.13 136 P **P 17 24 32.7 +0.5**
CTAO pmax pmax
comp=Z,188nm,1.3s
CTAO MLR MLR
comp=Z,2μm,21.0s
CTAO Charters Tower 71.13 136 P **P 17 24 32.7 +0.5**
CTAO IAmb IAmb 17 24 38.7
comp=Z,188nm,1.3s
CTAO Charters Tower 71.13 136 P **P 17 24 33.1 +0.9**
IGLA Glengowla, Co 71.53 324 *e*P **P 17 24 33.2 -1.0**
IGLA IAmb IAmb 17 24 35.3
comp=Z,153nm,1.0s
ILULI Ilulissat 71.56 350 P **P 17 24 33.6 -0.6**
ILULI pmax pmax
comp=Z,207nm,1.0s
ILULI MLR MLR
comp=Z,7μm,19.0s
ILULI Ilulissat 71.56 350 *i* P **P 17 24 33.6 -0.6**
ILULI IAmb IAmb 17 24 35.5
comp=Z,218nm,1.0s
ILULI Ilulissat 71.56 350 P **P 17 24 33.5 -0.6**
ILULI IAmb IAmb 17 24 35.9
comp=Z,207nm,1.0s
CMAH Djebel Manchou 71.68 302 P **P 17 24 34.7 -0.8**
NWAO Narrogin (SRO) 71.70 166 P **P 17 24 35.5 +0.2**
NWAO pmax pmax
comp=Z,502nm,1.9s
NWAO MLR MLR
comp=Z,4μm,20.0s
NWAO Narrogin (SRO) 71.70 166 P **P 17 24 35.7 +0.4**
NWAO Narrogin (SRO) 71.70 166 P **P 17 24 35.5 +0.2**
NWAO IAmb IAmb 17 24 37.7
comp=Z,502nm,1.9s
NWAO Narrogin (SRO) 71.70 166 P **P 17 24 36.2 +0.9**
WHY Whitehorse 71.72 26 P **P 17 24 34.9 -0.6**
WHY IAmb IAmb 17 24 38.6
comp=Z,240nm,1.6s
WHY Whitehorse 71.72 26 P **P 17 24 34.8 -0.6**
baz=316,SNR=40
WHY S **S 17 33 56.0 +0.8**
baz=316
HNR Honiara 71.80 118 P **P 17 24 37.2 +0.9**
comp=Z,40nm,0.8s,baz=187,slow=5.7,SNR=20
HNR LR LR 17 55 27.7
comp=Z,1μm,19.4s,baz=326,slow=35
HNR Honiara 71.80 118 P **P 17 24 36.1 -0.2**
HNR IAmb IAmb 17 24 55.8
comp=Z,195nm,1.1s
ABSA Djebel Ababsia 71.83 302 P **P 17 24 36.1 -0.4**
MAHO Mahon 71.93 307 P **P 17 24 34.8 -2.0**
CKFL Kef-Lekhel 72.27 302 P **P 17 24 38.7 -0.5**
FORT Forrest 72.42 156 P **P 17 24 40.0 +0.4**
FORT Forrest 72.42 156 P **P 17 24 40.7 +1.1**
SKAG Skagway 72.43 27 P **P 17 24 39.9 +0.5**
SKAG Skagway 72.43 27 P **P 17 24 40.6 +1.1**
baz=316,SNR=114
SKAG S **S 17 34 05.3 +2.3**
baz=316
CASM Ain Smara 72.51 302 P **P 17 24 40.6 +0.1**
OOD Oodnadatta 72.51 149 P **P 17 24 41.1 +0.8**
ISOG Isortoq, Green 72.68 344 *i* P **P 17 24 39.5 -1.4**
ISOG IAmb IAmb 17 24 41.1
comp=Z,125nm,1.1s
RER Riviere de l'E 72.70 225 P **P 17 24 41.5 -0.1**
P33M Teslin, Yukon 72.75 25 P **P 17 24 41.2 -0.4**
P33M IAmb IAmb 17 24 43.9
comp=Z,447nm,1.6s
P33M IAms_20 IAms_20 17 57 13.2
comp=Z,6μm,19.0s
P33M Teslin, Yukon 72.75 25 P **P 17 24 41.5 0.0**
baz=318,SNR=70
P33M S **S 17 34 07.2 +0.3**
baz=318
DFRA Djebel Bou Aff 72.76 303 P **P 17 24 42.6 +0.6**
BESE Bessie Mountai 73.23 27 P **P 17 24 44.6 +0.2**
BESE IAmb IAmb 17 24 47.4
comp=Z,336nm,1.2s
WRGLY Wrigley 73.23 20 P **P 17 24 44.3 +0.1**
baz=324,SNR=9.0
DY2G Dye2 73.31 347 *i* P **P 17 24 44.5 -0.5**
DY2G IAmb IAmb 17 24 46.5
comp=Z,209nm,1.0s
SFJD Kangerlussuaq 73.55 349 LR LR 17 58 42.9
comp=Z,7μm,19.9s,baz=19,slow=37
SFJD Kangerlussuaq 73.55 349 P **P 17 24 45.4 -0.6**
SFJD pmax pmax
comp=Z,312nm,1.0s
SFJD MLR MLR
comp=Z,7μm,20.0s
SFJD Kangerlussuaq 73.55 349 *i* P **P 17 24 45.1 -0.9**
SFJD IAmb IAmb 17 24 47.2
comp=Z,196nm,1.0s
SFJD Kangerlussuaq 73.55 349 P **P 17 24 45.4 -0.6**
SFJD IAmb IAmb 17 24 47.5
comp=Z,312nm,1.0s
JIS Juneau Island 73.62 27 P **P 17 24 47.6 +1.0**
JIS IAmb IAmb 17 24 49.8
comp=Z,234nm,1.0s
JIS IAms_20 IAms_20 17 57 17.4
comp=Z,5μm,19.0s
MULG Mulgathing 74.07 151 P **P 17 24 50.1 +0.7**
WTLY Watson Lake, Y 74.14 24 P **P 17 24 49.4 -0.3**
baz=321,SNR=7.7
SIT Sitka 74.16 28 P **P 17 24 50.6 +0.9**
SIT pmax pmax
comp=Z,232nm,1.1s
SIT Sitka 74.16 28 P **P 17 24 50.6 +0.9**
SIT IAmb IAmb 17 24 53.0
comp=Z,232nm,1.1s
SIT Sitka 74.16 28 P **P 17 24 50.9 +1.2**
baz=316,SNR=10.0
SIT S **S 17 34 25.4 +2.6**
baz=316
KOND Kondoa 74.22 251 *i* P **P 17 24 49.6 -1.3**
INKA Innaminka 74.67 145 P **P 17 24 54.6 +1.6**
DLBC Dease Lake 75.03 25 LR LR 17 59 17.4
comp=Z,6μm,19.8s,baz=322,slow=37
DLBC Dease Lake 75.03 25 P **P 17 24 55.5 +0.6**
MBAR Mbarara 75.32 258 LR LR 18 01 20.3
comp=Z,1μm,19.2s,baz=24,slow=38
MBAR Mbarara 75.32 258 *c* *i* P **P 17 24 57.4 +0.1**
MBAR pmax pmax
comp=Z,73nm,1.2s
MBAR Mbarara 75.32 258 P **P 17 24 57.9 +0.6**
MBAR Mbarara 75.32 258 P **P 17 24 57.5 +0.1**
QLP Quilpie 75.37 141 P **P 17 24 58.7 +1.6**
WRAK Wrangell Islan 75.74 28 P **P 17 24 59.6 +0.7**
WRAK IAmb IAmb 17 25 02.0
comp=Z,243nm,0.9s
WRAK Wrangell Islan 75.74 28 IAms_20 IAms_20 17 56 58.5
comp=Z,6μm,22.0s
WRAK Wrangell Islan 75.74 28 P **P 17 24 59.6 +0.7**
baz=319,SNR=26
WRAK S **S 17 34 42.7 +2.3**
baz=319
OPO Ambohidratompo 75.80 233 LR LR 17 56 40.7
comp=Z,2μm,19.4s,baz=196,slow=34
LCRK Leigh Creek 75.89 148 P **P 17 25 00.9 +0.9**
YKA Yellowknife Ar 76.03 16 P **P 17 25 00.0 -0.4**
comp=Z,252nm,0.9s,baz=327,slow=5.4,SNR=932
YKA PKP2ab 17 52 01.8
comp=Z,0.7nm,1.0s,baz=125,slow=3.1,SNR=3.6
YKA PKPPKP 17 52 18.5
comp=Z,1.1nm,1.0s,baz=158,slow=3.0,SNR=5.3
YKA LR LR 18 02 01.1
comp=Z,3μm,20.4s,baz=321,slow=38
ABPO Ambohimpanom 76.11 232 P **P 17 25 01.7 0.0**
ABPO pmax pmax
comp=Z,140nm,1.3s
ABPO MLR MLR
comp=Z,3μm,18.0s
ABPO Ambohimpanom 76.11 232 P **P 17 25 01.7 0.0**
RK1H Rockhampton Ha 76.13 135 P **P 17 25 02.8 +1.4**
CRAG Craig 76.16 29 P **P 17 25 01.8 +0.5**
CRAG IAmb IAmb 17 25 04.3
comp=Z,209nm,0.9s
CRAG Craig 76.16 29 P **P 17 25 02.0 +0.7**
baz=318,SNR=10
UCM Universidad Co 76.35 310 P **P 17 25 01.6 -1.1**
UCM Universidad Co 76.35 310 PP PP 17 27 51.9 -1.8
CART Cartagena 76.62 307 P **P 17 25 02.5 -1.7**
CART Cartagena 76.62 307 PP PP 17 27 55.5 -0.5
CART Cartagena 76.62 307 P **P 17 25 03.8 -0.4**

CART IAmb IAmb 17 25 06.3
comp=Z,710nm,2.0s
CART Cartagena 76.62 307 P **P 17 25 04.4 +0.2**
BBOO Buckleboo 77.09 151 P **P 17 25 06.3 -0.5**
BBOO Buckleboo 77.09 151 P **P 17 25 07.4 +0.7**
ESBB Sonseca Array 77.17 310 P **P 17 25 07.1 -0.3**
ESBB IAmb IAmb 17 25 10.0
comp=Z,359nm,1.8s
ESDC Sonseca Array 77.17 310 P **P 17 25 07.3 -0.1**
comp=Z,55nm,0.9s,baz=49,slow=4.1,SNR=113
ESDC PP **PP 17 28 02.6 +1.9**
comp=Z,21nm,1.1s,baz=48,slow=8.4,SNR=6.5
ESDC PKKPbc **PKKPbc 17 44 16.7 +3.9**
comp=Z,0.8nm,0.9s,baz=270,slow=1.5,SNR=4.1
ESDC PKPPKP 17 52 22.1
comp=Z,0.3nm,0.4s,baz=270,slow=3.0,SNR=4.2
ESDC LR LR 18 02 03.3
comp=Z,3μm,18.4s,baz=40,slow=38
ESDC Sonseca Array 77.17 310 P **P 17 25 06.8 -0.6**
ESDC IAmb IAmb 17 25 10.0
comp=Z,335nm,1.8s
PBRG Braganca 77.48 313 *e*P **P 17 25 09.1 0.0**
comp=Z,221nm,1.4s
PBRG Braganca 77.48 313 *e*PP PP 17 28 01.7 -1.5
PAB San Pablo 77.49 310 P **P 17 25 09.1 -0.1**
PAB pmax pmax
comp=Z,187nm,1.6s
PAB MLR MLR
comp=Z,4μm,18.0s
PAB San Pablo 77.49 310 P **P 17 25 09.1 -0.1**
PAB San Pablo 77.49 310 IAms_20 IAms_20 18 02 01.2
comp=Z,4μm,18.0s
PAB San Pablo 77.49 310 P **P 17 25 09.7 +0.5**
RMQ Roma 77.63 138 P **P 17 25 12.1 +2.2**
NRS Narsarsuaq 77.94 344 P **P 17 25 10.1 -1.1**
NRS pmax pmax
comp=Z,67nm,0.6s
NRS MLR MLR
comp=Z,5μm,19.0s
NRS Narsarsuaq 77.94 344 *e*P **P 17 25 10.9 -0.3**
NRS Narsarsuaq 77.94 344 P **P 17 25 10.1 -1.1**
NRS IAms_20 IAms_20 17 59 33.3
comp=Z,5μm,19.0s
EIDS Eidsvold 78.01 135 P **P 17 25 12.3 +0.3**
EIDS IAmb IAmb 17 25 19.1
comp=Z,213nm,1.3s
EIDS Eidsvold 78.01 135 P **P 17 25 13.2 +1.2**
MVO Moncorvo 78.05 313 *e*P **P 17 25 12.5 +0.2**
comp=Z,211nm,1.2s
MVO Moncorvo 78.05 313 *e*PP PP 17 28 08.5 +0.5
MVO Moncorvo 78.05 313 *e*LR LR 17 55 14.0
comp=Z,4μm,20.0s
RUBB Prince Rupert 78.11 28 P **P 17 25 12.7 +0.4**
DIB Dawson Inlet, 78.11 30 P **P 17 25 12.5 +0.2**
DIB IAmb IAmb 17 25 14.7
comp=Z,161nm,1.0s
PGAV Gavieira, Arco 78.25 314 *e*P **P 17 25 13.7 +0.2**
comp=Z,343nm,1.3s
PGAV Gavieira, Arco 78.25 314 *e*PP PP 17 28 08.5 -1.2
PGAV Gavieira, Arco 78.25 314 *e*LR LR 17 56 36.0
comp=Z,2μm,18.0s
POLO Lamas de Olo 78.36 314 *e*P **P 17 25 14.2 +0.1**
comp=Z,108nm,1.4s
POLO Lamas de Olo 78.36 314 *e*PP PP 17 28 10.7 +0.1
PVRL Vila Real 78.38 313 *e*P **P 17 25 14.8 +0.7**
comp=Z,175nm,1.4s
PVRL Vila Real 78.38 313 *e*PP PP 17 28 10.3 -0.4
IVI Ivigtut 78.46 346 P **P 17 25 13.0 -1.1**
IVI IAmb IAmb 17 25 15.2
comp=Z,277nm,1.0s
IVI IAms_20 IAms_20 18 00 52.1
comp=Z,6μm,20.0s
VOI Vohitsoka 78.53 231 P **P 17 25 15.4 +0.2**
SNR=8.7
VOI Vohitsoka 78.53 231 P **P 17 25 14.8 -0.3**
VOI Vohitsoka 78.53 231 P **P 17 25 15.7 +0.5**
STKA Stephens Creek 78.58 146 P **P 17 25 15.2 +0.1**
comp=Z,54nm,0.8s,baz=332,slow=6.6,SNR=135
STKA LR LR 18 04 48.6
comp=Z,1μm,18.2s,baz=307,slow=39
STKA Stephens Creek 78.58 146 P **P 17 25 14.6 -0.5**
STKA Stephens Creek 78.58 146 P **P 17 25 15.8 +0.8**
GRNB Grenville Isla 78.59 28 P **P 17 25 14.9 -0.1**
GRNB IAmb IAmb 17 25 17.7
comp=Z,204nm,1.1s
FRB Frobisher Bay 78.64 356 LR LR 18 01 33.8
comp=Z,5μm,19.7s,baz=356,slow=37
HTT Hallett 78.78 149 P **P 17 25 16.9 +0.7**
PVIS Viseu 78.84 313 *e*P **P 17 25 16.9 +0.2**
comp=Z,244nm,1.4s
PVIS Viseu 78.84 313 *e*PP PP 17 28 12.6 -2.0
MTE Manteigas 78.84 313 *e*P **P 17 25 17.4 +0.7**
comp=Z,239nm,1.4s
MTE Manteigas 78.84 313 *e*PP PP 17 28 13.4 -1.3
MTE Manteigas 78.84 313 *e*LR LR 17 57 15.9
comp=Z,3μm,20.0s
MTE Manteigas 78.84 313 P **P 17 25 16.9 +0.2**
MTE IAmb IAmb 17 25 19.8
comp=Z,585nm,1.9s
MTE IAms_20 IAms_20 18 02 42.0
comp=Z,4μm,20.0s
PTO Porto 78.98 314 *e*P **P 17 25 18.3 +1.0**
comp=Z,294nm,1.4s
CHAS Isla Isabel II 79.00 306 P **P 17 25 14.4 -3.1**
CHAS Isla Isabel II 79.00 306 PP PP 17 28 16.9 +0.9
PCBR Castelo Branco 79.17 312 *e*P **P 17 25 18.7 +0.3**
comp=Z,137nm,1.9s
PCBR Castelo Branco 79.17 312 *e*PP PP 17 28 15.7 -1.6
EMAL Malaga-Limoner 79.28 308 P **P 17 25 15.7 -3.3**
EMAL Malaga-Limoner 79.28 308 PP PP 17 28 16.2 -2.0
HG4B Hotspring 79.31 30 P **P 17 25 17.4 -1.6**
GOG Mont Gurugu 79.34 306 P **P 17 25 20.0 +0.4**
PMRV Marv??o 79.38 312 *e*P **P 17 25 19.9 +0.3**
comp=Z,403nm,1.4s
PMRV Marv??o 79.38 312 *e*PP PP 17 28 18.9 -0.2
PMRV Marv??o 79.38 312 *e*LR LR 17 54 31.3
comp=Z,2μm,18.0s
COI Coimbra 79.47 313 *e*P **P 17 25 20.4 +0.3**
comp=Z,576nm,1.3s
COI Coimbra 79.47 313 *e*PP PP 17 28 19.5 -0.3
COI Coimbra 79.47 313 P **P 17 25 20.6 +0.6**
COI pmax pmax
comp=Z,288nm,0.9s
COI MLR MLR
comp=Z,5μm,18.0s
COI Coimbra 79.47 313 P **P 17 25 20.6 +0.6**
COI IAmb IAmb 17 25 22.5
comp=Z,288nm,0.9s
JBK JBK 79.61 305 P **P 17 25 22.0 +0.8**
PCAS Casmilo, Conde 79.62 313 *e*P **P 17 25 20.5 -0.4**
comp=Z,289nm,1.3s
PCAS Casmilo, Conde 79.62 313 *e*PP PP 17 28 19.0 -2.1
PESTR Estremoz 79.86 312 *e*P **P 17 25 22.1 -0.1**
comp=Z,261nm,1.5s
PESTR Estremoz 79.86 312 *e*PP PP 17 28 22.8 -0.3
PESTR Estremoz 79.86 312 P **P 17 25 21.8 -0.5**
PESTR Estremoz 79.86 312 P **P 17 25 22.9 +0.6**
PALE Palemas 79.94 307 P **P 17 25 23.0 +0.2**
TWOA Tennyson Woods 80.03 150 P **P 17 25 24.3 +1.4**
TDRA Tendrara 80.06 304 P **P 17 25 25.0 +1.3**
PMTG Montargil 80.11 312 *e*P **P 17 25 23.6 +0.1**
comp=Z,210nm,1.9s
PMTG Montargil 80.11 312 *e*PP PP 17 28 24.1 -1.0
FIGM Figuig 80.12 303 P **P 17 25 24.0 +0.1**
PSBE So Bento 80.15 313 *e*P **P 17 25 24.1 +0.3**
comp=Z,323nm,1.4s
PSBE So Bento 80.15 313 *e*PP PP 17 28 25.8 +0.3
CMSA Cobar Meteorol 80.18 143 P **P 17 25 25.1 +1.3**
EVO Evora 80.33 311 P **P 17 25 23.9 -0.9**
EVO Evora 80.33 311 PP PP 17 28 25.6 -1.4
EVO Evora 80.33 311 *e*P **P 17 25 25.0 +0.3**
comp=Z,284nm,1.4s
EVO Evora 80.33 311 *e*PP PP 17 28 27.0 0.0
CEU Ceuta 80.41 308 P **P 17 25 22.9 -2.3**
CEU Ceuta 80.41 308 PP PP 17 28 22.7 -5.1
ARNO Arenosillo 80.48 310 P **P 17 25 23.6 -2.0**
ARNO Arenosillo 80.48 310 PP PP 17 28 27.4 -0.9
SFS San Fernando 80.57 309 P **P 17 25 24.1 -2.0**
SFS San Fernando 80.57 309 PP PP 17 28 28.8 -0.2
PBEJ Beja 80.57 311 *e*P **P 17 25 26.5 +0.4**
comp=Z,152nm,1.4s
PBEJ Beja 80.57 311 *e*PP PP 17 28 28.8 -0.2
BBB Bella Bella 80.59 28 LR LR 18 05 04.4
comp=Z,2μm,18.3s,baz=336,slow=39
BBB Bella Bella 80.59 28 P **P 17 25 25.8 -0.1**

PMAFR Mafra 80.80 312 *e*P **P 17 25 27.6 +0.3**
comp=Z,558nm,1.5s
PMAFR Mafra 80.80 312 *e*PP PP 17 28 30.9 0.0
LIS Lisbon 80.88 312 *e*P **P 17 25 28.3 +0.6**
LIS IAms_20 IAms_20 18 05 25.1
comp=Z,5μm,10.8s
LIS Lisbon 80.88 312 *e*P **P 17 25 28.1 +0.4**
comp=Z,452nm,1.4s
LIS Lisbon 80.88 312 *e*P **P 17 25 28.2 +0.6**
PVAQ Vaqueiros 80.89 310 *e*P **P 17 25 27.9 +0.1**
comp=Z,227nm,1.6s
PVAQ Vaqueiros 80.89 310 *e*PP PP 17 28 31.6 0.0
PVAQ *e*S **S 17 35 37.7 +1.3**
PVAQ *e*SS **SS 17 40 57.3 +8.1**
PVAQ Vaqueiros 80.89 310 *e*LR LR 17 53 20.8
comp=Z,3μm,18.0s
PVAQ Vaqueiros 80.89 310 P **P 17 25 26.6 -1.1**
PVAQ Vaqueiros 80.89 310 P **P 17 25 28.5 +0.8**
PMST Lisbon--Monsan 80.89 312 *e*P **P 17 25 28.1 +0.4**
comp=Z,434nm,1.3s
PMST Lisbon--Monsan 80.89 312 *e*PP PP 17 28 31.5 -0.1
CHEFC Chefchaouen 80.90 307 P **P 17 25 28.0 +0.1**
MESJ Messejana 80.90 311 *e*P **P 17 25 28.4 +0.6**
MESJ IAms_20 IAms_20 18 03 52.2
comp=Z,5μm,18.4s
MESJ Messejana 80.90 311 *e*P **P 17 25 28.4 +0.6**
MESJ Messejana 80.90 311 *e*P **P 17 25 28.4 +0.6**
PNCL Nicolau / Gran 80.91 311 *e*P **P 17 25 28.2 +0.3**
comp=Z,242nm,1.5s
PNCL Nicolau / Gran 80.91 311 *e*PP PP 17 28 32.0 +0.2
PCVE Castro Verde 80.93 311 *e*P **P 17 25 28.3 +0.3**
PCVE Castro Verde 80.93 311 *e*PP PP 17 28 31.9 -0.1
SANVU Saraoutou 81.05 117 P **P 17 25 29.3 +0.5**
SANVU Saraoutou 81.05 117 P **P 17 25 30.4 +1.7**
PBDV Barranco-do-Ve 81.12 310 *e*P **P 17 25 29.5 +0.5**
comp=Z,314nm,1.7s
PBDV Barranco-do-Ve 81.12 310 *e*PP PP 17 28 33.7 +0.1
PTEO Sao Teotonio 81.40 311 *e*P **P 17 25 31.0 +0.5**
comp=Z,262nm,1.5s
PTEO Sao Teotonio 81.40 311 *e*PP PP 17 28 35.5 -0.3
LCRM LCR 81.50 306 P **P 17 25 33.0 +1.7**
MORF Marmelete 81.51 311 *e*P **P 17 25 31.6 +0.5**
MORF IAms_20 IAms_20 18 10 40.7
comp=Z,5μm,13.5s
MORF Marmelete 81.51 311 *e*P **P 17 25 31.4 +0.2**
comp=Z,289nm,1.4s
MORF Marmelete 81.51 311 *e*PP PP 17 28 36.1 -0.7
MORF Marmelete 81.51 311 *e*P **P 17 25 31.6 +0.5**
PFVI Vila Bisbo 81.73 311 *e*P **P 17 25 32.9 +0.7**
comp=Z,295nm,1.5s
PFVI Vila Bisbo 81.73 311 *e*PP PP 17 28 38.4 -0.2
PFVI Vila Bisbo 81.73 311 P **P 17 25 33.0 +0.8**
PFVI Vila Bisbo 81.73 311 P **P 17 25 33.4 +1.2**
IFR Ifrane 81.78 306 P **P 17 25 31.7 -1.1**
IFR Ifrane 81.78 306 PP PP 17 28 40.7 +1.4
HOLB Holberg 81.81 29 P **P 17 25 32.6 +0.2**
MDT Midelt 81.89 305 LR LR 18 05 59.9
comp=Z,2μm,19.1s,baz=44,slow=39
MDT Midelt 81.89 305 P **P 17 25 34.1 +0.8**
ARMA Armidale 82.28 138 P **P 17 25 35.9 +0.8**
ARMA IAmb IAmb 17 25 42.9
comp=Z,182nm,1.3s
ARMA Armidale 82.28 138 P **P 17 25 37.0 +1.9**
TLCB Telegraph Cove 82.38 29 P **P 17 25 35.7 +0.3**
TLCB IAmb IAmb 17 25 37.5
comp=Z,152nm,1.0s
ZHG ZHG 82.79 307 P **P 17 25 39.0 +1.0**
GOLM Goulmima 82.82 305 P **P 17 25 40.0 +1.7**
ARPS Mount Arapiles 82.86 149 P **P 17 25 38.6 +0.8**
FCC Fort Churchill 83.06 8 P **P 17 25 37.7 -1.0**
FCC pmax pmax
comp=Z,477nm,1.0s
FCC Fort Churchill 83.06 8 P **P 17 25 37.7 -1.0**
TETE Tete 83.28 244 *e*P **P 17 25 39.9 -0.6**
TETE IAmb IAmb 17 25 42.9
comp=Z,164nm,1.1s
CBB Campbell River 83.35 28 P **P 17 25 40.3 -0.1**
CBB IAmb IAmb 17 25 42.9
comp=Z,116nm,1.1s
AVE Averroes 83.38 307 P **P 17 25 38.8 -2.1**
AVE Averroes 83.38 307 PP PP 17 28 50.7 -1.5
TZRR Tazzarine 83.82 304 P **P 17 25 44.0 +0.6**
LLLB Lillooet 84.14 26 P **P 17 25 44.9 +0.3**
LLLB IAmb IAmb 17 25 47.4
comp=Z,203nm,1.0s
MGCD Mangrove Creek 84.21 140 P **P 17 25 47.0 +2.1**
SRHM Skhour des Reh 84.23 307 P **P 17 25 46.0 +0.6**
ZGR Zagora 84.28 304 P **P 17 25 46.0 +0.3**
OUZM OUZ 84.52 305 P **P 17 25 48.0 +1.0**
EDM Edmonton 84.55 20 P **P 17 25 45.9 -0.7**
EDM pmax pmax
comp=Z,413nm,1.0s
EDM Edmonton 84.55 20 P **P 17 25 45.9 -0.7**
CAN Canberra 84.86 143 P **P 17 25 47.9 -0.3**
CAN pmax pmax
comp=Z,1μm,1.9s
CAN Canberra 84.86 143 P **P 17 25 47.9 -0.3**
CAN Canberra 84.86 143 P **P 17 25 49.7 +1.5**
NOUC Port Laguerre 84.98 123 P **P 17 25 50.1 +1.1**
CNB Canberra Magne 85.03 143 P **P 17 25 50.2 +1.1**
OUK Oukaimeden 85.04 306 P **P 17 25 51.0 +1.2**
DZM Mont Dzumac 85.06 123 *e*P **P 17 25 51.1 +1.6**
comp=Z,566nm,1.4s
DZM Mont Dzumac 85.06 123 *e*S **S 17 36 17.3 -1.8**
comp=Z,806nm,26.1s
DZM Mont Dzumac 85.06 123 *e*LR LR 17 52 36.8
comp=Z,3μm,27.4s
DZM Mont Dzumac 85.06 123 P **P 17 25 50.6 +1.0**
DZM Mont Dzumac 85.06 123 P **P 17 25 51.8 +2.3**
TOO Toolangi 85.09 146 P **P 17 25 49.6 +0.3**
TOO pmax pmax
comp=Z,397nm,1.7s
TOO Toolangi 85.09 146 P **P 17 25 49.5 +0.3**
TOO IAmb IAmb 17 25 56.1
comp=Z,397nm,1.6s
TOO Toolangi 85.09 146 P **P 17 25 50.0 +0.7**
PGC Sidney 85.20 28 P **P 17 25 50.1 +0.3**
PGC IAmb IAmb 17 25 52.5
comp=Z,147nm,1.1s
DHH Diamond Head 85.21 67 P **P 17 25 50.3 -0.1**
DHH Diamond Head 85.21 67 P **P 17 25 50.3 -0.1**
ONTNC Ouen Toro 85.22 123 P **P 17 25 50.6 +0.4**
ONTNC IAmb IAmb 17 25 56.6
comp=Z,393nm,1.5s
A04D Lummi Island 85.42 28 P **P 17 25 51.5 +0.6**
baz=326,SNR=13
A04D S **S 17 36 21.2 -0.7**
baz=326
FUNA Funafuti 85.44 104 P **P 17 25 52.9 +1.3**
OUENC Ouen Island, N 85.56 123 P **P 17 25 52.8 +0.9**
OUENC IAmb IAmb 17 25 55.9
comp=Z,254nm,1.4s
OUENC Ouen Island, N 85.56 123 P **P 17 25 54.3 +2.4**
B04A Port Angeles 85.67 28 P **P 17 25 53.0 +0.8**
B04A IAmb IAmb 17 25 55.3
comp=Z,158nm,1.0s
TTIG Tnine Tigouga, 85.84 306 P **P 17 25 54.0 +0.4**
B05A Bryant 86.03 28 P **P 17 25 54.4 +0.4**
baz=327,SNR=42
B06A Marblemount 86.04 27 P **P 17 25 54.1 +0.1**
B06A IAmb IAmb 17 25 56.3
comp=Z,240nm,0.9s
NLWA Neilton Lookou 86.08 29 P **P 17 25 55.3 +1.0**
NLWA IAmb IAmb 17 25 57.6
comp=Z,207nm,1.1s
NLWA IAms_20 IAms_20 18 05 18.2
comp=Z,3μm,20.0s
D03D Eldon 86.27 29 P **P 17 25 55.7 +0.6**
baz=326,SNR=21
D03D S **S 17 36 31.3 +0.9**
baz=326
WISH Wishkah 86.35 29 P **P 17 25 55.9 +0.4**
WISH IAmb IAmb 17 26 12.0
comp=Z,264nm,1.4s
KRI Karoi 86.58 246 *e*P **P 17 25 57.7 +0.4**
LSZ Lusaka 86.62 248 LR LR 18 03 06.3
comp=Z,2μm,21.0s,baz=46,slow=34
D04E Lakebay 86.68 29 P **P 17 25 58.2 +1.0**
baz=326
C06D Leavenworth 86.75 27 P **P 17 25 58.0 +0.4**
baz=328,SNR=5.7
C06D S **S 17 36 34.0 -1.1**
baz=328
E03A Lebam 86.90 29 P **P 17 25 59.1 +0.8**

E03A IAmb IAmb 17 26 01.3
comp=Z,200nm,1.0s
B08A Colville Reser 86.94 26 P **P 17 25 58.7 +0.2**
B08A IAmb IAmb 17 26 01.3
comp=Z,186nm,0.9s
D05A Enumclaw 86.97 28 P **P 17 25 59.5 +0.9**
D05A IAmb IAmb 17 26 02.9
comp=Z,230nm,1.2s
LHI Lord Howe Isla 87.22 134 P **P 17 26 00.8 +1.0**
LHI IAmb IAmb 17 26 03.5
comp=Z,290nm,1.3s
E04D Cinebar 87.28 29 P **P 17 26 00.2 +0.1**
E04D Cinebar 87.28 29 P **P 17 26 01.1 +1.0**
baz=326,SNR=34
SCHQ Schefferville 87.36 353 P **P 17 25 59.5 -0.9**
comp=Z,77nm,0.9s,baz=25,slow=5.5,SNR=36
SCHQ LR LR 18 07 58.5
comp=Z,2μm,18.7s,baz=12,slow=38
SCHQ Schefferville 87.36 353 P **P 17 25 59.5 -0.9**
SCHQ IAmb IAmb 17 26 01.9
comp=Z,127nm,1.1s
LTY Liberty 87.40 27 P **P 17 26 00.5 -0.3**
LTY IAmb IAmb 17 26 03.2
comp=Z,142nm,1.0s
F04D Rainier, OR 87.50 29 P **P 17 26 02.2 +1.0**
baz=326
HPAH Hawaii Prepara 87.51 67 P **P 17 26 01.2 -0.6**
HPAH IAmb IAmb 17 26 03.9
comp=Z,210nm,1.3s
KHLU Kahalu`u 87.64 67 P **P 17 26 03.1 +0.6**
KHLU IAmb IAmb 17 26 04.6
comp=Z,121nm,1.0s
NEW Newport 87.77 25 LR LR 18 08 08.8
comp=Z,2μm,19.1s,baz=332,slow=38
NEW Newport 87.77 25 P **P 17 26 02.7 +0.1**
NEW pmax pmax
comp=Z,220nm,1.3s
NEW MLR MLR
comp=Z,3μm,18.0s
NEW Newport 87.77 25 P **P 17 26 02.7 +0.1**
NEW IAmb IAmb 17 26 05.6
comp=Z,220nm,1.3s
NEW Newport 87.77 25 IAms_20 IAms_20 18 11 29.9
comp=Z,3μm,18.0s
NEW Newport 87.77 25 P **P 17 26 03.4 +0.8**
baz=330
NEW S **S 17 36 43.8 -1.2**
baz=330
C09A Chrisman Ranch 87.78 26 P **P 17 26 02.6 +0.1**
POHA Pohakuloa 87.80 67 P **P 17 26 01.2 -2.2**
F04A Amboy 87.85 29 P **P 17 26 02.8 -0.1**
F04A IAmb IAmb 17 26 05.7
comp=Z,184nm,0.9s
MLOA Mauna Loa Obse 87.91 67 P **P 17 26 04.5 +0.3**
MWH Moku'aweowe 87.93 67 P **P 17 26 04.8 +0.5**
MWH IAmb IAmb 17 27 22.7
comp=Z,153nm,1.2s
KHU Kahuku 88.06 67 P **P 17 26 04.1 -0.6**
KHU Kahuku 88.06 67 P **P 17 26 04.1 -0.6**
MLH Mauna Loa 88.08 67 P **P 17 26 05.5 +0.8**
MLH IAmb IAmb 17 26 07.3
comp=Z,186nm,1.0s
WALA Waterton Lakes 88.09 22 P **P 17 26 03.6 -0.6**
WALA IAmb IAmb 17 26 06.8
comp=Z,193nm,1.3s
AIN Ainahou 88.10 67 P **P 17 26 05.9 +1.2**
G03D McMinnville, O 88.12 30 P **P 17 26 07.0 +2.8**
G03D IAmb IAmb 17 26 07.5
comp=Z,205nm,1.2s
G03D McMinnville, O 88.12 30 P **P 17 26 05.0 +0.7**
baz=326
D08A Wollman Farm, 88.19 26 P **P 17 26 04.7 +0.2**
D08A IAmb IAmb 17 26 07.5
comp=Z,223nm,1.3s
F05D White Salmon 88.26 29 P **P 17 26 05.7 +0.8**
F05D IAmb IAmb 17 26 08.1
comp=Z,171nm,1.1s
F05D White Salmon 88.26 29 P **P 17 26 05.5 +0.6**
baz=327,SNR=19
F05D S **S 17 36 49.9 +0.3**
baz=327
E07A Sunnyside 88.29 27 P **P 17 26 05.7 +0.7**
HAWA Hanford 88.54 27 P **P 17 26 06.4 +0.2**
HAWA IAmb IAmb 17 26 09.4
comp=Z,164nm,1.1s
HAWA IAms_20 IAms_20 18 06 08.1
comp=Z,4μm,21.0s
COR Corvallis 88.62 30 P **P 17 26 08.4 +1.8**
COR pmax pmax
comp=Z,309nm,1.0s
COR Corvallis 88.62 30 P **P 17 26 08.4 +1.8**
E08A Dider Farm, El 88.63 27 P **P 17 26 07.2 +0.6**
HOOD Mount Hood Mea 88.66 29 P **P 17 26 07.6 +0.6**
I02E Swisshome, OR 88.80 31 P **P 17 26 08.6 +1.2**
baz=326
F07A Phinny Hill Vi 88.82 28 P **P 17 26 08.0 +0.5**
F07A IAmb IAmb 17 26 10.9
comp=Z,137nm,1.2s
G05D Wamic, OR 88.86 29 P **P 17 26 08.7 +1.0**
baz=327,SNR=12
H04D Lebanon 88.90 30 P **P 17 26 08.6 +0.7**
H04D IAmb IAmb 17 26 11.3
comp=Z,157nm,0.9s
H04D Lebanon 88.90 30 P **P 17 26 08.9 +0.9**
baz=326,SNR=15
E09A Wood Farm, Sta 88.93 26 P **P 17 26 08.6 +0.6**
E09A IAmb IAmb 17 26 11.2
comp=Z,163nm,1.1s
PMPST Porto Santo, M 88.98 312 *e*P **P 17 26 10.0 +1.5**
comp=Z,317nm,1.4s
H04A Detroit Lake 88.99 30 P **P 17 26 08.7 +0.4**
H04A IAmb IAmb 17 26 11.1
comp=Z,174nm,1.0s
PMPS Porto Santo 88.99 312 *e*P **P 17 26 09.8 +1.3**
BUCK Buck Mountain 89.07 30 P **P 17 26 10.4 +1.5**
JTMT Jette 89.14 23 P **P 17 26 09.6 +0.4**
I03D Drain, OR 89.34 31 P **P 17 26 10.8 +0.9**
baz=326,SNR=17
BLWY Bulawayo 89.45 244 *e*P **P 17 26 12.3 +1.3**
J01E Myrtle Point 89.54 32 P **P 17 26 11.9 +1.0**
J01E IAmb IAmb 17 26 14.5
comp=Z,192nm,1.1s
J01E Myrtle Point 89.54 32 P **P 17 26 12.3 +1.3**
baz=326
PMAR Madeira 89.57 312 *e*P **P 17 26 12.1 +0.6**
comp=Z,398nm,1.4s
PMAR Madeira 89.57 312 *e*PP PP 17 29 43.0 +0.6
I05D Terrebonne, OR 89.61 29 P **P 17 26 12.3 +1.0**
baz=327,SNR=27
KEBM Edson Butte 89.61 32 P **P 17 26 12.2 +0.8**
I04A Tendick Farm, 89.64 30 P **P 17 26 12.3 +0.9**
baz=327,SNR=50
PMOZ Porto Moniz, M 89.67 312 *e*P **P 17 26 12.6 +0.7**
comp=Z,240nm,2.3s
PMOZ Porto Moniz, M 89.67 312 *e*PP PP 17 29 43.8 +0.7
PMOZ Porto Moniz, M 89.67 312 *e*LR LR 18 02 02.8
comp=Z,2μm,18.0s
PMOZ Porto Moniz, M 89.67 312 P **P 17 26 12.0 +0.1**
G08A Pilot Rock 89.69 27 P **P 17 26 12.2 +0.4**
G08A IAmb IAmb 17 26 15.2
comp=Z,156nm,1.3s
MOPA Mopani 89.71 240 *e*P **P 17 26 09.8 -2.1**
MOPA IAmb IAmb 17 26 12.4
comp=Z,3.4nm,0.8s
MATP Matopo 89.72 244 LR LR 18 04 51.8
comp=Z,920nm,21.1s,baz=50,slow=34
F10A Beach Ranch, E 89.72 26 P **P 17 26 12.6 +0.7**
TORD Torodi Ar. Bea 89.77 286 P **P 17 26 11.8 -0.7**
comp=Z,65nm,1.0s,baz=38,slow=4.0,SNR=126
TORD PKKPbc **PKKPbc 17 43 43.6 +0.1**
comp=Z,1.1nm,0.8s,baz=244,slow=0.7,SNR=3.7
TORD Torodi Ar. Bea 89.77 286 P **P 17 26 11.2 -1.3**
DBO Dodson Butte 89.86 31 P **P 17 26 13.3 +0.7**
DBO IAmb IAmb 17 26 16.1
comp=Z,156nm,1.0s
MSNA Messina 89.89 241 *e*P **P 17 26 11.8 -1.1**
MSNA IAmb IAmb 17 26 15.4
comp=Z,202nm,2.1s
K02D Willamette Mer 90.04 32 P **P 17 26 14.5 +1.1**
baz=326,SNR=20
MSO Missoula 90.06 24 P **P 17 26 13.1 -0.4**
MSO Missoula 90.06 24 P **P 17 26 13.9 +0.4**
baz=333,SNR=163
MSO S **S 17 37 05.0 -1.8**
baz=333
PINE Pine Mountain 90.22 29 P **P 17 26 15.6 +1.2**

J04D Umpqua Nationa 90.22 30 P **P 17 26 15.1 +0.7**
J04D Umpqua Nationa 90.22 30 P **P 17 26 15.4 +1.0**
baz=327,SNR=45
EGMT Eagleton 90.23 20 P **P 17 26 13.8 -0.5**
EGMT Eagleton 90.23 20 P **P 17 26 14.1 -0.1**
baz=336,SNR=127
EGMT S **S 17 37 05.3 -2.9**
baz=336
TAU Tasmania Unive 90.30 148 P **P 17 26 14.7 +0.6**
TAU pmax pmax
comp=Z,150nm,1.5s
TAU Tasmania Unive 90.30 148 P **P 17 26 14.7 +0.6**
TAU IAmb IAmb 17 26 20.2
comp=Z,150nm,1.5s
MSVF Nonsavu 90.37 112 P **P 17 26 15.4 +0.3**
comp=Z,28nm,0.9s,baz=214,slow=1.3,SNR=15
MSVF Nonsavu 90.37 112 P **P 17 26 16.0 +0.8**
MSVF Nonsavu 90.37 112 P **P 17 26 17.5 +2.4**
HUMO Hull Mountain 90.41 31 P **P 17 26 15.1 +0.1**
HUMO IAmb IAmb 17 26 19.6
comp=Z,292nm,1.3s
L02E Cave Junction 90.51 32 P **P 17 26 16.4 +0.9**
L02E IAmb IAmb 17 26 19.2
comp=Z,196nm,1.4s
L02E Cave Junction 90.51 32 P **P 17 26 16.8 +1.3**
baz=326,SNR=8.1
CMLA Cha da Macela 90.52 321 *e*P P 17 26 20.8 +5.2
comp=Z,213nm,1.0s
I07A Izee 90.53 28 P **P 17 26 16.3 +0.7**
I07A IAmb IAmb 17 26 19.5
comp=Z,216nm,1.2s
J05D Fort Rock, OR 90.53 30 P **P 17 26 16.9 +1.1**
baz=327,SNR=58
PAGU Agualva, Azore 90.56 322 *e*P **P 17 26 16.9 +1.1**
comp=Z,148nm,1.0s
KSXB Camp Six Broad 90.66 32 P **P 17 26 16.1 -0.2**
KSXB IAmb IAmb 17 26 20.0
comp=Z,218nm,1.2s
BMO Blue Mountains 90.67 27 P **P 17 26 16.0 -0.3**
BMO pmax pmax
comp=Z,179nm,1.1s
BMO MLR MLR
comp=Z,2μm,20.0s
BMO Blue Mountains 90.67 27 P **P 17 26 16.0 -0.3**
BMO IAmb IAmb 17 26 19.0
comp=Z,179nm,1.1s
PGRA Graciosa 90.73 323 *e*P **P 17 26 17.8 +1.2**
comp=Z,243nm,0.8s
HRY Holter Researc 90.82 22 P **P 17 26 17.2 +0.2**
PSMN Pico do Norte, 90.88 320 *e*P **P 17 26 18.4 +1.1**
comp=Z,195nm,1.0s
K04D Chiloquin, OR 90.88 30 P **P 17 26 18.5 +1.1**
baz=327,SNR=14
PLID Pearl Lake 90.92 26 P **P 17 26 17.6 -0.1**
PLID IAMs_20 IAMs_20 18 07 19.8
comp=Z,4μm,19.0s
L04D Klamath Falls 91.00 31 P **P 17 26 18.6 +0.7**
L04D Klamath Falls 91.00 31 P **P 17 26 18.7 +0.8**
baz=327,SNR=28
ULM Lac du Bonnet 91.13 11 P **P 17 26 16.8 -1.4**
comp=Z,106nm,1.0s,baz=348,slow=5.4,SNR=52
ULM LR LR 18 09 43.2
comp=Z,3μm,19.7s,baz=344,slow=37
ULM Lac du Bonnet 91.13 11 P **P 17 26 16.5 -1.7**
ULM IAmb IAmb 17 26 19.2
comp=Z,177nm,1.1s
K05A Summer Lake 91.14 30 P **P 17 26 20.0 +1.3**
KRPM Rodgers 91.15 33 P **P 17 26 18.1 -0.5**
KRPM IAmb IAmb 17 26 22.4
comp=Z,177nm,1.0s
DGMT Dagmar 91.23 17 P **P 17 26 18.6 -0.1**
DGMT Dagmar 91.23 17 IAMs_20 IAMs_20 18 09 33.1
comp=Z,4μm,18.0s
DGMT Dagmar 91.23 17 P **P 17 26 19.1 +0.3**
baz=340,SNR=58
YBH Yreka Blue Hor 91.23 32 LR LR 18 06 34.6
comp=Z,3μm,20.2s,baz=332,slow=35
YBH Yreka Blue Hor 91.23 32 P **P 17 26 19.3 +0.3**
YBH pmax pmax
comp=Z,93nm,1.4s
YBH Yreka Blue Hor 91.23 32 P **P 17 26 19.3 +0.3**
LRM Limekiln Ridge 91.43 23 P **P 17 26 19.7 -0.4**
JCC Jacoby Creek, 91.43 33 P **P 17 26 20.8 +1.0**
JCC IAmb IAmb 17 26 23.4
comp=Z,186nm,1.1s
M02C Callahan 91.46 32 P **P 17 26 20.9 +0.9**
M02C IAmb IAmb 17 26 23.9
comp=Z,173nm,1.1s
M02C Callahan 91.46 32 P **P 17 26 21.1 +1.1**
baz=326,SNR=32
KHMM Horse Mountain 91.51 33 P **P 17 26 21.8 +1.5**
KHMM IAmb IAmb 17 26 24.1
comp=Z,212nm,1.2s
J08A Circle Bar Ran 91.53 28 P **P 17 26 20.8 +0.5**
M04C Macdoel 91.55 31 P **P 17 26 21.3 +0.8**
M04C Macdoel 91.55 31 P **P 17 26 20.9 +0.4**
baz=327,SNR=51
KMPM Mount Pierce 91.72 33 P **P 17 26 22.2 +1.0**
DLMT Dillon 91.80 23 P **P 17 26 21.9 +0.3**
DLMT IAmb IAmb 17 26 25.4
comp=Z,218nm,1.2s
DLMT IAMs_20 IAMs_20 18 08 31.9
comp=Z,4μm,19.0s
N02D Trinity Center 91.87 32 P **P 17 26 22.4 +0.5**
N02D IAmb IAmb 17 26 25.6
comp=Z,158nm,1.1s
N02D IAMs_20 IAMs_20 18 08 56.3
comp=Z,3μm,18.0s
N02D Trinity Center 91.87 32 P **P 17 26 22.2 +0.3**
baz=326,SNR=28
N02D S **S 17 37 24.8 +1.5**
baz=326
BOZ Bozeman (W) 91.89 23 P **P 17 26 21.6 -0.4**
BOZ pmax pmax
comp=Z,273nm,1.5s
BOZ MLR MLR
comp=Z,4μm,18.0s
BOZ Bozeman (W) 91.89 23 P **P 17 26 21.6 -0.4**
BOZ IAmb IAmb 17 26 25.6
comp=Z,273nm,1.5s
BOZ Bozeman (W) 91.89 23 P **P 17 26 22.4 +0.4**
baz=334,SNR=90
BOZ S **S 17 37 24.0 +0.4**
baz=334
H07S1 FLORES T-PHASE 91.95 325 *e*P **P 17 26 21.1 -1.2**
POGA Pongola 92.04 237 *e*P **P 17 26 23.8 +1.1**
KMRM Mail Ridge 92.06 33 P **P 17 26 23.5 +0.7**
KMRM IAmb IAmb 17 26 26.5
comp=Z,108nm,1.1s
MOD Modoc Plateau 92.07 30 P **P 17 26 23.9 +0.9**
MOD IAmb IAmb 17 26 26.4
comp=Z,168nm,1.1s
MCMT McKenzie Canyo 92.19 24 P **P 17 26 23.9 +0.3**
WVOR Wild Horse Val 92.26 29 P **P 17 26 24.6 +0.8**
WVOR pmax pmax
comp=Z,152nm,1.3s
WVOR MLR MLR
comp=Z,3μm,20.0s
WVOR Wild Horse Val 92.26 29 P **P 17 26 24.6 +0.8**
WVOR IAmb IAmb 17 26 28.0
comp=Z,152nm,1.3s
WVOR IAMs_20 IAMs_20 18 07 31.5
comp=Z,3μm,20.0s
WDC Whiskeytown Da 92.26 32 P **P 17 26 23.9 +0.3**
WDC pmax pmax
comp=Z,97nm,1.1s
WDC MLR MLR
comp=Z,3μm,18.0s
WDC Whiskeytown Da 92.26 32 P **P 17 26 23.9 +0.3**
WDC IAmb IAmb 17 26 26.7
comp=Z,97nm,1.1s
WDC IAMs_20 IAMs_20 18 09 06.8
comp=Z,3μm,18.0s
GCMT Greycliff 92.29 21 P **P 17 26 23.9 +0.1**
LAO LASA Array 92.40 19 P **P 17 26 23.9 -0.4**
LAO LASA Array 92.40 19 P **P 17 26 24.1 -0.2**
baz=338,SNR=20
LAO S **S 17 37 29.4 +1.5**
baz=338
MFID Camas Ranch 92.44 26 P **P 17 26 24.6 0.0**
MFID IAmb IAmb 17 26 27.8
comp=Z,134nm,1.4s
BCYI Bear Canyon 92.47 24 P **P 17 26 23.9 -0.9**
O02D Mt. Diablo Mer 92.49 32 P **P 17 26 25.1 +0.3**
O02D IAmb IAmb 17 26 28.5
comp=Z,155nm,1.1s

MDND Maddock 92.80 14 P **P 17 26 25.7 -0.3**
MDND Maddock 92.80 14 P **P 17 26 25.9 -0.1**
baz=343,SNR=7.6
MDND S **S 17 37 30.0 -1.3**
baz=343
HLID Hailey 92.80 25 P **P 17 26 26.7 +0.4**
HLID IAmb IAmb 17 26 29.7
comp=Z,138nm,1.3s
HLID Hailey 92.80 25 P **P 17 26 27.2 +0.9**
baz=332,SNR=60
HLID S **S 17 37 31.0 -0.9**
baz=332
O03E Paynes Creek 92.81 32 P **P 17 26 26.6 +0.3**
O03E IAmb IAmb 17 26 30.5
comp=Z,135nm,1.2s
O03E Paynes Creek 92.81 32 P **P 17 26 26.5 +0.2**
baz=327,SNR=23
YMR Madison River 92.92 23 P **P 17 26 27.3 +0.3**
YMR IAmb IAmb 17 26 31.1
comp=Z,190nm,1.8s
YNR Norris Junctio 92.97 22 P **P 17 26 27.6 +0.4**
RLMT Red Lodge 93.02 21 P **P 17 26 26.7 -0.6**
RLMT IAmb IAmb 17 26 32.7
comp=Z,109nm,1.4s
RLMT IAMs_20 IAMs_20 18 10 55.6
comp=Z,3μm,18.0s
RLMT Red Lodge 93.02 21 P **P 17 26 27.7 +0.3**
baz=336,SNR=40
RLMT S **S 17 37 37.0 +3.2**
baz=336
AGMN Agassiz Nation 93.03 12 P **P 17 26 25.4 -1.6**
AGMN IAmb IAmb 17 26 28.4
comp=Z,119nm,1.2s
AGMN Agassiz Nation 93.03 12 P **P 17 26 26.1 -0.9**
baz=346,SNR=26
AGMN S **S 17 37 34.5 +1.3**
baz=346
YMP Mirror Lake Pl 93.11 22 P **P 17 26 28.4 +0.5**
YMP IAmb IAmb 17 26 32.0
comp=Z,200nm,1.4s
LKWY Lake 93.19 22 P **P 17 26 30.1 +1.9**
LKWY pmax pmax
comp=Z,216nm,1.5s
LKWY MLR MLR
comp=Z,7μm,21.0s
LKWY Lake 93.19 22 P **P 17 26 30.1 +1.9**
LKWY IAmb IAmb 17 26 33.4
comp=Z,216nm,1.4s
B35A Bob, Littlefor 93.28 10 P **P 17 26 27.0 -1.2**
H17A Grant Village 93.29 23 P **P 17 26 30.2 +1.5**
H17A IAmb IAmb 17 26 33.2
comp=Z,123nm,1.2s
H17A Grant Village 93.29 23 P **P 17 26 30.9 +2.2**
baz=335,SNR=46
SLR Silverton 93.30 240 *e*P **P 17 26 28.7 0.0**
SLR IAmb IAmb 17 26 30.1
comp=Z,98nm,1.5s
HOPS Hopland Field 93.35 33 P **P 17 26 30.6 +1.9**
HOPS IAmb IAmb 17 26 32.8
comp=Z,190nm,1.4s
NWCL Newcastle 93.51 237 *e*P **P 17 26 29.5 -0.1**
FLWY Flagg Ranch 93.54 23 P **P 17 26 30.2 +0.5**
FLWY IAmb IAmb 17 26 33.4
comp=Z,112nm,1.3s
ORV Oroville 93.56 32 P **P 17 26 28.8 -0.8**
ORV pmax pmax
comp=Z,44nm,1.0s
ORV Oroville 93.56 32 P **P 17 26 28.8 -0.8**
GDXM Geysers 93.63 33 P **P 17 26 28.6 -1.5**
GDXM IAmb IAmb 17 26 33.9
comp=Z,95nm,1.1s
E28A Huff 93.80 15 P **P 17 26 30.5 -0.2**
E28A IAmb IAmb 17 26 33.2
comp=Z,178nm,1.1s
HRAO HartRAO 93.81 240 *e*P **P 17 26 30.8 -0.2**
HRAO IAmb IAmb 17 26 32.3
comp=Z,102nm,1.3s
MOOW Moose Ponds 93.82 23 P **P 17 26 31.1 0.0**
D32A Dogwood Acres, 93.96 13 P **P 17 26 30.2 -1.1**
D32A IAmb IAmb 17 26 32.6
comp=Z,71nm,0.9s
LOHW Long Hollow 93.99 23 P **P 17 26 31.4 -0.5**
LOHW IAMs_20 IAMs_20 18 11 04.0
comp=Z,3μm,20.0s
REDW Red Top Meadow 94.14 23 P **P 17 26 31.9 -0.7**
REDW IAMs_20 IAMs_20 18 08 58.9
comp=Z,3μm,20.0s
ECR Eagle Creek 94.25 24 P **P 17 26 33.0 -0.1**
PAHR Pah Rah Range 94.30 31 P **P 17 26 33.7 +0.5**
KSR Koster 94.33 241 *e*P **P 17 26 29.0 -4.5**
KSR IAmb IAmb 17 26 35.4
comp=Z,38nm,1.1s
MPK Martis Peak 94.39 31 P **P 17 26 34.5 +0.7**
MPK IAmb IAmb 17 26 37.2
comp=Z,133nm,1.1s
BMN Battle Mountai 94.53 29 P **P 17 26 34.8 +0.5**
BMN pmax pmax
comp=Z,74nm,1.3s
BMN Battle Mountai 94.53 29 P **P 17 26 34.8 +0.5**
RUBR Rubicon Trail 94.54 31 P **P 17 26 35.0 +0.5**
VCNR Virginia City 94.54 31 P **P 17 26 34.6 +0.1**
AHID Auburn Hatcher 94.60 24 P **P 17 26 34.3 -0.4**
AHID IAMs_20 IAMs_20 18 11 19.2
comp=Z,4μm,19.0s
VLDQ Val d'Or 94.61 359 P **P 17 26 32.6 -1.6**
LBTB Lobatse 94.70 242 LR LR 18 07 45.9
comp=Z,2μm,20.5s,baz=37,slow=34
LBTB Lobatse 94.70 242 f/P **P 17 26 34.6 -0.5**
LBTB IAmb IAmb 17 26 36.6
comp=Z,119nm,1.4s
LBTB Lobatse 94.70 242 P **P 17 26 34.6 -0.5**
LBTB pmax pmax
comp=Z,96nm,1.3s
LBTB Lobatse 94.70 242 P **P 17 26 34.6 -0.5**
LBTB IAmb IAmb 17 26 36.9
comp=Z,96nm,1.3s
PNTR Pine Nut 94.74 31 P **P 17 26 35.9 +0.5**
PNTR IAmb IAmb 17 26 38.8
comp=Z,100nm,1.1s
BATG Bathurst New B 94.74 352 P **P 17 26 34.7 -0.2**
BATG IAmb IAmb 17 26 37.2
comp=Z,129nm,1.1s
LMQ La Malbaie 94.88 355 P **P 17 26 35.3 -0.2**
LMQ IAmb IAmb 17 26 37.5
comp=Z,126nm,1.1s
HVU Hansel Valley 94.94 25 P **P 17 26 36.2 +0.1**
HVU pmax pmax
comp=Z,43nm,1.3s
HVU Hansel Valley 94.94 25 P **P 17 26 36.2 +0.1**
YERR Yerington 94.97 31 P **P 17 26 36.7 +0.3**
ELK Elko 94.99 27 LR LR 18 12 29.7
comp=Z,2μm,19.6s,baz=338,slow=38
ELK Elko 94.99 27 P **P 17 26 36.8 +0.3**
ELK pmax pmax
comp=Z,40nm,1.2s
ELK MLR MLR
comp=Z,2μm,20.0s
ELK Elko 94.99 27 P **P 17 26 36.8 +0.3**
BW06 Boulder Array 95.08 23 P **P 17 26 35.0 -1.9**
BW06 Boulder Array 95.08 23 P **P 17 26 36.4 -0.5**
baz=336,SNR=14
BW06 S **S 17 37 53.9 +1.9**
baz=336
PD31 Pinedale Array 95.08 23 P **P 17 26 35.0 -1.9**
PDAR Pinedale Array 95.08 23 P **P 17 26 35.8 -1.1**
comp=Z,12nm,1.1s,baz=29,slow=3.4,SNR=31
PDAR PP **PP 17 30 29.3 +4.0**
comp=Z,2.8nm,0.9s,baz=289,slow=4.5,SNR=5.6
PDAR PKKPbc **PKKPbc 17 43 31.9 +1.1**
comp=Z,0.8nm,0.9s,baz=157,slow=4.2,SNR=4.4
PDAR LR LR 18 12 43.3
comp=Z,3μm,20.1s,baz=345,slow=38
PDAR Pinedale Array 95.08 23 P **P 17 26 34.6 -2.3**
D41A Chassel 95.18 7 P **P 17 26 36.1 -0.8**
D41A IAmb IAmb 17 26 38.3
comp=Z,61nm,0.9s
LATQ La Tuque 95.20 356 P **P 17 26 36.2 -0.7**
D62A Allapoint, All 95.24 354 P **P 17 26 37.2 +0.1**
D62A IAmb IAmb 17 26 41.0
comp=Z,154nm,1.6s
SNKL Senekal, Frees 95.28 238 *e*P **P 17 26 36.1 -1.7**
SNKL IAmb IAmb 17 26 42.8
comp=Z,221nm,2.2s
E38A The Farm, Brul 95.30 9 P **P 17 26 36.1 -1.4**
E38A IAmb IAmb 17 26 38.7

comp=Z,90nm,0.9s
CMB Columbia Colle 95.31 32 P **P 17 26 37.8 0.0**
CMB pmax pmax
comp=Z,49nm,1.2s
CMB Columbia Colle 95.31 32 P **P 17 26 37.8 0.0**
F33A 5 Mile Ranch, 95.34 12 P **P 17 26 36.6 -1.1**
F33A IAmb IAmb 17 26 39.5
comp=Z,76nm,1.1s
RSSD Black Hills 95.35 18 P **P 17 26 37.7 -0.4**
RSSD pmax pmax
comp=Z,168nm,1.1s
RSSD MLR MLR
comp=Z,4μm,19.0s
RSSD Black Hills 95.35 18 P **P 17 26 37.7 -0.4**
RSSD IAmb IAmb 17 26 40.7
comp=Z,168nm,1.1s
RSSD Black Hills 95.35 18 IAMs_20 IAMs_20 18 13 11.2
comp=Z,4μm,19.0s
RSSD Black Hills 95.35 18 P **P 17 26 38.5 +0.4**
baz=340
RSSD S **S 17 37 55.1 +0.8**
baz=340
KVN Kaiserville 95.38 30 P **P 17 26 39.1 +0.8**
KVN pmax pmax
comp=Z,74nm,1.3s
KVN Kaiserville 95.38 30 P **P 17 26 39.1 +0.8**
PQI Presque Isle 95.55 353 P **P 17 26 37.5 -1.0**
PQI IAmb IAmb 17 26 40.3
comp=Z,94nm,1.1s
PQI IAMs_20 IAMs_20 18 13 54.7
comp=Z,3μm,18.0s
RYN Ryan 95.57 30 P **P 17 26 40.2 +1.1**
BGU Big Grassy Mou 95.61 26 P **P 17 26 38.8 -0.5**
AFI Afiamalu 95.70 103 LR LR 18 02 19.5
comp=Z,1μm,20.6s,baz=308,slow=31
E62A Clayton Lake 95.74 354 P **P 17 26 39.2 -0.2**
E62A IAmb IAmb 17 26 41.3
comp=Z,70nm,1.1s
F36A Milaca 95.76 11 P **P 17 26 38.6 -1.0**
F36A IAmb IAmb 17 26 40.9
comp=Z,67nm,1.1s
NVAR Mina Array Bea 95.83 30 P **P 17 26 40.8 +0.4**
comp=Z,16nm,0.9s,baz=305,slow=3.5,SNR=45
NVAR PP **PP 17 30 36.4 +5.1**
comp=Z,4.3nm,0.9s,baz=323,slow=4.7,SNR=4.4
NVAR LR LR 18 12 02.6
comp=Z,3μm,19.6s,baz=337,slow=37
NVAR Mina Array Bea 95.83 30 P **P 17 26 39.9 -0.5**
NV11 Mina Array Sit 95.88 30 P **P 17 26 40.1 -0.4**
LHV Little Huntoon 95.90 31 P **P 17 26 41.5 +1.1**
LHV IAmb IAmb 17 26 45.2
comp=Z,230nm,1.7s
Q09A Carvers 95.92 29 P **P 17 26 41.0 +0.3**
Q09A IAmb IAmb 17 26 44.0
comp=Z,108nm,1.1s
GBN Guysborough 95.94 348 P **P 17 26 41.3 +0.9**
LMN Caledonia Moun 95.99 351 P **P 17 26 39.8 -0.8**
LMN IAmb IAmb 17 26 42.4
comp=Z,101nm,1.1s
E43A Lone Tree Farm 96.00 6 P **P 17 26 39.7 -0.9**
E43A IAmb IAmb 17 26 41.9
comp=Z,130nm,0.9s
K22A Casper 96.07 20 P **P 17 26 40.9 -0.5**
K22A Casper 96.07 20 P **P 17 26 40.8 -0.5**
baz=338,SNR=13
SUSD Miller 96.19 15 P **P 17 26 41.1 -0.5**
SUSD Miller 96.19 15 P **P 17 26 40.8 -0.8**
baz=344,SNR=16
SUSD S **S 17 38 00.4 -0.7**
baz=344
E46A Sault Ste Mari 96.19 4 P **P 17 26 40.6 -0.9**
BBGB Big Mountain B 96.25 33 P **P 17 26 41.8 -0.3**
CTU Camp Tracy 96.25 25 P **P 17 26 41.7 -0.5**
SWZ Schweizer 96.25 241 *e*P **P 17 26 40.9 -1.3**
SWZ IAmb IAmb 17 26 43.1
comp=Z,67nm,1.4s
MLAC Mammoth, Mammo 96.29 31 P **P 17 26 41.7 -0.8**
baz=329
DUG Dugway, Tooele 96.34 26 P **P 17 26 42.9 +0.4**
DUG pmax pmax
comp=Z,60nm,1.4s
DUG MLR MLR
comp=Z,2μm,18.0s
DUG Dugway, Tooele 96.34 26 P **P 17 26 42.9 +0.4**
DUG IAMs_20 IAMs_20 18 10 43.2
comp=Z,2μm,18.0s
DUG Dugway, Tooele 96.34 26 P **P 17 26 42.5 0.0**
baz=333,SNR=15
DUG S **S 17 38 00.8 -2.0**
baz=333
F64A Sherman 96.38 353 P **P 17 26 41.5 -0.9**
F64A IAmb IAmb 17 26 44.3
comp=Z,80nm,1.0s
JLU Jordanelle 96.44 25 P **P 17 26 42.0 -1.1**
TRQ Mont Tremblant 96.44 357 P **P 17 26 41.4 -1.4**
TRQ IAmb IAmb 17 26 44.3
comp=Z,96nm,1.0s
SPMN Marine on St. 96.48 10 P **P 17 26 42.2 -0.7**
SPMN IAmb IAmb 17 26 44.4
comp=Z,67nm,1.1s
SPMN Marine on St. 96.48 10 P **P 17 26 42.0 -0.9**
baz=349,SNR=5.8
F62A Pittston Farm, 96.49 354 P **P 17 26 42.5 -0.4**
F62A IAmb IAmb 17 26 45.9
comp=Z,189nm,1.8s
F42A Maple Grove Fa 96.51 7 P **P 17 26 42.2 -0.8**
TPH Tonopah 96.56 30 P **P 17 26 43.8 +0.1**
TPH pmax pmax
comp=Z,300nm,1.3s
TPH Tonopah 96.56 30 P **P 17 26 43.8 +0.1**
RWWY Rawlins 96.76 21 P **P 17 26 42.6 -2.0**
RWWY IAmb IAmb 17 26 46.8
comp=Z,89nm,1.6s
RWWY IAMs_20 IAMs_20 18 11 44.2
comp=Z,3μm,21.0s
G40A Rib Lake 96.78 8 P **P 17 26 43.0 -1.3**
G40A IAmb IAmb 17 26 45.8
comp=Z,85nm,1.0s
NLU North Lily Min 96.81 25 P **P 17 26 45.0 +0.3**
NLU IAmb IAmb 17 26 48.3
comp=Z,60nm,1.2s
SPR3 Spring Creek 3 96.86 27 P **P 17 26 45.3 +0.1**
SPR3 IAmb IAmb 17 26 48.9
comp=Z,65nm,1.2s
TSUM Tsumeb 96.96 251 LR LR 18 10 14.7
comp=Z,2μm,21.8s,baz=40,slow=35
TSUM Tsumeb 96.96 251 *e*P **P 17 26 44.5 -1.0**
TSUM Tsumeb 96.96 251 P **P 17 26 45.1 -0.4**
G65A Princeton 96.96 352 P **P 17 26 44.2 -0.8**
G65A IAmb IAmb 17 26 47.1
comp=Z,94nm,1.0s
R11A Troy Canyon, C 96.96 29 P **P 17 26 45.2 -0.2**
R11A Troy Canyon, C 96.96 29 P **P 17 26 45.2 -0.2**
baz=331,SNR=32
HAL Halifax 97.01 349 P **P 17 26 44.6 -0.6**
HAL pmax pmax
comp=Z,83nm,1.1s
HAL Halifax 97.01 349 P **P 17 26 44.6 -0.6**
HAL IAmb IAmb 17 26 47.1
comp=Z,84nm,1.1s
TIN Tinemaha, Big 97.04 31 P Pdif 17 26 46.4 +0.6
baz=329
PKME Peaks-Kenny Pk 97.06 354 P **P 17 26 44.8 -0.6**
PKME IAmb IAmb 17 26 47.7
comp=Z,62nm,1.1s
PKME IAMs_20 IAMs_20 18 12 07.3
comp=Z,4μm,18.0s
PKME Peaks-Kenny Pk 97.06 354 P **P 17 26 45.5 0.0**
baz=7.2
RDMU Red Mountain 97.07 23 P **P 17 26 45.8 -0.1**
RDMU IAmb IAmb 17 26 49.5
comp=Z,124nm,1.5s
LCH Last Change Ra 97.12 31 P Pdif 17 26 46.7 +0.5
LCH IAmb IAmb 17 26 49.6
comp=Z,98nm,2.0s
VOG Valley Oaks Go 97.18 32 P **P 17 26 46.0 -0.2**
baz=328
BOSA Boshof 97.21 239 P **P 17 26 45.1 -1.3**
comp=Z,14nm,1.1s,baz=63,slow=4.6,SNR=9.5
BOSA LR LR 18 08 29.6
comp=Z,2μm,22.0s,baz=55,slow=34
BOSA Boshof 97.21 239 *e*P **P 17 26 44.5 -2.0**
BOSA IAmb IAmb 17 26 47.2
comp=Z,37nm,1.3s
BOSA Boshof 97.21 239 P **P 17 26 46.0 -0.4**
BOSA Boshof 97.21 239 P **P 17 26 46.0 -0.4**

MOQ	Mont Orford	97.24	356	P	P	17 26 46.0	-0.3	
ECSD	EROS Data Cent	97.32	13	P	P	17 26 46.1	-0.6	
ECSD				IAmb	IAmb	17 26 49.1		
	comp=Z,79nm,1.1s							
ECSD	EROS Data Cent	97.32	13	P	P	17 26 45.7	-1.0	
	baz=346,SNR=58							
G45A	Suttons Bay	97.43	5	P	P	17 26 46.5	-0.7	
PSUT	Pine Spring	97.44	27	P	P	17 26 45.0	-2.6	
PSUT				IAmb	IAmb	17 26 50.6		
	comp=Z,81nm,1.7s							
S11A	Rachel	97.51	29	P	Pdif	17 26 48.1	+0.1	
S11A				IAmb	IAmb	17 26 51.3		
	comp=Z,92nm,1.4s							
I37A	Lemond, Waseca	97.58	11	P	P	17 26 47.0	-0.9	
I37A				IAmb	IAmb	17 26 50.7		
	comp=Z,69nm,1.2s							
CWC	Cottonwood Cre	97.62	31	P	Pdif	17 26 49.1	+0.6	
	baz=329							
P17A	Butcher Ranch,	97.69	25	P	P	17 26 47.1	-1.6	
P17A				IAmb	IAmb	17 26 52.2		
	comp=Z,77nm,1.1s							
TMUT	Trail Mountain	97.69	25	P	P	17 26 48.8	-0.1	
TMUT				IAmb	IAmb	17 26 52.4		
	comp=Z,51nm,1.2s							
P18A	Preston Nutter	97.71	24	P	Pdif	17 26 49.2	+0.2	
P18A				IAmb	IAmb	17 26 51.8		
	comp=Z,54nm,1.3s							
GLMI	Grayling	97.71	4	IAMs_20	IAMs_20	18 12 42.4		
	comp=Z,3µm,21.0s							
GLMI	Grayling	97.71	4	P	P	17 26 47.8	-0.6	
	baz=355							
VES	Vestal, Richgr	97.72	32	P	P	17 26 48.3	-0.4	
	baz=329							
SMMC	Simmler	97.77	33	P	Pdif	17 26 49.7	+0.7	
	baz=328							
FRNY	Flat Rock	97.78	357	P	P	17 26 47.7	-1.1	
FRNY				IAmb	IAmb	17 26 50.1		
	comp=Z,56nm,1.2s							
H43A	Windswept, Lux	97.82	7	P	P	17 26 48.1	-0.8	
N23A	Red Feather La	97.86	21	P	P	17 26 49.4	-0.2	
	baz=338,SNR=11							
TCRU	Three Creeks R	97.88	26	P	Pdif	17 26 49.9	+0.1	
O20A	White River Ci	97.88	23	P	P	17 26 49.5	-0.1	
O20A				IAmb	IAmb	17 26 52.3		
	comp=Z,62nm,1.2s							
O20A	White River Ci	97.88	23	P	Pdif	17 26 49.9	+0.3	
	baz=337,SNR=13							
H62A	Milan	97.90	355	P	Pdif	17 26 49.7	+0.4	
H62A				IAmb	IAmb	17 26 51.9		
	comp=Z,102nm,1.1s							
TPNV	Topopah Spring	97.92	30	P	Pdif	17 26 51.7	+1.9	
TPNV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TPNV	Topopah Spring	97.92	30	P	Pdif	17 26 51.7	+1.9	
TPNV	Topopah Spring	97.92	30	P	Pdif	17 26 50.6	+0.8	
	baz=331,SNR=6.3							
SADO	Sadowa	97.96	1	LR	LR	18 13 14.7		
	comp=Z,3µm,18.4s,baz=1.0,slow=37							
SADO	Sadowa	97.96	1	P	P	17 26 48.3	-1.2	
SADO				IAmb	IAmb	17 26 50.8		
	comp=Z,66nm,1.4s							
K31A	O'Neill	97.98	15	P	Pdif	17 26 49.9	+0.1	
K31A				IAmb	IAmb	17 26 52.2		
	comp=Z,82nm,1.2s							
PRN	Pahroc Range	97.99	29	P	Pdif	17 26 51.2	+1.1	
PRN				IAmb	IAmb	17 26 54.5		
	comp=Z,93nm,1.6s							
LONY	Lake Ozonia	98.04	357	P	P	17 26 49.4	-0.6	
LONY				IAMs_20	IAMs_20	18 17 19.6		
	comp=Z,3µm,18.0s							
LONY	Lake Ozonia	98.04	357	P	P	17 26 49.5	-0.5	
	baz=3.0,SNR=16							
Q16A	Castle Valley	98.04	25	P	Pdif	17 26 50.8	+0.4	
Q16A				IAmb	IAmb	17 26 54.1		
	comp=Z,59nm,1.4s							
MSU	Marysvale	98.06	26	P	Pdif	17 26 51.0	+0.5	
MSU	Marysvale	98.06	26	P	Pdif	17 26 51.0	+0.5	
I40A	Norwalk	98.08	9	P	P	17 26 49.4	-0.7	
I40A				IAmb	IAmb	17 26 51.9		
	comp=Z,62nm,1.1s							
SRU	San Rafael Swe	98.09	25	P	Pdif	17 26 51.9	+1.3	
SRU				pmax	pmax			
	comp=Z,23nm,1.3s							
SRU	San Rafael Swe	98.09	25	P	Pdif	17 26 51.9	+1.3	
ISA	Isabella, Lake	98.12	32	P	Pdif	17 26 51.3	+0.7	
ISA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ISA	Isabella, Lake	98.12	32	P	Pdif	17 26 51.2	+0.6	
ISA	Isabella, Lake	98.12	32	P	Pdif	17 26 51.1	+0.5	
	baz=329							
MPMC	Manual Prospec	98.19	31	P	Pdif	17 26 51.6	+0.4	
	baz=330,SNR=9.7							
PKM	Mcpherson Peak	98.21	33	P	Pdif	17 26 51.6	+0.5	
	baz=328							
DELO	Deloro Mine	98.21	359	P	P	17 26 50.6	-0.1	
DELO				IAmb	IAmb	17 26 52.3		
	comp=Z,47nm,1.0s							
VT1	Waterbury	98.24	356	P	P	17 26 49.8	-1.1	
VT1				IAmb	IAmb	17 26 53.0		
	comp=Z,86nm,1.3s							
VT1				IAMs_20	IAMs_20	18 14 54.3		
	comp=Z,3µm,21.0s							
I42A	Draeger Farm,	98.28	8	P	P	17 26 50.4	-0.6	
LBNH	Lisbon	98.28	355	P	Pdif	17 26 51.7	+0.6	
LBNH				pmax	pmax			
	comp=Z,57nm,1.1s							
LBNH				MLR	MLR			
	comp=Z,4µm,20.0s							
LBNH	Lisbon	98.28	355	P	Pdif	17 26 51.7	+0.6	
LBNH				IAmb	IAmb	17 26 53.4		
	comp=Z,57nm,1.1s							
LBNH	Lisbon	98.28	355	P	Pdif	17 26 51.2	+0.1	
	baz=5.1,SNR=7.3							
I63A	Otisfield	98.38	354	P	P	17 26 51.4	0.0	
I63A				IAmb	IAmb	17 26 54.5		
	comp=Z,54nm,1.1s							
I45A	Fountain	98.38	6	P	P	17 26 50.5	-1.0	
GWY	Greenwater Val	98.42	30	P	Pdif	17 26 52.7	+0.7	
ARVC	Arvin	98.43	33	P	Pdif	17 26 51.9	0.0	
	baz=329							
MTPU	Mount Pierson	98.48	26	P	P	17 26 51.7	-0.8	
CCUT	Cedar City	98.49	27	P	Pdif	17 26 52.8	+0.3	
QSM	Queen of Sheba	98.53	31	P	P	17 26 51.4	-0.9	
SZCU	Shurtz Canyon	98.55	27	P	Pdif	17 26 53.2	+0.5	
SZCU				IAmb	IAmb	17 26 56.7		
	comp=Z,86nm,1.8s							
LRMC	Laurel Mtn Rad	98.61	32	P	Pdif	17 26 53.3	+0.4	
	baz=330,SNR=9.0							
SBC	Santa Barbara	98.63	34	P	Pdif	17 26 53.1	+0.3	
	baz=328							
NCB	Newcomb	98.67	357	P	P	17 26 51.9	-0.9	
SHPR	Sheep Range	98.74	29		Pdif	17 26 53.9	+0.4	
SHPR				IAmb	IAmb	17 26 58.2		
	comp=Z,67nm,1.6s							
PECO	Prince Edward	98.79	359	P	P	17 26 52.0	-1.2	
PECO				IAmb	IAmb	17 26 56.7		
	comp=Z,69nm,1.1s							
HNH	Hanover	98.84	356	IAMs_20	IAMs_20	18 14 34.8		
	comp=Z,3µm,20.0s							
OGNE	Ogallala	98.84	18		P	17 26 53.5	-0.2	
OGNE				IAmb	IAmb	17 26 57.7		
	comp=Z,59nm,1.1s							
OGNE				IAMs_20	IAMs_20	18 12 30.5		
	comp=Z,3µm,20.0s							
OGNE	Ogallala	98.84	18	Pdiff	P	17 26 53.6	-0.2	
	baz=341							
DBIC	Dimbokro	98.84	285	P	P	17 26 53.3	-0.8	
	comp=Z,12nm,0.9s,baz=49,slow=4.3,SNR=11							
DBIC				LR	LR	18 16 22.6		
	comp=Z,2µm,21.6s,baz=63,slow=38							
DBIC	Dimbokro	98.84	285	P	P	17 26 53.2	-0.8	
DBIC				IAmb	IAmb	17 26 55.2		
	comp=Z,88nm,1.9s							
OSI	Osito Audit: C	98.91	33	Pdiff	Pdif	17 26 54.4	+0.3	
	baz=329							
KIC	Kosan Boka	98.95	285	*e*PKP1	Pdif	17 26 54.7	+0.2	
	comp=Z,12nm,0.7s							
ISCO	Idaho Springs	98.97	21	P	P	17 26 53.1	-1.5	
ISCO				pmax	pmax			
	comp=Z,20nm,1.3s							
ISCO				MLR	MLR			
	comp=Z,3µm,21.0s							
ISCO	Idaho Springs	98.97	21		P	17 26 53.1	-1.5	
ISCO				IAMs_20	IAMs_20	18 11 30.6		
	comp=Z,3µm,21.0s							
ISCO	Idaho Springs	98.97	21	Pdiff	P	17 26 54.4	-0.2	
	baz=338							
TIC	Toumodi	98.98	286	*e*PKP1	P	17 26 53.9	-0.8	
EDW2	Edwards Air Fo	99.00	32	Pdiff	Pdif	17 26 55.0	+0.5	
	baz=329							
K38A	Parkersburg	99.01	11	P	Pdif	17 26 53.9	-0.5	
K38A				IAmb	IAmb	17 26 55.9		
	comp=Z,60nm,0.9s							
LCMT	Little Creek M	99.01	28	P	Pdif	17 26 54.3	-0.4	
JFWS	Jewell Farm	99.09	9	P	Pdif	17 26 53.9	-0.8	
JFWS				pmax	pmax			
	comp=Z,93nm,1.0s							
JFWS				MLR	MLR			
	comp=Z,4µm,18.0s							
JFWS	Jewell Farm	99.09	9		Pdif	17 26 53.9	-0.8	
JFWS				IAmb	IAmb	17 26 56.1		
	comp=Z,92nm,1.0s							
JFWS	Jewell Farm	99.09	9	Pdiff	Pdif	17 26 53.6	-1.1	
	baz=350							
GSC	Goldstone, Bar	99.13	31	P	Pdif	17 26 55.9	+0.8	
GSC				pmax	pmax			
	comp=Z,24nm,1.5s							
GSC	Goldstone, Bar	99.13	31		Pdif	17 26 55.9	+0.8	
GSC	Goldstone, Bar	99.13	31	Pdiff	Pdif	17 26 55.3	+0.2	
	baz=330							
SMCO	Snowmass	99.15	22		Pdif	17 26 55.5	0.0	
SMCO				IAmb	IAmb	17 29 22.6		
	comp=Z,27nm,0.7s							
SMCO				IAMs_20	IAMs_20	18 13 18.4		
	comp=Z,3µm,19.0s							
KNB	Kanab	99.16	27	P	Pdif	17 26 55.6	+0.2	
KNB				pmax	pmax			
	comp=Z,60nm,1.1s							
KNB	Kanab	99.16	27		Pdif	17 26 55.6	+0.2	
KNB				IAmb	IAmb	17 27 01.4		
	comp=Z,60nm,1.1s							
PV23	Carpenter Ridg	99.18	24	P	Pdif	17 26 53.9	-1.6	
PV23				IAmb	IAmb	17 26 59.2		
	comp=Z,68nm,1.2s							
J59A	Piesco	99.19	357	P	Pdif	17 26 55.4	+0.2	
J59A				IAmb	IAmb	17 26 57.2		
	comp=Z,58nm,1.1s							
J61A	Chester	99.21	356	P	Pdif	17 26 55.7	+0.5	
J61A				IAmb	IAmb	17 27 00.0		
	comp=Z,84nm,1.4s							
ACCN	Adirondack Com	99.23	357		Pdif	17 26 55.5	+0.2	
ACCN				IAmb	IAmb	17 26 57.4		
	comp=Z,54nm,1.0s							
PV10	Paradox Valley	99.24	24		Pdif	17 26 55.9	+0.1	
PV10				IAmb	IAmb	17 26 59.8		
	comp=Z,89nm,1.3s							
LIC	Lamto	99.25	285	*e*PKP1	Pdif	17 26 55.0	-0.9	
	comp=Z,53nm,1.2s							
BGNE	Belgrade	99.27	15	P	Pdif	17 26 53.2	-2.3	
BGNE				IAmb	IAmb	17 26 58.2		
	comp=Z,101nm,1.1s							
BGNE	Belgrade	99.27	15	Pdiff	Pdif	17 26 54.9	-0.7	
	baz=344							
J47A	Sunmer	99.28	5	P	Pdif	17 26 55.5	0.0	
J47A				IAmb	IAmb	17 26 57.4		
	comp=Z,94nm,1.0s							
J57A	Williamstown	99.29	358	P	Pdif	17 26 55.7	+0.1	
J57A				IAmb	IAmb	17 26 57.9		
	comp=Z,97nm,1.1s							
PV07	Paradox Valley	99.31	24	P	Pdif	17 26 53.4	-2.7	
J58A	Remsen	99.32	358		Pdif	17 26 55.7	-0.1	
WIN	Windhoek	99.33	249	*e*P	Pdif	17 26 57.1	+0.9	
WIN				IAmb	IAmb	17 26 58.5		
	comp=Z,9.7nm,1.3s							
WIN	Windhoek	99.33	249	P	Pdif	17 26 56.5	+0.3	
WIN				pmax	pmax			
	comp=Z,22nm,1.2s							
WIN	Windhoek	99.33	249	P	Pdif	17 26 56.5	+0.3	
PV11	David Mesa, Pa	99.36	24	P	Pdif	17 26 55.1	-1.1	
TUQ	Turquoise Moun	99.37	30	Pdiff	Pdif	17 26 56.7	+0.5	
	baz=331							
J56A	Wolcott	99.44	359	P	Pdif	17 26 55.1	-1.1	
J56A				IAmb	IAmb	17 26 57.9		
	comp=Z,53nm,0.9s							
PV15	Paradox Valley	99.45	24	P	Pdif	17 26 56.6	-0.1	
PV15				IAmb	IAmb	17 27 00.4		
	comp=Z,58nm,1.3s							
PV13	Radium Mtn., P	99.51	24	P	Pdif	17 26 56.5	-0.5	
K43A	Burlington	99.51	7	P	Pdif	17 26 55.5	-1.0	
K43A				IAmb	IAmb	17 26 58.0		
	comp=Z,59nm,1.1s							
PASC	Pasadena Art C	99.52	33	IAMs_20	IAMs_20	18 14 39.0		
	comp=Z,3µm,20.0s							
SCIA	State Center	99.67	11	IAMs_20	IAMs_20	18 17 00.3		
	comp=Z,3µm,18.0s							
SCIA	State Center	99.67	11	Pdiff	Pdif	17 26 56.8	-0.4	
	baz=348							
BFSC	Mount Baldy Ra	99.69	32	Pdiff	Pdif	17 26 57.6	-0.1	
	baz=330							
HEC	Hector,Ludlow	99.73	31	Pdiff	Pdif	17 26 57.3	-0.5	
	baz=330							
UPI	Upington	99.82	242	*e*P	Pdif	17 26 57.1	-1.0	
UPI				IAmb	IAmb	17 26 59.6		
	comp=Z,28nm,1.6s							
Q24A	Divide	99.88	21	Pdiff	Pdif	17 26 57.7	-1.0	
	baz=339							
TRY	Troy	99.89	356	IAMs_20	IAMs_20	18 14 23.4		
	comp=Z,4µm,20.0s							
GMRC	Granite Mounta	100.04	30	Pdiff	Pdif	17 26 57.7	-1.6	
	baz=331							
WES	Weston	100.09	355	IAMs_20	IAMs_20	18 17 08.9		
	comp=Z,3µm,19.0s							
L61B	Northampton	100.11	356	IAMs_20	IAMs_20	18 16 10.9		
	comp=Z,3µm,21.0s							
L61B	Northampton	100.11	356	Pdiff	Pdif	17 26 57.9	-1.3	
	baz=4.6							
QUA2	Belchertown	100.26	355	IAMs_20	IAMs_20	18 15 36.5		
	comp=Z,3µm,19.0s							
NEE2	Needles Airpor	100.47	30	Pdiff	Pdif	17 27 01.5	+0.5	
	baz=332							
MVCO	Mesa Verde	100.48	24	IAMs_20	IAMs_20	18 19 23.1		
	comp=Z,3µm,18.0s							
MVCO	Mesa Verde	100.48	24	Pdiff	Pdif	17 27 01.6	+0.3	
	baz=336							
L59A	Walton	100.48	357	Pdif	Pdif	17 27 01.4	+0.4	
BINY	Binghamton	100.50	358	IAMs_20	IAMs_20	18 13 59.2		
	comp=Z,3µm,21.0s							
BINY	Binghamton	100.50	358	Pdiff	Pdif	17 26 60.0	-1.0	
	baz=1.9							
S22A	4UR Ranch, Cre	100.51	23	Pdiff	Pdif	17 27 01.1	-0.4	
	baz=338							
KSCO	Kaye Shedlock'	100.52	19	Pdiff	Pdif	17 27 01.6	+0.3	
	baz=341							
BRYW	Bryant College	100.57	355	IAMs_20	IAMs_20	18 14 59.6		
	comp=Z,3µm,20.0s							
BELC	Belle Mtn. Jos	100.58	31	Pdiff	Pdif	17 27 01.9	+0.2	
	baz=331							
ERPA	Erie	100.60	1	IAMs_20	IAMs_20	18 12 56.7		
	comp=Z,4µm,22.0s							
ERPA	Erie	100.60	1	Pdiff	Pdif	17 26 59.9	-1.5	
	baz=359							
ARMS	Ukamas	100.69	243	*e*P	Pdif	17 27 00.8	-1.2	
ARMS				IAmb	IAmb	17 27 03.6		
	comp=Z,59nm,1.7s							
PFO	Pinyon Flats O	100.73	32	P	Pdif	17 27 01.5	-0.8	
PFO	Pinyon Flats O	100.73	32	Pdif	Pdif	17 27 01.5	-0.8	
PFO	Pinyon Flats O	100.73	32	Pdiff	Pdif	17 27 02.5	+0.1	
	baz=330							
TPFO	Pinon Flats	100.74	32	Pdiff	Pdif	17 27 01.9	-0.4	
	baz=330							
IRM	Iron Mountain	100.79	30	Pdiff	Pdif	17 27 02.1	-0.3	
	baz=331							
SDCO	Great Sand Dun	100.91	22	Pdiff	Pdif	17 27 03.0	-0.2	
	baz=338							
WUAZ	Wupatki	101.03	27	Pdiff	Pdif	17 27 03.7	0.0	
	baz=334							
PDMCI	Parker Dam,Lak	101.06	30	Pdiff	Pdif	17 27 03.6	-0.1	
	baz=332							
BC3	Big Chuckawall	101.11	31	Pdiff	Pdif	17 27 03.8	-0.2	
	baz=331							
M54A	Oil Creek Stat	101.21	1	IAMs_20	IAMs_20	18 13 15.6		
	comp=Z,4µm,22.0s							
M54A	Oil Creek Stat	101.21	1	Pdiff	Pdif	17 27 03.6	-0.6	
	baz=359							
YLE	Yale	101.26	356	IAMs_20	IAMs_20	18 14 50.8		
	comp=Z,3µm,20.0s							
M53A	Wt Miller and	101.26	2	Pdiff	Pdif	17 27 03.6	-0.8	
	baz=358							
MONP2	Monument Peak	101.37	32	Pdiff	Pdif	17 27 05.0	-0.3	
	baz=330							
CBKS	Cedar Bluff	101.41	17	Pdiff	Pdif	17 27 04.7	-0.4	
	baz=343							
WSPT	Westport, CT	101.42	356	IAMs_20	IAMs_20	18 12 37.2		
	comp=Z,3µm,20.0s							
HDIL	Hopedale	101.53	8	Pdiff	Pdif	17 27 04.7	-0.8	
	baz=351							
PAL	Palisades	101.62	357	IAMs_20	IAMs_20	18 16 25.3		
	comp=Z,3µm,20.0s							
PAL	Palisades	101.62	357	Pdiff	Pdif	17 27 05.6	-0.3	
	baz=3.6							
IKP	In-Ko-Pah, Jac	101.71	32	Pdiff	Pdif	17 27 06.9	+0.3	
	baz=330							
N54A	Moraine State	101.75	1	IAMs_20	IAMs_20	18 16 28.3		
	comp=Z,3µm,19.0s							
N54A	Moraine State	101.75	1	Pdiff	Pdif	17 27 05.9	-0.7	
	baz=359							
N59A	State Game Lan	101.78	358	IAMs_20	IAMs_20	18 14 48.9		
	comp=Z,4µm,21.0s							
N59A	State Game Lan	101.78	358	Pdiff	Pdif	17 27 06.1	-0.6	
	baz=2.1							
T25A	Trinidad	101.79	21	Pdiff	Pdif	17 27 06.6	-0.5	
	baz=339							
KSU1	Kansas State U	101.80	14	Pdiff	Pdif	17 27 06.1	-0.7	
	baz=345							
P38A	Dawn	101.85	12	Pdif	Pdif	17 27 06.1	-1.0	
GLA	Glamis	101.89	31	Pdiff	Pdif	17 27 07.2	-0.1	
	baz=331							
SFIN	Lafayette	101.94	7	Pdiff	Pdif	17 27 06.6	-0.7	
	baz=353							
W18A	Petrified Fore	101.96	26	Pdiff	Pdif	17 27 06.7	-1.2	
	baz=335							
SSPA	Standing Stone	102.09	360	Pdiff	Pdif	17 27 07.1	-1.0	
	baz=0.4							
ACSO	Alum Creek Sta	102.38	4	IAMs_20	IAMs_20	18 15 30.9		
	comp=Z,3µm,20.0s							
ACSO	Alum Creek Sta	102.38	4	Pdiff	Pdif	17 27 08.6	-0.8	
	baz=356							
O53A	New Philadelph	102.44	2	Pdiff	Pdif	17 27 08.7	-0.9	
	baz=358							
O56A	Blue Knob Stat	102.46	0	IAMs_20	IAMs_20	18 16 25.6		
	comp=Z,3µm,18.0s							
O56A	Blue Knob Stat	102.46	0	Pdiff	Pdif	17 27 09.0	-0.8	
	baz=360							
SUR	Sutherland	102.54	239	IAMs_20	IAMs_20	18 11 31.3		
	comp=Z,2µm,20.0s							
P60A	Greenville	102.88	358	IAMs_20	IAMs_20	18 18 07.6		
	comp=Z,3µm,19.0s							
P60A	Greenville	102.88	358	Pdiff	Pdif	17 27 10.7	-0.9	
	baz=2.2							
P49A	Miami Univ. Ec	102.97	5	Pdiff	Pdif	17 27 10.9	-1.1	
	baz=355							
P52A	Corning	103.02	3	Pdiff	Pdif	17 27 11.3	-0.9	
	baz=357							
MCWV	Mont Chateau	103.06	1	IAMs_20	IAMs_20	18 15 28.4		
	comp=Z,3µm,19.0s							
MCWV	Mont Chateau	103.06	1	Pdiff	Pdif	17 27 12.0	-0.4	
	baz=359							
ANMO	Albuquerque	103.20	23	IAMs_20	IAMs_20	18 18 14.9		
	comp=Z,2µm,18.0s							
ANMO	Albuquerque	103.20	23	Pdiff	Pdif	17 27 13.2	-0.2	
	baz=338							
214A	Organ Pipe Nat	103.66	30	Pdiff	Pdif	17 27 15.5	+0.3	
	baz=333							
OK035	E0210 Rd and N	103.66	17	IAMs_20	IAMs_20	18 14 34.9		
	comp=Z,4µm,20.0s							
CCM	Cathedral Cave	103.74	10	IAMs_20	IAMs_20	18 16 51.5		
	comp=Z,3µm,19.0s							
CCM	Cathedral Cave	103.74	10	Pdiff	Pdif	17 27 14.7	-0.8	
	baz=350							
S39A	Bolivar	103.77	12	Pdif	Pdif	17 27 14.5	-1.1	
CASY	Casey	103.83	176	IAMs_20	IAMs_20	18 08 31.1		
	comp=Z,3µm,22.0s							
Y22D	IRIS PASSCAL I	103.86	24	IAMs_20	IAMs_20	18 17 03.6		
	comp=Z,3µm,19.0s							
TUC	Tucson	104.11	28	Pdiff	Pdif	17 27 17.5	+0.2	
	baz=334							
WCI	Wyandotte Cave	104.14	6	Pdiff	Pdif	17 27 16.9	-0.4	
	baz=354							
OK031	S. Brethren Rd	104.79	15	IAMs_20	IAMs_20	18 14 40.5		
	comp=Z,3µm,22.0s							
OK030	Cody Creek RV	104.83	15	IAMs_20	IAMs_20	18 18 08.5		
	comp=Z,3µm,20.0s							
OK025	Westminster Rd	105.04	16	IAMs_20	IAMs_20	18 18 03.6		
	comp=Z,3µm,18.0s							
TUL1	Leonard	105.05	15	Pdiff	Pdif	17 27 21.2	-0.1	
	baz=346							
U40A	Yellville	105.15	12	IAMs_20	IAMs_20	18 16 00.4		
	comp=Z,3µm,21.0s							
U40A	Yellville	105.15	12	Pdiff	Pdif	17 27 21.1	-0.7	
	baz=348							
EPT	El Paso	106.11	25	IAMs_20	IAMs_20	18 20 22.2		
	comp=Z,2µm,18.0s							
MNTX	Cornudas Mount	106.54	24	IAMs_20	IAMs_20	18 18 53.3		
	comp=Z,2µm,19.0s							
MNTX	Cornudas Mount	106.54	24	PKiKP	PKiKP	17 31 39.2	+0.4	
	baz=338							
PLAL	Pickwick Lake	107.18	8	IAMs_20	IAMs_20	18 20 10.5		
	comp=Z,3µm,18.0s							
KMSC	Kings Mountain	107.53	3	PKiKP	PKiKP	17 31 40.3	-0.3	
	baz=358							
BBSR	BB Station	109.18	348	IAMs_20	IAMs_20	18 17 16.8		
	comp=Z,2µm,21.0s							
TXAR	Lajitas Array	109.28	23	Pdiff	Pdif	17 27 41.8	+1.4	
	comp=Z,0.8nm,1.0s,baz=188,slow=0.9,SNR=4.5							
TXAR				PKiKP	PKiKP	17 31 42.1	-2.0	
	comp=Z,7.4nm,0.9s,baz=338,slow=1.8,SNR=15							
TXAR				PP	PP	17 32 13.8	+1.9	
	comp=Z,5.4nm,1.0s,baz=311,slow=5.8,SNR=5.5							
TXAR				PKKPbc	PKKPbc	17 42 50.7	+1.5	
	comp=Z,4.5nm,1.1s,baz=147,slow=7.1,SNR=10.0							
TXAR	Lajitas Array	109.28	23	PKiKP	PKiKP	17 31 40.7	-3.5	
TXAR					PKKPbc	17 42 48.6	-0.6	
JCT	Junction City	109.32	20	IAMs_20	IAMs_20	18 19 41.1		
	comp=Z,3µm,20.0s							
JCT	Junction City	109.32	20	PKiKP	PKiKP	17 31 44.3	+0.2	
	baz=342		

SNAA	Sanae	129.77 203	P	PKPdf	17 32 21.4	-0.4
SNAA	Sanae	129.77 203⇑	iPKIKP	PKPdf	17 32 21.6	-0.2
SNAA	Sanae	129.77 203	PKPdf	PKPdf	17 32 20.7	-1.1
RCBR	Riachuelo	130.09 299	eP	PKPdf	17 32 24.0	-0.1
RCBR	Riachuelo	130.09 299	IAMs_20	IAMs_20	18 30 45.8	
	comp=Z,2μm,21.0s					
ACON	Acoyapa	130.24 9		PKPdf	17 32 24.0	-0.4
NBCL	Cascavel-CE	130.56 302	eP	PKPdf	17 32 24.2	-0.8
PCRV	Puerto La Cruz	130.72 342	PKP	PKPdf	17 32 23.9	-1.5
	comp=Z,26nm,1.1s					
PLCV	Puerto La Cruz	130.72 342		PKPdf	17 32 23.9	-1.5
BIRV	Birongo	130.81 344	PKPdf	PKPdf	17 32 24.9	-0.6
NBPA	Parau_RN	130.87 300	eP	PKPdf	17 32 25.5	-0.1
NBMO	Morrinhos-CE	131.04 305	eP	PKiKP	17 32 26.6	-0.2
VNA2	Neumayer--Watz	131.26 204	P	PKPdf	17 32 24.9	+0.3
	baz=74,slow=2.1					
SMRC	Santa Marta, M	131.29 355	eP	PKiKP	17 32 27.5	+0.1
CRJC	Cerrejon, Guaj	131.32 353	eP	PKPdf	17 32 23.6	-2.9
COVE	Coope Vega, Sa	131.56 8		PKPdf	17 32 26.1	-0.8
VNA1	Neumayer--Stat	131.57 205	P	PKPdf	17 32 25.0	-0.1
JTS	Las Juntas de	131.92 9	IAMs_20	IAMs_20	18 33 45.3	
	comp=Z,2μm,19.0s					
VNA3	Neumayer Olymp	131.97 204	P	PKPdf	17 32 25.6	-0.3
HDC	Heredia	132.30 8	IAMs_20	IAMs_20	18 32 38.4	
	comp=Z,3μm,22.0s					
NBPB	Pedra_Branca-C	132.40 302	eP	PKPdf	17 32 28.7	+0.2
RIMA	Rio Macho	132.56 7		PKPdf	17 32 26.8	-2.2
SJCC	San Jacinto, C	132.61 356	eP	PKPdf	17 32 27.5	-1.5
LL6C	La Loma 6 Bece	132.63 353	eP	PKPdf	17 32 28.7	-0.2
BAUV	El Baul	132.66 346		PKPpre	17 32 18.8	
NBPS	Pedro II - PI	132.77 305	eP	PKPdf	17 32 28.5	-0.8
NBAN	Anadia - AL	133.02 295	eP	PKPdf	17 32 27.5	-2.1
SDV	Santo Domingo	133.15 350	PKP	PKPdf	17 32 28.7	-1.5
	comp=Z,51nm,1.1s					
SDV	Santo Domingo	133.15 350	eP	PKPdf	17 32 28.4	-1.7
SDV	Santo Domingo	133.15 350		PKPpre	17 32 17.2	
SDV	Santo Domingo	133.15 350	IAMs_20	IAMs_20	18 31 28.7	
	comp=Z,2μm,21.0s					
NBMA	Muriti-CE	133.16 300	eP	PKPdf	17 32 30.0	0.0
BCIP	Isla Barro Col	133.41 2	IAMs_20	IAMs_20	18 36 09.4	
	comp=Z,2μm,20.0s					
SMLC	San Martn de	133.62 354	eP	PKPdf	17 32 28.4	-2.4
MOTC	Monteria, Cord	133.75 356	eP	PKPdf	17 32 29.9	-1.2
SOCV	Socops	133.77 350	eP	PKPdf	17 32 28.4	-2.7
OCAC	Ocana	134.11 353	eP	PKPdf	17 32 31.5	-0.4
UREC	San Jos de Ur	134.76 356	eP	PKPdf	17 32 30.3	-2.6
PAMC	Pamplona, Colo	134.94 352	eP	PKPdf	17 32 31.5	-2.4
ZARC	Zaragoza, Cauc	134.98 355	eP	PKPdf	17 32 32.2	-1.1
NBLA	Lagarto - SE	135.01 295	eP	PKPdf	17 32 32.4	-0.9
PTAC	Punta Ardita,	135.44 359	eP	PKPdf	17 32 31.3	-2.9
DBBC	Dabeiba	135.52 357	eP	PKPdf	17 32 34.8	+0.3
MCPB	Macapa, AP	135.67 321	eP	PKPdf	17 32 34.3	-0.3
TAMC	Tame, Arauca	135.72 351	eP	PKPdf	17 32 33.2	-1.6
BARC	Barichara	135.73 353	eP	PKPdf	17 32 34.6	-0.5
PTBC	PUERTO BERRIO	135.89 354	eP	PKPdf	17 32 34.3	-0.8
HELC	Santa Helena	136.31 356	eP	PKPdf	17 32 35.6	-0.7
SOLC	Bahia Solano	136.35 359	eP	PKiKP	17 32 37.0	-0.6
RUSC	La Rusia	136.41 352⇑	eP	PKPdf	17 32 36.0	-0.6
NBPN	Ponto Novo - B	136.62 298	eP	PKPdf	17 32 35.8	-0.6
CBOC	Ciudad Bolivar	136.66 357	eP	PKPdf	17 32 36.3	-0.4
SPBC	San Pablo de B	136.74 354	eP	PKPdf	17 32 34.1	-2.6
BOAV	Boa Vista	136.86 333	eP	PKPdf	17 32 36.6	-0.2
BOAV	Boa Vista	136.86 333	PKPdf	PKPdf	17 32 32.9	-4.0
NORC	Norcasia	136.89 355⇑	eP	PKPdf	17 32 36.4	-0.6
GUY2C	Guyana, Caldas	137.26 356	eP	PKPdf	17 32 37.3	-0.9
ROSC	El Rosal	137.56 354	PKP	PKPdf	17 32 38.6	-0.1
	comp=Z,52nm,0.8s,baz=328,slow=4.0,SNR=18					
ROSC	El Rosal	137.56 354	eP	PKPdf	17 32 37.8	-0.9
ROSC	El Rosal	137.56 354		PKPpre	17 32 26.6	
PLMC	San Jos del P	137.62 357	eP	PKPdf	17 32 36.5	-1.9
CHIC	Chingaza	137.72 353	eP	PKPdf	17 32 35.1	-3.9
PTGC	Puerto Gaitan,	137.97 351	eP	PKPdf	17 32 37.6	-1.4
ANIL	Santa Ana	137.99 356	eP	PKPdf	17 32 37.3	-2.0
MALB	Monte Alegre	138.05 322	eP	PKPdf	17 32 38.4	-0.7
GDU01	Guandu, BA	138.13 294	eP	PKPdf	17 32 38.4	-0.7
VILC	Villavicencio,	138.23 353	eP	PKPdf	17 32 35.1	-4.5
YOTC	Yotoco, Valle	138.54 357	eP	PKPdf	17 32 38.9	-1.2
PRAC	Prado	138.72 355	eP	PKPdf	17 32 38.9	-1.4
CMC01	Camacan, BA	139.16 292	eP	PKPdf	17 32 41.3	+0.3
PTGA	Pitinga	139.54 331	PKhKP	PKPpre	17 32 33.2	
	comp=Z,4.0nm,0.7s,baz=357,slow=8.0,SNR=6.5					
MARP	Paez Belalcaza	139.65 356	eP	PKPdf	17 32 41.3	-1.1
POPC	Popayan, Colom	139.99 357	eP	PKPdf	17 32 40.6	-2.3
GUA01	Guaratinga, BA	140.15 291	eP	PKPdf	17 32 42.9	+0.1
PCON	Cinco Dias	140.19 357	eP	PKPdf	17 32 43.4	-0.3
MACC	Macarena, Meta	140.19 353	eP	PKPdf	17 32 41.4	-1.6
GARC	Garzon, Huila	140.28 356	eP	PKPdf	17 32 29.1	-14
SOTA	Rioblanco	140.39 357	eP	PKPdf	17 32 42.7	-1.2
FLOC	Florencia	140.89 356	eP	PKPdf	17 32 41.4	-2.9
GCUF	Volcan Galeras	141.31 358	eP	PKPdf	17 32 45.8	+0.1
TULM	Tulcn-Chalpat	141.82 359	eP	PKPdf	17 32 44.6	-1.9
MACA	Manacapuru-AM	142.04 330		PKPpre	17 32 39.0	
PTLC	Puerto Leguiza	142.23 354	eP	PKPdf	17 32 40.6	-6.1
CUSE	Cuicocha Este	142.24 0	eP	PKPdf	17 32 44.6	-2.6
PAC1	Pacto, Paraso	142.27 1	eP	PKPdf	17 32 44.0	-2.9
OTAV	Otavalo	142.30 0	PKIKP	PKPdf	17 32 43.5	-3.8
OTAV			MLR	MLR		
	comp=Z,1μm,20.0s					
OTAV	Otavalo	142.30 0	eP	PKPdf	17 32 46.2	-1.1
OTAV	Otavalo	142.30 0		PKPdf	17 32 43.5	-3.8
DIAM	Diamantina, MG	144.08 293	eP	PKPbc	17 32 47.6	-0.2
CAM01	Campos-RJ	144.70 286	eP	PKPab	17 32 49.2	-0.1
SNDB	Serra Nova Dou	144.79 309	eP	PKPab	17 32 48.9	-1.0
BDFB	Brasilia	145.38 301	PKPbc	PKPbc	17 32 51.4	-0.6
	comp=Z,70nm,0.7s,baz=64,slow=1.5,SNR=56					
BDFB	Brasilia	145.38 301	PKIKP	PKPbc	17 32 51.2	-0.8
BDFB	Brasilia	145.38 301		PKPbc	17 32 51.2	-0.8
DUB01	Friburgo-RJ	145.39 286	eP	PKPbc	17 32 51.2	-0.6
TBTG	Tabatinga, AM	145.81 345	eP	PKPdf	17 32 51.3	-1.6
CLDB	Colider	146.51 317	eP	PKPdf	17 32 54.1	+0.1
BSCB	Bom Sucesso	146.57 290	eP	PKPdf	17 32 54.3	+0.3
MAN01	Angra dos Reis	147.04 287	eP	PKPdf	17 32 54.9	+0.2
HOPE	Hope Point	147.06 226	PKP2	PKPdf	17 32 54.2	+0.6
HOPE	Hope Point	147.06 226		PKPdf	17 32 54.2	+0.6
IPMB	Ipameri, GO	147.13 298	eP	PKPdf	17 32 54.3	-0.7
PDRB	Porto dos Gac	147.63 318	eP	PKPdf	17 32 55.7	-0.1
PARB	Paraibuna	148.57 288	eP	PKPdf	17 32 57.0	-0.2
SMAI	San Martin Ant	148.82 188		PKPbc	17 32 58.6	-1.4
BB19B	Bebedouro	149.37 294	eP	PKPdf	17 32 59.1	+0.5
VAO	Valinhos	149.39 289	eP	PKPdf	17 32 58.6	+0.1
RCLB	Rio Claro- Sao	149.47 291	eP	PKPdf	17 32 59.2	+0.5
ATAH	Atahualpa	149.63 0	PKP	PKPdf	17 32 59.0	-0.7
	comp=Z,126nm,1.0s,baz=342,slow=4.8,SNR=30					
ATAH			PKPbc	PKiKP	17 33 05.4	+0.1
	comp=Z,236nm,1.0s,baz=347,slow=3.3,SNR=41					
CZSB	Cruzeiro do Su	149.78 349	eP	PKPdf	17 32 59.1	-0.3
CZSB	Cruzeiro do Su	149.78 349	PKPdf	PKPdf	17 32 57.7	-1.7
ITRB	Iturama	149.79 298	eP	PKPdf	17 32 59.6	+0.4
ETMB	Extrema	150.21 335	eP	PKPdf	17 32 58.8	-1.2
ETMB	Extrema	150.21 335	PKPdf	PKPdf	17 32 58.8	-1.2
PET01	Itanhaem-SP	150.35 288	eP	PKPdf	17 33 00.1	+0.1
SALV	Santo Antonio	150.50 311	eP	PKPdf	17 33 00.4	0.0
VILB	Vilhena	150.54 322	eP	PKPdf	17 33 01.1	+0.5
ESPZ	Base Esperanza	151.15 200		PKPdf	17 32 58.4	-1.5
PP1B	Ponte de Pedra	151.30 308	eP	PKPdf	17 33 02.3	+0.6
PMSA	Palmer Station	151.54 193	PKPbc	PKPbc	17 33 06.2	-0.4
	comp=Z,83nm,1.1s,baz=148,slow=5.6,SNR=3.5					
PCMB	Pacaembu	151.67 297	eP	PKPdf	17 33 01.4	-0.7
PTLB	Pontes e Lacer	152.10 317	eP	PKPdf	17 33 02.4	-0.4
PTLB	Pontes e Lacer	152.10 317	PKPdf	PKPdf	17 33 01.9	-1.0
SIV	San Ignacio	153.57 320	PKP	PKPdf	17 33 04.9	-0.1
	comp=Z,18nm,1.1s,baz=67,slow=1.1,SNR=37					
SIV			PKPbc	PKPbc	17 33 12.1	-0.7
	comp=Z,40nm,1.1s,baz=58,slow=2.4,SNR=17					
SIV			PKPab	PKPab	17 33 25.5	+0.4
	comp=Z,57nm,1.1s,baz=44,slow=5.6,SNR=12					
AQDB	Aquidauana	153.93 305	eP	PKPdf	17 33 04.1	-1.3
AQDB	Aquidauana	153.93 305	PKPdf	PKPdf	17 33 03.7	-1.7
TER01	Tubaro-SC	153.96 282	eP	PKPdf	17 33 05.3	+0.1
PTGB	Pitanga	154.17 292	eP	PKPdf	17 33 05.7	0.0
NNA	Nana	154.41 357	PKP	PKPdf	17 33 06.0	-0.3
	comp=Z,25nm,0.9s,baz=352,slow=1.8,SNR=7.0					
ITAB	Concordia	155.62 288	eP	PKPdf	17 33 06.2	-1.4
ITAB	Concordia	155.62 288		PKPdf	17 33 06.3	-1.2
LPAZ	La Paz	156.88 334	PKP	PKPdf	17 33 09.9	-0.4
	comp=Z,16nm,1.0s,baz=28,slow=4.4,SNR=40					
LPAZ			PKPab	PKPab	17 33 39.2	-0.8
	comp=Z,11nm,1.0s,baz=43,slow=10,SNR=4.4					
LPAZ	La Paz	156.88 334	eP	PKPdf	17 33 06.9	-3.4
LPAZ	La Paz	156.88 334	eP	PKPdf	17 33 09.6	-0.6
LPAZ	La Paz	156.88 334	PKPdf	PKPdf	17 33 09.3	-1.0
CPSB	Cacapava Do Su	158.16 282	eP	PKPdf	17 33 09.8	-0.9
PLTB	Pedras Altas	158.84 279	eP	PKPdf	17 33 10.9	-0.6
PLTB	Pedras Altas	158.84 279	PKPdf	PKPdf	17 33 10.8	-0.7
CPUP	Villa Florida	158.94 296	PKP	PKPdf	17 33 11.1	-0.7
	comp=Z,11nm,0.9s,baz=13,slow=3.8,SNR=9.0					
CPUP			PKPab	PKPab	17 33 47.8	-0.2
	comp=Z,28nm,0.9s,baz=60,slow=5.0,SNR=14					
CPUP	Villa Florida	158.94 296	PKIKP	PKPdf	17 33 10.4	-1.4
CPUP					17 33 47.3	
CPUP	Villa Florida	158.94 296	eP	PKPdf	17 33 11.4	-0.4
CPUP	Villa Florida	158.94 296	PKPdf	PKPdf	17 33 10.4	-1.4
CPUP				PKPab	17 33 47.3	-0.7
PB16	IPOC Station P	159.25 336	IAMs_20	IAMs_20	18 48 00.4	
	comp=Z,1μm,21.0s					
EFI	East Falkland	159.96 219	IAMs_20	IAMs_20	18 57 17.5	
	comp=Z,2μm,21.0s					
ITQB	Itaqui	160.26 287	eP	PKPdf	17 33 12.7	-0.5
ITQB	Itaqui	160.26 287	PKPdf	PKPdf	17 33 12.6	-0.6
ITQB			PKPab	PKPab	17 33 54.0	+0.3
PB11	IPOC Station P	160.63 335		PKPdf	17 33 13.2	-0.9
TA01	Diego Aracena	161.56 335	PKPdf	PKPdf	17 33 14.3	-0.5
TA01			PKPab	PKPab	17 33 56.5	-2.9
PB01	IPOC Station P	161.75 333		PKPdf	17 33 14.4	-0.7
PB01				PKPab	17 33 56.9	-3.4
PB07	IPOC Station P	162.52 333		PKPdf	17 33 15.2	-0.9
LVC	Limon Verde	162.94 329	PKP	PKPdf	17 33 16.1	-0.5
	comp=Z,9.3nm,0.8s,baz=27,slow=1.9,SNR=20					
LVC			PKPab	PKPab	17 34 06.1	+0.3
	comp=Z,75nm,1.0s,baz=21,slow=4.0,SNR=24					
LVC	Limon Verde	162.94 329	eP	PKPdf	17 33 14.8	-1.8
LVC	Limon Verde	162.94 329	PKPdf	PKPdf	17 33 16.6	-0.1
LVC			PKPab	PKPab	17 34 05.3	-0.6
PB04	IPOC Station P	163.18 333	PKPdf	PKPdf	17 33 16.9	+0.3
PB04				PKPab	17 34 05.7	-0.9
GO10	Punta Arenas	163.68 196	PKPab	PKPab	17 34 08.6	+0.7
GO09	Cerro Castillo	165.72 196		PKPab	17 34 17.2	+0.4
AC02	Maricunga	166.70 321		PKPdf	17 33 19.0	-1.0
AC04	Llanos de Chal	168.77 325		PKPdf	17 33 19.2	-1.5
ZON	Zonda	169.97 304	PKPdf	PKPdf	17 33 19.8	-1.6
ZON				pPKPdf	17 33 20.1	-6.1
ZON				PKPab	17 34 35.3	-1.1
GO04	Tololo Observa	170.25 318	PKPdf	PKPdf	17 33 20.9	-1.0
GO04				PKPab	17 34 37.1	-0.8
CO03	El Pedregal	170.71 315		PKPdf	17 33 21.3	-0.6
CO03				PKPab	17 34 39.1	-0.6
COYC	Coyhaique	170.79 209		PKPdf	17 33 20.6	-0.8
COYC				PKPab	17 34 37.8	-1.7
CO06	Fray Jorge	171.09 319		PKPdf	17 33 20.6	-1.4
VA03	San Esteban	171.96 305		PKPdf	17 33 22.5	0.0
PEL	Peldehue	172.29 303	PKIKP	PKPdf	17 33 22.2	-0.4
PEL	Peldehue	172.29 303		PKPdf	17 33 22.2	-0.4
LL02	Futaleuf	172.56 220		PKPdf	17 33 21.3	-1.0
MT02	Curacav	172.66 304		PKPdf	17 33 22.3	-0.4
MT09	Talagante	172.87 301		PKPdf	17 33 21.9	-1.0
MT01	Popeta	173.10 301		PKPdf	17 33 21.2	-1.6
PLCA	Paso Flores	173.19 241	PKP	PKPdf	17 33 22.7	0.0
	comp=Z,8.7nm,0.9s,baz=24,slow=3.5,SNR=16					
PLCA			PKPab	PKPab	17 34 50.5	-0.1
	comp=Z,5.4nm,1.0s,baz=84,slow=6.9,SNR=3.4					
PLCA	Paso Flores	173.19 241	PKIKP	PKPdf	17 33 22.2	-0.5
PLCA	Paso Flores	173.19 241	eP	PKPdf	17 33 22.2	-0.5
PLCA	Paso Flores	173.19 241		PKPdf	17 33 22.2	-0.5
VA05	Santo Domingo	173.22 304		PKPdf	17 33 21.1	-1.7
BO02	Sierra Bellavi	173.24 293	PKPdf	PKPdf	17 33 22.2	-0.7
BO02				PKPab	17 34 51.0	0.0
BO01	Tunca	173.27 297		PKPdf	17 33 22.1	-0.8
ML02	Panimavida	174.11 287		PKPdf	17 33 22.6	-0.6
LL04	Puerto Octay	174.35 233		PKPdf	17 33 21.3	-1.8
LL04			PKPab	PKPab	17 34 53.6	-1.9
LC01	Cunco	174.75 254		PKPdf	17 33 22.1	-1.2
LC01			PKPab	PKPab	17 34 56.7	-0.8

*IDC **20** 17:18:23.2±0.7, 37.°65N×101.°67E, h0km, mb4.4/17, mb1 4.6/18, mb1mx4.2/60, mbtmp4.5/18 Error ellipse: s-maj=21.1km s-min=15.3km az=54.0*
*NEIC **20** 17:18:25.2±1.1, 37.°6N±0.°1×101.°6E±0.°2, h10km±1km, mb5.0/49, Error ellipse: s-maj=26.2km s-min=18.5km az=219.0*
ISC 20 17:18:24.9±0.6, **37.°63N**±0.°08×**101.°64E**±0.°08, **h10**km, **n108**, σ0°**66**/115, **mb5.0**/34, **2C-2D**, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	10.78	17	Pn	Pn	17 20 59.8	+0.4
	baz=198,slow=14,SNR=0.7						
WMQ	Urumqi	12.24	305	eP	Pn	17 21 20.3	+0.9
ZAA0	Zalesovo Array	20.01	330	P	P	17 22 57.9	+0.3
ZAA0				IAmb	IAmb	17 23 20.1	
	comp=Z,93nm,1.4s						
ZALV	Zalesovo Beam	20.01	330	P	P	17 22 58.3	+0.8
	comp=Z,6.9nm,0.6s,baz=134,slow=12,SNR=2.4						
KS19	Wonju Array Si	20.77	82	P	P	17 23 06.7	+0.6
KSAR	Wonju Array Be	20.80	82	P	P	17 23 07.0	+0.7
KSRS	Korea Array	20.83	82	P	P	17 23 07.3	+0.7
	comp=Z,15nm,0.8s,baz=269,slow=9.1,SNR=14						
KURK	Kurchatov	20.95	316	P	P	17 23 08.3	+0.5
KURK				IAmb	IAmb	17 23 27.9	
	comp=Z,105nm,1.4s						
KURBB	Kurchatov Arra	20.95	316	P	P	17 23 08.4	+0.5
	comp=Z,9.8nm,0.5s,baz=119,slow=11,SNR=4.7						
CHLP	Challavanipeta	24.49	224	eP	P	17 23 43.7	-0.7
BVAR	Borovoye Array	26.55	315	P	P	17 24 03.6	+0.8
	comp=Z,8.1nm,1.0s,baz=104,slow=12,SNR=1.8						
RPR	Rampur	27.04	232	eP	P	17 24 06.4	-1.0
RPR				eS	S	17 28 46.8	+1.6
SRSP	Sriramsagar	27.59	234⇓	eP	P	17 24 12.0	-0.3
SRSP				eS	S	17 28 52.8	-1.1
MYLAV	Mylavaram	27.84	227	eP	P	17 24 14.0	-0.6
MYLAV				eS	S	17 28 58.3	+0.4
CUPL	Choutuppal	28.44	231	eP	P	17 24 19.0	-1.1
HYBB	Hyderabad (bro	28.58	231	eP	P	17 24 20.7	-0.6
HYBB				eS	S	17 29 09.7	+0.1
NJS	Nagarjunasagar	28.78	229	eP	P	17 24 22.3	-0.7
NJS				eS	S	17 29 13.6	+1.0
ADKI	Addanki	28.94	227	eP	P	17 24 24.3	-0.1
ADKI				eS	S	17 29 16.1	+0.9
SRLM	Srisailam	29.38	229	eP	P	17 24 28.9	+0.5
SRLM				eS	S	17 29 21.9	-0.2
RCLA	Racherla	29.84	228	eP	P	17 24 32.4	0.0
RCLA				⇑eS	S	17 29 29.7	+0.3
URV	Uravakonda	31.26	230	eP	P	17 24 45.5	+0.4
URV				eS	S	17 29 52.8	+1.1
ABKAR	Akbulak array	32.03	305	P	P	17 24 50.3	-1.2
ABKAR				IAmb	IAmb	17 25 12.5	
	comp=Z,27nm,1.4s						
ARU	Arti	34.13	317	P	P	17 25 09.6	-0.1
TIXI	Tiksi	36.84	14	P	P	17 25 31.9	-0.9
	comp=Z,4.0nm,0.6s,baz=276,slow=4.8,SNR=1.6						
TIXI	Tiksi	36.84	14	P	P	17 25 32.4	-0.4
WSAR	Wadi Sarin	39.41	261	P	P	17 25 56.5	+1.4
	comp=Z,7.4nm,0.9s,baz=98,slow=7.2,SNR=2.7						
FINES	FINESS Array B	51.07	323	P	P	17 27 26.4	-0.7
	comp=Z,5.2nm,0.7s,baz=89,slow=9.9,SNR=3.6						
FINES	FINESS Array B	51.07	323	P	P	17 27 27.1	0.0
AKASG	Malin Array Be	51.55	309	P	P	17 27 30.6	-0.3
	comp=Z,1.3nm,0.4s,baz=63,slow=8.7,SNR=8.2						
AKASG	Malin Array Be	51.55	309	P	P	17 27 30.8	-0.1
AKASG				IAmb	IAmb	17 27 52.0	
	comp=Z,25nm,1.2s						
AKBB	Malin Array Si	51.55	309	P	P	17 27 30.8	-0.1
BUR08	Bucovina Ar. S	54.98	307	P	P	17 27 56.4	+0.1
BUR08				IAmb	IAmb	17 28 23.8	
	comp=Z,14nm,1.1s						
NC405	NORSAR Array S	57.85	325	P	P	17 28 15.2	-1.2
ANM	Nome	57.96	31	P	P	17 28 17.4	+0.3
NB201	NORSAR Array S	58.07	325	P	P	17 28 17.6	-0.3
NOA	NORSAR Array B	58.11	325	P	P	17 28 17.4	-0.9
	comp=Z,1.6nm,0.6s,baz=77,slow=7.8,SNR=5.2						
NC204	NORSAR Array S	58.23	325	P	P	17 28 19.1	0.0
A21K	Barrow	58.43	22	P	P	17 28 20.5	+0.3
	baz=294						
KNRA	Kununurra	58.85	149	P	P	17 28 24.0	+0.2
KNRA				IAmb	IAmb	17 28 52.6	
	comp=Z,20nm,1.4s						
FITZ	Fitzroy Crossi	59.86	153	P	P	17 28 30.8	-0.1
	comp=Z,4.3nm,1.0s,baz=341,slow=11						
IMAR	Indian Mountai	61.78	27	P	P	17 28 43.4	0.0
H21K	Melozitna Rive	62.28	27	P	P	17 28 47.2	+0.4
H21K	Melozitna Rive	62.28	27	P	P	17 28 47.1	+0.3
	baz=300						
COLD	Coldfoot	62.37	25	P	P	17 28 47.5	+0.1
COLD				IAmb	IAmb	17 28 48.6	
	comp=Z,11nm,0.8s						
COLD	Coldfoot	62.37	25	P	P	17 28 47.8	+0.5
	baz=302						
TTA	Tatalina	62.42	30	P	P	17 28 47.7	-0.1
EUNU	Eureka	62.48	2	P	P	17 28 48.7	+0.7
J20K	Nowinta River	62.53	29	P	P	17 28 48.5	+0.1
J20K				IAmb	IAmb	17 28 49.6	
	comp=Z,6.3nm,0.7s						
J20K	Nowinta River	62.53	29	P	P	17 28 49.2	+0.7
	baz=300						
K20K	Telida	62.98	29	P	P	17 28 52.1	+0.7
K20K	Telida	62.98	29	P	P	17 28 52.3	+0.8
	baz=300						
L19K	White Mountain	63.26	31	P	P	17 28 53.5	+0.1
L19K				IAmb	IAmb	17 29 07.2	
	comp=Z,16nm,1.5s						
CHUM	Lake Minchumin	63.38	28	P	P	17 28 55.1	+1.0
	baz=302						
M19K	Big River Lodg	63.59	31	P	P	17 28 55.5	0.0
M19K				IAmb	IAmb	17 28 56.6	
	comp=Z,19nm,1.5s						
CAST	Castle Rocks	63.71	29	P	P	17 28 57.1	+0.8
	baz=302						
I23K	Minto, Yukon-K	63.78	26	P	P	17 28 57.5	+0.8
	baz=303						
H24K	Noodor Dome	63.91	25	P	P	17 28 58.2	+0.6
H24K				IAmb	IAmb	17 29 04.2	
	comp=Z,17nm,1.5s						
H24K	Noodor Dome	63.91	25	P	P	17 28 58.2	+0.6
	baz=304						
PPLA	Purkeypile	63.95	29	P	P	17 28 58.2	+0.2
PPLA				IAmb	IAmb	17 28 59.2	
	comp=Z,14nm,0.9s						
BMAR	Burnt Mountain	64.07	23	P	P	17 28 59.8	+1.2
KTH	Kantishna Hill	64.08	28	P	P	17 28 59.0	+0.2
KTH				IAmb	IAmb	17 29 09.0	
	comp=Z,15nm,1.2s						
NEA2	Nenana	64.19	27	P	P	17 29 00.3	+0.8
	baz=304						
MDM	Murphy Dome	64.28	26	P	P	17 29 00.3	+0.2
MDM				IAmb	IAmb	17 29 01.4	
	comp=Z,9.7nm,0.7s						
COLA	College	64.47	26	P	P	17 29 01.9	+0.7
	baz=305						
WRH	Wood River Hil	64.61	27	P	P	17 29 02.6	+0.4
WRH				IAmb	IAmb	17 29 13.9	
	comp=Z,16nm,1.4s						
CCB	Clear Creek Bu	64.61	27	P	P	17 29 01.9	-0.2
CCB				IAmb	IAmb	17 29 02.8	
	comp=Z,19nm,1.4s						
MCK	McKinley	64.72	28	P	P	17 29 03.7	+0.8
MCK				IAmb	IAmb	17 29 21.2	
	comp=Z,18nm,1.4s						
IL31		64.86	26	P	P	17 29 03.1	-0.6
IL31				IAmb	IAmb	17 29 04.0	
	comp=Z,7.3nm,0.8s						
ILAR	Eielson Array	64.86	26	P	P	17 29 03.2	-0.6
	comp=Z,5.8nm,0.7s,baz=281,slow=5.8,SNR=11						
ILAR	Eielson Array	64.86	26	P	P	17 29 03.1	-0.7
WB0	Warramunga Arr	64.89	146	P	P	17 29 04.1	-0.4
CUT	Chulitna	64.96	29	P	P	17 29 04.0	-0.5
WRA	Warramunga Arr	65.02	146	P	P	17 29 05.0	-0.4
	comp=Z,1.5nm,0.7s,baz=336,slow=7.3,SNR=7.1						
WB

CGJI	Cibinong	3.06	310	P	Pn	17 26 30.8 +0.2
PCJI	Pacitan	3.10	83	P	Pn	17 26 32.2 +1.0
SBJI	Serang	3.11	322	P	Pn	17 26 33.0 +1.8
UWJI	Ujung Watu	3.57	53	P	Pn	17 26 39.4 +1.8
KASI	Kota Agung	4.67	310	P	Pn	17 26 54.2 +1.6
KLSI	0.1nm18nm,1.5s	5.09	319	P	Pn	17 26 59.5 +1.1
GMJI	Gumukmas 0.2nm40nm,1.1s	5.33	87	P	Pn	17 27 02.7 +1.0
MDSI	Maura Dua 0.1nm5µm18nm,1.0s	5.61	316	P	Pn	17 27 07.1 +1.6
TPI	Tanjungpandan 14nm,1.4s	5.80	356	P	Pn	17 27 09.3 +1.2
JAGI	Jajag, Banyuwa 0.4nm45nm,0.9s	6.02	89	P	Pn	17 27 13.8 +2.6
JAGI	Jajag, Banyuwa	6.02	89		Pn	17 27 11.3 +0.2
JAGI				Sn	Sn	17 28 14.2 -4.6
MNAI	Manna	6.58	309	Pn	Pn	17 27 20.1 +1.2
IGBI	Denpasar 0.4nm49nm,1.0s	7.00	92	P	Pn	17 27 26.3 +1.7
SRBI	Singaraja 0.3nm1µm50nm,0.7s	7.09	87	P	Pn	17 27 27.4 +1.6
GSI	Gunungsitoli	14.34	313	Pn	Pn	17 29 00.1 -4.6
GIRL	Giralia	15.19	158	Pn	Pn	17 29 15.1 -0.4
TOLI2	Tolitoli	15.91	53	P	P	17 29 27.6 +0.2
KKM	Kota Kinabalu	16.64	29	P	Pn	17 29 34.9 +0.8
KKM				IAmb	IAmb	17 29 42.0
	comp=Z,23nm,1.2s					
MYLDM	Lahad Datu	17.18	38		Pn	17 29 39.0 -1.6
MYLDM				IAmb	IAmb	17 29 46.1
	comp=Z,54nm,1.3s					
PSA00	Pilbara Seismi	17.20	140	Pn	P	17 29 42.1 +0.5
PSA00	Pilbara Seismi	17.20	140	Pn	P	17 29 41.9 +0.3
PSA00				IAmb	IAmb	17 29 45.0
	comp=Z,12nm,1.4s					
FITZ	Fitzroy Crossi	19.53	121	P	Pn	17 30 13.7 +4.7
	baz=302,slow=12					
FITZ				S	S	17 33 35.4 -9.2
	comp=Z,0.1nm,0.3s,baz=335,slow=22,SNR=1.5					
TNTI	Ternate	21.36	65	P	P	17 30 26.9 -0.1
TNTI				IAmb	IAmb	17 30 30.5
	comp=Z,18nm,0.7s					
KNRA	Kununurra	21.42	111	P	P	17 30 30.2 +2.5
KNRA				IAmb	IAmb	17 30 57.1
	comp=Z,20nm,1.2s					
WB0	Warramunga Arr	27.80	116	P	P	17 31 30.0 +1.8
WB0				IAmb	IAmb	17 32 05.9
	comp=Z,10nm,1.1s					
WRA	Warramunga Arr	27.81	117	P	P	17 31 32.8 +4.5
	comp=Z,0.8nm,0.8s,baz=290,slow=11,SNR=2.8					
WRA	Warramunga Arr	27.81	117	P	P	17 31 29.6 +1.4
WRAB	Tennant Creek	27.82	117	P	P	17 31 29.5 +1.2
WRAB				IAmb	IAmb	17 31 42.1
	comp=Z,28nm,1.8s					
WB2	Warramunga Arr	27.82	117	P	P	17 31 31.1 +2.8
WB2				IAmb	IAmb	17 32 08.8
	comp=Z,23nm,1.6s					
WR0	Warramunga Arr	27.99	117	P	P	17 31 31.8 +1.9
WR0				IAmb	IAmb	17 32 04.4
	comp=Z,12nm,1.4s					
CMAR	Chiang Mai Arr	28.33	342	P	P	17 31 30.4 -2.4
	comp=Z,0.9nm,0.9s,baz=262,slow=1.5,SNR=5.1					
ASAR	Alice Springs	28.92	124	P	P	17 31 42.0 +3.8
	comp=Z,0.4nm,0.8s,baz=302,slow=8.1,SNR=1.4					
COEN	Coen	34.82	102	P	P	17 32 32.0 +2.0
COEN				IAmb	IAmb	17 33 01.9
	comp=Z,15nm,1.2s					
H08S2	Diego Garcia H	35.22	269	T	T	18 10 00.6
	baz=93,slow=76,SNR=6.2					
H08S3	Diego Garcia H	35.23	269	T	T	18 09 55.7
	baz=93,slow=76,SNR=6.3					
H08S1	Diego Carcia H	35.24	269	T	T	18 09 57.7
	baz=93,slow=76,SNR=5.0					
BBOO	Buckleboo	35.38	137	P	P	17 32 36.6 +2.0
BBOO				IAmb	IAmb	17 33 25.6
	comp=Z,22nm,1.4s					
STKA	Stephens Creek	38.81	131	P	P	17 33 07.4 +3.8
	comp=Z,2.2nm,0.5s,baz=317,slow=7.4,SNR=8.8					
STKA	Stephens Creek	38.81	131	P	P	17 33 05.4 +1.8
SONM	Songino Array	56.19	359	P	P	17 35 17.6 -0.7
	comp=Z,0.6nm,0.4s,baz=177,slow=8.3,SNR=5.9					
SONM				PcP	PcP	17 36 16.1 +0.7
	comp=Z,0.6nm,0.5s,baz=174,slow=3.9,SNR=7.5					
SONM	Songino Array	56.19	359	IAmb	IAmb	17 35 40.9
	comp=Z,15nm,1.9s					
CHGR	Chuyangaron	59.31	325	P	P	17 35 39.0 -1.4
MKAR	Makanchi Array	59.72	340	P	P	17 35 41.7 -1.2
	comp=Z,0.7nm,0.3s,baz=156,slow=8.0,SNR=28					
MAKZ	Makanchi	59.84	340	P	P	17 35 42.0 -1.8
KURK	Kurchatov	64.34	340	P	P	17 36 12.3 -1.5
ZALV	Zalesovo Beam	65.32	345	P	P	17 36 18.8 -1.2
	comp=Z,0.4nm,0.3s,baz=154,slow=5.0,SNR=3.6					
BVAR	Borovoye Array	69.22	337	P	P	17 36 44.6 -0.2
	comp=Z,1.6nm,0.5s,baz=120,slow=10,SNR=8.0					
ABKAR	Akbulak array	71.30	329	P	P	17 36 57.7 +0.1
ABKAR	Akbulak array	71.30	329	P	P	17 36 57.3 -0.3
ARCES	ARCESS Array B	95.38	339	P	P	17 39 01.1 -0.8
	comp=Z,6.2nm,1.1s,baz=52,slow=2.2,SNR=3.6					

*NNC **20** 17:28:27.6±6.4, 40°.29N×74°.37E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=51.3km s-min=27.9km az=147.0
*KRNET **20** 17:28:28.4±0.1, 40°.33N×74°.08E, h14km, mb3.5*
ISC 20 17:28:25.0±1.5, 40°.23N±0°.05×74°.22E±0°.05, h3km±13km, n19, σ0s96/33, 27C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.59	249	⇑eP			Pn	17 28 38.8	-1.8
SFK	baz=35			⇑eS			Sb	17 28 46.9	-0.1
OHH	Osh	1.13	285	⇑iP			Pn	17 28 47.5	-0.4
OHH	baz=82			⇑iS			Sg	17 29 01.9	+0.5
ARLS	Aral	1.63	3	⇑eP			Pg	17 28 57.5	+1.2
ARLS	baz=7.0			⇑iS			Sb	17 29 18.3	+1.4
DRK	Karamyk	2.01	249	⇑iP			Pg	17 29 04.5	+1.0
DRK	baz=45			⇑iS			Sg	17 29 30.8	+1.3
UCH	Uchtor	2.01	6	⇑iP			Pg	17 29 04.2	+0.7
UCH	baz=10.0			⇑iS			Sg	17 29 30.1	+0.5
ARK	Arkit	2.31	313	⇓iP			Pb	17 29 07.8	+0.3
ARK	baz=13			⇓iS			Sb	17 29 36.7	+0.1
AAK	Ala-Archa 14nm,0.8s	2.41	5	⇑Pg			Pg	17 29 10.8	-0.5
AAK	37nm,1.2s			⇑Lg			Lg	17 29 43.3	
AAK	Ala-Archa	2.41	5	⇓iP			Pb	17 29 10.0	+0.8
AAK	baz=8.0			⇓iS			Sb	17 29 40.3	+0.8
EKS2	Erkin-Say	2.45	352	⇑iP			Pb	17 29 10.2	+0.4
EKS2	baz=55			⇑iS			Sb	17 29 40.6	+0.1
ULHL	Ulahol	2.53	37	⇑iP			Pg	17 29 12.6	-0.9
ULHL	baz=40			⇑iS			Sg	17 29 44.8	-1.4
MNAS	Manas	2.60	331	⇑eP			Pb	17 29 11.9	-0.4
MNAS	baz=32			⇑iS			Sb	17 29 43.5	-1.2
BOOM	Boomskoye usch	2.60	29	⇓eP			Pb	17 29 13.4	+0.9
BOOM	baz=32			⇓iS			Sb	17 29 46.4	+1.5
BTK	Batken	2.61	267	⇑iP			Pb	17 29 12.6	+0.1
BTK	baz=65			⇑iS			Sb	17 29 44.9	-0.2
TRKS	Terek-Say	2.67	300	⇓iP			Pb	17 29 12.1	-1.5
TRKS	baz=98			⇓iS			Sn	17 29 43.8	+1.7
CHMS	Chumysh	2.79	8	⇑iP			Pb	17 29 15.4	-0.2
CHMS	baz=10.0			⇑iS			Sb	17 29 49.6	-0.7
TKM2	Tokmak 2 7.3nm,0.9s	2.88	21	⇓Pg			Pb	17 29 17.7	+0.5
TKM2	29nm,1.1s			⇑Lg			Lg	17 29 57.1	
TKM2	Tokmak 2	2.88	21	⇑eP			Pb	17 29 17.0	-0.2
TKM2	baz=23			⇑eS			Sb	17 29 52.3	-0.6
KK02	Karatay Array 4.2nm,0.9s,baz=137,slow=16	3.99	317	⇑Pg			Pg	17 29 40.5	-1.0
KK01	Karatay Array 3.6nm,0.6s,baz=129,slow=29	4.00	317	⇑Lg			Lg	17 30 33.6	

*JMA **20** 17:33:36.2±0.1, 24°.05N×122°.86E, h46km±4km, M2.8*
*TAP **20** 17:33:37.0, 24°.08N×122°.81E, h31km, ML3.5, D*
ISC 20 17:33:36.1±1.0, 24°.02N±0°.02×122°.87E±0°.02, h29km±11km, n119, σ1s15/228, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.44	9	P			Pb	17 33 46.1	+0.6
JYNG				S			Sn	17 33 53.0	-0.4
YOJ	Yonaguni jima	0.46	17	P			Pn	17 33 46.5	-0.2
YOJ				S			Sn	17 33 53.6	-0.4
YOJ	Yonaguni jima	0.46	17	P			Pn	17 33 46.6	-0.2
YOJ	baz=24			S			Sb	17 33 53.2	+0.7
IRIF	Iriomote-Funau	0.85	68	P			Pb	17 33 52.0	-0.3
IRIF				S			Sn	17 34 04.0	+0.4
HATJ	Hateruma jima	0.86	87	P			Pb	17 33 52.3	-0.1
HATJ				eS			Sn	17 34 04.1	+0.3
JKRS	Kuro-shima	1.07	78	P			Pn	17 33 55.3	+0.2
JKRS				S			Sn	17 34 10.0	+1.1
EWUT	Wuta	1.08	293	eP			Pn	17 33 55.4	+0.2
EWUT	baz=290			eS			Sb	17 34 09.6	-0.3
TWC	Suao	1.10	303	eP			Pn	17 33 55.9	+0.4
TWC	baz=300			eS			Sb	17 34 09.4	-1.0
ENA	Nanau	1.11	292	P			Pn	17 33 55.9	+0.3
ENA	baz=289			eS			Sb	17 34 09.6	-1.0
ETL	Fush Village	1.15	277	eP			Pn	17 33 56.6	+0.4
ETL	baz=258			eS			Sb	17 34 11.1	-0.8
HWA	Hwalien	1.16	268	eP			Pn	17 33 56.9	+0.6
HWA	baz=251			eS			Sb	17 34 11.7	-0.4
TWD	Chiawan	1.16	273	eP			Pn	17 33 56.8	+0.4
TWD	baz=269			eS			Sb	17 34 11.1	-1.2
NACB	Ninganchiao	1.17	278	P			Pn	17 33 56.5	-0.1
NACB	baz=259			eS			Sn	17 34 11.3	-0.2
JIJ	Ishigaki jima	1.22	73	P			Pn	17 33 56.7	-0.4
JIJ				S			Sn	17 34 12.0	-0.6
NDS	Dongshan	1.22	301	eP			Pn	17 33 58.1	+0.9
NDS	baz=298			eS			Sn	17 34 12.8	+0.1
NTC	Toucheng	1.26	312	eP			Pn	17 33 57.8	+0.1
NTC	baz=309			eS			Sn	17 34 13.5	-0.2
ILA	Ilan	1.26	306	eP			Pn	17 33 58.2	+0.4
ILA	baz=316			eS			Sn	17 34 13.3	-0.5
TWB1	Santiao Chiao	1.27	321	eP			Pn	17 33 58.1	+0.2
TWB1	baz=331			eS			Sn	17 34 13.4	-0.6
ETLH	Xiulin Townshi	1.28	279	P			Pn	17 33 58.1	0.0
ETLH	baz=262			S			Sn	17 34 14.0	-0.4
TWE	Neicheng	1.30	303	P			Pn	17 33 59.3	+1.0
TWE	baz=301			eS			Sn	17 34 14.0	-0.6
ENTT	Nioudou	1.34	298	P			Pn	17 33 59.7	+0.9
ENTT	baz=295			eS			Sn	17 34 16.2	+0.5
TIPB	Shuangxi	1.34	315	eP			Pn	17 33 59.3	+0.3
TIPB	baz=313			eS			Sn	17 34 15.5	-0.3
EGFH	Guangfu	1.36	256	eP			Pn	17 33 59.1	0.0
EGFH	baz=251			eS			Sn	17 34 15.8	-0.5
NDT	Datong Townshi	1.36	296	eP			Pn	17 33 59.6	+0.4
NDT	baz=279			eS			Sn	17 34 15.9	-0.4
NNSB	Datong	1.42	287	eP			Pn	17 34 00.5	+0.5
NNSB	baz=284			eS			Sn	17 34 17.6	-0.2
HGSD	Ruisui	1.42	249	eP			Pn	17 33 59.4	-0.6
HGSD	baz=244			eS			Sn	17 34 18.6	+0.9
NNS	Nan Shan	1.43	287	eP			Pn	17 34 00.6	+0.4
NNS	baz=284			eS			Sn	17 34 17.6	-0.4
JISG	Ishigakijimahi	1.43	66	P			Pn	17 33 59.6	-0.5
JISG				S			Sn	17 34 17.0	-1.0
NWF	Wu-fen Shan	1.44	317	eP			Pn	17 34 00.7	+0.3
NWF	baz=314			eS			Sn	17 34 17.8	-0.5
NWLT	Wulai	1.46	302	eP			Pn	17 34 00.8	+0.3
NWLT	baz=311			eS			Sn	17 34 18.4	-0.3
WHF	Hehuan Shan	1.47	275	eP			Pn	17 34 01.1	+0.1
WHF	baz=271			eS			Sn	17 34 19.0	-0.5
FUSS	Fushou	1.50	279	eP			Pn	17 34 01.3	0.0
FUSS	baz=262			eS			Sn	17 34 19.9	-0.1
EHY	Hungye	1.50	251	eP			Pn	17 34 00.9	-0.2
EHY	baz=246			eS			Sn	17 34 18.8	-0.9
YHNB	Yeheng	1.51	296	eP			Pn	17 34 01.6	+0.4
YHNB	baz=292			eS			Sn	17 34 19.6	-0.4
TWA	Mucha	1.51	310	eP			Pn	17 34 01.8	+0.6
TWA	baz=306			eS			Sn	17 34 19.3	-0.7
NSK	Sanguang	1.52	296	eP			Pn	17 34 02.0	+0.6
NSK	baz=292			eS			Sn	17 34 19.5	-0.9
CHGB	Renai	1.55	272	eP			Pn	17 34 02.2	+0.3
CHGB	baz=268			eS			Sn	17 34 20.9	-0.3
OWD	Renai	1.55	268	eP			Pn	17 34 02.2	+0.3
OWD	baz=264			eS			Sn	17 34 20.7	-0.3
TWT	Tachien	1.56	279	eP			Pn	17 34 02.8	+0.7
TWT	baz=263			eS			Sn	17 34 21.7	+0.2
EYUL	Yuli	1.57	245	eP			Pn	17 34 01.9	-0.1
EYUL	baz=231			eS			Sn	17 34 21.3	0.0
YULB	Yu-li	1.57	247	eP			Pn	17 34 01.8	-0.2
YULB	baz=232			eS			Sn	17 34 21.0	-0.4
TDCB	Techi	1.58	279	eP			Pn	17 34 02.7	+0.5
TDCB	baz=262			eS			Sn	17 34 21.5	-0.3
VWDT	VWDT	1.60	261	P			Pn	17 34 03.0	+0.6
VWDT	baz=257			eS			Sn	17 34 22.3	+0.2
YM01	YM01	1.63	314	eP			Pn	17 34 03.5	+0.6
YM01	baz=311			eS			Sn	17 34 21.9	-1.1
CHKT	Chengkung	1.65	237	eP			Pn	17 34 02.6	-0.5
CHKT	baz=222			eS			Sn	17 34 20.6	-2.8
FULB	Fuli	1.66	241	eP			Pn	17 34 02.6	-0.7
FULB	baz=227			eS			Sn	17 34 23.3	-0.3
ANP	Anpu	1.69	314	eP			Pn	17 34 04.3	+0.5
TWS1	Kuangyinshan	1.70	310	eP			Pn	17 34 04.5	+0.7
TWS1	baz=319			eS			Sn	17 34 24.2	-0.4
NFF	Wufeng Townshi	1.71	291	eP			Pn	17 34 05.2	+1.2
NFF	baz=288			eS			Sn	17 34 25.8	+0.9
SSLB	Suanglung	1.77	263	eP			Pn	17 34 05.6	+0.8
SSLB	baz=259			eS			Sn	17 34 26.8	+0.5
EDH	Donghe	1.77	234	eP			Pn	17 34 04.1	-0.7
EDH	baz=222			eS			Sn	17 34 23.9	-2.5
JTJ	Tarama	1.79	69	P			Pn	17 34 04.9	-0.1
JTJ				S			Sn	17 34 27.2	+0.5
WCS	Beigang Elemen	1.79	272	eP			Pn	17 34 06.5	+1.5
WCS	baz=268			eS			Sn	17 34 27.2	+0.4
LIOB	Emei	1.80	291	eP			Pn	17 34 06.5	+1.3
LIOB	baz=287			eS			Sn	17 34 27.5	+0.4
SMLT	Sun Moon Lake	1.80	266	eP			Pn	17 34 06.2	+0.8
SMLT	baz=262			eS			Sn	17 34 27.6	+0.3
NSTT	Nanjuang	1.81	290	eP			Pn	17 34 06.1	+0.8
NSTT	baz=286			eS			Sn	17 34 27.1	-0.1
TYC	Yuchr	1.84	267	eP			Pn	17 34 06.7	+0.9
TYC	baz=263			eS			Sn	17 34 28.3	+0.2
LDUT	Ludao	1.85	224	eP			Pn	17 34 05.0	-0.9
LDUT	baz=220			eS			Sn	17 34 26.3	-2.1
ELDTW	Lidau	1.89	244	eP			Pn	17 34 06.1	-0.4
ELDTW	baz=240			eS			Sn	17 34 28.3	-1.1
TWQ1	Liyutan	1.94	280	eP			Pn	17 34 08.2	+1.0
TWQ1	baz=265			eS			Sn	17 34 30.5	0.0
LONT	Longtian	1.94	236	eP			Pn	17 34 07.4	+0.3
LONT	baz=223			eS			Sn	17 34 29.8	-0.8
ALS	Alishan	1.96	255	P			Pn	17 34 08.5	+0.9
ALS	baz=251			S			Sn	17 34 31.5	+0.2
WJS	Zhushan	1.97	265	eP			Pn	17 34 09.6	+2.1
WJS	baz=261			eS			Sn	17 34 33.8	+2.6
WNT	Mingjian	2.00	266	eP			Pn	17 34 09.6	+1.7
WNT	baz=262			eS			Sn	17 34 34.5	+2.4
TCU	Taichung	2.01	274	eP			Pn	17 34 08.9	+0.9
TCU	baz=270			eS			Sn	17 34 32.6	+0.5
TTN	Taitung	2.02	232	eP			Pn	17 34 08.5	+0.3
TTN	baz=218			eS			Sn	17 34 32.2	-0.3
TWGBT	Beinan	2.03	234	eP			Pn	17 34 07.9	-0.4
TWGBT	baz=222			eS			Sn	17 34 31.6	-1.1
TWG	Pinlang	2.03	234	eP			Pn	17 34 08.1	-0.3
TWG	baz=222			eS			Sn	17 34 32.6	-0.2
CHN5	Tsauling	2.05	259	eP			Pn	17 34 10.4	+1.7
CHN5	baz=245			eS			Sn	17 34 33.9	+0.6
WDJ	Dajia District	2.06	280	eP			Pn	17 34 09.9	+1.2
WDJ	baz=275			eS			Sn	17 34 35.0	+1.6
STYH	Taoyuan	2.10	247	eP			Pn	17 34 10.5	+1.3
STYH	baz=235			eS			Sn	17 34 35.5	+1.1
WCHH	Zhanghua	2.11	272	eP			Pn	17 34 11.1	+1.6
WCHH	baz=268			eS			Sn	17 34 37.0	+2.2
WDLH	Douliu	2.16	262	eP			Pn	17 34 11.3	+1.2
WDLH	baz=257			eS			Sn	17 34 35.9	+0.1
TPUB	Ta-pu	2.17	251	eP			Pn	17 34 11.9	+1.6
TPUB	baz=238			eS			Sn	17 34 37.4	+1.1
WTP	Ta-pu	2.20	250	eP			Pn	17 34 12.3	+1.5
WTP	baz=238			eS			Sn	17 34 37.8	+0.7
CHN2	Minshiung	2.24	258	eP			Pn	17 34 13.6	+2.3
CHN2	baz=254			eS			Sn	17 34 40.8	+2.8
JIRB	Irabujima	2.25	69	P			Pn	17 34 11.2	-0.2
JIRB				S			Sn	17 34 38.0	-0.2
ECL	Taimali	2.26	232	eP			Pn	17 34 11.0	-0.5
ECL	baz=239			eS			Sn	17 34 38.9	+0.6
WRL	Guolierlin Hig	2.28	268	eP			Pn	17 34 13.4	+1.6
WRL	baz=276			eS			Sn	17 34 40.0	+1.1
SGST	Jiashian	2.29	246	eP			Pn	17 34 13.1	+1.1
SGST	baz=234			eS			Sn	17 34 40.1	+0.9
WTK	Tuku	2.29	262	eP			Pn	17 34 14.4	+2.4
WTK	baz=258			eS			Sn	17 34 41.8	+2.6
CHY	Chiayi	2.30	257	eP			Pn	17 34 13.6	+1.6
CHY	baz=253			eS			Sn	17 34 40.2	+0.9
CHN1	Nanshi	2.30	249	eP			Pn	17 34 13.8	+1.7
CHN1	baz=238			eS			Sn	17 34 42.2	+2.7

TWK	**Hsinying**	**2.31 252**	*e*P		**Pn**	**17 34 13.9**	**+1.7**
	baz=247						
TWK			*e*S		**Sn**	**17 34 42.2**	**+2.5**
	baz=247						
LAY	**Lan-yu**	**2.31 212**	*e*P		**Pn**	**17 34 12.7**	**+0.4**
	baz=209						
SNST	**Tainan City**	**2.31 250**	*e*P		**Pn**	**17 34 13.5**	**+1.2**
	baz=246						
SNST			*e*S		**Sn**	**17 34 40.6**	**+0.8**
	baz=246						
LYUB	**Lan-yu**	**2.33 211**	*e*P		**Pn**	**17 34 11.4**	**-1.0**
	baz=208						
LYUB			*e*S		**Sn**	**17 34 37.5**	**-2.6**
	baz=208						
JIKM	**Ikemajima**	**2.35 67**	P		**Pn**	**17 34 14.1**	**+1.4**
JIKM			*e*S		**Sn**	**17 34 41.2**	**+0.6**
JMJ2	**Miyako jima3**	**2.36 72**	P		**Pn**	**17 34 13.7**	**+0.9**
SSD	**Sandimen**	**2.41 239**	*e*P		**Pn**	**17 34 15.5**	**+1.9**
	baz=229						
SSD			*e*S		**Sn**	**17 34 43.4**	**+1.2**
	baz=229						
TSMG	**Majia**	**2.42 238**	*e*P		**Pn**	**17 34 14.9**	**+1.2**
	baz=229						
TSMG			*e*S		**Sn**	**17 34 42.1**	**-0.4**
	baz=229						
JOGS	**Gusukube**	**2.43 72**	P		**Pn**	**17 34 15.1**	**+1.3**
WSF	**Szhu**	**2.45 262**	*e*S		**Sn**	**17 34 44.6**	**+1.4**
	baz=257						
ICHU	**Yijhu**	**2.46 255**	*e*P		**Pn**	**17 34 16.1**	**+1.8**
	baz=250						
ICHU			*e*S		**Sn**	**17 34 46.0**	**+2.7**
	baz=250						
WSL	**Shuilin Townsh**	**2.47 259**	*e*P		**Pn**	**17 34 15.8**	**+1.5**
	baz=254						
WSL			*e*S		**Sn**	**17 34 46.4**	**+2.8**
	baz=254						
EAST	**Anshuo**	**2.47 229**	*e*P		**Pn**	**17 34 15.1**	**+0.6**
	baz=234						
EAST			*e*S		**Sn**	**17 34 43.1**	**-0.6**
	baz=234						
TAWH	**Dawu Township**	**2.47 228**	*e*P		**Pn**	**17 34 16.2**	**+1.8**
	baz=233						
TAWH			*e*S		**Sn**	**17 34 45.0**	**+1.4**
	baz=233						
MASBT	**Mashibuluo**	**2.48 236**	*e*P		**Pn**	**17 34 16.4**	**+1.8**
	baz=226						
MASBT			*e*S		**Sn**	**17 34 44.9**	**+0.9**
	baz=226						
SHHT	**Tainan City**	**2.52 247**	*e*P		**Pb**	**17 34 18.5**	**-2.1**
	baz=255						
SHHT			*e*S		**Sb**	**17 34 49.6**	**-1.6**
	baz=255						
CHN8	**Yiju**	**2.52 255**	*e*S		**Sn**	**17 34 45.9**	**+1.0**
	baz=250						
SSPT	**Xinbi**	**2.61 235**	*e*P		**Pn**	**17 34 17.6**	**+1.3**
	baz=225						
SSPT			*e*S		**Sn**	**17 34 47.5**	**+0.5**
	baz=225						
SLIU	**Shizi**	**2.62 227**	*e*P		**Pn**	**17 34 18.4**	**+1.9**
	baz=224						
SLIU			*e*S		**Sn**	**17 34 48.4**	**+1.2**
	baz=224						
SCZT	**Fangliau**	**2.64 232**	*e*P		**Pn**	**17 34 17.7**	**+1.0**
	baz=222						
SCZT			*e*S		**Sn**	**17 34 47.5**	**-0.2**
	baz=222						
SMST	**Manzhou Townsh**	**2.73 224**	*e*P		**Pn**	**17 34 20.5**	**+2.5**
	baz=220						
SMST			*e*S		**Sn**	**17 34 50.9**	**+0.9**
	baz=220						
TSEB	**Hengchuen, Pin**	**2.78 221**	*e*S		**Sn**	**17 34 53.8**	**+2.5**
	baz=227						
HEN	**Hengchun**	**2.80 225**	*e*S		**Sn**	**17 34 54.3**	**+2.5**
	baz=221						
TWKBT	**Hengchun**	**2.80 223**	*e*P		**Pn**	**17 34 21.2**	**+2.2**
	baz=220						
TWKBT			*e*S		**Sn**	**17 34 53.5**	**+1.7**
	baz=220						
TWK1	**Hengchun**	**2.81 223**	*e*S		**Sn**	**17 34 53.5**	**+1.6**
	baz=220						
WDGT	**Dungji**	**3.04 256**	*e*P		**Pn**	**17 34 23.6**	**+1.4**
	baz=251						
WDGT			*e*S		**Sn**	**17 34 58.5**	**+0.9**
	baz=251						
PHUB	**P'eng-hu**	**3.06 261**	*e*P		**Pn**	**17 34 24.4**	**+1.9**
	baz=270						
PHUB			*e*S		**Sn**	**17 34 58.5**	**+0.4**
	baz=270						
PNG	**Penghu**	**3.07 262**	*e*P		**Pn**	**17 34 24.2**	**+1.7**
	baz=271						
PNG			*e*S		**Sn**	**17 34 58.8**	**+0.4**
	baz=271						
VCHM	**Qimei**	**3.25 256**	*e*P		**Pn**	**17 34 27.0**	**+1.8**
	baz=251						
VCHM			*e*S		**Sn**	**17 35 03.4**	**+0.4**
	baz=251						
MATB	**Ma-tsu**	**3.40 309**	*e*S		**Sn**	**17 35 05.3**	**-1.1**
	baz=314						
PTMZ	**Houxiangcun**	**3.56 287**	*e*P		**Pn**	**17 34 30.8**	**+1.4**
	baz=283						
PTMZ			*e*S		**Sn**	**17 35 09.5**	**-1.0**
	baz=283						
XPSS	**Dashiqiu**	**3.78 321**	*e*P		**Pn**	**17 34 34.0**	**+1.7**
	baz=316						
XPSS			*e*S		**Sn**	**17 35 14.4**	**-1.4**
	baz=316						
LYJJ	**Jianjiangzhen**	**3.78 313**	*e*P		**Pn**	**17 34 33.9**	**+1.5**
	baz=307						
LYJJ			*e*S		**Sn**	**17 35 15.4**	**-0.4**
	baz=307						
KNMB	**Chin-men Tao**	**4.11 277**	*e*P		**Pn**	**17 34 38.3**	**+1.3**
	baz=272						
KNMB			*e*S		**Sn**	**17 35 23.0**	**-1.1**
	baz=272						
AXDP	**Jialang**	**4.55 282**	*e*P		**Pn**	**17 34 44.6**	**+1.6**
	baz=267						
AXDP			*e*S		**Sn**	**17 35 34.6**	**-0.3**
	baz=267						
ZPLA	**Ao Xicun**	**4.68 270**	*e*P		**Pn**	**17 34 46.1**	**+1.4**
	baz=265						
ZPLA			*e*S		**Sn**	**17 35 36.6**	**-1.5**
	baz=265						

*IDC **20** 17:37:59.8±0.7, 3°.79N×126°.76E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.8/65, mbtmp4.0/14, ML3.7/1, Error ellipse: s-maj=39.8km s-min=13.0km az=70.0*
*NEIC **20** 17:38:01.7±1.8, 3°.85N±0°.04×126°.94E±0°.09, h10km±1km, mb4.4/23, Error ellipse: s-maj=15.1km s-min=6.3km az=92.0*
*DJA **20** 17:38:02.5±0.5, 4°N±4°×12°7E±°, h10km, M4.2/12, mb4.2/7, MLv4.2/12*

ISC 20 17:38:01.2±0.5, **3°.89N**±0°.05×**127°.00E**±0°.06, **h10**km, **n58**, σ1§**34**/60, **mb4.3**/23, **1C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.48**	**262**	P	**Pb**	**17 38 28.4**	**-0.4**
SGSI				S	**Sg**	**17 38 49.9**	**+1.1**
TNTI	**Ternate**	**3.12**	**173**	P	**Pn**	**17 38 51.9**	**+1.4**
TNTI	**Ternate**	**3.12**	**173**		**Pn**	**17 38 49.9**	**-0.6**
DAV	**Davao City (W)**	**3.46**	**336**	Pn	**Pn**	**17 38 57.3**	**+2.1**
KCP	**Kidapawan**	**3.63**	**329**	*e*P	**Pb**	**17 39 04.0**	**-1.6**
KCP				*i* S	**Sg**	**17 40 02.0**	**+4.0**
CTBH	**Cotabato--PC H**	**4.29**	**321**	‖ *i*P	**Pn**	**17 39 05.1**	**-1.6**
KMSI	**Cibinong**	**4.46**	**223**	P	**Pn**	**17 39 10.3**	**+1.3**
LBMI	**Labuha**	**4.52**	**174**	P	**Pn**	**17 39 12.2**	**+2.3**
GTOI	**Gorontalo**	**5.13**	**231**	P	**Pn**	**17 39 20.0**	**+1.9**
	0.1nm13nm,1.6s						
SANI	**Sanana**	**5.98**	**190**	P	**Pn**	**17 39 32.2**	**+2.3**
MRSI	**Marisa**	**6.08**	**236**	P	**Pn**	**17 39 32.8**	**+1.5**
	0.2nm51nm,0.8s						
SWI	**Sorong**	**6.36**	**138**	P	**Pn**	**17 39 36.0**	**+0.9**
	0.1nm21nm,0.8s						
SIJI	**Sorong**	**6.37**	**138**	Pn	**Pn**	**17 39 38.0**	**+2.7**
	1.7nm,0.3s,baz=167,slow=24,SNR=7.2						
LUWI	**Luwuk**	**6.46**	**221**	P	**Pn**	**17 39 38.1**	**+1.6**
LUWI	**Luwuk**	**6.46**	**221**	Pn	**Pn**	**17 39 39.6**	**+3.0**
TOLI2	**Tolitoli**	**6.79**	**246**	Pn	**Pn**	**17 39 41.6**	**+0.5**
FAKI	**Fak Fak**	**8.56**	**142**	Pn	**Pn**	**17 40 08.4**	**+3.0**
MTKI	**Muara Teweh, K**	**13.01**	**249**	P	Pn	17 41 14.5	+8.2
MTN	**Manton Dam**	**17.12**	**166**	P	**Pn**	**17 41 59.7**	**-1.2**
JAGI	**Jajag, Banyuwa**	**17.74**	**226**		**P**	**17 42 09.2**	**-0.2**
JAGI				IAmb	IAmb	17 42 38.0	
	comp=Z,26nm,1.3s						
KNRA	**Kununurra**	**19.52**	**175**	P	**P**	**17 42 28.1**	**-0.8**
YULB	**Yu-li**	**20.16**	**345**	P	**P**	**17 42 34.7**	**-1.1**
TPUB	**Ta-pu**	**20.26**	**343**	P	**P**	**17 42 36.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.89**	**183**	P	**P**	**17 42 54.5**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=15,slow=5.4,SNR=9.2						
UBPT	**Khong Chiam**	**24.02**	**300**	P	**P**	**17 43 16.0**	**-0.6**
UBPT				IAmb	IAmb	17 43 23.6	
	comp=Z,10nm,0.9s						
WB0	**Warramunga Arr**	**24.61**	**163**	P	**P**	**17 43 21.1**	**-0.8**
WB0				IAmb	IAmb	17 43 30.2	
	comp=Z,9.0nm,0.8s						
WRAB	**Tennant Creek**	**24.75**	**163**	P	**P**	**17 43 23.0**	**-0.3**
WRAB				IAmb	IAmb	17 43 31.7	
	comp=Z,7.1nm,0.8s						
WRA	**Warramunga Arr**	**24.76**	**163**	P	**P**	**17 43 22.0**	**-1.2**
	comp=Z,2.3nm,0.5s,baz=343,slow=11,SNR=26						
WRA	**Warramunga Arr**	**24.76**	**163**	P	**P**	**17 43 22.4**	**-0.8**
WB2	**Warramunga Arr**	**24.76**	**163**	P	**P**	**17 43 22.1**	**-1.2**
WB2				IAmb	IAmb	17 43 31.8	
	comp=Z,9.0nm,0.8s						
WR0	**Warramunga Arr**	**24.83**	**163**	P	**P**	**17 43 23.8**	**-0.1**
WR0				IAmb	IAmb	17 43 32.5	
	comp=Z,5.9nm,0.8s						
ASAR	**Alice Springs**	**28.20**	**167**	P	**P**	**17 43 53.8**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=346,slow=7.3,SNR=11						
CMAR	**Chiang Mai Arr**	**31.02**	**300**	P	**P**	**17 44 18.6**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=116,slow=7.5,SNR=10.0						
CHTO	**Chiang Mai**	**31.17**	**301**	P	**P**	**17 44 20.3**	**-0.4**
CHTO				IAmb	IAmb	17 44 22.4	
	comp=Z,3.2nm,0.8s						
KSRS	**Korea Array**	**33.42**	**1**	P	**P**	**17 44 41.0**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=177,slow=11,SNR=2.1						
STKA	**Stephens Creek**	**38.18**	**160**	P	**P**	**17 45 21.0**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=339,slow=10,SNR=6.1						
STKA	**Stephens Creek**	**38.18**	**160**	P	**P**	**17 45 20.6**	**-0.6**
SHL	**Shillong**	**40.00**	**306**	P	**P**	**17 45 35.4**	**-1.2**
KLR	**Kul'dur**	**45.36**	**4**	P	**P**	**17 46 20.9**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=158,slow=7.9,SNR=5.3						
SONM	**Songino Array**	**47.23**	**341**	P	**P**	**17 46 35.6**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=155,slow=7.8,SNR=6.2						
SONM				PcP	**PcP**	**17 48 06.6**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=152,slow=3.1,SNR=6.8						
SONM	**Songino Array**	**47.23**	**341**	P	**P**	**17 46 34.5**	**-0.1**
MK31	**Makanchi Array**	**57.58**	**325**	P	**P**	**17 47 50.4**	**-0.9**
MK31				IAmb	IAmb	17 47 52.9	
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**57.58**	**325**	P	**P**	**17 47 50.9**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=128,slow=8.3,SNR=11						
MKAR				PcP	**PcP**	**17 48 45.5**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=109,slow=4.1,SNR=3.7						
MKAR	**Makanchi Array**	**57.58**	**325**	P	**P**	**17 47 50.2**	**-1.1**
MAKZ	**Makanchi**	**57.77**	**325**	P	**P**	**17 47 51.0**	**-1.6**
MAKZ				IAmb	IAmb	17 47 54.1	
	comp=Z,3.5nm,0.9s						
YAK	**Yakutsk**	**58.04**	**1**	P	**P**	**17 47 54.0**	**-0.2**
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**17 48 10.7**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=137,slow=6.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**17 48 11.6**	**-0.3**
DRK	**Karamyk**	**61.09**	**313**	P	**P**	**17 48 16.2**	**+0.1**
DRK				IAmb	IAmb	17 48 17.9	
	comp=Z,2.7nm,0.8s						
KURK	**Kurchatov**	**61.75**	**327**	P	**P**	**17 48 20.3**	**+0.4**
KKAR	**Karatay Array**	**63.30**	**317**	P	**P**	**17 48 30.0**	**-0.5**
BRVK	**Borovoye**	**67.40**	**327**	P	**P**	**17 48 56.5**	**-0.3**
BRVK				IAmb	IAmb	17 49 05.6	
	comp=Z,3.2nm,0.9s						
NRIK	**Noril'sk**	**70.34**	**346**	P	**P**	**17 49 15.0**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=105,slow=8.0,SNR=5.0						
NRIK	**Noril'sk**	**70.34**	**346**	P	**P**	**17 49 15.8**	**+1.0**
NRIK				IAmb	IAmb	17 49 16.5	
	comp=Z,3.1nm,0.8s						
AKTO	**Aktyubinsk**	**73.70**	**322**	P	**P**	**17 49 35.3**	**0.0**
	comp=Z,2.2nm,0.8s,baz=108,slow=7.6,SNR=6.1						
ARU	**Arti**	**74.94**	**328**	P	**P**	**17 49 42.0**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=143,slow=11,SNR=4.1						
ARU	**Arti**	**74.94**	**328**	IAmb	IAmb	17 49 49.2	
	comp=Z,2.6nm,0.8s						
KLMR	**Klimovskoe**	**85.40**	**331**	*e*P	**P**	**17 50 37.7**	**-1.0**
KLMR				AMP		17 50 40.2	
	comp=Z,17nm,1.3s						

*NEIC **20** 17:42:37.8±1.6, 20°.8S±0°.1×177°.8W±0°.2, h473km±7km, mb4.5/38, Error ellipse: s-maj=22.4km s-min=18.5km az=66.0*
*IDC **20** 17:42:37.7±2.4, 20°.58S×177°.84W, h475km±22km, mb3.5/12, mb1 3.6/14, mb1mx3.4/52, mbtmp4.3/14, Error ellipse: s-maj=27.6km s-min=16.3km az=137.0*

ISC 20 17:42:39.5±0.6, **20°.66S**±0°.09×**178°.0W**±0°.1, **h500**km, **n95**, σ1§**32**/97, **mb4.4**/29, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.76**	**307**	P	**P**	**17 44 01.8**	**-2.7**
	4.3nm,0.3s,baz=146,slow=11,SNR=24						
MSVF	**Nonsavu**	**4.76**	**307**	P	**P**	**17 44 02.6**	**-2.0**
DZM	**Mont Dzumac**	**14.59**	**262**	P	**P**	**17 45 45.7**	**+0.1**
	0.4nm,0.3s,baz=89,slow=21,SNR=2.5						
URZ	**Urewera**	**18.05**	**193**	P	**P**	**17 46 18.4**	**-1.7**
BKZ	**Black Stump Fm**	**19.05**	**193**	P	**P**	**17 46 28.2**	**-1.1**
BKZ				IAmb	IAmb	17 46 39.5	
	comp=Z,6.3nm,0.6s						
BFZ	**Birch Farm**	**20.56**	**193**	P	**P**	**17 46 41.5**	**-1.5**
BHW	**Baring Head**	**21.56**	**195**	P	**P**	**17 46 49.7**	**-2.3**
PLWZ	**Palliser**	**21.62**	**194**	P	**P**	**17 46 51.9**	**-0.8**
QRZ	**Quartz Range**	**21.67**	**200**	P	**P**	**17 46 51.6**	**-1.4**
NNZ	**Nelson**	**21.77**	**198**	P	**P**	**17 46 52.0**	**-1.9**
THZ	**Tophouse**	**22.41**	**198**	P	**P**	**17 46 58.2**	**-1.6**
THZ				IAmb	IAmb	17 47 08.6	
	comp=Z,22nm,1.2s						
KHZ	**Kahutara**	**22.84**	**196**	P	**P**	**17 47 01.8**	**-1.7**
KHZ				IAmb	IAmb	17 47 15.4	
	comp=Z,22nm,1.3s						
LTZ	**Lake Taylor**	**23.53**	**198**	P	**P**	**17 47 07.3**	**-2.5**
LTZ				IAmb	IAmb	17 47 23.9	
	comp=Z,20nm,1.2s						
FOZ	**Fox Glacier**	**24.99**	**201**	P	**P**	**17 47 20.2**	**-2.5**
FOZ				IAmb	IAmb	17 47 25.1	
	comp=Z,13nm,1.0s						
MLZ	**Mavora Lakes**	**27.18**	**202**	P	**P**	**17 47 40.4**	**-1.7**
MLZ				IAmb	IAmb	17 47 53.9	
	comp=Z,27nm,1.5s						
WHZ	**Wether Hill Ro**	**27.70**	**201**	P	**P**	**17 47 44.2**	**-2.4**
WHZ				IAmb	IAmb	17 47 49.2	
	comp=Z,15nm,0.8s						
ARMA	**Armidale**	**29.02**	**244**	P	**P**	**17 47 60.0**	**+1.4**
ARMA				IAmb	IAmb	17 48 01.6	
	comp=Z,9.1nm,1.1s						
MGCD	**Mangrove Creek**	**30.15**	**239**	P	**P**	**17 48 10.2**	**+2.1**
	baz=33,SNR=8.1						
RMQ	**Roma**	**30.99**	**253**	P	**P**	**17 48 15.7**	**+0.2**
	baz=34,SNR=4.8						
CNB	**Canberra Magne**	**32.16**	**236**	P	**P**	**17 48 26.9**	**+1.4**
	baz=35,SNR=26						
CAN	**Canberra**	**32.45**	**236**	P	**P**	**17 48 26.7**	**-1.2**
CAN				IAmb	IAmb	17 48 29.9	
	comp=Z,12nm,1.0s						
CTA	**Charters Tower**	**33.50**	**265**	P	**P**	**17 48 36.8**	**-0.3**
	comp=Z,5.0nm,0.5s,baz=90,slow=10,SNR=11						
CTAO	**Charters Tower**	**33.50**	**265**	P	**P**	**17 48 36.4**	**-0.7**
CTAO				IAmb	IAmb	17 48 56.1	
	comp=Z,16nm,1.4s						
CMSA	**Cobar Meteorol**	**34.24**	**244**	P	**P**	**17 48 44.0**	**+0.9**
	baz=37,SNR=17						
QLP	**Quilpie**	**35.04**	**253**	P	**P**	**17 48 51.0**	**+1.2**
	baz=38,SNR=14						
MTSU	**Mount Surprise**	**35.61**	**267**	P	**P**	**17 48 51.7**	**-3.1**
	baz=38,SNR=15						
TOO	**Toolangi**	**35.83**	**234**	P	**P**	**17 48 57.4**	**+1.1**
	baz=39,SNR=9.2						
TOO	**Toolangi**	**35.83**	**234**	P	**P**	**17 48 57.2**	**+0.9**
TOO				IAmb	IAmb	17 48 57.9	
	comp=Z,12nm,0.8s						
COEN	**Coen**	**37.62**	**274**	P	**P**	**17 49 12.1**	**+0.7**
COEN				IAmb	IAmb	17 49 35.0	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**37.75**	**244**	P	**P**	**17 49 13.5**	**+1.4**
	comp=Z,5.6nm,0.6s,baz=96,slow=11,SNR=15						
STKA	**Stephens Creek**	**37.75**	**244**	P	**P**	**17 49 13.6**	**+1.4**
	baz=41,SNR=12						
STKA	**Stephens Creek**	**37.75**	**244**	P	**P**	**17 49 13.1**	**+0.9**
HTT	**Hallett**	**40.18**	**242**	P	**P**	**17 49 32.7**	**+0.8**
	baz=43,SNR=9.5						
BBOO	**Buckleboo**	**42.50**	**244**	P	**P**	**17 49 50.9**	**+0.5**
	baz=45,SNR=28						
BBOO	**Buckleboo**	**42.50**	**244**	P	**P**	**17 49 50.9**	**+0.5**
BBOO				IAmb	IAmb	17 49 51.7	
	comp=Z,17nm,0.8s						
JAY	**Jayapura**	**44.12**	**289**	P	**P**	**17 50 04.8**	**+1.5**
	comp=Z,4.6nm,0.4s,baz=182,slow=5.7,SNR=6.7						
WR0	**Warramunga Arr**	**44.42**	**262**	P	**P**	**17 50 05.1**	**-0.4**
AS31	**Alice Springs**	**44.51**	**257**	P	**P**	**17 50 06.3**	**+0.1**
ASAR	**Alice Springs**	**44.51**	**257**	P	**P**	**17 50 06.5**	**+0.3**
	comp=Z,8.5nm,0.5s,baz=96,slow=7.9,SNR=217						
ASAR				PcP	**pwP**	**17 51 40.1**	**-2.9**
	comp=Z,1.4nm,0.6s,baz=109,slow=3.9,SNR=8.6						
WB0	**Warramunga Arr**	**44.59**	**262**	P	**P**	**17 50 06.8**	**0.0**
WB2	**Warramunga Arr**	**44.60**	**262**	P	**P**	**17 50 06.7**	**-0.2**
WRAB	**Tennant Creek**	**44.60**	**262**	P	**P**	**17 50 06.6**	**-0.3**
WRA	**Warramunga Arr**	**44.61**	**262**	P	**P**	**17 50 07.1**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=95,slow=6.9,SNR=95						
WRA				PcP	**pwP**	**17 51 42.1**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=99,slow=4.0,SNR=2.7						
WRA	**Warramunga Arr**	**44.61**	**262**	P	**P**	**17 50 06.5**	**-0.5**
KDU	**Kakadu**	**47.98**	**271**	P	**P**	**17 50 33.0**	**+0.3**
	baz=50,SNR=3.1						
MTN	**Manton Dam**	**49.19**	**271**	P	**P**	**17 50 42.0**	**+0.3**
	baz=52,SNR=6.4						
MTN	**Manton Dam**	**49.19**	**271**	P	**P**	**17 50 41.1**	**-0.6**
FORT	**Forrest**	**49.26**	**247**	P	**P**	**17 50 42.4**	**+0.4**
	baz=52,SNR=20						
FORT	**Forrest**	**49.26**	**247**	P	**P**	**17 50 42.3**	**+0.4**
WRKA	**Warakurna**	**49.45**	**254**	P	**P**	**17 50 44.1**	**+0.5**
	baz=52,SNR=39						
KNRA	**Kununurra**	**50.68**	**266**	P	**P**	**17 50 51.1**	**-1.5**
	baz=53,SNR=4.9						
KNRA	**Kununurra**	**50.68**	**266**	P	**P**	**17 50 52.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.04**	**262**	P	**P**	**17 51 10.5**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=93,slow=3.5,SNR=24						
FITZ	**Fitzroy Crossi**	**53.04**	**262**	P	**P**	**17 51 11.1**	**+1.5**
	baz=56,SNR=5.7						
PSA00	**Pilbara Seismi**	**57.66**	**257**	P	**P**	**17 51 41.9**	**0.0**
PSA00				IAmb	IAmb	17 51 43.4	
	comp=Z,9.8nm,0.9s						
PSA00	**Pilbara Seismi**	**57.66**	**257**	P	**P**	**17 51 42.5**	**+0.6**
PSA00				IAmb	IAmb	17 51 43.4	
	comp=Z,17nm,0.7s						
VNDA	**Vanda**	**57.75**	**185**	P	**P**	**17 51 43.2**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=22,slow=13,SNR=1.8						
MEEK	**Meekatharra**	**57.89**	**251**	P	**P**	**17 51 43.8**	**+0.3**
	baz=61,SNR=12						
KLBR	**Kellerberrin**	**58.02**	**245**	P	**P**	**17 51 44.9**	**+0.8**
	baz=61,SNR=21						
NWAO	**Narrogin (SRO)**	**58.32**	**243**	P	**P**	**17 51 46.7**	**+0.5**
BLDU	**Ballidu**	**59.02**	**246**	P	**P**	**17 51 51.6**	**+0.6**
	baz=62,SNR=14						
MUN	**Mundaring**	**59.28**	**244**	P	**P**	**17 51 54.2**	**+1.4**
	baz=62,SNR=4.8						
MORW	**Morawa**	**59.80**	**248**	P	**P**	**17 51 57.0**	**+0.8**
	baz=63,SNR=11						
MORW	**Morawa**	**59.80**	**248**	P	**P**	**17 51 56.8**	**+0.6**
MORW				IAmb	IAmb	17 51 57.7	
	comp=Z,10.0nm,0.7s						
GIRL	**Giralia**	**62.54**	**255**	P	**P**	**17 52 16.4**	**+2.1**
	baz=65,SNR=4.6						
GIRL	**Giralia**	**62.54**	**255**	P	**P**	**17 52 16.3**	**+1.9**
CASY	**Casey**	**63.83**	**205**	P	**P**	**17 52 20.9**	**-1.0**
CASY				IAmb	IAmb	17 52 47.0	
	comp=Z,28nm,1.4s						
QSPA	**South Pole Qui**	**69.41**	**180**	P	**P**	**17 52 57.8**	**+1.2**
QSPA				IAmb	IAmb	17 52 58.7	
	comp=Z,9.1nm,0.8s						
UGM	**Wanagama**	**69.99**	**269**	P	**P**	**17 53 01.9**	**+1.0**
KSM	**Kuching**	**73.46**	**278**		**P**	**17 53 22.9**	**+1.8**
KSRS	**Korea Array**	**77.03**	**319**	P	**P**	**17 53 42.2**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=125,slow=5.1,SNR=4.3						
SMAI	**San Martin Ant**	**78.45**	**159**	P	**P**	**17 53 48.9**	**+1.2**
SMAI				IAmb	IAmb	17 53 58.7	
	comp=Z,24nm,1.1s						
SEY	**Seymchan**	**86.54**	**347**	P	**P**	**17 54 28.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=181,slow=6.7,SNR=9.3						
TXAR	**Lajitas Array**	**87.12**	**57**	P	**P**	**17 54 32.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=229,slow=6.2,SNR=5.4						
ILAR	**Eielson Array**	**88.46**	**13**	P	**P**	**17 54 37.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=219,slow=6.1,SNR=10						
ILAR	**Eielson Array**	**88.46**	**13**	P	**P**	**17 54 38.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**90.20**	**290**	P	**P**	**17 54 49.1**	**+2.4**
	comp=Z,2.9nm,0.8s,baz=121,slow=2.8,SNR=16						
CMAR	**Chiang Mai Arr**	**90.20**	**290**	P	**P**	**17 54 49.4**	**+2.7**
CHTO	**Chiang Mai**	**90.33**	**290**	P	**P**	**17 54 47.8**	**+0.5**
CHTO				IAmb	IAmb	17 54 50.5	
	comp=Z,6.1nm,0.7s						
MKAR	**Makanchi Array**	**111.33**	**313**	PKiKP	**PKiKP**	**18 00 15.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=68,slow=0.6,SNR=5.6						
MKAR	**Makanchi Array**	**111.33**	**313**		**PKiKP**	**18 00 15.7**	**-0.5**
KURBB	**Kurchatov Arra**	**114.19**	**317

KHC ex x 17 52 43.1
DPC Dobruska-Polom 16.38 345 eP **P 17 51 05.9 +0.6**
AKASG Malin Array Be 16.59 14 Pn **P 17 51 08.8 +1.3**
1.0nm,0.3s,baz=208,slow=9.7,SNR=9.3
KBZ Khabaz 17.77 54 P **P 17 51 20.6 +0.1**
0.1nm,0.3s,baz=232,slow=4.7,SNR=4.4
HFS Hagfors 26.15 349 P **P 17 52 46.0 -0.6**
1.4nm,0.6s,baz=132,slow=8.8,SNR=8.2
FINES FINESS Array B 26.81 3 P **P 17 52 53.1 +0.7**
1.2nm,0.8s,baz=184,slow=12,SNR=1.6
ARCES ARCESS Array B 34.90 1 P **P 17 54 02.8 -0.9**
3.5nm,1.0s,baz=178,slow=8.1,SNR=4.0
MKAR Makanchi Array 45.45 56 P **P 17 55 30.1 -1.3**
0.6nm,0.4s,baz=263,slow=7.9,SNR=13
ZALV Zalesovo Beam 46.55 46 P **P 17 55 38.7 -1.2**
0.4nm,0.3s,baz=269,slow=11,SNR=2.8
SONM Songino Array 61.09 50 P **P 17 57 25.3 -1.3**
0.7nm,0.5s,baz=282,slow=7.1,SNR=5.8
YKA Yellowknife Ar 77.33 341 P **P 17 59 08.0 +1.2**
0.2nm,0.5s,baz=34,slow=5.1,SNR=4.3

IDC 20 17:52:27.6±4.3, 29°.14S×178°.26W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/41, mbtmp3.3/2, Error ellipse: s-maj=273.8km s-min=47.3km az=163.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.97**	**266**	P	P	18 00 28.6	-0.1
	0.2nm,0.4s,baz=107,slow=7.6,SNR=9.0						
WRA	**Warramunga Arr**	**43.84**	**271**	P	P	18 00 35.6	-0.2
	0.2nm,0.4s,baz=108,slow=8.3,SNR=11						
KURBB	**Kurchatov Arra**	**120.06**	**314**	PKP	PKPdf	18 11 19.1	-0.8
	0.3nm,0.5s,baz=100,slow=2.2,SNR=2.8						
FINES	**FINESS Array B**	**143.89**	**340**	PKP	PKPdf	18 12 03.5	-0.8
	2.6nm,0.4s,baz=57,slow=3.9,SNR=38						
AKASG	**Malin Array Be**	**150.16**	**324**	PKPbc	PKPbc	18 12 20.1	0.0
	0.1nm,0.3s,baz=49,slow=3.0,SNR=5.8						

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*KRNET **20** 17:57:00.8±0.1, 42°.30N×71°.35E, h15km, mb2.5*
*SOME **20** 17:57:02.3, 42°.23N×71°.47E, h15km*
*NNC **20** 17:57:02.4±0.8, 42°.31N×71°.42E, h0km, mb2.7, mpv3.3, Error ellipse: s-maj=6.6km s-min=3.2km az=7.0, Suspected Mining explosion.*
ISC 20 17:57:02.6±0.8, 42°.30N±0°.03×71°.42E±0°.02, h0km, n25, σ0°81/47, 18C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	**Taraz**	**0.60**	**354**	*eP*	**Pb**	**17 57 15.5**	**-0.5**
	65nm,0.1s						
DZA				*eS*	**Sb**	**17 57 24.2**	**-0.8**
	321nm,0.2s						
DZA	**Taraz**	**0.60**	**354**	P	**Pb**	**17 57 15.5**	**-0.5**
	65nm,0.1s						
DZA				S	**Sb**	**17 57 24.2**	**-0.8**
	321nm,0.2s						
ARK	**Arkit**	**0.64**	**141**	⇑*iP*	**Pg**	**17 57 13.9**	**-1.0**
	baz=37						
ARK				⇑*iS*	**Sg**	**17 57 23.3**	**+0.1**
	baz=37						
TRKS	**Terek-Say**	**0.79**	**195**	⇑*iP*	**Pg**	**17 57 17.1**	**-0.7**
	baz=89						
TRKS				⇑*iS*	**Sg**	**17 57 28.4**	**+0.4**
	baz=89						
MNAS	**Manas**	**0.83**	**76**	⇑*iP*	**Pg**	**17 57 17.7**	**-0.7**
	baz=77						
MNAS				⇑*iS*	**Sg**	**17 57 29.4**	**+0.3**
	baz=77						
KK02	**Karatay Array**	**1.05**	**321**	⇓*iP*	**Pg**	**17 57 22.6**	**0.0**
	2.7nm,0.2s,baz=141,slow=18						
KK02				⇓S	**Sg**	**17 57 36.4**	**+0.2**
	3.7nm,0.3s,baz=142,slow=30						
CHM	**Chimkent**	**1.35**	**272**	*eP*	**Pb**	**17 57 29.1**	**+0.4**
	78nm,0.1s						
CHM				*eS*	**Sn**	**17 57 47.8**	**+0.5**
	46nm,0.2s						
BRLS	**Borolday**	**1.38**	**303**	*eP*	**Pg**	**17 57 28.9**	**0.0**
	5.1nm,0.2s						
BRLS				*eS*	**Sb**	**17 57 47.4**	**0.0**
	12nm,0.2s						
BRLS	**Borolday**	**1.38**	**303**	P	**Pg**	**17 57 29.0**	**0.0**
	5.1nm,0.2s						
BRLS				S	**Sb**	**17 57 47.5**	**0.0**
	1.4nm,0.2s						
MRKS	**Merke**	**1.41**	**71**	*eP*	**Pg**	**17 57 29.3**	**-0.3**
	5.0nm,0.1s						
MRKS				*eS*	**Sg**	**17 57 48.0**	**+0.1**
	18nm,0.3s						
MRKS	**Merke**	**1.41**	**71**	P	**Pg**	**17 57 29.3**	**-0.3**
	5.0nm,0.1s						
MRKS				S	**Sg**	**17 57 48.0**	**+0.1**
	18nm,0.3s						
EKS2	**Erkin-Say**	**1.78**	**77**	⇑*iP*	**Pn**	**17 57 34.6**	**-0.2**
	baz=78						
EKS2				⇑*iS*	**Sb**	**17 57 59.0**	**-0.2**
	baz=78						
ARLS	**Aral**	**2.21**	**100**	⇓*iP*	**Pn**	**17 57 40.9**	**+0.3**
	baz=0.0						
ARLS				⇓*iS*	**Sn**	**17 58 10.0**	**+1.3**
	baz=0.0						
BTK	**Batken**	**2.28**	**192**	⇑*iP*	**Pn**	**17 57 41.0**	**-0.6**
	baz=90						
BTK				⇑*iS*	**Sn**	**17 58 10.1**	**-0.3**
	baz=90						
UCH	**Uchtor**	**2.30**	**91**	⇑*iP*	**Pn**	**17 57 42.0**	**-0.2**
	baz=91						
UCH				⇑*iS*	**Sn**	**17 58 12.0**	**+0.6**
	baz=91						
AAK	**Ala-Archa**	**2.30**	**80**	⇑Pg	**Pn**	**17 57 43.3**	**+1.4**
	1.6nm,0.3s						
AAK				⇑Lg	Lg	17 58 15.8	
	2.0nm,0.4s						
AAK	**Ala-Archa**	**2.30**	**80**	⇑*iP*	**Pn**	**17 57 42.1**	**+0.2**
	baz=81						
AAK				⇑*iS*	**Sn**	**17 58 12.2**	**+1.2**
	baz=81						
USP	**Ospenovka**	**2.47**	**66**	⇓*iP*	**Pn**	**17 57 44.2**	**+0.1**
	baz=66						
USP				⇓*iS*	**Sn**	**17 58 15.8**	**+0.8**
	baz=66						
CHMS	**Chumysh**	**2.56**	**73**	⇑*iP*	**Pn**	**17 57 45.4**	**+0.1**
	baz=73						
CHMS				⇑*iS*	**Sn**	**17 58 17.9**	**+0.7**
	baz=73						
SGDS	**Sogindy**	**2.63**	**63**	*eP*	**Pb**	**17 57 50.5**	**-0.1**
	1.3nm,0.4s						
SGDS				*eS*	**Sb**	**17 58 24.0**	**+0.6**
	6.6nm,0.2s						
KBK	**Karagaybulak**	**2.64**	**81**	⇓*iP*	**Pn**	**17 57 46.6**	**+0.1**
	baz=81						
KBK				⇓*iS*	**Sn**	**17 58 20.1**	**+0.8**
	baz=81						
TKM2	**Tokmak 2**	**3.15**	**77**	⇓Pg	**Pb**	**17 57 59.9**	**+0.4**
TKM2				⇓Lg	Lg	17 58 39.2	
BTLS	**Baital**	**3.34**	**34**	*eP*	**Pb**	**17 58 04.2**	**+1.5**
	2.0nm,0.3s						
BTLS				*eS*	**Sg**	**17 58 47.9**	**-2.0**
	2.7nm,0.4s						
KRBS	**Karabastau**	**3.42**	**64**	*eP*	**Pb**	**17 58 05.2**	**+1.1**
	3.8nm,0.4s						
KRBS				*eS*	**Sg**	**17 58 49.6**	**-2.9**
	1.9nm,0.5s						
KRBS	**Karabastau**	**3.42**	**64**	Pg	**Pb**	**17 58 04.2**	**+0.1**
	3.8nm,0.4s						
KRBS				Lg	Lg	17 58 47.7	
	1.9nm,0.5s						

IDC 20 17:57:20.4±0.8, 37°.64N×101°.81E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.2/61, mbtmp3.3/5, ML2.7/2, Error ellipse: s-maj=12.5km s-min=6.1km az=117.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**10.73**	**17**	Pn	Pn	17 59 56.7	+1.3
	0.4nm,0.3s,baz=200,slow=13,SNR=7.2						
SONM				Lg	Lg	18 03 00.8	
	0.3nm,0.3s,baz=207,slow=28,SNR=6.2						
MKAR	**Makanchi Array**	**17.07**	**309**	Pn	P	18 01 22.2	-0.1
	0.0nm,0.3s,baz=109,slow=14,SNR=2.0						
KURBB	**Kurchatov Arra**	**21.05**	**315**	P	P	18 02 05.3	-0.4
	1.1nm,0.6s,baz=120,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**68.05**	**148**	P	P	18 08 21.4	-0.3
	0.1nm,0.6s,baz=345,slow=6.7,SNR=4.4						
YKA	**Yellowknife Ar**	**76.00**	**17**	P	P	18 09 07.8	-1.1
	0.2nm,0.5s,baz=329,slow=4.4,SNR=4.1						

IDC 20 18:14:40.6±0.9, 37°.92N×101°.53E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/40, mbtmp3.4/4, ML3.1/3, MS3.4/1, Ms1 3.4/1, ms1mx3.1/68, Error ellipse: s-maj=14.5km s-min=6.8km az=120.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**10.54**	**18**	Pn	Pn	18 17 13.5	+0.6
	0.5nm,0.3s,baz=197,slow=15,SNR=11						
SONM				Lg	Lg	18 20 14.5	
	0.4nm,0.3s,baz=182,slow=36,SNR=6.1						
MKAR	**Makanchi Array**	**16.73**	**308**	Pn	Pn	18 18 36.1	-0.2
	0.0nm,0.3s,baz=109,slow=14,SNR=5.8						
MKAR				LR	LR	18 25 29.5	
	comp=Z,126nm,20.8s,baz=30,slow=39						
ZALV	**Zalesovo Beam**	**19.72**	**330**	P	P	18 19 11.2	-0.3
	0.2nm,0.3s,baz=120,slow=8.8,SNR=3.8						
ASAR	**Alice Springs**	**68.39**	**148**	P	P	18 25 42.3	-1.8
	0.1nm,0.7s,baz=334,slow=6.2,SNR=1.6						

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*IDC **20** 18:14:23.2±1.0, 25°.17N×124°.44E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/28, mbtmp3.2/3, MS4.0/1, Ms1 4.0/1, ms1mx3.2/34, Error ellipse: s-maj=25.8km s-min=12.0km az=126.0*
*JMA **20** 18:14:47.5±0.1, 28°.51N×130°.07E, h25km±1km, M2.5*
ISC 20 18:14:47.6±1.0, 28°.53N±0°.03×130°.00E±0°.05, h10km, n18, σ1°45/24, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.22**	**185**	P	**Pg**	**18 14 53.1**	**+0.9**
JZK				*eS*	**Sg**	**18 14 57.3**	**+2.1**
JAM	**Amami Oshima**	**0.36**	**251**	P	**Pg**	**18 14 56.3**	**+1.5**
JAM				*eS*	**Sg**	**18 15 02.3**	**+2.6**
JAMN	**Amaminishikomi**	**0.78**	**248**	P	**Pg**	**18 15 03.2**	**+0.6**
JAMN				*eS*	**Sg**	**18 15 13.7**	**+0.9**
JTAJ	**Takarajima**	**0.93**	**312**	P	**Pg**	**18 15 05.3**	**-0.2**
JTAJ				*eS*	**Sg**	**18 15 18.5**	**+0.9**
JTK	**Tokunoshima**	**1.19**	**231**	P	**Pn**	**18 15 09.4**	**-0.9**
JNN	**Nakanoshima**	**1.31**	**355**	P	**Pb**	**18 15 12.9**	**+0.6**
JOKE	**Okinoerabujima**	**1.72**	**227**	P	**Pn**	**18 15 16.7**	**-0.9**
JOKE				*eS*	**Sn**	**18 15 38.4**	**-1.2**
JYAK	**Yakushimahirau**	**1.76**	**15**	P	**Pn**	**18 15 17.9**	**-0.2**
JMTN	**Minamitane**	**2.02**	**23**	P	**Pn**	**18 15 21.5**	**-0.2**
JYRO	**Yoronjima**	**2.03**	**223**	P	**Pn**	**18 15 20.7**	**-1.2**
JYRO				*eS*	**Sn**	**18 15 45.1**	**-2.2**
JOW	**Kunigami**	**2.28**	**222**	Pn	**Pn**	**18 15 23.4**	**-1.9**
	baz=107,slow=19						
JOW	**Kunigami**	**2.28**	**222**	P	**Pn**	**18 15 23.5**	**-1.9**
JOW				*eS*	**Sn**	**18 15 51.6**	**-1.9**
JTN	**Tanegashima 3**	**2.28**	**22**	P	**Pn**	**18 15 24.7**	**-0.6**
JTN				*eS*	**Sn**	**18 15 52.1**	**-1.4**
JIH	**Iheya**	**2.34**	**231**	*eS*	**Sn**	**18 15 53.2**	**-1.6**
JMZ	**Minamidaito 2**	**2.92**	**158**	P	**Pn**	**18 15 32.8**	**-1.3**
JJT3	**Tamagusuku3**	**3.09**	**220**	P	**Pn**	**18 15 36.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**15.72**	**5**	LR	LR	18 26 39.7	
	comp=Z,472nm,20.3s,baz=302,slow=37						
ILAR	**Eielson Array**	**61.67**	**29**	P	P	18 25 17.4	+12
	0.6nm,0.7s,baz=279,slow=5.4,SNR=6.8						

IDC 20 18:25:26.9±8.7, 32°.39N×142°.38E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/40, mbtmp3.4/3, Error ellipse: s-maj=313.4km s-min=31.9km az=66.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.37**	**306**	P	P	18 34 02.5	-0.2
	0.2nm,0.3s,baz=93,slow=7.2,SNR=6.5						
WRA	**Warramunga Arr**	**52.61**	**190**	P	P	18 34 41.9	-0.7
	0.7nm,0.3s,baz=8.0,slow=7.8,SNR=66						
ASAR	**Alice Springs**	**56.33**	**189**	P	P	18 35 10.3	+0.6
	0.2nm,0.8s,baz=4.8,slow=5.4,SNR=7.5						

IDC 20 18:33:44.8±2.1, 4°.29N×127°.38E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.1/38, mbtmp3.3/4, Error ellipse: s-maj=115.9km s-min=27.0km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.31**	**184**	P	P	18 38 44.8	+0.7
	0.5nm,0.5s,baz=30,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	**25.03**	**164**	P	P	18 39 09.5	-1.3
	0.5nm,0.9s,baz=344,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**28.50**	**167**	P	P	18 39 42.6	+0.5
	0.2nm,0.8s,baz=344,slow=7.2,SNR=5.4						
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	18 43 35.8	0.0
	0.3nm,0.7s,baz=125,slow=8.2,SNR=4.2						

IDC 20 19:08:07.2±6.8, 23°.71S×177°.74W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.8/24, mbtmp4.1/2, Error ellipse: s-maj=283.2km s-min=58.6km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.11**	**260**	P	P	19 16 18.0	+0.4
	1.7nm,0.7s,baz=103,slow=7.1,SNR=6.7						
WRA	**Warramunga Arr**	**44.49**	**265**	P	P	19 16 20.1	-0.5
	2.0nm,0.5s,baz=103,slow=8.6,SNR=44						
AKASG	**Malin Array Be**	**145.90**	**329**	PKPbc	PKPdf	19 27 47.5	-0.3
	0.7nm,0.5s,baz=43,slow=4.5,SNR=6.4						

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*DDA **20** 19:17:38.3±0.0, 37°.75N×25°.97E, h7km±3km, ML2.6*
*ISK **20** 19:17:39.9, 37°.80N×26°.06E, h2km, ML2.8/14*
*THE **20** 19:17:40.4, 37°.79N×26°.06E, h5km±1km, ML2.5/4, Error ellipse: s-maj=1.4km s-min=0.3km az=51.0*
ISC 20 19:17:39.9±1.3, 37°.79N±0°.03×26°.04E±0°.03, h7km±10km, n31, σ0°78/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEYE	**Izmir, Urla-Ze**	**0.58**	**39**	P	**Pg**	**19 17 51.2**	**+0.2**
ZEYE				S	**Sb**	**19 18 00.6**	**-0.2**
ZEYE				*i* AML	AML	19 18 02.0	
	comp=E,270nm,0.3s						
ZEYE				*i* AML	AML	19 18 04.0	
	comp=N,292nm,0.2s						
CHOS	**Chios island**	**0.59**	**1**	P	**Pg**	**19 17 51.8**	**+0.4**
CHOS				S	**Sb**	**19 18 01.0**	**-0.4**
	375nm,0.3s						
CHOS	**Chios island**	**0.59**	**1**	PG	**Pg**	**19 17 52.2**	**+0.8**
CHOS				SG	**Sb**	**19 18 01.1**	**-0.4**
SMG	**Samos**	**0.64**	**97**	P	**Pg**	**19 17 52.5**	**+0.3**
SMG				S	**Sb**	**19 18 01.6**	**-0.9**
	1μm,0.3s						
DGB	**zmir**	**0.71**	**68**	P	**Pg**	**19 17 52.7**	**-1.0**
DGB				S	**Sg**	**19 18 02.8**	**-0.1**
DGB				*i* AML	AML	19 18 05.0	
	comp=E,264nm,0.2s						
URLA	**Izmir**	**0.72**	**37**	PG	**Pb**	**19 17 54.3**	**-0.5**
URLA				SG	**Sb**	**19 18 05.1**	**+0.2**
URLA	**Izmir**	**0.72**	**37**	P	**Pg**	**19 17 53.6**	**-0.1**
URLA				S	**Sb**	**19 18 04.0**	**-0.9**
URLA				*i* AML	AML	19 18 07.0	
	comp=N,427nm,0.6s						
URLA				*i* AML	AML	19 18 10.0	
	comp=E,218nm,0.6s						
GCAM	**G?zelcaml?**	**0.95**	**95**	PG	**Pb**	**19 17 58.7**	**0.0**
GCAM				SG	**Sn**	**19 18 12.4**	**-1.1**
GCAM	**G?zelcaml?**	**0.95**	**95**	P	**Pg**	**19 17 57.8**	**-0.4**
DIDI	**Didim-Aydin**	**1.04**	**113**	PG	**Pn**	**19 18 00.5**	**-0.4**
FOCM	**Foa**	**1.07**	**30**	PG	**Pb**	**19 18 00.9**	**+0.1**
BODT	**Bodrum**	**1.25**	**125**	PN	**Pn**	**19 18 04.4**	**+0.6**
BODT				SN	**Sn**	**19 18 22.5**	**+1.6**
CAND	**Candarli**	**1.31**	**27**	PN	**Pg**	**19 18 05.4**	**+0.4**
SIGR	**SIGRI**	**1.43**	**354**	P	**Pn**	**19 18 05.2**	**-1.1**
SIGR				S	**Sn**	**19 18 25.7**	**+0.4**
	118nm,0.6s						
ZEDA	**zmir-Bergama**	**1.43**	**34**	P	**Pn**	**19 18 05.8**	**-0.5**
ZEDA				S	**Sg**	**19 18 25.8**	**0.0**
DKL	**Dikili**	**1.45**	**28**	PN	**Pg**	**19 18 07.7**	**0.0**
PRK	**Paraskevi**	**1.46**	**7**	P	**Pn**	**19 18 06.3**	**-0.5**
PRK				S	**Sn**	**19 18 26.4**	**+0.2**
	158nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**1.49**	**198**	PN	**Pg**	**19 18 08.6**	**+0.1**
NIS1	**Nisyros Isl.**	**1.50**	**142**	PN	**Pg**	**19 18 08.6**	**0.0**
AYVA	**Ayvalik**	**1.60**	**18**	P	**Pn**	**19 18 08.9**	**+0.3**
AYVA				S	**Sg**	**19 18 32.2**	**+0.9**
AYVA				*i* AML	AML	19 18 36.0	
	comp=N,41nm,0.8s						
DAT	**Datca**	**1.62**	**130**	PN	**Pb**	**19 18 10.2**	**-0.1**
DION	**Dionisos Attik**	**1.69**	**280**	P	**Pn**	**19 18 09.9**	**0.0**
KOCA	**Canakkale, Ayv**	**1.71**	**3**	P	**Pn**	**19 18 10.7**	**+0.5**
VLY	**Voula,Athens**	**1.78**	**273**	P	**Pn**	**19 18 11.6**	**+0.5**
YER	**Yerkesik**	**1.90**	**110**	PN	**Pb**	**19 18 14.3**	**-0.7**
EZN	**Ezine**	**2.04**	**6**	PN	**Pb**	**19 18 16.3**	**-1.1**
BOZC	**Bozcaada**	**2.05**	**0**	PN	**Pb**	**19 18 16.4**	**-1.1**
KULA	**Kula-Manisa**	**2.19**	**70**	PN	**Pn**	**19 18 18.3**	**+1.5**
LIA	**Limnos Island**	**2.21**	**343**	P	**Pn**	**19 18 16.2**	**-0.8**
BALB	**Balikesir**	**2.34**	**37**	PN	**Pn**	**19 18 20.4**	**+1.6**
GELI	**Tayfur-Gelibol**	**2.62**	**7**	PN	**Pn**	**19 18 24.8**	**+2.1**

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*IDC **20** 19:25:08.0±1.6, 37°.76N×101°.79E, h0km, mb3.6/3, mb1 3.6/7, mb1mx3.3/53, mbtmp3.4/7, ML3.2/4, MS3.8/1, Ms1 3.8/1, ms1mx2.7/81, Error ellipse: s-maj=37.4km s-min=26.4km az=98.0*
ISC 20 19:25:08.5±0.8, 37°.7N±0°.1×101°.7E±0°.1, h10km, n11, σ1°47/13, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.25**	**320**	Pn	**Pb**	**19 25 47.3**	**-2.1**
GTA				Pg	**Pn**	**19 25 48.4**	**+2.4**
GTA				Sg	**Sb**	**19 26 17.6**	**+0.2**
GTA				smax	smax		
	comp=N,320nm,0.5s						
GTA				smax	smax		
	comp=E,230nm,0.7s						
LZH	**Lanzhou**	**2.36**	**132**	Pg	**Pb**	**19 25 50.0**	**-1.2**
LZH	**Lanzhou**	**2.36**	**132**	P	**Pg**	**19 25 54.1**	**+0.3**
LZH				Sg	**Sg**	**19 26 23.3**	**-1.1**
LZH				smax	smax		
	comp=N,250nm,0.8s						
LZH				smax	smax		
	comp=E,200nm,0.7s						
LZH				LR	LR		
	comp=N,530nm,5.4s						
LZH				LR	LR		
	comp=E,510nm,5.7s						
LZH				LR	LR		
	comp=Z,360nm,6.8s						
SONM	**Songino Array**	**10.71**	**17**	Pn	**Pn**	**19 27 41.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=201,slow=15,SNR=14						
SONM				Lg	Lg	19 30 45.3	
	comp=Z,0.4nm,0.3s,baz=213,slow=30,SNR=5.1						
MKAR	**Makanchi Array**	**16.96**	**309**	Pn	**Pn**	**19 29 03.3**	**-2.5**
	comp=Z,0.0nm,0.3s,baz=119,slow=12,SNR=3.5						
CMAR	**Chiang Mai Arr**	**19.32**	**188**	P	**Pn**	**19 29 35.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=23,slow=4.9,SNR=1.2						
ZALV	**Zalesovo Beam**	**19.97**	**330**	P	**Pn**	**19 29 41.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=4.1						
KURBB	**Kurchatov Arra**	**20.94**	**316**	P	**P**	**19 29 51.6**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=118,slow=12,SNR=20						
SHEM	**Shemya Is, Ala**	**51.02**	**48**	LR	LR	19 58 28.3	
	comp=Z,83nm,18.8s,baz=172,slow=39						
ILAR	**Eielson Array**	**64.79**	**26**	P	**P**	**19 35 47.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=279,slow=6.4,SNR=5.1						
YKA	**Yellowknife Ar**	**75.97**	**16**	P	**P**	**19 36 55.7**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=330,slow=5.4,SNR=5.1						

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*IDC **20** 19:28:26.9±2.5, 6°.69S×129°.90E, h127km±36km, mb3.5/1, mb1 3.4/5, mb1mx3.1/35, mbtmp3.8/5, Error ellipse: s-maj=69.9km s-min=16.2km az=92.0*
ISC 20 19:28:25.6±0.8, 6°.82S±0°.06×129°.7E±0°.1, h100km, n13, σ3°41/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.62**	**33**	P	**Pn**	**19 29 35.1**	**+2.0**
DRS	**Darwin Rock St**	**5.69**	**168**	P	Pn	19 29 53.1	+5.4
SIJI	**Sorong**	**6.11**	**15**	P	**Pn**	**19 29 54.7**	**+1.3**
	1.7nm,0.3s,baz=45,slow=18,SNR=42						
SIJI				S	**Sn**	**19 30 58.7**	**-3.2**
	7.1nm,0.3s,baz=82,slow=21,SNR=20						
MTN	**Manton Dam**	**6.14**	**167**	P	Pn	19 29 58.8	+5.0
KDU	**Kakadu**	**6.42**	**155**	P	**Pn**	**19 30 02.1**	**+4.5**
KNRA	**Kununurra**	**8.85**	**186**	P	**Pn**	**19 30 34.1**	**+3.4**
FITZ	**Fitzroy Crossi**	**11.90**	**199**	P	**Pn**	**19 31 15.0**	**+3.0**
	0.9nm,0.3s,baz=23,slow=11,SNR=42						
FITZ				S	Sn	19 33 18.6	-4.3
	1.2nm,0.3s,baz=215,slow=21,SNR=6.7						
WRAB	**Tennant Creek**	**13.78**	**161**	P	**Pn**	**19 31 40.1**	**+3.4**
WRA	**Warramunga Arr**	**13.79**	**162**	P	**Pn**	**19 31 37.1**	**+0.3**
	0.6nm,0.3s,baz=342,slow=13,SNR=28						
WRA				S	**Sn**	**19 34 03.1**	**-5.6**
	1.2nm,0.3s,baz=336,slow=20,SNR=8.1						
COEN	**Coen**	**14.99**	**119**	P	**P**	**19 31 55.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**15.54**	**263**	P	**Pn**	**19 31 58.6**	**-0.6**
ASAR	**Alice Springs**	**17.22**	**167**	P	**P**	**19 32 20.4**	**+0.4**
	0.1nm,0.3s,baz=347,slow=8.6,SNR=2.0						
ASAR				S	**Sn**	**19 35 26.6**	**-5.0**
	0.2nm,0.3s,baz=355,slow=28,SNR=5.1						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**19 39 11.9**	**-1.8**
	0.7nm,0.5s,baz=120,slow=8.1,SNR=20						

IDC 20 19:36:20.7±2.0, 4°.48N×127°.86E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/31, mbtmp3.4/4, Error ellipse: s-maj=109.0km s-min=24.2km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.54**	**186**	P	P	19 41 22.0	-0.5
	0.5nm,0.6s,baz=8.8,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**25.09**	**165**	P	P	19 41 48.8	+1.5
	1.0nm,0.8s,baz=346,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**28.59**	**168**	P	P	19 42 17.0	-1.8
	0.1nm,0.3s,baz=349,slow=9.6,SNR=2.1						
MKAR	**Makanchi Array**	**57.59**	**324**	P	P	19 46 12.5	0.0
	0.3nm,0.4s,baz=117,slow=7.8,SNR=9.2						

**IDC 20 20:12:54.0±1.1, 4°.23N×127°.44E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/31, mbtmp3.3/4

STKA LR LR 20 57 28.2
comp=Z,54nm,18.4s,baz=207,slow=33
STKA Stephens Creek 35.46 255 P **P 20 44 30.8 -0.1**
STKA IAmb IAmb 20 44 33.8
comp=Z,2.4nm,1.4s
PMG Port Moresby 38.58 293 LR LR 20 57 23.1
comp=Z,83nm,19.3s,baz=88,slow=31
ASAR Alice Springs 43.85 265 P **P 20 45 39.8 -1.1**
comp=Z,2.0nm,0.5s,baz=103,slow=6.9,SNR=27
ASAR PcP **PP 20 47 25.1 +1.8**
comp=Z,0.5nm,0.7s,baz=117,slow=3.2,SNR=4.1
WR0 Warramunga Arr 44.52 270 P **P 20 45 45.3 -0.9**
WR0 IAmb IAmb 20 45 57.5
comp=Z,4.0nm,1.0s
WB2 Warramunga Arr 44.69 270 P **P 20 45 46.7 -0.9**
WB2 IAmb IAmb 20 45 47.6
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 44.70 270 P **P 20 45 47.0 -0.6**
WRAB IAmb IAmb 20 45 47.6
comp=Z,4.1nm,0.8s
WRA Warramunga Arr 44.70 270 P **P 20 45 47.0 -0.6**
comp=Z,2.9nm,0.7s,baz=110,slow=7.5,SNR=45
WRA Warramunga Arr 44.70 270 P **P 20 45 46.9 -0.8**
WB0 Warramunga Arr 44.72 271 P **P 20 45 46.9 -0.9**
WB0 IAmb IAmb 20 45 48.1
comp=Z,3.6nm,0.8s
KNRA Kununurra 51.25 273 P **P 20 46 36.6 -1.7**
FINES FINESS Array B 143.96 341 PKP PKPab 20 57 02.7 -3.3
comp=Z,0.8nm,0.6s,baz=57,slow=5.1,SNR=6.3
AKASG Malin Array Be 150.48 325 PKPbc **PKPdf 20 57 21.9 +2.0**
comp=Z,0.5nm,0.4s,baz=42,slow=2.9,SNR=4.9
AKASG Malin Array Be 150.48 325 PKPdf 20 57 18.9 -1.0

IDC 20 20:51:02.1±1.8, 3°.94N×126°.92E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/31, mbtmp3.6/5, MS3.8/1, Ms1 3.8/1, ms1mx2.4/49, Error ellipse: s-maj=100.2km s-min=24.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.94**	**183**	P	P	20 55 57.4	0.0
	0.7nm,0.4s,baz=4.2,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**24.83**	**163**	P	P	20 56 26.4	+0.1
	1.4nm,0.7s,baz=343,slow=11,SNR=18						
ASAR	**Alice Springs**	**28.27**	**166**	P	P	20 56 57.4	0.0
	0.1nm,0.6s,baz=340,slow=7.2,SNR=1.4						
STKA	**Stephens Creek**	**38.26**	**160**	P	P	20 58 24.0	-0.2
	1.1nm,0.5s,baz=344,slow=7.4,SNR=3.0						
MSVF	**Nonsavu**	**54.83**	**115**	LR	LR	21 24 39.6	
	comp=Z,75nm,18.1s,baz=161,slow=37						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	21 00 53.1	0.0
	0.2nm,0.4s,baz=117,slow=8.0,SNR=5.8						

*IDC **20** 21:32:49.6±1.2, 5°.75S×154°.34E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/28, mbtmp3.9/8, ML2.7/1, Error ellipse: s-maj=36.2km s-min=23.4km az=113.0*

ISC 20 21:32:55.3±1.8, 5°.3S±0°.9×153°.9E±0°.6, h35km, n13, σ1§21/7, mb3.8/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.12**	**297**	Pn	Pn	21 33 35.6	+7.4
	baz=233,slow=20						
KRVT				Sn	Sn	21 34 15.0	+22
PMG	**Port Moresby**	**7.84**	**238**	Pn	**Pn**	**21 34 47.6**	**+0.7**
	5.5nm,0.3s,baz=72,slow=3.7,SNR=9.0						
PMG				Sn	**Sn**	**21 36 14.5**	**-0.1**
	2.5nm,0.3s,baz=129,slow=23,SNR=1.7						
WRA	**Warramunga Arr**	**23.97**	**231**	P	**P**	**21 38 04.8**	**-1.9**
	0.5nm,0.7s,baz=57,slow=9.9,SNR=8.4						
WRA				PcP	**PcP**	**21 41 49.4**	**+0.9**
	1.5nm,0.7s,baz=59,slow=2.1,SNR=11						
ASAR	**Alice Springs**	**26.56**	**225**	P	**P**	**21 38 30.1**	**-0.1**
	1.6nm,0.8s,baz=56,slow=9.4,SNR=17						
ASAR				PcP	**PcP**	**21 41 55.0**	**+0.7**
	1.5nm,0.6s,baz=65,slow=2.3,SNR=17						
H11S3	**WAKE ISLAND Hy**	**26.78**	**28**	T	T	22 06 51.6	
	baz=208,slow=76,SNR=62						
H11S2	**WAKE ISLAND Hy**	**26.79**	**28**	T	T	22 06 54.7	
	baz=208,slow=76,SNR=51						
H11S1	**WAKE ISLAND Hy**	**26.80**	**28**	T	T	22 06 57.3	
	baz=208,slow=76,SNR=68						
CMAR	**Chiang Mai Arr**	**59.09**	**295**	P	P	21 42 56.4	+3.8
	2.3nm,0.8s,baz=117,slow=5.2,SNR=19						
SONM	**Songino Array**	**67.33**	**327**	P	P	21 43 50.6	+3.7
	0.3nm,0.4s,baz=132,slow=6.6,SNR=6.2						
MKAR	**Makanchi Array**	**81.42**	**319**	P	P	21 45 11.7	+2.9
	0.6nm,0.5s,baz=94,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**82.17**	**326**	P	P	21 45 15.2	+2.7
	0.5nm,0.3s,baz=128,slow=5.0,SNR=3.0						
ILAR	**Eielson Array**	**82.20**	**22**	P	P	21 45 13.6	+1.1
	0.2nm,0.6s,baz=238,slow=5.2,SNR=1.7						
TORD	**Torodi Ar. Bea**	**151.51**	**288**	PKPbc	**PKiKP**	**21 52 46.6**	**-0.6**
	1.0nm,0.7s,baz=79,slow=2.1,SNR=8.3						

*NEIC **20** 21:40:03.5±1.4, 4°.73S±0°.08×152°.62E±0°.09, h56km±7km, mb4.3/18, Error ellipse: s-maj=13.8km s-min=9.8km az=57.0*

*IDC **20** 21:40:03.0±2.2, 4°.73S×152°.50E, h58km±14km, mb4.0/7, mb1 4.2/8, mb1mx3.8/28, mbtmp4.2/8, MS3.6/5, Ms1 3.6/5, ms1mx3.0/51, Error ellipse: s-maj=34.8km s-min=14.2km az=115.0*

ISC 20 21:40:03.0±0.6, 4°.74S±0°.06×152°.61E±0°.09, h58km, n47, σ0§92/45, mb4.2/18, MS4.4/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.71**	**321**		**Pn**	**21 40 17.6**	**+0.3**
RABL				Sn	**Sn**	**21 40 27.7**	**0.0**
KRVT	**Keravat (AS076**	**0.72**	**307**	P	**Pn**	**21 40 17.6**	**+0.1**
KRVT				S	**Sn**	**21 40 27.7**	**-0.3**
MANU	**Manus Island**	**5.88**	**297**	Pn	**Pn**	**21 41 29.6**	**+1.9**
PMG	**Port Moresby**	**7.12**	**229**	P	**Pn**	**21 41 45.3**	**+0.7**
	4.4nm,0.3s,baz=50,slow=8.8,SNR=5.7						
PMG				S	**Sn**	**21 43 04.2**	**0.0**
	2.8nm,0.3s,baz=332,slow=23,SNR=4.2						
PMG	**Port Moresby**	**7.12**	**229**		**Pn**	**21 41 46.2**	**+1.6**
PATS	**Pohnpei**	**12.84**	**26**	Pn	**Pn**	**21 43 02.4**	**-0.4**
CTA	**Charters Tower**	**16.46**	**202**	LR	LR	21 49 14.1	
	comp=Z,82nm,19.0s,baz=90,slow=34						
GUMO	**Guam**	**19.77**	**337**	LR	LR	21 53 13.4	
	comp=Z,28nm,18.0s,baz=93,slow=40						
DZM	**Mont Dzumac**	**21.82**	**143**	LR	LR	21 51 21.2	
	comp=Z,37nm,21.2s,baz=304,slow=31						
DZM	**Mont Dzumac**	**21.82**	**143**	P	**P**	**21 44 50.5**	**-0.2**
DZM				IAmb	IAmb	21 45 00.3	
	comp=Z,12nm,1.2s						
MTN	**Manton Dam**	**22.68**	**248**	P	**P**	**21 44 58.9**	**-1.0**
MTN				IAmb	IAmb	21 45 12.9	
	comp=Z,9.8nm,1.1s						
WB0	**Warramunga Arr**	**23.19**	**228**	P	**P**	**21 45 03.6**	**-1.5**
WB0				IAmb	IAmb	21 45 25.1	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**23.34**	**228**	P	**P**	**21 45 05.0**	**-1.5**
	comp=Z,3.7nm,0.6s,baz=51,slow=10,SNR=56						
WRA	**Warramunga Arr**	**23.34**	**228**	P	**P**	**21 45 04.9**	**-1.6**
KNRA	**Kununurra**	**25.82**	**243**	P	**P**	**21 45 29.1**	**-0.1**
KNRA				IAmb	IAmb	21 45 32.6	
	comp=Z,21nm,1.4s						
AS31	**Alice Springs**	**26.06**	**222**	P	**P**	**21 45 31.5**	**+0.2**
ASAR	**Alice Springs**	**26.06**	**222**	P	**P**	**21 45 30.3**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=55,slow=9.0,SNR=23						
ASAR	**Alice Springs**	**26.06**	**222**	P	**P**	**21 45 32.8**	**+1.5**
FITZ	**Fitzroy Crossi**	**29.52**	**241**	P	**P**	**21 46 00.2**	**-1.9**
	comp=Z,4.8nm,0.4s,baz=59,slow=7.0						
PSA00	**Pilbara Seismi**	**35.89**	**239**	P	**P**	**21 46 56.0**	**-1.9**
PSA00				IAmb	IAmb	21 47 08.9	
	comp=Z,10.0nm,1.3s						
JHJ	**Hachijo jima 2**	**39.57**	**343**	LR	LR	22 00 23.8	
	comp=Z,538nm,20.1s,baz=74,slow=31						
BKZ	**Black Stump Fm**	**40.53**	**151**	P	**P**	**21 47 37.0**	**+0.4**
MORW	**Morawa**	**42.23**	**231**	P	**P**	**21 47 49.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**57.68**	**295**	P	**P**	**21 49 48.0**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=116,slow=6.0,SNR=5.9						
KDAK	**Kodiak Island**	**76.21**	**27**	LR	LR	22 17 00.8	
	comp=Z,217nm,21.7s,baz=250,slow=29						
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**21 52 07.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=105,slow=5.3,SNR=5.7						
ZAA0	**Zalesovo Array**	**81.00**	**326**	P	**P**	**21 52 11.5**	**+0.1**
ZALV	**Zalesovo Beam**	**81.00**	**326**	P	**P**	**21 52 10.9**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=108,slow=5.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**81.00**	**326**	P	**P**	**21 52 11.0**	**-0.4**

I23K Minto, Yukon-K 81.46 21 P **P 21 52 13.7 +0.1**
I23K IAmb IAmb 21 52 28.0
comp=Z,2.2nm,0.8s
N25K Chitina, Valde 81.63 25 P **P 21 52 15.2 +0.5**
N25K IAmb IAmb 21 52 42.2
comp=Z,13nm,1.3s
IL31 82.18 22 P **P 21 52 17.0 -0.4**
IL31 IAmb IAmb 21 52 17.2
comp=Z,1.8nm,0.7s
ILAR Eielson Array 82.18 22 P **P 21 52 16.7 -0.7**
comp=Z,1.6nm,0.6s,baz=248,slow=5.3,SNR=26
ILAR Eielson Array 82.18 22 P **P 21 52 16.9 -0.6**
CTGM Chitina Glacie 82.79 27 P **P 21 52 21.8 +1.0**
SCRK Sand Creek 82.93 23 P **P 21 52 21.9 +0.4**
M27K Edge Creek, AK 83.11 25 P **P 21 52 23.6 +1.1**
M27K IAmb IAmb 21 52 24.2
comp=Z,4.4nm,0.6s
BOOM Boomskoye usch 83.42 314 P **P 21 52 25.4 +0.8**
BCAR Beaver Creek A 83.44 25 P **P 21 52 25.1 +1.0**
BMAR Burnt Mountain 84.26 20 P **P 21 52 29.1 +0.9**
INK Inuvik 88.47 21 P **P 21 52 48.8 +0.2**
INK IAmb IAmb 21 53 11.3
comp=Z,2.8nm,1.2s
YKA Yellowknife Ar 95.47 28 P **P 21 53 21.8 +0.6**
comp=Z,0.8nm,0.7s,baz=269,slow=4.9,SNR=12
YKA Yellowknife Ar 95.47 28 P **P 21 53 21.4 +0.2**
GERES GERESS Array B 123.91 328 PKP **PKPdf 21 58 54.8 -0.1**
comp=Z,0.5nm,0.6s,baz=75,slow=1.5,SNR=6.8
GERES GERESS Array B 123.91 328 PKPdf 21 58 54.4 -0.5
TORD Torodi Ar. Bea 150.11 288 PKPbc **PKPbc 21 59 47.5 -0.9**
comp=Z,2.3nm,0.5s,baz=83,slow=2.4,SNR=26
BDFB Brasilia 151.24 135 PKPbc **PKPbc 21 59 51.7 +0.5**
comp=Z,1.8nm,0.6s,baz=97,slow=3.8,SNR=3.3

ZUR 20 21:44:41.1, 46°.32N×7°.37E, h2km±1km, MLh0.2/4, 2C-2D, Error ellipse: s-maj=3.3km s-min=0.8km az=111.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin/Sane**	**0.06**	**314**	⇓Pg	Pg	21 44 42.8	+0.2
SENIN				⇓Pg	Pg	21 44 42.8	+0.2
	0.1nm,SNR=1.1						
SENIN				Sg	Sg	21 44 44.0	+0.4
GRYON	**Gryon**	**0.19**	**249**	Pg	Pg	21 44 45.0	+0.2
	0.1nm,SNR=1.9						
GRYON				Pg	Pg	21 44 45.0	+0.2
GRYON				Sg	Sg	21 44 47.7	+0.4
DIX	**Grande Dixence**	**0.24**	**173**	Sg	Sg	21 44 49.7	+0.7
LAUCH	**Lauchernalp**	**0.30**	**71**	⇑Pg	Pg	21 44 47.2	+0.3
	0.1nm,SNR=1.4						
LAUCH				⇑Pg	Pg	21 44 47.2	+0.3
LAUCH				Sg	Sg	21 44 51.2	+0.4

*ROM **20** 21:45:01.5±0.2, 44°.906N±0°.007×11°.20E±0°.01, h6km, ML1.7/2, Error ellipse: s-maj=1.2km s-min=0.4km az=303.0*

ISC 20 21:45:03.7±0.9, 44°.90N±0°.03×11°.31E±0°.04, h15km±6km, n20, σ0§87/27, 1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERM	**Sermide**	**0.11**	**354**	P	**Pg**	**21 45 06.9**	**-0.1**
SERM				S	**Sg**	**21 45 10.1**	**+0.9**
RAVA	**Ravarino**	**0.20**	**223**	⇓P	**Pg**	**21 45 07.5**	**-0.8**
RAVA				S	**Sg**	**21 45 12.0**	**+0.6**
CAVE	**Cavezzo**	**0.22**	**260**	P	**Pg**	**21 45 07.6**	**-1.1**
CAVE				S	**Sg**	**21 45 11.3**	**-0.7**
TEOL	**Teolo**	**0.52**	**29**	*e*Pg	**Pb**	**21 45 14.7**	**+0.1**
TEOL				*e*Sg	**Sb**	**21 45 23.6**	**+1.6**
TEOL	**Teolo**	**0.52**	**29**	P	**Pb**	**21 45 14.8**	**+0.1**
ZOVE	**Zovencedo**	**0.56**	**13**	P	**Pn**	**21 45 16.4**	**-0.9**
ZCCA	**Zocca**	**0.60**	**203**	P	**Pn**	**21 45 17.2**	**-0.6**
MARN	**Marana (Italy)**	**0.74**	**354**	*e*Pg	**Pn**	**21 45 18.7**	**-1.0**
MARN				*e*Sg	**Sn**	**21 45 31.8**	**+1.1**
ROVR	**Rover Verones**	**0.76**	**347**	P	**Pn**	**21 45 18.8**	**-1.3**
ROVR				AML	AML		
	comp=E,26μm,0.7s						
ROVR				AML	AML		
	comp=E,27μm,0.7s						
ROVR				AML	AML		
	comp=N,56μm,0.4s						
BRIS	**BRISIGHELLA**	**0.77**	**169**	P	**Pn**	**21 45 21.3**	**+1.2**
BALD	**Monte Baldo**	**0.85**	**336**	*e*Pg	**Pn**	**21 45 21.1**	**-0.3**
BALD				*e*Sg	**Sn**	**21 45 34.6**	**+0.8**
MTCR	**Monte La Croce**	**0.91**	**194**	P	**Pn**	**21 45 22.3**	**+0.2**
SALO	**Salr**	**0.91**	**322**	P	**Pn**	**21 45 22.2**	**+0.2**
SALO				AML	AML		
	comp=N,78μm,0.8s						
SALO				AML	AML		
	comp=E,62μm,0.5s						
DOSS	**Dosso del Somm**	**0.98**	**355**	*e*Pg	**Pn**	**21 45 23.1**	**-0.1**
DOSS	**Dosso del Somm**	**0.98**	**355**	P	**Pn**	**21 45 22.2**	**-0.9**
DOSS				AML	AML		
	comp=E,47μm,0.8s						
DOSS				AML	AML		
	comp=N,40μm,0.9s						
MAGA	**Magasa**	**1.00**	**331**	P	**Pn**	**21 45 22.9**	**-0.4**
CGRP	**Cima Grappa**	**1.03**	**19**	*e*Pg	**Pn**	**21 45 23.7**	**-0.3**
MTLO	**Montello**	**1.06**	**31**	*e*Pg	**Pn**	**21 45 23.7**	**-0.5**
PANI	**Panarotta**	**1.15**	**1**	*e*Pg	**Pn**	**21 45 25.6**	**+0.1**
BRJN	**Brijuni**	**1.73**	**89**	*e*Pg	**Pg**	**21 45 35.9**	**-1.1**
BRJN				Sg	**Sn**	**21 45 54.1**	**-1.1**

*BJI **20** 21:53:37.0±0.0, 43°.08N×146°.53E, h45km, mb5.0/76, mB5.0/43, Ms4.4/32, Ms7 4.1/31*

*IDC **20** 21:53:41.8±0.6, 43°.12N×146°.01E, h45km±5km, mb4.5/31, mb1 4.6/38, mb1mx4.6/52, mbtmp4.7/38, ML3.7/4, MS3.8/53, Ms1 3.8/53, ms1mx3.7/80, Error ellipse: s-maj=11.2km s-min=9.0km az=128.0*

*NEIC **20** 21:53:41.5±1.4, 43°.11N±0°.06×146°.02E±0°.10, h38km±4km, mb5.1/233, Error ellipse: s-maj=11.1km s-min=8.3km az=122.0*

*MOS **20** 21:53:41.4±0.9, 43°.10N×145°.96E, h56km, mb5.2/30, Error ellipse: s-maj=5.9km s-min=3.8km az=112.6*

*NIED **20** 21:53:41.7, 43°.07N×146°.05E, h50km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}1.29; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-1.42; $M_{r\theta}$-0.35; $M_{\theta\phi}$-0.46; $M_{\phi r}$0.63; Fault plane solution: $M_0$1.60000×10^16^ NP1: ϕ_s=356.00000°, δ58.00000°, λ66.00000°. NP2: ϕ_s=216.00000°, δ39.00000°, λ123.00000°.*

*DSN **20** 21:53:41.2±1.1, 42°.61N×146°.00E, h40km, mb5.5/16, Ms4.1/10 Error ellipse: s-maj=29.0km s-min=25.8km az=35.0*

*JMA **20** 21:53:41.6±0.1, 43°.07N×146°.05E, h50km±1km, M5.1*

JMA Felt III J1.

*SKHL **20** 21:53:42.6±0.3, 43°.10N×146°.10E, h67km±6km, mb5.3/13, mbv5.5/2, msh5.3/1*

*BGR **20** 21:53:49.7±0.0, 44°.48N×145°.37E, h33km, mb5.0, Ms4.1*

ISC 20 21:53:41.8±0.4, 43°.09N±0°.03×146°.10E±0°.03, h46km±2km, h45km: pP-P, n1066, σ1§01/1088, mb5.0/293, MS4.0/62, 83C-53D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.38**	**317**	⇓P	**Pn**	**21 53 51.4**	**+0.1**
NEM2				*e*S	**Sn**	**21 53 58.2**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.39**	**316**	⇓*i*PN	**Pn**	**21 53 51.5**	**0.0**
NMR				*e*S	**Sn**	**21 53 58.3**	**0.0**
NMR	**Nemuro--Hokkai**	**0.39**	**316**	*i* P	**Pn**	**21 53 51.7**	**+0.2**
NMR				*e*S	**Sn**	**21 53 58.3**	**0.0**
JKHN	**Kushirohamanak**	**0.69**	**270**	⇓P	**Pn**	**21 53 55.0**	**-0.2**
GLVR	**Golovnino**	**0.77**	**327**	*e*PN	**Pn**	**21 53 56.3**	**0.0**
GLVR				*e*S	**Sn**	**21 54 06.8**	**-0.1**
GLVR				pmax	pmax		
	comp=Z,12μm,0.4s						
GLVR				pmax	pmax		
	comp=E,1μm,0.3s						
GLVR				pmax	pmax		
	comp=N,1μm,0.4s						
GLVR				smax	smax		
	comp=N,59μm,0.4s						
GLVR				smax	smax		
	comp=E,40μm,0.4s						
GLVR	**Golovnino**	**0.77**	**327**	*e*P	**Pn**	**21 53 56.3**	**0.0**
GLVR				AMB	AMB	21 53 57.0	
	comp=E,12μm,0.4s						
GLVR				*e*S	**Sn**	**21 54 06.8**	**-0.1**
GLVR				A	A	21 54 08.1	
	comp=E,59μm,0.4s						
GLVR				A	A	21 54 08.1	
	comp=E,40μm,0.4s						
AKK	**Akkeshi**	**0.93**	**266**	*e*P	**Pn**	**21 53 58.1**	**-0.3**
AKK				*e*S	**Sn**	**21 54 09.6**	**-0.9**
GRPR	**Tuman**	**0.93**	**345**	*e*PN	**Pn**	**21 53 58.3**	**-0.2**
GRPR				*i* S	**Sn**	**21 54 09.9**	**-0.9**
GRPR				pmax	pmax		
	comp=Z,11μm,0.2s						
GRPR				pmax	pmax		
	comp=N,3μm,0.3s						
GRPR				pmax	pmax		
	comp=E,3μm,0.2s						
GRPR				smax	smax		
	comp=N,59μm,0.3s						
GRPR				smax	smax		
	comp=E,30μm,0.4s						
GRPR	**Tuman**	**0.93**	**345**	*e*P	**Pn**	**21 53 58.1**	**-0.4**
GRPR				AMB	AMB	21 54 00.0	
	comp=E,12μm,0.3s						
GRPR				*i* S	**Sn**	**21 54 09.9**	**-0.9**
GRPR				A	A	21 54 12.8	
	comp=E,59μm,0.4s						
GRPR				A	A	21 54 12.8	
	comp=E,30μm,0.4s						
SHO	**Shikotan**	**0.94**	**34**	*c i*PN	**Pn**	**21 53 58.6**	**0.0**
SHO				*i* S	**Sn**	**21 54 10.7**	**-0.3**
SHO	**Shikotan**	**0.94**	**34**	*i* P	**Pn**	**21 53 58.8**	**+0.2**
SHO				AMB	AMB	21 53 59.9	
	comp=E,680nm,0.3s						
SHO				*i* S	**Sn**	**21 54 11.0**	**0.0**
SHO				A	A	21 54 11.8	
	comp=E,13μm,0.5s						
SHO				A	A	21 54 11.8	
	comp=E,21μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.96**	**350**	*c i*PN	**Pn**	**21 53 58.7**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.96**	**350**	*e*P	**Pn**	**21 53 58.7**	**-0.1**
YUK				AMB	AMB	21 54 00.1	
	comp=E,7μm,0.3s						
YUK				*i* S	**Sn**	**21 54 10.8**	**-0.6**
YUK				A	A	21 54 11.7	
	comp=E,29μm,0.6s						
YUK				A	A	21 54 11.7	
	comp=E,72μm,0.6s						
JAK	**Akkeshi**	**1.03**	**265**	⇓P	**Pn**	**21 53 59.4**	**-0.4**
JAK				*e*S	**Sn**	**21 54 12.5**	**-0.6**
JNSB	**Nemuroshibetsu**	**1.05**	**311**	⇓P	**Pn**	**21 53 59.9**	**-0.2**
JNSB				*e*S	**Sn**	**21 54 13.4**	**-0.2**
JRA	**Rausu**	**1.11**	**320**	⇓P	**Pn**	**21 54 01.1**	**+0.3**
JRA				*e*S	**Sn**	**21 54 15.2**	**+0.3**
JNK	**Nakash**	**1.12**	**297**	⇓P	**Pn**	**21 54 00.6**	**-0.5**
JNK				*e*S	**Sn**	**21 54 14.7**	**-0.7**
RUSJ	**Misakicho**	**1.19**	**329**	⇓*i*PN	**Pn**	**21 54 02.6**	**+0.6**
RUSJ				*e*S	**Sn**	**21 54 18.0**	**+1.1**
JOB	**Onbets**	**1.67**	**264**	⇓P	**Pn**	**21 54 08.4**	**-0.2**
JOB				*e*S	**Sn**	**21 54 27.7**	**-1.1**
JAR	**Ashorobuto**	**1.72**	**278**	⇓P	**Pn**	**21 54 09.1**	**-0.1**
JAR				*e*S	**Sn**	**21 54 29.6**	**-0.3**
JTKR	**Abashiri--Toko**	**1.82**	**300**	⇓P	**Pn**	**21 54 11.3**	**+0.7**
JCH	**Churui**	**2.07**	**258**	⇓P	**Pn**	**21 54 13.3**	**-0.7**
JMP	**Maruseppu**	**2.19**	**296**	⇓P	**Pn**	**21 54 16.5**	**+0.7**
JTHR	**Tokachihiroo**	**2.21**	**250**	⇓P	**Pn**	**21 54 16.5**	**+0.5**
ERM	**Erimo**	**2.43**	**245**	*ce*PN	**Pn**	**21 54 19.8**	**+0.9**
ERM	**Erimo**	**2.43**	**245**		**Pn**	**21 54 18.9**	**0.0**
ERM				Sn	**Sn**	**21 54 47.1**	**-0.2**
KUR	**Kuril'sk**	**2.49**	**30**	*de*PN	**Pn**	**21 54 22.1**	**+2.3**
KUR				*i* S	**Sn**	**21 54 50.9**	**+2.0**
KUR				pmax	pmax		
	comp=Z,956nm,0.6s						
KUR				pmax	pmax		
	comp=E,643nm,0.5s						
KUR				pmax	pmax		
	comp=N,380nm,0.3s						
KUR				smax	smax		
	comp=E,3μm,0.5s						
KUR				smax	smax		
	comp=N,930nm,0.3s						
KUR	**Kuril'sk**	**2.49**	**30**	*e*P	**Pn**	**21 54 20.8**	**+1.0**
KUR				AMB	AMB	21 54 22.5	
	comp=N,1μm,0.4s						
KUR				*e*S	**Sn**	**21 54 48.2**	**-0.7**
KUR				A	A	21 54 51.7	
	comp=N,5μm,0.5s						
KUR				A	A	21 54 51.7	
	comp=N,5μm,0.5s						
JKK2	**Kamakawa 2**	**2.56**	**289**	⇓P	**Pn**	**21 54 21.9**	**+1.1**
JFR	**Furan**	**2.57**	**273**	⇓P	**Pn**	**21 54 21.3**	**+0.4**
JKA	**Kamikawa-asahi**	**2.74**	**293**		**Pn**	**21 54 24.4**	**+1.1**
ASAJ	**Asahikawa**	**2.74**	**293**	P	**Pn**	**21 54 23.8**	**+0.6**
	comp=N,286nm,0.3s,baz=112,slow=11,SNR=289						
ASAJ				S	**Sn**	**21 55 00.7**	**+5.5**
	comp=N,486nm,0.3s,baz=49,slow=29,SNR=12						
ASAJ				LR	LR	21 55 42.2	
	comp=N,3μm,18.5s,baz=78,slow=45						
ASAJ	**Asahikawa**	**2.74**	**293**	⇓P	**Pn**	**21 54 24.8**	**+1.5**
ASAJ	**Asahikawa**	**2.74**	**293**	PN	**Pn**	**21 54 24.4**	**+1.1**
JAB	**Ashibetsu**	**2.86**	**280**	⇓P	**Pn**	**21 54 26.8**	**+1.9**
JEW	**Eniwo**	**3.42**	**267**		**Pn**	**21 54 33.4**	**+0.8**
JEW				Sn	**Sn**	**21 55 11.8**	**-0.1**
JTH	**Tanohata**	**4.48**	**227**	P	**Pn**	**21 54 45.1**	**-2.0**
YSS	**Yuzh-Sakhalins**	**4.53**	**330**	⇓*e*PN	**Pn**	**21 54 49.2**	**+1.4**
YSS				*e*S	**Sn**	**21 55 38.2**	**-1.0**
YSS				pmax	pmax		
	comp=Z,120nm,0.7s						
YSS				smax	smax		
	comp=N,260nm,1.0s						
YSS				smax	smax		
	comp=E,260nm,0.7s						
YSS				MLR	MLR		
	comp=Z,2μm,11.0s						
YSS	**Yuzh-Sakhalins**	**4.53**	**330**	Pn	**Pn**	**21 54 48.4**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.53**	**330**	*e*P	**Pn**	**21 54 48.5**	**+0.7**
YSS				AMB	AMB	21 54 50.7	
	comp=Z,120nm,0.7s						
YSS				*e*S	**Sn**	**21 55 37.3**	**-1.9**
YSS				A	A	21 55 41.2	
	comp=Z,210nm,0.7s						
YSS				A	A	21 55 41.2	
	comp=Z,260nm,0.7s						
JKZ	**Kuzumaki**	**4.74**	**231**	⇑P	**Pn**	**21 54 49.6**	**-1.1**
MIYJ	**Miyakonagasawa**	**4.76**	**224**	⇑P	**Pn**	**21 54 49.0**	**-2.0**
OFUJ	**Ofunato**	**5.22**	**221**	⇑P	**Pn**	**21 54 55.5**	**-1.8**
JKMT	**Kesennumamot

MAJO Matsushiro 8.92 225 P **Pn 21 55 46.8 -1.2**
MAT Matsushiro 8.92 225 P **Pn 21 55 46.6 -1.4**
MAT *e*S **Sn 21 57 24.0 -3.2**
MJAR Matsushiro Arr 8.92 225 P **Pn 21 55 46.8 -1.2**
comp=Z,1.3nm,0.3s,baz=28,slow=14,SNR=34
MJAR LR LR 21 59 30.2
comp=Z,303nm,21.6s,baz=56,slow=39
MJAR Matsushiro Arr 8.92 225 PN **Pn 21 55 47.0 -1.1**
MJAR Matsushiro Arr 8.92 225 Pn **Pn 21 55 47.0 -1.1**
JGF Kuroka 10.08 225 Pn 21 56 03.2 -0.8
GRNR Gornyy 10.13 323⇑*i*PN **Pn 21 56 08.6 +4.1**
GRNR *e*S Sn 21 58 06.7 +10
GRNR pmax pmax
comp=E,5.0nm,0.7s
GRNR pmax pmax
comp=N,8.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR smax smax
comp=N,5.0nm,0.7s
GRNR MLR MLR
comp=E,420nm,17.0s
GRNR MLR MLR
comp=N,260nm,17.0s
GRNR MLR MLR
comp=Z,440nm,15.0s
GRNR Gornyy 10.13 323 *e*P **Pn 21 56 06.0 +1.5**
GRNR AMB AMB 21 56 09.1
comp=Z,10.0nm,0.9s
SKR Severo-Kuril's 10.22 39 *e*PN Pn 21 56 00.1 -5.6
SKR *e*S Sn 21 58 12.0 +13
SKR pmax pmax
comp=Z,67nm,1.0s
SKR pmax pmax
comp=Z,800nm,5.4s
SKR pmax pmax
comp=Z,1μm,4.7s
SKR smax smax
comp=E,90nm,1.2s
SKR smax smax
comp=N,132nm,1.2s
SKR Severo-Kuril's 10.22 39 *e*P **Pn 21 56 06.9 +1.2**
SKR AMB AMB 21 56 07.9
comp=N,800nm,5.4s
SKR AMB AMB 21 56 11.0
comp=N,90nm,0.6s
SKR *e*S **Sn 21 57 54.0 -4.9**
SKR A A 21 58 05.8
comp=N,50nm,0.7s
SKR A A 21 58 05.8
comp=N,110nm,0.7s
USA0B Ussuriysk Arra 10.29 281 PN **Pn 21 56 04.9 -1.8**
USA0B Ussuriysk Arra 10.29 281 Pn 21 56 04.9 -1.8
USRK Ussuriysk Ar. 10.29 281 P **Pn 21 56 04.4 -2.3**
baz=93,slow=14,SNR=2.7
USRK LR LR 21 59 53.5
comp=N,672nm,21.7s,baz=88,slow=36
USRK Ussuriysk Ar. 10.29 281 PN **Pn 21 56 05.6 -1.1**
USRK Ussuriysk Ar. 10.29 281 Pn **Pn 21 56 05.6 -1.1**
VLA Vladivostok 10.40 275⇑*e*PN **Pn 21 56 09.9 +1.7**
VLA pmax pmax
comp=Z,70nm,0.9s
VLA Vladivostok 10.40 275 *e*P **Pn 21 56 09.9 +1.7**
INU Inuyama 10.45 225 Pn 21 56 08.1 -0.9
OKH Okha 10.68 350 *e*P **Pn 21 56 14.2 +2.3**
MSHR Mys Shultsa 10.99 272⇓*e*PN **Pn 21 56 18.6 +2.3**
MSHR pmax pmax
comp=Z,35nm,1.3s
PAU Pauzhetka 11.09 37 *e*P **Pn 21 56 17.4 -0.1**
PAU AMB AMB 21 56 22.8
comp=Z,80nm,0.5s
JHJ2 Mitsune 11.12 208 Pn **Pn 21 56 15.4 -2.7**
JHJ Hachijo jima 2 11.12 209 P **Pn 21 56 16.4 -1.7**
comp=Z,40nm,0.3s,baz=88,slow=20,SNR=8.5
JHJ S Sn 21 58 10.2 -11
comp=Z,87nm,0.3s,baz=142,slow=22,SNR=12
KLR Kul'dur 11.69 307 P **Pn 21 56 29.7 +3.9**
comp=Z,0.7nm,0.3s,baz=113,slow=15,SNR=41
KLR LR LR 22 01 17.2
comp=Z,399nm,21.1s,baz=118,slow=39
KLR Kul'dur 11.69 307 *i* PN **Pn 21 56 29.9 +4.2**
KLR Kul'dur 11.69 307 *e*P **Pn 21 56 25.2 -0.5**
MDJ Mudanjiang 12.02 283 P **Pn 21 56 31.0 +0.7**
MDJ pP P 21 56 38.8 -3.4
MDJ S **Sn 21 58 41.3 -1.6**
MDJ pmax pmax
comp=Z,25nm,2.9s
MDJ pmax pmax
comp=Z,310nm,4.9s
MDJ LR LR
comp=Z,510nm,5.9s
MDJ LR LR
comp=Z,490nm,10.3s
MDJ LR LR
comp=Z,850nm,14.5s
MDJ Mudanjiang 12.02 283 Pn **Pn 21 56 30.3 -0.1**
PEA0B Petropavlovsk- 12.65 34 PN **Pn 21 56 38.2 -0.7**
PEA0B Petropavlovsk- 12.65 34 Pn **Pn 21 56 38.2 -0.7**
PETK Petropavlovsk- 12.65 34 P **Pn 21 56 38.3 -0.6**
comp=Z,0.7nm,0.3s,baz=184,slow=11,SNR=7.3
JHS Saijyo 12.92 236 Pn **Pn 21 56 42.9 +0.3**
JMN Monobe 13.37 230 Pn **Pn 21 56 46.1 -2.8**
BNX BinXian 13.62 288⇑P **Pn 21 56 52.1 -0.1**
BNX pmax pmax
comp=Z,4.0nm,0.6s
BNX pmax pmax
comp=Z,360nm,4.3s
KSRS Korea Array 14.97 254 P **Pn 21 57 09.8 -0.4**
comp=Z,0.4nm,0.3s,baz=66,slow=12,SNR=10
KSRS S **Sn 22 00 01.2 +6.6**
comp=Z,0.7nm,0.3s,baz=68,slow=24,SNR=4.3
KSRS LR LR 22 03 12.7
comp=Z,298nm,19.1s,baz=60,slow=38
KS19 Wonju Array Si 14.98 254 Pn **Pn 21 57 10.0 -0.4**
KSAR Wonju Array Be 15.00 254 P **Pn 21 57 11.5 +0.9**
KSAR Wonju Array Be 15.00 254 Pn **Pn 21 57 11.5 +0.9**
CN2 Changchun 15.02 280 *e*P **Pn 21 57 09.9 -1.0**
CN2 *e*pP P 21 57 18.8 +3.3
CN2 *e*sP pP 21 57 27.5 +1.3
CN2 *e*S **Sn 21 59 54.5 -1.5**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,800nm,19.0s
JNU Nakatsue 15.55 235 P **Pn 21 57 17.0 -0.9**
comp=Z,0.2nm,0.3s,baz=0.0,slow=6.1,SNR=2.5
JNU Nakatsue 15.55 235 Pn **Pn 21 57 16.4 -1.5**
TJN Taejon 15.88 251 P **Pn 21 57 23.3 +1.2**
TJN pmax pmax
comp=Z,572nm,2.0s
TJN Taejon 15.88 251 Pn 21 57 23.2 +1.2
ZEA Zeya 16.38 317 *e*P **P 21 57 31.5 +1.0**
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=N,100nm,13.0s
ZEA MLR MLR
comp=Z,200nm,16.0s
ZEA Zeya 16.38 317 *e*P **Pn 21 57 25.5 -2.8**
ZEA AMB AMB 21 57 35.8
comp=Z,70nm,0.7s
SNY Shenyang 16.66 273⇑P **P 21 57 34.3 +0.6**
SNY pmax pmax
comp=Z,16nm,0.7s
MA2 Magadan 16.76 8⇓*e*P **Pn 21 57 31.5 -1.4**
MA2 pmax pmax
comp=Z,5.0nm,1.4s
MA2 Magadan 16.76 8 P 21 57 35.8 +1.2
MA2 Magadan 16.76 8 *e*P **Pn 21 57 31.5 -1.4**
DL2 Dalian 18.92 266 P **P 21 57 58.5 -0.1**
DL2 pmax pmax
comp=Z,34nm,0.8s
HIA Hailar 19.21 298 P **P 21 58 01.0 -0.8**
HIA pmax pmax
comp=Z,14nm,0.9s
HIA Hailar 19.21 298 P **P 21 58 01.0 -0.8**
SEY Seymchan 20.21 8 P **P 21 58 10.1 -2.4**
comp=Z,3.7nm,0.7s,baz=210,slow=12,SNR=10
SHEM Shemya Is, Ala 20.98 53 LR LR 22 06 58.9
comp=Z,121nm,19.8s,baz=258,slow=38
YAK Yakutsk 21.32 338 P **P 21 58 22.4 -2.0**
comp=Z,4.9nm,0.3s,baz=156,slow=2.0,SNR=6.8
YAK LR LR 22 06 58.9
comp=Z,158nm,19.0s,baz=90,slow=38
YAK Yakutsk 21.32 338 *e*P **P 21 58 26.6 +2.2**
YAK *e* 21 58 44.9
YAK *e*S **S 22 02 17.0 -1.4**
YAK *e**SS sS 22 03 10.5 +35
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK pmax pmax
comp=Z,29nm,0.8s
YAK smax smax
comp=N,319nm,13.0s
YAK smax smax
comp=E,83nm,12.6s
YAK Yakutsk 21.32 338 P **P 21 58 23.1 -1.3**
YAK Yakutsk 21.32 338 *e*P **P 21 58 26.0 +1.6**
XLT XiLinHaoTe 21.74 282 *e*P **P 21 58 27.4 -1.8**
XLT pmax pmax
comp=E,24nm,0.7s
XLT pmax pmax
comp=E,310nm,5.3s
JOW Kunigami 21.76 228 P **P 21 58 29.4 0.0**
comp=E,102nm,0.9s,baz=15,slow=9.9,SNR=15
JOW LR LR 22 07 43.0
comp=E,338nm,21.9s,baz=24,slow=39
JOW Kunigami 21.76 228 P **P 21 58 29.0 -0.4**
JOW IAmb IAmb 21 58 31.3
comp=Z,129nm,1.0s
JOW Kunigami 21.76 228 P **P 21 58 30.5 +1.1**
BJI Beijing 22.54 272 P **P 21 58 35.9 -1.8**
BJI S **S 22 02 40.0 -1.7**
BJI pmax pmax
comp=Z,23nm,0.9s
BJI pmax pmax
comp=Z,220nm,4.9s
BJI LR LR
comp=Z,250nm,5.9s
BJI LR LR
comp=Z,200nm,5.9s
BJI LR LR
comp=Z,210nm,18.3s
BJT Baijiatuau 22.55 272 P **P 21 58 36.0 -1.9**
BJT pmax pmax
comp=Z,27nm,1.0s
BJT Baijiatuau 22.55 272 P **P 21 58 36.0 -1.9**
TIA Tai'an 23.27 263 *e*P **P 21 58 43.6 -1.6**
TIA pmax pmax
comp=Z,42nm,0.9s
NJ2 Nanjing 24.14 252⇑P **P 21 58 55.0 +1.6**
NJ2 S **S 22 03 10.4 +2.3**
NJ2 pmax pmax
comp=Z,65nm,0.9s
HNS HongShan 24.54 267⇑P **P 21 58 56.1 -0.9**
HNS pmax pmax
comp=Z,35nm,1.1s
BOD Bodaibo 24.89 317 *e*P **P 21 58 56.4 -3.6**
HHC Hu-ho-hao-te 25.67 277 *e*P **P 21 59 06.6 -0.8**
HHC pmax pmax
comp=Z,29nm,0.8s
HHC pmax pmax
comp=Z,220nm,6.0s
BILL Bilibino 27.21 16 *i* P **P 21 59 19.6 -1.2**
BILL *i* 21 59 32.9
BILL *i* 22 00 08.1
BILL *i* 22 02 40.4
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,198nm,21.0s
BILL Bilibino 27.21 16 *e*P **P 21 59 19.6 -1.2**
LYN LuoYang 27.41 263⇑P **P 21 59 23.5 +0.5**
LYN pP pP 21 59 36.0 +1.0
LYN sP sP 21 59 40.3 -0.1
LYN PP **PnPn 22 00 14.5 +5.6**
LYN S **S 22 04 02.1 +2.1**
LYN sS sS 22 04 16.8 -3.3
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,140nm,7.1s
ULN Ulaanbaatar 27.58 294*c*e*P **P 21 59 24.0 -0.6**
ULN pmax pmax
comp=Z,16nm,0.8s
ULN Ulaanbaatar 27.58 294 P **P 21 59 24.4 -0.2**
ULN Ulaanbaatar 27.58 294 *e*P **P 21 59 24.0 -0.6**
SONM Songino Array 28.03 294 P **P 21 59 28.4 -0.1**
comp=Z,19nm,0.7s,baz=86,slow=8.6,SNR=154
SONM Songino Array 28.03 294 P **P 21 59 28.4 -0.1**
SONM IAmb IAmb 21 59 29.3
comp=Z,25nm,0.9s
WHN Wuhan 28.16 254⇑P **P 21 59 30.0 +0.3**
WHN pmax pmax
comp=Z,82nm,0.9s
TPUB Ta-pu 28.86 235 P **P 21 59 36.5 +0.5**
TPUB IAmb IAmb 21 59 38.1
comp=Z,52nm,1.0s
H11N2 WAKE ISLAND Hy 29.12 137 T T 22 30 38.5
baz=328,slow=75
H11N1 WAKE ISLAND Hy 29.14 137 T T 22 30 37.3
baz=328,slow=75,SNR=921
H11N3 WAKE ISLAND Hy 29.14 137 T T 22 30 40.0
baz=328,slow=75,SNR=4677
GUMO Guam 29.42 182 LR LR 22 10 22.4
comp=Z,91nm,20.2s,baz=340,slow=34
TIXI Tiksi 29.86 349 P **P 21 59 42.7 -1.6**
comp=Z,0.5nm,0.3s,baz=127,slow=10,SNR=4.4
TIXI LR LR 22 11 58.9
comp=Z,138nm,21.6s,baz=173,slow=37
TIXI Tiksi 29.86 349⇓*e*P **P 21 59 43.2 -1.1**
TIXI pmax pmax
comp=Z,2.0nm,1.3s
TIXI Tiksi 29.86 349 P **P 21 59 44.1 -0.2**
TIXI Tiksi 29.86 349 *e*P **P 21 59 43.2 -1.1**
ZAK Zakamensk 29.90 299 *e*P **P 21 59 44.1 -1.0**
ZAK *e* 22 02 44.1
ZAK pmax pmax
comp=Z,8.0nm,1.2s
ZAK pmax pmax
comp=Z,6.0nm,1.0s
H11S1 WAKE ISLAND Hy 30.06 138 T T 22 31 44.3
baz=329,slow=76,SNR=7181
H11S3 WAKE ISLAND Hy 30.07 138 T T 22 31 38.1
baz=329,slow=76,SNR=600
H11S2 WAKE ISLAND Hy 30.08 138 T T 22 31 44.3
baz=329,slow=76,SNR=2269
XAN Xi'an 30.24 265 P **P 21 59 48.0 -0.2**
XAN pmax pmax
comp=Z,37nm,0.8s
MOY Mondy 31.29 302 *e*P **P 21 59 57.3 0.0**
MOY pmax pmax
comp=Z,33nm,4.0s
MOY Mondy 31.29 302 *e*P **P 21 59 57.3 0.0**
ENH Enshi 31.78 258 P **P 22 00 00.7 -1.1**
ENH IAmb IAmb 22 00 02.2
comp=Z,29nm,0.9s
LZH Lanzhou 33.03 272 *e*P **P 22 00 12.8 -0.1**
LZH pP pP 22 00 23.8 -1.2
LZH sP sP 22 00 30.5 +0.1
LZH pmax pmax
comp=Z,34nm,0.9s
LZH LR LR
comp=Z,220nm,16.5s
LZH LR LR
comp=Z,210nm,16.8s
LZH LR LR
comp=Z,230nm,17.3s
TNA Tin City 33.82 33 P **P 22 00 19.4 +0.3**
TNA Tin City 33.82 33 P **P 22 00 19.0 -0.1**
baz=251
GTA Gaotai 34.65 280⇓P **P 22 00 26.9 0.0**
GTA pP pP 22 00 39.0 0.0
GTA sP sP 22 00 43.8 -0.6
GTA PcP **PcP 22 03 00.4 +0.2**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,96nm,5.6s
GTA LR LR
comp=Z,130nm,18.5s
GTA LR LR
comp=Z,200nm,17.8s
GTA LR LR
comp=Z,230nm,19.3s
CD2 Chengdu 35.58 264 P **P 22 00 34.5 -0.3**
CD2 pmax pmax
comp=Z,60nm,0.9s
GYA Guiyang 36.02 256⇑P **P 22 00 38.4 -0.3**
GYA pP pP 22 00 50.9 +0.1
GYA pmax pmax
comp=Z,16nm,0.9s
GYA pmax pmax
comp=Z,240nm,6.0s
SDPT Sand Point 36.09 51 P **P 22 00 38.8 0.0**
baz=273
TTA Tatalina 38.42 39 P **P 22 00 59.5 +0.9**
TTA pmax pmax
comp=Z,21nm,1.0s
TTA Tatalina 38.42 39 P **P 22 00 59.5 +0.9**
TTA IAmb IAmb 22 01 12.9
comp=Z,21nm,1.0s
TTA Tatalina 38.42 39 P **P 22 00 59.3 +0.7**
baz=267,SNR=8.2
P18K Big Mountain, 38.76 44 P 22 01 01.9 +0.4
P18K IAmb IAmb 22 01 15.8
comp=Z,31nm,0.9s
P18K Big Mountain, 38.76 44 P **P 22 01 00.2 -1.2**
baz=272
QIZ Qiongzhong 38.79 243 P **P 22 01 01.3 -0.8**
QIZ S **S 22 06 56.3 -0.1**
QIZ LR LR
comp=Z,370nm,4.4s
QIZ LR LR
comp=Z,300nm,13.9s
QIZ LR LR
comp=Z,210nm,4.8s
CHIR Chirikof Islan 38.80 50 P **P 22 01 01.1 -0.7**
baz=276
L19K White Mountain 38.93 40 P **P 22 01 03.7 +0.9**
L19K White Mountain 38.93 40 P **P 22 01 02.0 -0.8**
baz=269
M19K Big River Lodg 39.14 40 P **P 22 01 05.6 +1.0**
K20K Telida 39.32 38 P **P 22 01 07.4 +1.3**
K20K IAmb IAmb 22 01 20.6
comp=Z,27nm,1.0s
J20K Nowinta River 39.33 37 P **P 22 01 07.2 +1.2**
J20K IAmb IAmb 22 01 20.5
comp=Z,36nm,0.9s
A21K Barrow 39.47 25 P **P 22 01 06.6 -0.5**
A21K IAmb IAmb 22 01 07.6
comp=Z,22nm,0.8s
A21K Barrow 39.47 25 P **P 22 01 07.3 +0.2**
baz=256
PZH PanZhiHua 39.51 260⇑P **P 22 01 08.0 -0.2**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,120nm,6.1s
GOMU GeErMu 39.57 278 P **P 22 01 08.6 -0.3**
GOMU S **S 22 07 14.9 +6.3**
GOMU pmax pmax
comp=Z,46nm,0.8s
GOMU pmax pmax
comp=Z,100nm,4.6s
GOMU LR LR
comp=Z,180nm,18.4s
GOMU LR LR
comp=Z,180nm,19.2s
GOMU LR LR
comp=Z,230nm,18.2s
IMAR Indian Mountai 39.62 34 P **P 22 01 09.1 +0.7**
KMI Kunming 39.63 257⇑P **P 22 01 09.4 +0.1**
KMI pP pP 22 01 21.8 +0.3
KMI sP sP 22 01 27.5 +0.6
KMI pmax pmax
comp=Z,42nm,1.1s
OHAK Old Harbor 39.94 48 P **P 22 01 11.8 +0.7**
baz=276
H21K Melozitna Rive 39.98 34 P **P 22 01 12.4 +0.9**
H21K Melozitna Rive 39.98 34 P **P 22 01 12.0 +0.5**
baz=266,SNR=11
DGZ Jazzator, Alta 40.09 301⇓*e*P **P 22 01 12.6 -0.2**
DGZ pmax pmax
comp=Z,6.0nm,0.6s
CHUM Lake Minchumin 40.12 37 P **P 22 01 12.9 +0.3**
baz=269,SNR=6.7
DAV Davao City (W) 40.17 213 LR LR 22 17 04.8
comp=Z,95nm,21.1s,baz=348,slow=35
PPLA Purkeypile 40.17 39 P **P 22 01 13.9 +0.7**
PPLA Purkeypile 40.17 39 P **P 22 01 14.3 +1.0**
baz=270,SNR=6.6
CAST Castle Rocks 40.22 38 P **P 22 01 14.9 +1.4**
CAST IAmb IAmb 22 01 28.3
comp=Z,30nm,0.8s
CAST Castle Rocks 40.22 38 P **P 22 01 14.6 +1.1**
baz=270,SNR=5.5
KDAK Kodiak Island 40.26 47 P **P 22 01 13.5 -0.4**
comp=Z,6.0nm,0.5s,baz=279,slow=6.7,SNR=7.6
KDAK Kodiak Island 40.26 47 P **P 22 01 13.6 -0.2**
KDAK pmax pmax
comp=Z,39nm,0.8s
KDAK Kodiak Island 40.26 47 P **P 22 01 13.6 -0.2**
KDAK IAmb IAmb 22 01 27.0
comp=Z,39nm,0.8s
KTH Kantishna Hill 40.74 38 P **P 22 01 18.5 +0.7**
KTH IAmb IAmb 22 01 32.5
comp=Z,60nm,1.0s
ZAA0 Zalesovo Array 40.79 307 P **P 22 01 17.8 -0.5**
ZALV Zalesovo Beam 40.79 307 P **P 22 01 17.9 -0.4**
comp=Z,3.1nm,0.4s,baz=84,slow=7.6,SNR=23
ZALV PcP **PcP 22 03 18.6 0.0**
comp=Z,17nm,0.7s,baz=83,slow=3.7,SNR=21
ZALV Zalesovo Beam 40.79 307 P **P 22 01 17.7 -0.6**
BRSE Bradley Lake S 41.02 44 P **P 22 01 20.0 -0.1**
baz=275
TRF Thorofare Moun 41.02 38 P **P 22 01 20.2 -0.1**
COLD Coldfoot 41.12 32 P **P 22 01 21.5 +0.7**
COLD Coldfoot 41.12 32 P **P 22 01 21.4 +0.6**
baz=267
SLVN Son La 41.22 252 P **P 22 01 21.9 -0.3**
RC01 Rabbit Creek A 41.40 41 P **P 22 01 23.6 +0.3**
baz=275
I23K Minto, Yukon-K 41.41 35 P **P 22 01 24.1 +0.9**
I23K IAmb IAmb 22 01 37.8
comp=Z,66nm,1.9s
I23K Minto, Yukon-K 41.41 35 P **P 22 01 23.9 +0.7**
baz=270
NEA2 Nenana 41.54 36 P **P 22 01 25.1 +0.8**
NEA2 IAmb IAmb 22 01 38.0
comp=Z,21nm,0.8s
NEA2 Nenana 41.54 36 P **P 22 01 24.9 +0.5**
baz=271,SNR=7.3
MCK McKinley 41.62 37 P **P 22 01 25.7 +0.6**
MCK pmax pmax
comp=Z,24nm,1.0s
MCK McKinley 41.62 37 P **P 22 01 25.6 +0.6**
MCK IAmb IAmb 22 01 38.8
comp=Z,24nm,1.0s
MCK McKinley 41.62 37 P **P 22 01 25.3 +0.3**
baz=272,SNR=5.4
WMQ Urumqi 41.63 292 *e*P **P 22 01 25.5 +0.1**
WMQ pP pP 22 01 36.3 -1.5
WMQ sP sP 22 01 42.6 -0.6
WMQ pmax pmax
comp=Z,57nm,0.9s
WMQ pmax pmax
comp=Z,230nm,4.5s
WMQ LR LR
comp=Z,430nm,18.7s
WMQ LR LR
comp=Z,280nm,21.5s
GHO Glory Hole Cre 41.74 40 P **P 22 01 26.3 +0.2**
KNK Knik Glacier 41.99 41 P **P 22 01 28.8 +0.7**
KNK IAmb IAmb 22 01 48.4
comp=Z,26nm,1.0s
SML Sawmill 42.02 40 P **P 22 01 28.5 +0.1**
baz=275,SNR=6.1
H24K Noodor Dome 42.02 34 P **P 22 01 29.7 +1.4**
baz=271
TCOL CIGO, UAF Yank 42.05 36 P **P 22 01 29.6 +1.1**
baz=272
COLA College 42.05 36*de*P **P 22 01 29.8 +1.3**
COLA pmax pmax
comp=Z,19nm,0.8s
COLA College 42.05 36 P **P 22 01 29.4 +0.9**
COLA IAmb IAmb 22 01 42.8
comp=Z,42nm,1.1s
COLA College 42.05 36 P **P 22 01 29.5 +1.0**
baz=272

POKR Poker Plat Res 42.22 35 P P 22 01 31.0 +1.1
baz=272,SNR=6.1
WAT6 Susitna Watana 42.23 39 P P 22 01 30.5 +0.3
baz=275
ZSN Zaisan 42.34 298 *e*P **P 22 01 29.7 -1.4**
ZSN Zaisan 42.34 298 *e*P **P 22 01 29.8 -1.4**
baz=298
DHY Denali Highway 42.36 38 P **P 22 01 31.6 +0.4**
DHY IAmb IAmb 22 01 44.9
comp=Z,30nm,1.2s
DHY Denali Highway 42.36 38 P **P 22 01 31.4 +0.2**
baz=274,SNR=5.4
HDA Harding Lake 42.46 36 P **P 22 01 31.8 0.0**
HDA IAmb IAmb 22 01 45.3
comp=Z,30nm,1.2s
HDA Harding Lake 42.46 36 P **P 22 01 31.6 -0.3**
baz=273
IL31 42.47 36 P **P 22 01 32.0 +0.2**
IL31 IAmb IAmb 22 01 46.2
comp=Z,32nm,1.3s
ILAR Eielson Array 42.47 36 P **P 22 01 32.3 +0.4**
comp=Z,5.6nm,0.9s,baz=260,slow=5.2,SNR=45
ILAR LR LR 22 21 55.7
comp=Z,46nm,18.5s,baz=260,slow=40
M24K Tolsona, Glenn 43.00 40 P **P 22 01 36.4 +0.1**
baz=276
PRP Porcupine Dome 43.01 35 P **P 22 01 36.6 +0.2**
baz=273,SNR=12
KLU Klutina 43.19 41 P **P 22 01 38.0 +0.1**
baz=277,SNR=5.8
BMAR Burnt Mountain 43.30 32 P **P 22 01 40.1 +1.4**
HARP HAARP 43.44 39 P **P 22 01 38.1 -1.8**
baz=277
SCRK Sand Creek 43.79 37 P **P 22 01 42.7 0.0**
SCRK IAmb IAmb 22 01 55.6
comp=Z,20nm,0.9s
SCRK Sand Creek 43.79 37 P **P 22 01 42.4 -0.4**
baz=276,SNR=6.4
DOT Dot Lake 43.79 37 P **P 22 01 42.7 +0.1**
J26L Joseph Creek 43.92 36 P **P 22 01 43.6 -0.1**
MENT Mentasta 44.03 38 P **P 22 01 46.0 +1.4**
L26K Log Cabin Wild 44.19 38 P **P 22 01 44.8 -1.0**
baz=278,SNR=6.3
MK31 Makanchi Array 44.22 298 *i* P **P 22 01 45.5 -0.8**
MK31 pmax pmax
comp=Z,27nm,0.6s
MK31 Makanchi Array 44.22 298 P **P 22 01 45.8 -0.5**
MK31 IAmb IAmb 22 01 46.7
comp=Z,24nm,0.7s
MKAR Makanchi Array 44.22 298 P **P 22 01 45.8 -0.4**
comp=Z,21nm,0.6s,baz=82,slow=9.0,SNR=286
MKAR Makanchi Array 44.22 298 P **P 22 01 46.0 -0.3**
MKAR Makanchi Array 44.22 298 P **P 22 01 46.0 -0.3**
MAKZ Makanchi 44.41 298 P **P 22 01 47.5 -0.3**
MAKZ pmax pmax
comp=Z,25nm,0.9s
MAKZ Makanchi 44.41 298 P **P 22 01 47.5 -0.3**
MAKZ IAmb IAmb 22 01 48.4
comp=Z,25nm,0.8s
M26K Nabesna, AK 44.44 39 P **P 22 01 49.3 +1.5**
M26K IAmb IAmb 22 02 03.0
comp=Z,39nm,1.1s
L27K Beaver Creek, 44.87 38 P **P 22 01 52.7 +1.4**
L27K IAmb IAmb 22 02 05.7
comp=Z,31nm,0.8s
L27K Beaver Creek, 44.87 38 P **P 22 01 52.1 +0.9**
baz=279,SNR=8.5
BCAR Beaver Creek A 44.89 38 P **P 22 01 52.8 +1.4**
EGAK Eagle 44.91 35 P **P 22 01 52.0 +0.5**
EGAK IAmb IAmb 22 02 06.1
comp=Z,69nm,1.6s
EGAK Eagle 44.91 35 P **P 22 01 51.5 0.0**
baz=278,SNR=5.9
DLV T Lat 44.94 238 P **P 22 01 52.9 +0.4**
DLV IAmb IAmb 22 02 08.3
comp=Z,20nm,1.0s
M27K Edge Creek, AK 44.96 39 P **P 22 01 53.5 +1.4**
M27K IAmb IAmb 22 02 06.5
comp=Z,23nm,0.9s
KURK Kurchatov 45.27 304 *d i*P **P 22 01 53.1 -1.4**
KURK pmax pmax
comp=Z,18nm,1.3s
KURK Kurchatov 45.27 304 P **P 22 01 53.9 -0.6**
KURK IAmb IAmb 22 01 54.6
comp=Z,12nm,0.6s
KURK Kurchatov 45.27 304 *e*P **P 22 01 53.1 -1.4**
GRNC Granite Creek 45.31 41 P **P 22 01 56.1 +1.1**
GRNC IAmb IAmb 22 02 09.1
comp=Z,33nm,0.8s
LSA Lhasa 45.45 272 P **P 22 01 56.8 0.0**
LSA pmax pmax
comp=Z,57nm,0.8s
CTG Chitna Glacier 45.47 41 P **P 22 01 56.6 +0.5**
baz=281
CTGM Chitina Glacie 45.47 41 P **P 22 01 57.4 +1.2**
CTGM IAmb IAmb 22 02 10.8
comp=Z,34nm,1.1s
JAY Jayapura 45.66 188 LR LR 22 18 53.7
comp=Z,62nm,21.1s,baz=24,slow=33
YUK3 Moose Creek 45.72 40 P **P 22 01 58.4 +0.2**
baz=281
SWI Sorong 45.74 201 P **P 22 01 59.4 +0.8**
comp=Z,64nm,0.8s
DAWY Dawson 45.78 36 P **P 22 01 59.1 +0.6**
DAWY Dawson 45.78 36 P **P 22 01 58.6 +0.1**
baz=280
I29M Ogilvie Camp, 46.02 34 P **P 22 02 01.2 +0.8**
baz=280,SNR=17
PINM Pinnacle 46.18 42 P **P 22 02 02.0 +0.3**
baz=283
CHTO Chiang Mai 46.37 254 P **P 22 02 03.7 +0.1**
CHTO pmax pmax
comp=Z,20nm,0.8s
CHTO Chiang Mai 46.37 254 P **P 22 02 03.7 +0.1**
CHTO IAmb IAmb 22 02 17.6
comp=Z,20nm,0.8s
CHTO Chiang Mai 46.37 254 P **P 22 02 04.2 +0.6**
EPYK Eagle Plains 46.49 33 P **P 22 02 05.3 +1.3**
EPYK IAmb IAmb 22 02 18.1
comp=Z,33nm,0.9s
EPYK Eagle Plains 46.49 33 P **P 22 02 05.1 +1.0**
baz=280,SNR=12
CM31 Chiang Mai Arr 46.60 253 P **P 22 02 05.6 +0.2**
CMAR Chiang Mai Arr 46.60 253 P **P 22 02 06.0 +0.6**
comp=Z,3.4nm,0.6s,baz=37,slow=7.3,SNR=21
CMAR pP **pP 22 02 18.8 +0.9**
comp=Z,7.2nm,0.7s,baz=44,slow=6.8,SNR=5.5
CMAR LR LR 22 22 11.2
comp=Z,62nm,21.4s,baz=65,slow=37
CMAR Chiang Mai Arr 46.60 253 P **P 22 02 05.7 +0.3**
LBMI Labuha 46.63 206 P **P 22 02 06.6 +1.0**
comp=Z,48nm,0.7s
KMSI Cibinong 46.73 211 P **P 22 02 07.3 +0.9**
comp=Z,3μmcomp=Z,66nm,0.5s
GTOI Gorontalo 47.05 212 P **P 22 02 08.9 0.0**
comp=Z,20nm,0.8s
SHL Shillong 47.23 266 P **P 22 02 09.2 -1.3**
SHL pmax pmax
comp=Z,10.0nm,1.0s
SHL Shillong 47.23 266 P **P 22 02 09.2 -1.3**
INK Inuvik 47.35 30 P **P 22 02 11.3 +0.7**
comp=Z,4.0nm,0.5s,baz=298,slow=7.5,SNR=24
INK Inuvik 47.35 30 P **P 22 02 11.2 +0.6**
INK Inuvik 47.35 30 P **P 22 02 11.2 +0.6**
baz=281,SNR=9.8
RABL Rabaul 47.38 172 P **P 22 02 12.5 +1.1**
TDK Taldyqorghan 47.39 297 *e*P **P 22 02 10.4 -0.9**
TDK pmax pmax
comp=Z,34nm,0.6s
TDK Taldyqorghan 47.39 297 *e*P **P 22 02 10.5 -0.9**
comp=Z,34nm,0.6s,baz=297
FAKI Fak Fak 47.48 199 P **P 22 02 12.6 +0.4**
comp=Z,34nm,0.9s
FAKI Fak Fak 47.48 199 P **P 22 02 11.6 -0.6**
FAKI IAmb IAmb 22 02 13.2
comp=Z,36nm,1.1s
TOLI2 Tolitoli 47.53 215 P **P 22 02 12.0 -0.6**
TOLI2 IAmb IAmb 22 02 12.9
comp=Z,20nm,1.0s
MRSI Marisa 47.62 214 P **P 22 02 13.9 +0.6**
comp=Z,1μmcomp=Z,118nm,1.1s
UZB Uzynbulak 47.73 294 *e*P **P 22 02 13.2 -0.9**
UZB Uzynbulak 47.73 294 *e*P **P 22 02 13.2 -0.9**
baz=294
N31M Braeburn, Yuko 47.97 39 P **P 22 02 16.8 +1.3**
N31M IAmb IAmb 22 02 31.0
comp=Z,28nm,0.9s
N31M Braeburn, Yuko 47.97 39 P **P 22 02 16.4 +0.9**
baz=285,SNR=5.3
ZHN Zhinishke 48.11 295 *e*P **P 22 02 16.4 -0.6**
ZHN Zhinishke 48.11 295 *e*P **P 22 02 16.4 -0.6**
baz=295
SATY Saty 48.17 294 *e*P **P 22 02 16.7 -0.8**
SATY Saty 48.17 294 *e*P **P 22 02 16.8 -0.8**
baz=295
M31M Drury Creek, Y 48.41 38 P **P 22 02 18.9 0.0**
baz=286,SNR=6.8
PRZ Przheval'sk 48.42 294 P **P 22 02 20.1 +0.6**
PRZ pmax pmax
comp=Z,63nm,1.5s
PRZ Przheval'sk 48.42 294 P **P 22 02 20.1 +0.6**
SANI Sanana 48.45 207 P **P 22 02 18.7 -1.0**
comp=Z,594nmcomp=Z,62nm,0.9s
SANI Sanana 48.45 207 P **P 22 02 19.3 -0.4**
MPSI Mapaga 48.60 216 P **P 22 02 21.3 +0.4**
comp=Z,12nm,0.9s
WHY Whitehorse 48.61 40 P **P 22 02 21.0 +0.3**
baz=287,SNR=5.4
MSAI Masohi 48.76 203 P **P 22 02 22.8 +0.8**
CHKK Chushkaly 48.78 296 *e*P **P 22 02 21.3 -0.8**
baz=296
FARO Faro, Yukon 48.87 38 P **P 22 02 23.3 +0.8**
baz=286,SNR=6.4
APSI Ampana 49.00 213 P **P 22 02 24.0 +0.1**
comp=Z,48nm,1.0s
MDOK Medeo 49.03 295 *e*P **P 22 02 23.5 -0.7**
MDOK Medeo 49.03 295 *e*P **P 22 02 23.5 -0.7**
baz=295
BRZS Berezniki 49.10 305 *e*P **P 22 02 23.5 -0.9**
BRZS pmax pmax
comp=Z,8.0nm,0.7s
BRZS Berezniki 49.10 305 *e*P **P 22 02 23.5 -0.9**
comp=Z,8.2nm,0.7s,baz=305
TARG Taragay, Kyrgy 49.14 293 P **P 22 02 25.7 +0.3**
TARG IAmb IAmb 22 03 50.3
comp=Z,18nm,1.0s
A36M Sachs Harbour 49.29 24 P **P 22 02 25.9 +0.4**
AAI Ambon 49.29 204 P **P 22 02 27.1 +0.9**
comp=Z,52nm,0.9s
BRVK Borovoye 49.38 310 *ce*P **P 22 02 25.3 -1.2**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 49.38 310 P **P 22 02 26.5 0.0**
BRVK Borovoye 49.38 310 *e*P **P 22 02 25.3 -1.2**
KDJ Kajisay 49.39 294 P **P 22 02 26.4 -0.5**
KDJ pmax pmax
comp=Z,27nm,1.0s
KDJ Kajisay 49.39 294 P **P 22 02 26.4 -0.5**
KDJ IAmb IAmb 22 02 45.9
comp=Z,27nm,1.0s
P33M Teslin, Yukon 49.72 40 P **P 22 02 29.4 +0.4**
baz=288,SNR=7.6
KST Kastek 49.80 295 *e*P **P 22 02 29.6 -0.5**
comp=Z,17nm,0.7s,baz=296
BOOM Boomskoye usch 50.06 295 P **P 22 02 32.2 +0.2**
BOOM pmax pmax
comp=Z,41nm,0.8s
BOOM Boomskoye usch 50.06 295 P **P 22 02 32.2 +0.2**
TKM2 Tokmak 2 50.10 295 P **P 22 02 32.3 -0.1**
SNR=38
TKM2 Tokmak 2 50.10 295 *i* P **P 22 02 32.3 -0.1**
TKM2 pmax pmax
comp=Z,28nm,0.9s
BTLS Baital 50.20 299 *e*P **P 22 02 31.6 -1.2**
BTLS Baital 50.20 299 *e*P **P 22 02 31.6 -1.2**
baz=299
C36M Paulatuk 50.42 27 P **P 22 02 34.1 0.0**
C36M Paulatuk 50.42 27 P **P 22 02 34.1 0.0**
baz=288,SNR=5.7
SBUM Sibu 50.47 226 P **P 22 02 35.0 -0.1**
SGDS Sogindy 50.50 297 *e*P **P 22 02 34.3 -1.0**
comp=Z,8.3nm,0.8s,baz=297
KBK Karagaybulak 50.64 295 P **P 22 02 36.5 +0.1**
SNR=26
USP Ospenovka 50.67 296 P **P 22 02 36.4 0.0**
SNR=15
FRU1 Bishkek 50.79 296 P **P 22 02 37.1 -0.3**
FRU1 pmax pmax
comp=Z,15nm,0.9s
FRU1 Bishkek 50.79 296 P **P 22 02 37.1 -0.3**
FRU1 IAmb IAmb 22 02 38.3
comp=Z,15nm,0.9s
AAK Ala-Archa 50.95 296 P **P 22 02 38.4 -0.3**
SNR=9.5
AAK Ala-Archa 50.95 296 *ce*P **P 22 02 38.0 -0.7**
AAK pmax pmax
comp=Z,20nm,1.7s
AAK Ala-Archa 50.95 296 P **P 22 02 38.2 -0.5**
AAK IAmb IAmb 22 02 57.6
comp=Z,40nm,1.7s
AAK Ala-Archa 50.95 296 *e*P **P 22 02 38.0 -0.7**
AAK Ala-Archa 50.95 296 P **P 22 02 38.4 -0.3**
KSH Kashi 51.39 291 P **P 22 02 45.5 +3.5**
KSH pP sP 22 03 01.8 +2.0
KSH pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 51.41 296 P **P 22 02 42.1 -0.1**
SNR=12
AML Almayashu 51.71 295 P **P 22 02 44.7 0.0**
SNR=13
AML Almayashu 51.71 295 *i* P **P 22 02 44.7 0.0**
SNR=13
MTKI Muara Teweh, K 52.02 221 P **P 22 02 47.2 +0.5**
PMG Port Moresby 52.25 179 LR LR 22 21 22.9
comp=Z,59nm,22.0s,baz=62,slow=32
KSM Kuching 52.31 228 P **P 22 02 49.5 +0.6**
KSM IAmb IAmb 22 02 50.8
comp=Z,22nm,0.8s
SPSI Sidrap Palu 52.54 214 P **P 22 02 50.1 -0.4**
comp=Z,17nm,1.1s
SAUI Saumlaki 52.59 199 P **P 22 02 52.2 +1.3**
comp=Z,52nm,0.5s
SAUI Saumlaki 52.59 199 P **P 22 02 51.7 +0.9**
BNSI Bone 52.80 213 P **P 22 02 53.2 +0.8**
comp=Z,718nmcomp=Z,16nm,1.3s
STKI Sintang 52.87 225 P **P 22 02 54.0 +0.9**
comp=Z,2μmcomp=Z,23nm,0.8s
DZA Taraz 52.91 297 *e*P **P 22 02 52.4 -0.7**
DZA pmax pmax
comp=Z,10.0nm,0.7s
DZA Taraz 52.91 297 *e*P **P 22 02 52.4 -0.7**
comp=Z,10nm,0.7s,baz=297
SRIT Nakonsritamara 53.15 244 P **P 22 02 56.0 +0.9**
SRIT IAmb IAmb 22 02 57.5
comp=Z,23nm,0.7s
KKAR Karatay Array 53.34 298 P **P 22 02 55.6 -0.7**
KKAR Karatay Array 53.34 298 P **P 22 02 55.6 -0.7**
KAPI Kappang 53.50 213 LR LR 22 26 39.9
comp=Z,25nm,20.9s,baz=30,slow=37
KAPI Kappang 53.50 213 P **P 22 02 57.6 0.0**
KAPI pmax pmax
comp=Z,12nm,0.7s
KAPI Kappang 53.50 213 P **P 22 02 57.5 0.0**
KAPI IAmb IAmb 22 02 58.6
comp=Z,12nm,0.7s
KBKI Kotabaru 53.50 218 P **P 22 02 58.3 +0.7**
comp=Z,18nm,1.2s
BKSI Bulukumba 53.63 213 P **P 22 02 58.1 -0.5**
comp=Z,17nm,1.0s
EUNU Eureka 53.64 10 P **P 22 02 56.6 -1.4**
EUNU IAmb IAmb 22 03 10.1
comp=Z,16nm,0.6s
HNR Honiara 53.77 163 LR LR 22 24 32.8
comp=Z,90nm,19.7s,baz=336,slow=34
BRLS Borolday 53.82 298 *e*P **P 22 03 00.1 +0.4**
BRLS Borolday 53.82 298 *e*P **P 22 03 00.2 +0.4**
baz=298
DRK Karamyk 54.23 293 P **P 22 03 02.7 -0.5**
DRK IAmb IAmb 22 03 36.7
comp=Z,12nm,0.9s
BBKI Banjar Baru 54.25 220 P **P 22 03 03.2 +0.1**
comp=Z,6μmcomp=Z,39nm,0.5s
ARU Arti 54.30 317 *c i*P **P 22 03 01.9 -1.2**
ARU 22 04 05.0
ARU 22 05 02.1
ARU S **S 22 10 37.8 +0.5**
ARU SS **SS 22 14 16.0 -3.1**
ARU pmax pmax
comp=Z,18nm,1.4s
ARU Arti 54.30 317 P **P 22 03 01.9 -1.2**
ARU IAmb IAmb 22 03 07.1
comp=Z,28nm,1.4s
ARU Arti 54.30 317 *e*P **P 22 03 01.7 -1.4**
BTK Batken 54.61 294 P **P 22 03 04.8 -0.9**
BTK pmax pmax
comp=Z,15nm,1.0s
BTK Batken 54.61 294 P **P 22 03 04.8 -0.9**
BTK IAmb IAmb 22 03 24.3
comp=Z,15nm,0.9s
KULM Kulim 54.96 240 P **P 22 03 08.3 -0.1**
KULM IAmb IAmb 22 03 10.3
comp=Z,26nm,0.9s
TAS Tashkent 54.99 296 P **P 22 03 07.6 -0.7**
TAS pmax pmax
comp=Z,81nm,0.2s
TAS Tashkent 54.99 296 P **P 22 03 07.6 -0.7**
NOR Nord 55.22 357 *e*P **P 22 03 06.6 -2.8**
SPITS Spitsbergen Ar 55.28 349 P **P 22 03 09.3 -0.6**
SPITS pmax pmax
comp=Z,90nm,1.7s
PBA Port Blair 55.60 252 P **P 22 03 13.3 +0.4**
RES Resolute Bay 55.82 16 LR LR 22 31 07.5
comp=Z,66nm,19.4s,baz=310,slow=40
RES Resolute Bay 55.82 16 P **P 22 03 13.6 -0.1**
RES pmax pmax
comp=Z,29nm,0.8s
RES Resolute Bay 55.82 16 P **P 22 03 13.6 -0.1**
MMRI Maumere 55.88 209 P **P 22 03 14.9 0.0**
comp=Z,2μmcomp=Z,26nm,1.1s
NIL Nilore 56.25 287 P **P 22 03 17.4 -0.1**
NIL pmax pmax
comp=Z,38nm,0.9s
NIL Nilore 56.25 287 P **P 22 03 17.4 -0.1**
CHGR Chuyangaron 56.42 294 P **P 22 03 18.1 -0.7**
YKA Yellowknife Ar 56.77 33 P **P 22 03 21.0 +0.3**
comp=Z,4.2nm,0.8s,baz=298,slow=6.7,SNR=46
YKA pP **pP 22 03 33.7 +0.1**
comp=Z,13nm,0.8s,baz=297,slow=7.3,SNR=33
YKA Yellowknife Ar 56.77 33 P **P 22 03 20.6 -0.1**
COEN Coen 56.83 183 P **P 22 03 22.2 +0.7**
COEN IAmb IAmb 22 03 24.0
comp=Z,34nm,1.2s
COEN Coen 56.83 183 P **P 22 03 22.3 +0.7**
ABKAR Akbulak array 56.88 309 P **P 22 03 21.1 -0.6**
ABKAR Akbulak array 56.88 309 P **P 22 03 21.1 -0.6**
ABKAR IAmb IAmb 22 03 21.8
comp=Z,17nm,0.6s
MTN Manton Dam 57.33 197 P **P 22 03 24.9 -0.1**
KIRV Kirov 57.64 322 LR LR 22 30 51.8
comp=Z,172nm,18.1s,baz=60,slow=39
KIRV Kirov 57.64 322 ⇑ *e*P **P 22 03 25.8 -1.1**
PRGR Permogore 57.69 326 *e*P **P 22 03 25.3 -1.9**
PRGR pmax pmax
comp=Z,23nm,1.0s
PSI Prapat 57.97 240 LR LR 22 33 03.7
comp=Z,117nm,18.2s,baz=44,slow=41
LVZ Lovozero 58.08 335 P **P 22 03 29.2 -0.7**
LVZ pmax pmax
comp=Z,110nm,2.0s
LVZ Lovozero 58.08 335 P **P 22 03 29.2 -0.7**
TULEG Thule 58.60 9 *e*P **P 22 03 32.2 -1.1**
TULEG IAmb IAmb 22 03 32.6
comp=Z,12nm,0.9s
TULEG Thule 58.60 9 P **P 22 03 31.8 -1.5**
TULEG IAmb IAmb 22 03 32.9
comp=Z,11nm,0.9s
APA Apatity 58.66 336 ⇓ *i*P **P 22 03 32.9 -1.0**
APA pmax pmax
comp=Z,8.0nm,0.6s
APA MLR MLR
comp=Z,400nm,17.0s
KBL Kabul 58.69 290 P **P 22 03 33.3 -1.6**
KBL pmax pmax
comp=Z,25nm,0.7s
KBL Kabul 58.69 290 P **P 22 03 33.3 -1.6**
NEEM North Greenlan 59.26 4 *e*P **P 22 03 37.4 -0.9**
NEEM IAmb IAmb 22 03 38.0
comp=Z,14nm,1.1s
ARCES ARCESS Array B 59.60 339 P **P 22 03 40.0 -0.3**
comp=Z,3.1nm,0.4s,baz=38,slow=7.7,SNR=40
ARCES LR LR 22 34 49.6
comp=Z,67nm,19.6s,baz=27,slow=41
ARCES ARCESS Array B 59.60 339 P **P 22 03 40.0 -0.3**
GSI Gunungsitoli 59.97 240 P **P 22 03 43.9 +0.3**
DAG Danmarks Havn 60.02 356 IAmb IAmb 22 03 42.7
comp=Z,9.7nm,1.0s
DAG *i* P **P 22 03 42.9 -0.3**
KLSI 60.48 229 P **P 22 03 46.8 -0.3**
comp=Z,7.9nm,1.5s
KTK1 Kautokeino 60.54 340 *e*P **P 22 03 46.3 -0.6**
KLMR Klimovskoe 60.58 327 *e*P **P 22 03 44.7 -2.5**
KLMR pmax pmax
comp=Z,23nm,1.2s
KLMR Klimovskoe 60.58 327 *e*P **P 22 03 44.7 -2.5**
KLMR AMP 22 03 47.2
comp=Z,23nm,1.2s
KNRA Kununurra 60.61 199 P **P 22 03 47.6 -0.2**
KNRA IAmb IAmb 22 04 14.7
comp=Z,37nm,1.6s
MDSI Maura Dua 60.62 230 P **P 22 03 48.4 +0.4**
comp=Z,8.9nm,1.3s
LEM Lembang 60.72 225 LR LR 22 29 54.6
comp=Z,58nm,21.1s,baz=44,slow=36
JETT Jettan, Norway 60.85 341 *e*P **P 22 03 49.4 +0.5**
MYLAV Mylavaram 60.90 266 *e*P **P 22 03 49.9 0.0**
MYLAV *e*S **S 22 12 05.6 +1.0**
MTSU Mount Surprise 60.94 182 P **P 22 03 51.0 +0.9**
TRO Tromso 61.14 341 *e*P **P 22 03 50.1 -0.7**
SRSP Sriramsagar 61.19 269 *e*P **P 22 03 51.0 -0.9**
BELG Belogornoye 61.85 317 LR LR 22 33 38.3
comp=Z,109nm,18.7s,baz=359,slow=39
BELG Belogornoye 61.85 317 *c i*P **P 22 03 55.3 -0.6**
BELG pmax pmax
comp=Z,7.0nm,0.9s
ADKI Addanki 61.97 266 *e*P **P 22 03 57.3 +0.1**
ADKI *e*S **S 22 12 20.9 +2.7**
HYBB Hyderabad (bro 61.99 268 *e*P **P 22 03 57.5 +0.1**
HYBB *e*S **S 22 12 18.4 -0.2**
NJS Nagarjunasagar 61.99 267 *e*P **P 22 03 59.3 +2.0**
NJS *e*S **S 22 12 19.2 +0.6**
EDM Edmonton 62.40 42 P **P 22 04 00.3 +0.6**
EDM pmax pmax
comp=Z,23nm,0.8s
EDM Edmonton 62.40 42 P **P 22 04 00.3 +0.6**
DBG Daneborg 62.53 356 *e*P **P 22 03 59.2 -0.9**
DBG IAmb IAmb 22 04 00.2
comp=Z,7.9nm,1.1s
SRLM Srisailam 62.59 267 *e*P **P 22 03 59.7 -1.6**
CTA Charters Tower 62.86 180 P **P 22 04 02.3 -0.6**
comp=Z,5.4nm,0.6s,baz=348,slow=7.8,SNR=13
CTA LR LR 22 34 18.0
comp=Z,22nm,18.2s,baz=39,slow=39
CTAO Charters Tower 62.86 180 P **P 22 04 02.6 -0.3**
CTAO pmax pmax
comp=Z,39nm,1.7s
CTAO Charters Tower 62.86 180 P **P 22 04 02.6 -0.3**
CTAO IAmb IAmb 22 04 32.0
comp=Z,39nm,1.6s
RCLA Racherla 62.96 266 *e*P **P 22 04 03.4 -0.4**
RCLA *e*S **S 22 12 31.5 +0.7**
NEW Newport 63.34 48 P **P 22 04 06.4 +0.4**
baz=306
UPNV Upernavik 63.39 7 IAmb IAmb 22 04 05.7
comp=Z,16nm,0.8s
HRA Herat 63.42 293 P **P 22 04 06.9 0.0**
HRA IAmb IAmb 22 04 07.8
comp=Z,17nm,0.8s
WB0 Warramunga Arr 63.47 192 P **P 22 04 06.4 -0.6**
WB0 IAmb IAmb 22 04 07.3
comp=Z,15nm,0.8s
QIS Mount Isa 63.61 187 P **P 22 04 07.4 -0.5**
WRAB Tennant Creek 63.64 192 *c i*P **P 22 04 07.2 -0.9**
WRAB pmax pmax
comp=Z,22nm,1.3s
WRAB Tennant Creek 63.64 192 P **P 22 04 08.0 -0.1**
WB2 Warramunga Arr 63.65 192 P **P 22 04 07.6 -0.5**
WB2 IAmb IAmb 22 04 08.6
comp=Z,16nm,0.9s
WRA Warramunga Arr 63.65 192 P **P 22 04 07.5 -0.6**
comp=Z,8.6nm,0.8s,baz=7.8,slow=6.8,SNR=64
WRA PcP **PcP 22 04 44.0 0.0**
comp=Z,5.6nm,0.7s,baz=5.3,slow=4.0,SNR=11
WRA Warramunga Arr 63.65 192 P **P 22 04 07.0 -1.1**
FAUS Fauske 63.73 341 *e*P **P 22 04 07.6 -0.6**
L04D Klamath Falls 63.86 56 P **P 22 04 10.2 +0.6**
baz=306
J05D Fort Rock, OR 63.88 54 P **P 22 04 10.8 +1.0**

baz=306
YBH Yreka Blue Hor 63.89 56 P **P 22 04 10.7 +0.9**
comp=Z,3.4nm,0.9s,baz=292,slow=2.2,SNR=5.7
M02C Callahan 64.00 57 P **P 22 04 11.2 +0.7**
baz=306
GEYT Alibeck 64.08 299 P **P 22 04 10.8 -0.3**
comp=Z,8.2nm,0.8s,baz=255,slow=17,SNR=9.6
GEYT Alibeck 64.08 299 P **P 22 04 10.8 -0.3**
GYA0B ALIBECK ARRAY 64.08 299 P **P 22 04 10.7 -0.4**
GYA0B IAmb IAmb 22 04 14.8
comp=Z,14nm,1.1s
N2VA Vr,y 64.11 342 *e*P **P 22 04 10.2 -0.4**
NBB05 Inndyr 64.31 341 *e*P **P 22 04 11.8 -0.2**
N02D Trinity Center 64.34 57 P **P 22 04 13.6 +0.9**
baz=306
M04C Macdoel 64.39 56 P **P 22 04 14.0 +0.8**
baz=306
MOS Moscow 64.53 324 *e*P **P 22 04 10.2 -3.4**
URV Uravakonda 64.53 267 *e*P **P 22 04 13.1 -1.1**
SUMG Summit 64.59 2 P **P 22 04 14.3 +0.1**
SUMG pmax pmax
comp=Z,58nm,1.2s
SUMG Summit 64.59 2 *i* P **P 22 04 14.7 +0.5**
SUMG IAmb IAmb 22 04 15.0
comp=Z,47nm,1.1s
SUMG Summit 64.59 2 P **P 22 04 14.3 +0.1**
MOR8 Moi Rana 64.90 340 *e*P **P 22 04 14.2 -1.7**
FIA1 FINESS Array S 65.11 333 P **P 22 04 16.5 -0.7**
FINES FINESS Array B 65.11 333 P **P 22 04 16.5 -0.8**
comp=Z,43nm,0.6s,baz=40,slow=8.1,SNR=223
FINES LR LR 22 35 27.5
comp=Z,96nm,18.7s,baz=46,slow=38
FINES FINESS Array B 65.11 333 P **P 22 04 16.7 -0.6**
FINES FINESS Array B 65.11 333 P **P 22 04 16.7 -0.6**
JTMT Jette 65.18 47 P **P 22 04 18.8 +0.6**
OBN Obninsk 65.39 323 *d i* P **P 22 04 18.1 -1.1**
OBN *e* 22 06 44.4
OBN *e*S **S 22 12 59.1 -0.6**
OBN pmax pmax
comp=Z,44nm,1.3s
OBN MLR MLR
comp=Z,101nm,16.0s
OBN Obninsk 65.39 323 P **P 22 04 17.8 -1.4**
OBN Obninsk 65.39 323 *e*P **P 22 04 18.1 -1.1**
VRH Novokhopyorsk 65.50 318 *e*P **P 22 04 18.1 -1.9**
VRH pmax pmax
comp=Z,70nm,0.8s
PLID Pearl Lake 65.85 50 P **P 22 04 22.5 -0.1**
MSO Missoula 65.93 48 P **P 22 04 23.2 +0.2**
baz=308
LPSR Galich'ya Gora 65.95 320 *e*P **P 22 04 22.0 -0.8**
LPSR pmax pmax
comp=Z,40nm,0.8s
SCO Scoresbysund 66.41 356 P **P 22 04 25.1 -0.3**
SCO pmax pmax
comp=Z,49nm,1.8s
SCO Scoresbysund 66.41 356 *e*P **P 22 04 25.4 0.0**
SCO IAmb IAmb 22 04 26.6
comp=Z,8.7nm,1.0s
SCO Scoresbysund 66.41 356 P **P 22 04 25.1 -0.3**
SCO IAmb IAmb 22 04 25.3
comp=Z,49nm,1.8s
VSR Storozhevoye 66.73 319 *e*P **P 22 04 27.1 -0.8**
VSR pmax pmax
comp=Z,50nm,0.4s
VORD Divnogorie 66.83 319 *e*P **P 22 04 27.7 -0.8**
VORD pmax pmax
comp=Z,60nm,1.0s
FCC Fort Churchill 66.97 29 P **P 22 04 29.2 -0.1**
FCC pmax pmax
comp=Z,21nm,0.7s
FCC Fort Churchill 66.97 29 P **P 22 04 29.1 -0.1**
FCC IAmb IAmb 22 04 42.5
comp=Z,21nm,0.7s
VSU Vasula 67.03 330 *c i* P **P 22 04 29.0 -0.6**
VSU pmax pmax
comp=Z,133nm,0.9s
VSU Vasula 67.03 330 *e*P **P 22 04 29.6 0.0**
HRY Holter Researc 67.14 47 P **P 22 04 31.7 +1.0**
PALK Pallekele 67.16 258 LR LR 22 36 52.7
comp=Z,49nm,18.3s,baz=184,slow=39
PALK Pallekele 67.16 258 P **P 22 04 30.7 -0.4**
PALK pmax pmax
comp=Z,36nm,1.6s
PALK Pallekele 67.16 258 P **P 22 04 30.7 -0.4**
PALK IAmb IAmb 22 06 29.9
comp=Z,36nm,1.6s
LRM Limekiln Ridge 67.36 48 P **P 22 04 33.5 +1.2**
AS31 Alice Springs 67.37 192 P **P 22 04 32.8 +0.7**
ASAR Alice Springs 67.37 192 P **P 22 04 32.4 +0.3**
comp=Z,13nm,0.7s,baz=8.8,slow=5.4,SNR=170
ASAR LR LR 22 33 55.2
comp=Z,23nm,19.5s,baz=8.0,slow=36
ASAR Alice Springs 67.37 192 P **P 22 04 32.6 +0.4**
ASAR Alice Springs 67.37 192 P **P 22 04 32.6 +0.4**
EGMT Eagleton 67.40 45 **P 22 04 32.8 +0.5**
EGMT IAmb IAmb 22 04 46.7
comp=Z,17nm,0.9s
EGMT Eagleton 67.40 45 P **P 22 04 32.8 +0.5**
baz=310
DZM Mont Dzumac 67.49 160 *e*LR LR 22 24 57.6
comp=Z,162nm,24.6s
HLID Hailey 67.69 51 P **P 22 04 34.6 +0.3**
baz=309
MTSE Matsula 67.89 332 *e*P **P 22 04 35.1 +0.1**
BOZ Bozeman (W) 67.95 48 P **P 22 04 37.1 +1.2**
BOZ pmax pmax
comp=Z,10.0nm,0.7s
BOZ Bozeman (W) 67.95 48 P **P 22 04 37.0 +1.2**
BOZ IAmb IAmb 22 04 51.7
comp=Z,9.9nm,0.7s
BOZ Bozeman (W) 67.95 48 P **P 22 04 36.1 +0.3**
baz=310
AAL Aland 68.05 334 *e*P **P 22 04 35.3 -0.7**
ICESG Greenland Ices 68.06 2 *i* P **P 22 04 36.0 -0.4**
ICESG IAmb IAmb 22 04 37.6
comp=Z,38nm,1.0s
EIDS Eidsvold 68.27 175 P **P 22 04 38.5 +0.8**
EIDS IAmb IAmb 22 04 39.8
comp=Z,40nm,1.8s
KVN Kaiserville 68.32 56 P **P 22 04 39.4 +1.0**
KVN pmax pmax
comp=Z,10.0nm,0.9s
KVN Kaiserville 68.32 56 P **P 22 04 39.4 +1.0**
TBLU Trondheim 68.33 340 *e*P **P 22 04 36.3 -1.5**
GROC Groznyy 68.38 309 *e*P **P 22 04 38.0 -0.4**
GROC *e**SP **sP 22 04 54.8 -1.9**
GROC *e* 22 05 04.1
GROC pmax pmax
comp=Z,15nm,1.0s
NVAR Mina Array Bea 68.58 57 P **P 22 04 41.0 +1.0**
comp=Z,5.3nm,0.7s,baz=285,slow=6.5,SNR=18
NVAR Mina Array Bea 68.58 57 P **P 22 04 41.0 +1.0**
AFI Afiamalu 68.59 136 LR LR 22 29 06.9
comp=Z,92nm,21.7s,baz=280,slow=31
NV11 Mina Array Sit 68.67 57 P **P 22 04 41.3 +0.8**
GOF Gofitskoye 68.72 312 ⇑ *i* P **P 22 04 40.7 +0.2**
GOF pmax pmax
comp=Z,71nm,0.8s
PSA00 Pilbara Seismi 68.73 206 P **P 22 04 40.6 -0.1**
PSA00 Pilbara Seismi 68.73 206 P **P 22 04 40.8 +0.1**
PSA00 IAmb IAmb 22 04 41.7
comp=Z,5.5nm,0.8s
SOEG Soedalen 69.02 359 *e*P **P 22 04 41.9 0.0**
SOEG IAmb IAmb 22 04 42.6
comp=Z,16nm,1.0s
UPP Uppsala 69.04 335 *e*P **P 22 04 41.8 -0.4**
SLIT Slitere, Latvi 69.24 331 *e*P **P 22 04 43.0 -0.4**
H17A Grant Village 69.29 48 P **P 22 04 45.7 +1.2**
baz=310
IDID Didziasalis 69.32 328 *e*P **P 22 04 44.3 +0.3**
QLP Quilpie 69.35 182 P **P 22 04 45.3 +0.9**
NCK Nalchik 69.42 311 ⇑ *e*P **P 22 04 44.8 -0.1**
NCK pmax pmax
comp=Z,21nm,0.8s
MNK Minsk 69.46 327 *i* P **P 22 04 44.5 -0.4**
MNK *i* *PP **pP 22 04 58.7 +0.6**
MNK *i* *SP **sP 22 05 04.6 +1.4**
MNK *i* 22 05 07.4
MNK *i* S **S 22 13 48.6 0.0**
MNK *i* *SS **sS 22 14 12.7 +2.1**
MNK pmax pmax
comp=Z,74nm,1.0s
MNK pmax pmax
comp=N,25nm,1.0s
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK MLR MLR
comp=E,23nm,19.0s
MNK MLR MLR
comp=Z,144nm,18.0s
MNK MLR MLR
comp=N,139nm,18.0s
MNK Minsk 69.46 327 *i* P **P 22 04 44.6 -0.3**
comp=E,4.0nm,1.0s
MNK *i* P **P 22 04 44.6 -0.3**
comp=N,25nm,1.0s
MNK *i* P **P 22 04 44.6 -0.3**
comp=Z,74nm,1.0s,baz=44
MNK *i* pP **pP 22 04 58.7 +0.7**
MNK *i* sP **sP 22 05 04.7 +1.4**
MNK *i* PP PP 22 06 43.7 -34
MNK *i* PPP PPP 22 09 21.0
MNK *i* S **S 22 13 48.6 0.0**
MNK *i* sS **sS 22 14 12.8 +2.2**
MNK *i* SS **SS 22 18 25.6 +10**
MNK *i* SSS SSS 22 23 13.2
MNK *i* LQ LQ 22 30 26.9
MNK *i* LR LR 22 35 43.9
MNK *i* LRM MLR 22 36 51.2
comp=E,23nm,19.0s
MNK *i* LRM MLR 22 37 05.6
comp=Z,144nm,18.3s
MNK *i* LRM MLR 22 37 09.5
comp=N,139nm,18.3s
TPH Tonopah 69.46 57 P **P 22 04 46.4 +0.9**
TPH pmax pmax
comp=Z,35nm,0.9s
TPH Tonopah 69.46 57 P **P 22 04 46.4 +0.9**
IIGN Ignalina 69.49 328 *e*P **P 22 04 45.6 +0.5**
SFJD Kangerlussuaq 69.50 7 LR LR 22 36 39.9
comp=Z,34nm,18.2s,baz=344,slow=37
MOL Molde 69.57 341 *e*P **P 22 04 45.3 -0.2**
NACGM Naroch 69.60 328 *i* P **P 22 04 45.5 -0.2**
MOOW Moose Ponds 69.62 49 P **P 22 04 46.9 +0.5**
KIV Kislovodsk 69.63 311 ⇑P **P 22 04 46.7 +0.4**
KIV Kislovodsk 69.63 311 ⇑P **P 22 04 46.7 +0.4**
KIV Kislovodsk 69.63 311 P **P 22 04 46.5 +0.2**
KIV Kislovodsk 69.63 311 *e*P **P 22 04 46.4 +0.2**
KIV Kislovodsk 69.63 311 *i* P **P 22 04 46.7 +0.4**
SNR=20
DOMB Dombas 69.65 340 *e*P **P 22 04 45.6 -0.4**
KBZ Khabaz 69.66 311 P **P 22 04 46.6 +0.3**
comp=Z,25nm,0.9s,baz=49,slow=4.0,SNR=52
KBZ LR LR 22 40 09.0
comp=Z,59nm,18.3s,baz=35,slow=40
KBZ Khabaz 69.66 311 *c i* P **P 22 04 46.4 +0.1**
KBZ pmax pmax
comp=Z,30nm,0.9s
KBZ Khabaz 69.66 311 *e*P **P 22 04 46.4 +0.1**
NC303 NORSAR Array S 69.74 339 P **P 22 04 46.1 -0.5**
NB2 NORSAR Subarra 69.94 338 P **P 22 04 46.9 -0.9**
comp=Z,25nm,0.6s,baz=33,slow=6.5
NB2 NORSAR Subarra 69.94 338 P **P 22 04 46.9 -0.9**
baz=33,slow=6.5
NOA NORSAR Array B 69.94 338 P **P 22 04 46.5 -1.3**
comp=Z,33nm,0.8s,baz=37,slow=5.8,SNR=147
NOA LR LR 22 39 24.7
comp=Z,71nm,20.9s,baz=10.0,slow=39
HFS Hagfors 70.00 337 LR LR 22 40 36.5
comp=Z,112nm,18.2s,baz=52,slow=40
AKN Aaknes 70.04 341 *e*P **P 22 04 48.2 -0.2**
ONI Oni 70.09 310 P **P 22 04 50.0 +0.9**
ONI pmax pmax
comp=Z,23nm,1.0s
ONI Oni 70.09 310 P **P 22 04 50.0 +0.9**
ONI IAmb IAmb 22 04 51.0
comp=Z,23nm,1.0s
NAO01 NORSAR Array S 70.19 338 *e*P **P 22 04 48.7 -0.6**
PABE Paberze 70.24 329 *e*P **P 22 04 49.7 +0.1**
PABE Paberze 70.24 329 P **P 22 04 49.0 -0.6**
MPMC Manual Prospec 70.57 59 P **P 22 04 51.9 -0.4**
baz=310
PBUR Paburge 70.59 330 *e*P **P 22 04 51.7 -0.1**
SPR3 Spring Creek 3 70.62 55 P **P 22 04 54.1 +1.3**
SPR3 IAmb IAmb 22 04 56.2
comp=Z,25nm,2.0s
DUG Dugway, Tooele 70.75 53 P **P 22 04 53.3 +0.1**
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 70.75 53 P **P 22 04 53.3 +0.1**
DUG Dugway, Tooele 70.75 53 P **P 22 04 53.4 +0.1**
baz=311
TPNV Topopah Spring 70.77 57 P **P 22 04 53.6 +0.1**
TPNV pmax pmax
comp=Z,5.0nm,1.0s
TPNV Topopah Spring 70.77 57 P **P 22 04 53.6 +0.1**
TPNV Topopah Spring 70.77 57 P **P 22 04 53.8 +0.3**
baz=310
PDAR Pinedale Array 70.92 49 P **P 22 04 54.9 +0.5**
comp=Z,2.4nm,0.8s,baz=258,slow=4.4,SNR=5.9
PDAR pP **pP 22 05 07.5 0.0**
comp=Z,3.2nm,0.7s,baz=302,slow=3.3,SNR=4.3
GNI Garni 70.94 307 LR LR 22 39 24.4
comp=Z,78nm,19.1s,baz=63,slow=39
GNI Garni 70.94 307 *de*P **P 22 04 55.9 +1.5**
GNI pmax pmax
comp=Z,25nm,1.5s
GNI Garni 70.94 307 P **P 22 04 55.0 +0.5**
GNI IAmb IAmb 22 05 20.9
comp=Z,16nm,0.8s
OSL Oslo 71.00 338 *e*P **P 22 04 54.4 +0.2**
EDW2 Edwards Air Fo 71.00 60 P **P 22 04 54.4 -0.3**
baz=310
SKAR Skarslia 71.01 340 *e*P **P 22 04 54.4 0.0**
QSM Queen of Sheba 71.02 58 P **P 22 04 55.6 +0.8**
QSM IAmb IAmb 22 04 56.8
comp=Z,14nm,1.1s
HYA Hoyanger 71.11 341 *e*P **P 22 04 55.1 +0.2**
OOD Oodnadatta 71.18 190 P **P 22 04 56.7 +1.1**
GSC Goldstone, Bar 71.48 59 P **P 22 04 58.0 +0.3**
baz=310
SOC Sochi 71.49 313 *e*P **P 22 04 54.8 -2.7**
SOC *e* 22 07 32.7
SOC *e*PPP PPP 22 09 16.3
SOC *e*S **S 22 14 10.4 -2.2**
SOC *e*SS **SS 22 18 46.1 -1.1**
SOC *e*SSS SSS 22 22 02.2
SOC MLR MLR
comp=Z,121nm,20.0s
KONO Kongsberg 71.55 338 *de*P **P 22 04 57.4 -0.1**
KONO pmax pmax
comp=Z,8.0nm,0.8s
KONO Kongsberg 71.55 338 *e*P **P 22 04 57.1 -0.4**
KONO Kongsberg 71.55 338 P **P 22 04 57.2 -0.4**
KONO IAmb IAmb 22 07 05.8
comp=Z,48nm,1.6s
SUE Sulen 71.55 341 *e*P **P 22 04 57.4 -0.1**
KARS Kars 71.59 309 P **P 22 04 59.1 +0.8**
KARS pmax pmax
comp=Z,62nm,0.9s
KARS Kars 71.59 309 P **P 22 04 59.1 +0.8**
BFSC Mount Baldy Ra 71.62 60 P **P 22 04 58.4 -0.2**
baz=310
STRU Stroemstad 71.63 337 *e*P **P 22 04 57.8 -0.2**
AKASG Malin Array Be 71.66 323 P **P 22 04 57.7 -0.6**
comp=Z,19nm,0.4s,baz=40,slow=6.0,SNR=130
AKASG LR LR 22 39 02.6
comp=Z,143nm,20.2s,baz=42,slow=38
AKASG Malin Array Be 71.66 323 P **P 22 04 57.7 -0.6**
AKBB Malin Array Si 71.66 323 *c i* P **P 22 04 57.5 -0.8**
AKBB Malin Array Si 71.66 323 P **P 22 04 57.9 -0.4**
SUW Suwalki 71.67 329 *e*P **P 22 04 57.6 -0.7**
SUW Suwalki 71.67 329 P **P 22 04 57.6 -0.7**
SUW pmax pmax
comp=Z,90nm,1.2s
SUW Suwalki 71.67 329 *e*P **P 22 04 57.8 -0.6**
SUW Suwalki 71.67 329 P **P 22 04 57.6 -0.7**
TUQ Turquoise Moun 71.95 58 P **P 22 05 01.4 +0.8**
baz=310
ASK Askoy 71.95 341 *e*P **P 22 05 00.2 +0.3**
BER Bergen 72.00 341 *e*P **P 22 05 00.4 +0.1**
BORG Borgarnes 72.05 354 P **P 22 05 01.9 +1.4**
BORG pmax pmax
comp=Z,114nm,1.5s
BORG Borgarnes 72.05 354 P **P 22 05 01.9 +1.4**
HEC Hector,Ludlow 72.08 59 P **P 22 05 01.8 +0.5**
baz=310
ODD1 Odda 72.10 340 *e*P **P 22 05 01.1 +0.2**
BORU Boraas 72.33 336 *e*P **P 22 05 01.3 -1.0**
TJOU Tjoern 72.34 337 *e*P **P 22 05 01.7 -0.6**
RDMU Red Mountain 72.37 51 P **P 22 05 02.5 -0.6**
RDMU IAmb IAmb 22 05 18.7
comp=Z,16nm,0.9s
BLEU Blekinge 72.47 334 *e*P **P 22 05 02.1 -1.0**
ULM Lac du Bonnet 72.49 36 P **P 22 05 02.6 -0.7**
comp=Z,3.8nm,0.8s,baz=354,slow=2.8,SNR=4.1
GMRC Granite Mounta 72.53 59 P **P 22 05 04.2 +0.1**
baz=311
BANOM Banah 72.65 289 *i* P **P 22 05 04.5 -0.3**
SNR=15
SHME Shamm 72.68 290 *i* P **P 22 05 04.2 -0.7**
SNR=13
WSAR Wadi Sarin 72.73 286 LR LR 22 41 19.9
comp=Z,49nm,18.1s,baz=66,slow=39
ONAU Onsala 72.79 336 *e*P **P 22 05 04.1 -0.9**
PFO Pinyon Flats O 72.79 60 LR LR 22 30 06.5
comp=Z,84nm,21.8s,baz=297,slow=30
PFO Pinyon Flats O 72.79 60 P **P 22 05 05.1 -0.5**
baz=311
TPFO Pinon Flats 72.80 60 P **P 22 05 05.7 0.0**
baz=311
BELC Belle Mtn. Jos 72.83 59 P **P 22 05 05.3 -0.6**
baz=311
FABU Falkenberg 72.88 335 *e*P **P 22 05 04.5 -1.0**
DEL Delary 72.96 335 *i* P **P 22 05 05.0 -1.0**
HOMB Homborsund 73.02 338 *e*P **P 22 05 06.0 -0.3**
HOMB Homborsund 73.02 338 *e*P **P 22 05 05.8 -0.5**
KMY Karmoy 73.05 340 *e*P **P 22 05 06.9 +0.4**
MSFE Esma-Masafi 73.11 289 *i* P **P 22 05 06.9 -0.6**
SNR=6.7
IRM Iron Mountain 73.26 59 P **P 22 05 08.2 -0.1**
baz=311
SNART Snartemo 73.31 339 *e*P **P 22 05 08.2 +0.2**
SNART Snartemo 73.31 339 *e*P **P 22 05 08.2 +0.2**
ARMA Armidale 73.33 175 P **P 22 05 09.8 +1.3**
ARMA IAmb IAmb 22 05 17.9
comp=Z,33nm,1.8s
UOSS Minazif 73.34 289 P **P 22 05 08.2 -0.7**
UOSS IAmb IAmb 22 05 09.1
comp=Z,21nm,0.7s
UOSS Minazif 73.34 289 *i* P **P 22 05 08.4 -0.4**
SNR=9.6
BC3 Big Chuckawall 73.40 59 P **P 22 05 08.9 -0.3**
baz=311
HATD Hatta, Dubai 73.47 289 *i* P **P 22 05 09.4 -0.2**
SNR=11
U15A North Rim 73.53 55 P **P 22 05 11.5 +1.4**
LCRK Leigh Creek 73.53 187 P **P 22 05 11.0 +1.4**
ASHO Ashiyiah 73.61 289 *i* P **P 22 05 10.2 -0.2**
SNR=6.3
IKP In-Ko-Pah, Jac 73.64 61 P **P 22 05 10.8 +0.2**
baz=311
BSD Bornholm Skovb 73.74 333 IAmb IAmb 22 05 10.6
comp=Z,26nm,0.7s
BSD *e*P **P 22 05 10.6 0.0**
BSD Bornholm Skovb 73.74 333 *e*P **P 22 05 10.3 -0.4**
PDMCI Parker Dam,Lak 73.79 58 P **P 22 05 11.1 -0.3**
baz=311
MULG Mulgathing 73.85 191 P **P 22 05 12.9 +1.5**
FAQ Al Faqa, Dubai 73.89 289 P **P 22 05 11.5 -0.5**
SORM Soroca 73.92 322 ⇑P **P 22 05 11.2 -0.6**
SORM Soroca 73.92 322 ⇑P **P 22 05 11.2 -0.6**
AGMN Agassiz Nation 73.93 38 P **P 22 05 11.5 -0.4**
baz=318
SIRT Sirnak 74.04 307 P **P 22 05 13.0 +0.2**
ASUD Al Ashush, Dub 74.15 289 *i* P **P 22 05 13.6 0.0**
SNR=7.7
GLA Glamis 74.19 60 P **P 22 05 13.5 -0.2**
baz=311
ALNE Al Ain 74.23 288 *i* P **P 22 05 13.7 -0.3**
SNR=11
CMSA Cobar Meteorol 74.27 180 P **P 22 05 15.5 +1.7**
BEL Belsk 74.27 328 *e*P **P 22 05 14.4 +0.6**
MUD Monsted U'grnd 74.39 337 *e*P **P 22 05 14.4 +0.1**
MUD IAmb IAmb 22 05 14.5
comp=Z,13nm,0.8s
PURM Purcari 74.40 320 ⇑P **P 22 05 14.1 -0.5**
GKP Gorka Klasztor 74.45 331 *e*P **P 22 05 14.7 0.0**
GKP Gorka Klasztor 74.45 331 *e*P **P 22 05 14.9 +0.1**
LVV L'vov 74.53 325 *e*P **P 22 05 15.1 -0.3**
KIS Kishinev 74.55 321 *e*P **P 22 05 14.9 -0.6**
comp=Z,30nm,0.5s
KIS Kishinev 74.55 321 *e*P **P 22 05 15.0 -0.6**
KIS pmax pmax
comp=Z,30nm,0.5s
MILM Milestii Mici 74.61 321 ⇑ *i*P **P 22 05 15.0 -0.8**
comp=Z,30nm,0.6s
MILM Milestii Mici 74.61 321 ⇑P **P 22 05 15.3 -0.5**
MILM Milestii Mici 74.61 321 *c i*P **P 22 05 15.0 -0.8**
MILM pmax pmax
comp=Z,30nm,0.6s
WUAZ Wupatki 74.69 56 P **P 22 05 15.3 -1.4**
baz=312
STKA Stephens Creek 74.72 184 P **P 22 05 16.5 0.0**
comp=Z,8.1nm,0.7s,baz=352,slow=7.2,SNR=25
STKA LR LR 22 39 24.6
comp=Z,41nm,18.6s,baz=26,slow=37
STKA Stephens Creek 74.72 184 P **P 22 05 17.0 +0.6**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 74.72 184 P **P 22 05 17.0 +0.6**
Y14A Wickenburg 74.74 58 P **P 22 05 17.8 +0.8**
KWP Kalwaria Pacla 75.23 326 *e*P **P 22 05 20.0 +0.6**
KWP Kalwaria Pacla 75.23 326 P **P 22 05 19.5 +0.1**
KWP pmax pmax
comp=Z,553nm,0.9s
KWP Kalwaria Pacla 75.23 326 P **P 22 05 19.5 +0.1**
MVCO Mesa Verde 75.25 53 P **P 22 05 20.1 0.0**
baz=313
VASR Vaslui 75.29 321 ⇓P **P 22 05 19.9 +0.2**
FORT Forrest 75.35 196 P **P 22 05 20.7 +0.6**
FORT Forrest 75.35 196 P **P 22 05 21.1 +1.0**
X16A Lo Mia Camp, P 75.38 57 P **P 22 05 21.9 +1.1**
IVI Ivigtut 75.41 7 P **P 22 05 19.9 -0.2**
BUR08 Bucovina Ar. S 75.69 323 P **P 22 05 22.5 +0.3**
BUR08 IAmb IAmb 22 05 23.2
comp=Z,21nm,0.7s
BURAR Bucovina Array 75.71 323 ⇑P **P 22 05 22.3 0.0**
BURAR Bucovina Array 75.71 323 ⇑P **P 22 05 22.3 0.0**
BURAR Bucovina Array 75.71 323 P **P 22 05 22.4 0.0**
BURAR IAmb IAmb 22 05 23.6
comp=Z,30nm,0.8s
VARL Varlezi 75.81 321 ⇑P **P 22 05 22.5 -0.3**
S22A 4UR Ranch, Cre 75.85 51 P **P 22 05 23.0 -0.5**
baz=314
TLCR 75.89 320 ⇑P **P 22 05 23.2 0.0**
TLCR 75.89 320 ⇑P **P 22 05 23.2 0.0**
GHRR 75.90 321 ⇓P **P 22 05 24.4 +1.1**
TESR Tescani 75.91 322 ⇑P **P 22 05 23.2 -0.1**
OJC Ojcow 75.93 328 *i* P **P 22 05 23.6 +0.2**
OJC Ojcow 75.93 328 P **P 22 05 23.6 +0.2**
OJC pmax pmax
comp=Z,52nm,1.0s
OJC Ojcow 75.93 328 P **P 22 05 23.6 +0.2**
Q24A Divide 75.95 50 P **P 22 05 23.6 -0.6**
baz=314
BBOO Buckleboo 76.09 189 P **P 22 05 25.0 +0.7**
BBOO IAmb IAmb 22 05 25.8
comp=Z,11nm,0.7s
BBOO Buckleboo 76.09 189 P **P 22 05 25.2 +0.9**
JURR Jurilovca 76.17 319 ⇑P **P 22 05 25.3 +0.5**
UZH Uzhgorod 76.18 325 *e*P **P 22 05 25.0 +0.2**
UZH *e* 22 05 32.2
UZH *e* 22 05 42.4
UZH *e* 22 05 51.1
214A Organ Pipe Nat 76.19 59 P **P 22 05 24.9 -0.3**
baz=312
BSEG Bad Segeberg 76.20 335 *e*P **P 22 05 25.0 +0.2**
comp=Z,31nm,0.9s,baz=32,slow=5.6
CFR Carcaliu 76.22 320 ⇑P **P 22 05 24.6 -0.5**
CFR Carcaliu 76.22 320 ⇑P **P 22 05 24.6 -0.5**
NAPP Napperby 76.25 187 P **P 22 05 26.4 +1.2**
ODBI Odobesti 76.28 321 ⇑P **P 22 05 27.1 +1.6**
RUE Ruedersdorf 76.30 332 *e*P **P 22 05 25.7 +0.3**
RUE Ruedersdorf 76.30 332 *e*P **P 22 05 25.5 +0.1**
comp=Z,22nm,0.8s,baz=32,slow=5.6
CRVS Cervenica-Dubn 76.31 326 *e*P **P 22 05 25.5 -0.1**
CRVS Cervenica-Dubn 76.31 326 *e*P **P 22 05 25.5 -0.1**
TPGR Topolog 76.32 320 ⇑P **P 22 05 26.0 +0.3**
VRI Vrincioaia 76.36 321 ⇓P **P 22 05 26.5 +0.6**
VRI Vrincioaia 76.36 321 ⇓P **P 22 05 26.5 +0.6**
NIE Niedzica 76.37 327 *i* P **P 22 05 27.3 +1.3**

PLOR Plostina 76.40 321 ⇓P P 22 05 26.6 +0.4
PLOR Plostina 76.40 321 ⇓P P 22 05 26.6 +0.4
BMR Baia Mare 76.41 324 ⇑P P 22 05 26.9 +0.7
BMR Baia Mare 76.41 324 ⇑P P 22 05 26.9 +0.7
MZR Muzera 76.49 289 *i* P **P 22 05 26.3 -0.7**
SNR=9.6
ARCR ARCALIA 76.49 323 ⇑P P 22 05 27.8 +1.2
SDCO Great Sand Dun 76.61 51 P **P 22 05 26.6 -1.2**
baz=315
COVR Voineasa-Covas 76.61 321 ⇑P P 22 05 28.3 +0.9
OZUR 76.61 322 ⇑P P 22 05 28.2 +0.8
TIRR Tirgusor 76.62 319 ⇑P P 22 05 27.0 -0.4
TIRR Tirgusor 76.62 319 ⇑P P 22 05 27.0 -0.4
HARR Harsova 76.68 320 ⇑P P 22 05 27.7 0.0
HARR Harsova 76.68 320 ⇑P P 22 05 27.7 0.0
BNN Bunyan 76.86 311 P **P 22 05 29.2 +0.1**
BNN IAmb IAmb 22 05 30.5
comp=Z,36nm,1.0s
DOPR Dopca 76.89 322 ⇑P P 22 05 29.8 +0.8
LANS Liptovska Anna 76.91 327 *eP* **P 22 05 30.1 +1.0**
LANS pmax pmax
comp=Z,13nm,0.9s
LANS Liptovska Anna 76.91 327 *eP* **P 22 05 30.1 +1.0**
DRUM Mains of Drumt 76.92 343 *eP* **P 22 05 28.2 -0.6**
MORW Morawa 76.94 207 P **P 22 05 29.2 0.0**
ECSD EROS Data Cent 76.97 41 P **P 22 05 29.1 -0.3**
ECSD EROS Data Cent 76.97 41 P **P 22 05 29.1 -0.3**
baz=318
MLR Muntele Rosu 77.00 321 ⇓P P 22 05 30.0 +0.3
MLR Muntele Rosu 77.00 321 ⇓P P 22 05 30.0 +0.3
MLR Muntele Rosu 77.00 321 P **P 22 05 29.7 0.0**
MLR IAmb IAmb 22 05 31.6
comp=Z,12nm,1.0s
ISR Istrita 77.01 321 ⇓P P 22 05 30.7 +1.1
ISR Istrita 77.01 321 ⇓P P 22 05 30.7 +1.1
OSTC Ostas 77.02 330 *eP* **P 22 05 29.6 0.0**
MESR Meseseni 77.05 324 ⇓P P 22 05 31.0 +1.2
CHVC Chvalec 77.05 330 *eP* **P 22 05 29.5 -0.3**
DPC Dobruska-Polom 77.15 330 *eP* **P 22 05 30.5 +0.1**
DPC Dobruska-Polom 77.15 330 *eP* **P 22 05 30.5 +0.1**
MORC Moravsky Berou 77.16 329 ⇑P P 22 05 30.7 +0.3
MORC Moravsky Berou 77.16 329 ⇑P P 22 05 30.7 +0.3
MORC Moravsky Berou 77.16 329 *eP* **P 22 05 30.5 +0.1**
MORC Moravsky Berou 77.16 329 P **P 22 05 30.4 -0.1**
MORC IAmb IAmb 22 05 31.7
comp=Z,16nm,0.9s
ICOR Ion Corvin 77.17 319 ⇓P P 22 05 31.4 +1.0
KRLC Kraliky 77.20 329 *eP* **P 22 05 29.9 -0.8**
KRLC Kraliky 77.20 329 *eP* **P 22 05 29.9 -0.8**
TUC Tucson 77.21 58 P **P 22 05 31.2 +0.1**
baz=313
FLTG Flechtingen 77.27 334 *eP* **P 22 05 30.4 -0.5**
comp=Z,31nm,1.1s,baz=32,slow=5.6
GAZ Gaziantep 77.29 309 P **P 22 05 31.0 -0.4**
DRGR 77.43 324 ⇓P P 22 05 32.3 +0.3
DRGR 77.43 324 ⇓P P 22 05 32.3 +0.3
BR131 Keskin Array S 77.44 313*d i*P **P 22 05 32.4 +0.1**
BR131 Keskin Array S 77.44 313 P **P 22 05 31.9 -0.4**
BRTR Keskin Array B 77.44 313 P **P 22 05 32.2 -0.1**
comp=Z,3.5nm,0.8s,baz=107,slow=1.3,SNR=9.3
BRTR LR LR 22 45 33.2
comp=Z,69nm,18.6s,baz=65,slow=40
BRTR Keskin Array B 77.44 313 P **P 22 05 32.1 -0.2**
VOIR 77.45 322 ⇑P P 22 05 33.2 +1.0
VOIR 77.45 322 ⇑P P 22 05 33.2 +1.0
NRDL Niedersach Rie 77.50 334 *eP* **P 22 05 32.1 0.0**
comp=Z,6.3nm,0.7s,baz=32,slow=5.6
RETH Rethem/Aller, 77.52 335 *eP* **P 22 05 32.3 0.0**
comp=Z,33nm,1.1s,baz=32,slow=5.6
CLL Collm 77.54 332⇑*i*P **P 22 05 31.9 -0.5**
CLL *e**PP **PcP 22 05 44.0 +1.4**
CLL pmax pmax
comp=Z,37nm,1.1s
CLL Collm 77.54 332⇑*i*P **P 22 05 31.9 -0.5**
comp=Z,37nm,1.1s
CLL *e*pP **PcP 22 05 44.0 +1.4**
CLL Collm 77.54 332 *eP* **P 22 05 32.1 -0.3**
comp=Z,37nm,1.1s,baz=32,slow=5.6
CLL Collm 77.54 332 P **P 22 05 31.9 -0.5**
CLL IAmb IAmb 22 05 33.4
comp=Z,24nm,0.7s
BRG Berggiesshubel 77.58 331 *eP* **P 22 05 32.4 -0.2**
BRG Amp 22 05 33.4
comp=Z,9.3nm,1.1s
BRG Berggiesshubel 77.58 331 *eP* **P 22 05 32.4 -0.2**
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 77.58 331 *eP* **P 22 05 32.5 -0.2**
comp=Z,9.4nm,1.1s,baz=32,slow=5.6
MTUR Matau 77.60 322 ⇑P P 22 05 34.5 +1.4
ASSE Asse, Remlinge 77.63 334 *eP* **P 22 05 32.8 0.0**
comp=Z,5.6nm,0.9s,baz=32,slow=5.6
PVCC Panska Ves 77.64 331 *eP* **P 22 05 32.7 -0.3**
PVCC Panska Ves 77.64 331 *eP* **P 22 05 32.7 -0.3**
T25A Trinidad 77.65 50 P **P 22 05 33.4 -0.2**
baz=315
ARR Arges 77.69 322 ⇓P P 22 05 33.8 +0.3
VYHS Vyhne 77.69 327 *eP* **P 22 05 33.7 +0.3**
VYHS pmax pmax
comp=Z,17nm,1.4s
VYHS Vyhne 77.69 327 *eP* **P 22 05 33.7 +0.3**
PSZ Piszkesteto 77.72 326 ⇓P P 22 05 34.5 +0.8
PSZ Piszkesteto 77.72 326 ⇓P P 22 05 34.5 +0.8
PSZ Piszkesteto 77.72 326 P **P 22 05 34.0 +0.4**
PSZ IAmb IAmb 22 05 35.2
comp=Z,17nm,0.9s
PSZ Piszkesteto 77.72 326 P **P 22 05 33.2 -0.4**
FBE Freiberg 77.74 332 *eP* **P 22 05 33.6 0.0**
comp=Z,23nm,1.1s,baz=32,slow=5.6
ANTO Ankara 77.79 314 P **P 22 05 34.1 0.0**
ANTO pmax pmax
comp=Z,24nm,1.0s
ANTO Ankara 77.79 314 P **P 22 05 34.1 0.0**
ANTO IAmb IAmb 22 05 35.5
comp=Z,24nm,0.9s
KOLL Kolacno 77.79 327 *eP* **P 22 05 34.7 +0.8**
BR231 Keskin MP Arra 77.82 314 P **P 22 05 34.6 +0.3**
BR231 IAmb IAmb 22 05 35.8
comp=Z,20nm,0.9s
JAVC Velka Javorina 77.85 328 *eP* **P 22 05 35.4 +1.1**
ESY Stoneypath 77.87 343 *eP* **P 22 05 33.9 -0.3**
VRAC Vranov 77.90 329 ⇑P P 22 05 34.9 +0.4
VRAC Vranov 77.90 329 LR LR 22 42 33.1
comp=Z,152nm,21.1s,baz=32,slow=38
VRAC Vranov 77.90 329 ⇑P P 22 05 34.9 +0.4
VRAC Vranov 77.90 329 *eP* **P 22 05 34.7 +0.2**
CLZ Clausthal 77.97 334 *eP* **P 22 05 35.1 +0.2**
comp=Z,20nm,0.8s,baz=32,slow=5.6
ANMO Albuquerque 78.01 53⇓*eP* **P 22 05 37.0 +1.4**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
ANMO Albuquerque 78.01 53 P **P 22 05 35.5 -0.1**
baz=315
NEUB Neuenburg 78.04 333 *eP* **P 22 05 35.1 -0.2**
comp=Z,25nm,1.1s,baz=32,slow=5.6
PRU Pruhonice 78.10 330 *eP* **P 22 05 35.3 -0.3**
PRU Pruhonice 78.10 330 *eP* **P 22 05 35.3 -0.3**
KRUC Moravsky 78.18 329 *eP* **P 22 05 36.2 +0.2**
MDUB Mudurnu 78.18 315 P **P 22 05 36.6 +0.2**
SMOL Smolenice 78.23 328 *eP* **P 22 05 37.1 +0.8**
SMOL pmax pmax
comp=Z,8.0nm,1.1s
SMOL Smolenice 78.23 328 *eP* **P 22 05 37.1 +0.8**
SIRR Siria 78.30 324 ⇑P P 22 05 37.3 +0.5
TREC Trest 78.33 330 *eP* **P 22 05 36.4 -0.5**
TREC Trest 78.33 330 *eP* **P 22 05 36.4 -0.5**
PGBU Glenifferbraes 78.37 344 *eP* **P 22 05 37.2 +0.3**
PGBU IAmb IAmb 22 05 37.8
comp=Z,77nm,1.1s
COPA Copaceanca 78.37 321 ⇑P P 22 05 36.8 -0.4
MODS Modra-Piesok 78.40 328 *eP* **P 22 05 39.3 +2.0**
MODS pmax pmax
comp=Z,15nm,1.1s
MODS Modra-Piesok 78.40 328 *eP* **P 22 05 39.3 +2.0**
SRO Srobarova 78.45 327 *eP* **P 22 05 38.6 +1.1**
SRO pmax pmax
comp=Z,18nm,1.0s
SRO Srobarova 78.45 327 *eP* **P 22 05 38.6 +1.1**
SRO2 Moca 78.45 327 *eP* **P 22 05 37.1 -0.5**
SRO2 Moca 78.45 327 *eP* **P 22 05 37.1 -0.5**
SCHQ Schefferville 78.49 19 P **P 22 05 37.8 +0.1**
comp=Z,7.2nm,0.7s,baz=348,slow=6.2,SNR=11
SCHQ LR LR 22 44 45.6
comp=Z,83nm,18.5s,baz=276,slow=39
SCHQ Schefferville 78.49 19 P **P 22 05 37.9 +0.1**
ESK Eskdalemuir 78.55 343 *eP* **P 22 05 37.9 -0.1**
ESK IAmb IAmb 22 05 38.6
comp=Z,14nm,0.7s
ESK Eskdalemuir 78.55 343 P **P 22 05 38.1 +0.1**
ESK pmax pmax
comp=Z,148nm,2.0s
ESK Eskdalemuir 78.55 343 P **P 22 05 38.1 +0.1**
GUNZ Gunzen 78.57 332 *eP* **P 22 05 38.2 -0.1**
comp=Z,8.0nm,0.8s,baz=32,slow=5.6
MOX Moxa 78.58 332 *eL* L 22 38 17.7
comp=Z,93nm,21.8s
WERN Wernitzgruen 78.62 332 *eP* **P 22 05 38.4 -0.1**
comp=Z,9.2nm,0.8s,baz=32,slow=5.6
NKC Novy Kostel 78.64 332 *eP* **P 22 05 38.1 -0.5**
NKC Novy Kostel 78.64 332 *eP* **P 22 05 38.1 -0.5**
ZIMR 78.67 320 ⇑P P 22 05 37.4 -1.4
ZIMR 78.67 320 ⇑P P 22 05 37.4 -1.4
EDMD Edmundbyers 78.73 342 *eP* **P 22 05 38.5 -0.5**
EDMD IAmb IAmb 22 05 39.3
comp=Z,26nm,1.0s
319A Douglas 78.78 58 P **P 22 05 40.9 +1.1**
319A IAmb IAmb 22 05 42.1
comp=Z,21nm,0.8s
BZS Buzias 78.83 324 ⇑P P 22 05 38.9 -0.8
BZS Buzias 78.83 324 ⇑P P 22 05 38.9 -0.8
121A Cookes Peak, D 78.90 56 P **P 22 05 41.9 +1.3**
121A Cookes Peak, D 78.90 56 P **P 22 05 41.7 +1.2**
baz=314
HERR Herculane 79.06 323 ⇑P P 22 05 40.5 -0.4
ROTZ Rotzenmuhle 79.11 332 *eP* **P 22 05 41.3 +0.1**
comp=Z,2.0nm,1.1s,baz=32,slow=5.6
CKRC Cesky Krumlov 79.15 330 *eP* **P 22 05 40.9 -0.6**
EGYH Egyhazaskeszo 79.16 327 P **P 22 05 41.2 -0.3**
KHC Kasperske Hory 79.16 330*c i*P **P 22 05 41.2 -0.3**
KHC pmax pmax
comp=Z,31nm,1.0s
KHC Kasperske Hory 79.16 330 *eP* **P 22 05 40.7 -0.8**
KHC *eP*P **pP 22 05 55.0 +0.1**
KHC Kasperske Hory 79.16 330 P **P 22 05 41.5 0.0**
KHC IAmb IAmb 22 05 42.7
comp=Z,13nm,0.8s
BANR Banloc 79.22 324 ⇑P P 22 05 41.4 -0.4
SOP Sopron 79.24 328 P **P 22 05 42.0 +0.1**
E43A Lone Tree Farm 79.25 34 P 22 05 41.8 -0.2
E43A IAmb IAmb 22 05 57.5
comp=Z,9.4nm,0.7s
MPLH Magyarpolny 79.28 327 P **P 22 05 41.5 -0.6**
BUG Bochum--Univer 79.30 335 *eP* **P 22 05 41.9 -0.2**
comp=Z,18nm,1.0s,baz=32,slow=5.6
PUNG Punghina 79.30 322 ⇑P P 22 05 42.9 +0.7
CONA Conrad Observa 79.31 329 *i* P **P 22 05 43.3 +0.9**
comp=Z,9.7nm,0.9s,SNR=6.6
GEC2 GERESS Array S 79.36 330 *eP* **P 22 05 42.4 -0.3**
comp=Z,7.9nm,1.1s,baz=32,slow=5.6
GEC2 *e*L L 22 39 38.8
comp=Z,148nm,21.2s
GEC2 GERESS Array S 79.36 330 P **P 22 05 42.3 -0.3**
GERES GERESS Array B 79.36 330 P **P 22 05 42.1 -0.5**
comp=Z,3.7nm,0.8s,baz=34,slow=5.0,SNR=24
GERES LR LR 22 44 07.1
comp=Z,160nm,18.3s,baz=44,slow=38
WET Wettzell 79.40 331 *eP* **P 22 05 43.1 +0.3**
comp=Z,18nm,1.1s,baz=32,slow=5.6
WET *e*L L 22 43 18.7
comp=Z,113nm,21.9s
MDVR Moldovita 79.44 323 ⇑P P 22 05 42.8 -0.4
HPK Haverah Park 79.45 341 *eP* **P 22 05 43.0 +0.1**
HPK IAmb IAmb 22 05 43.9
comp=Z,40nm,0.8s
GRA1 Grafenberg Arr 79.52 332 P **P 22 05 43.0 -0.4**
GRA1 IAmb IAmb 22 05 44.6
comp=Z,17nm,0.8s
GRF Grafenberg Arr 79.52 332 P **P 22 05 43.0 -0.4**
GRF pmax pmax
comp=Z,17nm,0.8s
GRF Grafenberg Arr 79.52 332 *eP* **P 22 05 43.7 +0.2**
comp=Z,21nm,1.0s,baz=32,slow=5.6
GRF *e*L L 22 40 53.7
comp=Z,86nm,20.4s
GRFO Grafenberg 79.52 332 P **P 22 05 42.9 -0.5**
GRFO pmax pmax
comp=Z,17nm,0.9s
GRFO Grafenberg 79.52 332 P **P 22 05 42.9 -0.5**
GRFO IAmb IAmb 22 05 44.6
comp=Z,17nm,0.9s
KUBS Kucevo 79.75 323 *eP* **P 22 05 41.8 -3.0**
KOVH Kovagotottos 79.93 326 P **P 22 05 44.3 -1.4**
FRGS Fruska Gora 79.97 325 ⇓P P 22 05 45.3 -0.6
FRGS Fruska Gora 79.97 325 *eP* **P 22 05 44.8 -1.1**
FRGS Fruska Gora 79.97 325 *eP* **P 22 05 44.9 -1.0**
MOA Molln 79.98 329 *eP* **P 22 05 46.2 +0.3**
comp=Z,3.7nm,0.8s
SCIA State Center 79.98 41 P **P 22 05 46.6 +0.5**
baz=320
TNS Taunus Mts 79.98 334 *eP* **P 22 05 45.6 -0.3**
comp=Z,8.0nm,0.9s,baz=32,slow=5.6
LBWR Ladybower, Pea 79.99 341 *eP* **P 22 05 46.0 +0.1**
LBWR IAmb IAmb 22 05 46.9
comp=Z,72nm,0.9s
ARSA Arzberg 80.00 328 *eP* **P 22 05 46.7 +0.6**
comp=Z,4.8nm,0.9s
NWAO Narrogin (SRO) 80.14 204 P **P 22 05 46.9 +0.2**
NWAO pmax pmax
comp=Z,191nm,1.9s
NWAO Narrogin (SRO) 80.14 204 P **P 22 05 46.9 +0.2**
TOO Toolangi 80.29 180 P **P 22 05 48.4 +0.9**
TOO pmax pmax
comp=Z,17nm,1.0s
TOO Toolangi 80.29 180 P **P 22 05 48.4 +0.9**
TOO IAmb IAmb 22 05 49.8
comp=Z,17nm,1.0s
BEBN Eben Emael 80.34 336 P **P 22 05 47.8 0.0**
comp=Z,28nm,0.0s
BOVS Bovan 80.35 323 ⇑P P 22 05 46.9 -1.1
BOVS Bovan 80.35 323 *eP* **P 22 05 46.6 -1.4**
BTNL Ternell 80.39 335 P **P 22 05 47.8 -0.3**
comp=Z,7.9nm,0.9s
MEM Membach 80.41 336 P **P 22 05 48.4 +0.2**
comp=Z,8.9nm,0.8s
ALN Alexandroupoli 80.45 318 P **P 22 05 48.8 +0.2**
ALN pmax pmax
comp=Z,21nm,1.1s
ALN Alexandroupoli 80.45 318 P **P 22 05 48.8 +0.2**
ALN IAmb IAmb 22 05 50.3
comp=Z,21nm,1.1s
TRUS Trudelj 80.45 324 *eP* **P 22 05 47.3 -1.3**
VTS Vitosha 80.46 321 ⇑P P 22 05 48.9 +0.1
VTS Vitosha 80.46 321 ⇑P P 22 05 48.9 +0.1
VTS Vitosha 80.46 321 P **P 22 05 49.2 +0.4**
VTS IAmb IAmb 22 05 50.4
comp=Z,28nm,1.0s
VTS Vitosha 80.46 321 *eP* **P 22 05 49.1 +0.3**
ELMS Elmsett, Ipswi 80.50 339 *eP* **P 22 05 48.6 0.0**
ELMS IAmb IAmb 22 05 49.4
comp=Z,49nm,0.7s
BSTI Sart Tilman 80.57 336 P **P 22 05 49.1 +0.1**
GRUS Gruza 80.59 323 *eP* **P 22 05 48.8 -0.5**
SOKA Soboth 80.66 328 *i* P **P 22 05 49.7 -0.1**
comp=Z,13nm,0.9s,SNR=11
DIVS Divibare 80.73 324 *eP* **P 22 05 49.4 -0.8**
DIVS Divibare 80.73 324 P **P 22 05 49.6 -0.6**
DIVS Divibare 80.73 324 *eP* **P 22 05 49.0 -1.2**
BCLA Clavier 80.79 336 P **P 22 05 49.4 -0.8**
comp=Z,7.0nm,0.8s
BCLA PcP **PcP 22 05 55.5 -1.2**
FUR Furstenfeldbru 80.80 331 *eL* L 22 41 14.7
comp=Z,108nm,21.6s
BGES Gesves 80.89 336 P **P 22 05 50.3 -0.4**
comp=Z,6.6nm,0.9s
BOSS Bosilegrad 80.90 321 *eP* **P 22 05 51.1 +0.1**
MNTX Cornudas Mount 80.93 55 P **P 22 05 51.9 +0.5**
MNTX Cornudas Mount 80.93 55 P **P 22 05 52.3 +1.0**
baz=316
SELS Selova 80.94 323 *eP* **P 22 05 49.7 -1.5**
BARS Barje 80.95 322 *eP* P 22 05 43.2 -8.0
KBA Koelnbreinsper 80.97 329 *i* P **P 22 05 52.1 +0.7**
comp=Z,11nm,0.7s,SNR=6.7
OBKA Obir 80.99 328 *eP* **P 22 05 50.9 -0.6**
comp=Z,6.4nm,0.8s
STU Stuttgart 80.99 333 P **P 22 05 50.8 -0.5**
STU pmax pmax
comp=Z,13nm,0.7s
STU Stuttgart 80.99 333 P **P 22 05 50.8 -0.5**
STU IAmb IAmb 22 05 52.1
comp=Z,13nm,0.7s
SNF Seneffe 81.01 336 P **P 22 05 51.5 +0.1**
comp=Z,9.8nm,0.8s
RCHB Rochefort 81.05 336 P **P 22 05 51.3 -0.3**
comp=Z,5.2nm,1.0s
BMRD Maredsous 81.05 336 P **P 22 05 51.3 -0.3**
comp=Z,11nm,0.9s
CSS Mathiatis 81.06 310 P **P 22 05 51.7 -0.3**
CSS IAmb IAmb 22 06 13.3
comp=Z,11nm,0.8s
PRVS Prvonek 81.07 322 *eP* **P 22 05 51.6 -0.3**
IVAS Ivanjica 81.08 323 *eP* **P 22 05 50.9 -1.1**
BBLS Lazići 81.17 324 *eP* **P 22 05 52.3 -0.2**
BBLS Lazići 81.17 324 *eP* **P 22 05 51.4 -1.1**
CRES Cresnjev 81.20 328 *eP* **P 22 05 51.6 -0.9**
MYKA Terra Mystica 81.23 329 *eP* **P 22 05 52.4 -0.3**
comp=Z,13nm,1.4s
DOU Dourbes 81.29 336 P **P 22 05 52.5 -0.3**
comp=Z,4.5nm,1.0s
MRAK Mrakovica 81.29 326 *eP* **P 22 05 52.2 -0.9**
LJU Ljubljana 81.38 328 *eP* **P 22 05 52.5 -1.0**
RUDO Rudo 81.39 324 *eP* **P 22 05 52.8 -0.8**
WATA Walderalm 81.40 331 *i* P **P 22 05 53.7 0.0**
comp=Z,5.8nm,0.5s,SNR=6.5
VLDQ Val d'Or 81.41 28 P **P 22 05 52.5 -1.1**
VLDQ IAmb IAmb 22 06 06.0
comp=Z,19nm,0.8s
SJES Sjenica 81.41 323 *eP* **P 22 05 53.1 -0.7**
WTTA Wattenberg 81.44 331 *i* P **P 22 05 54.0 +0.1**
comp=Z,11nm,0.8s,SNR=5.2
GLMI Grayling 81.48 34 P **P 22 05 54.1 +0.1**
baz=325
ABTA Abfaltersbach 81.55 330 *eP* **P 22 05 54.3 -0.2**
comp=Z,6.9nm,0.9s
MOTA Moosalm 81.56 331 *i* P **P 22 05 54.8 +0.2**
comp=Z,24nm,1.1s,SNR=7.5
RETA Reutte 81.56 331 *eP* **P 22 05 54.0 -0.4**
comp=Z,8.4nm,1.0s
RAYN Ar Rayn 81.58 294 P **P 22 05 54.5 -0.4**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
RAYN Ar Rayn 81.58 294 P **P 22 05 54.5 -0.4**
RAYN Ar Rayn 81.58 294 *i* P **P 22 05 54.7 -0.2**
SNR=9.5
MCH1 Michaelchurch 81.58 341 *eP* **P 22 05 54.2 -0.2**
MCH1 IAmb IAmb 22 05 56.5
comp=Z,28nm,0.9s
ELL Elmali 81.62 313 P **P 22 05 54.4 -0.6**
ELL pmax pmax
comp=Z,334nm,1.8s
ELL Elmali 81.62 313 P **P 22 05 54.4 -0.6**
SQTA Sankt Quirin 81.63 331 *i* P **P 22 05 54.5 -0.4**
comp=Z,8.1nm,0.7s,SNR=5.3
BFO Black Forest 81.66 333 P **P 22 05 54.3 -0.7**
BFO pmax pmax
comp=Z,9.0nm,0.9s
BFO Black Forest 81.66 333 *eL* L 22 44 25.2
comp=Z,72nm,21.5s
BFO Black Forest 81.66 333 P **P 22 05 54.3 -0.7**
STIP Stip 81.67 321 *i* P **P 22 05 54.0 -1.0**
CEY Cerknica 81.67 328 *eP* **P 22 05 54.2 -0.9**
MGRS Mrkonjic Grad 81.70 326 *eP* **P 22 05 55.7 +0.5**
SWN1 Swindon 81.74 340 *eP* **P 22 05 55.5 +0.3**
SWN1 IAmb IAmb 22 05 56.2
comp=Z,110nm,0.9s
VAY Valandovo 81.78 321 *i* P **P 22 05 55.7 0.0**
SKO Skopje 81.79 322 *i* P **P 22 05 56.1 +0.5**
STAL STALIGIAL 81.89 329 P **P 22 05 54.9 -1.2**
STAL IAmb IAmb 22 05 56.2
comp=Z,20nm,1.3s
UPM Unac-Piva 81.92 324 *eP* **P 22 05 55.7 -0.9**
FETA Feichten 81.97 331 *eP* **P 22 05 56.8 0.0**
comp=Z,6.8nm,1.0s
DAVA Damuels 82.04 332 *eP* **P 22 05 56.9 -0.2**
comp=Z,8.7nm,0.8s
ECH Echery 82.15 334 P **P 22 05 57.1 -0.4**
ECH pmax pmax
comp=Z,10.0nm,0.9s
ECH Echery 82.15 334 P **P 22 05 57.1 -0.4**
BRY Bratogost 82.33 324 *eP* **P 22 05 57.7 -1.0**
PDG Podgorica 82.39 323 ⇓P P 22 05 58.4 -0.4
PDG Podgorica 82.39 323 *eP* **P 22 05 58.2 -0.6**
PDG Podgorica 82.39 323 P **P 22 05 58.3 -0.6**
PDG IAmb IAmb 22 05 59.4
comp=Z,31nm,1.0s
CTI Castel Tesino 82.46 330 P **P 22 05 57.8 -1.5**
CTI pmax pmax
comp=Z,14nm,1.4s
CTI Castel Tesino 82.46 330 P **P 22 05 57.8 -1.5**
DAVOX Davos/Dischmat 82.47 331 LR LR 22 47 25.7
comp=Z,99nm,18.3s,baz=27,slow=39
WMOK Wichita Mounta 82.53 49 P **P 22 05 59.6 -0.1**
baz=318
TREB Trebinje 82.56 324 *eP* **P 22 05 58.5 -1.2**
DRME Dracevica, Mon 82.62 323 *eP* **P 22 05 59.6 -0.4**
FNA Florina 82.76 321 P **P 22 06 00.4 -0.4**
FNA pmax pmax
comp=Z,13nm,0.9s
FNA Florina 82.76 321 P **P 22 06 00.4 -0.4**
FNA IAmb IAmb 22 06 01.8
comp=Z,13nm,0.9s
OHR Ohrid 82.76 322 *i* P **P 22 06 00.3 -0.6**
HDIL Hopedale 82.88 39 P **P 22 06 01.3 -0.1**
baz=323
TUE Stuetta 82.92 332 P **P 22 06 01.1 -0.7**
TEOL Teolo 83.04 330 P **P 22 06 01.3 -0.9**
TEOL IAmb IAmb 22 06 03.8
comp=Z,12nm,0.8s
KBN Korca 83.16 321 P **P 22 06 02.6 -0.4**
KBN pmax pmax
comp=Z,49nm,1.2s
KBN Korca 83.16 321 P **P 22 06 02.5 -0.4**
LPIG La Paz 83.16 63 LR LR 22 35 37.3
comp=Z,33nm,20.3s,baz=354,slow=30
R40A Maddies Statio 83.24 42 P **P 22 06 03.0 -0.3**
R40A IAmb IAmb 22 06 28.7
comp=Z,24nm,1.7s
PMOR Pomariorio Ree 83.53 117 *e*T T 23 38 13.0
comp=Z,76nm,0.2s
TX31 Lajitas Ar. Si 83.65 56 P **P 22 06 06.4 +0.7**
TXAR Lajitas Array 83.65 56 P **P 22 06 06.6 +0.9**
comp=Z,7.9nm,0.7s,baz=297,slow=3.5,SNR=80
TXAR LR LR 22 38 31.4
comp=Z,25nm,21.4s,baz=314,slow=32
TXAR Lajitas Array 83.65 56 P **P 22 06 06.4 +0.7**
TXAR Lajitas Array 83.65 56 P **P 22 06 06.4 +0.7**
SADO Sadowa 83.67 31 LR LR 22 48 14.2
comp=Z,25nm,19.3s,baz=345,slow=39
AGG Agios Georgios 83.70 319 P **P 22 06 04.3 -1.4**
AGG pmax pmax
comp=Z,120nm,2.0s
AGG Agios Georgios 83.70 319 P **P 22 06 04.3 -1.4**
SENIN Lac Senin/Sane 83.72 333 P **P 22 06 05.4 -0.5**
CCM Cathedral Cave 83.93 42 P **P 22 06 06.5 -0.3**
baz=322
TRQ Mont Tremblant 84.03 27 P **P 22 06 07.1 -0.2**
SFIN Lafayette 84.03 38 P **P 22 06 06.8 -0.5**
baz=324
LMQ La Malbaie 84.18 24 P **P 22 06 07.8 -0.2**
LMQ IAmb IAmb 22 06 21.3
comp=Z,12nm,0.6s
PPT Papeete 84.34 120 LR LR 22 35 20.0
comp=Z,100nm,22.0s,baz=342,slow=30
PPT2 Papeete2 84.36 120 *e*LR LR 22 32 50.5
comp=Z,163nm,24.5s
U40A Yellville 84.45 44 P **P 22 06 09.7 +0.2**
baz=321
SGRT San Giovanni R 84.45 325 P **P 22 06 08.8 -0.8**
MURB Monte Urbino 84.49 328 P **P 22 06 10.2 +0.5**
P46A Rosedale 84.59 38 P **P 22 06 10.1 -0.1**
P46A IAmb IAmb 22 06 11.2
comp=Z,15nm,0.7s
NRCA Norcia 84.62 327 P **P 22 06 10.2 -0.1**
NRCA IAmb IAmb 22 06 11.4
comp=Z,22nm,0.9s
OSSC Osservatorio P 84.76 329 P **P 22 06 10.5 -0.5**
OSSC IAmb IAmb 22 06 11.1
comp=Z,15nm,1.0s
W39A Magazine 84.86 45 P **P 22 06 11.8 +0.2**
baz=321
AQU L'Aquila 84.91 327 P **P 22 06 11.6 -0.2**
AQU pmax pmax
comp=Z,25nm,1.2s
AQU L'Aquila 84.91 327 P **P 22 06 11.6 -0.2**

AQU				IAmb	IAmb	22 06 26.6	
	comp=Z,25nm,1.2s						
D62A	**Allapoint, All**	**84.97**	**23**	P	**P**	**22 06 11.6**	**-0.3**
BNI	**Bardonecchia**	**85.08**	**332**	P	**P**	**22 06 13.1**	**+0.4**
BNI	**Bardonecchia**	**85.08**	**332**	P	**P**	**22 06 13.1**	**+0.4**
BNI				IAmb	IAmb	22 06 13.7	
	comp=Z,12nm,1.3s						
JCT	**Junction City**	**85.10**	**52**	P	**P**	**22 06 13.3**	**+0.3**
JCT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
JCT	**Junction City**	**85.10**	**52**	P	**P**	**22 06 13.3**	**+0.3**
JCT				IAmb	IAmb	22 06 14.3	
	comp=Z,9.4nm,0.8s						
JCT	**Junction City**	**85.10**	**52**	P	**P**	**22 06 13.2**	**+0.3**
	baz=318						
E62A	**Clayton Lake**	**85.25**	**24**	P	**P**	**22 06 12.8**	**-0.6**
E62A				IAmb	IAmb	22 06 13.8	
	comp=Z,23nm,1.0s						
WHTX	**Lake Whitney,**	**85.31**	**50**	P	**P**	**22 06 14.6**	**+0.6**
	baz=319						
ITM	**Ithomi**	**85.36**	**318**	P	**P**	**22 06 13.1**	**-1.0**
IDI	**Anoyia**	**85.36**	**315**	LR	LR	22 48 05.3	
	comp=Z,44nm,19.2s,baz=38,slow=38						
MIAR	**Mount Ida**	**85.47**	**46**	P	**P**	**22 06 15.1**	**+0.4**
MIAR				pmax	pmax		
	comp=Z,11nm,0.9s						
MIAR	**Mount Ida**	**85.47**	**46**	P	**P**	**22 06 15.1**	**+0.4**
MIAR				IAmb	IAmb	22 06 16.0	
	comp=Z,11nm,0.9s						
MIAR	**Mount Ida**	**85.47**	**46**	P	**P**	**22 06 14.9**	**+0.2**
	baz=321						
WHAR	**Wooly Hollow**	**85.56**	**44**	P	**P**	**22 06 15.1**	**0.0**
WHAR				IAmb	IAmb	22 06 16.0	
	comp=Z,12nm,0.8s						
MOQ	**Mont Orford**	**85.58**	**26**	P	**P**	**22 06 15.3**	**+0.2**
BATG	**Bathurst New B**	**85.63**	**21**	P	**P**	**22 06 15.3**	**+0.1**
W41B	**Gary Mavity, V**	**85.67**	**44**	P	**P**	**22 06 15.5**	**-0.1**
	baz=322						
P49A	**Miami Univ. Ec**	**85.78**	**37**	P	**P**	**22 06 16.0**	**-0.1**
	baz=325						
M53A	**Wl Miller and**	**85.89**	**33**	P	**P**	**22 06 16.0**	**-0.6**
	baz=328						
X40A	**Basin Creek Fa**	**85.90**	**45**	P	**P**	**22 06 16.8**	**0.0**
	baz=321						
ACSO	**Alum Creek Sta**	**85.95**	**35**	P	**P**	**22 06 16.4**	**-0.6**
	baz=326						
WCI	**Wyandotte Cave**	**86.13**	**39**	P	**P**	**22 06 17.8**	**-0.1**
	baz=325						
TIP	**Timpagrande**	**86.14**	**323**	P	**P**	**22 06 17.4**	**-0.6**
TIP				IAmb	IAmb	22 06 18.8	
	comp=Z,24nm,1.3s						
M54A	**Oil Creek Stat**	**86.24**	**33**	P	**P**	**22 06 18.6**	**+0.2**
M54A	**Oil Creek Stat**	**86.24**	**33**	P	**P**	**22 06 17.9**	**-0.4**
	baz=328						
PKME	**Peaks-Kenny Pk**	**86.55**	**24**	P	**P**	**22 06 19.4**	**-0.3**
	baz=335						
N54A	**Moraine State**	**86.57**	**33**	P	**P**	**22 06 19.6**	**-0.4**
	baz=328						
H62A	**Milan**	**86.59**	**26**	P	**P**	**22 06 19.8**	**-0.3**
M55A	**Ridgway**	**86.62**	**32**	P	**P**	**22 06 20.2**	**-0.1**
O53A	**New Philadelph**	**86.68**	**34**	P	**P**	**22 06 19.6**	**-1.0**
	baz=328						
T47A	**Sharon Grove**	**86.76**	**40**	P	**P**	**22 06 20.8**	**-0.2**
T47A				IAmb	IAmb	22 06 22.2	
	comp=Z,12nm,0.8s						
P52A	**Corning**	**86.81**	**35**	P	**P**	**22 06 20.1**	**-1.1**
	baz=327						
O54A	**Avella**	**87.08**	**34**	P	**P**	**22 06 22.8**	**+0.3**
WVT	**Waverly**	**87.11**	**41**	P	**P**	**22 06 22.9**	**+0.2**
WVT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WVT	**Waverly**	**87.11**	**41**	P	**P**	**22 06 22.9**	**+0.2**
WVT	**Waverly**	**87.11**	**41**	P	**P**	**22 06 22.8**	**+0.2**
	baz=324						
L59A	**Walton**	**87.39**	**29**	P	**P**	**22 06 23.7**	**-0.3**
SSPA	**Standing Stone**	**87.68**	**32**	P	**P**	**22 06 25.4**	**0.0**
	baz=330						
O56A	**Blue Knob Stat**	**87.73**	**33**	P	**P**	**22 06 25.7**	**0.0**
O56A				IAmb	IAmb	22 06 26.7	
	comp=Z,15nm,0.8s						
O56A	**Blue Knob Stat**	**87.73**	**33**	P	**P**	**22 06 26.1**	**+0.4**
	baz=329						
U49A	**Red Boiling Sp**	**87.77**	**39**	P	**P**	**22 06 26.2**	**+0.4**
U49A				IAmb	IAmb	22 06 27.0	
	comp=Z,12nm,0.7s						
T50A	**Nancy**	**87.79**	**38**	P	**P**	**22 06 26.2**	**+0.2**
T50A				IAmb	IAmb	22 06 27.0	
	comp=Z,14nm,0.7s						
SWET	**Sewanee**	**88.75**	**40**	P	**P**	**22 06 30.5**	**-0.1**
SWET				IAmb	IAmb	22 06 31.2	
	comp=Z,14nm,0.7s						
TZTN	**Tazewell**	**88.76**	**38**	P	**P**	**22 06 30.4**	**-0.1**
	baz=326						
TKL	**Tuckaleechee C**	**89.39**	**39**	LR	LR	22 48 43.8	
	comp=Z,53nm,19.7s,baz=337,slow=37						
BLA	**Blacksburg**	**89.57**	**35**	P	**P**	**22 06 34.2**	**-0.2**
	baz=328						
ATD	**Arta Tunnel**	**91.69**	**287**	LR	LR	22 54 11.7	
	comp=Z,62nm,18.5s,baz=107,slow=40						
KEST	**Kesra**	**92.20**	**326**	P	**P**	**22 06 46.5**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=280,slow=5.2,SNR=5.1						
KEST				LR	LR	22 51 18.6	
	comp=Z,76nm,21.6s,baz=296,slow=38						
ESDC	**Sonseca Array**	**93.27**	**337**	P	**P**	**22 06 50.7**	**-0.8**
	comp=Z,2.7nm,0.9s,baz=12,slow=3.9,SNR=17						
ESDC				pP	**pP**	**22 07 04.1**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=18,slow=4.6,SNR=7.2						
ESDC				LR	LR	22 54 11.4	
	comp=Z,65nm,18.6s,baz=356,slow=39						
ESDC	**Sonseca Array**	**93.27**	**337**	P	**P**	**22 06 50.7**	**-0.8**
CMIG	**Matias Romero**	**98.11**	**58**	LR	LR	22 48 59.5	
	comp=Z,37nm,19.0s,baz=312,slow=34						
MDT	**Midelt**	**99.84**	**335**	LR	LR	22 58 52.9	
	comp=Z,58nm,18.3s,baz=20,slow=39						
TORD	**Torodi Ar. Bea**	**115.24**	**321**	PKP	**PKiKP**	**22 12 17.5**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=16,slow=2.3,SNR=12						
VNDA	**Vanda**	**120.73**	**176**	PKP	**PKiKP**	**22 12 27.9**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=338,slow=4.6,SNR=13						
OTAV	**Otavalo**	**121.28**	**55**	*e*P	**PKiKP**	**22 12 33.0**	**+2.2**
DBIC	**Dimbokro**	**123.89**	**324**	PKP	**PKPdf**	**22 12 34.4**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=24,slow=1.2,SNR=3.6						
DBIC	**Dimbokro**	**123.89**	**324**	PKIKP	**PKPdf**	**22 12 34.2**	**-1.0**
DBIC	**Dimbokro**	**123.89**	**324**		**PKPdf**	**22 12 34.2**	**-1.0**
QSPA	**South Pole Qui**	**132.83**	**180**	PKP	**PKiKP**	**22 12 51.4**	**-0.3**
	comp=Z,6.3nm,0.6s,baz=294,slow=1.7,SNR=19						
QSPA	**South Pole Qui**	**132.83**	**180**		**PKPdf**	**22 12 51.1**	**+0.5**
SYO	**Syowa Base**	**135.23**	**209**	*e*pPdiff	pPdif	22 10 11.6	+1.1
TMAB	**Tom-Au,PA,Br**	**137.52**	**21**	*e*P	**PKiKP**	**22 13 03.2**	**+0.3**
LPAZ	**La Paz**	**140.48**	**58**	PKP	**PKPdf**	**22 13 07.5**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=29,slow=5.3,SNR=8.4						
LPAZ	**La Paz**	**140.48**	**58**	*e*P	**PKPdf**	**22 13 08.0**	**+1.0**
H03N2	**Juan Fernandez**	**143.73**	**90**	T	T	00 54 10.0	
	baz=301,slow=77,SNR=34						
H03N3	**Juan Fernandez**	**143.74**	**90**	T	T	00 54 15.4	
	baz=301,slow=77,SNR=35						
H03N1	**Juan Fernandez**	**143.75**	**90**	T	T	00 54 18.9	
	baz=301,slow=77,SNR=39						
NVL	**N'lazarevskaya**	**144.26**	**204**	*e*PKIKP	**PKiKP**	**22 13 14.2**	**-0.7**
NVL				pmax	pmax		
	comp=Z,23nm,1.1s						
LVC	**Limon Verde**	**144.55**	**66**	PKIKP	**PKPdf**	**22 13 13.7**	**0.0**
LVC	**Limon Verde**	**144.55**	**66**	*e*P	**PKPdf**	**22 13 14.6**	**+0.8**
LVC	**Limon Verde**	**144.55**	**66**	PKPdf	**PKPdf**	**22 13 13.7**	**0.0**
PTLB	**Pontes e Lacer**	**145.00**	**46**	*e*P	**PKPdf**	**22 13 14.1**	**-0.1**
SNDB	**Serra Nova Dou**	**145.52**	**31**	*e*P	**PKPab**	**22 13 16.9**	**+1.4**
NBAN	**Anadia - AL**	**146.64**	**4**	*e*P	**PKPab**	**22 13 19.3**	**-0.5**
GO03	**Copiap**	**146.87**	**74**		**PKPbc**	**22 13 19.1**	**0.0**
AC02	**Maricunga**	**147.17**	**72**		**PKPbc**	**22 13 20.3**	**-0.3**
SNAA	**Sanae**	**147.59**	**198**	PKPdf	**PKPbc**	**22 13 20.1**	**+0.3**
SNAA	**Sanae**	**147.59**	**198**	PKP2	**PKPbc**	**22 13 20.1**	**+0.3**
SNAA	**Sanae**	**147.59**	**198**		**PKPbc**	**22 13 20.1**	**+0.3**
PP1B	**Ponte de Pedra**	**148.98**	**41**	*e*P	**PKPdf**	**22 13 21.7**	**+0.9**
VNA2	**Neumayer--Watz**	**149.14**	**197**	PKPdf	**PKiKP**	**22 13 24.4**	**-0.5**
	baz=120,slow=2.1						
VNA3	**Neumayer Olymp**	**149.34**	**195**	PKPdf	**PKPbc**	**22 13 24.6**	**+0.4**
VNA1	**Neumayer--Stat**	**149.53**	**197**	PKPdf	**PKiKP**	**22 13 25.5**	**-0.2**
BDFB	**Brasilia**	**150.09**	**28**	PKPbc	**PKPbc**	**22 13 27.7**	**-0.1**
	comp=Z,6.9nm,0.9s,baz=41,slow=0.5,SNR=7.1						
BDFB	**Brasilia**	**150.09**	**28**	PKIKP	**PKPbc**	**22 13 27.6**	**-0.2**
JANB	**Januaria**	**150.67**	**21**	*e*P	**PKPdf**	**22 13 24.9**	**+1.2**
LC01	**Cunco**	**151.20**	**95**		**PKPbc**	**22 13 29.5**	**-0.2**
PLCA	**Paso Flores**	**152.76**	**98**	PKPbc	**PKiKP**	**22 13 34.1**	**+0.6**
	comp=Z,4.2nm,0.6s,baz=268,slow=3.2,SNR=13						
PLCA	**Paso Flores**	**152.76**	**98**	PKIKP	**PKiKP**	**22 13 33.9**	**+0.4**
PLCA	**Paso Flores**	**152.76**	**98**		**PKiKP**	**22 13 33.9**	**+0.4**
SJMB	**Sao Joao De Ma**	**154.92**	**16**	*e*P	**PKPdf**	**22 13 30.7**	**+1.0**

JMA ***20*** *22:00:53.9s0.1,24°.83N×122°.22E,h122km±1km,M2.6*
TAP ***20*** *22:00:53.3,24°.96N×122°.26E,h124km,ML3.6,D*
ISC 20 22:00:54.5±1.6,24°.91N±0°.05×122°.25E±0°.03,h117km±8km,
n94,σ0.63/175,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.25**	**292**	⇓*i*P	**Pn**	**22 01 10.7**	**-0.2**
	baz=281						
TWB1				*i* S	**Sn**	**22 01 23.1**	**-0.1**
	baz=281						
SXI1	**Grass Mountain**	**0.38**	**298**	P	**Pn**	**22 01 11.2**	**-0.3**
	baz=291						
SXI1				S	**Sn**	**22 01 23.8**	**-0.5**
	baz=291						
NTC	**Toucheng**	**0.38**	**261**	*e*P	**Pn**	**22 01 11.2**	**-0.2**
	baz=255						
NTC				*e*S	**Sn**	**22 01 23.8**	**-0.4**
	baz=255						
TIPB	**Shuangxi**	**0.39**	**279**	⇓*i*P	**Pn**	**22 01 11.3**	**-0.2**
	baz=272						
TIPB				*i* S	**Sn**	**22 01 23.9**	**-0.4**
	baz=272						
NWF	**Wu-fen Shan**	**0.45**	**291**	*i* P	**Pn**	**22 01 11.6**	**-0.3**
	baz=284						
NWF				*i* S	**Sn**	**22 01 25.2**	**+0.2**
	baz=284						
WFSB	**Wu-fen Shan**	**0.45**	**291**	P	**Pn**	**22 01 11.6**	**-0.1**
	baz=284						
WFSB				S	**Sn**	**22 01 25.2**	**+0.4**
	baz=284						
TWC	**Suao**	**0.47**	**230**	*i* P	**Pn**	**22 01 11.3**	**-0.6**
	baz=226						
TWC				S	**Sn**	**22 01 24.9**	**-0.1**
	baz=226						
ILA	**Ilan**	**0.47**	**252**	*i* P	**Pn**	**22 01 11.9**	**0.0**
	baz=247						
ILA				S	**Sn**	**22 01 25.6**	**+0.6**
	baz=247						
TNOU	**National Taiwa**	**0.49**	**299**	*e*P	**Pn**	**22 01 11.3**	**-0.7**
	baz=293						
TNOU				S	**Sn**	**22 01 26.0**	**+0.8**
	baz=293						
NDS	**Dongshan**	**0.56**	**240**	P	**Pn**	**22 01 12.2**	**-0.3**
	baz=237						
NDS				S	**Sn**	**22 01 27.2**	**+1.2**
	baz=237						
TWE	**Neicheng**	**0.56**	**250**	*i* P	**Pn**	**22 01 12.0**	**-0.5**
	baz=245						
TWE				S	**Sn**	**22 01 27.0**	**+1.0**
	baz=245						
TWA	**Mucha**	**0.60**	**276**	*i* P	**Pn**	**22 01 11.7**	**-1.1**
	baz=272						
TWA				*i* S	**Sn**	**22 01 26.1**	**-0.5**
	baz=272						
FUSB	**Fushanzhiwuyua**	**0.62**	**256**	P	**Pn**	**22 01 12.7**	**-0.3**
	baz=252						
FUSB				S	**Sn**	**22 01 25.9**	**-1.0**
	baz=252						
EWUT	**Wuta**	**0.63**	**222**	P	**Pn**	**22 01 13.2**	**+0.2**
	baz=220						
EWUT				S	**Sn**	**22 01 27.3**	**+0.4**
	baz=220						
YM01	**YM01**	**0.66**	**291**	P	**Pn**	**22 01 12.8**	**-0.5**
	baz=286						
YM01				S	**Sn**	**22 01 26.5**	**-0.9**
	baz=286						
NHDH	**Xindian Distri**	**0.66**	**274**	*i* P	**Pn**	**22 01 12.6**	**-0.6**
	baz=270						
NHDH				S	**Sn**	**22 01 28.6**	**+1.4**
	baz=270						
ENA	**Nanau**	**0.67**	**224**	*i* P	**Pn**	**22 01 13.4**	**+0.1**
	baz=221						
ENA				*i* S	**Sn**	**22 01 28.5**	**+1.1**
	baz=221						
ENTT	**Nioudou**	**0.68**	**246**	*i* P	**Pn**	**22 01 13.1**	**-0.2**
	baz=243						
ENTT				*i* S	**Sn**	**22 01 29.0**	**+1.5**
	baz=243						
TAP	**Taipei**	**0.68**	**281**	*e*S	**Sn**	**22 01 28.8**	**+1.2**
	baz=276						
NWLT	**Wulai**	**0.69**	**259**	*e*P	**Pn**	**22 01 13.0**	**-0.4**
	baz=255						
NWLT				*e*S	**Sn**	**22 01 27.3**	**-0.5**
	baz=255						
TWY	**Chenhua**	**0.69**	**302**	P	**Pn**	**22 01 13.0**	**-0.4**
	baz=297						
TWY				*e*S	**Sn**	**22 01 28.0**	**+0.3**
	baz=297						
NDT	**Datong Townshi**	**0.73**	**245**	*i* P	**Pn**	**22 01 14.1**	**+0.3**
	baz=242						
NDT				S	**Sn**	**22 01 29.5**	**+1.1**
	baz=242						
LATG	**Datong**	**0.75**	**240**	P	**Pn**	**22 01 14.5**	**+0.4**
	baz=237						
LATG				S	**Sn**	**22 01 29.8**	**+0.9**
	baz=237						
TWS1	**Kuangyinshan**	**0.77**	**284**	P	**Pn**	**22 01 14.2**	**+0.1**
	baz=280						
TWS1				S	**Sn**	**22 01 30.1**	**+1.2**
	baz=280						
JYNG	**Yonagunijimaku**	**0.79**	**126**	P	**Pn**	**22 01 14.1**	**-0.1**
JYNG				S	**Sn**	**22 01 29.1**	**0.0**
YHNB	**Yeheng**	**0.83**	**253**	P	**Pn**	**22 01 14.4**	**-0.2**
	baz=250						
YHNB				S	**Sn**	**22 01 29.4**	**-0.6**
	baz=250						
YOJ	**Yonaguni jima**	**0.83**	**123**	P	**Pn**	**22 01 14.5**	**-0.1**
YOJ				*e*S	**Sn**	**22 01 30.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.83**	**123**	P	**Pn**	**22 01 14.6**	**0.0**
	baz=125						
YOJ				S	**Sn**	**22 01 29.8**	**0.0**
	baz=125						
NSK	**Sanguang**	**0.84**	**254**	*i* P	**Pn**	**22 01 14.4**	**-0.4**
	baz=250						
NSK				*i* S	**Sn**	**22 01 29.7**	**-0.5**
	baz=250						
NNSB	**Datong**	**0.92**	**239**	P	**Pn**	**22 01 16.0**	**+0.4**
	baz=236						
NNSB				S	**Sn**	**22 01 31.6**	**0.0**
	baz=236						
NNS	**Nan Shan**	**0.92**	**239**	*i* P	**Pn**	**22 01 16.0**	**+0.4**
	baz=237						
NNS				*i* S	**Sn**	**22 01 32.0**	**+0.4**
	baz=237						
ETL	**Fush Village**	**0.94**	**217**	P	**Pn**	**22 01 15.3**	**-0.4**
	baz=216						
ETL				S	**Sn**	**22 01 32.1**	**+0.4**
	baz=216						
NACB	**Ninganchiao**	**0.94**	**219**	P	**Pn**	**22 01 15.1**	**-0.6**
	baz=217						
NACB				S	**Sn**	**22 01 31.5**	**-0.3**
	baz=217						
NCU	**National Centr**	**0.96**	**274**	*e*S	**Sn**	**22 01 31.8**	**-0.2**
	baz=270						
NCUH	**Zhongli**	**0.96**	**273**	*e*S	**Sn**	**22 01 31.7**	**-0.3**
	baz=270						
ETLH	**Xiulin Townshi**	**0.99**	**225**	P	**Pn**	**22 01 15.8**	**-0.5**
	baz=223						
ETLH				*e*S	**Sn**	**22 01 32.0**	**-0.7**
	baz=223						
TWD	**Chiawan**	**1.02**	**216**	*i* P	**Pn**	**22 01 16.3**	**-0.1**
	baz=214						
TWD				*i* S	**Sn**	**22 01 32.9**	**-0.1**
	baz=214						
NFF	**Wufeng Townshi**	**1.06**	**255**	P	**Pn**	**22 01 16.5**	**-0.4**
	baz=252						
NFF				S	**Sn**	**22 01 33.5**	**-0.4**
	baz=252						
HWA	**Hwalien**	**1.10**	**212**	P	**Pn**	**22 01 17.7**	**+0.5**
	baz=211						
HWA				S	**Sn**	**22 01 35.6**	**+1.1**
	baz=211						
FUSS	**Fushou**	**1.13**	**234**	*e*P	**Pn**	**22 01 18.3**	**+0.5**
	baz=232						
FUSS				*e*S	**Sn**	**22 01 35.7**	**+0.2**
	baz=232						
LIOB	**Emei**	**1.15**	**257**	P	**Pn**	**22 01 17.5**	**-0.2**
	baz=254						
LIOB				S	**Sn**	**22 01 34.8**	**-0.6**
	baz=254						
SBCB	**Hsinchu**	**1.15**	**264**	*e*S	**Sn**	**22 01 36.2**	**+0.7**
	baz=261						
NSTT	**Nanjuang**	**1.17**	**256**	*i* P	**Pn**	**22 01 17.5**	**-0.4**
	baz=254						
NSTT				S	**Sn**	**22 01 34.9**	**-0.8**
	baz=254						
TWT	**Tachien**	**1.18**	**236**	*e*P	**Pn**	**22 01 19.5**	**+1.3**
	baz=234						
TWT				S	**Sn**	**22 01 36.5**	**+0.3**
	baz=234						
WHF	**Hehuan Shan**	**1.18**	**230**	P	**Pn**	**22 01 18.9**	**+0.3**
	baz=228						
WHF				S	**Sn**	**22 01 36.6**	**-0.1**
	baz=228						
TDCB	**Techi**	**1.19**	**237**	P	**Pn**	**22 01 18.9**	**+0.6**
	baz=235						
TDCB				S	**Sn**	**22 01 36.7**	**+0.3**
	baz=235						
CHGB	**Renai**	**1.29**	**229**	P	**Pn**	**22 01 20.1**	**+0.5**
	baz=227						
CHGB				S	**Sn**	**22 01 38.9**	**+0.3**
	baz=227						
ESL	**Shilin**	**1.32**	**214**	P	**Pn**	**22 01 18.6**	**-1.1**
	baz=213						
ESL				S	**Sn**	**22 01 37.3**	**-1.5**
	baz=213						
WHP	**Taichung City**	**1.34**	**242**	*i* P	**Pn**	**22 01 20.4**	**+0.4**
	baz=240						
WHP				*i* S	**Sn**	**22 01 39.3**	**-0.1**
	baz=240						
OWD	**Renai**	**1.36**	**226**	P	**Pn**	**22 01 20.6**	**+0.3**
	baz=224						
OWD				S	**Sn**	**22 01 39.8**	**-0.1**
	baz=224						
NMLH	**Miaoli**	**1.37**	**254**	*e*S	**Sn**	**22 01 39.2**	**-0.7**
	baz=252						
WUSB	**Renai**	**1.38**	**228**	P	**Pn**	**22 01 21.2**	**+0.8**
	baz=227						
WUSB				S	**Sn**	**22 01 40.0**	**-0.1**
	baz=227						
EGFH	**Guangfu**	**1.45**	**211**	P	**Pn**	**22 01 20.6**	**-0.5**
	baz=210						
EGFH				*e*S	**Sn**	**22 01 40.3**	**-1.0**
	baz=210						
TWQ1	**Liyutan**	**1.45**	**248**	P	**Pn**	**22 01 20.8**	**-0.3**
	baz=245						
TWQ1				S	**Sn**	**22 01 41.1**	**-0.3**
	baz=245						
IRIF	**Iriomote-Funau**	**1.47**	**113**	P	**Pn**	**22 01 21.1**	**-0.2**
IRIF				*e*S	**Sn**	**22 01 41.4**	**-0.3**
WCS	**Beigang Elemen**	**1.48**	**235**	*e*P	**Pn**	**22 01 21.9**	**+0.4**
	baz=233						
WCS				S	**Sn**	**22 01 41.0**	**-1.1**
	baz=233						
VWDT	**VWDT**	**1.53**	**221**	P	**Pn**	**22 01 22.6**	**+0.6**
	baz=220						
VWDT				*e*S	**Sn**	**22 01 43.4**	**+0.3**
	baz=220						
WDJ	**Dajia District**	**1.56**	**249**	*e*P	**Pn**	**22 01 22.5**	**+0.1**
	baz=247						
WDJ				*e*S	**Sn**	**22 01 43.7**	**-0.1**
	baz=247						
SMLT	**Sun Moon Lake**	**1.60**	**230**	P	**Pn**	**22 01 23.3**	**+0.3**
	baz=229						
SMLT				S	**Sn**	**22 01 45.9**	**+1.3**
	baz=229						
HGSD	**Ruisui**	**1.60**	**208**	P	**Pn**	**22 01 22.6**	**-0.3**
	baz=207						
HGSD				*e*S	**Sn**	**22 01 45.4**	**+0.8**
	baz=207						
TYC	**Yuchr**	**1.62**	**232**	P	**Pn**	**22 01 23.5**	**+0.4**
	baz=230						
TYC				S	**Sn**	**22 01 45.4**	**+0.5**
	baz=230						
TCU	**Taichung**	**1.62**	**242**	*e*S	**Sn**	**22 01 45.1**	**+0.2**
	baz=240						
SSLB	**Suanglung**	**1.63**	**227**	P	**Pn**	**22 01 23.6**	**+0.4**
	baz=225						
SSLB				S	**Sn**	**22 01 45.9**	**+0.8**
	baz=225						
EHY	**Hungye**	**1.64**	**211**	*e*P	**Pn**	**22 01 23.3**	**-0.1**
	baz=210						
HATJ	**Hateruma jima**	**1.66**	**121**	*e*S	**Sn**	**22 01 46.0**	**+0.3**
JKRS	**Kuro-shima**	**1.74**	**112**	P	**Pn**	**22 01 24.8**	**+0.2**
JKRS				S	**Sn**	**22 01 47.9**	**+0.4**
YULB	**Yu-li**	**1.74**	**210**	*e*P	**Pn**	**22 01 24.0**	**-0.6**
	baz=209						
YULB				*e*S	**Sn**	**22 01 46.0**	**-1.6**
	baz=209						
WCHH	**Zhanghua**	**1.75**	**242**	*e*S	**Sn**	**22 01 48.2**	**+0.6**
	baz=240						
WNT	**Mingjian**	**1.76**	**234**	P	**Pn**	**22 01 25.1**	**+0.3**
	baz=233						
WNT				S	**Sn**	**22 01 48.6**	**+0.7**
	baz=233						
WJS	**Zhushan**	**1.76**	**232**	*e*S	**Sn**	**22 01 49.1**	**+1.2**
	baz=231						
EYUL	**Yuli**	**1.77**	**209**	*e*P	**Pn**	**22 01 25.6**	**+0.6**
	baz=208						
EYUL				*e*S	**Sn**	**22 01 48.4**	**+0.1**
	baz=208						
JIJ	**Ishigaki jima**	**1.81**	**107**	P	**Pn**	**22 01 25.3**	**-0.1**
JIJ				S	**Sn**	**22 01 48.3**	**-0.8**
JISG	**Ishigakijimahi**	**1.91**	**99**	P	**Pn**	**22 01 26.6**	**0.0**
JISG				*e*S	**Sn**	**22 01 52.0**	**+0.9**
FULB	**Fuli**	**1.92**	**207**	P	**Pn**	**22 01 26.9**	**+0.1**
	baz=206						
FULB				*e*S	**Sn**	**22 01 51.6**	**+0.1**
	baz=206						
ALS	**Alishan**	**1.92**	**224**	P	**Pn**	**22 01 27.1**	**+0.1**
	baz=222						
ALS				S	**Sn**	**22 01 53.5**	**+1.6**
	baz=222						
CHN5	**Tsauling**	**1.94**	**228**	P	**Pn**	**22 01 27.7**	**+0.6**
	baz=226						
CHN5				S	**Sn**	**22 01 52.7**	**+0.7**
	baz=226						
CHKT	**Chengkung**	**1.98**	**204**	*e*P	**Pn**	**22 01 27.2**	**-0.3**
	baz=203						
CHKT				S	**Sn**	**22 01 51.2**	**-1.5**
	baz=203						
WDLH	**Douliu**	**1.98**	**232**	*e*P	**Pn**	**22 01 27.3**	**-0.2**
	baz=231						
WDLH				*e*S	**Sn**	**22 01 52.9**	**+0.2**
	baz=231						
WRL	**Guolierlin Hig**	**1.98**	**240**	*e*P	**Pn**	**22 01 26.9**	**-0.6**
	baz=238						
WRL				*e*S	**Sn**	**22 01 51.7**	**-1.1**
	baz=238						
ELDTW	**Lidau**	**2.05**	**213**	*e*P	**Pn**	**22 01 28.2**	**-0.4**
	baz=212						
ELDTW				*e*S	**Sn**	**22 01 53.4**	**-1.2**
	baz=212						
WTK	**Tuku**	**2.09**	**235**	*e

baz=219
SGST *e*S **Sn** **22 02 01.6 -0.1**
baz=219
SLGT Liugui 2.41 218 *e*P **Pn** **22 01 34.0 +1.0**
baz=217
SSD Sandimen 2.62 215 *e*P **Pn** **22 01 36.2 +0.6**
baz=213
SSD *e*S **Sn** **22 02 08.3 +1.0**
baz=213

SSNC ***20*** *22:06:58.6±0.4, 22°.76N×74°.38W, h5km, MD3.2, ML1.8*
OSPL 20 22:06:50.1±0.8, 19°.12N×71°.45W, h76km±8km, ML2.9, 1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.20**	**132**	*i* P	Pn	22 07 00.6	-0.9
SDDR				*e*S	Sn	22 07 09.0	-0.9
SDDR				IAML		22 07 10.9	
	comp=Z,185nm,0.1s						
LODA1	**ITESIL, Dajabo**	**0.49**	**330**	*i* P	Pn	22 07 02.4	-1.0
LODA1				*e*S	Sn	22 07 12.1	-1.1
LODA1				IAML		22 07 12.7	
	comp=Z,982nm,3.1s						
SC01	**Santiago de lo**	**0.74**	**66**	*i* P	Pn	22 07 05.7	-0.3
SC01				*e*S	Sn	22 07 16.0	-1.7
MASC	**Masc**	**2.83**	**292**	*e*P	Pn	22 07 32.5	-0.5
MASC				*e*		22 07 32.6	
MASC				*e*S	Sn	22 08 08.2	+2.2
MASC				IAML		22 08 09.2	
	comp=N,3.3nm,0.1s						
MASC				IAML		22 08 09.2	
	comp=E,4.0nm,0.1s						
GTBY	**Guantanamo Bay**	**3.55**	**284**	*e*P	Pn	22 07 43.3	+0.5
GTMO	**Guantanamo**	**3.61**	**286**⇓	*e*P	Pn	22 07 42.4	-1.3
GTMO				*e*S	Sn	22 08 15.1	-10

JMA ***20*** *22:14:08.7, 35°.18N×133°.09E, h12km±1km, M3.9*
Broadband fault plane solution: P waves. NP1: ϕs67.00000°, δ84.00000°, λ-179.00000°. NP2: ϕs337.00000°, δ89.00000°, λ-6.00000°. Principal axes: T Plg3.0000°, Azm22.0000°; N Plg84.0000°, Azm143.0000°; P Plg5.0000°, Azm292.0000°;
JMA Felt III J1.
NIED ***20*** *22:14:08.8, 35°.18N×133°.09E, h12km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.24; Mθθ3.17; Mϕϕ-3.41; Mrθ-0.12; Mϕθ-2.32; Mϕr0.29; Fault plane solution: M0 4.03000×10¹⁴ NP1: ϕs333.00000°, δ90.00000°, λ4.00000°. NP2: ϕs243.00000°, δ86.00000°, λ180.00000°.*
IDC ***20*** *22:14:09.2±1.7, 35°.06N×133°.03E, h0km, mb3.0/1, mb1 3.3/4, mb1mx3.1/36, mbtmp3.3/4, ML3.0/3 Error ellipse: s-maj=30.6km s-min=14.3km az=148.0*
ISC 20 22:14:09.0±1.0, 35°.18N±0°.03×133°.09E±0°.03, h11km±8km, n12, σ2°±18°/22, 4C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHS	**Saijyo**	**0.18**	**173**	⇑P	**Pg**	**22 14 12.9**	**0.0**
JHS				S	**Sg**	**22 14 15.9**	**+0.3**
JNM	**Ikuma**	**0.32**	**351**	⇑P	**Pg**	**22 14 15.4**	**-0.1**
JNM				S	**Sg**	**22 14 20.2**	**+0.4**
JISK	**Izumosakaura**	**0.38**	**329**	⇓P	**Pg**	**22 14 16.0**	**-0.5**
JISK				S	**Sg**	**22 14 21.4**	**-0.2**
JGT2	**ShimaneMisato**	**0.49**	**257**	⇓P	**Pg**	**22 14 18.1**	**-0.5**
JGT2				S	**Sg**	**22 14 24.8**	**-0.3**
JJG	**Jouge**	**0.54**	**174**	⇑P	**Pg**	**22 14 19.3**	**-0.1**
JJG				S	**Sg**	**22 14 26.5**	**0.0**
JHT	**Toyohira**	**0.75**	**227**	⇑P	**Pg**	**22 14 22.7**	**-0.8**
JHT				S	**Sg**	**22 14 32.8**	**-0.5**
JAD	**Aida**	**0.92**	**105**	⇓P	**Pg**	**22 14 25.4**	**-1.2**
JAD				S	**Sg**	**22 14 37.8**	**-0.7**
JNU	**Nakatsue**	**2.75**	**222**	Pn	**Pn**	**22 14 53.8**	**+0.7**
	5.6nm,0.3s,baz=41,slow=4.6,SNR=32						
JNU				Lg	Lg	22 15 32.0	
	32nm,0.3s,baz=169,slow=18,SNR=12						
MAT	**Matsushiro**	**4.37**	**70**	P	**Pn**	**22 15 19.0**	**+3.6**
MAT				*e*S	**Sb**	**22 16 12.4**	**-6.3**
MJAR	**Matsushiro Arr**	**4.38**	**70**	Pn	**Pn**	**22 15 19.5**	**+4.1**
	0.3nm,0.3s,baz=253,slow=13,SNR=2.8						
MJAR				Pg	**Pg**	**22 15 31.9**	**-0.9**
	0.6nm,0.3s,baz=226,slow=16,SNR=8.6						
MJAR				Lg	Lg	22 16 29.0	
	0.8nm,0.3s,baz=233,slow=31,SNR=11						
KSRS	**Korea Array**	**4.75**	**300**	Pn	**Pn**	**22 15 20.6**	**0.0**
	1.0nm,0.3s,baz=118,slow=14,SNR=6.3						
KSRS				Sn	**Sn**	**22 16 14.3**	**-1.2**
	1.8nm,0.3s,baz=116,slow=23,SNR=6.7						
SONM	**Songino Array**	**23.52**	**311**	P	**P**	**22 19 22.2**	**+3.1**
	0.4nm,0.7s,baz=115,slow=8.6,SNR=2.5						

IDC ***20*** *22:45:38.2±1.6, 40°.83N×72°.65E, h0km, mb3.6/6, mb1 3.7/12, mb1mx3.5/43, mbtmp3.6/12, ML3.3/6, MS2.1/1, Ms1 2.1/1, ms1mx1.9/82, Error ellipse: s-maj=27.9km s-min=12.0km az=156.0*
SOME ***20*** *22:45:41.8, 41°.12N×72°.57E, h15km*
KRNET ***20*** *22:45:41.2±0.1, 41°.13N×72°.52E, h16km, mb4.0*
MOS ***20*** *22:45:41.8±1.5, 41°.20N×72°.41E, h13km, mb3.8/2, Error ellipse: s-maj=7.9km s-min=4.3km az=62.4*
MOS Felt (IV) at Kara-Bulak, (III-IV) at Kochkor-Ata, Massy; (III) at Kak-Tash, Gelegen.
ISU ***20*** *22:45:42, 41°.19N×72°.54E, h15km*
NNC ***20*** *22:45:44.1±1.1, 41°.25N×72°.55E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=10.4km s-min=4.6km az=179.0*
ISC 20 22:45:41.1±1.0, 41°.13N±0°.02×72°.56E±0°.01, h7km±7km, n135, σ1°±95°/206, mb3.6/8, 47C-30D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.63**	**164**	*i* PG	**Pg**	**22 45 53.3**	**+0.2**
OHH				*i* S	**Sg**	**22 46 01.7**	**+0.4**
OHH	**Osh**	**0.63**	**164**	⇑*i*P	**Pg**	**22 45 53.3**	**+0.2**
	baz=62						
OHH				⇑*i*S	**Sg**	**22 46 01.7**	**+0.4**
	baz=62						
ARK	**Arkit**	**0.81**	**326**	*i* PG	**Pg**	**22 45 56.2**	**-0.4**
ARK	**Arkit**	**0.81**	**326**	*e*P	**Pg**	**22 45 56.0**	**-0.6**
ARK				*e*S	**Sg**	**22 46 07.0**	**-0.1**
ARK	**Arkit**	**0.81**	**326**	⇓*i*P	**Pg**	**22 45 56.2**	**-0.4**
	baz=28						
ARK				⇓*i*S	**Sg**	**22 46 07.5**	**+0.4**
	baz=28						
FRG	**Fergana**	**0.96**	**218**	*e*P	**Pn**	**22 46 01.0**	**0.0**
FRG				*e*S	**Sn**	**22 46 16.0**	**+1.1**
SALK	**Salom-Alik**	**0.98**	**104**	⇑*e*P	**Pb**	**22 46 00.6**	**+0.1**
	baz=4.0						
SALK				⇑*e*S	**Sg**	**22 46 14.1**	**+1.4**
	baz=4.0						
TRKS	**Terek-Say**	**1.15**	**291**	*i* PG	**Pb**	**22 46 01.4**	**-1.9**
TRKS				*i* S	**Sb**	**22 46 16.1**	**-2.3**
TRKS	**Terek-Say**	**1.15**	**291**	⇓*i*P	**Pb**	**22 46 01.4**	**-1.9**
	baz=89						
TRKS				⇓*i*S	**Sb**	**22 46 16.1**	**-2.3**
	baz=89						
AML	**Almayashu**	**1.31**	**40**	P	**Pb**	**22 46 06.3**	**+0.1**
	SNR=255						
AML	**Almayashu**	**1.31**	**40**	*i* PG	**Pn**	**22 46 06.2**	**0.0**
AML				*i* S	**Sg**	**22 46 24.1**	**+0.8**
SFK	**Sufi-Kurgan**	**1.32**	**147**	⇑*e*P	**Pb**	**22 46 06.6**	**+0.2**
	baz=46						
SFK				⇑*e*S	**Sg**	**22 46 24.9**	**+1.2**
	baz=46						
MNAS	**Manas**	**1.36**	**358**	*i* PG	**Pn**	**22 46 06.4**	**-0.2**
MNAS				*i* S	**Sb**	**22 46 25.0**	**+0.4**
MNAS	**Manas**	**1.36**	**358**	⇑*i*P	**Pn**	**22 46 06.4**	**-0.2**
	baz=60						
MNAS				⇑*e*S	**Sb**	**22 46 25.0**	**+0.4**
	baz=60						
ARLS	**Aral**	**1.51**	**60**	*i* PN	**Pb**	**22 46 09.7**	**+0.2**
ARLS				*i* S	**Sg**	**22 46 30.0**	**+0.4**
ARLS	**Aral**	**1.51**	**60**	⇑*i*P	**Pb**	**22 46 09.7**	**+0.2**
	baz=61						
ARLS				⇑*i*S	**Sg**	**22 46 30.0**	**+0.4**
	baz=61						
MRKS	**Merke**	**1.69**	**17**	*e*P	**Pg**	**22 46 15.1**	**+1.7**
	122nm,0.1s						
MRKS				*e*S	**Sg**	**22 46 38.2**	**+2.9**
	913nm,0.3s						
MRKS	**Merke**	**1.69**	**17**	P	**Pg**	**22 46 14.5**	**+1.0**
	122nm,0.1s						
MRKS				S	**Sg**	**22 46 38.2**	**+2.9**
	913nm,0.3s						
BTK	**Batken**	**1.71**	**232**	*i* PN	**Pb**	**22 46 12.1**	**-0.7**
BTK				*i* S	**Sb**	**22 46 34.5**	**0.0**
BTK	**Batken**	**1.71**	**232**	*i* P	**Pb**	**22 46 13.0**	**+0.2**
BTK				*i* S	**Sg**	**22 46 36.0**	**+0.1**
BTK	**Batken**	**1.71**	**232**	⇑*i*P	**Pb**	**22 46 12.1**	**-0.7**
	baz=31						
BTK				⇑*i*S	**Sb**	**22 46 34.5**	**0.0**
	baz=31						
DRK	**Karamyk**	**1.75**	**200**	⇓*i*P	**Pb**	**22 46 13.1**	**-0.5**
	baz=99						
DRK				⇓*i*S	**Sb**	**22 46 36.5**	**+0.6**
	baz=99						
EKS2	**Erkin-Say**	**1.78**	**30**	P	**Pb**	**22 46 14.5**	**+0.4**
	SNR=127						
EKS2	**Erkin-Say**	**1.78**	**30**	*i* PN	**Pb**	**22 46 14.2**	**+0.1**
EKS2				*i* S	**Sb**	**22 46 38.0**	**+1.3**
EKS2	**Erkin-Say**	**1.78**	**30**	⇑*i*P	**Pb**	**22 46 14.2**	**+0.1**
	baz=31						
EKS2				⇑*i*S	**Sb**	**22 46 38.0**	**+1.3**
	baz=31						
UCH	**Uchtor**	**1.83**	**52**	P	**Pb**	**22 46 15.8**	**+0.7**
	SNR=604						
UCH	**Uchtor**	**1.83**	**52**	*i* PN	**Pb**	**22 46 15.5**	**+0.4**
UCH				*i* S	**Sg**	**22 46 40.3**	**+0.5**
UCH	**Uchtor**	**1.83**	**52**	⇑*i*P	**Pb**	**22 46 15.5**	**+0.4**
	baz=53						
UCH				⇑*i*S	**Sg**	**22 46 40.3**	**+0.5**
	baz=53						
CHMG	**Chimgan**	**1.97**	**283**	*e*P	**Pb**	**22 46 18.0**	**+0.7**
CHMG				*e*S	**Sg**	**22 46 45.0**	**+0.7**
DZA	**Taraz**	**1.99**	**333**	*e*P	**Pb**	**22 46 18.3**	**+0.7**
	524nm,0.4s						
DZA				*e*S	**Sg**	**22 46 44.4**	**-0.5**
	1μm,0.3s						
DZA	**Taraz**	**1.99**	**333**	Pg	**Pb**	**22 46 18.1**	**+0.5**
	524nm,0.4s						
DZA				Lg	Lg	22 46 44.4	
	1μm,0.3s						
CHRV	**Charvak**	**2.03**	**285**	*e*P	**Pb**	**22 46 19.0**	**+0.7**
CHRV				*e*S	**Sg**	**22 46 46.0**	**-0.3**
AAK	**Ala-Archa**	**2.08**	**43**	Pn	**Pb**	**22 46 20.2**	**+0.9**
	62nm,0.3s,baz=207,slow=5.8,SNR=1060						
AAK				Lg	Lg	22 46 49.1	
	46nm,0.3s,baz=340,slow=22,SNR=19						
AAK				LR	LR	22 47 25.8	
	comp=Z,38nm,20.5s,baz=194,slow=47						
AAK	**Ala-Archa**	**2.08**	**43**	P	**Pb**	**22 46 20.0**	**+0.7**
	SNR=292						
AAK	**Ala-Archa**	**2.08**	**43**	⇓Pg	**Pb**	**22 46 20.3**	**+1.0**
	59nm,0.3s						
AAK				⇑Lg	Lg	22 46 49.3	
	150nm,0.5s						
AAK	**Ala-Archa**	**2.08**	**43**	⇑*i*P	**Pb**	**22 46 18.8**	**-0.5**
	baz=44						
AAK				⇑*i*S	**Sb**	**22 46 46.1**	**+0.6**
	baz=44						
FRU1	**Bishkek**	**2.28**	**42**	*i* PN	**Pb**	**22 46 21.5**	**-1.1**
FRU1				*i* S	**Sb**	**22 46 50.8**	**-0.2**
FRU1	**Bishkek**	**2.28**	**42**	⇑*i*P	**Pb**	**22 46 21.5**	**-1.1**
	baz=42						
FRU1				⇑*i*S	**Sb**	**22 46 50.8**	**-0.2**
	baz=42						
KBK	**Karagaybulak**	**2.34**	**49**	P	**Pb**	**22 46 24.8**	**+1.1**
	SNR=150						
KBK	**Karagaybulak**	**2.34**	**49**	*i* PN	**Pb**	**22 46 22.5**	**-1.2**
KBK				*i* S	**Sb**	**22 46 52.4**	**-0.6**
KBK	**Karagaybulak**	**2.34**	**49**	⇓*i*P	**Pb**	**22 46 22.5**	**-1.2**
	baz=49						
KBK				⇓*i*S	**Sb**	**22 46 52.4**	**-0.6**
	baz=49						
TAS	**Tashkent**	**2.47**	**276**	*i* PN	**Pn**	**22 46 23.5**	**+1.7**
TAS				*i* S	**Sb**	**22 46 54.0**	**-2.5**
TAS	**Tashkent**	**2.47**	**276**	⇓*i*P	**Pn**	**22 46 23.5**	**+1.7**
	baz=76						
TAS				⇓*i*S	**Sb**	**22 46 54.0**	**-2.5**
	baz=76						
CHMS	**Chumysh**	**2.48**	**40**	P	**Pb**	**22 46 25.6**	**-0.4**
	SNR=56						
CHMS	**Chumysh**	**2.48**	**40**	*i* PN	**Pb**	**22 46 24.3**	**-1.6**
CHMS				*i* S	**Sb**	**22 46 55.6**	**-1.1**
CHMS	**Chumysh**	**2.48**	**40**	⇓*i*P	**Pb**	**22 46 24.3**	**-1.6**
	baz=41						
CHMS				⇓*i*S	**Sb**	**22 46 55.6**	**-1.1**
	baz=41						
KK02	**Karatay Array**	**2.50**	**323**	⇑Pn	**Pb**	**22 46 24.6**	**-1.6**
	3.2nm,0.2s						
KK02				⇓Pg	**Pg**	**22 46 26.7**	**-2.2**
	30nm,0.3s,baz=130,slow=14						
KK01	**Karatay Array**	**2.50**	**323**	⇑Lg	Lg	22 46 59.0	
	115nm,0.4s,baz=132,slow=27						
CHM	**Chimkent**	**2.52**	**299**	*e*P	**Pb**	**22 46 28.1**	**+1.5**
	72nm,0.7s						
CHM				*e*S	**Sg**	**22 47 00.8**	**-1.1**
	1μm,0.2s						
USP	**Ospenovka**	**2.58**	**33**	P	**Pb**	**22 46 26.7**	**-0.9**
	SNR=46						
USP	**Ospenovka**	**2.58**	**33**	*i* PN	**Pn**	**22 46 25.4**	**+2.2**
USP				*i* S	**Sb**	**22 46 57.7**	**-1.8**
USP	**Ospenovka**	**2.58**	**33**	⇓*i*P	**Pn**	**22 46 25.4**	**+2.2**
	baz=34						
USP				⇓*i*S	**Sb**	**22 46 57.7**	**-1.8**
	baz=34						
BRLS	**Borolday**	**2.78**	**314**	*e*P	**Pb**	**22 46 31.1**	**0.0**
	143nm,0.1s						
BRLS				*e*S	**Sb**	**22 47 06.2**	**+0.9**
	511nm,0.3s						
BRLS	**Borolday**	**2.78**	**314**	Pg	**Pb**	**22 46 31.1**	**0.0**
	143nm,0.1s						
BRLS				Lg	Lg	22 47 06.3	
	511nm,0.3s						
SGDS	**Sogindy**	**2.78**	**33**	*e*P	**Pb**	**22 46 31.7**	**+0.6**
	18nm,0.2s						
SGDS				*e*S	**Sb**	**22 47 07.0**	**+1.5**
	185nm,0.3s						
SGDS	**Sogindy**	**2.78**	**33**	Pg	**Pb**	**22 46 31.7**	**+0.6**
	18nm,0.2s						
SGDS				Lg	Lg	22 47 07.0	
	185nm,0.3s						
BOOM	**Boomskoye usch**	**2.87**	**61**	*i* PN	**Pn**	**22 46 29.9**	**+2.5**
BOOM				*i* S	**Sb**	**22 47 05.4**	**-2.6**
BOOM	**Boomskoye usch**	**2.87**	**61**	⇑*i*P	**Pn**	**22 46 29.9**	**+2.5**
	baz=61						
BOOM				⇑*i*S	**Sb**	**22 47 05.4**	**-2.6**
	baz=61						
TKM2	**Tokmak 2**	**2.88**	**51**	P	**Pb**	**22 46 31.5**	**-1.5**
	SNR=40						
TKM2	**Tokmak 2**	**2.88**	**51**	PN	**Pb**	**22 46 31.4**	**-1.5**
TKM2	**Tokmak 2**	**2.88**	**51**	⇑Pn	**Pb**	**22 46 31.4**	**-1.5**
	21nm,0.5s						
TKM2				⇓Lg	Lg	22 47 13.0	
	46nm,0.3s						
TKM2	**Tokmak 2**	**2.88**	**51**	⇓*i*P	**Pn**	**22 46 30.2**	**+2.6**
	baz=51						
TKM2				⇓*i*S	**Sb**	**22 47 05.6**	**-2.9**
	baz=51						
ULHL	**Ulahol**	**2.97**	**67**	P	**Pb**	**22 46 33.0**	**-1.5**
	SNR=15						
ULHL	**Ulahol**	**2.97**	**67**	*i* PN	**Pn**	**22 46 31.2**	**+2.4**
ULHL				*i* S	**Sb**	**22 47 07.9**	**-3.2**
ULHL	**Ulahol**	**2.97**	**67**	⇑*i*P	**Pn**	**22 46 31.2**	**+2.4**
	baz=67						
ULHL				⇑*i*S	**Sb**	**22 47 07.9**	**-3.2**
	baz=67						
KST	**Kastek**	**3.17**	**52**	*e*P	**Pb**	**22 46 40.2**	**+2.4**
	26nm,0.1s						
KST				*e*S	**Sg**	**22 47 22.2**	**-0.7**
	172nm,0.1s						
KST	**Kastek**	**3.17**	**52**	Pg	**Pb**	**22 46 40.2**	**+2.4**
	26nm,0.1s						
KST				Lg	Lg	22 47 22.2	
	172nm,0.1s						
DGS	**Degeres**	**3.18**	**47**	*e*P	**Pb**	**22 46 40.4**	**+2.4**
	15nm,0.3s						
DGS				*e*S	**Sg**	**22 47 22.5**	**-0.8**
	97nm,1.3s						
DGS	**Degeres**	**3.18**	**47**	Pg	**Pb**	**22 46 40.4**	**+2.4**
	15nm,0.3s						
DGS				Lg	Lg	22 47 22.5	
	97nm,1.3s						
KRBS	**Karabastau**	**3.45**	**41**	*e*P	**Pb**	**22 46 45.2**	**+2.7**
	21nm,0.3s						
KRBS				*e*S	**Sg**	**22 47 30.2**	**-1.5**
	96nm,0.1s						
KRBS	**Karabastau**	**3.45**	**41**	Pg	**Pb**	**22 46 45.2**	**+2.7**
	21nm,0.3s						
KRBS				Lg	Lg	22 47 30.2	
	96nm,0.1s						
MTBS	**Maitube**	**3.50**	**54**	*e*P	**Pb**	**22 46 46.2**	**+2.8**
	13nm,0.7s						
MTBS				*e*S	**Sg**	**22 47 32.3**	**-1.2**
	95nm,0.9s						
MTBS	**Maitube**	**3.50**	**54**	Pg	**Pb**	**22 46 46.2**	**+2.8**
	13nm,0.7s						
MTBS				Lg	Lg	22 47 32.3	
	95nm,0.9s						
CHGR	**Chuyangaron**	**3.60**	**228**	*i* PN	**Pn**	**22 46 39.3**	**+1.9**
CHGR				*i* S	**Sn**	**22 47 21.6**	**+1.4**
CHGR	**Chuyangaron**	**3.60**	**228**	⇑*i*P	**Pn**	**22 46 39.3**	**+1.9**
	baz=27						
CHGR				⇑*i*S	**Sn**	**22 47 21.6**	**+1.4**
	baz=27						
KDJ	**Kajisay**	**3.60**	**72**	*i* PN	**Pn**	**22 46 40.2**	**+2.7**
KDJ				*i* S	**Sn**	**22 47 23.2**	**+2.9**
KDJ	**Kajisay**	**3.60**	**72**	⇓*i*P	**Pn**	**22 46 40.2**	**+2.7**
	baz=73						
KDJ				⇓*i*S	**Sn**	**22 47 23.2**	**+2.9**
	baz=73						
TNSS	**Tian-Shan**	**3.78**	**58**	*e*P	**Pb**	**22 46 51.3**	**+3.0**
	12nm,0.5s						
TNSS				*e*S	**Sg**	**22 47 40.6**	**-1.8**
	34nm,0.0s						
TNSS	**Tian-Shan**	**3.78**	**58**	Pg	**Pb**	**22 46 51.3**	**+3.0**
	12nm,0.5s						
TNSS				Lg	Lg	22 47 40.6	
	34nm,0.0s						
KNDC	**Almaty**	**3.88**	**56**	PN	**Pb**	**22 46 45.6**	**-4.2**
KNDC	**Almaty**	**3.88**	**56**	⇑Pn	**Pb**	**22 46 45.6**	**-4.2**
	16nm,0.4s						
KNDC				⇑Pg	**Pg**	**22 46 53.9**	**-1.5**
	23nm,0.5s						
KNDC				⇑Lg	Lg	22 47 44.9	
	141nm,0.6s						
MDOK	**Medeo**	**3.90**	**57**	PN	**Pn**	**22 46 45.8**	**+4.2**
MDOK	**Medeo**	**3.90**	**57**	*e*P	**Pb**	**22 46 52.9**	**+2.6**
	13nm,0.4s						
MDOK				*e*S	**Sg**	**22 47 44.0**	**-2.4**
	57nm,0.2s						
MDOK	**Medeo**	**3.90**	**57**	⇓Pn	**Pn**	**22 46 45.8**	**+4.2**
	6.7nm,0.4s						
MDOK				⇑Pg	**Pg**	**22 46 53.6**	**-2.2**
	14nm,0.5s						
MDOK				⇓Lg	Lg	22 47 46.4	
	39nm,0.5s						
MDOK	**Medeo**	**3.90**	**57**	Pg	**Pb**	**22 46 52.9**	**+2.6**
	13nm,0.4s						
MDOK				Lg	Lg	22 47 44.0	
	57nm,0.2s						
BTLS	**Baital**	**4.06**	**15**	*e*P	**Pg**	**22 46 56.8**	**-2.0**
	9.8nm,0.1s						
BTLS				*e*S	**Sg**	**22 47 50.6**	**-0.7**
	52nm,0.7s						
BTLS	**Baital**	**4.06**	**15**	Pg	**Pg**	**22 46 56.8**	**-2.0**
	9.8nm,0.1s						
BTLS				Lg	Lg	22 47 50.6	
	52nm,0.7s						
CHKK	**Chushkaly**	**4.26**	**49**	*e*P	**Pb**	**22 46 59.6**	**+3.4**
	7.2nm,0.7s						
CHKK				*e*S	**Sg**	**22 47 55.2**	**-2.4**
	73nm,0.3s						
CHKK	**Chushkaly**	**4.26**	**49**	Pg	**Pb**	**22 46 59.7**	**+3.4**
	7.2nm,0.7s						
CHKK				Lg	Lg	22 47 55.2	
	73nm,0.3s						
SATY	**Saty**	**4.75**	**64**	*e*P	**Pg**	**22 47 09.9**	**-2.2**
	6.0nm,0.4s						
SATY				*e*S	**Sg**	**22 48 12.5**	**-1.2**
	46nm,0.6s						
SATY	**Saty**	**4.75**	**64**	Pg	**Pg**	**22 47 09.9**	**-2.2**
	6.0nm,0.4s						
SATY				Lg	Lg	22 48 12.5	
	46nm,0.6s						
KURS	**Kuram**	**4.78**	**59**	*e*P	**Pg**	**22 47 10.2**	**-2.4**
	15nm,1.1s						
KURS				*e*S	**Sg**	**22 48 12.9**	**-1.5**
	23nm,0.9s						
KURS	**Kuram**	**4.78**	**59**	Pg	**Pg**	**22 47 10.2**	**-2.4**
	15nm,1.1s						
KURS				Lg	Lg	22 48 12.9	
	23nm,0.9s						
ZHN	**Zhinishke**	**4.82**	**63**	*e*P	**Pg**	**22 47 11.7**	**-1.6**
	6.4nm,0.1s						
ZHN				*e*S	**Sg**	**22 48 15.7**	**0.0**
	36nm,0.1s						
ZHN	**Zhinishke**	**4.82**	**63**	Pg	**Pg**	**22 47 11.7**	**-1.6**
	6.4nm,0.1s						
ZHN				Lg	Lg	22 48 15.7	
	36nm,0.1s						
ARXS	**Arharly**	**4.95**	**50**	*e*P	**Pg**	**22 47 12.7**	**-3.3**
	9.1nm,0.7s						
ARXS				*e*S	**Sg**	**22 48 17.3**	**-2.8**
	69nm,0.6s						
ARXS	**Arharly**	**4.95**	**50**	Pg	**Pg**	**22 47 12.7**	**-3.3**
	9.1nm,0.7s						
ARXS				Lg	Lg	22 48 17.3	
	69nm,0.6s						
UZB	**Uzynbulak**	**5.21**	**65**	*e*P	**Pg**	**22 47 17.2**	**-3.6**
	4.7nm,0.1s						
UZB				*e*S	**Sg**	**22 48 25.6**	**-2.7**
	23nm,0.9s						
UZB	**Uzynbulak**	**5.21**	**65**	Pg	**Pg**	**22 47 17.2**	**-3.6**
	4.7nm,0.1s						
UZB				Lg	Lg	22 48 25.6	
	23nm,0.9s						
KNOS	**Konyrlen**	**5.84**	**54**	*e*P	**Pg**	**22 47 29.6**	**-3.4**
	2.1nm,0.4s						
KNOS				*e*S	**Sg**	**22 48 46.4**	**-2.1**
	19nm,0.4s						
KNOS	**Konyrlen**	**5.84**	**54**	Pg	**Pg**	**22 47 29.6**	**-3.4**
	2.1nm,0.4s						
KNOS				Lg	Lg	22 48 46.4	
	19nm,0.4s						
DJR	**Jarkent**	**6.21**	**57**	*e*P	**Pg**	**22 47 36.7**	**-3.2**
	3.1nm,0.1s						
DJR				*e*S	**Sg**	**22 48 58.8**	**-1.5**
	13nm,0.3s						
DJR	**Jarkent**	**6.21**	**57**	Pg	**Pg**	**22 47 36.7**	**-3.2**
	3.1nm,0.1s						
DJR				Lg	Lg	22 48 58.8	
	13nm,0.3s						
KAPS	**Kapalarasan**	**6.47**	**48**	*e*P	**Pg**	**22 47 41.5**	**-3.4**
	2.3nm,0.1s						
KAPS				*e*S	**Sg**	**22 49 07.1**	**-1.6**
	19nm,0.0s						
KAPS	**Kapalarasan**	**6.47**	**48**	Pg	**Pg**	**22 47 41.5**	**-3.4**
	2.3nm,0.1s						
KAPS				Lg	Lg	22 49 07.1	
	19nm,0.0s						
OTUK	**Ortayu**	**7.12**	**359**	PN	**Pn**	**22 47 29.4**	**+3.8**
OTUK	**Ortayu**	**7.12**	**359**	⇑Pn	**Pn**	**22 47 29.0**	**+3.5**
	2.4nm,0.5s						
OTUK				⇑Lg	Lg	22 49 25.3	
	86nm,0.7s						
**MA

19nm,1.2s
BVAR Borovoye Array 11.99 354 Pn **Pn 22 48 34.3 +2.0**
0.1nm,0.3s,baz=162,slow=14,SNR=1.5
BVAR Lg Lg 22 52 03.9
0.7nm,0.3s,baz=149,slow=26,SNR=6.4
BRVK Borovoye 12.03 353⇓*eP* **Pn 22 48 35.8 +2.9**
AB31 Akbulak array 12.04 317 P **Pn 22 48 31.5 -1.5**
AB31 Akbulak array 12.04 317 ⇑Pn **Pn 22 48 31.5 -1.5**
1.8nm,0.6s,baz=129,slow=13,SNR=7.9
AB31 ⇓Sn **Sn 22 50 48.1 +0.7**
1.4nm,0.6s
AB31 ⇑Lg Lg 22 52 01.2
3.4nm,0.8s
DGZ Jazzator, Alta 13.49 46⇑*eP* **Pn 22 48 56.3 +3.4**
AKTO Aktyubinsk 13.75 317 Pn **Pn 22 48 57.8 +1.5**
0.2nm,0.3s,baz=137,slow=17,SNR=4.8
AKTO Aktyubinsk 13.75 317 ⇑Pn **Pn 22 48 58.8 +2.5**
1.2nm,0.6s
AKTO ⇑Sn **Sn 22 51 28.3 -0.9**
1.7nm,0.9s
AKTO ⇑Lg Lg 22 52 52.3
4.7nm,1.1s
ZALV Zalesovo Beam 15.23 29 Pn **Pn 22 49 16.8 +0.4**
0.1nm,0.3s,baz=225,slow=14,SNR=1.8
ARU Arti 17.82 334 P **P 22 49 50.5 +0.4**
ARU S **S 22 53 12.2 -2.8**
KIV Kislovodsk 22.14 287 *eP* **P 22 50 35.5 -1.8**
KIV pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 24.91 63 P **P 22 51 04.7 +0.1**
comp=Z,0.6nm,0.9s,baz=52,slow=46,SNR=2.5
ULN Ulaanbaatar 25.35 63⇑*eP* **P 22 51 09.6 +0.9**
ULN pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 34.45 322 P **P 22 52 29.2 +0.2**
comp=Z,1.6nm,0.9s,baz=116,slow=11,SNR=6.0
ARCES ARCESS Array B 37.40 335 P **P 22 52 54.5 +0.2**
comp=Z,1.0nm,0.4s,baz=152,slow=8.2,SNR=12
GERES GERESS Array B 41.41 301 P **P 22 53 28.8 +0.8**
comp=Z,0.2nm,0.5s,baz=86,slow=6.8,SNR=4.1
NB2 NORSAR Subarra 41.52 320 P **P 22 53 27.8 -0.9**
comp=Z,0.2nm,0.5s,baz=90,slow=8.6
NOA NORSAR Array B 41.52 320 P **P 22 53 28.4 -0.3**
comp=Z,0.2nm,0.5s,baz=101,slow=7.2,SNR=4.4
TORD Torodi Ar. Bea 67.09 268 P **P 22 56 32.7 -2.7**
comp=Z,0.4nm,0.6s,baz=52,slow=5.6,SNR=4.9

*WEL **20** 22:51:07.2±0.3, 40°S±1°×17°5E±°, h13km±3km, M3.6/66, ML3.9/66, MLv3.6/66, Error ellipse: s-maj=0.0km s-min=0.0km az=87.9*
*NOU **20** 22:51:08.2, 40.15S×174.85E, h81km, MLv4.0/9, Cook Strait, New Zealand*
ISC 20 22:51:08.2±1.1, 40.15S±0.02×174.85E±0.03, h27km±10km, n131, σ1§06/141, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.36**	**99**	P	**Pb**	**22 51 16.3**	**0.0**
OHWZ				S	**Sn**	**22 51 22.9**	**-1.0**
WAZ	**Wanganui**	**0.41**	**15**	P	**Pb**	**22 51 16.8**	**-0.3**
WAZ				S	**Sb**	**22 51 23.2**	**+0.2**
OGWZ	**Otaki Gorge**	**0.71**	**160**	P	**Pn**	**22 51 21.7**	**-0.8**
OGWZ				S	**Sn**	**22 51 31.6**	**-1.0**
KIW	**Kapiti Island**	**0.71**	**176**	P	**Pn**	**22 51 21.5**	**-1.0**
KIW				S	**Sn**	**22 51 30.9**	**-1.8**
POWZ	**Post Office Ro**	**0.74**	**109**	P	**Pn**	**22 51 22.5**	**-0.4**
POWZ				S	**Sn**	**22 51 33.0**	**-0.4**
MRZ	**Mangatainoka R**	**0.76**	**133**	P	**Pn**	**22 51 22.7**	**-0.4**
MRZ				S	**Sn**	**22 51 33.5**	**-0.2**
LREZ	**Lake Rotokare**	**0.77**	**333**	P	**Pn**	**22 51 22.8**	**-0.4**
TSZ	**Takapari Road**	**0.86**	**84**	P	**Pn**	**22 51 23.9**	**-0.7**
TSZ				S	**Sn**	**22 51 35.6**	**-0.6**
MTVZ	**Mangateitei**	**0.90**	**32**	P	**Pn**	**22 51 23.7**	**-1.4**
MTVZ				S	**Sn**	**22 51 36.8**	**-0.5**
HOWZ	**Holdsworth Sta**	**0.90**	**146**	P	**Pn**	**22 51 25.0**	**-0.2**
HOWZ				S	**Sn**	**22 51 37.6**	**+0.2**
PKVZ	**Pokaka**	**0.94**	**24**	P	**Pn**	**22 51 24.1**	**-1.6**
PRWZ	**Pori Road**	**0.95**	**116**	P	**Pn**	**22 51 26.3**	**+0.5**
DUWZ	**D'Urville Isla**	**0.96**	**227**	P	**Pn**	**22 51 25.0**	**-0.9**
PREZ	**Palmer Road**	**0.96**	**326**	P	**Pn**	**22 51 26.0**	**0.0**
PREZ				S	**Sn**	**22 51 40.6**	**+1.8**
CAW	**Cannon Point**	**0.97**	**170**	P	**Pn**	**22 51 25.6**	**-0.4**
WHVZ	**Wahianoa**	**1.00**	**35**	P	**Pn**	**22 51 25.2**	**-1.4**
TRVZ	**Turoa**	**1.00**	**33**	P	**Pn**	**22 51 25.2**	**-1.5**
TIWZ	**Tintock**	**1.01**	**129**	P	**Pn**	**22 51 27.2**	**+0.6**
MOVZ	**Moawhango**	**1.02**	**44**	P	**Pn**	**22 51 25.2**	**-1.6**
DVHZ	**Dannevirke**	**1.02**	**99**	P	**Pn**	**22 51 27.2**	**+0.5**
VRZ	**Vera Road**	**1.02**	**356**	P	**Pn**	**22 51 26.2**	**-0.6**
VRZ				S	**Sn**	**22 51 40.7**	**+0.4**
DRZ	**Dome Shelter**	**1.03**	**33**	P	**Pn**	**22 51 25.9**	**-1.3**
WHVZ	**Whangaehu Hut**	**1.03**	**34**	P	**Pn**	**22 51 25.7**	**-1.4**
FWVZ	**Far West T-bar**	**1.04**	**32**	P	**Pn**	**22 51 25.8**	**-1.5**
NMEZ	**Namu Road**	**1.05**	**314**	P	**Pn**	**22 51 27.2**	**+0.1**
NEZ	**North Egmont**	**1.05**	**326**	P	**Pn**	**22 51 27.1**	**-0.1**
PNHZ	**Pukenui**	**1.06**	**78**	P	**Pn**	**22 51 26.9**	**-0.5**
KHEZ	**Kahui Hut**	**1.07**	**323**	P	**Pn**	**22 51 27.7**	**+0.2**
TUVZ	**Tukino**	**1.08**	**35**	P	**Pn**	**22 51 26.5**	**-1.1**
DREZ	**Durham Road**	**1.08**	**332**	P	**Pn**	**22 51 27.7**	**+0.1**
MTW	**Mount Morrison**	**1.12**	**154**	P	**Pn**	**22 51 28.3**	**+0.1**
NGZ	**Ngauruhoe**	**1.13**	**31**	P	**Pn**	**22 51 27.1**	**-1.3**
WEL	**Wellington**	**1.14**	**183**	P	**Pn**	**22 51 28.1**	**-0.2**
SNVZ	**South Ngauruho**	**1.14**	**33**	P	**Pn**	**22 51 27.3**	**-1.2**
BHHZ	**Black Hill Sta**	**1.14**	**55**	P	**Pn**	**22 51 27.0**	**-1.5**
TCW	**Tory Channel**	**1.15**	**202**	P	**Pn**	**22 51 27.6**	**-0.8**
NBEZ	**Newall Road No**	**1.16**	**319**	P	**Pn**	**22 51 29.1**	**+0.4**
PKE	**Pukeiti**	**1.16**	**325**	P	**Pn**	**22 51 29.0**	**+0.3**
SNZO	**South Karori**	**1.17**	**185**	P	**Pn**	**22 51 29.4**	**+0.7**
OTVZ	**Oturere**	**1.17**	**33**	P	**Pn**	**22 51 27.7**	**-1.2**
TWVZ	**Taurewa**	**1.17**	**23**	P	**Pn**	**22 51 27.3**	**-1.6**
NNVZ	**North Ngauruho**	**1.18**	**30**	P	**Pn**	**22 51 27.6**	**-1.4**
WTVZ	**West Tongariro**	**1.18**	**29**	P	**Pn**	**22 51 27.6**	**-1.4**
BFZ	**Birch Farm**	**1.19**	**117**	P	**Pn**	**22 51 29.4**	**+0.3**
BFZ	**Birch Farm**	**1.19**	**117**	P	**Pn**	**22 51 29.4**	**+0.3**
ETVZ	**East Tongariro**	**1.21**	**34**	P	**Pn**	**22 51 28.2**	**-1.3**
KRVZ	**Karewarewa**	**1.22**	**30**	P	**Pn**	**22 51 28.2**	**-1.3**
WPHZ	**Waipukurau**	**1.22**	**87**	P	**Pn**	**22 51 30.2**	**+0.7**
TMVZ	**Te Maari**	**1.22**	**33**	P	**Pn**	**22 51 28.5**	**-1.2**
NTVZ	**North Tongarir**	**1.23**	**32**	P	**Pn**	**22 51 28.7**	**-1.0**
TMWZ	**Te Maipa**	**1.24**	**141**	P	**Pn**	**22 51 29.8**	**0.0**
BHW	**Baring Head**	**1.26**	**179**	P	**Pn**	**22 51 30.4**	**+0.4**
KRHZ	**Kereru**	**1.27**	**67**	P	**Pn**	**22 51 29.9**	**-0.4**
ANWZ	**Angora Road**	**1.28**	**105**	P	**Pn**	**22 51 30.7**	**+0.4**
CPWZ	**Castlepoint**	**1.28**	**127**	P	**Pn**	**22 51 32.1**	**+1.8**
MSWZ	**Moikau Station**	**1.30**	**167**	P	**Pn**	**22 51 31.3**	**+0.6**
PAWZ	**Paruwai Farm**	**1.31**	**161**	P	**Pn**	**22 51 31.4**	**+0.7**
KATZ	**Kakaramea**	**1.34**	**29**	P	**Pn**	**22 51 30.3**	**-1.0**
PRHZ	**Porangahau**	**1.37**	**96**	P	**Pn**	**22 51 32.0**	**+0.5**
TRWZ	**Traveller**	**1.40**	**153**	P	**Pn**	**22 51 33.0**	**+1.0**
RITZ	**Rihia Road**	**1.41**	**34**	P	**Pn**	**22 51 32.1**	**0.0**
KWHZ	**Kaweka Forest**	**1.41**	**60**	P	**Pn**	**22 51 32.1**	**0.0**
PLWZ	**Palliser**	**1.45**	**168**	P	**Pn**	**22 51 33.4**	**+0.7**
TUWZ	**Tuamarina**	**1.45**	**208**	P	**Pn**	**22 51 32.5**	**-0.2**
RATZ	**Rangitukua**	**1.47**	**29**	P	**Pn**	**22 51 32.6**	**-0.3**
NNZ	**Nelson**	**1.55**	**226**	P	**Pn**	**22 51 34.0**	**+0.1**
PXZ	**Pawanui**	**1.55**	**86**	P	**Pn**	**22 51 34.7**	**+0.8**
HAWZ	**Hinemaiaia**	**1.58**	**38**	P	**Pn**	**22 51 35.2**	**+1.1**
MCHZ	**McNeill Hill**	**1.59**	**64**	P	**Pn**	**22 51 36.4**	**+1.9**
WATZ	**Wairara**	**1.59**	**26**	P	**Pn**	**22 51 34.6**	**0.0**
KAHZ	**Kahuranaki**	**1.60**	**78**	P	**Pn**	**22 51 35.2**	**+0.5**
BKZ	**Black Stump Fm**	**1.60**	**53**	P	**Pn**	**22 51 34.9**	**+0.1**
BKZ	**Black Stump Fm**	**1.60**	**53**	P	**Pn**	**22 51 35.2**	**+0.4**
HIZ	**Hauiti**	**1.63**	**0**	P	**Pn**	**22 51 34.7**	**-0.5**
HIZ	**Hauiti**	**1.63**	**0**	P	**Pn**	**22 51 35.2**	**0.0**
CMWZ	**Cape Campbell**	**1.67**	**197**	P	**Pn**	**22 51 37.9**	**+2.2**
TKNZ	**Takaka Hill**	**1.69**	**238**	P	**Pn**	**22 51 36.0**	**0.0**
WHTZ	**Whakaora**	**1.71**	**30**	P	**Pn**	**22 51 39.7**	**+3.4**
BSWZ	**Blackbirch Sta**	**1.73**	**205**	P	**Pn**	**22 51 37.4**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.78**	**75**	P	**Pn**	**22 51 39.4**	**+2.2**
MRHZ	**Matea Rd**	**1.79**	**43**	P	**Pn**	**22 51 36.8**	**-0.5**
KUTZ	**Kaahu Road**	**1.82**	**25**	P	**Pn**	**22 51 39.8**	**+2.0**
NMHZ	**Naumai**	**1.84**	**56**	P	**Pn**	**22 51 39.4**	**+1.4**
ARHZ	**Aropaoanui**	**1.88**	**63**	P	**Pn**	**22 51 39.5**	**+1.0**
TLZ	**Tolley Road**	**1.89**	**17**	P	**Pn**	**22 51 37.6**	**-1.2**
QRZ	**Quartz Range**	**1.90**	**248**	P	**Pn**	**22 51 38.5**	**-0.2**
QRZ	**Quartz Range**	**1.90**	**248**	P	**Pn**	**22 51 38.6**	**-0.2**
WPRZ	**Whakapapatarin**	**1.92**	**32**	P	**Pn**	**22 51 39.4**	**+0.3**
ALRZ	**Allen Road**	**1.96**	**37**	P	**Pn**	**22 51 39.5**	**-0.2**
MTHZ	**Maungataniwha**	**2.01**	**51**	P	**Pn**	**22 51 40.3**	**-0.1**
MRNZ	**Matariki Terra**	**2.02**	**231**	P	**Pn**	**22 51 41.3**	**+0.8**
PRRZ	**Plateau Road**	**2.04**	**36**	P	**Pn**	**22 51 40.5**	**-0.2**
HRRZ	**Handcock Road**	**2.08**	**33**	P	**Pn**	**22 51 43.7**	**+2.4**
RAHZ	**Arahi**	**2.12**	**55**	P	**Pn**	**22 51 42.3**	**+0.4**
WHHZ	**Waihua**	**2.13**	**61**	P	**Pb**	**22 51 47.1**	**+1.0**
MUGZ	**Murupara**	**2.24**	**42**	P	**Pn**	**22 51 43.9**	**+0.4**
RTZ	**Ruatahuna**	**2.25**	**48**	P	**Pn**	**22 51 44.5**	**+0.8**
TARZ	**Mount Tarawera**	**2.30**	**34**	P	**Pn**	**22 51 45.8**	**+1.3**
OMRZ	**Omania**	**2.36**	**31**	P	**Pn**	**22 51 47.3**	**+2.1**
KNZ	**Kokohu**	**2.46**	**64**	P	**Pn**	**22 51 46.2**	**-0.3**
TOZ	**Tahuroa Road**	**2.47**	**12**	P	**Pn**	**22 51 45.3**	**-1.3**
KHZ	**Kahutara**	**2.47**	**203**	P	**Pn**	**22 51 46.7**	**+0.1**
KHZ	**Kahutara**	**2.47**	**203**	P	**Pn**	**22 51 46.8**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.56**	**68**	P	**Pn**	**22 51 47.6**	**-0.3**
URZ	**Urewera**	**2.58**	**44**	P	**Pn**	**22 51 47.3**	**-0.8**
URZ	**Urewera**	**2.58**	**44**	P	**Pn**	**22 51 47.6**	**-0.5**
RAGZ	**Rawiri**	**2.58**	**51**	P	**Pn**	**22 51 51.7**	**+3.4**
TGRZ	**Tauranga**	**2.66**	**25**	P	**Pn**	**22 51 51.6**	**+2.4**
OPRZ	**Ohinemanea**	**2.66**	**31**	P	**Pn**	**22 51 49.4**	**+0.2**
MWZ	**Matawai**	**2.76**	**50**	P	**Pn**	**22 51 50.0**	**-0.6**
DSZ	**Denniston Nort**	**2.80**	**234**	P	**Pn**	**22 51 51.6**	**+0.3**
AWAZ	**Awhitu Peninsu**	**3.08**	**357**	P	**Pn**	**22 51 54.9**	**-0.2**
RUGZ	**Raukumara Rang**	**3.10**	**46**	P	**Pn**	**22 51 54.6**	**-0.8**
GVZ	**Greta Valley S**	**3.13**	**205**	P	**Pn**	**22 51 55.0**	**-0.7**
TWGZ	**Tauwhareparae**	**3.13**	**52**	P	**Pn**	**22 51 55.8**	**0.0**
WTAZ	**Waiatarua**	**3.22**	**356**	P	**Pn**	**22 51 55.9**	**-1.0**
LTZ	**Lake Taylor**	**3.27**	**216**	P	**Pn**	**22 51 57.5**	**-0.2**
HAZ	**Te Kaha**	**3.31**	**45**	P	**Pn**	**22 51 56.8**	**-1.4**
WIAZ	**Waiheke Island**	**3.36**	**4**	P	**Pn**	**22 51 58.5**	**-0.4**
PUZ	**Puketiti**	**3.37**	**53**	P	**Pn**	**22 51 58.1**	**-0.9**
PKGZ	**Pakihiroa**	**3.38**	**49**	P	**Pn**	**22 51 58.6**	**-0.7**
WMGZ	**Waiomatatini S**	**3.62**	**51**	P	**Pn**	**22 52 01.3**	**-1.2**
INZ	**Inchbonnie**	**3.63**	**224**	P	**Pn**	**22 52 05.5**	**+2.9**
OKCZ	**Okains Bay**	**3.81**	**200**	P	**Pn**	**22 52 03.9**	**-1.2**
AKCZ	**Akaroa Harbour**	**3.99**	**201**	P	**Pn**	**22 52 06.3**	**-1.3**
WCZ	**Waipu Caves**	**4.22**	**354**	P	**Pn**	**22 52 10.3**	**-0.4**
WVZ	**Waitaha Valley**	**4.25**	**225**	P	Pn	22 52 14.8	+3.7
RPZ	**Rata Peaks**	**4.55**	**217**	P	**Pn**	**22 52 14.0**	**-1.3**
FOZ	**Fox Glacier**	**5.06**	**226**	P	**Pn**	**22 52 22.2**	**+0.1**
TMZ	**Timaru**	**5.10**	**213**	P	**Pn**	**22 52 22.0**	**-0.8**
ODZ	**Otahua Downs**	**5.79**	**211**	P	**Pn**	**22 52 31.7**	**-0.6**

*IDC **20** 23:03:60.0±6.4, 13°77N×125°10E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/28, mbtmp3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/37, Error ellipse: s-maj=526.6km s-min=29.2km az=64.0*
*MAN **20** 23:04:06.2, 13°20N×123°88E, h9km, mb4.3, ML3.1, MS2.9*
ISC 20 23:04:04.1±1.3, 13°30N±0°08×124°0E±0°1, h10km, n14, σ1§40/10, mb3.3/3, 4D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.60**	**292**⇓	*eP*	**Pn**	**23 04 33.9**	**+1.4**
GQP				*eS*	**Sb**	**23 04 54.7**	**+0.6**
RCP	**Roxas**	**2.10**	**215**⇓	*eP*	**Pn**	**23 04 40.1**	**+0.8**
RCP				*eS*	**Sn**	**23 05 05.5**	**-0.1**
LLP	**Lapu-Lapu**	**2.96**	**180**⇓	*eP*	**Pb**	**23 04 56.1**	**-0.9**
LLP				*eS*	**Sb**	**23 05 34.0**	**+0.7**
MSLP	**Maasin**	**3.26**	**164**⇓	*eP*	**Pn**	**23 04 57.8**	**+2.5**
KAPI	**Kappang**	**18.67**	**193**	LR	LR	23 16 41.3	
	comp=Z,53nm,18.9s,baz=263,slow=39						
WRA	**Warramunga Arr**	**34.57**	**163**	P	**P**	**23 10 52.1**	**-1.2**
	0.4nm,0.8s,baz=345,slow=9.1,SNR=3.0						
ASAR	**Alice Springs**	**38.00**	**165**	P	**P**	**23 11 21.2**	**-1.3**
	0.4nm,0.7s,baz=347,slow=7.0,SNR=5.6						
H11S3	**WAKE ISLAND Hy 41.34**	**77**		T	T	23 55 43.8	
	baz=269,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy 41.35**	**77**		T	T	23 55 46.1	
	baz=269,slow=75,SNR=6.7						
H11S2	**WAKE ISLAND Hy 41.36**	**77**		T	T	23 55 47.4	
	baz=269,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy 41.56**	**75**		T	T	23 56 06.3	
	baz=267,slow=74,SNR=53						
H11N2	**WAKE ISLAND Hy 41.57**	**75**		T	T	23 56 06.9	
	baz=267,slow=74,SNR=20						
H11N3	**WAKE ISLAND Hy 41.58**	**75**		T	T	23 56 07.7	
	baz=267,slow=74,SNR=39						
MKAR	**Makanchi Array**	**48.27**	**322**	P	**P**	**23 12 45.1**	**-0.3**
	0.2nm,0.7s,baz=119,slow=8.8,SNR=4.2						

IDC 20 23:08:43.9±3.9, 4°33N×128°32E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.0/29, mbtmp3.1/3, Error ellipse: s-maj=312.6km s-min=30.7km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.84**	**166**	P	P	23 14 08.6	+0.4
	0.7nm,0.8s,baz=347,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**28.36**	**169**	P	P	23 14 39.4	-0.5
	0.1nm,0.4s,baz=349,slow=9.5,SNR=1.4						
MKAR	**Makanchi Array**	**57.98**	**324**	P	P	23 18 38.3	-0.1
	0.1nm,0.6s,baz=126,slow=8.5,SNR=1.6						

*IDC **20** 23:10:09.8±3.3, 12°01S×167°05E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/31, mbtmp3.7/5, Error ellipse: s-maj=160.8km s-min=27.0km az=140.0*
ISC 20 23:10:34.5±3.4, 12°7S±0°8×166°9E±0°7, h220km, n6, σ1§45/6, mb3.7/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.14**	**247**	P	**P**	**23 15 00.9**	**-1.8**
	1.4nm,0.5s,baz=53,slow=10,SNR=0.9						
WRA	**Warramunga Arr**	**32.06**	**253**	P	**P**	**23 16 41.7**	**+0.7**
	0.4nm,0.8s,baz=77,slow=9.0,SNR=2.4						
ASAR	**Alice Springs**	**33.14**	**246**	P	**P**	**23 16 51.4**	**+1.0**
	0.6nm,0.7s,baz=74,slow=9.7,SNR=8.3						
ILAR	**Eielson Array**	**84.71**	**18**	P	**P**	**23 22 42.5**	**-0.8**
	1.0nm,0.6s,baz=237,slow=4.6,SNR=18						
MKAR	**Makanchi Array**	**95.51**	**317**	P	**P**	**23 23 34.9**	**+0.5**
	0.4nm,0.9s,baz=88,slow=5.2,SNR=4.4						
ARCES	**ARCESS Array B**	**118.21**	**346**	PKP	**PKiKP**	**23 28 55.6**	**+0.7**
	3.8nm,1.0s,baz=56,slow=2.3,SNR=6.4						

IDC 20 23:11:50.5±2.1, 8°42S×128°19E, h0km, mb2.9/1, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, ML3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/12, Error ellipse: s-maj=65.4km s-min=24.4km az=74.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.93**	**194**	Pn	Pn	23 14 15.1	+0.4
	0.2nm,0.3s,baz=14,slow=10,SNR=16						
FITZ				Sn	Sn	23 16 07.4	+0.4
	0.3nm,0.3s,baz=300,slow=21,SNR=2.6						
WRA	**Warramunga Arr**	**12.91**	**153**	Pn	Pn	23 14 55.4	-0.1
	0.3nm,0.3s,baz=323,slow=13,SNR=19						
WRA				Sn	Sn	23 17 20.8	+0.8
	0.5nm,0.3s,baz=335,slow=23,SNR=12						
JAY	**Jayapura**	**13.77**	**65**	LR	LR	23 21 05.0	
	comp=Z,38nm,19.1s,baz=10,0,slow=40						
ASAR	**Alice Springs**	**16.12**	**161**	Pn	Pn	23 15 39.4	+0.6
	0.2nm,0.3s,baz=338,slow=11,SNR=16						
ASAR				Sn	Sn	23 18 38.5	+0.3
	0.1nm,0.3s,baz=327,slow=23,SNR=2.1						
MKAR	**Makanchi Array**	**68.45**	**328**	P	P	23 22 54.4	-0.1
	0.1nm,0.5s,baz=115,slow=6.8,SNR=1.0						

*VAO **20** 23:20:43.9±1.5, 14°98S×72°84W, h10km, mb4.4*
*NEIC **20** 23:20:50.0±1.7, 15°31S±0°07×72°91W±0°09, h88km±6km, mb4.3/24, Error ellipse: s-maj=13.0km s-min=9.2km az=56.0*
*IDC **20** 23:20:50.0±2.1, 15°30S×72°86W, h96km±19km, mb3.8/11, mb1 4.0/15, mb1mx3.9/30, mbtmp4.3/15, MS3.0/2, Ms1 3.0/2, ms1mx2.6/61, Error ellipse: s-maj=18.9km s-min=14.7km az=70.0*
ISC 20 23:20:50.1±0.4, 15°34S±0°06×72°96W±0°07, h102km, n94, σ1§65/98, mb4.2/17, 2C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.92**	**141**		**Pn**	**23 21 49.0**	**+0.8**
PB18	**Visviri**	**4.01**	**124**	*eP*	**Pn**	**23 21 53.8**	**+3.7**
PB12	**IPOC Station P**	**4.11**	**143**⇑	*iP*	**Pn**	**23 21 50.4**	**-0.6**
PB12				*i* S	**Sn**	**23 22 35.5**	**-2.7**
PB12	**IPOC Station P**	**4.11**	**143**	Pn	**Pn**	**23 21 50.6**	**-0.4**
PB16	**IPOC Station P**	**4.45**	**133**⇑	*iP*	**Pn**	**23 21 57.4**	**+1.4**
PB16				*i* S	**Sn**	**23 22 47.0**	**+0.1**
PB16	**IPOC Station P**	**4.45**	**133**	Pn	**Pn**	**23 21 57.4**	**+1.4**
LPAZ	**La Paz**	**4.74**	**102**	P	**Pn**	**23 22 02.4**	**+2.5**
	5.4nm,0.3s,baz=288,slow=12,SNR=66						
LPAZ				LR	LR	23 23 44.3	
	comp=Z,141nm,19.1s,baz=256,slow=37						
LPAZ	**La Paz**	**4.74**	**102**	Pn	**Pn**	**23 22 02.6**	**+2.7**
NNA	**Nana**	**5.04**	**311**	P	**Pn**	**23 22 03.7**	**+0.2**
	9.9nm,0.3s,baz=152,slow=14,SNR=14						
NNA				S	**Sn**	**23 22 55.4**	**-5.1**
	8.9nm,0.3s,baz=153,slow=11,SNR=4.3						
NNA	**Nana**	**5.04**	**311**	Pn	**Pn**	**23 22 03.3**	**-0.2**
PB11	**IPOC Station P**	**5.41**	**145**		**Pn**	**23 22 07.5**	**-1.1**
TA02	**Huaiquique**	**5.59**	**152**		**Pn**	**23 22 10.0**	**-0.9**
GO01	**Chusmiza**	**5.60**	**141**	Pn	**Pn**	**23 22 11.6**	**+0.1**
TA01	**Diego Aracena**	**5.83**	**153**	Pn	**Pn**	**23 22 13.2**	**-1.0**
PB08	**IPOC Station P**	**5.99**	**143**		**Pn**	**23 22 16.2**	**-0.5**
PATCX	**Punta Patache**	**6.07**	**154**		**Pn**	**23 22 16.2**	**-1.3**
PB01	**IPOC Station P**	**6.56**	**150**		**Pn**	**23 22 22.8**	**-1.3**
PB07	**IPOC Station P**	**6.99**	**156**		**Pn**	**23 22 28.4**	**-1.6**
PB09	**IPOC Station P**	**7.32**	**152**		**Pn**	**23 22 33.8**	**-0.8**
PB04	**IPOC Station P**	**7.45**	**160**		**Pn**	**23 22 34.4**	**-1.9**
CZSB	**Cruzeiro do Su**	**7.57**	**2**	Pn	**Pn**	**23 22 36.7**	**-1.1**
PB06	**IPOC Station P**	**7.99**	**157**	Pn	**Pn**	**23 22 42.1**	**-1.6**
LVC	**Limon Verde**	**8.18**	**153**	P	**Pn**	**23 22 46.0**	**-0.4**
	5.4nm,0.3s,baz=10,slow=8.0,SNR=50						
LVC				S	**Sn**	**23 24 13.3**	**-4.1**
	4.6nm,0.3s,baz=101,slow=22,SNR=8.2						
LVC	**Limon Verde**	**8.18**	**153**	*eP*	**Pn**	**23 22 46.2**	**-0.3**
LVC	**Limon Verde**	**8.18**	**153**	Pn	**Pn**	**23 22 45.9**	**-0.6**
PB10	**IPOC Station P**	**8.44**	**165**	Pn	**Pn**	**23 22 47.2**	**-2.4**
PB15	**IPOC Station P**	**8.49**	**158**		**Pn**	**23 22 48.7**	**-1.8**
ETMB	**Extrema**	**8.57**	**51**	Pn	**Pn**	**23 22 50.3**	**-1.1**
PB14	**IPOC Station P**	**9.54**	**166**	Pn	**Pn**	**23 23 02.6**	**-2.3**
SIV	**San Ignacio**	**11.46**	**95**	P	**Pn**	**23 23 28.6**	**-2.2**
	1.8nm,0.3s,baz=266,slow=13,SNR=28						
VILB	**Vilhena**	**12.60**	**81**	*eP*	**Pn**	**23 23 42.5**	**-3.2**
VILB	**Vilhena**	**12.60**	**81**	Pn	**Pn**	**23 23 42.6**	**-3.2**
PTLB	**Pontes e Lacer**	**13.33**	**92**	*eP*	**Pn**	**23 23 52.2**	**-3.1**
PTLB	**Pontes e Lacer**	**13.33**	**92**	Pn	**Pn**	**23 23 53.8**	**-1.6**
SALV	**Santo Antonio**	**16.64**	**94**	*eP*	**Pn**	**23 24 36.3**	**-1.1**
MACA	**Manacapuru-AM**	**17.11**	**46**	Pn	**Pn**	**23 24 41.1**	**-2.0**
AQDB	**Aquidauana**	**17.19**	**110**	*eP*	**Pn**	**23 24 43.7**	**-0.4**
AQDB	**Aquidauana**	**17.19**	**110**		**Pn**	**23 24 42.9**	**-1.2**
AQDB				IAmb	IAmb	23 24 44.4	
	comp=Z,15nm,1.1s						
CLDB	**Colider**	**17.29**	**77**	*eP*	**Pn**	**23 24 41.1**	**-4.2**
MT02	**Curacav**	**17.91**	**175**	P	**P**	**23 24 52.3**	**+0.4**
MT09	**Talagante**	**18.44**	**175**	P	**P**	**23 24 58.6**	**+0.8**
NPGB	**Novo Progresso**	**19.12**	**66**	*eP*	**P**	**23 25 03.9**	**-1.4**
PTGA	**Pitinga**	**19.37**	**43**	P	**P**	**23 25 08.0**	**0.0**
	comp=Z,2.7nm,0.3s,baz=327,slow=22,SNR=55						
PTGA				LR	LR	23 32 50.9	
	comp=Z,44nm,18.7s,baz=249,slow=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRTR				*e*Sg	**Sn**	**23 31 41.2**	**-2.0**
STDR	**Stavd-Durt**	**0.60**	**267**	*e*Pg	**Pg**	**23 31 32.1**	**0.0**
STDR				*e*Sg	**Sb**	**23 31 41.3**	**+0.2**
KORR	**Kora**	**0.67**	**242**	*e*Pg	**Pb**	**23 31 33.9**	**-0.1**
KORR				*e*Sg	**Sb**	**23 31 43.6**	**+0.3**
GROC	**Groznyy**	**0.70**	**106**	*e*Pg	**Pn**	**23 31 35.1**	**-0.8**
GROC				*e*Sg	**Sn**	**23 31 46.3**	**-0.3**
LACR	**Lac**	**0.72**	**217**	*e*Pg	**Pg**	**23 31 34.0**	**-0.3**
LACR				*e*Sg	**Sb**	**23 31 44.5**	**-0.1**
LSNR	**Lesken**	**0.78**	**261**	*e*Pg	**Pb**	**23 31 36.0**	**+0.1**
LSNR				*e*Sg	**Sn**	**23 31 47.8**	**-1.0**
PNSH	**Pansheti**	**0.79**	**194**	P	**Pg**	**23 31 35.0**	**-0.7**
PNSH				S	**Sn**	**23 31 48.9**	**-0.4**
NCK	**Nalchik**	**0.94**	**276**	*e*Pg	**Pb**	**23 31 38.7**	**+0.1**
NCK				*i* Sg	**Sn**	**23 31 52.4**	**-0.4**
ZEI	**Tsey**	**0.94**	**230**	*e*Pg	**Pg**	**23 31 37.8**	**-0.9**
ZEI				*e*Sg	**Sb**	**23 31 51.4**	**+0.1**
GUDG	**Gudauri**	**0.98**	**198**	P	**Pg**	**23 31 38.4**	**-0.9**
DVE	**Vedeno**	**1.01**	**116**	*e*Pg	**Pn**	**23 31 41.0**	**+0.7**
DVE				*e*Sg	**Sn**	**23 31 56.7**	**+2.1**
DIGR	**Digorskoe uzhe**	**1.08**	**243**	*e*Pg	**Pg**	**23 31 39.8**	**-1.4**
DIGR				*e*Sg	**Sb**	**23 31 55.7**	**+0.6**
BTLR	**Botlikh**	**1.23**	**126**	*e*Pg	**Pn**	**23 31 43.0**	**-0.3**
BTLR				*e*Sg	**Sn**	**23 32 01.6**	**+1.7**
DLMR	**Dylym**	**1.32**	**104**	*e*Pg	**Pg**	**23 31 46.1**	**+0.4**
DLMR				*e*Sg	**Sg**	**23 32 04.9**	**+2.1**
ONI	**Oni**	**1.33**	**233**	P	**Pn**	**23 31 44.4**	**-0.3**
ONI				S	**Sg**	**23 32 02.9**	**-0.2**
DBC	**Dubki**	**1.48**	**104**	*i* Pg	**Pb**	**23 31 47.3**	**-0.4**
DBC				*e*Sg	**Sg**	**23 32 08.8**	**+0.9**
KBZ	**Khabaz**	**1.48**	**283**	*e*Pg	**Pn**	**23 31 46.2**	**-0.5**
KBZ				*e*Sg	**Sb**	**23 32 06.7**	**+0.3**
UNCR	**Uncukul**	**1.56**	**115**	*e*Pg	**Pn**	**23 31 48.2**	**+0.3**
UNCR				*e*Sg	**Sg**	**23 32 10.3**	**-0.3**
NEY	**Neytrino**	**1.58**	**265**	*e*Pg	**Pn**	**23 31 47.6**	**-0.7**
NEY				*e*Sg	**Sn**	**23 32 08.7**	**-0.1**
KRNR	**Karanay**	**1.59**	**110**	*i* Pg	**Pb**	**23 31 49.5**	**-0.2**
KRNR				*e*Sg	**Sg**	**23 32 11.5**	**0.0**
SHA1	**Shidzhatmaz**	**1.65**	**282**	*e*Pg	**Pn**	**23 31 49.4**	**+0.1**
SHA1				*e*Sg	**Sb**	**23 32 11.4**	**-0.2**
KIV	**Kislovodsk**	**1.69**	**290**	*e*Pg	**Pn**	**23 31 50.1**	**+0.4**
KIV				*e*Sg	**Sb**	**23 32 12.7**	**+0.2**
BUJR	**Buynaksk**	**1.73**	**109**	*e*Pg	**Pg**	**23 31 52.6**	**-1.0**
BUJR				*e*Sg	**Sg**	**23 32 16.6**	**+0.6**
ARKR	**Arakani**	**1.74**	**117**	*e*Pg	**Pb**	**23 31 52.0**	**-0.3**
ARKR				*e*Sg	**Sg**	**23 32 15.7**	**-0.8**
GNBR	**Gunib**	**1.83**	**123**	*e*Pg	**Pn**	**23 31 52.5**	**+0.8**
GNBR				*e*Sg	**Sb**	**23 32 17.0**	**+0.2**
LGD	**Lagodekhi**	**1.86**	**147**	P	**Pb**	**23 31 53.5**	**-0.7**
BRNG	**Burnasheti**	**1.94**	**204**	P	**Pn**	**23 31 53.9**	**+0.6**
TRLG	**Trialeti**	**1.95**	**197**	P	**Pn**	**23 31 53.8**	**+0.5**
ALER	**Alexandrovskoy**	**1.96**	**314**	*i* Pg	**Pn**	**23 31 53.3**	**-0.2**
ALER				*i* Sg	**Sb**	**23 32 18.8**	**-1.6**
KMKR	**Kumukh**	**2.07**	**127**	*e*Pg	**Pb**	**23 31 56.8**	**-1.1**
KMKR				*e*Sg	**Sb**	**23 32 22.5**	**-1.1**
GOF	**Gofitskoye**	**2.12**	**322**	*e*Pg	**Pg**	**23 32 01.0**	**0.0**
GOF				*e*Sg	**Sg**	**23 32 27.7**	**-0.7**
DDFL	**Dedoflistskaro**	**2.16**	**154**	P	**Pb**	**23 32 00.2**	**+0.8**
SGKR	**Sergokala**	**2.25**	**114**	*e*Pn	**Pb**	**23 31 59.3**	**-1.5**
SGKR				*e*Sn	**Sb**	**23 32 28.0**	**-0.5**
AHMR	**Akhmetovskaya**	**2.88**	**287**	*e*Pn	**Pn**	**23 32 07.0**	**+1.0**
AHMR				*i* Sn	**Sn**	**23 32 41.7**	**+1.1**
GUZR	**Guzeripl'**	**3.50**	**281**	*e*Pn	**Pb**	**23 32 24.2**	**+1.9**
GUZR				*i* Sn	**Sb**	**23 33 06.0**	**+1.1**

*IDC **21** 00:42:10.8±1.3, 15°.36S×175°.08W, h262km±15km, mb3.2/7, mb1 3.6/9, mb1mx3.5/34, mbtmp4.0/9, Error ellipse: s-maj=37.7km s-min=11.8km az=148.0*

ISC 21 00:42:10.5±0.6, 15°.4S±0°.1×175°.1W±0°.1, h262km, n15, σ0968/16, mb3.6/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.53**	**65**	P	**Pn**	**00 43 09.4**	**-0.1**
	14nm,0.3s,baz=267,slow=17,SNR=5.4						
AFI				S	**S**	**00 43 57.0**	**+0.5**
	20nm,0.3s,baz=217,slow=20,SNR=2.4						
RAO	**Raoul Island**	**14.03**	**190**	P	**Pn**	**00 45 17.9**	**-0.6**
	728nm,0.3s,baz=108,slow=19,SNR=3.0						
RAR	**Rarotonga**	**15.64**	**114**	P	**Pn**	**00 45 38.4**	**+0.6**
	3.6nm,0.3s,baz=233,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**42.63**	**240**	P	**P**	**00 49 41.2**	**-0.4**
	1.9nm,0.8s,baz=104,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**48.26**	**257**	P	**P**	**00 50 25.6**	**-0.2**
	3.3nm,0.7s,baz=90,slow=7.0,SNR=78						
ASAR	**Alice Springs**	**48.57**	**252**	P	**P**	**00 50 28.1**	**0.0**
	18nm,0.6s,baz=86,slow=8.0,SNR=319						
FITZ	**Fitzroy Crossi**	**56.62**	**258**	P	**P**	**00 51 28.7**	**+1.8**
	baz=112,slow=12						
NVAR	**Mina Array Bea**	**75.42**	**43**	P	**P**	**00 53 26.7**	**+0.6**
	1.1nm,0.7s,baz=226,slow=9.1,SNR=11						
TXAR	**Lajitas Array**	**81.97**	**57**	P	**P**	**00 54 01.7**	**+0.1**
	0.2nm,0.7s,baz=242,slow=3.8,SNR=2.8						
ILAR	**Eielson Array**	**82.77**	**12**	P	**P**	**00 54 04.2**	**-0.6**
	0.3nm,0.3s,baz=220,slow=5.3,SNR=11						
PDAR	**Pinedale Array**	**83.36**	**42**	P	**P**	**00 54 08.1**	**-0.6**
	0.8nm,0.6s,baz=231,slow=3.4,SNR=7.6						
YKA	**Yellowknife Ar**	**90.75**	**24**	P	**P**	**00 54 42.9**	**-0.5**
	0.3nm,0.8s,baz=242,slow=4.5,SNR=3.2						
ARCES	**ARCESS Array B**	**124.38**	**351**	PKP	**PKPdf**	**01 00 37.4**	**-0.3**
	10.0nm,1.3s,baz=15,slow=5.1,SNR=3.9						
BRTR	**Keskin Array B**	**145.12**	**320**	PKPbc	**PKPdf**	**01 01 16.9**	**-0.2**
	0.5nm,0.5s,baz=70,slow=2.5,SNR=5.0						
GERES	**GERESS Array B**	**145.88**	**350**	PKPbc	**PKPbc**	**01 01 19.3**	**0.0**
	0.1nm,0.3s,baz=45,slow=3.1,SNR=2.8						

*HEL **21** 00:52:13.9, 67°.82N×20°.17E, h0km, ML1.7, Explosion*

UPP 21 00:52:13.8±0.1, 67°.84N×20°.20E, h0km, ML2.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**24**	P	Pg	00 52 16.5	+0.2
KUA				S	Sg	00 52 18.3	+0.4
KUA	**Kurravaara**	**0.13**	**24**	*i* P	Pg	00 52 16.5	+0.2
KUA				*i* S	Sg	00 52 18.3	+0.4
KOVU	**Salmi**	**0.39**	**358**	P	Pg	00 52 21.3	+0.1
KOVU				S	Sg	00 52 26.5	+0.3
KOVU	**Salmi**	**0.39**	**358**	*i* P	Pg	00 52 21.3	+0.1
KOVU				*i* S	Sg	00 52 26.5	+0.3
NIKU	**Nikkaluokta**	**0.44**	**274**	P	Pg	00 52 22.2	0.0
NIKU				S	Sg	00 52 28.4	+0.4
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	00 52 22.2	0.0
NIKU				*i* S	Sg	00 52 28.4	+0.4
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 52 27.1	-0.2
LANU	**Lannavaara**	**0.71**	**72**	*e*P	Pg	00 52 27.0	-0.4
LANU				*e*S	Sg	00 52 36.7	+0.3
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 52 28.6	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 52 28.6	-0.2
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pb	00 52 37.0	-0.2
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PB	Pg	00 52 36.8	+0.2
	baz=192						
KIF				MSG		00 52 51.8	
	comp=Z,6.7nm,0.2s						
KIF				*e*SB	Sg	00 52 52.6	+0.5
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	00 52 39.0	-1.3
	baz=304						
HEF	**Hetta**	**1.42**	**65**	*e*P	Pn	00 52 40.0	-0.7
HEF	**Hetta**	**1.42**	**65**	*e*PG	Pn	00 52 39.7	-1.0
	baz=244						
HEF				MSG		00 52 57.2	
	comp=Z,6.5nm,0.2s						
HEF				*e*SN	Sn	00 53 03.0	+2.9
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	00 52 41.3	-0.7
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	Pn	00 52 41.6	-0.4
ERTU				*e*SN	Sn	00 53 04.1	+1.8
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	00 52 55.8	+1.6
TOF				MSG		00 53 24.6	
	comp=Z,2.2nm,0.2s						
TOF				*e*SG	Sb	00 53 28.6	+0.8
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	00 52 57.0	-1.7
	baz=283						
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	00 52 58.7	+2.0
RNF				*e*SG	Sb	00 53 32.7	-0.2
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*PB	Pn	00 52 58.2	+1.4
ARA0				*e*SB	Sb	00 53 31.8	-1.3
OUL	**Oulu**	**3.59**	**138**	*e*PG	Pb	00 53 18.7	+0.8
MSF	**Maaselka**	**3.99**	**115**	*e*PG	Pb	00 53 24.6	-0.2
KU6	**Riekki**	**4.22**	**111**	*e*PG	Pb	00 53 29.3	+0.4
	baz=295						

UPP 21 00:52:21.1±0.3, 67°.82N×20°.24E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**16**	P	Pg	00 52 23.9	+0.2
KUA				S	Sg	00 52 25.8	+0.3
KOVU	**Salmi**	**0.40**	**356**	S	Sg	00 52 34.4	+0.4
NIKU	**Nikkaluokta**	**0.46**	**276**	S	Sg	00 52 36.0	+0.2
LANU	**Lannavaara**	**0.70**	**70**	S	Sg	00 52 43.5	0.0

*DJA **21** 00:52:29.4±1.2, 4°.N±5°.×12°.8E±°, h34km±28km, M4.6/14, mB5.4/5, mb4.5/6, MLv4.5/14, Mw(mB)4.8/5*

*NEIC **21** 00:52:30.2±1.7, 4°.01N±0°.06×127°.9E±0°.1, h61km±9km, mb4.3/17, Error ellipse: s-maj=16.5km s-min=6.0km az=64.0*

*IDC **21** 00:52:31.9±4.3, 3°.95N×127°.93E, h83km±44km, mb3.6/11, mb1 3.7/12, mb1mx3.6/33, mbtmp3.9/12, ML4.2/1, MS3.2/2, Ms1 3.3/2, ms1mx2.5/58, Error ellipse: s-maj=55.4km s-min=14.6km az=79.0*

ISC 21 00:52:30.7±0.5, 3°.97N±0°.05×127°.86E±0°.07, h71km, n50, σ0997/52, mb4.1/18, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.35**	**263**	P	**Pn**	**00 53 06.6**	**-0.5**
SGSI				S	**Sn**	**00 53 34.7**	**-0.2**
TNTI	**Ternate**	**3.22**	**189**	Pn	**Pn**	**00 53 17.1**	**-1.9**
TNTI				Sn	**Sn**	**00 53 58.1**	**+2.0**
DAV	**Davao City (W)**	**3.83**	**324**	S	**Sn**	**00 54 14.3**	**+3.3**
	94nm,0.3s,baz=72,slow=20,SNR=1.9						
KCP	**Kidapawan**	**4.09**	**318**	‖*i* P	**Pn**	**00 53 30.8**	**-0.1**
KCP				*i* S	Sn	00 54 30.1	+13
LBMI	**Labuha**	**4.59**	**185**	P	**Pn**	**00 53 39.0**	**+1.3**
KMSI	**Cibinong**	**5.14**	**229**	P	**Pn**	**00 53 45.9**	**+0.7**
GTOI	**Gorontalo**	**5.87**	**236**	P	**Pn**	**00 53 56.4**	**+1.2**
	0.1nm19nm,1.1s						
SWI	**Sorong**	**5.88**	**145**	P	**Pn**	**00 53 55.9**	**+0.6**
	0.4nm27nm,0.5s						
SIJI	**Sorong**	**5.89**	**145**	P	**Pn**	**00 53 56.6**	**+1.1**
	6.3nm,0.3s,baz=336,slow=20,SNR=15						
SIJI				S	**Sn**	**00 55 00.9**	**-0.7**
	3.7nm,0.3s,baz=24,slow=20,SNR=2.2						
SANI	**Sanana**	**6.27**	**197**	P	**Pn**	**00 54 00.3**	**-0.3**
	0.2nm2μm24nm,0.7s						
MRSI	**Marisa**	**6.86**	**240**	P	**Pn**	**00 54 09.6**	**+0.9**
	0.6nm2μm174nm,0.6s						
MSAI	**Masohi**	**7.35**	**172**	P	**Pn**	**00 54 13.9**	**-1.5**
TOLI2	**Tolitoli**	**7.62**	**248**	Pn	**Pn**	**00 54 18.5**	**-0.7**
FAKI	**Fak Fak**	**8.13**	**147**	P	**Pn**	**00 54 27.2**	**+1.1**
	21nm,0.5s						
FAKI	**Fak Fak**	**8.13**	**147**	Pn	**Pn**	**00 54 27.0**	**+1.0**
MYLDM	**Lahad Datu**	**9.41**	**278**	Pn	**Pn**	**00 54 44.5**	**+0.9**
KNRA	**Kununurra**	**19.54**	**177**	P	**P**	**00 56 53.5**	**+0.8**
KNRA				IAmb	IAmb	00 57 16.9	
	comp=Z,14nm,1.2s						
TPUB	**Ta-pu**	**20.45**	**341**	P	**P**	**00 57 01.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**22.04**	**186**	P	**P**	**00 57 19.4**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=351,slow=10,SNR=2.3						
WB0	**Warramunga Arr**	**24.45**	**165**	P	**P**	**00 57 42.9**	**-0.2**
WB0				IAmb	IAmb	00 58 01.0	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**24.60**	**165**	P	**P**	**00 57 44.2**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=344,slow=10,SNR=45						
WRA	**Warramunga Arr**	**24.60**	**165**	P	**P**	**00 57 43.8**	**-0.7**
ASAR	**Alice Springs**	**28.10**	**168**	P	**P**	**00 58 15.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=4.8,slow=9.5,SNR=4.8						
ASAR	**Alice Springs**	**28.10**	**168**	P	**P**	**00 58 15.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.73**	**299**	LR	LR	01 14 42.1	
	comp=Z,21nm,18.0s,baz=195,slow=42						
KSRS	**Korea Array**	**33.32**	**0**	P	**P**	**00 59 01.8**	**0.0**
	comp=Z,2.0nm,0.6s,baz=180,slow=9.5,SNR=6.4						
BBOO	**Buckleboo**	**37.40**	**169**	P	**P**	**00 59 36.2**	**-0.6**
STKA	**Stephens Creek**	**37.97**	**161**	P	**P**	**00 59 42.0**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=341,slow=7.3,SNR=9.2						
STKA	**Stephens Creek**	**37.97**	**161**	P	**P**	**00 59 41.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**40.23**	**5**	P	**P**	**01 00 01.3**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=200,slow=10,SNR=2.6						
ULN	**Ulaanbaatar**	**47.25**	**341**	P	**P**	**01 00 57.2**	**+0.4**
ULN				IAmb	IAmb	01 00 58.5	
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**47.44**	**340**	P	**P**	**01 00 58.6**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=152,slow=7.2,SNR=4.1						
SONM	**Songino Array**	**47.44**	**340**	P	**P**	**01 00 58.7**	**+0.4**
MK31	**Makanchi Array**	**58.01**	**325**	P	**P**	**01 02 16.7**	**+0.4**
MK31				IAmb	IAmb	01 02 18.3	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**58.01**	**325**	P	**P**	**01 02 17.0**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=114,slow=7.8,SNR=50						
MKAR	**Makanchi Array**	**58.01**	**325**	P	**P**	**01 02 16.6**	**+0.4**
MAKZ	**Makanchi**	**58.20**	**325**	P	**P**	**01 02 15.9**	**-1.6**
MAKZ				IAmb	IAmb	01 02 20.1	
	comp=Z,3.5nm,0.9s						
KDJ	**Kajisay**	**58.92**	**318**	P	**P**	**01 02 22.8**	**-0.1**
ZAA0	**Zalesovo Array**	**60.89**	**332**	P	**P**	**01 02 34.9**	**-1.0**
ZAA0				IAmb	IAmb	01 03 03.2	
	comp=Z,5.5nm,1.4s						
ZALV	**Zalesovo Beam**	**60.89**	**332**	P	**P**	**01 02 35.1**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=119,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**60.89**	**332**	P	**P**	**01 02 35.4**	**-0.5**
KBL	**Kabul**	**62.28**	**307**	P	**P**	**01 02 45.6**	**-0.3**
KBL				IAmb	IAmb	01 02 49.9	
	comp=Z,1.4nm,0.6s						
KKAR	**Karatay Array**	**63.83**	**317**	P	**P**	**01 02 55.8**	**0.0**
TIXI	**Tiksi**	**67.59**	**0**	P	**P**	**01 03 18.7**	**-0.7**
TIXI				IAmb	IAmb	01 03 19.3	
	comp=Z,3.1nm,0.4s						
NRIK	**Noril'sk**	**70.47**	**346**	P	**P**	**01 03 37.5**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=133,slow=4.3,SNR=3.6						
ABKAR	**Akbulak array**	**72.68**	**321**	P	**P**	**01 03 50.7**	**-0.2**
ABKAR	**Akbulak array**	**72.68**	**321**	P	**P**	**01 03 51.0**	**0.0**
ABKAR				IAmb	IAmb	01 04 02.7	
	comp=Z,1.1nm,0.8s						
PPLA	**Purkeypile**	**81.90**	**27**	P	**P**	**01 04 42.9**	**+0.5**
BMAR	**Burnt Mountain**	**85.42**	**23**	P	**P**	**01 05 00.7**	**+0.5**
ARCES	**ARCESS Array B**	**90.61**	**340**	P	**P**	**01 05 23.1**	**-1.8**
	comp=Z,3.0nm,0.9s,baz=15,slow=5.0,SNR=1.8						
ARCES				LR	LR	01 53 24.0	
	comp=Z,18nm,19.0s,baz=11,slow=40						

*IDC **21** 01:05:13.4±0.6, 40°.60N×144°.88E, h0km, mb4.3/21, mb1 4.5/25, mb1mx4.2/57, mbtmp4.2/25, ML3.2/4, MS3.5/14, Ms1 3.5/14, ms1mx3.0/84, Error ellipse: s-maj=15.4km s-min=14.2km az=118.0*

*NIED **21** 01:05:14.8, 40°.64N×145°.01E, h67km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.74; Mθθ=0.03; Mφφ=1.76; Mrθ=0.26; Mφθ=0.63; Mφr=-0.16; Fault plane solution: M0=1.88000×10^15 NP1:φs=7.00000°, δ=47.00000°, λ=-105.00000°. NP2:φs=208.00000°, δ=45.00000°, λ=-75.00000°.*

*JMA **21** 01:05:14.7±0.2, 40°.64N×145°.00E, h67km±4km, M4.4*

*BJI **21** 01:05:15.2±0.0, 40°.53N×144°.53E, h8km, mb4.2/22, mB4.8/9*

*NEIC **21** 01:05:18.4±1.4, 40°.61N±0°.06×144°.6E±0°.1, h31km±5km, mb4.6/53, Error ellipse: s-maj=12.6km s-min=8.4km az=96.0*

ISC 21 01:05:16.3±4.3, 40°.70N±0°.04×144°.82E±0°.05, h16km±26km, n153, σ0§14/153, mb4.6/59, MS3.6/10, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.81**	**317**		**Pn**	**01 05 46.5**	**-0.3**
ERM				Sn	**Sb**	**01 06 09.5**	**-2.1**
JEM	**Erimo**	**1.82**	**317**	P	**Pn**	**01 05 46.4**	**-0.4**
JEM				*e*S	**Sn**	**01 06 09.1**	**-0.4**
JEM	**Erimo**	**1.82**	**317**	Pn	**Pn**	**01 05 46.9**	**+0.1**
JEM				Sn	**Sn**	**01 06 09.3**	**-0.2**
JTHR	**Tokachihiroo**	**1.96**	**325**	P	**Pn**	**01 05 48.5**	**-0.3**
JTHR				*e*S	**Sn**	**01 06 11.6**	**-1.4**
JCH	**Churui**	**2.21**	**331**	P	**Pn**	**01 05 51.6**	**-0.6**
JCH				*e*S	**Sn**	**01 06 17.4**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.21**	**316**	P	**Pn**	**01 05 52.6**	**+0.3**
JNBK				*e*S	**Sb**	**01 06 20.3**	**-2.8**
JAK	**Akkeshi**	**2.30**	**358**	P	**Pn**	**01 05 52.0**	**-1.5**
JOB	**Onbets**	**2.33**	**342**	P	**Pn**	**01 05 53.2**	**-0.6**
JKHN	**Kushirohamanak**	**2.40**	**6**	P	**Pn**	**01 05 53.4**	**-1.5**
JANG	**Nango**	**2.54**	**264**	P	**Pn**	**01 05 55.5**	**-1.2**
JAR	**Ashorobuto**	**2.71**	**344**	P	**Pn**	**01 05 58.3**	**-0.9**
JAR				*e*S	**Sn**	**01 06 29.6**	**-2.1**
NEM2	**Nemuro 2**	**2.76**	**14**	P	**Pn**	**01 05 57.9**	**-1.8**
NEM2				*e*S	**Sn**	**01 06 27.7**	**-5.0**
JTM	**Tenmabayashi**	**2.85**	**273**		**Pn**	**01 06 01.0**	**0.0**
JTM				Sn	**Sn**	**01 06 32.1**	**-2.9**
JOT	**Ohata**	**2.93**	**285**	P	**Pn**	**01 06 01.9**	**-0.2**
JOT				*e*S	**Sn**	**01 06 35.0**	**-2.0**
JOM	**Ohasama**	**2.96**	**247**	P	**Pn**	**01 06 01.9**	**-0.7**
JOM				*e*S	**Sn**	**01 06 35.2**	**-2.7**
JKB	**Kayabe**	**3.09**	**294**	P	**Pn**	**01 06 04.3**	**0.0**
JMK	**Ichinoseki**	**3.27**	**239**	P	**Pn**	**01 06 05.7**	**-1.1**
JMK				*e*S	**Sn**	**01 06 41.6**	**-3.8**
JEW	**Eniwo**	**3.31**	**312**		**Pn**	**01 06 08.6**	**+1.3**
JKA	**Kamikawa-asahi**	**3.79**	**335**		**Pn**	**01 06 13.9**	**-0.1**
ASAJ	**Asahikawa**	**3.79**	**335**	Pn	**Pn**	**01 06 14.4**	**+0.4**
	3.4nm,0.3s,baz=229,slow=14,SNR=11						
ASAJ				Sn	**Sn**	**01 06 57.2**	**-1.1**
	3.5nm,0.3s,baz=124,slow=20,SNR=2.7						
JHR	**Hokuryu**	**3.81**	**324**	P	**Pn**	**01 06 15.7**	**+1.4**
JYK	**Kaneyama**	**3.86**	**244**	P	**Pn**	**01 06 14.4**	**-0.6**
JYK				*e*S	**Sn**	**01 06 57.0**	**-3.0**
JMM	**Marumori**	**4.21**	**229**		**Pn**	**01 06 18.4**	**-1.3**
JSD	**Sado**	**5.73**	**245**	Pn	**Pn**	**01 06 39.5**	**-1.1**
MJAR	**Matsushiro Arr**	**6.63**	**233**	Pn	**Pn**	**01 06 52.5**	**-0.5**
	0.3nm,0.3s,baz=54,slow=11,SNR=6.5						
MJAR	**Matsushiro Arr**	**6.63**	**233**		**Pn**	**01 06 51.6**	**-1.4**
MJB9	**Matsu-Tunnel**	**6.63**	**233**		**Pn**	**01 06 52.6**	**-0.4**
MAJO	**Matsushiro**	**6.63**	**233**	Pn	**Pn**	**01 06 53.0**	**0.0**
MAT	**Matsushiro**	**6.63**	**233**	P	**Pn**	**01 06 52.5**	**-0.5**
MAT				*e*S	**Sn**	**01 08 10.0**	**+1.8**
JGF	**Kuroka**	**7.77**	**231**	Pn	**Pn**	**01 07 09.3**	**+0.6**
USA0B	**Ussuriysk Arra**	**10.11**	**294**		**Pn**	**01 07 41.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**10.11**	**294**	Pn	**Pn**	**01 07 42.2**	**+1.5**
	baz=106,slow=13,SNR=26						
USRK				LR	LR	01 12 29.1	
	comp=Z,124nm,18.0s,baz=135,slow=43						
USRK	**Ussuriysk Ar.**	**10.11**	**294**		**Pn**	**01 07 41.9**	**+1.3**
KLR	**Kul'dur**	**12.57**	**317**	Pn	**Pn**	**01 08 14.6**	**+0.3**
	0.1nm,0.3s,baz=112,slow=13,SNR=3.7						
KLR				LR	LR	01 13 29.9	
	comp=Z,85nm,18.6s,baz=118,slow=39						
KSRS	**Korea Array**	**13.52**	**262**	LR	LR	01 13 49.5	
	comp=Z,162nm,18.4s,baz=85,slow=38						
BNX	**BinXian**	**13.65**	**297**	⇑P	**Pn**	**01 08 28.5**	**-0.6**
BNX				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,17nm,3.7s						
PETK	**Petropavlovsk-**	**15.19**	**31**	LR	LR	01 14 22.3	
	comp=Z,69nm,18.4s,baz=194,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.15**	**131**	T	T	01 40 32.3	
	baz=322,slow=74,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**28.16**	**131**	T	T	01 40 34.8	
	baz=322						
H11N3	**WAKE ISLAND Hy**	**28.17**	**131**	T	T	01 40 35.3	
	baz=322,slow=74,SNR=2.4						
SONM	**Songino Array**	**28.20**	**298**	P	**P**	**01 11 09.8**	**+1.7**
	0.9nm,0.7s,baz=95,slow=8.7,SNR=4.4						
SONM				LR	LR	01 22 36.1	
	comp=Z,88nm,20.2s,baz=83,slow=37						
H11S1	**WAKE ISLAND Hy**	**29.02**	**133**	T	T	01 41 39.7	
	baz=328,SNR=2.7				

RES IAmb IAmb 01 15 11.4
comp=Z,7.9nm,0.9s
YKA Yellowknife Ar 59.31 32 P P 01 15 16.5 -0.3
comp=Z,0.7nm,0.7s,baz=301,slow=6.7,SNR=10
YKA PcP **PcP 01 16 04.8 0.0**
comp=Z,0.9nm,0.8s,baz=299,slow=4.5,SNR=8.4
WB0 Warramunga Arr 60.93 191 P **P 01 15 27.3 -1.0**
WR0 Warramunga Arr 61.09 191 P **P 01 15 28.3 -1.2**
WRAB Tennant Creek 61.10 191 P **P 01 15 28.4 -1.2**
WB2 Warramunga Arr 61.11 191 P **P 01 15 28.4 -1.2**
WRA Warramunga Arr 61.11 191 P **P 01 15 28.1 -1.5**
comp=Z,19nm,0.9s,baz=9.1,slow=6.8,SNR=113
WRA Warramunga Arr 61.11 191 P **P 01 15 27.5 -2.1**
ARCES ARCESS Array B 61.50 340 LR LR 01 44 58.8
comp=Z,34nm,20.4s,baz=0.5,slow=39
KLMR Klimovskoe 62.08 328 *eP* **P 01 15 35.5 -0.3**
KLMR AMP 01 15 37.5
comp=Z,21nm,1.5s
GEYT Alibeck 64.39 299 LR LR 01 47 35.7
comp=Z,41nm,18.0s,baz=356,slow=39
AS31 Alice Springs 64.83 191 P **P 01 15 53.6 -0.7**
ASAR Alice Springs 64.83 191 P **P 01 15 53.4 -0.9**
comp=Z,3.3nm,0.7s,baz=7.4,slow=5.5,SNR=36
ASAR Alice Springs 64.83 191 P **P 01 15 53.8 -0.6**
FINES FINESS Array B 66.80 333 P **P 01 16 06.8 +0.2**
comp=Z,3.0nm,0.6s,baz=52,slow=7.4,SNR=19
KBZ Khabaz 70.51 311 P **P 01 16 31.4 +1.3**
comp=Z,2.9nm,0.8s,baz=56,slow=6.8,SNR=7.8
NVAR Mina Array Bea 70.70 56 P **P 01 16 32.1 +0.4**
comp=Z,2.2nm,0.8s,baz=291,slow=6.4,SNR=15
GNI Garni 71.63 307 LR LR 01 54 14.8
comp=Z,30nm,18.1s,baz=98,slow=41
NB2 NORSAR Subarra 71.81 338 P **P 01 16 37.2 -0.5**
comp=Z,3.5nm,0.8s,baz=36,slow=6.2
NOA NORSAR Array B 71.81 338 P **P 01 16 37.0 -0.7**
comp=Z,2.3nm,0.7s,baz=37,slow=6.0,SNR=14
STKA Stephens Creek 72.27 183 P **P 01 16 40.3 -0.3**
comp=Z,1.8nm,0.7s,baz=355,slow=6.8,SNR=4.3
STKA Stephens Creek 72.27 183 P **P 01 16 39.9 -0.7**
FRB Frobisher Bay 72.58 15 P **P 01 16 41.5 -0.7**
comp=Z,3.6nm,0.8s,baz=317,slow=6.6,SNR=5.9
TPNV Topopah Spring 72.89 56 P **P 01 16 45.4 +0.6**
DUG Dugway, Tooele 72.98 51 P **P 01 16 45.5 +0.3**
AKASG Malin Array Be 73.00 323 P **P 01 16 44.8 -0.1**
comp=Z,3.9nm,0.6s,baz=44,slow=5.9,SNR=20
AKASG LR LR 01 53 11.7
comp=Z,44nm,18.8s,baz=258,slow=39
AKBB Malin Array Si 73.00 323 P **P 01 16 43.3 -1.6**
AKBB IAmb IAmb 01 16 45.6
comp=Z,4.8nm,0.8s
GWY Greenwater Val 73.10 57 P **P 01 16 46.2 +0.2**
GWY IAmb IAmb 01 16 47.1
comp=Z,5.8nm,0.8s
QSM Queen of Sheba 73.11 57 P **P 01 16 46.8 +0.9**
QSM IAmb IAmb 01 16 47.1
comp=Z,8.3nm,0.8s
PDAR Pinedale Array 73.23 48 P **P 01 16 46.5 -0.2**
comp=Z,1.5nm,0.9s,baz=278,slow=2.2,SNR=4.0
RDMU Red Mountain 74.64 50 P **P 01 16 55.3 +0.3**
RDMU IAmb IAmb 01 16 56.4
comp=Z,9.5nm,0.8s
P17A Butcher Ranch, 74.67 51 P **P 01 16 55.7 +0.5**
P17A IAmb IAmb 01 16 56.6
comp=Z,3.9nm,0.9s
PFO Pinyon Flats O 74.83 59 P **P 01 16 55.8 -0.4**
comp=Z,0.5nm,0.4s,baz=302,slow=5.8,SNR=4.0
BUR08 Bucovina Ar. S 77.03 323 P **P 01 17 08.7 +0.3**
BUR08 IAmb IAmb 01 17 09.8
comp=Z,3.1nm,0.7s
BURAR Bucovina Array 77.04 323 P **P 01 17 08.0 -0.5**
BURAR IAmb IAmb 01 17 10.2
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 78.37 313 P **P 01 17 16.5 +0.5**
comp=Z,0.8nm,0.8s,baz=98,slow=3.9,SNR=4.5
BRTR Keskin Array B 78.37 313 P **P 01 17 15.7 -0.4**
TUC Tucson 79.32 57 P **P 01 17 21.1 -0.2**
PRU Pruhonice 79.70 330 *eP* **P 01 17 23.7 +0.8**
ANMO Albuquerque 80.22 52 P **P 01 17 26.1 -0.2**
NKC Novy Kostel 80.28 331 *eP* **P 01 17 26.6 +0.5**
CKRC Cesky Krumlov 80.73 329 *eP* **P 01 17 28.2 -0.4**
CKRC *ex* x 01 17 39.4
KHC Kasperske Hory 80.76 330 *eP* **P 01 17 29.1 +0.3**
KHC *ex* x 01 17 40.8
KHC Kasperske Hory 80.76 330 P **P 01 17 29.1 +0.3**
KHC IAmb IAmb 01 17 30.4
comp=Z,5.6nm,0.9s
CONA Conrad Observa 80.84 328 *eP* **P 01 17 30.4 +1.1**
comp=Z,4.9nm,1.1s
319A Douglas 80.89 56 P **P 01 17 29.5 -0.4**
GERES GERESS Array B 80.95 330 P **P 01 17 30.0 +0.2**
comp=Z,1.3nm,0.7s,baz=44,slow=5.9,SNR=11
121A Cookes Peak, D 81.05 55 P **P 01 17 30.5 -0.3**
121A IAmb IAmb 01 17 32.6
comp=Z,6.0nm,0.8s
ARSA Arzberg 81.52 328 *eP* **P 01 17 33.8 +0.9**
comp=Z,1.5nm,0.7s
SOKA Soboth 82.18 328 *eP* **P 01 17 37.1 +0.7**
comp=Z,5.5nm,0.8s
OBKA Obir 82.51 328 *eP* **P 01 17 38.6 +0.4**
comp=Z,1.7nm,0.8s
KBA Koelnbreinsper 82.53 329 *eP* **P 01 17 39.6 +1.3**
comp=Z,5.8nm,0.7s
WTTA Wattenberg 83.04 330 *eP* **P 01 17 41.7 +0.7**
comp=Z,4.9nm,1.0s
MNTX Cornudas Mount 83.11 54 P **P 01 17 41.4 0.0**
MNTX IAmb IAmb 01 17 42.7
comp=Z,5.0nm,1.1s
MOTA Moosalm 83.17 330 *eP* **P 01 17 42.2 +0.6**
comp=Z,7.0nm,1.1s
RETA Reutte 83.18 331 *eP* **P 01 17 42.1 +0.5**
comp=Z,3.2nm,0.8s
FETA Feichten 83.58 330 *eP* **P 01 17 44.1 +0.4**
comp=Z,4.4nm,1.4s
DAVA Damuels 83.68 331 *eP* **P 01 17 44.6 +0.4**
comp=Z,4.2nm,0.9s
PPT Papeete 83.99 119 LR LR 01 51 15.1
comp=Z,58nm,20.5s,baz=12,slow=33
KBN Korca 84.41 321 P **P 01 17 47.3 -0.7**
TX31 Lajitas Ar. Si 85.81 55 P **P 01 17 55.6 +0.4**
TX32 Lajitas Array 85.81 55 P **P 01 17 55.6 +0.4**
TX32 IAmb IAmb 01 17 56.2
comp=Z,5.1nm,0.8s
TXAR Lajitas Array 85.81 55 P **P 01 17 55.5 +0.3**
comp=Z,3.4nm,0.6s,baz=296,slow=3.6,SNR=53
TXAR Lajitas Array 85.81 55 P **P 01 17 55.6 +0.4**
T42A Van Buren 87.22 42 P **P 01 18 01.6 -0.3**
PBMO Poplar Bluff 87.75 41 P **P 01 18 04.1 -0.3**
SNAA Sanae 145.02 197 PKPdf PKPbc 01 24 50.0 -0.9
VNA2 Neumayer--Watz 146.57 196 PKPdf **PKPdf 01 24 54.9 +0.8**
baz=128,slow=2.6
VNA3 Neumayer Olymp 146.78 195 PKPdf **PKPdf 01 24 55.0 +0.6**

*MAN **21** 01:12:09.7,7°.08N×123°.04E,1^{km},mb4.6,ML3.5,MS3.3*
*IDC **21** 01:12:12.9±2.4,6°.80N×122°.88E,h0^{km},mb3.4/3,*
mb1 3.6/3,mb1mx3.3/42,mbtmp3.4/3,MS3.0/2,Ms1 3.1/2,
ms1mx2.5/41,Error ellipse: s-maj=269.3km s-min=28.9km
az=63.0
ISC 21 01:12:11.8±1.9,**7°.23N**±0°.06×**123°.02E**±0°.05,**h17**km±16km,
n11,σ0°67/14,mb3.5/3,1C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.71**	**30**	↓*iP*	**Pb**	**01 12 25.8**	**-0.1**
PAGZ				*i*S	**Sg**	**01 12 35.9**	**+0.6**
ZCP	**Zamboanga City**	**0.99**	**253**	↓*iP*	**Pb**	**01 12 30.4**	**-0.1**
ZCP				*i*S	**Sb**	**01 12 43.0**	**-0.2**
CTBH	**Cotabato--PC H**	**1.21**	**90**	↑*iP*	**Pn**	**01 12 33.5**	**-0.6**
CTBH				*i*S	**Sb**	**01 12 50.3**	**+0.5**
DCPH	**Dipolog City**	**1.39**	**14**	↓*eP*	**Pb**	**01 12 37.7**	**+0.4**
DCPH				*e*S	**Sg**	**01 12 56.8**	**+0.2**
KCP	**Kidapawan**	**2.06**	**96**	↓*eP*	**Pn**	**01 12 45.2**	**-0.6**
KCP				*i*S	**Sg**	**01 13 18.1**	**-0.1**
TBP	**Tagbilaran**	**2.58**	**19**	*eP*	**Pb**	**01 12 56.5**	**-1.3**
TBP				*e*S	**Sb**	**01 13 29.6**	**+0.3**
JAY	**Jayapura**	**20.12**	**118**	LR	LR	01 25 31.5	
	comp=Z,36nm,18.8s,baz=213,slow=40						
WRA	**Warramunga Arr**	**29.21**	**158**	P	**P**	**01 18 12.9**	**+0.1**
	0.4nm,0.8s,baz=336,slow=10,SNR=1.8						
ASAR	**Alice Springs**	**32.49**	**161**	P	**P**	**01 18 42.9**	**+1.1**
	0.6nm,0.8s,baz=340,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**52.60**	**326**	P	P	01 21 30.5	+5.6
	0.4nm,0.7s,baz=130,slow=7.0,SNR=4.2						
NOA	**NORSAR Array B**	**94.03**	**333**	LR	LR	02 12 25.8	
	comp=Z,8.4nm,18.2s,baz=290,slow=38						

*ISK **21** 01:19:36.6,38°.37N×22°.09E,h9^{km},ML3.5/20*
*IASPEI **21** 01:19:37.6±0.9,38°.38N±0°.02×22°.09E±0°.03,h11^{km}±6^{km},*
mb3.9/9,Error ellipse: s-maj=4.3km s-min=3.4km az=78.1,
GT5 selection from ISC bulletin GT5 identified by Bondr
and McLaughlin (2009) selection criteria Bondr and
McLaughlin, A new ground truth data set for seismic
studies, Seism. Res. Let., 80, 465-472,
2009
*THE **21** 01:19:38.0,38°.38N×22°.09E,h7^{km},ML3.7/8,Error ellipse:*
s-maj=0.5km s-min=0.2km az=272.0
*IDC **21** 01:19:41.2±3.7,38°.45N×22°.19E,h33^{km}±31^{km},mb3.6/10,*
mb1 3.7/14,mb1mx3.5/46,mbtmp3.7/14,ML3.4/4,MS2.9/4,
Ms1 2.9/4,ms1mx2.5/77,Error ellipse: s-maj=18.3km
s-min=16.6km az=54.0
*DDA **21** 01:19:44.0±0.0,38°.66N×22°.68E,h97^{km},ML3.0*
ISC 21 01:19:37.7±0.8,**38°.40N**±0°.02×**22°.09E**±0°.02,**h10**^{km}±5km,
n121,σ1°32/145,mb3.9/9,15C-3D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERG	**Sergoula**	**0.03**	**302**	P	**Pg**	**01 19 39.6**	**-0.1**
SERG				S	**Sg**	**01 19 40.7**	**-0.4**
EFP	**Efpalio**	**0.15**	**282**	P	**Pg**	**01 19 41.1**	**0.0**
EFP				S	**Sg**	**01 19 43.6**	**+0.2**
	45μm,0.3s						
LAKA	**Lakka**	**0.18**	**210**	P	**Pg**	**01 19 41.3**	**-0.3**
LAKA				S	**Sg**	**01 19 44.0**	**-0.2**
	66μm,0.4s						
ANX	**Ano Chora**	**0.24**	**326**	P	**Pg**	**01 19 42.9**	**+0.2**
ANX				S	**Sg**	**01 19 46.9**	**+0.8**
	43μm,0.3s						
UPR	**University Cam**	**0.27**	**245**	P	**Pg**	**01 19 43.0**	**-0.1**
UPR				S	**Sg**	**01 19 47.0**	**+0.3**
KLV	**Kalavryta, Ach**	**0.35**	**173**	P	**Pg**	**01 19 44.3**	**-0.5**
KLV				S	**Sg**	**01 19 49.3**	**-0.2**
DRO	**Drossia**	**0.54**	**214**	P	**Pg**	**01 19 47.6**	**-0.5**
DRO				S	**Sg**	**01 19 55.5**	**+0.3**
	13μm,0.1s						
EVR	**Evrytania**	**0.57**	**337**	P	**Pg**	**01 19 48.9**	**+0.1**
EVR				S	**Sb**	**01 19 57.5**	**-0.5**
	11μm,0.3s						
THAL	**Thalero**	**0.57**	**128**	P	**Pg**	**01 19 48.7**	**-0.2**
THAL				S	**Sg**	**01 19 57.0**	**+0.6**
	8μm,0.3s						
RLS	**Riolos of Patr**	**0.60**	**236**	P	**Pg**	**01 19 48.9**	**-0.4**
RLS				S	**Sg**	**01 19 57.7**	**+0.5**
AGG	**Agios Georgios**	**0.65**	**16**	P	**Pg**	**01 19 50.6**	**+0.2**
AGG				S	**Sb**	**01 20 00.8**	**+0.4**
	6μm,0.3s						
AGG	**Agios Georgios**	**0.65**	**16**	PG	**Pg**	**01 19 50.0**	**-0.4**
AGG				SG	**Sb**	**01 20 00.4**	**0.0**
LKR	**Lokris**	**0.76**	**70**	P	**Pg**	**01 19 52.5**	**+0.2**
LKR				S	**Sb**	**01 20 03.5**	**+0.2**
	5μm,0.2s						
LTK	**Loutraki**	**0.78**	**118**	P	**Pg**	**01 19 52.5**	**-0.3**
LTK				S	**Sb**	**01 20 04.0**	**-0.1**
EPID	**Epidavros**	**1.12**	**134**	P	**Pb**	**01 19 58.8**	**-0.5**
ITM	**Ithomi**	**1.22**	**186**	PN	**Pn**	**01 19 59.8**	**-1.1**
LRSO	**Larissa Observ**	**1.29**	**10**	P	**Pb**	**01 20 02.1**	**-0.1**
KRND	**KRANIDI**	**1.31**	**140**	P	**Pn**	**01 20 01.6**	**-0.5**
HORT	**Hortiatis**	**2.33**	**19**	PN	**Pn**	**01 20 16.4**	**+0.2**
OUR	**Ouranopolis**	**2.43**	**36**	PN	**Pn**	**01 20 17.4**	**0.0**
FNA	**Florina**	**2.45**	**347**	PN	**Pn**	**01 20 19.2**	**+1.4**
GRG	**Griva**	**2.57**	**5**	PN	**Pn**	**01 20 20.2**	**+0.8**
KNT	**Kendrikon**	**2.83**	**12**	PN	**Pn**	**01 20 23.9**	**+0.9**
OHR	**Ohrid**	**2.89**	**340**	*i* Pn	**Pb**	**01 20 27.4**	**-2.1**
VAY	**Valandovo**	**2.94**	**7**	*i* Pn	**Pn**	**01 20 25.7**	**+1.1**
SIGR	**SIGRI**	**3.05**	**73**	PN	**Pn**	**01 20 26.7**	**+0.7**
CHOS	**Chios island**	**3.11**	**89**	PN	**Pn**	**01 20 28.1**	**+1.1**
STIP	**Stip**	**3.30**	**1**	*i* Pn	**Pn**	**01 20 31.6**	**+2.2**
IMMV	**Iera Moni Meta**	**3.30**	**152**	PN	**Pn**	**01 20 29.6**	**+0.2**
KOCA	**Canakkale, Ayv**	**3.34**	**69**	SPECP		01 20 29.0	
KOCA				P	**Pn**	**01 20 29.9**	**-0.1**
KOCA				S	Sn	01 20 58.4	-11
BOZC	**Bozcaada**	**3.40**	**64**	PN	**Pn**	**01 20 31.3**	**+0.5**
BOZC	**Bozcaada**	**3.40**	**64**	P	**Pn**	**01 20 29.1**	**-1.7**
GADA	**Gvkgeada**	**3.45**	**58**	PN	**Pn**	**01 20 32.0**	**+0.4**
GADA	**Gvkgeada**	**3.45**	**58**	SPECP		01 20 31.0	
GADA				P	**Pn**	**01 20 31.2**	**-0.3**
GADA				*i* AML	AML	01 22 15.0	
	comp=N,113nm,3.2s						
GOKA	**anakkale-Gk**	**3.46**	**58**	SPECP		01 20 30.0	
GOKA				P	**Pn**	**01 20 30.7**	**-0.9**
GOKA				*i* AML	AML	01 21 47.0	
	comp=E,49nm,0.9s						
URLA	**Izmir**	**3.54**	**89**	PN	**Pn**	**01 20 33.9**	**+1.1**
EZN	**Ezine**	**3.59**	**65**	PN	**Pn**	**01 20 34.6**	**+1.2**
EZN	**Ezine**	**3.59**	**65**	SPECP		01 20 33.0	
EZN				P	**Pn**	**01 20 33.8**	**+0.4**
SKO	**Skopje**	**3.61**	**352**	*i* Pn	**Pn**	**01 20 32.7**	**-1.0**
AYVA	**Ayvalik**	**3.70**	**74**	SPECP		01 20 34.0	
AYVA				P	**Pn**	**01 20 34.9**	**-0.1**
AYVA				*i* AML	AML	01 21 56.0	
	comp=E,33nm,1.3s						
BAYC	**CANAKKALE_Bayr**	**3.72**	**67**	P	**Pn**	**01 20 34.3**	**-0.9**
RDO	**Rodhopi**	**3.82**	**43**	PN	**Pn**	**01 20 36.5**	**-0.1**
DKL	**Dikili**	**3.82**	**78**	PN	**Pn**	**01 20 37.6**	**+1.0**
DKL	**Dikili**	**3.82**	**78**	P	**Pn**	**01 20 34.6**	**-2.0**
IDI	**Anoyia**	**3.83**	**143**	Pn	**Pn**	**01 20 37.0**	**+0.2**
	1.4nm,0.3s,baz=281,slow=10,SNR=9.9						
IDI				Sn	**Sn**	**01 21 21.2**	**-0.7**
	3.8nm,0.3s,baz=289,slow=23,SNR=5.7						
GELI	**Tayfur-Gelibol**	**3.94**	**58**	PN	**Pn**	**01 20 39.1**	**+0.9**
ZEDA	**zmir-Bergama**	**3.94**	**80**	SPECP		01 20 37.0	
ZEDA				P	**Pn**	**01 20 38.0**	**-0.3**
ALN	**Alexandroupoli**	**3.94**	**49**	P	**Pn**	**01 20 34.0**	**-4.3**
ALN				S	**Sn**	**01 21 19.7**	**-4.9**
BUHA	**Balikesir, Bur**	**4.04**	**73**	SPECP		01 20 38.0	
BUHA				P	**Pn**	**01 20 38.8**	**-0.9**
BUHA				*i* AML	AML	01 21 43.0	
	comp=N,24nm,2.8s						
ERIK	**Erikli-Kesan**	**4.10**	**55**	PN	**Pn**	**01 20 40.9**	**+0.4**
BOSS	**Bosilegrad**	**4.11**	**4**	*e*Pn	**Pn**	**01 20 41.4**	**+0.8**
PRVS	**Prvonek**	**4.11**	**360**	*e*Pn	**Pn**	**01 20 42.0**	**+1.4**
TIP	**Timpagrande**	**4.24**	**282**	↑↑P	**Pn**	**01 20 44.0**	**+1.5**
TIP				↑↑S	**Sn**	**01 21 32.6**	**+0.5**
VTS	**Vitosha**	**4.31**	**11**	↑↑P	**Pn**	**01 20 45.4**	**+1.9**
VTS				↑↑S	**Sn**	**01 21 33.9**	**+0.2**
VTS	**Vitosha**	**4.31**	**11**	*e*Pn	**Pn**	**01 20 44.8**	**+1.4**
BODT	**Bodrum**	**4.34**	**106**	PN	**Pn**	**01 20 45.2**	**+1.4**
DRME	**Dracevica, Mon**	**4.39**	**330**	*e*Pn	**Pn**	**01 20 46.3**	**+1.8**
PDG	**Podgorica**	**4.58**	**333**	↑↑P	**Pn**	**01 20 46.9**	**-0.1**
PDG				↑↑S	**Sn**	**01 21 37.1**	**-3.0**
PDG	**Podgorica**	**4.58**	**333**	*e*Pn	**Pn**	**01 20 48.0**	**+1.0**
MAR3	**Marsite Statio**	**4.65**	**58**	PN	**Pn**	**01 20 49.2**	**+1.2**
MATE	**Matera**	**4.74**	**300**	↑↑P	**Pn**	**01 20 50.3**	**+1.1**
MATE				↓↓S	**Sn**	**01 21 43.0**	**-1.1**
SELS	**Selova**	**4.88**	**352**	*e*Pn	**Pn**	**01 20 52.3**	**+1.2**
HCY	**Herceg Novi**	**4.89**	**327**	*e*Pn	**Pn**	**01 20 53.0**	**+1.7**
DURS	**Dursunbey**	**5.12**	**74**	SPECP		01 20 54.0	
DURS				P	**Pn**	**01 20 54.9**	**+0.4**
DURS				*i* AML	AML	01 22 20.0	
	comp=N,12nm,2.0s						
SJES	**Sjenica**	**5.12**	**342**	*e*Pn	**Pn**	**01 20 57.9**	**+3.3**
TREB	**Trebinje**	**5.17**	**328**	*e*Pn	**Pn**	**01 20 56.5**	**+1.3**
TREB	**Trebinje**	**5.17**	**328**	*e*Pn	**Pn**	**01 20 56.0**	**+0.8**
BOVS	**Bovan**	**5.24**	**357**	↑↑P	**Pn**	**01 20 56.7**	**+0.5**
BRY	**Bratogost**	**5.25**	**330**	*e*Pn	**Pn**	**01 20 55.5**	**-0.9**
IVAS	**Ivanjica**	**5.38**	**345**	*e*Pn	**Pn**	**01 21 00.0**	**+1.9**
ZAGS	**Zajecar**	**5.41**	**1**	*e*Pn	**Pn**	**01 20 59.5**	**+1.0**
GRUS	**Gruza**	**5.59**	**350**	*e*Pn	**Pn**	**01 21 03.2**	**+2.4**
RUDO	**Rudo**	**5.61**	**339**	*e*Pn	**Pn**	**01 21 02.8**	**+1.6**
BBLS	**Lazići**	**5.83**	**340**	*e*Pn	**Pn**	**01 21 06.1**	**+1.8**
BBLS	**Lazići**	**5.83**	**340**	*e*Pn	**Pn**	**01 21 03.7**	**-0.6**
DIVS	**Divibare**	**5.91**	**345**	*e*Pn	**Pn**	**01 21 06.5**	**+1.1**
DIVS	**Divibare**	**5.91**	**345**	*e*Pn	**Pn**	**01 21 06.1**	**+0.7**
TRUS	**Trudelj**	**5.96**	**348**	*e*Pn	**Pn**	**01 21 07.8**	**+1.8**
FRGS	**Fruska Gora**	**6.97**	**347**	*e*Pn	**Pn**	**01 21 20.5**	**+0.6**
FRGS	**Fruska Gora**	**6.97**	**347**	*e*Pn	**Pn**	**01 21 20.4**	**+0.6**
GZR	**Gura Zlata**	**7.01**	**4**	↓↓P	**Pn**	**01 21 21.1**	**+0.6**
MGRS	**Mrkonjic Grad**	**7.10**	**330**	*e*Pn	**Pn**	**01 21 22.1**	**+0.5**
ARR	**Arges**	**7.22**	**14**	↑↑P	**Pn**	**01 21 24.5**	**+1.1**
BZS	**Buzias**	**7.22**	**357**	↑↑P	**Pn**	**01 21 23.9**	**+0.6**
BLY	**Banja Luka**	**7.34**	**331**	*e*Pn	**Pn**	**01 21 25.5**	**+0.6**
VOIR		**7.37**	**16**	↑↑P	**Pn**	**01 21 27.2**	**+1.8**
MLR	**Muntele Rosu**	**7.65**	**21**	↓↓P	**Pn**	**01 21 31.0**	**+1.7**
MLR	**Muntele Rosu**	**7.65**	**21**	Pn	**Pn**	**01 21 30.1**	**+0.8**
	0.2nm,0.3s,baz=145,slow=9.1,SNR=4.8						
MLR				LR	LR	01 24 21.1	
	comp=Z,50nm,20.6s,baz=323,slow=37						
MRAK	**Mrakovica**	**7.67**	**331**	*e*Pn	**Pn**	**01 21 29.9**	**+0.4**
AQU	**L'Aquila**	**7.72**	**304**	*e*Pn	**Pn**	**01 21 32.4**	**+2.2**
COVR	**Voineasa-Covas**	**8.05**	**21**	↑↑P	**Pn**	**01 21 37.0**	**+2.3**
PLOR	**Plostina**	**8.18**	**23**	↑↑P	**Pn**	**01 21 39.2**	**+2.7**
VRI	**Vrincioaia**	**8.22**	**23**	↑↑P	**Pn**	**01 21 39.9**	**+2.9**
MORH	**Mrgy, Hungar**	**8.22**	**343**	*e*Pn	**Pn**	**01 21 36.3**	**-0.7**
MORH	**Mrgy, Hungar**	**8.22**	**343**	PN	**Pn**	**01 21 38.0**	**+1.0**
KOVH	**Kovagotottos**	**8.24**	**340**	PN	**Pn**	**01 21 37.7**	**+0.4**
CRES	**Cresnjev**	**8.91**	**329**	*e*Pn	**Pn**	**01 21 46.5**	**0.0**
BRTR	**Keskin Array B**	**9.08**	**78**	Pn	**Pn**	**01 21 51.9**	**+2.9**
	0.2nm,0.3s,baz=260,slow=12,SNR=5.5						
CEY	**Cerknica**	**9.29**	**325**	*e*Pn	**Pn**	**01 21 50.4**	**-1.3**
BURAR	**Bucovina Array**	**9.49**	**13**	↑↑P	**Pn**	**01 21 57.2**	**+2.6**
OBKA	**Obir**	**9.84**	**328**	*e*Pn	**Pn**	**01 22 00.9**	**+1.7**
	0.5nm,0.3s						
OBKA				*e*Sn	**Sn**	**01 23 50.7**	**+1.0**
	4.6nm,0.6s						
ABTA	**Abfaltersbach**	**10.93**	**323**	*e*Pn	**Pn**	**01 22 15.5**	**+1.3**
	2.1nm,0.5s						
ABTA				*e*Sn	**Sn**	**01 24 16.8**	**+0.3**
	2.6nm,0.6s						
WTTA	**Wattenberg**	**11.71**	**322**	*e*Pn	**Pn**	**01 22 26.6**	**+1.6**
	1.2nm,0.3s						
WTTA				*e*Sn	**Sn**	**01 24 36.9**	**+1.0**
	3.0nm,0.6s						
WATA	**Walderalm**	**11.79**	**323**	*e*Pn	**Pn**	**01 22 28.6**	**+2.5**
	1.7nm,0.4s						
SQTA	**Sankt Quirin**	**11.89**	**321**	*e*Pn	**Pn**	**01 22 29.0**	**+1.6**
	1.4nm,0.5s						
SQTA				*e*Sn	**Sn**	**01 24 40.9**	**+0.8**
	3.3nm,0.8s						
FETA	**Feichten**	**12.00**	**320**	*e*Pn	**Pn**	**01 22 31.1**	**+2.2**
	0.4nm,0.4s						
MOTA	**Moosalm**	**12.03**	**322**	*e*Pn	**Pn**	**01 22 29.2**	**-0.2**
	2.5nm,0.7s						
MOTA				*e*Sn	**Sn**	**01 24 44.5**	**+0.9**
	5.0nm,0.9s						
GERES	**GERESS Array B**	**12.08**	**333**	Pn	**Pn**	**01 22 33.3**	**+3.4**
	0.2nm,0.3s,baz=156,slow=13,SNR=2.7						
GERES				LR	LR	01 28 09.5	
	comp=Z,71nm,18.8s,baz=166,slow=42						
RETA	**Reutte**	**12.30**	**321**	*e*Sn	**Sn**	**01 24 49.5**	**-0.4**
	1.9nm,0.6s						
DAVA	**Damuels**	**12.61**	**319**	*e*Sn	**Sn**	**01 24 57.2**	**-0.5**
	3.1nm,0.8s						
ESDC	**Sonseca Array**	**20.26**	**282**	P	Pn	01 24 14.9	-0.4
	1.6nm,0.6s,baz=76,slow=11,SNR=24						
HFS	**Hagfors**	**22.40**	**349**	P	**P**	**01 24 35.7**	**-0.5**
	1.1nm,0.4s,baz=150,slow=12,SNR=8.5						
FINES	**FINESS Array B**	**23.21**	**5**	P	**P**	**01 24 43.6**	**-0.9**
	1.0nm,0.7s,baz=184,slow=9.2,SNR=4.4						
NB2	**NORSAR Subarra**	**23.67**	**347**	P	**P**	**01 24 48.2**	**-1.0**
	comp=Z,7.7nm,1.4s,baz=152,slow=10						
NOA	**NORSAR Array B**	**23.67**	**347**	P	**P**	**01 24 48.1**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=153,slow=9.3,SNR=8.1						
EKA	**Eskdalemuir Ar**	**23.98**	**323**	P	**P**	**01 24 52.4**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=126,slow=11,SNR=11						
TORD	**Torodi Ar. Bea**	**30.99**	**221**	P	**P**	**01 25 56.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=28,slow=9.3,SNR=6.0						
ARCES	**ARCESS Array B**	**31.25**	**2**	P	**P**	**01 25 57.1**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=190,slow=10,SNR=1.9						
MKAR	**Makanchi Array**	**44.13**	**59**	P	**P**	**01 27 46.1**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=275,slow=7.4,SNR=32						
MKAR				LR	LR	01 48 46.5	
	comp=Z,22nm,18.1s,baz=150,slow=40						
ZALV	**Zalesovo Beam**	**44.62**	**48**	P	**P**	**01 27 49.6**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=274,slow=9.3,SNR=7.9						
ZALV				LR	LR	01 48 09.9	
	comp=Z,18nm,20.8s,baz=33,slow=38						
YKA	**Yellowknife Ar**	**73.60**	**341**	P	**P**	**01 31 10.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=31,slow=4.7,SNR=2.9						

*NEIC **21** 01:32:15.4±0.8,0°.73N±0°.06×120°.40E±0°.06,h14^{km}±9^{km},*
mb4.1/7,Error ellipse: s-maj=11.5km s-min=5.4km
az=137.0
*IDC **21** 01:32:17.0±1.7,1°.09N×122°.06E,h0^{km},mb3.8/4,*
mb1 4.0/4,mb1mx3.3/40,mbtmp3.8/4,MS2.7/1,Ms1 2.7/1,
ms1mx2.3/74,Error ellipse: s-maj=226.0km s-min=26.7km
az=61.0
*DJA **21** 01:32:19.9±0.5,1°.N±3°×12°1E±°,h24^{km}±5^{km},M4.2/13,*
mb4.1/3,MLv4.2/13
ISC 21 01:32:18.4±1.1,**1°.12N**±0°.08×**120°.65E**±0°.05,**h47**^{km}±9km,
n27,σ1°77/28,mb4.0/8,Minahassa Peninsula, Sulawesi

| Code | Station Name | Δ° | AZ

ZEYE			S	Sb	01 36 27.0	+0.6
ZEYE			*i* AML	AML	01 36 32.0	
	comp=N,46nm,0.7s					
URLA	**Izmir**	**1.18 355**	*i* AML	AML	01 36 12.0	
	comp=N,50nm,2.2s					
URLA			P	Pb	01 36 13.3	-0.8
URLA			S	Sn	01 36 31.8	+1.2
URLA			*i* AML	AML	01 36 42.0	
	comp=E,34nm,1.0s					
YER	**Yerkesik**	**1.23 92**	PN	Pg	01 36 15.9	+0.9
MULA	**Mugla, Merkez-**	**1.27 86**	P	Pg	01 36 16.0	+0.4
TURN	**Turunc**	**1.27 108**	P	Pn	01 36 15.0	-0.4
SANT	**Santorini**	**1.31 232**	PN	Pg	01 36 17.1	+0.8

IDC 21 02:32:29.4±5.9, 6°39S×156°63E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.3/34, mbtmp3.7/3, Error ellipse: s-maj=169.6km s-min=41.7km az=110.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.49**	**236**	P	P	02 38 00.7	+1.0
	0.7nm,0.3s,baz=62,slow=8.8,SNR=21						
ASAR	**Alice Springs**	**27.79**	**229**	P	P	02 38 19.3	-1.1
	0.2nm,0.3s,baz=61,slow=9.7,SNR=7.3						
MKAR	**Makanchi Array**	**84.03**	**318**	P	P	02 45 02.0	0.0
	0.4nm,0.5s,baz=103,slow=5.6,SNR=5.2						

*DDA **21** 02:34:01.1±0.0, 38°36N×27°74E, h7km±4km, ML1.5*
*ISK **21** 02:34:04.0, 38°34N×27°61E, h11km, ML2.5/5*
ISC 21 02:34:01.1±1.1, 38°34N±0°05×27°77E±0°04, h10km, n11, σ0°98/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMA	**Golmarmara-Man**	**0.38**	**18**	PG	Pn	02 34 13.2	+0.5
AKHS	**Akhisar**	**0.54**	**4**	P	Pg	02 34 09.3	-2.2
DGB	**zmir**	**0.76**	**248**	P	Pb	02 34 16.5	+0.2
DGB				S	Sg	02 34 23.7	-1.8
DGB				*i* AML	AML	02 34 33.0	
	comp=E,28nm,1.2s						
GCAM	**G?zelcaml?**	**0.77**	**214**	PG	Pn	02 34 17.7	-0.2
ZEDA	**zmir-Bergama**	**0.83**	**319**	P	Pg	02 34 17.3	+0.3
ZEDA				S	Sg	02 34 27.6	-0.2
ZEDA				*i* AML	AML	02 34 37.0	
	comp=E,14nm,2.2s						
URLA	**Izmir**	**0.92**	**271**	PG	Pb	02 34 19.8	+0.6
URLA				SG	Sb	02 34 31.4	-0.1
DKL	**Dikili**	**0.99**	**317**	PG	Pn	02 34 21.6	+0.5
USAK	**Uak-Merkez**	**1.05**	**69**	P	Pb	02 34 22.1	+0.7
USAK				*i* AML	AML	02 34 27.0	
	comp=E,17nm,1.0s						
USAK				S	Sb	02 34 36.0	+0.9
USAK				*i* AML	AML	02 34 53.0	
	comp=N,36nm,1.1s						
BUHA	**Balikesir, Bur**	**1.28**	**335**	P	Pn	02 34 24.9	-0.1
CHOS	**Chios island**	**1.35**	**272**	PN	Pg	02 34 27.7	+0.7
DURS	**Dursunbey**	**1.37**	**23**	P	Pb	02 34 27.4	+0.5

IDC 21 02:37:33.4±2.6, 3°68S×143°16E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/37, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=53.4km s-min=29.0km az=74.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.71**	**295**	Pn	Pn	02 38 19.3	+1.0
	2.3nm,0.3s,baz=49,slow=22,SNR=4.6						
JAY				Sn	Sn	02 38 51.3	-0.5
	1.3nm,0.3s,baz=42,slow=23,SNR=1.1						
WRA	**Warramunga Arr**	**18.31**	**207**	P	P	02 41 49.5	+0.2
	0.1nm,0.3s,baz=27,slow=13,SNR=6.2						
ASAR	**Alice Springs**	**21.79**	**203**	P	P	02 42 26.8	-0.4
	0.1nm,0.5s,baz=33,slow=11,SNR=1.7						
MKAR	**Makanchi Array**	**73.29**	**321**	P	P	02 49 06.7	-0.1
	0.5nm,0.5s,baz=100,slow=7.9,SNR=7.0						

*SSNC **21** 03:09:38.1±1.5, 19°70N×76°08W, h5km±10km, ML3.9, MW3.9*
*OSPL **21** 03:09:38.3±0.7, 19°89N×76°16W, h0km±9km, ML4.0*
*NEIC **21** 03:09:39.9±1.9, 19°72N±0°05×76°01W±0°05, h16km±4km, mb4.3/29, Error ellipse: s-maj=8.0km s-min=6.8km az=184.0*
*IDC **21** 03:09:40.8±0.6, 19°66N×76°04W, h27km±3km, mb3.8/15, mb1 4.0/17, mb1mx3.9/39, mbtmp4.0/17, ML3.3/2, MS3.1/6, Ms1 3.1/6, ms1mx2.7/79, Error ellipse: s-maj=16.8km s-min=14.4km az=18.0*
*JSN **21** 03:09:41.9±0.5, 19°53N×76°18W, h17km±687km, MD3.9*
ISC 21 03:09:38.2±0.6, 19°72N±0°04×76°11W±0°03, h11km±3km, n88, σ1°36/106, mb4.2/28, MS3.1/3, 1C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.48**	**55**	*e*P	Pg	03 09 47.0	-0.7
RCC				*e*S	Sg	03 09 53.0	-1.0
LMGC	**Las Mercedes**	**0.91**	**292**	*i* P	Pb	03 09 55.0	-1.0
LMGC				*e*S	Sb	03 10 07.0	-1.0
LMGC				IAML		03 10 10.6	
	comp=E,4μm,0.2s						
LMGC				IAML		03 10 10.6	
	comp=N,4μm,0.2s						
GTBY	**Guantanamo Bay**	**0.97**	**77**		Pb	03 09 55.8	-1.2
GTBY				Sg	Sb	03 10 07.8	-1.9
GTBY	**Guantanamo Bay**	**0.97**	**77**	*e*P	Pb	03 09 55.8	-1.2
GTBY				*e*S	Sg	03 10 10.0	+0.6
GTBY	**Guantanamo Bay**	**0.97**	**77**	*i* P	Pb	03 09 55.7	-1.3
GTBY				*e*S	Sb	03 10 09.2	-0.6
GTBY				IAML		03 10 11.7	
	comp=Z,4μm,0.3s						
MOAC	**Moa**	**1.43**	**49**	*e*P	Pn	03 10 02.0	-2.1
MOAC				*e*S	Sn	03 10 21.4	-1.5
MOAC				IAML		03 10 24.5	
	comp=E,2μm,0.6s						
MOAC				IAML		03 10 26.8	
	comp=N,1μm,0.4s						
STH	**Stony Hill**	**1.76**	**202**	*i* P	Pn	03 10 07.5	-1.2
HOJ	**Hope**	**1.81**	**200**	*i* P	Pn	03 10 08.5	-0.8
MASC	**Masc**	**1.83**	**75**	*e*P	Pn	03 10 07.7	-1.8
MASC				*e*S	Sn	03 10 32.5	-0.1
MASC				IAML		03 10 39.7	
	comp=N,740nm,0.4s						
MASC				IAML		03 10 40.0	
	comp=E,810nm,0.4s						
CVJ	**Coleyville**	**2.00**	**222**	*i* P	Pn	03 10 11.3	-0.7
MTDJ	**Mount Denham**	**2.00**	**222**	Pn	Pn	03 10 11.2	-0.9
MTDJ				Sn	Sn	03 10 34.4	-2.8
MTDJ	**Mount Denham**	**2.00**	**222**	*e*P	Pn	03 10 10.9	-1.2
MTDJ				*e*S	Sn	03 10 32.8	-4.4
CCCC	**Cccc**	**2.14**	**314**	*e*P	Pn	03 10 10.4	-3.4
CCCC				*e*S	Sn	03 10 35.2	-5.1
CCCC				IAML		03 10 39.4	
	comp=N,956nm,0.5s						
CCCC				IAML		03 10 40.8	
	comp=E,978nm,0.6s						
MCJ	**Malvern**	**2.33**	**220⇑**	*i*P	Pn	03 10 16.2	-0.2
MCJ				*e*S	Sn	03 10 41.6	-3.5
LGNH	**Logne**	**3.53**	**109**		Pn	03 10 32.2	-0.8
JAKH	**Jacmel**	**3.71**	**113**	Pn	Pn	03 10 34.4	-1.0
LCCY	**Blossom Villag**	**3.74**	**270**	Pn	Pn	03 10 37.3	+1.5
LOPE2	**Hotel El Peder**	**4.46**	**111**	*i* P	Pn	03 10 46.9	+1.1
SDDR	**Presa de Saban**	**4.61**	**98**		Pn	03 10 47.5	-0.4
SDDR	**Presa de Saban**	**4.61**	**98**	*e*P	Pn	03 10 48.0	0.0
SDDR	**Presa de Saban**	**4.61**	**98**	*i* P	Pn	03 10 48.0	0.0
GRTK	**Grand Turk**	**4.99**	**68**	Pn	Pn	03 10 52.1	-1.0
GRTK	**Grand Turk**	**4.99**	**68**	*i* P	Pn	03 10 52.3	-0.8
SC01	**Santiago de lo**	**5.09**	**92**		Pn	03 10 53.9	-0.5
URIC	**Uribia, Colomb**	**8.90**	**153**	Pn	Pn	03 11 46.8	0.0
SJCC	**San Jacinto, C**	**9.81**	**175**	Pn	Pn	03 11 59.2	-0.1
SDV	**Santo Domingo**	**12.00**	**153**	Pn	Pn	03 12 27.8	-1.7
	comp=E,1.0nm,0.3s,baz=359,slow=6.0,SNR=8.7						
SDV				LR	LR	03 17 16.7	
	comp=E,58nm,18.6s,baz=280,slow=38						
SDV	**Santo Domingo**	**12.00**	**153**	Pn	Pn	03 12 29.4	-0.1
ZARC	**Zaragoza, Cauc**	**12.21**	**174**	Pn	Pn	03 12 32.0	-0.3
JTS	**Las Juntas de**	**12.67**	**224**	LR	LR	03 18 16.7	
	comp=E,121nm,20.1s,slow=41						
BAUV	**El Baul**	**13.26**	**143**	Pn	Pn	03 12 46.4	-0.1
TIGA	**Tifton**	**13.47**	**331**		Pn	03 12 51.5	+2.1
352A	**Blakely**	**14.15**	**328**		Pn	03 12 58.3	-0.3
CMIG	**Matias Romero**	**18.00**	**265**	P	P	03 13 50.8	+1.7
	comp=E,0.2nm,0.3s,baz=12,slow=6.3,SNR=4.2						
CMIG				LR	LR	03 20 47.8	
	comp=E,41nm,19.0s,baz=84,slow=37						
O56A	**Blue Knob Stat**	**20.59**	**355**	P	P	03 14 16.7	-0.6
O56A				IAmb	IAmb	03 14 24.1	
	comp=Z,13nm,0.9s						
LCAR	**Lake Charles**	**20.98**	**324**	P	P	03 14 19.9	-1.5
PBMO	**Poplar Bluff**	**21.12**	**327**	P	P	03 14 24.2	+1.2
PBMO				IAmb	IAmb	03 14 36.9	
	comp=Z,8.0nm,0.9s						
ODNJ	**Ogdensburg**	**21.34**	**3**	P	P	03 14 26.6	+1.4
ODNJ				IAmb	IAmb	03 14 30.8	
	comp=Z,16nm,1.0s						
FCAR	**Ozark Folk Cen**	**21.40**	**322**	P	P	03 14 28.0	+2.0
T42A	**Van Buren**	**21.66**	**326**	P	P	03 14 30.1	+1.4
Q44A	**Meyer Farm, Va**	**22.14**	**332**	P	P	03 14 35.5	+1.7
Q44A				IAmb	IAmb	03 14 39.3	
	comp=Z,12nm,0.8s						
CCM	**Cathedral Cave**	**22.51**	**327**	P	P	03 14 39.0	+1.1
N47A	**Urbana**	**22.63**	**341**	P	P	03 14 40.1	+1.1
N47A				IAmb	IAmb	03 14 52.2	
	comp=Z,12nm,0.8s						
TUL1	**Leonard**	**23.66**	**317**	P	P	03 14 49.9	+0.2
W35A	**Tecumseh**	**23.93**	**314**	P	P	03 14 50.8	-1.5
W35A				IAmb	IAmb	03 15 02.8	
	comp=Z,9.1nm,0.8s						
P38A	**Dawn**	**24.87**	**327**	P	P	03 15 00.2	-0.7
P38A				IAmb	IAmb	03 15 03.4	
	comp=Z,6.6nm,0.7s						
KSU1	**Kansas State U**	**26.19**	**322**	P	P	03 15 13.7	+0.8
TX32	**Lajitas Array**	**26.78**	**296**	P	P	03 15 20.0	+1.6
TXAR	**Lajitas Array**	**26.78**	**296**	P	P	03 15 20.6	+2.2
	comp=Z,0.8nm,1.0s,baz=101,slow=10,SNR=5.7						
TXAR				pP	pwP	03 15 29.3	+1.5
	comp=Z,1.9nm,0.9s,baz=112,slow=11,SNR=12						
TXAR				LR	LR	03 28 44.2	
	comp=Z,27nm,18.1s,baz=107,slow=43						
TXAR	**Lajitas Array**	**26.78**	**296**	P	P	03 15 19.6	+1.2
TX31	**Lajitas Ar. Si**	**26.78**	**296**	P	P	03 15 20.0	+1.6
K31A	**O'Neill**	**29.77**	**325**	P	P	03 15 44.1	-0.8
ETMB	**Extrema**	**30.93**	**161**	P	P	03 15 55.5	+0.3
ETMB				IAmb	IAmb	03 15 56.8	
	comp=Z,3.8nm,0.8s						
LPIG	**La Paz**	**31.98**	**284**	LR	LR	03 29 06.7	
	comp=Z,40nm,19.9s,baz=125,slow=36						
ISCO	**Idaho Springs**	**32.27**	**315**	P	P	03 16 08.3	+0.9
ISCO				IAmb	IAmb	03 16 10.5	
	comp=Z,2.8nm,1.1s						
PV13	**Radium Mtn., P**	**33.77**	**310**	P	P	03 16 21.3	+1.0
SCHQ	**Schefferville**	**35.76**	**9**	P	P	03 16 37.9	+0.9
	comp=Z,3.8nm,0.8s,baz=232,slow=12,SNR=3.6						
SCHQ	**Schefferville**	**35.76**	**9**	P	P	03 16 37.9	+0.9
PDAR	**Pinedale Array**	**36.31**	**317**	P	P	03 16 42.7	+0.5
	comp=Z,0.6nm,0.7s,baz=115,slow=10,SNR=6.5						
PDAR				pP	pwP	03 16 51.5	+0.8
	comp=Z,0.5nm,0.7s,baz=120,slow=11,SNR=4.4						
LOHW	**Long Hollow**	**37.39**	**317**	P	P	03 16 52.1	+0.7
DUG	**Dugway, Tooele**	**37.42**	**311**	P	P	03 16 53.0	+1.4
DUG				IAmb	IAmb	03 16 54.6	
	comp=Z,4.9nm,0.9s						
REDW	**Red Top Meadow**	**37.43**	**317**	P	P	03 16 52.6	+0.9
REDW				IAmb	IAmb	03 16 53.6	
	comp=Z,4.0nm,0.8s						
MOOW	**Moose Ponds**	**37.55**	**317**	P	P	03 16 53.9	+1.2
MOOW				IAmb	IAmb	03 16 54.3	
	comp=Z,3.1nm,0.8s						
SPR3	**Spring Creek 3**	**38.10**	**309**	P	P	03 16 59.5	+1.9
SPR3				IAmb	IAmb	03 17 09.7	
	comp=Z,3.1nm,0.8s						
SIV	**San Ignacio**	**38.44**	**156**	P	P	03 17 00.8	+0.6
	comp=Z,2.0nm,0.8s,baz=326,slow=8.5,SNR=9.1						
NVAR	**Mina Array Bea**	**40.90**	**306**	P	P	03 17 23.0	+2.2
	comp=Z,0.8nm,0.8s,baz=97,slow=6.3,SNR=7.7						
KVN	**Kaiserville**	**40.91**	**307**	P	P	03 17 22.7	+1.8
YERR	**Yerington**	**41.75**	**307**	P	P	03 17 29.6	+1.8
YERR				IAmb	IAmb	03 17 31.2	
	comp=Z,3.9nm,0.9s						
YKA	**Yellowknife Ar**	**50.25**	**338**	P	P	03 18 34.0	-0.1
	comp=Z,0.7nm,0.6s,baz=130,slow=8.9,SNR=17						
YKA	**Yellowknife Ar**	**50.25**	**338**	P	P	03 18 33.8	-0.3
RES	**Resolute Bay**	**55.92**	**354**	P	P	03 19 15.2	-0.6
	comp=Z,2.3nm,0.8s,baz=174,slow=9.0,SNR=12						
RES	**Resolute Bay**	**55.92**	**354**	P	P	03 19 15.5	-0.3
RES				IAmb	IAmb	03 19 16.1	
	comp=Z,3.6nm,0.8s						
ESDC	**Sonseca Array**	**64.14**	**55**	P	P	03 20 13.1	+0.2
	comp=Z,0.7nm,0.8s,baz=290,slow=7.8,SNR=6.0						
ILAR	**Eielson Array**	**64.15**	**333**	P	P	03 20 12.5	+0.1
	comp=Z,0.7nm,0.9s,baz=106,slow=5.7,SNR=6.6						
ILAR	**Eielson Array**	**64.15**	**333**	P	P	03 20 12.7	+0.3
NB2	**NORSAR Subarra**	**71.68**	**31**	P	P	03 21 00.7	+0.8
	comp=Z,4.3nm,0.8s,baz=279,slow=6.2						
NOA	**NORSAR Array B**	**71.68**	**31**	P	P	03 21 00.7	+0.8
	comp=Z,1.8nm,0.7s,baz=279,slow=6.0,SNR=7.5						
NOA				pP	pwP	03 21 09.5	-0.3
	comp=Z,2.1nm,0.9s,baz=280,slow=6.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**74.36**	**81**	P	P	03 21 16.1	-0.5
	comp=Z,1.4nm,0.9s,baz=291,slow=4.7,SNR=9.0						
KEST	**Kesra**	**75.19**	**57**	P	P	03 21 21.6	+0.4
	comp=Z,3.0nm,0.9s,baz=275,slow=4.2,SNR=4.1						
GERES	**GERESS Array B**	**75.30**	**43**	P	P	03 21 22.1	+0.6
	comp=Z,1.0nm,0.8s,baz=285,slow=5.2,SNR=8.4						
GERES				pP	pwP	03 21 31.1	-0.4
	comp=Z,0.5nm,0.8s,baz=278,slow=3.6,SNR=3.2						
GERES	**GERESS Array B**	**75.30**	**43**	P	P	03 21 21.6	0.0
ARCES	**ARCESS Array B**	**75.69**	**21**	P	P	03 21 23.2	-0.1
	comp=Z,5.7nm,1.0s,baz=313,slow=4.5,SNR=11						
ARCES				pP	pwP	03 21 32.5	-0.7
	comp=Z,4.3nm,1.0s,baz=321,slow=5.2,SNR=1.4						
ARCES	**ARCESS Array B**	**75.69**	**21**	P	P	03 21 23.4	+0.1
FINES	**FINESS Array B**	**78.55**	**29**	P	P	03 21 39.8	+0.3
	comp=Z,2.7nm,0.6s,baz=286,slow=4.2,SNR=19						
FINES				pP	PcP	03 21 48.0	-0.5
	comp=Z,2.2nm,0.7s,baz=280,slow=2.8,SNR=3.9						
MLR	**Muntele Rosu**	**84.26**	**44**	LR	LR	03 59 15.0	
	comp=Z,24nm,19.6s,baz=16,slow=35						
PZH	**PanZhiHua**	**134.01**	**3**	PKP	PKPdf	03 28 56.5	0.0
WRA	**Warramunga Arr**	**151.37**	**264**	PKP	PKPdf	03 29 26.4	-0.4
	comp=Z,0.8nm,0.8s,baz=87,slow=2.3,SNR=6.9						
WRA				PKPbc	PKPbc	03 29 32.1	-0.8
	comp=Z,2.0nm,0.7s,baz=87,slow=2.6,SNR=22						
WRA				pPKPbc	PKPab	03 29 41.3	+0.3
	comp=Z,1.2nm,0.6s,baz=86,slow=2.6,SNR=7.0						
ASAR	**Alice Springs**	**151.86**	**257**	PKP	PKPdf	03 29 27.0	-0.5
	comp=Z,0.6nm,0.8s,baz=93,slow=1.8,SNR=5.9						
ASAR				PKPbc	PKPbc	03 29 32.9	-1.0
	comp=Z,1.6nm,0.7s,baz=87,slow=1.7,SNR=21						
ASAR				pPKPbc	PKPab	03 29 42.0	-1.0
	comp=Z,1.0nm,0.6s,baz=83,slow=3.0,SNR=6.6						

*ISK **21** 03:14:51.8, 37°56N×22°69E, h22km, ML3.3/12*
*THE **21** 03:14:55.0, 37°53N×22°59E, h32km±29km, ML3.1/6, Error ellipse: s-maj=29.3km s-min=1.0km az=96.0*
ISC 21 03:14:53.4±1.3, 37°58N±0°04×22°58E±0°04, h30km±14km, n49, σ1°88/59, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPID	**Epidavros**	**0.43**	**85**	P	Pn	03 15 03.7	+0.1
THAL	**Thalero**	**0.47**	**8**	P	Pn	03 15 04.9	+0.9
THAL				S	Sn	03 15 12.3	+1.0
KRND	**KRANIDI**	**0.49**	**113**	P	Pn	03 15 04.4	0.0
KRND				S	Sn	03 15 13.0	+1.0
	3μm,0.3s						
LTK	**Loutraki**	**0.54**	**35**	P	Pn	03 15 06.1	+1.0
LTK				S	Sn	03 15 14.8	+1.6
	2μm,0.2s						
KLV	**Kalavryta, Ach**	**0.58**	**324**	P	Pn	03 15 06.4	+0.8
KLV				S	Sn	03 15 15.4	+1.3
	1μm,0.3s						
ITM	**Ithomi**	**0.65**	**233**	P	Pn	03 15 06.5	-0.1
ITM				S	Sb	03 15 15.6	+0.4
	2μm,0.3s						
ITM	**Ithomi**	**0.65**	**233**	PG	Pn	03 15 06.2	-0.4
ITM				SG	Sn	03 15 17.0	+1.1
DRO	**Drossia**	**0.78**	**299**	P	Pn	03 15 09.3	+0.9
DRO				S	Sn	03 15 21.1	+2.0
	2μm,0.5s						
RLS	**Riolos of Patr**	**1.00**	**299**	P	Pb	03 15 13.0	+0.8
RLS				S	Sn	03 15 27.1	+2.6
	585nm,0.6s						
AGG	**Agios Georgios**	**1.46**	**352**	PN	Pn	03 15 17.9	+0.2
AGG				SN	Sb	03 15 36.9	-1.2
IMMV	**Iera Moni Meta**	**2.40**	**151**	PN	Pn	03 15 30.1	-0.5
IMMV				SN	Sn	03 15 57.8	-1.1
SANT	**Santorini**	**2.60**	**117**	PN	Pn	03 15 32.8	-0.7
CHOS	**Chios island**	**2.87**	**73**	PN	Pn	03 15 36.6	-0.5
OUR	**Ouranopolis**	**2.96**	**21**	PN	Pn	03 15 38.5	+0.1
GVD	**Gavdhos**	**2.99**	**155**	PN	Pn	03 15 38.9	+0.1
HRKL	**Herakleio**	**3.04**	**137**	PN	Pn	03 15 39.1	-0.4
HORT	**Hortiatis**	**3.04**	**8**	PN	Pn	03 15 39.3	-0.3
SIGR	**SIGRI**	**3.05**	**57**	PN	Pn	03 15 39.2	-0.3
URLA	**Izmir**	**3.27**	**75**	PN	Pn	03 15 42.4	-0.2
VAY	**Valandovo**	**3.74**	**360**	*i* Pn	Pn	03 15 49.9	+0.9
ZKR	**Zakros**	**3.83**	**129**	PN	Pn	03 15 50.4	+0.1
MMB	**Musomiste**	**4.11**	**12**	P	Pn	03 15 54.4	+0.3
STIP	**Stip**	**4.12**	**356**	*i* Pn	Pn	03 15 55.7	+1.4
GELI	**Tayfur-Gelibol**	**4.14**	**46**	PN	Pn	03 15 54.9	+0.3
RZN	**Rozhen**	**4.43**	**21**	P	Pn	03 15 59.2	+0.5
KDZ	**Kurdzhali**	**4.62**	**27**	P	Pn	03 16 00.5	-0.7
BOSS	**Bosilegrad**	**4.91**	**359**	*e*Pn	Pn	03 16 06.2	+1.0
PRVS	**Prvonek**	**4.94**	**356**	*e*Pn	Pn	03 16 05.6	0.0
VTS	**Vitosha**	**5.06**	**6**	*e*Pn	Pn	03 16 08.0	+0.7
SELS	**Selova**	**5.75**	**349**	*e*Pn	Pn	03 16 15.2	-1.4
SJES	**Sjenica**	**6.02**	**342**	*e*Pn	Pn	03 16 19.7	-0.7
IVAS	**Ivanjica**	**6.27**	**344**	*e*Pn	Pn	03 16 21.6	-2.3
STON	**Ston**	**6.47**	**326**	*e*Pn	Pn	03 16 23.6	-3.0
STON				Sn	Sn	03 17 26.5	-13
BBLS	**Lazići**	**6.73**	**340**	*e*Pn	Pn	03 16 28.2	-2.0
LSTV	**Lastovo**	**6.77**	**322**	*e*Pn	Pn	03 16 27.7	-3.0
LSTV				Sn	Sn	03 17 33.5	-13
DIVS	**Divibare**	**6.80**	**344**	*e*Pn	Pn	03 16 29.4	-1.8
MAKA	**Makarska**	**7.11**	**325**	*e*Pn	Pn	03 16 32.1	-3.1
MAKA				Sn	Sn	03 17 42.6	-12
RICI	**Ricice**	**7.22**	**327**	*e*Pn	Pn	03 16 33.8	-3.0
RICI				Sn	Sn	03 17 46.1	-12
HVAR	**Hvar**	**7.29**	**322**	*e*Pn	Pn	03 16 34.3	-3.5
HVAR				Sn	Sn	03 17 46.7	-13
KIJV	**Kijevo**	**7.95**	**326**	*e*Pn	Pn	03 16 43.9	-3.0
KIJV				Sn	Sn	03 18 04.0	-12
ZIRJ	**Zirje**	**8.04**	**321**	*e*Pn	Pn	03 16 44.7	-3.3
ZIRJ				Sn	Sn	03 18 04.9	-13
MORI	**Morici**	**8.16**	**322**	*e*Pn	Pn	03 16 46.6	-3.2
MORI				Sn	Sn	03 18 08.3	-13
DUGI	**Dugi Otok**	**8.58**	**321**	*e*Pn	Pn	03 16 52.8	-2.7
DUGI				Sn	Sn	03 18 19.0	-12
UDBI	**Udbina**	**8.64**	**326**	*e*Pn	Pn	03 16 53.8	-2.6
UDBI				Sn	Sn	03 18 20.7	-12
PLIT	**Plitvice**	**8.98**	**327**	*e*Pn	Pn	03 16 57.9	-3.1
PLIT				Sn	Sn	03 18 27.8	-13
NVLJ	**Novalja**	**9.08**	**323**	*e*Pn	Pn	03 16 58.9	-3.5
NVLJ				Sn	Sn	03 18 31.4	-12
RABC	**Rab**	**9.27**	**323**	*e*Pn	Pn	03 17 01.4	-3.5
RABC				Sn	Sn	03 18 35.5	-12
SMRN	**Sveta Marina**	**9.78**	**322**	*e*Pn	Pn	03 17 08.7	-3.1
SMRN				Sn	Sn	03 18 47.9	-13
BRJN	**Brijuni**	**9.88**	**321**	*e*Pn	Pn	03 17 10.0	-3.4
BRJN				Sn	Sn	03 18 50.8	-12

*IDC **21** 03:18:17.3±1.0, 6°88N×73°07W, h155km±29km, mb2.7/2, mb1 3.3/4, mb1mx3.0/33, mbtmp3.4/4, Error ellipse: s-maj=71.0km s-min=8.6km az=133.0*
*RSNC **21** 03:18:18.0±1.1, 6°81N×73°14W, h148km±5km, ML3.2, Mw3.7, Fault plane solution: NP1:φs10.00000°, δ29.00000°, λ-42.00000°.*
ISC 21 03:18:16.8±0.9, 6°83N±0°03×73°12W±0°03, h157km±7km, n36, σ1°47/70, 5C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.66**	**39⇑**	*i*P	Pn	03 18 40.9	+0.5
PAMC				*e*S	Sn	03 18 57.7	-0.8
PAMC				*i*		03 19 00.2	
	comp=Z,160nm,0.5s						
RUSC	**La Rusia**	**0.93**	**178⇓**	*i*P	Pn	03 18 42.0	-0.3
RUSC				*e*S	Sn	03 19 00.8	-1.0
RUSC				*i*		03 19 02.1	
	comp=Z,118nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P	Pn	03 18 44.7	-0.8
PTBC				*e*S	Sn	03 19 05.7	-1.9
PTBC				*i*		03 19 12.6	
	comp=Z,83nm,0.2s						
TAMC	**Tame, Arauca**	**1.37**	**106⇑**	*i*P	Pn	03 18 46.5	+0.8
TAMC				*e*S	Sn	03 19 08.0	+0.2
TAMC				*i*		03 19 09.6	
	comp=Z,98nm,0.5s						
OCAC	**Ocana**	**1.42**	**352⇑**	*e*P	Pn	03 18 46.1	-0.2
OCAC				*e*S	Sn	03 19 08.5	-0.4
OCAC				*i*		03 19 16.6	
	comp=Z,284nm,0.2s						
SPBC	**San Pablo de B**

PRAC				*e*S	**Sn**	**03 19 54.0**	**-0.3**
PRAC				*i*		03 20 00.6	
	comp=Z,100nm,0.3s						
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P	**Pn**	**03 19 12.4**	**+0.3**
ORTC				*e*S	**Sn**	**03 19 54.2**	**-0.8**
ORTC				*i*		03 19 59.5	
	comp=Z,58nm,0.3s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P	**Pn**	**03 19 11.7**	**-1.3**
SJCC				*e*S	**Sn**	**03 19 53.4**	**-3.4**
SJCC				*i*		03 20 07.8	
	comp=Z,28nm,0.7s						
PLMC	**San Jos del P**	**3.68**	**239⇑**	*e*P	**Pn**	**03 19 13.5**	**+0.3**
PLMC				*e*S	**Sn**	**03 19 54.7**	**-2.4**
PLMC				*i*		03 20 01.6	
	comp=Z,16nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P	**Pn**	**03 19 18.4**	**-1.2**
CRJC				*e*S	**Sn**	**03 20 05.3**	**-3.2**
CRJC				*i*		03 20 13.3	
	comp=Z,48nm,0.2s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**03 19 20.8**	**-0.2**
YOTC				*e*S	**Sn**	**03 20 14.8**	**+3.7**
GUVC	**San Jose del G**	**4.28**	**173**	*e*P	**Pn**	**03 19 20.7**	**-0.3**
GUVC				*e*S	**Sn**	**03 20 08.3**	**-2.7**
GUVC				*i*		03 20 14.4	
	comp=Z,43nm,0.3s						
MACC	**Macarena, Meta**	**4.71**	**189**	*e*P	**Pn**	**03 19 25.2**	**-1.4**
MACC				*e*S	**Sn**	**03 20 17.5**	**-3.6**
MACC				*i*		03 20 22.2	
	comp=Z,32nm,0.8s						
MARP	**Paez Belalcaza**	**4.86**	**216**	*e*P	**Pn**	**03 19 30.0**	**+1.1**
MARP				*e*S	**Sn**	**03 20 23.4**	**-1.7**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**03 25 08.0**	**+1.1**
	comp=Z,0.1nm,0.6s,baz=126,slow=9.1,SNR=1.7						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**03 28 28.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=133,slow=6.5,SNR=8.9						

IDC 21 03:24:21.0±7.2, 15°36S×177°21W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/23, mbtmp3.7/3, MS3.6/13, Ms1 3.6/13, ms1mx3.3/59, Error ellipse: s-maj=372.2km s-min=36.9km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.12**	**242**	LR	LR	03 27 25.8	
	comp=Z,602nm,20.0s,baz=345,slow=36						
AFI	**Afiamalu**	**5.46**	**75**	LR	LR	03 27 20.8	
	comp=Z,157nm,19.6s,baz=222,slow=33						
DZM	**Mont Dzumac**	**16.85**	**244**	LR	LR	03 33 39.5	
	comp=Z,224nm,18.5s,baz=144,slow=33						
HNR	**Honiara**	**23.06**	**282**	LR	LR	03 37 07.3	
	comp=Z,175nm,18.7s,baz=130,slow=33						
PPT	**Papeete**	**26.59**	**99**	LR	LR	03 38 27.1	
	comp=Z,54nm,19.1s,baz=158,slow=32						
PMG	**Port Moresby**	**35.27**	**275**	LR	LR	03 42 55.1	
	comp=Z,132nm,18.7s,baz=181,slow=32						
STKA	**Stephens Creek**	**40.89**	**239**	LR	LR	03 47 25.3	
	comp=Z,86nm,18.1s,baz=27,slow=34						
ASAR	**Alice Springs**	**46.62**	**252**	P	P	03 32 51.2	-0.3
	0.6nm,0.7s,baz=86,slow=8.2,SNR=7.8						
FITZ	**Fitzroy Crossi**	**54.61**	**259**	LR	LR	03 56 54.7	
	comp=Z,60nm,18.3s,baz=178,slow=36						
ASAJ	**Asahikawa**	**69.63**	**330**	LR	LR	03 59 24.2	
	comp=Z,53nm,21.9s,baz=140,slow=30						
YBH	**Yreka Blue Hor**	**75.84**	**39**	LR	LR	04 02 35.6	
	comp=Z,53nm,18.9s,baz=270,slow=30						
LPIG	**La Paz**	**76.18**	**60**	LR	LR	04 01 13.6	
	comp=Z,44nm,18.6s,baz=220,slow=29						
KLR	**Kul'dur**	**78.53**	**329**	LR	LR	04 04 20.5	
	comp=Z,45nm,20.5s,baz=172,slow=31						
ILAR	**Eielson Array**	**83.17**	**13**	P	P	03 36 48.0	-0.6
	0.6nm,0.7s,baz=223,slow=6.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**89.12**	**289**	LR	LR	04 17 37.2	
	comp=Z,16nm,18.1s,baz=235,slow=36						
YKA	**Yellowknife Ar**	**91.56**	**24**	P	P	03 37 29.5	+0.2
	1.2nm,1.2s,baz=246,slow=4.8,SNR=3.9						
GERES	**GERESS Array B**	**145.43**	**347**	PKPbc	PKPbc	03 44 00.8	-0.3
	0.7nm,0.7s,baz=1.9,slow=4.0,SNR=7.1						

SSNC 21 03:29:12.1±2.1, 19°48N×76°05W, h10km±21km, MD2.2, ML0.0, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.61**	**33**	*e*P	Pg	03 29 23.6	-0.4
RCC				*e*S	Sg	03 29 31.2	-0.8
RCC				IAML		03 29 31.5	
	comp=E,1.3nm,0.1s						
RCC				IAML		03 29 32.4	
	comp=N,1.6nm,0.1s						
RCC	**Rio Carpintero**	**0.61**	**33**	*e*P	Pg	03 29 23.6	-0.4
RCC				*e*S	Sg	03 29 30.2	-1.8
RCC				IAML		03 29 31.5	
	comp=E,1.0nm,0.1s						
RCC				IAML		03 29 32.2	
	comp=N,0.8nm,0.1s						
LMGC	**Las Mercedes**	**1.07**	**303**	*e*P	Pg	03 29 31.5	-1.1
LMGC				*e*S	Sg	03 29 44.4	-2.1

*IDC **21** 04:01:01.4±6.1, 6°67S×146°59E, h143km±65km, mb3.4/3, mb1 3.5/5, mb1mx3.2/31, mbtmp3.7/5, Error ellipse: s-maj=80.8km s-min=25.6km az=142.0*

ISC 21 04:00:58.2±1.3, 6°4S±0°1×146°4E±0°2, h110km, n7, σ0°92/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.05**	**165**	P	**Pn**	**04 01 46.1**	**+1.3**
	45nm,0.3s,baz=333,slow=6.8,SNR=37						
PMG				S	**Sn**	**04 02 20.4**	**-0.4**
	36nm,0.3s,baz=174,slow=20,SNR=14						
CTA	**Charters Tower**	**13.57**	**180**	P	**P**	**04 04 10.3**	**-1.0**
	1.0nm,0.3s,baz=358,slow=15,SNR=9.0						
WRA	**Warramunga Arr**	**17.79**	**220**	P	**Pn**	**04 04 59.1**	**+0.2**
	0.1nm,0.3s,baz=41,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**20.90**	**214**	P	**P**	**04 05 31.3**	**-0.7**
	0.6nm,0.5s,baz=49,slow=8.5,SNR=2.8						
FITZ	**Fitzroy Crossi**	**23.30**	**238**	P	**P**	**04 05 57.3**	**+0.7**
	1.4nm,0.5s,baz=65,slow=11,SNR=12						
ILAR	**Eielson Array**	**86.13**	**23**	P	**P**	**04 13 26.2**	**-0.4**
	1.4nm,0.6s,baz=250,slow=4.9,SNR=30						
TORD	**Torodi Ar. Bea**	**144.59**	**284**	PKP	**PKPdf**	**04 20 23.3**	**+0.4**
	0.6nm,0.7s,baz=75,slow=1.9,SNR=4.4						

*IDC **21** 04:01:38.1±1.0, 66°17N×16°75W, h0km, mb3.3/5, mb1 3.7/9, mb1mx3.5/60, mbtmp3.5/9, ML2.9/4, MS3.6/35, Ms1 3.6/35, ms1mx3.4/59, Error ellipse: s-maj=31.3km s-min=17.0km az=176.0*

*REY **21** 04:01:38.1, 66°27N×16°71W, h4km*

ISC 21 04:01:38.0±1.0, 66°24N±0°02×16°77W±0°02, h7km±7km, n72, σ1°23/62, mb3.3/5, MS3.5/30, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILEI	**Leirhofn**	**0.21**	**33**	P	**Pg**	**04 01 41.6**	**-0.5**
	baz=32						
ILEI				S	**Sg**	**04 01 44.4**	**-0.5**
	baz=32						
IGIL	**Gilhagi**	**0.23**	**133**	P	**Pg**	**04 01 42.8**	**+0.2**
	baz=142						
IGIL				S	**Sg**	**04 01 46.6**	**+0.9**
	baz=142						
IHED	**Heoinshofoi**	**0.27**	**235**	P	**Pg**	**04 01 44.1**	**+0.8**
	baz=233						
IHED				S	**Sg**	**04 01 48.8**	**+1.9**
	baz=233						
ISKI	**Skildingahlsh**	**0.38**	**196**	P	**Pg**	**04 01 46.0**	**+0.6**
	baz=198						
ISKI				S	**Sb**	**04 01 52.1**	**-1.1**
	baz=198						
IGHA	**Grjothals**	**0.40**	**174**	P	**Pg**	**04 01 46.0**	**+0.3**
	baz=178						
IGHA				S	**Sb**	**04 01 52.1**	**-1.5**
	baz=178						
IGRA	**Granastaoir**	**0.46**	**226**	P	**Pg**	**04 01 47.2**	**+0.4**
	baz=226						
IGRA				S	**Sg**	**04 01 54.1**	**+1.3**
	baz=226						
IKVO	**Krokottuvotn**	**0.53**	**185**	P	**Pg**	**04 01 48.1**	**0.0**
	baz=187						
IKVO				S	**Sb**	**04 01 56.1**	**-1.3**
	baz=187						
IGRI	**Grimsey**	**0.59**	**302**	P	**Pg**	**04 01 48.9**	**-0.4**
	baz=298						
IGRI				S	**Sg**	**04 01 57.1**	**+0.1**
	baz=298						
IREN	**Reynihlio**	**0.59**	**185**	P	**Pg**	**04 01 49.3**	**-0.1**
	baz=188						
IREN				S	**Sb**	**04 01 58.0**	**-1.3**
	baz=188						
IGRS	**Grimsstaoir**	**0.66**	**156**	P	**Pg**	**04 01 50.2**	**-0.4**
	baz=159						
IGRS				S	**Sg**	**04 01 59.5**	**+0.4**
	baz=159						
IMEL	**Melhnausar**	**0.67**	**176**	P	**Pg**	**04 01 50.6**	**-0.3**
	baz=178						
IMEL				S	**Sb**	**04 02 00.3**	**-1.2**
	baz=178						
IHLA	**Hella**	**0.72**	**247**	P	**Pg**	**04 01 51.5**	**-0.4**
	baz=246						
IHLA				S	**Sg**	**04 02 02.1**	**+0.9**
	baz=246						
ISIG	**Siglufjorour**	**0.88**	**264**	S	**Sg**	**04 02 05.7**	**-0.5**
	baz=262						
ISIG				P	**Pg**	**04 01 53.3**	**-1.5**
	baz=262						
ISVA	**Svartarkot**	**0.92**	**193**	P	**Pg**	**04 01 54.9**	**-0.8**
	baz=194						
ISVA				S	**Sg**	**04 02 07.8**	**+0.1**
	baz=194						
IMKO	**Mokollar**	**1.27**	**172**	P	**Pg**	**04 02 00.4**	**-2.0**
	baz=173						
IMKO				S	**Sg**	**04 02 17.6**	**-1.3**
	baz=173						
THOR	**Thorvaldshraun**	**1.31**	**178**	P	**Pg**	**04 02 00.9**	**-2.2**
	baz=179						
THOR				S	**Sg**	**04 02 18.7**	**-1.3**
	baz=179						
IHRN	**Hraun**	**1.37**	**266**	P	**Pn**	**04 02 00.7**	**-2.8**
	baz=265						
IHRN				S	**Sg**	**04 02 18.0**	**-3.9**
	baz=265						
IURH	**Urdarhals**	**1.43**	**186**	P	**Pn**	**04 02 03.2**	**-1.3**
	baz=187						
IKRE	**Kreppuhraun**	**1.47**	**173**	P	**Pn**	**04 02 03.3**	**-1.7**
	baz=175						
IVSH	**V-Sauoahnukur**	**1.50**	**163**	S	**Sg**	**04 02 23.8**	**-2.3**
	baz=164						
IVON	**Vonarskard**	**1.62**	**195**	P	**Pn**	**04 02 05.4**	**-1.7**
	baz=196						
IVON				S	**Sn**	**04 02 26.6**	**-1.7**
	baz=196						
ISKR	**Skrokkalda**	**1.81**	**203**	P	**Pn**	**04 02 09.0**	**-0.7**
	baz=203						
ISKR				S	**Sn**	**04 02 32.5**	**-0.4**
	baz=203						
ISTE	**Stelbrattur**	**1.82**	**222**	P	**Pn**	**04 02 09.2**	**-0.7**
	baz=222						
ISTE				S	**Sn**	**04 02 32.8**	**-0.5**
	baz=222						
IGRF	**Grimsfjall**	**1.85**	**187**	P	**Pn**	**04 02 09.4**	**-0.9**
	baz=187						
IVOT	**Vottur**	**1.98**	**185**	P	**Pn**	**04 02 11.4**	**-0.6**
	baz=186						
IHUS	**Husbondi**	**1.98**	**191**	P	**Pn**	**04 02 11.7**	**-0.4**
	baz=192						
IJOK	**Jokulheimar**	**2.02**	**198**	P	**Pn**	**04 02 12.2**	**-0.4**
	baz=199						
IHAE	**Haedir**	**2.22**	**182**	P	**Pn**	**04 02 14.7**	**-0.5**
	baz=183						
IVAT	**Vatnsfell**	**2.25**	**205**	P	**Pn**	**04 02 15.4**	**-0.2**
	baz=205						
IKAL	**Kalfafell**	**2.33**	**190**	P	**Pn**	**04 02 16.8**	**+0.1**
	baz=191						
IASB	**`sbjarnarst**	**2.42**	**234**	P	**Pn**	**04 02 17.6**	**-0.2**
	baz=234						
BORG	**Borgarnes**	**2.42**	**234**	Pn	**Pn**	**04 02 17.6**	**-0.3**
	22nm,0.3s,baz=45,slow=5.0,SNR=51						
BORG				Sn	**Sb**	**04 02 50.7**	**-1.1**
	31nm,0.3s,baz=348,slow=23,SNR=28						
SCO	**Scoresbysund**	**4.68**	**338**	*i* P	**Pn**	**04 02 47.0**	**-1.9**
JMIC	**Jan Mayen**	**5.64**	**29**	LR	LR	04 04 59.9	
	comp=Z,39nm,18.1s,baz=151,slow=35						
EKA	**Eskdalemuir Ar**	**12.76**	**142**	LR	LR	04 09 44.1	
	comp=Z,154nm,18.1s,baz=316,slow=38						
NOA	**NORSAR Array B**	**13.39**	**100**	Pn	**Pn**	**04 04 48.9**	**+0.6**
	0.0nm,0.3s,baz=310,slow=12,SNR=3.4						
NOA				LR	LR	04 09 41.3	
	comp=Z,94nm,20.3s,baz=305,slow=36						
HFS	**Hagfors**	**14.92**	**100**	LR	LR	04 10 37.9	
	comp=Z,161nm,18.6s,baz=278,slow=36						
ARCES	**ARCESS Array B**	**16.00**	**59**	Pn	**Pn**	**04 05 22.9**	**-0.3**
	baz=278,slow=13,SNR=1.1						
ARCES				LR	LR	04 09 59.9	
	comp=Z,172nm,21.9s,baz=312,slow=31						
FINES	**FINESS Array B**	**19.18**	**84**	P	**Pn**	**04 06 02.9**	**+0.2**
	0.1nm,0.3s,baz=308,slow=9.7,SNR=6.1						
FINES				LR	LR	04 12 37.5	
	comp=Z,178nm,21.6s,baz=310,slow=34						
FRB	**Frobisher Bay**	**21.51**	**288**	LR	LR	04 14 02.8	
	comp=Z,152nm,18.6s,baz=42,slow=35						
GERES	**GERESS Array B**	**23.50**	**123**	P	**P**	**04 06 49.0**	**+0.8**
	0.3nm,0.4s,baz=338,slow=7.7,SNR=2.6						
GERES				LR	LR	04 17 05.1	
	comp=Z,75nm,18.1s,baz=322,slow=40						
DAVOX	**Davos/Dischmat**	**24.07**	**131**	LR	LR	04 16 30.8	
	comp=Z,104nm,19.5s,baz=312,slow=37						
VRAC	**Vranov**	**24.12**	**118**	LR	LR	04 15 32.6	
	comp=Z,68nm,19.7s,baz=320,slow=35						
RES	**Resolute Bay**	**25.38**	**323**	LR	LR	04 16 35.7	
	comp=Z,75nm,21.7s,baz=68,slow=35						
SCHQ	**Schefferville**	**26.34**	**269**	LR	LR	04 16 46.3	
	comp=Z,87nm,18.3s,baz=98,slow=34						
ESDC	**Sonseca Array**	**27.59**	**158**	LR	LR	04 17 49.0	
	comp=Z,77nm,18.9s,baz=305,slow=35						
AKASG	**Malin Array Be**	**27.80**	**101**	LR	LR	04 18 28.6	
	comp=Z,120nm,19.3s,baz=326,slow=36						
KIRV	**Kirov**	**30.18**	**72**	LR	LR	04 20 26.9	
	comp=Z,47nm,18.2s,baz=342,slow=37						
MLR	**Muntele Rosu**	**30.77**	**111**	LR	LR	04 21 32.2	
	comp=Z,67nm,18.5s,baz=300,slow=39						
BELG	**Belogornoye**	**33.93**	**82**	LR	LR	04 21 46.5	
	comp=Z,201nm,19.2s,baz=321,slow=36						
VAE	**Valguarnera**	**33.93**	**132**	LR	LR	04 21 05.9	
	comp=Z,89nm,18.4s,baz=312,slow=34						
MDT	**Midelt**	**34.24**	**162**	LR	LR	04 21 19.7	
	comp=Z,58nm,19.4s,baz=347,slow=35						
ARU	**Arti**	**35.20**	**69**	LR	LR	04 22 03.4	
	comp=Z,157nm,18.4s,baz=294,slow=35						
YKA	**Yellowknife Ar**	**38.37**	**312**	P	**P**	**04 09 01.1**	**+2.0**
	0.5nm,0.8s,baz=43,slow=8.2,SNR=8.4						
KBZ	**Khabaz**	**38.91**	**95**	LR	LR	04 24 51.8	
	comp=Z,84nm,20.7s,baz=348,slow=36						
SADO	**Sadowa**	**39.15**	**268**	LR	LR	04 24 16.4	
	comp=Z,129nm,18.2s,baz=18,slow=35						
IDI	**Anoyia**	**39.34**	**121**	LR	LR	04 28 05.4	
	comp=Z,46nm,18.2s,baz=284,slow=40						
AKTO	**Aktyubinsk**	**39.57**	**76**	LR	LR	04 25 07.3	
	comp=Z,111nm,18.2s,baz=344,slow=36						
ULM	**Lac du Bonnet**	**41.40**	**288**	LR	LR	04 26 12.0	
	comp=Z,120nm,18.8s,baz=37,slow=36						
GNI	**Garni**	**42.67**	**96**	LR	LR	04 27 31.3	
	comp=Z,87nm,21.3s,baz=312,slow=36						
ILAR	**Eielson Array**	**44.43**	**332**	LR	LR	04 30 46.4	
	comp=Z,56nm,18.0s,baz=294,slow=39						
KURBB	**Kurchatov Arra**	**47.09**	**60**	LR	LR	04 30 02.2	
	comp=Z,87nm,18.1s,baz=335,slow=36						
TKL	**Tuckaleechee C**	**48.74**	**266**	LR	LR	04 29 12.2	
	comp=Z,72nm,19.9s,baz=13,slow=34						
GEYT	**Alibeck**	**49.97**	**86**	LR	LR	04 33 31.4	
	comp=Z,85nm,18.8s,baz=351,slow=38						
MKAR	**Makanchi Array**	**51.65**	**60**	P	**P**	**04 10 45.7**	**+0.7**
	0.2nm,0.6s,baz=340,slow=7.7,SNR=2.2						
KDAK	**Kodiak Island**	**51.95**	**332**	LR	LR	04 34 33.0	
	comp=Z,35nm,18.5s,baz=64,slow=38						
AAK	**Ala-Archa**	**52.38**	**69**	LR	LR	04 32 36.4	
	comp=Z,61nm,18.3s,baz=324,slow=36						
PDAR	**Pinedale Array**	**52.84**	**293**	P	**P**	**04 10 55.0**	**+0.9**
	0.7nm,0.8s,baz=35,slow=5.4,SNR=6.2						
PDAR				LR	LR	04 34 44.5	
	comp=Z,75nm,20.1s,baz=48,slow=38						
ELK	**Elko**	**56.70**	**296**	LR	LR	04 35 40.5	
	comp=Z,92nm,21.4s,baz=47,slow=36						
ANMO	**Albuquerque**	**58.46**	**285**	LR	LR	04 36 30.7	
	comp=Z,105nm,20.3s,baz=42,slow=36						
NVAR	**Mina Array Bea**	**59.85**	**297**	LR	LR	04 38 07.7	
	comp=Z,76nm,19.6s,baz=80,slow=37						
TXAR	**Lajitas Array**	**62.31**	**280**	P	**P**	**04 12 02.1**	**+1.4**
	0.3nm,0.8s,baz=64,slow=5.7,SNR=3.5						

TRN 21 04:14:55.7, 11°27N×61°81W, h24km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.73**	**147**	*e*P	Pb	04 15 09.9	+0.1
TRN				*e*S	Sn	04 15 20.6	-0.3
GRGR	**Grenville**	**0.88**	**10**	*e*P	Pn	04 15 12.5	0.0
GRGR				*e*S	Sn	04 15 26.0	+1.5
TBH	**Brigand Hill**	**1.06**	**137**	*e*P	Pn	04 15 15.3	+0.2
TBH				*e*S	Sn	04 15 29.8	+0.7
TOSP	**Speyside**	**1.25**	**88**	*e*P	Pn	04 15 17.1	-0.4
TOSP				*e*S	Sb	04 15 34.5	+0.2
GCMP	**Grenada, Carri**	**1.27**	**17**	*e*	Pn	04 15 16.9	-1.0
GCMP	**Grenada, Carri**	**1.27**	**17**	*e*P	Pn	04 15 17.8	-0.2
GCMP				*e*S	Sb	04 15 34.8	-0.1
SVOC	**Richmond Hill,**	**1.96**	**17**	*e*P	Pn	04 15 28.4	+0.9
SVOC				*e*S	Sn	04 15 50.4	-0.9
SVB	**Belmont**	**2.07**	**15**	*e*P	Pn	04 15 29.6	+0.7
SVB				*e*S	Sn	04 15 54.0	0.0
SVV	**Soufriere Volc**	**2.12**	**16**	*e*P	Pn	04 15 30.6	+0.9
SVV				*e*S	Sn	04 15 55.1	-0.2
MCLT	**Moule a Chique**	**2.57**	**19**	*e*P	Pn	04 15 37.0	+1.1
MCLT				*e*S	Sn	04 16 05.8	-0.6
SLBI	**Saint Lucia, B**	**2.86**	**16**	*e*P	Pn	04 15 40.2	+0.4
SLBI				*e*S	Sn	04 16 12.7	-0.7
MPOM	**Morne Pois Mar**	**3.29**	**16**	*e*P	Pn	04 15 46.8	+1.0
MPOM				*e*S	Sn	04 16 23.9	-0.2
DSLB	**Salisbury**	**4.17**	**5**	*e*P	Pn	04 15 57.8	0.0
DSLB	**Salisbury**	**4.17**	**5**	*e*S	Sn	04 16 44.7	-1.1
CBE	**Ff, Capester**	**4.78**	**2**	*e*P	Pn	04 16 07.0	+0.8
ANBD	**Bethesda, Anti**	**5.75**	**0**	*e*P	Pn	04 16 20.7	+1.2
ANBD	**Bethesda, Anti**	**5.75**	**0**	*e*S	Sn	04 17 23.0	-1.7

*IDC **21** 04:30:45.0±3.1, 4°91S×152°86E, h94km±19km, mb3.5/6, mb1 3.7/6, mb1mx3.3/47, mbtmp3.8/6, Error ellipse: s-maj=46.1km s-min=22.0km az=115.0*

ISC 21 04:30:39.1±1.1, 5°1S±0°2×153°3E±0°1, h50km, n8, σ1°36/10, mb3.8/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.44**	**302**	P	**Pn**	**04 31 03.9**	**+1.0**
KRVT				S	**Sn**	**04 31 20.9**	**+0.2**
WRA	**Warramunga Arr**	**23.60**	**230**	P	**P**	**04 35 46.5**	**+0.8**
	0.8nm,0.5s,baz=52,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**26.25**	**223**	P	**P**	**04 36 10.0**	**+0.2**
	0.4nm,0.4s,baz=55,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**29.92**	**242**	P	**P**	**04 36 42.5**	**-0.1**
	1.3nm,0.4s,baz=56,slow=8.4,SNR=9.0						
MKAR	**Makanchi Array**	**80.83**	**319**	P	**P**	**04 42 46.8**	**-1.0**
	0.6nm,0.6s,baz=97,slow=6.9,SNR=8.3						
BVAR	**Borovoye Array**	**89.73**	**323**	P	**P**	**04 43 30.2**	**-1.8**
	0.7nm,0.6s,baz=81,slow=8.9,SNR=4.5						
NVAR	**Mina Array Bea**	**91.91**	**52**	P	**P**	**04 43 44.7**	**+1.9**
	0.4nm,0.8s,baz=269,slow=6.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**150.82**	**288**	PKPbc	**PKPbc**	**04 50 25.7**	**-1.5**
	0.1nm,0.4s,baz=75,slow=1.5,SNR=4.6						
TORD				pPKPbc	**pPKPbc**	**04 50 42.6**	**+1.1**
	0.3nm,0.3s,baz=90,slow=1.6,SNR=6.2						

*NIED **21** 05:26:17.4, 30°95N×128°60E, h16km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.69; $M_{\theta\theta}$2.58; $M_{\phi\phi}$-0.89; $M_{r\theta}$0.54; $M_{\theta\phi}$5.92; $M_{\phi r}$-2.82; Fault plane solution: $M_0$6.95000×10^{14} NP1:ϕ_s12.00000°, δ77.00000°, λ-153.00000°. NP2:ϕ_s275.00000°, δ64.00000°, λ-14.00000°.*

JMA 21 05:26:17.3±0.4, 30°95N×128°60E, h16km±4km, M3.8, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**1.20**	**52**	P	Pn	05 26 38.9	-0.5
JSJ				*e*S	Sb	05 26 54.2	-0.7
JKC	**Kuchinoerabu**	**1.46**	**109**	P	Pn	05 26 43.2	+0.2
JKC				*e*S	Sb	05 27 02.4	+0.1
JNN	**Nakanoshima**	**1.56**	**135**	P	Pn	05 26 44.4	0.0
JNN				*e*S	Sb	05 27 04.9	-0.4
JSU	**Suzuyama**	**1.68**	**70**	P	Pn	05 26 47.0	+0.9
JYAK	**Yakushimahirau**	**1.79**	**113**	P	Pn	05 26 47.4	-0.2
JTAJ	**Takarajima**	**1.87**	**164**	P	Pb	05 26 49.8	-1.2
JMTN	**Minamitane**	**2.06**	**105**	P	Pn	05 26 51.9	+0.7
JTN	**Tanegashima 3**	**2.07**	**98**	P	Pn	05 26 52.1	+0.7
JTZ	**Takazaki**	**2.33**	**65**	P	Pn	05 26 56.5	+1.5
JIU3	**Izumi3**	**2.47**	**49**	P	Pn	05 26 58.3	+1.4

NNC 21 05:28:35.6±1.1, 37°39N×78°64E, h17km±5km, mb4.0, mpv3.8, 7C-4D, Error ellipse: s-maj=12.1km s-min=7.4km az=78.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.66**	**358**	Pg	Pg	05 30 19.8	-4.2
	4.4nm,0.4s						
SATY				Lg	Lg	05 31 36.7	
	12nm,0.4s						
UZB	**Uzynbulak**	**5.75**	**3**	Pg	Pg	05 30 21.3	-4.4
	3.8nm,0.3s						
UZB				Lg	Lg	05 31 39.3	
	6.4nm,0.2s						
TNSS	**Tian-Shan**	**5.78**	**348**	Pg	Pg	05 30 22.0	-4.3
	6.7nm,0.2s						
TNSS				Lg	Lg	05 31 40.5	
	5.8nm,0.5s						
MDOK	**Medeo**	**5.89**	**349**	Pg	Pb	05 30 23.0	+5.1
	3.2nm,0.4s						
MDOK				Lg	Lg	05 31 42.3	
	22nm,0.5s						
KOTS	**Kotyrbulak**	**5.95**	**349**	Pg	Pg	05 30 24.2	-5.2
	3.2nm,0.3s						
KOTS				Lg	Lg	05 31 44.4	
	14nm,0.4s						

MRKS				Lg	Lg	05 32 07.9	
	4.9nm,0.5s						
ARXS	**Arharly**	**6.84**	**355**	Pg	Pg	05 30 40.8	-5.7
	2.3nm,0.4s						
ARXS				Lg	Lg	05 32 12.8	
	5.8nm,0.3s						
MAKZ	**Makanchi**	**9.73**	**14**	⇑Pn	Pn	05 30 54.0	-0.8
	2.2nm,0.4s						
MK31	**Makanchi Array**	**9.78**	**15**	⇓Pn	Pn	05 30 53.5	-1.9
	0.2nm,0.3s,baz=198,slow=13,SNR=35						
MK31				⇑Sn	Sn	05 32 44.3	-0.5
	0.4nm,0.4s						

*UCR **21** 05:35:59.1±2.2, 10°.36N×86°.30W, h24km±12km, MW4.5*
*IDC **21** 05:36:03.0±2.2, 10°.83N×85°.86W, h40km±23km, mb3.5/7, mb1 3.8/9, mb1mx3.6/31, mbtmp3.7/9, ML3.1/2, MS3.5/11, Ms1 3.5/11, ms1mx3.2/43, Error ellipse: s-maj=58.6km s-min=19.9km az=38.0*

ISC 21 05:36:00.9±0.9, 10°.46N±0°.09×86°.18W±0°.07, h33km, n38, σ1§73/31, mb3.7/7, MS3.5/9, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.62**	**66**	⇑*iP*	**Pn**	**05 36 14.4**	**+1.0**
HZTE				*e*S	**Sn**	**05 36 26.8**	**+4.5**
GUAI	**GUAI**	**0.68**	**106**	*i* P	**Pn**	**05 36 13.6**	**-0.6**
GUAI				*i* S	**Sn**	**05 36 25.1**	**+1.4**
BUEV	**Buena Vista**	**0.83**	**66**	*e*P	**Pb**	**05 36 15.5**	**-1.4**
BUAI	**Buenos Aires**	**0.93**	**63**	*i* P	**Pb**	**05 36 18.8**	**+0.2**
GUAB	**Guayabo de Bag**	**0.96**	**75**	*i* P	**Pb**	**05 36 19.0**	**-0.1**
CUI	**Cuipilapa**	**1.01**	**79**	*i* P	**Pb**	**05 36 19.9**	**-0.1**
JTS	**Las Juntas de**	**1.22**	**98**	Pn	**Pn**	**05 36 21.0**	**-0.6**
JTS	**Las Juntas de**	**1.22**	**98**	*e*P	**Pn**	**05 36 20.5**	**-1.1**
ARE1	**Arenal 1**	**1.43**	**90**	*e*P	**Pb**	**05 36 25.2**	**-1.9**
CEDE	**Laguna Cedeo**	**1.45**	**89**	*e*P	**Pb**	**05 36 26.6**	**-0.7**
JACO	**JACO, Garabito**	**1.69**	**118**	*e*P	**Pn**	**05 36 28.6**	**+0.5**
COVE	**Coope Vega, Sa**	**1.76**	**81**	*e*P	**Pb**	**05 36 30.6**	**-2.0**
ACON	**Acoyapa**	**1.79**	**33**	*e*P	**Pb**	**05 36 28.8**	**-4.2**
CRPO	**Crater poas**	**1.94**	**98**	*e*P	**Pb**	**05 36 33.1**	**-2.6**
HDC	**Heredia**	**2.08**	**103**	*e*P	**Pn**	**05 36 32.0**	**-1.6**
RIMA	**Rio Macho**	**2.38**	**107**	*e*P	**Pn**	**05 36 36.8**	**-0.9**
CDM	**Cerro de Muert**	**2.54**	**111**	*e*P	**Pn**	**05 36 40.7**	**+0.5**
MRVA	**Moravia de Chi**	**2.76**	**103**	*e*P	**Pn**	**05 36 43.9**	**+0.8**
APG	**El Apazote**	**6.16**	**318**	Pn	**Pn**	**05 37 32.1**	**+2.3**
	0.4nm,0.3s,baz=301,slow=20,SNR=4.8						
CMIG	**Matias Romero**	**10.72**	**309**	Pn	**Pn**	**05 38 33.2**	**+1.1**
	0.2nm,0.3s,baz=142,slow=11,SNR=3.2						
ROSC	**El Rosal**	**13.01**	**115**	LR	LR	05 44 15.1	
	comp=Z,137nm,19.7s,baz=189,slow=38						
ATAH	**Atahualpa**	**19.12**	**156**	LR	LR	05 46 43.4	
	comp=Z,205nm,20.8s,baz=333,slow=33						
TXAR	**Lajitas Array**	**24.90**	**321**	P	**P**	**05 41 20.8**	**-0.2**
	1.1nm,0.8s,baz=139,slow=10,SNR=13						
TKL	**Tuckaleechee C**	**25.18**	**5**	P	**P**	**05 41 22.2**	**-1.1**
	5.8nm,0.9s,baz=186,slow=12,SNR=5.9						
TKL				LR	LR	05 51 40.3	
	comp=Z,69nm,18.4s,baz=240,slow=38						
H06E1	**SOCORRO T-PHAS**	**25.31**	**292**	T	T	06 07 42.1	
	SNR=5.7						
ANMO	**Albuquerque**	**30.59**	**326**	P	**P**	**05 42 13.1**	**+1.1**
	1.2nm,0.9s,baz=126,slow=6.6,SNR=4.1						
LPAZ	**La Paz**	**32.02**	**146**	LR	LR	05 56 14.1	
	comp=Z,90nm,20.0s,baz=289,slow=38						
MDP	**Montagnes des**	**33.63**	**97**	LR	LR	05 59 58.5	
	comp=Z,52nm,19.0s,baz=295,slow=43						
SADO	**Sadowa**	**34.72**	**9**	LR	LR	05 57 35.4	
	comp=Z,108nm,18.1s,baz=198,slow=38						
PDAR	**Pinedale Array**	**38.10**	**332**	P	**P**	**05 43 17.1**	**0.0**
	0.3nm,0.6s,baz=139,slow=7.0,SNR=3.9						
PDAR				LR	LR	06 01 10.9	
	comp=Z,38nm,20.0s,baz=129,slow=40						
NVAR	**Mina Array Bea**	**40.02**	**319**	P	**P**	**05 43 33.9**	**+0.8**
	1.2nm,0.8s,baz=138,slow=7.1,SNR=11						
NVAR				PcP	**PcP**	**05 45 39.9**	**+2.2**
	0.2nm,0.5s,baz=139,slow=5.6,SNR=4.4						
YBH	**Yreka Blue Hor**	**44.67**	**321**	LR	LR	06 04 23.7	
	comp=Z,53nm,18.5s,baz=158,slow=38						
SCHQ	**Schefferville**	**46.84**	**15**	LR	LR	06 06 19.4	
	comp=Z,47nm,18.3s,baz=94,slow=39						
FRB	**Frobisher Bay**	**54.66**	**10**	LR	LR	06 09 27.6	
	comp=Z,77nm,18.2s,baz=212,slow=37						
YKA	**Yellowknife Ar**	**55.85**	**345**	P	**P**	**05 45 33.0**	**-1.9**
	0.4nm,0.6s,baz=139,slow=7.3,SNR=8.4						
SFJD	**Kangerlussuaq**	**61.29**	**15**	LR	LR	06 12 49.6	
	comp=Z,72nm,18.3s,baz=216,slow=36						
ILAR	**Eielson Array**	**68.33**	**336**	P	**P**	**05 46 57.6**	**-1.0**
	0.8nm,0.9s,baz=128,slow=2.1,SNR=5.1						
CMAR	**Chiang Mai Arr**	**150.82**	**350**	PKPbc	**PKPbc**	**05 55 51.0**	**0.0**
	1.5nm,0.4s,baz=333,slow=3.2,SNR=7.3						

IDC 21 05:57:39.0±1.9, 6°.88S×128°.74E, h0km, mb3.8/1, mb1 3.9/3, mb1mx3.6/21, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=108.8km s-min=31.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.08**	**158**	Pn	Pn	06 00 59.0	-0.9
	0.5nm,0.3s,baz=336,slow=14,SNR=11						
ASAR	**Alice Springs**	**17.41**	**164**	P	Pn	06 01 44.2	+0.7
	0.3nm,0.3s,baz=346,slow=10,SNR=25						
MKAR	**Makanchi Array**	**67.44**	**327**	P	P	06 08 36.6	0.0
	0.5nm,0.5s,baz=121,slow=7.8,SNR=8.2						

*SJA **21** 06:06:59.6±1.2, 30°.53S×71°.42W, h30km±11km, ML3.9, MW4.0*
*GUC **21** 06:07:02.1±0.6, 30°.51S×71°.22W, h57km±2km, ML4.4*
*NEIC **21** 06:07:02.3±1.7, 30°.55S±0°.03×71°.3W±0°.2, h56km±9km, mb4.2/2, ML4.4(GUC), Error ellipse: s-maj=19.1km s-min=4.2km az=88.0*

ISC 21 06:07:01.8±1.0, 30°.51S±0°.03×71°.30W±0°.04, h53km±8km, n56, σ1§11/78, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.33**	**240**	⇑*iP*	**Pn**	**06 07 12.4**	**+0.9**
CO06				*i* S	**Sn**	**06 07 20.4**	**+1.9**
CO06	**Fray Jorge**	**0.33**	**240**		**Pn**	**06 07 12.5**	**+0.9**
CO06				Sn	**Sn**	**06 07 20.5**	**+1.9**
GO04	**Tololo Observa**	**0.55**	**52**	*e*P	**Pn**	**06 07 13.9**	**-0.2**
GO04				*i* S	**Sn**	**06 07 23.1**	**+0.2**
GO04				IAML		06 07 25.0	
	comp=N,30μm,0.3s						
GO04	**Tololo Observa**	**0.55**	**52**		**Pn**	**06 07 14.2**	**+0.1**
GO04				Sn	**Sn**	**06 07 23.1**	**+0.2**
GO04	**Tololo Observa**	**0.55**	**52**	*i* P	**Pn**	**06 07 14.3**	**+0.2**
GO04				*e*S	**Sn**	**06 07 23.2**	**+0.3**
CO05	**La Serena**	**0.59**	**5**	⇑*iP*	**Pn**	**06 07 14.9**	**+0.5**
CO05				*i* S	**Sn**	**06 07 24.4**	**+1.1**
CO05	**La Serena**	**0.59**	**5**		**Pn**	**06 07 14.8**	**+0.5**
CO03	**El Pedregal**	**0.62**	**122**	⇓*iP*	**Pn**	**06 07 14.4**	**-0.3**
CO03				*i* S	**Sn**	**06 07 23.5**	**-0.7**
CO03				IAML		06 07 25.2	
	comp=E,14μm,0.4s						
CO03	**El Pedregal**	**0.62**	**122**		**Pn**	**06 07 14.5**	**-0.3**
CO03				Sn	**Sn**	**06 07 23.7**	**-0.4**
CO03	**El Pedregal**	**0.62**	**122**	*i* P	**Pn**	**06 07 14.6**	**-0.2**
CO03				*e*S	**Sn**	**06 07 23.8**	**-0.4**
CO03				IAML		06 07 25.2	
	comp=Z,5μm,0.3s						
LCO	**Las Campanas**	**1.58**	**19**	*e*P	**Pn**	**06 07 27.4**	**-0.3**
LCO				*e*S	**Sn**	**06 07 47.6**	**+0.4**
LCO	**Las Campanas**	**1.58**	**19**	Pn	**Pn**	**06 07 28.1**	**+0.3**
LCO	**Las Campanas**	**1.58**	**19**	*i* P	**Pn**	**06 07 28.0**	**+0.3**
LCO				IAML		06 07 55.2	
	comp=Z,3μm,0.6s						
VA06	**Catapilco**	**2.05**	**180**	⇑*iP*	**Pn**	**06 07 34.8**	**+1.0**
VA06				*i* S	**Sn**	**06 07 59.9**	**+1.8**
VA06				IAML		06 08 05.6	
	comp=N,5μm,0.3s						
RTLS	**Leoncito**	**2.14**	**127**	*i* P	**Pn**	**06 07 37.6**	**+2.2**
RTLS				IAML		06 08 14.5	
	comp=Z,103nm,0.6s						
AC04	**Llanos de Chal**	**2.31**	**5**	*e*P	**Pn**	**06 07 38.1**	**+0.8**
AC04				*e*S	**Sn**	**06 08 05.8**	**+1.3**
AC04	**Llanos de Chal**	**2.31**	**5**	Pn	**Pn**	**06 07 38.1**	**+0.8**
AC04	**Llanos de Chal**	**2.31**	**5**	*i* P	**Pn**	**06 07 38.5**	**+1.2**
AC04				IAML		06 08 14.6	
	comp=Z,515nm,0.5s						
VA03	**San Esteban**	**2.34**	**164**	⇓*iP*	**Pn**	**06 07 38.6**	**+0.7**
VA03				*e*S	**Sn**	**06 08 06.8**	**+1.4**
VA03				IAML		06 08 11.0	
	comp=N,2μm,0.6s						
VA03	**San Esteban**	**2.34**	**164**		**Pn**	**06 07 38.4**	**+0.5**
AUSP	**Uspallata**	**2.37**	**137**	*i* P	**Pn**	**06 07 40.8**	**+2.3**
ROCH	**El Roble**	**2.47**	**174**	*e*P		06 07 40.4	
ROCH				*e*P	**Pn**	**06 07 39.5**	**-0.3**
ROCH				*e*S	**Sn**	**06 08 10.3**	**+1.5**
ROCH				IAML		06 08 18.3	
	comp=N,2μm,0.6s						
ROCH				IAML		06 08 19.2	
	comp=N,2μm,0.3s						
VA01	**Torpederas**	**2.52**	**187**	*e*P	**Pn**	**06 07 39.8**	**-0.5**
VA01				IAML		06 08 20.3	
	comp=E,969nm,0.5s						
VA01	**Torpederas**	**2.52**	**187**		**Pn**	**06 07 40.4**	**+0.1**
PEL	**Peldehue**	**2.68**	**169**	*e*P	**Pn**	**06 07 43.2**	**+0.7**
PEL				*e*S	**Sn**	**06 08 15.4**	**+1.7**
PEL				IAML		06 08 29.0	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**2.68**	**169**		**Pn**	**06 07 42.5**	**0.0**
PEL	**Peldehue**	**2.68**	**169**	*i* P	**Pn**	**06 07 43.2**	**+0.7**
MT02	**Curacav**	**2.75**	**177**	*e*P	**Pn**	**06 07 43.7**	**+0.3**
MT02				*e*S	**Sn**	**06 08 16.5**	**+1.1**
MT02				IAML		06 08 22.5	
	comp=E,799nm,0.6s						
MT02	**Curacav**	**2.75**	**177**		**Pn**	**06 07 43.7**	**+0.3**
MT02	**Curacav**	**2.75**	**177**	*i* P	**Pn**	**06 07 43.8**	**+0.3**
MT02				IAML		06 08 28.1	
	comp=Z,514nm,0.6s						
MT05	**Renca**	**2.91**	**171**	*e*P	**Pn**	**06 07 46.6**	**+0.8**
MT05				*e*S	**Sn**	**06 08 20.7**	**+1.1**
MT05				AMP		06 08 29.5	
	comp=E,2μm,0.4s						
MT05	**Renca**	**2.91**	**171**		**Pn**	**06 07 46.9**	**+1.1**
MT05	**Renca**	**2.91**	**171**	*i* P	**Pn**	**06 07 47.0**	**+1.3**
MT05				IAML		06 08 39.8	
	comp=Z,536nm,0.3s						
GO03	**Copiap**	**3.05**	**18**	*e*P	**Pn**	**06 07 48.9**	**+1.2**
GO03				*e*S	**Sn**	**06 08 23.6**	**+0.6**
GO03				IAML		06 08 35.2	
	comp=N,399nm,0.6s						
GO03	**Copiap**	**3.05**	**18**	Pn	**Pn**	**06 07 48.8**	**+1.2**
ARCO	**CERRO ARCO**	**3.08**	**140**	*i* P	**Pn**	**06 07 51.0**	**+2.9**
ARCO				IAML		06 08 39.6	
	comp=Z,264nm,0.5s						
VA05	**Santo Domingo**	**3.15**	**185**	*e*P	**Pn**	**06 07 48.8**	**-0.1**
VA05				*e*S	**Sn**	**06 08 25.1**	**-0.2**
VA05				IAML		06 08 40.4	
	comp=E,2μm,0.5s						
VA05	**Santo Domingo**	**3.15**	**185**		**Pn**	**06 07 48.8**	**-0.1**
MT09	**Talagante**	**3.27**	**175**	*e*P	**Pn**	**06 07 51.4**	**+0.7**
MT09				*e*S	**Sn**	**06 08 29.1**	**+0.7**
MT09				IAML		06 08 41.4	
	comp=E,947nm,0.5s						
MT09	**Talagante**	**3.27**	**175**		**Pn**	**06 07 51.3**	**+0.7**
AAGR	**Agrelo**	**3.32**	**141**	*i* P	**Pn**	**06 07 54.6**	**+3.2**
AAGR				IAML		06 09 04.7	
	comp=Z,202nm,0.7s						
MT01	**Popeta**	**3.35**	**179**	⇑*eP*	**Pn**	**06 07 52.0**	**+0.4**
MT01				*e*S	**Sn**	**06 08 30.5**	**+0.4**
MT01				IAML		06 08 42.6	
	comp=E,956nm,0.4s						
MT01	**Popeta**	**3.35**	**179**	Pn	**Pn**	**06 07 51.9**	**+0.4**
MT01	**Popeta**	**3.35**	**179**	*i* P	**Pn**	**06 07 52.1**	**+0.4**
MT01				IAML		06 08 37.6	
	comp=Z,535nm,0.6s						
BO04	**La Punta**	**3.52**	**171**	*e*P	**Pn**	**06 07 54.8**	**+0.8**
BO04				*e*S	**Sn**	**06 08 35.0**	**+0.6**
BO04				IAML		06 08 54.4	
	comp=E,458nm,0.7s						
BO01	**Tunca**	**3.88**	**177**	Pn	**Pn**	**06 07 58.9**	**+0.1**
ACLC	**CERRO LA CRUZ**	**3.92**	**75**	*i* P	**Pn**	**06 08 01.2**	**+1.5**
ACLC				IAML		06 08 55.8	
	comp=Z,115nm,0.4s						
AC02	**Maricunga**	**4.13**	**28**	Pn	**Pn**	**06 08 04.0**	**+1.2**
BO02	**Sierra Bellavi**	**4.29**	**174**		**Pn**	**06 08 05.1**	**+0.5**
GO05	**Huala**	**4.52**	**187**		**Pn**	**06 08 06.9**	**-0.8**
ML02	**Panimavida**	**5.24**	**181**		**Pn**	**06 08 17.5**	**-0.1**
LC01	**Cunco**	**8.38**	**183**	Pn	**Pn**	**06 08 59.0**	**-1.6**
LR03	**Panguipulli**	**9.14**	**185**		**Pn**	**06 09 10.5**	**-0.5**
LL04	**Puerto Octay**	**10.42**	**185**		**Pn**	**06 09 26.1**	**-2.3**
ETMB	**Extrema**	**21.13**	**14**	P	**P**	**06 11 40.6**	**-1.6**
ETMB				IAmb	IAmb	06 12 06.0	
	comp=Z,2.0nm,0.7s						
MG05	**Puerto Natales**	**21.17**	**182**	P	**P**	**06 11 40.6**	**-1.7**
MG05				IAmb	IAmb	06 11 41.4	
	comp=Z,57nm,1.4s						

*IDC **21** 06:15:37.8±0.8, 8°.32S×156°.25E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/27, mbtmp4.0/9, ML4.0/1, MS3.6/25, Ms1 3.6/25, ms1mx3.4/57, Error ellipse: s-maj=27.4km s-min=20.4km az=144.0*
*DJA **21** 06:15:45.9±1.1, 8°.S±18°.×15°.7E±°, h80km±16km, M3.8/7, mb4.1/7, MLv3.6/1*

ISC 21 06:15:43.1±0.8, 8°.4S±0°.2×156°.25E±0°.10, h35km, n32, σ1§00/11, mb4.0/8, MS3.7/22, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.81**	**107**	Pn	**Pn**	**06 16 37.9**	**-1.3**
	10nm,0.3s,baz=269,slow=6.4,SNR=5.3						
HNR				Sn	**Sn**	**06 17 24.3**	**+1.5**
	18nm,0.3s,baz=301,slow=9.3,SNR=5.1						
PMG	**Port Moresby**	**9.04**	**263**	LR	LR	06 21 20.8	
	comp=Z,650nm,19.0s,baz=119,slow=38						
CTA	**Charters Tower**	**15.15**	**219**	LR	LR	06 24 43.8	
	comp=Z,302nm,18.2s,baz=54,slow=36						
DZM	**Mont Dzumac**	**16.80**	**145**	LR	LR	06 24 56.2	
	comp=Z,156nm,18.8s,baz=26,slow=33						
WRA	**Warramunga Arr**	**24.13**	**239**	P	**P**	**06 20 55.4**	**-0.6**
	5.4nm,1.0s,baz=63,slow=10.0,SNR=9.2						
WRA				LR	LR	06 29 57.0	
	comp=Z,270nm,18.9s,baz=48,slow=36						
GUMO	**Guam**	**24.56**	**333**	LR	LR	06 29 42.4	
	comp=Z,52nm,19.7s,baz=154,slow=34						
ASAR	**Alice Springs**	**26.26**	**232**	P	**P**	**06 21 14.4**	**-0.8**
	0.6nm,0.8s,baz=69,slow=7.8,SNR=8.0						
ASAR				LR	LR	06 30 52.0	
	comp=Z,196nm,19.8s,baz=66,slow=35						
STKA	**Stephens Creek**	**27.08**	**208**	P	**P**	**06 21 23.3**	**+0.7**
	6.3nm,0.9s,baz=19,slow=12,SNR=13						
STKA				LR	LR	06 31 19.9	
	comp=Z,72nm,18.6s,baz=22,slow=35						
AFI	**Afiamalu**	**31.83**	**103**	LR	LR	06 32 19.6	
	comp=Z,128nm,20.7s,baz=260,slow=32						
BATI	**Baumata**	**32.20**	**264**	LR	LR	06 36 33.6	
	comp=Z,327nm,18.1s,baz=131,slow=39						
URZ	**Urewera**	**35.22**	**151**	LR	LR	06 33 44.6	
	comp=Z,146nm,20.6s,baz=17,slow=31						
KAPI	**Kappang**	**36.39**	**273**	LR	LR	06 38 34.8	
	comp=Z,43nm,18.2s,baz=132,slow=38						
MJAR	**Matsushiro Ar**	**47.77**	**340**	LR	LR	06 41 59.1	
	comp=Z,41nm,21.7s,baz=174,slow=33						
KSRS	**Korea Array**	**52.72**	**332**	LR	LR	06 47 48.3	
	comp=Z,14nm,18.1s,baz=135,slow=37						
PPT	**Papeete**	**53.43**	**106**	LR	LR	06 42 59.4	
	comp=Z,25nm,21.2s,baz=218,slow=31						
ASAJ	**Asahikawa**	**53.67**	**348**	LR	LR	06 46 50.6	
	comp=Z,60nm,19.7s,baz=228,slow=35						
PSI	**Prapat**	**58.23**	**279**	LR	LR	06 51 28.0	
	comp=Z,49nm,21.9s,baz=178,slow=37						
KLR	**Kul'dur**	**61.24**	**342**	LR	LR	06 50 27.7	
	comp=Z,22nm,21.1s,baz=196,slow=34						
PETK	**Petropavlovsk-**	**61.24**	**1**	LR	LR	06 48 59.3	
	comp=Z,65nm,21.2s,baz=150,slow=33						
SEY	**Seymchan**	**71.14**	**358**	LR	LR	06 54 34.1	
	comp=Z,43nm,21.7s,baz=318,slow=33						
SONM	**Songino Array**	**71.15**	**327**	P	**P**	**06 26 59.1**	**+0.8**
	0.4nm,0.4s,baz=134,slow=6.2,SNR=2.5						
PALK	**Pallekele**	**76.89**	**279**	LR	LR	07 06 08.1	
	comp=Z,41nm,18.2s,baz=231,slow=39						
ILAR	**Eielson Array**	**84.19**	**21**	P	**P**	**06 28 09.4**	**-1.0**
	0.3nm,0.5s,baz=255,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**85.24**	**319**	P	**P**	**06 28 16.5**	**+0.3**
	1.4nm,0.8s,baz=104,slow=6.0,SNR=8.2						
BBB	**Bella Bella**	**87.86**	**37**	LR	LR	07 01 41.0	
	comp=Z,55nm,19.2s,baz=275,slow=32						
YBH	**Yreka Blue Hor**	**88.88**	**48**	LR	LR	07 03 05.5	
	comp=Z,28nm,20.1s,baz=253,slow=32						
NVAR	**Mina Array Bea**	**91.59**	**52**	P	**P**	**06 28 47.2**	**+0.2**
	0.5nm,0.7s,baz=265,slow=8.8,SNR=2.8						
PFO	**Pinyon Flats O**	**92.32**	**57**	LR	LR	07 03 10.6	
	comp=Z,42nm,19.2s,baz=256,slow=31						
NEW	**Newport**	**93.93**	**42**	LR	LR	07 06 23.9	
	comp=Z,36nm,18.2s,baz=282,slow=32						
LPIG	**La Paz**	**96.48**	**67**	LR	LR	07 05 41.8	
	comp=Z,34nm,18.4s,baz=288,slow=31						
YKA	**Yellowknife Ar**	**96.95**	**28**	P	**P**	**06 29 10.6**	**0.0**
	0.6nm,0.9s,baz=268,slow=4.8,SNR=6.3						
BDFB	**Brasilia**	**146.14**	**135**	PKPbc	**PKPdf**	**06 35 20.5**	**+0.7**
	2.7nm,0.7s,baz=201,slow=7.9,SNR=4.9						

NNC 21 06:29:46.7±6.5, 36°.66N×70°.55E, h38km±309km, mb3.9, mpv3.6, 2C-3D, Error ellipse: s-maj=87.8km s-min=55.8km az=161.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.44**	**360**	⇑P	Pn	06 31 19.6	+0.7
	1.5nm,0.4s,baz=180,slow=13						
KK02				⇑S	Sn	06 32 31.2	+0.2
	2.6nm,0.5s,baz=187,slow=23						
AAK	**Ala-Archa**	**6.70**	**26**	⇓P	Pn	06 31 22.5	-0.1
	1.7nm,0.5s						
AAK				⇓S	Sn	06 32 38.9	+1.2
	4.3nm,0.8s						
TKM2	**Tokmak 2**	**7.36**	**30**	⇓P	Pn	06 31 30.9	-0.9
	2.7nm,0.5s						
AB31	**Akbulak array**	**14.77**	**332**	P	Pn	06 33 12.8	+0.1
	0.8nm,0.8s,baz=146,slow=12,SNR=4.5						

*NNC **21** 06:33:49.6±1.8, 54°.52N×86°.79E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=28.6km s-min=9.8km az=159.0, Suspected Mining explosion.*

IDC 21 06:33:51.1±2.9, 54°.34N×86°.84E, h0km, mb1 3.2/2, mb1mx3.0/42, mbtmp3.2/2, ML3.0/2, 7C-2D, Error ellipse: s-maj=25.5km s-min=16.6km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**253**	*i*		06 40 55.0	
	baz=71,slow=335,SNR=15						
ZAA0	**Zalesovo Array**	**1.25**	**253**	⇑P	Pg	06 34 13.2	-1.8
	0.6nm,0.3s						
ZAA0				⇓S	Sg	06 34 31.5	+0.3
	1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**1.25**	**253**	Pg	Pg	06 34 13.2	-1.8
	3.6nm,0.3s,baz=73,slow=17,SNR=47						
ZALV				Lg	Lg	06 34 31.8	
	3.9nm,0.3s,baz=72,slow=23,SNR=8.8						
KURK	**Kurchatov**	**6.19**	**237**	⇑Pn	Pn	06 35 25.3	+1.6
	4.4nm,1.1s						
KURK				⇑Sn	Sn	06 36 35.5	+0.4
	2.2nm,1.1s						
KURK				⇑Lg	Lg	06 37 08.2	
	7.0nm,0.9s						
KURBB	**Kurchatov Arra**	**6.29**	**237**	Pn	Pn	06 35 26.3	+1.2
	0.2nm,0.3s,baz=54,slow=14,SNR=9.3						
KURBB				Lg	Lg	06 37 10.7	
	0.0nm,0.3s,baz=54,slow=31,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.29**	**237**	⇑Pn	Pn	06 35 26.0	+1.0
	1.5nm,0.3s						
KURBB				⇑Sn	Sn	06 36 39.6	+2.0
	3.5nm,0.6s						
KURBB				⇑Lg	Lg	06 37 11.6	
	15nm,1.4s						
MK31	**Makanchi Array**	**8.09**	**203**	Pn	Pn	06 35 51.0	+1.3
	0.3nm,0.3s,baz=31,slow=14,SNR=13						
MK31				⇓Sn	Sn	06 37 24.1	+2.3
	7.7nm,1.2s,baz=20,slow=33,SNR=5.1						
MK31				Lg	Lg	06 38 09.3	
	2.8nm,1.0s,baz=34,slow=31,SNR=5.1						
MKAR	**Makanchi Array**	**8.09**	**203**	Pn	Pn	06 35 50.7	+1.0
	0.3nm,0.3s,baz=27,slow=14,SNR=15						
MKAR				Lg	Lg	06 38 08.7	
	0.0nm,0.3s,baz=23,slow=30,SNR=8.0						

*IDC **21** 06:41:06.1±1.8, 17°.35S×178°.93W, h597km±19km, mb3.3/8, mb1 3.6/9, mb1mx3.4/27, mbtmp4.1/9, Error ellipse: s-maj=75.5km s-min=15.5km az=149.0*
*NEIC **21** 06:41:06.2±0.9, 17°.7S±0°.2×178°.8W±0°.1, h596km±10km, mb4.3/19, Error ellipse: s-maj=33.6km s-min=11.3km az=154.0*

ISC 21 06:41:05.8±0.8, 17°.6S±0°.2×178°.8W±0°.2, h600km, n33, σ0§47/33, mb4.2/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.02**	**268**	P	**P**	**06 42 24.6**	**-0.6**
	5.6nm,0.3s,baz=90,slow=2.9,SNR=39						
MSVF	**Nonsavu**	**3.02**	**268**		**P**	**06 42 25.2**	**-0.1**
OUZ	**Omahuta**	**18.79**	**200**	P	**P**	**06 44 48.6**	**+0.2**
EIDS	**Eidsvold**	**29.03**	**249**	P	**P**	**06 46 19.4**	**0.0**
EIDS				IAmb	IAmb	06 46 19.7	
	comp=Z,2.4nm,0.6s						
ARMA	**Armid

ASAR	Alice Springs	41.78	261	P	P	06 54 58.8 +0.2
	0.7nm,0.6s,baz=93,slow=7.2,SNR=8.0					
WRA	Warramunga Arr	42.14	266	P	P	06 55 01.5 +0.1
	1.2nm,0.3s,baz=97,slow=8.4,SNR=18					
TXAR	Lajitas Array	90.61	58	P	P	07 00 01.1 +0.2
	0.3nm,0.7s,baz=209,slow=8.2,SNR=5.4					
ARCES	ARCESS Array B	131.74	348	PKP	PKiKP	07 06 07.5 -0.1
	4.5nm,1.1s,baz=13,slow=1.2,SNR=5.0					
AKASG	Malin Array Be	144.74	327	PKP	PKPab	07 06 31.4 -0.5
	0.8nm,0.6s,baz=45,slow=3.9,SNR=5.2					
BRTR	Keskin Array B	147.30	307	PKPbc	PKPbc	07 06 38.6 -0.3
	0.6nm,0.7s,baz=132,slow=3.8,SNR=3.5					

*IDC **21** 06:50:30.7±2.5, 37°.28N×78°.39E, $h0^{km}$, mb3.7/3, mb1 3.9/4, mb1mx3.3/59, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=58.4km s-min=35.7km az=118.0*
*NNC **21** 06:50:36.6±1.0, 37°.70N×78°.23E, $h6^{km}$±5^{km}, mb4.3, mpv4.0, Error ellipse: s-maj=8.1km s-min=6.4km az=93.0*

ISC 21 06:50:33.0±1.7, 37°.3N±0°.1×78°.6E±0°.1, $h10^{km}$, n28, σ1$43/31, mb3.7/4, 5C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.73	359	Pg	Pb	06 52 15.1	+2.0
	8.3nm,0.4s						
SATY				Lg	Lg	06 53 28.6	
	12nm,0.5s						
UZB	Uzynbulak	5.83	3	Pg	Pb	06 52 15.8	+1.0
	6.7nm,0.3s						
UZB				Lg	Lg	06 53 29.9	
	14nm,0.4s						
ZHN	Zhinishke	5.84	359	Pg	Pb	06 52 16.2	+1.3
	7.9nm,0.1s						
ZHN				Lg	Lg	06 53 30.5	
	14nm,0.2s						
TNSS	Tian-Shan	5.84	348	Pg	Pb	06 52 15.3	+0.1
	16nm,0.2s						
TNSS				Lg	Lg	06 53 29.0	
	5.3nm,0.3s						
MDOK	Medeo	5.95	349	⇓Pg	Pb	06 52 17.9	+1.0
	5.3nm,0.4s						
MDOK				⇑Lg	Lg	06 53 32.9	
	18nm,0.6s						
MDOK	Medeo	5.95	349	Pg	Pb	06 52 18.2	+1.4
	9.7nm,0.3s						
MDOK				Lg	Lg	06 53 34.0	
	19nm,0.4s						
KOTS	Kotyrbulak	6.01	350	Pg	Pb	06 52 19.0	+1.1
	7.2nm,0.2s						
KOTS				Lg	Lg	06 53 35.3	
	20nm,0.3s						
MTBS	Maitube	6.03	345	Pg	Pb	06 52 19.6	+1.4
	4.4nm,0.2s						
MTBS				Lg	Lg	06 53 36.1	
	8.5nm,0.6s						
PDGK	Podgornoye	6.04	6	⇓Pn	Pn	06 52 02.9	+0.4
	1.7nm,0.3s						
PDGK				⇓Pg	Pb	06 52 19.2	+0.9
	2.8nm,0.4s						
PDGK				⇑Lg	Lg	06 53 37.7	
	21nm,0.8s						
TKM2	Tokmak 2	6.04	339	⇓Pg	Pb	06 52 18.8	+0.4
	1.5nm,0.3s						
TKM2				⇑Lg	Lg	06 53 35.5	
	3.0nm,0.4s						
KST	Kastek	6.06	341	Pg	Pb	06 52 18.3	-0.4
	5.9nm,0.4s						
KST				Lg	Lg	06 53 34.0	
	13nm,0.5s						
KURS	Kuram	6.17	357	Pg	Pb	06 52 21.9	+1.4
	13nm,0.8s						
KURS				Lg	Lg	06 53 40.1	
	9.3nm,0.9s						
AAK	Ala-Archa	6.17	331	Pg	Pb	06 52 21.6	+1.0
	2.6nm,0.3s,baz=136,slow=8.1,SNR=12						
AAK				Lg	Lg	06 53 38.4	
	0.3nm,0.3s,baz=177,slow=22,SNR=1.9						
AAK	Ala-Archa	6.17	331	Pg	Pb	06 52 21.3	+0.7
	5.1nm,0.7s						
AAK				⇑Lg	Lg	06 53 39.9	
	23nm,0.8s						
DGS	Degeres	6.29	341	Pg	Pb	06 52 23.0	+0.4
	5.5nm,0.4s						
DGS				Lg	Lg	06 53 42.3	
	8.2nm,0.4s						
KTBS	Karatobe	6.54	348	Pg	Pb	06 52 28.1	+1.2
	3.1nm,0.3s						
KTBS				Lg	Lg	06 53 51.1	
	9.8nm,0.4s						
KRBS	Karabastau	6.74	342	Pg	Pb	06 52 31.3	+1.0
	3.4nm,0.3s						
KRBS				Lg	Lg	06 53 56.4	
	3.0nm,0.2s						
KUU	Kurty	6.78	346	Pg	Pb	06 52 32.4	+1.4
	2.5nm,0.3s						
KUU				Lg	Lg	06 53 58.2	
	9.9nm,0.4s						
MRKS	Merke	6.80	324	Pg	Pb	06 52 31.1	-0.3
	3.5nm,0.2s						
MRKS				Lg	Lg	06 53 56.0	
	6.5nm,0.6s						
ARXS	Arharly	6.91	355	Pg	Pb	06 52 35.6	+2.5
	5.6nm,0.3s						
ARXS				Lg	Lg	06 54 03.8	
	5.3nm,0.3s						
IUG	Iuzhnay	8.17	309	Pg	Pb	06 52 56.2	+1.6
	83nm,0.3s						
IUG				Lg	Lg	06 54 39.3	
	13nm,0.7s						
MK31	Makanchi Array	9.85	15	⇑Pn	Pn	06 52 55.3	+0.6
	0.7nm,0.2s,baz=155,slow=39,SNR=4.0						
MK31				⇓Sn	Sn	06 54 42.8	-2.5
	0.9nm,0.4s,baz=201,slow=25,SNR=6.2						
MKAR	Makanchi Array	9.85	15	Pn	Pn	06 52 55.5	+0.9
	1.2nm,0.3s,baz=192,slow=12,SNR=54						
MKAR				Sn	Sn	06 54 41.9	-3.4
	0.6nm,0.3s,baz=198,slow=23,SNR=6.9						
AKTO	Aktyubinsk	19.71	318	pP	Pn	06 55 05.8	+1.9
	0.1nm,0.3s,baz=113,slow=9.9,SNR=3.8						
FINES	FINESS Array B	40.31	324	pP	P	06 58 14.8	+4.7
	0.6nm,0.5s,baz=99,slow=12,SNR=2.2						
ARCES	ARCESS Array B	42.81	336	P	P	06 58 30.3	-0.3
	2.5nm,1.0s,baz=108,slow=8.6,SNR=1.4						
TORD	Torodi Ar. Bea	71.79	273	P	P	07 01 54.1	-1.9
	0.5nm,0.4s,baz=46,slow=5.8,SNR=5.3						
YKA	Yellowknife Ar	79.96	6	P	P	07 02 41.9	0.0
	0.3nm,0.6s,baz=342,slow=5.1,SNR=4.5						
YKA				pP	sP	07 02 47.6	+0.6
	0.4nm,0.7s,baz=339,slow=5.5,SNR=6.1						

*IDC **21** 07:12:15.0±1.3, 50°.06N×78°.70E, $h0^{km}$, mb1 3.0/2, mb1mx2.8/63, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=16.7km s-min=8.3km az=67.0*
*NNC **21** 07:12:14.1±0.3, 50°.02N×78°.70E, $h0^{km}$, mb3.5, mpv3.1, Error ellipse: s-maj=6.2km s-min=1.5km az=76.0, Suspected Mining explosion.*

ISC 21 07:12:06.9±0.8, 49°.92N±0°.05×79°.25E±0°.06, $h0^{km}$, n28, σ0$84/33, 23C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	Semipalatinsk	0.81	53	P	Pg	07 12 12.9	-9.4
	4.4nm,0.3s						
SEM				S	Sb	07 12 35.3	-0.2
	12nm,0.3s						
KUR14	Kurchatov Arra	0.81	329	⇑P	Pn	07 12 25.8	+0.2
KUR14				⇑S	Sg	07 12 34.2	+1.2
KUR07	Kurchatov Arra	0.81	325	⇑P	Pn	07 12 25.5	-0.1
KUR07				⇑S	Sb	07 12 34.5	-0.8
KUR15	Kurchatov Arra	0.82	328	⇑P	Pn	07 12 25.9	+0.1
KUR15				⇑S	Sg	07 12 34.4	+1.0
KUR06	Kurchatov Arra	0.82	326	⇓P	Pn	07 12 25.9	+0.1
KUR06				⇑S	Sg	07 12 34.3	+0.9
KURBB	Kurchatov Arra	0.84	327	Pg	Pn	07 12 25.9	-0.1
	1.7nm,0.3s,baz=167,slow=18,SNR=28						
KURBB				Lg	Lg	07 12 34.7	
	3.6nm,0.3s,baz=168,slow=31,SNR=35						
KURBB	Kurchatov Arra	0.84	327	⇑P	Pn	07 12 26.3	+0.3
	7.6nm,0.3s						
KURBB				⇑S	Sg	07 12 34.9	+1.0
	155nm,0.7s						
KUR05	Kurchatov Arra	0.85	328	⇑P	Pn	07 12 26.5	+0.3
KUR05				⇑S	Sg	07 12 35.4	+1.0
KUR16	Kurchatov Arra	0.85	326	⇑P	Pn	07 12 26.3	+0.1
KUR16				⇓S	Sg	07 12 34.7	+0.4
KUR04	Kurchatov Arra	0.87	329	⇑P	Pn	07 12 26.7	+0.4
KUR04				⇑S	Sg	07 12 35.9	+1.1
KUR17	Kurchatov Arra	0.87	325	⇓P	Pn	07 12 26.6	+0.2
KUR17				⇑S	Sg	07 12 34.9	+0.1
KURK	Kurchatov	0.89	333	⇑P	Pn	07 12 27.3	+0.6
	4.2nm,0.4s						
KURK				⇑S	Sb	07 12 37.2	-0.5
	66nm,0.7s						
MAKZ	Makanchi	3.61	149	⇓Pg	Pg	07 13 25.7	+10
	2.3nm,0.8s						
MAKZ				⇑Lg	Lg	07 14 16.4	
	9.0nm,0.7s						
MK31	Makanchi Array	3.73	146	⇑Pn	Pg	07 13 17.7	-0.7
	0.4nm,0.3s,baz=323,slow=10,SNR=9.0						
MK31				⇑Pg	Pb	07 13 27.2	+14
	1.0nm,0.5s,baz=332,slow=15,SNR=9.7						
MK31				⇓Lg	Lg	07 14 21.3	
	8.9nm,0.6s,baz=329,slow=26,SNR=13						
MKAR	Makanchi Array	3.73	146	Pn	Pg	07 13 18.6	+0.3
	0.3nm,0.3s,baz=326,slow=10,SNR=9.6						
MKAR				Lg	Lg	07 14 19.5	
	2.2nm,0.3s,baz=332,slow=27,SNR=14						
ZSN	Zaisan	4.47	122	Pg	Pb	07 13 26.4	+0.2
	3.5nm,0.4s						
ZSN				Lg	Lg	07 14 41.5	
	5.6nm,0.4s						
KAPS	Kapalarasan	4.64	179	Pg	Pb	07 13 28.2	-1.0
	1.6nm,0.3s						
KAPS				Lg	Lg	07 14 44.3	
	8.4nm,0.3s						
ZALV	Zalesovo Beam	5.30	38	Pn	Pb	07 13 39.2	-1.2
	0.6nm,0.3s,baz=231,slow=14,SNR=5.2						
I46RU	ZALESOVO INFRA	5.30	38	*i*		07 47 00.0	
	baz=224,slow=333,SNR=2.2						
DJR	Jarkent	5.61	176	Pg	Pb	07 13 47.2	+1.6
	1.6nm,0.4s						
DJR				Lg	Lg	07 15 16.8	
	4.8nm,0.2s						
ARXS	Arharly	5.79	190	Pg	Pb	07 13 48.4	-0.5
	1.7nm,0.5s						
ARXS				Lg	Lg	07 15 19.0	
	9.0nm,0.3s						
BRVK	Borovoye	6.42	303	⇑Sn	Sn	07 14 55.9	-0.7
	1.2nm,0.4s						
BRVK				⇓Lg	Lg	07 15 26.1	
	1.8nm,0.5s						
KTBS	Karatobe	6.46	197	Pg	Pb	07 13 59.1	-1.0
	0.9nm,0.3s						
KTBS				Lg	Lg	07 15 37.2	
	9.7nm,0.5s						
PDGK	Podgornoye	6.60	178	⇑Lg	Lg	07 15 48.7	
	3.6nm,0.7s						
KOTS	Kotyrbulak	6.85	193	Pg	Pb	07 14 06.8	-0.1
	1.7nm,0.2s						
KOTS				Lg	Lg	07 15 50.7	
	10.0nm,0.4s						
SATY	Saty	6.89	185	Pg	Pb	07 14 09.9	+2.3
	1.5nm,0.4s						
SATY				Lg	Lg	07 15 55.6	
	3.1nm,0.2s						
TKM2	Tokmak 2	7.44	201	⇑Lg	Lg	07 16 09.7	
	3.4nm,0.9s						
AAK	Ala-Archa	8.00	206	⇓Lg	Lg	07 16 26.0	
	2.7nm,0.7s						

SSNC 21 07:12:50.7±1.6, 19°.73N×76°.06W, $h2^{km}$, MD2.3, ML1.2, MW1.9, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.43	52	*e*P	Pg	07 12 58.8	-0.2
RCC				*e*S	Sg	07 13 04.8	+0.1
RCC				IAML		07 13 05.1	
	comp=E,10nm,0.1s						
RCC				IAML		07 13 05.3	
	comp=N,8.0nm,0.1s						
RCC	Rio Carpintero	0.43	52	*e*P	Pn	07 13 07.5	+3.6
RCC				*e*S	Sb	07 13 12.0	+3.9
GTBY	Guantanamo Bay	0.92	77	*e*P	Pg	07 13 07.8	-0.4
GTMO	Guantanamo	0.93	68	*e*P	Pb	07 13 09.1	-0.5
LMGC	Las Mercedes	0.95	291	*e*P	Pg	07 13 07.2	-1.8
LMGC				*e*S	Sg	07 13 19.5	-1.8
LMGC				IAML		07 13 19.7	
	comp=N,22nm,0.1s						
LMGC				IAML		07 13 19.8	
	comp=E,7.6nm,0.1s						
LMGC	Las Mercedes	0.95	291	*e*P	Pb	07 13 10.3	+0.4
LMGC				*e*S	Sg	07 13 19.5	-1.8

*IDC **21** 07:15:05.7±1.2, 22°.08S×175°.46W, $h0^{km}$, mb4.5/12, mb1 4.7/12, mb1mx4.3/43, mbtmp4.5/12, MS3.5/21, Ms1 3.5/21, ms1mx3.3/62, Error ellipse: s-maj=60.0km s-min=16.7km az=151.0*
*BGR **21** 07:15:08.4±0.0, 23°.05S×174°.23W, $h33^{km}$*
*BJI **21** 07:15:11.0±0.0, 22°.30S×175°.00W, $h60^{km}$, mb4.9/15, mB5.6/10*
*NEIC **21** 07:15:11.9±3.0, 22°.3S±0°.1×174°.90W±0°.09, $h54^{km}$±6^{km}, mb5.0/41, Error ellipse: s-maj=17.3km s-min=11.5km az=166.0*

ISC 21 07:15:09.8±0.4, 22°.20S±0°.09×175°.07W±0°.07, $h33^{km}$, n189, σ1$50/159, mb5.0/35, MS3.6/18, 22C-7D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.73	58	Pn	Pn	07 16 32.3	-0.3
MSVF	Nonsavu	7.85	303	LR	LR	07 19 40.6	
	comp=Z,603nm,20.3s,baz=129,slow=37						
MSVF	Nonsavu	7.85	303	Pn	Pn	07 17 05.5	+3.6
AFI	Afiamalu	8.81	21	Pn	Pn	07 17 11.6	-3.5
	32nm,0.3s,baz=340,slow=2.2,SNR=26						
AFI				Sn	Sn	07 18 41.5	-12
	11nm,0.3s,baz=115,slow=23,SNR=2.0						
AFI				LR	LR	07 20 17.9	
	comp=Z,146nm,20.9s,baz=202,slow=35						
RAR	Rarotonga	14.25	89	LR	LR	07 22 45.5	
	comp=Z,156nm,19.8s,baz=284,slow=32						
RAR	Rarotonga	14.25	89	Pn	Pn	07 18 29.1	-0.3
MARNC	Mare, Loyalty	15.71	269	Pn	Pn	07 18 50.0	+1.2
PINNC	Pines Island,	16.18	265		Pn	07 18 55.0	+0.2
OUZ	Omahuta	16.33	215	P	P	07 18 58.5	-0.8
OUZ				IAmb	IAmb	07 19 21.2	
	comp=Z,204nm,2.0s						
OUENC	Ouen Island, N	16.75	266	P	P	07 19 03.8	-0.2
DZM	Mont Dzumac	17.13	267	LR	LR	07 23 39.1	
	comp=Z,87nm,19.2s,baz=200,slow=31						
DZM	Mont Dzumac	17.13	267	*e*Pn	P	07 19 08.4	0.0
	comp=Z,71nm,1.4s						
DZM				*e*LR	LR	07 23 07.9	
	comp=Z,338nm,24.6s						
DZM	Mont Dzumac	17.13	267	P	P	07 19 09.8	+1.4
URZ	Urewera	17.36	201	P	P	07 19 10.4	-0.3
SANVU	Saraoutou	18.07	289	P	P	07 19 19.1	+0.4
SANVU				IAmb	IAmb	07 19 26.4	
	comp=Z,217nm,1.5s						
CAW	Cannon Point	20.61	202	P	Pn	07 19 52.5	+3.8
TRWZ	Traveller	20.67	200	P	Pn	07 19 54.9	+5.6
DUWZ	D'Urville Isla	20.76	204	P	Pn	07 19 49.1	-1.3
NNZ	Nelson	21.32	205	P	P	07 19 55.8	+1.9
QRZ	Quartz Range	21.33	207	P	P	07 19 56.1	+2.1
TKNZ	Takaka Hill	21.33	206	P	P	07 20 00.9	+6.8
MRNZ	Matariki Terra	21.72	205	P	P	07 20 04.5	+6.3
THZ	Tophouse	21.97	205	P	P	07 20 04.0	+3.0
KHZ	Kahutara	22.30	203	P	P	07 20 05.7	+1.3
DSZ	Denniston Nort	22.40	206	P	P	07 20 09.8	+4.3
LTZ	Lake Taylor	23.09	204	P	P	07 20 16.2	+3.4
INZ	Inchbonnie	23.36	206	P	P	07 20 19.9	+4.5
MQZ	McQueen's Vall	23.75	203	P	P	07 20 23.7	+4.7
WVZ	Waitaha Valley	23.94	206	P	P	07 20 24.3	+3.4
PAE	Paea	24.37	84	*e*T	T	07 45 39.3	
	comp=Z,48nm,0.3s						
PPT2	Papeete2	24.39	84	*e*LR	LR	07 26 29.4	
	comp=Z,337nm,26.5s						
PPT2	Papeete2	24.39	84	*e*T	T	07 45 41.5	
	comp=Z,46nm,0.3s						
PPT	Papeete	24.39	84	LR	LR	07 28 18.8	
	comp=Z,50nm,20.4s,baz=220,slow=32						
TIAR	Tiarei	24.61	84	*e*T	T	07 45 51.0	
	comp=Z,3.7nm,0.2s						
MEH	Mehetia	25.71	85	*e*T	T	07 47 18.6	
	comp=Z,35nm,0.2s						
VAH	Vaihoa	26.86	80	*e*T	T	07 48 43.4	
	comp=Z,7.3nm,0.3s						
HNR	Honiara	27.13	294	LR	LR	07 29 47.7	
	comp=Z,49nm,20.2s,baz=139,slow=33						
ARMA	Armidale	30.87	248	P	P	07 21 22.9	-0.6
ARMA				IAmb	IAmb	07 21 25.6	
	comp=Z,23nm,1.4s						
EIDS	Eidsvold	31.09	257	P	P	07 21 25.6	+0.3
CAN	Canberra	33.92	239	P	P	07 21 50.8	+0.8
TAOE	Nuku Hiva Isla	36.06	74	*e*T	T	08 00 06.4	
	comp=Z,34nm,0.3s						
CTA	Charters Tower	36.08	266	P	P	07 22 07.2	-1.5
	comp=Z,22nm,0.5s,baz=93,slow=9.5,SNR=49						
CTA				LR	LR	07 34 59.2	
	comp=Z,72nm,18.9s,baz=86,slow=33						
CTAO	Charters Tower	36.08	266	P	P	07 22 07.3	-1.5
TOO	Toolangi	37.18	237	P	P	07 22 18.0	0.0
TOO				IAmb	IAmb	07 23 10.7	
	comp=Z,36nm,1.6s						
PMG	Port Moresby	38.39	283	LR	LR	07 35 46.1	
	comp=Z,77nm,19.9s,baz=154,slow=33						
STKA	Stephens Creek	39.57	246	P	P	07 22 36.9	-1.2
	comp=Z,1.5nm,0.3s,baz=81,slow=11,SNR=7.9						
STKA				LR	LR	07 36 17.9	
	comp=Z,50nm,21.5s,baz=40,slow=32						
STKA	Stephens Creek	39.57	246	P	P	07 22 37.1	-1.0
COEN	Coen	40.43	274	P	P	07 22 43.6	-1.8
BBOO	Buckleboo	44.29	245	P	P	07 23 14.7	-1.9
BBOO				IAmb	IAmb	07 24 32.4	
	comp=Z,44nm,1.9s						
AS31	Alice Springs	46.82	258	P	P	07 23 36.9	+0.1
ASAR	Alice Springs	46.82	258	P	P	07 23 34.1	-2.7
	comp=Z,11nm,0.7s,baz=96,slow=7.1,SNR=65						
ASAR				PcP	PcP	07 25 09.5	-0.2
	comp=Z,1.5nm,0.6s,baz=96,slow=4.3,SNR=4.9						
ASAR				LR	LR	07 41 36.6	
	comp=Z,67nm,18.4s,baz=120,slow=34						
ASAR	Alice Springs	46.82	258	P	P	07 23 34.9	-1.9
WR0	Warramunga Arr	46.90	263	P	P	07 23 36.0	-1.5
WRA	Warramunga Arr	47.09	263	P	P	07 23 36.0	-3.0
	comp=Z,7.0nm,0.6s,baz=100,slow=8.4,SNR=72						
WRA				LR	LR	07 41 29.6	
	comp=Z,63nm,20.4s,baz=116,slow=34						
WRA	Warramunga Arr	47.09	263	P	P	07 23 37.2	-1.8
FORT	Forrest	51.16	248	P	P	07 24 08.3	-1.6
KNRA	Kununurra	53.28	267	P	P	07 24 24.1	-1.8
KNRA				IAmb	IAmb	07 24 25.7	
	comp=Z,14nm,0.7s						
FITZ	Fitzroy Crossi	55.52	263	P	P	07 24 40.1	-2.1
	comp=Z,5.3nm,0.6s,baz=90,slow=8.4,SNR=14						
PSA00	Pilbara Seismi	59.96	257	P	P	07 25 13.7	+0.4
PSA00				IAmb	IAmb	07 26 17.6	
	comp=Z,38nm,1.7s						
MORW	Morawa	61.73	248	P	P	07 25 23.9	-1.4
MORW				IAmb	IAmb	07 27 28.5	
	comp=Z,41nm,1.5s						
ADK	Adak	73.77	359	P	P	07 26 39.8	-0.7
H06E1	SOCORRO T-PHAS	74.77	62	T	T	08 48 24.9	
	SNR=6.3						
UNV	Unalaska Valle	76.09	5	P	P	07 26 53.6	-0.2
JKA	Kamikawa-asahi	76.53	330	P	P	07 26 56.8	+0.2
ASAJ	Asahikawa	76.53	330	LR	LR	07 52 18.3	
	comp=Z,56nm,21.6s,baz=148,slow=29						
LPIG	La Paz	77.96	58	LR	LR	07 52 54.5	
	comp=Z,42nm,19.5s,baz=211,slow=29						
PETK	Petropavlovsk-	78.63	344	P	P	07 27 07.0	-1.2
	comp=Z,6.8nm,1.1s,baz=108,slow=8.4,SNR=7.3						
PFO	Pinyon Flats O	78.70	47	LR	LR	07 56 47.3	
	comp=Z,17nm,20.4s,baz=234,slow=32						
KEBM	Edson Butte	79.83	35	P	P	07 27 13.0	-1.9
YBH	Yreka Blue Hor	79.95	37	LR	LR	07 56 40.8	
	comp=Z,47nm,19.2s,baz=220,slow=31						
PNTR	Pine Nut	80.04	41	P	P	07 27 16.3	-0.1
PNTR				IAmb	IAmb	07 29 31.3	
	comp=Z,26nm,1.9s						
NVAR	Mina Array Bea	80.42	42	P	P	07 27 21.4	+2.9
	comp=Z,1.0nm,0.6s,baz=222,slow=8.2,SNR=14						
NVAR				LR	LR	07 56 38.2	
	comp=Z,30nm,19.4s,baz=144,slow=31						
TPNV	Topopah Spring	80.81	44	P	P	07 27 23.6	+3.1
	baz=233						
H03S2	Juan Fernandez	82.78	123	T	T	08 59 15.1	
	baz=244						
H03S1	Juan Fernandez	82.79	123	T	T	08 59 16.2	
	baz=244						
H03S3	Juan Fernandez	82.80	123	T	T	08 59 15.0	
	baz=244						
NJ2	Nanjing	83.07	309	*e*P	P	07 27 33.8	+1.5
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
O18K	Koktuh Hills	83.36	10	P	P	07 27 34.0	+0.9
KLR	Kul'dur	85.39	328	LR	LR	07 59 05.9	
	comp=Z,37nm,20.2s,baz=163,slow=31						
TXAR	Lajitas Array	85.69	56	P	P	07 27 48.8	+3.0
	comp=Z,0.9nm,0.8s,baz=213,slow=8.0,SNR=10						
PLCA	Paso Flores	86.12	132	LR	LR	07 56 30.5	
	comp=Z,35nm,21.4s,baz=191,slow=29						
TTA	Tatalina	86.17	9	P	P	07 27 47.9	+0.6
TTA				IAmb	IAmb	07 27 51.3	
	comp=Z,6.8nm,1.2s						
TTA	Tatalina	86.17	9	P	P	07 27 48.3	+0.9
	baz=198						
SNAA	Sanae	86.23	178	P	P	07 27 43.9	-3.8
SNAA				IAmb	IAmb	07 30 02.2	
	comp=Z,18nm,1.7s						
ANMO	Albuquerque	86.36	50	LR	LR	08 02 40.0	
	comp=Z,27nm,18.0s,baz=230,slow=33						
K20K	Telida	86.86	9	P	P	07 27 51.5	+0.9
K20K				IAmb	IAmb	07 29 06.8	
	comp=Z,34nm,1.8s						
K20K	Telida	86.86	9	P	P	07 27 51.7	+1.0
	baz=199						
N25K	Chitina, Valde	87.03	14	P	P	07 27 52.5	+0.9
N25K	Chitina, Valde	87.03	14	P	P	07 27 53.2	+1.6
	baz=208						
NEW	Newport	87.18	35	LR	LR	07 59 38.5	
	comp=Z,40nm,19.7s,baz=219,slow=31						
CAST	Castle Rocks	87.23	10	P	P	07 27 52.3	-0.2
	baz=201						
TRF	Thorofare Moun	87.56	11	P	P	07 27 54.6	+0.4
TRF	Thorofare Moun	87.56	11	P	P	07 27 55.0	+0.8
	baz=203						
J20K	Nowinta River	87.62	9	P	P	07 27 54.8	+0.5
J20K				IAmb	IAmb	07 28 50.0	
	comp=Z,22nm,1.8s						
J20K	Nowinta River	87.62	9	P	P	07 27 55.6	+1.3
	baz=199						
CHUM	Lake Minchumin	87.62	10	P	P	07 27 56.2	+1.9
	baz=201						
RND	Reindeer	87.78	11	P	P	07 27 55.8	+0.6
RND				IAmb	IAmb	07 27 59.3	
	comp=Z,16nm,1.2s						
MCK	McKinley	88.06	11	P

comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.2s
BTO Baotou 93.43 313 *e*P **P 07 28 24.5 +2.4**
PZH PanZhiHua 93.92 297 P **P 07 28 26.4 +1.7**
PZH pmax pmax
comp=Z,9.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.8s
CD2 Chengdu 94.00 302 *e*P **P 07 28 25.5 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YAK Yakutsk 94.72 337 LR LR 08 12 40.3
comp=Z,18nm,18.1s,baz=243,slow=37
INK Inuvik 95.21 14 P **P 07 28 29.9 +0.5**
comp=Z,2.2nm,1.1s,baz=208,slow=5.1,SNR=3.5
INK Inuvik 95.21 14 IAmb IAmb 07 28 34.8
comp=Z,7.9nm,1.5s
LZH Lanzhou 95.97 306 *e*P P 07 28 26.4 -7.5
LZH pP sP 07 28 47.0 -0.1
LZH pmax pmax
comp=Z,16nm,1.0s
YKA Yellowknife Ar 96.92 24 P **P 07 28 38.2 +0.9**
comp=Z,0.2nm,0.5s,baz=235,slow=4.6,SNR=5.9
WMQ Urumqi 110.10 310 *e*PKP **PKiKP 07 33 37.6 -0.6**
ZALV Zalesovo Beam 113.53 321 PKiKP **PKiKP 07 33 43.6 -0.7**
comp=Z,1.0nm,0.6s,baz=160,slow=2.1,SNR=4.8
MKAR Makanchi Array 114.35 313 PKP PKPdf 07 33 45.6 -0.5
comp=Z,0.9nm,0.5s,baz=234,slow=0.8,SNR=16
BVAR Borovoye Array 122.14 320 PKP **PKPdf 07 34 00.7 -0.2**
comp=Z,1.8nm,0.5s,baz=74,slow=5.4,SNR=13
ARU Arti 128.15 325 PKP **PKiKP 07 34 12.8 -0.1**
comp=Z,1.2nm,0.5s,baz=314,slow=6.2,SNR=5.5
ARCES ARCESS Array B 131.06 351 PKP **PKiKP 07 34 18.4 0.0**
comp=Z,4.3nm,0.8s,baz=6.2,slow=2.4,SNR=11
KLMR Klimovskoe 134.51 337 *e*PKPdf **PKPdf 07 34 23.2 -1.0**
KLMR AMP 07 34 34.7
comp=Z,8.0nm,1.2s
FINES FINESS Array B 138.14 345 PKP **PKPdf 07 34 31.7 +0.8**
comp=Z,1.0nm,0.7s,baz=64,slow=4.4,SNR=5.3
AKASG Malin Array Be 145.80 332 PKPbc **PKPdf 07 34 44.6 -0.2**
comp=Z,4.1nm,0.4s,baz=41,slow=4.2,SNR=58
BSEG Bad Segeberg 148.05 354 *e*PKPbc **PKiKP 07 34 52.9 -0.6**
baz=12,slow=2.5
SORM Soroca 148.06 330 ⇓P **PKPbc 07 34 51.8 -0.1**
GAZ Gaziantep 148.42 305 PKPdf **PKPdf 07 34 49.1 -0.7**
RETH Rethem/Aller, 149.32 355 *e*PKPbc **PKiKP 07 34 56.0 -0.1**
baz=12,slow=2.5
FLTG Flechtingen 149.53 352 *e*PKPbc **PKiKP 07 34 56.4 -0.1**
baz=12,slow=2.5
OJC Ojcow 149.69 341 PKPdf **PKPdf 07 34 51.5 +0.2**
VLDR Vladesti 149.80 327 ⇑P **PKiKP 07 34 57.0 -0.4**
BURAR Bucovina Array 149.85 332 ⇓P **PKiKP 07 34 57.7 +0.1**
SCTR Scanteiesti 149.96 327 ⇑P **PKiKP 07 34 57.8 +0.1**
BRTR Keskin Array B 150.00 312 PKPbc **PKPbc 07 34 57.2 -0.1**
comp=Z,5.6nm,0.7s,baz=140,slow=4.7,SNR=28
TESR Tescani 150.03 329 ⇑P **PKiKP 07 34 57.5 -0.3**
CLZ Clausthal 150.11 353 *e*PKPbc **PKiKP 07 34 58.4 +0.5**
baz=12,slow=2.5
CFR Carcaliu 150.23 326 ⇑P **PKiKP 07 34 58.1 -0.2**
CLL Collm 150.27 350 *e*PKPbc **PKiKP 07 34 58.0 -0.2**
comp=Z,16nm,0.8s
CLL *e*PKPab **PKPab 07 35 03.0 -0.6**
CLL *ep*PKPbc **pPKPab 07 35 14.0 +0.6**
CLL Collm 150.27 350 *e*PKPbc **PKiKP 07 34 58.5 +0.3**
baz=12,slow=2.5
CRVS Cervenica-Dubn 150.29 338 *e*PKP **PKiKP 07 34 58.7 +0.4**
TPGR Topolog 150.30 325 ⇓P **PKiKP 07 34 58.3 -0.2**
OSTC Ostas 150.34 345⇑*e*PKP **PKiKP 07 34 58.7 +0.3**
VRI Vrincioaia 150.46 328 ⇑P **PKPbc 07 34 58.5 +0.4**
PLOR Plostina 150.51 328 ⇑P **PKPbc 07 34 58.1 -0.1**
DPC Dobruska-Polom 150.51 345⇑*e*PKP **PKiKP 07 34 59.3 +0.5**
BRG Berggiesshubel 150.52 348 *i* PKP **PKiKP 07 34 59.9 +1.2**
BRG Amp 07 35 01.3
comp=Z,13nm,1.1s
BRG *ex* x 07 35 31.9
BRG Amp 07 35 33.2
comp=Z,5.9nm,1.2s
BRG Berggiesshubel 150.52 348 *e*PKPbc **PKiKP 07 34 59.3 +0.5**
baz=12,slow=2.5
NEUB Neuenburg 150.56 351 *e*PKPbc **PKiKP 07 34 59.3 +0.5**
baz=12,slow=2.5
FBE Freiberg 150.58 349 *e*PKPbc **PKiKP 07 34 59.7 +0.9**
baz=12,slow=2.5
KRLC Kraliky 150.65 344⇑*e*PKP **PKiKP 07 34 59.5 +0.4**
HARR Harsova 150.67 325 ⇑P **PKiKP 07 34 59.3 +0.1**
MORC Moravsky Berou 150.73 343 *e*PKP **PKiKP 07 34 59.6 +0.3**
PVCC Panska Ves 150.73 347⇑*e*PKP **PKiKP 07 34 59.7 +0.5**
LANS Liptovska Anna 150.73 340 *e*PKP **PKiKP 07 35 00.5 +1.2**
OZUR 150.74 330 ⇓P **PKiKP 07 34 59.7 +0.3**
NEHR Nehoiu 150.99 328 ⇓P **PKiKP 07 34 59.7 -0.2**
DOPR Dopca 151.02 330 ⇑P **PKiKP 07 35 00.8 +0.9**
MLR Muntele Rosu 151.11 329 ⇑P **PKiKP 07 35 00.1 -0.2**
MOX Moxa 151.13 351 *e*PKPbc **PKiKP 07 35 00.6 +0.5**
baz=12,slow=2.5
PLN Plauen 151.20 350 *e*PKPbc **PKiKP 07 35 00.8 +0.7**
baz=12,slow=2.5
WERD Werda 151.22 350 *e*PKPbc **PKiKP 07 35 01.0 +0.8**
baz=12,slow=2.5
TANN Tannenbergstha 151.22 350 *e*PKPbc **PKiKP 07 35 00.9 +0.7**
baz=12,slow=2.5
PRU Pruhonice 151.25 347⇑*e*PKP **PKiKP 07 35 00.7 +0.4**
GUNZ Gunzen 151.29 350 *e*PKPbc **PKiKP 07 35 01.2 +0.8**
baz=12,slow=2.5
WERN Wernitzgruen 151.36 350 *e*PKPbc **PKiKP 07 35 01.5 +1.0**
baz=12,slow=2.5
SECR 151.38 328 ⇑P **PKiKP 07 35 01.0 +0.3**
VRAC Vranov 151.41 344 *e*PKP **PKiKP 07 35 01.1 +0.5**
JAVC Velka Javorina 151.53 342 *e*PKP **PKiKP 07 35 01.5 +0.5**
VOIR 151.58 329 ⇑P **PKiKP 07 35 01.3 +0.1**
KRUC Moravsky 151.69 344 *e*PKP **PKiKP 07 35 01.7 +0.5**
MANZ Manzenberg 151.69 350 *e*PKPbc **PKiKP 07 35 02.1 +0.8**
baz=12,slow=2.5
ARR Arges 151.82 330 ⇑P **PKiKP 07 35 02.9 +1.2**
LOT Lotru 152.16 331 ⇑P **PKPbc 07 35 02.2 0.0**
KHC Kasperske Hory 152.26 348⇑*e*PKP **PKiKP 07 35 03.2 +0.8**
KHC Kasperske Hory 152.26 348 PKPdf **PKPdf 07 34 54.2 -1.2**
CKRC Cesky Krumlov 152.40 347⇑*e*PKP **PKiKP 07 35 03.2 +0.5**
SIRR Siria 152.41 334 ⇓P **PKiKP 07 35 03.4 +0.6**
GEC2 GERESS Array S 152.51 347 *e*PKPbc **PKiKP 07 35 03.6 +0.5**
baz=12,slow=2.5
GEC2 GERESS Array S 152.51 347 PKPdf **PKPdf 07 34 54.8 -1.1**
GERES GERESS Array B 152.51 347 PKPbc **PKiKP 07 35 03.5 +0.5**
comp=Z,1.9nm,0.7s,baz=48,slow=2.0,SNR=11
GERES GERESS Array B 152.51 347 **PKPbc 07 34 59.4 -3.4**
GZR Gura Zlata 152.64 332 ⇓P **PKiKP 07 35 03.5 +0.1**
BZS Buzias 152.95 334 ⇑P **PKiKP 07 35 04.2 +0.3**
HERR Herculane 153.20 332 ⇑P **PKiKP 07 35 04.8 +0.3**

*JMA **21** 07:17:13.1±0.1, 27.°01N×140.°53E, h507km, M3.8*
*NEIC **21** 07:17:14.5±1.8, 27.°0N±0.°1×140.°2E±0.°1, h490km±8km, mb4.2/27, Error ellipse: s-maj=19.1km s-min=11.6km az=145.0*
*IDC **21** 07:15:9.9±1.9, 26.°99N×140.°12E, h511km±19km, mb3.4/28, mb1 3.6/31, mb1mx3.3/70, mbtmp4.3/31, Error ellipse: s-maj=18.5km s-min=12.7km az=160.0*
ISC 21 07:17:14.4±0.6, 26.°98N±0.°08×140.°27E±0.°09, h500km, n82, σ1°13/84, mb4.0/37, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.72**	**86**	P	**P**	**07 18 16.9**	**-1.2**
CBIJ				S	**S**	**07 19 07.2**	**-2.7**
JCJ	**Chichijima**	**1.72**	**86**	P	**P**	**07 18 16.2**	**-1.9**
JHH2	**Haha-jima-NKT2**	**1.74**	**101**	P	**P**	**07 18 17.6**	**-0.7**
JHH2				S	**S**	**07 19 07.9**	**-2.2**
BSO1	**Boso 1**	**7.67**	**4**	P	**P**	**07 19 06.7**	**+0.1**
BSO1				*e*S	**S**	**07 20 37.0**	**-1.9**
BSO3	**Boso 3**	**7.80**	**1**	*e*S	**S**	**07 20 39.4**	**-2.4**
JTNC	**Tanabenakahech**	**7.91**	**331**	P	**P**	**07 19 11.6**	**+1.9**
BSO4	**Boso 4**	**7.98**	**0**	S	**S**	**07 20 43.6**	**-2.0**
JIE	**Ise**	**8.00**	**338**	P	**P**	**07 19 12.2**	**+1.6**
JKN2	**Miekihoku**	**8.01**	**336**	P	**P**	**07 19 12.0**	**+1.3**
JMN	**Monobe**	**8.70**	**322**	P	**P**	**07 19 18.1**	**+0.1**
JTO	**Tosashimizu**	**8.73**	**314**	P	**P**	**07 19 19.0**	**+0.7**
JWT	**Wachi**	**9.26**	**334**	P	**P**	**07 19 22.3**	**-1.5**
JHO	**Hitachi**	**9.61**	**1**	P	**P**	**07 19 27.0**	**-0.4**
JHO				*e*S	**S**	**07 21 13.5**	**-3.3**
JSU	**Suzuyama**	**9.68**	**300**	P	**P**	**07 19 27.9**	**-0.4**
MJAR	**Matsushiro Arr**	**9.69**	**350**	P	**P**	**07 19 28.0**	**-0.3**
JAMN	**Amaminishikomi**	**9.92**	**280**	P	**P**	**07 19 31.6**	**+0.8**
JHS	**Saijyo**	**10.07**	**324**	P	**P**	**07 19 32.2**	**-0.2**
JNU	**Nakatsue**	**10.18**	**309**	P	**P**	**07 19 34.4**	**+0.8**
	1.4nm,0.3s,baz=134,slow=4.7,SNR=11						
JNU	**Nakatsue**	**10.18**	**309**	P	**P**	**07 19 34.2**	**+0.7**
JOW	**Kunigami**	**10.70**	**272**	P	**P**	**07 19 39.7**	**+0.5**
	18nm,0.3s,baz=119,slow=8.9,SNR=28						
JOW	**Kunigami**	**10.70**	**272**	P	**P**	**07 19 39.6**	**+0.4**
JOW	**Kunigami**	**10.70**	**272**	P	**P**	**07 19 38.9**	**-0.3**
KSRS	**Korea Array**	**14.76**	**318**	P	**P**	**07 20 24.9**	**+3.1**
	1.5nm,0.3s,baz=144,slow=8.8,SNR=29						
SSLB	**Suanglung**	**17.74**	**264**	P	**P**	**07 20 51.2**	**-1.2**
USRK	**Ussuriysk Ar.**	**18.43**	**341**	P	**P**	**07 20 59.4**	**+0.9**
	baz=163,slow=11,SNR=8.9						
KLR	**Kul'dur**	**23.17**	**346**	P	**P**	**07 21 42.2**	**+0.9**
	1.0nm,0.4s,baz=161,slow=9.6,SNR=6.5						
SONM	**Songino Array**	**33.62**	**317**	P	**P**	**07 23 12.6**	**0.0**
	2.0nm,0.4s,baz=134,slow=11,SNR=5.5						
SONM	**Songino Array**	**33.62**	**317**	P	**P**	**07 23 12.2**	**-0.5**
SEY	**Seymchan**	**36.83**	**9**	P	**P**	**07 23 40.3**	**+1.3**
	4.6nm,0.6s,baz=4.8,slow=23,SNR=14						
CHTO	**Chiang Mai**	**38.79**	**267**	P	**P**	**07 23 55.0**	**-0.6**
CHTO				IAmb	IAmb	07 23 56.3	
	comp=Z,7.5nm,1.2s						
CMAR	**Chiang Mai Arr**	**38.91**	**266**	P	**P**	**07 23 56.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=53,slow=7.9,SNR=8.0						
SHL	**Shillong**	**43.20**	**279**	P	**P**	**07 24 30.3**	**-0.6**
BILL	**Bilibino**	**43.96**	**14**	P	**P**	**07 24 37.0**	**+1.0**
BILL				IAmb	IAmb	07 24 38.5	
	comp=Z,8.3nm,0.7s						
WRA	**Warramunga Arr**	**47.00**	**188**	P	**P**	**07 25 00.2**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=5.1,slow=7.3,SNR=1.8						
ZAA0	**Zalesovo Array**	**48.46**	**319**	P	**P**	**07 25 09.8**	**-0.6**
ZALV	**Zalesovo Beam**	**48.46**	**319**	P	**P**	**07 25 10.0**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=107,slow=8.5,SNR=10						
ZALV	**Zalesovo Beam**	**48.46**	**319**	P	**P**	**07 25 09.8**	**-0.6**
MK31	**Makanchi Array**	**49.23**	**310**	P	**P**	**07 25 15.8**	**-0.6**
MKAR	**Makanchi Array**	**49.23**	**310**	P	**P**	**07 25 16.4**	**0.0**
	comp=Z,1.3nm,0.4s,baz=90,slow=9.9,SNR=32						
MKAR				PcP	**PcP**	**07 26 30.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=83,slow=5.1,SNR=4.3						
MKAR				ScP	**ScP**	**07 29 38.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=81,slow=5.7,SNR=4.3						
KURK	**Kurchatov**	**51.85**	**315**	P	**P**	**07 25 34.9**	**-0.5**
KURK				IAmb	IAmb	07 25 36.0	
	comp=Z,11nm,1.2s						
KURBB	**Kurchatov Arra**	**51.90**	**315**	P	**P**	**07 25 35.6**	**-0.2**
	comp=Z,4.9nm,0.6s,baz=93,slow=7.8,SNR=43						
PRZ	**Przheval'sk**	**52.05**	**304**	P	**P**	**07 25 37.6**	**+0.3**
PRZ				IAmb	IAmb	07 25 39.4	
	comp=Z,11nm,0.8s						
NRIK	**Noril'sk**	**52.14**	**339**	P	**P**	**07 25 37.6**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=105,slow=7.1,SNR=6.4						
NRIK	**Noril'sk**	**52.14**	**339**	P	**P**	**07 25 37.0**	**-0.2**
BOOM	**Boomskoye usch**	**53.87**	**304**	P	**P**	**07 25 49.1**	**-1.1**
BOOM				IAmb	IAmb	07 25 51.7	
	comp=Z,4.8nm,0.7s						
AAK	**Ala-Archa**	**54.91**	**305**	P	**P**	**07 25 58.2**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=134,slow=9.4,SNR=4.8						
AAK	**Ala-Archa**	**54.91**	**305**	IAmb	IAmb	07 26 52.5	
	comp=Z,3.8nm,0.5s						
IMAR	**Indian Mountai**	**55.92**	**27**	P	**P**	**07 26 05.5**	**+1.5**
H21K	**Melozitna Rive**	**56.25**	**27**	P	**P**	**07 26 07.2**	**+0.9**
BVAR	**Borovoye Array**	**56.97**	**317**	P	**P**	**07 26 11.6**	**+0.2**
	comp=Z,6.2nm,0.5s,baz=74,slow=11,SNR=30						
TRF	**Thorofare Moun**	**57.05**	**30**	P	**P**	**07 26 13.3**	**+1.3**
TRF				IAmb	IAmb	07 27 40.6	
	comp=Z,46nm,1.8s						
COLD	**Coldfoot**	**57.51**	**26**	P	**P**	**07 26 16.6**	**+1.6**
MCK	**McKinley**	**57.67**	**30**	P	**P**	**07 26 17.0**	**+0.9**
KKAR	**Karatay Array**	**57.76**	**306**	P	**P**	**07 26 16.8**	**-0.3**
ILAR	**Eielson Array**	**58.63**	**29**	P	**P**	**07 26 22.8**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=260,slow=6.0,SNR=12						
CHGR	**Chuyangaron**	**59.54**	**301**	P	**P**	**07 26 29.2**	**0.0**
SCRK	**Sand Creek**	**59.87**	**30**	P	**P**	**07 26 31.8**	**+0.7**
J26L	**Joseph Creek**	**60.06**	**29**	P	**P**	**07 26 32.8**	**+0.5**
KBL	**Kabul**	**60.54**	**296**	P	**P**	**07 26 35.4**	**-0.7**
KBL				IAmb	IAmb	07 26 37.1	
	comp=Z,5.4nm,0.7s						
EPYK	**Eagle Plains**	**62.82**	**27**	P	**P**	**07 26 51.6**	**+1.3**
EPYK				IAmb	IAmb	07 26 52.8	
	comp=Z,7.6nm,0.7s						
ARU	**Arti**	**63.46**	**322**	P	**P**	**07 26 54.3**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=107,slow=6.7,SNR=9.3						
INK	**Inuvik**	**63.84**	**24**	P	**P**	**07 26 57.6**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=297,slow=5.8,SNR=7.8						
ABKAR	**Akbulak array**	**63.95**	**314**	P	**P**	**07 26 57.5**	**-0.3**
ABKAR	**Akbulak array**	**63.95**	**314**	P	**P**	**07 26 57.3**	**-0.4**
ABKAR				IAmb	IAmb	07 26 58.3	
	comp=Z,7.0nm,0.6s						
AKTO	**Aktyubinsk**	**64.92**	**316**	P	**P**	**07 27 03.5**	**-0.4**
	comp=Z,3.3nm,0.6s,baz=80,slow=13,SNR=14						
SPITS	**Spitsbergen Ar**	**70.19**	**350**	P	**P**	**07 27 37.3**	**+1.5**
	comp=Z,6.3nm,0.9s,baz=107,slow=4.8,SNR=6.2						
RES	**Resolute Bay**	**72.57**	**13**	P	**P**	**07 27 49.8**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=338,slow=9.6,SNR=4.2						
RES	**Resolute Bay**	**72.57**	**13**	IAmb	IAmb	07 30 32.0	
	comp=Z,14nm,1.9s						
YKA	**Yellowknife Ar**	**73.05**	**28**	P	**P**	**07 27 53.5**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=296,slow=5.7,SNR=27						
ARCES	**ARCESS Array B**	**73.08**	**340**	P	**P**	**07 27 53.5**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=78,slow=8.9,SNR=12						
KBZ	**Khabaz**	**76.83**	**312**	P	**P**	**07 28 15.2**	**+1.0**
	comp=Z,2.8nm,0.5s,baz=81,slow=4.1,SNR=6.2						
FINES	**FINESS Array B**	**77.29**	**333**	P	**P**	**07 28 16.3**	**-0.1**
	comp=Z,3.3nm,0.4s,baz=69,slow=5.2,SNR=47						
AKASG	**Malin Array Be**	**81.69**	**323**	P	**P**	**07 28 39.4**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=51,slow=5.1,SNR=18						
NVAR	**Mina Array Bea**	**81.93**	**51**	P	**P**	**07 28 43.9**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=298,slow=6.3,SNR=4.9						
NB2	**NORSAR Subarra**	**83.07**	**338**	P	**P**	**07 28 46.1**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=54,slow=5.1						
NOA	**NORSAR Array B**	**83.07**	**338**	P	**P**	**07 28 45.5**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=31,slow=5.2,SNR=6.2						
RAYN	**Ar Rayn**	**83.62**	**293**	P	**P**	**07 28 50.2**	**0.0**
RAYN				IAmb	IAmb	07 28 51.7	
	comp=Z,4.6nm,0.7s						
BRTR	**Keskin Array B**	**84.82**	**312**	P	**P**	**07 28 55.4**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=107,slow=4.6,SNR=4.8						
PFO	**Pinyon Flats O**	**85.55**	**55**	P	**P**	**07 29 01.1**	**+1.5**
	comp=Z,2.6nm,0.9s,baz=291,slow=4.3,SNR=4.3						
PFO	**Pinyon Flats O**	**85.55**	**55**	IAmb	IAmb	07 32 09.6	
	comp=Z,21nm,1.7s						
GERES	**GERESS Array B**	**90.71**	**328**	P	**P**	**07 29 22.7**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=60,slow=5.8,SNR=3.9						
TXAR	**Lajitas Array**	**97.03**	**52**	P	Pdif	07 29 54.9	+2.2
	comp=Z,0.2nm,0.5s,baz=289,slow=3.8,SNR=3.6						

IDC 21 07:21:58.3±20.0, 26.°14S×71.°42E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.3/58, mbtmp3.7/3, MS3.6/3, Ms1 3.6/3, ms1mx2.9/78, Error ellipse: s-maj=663.9km s-min=40.9km az=49.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.42**	**3**	T	T	07 44 54.7	
	baz=190						
H08S2	**Diego Garcia H**	**18.42**	**3**	T	T	07 44 55.0	
	baz=190,slow=74,SNR=5.6						
H08S3	**Diego Garcia H**	**18.44**	**3**	T	T	07 44 56.1	
	baz=190,slow=74,SNR=12						
PALK	**Pallekele**	**34.42**	**16**	LR	LR	07 39 05.7	
	comp=Z,59nm,19.0s,baz=286,slow=30						
FITZ	**Fitzroy Crossi**	**50.57**	**93**	LR	LR	07 50 21.8	
	comp=Z,76nm,20.2s,baz=198,slow=34						
ASAR	**Alice Springs**	**56.24**	**102**	P	P	07 31 40.4	-0.4
	0.8nm,0.6s,baz=254,slow=6.5,SNR=14						
WRA	**Warramunga Arr**	**57.75**	**98**	P	P	07 31 52.0	+0.4
	1.3nm,1.0s,baz=252,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**73.26**	**8**	P	P	07 33 31.2	0.0
	0.5nm,0.7s,baz=199,slow=6.4,SNR=5.7						
VAE	**Valguarnera**	**82.88**	**318**	LR	LR	08 08 28.5	
	comp=Z,36nm,18.4s,baz=318,slow=34						

*IGIL **21** 07:23:32.4, 35.°28N×12.°07W, h32km, ML1.9*
*INMG **21** 07:23:33.0±1.2, 35.°29N×12.°07W, h31km, ML2.2, Error ellipse: s-maj=12.8km s-min=5.8km az=95.0*
*CNRM **21** 07:23:36.2, 35.°11N×11.°04W, h0km, ml3.1*
ISC 21 07:23:29.0±2.6, 35.°18N±0.°05×11.°7W±0.°2, h10km, n20, σ2°09/30, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.04**	**49**	*e*Pn	**Pn**	**07 24 19.4**	**+2.2**
PFVI				*e*Sn	**Sn**	**07 24 54.1**	**+0.5**
PFVI				A	A	07 25 01.2	
	9.2nm,0.7s						
PFVI	**Vila Bisbo**	**3.04**	**49**	P	**Pb**	**07 24 21.5**	**-1.8**
PFVI				S	**Sn**	**07 24 54.2**	**+0.5**
MORF	**Marmelete**	**3.26**	**49**	*e*P	**Pn**	**07 24 22.5**	**+2.2**
MORF				*e*S	**Sn**	**07 24 59.0**	**-0.2**
MORF				IAML		07 25 00.5	
	comp=N,5.5nm,0.1s						
MORF	**Marmelete**	**3.26**	**49**	*e*Pn	**Pn**	**07 24 22.6**	**+2.3**
MORF				*e*Sn	**Sn**	**07 24 59.1**	**-0.1**
MORF				A	A	07 25 04.4	
	comp=N,5.5nm,0.6s						
PTEO	**Sao Teotonio**	**3.37**	**45**	*e*Sn	**Sn**	**07 25 02.0**	**+0.1**
PBDV	**Barranco-do-Ve**	**3.69**	**55**	*e*Pn	**Pn**	**07 24 28.7**	**+2.6**
PBDV				*e*Sn	**Sn**	**07 25 10.8**	**+1.1**
PBDV				A	A	07 25 16.3	
	comp=N,3.2nm,1.0s						
PCVE	**Castro Verde**	**3.84**	**49**	*e*Sn	**Sn**	**07 25 13.6**	**+0.1**
PCVE				A	A	07 25 15.4	
	comp=N,5.1nm,0.9s						
MESJ	**Messejana**	**3.87**	**46**	*e*S	**Sn**	**07 25 12.8**	**-1.2**
MESJ				IAML		07 25 15.2	
	comp=E,1.8nm,0.1s						
MESJ	**Messejana**	**3.87**	**46**	*e*S	**Sn**	**07 25 12.8**	**-1.2**
MESJ				iAML		07 25 15.2	
PNCL	**Nicolau / Gran**	**3.89**	**40**	*e*Pn	**Pn**	**07 24 31.6**	**+2.8**
PNCL				*e*Sn	**Sn**	**07 25 13.2**	**-1.3**
PNCL				A	A	07 25 19.0	
	comp=E,2.7nm,0.5s						
PVAQ	**Vaqueiros**	**3.92**	**54**	*e*Pn	**Pn**	**07 24 31.7**	**+2.4**
PVAQ				*e*Sn	**Sn**	**07 25 15.5**	**+0.2**
PVAQ				A	A	07 25 23.4	
	comp=E,2.9nm,0.5s						
PMAFR	**Mafra**	**4.24**	**27**	*e*Sn	**Sn**	**07 25 19.9**	**-3.3**
EVO	**Evora**	**4.47**	**41**	*e*Sn	**Sn**	**07 25 27.3**	**-1.6**
EVO				A	A	07 25 29.8	
	comp=E,4.1nm,0.1s						
PMTG	**Montargil**	**4.78**	**35**	*e*Sn	**Sn**	**07 25 34.0**	**-2.5**
PMTG				A	A	07 25 35.6	
	comp=E,1.8nm,0.8s						
PSBE	**So Bento**	**4.91**	**27**	*e*Sn	**Sn**	**07 25 37.4**	**-2.4**
PESTR	**Estremoz**	**4.94**	**41**	*e*Sn	**Sn**	**07 25 39.0**	**-1.6**
OUK	**Oukaimeden**	**5.11**	**140**	P	**Pn**	**07 24 47.3**	**+1.3**
OUK				S	**Sn**	**07 25 45.2**	**-0.1**
PMRV	**Marv??o**	**5.46**	**38**	*e*Sn	**Sn**	**07 25 50.5**	**-2.9**
PMRV				A	A	07 25 52.0	
	comp=E,1.8nm,0.7s						
MD31	**MD31**	**6.22**	**110**	P	**Pn**	**07 25 03.2**	**+2.1**
MD31				S	**Sn**	**07 26 08.7**	**-3.6**
MDT	**Midelt**	**6.36**	**110**	P	**Pn**	**07 25 05.7**	**+2.8**
MDT				S	**Sn**	**07 26 12.6**	**-3.1**

*IDC **21** 07:32:52.2±2.4, 3.°15S×128.°79E, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.6/29, mbtmp3.9/3, ML3.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/70, Error ellipse: s-maj=183.5km s-min=27.7km az=68.0*
*DJA **21** 07:32:57.0±0.9, 4.°S±10.°×12.°7E±.°, h10km, M3.8/10, mb4.3/2, MLv3.6/10*
ISC 21 07:32:56.2±1.1, 3.°9S±0.°1×127.°32E±0.°06, h10km, n12, σ1°21/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.90**	**76**	P	**Pg**	**07 33 13.4**	**-0.2**
AAI				S	**Sb**	**07 33 25.9**	**-0.2**
MSAI	**Masohi**	**1.70**	**71**	P	**Pn**	**07 33 26.7**	**+0.7**
SANI	**Sanana**	**2.28**	**324**	P	**Pn**	**07 33 34.5**	**+0.6**
LBMI	**Labuha**	**3.26**	**3**	P	**Pn**	**07 33 48.0**	**+0.6**
TNTI	**Ternate**	**4.65**	**1**	P	**Pn**	**07 34 08.1**	**+1.5**
SWI	**Sorong**	**4.97**	**53**	P	**Pn**	**07 34 11.1**	**+0.2**
FAKI	**Fak Fak**	**5.02**	**79**	P	**Pn**	**07 34 12.6**	**+0.9**
APSI	**Ampana**	**6.40**	**298**	P	**Pn**	**07 34 31.3**	**+0.7**
	0.1nm30nm,1.0s						
WRA	**Warramunga Arr**	**17.34**	**157**	P	**Pn**	**07 36 57.0**	**-1.6**
	0.1nm,0.3s,baz=345,slow=13,SNR=6.1						
ASAR	**Alice Springs**	**20.64**	**163**	P	**P**	**07 37 38.2**	**+2.0**
	15nm,0.9s,baz=344,slow=11,SNR=77						
KSRS	**Korea Array**	**41.16**	**1**	LR	LR	07 57 20.5	
	comp=Z,12nm,19.1s,baz=60,slow=36						
MKAR	**Makanchi Array**	**64.20**	**327**	P	**P**	**07 43 29.9**	**-1.4**
	0.6nm,0.8s,baz=137,slow=7.6,SNR=5.4						

*IDC **21** 08:09:08.9±0.6, 5.°26N×73.°60W, h151km±4km, mb3.1/7, mb1 3.5/9, mb1mx3.3/29, mbtmp3.6/9, Error ellipse: s-maj=16.7km s-min=11.6km az=125.0*
*RSNC **21** 08:09:09.4±1.2, 5.°29N×73.°72W, h152km±4km, ML3.8, Mw3.9, Fault plane solution: NP1:φs36.00000°, δ49.00000°, λ-102.00000°.*
**ISC

comp=Z,144nm,0.3s
ZARC Zaragoza, Cauc 2.48 333⇑iP Pn 08 09 48.7 -1.4
ZARC eS Sn 08 10 20.3 -1.7
ZARC i 08 10 27.2
comp=Z,714nm,0.4s
PLMC San Jos del P 2.59 262⇑iP Pn 08 09 52.4 +0.8
PLMC eS Sn 08 10 24.9 +0.4
PLMC i 08 10 27.3
comp=Z,99nm,0.4s
GUVC San Jose del G 2.92 158 eP Pn 08 09 55.1 -0.5
GUVC eS Sn 08 10 29.7 -2.1
GUVC i 08 10 35.3
comp=Z,770nm,0.2s
YOTC Yotoco, Valle 2.93 244 eP Pn 08 09 55.6 -0.2
YOTC eS Sn 08 10 27.0 -5.0
OCAC Ocana 2.96 7⇑eP Pn 08 09 56.7 +0.4
OCAC eS Sn 08 10 32.9 0.0
OCAC i 08 10 41.4
comp=Z,727nm,0.5s
DBBC Dabeiba 3.03 305⇑iP Pn 08 09 57.2 +0.2
DBBC eS Sn 08 10 31.0 -3.2
DBBC i 08 10 41.0
comp=Z,494nm,0.4s
UREC San Jos de Ur 3.05 324⇑eP Pn 08 09 55.4 -1.8
UREC eS Sn 08 10 31.6 -3.1
UREC i 08 10 37.1
comp=Z,313nm,0.1s
BETC Betania 3.11 214 eP Pn 08 09 57.3 -0.7
BETC eS Sn 08 10 33.0 -3.0
BETC i 08 10 37.7
comp=Z,78nm,0.8s
MACC Macarena, Meta 3.12 183 eP Pn 08 09 57.0 -1.0
MACC eS Sn 08 10 33.4 -2.8
MACC i 08 10 33.6
comp=Z,165nm,0.4s
MARP Paez Belalcaza 3.30 223 eS Sn 08 10 39.8 -0.9
SMLC San Martn de 3.52 354 eP Pn 08 10 01.9 -1.2
SMLC eS Sn 08 10 44.5 -0.7
GARC Garzon, Huila 3.55 210 eP Pn 08 10 03.3 -0.5
GARC eS Sn 08 10 44.8 -1.7
GARC i 08 11 18.3
comp=Z,161nm,0.2s
SOLC Bahia Solano 3.80 284 eP Pn 08 10 06.7 -0.1
SOLC eS Sn 08 10 47.6 -4.1
PCON Cinco Dias 3.98 223 eP Pn 08 10 09.9 +0.3
MOTC Monteria, Cord 3.98 331⇑eP Pn 08 10 07.0 -2.1
MOTC eS Sn 08 10 51.8 -4.2
MOTC i 08 10 56.7
comp=Z,169nm,0.4s
POPC Popayan, Colom 4.02 228 eP Pn 08 10 10.2 +0.4
SOCV Socops 4.11 43 eP Pn 08 10 09.8 -1.1
SOCV eS Sn 08 10 55.9 -3.2
LL1C La Loma 1 Cana 4.24 2 eP Pn 08 10 13.9 +1.5
LL1C eS Sn 08 11 03.2 +1.2
LCBC Los crdobas, 4.43 324 eP Pn 08 10 13.4 -1.5
LCBC eS Sn 08 11 06.0 -0.3
LCBC i 08 11 09.2
comp=Z,108nm,0.3s
SDV Santo Domingo 4.71 40 P Pn 08 10 19.4 +0.7
comp=Z,11nm,0.3s,baz=201,slow=15,SNR=28
SDV S Sn 08 11 11.7 -1.6
comp=Z,12nm,0.3s,baz=258,slow=24,SNR=14
SDV Santo Domingo 4.71 40 eP Pn 08 10 19.4 +0.7
SDV eS Sn 08 11 09.3 -4.0
SDV i 08 11 18.0
comp=Z,34nm,0.3s
SJCC San Jacinto, C 4.81 342⇑eP Pn 08 10 17.8 -2.2
SJCC i 08 11 13.6
comp=Z,135nm,0.3s
CRJC Cerrejon, Guaj 5.76 8 eP Pn 08 10 31.5 -1.1
CRJC eS Sn 08 11 32.0 -6.2
CRJC i 08 11 46.8
comp=Z,99nm,0.5s
SMRC Santa Marta, M 5.87 355 eP Pn 08 10 34.2 +0.3
SMRC eS Sn 08 11 34.5 -6.1
SMRC i 08 11 41.7
comp=Z,39nm,0.3s
PTGA Pitinga 14.97 113 P Pn 08 12 30.6 -2.1
comp=Z,0.2nm,0.3s,baz=311,slow=18,SNR=2.2
PTGA S Sn 08 15 12.5 -6.8
comp=Z,0.6nm,0.3s,baz=324,slow=22,SNR=2.8
SIV San Ignacio 24.56 150 P P 08 14 15.0 +0.6
comp=Z,0.9nm,0.6s,baz=316,slow=10.0,SNR=6.3
TXAR Lajitas Array 37.07 314 P P 08 16 07.3 +3.2
comp=Z,0.1nm,0.5s,baz=134,slow=8.9,SNR=1.6
TXAR PcP PcP 08 18 23.4 +1.9
comp=Z,0.4nm,0.5s,baz=154,slow=5.8,SNR=10
PLCA Paso Flores 45.88 177 P P 08 17 15.4 -0.2
comp=Z,0.4nm,0.4s,baz=298,slow=2.2,SNR=3.3
PDAR Pinedale Array 48.99 325 P P 08 17 39.9 0.0
comp=Z,0.2nm,0.6s,baz=120,slow=11,SNR=2.8
NVAR Mina Array Bea 52.16 316 P P 08 18 05.2 +1.6
comp=Z,0.3nm,0.5s,baz=116,slow=7.3,SNR=5.1
NVAR PcP PcP 08 19 14.7 +1.3
comp=Z,0.7nm,0.6s,baz=135,slow=4.3,SNR=7.6
YKA Yellowknife Ar 64.50 340 P P 08 19 28.9 +0.3
comp=Z,1.6nm,0.5s,baz=135,slow=6.3,SNR=60
YKA pP pP 08 20 06.0 -0.5
comp=Z,0.4nm,0.6s,baz=134,slow=6.6,SNR=2.9
ILAR Eielson Array 78.11 335 P P 08 20 51.0 +0.8
comp=Z,0.4nm,0.4s,baz=97,slow=4.6,SNR=9.0
ASAR Alice Springs 147.73 233 PKPbc PKPdf 08 28 35.2 +2.2
comp=Z,0.3nm,0.3s,baz=125,slow=3.3,SNR=2.8
WRA Warramunga Arr 149.07 239 PKPbc PKPbc 08 28 38.8 -0.8
comp=Z,0.6nm,0.5s,baz=108,slow=2.9,SNR=2.8

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*BJI **21** 08:16:44.6±0.0, 1°.01N×127°.28E, h116km, mb4.9/50, mB5.1/28*
*DSN **21** 08:16:48.7±3.7, 1°.53N×127°.45E, h112km, mb5.5/13, Error ellipse: s-maj=90.9km s-min=28.5km az=108.0*
*DJA **21** 08:16:50.8±0.2, 2°N±2°×12°7E±°, h109km±2km, M4.8/55, mb5.0/55, mB5.3/24, MLv5.0/18, Mw(mB)4.7/24, MwMwp5.3/2, Mwp5.5/2*
*IDC **21** 08:16:51.4±1.6, 1°.61N×126°.90E, h115km±15km, mb4.3/20, mb1 4.4/25, mb1mx4.2/48, mbtmp4.7/25, MS3.5/3, Ms1 3.5/3, ms1mx2.8/70, Error ellipse: s-maj=18.3km s-min=9.1km az=75.0*
*NEIC **21** 08:16:51.9±1.6, 1°.60N±0°.07×126°.92E±0°.07, h112km±6km, mb5.0/56, Error ellipse: s-maj=11.4km s-min=8.9km az=55.0*
*MAN **21** 08:16:53.5, 2°.08N×126°.52E, h14km, mb5.2, ML4.1, MS4.2*

ISC 21 08:16:50.5±0.3, 1°.63N±0°.04×126°.93E±0°.06, h103km, n321, σ1°23/332, mb4.9/74, 7C-5D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.96**	**153**	P	**Pn**	**08 17 12.2**	**+1.4**
TNTI	**Ternate**	**0.96**	**153**	Pn	**Pn**	**08 17 12.4**	**+1.6**
TNTI	**Ternate**	**0.96**	**153**	P	**Pn**	**08 17 12.4**	**+1.6**
LBMI	**Labuha**	**2.33**	**166**	P	**Pn**	**08 17 28.8**	**+1.3**
SGSI	**Sangihe**	**2.47**	**326**	P	**Pn**	**08 17 28.7**	**-0.6**
KMSI	**Cibinong**	**3.13**	**250**	P	**Pn**	**08 17 39.0**	**+1.0**
SANI	**Sanana**	**3.78**	**194**	P	**Pn**	**08 17 45.8**	**-0.9**
SANI	**Sanana**	**3.78**	**194**	P	**Pn**	**08 17 45.9**	**-0.8**
GTOI	**Gorontalo**	**4.04**	**256**	P	**Pn**	**08 17 51.8**	**+1.6**
DDMP	**Don Marcelino,**	**4.60**	**345⇑**	eP	**Pn**	**08 17 56.4**	**-1.5**
DDMP				eS	**Sn**	**08 18 45.0**	**-5.3**
GSPH	**General Santos**	**4.84**	**336⇓**	iP	**Pn**	**08 17 58.4**	**-2.9**
GSPH				i S	**Sn**	**08 18 52.3**	**-4.0**
LUWI	**Luwuk**	**4.93**	**237**	P	**Pn**	**08 18 03.6**	**+1.3**
LUWI	**Luwuk**	**4.93**	**237**	Pn	**Pn**	**08 18 03.8**	**+1.5**
SWI	**Sorong**	**4.99**	**120**	P	**Pn**	**08 18 04.8**	**+1.6**
SIJI	**Sorong**	**5.00**	**120**	P	**Pn**	**08 18 05.5**	**+2.1**
	10nm,0.3s,baz=318,slow=13,SNR=9.0						
MRSI	**Marisa**	**5.12**	**257**	P	**Pn**	**08 18 06.4**	**+1.6**
	1.0nm2μm177nm,0.6s						
MSAI	**Masohi**	**5.34**	**158**	P	**Pn**	**08 18 10.6**	**+2.8**
	0.2nm627nm38nm,0.5s						
AAI	**Ambon**	**5.44**	**167**	P	**Pn**	**08 18 10.2**	**+1.0**
	1.2nm4μm248nm,0.6s						
DAV	**Davao City (W)**	**5.56**	**346**	P	**Pn**	**08 18 11.7**	**+0.8**
	54nm,0.3s,baz=44,slow=1.2,SNR=3.8						
KCP	**Kidapawan**	**5.64**	**341⇓**	iP	**Pn**	**08 18 11.7**	**-0.4**
KCP				i S	**Sn**	**08 19 17.6**	**+1.9**
APSI	**Ampana**	**5.85**	**244**	P	**Pn**	**08 18 16.1**	**+1.3**
	2.0nm2μm125nm,0.8s						
CTBH	**Cotabato--PC H**	**6.16**	**334⇓**	iP	**Pn**	**08 18 18.4**	**-0.6**
CTBH				i S	**Sn**	**08 19 22.4**	**-5.7**
TOLI2	**Tolitoli**	**6.16**	**265**	Pn	**Pn**	**08 18 18.3**	**-0.7**
TOLI2	**Tolitoli**	**6.16**	**265**	P	**Pn**	**08 18 19.3**	**+0.3**
BUKP	**Musuan**	**6.47**	**343⇑**	iP	**Pn**	**08 18 23.0**	**-0.3**
BUKP				i S	**Sn**	**08 19 32.8**	**-3.0**
FAKI	**Fak Fak**	**6.98**	**130**	P	**Pn**	**08 18 31.8**	**+1.6**
	0.2nm40nm,0.9s						
FAKI	**Fak Fak**	**6.98**	**130**	Pn	**Pn**	**08 18 32.7**	**+2.5**
FAKI	**Fak Fak**	**6.98**	**130**	P	**Pn**	**08 18 32.9**	**+2.7**
PAGZ	**Pagadian**	**7.11**	**330⇑**	eP	**Pn**	**08 18 30.8**	**-1.2**
PAGZ				eS	**Sn**	**08 19 47.5**	**-3.8**
MPSI	**Mapaga**	**7.14**	**260**	P	**Pn**	**08 18 34.0**	**+1.6**
	0.2nm30nm,0.7s						
TTSI	**Tana Toraja**	**8.49**	**237**	P	**Pn**	**08 18 49.9**	**-0.8**
	2μm199nm,0.7s						
SPSI	**Sidrap Palu**	**9.06**	**232**	P	**Pn**	**08 18 58.2**	**-0.2**
	2μm219nm,0.8s						
BNSI	**Bone**	**9.07**	**229**	P	**Pn**	**08 18 58.4**	**-0.2**
	1μm120nm,0.6s						
MYLDM	**Lahad Datu**	**9.12**	**293**	Pn	**Pn**	**08 19 01.6**	**+2.4**
BKSI	**Bulukumba**	**9.69**	**224**	P	**Pn**	**08 19 08.5**	**+1.5**
	896nm68nm,0.6s						
KAPI	**Kappang**	**9.75**	**227**	P	**Pn**	**08 19 08.6**	**+0.8**
	10nm,0.3s,baz=53,slow=3.9,SNR=23						
KAPI				S	**Sn**	**08 20 52.0**	**-3.4**
	4.1nm,0.3s,baz=77,slow=21,SNR=2.7						
KAPI	**Kappang**	**9.75**	**227**	P	**Pn**	**08 19 09.1**	**+1.4**
KAPI	**Kappang**	**9.75**	**227**	Pn	**Pn**	**08 19 08.9**	**+1.2**
KAPI	**Kappang**	**9.75**	**227**	P	**Pn**	**08 19 09.0**	**+1.2**
BSSI	**Bau Bau, Buton**	**10.05**	**220**	P	**Pn**	**08 19 13.5**	**+1.6**
	948nm39nm,0.5s						
EDFI	**Ende, Flores**	**11.56**	**207**	P	**Pn**	**08 19 32.7**	**+0.3**
	535nm35nm,0.7s						
BATI	**Baumata**	**12.20**	**195**	P	**Pn**	**08 19 42.4**	**+1.5**
	4.5nm,0.3s,baz=96,slow=7.6,SNR=4.7						
BATI	**Baumata**	**12.20**	**195**	P	**Pn**	**08 19 42.1**	**+1.2**
	29nm,0.9s						
WBSI	**Waikabubak, Su**	**13.48**	**214**	P	**Pn**	**08 20 00.0**	**+2.3**
	44nm,0.7s						
JAY	**Jayapura**	**14.38**	**107**	LR	LR	08 26 12.0	
	comp=Z,103nm,18.3s,baz=282,slow=39						
DRS	**Darwin Rock St**	**14.52**	**164**	P	**Pn**	**08 20 09.0**	**-2.1**
	152nm,0.7s						
MTN	**Manton Dam**	**14.98**	**164**	P	**Pn**	**08 20 14.8**	**-2.1**
	baz=15,SNR=53						
MTN	**Manton Dam**	**14.98**	**164**	Pn	**Pn**	**08 20 14.6**	**-2.3**
MTN	**Manton Dam**	**14.98**	**164**	P	**Pn**	**08 20 15.3**	**-1.6**
KDU	**Kakadu**	**15.26**	**159**	P	**Pn**	**08 20 17.7**	**-2.7**
	baz=15,SNR=33						
KDU	**Kakadu**	**15.26**	**159**	P	**Pn**	**08 20 18.3**	**-2.1**
KMMI	**Kalianget**	**15.54**	**236**	P	**P**	**08 20 28.1**	**+1.9**
	60nm,0.9s						
JAGI	**Jajag, Banyuwa**	**16.21**	**232**	P	**P**	**08 20 35.4**	**+1.8**
	76nm,1.1s						
KNRA	**Kununurra**	**17.30**	**174**	P	**P**	**08 20 44.6**	**-0.9**
	baz=17,SNR=64						
KNRA	**Kununurra**	**17.30**	**174**		**P**	**08 20 44.8**	**-0.7**
KNRA	**Kununurra**	**17.30**	**174**	P	**P**	**08 20 45.0**	**-0.5**
PCJI	**Pacitan**	**18.49**	**238**	P	**Pn**	**08 21 00.3**	**+0.3**
	79nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.65**	**184**	P	**P**	**08 21 10.1**	**-1.2**
	5.2nm,0.3s,baz=16,slow=9.1,SNR=80						
CNJI	**Cibinong**	**21.66**	**246**	P	**P**	**08 21 33.2**	**+0.3**
	6μm71nm,1.1s						
COEN	**Coen**	**22.35**	**134**	P	**P**	**08 21 39.1**	**-1.1**
COEN	**Coen**	**22.35**	**134**	P	**P**	**08 21 40.4**	**+0.3**
WRAB	**Tennant Creek**	**22.64**	**162**	P	**P**	**08 21 42.2**	**-0.9**
WRA	**Warramunga Arr**	**22.64**	**162**	P	**P**	**08 21 41.8**	**-1.4**
	28nm,0.5s,baz=341,slow=11,SNR=182						
WRA				S	**S**	**08 25 39.9**	**-3.8**
	10nm,0.9s,baz=341,slow=19,SNR=8.0						
WRA	**Warramunga Arr**	**22.64**	**162**	P	**P**	**08 21 41.1**	**-2.0**
WB2	**Warramunga Arr**	**22.65**	**162**	P	**P**	**08 21 42.1**	**-1.1**
WB2				IAmb	IAmb	08 21 49.0	
	comp=Z,63nm,0.7s						
CGJI	**Cibinong**	**22.72**	**249**	P	**P**	**08 21 42.6**	**-1.4**
	comp=Z,6μmcomp=Z,38nm,0.6s						
SSLB	**Suanglung**	**22.77**	**346**	P	**P**	**08 21 43.0**	**-1.3**
KLSI		**23.05**	**254**	P	**P**	**08 21 48.5**	**+1.3**
	comp=Z,22nm,0.8s						
KASI	**Kota Agung**	**23.50**	**252**	P	**P**	**08 21 53.8**	**+2.4**
	comp=Z,68nm,0.8s						
MBWA	**Marble Bar**	**23.72**	**197**	P	**P**	**08 21 52.9**	**-0.3**
MBWA	**Marble Bar**	**23.72**	**197**	P	**P**	**08 21 52.7**	**-0.6**
LWLI	**Liwa**	**23.78**	**254**	P	**P**	**08 21 55.6**	**+1.6**
	comp=Z,65μmcomp=Z,108nm,0.8s						
PSA00	**Pilbara Seismi**	**24.08**	**196**	P	**P**	**08 21 55.9**	**-0.7**
PSA00				IAmb	IAmb	08 21 58.0	
	comp=Z,51nm,1.2s						
PSA00	**Pilbara Seismi**	**24.08**	**196**	P	**P**	**08 21 55.7**	**-0.8**
PSA00				IAmb	IAmb	08 21 57.9	
	comp=Z,22nm,1.1s						
PSA00	**Pilbara Seismi**	**24.08**	**196**	P	**P**	**08 21 55.8**	**-0.7**
	comp=Z,35nm,0.9s						
UBPT	**Khong Chiam**	**25.14**	**304**	P	**P**	**08 22 06.5**	**+0.3**
QIS	**Mount Isa**	**25.31**	**151**	P	**P**	**08 22 07.3**	**-0.5**
	baz=25,SNR=31						
QIS	**Mount Isa**	**25.31**	**151**	P	**P**	**08 22 08.0**	**+0.2**
AS31	**Alice Springs**	**26.05**	**165**	P	**P**	**08 22 13.6**	**-0.8**
ASAR	**Alice Springs**	**26.05**	**165**	P	**P**	**08 22 13.4**	**-0.9**
	comp=Z,5.2nm,0.3s,baz=345,slow=7.2,SNR=99						
ASAR				ScP	**ScP**	**08 29 09.1**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=351,slow=2.8,SNR=4.8						
MTSU	**Mount Surprise**	**26.06**	**140**	P	**P**	**08 22 17.0**	**+2.5**
	baz=26,SNR=12						
WRKA	**Warakurna**	**26.55**	**177**	P	**P**	**08 22 18.5**	**-0.3**
	baz=27,SNR=56						
WRKA	**Warakurna**	**26.55**	**177**	P	**P**	**08 22 18.6**	**-0.3**
GIRL	**Giralia**	**27.12**	**206**	P	**P**	**08 22 24.9**	**+0.9**
	baz=27,SNR=5.2						
GIRL	**Giralia**	**27.12**	**206**	P	**P**	**08 22 23.7**	**-0.2**
GIRL	**Giralia**	**27.12**	**206**	P	**P**	**08 22 24.3**	**+0.3**
	comp=Z,106nm,1.9s						
CTA	**Charters Tower**	**28.73**	**140**	P	**P**	**08 22 39.1**	**+0.7**
	comp=Z,3.5nm,0.5s,baz=328,slow=9.8,SNR=3.6						
CTA	**Charters Tower**	**28.73**	**140**	P	**P**	**08 22 40.0**	**+1.6**
CTAO	**Charters Tower**	**28.73**	**140**	P	**P**	**08 22 38.5**	**+0.2**
CTAO	**Charters Tower**	**28.73**	**140**	P	**P**	**08 22 40.0**	**+1.6**
MEEK	**Meekatharra**	**29.23**	**195**	P	**P**	**08 22 42.1**	**-0.6**
	baz=29,SNR=13						
MEEK	**Meekatharra**	**29.23**	**195**	P	**P**	**08 22 42.6**	**-0.1**
OOD	**Oodnadatta**	**30.45**	**165**	P	**P**	**08 22 53.1**	**-0.3**
NJ2	**Nanjing**	**31.20**	**347**	eP	**P**	**08 23 03.4**	**+3.4**
CMAR	**Chiang Mai Arr**	**32.13**	**303**	P	**P**	**08 23 08.0**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=126,slow=7.8,SNR=22						
FORT	**Forrest**	**32.25**	**178**	P	**P**	**08 23 08.6**	**-0.7**
	baz=32,SNR=14						
FORT	**Forrest**	**32.25**	**178**	P	**P**	**08 23 08.0**	**-1.3**
FORT				IAmb	IAmb	08 23 11.3	
	comp=Z,26nm,0.8s						
FORT	**Forrest**	**32.25**	**178**	P	**P**	**08 23 08.6**	**-0.7**
MORW	**Morawa**	**32.26**	**198**	P	**P**	**08 23 09.1**	**-0.2**
	baz=32,SNR=12						
MORW	**Morawa**	**32.26**	**198**	P	**P**	**08 23 08.8**	**-0.6**
MORW				IAmb	IAmb	08 23 10.0	
	comp=Z,32nm,1.1s						
MORW	**Morawa**	**32.26**	**198**	P	**P**	**08 23 09.2**	**-0.2**
CHTO	**Chiang Mai**	**32.30**	**304**	P	**P**	**08 23 09.3**	**-0.6**
MULG	**Mulgathing**	**32.46**	**168**	P	**P**	**08 23 10.7**	**-0.4**
KMI	**Kunming**	**33.01**	**317**	⇑P	**P**	**08 23 17.6**	**+1.3**
KMI				pmax	pmax		
	comp=Z,19nm,1.2s						
BLDU	**Ballidu**	**33.52**	**196**	P	**P**	**08 23 20.1**	**-0.2**
	baz=34,SNR=18						
BLDU	**Ballidu**	**33.52**	**196**	P	**P**	**08 23 20.3**	**0.0**
LCRK	**Leigh Creek**	**33.67**	**162**	P	**P**	**08 23 21.8**	**+0.2**
RK1H	**Rockhampton Ha**	**33.84**	**139**	P	**P**	**08 23 23.1**	**-0.1**
	comp=Z,44nm,0.6s						
KLBR	**Kellerberrin**	**34.17**	**194**	P	**P**	**08 23 25.9**	**0.0**
	baz=34,SNR=18						
KLBR	**Kellerberrin**	**34.17**	**194**	P	**P**	**08 23 26.4**	**+0.4**
PZH	**PanZhiHua**	**34.60**	**318**	P	**P**	**08 23 33.0**	**+3.1**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,4.4s						
MUN	**Mundaring**	**34.94**	**196**	P	**P**	**08 23 32.7**	**+0.1**
	baz=35,SNR=9.0						
MUN	**Mundaring**	**34.94**	**196**	P	**P**	**08 23 32.2**	**-0.4**
BBOO	**Buckleboo**	**35.33**	**167**	P	**P**	**08 23 35.2**	**-0.7**
	baz=35,SNR=35						
BBOO	**Buckleboo**	**35.33**	**167**	P	**P**	**08 23 35.2**	**-0.7**
BBOO				IAmb	IAmb	08 23 36.0	
	comp=Z,16nm,0.6s						
BBOO	**Buckleboo**	**35.33**	**167**	P	**P**	**08 23 35.3**	**-0.6**
PBA	**Port Blair**	**35.34**	**288**	P	**P**	**08 23 39.3**	**+3.1**
NWAO	**Narrogin (SRO)**	**35.57**	**194**	P	**P**	**08 23 35.9**	**-2.1**
NWAO	**Narrogin (SRO)**	**35.57**	**194**	P	**P**	**08 23 37.8**	**-0.3**
NWAO				IAmb	IAmb	08 23 39.0	
	comp=Z,27nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.57**	**194**	P	**P**	**08 23 38.7**	**+0.7**
EIDS	**Eidsvold**	**35.60**	**141**	P	**P**	**08 23 38.6**	**+0.2**
	baz=36,SNR=5.9						
EIDS	**Eidsvold**	**35.60**	**141**	P	**P**	**08 23 38.1**	**-0.3**
KSRS	**Korea Array**	**35.66**	**1**	P	**P**	**08 23 38.9**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=180,slow=9.7,SNR=16						
STKA	**Stephens Creek**	**36.12**	**159**	P	**P**	**08 23 42.2**	**-0.5**
	comp=Z,7.3nm,0.3s,baz=343,slow=8.1,SNR=43						
STKA	**Stephens Creek**	**36.12**	**159**	P	**P**	**08 23 42.1**	**-0.5**
	baz=36,SNR=7.9						
STKA	**Stephens Creek**	**36.12**	**159**	P	**P**	**08 23 42.0**	**-0.6**
STKA	**Stephens Creek**	**36.12**	**159**	P	**P**	**08 23 42.4**	**-0.3**
NAPP	**Napperby**	**36.22**	**164**	P	**P**	**08 23 43.6**	**+0.1**
	comp=Z,11nm,0.7s						
MJAR	**Matsushiro Arr**	**36.27**	**15**	P	**P**	**08 23 42.6**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=195,slow=8.9,SNR=4.7						
XAN	**Xi'an**	**36.37**	**334**	P	**P**	**08 23 44.3**	**-0.6**
XAN				pmax	pmax		
	comp=Z,12nm,0.6s						
CD2	**Chengdu**	**36.45**	**325**	eP	**P**	**08 23 46.5**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HTT	**Hallett**	**36.67**	**163**	P	**P**	**08 23 47.7**	**+0.3**
	baz=37,SNR=8.2						
HTT	**Hallett**	**36.67**	**163**	P	**P**	**08 23 47.4**	**0.0**
	comp=Z,10nm,1.7s						
RKGY	**Rocky Gully**	**37.24**	**194**	P	**P**	**08 23 53.3**	**+1.1**
	baz=37,SNR=24						
RKGY	**Rocky Gully**	**37.24**	**194**	P	**P**	**08 23 53.5**	**+1.3**
HNS	**HongShan**	**37.33**	**344**	⇑P	**P**	**08 23 52.5**	**-0.3**
HNS				pmax	pmax		
	comp=Z,21nm,1.1s						
CMSA	**Cobar Meteorol**	**37.50**	**153**	P	**P**	**08 23 54.1**	**-0.3**
	baz=38,SNR=13						
CMSA	**Cobar Meteorol**	**37.50**	**153**	P	**P**	**08 23 54.8**	**+0.4**
BJI	**Beijing**	**39.46**	**347**	P	**P**	**08 24 10.8**	**+0.2**
BJI				PcP	**PcP**	**08 26 17.5**	**+0.9**
BJI				pmax	pmax		
	comp=Z,27nm,0.7s						
ARMA	**Armidale**	**39.63**	**146**	P	**P**	**08 24 13.2**	**+0.8**
	baz=40,SNR=12						
ARMA	**Armidale**	**39.63**	**146**	P	**P**	**08 24 12.5**	**+0.1**
ARMA				IAmb	IAmb	08 24 13.7	
	comp=Z,12nm,0.7s						
ARMA	**Armidale**	**39.63**	**146**	P	**P**	**08 24 13.2**	**+0.8**
LZH	**Lanzhou**	**40.41**	**331**	eP	**P**	**08 24 19.9**	**+1.1**
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
ARPS	**Mount Arapiles**	**40.65**	**162**	P	**P**	**08 24 21.0**	**+0.4**
	baz=41,SNR=16						
ARPS	**Mount Arapiles**	**40.65**	**162**	P	**P**	**08 24 21.0**	**+0.4**
SHL	**Shillong**	**41.29**	**308**	P	**P**	**08 24 25.7**	**-0.6**
HHC	**Hu-ho-hao-te**	**41.44**	**342**	eP	**P**	**08 24 27.8**	**+0.7**
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,5.1s						
BTO	**Baotou**	**41.71**	**341**	eP	P	08 24 35.5	+6.2
CN2	**Changchun**	**42.01**	**358**	eP	**P**	**08 24 32.6**	**+1.0**
CN2				epP	pwP	08 24 58.0	+0.2
CN2				eS	**S**	**08 30 44.3**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=Z,520nm,9.0s						
CN2				LR	LR		
	comp=Z,210nm,9.0s						
CN2				LR	LR		
	comp=Z,250nm,9.0s						
CAN	**Canberra**	**42.17**	**153**	P	**P**	**08 24 33.8**	**+0.7**
USRK	**Ussuriysk Ar.**	**42.62**	**5**	P	**P**	**08 24 36.8**	**+0.3**
	comp=Z,9.4nm,1.0s,baz=192,slow=9.1,SNR=6.5						
XLT	**XiLinHaoTe**	**43.18**	**349**	eP	**P**	**08 24 41.1**	**0.0**
XLT				pmax	pmax		
	comp=Z,20nm,0.6s						
XLT				pmax	pmax		
	comp=Z,120nm,4.1s						
BNX	**BinXian**	**43.93**	**0**	⇓P	**P**	**08 24 48.3**	**+1.3**
BNX				pmax	pmax		
	comp=Z,31nm,1.2s						
BNX				pmax	pmax		
	comp=Z,460nm,4.5s						
GTA	**Gaotai**	**44.99**	**330**	⇑P	**P**	**08 24 56.4**	**+0.6**
GTA				pP	pP	08 25 19.8	+0.6
GTA				sP	sP	08 25 35.5	+4.9
GTA				PcP	**PcP**	**08 26 36.0**	**+0.7**
GTA				S	**S**	**08 31 31.4**	**+4.6**
GTA				sS	sS	08 32 22.8	+16
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,55nm,8.0s						
GTA				LR	LR		
	comp=Z,130nm,11.3s						
GTA				LR	LR		
	comp=Z,200nm,13.8s						
GTA				LR	LR		
	comp=Z,100nm,16.4s						
GOMU	**GeErMu**	**45.45**	**323**	P	**P**	**08 25 00.1**	**+0.3**
GOMU				S	**S**	**08 31 32.6**	**-1.4**
GOMU				pmax	pmax		
	comp=Z,110nm,4.4s						
ULN	**Ulaanbaatar**	**49.16**	**342**	P	**P**	**08 25 28.7**	**+0.6**
ULN				IAmb	IAmb	08 25 30.6	
	comp=Z,36nm,1.4s						
SONM	**Songino Array**	**49.34**	**342**	P	**P**	**08 25 29.7**	**+0.3**
	comp=Z,7.6nm,0.7s,baz=157,slow=8.9,SNR=19						
SONM	**Songino Array**	**49.34**	**342**	P	**P**	**08 25 29.9**	**+0.5**
SONM				IAmb	IAmb	08 25 31.2	
	comp=Z,44nm,1.8s						
NFK	**Norfolk Island**	**49.70**	**131**	P	**P**	**08 25 32.0**	**-0.3**
	baz=50,SNR=3.9						
WMQ	**Urumqi**	**54.55**	**326**	⇑P	**P**	**08 26 09.4**	**+1.3**
WMQ				pP	pwP	08 26 35.3	+0.1
WMQ				sP	sP	08 26 50.1	+6.6
WMQ				pmax	pmax		
	comp

	SNR=47						
CHMS	Chumysh	62.03 319		P	P	08 27 00.4	+0.2
	SNR=10						
AAK	Ala-Archa	62.04 319		P	P	08 27 01.1	+0.7
	SNR=12						
AAK	Ala-Archa	62.04 319		P	P	08 27 01.3	+0.9
AAK	Ala-Archa	62.04 319		P	P	08 27 01.1	+0.7
AAK				IAmb	IAmb	08 27 02.2	
	comp=Z,39nm,1.5s						
AAK	Ala-Archa	62.04 319	*i*	P	P	08 27 00.7	+0.3
	SNR=17						
SGDS	Sogindy	62.31 319	*e*	P	P	08 27 01.1	-1.0
	baz=319						
USP	Ospenovka	62.32 319		P	P	08 27 02.5	+0.5
	SNR=17						
AML	Almayashu	62.35 318		P	P	08 27 03.6	+0.8
	SNR=38						
AML	Almayashu	62.35 318		P	P	08 27 03.9	+1.1
AML	Almayashu	62.35 318	*i*	P	P	08 27 03.5	+0.7
	SNR=38						
EKS2	Erkin-Say	62.53 318		P	P	08 27 04.4	+0.9
	SNR=40						
ZAA0	Zalesovo Array	62.53 333		P	P	08 27 02.5	-0.7
ZAA0				IAmb	IAmb	08 27 04.8	
	comp=Z,11nm,0.9s						
ZALV	Zalesovo Beam	62.53 333		P	P	08 27 02.3	-0.9
	comp=Z,5.5nm,0.4s,baz=134,slow=6.9,SNR=33						
SEM	Semipalatinsk	62.57 328	*e*	P	P	08 27 02.3	-1.6
	baz=328						
KBL	Kabul	62.95 308		P	P	08 27 06.8	+0.1
	SNR=6.7						
KBL	Kabul	62.95 308		P	P	08 27 06.3	-0.4
KBL				IAmb	IAmb	08 27 07.5	
	comp=Z,20nm,0.8s						
BTLS	Baital	63.41 321	*e*	P	P	08 27 08.2	-1.0
	comp=Z,9.7nm,0.9s,baz=321						
BTK	Batken	63.51 315		P	P	08 27 10.4	+0.3
BTK				IAmb	IAmb	08 27 12.3	
	comp=Z,18nm,0.8s						
KURK	Kurchatov	63.60 328		P	P	08 27 10.4	+0.1
KURK	Kurchatov	63.60 328		P	P	08 27 10.5	+0.1
DZA	Taraz	64.26 318	*e*	P	P	08 27 14.3	-0.5
	comp=Z,18nm,0.9s,baz=318						
IUG	Iuzhnay	64.85 317	*e*	P	P	08 27 17.9	-0.9
	baz=316						
KKAR	Karatay Array	64.89 318		P	P	08 27 18.9	-0.1
BRLS	Borolday	65.32 317	*e*	P	P	08 27 21.1	-0.7
	comp=Z,10nm,0.8s,baz=317						
BRZS	Berezniki	66.50 325	*e*	P	P	08 27 28.5	-0.7
	baz=325						
HRA	Herat	68.32 306		P	P	08 27 40.9	-0.3
HRA				IAmb	IAmb	08 27 41.9	
	comp=Z,22nm,1.2s						
CASY	Casey	68.77 187		P	P	08 27 43.0	0.0
WBK	Wadi Bani Khal	69.05 293		P	P	08 27 45.7	0.0
BRVK	Borovoye	69.25 327		P	P	08 27 46.2	-0.1
BRVK	Borovoye	69.25 327		P	P	08 27 46.0	-0.3
BRVK				IAmb	IAmb	08 27 46.9	
	comp=Z,17nm,1.0s						
JMDO	Jabal Madar	69.82 293		P	P	08 27 50.8	+0.4
SQUM	Sultan Qaboos	69.90 294		P	P	08 27 51.2	+0.4
BIDO	Bidbid	69.94 294		P	P	08 27 51.3	+0.2
SMDO	Samad	69.95 294		P	P	08 27 51.4	0.0
DQM	DQM	70.08 291		P	P	08 27 52.6	+0.6
HOQ	Hoqain	70.69 294		P	P	08 27 56.3	+0.6
BSY	Bisya	70.69 293		P	P	08 27 55.8	0.0
ARQ	Araqi	71.38 294		P	P	08 28 00.1	+0.2
SOHO	SOHO	71.46 295		P	P	08 28 00.3	-0.1
SOHO	SOHO	71.46 295	*i*	P	P	08 27 59.7	-0.6
	SNR=8.9						
SHAO	Shalim	71.72 288		P	P	08 28 02.3	+0.2
UOSS	Minazif	71.85 296		P	P	08 28 02.4	-0.4
UOSS	Minazif	71.85 296		P	P	08 28 02.0	-0.7
BANOM	Banah	71.88 297		P	P	08 28 03.3	+0.4
BANOM	Banah	71.88 297	*i*	P	P	08 28 03.1	+0.1
	SNR=7.9						
HATD	Hatta, Dubai	71.90 295		P	P	08 28 03.2	+0.2
	SNR=5.3						
HATD	Hatta, Dubai	71.90 295	*i*	P	P	08 28 02.8	-0.3
	SNR=6.9						
MSFE	Esma-Masafi	71.94 296	*i*	P	P	08 28 04.3	+1.0
	SNR=6.5						
MASF	Masafi	71.94 296		P	P	08 28 04.4	+1.1
ASHO	Ashiyiah	71.95 295		P	P	08 28 03.4	0.0
ASHO	Ashiyiah	71.95 295	*i*	P	P	08 28 03.1	-0.3
	SNR=8.2						
SHME	Shamm	72.04 297		P	P	08 28 04.1	+0.3
SHME	Shamm	72.04 297	*i*	P	P	08 28 03.8	0.0
	SNR=7.2						
ALNE	Al Ain	72.16 295		P	P	08 28 05.2	+0.6
	SNR=15						
ALNE	Al Ain	72.16 295	*i*	P	P	08 28 04.3	-0.3
	SNR=12						
GEYT	Alibeck	72.36 309		P	P	08 28 06.0	+0.5
	comp=Z,13nm,0.9s,baz=162,slow=6.2,SNR=12						
GEYT	Alibeck	72.36 309		P	P	08 28 05.7	+0.1
GEYT				IAmb	IAmb	08 28 07.3	
	comp=Z,20nm,1.1s						
GYA0B	ALIBECK ARRAY	72.36 309		P	P	08 28 05.7	+0.2
GYA0B				IAmb	IAmb	08 28 07.2	
	comp=Z,27nm,1.1s						
FAQ	Al Faqa, Dubai	72.38 295		P	P	08 28 05.9	0.0
FAQ	Al Faqa, Dubai	72.38 295	*i*	P	P	08 28 05.3	-0.6
	SNR=12						
NRIK	Noril'sk	72.50 346		P	P	08 28 05.3	-0.3
	comp=Z,11nm,0.7s,baz=127,slow=6.3,SNR=31						
NRIK	Noril'sk	72.50 346		P	P	08 28 05.3	-0.3
NRIK				IAmb	IAmb	08 28 06.0	
	comp=Z,12nm,0.7s						
UMZA	Um Al Zommool	72.56 293		P	P	08 28 06.7	-0.2
ASUD	Al Ashush, Dub	72.61 295		P	P	08 28 07.9	+0.7
	SNR=7.8						
ASUD	Al Ashush, Dub	72.61 295	*i*	P	P	08 28 07.7	+0.5
	SNR=17						
AJN	Ajban	72.91 295		P	P	08 28 09.2	+0.2
	SNR=7.4						
SOCY	Socotra	72.98 282		P	P	08 28 08.8	-0.9
SOCY	Socotra	72.98 282		P	P	08 28 08.3	-1.4
RBK	Rabkut	73.03 288		P	P	08 28 09.8	-0.1
DOK	Doka	73.18 289		P	P	08 28 10.1	-0.6
WHFO	Wadi Hawf	73.47 288		P	P	08 28 11.6	-0.9
ABKAR	Abkulak array	73.89 321		P	P	08 28 13.6	-0.6
ABKAR	Abkulak array	73.89 321		P	P	08 28 13.8	-0.4
ABTO	Aybut	73.89 287		P	P	08 28 14.4	-0.6
MZR	Muzera	74.13 293		P	P	08 28 16.4	+0.2
	SNR=6.3						
MZR	Muzera	74.13 293	*i*	P	P	08 28 15.8	-0.4
	SNR=12						
TRNA	Turayna	76.34 295		P	P	08 28 28.5	-0.3
SHMA	Al-Shehemyia	76.66 296		P	P	08 28 30.5	0.0
SDPT	Sand Point	78.81 34		P	P	08 28 42.1	+0.2
VNDA	Vanda	81.34 173		P	P	08 28 55.1	0.0
	comp=Z,3.5nm,0.5s,baz=316,slow=7.1,SNR=15						
VNDA	Vanda	81.34 173		P	P	08 28 54.6	-0.5
VNDA				IAmb	IAmb	08 28 54.8	
	comp=Z,72nm,2.0s						
RAYN	Ar Rayn	81.48 293		P	P	08 28 56.8	-0.2
RAYN	Ar Rayn	81.48 293		P	P	08 28 57.0	0.0
RAYN				IAmb	IAmb	08 28 58.7	
	comp=Z,13nm,0.8s						
RAYN	Ar Rayn	81.48 293	*i*	P	P	08 28 56.4	-0.6
	SNR=13						
MAW	Mawson	81.87 200		P	P	08 28 58.8	+0.7
SVW2	Sparrevohn	82.53 29		P	P	08 29 02.8	+1.1
SVW2				IAmb	IAmb	08 30 29.4	
	comp=Z,33nm,1.6s						
GCSA	Galena City Sc	82.65 25		P	P	08 29 03.2	+1.0
	baz=258						
TTA	Tatalina	82.67 27		P	P	08 29 03.6	+1.1
TTA	Tatalina	82.67 27		P	P	08 29 03.6	+1.1
	baz=259						
N19K	Bonanza Creek	83.02 29		P	P	08 29 06.6	+2.3
	baz=261						
L19K	White Mountain	83.06 28		P	P	08 29 05.9	+1.5
	baz=260						
M19K	Big River Lodg	83.23 28		P	P	08 29 07.0	+1.7
	baz=261						
L20K	Farewell, AK	83.56 27		P	P	08 29 08.5	+1.5
	baz=261						
J20K	Nowinta River	83.71 26		P	P	08 29 09.6	+1.9
	baz=261						
A21K	Barrow	84.13 18		P	P	08 29 10.2	+0.6
A21K				IAmb	IAmb	08 29 11.7	
	comp=Z,21nm,0.8s						
A21K	Barrow	84.13 18		P	P	08 29 11.2	+1.6
	baz=258						
IMAR	Indian Mountai	84.17 24		P	P	08 29 10.9	+1.0
PPLA	Purkeypile	84.39 27		P	P	08 29 11.7	+0.3
PPLA				IAmb	IAmb	08 29 45.2	
	comp=Z,27nm,1.4s						
H21K	Melozitna Rive	84.50 24		P	P	08 29 12.7	+1.0
	baz=262						
KBZ	Khabaz	84.55 314		P	P	08 29 12.0	-0.3
	comp=Z,1.7nm,0.2s,baz=94,slow=3.8,SNR=4.8						
SKT	Skwentna	84.58 28		P	P	08 29 12.1	-0.1
	baz=263						
SUA	Susitna One	84.90 29		P	P	08 29 14.5	+0.6
SUA				IAmb	IAmb	08 29 14.8	
	comp=Z,15nm,0.8s						
SUA	Susitna One	84.90 29		P	P	08 29 14.2	+0.4
	baz=264						
MLY	Manley	85.28 25		P	P	08 29 16.0	+0.4
	baz=264						
RC01	Rabbit Creek A	85.35 29		P	P	08 29 15.9	-0.1
	baz=265						
PMR	Palmer	85.68 28		P	P	08 29 17.7	+0.2
	baz=265						
COLD	Coldfoot	85.73 23		P	P	08 29 18.3	+0.6
COLD	Coldfoot	85.73 23		P	P	08 29 18.4	+0.6
	baz=264						
I23K	Minto, Yukon-K	85.88 25		P	P	08 29 18.5	0.0
	baz=265						
MCK	McKinley	85.94 26		P	P	08 29 19.1	+0.1
	baz=265						
RND	Reindeer	85.95 27		P	P	08 29 18.2	-0.9
RND				IAmb	IAmb	08 29 19.4	
	comp=Z,7.3nm,0.7s						
PWL	Port Wells	86.01 29		P	P	08 29 19.4	+0.1
	baz=266						
WAT1	Susitna Watana	86.05 27		P	P	08 29 19.2	-0.2
	baz=266						
WAT6	Susitna Watana	86.40 28		P	P	08 29 21.6	+0.3
	baz=267						
H24K	Noodor Dome	86.54 24		P	P	08 29 22.3	+0.4
	baz=266						
ILAR	Eielson Array	86.90 25		P	P	08 29 22.0	-1.6
	comp=Z,0.3nm,0.4s,baz=265,slow=3.7,SNR=5.2						
KLMR	Klimovskoe	87.31 331	*e*	P	P	08 29 22.2	-3.4
KLMR				AMP		08 29 25.1	
	comp=Z,10.0nm,1.4s						
J25K	Salcha River,	87.55 26		P	P	08 29 25.3	-1.4
	baz=269						
J26L	Joseph Creek	88.33 26		P	P	08 29 30.1	-0.4
J26L	Joseph Creek	88.33 26		P	P	08 29 30.3	-0.2
	baz=270						
L26K	Log Cabin Wild	88.43 27		P	P	08 29 31.1	+0.2
	baz=270						
L27K	Beaver Creek,	89.12 27		P	P	08 29 34.9	+0.7
	baz=272						
EGAK	Eagle	89.35 25		P	P	08 29 35.1	0.0
	baz=272						
DAWY	Dawson	90.16 26		P	P	08 29 39.4	+0.4
	baz=274						
I29M	Ogilvie Camp,	90.52 25		P	P	08 29 40.5	-0.1
	baz=275						
SYO	Syowa Base	90.55 201	‖	*e*P	P	08 29 41.8	+1.2
BRTR	Keskin Array B	91.50 310		P	P	08 29 44.1	-1.8
	comp=Z,0.8nm,0.8s,baz=114,slow=6.1,SNR=4.5						
INK	Inuvik	92.03 22		LR	LR	09 14 46.3	
	comp=Z,28nm,19.3s,baz=274,slow=38						
ARCES	ARCESS Array B	92.47 340		P	P	08 29 47.8	-1.7
	comp=Z,2.9nm,0.8s,baz=77,slow=5.2,SNR=7.9						
FARO	Faro, Yukon	93.10 28		P	P	08 29 53.1	+0.5
	baz=279						
FINES	FINESS Array B	93.76 332		P	P	08 29 53.6	-2.0
	comp=Z,0.7nm,0.5s,baz=48,slow=2.8,SNR=5.1						
C36M	Paulatuk	95.11 20		P	P	08 30 01.2	-0.4
	baz=288						
RES	Resolute Bay	99.83 10		LR	LR	09 17 36.2	
	comp=Z,20nm,20.3s,baz=82,slow=36						
YKA	Yellowknife Ar	101.31 25		P	Pdif	08 30 29.4	-0.2
	comp=Z,0.7nm,0.8s,baz=295,slow=4.4,SNR=8.0						
YKA				PKiKP	PKiKP	08 34 52.7	-0.9
	comp=Z,0.2nm,0.7s,baz=289,slow=1.7,SNR=3.8						
TXAR	Lajitas Array	122.70 53		PKP	PKPdf	08 35 35.1	0.0
	comp=Z,0.4nm,0.6s,baz=179,slow=1.0,SNR=4.4						
TORD	Torodi Ar. Bea	123.73 287		PKP	PKPdf	08 35 36.8	-0.5
	comp=Z,2.1nm,0.7s,baz=53,slow=2.0,SNR=13						

*IDC **21** 08:20:23.4±2.5,2°.18S×99°.56E,h0km,mb4.0/7,mb1 4.1/7, mb1mx3.7/54,mbtmp4.0/7,Error ellipse: s-maj=86.7km s-min=22.8km az=59.0*

*DJA **21** 08:20:24.1±0.9,2°.5±7°×9°9E±°,h13km±5km,M4.1/9, mb4.0/1,MLv4.2/9*

*NEIC **21** 08:20:25.1±2.0,2°.07S±0°.09×99°.6E±0°.1,h8km±7km, mb4.3/7,Error ellipse: s-maj=17.1km s-min=10.2km az=54.0*

ISC 21 08:20:24.4±0.8,2°.16S±0°.06×99°.61E±0°.08,h10km,n35, σ0§86/29,mb4.3/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.72	146	P	Pb	08 20 38.8	-0.3
PPSI				S	Sg	08 20 46.5	-1.4
SISI	Saibi	0.97	328	P	Pn	08 20 45.0	+0.9
KRJI	Kerinci	1.86	88	P	Pb	08 20 58.4	-0.1
PPI	Padang Panjang	1.86	25	P	Pb	08 20 58.5	-0.1
MASI	Maura Aman, Be	2.81	110	P	Pn	08 21 09.7	+0.3
BKNI	Bangkinang	2.85	30	Pn	Pn	08 21 09.3	-0.7
GSI	Gunungsitoli	3.99	329	Pn	Pn	08 21 24.1	-1.6
MNAI	Manna	4.00	123	P	Pn	08 21 25.3	-0.5
MNAI	Manna	4.00	123	Pn	Pn	08 21 25.5	-0.2
MDSI	Maura Dua	5.12	117	P	Pn	08 21 41.3	+0.1
CMAR	Chiang Mai Arr	20.50	358	P	P	08 25 03.1	+0.3
	1.2nm,0.4s,baz=188,slow=9.1,SNR=1.6						
TOLI2	Tolitoli	21.42	81	P	P	08 25 12.7	-0.1
TOLI2				IAmb	IAmb	08 25 16.6	
	comp=Z,13nm,1.0s						
SLVN	Son La	23.72	10	P	P	08 25 34.5	-2.4
SLVN				IAmb	IAmb	08 25 51.8	
	comp=Z,8.9nm,1.5s						
H08S2	Diego Garcia H	27.55	258	T	T	08 54 45.0	
	baz=80,slow=76,SNR=117						
H08S3	Diego Garcia H	27.55	258	T	T	08 54 46.9	
	baz=80,slow=76,SNR=236						
H08S1	Diego Carcia H	27.57	258	T	T	08 54 46.4	
	baz=80,slow=76,SNR=57						
H01W3	Cape Leeuwin H	35.26	159	T	T	09 04 23.6	
	baz=335,slow=76,SNR=19						
H01W2	Cape Leeuwin H	35.27	159	T	T	09 04 24.5	
	baz=335,slow=76,SNR=20						
H01W1	Cape Leeuwin H	35.27	159	T	T	09 04 24.7	
	baz=335,slow=76,SNR=17						
WRA	Warramunga Arr	38.25	120	P	P	08 27 44.6	-0.5
	comp=Z,1.1nm,0.7s,baz=301,slow=9.1,SNR=3.6						
FORT	Forrest	39.18	140	P	P	08 27 53.5	+0.8
ASAR	Alice Springs	39.48	126	P	P	08 27 57.1	+1.7
	comp=Z,0.9nm,0.7s,baz=312,slow=8.5,SNR=3.0						
KSAR	Wonju Array Be	47.33	31	P	P	08 28 58.9	+0.4
KSRS	Korea Array	47.36	31	P	P	08 28 59.5	+0.9
	comp=Z,2.0nm,0.8s,baz=240,slow=9.9,SNR=5.2						
SONM	Songino Array	50.14	6	P	P	08 29 21.0	+0.9
	comp=Z,3.0nm,0.7s,baz=184,slow=8.8,SNR=7.1						
SONM	Songino Array	50.14	6	IAmb	IAmb	08 29 22.2	
	comp=Z,3.1nm,0.8s						
ULN	Ulaanbaatar	50.24	7	P	P	08 29 21.2	+0.3
ULN				IAmb	IAmb	08 29 22.9	
	comp=Z,3.1nm,0.7s						
MK31	Makanchi Array	51.08	345	P	P	08 29 27.6	+0.5
MKAR	Makanchi Array	51.08	345	P	P	08 29 27.7	+0.7
	comp=Z,2.2nm,0.7s,baz=147,slow=8.3,SNR=4.1						
MKAR	Makanchi Array	51.08	345	P	P	08 29 26.9	-0.2
ZAA0	Zalesovo Array	57.25	350	P	P	08 30 12.2	+0.3
ZAA0				IAmb	IAmb	08 30 13.2	
	comp=Z,5.0nm,1.1s						
ZALV	Zalesovo Beam	57.25	350	P	P	08 30 12.2	+0.3
	comp=Z,2.9nm,0.7s,baz=180,slow=5.5,SNR=7.8						
ZALV	Zalesovo Beam	57.25	350	P	P	08 30 11.8	-0.1
ABKAR	Akbulak array	61.59	332	P	P	08 30 41.4	-0.6
TXAR	Lajitas Array	145.06	37	PKPbc	PKPdf	08 40 02.7	-0.3
	comp=Z,2.0nm,0.7s,baz=272,slow=1.2,SNR=12						

*IDC **21** 08:24:30.2±3.4,25°.07S×179°.64E,h516km±32km,mb3.5/6, mb1 3.8/8,mb1mx3.3/44,mbtmp4.5/8,Error ellipse: s-maj=46.2km s-min=17.6km az=155.0*

*NEIC **21** 08:24:30.3±1.4,24°.9S±0°.1×179°.73E±0°.08,h512km±8km, mb4.3/14,Error ellipse: s-maj=19.6km s-min=10.2km az=189.0*

ISC 21 08:24:28.1±0.6,25°.04S±0°.09×179°.91E±0°.09,h500km,n71, σ1§43/70,mb4.1/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.47	346	P	P	08 26 20.4	+1.1
	14nm,0.3s,baz=180,slow=8.4,SNR=61						
MSVF	Nonsavu	7.47	346	P	P	08 26 19.9	+0.6
MARNC	Mare, Loyalty	11.48	286	P	P	08 27 01.6	+0.4
OUZ	Omahuta	11.52	207	P	P	08 27 03.3	+1.9
OUZ	Omahuta	11.52	207	P	P	08 27 03.3	+1.9
PINNC	Pines Island,	11.66	279	P	P	08 27 03.8	+0.7
WCZ	Waipu Caves	11.87	202	P	P	08 27 07.5	+2.4
KUZ	Kuaotunu	12.21	196	P	P	08 27 08.9	+0.2
WIAZ	Waiheke Island	12.41	198	P	P	08 27 12.1	+1.2
DZM	Mont Dzumac	12.70	281	P	P	08 27 14.2	-0.1
	0.5nm,0.3s,baz=107,slow=16,SNR=7.0						
DZM	Mont Dzumac	12.70	281	P	P	08 27 13.1	-1.1
WMGZ	Waiomatatini S	12.80	185	P	P	08 27 15.9	+0.9
HAZ	Te Kaha	12.81	188	P	P	08 27 14.1	-0.9
RUGZ	Raukumara Rang	13.03	188	P	P	08 27 17.2	-0.3
PUZ	Puketiti	13.07	186	P	P	08 27 18.5	+0.7
TOZ	Tahuroa Road	13.20	195	P	P	08 27 19.5	+0.3
TWGZ	Tauwhareparae	13.20	187	P	P	08 27 18.5	-0.7
KMRZ	Kaimai	13.21	194	P	P	08 27 20.3	+1.0
URZ	Urewera	13.39	190	P	P	08 27 18.4	-2.8
MWZ	Matawai	13.41	188	P	P	08 27 20.0	-1.4
CNGZ	Carnagh Statio	13.48	186	P	P	08 27 22.3	+0.1
AFI	Afiamalu	13.56	37	P	P	08 27 22.5	-0.9
	5.7nm,0.3s,baz=58,slow=13,SNR=6.1						
AFI				S	S	08 29 46.7	-1.2
	1.6nm,0.3s,baz=61,slow=21,SNR=2.7						
MUGZ	Murupara	13.66	190	P	P	08 27 23.4	-0.6
RIGZ	Rimuhau	13.75	187	P	P	08 27 24.0	-1.0
RTZ	Ruatahuna	13.76	190	P	P	08 27 21.5	-3.7
KUTZ	Kaahu Road	13.85	194	P	P	08 27 27.8	+1.7
SNGZ	Shannon Statio	13.87	188	P	P	08 27 25.9	-0.4
PRGZ	Paritu Road	13.95	187	P	P	08 27 26.8	-0.3
RAHZ	Arahi	14.04	189	P	P	08 27 25.5	-2.5
HIZ	Hauiti	14.10	196	P	P	08 27 31.6	+3.0
RATZ	Rangitukua	14.22	193	P	P	08 27 29.7	-0.3
NMHZ	Naumai	14.26	190	P	P	08 27 28.7	-1.8
NTVZ	North Tongarir	14.47	193	P	P	08 27 32.1	-0.5
TMVZ	Te Maari	14.48	193	P	P	08 27 31.8	-1.0
TWVZ	Taurewa	14.49	194	P	P	08 27 32.6	-0.3
ETVZ	East Tongariro	14.49	193	P	P	08 27 32.0	-1.0
WTVZ	West Tongariro	14.50	194	P	P	08 27 32.3	-0.7
NNVZ	North Ngauruho	14.51	193	P	P	08 27 33.7	+0.5
OTVZ	Oturere	14.53	193	P	P	08 27 30.4	-3.0
NGZ	Ngauruhoe	14.56	193	P	P	08 27 33.0	-0.6
SNVZ	South Ngauruho	14.56	193	P	P	08 27 32.5	-1.2
KWHZ	Kaweka Forest	14.64	191	P	P	08 27 31.6	-2.8
WNVZ	Wahianoa	14.70	193	P	P	08 27 32.2	-3.0
KAHZ	Kahuranaki	14.93	189	P	P	08 27 36.5	-1.0
EIDS	Eidsvold	26.07	263	P	P	08 29 20.8	-0.3
CTA	Charters Tower	31.42	272	P	P	08 30 07.7	-0.2
	7.8nm,0.5s,baz=94,slow=10,SNR=18						
CTAO	Charters Tower	31.42	272	P	P	08 30 07.3	-0.6
CTAO				IAmb	IAmb	08 30 07.9	
	comp=Z,7.5nm,0.5s						
PMG	Port Moresby	34.80	291	P	P	08 30 36.2	-0.4
	comp=Z,8.2nm,0.6s,baz=104,slow=4.2,SNR=4.3						
COEN	Coen	36.23	281	P	P	08 30 48.3	-0.2
COEN				IAmb	IAmb	08 30 49.0	
	comp=Z,4.6nm,0.8s						
AS31	Alice Springs	41.78	262	P	P	08 31 32.8	-0.6
ASAR	Alice Springs	41.78	262	P	P	08 31 32.4	-1.1
	comp=Z,1.9nm,0.6s,baz=88,slow=7.8,SNR=26						
WB0	Warramunga Arr	42.26	268	P	P	08 31 35.5	-1.7
WB0				IAmb	IAmb	08 31 37.2	
	comp=Z,6.5nm,0.6s						
WRA	Warramunga Arr	42.26	267	P	P	08 31 35.8	-1.5
	comp=Z,3.5nm,0.6s,baz=104,slow=7.8,SNR=26						
WRA	Warramunga Arr	42.26	267	P	P	08 31 35.7	-1.5
KNRA	Kununurra	48.61	271	P	P	08 32 25.1	-0.8
KNRA				IAmb	IAmb	08 32 26.8	
	comp=Z,9.8nm,0.8s						
ISA	Isabella, Lake	83.87	46	P	P	08 36 05.7	+0.8
ISA				IAmb	IAmb	08 36 08.7	
	comp=Z,5.9nm,1.1s						
COYC	Coyhaique	84.11	138	P	P	08 36 07.7	+1.7
COYC				IAmb	IAmb	08 36 09.3	
	comp=Z,7.2nm,1.0s						
NVAR	Mina Array Bea	85.63	44	P	P	08 36 16.1	+2.4
	comp=Z,1.1nm,0.8s,baz=223,slow=9.6,SNR=12						
TPH	Tonopah	86.10	45	P	P	08 36 16.8	+0.9
TUC	Tucson	87.28	52	P	P	08 36 21.8	+0.4
TUC				IAmb	IAmb	08 36 25.9	
	comp=Z,3.7nm,1.0s						
CCUT	Cedar City	88.32	47	P	P	08 36 25.8	-0.5
CCUT				IAmb	IAmb	08 36 30.2	
	comp=Z,7.5nm,1.4s						
TMUT	Trail Mountain	90.68	46	P	P	08 36 38.3	+0.9
TX31	Lajitas Ar. Si	91.10	58	P	P	08 36 41.0	+1.7
TXAR	Lajitas Array	91.10	58	P	P	08 36 41.5	+2.2
	comp=Z,1.4nm,0.8s,baz=214,slow=6.0,SNR=12						
TXAR	Lajitas Array	91.10	58	P	P	08 36 40.3	+1.0
NB2	NORSAR Subarra	143.19	351	PKP	PKPab	08 43 02.2	+0.2
	comp=Z,1.9nm,0.9s,baz=16,slow=3.2						
NOA	NORSAR Array B	143.19	351	PKP	PKPab	08 43 02.3	+0.3
	comp=Z,1.4nm,0.7s,baz=16,slow=5.0,SNR=5.3						
AKASG	Malin Array Be	145.87	326	PKPbc	PKPbc	08 43 10.4	-0.5
	comp=Z,0.8nm,0.5s,baz=36,slow=3.8,SNR=6.4						
BRTR	Keskin Array B	146.18	306	PKPbc	PKPbc	08 43 15.9	-1.7
	comp=Z,0.6nm,0.6s,baz=150,slow=5.6,SNR=3.9						
CLL	Collm	151.91	342	*e*PKPbc	PKPbc	08 43 26.0	+0.2
TORD	Torodi Ar. Bea	168.05	188	PKPab	PKPab	08 44 48.2

4C-4D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.77**	**15**	S	**Sn**	**08 27 13.3**	**-3.2**
GLKZ	**Green Lake**	**1.77**	**15**	P	Pn	08 26 58.2	+5.5
RAO	**Raoul Island**	**1.78**	**15**	P	**Pn**	**08 26 51.8**	**-1.0**
	1μm,0.3s,baz=75,slow=10,SNR=22						
RAO				S	**Sn**	**08 27 13.8**	**-3.0**
	40μm,0.3s,baz=142,slow=23,SNR=19						
RAO	**Raoul Island**	**1.78**	**15**	Pn	**Pn**	**08 26 52.0**	**-0.8**
RAO	**Raoul Island**	**1.78**	**15**	P	**Pn**	**08 26 51.5**	**-1.3**
RIZ	**Raoul Island**	**1.79**	**15**	S	**Sn**	**08 27 15.1**	**-1.8**
RIZ	**Raoul Island**	**1.79**	**15**	P	Pn	08 27 00.6	+7.7
MXZ	**Matakaoa Point**	**7.09**	**201**	P	**Pn**	**08 28 00.8**	**-1.8**
MXZ				S	**Sn**	**08 29 19.5**	**-2.2**
WMGZ	**Waiomatatini S**	**7.29**	**200**	P	**Pn**	**08 28 03.7**	**-1.6**
WMGZ				S	**Sn**	**08 29 22.8**	**-3.9**
GRZ	**Great Barrier**	**7.30**	**222**	P	Pn	08 28 10.9	+5.5
HAZ	**Te Kaha**	**7.44**	**204**	P	**Pn**	**08 28 05.6**	**-1.6**
HAZ				S	**Sn**	**08 29 28.9**	**-1.1**
PKGZ	**Pakihiroa**	**7.46**	**202**	S	**Sn**	**08 29 29.6**	**-1.2**
PUZ	**Puketiti**	**7.58**	**200**	P	**Pn**	**08 28 06.5**	**-2.6**
PUZ				S	**Sn**	**08 29 29.7**	**-3.8**
RUGZ	**Raukumara Rang**	**7.66**	**204**	P	**Pn**	**08 28 08.1**	**-2.3**
RUGZ				S	**Sn**	**08 29 30.8**	**-4.9**
TWGZ	**Tauwhareparae**	**7.76**	**201**	P	**Pn**	**08 28 09.9**	**-1.7**
TWGZ				S	**Sn**	**08 29 36.2**	**-1.7**
OUZ	**Omahuta**	**7.89**	**235**	Pn	**Pn**	**08 28 12.6**	**-0.7**
OUZ	**Omahuta**	**7.89**	**235**	P	Pn	08 28 21.0	+7.7
ONGZ	**Carnagh Statio**	**7.97**	**199**	P	**Pn**	**08 28 12.1**	**-2.3**
OPRZ	**Ohinepanea**	**7.99**	**210**	P	**Pn**	**08 28 11.7**	**-2.9**
OPRZ				S	**Sn**	**08 29 42.0**	**-1.4**
TKGZ	**Te Karaka**	**8.04**	**201**	S	**Sn**	**08 29 39.1**	**-5.5**
MWZ	**Matawai**	**8.05**	**203**	P	**Pn**	**08 28 12.9**	**-2.6**
MWZ				S	**Sn**	**08 29 42.8**	**-2.0**
URZ	**Urewera**	**8.13**	**205**	P	**Pn**	**08 28 14.0**	**-2.5**
URZ				S	**Sn**	**08 29 44.9**	**-1.8**
URZ	**Urewera**	**8.13**	**205**	P	Pn	08 28 11.5	-5.0
RAGZ	**Rawiri**	**8.23**	**203**	P	**Pn**	**08 28 15.4**	**-2.6**
RAGZ				S	**Sn**	**08 29 48.5**	**-0.9**
KMRZ	**Kaimai**	**8.26**	**212**	P	**Pn**	**08 28 22.3**	**+4.0**
KARZ	**Kaharoa**	**8.27**	**210**	P	**Pn**	**08 28 21.4**	**+2.9**
RIGZ	**Rimuhau**	**8.31**	**201**	P	**Pn**	**08 28 18.0**	**-1.0**
RIGZ				S	**Sn**	**08 29 49.9**	**-1.4**
TOZ	**Tahuroa Road**	**8.38**	**215**	P	Pn	08 28 26.8	+6.9
MUGZ	**Murupara**	**8.45**	**206**	P	**Pn**	**08 28 17.9**	**-2.9**
PRGZ	**Paritu Road**	**8.47**	**200**	P	**Pn**	**08 28 17.8**	**-3.4**
PRGZ				S	**Sn**	**08 29 52.5**	**-2.7**
RTZ	**Ruatahuna**	**8.49**	**205**	P	**Pn**	**08 28 18.2**	**-3.3**
SNGZ	**Shannon Statio**	**8.51**	**203**	P	**Pn**	**08 28 19.5**	**-2.2**
SNGZ				S	**Sn**	**08 29 55.1**	**-1.0**
PRRZ	**Plateau Road**	**8.61**	**208**	P	**Pn**	**08 28 23.3**	**+0.2**
KNZ	**Kokohu**	**8.63**	**200**	P	**Pn**	**08 28 19.9**	**-3.2**
KNZ				S	Sn	08 29 48.9	-10
MHGZ	**Mahia Peninsul**	**8.68**	**199**	P	**Pn**	**08 28 20.5**	**-3.5**
MHGZ				S	Sn	08 29 51.0	-9.1
ALRZ	**Allen Road**	**8.69**	**208**	P	**Pn**	**08 28 23.2**	**-0.9**
RAHZ	**Arahi**	**8.72**	**204**	P	**Pn**	**08 28 21.0**	**-3.5**
MTHZ	**Maungataniwha**	**8.75**	**205**	P	**Pn**	**08 28 21.8**	**-3.1**
TLZ	**Tolley Road**	**8.84**	**212**	P	**Pn**	**08 28 30.0**	**+3.8**
KUTZ	**Kaahu Road**	**8.84**	**211**	P	**Pn**	**08 28 29.2**	**+3.1**
NMHZ	**Naumai**	**8.98**	**204**	P	**Pn**	**08 28 24.5**	**-3.5**
ARHZ	**Aropaoanui**	**9.06**	**203**	P	**Pn**	**08 28 24.6**	**-4.5**
BKZ	**Black Stump Fm**	**9.15**	**205**	P	**Pn**	**08 28 26.7**	**-3.7**
BKZ	**Black Stump Fm**	**9.15**	**205**	Pn	**Pn**	**08 28 30.2**	**-0.1**
HIZ	**Hauiti**	**9.31**	**214**	P	**Pn**	**08 28 36.5**	**+4.1**
HIZ	**Hauiti**	**9.31**	**214**	Pn	**Pn**	**08 28 33.4**	**+1.0**
MCHZ	**McNeill Hill**	**9.33**	**204**	P	**Pn**	**08 28 28.6**	**-4.0**
CKHZ	**Cape Kidnapper**	**9.39**	**202**	P	**Pn**	**08 28 30.1**	**-3.4**
KWHZ	**Kaweka Forest**	**9.41**	**205**	P	**Pn**	**08 28 29.4**	**-4.3**
NTVZ	**North Tongariro**	**9.42**	**209**	P	**Pn**	**08 28 31.3**	**-2.7**
TMVZ	**Te Maari**	**9.42**	**209**	P	**Pn**	**08 28 31.1**	**-2.9**
ETVZ	**East Tongariro**	**9.43**	**209**	P	**Pn**	**08 28 31.2**	**-3.0**
WTVZ	**West Tongariro**	**9.47**	**209**	P	**Pn**	**08 28 35.9**	**+1.3**
NNVZ	**North Ngauruho**	**9.47**	**209**	P	**Pn**	**08 28 36.4**	**+1.7**
OTVZ	**Oturere**	**9.48**	**209**	P	**Pn**	**08 28 31.0**	**-3.8**
TWVZ	**Taurewa**	**9.49**	**210**	P	**Pn**	**08 28 36.3**	**+1.3**
SNVZ	**South Ngauruho**	**9.51**	**209**	P	**Pn**	**08 28 31.8**	**-3.4**
NGZ	**Ngauruhoe**	**9.51**	**209**	P	**Pn**	**08 28 35.4**	**+0.1**
TUVZ	**Tukino**	**9.57**	**209**	P	**Pn**	**08 28 36.5**	**+0.5**
KAHZ	**Kahuranaki**	**9.58**	**202**	P	**Pn**	**08 28 31.4**	**-4.6**
BHHZ	**Black Hill Sta**	**9.60**	**206**	P	**Pn**	**08 28 33.0**	**-3.3**
FWVZ	**Far West T-bar**	**9.60**	**209**	P	**Pn**	**08 28 37.1**	**+0.6**
KRHZ	**Kereru**	**9.62**	**205**	P	Pn	08 28 31.7	-4.9
TRVZ	**Turoa**	**9.64**	**209**	P	**Pn**	**08 28 37.5**	**+0.5**
WNVZ	**Wahianoa**	**9.64**	**209**	P	**Pn**	**08 28 36.2**	**-0.9**
MOVZ	**Moawhango**	**9.65**	**208**	P	**Pn**	**08 28 34.0**	**-3.0**
PKVZ	**Pokaka**	**9.72**	**210**	P	**Pn**	**08 28 37.6**	**-0.3**
PXZ	**Pawanui**	**9.80**	**202**	P	**Pn**	**08 28 35.3**	**-3.6**
PNHZ	**Pukenui**	**9.92**	**205**	P	Pn	08 28 35.7	-4.9
WPHZ	**Waipukurau**	**9.97**	**203**	P	**Pn**	**08 28 38.8**	**-2.4**
PRHZ	**Porangahau**	**10.09**	**202**	P	**Pn**	**08 28 38.5**	**-4.4**
TSZ	**Takapari Road**	**10.13**	**205**	P	**Pn**	**08 28 39.1**	**-4.4**
WAZ	**Wanganui**	**10.26**	**210**	P	**Pn**	**08 28 43.7**	**-1.4**
NEZ	**North Egmont**	**10.27**	**214**	P	**Pn**	**08 28 47.8**	**+2.5**
DVHZ	**Dannevirke**	**10.27**	**204**	P	**Pn**	**08 28 42.2**	**-3.2**
ANWZ	**Angora Road**	**10.31**	**202**	P	**Pn**	**08 28 44.1**	**-1.7**
KHEZ	**Kahui Hut**	**10.33**	**215**	P	**Pn**	**08 28 48.3**	**+2.2**
PRWZ	**Pori Road**	**10.57**	**204**	P	**Pn**	**08 28 45.3**	**-3.9**
TIWZ	**Tintock**	**10.79**	**204**	P	Pn	08 28 47.2	-5.1
MRZ	**Mangatainoka R**	**10.80**	**205**	P	**Pn**	**08 28 47.7**	**-4.7**
PAWZ	**Paruwai Farm**	**11.49**	**204**	P	**Pn**	**08 28 49.4**	**-3.2**
MSWZ	**Moikau Station**	**11.58**	**204**	P	**Pn**	**08 28 59.1**	**-3.7**
MSWZ	**Moikau Station**	**11.58**	**204**	Pn	**Pn**	**08 28 59.3**	**-3.4**
WEL	**Wellington**	**11.64**	**206**	P	**Pn**	**08 28 59.6**	**-4.0**
BHW	**Baring Head**	**11.71**	**205**	P	**Pn**	**08 29 00.1**	**-4.3**
QRZ	**Quartz Range**	**12.23**	**214**	P	**Pn**	**08 29 10.7**	**-0.6**
KHZ	**Kahutara**	**13.09**	**207**	P	Pn	08 29 16.9	-5.4
MSVF	**Nonsavu**	**13.56**	**346**	P	**Pn**	**08 29 27.5**	**-1.1**
	3.8nm,0.3s,baz=162,slow=11,SNR=24						
MSVF				LR	LR	08 33 17.8	
	comp=Z,1μm,20.4s,baz=172,slow=31						
MSVF	**Nonsavu**	**13.56**	**346**	*i* P	**Pn**	**08 29 27.4**	**-1.3**
MSVF	**Nonsavu**	**13.56**	**346**	Pn	**Pn**	**08 29 27.1**	**-1.6**
MSVF	**Nonsavu**	**13.56**	**346**	P	**Pn**	**08 29 27.6**	**-1.1**
PINNC	**Pines Island,**	**15.08**	**300**		**P**	**08 29 47.9**	**+0.1**
PINNC	**Pines Island,**	**15.08**	**300**	P	**P**	**08 29 49.9**	**0.0**
RPZ	**Rata Peaks**	**15.19**	**210**	P	**Pn**	**08 29 45.9**	**-3.1**
MARNC	**Mare, Loyalty**	**15.36**	**305**	P	**Pn**	**08 29 51.5**	**+0.2**
MARNC	**Mare, Loyalty**	**15.36**	**305**	P	**P**	**08 29 53.7**	**+0.7**
OUENC	**Ouen Island, N**	**15.65**	**299**	P	**P**	**08 29 55.9**	**-0.3**
OUENC	**Ouen Island, N**	**15.65**	**299**	P	**P**	**08 29 57.3**	**+1.1**
YATNC	**Mamie plateau,**	**15.82**	**301**	P	**P**	**08 29 59.5**	**+1.3**
ONTNC	**Ouen Toro**	**16.00**	**299**	P	**Pn**	**08 29 58.8**	**-0.4**
ONTNC				IAmb	IAmb	08 30 12.4	
	comp=Z,211nm,1.1s						
ONTNC	**Ouen Toro**	**16.00**	**299**	P	**P**	**08 30 01.5**	**+1.4**
DZM	**Mont Dzumac**	**16.15**	**300**	P	**P**	**08 30 02.6**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=113,slow=12,SNR=28						
DZM	**Mont Dzumac**	**16.15**	**300**	*e*P	**P**	**08 30 02.2**	**+0.3**
	comp=Z,368nm,1.1s						
DZM				*e*LR	LR	08 33 39.5	
	comp=Z,4μm,25.9s						
DZM	**Mont Dzumac**	**16.15**	**300**	P	**P**	**08 30 01.5**	**-0.4**
DZM				IAmb	IAmb	08 30 06.1	
	comp=Z,252nm,1.2s						
DZM	**Mont Dzumac**	**16.15**	**300**	P	**P**	**08 30 03.1**	**+1.2**
DZM	**Mont Dzumac**	**16.15**	**300**	P	**P**	**08 30 02.8**	**+0.9**
NOUC	**Port Laguerre**	**16.24**	**299**	P	**P**	**08 30 03.6**	**+0.9**
NOUC	**Port Laguerre**	**16.24**	**299**	P	**P**	**08 30 03.7**	**+0.9**
LIFNC	**LIFOU**	**16.38**	**305**	P	**Pn**	**08 30 03.5**	**-0.3**
LIFNC	**LIFOU**	**16.38**	**305**	P	**P**	**08 30 05.3**	**+1.0**
ODZ	**Otahua Downs**	**16.43**	**208**	P	**Pn**	**08 30 00.1**	**-4.2**
KOUNC	**Koumac, New Ca**	**18.66**	**300**	P	**Pn**	**08 30 30.9**	**-0.4**
LHI	**Lord Howe Isla**	**19.22**	**263**	P	**P**	**08 30 35.2**	**-0.2**
	baz=19,SNR=18						
LHI	**Lord Howe Isla**	**19.22**	**263**	P	**P**	**08 30 36.4**	**+1.0**
RAR	**Rarotonga**	**19.37**	**64**	P	**P**	**08 30 38.3**	**+1.2**
	comp=Z,2.2nm,0.3s,baz=231,slow=8.5,SNR=12						
RAR				S	**S**	**08 34 02.6**	**-6.7**
	comp=Z,15nm,0.3s,baz=42,slow=12,SNR=7.6						
RAR				LR	LR	08 36 24.2	
	comp=Z,516nm,20.5s,baz=238,slow=31						
RAR	**Rarotonga**	**19.37**	**64**	P	**P**	**08 30 37.9**	**+0.8**
RAR				pmax	pmax		
	comp=Z,535nm,1.2s						
RAR	**Rarotonga**	**19.37**	**64**	P	**P**	**08 30 37.9**	**+0.8**
SANVU	**Saraoutou**	**20.28**	**316**	P	**P**	**08 30 47.0**	**+0.2**
SANVU				IAmb	IAmb	08 31 16.1	
	comp=Z,179nm,1.5s						
ARMA	**Armidale**	**25.69**	**263**	P	**P**	**08 31 37.6**	**-2.0**
	baz=26,SNR=6.2						
ARMA	**Armidale**	**25.69**	**263**	P	**P**	**08 31 41.7**	**+2.2**
ARMA				IAmb	IAmb	08 31 43.8	
	comp=Z,74nm,1.3s						
ARMA	**Armidale**	**25.69**	**263**	P	**P**	**08 31 42.8**	**+3.2**
MGCD	**Mangrove Creek**	**25.83**	**257**	P	**P**	**08 31 39.9**	**-0.8**
	baz=26,SNR=12						
MGCD	**Mangrove Creek**	**25.83**	**257**	P	**P**	**08 31 43.9**	**+3.2**
SYDH	**Sydney Hard Ro**	**26.11**	**256**	P	**P**	**08 31 47.0**	**+3.8**
	comp=Z,93nm,0.8s						
CNB	**Canberra Magne**	**27.22**	**252**	P	**P**	**08 31 52.8**	**-0.3**
	baz=27,SNR=13						
CNB	**Canberra Magne**	**27.22**	**252**	P	**P**	**08 31 55.4**	**+2.2**
EIDS	**Eidsvold**	**27.37**	**274**	P	**P**	**08 31 54.1**	**-0.5**
	baz=27,SNR=5.1						
EIDS	**Eidsvold**	**27.37**	**274**	P	**P**	**08 31 52.9**	**-1.6**
EIDS	**Eidsvold**	**27.37**	**274**	P	**P**	**08 31 55.9**	**+1.3**
MILA	**Mila**	**27.43**	**248**	P	**P**	**08 31 55.0**	**-0.1**
	baz=27,SNR=6.9						
CAN	**Canberra**	**27.52**	**252**	P	**P**	**08 31 57.4**	**+1.6**
CAN				pmax	pmax		
	comp=Z,56nm,1.0s						
CAN	**Canberra**	**27.52**	**252**	P	**P**	**08 31 57.4**	**+1.6**
CAN				IAmb	IAmb	08 31 59.4	
	comp=Z,56nm,1.0s						
CAN	**Canberra**	**27.52**	**252**	P	**P**	**08 31 58.2**	**+2.4**
RK1H	**Rockhampton Ha**	**28.57**	**278**	P	**P**	**08 32 07.1**	**+1.9**
RMQ	**Roma**	**29.03**	**271**	P	**P**	**08 32 09.5**	**+0.2**
	baz=29,SNR=24						
RMQ	**Roma**	**29.03**	**271**	P	**P**	**08 32 11.4**	**+2.1**
	comp=Z,46nm,1.0s						
PAE	**Paea**	**29.37**	**70**	*e*T	T	09 02 01.7	
	comp=Z,29nm,0.2s						
HNR	**Honiara**	**29.39**	**312**	LR	LR	08 41 20.7	
	comp=Z,314nm,22.0s,baz=188,slow=31						
PPT2	**Papeete2**	**29.41**	**70**	*e*S	**S**	**08 36 59.2**	**+1.9**
	comp=Z,363nm,34.2s						
PPT2				*e*LR	LR	08 39 51.5	
	comp=Z,1μm,27.2s						
PPT2	**Papeete2**	**29.41**	**70**	*e*T	T	09 02 09.6	
	comp=Z,25nm,0.3s						
PPT	**Papeete**	**29.42**	**70**	LR	LR	08 41 05.7	
	comp=Z,282nm,19.3s,baz=248,slow=30						
TIAR	**Tiarei**	**29.61**	**70**	*e*T	T	09 02 19.7	
	comp=Z,2.9nm,0.3s						
TAU	**Tasmania Unive**	**29.63**	**237**	P	**P**	**08 32 14.4**	**0.0**
TAU				pmax	pmax		
	comp=Z,110nm,1.6s						
TAU	**Tasmania Unive**	**29.63**	**237**	P	**P**	**08 32 14.4**	**0.0**
TAU				IAmb	IAmb	08 32 16.1	
	comp=Z,110nm,1.6s						
TOO	**Toolangi**	**30.37**	**248**	P	**P**	**08 32 20.9**	**-0.2**
	baz=30,SNR=9.6						
TOO	**Toolangi**	**30.37**	**248**	P	**P**	**08 32 22.1**	**+1.0**
TOO				pmax	pmax		
	comp=Z,54nm,1.4s						
TOO	**Toolangi**	**30.37**	**248**	P	**P**	**08 32 22.1**	**+1.0**
TOO				IAmb	IAmb	08 32 24.2	
	comp=Z,54nm,1.4s						
TOO	**Toolangi**	**30.37**	**248**	P	**P**	**08 32 23.2**	**+2.1**
MEH	**Mehetia**	**30.48**	**72**	*e*T	T	09 04 07.0	
	comp=Z,39nm,0.3s						
CMSA	**Cobar Meteorol**	**30.57**	**260**	P	**P**	**08 32 24.3**	**+1.5**
	baz=30,SNR=71						
CMSA	**Cobar Meteorol**	**30.57**	**260**	P	**P**	**08 32 24.4**	**+1.6**
BRAT	**Ballarat**	**31.61**	**248**	P	**P**	**08 32 33.9**	**+2.0**
PMOR	**Pomariorio Rese**	**32.18**	**67**	*e*T	T	09 05 45.0	
	comp=Z,12nm,0.3s						
VAH	**Vaihoa**	**32.26**	**68**	*e*T	T	09 05 39.0	
	comp=Z,65nm,0.2s						
QLP	**Quilpie**	**32.89**	**268**	P	**P**	**08 32 43.8**	**+0.6**
	baz=33,SNR=9.7						
QLP	**Quilpie**	**32.89**	**268**	P	**P**	**08 32 44.1**	**+0.9**
ARPS	**Mount Arapiles**	**33.29**	**249**	P	**P**	**08 32 46.7**	**+0.1**
	baz=33,SNR=7.2						
ARPS	**Mount Arapiles**	**33.29**	**249**	P	**P**	**08 32 49.0**	**+2.4**
CTA	**Charters Tower**	**33.51**	**280**	P	**P**	**08 32 48.9**	**+0.3**
	comp=Z,89nm,0.7s,baz=105,slow=9.9,SNR=98						
CTA				LR	LR	08 44 42.5	
	comp=Z,599nm,19.4s,baz=131,slow=33						
CTA	**Charters Tower**	**33.51**	**280**	P	**P**	**08 32 49.3**	**+0.7**
CTAO	**Charters Tower**	**33.51**	**280**	P	**P**	**08 32 48.7**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,142nm,0.9s						
CTAO	**Charters Tower**	**33.51**	**280**	P	**P**	**08 32 48.7**	**+0.1**
CTAO	**Charters Tower**	**33.51**	**280**	P	**P**	**08 32 49.5**	**+0.9**
CTAO	**Charters Tower**	**33.51**	**280**	P	**P**	**08 32 48.9**	**+0.3**
CTAO				pP	**pwP**	**08 33 22.8**	**+3.5**
STKA	**Stephens Creek**	**33.96**	**258**	P	**P**	**08 32 53.6**	**+1.2**
	comp=Z,157nm,0.7s,baz=102,slow=10,SNR=257						
STKA				LR	LR	08 44 34.6	
	comp=Z,536nm,21.6s,baz=91,slow=32						
STKA	**Stephens Creek**	**33.96**	**258**	P	**P**	**08 32 53.8**	**+1.3**
	baz=34,SNR=255						
STKA	**Stephens Creek**	**33.96**	**258**	P	**P**	**08 32 53.3**	**+0.8**
STKA				pmax	pmax		
	comp=Z,36nm,0.7s						
STKA	**Stephens Creek**	**33.96**	**258**	P	**P**	**08 32 53.3**	**+0.8**
STKA				IAmb	IAmb	08 32 55.7	
	comp=Z,36nm,0.7s						
STKA	**Stephens Creek**	**33.96**	**258**	P	**P**	**08 32 54.1**	**+1.6**
INKA	**Innaminka**	**35.56**	**265**	P	**P**	**08 33 07.3**	**+1.1**
	comp=Z,196nm,1.4s						
HTT	**Hallett**	**35.96**	**255**	P	**P**	**08 33 10.3**	**+0.6**
	baz=36,SNR=60						
HTT	**Hallett**	**35.96**	**255**	P	**P**	**08 33 10.6**	**+0.9**
MTSU	**Mount Surprise**	**36.02**	**282**	P	**P**	**08 33 11.1**	**+0.8**
	baz=36,SNR=19						
MTSU	**Mount Surprise**	**36.02**	**282**	P	**P**	**08 33 10.7**	**+0.4**
NAPP	**Napperby**	**36.64**	**255**	P	**P**	**08 33 16.7**	**+1.4**
BBOO	**Buckleboo**	**38.43**	**255**	P	**P**	**08 33 30.7**	**+0.2**
	baz=38,SNR=72						
BBOO	**Buckleboo**	**38.43**	**255**	P	**P**	**08 33 30.0**	**-0.5**
PMG	**Port Moresby**	**38.50**	**296**	*i* P	**P**	**08 33 30.8**	**-0.4**
PMG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
QIS	**Mount Isa**	**38.97**	**275**	P	**P**	**08 33 34.6**	**-0.5**
	baz=39,SNR=11						
QIS	**Mount Isa**	**38.97**	**275**	P	**P**	**08 33 34.9**	**-0.1**
COEN	**Coen**	**39.05**	**287**	P	**P**	**08 33 35.4**	**-0.4**
COEN				IAmb	IAmb	08 33 37.1	
	comp=Z,34nm,1.1s						
COEN	**Coen**	**39.05**	**287**	P	**P**	**08 33 36.0**	**+0.2**
OOD	**Oodnadatta**	**39.87**	**263**	P	**P**	**08 33 42.9**	**+0.5**
	comp=Z,99nm,1.1s						
MULG	**Mulgathing**	**40.62**	**258**	P	**P**	**08 33 48.5**	**-0.1**
TAOE	**Nuku Hiva Isla**	**41.90**	**67**	*e*LR	LR	08 45 39.3	
	comp=Z,945nm,29.7s						
AS31	**Alice Springs**	**42.69**	**268**	P	**P**	**08 34 04.8**	**-0.8**
ASAR	**Alice Springs**	**42.69**	**268**	P	**P**	**08 34 04.9**	**-0.7**
	comp=Z,14nm,0.6s,baz=103,slow=7.4,SNR=74						
ASAR				ScP	**ScP**	**08 39 31.6**	**-2.2**
	comp=Z,13nm,1.0s,baz=120,slow=4.2,SNR=20						
ASAR	**Alice Springs**	**42.69**	**268**	P	**P**	**08 34 04.5**	**-1.1**
ASAR	**Alice Springs**	**42.69**	**268**	P	**P**	**08 34 04.5**	**-1.1**
WR0	**Warramunga Arr**	**43.55**	**273**	P	**P**	**08 34 11.1**	**-1.3**
WRAB	**Tennant Creek**	**43.72**	**273**	*i* P	**P**	**08 34 12.6**	**-1.3**
WRAB	**Tennant Creek**	**43.72**	**273**	P	**P**	**08 34 12.8**	**-1.1**
WRAB				IAmb	IAmb	08 34 15.0	
	comp=Z,36nm,0.8s						
WRAB	**Tennant Creek**	**43.72**	**273**	P	**P**	**08 34 13.1**	**-0.8**
WRAB	**Tennant Creek**	**43.72**	**273**	P	**P**	**08 34 12.5**	**-1.4**
WRAB				pP	**pwP**	**08 34 47.8**	**+2.1**
WRA	**Warramunga Arr**	**43.73**	**273**	P	**P**	**08 34 13.0**	**-1.0**
	comp=Z,32nm,0.7s,baz=113,slow=7.5,SNR=112						
WRA				ScP	**ScP**	**08 39 35.0**	**-3.1**
	comp=Z,3.6nm,0.8s,baz=117,slow=4.0,SNR=4.7						
WRA				S	**S**	**08 40 29.7**	**-4.9**
	comp=Z,2.4nm,0.8s,baz=110,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**43.73**	**273**	P	**P**	**08 34 12.4**	**-1.5**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
WRA	**Warramunga Arr**	**43.73**	**273**	P	**P**	**08 34 12.4**	**-1.5**
FORT	**Forrest**	**45.52**	**256**	P	**P**	**08 34 27.2**	**-0.8**
	baz=45,SNR=44						
FORT	**Forrest**	**45.52**	**256**	P	**P**	**08 34 27.1**	**-0.8**
FORT				IAmb	IAmb	08 34 29.8	
	comp=Z,55nm,0.7s						
FORT	**Forrest**	**45.52**	**256**	P	**P**	**08 34 27.3**	**-0.7**
WRKA	**Warakurna**	**47.02**	**263**	P	**P**	**08 34 38.0**	**-1.9**
	baz=47,SNR=5.7						
WRKA	**Warakurna**	**47.02**	**263**	P	**P**	**08 34 39.6**	**-0.2**
SBA	**Scott Base**	**47.43**	**184**	P	**P**	**08 34 45.5**	**+3.3**
SBA				pmax	pmax		
	comp=Z,176nm,1.6s						
SBA	**Scott Base**	**47.43**	**184**	P	**P**	**08 34 45.5**	**+3.3**
VNDA	**Vanda**	**47.48**	**186**	P	**P**	**08 34 46.4**	**+3.7**
	comp=Z,4.7nm,0.8s,baz=28,slow=8.9,SNR=5.9						
VNDA	**Vanda**	**47.48**	**186**	P	**P**	**08 34 44.2**	**+1.6**
VNDA				pmax	pmax		
	comp=Z,31nm,1.5s						
VNDA	**Vanda**	**47.48**	**186**	P	**P**	**08 34 44.2**	**+1.6**
KDU	**Kakadu**	**48.63**	**281**	P	**P**	**08 34 51.9**	**-0.4**
	baz=48,SNR=4.3						
KDU	**Kakadu**	**48.63**	**281**	P	**P**	**08 34 51.7**	**-0.6**
MTN	**Manton Dam**	**49.68**	**280**	P	**P**	**08 34 59.3**	**-1.0**
	baz=50,SNR=7.7						
MTN	**Manton Dam**	**49.68**	**280**	P	**P**	**08 34 58.9**	**-1.4**
MTN				IAmb	IAmb	08 35 36.0	
	comp=Z,47nm,1.4s						
MTN	**Manton Dam**	**49.68**	**280**	P	**P**	**08 34 59.4**	**-1.0**
KNRA	**Kununurra**	**50.36**	**275**	P	**P**	**08 35 06.7**	**+1.3**
	baz=50,SNR=5.4						
KNRA	**Kununurra**	**50.36**	**275**	P	**P**	**08 35 04.8**	**-0.6**
KNRA				IAmb	IAmb	08 35 41.2	
	comp=Z,55nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.97**	**271**	P	**P**	**08 35 16.5**	**-0.9**
	comp=Z,13nm,0.8s,baz=158,slow=8.5,SNR=17						
FITZ				ScP	**ScP**	**08 40 12.0**	**-0.9**
	comp=Z,4.3nm,1.1s,baz=116,slow=2.9,SNR=3.7						
SAUI	**Saumlaki**	**52.07**	**285**	P	**P**	**08 35 19.5**	**+1.3**
CCD	**Concordia, Ant**	**52.29**	**196**	P	**P**	**08 35 21.9**	**+2.5**
CCD				pP	sP	08 36 11.6	+8.0
KLBR	**Kellerberrin**	**53.79**	**252**	P	**P**	**08 35 29.6**	**-1.0**
	baz=54,SNR=5.5						
FAKI	**Fak Fak**	**54.17**	**291**	P	**P**	**08 35 33.5**	**0.0**
FAKI				IAmb	IAmb	08 36 09.3	
	comp=Z,36nm,1.0s						
CASY	**Casey**	**54.44**	**208**	P	**P**	**08 35 35.0**	**+0.2**
CASY				IAmb	IAmb	08 36 24.5	
	comp=Z,34nm,0.6s						
MEEK	**Meekatharra**	**54.67**	**258**	P	**P**	**08 35 36.4**	**-0.7**
	baz=54,SNR=4.7						
MLH	**Mauna Loa**	**54.86**	**27**	P	**P**	**08 35 39.4**	**+0.7**
HPAH	**Hawaii Prepara**	**55.23**	**26**	P	**P**	**08 35 41.5**	**+0.4**
MORW	**Morawa**	**55.99**	**254**	P	**P**	**08 35 45.7**	**-0.8**
	baz=56,SNR=8.1						
MORW	**Morawa**	**55.99**	**254**	P	**P**	**08 35 45.0**	**-1.6**
MORW				IAmb	IAmb	08 36 24.6	
	comp=Z,43nm,1.3s						
GUMO	**Guam**	**56.61**	**316**	LR	LR	08 59 54.8	
	comp=Z,82nm,18.2s,baz=148,slow=36						
QSPA	**South Pole Qui**	**59.13**	**180**	P	**P**	**08 36 10.8**	**+2.7**
QSPA	**South Pole Qui**	**59.13**	**180**

PFO Pinyon Flats O 86.89 48 LR LR 09 07 53.8
comp=Z,64nm,20.2s,baz=250,slow=29
PFO Pinyon Flats O 86.89 48 P **P** **08 38 52.6 +0.9**
PFO pmax pmax
comp=Z,95nm,2.0s
PFO Pinyon Flats O 86.89 48 P **P** **08 38 52.6 +0.9**
PFO IAmb IAmb 08 38 54.2
comp=Z,95nm,1.9s
PFO Pinyon Flats O 86.89 48 P **P** **08 38 52.7 +1.1**
baz=229,SNR=5.9
ISA Isabella, Lake 86.99 45 P **P** **08 38 52.5 +0.5**
ISA pmax pmax
comp=Z,24nm,1.0s
ISA Isabella, Lake 86.99 45 P **P** **08 38 52.5 +0.5**
ISA IAmb IAmb 08 38 54.3
comp=Z,24nm,0.9s
ISA Isabella, Lake 86.99 45 P **P** **08 38 53.0 +1.0**
baz=228,SNR=16
CHNA Chernabura Isl 86.99 11 P **P** **08 38 54.6 +3.2**
baz=196
BBRC Big Bear Solar 87.02 47 P **P** **08 38 53.5 +1.1**
baz=229
LRMC Laurel Mtn Rad 87.35 45 P **P** **08 38 54.6 +0.8**
baz=229,SNR=17
SDPT Sand Point 87.35 10 P **P** **08 38 56.7 +3.5**
baz=196
RRX Edison Barstow 87.38 46 P **P** **08 38 54.9 +1.0**
baz=229
USRK Ussuriysk Ar. 87.42 327 LR LR 09 17 02.0
comp=Z,33nm,18.1s,baz=138,slow=35
BELC Belle Mtn. Jos 87.43 48 P **P** **08 38 55.5 +1.2**
baz=230,SNR=14
CMB Columbia Colle 87.46 42 P **P** **08 38 54.1 -0.1**
CMB pmax pmax
comp=Z,18nm,1.2s
CMB Columbia Colle 87.46 42 P **P** **08 38 54.1 -0.1**
BC3 Big Chuckawall 87.56 48 P **P** **08 38 56.4 +1.5**
baz=230,SNR=9.4
GLA Glamis 87.57 49 P **P** **08 38 56.3 +1.4**
GLA pmax pmax
comp=Z,77nm,1.5s
GLA Glamis 87.57 49 P **P** **08 38 56.3 +1.4**
GLA Glamis 87.57 49 P **P** **08 38 56.5 +1.6**
baz=230
CWC Cottonwood Cre 87.74 45 P **P** **08 38 56.6 +0.9**
baz=228
HEC Hector,Ludlow 87.76 47 P **P** **08 38 56.6 +0.9**
baz=230,SNR=17
GSC Goldstone, Bar 87.77 46 P **P** **08 38 56.4 +0.6**
GSC pmax pmax
comp=Z,115nm,2.0s
GSC Goldstone, Bar 87.77 46 P **P** **08 38 56.4 +0.6**
GSC Goldstone, Bar 87.77 46 P **P** **08 38 56.8 +1.0**
baz=229,SNR=11
MPMC Manual Prospec 87.85 45 P **P** **08 38 57.1 +0.8**
baz=229,SNR=9.8
ORV Oroville 87.87 40 P **P** **08 38 55.9 -0.1**
ORV pmax pmax
comp=Z,6.0nm,1.1s
ORV Oroville 87.87 40 P **P** **08 38 55.9 -0.1**
TIN Tinemaha, Big 88.06 44 P **P** **08 38 58.1 +1.0**
baz=228
IRM Iron Mountain 88.08 48 P **P** **08 38 58.8 +1.6**
baz=230,SNR=28
113A Mohawk Valley, 88.08 50 P **P** **08 38 58.4 +1.2**
113A IAmb IAmb 08 39 00.1
comp=Z,57nm,1.5s
MLAC Mammoth, Mammo 88.08 43 P **P** **08 38 58.6 +1.2**
baz=228
GMRC Granite Mounta 88.15 47 P **P** **08 38 58.9 +1.3**
baz=230,SNR=11
QSM Queen of Sheba 88.17 46 P **P** **08 38 58.4 +0.8**
QSM IAmb IAmb 08 38 59.7
comp=Z,65nm,1.8s
N02D Trinity Center 88.20 39 P **P** **08 38 58.9 +1.2**
baz=225
214A Organ Pipe Nat 88.21 51 P **P** **08 38 58.7 +0.9**
214A Organ Pipe Nat 88.21 51 P **P** **08 38 59.3 +1.4**
baz=232,SNR=14
GO04 Tololo Observa 88.25 124 P **P** **08 38 59.8 +1.2**
GO04 IAmb IAmb 08 39 02.1
comp=Z,73nm,1.7s
TUQ Turquoise Moun 88.41 46 P **P** **08 38 59.8 +0.9**
baz=230,SNR=5.8
M02C Callahan 88.42 38 P **P** **08 38 59.8 +1.1**
baz=225
SHOC Shoshone, Teco 88.49 46 P **P** **08 38 60.0 +0.9**
baz=230,SNR=8.0
MPK Martis Peak 88.52 41 P **P** **08 38 59.5 +0.1**
MPK IAmb IAmb 08 39 01.2
comp=Z,18nm,1.0s
LHV Little Huntoon 88.69 43 P **P** **08 39 00.5 +0.6**
YBH Yreka Blue Hor 88.73 38 LR LR 09 10 49.9
comp=Z,37nm,21.6s,baz=233,slow=30
NEE2 Needles Airpor 88.80 48 P **P** **08 39 02.0 +1.4**
baz=230
PDMCI Parker Dam,Lak 88.81 48 P **P** **08 39 02.1 +1.5**
baz=231,SNR=7.3
K02D Willamette Mer 88.91 37 P **P** **08 39 03.6 +2.6**
baz=225
NVAR Mina Array Bea 88.93 43 P **P** **08 39 01.7 +0.3**
comp=Z,8.0nm,0.8s,baz=222,slow=8.5,SNR=63
NVAR LR LR 09 19 21.2
comp=Z,30nm,18.1s,baz=245,slow=36
NVAR Mina Array Bea 88.93 43 P **P** **08 39 01.2 -0.1**
HOPE Hope Point 88.96 159 P pP 08 39 50.8 +17
LCO Las Campanas 88.99 123 P **P** **08 39 03.7 +1.6**
LCO pmax pmax
comp=Z,13nm,0.8s
LCO Las Campanas 88.99 123 P **P** **08 39 03.7 +1.6**
NV11 Mina Array Sit 89.02 43 P **P** **08 39 01.4 -0.3**
PAHR Pah Rah Range 89.17 41 P **P** **08 39 02.3 0.0**
TPNV Topopah Spring 89.19 45 P **P** **08 39 03.2 +0.7**
baz=230,SNR=11
HUMO Hull Mountain 89.22 37 P **P** **08 39 03.5 +1.2**
HUMO IAmb IAmb 08 39 12.8
comp=Z,54nm,1.6s
M04C Macdoel 89.23 39 P **P** **08 39 03.8 +1.2**
baz=226
L04D Klamath Falls 89.29 38 P **P** **08 39 04.1 +1.3**
baz=226
TPH Tonopah 89.33 44 P **P** **08 39 03.3 0.0**
TPH pmax pmax
comp=Z,81nm,0.9s
TPH Tonopah 89.33 44 P **P** **08 39 03.3 0.0**
W13A Hualapai Mount 89.47 48 P **P** **08 39 04.8 +0.8**
W13A IAmb IAmb 08 39 06.6
comp=Z,46nm,1.8s
SHPR Sheep Range 89.57 46 P **P** **08 39 04.8 +0.5**
TUC Tucson 89.78 52 P **P** **08 39 06.3 +1.0**
TUC pmax pmax
comp=Z,171nm,2.0s
TUC Tucson 89.78 52 P **P** **08 39 06.3 +1.0**
TUC Tucson 89.78 52 P **P** **08 39 07.1 +1.8**
baz=233
I03D Drain, OR 89.79 37 P **P** **08 39 06.7 +1.8**
baz=225
I02E Swisshome, OR 89.83 36 P **P** **08 39 05.8 +0.7**
baz=224
K04D Chiloquin, OR 89.86 38 P **P** **08 39 06.0 +0.5**
baz=226
MOD Modoc Plateau 90.14 39 P **P** **08 39 06.3 -0.6**
MOD IAmb IAmb 08 39 08.4
comp=Z,28nm,1.4s
PRN Pahroc Range 90.21 45 P **P** **08 39 08.4 +1.1**
PRN IAmb IAmb 08 39 09.8
comp=Z,17nm,1.1s
319A Douglas 90.24 53 P **P** **08 39 08.1 +0.6**
319A IAmb IAmb 08 39 10.4
comp=Z,24nm,1.0s
CN2 Changchun 90.36 323 *e*P **P** **08 39 05.3 -2.3**
CN2 *e*S **S** **08 49 46.8 -4.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
R11A Troy Canyon, C 90.49 44 P **P** **08 39 08.8 +0.2**
baz=230
J05D Fort Rock, OR 90.60 38 P **P** **08 39 09.6 +0.7**
baz=226
GRNR Gornyy 90.62 333 ⇑*i*P P 08 39 18.1 +9.5
GRNR pmax pmax
comp=Z,6.0nm,1.1s
GRNR MLR MLR
comp=E,240nm,15.0s
GRNR MLR MLR
comp=N,240nm,16.0s
GRNR MLR MLR
comp=Z,180nm,16.0s
X16A Lo Mia Camp, P 90.63 50 P **P** **08 39 10.8 +1.4**
BNX BinXian 90.76 325 ⇓P **P** **08 39 11.1 +1.7**
BNX pmax pmax
comp=Z,15nm,1.3s
BNX pmax pmax
comp=Z,540nm,4.0s
BMN Battle Mountai 90.88 42 P **P** **08 39 10.2 -0.2**
BMN pmax pmax
comp=Z,27nm,1.5s
BMN Battle Mountai 90.88 42 P **P** **08 39 10.2 -0.2**
BMN IAmb IAmb 08 39 12.0
comp=Z,27nm,1.5s
LCMT Little Creek M 91.08 47 P **P** **08 39 12.3 +1.0**
PINE Pine Mountain 91.10 38 P **P** **08 39 11.6 +0.3**
PINE IAmb IAmb 08 39 13.2
comp=Z,20nm,0.8s
I05D Terrebonne, OR 91.27 37 P **P** **08 39 13.2 +1.3**
baz=226
U15A North Rim 91.31 48 P **P** **08 39 13.4 +0.8**
U15A IAmb IAmb 08 39 15.1
comp=Z,9.6nm,0.8s
KLR Kul'dur 91.33 330 P **P** **08 39 11.2 -0.8**
comp=Z,2.4nm,0.6s,baz=127,slow=4.7,SNR=8.9
KLR LR LR 09 14 37.7
comp=Z,73nm,20.8s,baz=131,slow=32
KLR Kul'dur 91.33 330 *i* P **P** **08 39 10.9 -1.1**
KLR pmax pmax
comp=Z,3.0nm,0.7s
WUAZ Wupatki 91.34 49 P **P** **08 39 13.7 +1.1**
baz=232
KNB Kanab 91.34 47 P **P** **08 39 13.6 +1.0**
KNB pmax pmax
comp=Z,12nm,1.0s
KNB Kanab 91.34 47 P **P** **08 39 13.6 +1.0**
KNB IAmb IAmb 08 39 15.1
comp=Z,12nm,1.0s
GYA Guiyang 91.49 300 P **P** **08 39 15.5 +2.0**
GYA sP sP 08 40 00.3 +0.6
GYA SKS **SKSac** **08 49 33.8 -0.3**
GYA S **S** **08 50 03.1 +0.8**
GYA sS sS 08 51 03.3 +4.3
GYA pmax pmax
comp=Z,180nm,3.5s
SPR3 Spring Creek 3 91.66 45 P **P** **08 39 13.9 -0.3**
Q19K Cape Douglas, 91.92 13 P **P** **08 39 16.7 +2.1**
baz=201
121A Cookes Peak, D 91.95 53 P **P** **08 39 16.6 +1.1**
121A IAmb IAmb 08 39 18.4
comp=Z,50nm,1.9s
121A Cookes Peak, D 91.95 53 P **P** **08 39 16.6 +1.1**
baz=234
W18A Petrified Fore 92.17 50 P **P** **08 39 17.7 +1.2**
baz=233
ELK Elko 92.23 43 LR LR 09 13 55.7
comp=Z,34nm,19.9s,baz=250,slow=31
ELK Elko 92.23 43 P **P** **08 39 16.6 -0.1**
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 92.23 43 P **P** **08 39 16.6 -0.1**
TX31 Lajitas Ar. Si 93.03 58 P **P** **08 39 20.6 +0.2**
TX32 Lajitas Array 93.03 58 P **P** **08 39 20.8 +0.3**
TX32 IAmb IAmb 08 39 22.7
comp=Z,27nm,1.8s
TXAR Lajitas Array 93.03 58 P **P** **08 39 21.0 +0.5**
comp=Z,2.2nm,0.9s,baz=205,slow=5.5,SNR=16
TXAR LR LR 09 11 24.7
comp=Z,45nm,21.5s,baz=225,slow=29
MNTX Cornudas Mount 93.14 55 P **P** **08 39 21.4 +0.6**
baz=235
G08A Pilot Rock 93.16 38 P **P** **08 39 20.6 0.0**
G08A IAmb IAmb 08 40 52.0
comp=Z,11nm,0.5s
CMAR Chiang Mai Arr 93.22 289 P **P** **08 39 21.6 +0.2**
comp=Z,1.5nm,0.3s,baz=144,slow=3.5,SNR=5.5
CMAR PP **PP** **08 43 05.6 -1.4**
comp=Z,1.1nm,0.3s,baz=140,slow=6.1,SNR=4.8
CMIG Matias Romero 93.31 72 LR LR 09 12 42.9
comp=Z,38nm,20.1s,baz=242,slow=30
TMUT Trail Mountain 93.75 46 P **P** **08 39 23.9 +0.1**
TMUT IAmb IAmb 08 40 34.6
comp=Z,19nm,1.6s
XAN Xi'an 94.15 307 P **P** **08 39 26.8 +1.4**
XAN pP pwP 08 39 59.8 -0.7
XAN SKS **SKSac** **08 49 42.1 -6.1**
XAN S **S** **08 50 24.0 -1.3**
XAN pmax pmax
comp=Z,7.0nm,1.6s
ANMO Albuquerque 94.25 52 LR LR 09 12 31.0
comp=Z,63nm,21.1s,baz=242,slow=29
ANMO Albuquerque 94.25 52 P **P** **08 39 26.6 +0.5**
ANMO pmax pmax
comp=Z,9.0nm,1.4s
ANMO Albuquerque 94.25 52 P **P** **08 39 26.6 +0.5**
ANMO Albuquerque 94.25 52 P **P** **08 39 26.5 +0.5**
baz=235
HVU Hansel Valley 94.33 43 P **P** **08 39 26.5 +0.3**
HVU pmax pmax
comp=Z,7.0nm,0.8s
HVU Hansel Valley 94.33 43 P **P** **08 39 26.5 +0.3**
HVU IAmb IAmb 08 39 27.7
comp=Z,7.2nm,0.8s
D08A Wollman Farm, 94.36 36 P **P** **08 39 26.3 +0.3**
D08A IAmb IAmb 08 40 08.4
comp=Z,36nm,1.9s
HLID Hailey 94.50 41 P **P** **08 39 27.2 +0.2**
baz=231
GAMB Gambell 94.58 3 P **P** **08 39 28.5 +1.9**
baz=186
RC01 Rabbit Creek A 94.68 14 P **P** **08 39 28.2 +1.1**
baz=205
CD2 Chengdu 96.06 302 *e*P **P** **08 39 35.6 +1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MCMT McKenzie Canyo 96.17 41 P **P** **08 39 35.0 +0.4**
MSTX Muleshoe 96.22 54 P **P** **08 39 35.2 +0.2**
baz=237
HHC Hu-ho-hao-te 96.35 314 *e*P **P** **08 39 39.3 +3.9**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.9s
SEY Seymchan 96.45 347 LR LR 09 21 52.9
comp=Z,45nm,18.4s,baz=326,slow=35
SDCO Great Sand Dun 96.47 50 P **P** **08 39 37.8 +1.6**
baz=236
ZEA Zeya 96.56 331 *e*P **P** **08 39 39.3 +3.5**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
BW06 Boulder Array 96.83 44 P **P** **08 39 38.2 +0.6**
baz=234
PDAR Pinedale Array 96.83 44 P **P** **08 39 37.4 -0.3**
comp=Z,0.8nm,0.8s,baz=202,slow=1.6,SNR=6.9
PDAR LR LR 09 23 35.6
comp=Z,24nm,18.1s,baz=250,slow=36
T25A Trinidad 96.85 51 P **P** **08 39 38.5 +0.6**
baz=236
H17A Grant Village 97.20 42 P Pdif 08 39 39.8 +0.4
baz=233
M26K Nabesna, AK 97.32 16 P Pdif 08 39 41.3 +2.0
baz=210
BOZ Bozeman (W) 97.32 41 P Pdif 08 39 41.1 +1.3
baz=233
Q24A Divide 97.38 49 P Pdif 08 39 41.5 +1.1
baz=236
M27K Edge Creek, AK 97.55 16 P Pdif 08 39 42.6 +2.2
baz=211
P33M Teslin, Yukon 98.28 21 P Pdif 08 39 45.7 +2.1
baz=218
ILAR Eielson Array 98.58 13 P **P** **08 39 43.7 -1.0**
comp=Z,0.6nm,0.9s,baz=213,slow=6.3,SNR=3.3
BILL Bilibino 99.38 354⇓*e*P **Pdif** **08 39 49.3 +1.1**
BILL 08 43 52.0
BILL pmax pmax
comp=Z,2.0nm,0.6s
BILL MLR MLR
comp=Z,42nm,17.0s
RSSD Black Hills 100.91 45 P **Pdif** **08 39 56.5 +0.7**
baz=238
YKA Yellowknife Ar 106.14 26 PKiKP **PKiKP** **08 44 27.8 -1.5**
comp=Z,0.3nm,0.6s,baz=257,slow=1.6,SNR=9.2
YKA PKKPbc **PKKPbc** **08 55 52.7 -0.6**
comp=Z,0.5nm,0.7s,baz=40,slow=3.1,SNR=6.6
WMQ Urumqi 113.27 308 *e*PKP **PKiKP** **08 44 44.5 +1.0**
DGZ Jazzator, Alta 115.43 314 *i*PKIKP **PKPdf** **08 44 46.1 -1.5**
BOSA Boshof 116.57 203 PKP **PKiKP** **08 44 51.0 +0.4**
comp=Z,1.3nm,0.7s,baz=37,slow=1.6,SNR=3.6
MKAR Makanchi Array 117.84 310 PKP **PKPdf** **08 44 50.4 -1.7**
comp=Z,0.6nm,0.6s,baz=253,slow=3.0,SNR=12
MKAR PKKPbc **PKKPbc** **08 55 14.2 +0.4**
comp=Z,0.6nm,0.8s,baz=269,slow=5.2,SNR=3.5
BOOM Boomskoye usch 121.03 304 PKIKP **PKPdf** **08 44 58.1 -0.5**
BOOM Boomskoye usch 121.03 304 **PKPdf** **08 44 58.1 -0.5**
KURK Kurchatov 121.16 314 *i* PKIKP **PKPdf** **08 44 56.9 -1.4**
KURBB Kurchatov Arra 121.20 313 PKKPbc PKKPbc 08 55 03.2 +1.7
comp=Z,0.8nm,0.9s,baz=285,slow=4.6,SNR=4.1
AAK Ala-Archa 122.10 304*c i*PKIKP **PKPdf** **08 45 00.0 -0.7**
AAK pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 126.61 316*c i*PKIKP **PKPdf** **08 45 06.5 -2.2**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
ARU Arti 133.28 320 *i* PKIKP **PKPdf** **08 45 21.6 +0.3**
ARU 08 47 51.2
APA Apatity 138.84 342⇓*i*PKIKP **PKPdf** **08 45 27.9 -3.4**
APA *i* *e*PP **pPKPdf** **08 46 07.3 +1.4**
APA pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 139.07 347 PKhKP PKPpre 08 45 23.1
comp=Z,3.5nm,0.9s,baz=45,slow=2.5,SNR=13
KLMR Klimovskoe 141.08 331 *e*PKIKP **PKPdf** **08 45 34.7 -0.8**
KLMR pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 141.08 331 *e*PKPdf **PKPdf** **08 45 34.8 -0.8**
KLMR AMP 08 45 45.5
comp=Z,11nm,1.0s
KLMR *es*PKPdf **sPKPdf** **08 46 18.0 -5.3**
MOS Moscow 144.58 325 *e*PKIKP **PKPab** **08 45 39.5 -1.3**
ONI Oni 144.82 301 PKIKP **PKPab** **08 45 41.9 -0.3**
ONI Oni 144.82 301 PKPdf **PKPab** **08 45 41.9 -0.3**
KBZ Khabaz 145.10 303 PKP **PKPbc** **08 45 41.3 -1.6**
comp=Z,5.0nm,0.8s,baz=112,slow=4.4,SNR=8.4
KIV Kislovodsk 145.22 304 *e*PKP2 **PKPbc** **08 45 42.2 -1.3**
KIV pmax pmax
comp=Z,11nm,1.1s
LPSR Galich'ya Gora 145.29 319 *e*PKP2 **PKPdf** **08 45 40.9 -2.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 145.41 324⇓*e*PKIKP **PKPdf** **08 45 42.6 -0.7**
OBN *e* 08 46 34.4
OBN *e* 08 49 11.7
OBN pmax pmax
comp=Z,43nm,1.0s
OBN pmax pmax
comp=Z,17nm,1.2s
OBN MLR MLR
comp=Z,64nm,16.0s
FINES FINESS Array B 145.55 339 PKPbc **PKPdf** **08 45 41.6 -1.7**
comp=Z,12nm,0.3s,baz=50,slow=4.5,SNR=116
VSR Storozhevoye 145.69 317 *e*PKIKP **PKPdf** **08 45 42.2 -1.7**
VSR pmax pmax
comp=Z,30nm,0.8s
VORD Divnogorie 145.71 317 *e*PKIKP **PKPdf** **08 45 42.0 -2.0**
VORD pmax pmax
comp=Z,10.0nm,0.6s
GURO Guroymak-BITLI 146.10 294 **PKPdf** **08 45 45.6 +0.3**
VSU Vasula 147.59 335 *e*P **PKPbc** **08 45 48.8 -0.9**
MTSE Matsula 148.39 338 *e*P **PKPdf** **08 45 49.9 +1.7**
NB2 NORSAR Subarra 149.26 351 PKP **PKPbc** **08 45 52.7 -1.4**
comp=Z,1.8nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 149.26 351 PKPbc **PKPbc** **08 45 52.6 -1.5**
comp=Z,4.6nm,0.6s,baz=14,slow=4.1,SNR=18
IDID Didziasalis 149.82 331 *e*P **PKPbc** **08 45 54.0 -1.5**
MNK Minsk 149.88 329 *i* PKHKP PKPpre 08 45 50.8
MNK *i* 08 49 30.1
MNK *i* PPP PPP 08 52 57.9
MNK *i* SS SS 09 08 40.2 +4.5
MNK Minsk 149.88 329 *i* PKP **PKPdf** **08 45 50.9 +0.2**
MNK *i* PKP **PKPdf** **08 45 50.9 +0.2**
MNK *i* PKP **PKPdf** **08 45 50.9 +0.2**
baz=50
MNK *i* pPKP **pPKPdf** **08 46 23.3 -2.0**
MNK *i* PP **PP** **08 49 30.1 -0.5**
MNK *i* PPP PPP 08 52 58.0
MNK *i* SKS SKSdf 08 53 05.2 +19
MNK *i* SKKS **SKKSdf** **09 01 37.2 -3.9**
MNK *i* SS **SS** **09 08 40.2 +4.5**
MNK *i* SSS SSS 09 13 26.1
GAZ Gaziantep 149.94 292 **PKPbc** **08 45 55.1 -1.5**
IIGN Ignalina 150.01 331 *e*P **PKPbc** **08 45 54.6 -1.4**
NACGM Naroch 150.09 330 *i* PKP **PKPbc** **08 45 56.1 -0.1**
PABE Paberze 150.79 334 *e*P **PKPbc** **08 45 56.8 -1.0**
AKASG Malin Array Be 151.51 322 PKPbc **PKPbc** **08 45 57.8 -1.8**
comp=Z,9.2nm,0.7s,baz=53,slow=2.4,SNR=28
AKASG PKPab **PKPab** **08 46 08.2 -0.4**
comp=Z,5.6nm,0.6s,baz=48,slow=2.8,SNR=12
AKASG Malin Array Be 151.51 322 PKIKP **PKPbc** **08 45 58.4 -1.3**
AKASG Malin Array Be 151.51 322 **PKPbc** **08 45 58.4 -1.3**
BRTR Keskin Array B 152.52 297 PKPbc **PKPbc** **08 46 00.9 -1.6**
comp=Z,1.3nm,0.5s,baz=116,slow=2.9,SNR=8.1
BRTR PKPab **PKPab** **08 46 10.8 -2.6**
comp=Z,3.1nm,0.7s,baz=122,slow=2.7,SNR=6.7
LIC Lamto 154.62 165 *e*PKP1 **PKiKP** **08 46 08.5 +0.9**
comp=Z,23nm,0.9s
KIC Kosan Boka 154.81 165 *e*PKP1 **PKiKP** **08 46 09.0 +1.0**
comp=Z,6.2nm,0.7s
TIC Toumodi 155.02 164 *e*PKP1 PKPdf 08 46 09.5 +10
DBIC Dimbokro 155.09 165 PKPab **PKPab** **08 46 25.6 +1.1**
comp=Z,7.9nm,0.9s,baz=150,slow=3.2,SNR=5.1
CRVS Cervenica-Dubn 156.59 326 *e*PKP2 **PKPab** **08 46 30.1 -0.2**
OSTC Ostas 157.58 335 *e*PKPAB PKPab 08 46 43.4 +8.9
CHVC Chvalec 157.61 335 *e*PKPAB PKPab 08 46 42.6 +8.0
DPC Dobruska-Polom 157.71 334 *e*PKPAB PKPab 08 46 43.6 +8.5
CLL Collm 157.98 341 *e*PKIKP **PKPdf** **08 46 06.0 +3.8**
CLL *e* 08 46 35.0
CLL *i* 08 46 43.7
CLL Collm 157.98 341 *e*PKPdf **PKPdf** **08 46 06.0 +3.8**
CLL *e*(PKPdif) 08 46 14.0
CLL *e*PKPab **PKPab** **08 46 35.0 -1.1**
CLL *i* x x 08 46 43.7
VYHS Vyhne 158.11 328 *e*PKP2 **PKPab** **08 46 36.6 -0.2**
MODS Modra-Piesok 158.89 330 *e*PKP2 **PKPab** **08 46 41.5 +1.3**
KHC Kasperske Hory 159.71 337 *e*PKPAB PKPab 08 46 51.7 +7.9
KHC *ep*PKP pPKPab 08 47 18.0 +0.8
GERES GERESS Array B 159.91 336 PKPab **PKPab** **08 46 43.2 -1.5**
comp=Z,0.6nm,0.6s,baz=77,slow=1.8,SNR=4.4
TORD Torodi Ar. Bea 162.25 180 PKP **PKPdf** **08 46 08.2 +0.1**
comp=Z,2.1nm,0.9s,baz=332,slow=1.3,SNR=9.2
TORD PKPab **sPKPdf** **08 46 56.3 +0.5**
comp=Z,11nm,0.7s,baz=178,slow=3.5,SNR=28
ESDC Sonseca Array 170.23 26 PKP **PKPdf** **08 46 14.7 +1.0**
comp=Z,1.3nm,0.8s,baz=359,slow=1.9,SNR=10

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*KRSC **21** 08:43:31.9±1.8, 50.°97N×158.°15E, h47km±22km, ML5.6*
*IDC **21** 08:43:34.9±0.5, 51.°28N×157.°59E, h49km±5km, mb4.2/27, mb1 4.4/29, mb1mx4.3/44, mbtmp4.5/29, MS3.6/28, Ms1 3.6/28, ms1mx3.4/92, Error ellipse: s-maj=14.5km s-min=9.5km az=151.0*
*MOS **21** 08:43:34.4±1.0, 51.°07N×157.°79E, h70km, mb5.0/18, Error ellipse: s-maj=9.0km s-min=3.2km az=79.8*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy, Severo-Kuril'sk. PAU Pauzhetka 73304PN 843502 -6SPZ.
*NEIC **21** 08:43:37.5±1.5, 51.°27N±0.°08×157.°67E±0.°10, h73km±5km, mb4.9/85, Error ellipse: s-maj=13.9km s-min=5.8km az=149.0*
ISC 21 08:43:35.4±0.5,**51.°15N**±0.°05×**157.°82E**±0.°04,**h58**km±4km, **n500**,σ1§**46**/496,**mb4.8**/88,**MS3.6**/24,**65C-46D, Fault plane solution: NP1**:φ±353.31107°,δ68.32074°, λ-32.53175°. **NP2**:φ±96.56972°,δ60.01795°, λ-154.75554°. **Principal axes**: T Plg5.2872°, Azm46.5339°; N Plg51.5783°, Azm143.2338°; P Plg37.9210°, Azm312.3994°; **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.68**	**13**	PN	**Pn**	**08 43 49.2**	**-0.1**
KDTR				S	**Sn**	**08 43 59.0**	**-0.5**
KDTR	**Khodutka, Kamc**	**0.68**	**13**	*e*P	**Pn**	**08 43 49.2**	**-0.1**
KDTR				*e*S	**Sn**	**08 43 59.0**	**-0.5**
PAU	**Pauzhetka**	**0.71**	**297**	*e*P	**Pn**	**08 43 50.2**	**+0.5**
PAU				*e*S	**Sn**	**08 44 01.8**	**+1.7**
SKR	**Severo-Kuril's**	**1.17**	**247**	⇑*i*PN	**Pn**	**08 43 55.1**	**-0.6**
SKR				*e*S	**Sn**	**08 44 10.3**	**-0.4**
SKR				pmax	pmax		
	comp=Z,4μm,0.3s						

SKR smax smax
comp=N,72µm,0.5s
SKR smax smax
comp=E,71µm,0.5s
SKR Severo-Kuril's 1.17 247 *eP* **Pn 08 43 54.9 -0.8**
SKR *eS* **Sn 08 44 09.8 -0.9**
MTVR Mutnovka 1.36 9 PN **Pn 08 43 58.9 +0.6**
MTVR Mutnovka 1.36 9 *eP* **Pn 08 43 58.9 +0.6**
RUS Russkaya 1.36 18 PN **Pn 08 43 57.9 -0.2**
RUS S **Sn 08 44 15.4 +0.3**
RUS Russkaya 1.36 18 *eP* **Pn 08 43 57.9 -0.2**
RUS *eS* **Sn 08 44 15.4 +0.3**
GRL Gorelyy 1.42 6 PN **Pn 08 44 00.1 +1.1**
GRL Gorelyy 1.42 6 *eP* **Pn 08 44 00.1 +1.1**
KRMR Karymshinskiy 1.70 6 PN **Pn 08 44 04.1 +1.4**
KRMR S **Sn 08 44 26.7 +3.4**
KRMR Karymshinskiy 1.70 6 *eP* **Pn 08 44 04.1 +1.4**
KRMR *eS* **Sn 08 44 26.7 +3.4**
APC Apacha 1.83 347 PN **Pn 08 44 06.3 +1.8**
APC Apacha 1.83 347 *eP* **Pn 08 44 06.3 +1.8**
PET Petropavlovsk 1.95 15 *ce*PN **Pn 08 44 06.8 +0.7**
PET pmax pmax
comp=Z,1µm,0.7s
PET Petropavlovsk 1.95 15 Pn **Pn 08 44 06.9 +0.8**
PET Petropavlovsk 1.95 15 P **Pn 08 44 07.0 +0.8**
PEA0B Petropavlovsk- 1.97 358 *ce*PN **Pn 08 44 08.0 +1.6**
PEA0B Petropavlovsk- 1.97 358 Pn **Pn 08 44 07.9 +1.6**
PETK Petropavlovsk- 1.97 358 P **Pn 08 44 07.1 +0.7**
comp=Z,356nm,0.3s,baz=146,slow=12,SNR=479
PETK S **Sn 08 44 23.4 -6.5**
comp=Z,410nm,0.3s,baz=168,slow=15,SNR=9.1
PETK LR LR 08 45 06.9
comp=Z,2µm,20.4s,baz=152,slow=50
DALK Dalny 1.97 17 PN **Pn 08 44 07.2 +0.8**
DALK S **Sn 08 44 31.6 +1.6**
DALK Dalny 1.97 17 *eP* **Pn 08 44 07.2 +0.8**
DALK *eS* **Sn 08 44 31.6 +1.6**
UGLR Uglovaya 2.16 16 PN **Pn 08 44 10.4 +1.3**
UGLR Uglovaya 2.16 16 *eP* **Pn 08 44 10.4 +1.3**
AVH Avacha 2.20 15 PN **Pn 08 44 11.4 +1.8**
AVH Avacha 2.20 15 *eP* **Pn 08 44 11.4 +1.8**
SMAR Somma 2.20 15 PN **Pn 08 44 11.0 +1.2**
SMAR Somma 2.20 15 *i* P **Pn 08 44 11.0 +1.2**
KOK Koryaka 2.21 13 PN **Pn 08 44 11.9 +2.2**
KOK Koryaka 2.21 13 *i* P **Pn 08 44 11.9 +2.2**
SDLR Sedlovina 2.23 17 PN **Pn 08 44 10.9 +0.8**
SDLR Sedlovina 2.23 17 *eP* **Pn 08 44 10.9 +0.8**
KRER Koryakskii 2.23 14 PN **Pn 08 44 11.8 +1.6**
KRER Koryakskii 2.23 14 *eP* **Pn 08 44 11.8 +1.6**
NLC Nalytchevo 2.23 24 PN **Pn 08 44 09.3 -0.7**
NLC Nalytchevo 2.23 24 *eP* **Pn 08 44 09.3 -0.7**
SPN Mys Shipunski 2.38 34 PN **Pn 08 44 12.1 +0.1**
SPN Mys Shipunski 2.38 34 *eP* **Pn 08 44 12.1 +0.1**
GNL Ganaly 2.55 2 PN **Pn 08 44 16.4 +1.9**
GNL Ganaly 2.55 2 *eP* **Pn 08 44 16.4 +1.9**
KII Karymskiy 3.06 18 PN **Pn 08 44 23.3 +1.9**
KII Karymskiy 3.06 18 *eP* **Pn 08 44 23.3 +1.9**
TUMD Tumrok D 4.35 20 *eP* **Pn 08 44 41.4 +2.5**
TUMR Tumrok 4.37 18 PN **Pn 08 44 41.4 +2.0**
TUMR Tumrok 4.37 18 *eP* **Pn 08 44 42.3 +2.9**
ESO Esso 4.82 6 PN **Pn 08 44 48.4 +3.1**
ESO Esso 4.82 6 *eP* **Pn 08 44 48.4 +3.1**
KMNR Kamenistaya 4.84 16 PN **Pn 08 44 49.0 +3.3**
KMNR Kamenistaya 4.84 16 *eP* **Pn 08 44 49.0 +3.3**
KPT Kopyto 5.04 16 PN **Pn 08 44 51.5 +3.1**
KPT Kopyto 5.04 16 *eP* **Pn 08 44 51.5 +3.1**
KIRR Kirishev 5.04 16 PN **Pn 08 44 51.5 +2.9**
KIRR Kirishev 5.04 16 *eP* **Pn 08 44 51.5 +2.9**
KOZ Kozyrevsk 5.07 13 PN **Pn 08 44 51.6 +2.8**
KOZ Kozyrevsk 5.07 13 *eP* **Pn 08 44 51.6 +2.8**
BZWR Bezymyannyi-We 5.08 17 PN **Pn 08 44 52.6 +3.5**
BZWR Bezymyannyi-We 5.08 17 *eP* **Pn 08 44 52.6 +3.5**
BZGR Bezymyannyi-Gr 5.10 19 PN **Pn 08 44 52.5 +3.2**
BZGR Bezymyannyi-Gr 5.10 19 *eP* **Pn 08 44 52.5 +3.2**
ZLN Zelenaya 5.19 19 PN **Pn 08 44 54.4 +3.8**
ZLN Zelenaya 5.19 19 *eP* **Pn 08 44 54.4 +3.8**
LGNR Loginova 5.23 18 PN **Pn 08 44 55.4 +4.1**
LGNR Loginova 5.23 18 *eP* **Pn 08 44 55.4 +4.1**
CIRR Tsirk 5.27 18 PN **Pn 08 44 55.9 +4.2**
CIRR Tsirk 5.27 18 *eP* **Pn 08 44 55.9 +4.2**
KRSR Krestovskiy 5.33 17 PN **Pn 08 44 55.3 +2.8**
KRSR Krestovskiy 5.33 17 *eP* **Pn 08 44 55.3 +2.8**
KLY Klyuchi 5.44 17 PN **Pn 08 44 57.5 +3.7**
KLY Klyuchi 5.44 17 *eP* **Pn 08 44 57.5 +3.7**
SRKR Sorokina 5.86 18 PN **Pn 08 45 01.8 +2.1**
SRKR Sorokina 5.86 18 *eP* **Pn 08 45 01.8 +2.1**
KBTR Krutoberegovo 5.88 28 PN **Pn 08 45 01.2 +1.4**
KBTR Krutoberegovo 5.88 28 *eP* **Pn 08 45 01.2 +1.4**
KBG Krutoberegovo 5.88 28 PN **Pn 08 45 01.2 +1.3**
KBG Krutoberegovo 5.88 28 *eP* **Pn 08 45 01.2 +1.3**
BKI Bering 6.37 47 PN **Pn 08 45 05.9 -0.6**
BKI Bering 6.37 47 *eP* **Pn 08 45 05.9 -0.6**
BKI *eS* **Sn 08 46 11.7 -6.0**
MA2 Magadan 9.35 337 *i* PN **Pn 08 45 48.5 +1.2**
MA2 Magadan 9.35 337 Pn **Pn 08 45 47.4 +0.2**
SHEM Shemya Is, Ala 10.18 75 P **Pn 08 45 58.3 -0.3**
comp=Z,16nm,0.3s,baz=225,slow=2.7,SNR=9.3
SHEM LR LR 08 49 50.2
comp=Z,120nm,18.5s,baz=324,slow=36
SMY Shemya 10.18 75 PN **Pn 08 45 58.3 -0.3**
SMY Shemya 10.18 75 Pn **Pn 08 45 58.3 -0.3**
SHO Shikotan 10.40 230 *eP*N **Pn 08 46 00.7 -1.0**
SHO *eS* **Sn 08 47 57.2 +0.7**
SHO pmax pmax
comp=N,10.0nm,0.3s
SHO pmax pmax
comp=E,20nm,0.3s
SHO pmax pmax
comp=Z,41nm,0.3s
YSS Yuzh-Sakhalins 10.74 253 *eP*N **Pn 08 46 09.8 +3.5**
YSS pmax pmax
comp=Z,30nm,0.6s
SEY Seymchan 12.18 348 P **Pn 08 46 28.8 +2.9**
comp=Z,0.2nm,0.3s,baz=146,slow=12,SNR=16
JKA Kamikawa-asahi 12.43 241 Pn **Pn 08 46 30.4 +1.0**
ASAJ Asahikawa 12.43 241 P **Pn 08 46 29.9 +0.4**
comp=Z,3.6nm,0.3s,baz=90,slow=11,SNR=9.6
ASAJ LR LR 08 50 38.6
comp=Z,194nm,21.2s,baz=94,slow=34
ASAJ Asahikawa 12.43 241 PN **Pn 08 46 30.4 +1.0**
GRNR Gornyy 13.49 277 ⇑ *i* PN **P 08 46 54.8 +3.6**
GRNR pmax pmax
comp=Z,8.0nm,0.9s
ERM Erimo 13.58 233 P Pn 08 46 42.5 -2.6
ERM Erimo 13.58 233 Pn Pn 08 46 42.5 -2.6
ERM Erimo 13.58 233 P Pn 08 46 42.4 -2.6
comp=Z,134nm,1.1s
ADK Adak 15.87 77 P **P 08 47 20.2 +2.7**
comp=Z,26nm,1.5s
KLR Kul'dur 16.78 274 LR LR 08 54 24.1
comp=Z,128nm,19.4s,baz=94,slow=39
KLR Kul'dur 16.78 274 *i* P **Pn 08 47 27.4 +1.1**
KLR pmax pmax
comp=Z,16nm,0.9s
ATKA Atka Island 17.35 76 P **P 08 47 37.6 +3.7**
comp=Z,33nm,2.0s
BILL Bilibino 17.45 11 *ce*P **P 08 47 35.1 +0.2**
BILL pmax pmax
comp=Z,18nm,0.4s
BILL MLR MLR
comp=Z,224nm,17.0s
BILL Bilibino 17.45 11 P **Pn 08 47 34.6 +0.2**
USRK Ussuriysk Ar. 18.67 258 LR LR 08 55 20.8
comp=Z,149nm,18.9s,baz=64,slow=38
USRK Ussuriysk Ar. 18.67 258 P **P 08 47 49.0 +0.5**
USRK Ussuriysk Ar. 18.67 258 P **P 08 47 49.0 +0.5**
ZEA Zeya 18.74 290 *eP* **P 08 47 50.2 +0.9**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=Z,200nm,18.0s
YAK Yakutsk 18.77 316 P **P 08 47 47.2 -2.3**
comp=Z,0.2nm,0.3s,baz=211,slow=1.3,SNR=2.9
YAK LR LR 08 55 37.0
comp=Z,265nm,18.8s,baz=86,slow=39
YAK Yakutsk 18.77 316 *eP* **P 08 47 46.8 -2.7**
YAK *eS* **S 08 51 17.3 -2.3**
YAK pmax pmax
comp=Z,18nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK pmax pmax
comp=E,3.0nm,0.6s
YAK pmax pmax
comp=Z,118nm,2.5s
YAK pmax pmax
comp=N,28nm,2.4s
YAK pmax pmax
comp=E,33nm,2.3s
YAK smax smax
comp=N,110nm,2.7s
YAK smax smax
comp=E,47nm,2.7s
YAK Yakutsk 18.77 316 P **P 08 47 48.0 -1.5**
YAK IAmb IAmb 08 48 09.8
comp=Z,48nm,0.7s
MDJ Mudanjiang 19.95 262 P **P 08 48 02.4 -0.1**
MDJ pP pP 08 48 17.8 +2.7
MDJ sP sP 08 48 28.6 +6.2
MDJ pmax pmax
comp=Z,19nm,0.7s
MDJ pmax pmax
comp=Z,110nm,3.9s
MJAR Matsushiro Arr 20.23 231 P **P 08 48 06.5 +0.9**
comp=Z,3.0nm,0.5s,baz=270,slow=8.9,SNR=9.2
MJAR Matsushiro Arr 20.23 231 P **P 08 48 06.6 +0.9**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
MJB9 Matsu-Tunnel 20.23 231 P **P 08 48 06.9 +1.2**
MAJO Matsushiro 20.24 231 P **P 08 48 06.3 +0.7**
MAJO pmax pmax
comp=Z,28nm,1.1s
MAJO Matsushiro 20.24 231 P **P 08 48 06.3 +0.7**
MAJO Matsushiro 20.24 231 P **P 08 48 07.3 +1.6**
comp=Z,25nm,1.5s
MAT Matsushiro 20.24 231 P **P 08 48 05.6 -0.1**
GAMB Gambell 20.45 40 P **P 08 48 08.1 +0.5**
GAMB IAmb IAmb 08 48 09.1
comp=Z,40nm,0.6s
GAMB Gambell 20.45 40 P **P 08 48 08.5 +0.9**
baz=247,SNR=10.0
BNX BinXian 20.80 267 ⇓P **P 08 48 13.8 +2.1**
BNX pmax pmax
comp=Z,14nm,0.8s
BNX pmax pmax
comp=Z,460nm,3.7s
JGF Kuroka 21.40 231 P **P 08 48 18.1 -0.1**
INU Inuyama 21.77 232 P **P 08 48 21.8 -0.3**
INU Inuyama 21.77 232 P **P 08 48 22.1 0.0**
comp=Z,32nm,0.8s
TNA Tin City 22.65 37 P **P 08 48 32.1 +0.9**
TNA IAmb IAmb 08 48 32.9
comp=Z,51nm,0.9s
TNA Tin City 22.65 37 P **P 08 48 31.7 +0.5**
baz=247,SNR=33
ANM Nome 23.32 41 P **P 08 48 38.0 0.0**
ANM pmax pmax
comp=Z,32nm,0.7s
ANM Nome 23.32 41 P **P 08 48 38.0 0.0**
ANM IAmb IAmb 08 48 40.8
comp=Z,32nm,0.7s
ANM Nome 23.32 41 P **P 08 48 38.6 +0.6**
baz=253
TIXI Tiksi 24.32 338 P **P 08 48 46.0 -1.0**
comp=Z,11nm,0.6s,baz=129,slow=9.8,SNR=20
TIXI LR LR 08 59 47.6
comp=Z,201nm,18.9s,baz=220,slow=40
TIXI Tiksi 24.32 338 *ce*P **P 08 48 45.7 -1.4**
TIXI pmax pmax
comp=Z,14nm,0.8s
KSRS Korea Array 25.19 249 P **P 08 48 56.7 +1.4**
comp=Z,1.4nm,0.7s,baz=42,slow=9.7,SNR=4.6
RDOG Red Dog Mine 25.44 34 P P 08 49 08.8 +11
baz=248
BOD Bodaibo 25.93 302 *eP* **P 08 49 01.0 -0.8**
BOD pmax pmax
comp=Z,12nm,1.8s
JNU Nakatsue 26.67 238 P **P 08 49 11.7 +2.9**
GCSA Galena City Sc 26.92 42 P **P 08 49 10.4 -0.3**
baz=262
TTA Tatalina 27.10 46 P **P 08 49 13.0 +0.5**
TTA pmax pmax
comp=Z,26nm,1.1s
TTA Tatalina 27.10 46 P **P 08 49 13.0 +0.5**
TTA Tatalina 27.10 46 P **P 08 49 12.9 +0.5**
baz=266,SNR=15
SVW2 Sparrevohn 27.23 50 P **P 08 49 14.8 +1.1**
O18K Koktuh Hills 27.45 53 P **P 08 49 16.3 +0.8**
O18K IAmb IAmb 08 49 21.1
comp=Z,27nm,0.9s
O18K Koktuh Hills 27.45 53 P **P 08 49 15.9 +0.4**
baz=273
P18K Big Mountain, 27.46 54 P **P 08 49 15.8 +0.2**
baz=274
N19K Bonanza Creek 27.77 51 P **P 08 49 19.4 +0.9**
baz=272
K20K Telida 28.01 46 P **P 08 49 20.2 -0.3**
K20K IAmb IAmb 08 49 22.1
comp=Z,16nm,0.8s
K20K Telida 28.01 46 P **P 08 49 20.9 +0.4**
baz=267
J20K Nowinta River 28.03 44 P **P 08 49 21.1 +0.5**
baz=266,SNR=18
L20K Farewell, AK 28.06 48 P **P 08 49 21.3 +0.4**
baz=269,SNR=5.8
IMAR Indian Mountai 28.39 40 P **P 08 49 23.8 0.0**
A21K Barrow 28.68 29 P **P 08 49 25.9 -0.4**
A21K IAmb IAmb 08 49 27.3
comp=Z,20nm,0.7s
A21K Barrow 28.68 29 P **P 08 49 26.4 +0.1**
baz=250,SNR=5.7
H21K Melozitna Rive 28.74 41 P **P 08 49 26.9 -0.1**
H21K IAmb IAmb 08 49 28.3
comp=Z,23nm,1.0s
H21K Melozitna Rive 28.74 41 P **P 08 49 27.3 +0.3**
baz=264
CHUM Lake Minchumin 28.82 45 P **P 08 49 28.5 +0.9**
baz=268
PPLA Purkeypile 28.85 47 P **P 08 49 28.9 +0.8**
PPLA IAmb IAmb 08 49 31.3
comp=Z,49nm,1.6s
PPLA Purkeypile 28.85 47 P **P 08 49 29.1 +1.0**
baz=270
CAST Castle Rocks 28.90 46 P **P 08 49 29.4 +0.9**
CAST Castle Rocks 28.90 46 P **P 08 49 29.2 +0.8**
baz=269,SNR=9.7
SPU Mount Spurr 28.94 50 P **P 08 49 29.2 +0.4**
KDAK Kodiak Island 29.01 57 P **P 08 49 28.5 -0.8**
comp=Z,16nm,0.8s,baz=324,slow=4.6,SNR=5.0
KDAK LR LR 09 01 56.6
comp=Z,91nm,20.3s,baz=249,slow=38
KDAK Kodiak Island 29.01 57 P **P 08 49 28.6 -0.8**
KDAK pmax pmax
comp=Z,112nm,1.6s
KDAK Kodiak Island 29.01 57 IAmb IAmb 08 49 33.1
comp=Z,112nm,1.6s
I21K Tanana 29.04 42 P **P 08 49 29.9 +0.3**
I21K IAmb IAmb 08 49 31.1
comp=Z,18nm,0.8s
I21K Tanana 29.04 42 P **P 08 49 30.3 +0.8**
baz=266
BPAW Bear Paw Mtn. 29.41 44 P **P 08 49 31.9 -1.0**
baz=269
KTH Kantishna Hill 29.43 45 P **P 08 49 33.7 +0.6**
KTH IAmb IAmb 08 49 34.9
comp=Z,22nm,1.0s
CNPM China Poot 29.48 54 P **P 08 49 33.4 -0.2**
MLY Manley 29.55 42 P **P 08 49 34.1 -0.1**
MLY Manley 29.55 42 P **P 08 49 34.7 +0.5**
baz=267
SUA Susitna One 29.56 50 P **P 08 49 34.3 -0.1**
baz=274
BRSE Bradley Lake S 29.71 53 P **P 08 49 36.0 +0.4**
baz=277
TRF Thorofare Moun 29.71 46 P **P 08 49 36.2 +0.4**
TRF Thorofare Moun 29.71 46 P **P 08 49 36.1 +0.4**
baz=270,SNR=9.3
CUT Chulitna 29.74 48 P **P 08 49 35.8 0.0**
baz=272
COLD Coldfoot 29.95 38 P **P 08 49 37.8 +0.2**
COLD IAmb IAmb 08 49 38.9
comp=Z,24nm,1.0s
COLD Coldfoot 29.95 38 P **P 08 49 38.0 +0.3**
baz=264,SNR=22
RC01 Rabbit Creek A 30.07 50 P **P 08 49 38.7 0.0**
baz=275
BWN Browne 30.08 44 P **P 08 49 40.7 +1.9**
I23K Minto, Yukon-K 30.14 42 P **P 08 49 39.7 +0.4**
I23K Minto, Yukon-K 30.14 42 P **P 08 49 39.9 +0.6**
baz=268,SNR=8.7
NEA2 Nenana 30.25 43 P **P 08 49 40.6 +0.3**
NEA2 IAmb IAmb 08 49 42.5
comp=Z,23nm,0.7s
NEA2 Nenana 30.25 43 P **P 08 49 40.6 +0.3**
baz=270,SNR=13
SEW Seward 30.31 52 P **P 08 49 40.6 -0.2**
baz=277
MCK McKinley 30.31 45 P **P 08 49 40.8 -0.1**
MCK pmax pmax
comp=Z,25nm,1.0s
MCK McKinley 30.31 45 P **P 08 49 40.8 -0.1**
MCK IAmb IAmb 08 49 42.0
comp=Z,25nm,1.0s
MCK McKinley 30.31 45 P **P 08 49 40.9 0.0**
baz=271,SNR=13
PMR Palmer 30.32 49 P **P 08 49 41.2 +0.3**
baz=275
RND Reindeer 30.36 46 P **P 08 49 41.3 -0.1**
RND pmax pmax
comp=Z,24nm,0.8s
RND Reindeer 30.36 46 P **P 08 49 41.3 -0.1**
RND IAmb IAmb 08 49 42.1
comp=Z,24nm,0.8s
WAT1 Susitna Watana 30.52 47 P **P 08 49 42.3 -0.4**
baz=273
MDM Murphy Dome 30.62 43 P **P 08 49 44.0 +0.4**
MDM IAmb IAmb 08 49 45.5
comp=Z,15nm,0.8s
KNK Knik Glacier 30.66 49 P **P 08 49 43.9 -0.1**
baz=276,SNR=8.3
WRH Wood River Hil 30.68 43 P **P 08 49 44.4 +0.4**
WRH IAmb IAmb 08 49 46.1
comp=Z,28nm,0.9s
SML Sawmill 30.68 49 P **P 08 49 44.2 0.0**
baz=275,SNR=17
TCOL CIGO, UAF Yank 30.77 43 P **P 08 49 45.4 +0.6**
baz=270,SNR=11
PWL Port Wells 30.77 51 P **P 08 49 44.4 -0.6**
PWL Port Wells 30.77 51 P **P 08 49 44.6 -0.4**
baz=277
COLA College 30.78 43 *i* P **P 08 49 45.3 +0.4**
COLA pmax pmax
comp=Z,43nm,0.8s
COLA College 30.78 43 P **P 08 49 45.5 +0.6**
baz=270
H24K Noodor Dome 30.78 41 P **P 08 49 45.3 +0.3**
H24K Noodor Dome 30.78 41 P **P 08 49 45.8 +0.8**
baz=269
CCB Clear Creek Bu 30.80 43 P **P 08 49 45.3 +0.2**
CCB IAmb IAmb 08 49 46.4
comp=Z,21nm,0.8s
WAT6 Susitna Watana 30.90 47 P **P 08 49 45.7 -0.6**
baz=274
POKR Poker Plat Res 30.95 42 P **P 08 49 47.1 +0.5**
baz=270,SNR=8.5
DHY Denali Highway 31.04 46 P **P 08 49 47.6 +0.1**
DHY IAmb IAmb 08 49 48.4
comp=Z,51nm,1.7s
DHY Denali Highway 31.04 46 P **P 08 49 47.3 -0.2**
baz=274,SNR=5.3
SCM Sheep Creek Mo 31.16 49 P **P 08 49 48.6 +0.1**
SCM pmax pmax
comp=Z,32nm,1.0s
SCM Sheep Creek Mo 31.16 49 P **P 08 49 48.5 +0.1**
SCM IAmb IAmb 08 49 49.6
comp=Z,32nm,1.0s
SCM Sheep Creek Mo 31.16 49 P **P 08 49 48.5 +0.1**
baz=276,SNR=5.5
HDA Harding Lake 31.17 44 P **P 08 49 48.5 +0.1**
HDA IAmb IAmb 08 49 49.1
comp=Z,17nm,0.6s
HDA Harding Lake 31.17 44 P **P 08 49 47.9 -0.6**
baz=272,SNR=13
IL31 31.19 43 P **P 08 49 48.8 +0.2**
IL31 IAmb IAmb 08 49 49.5
comp=Z,22nm,0.8s
ILAR Eielson Array 31.19 43 P **P 08 49 48.4 -0.2**
comp=Z,18nm,0.8s,baz=260,slow=7.9,SNR=141
M24K Tolsona, Glenn 31.67 48 P **P 08 49 53.5 +0.6**
baz=276
PRP Porcupine Dome 31.75 41 P **P 08 49 54.2 +0.5**
baz=271,SNR=26
J25K Salcha River, 31.85 43 P **P 08 49 53.4 -1.1**
J25K IAmb IAmb 08 49 54.3
comp=Z,13nm,0.8s
KLU Klutina 31.86 49 P **P 08 49 54.9 +0.2**
baz=277
PAX Paxson 31.91 46 P **P 08 49 55.2 +0.1**
baz=275
DIV Divide 31.98 50 P **P 08 49 55.8 +0.1**
DIV IAmb IAmb 08 49 58.2
comp=Z,15nm,0.6s
EYAK Cordova Ski Ar 32.08 51 P **P 08 49 56.6 +0.2**
baz=279
HARP HAARP 32.12 47 P **P 08 49 57.3 +0.5**
baz=277
RIDG Independent Ri 32.13 45 P **P 08 49 56.2 -0.7**
baz=275,SNR=6.0
BMAR Burnt Mountain 32.14 38 P **P 08 49 58.0 +1.0**
H11N2 WAKE ISLAND Hy 32.16 164 T T 09 23 55.5
baz=350,slow=76,SNR=266
H11N3 WAKE ISLAND Hy 32.17 164 T T 09 23 48.9
baz=350,slow=76,SNR=249
H11N1 WAKE ISLAND Hy 32.17 164 T T 09 23 56.8
baz=350,slow=76,SNR=1101
N25K Chitina, Valde 32.48 49 P **P 08 50 00.4 +0.4**
baz=278
DOT Dot Lake 32.48 45 P **P 08 49 59.3 -0.7**
SCRK Sand Creek 32.49 44 P **P 08 49 59.4 -0.7**
baz=275,SNR=18
BMRM Bremner River 32.57 50 P **P 08 50 01.2 +0.4**
baz=279
ULN Ulaanbaatar 32.60 285 *i* P **P 08 50 02.4 +1.1**
ULN pmax pmax
comp=Z,10.0nm,2.5s
L26K Log Cabin Wild 32.87 46 P **P 08 50 03.7 +0.3**
baz=277
SONM Songino Array 33.01 285 P **P 08 50 03.6 -1.3**
comp=Z,1.1nm,0.6s,baz=71,slow=7.3,SNR=3.6
SONM PcP **PcP 08 52 47.6 +0.3**
comp=Z,3.0nm,0.6s,baz=87,slow=2.4,SNR=7.5
VRDI Verde Repeater 33.08 49 P **P 08 50 06.1 +0.7**
VRDI IAmb IAmb 08 50 08.4
comp=Z,13nm,1.0s
M26K Nabesna, AK 33.11 47 P **P 08 50 06.3 +0.8**
M26K IAmb IAmb 08 50 09.6
comp=Z,12nm,0.9s
M26K Nabesna, AK 33.11 47 P **P 08 50 06.7 +1.2**
baz=278
HHC Hu-ho-hao-te 33.23 270 *eP* **P 08 50 07.6 +0.7**
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,150nm,5.7s
HNS HongShan 33.29 263 ⇓P **P 08 50 10.9 +3.7**
H11S1 WAKE ISLAND Hy 33.32 165 T T 09 25 17.3
baz=350,slow=76,SNR=400
H11S3 WAKE ISLAND Hy 33.33 165 T T 09 25 23.1
baz=350,slow=76,SNR=263
H11S2 WAKE ISLAND Hy 33.34 165 T T 09 25 24.7
baz=350,slow=76,SNR=337
L27K Beaver Creek, 33.55 46 P **P 08 50 10.1 +0.8**
L27K Beaver Creek, 33.55 46 P **P 08 50 10.5 +1.2**
baz=278
BCAR Beaver Creek A 33.57 46 P **P 08 50 10.4 +0.9**
M27K Edge Creek, AK 33.63 47 P **P 08 50 11.0 +0.8**
M27K IAmb IAmb 08 50 12.6
comp=Z,20nm,1.2s
M27K Edge Creek, AK 33.63 47 P **P 08 50 11.3 +1.2**
baz=279
EGAK Eagle 33.64 43 P **P 08 50 09.8 -0.2**
EGAK Eagle 33.64 43 P **P 08 50 09.5 -0.5**
baz=276,SNR=21
BARN Barnard Glacie 33.96 49 P **P 08 50 14.1 +1.0**
BARN IAmb IAmb 08 50 15.1
comp=Z,15nm,0.6s
GRNC Granite Creek 33.98 50 P **P 08 50 14.3 +1.0**
MESA MESA 34.00 51 P **P 08 50 14.3 +0.8**
baz=282
BVCY Beaver Creek 34.09 47 P **P 08 50 15.1 +1.1**
baz=280,SNR=13
CTG Chitna Glacier 34.13 49 P **P 08 50 15.5 +0.9**
baz=282,SNR=6.4
CTGM Chitina Glacie 34.14 49 P **P 08 50 15.6 +1.0**
NJ2 Nanjing 34.30 251 *eP* **P 08 50 16.0 -0.1**
BTO Baotou 34.34 271 *eP* **P 08 50 18.3 +1.8**

YUK3 **Moose Creek** 34.39 48 P P 08 50 17.5 +0.6
baz=281
DAWY **Dawson** 34.49 44 P P 08 50 17.8 +0.4
baz=279,SNR=6.1
I29M **Ogilvie Camp,** 34.77 41 P P 08 50 20.2 +0.4
baz=278,SNR=13
PINM **Pinnacle** 34.85 51 P P 08 50 21.3 +0.7
baz=284
EPYK **Eagle Plains** 35.29 39 P P 08 50 24.9 +0.6
EPYK **Eagle Plains** 35.29 39 P P 08 50 25.2 +0.9
baz=278,SNR=12
PNL **Peninsula** 35.37 51 P P 08 50 25.4 +0.4
baz=285
MAYO **Mayo, Yukon** 36.10 44 P P 08 50 32.6 +1.3
baz=282,SNR=12
INK **Inuvik** 36.27 36 P P 08 50 33.5 +0.9
comp=Z,11nm,0.6s,baz=292,slow=6.7,SNR=67
INK **Inuvik** 36.27 36 P P 08 50 33.4 +0.9
baz=278,SNR=15
N31M **Braeburn, Yuko** 36.64 47 P P 08 50 37.4 +1.6
baz=285
NRIK **Noril'sk** 36.72 326 PcP PcP 08 52 58.3 +0.7
comp=Z,1.0nm,0.3s,baz=89,slow=4.1,SNR=3.7
NRIK LR LR 09 06 41.5
comp=Z,120nm,18.7s,baz=80,slow=38
M31M **Drury Creek, Y** 37.09 46 P P 08 50 41.2 +1.5
M31M IAmb IAmb 08 50 42.3
comp=Z,20nm,1.1s
M31M **Drury Creek, Y** 37.09 46 P P 08 50 41.3 +1.6
baz=285,SNR=8.9
WHY **Whitehorse** 37.28 49 P P 08 50 42.9 +1.5
WHY IAmb IAmb 08 50 43.6
comp=Z,11nm,0.7s
WHY **Whitehorse** 37.28 49 P P 08 50 43.2 +1.8
baz=287,SNR=5.2
SKAG **Skagway** 37.42 51 P P 08 50 44.1 +1.7
baz=288
FARO **Faro, Yukon** 37.55 46 P P 08 50 44.8 +1.1
baz=286,SNR=6.4
P33M **Teslin, Yukon** 38.39 49 P P 08 50 52.2 +1.4
baz=289
A36M **Sachs Harbour** 38.51 29 P P 08 50 52.4 +0.9
baz=280,SNR=20
C36M **Paulatuk** 39.45 33 P P 08 50 59.9 +0.6
baz=284,SNR=19
GTA **Gaotai** 41.44 277 *e*P P 08 51 17.3 +1.0
GTA pP sP 08 51 39.1 +1.2
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,89nm,4.6s
GTA LR LR
comp=Z,130nm,15.3s
GTA LR LR
comp=Z,180nm,17.8s
GTA LR LR
comp=Z,120nm,17.8s
WRGLY **Wrigley** 41.56 42 P P 08 51 18.0 +1.2
baz=292
ZALV **Zalesovo Beam** 42.67 303 P P 08 51 25.0 -0.9
comp=Z,2.1nm,0.5s,baz=78,slow=8.2,SNR=4.7
ZALV PcP PcP 08 53 16.9 +0.1
comp=Z,1.2nm,0.5s,baz=62,slow=3.5,SNR=4.8
ZALV LR LR 09 08 50.9
comp=Z,54nm,19.7s,baz=96,slow=36
EUNU **Eureka** 44.17 13 P P 08 51 38.5 +0.7
CD2 **Chengdu** 44.38 264 *e*P P 08 51 37.5 -2.6
YKA **Yellowknife Ar** 45.55 41 P P 08 51 49.6 +0.7
comp=Z,18nm,0.8s,baz=296,slow=7.8,SNR=150
YKA pP pP 08 52 02.6 -1.3
comp=Z,2.4nm,0.6s,baz=294,slow=7.9,SNR=4.7
YKA PcP PcP 08 53 27.0 +0.5
comp=Z,1.6nm,0.9s,baz=308,slow=3.8,SNR=4.0
YKA LR LR 09 12 24.5
comp=Z,42nm,21.9s,baz=308,slow=38
WMQ **Urumqi** 46.30 290 *e*P P 08 51 55.9 +0.8
GOMU **GeErMu** 46.53 277 P P 08 51 54.8 -2.6
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,58nm,4.3s
KURK **Kurchatov** 47.58 302 *ce*P P 08 52 03.1 -1.8
KURK pmax pmax
comp=Z,7.0nm,0.7s
KURK **Kurchatov** 47.58 302 P P 08 52 03.4 -1.5
KURBB **Kurchatov Arra** 47.68 302 P P 08 52 04.0 -1.7
comp=Z,4.0nm,0.6s,baz=61,slow=7.5,SNR=24
KURBB **Kurchatov Arra** 47.68 302 P P 08 52 03.7 -2.0
MK31 **Makanchi Array** 47.74 296 P P 08 52 05.4 -0.9
MK31 pmax pmax
comp=Z,4.0nm,1.3s
MK31 **Makanchi Array** 47.74 296 P P 08 52 05.4 -0.9
MKAR **Makanchi Array** 47.74 296 P P 08 52 05.1 -1.2
comp=Z,1.5nm,0.5s,baz=59,slow=6.9,SNR=25
PZH **PanZhiHua** 48.72 262 P P 08 52 13.6 -0.6
PZH pmax pmax
comp=Z,6.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.6s
SPITS **Spitsbergen Ar** 48.82 350 LR LR 09 13 51.5
comp=Z,83nm,18.9s,baz=300,slow=37
SPITS **Spitsbergen Ar** 48.82 350 P P 08 52 13.6 -0.6
SPITS pmax pmax
comp=Z,41nm,1.3s
SPB2 **Spitsbergen Ar** 48.82 350 P P 08 52 13.6 -0.6
B05A **Bryant** 49.43 60 P P 08 52 20.2 +1.0
baz=306
E04D **Cinebar** 50.17 62 P P 08 52 26.0 +1.2
baz=306
F04D **Rainier, OR** 50.20 63 P P 08 52 25.9 +0.8
baz=307
NEEM **North Greenlan** 50.41 8 *e*P P 08 52 24.5 -2.1
NEEM IAmb IAmb 08 52 27.0
comp=Z,9.5nm,1.0s
BRVK **Borovoye** 50.54 309 *ce*P P 08 52 25.1 -2.4
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK **Borovoye** 50.54 309 P P 08 52 26.9 -0.6
BRVK IAmb IAmb 08 52 27.5
comp=Z,5.4nm,0.6s
B08A **Colville Reser** 50.87 59 P P 08 52 30.7 +0.5
B08A IAmb IAmb 08 52 31.9
comp=Z,16nm,0.9s
F05D **White Salmon** 51.19 62 P P 08 52 33.5 +1.0
baz=307
H04D **Lebanon** 51.30 64 P P 08 52 34.7 +1.4
baz=308
G05D **Wamic, OR** 51.66 63 P P 08 52 37.4 +1.3
baz=308
NEW **Newport** 52.11 58 P P 08 52 40.0 +0.6
baz=308
I05D **Terrebonne, OR** 52.20 64 P P 08 52 41.2 +1.0
baz=308
DAG **Danmarks Havn** 52.34 359 *i*P P 08 52 39.0 -1.6
DAG IAmb IAmb 08 52 40.7
comp=Z,11nm,0.9s
OTUK **Ortayu** 52.35 303 P P 08 52 38.4 -2.8
J04D **Umpqua Nationa** 52.44 65 P P 08 52 43.5 +1.4
baz=309
J05D **Fort Rock, OR** 52.91 65 P P 08 52 47.1 +1.5
baz=309
L04D **Klamath Falls** 52.97 66 P P 08 52 47.5 +1.5
baz=309
M02C **Callahan** 53.17 67 P P 08 52 49.0 +1.7
baz=310
WALA **Waterton Lakes** 53.31 55 P P 08 52 48.6 +0.3
M04C **Macdoel** 53.51 66 P P 08 52 51.4 +1.5
baz=310
N02D **Trinity Center** 53.53 68 P P 08 52 51.8 +1.9
baz=310
O03E **Paynes Creek** 54.49 68 P P 08 52 58.0 +1.0
baz=311,SNR=5.3
AAK **Ala-Archa** 54.68 296 *ce*P P 08 52 59.1 +0.7
AAK pmax pmax
comp=Z,4.0nm,1.7s
MSO **Missoula** 54.69 57 P P 08 52 59.2 +0.7
baz=310,SNR=7.2
ARCES **ARCESS Array B** 54.70 341 P P 08 52 56.8 -1.1
comp=Z,3.2nm,0.9s,baz=38,slow=8.0,SNR=5.6
ARCES LR LR 09 20 22.6
comp=Z,91nm,19.5s,baz=286,slow=40
JAY **Jayapura** 55.42 201 LR LR 09 13 51.2
comp=Z,44nm,22.0s,baz=41,slow=33
KSH **Kashi** 55.85 292 P P 08 53 09.8 +2.9
KSH pmax pmax
comp=Z,3.0nm,1.3s
SUMG **Summit** 56.05 6 *i*P P 08 53 07.0 -1.2
SUMG IAmb IAmb 08 53 09.2
comp=Z,14nm,1.2s
EGMT **Eagleton** 56.10 54 P P 08 53 08.9 +0.4
baz=311
KIRV **Kirov** 56.12 323 LR LR 09 19 05.4
comp=Z,140nm,21.1s,baz=42,slow=38
KIRV **Kirov** 56.12 323 *ce*P P 08 53 08.0 -0.3
CHTO **Chiang Mai** 56.13 258 P P 08 53 09.2 +0.3
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO **Chiang Mai** 56.13 258 P P 08 53 09.2 +0.3
CHTO IAmb IAmb 08 53 23.9
comp=Z,10nm,0.8s
CMAR **Chiang Mai Arr** 56.40 257 P P 08 53 11.0 +0.1
comp=Z,3.5nm,0.5s,baz=25,slow=7.1,SNR=18
CMAR pP pP 08 53 25.1 -1.3
comp=Z,4.6nm,0.5s,baz=32,slow=7.0,SNR=4.8
CMAR LR LR 09 20 28.0
comp=Z,52nm,19.6s,baz=135,slow=39
SIJI **Sorong** 56.52 212 LR LR 09 13 16.3
comp=Z,34nm,21.2s,baz=336,slow=32
HLID **Hailey** 56.55 61 P P 08 53 13.1 +1.2
baz=311,SNR=7.4
BOZ **Bozeman (W)** 56.71 57 P P 08 53 14.0 +1.1
baz=311,SNR=8.6
YERR **Yerington** 56.84 68 P P 08 53 15.2 +1.2
YERR IAmb IAmb 08 53 16.5
comp=Z,7.7nm,0.8s
GCMT **Greycliff** 57.62 56 P P 08 53 20.7 +1.4
NVAR **Mina Array Bea** 57.76 67 P P 08 53 22.1 +1.5
comp=Z,7.5nm,0.6s,baz=299,slow=7.4,SNR=70
AB31 **Akbulak array** 57.98 310 *i*P P 08 53 18.6 -3.0
ABKAR **Akbulak array** 57.98 310 P P 08 53 19.4 -2.2
ABKAR **Akbulak array** 57.98 310 P P 08 53 19.1 -2.5
ABKAR IAmb IAmb 08 53 22.1
comp=Z,3.0nm,0.9s
MLAC **Mammoth, Mammo** 57.98 68 P P 08 53 23.6 +1.5
baz=313
H17A **Grant Village** 58.07 58 P P 08 53 25.6 +2.9
baz=312,SNR=13
RLMT **Red Lodge** 58.27 56 P P 08 53 25.6 +1.6
baz=313,SNR=11
DGMT **Dagmar** 58.57 51 P P 08 53 26.6 +0.8
baz=313
TIN **Tinemaha, Big** 58.73 69 P P 08 53 28.6 +1.4
baz=313
LAO **LASA Array** 58.78 53 P P 08 53 28.6 +1.3
baz=313,SNR=6.1
SMMC **Simmler** 58.87 71 P P 08 53 29.4 +1.3
baz=314
VES **Vestal, Richgr** 59.05 70 P P 08 53 29.9 +0.7
baz=314
CWC **Cottonwood Cre** 59.23 69 P P 08 53 31.9 +1.2
baz=314
PKM **Mcpherson Peak** 59.27 71 P P 08 53 32.1 +1.0
baz=314
R11A **Troy Canyon, C** 59.38 66 P P 08 53 32.7 +1.0
baz=313,SNR=15
ICESG **Greenland Ices** 59.39 7 *e*P P 08 53 30.3 -1.2
ISA **Isabella, Lake** 59.53 70 P P 08 53 33.0 +0.3
baz=314
SPR3 **Spring Creek 3** 59.65 64 P P 08 53 35.6 +1.8
SPR3 IAmb IAmb 08 53 36.8
comp=Z,12nm,0.8s
DUG **Dugway, Tooele** 59.69 63 P P 08 53 34.8 +1.0
DUG pmax pmax
comp=Z,9.0nm,0.9s
DUG **Dugway, Tooele** 59.69 63 P P 08 53 34.8 +1.0
DUG IAmb IAmb 08 53 36.3
comp=Z,9.0nm,0.9s
DUG **Dugway, Tooele** 59.69 63 P P 08 53 35.4 +1.5
baz=313,SNR=9.2
BW06 **Boulder Array** 59.72 58 P P 08 53 35.2 +1.1
baz=314,SNR=14
PDAR **Pinedale Array** 59.72 58 P P 08 53 35.2 +1.1
comp=Z,7.8nm,0.8s,baz=318,slow=2.8,SNR=56
PDAR pP pP 08 53 49.5 -0.1
comp=Z,1.6nm,0.5s,baz=303,slow=1.4,SNR=6.9
MPMC **Manual Prospec** 59.84 69 P P 08 53 36.1 +1.1
baz=314,SNR=6.7
FRB **Frobisher Bay** 59.84 22 LR LR 09 21 52.8
comp=Z,46nm,19.0s,baz=310,slow=38
TPNV **Topopah Spring** 59.95 67 P P 08 53 36.9 +1.2
baz=314,SNR=11
LRMC **Laurel Mtn Rad** 60.13 70 P P 08 53 37.3 +0.5
baz=314
SFJD **Kangerlussuaq** 60.23 12 LR LR 09 23 09.7
comp=Z,57nm,18.4s,baz=305,slow=40
EDW2 **Edwards Air Fo** 60.35 70 P P 08 53 39.4 +1.0
baz=314,SNR=6.1
HNR **Honiara** 60.36 178 LR LR 09 16 21.7
comp=Z,55nm,21.0s,baz=5.5,slow=32
DECC **Green Verdugo** 60.59 71 P P 08 53 40.9 +1.0
baz=314
SHOC **Shoshone, Teco** 60.66 68 P P 08 53 41.3 +0.9
baz=314
GSC **Goldstone, Bar** 60.77 69 P P 08 53 42.2 +1.1
baz=314,SNR=6.5
BFSC **Mount Baldy Ra** 61.00 71 P P 08 53 43.5 +0.7
baz=314
PMG **Port Moresby** 61.01 192 LR LR 09 14 55.2
comp=Z,30nm,20.4s,baz=15,slow=31
CIS **Catalina Islan** 61.13 72 P P 08 53 44.2 +0.6
baz=315
ULM **Lac du Bonnet** 61.19 45 P P 08 53 44.1 +0.4
comp=Z,4.1nm,0.5s,baz=307,slow=5.4,SNR=5.0
ULM **Lac du Bonnet** 61.19 45 IAmb IAmb 08 53 44.9
comp=Z,13nm,1.2s
TUQ **Turquoise Moun** 61.19 68 P P 08 53 45.1 +1.0
baz=314,SNR=5.8
FINES **FINESS Array B** 61.34 336 P P 08 53 42.9 -1.6
comp=Z,0.8nm,0.3s,baz=45,slow=5.5,SNR=16
HEC **Hector,Ludlow** 61.37 69 P P 08 53 46.2 +1.0
baz=315
K22A **Casper** 61.41 57 P P 08 53 46.3 +0.7
baz=315
RSSD **Black Hills** 61.67 54 P P 08 53 48.1 +0.8
baz=315
MURC **Murrieta** 61.72 71 P P 08 53 48.3 +0.7
baz=315
GMRC **Granite Mounta** 61.80 69 P P 08 53 49.2 +1.0
baz=315,SNR=11
BELC **Belle Mtn. Jos** 62.15 70 P P 08 53 50.9 +0.3
baz=315,SNR=5.1
PFO **Pinyon Flats O** 62.15 70 P P 08 53 51.0 +0.4
baz=315
TPFO **Pinon Flats** 62.16 70 P P 08 53 51.0 +0.4
baz=315
O20A **White River Ci** 62.26 60 P P 08 53 51.8 +0.5
baz=315
109C **Camp Elliot, M** 62.27 71 P P 08 53 51.8 +0.5
baz=315
IRM **Iron Mountain** 62.54 69 P P 08 53 54.2 +1.2
baz=315,SNR=11
AGMN **Agassiz Nation** 62.61 46 P P 08 53 53.3 0.0
baz=317
BC3 **Big Chuckawall** 62.71 70 P P 08 53 55.1 +0.8
baz=315
N23A **Red Feather La** 62.96 58 P P 08 53 57.3 +1.2
baz=316,SNR=6.3
SWSC **Sam W. Stewart** 63.01 70 P P 08 53 56.8 +0.7
baz=315
PDMCI **Parker Dam,Lak** 63.03 68 P P 08 53 56.9 +0.7
baz=315
OBN **Obninsk** 63.39 327 LR LR 09 23 17.6
comp=Z,22nm,20.8s,baz=1.5,slow=38
OBN **Obninsk** 63.39 327‖ *e*P P 08 53 59.2 +1.0
OBN *PP pP 08 54 16.0 +2.1
OBN 08 54 36.0
OBN S S 09 02 30.0 +4.0
OBN pmax pmax
comp=Z,5.0nm,1.1s
OBN MLR MLR
comp=Z,57nm,17.0s
GLA **Glamis** 63.51 70 P P 08 54 00.6 +1.1
baz=316
WUAZ **Wupatki** 63.77 65 P P 08 54 02.9 +1.6
baz=316
ISCO **Idaho Springs** 63.91 58 P P 08 54 04.0 +1.5
baz=316,SNR=8.9
MVCO **Mesa Verde** 64.19 62 P P 08 54 05.1 +1.0
baz=316,SNR=5.8
S22A **4UR Ranch, Cre** 64.73 61 P P 08 54 09.4 +1.6
baz=316,SNR=8.9
Q24A **Divide** 64.77 59 P P 08 54 08.9 +0.9
baz=317
NC303 **NORSAR Array S** 64.80 343 P P 08 54 06.6 -0.8
OGNE **Ogallala** 64.98 55 P P 08 54 10.1 +1.1
baz=317
W18A **Petrified Fore** 64.99 65 P P 08 54 10.4 +1.1
baz=316
NB2 **NORSAR Subarra** 65.00 343 P P 08 54 07.5 -1.3
comp=Z,2.1nm,0.6s,baz=25,slow=6.9
NOA **NORSAR Array B** 65.00 343 P P 08 54 07.6 -1.2
comp=Z,2.6nm,0.8s,baz=22,slow=6.6,SNR=11
SDCO **Great Sand Dun** 65.46 60 P P 08 54 13.6 +1.1
baz=317,SNR=6.0
214A **Organ Pipe Nat** 65.48 69 P P 08 54 13.5 +1.1
baz=316,SNR=5.5
ECSD **EROS Data Cent** 65.64 50 P P 08 54 13.3 +0.1
baz=318,SNR=8.2
SPMN **Marine on St.** 66.31 47 P P 08 54 17.4 -0.1
baz=320
TUC **Tucson** 66.41 67 P P 08 54 19.5 +1.1
baz=317
T25A **Trinidad** 66.49 60 P P 08 54 19.9 +0.8
baz=317
BGNE **Belgrade** 66.61 53 P P 08 54 19.6 +0.1
baz=318
ANMO **Albuquerque** 66.97 63 *ce*P P 08 54 23.5 +1.5
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO **Albuquerque** 66.97 63 P P 08 54 23.1 +1.1
baz=317
CBKS **Cedar Bluff** 67.74 56 P P 08 54 26.3 -0.3
baz=319
SCHQ **Schefferville** 68.02 26 P P 08 54 28.0 -0.1
comp=Z,13nm,0.8s,baz=337,slow=6.5,SNR=20
SCIA **State Center** 68.65 49 P P 08 54 32.9 +0.6
SCIA **State Center** 68.65 49 P P 08 54 32.6 +0.3
baz=320,SNR=6.8
AKASG **Malin Array Be** 69.54 328 P P 08 54 36.1 -1.5
comp=Z,0.9nm,0.3s,baz=31,slow=6.2,SNR=12
AKASG LR LR 09 27 46.5
comp=Z,67nm,20.1s,baz=47,slow=38
AKASG **Malin Array Be** 69.54 328 *ce*P P 08 54 36.2 -1.4
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AMTX **Amarillo** 69.64 60 P P 08 54 39.2 +0.6
baz=319
MSTX **Muleshoe** 69.73 61 P P 08 54 39.7 +0.5
baz=319
KBZ **Khabaz** 69.97 316 *ce*P P 08 54 39.9 -0.4
MNTX **Cornudas Mount** 69.97 64 P P 08 54 41.6 +1.0
baz=319,SNR=9.0
GLMI **Grayling** 70.23 42 P P 08 54 41.6 -0.4
baz=324
WMOK **Wichita Mounta** 71.31 58 P P 08 54 49.0 +0.3
baz=320,SNR=8.9
HDIL **Hopedale** 71.56 48 P P 08 54 49.6 -0.4
baz=323
CTA **Charters Tower** 71.65 191 LR LR 09 23 43.7
comp=Z,21nm,19.0s,baz=84,slow=34
TUL1 **Leonard** 71.98 55 P P 08 54 52.7 0.0
baz=321
ABTX **Abilene, Hawle** 72.46 60 P P 08 54 56.0 +0.4
baz=320,SNR=5.3
SADO **Sadowa** 72.51 39 LR LR 09 28 14.2
comp=Z,67nm,18.8s,baz=240,slow=37
CCM **Cathedral Cave** 72.60 51 P P 08 54 55.9 -0.4
baz=322
AAM **Ann Arbor** 72.68 43 P P 08 54 56.5 -0.3
baz=325
SFIN **Lafayette** 72.71 46 P P 08 54 56.4 -0.6
baz=324
TX31 **Lajitas Ar. Si** 72.71 65 P P 08 54 58.4 +1.1
TX32 **Lajitas Array** 72.71 65 P P 08 54 58.1 +0.8
TX32 IAmb IAmb 08 54 59.2
comp=Z,14nm,0.7s
TXAR **Lajitas Array** 72.71 65 P P 08 54 58.2 +0.9
comp=Z,15nm,0.7s,baz=297,slow=4.8,SNR=195
TXAR **Lajitas Array** 72.71 65 P P 08 54 58.4 +1.1
TXAR **Lajitas Array** 72.71 65 P P 08 54 58.4 +1.1
ESK **Eskdalemuir** 72.73 349 P P 08 54 56.6 -0.2
ESK pmax pmax
comp=Z,162nm,1.9s
ESK **Eskdalemuir** 72.73 349 P P 08 54 56.6 -0.2
MILM **Milestii Mici** 72.92 326 ⇓S SKiKP 09 04 29.9 +4.6
IAS **Iasi** 73.12 327 ⇓S S 09 04 14.3 -7.8
U40A **Yellville** 73.13 53 P P 08 54 58.9 -0.7
baz=322
WB0 **Warramunga Arr** 73.55 203 P P 08 55 02.2 +0.2
WRA **Warramunga Arr** 73.73 203 P P 08 55 03.0 0.0
comp=Z,1.5nm,0.6s,baz=15,slow=6.3,SNR=11
WRA pP PcP 08 55 16.8 -1.7
comp=Z,4.3nm,0.7s,baz=18,slow=6.3,SNR=19
WRA LR LR 09 24 24.2
comp=Z,42nm,21.9s,baz=12,slow=33
WRA **Warramunga Arr** 73.73 203 P P 08 55 03.1 0.0
FCAR **Ozark Folk Cen** 73.86 53 P P 08 55 03.1 -0.7
FCAR IAmb IAmb 08 55 04.0
comp=Z,14nm,0.5s
JCT **Junction City** 74.01 61 P P 08 55 05.2 +0.3
baz=320,SNR=9.7
WHTX **Lake Whitney,** 74.13 59 P P 08 55 05.6 +0.2
baz=321
MIAR **Mount Ida** 74.18 54 P P 08 55 05.6 -0.1
MIAR pmax pmax
comp=Z,16nm,1.4s
MIAR **Mount Ida** 74.18 54 P P 08 55 05.6 -0.1
MIAR IAmb IAmb 08 55 06.8
comp=Z,16nm,1.4s
MIAR **Mount Ida** 74.18 54 P P 08 55 05.6 -0.1
baz=322
W41B **Gary Mavity, V** 74.36 53 P P 08 55 06.5 -0.3
baz=322,SNR=6.2
ERPA **Erie** 74.38 41 P P 08 55 06.3 -0.4
baz=327
LONY **Lake Ozonia** 74.38 36 P P 08 55 05.5 -1.3
baz=329
P49A **Miami Univ. Ec** 74.47 45 P P 08 55 06.6 -0.7
baz=325
X40A **Basin Creek Fa** 74.61 54 P P 08 55 08.2 0.0
baz=322
M53A **WI Miller and** 74.66 42 P P 08 55 08.5 +0.1
baz=326,SNR=7.0
ACSO **Alum Creek Sta** 74.67 44 P P 08 55 08.0 -0.4
baz=326
WCI **Wyandotte Cave** 74.81 47 P P 08 55 09.1 -0.1
baz=324
M54A **Oil Creek Stat** 75.02 41 P P 08 55 10.3 -0.2
baz=327,SNR=5.4
MLR **Muntele Rosu** 75.15 327 P P 08 55 11.9 +0.6
MLR pmax pmax
comp=Z,11nm,1.5s
MLR **Muntele Rosu** 75.15 327 P P 08 55 11.9 +0.6
N54A **Moraine State** 75.34 41 P P 08 55 11.9 -0.4
N54A **Moraine State** 75.34 41 P P 08 55 12.3 0.0
baz=327,SNR=7.5
O53A **New Philadelph** 75.42 43 P P 08 55 12.5 -0.3
baz=326
M55A **Ridgway** 75.42 40 P P 08 55 12.8 0.0
P52A **Corning** 75.53 44 P P 08 55 12.6 -0.8
baz=326
GERES **GERESS Array B** 75.76 336 P P 08 55 14.0 -0.7
comp=Z,1.2nm,0.4s,baz=36,slow=6.3,SNR=12
WVT **Waverly** 75.78 50 P P 08 55 14.9 0.0
baz=324
NATX **Nacogdoches** 75.80 57 P P 08 55 15.6 +0.6
baz=322
BINY **Binghamton** 75.91 38 P P 08 55 15.2 -0.4
baz=329
M57A **Sunshine Farm,** 76.19 39 P P 08 55 16.9 -0.3
BMRD **Maredsous** 76.36 343 P P 08 55 16.0 -1.9
comp=Z,5.5nm,0.9s
SSPA **Standing Stone** 76.48 40 P P 08 55 18.6 -0.3
baz=328
MCWV **Mont Chateau** 76.49 42 P P 08 55 18.6 -0.2
baz=327
O56A **Blue Knob Stat** 76.51 41 P P 08 55 18.7 -0.3
baz=328
N59A **State Game Lan** 77.09 39 P P 08 55 21.9 -0.3
baz=329
BRTR **Keskin Array B** 77.20 319 P P 08 55 21.4 -1.7
comp=Z,0.8nm,0.5s,baz=42,slow=4.1,SNR=5.8
BRTR **Keskin Array B** 77.20 319 *ce*P P 08 55 21.7 -1.4
BRTR pmax pmax
comp=Z,1.0nm,0.5s
ASAR **Alice Springs** 77.41 202 P P 08 55 24.9 +0.8
comp=Z,0.9nm,0.6s,baz=16,slow=5.4,SNR=14
ASAR pP PcP 08 55 38.3 +4.0
comp=Z,3.6nm,0.7s,baz=15,slow=5.4,SNR=20
ASAR LR LR 09 31 49.9
comp=Z,31nm,18.8s,baz=33,slow=37

SOKA	**Soboth**	**77.42**	**335**	*e*P	**P**	**08 55 24.1**	**0.0**
	comp=Z,2.3nm,0.6s						
TZTN	**Tazewell**	**77.44**	**46**	P	**P**	**08 55 24.4**	**+0.1**
	baz=326						
KBA	**Koelnbreinsper**	**77.49**	**336**	*e*P	**P**	**08 55 25.6**	**+1.0**
	comp=Z,7.9nm,0.6s						
PAL	**Palisades**	**77.74**	**37**	P	**P**	**08 55 25.9**	**+0.1**
	baz=330						
WSAR	**Wadi Sarin**	**77.75**	**292**	LR	LR	09 32 40.6	
	comp=Z,76nm,20.3s,baz=138,slow=38						
ABTA	**Abfaltersbach**	**78.01**	**336**	*e*P	**P**	**08 55 27.8**	**+0.5**
	comp=Z,3.2nm,0.6s						
P60A	**Greenville**	**78.09**	**39**	P	**P**	**08 55 27.8**	**0.0**
	baz=329						
FETA	**Feichten**	**78.19**	**338**	*e*P	**P**	**08 55 28.7**	**+0.2**
	comp=Z,0.6nm,0.4s						
BLA	**Blacksburg**	**78.29**	**44**	P	**P**	**08 55 28.8**	**-0.2**
	baz=327						
KMSC	**Kings Mountain**	**79.61**	**46**	P	**P**	**08 55 35.9**	**-0.3**
	baz=327						
TIGA	**Tifton**	**81.63**	**49**	P	**P**	**08 55 47.4**	**+0.3**
	baz=326						
STKA	**Stephens Creek**	**83.89**	**194**	pP	**pP**	**08 56 13.2**	**-1.5**
	comp=Z,3.9nm,1.0s,baz=17,slow=10,SNR=5.5						
STKA				LR	LR	09 30 00.9	
	comp=Z,24nm,21.0s,baz=22,slow=33						
RAYN	**Ar Rayn**	**84.91**	**302**	P	**P**	**08 56 03.2**	**-1.0**
RAYN				pmax	pmax		
	comp=Z,13nm,0.7s						
RAYN	**Ar Rayn**	**84.91**	**302**	P	**P**	**08 56 03.2**	**-1.0**
RAYN				IAmb	IAmb	08 56 04.2	
	comp=Z,13nm,0.7s						
ESDC	**Sonseca Array**	**88.16**	**346**	P	**P**	**08 56 18.9**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=2.2,slow=4.2,SNR=9.9						
ESDC	**Sonseca Array**	**88.16**	**346**	P	**P**	**08 56 19.4**	**-0.4**
KEST	**Kesra**	**89.16**	**335**	P	**P**	**08 56 25.5**	**+0.9**
	comp=Z,7.2nm,0.6s,baz=321,slow=4.3,SNR=9.8						
KEST	**Kesra**	**89.16**	**335**	P	**P**	**08 56 23.5**	**-1.1**
KEST				IAmb	IAmb	08 56 26.2	
	comp=Z,8.0nm,0.7s						
H03N2	**Juan Fernandez**	**135.62**	**89**	T	T	11 33 20.3	
	baz=314,slow=77,SNR=1605						
H03N1	**Juan Fernandez**	**135.64**	**89**	T	T	11 33 21.6	
	baz=314,slow=77,SNR=895						
H03N3	**Juan Fernandez**	**135.64**	**89**	T	T	11 33 20.9	
	baz=314,slow=77,SNR=1303						
PLCA	**Paso Flores**	**145.37**	**92**	PKPbc	**PKPdf**	**09 03 06.4**	**+0.3**
	comp=Z,9.3nm,0.9s,baz=291,slow=4.7,SNR=22						
PLCA	**Paso Flores**	**145.37**	**92**	PKPdf	**PKPdf**	**09 03 06.2**	**+0.1**

IDC 21 09:12:59.9±6.7, 33°.97S×58°.16E, h0km, mb3.3/1, mb1 3.5/1, mb1mx3.1/56, mbtmp3.3/1 Error ellipse: s-maj=402.5km s-min=60.4km az=34.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**65.81**	**103**		P	P	09 23 47.4	+0.1
	0.2nm,0.7s,baz=244,slow=5.6,SNR=2.0						
ILAR	**Eielson Array**	**145.60**	**19**	PKPbc	PKPdf	09 32 38.3	-0.9
	0.5nm,0.9s,baz=325,slow=4.5,SNR=5.2						
YKA	**Yellowknife Ar**	**151.09**	**353**	PKPbc	PKPbc	09 32 54.0	-0.1
	0.6nm,1.0s,baz=353,slow=2.1,SNR=6.2						

*IDC **21** 09:14:21.1±0.6, 13°.90N×145°.07E, h130km±4km, mb3.4/7, mb1 3.6/7, mb1mx3.3/59, mbtmp3.7/7, Error ellipse: s-maj=42.0km s-min=15.8km az=105.0*
*NEIC **21** 09:14:22.4±1.4, 13°.9N±0°.1×145°.1E±0°.2, h134km±7km, mb4.1/11, Error ellipse: s-maj=24.5km s-min=11.1km az=115.0*

ISC 21 09:14:21.2±0.7, 13°.9N±0°.1×145°.2E±0°.1, h125km, n20, σ1§34/20, mb3.8/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.46**	**220**		**Pn**	**09 14 41.3**	**+1.8**
	718nm,0.3s,baz=293,slow=2.0,SNR=361						
GUMO				S	**Sn**	**09 14 54.8**	**+1.6**
	877nm,0.3s,baz=243,slow=12,SNR=26						
GUMO	**Guam**	**0.46**	**220**		**Pn**	**09 14 41.4**	**+1.9**
PATS	**Pohnpei**	**14.72**	**117**	P	**P**	**09 17 46.1**	**-0.2**
FAKI	**Fak Fak**	**21.09**	**218**	P	**P**	**09 18 55.9**	**-0.1**
WB0	**Warramunga Arr**	**35.14**	**198**	P	**P**	**09 21 01.2**	**-1.8**
WB0				IAmb	IAmb	09 21 20.4	
	comp=Z,6.5nm,1.5s						
WRAB	**Tennant Creek**	**35.30**	**198**	P	**P**	**09 21 03.6**	**-0.9**
WRAB				IAmb	IAmb	09 21 14.8	
	comp=Z,3.9nm,0.5s						
WB2	**Warramunga Arr**	**35.31**	**198**	P	**P**	**09 21 02.9**	**-1.7**
WB2				IAmb	IAmb	09 21 03.8	
	comp=Z,3.5nm,0.8s						
WRA	**Warramunga Arr**	**35.32**	**198**	P	**P**	**09 21 03.0**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=19,slow=9.1,SNR=12						
WRA	**Warramunga Arr**	**35.32**	**198**	IAmb	IAmb	09 21 08.2	
	comp=Z,0.2nm,1.4s						
AS31	**Alice Springs**	**38.97**	**197**	P	**P**	**09 21 34.7**	**-0.7**
AS31				IAmb	IAmb	09 21 57.4	
	comp=Z,0.8nm,1.1s						
ASAR	**Alice Springs**	**38.97**	**197**	P	**P**	**09 21 34.0**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=19,slow=12,SNR=12						
DZM	**Mont Dzumac**	**41.43**	**149**	P	**P**	**09 21 56.9**	**+1.1**
STKA	**Stephens Creek**	**45.69**	**184**	P	**P**	**09 22 28.5**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=26,slow=7.1,SNR=5.1						
BBOO	**Buckleboo**	**47.30**	**190**	P	**P**	**09 22 41.3**	**-0.9**
BBOO				IAmb	IAmb	09 22 46.6	
	comp=Z,12nm,1.3s						
MK31	**Makanchi Array**	**61.44**	**316**	P	**P**	**09 24 24.5**	**0.0**
MK31				IAmb	IAmb	09 24 39.2	
	comp=Z,1.1nm,1.3s						
MKAR	**Makanchi Array**	**61.44**	**316**	P	**P**	**09 24 24.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=91,slow=8.5,SNR=5.0						
IL31		**68.13**	**25**	P	**P**	**09 25 06.5**	**-1.0**
IL31				IAmb	IAmb	09 25 24.3	
	comp=Z,5.6nm,1.5s						
ILAR	**Eielson Array**	**68.13**	**25**	P	**P**	**09 25 06.0**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=251,slow=5.7,SNR=14						
YKA	**Yellowknife Ar**	**82.41**	**27**	P	**P**	**09 26 28.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=285,slow=5.2,SNR=5.8						
NVAR	**Mina Array Bea**	**86.47**	**51**	P	**P**	**09 26 52.2**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=253,slow=7.0,SNR=5.7						

*NEIC **21** 09:22:22.5±2.8, 34°.37N±0°.04×24°.71E±0°.07, h10km±1km, mb4.3/30, ML4.0(ATH), Error ellipse: s-maj=9.9km s-min=5.1km az=111.0*
*HLW **21** 09:22:24.2, 34°.45N×24°.89E, h22km±29km, Md4.8, Ml4.4*
*ISK **21** 09:22:25.3, 34°.35N×24°.60E, h88km, ML4.1/21*
*THE **21** 09:22:27.5, 34°.29N×24°.64E, h59km±6km, ML3.8/7, Error ellipse: s-maj=6.8km s-min=1.0km az=346.0*
*DDA **21** 09:22:28.8±0.0, 34°.75N×25°.11E, h9km±2km, MW4.0*
*IDC **21** 09:22:29.9±1.5, 34°.58N×24°.62E, h74km±6km, mb4.0/21, mb1 4.0/27, mb1mx3.9/54, mbtmp4.3/27, MS2.8/1, Ms1 2.8/1, ms1mx2.3/93, Error ellipse: s-maj=22.2km s-min=12.9km az=170.0*
*TIR **21** 09:22:29.3, 34°.72N×22°.95E, h16km±73km, Md4.8*
*GII **21** 09:22:33.0±0.3, 34°.19N×25°.42E, h54km, mb4.0/2, MD3.7/6, Mm3.9/3*

ISC 21 09:22:26.6±0.7, 34°.39N±0°.05×24°.82E±0°.04, h51km±6km, n238, σ2§41/290, mb4.3/36, 6C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.62**	**359**	P	**Pn**	**09 22 40.8**	**+1.4**
SIVA				S	**Sn**	**09 22 50.3**	**+1.6**
TMBK	**Timbaki Herakl**	**0.68**	**356**	P	**Pn**	**09 22 41.9**	**+1.8**
TMBK				S	**Sn**	**09 22 53.3**	**+3.4**
	7μm,0.4s						
GVD	**Gavdhos**	**0.75**	**307**	P	**Pn**	**09 22 41.4**	**+0.3**
GVD				S	**Sn**	**09 22 52.2**	**+0.6**
	9μm,0.3s						
GVD	**Gavdhos**	**0.75**	**307**	PG	**Pn**	**09 22 41.7**	**+0.6**
GVD				SG	**Sn**	**09 22 53.4**	**+1.8**
GVDS	**Gavdos**	**0.75**	**307**	P	**Pn**	**09 22 41.6**	**+0.5**
GVDS	**Gavdos**	**0.75**	**307**	PG	**Pn**	**09 22 41.8**	**+0.7**
GVDS				SG	**Sn**	**09 22 52.9**	**+1.3**
IDI	**Anoyia**	**0.90**	**4**	P	**Pn**	**09 22 45.0**	**+2.0**
	127nm,0.3s,baz=206,slow=15,SNR=698						
IDI				S	**Sn**	**09 22 58.7**	**+3.6**
	374nm,0.3s,baz=314,slow=18,SNR=18						
IDI				LR	LR	09 23 15.1	
	comp=Z,163nm,18.5s,baz=290,slow=61						
IDI	**Anoyia**	**0.90**	**4**	P	**Pn**	**09 22 45.1**	**+2.0**
IDI				S	**Sn**	**09 22 59.1**	**+4.0**
	3μm,0.5s						
KSTL	**Kastelli Herak**	**0.93**	**13**	P	**Pn**	**09 22 45.9**	**+2.4**
KSTL				S	**Sn**	**09 23 00.6**	**+4.8**
IACM	**Heraklion**	**0.93**	**13**	P	**Pn**	**09 22 46.0**	**+2.5**
FRMA	**Ierapetra Chan**	**0.97**	**50**	P	**Pn**	**09 22 48.2**	**+4.2**
FRMA				S	**Sn**	**09 23 04.4**	**+7.6**
PRNS	**Prines Rethymn**	**1.00**	**345**	P	**Pn**	**09 22 46.0**	**+1.6**
PRNS				S	**Sn**	**09 23 00.3**	**+2.7**
	3μm,0.5s						
NPS	**Neapolis**	**1.08**	**37**	P	**Pn**	**09 22 48.8**	**+3.3**
NPS				S	**Sn**	**09 23 04.8**	**+5.3**
	3μm,0.6s						
VAM	**Vamos**	**1.13**	**333**	P	**Pn**	**09 22 47.6**	**+1.4**
VAM				S	**Sn**	**09 23 02.8**	**+2.1**
	5μm,0.3s						
KNDR	**Palaiochora Ch**	**1.26**	**312**	PN	**Pn**	**09 22 48.2**	**+0.4**
KNDR				SN	**Sn**	**09 23 04.9**	**+1.3**
IMMV	**Iera Moni Meta**	**1.27**	**327**	P	**Pn**	**09 22 49.3**	**+1.3**
IMMV	**Iera Moni Meta**	**1.27**	**327**	PN	**Pn**	**09 22 49.3**	**+1.3**
IMMV				SN	**Sn**	**09 23 05.3**	**+1.3**
ZKR	**Zakros**	**1.36**	**58**	P	**Pn**	**09 22 52.3**	**+3.1**
ZKR				S	**Sn**	**09 23 11.7**	**+5.6**
ZKR	**Zakros**	**1.36**	**58**	PN	**Pn**	**09 22 52.7**	**+3.5**
ZKR				SN	**Sn**	**09 23 12.3**	**+6.2**
SANT	**Santorini**	**2.04**	**15**	PN	**Pn**	**09 23 00.1**	**+1.5**
SANT	**Santorini**	**2.04**	**15**	Pn	**Pn**	**09 22 59.6**	**+1.0**
SANT				Sn	**Sn**	**09 23 23.5**	**+0.6**
SANT	**Santorini**	**2.04**	**15**	P	**Pn**	**09 22 59.6**	**+1.0**
SANT				S	**Sn**	**09 23 23.2**	**+0.3**
SLUM	**Salum**	**2.91**	**173**	P	**Pn**	**09 23 10.8**	**+0.4**
	baz=174						
NIS1	**Nisyros Isl.**	**2.93**	**40**	PN	**Pn**	**09 23 13.1**	**+2.4**
KOSK	**Kos Island**	**2.94**	**36**	PN	**Pn**	**09 23 12.9**	**+2.1**
DAT	**Datca**	**3.24**	**43**	PN	**Pn**	**09 23 17.4**	**+2.4**
ARG	**Arkhangelos**	**3.26**	**55**	PN	**Pn**	**09 23 18.1**	**+2.9**
BODT	**Bodrum**	**3.35**	**37**	PN	**Pn**	**09 23 18.5**	**+2.0**
BODT	**Bodrum**	**3.35**	**37**	SPECP		09 23 18.0	
BODT				P	**Pn**	**09 23 18.4**	**+2.0**
BODT				S	**Sn**	**09 23 54.6**	**-0.3**
DDIM	**Aydin, Didim**	**3.63**	**32**	SPECP		09 23 21.0	
DDIM				P	**Pn**	**09 23 21.9**	**+1.5**
DDIM				S	**Sn**	**09 24 02.3**	**+0.3**
ITM	**Ithomi**	**3.64**	**321**	PN	**Pn**	**09 23 19.8**	**-0.7**
ITM	**Ithomi**	**3.64**	**321**	Pn	**Pn**	**09 23 20.3**	**-0.2**
ITM				Sn	**Sn**	**09 24 00.2**	**-2.0**
MATC	**Matruh**	**3.65**	**146**	P	**Pn**	**09 23 20.4**	**-0.2**
	baz=146						
TURN	**Turunc**	**3.67**	**49**	PN	**Pn**	**09 23 23.3**	**+2.5**
TURN	**Turunc**	**3.67**	**49**	P	**Pn**	**09 23 23.1**	**+2.3**
TURN				S	**Sn**	**09 24 03.4**	**+0.7**
MLSB	**Milas**	**3.76**	**39**	PN	**Pn**	**09 23 24.5**	**+2.3**
GCAM	**G?zelcaml?**	**3.84**	**30**	PN	**Pn**	**09 23 25.0**	**+1.9**
YER	**Yerkesik**	**3.93**	**45**	PN	**Pn**	**09 23 26.8**	**+2.4**
YER	**Yerkesik**	**3.93**	**45**	SPECP		09 23 27.0	
YER				P	**Pn**	**09 23 27.5**	**+3.1**
YER				S	**Sn**	**09 24 10.7**	**+1.5**
DALY	**Dalyan (Mula)**	**3.95**	**51**	PN	**Pn**	**09 23 27.3**	**+2.6**
DGB	**zmir**	**4.01**	**24**	SPECP		09 23 26.0	
DGB				P	**Pn**	**09 23 26.6**	**+1.0**
DGB				S	**Sn**	**09 24 09.9**	**-1.4**
CHOS	**Chios island**	**4.11**	**14**	PN	**Pn**	**09 23 28.0**	**+1.1**
FETY	**Fethiye**	**4.13**	**56**	PN	**Pn**	**09 23 29.4**	**+2.1**
URLA	**Izmir**	**4.21**	**19**	PN	**Pn**	**09 23 29.1**	**+0.8**
AKAS	**Kas**	**4.32**	**63**	Pn	**Pn**	**09 23 32.1**	**+2.2**
AKAS	**Kas**	**4.32**	**63**	P	**Pn**	**09 23 31.9**	**+2.0**
CAEL	**Denizli, Camel**	**4.56**	**52**	SPECP		09 23 35.0	
CAEL				P	**Pn**	**09 23 35.9**	**+2.7**
CAEL				S	**Sn**	**09 24 26.7**	**+1.7**
ELL	**Elmali**	**4.77**	**59**	Pn	**Pn**	**09 23 39.3**	**+3.3**
ELL	**Elmali**	**4.77**	**59**	P	**Pn**	**09 23 39.6**	**+3.5**
ELL				S	**Sn**	**09 24 31.2**	**+1.1**
GOLH	**Golhisar**	**4.79**	**52**	SPECP		09 23 38.0	
GOLH				P	**Pn**	**09 23 38.8**	**+2.6**
GOLH				S	**Sn**	**09 24 32.6**	**+2.1**
AGG	**Agios Georgios**	**5.04**	**337**	PN	**Pn**	**09 23 39.1**	**-0.5**
AGG	**Agios Georgios**	**5.04**	**337**	Pn	**Pn**	**09 23 40.5**	**+0.9**
KULA	**Kula-Manisa**	**5.15**	**36**	P	**Pn**	**09 23 44.0**	**+2.8**
KULA				S	**Sn**	**09 24 40.8**	**+1.5**
SWA2		**5.16**	**174**	P	**Pn**	**09 23 41.1**	**-0.2**
	baz=174						
KORT	**Korkueli**	**5.20**	**58**	SPECP		09 23 45.0	
KORT				P	**Pn**	**09 23 45.6**	**+3.6**
BRDR	**BURDUR-Merkez**	**5.38**	**51**	SPECP		09 23 46.0	
BRDR				P	**Pn**	**09 23 46.7**	**+2.4**
PASA	**Karahalli, USA**	**5.46**	**42**	P	**Pn**	**09 23 47.2**	**+1.8**
PASA				S	**Sn**	**09 24 46.9**	**0.0**
USAK	**Uak-Merkez**	**5.48**	**37**	SPECP		09 23 48.0	
USAK				P	**Pn**	**09 23 48.6**	**+2.9**
BUCA	**Burdur, Bucak-**	**5.50**	**56**	SPECP		09 23 48.0	
BUCA				P	**Pn**	**09 23 48.4**	**+2.3**
LKD2	**Lefkada island**	**5.52**	**324**	P	**Pn**	**09 23 45.7**	**-0.5**
	baz=337						
ISP	**Isparta**	**5.75**	**52**	Pn	**Pn**	**09 23 50.4**	**+0.9**
BALB	**Balikesir**	**5.78**	**24**	Pn	**Pn**	**09 23 51.8**	**+2.0**
ALN	**Alexandroupoli**	**6.57**	**8**	Pn	**Pn**	**09 24 02.0**	**+1.5**
LSK	**Leskovik**	**6.66**	**331**	P	**Pn**	**09 24 02.4**	**+0.5**
	baz=342						
LSK				S	**Sn**	**09 25 10.8**	**-5.7**
	baz=342						
SRN	**Sarande**	**6.69**	**326**	P	**Pn**	**09 24 01.8**	**-0.5**
	baz=337						
SRN				S	**Sn**	**09 25 08.9**	**-8.3**
	baz=337						
HMYD	**Mayadein**	**6.84**	**130**	P	**Pn**	**09 24 05.2**	**+0.9**
	baz=131						
HNAT	**Natroun**	**6.84**	**132**	P	**Pn**	**09 24 04.5**	**+0.2**
	baz=133						
FNA	**Florina**	**6.94**	**338**	Pn	**Pn**	**09 24 05.3**	**-0.5**
FNA	**Florina**	**6.94**	**338**	P	**Pn**	**09 24 06.4**	**+0.7**
	baz=349						
FNA				S	**Sn**	**09 25 19.4**	**-3.9**
	baz=349						
KBN	**Korca**	**7.00**	**334**	Pn	**Pn**	**09 24 04.9**	**-1.6**
CSS	**Mathiatis**	**7.03**	**83**	Pn	**Pn**	**09 24 07.5**	**+0.5**
BORA	**Eskisehir**	**7.09**	**38**	Pn	**Pn**	**09 24 08.9**	**+1.1**
KOT	**Kottamia**	**7.42**	**125**	P	**Pn**	**09 24 11.8**	**-0.6**
	baz=125						
OHR	**Ohrid**	**7.42**	**336**	*i* Pn	**Pn**	**09 24 12.0**	**-0.4**
GLL	**Jalalah**	**7.57**	**128**	P	**Pn**	**09 24 14.4**	**+0.1**
	baz=128						
GLL				S	**Sn**	**09 25 34.5**	**-4.2**
	baz=128						
STIP	**Stip**	**7.58**	**345**	*i* Pn	**Pn**	**09 24 14.5**	**0.0**
HHAG	**Hagoal**	**7.59**	**124**	P	**Pn**	**09 24 14.2**	**-0.5**
	baz=124						
SCTE	**Santa Cesarea**	**7.60**	**320**	Pn	**Pn**	**09 24 12.9**	**-1.9**
NBNS	**Bani Suef**	**7.97**	**134**	P	**Pn**	**09 24 20.1**	**+0.2**
	baz=135						
TIP	**Timpagrande**	**8.04**	**309**	⇑P	**Pn**	**09 24 18.8**	**-2.0**
TIP	**Timpagrande**	**8.04**	**309**	Pn	**Pn**	**09 24 19.2**	**-1.6**
PHP	**Peshkopia**	**8.06**	**336**	P	**Pn**	**09 24 21.0**	**0.0**
	baz=345						
CEL	**Celeste**	**8.17**	**301**		**Pn**	**09 24 20.5**	**-2.1**
BOSS	**Bosilegrad**	**8.30**	**348**	*e*Pn	**Pn**	**09 24 23.7**	**-0.6**
VTS	**Vitosha**	**8.31**	**352**	⇑P	**Pn**	**09 24 25.1**	**+0.6**
VTS	**Vitosha**	**8.31**	**352**		**Pn**	**09 24 23.5**	**-1.0**
VTS	**Vitosha**	**8.31**	**352**	*e*Pn	**Pn**	**09 24 24.5**	**0.0**
BR231	**Keskin MP Arra**	**8.36**	**47**		**Pn**	**09 24 26.2**	**+0.9**
PRVS	**Prvonek**	**8.38**	**346**	*e*Pn	**Pn**	**09 24 25.5**	**0.0**
ANTO	**Ankara**	**8.39**	**47**	Pn	**Pn**	**09 24 26.2**	**+0.6**
TAMRE	**El Minia**	**8.49**	**140**	P	**Pn**	**09 24 26.9**	**0.0**
	baz=141						
OFRI	**`Ofer**	**8.67**	**99**	Pn	**Pn**	**09 24 29.4**	**-0.1**
OFRI				Sn	**Sn**	**09 26 00.0**	**-5.8**
BARS	**Barje**	**8.73**	**345**	*e*Pn	**Pn**	**09 24 30.1**	**-0.1**
KZIT	**Kziot**	**8.79**	**111**	Pn	**Pn**	**09 24 30.1**	**-1.0**
SLTI	**Sal'it**	**8.82**	**101**	Pn	**Pn**	**09 24 31.3**	**-0.1**
SLTI				Sn	**Sn**	**09 26 03.3**	**-6.1**
BR131	**Keskin Array S**	**8.83**	**50**		**Pn**	**09 24 33.4**	**+1.7**
BRTR	**Keskin Array B**	**8.83**	**50**	P	**Pn**	**09 24 33.3**	**+1.6**
	0.8nm,0.3s,baz=221,slow=14,SNR=18						
BRTR				S	**Sn**	**09 26 04.0**	**-5.9**
	baz=215,slow=17,SNR=1.8						
BRTR				LR	LR	09 29 06.9	
	comp=Z,54nm,19.1s,baz=351,slow=45						
NOCI	**Noci**	**8.87**	**318**	P	**Pn**	**09 24 29.1**	**-3.0**
	baz=325						
NOCI				S	Sn	09 25 58.9	-12
	baz=325						
MMA0B	**Mount Meron ar**	**8.92**	**96**	Pn	**Pn**	**09 24 32.9**	**-0.1**
MMA0B				Sn	**Sn**	**09 26 07.3**	**-4.8**
MMAI	**Mount Meron Ar**	**8.92**	**96**	P	**Pn**	**09 24 31.8**	**-1.1**
	7.4nm,0.3s,baz=287,slow=11,SNR=11						
MMAI				S	**Sn**	**09 26 05.5**	**-6.6**
	23nm,0.3s,baz=292,slow=26,SNR=12						
AMAZ	**Amatzia**	**8.95**	**106**	Pn	**Pn**	**09 24 32.8**	**-0.4**
AMAZ				Sn	**Sn**	**09 26 06.2**	**-6.4**
RAFF	**Raffo Rosso**	**8.95**	**291**		**Pn**	**09 24 31.7**	**-1.6**
MATE	**Matera**	**8.97**	**316**	⇑P	**Pn**	**09 24 31.2**	**-2.3**
VAE	**Valguarnera**	**8.98**	**293**	P	**Pn**	**09 24 34.0**	**+0.3**
	9.9nm,0.3s,baz=158,slow=6.0,SNR=5.9						
ZAPS	**Zavoj**	**9.03**	**350**	*e*Pn	**Pn**	**09 24 33.8**	**-0.5**
MMLI	**Mount Malkishu**	**9.07**	**99**	Pn	**Pn**	**09 24 34.4**	**-0.6**
MMLI				Sn	**Sn**	**09 26 08.8**	**-6.9**
GEM	**Giv'at Ha'Em**	**9.10**	**94**	Pn	**Pn**	**09 24 34.7**	**-0.6**
GEM				Sn	**Sn**	**09 26 11.1**	**-5.2**
PDG	**Podgorica**	**9.13**	**333**	⇓P	**Pn**	**09 24 35.2**	**-0.5**
PDG	**Podgorica**	**9.13**	**333**	Pn	**Pn**	**09 24 36.1**	**+0.4**
GRB	**Gharib**	**9.14**	**130**	P	**Pn**	**09 24 35.6**	**-0.4**
	baz=130						
NATI	**Neve Ativ**	**9.15**	**94**	Pn	**Pn**	**09 24 35.9**	**-0.1**
NATI				Sn	**Sn**	**09 26 12.6**	**-5.0**
YTIR	**Yattir**	**9.17**	**106**	Pn	**Pn**	**09 24 36.0**	**-0.3**
YTIR				Sn	**Sn**	**09 26 11.9**	**-6.3**
RCY	**Rachaya**	**9.20**	**92**	*e*P	**Pn**	**09 24 35.6**	**-1.2**
HWQ	**Hawqa**	**9.20**	**88**	*e*P	**Pn**	**09 24 37.0**	**+0.2**
HMDT	**Nahal Hemdat**	**9.21**	**100**	Pn	**Pn**	**09 24 36.4**	**-0.4**
HMDT				Sn	**Sn**	**09 26 13.3**	**-5.7**
KSHT	**Keshet**	**9.27**	**96**	Pn	**Pn**	**09 24 37.3**	**-0.3**
SELS	**Selova**	**9.27**	**343**	*e*Pn	**Pn**	**09 24 35.4**	**-2.3**
DSI	**Dead Sea**	**9.30**	**105**	Pn	**Pn**	**09 24 37.5**	**-0.6**
DSI				Sn	**Sn**	**09 26 15.5**	**-5.9**
KRMI	**Paran Flat**	**9.41**	**114**	Pn	**Pn**	**09 24 38.9**	**-0.6**
PRNI	**Paran**	**9.51**	**112**	Pn	**Pn**	**09 24 40.1**	**-0.8**
PRNI				Sn	**Sn**	**09 26 20.5**	**-5.8**
MRVN	**Minervino Murg**	**9.54**	**317**	P	**Pn**	**09 24 37.9**	**-3.3**
	baz=322						
MRVN				S	Sn	09 26 14.2	-13
	baz=322						
ZFRI	**Zfri**	**9.55**	**111**	Pn	**Pn**	**09 24 40.3**	**-1.1**
ZFRI				Sn	**Sn**	**09 26 20.6**	**-6.7**
GHAJ	**Ghor Haditha**	**9.55**	**106**		**Pn**	**09 24 42.2**	**+0.8**
SJES	**Sjenica**	**9.63**	**338**	*e*Pn	**Pn**	**09 24 39.7**	**-2.9**
HDK1	**Dakhla**	**9.67**	**155**	P	**Pn**	**09 24 43.0**	**-0.2**
	baz=155						
HRFI	**Mount Harif**	**9.68**	**114**	Pn	**Pn**	**09 24 42.9**	**-0.4**
HRFI				Sn	**Sn**	**09 26 25.1**	**-5.5**
MBRI	**Mt Berech**	**9.71**	**115**	Pn	**Pn**	**09 24 43.1**	**-0.6**
TREB	**Trebinje**	**9.73**	**331**	*e*Pn	Pn	09 24 35.8	-8.1
EIL	**Elat**	**9.80**	**116**	P	**Pn**	**09 24 44.1**	**-0.9**
	5.7nm,0.3s,baz=302,slow=1.5,SNR=78						
EIL				S	**Sn**	**09 26 28.2**	**-5.4**
	4.2nm,0.3s,baz=209,slow=7.2,SNR=6.7						
EIL	**Elat**	**9.80**	**116**	Pn	**Pn**	**09 24 44.0**	**-0.9**
EIL				Sn	**Sn**	**09 26 27.5**	**-6.0**
IVAS	**Ivanjica**	**9.86**	**340**	*e*Pn	**Pn**	**09 24 41.8**	**-3.9**
BNN	**Bunyan**	**9.91**	**60**		**Pn**	**09 24 48.7**	**+2.1**
CLTB	**Caltabellotta**	**9.93**	**292**		**Pn**	**09 24 44.9**	**-1.8**
SGRT	**San Giovanni R**	**10.25**	**318**		**Pn**	**09 24 48.8**	**-2.3**
BBLS	**Lazići**	**10.35**	**338**	*e*Pn	**Pn**	**09 24 48.6**	**-3.8**
HHRG	**Al Ghardaqah**	**10.37**	**131**	P	**Pn**	**09 24 54.4**	**+1.6**
	baz=132						
DIVS	**Divibare**	**10.39**	**340**	*e*Pn	**Pn**	**09 24 50.3**	**-2.6**
TRUS	**Trudelj**	**10.39**	**342**	*e*Pn	Pn	09 24 40.7	-12
PAOL	**Paolisi**	**10.48**	**312**		**Pn**	**09 24 52.4**	**-1.7**
HERR	**Herculane**	**10.64**	**351**	⇓P	**Pn**	**09 24 55.8**	**-0.5**
TPGR	**Topolog**	**10.81**	**14**	⇓P	**Pn**	**09 25 00.7**	**+2.1**
GZR	**Gura Zlata**	**11.10**	**352**	⇑P	**Pn**	**09 25 02.6**	**-0.1**
VRI	**Vrincioaia**	**11.55**	**7**

EKA	**Eskdalemuir Ar**	**28.51**	**326**	P	**P**	**09 28 16.2**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=119,slow=12,SNR=3.5						
AKTO	**Aktyubinsk**	**28.98**	**46**	P	**P**	**09 28 21.7**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=246,slow=6.4,SNR=15						
KIRV	**Kirov**	**29.21**	**27**	P	**P**	**09 28 22.8**	**-0.3**
	comp=Z,24nm,0.5s,baz=241,slow=3.5,SNR=7.4						
ABKAR	**Akbulak array**	**29.78**	**49**	P	**P**	**09 28 29.5**	**+1.1**
ABKAR				IAmb	IAmb	09 28 38.4	
	comp=Z,1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.78**	**230**	P	**P**	**09 28 29.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=33,slow=8.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**29.78**	**230**	IAmb	IAmb	09 28 31.2	
	comp=Z,1.5nm,1.2s						
ARU	**Arti**	**31.84**	**36**	P	**P**	**09 28 46.5**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=228,slow=13,SNR=4.5						
ARU	**Arti**	**31.84**	**36**	IAmb	IAmb	09 28 50.1	
	comp=Z,2.8nm,0.7s						
ARCES	**ARCESS Array B**	**35.20**	**0**	P	**P**	**09 29 13.8**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=191,slow=9.6,SNR=47						
ARCES	**ARCESS Array B**	**35.20**	**0**	P	**P**	**09 29 14.3**	**-1.1**
KKAR	**Karatay Array**	**36.30**	**62**	P	**P**	**09 29 26.5**	**+1.3**
KURBB	**Kurchatov Arra**	**41.82**	**50**	P	**P**	**09 30 12.3**	**+1.1**
	comp=Z,3.8nm,0.4s,baz=277,slow=8.5,SNR=25						
KURK	**Kurchatov**	**41.88**	**50**	P	**P**	**09 30 12.8**	**+1.1**
KURK				IAmb	IAmb	09 30 13.4	
	comp=Z,4.9nm,0.7s						
SCO	**Scoresbysund**	**43.95**	**339**	P	**P**	**09 30 29.8**	**+1.6**
SCO				IAmb	IAmb	09 30 38.3	
	comp=Z,6.0nm,1.3s						
SPB2	**Spitsbergen Ar**	**44.04**	**358**	P	**P**	**09 30 28.9**	**+0.1**
SPITS	**Spitsbergen Ar**	**44.04**	**358**	P	**P**	**09 30 28.6**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=150,slow=11,SNR=33						
MAKZ	**Makanchi**	**44.22**	**56**	P	**P**	**09 30 32.3**	**+1.6**
MAKZ				IAmb	IAmb	09 30 32.9	
	comp=Z,3.7nm,0.9s						
MK31	**Makanchi Array**	**44.43**	**56**	P	**P**	**09 30 34.0**	**+1.6**
MK31				IAmb	IAmb	09 30 34.5	
	comp=Z,6.1nm,0.9s						
MKAR	**Makanchi Array**	**44.43**	**56**	P	**P**	**09 30 33.9**	**+1.4**
	comp=Z,4.1nm,0.3s,baz=264,slow=8.7,SNR=53						
MKAR	**Makanchi Array**	**44.43**	**56**	P	**P**	**09 30 34.0**	**+1.6**
KBS	**Kingsbay**	**44.97**	**357**	P	**P**	**09 30 36.7**	**+0.5**
ZAA0	**Zalesovo Array**	**45.74**	**46**	P	**P**	**09 30 43.2**	**+0.6**
ZALV	**Zalesovo Beam**	**45.74**	**46**	P	**P**	**09 30 42.9**	**+0.2**
	comp=Z,3.7nm,0.4s,baz=266,slow=9.0,SNR=17						
ZALV	**Zalesovo Beam**	**45.74**	**46**	P	**P**	**09 30 43.1**	**+0.5**
WMQ	**Urumqi**	**48.63**	**59**	*e*P	**P**	**09 31 08.5**	**+3.1**
NRIK	**Noril'sk**	**48.69**	**25**	P	**P**	**09 31 06.4**	**+1.0**
	comp=Z,4.3nm,0.5s,baz=224,slow=0.8,SNR=10						
NRIK	**Noril'sk**	**48.69**	**25**	P	**P**	**09 31 06.6**	**+1.2**
SUMG	**Summit**	**49.59**	**339**	P	**P**	**09 31 13.5**	**+0.8**
EUNU	**Eureka**	**59.89**	**349**	P	**P**	**09 32 27.3**	**+0.5**
EUNU				IAmb	IAmb	09 32 28.2	
	comp=Z,2.2nm,0.8s						
SONM	**Songino Array**	**60.19**	**50**	P	**P**	**09 32 30.8**	**+1.4**
	comp=Z,2.6nm,0.5s,baz=285,slow=7.4,SNR=8.6						
SONM	**Songino Array**	**60.19**	**50**	IAmb	IAmb	09 32 31.4	
	comp=Z,2.3nm,0.6s						
RES	**Resolute Bay**	**64.34**	**345**	P	**P**	**09 32 56.8**	**+0.4**
PZH	**PanZhiHua**	**65.34**	**74**	P	**P**	**09 33 07.1**	**+3.2**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,4.2s						
HHC	**Hu-ho-hao-te**	**66.30**	**56**	*e*P	**P**	**09 33 11.6**	**+1.7**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,4.8s						
XAN	**Xi'an**	**67.43**	**63**	P	**P**	**09 33 18.3**	**+1.2**
XAN				pP	sP	09 33 34.8	-1.5
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
A36M	**Sachs Harbour**	**71.86**	**351**	P	**P**	**09 33 44.2**	**+0.7**
KLR	**Kul'dur**	**74.53**	**41**	P	**P**	**09 34 00.9**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=329,slow=9.6,SNR=4.3						
USA0B	**Ussuriysk Arra**	**77.58**	**45**	P	**P**	**09 34 18.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**77.58**	**45**	P	**P**	**09 34 17.5**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=292,slow=4.1,SNR=8.8						
USRK	**Ussuriysk Ar.**	**77.58**	**45**	P	**P**	**09 34 18.1**	**+0.9**
YKA	**Yellowknife Ar**	**78.09**	**342**	P	**P**	**09 34 19.6**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=31,slow=5.3,SNR=28						
KSAR	**Wonju Array Be**	**78.95**	**52**	P	**P**	**09 34 26.3**	**+1.3**
KSRS	**Korea Array**	**78.97**	**52**	P	**P**	**09 34 25.8**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=306,slow=4.3,SNR=15						
IMAR	**Indian Mountai**	**79.94**	**359**	P	**P**	**09 34 30.9**	**+1.1**
ILAR	**Eielson Array**	**80.95**	**356**	P	**P**	**09 34 35.5**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=336,slow=3.2,SNR=2.2						
DAWY	**Dawson**	**81.08**	**353**	P	**P**	**09 34 36.6**	**+0.6**
DAWY				IAmb	IAmb	09 34 47.4	
	comp=Z,1.5nm,1.1s						
WRH	**Wood River Hil**	**81.31**	**357**	P	**P**	**09 34 37.6**	**+0.5**
WRH				IAmb	IAmb	09 34 45.1	
	comp=Z,3.6nm,1.3s						
BCAR	**Beaver Creek A**	**82.28**	**354**	P	**P**	**09 34 43.0**	**+0.6**
PPLA	**Purkeypile**	**83.02**	**359**	P	**P**	**09 34 47.0**	**+0.7**
SKT	**Skwentna**	**83.92**	**358**	P	**P**	**09 34 50.8**	**0.0**
SKT				IAmb	IAmb	09 35 01.1	
	comp=Z,3.6nm,1.1s						

*IDC **21** 09:55:26.6±1.3,37.°64N×101.°84E,h0km,mb3.7/6, mb1 3.8/8,mb1mx3.5/76,mbtmp3.7/8,ML3.4/2,MS3.3/1, Ms1 3.3/1,ms1mx2.4/93,Error ellipse: s-maj=33.9km s-min=23.6km az=61.0*

ISC 21 09:55:31.3±1.2,37.°7N±0.°2×101.°6E±0.°2,h35km,n10, σ1°06/9,mb3.8/5,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**10.77**	**18**	Pn	**Pn**	**09 58 02.5**	**-0.7**
	0.4nm,0.3s,baz=200,slow=14,SNR=2.4						
SONM				Lg	Lg	10 01 06.7	
	0.5nm,0.3s,baz=198,slow=30,SNR=3.7						
MKAR	**Makanchi Array**	**16.94**	**309**	P	**P**	**09 59 26.5**	**-0.7**
	0.1nm,0.3s,baz=110,slow=12,SNR=3.2						
ZALV	**Zalesovo Beam**	**19.98**	**330**	P	**Pn**	**10 00 02.9**	**+0.6**
	0.9nm,0.6s,baz=141,slow=14,SNR=4.5						
KURBB	**Kurchatov Arra**	**20.93**	**316**	P	**P**	**10 00 11.5**	**+0.7**
	3.5nm,0.8s,baz=118,slow=11,SNR=10						
ARU	**Arti**	**34.10**	**317**	P	**P**	**10 02 13.8**	**+1.4**
	0.8nm,0.3s,baz=100,slow=5.6,SNR=5.6						
GEYT	**Alibeck**	**34.13**	**284**	LR	LR	10 17 38.2	
	comp=Z,53nm,20.6s,baz=275,slow=39						
KBZ	**Khabaz**	**44.12**	**297**	P	**P**	**10 03 34.5**	**-1.7**
	3.2nm,0.3s,baz=79,slow=11,SNR=5.0						
ILAR	**Eielson Array**	**64.87**	**26**	P	**P**	**10 06 06.5**	**0.0**
	0.4nm,0.7s,baz=308,slow=5.3,SNR=4.7						
ASAR	**Alice Springs**	**68.14**	**148**	P	**P**	**10 06 28.0**	**+0.2**
	0.3nm,0.7s,baz=332,slow=6.7,SNR=4.4						
YKA	**Yellowknife Ar**	**76.04**	**16**	P	**P**	**10 07 14.9**	**+0.3**
	1.1nm,0.9s,baz=327,slow=5.3,SNR=13						

*NNC **21** 10:00:07.6±2.6,54.°24N×86.°72E,h0km,mb2.8,mpv2.6, Error ellipse: s-maj=14.8km s-min=10.9km az=66.0, Suspected Mining explosion.*
*IDC **21** 10:00:12.4±2.7,54.°17N×86.°34E,h0km,mb1 2.8/2, mb1mx2.7/76,mbtmp2.8/2,ML2.6/2,Error ellipse: s-maj=21.0km s-min=12.8km az=56.0*

ISC 21 10:00:05.9±2.9,53.°24N±0.°08×86.°3E±0.°2,h0km,n8, σ0°80/8,3C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.13**	**310**	⇓P	**Pn**	**10 00 28.6**	**-0.3**
	0.3nm,0.3s,baz=75,slow=16						
ZAA0				⇑S	**Sn**	**10 00 45.5**	**+0.4**
	1.8nm,0.8s,baz=76,slow=28						
ZALV	**Zalesovo Beam**	**1.13**	**310**	Pg	**Pb**	**10 00 28.4**	**+0.1**
	2.9nm,0.3s,baz=77,slow=16,SNR=37						
ZALV				Lg	Lg	10 00 43.7	
	2.1nm,0.3s,baz=77,slow=31,SNR=13						
I46RU	**ZALESOVO INFRA**	**1.13**	**310**	*i*		10 05 45.9	
	baz=76,slow=335,SNR=40						
KURK	**Kurchatov**	**5.37**	**245**	⇓Pn	**Pb**	**10 01 40.5**	**0.0**
	1.1nm,0.8s						
KURK				⇓Lg	Lg	10 03 19.9	
	2.8nm,0.9s						
KURBB	**Kurchatov Arra**	**5.46**	**244**	Pn	**Pb**	**10 01 43.0**	**+0.8**
	0.1nm,0.3s,baz=53,slow=13,SNR=4.5						
KURBB	**Kurchatov Arra**	**5.46**	**244**	⇑Pn	**Pb**	**10 01 41.3**	**-0.8**
	1.6nm,0.8s						
KURBB				⇑Lg	Lg	10 03 22.1	
	4.0nm,0.8s						
MK31	**Makanchi Array**	**6.94**	**203**	Pn	**Pb**	**10 02 06.6**	**-0.8**
	0.1nm,0.3s,baz=30,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**6.94**	**203**	Pn	**Pb**	**10 02 08.4**	**+1.0**
	0.2nm,0.3s,baz=28,slow=14,SNR=6.3						

*EAF **21** 10:08:23.4±2.9,26.°42S×29.°24E,h4km±19km,MD4.1*
BUL 21 10:08:23.6±1.7,26.°41S×29.°20E,h0km±11km,MD4.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.69**	**88**	*i* P	Pn	10 09 07.5	-0.6
CNG	**Changalane**	**2.69**	**88**	*i* P	Pn	10 09 07.5	-0.6
MOPA	**Mopani**	**3.50**	**35**	*i* P	Pn	10 09 17.4	-2.0
MOPA				*i* S	Sn	10 09 55.2	-6.3
MOPA	**Mopani**	**3.50**	**35**	*i* P	Pn	10 09 17.4	-2.0
MOPA				*i* S	Sn	10 09 55.2	-6.3
MSNA	**Messina**	**4.12**	**11**	*i* P	Pn	10 09 28.9	+1.2
MSNA				*i* Sg	Sb	10 10 30.9	+3.6
MSNA	**Messina**	**4.12**	**11**	*i* P	Pn	10 09 28.9	+1.2
MSNA				*i* Sg	Sb	10 10 30.9	+3.6
BOSA	**Boshof**	**4.13**	**237**	*i* P	Pn	10 09 27.6	-0.5
BOSA				*i* Sg	Sb	10 10 31.3	+3.5
BOSA	**Boshof**	**4.13**	**237**	*i* P	Pn	10 09 27.6	-0.5
BOSA				*i* Sg	Sb	10 10 31.3	+3.5
MATP	**Matopo**	**5.99**	**354**	*i* P	Pn	10 09 52.3	-1.3
MATP				*i* S	Sn	10 10 58.2	-4.8
MATP	**Matopo**	**5.99**	**354**	*i* P	Pn	10 09 52.3	-1.3
MATP				*i* S	Sn	10 10 58.2	-4.8
KRI	**Karoi**	**9.54**	**2**	*i* P	Pn	10 10 33.4	-9.0
KRI				*i* S	Sn	10 12 06.2	-24
KRI	**Karoi**	**9.54**	**2**	*i* P	Pn	10 10 33.4	-9.0
KRI				*i* S	Sn	10 12 06.2	-24

ATH 21 10:17:43.0,38.°35N×21.°90E,h8km±3km,ML1.4/6,Error ellipse: s-maj=3.9km s-min=0.8km az=40.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.08**	**6**	P	Pg	10 17 44.8	-0.2
EFP				S	Sg	10 17 46.5	0.0
EFP				AML	AML	10 17 46.5	
	comp=E,1863μm,0.3s						
EFP				AML	AML	10 17 46.7	
	comp=N,1436μm,0.3s						
LAKA	**Lakka**	**0.13**	**149**	P	Pg	10 17 45.8	0.0
LAKA				S	Sg	10 17 48.0	+0.3
LAKA				AML	AML	10 17 49.0	
	comp=E,484μm,0.2s						
LAKA				AML	AML	10 17 50.2	
	comp=N,406μm,0.3s						
SERG	**Sergoula**	**0.14**	**63**	P	Pg	10 17 46.2	+0.1
SERG				S	Sg	10 17 48.3	+0.1
SERG				AML	AML	10 17 49.1	
	comp=E,315μm,0.3s						
SERG				AML	AML	10 17 49.7	
	comp=N,516μm,0.2s						
ANX	**Ano Chora**	**0.24**	**5**	P	Pg	10 17 47.8	-0.1
ANX				S	Sg	10 17 51.4	+0.2
ANX				AML	AML	10 17 52.6	
	comp=N,532μm,0.4s						
ANX				AML	AML	10 17 54.0	
	comp=E,425μm,0.5s						
KLV	**Kalavryta, Ach**	**0.37**	**147**	P	Pg	10 17 50.0	-0.2
KLV				S	Sg	10 17 54.9	-0.1
KLV				AML	AML	10 17 56.3	
	comp=E,32μm,0.2s						
KLV				AML	AML	10 17 57.1	
	comp=N,44μm,0.2s						
DRO	**Drossia**	**0.42**	**200**	P	Pg	10 17 51.1	-0.1
DRO				S	Sg	10 17 57.0	+0.2
DRO				AML	AML	10 17 58.8	
	comp=E,192μm,0.2s						
DRO				AML	AML	10 17 59.5	
	comp=N,165μm,0.3s						
RLS	**Riolos of Patr**	**0.45**	**229**	S	Sg	10 17 58.0	+0.4

*TIR **21** 10:18:39.2,40.°37N×19.°31E,h14km,Md2.4,Ml2.4*
*THE **21** 10:18:42.2,40.°30N×19.°45E,h4km±17km,ML1.8/2,Error ellipse: s-maj=17.7km s-min=1.1km az=149.0*

ISC 21 10:18:39.3±1.0,40.°38N±0.°03×19.°29E±0.°03,h15km±7km, n26,σ1°12/35,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.18**	**62**	P	**Pg**	**10 18 42.6**	**-1.0**
	baz=53						
VLO				S	**Sg**	**10 18 46.9**	**+0.4**
	baz=53						
VLO				AMP			
	comp=E,39nm,0.2s,baz=53						
SCTE	**Santa Cesarea**	**0.70**	**244**	P	**Pg**	**10 18 53.5**	**+0.6**
	baz=247						
SCTE				S	**Sg**	**10 19 03.8**	**+1.6**
	baz=247						
SCTE				AMP			
	comp=N,0.5nm,0.3s,baz=247						
SRN	**Sarande**	**0.74**	**132**	P	**Pg**	**10 18 53.5**	**-0.2**
SRN				S	**Sg**	**10 19 01.9**	**-1.6**
	comp=N,82nm,0.4s						
SRN	**Sarande**	**0.74**	**132**	P	**Pg**	**10 18 52.5**	**-1.3**
	baz=132						
SRN				S	**Sb**	**10 19 04.2**	**+0.4**
	baz=132						
SRN				AMP			
	comp=N,0.3nm,0.4s,baz=132						
KEK	**Kerkira**	**0.78**	**149**	P	**Pg**	**10 18 54.0**	**-0.4**
KEK				S	**Sg**	**10 19 03.6**	**-1.0**
	comp=N,135nm,0.3s						
LSK	**Leskovik**	**1.03**	**103**	P	**Pg**	**10 18 58.8**	**-0.4**
LSK	**Leskovik**	**1.03**	**103**	P	**Pg**	**10 18 58.0**	**-1.2**
	baz=101						
LSK				S	**Sn**	**10 19 13.9**	**+0.4**
	baz=101						
LSK				AMP			
	comp=E,0.4nm,0.5s,baz=101						
IGT	**Igoumenitsa**	**1.17**	**136**	P	**Pg**	**10 19 01.5**	**-0.3**
IGT				S	**Sb**	**10 19 16.3**	**+0.2**
IGT	**Igoumenitsa**	**1.17**	**136**	P	**Pg**	**10 19 01.2**	**-0.6**
	baz=136						
PHP	**Peshkopia**	**1.57**	**33**	P	**Pn**	**10 19 08.7**	**+2.1**
	baz=32						
PHP				S	**Sg**	**10 19 31.4**	**+1.7**
	baz=32						
FNA	**Florina**	**1.64**	**75**	P	**Pb**	**10 19 10.2**	**+0.9**
	baz=74						
FNA				S	**Sg**	**10 19 32.5**	**+0.4**
	baz=74						
LKD2	**Lefkada island**	**1.91**	**146**	P	**Pb**	**10 19 14.8**	**+0.9**
	baz=146						
STON	**Ston**	**2.76**	**335**	Sn	**Sn**	**10 19 54.9**	**-1.0**
STON	**Ston**	**2.76**	**335**	*e*Pn	**Pn**	**10 19 23.2**	**+0.3**
LSTV	**Lastovo**	**2.98**	**324**	Sn	**Sn**	**10 19 59.7**	**-1.9**
LSTV	**Lastovo**	**2.98**	**324**	*e*Pn	**Pn**	**10 19 25.7**	**-0.4**
RICI	**Ricice**	**3.50**	**333**	Sn	**Sn**	**10 20 14.2**	**-0.1**
RICI	**Ricice**	**3.50**	**333**	*e*Pn	**Pn**	**10 19 33.0**	**-0.1**
KIJV	**Kijevo**	**4.21**	**330**	Sn	**Sn**	**10 20 30.9**	**-0.8**
KIJV	**Kijevo**	**4.21**	**330**	*e*Pn	**Pn**	**10 19 43.2**	**+0.4**
ZIRJ	**Zirje**	**4.25**	**321**	Sn	**Sn**	**10 20 30.4**	**-2.3**
ZIRJ	**Zirje**	**4.25**	**321**	*e*Pn	**Pn**	**10 19 43.2**	**-0.2**
MORI	**Morici**	**4.38**	**324**	Sn	**Sn**	**10 20 34.0**	**-2.0**
MORI	**Morici**	**4.38**	**324**	*e*Pn	**Pn**	**10 19 45.1**	**-0.1**
DUGI	**Dugi Otok**	**4.78**	**320**	Sn	**Sn**	**10 20 44.1**	**-1.8**
DUGI	**Dugi Otok**	**4.78**	**320**	*e*Pn	**Pn**	**10 19 50.8**	**0.0**

IDC 21 10:18:46.6±999.0,51.°32N×47.°69E,h0km,Error ellipse: s-maj=955.3km s-min=140.1km az=90.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.62**	**94**	*i*		10 58 00.0	
	baz=282,slow=314,SNR=8.1						
I46RU	**ZALESOVO INFRA**	**22.52**	**69**	*i*		12 35 20.0	
	baz=280,slow=338,SNR=1.9						
I34MN	**SONGINO INFRAS**	**37.38**	**72**	*i*		14 11 30.0	
	baz=295,slow=338,SNR=2.8						
I45RU	**USSURIYSK INFR**	**54.14**	**62**	*i*		15 58 40.0	
	baz=294,slow=342,SNR=1.9						

*NNC **21** 10:32:12.7±1.6,44.°58N×83.°00E,h3km±14km,mb3.7, mpv3.4,Error ellipse: s-maj=13.9km s-min=6.7km az=133.0*
*SOME **21** 10:32:13.5,44.°67N×83.°00E,h20km*

ISC 21 10:32:13.7±1.4,44.°62N±0.°07×82.°9E±0.°07,h17km,n41, σ2°77/56,7C,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.23**	**348**	⇑Pn	**Pn**	**10 32 50.9**	**+1.0**
	0.9nm,0.3s,baz=162,slow=16,SNR=32						
MK31				⇑Lg	Lg	10 33 25.0	
	3.7nm,0.3s,baz=160,slow=26,SNR=17						
DJR	**Jarkent**	**2.29**	**264**	*e*P	**Pb**	**10 32 54.7**	**+0.1**
	4.6nm,0.2s						
DJR				*e*S	**Sb**	**10 33 24.4**	**+1.7**
	15nm,0.2s						
DJR	**Jarkent**	**2.29**	**264**	Pg	**Pb**	**10 32 55.0**	**+0.3**
	18nm,0.3s						
DJR				Lg	Lg	10 33 24.4	
	15nm,0.2s						
MAKZ	**Makanchi**	**2.30**	**343**	⇑Pn	**Pn**	**10 32 52.2**	**+1.4**
	3.7nm,0.7s						
MAKZ				⇑Lg	Lg	10 33 26.9	
	7.0nm,0.5s						
KAPS	**Kapalarasan**	**2.65**	**286**	*e*P	**Pb**	**10 33 02.4**	**+1.6**
	3.6nm,0.1s						
KAPS				*e*S	**Sg**	**10 33 37.0**	**-1.9**
	15nm,0.2s						
KAPS	**Kapalarasan**	**2.65**	**286**	Pg	**Pb**	**10 33 02.4**	**+1.6**
	3.6nm,0.1s						
KAPS				Lg	Lg	10 33 37.0	
	15nm,0.2s						
ZSN	**Zaisan**	**3.12**	**24**	*e*P	**Pb**	**10 33 09.2**	**+0.4**
	4.8nm,0.2s						
ZSN				*e*S	**Sb**	**10 33 49.1**	**+2.4**
	10nm,0.3s						
ZSN	**Zaisan**	**3.12**	**24**	Pg	**Pb**	**10 33 09.2**	**+0.4**
	4.8nm,0.2s						
ZSN				Lg	Lg	10 33 49.1	
	10nm,0.3s						
UZB	**Uzynbulak**	**3.21**	**244**	*e*P	**Pb**	**10 33 11.7**	**+1.4**
	4.9nm,0.2s						
UZB				*e*S	**Sb**	**10 33 53.1**	**+3.9**
	9.2nm,0.4s						
UZB	**Uzynbulak**	**3.21**	**244**	Pg	**Pb**	**10 33 11.7**	**+1.4**
	4.9nm,0.2s						
UZB				Lg	Lg	10 33 53.1	
	9.2nm,0.4s						
BLB	**Baldybastay**	**3.26**	**262**	*e*P	**Pb**	**10 33 11.5**	**+0.3**
	14nm,0.3s						
BLB				*e*S	**Sb**	**10 33 52.9**	**+2.2**
	15nm,0.2s						
BLB	**Baldybastay**	**3.26**	**262**	Pg	**Pb**	**10 33 11.5**	**+0.3**
	14nm,0.3s						
BLB				Lg	Lg	10 33 52.9	
	15nm,0.2s						
TDK	**Taldyqorghan**	**3.27**	**278**	*e*P	**Pb**	**10 33 12.6**	**+1.3**
	48nm,0.3s						
TDK				*e*S	**Sb**	**10 33 54.7**	**+4.0**
	12nm,0.2s						
TDK	**Taldyqorghan**	**3.27**	**278**	Pg	**Pb**	**10 33 12.6**	**+1.3**
	48nm,0.3s						
TDK				Lg	Lg	10 33 54.7	
	12nm,0.2s						
KURS	**Kuram**	**3.64**	**254**	*e*P	**Pb**	**10 33 20.5**	**+2.9**
	6.2nm,0.6s						
KURS				*e*S	**Sg**	**10 34 08.5**	**-2.1**
	9.5nm,0.4s						
KURS	**Kuram**	**3.64**	**254**	Pg	**Pb**	**10 33 20.5**	**+2.9**
	6.2nm,0.6s						
KURS				Lg	Lg	10 34 08.5	
	9.5nm,0.4s						
SATY	**Saty**	**3.65**	**246**	*e*P	**Pb**	**10 33 20.3**	**+2.5**
	1.8nm,0.2s						
SATY				*e*S	**Sg**	**10 34 08.1**	**-2.8**
	9.1nm,0.1s						
SATY	**Saty**	**3.65**	**246**	Pg	**Pb**	**10 33 20.3**	**+2.5**
	1.8nm,0.2s						
SATY				Lg	Lg	10 34 08.1	
	9.1nm,0.1s						
ARXS	**Arharly**	**3.71**	**266**	*e*P	**Pb**	**10 33 20.2**	**+1.5**
	3.3nm,0.2s						
ARXS				*e*S	**Sb**	**10 34 07.8**	**+4.4**
	10nm,0.3s						
ARXS	**Arharly**	**3.71**	**266**	Pg	**Pb**	**10 33 20.2**	**+1.5**
	3.3nm,0.2s						
ARXS				Lg	Lg	10 34 07.8	
	10nm,0.3s						
CHKK	**Chushkaly**	**4.37**	**262**	*e*P	**Pb**	**10 33 32.5**	**+2.5**
	1.3nm,0.1s						
CHKK				*e*S	**Sg**	**10 34 28.9**	**-4.9**
	5.1nm,0.2s						
CHKK	**Chushkaly**	**4.37**	**262**	Pg	**Pb**	**10 33 32.5**	**+2.5**
	1.3nm,0.1s						
CHKK				Lg	Lg	10 34 28.9	
	5.1nm,0.2s						
KOTS	**Kotyrbulak**	**4.45**	**254**	*e*P	**Pb**	**10 33 34.7**	**+3.2**
	2.5nm,0.3s						
KOTS				*e*S	**Sg**	**10 34 32.5**	**-4.1**
	20nm,0.4s						
KOTS	**Kotyrbulak**	**4.45**	**254**	Pg	**Pb**	**10 33 34.7**	**+3.2**
	2.5nm,0.3s						
KOTS				Lg	Lg	10 34 32.5	
	20nm,0.4s						
MDOK	**Medeo**	**4.52**	**253**	*e*P	**Pg**	**10 33 37.1**	**-3.1**
	3.5nm,0.6s						
MDOK				*e*S	**Sg**	**10 34 37.1**	**-1.7**
	6.3nm,0.6s						
MDOK	**Medeo**	**4.52**	**253**	Pg	**Pg**	**10 33 37.1**	**-3.1**
	3.5nm,0.6s						
MDOK				Lg	Lg	10 34 37.1	
	6.3nm,0.6s						
KTBS	**Karatobe**	**4.61**	**261**	*e*P	**Pb**	**10 33 37.7**	**+3.5**
	1.4nm,0.4s						
KTBS				*e*S	**Sg**	**10 34 37.9**	**-3.9**
	8.2nm,0.4s						
KTBS	**Karatobe**	**4.61**	**261**	Pg	**Pb**	**10 33 37.7**	**+3.5**
	1.4nm,0.4s						
KTBS				Lg	Lg	10 34 37.8	
	8.2nm,0.4s						
TNSS	**Tian-Shan**	**4.63**	**252**	*e*P	**Pb**	**10 33 38.0**	**+3.2**
	1.2nm,0.2s						
TNSS		

*IDC **21** 10:52:59.3±1.1, 52.°21N×143.°52E, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.4/47, mbtmp3.4/7, ML2.4/2, Error ellipse: s-maj=48.9km s-min=19.8km az=146.0*
*MOS **21** 10:52:59.6±1.9, 52.°23N×143.°44E, h13km, mb3.9/1, Error ellipse: s-maj=22.3km s-min=10.1km az=79.1*
MOS Felt (II-III) at Val.
*SKHL **21** 10:52:59.2±0.2, 52.°20N×142.°70E, h11km±3km, mb4.5/4*
ISC 21 10:53:00.5±1.1, 52.°19N±0.°03×142.°78E±0.°07, h15km±9km, n15, σ2°±46/21, mb3.5/5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGLR	**Nogliki**	**0.46**	**152**	*e*PN	**Pb**	**10 53 10.0**	**-0.2**
TYV	**Tymovskoe**	**1.33**	**183**	*e*PN	**Pg**	**10 53 25.8**	**-0.3**
TYV				*e*S	**Sg**	**10 53 45.5**	**+2.1**
TYV				pmax	pmax		
	comp=Z,100nm,0.4s						
TYV				pmax	pmax		
	comp=Z,76nm,0.4s						
TYV				smax	smax		
	comp=N,239nm,0.6s						
TYV				smax	smax		
	comp=E,100nm,0.6s						
TYV				smax	smax		
	comp=N,200nm,0.6s						
TYV	**Tymovskoe**	**1.33**	**183**	*e*Pg	**Pg**	**10 53 25.9**	**-0.2**
TYV				AMB	AMB	10 53 26.4	
	comp=N,80nm,0.4s						
TYV				*e*Sg	**Sg**	**10 53 44.4**	**+1.0**
TYV				A	A	10 53 47.7	
	comp=N,400nm,0.3s						
TYV				A	A	10 53 47.7	
	comp=N,400nm,0.3s						
OKH	**Okha**	**1.36**	**4**	*e*PN	**Pg**	**10 53 28.7**	**+2.0**
OKH				*e*S	**Sg**	**10 53 45.3**	**+0.8**
OKH	**Okha**	**1.36**	**4**	*e*P	**Pg**	**10 53 25.0**	**-1.7**
OKH				*e*Pg	**Pg**	**10 53 28.7**	**+2.0**
OKH				AMB	AMB	10 53 29.0	
	comp=N,300nm,0.5s						
OKH				*e*S	**Sg**	**10 53 45.2**	**+0.8**
OKH				*e*Sg	**Sn**	**10 53 49.4**	**+6.7**
OKH				A	A	10 53 53.2	
	comp=N,1μm,1.0s						
OKH				A	A	10 53 53.2	
	comp=N,600nm,1.0s						
NKL	**Nikolayevsk**	**1.60**	**308**	*e*PN	**Pg**	**10 53 29.5**	**-1.7**
NKL	**Nikolayevsk**	**1.60**	**308**	*e*Pg	**Pg**	**10 53 30.1**	**-1.1**
NKL				AMB	AMB	10 53 34.3	
	comp=N,340nm,0.8s						
NKL				*e*Sg	**Sg**	**10 53 51.9**	**0.0**
NKL				A	A	10 53 53.7	
	comp=N,500nm,0.9s						
NKL				A	A	10 53 53.7	
	comp=N,240nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.24**	**180**	*e*PN	**Pn**	**10 54 21.2**	**+3.0**
KLR	**Kul'dur**	**7.61**	**251**	Pn	Pn	10 54 58.7	+8.1
	comp=N,0.1nm,0.3s,baz=73,slow=11,SNR=4.8						
KLR				Lg	Lg	10 57 14.2	
	comp=N,0.7nm,0.3s,baz=323,slow=22,SNR=7.4						
PETK	**Petropavlovsk-**	**9.12**	**78**	Pn	**Pn**	**10 55 07.1**	**-4.2**
	comp=N,0.1nm,0.3s,baz=270,slow=10,SNR=2.3						
ILAR	**Eielson Array**	**36.79**	**42**	P	**P**	**11 00 04.9**	**-2.2**
	comp=N,0.4nm,0.7s,baz=272,slow=5.8,SNR=6.9						
YKA	**Yellowknife Ar**	**50.54**	**36**	P	**P**	**11 01 56.6**	**-1.0**
	comp=N,0.5nm,0.7s,baz=309,slow=7.3,SNR=8.3						
PDAR	**Pinedale Array**	**66.69**	**50**	P	**P**	**11 03 49.7**	**-1.0**
	comp=N,0.2nm,0.6s,baz=22,slow=1.6,SNR=3.8						
ASAR	**Alice Springs**	**75.93**	**188**	P	**P**	**11 04 47.8**	**+1.5**
	comp=N,0.4nm,0.7s,baz=3.6,slow=6.3,SNR=5.4						
TXAR	**Lajitas Array**	**80.25**	**54**	P	**P**	**11 05 10.3**	**-0.3**
	comp=N,0.2nm,0.7s,baz=259,slow=4.7,SNR=3.7						

*SOME **21** 11:04:08.0, 42.°22N×84.°17E, h5km*
*NNC **21** 11:04:12.0±1.6, 42.°29N×84.°07E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=12.3km s-min=6.6km az=149.0*
ISC 21 11:04:02.6±3.1, 42.°1N±0.°1×84.°33E±0.°09, h10km, n25, σ1°±20/36, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**3.98**	**305**	*e*P	**Pg**	**11 05 19.3**	**+0.4**
	2.4nm,0.2s						
DJR				*e*S	**Sg**	**11 06 10.7**	**+0.3**
	10.0nm,0.2s						
DJR	**Jarkent**	**3.98**	**305**	Pg	**Pg**	**11 05 19.3**	**+0.4**
	2.4nm,0.2s						
DJR				Lg	Lg	11 06 10.7	
	10.0nm,0.2s						
UZB	**Uzynbulak**	**4.05**	**286**	*e*P	**Pg**	**11 05 20.5**	**+0.4**
	5.4nm,0.2s						
UZB				*e*S	**Sg**	**11 06 12.8**	**+0.3**
	13nm,0.2s						
UZB	**Uzynbulak**	**4.05**	**286**	Pg	**Pg**	**11 05 20.5**	**+0.4**
	5.4nm,0.2s						
UZB				Lg	Lg	11 06 12.8	
	13nm,0.2s						
SATY	**Saty**	**4.47**	**284**	*e*P	**Pg**	**11 05 29.1**	**+0.8**
	2.5nm,0.2s						
SATY				*e*S	**Sg**	**11 06 27.7**	**+1.5**
	8.2nm,0.2s						
SATY	**Saty**	**4.47**	**284**	Pg	**Pg**	**11 05 29.0**	**+0.8**
	2.5nm,0.2s						
SATY				Lg	Lg	11 06 27.7	
	8.2nm,0.2s						
BLB	**Baldybastay**	**4.71**	**297**	*e*P	**Pg**	**11 05 33.0**	**+0.2**
	3.2nm,0.1s						
BLB				*e*S	**Sg**	**11 06 34.5**	**+0.5**
	14nm,0.2s						
BLB	**Baldybastay**	**4.71**	**297**	Pg	**Pg**	**11 05 33.0**	**+0.2**
	3.2nm,0.1s						
BLB				Lg	Lg	11 06 34.5	
	14nm,0.2s						
KAPS	**Kapalarasan**	**4.79**	**313**	*e*P	**Pg**	**11 05 34.3**	**0.0**
	3.3nm,0.3s						
KAPS				*e*S	**Sg**	**11 06 36.4**	**0.0**
	8.9nm,0.2s						
KAPS	**Kapalarasan**	**4.79**	**313**	Pg	**Pg**	**11 05 34.3**	**0.0**
	3.3nm,0.3s						
KAPS				Lg	Lg	11 06 36.3	
	8.9nm,0.2s						
MK31	**Makanchi Array**	**4.89**	**343**	Pn	**Pb**	**11 05 25.2**	**-3.0**
	0.1nm,0.3s,baz=152,slow=14,SNR=8.2						
MK31				Pg	**Pg**	**11 05 37.9**	**+1.8**
	0.5nm,0.3s,baz=156,slow=17,SNR=22						
MK31				⇓Lg	Lg	11 06 40.2	
	2.8nm,0.3s,baz=154,slow=27,SNR=12						
MAKZ	**Makanchi**	**4.97**	**341**	⇑Pg	**Pg**	**11 05 38.9**	**+1.1**
	2.4nm,0.7s						
MAKZ				⇑Lg	Lg	11 06 42.7	
	5.8nm,0.7s						
ARXS	**Arharly**	**5.19**	**296**	*e*P	**Pg**	**11 05 41.3**	**-0.7**
	2.2nm,0.3s						
ARXS				*e*S	**Sg**	**11 06 48.8**	**-0.5**
	7.0nm,0.2s						
ARXS	**Arharly**	**5.19**	**296**	Pg	**Pg**	**11 05 41.3**	**-0.7**
	2.2nm,0.3s						
ARXS				Lg	Lg	11 06 48.8	
	7.0nm,0.2s						
ZSN	**Zaisan**	**5.33**	**4**	*e*P	**Pg**	**11 05 45.5**	**+0.9**
	4.2nm,0.1s						
ZSN				*e*S	**Sg**	**11 06 56.0**	**+2.3**
	16nm,0.4s						
ZSN	**Zaisan**	**5.33**	**4**	Pg	**Pg**	**11 05 45.6**	**+0.9**
	4.2nm,0.1s						
ZSN				Lg	Lg	11 06 56.0	
	16nm,0.4s						
KOTS	**Kotyrbulak**	**5.43**	**284**	*e*P	**Pg**	**11 05 47.5**	**+0.8**
	2.6nm,0.3s						
KOTS				*e*S	**Sg**	**11 06 59.2**	**+2.2**
	11nm,0.3s						
KOTS	**Kotyrbulak**	**5.43**	**284**	Pg	**Pg**	**11 05 47.5**	**+0.8**
	2.6nm,0.3s						
KOTS				Lg	Lg	11 06 59.2	
	11nm,0.3s						
MDOK	**Medeo**	**5.47**	**283**	*e*P	**Pg**	**11 05 48.0**	**+0.7**
	1.7nm,0.3s						
MDOK				*e*S	**Sg**	**11 07 00.1**	**+1.9**
	4.2nm,0.4s						
MDOK	**Medeo**	**5.47**	**283**	Pg	**Pg**	**11 05 48.0**	**+0.7**
	1.7nm,0.3s						
MDOK				Lg	Lg	11 07 00.1	
	4.2nm,0.4s						
CHKK	**Chushkaly**	**5.66**	**290**	*e*P	**Pg**	**11 05 51.6**	**+0.8**
	0.8nm,0.1s						
CHKK				*e*S	**Sg**	**11 07 06.3**	**+2.2**
	1.8nm,0.3s						
CHKK	**Chushkaly**	**5.66**	**290**	Pg	**Pg**	**11 05 51.7**	**+0.8**
	0.8nm,0.1s						
CHKK				Lg	Lg	11 07 06.3	
	1.8nm,0.3s						
KTBS	**Karatobe**	**5.83**	**288**	*e*P	**Pg**	**11 05 54.8**	**+0.6**
	1.1nm,0.4s						
KTBS				*e*S	**Sg**	**11 07 11.7**	**+1.9**
	7.6nm,0.4s						
KTBS	**Karatobe**	**5.83**	**288**	Pg	**Pg**	**11 05 54.8**	**+0.6**
	1.1nm,0.4s						
KTBS				Lg	Lg	11 07 11.7	
	7.6nm,0.4s						
KURK	**Kurchatov**	**9.45**	**337**	⇑Lg	Lg	11 09 04.8	
	2.6nm,0.7s						

TAP 21 11:06:19.3, 22.°00N×120.°42E, h37km±1km, ML3.5, 6C-3D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.30**	**89**	⇑*i*P	Pn	11 06 27.2	-0.2
	baz=89						
HEN				*i* S	Sn	11 06 33.2	-1.3
	baz=89						
SNW	**Nanwan**	**0.31**	**97**	P	Pn	11 06 27.3	-0.1
	baz=97						
SNW				S	Sn	11 06 33.1	-1.3
	baz=97						
TWP	**Hsiaoliuchiu**	**0.35**	**352**	*e*P	Pn	11 06 29.6	+1.9
	baz=352						
WLCH	**Liuqiu**	**0.35**	**354**	*e*P	Pn	11 06 29.8	+2.0
	baz=354						
SMST	**Manzhou Townsh**	**0.39**	**87**	*e*P	Pn	11 06 28.2	0.0
	baz=86						
SMST				*e*S	Sn	11 06 34.5	-0.4
	baz=86						
SLIU	**Shizi**	**0.41**	**59**	⇑*i*P	Pn	11 06 28.5	0.0
	baz=58						
SLIU				S	Sn	11 06 34.7	-0.7
	baz=58						
SCZT	**Fangliau**	**0.41**	**27**	⇑*i*P	Pn	11 06 29.2	+0.6
	baz=27						
SCZT				*i* S	Sn	11 06 35.8	+0.5
	baz=27						
TSEB	**Hengchuen, Pin**	**0.46**	**102**	⇑*i*P	Pn	11 06 28.9	-0.3
	baz=103						
TSEB				*i* S	Sn	11 06 36.0	-0.3
	baz=103						
SSPT	**Xinbi**	**0.50**	**16**	*e*P	Pn	11 06 30.9	+1.0
	baz=16						
SSPT				*e*S	Sn	11 06 38.9	+1.6
	baz=16						
EAST	**Anshuo**	**0.55**	**46**	P	Pn	11 06 30.8	0.0
	baz=46						
EAST				*e*S	Sn	11 06 39.1	+0.4
	baz=46						
TAWH	**Dawu Township**	**0.55**	**52**	⇑*i*P	Pn	11 06 30.6	-0.2
	baz=52						
TAWH				*e*S	Sn	11 06 38.3	-0.4
	baz=52						
TAW	**Tawu**	**0.57**	**51**	P	Pn	11 06 30.8	-0.2
	baz=51						
TAW				*e*S	Sn	11 06 38.3	-0.8
	baz=51						
MASBT	**Mashibuluo**	**0.64**	**18**	P	Pn	11 06 32.2	+0.2
	baz=18						
TSMG	**Majia**	**0.73**	**17**	P	Pn	11 06 33.6	+0.5
	baz=16						
TSMG				S	Sn	11 06 42.7	-0.3
	baz=16						
SSD	**Sandimen**	**0.77**	**15**	P	Pn	11 06 34.1	+0.5
	baz=15						
SSD				S	Sn	11 06 44.4	+0.5
	baz=15						
ECL	**Taimali**	**0.78**	**40**	⇑*i*P	Pn	11 06 33.9	+0.2
	baz=40						
ECL				*e*S	Sn	11 06 44.5	+0.4
	baz=40						
TWM1	**Shoushan**	**0.82**	**0**	*e*S	Sn	11 06 46.1	+0.8
SLGT	**Liugui**	**1.01**	**12**	*e*P	Pn	11 06 37.5	+0.5
	baz=12						
TWG	**Pinlang**	**1.02**	**36**	P	Pn	11 06 37.6	+0.6
	baz=36						
TWG				*e*S	Sn	11 06 49.8	-0.3
	baz=36						
SHHT	**Tainan City**	**1.02**	**356**	*e*S	Sn	11 06 51.2	+1.1
	baz=356						
TWGBT	**Beinan**	**1.02**	**37**	P	Pn	11 06 37.5	+0.5
	baz=36						
TWGBT				*e*S	Sn	11 06 50.0	-0.1
	baz=36						
LAY	**Lan-yu**	**1.05**	**88**	*e*P	Pn	11 06 36.4	-1.1
	baz=87						
LYUB	**Lan-yu**	**1.08**	**90**	*e*P	Pn	11 06 35.9	-2.0
	baz=89						
SGST	**Jiashian**	**1.09**	**8**	*e*P	Pn	11 06 38.5	+0.6
	baz=8.0						
SGST				*e*S	Sn	11 06 52.7	+0.8
	baz=8.0						
LONT	**Longtian**	**1.12**	**36**	P	Pn	11 06 38.9	+0.5
	baz=36						
LONT				*e*S	Sn	11 06 53.0	+0.5
	baz=36						
SSHA	**Shanhua**	**1.14**	**354**	*e*S	Sn	11 06 55.4	+2.4
	baz=353						
LDUT	**Ludao**	**1.18**	**55**	P	Pn	11 06 39.0	-0.3
	baz=55						
LDUT				S	Sn	11 06 53.6	-0.5
	baz=55						
CHN1	**Nanshi**	**1.18**	**5**	*e*P	Pn	11 06 39.8	+0.5
	baz=4.0						
SCLT	**Jiali**	**1.19**	**350**	*e*S	Sn	11 06 55.5	+1.3
	baz=350						
STYH	**Taoyuan**	**1.21**	**16**	*e*P	Pn	11 06 40.9	+1.2
	baz=15						
STYH				S	Sn	11 06 55.6	+0.8
	baz=15						
WTP	**Ta-pu**	**1.25**	**8**	*e*P	Pn	11 06 41.1	+0.8
	baz=8.0						
WTP				S	Sn	11 06 57.1	+1.2
	baz=8.0						
TWK	**Hsinying**	**1.26**	**3**	*e*P	Pn	11 06 41.0	+0.5
	baz=3.0						
TWK				*e*S	Sn	11 06 56.7	+0.5
	baz=3.0						
EDH	**Donghe**	**1.27**	**40**	P	Pn	11 06 40.9	+0.5
	baz=40						
EDH				*e*S	Sn	11 06 56.9	+0.6
	baz=40						
ELDTW	**Lidau**	**1.31**	**25**	P	Pn	11 06 42.5	+1.4
	baz=25						
ELDTW				*e*S	Sn	11 06 57.6	+0.2
	baz=25						
TPUB	**Ta-pu**	**1.31**	**9**	P	Pn	11 06 41.5	+0.4
	baz=8.0						
TPUB				S	Sn	11 06 58.0	+0.7
	baz=8.0						
CHN8	**Yiju**	**1.35**	**352**	*e*S	Sn	11 06 59.5	+1.2
	baz=352						
ICHU	**Yijhu**	**1.36**	**355**	*e*S	Sn	11 06 59.4	+0.9
	baz=354						
CHKT	**Chengkung**	**1.40**	**39**	*e*P	Pn	11 06 42.6	+0.3
	baz=38						
CHKT				*e*S	Sn	11 07 00.0	+0.5
	baz=38						
WDGT	**Dungji**	**1.44**	**331**	P	Pn	11 06 43.1	+0.3
	baz=331						
WDGT				S	Sn	11 07 00.5	+0.1
	baz=331						
FULB	**Fuli**	**1.44**	**34**	P	Pn	11 06 44.3	+1.4
	baz=34						
FULB				*e*S	Sn	11 07 00.8	+0.3
	baz=34						
CHY	**Chiayi**	**1.49**	**0**	*e*P	Pn	11 06 44.2	+0.7
CHY				*e*S	Sn	11 07 02.2	+0.5
VCHM	**Qimei**	**1.51**	**323**	⇓*i*P	Pn	11 06 44.1	+0.4
	baz=322						
VCHM				S	Sn	11 07 02.3	+0.2
	baz=322						
WSL	**Shuilin Townsh**	**1.52**	**353**	P	Pn	11 06 44.6	+0.6
	baz=353						
WSL				S	Sn	11 07 02.7	+0.1
	baz=353						
ALS	**Alishan**	**1.54**	**13**	*e*P	Pn	11 06 45.2	+0.6
	baz=13						
ALS				S	Sn	11 07 04.8	+1.3
	baz=13						
EYUL	**Yuli**	**1.58**	**32**	*e*P	Pn	11 06 45.7	+1.0
	baz=31						
YULB	**Yu-li**	**1.61**	**30**	P	Pn	11 06 46.1	+1.0
	baz=30						
YULB				*e*S	Sn	11 07 05.7	+1.0
	baz=30						
CHN5	**Tsauling**	**1.61**	**9**	P	Pn	11 06 45.9	+0.7
	baz=8.0						
CHN5				*e*S	Sn	11 07 04.9	+0.1
	baz=8.0						
WSF	**Szhu**	**1.64**	**354**	*e*S	Sn	11 07 06.1	+0.7
	baz=353						
WTK	**Tuku**	**1.68**	**359**	P	Pn	11 06 46.5	+0.4
	baz=359						
WTK				S	Sn	11 07 06.6	+0.2
	baz=359						
WDLH	**Douliu**	**1.69**	**4**	P	Pn	11 06 46.9	+0.8
	baz=3.0						
WDLH				S	Sn	11 07 06.9	+0.4
	baz=3.0						
PHUB	**P'eng-hu**	**1.70**	**333**	⇓*i*P	Pn	11 06 46.5	+0.2
	baz=332						
PHUB				S	Sn	11 07 06.0	-0.7
	baz=332						
EHY	**Hungye**	**1.72**	**29**	*e*S	Sn	11 07 07.9	+0.6
	baz=29						
PNG	**Penghu**	**1.75**	**333**	*e*P	Pn	11 06 46.9	-0.2
	baz=333						
PNG				*e*S	Sn	11 07 08.7	+0.5
	baz=333						
HGSD	**Ruisui**	**1.75**	**32**	*e*P	Pn	11 06 48.9	+1.7
	baz=32						
HGSD				*e*S	Sn	11 07 10.1	+2.0
	baz=32						
WJS	**Zhushan**	**1.84**	**9**	*e*S	Sn	11 07 09.6	-0.7
	baz=8.0						
SSLB	**Suanglung**	**1.85**	**15**	P	Pn	11 06 49.4	+0.9
	baz=15						
SSLB				*e*S	Sn	11 07 09.9	-0.7
	baz=15						
VWDT	**VWDT**	**1.87**	**21**	*e*P	Pn	11 06 50.4	+1.7
	baz=20						
WNT	**Mingjian**	**1.89**	**7**	*e*S	Sn	11 07 12.0	+0.6
	baz=7.0						
WRL	**Guolierlin Hig**	**1.89**	**359**	*e*P	Pn	11 06 49.4	+0.4
	baz=358						
WRL				S	Sn	11 07 11.9	+0.3
	baz=358						
EGFH	**Guangfu**	**1.91**	**29**	*e*P	Pn	11 06 50.3	+1.1
	baz=29						
EGFH				*e*S	Sn	11 07 12.4	+0.5
	baz=29						
SMLT	**Sun Moon Lake**	**1.93**	**13**	*e*P	Pn	11 06 50.8	+1.1
	baz=13						
SMLT				*e*S	Sn	11 07 13.5	+0.9
	baz=13						
TYC	**Yuchr**	**1.94**	**12**	*e*P	Pn	11 06 50.5	+0.8
	baz=12						
TYC				*e*S	Sn	11 07 12.7	0.0
	baz=12						
ESL	**Shilin**	**2.03**	**27**	*e*P	Pn	11 06 52.3	+1.3
	baz=27						
ESL				*e*S	Sn	11 07 14.6	-0.6
	baz=27						
OWD	**Renai**	**2.07**	**20**	*e*P	Pn	11 06 52.0	+0.5
	baz=19						
OWD				*e*S	Sn	11 07 16.4	+0.2
	baz=19						
WCHH	**Zhanghua**	**2.07**	**4**	*e*S	Sn	11 07 17.1	+1.0
	baz=3.0						
WUSB	**Renai**	**2.08**	**18**	P	Pn	11 06 53.1	+1.3
	baz=18						
WUSB				S	Sn	11 07 16.9	+0.3
	baz=18						
WCS	**Beigang Elemen**	**2.10**	**12**	P	Pn	11 06 52.8	+1.0
	baz=12						
WCS				*e*S	Sn	11 07 17.2	+0.5
	baz=12						
TCU	**Taichung**	**2.15**	**6**	*e*S	Sn	11 07 18.4	+0.4
	baz=6.0						
CHGB	**Renai**	**2.17**	**19**	*e*P	Pn	11 06 54.3	+1.3
	baz=18						
CHGB				*e*S	Sn	11 07 19.1	+0.4
	baz=18						
WHF	**Hehuan Shan**	**2.27**	**20**	P	Pn	11 06 56.2	+1.5
	baz=20						
WHF				*e*S	Sn	11 07 21.7	0.0
	baz=20						
WHP	**Taichung City**	**2.32**	**12**	*e*P	Pn	11 06 55.9	+1.0
	baz=12						
WHP				S	Sn	11 07 22.7	+0.4
	baz=12						
TDCB	**Techi**	**2.34**	**17**	P	Pn	11 06 56.4	+1.0
	baz=16						
TDCB				*e*S	Sn	11 07 23.2	+0.2
	baz=16						
WDJ	**Dajia District**	**2.35**	**5**	*e*S	Sn	11 07 23.6	+0.8
	baz=5.0						
TWT	**Tachien**	**2.35**	**17**	*e*P	Pn	11 06 57.1	+1.6
	baz=17						
TWT				*e*S	Sn	11 07 23.4	+0.2
	baz=17						
TWQ1	**Liyutan**	**2.36**	**8**	*e*S	Sn	11 07 24.2	+1.0
	baz=7.0						
FUSS	**Fushou**	**2.36**	**19**	*e*P	Pn	11 06 56.7	+1.0
	baz=18						
FUSS				*e*S	Sn	11 07 25.4	+1.8
	baz=18						
ETLH	**Xiulin Townshi**	**2.41**	**24**	P	Pn	11 06 57.5	+1.3
	baz=24						
ETLH				*e*S	Sn	11 07 24.7	+0.3
	baz=24						
NACB	**Ninganchiao**	**2.42**	**26**	P	Pn	11 06 58.0	+1.8
	baz=26						
NACB				*e*S	Sn	11 07 27.1	+2.4
	baz=26						
NSY	**Sanyi**	**2.43**	**7**	*e*S	Sn	11 07 26.7	+1.8
	baz=7.0						
NNSB	**Datong**	**2.58**	**20**	⇓*i*P	Pn	11 07 00.6	+2.1
	baz=20						
NNSB				*e*S	Sn	11 07 30.9	+2.2
	baz=20						
NNS	**Nan Shan**	**2.58**	**20**	*e*P	Pn	11 07 00.8	+2.2
	baz=20						
NNS				S	Sn	11 07 30.3	+1.5
	baz=20						
NSTT	**Nanjuang**	**2.67**	**11**	*e*P	Pn	11 07 01.0	+1.2
	baz=11						
NSTT				*e*S	Sn	11 07 30.8	-0.1
	baz=11						
LIOB	**Emei**	**2.69**	**12**	P	Pn	11 07 01.2	+1.1
	baz=11						
LIOB				*e*S	Sn	11 07 31.3	-0.1
	baz=11						
NFF	**Wufeng Townshi**	**2.70**	**14**	*e*P	Pn	11 07 01.4	+1.2
	baz=13						
NFF				*e*S	Sn	11 07 32.7	+1.1
	baz=13						
LATG	**Datong**	**2.72**	**22**	P	Pn	11 07 01.9	+1.3
	baz=22						
LATG				*e*S	Sn	11 07 34.3	+2.0
	baz=22						
YHNB	**Yeheng**	**2.80**	**18**	P	Pn	11 07 03.3	+1.7
	baz=18						
YHNB				*e*S	Sn	11 07 35.0	+0.8
	baz=18						
NSK	**Sanguang**	**2.80**	**18**	*e*P	Pn	11 07 04.5	+2.9
	baz=18						
ENTT	**Nioudou**	**2.83**	**22**	*e*P	Pn	11 07 02.5	+0.5
	baz=22						
ENTT				*e*S	Sn	11 07 35.8	+0.9
	baz=22						
NWLT	**Wulai**	**2.94**	**20**	*e*P	Pn	11 07 04.5	+1.0
	baz=19						
NWLT				*e*S	Sn	11 07 38.0	+0.5
	baz=19						
FUSB	**Fushanzhiwuyua**	**2.95**	**21**	*e*P	Pn	11 07 05.3	+1.7
	baz=21						
FUSB				*e*S	Sn	11 07 38.8	+0.9
	baz=21						
KNM	**Kinmen**	**3.02**	**323**	*e*P	Pn	11 07 06.9	+2.4
	baz=320						
KNM				*e*S	Sn	11 07 41.1	+1.7
	baz=320						
KNMB	**Chin-men Tao**	**3.08**	**323**	*e*P	Pn	11 07 06.5	+1.1
	baz=322						

KNMB *e*S Sn 11 07 40.6 -0.3
baz=322
ZPLA Ao Xicun 3.12 309 *e*P Pn 11 07 07.2 +1.3
baz=308
ZPLA *e*S Sn 11 07 42.0 +0.1
baz=308
TIPB Shuangxi 3.23 23 *e*P Pn 11 07 09.2 +1.8
baz=23
DSXP Dongshan 3.24 302 P Pn 11 07 08.7 +1.2
baz=301
DSXP *e*S Sn 11 07 44.9 0.0
baz=301
PTMZ Houxiangcun 3.25 339 *e*P Pn 11 07 08.1 +0.4
baz=338
AXDP Jialang 3.66 323 P Pn 11 07 13.7 +0.4
baz=322
AXDP *e*S Sn 11 07 54.5 -0.7
baz=322
LYJJ Jianjiangzhen 4.57 353 P Pn 11 07 26.5 +0.7
baz=352
SXFK Yanhouchang 5.06 331 *e*P Pn 11 07 32.9 +0.3
baz=329

IDC ***21*** *11:11:42.9±0.9, 40°.56N×79°.37E, h0km, mb4.0/12, mb1 4.2/17, mb1mx3.9/65, mbtmp4.1/17, ML3.7/5, MS3.6/28, Ms1 3.7/28, ms1mx3.4/89, Error ellipse: s-maj=17.3km s-min=14.8km az=55.0*
BJI ***21*** *11:11:44.2±0.0, 40°.65N×79°.34E, h8km, mb4.2/16, mB4.5/10, ML4.6/8, Ms3.8/10, Ms7 3.6/9*
NEIC ***21*** *11:11:44.7±2.5, 40°.66N±0°.07×79°.46E±0°.08, h10km±1km, mb4.3/7, ML4.2(BJI), Error ellipse: s-maj=12.7km s-min=9.7km az=168.0*
SOME ***21*** *11:11:45.9, 40°.80N×79°.10E, h10km, MS3.8*
KRNET ***21*** *11:11:46.2±0.1, 40°.80N×79°.23E, mb4.8*
NNC ***21*** *11:11:47.7±1.7, 41°.03N×79°.44E, h0km, mb5.0, mpv4.8, Error ellipse: s-maj=11.9km s-min=9.0km az=150.0*
ISC 21 11:11:47.3±1.4**, 40°.67N**±0°.04×**79°.40E**±0°.03**, h26**km±10km**, n161**, σ1**99**/189**, mb4.0**/13**, MS3.6**/27**, 41C-24D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.60 312**		Pn	**Pn**	**11 12 12.9**	**-1.4**
PRZ	**Przheval'sk**	**1.96 338**		⇑*i*P	**Pn**	**11 12 19.8**	**+0.8**
PRZ	baz=40			⇑*i*S	**Sn**	**11 12 44.6**	**+1.7**
PRZ	**Przheval'sk**	**1.96 338**			**Pn**	**11 12 19.3**	**+0.3**
KDJ	**Kajisay**	**2.22 312**		⇓*i*P	**Pn**	**11 12 23.4**	**+0.9**
KDJ	baz=12			⇓*i*S	**Sn**	**11 12 51.1**	**+1.9**
KDJ	**Kajisay**	**2.22 312**			**Pn**	**11 12 23.4**	**+0.9**
ANVS	**Anan'yevo**	**2.48 329**		⇑*i*P	**Pn**	**11 12 27.5**	**+1.4**
ANVS	baz=30			⇑*i*S	**Sn**	**11 12 57.8**	**+2.1**
UZB	**Uzynbulak**	**2.49 354**		*e*P	**Pb**	**11 12 30.0**	**-1.5**
UZB	363nm,0.2s			*e*S	**Sb**	**11 13 01.4**	**-0.4**
UZB	**Uzynbulak**	**2.49 354**		*i* P	**Pn**	**11 12 28.3**	**+2.1**
UZB	3μm,0.9s			Lg	Lg	11 13 01.4	
UZB	**Uzynbulak**	**2.49 354**		*e*S	**Sb**	**11 13 00.1**	**-1.7**
UZB	68nm,0.3s,baz=355			Pg	**Pn**	**11 12 28.4**	**+2.1**
SATY	**Saty**	**2.50 343**		*e*P	**Pb**	**11 12 29.9**	**-1.6**
SATY	1μm,0.8s			*e*S	**Sb**	**11 13 01.4**	**-0.6**
SATY	**Saty**	**2.50 343**		*i* P	**Pn**	**11 12 28.2**	**+1.8**
SATY	3μm,0.9s			*e*S	**Sb**	**11 13 01.0**	**-1.0**
SATY	**Saty**	**2.50 343**		Pg	**Pn**	**11 12 28.3**	**+1.8**
SATY	501nm,0.6s,baz=344			Lg	Lg	11 13 01.4	
ZHN	**Zhinishke**	**2.60 344**		*e*P	**Pb**	**11 12 31.8**	**-1.5**
ZHN	547nm,0.2s			*e*S	**Sb**	**11 13 04.6**	**-0.3**
ZHN	**Zhinishke**	**2.60 344**		Pg	**Pn**	**11 12 30.6**	**+2.9**
ZHN	2μm,0.8s			Lg	Lg	11 13 05.2	
PDGK	**Podgornoye**	**2.66 1**		⇑P	**Pn**	**11 12 28.6**	**0.0**
PDGK	547nm,0.2s			⇓S	**Sn**	**11 12 53.9**	**-6.1**
ULHL	**Ulahol**	**2.85 305**		⇓*i*P	**Pn**	**11 12 32.8**	**+1.6**
ULHL	2μm,0.6s			⇓*i*S	**Sn**	**11 13 06.6**	**+1.8**
TNSS	**Tian-Shan**	**2.99 323**		*e*P	**Pb**	**11 12 37.5**	**-2.7**
TNSS	829nm,0.5s			*e*S	**Sb**	**11 13 14.3**	**-2.1**
TNSS	**Tian-Shan**	**2.99 323**		Pg	**Pb**	**11 12 37.2**	**-3.0**
TNSS	1μm,0.7s			Lg	Lg	11 13 16.0	
MDOK	**Medeo**	**3.05 326**		*e*P	**Pb**	**11 12 39.8**	**-1.2**
MDOK	606nm,0.7s			*e*S	**Sb**	**11 13 18.3**	**+0.5**
MDOK	**Medeo**	**3.05 326**		*e*P	**Pn**	**11 12 35.8**	**+1.9**
MDOK	1μm,0.7s			*e*S	**Sn**	**11 13 13.9**	**+4.3**
MDOK	**Medeo**	**3.05 326**		⇑Pn	**Pn**	**11 12 35.8**	**+1.9**
MDOK	719nm,0.8s			⇓Lg	Lg	11 13 16.0	
MDOK	**Medeo**	**3.05 326**		Pg	**Pb**	**11 12 37.8**	**-3.1**
MDOK	2μm,0.8s			Lg	Lg	11 13 18.1	
KOTS	**Kotyrbulak**	**3.08 327**		*e*P	**Pb**	**11 12 40.1**	**-1.3**
KOTS	849nm,0.6s			*e*S	**Sb**	**11 13 19.0**	**+0.3**
KOTS	**Kotyrbulak**	**3.08 327**		Pg	**Pn**	**11 12 37.9**	**+3.6**
KOTS	555nm,0.6s			Lg	Lg	11 13 18.4	
KNDC	**Almaty**	**3.13 325**		⇑Pn	**Pn**	**11 12 36.7**	**+1.8**
KNDC	667nm,0.5s			⇓Lg	Lg	11 13 18.9	
BOOM	**Boomskoye usch**	**3.17 306**		⇑*e*P	**Pn**	**11 12 36.9**	**+1.3**
BOOM	baz=6.0			⇑*i*S	**Sn**	**11 13 14.1**	**+1.4**
BOOM	**Boomskoye usch**	**3.17 306**		Pn	**Pn**	**11 12 37.2**	**+1.6**
MTBS	**Maitube**	**3.31 319**		*e*P	**Pb**	**11 12 43.6**	**-1.8**
MTBS	386nm,0.5s			*e*S	**Sb**	**11 13 25.2**	**0.0**
MTBS	**Maitube**	**3.31 319**		Pg	**Pb**	**11 12 42.4**	**-2.9**
MTBS	904nm,0.4s			Lg	Lg	11 13 25.2	
BLB	**Baldybastay**	**3.50 349**		*e*P	**Pb**	**11 12 47.4**	**-1.1**
BLB	979nm,0.5s			*e*S	**Sb**	**11 13 31.6**	**+1.0**
BLB	**Baldybastay**	**3.50 349**		Pg	**Pb**	**11 12 46.1**	**-2.4**
BLB	979nm,0.5s			Lg	Lg	11 13 31.6	
KST	**Kastek**	**3.50 314**		*e*P	**Pb**	**11 12 46.8**	**-1.7**
KST	373nm,0.4s			*e*S	**Sb**	**11 13 30.8**	**+0.2**
KST	**Kastek**	**3.50 314**		*e*P	**Pn**	**11 12 41.5**	**+1.5**
KST	**Kastek**	**3.50 314**		Pg	**Pb**	**11 12 45.9**	**-2.6**
KST	373nm,0.4s			Lg	Lg	11 13 31.9	
TKM2	**Tokmak 2**	**3.63 310**		⇑Pn	**Pn**	**11 12 43.5**	**+1.6**
TKM2	136nm,0.5s			⇑Lg	Lg	11 13 35.8	
TKM2	**Tokmak 2**	**3.63 310**		⇓*e*P	**Pn**	**11 12 43.4**	**+1.5**
TKM2	800nm,0.5s			⇓*e*S	**Sn**	**11 13 25.0**	**+1.0**
KTBS	**Karatobe**	**3.65 327**		*e*P	**Pb**	**11 12 50.1**	**-1.0**
KTBS	baz=9.0			*e*S	**Sb**	**11 13 35.8**	**+0.9**
KTBS	**Karatobe**	**3.65 327**		Pg	**Pb**	**11 12 48.6**	**-2.5**
KTBS	303nm,0.7s			Lg	Lg	11 13 35.8	
CHKK	**Chushkaly**	**3.65 331**		*e*P	**Pb**	**11 12 49.1**	**-2.0**
CHKK	99nm,0.3s			*e*S	**Sb**	**11 13 35.0**	**+0.1**
CHKK	**Chushkaly**	**3.65 331**		*e*P	**Pn**	**11 12 43.7**	**+1.6**
CHKK	**Chushkaly**	**3.65 331**		Pg	**Pb**	**11 12 48.2**	**-3.0**
CHKK	99nm,0.3s			Lg	Lg	11 13 35.0	
DJR	**Jarkent**	**3.67 4**		*e*P	**Pb**	**11 12 50.9**	**-0.6**
DJR	58nm,0.6s			*e*S	**Sb**	**11 13 37.1**	**+1.4**
DJR	**Jarkent**	**3.67 4**		*e*P	**Pn**	**11 12 43.9**	**+1.5**
DJR	**Jarkent**	**3.67 4**		Pg	**Pb**	**11 12 49.4**	**-2.2**
DJR	132nm,0.6s			Lg	Lg	11 13 37.1	
ARXS	**Arharly**	**3.73 342**		*e*P	**Pb**	**11 12 51.5**	**-1.0**
ARXS	265nm,0.6s			*e*S	**Sb**	**11 13 39.2**	**+2.0**
ARXS	**Arharly**	**3.73 342**		Pg	**Pb**	**11 12 50.5**	**-1.9**
ARXS	265nm,0.6s			Lg	Lg	11 13 39.2	
DGS	**Degeres**	**3.73 315**		*e*P	**Pb**	**11 12 49.6**	**-3.0**
DGS	278nm,0.5s			*e*S	**Sb**	**11 13 34.9**	**-2.4**
DGS	**Degeres**	**3.73 315**		*e*P	**Pn**	**11 12 44.9**	**+1.6**
DGS	**Degeres**	**3.73 315**		Pg	**Pn**	**11 12 47.7**	**+4.4**
DGS	1μm,0.7s			Lg	Lg	11 13 34.9	
KBK	**Karagaybulak**	**3.88 302**		⇓*i*P	**Pn**	**11 12 47.1**	**+1.7**
KBK	baz=2.0			⇓*i*S	**Sn**	**11 13 31.3**	**+1.1**
KUU	**Kurty**	**3.94 326**		*e*P	**Pb**	**11 12 54.8**	**-1.3**
KUU	107nm,0.5s			*e*S	**Sb**	**11 13 44.3**	**+1.0**
KUU	**Kurty**	**3.94 326**		*e*P	**Pn**	**11 12 47.6**	**+1.6**
KUU	**Kurty**	**3.94 326**		Pg	**Pb**	**11 12 53.2**	**-2.9**
KUU	107nm,0.5s			Lg	Lg	11 13 44.3	
UCH	**Uchtor**	**3.99 295**		⇑*i*P	**Pn**	**11 12 48.8**	**+1.7**
UCH	baz=94			⇑*i*S	**Sn**	**11 13 34.4**	**+1.2**
ARLS	**Aral**	**4.01 289**		⇑*e*P	**Pn**	**11 12 48.9**	**+1.8**
ARLS	baz=88			⇑*i*S	**Sn**	**11 13 34.7**	**+1.4**
KRBS	**Karabastau**	**4.10 319**		*e*P	**Pb**	**11 12 57.5**	**-1.3**
KRBS	220nm,0.4s			*e*S	**Sb**	**11 13 49.3**	**+1.4**
KRBS	**Karabastau**	**4.10 319**		Pg	**Pb**	**11 12 56.7**	**-2.0**
KRBS	220nm,0.4s			Lg	Lg	11 13 50.0	
FRU1	**Bishkek**	**4.16 303**		⇑*i*P	**Pn**	**11 12 51.0**	**+1.9**
FRU1	baz=2.0			⇑*i*S	**Sn**	**11 13 38.4**	**+1.5**
FRU1	**Bishkek**	**4.16 303**		Pn	**Pn**	**11 12 49.8**	**+0.6**
AAK	**Ala-Archa**	**4.17 300**		Pg	**Pb**	**11 12 58.1**	**-1.9**
AAK	23nm,0.3s,baz=139,slow=12,SNR=40			Lg	Lg	11 13 52.6	
AAK	**Ala-Archa**	**4.17 300**		⇑Pn	**Pn**	**11 12 52.7**	**+3.4**
AAK	25nm,0.3s,baz=308,slow=19,SNR=15 188nm,0.9s			⇓Lg	Lg	11 13 54.6	
AAK	**Ala-Archa**	**4.17 300**		⇓*e*P	**Pn**	**11 12 51.0**	**+1.7**
AAK	853nm,0.7s			⇓*i*S	**Sn**	**11 13 38.1**	**+0.8**
AAK	**Ala-Archa**	**4.17 300**			**Pn**	**11 12 51.4**	**+2.0**
CHMS	**Chumysh**	**4.18 305**		⇑*e*P	**Pn**	**11 12 51.0**	**+1.6**
CHMS	baz=99			⇑*e*S	**Sn**	**11 13 38.1**	**+0.7**
USP	**Ospenovka**	**4.48 307**		⇑*e*P	**Pn**	**11 12 55.1**	**+1.6**
USP	baz=5.0			⇑*i*S	**Sn**	**11 13 45.3**	**+0.5**
SGDS	**Sogindy**	**4.51 310**		*e*P	**Pb**	**11 13 05.3**	**-0.5**
SGDS	baz=7.0			*e*S	**Sb**	**11 14 02.6**	**+2.9**
SGDS	**Sogindy**	**4.51 310**		*e*P	**Pn**	**11 12 55.6**	**+1.7**
SGDS	**Sogindy**	**4.51 310**		Pg	**Pb**	**11 13 04.2**	**-1.5**
SGDS	66nm,0.5s			Lg	Lg	11 14 03.2	
KAPS	**Kapalarasan**	**4.62 360**		*e*P	**Pb**	**11 13 07.7**	**+0.1**
KAPS	45nm,0.5s			*e*S	**Sb**	**11 14 06.2**	**+3.5**
KAPS	**Kapalarasan**	**4.62 360**		Pg	**Pb**	**11 13 07.0**	**-0.5**
KAPS	92nm,0.4s			Lg	Lg	11 14 07.3	
EKS2	**Erkin-Say**	**4.66 297**		⇑*e*P	**Pn**	**11 12 57.6**	**+1.6**
EKS2	baz=96			⇑*i*S	**Sn**	**11 13 50.1**	**+0.8**
MRKS	**Merke**	**5.07 296**		*e*P	**Pb**	**11 13 16.6**	**+1.4**
MRKS	63nm,0.6s			*e*S	**Sb**	**11 14 21.4**	**+5.7**
MRKS	**Merke**	**5.07 296**		Pg	**Pb**	**11 13 15.0**	**-0.2**
MRKS	63nm,0.6s			Lg	Lg	11 14 21.9	
MNAS	**Manas**	**5.48 292**		⇓*e*P	**Pn**	**11 13 09.2**	**+1.9**
MNAS	baz=91			⇓*e*S	**Sn**	**11 14 09.8**	**+0.2**
ARK	**Arkit**	**5.72 284**		⇑*e*P	**Pn**	**11 13 12.5**	**+1.9**
ARK	baz=83			⇑*e*S	**Sn**	**11 14 15.6**	**+0.2**
BTLS	**Baital**	**5.88 320**		*e*P	**Pb**	**11 13 29.8**	**+0.8**
BTLS	42nm,0.5s			*e*S	**Sb**	**11 14 45.2**	**+6.2**
BTLS	**Baital**	**5.88 320**		*e*P	**Pn**	**11 13 14.2**	**+1.5**
BTLS	**Baital**	**5.88 320**		Pg	**Pb**	**11 13 29.8**	**+0.8**
BTLS	42nm,0.5s			Lg	Lg	11 14 46.4	
DRK	**Karamyk**	**5.95 261**		Pn	**Pn**	**11 13 13.9**	**0.0**
TRKS	**Terek-Say**	**6.30 281**		⇑*i*P	**Pn**	**11 13 20.1**	**+1.5**
TRKS	baz=79			⇑*i*S	**Sn**	**11 14 28.3**	**-1.4**
MAKZ	**Makanchi**	**6.42 16**		⇑Pn	**Pn**	**11 13 19.5**	**-0.5**
MAKZ	9.8nm,0.7s			⇑Pg	**Pb**	**11 13 39.7**	**+1.5**
MAKZ	14nm,0.5s			⇑Lg	Lg	11 14 58.8	
	140nm,1.0s						
MAKZ	**Makanchi**	**6.42 16**		Pn	**Pn**	**11 13 20.8**	**+0.7**
MK31	**Makanchi Array**	**6.47 18**		⇑Pn	**Pn**	**11 13 19.5**	**-1.3**
MK31	4.8nm,0.4s,baz=203,slow=12,SNR=52 25nm,0.7s,baz=203,slow=14,SNR=5.7			Pg	**Pb**	**11 13 39.5**	**+0.3**
MK31	41nm,0.6s,baz=206,slow=24,SNR=3.8			⇑Sn	**Sn**	**11 14 30.0**	**-3.8**
MK31	67nm,0.6s			⇓Lg	Lg	11 15 00.4	
MK31	**Makanchi Array**	**6.47 18**		Pn	**Pn**	**11 13 22.4**	**+1.6**
MKAR	**Makanchi Array**	**6.47 18**		Pn	**Pn**	**11 13 22.0**	**+1.1**
MKAR	7.2nm,0.3s,baz=198,slow=12,SNR=94 8.7nm,0.3s,baz=206,slow=22,SNR=6.6			Sn	**Sn**	**11 14 35.2**	**+1.4**
MKAR	**Makanchi Array**	**6.47 18**		Pn	**Pn**	**11 13 22.5**	**+1.7**
BTK	**Batken**	**6.58 267**		Pn	**Pn**	**11 13 22.3**	**-0.1**
WMQ	**Urumqi**	**6.92 60**		*e*Pn	**Pn**	**11 13 29.3**	**+2.4**
WMQ	comp=N,240nm,1.1s			Sn	**Sn**	**11 14 48.4**	**+3.6**
WMQ	comp=E,280nm,1.1s			smax	smax		
WMQ	comp=E,280nm,1.1s			smax	smax		
KK02	**Karatay Array**	**7.06 293**		⇑Pg	**Pb**	**11 13 52.6**	**+3.4**
KK02	34nm,0.8s 70nm,0.8s			⇑Lg	Lg	11 15 22.6	
KKAR	**Karatay Array**	**7.06 293**		Pn	**Pn**	**11 13 30.7**	**+1.7**
CHGR	**Chuyangaron**	**8.15 259**		Pn	**Pn**	**11 13 43.0**	**-1.0**
CHCP	**Chirah Chowk**	**8.54 217**		P	**Pn**	**11 13 49.6**	**+0.4**
NIL	**Nilore**	**8.55 217**			**Pn**	**11 13 49.0**	**-0.4**
DHRM	**DHARAMSHALA**	**8.76 197**		IAML		11 15 35.6	
DHRM	comp=E,192nm,0.0s **DHARAMSHALA**	**8.76 197**		*e*P	**Pn**	**11 13 54.2**	**+1.8**
DHRM	**DHARAMSHALA**	**8.76 197**		*e*S	**Sn**	**11 15 29.2**	**-1.3**
DHRM	**DHARAMSHALA**	**8.76 197**		IAML		11 15 34.8	
CEP	comp=N,205nm,0.9s **Cherat**	**9.07 224**		P	**Pn**	**11 13 56.9**	**+0.3**
CEP				S	**Sn**	**11 15 34.0**	**-3.9**
OTUK	**Ortayu**	**9.10 329**		⇑Pn	**Pn**	**11 13 56.7**	**-0.1**
OTUK	comp=N,27nm,0.9s comp=N,156nm,0.8s			⇑Lg	Lg	11 16 28.1	
SMLA	**Simla**	**9.69 191**		*e*P	**Pn**	**11 14 05.0**	**0.0**
SMLA				*e*S	**Sn**	**11 15 47.5**	**-5.4**
SMLA	comp=E,61nm,0.0s			IAML		11 15 52.8	
SMLA	comp=N,134nm,0.2s			IAML		11 15 54.9	
SMLA	comp=E,71nm,0.7s			IAML		11 16 00.1	
KURBB	**Kurchatov Arra**	**9.97 357**		Pn	**Pn**	**11 14 08.7**	**-0.1**
KURBB	comp=E,0.2nm,0.3s,baz=182,slow=12,SNR=22 comp=E,1.1nm,0.3s,baz=186,slow=27,SNR=11			Lg	Lg	11 16 58.7	
KURBB	**Kurchatov Arra**	**9.97 357**		⇑Pn	**Pn**	**11 14 08.4**	**-0.4**
KURBB	comp=E,4.3nm,0.8s comp=E,406nm,1.1s			⇓Lg	Lg	11 16 52.2	
KURK	**Kurchatov**	**10.06 357**		⇓Pn	**Pn**	**11 14 10.2**	**+0.2**
KURK	comp=E,13nm,1.2s comp=E,369nm,1.2s			⇓Lg	Lg	11 16 54.2	
KURK	**Kurchatov**	**10.06 357**			**Pn**	**11 14 09.9**	**-0.1**
KBL	**Kabul**	**10.24 237**		Pn	**Pn**	**11 14 11.5**	**-1.2**
GOMU	**GeErMu**	**12.88 105**		P	**Pn**	**11 14 48.1**	**-0.9**
GOMU				pP		11 14 53.1	
GOMU				sP		11 14 57.3	
GOMU				S	Sn	11 17 20.8	+9.2
GOMU	comp=E,5.0nm,0.7s			pmax	pmax		
GOMU	comp=E,140nm,6.0s			pmax	pmax		
GOMU	comp=E,220nm,10.1s			LR	LR		
GOMU	comp=E,190nm,8.7s			LR	LR		
GOMU	comp=E,100nm,10.3s			LR	LR		
ZAA0	**Zalesovo Array**	**13.78 14**		⇑Pn	**Pn**	**11 15 00.4**	**-0.3**
ZAA0	comp=E,0.7nm,0.6s comp=E,4.7nm,1.0s			⇓Sn	**Sn**	**11 17 29.1**	**-3.7**
ZAA0	comp=E,8.1nm,1.1s			⇑Lg	Lg	11 18 53.2	
ZAA0	**Zalesovo Array**	**13.78 14**		Pn	**Pn**	**11 14 59.4**	**-1.4**
ZALV	**Zalesovo Beam**	**13.78 14**		Pn	**Pn**	**11 14 59.4**	**-1.4**
ZALV	comp=E,0.7nm,0.3s,baz=198,slow=12,SNR=13 comp=E,0.8nm,0.3s,baz=208,slow=23,SNR=3.8			Sn	**Sn**	**11 17 31.5**	**-1.3**
ZALV	comp=E,0.2nm,0.3s,baz=197,slow=19,SNR=3.9			Lg	Lg	11 19 04.8	
ZALV	comp=E,116nm,20.3s,baz=216,slow=38			LR	LR	11 20 37.6	
ZALV	**Zalesovo Beam**	**13.78 14**			**Pn**	**11 14 59.2**	**-1.5**
BVAR	**Borovoye Array**	**13.80 337**		Pn	**Pn**	**11 14 59.5**	**-1.6**
BRVK	comp=E,1.0nm,0.3s,baz=126,slow=15,SNR=24 **Borovoye**	**13.86 336**		⇑Pn	**Pn**	**11 15 00.4**	**-1.4**
BRVK	comp=E,17nm,1.1s comp=E,139nm,1.2s			⇓Lg	Lg	11 18 52.5	
BRVK	**Borovoye**	**13.86 336**		Pn	**Pn**	**11 15 00.9**	**-1.0**
GTA	**Gaotai**	**15.69 88**		*e*P	**Pn**	**11 15 26.6**	**0.0**
GTA				pP	P	11 15 32.8	+2.4
GTA				sP	pP	11 15 35.9	-2.1
GTA	comp=E,2.0nm,1.0s			pmax	pmax		
GTA	comp=E,88nm,5.3s			pmax	pmax		
GTA	comp=E,300nm,12.0s			LR	LR		
GTA	comp=E,310nm,12.0s			LR	LR		
AB31	**Akbulak array**	**16.19 309**		⇓Pn	**Pn**	**11 15 33.3**	**+0.5**
ABKAR	comp=E,2.7nm,0.6s **Akbulak array**	**16.19 309**			**Pn**	**11 15 30.9**	**-1.9**
GEYT	**Alibeck**	**16.70 267**		LR	LR	11 23 09.1	
GEYT	comp=E,169nm,18.1s,baz=56,slow=41 **Alibeck**	**16.70 267**		Pn	**Pn**	**11 15 38.1**	**-1.2**
AKTO	**Aktyubinsk**	**17.82 310**		P	**Pn**	**11 15 53.6**	**+0.4**
AKTO	comp=E,0.3nm,0.3s,baz=116,slow=12,SNR=14 **Aktyubinsk**	**17.82 310**		⇓Pn	**P**	**11 15 54.6**	**+0.8**
LZH	comp=E,7.0nm,0.9s **Lanzhou**	**19.68 96**		*e*P	**Pn**	**11 16 22.9**	**+6.9**
LZH				pP	sP	11 16 27.1	+1.6
LZH	comp=Z,19nm,1.3s			pmax	pmax		
SONM	**Songino Array**	**20.55 61**		P	Pn	11 16 25.5	-0.6
SONM	comp=Z,16nm,0.8s,baz=256,slow=11,SNR=50 **Songino Array**	**20.55 61**		P	**P**	**11 16 23.8**	**-0.1**
SONM	comp=Z,16nm,0.8s			IAmb	IAmb	11 16 26.7	
ARU	**Arti**	**20.82 326**		P	**P**	**11 16 26.4**	**-0.1**
ARU	comp=Z,2.1nm,0.2s,baz=126,slow=4.2,SNR=12 comp=Z,257nm,19.8s,baz=124,slow=38			LR	LR	11 24 50.4	
ARU	**Arti**	**20.82 326**		P	**P**	**11 16 25.1**	**-1.4**
ULN	**Ulaanbaatar**	**21.00 61**		P	**P**	**11 16 26.9**	**-1.8**
ULN	comp=Z,12nm,0.8s			IAmb	IAmb	11 16 35.3	
XAN	**Xi'an**	**24.31 96**		P	**P**	**11 17 08.0**	**+5.3**
XAN	comp=Z,9.0nm,1.6s			pmax	pmax		
XAN	comp=Z,430nm,14.4s			LR	LR		
XAN	comp=Z,310nm,15.1s			LR	LR		
BELG	**Belogornoye**	**24.60 309**		P	**P**	**11 17 05.6**	**+0.6**
BELG	comp=Z,22nm,1.0s,baz=79,slow=3.5,SNR=8.6			LR	LR	11 27 04.5	
WSAR	comp=Z,118nm,18.2s,baz=126,slow=37 **Wadi Sarin**	**24.65 231**		LR	LR	11 28 01.3	
KIRV	comp=Z,76nm,19.5s,baz=58,slow=40 **Kirov**	**26.09 323**		LR	LR	11 28 06.9	
GNI	comp=Z,202nm,18.7s,baz=146,slow=38 **Garni**	**26.30 280**		LR	LR	11 29 09.4	
CMAR	comp=Z,42nm,19.6s,baz=68,slow=40 **Chiang Mai Arr**	**27.79 137**		P	**P**	**11 17 34.0**	**-0.1**
CMAR	comp=Z,0.9nm,0.3s,baz=313,slow=8.3,SNR=1.1 comp=Z,52nm,19.0s,baz=340,slow=40			LR	LR	11 30 25.4	
CMAR	**Chiang Mai Arr**	**27.79 137**		P	**P**	**11 17 31.9**	**-2.2**
RAYN	**Ar Rayn**	**33.16 249**		P	**P**	**11 18 20.2**	**-1.4**
RAYN	comp=Z,5.4nm,1.1s			IAmb	IAmb	11 18 24.6	
BR131	**Keskin Array S**	**34.66 284**		P	**P**	**11 18 33.8**	**-0.8**
BR131				IAmb	IAmb	11 18 47.7	

comp=Z,3.3nm,0.8s
BRTR Keskin Array B 34.66 284 P **P 11 18 34.5 -0.1**
comp=Z,1.1nm,0.6s,baz=81,slow=8.7,SNR=7.2
BRTR LR LR 11 34 14.2
comp=Z,80nm,19.8s,baz=86,slow=39
BRTR Keskin Array B 34.66 284 P **P 11 18 33.4 -1.2**
AKASG Malin Array Be 35.83 303 LR LR 11 35 49.5
comp=Z,84nm,18.3s,baz=100,slow=40
KLR Kul'dur 37.37 59 LR LR 11 35 43.2
comp=Z,91nm,18.7s,baz=213,slow=38
KSRS Korea Array 37.44 79 P **P 11 19 01.1 +2.9**
comp=Z,1.5nm,0.7s,baz=291,slow=8.9,SNR=4.6
KSRS LR LR 11 35 37.8
comp=Z,73nm,18.5s,baz=185,slow=38
FINES FINESS Array B 38.04 321 P **P 11 19 03.4 +0.5**
comp=Z,1.6nm,0.6s,baz=102,slow=8.4,SNR=7.3
FINES LR LR 11 35 08.0
comp=Z,128nm,20.1s,baz=104,slow=37
USRK Ussuriysk Ar. 38.43 67 LR LR 11 37 45.5
comp=Z,130nm,18.2s,baz=204,slow=41
ARCES ARCESS Array B 40.06 334 P **P 11 19 21.5 +1.6**
comp=Z,2.0nm,0.7s,baz=94,slow=7.3,SNR=7.6
ARCES LR LR 11 36 39.6
comp=Z,110nm,19.1s,baz=336,slow=37
HFS Hagfors 44.06 319 LR LR 11 38 55.5
comp=Z,194nm,18.0s,baz=80,slow=37
VRAC Vranov 44.08 303 LR LR 11 40 11.9
comp=Z,69nm,18.5s,baz=76,slow=39
NB2 NORSAR Subarra 45.20 320 P **P 11 20 01.9 +0.2**
comp=Z,0.5nm,0.5s,baz=86,slow=8.6
NOA NORSAR Array B 45.20 320 P **P 11 20 02.0 +0.2**
comp=Z,1.2nm,0.8s,baz=86,slow=7.9,SNR=4.4
NOA LR LR 11 39 30.4
comp=Z,129nm,19.8s,baz=90,slow=37
GERES GERESS Array B 46.04 303 LR LR 11 40 46.0
comp=Z,58nm,18.3s,baz=72,slow=38
DAVOX Davos/Dischmat 49.12 302 LR LR 11 43 29.4
comp=Z,66nm,20.6s,baz=79,slow=39
EKA Eskdalemuir Ar 53.91 315 LR LR 11 43 48.1
comp=Z,93nm,18.4s,baz=41,slow=36
BORG Borgarnes 58.29 330 LR LR 11 46 25.4
comp=Z,90nm,18.4s,baz=90,slow=36
KAPI Kappang 58.59 131 LR LR 11 49 48.0
comp=Z,36nm,19.7s,baz=332,slow=39
MBAR Mbarara 60.29 240 LR LR 11 49 37.4
comp=Z,54nm,18.2s,baz=98,slow=38
ESDC Sonseca Array 61.27 299 LR LR 11 52 12.8
comp=Z,88nm,19.0s,baz=34,slow=40
ILAR Eielson Array 68.83 19 P **P 11 22 47.9 -0.9**
comp=Z,0.6nm,0.9s,baz=325,slow=4.5,SNR=5.3
ILAR LR LR 11 57 51.7
comp=Z,60nm,20.9s,baz=269,slow=40
TORD Torodi Ar. Bea 72.27 272 P **P 11 23 09.1 -1.5**
comp=Z,1.0nm,0.9s,baz=33,slow=5.3,SNR=5.0
TORD Torodi Ar. Bea 72.27 272 IAmb IAmb 11 23 14.7
comp=Z,3.6nm,1.5s
FRB Frobisher Bay 72.86 346 LR LR 12 00 24.9
comp=Z,32nm,18.4s,baz=240,slow=40
YKA Yellowknife Ar 76.57 7 P **P 11 23 34.1 -0.7**
comp=Z,1.6nm,0.8s,baz=345,slow=5.5,SNR=26
ASAR Alice Springs 81.61 131 P **P 11 24 02.7 -0.3**
comp=Z,0.6nm,0.8s,baz=328,slow=5.4,SNR=8.5
SADO Sadowa 92.79 345 LR LR 12 14 27.6
comp=Z,32nm,18.0s,baz=18,slow=40

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*NIED **21** 11:28:22.9, 30.°93N×128.°60E, h19^{km}, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.88; $M_{\theta\theta}$=0.70; $M_{\phi\phi}$=0.18; $M_{r\theta}$=0.05; $M_{\theta\phi}$=1.95; $M_{r\phi}$=-1.43; Fault plane solution: M_0=2.54000×10^{15} NP1:ϕ_s=11.00000°, δ=75.00000°, λ=-139.00000°. NP2:ϕ_s=269.00000°, δ=51.00000°, λ=-19.00000°.*
*JMA **21** 11:28:22.9±0.3, 30.°93N×128.°60E, h19^{km}±4^{km}, M3.9*
*IDC **21** 11:28:25.9±1.5, 31.°14N×128.°55E, h0^{km}, mb3.8/6, mb1 4.0/8, mb1mx3.7/67, mbtmp3.7/8, ML2.7/3, MS3.6/28, Ms1 3.6/28, ms1mx3.3/91, Error ellipse: s-maj=27.6km s-min=17.3km az=153.0*
ISC 21 11:28:25.6±0.9, 30.°96N±0.°06×128.°75E±0.°06, h10^{km}, n44, σ1^{s}97/25, mb3.8/6, MS3.6/25, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**1.09**	**49**	P	**Pg**	**11 28 44.5**	**-2.1**
JSJ				*e*S	**Sb**	**11 29 00.0**	**-0.9**
JKC	**Kuchinoerabu**	**1.35**	**111**	P	**Pn**	**11 28 49.0**	**-1.4**
JKC				*e*S	**Sn**	**11 29 07.7**	**-0.6**
JNN	**Nakanoshima**	**1.48**	**139**	P	**Pn**	**11 28 49.6**	**-2.8**
JSU	**Suzuyama**	**1.56**	**69**	P	**Pn**	**11 28 51.9**	**-1.5**
JYAK	**Yakushimahirau**	**1.69**	**115**	P	**Pn**	**11 28 52.5**	**-2.6**
JFU	**Fukue jima 2**	**1.69**	**0**	P	**Pn**	**11 28 52.7**	**-2.4**
JFU				*e*S	**Sn**	**11 29 14.1**	**-2.7**
JMTN	**Minamitane**	**1.94**	**106**	P	**Pn**	**11 28 57.2**	**-1.4**
JTN	**Tanegashima 3**	**1.95**	**99**	P	**Pn**	**11 28 57.2**	**-1.5**
JTZ	**Takazaki**	**2.21**	**64**	P	**Pn**	**11 29 01.5**	**-0.8**
JIU3	**Izumi3**	**2.37**	**48**	P	**Pn**	**11 29 03.7**	**-0.8**
JNU	**Nakatsue**	**2.81**	**40**	Pn	**Pn**	**11 29 11.1**	**+0.5**
	1.1nm,0.3s,baz=130,slow=22,SNR=3.1						
JNU				Pg	**Pb**	**11 29 16.5**	**+0.6**
	12nm,0.3s,baz=206,slow=8.4,SNR=57						
JNU				Lg	Lg	11 29 55.0	
	7.1nm,0.3s,baz=45,slow=21,SNR=1.8						
JNU				LR	LR	11 30 01.2	
	comp=Z,140nm,18.8s,baz=212,slow=34						
JOW	**Kunigami**	**4.14**	**186**	LR	LR	11 31 16.6	
	comp=Z,370nm,19.8s,baz=136,slow=40						
KSRS	**Korea Array**	**6.51**	**354**	Pn	**Pn**	**11 30 00.4**	**-1.0**
	0.5nm,0.3s,baz=174,slow=14,SNR=8.8						
KSRS				Sn	**Sn**	**11 31 13.6**	**-2.1**
	0.9nm,0.3s,baz=174,slow=25,SNR=4.6						
KSRS				Lg	Lg	11 31 47.6	
	1.6nm,0.3s,baz=177,slow=31,SNR=6.0						
MJAR	**Matsushiro Arr**	**9.64**	**52**	Pn	**Pn**	**11 30 47.1**	**+2.7**
	0.1nm,0.3s,baz=245,slow=13,SNR=3.2						
MJAR				LR	LR	11 34 56.4	
	comp=Z,186nm,18.8s,baz=254,slow=40						
KLR	**Kul'dur**	**18.39**	**6**	P	**P**	**11 32 43.2**	**+2.7**
	0.2nm,0.3s,baz=194,slow=8.2,SNR=8.6						
GUMO	**Guam**	**22.79**	**136**	LR	LR	11 41 19.1	
	comp=Z,58nm,18.7s,baz=71,slow=34						
SONM	**Songino Array**	**23.99**	**321**	P	**P**	**11 33 41.5**	**+1.1**
	1.3nm,0.8s,baz=135,slow=8.8,SNR=4.3						
SONM				LR	LR	11 44 06.6	
	comp=Z,290nm,18.2s,baz=136,slow=40						
CMAR	**Chiang Mai Arr**	**29.70**	**252**	LR	LR	11 47 39.4	
	comp=Z,32nm,19.5s,baz=75,slow=39						
JAY	**Jayapura**	**35.19**	**159**	LR	LR	11 47 29.4	
	comp=Z,54nm,19.8s,baz=344,slow=32						
ZALV	**Zalesovo Beam**	**38.86**	**319**	LR	LR	11 53 09.2	
	comp=Z,108nm,18.5s,baz=118,slow=38						
MKAR	**Makanchi Array**	**38.87**	**307**	P	**P**	**11 35 50.1**	**-0.9**
	1.3nm,0.7s,baz=96,slow=10,SNR=8.8						
MKAR				LR	LR	11 52 33.2	
	comp=Z,52nm,18.1s,baz=22,slow=38						
PSI	**Prapat**	**39.72**	**231**	LR	LR	11 52 33.5	
	comp=Z,50nm,18.1s,baz=58,slow=36						
TIXI	**Tiksi**	**40.74**	**0**	LR	LR	11 52 05.1	
	comp=Z,52nm,18.2s,baz=230,slow=35						
KURBB	**Kurchatov Arra**	**41.86**	**313**	LR	LR	11 54 54.1	
	comp=Z,192nm,19.7s,baz=46,slow=38						
PMG	**Port Moresby**	**43.86**	**153**	LR	LR	11 52 42.3	
	comp=Z,60nm,20.6s,baz=314,slow=33						
AAK	**Ala-Archa**	**44.29**	**301**	LR	LR	11 57 58.0	
	comp=Z,83nm,19.9s,baz=103,slow=40						
BVAR	**Borovoye Array**	**47.14**	**315**	P	**P**	**11 36 57.2**	**-0.6**
	1.2nm,0.8s,baz=107,slow=14,SNR=4.8						
PALK	**Pallekele**	**50.64**	**253**	LR	LR	12 02 45.9	
	comp=Z,24nm,18.1s,baz=266,slow=41						
WRA	**Warramunga Arr**	**50.90**	**173**	LR	LR	12 02 46.8	
	comp=Z,18nm,18.0s,baz=264,slow=40						
ARU	**Arti**	**54.02**	**320**	LR	LR	12 02 45.1	
	comp=Z,89nm,18.8s,baz=130,slow=38						
AKTO	**Aktyubinsk**	**54.91**	**312**	LR	LR	12 03 08.6	
	comp=Z,192nm,18.4s,baz=90,slow=38						
GEYT	**Alibeck**	**57.41**	**298**	LR	LR	12 06 17.6	
	comp=Z,42nm,18.0s,baz=258,slow=40						
BELG	**Belogornoye**	**60.93**	**316**	LR	LR	12 06 37.6	
	comp=Z,95nm,18.8s,baz=294,slow=38						
ARCES	**ARCESS Array B**	**65.79**	**338**	LR	LR	12 13 26.9	
	comp=Z,25nm,18.6s,baz=194,slow=41						
FINES	**FINESS Array B**	**68.99**	**330**	LR	LR	12 11 33.7	
	comp=Z,90nm,18.1s,baz=38,slow=38						
RES	**Resolute Bay**	**70.83**	**11**	LR	LR	12 14 20.6	
	comp=Z,22nm,18.0s,baz=62,slow=39						
YKA	**Yellowknife Ar**	**74.06**	**26**	P	**P**	**11 40 01.7**	**+0.3**
	1.3nm,1.0s,baz=295,slow=6.1,SNR=11						
NOA	**NORSAR Array B**	**75.29**	**333**	LR	LR	12 15 59.1	
	comp=Z,43nm,18.3s,baz=225,slow=38						
VRAC	**Vranov**	**79.92**	**322**	LR	LR	12 19 29.3	
	comp=Z,81nm,19.1s,baz=72,slow=38						
GERES	**GERESS Array B**	**81.71**	**323**	LR	LR	12 20 42.5	
	comp=Z,67nm,18.1s,baz=26,slow=38						
DAVOX	**Davos/Dischmat**	**85.01**	**323**	LR	LR	12 23 51.8	
	comp=Z,106nm,18.4s,baz=80,slow=39						
NVAR	**Mina Array Bea**	**86.92**	**46**	P	**P**	**11 41 14.1**	**+2.9**
	0.3nm,0.6s,baz=287,slow=5.6,SNR=4.1						
PDAR	**Pinedale Array**	**89.20**	**39**	P	**P**	**11 41 25.3**	**+3.3**
	0.6nm,0.8s,baz=219,slow=0.9,SNR=4.4						
ESDC	**Sonseca Array**	**97.13**	**325**	LR	LR	12 30 34.0	
	comp=Z,98nm,19.1s,baz=78,slow=38						

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*IDC **21** 11:44:52.7±5.8, 5.°87S×81.°09W, h35^{km}±46^{km}, mb3.5/8, mb1 3.8/9, mb1mx3.6/30, mbtmp3.7/9, ML3.8/1, MS3.0/4, Ms1 3.0/4, ms1mx2.7/38, Error ellipse: s-maj=36.1km s-min=21.8km az=62.0*
ISC 21 11:44:52.0±0.9, 5.°9S±0.°2×81.°2W±0.°2, h30^{km}, n19, σ1^{s}01/11, mb3.8/7, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.04**	**114**	Pn	**Pn**	**11 45 39.7**	**+1.2**
	12nm,0.3s,baz=317,slow=10.0,SNR=21						
ATAH				Lg	Lg	11 46 25.4	
	28nm,0.3s,baz=96,slow=9.8,SNR=10						
ATAH				LR	LR	11 46 47.2	
	comp=Z,259nm,21.5s,baz=226,slow=39						
NNA	**Nana**	**7.43**	**145**	LR	LR	11 49 10.7	
	comp=Z,89nm,18.2s,baz=300,slow=35						
LPAZ	**La Paz**	**16.45**	**130**	LR	LR	11 54 47.4	
	comp=Z,37nm,20.9s,baz=297,slow=36						
LVC	**Limon Verde**	**20.42**	**146**	P	**P**	**11 49 27.9**	**+0.6**
	3.4nm,0.7s,baz=302,slow=9.5,SNR=3.5						
PTGA	**Pitinga**	**21.80**	**77**	P	**P**	**11 49 40.8**	**-1.1**
	4.4nm,0.8s,baz=268,slow=11,SNR=8.7						
PTGA				LR	LR	11 57 48.3	
	comp=Z,74nm,18.7s,baz=260,slow=36						
SIV	**San Ignacio**	**22.14**	**119**	P	**P**	**11 49 45.0**	**-0.5**
	2.1nm,0.6s,baz=302,slow=9.6,SNR=9.7						
H03N2	**Juan Fernandez**	**27.49**	**176**	T	T	12 19 07.0	
	baz=355,slow=76,SNR=58						
H03N1	**Juan Fernandez**	**27.49**	**176**	T	T	12 19 06.6	
	baz=355,slow=76,SNR=78						
H03N3	**Juan Fernandez**	**27.51**	**176**	T	T	12 19 05.4	
	baz=355,slow=76,SNR=48						
PLCA	**Paso Flores**	**35.98**	**166**	P	**P**	**11 51 50.0**	**-0.3**
	2.1nm,0.8s,baz=341,slow=9.2,SNR=6.0						
TXAR	**Lajitas Array**	**41.15**	**330**	P	**P**	**11 52 34.9**	**+0.9**
	0.2nm,0.6s,baz=114,slow=11,SNR=1.7						
NVAR	**Mina Array Bea**	**55.95**	**325**	P	**P**	**11 54 28.8**	**+1.0**
	0.3nm,0.8s,baz=119,slow=8.4,SNR=2.4						
YKA	**Yellowknife Ar**	**72.83**	**344**	P	**P**	**11 56 16.6**	**-0.9**
	0.3nm,0.8s,baz=133,slow=5.5,SNR=7.5						
TORD	**Torodi Ar. Bea**	**84.44**	**76**	P	**P**	**11 57 22.3**	**-0.2**
	1.3nm,0.7s,baz=303,slow=6.8,SNR=7.6						
H11S2	**WAKE ISLAND Hyl**	**12.79**	**287**	T	T	14 05 43.9	
	baz=89,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hyl**	**12.79**	**288**	T	T	14 05 44.7	
	baz=89,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hyl**	**12.81**	**288**	T	T	14 05 45.1	
	baz=89,slow=75,SNR=22						
ASAR	**Alice Springs**	**134.87**	**228**	PKP	**PKPdf**	**12 04 07.8**	**-1.2**
	0.3nm,0.8s,baz=130,slow=1.5,SNR=4.7						
WRA	**Warramunga Arr**	**136.64**	**233**	PKP	**PKPdf**	**12 04 11.5**	**-0.8**
	0.5nm,0.8s,baz=118,slow=1.6,SNR=4.6						

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*JMA **21** 11:49:23.9±0.1, 29.°20N×129.°33E, h16^{km}±3^{km}, M2.8*
*IDC **21** 11:49:30.6±2.4, 29.°20N×129.°35E, h49^{km}±23^{km}, mb3.3/8, mb1 3.6/10, mb1mx3.4/34, mbtmp3.6/10, ML3.0/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/42, Error ellipse: s-maj=31.1km s-min=18.1km az=89.0*
ISC 21 11:49:24.3±1.1, 29.°16N±0.°03×129.°40E±0.°05, h8^{km}±7^{km}, n24, σ1^{s}32/31, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.17**	**268**	P	**Pg**	**11 49 27.5**	**-0.4**
JTAJ				*e*S	**Sb**	**11 49 30.2**	**-0.1**
JAM	**Amami Oshima**	**0.77**	**167**	P	**Pb**	**11 49 39.0**	**-0.8**
JAM				*e*S	**Sb**	**11 49 49.8**	**-0.6**
JNN	**Nakanoshima**	**0.79**	**31**	P	**Pb**	**11 49 39.3**	**-1.0**
JNN				*e*S	**Sg**	**11 49 50.0**	**+0.1**
JAMN	**Amaminishikomi**	**0.94**	**192**	P	**Pb**	**11 49 41.8**	**-0.9**
JAMN				*e*S	**Sb**	**11 49 53.6**	**-1.7**
JZK	**Kikaishima**	**0.98**	**149**	P	**Pg**	**11 49 44.5**	**+1.4**
JTK	**Tokunoshima**	**1.43**	**196**	P	**Pn**	**11 49 48.9**	**-1.6**
JYAK	**Yakushimahirau**	**1.44**	**42**	P	**Pn**	**11 49 49.1**	**-1.6**
JYAK				*e*S	**Sn**	**11 50 07.2**	**-2.6**
JKC	**Kuchinoerabu**	**1.47**	**28**	P	**Pn**	**11 49 49.5**	**-1.5**
JKC				*e*S	**Sn**	**11 50 08.7**	**-1.7**
JMTN	**Minamitane**	**1.79**	**46**	P	**Pn**	**11 49 54.7**	**-0.8**
JMTN				*e*S	**Sn**	**11 50 17.3**	**-1.2**
JOKE	**Okinoerabujima**	**1.94**	**202**	P	**Pn**	**11 49 57.2**	**-0.3**
JTN	**Tanegashima 3**	**2.02**	**42**	P	**Pn**	**11 49 57.8**	**-0.9**
JTN				*e*S	**Sn**	**11 50 23.2**	**-0.9**
JYRO	**Yoronjima**	**2.29**	**202**	P	**Pn**	**11 50 02.1**	**-0.2**
JOW	**Kunigami**	**2.52**	**204**	P	**Pb**	**11 50 09.4**	**-0.5**
	3.7nm,0.3s,baz=18,slow=30,SNR=2.0						
JNU	**Nakatsue**	**4.15**	**17**	P	**Pn**	**11 50 30.9**	**+3.0**
	1.4nm,0.3s,baz=229,slow=7.7,SNR=14						
KSRS	**Korea Array**	**8.36**	**352**	LR	LR	11 54 36.6	
	comp=Z,46nm,18.8s,baz=145,slow=37						
SONM	**Songino Array**	**25.76**	**323**	P	**P**	**11 54 56.7**	**+1.2**
	1.3nm,0.8s,baz=120,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**40.43**	**309**	P	**P**	**11 57 03.3**	**+0.3**
	0.4nm,0.7s,baz=95,slow=11,SNR=6.0						
MKAR				PcP	**PcP**	**11 59 05.1**	**-0.8**
	0.2nm,0.6s,baz=73,slow=3.2,SNR=3.7						
AAK	**Ala-Archa**	**45.72**	**302**	LR	LR	12 17 46.7	
	comp=Z,28nm,18.1s,baz=64,slow=37						
WRA	**Warramunga Arr**	**49.05**	**174**	P	**P**	**11 58 11.9**	**0.0**
	0.6nm,0.8s,baz=353,slow=8.2,SNR=5.5						
ASAR	**Alice Springs**	**52.70**	**175**	P	**P**	**11 58 41.7**	**+2.3**
	0.1nm,0.4s,baz=7.8,slow=12,SNR=4.2						
YKA	**Yellowknife Ar**	**75.44**	**26**	P	**P**	**12 01 08.5**	**+0.1**
	0.5nm,0.6s,baz=304,slow=5.9,SNR=10						
GERES	**GERESS Array B**	**83.49**	**323**	P	**P**	**12 01 52.9**	**+0.2**
	0.2nm,0.4s,baz=43,slow=6.0,SNR=3.5						
NVAR	**Mina Array Bea**	**87.74**	**47**	P	**P**	**12 02 15.5**	**+1.3**
	0.2nm,0.6s,baz=302,slow=5.2,SNR=2.6						
PDAR	**Pinedale Array**	**90.24**	**39**	P	**P**	**12 02 26.1**	**+0.2**
	0.3nm,0.7s,baz=180,slow=1.3,SNR=3.7						

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*TAP **21** 12:00:57.9, 24.°27N×122.°06E, h38^{km}±1^{km}, ML3.7, B*
*JMA **21** 12:00:57.0±0.1, 24.°20N×122.°06E, h51^{km}±2^{km}, M3.1*
ISC 21 12:00:58.0±1.2, 24.°27N±0.°02×122.°10E±0.°02, h40^{km}±9^{km}, n137, σ0^{s}91/225, 6C-9D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.33**	**278**	*e*P	**Pn**	**12 01 07.0**	**+0.4**
	baz=278						
EWUT	**Wuta**	**0.34**	**302**	⇑P	**Pn**	**12 01 07.1**	**+0.3**
	baz=304						
EWUT				S	**Sn**	**12 01 13.8**	**+1.0**
	baz=304						
ENA	**Nanau**	**0.36**	**296**	*i* P	**Pn**	**12 01 07.2**	**+0.2**
	baz=299						
ENA				*e*S	**Sn**	**12 01 14.3**	**+1.0**
	baz=299						
TWC	**Suao**	**0.41**	**327**	⇑*i*P	**Pn**	**12 01 07.7**	**+0.1**
	baz=331						
TWC				*i* S	**Sn**	**12 01 14.5**	**+0.2**
	baz=331						
ETL	**Fush Village**	**0.45**	**256**	P	**Pn**	**12 01 08.0**	**-0.1**
	baz=255						
ETL				S	**Sn**	**12 01 15.4**	**+0.2**
	baz=255						
NACB	**Ninganchiao**	**0.47**	**259**	⇑*i*P	**Pn**	**12 01 08.1**	**-0.3**
	baz=258						
NACB				*i* S	**Sn**	**12 01 15.6**	**0.0**
	baz=258						
TWD	**Chiawan**	**0.49**	**248**	⇑*i*P	**Pn**	**12 01 08.4**	**-0.2**
	baz=246						
TWD				*i* S	**Sn**	**12 01 16.4**	**+0.2**
	baz=246						
NDS	**Dongshan**	**0.50**	**317**	⇓*i*P	**Pn**	**12 01 09.0**	**+0.2**
	baz=319						
NDS				*i* S	**Sn**	**12 01 16.8**	**+0.4**
	baz=319						
HWA	**Hwalien**	**0.53**	**237**	P	**Pn**	**12 01 09.4**	**+0.2**
	baz=234						
HWA				*e*S	**Sn**	**12 01 18.1**	**+1.0**
	baz=234						
ETLH	**Xiulin Townshi**	**0.56**	**264**	P	**Pn**	**12 01 09.5**	**-0.2**
	baz=263						
ETLH				S	**Sn**	**12 01 17.7**	**-0.3**
	baz=263						
LATG	**Datong**	**0.58**	**297**	P	**Pn**	**12 01 09.9**	**-0.1**
	baz=298						
LATG				S	**Sn**	**12 01 18.6**	**+0.1**
	baz=298						
ILA	**Ilan**	**0.59**	**328**	*e*P	**Pn**	**12 01 10.5**	**+0.5**
	baz=330						
ILA				*e*S	**Sn**	**12 01 20.0**	**+1.5**
	baz=330						
TWE	**Neicheng**	**0.60**	**319**	⇓*i*P	**Pn**	**12 01 10.4**	**+0.3**
	baz=322						
TWE				S	**Sn**	**12 01 19.3**	**+0.6**
	baz=322						
TEYL	**Yanliau Villag**	**0.60**	**229**	P	**Pn**	**12 01 09.7**	**-0.4**
	baz=229						
TEYL				*e*S	**Sn**	**12 01 18.9**	**+0.1**
	baz=229						
ENTT	**Nioudou**	**0.61**	**308**	P	**Pn**	**12 01 10.4**	**+0.1**
	baz=309						
ENTT				*e*S	**Sn**	**12 01 19.3**	**+0.4**
	baz=309						
ETM	**Tongmen**	**0.63**	**242**	⇑*i*P	**Pn**	**12 01 10.1**	**-0.4**
	baz=240						
ETM				*e*S	**Sn**	**12 01 19.4**	**0.0**
	baz=240						
NDT	**Datong Townshi**	**0.63**	**302**	P	**Pn**	**12 01 10.6**	**+0.1**
	baz=303						
NDT				*e*S	**Sn**	**12 01 20.1**	**+0.6**
	baz=303						
NTC	**Toucheng**	**0.63**	**338**	P	**Pn**	**12 01 11.1**	**+0.5**
	baz=340						
NTC				*e*S	**Sn**	**12 01 20.0**	**+0.5**
	baz=340						
NNSB	**Datong**	**0.67**	**284**	⇓*i*P	**Pn**	**12 01 10.9**	**-0.2**
	baz=284						
NNSB				S	**Sn**	**12 01 20.3**	**-0.3**
	baz=284						
FUSB	**Fushanzhiwuyua**	**0.67**	**317**	⇓*i*P	**Pn**	**12 01 11.4**	**+0.2**
	baz=318						
FUSB				S	**Sn**	**12 01 21.1**	**+0.4**
	baz=318						
NNS	**Nan Shan**	**0.68**	**285**	P	**Pn**	**12 01 11.1**	**-0.2**
	baz=285						
NNS				S	**Sn**	**12 01 21.0**	**+0.1**
	baz=285						
NWLT	**Wulai**	**0.74**	**313**	⇓*i*P	**Pn**	**12 01 12.3**	**+0.2**
	baz=315						
NWLT				*i* S	**Sn**	**12 01 22.2**	**0.0**
	baz=315						
TIPB	**Shuangxi**	**0.74**	**341**	P	**Pn**	**12 01 12.5**	**+0.4**
	baz=343						
TIPB				S	**Sn**	**12 01 22.6**	**+0.3**
	baz=343						
TWB1	**Santiao Chiao**	**0.74**	**352**	P	**Pn**	**12 01 11.9**	**-0.1**
	baz=355						
TWB1				*e*S	**Sn**	**12 01 20.7**	**-1.5**
	baz=355						
TEGC	**Jichi Village**	**0.75**	**223**	*e*P	**Pn**	**12 01 12.1**	**0.0**
	baz=220						
ESL	**Shilin**	**0.76**	**233**	P	**Pn**	**12 01 11.7**	**-0.5**
	baz=231						
ESL				*e*S	**Sn**	**12 01 22.5**	**0.0**
	baz=231						
WHF	**Hehuan Shan**	**0.77**	**261**	P	**Pn**	**12 01 12.5**	**-0.3**
	baz=260						
WHF				S	**Sn**	**12 01 23.0**	**-0.4**
	baz=260						
YHNB	**Yeheng**	**0.77**	**302**	⇓*i*P	**Pn**	**12 01 12.6**	**+0.1**
	baz=302						
YHNB				*i* S	**Sn**	**12 01 22.7**	**-0.3**
	baz=302						
FUSS	**Fushou**	**0.78**	**269**	P	**Pn**	**12 01 12.7**	**-0.1**
	baz=268						
FUSS				S	**Sn**	**12 01 23.2**	**-0.1**
	baz=268						
NSK	**Sanguang**	**0.79**	**301**	⇓*i*P	**Pn**	**12 01 12.7**	**0.0**
	baz=302						
NSK				S	**Sn**	**12 01 23.2**	**-0.2**
	baz=302						
JYNG	**Yonagunijimaku**	**0.80**	**77**	P	**Pn**	**12 01 13.0**	**+0.2**
JYNG				*e*S	**Sn**	**12 01 24.2**	**+0.7**
TWT	**Tachien**	**0.84**	**269**	P	**Pn**	**12 01 14.2**	**+0.7**
	baz=268						
TWT				S	**Sn**	**12 01 25.2**	**+0.4**
	baz=268						
SXI1	**Grass Mountain**	**0.85**	**346**	P	**Pn**	**12 01 13.5**	**-0.1**
	baz=348						
SXI1				*e*S	**Sn**	**12 01 24.5**	**-0.4**
	baz=348						
TWA	**Mucha**	**0.85**	**327**	P	**Pn**	**12 01 14.4**	**+0.9**
	baz=328						
TWA				S	**Sn**	**12 01 26.1**	**+1.2**
	baz=328						
NWF	**Wu-fen Shan**	**0.85**	**340**	P	**Pn**	**12 01 13.9**	**+0.3**
	baz=342						
NWF				S	**Sn**	**12 01 25.0**	**+0.1**
	baz=342						
WFSB	**Wu-fen Shan**	**0.85**	**340**	*e*P	**Pn**	**12 01 13.9**	**+0.3**
	baz=342						
WFSB				*e*S	**Sn**	**12 01 24.9**	**+0.1**
	baz=342						
EGFH	**Guangfu**	**0.85**	**226**	*e*P	**Pn**	**12 01 13.1**	**-0.5**
	baz=224						
TDCB	**Techi**	**0.86**	**269**	P	**Pn**	**12 01 14.0**	**+0.3**
	baz=269						
TDCB				S	**Sn**	**12 01 25.2**	**0.0**
	baz=269						
YOJ	**Yonaguni jima**	**0.86**	**77**	P	**Pn**	**12 01 13.8**	**+0.2**
YOJ				S	**Sn**	**12 01 25.5**	**+0.5**
YOJ	**Yonaguni j

LIOB	**Emei**	**1.05 291**	P	**Pn**	**12 01 17.2 +0.8**
	baz=291				
LIOB			*e*S	**Sn**	**12 01 31.4 +1.5**
	baz=291				
ANP	**Anpu**	**1.05 330**	P	**Pn**	**12 01 16.6 +0.2**
	baz=332				
ANP			*e*S	**Sn**	**12 01 30.1 +0.1**
	baz=332				
NSTT	**Nanjuang**	**1.06 290** ⇓*i*P		**Pn**	**12 01 17.2 +0.7**
	baz=290				
NSTT			S	**Sn**	**12 01 30.0 0.0**
	baz=290				
NTST	**Danshui**	**1.07 327**	P	**Pn**	**12 01 17.1 +0.6**
	baz=328				
NTST			S	**Sn**	**12 01 30.8 +0.6**
	baz=328				
WPL	**Puli Township**	**1.07 257**	*e*P	**Pn**	**12 01 16.9 +0.4**
	baz=256				
NCU	**National Centr**	**1.08 310**	P	**Pn**	**12 01 16.5 -0.2**
	baz=311				
NCU			S	**Sn**	**12 01 31.4 +0.9**
	baz=311				
NCUH	**Zhongli**	**1.08 310**	*e*P	**Pn**	**12 01 16.9 +0.1**
	baz=311				
NCUH			S	**Sn**	**12 01 31.6 +1.0**
	baz=311				
WCS	**Beigang Elemen**	**1.10 259**	*e*P	**Pn**	**12 01 17.3 +0.3**
	baz=258				
WCS			*e*S	**Sn**	**12 01 31.8 +0.8**
	baz=258				
HSN1	**Hsinchu**	**1.11 298**	*e*P	**Pn**	**12 01 17.9 +0.9**
	baz=298				
ECBN	**Changbin**	**1.11 212**	*e*P	**Pn**	**12 01 16.7 -0.5**
	baz=210				
ECBN			*e*S	**Sn**	**12 01 30.5 -0.8**
	baz=210				
YULB	**Yu-li**	**1.14 220**	P	**Pn**	**12 01 16.6 -0.9**
	baz=218				
SBCB	**Hsinchu**	**1.14 298**	*e*P	**Pn**	**12 01 17.7 +0.2**
	baz=298				
SSLB	**Suanglung**	**1.15 246**	*e*P	**Pn**	**12 01 17.9 +0.2**
	baz=244				
SSLB			*e*S	**Sn**	**12 01 31.8 -0.4**
	baz=244				
SMLT	**Sun Moon Lake**	**1.16 251**	*e*P	**Pn**	**12 01 18.4 +0.5**
	baz=250				
SMLT			S	**Sn**	**12 01 33.0 +0.4**
	baz=250				
EYUL	**Yuli**	**1.16 218**	*e*P	**Pn**	**12 01 17.4 -0.4**
	baz=216				
EYUL			*e*S	**Sn**	**12 01 32.8 +0.4**
	baz=216				
TWF1	**Yuli**	**1.17 219**	*e*P	**Pn**	**12 01 17.2 -0.7**
	baz=217				
TYC	**Yuchr**	**1.19 253**	*e*P	**Pn**	**12 01 19.3 +1.2**
	baz=251				
TYC			*e*S	**Sn**	**12 01 33.4 +0.3**
	baz=251				
NHW	**Xinwu Township**	**1.21 308**	*e*P	**Pn**	**12 01 18.8 +0.4**
	baz=308				
NHW			*e*S	**Sn**	**12 01 34.0 +0.5**
	baz=308				
TWQ1	**Liyutan**	**1.21 274** ⇑P		**Pn**	**12 01 19.6 +1.1**
	baz=273				
TWQ1			*e*S	**Sn**	**12 01 35.5 +1.8**
	baz=273				
NMLH	**Miaoli**	**1.22 283** ⇓*i*P		**Pn**	**12 01 19.5 +0.9**
	baz=283				
FULB	**Fuli**	**1.29 215**	*e*P	**Pn**	**12 01 19.1 -0.5**
	baz=213				
WWF	**Wufeng**	**1.30 260**	*e*P	**Pn**	**12 01 21.1 +1.5**
	baz=259				
TCU	**Taichung**	**1.30 265**	*e*P	**Pn**	**12 01 20.8 +1.1**
	baz=264				
WJS	**Zhushan**	**1.33 251**	*e*P	**Pn**	**12 01 21.7 +1.6**
	baz=250				
WDJ	**Dajia District**	**1.33 274**	*e*P	**Pn**	**12 01 21.0 +0.9**
	baz=273				
CHKT	**Chengkung**	**1.34 210**	*e*P	**Pn**	**12 01 19.3 -1.0**
	baz=208				
WNT1	**Nantou City**	**1.34 255**	*e*P	**Pn**	**12 01 21.8 +1.5**
	baz=254				
WNT	**Mingjian**	**1.35 254**	*e*P	**Pn**	**12 01 22.1 +1.8**
	baz=252				
ALS	**Alishan**	**1.40 238**	*e*P	**Pn**	**12 01 22.7 +1.4**
	baz=236				
ALS			*e*S	**Sn**	**12 01 39.4 +0.6**
	baz=236				
ECS	**Chishang**	**1.42 215**	*e*P	**Pn**	**12 01 21.8 +0.4**
	baz=213				
WCHH	**Zhanghua**	**1.42 263**	*e*P	**Pn**	**12 01 22.3 +1.0**
	baz=262				
CHN5	**Tsauling**	**1.46 243**	*e*P	**Pn**	**12 01 23.1 +1.1**
	baz=242				
CHN5			*e*S	**Sn**	**12 01 41.6 +1.7**
	baz=242				
ELDTW	**Lidau**	**1.46 223**	*e*P	**Pn**	**12 01 21.5 -0.5**
	baz=221				
ELDTW			*e*S	**Sn**	**12 01 40.0 +0.1**
	baz=221				
EDH	**Donghe**	**1.48 210**	*e*P	**Pn**	**12 01 22.3 +0.1**
	baz=208				
IRIF	**Iriomote-Funau**	**1.49 87**	P	**Pn**	**12 01 22.2 -0.1**
IRIF			S	**Sn**	**12 01 40.7 +0.1**
WGK	**Gukeng**	**1.52 248**	*e*P	**Pn**	**12 01 24.1 +1.5**
	baz=247				
WGK			*e*S	**Sn**	**12 01 43.5 +2.3**
	baz=247				
WDLH	**Douliu**	**1.54 248**	*e*P	**Pn**	**12 01 24.5 +1.6**
	baz=247				
HATJ	**Hateruma jima**	**1.57 97**	P	**Pn**	**12 01 24.1 +0.6**
HATJ			*e*S	**Sn**	**12 01 43.6 +1.0**
WRL	**Guolierlin Hig**	**1.61 257**	*e*P	**Pn**	**12 01 25.0 +1.0**
	baz=256				
WRL			*e*S	**Sn**	**12 01 45.2 +1.6**
	baz=256				
LONT	**Longtian**	**1.62 213**	*e*P	**Pn**	**12 01 24.2 +0.1**
	baz=212				
LONT			*e*S	**Sn**	**12 01 42.9 -0.9**
	baz=212				
STYH	**Taoyuan**	**1.63 228**	*e*P	**Pn**	**12 01 24.6 +0.4**
	baz=227				
STYH			*e*S	**Sn**	**12 01 44.6 +0.6**
	baz=227				
STYT	**Tauyuan**	**1.65 228**	*e*P	**Pn**	**12 01 25.3 +0.8**
	baz=227				
TPUB	**Ta-pu**	**1.65 235**	*e*P	**Pn**	**12 01 26.2 +1.6**
	baz=233				
TPUB			*e*S	**Sn**	**12 01 46.2 +1.6**
	baz=233				
CHN2	**Minshiung**	**1.65 244**	*e*P	**Pn**	**12 01 25.0 +0.4**
	baz=243				
WTK	**Tuku**	**1.67 250**	P	**Pn**	**12 01 25.6 +0.9**
	baz=249				
LDUT	**Ludao**	**1.69 200**	*e*P	**Pn**	**12 01 23.8 -1.2**
	baz=198				
WTP	**Ta-pu**	**1.70 233**	*e*P	**Pn**	**12 01 26.6 +1.4**
	baz=232				
WTCT	**Ta-ch'eng**	**1.71 257**	*e*S	**Sn**	**12 01 47.4 +1.6**
	baz=256				
CHY	**Chiayi**	**1.71 244**	*e*P	**Pn**	**12 01 26.4 +1.1**
	baz=242				
TWGBT	**Beinan**	**1.72 213**	*e*P	**Pn**	**12 01 24.4 -1.1**
	baz=212				
TWG	**Pinlang**	**1.72 213**	*e*P	**Pn**	**12 01 25.0 -0.4**
	baz=212				
JKRS	**Kuro-shima**	**1.75 91**	P	**Pn**	**12 01 26.2 +0.4**
JKRS			S	**Sn**	**12 01 47.4 +0.5**
TWK	**Hsinying**	**1.78 236**	P	**Pn**	**12 01 27.9 +1.5**
	baz=235				
TWK			*e*S	**Sn**	**12 01 49.2 +1.4**
	baz=235				
CHN1	**Nanshi**	**1.80 233**	*e*P	**Pn**	**12 01 27.7 +1.2**
	baz=232				
CHN1			*e*S	**Sn**	**12 01 49.9 +1.8**
	baz=232				
SNST	**Tainan City**	**1.80 235**	*e*P	**Pn**	**12 01 26.8 +0.3**
	baz=234				
SGST	**Jiashian**	**1.82 230**	*e*P	**Pn**	**12 01 27.5 +0.7**
	baz=228				
SGST			*e*S	**Sn**	**12 01 50.2 +1.5**
	baz=228				
SLGT	**Liugui**	**1.84 227**	*e*P	**Pn**	**12 01 28.8 +1.7**
	baz=225				
SLGT			*e*S	**Sn**	**12 01 50.8 +1.6**
	baz=225				
WSL	**Shuilin Townsh**	**1.86 247**	P	**Pn**	**12 01 28.7 +1.3**
	baz=246				
WSL			*e*S	**Sn**	**12 01 52.0 +2.3**
	baz=246				
JIJ	**Ishigaki jima**	**1.87 87**	P	**Pn**	**12 01 27.4 -0.1**
JIJ			S	**Sn**	**12 01 49.2 -0.7**
ICHU	**Yijhu**	**1.89 242**	*e*P	**Pn**	**12 01 28.8 +1.0**
	baz=241				
ICHU			*e*S	**Sn**	**12 01 51.9 +1.4**
	baz=241				
CHN8	**Yiju**	**1.96 242**	*e*P	**Pn**	**12 01 30.0 +1.3**
	baz=241				
SSD	**Sandimen**	**2.02 222**	*e*P	**Pn**	**12 01 31.0 +1.4**
	baz=220				
SSD			*e*S	**Sn**	**12 01 55.2 +1.5**
	baz=220				
SHHT	**Tainan City**	**2.03 233**	*e*P	**Pn**	**12 01 31.8 +2.1**
	baz=231				
JISG	**Ishigakijimahi**	**2.04 81**	P	**Pn**	**12 01 29.7 -0.2**
TSMG	**Majia**	**2.05 221**	*e*P	**Pn**	**12 01 31.9 +2.0**
	baz=219				
TSMG			*e*S	**Sn**	**12 01 55.2 +0.9**
	baz=219				
MASBT	**Mashibuluo**	**2.13 219**	*e*P	**Pn**	**12 01 31.6 +0.5**
	baz=218				
MASBT			*e*S	**Sn**	**12 01 58.6 +2.4**
	baz=218				
EAST	**Anshuo**	**2.20 212**	*e*P	**Pn**	**12 01 34.7 +2.7**
	baz=210				
EAST			*e*S	**Sn**	**12 01 57.8 -0.3**
	baz=210				
TAWH	**Dawu Township**	**2.22 210**	*e*P	**Pn**	**12 01 34.3 +2.0**
	baz=209				
SSPT	**Xinbi**	**2.26 219**	*e*P	**Pn**	**12 01 35.1 +2.1**
	baz=217				
SSPT			*e*S	**Sn**	**12 02 00.7 +1.1**
	baz=217				
SLIU	**Shizi**	**2.36 211**	*e*P	**Pn**	**12 01 35.9 +1.5**
	baz=209				
SLIU			*e*S	**Sn**	**12 02 00.5 -1.6**
	baz=209				
JTJ	**Tarama**	**2.40 81**	P	**Pn**	**12 01 35.3 +0.4**
PNG	**Penghu**	**2.43 254**	*e*P	**Pn**	**12 01 34.7 -0.5**
	baz=253				
PHUB	**P'eng-hu**	**2.43 253**	*e*P	**Pn**	**12 01 34.6 -0.6**
	baz=251				
PHUB			*e*S	**Sn**	**12 02 01.7 -1.9**
	baz=251				
WDGT	**Dungji**	**2.45 246**	P	**Pn**	**12 01 35.8 +0.4**
	baz=245				
VCHM	**Qimei**	**2.66 247**	*e*P	**Pn**	**12 01 38.2 -0.2**
	baz=246				
VCHM			*e*S	**Sn**	**12 02 09.2 -0.2**
	baz=246				
JIRB	**Irabujima**	**2.86 78**	S	**Sn**	**12 02 15.7 +1.4**
JIKM	**Ikemajima**	**2.94 77**	*e*S	**Sn**	**12 02 17.4 +1.0**
XPSS	**Dashiqiu**	**3.16 327**	*e*P	**Pn**	**12 01 44.5 -0.8**
	baz=327				
KNM	**Kinmen**	**3.34 273**	*e*P	**Pn**	**12 01 48.3 +0.5**
	baz=272				
KNMB	**Chin-men Tao**	**3.39 274**	*e*P	**Pn**	**12 01 47.4 -1.0**
	baz=273				
AXDP	**Jialang**	**3.81 280**	*e*P	**Pn**	**12 01 53.4 -0.7**
	baz=279				
ZPLA	**Ao Xicun**	**3.98 266**	*e*P	**Pn**	**12 01 56.0 -0.6**
	baz=265				
DSXP	**Dongshan**	**4.31 264**	*e*P	**Pn**	**12 02 00.3 -0.7**
	baz=262				
SXFK	**Yanhouchang**	**4.55 299**	*e*P	**Pn**	**12 02 03.3 -1.2**
	baz=297				

NERS ***21*** *12:05:54.2±0.0, 56°.48N×154°.56E, h0km*
KRSC ***21*** *12:05:56.9±3.6, 56°.93N×154°.78E, h40km±62km, ML4.0*
ISC 21 12:05:59.4±1.1, 56°.77N±0°.06×155°.48E±0°.07, h10km, n17, σ2§78/24, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESO	**Esso**	**1.98**	**114**	*e*P	**Pb**	**12 06 35.0**	**-0.5**
ESO				*e*S	**Sg**	**12 07 01.6**	**-1.5**
KOZ	**Kozyrevsk**	**2.54**	**104**	P	**Pg**	**12 06 47.3**	**-0.8**
KPT	**Kopyto**	**2.76**	**105**	P	**Pb**	**12 06 50.0**	**+1.2**
KIRR	**Kirishev**	**2.83**	**105**	P	**Pb**	**12 06 50.7**	**+0.7**
KMNR	**Kamenistaya**	**2.84**	**109**	*e*P	**Pg**	**12 06 52.6**	**-1.2**
PALN	**Palana**	**3.34**	**44**	P	**Pn**	**12 06 50.4**	**-1.2**
GNL	**Ganaly**	**3.39**	**154**	P	**Pn**	**12 06 55.0**	**+2.6**
GADL	**Gadlja**	**3.65**	**325**	*e*Sg	**Sb**	**12 07 46.1**	**-1.9**
GADL				Sgmax		12 07 56.6	
	100nm,0.4s						
GADL				Sgmax		12 07 56.6	
	110nm,0.4s						
NMA2	**New Magadan St**	**3.73**	**320**	*e*Sg	**Sb**	**12 07 50.4**	**-0.1**
NMA2				Sgmax		12 08 04.7	
	100nm,0.4s						
NMA2				Sgmax		12 08 04.7	
	50nm,0.3s						
MA2	**Magadan**	**3.76**	**320**	*e*Pg	**Pn**	**12 07 00.0**	**+2.6**
MA2				*e*		12 07 08.2	
MA2				*e*Sg	**Sb**	**12 07 51.0**	**-0.4**
APC	**Apacha**	**3.97**	**165**	P	**Pn**	**12 07 01.1**	**+0.8**
MGD	**Magadan 1**	**4.13**	**325**	*e*	**Pn**	**12 07 02.2**	**-0.2**
MGD				*e*Sg	**Sb**	**12 08 01.4**	**-0.5**
MGD				Sgmax		12 08 19.8	
	80nm,0.4s						
MGD				Sgmax		12 08 19.8	
	20nm,0.4s						
TLAR	**Talaya**	**4.66**	**341**	*e*P	**Pn**	**12 07 09.8**	**+0.1**
TLAR				*e*Pg	**Pb**	**12 07 22.7**	**+1.6**
TLAR				*e*Sg	**Sg**	**12 08 23.2**	**-5.6**
TLAR				Sgmax		12 08 30.8	
	30nm,0.3s						
EVEN	**Evensk**	**5.51**	**19**	*e*P	**Pn**	**12 07 24.1**	**+2.8**
EVEN				*e*Pg	**Pg**	**12 07 42.3**	**-2.5**
EVEN				*e*Sg	**Sg**	**12 08 59.8**	**+3.8**
EVEN				Sgmax		12 09 14.2	
	30nm,0.5s						
OCHR	**Omchak**	**6.27**	**325**	*e*		12 09 13.3	
SEY	**Seymchan**	**6.38**	**347**	*e*P	**Pn**	**12 07 35.6**	**+2.3**
SEY				*e*Sg	**Sg**	**12 09 19.7**	**-4.2**
SEY				Sgmax		12 09 35.5	
	10.0nm,0.5s						
SUUS	**Susuman**	**7.07**	**332**	*e*Sg	**Sb**	**12 09 33.5**	**+7.2**
SUUS				Sgmax		12 09 53.1	
	10.0nm,0.6s						

IDC ***21*** *12:06:58.4±7.0, 5°.80S×81°.11W, h34km±53km, mb3.6/7, mb1 3.8/8, mb1mx3.6/42, mbtmp3.8/8, ML3.8/1, MS3.4/12, Ms1 3.4/12, ms1mx3.2/46, Error ellipse: s-maj=38.3km s-min=26.3km az=71.0*
ISC 21 12:06:57.8±0.9, 5°.8S±0°.2×81°.1W±0°.2, h30km, n24, σ1§27/10, mb3.9/6, MS3.3/8, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.02**	**116**	Pn	**Pn**	**12 07 45.2**	**+1.1**
	12nm,0.3s,baz=241,slow=7.0,SNR=22						
ATAH				Lg	Lg	12 08 35.6	
	80nm,0.3s,baz=207,slow=18,SNR=14						
NNA	**Nana**	**7.46**	**146**	LR	LR	12 11 27.2	
	comp=Z,117nm,20.5s,baz=308,slow=36						
ROSC	**El Rosal**	**12.58**	**33**	LR	LR	12 14 56.1	
	comp=Z,192nm,18.9s,baz=188,slow=38						
LPAZ	**La Paz**	**16.46**	**130**	LR	LR	12 18 24.2	
	comp=Z,63nm,19.6s,baz=284,slow=42						
SDV	**Santo Domingo**	**17.97**	**36**	LR	LR	12 19 23.2	
	comp=Z,214nm,18.1s,baz=250,slow=42						
LVC	**Limon Verde**	**20.45**	**146**	P	**P**	**12 11 34.6**	**+1.1**
	3.1nm,0.6s,baz=312,slow=8.1,SNR=2.8						
LVC				LR	LR	12 18 34.0	
	comp=Z,66nm,19.8s,baz=262,slow=34						
PTGA	**Pitinga**	**21.72**	**77**	P	**P**	**12 11 46.0**	**-0.8**
	6.1nm,0.7s,baz=261,slow=13,SNR=11						
PTGA				LR	LR	12 21 12.2	
	comp=Z,161nm,20.2s,baz=262,slow=39						
SIV	**San Ignacio**	**22.12**	**119**	P	**P**	**12 11 50.6**	**-0.6**
	4.3nm,0.8s,baz=296,slow=12,SNR=18						
SIV				LR	LR	12 20 47.3	
	comp=Z,69nm,18.5s,baz=308,slow=38						
H03N2	**Juan Fernandez**	**27.57**	**176**	T	T	12 41 10.7	
	baz=355,slow=76,SNR=358						
H03N1	**Juan Fernandez**	**27.57**	**176**	T	T	12 41 11.6	
	baz=355,slow=76,SNR=485						
H03N3	**Juan Fernandez**	**27.58**	**176**	T	T	12 41 10.4	
	baz=355,slow=76,SNR=485						
MDP	**Montagnes des**	**30.45**	**70**	LR	LR	12 25 53.2	
	comp=Z,76nm,20.9s,baz=140,slow=37						
PLCA	**Paso Flores**	**36.04**	**166**	P	**P**	**12 13 56.2**	**-0.4**
	1.4nm,0.8s,baz=337,slow=11,SNR=4.6						
PLCA				LR	LR	12 25 36.6	
	comp=Z,56nm,21.1s,baz=254,slow=31						
TKL	**Tuckaleechee C**	**41.32**	**357**	LR	LR	12 31 38.6	
	comp=Z,34nm,19.9s,baz=128,slow=36						
NVAR	**Mina Array Bea**	**55.91**	**325**	P	**P**	**12 16 35.2**	**+1.8**
	0.3nm,0.7s,baz=133,slow=7.7,SNR=2.7						
YBH	**Yreka Blue Hor**	**60.63**	**325**	LR	LR	12 42 35.1	
	comp=Z,30nm,18.0s,baz=348,slow=35						
YKA	**Yellowknife Ar**	**72.77**	**344**	P	**P**	**12 18 22.6**	**-0.4**
	0.3nm,0.8s,baz=192,slow=4.3,SNR=4.8						
DBIC	**Dimbokro**	**77.13**	**82**	LR	LR	12 51 15.8	
	comp=Z,71nm,19.4s,baz=291,slow=34						
TORD	**Torodi Ar. Bea**	**84.36**	**76**	P	**P**	**12 19 27.4**	**-0.5**
	0.9nm,0.6s,baz=299,slow=7.1,SNR=7.4						
H11S2	**WAKE ISLAND Hyl**	**12.82**	**288**	T	T	14 27 57.9	
	baz=89,slow=75,SNR=8.5						
H11S1	**WAKE ISLAND Hyl**	**12.82**	**288**	T	T	14 27 59.7	
	baz=89,slow=75,SNR=9.8						
H11S3	**WAKE ISLAND Hyl**	**12.84**	**288**	T	T	14 27 59.9	
	baz=89,slow=75,SNR=6.9						
ASAR	**Alice Springs**	**134.97**	**228**	PKP	**PKPdf**	**12 26 13.8**	**-1.2**
	0.3nm,0.9s,baz=144,slow=1.5,SNR=1.9						
WRA	**Warramunga Arr**	**136.73**	**233**	PKP	**PKPdf**	**12 26 16.8**	**-1.5**
	0.5nm,0.7s,baz=119,slow=1.6,SNR=2.1						

ISK ***21*** *12:11:14.6, 34°.72N×27°.71E, h6km, ML3.6/13*
IDC ***21*** *12:11:17.8±1.1, 35°.03N×27°.81E, h0km, mb3.8/7, mb1 3.7/12, mb1mx3.5/58, mbtmp3.7/12, ML3.5/5, MS2.9/5, Ms1 2.9/5, ms1mx2.6/88, Error ellipse: s-maj=22.3km s-min=16.4km az=169.0*
DDA ***21*** *12:11:18.0±0.0, 34°.73N×27°.49E, h34km, MW3.9*
THE ***21*** *12:11:19.3, 34°.90N×27°.91E, h0km±3km, ML3.4/3, Error ellipse: s-maj=11.7km s-min=1.5km az=143.0*
NIC ***21*** *12:11:20.4±0.0, 34°.88N×27°.80E, h18km±1km, Ml4.1/5*
GII ***21*** *12:11:22.8±0.0, 34°.66N×27°.93E, h5km, Mm3.5/2*
ISC 21 12:11:21.7±1.3, 34°.91N±0°.04×27°.79E±0°.03, h31km±11km, n80, σ1§43/103, mb3.7/7, MS2.9/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.30**	**279**	P	**Pn**	**12 11 43.8**	**0.0**
ZKR				S	**Sb**	**12 12 03.9**	**+1.9**
	998nm,0.6s						
ZKR	**Zakros**	**1.30**	**279**	P	**Pn**	**12 11 43.6**	**-0.2**
ZKR				S	**Sb**	**12 12 02.2**	**+0.2**
ZKR				AML	AML	12 12 14.7	
	1.1nm,0.6s						
ZKR				AML	AML	12 12 14.7	
	1.1nm,0.6s						
ZKR				AML	AML	12 12 15.2	
	2.8nm,0.6s						
ZKR				AML	AML	12 12 15.2	
	2.8nm,0.6s						
ARG	**Arkhangelos**	**1.33**	**12**	P	**Pn**	**12 11 43.4**	**-0.7**
ARG				S	**Sb**	**12 12 03.3**	**+0.6**
	1μm,0.7s						
ARG	**Arkhangelos**	**1.33**	**12**	P	**Pn**	**12 11 43.7**	**-0.5**
ARG				S	**Sb**	**12 12 03.1**	**+0.4**
NIS1	**Nisyros Isl.**	**1.76**	**344**	P	**Pn**	**12 11 49.2**	**-0.8**
NPS	**Neapolis**	**1.82**	**282**	P	**Pb**	**12 11 52.6**	**-1.7**
NPS				S	**Sb**	**12 12 17.6**	**+0.9**
	715nm,0.7s						
DAT	**Datca**	**1.82**	**355**	P	**Pn**	**12 11 49.7**	**-1.3**
DAT	**Datca**	**1.82**	**355**	PN	**Pn**	**12 11 49.9**	**-1.1**
DAT				SN	**Sb**	**12 12 15.8**	**-1.1**
TURN	**Turunc**	**1.89**	**11**	PN	**Pn**	**12 11 51.2**	**-0.7**
TURN	**Turunc**	**1.89**	**11**	P	**Pn**	**12 11 51.5**	**-0.3**
AKAS	**Kas**	**1.98**	**48**	PN	**Pn**	**12 11 52.2**	**-1.0**
AKAS	**Kas**	**1.98**	**48**	P	**Pn**	**12 11 52.9**	**-0.4**
FETY	**Fethiye**	**2.02**	**31**	P	**Pn**	**12 11 52.8**	**-0.8**
FETY	**Fethiye**	**2.02**	**31**	PN	**Pn**	**12 11 52.9**	**-0.7**
DALY	**Dalyan (Mula)**	**2.02**	**20**	PN	**Pn**	**12 11 53.0**	**-0.7**
BODT	**Bodrum**	**2.18**	**350**	P	**Pn**	**12 11 55.2**	**-0.6**
BODT	**Bodrum**	**2.18**	**350**	PN	**Pn**	**12 11 55.0**	**-0.8**
BODT	**Bodrum**	**2.18**	**350**	SPECP		12 11 54.0	
BODT				P	**Pn**	**12 11 54.5**	**-1.4**
YER	**Yerkesik**	**2.25**	**10**	P	**Pn**	**12 11 57.1**	**+0.2**
YER	**Yerkesik**	**2.25**	**10**	PN	**Pn**	**12 11 56.3**	**-0.6**
YER	**Yerkesik**	**2.25**	**10**	P	**Pn**	**12 11 58.2**	**+1.3**
YER				S	**Sb**	**12 12 34.3**	**+5.1**
MLSB	**Milas**	**2.38**	**360**	PN	**Pn**	**12 11 57.9**	**-0.7**
MLSB	**Milas**	**2.38**	**360**	P	**Pn**	**12 11 57.5**	**-1.1**
MLSB				S	**Sb**	**12 12 38.8**	**+6.0**
MULA	**Mugla, Merkez-**	**2.38**	**10**	SPECP		12 11 59.0	
MULA				P	**Pn**	**12 11 59.1**	**+0.4**
MULA				S	**Sb**	**12 12 35.0**	**+2.2**
IDI	**Anoyia**	**2.41**	**280**	Pn	**Pn**	**12 12 00.6**	**+1.6**
	3.2nm,0.3s,baz=86,slow=13,SNR=22						
IDI				LR	LR	12 13 25.4	
	comp=Z,131nm,20.9s,baz=89,slow=53						
IDI	**Anoyia**	**2.41**	**280**	P	**Pn**	**12 12 00.4**	**+1.4**
AKUM	**Antalya-Kumluc**	**2.51**	**55**	P	**Pn**	**12 12 00.4**	**0.0**
AKUM				S	**Sn**	**12 12 30.8**	**+0.8**
ELL	**Elmali**	**2.51**	**43**	PN	**Pn**	**12 11 59.9**	**-0.7**
ELL	**Elmali**	**2.51**	**43**	P	**Pn**	**12 12 01.0**	**+0.4**
ELL				S	**Sn**	**12 12 32.0**	**+1.7**
ELL	**Elmali**	**2.51**	**43**	SPECP		12 12 01.0	
ELL				P	**Pn**	**12 12 01.2**	**+0.7**
ELL				S	**Sb**	**12 12 34.1**	**-2.7**
CAEL	**Denizli, Camel**	**2.53**	**29**	P	**Pn**	**12 12 00.8**	**0.0**
TAVA	**DENIZLI_Tavas**	**2.70**	**19**	P	**Pn**	**12 12 01.9**	**-1.3**
GOLH	**Golhisar**	**2.73**	**31**	P	**Pn**	**12 12 04.3**	**+0.8**
KORT	**Korkueli**	**2.94**	**44**	PN	**Pn**	**12 12 06.2**	**-0.3**
KORT	**Korkueli**	**2.94**	**44**	SPECP	**Pn**	**12 12 07.0**	**+0.5**
KORT				P	**Pn**	**12 12 07.0**	**+0.5**
KORT				S	**Sn**	**12 12 44.7**	**+3.9**
VAM	**Vamos**	**2.98**	**281**	P	**Pn**	**12 12 08.2**	**+1.3**
IMMV	**Iera Moni Meta**	**3.17**	**281**	P	**Pn**	**12 12 11.1**	**+1.7**
OSC1	**CSNet OBS 1**	**3.22**	**115**	P	**Pn**	**12 12 09.2**	**-0.9**
BRDR	**BURDUR-Merkez**	**3.33**	**33**	P	**Pn**	**12 12 12.8**	**+1.0**
BCK	**Bucak**	**3.41**	**41**	PN	**Pn**	**12 12 12.3**	**-0.5**
URLA	**Izmir**	**3.57**	**345**	SPECP		12 12 12.0	
URLA				P	**Pn**	**12 12 12.2**	**-2.7**
SUTC	**Sutluce-Ispart**	**3.65**	**45**	PN	**Pn**	**12 12 15.9**	**-0.2**
KULA	**Kula-Manisa**	**3.66**	**11**	P	**Pn**	**12 12 14.8**	**-1.5**
PASA	**Karahalli, USA**	**3.69**	**21**	SPECP		12 12 15.0	
PASA				P	**Pn**	**12 12 15.1**	**-1.6**
CHOS	**Chios island**	**3.73**	**339**	P	**Pn**	**12 12 16.9**	**-0.4**
AKMS	**Akamas**	**3.74**	**87**	P	**Pn**	**12 12 17.3**	**+0.1**
AKMS				AML	AML	12 13 12.1	
	0.8nm,0.6s						
KZIL	**AFYON_Kizioren**	**3.84**	**29**	SPECP		12 12 17.0	
KZIL				P	**Pn**	**12 12 17.9**	**-0.9**
GAZI	**Gazipasa**	**3.92**	**69**	PN	**Pn**	**12 12 19.0**	**-0.8**
ALFC	**Alefka**	**3.96**	**85**	P	**Pn**	**12 12 20.2**	**-0.1**
ALFC				S	**Sn**	**12 13 07.7**	**+2.0**
ALFC				AML	AML	12 13 10.0	
	0.9nm,0.7s						
ALFC				AML	AML	12 13 10.0	
	0.9n

0.6nm,0.3s,baz=211,slow=25,SNR=9.1
GEM Giv'at Ha'Em 6.75 102 Pn **Pn 12 13 00.0 +1.3**
GEM Sn **Sn 12 14 16.4 +1.8**
HMDT Nahal Hemdat 6.98 110 Pn **Pn 12 13 02.6 +0.8**
YTIR Yattir 7.09 118 Pn **Pn 12 13 04.9 +1.4**
DSI Dead Sea 7.18 116 Pn **Pn 12 13 06.5 +1.9**
DSI Sn **Sn 12 14 26.6 +1.5**
MSBI Mazada 7.29 117 Pn **Pn 12 13 07.0 +0.9**
MSBI Sn **Sn 12 14 28.9 +1.1**
PRNI Paran 7.60 125 Pn **Pn 12 13 11.4 +1.1**
PRNI Sn **Sn 12 14 34.6 -0.8**
HRFI Mount Harif 7.82 126 Pn **Pn 12 13 14.6 +1.2**
HRFI Sn **Sn 12 14 40.1 -0.8**
MBRI Mt Berech 7.90 128 Pn **Pn 12 13 15.9 +1.4**
MBRI Sn **Sn 12 14 43.1 +0.2**
EIL Elat 8.01 129 Pn **Pn 12 13 16.8 +0.9**
0.6nm,0.3s,baz=294,slow=2.5,SNR=6.4
EIL Sn **Sn 12 14 43.3 -2.1**
1.2nm,0.3s,baz=134,slow=2.6,SNR=6.0
EIL Elat 8.01 129 Pn **Pn 12 13 17.5 +1.6**
EIL Sn **Sn 12 14 43.9 -1.5**
GNI Garni 14.43 64 LR LR 12 21 00.6
comp=Z,24nm,19.7s,baz=32,slow=41
AKASG Malin Array Be 15.81 3 Pn **Pn 12 15 00.9 -1.0**
0.5nm,0.3s,baz=193,slow=11,SNR=4.3
ESDC Sonseca Array 25.62 290 P **P 12 16 47.8 -0.7**
0.3nm,0.5s,baz=81,slow=9.4,SNR=4.6
FINES FINESS Array B 26.57 358 P **P 12 16 57.2 +0.6**
1.6nm,0.8s,baz=165,slow=12,SNR=4.1
AKTO Aktyubinsk 26.86 45 LR LR 12 31 16.1
comp=Z,32nm,18.2s,baz=304,slow=45
NOA NORSAR Array B 28.23 343 LR LR 12 30 22.3
comp=Z,21nm,18.3s,baz=340,slow=41
TORD Torodi Ar. Bea 32.03 234 P **P 12 17 46.5 +0.9**
0.9nm,0.6s,baz=30,slow=9.8,SNR=4.8
ARCES ARCESS Array B 34.70 359 P **P 12 18 06.6 -1.8**
2.0nm,0.8s,baz=172,slow=7.3,SNR=1.6
KURBB Kurchatov Arra 39.60 51 P **P 12 18 50.2 +0.1**
0.4nm,0.6s,baz=273,slow=9.0,SNR=4.3
MKAR Makanchi Array 42.11 57 P **P 12 19 11.6 +0.7**
0.5nm,0.5s,baz=276,slow=7.2,SNR=9.4
ZALV Zalesovo Beam 43.62 46 LR LR 12 39 17.0
comp=Z,26nm,18.1s,baz=56,slow=39
SPITS Spitsbergen Ar 43.65 357 P **P 12 19 21.6 -1.3**
3.4nm,0.7s,baz=162,slow=11,SNR=4.0

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*IDC **21** 12:15:53.8±3.0,6°.16S×151°.72E,h41km±24km,mb3.9/7, mb1 4.1/8,mb1mx3.6/39,mbtmp4.1/8,ML1.7/1,MS3.1/5, Ms1 3.1/5,ms1mx2.7/60,Error ellipse: s-maj=45.7km s-min=11.6km az=119.0*

ISC 21 12:15:52.9±1.0,6°.2S±0°.1×151°.8E±0°.2,h35km,n16, σ0s73/16,mb4.1/7,MS3.2/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.90**	**6**	P	**Pn**	**12 16 22.7**	**-0.1**
KRVT				S	**Sn**	**12 16 46.1**	**+0.5**
PMG	**Port Moresby**	**5.60**	**235**	P	**Pn**	**12 17 14.0**	**+0.2**
1.4nm,0.3s,baz=71,slow=18,SNR=3.2							
HNR	**Honiara**	**8.67**	**112**	LR	LR	12 20 51.6	
comp=Z,66nm,20.8s,baz=306,slow=34							
DZM	**Mont Dzumac**	**21.18**	**140**	LR	LR	12 26 49.7	
comp=Z,146nm,18.6s,baz=27,slow=31							
WRA	**Warramunga Arr**	**21.79**	**230**	P	**P**	**12 20 41.5**	**-0.5**
3.3nm,0.7s,baz=56,slow=10.0,SNR=22							
WRA				PcP	**PcP**	**12 24 42.0**	**+0.3**
1.2nm,0.7s,baz=51,slow=1.8,SNR=8.4							
ASAR	**Alice Springs**	**24.46**	**223**	P	**P**	**12 21 08.6**	**-0.1**
7.5nm,0.8s,baz=58,slow=8.9,SNR=94							
ASAR				pP	**sP**	**12 21 20.3**	**-0.1**
3.1nm,0.5s,baz=57,slow=8.8,SNR=9.5							
ASAR				PcP	**PcP**	**12 24 47.9**	**+0.8**
0.6nm,1.0s,baz=38,slow=1.6,SNR=3.8							
FITZ	**Fitzroy Crossi**	**28.13**	**243**	P	**P**	**12 21 41.9**	**0.0**
7.4nm,0.6s,baz=73,slow=7.5,SNR=32							
JNU	**Nakatsue**	**43.88**	**334**	LR	LR	12 42 00.7	
comp=Z,20nm,18.1s,baz=349,slow=36							
KSRS	**Korea Array**	**48.82**	**335**	LR	LR	12 42 32.6	
comp=Z,7.5nm,20.2s,baz=125,slow=33							
KLR	**Kul'dur**	**57.92**	**345**	LR	LR	12 50 51.1	
comp=Z,25nm,18.7s,baz=111,slow=36							
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**12 28 03.0**	**+0.3**
0.2nm,0.6s,baz=130,slow=6.3,SNR=2.9							
ZALV	**Zalesovo Beam**	**81.77**	**327**	P	**P**	**12 28 06.9**	**-1.1**
0.9nm,0.5s,baz=105,slow=4.8,SNR=5.3							
ILAR	**Eielson Array**	**83.82**	**22**	P	**P**	**12 28 17.5**	**-1.0**
2.3nm,1.0s,baz=252,slow=5.4,SNR=13							
ILAR				pP	**pP**	**12 28 28.8**	**+1.7**
1.1nm,0.8s,baz=247,slow=4.9,SNR=5.9							
YKA	**Yellowknife Ar**	**97.12**	**28**	P	**P**	**12 29 21.5**	**+0.3**
0.1nm,0.6s,baz=272,slow=5.1,SNR=4.2							
PTGA	**Pitinga**	**147.54**	**101**	PKPbc	**PKPbc**	**12 35 34.5**	**-0.1**
3.9nm,0.7s,baz=237,slow=5.1,SNR=7.2							
TORD	**Torodi Ar. Bea**	**149.77**	**285**	PKPbc	**PKPbc**	**12 35 39.7**	**-0.5**
1.2nm,0.7s,baz=66,slow=2.7,SNR=7.0							

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*IDC **21** 12:32:46.7±1.6,5°.14S×130°.95E,h0km,mb3.9/4, mb1 3.9/8,mb1mx3.8/27,mbtmp3.8/8,ML3.6/4,MS3.6/2, Ms1 3.6/2,ms1mx2.6/65,Error ellipse: s-maj=65.6km s-min=22.5km az=82.0*

ISC 21 12:32:52.5±0.7,4°.98S±0°.07×131°.0E±0°.1,h35km,n19, σ1s80/17,mb3.9/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.39**	**32**	P	**Pn**	**12 33 30.1**	**+0.9**
SIJI	**Sorong**	**4.09**	**4**	Pn	**Pn**	**12 33 53.1**	**+0.6**
4.5nm,0.3s,baz=194,slow=22,SNR=17							
SIJI				Sn	**Sn**	**12 34 36.6**	**-2.5**
19nm,0.3s,baz=76,slow=23,SNR=20							
KDU	**Kakadu**	**7.80**	**169**	P	**Pn**	**12 34 43.1**	**-0.5**
MTN	**Manton Dam**	**7.82**	**179**	P	**Pn**	**12 34 43.7**	**-0.1**
KNRA	**Kununurra**	**10.86**	**191**	P	**Pn**	**12 35 25.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**14.05**	**201**	Pn	Pn	12 36 04.5	-4.7
0.3nm,0.3s,baz=2.8,slow=23,SNR=23							
COEN	**Coen**	**14.96**	**127**	P	**P**	**12 36 26.7**	**+0.1**
WRA	**Warramunga Arr**	**15.23**	**168**	Pn	**Pn**	**12 36 20.0**	**-5.1**
0.2nm,0.3s,baz=349,slow=13,SNR=2.4							
WRA				Sn	Sn	12 39 01.6	-11
0.3nm,0.3s,baz=348,slow=24,SNR=6.3							
QIS	**Mount Isa**	**17.61**	**152**	P	**P**	**12 36 56.6**	**+0.6**
ASAR	**Alice Springs**	**18.79**	**172**	P	**P**	**12 37 07.0**	**-2.0**
0.3nm,0.3s,baz=351,slow=10,SNR=35							
ASAR				S	Sn	12 40 25.2	-14
0.1nm,0.3s,baz=350,slow=26,SNR=3.2							
WRKA	**Warakurna**	**20.12**	**187**	P	**P**	**12 37 23.3**	**-0.2**
MULG	**Mulgathing**	**25.34**	**174**	P	**P**	**12 38 17.0**	**+0.8**
LCRK	**Leigh Creek**	**26.24**	**166**	P	**P**	**12 38 26.6**	**+2.3**
HNR	**Honiara**	**29.05**	**100**	LR	LR	12 50 44.4	
comp=Z,54nm,18.1s,baz=252,slow=37							
JHJ	**Hachijo jima 2**	**38.79**	**12**	LR	LR	12 53 32.5	
comp=Z,162nm,18.8s,baz=295,slow=32							
CMAR	**Chiang Mai Arr**	**39.25**	**307**	P	**P**	**12 40 18.2**	**+0.2**
0.4nm,0.3s,baz=138,slow=6.9,SNR=4.0							
SONM	**Songino Array**	**56.86**	**340**	P	**P**	**12 42 34.7**	**+0.9**
0.5nm,0.5s,baz=163,slow=6.0,SNR=2.4							
MKAR	**Makanchi Array**	**67.10**	**326**	P	**P**	**12 43 42.8**	**+0.3**
1.2nm,0.3s,baz=112,slow=8.0,SNR=45							
ZALV	**Zalesovo Beam**	**70.23**	**333**	P	**P**	**12 44 01.2**	**-0.6**
0.7nm,0.5s,baz=134,slow=4.3,SNR=3.6							

IDC 21 12:42:52.2±5.8,4°.97S×133°.54E,h0km,mb3.2/1, mb1 3.4/3,mb1mx3.3/30,mbtmp3.2/3,ML3.0/2,MS2.8/1, Ms1 2.8/1,ms1mx2.2/23,Error ellipse: s-maj=331.0km s-min=33.5km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.91**	**177**	Pn	Pn	12 46 23.8	-0.6
0.1nm,0.3s,baz=354,slow=13,SNR=1.9							
FITZ	**Fitzroy Crossi**	**15.16**	**210**	LR	LR	12 53 30.5	
comp=Z,40nm,20.7s,baz=268,slow=42							
ASAR	**Alice Springs**	**18.59**	**179**	P	Pn	12 47 11.3	0.0
0.1nm,0.3s,baz=5.8,slow=12,SNR=16							
MKAR	**Makanchi Array**	**68.53**	**325**	P	P	12 53 56.7	0.0
0.2nm,0.7s,baz=107,slow=5.0,SNR=1.8							

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*IDC **21** 12:43:30.4±1.7,6°.29S×149°.19E,h45km±15km,mb4.0/7, mb1 4.2/9,mb1mx3.9/33,mbtmp4.3/9,ML4.5/1,MS3.4/8, Ms1 3.4/8,ms1mx3.0/56,Error ellipse: s-maj=23.8km s-min=10.4km az=126.0*

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*DJA **21** 12:43:32.8±0.5,6°.5S×14°.9E±°,h61km±7km,M4.6/10, mB4.4/1,mb4.3/10,MLv4.7/3,Mw(mB)3.5/1*
*NEIC **21** 12:43:32.7±1.8,6°.44S±0°.07×149°.37E±0°.09,h61km±6km, mb4.2/11,Error ellipse: s-maj=14.0km s-min=7.1km az=124.0*

ISC 21 12:43:30.9±0.6,6°.31S±0°.09×149°.2E±0°.1,h50km,n50, σ0s76/44,mb4.2/15,MS3.4/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.44**	**55**	P	**Pn**	**12 44 23.0**	**+1.0**
RABL	**Rabaul**	**3.62**	**55**	P	**Pn**	**12 44 24.8**	**+0.2**
RABL	**Rabaul**	**3.62**	**55**	P	**Pn**	**12 44 26.1**	**+1.6**
PMG	**Port Moresby**	**3.69**	**213**	P	**Pn**	**12 44 26.0**	**+0.6**
42nm,0.3s,baz=46,slow=5.7,SNR=130							
PMG				S	**Sn**	**12 45 07.1**	**-0.5**
58nm,0.3s,baz=66,slow=18,SNR=12							
PMG	**Port Moresby**	**3.69**	**213**		**Pn**	**12 44 25.9**	**+0.5**
PMG	**Port Moresby**	**3.69**	**213**	P	**Pn**	**12 44 26.2**	**+0.8**
MANU	**Manus Island**	**4.61**	**337**	Pn	Pn	12 44 42.7	+4.6
JAY	**Jayapura**	**9.27**	**294**	LR	LR	12 50 12.4	
comp=Z,125nm,19.1s,baz=74,slow=43							
COEN	**Coen**	**9.64**	**217**	Pn	**Pn**	**12 45 46.9**	**-0.3**
COEN	**Coen**	**9.64**	**217**	P	**Pn**	**12 45 46.5**	**-0.6**
6.5nm,0.7s							
CTA	**Charters Tower**	**14.00**	**192**	LR	LR	12 52 02.4	
comp=Z,111nm,18.4s,baz=61,slow=37							
QIS	**Mount Isa**	**16.95**	**212**	P	**Pn**	**12 47 25.0**	**+0.3**
8.9nm,0.7s							
MTN	**Manton Dam**	**18.96**	**249**		**Pn**	**12 47 49.6**	**+0.4**
MTN				IAmb	IAmb	12 48 07.2	
comp=Z,9.3nm,1.0s							
EIDS	**Eidsvold**	**19.04**	**175**	P	**P**	**12 47 48.9**	**-0.1**
EIDS				IAmb	IAmb	12 47 55.5	
comp=Z,5.7nm,0.9s							
WB0	**Warramunga Arr**	**19.65**	**226**	P	**P**	**12 47 56.3**	**+0.5**
WB0				IAmb	IAmb	12 48 09.4	
comp=Z,22nm,1.1s							
WR0	**Warramunga Arr**	**19.67**	**225**	P	**P**	**12 47 56.8**	**+0.8**
WR0				IAmb	IAmb	12 48 09.2	
comp=Z,19nm,1.0s							
WRAB	**Tennant Creek**	**19.79**	**225**	P	**P**	**12 47 57.6**	**+0.4**
WRAB				IAmb	IAmb	12 48 10.9	
comp=Z,15nm,0.7s							
WRAB	**Tennant Creek**	**19.79**	**225**	P	**P**	**12 47 57.4**	**+0.1**
comp=Z,23nm,0.8s							
WB2	**Warramunga Arr**	**19.80**	**225**	P	**P**	**12 47 57.7**	**+0.4**
WRA	**Warramunga Arr**	**19.80**	**225**	P	**P**	**12 47 57.5**	**+0.1**
comp=Z,1.4nm,0.3s,baz=51,slow=11,SNR=44							
WRA				LR	LR	12 56 57.5	
comp=Z,88nm,18.8s,baz=331,slow=41							
WRA	**Warramunga Arr**	**19.80**	**225**	P	**P**	**12 47 57.3**	**-0.2**
RMQ	**Roma**	**20.07**	**181**	P	**P**	**12 48 00.9**	**+0.6**
comp=Z,22nm,0.8s							
GUMO	**Guam**	**20.23**	**348**	LR	LR	12 54 55.0	
comp=Z,68nm,19.1s,baz=96,slow=34							
KNRA	**Kununurra**	**22.10**	**243**	P	**P**	**12 48 22.1**	**-0.1**
KNRA	**Kununurra**	**22.10**	**243**	P	**P**	**12 48 22.4**	**+0.2**
comp=Z,20nm,1.6s							
AS31	**Alice Springs**	**22.68**	**219**	P	**P**	**12 48 28.4**	**0.0**
AS31				IAmb	IAmb	12 48 47.7	
comp=Z,5.0nm,0.6s							
ASAR	**Alice Springs**	**22.68**	**219**	P	**P**	**12 48 28.2**	**-0.1**
comp=Z,2.4nm,0.6s,baz=56,slow=9.2,SNR=62							
ASAR				S	**S**	**12 52 34.5**	**+1.2**
comp=Z,1.8nm,1.0s,baz=37,slow=22,SNR=7.4							
INKA	**Innaminka**	**22.78**	**200**	P	**P**	**12 48 30.1**	**+0.8**
comp=Z,16nm,0.9s							
DZM	**Mont Dzumac**	**22.87**	**135**	P	**P**	**12 48 29.4**	**-1.0**
comp=Z,8.1nm,0.5s,baz=272,slow=7.6,SNR=20							
DZM				LR	LR	12 56 05.9	
comp=Z,138nm,19.8s,baz=217,slow=33							
DZM	**Mont Dzumac**	**22.87**	**135**	IAmb	IAmb	12 48 45.5	
comp=Z,23nm,1.3s							
DZM	**Mont Dzumac**	**22.87**	**135**	P	**P**	**12 48 29.7**	**-0.7**
comp=Z,14nm,0.7s							
CMSA	**Cobar Meteorol**	**25.32**	**187**	P	**P**	**12 48 53.0**	**0.0**
comp=Z,8.6nm,2.8s							
BATI	**Baumata**	**25.56**	**260**	P	**P**	**12 48 58.0**	**+2.5**
FITZ	**Fitzroy Crossi**	**25.80**	**241**	P	**P**	**12 48 57.8**	**+0.3**
comp=Z,6.5nm,0.7s,baz=49,slow=7.7,SNR=27							
LCRK	**Leigh Creek**	**26.14**	**202**	P	**P**	**12 49 00.3**	**-0.2**
comp=Z,22nm,1.5s							
STKA	**Stephens Creek**	**26.42**	**195**	P	**P**	**12 49 04.1**	**+1.1**
comp=Z,1.5nm,0.5s,baz=345,slow=9.4,SNR=4.5							
STKA				LR	LR	12 59 35.8	
comp=Z,77nm,18.1s,baz=25,slow=36							
STKA	**Stephens Creek**	**26.42**	**195**	IAmb	IAmb	12 49 11.5	
comp=Z,3.2nm,1.5s							
WRKA	**Warakurna**	**27.34**	**225**	P	**P**	**12 49 11.4**	**-0.1**
comp=Z,14nm,0.7s							
EDFI	**Ende, Flores**	**27.38**	**263**	P	**P**	**12 49 10.8**	**-1.2**
MULG	**Mulgathing**	**27.78**	**209**	P	**P**	**12 49 15.6**	**+0.4**
comp=Z,12nm,2.1s							
URZ	**Urewera**	**40.64**	**146**	LR	LR	13 07 12.0	
comp=Z,116nm,18.1s,baz=18,slow=35							
MJAR	**Matsushiro Arr**	**43.85**	**347**	LR	LR	13 09 44.4	
comp=Z,59nm,18.7s,baz=176,slow=36							
PETK	**Petropavlovsk-**	**59.62**	**6**	P	**P**	**12 53 29.6**	**-0.1**
comp=Z,3.3nm,0.6s,baz=54,slow=3.8,SNR=25							
MKAR	**Makanchi Array**	**79.13**	**320**	P	**P**	**12 55 29.1**	**-1.3**
comp=Z,0.2nm,0.5s,baz=100,slow=7.5,SNR=1.8							
ZALV	**Zalesovo Beam**	**80.44**	**327**	P	**P**	**12 55 37.5**	**+0.2**
comp=Z,0.4nm,0.3s,baz=116,slow=6.6,SNR=4.1							
ILAR	**Eielson Array**	**84.91**	**23**	P	**P**	**12 55 59.0**	**-1.2**
comp=Z,0.8nm,0.7s,baz=252,slow=5.1,SNR=11							
TORD	**Torodi Ar. Bea**	**147.29**	**284**	PKPbc	**PKPbc**	**13 03 09.8**	**-0.2**
comp=Z,1.5nm,0.7s,baz=51,slow=3.3,SNR=9.5							
TORD	**Torodi Ar. Bea**	**147.29**	**284**		**PKPbc**	**13 03 10.2**	**+0.2**
PTGA	**Pitinga**	**150.06**	**102**	PKPbc	**PKPbc**	**13 03 17.5**	**+0.3**
comp=Z,4.3nm,0.4s,baz=272,slow=5.7,SNR=14							
BDFB	**Brasília**	**152.32**	**142**	PKPbc	**PKPbc**	**13 03 22.6**	**+0.1**
comp=Z,4.6nm,0.5s,baz=312,slow=1.6,SNR=6.2							

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*EAF **21** 12:46:58.5±7.8,26°.60S×29°.56E,h10km,MD4.1*

BUL 21 12:47:02.5±10.0,26°.24S×29°.29E,h10km,MD4.4,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.60**	**92**	*i* P	Pn	12 47 42.1	-2.5
CNG				*i* Sg	Sg	12 48 31.1	+5.0
CNG	**Changalane**	**2.60**	**92**	*i* P	Pn	12 47 42.1	-2.5
CNG				*i* Sg	Sg	12 48 31.1	+5.0
MOPA	**Mopani**	**3.32**	**36**	*i* P	Pn	12 47 49.6	-5.0
MOPA	**Mopani**	**3.32**	**36**	*i* P	Pn	12 47 49.6	-5.0
LBTB	**Lobatse**	**3.55**	**289**	*i* P	Pn	12 47 59.1	+1.3
LBTB				*i* Sg	Sg	12 49 00.3	+3.7
LBTB	**Lobatse**	**3.55**	**289**	*i* P	Pn	12 47 59.1	+1.3
LBTB				*i* Sg	Sg	12 49 00.3	+3.7
MSNA	**Messina**	**3.94**	**10**	*i* P	Pn	12 47 59.5	-3.5
MSNA	**Messina**	**3.94**	**10**	*i* P	Pn	12 47 59.5	-3.5
BOSA	**Boshof**	**4.29**	**236**	*i* P	Pn	12 48 03.2	-4.8
BOSA	**Boshof**	**4.29**	**236**	*i* P	Pn	12 48 03.2	-4.8
MATP	**Matopo**	**5.83**	**353**	*eP*	Pn	12 48 18.8	-10
MATP				*i* S	Sn	12 49 34.9	-1.4
MATP	**Matopo**	**5.83**	**353**	*eP*	Pn	12 48 18.8	-10
MATP				*i* S	Sn	12 49 34.9	-1.4

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*IDC **21** 13:00:28.9±1.3,0°.06N×98°.07E,h0km,mb3.9/8, mb1 3.9/10,mb1mx3.6/60,mbtmp3.8/10,ML3.9/2,MS3.1/2, Ms1 3.2/2,ms1mx2.7/81,Error ellipse: s-maj=42.8km s-min=16.5km az=62.0*
*NEIC **21** 13:00:32.0±1.3,0°.04N±0°.10×97°.9E±0°.1,h30km±8km, mb4.1/11,Error ellipse: s-maj=20.3km s-min=4.7km az=46.0*
*DJA **21** 13:00:34.0±0.3,0°.N±2°.×9°.8E±°,h49km±8km,M4.6/16, mB5.1/1,mb4.7/9,MLv4.6/16,Mw(mB)4.4/1*

ISC 21 13:00:33.1±0.7,0°.11N±0°.06×98°.04E±0°.07,h30km,n52, σ1s14/47,mb4.1/16,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.27**	**339**	P	**Pn**	**13 00 54.7**	**-0.2**
GSI				S	**Sn**	**13 01 11.4**	**+0.4**
GSI	**Gunungsitoli**	**1.27**	**339**		**Pn**	**13 00 54.7**	**-0.2**
MNSI	**Mandailing Nat**	**1.69**	**66**	P	**Pn**	**13 01 00.0**	**-0.6**
MNSI				S	**Sn**	**13 01 21.9**	**+0.7**
SISI	**Saibi**	**1.77**	**144**	P	**Pb**	**13 01 03.5**	**-1.5**
PSI	**Prapat**	**2.82**	**18**	Pn	**Pn**	**13 01 15.5**	**-0.8**
12nm,0.3s,baz=168,slow=12,SNR=24							
PSI				LR	LR	13 02 38.2	
BKNI	**Bangkinang**	**3.01**	**86**	P	**Pn**	**13 01 19.3**	**+0.5**
BKNI	**Bangkinang**	**3.01**	**86**	Pn	**Pn**	**13 01 20.4**	**+1.5**
KCSI	**Kotacane, Aceh**	**3.40**	**356**	P	**Pn**	**13 01 23.1**	**-1.1**
TSI	**Tuntungan**	**3.41**	**9**	P	**Pn**	**13 01 25.3**	**+1.0**
PPSI	**Pulau Pagai**	**3.47**	**145**	P	**Pn**	**13 01 26.5**	**+1.4**
KRJI	**Kerinci**	**4.06**	**123**	P	**Pn**	**13 01 35.1**	**+1.7**
LHMI	**Lhok Sumawe**	**5.20**	**348**	P	**Pn**	**13 01 48.6**	**-0.4**
0.9nm174nm,1.1s							
IPM	**Ipoh**	**5.27**	**34**		**Pn**	**13 01 50.4**	**+0.5**
MASI	**Maura Aman, Be**	**5.30**	**128**	P	**Pn**	**13 01 51.1**	**+0.8**
0.9nm2um84nm,0.5s							
KULM	**Kulim**	**5.77**	**27**		**Pn**	**13 01 57.6**	**+0.8**
MYKOM	**Kota Tinggi**	**6.05**	**74**		**Pn**	**13 02 01.5**	**+0.9**
MNAI	**Manna**	**6.62**	**132**	P	**Pn**	**13 02 09.4**	**+0.9**
1.0nm113nm,1.0s							
MNAI	**Manna**	**6.62**	**132**	Pn	**Pn**	**13 02 09.1**	**+0.6**
LHSI	**Lahat**	**6.73**	**126**	P	**Pn**	**13 02 11.1**	**+1.1**
MDSI	**Maura Dua**	**7.65**	**127**	P	**Pn**	**13 02 23.6**	**+1.0**
0.1nm12nm,0.5s							
KASI	**Kota Agung**	**8.54**	**131**	P	**Pn**	**13 02 34.4**	**-0.4**
25nm,0.5s							
CMAR	**Chiang Mai Arr**	**18.26**	**3**	P	**P**	**13 04 44.2**	**-0.2**
0.2nm,0.3s,baz=195,slow=11,SNR=7.5							
CMAR				LR	LR	13 12 26.1	
comp=Z,52nm,18.3s,baz=205,slow=39							
KKM	**Kota Kinabalu**	**19.08**	**72**	P	**Pn**	**13 04 54.8**	**+0.2**
MYLDM	**Lahad Datu**	**21.05**	**76**	P	**P**	**13 05 17.2**	**+2.3**
PCI	**Palu**	**21.82**	**93**	P	**P**	**13 05 22.8**	**-0.5**
945nm,1.2s							
TOLI2	**Tolitoli**	**22.77**	**87**	P	**P**	**13 05 32.6**	**-0.7**
TOLI2				IAmb	IAmb	13 05 49.3	
comp=Z,16nm,1.2s							
H08S2	**Diego Garcia H**	**26.61**	**253**	T	T	13 33 31.7	
baz=74,slow=75,SNR=1432							
H08S3	**Diego Garcia H**	**26.61**	**253**	T	T	13 33 31.1	
baz=74,slow=75,SNR=2269							
H08S1	**Diego Carcia H**	**26.62**	**253**	T	T	13 33 32.9	
baz=74,slow=75,SNR=1083							
XAN	**Xi'an**	**35.27**	**16**	⇑P	**P**	**13 07 26.9**	**+1.6**
XAN				pP	pP	13 07 34.3	+0.3
XAN				sP	sP	13 07 37.6	0.0
XAN				pmax	pmax		
comp=Z,7.0nm,0.8s							
H01W3	**Cape Leeuwin H**	**37.93**	**158**	T	T	13 48 01.6	
baz=334,slow=76,SNR=13							
H01W2	**Cape Leeuwin H**	**37.94**	**158**	T	T	13 48 02.5	
baz=334,slow=76,SNR=12							
H01W1	**Cape Leeuwin H**	**37.94**	**158**	T	T	13 48 02.7	
baz=334,slow=76,SNR=11							
GTA	**Gaotai**	**39.15**	**2**	*e*P	P	13 08 06.8	+8.5
GTA				pP	sP	13 08 12.0	+1.4
GTA				sP	pP	13 08 15.5	+8.4
GTA				pmax	pmax		
comp=Z,1.0nm,1.2s							
WB0	**Warramunga Arr**	**40.73**	**121**	P	**P**	**13 08 10.2**	**-1.4**
WB0				IAmb	IAmb	13 08 36.5	
comp=Z,2.7nm,0.9s							
WRA	**Warramunga Arr**	**40.75**	**121**	P	**P**	**13 08 10.8**	**-1.1**
comp=Z,0.3nm,0.2s,baz=304,slow=8.9,SNR=17							
WRA	**Warramunga Arr**	**40.75**	**121**	P	**P**	**13 08 11.3**	**-0.5**
WRAB	**Tennant Creek**	**40.76**	**121**	P	**P**	**13 08 10.6**	**-1.3**
WRAB				IAmb	IAmb	13 08 34.4	
comp=Z,6.6nm,1.5s							
WB2	**Warramunga Arr**	**40.76**	**121**	P	**P**	**13 08 10.8**	**-1.1**
WB2				IAmb	IAmb	13 08 24.6	
comp=Z,8.9nm,1.4s							
WR0	**Warramunga Arr**	**40.93**	**121**	P	**P**	**13 08 11.8**	**-1.5**
WR0				IAmb	IAmb	13 08 35.9	
comp=Z,2.1nm,0.9s							
AS31	**Alice Springs**	**42.08**	**127**	P	**P**	**13 08 20.2**	**-2.5**
ASAR	**Alice Springs**	**42.08**	**127**	P	**P**	**13 08 22.2**	**-0.5**
comp=Z,0.3nm,0.4s,baz=297,slow=7.8,SNR=24							
ASAR	**Alice Springs**	**42.08**	**127**	P	**P**	**13 08 21.9**	**-0.7**
KSRS	**Korea Array**	**46.28**	**33**	P	**P**	**13 08 55.1**	**-1.0**
comp=Z,1.6nm,0.7s,baz=228,slow=8.3,SNR=5.6							
SONM	**Songino Array**	**48.09**	**8**	P	**P**	**13 09 11.9**	**+1.7**
comp=Z,0.9nm,0.4s,baz=190,slow=8.6,SNR=7.9							
SONM	**Songino Array**	**48.09**	**8**	P	**P**	**13 09 07.9**	**-2.2**
SONM				IAmb	IAmb	13 09 22.4	
comp=Z,1.7nm,0.8s							
MKAR	**Makanchi Array**	**48.50**	**346**	P	**P**	**13 09 13.8**	**+0.5**
comp=Z,1.7nm,0.7s,baz=158,slow=7.6,SNR=17							
STKA	**Stephens Creek**	**52.01**	**132**	P	**P**	**13 09 41.2**	**+1.1**
comp=Z,1.2nm,0.4s,baz=326,slow=7.6,SNR=7.

comp=Z,262nm,20.7s,baz=280,slow=37
PTGB Pitanga 33.63 127 *e*P **P 13 08 04.9 -0.3**
RPN Rapa Nui 34.05 229 LR LR 13 18 17.6
comp=Z,194nm,19.3s,baz=22,slow=30
PLCA Paso Flores 35.95 166 P **P 13 08 24.7 -0.3**
1.6nm,0.7s,baz=325,slow=8.1,SNR=5.0
PLCA Paso Flores 35.95 166 *e*P **P 13 08 24.4 -0.6**
SDBA SAO DESIDERIO 36.41 103 *e*P **P 13 08 30.0 +0.8**
PLTB Pedras Altas 36.44 138 *e*P **P 13 08 29.6 +0.3**
DIAM Diamantina, MG 38.63 112 *e*P **P 13 08 47.5 -0.6**
TXAR Lajitas Array 41.17 330 LR LR 13 24 30.0
comp=Z,66nm,18.4s,baz=160,slow=34
LPIG La Paz 41.17 318 LR LR 13 22 14.5
comp=Z,66nm,21.9s,baz=33,slow=30
TKL Tuckaleechee C 41.44 357 LR LR 13 25 26.2
comp=Z,127nm,18.2s,baz=175,slow=35
GDU01 Guandu, BA 41.71 104 *e*P **P 13 09 12.8 -0.7**
NBIT Itapeh - BA 42.00 106 *e*P **P 13 09 16.3 +0.4**
NBAN Anadia - AL 44.67 98 *e*P **P 13 09 37.5 0.0**
PFO Pinyon Flats O 51.57 322 LR LR 13 31 14.0
comp=Z,66nm,18.5s,baz=184,slow=35
PDAR Pinedale Array 54.88 335 P **P 13 10 55.6 +0.6**
0.3nm,0.7s,baz=158,slow=5.8,SNR=2.8
PDAR LR LR 13 34 18.8
comp=Z,88nm,18.4s,baz=124,slow=36
NVAR Mina Array Bea 55.96 325 P **P 13 11 03.6 +0.8**
0.6nm,0.8s,baz=145,slow=6.4,SNR=5.1
YBH Yreka Blue Hor 60.68 325 LR LR 13 37 06.7
comp=Z,72nm,18.5s,baz=122,slow=35
YKA Yellowknife Ar 72.86 344 P **P 13 12 52.0 -0.7**
0.3nm,0.6s,baz=139,slow=5.5,SNR=6.9
TORD Torodi Ar. Bea 84.48 76 P **P 13 13 57.3 -0.3**
1.4nm,0.7s,baz=290,slow=3.8,SNR=6.8
H11N3 WAKE ISLAND Hyl12.54 289 T T 15 22 09.5
baz=78,slow=72,SNR=13
H11N2 WAKE ISLAND Hyl12.55 289 T T 15 22 14.2
baz=78,slow=72,SNR=8.8
H11N1 WAKE ISLAND Hyl12.56 289 T T 15 22 13.0
baz=78,slow=72,SNR=9.7
H11S2 WAKE ISLAND Hyl12.77 287 T T 15 22 23.2
baz=89,slow=75,SNR=27
H11S1 WAKE ISLAND Hyl12.77 288 T T 15 22 23.0
baz=89,slow=75,SNR=34
H11S3 WAKE ISLAND Hyl12.78 287 T T 15 22 23.3
baz=89,slow=75,SNR=24
ASAR Alice Springs 134.82 228 PKP **PKPdf 13 20 43.5 -0.3**
0.3nm,0.8s,baz=111,slow=3.0,SNR=4.9
WRA Warramunga Arr 136.59 233 PKP **PKPdf 13 20 47.0 -0.2**
0.5nm,0.8s,baz=127,slow=2.0,SNR=2.5

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*MOS **21** 13:01:58.5±0.9, 31°.41S×58°.31E, h10km, mb5.2/35, Error ellipse: s-maj=15.7km s-min=7.1km az=90.5*
*IDC **21** 13:01:58.8±0.4, 31°.40S×58°.35E, h0km, mb4.7/26, mb1 4.9/27, mb1mx4.6/59, mbtmp4.8/27, ML5.1/1, MS3.8/25, Ms1 3.8/25, ms1mx3.6/68, Error ellipse: s-maj=16.4km s-min=12.8km az=50.0*
*NEIC **21** 13:02:00.9±1.6, 31°.22S±0°.09×58°.3E±0°.1, h10km±1km, mb5.1/54, Error ellipse: s-maj=18.3km s-min=14.8km az=235.0*
*GCMT **21** 13:02:00.9±0.3, 31°.38S±0°.03×58°.28E±0°.04, h17km±1km, MW4.9/81, Moment Tensor Solution. s35,c39; s81,c98; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~3.12±.22; Mθθ 1.83±.15; Mφφ 1.29±.15; Mrθ 0.69±.40; Mrφ 1.53±.10; Mθφ~0.37±.44; Best double couple: M0 3.21000×10^16 NP1:φs 38.00000°, δ 44.00000°, λ~108.00000°. NP2: φs 242.00000°, δ 49.00000°, λ~74.00000°. Principal axes: T 3.1270, Plg 3.0000°, Azm 321.0000°; N 0.1660, Plg 12.0000°, Azm 51.0000°; P -3.2930, Plg 77.0000°, Azm 218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **21** 13:02:01.7±0.0, 30°.86S×58°.48E, h13km, mb5.0/44, mB5.2/21, Ms5.1/8, Ms7 4.9/6*
*DSN **21** 13:02:02.9±2.8, 30°.74S×58°.76E, h10km, mb5.3/8, Error ellipse: s-maj=73.0km s-min=31.4km az=38.0*
ISC 21 13:02:01.5±0.3, **31°.34S**±0°.06×**58°.22E**±0°.06, **h17**km, **n469**, σ1 **9**04/456, **mb5.1**/105, **MS3.9**/30, **42C-54D, Fault plane solution: NP1:** φs 217.69728°, δ 33.72474°, λ~98.33633°. **NP2:** φs 47.68914°, δ 56.67844°, λ~84.47199°. **Principal axes:** T Plg 11.5177°, Azm 133.7029°; N Plg 4.6170°, Azm 224.6458°; P Plg 77.5677°, Azm 336.1348°;

Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.38**	**347**	P	**Pn**	**13 04 26.7**	**-3.0**
RER	**Riviere de l'E**	**10.38**	**347**	Pn	**Pn**	**13 04 26.3**	**-3.4**
VOI	**Vohitsoka**	**13.87**	**310**	P	**Pn**	**13 05 17.2**	**-0.3**
SNR=12							
VOI	**Vohitsoka**	**13.87**	**310**	Pn	**Pn**	**13 05 16.5**	**-1.0**
VOI	**Vohitsoka**	**13.87**	**310**	P	**Pn**	**13 05 17.6**	**+0.2**
ABPO	**Ambohimpanom**	**15.78**	**318**	P	**Pn**	**13 05 44.2**	**+1.0**
ABPO				pmax	pmax		
comp=Z,52nm,0.7s							
ABPO	**Ambohimpanom**	**15.78**	**318**		**Pn**	**13 05 44.2**	**+1.0**
ABPO				IAmb	IAmb	13 05 45.9	
comp=Z,52nm,0.7s							
OPO	**Ambohidratompo**	**16.16**	**319**	Pn	**P**	**13 05 50.2**	**-1.0**
comp=Z,7.8nm,0.3s,baz=165,slow=11,SNR=32							
H08S1	**Diego Carcia H**	**27.07**	**32**	T	T	13 36 09.7	
baz=207,slow=76,SNR=112							
H08S2	**Diego Garcia H**	**27.08**	**32**	T	T	13 35 52.5	
baz=207,slow=76,SNR=75							
H08S3	**Diego Garcia H**	**27.09**	**32**	T	T	13 36 01.2	
baz=207,slow=76,SNR=146							
BOSA	**Boshof**	**28.63**	**267**	LR	LR	13 17 32.5	
comp=Z,166nm,19.8s,baz=107,slow=32							
MATP	**Matopo**	**28.78**	**285**	LR	LR	13 17 44.9	
comp=Z,90nm,21.7s,baz=116,slow=33							
LBTB	**Lobatse**	**29.37**	**274**	LR	LR	13 18 27.5	
comp=Z,134nm,19.0s,baz=114,slow=34							
LBTB	**Lobatse**	**29.37**	**274**	P	**P**	**13 08 03.2**	**-0.7**
LBTB				pmax	pmax		
comp=Z,35nm,1.8s							
LBTB	**Lobatse**	**29.37**	**274**	P	**P**	**13 08 03.2**	**-0.7**
LBTB				IAmb	IAmb	13 08 53.7	
comp=Z,34nm,1.8s							
SUR	**Sutherland**	**31.69**	**258**	LR	LR	13 18 57.8	
comp=Z,414nm,20.4s,baz=103,slow=32							
LSZ	**Lusaka**	**31.74**	**293**	P	**P**	**13 08 25.6**	**+0.7**
comp=Z,5.3nm,0.7s,baz=136,slow=8.3,SNR=9.5							
LSZ				LR	LR	13 19 53.7	
comp=Z,153nm,20.3s,baz=142,slow=34							
LSZ	**Lusaka**	**31.74**	**293**	P	**P**	**13 08 22.3**	**-2.6**
LSZ				pmax	pmax		
comp=Z,7.0nm,0.8s							
LSZ	**Lusaka**	**31.74**	**293**	P	**P**	**13 08 22.3**	**-2.6**
KMBO	**Kilima Mbogo**	**36.01**	**323**	LR	LR	13 23 17.7	
comp=Z,42nm,18.2s,baz=90,slow=35							
MAW	**Mawson**	**36.40**	**177**	LR	LR	13 20 31.5	
comp=Z,109nm,18.2s,baz=36,slow=31							
TSUM	**Tsumeb**	**38.48**	**278**	P	**P**	**13 09 23.6**	**+0.6**
comp=Z,8.8nm,0.8s,baz=136,slow=8.3,SNR=9.7							
TSUM				LR	LR	13 24 07.8	
comp=Z,132nm,18.4s,baz=138,slow=34							
TSUM	**Tsumeb**	**38.48**	**278**	P	**P**	**13 09 23.0**	**0.0**
SYO	**Syowa Base**	**39.20**	**190**	⇑*e*P	**P**	**13 09 30.2**	**+2.0**
MBAR	**Mbarara**	**40.14**	**314**	LR	LR	13 24 34.1	
comp=Z,178nm,21.6s,baz=114,slow=34							
LODK	**Lodwar**	**40.85**	**324**	P	**P**	**13 09 44.0**	**+1.3**
LODK	**Lodwar**	**40.85**	**324**	P	**P**	**13 09 41.7**	**-1.0**
PALK	**Pallekele**	**44.01**	**33**	LR	LR	13 24 27.5	
comp=Z,76nm,18.2s,baz=310,slow=31							
ATD	**Arta Tunnel**	**45.10**	**338**	LR	LR	13 25 49.1	
comp=Z,88nm,21.0s,baz=99,slow=32							
H01W2	**Cape Leeuwin H**	**46.45**	**110**	T	T	14 00 13.9	
baz=257,slow=75,SNR=125							
H01W3	**Cape Leeuwin H**	**46.46**	**110**	T	T	14 00 14.1	
baz=257,slow=75,SNR=143							
H01W1	**Cape Leeuwin H**	**46.47**	**110**	T	T	14 00 15.8	
baz=257,slow=75,SNR=136							
WHFO	**Wadi Hawf**	**49.16**	**354**	P	**P**	**13 10 49.8**	**+1.1**
SKHT	**Srikalahasti**	**49.34**	**28**	*e*P	**P**	**13 10 49.2**	**-0.8**
SKHT				*e*S	**S**	**13 17 55.2**	**-0.8**
GSI	**Gunungsitoli**	**49.48**	**57**	P	**P**	**13 10 52.3**	**+1.1**
GSI				IAmb	IAmb	13 10 54.5	
comp=Z,91nm,1.9s							
URV	**Uravakonda**	**49.52**	**24**	*e*P	**P**	**13 10 50.6**	**-0.8**
URV				*e*S	**S**	**13 17 58.4**	**-0.2**
DOK	**Doka**	**49.83**	**355**	P	**P**	**13 10 54.3**	**+0.7**
GIRL	**Giralia**	**50.21**	**94**	P	**P**	**13 10 56.4**	**-0.3**
baz=50,SNR=3.6							
RCLA	**Racherla**	**50.61**	**26**	*e*P	**P**	**13 10 59.4**	**-0.3**
RCLA				*e*S	**S**	**13 18 12.9**	**-0.8**
DQM	**DQM**	**50.98**	**359**	P	**P**	**13 11 03.8**	**+1.5**
SRLM	**Srisailam**	**51.18**	**26**	*e*P	**P**	**13 11 03.9**	**-0.1**
SRLM				*e*S	**S**	**13 18 21.4**	**-0.2**
BKNI	**Bangkinang**	**51.34**	**61**	P	**P**	**13 11 06.8**	**+1.5**
ADKI	**Addanki**	**51.35**	**27**	*e*P	**P**	**13 11 03.9**	**-1.3**
PSI	**Prapat**	**51.48**	**56**	LR	LR	13 28 25.9	
comp=Z,120nm,18.7s,baz=229,slow=31							
SNAA	**Sanae**	**51.54**	**201**	P	**P**	**13 11 05.2**	**-1.0**
SNAA	**Sanae**	**51.54**	**201**	P	**P**	**13 11 05.6**	**-0.5**
comp=Z,5.3nm,0.7s,baz=99,slow=7.2,SNR=16							
SNAA				LR	LR	13 28 06.5	
comp=Z,134nm,20.4s,baz=347,slow=30							
SNAA	**Sanae**	**51.54**	**201**	*ce*P	**P**	**13 11 04.5**	**-1.6**
SNAA				pmax	pmax		
comp=Z,487nm,1.7s							
SNAA	**Sanae**	**51.54**	**201**	P	**P**	**13 11 05.1**	**-1.0**
NJS	**Nagarjunasagar**	**51.75**	**26**	*e*P	**P**	**13 11 08.2**	**+0.1**
POO	**Poona**	**51.80**	**19**	*e*P	**P**	**13 11 07.0**	**-1.6**
LEM	**Lembang**	**52.11**	**73**	LR	LR	13 28 03.7	
comp=Z,105nm,20.7s,baz=205,slow=30							
HYBB	**Hyderabad (bro**	**52.27**	**25**	*e*pP	**P**	**13 11 12.9**	**+0.9**
HYBB				*e*S	**S**	**13 18 36.1**	**-0.5**
CUPL	**Choutuppal**	**52.28**	**25**	*e*P	**P**	**13 11 12.7**	**+0.6**
MYLAV	**Mylavaram**	**52.44**	**27**	*e*P	**P**	**13 11 12.7**	**-0.6**
MEEK	**Meekatharra**	**52.47**	**101**	P	**P**	**13 11 13.5**	**-0.2**
baz=52,SNR=9.2							
VNA2	**Neumayer--Watz**	**52.77**	**202**	P	**P**	**13 11 13.9**	**-1.3**
baz=84,slow=7.5							
VNA3	**Neumayer Olymp**	**53.56**	**202**	P	**P**	**13 11 20.1**	**-0.9**
SRSP	**Sriramsagar**	**53.59**	**24**	*e*P	**P**	**13 11 21.6**	**-0.1**
SRSP				*e*S	**S**	**13 18 56.3**	**+1.8**
WBK	**Wadi Bani Khal**	**53.65**	**1**	P	**P**	**13 11 22.5**	**+0.4**
BSY	**Bisya**	**53.78**	**359**	P	**P**	**13 11 23.6**	**+0.5**
BSY				P	**P**	**13 11 23.6**	**+0.5**
UMZA	**Um Al Zommool**	**53.83**	**356**	P	**P**	**13 11 23.9**	**+0.5**
SMDO	**Samad**	**54.09**	**360**	P	**P**	**13 11 26.0**	**+0.6**
IPM	**Ipoh**	**54.15**	**57**	P	**P**	**13 11 26.4**	**+0.4**
IPM				IAmb	IAmb	13 11 28.5	
comp=Z,50nm,1.1s							
WSAR	**Wadi Sarin**	**54.27**	**0**	LR	LR	13 28 31.4	
comp=Z,101nm,21.7s,baz=215,slow=29							
ARQ	**Araqi**	**54.39**	**358**	P	**P**	**13 11 28.7**	**+1.1**
BIDO	**Bidbid**	**54.55**	**360**	P	**P**	**13 11 30.3**	**+1.6**
HOQ	**Hoqain**	**54.62**	**359**	P	**P**	**13 11 29.5**	**+0.3**
PSA00	**Pilbara Seismi**	**55.41**	**96**	P	**P**	**13 11 32.8**	**-2.4**
PSA00				IAmb	IAmb	13 11 35.4	
comp=Z,20nm,0.8s							
ASUD	**Al Ashush, Dub**	**55.72**	**357**	P	**P**	**13 11 38.7**	**+1.7**
ASUD	**Al Ashush, Dub**	**55.72**	**357**	P	**P**	**13 11 38.3**	**+1.2**
ASHO	**Ashiyiah**	**55.74**	**358**	P	**P**	**13 11 37.8**	**+0.4**
SNR=5.7							
ASHO	**Ashiyiah**	**55.74**	**358**	*i* P	**P**	**13 11 37.7**	**+0.3**
SNR=11							
FAQ	**Al Faqa, Dubai**	**55.83**	**357**	P	**P**	**13 11 38.3**	**+0.4**
HATD	**Hatta, Dubai**	**55.88**	**358**	P	**P**	**13 11 39.5**	**+1.2**
HATD				P	**P**	**13 11 39.5**	**+1.2**
HATD	**Hatta, Dubai**	**55.88**	**358**	P	**P**	**13 11 38.8**	**+0.5**
RAYN	**Ar Rayn**	**55.90**	**346**	P	**P**	**13 11 37.4**	**-1.1**
RAYN				pmax	pmax		
comp=Z,25nm,1.6s							
RAYN	**Ar Rayn**	**55.90**	**346**	P	**P**	**13 11 39.7**	**+1.2**
RAYN	**Ar Rayn**	**55.90**	**346**	P	**P**	**13 11 37.4**	**-1.1**
RAYN				IAmb	IAmb	13 11 47.6	
comp=Z,24nm,1.6s							
RAYN	**Ar Rayn**	**55.90**	**346**	*i* P	**P**	**13 11 39.6**	**+1.2**
SNR=6.8							
MSFE	**Esma-Masafi**	**56.41**	**358**	*i* P	**P**	**13 11 42.2**	**0.0**
SNR=10							
MASF	**Masafi**	**56.43**	**358**	P	**P**	**13 11 42.3**	**+0.1**
SNR=6.6							
MASF				P	**P**	**13 11 42.3**	**+0.1**
SNR=6.6							
JAGI	**Jajag, Banyuwa**	**56.64**	**79**	P	**P**	**13 11 44.0**	**0.0**
comp=Z,42nm,1.1s							
BANOM	**Banah**	**56.97**	**358**	P	**P**	**13 11 47.3**	**+1.2**
QSPA	**South Pole Qui**	**58.83**	**180**	P	**P**	**13 11 58.5**	**-0.4**
comp=Z,21nm,0.9s,baz=241,slow=1.2,SNR=64							
QSPA				LR	LR	13 36 05.0	
comp=Z,77nm,18.1s,baz=226,slow=35							
QSPA	**South Pole Qui**	**58.83**	**180**	P	**P**	**13 11 58.1**	**-0.8**
QSPA				IAmb	IAmb	13 11 59.5	
comp=Z,40nm,1.1s							
STKI	**Sintang**	**59.25**	**69**	P	**P**	**13 12 03.4**	**+1.1**
WRKA	**Warakurna**	**61.16**	**103**	P	**P**	**13 12 15.5**	**+0.1**
baz=61,SNR=37							
VNDA	**Vanda**	**62.53**	**166**	P	**P**	**13 12 23.4**	**-0.3**
comp=Z,9.5nm,1.1s,baz=197,slow=3.8,SNR=4.2							
VNDA				LR	LR	13 38 43.4	
comp=Z,67nm,18.4s,baz=216,slow=35							
EDFI	**Ende, Flores**	**62.87**	**84**	P	**P**	**13 12 26.8**	**-0.3**
comp=Z,9.7nm,1.1s							
CMAR	**Chiang Mai Arr**	**63.09**	**44**	P	**P**	**13 12 28.4**	**+0.2**
comp=Z,19nm,0.8s,baz=231,slow=7.1,SNR=147							
CMAR				LR	LR	13 36 04.3	
comp=Z,98nm,19.2s,baz=220,slow=32							
CMAR	**Chiang Mai Arr**	**63.09**	**44**	*i* P	**P**	**13 12 28.3**	**+0.1**
CMAR				pmax	pmax		
comp=Z,19nm,0.8s							
CMAR	**Chiang Mai Arr**	**63.09**	**44**	P	**P**	**13 12 28.1**	**0.0**
CHTO	**Chiang Mai**	**63.36**	**44**	P	**P**	**13 12 28.8**	**-1.2**
CHTO				pmax	pmax		
comp=Z,16nm,1.1s							
CHTO	**Chiang Mai**	**63.36**	**44**	P	**P**	**13 12 30.5**	**+0.5**
CHTO				P	**P**	**13 12 30.5**	**+0.5**
CHTO	**Chiang Mai**	**63.36**	**44**	P	**P**	**13 12 28.8**	**-1.2**
CHTO				IAmb	IAmb	13 12 31.2	
comp=Z,16nm,1.1s							
MMRI	**Maumere**	**63.39**	**84**	P	**P**	**13 12 30.2**	**-0.2**
comp=Z,61nm,1.5s							
MMRI	**Maumere**	**63.39**	**84**	P	**P**	**13 12 29.6**	**-0.8**
KOLN	**Koldanda**	**63.57**	**25**	*e*P	**P**	**13 12 31.3**	**-0.1**
comp=Z,139nm,1.1s							
PYUN	**Piuthan**	**63.65**	**24**	*e*P	**P**	**13 12 31.8**	**-0.2**
comp=Z,143nm,1.0s							
DMN	**Daman**	**63.98**	**27**	*e*P	**P**	**13 12 34.4**	**+0.2**
PKI	**Pulchoki**	**64.06**	**27**	*e*P	**P**	**13 12 34.3**	**-0.6**
comp=Z,54nm,1.3s							
DANN	**Dangsing**	**64.15**	**25**	*e*P	**P**	**13 12 34.9**	**-0.5**
comp=Z,84nm,0.8s							
GKN	**Gorkha**	**64.16**	**26**	*e*P	**P**	**13 12 34.9**	**-0.4**
comp=Z,129nm,1.0s							
KKN	**Kakani**	**64.21**	**27**	*e*P	**P**	**13 12 35.5**	**-0.2**
comp=Z,74nm,1.0s							
GUN	**Gumba**	**64.55**	**27**	*e*P	**P**	**13 12 38.0**	**-0.1**
comp=Z,119nm,1.0s							
EIL	**Elat**	**64.58**	**338**	P	**P**	**13 12 39.3**	**+1.5**
comp=Z,4.3nm,0.8s,baz=104,slow=4.2,SNR=4.9							
SHL	**Shillong**	**65.10**	**34**	P	**P**	**13 12 41.8**	**+0.3**
SNR=12							
KNRA	**Kununurra**	**65.57**	**94**	P	**P**	**13 12 44.2**	**-0.5**
baz=66,SNR=11							
NIL	**Nilore**	**66.18**	**14**	P	**P**	**13 12 47.6**	**-0.5**
NIL				pmax	pmax		
comp=Z,19nm,1.1s							
NIL	**Nilore**	**66.18**	**14**	P	**P**	**13 12 47.6**	**-0.5**
NIL				IAmb	IAmb	13 12 49.1	
comp=Z,19nm,1.1s							
KBL	**Kabul**	**66.32**	**10**	P	**P**	**13 12 50.0**	**+0.8**
KBL				pmax	pmax		
comp=Z,18nm,0.8s							
KBL	**Kabul**	**66.32**	**10**	P	**P**	**13 12 50.5**	**+1.3**
SNR=9.7							
KBL	**Kabul**	**66.32**	**10**	P	**P**	**13 12 50.0**	**+0.8**
KBL				IAmb	IAmb	13 12 51.2	
comp=Z,18nm,0.8s							
ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**13 12 49.2**	**-0.7**
comp=Z,20nm,0.8s,baz=238,slow=6.1,SNR=242							
ASAR				LR	LR	13 39 03.5	
comp=Z,49nm,18.1s,baz=258,slow=34							
ASAR	**Alice Springs**	**66.39**	**104**	P	**P**	**13 12 48.7**	**-1.1**
AS31	**Alice Springs**	**66.39**	**104**	P	**P**	**13 12 49.0**	**-0.9**
AS31				IAmb	IAmb	13 12 50.0	
comp=Z,6.9nm,0.8s							
HTT	**Hallett**	**66.46**	**116**	P	**P**	**13 12 50.0**	**-0.2**
baz=66,SNR=6.2							
ARPS	**Mount Arapiles**	**67.36**	**120**	P	**P**	**13 12 56.0**	**+0.2**
baz=67,SNR=6.2							
TOLI2	**Tolitoli**	**67.40**	**74**	P	**P**	**13 12 53.8**	**-2.6**
MMAI	**Mount Meron Ar**	**67.54**	**339**	P	**P**	**13 12 58.4**	**+1.5**
comp=Z,1.5nm,0.3s,baz=153,slow=9.4,SNR=5.6							
LSA	**Lhasa**	**68.30**	**31**	P	**P**	**13 13 03.1**	**+0.9**
LSA				pmax	pmax		
comp=Z,58nm,0.9s							
WRA	**Warramunga Arr**	**68.37**	**101**	P	**P**	**13 13 01.9**	**-0.5**
comp=Z,38nm,0.9s,baz=240,slow=5.6,SNR=280							
WRA				LR	LR	13 39 37.1	
comp=Z,177nm,18.1s,baz=250,slow=33							
WRA	**Warramunga Arr**	**68.37**	**101**	P	**P**	**13 13 01.5**	**-1.0**
WRA				pmax	pmax		
comp=Z,3.0nm,1.3s							
WRA	**Warramunga Arr**	**68.37**	**101**	P	**P**	**13 13 01.5**	**-1.0**
WB2	**Warramunga Arr**	**68.38**	**101**	P	**P**	**13 13 01.7**	**-0.9**
WRAB	**Tennant Creek**	**68.38**	**101**	*ce*P	**P**	**13 13 00.9**	**-1.6**
WRAB				pmax	pmax		
comp=Z,97nm,1.7s							
WRAB	**Tennant Creek**	**68.38**	**101**	P	**P**	**13 13 02.0**	**-0.5**
WB0	**Warramunga Arr**	**68.49**	**101**	P	**P**	**13 13 02.9**	**-0.3**
WR0	**Warramunga Arr**	**68.53**	**101**	P	**P**	**13 13 03.1**	**-0.3**
GEYT	**Alibeck**	**68.91**	**360**	P	**P**	**13 13 06.1**	**+0.8**
comp=Z,3.4nm,0.6s,baz=181,slow=10,SNR=4.2							
STKA	**Stephens Creek**	**69.15**	**115**	P	**P**	**13 13 06.9**	**-0.2**
comp=Z,7.8nm,0.6s,baz=261,slow=5.7,SNR=23							
STKA				LR	LR	13 36 48.2	
comp=Z,81nm,21.0s,baz=208,slow=30							
STKA	**Stephens Creek**	**69.15**	**115**	P	**P**	**13 13 06.9**	**-0.2**
baz=69,SNR=11							
STKA	**Stephens Creek**	**69.15**	**115**	P	**P**	**13 13 06.5**	**-0.6**
STKA				pmax	pmax		
comp=Z,8.0nm,1.4s							
STKA	**Stephens Creek**	**69.15**	**115**	P	**P**	**13 13 06.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**69.96**	**300**	P	**P**	**13 13 12.6**	**+0.4**
comp=Z,4.5nm,1.0s,baz=125,slow=4.2,SNR=14							
TORD	**Torodi Ar. Bea**	**69.96**	**300**	P	**P**	**13 13 12.3**	**0.0**
CHGR	**Chuyangaron**	**70.38**	**9**	P	**P**	**13 13 14.6**	**+0.2**
QIZ	**Qiongzhong**	**70.44**	**52**	P	**P**	**13 13 16.4**	**+1.3**
QIZ				S	**S**	**13 22 31.5**	**+4.0**
QIZ				LR	LR		
comp=Z,190nm,7.4s							
QIZ				LR	LR		
comp=Z,250nm,4.9s							
QIZ				LR	LR		
comp=Z,200nm,5.7s							
KMI	**Kunming**	**70.46**	**42**	⇑P	**P**	**13 13 14.8**	**-0.6**
KMI				pP	pP	13 13 19.8	+0.2
KMI				pmax	pmax		
comp=Z,21nm,0.9s							
PZH	**PanZhiHua**	**70.96**	**41**	⇓P	**P**	**13 13 17.8**	**-0.5**
PZH				S	**S**	**13 22 35.3**	**+1.8**
PZH				pmax	pmax		
comp=Z,20nm,1.0s							
PZH				pmax	pmax		
comp=Z,120nm,5.3s							
PZH				LR	LR		
comp=Z,560nm,18.7s							
PZH				LR	LR		
comp=Z,430nm,18.1s							
PZH				LR	LR		
comp=Z,710nm,19.0s							
DBIC	**Dimbokro**	**71.03**	**291**	P	**P**	**13 13 20.2**	**+1.4**
comp=Z,5.0nm,0.9s,baz=144,slow=6.3,SNR=3.8							
BTK	**Batken**	**71.99**	**10**	P	**P**	**13 13 24.1**	**-0.1**
BTK				pmax	pmax		
comp=Z,15nm,1.0s							
BTK	**Batken**	**71.99**	**10**	P	**P**	**13 13 24.1**	**-0.1**
BTK				IAmb	IAmb	13 13 26.5	
comp=Z,15nm,1.0s							
LBMI	**Labuha**	**72.03**	**79**	P	**P**	**13 13 25.2**	**+0.2**
comp=Z,34nm,1.0s							
GNI	**Garni**	**72.22**	**349**	*ce*P	**P**	**13 13 27.0**	**+1.4**
GNI				pmax	pmax		
comp=Z,45nm,2.5s							
KSH	**Kashi**	**72.40**	**14**	P	**P**	**13 13 24.5**	**-2.2**
KSH				pP	pP	13 13 29.6	-1.7
KSH				pmax	pmax		
comp=Z,35nm,0.8s							
CMSA	**Cobar Meteorol**	**72.44**	**117**	P	**P**	**13 13 27.7**	**+0.5**
baz=72,SNR=8.3							
QIS	**Mount Isa**	**72.50**	**104**	P	**P**	**13 13 27.6**	**-0.1**
baz=72,SNR=21							
AKH	**Akhalkalaki**	**73.66**	**349**	⇑P	**P**	**13 13 34.7**	**+0.6**
GYA	**Guiyang**	**73.77**	**44**	⇑P	**P**	**13 13 34.9**	**-0.2**
GYA				pmax	pmax		
comp=Z,11nm,1.1s							
IUG	**Iuzhnay**	**73.93**	**9**	*de*P	**P**	**13 13 36.4**	**+0.8**
IUG	**Iuzhnay**	**73.93**	**9**	⇓*e*P	**P**	**13 13 36.5**	**+0.8**
baz=9.1							
BRTR	**Keskin Array B**	**74.30**	**341**	P	**P**	**13 13 38.0**	**+0.1**
comp=Z,5.2nm,0.9s,baz=164,slow=7.8,SNR=25							
BRTR	**Keskin Array B**	**74.30**	**341**	P	**P**	**13 13 37.8**	**-0.1**
BRTR	**Keskin Array B**	**74.30**	**341**	P	**P**	**13 13 37.8**	**-0.1**
BR131	**Keskin Array S**	**74.30**	**341**	P	**P**	**13 13 36.9**	**-0.9**
BR131				pmax	pmax		
comp=Z,9.0nm,0.9s							
BR131	**Keskin Array S**	**74.30**	**341**	P	**P**	**13 13 36.9**	**-0.9**
AML	**Almayashu**	**74.48**	**12**	P	**P**	**13 13 40.4**	**+1.2**
SNR=19							
AML	**Almayashu**	**74.48**	**12**	P	**P**	**13 13 40.6**	**+1.4**
AML	**Almayashu**	**74.48**	**12**	*i* P	**P**	**13 13 40.2**	**+1.0**
SNR=19							
UCH	**Uchtor**	**74.73**	**12**	P	**P**	**13 13 41.5**	**+0.8**
SNR=11							
BRLS	**Borolday**	**74.77**	**9**	*e*P	**P**	**13 13 39.5**	**-0.9**
BRLS	**Borolday**	**74.77**	**9**	*e*P	**P**	**13 13 39.5**	**-0.9**
baz=8.7							
ONI	**

PRZ Przheval'sk 75.77 15 P P 13 13 47.1 +0.8
KST Kastek 75.79 13 eP P 13 13 46.8 +0.4
comp=Z,8.4nm,1.0s,baz=13
SGDS Sogindy 75.93 12 eP P 13 13 47.9 +0.8
baz=12
TNSS Tian-Shan 75.98 14 eP P 13 13 48.3 +0.5
baz=14
KBZ Khabaz 76.01 349 P P 13 13 48.4 +1.0
comp=Z,7.9nm,1.0s,baz=53,slow=3.6,SNR=11
KBZ Khabaz 76.01 349 ceP P 13 13 48.7 +1.3
KBZ pmax pmax
comp=Z,9.0nm,1.3s
MDOK Medeo 76.13 14 ceP P 13 13 48.8 +0.5
MDOK Medeo 76.13 14⇑ eP P 13 13 48.9 +0.5
baz=14
SATY Saty 76.32 15 eP P 13 13 50.2 +0.8
SATY pmax pmax
comp=Z,12nm,1.2s
SATY Saty 76.32 15 eP P 13 13 50.2 +0.8
comp=Z,12nm,1.2s,baz=15
SOC Sochi 76.46 346 eP P 13 13 48.1 -1.9
SOC e 13 16 42.6
SOC ePPP PPP 13 18 27.5
SOC eS **S** **13 23 35.2 +0.6**
SOC eSS **SS** **13 28 29.4 -0.9**
SOC eSSS SSS 13 31 54.7
SOC MLR MLR
comp=Z,31nm,15.0s
UZB Uzynbulak 76.54 16 eP P 13 13 51.6 +0.9
UZB pmax pmax
comp=Z,23nm,1.2s
UZB Uzynbulak 76.54 16 eP P 13 13 51.6 +0.9
comp=Z,23nm,1.2s,baz=16
KUU Kurty 76.68 13 eP P 13 13 51.6 +0.3
KUU pmax pmax
comp=Z,34nm,1.2s
KUU Kurty 76.68 13 eP P 13 13 51.6 +0.3
comp=Z,34nm,1.2s,baz=13
CHKK Chushkaly 76.78 14 eP P 13 13 52.3 +0.4
baz=14
BTLS Baital 77.37 11 eP P 13 13 55.8 +0.7
BTLS pmax pmax
comp=Z,8.0nm,1.1s
BTLS Baital 77.37 11 eP P 13 13 55.8 +0.7
comp=Z,8.0nm,1.1s,baz=11
MTSU Mount Surprise 77.56 104 P P 13 13 56.8 -0.1
baz=78,SNR=9.0
TDK Taldyqorghan 78.17 14 eP P 13 13 59.7 +0.1
TDK Taldyqorghan 78.17 14 eP P 13 13 59.7 +0.1
baz=14
CTA Charters Tower 78.21 106 LR LR 13 45 34.8
comp=Z,104nm,18.5s,baz=260,slow=34
ENH Enshi 78.25 44 P P 13 13 59.9 -0.6
ENH IAmb IAmb 13 14 01.6
comp=Z,33nm,1.2s
WMQ Urumqi 79.51 21 eP P 13 14 08.0 +1.0
WMQ pP sP 13 14 13.6 0.0
WMQ sP pwP 13 14 16.3 +1.0
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,180nm,4.3s
EIDS Eidsvold 79.52 113 P P 13 14 07.7 0.0
baz=80,SNR=4.9
EIDS Eidsvold 79.52 113 P P 13 14 06.4 -1.3
EIDS IAmb IAmb 13 14 08.5
comp=Z,15nm,1.0s
LZH Lanzhou 79.56 36 eP P 13 14 08.0 +0.4
LZH pP pP 13 14 12.1 -0.3
LZH pmax pmax
comp=Z,11nm,0.9s
OTUK Ortayu 80.23 10 P P 13 14 08.2 -2.6
AB31 Akbulak array 80.25 1 i P P 13 14 10.9 +0.1
ABKAR Akbulak array 80.25 1 P P 13 14 10.9 +0.1
ABKAR Akbulak array 80.25 1 P P 13 14 11.1 +0.2
ABKAR IAmb IAmb 13 14 12.4
comp=Z,29nm,1.1s
GTA Gaotai 80.30 31 ⇓P P 13 14 11.8 +0.3
GTA pP pP 13 14 16.8 +0.5
GTA sP pwP 13 14 19.8 +0.1
GTA pmax pmax
comp=Z,21nm,1.1s
MAKZ Makanchi 80.69 16 P P 13 14 13.5 +0.2
MAKZ pmax pmax
comp=Z,30nm,1.5s
MAKZ Makanchi 80.69 16 P P 13 14 13.4 +0.2
MAKZ IAmb IAmb 13 14 14.8
comp=Z,30nm,1.5s
XAN Xi'an 80.70 41 ⇓P P 13 14 13.5 -0.2
XAN pP PcP 13 14 21.3 +0.9
XAN sP pwP 13 14 24.4 +0.9
XAN pmax pmax
comp=Z,19nm,1.2s
XAN LR LR
comp=Z,340nm,11.7s
MK31 Makanchi Array 80.75 16 i P P 13 14 13.5 -0.1
MK31 Makanchi Array 80.75 16 P P 13 14 13.5 -0.1
MK31 IAmb IAmb 13 14 15.1
comp=Z,23nm,1.6s
MKAR Makanchi Array 80.75 16 P P 13 14 13.9 +0.2
comp=Z,4.6nm,0.7s,baz=216,slow=6.0,SNR=44
MKAR Makanchi Array 80.75 16 P P 13 14 12.8 -0.8
CFR Carcaliu 80.92 339 ⇑P P 13 14 15.1 +0.6
KEST Kesra 80.97 322 P P 13 14 17.4 +2.2
comp=Z,3.5nm,0.8s,baz=153,slow=9.0,SNR=3.7
BARS Barje 81.01 334 eP P 13 14 18.0 +2.9
SELS Selova 81.62 334 eP P 13 14 18.1 -0.2
MLR Muntele Rosu 81.89 338 ⇑P P 13 14 20.4 +0.5
MLR Muntele Rosu 81.89 338 P P 13 14 20.2 +0.3
comp=Z,6.3nm,0.7s,baz=185,slow=2.5,SNR=7.8
MLR Muntele Rosu 81.89 338 P P 13 14 17.4 -2.4
MLR IAmb IAmb 13 14 24.6
comp=Z,29nm,1.4s
BRZS Berezniki 81.97 9 eP P 13 14 20.5 +0.5
BRZS Berezniki 81.97 9 eP P 13 14 20.6 +0.5
baz=9.4
VRI Vrincioaia 81.98 338 ⇑P P 13 14 20.8 +0.7
PLOR Plostina 81.99 338 ⇑P P 13 14 20.1 -0.2
ZSN Zaisan 82.01 18 eP P 13 14 20.9 +0.6
ZSN pmax pmax
comp=Z,9.0nm,0.9s
ZSN Zaisan 82.01 18 eP P 13 14 21.0 +0.6
comp=Z,9.2nm,0.9s,baz=18
SJES Sjenica 82.10 333 eP P 13 14 21.7 +0.7
COVR Voineasa-Covas 82.13 338 ⇑P P 13 14 20.8 -0.1
VOIR 82.14 337 ⇑P P 13 14 21.2 +0.1
ARR Arges 82.22 337 ⇑P P 13 14 21.3 -0.2
IVAS Ivanjica 82.30 333 eP P 13 14 21.8 -0.1
GRUS Gruza 82.34 334 eP P 13 14 22.8 +0.7
HERR Herculane 82.57 335 ⇑P P 13 14 23.8 +0.6
TRUS Trudelj 82.75 334 eP P 13 14 24.9 +0.7
DIVS Divibare 82.80 333 P P 13 14 24.4 -0.1
DIVS IAmb IAmb 13 14 29.3
comp=Z,11nm,1.2s
DIVS Divibare 82.80 333 eP P 13 14 25.1 +0.5
BBLS Lazići 82.83 333 eP P 13 14 25.2 +0.5
GZR Gura Zlata 82.88 336 ⇑P P 13 14 26.1 +1.2
BZS Buzias 83.49 335 ⇑P P 13 14 28.6 +0.7
SORM Soroca 83.53 340 ⇑P P 13 14 27.7 -0.4
KURBB Kurchatov Arra 83.56 13 P P 13 14 28.2 0.0
KURK Kurchatov 83.67 13 ceP P 13 14 29.4 +0.7
KURK pmax pmax
comp=Z,37nm,1.0s
KURK Kurchatov 83.67 13 P P 13 14 29.7 +1.0
KURK Kurchatov 83.67 13 P P 13 14 29.2 +0.5
SEM Semipalatinsk 83.70 14 eP P 13 14 29.7 +0.5
SEM e 13 26 04.3
SEM pmax pmax
comp=Z,9.0nm,1.0s
SEM Semipalatinsk 83.70 14 eP P 13 14 29.8 +0.5
comp=Z,9.3nm,1.0s,baz=14
FRGS Fruska Gora 83.76 334 eP P 13 14 28.1 -1.3
ARCR ARCALIA 83.82 337 ⇑P P 13 14 30.8 +1.2
BELG Belogornoye 83.89 353 P P 13 14 30.4 +0.6
comp=Z,41nm,0.8s,baz=114,slow=1.5,SNR=10.0
BELG Belogornoye 83.89 353 ⇓eP P 13 14 30.0 +0.2
BELG pmax pmax
comp=Z,9.0nm,0.9s
VSR Storozhevoye 83.90 348 eP P 13 14 29.4 -0.5
VSR pmax pmax
comp=Z,20nm,1.1s
BURAR Bucovina Array 84.01 338 ⇑P P 13 14 31.8 +1.1
BURAR Bucovina Array 84.01 338 P P 13 14 30.7 0.0
BUR08 Bucovina Ar. S 84.04 338 P P 13 14 30.6 -0.3
BUR08 IAmb IAmb 13 14 36.2
comp=Z,25nm,1.6s
PMG Port Moresby 84.28 97 LR LR 13 47 35.6
comp=Z,64nm,20.4s,baz=316,slow=32
BRVK Borovoye 84.70 7 i P P 13 14 34.5 +0.6
BRVK pmax pmax
comp=Z,35nm,1.0s
BRVK Borovoye 84.70 7 P P 13 14 35.0 +1.0
BRVK Borovoye 84.70 7 P P 13 14 34.0 +0.1
DGZ Jazzator, Alta 84.76 19 ⇓i P P 13 14 35.8 +1.2
DGZ pmax pmax
comp=Z,48nm,1.5s
NJ2 Nanjing 85.24 48 eP P 13 14 38.9 +1.7
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
LPSR Galich'ya Gora 85.27 348 eP P 13 14 37.0 +0.2
LPSR pmax pmax
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 85.61 342 P P 13 14 38.3 -0.3
comp=Z,2.3nm,0.6s,baz=169,slow=4.3,SNR=15
AKBB Malin Array Si 85.61 342 P P 13 14 37.8 -0.7
AKBB pmax pmax
comp=Z,11nm,1.3s
AKBB Malin Array Si 85.61 342 P P 13 14 37.8 -0.7
AKBB IAmb IAmb 13 14 39.3
comp=Z,11nm,1.2s
UZH Uzhgorod 85.85 337 eP P 13 14 41.0 +1.2
BTO Baotou 86.14 37 eP P 13 14 42.1 +0.5
BTO S **S** **13 25 13.8 -1.7**
BTO LR LR
comp=Z,1μm,21.3s
BTO LR LR
comp=Z,1μm,15.5s
HNS HongShan 86.38 42 ⇓P P 13 14 42.8 +0.1
HNS pmax pmax
comp=Z,23nm,1.2s
HHC Hu-ho-hao-te 87.12 38 eP P 13 14 47.4 +1.0
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,150nm,4.9s
MODS Modra-Piesok 87.41 334 eP P 13 14 49.5 +2.0
MODS Modra-Piesok 87.41 334 eP P 13 14 49.5 +2.0
ARU Arti 87.42 0 P P 13 14 48.0 +0.7
comp=Z,4.5nm,0.6s,baz=174,slow=2.7,SNR=24
ARU Arti 87.42 0 c i P P 13 14 47.8 +0.5
ARU 13 18 10.9
ARU S **SKSac** **13 25 15.2 +1.5**
ARU SS **SS** **13 31 12.6 -0.3**
ARU pmax pmax
comp=Z,19nm,0.8s
ARU Arti 87.42 0 P P 13 14 47.0 -0.3
ARU IAmb IAmb 13 14 48.5
comp=Z,15nm,0.7s
CONA Conrad Observa 87.58 333 eP P 13 14 49.0 +0.6
comp=Z,12nm,1.3s
JAVC Velka Javorina 87.67 335 eP P 13 14 50.0 +1.2
SVE Sverdlovsk 87.84 1 eP P 13 14 49.9 +0.6
SVE pmax pmax
comp=Z,29nm,1.5s
ABTA Abfaltersbach 87.99 330 eP P 13 14 51.6 +1.2
comp=Z,11nm,1.0s
ZAA0 Zalesovo Array 88.01 15 P P 13 14 49.0 -1.1
ZAA0 IAmb IAmb 13 14 50.8
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 88.01 15 P P 13 14 49.0 -1.1
comp=Z,5.5nm,0.8s,baz=209,slow=4.6,SNR=21
ZALV Zalesovo Beam 88.01 15 i P P 13 14 49.4 -0.8
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV Zalesovo Beam 88.01 15 P P 13 14 48.9 -1.3
OBN Obninsk 88.09 348 d i P P 13 14 51.2 +0.7
OBN i *PP **pP** **13 14 54.5 -0.8**
OBN e*SP **sP** **13 14 55.4 -1.6**
OBN 13 18 19.0
OBN eS **SKSac** **13 25 10.5 -7.3**
OBN PS **PS** **13 26 41.8 +3.3**
OBN pmax pmax
comp=Z,31nm,1.3s
OBN MLR MLR
comp=Z,52nm,15.0s
MOA Molln 88.15 332 eP P 13 14 51.7 +0.7
comp=Z,9.0nm,1.3s
KRUC Moravsky 88.31 334 eP P 13 14 51.8 +0.1
VRAC Vranov 88.44 334 eP P 13 14 52.4 0.0
MORC Moravsky Berou 88.47 335 eP P 13 14 52.7 +0.1
MOS Moscow 88.50 349 eP P 13 14 52.3 -0.1
WTTA Wattenberg 88.77 330 eP P 13 14 54.7 +0.5
comp=Z,10.0nm,0.6s
WATA Walderalm 88.85 330 eP P 13 14 55.1 +0.6
comp=Z,8.3nm,0.9s
SQTA Sankt Quirin 88.91 330 eP P 13 14 55.6 +0.8
comp=Z,13nm,0.7s
FETA Feichten 88.96 330 eP P 13 14 56.1 +1.1
comp=Z,14nm,1.0s
MOTA Moosalm 89.05 330 eP P 13 14 55.7 +0.2
comp=Z,12nm,0.9s
TUE Stuetta 89.15 329 P P 13 14 55.4 -0.6
TUE IAmb IAmb 13 15 00.1
comp=Z,13nm,0.9s
GERES GERESS Array B 89.17 332 P P 13 14 55.7 -0.3
comp=Z,1.3nm,0.7s,baz=134,slow=5.8,SNR=11
GERES GERESS Array B 89.17 332 P P 13 14 54.7 -1.2
RETA Reutte 89.31 330 eP P 13 14 57.1 +0.5
comp=Z,6.6nm,0.6s
DAVA Damuels 89.54 329 eP P 13 14 58.3 +0.5
comp=Z,6.0nm,0.6s
KIRV Kirov 89.89 355 ceP P 13 14 59.9 +1.1
SONM Songino Array 89.89 30 P P 13 14 58.8 -0.5
comp=Z,4.3nm,0.9s,baz=213,slow=4.4,SNR=18
SONM Songino Array 89.89 30 P P 13 14 59.2 -0.2
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 89.89 30 P P 13 14 59.2 -0.2
ULN Ulaanbaatar 90.19 30 ceP P 13 15 00.5 -0.3
ULN pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 90.19 30 P P 13 15 00.6 -0.2
ULN Ulaanbaatar 90.19 30 P P 13 14 59.8 -1.1
ULN IAmb IAmb 13 15 01.4
comp=Z,6.6nm,0.8s
ESDC Sonseca Array 91.20 317 P P 13 15 07.4 +1.8
comp=Z,2.7nm,0.9s,baz=123,slow=4.1,SNR=14
ESDC Sonseca Array 91.20 317 P P 13 15 06.6 +1.0
XLT XiLinHaoTe 91.64 38 eP P 13 15 07.5 -0.1
XLT pmax pmax
comp=Z,10.0nm,1.0s
XLT pmax pmax
comp=Z,280nm,5.0s
HNR Honiara 95.01 104 LR LR 13 55 41.2
comp=Z,71nm,18.1s,baz=86,slow=34
MJAR Matsushiro Arr 100.78 54 P Pdif 13 15 48.4 -0.8
comp=Z,1.4nm,0.6s,baz=220,slow=3.3,SNR=4.4
PETK Petropavlovsk- 119.86 43 PKP PKPdf 13 20 49.4 -1.0
comp=Z,3.3nm,0.9s,baz=92,slow=4.5,SNR=4.6
BILL Bilibino 125.40 26 ⇓i PKIKP PKiKP 13 21 00.9 0.0
BILL 13 21 04.0
BILL 13 21 06.0
BILL e 13 22 52.1
BILL pmax pmax
comp=Z,5.0nm,1.6s
SFJD Kangerlussuaq 125.77 333 i P PKPdf 13 20 59.0 -2.3
RDOG Red Dog Mine 136.21 21 P PKPdf 13 21 21.6 +0.5
baz=306
INK Inuvik 142.37 7 P PKPdf 13 21 28.5 -3.7
baz=343
L19K White Mountain 142.51 25 P PKPdf 13 21 29.7 -3.0
baz=310
CAST Castle Rocks 142.61 22 P PKPdf 13 21 30.2 -2.7
baz=315
M19K Big River Lodg 142.85 25 P PKPdf 13 21 30.8 -2.5
baz=310
PPLA Purkeypile 142.95 23 P PKPdf 13 21 30.4 -3.3
baz=314
ILAR Eielson Array 143.10 18 PKhKP PKPpre 13 21 29.1
comp=Z,0.9nm,0.7s,baz=324,slow=3.8,SNR=7.0
ILAR PP **PP** **13 24 45.3 +1.4**
comp=Z,0.9nm,1.0s,baz=320,slow=6.3,SNR=6.1
MCK McKinley 143.35 20 P PKPab 13 21 30.5 +0.3
baz=319
SSPA Standing Stone 143.61 297 P PKPbc 13 21 32.5 -0.3
baz=89
J25K Salcha River, 143.61 17 P PKPbc 13 21 32.1 0.0
baz=325
O18K Koktuh Hills 143.83 28 PKPdf PKPbc 13 21 32.9 +0.1
O18K Koktuh Hills 143.83 28 P PKPbc 13 21 33.3 +0.5
baz=307
O56A Blue Knob Stat 144.13 297 P PKPbc 13 21 34.4 -0.1
baz=89
J26L Joseph Creek 144.14 16 P PKPbc 13 21 34.2 +0.4
baz=327
WAT1 Susitna Watana 144.15 21 P PKPab 13 21 33.4 +0.2
baz=319
DHY Denali Highway 144.30 20 P PKPbc 13 21 34.6 +0.3
baz=321
SUA Susitna One 144.44 24 P PKPab 13 21 34.4 -0.1
baz=315
EGAK Eagle 144.44 14 P PKPbc 13 21 34.8 +0.2
baz=331
M22K Willow 144.44 23 P PKPbc 13 21 34.6 +0.1
baz=316
I29M Ogilvie Camp, 144.47 12 PKPab 13 21 34.5 +0.1
I29M Ogilvie Camp, 144.47 12 P PKPbc 13 21 34.7 +0.1
baz=335
SCRK Sand Creek 144.48 17 P PKPbc 13 21 35.2 +0.3
baz=326,SNR=14
WAT6 Susitna Watana 144.58 20 P PKPab 13 21 35.1 0.0
baz=320,SNR=12
T57A Hurt 144.59 291 PKPdf PKPab 13 21 35.7 0.0
PMR Palmer 144.88 22 PKIKP PKPab 13 21 35.7 -0.2
PMR Palmer 144.88 22 PKPab 13 21 35.7 -0.2
PMR Palmer 144.88 22 P PKPab 13 21 35.9 0.0
baz=317,SNR=12
PAX Paxson 144.92 19 PKIKP PKPbc 13 21 36.6 +0.3
PAX Paxson 144.92 19 PKPdf PKPbc 13 21 36.6 +0.4
PAX Paxson 144.92 19 P PKPdf 13 21 37.0 0.0
baz=323,SNR=23
M54A Oil Creek Stat 144.93 299 P PKPab 13 21 36.5 -0.4
baz=87
SML Sawmill 144.98 22 P PKPab 13 21 36.3 -0.2
baz=318,SNR=7.9
RC01 Rabbit Creek A 145.05 23 PKPbc 13 21 36.5 -0.1
RC01 Rabbit Creek A 145.05 23 P PKPbc 13 21 36.5 -0.1
baz=316,SNR=9.9
ERPA Erie 145.13 300 P PKPbc 13 21 36.5 -0.9
baz=86
N54A Moraine State 145.20 298 P PKPbc 13 21 37.0 -0.8
baz=87
KNK Knik Glacier 145.23 22 P PKPab 13 21 37.3 0.0
baz=318
SCM Sheep Creek Mo 145.28 21 P PKPab 13 21 37.6 0.0
baz=320,SNR=8.2
J29M Klondike Camp 145.31 12 PKPdf 13 21 38.2 +0.5
J29M Klondike Camp 145.31 12 P PKPdf 13 21 38.1 +0.5
baz=335,SNR=17
M24K Tolsona, Glenn 145.41 20 P PKPab 13 21 38.8 +0.8
baz=322
DAWY Dawson 145.43 14 P PKPab 13 21 38.1 0.0
baz=333,SNR=22
L26K Log Cabin Wild 145.44 17 P PKPab 13 21 38.5 +0.4
baz=326,SNR=6.7
HARP HAARP 145.47 19 P PKPab 13 21 38.6 +0.4
baz=323
BLA Blacksburg 145.53 291 P PKPdf 13 21 38.8 -0.1
baz=92
BRSE Bradley Lake S 145.63 26 P PKPab 13 21 38.9 +0.1
baz=313
PWL Port Wells 145.68 23 P PKPbc 13 21 38.8 +0.2
baz=317
L27K Beaver Creek, 145.78 16 P PKPab 13 21 39.5 +0.2
baz=328
BCAR Beaver Creek A 145.78 16 PKPdf PKPbc 13 21 38.9 -0.1
KLU Klutina 145.97 21 P PKPab 13 21 39.9 -0.2
baz=321,SNR=7.4
M26K Nabesna, AK 146.05 18 P PKPab 13 21 40.2 -0.2
baz=326
KMSC Kings Mountain 146.12 287 P PKPbc 13 21 40.4 -0.4
baz=95
O53A New Philadelph 146.16 297 P PKPbc 13 21 41.0 +0.3
baz=88
KDAK Kodiak Island 146.17 30 P PKPab 13 21 41.1 +0.2
baz=308
N25K Chitina, Valde 146.26 19 P PKPab 13 21 41.2 -0.1
baz=323,SNR=15
DIV Divide 146.29 21 PKPbc 13 21 40.0 -0.5
M27K Edge Creek, AK 146.37 17 P PKPbc 13 21 41.2 +0.3
baz=328
BVCY Beaver Creek 146.56 16 P PKPab 13 21 41.9 -0.4
baz=330,SNR=6.6
EYAK Cordova Ski Ar 146.75 21 P PKPbc 13 21 42.3 +0.5
baz=321
BMRM Bremner River 146.77 20 P PKPbc 13 21 42.5 +0.5
baz=323,SNR=5.2
P52A Corning 146.89 296 P PKPbc 13 21 42.8 -0.1
baz=88
YUK3 Moose Creek 147.21 16 P PKPbc 13 21 43.3 0.0
baz=330
Q23K Middleton Isla 147.41 23 P PKPbc 13 21 43.6 -0.1
baz=319
TIGA Tifton 147.51 280 P PKPbc 13 21 44.4 -0.5
baz=100
ACSO Alum Creek Sta 147.51 297 P PKPbc 13 21 44.2 -0.5
baz=86
KAIM Kayak Island 147.66 21 P PKPbc 13 21 45.0 +0.7
baz=322
CTG Chitna Glacier 147.69 18 P PKPbc 13 21 45.0 +0.4
baz=328
GOGA Godfrey 147.69 284 P PKPbc 13 21 44.7 -0.6
baz=97
TZTN Tazewell 148.01 290 P PKPbc 13 21 45.5 -0.6
baz=92
M31M Drury Creek, Y 148.06 11 P PKPbc 13 21 45.0 -0.4
baz=339
WRGLY Wrigley 148.08 1 P PKPbc 13 21 45.6 +0.2
baz=357
FARO Faro, Yukon 148.20 10 P PKPbc 13 21 45.7 -0.1
baz=341
N31M Braeburn, Yuko 148.48 13 P PKPbc 13 21 46.4 -0.1
baz=337
YKA Yellowknife Ar 148.49 354 PKP PKPdf 13 21 42.4 -0.5
comp=Z,24nm,0.7s,baz=1.0,slow=2.7,SNR=339
YKA PKPbc **PKPbc** **13 21 46.3 -0.1**
comp=Z,25nm,0.7s,baz=0.2,slow=2.6,SNR=234
YKA Yellowknife Ar 148.49 354 PKPbc PKPbc 13 21 46.1 -0.3
PINM Pinnacle 148.71 18 P PKPbc 13 21 46.8 -0.4
baz=328
P49A Miami Univ. Ec 148.89 296 P PKPbc 13 21 47.3 -1.0
baz=86
PNL Peninsula 149.30 18 P PKPbc 13 21 49.0 +0.3
baz=330
WCI Wyandotte Cave 150.19 293 P PKPbc 13 21 50.4 -1.1
baz=87
SKAG Skagway 150.43 14 P PKPbc 13 21 51.7 +0.3
baz=336
SFIN Lafayette 150.63 298 P PKPbc 13 21 51.6 -0.9
baz=83
WTLY Watson Lake, Y 150.84 7 P PKiKP 13 21 52.9 -0.1
baz=348
L44A Lake County Fo 150.96 301 P PKPbc 13 21 53.1 -0.1
baz=79
WVT Waverly 151.46 289 P PKPbc 13 21 53.8 -0.7
baz=90
CMIG Matias Romero 151.76 246 PKPbc PKPbc 13 21 55.5 -0.3
comp=Z,4.7nm,0.6s,baz=79,slow=2.5,SNR=9.1
HDIL Hopedale 152.27 298 P PKPbc 13 21 56.2 0.0
baz=81
JFWS Jewell Farm 152.49 304 P PKiKP 13 21 56.9 0.0
baz=75
ULM Lac du Bonnet 152.99 322 PKPbc PKPbc 13 21 57.1 -0.5
comp=Z,16nm,0.7s,baz=47,slow=2.6,SNR=16
ULM Lac du Bonnet 152.99 322 PKIKP PKPbc 13 21 57.2 -0.3
AGMN Agassiz Nation 154.05 318 P PKPbc 13 21 59.7 -0.2
baz=58
CCM Cathedral Cave 154.09 293 P PKPbc 13 22 00.3 -0.1
baz=84
W41B Gary Mavity, V 155.05 287 P PKPdf 13 22 02.0 +8.4
baz=89
DGMT Dagmar 158.30 327 P PKPdf 13 21 57.8 +0.3
baz=44
EGMT Eagleton 160.98 335 P PKPdf 13 22 01.3 +0.6
baz=33
RSSD Black Hills 161.08 317 P PKPdf 13 22 01.0 -0.1
baz=53
JCT Junction City 161.12 273 P PKPdf 13 22 01.7 +0.4
baz=98
OGNE Ogallala 161.43 307 P PKPdf 13 22 02.1 +0.8
baz=65
RLMT Red Lodge 163.12 328 P PKPdf 13 22 02.2 -0.8
baz=39
K22A Casper 163.42 317 P PKPdf 13 22 02.6 -0.8
baz=52
BOZ Bozeman (W) 163.72 334 P PKPdf 13 22 03.4 -0.1
baz=32

N23A	**Red Feather La**	**164.06 311**	P		**PKPdf**	**13 22 03.8**	**-0.4**
	baz=58						
TXAR	**Lajitas Array**	**164.23 267**	PKP		**PKPdf**	**13 22 04.1**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=117,slow=0.6,SNR=6.5						
TXAR			PKPab		**PKPab**	**13 22 58.9**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=112,slow=7.2,SNR=8.4						
H17A	**Grant Village**	**164.27 329**	P		**PKPdf**	**13 22 04.5**	**+0.3**
	baz=37						
ISCO	**Idaho Springs**	**164.39 307**	P		**PKPdf**	**13 22 04.6**	**0.0**
	baz=62						
Q24A	**Divide**	**164.43 304**	P		**PKPdf**	**13 22 04.4**	**-0.2**
	baz=65						
T25A	**Trinidad**	**164.52 297**	P		**PKPdf**	**13 22 04.5**	**-0.1**
	baz=73						
BW06	**Boulder Array**	**165.01 323**			**PKPdf**	**13 22 04.0**	**-0.9**
BW06	**Boulder Array**	**165.01 323**	P		**PKPdf**	**13 22 04.5**	**-0.4**
	baz=44						
PDAR	**Pinedale Array**	**165.01 323**	PKP		**PKPdf**	**13 22 04.5**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=122,slow=2.9,SNR=16						
PDAR	**Pinedale Array**	**165.01 323**	PKPdf		**PKPdf**	**13 22 04.1**	**-0.8**
SDCO	**Great Sand Dun**	**165.15 300**	P		**PKPdf**	**13 22 05.2**	**-0.1**
	baz=69						
O20A	**White River Ci**	**165.95 312**	P		**PKPdf**	**13 22 06.0**	**+0.3**
	baz=55						
MNTX	**Cornudas Mount**	**166.00 276**	P		**PKPdf**	**13 22 06.4**	**+0.7**
	baz=92						
S22A	**4UR Ranch, Cre**	**166.13 301**	P		**PKPdf**	**13 22 06.5**	**+0.5**
	baz=66						
HLID	**Hailey**	**166.48 337**	P		**PKPdf**	**13 22 06.4**	**+0.5**
	baz=27						
ANMO	**Albuquerque**	**166.67 290**	P		**PKPdf**	**13 22 06.8**	**+0.4**
	baz=78						
121A	**Cookes Peak, D**	**168.05 279**	P		**PKPdf**	**13 22 07.8**	**+0.3**
	baz=87						
J01E	**Myrtle Point**	**168.08 8**	P		**PKPdf**	**13 22 07.4**	**+0.6**
	baz=351						
DUG	**Dugway, Tooele**	**168.56 323**	P		**PKPdf**	**13 22 08.1**	**+0.6**
	baz=42						
N02D	**Trinity Center**	**170.36 4**	P		**PKPdf**	**13 22 09.3**	**+0.8**
	baz=355						
WUAZ	**Wupatki**	**170.36 298**	P		**PKPdf**	**13 22 09.5**	**+0.7**
	baz=66						
TUC	**Tucson**	**170.59 279**	P		**PKPdf**	**13 22 09.6**	**+0.7**
	baz=86						
214A	**Organ Pipe Nat**	**172.33 277**	P		**PKPdf**	**13 22 10.5**	**+0.8**
	baz=87						
NVAR	**Mina Array Bea**	**172.37 339**	PKP		**PKPdf**	**13 22 11.4**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=196,slow=1.2,SNR=7.0						
NVAR			PKPab		**PKPab**	**13 23 34.6**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=94,slow=5.9,SNR=3.6						
TPNV	**Topopah Spring**	**172.77 322**	P		**PKPdf**	**13 22 10.7**	**+0.8**
	baz=40						
PDMCI	**Parker Dam,Lak**	**172.93 297**	P		**PKPdf**	**13 22 10.8**	**+1.0**
	baz=66						
SHOC	**Shoshone, Teco**	**173.54 316**	P		**PKPdf**	**13 22 11.4**	**+1.3**
	baz=46						
TUQ	**Turquoise Moun**	**173.62 311**	P		**PKPdf**	**13 22 11.4**	**+1.2**
	baz=50						
IRM	**Iron Mountain**	**173.75 298**	P		**PKPdf**	**13 22 11.7**	**+1.5**
	baz=64						
GMRC	**Granite Mounta**	**173.82 305**	P		**PKPdf**	**13 22 11.9**	**+1.5**
	baz=56						
CWC	**Cottonwood Cre**	**174.06 330**	P		**PKPdf**	**13 22 12.2**	**+1.8**
	baz=31						
MPMC	**Manual Prospec**	**174.09 324**	P		**PKPdf**	**13 22 12.4**	**+1.9**
	baz=37						
BC3	**Big Chuckawall**	**174.18 295**	P		**PKPdf**	**13 22 12.2**	**+1.7**
	baz=67						
HEC	**Hector,Ludlow**	**174.26 309**	P		**PKPdf**	**13 22 12.5**	**+2.0**
	baz=53						
GSC	**Goldstone, Bar**	**174.26 315**	P		**PKPdf**	**13 22 12.1**	**+1.6**
	baz=46						
BELC	**Belle Mtn. Jos**	**174.45 300**	P		**PKPdf**	**13 22 12.2**	**+1.6**
	baz=62						
LRMC	**Laurel Mtn Rad**	**174.63 321**	P		**PKPdf**	**13 22 12.6**	**+2.0**
	baz=39						
ISA	**Isabella, Lake**	**174.88 328**	P		**PKPdf**	**13 22 12.4**	**+1.8**
	baz=32						
IKP	**In-Ko-Pah, Jac**	**175.01 287**	P		**PKPdf**	**13 22 12.3**	**+1.6**
	baz=75						
EDW2	**Edwards Air Fo**	**175.25 319**	P		**PKPdf**	**13 22 12.6**	**+1.9**
	baz=41						

*IDC **21** 13:18:09.8±0.9, 20.°07N×146.°46E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.8/54, mbtmp3.8/13, MS3.3/4, Ms1 3.3/4, ms1mx2.7/81 Error ellipse: s-maj=25.2km s-min=19.1km az=99.0*

ISC 21 13:18:15.1±0.9, 20.°1N±0.°1×146.°4E±0.°2, h35km, n21, σ0°64/13, mb3.9/12, MS3.2/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**17.92**	**338**	P		**Pn**	**13 22 21.1**	**-0.3**
	baz=165,slow=12,SNR=1.3						
H11S3	**WAKE ISLAND Hy**	**19.19**	**91**	T		T	13 42 16.9	
	baz=279,slow=74,SNR=20						
H11S1	**WAKE ISLAND Hy**	**19.20**	**91**	T		T	13 42 12.1	
	baz=279,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**19.20**	**91**	T		T	13 42 17.0	
	baz=279,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**19.25**	**88**	T		T	13 42 14.9	
	baz=275,slow=74,SNR=21						
H11N2	**WAKE ISLAND Hy**	**19.25**	**88**	T		T	13 42 17.9	
	baz=275,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**19.26**	**88**	T		T	13 42 16.4	
	baz=275,slow=74,SNR=20						
KSRS	**Korea Array**	**23.65**	**321**	P		**P**	**13 23 22.7**	**-0.6**
	2.7nm,0.8s,baz=143,slow=10,SNR=5.4						
KSRS				LR		LR	13 32 12.9	
	comp=Z,80nm,21.4s,baz=130,slow=36						
HNR	**Honiara**	**32.20**	**154**	LR		LR	13 36 49.1	
	comp=Z,54nm,21.1s,baz=220,slow=35						
PETK	**Petropavlovsk-**	**34.10**	**12**	LR		LR	13 37 00.1	
	comp=Z,20nm,21.3s,baz=191,slow=33						
WRA	**Warramunga Arr**	**41.50**	**197**	P		**P**	**13 25 58.7**	**-0.3**
	0.5nm,0.7s,baz=15,slow=8.1,SNR=6.5						
SEY	**Seymchan**	**43.02**	**4**	P		**P**	**13 26 10.7**	**-0.2**
	0.9nm,0.6s,baz=111,slow=3.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**44.74**	**276**	P		**P**	**13 26 26.1**	**+0.7**
	1.8nm,1.0s,baz=66,slow=7.0,SNR=10.0						
ASAR	**Alice Springs**	**45.16**	**196**	P		**P**	**13 26 27.9**	**-0.7**
	0.2nm,0.5s,baz=19,slow=7.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**57.36**	**322**	P		**P**	**13 27 59.2**	**-0.4**
	1.9nm,0.7s,baz=92,slow=7.4,SNR=8.4						
ZALV				LR		LR	13 52 59.0	
	comp=Z,45nm,18.5s,baz=157,slow=36						
MKAR	**Makanchi Array**	**58.02**	**313**	P		**P**	**13 28 04.8**	**+0.3**
	1.6nm,0.9s,baz=97,slow=9.7,SNR=13						
NRIK	**Noril'sk**	**60.56**	**340**	P		**P**	**13 28 22.3**	**+0.7**
	1.2nm,0.3s,baz=97,slow=8.4,SNR=4.6						
ILAR	**Eielson Array**	**62.11**	**26**	P		**P**	**13 28 31.3**	**-0.9**
	0.7nm,0.8s,baz=256,slow=5.1,SNR=6.0						
BVAR	**Borovoye Array**	**65.86**	**320**	P		**P**	**13 28 56.9**	**-0.1**
	2.7nm,0.9s,baz=96,slow=12,SNR=11						
YKA	**Yellowknife Ar**	**76.45**	**28**	P		**P**	**13 30 01.1**	**+0.2**
	0.5nm,0.7s,baz=288,slow=5.8,SNR=6.5						
NVAR	**Mina Array Bea**	**81.75**	**52**	P		**P**	**13 30 31.7**	**+1.0**
	0.9nm,0.7s,baz=260,slow=5.5,SNR=7.5						

*SJA **21** 13:36:07.3±1.4, 30.°33S×71.°89W, h69km±11km, ML4.3, MW4.4*

*GUC **21** 13:36:09.4±0.7, 30.°39S×71.°52W, h44km±1km, ML4.6*

*NEIC **21** 13:36:09.8±1.7, 30.°39S±0.°04×71.°6W±0.°1, h42km±6km, mb4.5/6, Mwr4.2/39, ML4.6(GUC), Error ellipse: s-maj=14.2km s-min=4.4km az=106.0*

*NEIC **21** 13:36:09.8, 30.°39S×71.°55W, h47km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.63; $M_{\theta\theta}$-0.59; $M_{\phi\phi}$-1.03; $M_{r\theta}$-0.09; $M_{\phi r}$0.55; $M_{\theta r}$-1.59; Fault plane solution: $M_0$2.21000×10^{15} NP1:ϕ_s170.23000°, δ68.56000°, λ104.59000°. NP2:ϕ_s314.78000°, δ25.74000°, λ57.33000°. Principal axes: T 2.4057, Plg64.0000°, Azm104.0000°; N -0.4646, Plg14.0000°, Azm345.0000°; P -1.9411, Plg22.0000°, Azm249.0000°:*

*IDC **21** 13:36:10.2±0.7, 30.°42S×71.°54W, h40km±5km, mb3.6/4, mb1 3.9/9, mb1mx3.8/28, mbtmp3.9/9, ML3.9/5, MS3.3/2, Ms1 3.3/2, ms1mx2.8/47 Error ellipse: s-maj=26.4km s-min=19.2km az=141.0*

ISC 21 13:36:09.4±0.6, 30.°37S±0.°03×71.°67W±0.°05, h36km±2km, n107, σ1°88/131, mb4.3/6, 10C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.31**	**174**	↑*i*	*P*	**Pn**	**13 36 17.8**	**+0.3**
CO06				*i*	S	**Sn**	**13 36 23.0**	**-0.8**
CO06					IAML		13 36 24.4	
	comp=N,95μm,0.2s							
CO06	**Fray Jorge**	**0.31**	**174**			**Pn**	**13 36 17.9**	**+0.3**
CO06					Sn	**Sn**	**13 36 23.6**	**-0.2**
CO05	**La Serena**	**0.58**	**40**	*eP*		**Pn**	**13 36 20.8**	**-0.6**
CO05				*i*	S	**Sn**	**13 36 28.6**	**-1.0**
CO05	**La Serena**	**0.58**	**40**			**Pn**	**13 36 20.9**	**-0.4**
GO04	**Tololo Observa**	**0.78**	**76**	*eP*		**Pn**	**13 36 22.7**	**-1.5**
GO04				*i*	S	**Sn**	**13 36 32.5**	**-2.3**
GO04					IAML		13 36 36.4	
	comp=N,33μm,0.3s							
GO04	**Tololo Observa**	**0.78**	**76**			**Pn**	**13 36 23.1**	**-1.0**
CO03	**El Pedregal**	**0.97**	**119**	↓*i*	*P*	**Pn**	**13 36 25.7**	**-1.0**
CO03				*i*	S	**Sn**	**13 36 36.8**	**-2.5**
CO03	**El Pedregal**	**0.97**	**119**			**Pn**	**13 36 25.7**	**-1.0**
CO03					Sn	**Sn**	**13 36 36.9**	**-2.4**
LCO	**Las Campanas**	**1.59**	**32**	*eP*		**Pn**	**13 36 35.6**	**+0.2**
LCO				*i*	S	**Sn**	**13 36 55.6**	**+0.8**
LCO	**Las Campanas**	**1.59**	**32**		Pn	**Pn**	**13 36 35.6**	**+0.2**
LCO	**Las Campanas**	**1.59**	**32**	*i*	*P*	**Pn**	**13 36 35.7**	**+0.4**
LCO				*eS*		**Sn**	**13 36 55.4**	**+0.5**
VA06	**Catapilco**	**2.21**	**172**	↑*i*	*P*	**Pn**	**13 36 44.5**	**+0.9**
VA06					IAML		13 37 22.6	
	comp=N,7μm,0.2s							
AC04	**Llanos de Chal**	**2.22**	**14**	↑*eP*		**Pn**	**13 36 44.0**	**+0.3**
AC04				*i*	S	**Sn**	**13 37 11.9**	**+2.1**
AC04	**Llanos de Chal**	**2.22**	**14**		Pn	**Pn**	**13 36 44.0**	**+0.3**
AC04	**Llanos de Chal**	**2.22**	**14**	*i*	*P*	**Pn**	**13 36 44.1**	**+0.4**
AC04				*eS*		**Sn**	**13 37 12.4**	**+2.5**
RTLS	**Leoncito**	**2.49**	**126**	*i*	*P*	**Pn**	**13 36 50.5**	**+2.8**
RTLS				*eS*		**Sn**	**13 37 22.7**	**+5.7**
RTLS					IAML		13 37 36.8	
	comp=Z,883nm,0.5s							
VA03	**San Esteban**	**2.58**	**158**	↑*eP*		**Pn**	**13 36 50.0**	**+1.3**
VA03				*i*	S	**Sn**	**13 37 19.7**	**+0.9**
VA03					IAML		13 37 32.0	
	comp=E,4μm,0.3s							
VA03	**San Esteban**	**2.58**	**158**			**Pn**	**13 36 50.4**	**+1.7**
VA03	**San Esteban**	**2.58**	**158**	*i*	*P*	**Pn**	**13 36 50.5**	**+1.7**
VA01	**Torpederas**	**2.65**	**180**		Pn	**Pn**	**13 36 49.4**	**-0.2**
ROCH	**El Roble**	**2.66**	**168**	↑*i*	*P*		13 36 51.1	
ROCH				*eP*		**Pn**	**13 36 50.3**	**+0.3**
ROCH				*i*	S	**Sn**	**13 37 22.3**	**+1.2**
ROCH				*i*	S		13 37 24.2	
ROCH					IAML		13 37 32.1	
	comp=N,2μm,0.6s							
ROCH					IAML		13 37 44.9	
	comp=N,3μm,0.3s							
ROC1	**El Roble**	**2.66**	**168**	*i*	*P*	**Pn**	**13 36 50.3**	**+0.3**
AUSP	**Uspallata**	**2.69**	**134**	*i*	*P*	**Pn**	**13 36 53.6**	**+3.1**
PEL	**Peldehue**	**2.89**	**163**	↑*i*	*P*	**Pn**	**13 36 53.6**	**+0.6**
PEL				*i*	S	**Sn**	**13 37 27.0**	**+0.3**
PEL					IAML		13 37 38.5	
	comp=E,2μm,0.4s							
PEL	**Peldehue**	**2.89**	**163**			**Pn**	**13 36 52.2**	**-0.9**
PEL	**Peldehue**	**2.89**	**163**	*i*	*P*	**Pn**	**13 36 54.7**	**+1.6**
PEL				*eS*		**Sn**	**13 37 30.9**	**+4.2**
RTLL	**Cerro Villicun**	**2.91**	**110**	*i*	*P*	**Pn**	**13 36 55.3**	**+1.9**
MT02	**Curacav**	**2.92**	**171**	*eP*		**Pn**	**13 36 53.9**	**+0.5**
MT02				*i*	S	**Sn**	**13 37 28.3**	**+1.1**
MT02					IAML		13 37 43.3	
	comp=E,1μm,0.6s							
MT02	**Curacav**	**2.92**	**171**			**Pn**	**13 36 53.6**	**+0.2**
MT02	**Curacav**	**2.92**	**171**	*i*	*P*	**Pn**	**13 36 54.0**	**+0.6**
MT02				*eS*		**Sn**	**13 37 28.1**	**+0.8**
GO03	**Copiap**	**3.04**	**25**		Pn	**Pn**	**13 36 55.7**	**+0.6**
GO03	**Copiap**	**3.04**	**25**	*i*	*P*	**Pn**	**13 36 55.6**	**+0.6**
GO03				*eS*		**Sn**	**13 37 36.6**	**+6.4**
RTCV	**Cerro Valdivia**	**3.07**	**120**	*i*	*P*	**Pn**	**13 36 58.4**	**+2.8**
MT05	**Renca**	**3.12**	**165**	*i*	S	**Sn**	**13 37 32.3**	**+0.1**
MT05					IAML		13 37 44.7	
	comp=E,3μm,0.3s							
MT05	**Renca**	**3.12**	**165**			**Pn**	**13 36 57.5**	**+1.3**
MT05	**Renca**	**3.12**	**165**	*i*	*P*	**Pn**	**13 36 57.6**	**+1.4**
MT05				*eS*		**Sn**	**13 37 34.7**	**+2.5**
VA05	**Santo Domingo**	**3.28**	**179**	*eP*		**Pn**	**13 36 57.9**	**-0.5**
VA05				*i*	S	**Sn**	**13 37 43.3**	**+7.2**
VA05					IAML		13 37 51.7	
	comp=E,2μm,0.2s							
VA05	**Santo Domingo**	**3.28**	**179**			**Pn**	**13 36 58.9**	**+0.6**
ARCO	**CERRO ARCO**	**3.40**	**137**	*i*	*P*	**Pn**	**13 37 04.0**	**+3.9**
ARCO					IAML		13 37 58.5	
	comp=Z,530nm,0.9s							
VCA	**Vinchina**	**3.43**	**63**	*i*	*P*	**Pn**	**13 37 04.6**	**+4.0**
VCA				*i*	S	**Sn**	**13 37 45.6**	**+5.5**
VCA					IAML		13 37 57.4	
	comp=Z,1μm,0.3s							
MT09	**Talagante**	**3.45**	**170**	↑*i*	*P*	**Pn**	**13 37 01.8**	**+1.1**
MT09				*i*	S	**Sn**	**13 37 40.7**	**+0.2**
MT09					IAML		13 37 55.0	
	comp=N,1μm,0.4s							
MT09	**Talagante**	**3.45**	**170**			**Pn**	**13 37 01.9**	**+1.1**
MT01	**Popeta**	**3.51**	**174**	*eP*		**Pn**	**13 37 02.3**	**+0.8**
MT01					IAML		13 37 57.5	
	comp=E,795nm,0.4s							
MT01	**Popeta**	**3.51**	**174**		Pn	**Pn**	**13 37 02.6**	**+1.2**
MT01	**Popeta**	**3.51**	**174**	*i*	*P*	**Pn**	**13 37 02.3**	**+0.8**
MT01				*eS*		**Sn**	**13 37 47.6**	**+5.9**
AAGR	**Agrelo**	**3.64**	**139**	*i*	*P*	**Pn**	**13 37 07.2**	**+3.9**
AAGR					IAML		13 38 04.8	
	comp=Z,486nm,0.4s							
AVFE	**Valle Fertil**	**3.65**	**96**	*i*	*P*	**Pn**	**13 37 05.0**	**+1.5**
AVFE					IAML		13 38 02.0	
	comp=Z,349nm,0.6s							
BO04	**La Punta**	**3.72**	**166**	↑*i*	*P*	**Pn**	**13 37 05.4**	**+0.9**
BO01	**Tunca**	**4.04**	**173**	*eP*		**Pn**	**13 37 09.5**	**+0.7**
BO01	**Tunca**	**4.04**	**173**		Pn	**Pn**	**13 37 09.8**	**+1.0**
BO01	**Tunca**	**4.04**	**173**	*i*	*P*	**Pn**	**13 37 10.1**	**+1.3**
AC02	**Maricunga**	**4.17**	**33**	↑*i*	*P*	**Pn**	**13 37 11.8**	**+0.7**
AC02	**Maricunga**	**4.17**	**33**		Pn	**Pn**	**13 37 11.7**	**+0.7**
AC02	**Maricunga**	**4.17**	**33**	*i*	*P*	**Pn**	**13 37 12.0**	**+1.0**
ACLC	**CERRO LA CRUZ**	**4.21**	**78**	*i*	*P*	**Pn**	**13 37 13.1**	**+1.9**
ACLC					IAML		13 38 10.9	
	comp=Z,496nm,1.8s							
ACHE	**Chepes**	**4.38**	**102**	*i*	*P*	**Pn**	**13 37 14.7**	**+1.0**
APLL	**PUNTA DE LOS L**	**4.45**	**92**	*i*	*P*	**Pn**	**13 37 15.8**	**+1.4**
APLL					IAML		13 38 15.9	
	comp=Z,461nm,1.9s							
BO02	**Sierra Bellavi**	**4.48**	**171**	*eP*		**Pn**	**13 37 15.2**	**+0.4**
BO02	**Sierra Bellavi**	**4.48**	**171**			**Pn**	**13 37 16.2**	**+1.3**
BO02	**Sierra Bellavi**	**4.48**	**171**	*i*	*P*	**Pn**	**13 37 15.9**	**+1.0**
GO05	**Huala**	**4.63**	**183**			**Pn**	**13 37 16.2**	**-0.8**
GO05	**Huala**	**4.63**	**183**	*i*	*P*	**Pn**	**13 37 16.3**	**-0.7**
RFA	**San Rafael**	**5.16**	**149**	*i*	*P*	**Pn**	**13 37 25.6**	**+1.4**
RFA					IAML		13 38 60.0	
	comp=Z,120nm,0.7s							
PB14	**IPOC Station P**	**5.83**	**11**		Pn	**Pn**	**13 37 31.2**	**-2.5**
FSA	**Cafayete**	**6.57**	**51**	*i*	*P*	**Pn**	**13 37 45.8**	**+2.0**
AHML	**Horco Molle**	**6.62**	**59**	*i*	*P*	**Pn**	**13 37 45.9**	**+1.6**
AHML					IAML		13 39 36.8	
	comp=Z,50nm,0.7s							
H03N1	**Juan Fernandez**	**6.88**	**242**		Pn	**Pn**	**13 37 47.9**	**+0.5**
	baz=114,slow=18,SNR=102							
H03N1				T		T	13 44 47.1	
	baz=71,slow=72,SNR=3494							
H03N2	**Juan Fernandez**	**6.89**	**242**		Pn	**Pn**	**13 37 48.0**	**+0.3**
	baz=114,slow=18,SNR=136							
H03N2				T		T	13 44 48.4	
	baz=71,slow=72,SNR=3401							
H03N3	**Juan Fernandez**	**6.89**	**242**		Pn	**Pn**	**13 37 47.7**	**0.0**
	baz=114,slow=18,SNR=74							
H03N3				T		T	13 44 47.1	
	baz=71,slow=72,SNR=2467							
PB10	**IPOC Station P**	**6.90**	**9**	*i*	*P*	**Pn**	**13 37 47.0**	**-1.1**
PB10					IAML		13 39 38.8	
	comp=Z,33nm,1.5s							
H03S3	**Juan Fernandez**	**7.04**	**239**		Pn	**Pn**	**13 37 49.3**	**-0.4**
	SNR=8.7							
H03S3				T		T	13 45 08.6	
	baz=61,SNR=6.5							
H03S1	**Juan Fernandez**	**7.05**	**239**		Pn	**Pn**	**13 37 49.1**	**-0.7**
	SNR=8.5							
H03S1				T		T	13 45 20.7	
	baz=61,SNR=2.7							
H03S2	**Juan Fernandez**	**7.06**	**239**		Pn	**Pn**	**13 37 49.3**	**-0.7**
	SNR=11							
H03S2				T		T	13 45 12.1	
	baz=61,SNR=7.6							
PB15	**IPOC Station P**	**7.40**	**16**		Pn	**Pn**	**13 37 56.0**	**+0.9**
PB15	**IPOC Station P**	**7.40**	**16**	*i*	*P*	**Pn**	**13 37 54.4**	**-0.7**
LVC	**Limon Verde**	**8.11**	**18**		Pn	**Pn**	**13 38 05.0**	**0.0**
	comp=Z,0.7nm,0.3s,baz=162,slow=7.9,SNR=7.8							
LVC				LR		LR	13 41 13.3	
	comp=Z,162nm,19.7s,baz=224,slow=37							
LVC	**Limon Verde**	**8.11**	**18**	*i*	*P*	**Pn**	**13 38 05.0**	**0.0**
LVC					IAML		13 40 10.0	
	comp=Z,32nm,0.8s							
LC01	**Cunco**	**8.51**	**181**	Pn		**Pn**	**13 38 09.4**	**-0.7**
PB07	**IPOC Station P**	**8.75**	**11**	Pn		**Pn**	**13 38 13.2**	**-0.5**
PLCA	**Paso Flores**	**10.38**	**175**	Pn		**Pn**	**13 38 36.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=334,slow=12,SNR=6.9							
PLCA	**Paso Flores**	**10.38**	**175**			**Pn**	**13 38 36.0**	**+0.1**
ITQB	**Itaqui**	**13.06**	**91**	Pn		Pn	13 39 04.9	-7.5
CPUP	**Villa Florida**	**13.26**	**76**	Pn		**Pn**	**13 39 13.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=240,slow=12,SNR=2.3							
CPUP				LR		LR	13 45 20.3	
	comp=Z,17nm,21.1s,baz=209,slow=42							
CPUP	**Villa Florida**	**13.26**	**76**	Pn		**Pn**	**13 39 13.8**	**-1.4**
LPAZ	**La Paz**	**14.38**	**14**	Pn		**Pn**	**13 39 30.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=195,slow=9.4,SNR=5.7							
LPAZ	**La Paz**	**14.38**	**14**	Pn		**Pn**	**13 39 29.8**	**-1.4**
PLTB	**Pedras Altas**	**15.55**	**100**	Pn		**Pn**	**13 39 43.9**	**-2.2**
SIV	**San Ignacio**	**17.30**	**37**	P		**Pn**	**13 40 07.8**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=223,slow=10,SNR=20							
SIV				LR		LR	13 48 05.9	
	comp=Z,132nm,21.4s,baz=252,slow=41							
BDFB	**Brasilia**	**26.17**	**61**	P		**P**	**13 41 39.6**	**-1.2**
	comp=Z,5.0nm,0.8s,baz=216,slow=11,SNR=7.3							
BDFB	**Brasilia**	**26.17**	**61**	P		**P**	**13 41 38.0**	**-2.9**
BDFB				IAmb		IAmb	13 41 54.6	
	comp=Z,14nm,1.3s							
BOAV	**Boa Vista**	**34.27**	**20**	P		**P**	**13 42 51.9**	**-0.4**
BOAV				IAmb		IAmb	13 42 57.5	
	comp=Z,8.1nm,1.3s							
SMAI	**San Martin Ant**	**37.89**	**177**	P		**P**	**13 43 18.8**	**-4.0**
QSPA	**South Pole Qui**	**59.86**	**180**	P		**P**	**13 46 12.1**	**+0.8**
QSPA				IAmb		IAmb	13 46 14.0	
	comp=Z,19nm,1.5s							
TXAR	**Lajitas Array**	**66.74**	**330**	P		**P**	**13 46 59.0**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=141,slow=10,SNR=2.0							
TXAR				pP		**pP**	**13 47 09.5**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=152,slow=8.5,SNR=3.7							
PDAR	**Pinedale Array**	**80.68**	**333**	P		**P**	**13 48 20.1**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=127,slow=6.9,SNR=2.4							
PDAR				pP		**pP**	**13 48 31.8**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=169,slow=8.3,SNR=1.8							
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P		**P**	**13 48 29.1**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=262,slow=4.8,SNR=10							
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P		**P**	**13 48 28.4**	**-1.3**
TORD				IAmb		IAmb	13 48 30.0	
	comp=Z,2.0nm,0.9s							
WRA	**Warramunga Arr**	**124.07**	**210**	PKP		**PKPdf**	**13 55 03.7**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=162,slow=1.7,SNR=0.9							
H11S2	**WAKE ISLAND Hy**	**126.06**	**272**	T		T	16 13 56.1	
	baz=114,slow=75,SNR=62							
H11S1	**WAKE ISLAND Hy**	**126.07**	**272**	T		T	16 13 52.2	
	baz=114,slow=75,SNR=150							
H11S3	**WAKE ISLAND Hy**	**126.08**	**272**	T		T	16 13 51.6	
	baz=114,slow=75,SNR=132							
BVAR	**Borovoye Array**	**144.35**	**40**	PKP		**PKPdf**	**13 55 40.5**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=90,slow=3.0,SNR=6.2							
KURBB	**Kurchatov Arra**	**149.94**	**39**	PKPbc		**PKiKP**	**13 55 56.1**	**-0.4**
	comp=Z,2.2nm,0.2s,baz=304,slow=3.1,SNR=7.4							
KURBB				pPKPbc		**sPKPdf**	**13 56 07.9**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=303,slow=3.1,SNR=3.7							
AAK	**Ala-Archa**	**150.37**	**56**	PKPbc		**PKiKP**	**13 55 57.9**	**0.0**
	comp=Z,3.6nm,0.8s,baz=211,slow=2.6,SNR=17	

h18km:pP-P,n1034,σ1♀85/1125,mb5.2/172,MS4.8/114,
68C-27D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.60**	**64**	⇑Pg	**Pb**	**13 47 32.5**	**-0.7**
	48μm,1.3s,SNR=18						
EALB				Lg	Lg	13 47 42.0	
	305μm,1.0s,SNR=28						
EMEL	**Melilla**	**0.71**	**122**	⇓Pg	**Pb**	**13 47 33.5**	**-1.7**
	32μm,0.3s,SNR=18						
EMEL				Lg	Lg	13 47 43.0	
	210μm,0.3s,SNR=32						
CHAS	**Isla Isabel II**	**1.15**	**115**	P	**Pn**	**13 47 39.8**	**-2.7**
CHAS				S	**Sb**	**13 47 53.6**	**-3.5**
ELGU	**Los Guajares,**	**1.19**	**3**	⇓Pg	**Pn**	**13 47 41.3**	**-1.8**
	5μm,0.5s,SNR=18						
ELGU				Lg	Lg	13 47 58.7	
	41μm,0.4s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.23**	**331**	P	**Pn**	**13 47 41.9**	**-1.7**
EMAL				S	**Sb**	**13 47 56.9**	**-2.6**
EMIJ	**Mijas**	**1.24**	**316**	⇓Pg	**Pn**	**13 47 41.6**	**-2.2**
	3μm,0.7s,SNR=18						
EMIJ				Lg	Lg	13 47 57.9	
	40μm,0.5s						
EBER	**Berja**	**1.38**	**28**	⇓Pg	**Pn**	**13 47 44.3**	**-1.6**
	1μm,0.7s,SNR=18						
EBER				Lg	Lg	13 48 06.2	
	66μm,0.9s,SNR=16						
CEU	**Ceuta**	**1.38**	**279**	P	**Pn**	**13 47 41.7**	**-4.0**
CEU				S	Sn	13 47 48.4	-15
ECEU	**Ceuta**	**1.38**	**279**	⇑Pg	**Pn**	**13 47 42.8**	**-2.9**
	665nm,0.2s,SNR=18						
ECEU				Lg	Lg	13 48 00.1	
	10μm,0.6s,SNR=15						
EGOR	**Sierra Gorda,**	**1.46**	**347**	⇓Pg	**Pn**	**13 47 45.5**	**-1.5**
	468nm,0.5s,SNR=18						
EGOR				Lg	Lg	13 48 05.6	
	14μm,0.5s,SNR=7.9						
EQUE	**Quentar**	**1.53**	**8**	⇓Pn	**Pn**	**13 47 47.3**	**-0.6**
	2μm,0.7s,SNR=18						
EQUE				Sn	**Sn**	**13 48 07.6**	**+0.2**
	4μm,0.4s,SNR=9.8						
EJIF	**Jimena Fronter**	**1.63**	**299**	Pg	**Pn**	**13 47 47.3**	**-1.8**
	SNR=7.9						
ENIJ	**Nijar**	**1.76**	**43**	⇑Pn	**Pn**	**13 47 49.0**	**-2.0**
	524nm,0.5s,SNR=18						
ENIJ				Pg	**Pb**	**13 47 52.5**	**-0.6**
	7μm,1.1s,SNR=7.9						
ENIJ				Sn	**Sn**	**13 48 11.3**	**-1.6**
	10μm,0.5s,SNR=7.9						
ENIJ				Lg	Lg	13 48 18.6	
	41μm,1.0s,SNR=7.9						
EQES	**Quesada**	**2.18**	**13**	⇓Pn	**Pn**	**13 47 58.1**	**+1.4**
	1μm,0.6s,SNR=18						
EQES				Sn	**Sn**	**13 48 25.2**	**+2.0**
	18μm,0.6s,SNR=5.1						
SFS	**San Fernando**	**2.18**	**292**	P	**Pn**	**13 47 57.6**	**+1.0**
SFS				S	Sg	13 48 35.0	+3.6
SFS	**San Fernando**	**2.18**	**292**	P	**Pb**	**13 47 58.8**	**-1.4**
SFS	**San Fernando**	**2.18**	**292**		**Pb**	**13 47 58.8**	**-1.4**
OTSS	**Djebel Tessala**	**2.40**	**99**	P	**Pn**	**13 47 56.0**	**-3.9**
IFR	**Ifrane**	**2.46**	**209**	P	**Pn**	**13 47 59.6**	**-1.1**
IFR				S	**Sn**	**13 48 27.9**	**-2.5**
TLOR	**Lorca, Murcia**	**2.55**	**39**	Pn	**Pn**	**13 48 01.4**	**-0.4**
	521nm,0.3s,SNR=7.9						
TLOR				Sn	**Sn**	**13 48 29.7**	**-2.6**
	17μm,0.6s,SNR=7.9						
TLOR				Lg	Lg	13 48 43.8	
	64μm,1.3s,SNR=7.9						
USTO	**Oran**	**2.56**	**88**	P	**Pn**	**13 48 02.0**	**+0.1**
EADA	**Adamuz**	**2.58**	**344**	⇓Pn	**Pn**	**13 48 02.4**	**+0.2**
	1μm,0.8s,SNR=18						
EADA				Sn	**Sn**	**13 48 31.6**	**-1.5**
	4μm,0.4s,SNR=6.0						
EADA				Lg	Lg	13 48 40.7	
	4μm,0.4s,SNR=7.9						
EZAR	**Zarzadilla de**	**2.72**	**36**	⇑Pn	**Pn**	**13 48 03.5**	**-0.7**
	375nm,0.4s,SNR=18						
EZAR				Sn	**Sn**	**13 48 38.1**	**+1.5**
	9μm,1.0s,SNR=7.9						
EZAR				Lg	Lg	13 48 47.0	
	24μm,1.2s,SNR=7.9						
ECAB	**El Cabril**	**2.76**	**330**	⇓Pn	**Pn**	**13 48 04.5**	**-0.2**
	240nm,0.7s,SNR=18						
ECAB				Sn	**Sn**	**13 48 37.0**	**-0.6**
	3μm,0.4s,SNR=7.9						
ECAB				Lg	Lg	13 48 45.1	
	4μm,0.5s,SNR=7.9						
ARNO	**Arenosillo**	**2.83**	**301**	P	**Pn**	**13 48 05.8**	**+0.3**
ARNO				S	**Sn**	**13 48 39.8**	**+0.6**
CART	**Cartagena**	**2.88**	**48**	P	**Pn**	**13 48 04.1**	**-2.3**
CART				S	**Sn**	**13 48 35.8**	**-4.8**
CART	**Cartagena**	**2.88**	**48**	Pn	**Pn**	**13 48 03.7**	**-2.6**
ODJA	**Bouhanifia**	**2.92**	**96**	P	**Pn**	**13 48 04.0**	**-2.9**
EMUR	**La Murta**	**2.92**	**42**	⇑Pn	**Pn**	**13 48 05.4**	**-1.6**
	78nm,0.3s,SNR=18						
EMUR				Sn	**Sn**	**13 48 40.1**	**-1.5**
	4μm,0.8s,SNR=17						
MDT	**Midelt**	**2.96**	**195**	Pn	**Pn**	**13 48 06.6**	**-0.9**
	18nm,0.3s,baz=247,slow=12,SNR=104						
MDT				Sn	**Sn**	**13 48 44.2**	**+1.6**
	93nm,0.3s,baz=93,slow=22,SNR=3.5						
MDT				Lg	Lg	13 48 50.7	
	174nm,0.3s,baz=280,slow=16,SNR=7.0						
MDT				LR	LR	13 49 28.8	
	comp=Z,11μm,18.8s,baz=75,slow=44						
EMIN	**Mina Concepcio**	**3.17**	**312**	⇓Pn	**Pn**	**13 48 09.6**	**-0.7**
	83nm,0.3s,SNR=18						
EMIN				Sn	**Sn**	**13 48 46.4**	**-1.3**
	736nm,0.6s,SNR=5.8						
OJBR	**Djebel Berber**	**3.29**	**91**	P	**Pn**	**13 48 08.0**	**-4.1**
ETOB	**Tobarra**	**3.42**	**30**	⇑Pn	**Pn**	**13 48 14.3**	**+0.5**
	318nm,0.3s,SNR=18						
ETOB				Sn	**Sn**	**13 48 53.4**	**-0.5**
	7μm,1.2s,SNR=7.7						
ETOB				Lg	Lg	13 49 12.3	
	11μm,1.2s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**3.54**	**83**	P	**Pn**	**13 48 11.0**	**-4.5**
EGRO	**El Granado**	**3.56**	**302**	⇑Pn	**Pn**	**13 48 15.1**	**-0.6**
	446nm,0.3s,SNR=18						
EGRO				Sn	**Sn**	**13 48 55.1**	**-2.2**
	2μm,0.5s,SNR=8.7						
OJGS	**Djebel Guires**	**3.63**	**92**	P	Pn	13 48 10.0	-6.7
PBAR	**Barrancos**	**3.65**	**314**	*e*Pn	**Pn**	**13 48 16.8**	**-0.2**
PBAR				*e*Sn	**Sn**	**13 48 58.1**	**-1.5**
PBAR				A	A	13 49 00.5	
	738nm,0.5s						
PVAQ	**Vaqueiros**	**3.66**	**299**	⇑*e*Pn	**Pn**	**13 48 16.2**	**-0.9**
PVAQ				*e*Sn	**Sn**	**13 48 58.2**	**-1.6**
PVAQ				A	A	13 49 04.8	
	1μm,0.5s						
PVAQ	**Vaqueiros**	**3.66**	**299**	Pn	**Pn**	**13 48 15.9**	**-1.2**
AVE	**Averroes**	**3.88**	**233**	P	**Pn**	**13 48 18.9**	**-1.2**
AVE				S	Sn	13 48 53.1	-12
PAB	**San Pablo**	**3.89**	**353**	P	**Pn**	**13 48 20.4**	**+0.1**
PAB	**San Pablo**	**3.89**	**353**	Pn	**Pn**	**13 48 20.4**	**+0.1**
PAB	**San Pablo**	**3.89**	**353**	⇓Pn	**Pn**	**13 48 19.9**	**-0.4**
	131nm,0.6s,SNR=18						
PAB				Sn	**Sn**	**13 49 04.7**	**-0.9**
	633nm,0.6s,SNR=7.9						
PAB				Lg	Lg	13 49 24.4	
	2μm,0.6s,SNR=7.9						
AFON	**Font Roja**	**3.90**	**39**	Pn	**Pn**	**13 48 21.6**	**+1.1**
	96nm,0.4s,SNR=60						
AFON				Sn	**Sn**	**13 49 06.2**	**+0.4**
	1μm,0.6s,SNR=6.6						
AFON				Lg	Lg	13 49 26.4	
	5μm,1.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.99**	**357**	Pn	**Pn**	**13 48 21.8**	**+0.1**
	59nm,0.3s,baz=179,slow=12,SNR=1453						
ESDC				Sn	**Sn**	**13 49 09.0**	**+1.0**
	66nm,0.3s,baz=179,slow=22,SNR=4.7						
ESDC				Lg	Lg	13 49 26.4	
	136nm,0.3s,baz=174,slow=27,SNR=7.5						
ESDC				LR	LR	13 50 20.4	
	comp=Z,10μm,19.9s,baz=227,slow=46						
ESDC	**Sonseca Array**	**3.99**	**357**	Pn	**Pn**	**13 48 21.9**	**+0.2**
ESDC	**Sonseca Array**	**3.99**	**357**	⇓Pn	**Pn**	**13 48 22.3**	**+0.7**
	452nm,0.5s,baz=179,slow=12,SNR=18						
ESDC				Sn	**Sn**	**13 49 08.5**	**+0.6**
	978nm,0.8s,baz=180,slow=22,SNR=7.8						
ESDC				Lg	Lg	13 49 28.4	
	baz=189,slow=27,SNR=7.9						
ESBB	**Sonseca Array**	**3.99**	**357**		**Pn**	**13 48 21.8**	**+0.1**
PCVE	**Castro Verde**	**4.00**	**300**	*e*Pn	**Pn**	**13 48 20.8**	**-0.9**
PCVE				*e*Sn	**Sn**	**13 49 07.2**	**-0.8**
PCVE				A	A	13 49 16.8	
	1μm,0.6s						
EBAD	**Badajoz**	**4.05**	**320**	Pn	**Pn**	**13 48 21.9**	**-0.5**
	127nm,0.2s,SNR=319						
EBAD				Sn	**Sn**	**13 49 07.5**	**-1.9**
	685nm,0.2s,SNR=9.0						
PBEJ	**Beja**	**4.08**	**306**	*e*Pn	**Pn**	**13 48 22.3**	**-0.5**
PBEJ				*e*Sn	**Sn**	**13 49 06.3**	**-3.8**
PBEJ				A	A	13 49 27.6	
	452nm,0.8s						
EBEN2	**Beniarda presa**	**4.10**	**42**	Pn	**Pn**	**13 48 22.8**	**-0.3**
	28nm,0.1s,SNR=7.9						
EBEN2				Sn	**Sn**	**13 49 10.1**	**-0.4**
	709nm,0.5s,SNR=7.9						
MESJ	**Messejana**	**4.22**	**302**	*e*P	**Pn**	**13 48 23.9**	**-0.8**
MESJ				*e*S	**Sn**	**13 49 10.6**	**-3.0**
MESJ				IAML		13 49 15.2	
	comp=N,793nm,0.5s						
MESJ	**Messejana**	**4.22**	**302**	*e*P	**Pn**	**13 48 23.9**	**-0.8**
MESJ				*e*S	**Sn**	**13 49 10.6**	**-3.0**
MESJ				IAML		13 49 15.2	
MESJ	**Messejana**	**4.22**	**302**	*e*P	**Pn**	**13 48 23.9**	**-0.8**
MESJ				*e*S	**Sn**	**13 49 10.5**	**-3.0**
MORF	**Marmelete**	**4.31**	**294**	*e*P	**Pn**	**13 48 24.9**	**-1.2**
MORF				*e*S	**Sn**	**13 49 12.3**	**-3.5**
MORF				IAML		13 49 26.2	
	comp=E,1μm,0.5s						
MORF	**Marmelete**	**4.31**	**294**	⇑*e*Pn	**Pn**	**13 48 24.7**	**-1.3**
MORF				*e*Sn	**Sn**	**13 49 11.7**	**-4.1**
MORF				A	A	13 49 27.4	
	comp=E,528nm,0.4s						
MORF	**Marmelete**	**4.31**	**294**	*e*P	**Pn**	**13 48 24.8**	**-1.2**
MORF				*e*S	**Sn**	**13 49 12.3**	**-3.5**
PFVI	**Vila Bisbo**	**4.38**	**291**	*e*Pn	**Pn**	**13 48 25.9**	**-1.1**
PFVI				*e*Sn	**Sn**	**13 49 14.3**	**-3.3**
PFVI				A	A	13 49 27.6	
	comp=E,681nm,0.6s						
PFVI	**Vila Bisbo**	**4.38**	**291**	Pn	**Pn**	**13 48 25.8**	**-1.2**
PFVI	**Vila Bisbo**	**4.38**	**291**	⇑Pn	**Pn**	**13 48 25.7**	**-1.2**
	comp=E,259nm,0.5s,SNR=18						
PFVI				Sn	**Sn**	**13 49 13.1**	**-4.5**
	comp=E,732nm,0.5s,SNR=6.9						
PESTR	**Estremoz**	**4.44**	**317**	*e*Pn	**Pn**	**13 48 27.7**	**-0.1**
PESTR				*e*Sn	**Sn**	**13 49 16.9**	**-2.2**
PESTR				A	A	13 49 43.1	
	comp=E,1μm,0.5s						
PESTR	**Estremoz**	**4.44**	**317**	Pn	**Pn**	**13 48 28.0**	**+0.1**
PTEO	**Sao Teotonio**	**4.45**	**296**	*e*Pn	**Pn**	**13 48 27.6**	**-0.3**
PTEO				*e*Sn	**Sn**	**13 49 16.7**	**-2.5**
PTEO				A	A	13 49 31.2	
	comp=E,860nm,0.5s						
ECHE	**Chera**	**4.46**	**28**	⇑Pn	**Pn**	**13 48 28.4**	**+0.3**
	comp=E,28nm,0.4s,SNR=18						
ECHE				Sn	**Sn**	**13 49 20.3**	**+0.7**
	comp=E,2μm,1.2s,SNR=7.9						
ECHE				Lg	Lg	13 49 45.3	
	SNR=7.9						
EVO	**Evora**	**4.47**	**311**	P	**Pn**	**13 48 28.0**	**-0.3**
EVO				S	**Sn**	**13 49 16.9**	**-2.9**
EVO	**Evora**	**4.47**	**311**	*e*Pn	**Pn**	**13 48 27.9**	**-0.3**
EVO				*e*Sn	**Sn**	**13 49 17.4**	**-2.3**
EVO				A	A	13 49 22.9	
	comp=E,779nm,0.4s						
PNCL	**Nicolau / Gran**	**4.57**	**303**	*e*Pn	**Pn**	**13 48 29.0**	**-0.5**
PNCL				*e*Sn	**Sn**	**13 49 19.2**	**-2.9**
PNCL				A	A	13 49 30.1	
	comp=E,756nm,0.7s						
UCM	**Universidad Co**	**4.63**	**4**	P	**Pn**	**13 48 31.2**	**+0.8**
UCM				S	**Sn**	**13 49 23.3**	**-0.5**
PMRV	**Marv??o**	**4.75**	**323**	⇓*e*Pn	**Pn**	**13 48 32.0**	**-0.1**
PMRV				*e*Sn	**Sn**	**13 49 23.3**	**-3.4**
PMRV				A	A	13 49 59.3	
	comp=E,900nm,0.5s						
EPLA	**Plasencia**	**4.76**	**337**	⇑Pn	**Pn**	**13 48 32.6**	**+0.3**
	comp=E,118nm,0.6s,SNR=18						
EPLA				Sn	**Sn**	**13 49 25.4**	**-1.6**
	comp=E,516nm,0.5s,SNR=8.2						
EPLA				Lg	Lg	13 49 52.3	
	comp=E,2μm,0.8s,SNR=7.9						
PMTG	**Montargil**	**4.94**	**314**	*e*Pn	**Pn**	**13 48 34.4**	**-0.3**
PMTG				*e*Sn	**Sn**	**13 49 28.6**	**-2.7**
PMTG				A	A	13 50 04.5	
	comp=E,830nm,0.7s						
GUD	**Guadarrama**	**4.97**	**356**	⇓Pn	**Pn**	**13 48 35.6**	**+0.4**
	comp=E,58nm,0.4s,SNR=18						
GUD				Sn	**Sn**	**13 49 30.5**	**-1.6**
	comp=E,168nm,0.6s,SNR=5.1						
GUD				Lg	Lg	13 49 56.6	
	comp=E,964nm,0.8s,SNR=7.9						
PCBR	**Castelo Branco**	**5.12**	**325**	⇓*e*Pn	**Pn**	**13 48 37.6**	**+0.5**
PCBR				*e*Sn	**Sn**	**13 49 33.6**	**-2.1**
PCBR				A	A	13 49 40.2	
	comp=E,605nm,0.4s						
EIBI	**Ibiza**	**5.22**	**49**	Pn	**Pn**	**13 48 38.1**	**-0.5**
	comp=E,194nm,0.4s,SNR=65						
EIBI				Sn	**Sn**	**13 49 35.3**	**-3.0**
	comp=E,596nm,0.5s,SNR=6.7						
ETOR	**Torete**	**5.29**	**14**	⇓Pn	**Pn**	**13 48 40.2**	**+0.6**
	comp=E,223nm,0.6s,SNR=18						
ETOR				Sn	**Sn**	**13 49 38.6**	**-1.5**
	comp=E,408nm,0.8s						
ETOR				Lg	Lg	13 50 09.0	
	comp=E,8μm,3.1s,SNR=7.9						
LIS	**Lisbon**	**5.30**	**306**	*e*P	**Pn**	**13 48 39.1**	**-0.6**
LIS				*e*S	**Sn**	**13 49 35.9**	**-4.3**
LIS				IAML		13 49 41.8	
	comp=N,2μm,0.4s						
LIS	**Lisbon**	**5.30**	**306**	*e*Pn	**Pn**	**13 48 40.0**	**+0.4**
LIS				*e*Sn	**Sn**	**13 49 38.5**	**-1.7**
LIS				A	A	13 50 24.3	
	comp=N,696nm,0.7s						
LIS	**Lisbon**	**5.30**	**306**	*e*P	**Pn**	**13 48 39.0**	**-0.6**
LIS				*e*S	**Sn**	**13 49 35.9**	**-4.3**
INMG	**Instituto de M**	**5.32**	**307**	*e*Pn	**Pn**	**13 48 40.8**	**+1.0**
INMG				*e*Sn	**Sn**	**13 49 40.1**	**-0.5**
INMG				A	A	13 49 59.5	
	comp=N,3μm,0.7s						
EMOS	**Mosqueruela**	**5.32**	**28**	⇑Pn	**Pn**	**13 48 40.7**	**+0.6**
	comp=N,115nm,0.6s,SNR=18						
EMOS				Sn	**Sn**	**13 49 40.1**	**-0.9**
	comp=N,102nm,0.9s,SNR=5.8						
EMOS				Lg	Lg	13 50 12.5	
	comp=N,17μm,3.5s,SNR=7.9						
PMST	**Lisbon--Monsan**	**5.33**	**306**	⇑*e*Pn	**Pn**	**13 48 40.4**	**+0.3**
PMST				*e*Sn	**Sn**	**13 49 39.1**	**-1.9**
PMST				A	A	13 49 59.5	
	comp=N,559nm,0.7s						
PMAFR	**Mafra**	**5.52**	**308**	*e*Pn	**Pn**	**13 48 42.7**	**+0.1**
PMAFR				*e*Sn	**Sn**	**13 49 42.1**	**-3.5**
PMAFR				A	A	13 50 26.9	
	comp=N,771nm,0.6s						
PMAFR	**Mafra**	**5.52**	**308**	⇑Pn	**Pn**	**13 48 42.5**	**-0.1**
	comp=N,432nm,0.3s,SNR=18						
PMAFR				Sn	**Sn**	**13 49 41.8**	**-3.8**
	comp=N,1μm,0.4s,SNR=6.0						
ABA	**Alger-Bouzarea**	**5.55**	**76**	P	**Pn**	**13 48 41.8**	**-1.3**
PSBE	**So Bento**	**5.57**	**315**	*e*Pn	**Pn**	**13 48 43.3**	**0.0**
PSBE				*e*Sn	**Sn**	**13 49 43.8**	**-3.0**
PSBE				A	A	13 50 25.2	
	comp=N,1μm,0.5s						
MTE	**Manteigas**	**5.60**	**328**	⇓*e*Pn	**Pn**	**13 48 44.2**	**+0.4**
MTE				*e*Sn	**Sn**	**13 49 45.6**	**-2.1**
MTE				A	A	13 50 22.9	
	comp=N,1μm,0.6s						
MTE	**Manteigas**	**5.60**	**328**	Pn	**Pn**	**13 48 44.0**	**+0.2**
PCAS	**Casmilo, Conde**	**5.78**	**320**	⇓*e*Pn	**Pn**	**13 48 45.1**	**-1.1**
PCAS				*e*Sn	**Sn**	**13 49 48.3**	**-3.8**
PCAS				A	A	13 50 28.6	
	comp=N,720nm,0.6s						
ADJB	**Djebel Djouab**	**5.81**	**83**	P	**Pn**	**13 48 45.1**	**-1.6**
COI	**Coimbra**	**5.86**	**322**	*e*Pn	**Pn**	**13 48 47.5**	**+0.3**
COI				*e*Sn	**Sn**	**13 49 51.6**	**-2.2**
COI				A	A	13 50 35.0	
	comp=N,912nm,0.5s						
COI	**Coimbra**	**5.86**	**322**	P	**Pn**	**13 48 47.1**	**-0.1**
COI	**Coimbra**	**5.86**	**322**	Pn	**Pn**	**13 48 47.1**	**-0.1**
PVIS	**Viseu**	**6.01**	**328**	⇑*i*Pn	**Pn**	**13 48 50.0**	**+0.6**
PVIS				*e*Sn	**Sn**	**13 49 54.9**	**-2.9**
PVIS				A	A	13 50 07.5	
	comp=N,603nm,0.7s						
MVO	**Moncorvo**	**6.07**	**335**	⇓*e*Pn	**Pn**	**13 48 50.6**	**+0.4**
MVO				*e*Sn	**Sn**	**13 49 57.4**	**-1.7**
MVO				A	A	13 50 42.3	
	comp=N,819nm,0.6s						
MVO	**Moncorvo**	**6.07**	**335**	⇓Pn	**Pn**	**13 48 50.5**	**+0.4**
	comp=N,345nm,0.4s,SNR=18						
MVO				Sn	**Sn**	**13 49 55.7**	**-3.4**
	comp=N,1μm,0.5s,SNR=7.9						
MVO				Lg	Lg	13 50 33.9	
	comp=N,7μm,1.8s,SNR=7.9						
ERTA	**Horta de San J**	**6.14**	**30**	⇓Pn	**Pn**	**13 48 52.5**	**+1.3**
	comp=N,183nm,1.0s,SNR=18						
ERTA				Sn	**Sn**	**13 49 58.6**	**-2.5**
	comp=N,132nm,0.6s,SNR=7.6						
ERTA				Lg	Lg	13 50 38.4	
	comp=N,10μm,3.0s,SNR=7.9						
AKET	**Djebel Ketaf**	**6.17**	**84**	P	**Pn**	**13 48 50.4**	**-1.2**
PVRL	**Vila Real**	**6.41**	**332**	⇑*i*Pn	**Pn**	**13 48 55.5**	**+0.6**
PVRL				*e*Sn	**Sn**	**13 50 04.5**	**-3.1**
PVRL				A	A	13 50 07.4	
	comp=N,763nm,0.5s						
POLO	**Lamas de Olo**	**6.53**	**332**	*e*Pn	**Pn**	**13 48 56.9**	**+0.4**
POLO				*e*Sn	**Sn**	**13 50 06.8**	**-3.7**
POLO				A	A	13 50 12.5	
	comp=N,325nm,0.6s						
PBRG	**Braganca**	**6.56**	**340**	⇑*e*Pn	**Pn**	**13 48 57.5**	**+0.6**
PBRG				*e*Sn	**Sn**	**13 50 09.2**	**-2.1**
PBRG				A	A	13 50 56.3	
	comp=N,403nm,0.6s						
ETOS	**Mallorca**	**6.58**	**50**	Pn	**Pn**	**13 48 56.7**	**-0.4**
	comp=N,70nm,0.4s,SNR=134						
ETOS				Sn	**Sn**	**13 50 07.3**	**-4.3**
	comp=N,139nm,0.5s,SNR=7.9						
PTO	**Porto**	**6.67**	**326**	*e*Pn	**Pn**	**13 48 58.8**	**+0.4**
EPOB	**Poblet**	**6.79**	**32**	Pn	**Pn**	**13 49 00.5**	**+0.4**
	comp=N,18nm,0.4s,SNR=15						
EPOB				Sn	**Sn**	**13 50 13.1**	**-3.8**
	comp=N,24nm,0.4s,SNR=7.9						
EPOB				Lg	Lg	13 50 58.4	
	comp=N,7μm,3.8s,SNR=7.9						
PCAB	**Cabril**	**6.90**	**332**	⇑*e*Pn	**Pn**	**13 49 02.2**	**+0.6**
PCAB				*e*Sn	**Sn**	**13 50 15.6**	**-4.1**
PCAB				A	A	13 51 07.9	
	comp=N,577nm,0.7s						
ELOB	**Lobios**	**7.05**	**332**	⇑Pn	**Pn**	**13 49 04.1**	**+0.3**
	comp=N,163nm,0.5s,SNR=18						
ELOB				Sn	**Sn**	**13 50 18.9**	**-4.5**
	comp=N,512nm,0.4s,SNR=12						
ELOB				Lg	Lg	13 51 01.9	
	comp=N,3μm,1.4s,SNR=4.0						
PGAV	**Gavieira, Arco**	**7.22**	**332**	⇑*e*Pn	**Pn**	**13 49 06.5**	**+0.5**
PGAV				*e*Sn	**Sn**	**13 50 23.4**	**-4.1**
PGAV				A	A	13 50 40.0	
	comp=N,540nm,0.7s						
EARA	**Aranguren**	**7.27**	**12**	Pn	**Pn**	**13 49 07.5**	**+0.8**
	comp=N,48nm,0.7s,SNR=19						
EARA				Sn	**Sn**	**13 50 25.6**	**-3.1**
	comp=N,101nm,0.4s,SNR=5.9						
EARA				Lg	Lg	13 51 13.4	
	comp=N,12μm,3.4s,SNR=7.9						
SET	**Setif**	**7.40**	**83**	P	**Pn**	**13 49 10.0**	**+1.5**
EORO	**Oroz-Betelu**	**7.43**	**14**	⇓Pn	**Pn**	**13 49 10.3**	**+1.4**
	comp=N,35nm,0.5s,SNR=18						
EORO				Sn	**Sn**	**13 50 29.3**	**-3.6**
	comp=N,429nm,0.7s,SNR=5.3						
EORO				Lg	Lg	13 51 18.5	
	comp=N,12μm,2.8s,SNR=7.9						
EMIR	**Miracle**	**7.44**	**32**	Pn	**Pn**	**13 49 09.9**	**+0.9**
	comp=N,25nm,0.3s,SNR=8.1						
EMIR				Sn	**Sn**	**13 50 29.9**	**-3.0**
	comp=N,57nm,0.6s,SNR=6.6						
EMIR				Lg	Lg	13 51 20.5	
	comp=N,5μm,2.7s,SNR=7.9						
CKHR	**Kef el Ahmar**	**7.49**	**85**	P	**Pn**	**13 49 09.2**	**-0.6**
EZAM	**Zamans**	**7.54**	**330**	⇑Pn	**Pn**	**13 49 10.6**	**+0.2**
	comp=N,120nm,0.7s,SNR=18						
EZAM				Sn	**Sn**	**13 50 31.1**	**-4.2**
	comp=N,167nm,0.4s,SNR=7.9						
EZAM				Lg	Lg	13 51 19.9	
	comp=N,8μm,3.1s,SNR=7.9						
ELAN	**Lanestosa**	**7.54**	**1**	Pn	**Pn**	**13 49 11.0**	**+0.6**
	comp=N,32nm,0.4s,SNR=34						
ELAN				Sn	**Sn**	**13 50 31.7**	**-3.7**
	comp=N,102nm,0.7s,SNR=4.1						
ELAN				Lg	Lg	13 51 20.9	
	comp=N,13μm,3.2s,SNR=7.9						
MAHO	**Mahon**	**7.58**	**54**	P	**Pn**	**13 49 10.6**	**-0.2**
MAHO				S	**Sn**	**13 50 33.4**	**-2.9**
ECHI	**Chisagues Biel**	**7.60**	**22**	Pn	**Pn**	**13 49 11.7**	**+0.4**
	comp=N,17nm,0.6s,SNR=7.9						
ECHI				Sn	**Sn**	**13 50 34.0**	**-3.0**
	comp=N,10nm,0.5s,SNR=7.9						
ECHI				Lg	Lg	13 51 24.6	
	comp=N,6μm,4.0s,SNR=7.9						
ETSF	**Etsaut**	**7.61**	**18**	*e*Pn	**Pn**	**13 49 11.9**	**+0.6**
ETSF				*e*Sn	**Sn**	**13 50 30.2**	**-6.8**
ETSF				*e*Sg	Sb	13 51 19.1	+16
	comp=N,725nm,1.1s						
SJPF	**Ste Jean**	**7.66**	**14**	*e*Pn	**Pn**	**13 49 12.9

comp=N,3µm,3.8s,SNR=7.9
MTLF Montolieu 8.91 29 *e*P **Pn 13 49 30.3 +1.2**
MTLF *e*Sg Sg 13 52 02.5
comp=N,3µm,1.8s
CMAH Djebel Manchou 9.04 81 P **Pn 13 49 29.7 -1.3**
ABSA Djebel Ababsia 9.08 83 P **Pn 13 49 31.6 0.0**
LFF La Frestale 9.85 19 *e*Pn **Pn 13 49 42.0 +0.1**
LFF *e*Sn **Sn 13 51 27.5 -4.4**
comp=N,29nm,0.5s
LASF Ste Croix 10.19 32 *e*Pn **Pn 13 49 46.8 +0.1**
LASF *e*Sn **Sn 13 51 31.7 -8.8**
comp=N,54nm,1.0s
LASF *e*Sg 13 52 42.6
comp=N,839nm,1.9s
CAF Calviac 10.22 24 *e*Pn **Pn 13 49 46.3 -0.9**
CAF *e*Sn **Sn 13 51 37.1 -4.2**
comp=N,48nm,0.7s
CAF *e*Sg 13 52 41.1
comp=N,2µm,2.0s
RJF Les Rejaudoux 10.40 21 *e*Pn **Pn 13 49 48.0 -1.5**
RJF *e*Sn **Sn 13 51 41.9 -3.6**
comp=N,12nm,0.4s
RJF *e*Sg 13 52 47.2
comp=N,1µm,1.8s
EFAM Famara 10.57 235 Pn **Pn 13 49 50.3 -1.6**
comp=N,109nm,0.8s,SNR=7.9
EFAM Sn Sn 13 51 38.6 -11
comp=N,60nm,0.4s,SNR=7.9
KEST Kesra 10.61 86 Pn **Pn 13 49 53.1 +0.6**
comp=N,1.0nm,0.3s,baz=193,slow=1.7,SNR=15
KEST LR LR 13 54 23.2
comp=N,5µm,18.6s,baz=232,slow=40
KEST Kesra 10.61 86 Pn **Pn 13 49 51.2 -1.3**
PMPST Porto Santo, M 10.76 260 *e*Pn **Pn 13 49 51.0 -3.5**
PMPST *e*Sn Sn 13 51 39.1 -15
PMPST A A 13 51 54.2
comp=N,73nm,0.4s
PMPS Porto Santo 10.77 260 *e*Pn **Pn 13 49 51.1 -3.5**
PMPS *e*Sn Sn 13 51 39.6 -15
PMPS A A 13 51 51.0
comp=N,60nm,0.5s
SMRF Simiane la Rot 10.92 38 *e*Pn **Pn 13 49 55.3 -1.4**
SMRF Simiane la Rot 10.92 38 *e*P Pn 13 50 02.6 +5.9
SMRF *e*Sn **Sn 13 51 53.4 -5.0**
comp=N,2.1nm,0.4s
LMR La Mourre 10.97 43 *e*Pn **Pn 13 49 57.3 -0.1**
LMR La Mourre 10.97 43 *e*P Pn 13 50 03.0 +5.6
LMR *e*Sn **Sn 13 51 53.0 -6.6**
comp=N,24nm,0.6s
VSL Villasalto 11.05 66 Pn **Pn 13 49 56.9 -1.6**
CFUE Fuerteventura 11.15 234 Pn **Pn 13 49 59.4 -0.5**
comp=N,13nm,0.3s,SNR=7.9
CFUE Sn Sn 13 51 53.2 -11
comp=N,48nm,0.6s,SNR=7.9
VIVF Saint-Julien-l 11.17 32 *e*P Pn 13 50 05.3 +5.2
VIVF *e*Sn **Sn 13 51 59.0 -5.4**
comp=N,1.5nm,0.3s
VIVF *e*Sg 13 53 12.8
comp=N,1.8nm,0.3s
MFF Saint Martin d 11.23 13 *e*Pn **Pn 13 50 00.4 -0.5**
MFF *e*Sn **Sn 13 52 00.7 -5.2**
comp=N,17nm,0.4s
PMAR Madeira 11.33 259 *e*Pn **Pn 13 49 58.3 -4.2**
PMAR *e*Sn Sn 13 51 57.6 -11
PMAR A A 13 52 07.2
comp=N,131nm,0.7s
FUL Funchal 11.34 258 *e*Sn Sn 13 51 56.1 -13
FUL A A 13 51 58.1
comp=N,101nm,0.1s
CFTV Fuerteventura 11.40 233 Pn **Pn 13 50 00.5 -2.8**
comp=N,7.9nm,0.5s,SNR=7.9
CFTV Sn Sn 13 51 59.7 -11
comp=N,26nm,0.5s,SNR=7.9
SSB Saint Sauveur 11.45 31 P **Pn 13 50 05.3 +1.4**
SSB Saint Sauveur 11.45 31 Pn **Pn 13 50 05.3 +1.4**
TCF Toulx Ste Croi 11.49 21 *e*Pn **Pn 13 50 03.1 -1.4**
TCF *e*Sn **Sn 13 52 06.7 -5.7**
comp=N,6.5nm,0.4s
PMOZ Porto Moniz, M 11.53 260 *e*Pn **Pn 13 50 02.0 -3.1**
PMOZ *e*Sn **Sn 13 52 08.0 -5.5**
PMOZ A A 13 52 15.7
comp=N,164nm,0.5s
PMOZ Porto Moniz, M 11.53 260 Pn Pn 13 50 00.1 -5.0
PMOZ Porto Moniz, M 11.53 260 Pn **Pn 13 50 01.8 -3.3**
comp=N,61nm,0.7s,SNR=7.9
PMOZ Sn Sn 13 52 02.5 -11
comp=N,204nm,0.8s,SNR=7.9
CGIN Giniginamar, F 11.54 233 Pn **Pn 13 50 02.4 -2.8**
comp=N,21nm,0.6s,SNR=7.9
CGIN Sn Sn 13 52 02.1 -12
comp=N,10.0nm,0.3s,SNR=7.9
ORIF Oris-en-Rattie 11.76 35 *e*P Pn 13 50 13.6 +5.3
ORIF *e*Sn **Sn 13 52 12.3 -6.8**
comp=N,20nm,0.9s
ORIF *e*Sg 13 53 30.3
comp=N,670nm,2.2s
SBF Sospel 11.83 43 *e*P Pn 13 50 14.7 +5.6
SBF *e*Sn **Sn 13 52 14.6 -6.0**
SBF *e*Sg 13 53 29.7
BGF Bois d'Agland 11.93 22 *e*Pn **Pn 13 50 09.2 -1.2**
PGF Pioggiola 12.00 51 *e*P **Pn 13 50 13.2 +1.6**
PGF *e*Sn **Sn 13 52 19.4 -5.6**
comp=N,19nm,0.6s
MBDF Montbardon 12.06 38 *e*Pn **Pn 13 50 11.9 -0.5**
MBDF Montbardon 12.06 38 *e*P Pn 13 50 18.3 +5.9
QUIF Quistinic 12.23 2 *e*Pn **Pn 13 50 13.1 -1.4**
QUIF *e*Sn **Sn 13 52 24.3 -6.0**
comp=N,49nm,0.5s
BNI Bardonecchia 12.24 37 P **Pn 13 50 18.8 +3.9**
BNI Bardonecchia 12.24 37 Pn **Pn 13 50 18.8 +3.9**
AVF Avril sur Loir 12.29 23 *e*Pn **Pn 13 50 14.3 -1.1**
AVF *e*Sn **Sn 13 52 26.2 -5.7**
AVF *e*Sg 13 53 50.3
comp=N,1µm,2.3s
SMF Signal de Mont 12.33 25 *e*Pn **Pn 13 50 15.7 -0.2**
SMF *e*Sn **Sn 13 52 26.4 -6.4**
comp=N,4.4nm,0.4s
SMF *e*Sg 13 53 49.4
comp=N,2µm,2.6s
HYF Humbligny 12.51 20 *e*Pn **Pn 13 50 17.5 -0.8**
HYF Humbligny 12.51 20 *e*P Pn 13 50 23.2 +4.9
HYF *e*Sn **Sn 13 52 31.1 -6.0**
comp=N,82nm,0.6s
HYF *e*Sg 13 53 54.2
SSF Saint Saulge 12.58 23 *e*Pn **Pn 13 50 17.7 -1.7**
SSF *e*Sn **Sn 13 52 32.6 -6.4**
comp=N,9.9nm,0.5s
SGMF Saint Gilles 12.59 4 *e*Pn **Pn 13 50 19.2 -0.3**
SGMF *e*Sn **Sn 13 52 31.5 -7.6**
comp=N,68nm,0.8s
EOSO Osorio 12.60 236 Pn **Pn 13 50 16.5 -3.3**
comp=N,16nm,0.6s,SNR=5.7
EOSO Sn Sn 13 52 27.7 -12
comp=N,18nm,0.4s,SNR=5.1
LPG La Plagne 12.61 36 *e*Pn **Pn 13 50 20.1 +0.1**
LPL La Plagne 12.61 36 *e*Pn **Pn 13 50 19.7 -0.3**
GGC Guia, Gran Can 12.63 237 Pn **Pn 13 50 16.2 -4.0**
comp=N,8.9nm,0.4s,SNR=7.9
GGC Sn Sn 13 52 27.8 -13
comp=N,5.6nm,0.4s,SNR=7.9
ROSF Rostrenen 12.65 1 *e*Pn **Pn 13 50 19.2 -1.1**
ROSF *e*Sn **Sn 13 52 34.1 -6.5**
comp=N,94nm,0.7s
EBAJ Bajamar 12.86 240 Pn Pn 13 50 17.3 -6.0
comp=N,40nm,0.8s,SNR=5.1
EBAJ Sn Sn 13 52 33.3 -13
comp=N,77nm,0.9s,SNR=7.9
GRR Gorron 12.87 9 *e*Pn **Pn 13 50 21.3 -2.0**
GRR *e*Sn Sn 13 52 35.7 -10
comp=N,82nm,0.9s
LOR Lormes 12.88 24 *e*Pn **Pn 13 50 22.6 -0.8**
LOR *e*Sn **Sn 13 52 39.3 -6.9**
comp=N,8.8nm,0.7s
LOR *e*Sg 13 54 06.4
comp=N,502nm,1.8s
CGUI Guimar, Teneri 13.06 239 Pn **Pn 13 50 21.6 -4.5**
comp=N,82nm,0.7s,SNR=7.9
CGUI Sn Sn 13 52 38.1 -13
comp=N,57nm,0.4s,SNR=7.9
CLF Chambon-Foret 13.10 18 Pn **Pn 13 50 24.9 -1.5**
LDF La Druitiere 13.17 10 *e*Pn **Pn 13 50 26.7 -0.7**
LDF *e*Sn **Sn 13 52 46.4 -6.9**
comp=N,20nm,0.6s
FLN La Foliniere 13.29 9 *e*Pn **Pn 13 50 28.1 -0.8**
baz=189
FLN *e*Sn **Sn 13 52 49.1 -7.0**
comp=N,25nm,0.6s
MSSA Maissana 13.29 46 **Pn 13 50 30.2 +1.1**
CASP Castiglione de 13.32 53 Pn **Pn 13 50 28.9 -0.7**
SENIN Lac Senin/Sane 13.50 34 Pn **Pn 13 50 34.9 +2.8**
VLC Villacollemand 13.71 48 **Pn 13 50 35.9 +1.0**
CLTB Caltabellotta 13.72 77 Pn **Pn 13 50 36.1 +1.2**
LATE Laterza 13.87 55 Pn **Pn 13 50 35.5 -1.5**
TBT Taburiente 13.91 244 Pn Pn 13 50 30.2 -7.4
comp=N,18nm,0.7s,SNR=7.9
TBT Sn Sn 13 52 57.8 -14
comp=N,18nm,0.6s,SNR=7.9
OSSC Osservatorio P 13.92 51 Pn **Pn 13 50 36.2 -1.4**
PRMA PARMA 14.01 45 P **P 13 50 43.3 -3.4**
SFTF Sexfontaines 14.09 25 *e*Pn **Pn 13 50 40.3 +0.4**
MEZF Maizieres J'vi 14.35 24 *e*Pn **Pn 13 50 43.9 +0.4**
HAU Haudompre 14.39 28 *e*Pn **Pn 13 50 45.2 +1.1**
HINF Hinteralfeld 14.44 30 *e*Pn **Pn 13 50 44.7 -0.1**
SAVF Savonnieres en 14.47 24 *e*P **P 13 50 49.6 -2.2**
baz=204
TUE Stuetta 14.57 38 Pn **Pn 13 50 47.7 +0.9**
RAFF Raffo Rosso 14.62 79 **Pn 13 50 47.4 +0.1**
MURB Monte Urbino 14.62 54 **Pn 13 50 45.5 -1.9**
PAGF Fort de Pagny 14.62 26 *e*Pn **Pn 13 50 46.5 -0.8**
VAE Valguarnera 14.66 78 LR LR 13 56 16.4
comp=N,5µm,18.4s,baz=313,slow=37
NRCA Noricia 14.84 56 Pn **Pn 13 50 48.8 -1.4**
ECH Echery 14.88 29 P **Pn 13 50 50.0 -0.7**
ECH Echery 14.88 29 Pn **Pn 13 50 50.0 -0.7**
DAVOX Davos/Dischmat 15.05 38 LR LR 13 56 33.3
comp=N,2µm,19.9s,baz=226,slow=37
CDF Champ du Feu 15.09 29 *e*Pn **Pn 13 50 53.8 +0.2**
TEOL Teolo 15.14 46 Pn **Pn 13 50 53.7 -0.5**
TEOL IAmb IAmb 13 51 04.4
comp=Z,161nm,1.4s
DAVA Damuels 15.40 37 *e*Pn **Pn 13 51 00.0 +2.3**
comp=Z,106nm,1.2s
BAIF Baives 15.48 19 *e*Pn **Pn 13 50 58.3 -0.3**
CTI Castel Tesino 15.53 44 P **Pn 13 50 58.6 -0.8**
CTI pmax pmax
comp=Z,153nm,1.7s
CTI Castel Tesino 15.53 44 Pn **Pn 13 50 58.6 -0.8**
DOU Dourbes 15.62 20 P **Pn 13 50 59.6 -0.8**
FETA Feichten 15.64 39 *i* Pn **Pn 13 51 02.5 +1.6**
comp=Z,9.9nm,1.2s,SNR=26
GIVF Givet 15.69 21 *e*Pn **Pn 13 50 59.5 -1.8**
WLF Walferdange 15.72 24 P **Pn 13 51 01.6 -0.1**
WLF pmax pmax
comp=Z,73nm,1.0s
WLF Walferdange 15.72 24 Pn **Pn 13 51 01.6 -0.1**
WLF Walferdange 15.72 24 P **P 13 51 05.2 -0.4**
comp=Z,45nm,1.0s
WLF x x 13 51 08.7
BMRD Maredsous 15.85 20 P **Pn 13 51 02.9 -0.6**
comp=Z,34nm,1.2s
RCHB Rochefort 15.86 21 P **Pn 13 51 05.3 +1.9**
comp=Z,56nm,1.3s
RETA Reutte 15.97 38 *i* Pn **Pn 13 51 05.8 +0.7**
comp=Z,64nm,1.0s,SNR=15
BGES Gesves 16.02 21 P **Pn 13 51 05.5 -0.1**
comp=Z,27nm,1.4s
SQTA Sankt Quirin 16.02 39 *i* Pn **Pn 13 51 07.3 +1.5**
comp=Z,224nm,1.3s,SNR=52
MOTA Moosalm 16.05 39 *i* Pn **P 13 51 09.9 +0.4**
comp=Z,64nm,1.4s,SNR=11
BCLA Clavier 16.11 21 P **Pn 13 51 08.2 +1.5**
comp=Z,37nm,1.7s
STAL STALIGIAL 16.25 44 **Pn 13 51 08.4 -0.2**
BHOU Houvegnez 16.27 23 P **Pn 13 51 10.2 +1.4**
WTTA Wattenberg 16.27 40 *i* Pn **Pn 13 51 09.8 +0.8**
comp=Z,181nm,1.2s,SNR=42
RSBS Rosebush, Pemb 16.28 358 *e*P **Pn 13 51 10.0 +1.0**
RSBS IAmb IAmb 13 51 11.6
comp=Z,111nm,1.4s
WATA Walderalm 16.29 40 *i* Pn **Pn 13 51 10.1 +0.9**
comp=Z,141nm,1.3s,SNR=28
MCH1 Michaelchurch 16.32 2 *e*P **Pn 13 51 10.3 +0.9**
BSTI Sart Tilman 16.34 21 P **P 13 51 11.8 -0.6**
ABTA Abfaltersbach 16.43 43 *i* Pn **P 13 51 12.8 -0.8**
comp=Z,142nm,1.4s,SNR=28
MEM Membach 16.49 22 P **P 13 51 13.2 -1.0**
comp=Z,20nm,0.0s
BTNL Ternell 16.51 23 P **Pn 13 51 12.8 +1.0**
TIP Timpagrande 16.62 72 ⇑P **P 13 51 15.5 -0.2**
TIP Timpagrande 16.62 72 P **Pn 13 51 13.6 +0.2**
MATE Matera 16.79 67 ⇑P **P 13 51 17.1 -0.4**
CEY Cerknica 16.99 48 *e*P **Pn 13 51 18.1 +0.2**
MYKA Terra Mystica 16.99 45 *e*Pn **P 13 51 19.4 -0.5**
comp=Z,75nm,1.5s
KBA Koelnbreinsper 17.08 43 Pn **Pn 13 51 20.1 +0.8**
comp=Z,63nm,1.5s,SNR=13
LJU Ljubljana 17.20 47 *e*P **P 13 51 23.4 +1.3**
OBKA Obir 17.45 46 *i* Pn **P 13 51 26.8 +1.8**
comp=Z,24nm,0.9s,SNR=5.6
BUG Bochum--Univer 17.61 23 *e*P **P 13 51 30.3 +3.7**
comp=Z,198nm,1.5s,baz=217,slow=11
CRES Cresnjev 17.66 49 *e*P **Pn 13 51 26.6 +0.3**
GRFO Grafenberg 17.74 33 P **Pn 13 51 25.3 -1.9**
GRFO pmax pmax
comp=Z,131nm,1.2s
GRFO Grafenberg 17.74 33 Pn **Pn 13 51 25.3 -1.9**
GRA1 Grafenberg Arr 17.74 33 **Pn 13 51 25.2 -2.0**
GRF Grafenberg Arr 17.74 33 P **Pn 13 51 25.2 -2.0**
GRF pmax pmax
comp=Z,138nm,1.2s
GRF Grafenberg Arr 17.74 33 *e*P **P 13 51 30.3 +2.3**
comp=Z,153nm,1.2s,baz=217,slow=11
GRF *e*S **S 13 54 56.2 +4.9**
GRF *e*L L 13 58 18.8
comp=Z,852nm,20.1s
LBWR Ladybower, Pea 17.77 4 *e*P **P 13 51 28.6 +0.3**
LBWR IAmb IAmb 13 51 34.9
comp=Z,83nm,1.1s
SOKA Soboth 17.83 46 *i* Pn **P 13 51 30.2 +1.1**
comp=Z,82nm,1.4s,SNR=32
SCTE Santa Cesarea 18.03 69 Pn **Pn 13 51 28.5 -2.3**
SCTE IAmb IAmb 13 51 44.0
comp=Z,348nm,1.7s
MOA Molln 18.04 42 *e*Pn **P 13 51 32.2 +0.8**
comp=Z,6.8nm,0.6s
MOA *e*P **sP 13 51 39.9 +1.4**
comp=Z,35nm,1.3s
MGRS Mrkonjic Grad 18.11 55 *e*P **P 13 51 37.6 +5.4**
WET Wettzell 18.13 37 *e*P **Pn 13 51 31.9 -0.2**
comp=Z,44nm,1.3s,baz=217,slow=11
MRAK Mrakovica 18.22 53 *e*P **P 13 51 33.5 +0.1**
BLY Banja Luka 18.30 54 *e*P **P 13 51 34.7 +0.5**
HPK Haverah Park 18.33 4 *e*P **Pn 13 51 36.2 +1.7**
HPK IAmb IAmb 13 51 40.3
comp=Z,58nm,1.0s
MANZ Manzenberg 18.35 34 *e*P **Pn 13 51 36.2 +1.4**
comp=Z,9.2nm,1.0s,baz=217,slow=11
GEC2 GERESS Array S 18.35 39 P **P 13 51 33.8 -1.1**
GERES GERESS Array B 18.35 39 P **P 13 51 34.0 -0.9**
comp=Z,0.6nm,0.3s,baz=223,slow=11,SNR=24
GERES LR LR 13 58 35.4
comp=Z,4µm,19.0s,baz=240,slow=37
ARSA Arzberg 18.41 45 *e*Pn **Pn 13 51 37.2 +1.6**
comp=Z,12nm,0.7s
TREB Trebinje 18.45 61 *e*P **Pn 13 51 36.9 +0.9**
KHC Kasperske Hory 18.47 38 P **P 13 51 35.2 -0.9**
KHC pmax pmax
comp=Z,55nm,1.1s
KHC Kasperske Hory 18.47 38 *e*P **P 13 51 35.9 -0.2**
KHC *e*pP **Pn 13 51 38.7 +2.4**
KHC AMS AMS 13 59 20.0
comp=Z,7µm,10.7s
KHC Kasperske Hory 18.47 38 P **P 13 51 35.1 -0.9**
HCY Herceg Novi 18.48 62 *e*P **Pn 13 51 39.7 +3.3**
MOX Moxa 18.61 32 *e*P **Pn 13 51 39.4 +1.5**
comp=Z,610nm,3.3s,baz=217,slow=11
MOX *e*S **S 13 55 16.9 +8.0**
MOX *e*L L 13 58 48.0
comp=Z,1µm,20.8s
BRY Bratogost 18.63 61 *e*P **P 13 51 37.6 -0.4**
CKRC Cesky Krumlov 18.65 40 *e*P **P 13 51 37.7 -0.3**
CKRC *e*S **Sn 13 55 07.9 +1.5**
CKRC AMS AMS 14 01 00.0
comp=Z,3µm,12.4s
NKC Novy Kostel 18.68 34 *e*P **Pn 13 51 42.6 +3.8**
NKC MLR MLR
comp=Z,9µm,10.2s
NKC Novy Kostel 18.68 34 *e*P **Pn 13 51 42.6 +3.8**
NKC AMS AMS 13 59 30.0
comp=Z,9µm,10.2s
GUNZ Gunzen 18.72 33 *e*P **Pn 13 51 40.3 +1.0**
comp=Z,69nm,1.4s,baz=217,slow=11
PLN Plauen 18.73 33 *e*P **Pn 13 51 40.5 +1.1**
comp=Z,42nm,1.1s,baz=217,slow=11
WERD Werda 18.77 33 *e*P **Pn 13 51 40.9 +1.0**
comp=Z,77nm,1.4s,baz=217,slow=11
BEHE Becsehely 18.77 49 P **Pn 13 51 42.0 +2.1**
TANN Tannenbergstha 18.81 34 *e*P **Pn 13 51 41.4 +0.9**
comp=Z,68nm,1.3s,baz=217,slow=11
DRME Dracevica, Mon 18.92 63 *e*P **P 13 51 41.1 0.0**
UPM Unac-Piva 18.97 60 *e*P **P 13 51 42.1 +0.3**
CONA Conrad Observa 18.97 44 *i* Pn **Pn 13 51 43.0 +0.6**
comp=Z,7.0nm,0.7s,SNR=8.6
PDG Podgorica 19.03 62 ⇑P **P 13 51 41.8 -0.4**
PDG Podgorica 19.03 62 *e*P **P 13 51 42.2 0.0**
PDG Podgorica 19.03 62 P **P 13 51 42.2 0.0**
NEUB Neuenburg 19.09 31 *e*P **Pn 13 51 45.9 +2.1**
comp=Z,90nm,1.2s,baz=217,slow=11
EDMD Edmundbyers 19.19 3 *e*P **Pn 13 51 45.7 +0.9**
EDMD IAmb IAmb 13 51 46.6
comp=Z,338nm,2.0s
SOP Sopron 19.24 45 PN **Pn 13 51 48.4 +2.9**
ASSE Asse, Remlinge 19.37 27 *e*P **Pn 13 51 49.1 +2.2**
comp=Z,94nm,1.7s,baz=217,slow=11
KOVH Kovagotottos 19.43 51 PN **Pn 13 51 47.4 -0.4**
BBLS Lazići 19.50 58 *e*P **P 13 51 47.8 +0.3**
BBLS Lazići 19.50 58 *e*P **Pn 13 51 51.4 +2.6**
PRU Pruhonice 19.50 37 *e*P **Pn 13 51 48.5 -0.2**
PRU *e*S **Sn 13 55 27.0 0.0**
PRU MLR MLR
comp=Z,4µm,13.4s
PRU Pruhonice 19.50 37 *e*P **Pn 13 51 48.5 -0.2**
PRU *e*S **Sn 13 55 27.0 0.0**
PRU AMS AMS 13 59 50.0
comp=Z,4µm,13.4s
TREC Trest 19.55 40 AMS AMS 14 00 30.0
comp=Z,3µm,13.6s
MPLH Magyarpolny 19.56 48 PN **Pn 13 51 50.1 +0.7**
FBE Freiberg 19.57 34 *e*P **Pn 13 51 50.2 +0.8**
comp=Z,120nm,1.2s,baz=217,slow=11
ESK Eskdalemuir 19.64 1 *e*P **Pn 13 51 50.4 +0.2**
TIH Tihany 19.65 49 PN **Pn 13 51 51.3 +0.9**
EKA Eskdalemuir Ar 19.66 1 P **Pn 13 51 50.6 +0.1**
baz=177,slow=11,SNR=41
EKA LR LR 13 59 41.5
comp=Z,2µm,19.0s,baz=188,slow=38
LSK Leskovik 19.66 70 P **Pn 13 51 50.5 -0.2**
CLL Collm 19.69 32 *i* P **Pn 13 51 51.0 +0.1**
CLL *e*S **Sn 13 55 34.0 +2.5**
CLL pmax pmax
comp=Z,70nm,1.1s
CLL Collm 19.69 32 *i* P **Pn 13 51 51.0 +0.1**
comp=Z,70nm,1.1s
CLL *i* sP **pP 13 51 54.7 +0.5**
comp=Z,149nm,1.1s
CLL *e*PP **PnPn 13 52 06.0 +1.4**
CLL *e*S **Sn 13 55 34.0 +2.5**
CLL Lmax 14 01 00.0
CLL Collm 19.69 32 *e*P **Pn 13 51 51.6 +0.7**
comp=Z,149nm,1.1s,baz=217,slow=11
CLL Collm 19.69 32 Pn **Pn 13 51 50.7 -0.2**
CLL IAmb IAmb 13 51 55.8
comp=Z,117nm,1.0s
SJES Sjenica 19.74 60 *e*P **P 13 51 48.4 -1.7**
FLTG Flechtingen 19.74 28 *e*P **Pn 13 51 52.3 +0.9**
comp=Z,71nm,1.5s,baz=217,slow=11
BRG Berggiesshubel 19.81 35 *e*P **Pn 13 51 52.2 -0.1**
BRG Amp 13 51 54.5
comp=Z,62nm,1.5s
BRG *e*x x 13 51 56.0
BRG Amp 13 51 58.5
comp=Z,155nm,1.4s
BRG *e*x x 13 52 06.7
BRG Amp 13 52 08.1
comp=Z,63nm,1.3s
BRG *e*x x 13 52 13.5
BRG Amp 13 52 15.9
comp=Z,112nm,1.7s
BRG Berggiesshubel 19.81 35 S **Sn 13 55 40.0 +5.7**
BRG Amp 14 00 31.0
comp=E,5.7nm,10.1s
BRG Amp 14 00 33.0
comp=E,4.0nm,10.9s
BRG Amp 14 00 34.0
comp=N,7.1nm,10.9s
BRG Berggiesshubel 19.81 35 *e*P **Pn 13 51 52.2 -0.1**
BRG pmax pmax
comp=Z,62nm,1.5s
BRG MLR MLR
comp=E,4µm,10.9s
BRG MLR MLR
comp=N,7µm,10.9s
BRG Berggiesshubel 19.81 35 *e*P **Pn 13 51 52.8 +0.5**
comp=N,155nm,1.4s,baz=217,slow=11
MORH Mrgy, Hungar 19.82 51 ⇑P **P 13 51 51.5 +0.6**
MORH Mrgy, Hungar 19.82 51 *e*P **P 13 51 51.1 +0.2**
MORH Mrgy, Hungar 19.82 51 PN **P 13 51 51.4 +0.5**
PVCC Panska Ves 19.87 36 *e*P **Pn 13 51 52.9 -0.1**
PVCC MLR MLR
comp=Z,3µm,11.5s
PVCC Panska Ves 19.87 36 *e*P **Pn 13 51 52.9 -0.1**
PVCC AMS AMS 13 59 40.0
comp=Z,3µm,11.5s
KRUC Moravsky 19.90 42 *e*P **P 13 51 51.5 -0.2**
KRUC *e*S **S 13 55 35.2 +0.4**
OHR Ohrid 19.92 67 *i* P **Pn 13 51 53.0 -0.8**
IVAS Ivanjica 19.95 59 *e*P **P 13 51 49.8 -2.5**
DIVS Divibare 19.98 58 *e*P **P 13 51 51.9 -0.8**
DIVS Divibare 19.98 58 P **P 13 51 52.6 -0.1**
DIVS Divibare 19.98 58 *e*P **P 13 51 51.0 -1.7**
MODS Modra-Piesok 20.01 44 *e*P Pn 13 51 55.0 +0.3
MODS Modra-Piesok 20.01 44 *e*P Pn 13 51 55.0 +0.3
VRAC Vranov 20.15 41 ⇑P **P 13 51 54.3 -0.1**
VRAC Vranov 20.15 41 P **P 13 51 54.2 -0.2**
comp=Z,19nm,0.8s,baz=232,slow=12,SNR=13
VRAC LR LR 13 59 19.9
comp=Z,1µm,21.1s,baz=240,slow=36
VRAC Vranov 20.15 41 *e*P **P 13 51 54.2 -0.2**
VRAC *e*S **S 13 55 40.1 +0.3**
SMOL Smolenice 20.17 44 *e*P **P 13 51 55.5 +0.8**
SMOL Smolenice 20.17 44 *e*P **P 13 51 55.5 +0.8**
FRGS Fruska Gora 20.19 55 ⇑P **P 13 51 54.5 -0.4**
FRGS Fruska Gora 20.19 55 *e*P **P 13 51 50.6 -4.3**
FRGS Fruska Gora 20.19 55 *e*P **P 13 51 53.4 -1.5**
KPRO Kipourio 20.23 70 P **P 13 51 55.5 0.0**
ESY Stoneypath 20.25 2 *e*P Pn 13 51 57.3 -0.2
TRUS Trudelj 20.30 58 *e*P **P 13 51 55.9 -0.2**
FNA Florina 20.32 68 P **P 13 51 56.4 0.0**
FNA Florina 20.32 68 P **P 13 51 55.9 -0.5**
FNA pmax pmax
comp=Z,55nm,1.1s
FNA Florina 20.32 68 P **P 13 51 55.9 -0.5**
SRO Srobarova 20.33 47 *e*P Pn 13 51 58.0 -0.5
SRO Srobarova 20.33 47 *e*P Pn 13 51 58.0 -0.5
GRUS Gruza 20.42 59 *e*P **P 13 51 56.2 -1.2**
DRO Drossia 20.45 76 P Pn 13 51 59.5 -0.5
JAVC Velka Javorina 20.49 43 *e*P **P 13 51 58.5 +0.3**
EVR Evrytania 20.53 73 P Pn 13 52 01.3 +0.3
SKO Skopje 20.53 65 *i* P **P 13 51 59.0 +0.4**
SELS Selova 20.54 61 *e*P **P 13 51 56.1 -2.7**
UPC Upice 20.56 38 *e*P **P 13 51 59.7 +0.8**
UPC *e* 13 52 03.2
UPC MLR MLR
comp=Z,4µm,11.1s
UPC Upice 20.56 38 *e*P **P 13 51 59.7 +0.8**
UPC *e*pP **pP 13 52 03.2 -0.5**
UPC AMS AMS 14 00 30.0
comp=Z,4µm,11.1s
ANX Ano Chora 20.61 74 P Pn 13 52 01.8 -0.1
DPC Dobruska-Polom 20.62 39 *e*P **P 13 52 00.3 +0.7**
DPC *e* 13 52 04.3
DPC *e*S **S 13 55 48.7 -0.6**
DPC MLR MLR
comp=Z,4µm,11.1s
DPC Dobruska-Polom 20.62 39 *e*P **P 13 52 00.3 +0.7**
DPC *e*pP **pP 13 52 04.3 -0.1**
DPC *e*S **S 13 55 48.7 -0.6**
DPC AMS AMS 14 00 40.0
comp=Z,4µm,11.1s
CHVC Chvalec 20.64 38 *e*P Pn 13 52 01.4 -0.7
CHVC AMS AMS 14 00 30.0
comp=Z,4µm,11.8s
KRLC Kraliky 20.69 40 *e*P Pn 13 52 01.7 -1.0
KRLC MLR MLR

comp=Z,3μm,10.4s
KRLC Kraliky 20.69 40 *e*P Pn 13 52 01.7 -1.0
KRLC AMS AMS 14 01 00.0
comp=Z,3μm,10.4s
OSTC Ostas 20.70 38 *e*P Pn 13 52 01.9 -0.9
OSTC AMS AMS 14 00 40.0
comp=Z,4μm,10.9s
THL Klokotos Trika 20.71 72 P **P 13 52 00.2 -0.3**
BSEG Bad Segeberg 20.71 24 *e*P Pn 13 52 03.0 +0.1
comp=Z,240nm,1.2s,baz=217,slow=11
INVG Invergeldie, C 20.75 359 *e*P **P 13 52 02.0 +1.1**
MAKR Makrakomi, Fth 20.78 73 P Pn 13 52 04.2 +0.3
KLV Kalavryta, Ach 20.80 76 P Pn 13 52 02.9 -1.2
SVIS Svilajnac 20.87 58 *e*P Pn 13 52 05.8 +1.0
EDU Dundee 20.88 1 *e*P **P 13 52 03.0 +0.7**
RUE Ruedersdorf 20.88 31 *e*P Pn 13 52 03.9 -0.8
RUE Ruedersdorf 20.88 31 *e*P Pn 13 52 04.7 -0.1
comp=Z,532nm,1.2s,baz=217,slow=11
KSP Ksiaz 20.91 37 *e*P **P 13 52 03.5 +0.8**
KSP *es*P **pP 13 52 06.9 -0.6**
KSP *e*L L 14 00 23.0
comp=Z,3μm,17.1s
MORC Moravsky Berou 20.92 41 ⇑P **P 13 52 03.3 +0.5**
MORC Moravsky Berou 20.92 41 P **P 13 52 02.9 +0.1**
MORC pmax pmax
comp=Z,52nm,1.0s
MORC Moravsky Berou 20.92 41 *e*P **P 13 52 03.0 +0.1**
MORC *e*S **S 13 55 54.9 -0.3**
MORC Moravsky Berou 20.92 41 **P 13 52 02.9 +0.1**
AGG Agios Georgios 20.93 73 P **P 13 52 03.3 +0.2**
AGG Agios Georgios 20.93 73 P **P 13 52 02.2 -0.9**
AGG pmax pmax
comp=Z,168nm,1.3s
AGG Agios Georgios 20.93 73 P **P 13 52 02.2 -0.9**
AGG IAmb IAmb 13 52 11.4
comp=Z,168nm,1.3s
BARS Barje 20.95 62 *e*P **P 13 52 02.5 -0.7**
BARS Barje 20.95 62 *e*P Pn 13 52 08.8 +3.0
VYHS Vyhne 20.97 45 *e*P **P 13 52 03.1 -0.2**
VYHS Vyhne 20.97 45 *e*P **P 13 52 03.1 -0.2**
STIP Stip 21.04 66 *i*P **P 13 52 05.0 +0.9**
BOVS Bovan 21.05 60 ⇑P **P 13 52 04.5 +0.2**
BOVS Bovan 21.05 60 *e*P **P 13 52 05.6 +1.3**
PRVS Prvonek 21.09 63 *e*P **P 13 52 04.5 -0.2**
GRG Griva 21.11 68 P **P 13 52 04.4 -0.5**
KUBS Kucevo 21.23 58 *e*P **P 13 52 08.3 +2.2**
DRUM Mains of Drumt 21.25 2 *e*P **P 13 52 07.3 +1.1**
DRUM IAmb IAmb 13 52 11.6
comp=Z,96nm,0.9s
VAY Valandovo 21.27 67 *i*P **P 13 52 05.9 -0.8**
OKC Ostrava-Krasne 21.28 42 *e*S **S 13 56 04.5 +2.2**
OKC AMS AMS 14 01 20.0
comp=Z,5μm,10.5s
PSZ Piszkesteto 21.32 48 ⇑P **P 13 52 08.5 +1.3**
PSZ Piszkesteto 21.32 48 P **P 13 52 06.7 -0.5**
PSZ pmax pmax
comp=Z,95nm,1.4s
PSZ Piszkesteto 21.32 48 **P 13 52 06.7 -0.5**
PSZ Piszkesteto 21.32 48 P **P 13 52 07.3 +0.1**
MDVR Moldovita 21.35 57 ⇑P **P 13 52 06.8 -0.8**
BOSS Bosilegrad 21.38 64 *e*P **P 13 52 07.5 -0.3**
LTK Loutraki 21.44 76 P **P 13 52 08.7 +0.2**
RAC Raciborz 21.44 41 *e*P **P 13 52 09.7 +1.3**
RAC *e*S **S 13 56 07.1 +1.7**
RAC LMZ LR 14 01 39.9
comp=Z,5.2nm,13.1s
RAC Raciborz 21.44 41 *e*P **P 13 52 09.7 +1.3**
RAC *e*S **S 13 56 07.1 +1.7**
RAC MLR MLR
comp=Z,5μm,13.1s
ATAL Atalanti 21.47 74 P **P 13 52 11.0 +2.2**
IZAB Izabela 21.51 46 *e*P **P 13 52 10.2 +1.0**
BZS Buzias 21.54 55 ⇑P **P 13 52 09.5 0.0**
ZAPS Zavoj 21.63 61 *e*P **P 13 52 12.5 +1.9**
NEO Neokhori 21.63 72 P **P 13 52 12.0 +1.4**
LANS Liptovska Anna 21.65 44 *e*P **P 13 52 11.5 +0.8**
LANS Liptovska Anna 21.65 44 *e*P **P 13 52 11.5 +0.8**
VILL Villia 21.71 75 P **P 13 52 11.1 -0.3**
KKB Krupnik 21.73 65 *e*P **P 13 52 13.0 +1.5**
SIRR Siria 21.78 53 ⇑P **P 13 52 12.3 +0.2**
HERR Herculane 21.86 57 ⇑P **P 13 52 12.2 -0.7**
DJES Djerdap 21.88 58 *e*P **P 13 52 15.8 +2.7**
KECS Kecovo 21.93 47 *e*P **P 13 52 14.6 +1.0**
KECS Kecovo 21.93 47 *e*P **P 13 52 14.6 +1.0**
VTS Vitosha 21.95 63 ⇑P **P 13 52 13.5 -0.5**
VTS Vitosha 21.95 63 P **P 13 52 12.6 -1.4**
VTS pmax pmax
comp=Z,125nm,1.8s
VTS Vitosha 21.95 63 P **P 13 52 12.6 -1.4**
VTS Vitosha 21.95 63 *e*P **P 13 52 15.4 +1.3**
VTS Vitosha 21.95 63 *e*P **P 13 52 12.0 -2.1**
NVR Nevrokopi 22.25 67 P **P 13 52 16.5 -0.6**
GZR Gura Zlata 22.25 56 ⇑P **P 13 52 16.5 -0.7**
NIE Niedzica 22.26 45 *e*P **P 13 52 18.7 +1.5**
NIE *es*P **pP 13 52 22.2 +0.1**
NIE *e*L L 14 00 46.8
comp=Z,970nm,20.2s
OJC Ojcow 22.38 42 *e*P **P 13 52 18.2 -0.3**
OJC *e*L L 14 02 28.7
comp=Z,2μm,21.0s
OJC Ojcow 22.38 42 P **P 13 52 18.4 -0.1**
OJC pmax pmax
comp=Z,94nm,1.4s
OJC Ojcow 22.38 42 P **P 13 52 18.4 -0.1**
OJC IAmb IAmb 13 52 31.6
comp=Z,94nm,1.4s
MUD Monsted U'grnd 22.54 19 *e*P **P 13 52 20.2 +0.1**
MUD IAmb IAmb 13 52 26.2
comp=Z,242nm,1.6s
DRGR 22.64 53 ⇑P **P 13 52 21.6 +0.2**
CRVS Cervenica-Dubn 22.70 47 *e*P **P 13 52 22.7 +0.8**
CRVS Cervenica-Dubn 22.70 47 *e*P **P 13 52 22.7 +0.8**
RZN Rozhen 22.92 66 *e*P **P 13 52 23.0 -1.4**
LOT Lotru 22.94 56 ⇑P **P 13 52 24.5 0.0**
TORD Torodi Ar. Bea 22.96 166 P **P 13 52 25.0 +0.2**
comp=Z,13nm,0.8s,baz=346,slow=8.7,SNR=38
TORD Torodi Ar. Bea 22.96 166 P **P 13 52 23.8 -1.0**
TORD IAmb IAmb 13 52 33.8
comp=Z,78nm,0.9s
TRPA Tarpa 23.02 49 ⇑P **P 13 52 23.8 -1.4**
TRPA Tarpa 23.02 49 P **P 13 52 25.0 -0.3**
UZH Uzhgorod 23.08 48 *i*P **P 13 52 24.5 -1.3**
UZH *i* 13 52 56.4
UZH *i*S **S 13 56 29.5 -6.3**
UZH *e*SSS SSS 13 57 28.7
UZH MLR MLR
comp=N,600nm,15.0s
UZH MLR MLR
comp=E,370nm,15.0s
UZH MLR MLR
comp=Z,250nm,15.0s
LUNU Lund 23.15 25 *e*P **P 13 52 25.5 -0.9**
IDI Anoyia 23.25 83 P **P 13 52 28.6 +0.8**
comp=Z,34nm,0.8s,baz=278,slow=16,SNR=7.9
BMR Baia Mare 23.45 51 ⇑P **P 13 52 29.0 -0.5**
ARR Arges 23.50 57 ⇑P **P 13 52 31.0 +0.8**
HUMR Humele 23.55 59 ⇑P **P 13 52 31.1 +0.5**
SANT Santorini 23.56 80 P **P 13 52 30.8 0.0**
KWP Kalwaria Pacla 23.75 46 *e*P **P 13 52 32.4 -0.1**
KWP *e*pP **pP 13 52 34.9 -2.9**
KWP *e*L L 14 02 43.1
comp=Z,2μm,17.6s
KWP Kalwaria Pacla 23.75 46 P **P 13 52 31.1 -1.4**
KWP pmax pmax
comp=Z,1μm,1.4s
KWP Kalwaria Pacla 23.75 46 P **P 13 52 31.1 -1.4**
SNART Snartemo 23.79 14 *e*P **P 13 52 32.8 +0.1**
SNART Snartemo 23.79 14 *e*P **P 13 52 33.4 +0.7**
VOIR 23.80 57 ⇑P **P 13 52 33.7 +0.6**
DEL Delary 23.96 24 *e*P **P 13 52 34.8 +0.4**
HOMB Homborsund 24.01 16 *e*P **P 13 52 36.2 +1.5**
DOPR Dopca 24.17 56 ⇑P **P 13 52 36.5 0.0**
MLR Muntele Rosu 24.43 57 ⇑P **P 13 52 38.6 -0.4**
MLR Muntele Rosu 24.43 57 P **P 13 52 38.9 -0.1**
comp=Z,14nm,0.7s,baz=218,slow=4.6,SNR=18
MLR LR LR 14 02 55.1
comp=Z,3μm,18.2s,baz=256,slow=38
MLR Muntele Rosu 24.43 57 P **P 13 52 39.2 +0.2**
MLR pmax pmax
comp=Z,189nm,1.3s
MLR Muntele Rosu 24.43 57 P **P 13 52 39.2 +0.2**
OZUR 24.47 56 ⇑P **P 13 52 39.5 +0.3**
BUR08 Bucovina Ar. S 24.53 52 P **P 13 52 40.0 +0.2**
BUR08 IAmb IAmb 13 53 09.3
comp=Z,99nm,1.4s
BURAR Bucovina Array 24.53 52 ⇑P **P 13 52 40.2 +0.4**
BURAR Bucovina Array 24.53 52 P **P 13 52 39.6 -0.2**
BORU Boraas 24.57 22 *e*P **P 13 52 40.8 +0.9**
TJOU Tjoern 24.57 20 *e*P **P 13 52 41.5 +1.5**
LVV L'vov 24.61 46 *e*P **P 13 52 39.4 -1.0**
LVV pmax pmax
comp=Z,110nm,1.7s
LVV MLR MLR
comp=N,2μm,12.0s
LVV MLR MLR
comp=E,2μm,12.0s
LVV MLR MLR
comp=Z,2μm,15.0s
BLS5 Blasjo 24.66 12 *e*P **P 13 52 41.6 +0.8**
COVR Voineasa-Covas 24.69 57 ⇑P **P 13 52 42.0 +0.8**
ISR Istrita 24.76 58 ⇑P **P 13 52 41.7 -0.2**
PLOR Plostina 24.99 57 ⇑P **P 13 52 43.6 -0.4**
VRI Vrincioaia 25.05 57 ⇑P **P 13 52 44.3 -0.2**
KLNR Kaliningrad 25.13 34 *i*P **P 13 52 44.1 -0.9**
KLNR pmax pmax
comp=Z,76nm,1.1s
TESR Tescani 25.15 55 ⇑P **P 13 52 44.5 -0.9**
ODD1 Odda 25.16 12 *e*P **P 13 52 45.9 +0.6**
STRU Stroemstad 25.33 18 *e*P **P 13 52 48.1 +1.4**
BER Bergen 25.40 10 *e*P **P 13 52 48.6 +1.3**
ICOR Ion Corvin 25.47 61 ⇑P **P 13 52 47.2 -1.1**
ASK Askoy 25.47 10 *e*P **P 13 52 49.4 +1.4**
KONO Kongsberg 25.50 16 *i*P **P 13 52 47.7 -0.6**
KONO pmax pmax
comp=Z,31nm,1.3s
KONO Kongsberg 25.50 16 *e*P **P 13 52 48.8 +0.5**
CFR Carcaliu 25.88 59 ⇑P **P 13 52 52.1 +0.2**
VASR Vaslui 25.95 55 ⇑P **P 13 52 51.2 -1.4**
VLDR Vladesti 25.97 57 ⇑P **P 13 52 51.8 -0.9**
OSL Oslo 26.01 17 *e*P **P 13 52 54.3 +1.3**
TPGR Topolog 26.02 60 ⇑P **P 13 52 52.1 -1.2**
SKAR Skarslia 26.18 13 *e*P **P 13 52 55.2 +0.7**
SUW Suwalki 26.19 37 *e*P **P 13 52 55.3 +0.7**
SUW *es*P **pP 13 52 58.9 -0.8**
SUW *e*L L 14 03 30.4
comp=Z,2μm,17.4s
SUW Suwalki 26.19 37 P **P 13 52 53.6 -1.0**
SUW pmax pmax
comp=Z,185nm,1.0s
SUW Suwalki 26.19 37 *e*P **P 13 52 54.8 +0.1**
SUW Suwalki 26.19 37 P **P 13 52 53.6 -1.0**
HYA Hoyanger 26.27 11 *e*P **P 13 52 56.7 +1.4**
MILM Milestii Mici 26.70 55 ⇓*i*P **P 13 52 57.0 -2.3**
comp=Z,27nm,0.8s
MILM *e*S **S 13 57 29.0 -4.7**
MILM *e*LR LR 14 01 23.0
comp=Z,2μm,14.0s
MILM Milestii Mici 26.70 55 *i*P **P 13 52 57.0 -2.3**
MILM *e* 13 53 43.0
MILM *e*S **S 13 57 29.0 -4.7**
MILM pmax pmax
comp=Z,30nm,0.8s
MILM MLR MLR
comp=Z,1μm,14.5s
MILM MLR MLR
comp=N,2μm,14.0s
MILM MLR MLR
comp=E,2μm,14.0s
SORM Soroca 26.70 52 ⇑P **P 13 52 57.1 -2.2**
KIS Kishinev 26.72 55 *e*P **P 13 52 58.0 -1.5**
comp=E,20nm,0.2s
KIS *e*S **S 13 57 29.0 -5.1**
KIS *e*LR LR 14 02 41.0
comp=E,500nm,13.0s
KIS Kishinev 26.72 55 *e*P **P 13 52 58.0 -1.5**
KIS *e* 13 53 01.0
KIS *e*S **S 13 57 29.0 -5.1**
KIS pmax pmax
comp=Z,20nm,0.2s
KIS MLR MLR
comp=Z,500nm,13.0s
KIS MLR MLR
comp=E,300nm,15.0s
NC602 NORSAR Array S 26.91 17 *e*P **P 13 53 01.4 +0.3**
NC602 NORSAR Array S 26.91 17 P **P 13 53 00.6 -0.5**
HFS Hagfors 26.93 19 P **P 13 53 01.0 -0.3**
comp=E,22nm,0.9s,baz=214,slow=10,SNR=22
HFS LR LR 14 05 16.7
comp=E,1μm,20.4s,baz=210,slow=40
NB2 NORSAR Subarra 27.11 16 P **P 13 53 03.2 +0.3**
comp=Z,39nm,1.7s,baz=210,slow=9.3
NB2 NORSAR Subarra 27.11 16 P **P 13 53 03.2 +0.3**
baz=210,slow=9.3
NOA NORSAR Array B 27.11 16 P **P 13 53 03.1 +0.3**
comp=Z,6.6nm,0.9s,baz=208,slow=8.7,SNR=8.3
NOA LR LR 14 04 17.4
comp=Z,2μm,18.4s,baz=205,slow=38
AKN Aaknes 27.36 11 *e*P **P 13 53 05.9 +0.8**
PABE Paberze 27.41 35 *e*P **P 13 53 06.5 +0.9**
PABE Paberze 27.41 35 P **P 13 53 06.1 +0.5**
DOMB Dombas 27.58 13 *e*P **P 13 53 08.3 +1.2**
UPP Uppsala 27.86 23 *e*P **P 13 53 11.7 +2.1**
AKASG Malin Array Be 28.03 47 P **P 13 53 07.9 -3.3**
comp=Z,2.5nm,0.6s,baz=245,slow=10,SNR=6.3
AKASG LR LR 14 04 01.1
comp=Z,644nm,20.6s,baz=256,slow=36
AKASG Malin Array Be 28.03 47 *i*P **P 13 53 12.1 +0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 28.03 47 *i*P **P 13 53 07.3 -3.9**
IIGN Ignalina 28.40 37 *e*P **P 13 53 16.1 +1.6**
NACGM Naroch 28.45 38 *i*P **P 13 53 19.1 +4.2**
IDID Didziasalis 28.63 37 *e*P P 13 53 21.3 +4.8
MNK Minsk 28.81 39 *i*P **P 13 53 16.1 -2.0**
MNK *i* 13 54 10.0
MNK *i*S **S 13 58 06.3 -0.6**
MNK *i*SS **SnSn 13 59 29.9 +1.2**
MNK pmax pmax
comp=N,14nm,0.6s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK MLR MLR
comp=E,103nm,15.0s
MNK MLR MLR
comp=Z,684nm,14.0s
MNK MLR MLR
comp=N,509nm,12.0s
MNK Minsk 28.81 39 *i*P **P 13 53 16.1 -2.0**
comp=E,4.0nm,1.1s
MNK *i*P **P 13 53 16.1 -2.0**
comp=N,14nm,0.6s
MNK *i*P **P 13 53 16.1 -2.0**
comp=Z,16nm,0.8s,baz=63
MNK *i*PP PP 13 54 10.1 -13
MNK *i*PPP PPP 13 54 16.4
MNK *i*S **S 13 58 06.3 -0.6**
MNK *i*SS **SnSn 13 59 29.9 +1.3**
MNK *i*SSS SSS 13 59 42.2
MNK *i*LQ LQ 14 02 16.5
MNK *i*LR LR 14 04 44.2
MNK *i*LRM MLR 14 06 26.2
comp=E,103nm,14.6s
MNK *i*LRM MLR 14 06 26.8
comp=N,509nm,12.1s
MNK *i*LRM MLR 14 06 26.8
comp=Z,684nm,13.6s
DBIC Dimbokro 28.89 182 P **P 13 53 19.6 +0.4**
comp=Z,12nm,0.7s,baz=3.2,slow=10,SNR=9.0
DBIC LR LR 14 04 46.7
comp=Z,2μm,18.1s,baz=12,slow=36
DBIC Dimbokro 28.89 182 P **P 13 53 17.7 -1.5**
DBIC pmax pmax
comp=Z,91nm,1.7s
DBIC Dimbokro 28.89 182 P **P 13 53 17.7 -1.5**
DBIC IAmb IAmb 13 54 11.8
comp=Z,91nm,1.6s
TIC Toumodi 28.93 183 *e*P **P 13 53 19.3 -0.2**
KIC Kosan Boka 29.20 182 *e*P **P 13 53 21.8 -0.1**
comp=Z,28nm,0.8s
LIC Lamto 29.34 183 *e*P **P 13 53 22.2 -1.0**
comp=Z,64nm,0.9s
BRTR Keskin Array B 29.67 71 P **P 13 53 25.7 -0.5**
comp=Z,0.5nm,0.7s,baz=257,slow=9.5,SNR=3.8
BRTR LR LR 14 07 03.9
comp=Z,578nm,18.6s,baz=263,slow=40
BRTR Keskin Array B 29.67 71 *i*P **P 13 53 26.8 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
VSU Vasula 30.35 32 *i*P **P 13 53 31.8 +0.1**
VSU pmax pmax
comp=Z,124nm,1.8s
VSU Vasula 30.35 32 *e*P **P 13 53 30.1 -1.6**
BORG Borgarnes 30.98 345 LR LR 14 04 58.2
comp=Z,1μm,21.2s,baz=169,slow=34
FINES FINESS Array B 31.92 27 P **P 13 53 44.9 -0.6**
comp=Z,2.2nm,0.5s,baz=223,slow=7.4,SNR=23
FINES PcP **PcP 13 56 35.2 -0.2**
comp=Z,3.9nm,0.7s,baz=212,slow=2.9,SNR=5.2
FINES LR LR 14 06 32.3
comp=Z,842nm,18.2s,baz=227,slow=36
FINES FINESS Array B 31.92 27 P **P 13 53 45.2 -0.3**
EIL Elat 32.93 89 LR LR 14 10 12.5
comp=Z,819nm,18.1s,baz=283,slow=42
OBN Obninsk 33.67 42 *de*P **P 13 54 01.9 +1.0**
OBN *i* *SP **pP 13 54 05.4 -0.9**
OBN *e* 13 56 41.6
OBN *i*S **S 13 59 28.8 +5.9**
OBN *e*SS **SnSn 14 01 21.3 -5.5**
OBN pmax pmax
comp=Z,16nm,1.1s
OBN MLR MLR
comp=Z,1μm,16.0s
VSR Storozhevoye 34.23 50 *e*P **P 13 54 05.2 -0.6**
VSR pmax pmax
comp=Z,8.0nm,0.5s
VORD Divnogorie 34.27 50 *e*P **P 13 54 06.6 +0.5**
VORD pmax pmax
comp=Z,4.0nm,0.4s
VORR Voronezh 34.34 49 *e*P **P 13 54 06.5 -0.3**
VORR pmax pmax
comp=Z,45nm,0.4s
LPSR Galich'ya Gora 34.36 47 *e*P **P 13 54 10.7 +3.8**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
MOS Moscow 34.44 41 *e*P **P 13 54 05.1 -2.5**
MOS MLR MLR
comp=Z,2μm,11.0s
JMIC Jan Mayen 35.46 357 LR LR 14 08 52.8
comp=Z,1μm,18.7s,baz=182,slow=36
SHA1 Shidzhatmaz 36.16 63 *i*P **P 13 54 21.9 -1.0**
KIV Kislovodsk 36.17 62 *e*P **P 13 54 22.7 -0.1**
KIV *e*S **S 14 00 03.2 +1.4**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,251nm,16.0s
SCO Scoresbysund 36.22 350 P **P 13 54 24.3 +1.6**
SCO pmax pmax
comp=Z,70nm,1.9s
SCO Scoresbysund 36.22 350 P **P 13 54 24.3 +1.6**
SCO IAmb IAmb 13 54 46.2
comp=Z,70nm,1.9s
NEY Neytrino 36.24 64 *i*P **P 13 54 25.3 +1.8**
NEY pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 36.34 63 P **P 13 54 24.7 +0.7**
comp=Z,1.0nm,0.3s,baz=250,slow=5.7,SNR=4.2
KBZ Khabaz 36.34 63 *i*P **P 13 54 22.1 -1.9**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
GOF Gofitskoye 36.38 60 ⇑*e*P **P 13 54 24.2 -0.2**
GOF pmax pmax
comp=Z,126nm,1.8s
PYA1 Pyatigorsk 36.46 62 *i*P **P 13 54 23.7 -1.5**
ONI Oni 36.83 65 P **P 13 54 25.9 -2.5**
ONI pmax pmax
comp=Z,18nm,1.1s
ONI Oni 36.83 65 P **P 13 54 25.9 -2.5**
NCK Nalchik 36.86 63 *i*P **P 13 54 28.0 -0.6**
NCK pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 37.17 34 *e*P **P 13 54 27.9 -3.0**
KLMR *e* 13 56 50.4
KLMR *e*S **S 14 00 11.3 -5.2**
KLMR pmax pmax
comp=Z,61nm,1.3s
KLMR MLR MLR
comp=Z,3μm,10.0s
KLMR Klimovskoe 37.17 34 *e*P **P 13 54 27.9 -3.0**
KLMR AMP 13 54 44.8
comp=Z,61nm,1.3s
KLMR *e*PcP **PcP 13 56 50.4 -0.2**
KLMR *e*S **S 14 00 11.3 -5.2**
KLMR *e*S **S 14 00 11.3 -5.2**
KLMR LQ LQ 14 05 30.9
KLMR LQ LQ 14 05 30.9
KLMR LR LR 14 08 23.6
KLMR AMP 14 11 45.7
comp=Z,3μm,10.3s
ARCES ARCESS Array B 37.48 16 P **P 13 54 33.9 +0.4**
comp=Z,12nm,1.0s,baz=219,slow=7.4,SNR=30
ARCES LR LR 14 09 33.8
comp=Z,1μm,18.4s,baz=214,slow=36
ARCES ARCESS Array B 37.48 16 P **P 13 54 31.5 -2.0**
ARCES pmax pmax
comp=Z,96nm,1.7s
ARCES ARCESS Array B 37.48 16 P **P 13 54 31.5 -2.0**
ARCES IAmb IAmb 13 54 49.8
comp=Z,96nm,1.6s
GNI Garni 38.10 68 *i*P **P 13 54 38.7 -0.6**
GNI pmax pmax
comp=Z,12nm,0.8s
APA Apatity 38.24 22 ⇓*i*P **P 13 54 39.7 -0.2**
APA pmax pmax
comp=Z,17nm,1.0s
APA MLR MLR
comp=Z,2μm,17.0s
LVZ Lovozero 38.82 22 *i*P **P 13 54 44.0 -0.8**
LVZ pmax pmax
comp=Z,31nm,1.0s
DBG Daneborg 39.54 353 *e*P **P 13 54 52.6 +2.0**
DBG IAmb IAmb 13 55 04.0
comp=Z,162nm,2.6s
BELG Belogornoye 39.59 49 P **P 13 54 51.6 +0.3**
comp=Z,18nm,0.8s,baz=262,slow=16,SNR=3.6
BELG LR LR 14 11 00.8
comp=Z,833nm,20.7s,baz=300,slow=36
BELG Belogornoye 39.59 49 *i*P **P 13 54 50.3 -1.0**
BELG pmax pmax
comp=Z,4.0nm,0.8s
MAK Makhachkala 39.76 63 *e*P P 13 54 47.7 -5.2
MAK *e*S **S 14 00 50.0 -5.9**
MAK *e*SS **SS 14 03 47.7 -3.9**
MAK pmax pmax
comp=Z,394nm,1.2s
MAK MLR MLR
comp=Z,932nm,15.0s
SFJD Kangerlussuaq 41.19 334 LR LR 14 11 18.9
comp=Z,711nm,18.3s,baz=118,slow=35
KIRV Kirov 41.36 39 P **P 13 55 05.1 -0.8**
comp=Z,7.8nm,0.6s,baz=272,slow=9.7,SNR=8.4
KIRV LR LR 14 11 34.6
comp=Z,314nm,21.8s,baz=260,slow=35
KIRV Kirov 41.36 39 *i*P **P 13 55 04.4 -1.5**
DAG Danmarks Havn 41.73 355 *i*P **P 13 55 10.0 +1.2**
DAG IAmb IAmb 13 55 15.2
comp=Z,65nm,1.7s
SPITS Spitsbergen Ar 43.46 6 P **P 13 55 24.6 +1.8**
comp=Z,15nm,1.0s,baz=150,slow=8.6,SNR=6.3
SPITS LR LR 14 14 58.6
comp=Z,540nm,18.2s,baz=118,slow=38
ARU Arti 46.10 43 P **P 13 55 43.4 -0.7**
comp=Z,5.4nm,0.5s,baz=270,slow=6.7,SNR=34
ARU LR LR 14 15 12.2
comp=Z,1μm,18.6s,baz=256,slow=36
ARU Arti 46.10 43*c i*P **P 13 55 43.4 -0.7**
ARU 13 57 20.6
ARU 13 57 30.8
ARU PPP PPP 13 58 15.2
ARU S **S 14 02 30.6 +1.8**
ARU SS **SS 14 05 51.9 -1.7**
ARU pmax pmax
comp=Z,18nm,0.7s
ARU MLR MLR
comp=Z,1μm,13.0s
ARU Arti 46.10 43 P **P 13 55 43.4 -0.7**
ARU IAmb IAmb 13 56 06.0
comp=Z,28nm,0.8s
AKTO Aktyubinsk 46.12 51 P **P 13 55 44.5 +0.2**
comp=Z,18nm,1.0s,baz=280,slow=9.2,SNR=22
AKTO LR LR 14 16 45.0

comp=Z,700nm,18.7s,baz=284,slow=38
NOR Nord 46.29 357 *e*P **P 13 55 45.5 +0.2**
NOR IAmb IAmb 13 55 52.8
comp=Z,392nm,3.1s
NEEM North Greenlan 46.59 347 *e*P **P 13 55 50.4 +2.4**
NEEM IAmb IAmb 13 55 57.1
comp=Z,56nm,1.4s
SCHQ Schefferville 46.65 315 P **P 13 55 49.0 +0.6**
comp=Z,10.0nm,0.8s,baz=72,slow=6.9,SNR=11
SCHQ LR LR 14 11 57.9
comp=Z,393nm,19.2s,baz=90,slow=32
SCHQ Schefferville 46.65 315 IAmb IAmb 13 56 19.5
comp=Z,60nm,1.7s
SVE Sverdlovsk 47.24 42 *e*P **P 13 55 53.1 +0.1**
SVE pmax pmax
comp=Z,31nm,1.0s
SVE MLR MLR
comp=Z,1μm,12.0s
AB31 Akbulak array 47.51 53 *i*P **P 13 55 54.8 -0.4**
ABKAR Akbulak array 47.51 53 P **P 13 55 55.4 +0.2**
ABKAR Akbulak array 47.51 53 P **P 13 55 55.1 -0.1**
ABKAR IAmb IAmb 13 56 00.2
comp=Z,27nm,0.9s
FRB Frobisher Bay 47.62 327 LR LR 14 12 32.7
comp=Z,758nm,20.6s,baz=84,slow=32
LODK Lodwar 48.28 123 P **P 13 56 04.0 +2.4**
SNR=7.8
MBAR Mbarara 48.29 131 LR LR 14 15 38.9
comp=Z,998nm,18.6s,baz=313,slow=35
MBAR Mbarara 48.29 131 *i*P **P 13 56 02.9 +1.0**
MBAR Mbarara 48.29 131 P **P 13 56 05.2 +3.4**
ATD Arta Tunnel 48.39 108 LR LR 14 17 09.7
comp=Z,2μm,20.9s,baz=313,slow=37
GEYT Alibeck 48.74 68 LR LR 14 19 41.7
comp=Z,145nm,18.5s,baz=314,slow=40
TULEG Thule 49.85 344 P **P 13 56 13.7 +0.9**
MZR Muzera 50.78 88 P **P 13 56 24.7 +4.0**
SNR=7.1
RCBR Riachuelo 51.19 223 *e*P **P 13 56 25.6 +1.8**
ASUD Al Ashush, Dub 51.54 85 P **P 13 56 27.4 +1.1**
SHME Shamm 51.57 83 P **P 13 56 26.3 -0.2**
LBNH Lisbon 51.63 302 P **P 13 56 27.0 +0.3**
baz=75
BANOM Banah 51.75 83 P **P 13 56 28.0 +0.1**
HATD Hatta, Dubai 52.10 85 P **P 13 56 30.8 +0.2**
ASHO Ashiyiah 52.11 85 P **P 13 56 30.8 +0.2**
UOSS Minazif 52.11 84 P **P 13 56 30.4 -0.2**
UOSS Minazif 52.11 84 P **P 13 56 29.3 -1.3**
UOSS IAmb IAmb 13 56 56.8
comp=Z,63nm,1.6s
ALNE Al Ain 52.14 86 P **P 13 56 32.2 +1.3**
SNR=6.2
UMZA Um Al Zommool 52.29 87 P **P 13 56 32.9 +1.0**
L61B Northampton 52.66 300 P **P 13 56 33.8 -0.6**
baz=73
KMBO Kilima Mbogo 52.88 125 LR LR 14 18 22.1
comp=Z,504nm,19.2s,baz=298,slow=35
KMBO Kilima Mbogo 52.88 125 *i*P P 13 56 42.5 +5.8
KMBO pmax pmax
comp=Z,4.0nm,0.9s
NBPB Pedra_Branca-C 53.07 227 *e*P **P 13 56 38.0 +0.3**
ARQ Araqi 53.10 86 P **P 13 56 38.1 +0.1**
BRVK Borovoye 53.23 46 *e*P **P 13 56 38.1 -0.4**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 53.23 46 P **P 13 56 39.4 +0.9**
BRVK Borovoye 53.23 46 P **P 13 56 37.9 -0.6**
BRVK IAmb IAmb 13 56 47.3
comp=Z,85nm,1.9s
BVAR Borovoye Array 53.30 46 P **P 13 56 39.0 +0.1**
comp=Z,3.0nm,0.6s,baz=320,slow=6.6,SNR=16
LONY Lake Ozonia 53.35 303 P **P 13 56 38.6 -1.0**
baz=74
ABTO Aybut 53.44 94 P **P 13 56 41.7 +1.2**
DOK Doka 53.46 92 P **P 13 56 41.0 +0.3**
WHFO Wadi Hawf 53.53 93 P **P 13 56 41.6 +0.4**
HOQ Hoqain 53.63 85 P **P 13 56 42.1 +0.3**
EUNU Eureka 53.86 348 P **P 13 56 43.4 +0.6**
EUNU IAmb IAmb 13 56 53.2
comp=Z,32nm,0.9s
BSY Bisya 53.93 86 P **P 13 56 44.5 +0.4**
SNR=7.7
PAL Palisades 53.97 298 P **P 13 56 42.8 -1.3**
baz=71
MDP Montagnes des 54.27 248 LR LR 14 15 10.4
comp=Z,924nm,21.9s,baz=86,slow=31
BIDO Bidbid 54.32 85 P **P 13 56 50.5 +3.6**
SNR=5.2
SMDO Samad 54.47 85 P **P 13 56 49.5 +1.4**
SNR=7.7
JMDO Jabal Madar 54.84 86 P **P 13 56 51.1 +0.4**
SNR=10
WSAR Wadi Sarin 54.86 85 P **P 13 56 50.6 -0.2**
comp=Z,8.0nm,0.9s,baz=309,slow=8.4,SNR=5.0
WSAR LR LR 14 23 33.5
comp=Z,352nm,21.0s,baz=307,slow=40
BINY Binghamton 55.06 300 P **P 13 56 50.1 -1.9**
baz=71
WBK Wadi Bani Khal 55.43 85 P **P 13 56 59.1 +4.2**
SNR=7.9
BRZS Berezniki 55.44 50 *e*P **P 13 56 54.1 -0.5**
BRZS pmax pmax
comp=Z,31nm,1.1s
BRZS Berezniki 55.44 50 *e*P **P 13 56 54.2 -0.5**
comp=Z,31nm,1.1s,baz=50
BRLS Borolday 55.66 58 *e*P **P 13 56 55.6 -0.7**
BRLS Borolday 55.66 58 *e*P **P 13 56 55.7 -0.7**
baz=59
OTUK Ortayu 55.72 52 P **P 13 56 56.7 0.0**
JLN Jalan Bani Buh 56.01 86 P **P 13 56 59.3 +0.2**
SNR=6.8
IUG Iuzhnay 56.09 59 *e*P **P 13 56 59.0 -0.5**
IUG Iuzhnay 56.09 59 *e*P **P 13 56 59.1 -0.5**
baz=59
KKAR Karatay Array 56.11 58 P **P 13 56 59.0 -0.5**
KKAR Karatay Array 56.11 58 P **P 13 56 59.0 -0.5**
RES Resolute Bay 56.27 341 P **P 13 57 01.5 +1.4**
comp=Z,3.8nm,0.8s,baz=103,slow=6.3,SNR=9.5
RES LR LR 14 18 00.1
comp=Z,260nm,21.4s,baz=70,slow=33
SADO Sadowa 56.41 304 LR LR 14 20 11.2
comp=Z,637nm,19.6s,baz=78,slow=35
NBLA Lagarto - SE 56.50 221 *e*P **P 13 57 02.8 +0.3**
CHGR Chuyangaron 56.69 64 P **P 13 57 02.9 -0.9**
CHGR IAmb IAmb 13 57 08.7
comp=Z,38nm,1.0s
SSPA Standing Stone 56.94 299 P **P 13 57 04.4 -1.0**
baz=69
MCPB Macapa, AP 57.50 242 *e*P **P 13 57 10.2 +0.5**
NRIK Noril'sk 57.55 25 LR LR 14 23 28.0
comp=Z,990nm,19.4s,baz=295,slow=38
NRIK Noril'sk 57.55 25 *ce*P **P 13 57 10.9 +1.6**
NRIK pmax pmax
comp=Z,22nm,1.5s
NRIK Noril'sk 57.55 25 P **P 13 57 08.4 -0.9**
NRIK IAmb IAmb 13 57 17.8
comp=Z,26nm,1.4s
O56A Blue Knob Stat 57.55 299 P **P 13 57 08.7 -1.2**
baz=69
NBPN Ponto Novo - B 57.70 224 *e*P **P 13 57 11.6 +0.5**
BTLS Baital 57.85 55 *e*P **P 13 57 11.5 -0.3**
BTLS pmax pmax
comp=Z,20nm,1.4s
BTLS Baital 57.85 55 *e*P **P 13 57 11.5 -0.3**
comp=Z,20nm,1.4s,baz=55
M54A Oil Creek Stat 57.88 301 P **P 13 57 11.1 -1.0**
baz=69
TSUM Tsumeb 58.19 156 P **P 13 57 16.5 +2.0**
comp=Z,9.2nm,0.9s,baz=356,slow=7.3,SNR=11
TSUM LR LR 14 22 11.5
comp=Z,686nm,18.7s,baz=333,slow=36
MCWV Mont Chateau 58.70 299 P **P 13 57 16.8 -1.0**
baz=68
KURBB Kurchatov Arra 58.82 48 P **P 13 57 18.4 -0.1**
comp=Z,36nm,1.0s,baz=292,slow=7.8,SNR=40
KURBB LR LR 14 23 44.9
comp=Z,555nm,18.2s,baz=277,slow=37
KURBB Kurchatov Arra 58.82 48 P **P 13 57 18.1 -0.3**
KURK Kurchatov 58.84 47 P **P 13 57 17.9 -0.7**
KURK pmax pmax
comp=Z,74nm,1.2s
KURK Kurchatov 58.84 47 P **P 13 57 19.1 +0.5**
KURK Kurchatov 58.84 47 P **P 13 57 17.9 -0.7**
LSZ Lusaka 59.00 144 P **P 13 57 21.9 +1.8**
comp=Z,12nm,0.9s,baz=348,slow=7.0,SNR=16
LSZ LR LR 14 24 32.9
comp=Z,1μm,21.1s,baz=336,slow=38
AAK Ala-Archa 59.01 57 P **P 13 57 20.6 +0.5**
comp=Z,2.1nm,0.7s,baz=268,slow=7.1,SNR=11
AAK LR LR 14 25 32.9
comp=Z,820nm,19.1s,baz=312,slow=39
AAK Ala-Archa 59.01 57 P **P 13 57 20.4 +0.2**
AAK Ala-Archa 59.01 57 P **P 13 57 21.3 +1.1**
AAK Ala-Archa 59.01 57 P **P 13 57 20.4 +0.2**
AAK IAmb IAmb 13 57 27.9
comp=Z,27nm,1.1s
FRU1 Bishkek 59.04 57 P **P 13 57 20.2 -0.1**
FRU1 pmax pmax
comp=Z,83nm,1.4s
FRU1 Bishkek 59.04 57 P **P 13 57 20.2 -0.1**
TKM2 Tokmak 2 59.66 57 P **P 13 57 24.3 -0.4**
GDU01 Guandu, BA 59.72 221 *e*P **P 13 57 25.6 +0.5**
KUU Kurty 59.80 55 *e*P **P 13 57 25.3 -0.1**
KUU pmax pmax
comp=Z,40nm,1.0s
KUU Kurty 59.80 55 *e*P **P 13 57 25.3 -0.1**
comp=Z,40nm,1.0s,baz=56
P53A Whipple 59.86 299 P **P 13 57 24.4 -1.4**
P53A IAmb IAmb 13 58 07.5
comp=Z,39nm,1.4s
KST Kastek 59.86 57 *e*P **P 13 57 26.2 +0.2**
comp=Z,26nm,1.3s,baz=56
BOOM Boomskoye usch 60.06 57 P **P 13 57 26.8 -0.6**
BOOM pmax pmax
comp=Z,19nm,1.4s
BOOM Boomskoye usch 60.06 57 P **P 13 57 26.8 -0.6**
BOOM IAmb IAmb 13 57 35.1
comp=Z,19nm,1.4s
PRPB Paraupebas 60.06 236 *e*P **P 13 57 27.9 +0.4**
MALB Monte Alegre 60.12 243 *e*P **P 13 57 28.3 +0.4**
CHKK Chushkaly 60.25 55 *e*P **P 13 57 29.1 +0.6**
baz=55
P52A Corning 60.33 299 P **P 13 57 27.9 -1.2**
baz=67
FCC Fort Churchill 60.48 323 P **P 13 57 30.2 +0.4**
FCC pmax pmax
comp=Z,37nm,1.5s
FCC Fort Churchill 60.48 323 P **P 13 57 30.2 +0.4**
FCC IAmb IAmb 13 57 36.8
comp=Z,37nm,1.4s
MDOK Medeo 60.55 56 *e*P **P 13 57 30.6 -0.1**
MDOK Medeo 60.55 56 *e*P **P 13 57 30.6 -0.1**
baz=56
NBIT Itapeh - BA 60.65 220 *e*P **P 13 57 31.9 +0.4**
ACSO Alum Creek Sta 60.69 300 P **P 13 57 29.8 -1.8**
ACSO IAmb IAmb 13 57 43.8
comp=Z,23nm,0.7s
TDK Taldyqorghan 60.75 54 *e*P **P 13 57 31.4 -0.5**
TDK Taldyqorghan 60.75 54 *e*P **P 13 57 31.4 -0.5**
baz=54
P51A Williamsport 61.05 300 P **P 13 57 33.2 -0.7**
P51A IAmb IAmb 13 57 45.9
comp=Z,16nm,0.7s
KSH Kashi 61.25 60 P **P 13 57 34.8 -0.7**
KSH pP pP 13 57 38.6 -2.6
KSH sP sP 13 57 41.9 -1.5
KSH pmax pmax
comp=Z,12nm,1.2s
KSH LR LR
comp=Z,520nm,17.2s
KSH LR LR
comp=Z,470nm,13.4s
KSH LR LR
comp=Z,550nm,14.8s
ZAA0 Zalesovo Array 61.26 42 P **P 13 57 33.9 -1.3**
ZAA0 IAmb IAmb 13 57 42.4
comp=Z,30nm,1.6s
ZALV Zalesovo Beam 61.26 42 P **P 13 57 34.9 -0.2**
comp=Z,1.8nm,0.5s,baz=296,slow=6.0,SNR=4.2
ZALV LR LR 14 25 10.3
comp=Z,836nm,18.7s,baz=292,slow=37
ZALV Zalesovo Beam 61.26 42 *i*P **P 13 57 35.2 +0.1**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 61.26 42 P **P 13 57 34.0 -1.1**
ZHN Zhinishke 61.48 56 *e*P **P 13 57 36.0 -1.0**
ZHN Zhinishke 61.48 56 *e*P **P 13 57 36.0 -1.0**
baz=56
SATY Saty 61.51 56 *e*P **P 13 57 36.0 -1.2**
SATY pmax pmax
comp=Z,8.0nm,1.0s
SATY Saty 61.51 56 *e*P **P 13 57 36.0 -1.2**
comp=Z,8.4nm,1.0s,baz=56
SDBA SAO DESIDERIO 61.68 227 *e*P **P 13 57 39.0 +0.5**
PRZ Przheval'sk 61.73 56 P **P 13 57 36.8 -2.0**
PRZ pmax pmax
comp=Z,39nm,0.9s
PRZ Przheval'sk 61.73 56 P **P 13 57 36.8 -2.0**
UZB Uzynbulak 61.89 55 *e*P **P 13 57 39.1 -0.7**
UZB Uzynbulak 61.89 55 *e*P **P 13 57 39.1 -0.7**
baz=55
BOAV Boa Vista 62.02 251 *e*P **P 13 57 41.4 +0.5**
GUA01 Guaratinga, BA 62.23 220 *e*P **P 13 57 44.5 +2.5**
MAKZ Makanchi 62.34 51 P **P 13 57 42.3 -0.3**
MAKZ pmax pmax
comp=Z,42nm,1.1s
MAKZ Makanchi 62.34 51 P **P 13 57 42.3 -0.3**
MK31 Makanchi Array 62.54 51 P **P 13 57 43.9 -0.1**
MK31 pmax pmax
comp=Z,32nm,1.1s
MK31 Makanchi Array 62.54 51 P **P 13 57 43.9 -0.1**
MKAR Makanchi Array 62.54 51 P **P 13 57 44.1 +0.1**
comp=Z,21nm,0.9s,baz=287,slow=5.8,SNR=57
MKAR LR LR 14 25 45.3
comp=Z,712nm,19.3s,baz=303,slow=37
MKAR Makanchi Array 62.54 51 P **P 13 57 43.5 -0.5**
MKAR Makanchi Array 62.54 51 P **P 13 57 43.5 -0.5**
ITTB Itaituba 62.91 242 *e*P **P 13 57 47.6 +0.9**
TKL Tuckaleechee C 63.17 296 LR LR 14 23 53.3
comp=Z,269nm,18.9s,baz=64,slow=35
BLWY Bulawayo 63.40 146 *e*P **P 13 57 51.1 +1.1**
BLWY IAmb IAmb 13 57 55.3
comp=Z,83nm,1.2s
JANB Januaria 63.44 225 *e*P **P 13 57 51.0 +0.8**
G40A Rib Lake 63.50 308 P **P 13 57 49.1 -1.3**
G40A IAmb IAmb 13 58 09.0
comp=Z,26nm,1.2s
PEXB Peixe 63.52 230 *e*P **P 13 57 51.8 +1.1**
PTGA Pitinga 63.60 248 LR LR 14 21 38.2
comp=Z,458nm,20.6s,baz=48,slow=32
E38A The Farm, Brul 63.79 310 P **P 13 57 52.1 -0.1**
ZSN Zaisan 63.88 49 *e*P **P 13 57 52.5 -0.3**
ZSN pmax pmax
comp=Z,30nm,1.3s
ZSN Zaisan 63.88 49 *e*P **P 13 57 52.5 -0.3**
comp=Z,30nm,1.3s,baz=49
BAUV El Baul 64.03 262 P **P 13 57 54.4 +0.2**
DGZ Jazzator, Alta 64.45 46 *i*P **P 13 57 57.3 +0.6**
DGZ pmax pmax
comp=Z,36nm,1.2s
NPGB Novo Progresso 64.50 240 *e*P **P 13 57 57.9 +0.7**
O44A Mansfield 64.54 302 P **P 13 57 56.8 -0.4**
BSFB Barra de Sao F 64.64 219 *e*P **P 13 57 59.5 +1.5**
SJMB Sao Joao De Ma 64.71 220 *e*P **P 13 57 58.6 +0.2**
RIB01 Linhares ES 64.81 219 *e*P **P 13 58 01.4 +2.3**
AUSN Aus 64.82 160 *e*P **P 13 58 00.9 +1.7**
AUSN IAmb IAmb 13 58 06.4
comp=Z,28nm,1.4s
ULM Lac du Bonnet 64.83 315 P **P 13 57 59.8 +0.9**
comp=Z,6.6nm,0.6s,baz=63,slow=6.9,SNR=5.5
ULM Lac du Bonnet 64.83 315 P **P 13 57 58.9 0.0**
ULM pmax pmax
comp=Z,25nm,1.1s
ULM Lac du Bonnet 64.83 315 P **P 13 57 58.9 0.0**
ULM IAmb IAmb 13 58 08.1
comp=Z,25nm,1.1s
T47A Sharon Grove 64.99 299 P **P 13 58 00.3 0.0**
T47A IAmb IAmb 13 58 12.4
comp=Z,24nm,0.9s
A36M Sachs Harbour 65.21 343 P **P 13 58 02.4 +1.4**
A36M Sachs Harbour 65.21 343 P **P 13 58 02.4 +1.4**
baz=50
SNDB Serra Nova Dou 65.32 233 *e*P **P 13 58 03.8 +1.3**
V48A Smith Brothers 65.36 297 P **P 13 58 01.1 -1.5**
V48A IAmb IAmb 13 58 12.5
comp=Z,33nm,1.4s
AGMN Agassiz Nation 65.69 313 P **P 13 58 03.7 -0.9**
AGMN IAmb IAmb 13 58 11.2
comp=Z,25nm,1.3s
AGMN Agassiz Nation 65.69 313 P **P 13 58 02.8 -1.7**
baz=63
WVT Waverly 65.90 298 P **P 13 58 04.6 -1.5**
baz=62
MSNA Messina 65.96 146 *e*P **P 13 58 07.3 +0.7**
MSNA IAmb IAmb 13 58 11.7
comp=Z,18nm,1.1s
BDFB Brasilia 66.07 227 LR LR 14 23 48.0
comp=Z,617nm,21.2s,baz=19,slow=33
SDV Santo Domingo 66.15 264 LR LR 14 22 37.1
comp=Z,250nm,21.8s,baz=61,slow=32
SDV Santo Domingo 66.15 264 *e*P **P 13 58 09.9 +1.6**
S44A Carbondale 66.20 300 P **P 13 58 08.3 +0.3**
S44A IAmb IAmb 13 58 17.4
comp=Z,12nm,0.8s
LBTB Lobatse 66.42 151 LR LR 14 26 25.0
comp=Z,1μm,18.4s,baz=334,slow=35
LBTB Lobatse 66.42 151 *e*P **P 13 58 10.2 +0.7**
LBTB IAmb IAmb 13 58 14.1
comp=Z,14nm,1.1s
LBTB Lobatse 66.42 151 P **P 13 58 08.5 -1.1**
LBTB pmax pmax
comp=Z,12nm,1.0s
LBTB Lobatse 66.42 151 P **P 13 58 08.4 -1.1**
LBTB IAmb IAmb 13 58 14.8
comp=Z,12nm,0.9s
PLAL Pickwick Lake 66.61 297 P **P 13 58 09.7 -1.0**
PLAL IAmb IAmb 13 58 22.5
comp=Z,24nm,0.9s
C36M Paulatuk 66.62 341 P **P 13 58 09.0 -1.1**
baz=50
FVM French Village 66.88 301 P **P 13 58 10.8 -1.6**
FVM pmax pmax
comp=Z,18nm,0.8s
FVM French Village 66.88 301 P **P 13 58 10.8 -1.6**
FVM IAmb IAmb 13 58 22.2
comp=Z,18nm,0.8s
WMQ Urumqi 67.27 52 *e*P **P 13 58 16.0 +1.1**
WMQ pP pP 13 58 19.4 -1.2
WMQ sP sP 13 58 22.3 -0.4
WMQ S **S 14 07 14.1 +5.0**
WMQ pmax pmax
comp=Z,47nm,1.3s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=Z,1μm,14.9s
WMQ LR LR
comp=Z,520nm,15.3s
P40A Paris 67.28 303 P **P 13 58 14.1 -0.7**
P40A IAmb IAmb 13 58 23.8
comp=Z,27nm,1.3s
CCM Cathedral Cave 67.42 301 P **P 13 58 14.9 -0.9**
CCM pmax pmax
comp=Z,16nm,0.8s
CCM Cathedral Cave 67.42 301 P **P 13 58 14.9 -0.9**
CCM IAmb IAmb 13 58 24.7
comp=Z,16nm,0.8s
CCM Cathedral Cave 67.42 301 P **P 13 58 15.0 -0.9**
baz=62
MOPA Mopani 67.60 145 *e*P **P 13 58 16.6 -0.4**
MOPA IAmb IAmb 13 58 18.8
comp=Z,1.0nm,0.8s
BRAL Brewton 67.67 293 P **P 13 58 16.8 -0.7**
baz=61
YKA Yellowknife Ar 67.70 332 P **P 13 58 17.5 +0.4**
comp=Z,12nm,0.8s,baz=60,slow=6.2,SNR=54
YKA LR LR 14 24 48.0
comp=Z,601nm,20.4s,baz=62,slow=33
YKA Yellowknife Ar 67.70 332 P **P 13 58 17.2 +0.1**
T42A Van Buren 67.80 300 P **P 13 58 17.7 -0.5**
T42A IAmb IAmb 13 58 32.0
comp=Z,13nm,0.7s
TIXI Tiksi 67.89 15 P **P 13 58 18.5 +0.3**
comp=Z,1.1nm,0.3s,baz=320,slow=6.1,SNR=3.5
TIXI LR LR 14 33 29.5
comp=Z,791nm,18.4s,baz=300,slow=41
TIXI Tiksi 67.89 15 *ce*P **P 13 58 20.4 +2.2**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
UPI Upington 67.91 156 *e*P **P 13 58 19.1 +0.2**
UPI IAmb IAmb 13 58 23.6
comp=Z,15nm,0.9s
R40A Maddies Statio 68.02 302 P **P 13 58 19.6 +0.1**
R40A IAmb IAmb 13 58 23.5
comp=Z,18nm,1.0s
HRAO HartRAO 68.05 150 *e*P **P 13 58 20.7 +0.9**
HRAO IAmb IAmb 13 58 25.0
comp=Z,7.5nm,0.9s
MDND Maddock 68.11 314 P **P 13 58 18.3 -1.7**
baz=61
Y45A Yeager Farm, C 68.21 297 P **P 13 58 19.4 -1.4**
ECSD EROS Data Cent 68.28 309 P **P 13 58 21.1 -0.1**
ECSD IAmb IAmb 13 58 49.5
comp=Z,22nm,1.3s
ECSD EROS Data Cent 68.28 309 P **P 13 58 19.8 -1.4**
baz=61
LCAR Lake Charles 68.31 299 P **P 13 58 20.3 -1.1**
WDLM Western Deep L 68.41 150 *e*P **P 13 58 20.2 -2.0**
WDLM IAmb IAmb 13 58 24.3
comp=Z,29nm,0.3s
ARAG Araguaiana, MT 68.45 230 *e*P **P 13 58 24.0 +1.6**
MGMO Mountain Grove 68.56 301 P **P 13 58 21.7 -1.4**
PDRB Porto dos Gac 68.68 237 *e*P **P 13 58 25.1 +1.2**
S39A Bolivar 69.04 302 P **P 13 58 24.8 -1.2**
S39A IAmb IAmb 13 58 35.4
comp=Z,20nm,0.9s
FCAR Ozark Folk Cen 69.08 300 P **P 13 58 24.0 -2.2**
FCAR IAmb IAmb 13 58 30.1
comp=Z,14nm,1.0s
U40A Yellville 69.36 300 P **P 13 58 26.7 -1.3**
baz=60
SUSD Miller 69.40 310 P **P 13 58 26.7 -1.5**
baz=60
W41B Gary Mavity, V 69.52 299 P **P 13 58 27.6 -1.4**
baz=60
BOSA Boshof 69.53 153 P **P 13 58 29.4 +0.4**
comp=Z,13nm,0.9s,baz=341,slow=8.5,SNR=13
BOSA LR LR 14 29 32.6
comp=Z,729nm,18.9s,baz=338,slow=36
BOSA Boshof 69.53 153 *e*P **P 13 58 29.0 0.0**
BOSA IAmb IAmb 13 58 33.7
comp=Z,20nm,1.0s
MAN01 Angra dos Reis 69.60 219 *e*P **P 13 58 31.5 +2.0**
INK Inuvik 69.81 342 P **P 13 58 30.1 0.0**
INK pmax pmax
comp=Z,29nm,1.4s
INK Inuvik 69.81 342 P **P 13 58 30.1 0.0**
INK IAmb IAmb 13 58 41.0
comp=Z,29nm,1.4s
INK Inuvik 69.81 342 P **P 13 58 28.9 -1.2**
baz=42
K31A O'Neill 70.19 309 P **P 13 58 32.1 -0.9**
X40A Basin Creek Fa 70.28 299 P **P 13 58 33.2 -0.4**
X40A IAmb IAmb 13 58 42.6
comp=Z,50nm,1.6s
X40A Basin Creek Fa 70.28 299 P **P 13 58 31.5 -2.2**
baz=60,SNR=6.5
BGNE Belgrade 70.42 307 P **P 13 58 34.3 -0.2**
BGNE Belgrade 70.42 307 P **P 13 58 32.6 -1.9**
baz=59
WRGLY Wrigley 70.44 335 P **P 13 58 32.7 -1.4**
baz=48
DGMT Dagmar 70.44 316 P **P 13 58 33.1 -1.4**
baz=58
KSU1 Kansas State U 70.57 305 P **P 13 58 35.0 -0.4**
baz=60
NWCL Newcastle 70.59 149 *e*P **P 13 58 36.8 +1.2**
NWCL IAmb IAmb 13 58 40.9
comp=Z,26nm,1.1s
W39A Magazine 70.60 300 P **P 13 58 35.3 -0.2**
baz=60,SNR=7.4
MIAR Mount Ida 70.78 299 P **P 13 58 36.5 -0.2**
MIAR pmax pmax
comp=Z,24nm,1.0s
MIAR Mount Ida 70.78 299 P **P 13 58 36.5 -0.2**
MIAR IAmb IAmb 13 58 41.1
comp=Z,24nm,1.0s
MIAR Mount Ida 70.78 299 P **P 13 58 36.5 -0.2**
baz=60,SNR=12
PARB Paraibuna 70.85 221 *e*P **P 13 58 38.9 +1.7**
MOY Mondy 70.99 40 *e*P **P 13 58 39.2 +1.4**
MOY pmax pmax
comp=Z,30nm,1.9s
POGA Pongola 71.04 147 *e*P **P 13 58 39.5 +1.3**
POGA IAmb IAmb 13 58 44.0
comp=Z,21nm,0.9s
ROSC El Rosal 71.47 262 LR LR 14 26 50.3

comp=Z,260nm,21.3s,baz=80,slow=33
SUR Sutherland 71.50 158 LR LR 14 32 04.0
comp=Z,466nm,18.4s,baz=340,slow=38
A21K Barrow 71.57 351 P **P** **13 58 42.5 +1.7**
A21K IAmb IAmb 13 59 14.6
comp=Z,24nm,1.2s
A21K Barrow 71.57 351 P **P** **13 58 40.6 -0.2**
baz=23
T35A Sooner Cattle 71.62 302 P **P** **13 58 42.1 +0.3**
TUL1 Leonard 71.64 301 P **P** **13 58 41.6 -0.4**
baz=59
PYUN Piuthan 71.72 68 *e*P **P** **13 58 42.2 -0.6**
comp=Z,21nm,0.5s
VILB Vilhena 72.02 239 *e*P **P** **13 58 46.4 +2.0**
VILB Vilhena 72.02 239 P **P** **13 58 43.4 -0.9**
VILB IAmb IAmb 13 58 47.0
comp=Z,28nm,0.8s
DANN Dangsing 72.17 68 *e*P **P** **13 58 45.1 -0.5**
comp=Z,104nm,1.0s
R32A Long Quarter, 72.33 305 P **P** **13 58 46.2 +0.2**
KOLN Koldanda 72.35 68 *e*P **P** **13 58 45.8 -0.8**
comp=Z,35nm,1.2s
LAO LASA Array 72.56 315 P **P** **13 58 46.1 -1.2**
baz=56
EDM Edmonton 72.58 324 P **P** **13 58 48.0 +0.7**
EDM pmax pmax
comp=Z,51nm,1.3s
EDM Edmonton 72.58 324 P **P** **13 58 48.0 +0.7**
PCMB Pacaembu 72.63 226 *e*P **P** **13 58 49.6 +1.8**
RSSD Black Hills 72.68 312 P **P** **13 58 48.5 +0.2**
RSSD pmax pmax
comp=Z,28nm,1.2s
RSSD Black Hills 72.68 312 P **P** **13 58 48.5 +0.2**
RSSD IAmb IAmb 13 58 58.3
comp=Z,28nm,1.2s
RSSD Black Hills 72.68 312 P **P** **13 58 47.1 -1.2**
baz=57
CBKS Cedar Bluff 72.81 306 P **P** **13 58 49.3 +0.4**
CBKS pmax pmax
comp=Z,144nm,1.7s
CBKS Cedar Bluff 72.81 306 P **P** **13 58 49.3 +0.4**
CBKS Cedar Bluff 72.81 306 P **P** **13 58 48.8 -0.1**
baz=58,SNR=5.5
ZAK Zakamensk 72.91 40 *e*P **P** **13 58 49.8 +0.4**
ZAK pmax pmax
comp=Z,13nm,1.3s
GKN Gorkha 73.01 68 *e*P **P** **13 58 49.6 -0.8**
comp=Z,2.5nm,0.2s
BMAR Burnt Mountain 73.03 345 P **P** **13 58 48.9 -0.9**
PTLB Pontes e Lacer 73.04 236 *e*P **P** **13 58 51.6 +1.3**
OGNE Ogallala 73.16 308 P **P** **13 58 50.9 -0.1**
baz=57
BOD Bodaibo 73.26 30 *e*P **P** **13 58 50.5 -0.6**
BOD pmax pmax
comp=Z,21nm,1.3s
I29M Ogilvie Camp, 73.29 342 P **P** **13 58 50.4 -0.9**
I29M IAmb IAmb 14 00 11.3
comp=Z,20nm,0.8s
DMN Daman 73.57 68 *e*P **P** **13 58 53.4 -0.5**
comp=Z,15nm,0.6s
KKN Kakani 73.61 67 *e*P **P** **13 58 53.2 -0.8**
comp=Z,13nm,0.7s
LOOK Love County 73.62 300 P **P** **13 58 53.2 -0.5**
EGMT Eagleton 73.78 318 P **P** **13 58 54.4 -0.2**
baz=54,SNR=15
PKIN Phulchoki 73.81 68 *e*P **P** **13 58 54.2 -1.1**
PKI Pulchoki 73.82 68 *e*P **P** **13 58 54.2 -1.2**
GUN Gumba 74.00 67 *e*P **P** **13 58 55.9 -0.6**
comp=Z,90nm,1.3s
MAYO Mayo, Yukon 74.04 340 P **P** **13 58 56.0 +0.3**
baz=39
ETMB Extrema 74.22 245 *e*P **P** **13 58 58.1 +0.7**
COLD Coldfoot 74.30 347 P **P** **13 58 57.7 +0.6**
COLD Coldfoot 74.30 347 P **P** **13 58 57.0 -0.1**
baz=28
WMOK Wichita Mounta 74.34 302 P **P** **13 58 57.6 -0.3**
baz=57,SNR=17
AQDB Aquidauana 74.46 230 *e*P **P** **13 58 59.5 +0.9**
EGAK Eagle 74.47 343 P **P** **13 58 58.6 +0.4**
baz=35
KSCO Kaye Shedlock' 74.60 307 P **P** **13 58 59.4 -0.1**
baz=56
DAWY Dawson 74.61 341 P **P** **13 59 00.6 +1.5**
DAWY IAmb IAmb 13 59 10.2
comp=Z,25nm,1.2s
DAWY Dawson 74.61 341 P **P** **13 58 59.9 +0.9**
baz=36
M31M Drury Creek, Y 74.69 338 P **P** **13 58 59.6 +0.1**
baz=40
SIV San Ignacio 74.74 237 LR LR 14 30 40.9
comp=Z,528nm,19.1s,baz=80,slow=35
PRP Porcupine Dome 74.86 345 P **P** **13 59 00.2 -0.3**
baz=31
WHTX Lake Whitney, 74.88 299 P **P** **13 59 00.7 -0.4**
baz=57
K22A Casper 75.01 312 P **P** **13 59 01.4 -0.5**
baz=55
GCMT Greycliff 75.04 316 P **P** **13 59 01.4 -0.6**
H24K Noodor Dome 75.08 346 P **P** **13 59 01.4 -0.3**
baz=30
RLMT Red Lodge 75.20 315 P **P** **13 59 02.3 -0.7**
baz=54,SNR=5.2
WALA Waterton Lakes 75.38 320 P **P** **13 59 04.1 +0.2**
WALA IAmb IAmb 13 59 29.0
comp=Z,31nm,1.1s
PTGB Pitanga 75.50 225 *e*P **P** **13 59 06.6 +2.0**
YAK Yakutsk 75.61 21 P **P** **13 59 05.1 +0.3**
comp=Z,4.0nm,0.4s,baz=251,slow=1.8,SNR=2.3
YAK LR LR 14 37 27.6
comp=Z,781nm,18.7s,baz=316,slow=40
YAK Yakutsk 75.61 21 *e*P **P** **13 59 04.7 0.0**
YAK *e**PP **sP** **13 59 14.5 +1.9**
YAK *e* 13 59 19.4
YAK *e* 14 01 49.3
YAK *e*PPP PPP 14 03 41.1
YAK *e*S **S** **14 08 43.9 -0.6**
YAK *e**SS **SKSac** **14 09 06.6 -6.9**
YAK *e* 14 09 26.8
YAK *e*SS **SS** **14 13 43.4 +8.8**
YAK *e*SSS SSS 14 16 56.6
YAK pmax pmax
comp=Z,15nm,1.5s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=Z,181nm,4.3s
YAK pmax pmax
comp=N,98nm,3.7s
YAK pmax pmax
comp=E,81nm,3.5s
YAK smax smax
comp=N,102nm,4.4s
YAK smax smax
comp=E,98nm,4.4s
POKR Poker Plat Res 75.61 345 P **P** **13 59 04.5 -0.3**
baz=30
N23A Red Feather La 75.65 310 P **P** **13 59 04.9 -0.8**
baz=55,SNR=10
P33M Teslin, Yukon 75.72 336 P **P** **13 59 05.8 +0.3**
baz=41
ILAR Eielson Array 75.80 345 P **P** **13 59 06.6 +0.8**
comp=E,0.9nm,0.7s,baz=15,slow=4.8,SNR=10
ILAR LR LR 14 34 45.1
comp=E,204nm,20.1s,baz=32,slow=38
ILAR Eielson Array 75.80 345 P **P** **13 59 05.3 -0.5**
ILAR Eielson Array 75.80 345 P **P** **13 59 05.3 -0.5**
SCRK Sand Creek 75.82 343 P **P** **13 59 06.6 +0.5**
baz=32
GOMU GeErMu 75.88 56 P **P** **13 59 09.4 +2.2**
GOMU pmax pmax
comp=E,6.0nm,1.2s
GOMU pmax pmax
comp=E,65nm,4.1s
GOMU LR LR
comp=E,300nm,14.6s
GOMU LR LR
comp=E,210nm,15.9s
RWWY Rawlins 75.98 311 P **P** **13 59 07.4 -0.2**
I23K Minto, Yukon-K 75.98 346 P **P** **13 59 05.7 -1.1**
baz=28
WHY Whitehorse 76.03 338 P **P** **13 59 06.3 -1.0**
baz=39
IMAR Indian Mountai 76.05 348 P **P** **13 59 08.1 +0.9**
BCAR Beaver Creek A 76.05 342 P **P** **13 59 08.7 +1.4**

L27K Beaver Creek, 76.06 342 P **P** **13 59 06.6 -0.8**
baz=34
ISCO Idaho Springs 76.07 309 P **P** **13 59 07.6 -0.6**
ISCO pmax pmax
comp=Z,23nm,1.4s
ISCO Idaho Springs 76.07 309 P **P** **13 59 07.6 -0.6**
ISCO IAmb IAmb 13 59 14.2
comp=Z,23nm,1.4s
ISCO Idaho Springs 76.07 309 P **P** **13 59 08.2 0.0**
baz=55,SNR=12
SONM Songino Array 76.07 41 P **P** **13 59 08.1 +0.3**
comp=Z,2.2nm,0.8s,baz=285,slow=6.6,SNR=14
SONM LR LR 14 36 02.6
comp=Z,509nm,18.4s,baz=312,slow=38
SONM Songino Array 76.07 41 P **P** **13 59 08.1 +0.3**
ABTX Abilene, Hawle 76.09 300 P **P** **13 59 07.9 -0.1**
ABTX IAmb IAmb 13 59 12.6
comp=Z,22nm,0.9s
ABTX Abilene, Hawle 76.09 300 P **P** **13 59 07.7 -0.4**
baz=56
DLBC Dease Lake 76.10 334 LR LR 14 32 20.0
comp=Z,352nm,18.4s,baz=48,slow=36
HDA Harding Lake 76.13 344 P **P** **13 59 07.7 +0.1**
baz=30
H21K Melozitna Rive 76.18 347 P **P** **13 59 07.9 -0.1**
baz=25
RIDG Independent Ri 76.23 343 P **P** **13 59 07.9 -0.5**
baz=32
AMTX Amarillo 76.25 303 P **P** **13 59 08.4 -0.6**
baz=56
Q24A Divide 76.25 308 P **P** **13 59 08.1 -1.1**
baz=55,SNR=9.9
BOZ Bozeman (W) 76.26 317 P **P** **13 59 08.1 -0.9**
BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 76.26 317 P **P** **13 59 08.1 -0.9**
BOZ Bozeman (W) 76.26 317 P **P** **13 59 08.3 -0.7**
baz=53,SNR=8.8
BILL Billibino 76.32 4⇓ *e*P **P** **13 59 08.7 0.0**
BILL *e**PP **pP** **13 59 13.0 -1.3**
BILL *e**SP **sP** **13 59 14.6 -2.0**
BILL *e* 13 59 21.7
BILL SS SS 14 13 55.0 +10
BILL pmax pmax
comp=Z,13nm,1.6s
BILL MLR MLR
comp=Z,240nm,17.0s
BVCY Beaver Creek 76.35 341 P **P** **13 59 08.9 -0.1**
baz=35
H17A Grant Village 76.38 315 P **P** **13 59 08.8 -1.0**
baz=53
ULN Ulaanbaatar 76.40 40 P **P** **13 59 09.7 0.0**
ULN pmax pmax
comp=Z,20nm,1.4s
ULN Ulaanbaatar 76.40 40 P **P** **13 59 09.7 0.0**
NEA2 Nenana 76.42 345 P **P** **13 59 07.9 -1.4**
baz=28
I21K Tanana 76.46 347 P **P** **13 59 08.9 -0.6**
baz=26
L26K Log Cabin Wild 76.47 342 P **P** **13 59 09.6 -0.1**
baz=33
LRM Limekiln Ridge 76.58 317 P **P** **13 59 11.3 +0.4**
M27K Edge Creek, AK 76.66 341 P **P** **13 59 10.5 -0.4**
baz=34
PD31 Pinedale Array 76.76 313 P **P** **13 59 11.3 -0.7**
PDAR Pinedale Array 76.76 313 P **P** **13 59 11.9 0.0**
comp=Z,7.2nm,0.9s,baz=63,slow=6.3,SNR=32
PDAR LR LR 14 31 27.9
comp=Z,230nm,19.1s,baz=64,slow=34
PDAR Pinedale Array 76.76 313 P **P** **13 59 11.7 -0.3**
BW06 Boulder Array 76.76 313 P **P** **13 59 12.4 +0.4**
BW06 Boulder Array 76.76 313 P **P** **13 59 10.5 -1.5**
baz=54,SNR=15
YUK3 Moose Creek 76.77 340 P **P** **13 59 10.3 -1.3**
baz=35
MSO Missoula 76.78 319 P **P** **13 59 10.4 -1.4**
baz=52
T25A Trinidad 76.81 306 P **P** **13 59 11.0 -1.3**
baz=55
TER01 Tubaro-SC 76.89 220 *e*P **P** **13 59 14.7 +2.3**
M26K Nabesna, AK 76.91 342 P **P** **13 59 11.4 -0.8**
baz=33
LSA Lhasa 76.92 63 P **P** **13 59 14.1 +0.8**
LSA pmax pmax
comp=Z,20nm,0.8s
JTS Las Juntas de 77.00 273 LR LR 14 28 43.7
comp=Z,187nm,21.5s,slow=32
SKAG Skagway 77.11 337 P **P** **13 59 12.4 -0.9**
baz=39
MCK McKinley 77.15 345 P **P** **13 59 13.0 -0.4**
baz=28
REDW Red Top Meadow 77.16 314 P **P** **13 59 13.3 -0.9**
REDW IAmb IAmb 13 59 26.1
comp=Z,53nm,1.7s
SDCO Great Sand Dun 77.17 307 P **P** **13 59 14.3 -0.2**
SDCO Great Sand Dun 77.17 307 P **P** **13 59 13.5 -1.0**
baz=55,SNR=15
GTA Gaotai 77.30 51 *e*P **P** **13 59 14.8 -0.1**
GTA pP pP 13 59 19.5 -1.2
GTA sP sP 13 59 22.0 -0.5
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,75nm,4.7s
GTA LR LR
comp=Z,390nm,16.0s
GTA LR LR
comp=Z,310nm,20.4s
DHY Denali Highway 77.38 344 P **P** **13 59 14.2 -0.7**
baz=30
JCT Junction City 77.39 298 P **P** **13 59 16.1 +0.6**
JCT pmax pmax
comp=Z,36nm,0.9s
JCT Junction City 77.39 298 P **P** **13 59 16.1 +0.6**
JCT Junction City 77.39 298 P **P** **13 59 14.5 -1.0**
baz=56
ITAB Concordia 77.49 223 *e*P **P** **13 59 18.0 +2.3**
OTAV Otavalo 77.50 261 *e*P **P** **13 59 18.5 +1.8**
MSTX Muleshoe 77.51 303 P **P** **13 59 15.2 -1.0**
baz=55
O20A White River Ci 77.52 311 P **P** **13 59 15.8 -0.4**
baz=54
NEW Newport 77.54 321 P **P** **13 59 17.1 +1.1**
comp=Z,6.9nm,1.0s,baz=51,slow=3.9,SNR=6.3
NEW LR LR 14 30 24.3
comp=Z,184nm,20.7s,baz=38,slow=33
NEW Newport 77.54 321 P **P** **13 59 15.9 -0.1**
baz=50
AHID Auburn Hatcher 77.67 314 P **P** **13 59 17.4 +0.3**
CTG Chitna Glacier 77.68 340 P **P** **13 59 15.6 -1.1**
baz=34
TRF Thorofare Moun 77.68 345 P **P** **13 59 15.8 -0.9**
baz=27
CHUM Lake Minchumin 77.69 346 P **P** **13 59 15.5 -1.0**
baz=26
GCSA Galena City Sc 77.71 349 P **P** **13 59 15.8 -0.7**
baz=22
J20K Nowinta River 77.77 347 P **P** **13 59 16.4 -0.5**
baz=24
CZSB Cruzeiro do Su 77.79 251 *e*P **P** **13 59 20.6 +2.8**
CZSB Cruzeiro do Su 77.79 251 P **P** **13 59 17.5 -0.3**
CZSB IAmb IAmb 13 59 42.0
comp=Z,22nm,0.8s
WAT1 Susitna Watana 77.86 344 P **P** **13 59 17.1 -0.4**
baz=29
WAT6 Susitna Watana 77.90 344 P **P** **13 59 17.8 -0.1**
baz=29
N25K Chitina, Valde 77.99 342 P **P** **13 59 17.8 -0.6**
baz=32
S22A 4UR Ranch, Cre 78.03 308 P **P** **13 59 18.6 -0.7**
baz=54,SNR=11
RDMU Red Mountain 78.08 312 P **P** **13 59 19.5 +0.1**
RDMU IAmb IAmb 13 59 24.3
comp=Z,32nm,1.0s
PINM Pinnacle 78.09 339 P **P** **13 59 18.2 -0.7**
baz=35
TNA Tin City 78.34 353 P **P** **13 59 19.6 -0.4**
baz=13
K20K Telida 78.50 347 P **P** **13 59 20.8 -0.2**
baz=24
BMRM Bremner River 78.54 342 P **P** **13 59 21.2 -0.1**
baz=32
PPLA Purkeypile 78.56 346 P **P** **13 59 21.0 -0.5**
baz=26
PV13 Radium Mtn., P 79.06 309 P **P** **13 59 22.8 -2.0**
PV13 IAmb IAmb 13 59 29.6
comp=Z,20nm,1.0s

HLID Hailey 79.08 316 P **P** **13 59 24.4 -0.4**
baz=51,SNR=15
PMR Palmer 79.08 344 P **P** **13 59 23.7 -0.4**
baz=28
TTA Tatalina 79.25 348 P **P** **13 59 24.5 -0.7**
baz=23
MVCO Mesa Verde 79.42 308 P **P** **13 59 25.7 -1.2**
baz=53
ANMO Albuquerque 79.43 305 LR LR 14 32 58.9
comp=Z,383nm,21.2s,baz=56,slow=34
ANMO Albuquerque 79.43 305 P **P** **13 59 25.8 -1.1**
ANMO pmax pmax
comp=Z,10.0nm,1.4s
ANMO Albuquerque 79.43 305 P **P** **13 59 25.8 -1.1**
PWL Port Wells 79.55 343 P **P** **13 59 26.5 -0.3**
baz=29
SUA Susitna One 79.55 345 P **P** **13 59 26.8 -0.2**
baz=27
SHL Shillong 79.76 66 P **P** **13 59 30.1 +1.3**
SNR=13
CPUP Villa Florida 79.80 227 P **P** **13 59 28.9 +0.4**
comp=Z,13nm,1.0s,baz=69,slow=5.7,SNR=10
CPUP LR LR 14 35 12.1
comp=Z,857nm,18.1s,baz=52,slow=36
CPUP Villa Florida 79.80 227 *e*P **P** **13 59 29.1 +0.6**
SEY Seymchan 79.87 11 LR LR 14 36 10.6
comp=Z,369nm,21.9s,baz=340,slow=37
LPAZ La Paz 79.89 242 P **P** **13 59 30.2 +0.2**
comp=Z,2.2nm,0.7s,baz=18,slow=2.4,SNR=8.5
LPAZ LR LR 14 31 24.3
comp=Z,407nm,21.8s,baz=52,slow=33
LPAZ La Paz 79.89 242 *e*P **P** **13 59 30.0 0.0**
DUG Dugway, Tooele 80.26 313 P **P** **13 59 31.1 -0.1**
baz=51
MNTX Cornudas Mount 80.61 302 P **P** **13 59 32.5 -0.5**
baz=54
CPSB Cacapava Do Su 80.67 222 *e*P **P** **13 59 34.5 +1.4**
TX32 Lajitas Array 80.80 299 P **P** **13 59 32.5 -1.7**
TXAR Lajitas Array 80.80 299 P **P** **13 59 35.0 +0.8**
comp=Z,3.3nm,0.9s,baz=77,slow=5.0,SNR=13
TXAR LR LR 14 34 54.0
comp=Z,455nm,19.4s,baz=46,slow=35
CMIG Matias Romero 81.17 285 LR LR 14 31 00.2
comp=Z,269nm,21.8s,baz=60,slow=32
PALK Pallekele 81.27 87 LR LR 14 36 17.1
comp=Z,455nm,21.6s,baz=37,slow=36
ELK Elko 81.35 314 LR LR 14 33 57.9
comp=Z,293nm,19.6s,baz=42,slow=34
ZEA Zeya 81.36 27 *e*P **P** **13 59 39.9 +3.3**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=Z,400nm,18.0s
121A Cookes Peak, D 81.75 304 P **P** **13 59 39.2 -0.2**
baz=53
PLTB Pedras Altas 81.81 221 *e*P **P** **13 59 40.8 +1.6**
LZH Lanzhou 81.85 51 *e*P **P** **13 59 42.0 +2.2**
LZH sP pP 13 59 46.8 +1.2
LZH pmax pmax
comp=Z,6.0nm,1.1s
LZH LR LR
comp=Z,490nm,13.8s
LZH LR LR
comp=Z,580nm,13.8s
LZH LR LR
comp=Z,550nm,13.3s
ATAH Atahualpa 81.86 255 LR LR 14 34 33.9
comp=Z,143nm,18.6s,baz=26,slow=35
ITQB Itaqui 81.89 225 *e*P **P** **13 59 40.2 +0.6**
O18K Koktuh Hills 81.94 346 P **P** **13 59 39.8 +0.1**
baz=23
WUAZ Wupatki 82.29 308 P **P** **13 59 41.9 -0.2**
baz=51
BTO Baotou 82.69 45 *e*P **P** **13 59 44.5 +0.5**
BTO S **S** **14 10 01.3 +0.4**
J05D Fort Rock, OR 83.00 319 P **P** **13 59 45.7 +0.1**
baz=47
R11A Troy Canyon, C 83.10 313 P **P** **13 59 46.1 -0.2**
baz=50
PB11 IPOC Station P 83.27 240 P **P** **13 59 45.6 -1.6**
PB11 IAmb IAmb 13 59 53.0
comp=Z,19nm,0.9s
KDAK Kodiak Island 83.28 344 LR LR 14 39 00.3
comp=Z,177nm,19.2s,baz=41,slow=37
HHC Hu-ho-hao-te 83.41 44 *e*P **P** **13 59 47.3 -0.4**
HHC pP PcP 13 59 51.0 -1.1
HHC S **S** **14 10 09.5 +1.3**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.1s
HHC LR LR
comp=Z,1μm,13.0s
HHC LR LR
comp=Z,390nm,12.4s
HHC LR LR
comp=Z,1μm,15.6s
NNA Nana 83.62 250 LR LR 14 34 33.5
comp=Z,154nm,20.8s,baz=27,slow=34
XLT XiLinHaoTe 83.74 39 *e*P **P** **13 59 49.6 +0.2**
XLT pP PcP 13 59 53.8 +0.3
XLT S **S** **14 10 16.0 +4.6**
XLT sS pS 14 10 19.3 +0.8
XLT pmax pmax
comp=Z,11nm,1.0s
XLT pmax pmax
comp=Z,200nm,4.8s
XLT LR LR
comp=Z,840nm,15.6s
XLT LR LR
comp=Z,850nm,14.3s
XLT LR LR
comp=Z,710nm,13.1s
TUC Tucson 83.90 306 P **P** **13 59 50.0 -0.3**
baz=51
L04D Klamath Falls 84.31 319 P **P** **13 59 52.6 +0.3**
baz=46
M04C Macdoel 84.36 318 P **P** **13 59 51.9 -0.7**
baz=46
TPNV Topopah Spring 84.41 312 P **P** **13 59 52.3 -0.7**
baz=49
J01E Myrtle Point 84.50 321 P **P** **13 59 52.0 -1.1**
baz=45
LVC Limon Verde 84.64 237 LR LR 14 38 33.8
comp=Z,160nm,18.1s,baz=34,slow=36
LVC Limon Verde 84.64 237 *e*P **P** **13 59 55.5 +1.0**
NVAR Mina Array Bea 84.65 314 P **P** **13 59 55.4 +1.1**
comp=Z,1.9nm,0.8s,baz=58,slow=5.4,SNR=15
K02D Willamette Mer 84.69 320 P **P** **13 59 54.4 +0.2**
baz=45
PDMCI Parker Dam,Lak 84.81 309 P **P** **13 59 54.9 0.0**
baz=50
YBH Yreka Blue Hor 84.86 319 LR LR 14 35 11.5
comp=Z,124nm,20.0s,baz=22,slow=34
CD2 Chengdu 85.01 55 *e*P **P** **13 59 54.0 -2.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
TUQ Turquoise Moun 85.20 311 P **P** **13 59 56.2 -0.8**
baz=49
O03E Paynes Creek 85.37 317 P **P** **13 59 56.3 -1.4**
baz=46
214A Organ Pipe Nat 85.45 306 P **P** **13 59 57.2 -1.0**
baz=50
GMRC Granite Mounta 85.46 310 P **P** **13 59 57.7 -0.5**
baz=49
IRM Iron Mountain 85.54 309 P **P** **13 59 58.3 -0.3**
baz=49
MPMC Manual Prospec 85.75 312 P **P** **13 59 57.7 -2.1**
baz=48
GSC Goldstone, Bar 85.83 311 P **P** **13 59 58.5 -1.5**
baz=48
CWC Cottonwood Cre 85.85 313 P **P** **13 59 58.8 -1.4**
baz=48
HEC Hector,Ludlow 85.85 310 P **P** **13 59 58.8 -1.4**
baz=49
GLA Glamis 86.06 308 P **P** **14 00 00.1 -1.1**
baz=50
BELC Belle Mtn. Jos 86.18 310 P **P** **14 00 00.4 -1.4**
baz=49
LRMC Laurel Mtn Rad 86.25 312 P **P** **14 00 00.3 -1.9**
baz=48
XAN Xi'an 86.36 50 ⇓P **P** **14 00 02.5 -0.1**
XAN pP PcP 14 00 06.8 +1.7
XAN sP sP 14 00 10.8 +0.5
XAN pmax pmax
comp=Z,26nm,1.4s
XAN pmax pmax

comp=Z,260nm,5.1s
XAN LR LR
comp=Z,670nm,11.0s
XAN LR LR
comp=Z,360nm,14.4s
XAN LR LR
comp=Z,540nm,14.4s
PZH PanZhiHua 86.36 60 P **P 14 00 07.1 +4.3**
PZH pmax pmax
comp=Z,12nm,0.8s
PZH pmax pmax
comp=Z,110nm,6.3s
ISA Isabella, Lake 86.60 312 P **P 14 00 03.5 -0.3**
baz=48
KLR Kul'dur 86.66 27 LR LR 14 42 13.5
comp=Z,424nm,18.2s,baz=337,slow=38
PFO Pinyon Flats O 86.73 310 LR LR 14 38 58.9
comp=Z,159nm,18.1s,baz=52,slow=36
PFO Pinyon Flats O 86.73 310 P **P 14 00 03.1 -1.4**
baz=49
TPFO Pinon Flats 86.73 310 P **P 14 00 03.2 -1.3**
baz=49
EDW2 Edwards Air Fo 86.84 311 P **P 14 00 05.2 +0.2**
baz=48
BFSC Mount Baldy Ra 87.06 311 P **P 14 00 05.8 -0.3**
baz=48
IKP In-Ko-Pah, Jac 87.14 309 P **P 14 00 08.7 +2.2**
baz=49
MONP2 Monument Peak 87.18 309 P **P 14 00 09.1 +2.2**
baz=49
HNS HongShan 87.55 45 ⇑P **P 14 00 09.1 +0.8**
HNS pmax pmax
comp=Z,15nm,1.2s
CN2 Changchun 88.37 34 *e*P **P 14 00 10.3 -1.8**
LPIG La Paz 88.67 299 LR LR 14 39 33.6
comp=Z,402nm,19.4s,baz=46,slow=35
CMAR Chiang Mai Arr 89.22 68 P **P 14 00 16.7 +0.2**
comp=Z,4.8nm,1.1s,baz=305,slow=6.5,SNR=20
CMAR LR LR 14 47 35.5
comp=Z,95nm,19.7s,baz=295,slow=40
CMAR Chiang Mai Arr 89.22 68 *i* P **P 14 00 17.0 +0.5**
CMAR pmax pmax
comp=Z,5.0nm,1.1s
LCO Las Campanas 90.09 234 P **P 14 00 21.6 +1.1**
LCO pmax pmax
comp=Z,72nm,0.9s
LCO Las Campanas 90.09 234 P **P 14 00 21.6 +1.1**
PETK Petropavlovsk- 90.11 11 LR LR 14 47 42.6
comp=Z,369nm,18.5s,baz=330,slow=40
USRK Ussuriysk Ar. 90.89 30 LR LR 14 45 30.3
comp=Z,377nm,18.6s,baz=328,slow=38
SHEM Shemya Is, Ala 91.94 1 LR LR 14 43 57.0
comp=Z,77nm,18.2s,baz=346,slow=37
NJ2 Nanjing 93.74 46 *e*P **P 14 00 35.8 -1.5**
NJ2 pmax pmax
comp=Z,12nm,0.6s
KSRS Korea Array 94.51 37 LR LR 14 48 49.9
comp=Z,402nm,18.0s,baz=295,slow=39
ASAJ Asahikawa 94.87 24 LR LR 14 49 41.1
comp=Z,391nm,18.9s,baz=360,slow=40
PLCA Paso Flores 97.72 225 P Pdif 14 00 56.1 +1.1
comp=Z,1.6nm,0.6s,baz=39,slow=2.1,SNR=9.5
PLCA LR LR 14 43 21.0
comp=Z,379nm,21.2s,baz=50,slow=34
PLCA Paso Flores 97.72 225 *e*P Pdif 14 00 56.3 +1.2
PSI Prapat 98.60 80 LR LR 14 54 03.0
comp=Z,87nm,18.1s,baz=294,slow=41
JNU Nakatsue 99.42 37 LR LR 14 50 50.1
comp=Z,594nm,18.4s,baz=330,slow=38
MJAR Matsushiro Arr 99.89 30 LR LR 14 49 52.1
comp=Z,388nm,18.1s,baz=346,slow=38
SYO Syowa Base 109.16 165⇑*e*Pdiff **Pdif 14 01 46.8 +1.7**
QSPA South Pole Qui 125.56 180 PKP **PKPdf 14 06 20.5 0.0**
comp=Z,2.8nm,0.7s,baz=245,slow=1.2,SNR=19
WRA Warramunga Arr 140.03 78 PKhKP PKPpre 14 06 38.9
comp=Z,0.4nm,0.6s,baz=306,slow=2.7,SNR=6.0
WRA PP **PP 14 09 44.5 -1.7**
comp=Z,0.5nm,0.7s,baz=311,slow=6.6,SNR=5.6
ASAR Alice Springs 141.54 84 PKhKP PKPpre 14 06 45.0
comp=Z,0.7nm,0.6s,baz=296,slow=2.7,SNR=18
STKA Stephens Creek 150.99 93 PKPbc **PKPbc 14 07 12.8 -0.3**
comp=Z,13nm,0.8s,baz=325,slow=2.7,SNR=29

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*IDC **21** 13:48:13.8±3.2,20.°82N×103.°07E,h0km,mb3.6/2,*
mb1 3.4/3,mb1mx3.1/67,mbtmp3.4/3,ML3.4/1,MS2.6/1,
Ms1 2.8/1,ms1mx2.4/83,Error ellipse: s-maj=51.6km
s-min=24.0km az=125.0
*PLV **21** 13:48:16.5±0.7,21.°21N×102.°82E,h20km±5km,ML4.1*
ISC 21 13:48:17.9±1.0**,21.°20N**±0.°08×**102.°85E**±0.°08**,h10**km**,n6,**
σ1§58/8,Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**0.25**	**41**	*i* Pg	**Pg**	**13 48 22.8**	**-0.3**
DBV				*e*Sg	**Sg**	**13 48 27.1**	**+0.4**
DBV				IAML		13 48 27.5	
	comp=N,136μm,0.2s						
DBV				IAML		13 48 27.6	
	comp=E,158μm,0.5s						
MLAV	**Muong La stati**	**0.89**	**19**	*e*Pg	**Pg**	**13 48 33.7**	**-1.3**
MLAV				IAML		13 48 49.5	
	comp=E,4μm,0.3s						
MLAV				IAML		13 48 49.5	
	comp=N,2μm,0.2s						
SLVN	**Son La**	**1.00**	**82**	*e*Pn	**Pg**	**13 48 36.4**	**-0.6**
SLVN				IAML		13 48 55.5	
	comp=N,2μm,0.2s						
SLVN				IAML		13 48 55.9	
	comp=E,2μm,0.3s						
CMAR	**Chiang Mai Arr**	**4.58**	**234**	Pn	**Pn**	**13 49 25.1**	**-2.2**
	comp=E,0.5nm,0.3s,baz=48,slow=12,SNR=5.7						
CMAR				Pg	**Pb**	**13 49 39.8**	**+1.5**
	comp=E,4.9nm,0.3s,baz=53,slow=17,SNR=49						
CMAR				Lg	Lg	13 50 37.2	
	comp=E,4.8nm,0.3s,baz=58,slow=29,SNR=9.2						
CMAR				LR	LR	13 51 19.7	
	comp=E,64nm,19.2s,baz=305,slow=41						
MKAR	**Makanchi Array**	**30.51**	**332**	P	**P**	**13 54 31.7**	**+0.5**
	comp=E,0.5nm,0.7s,baz=134,slow=8.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**35.47**	**342**	P	**P**	**13 55 16.0**	**+1.7**
	comp=E,0.4nm,0.4s,baz=150,slow=6.7,SNR=1.9						

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*IDC **21** 13:57:54.4±1.6,35.°73N×3.°83W,h0km,mb3.5/2,mb1 3.6/4,*
mb1mx3.3/60,mbtmp3.4/4,ML3.3/2,Error ellipse:
s-maj=40.1km s-min=21.2km az=93.0
*SFS **21** 13:57:55.0,35.°65N×3.°78W,ML3.3,ALBORAN SUR*
*MDD **21** 13:57:55.6±0.5,35.°65N×3.°78W,h0km,mbLg3.3/21,Error*
ellipse: s-maj=4.8km s-min=3.2km az=20.0
MDD EMS: II INTENSIDAD MAXIMA (ESPAOA).
*INMG **21** 13:57:56.2±1.6,35.°68N×3.°79W,h0km±3km,ML3.1,Error*
ellipse: s-maj=3.4km s-min=2.2km az=0.0
*CNRM **21** 13:57:56.9,35.°64N×3.°62W,h23km,ml3.5*
*IGIL **21** 13:57:57.3,35.°63N×3.°79W,h10km*
ISC 21 13:57:56.6±1.2**,35.°65N**±0.°03×**3.°70W**±0.°02**,h23**km±11**km,**
n93,σ1§60/151,4C-2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.48**	**205**	P	**Pb**	**13 58 06.2**	**-0.1**
PALE				S	**Sb**	**13 58 13.6**	**+0.7**
EALB	**Alboran**	**0.61**	**62**	⇑Pg	**Pb**	**13 58 08.2**	**-0.4**
	148nm,0.1s,SNR=18						
EALB				Lg	Lg	13 58 17.2	
	2μm,0.2s,SNR=27						
EMEL	**Melilla**	**0.70**	**120**	⇓Pg	**Pb**	**13 58 09.6**	**-0.4**
	4μm,0.1s,SNR=18						
EMEL				Lg	Lg	13 58 18.9	
	14μm,0.2s,SNR=23						
CHAS	**Isla Isabel II**	**1.13**	**114**	P	**Pn**	**13 58 15.4**	**-1.6**
CHAS				S	**Sn**	**13 58 29.2**	**-2.6**
ELGU	**Los Guajares,**	**1.22**	**3**	Pg	**Pn**	**13 58 16.7**	**-1.5**
	43nm,0.1s,SNR=7.9						
ELGU				Lg	Lg	13 58 33.9	
	2μm,0.4s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.26**	**332**	P	**Pn**	**13 58 17.6**	**-1.1**
EMAL				S	**Sn**	**13 58 32.8**	**-2.1**
EMIJ	**Mijas**	**1.26**	**317**	Pg	**Pn**	**13 58 17.5**	**-1.3**
	24nm,0.1s,SNR=18						
EMIJ				Lg	Lg	13 58 33.6	
	943nm,0.4s,SNR=21						
TAF	**Taforalt**	**1.34**	**128**	P	**Pn**	**13 58 19.2**	**-0.7**
TAF				S	**Sn**	**13 58 35.8**	**-1.3**
CEU	**Ceuta**	**1.39**	**281**	P	**Pn**	**13 58 17.6**	**-2.8**
CEU				S	**Sn**	**13 58 34.5**	**-3.5**
ECEU	**Ceuta**	**1.39**	**281**	Pg	**Pn**	**13 58 19.1**	**-1.5**
	25nm,0.3s,SNR=25						
ECEU				Lg	Lg	13 58 36.9	
	55nm,0.1s,SNR=10						
EBER	**Berja**	**1.41**	**27**	Pn	**Pn**	**13 58 19.9**	**-1.0**
	6.0nm,0.2s,SNR=7.9						
EBER				Pg	**Pb**	**13 58 21.4**	**-0.9**
	21nm,0.2s,SNR=7.9						
EBER				Lg	Lg	13 58 40.6	
	375nm,0.4s,SNR=7.9						
CHEFC	**Chefchaouen**	**1.45**	**248**	P	**Pn**	**13 58 22.2**	**+0.8**
CHEFC				S	**Sb**	**13 58 41.5**	**+0.5**
EGOR	**Sierra Gorda,**	**1.49**	**347**	Pn	**Pn**	**13 58 21.4**	**-0.7**
	14nm,0.4s,SNR=7.9						
EGOR				Lg	Lg	13 58 42.3	
	549nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**1.56**	**7**	Pg	**Pn**	**13 58 22.9**	**-0.1**
	7.1nm,0.1s,SNR=42						
EQUE				Lg	Lg	13 58 46.1	
	153nm,0.4s,SNR=11						
JBK	**JBK**	**1.61**	**144**	P	**Pn**	**13 58 23.1**	**-0.6**
JBK				S	**Sn**	**13 58 42.5**	**-1.3**
EJIF	**Jimena Fronter**	**1.64**	**300**	Pn	**Pn**	**13 58 22.8**	**-1.3**
	SNR=7.9						
EJIF				Lg	Lg	13 58 48.6	
	SNR=7.9						
ENIJ	**Nijar**	**1.78**	**42**	Pn	**Pn**	**13 58 25.7**	**-0.3**
	2.0nm,0.3s,SNR=7.9						
ENIJ				Sn	**Sn**	**13 58 45.7**	**-2.2**
	221nm,0.5s,SNR=7.9						
CPS	**Cap Spartel**	**1.81**	**275**	P	**Pb**	**13 58 29.2**	**+0.2**
SICH	**Sidi Chahed**	**2.04**	**221**	P	**Pb**	**13 58 32.7**	**-0.2**
LCRM	**LCR**	**2.18**	**206**	P	**Pb**	**13 58 34.6**	**-0.8**
EQES	**Quesada**	**2.21**	**13**	Pn	**Pn**	**13 58 33.8**	**+1.9**
	13nm,0.1s,SNR=66						
EQES				Sn	**Sb**	**13 59 01.0**	**-1.8**
	56nm,0.2s,SNR=5.8						
IFR	**Ifrane**	**2.43**	**209**	P	**Pn**	**13 58 36.5**	**+1.4**
IFR				S	**Sn**	**13 59 03.3**	**-0.9**
EADA	**Adamuz**	**2.61**	**345**	Pn	**Pn**	**13 58 38.3**	**+1.0**
	4.9nm,0.1s,SNR=33						
EADA				Pg	**Pb**	**13 58 41.6**	**-1.1**
	12nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**13 59 08.5**	**+0.1**
	90nm,0.5s,SNR=5.0						
EADA				Lg	Lg	13 59 14.3	
	182nm,0.5s,SNR=7.9						
EZAR	**Zarzadilla de**	**2.74**	**35**	Pn	**Pn**	**13 58 40.6**	**+1.4**
	2.7nm,0.2s,SNR=7.9						
EZAR				Sn	**Sn**	**13 59 13.3**	**+1.6**
	8.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.79**	**331**	Pn	**Pn**	**13 58 40.8**	**+1.0**
	1.0nm,0.1s,SNR=24						
ECAB				Sn	**Sn**	**13 59 12.7**	**+0.1**
	29nm,0.5s,SNR=7.9						
ECAB				Lg	Lg	13 59 23.3	
	85nm,0.4s,SNR=7.9						
CART	**Cartagena**	**2.90**	**47**	P	**Pn**	**13 58 41.3**	**0.0**
MD31	**MD31**	**2.91**	**198**	P	**Pn**	**13 58 42.9**	**+1.3**
MDT	**Midelt**	**2.93**	**195**	Pn	**Pn**	**13 58 43.1**	**+1.3**
	1.8nm,0.3s,baz=204,slow=13,SNR=20						
MDT	**Midelt**	**2.93**	**195**	P	**Pn**	**13 58 43.0**	**+1.3**
EMUR	**La Murta**	**2.94**	**41**	Pn	**Pn**	**13 58 43.2**	**+1.2**
	1.3nm,0.5s,SNR=8.3						
EMUR				Sn	**Sn**	**13 59 14.5**	**-2.1**
	27nm,0.5s,SNR=5.5						
TDRA	**Tendrara**	**2.95**	**152**	P	**Pn**	**13 58 43.0**	**+0.9**
EMIN	**Mina Concepcio**	**3.19**	**312**	Pn	**Pn**	**13 58 45.4**	**+0.1**
	0.1nm,0.2s,SNR=56						
EMIN				Sn	**Sn**	**13 59 22.3**	**-0.3**
	5.2nm,0.4s,SNR=7.9						
EMIN				Lg	Lg	13 59 35.3	
	8.0nm,0.3s,SNR=7.9						
ZHG	**ZHG**	**3.28**	**229**	P	**Pn**	**13 58 46.9**	**+0.3**
ETOB	**Tobarra**	**3.45**	**29**	Pn	**Pn**	**13 58 50.8**	**+2.0**
	4.7nm,0.2s,SNR=30						
ETOB				Sn	**Sn**	**13 59 30.9**	**+1.9**
	6.0nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.58**	**303**	⇑Pn	**Pn**	**13 58 50.8**	**+0.1**
	9.8nm,0.2s,SNR=18						
EGRO				Sn	**Sn**	**13 59 31.1**	**-1.1**
	29nm,0.3s,SNR=5.7						
PBAR	**Barrancos**	**3.68**	**314**	*e*Pn	**Pn**	**13 58 52.5**	**+0.5**
PBAR				*e*Sn	**Sn**	**13 59 34.9**	**+0.3**
PVAQ	**Vaqueiros**	**3.68**	**300**	*e*Pn	**Pn**	**13 58 51.9**	**-0.1**
PVAQ				*e*Sn	**Sn**	**13 59 33.9**	**-0.8**
PVAQ				A	A	13 59 36.4	
	22nm,0.5s						
PVAQ	**Vaqueiros**	**3.68**	**300**	P	**Pn**	**13 58 52.0**	**-0.1**
PAB	**San Pablo**	**3.92**	**353**	Pn	**Pn**	**13 58 56.4**	**+0.9**
	3.2nm,0.2s,SNR=7.9						
PAB				Sn	**Sn**	**13 59 40.1**	**-0.7**
	11nm,0.4s,SNR=7.9						
PAB				Lg	Lg	14 00 00.6	
	17nm,0.4s,SNR=7.9						
PCVE	**Castro Verde**	**4.01**	**301**	⇑*e*Pn	**Pn**	**13 58 56.5**	**-0.1**
PCVE				*e*Sn	**Sn**	**13 59 43.5**	**+0.6**
PCVE				A	A	13 59 51.0	
	21nm,0.4s						
ESDC	**Sonseca Array**	**4.02**	**357**	Pn	**Pn**	**13 58 57.3**	**+0.5**
	1.5nm,0.3s,baz=178,slow=12,SNR=30						
ESDC				Lg	Lg	13 59 58.7	
	3.1nm,0.3s,baz=180,slow=28,SNR=7.5						
ESDC	**Sonseca Array**	**4.02**	**357**	Pn	**Pn**	**13 58 57.9**	**+1.2**
	7.5nm,0.1s,baz=179,slow=12,SNR=52						
ESDC				Sn	**Sn**	**13 59 42.9**	**-0.3**
	baz=182,slow=17,SNR=7.9						
ESDC				Lg	Lg	13 59 59.8	
	20nm,0.8s,baz=182,slow=29,SNR=9.5						
FIGM	**Figuig**	**4.05**	**149**	P	**Pn**	**13 58 58.5**	**+1.2**
EBAD	**Badajoz**	**4.08**	**320**	Pn	**Pn**	**13 58 57.7**	**+0.3**
	5.3nm,0.1s,SNR=46						
EBAD				Sn	**Sn**	**13 59 43.3**	**-1.1**
	19nm,0.4s,SNR=7.9						
EBAD				Lg	Lg	14 00 04.8	
	23nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**4.10**	**307**	*e*Pn	**Pn**	**13 58 57.7**	**-0.1**
PBEJ				*e*Sn	**Sn**	**13 59 44.2**	**-0.9**
PBEJ				A	A	13 59 57.0	
	13nm,0.5s						
MESJ	**Messejana**	**4.24**	**302**	*e*P	**Pn**	**13 58 59.6**	**-0.1**
MESJ	**Messejana**	**4.24**	**302**	*e*P	**Pn**	**13 58 59.6**	**-0.1**
MORF	**Marmelete**	**4.32**	**294**	*e*P	**Pn**	**13 59 00.3**	**-0.6**
MORF	**Marmelete**	**4.32**	**294**	*e*Pn	**Pn**	**13 59 01.0**	**+0.1**
MORF				*e*Sn	**Sn**	**13 59 51.2**	**+0.6**
MORF				A	A	14 00 06.6	
	17nm,0.4s						
PFVI	**Vila Bisbo**	**4.40**	**291**	*e*Pn	**Pn**	**13 59 02.2**	**+0.4**
PFVI				*e*Sn	**Sn**	**13 59 53.0**	**+0.7**
PFVI				A	A	14 00 06.3	
	15nm,0.6s						
PFVI	**Vila Bisbo**	**4.40**	**291**	P	**Pn**	**13 59 02.8**	**+1.0**
PFVI	**Vila Bisbo**	**4.40**	**291**	Pn	**Pn**	**13 59 02.3**	**+0.4**
	2.2nm,0.2s,SNR=13						
PFVI				Sn	**Sn**	**13 59 50.5**	**-1.8**
	2.7nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.47**	**297**	*e*Pn	**Pn**	**13 59 03.3**	**+0.5**
PTEO				*e*Sn	**Sn**	**13 59 54.5**	**+0.5**
PTEO				A	A	13 59 59.4	
	19nm,0.4s						
PESTR	**Estremoz**	**4.47**	**317**	*e*Pn	**Pn**	**13 59 03.4**	**+0.5**
PESTR				*e*Sn	**Sn**	**13 59 52.6**	**-1.5**
PESTR				A	A	14 00 26.4	
	25nm,0.5s						
PESTR	**Estremoz**	**4.47**	**317**	P	**Pn**	**13 59 03.3**	**+0.4**
ECHE	**Chera**	**4.49**	**28**	Pn	**Pn**	**13 59 05.1**	**+1.9**
	0.3nm,0.3s,SNR=7.9						
ECHE				Sn	**Sn**	**13 59 55.9**	**+1.2**
	0.0nm,0.1s,SNR=7.9						
EVO	**Evora**	**4.49**	**311**	*e*Pn	**Pn**	**13 59 03.8**	**+0.6**
EVO				*e*Sn	**Sn**	**13 59 53.8**	**-0.9**
EVO				A	A	13 59 56.4	
	26nm,0.4s						
PNCL	**Nicolau / Gran**	**4.59**	**304**	⇑*e*Pn	**Pn**	**13 59 04.5**	**0.0**
PNCL				*e*Sn	**Sn**	**13 59 57.0**	**0.0**
PNCL				A	A	14 00 05.3	
	19nm,0.4s						
PMRV	**Marv??o**	**4.78**	**323**	*e*Pn	**Pn**	**13 59 07.9**	**+0.7**
PMRV				*e*Sn	**Sn**	**14 00 01.2**	**-0.6**
PMRV				A	A	14 00 26.2	
	20nm,0.4s						
EPLA	**Plasencia**	**4.79**	**338**	Pn	**Pn**	**13 59 08.4**	**+1.0**
	4.3nm,0.2s,SNR=17						
EPLA				Pg	**Pb**	**13 59 22.0**	**+2.2**
	2.7nm,0.2s,SNR=7.9						
EPLA				Sn	**Sn**	**14 00 01.0**	**-1.1**
	2.7nm,0.2s,SNR=7.9						
EPLA				Lg	Lg	14 00 25.2	
	50nm,0.5s,SNR=7.9						
PMTG	**Montargil**	**4.97**	**315**	*e*Pn	**Pn**	**13 59 10.0**	**+0.3**
PMTG				*e*Sn	**Sn**	**14 00 05.6**	**-0.8**
PMTG				A	A	14 00 40.8	
	17nm,0.5s						
GUD	**Guadarrama**	**5.00**	**356**	Pn	**Pn**	**13 59 11.3**	**+1.0**
	SNR=7.9						
GUD				Sn	**Sn**	**14 00 05.3**	**-2.1**
	SNR=7.9						
GUD				Lg	Lg	14 00 32.6	
	15nm,0.5s,SNR=7.9						
TZRR	**Tazzarine**	**5.10**	**198**	P	**Pn**	**13 59 12.9**	**+1.2**
PCBR	**Castelo Branco**	**5.14**	**326**	*e*Pn	**Pn**	**13 59 13.3**	**+1.2**
PCBR				*e*Sn	**Sn**	**14 00 09.2**	**-1.6**
PCBR				A	A	14 00 11.9	
	23nm,0.6s						
EIBI	**Ibiza**	**5.24**	**48**	Pn	**Pn**	**13 59 14.0**	**+0.6**
	1.3nm,0.1s,SNR=7.8						
EIBI				Sn	**Sn**	**14 00 09.8**	**-3.4**
	8.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.32**	**14**	Pn	**Pn**	**13 59 16.5**	**+1.8**
	6.0nm,0.2s,SNR=11						
ETOR				Sn	**Sn**	**14 00 13.4**	**-1.8**
	SNR=7.9						
ETOR				Lg	Lg	14 00 46.3	
	27nm,1.0s,SNR=7.9						
EMOS	**Mosqueruela**	**5.35**	**27**	Pn	**Pn**	**13 59 16.5**	**+1.4**
	0.0nm,0.4s,SNR=7.9						
OUZM	**OUZ**	**5.38**	**209**	P	**Pn**	**13 59 17.5**	**+1.9**
PMAFR	**Mafra**	**5.54**	**308**	*e*Pn	**Pn**	**13 59 18.1**	**+0.5**
PMAFR	**Mafra**	**5.54**	**308**	Pn	**Pn**	**13 59 17.9**	**+0.3**
	3.8nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**14 00 14.1**	**-6.5**
	38nm,0.4s,SNR=7.9						
PSBE	**So Bento**	**5.59**	**315**	*e*Pn	**Pn**	**13 59 19.5**	**+1.2**
PSBE				*e*Sn	**Sn**	**14 00 21.6**	**-0.3**
PSBE				A	A	14 00 59.4	
	18nm,0.6s						
MTE	**Manteigas**	**5.63**	**328**	*e*Pn	**Pn**	**13 59 20.2**	**+1.3**
MTE				*e*Sn	**Sn**	**14 00 21.1**	**-1.8**
MTE				A	A	14 00 24.3	
	30nm,0.6s						
OUK	**Oukaimeden**	**5.64**	**219**	P	**Pn**	**13 59 19.9**	**+0.6**
PCAS	**Casmilo, Conde**	**5.81**	**321**	*e*Pn	**Pn**	**13 59 21.5**	**+0.2**
PCAS				*e*Sn	**Sn**	**14 00 24.8**	**-2.4**
PCAS				A	A	14 01 15.5	
	17nm,0.7s						
COI	**Coimbra**	**5.88**	**322**	*e*Pn	**Pn**	**13 59 23.4**	**+1.1**
PVIS	**Viseu**	**6.04**	**328**	*e*Pn	**Pn**	**13 59 25.6**	**+1.1**
PVIS				*e*Sn	**Sn**	**14 00 30.8**	**-2.2**
PVIS				A	A	14 01 23.0	
	30nm,0.1s						
MVO	**Moncorvo**	**6.09**	**336**	*e*Pn	**Pn**	**13 59 26.6**	**+1.3**
MVO				*e*Sn	**Sn**	**14 00 31.8**	**-2.5**
MVO				A	A	14 01 09.3	
	29nm,0.5s						
MVO	**Moncorvo**	**6.09**	**336**	Pn	**Pn**	**13 59 25.8**	**+0.5**
	10nm,0.1s,SNR=16						
PVRL	**Vila Real**	**6.44**	**332**	*e*Pn	**Pn**	**13 59 31.2**	**+1.2**
PVRL				*e*Sn	**Sn**	**14 00 39.9**	**-2.9**
PVRL				A	A	14 00 49.2	
	17nm,0.4s						
POLO	**Lamas de Olo**	**6.55**	**332**	⇓*e*Pn	**Pn**	**13 59 32.8**	**+1.2**
POLO				*e*Sn	**Sn**	**14 00 42.7**	**-3.0**
POLO				A	A	14 00 46.8	
	5.2nm,0.5s						
PBRG	**Braganca**	**6.59**	**340**	*e*Pn	**Pn**	**13 59 32.9**	**+0.9**
PBRG				*e*Sn	**Sn**	**14 00 44.7**	**-1.7**
PBRG				A	A	14 00 47.6	
	8.0nm,0.6s						
ETOS	**Mallorca**	**6.60**	**50**	Pn	**Pn**	**13 59 33.3**	**+1.2**
	1.4nm,0.3s,SNR=7.1						
ETOS				Sn	**Sn**	**14 00 45.8**	**-0.8**
	0.5nm,0.2s,SNR=7.9						
PTO	**Porto**	**6.70**	**326**	*e*Pn	**Pn**	**13 59 34.5**	**+1.1**
PCAB	**Cabril**	**6.93**	**332**	*e*Pn	**Pn**	**13 59 37.9**	**+1.2**
PCAB				*e*Sn	**Sn**	**14 00 50.6**	**-4.3**
PCAB				A	A	14 01 36.3	
	14nm,0.5s						
ELOB	**Lobios**	**7.08**	**333**	Pn	**Pn**	**13 59 39.3**	**+0.5**
	0.6nm,0.3s,SNR=7.9						
ELOB				Sn	**Sn**	**14 00 55.2**	**-3.4**
	1.8nm,0.2s,SNR=7.9						
ELOB				Lg	Lg	14 01 40.5	
	12nm,0.5s,SNR=7.9						
PGAV	**Gavieira, Arco**	**7.25**	**332**	*e*Pn	**Pn**	**13 59 42.2**	**+1.1**
PGAV				*e*Sn	**Sn**	**14 00 59.4**	**-3.2**
PGAV				A	A	14 01 14.8	
	9.5nm,0.9s						
CSOR	**Sort**	**7.69**	**28**	Pn	**Pn**	**13 59 49.1**	**+1.8**
	SNR=7.9						
EARI	**Arriondas**	**7.73**	**352**	Pn	**Pn**	**13 59 48.8**	**+1.1**
	0.5nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**14 01 10.7**	**-3.8**
	0.2nm,0.1s,SNR=7.9						
EARI				Lg	Lg	14 02 04.2	
	26nm,1.1s,SNR=4.7						
EALK	**Alkurruntz**	**7.75**	**12**	Pn	**Pn**	**13 59 50.3**	**+2.4**
	0.9nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.91**	**336**	Pn	**Pn**	**13 59 51.5**	**+1.3**
	SNR=7.9						
EAGO				Sn	**Sn**	**14 01 14.5**	**-4.5**
	SNR=7.9						
EAGO				Lg	Lg	14 02 04.5	
	16nm,0.9s,SNR=7.9						
EPON	**Pontenova**	**8.12**	**342**	Pn	**Pn**	**13 59 54.3**	**+1.3**
	0.3nm,0.4s,SNR=7.9						
EPON				Sn	**Sn**	**14 01 19.2**	**-4.7**
	SNR=7.9						
EPON				Lg	Lg	14 02 12.9	
	15nm,0.9s,SNR=7.9						
MKAR	**Makanchi Array**	**62.56**	**51**	P	**P**	**14 08 19.7**	**+1.1**
	0.6nm,0.8s,baz=287,slow=5.0,SNR=3.9						
YKA	**Yellowknife Ar**	**67.73**	**332**	P	**P**	**14 08 52.9**	**+1.1**
	0.3nm,0.6s,baz=60,slow=6.7,SNR=4.9						

IDC 21 14:02:15.4±650.0**,52.°76N**×**5.°56E,h0**km**,Error ellipse:**
s-maj=297.0km s-min=128.2km az=116.0,The
Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.48**	**124**	*i*		14 43 50.8	
	baz=309,slow=322,SNR=3.4						
I48TN	**KESRA INFRASON**	**8.61**	**170**	*i*		15 50 10.0	
	baz=354,slow=308,SNR=0.4						
I43RU	**DUBNA INFRASON**	**8.61**	**65**	*i*		15 53 30.0	
	baz=274,slow=336,SNR=2.0						
I31KZ	**AKTYUBINSK INF**	**32.10**	**73**	*i*		17 15 10.0	

PALE			S		Sg	14 10 43.9	-0.2
CHAS	**Isla Isabel II**	**1.11 118**	P		Pn	14 10 45.3	-0.6
CHAS			S		Sb	14 10 59.2	-0.9
EMAL	**Malaga-Limoner**	**1.23 329**	P		Pn	14 10 47.5	0.0
EMAL			S		Sb	14 11 03.5	+0.1
TAF	**Taforalt**	**1.34 132**	P		Pn	14 10 49.2	+0.1
TAF			S		Sn	14 11 06.0	-0.4
CEU	**Ceuta**	**1.43 278**	P		Pn	14 10 47.9	-2.3
CEU			S		Sn	14 11 03.9	-4.5
CHEFC	**Chefchaouen**	**1.52 247**	P		Pn	14 10 52.1	+0.5
CHEFC			S		Sn	14 11 11.9	+1.0
JBK	**JBK**	**1.63 147**	P		Pn	14 10 53.0	-0.2
JBK			S		Sn	14 11 12.4	-1.3
LCRM	**LCR**	**2.26 207**	P		Pb	14 11 05.6	-0.1
LCRM			S		Sn	14 11 31.6	+2.3
IFR	**Ifrane**	**2.52 210**	P		Pn	14 11 03.2	-2.2
IFR			S		Sn	14 11 34.3	-1.2
MD31	**MD31**	**2.99 199**	P		Pn	14 11 12.9	+1.1
MD31			S		Sn	14 11 48.0	+0.9
MDT	**Midelt**	**3.00 196**	P		Pn	14 11 13.3	+1.3
MDT			S		Sn	14 11 49.1	+1.6
ZHG	**ZHG**	**3.36 229**	P		Pn	14 11 17.1	+0.2
PVAQ	**Vaqueiros**	**3.70 298**	P		Pn	14 11 18.9	-2.5
PBDV	**Barranco-do-Ve**	**3.79 295**	*e*Pn		Pn	14 11 22.0	-0.7
PBDV			*e*Sn		Sn	14 12 06.5	-0.2
PBDV			A		A	14 12 20.8	
	5.0nm,1.2s						
PCVE	**Castro Verde**	**4.03 300**	*e*Pn		Pn	14 11 26.6	+0.6
PCVE			*e*Sn		Sn	14 12 10.0	-2.6
PCVE			A		A	14 12 20.7	
	5.8nm,0.4s						
PFVI	**Vila Bisbo**	**4.42 290**	*e*Pn		Pn	14 11 32.8	+1.4
PFVI			*e*Sn		Sn	14 12 22.9	+0.6
PFVI	**Vila Bisbo**	**4.42 290**	P		Pn	14 11 32.8	+1.4
PFVI			S		Sn	14 12 21.9	-0.4
PESTR	**Estremoz**	**4.46 316**	*e*Pn		Pn	14 11 34.0	+2.1
PESTR	**Estremoz**	**4.46 316**	P		Pn	14 11 32.4	+0.6
PESTR			S		Sn	14 12 23.7	+0.5
PTEO	**Sao Teotonio**	**4.49 296**	*e*Pn		Pn	14 11 33.5	+1.3
EVO	**Evora**	**4.49 310**	*e*Pn		Pn	14 11 33.8	+1.5
EVO			*e*Sn		Sn	14 12 23.7	-0.3
PNCL	**Nicolau / Gran**	**4.60 303**	*e*Pn		Pn	14 11 34.5	+0.7
PMRV	**Marv??o**	**4.76 322**	*e*Pn		Pn	14 11 37.9	+1.8
PMRV			*e*Sn		Sn	14 12 31.0	+0.3
PMRV			A		A	14 12 52.2	
	3.1nm,0.5s						
PMTG	**Montargil**	**4.96 314**	*e*Pn		Pn	14 11 40.5	+1.7
PMTG			*e*Sn		Sn	14 12 35.8	+0.3
PMTG			A		A	14 12 43.3	
	3.2nm,0.8s						
OUZM	**OUZ**	**5.46 210**	P		Pn	14 11 47.9	+2.1
PSBE	**So Bento**	**5.58 314**	*e*Pn		Pn	14 11 50.0	+2.6

*EAF **21** 14:27:20.9±2.3, 25°.95S×29°.35E, h0km±36km, MD3.6*
BUL 21 14:27:22.1±1.4, **25°.91S×29°.30E, h0km±22km, MD3.8, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.06**	**39**	*i* P	Pn	14 28 09.8	-1.9
MOPA				*i* S	Sn	14 28 44.4	-4.7
MOPA	**Mopani**	**3.06**	**39**	*i* P	Pn	14 28 09.8	-1.9
MOPA				*i* S	Sn	14 28 44.4	-4.7
LBTB	**Lobatse**	**3.46**	**284**	*i* P	Pn	14 28 16.9	-0.5
LBTB				*i* Sg	Sb	14 29 09.0	+2.0
LBTB	**Lobatse**	**3.46**	**284**	*i* P	Pn	14 28 16.9	-0.5
LBTB				*i* Sg	Sb	14 29 09.0	+2.0
MSNA	**Messina**	**3.61**	**11**	*i* S	Sn	14 28 59.8	-3.0
MSNA	**Messina**	**3.61**	**11**	*i* S	Sn	14 28 59.8	-3.0
MATP	**Matopo**	**5.51**	**352**	*i* P	Pn	14 28 46.1	+0.5
MATP				*i* S	Sn	14 29 45.4	-4.4
MATP	**Matopo**	**5.51**	**352**	*i* P	Pn	14 28 46.1	+0.5
MATP				*i* S	Sn	14 29 45.4	-4.4

*ROM **21** 14:37:03.9±0.4, 42°.38N±0°.03×15°.19E±0°.02, h10km, ML2.5/4, Error ellipse: s-maj=3.1km s-min=1.1km az=30.0*
ISC 21 14:37:03.1±1.6, **42°.41N**±0°.04×**15°.18E**±0°.03, **h7km**±14km, **n34**, σ0s**54**/48, **Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAFR	**Castel Frentan**	**0.64**	**254**	P	**Pb**	**14 37 17.4**	**+0.8**
MELA	**Melanico ??? S**	**0.70**	**183**	P	**Pg**	**14 37 16.1**	**-0.5**
MELA				AML	AML		
	comp=N,305μm,0.3s						
MELA				AML	AML		
	comp=E,448μm,1.2s						
MELA				AML	AML		
	comp=E,469μm,1.2s						
MELA				AML	AML		
	comp=N,285μm,0.4s						
SGRT	**San Giovanni R**	**0.78**	**147**	P	**Pg**	**14 37 18.0**	**0.0**
SGRT				S	**Sb**	**14 37 29.4**	**-0.4**
SGRT				AML	AML		
	comp=E,538μm,0.9s						
SGRT				AML	AML		
	comp=N,506μm,0.2s						
SGRT				END			
SGRT				END			
CIGN	**Sant'Elia a Pi**	**0.78**	**195**	P	**Pg**	**14 37 18.0**	**0.0**
TRIV	**Trivento**	**0.79**	**216**	P	**Pg**	**14 37 18.6**	**+0.4**
TRIV				AML	AML		
	comp=N,87μm,0.6s						
TRIV				AML	AML		
	comp=E,101μm,1.4s						
LPEL	**Lama dei Pelig**	**0.82**	**244**	P	**Pg**	**14 37 19.5**	**+0.7**
MSAG	**Monte S. Angel**	**0.89**	**142**	P	**Pg**	**14 37 20.1**	**+0.1**
MSAG				AML	AML		
	comp=N,784μm,0.2s						
MSAG				AML	AML		
	comp=E,538μm,1.2s						
MSAG				AML	AML		
	comp=E,574μm,1.2s						
MSAG				AML	AML		
	comp=N,806μm,0.2s						
MSAG				END			
MSAG				END			
GATE	**Gambatesa**	**0.92**	**193**	P	**Pb**	**14 37 21.8**	**+0.4**
BSSO	**Busso**	**0.96**	**207**	P	**Pg**	**14 37 21.8**	**+0.2**
VCEL	**Villa Celiera**	**0.99**	**270**	P	**Pg**	**14 37 21.9**	**-0.1**
MIDA	**Miranda**	**1.03**	**222**	P	**Pg**	**14 37 22.0**	**-0.8**
RNI2	**Rionero Sannit**	**1.04**	**228**	P	**Pg**	**14 37 23.1**	**+0.1**
T0110	**Collepietro**	**1.05**	**261**	P	**Pg**	**14 37 24.0**	**+0.8**
SACR	**S. Croce Del S**	**1.07**	**199**	P	**Pg**	**14 37 23.2**	**-0.4**
TERO	**Teramo**	**1.18**	**281**	P	**Pb**	**14 37 26.2**	**+0.4**
CERA	**Filignano**	**1.18**	**227**	P	**Pb**	**14 37 26.2**	**+0.3**
FAGN	**Fagnano**	**1.19**	**264**	P	**Pb**	**14 37 26.4**	**+0.4**
GIGS	**Gran Sasso**	**1.19**	**273**	P	**Pb**	**14 37 25.0**	**-1.0**
HVAR	**Hvar**	**1.21**	**50**	*e*Pg	**Pn**	**14 37 26.0**	**-0.5**
HVAR				Sg	**Sb**	**14 37 41.8**	**-0.5**
SGTA	**Sant Agata di**	**1.28**	**174**	P	**Pn**	**14 37 27.0**	**-0.5**
VITU	**Vitulano (BN)**	**1.29**	**199**	P	**Pb**	**14 37 27.9**	**+0.1**
ZIRJ	**Zirje**	**1.29**	**15**	*e*Pg	**Pn**	**14 37 27.1**	**-0.5**
ZIRJ				Sg	**Sb**	**14 37 45.0**	**+0.5**
LSTV	**Lastovo**	**1.32**	**74**	*e*Pg	**Pn**	**14 37 27.6**	**-0.4**
LSTV				Sg	**Sb**	**14 37 45.3**	**0.0**
MORI	**Morici**	**1.51**	**15**	*e*Pn	**Pn**	**14 37 30.4**	**-0.2**
MORI				Sg	**Sn**	**14 37 50.8**	**+0.4**
MRVN	**Minervino Murg**	**1.55**	**150**	P	**Pn**	**14 37 31.6**	**+0.4**
DUGI	**Dugi Otok**	**1.58**	**357**	*e*Pn	**Pn**	**14 37 31.3**	**-0.4**
DUGI				Sn	**Sn**	**14 37 52.9**	**+0.5**
MAKA	**Makarska**	**1.62**	**56**	*e*Pn	**Pn**	**14 37 31.8**	**-0.2**
MAKA				Sn	**Sb**	**14 37 54.4**	**+0.5**
RICI	**Ricice**	**1.80**	**52**	*e*Pn	**Pn**	**14 37 34.4**	**-0.2**
RICI				Sn	**Sn**	**14 37 58.1**	**+0.4**
KIJV	**Kijevo**	**1.83**	**29**	*e*Pn	**Pn**	**14 37 34.8**	**-0.3**
KIJV				Sn	**Sn**	**14 37 59.6**	**+1.1**
STON	**Ston**	**1.92**	**75**	*e*Pn	**Pn**	**14 37 35.5**	**-0.7**
STON				Sn	**Sb**	**14 38 02.2**	**-0.4**
UDBI	**Udbina**	**2.16**	**11**	*e*Pn	**Pn**	**14 37 39.4**	**-0.3**
UDBI				Sn	**Sn**	**14 38 07.7**	**+1.0**
NVLJ	**Novalja**	**2.17**	**354**	*e*Pn	**Pn**	**14 37 38.8**	**-0.8**
NVLJ				Sn	**Sn**	**14 38 06.6**	**-0.1**
BRJN	**Brijuni**	**2.70**	**338**	*e*Pn	**Pn**	**14 37 46.8**	**-0.2**
BRJN				Sn	**Sn**	**14 38 19.4**	**-0.5**
SMRN	**Sveta Marina**	**2.73**	**345**	*e*Pn	**Pn**	**14 37 46.0**	**-1.3**
SMRN				Sn	**Sn**	**14 38 20.0**	**-0.6**

*SFS **21** 14:40:52.0, 35°.66N×3°.77W, ML2.9, ALBORAN SUR*
*CNRM **21** 14:40:53.6, 35°.64N×3°.64W, h25km, ml3.1*
*IGIL **21** 14:40:53.1, 35°.65N×3°.78W, h0km, ML2.3*
*INMG **21** 14:40:53.0±1.7, 35°.68N×3°.80W, h0km±3km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.9km az=152.0*
ISC 21 14:40:53.1±1.4, **35°.68N**±0°.04×**3°.68W**±0°.04, **h29km**±13km, **n44**, σ1s**59**/75, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**205**	P	**Pb**	**14 41 03.1**	**-0.6**
PALE				S	**Sb**	**14 41 10.6**	**-0.1**
CHAS	**Isla Isabel II**	**1.13**	**115**	P	**Pn**	**14 41 12.1**	**-0.9**
CHAS				S	**Sn**	**14 41 27.4**	**-0.1**
EMAL	**Malaga-Limoner**	**1.25**	**331**	P	**Pn**	**14 41 14.2**	**-0.4**
EMAL				S	**Sn**	**14 41 28.4**	**-2.0**
TAF	**Taforalt**	**1.34**	**129**	P	**Pn**	**14 41 16.1**	**+0.1**
TAF				S	**Sn**	**14 41 32.2**	**-0.8**
CEU	**Ceuta**	**1.40**	**280**	P	**Pn**	**14 41 14.4**	**-2.3**
CEU				S	**Sn**	**14 41 30.7**	**-3.5**
CHEFC	**Chefchaouen**	**1.47**	**248**	P	**Pn**	**14 41 18.7**	**+0.9**
CHEFC				S	**Sb**	**14 41 38.5**	**+0.2**
JBK	**JBK**	**1.62**	**145**	P	**Pn**	**14 41 20.0**	**+0.1**
JBK				S	**Sn**	**14 41 39.3**	**-0.5**
MD31	**MD31**	**2.94**	**198**	P	**Pn**	**14 41 39.8**	**+1.8**
MDT	**Midelt**	**2.96**	**195**	P	**Pn**	**14 41 40.3**	**+2.0**
TDRA	**Tendrara**	**2.96**	**152**	P	**Pn**	**14 41 40.0**	**+1.6**
ZHG	**ZHG**	**3.31**	**229**	P	**Pn**	**14 41 44.0**	**+1.0**
PBAR	**Barrancos**	**3.67**	**314**	*e*Pn	**Pn**	**14 41 51.0**	**+3.0**
PBAR				*e*Sn	**Sn**	**14 42 31.0**	**+0.7**
PVAQ	**Vaqueiros**	**3.68**	**299**	*e*Pn	**Pn**	**14 41 48.8**	**+0.7**
PVAQ				*e*Sn	**Sn**	**14 42 30.9**	**+0.3**
PVAQ				A	A	14 42 40.2	
	10.0nm,0.6s						
PVAQ	**Vaqueiros**	**3.68**	**299**	P	**Pn**	**14 41 48.9**	**+0.8**
PCVE	**Castro Verde**	**4.02**	**300**	*e*Pn	**Pn**	**14 41 53.3**	**+0.6**
PCVE				*e*Sn	**Sn**	**14 42 37.9**	**-0.9**
PCVE				A	A	14 42 47.4	
	10nm,0.4s						
FIGM	**Figuig**	**4.06**	**150**	P	**Pn**	**14 41 55.6**	**+2.1**
PBEJ	**Beja**	**4.10**	**306**	*e*Pn	**Pn**	**14 41 55.5**	**+1.6**
PBEJ				*e*Sn	**Sn**	**14 42 40.5**	**-0.4**
PBEJ				A	A	14 42 47.4	
	8.1nm,0.4s						
MESJ	**Messejana**	**4.24**	**302**	*e*P	**Pn**	**14 41 56.3**	**+0.5**
MESJ				*e*S	**Sn**	**14 42 42.4**	**-1.9**
MESJ				IAML		14 42 46.1	
	comp=N,6.2nm,0.2s						
MESJ	**Messejana**	**4.24**	**302**	*e*P	**Pn**	**14 41 56.3**	**+0.5**
MESJ				*e*S	**Sn**	**14 42 42.4**	**-1.9**
MESJ				iAML		14 42 46.1	
MORF	**Marmelete**	**4.33**	**294**	*e*P	**Pn**	**14 41 57.3**	**+0.3**
MORF	**Marmelete**	**4.33**	**294**	*e*Pn	**Pn**	**14 41 58.5**	**+1.5**
MORF				*e*Sn	**Sn**	**14 42 47.8**	**+1.3**
MORF				A	A	14 42 51.3	
	comp=N,7.0nm,0.2s						
PFVI	**Vila Bisbo**	**4.40**	**291**	*e*Pn	**Pn**	**14 41 59.8**	**+1.8**
PFVI				*e*Sn	**Sn**	**14 42 47.0**	**-1.3**
PFVI				A	A	14 43 00.6	
	comp=N,11nm,0.7s						
PFVI	**Vila Bisbo**	**4.40**	**291**	P	**Pn**	**14 41 59.4**	**+1.4**
PESTR	**Estremoz**	**4.46**	**317**	*e*Pn	**Pn**	**14 42 00.2**	**+1.4**
PESTR				*e*Sn	**Sn**	**14 42 49.3**	**-0.5**
PESTR				A	A	14 42 50.3	
	comp=N,6.9nm,0.7s						
PESTR	**Estremoz**	**4.46**	**317**	P	**Pn**	**14 41 60.0**	**+1.2**
PTEO	**Sao Teotonio**	**4.47**	**296**	*e*Pn	**Pn**	**14 42 00.3**	**+1.4**
PTEO				*e*Sn	**Sn**	**14 42 50.0**	**0.0**
PTEO				A	A	14 42 58.5	
	comp=N,9.8nm,0.4s						
EVO	**Evora**	**4.49**	**311**	*e*Pn	**Pn**	**14 42 00.7**	**+1.5**
EVO				*e*Sn	**Sn**	**14 42 49.7**	**-0.8**
PNCL	**Nicolau / Gran**	**4.59**	**303**	*e*Pn	**Pn**	**14 42 01.2**	**+0.7**
PNCL				*e*Sn	**Sn**	**14 42 52.1**	**-0.8**
PNCL				A	A	14 42 54.7	
	comp=N,4.8nm,0.4s						
PMRV	**Marv??o**	**4.77**	**323**	*e*Pn	**Pn**	**14 42 04.7**	**+1.6**
PMRV				*e*Sn	**Sn**	**14 42 56.7**	**-0.7**
PMRV				A	A	14 43 33.1	
	comp=N,6.6nm,0.3s						
PMTG	**Montargil**	**4.96**	**314**	*e*Pn	**Pn**	**14 42 07.2**	**+1.5**
PMTG				*e*Sn	**Sn**	**14 43 01.6**	**-0.5**
PMTG				A	A	14 43 08.5	
	comp=N,4.8nm,0.3s						
PCBR	**Castelo Branco**	**5.13**	**325**	*e*Pn	**Pn**	**14 42 10.2**	**+2.1**
PCBR				*e*Sn	**Sn**	**14 43 05.4**	**-0.9**
PCBR				A	A	14 43 08.4	
	comp=N,6.9nm,0.6s						
OUZM	**OUZ**	**5.41**	**209**	P	**Pn**	**14 42 14.1**	**+2.1**
PMAFR	**Mafra**	**5.54**	**308**	*e*Pn	**Pn**	**14 42 15.3**	**+1.6**
PMAFR				*e*Sn	**Sn**	**14 43 15.5**	**-0.9**
PSBE	**So Bento**	**5.59**	**315**	*e*Pn	**Pn**	**14 42 17.0**	**+2.7**
MTE	**Manteigas**	**5.62**	**328**	*e*Pn	**Pn**	**14 42 17.7**	**+2.9**
MTE				*e*Sn	**Sn**	**14 43 18.2**	**-0.2**
MTE				A	A	14 43 49.4	
	comp=N,9.9nm,0.5s						
OUK	**Oukaimeden**	**5.67**	**219**	P	**Pn**	**14 42 16.4**	**+0.7**
PCAS	**Casmilo, Conde**	**5.80**	**320**	*e*Pn	**Pn**	**14 42 19.6**	**+2.4**
PCAS				*e*Sn	**Sn**	**14 43 20.0**	**-2.8**
PCAS				A	A	14 43 34.4	
	comp=N,6.5nm,0.5s						
PVIS	**Viseu**	**6.03**	**328**	*e*Pn	**Pn**	**14 42 22.8**	**+2.4**
PVIS				*e*Sn	**Sn**	**14 43 27.0**	**-1.5**
PVIS				A	A	14 43 29.6	
	comp=N,6.2nm,0.8s						
MVO	**Moncorvo**	**6.08**	**335**	*e*Pn	**Pn**	**14 42 23.3**	**+2.2**
MVO				*e*Sn	**Sn**	**14 43 28.6**	**-1.2**
MVO				A	A	14 44 07.0	
	comp=N,9.1nm,0.6s						
PVRL	**Vila Real**	**6.43**	**332**	*e*Pn	**Pn**	**14 42 28.1**	**+2.2**
PVRL				*e*Sn	**Sn**	**14 43 37.5**	**-0.8**
PVRL				A	A	14 43 42.9	
	comp=N,8.1nm,0.2s						
POLO	**Lamas de Olo**	**6.54**	**332**	*e*Pn	**Pn**	**14 42 29.4**	**+1.9**
POLO				*e*Sn	**Sn**	**14 43 39.5**	**-1.7**
POLO				A	A	14 43 43.3	
	comp=N,2.0nm,0.5s						
PBRG	**Braganca**	**6.57**	**340**	*e*Pn	**Pn**	**14 42 30.1**	**+2.2**
PBRG				*e*Sn	**Sn**	**14 43 39.0**	**-2.8**
PBRG				A	A	14 44 25.6	
	comp=N,3.2nm,0.6s						
PCAB	**Cabril**	**6.92**	**332**	*e*Pn	**Pn**	**14 42 34.7**	**+2.1**
PCAB				*e*Sn	**Sn**	**14 43 49.6**	**-0.8**
PCAB				A	A	14 44 06.9	
	comp=N,5.1nm,0.7s						
PGAV	**Gavieira, Arco**	**7.23**	**332**	*e*Pn	**Pn**	**14 42 39.4**	**+2.4**

*IDC **21** 14:51:06.2±1.5, 8°.07S×117°.44E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/30, mbtmp3.6/6, ML4.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/42, Error ellipse: s-maj=51.3km s-min=21.9km az=55.0*
*DJA **21** 14:51:08.3±1.6, 8°.S±3°.×11°.8E±°, h11km±13km, M4.0/19, mb4.2/6, MLv4.0/19*
ISC 21 14:51:08.1±0.9, **7°.96S**±0°.06×**117°.60E**±0°.05, **h10km, n24,** σ0s**68**/24, **mb3.8/4, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**2.37**	**267**	P	**Pn**	**14 51 46.4**	**-0.6**
WBSI	**Waikabubak, Su**	**2.44**	**133**	P	**Pn**	**14 51 47.9**	**-0.1**
IGBI	**Denpasar**	**2.57**	**250**	P	**Pn**	**14 51 49.6**	**-0.2**
ABJI	**Asem Bagus**	**3.34**	**273**	P	**Pn**	**14 52 00.5**	**+0.2**
BSSI	**Bau Bau, Buton**	**3.39**	**58**	P	**Pn**	**14 52 01.8**	**+0.7**
JAGI	**Jajag, Banyuwa**	**3.45**	**261**	P	**Pn**	**14 52 01.8**	**-0.1**
KAPI	**Kappang**	**3.62**	**36**	Pn	**Pn**	**14 52 04.6**	**+0.3**
	20nm,0.3s,baz=238,slow=5.7,SNR=50						
KAPI				Sn	**Sn**	**14 52 45.7**	**-1.5**
	15nm,0.3s,baz=153,slow=22,SNR=17						
BKSI	**Bulukumba**	**3.63**	**44**	P	**Pn**	**14 52 04.9**	**+0.6**
KMMI	**Kalianget**	**3.71**	**284**	P	**Pn**	**14 52 06.0**	**+0.5**
BLJI	**Banyuglugur**	**3.97**	**273**	P	**Pn**	**14 52 09.6**	**+0.5**
GMJI	**Gumukmas**	**4.12**	**265**	P	**Pn**	**14 52 11.5**	**+0.3**
EDFI	**Ende, Flores**	**4.12**	**101**	P	**Pn**	**14 52 12.2**	**+0.9**
BNSI	**Bone**	**4.33**	**35**	P	**Pn**	**14 52 15.6**	**+1.6**
SPSI	**Sidrap Palu**	**4.52**	**29**	P	**Pn**	**14 52 16.5**	**-0.1**
MMRI	**Maumere**	**4.64**	**99**	P	**Pn**	**14 52 18.2**	**-0.1**
KBKI	**Kotabaru**	**4.84**	**343**	P	**Pn**	**14 52 20.9**	**-0.2**
PCJI	**Pacitan**	**6.36**	**267**	P	**Pn**	**14 52 42.5**	**+0.5**
	0.2nm37nm,2.8s						
UGM	**Wanagama**	**7.01**	**270**	P	**Pn**	**14 52 49.9**	**-1.0**
	0.6nm45nm,2.2s						
WRA	**Warramunga Arr**	**20.12**	**128**	P	**P**	**14 55 42.4**	**0.0**
	0.6nm,0.8s,baz=299,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**22.10**	**137**	P	**P**	**14 56 03.9**	**+0.2**
	0.6nm,0.6s,baz=310,slow=8.6,SNR=23						
JAY	**Jayapura**	**23.63**	**78**	LR	LR	15 08 42.2	
	comp=Z,125nm,19.0s,baz=337,slow=44						
SONM	**Songino Array**	**56.43**	**351**	P	**P**	**15 00 50.8**	**+0.7**
	0.3nm,0.4s,baz=168,slow=8.6,SNR=2.5						
MKAR	**Makanchi Array**	**62.91**	**334**	P	**P**	**15 01 34.7**	**+0.1**
	0.9nm,0.6s,baz=156,slow=7.2,SNR=14						
ZALV	**Zalesovo Beam**	**67.59**	**340**	P	**P**	**15 02 04.3**	**-0.5**
	0.3nm,0.3s,baz=174,slow=2.9,SNR=2.2						

*IDC **21** 14:56:15.9±2.0, 10°.56N×62°.31W, h0km, mb3.3/3, mb1 3.7/6, mb1mx3.5/46, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=38.9km s-min=29.4km az=141.0*
*TRN **21** 14:56:18.9, 10°.31N×62°.70W, h18km, MD3.4*
ISC 21 14:56:20.9±1.2, **10°.32N**±0°.06×**62°.59W**±0°.04, **h30km**±11km, **n16**, σ1s**42**/25, **mb3.4**/3, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**1.12**	**90**	*e*P	**Pb**	**14 56 41.8**	**+0.1**
TPP				*e*S	**Sb**	**14 56 58.0**	**+2.2**
TRN	**Trinidad (W)**	**1.21**	**74**	*e*	**Pn**	**14 56 40.0**	**-1.8**
TRN	**Trinidad (W)**	**1.21**	**74**	*e*P	**Pb**	**14 56 43.4**	**+0.2**
TRN	**Trinidad (W)**	**1.21**	**74**	*e*S	**Sn**	**14 56 59.0**	**+1.8**
TRN				*e*	**Sb**	**14 56 55.1**	**-3.4**
GRGR	**Grenville**	**2.02**	**27**	*e*P	**Pn**	**14 56 53.3**	**+0.3**
GRGR	**Grenville**	**2.02**	**27**	*e*	**Pb**	**14 56 57.4**	**+0.3**
GRGR				*e*S	**Sn**	**14 57 17.9**	**+0.6**
PCRV	**Puerto La Cruz**	**2.02**	**266**	Pn	**Pb**	**14 56 56.1**	**-1.0**
	baz=95,slow=5.7						
PCRV				Sn	**Sb**	**14 57 22.8**	**+0.9**
	5.9nm,0.3s,baz=46,slow=19,SNR=1.4						
TOSP	**Speyside**	**2.24**	**64**	*e*P	**Pn**	**14 56 57.2**	**+1.2**
TOSP				*e*S	**Sb**	**14 57 25.9**	**-2.1**
GCMP	**Grenada, Carri**	**2.44**	**28**	*e*P	**Pn**	**14 56 58.5**	**-0.2**
GCMP				*e*S	**Sn**	**14 57 28.9**	**+1.4**
SVB	**Belmont**	**3.21**	**24**	*e*P	**Pn**	**14 57 09.9**	**+0.5**
SVB				*e*S	**Sn**	**14 57 48.0**	**+1.3**
MCLT	**Moule a Chique**	**3.73**	**25**	*e*P	**Pn**	**14 57 17.1**	**+0.5**
MCLT				*e*S	**Sn**	**14 58 00.3**	**+0.7**
SDV	**Santo Domingo**	**8.06**	**261**	Pn	**Pn**	**14 58 17.9**	**+1.6**
	1.1nm,0.3s,baz=97,slow=7.8,SNR=5.0						
SDV				Sn	**Sn**	**14 59 45.6**	**-1.0**
	1.3nm,0.3s,baz=49,slow=22,SNR=6.7						
PTGA	**Pitinga**	**11.28**	**166**	Pn	**Pn**	**14 59 00.7**	**+0.5**
	0.3nm,0.3s,baz=338,slow=19,SNR=1.5						
PDAR	**Pinedale Array**	**52.06**	**317**	P	**P**	**15 05 28.4**	**+0.1**
	0.1nm,0.5s,baz=113,slow=11,SNR=2.2						
YKA	**Yellowknife Ar**	**63.97**	**336**	P	**P**	**15 06 49.6**	**-1.6**
	0.2nm,0.5s,baz=112,slow=7.4,SNR=4.2						
ILAR	**Eielson Array**	**78.31**	**334**	P	**P**	**15 08 17.2**	**-0.7**
	0.2nm,0.5s,baz=92,slow=6.4,SNR=4.3						

*IDC **21** 14:57:43.7±1.9, 10°.53N×62°.09W, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.7/45, mbtmp4.0/6, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/47, Error ellipse: s-maj=49.1km s-min=34.7km az=87.0*
*FUNV **21** 14:57:49.4, 10°.28N×62°.47W, h5km, MW3.8*
*TRN **21** 14:57:53.5, 10°.69N×62°.30W, h1km, MD3.6*
ISC 21 14:57:49.9±1.1, **10°.48N**±0°.04×**62°.54W**±0°.03, **h31km**±9km, **n36**, σ2s**15**/51, **mb3.9**/4, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.71**	**286**	*e*P	**Pb**	**14 58 03.3**	**-0.6**
CRUV				*e*S	**Sn**	**14 58 15.1**	**+1.3**
TPP	**Pointe-a-Pierr**	**1.08**	**99**	*e*P	**Pb**	**14 58 11.0**	**+0.9**
TPP				*e*S	**Sn**	**14 58 24.8**	**+2.0**
TRN	**Trinidad (W)**	**1.12**	**82**	*e*	**Pn**	**14 58 08.8**	**-0.7**
TRN	**Trinidad (W)**	**1.12**	**82**	*e*P	**Pb**	**14 58 10.3**	**-0.5**
TRN				*e*S	**Sb**	**14 58 23.0**	**-2.1**
COAV	**Cumanacoa**	**1.31**	**256**	*e*P	**Pb**	**14 58 14.3**	**+0.3**
COAV				*e*S	**Sb**	**14 58 32.5**	**+2.0**
TBH	**Brigand Hill**	**1.44**	**90**	*e*P	**Pb**	**14 58 18.3**	**+2.1**
TBH	**Brigand Hill**	**1.44**	**90**	*e*	Pb	14 58 20.9	+4.7
CUMV	**Cumana_UDO**	**1.63**	**268**	*e*P	**Pb**	**14 58 19.5**	**+0.1**
CUMV				*e*S	**Sb**	**14 58 41.9**	**+2.3**
GRGR	**Grenville**	**1.85**	**28**	*e*P	**Pb**	**14 58 22.8**	**-0.3**
GRGR				*e*

0.2nm,0.4s,baz=123,slow=8.3,SNR=6.0
MKAR pP pP 15 26 04.0 -6.4
0.2nm,0.4s,baz=130,slow=5.4,SNR=6.1

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*SFS **21** 15:27:13.0, 35°.64N×3°.78W, ML2.4, ALBORAN SUR*
*CNRM **21** 15:27:13.3, 35°.72N×3°.66W, h22km, ml2.6*
*INMG **21** 15:27:13.3±1.8, 35°.68N×3°.80W, h0km±6km, ML2.2, Error ellipse: s-maj=4.4km s-min=4.2km az=0.0*
ISC 21 15:27:12.7±1.5,**35°.74N**±0°.04×**3°.64W**±0°.04,**h17**km±11km, **n17**,σ1§**66**/31,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.57**	**205**	P	**Pg**	**15 27 24.0**	**-0.1**
PALE				S	**Sb**	**15 27 32.8**	**+0.5**
GOG	**Mont Gurugu**	**0.73**	**134**	P	**Pg**	**15 27 27.3**	**+0.1**
GOG				S	**Sb**	**15 27 38.3**	**+1.3**
CHAS	**Isla Isabel II**	**1.13**	**119**	P	**Pb**	**15 27 32.8**	**-1.0**
CHAS				S	**Sb**	**15 27 47.7**	**-0.6**
EMAL	**Malaga-Limoner**	**1.21**	**328**	P	**Pn**	**15 27 34.8**	**0.0**
EMAL				S	**Sb**	**15 27 49.0**	**-1.5**
TAF	**Taforalt**	**1.36**	**132**	P	**Pn**	**15 27 37.1**	**0.0**
TAF				S	**Sb**	**15 27 56.1**	**+1.1**
CEU	**Ceuta**	**1.42**	**277**	P	**Pn**	**15 27 35.5**	**-2.2**
CEU				S	**Sn**	**15 27 51.3**	**-4.8**
CHEFC	**Chefchaouen**	**1.52**	**246**	P	**Pn**	**15 27 40.0**	**+0.6**
CHEFC				S	**Sb**	**15 28 00.4**	**+0.7**
JBK	**JBK**	**1.65**	**148**	P	**Pn**	**15 27 41.0**	**-0.2**
JBK				S	**Sn**	**15 28 01.0**	**-1.1**
IFR	**Ifrane**	**2.53**	**209**	S	**Sn**	**15 28 21.4**	**-2.4**
MD31	**MD31**	**3.01**	**198**	P	**Pn**	**15 28 00.1**	**+0.3**
MD31				S	**Sn**	**15 28 36.4**	**+0.8**
MDT	**Midelt**	**3.02**	**196**	P	**Pn**	**15 28 01.0**	**+1.1**
MDT				S	**Sn**	**15 28 37.0**	**+1.1**
ZHG	**ZHG**	**3.37**	**228**	P	**Pn**	**15 28 04.7**	**0.0**
ZHG				S	**Sn**	**15 28 45.3**	**+0.9**
PVAQ	**Vaqueiros**	**3.68**	**298**	*e*Pn	**Pn**	**15 28 11.1**	**+2.2**
PVAQ				*e*Sn	**Sn**	**15 28 51.1**	**-0.8**
PVAQ				A	A	15 28 54.8	
5.1nm,0.6s							
PCVE	**Castro Verde**	**4.01**	**299**	*e*Pn	**Pn**	**15 28 15.9**	**+2.5**
PCVE				*e*Sn	**Sn**	**15 29 00.8**	**+0.7**
PCVE				A	A	15 29 08.9	
3.4nm,0.3s							
EVO	**Evora**	**4.47**	**310**	*e*Sn	**Sn**	**15 29 10.6**	**-0.8**
PNCL	**Nicolau / Gran**	**4.58**	**303**	*e*Pn	**Pn**	**15 28 25.0**	**+3.8**
PNCL				*e*Sn	**Sn**	**15 29 14.6**	**+0.6**
PNCL				A	A	15 29 24.7	
1.9nm,0.7s							
PMTG	**Montargil**	**4.94**	**314**	*e*Sn	**Sn**	**15 29 23.4**	**+0.5**
PMTG				A	A	15 30 01.3	
2.6nm,0.8s							

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*MAN **21** 15:29:46.5, 13°.21N×124°.04E, h1km, mb4.9, ML3.8, MS3.8*
*IDC **21** 15:29:47.6±2.3, 13°.15N×123°.91E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/48, mbtmp3.3/4, MS3.3/1, Ms1 3.3/1, ms1mx2.4/32, Error ellipse: s-maj=99.0km s-min=24.6km az=55.0*
ISC 21 15:29:48.7±2.0,**13°.19N**±0°.06×**123°.96E**±0°.08,**h8**km±12km, **n15**,σ1§**27**/20,**mb3.3**/4,**6C-3D**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.88**	**201**	⇑*e*P	**Pg**	**15 30 04.7**	**-1.0**
MMPH				*e*S	**Sb**	**15 30 17.8**	**-0.4**
GQP	**Guinayangan**	**1.63**	**296**	⇓*e*P	**Pn**	**15 30 16.6**	**-1.1**
GQP				*e*S	**Sn**	**15 30 39.3**	**+0.4**
JCNP	**Jose Panganiba**	**1.64**	**312**	⇑*i*P	**Pn**	**15 30 18.0**	**+0.2**
JCNP	**Jose Panganiba**	**1.64**	**312**	⇑*i*P	**Sg**	**15 30 41.1**	**-0.5**
RCP	**Roxas**	**2.00**	**216**	⇓*e*P	**Pb**	**15 30 25.0**	**-0.3**
BOAC	**Boac**	**2.07**	**278**	⇑*e*P	**Pb**	**15 30 25.7**	**-0.8**
BOAC				*e*S	**Sg**	**15 30 59.5**	**+4.1**
LLP	**Lapu-Lapu**	**2.85**	**180**	*e*P	**Pb**	**15 30 40.3**	**+0.4**
LLP				*e*S	**Sg**	**15 31 19.6**	**-0.8**
SJMP	**San Jose**	**2.86**	**256**	⇑*e*P	**Pb**	**15 30 39.4**	**-0.6**
SJMP				*i* S	**Sg**	**15 31 21.0**	**+0.4**
MSLP	**Maasin**	**3.16**	**164**	⇑*e*P	**Pn**	**15 30 39.2**	**+0.5**
MSLP				*e*S	**Sg**	**15 31 32.1**	**+1.8**
PCPH	**Palayan**	**3.64**	**311**	⇓*e*P	**Pn**	**15 30 46.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**24.62**	**286**	P	**P**	**15 35 10.0**	**+0.2**
0.2nm,0.3s,baz=92,slow=8.1,SNR=4.2							
LEM	**Lembang**	**25.66**	**220**	LR	LR	15 47 35.6	
comp=Z,63nm,18.1s,baz=211,slow=42							
WRA	**Warramunga Arr**	**34.47**	**163**	P	**P**	**15 36 37.1**	**-0.1**
0.2nm,0.8s,baz=340,slow=9.3,SNR=1.2							
ASAR	**Alice Springs**	**37.90**	**165**	P	**P**	**15 37 06.4**	**-0.1**
0.7nm,0.9s,baz=336,slow=6.2,SNR=7.7							
MKAR	**Makanchi Array**	**48.35**	**322**	P	**P**	**15 38 30.8**	**-0.1**
0.5nm,0.8s,baz=108,slow=8.2,SNR=4.2							

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*EAF **21** 15:51:18.7±2.3, 26°.22S×29°.86E, h0km±17km, MD3.9*
BUL 21 15:51:18.7±2.3,**26°.22S**×**29°.86E**,**h0**km±17km,**MD4.2**, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.09**	**92**	*i* P	Pn	15 51 55.4	+0.4
CNG				*i* Sg	Sn	15 52 22.5	+0.8
CNG	**Changalane**	**2.09**	**92**	*i* P	Pn	15 51 55.4	+0.4
CNG				*i* Sg	Sn	15 52 22.5	+0.8
MSNA	**Messina**	**3.86**	**2**	*i* P	Pn	15 52 18.9	-0.6
MSNA				*i* S	Sn	15 53 02.8	-2.8
MSNA	**Messina**	**3.86**	**2**	*i* P	Pn	15 52 18.9	-0.6
MSNA				*i* S	Sn	15 53 02.8	-2.8
LBTB	**Lobatse**	**4.04**	**286**	*i* P	Pn	15 52 23.3	+1.5
LBTB				*i* Sg	Sb	15 53 22.9	+2.8
LBTB	**Lobatse**	**4.04**	**286**	*i* P	Pn	15 52 23.3	+1.5
LBTB				*i* Sg	Sb	15 53 22.9	+2.8
BOSA	**Boshof**	**4.74**	**239**	*i* P	Pn	15 52 31.6	0.0
BOSA				*i* Sg	Sb	15 53 44.6	+4.3
BOSA	**Boshof**	**4.74**	**239**	*i* P	Pn	15 52 31.6	0.0
BOSA				*i* Sg	Sb	15 53 44.6	+4.3
MATP	**Matopo**	**5.91**	**347**	*e*P	Pn	15 52 47.2	-0.5
MATP				*i* S	Sn	15 53 50.1	-6.0
MATP	**Matopo**	**5.91**	**347**	*e*P	Pn	15 52 47.2	-0.5
MATP				*i* S	Sn	15 53 50.1	-6.0

IDC 21 15:58:55.7±4.0,**6°.58S**×**153°.27E**,**h0**km,**mb3.5**/4, **mb1 3.8**/4,**mb1mx3.5**/33,**mbtmp3.5**/4,**Error ellipse: s-maj=85.0km s-min=24.7km az=93.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.58**	**331**	Pn	Pn	15 59 39.5	+0.7
KRVT				Sn	Sn	16 00 10.3	-0.6
WRA	**Warramunga Arr**	**22.68**	**232**	P	P	16 03 59.3	+0.3
0.7nm,0.8s,baz=59,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**25.20**	**226**	P	P	16 04 23.2	-0.2
0.5nm,0.5s,baz=59,slow=9.2,SNR=18							
FITZ	**Fitzroy Crossi**	**29.27**	**244**	P	P	16 04 59.8	-0.1
2.2nm,1.0s,baz=61,slow=8.6,SNR=2.1							
MKAR	**Makanchi Array**	**81.97**	**319**	P	P	16 11 17.6	0.0
0.3nm,0.9s,baz=97,slow=7.3,SNR=1.5							

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*SFS **21** 16:10:39.0, 35°.64N×3°.79W, ML2.9, ALBORAN SUR*
*IGIL **21** 16:10:40.9, 35°.66N×3°.76W, h0km, ML2.5*
*INMG **21** 16:10:41.0±1.6, 35°.70N×3°.78W, h0km±7km, ML2.7, Error ellipse: s-maj=4.0km s-min=3.9km az=114.0*
*CNRM **21** 16:10:41.4, 35°.65N×3°.65W, h26km, ml3.0*
ISC 21 16:10:39.1±1.2,**35°.73N**±0°.03×**3°.68W**±0°.03,**h11**km±9km, **n35**,σ1§**72**/60,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.56**	**203**	P	**Pg**	**16 10 51.0**	**+1.0**
PALE				S	**Sg**	**16 10 59.1**	**+1.8**
GOG	**Mont Gurugu**	**0.75**	**132**	P	**Pg**	**16 10 54.0**	**+0.4**
GOG				S	**Sg**	**16 11 04.3**	**+0.8**
CHAS	**Isla Isabel II**	**1.15**	**118**	P	**Pg**	**16 10 59.8**	**-1.5**
CHAS				S	**Sg**	**16 11 15.8**	**-0.5**
EMAL	**Malaga-Limoner**	**1.20**	**330**	P	**Pg**	**16 11 01.8**	**-0.3**
EMAL				S	**Sg**	**16 11 17.3**	**-0.3**
CEU	**Ceuta**	**1.39**	**277**	P	**Pn**	**16 11 01.1**	**-3.3**
CEU				S	**Sg**	**16 11 17.1**	**-6.8**
CHEFC	**Chefchaouen**	**1.50**	**246**	P	**Pn**	**16 11 07.0**	**+0.9**
CHEFC				S	**Sg**	**16 11 27.9**	**+0.6**
JBK	**JBK**	**1.66**	**147**	P	**Pn**	**16 11 07.5**	**-1.0**
JBK				S	**Sn**	**16 11 27.2**	**-2.7**
IFR	**Ifrane**	**2.51**	**209**	P	**Pn**	**16 11 20.2**	**+0.1**
IFR				S	**Sn**	**16 11 48.5**	**-2.4**
MD31	**MD31**	**3.00**	**198**	P	**Pn**	**16 11 27.2**	**+0.5**
MD31				S	**Sn**	**16 12 02.6**	**-0.1**
MDT	**Midelt**	**3.01**	**195**	P	**Pn**	**16 11 28.5**	**+1.6**
MDT				S	**Sn**	**16 12 05.2**	**+2.1**
ZHG	**ZHG**	**3.34**	**228**	P	**Pn**	**16 11 31.8**	**+0.3**
ZHG				S	**Sn**	**16 12 11.1**	**-0.2**
PBAR	**Barrancos**	**3.63**	**313**	*e*Sn	**Sn**	**16 12 19.4**	**+1.1**
PVAQ	**Vaqueiros**	**3.66**	**298**	*e*Pn	**Pn**	**16 11 36.8**	**+1.1**
PVAQ				*e*Sn	**Sn**	**16 12 18.4**	**-0.4**
PVAQ				A	A	16 12 24.1	
11nm,0.3s							
PVAQ	**Vaqueiros**	**3.66**	**298**	P	**Pn**	**16 11 36.9**	**+1.2**
PCVE	**Castro Verde**	**3.99**	**300**	*e*Pn	**Pn**	**16 11 42.1**	**+1.9**
PCVE				*e*Sn	**Sn**	**16 12 26.2**	**-0.8**
PCVE				A	A	16 12 33.3	
8.9nm,0.4s							
PBEJ	**Beja**	**4.07**	**306**	*e*Sn	**Sn**	**16 12 28.8**	**-0.1**
MESJ	**Messejana**	**4.21**	**301**	*e*P	**Pn**	**16 11 44.1**	**+0.8**
MESJ				*e*S	**Sn**	**16 12 30.4**	**-2.1**
MESJ				IAML		16 12 33.9	
comp=N,10.0nm,0.4s							
MESJ	**Messejana**	**4.21**	**301**	*e*P	**Pn**	**16 11 44.1**	**+0.8**
MESJ				*e*S	**Sn**	**16 12 30.4**	**-2.1**
MESJ				IAML		16 12 33.9	
MORF	**Marmelete**	**4.30**	**293**	*e*Pn	**Pn**	**16 11 47.1**	**+2.5**
PFVI	**Vila Bisbo**	**4.38**	**290**	*e*Pn	**Pn**	**16 11 47.1**	**+1.4**
PFVI				*e*Sn	**Sn**	**16 12 36.1**	**-0.6**
PFVI				A	A	16 13 02.4	
comp=N,7.8nm,0.6s							
PFVI	**Vila Bisbo**	**4.38**	**290**	P	**Pn**	**16 11 48.2**	**+2.5**
PFVI				S	**Sn**	**16 12 37.3**	**+0.6**
PESTR	**Estremoz**	**4.42**	**316**	*e*Pn	**Pn**	**16 11 48.1**	**+1.9**
PESTR				*e*Sn	**Sn**	**16 12 37.5**	**-0.2**
PESTR				A	A	16 13 07.9	
comp=N,7.1nm,0.5s							
PTEO	**Sao Teotonio**	**4.45**	**296**	*e*Sn	**Sn**	**16 12 39.3**	**+1.0**
PTEO				A	A	16 12 45.2	
comp=N,6.7nm,0.6s							
EVO	**Evora**	**4.45**	**310**	*e*Pn	**Pn**	**16 11 48.6**	**+2.0**
EVO				*e*Sn	**Sn**	**16 12 38.3**	**-0.2**
PNCL	**Nicolau / Gran**	**4.56**	**303**	*e*Pn	**Pn**	**16 11 50.0**	**+2.0**
PNCL				*e*Sn	**Sn**	**16 12 40.5**	**-0.5**
PNCL				A	A	16 12 57.7	
comp=N,5.0nm,0.6s							
PMRV	**Marv??o**	**4.72**	**322**	*e*Pn	**Pn**	**16 11 52.4**	**+2.0**
PMRV				*e*Sn	**Sn**	**16 12 45.6**	**+0.4**
PMRV				A	A	16 13 10.2	
comp=N,6.8nm,0.4s							
PMTG	**Montargil**	**4.92**	**314**	*e*Pn	**Pn**	**16 11 55.3**	**+2.2**
PMTG				*e*Sn	**Sn**	**16 12 49.8**	**-0.2**
PMTG				A	A	16 13 10.6	
comp=N,4.0nm,0.6s							
PCBR	**Castelo Branco**	**5.09**	**325**	*e*Pn	**Pn**	**16 11 58.1**	**+2.8**
PCBR				*e*Sn	**Sn**	**16 12 52.9**	**-1.2**
PCBR				A	A	16 12 55.4	
comp=N,7.9nm,0.5s							
OUZM	**OUZ**	**5.46**	**209**	P	**Pn**	**16 12 01.9**	**+1.3**
OUZM				S	**Sn**	**16 13 04.1**	**+0.7**
MTE	**Manteigas**	**5.57**	**328**	*e*Sn	**Sn**	**16 13 05.7**	**-0.4**
MTE				A	A	16 13 08.5	
comp=N,11nm,0.5s							
PCAS	**Casmilo, Conde**	**5.76**	**320**	*e*Sn	**Sn**	**16 13 09.3**	**-1.3**
PCAS				A	A	16 13 11.4	
comp=N,5.0nm,0.4s							
PVIS	**Viseu**	**5.98**	**328**	*e*Sn	**Sn**	**16 13 15.8**	**-0.4**
MVO	**Moncorvo**	**6.03**	**335**	*e*Pn	**Pn**	**16 12 10.9**	**+2.6**
MVO				*e*Sn	**Sn**	**16 13 16.9**	**-0.5**
MVO				A	A	16 13 24.5	
comp=N,6.4nm,0.8s							
PVRL	**Vila Real**	**6.38**	**331**	*e*Sn	**Sn**	**16 13 24.9**	**-1.1**
PVRL				A	A	16 13 32.5	
comp=N,9.5nm,0.6s							
PBRG	**Braganca**	**6.52**	**339**	*e*Sn	**Sn**	**16 13 29.9**	**+0.4**
PBRG				A	A	16 13 31.8	
comp=N,3.8nm,0.4s							

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*KRSC **21** 16:10:54.0±0.5, 56°.03N×161°.26E, h106km±4km, ML4.0*
*IDC **21** 16:10:56.8±2.7, 55°.94N×161°.14E, h115km±26km, mb3.2/6, mb1 3.3/7, mb1mx3.1/46, mbtmp3.5/7, Error ellipse: s-maj=30.2km s-min=18.2km az=123.0*
ISC 21 16:10:55.6±0.8,**56°.04N**±0°.04×**161°.24E**±0°.04,**h102**km±5km, **n42**,σ0§**72**/57,**mb3.4**/5,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.24**	**266**	*e*P	**Pn**	**16 11 10.3**	**0.0**
ZLN				*e*S	**Sn**	**16 11 22.4**	**+1.0**
CIRR	**Tsirk**	**0.28**	**287**	*e*P	**Pn**	**16 11 10.2**	**-0.3**
CIRR				*e*S	**Sn**	**16 11 21.8**	**+0.2**
LGNR	**Loginova**	**0.31**	**279**	*e*P	**Pn**	**16 11 10.7**	**-0.1**
LGNR				*e*S	**Sn**	**16 11 22.5**	**+0.4**
KRSR	**Krestovskiy**	**0.42**	**296**	*e*P	**Pn**	**16 11 10.7**	**-0.4**
KRSR				*e*S	**Sn**	**16 11 22.5**	**-0.2**
BZWR	**Bezymyannyi-We**	**0.42**	**261**	*e*P	**Pn**	**16 11 11.1**	**-0.1**
BZWR				*e*S	**Sn**	**16 11 23.7**	**+0.8**
KLY	**Klyuchi**	**0.43**	**311**	*e*P	**Pn**	**16 11 10.4**	**-0.6**
KLY				*e*S	**Sn**	**16 11 21.9**	**-0.7**
KIRR	**Kirishev**	**0.51**	**261**	*e*P	**Pn**	**16 11 11.4**	**-0.4**
KIRR				*e*S	**Sn**	**16 11 23.9**	**0.0**
BDR	**Baidarnaya**	**0.53**	**358**	*e*P	**Pn**	**16 11 12.0**	**+0.1**
BDR				*e*S	**Sn**	**16 11 25.4**	**+1.3**
SMKR	**Semkarok**	**0.56**	**13**	*e*P	**Pn**	**16 11 12.2**	**+0.1**
SMKR				*e*S	**Sn**	**16 11 25.2**	**+0.7**
KPT	**Kopyto**	**0.57**	**263**	*e*P	**Pn**	**16 11 11.8**	**-0.4**
KPT				*e*S	**Sn**	**16 11 24.4**	**-0.2**
SRKR	**Sorokina**	**0.62**	**357**	*e*P	**Pn**	**16 11 12.6**	**0.0**
KMNR	**Kamenistaya**	**0.63**	**244**	*e*P	**Pn**	**16 11 12.4**	**-0.3**
KMNR				*e*S	**Sn**	**16 11 25.8**	**+0.4**
KOZ	**Kozyrevsk**	**0.77**	**272**	*e*P	**Pn**	**16 11 13.5**	**-0.3**
KOZ				*e*S	**Sn**	**16 11 27.7**	**+0.3**
KBG	**Krutoberegovo**	**0.85**	**74**	*e*P	**Pn**	**16 11 14.9**	**+0.4**
KBTR	**Krutoberegovo**	**0.90**	**78**	*e*P	**Pn**	**16 11 15.2**	**+0.1**
KBTR				*e*S	**Sn**	**16 11 30.5**	**+0.7**
TUMD	**Tumrok D**	**0.96**	**210**	*e*P	**Pn**	**16 11 15.5**	**-0.2**
TUMD				*e*S	**Sn**	**16 11 30.8**	**-0.1**
TUMR	**Tumrok**	**0.97**	**220**	*e*P	**Pn**	**16 11 16.2**	**+0.2**
TUMR				*e*S	**Sn**	**16 11 32.3**	**+1.0**
ESO	**Esso**	**1.43**	**267**	*e*P	**Pn**	**16 11 21.1**	**0.0**
ESO				*e*S	**Sn**	**16 11 40.3**	**-0.1**
KII	**Karymskiy**	**2.25**	**208**	*e*P	**Pn**	**16 11 31.9**	**+0.3**
BKI	**Bering**	**2.81**	**105**	*e*P	**Pn**	**16 11 38.6**	**-0.2**
BKI				*e*S	**Sn**	**16 12 10.3**	**-1.8**
GNL	**Ganaly**	**3.02**	**220**	*e*P	**Pn**	**16 11 42.3**	**+0.6**
SPN	**Mys Shipunski**	**3.03**	**194**	*e*P	**Pn**	**16 11 41.4**	**-0.3**
SPN				S	**Sn**	**16 12 16.7**	**-0.5**
NLC	**Nalytchevo**	**3.07**	**202**	*e*P	**Pn**	**16 11 42.8**	**+0.5**
NLC				*e*S	**Sn**	**16 12 19.2**	**+0.9**
SMAR	**Somma**	**3.12**	**208**	*e*P	**Pn**	**16 11 44.1**	**+1.0**
AVH	**Avacha**	**3.13**	**209**	*e*P	**Pn**	**16 11 44.5**	**+1.3**
PALN	**Palana**	**3.14**	**348**	*e*P	**Pn**	**16 11 43.1**	**0.0**
UGLR	**Uglovaya**	**3.16**	**207**	*e*P	**Pn**	**16 11 44.9**	**+1.3**
DALK	**Dalny**	**3.34**	**207**	*e*P	**Pn**	**16 11 46.7**	**+0.8**
OSSR	**Ossora**	**3.37**	**16**	*e*P	**Pn**	**16 11 47.4**	**+1.2**
PET	**Petropavlovsk**	**3.37**	**208**	*e*P	**Pn**	**16 11 47.5**	**+1.2**
PETK	**Petropavlovsk-**	**3.58**	**217**	P	**Pn**	**16 11 49.1**	**-0.1**
2.1nm,0.3s,baz=70,slow=15,SNR=26							
KRMR	**Karymshinskiy**	**3.69**	**211**	*e*P	**Pn**	**16 11 51.2**	**+0.7**
GRL	**Gorelyy**	**3.95**	**209**	*e*P	**Pn**	**16 11 55.6**	**+1.4**
TIXI	**Tiksi**	**20.74**	**331**	P	Pn	16 15 28.8	-2.1
2.5nm,0.6s,baz=121,slow=13,SNR=5.8							
ILAR	**Eielson Array**	**26.33**	**49**	P	**P**	**16 16 21.9**	**+0.4**
0.2nm,0.5s,baz=257,slow=7.3,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**36.50**	**171**	T	T	16 55 32.6	
baz=354,slow=76,SNR=9.2							
H11N3	**WAKE ISLAND Hy**	**36.51**	**171**	T	T	16 55 33.7	
baz=354,slow=76,SNR=7.8							
H11N1	**WAKE ISLAND Hy**	**36.51**	**171**	T	T	16 55 34.0	
0.5nm,0.5s,baz=301,slow=8.1,SNR=6.0							
MKAR	**Makanchi Array**	**47.52**	**294**	P	**P**	**16 19 19.4**	**-0.9**
0.2nm,0.6s,baz=57,slow=8.8,SNR=3.7							
WRA	**Warramunga Arr**	**79.03**	**206**	P	**P**	**16 22 47.0**	**-1.2**
0.6nm,1.0s,baz=10,slow=5.9,SNR=4.9							
ASAR	**Alice Springs**	**82.71**	**205**	P	**P**	**16 23 07.1**	**-0.6**
0.3nm,0.5s,baz=14,slow=4.5,SNR=13							

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*GUC **21** 16:28:40.4±0.8, 22°.32S×67°.50W, h193km±10km, ML3.8*
*SCB **21** 16:28:42.4±3.6, 22°.06S×67°.45W, h48km±31km, ML2.8/5, Error ellipse: s-maj=14.4km s-min=8.8km az=0.0*
ISC 21 16:28:39.5±2.3,**22°.21S**±0°.07×**67°.41W**±0°.05, **h180**km±19km,**n28**,σ1§**37**/43,**7C-1D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.44**	**254**	⇓*e*P	**Pn**	**16 29 11.9**	**+0.6**
LVC				*i* S	**Sn**	**16 29 35.8**	**0.0**
LVC	**Limon Verde**	**1.44**	**254**	P	**Pn**	**16 29 12.1**	**+0.8**
PB09	**IPOC Station P**	**1.75**	**283**	⇑*i*P	**Pn**	**16 29 15.3**	**+1.2**
PB09				*e*S	**Sn**	**16 29 42.2**	**+1.4**
PB09	**IPOC Station P**	**1.75**	**283**	P	**Pn**	**16 29 15.6**	**+1.5**
PB09				S	**Sn**	**16 29 38.0**	**-2.8**
PB09				IAML		16 29 44.6	
68nm,0.4s							
YJA	**Yavi**	**1.76**	**89**	P	**Pn**	**16 29 15.4**	**+0.9**
MOCB	**Mochara**	**1.91**	**60**	P	**Pn**	**16 29 17.1**	**+1.1**
MOCB				S	**Sn**	**16 29 41.3**	**-2.9**
MOCB				IAML		16 29 45.5	
107nm,0.6s							
PB06	**IPOC Station P**	**2.06**	**256**	*e*P	**Pn**	**16 29 17.8**	**+0.5**
PB06				*e*S	**Sn**	**16 29 46.6**	**-0.1**
PB06				IAML		16 29 48.6	
comp=E,242nm,0.1s							
PB06	**IPOC Station P**	**2.06**	**256**	P	**Pn**	**16 29 18.3**	**+0.9**
PB15	**IPOC Station P**	**2.15**	**242**	P	**Pn**	**16 29 19.1**	**+0.7**
PB03	**IPOC Station P**	**2.18**	**274**	⇑*e*P	**Pn**	**16 29 18.9**	**+0.3**
PB03				*e*S	**Sn**	**16 29 48.6**	**-0.4**
PB03				IAML		16 29 49.2	
comp=N,410nm,0.2s							
PB03	**IPOC Station P**	**2.18**	**274**	P	**Pn**	**16 29 19.3**	**+0.6**
PB01	**IPOC Station P**	**2.25**	**301**	P	**Pn**	**16 29 20.6**	**+1.1**
PB01				S	**Sn**	**16 29 48.3**	**-2.1**
PB01				IAML		16 29 52.6	
comp=N,52nm,0.4s							
PB07	**IPOC Station P**	**2.35**	**281**	⇑*e*P	**Pn**	**16 29 21.0**	**+0.4**
PB07				*e*S	**Sn**	**16 29 51.7**	**-0.8**
PB07				IAML		16 29 53.6	
comp=N,340nm,0.1s							
PB07	**IPOC Station P**	**2.35**	**281**	P	**Pn**	**16 29 21.3**	**+0.7**
PB02	**IPOC Station P**	**2.47**	**290**	⇑*i*P	**Pn**	**16 29 22.3**	**+0.3**
PB02				*e*S	**Sn**	**16 29 54.2**	**-0.7**
PB02				IAML		16 29 55.4	
comp=N,208nm,0.2s							
PB02	**IPOC Station P**	**2.47**	**290**	P	**Pn**	**16 29 22.7**	**+0.7**
PB04	**IPOC Station P**	**2.54**	**267**	P	**Pn**	**16 29 23.3**	**+0.5**
PB08	**IPOC Station P**	**2.62**	**321**	⇑*i*P	**Pn**	**16 29 25.7**	**+1.7**
PB08				*e*S	**Sn**	**16 30 00.5**	**+1.9**
PB08	**IPOC Station P**	**2.62**	**321**	P	**Pn**	**16 29 25.7**	**+1.7**
PB08				S	**Sn**	**16 29 56.2**	**-2.4**
PB08				IAML		16 30 01.5	
comp=N,21nm,0.4s							
PATCX	**Punta Patache**	**2.90**	**298**	*e*P	**Pn**	**16 29 27.1**	**+0.1**
PATCX				*i* S	**Sn**	**16 30 02.9**	**-1.2**
PATCX				IAML		16 30 04.6	
comp=E,182nm,0.2s							
HMBC	**Humberstone**	**3.00**	**309**	⇑*e*P	**Pn**	**16 29 28.2**	**-0.1**
HMBC				*e*S	**Sn**	**16 30 05.2**	**-1.1**
HMBC	**Humberstone**	**3.00**	**309**	P	**Pn**	**16 29 28.5**	**+0.2**
GO01	**Chusmiza**	**3.03**	**326**	⇑*e*P	**Pn**	**16 29 30.2**	**+1.3**
GO01				*e*S	**Sn**	**16 30 09.1**	**+1.6**
GO01				IAML		16 30 14.4	
comp=N,174nm,0.1s							
TA01	**Diego Aracena**	**3.05**	**302**	*e*P	**Pn**	**16 29 28.6**	**-0.2**
PB10	**IPOC Station P**	**3.18**	**245**	P	**Pn**	**16 29 30.7**	**+0.4**
PB11	**IPOC Station P**	**3.21**	**319**	P	**Pn**	**16 29 31.5**	**+0.6**
PB11				S	**Sn**	**16 30 07.5**	**-3.5**
PB11				IAML		16 30 15.2	
comp=N,57nm,0.4s							
BBOE	**La Paz, Chanca**	**5.39**	**354**	P	**Pn**	**16 30 00.4**	**+1.2**
LPAZ	**La Paz**	**5.93**	**353**	P	**Pn**	**16 30 07.0**	**+0.8**

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*IDC **21** 16:36:44.6±1.1, 15°.03N×123°.18E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/38, mbtmp3.8/7, ML5.3/1, MS3.2/4, Ms1 3.3/4, ms1mx2.6/86, Error ellipse: s-maj=27.1km s-min=18.6km az=71.0*
*MAN **21** 16:36:47.0, 15°.13N×123°.05E, h14km, mb5.

WB0	**Warramunga Arr**	**36.30**	**162**	P	**P**	**16 43 50.5 +1.1**
WB0				IAmb	IAmb	16 43 58.5
comp=Z,4.5nm,1.1s						
WRAB	**Tennant Creek**	**36.44**	**162**	P	**P**	**16 43 51.8 +1.2**
WRAB				IAmb	IAmb	16 44 17.6
comp=Z,6.2nm,1.2s						
WRA	**Warramunga Arr**	**36.45**	**162**	P	**P**	**16 43 51.6 +0.9**
comp=Z,0.4nm,0.4s,baz=343,slow=9.4,SNR=3.1						
WB2	**Warramunga Arr**	**36.45**	**162**	P	**P**	**16 43 49.8 -0.9**
WB2				IAmb	IAmb	16 43 52.8
comp=Z,10.0nm,1.4s						
WR0	**Warramunga Arr**	**36.52**	**162**	P	**P**	**16 43 52.0 +0.6**
WR0				IAmb	IAmb	16 44 01.4
comp=Z,15nm,1.6s						
AS31	**Alice Springs**	**39.86**	**164**	P	**P**	**16 44 19.0 -0.5**
ASAR	**Alice Springs**	**39.86**	**164**	P	**P**	**16 44 19.7 +0.2**
comp=Z,0.3nm,0.4s,baz=339,slow=6.4,SNR=12						
H11N1	**WAKE ISLAND Hy**	**42.00**	**77**	T	T	17 29 08.3
baz=267,slow=74,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**42.01**	**77**	T	T	17 29 07.3
baz=267,slow=74,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**42.02**	**77**	T	T	17 29 08.8
baz=267,slow=74,SNR=3.7						
KWAJ	**Kwajalein Atol**	**43.96**	**93**	P	**P**	**16 44 52.8 -0.4**
FORT	**Forrest**	**45.76**	**174**	P	**P**	**16 45 08.9 +1.7**
MK31	**Makanchi Array**	**46.40**	**322**	P	**P**	**16 45 08.7 -3.5**
MKAR	**Makanchi Array**	**46.40**	**322**	P	**P**	**16 45 13.3 +1.1**
comp=Z,2.1nm,0.8s,baz=118,slow=8.8,SNR=13						
EIDS	**Eidsvold**	**48.53**	**145**	P	**P**	**16 45 27.8 -1.1**
ZAA0	**Zalesovo Array**	**49.01**	**331**	P	**P**	**16 45 32.0 -0.3**
ZAA0				IAmb	IAmb	16 45 57.8
comp=Z,6.3nm,1.6s						
ZALV	**Zalesovo Beam**	**49.01**	**331**	P	**P**	**16 45 32.6 +0.4**
comp=Z,1.0nm,0.6s,baz=118,slow=9.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**49.01**	**331**	P	**P**	**16 45 32.2 -0.1**
BBOO	**Buckleboo**	**49.13**	**166**	P	**P**	**16 45 33.2 -0.2**
AAK	**Ala-Archa**	**49.81**	**314**	LR	LR	17 08 34.1
comp=Z,34nm,18.3s,baz=49,slow=38						
STKA	**Stephens Creek**	**49.88**	**159**	P	**P**	**16 45 39.6 +0.5**
KURK	**Kurchatov**	**50.43**	**325**	P	**P**	**16 45 43.6 +0.5**
KURK				IAmb	IAmb	16 45 53.3
comp=Z,5.9nm,0.9s						
BRVK	**Borovoye**	**56.10**	**325**	P	**P**	**16 46 24.6 -0.2**
BRVK				IAmb	IAmb	16 46 26.5
comp=Z,3.1nm,0.9s						
DZM	**Mont Dzumac**	**56.25**	**130**	P	**P**	**16 46 26.4 0.0**
NRIK	**Noril'sk**	**58.70**	**346**	P	**P**	**16 46 43.8 +0.9**
comp=Z,1.0nm,0.4s,baz=122,slow=6.7,SNR=3.8						
NRIK	**Noril'sk**	**58.70**	**346**	P	**P**	**16 46 43.0 +0.2**
NRIK				IAmb	IAmb	16 46 57.3
comp=Z,4.3nm,1.1s						
ADK	**Adak**	**60.06**	**38**	P	**P**	**16 46 51.6 -1.0**
ABKAR	**Akbulak array**	**61.28**	**318**	P	**P**	**16 46 59.9 -1.1**
NOA	**NORSAR Array B**	**87.16**	**333**	LR	LR	17 30 59.0
comp=Z,18nm,18.8s,baz=335,slow=37						

*IDC **21** 16:37:14.5±2.6, 38°.80N×141°.69E, h80km±24km, mb3.3/6, mb1 3.4/9, mb1mx3.2/39, mbtmp3.6/9, Error ellipse: s-maj=28.3km s-min=18.6km az=90.0*
*JMA **21** 16:37:14.3, 38°.83N×141°.58E, h74km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕ_s315.00000°, δ31.00000°, λ67.00000°. NP2: ϕ_s162.00000°, δ62.00000°, λ103.00000°. Principal axes: T Plg70.0000°, Azm100.0000°; N Plg12.0000°, Azm335.0000°; P Plg16.0000°, Azm242.0000°;*
JMA Felt I J1.

ISC 21 16:37:14.3±0.9, 38°.84N±0°.04×141°.70E±0°.07, h73km±6km, n32, σ1º23/39, mb3.5/6, 7C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.18**	**260**	↑P	**Pn**	**16 37 25.2**	**0.0**
JKMT				S	**Sn**	**16 37 32.9**	**-0.2**
OFUJ	**Ofunato**	**0.24**	**354**	↑P	**Pn**	**16 37 25.8**	**+0.3**
OFUJ				S	**Sn**	**16 37 34.0**	**+0.4**
JMK	**Ichinoseki**	**0.39**	**286**	↑P	**Pn**	**16 37 25.9**	**-0.5**
JMK				S	**Sn**	**16 37 34.5**	**-0.9**
JIO	**Ouri**	**0.48**	**216**	↑P	**Pn**	**16 37 26.8**	**-0.4**
JIO				S	**Sn**	**16 37 35.8**	**-0.8**
JOM	**Ohasama**	**0.70**	**333**	↑P	**Pn**	**16 37 29.4**	**-0.1**
JOM				S	**Sn**	**16 37 40.4**	**-0.3**
JOU	**Okura**	**0.94**	**240**	↑P	**Pn**	**16 37 31.6**	**-0.7**
JOU				S	**Sn**	**16 37 44.6**	**-1.0**
JRG	**Rokugo**	**1.00**	**304**	↑P	**Pn**	**16 37 32.4**	**-0.5**
JRG				S	**Sn**	**16 37 46.2**	**-0.6**
JYK	**Kaneyama**	**1.05**	**275**	P	**Pn**	**16 37 32.7**	**-0.9**
JYK				S	**Sn**	**16 37 47.0**	**-0.9**
JMM	**Marumori**	**1.21**	**217**	↓P	**Pn**	**16 37 34.5**	**-1.1**
JYS	**Shirataka**	**1.43**	**245**	P	**Pn**	**16 37 37.7**	**-0.7**
JANG	**Nango**	**1.54**	**355**	P	**Pn**	**16 37 39.6**	**-0.2**
JANG				S	**Sn**	**16 37 59.0**	**-0.1**
JYA	**Atsumi**	**1.57**	**262**	↓P	**Pn**	**16 37 39.5**	**-0.8**
JYA				S	**Sn**	**16 37 58.7**	**-1.3**
JFK	**Kawauchi**	**1.61**	**204**	↓P	**Pn**	**16 37 40.3**	**-0.6**
JFK				S	**Sn**	**16 37 59.5**	**-1.4**
JFT	**Otama**	**1.70**	**220**	P	**Pn**	**16 37 41.9**	**-0.2**
JFT				*e*S	**Sn**	**16 38 02.9**	**-0.2**
MJAR	**Matsushiro Arr**	**3.60**	**231**	P	**Pn**	**16 38 08.5**	**+0.8**
1.2nm,0.3s,baz=39,slow=12,SNR=70							
MAT	**Matsushiro**	**3.60**	**231**	P	**Pn**	**16 38 08.4**	**+0.7**
MAT				*e*S	**Sn**	**16 38 53.3**	**+4.3**
ASAJ	**Asahikawa**	**5.31**	**7**	P	**Pn**	**16 38 30.2**	**-0.8**
0.8nm,0.3s,baz=213,slow=13,SNR=8.4							
USRK	**Ussuriysk Ar.**	**9.04**	**309**	P	**Pn**	**16 39 22.6**	**+0.7**
baz=116,slow=14,SNR=2.2							
KSRS	**Korea Array**	**10.94**	**267**	P	**Pn**	**16 39 51.7**	**+3.8**
0.2nm,0.3s,baz=73,slow=13,SNR=1.2							
SONM	**Songino Array**	**27.01**	**301**	P	**P**	**16 42 49.6**	**+0.2**
0.2nm,0.4s,baz=106,slow=11,SNR=2.1							
H11N2	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	17 13 40.6	
baz=317,slow=76,SNR=81							
H11N1	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	17 13 40.6	
baz=317,slow=76,SNR=240							
H11N3	**WAKE ISLAND Hy**	**28.94**	**124**	T	T	17 13 41.2	
baz=317,slow=76,SNR=107							
H11S1	**WAKE ISLAND Hy**	**29.69**	**126**	T	T	17 14 30.2	
baz=318,slow=76,SNR=42							
H11S3	**WAKE ISLAND Hy**	**29.69**	**126**	T	T	17 14 42.0	
baz=318,slow=76,SNR=50							
H11S2	**WAKE ISLAND Hy**	**29.71**	**126**	T	T	17 14 30.0	
baz=318,slow=76,SNR=32							
ZALV	**Zalesovo Beam**	**40.88**	**311**	P	**P**	**16 44 48.3**	**-0.6**
0.4nm,0.5s,baz=82,slow=11,SNR=4.6							
MKAR	**Makanchi Array**	**43.37**	**301**	P	**P**	**16 45 08.6**	**-0.7**
1.3nm,0.7s,baz=85,slow=9.7,SNR=15							
MKAR	**Makanchi Array**	**43.37**	**301**	P	**P**	**16 45 08.4**	**-0.9**
ILAR	**Eielson Array**	**47.85**	**33**	P	**P**	**16 45 45.2**	**+0.9**
0.4nm,0.8s,baz=265,slow=7.5,SNR=4.1							
WRA	**Warramunga Arr**	**58.88**	**188**	P	**P**	**16 47 04.2**	**-1.4**
0.4nm,0.4s,baz=9.2,slow=4.6,SNR=7.7							
ASAR	**Alice Springs**	**62.61**	**188**	P	**P**	**16 47 29.9**	**-0.9**
0.2nm,0.4s,baz=354,slow=5.1,SNR=4.3							

ISC 21 17:11:54.6±5.1, 21°.55S×179°.86W, h619km±35km, mb2.9/4, mb1 3.1/5, mb1mx2.6/40, mbtmp3.9/5, Error ellipse: s-maj=122.4km s-min=42.6km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.28**	**332**	P	P	17 13 23.6	0.0
5.1nm,0.3s,baz=174,slow=3.9,SNR=28							
STKA	**Stephens Creek**	**35.77**	**245**	P	P	17 18 03.0	-0.7
0.5nm,0.3s,baz=100,slow=13,SNR=3.9							
ASAR	**Alice Springs**	**42.59**	**258**	P	P	17 18 58.2	-0.2
2.1nm,0.8s,baz=99,slow=8.0,SNR=36							
WRA	**Warramunga Arr**	**42.74**	**264**	P	P	17 18 59.2	-0.4
0.6nm,0.4s,baz=92,slow=8.2,SNR=43							
FITZ	**Fitzroy Crossi**	**51.17**	**264**	P	P	17 20 03.5	+0.9
1.9nm,1.0s,baz=93,slow=9.2,SNR=8.7							
AKASG	**Malin Array Be**	**143.05**	**329**	PKP	PKPbc	17 30 18.0	+0.6
0.2nm,0.3s,baz=42,slow=4.3,SNR=4.4							

*IDC **21** 17:14:17.9±4.2, 0°.99N×99°.05E, h77km±25km, mb3.4/6, mb1 3.4/7, mb1mx3.1/48, mbtmp3.7/7, Error ellipse: s-maj=72.2km s-min=19.8km az=64.0*
*DJA **21** 17:14:19.9±0.4, 1°.N±3°.×9°.9E±°, h55km±8km, M3.7/9, mb3.9/2, mB5.0/1, MLv3.6/9, Mw(mB)4.4/1*

ISC 21 17:14:18.5±0.8, 1°.02N±0°.06×98°.82E±0°.06, h86km, n14, σ1º56/18, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.53**	**8**	P	**Pn**	**17 14 35.1**	**+2.0**
SBSI				S	**Sn**	**17 14 46.9**	**+2.9**
MNSI	**Mandailing Nat**	**0.79**	**106**	P	**Pn**	**17 14 36.6**	**+1.0**
MNSI				S	**Sn**	**17 14 47.9**	**-0.5**
GSI	**Gunungsitoli**	**1.27**	**283**	P	**Pn**	**17 14 41.6**	**+0.3**
GSI				S	**Sn**	**17 14 57.3**	**-1.1**
PSI	**Prapat**	**1.77**	**3**	P	**Pn**	**17 14 47.3**	**-0.5**
5.3nm,0.3s,baz=184,slow=10,SNR=18							
PSI				S	**Sn**	**17 15 06.9**	**-3.0**
4.6nm,0.3s,baz=162,slow=12,SNR=16							
PPI	**Padang Panjang**	**2.15**	**133**	P	**Pn**	**17 14 53.1**	**+0.4**
SISI	**Saibi**	**2.35**	**173**	P	**Pn**	**17 14 56.6**	**+1.4**
KCSI	**Kotacane, Aceh**	**2.69**	**337**	P	**Pn**	**17 15 01.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**17.33**	**0**	P	**P**	**17 18 15.3**	**+0.1**
baz=196,slow=9.9,SNR=5.1							
WRA	**Warramunga Arr**	**40.57**	**123**	P	**P**	**17 21 47.7**	**-2.3**
0.3nm,0.7s,baz=302,slow=8.9,SNR=2.1							
ASAR	**Alice Springs**	**42.00**	**128**	P	**P**	**17 22 00.1**	**-1.6**
0.2nm,0.9s,baz=302,slow=7.5,SNR=1.8							
SONM	**Songino Array**	**47.09**	**7**	P	**P**	**17 22 42.9**	**+1.0**
1.1nm,0.4s,baz=192,slow=9.3,SNR=11							
MKAR	**Makanchi Array**	**47.82**	**345**	P	**P**	**17 22 47.9**	**+0.5**
0.7nm,0.6s,baz=154,slow=7.7,SNR=9.4							
ZALV	**Zalesovo Beam**	**54.00**	**350**	P	**P**	**17 23 33.9**	**+0.2**
0.5nm,0.5s,baz=156,slow=7.5,SNR=4.5							
KLR	**Kul'dur**	**55.70**	**26**	P	**P**	**17 23 46.1**	**+0.1**
1.1nm,0.5s,baz=210,slow=11,SNR=6.3							

IDC 21 17:14:47.6±21.0, 42°.17S×84°.57E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/39, mbtmp3.7/3, MS3.6/6, Ms1 3.5/6, ms1mx3.1/60, Error ellipse: s-maj=503.0km s-min=51.6km az=41.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**24.16**	**82**	T	T	17 44 13.6	
baz=245,slow=74,SNR=110							
H01W3	**Cape Leeuwin H**	**24.17**	**82**	T	T	17 44 14.2	
baz=245,slow=74,SNR=112							
H01W1	**Cape Leeuwin H**	**24.18**	**82**	T	T	17 44 15.0	
baz=245,slow=74,SNR=94							
MAW	**Mawson**	**28.06**	**198**	LR	LR	17 28 59.4	
comp=Z,72nm,21.7s,baz=236,slow=30							
H08S2	**Diego Garcia H**	**36.00**	**339**	T	T	17 59 24.3	
baz=163,slow=76,SNR=52							
H08S1	**Diego Garcia H**	**36.01**	**339**	T	T	17 59 16.3	
baz=163,slow=76,SNR=46							
H08S3	**Diego Garcia H**	**36.02**	**339**	T	T	17 59 22.7	
baz=163,slow=76,SNR=63							
ASAR	**Alice Springs**	**44.67**	**82**	P	P	17 23 02.3	0.0
1.0nm,0.9s,baz=233,slow=7.7,SNR=6.3							
WRA	**Warramunga Arr**	**47.28**	**78**	P	P	17 23 22.6	-0.3
1.9nm,1.1s,baz=230,slow=7.6,SNR=5.9							
BOSA	**Boshof**	**49.29**	**266**	LR	LR	17 40 46.3	
comp=Z,67nm,18.3s,baz=184,slow=32							
PALK	**Pallekele**	**49.33**	**355**	LR	LR	17 40 10.8	
comp=Z,54nm,19.1s,baz=207,slow=31							
SUR	**Sutherland**	**50.61**	**259**	LR	LR	17 42 09.8	
comp=Z,64nm,18.6s,baz=168,slow=32							
TSUM	**Tsumeb**	**60.44**	**270**	LR	LR	17 46 52.7	
comp=Z,55nm,19.8s,baz=154,slow=32							
CMAR	**Chiang Mai Arr**	**61.77**	**16**	P	P	17 25 08.0	0.0
0.4nm,0.3s,baz=206,slow=6.0,SNR=5.5							
MBAR	**Mbarara**	**63.53**	**296**	LR	LR	17 49 01.3	
comp=Z,40nm,18.5s,baz=166,slow=32							

*NOU **21** 17:15:26.3, 38°.61S×175°.65E, h185km, MLv4.0/8, North Island, New Zealand*
*WEL **21** 17:15:32.0±0.6, 39°.S±5°.×17°.6E±°, h131km±5km, M2.8/50, ML2.6/30, MLv2.8/50, Error ellipse: s-maj=0.0km s-min=0.0km az=153.3*

ISC 21 17:15:25.8±1.8, 38°.68S±0°.06×175°.65E±0°.05, h181km±9km, n134, σ1º72/145, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.07**	**116**	P	**Pn**	**17 15 50.9**	**+1.3**
RATZ	**Rangitukua**	**0.21**	**153**	P	**Pn**	**17 15 51.0**	**+1.1**
KUTZ	**Kaahu Road**	**0.23**	**36**	P	**Pn**	**17 15 51.2**	**+1.2**
WHTZ	**Whakaora**	**0.24**	**88**	P	**Pn**	**17 15 50.9**	**+1.0**
KATZ	**Kakaramea**	**0.30**	**173**	P	**Pn**	**17 15 51.4**	**+1.2**
RITZ	**Rihia Road**	**0.34**	**151**	P	**Pn**	**17 15 51.7**	**+1.5**
TLZ	**Tolley Road**	**0.36**	**346**	P	**Pn**	**17 15 51.5**	**+1.3**
HATZ	**Hinemaiaia**	**0.41**	**122**	P	**Pn**	**17 15 51.3**	**+1.0**
KRVZ	**Karewarewa**	**0.42**	**181**	P	**Pn**	**17 15 52.0**	**+1.5**
NTVZ	**North Tongarir**	**0.42**	**177**	P	**Pn**	**17 15 52.1**	**+1.6**
TWVZ	**Taurewa**	**0.43**	**203**	P	**Pn**	**17 15 52.0**	**+1.5**
TWVZ				S	**Sn**	**17 16 07.7**	**-2.0**
WPRZ	**Whakapapatarin**	**0.43**	**69**	P	**Pn**	**17 15 51.5**	**+1.0**
TMVZ	**Te Maari**	**0.44**	**174**	P	**Pn**	**17 15 52.0**	**+1.5**
WTVZ	**West Tongariro**	**0.44**	**186**	P	**Pn**	**17 15 52.1**	**+1.5**
WTVZ				S	**Sn**	**17 16 07.9**	**-1.9**
NNVZ	**North Ngauruho**	**0.46**	**183**	P	**Pn**	**17 15 52.2**	**+1.5**
ETVZ	**East Tongariro**	**0.46**	**174**	P	**Pn**	**17 15 52.1**	**+1.5**
OTVZ	**Oturere**	**0.49**	**179**	P	**Pn**	**17 15 52.3**	**+1.5**
OTVZ				S	**Sn**	**17 16 08.7**	**-1.5**
GRRZ	**Galatos Road**	**0.49**	**48**	P	**Pn**	**17 15 51.9**	**+1.2**
NGZ	**Ngauruhoe**	**0.50**	**184**	P	**Pn**	**17 15 52.3**	**+1.5**
NGZ				S	**Sn**	**17 16 08.4**	**-1.9**
SNVZ	**South Ngauruho**	**0.51**	**181**	P	**Pn**	**17 15 52.7**	**+1.8**
ALRZ	**Allen Road**	**0.56**	**78**	P	**Pn**	**17 15 51.9**	**+1.0**
FWVZ	**Far West T-bar**	**0.58**	**187**	P	**Pn**	**17 15 52.8**	**+1.5**
TUVZ	**Tukino**	**0.59**	**180**	P	**Pn**	**17 15 53.0**	**+1.7**
TUVZ				S	**Sn**	**17 16 09.4**	**-1.6**
HSRZ	**Hossack Road**	**0.59**	**52**	P	**Pn**	**17 15 52.3**	**+1.2**
WHVZ	**Whangaehu Hut**	**0.61**	**184**	P	**Pn**	**17 15 53.0**	**+1.6**
WHVZ				S	**Sn**	**17 16 09.2**	**-2.1**
MRHZ	**Matea Rd**	**0.62**	**105**	P	**Pn**	**17 15 52.2**	**+0.9**
TRVZ	**Turoa**	**0.63**	**187**	P	**Pn**	**17 15 53.3**	**+1.8**
TRVZ				S	**Sn**	**17 16 09.4**	**-2.1**
HIZ	**Hauiti**	**0.64**	**284**	P	**Pn**	**17 15 53.0**	**+1.7**
HIZ				S	**Sn**	**17 16 10.2**	**-0.7**
HIZ	**Hauiti**	**0.64**	**284**	P	**Pn**	**17 15 53.2**	**+1.9**
WNVZ	**Wahianoa**	**0.65**	**183**	P	**Pn**	**17 15 53.3**	**+1.7**
WNVZ				S	**Sn**	**17 16 09.9**	**-1.7**
PKVZ	**Pokaka**	**0.66**	**201**	P	**Pn**	**17 15 53.2**	**+1.7**
PKVZ				S	**Sn**	**17 16 10.0**	**-1.4**
MOVZ	**Moawhango**	**0.73**	**174**	P	**Pn**	**17 15 53.4**	**+1.5**
MOVZ				S	**Sn**	**17 16 09.3**	**-2.9**
RRRZ	**Republican Roa**	**0.76**	**64**	P	**Pn**	**17 15 53.0**	**+1.0**
OMRZ	**Omania**	**0.80**	**45**	P	**Pn**	**17 15 53.5**	**+1.2**
TARZ	**Mount Tarawera**	**0.80**	**57**	P	**Pn**	**17 15 53.6**	**+1.3**
KARZ	**Kaharoa**	**0.81**	**36**	P	**Pn**	**17 15 53.6**	**+1.3**
BKZ	**Black Stump Fm**	**0.82**	**127**	P	**Pn**	**17 15 53.7**	**+1.3**
BKZ	**Black Stump Fm**	**0.82**	**127**	P	**Pn**	**17 15 53.7**	**+1.3**
VRZ	**Vera Road**	**0.83**	**237**	P	**Pn**	**17 15 54.4**	**+2.1**
KMRZ	**Kaimai**	**0.86**	**16**	P	**Pn**	**17 15 54.1**	**+1.5**
BHHZ	**Black Hill Sta**	**0.87**	**158**	P	**Pn**	**17 15 54.2**	**+1.5**
MUGZ	**Murupara**	**0.90**	**78**	P	**Pn**	**17 15 53.6**	**+0.7**
MTHZ	**Maungataniwha**	**0.95**	**101**	P	**Pn**	**17 15 54.6**	**+1.4**
TOZ	**Tahuroa Road**	**0.95**	**353**	P	**Pn**	**17 15 55.1**	**+1.9**
KWHZ	**Kaweka Forest**	**0.96**	**141**	P	**Pn**	**17 15 55.2**	**+1.9**
NMHZ	**Naumai**	**1.00**	**115**	P	**Pn**	**17 15 56.1**	**+2.5**
RTZ	**Ruatahuna**	**1.04**	**87**	P	**Pn**	**17 15 55.1**	**+1.2**
MHEZ	**Mangahewa**	**1.11**	**248**	P	**Pn**	**17 15 57.2**	**+2.8**
KRHZ	**Kereru**	**1.12**	**150**	P	**Pn**	**17 15 56.5**	**+2.0**
MCHZ	**McNeill Hill**	**1.12**	**134**	P	**Pn**	**17 15 57.1**	**+2.6**
RAHZ	**Arahi**	**1.15**	**102**	P	**Pn**	**17 15 56.8**	**+2.1**
WAZ	**Wanganui**	**1.19**	**205**	P	**Pn**	**17 15 57.4**	**+2.4**
ARHZ	**Aropaoanui**	**1.20**	**120**	P	**Pn**	**17 15 57.4**	**+2.3**
URZ	**Urewera**	**1.22**	**71**	P	**Pn**	**17 15 56.1**	**+0.9**
URZ	**Urewera**	**1.22**	**71**	P	**Pn**	**17 15 56.2**	**+0.9**
DREZ	**Durham Road**	**1.24**	**245**	P	**Pn**	**17 15 58.3**	**+2.9**
LREZ	**Lake Rotokare**	**1.25**	**231**	P	**Pn**	**17 15 58.5**	**+3.0**
PNHZ	**Pukenui**	**1.31**	**161**	P	**Pn**	**17 15 58.1**	**+2.0**
SNGZ	**Shannon Statio**	**1.33**	**95**	P	**Pn**	**17 15 58.1**	**+1.9**
PREZ	**Palmer Road**	**1.34**	**240**	P	**Pn**	**17 15 59.3**	**+3.0**
NEZ	**North Egmont**	**1.35**	**243**	P	**Pn**	**17 15 59.4**	**+2.9**
PKE	**Pukeiti**	**1.40**	**248**	P	**Pn**	**17 15 59.7**	**+2.8**
RAGZ	**Rawiri**	**1.40**	**83**	P	**Pn**	**17 15 58.5**	**+1.6**
TSZ	**Takapari Road**	**1.40**	**170**	P	**Pn**	**17 15 59.1**	**+2.2**
KHEZ	**Kahui Hut**	**1.42**	**244**	P	**Pn**	**17 15 59.9**	**+2.8**
KAHZ	**Kahuranaki**	**1.47**	**140**	P	**Pn**	**17 15 60.0**	**+2.5**
CKHZ	**Cape Kidnapper**	**1.48**	**132**	P	**Pn**	**17 16 00.1**	**+2.5**
NBEZ	**Newall Road No**	**1.51**	**246**	P	**Pn**	**17 16 00.7**	**+2.9**
MWZ	**Matawai**	**1.51**	**78**	P	**Pn**	**17 15 59.3**	**+1.4**
WPHZ	**Waipukurau**	**1.52**	**156**	P	**Pn**	**17 16 00.1**	**+2.2**
OHWZ	**Ohakea**	**1.55**	**189**	P	**Pn**	**17 16 01.0**	**+2.8**
KNZ	**Kokohu**	**1.62**	**103**	P	**Pn**	**17 16 00.9**	**+2.0**
PXZ	**Pawanui**	**1.65**	**146**	P	**Pn**	**17 16 01.4**	**+2.3**
RIGZ	**Rimuhau**	**1.65**	**92**	P	**Pn**	**17 16 01.3**	**+2.0**
DVHZ	**Dannevirke**	**1.67**	**166**	P	**Pn**	**17 16 01.5**	**+2.0**
TKGZ	**Te Karaka**	**1.74**	**83**	P	**Pn**	**17 16 02.5**	**+2.3**
RUGZ	**Raukumara Rang**	**1.75**	**67**	P	**Pn**	**17 16 01.1**	**+0.7**
PRHZ	**Porangahau**	**1.76**	**155**	P	**Pn**	**17 16 02.6**	**+2.3**
PRGZ	**Paritu Road**	**1.76**	**99**	P	**Pn**	**17 16 02.4**	**+2.0**
MHGZ	**Mahia Peninsul**	**1.82**	**106**	P	**Pn**	**17 16 03.3**	**+2.2**
ANWZ	**Angora Road**	**1.89**	**161**	P	**Pn**	**17 16 04.2**	**+2.5**
PRWZ	**Pori Road**	**1.89**	**173**	P	**Pn**	**17 16 04.0**	**+2.3**
TWGZ	**Tauwhareparae**	**1.90**	**75**	P	**Pn**	**17 16 04.3**	**+2.5**
HAZ	**Te Kaha**	**1.92**	**62**	P	**Pn**	**17 16 03.1**	**+1.1**
MRZ	**Mangatainoka R**	**1.98**	**182**	P	**Pn**	**17 16 04.5**	**+1.9**
BFZ	**Birch Farm**	**2.06**	**167**	P	**Pn**	**17 16 05.7**	**+2.3**
TIWZ	**Tintock**	**2.10**	**175**	P	**Pn**	**17 16 06.4**	**+2.4**
PUZ	**Puketiti**	**2.14**	**74**	P	**Pn**	**17 16 06.2**	**+1.8**
OGWZ	**Otaki Gorge**	**2.17**	**190**	P	**Pn**	**17 16 06.7**	**+2.0**
HOWZ	**Holdsworth Sta**	**2.22**	**183**	P	**Pn**	**17 16 07.0**	**+1.7**
KIW	**Kapiti Island**	**2.25**	**194**	P	**Pn**	**17 16 07.5**	**+1.8**
WMGZ	**Waiomatatini S**	**2.34**	**69**	P	**Pn**	**17 16 08.3**	**+1.6**
TMWZ	**Te Maipa**	**2.44**	**176**	P	**Pn**	**17 16 09.5**	**+1.7**
CAW	**Cannon Point**	**2.47**	**190**	P	**Pn**	**17 16 09.9**	**+1.8**
MTW	**Mount Morrison**	**2.48**	**183**	P	**Pn**	**17 16 09.7**	**+1.4**
DUWZ	**D'Urville Isla**	**2.51**	**212**	P	**Pn**	**17 16 10.3**	**+1.8**
WEL	**Wellington**	**2.69**	**194**	P	**Pn**	**17 16 12.3**	**+1.6**
PAWZ	**Paruwai Farm**	**2.71**	**184**	P	**Pn**	**17 16 12.4**	**+1.4**
TRWZ	**Traveller**	**2.72**	**179**	P	**Pn**	**17 16 12.5**	**+1.4**
SNZO	**South Karori**	**2.73**	**195**	P	**Pn**	**17 16 12.7**	**+1.6**
TCW	**Tory Channel**	**2.74**	**202**	P	**Pn**	**17 16 13.0**	**+1.7**
MSWZ	**Moikau Station**	**2.75**	**186**	P	**Pn**	**17 16 12.2**	**+0.8**
BHW	**Baring Head**	**2.79**	**192**	P	**Pn**	**17 16 13.2**	**+1.4**
PLWZ	**Palliser**	**2.91**	**186**	P	**Pn**	**17 16 14.5**	**+1.2**
TUWZ	**Tuamarina**	**3.05**	**205**	P	**Pn**	**17 16 16.4**	**+1.4**
NNZ	**Nelson**	**3.08**	**214**	P	**Pn**	**17 16 16.8**	**+1.5**
QRZ	**Quartz Range**	**3.22**	**227**	P	**Pn**	**17 16 18.3**	**+1.1**
QRZ	**Quartz Range**	**3.22**	**227**	P	**Pn**	**17 16 18.4**	**+1.3**
BSWZ	**Blackbirch Sta**	**3.33**	**204**	P	**Pn**	**17 16 20.2**	**+1.8**
THZ	**Tophouse**	**3.73**	**213**	P	**Pn**	**17 16 24.6**	**+1.1**
KHZ	**Kahutara**	**4.07**	**203**	P	**Pn**	**17 16 29.2**	**+1.5**
KHZ	**Kahutara**	**4.07**	**203**	P	**Pn**	**17 16 29.4**	**+1.7**
GVZ	**Greta Valley S**	**4.72**	**204**	P	**Pn**	**17 16 37.3**	**+1.1**
LTZ	**Lake Taylor**	**4.84**	**211**	P	**Pn**	**17 16 38.1**	**+0.4**
AMCZ	**Amberley**	**5.04**	**206**	P	**Pn**	**17 16 40.8**	**+0.7**
INZ	**Inchbonnie**	**5.15**	**217**	P	**Pn**	**

COEB Comit de Eme 1.12 19 *eP* **Pn 17 28 16.2 +0.3**
COEB Comit de Eme 1.12 19 *eP* **Pn 17 28 16.2 +0.3**
LALI Alcalda de L 1.12 339 *eP* **Pn 17 28 16.0 +0.1**
LALI Alcalda de L 1.12 339 *eP* **Pn 17 28 16.0 +0.1**
LCY Lacayo 1.15 31 *eP* **Pb 17 28 16.9 -1.0**
LCY Lacayo 1.15 31 *eP* **Pb 17 28 16.9 -1.0**
VSM San Miguel 1.17 32 *eP* **Pb 17 28 17.3 -1.0**
VSM San Miguel 1.17 32 *eP* **Pb 17 28 17.3 -1.0**
PACA Pacayal 1.18 29 *eP* **Pb 17 28 17.4 -1.0**
PACA *eS* **Sb 17 28 34.7 +1.3**
PACA Pacayal 1.18 29 *eP* **Pb 17 28 17.4 -1.0**
PACA *eS* **Sb 17 28 34.7 +1.3**
SJTE Alcalda de S 1.18 355 *eP* **Pn 17 28 16.7 0.0**
SJTE Alcalda de S 1.18 355 *eP* **Pn 17 28 16.7 0.0**
LFRS El Faro 1.19 353 *eP* **Pn 17 28 17.0 0.0**
LFRS El Faro 1.19 353 *eP* **Pn 17 28 17.0 0.0**
UESV Universidad de 1.20 6 *eP* **Pn 17 28 17.4 +0.4**
UESV *eS* **Sb 17 28 34.5 +0.4**
UESV Universidad de 1.20 6 *eP* **Pn 17 28 17.4 +0.4**
UESV *eS* **Sb 17 28 34.5 +0.4**
CNRM Centro Naciona 1.26 35 *eP* **Pb 17 28 18.5 -1.2**
CNRM *eS* **Sb 17 28 37.3 +1.6**
CNRM Centro Naciona 1.26 35 *eP* **Pb 17 28 18.5 -1.2**
CNRM *eS* **Sb 17 28 37.3 +1.6**
AEIL Aeropuerto Ilo 1.27 351 *eP* **Pn 17 28 18.4 +0.4**
AEIL IAML 17 28 46.8
comp=Z,7μm,0.5s
AEIL Aeropuerto Ilo 1.27 351 *eP* **Pn 17 28 18.4 +0.4**
AEIL IAML 17 28 46.8
comp=Z,7μm,0.5s
PAVA Las Pavas 1.27 359 *eP* **Pn 17 28 18.4 +0.3**
PAVA Las Pavas 1.27 359 *eP* **Pn 17 28 18.4 +0.3**
SCLA Alcaldia de Sa 1.27 8 *eP* **Pb 17 28 18.7 -1.2**
SCLA Alcaldia de Sa 1.27 8 *eP* **Pb 17 28 18.7 -1.2**
ITCA Escuela Especi 1.28 344 *eP* **Pn 17 28 18.4 +0.2**
ITCA Escuela Especi 1.28 344 *eP* **Pn 17 28 18.4 +0.2**
SNET Serv Nac Est T 1.28 346 *eP* **Pn 17 28 18.8 +0.6**
SNET Serv Nac Est T 1.28 346 *eP* **Pn 17 28 18.8 +0.6**
MAGS Ministerio de 1.30 344 *eP* **Pb 17 28 19.3 -1.1**
MAGS *eS* **Sb 17 28 37.2 +0.4**
MAGS IAML 17 28 51.4
comp=Z,7μm,0.5s
IGN Direccin Gen 1.30 349 *eP* **Pb 17 28 19.1 -1.4**
IGN *eS* **Sb 17 28 37.7 +0.9**
IGN Direccin Gen 1.30 349 *eP* **Pb 17 28 19.1 -1.4**
IGN *eS* **Sb 17 28 37.7 +0.9**
OPAM Oficina de Pla 1.30 348 *eP* **Pn 17 28 18.1 -0.3**
OPAM Oficina de Pla 1.30 348 *eP* **Pn 17 28 18.1 -0.3**
UEES Universidad Ev 1.31 346 *eP* **Pb 17 28 19.3 -1.4**
UEES Universidad Ev 1.31 346 *eP* **Pb 17 28 19.3 -1.4**
LCND La Caada 1.32 49 *eP* **Pn 17 28 18.7 +0.1**
LCND IAML 17 28 43.1
comp=Z,6μm,0.4s
LCND La Caada 1.32 49 *eP* **Pn 17 28 18.7 +0.1**
LCND IAML 17 28 43.1
comp=Z,6μm,0.4s
JAYA Jayaque - finc 1.32 337⇑ *iP* **Pn 17 28 19.0 +0.2**
JAYA *eS* **Sb 17 28 36.8 -0.8**
JAYA IAML 17 28 39.5
comp=Z,6μm,0.2s
JAYA Jayaque - finc 1.32 337⇑ *iP* **Pn 17 28 19.0 +0.2**
JAYA *eS* **Sb 17 28 36.8 -0.8**
JAYA IAML 17 28 39.5
comp=Z,6μm,0.2s
LFU La Fuente 1.32 351 *eP* **Pn 17 28 19.1 +0.4**
LFU La Fuente 1.32 351 *eP* **Pn 17 28 19.1 +0.4**
CNCH Conchagua 1.34 51 *eP* **Pb 17 28 19.7 -1.5**
CNCH Conchagua 1.34 51 *eP* **Pb 17 28 19.7 -1.5**
BOQS Boqueron 1.34 344 *eP* **Pn 17 28 19.5 +0.4**
BOQS Boqueron 1.34 344 *eP* **Pn 17 28 19.5 +0.4**
CEDA San Andres 1.44 341 *eP* **Pn 17 28 20.8 +0.5**
CEDA San Andres 1.44 341 *eP* **Pn 17 28 20.8 +0.5**
CEVE Cerro Verde 1.55 333 *eP* **Pn 17 28 22.4 +0.4**
CEVE IAML 17 28 47.5
comp=Z,9μm,0.4s
CEVE Cerro Verde 1.55 333 *eP* **Pn 17 28 22.4 +0.4**
CEVE IAML 17 28 47.5
comp=Z,9μm,0.4s
SBLS San Blas 1.56 334 *eP* **Pn 17 28 22.7 +0.5**
SBLS San Blas 1.56 334 *eP* **Pn 17 28 22.7 +0.5**
SNJE San Jose 1.58 335 *eP* **Pn 17 28 22.9 +0.6**
SNJE San Jose 1.58 335 *eP* **Pn 17 28 22.9 +0.6**
TACO Tacachico 1.59 344 *eP* **Pn 17 28 22.9 +0.6**
TACO *eS* **Sb 17 28 44.0 -1.1**
TACO Tacachico 1.59 344 *eP* **Pn 17 28 22.9 +0.6**
TACO *eS* **Sb 17 28 44.0 -1.1**
RTR El Retiro 1.62 334 *eP* **Pn 17 28 23.7 +0.8**
RTR El Retiro 1.62 334 *eP* **Pn 17 28 23.7 +0.8**
UNIC Universidad Ca 1.66 338 *eS* **Sb 17 28 47.1 0.0**
UNIC Universidad Ca 1.66 338 *eS* **Sb 17 28 47.1 0.0**
NUBE Las Nubes 1.69 330 *eP* **Pn 17 28 24.1 +0.3**
NUBE *eS* **Sb 17 28 46.8 -1.3**
NUBE Las Nubes 1.69 330 *eP* **Pn 17 28 24.1 +0.3**
NUBE *eS* **Sb 17 28 46.8 -1.3**
LLGN La Laguna 1.72 359 *eP* **Pn 17 28 25.4 +1.2**
LLGN La Laguna 1.72 359 *eP* **Pn 17 28 25.4 +1.2**
LOAL Lomas de Alarc 1.77 331 *eP* **Pn 17 28 26.2 +1.4**
LOAL *eS* **Sb 17 28 49.7 -0.6**
LOAL Lomas de Alarc 1.77 331 *eP* **Pn 17 28 26.2 +1.4**
LOAL *eS* **Sb 17 28 49.7 -0.6**
SLOZ Alcaldia de Sa 1.80 332 *eP* **Pn 17 28 26.2 +1.0**
CRIN San Cristobal 1.83 81 **Pn 17 28 25.2 -0.6**
MTO3 Montecristo 2.00 347 *eP* **Pn 17 28 29.4 +1.2**
MTO3 Montecristo 2.00 347 Pn **Pn 17 28 27.8 -0.4**
MTO3 Montecristo 2.00 347 *eP* **Pn 17 28 29.4 +1.2**
ESQI Esquipulas 2.15 349 **Pn 17 28 31.2 +1.0**
ESQI Esquipulas 2.15 349 *eP* **Pn 17 28 32.0 +1.8**
CNGN Cerro Negro 2.16 88 **Pn 17 28 29.1 -1.1**
PCG Pacaya 2.55 320 *eP* **Pn 17 28 38.3 +2.5**
NBG Las Nubes 2.56 327 *eP* **Pb 17 28 39.0 -2.9**
NBG *eS* **Sb 17 29 13.2 +0.2**
MRL Marmol 2.74 344 *eP* **Pn 17 28 40.7 +2.4**
MRL *eS* **Sb 17 29 19.3 +1.1**
FUG Fuego 3 2.75 317 *eP* **Pn 17 28 40.2 +1.8**
FUG *eS* **Sn 17 29 12.0 +1.5**
APG El Apazote 2.97 330 P **Pn 17 28 43.2 +1.8**
comp=Z,3.9nm,0.3s,baz=142,slow=9.3,SNR=19
BOAB BOACO BROADBAN 3.17 89 **Pn 17 28 42.0 -2.0**
HZTE Horizontes, Gu 3.67 117 **Pn 17 28 51.3 +0.4**
ACON Acoyapa 3.68 97 **Pn 17 28 52.0 -2.0**
ORTG Ortega, Santa 3.96 121 **Pn 17 28 55.1 +0.1**
DUNO Dulce Nombre, 4.09 125 **Pn 17 28 56.8 +0.2**
JTS Las Juntas de 4.42 118 **Pn 17 29 02.0 +0.7**
ESPN Las Esperanzas 4.51 93 Pn **Pn 17 29 00.3 -2.1**
PETF Flores 4.55 348 **Pn 17 29 04.3 +1.3**
CAO2 Cobano, Puntar 4.62 126 **Pn 17 29 04.0 0.0**
CCIG Comitan 4.94 321 **Pn 17 29 10.9 +2.3**
JACO JACO, Garabito 5.00 123 **Pn 17 29 08.6 -0.6**
LCR2 La Lucha 2 5.51 119 *eP* **Pn 17 29 17.4 +1.0**
CVTR Volcan Turrial 5.59 115 **Pn 17 29 19.1 +1.4**
RIMA Rio Macho 5.62 118 *eP* **Pn 17 29 18.9 +1.0**
RIMA Rio Macho 5.62 118 **Pn 17 29 18.5 +0.7**
CDM Cerro de Muert 5.81 119 *eP* **Pn 17 29 22.1 +1.4**
PEZE Perez Zeledon, 5.96 120 **Pn 17 29 22.5 0.0**
SRBA San Rafael, Bu 6.31 120 **Pn 17 29 27.1 -0.2**
PIRO Carate, Puerto 6.79 126 *eP* **Pn 17 29 35.3 +1.5**
BRU2 Volcan 7.10 120 **Pn 17 29 38.2 0.0**
CMIG Matias Romero 7.41 309 P **Pn 17 29 44.3 +2.1**
comp=Z,1.0nm,0.3s,baz=107,slow=11,SNR=9.5
TLIG Tlapa 10.63 300 **Pn 17 30 30.0 +3.3**
TIGA Tifton 19.54 14 **Pn 17 32 23.2 +0.5**
TIGA IAmb IAmb 17 32 26.6
comp=Z,29nm,1.0s
JCT Junction City 20.60 332 P **P 17 32 33.0 +0.1**
JCT IAmb IAmb 17 32 34.5
comp=Z,36nm,0.7s
BAUV El Baul 20.79 98 P **P 17 32 32.7 -2.3**
WHTX Lake Whitney, 20.99 339 P **P 17 32 37.6 +0.5**
WHTX IAmb IAmb 17 32 38.4
comp=Z,29nm,0.8s
Y49A Blount Mountai 21.45 6 P **P 17 32 42.1 +0.1**
GOGA Godfrey 21.47 13 P **P 17 32 43.2 +1.1**
TXAR Lajitas Array 21.71 323 P **P 17 32 46.5 +1.6**
comp=Z,12nm,0.7s,baz=147,slow=12,SNR=83
TXAR LR LR 17 43 13.4
comp=Z,59nm,19.1s,baz=132,slow=42
TXAR Lajitas Array 21.71 323 P **P 17 32 46.3 +1.4**
TX31 Lajitas Ar. Si 21.71 323 P **P 17 32 46.8 +1.9**
TX31 IAmb IAmb 17 32 48.3
comp=Z,42nm,0.8s
TX32 Lajitas Array 21.71 323 P **P 17 32 46.8 +1.9**

ATAH Atahualpa 22.07 151 LR LR 17 40 36.8
comp=Z,181nm,18.4s,baz=343,slow=34
H06E1 SOCORRO T-PHAS 22.11 289 T T 17 55 37.1
SNR=4.3
Z35A Perchaven, San 22.16 341 P **P 17 32 48.6 -1.0**
Z35A IAmb IAmb 17 32 53.4
comp=Z,27nm,0.8s
X40A Basin Creek Fa 22.24 351 P **P 17 32 50.2 -0.3**
ABTX Abilene, Hawle 22.38 336 P **P 17 32 51.9 -0.1**
ABTX IAmb IAmb 17 32 52.7
comp=Z,21nm,0.9s
MIAR Mount Ida 22.42 350 P **P 17 32 52.8 +0.5**
MIAR IAmb IAmb 17 32 55.8
comp=Z,43nm,0.9s
HODGE Hodges 22.53 15 P **P 17 32 54.3 +0.7**
X37A Clayton 22.83 346 **P 17 32 57.8 +1.2**
X37A IAmb IAmb 17 32 59.6
comp=Z,21nm,0.9s
JSC Jenkinsville 22.84 16 P **P 17 32 58.0 +1.2**
JSC IAmb IAmb 17 32 58.8
comp=Z,23nm,0.9s
WHAR Wooly Hollow 22.96 353 P **P 17 32 59.1 +1.1**
HBAR Harrisburg 23.07 356 P **P 17 33 00.3 +1.1**
W39A Magazine 23.09 350 P **P 17 33 00.0 +0.7**
W39A IAmb IAmb 17 33 02.7
comp=Z,27nm,0.9s
BG3 Lake Jocassee 23.11 13 P **P 17 32 59.5 0.0**
V48A Smith Brothers 23.28 4 P **P 17 33 01.2 -0.1**
LPIG La Paz 23.36 303 LR LR 17 42 59.3
comp=Z,170nm,18.5s,baz=29,slow=38
X34A Smith Ranch, M 23.51 341 **P 17 33 05.2 +1.6**
FCAR Ozark Folk Cen 23.53 353 P **P 17 33 03.9 +0.2**
FCAR IAmb IAmb 17 33 05.4
comp=Z,27nm,0.8s
TKL Tuckaleechee C 23.59 10 P **P 17 33 04.3 0.0**
comp=Z,13nm,0.7s,baz=188,slow=12,SNR=14
TKL LR LR 17 41 55.3
comp=Z,147nm,21.3s,baz=182,slow=36
TKL Tuckaleechee C 23.59 10 P **P 17 33 04.5 +0.2**
TKL IAmb IAmb 17 33 05.8
comp=Z,17nm,0.9s
LCAR Lake Charles 23.62 355 P **P 17 33 04.4 -0.2**
LCAR IAmb IAmb 17 33 05.2
comp=Z,14nm,0.6s
CLTN Cedars of Leba 23.67 5 P **P 17 33 04.8 -0.2**
X58A Rowland 23.68 20 P **P 17 33 05.2 +0.1**
X58A IAmb IAmb 17 33 12.2
comp=Z,30nm,1.2s
W35A Tecumseh 23.74 344 **P 17 33 05.4 -0.3**
W35A IAmb IAmb 17 33 07.8
comp=Z,17nm,0.7s
V53A Saluda 23.78 12 P **P 17 33 06.2 0.0**
PCRV Puerto La Cruz 23.91 93 LR LR 17 44 28.2
comp=Z,356nm,21.6s,slow=42
FNO Franklin 23.99 343 **P 17 33 08.2 +0.1**
W57A Gilead 24.02 18 P **P 17 33 08.5 +0.2**
W57A IAmb IAmb 17 33 33.9
comp=Z,24nm,1.4s
U40A Yellville 24.08 352 P **P 17 33 09.2 +0.3**
U49A Red Boiling Sp 24.14 6 P **P 17 33 08.6 -0.9**
HHAR Hobbs 24.18 350 P **P 17 33 09.8 0.0**
HHAR IAmb IAmb 17 33 12.0
comp=Z,20nm,0.7s
TUL1 Leonard 24.19 346 **P 17 33 09.7 -0.2**
TUL1 IAmb IAmb 17 33 12.8
comp=Z,25nm,0.8s
PBMO Poplar Bluff 24.28 357 P **P 17 33 10.5 -0.2**
PBMO IAmb IAmb 17 33 11.4
comp=Z,14nm,0.8s
U38A Gravette 24.41 349 **P 17 33 11.4 -0.5**
U38A IAmb IAmb 17 33 14.2
comp=Z,16nm,0.8s
MNTX Cornudas Mount 24.45 324 P **P 17 33 12.6 +0.2**
OK031 S. Brethren Rd 24.49 344 **P 17 33 12.3 -0.3**
T47A Sharon Grove 24.50 3 P **P 17 33 11.8 -1.0**
T47A IAmb IAmb 17 33 12.9
comp=Z,24nm,0.7s
T42A Van Buren 24.57 356 P **P 17 33 12.8 -0.5**
OK033 Mehan 24.60 344 **P 17 33 13.1 -0.6**
OK033 IAmb IAmb 17 33 14.0
comp=Z,28nm,0.9s
QUOK Quay 24.66 345 **P 17 33 13.8 -0.4**
MGMO Mountain Grove 24.80 354 P **P 17 33 15.4 0.0**
MGMO IAmb IAmb 17 33 18.1
comp=Z,27nm,0.8s
MSTX Muleshoe 24.88 332 P **P 17 33 16.2 -0.2**
MSTX IAmb IAmb 17 33 18.0
comp=Z,25nm,1.1s
S44A Carbondale 25.16 359 P **P 17 33 18.3 -0.4**
S44A IAmb IAmb 17 33 24.0
comp=Z,19nm,1.1s
AMTX Amarillo 25.18 335 P **P 17 33 20.1 +1.1**
AMTX IAmb IAmb 17 33 21.5
comp=Z,32nm,0.9s
T35A Sooner Cattle 25.32 346 P **P 17 33 21.0 +0.9**
CROK Carrier 25.32 343 **P 17 33 19.5 -0.7**
CROK IAmb IAmb 17 33 23.4
comp=Z,25nm,0.9s
BLOK Blackwell 25.35 344 **P 17 33 20.0 -0.4**
S39A Bolivar 25.46 352 P **P 17 33 21.1 -0.3**
S51A Beattyville 25.55 10 P **P 17 33 22.0 -0.2**
CCM Cathedral Cave 25.60 353 P **P 17 33 22.5 -0.2**
GC02 Grant County # 25.61 343 P **P 17 33 22.6 -0.2**
KAN14 Manchester OK 25.74 343 **P 17 33 23.4 -0.5**
KAN14 IAmb IAmb 17 33 24.7
comp=Z,21nm,0.9s
WCI Wyandotte Cave 25.80 5 P **P 17 33 23.7 -0.8**
WCI IAmb IAmb 17 33 24.4
comp=Z,12nm,0.7s
KAN05 Bluff City Nor 25.85 343 P **P 17 33 24.5 -0.5**
KAN01 Argonia South 25.86 344 P **P 17 33 24.8 -0.3**
R40A Maddies Statio 25.93 354 P **P 17 33 25.1 -0.6**
R40A IAmb IAmb 17 33 26.2
comp=Z,37nm,1.4s
KAN06 Argonia West S 25.98 344 P **P 17 33 26.1 -0.1**
KAN16 Harper SW Stat 26.02 343 **P 17 33 26.2 -0.3**
KAN16 IAmb IAmb 17 33 26.9
comp=Z,25nm,0.7s
KAN12 Harper NE Stat 26.07 343 **P 17 33 26.5 -0.5**
Q44A Meyer Farm, Va 26.36 360 P **P 17 33 29.1 -0.4**
Q44A IAmb IAmb 17 33 30.0
comp=Z,14nm,0.7s
Q51A Peebles 26.94 10 P **P 17 33 34.3 -0.6**
Q51A IAmb IAmb 17 33 35.2
comp=Z,11nm,0.8s
NNA Nana 27.06 153 LR LR 17 42 24.8
comp=Z,50nm,20.9s,baz=335,slow=32
P40A Paris 27.13 355 P **P 17 33 35.8 -0.7**
R32A Long Quarter, 27.32 343 P **P 17 33 38.3 +0.1**
R32A IAmb IAmb 17 33 39.7
comp=Z,23nm,0.8s
P38A Dawn 27.39 352 P **P 17 33 38.5 -0.3**
P38A IAmb IAmb 17 33 40.5
comp=Z,8.7nm,0.6s
KSU1 Kansas State U 27.43 347 P **P 17 33 38.9 -0.3**
KSU1 IAmb IAmb 17 33 50.7
comp=Z,19nm,0.9s
ANMO Albuquerque 27.49 328 LR LR 17 47 42.4
comp=Z,56nm,20.3s,baz=132,slow=43
N33A J Bar K, Exete 29.18 347 P **P 17 33 55.3 +0.5**
SDCO Great Sand Dun 29.25 332 P **P 17 33 56.4 +0.6**
L40A Anamosa 29.59 357 P **P 17 33 57.7 -0.7**
L40A IAmb IAmb 17 33 59.2
comp=Z,14nm,0.8s
K38A Parkersburg 30.29 354 P **P 17 34 03.7 -0.9**
JFWS Jewell Farm 30.39 358 P **P 17 34 04.1 -1.4**
JFWS IAmb IAmb 17 34 07.0
comp=Z,8.2nm,0.5s
SMCO Snowmass 31.08 332 P **P 17 34 13.1 +1.0**
K31A O'Neill 31.27 346 P **P 17 34 12.8 -0.5**
PV11 David Mesa, Pa 31.30 329 P **P 17 34 13.5 -0.3**
I42A Draeger Farm, 31.35 360 P **P 17 34 12.5 -1.3**
I42A IAmb IAmb 17 34 30.3
comp=Z,16nm,1.2s
I40A Norwalk 31.38 358 P **P 17 34 13.1 -1.1**
PTGA Pitinga 31.56 112 LR LR 17 48 29.5
comp=Z,61nm,20.1s,baz=220,slow=39
ETMB Extrema 31.57 133 P **P 17 34 16.5 +0.3**
ETMB IAmb IAmb 17 34 20.9
comp=Z,16nm,0.8s
I37A Lemond, Waseca 31.71 354 P **P 17 34 15.2 -1.8**
WSPT Westport, CT 31.72 23 **PcP 17 37 07.8 -0.6**
ECSD EROS Data Cent 31.89 349 P **P 17 34 17.5 -1.2**
O20A White River Ci 32.43 332 P **P 17 34 26.5 +2.7**

O20A IAmb IAmb 17 34 27.3
comp=Z,9.2nm,0.9s
G40A Rib Lake 32.74 358 P **P 17 34 24.9 -1.3**
G40A IAmb IAmb 17 34 26.6
comp=Z,17nm,1.2s
PFO Pinyon Flats O 32.79 315 LR LR 17 47 10.1
comp=Z,76nm,18.1s,baz=138,slow=35
SPMN Marine on St. 32.85 355 P **P 17 34 25.8 -1.3**
SUSD Miller 33.04 347 P **P 17 34 28.1 -0.7**
P17A Butcher Ranch, 33.14 328 P **P 17 34 30.3 +0.4**
SADO Sadowa 33.29 13 LR LR 17 49 03.3
comp=Z,118nm,18.1s,baz=198,slow=38
F36A Milaca 33.55 354 P **P 17 34 31.9 -1.3**
F36A IAmb IAmb 17 34 33.0
comp=Z,7.1nm,0.8s
F33A 5 Mile Ranch, 33.88 351 P **P 17 34 34.4 -1.7**
F33A IAmb IAmb 17 34 35.5
comp=Z,13nm,0.7s
E38A The Farm, Brul 34.13 357 P **P 17 34 36.9 -1.3**
RSSD Black Hills 34.15 340 P **P 17 34 39.5 +0.8**
RSSD IAmb IAmb 17 34 42.1
comp=Z,6.4nm,0.7s
PDAR Pinedale Array 35.13 333 P **P 17 34 47.8 +0.6**
comp=Z,0.6nm,0.6s,baz=127,slow=11,SNR=8.0
PDAR PcP **PcP 17 37 19.4 +1.2**
comp=Z,0.6nm,0.5s,baz=137,slow=5.5,SNR=5.4
B35A Bob, Littlefor 36.04 355 P **P 17 34 52.3 -2.3**
B35A IAmb IAmb 17 34 54.2
comp=Z,11nm,0.9s
ECR Eagle Creek 36.17 332 P **P 17 34 55.2 -1.0**
REDW Red Top Meadow 36.18 333 P **P 17 34 56.1 0.0**
REDW IAmb IAmb 17 34 59.5
comp=Z,12nm,1.0s
AGMN Agassiz Nation 36.22 352 P **P 17 34 54.8 -1.4**
AGMN IAmb IAmb 17 34 56.1
comp=Z,14nm,0.8s
LOHW Long Hollow 36.26 333 P **P 17 34 57.3 +0.4**
MDND Maddock 36.42 348 P **P 17 34 57.6 -0.4**
ELK Elko 36.46 325 P **P 17 35 00.2 +1.6**
NVAR Mina Array Bea 36.79 320 P **P 17 35 03.9 +2.4**
comp=Z,1.4nm,0.7s,baz=140,slow=7.0,SNR=9.4
NVAR PcP **PcP 17 37 25.3 +2.0**
comp=Z,0.9nm,0.6s,baz=102,slow=3.2,SNR=6.6
NVAR Mina Array Bea 36.79 320 P **P 17 35 02.6 +1.1**
RLMT Red Lodge 36.92 336 P **P 17 35 02.8 +0.3**
LAO LASA Array 37.14 340 P **P 17 35 04.1 -0.1**
LAO IAmb IAmb 17 35 15.1
comp=Z,15nm,1.4s
YNR Norris Junctio 37.17 334 P **P 17 35 05.8 +1.1**
DGMT Dagmar 38.12 343 P **P 17 35 12.1 -0.2**
ULM Lac du Bonnet 38.14 353 P **P 17 35 11.0 -1.4**
comp=Z,7.0nm,0.7s,baz=180,slow=8.9,SNR=7.5
ULM LR LR 17 52 39.5
comp=Z,94nm,20.3s,baz=154,slow=39
ULM Lac du Bonnet 38.14 353 P **P 17 35 10.9 -1.6**
ULM IAmb IAmb 17 35 11.8
comp=Z,16nm,1.1s
EGMT Eagleton 39.52 338 P **P 17 35 23.9 -0.3**
EGMT IAmb IAmb 17 35 26.7
comp=Z,19nm,1.4s
YBH Yreka Blue Hor 41.46 321 LR LR 17 54 33.8
comp=Z,76nm,19.2s,baz=153,slow=38
RPN Rapa Nui 44.04 207 LR LR 17 49 31.0
comp=Z,92nm,20.2s,baz=254,slow=29
EDM Edmonton 45.12 339 P **P 17 36 08.8 -0.8**
EDM IAmb IAmb 17 36 20.2
comp=Z,10nm,0.7s
SCHQ Schefferville 45.72 18 P **P 17 36 12.4 -1.9**
comp=Z,8.4nm,0.7s,baz=217,slow=7.3,SNR=11
SCHQ LR LR 17 55 42.8
comp=Z,119nm,18.2s,baz=102,slow=37
SCHQ Schefferville 45.72 18 P **P 17 36 12.3 -1.9**
FCC Fort Churchill 46.40 356 P **P 17 36 17.9 -1.7**
FCC IAmb IAmb 17 36 25.0
comp=Z,14nm,1.4s
H03N2 Juan Fernandez 46.60 168 T T 18 26 31.0
baz=347,slow=76,SNR=20
H03N1 Juan Fernandez 46.60 168 T T 18 26 30.6
baz=347,slow=76,SNR=26
H03N3 Juan Fernandez 46.60 168 T T 18 26 26.3
baz=347,slow=76,SNR=31
CPUP Villa Florida 49.27 142 LR LR 17 59 33.0
comp=Z,49nm,18.1s,baz=259,slow=38
YKA Yellowknife Ar 53.26 345 P **P 17 37 10.5 -1.1**
comp=Z,3.3nm,0.7s,baz=142,slow=7.6,SNR=50
YKA PcP **PcP 17 38 19.4 +0.3**
comp=Z,0.3nm,0.4s,baz=146,slow=4.0,SNR=4.3
RES Resolute Bay 62.33 358 P **P 17 38 13.2 -1.9**
RES IAmb IAmb 17 38 13.5
comp=Z,8.0nm,1.4s
INK Inuvik 62.80 343 P **P 17 38 17.8 -0.6**
ILAR Eielson Array 65.46 336 P **P 17 38 35.6 -0.3**
comp=Z,0.6nm,0.8s,baz=166,slow=5.0,SNR=8.4
MKAR Makanchi Array 120.52 7 PKP **PKPdf 17 46 44.5 -0.4**
comp=Z,0.2nm,0.5s,baz=307,slow=2.8,SNR=6.0
WRA Warramunga Arr 137.90 254 PKhKP PKPpre 17 47 16.3
comp=Z,0.3nm,0.6s,baz=93,slow=1.7,SNR=8.2
ASAR Alice Springs 137.94 248 PKhKP PKPpre 17 47 13.5
comp=Z,0.3nm,0.9s,baz=102,slow=4.2,SNR=2.7
FITZ Fitzroy Crossi 146.23 256 PKPbc **PKPab 17 47 35.7 +0.5**
comp=Z,1.7nm,0.7s,baz=159,slow=3.1,SNR=5.9
CMAR Chiang Mai Arr 148.34 346 PKP **PKPdf 17 47 38.1 +1.2**
comp=Z,0.6nm,0.6s,baz=29,slow=33,SNR=24
CMAR PKPbc **PKPbc 17 47 40.8 +0.5**
comp=Z,4.3nm,0.7s,baz=341,slow=3.5,SNR=35

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*MAN **21** 17:31:55.2, 11°.12N×124°.48E, h1km, mb5.1, ML4.1, MS4.2*
MAN INTENSITY IV- KANANGA, LEYTE; CAPOCCAN, LEYTE;
INTENSITY III - LEYTE, LEYTE; ORMOC CITY;
INTENSITY II - CARIGARA, LEYTE; TUNGA, LEYTE;
JARO, LEYTE; ALANGALANG, LEYTE; PALO, LEYTE;
INTENSITY I - TACLOBAN CITY.
*IDC **21** 17:32:06.9±3.5, 10°.93N×124°.45E, h105km±34km,*
mb3.7/15, mb1 3.9/16, mb1mx3.7/37, mbtmp4.1/16,
MS3.9/22, Ms1 3.9/22, ms1mx3.6/86, Error ellipse:
s-maj=29.0km s-min=13.1km az=69.0
*NEIC **21** 17:32:06.6±1.7, 10°.94N±0°.06×124°.47E±0°.09,*
h106km±9km, mb4.4/25, Error ellipse: s-maj=15.3km
s-min=2.2km az=125.0
ISC 21 17:31:55.3±1.0, **11°.19N**±0°.03×**124°.58E**±0°.03, **h8**km±6km,
n82, σ2**9**07/81, **mb4.4**/27, **MS3.8**/21, **6C-10D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.14**	**167**⇑	*eP*	**Pg**	**17 31 57.8**	**-0.6**
OCLP				*eS*	**Sg**	**17 32 02.2**	**+1.8**
BESP	**Borongan**	**0.94**	**64**‖	*eP*	**Pg**	**17 32 10.8**	**-2.5**
BESP				*eS*	**Sg**	**17 32 22.2**	**-3.3**
LLP	**Lapu-Lapu**	**1.06**	**215**⇑	*eP*	**Pb**	**17 32 14.0**	**-1.8**
LLP				*eS*	**Sn**	**17 32 29.4**	**-2.0**
MSLP	**Maasin**	**1.09**	**165**⇑	*iP*	**Pg**	**17 32 14.5**	**-1.6**
MSLP				*i S*	**Sn**	**17 32 35.1**	**+3.0**
MMPH	**Masbate**	**1.49**	**321**‖	*iP*	**Pn**	**17 32 22.3**	**-0.1**
MMPH				*i S*	Sb	17 32 33.0	-9.4
TBP	**Tagbilaran**	**1.65**	**205**	*eP*	**Pn**	**17 32 23.9**	**-0.7**
TBP				*i S*	**Sn**	**17 32 39.9**	**-6.1**
SCPH	**Surigao**	**1.66**	**147**‖	*eP*	**Pn**	**17 32 25.1**	**+0.3**
SNPH	**Sibulan**	**2.26**	**216**⇑	*iP*	**Pn**	**17 32 32.0**	**-1.1**
SNPH				*i S*	**Sg**	**17 33 09.6**	**+1.6**
CNOP	**Candoni, Negro**	**2.34**	**235**‖	*iP*	**Pn**	**17 32 33.7**	**-0.4**
CNOP				*i S*	**Sg**	**17 33 09.1**	**-1.4**
BUTP	**Butuan**	**2.44**	**155**‖	*eP*	**Pn**	**17 32 36.8**	**+1.4**
BUTP				*eS*	**Sg**	**17 33 16.5**	**+2.9**
JAP	**San Jose, Anti**	**2.62**	**261**‖	*eP*	**Pg**	**17 32 44.2**	**-1.4**
DCPH	**Dipolog City**	**2.86**	**205**‖	*eP*	**Pn**	**17 32 40.9**	**-0.3**
DCPH				*eS*	**Sg**	**17 33 26.0**	**-1.2**
BOAC	**Boac**	**3.50**	**310**⇑	*eP*	**Pn**	**17 32 46.8**	**-3.2**
BOAC				*eS*	Sn	17 33 21.2	-10
CUYO	**Cuyo Island**	**3.51**	**265**‖	*eP*	**Pn**	**17 32 51.1**	**+0.8**
CUYO				*eS*	**Sb**	**17 33 41.2**	**+0.6**
PAGZ	**Pagadian**	**3.52**	**200**⇑	*eP*	**Pn**	**17 32 51.3**	**+0.9**
KCP	**Kidapawan**	**4.18**	**173**‖	*eP*	**Pn**	**17 33 01.3**	**+1.7**
DAV	**Davao City (W)**	**4.21**	**166**	P	**Pb**	**17 33 06.3**	**-3.4**
	129nm,0.3s,baz=332,slow=8.8,SNR=3.9						
DAV	**Davao City (W)**	**4.21**	**166**		**Pb**	**17 33 06.9**	**-2.8**
SAMP	**Sagada Mountai**	**6.85**	**329**‖	*eP*	**Pn**	**17 33 40.1**	**+3.9**
MYLDM	**Lahad Datu**	**8.47**	**226**	Pn	Pn	17 34 03.8	+5.3
I39PW	**PALAU INFRASON**	**10.48**	**109**	*i*		18 39 20.0	
	baz=292,slow=321,SNR=3.3						
TNTI	**Ternate**	**10.71**	**165**	Pn	**Pn**	**17 34 30.9**	**+1.7**
LUWI	**Luwuk**	**12.28**	**189**	Pn	**Pn**	**17 34 50.5**	**-0.2**
SIJI	**Sorong**	**13.70**	**151**	LR	LR	17 41 19.2	

comp=Z,483nm,19.3s,baz=290,slow=41
SBUM Sibu 15.02 236 Pn 17 35 29.0 +0.9
JOW Kunigami 15.95 12 LR LR 17 41 07.2
comp=Z,441nm,19.7s,baz=82,slow=33
UBPT Khong Chiam 19.04 284 P Pn 17 36 19.8 +1.0
UBPT IAmb IAmb 17 36 29.5
comp=Z,34nm,1.4s
MMRI Maumere 19.83 187 P **P 17 36 25.4 -1.3**
JAY Jayapura 21.04 129 LR LR 17 45 22.3
comp=Z,389nm,18.1s,baz=321,slow=38
BATI Baumata 21.28 182 P **P 17 36 42.9 +0.5**
comp=Z,8.0nm,0.5s,baz=131,slow=3.4,SNR=5.7
BATI LR LR 17 45 32.1
comp=Z,456nm,20.6s,baz=7.0,slow=38
ENH Enshi 23.61 326 P **P 17 37 08.3 +1.4**
ENH IAmb IAmb 17 37 11.5
comp=Z,16nm,1.4s
LEM Lembang 24.60 224 LR LR 17 48 00.9
comp=Z,305nm,18.4s,baz=359,slow=39
MTN Manton Dam 24.75 165 P **P 17 37 15.6 -1.9**
MTN IAmb IAmb 17 37 21.5
comp=Z,21nm,1.2s
CM31 Chiang Mai Arr 25.79 289 P **P 17 37 27.8 +0.7**
CMAR Chiang Mai Arr 25.79 289 P **P 17 37 28.1 +1.1**
comp=Z,0.4nm,0.2s,baz=95,slow=7.7,SNR=7.5
CMAR LR LR 17 48 40.9
comp=Z,134nm,18.2s,baz=95,slow=39
JHJ Hachijo jima 2 25.91 30 LR LR 17 45 38.7
comp=Z,213nm,21.0s,baz=20,slow=31
KSRS Korea Array 26.32 6 LR LR 17 47 15.2
comp=Z,318nm,21.4s,baz=185,slow=34
MJAR Matsushiro Arr 28.08 24 LR LR 17 47 10.1
comp=Z,278nm,21.6s,baz=200,slow=32
FITZ Fitzroy Crossi 29.12 178 P **P 17 37 55.1 -1.7**
comp=Z,1.8nm,0.7s,baz=11,slow=13,SNR=2.8
FITZ LR LR 17 53 35.5
comp=Z,94nm,18.0s,baz=14,slow=45
WB0 Warramunga Arr 32.24 162 P **P 17 38 21.3 -3.2**
WB0 IAmb IAmb 17 38 44.0
comp=Z,8.3nm,1.5s
WRAB Tennant Creek 32.39 163 P **P 17 38 21.9 -3.8**
WRAB IAmb IAmb 17 38 25.5
comp=Z,13nm,1.4s
WRA Warramunga Arr 32.40 163 P **P 17 38 24.2 -1.6**
comp=Z,1.7nm,0.8s,baz=343,slow=9.5,SNR=15
WRA LR LR 17 54 05.4
comp=Z,159nm,18.9s,baz=62,slow=41
WRA Warramunga Arr 32.40 163 P **P 17 38 23.9 -1.9**
WB2 Warramunga Arr 32.40 163 P **P 17 38 23.8 -2.0**
WB2 IAmb IAmb 17 38 27.6
comp=Z,4.8nm,0.9s
USRK Ussuriysk Ar. 33.51 10 LR LR 17 54 48.4
comp=Z,124nm,18.1s,baz=171,slow=40
AS31 Alice Springs 35.82 165 P **P 17 38 53.7 -1.8**
ASAR Alice Springs 35.82 165 P **P 17 38 54.4 -1.2**
comp=Z,3.8nm,0.8s,baz=348,slow=8.0,SNR=30
ASAR LR LR 17 55 01.5
comp=Z,138nm,18.5s,baz=349,slow=39
ASAR Alice Springs 35.82 165 P **P 17 38 53.3 -2.3**
ASAJ Asahikawa 36.31 22 LR LR 17 53 53.9
comp=Z,114nm,19.6s,baz=214,slow=36
CTA Charters Tower 37.70 145 LR LR 17 55 07.1
comp=Z,89nm,21.8s,baz=327,slow=37
KLR Kul'dur 38.39 8 LR LR 17 58 01.0
comp=Z,120nm,18.1s,baz=193,slow=40
ULN Ulaanbaatar 39.41 341 P **P 17 39 28.6 +2.7**
ULN IAmb IAmb 17 39 33.4
comp=Z,4.1nm,0.8s
SONM Songino Array 39.59 341 P **P 17 39 29.2 +1.9**
comp=Z,1.9nm,1.0s,baz=156,slow=8.3,SNR=7.6
SONM LR LR 17 57 24.5
comp=Z,254nm,18.8s,baz=144,slow=38
SONM Songino Array 39.59 341 P **P 17 39 28.9 +1.5**
HNR Honiara 40.71 119 LR LR 17 53 47.3
comp=Z,124nm,21.5s,baz=290,slow=32
STKA Stephens Creek 45.82 160 P **P 17 40 18.3 +0.4**
comp=Z,1.9nm,0.7s,baz=339,slow=11,SNR=3.5
STKA LR LR 18 02 23.9
comp=Z,86nm,18.1s,baz=14,slow=40
PETK Petropavlovsk- 49.51 26 P **P 17 40 48.6 +2.3**
comp=Z,3.0nm,1.0s,baz=221,slow=8.4,SNR=5.0
MK31 Makanchi Array 50.30 323 P **P 17 40 53.2 +0.7**
MKAR Makanchi Array 50.30 323 P **P 17 40 54.3 +1.9**
comp=Z,1.1nm,0.7s,baz=125,slow=7.8,SNR=12
MKAR LR LR 18 03 55.2
comp=Z,176nm,19.3s,baz=108,slow=38
MKAR Makanchi Array 50.30 323 P **P 17 40 52.8 +0.3**
YAK Yakutsk 50.89 3 P **P 17 40 56.8 +0.2**
ZALV Zalesovo Beam 53.03 332 P **P 17 41 13.9 +1.2**
comp=Z,1.6nm,0.7s,baz=123,slow=5.3,SNR=7.9
ZALV LR LR 18 05 11.8
comp=Z,201nm,18.7s,baz=147,slow=37
ZALV Zalesovo Beam 53.03 332 P **P 17 41 12.7 0.0**
AAK Ala-Archa 53.51 315 LR LR 18 06 03.1
comp=Z,315nm,19.3s,baz=98,slow=38
KURK Kurchatov 54.37 326 P **P 17 41 21.9 -0.7**
DRK Karamyk 54.45 311 P **P 17 41 22.7 -1.1**
BTK Batken 55.33 311 P **P 17 41 29.1 -0.8**
BTK IAmb IAmb 17 41 32.0
comp=Z,4.1nm,0.9s
KBL Kabul 55.44 304 P **P 17 41 30.0 -1.0**
BRVK Borovoye 60.04 326 P **P 17 42 01.5 -1.2**
BRVK IAmb IAmb 17 42 21.6
comp=Z,4.0nm,1.1s
NRIK Noril'sk 62.72 346 P **P 17 42 21.8 +1.2**
NRIK IAmb IAmb 17 42 26.5
comp=Z,3.9nm,0.8s
GEYT Alibeck 64.67 307 P **P 17 42 32.5 -1.5**
GYA0B ALIBECK ARRAY 64.67 307 P **P 17 42 32.9 -1.1**
GYA0B IAmb IAmb 17 42 48.9
comp=Z,3.9nm,0.7s
GURO Guroymak-BITLI 77.32 307 P **P 17 43 52.1 +1.1**
GURO IAmb IAmb 17 43 58.3
comp=Z,3.8nm,0.9s
KLMR Klimovskoe 77.91 330 *eP* **P 17 43 51.5 -2.1**
KLMR AMP 17 43 55.2
comp=Z,19nm,1.4s
ILAR Eielson Array 79.34 26 P **P 17 44 02.3 +0.9**
comp=Z,0.3nm,0.6s,baz=237,slow=6.0,SNR=4.2
ARCES ARCESS Array B 82.76 340 P **P 17 44 21.1 +1.5**
comp=Z,2.5nm,0.8s,baz=56,slow=3.1,SNR=11
ARCES ARCESS Array B 82.76 340 P **P 17 44 19.5 0.0**
FINES FINESS Array B 84.30 331 P **P 17 44 28.4 +0.8**
comp=Z,2.2nm,0.8s,baz=52,slow=3.4,SNR=6.3
AKASG Malin Array Be 84.80 321 P **P 17 44 28.6 -1.7**
comp=Z,1.7nm,0.8s,baz=69,slow=4.2,SNR=12
AKASG Malin Array Be 84.80 321 P **P 17 44 29.2 -1.2**
AKASG IAmb IAmb 17 44 31.8
comp=Z,4.1nm,1.2s
MNK Minsk 84.84 324 *i* P **P 17 44 29.0 -1.5**
comp=E,4.0nm,1.6s,baz=258
MNK *i* P **P 17 44 29.0 -1.5**
comp=N,19nm,1.5s
MNK *i* P **P 17 44 29.0 -1.5**
comp=Z,11nm,0.9s
MNK *i* PP **PP 17 47 53.3 +6.7**
MNK *i* S **SKSac 17 54 50.6 -4.6**
MNK *i* SS SS 17 59 56.6 -34
MNK *i* SSS SSS 18 04 02.0
MNK *i* LQ LQ 18 16 59.9
MNK *i* LR LR 18 20 27.5
MNK *i* LRM MLR 18 24 44.0
comp=Z,371nm,20.5s
MNK *i* LRM MLR 18 24 47.2
comp=N,230nm,23.1s
MNK *i* LRM MLR 18 25 01.4
comp=E,30nm,23.0s
YKA Yellowknife Ar 93.59 24 P **P 17 45 12.5 +0.6**
comp=E,0.8nm,1.0s,baz=300,slow=4.3,SNR=3.8

*BGR **21** 18:06:54.5±0.0, 18°.19N×107°.87W, h10km, mb6.1, mB_BB6.1, Ms6.5*
*IDC **21** 18:06:55.3±0.4, 18°.85N×106°.98W, h0km, mb5.1/36, mb1 5.2/41, mb1mx5.2/50, mbtmp5.1/41, ML4.8/6, MS6.4/61, Ms1 6.4/61, ms1mx6.3/69, Error ellipse: s-maj=15.5km s-min=10.1km az=59.0*
*MOS **21** 18:06:56.1±1.2, 18°.83N×106°.94W, h14km, mb6.0/26, MS6.4/66, Error ellipse: s-maj=5.9km s-min=3.5km az=94.5*
*NEIC **21** 18:06:57.6±2.0, 18°.82N±0°.06×106°.93W±0°.06, h10km±1km, mb6.0/795, Ms_20 6.4/428, Mwb6.5/58, Mww6.6, Md6.5/154(MEX), Error ellipse: s-maj=11.4km s-min=9.0km az=209.0*

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*BJI **21** 18:06:57.3±0.0, 18°.79N×106°.95W, h10km, mb5.5/7, mB6.6/61, Ms6.8/68, Ms7 6.6/65*
*NEIC **21** 18:06:58.5, 18°.84N×106°.95W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.33; $M_{\theta\theta}$-3.22; $M_{\phi\phi}$3.56; $M_{r\theta}$-0.70; $M_{\theta\phi}$-4.87; $M_{\phi r}$0.11; Fault plane solution: $M_0$5.98000×10^{18} NP1:ϕ_s107.53000°, δ88.48000°, λ-173.17000°. NP2:ϕ_s17.35000°, δ83.17000°, λ-1.53000°. Principal axes: T 6.1295, Plg4.0000°, Azm242.0000°; N -0.3039, Plg83.0000°, Azm120.0000°; P -5.8257, Plg6.0000°, Azm333.0000°;*
*MEX **21** 18:06:58.1±1.2, 18°.82N×106°.98W, h10km, MD6.5*
*GCMT **21** 18:07:01.7±0.0, 18°.91N×107°.17W, h16km, MW6.5/161, Moment Tensor Solution. s161,c409; s161,c694; Duration: 4s6 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.57±.03; $M_{\theta\theta}$-4.88±.03; $M_{\phi\phi}$5.45±.03; $M_{r\theta}$0.20±.09; $M_{\theta\phi}$-6.75±.03; $M_{\phi r}$-0.33±.10; Best double couple: $M_0$8.50700×10^{18} NP1:ϕ_s199.00000°, δ88.00000°, λ1.00000°. NP2:ϕ_s109.00000°, δ89.00000°, λ178.00000°. Principal axes: T 8.8000, Plg2.0000°, Azm64.0000°; N -0.5840, Plg88.0000°, Azm249.0000°; P -8.2150, Plg0.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 18:07:09, 18°.84N×106°.85W, h20km, Moment Tensor Solution. Duration: 20s0 Moment tensor: Scale 10^{18}Nm; M_{rr}0.18; $M_{\theta\theta}$-5.60; $M_{\phi\phi}$5.41; $M_{r\theta}$-1.25; $M_{\theta\phi}$-6.76; $M_{\phi r}$-4.60; Fault plane solution: $M_0$9.94000×10^{18} NP1: ϕ_s109.00000°, δ61.00000°, λ178.00000°. NP2: ϕ_s200.00000°, δ88.00000°, λ29.00000°. Principal axes: T 10.0287, Plg21.0000°, Azm68.0000°; N -0.1853, Plg61.0000°, Azm203.0000°; P -9.8434, Plg18.0000°, Azm331.0000°;*
ISC 21 18:06:56.0±0.5, 18°.67N±0°.03×107°.03W±0°.03, h4km±2km, h4km:pP-P, n2085, σ2s29/2281, mb6.0/450, MS6.5/354, 116C-56D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**2.05**	**66**	↑*eP*	Pn	18 07 22.7	-8.6
CJM				*eS*	Sn	18 07 46.4	-11
PUVA	**Puert Vallarta**	**2.59**	**41**		**Pn**	**18 07 34.6**	**-4.1**
PUVA					**Sn**	**18 08 03.5**	**-7.1**
PUVA	**Puert Vallarta**	**2.59**	**41**	*eP*	**Pn**	**18 07 34.6**	**-4.1**
PUVA				*eS*	**Sn**	**18 08 03.5**	**-7.1**
CDAR	**Ciudad de Arme**	**2.87**	**84**	*eP*	**Pn**	**18 07 38.5**	**-4.1**
CDAR				*eS*	**Sn**	**18 08 10.3**	**-7.3**
COMA	**Comala**	**3.16**	**78**	*eP*	**Pn**	**18 07 43.4**	**-3.3**
COMA				*eS*	**Sn**	**18 08 19.8**	**-5.1**
COIG	**Colima**	**3.20**	**80**	*eP*	**Pn**	**18 07 43.6**	**-3.7**
COIG				*i* S	**Sn**	**18 08 19.7**	**-6.2**
MNGA	**Volcan de Coli**	**3.32**	**76**	*eP*	**Pn**	**18 07 46.7**	**-2.4**
EZ5V		**3.34**	**75**		**Pn**	**18 07 47.0**	**-2.3**
EZ5V		**3.34**	**75**	*eP*	**Pn**	**18 07 47.0**	**-2.3**
ANIG	**Ahuacatlan**	**3.35**	**44**		**Pn**	**18 07 46.7**	**-2.6**
ANIG					**Sn**	**18 08 22.8**	**-6.8**
ANIG	**Ahuacatlan**	**3.35**	**44**	↑*eP*	**Pn**	**18 07 46.7**	**-2.6**
ANIG				*eS*	**Sn**	**18 08 22.8**	**-6.8**
JUBC	**Volcan de Coli**	**3.38**	**75**	*eP*	**Pn**	**18 07 47.7**	**-2.1**
TEPI	**Tepic**	**3.47**	**35**	*eP*	**Pn**	**18 07 49.5**	**-1.4**
TEPI				*eS*	**Sn**	**18 08 25.9**	**-6.5**
MMIG	**Aquila**	**3.52**	**96**		**Pn**	**18 07 47.8**	**-3.7**
MMIG	**Aquila**	**3.52**	**96**	↑*eP*	**Pn**	**18 07 47.8**	**-3.7**
H06E		**3.69**	**272**		Sn	18 08 28.2	-10
H06E		**3.69**	**272**	*eP*	Pn	18 07 48.3	-5.5
H06E				*eS*	Sn	18 08 28.2	-10
H06E1	**SOCORRO T-PHAS**	**3.69**	**272**	Pn	Pn	18 07 48.6	-5.3
H06E1				T	T	18 11 25.4	
H06S1	**SOCORRO T**	**3.72**	**272**	Pn	Pn	18 07 49.1	-5.2
H06S1				T	T	18 11 32.9	
H06S		**3.73**	**272**		Pn	18 07 49.5	-4.8
H06S		**3.73**	**272**	*eP*	Pn	18 07 49.5	-4.8
H06N1	**SOCORRO T-PHAS**	**3.75**	**274**	Pn	**Pn**	**18 07 50.2**	**-4.5**
H06N	**Isla Socorro**	**3.76**	**274**		**Pn**	**18 07 51.0**	**-3.8**
H06N					**Sn**	**18 08 31.6**	**-7.8**
H06N	**Isla Socorro**	**3.76**	**274**	*eP*	**Pn**	**18 07 51.0**	**-3.8**
H06N				*eS*	**Sn**	**18 08 31.6**	**-7.8**
MAIG	**Mazatlaan**	**4.53**	**7**		**Pn**	**18 08 01.6**	**-3.8**
MAIG					**Sn**	**18 08 53.3**	**-5.3**
MAIG	**Mazatlaan**	**4.53**	**7**	↓*eP*	**Pn**	**18 08 01.6**	**-3.8**
MAIG				*eS*	**Sn**	**18 08 53.3**	**-5.3**
URUA	**Uruapan**	**4.75**	**80**		**Pn**	**18 08 06.8**	**-1.8**
URUA					**Sn**	**18 09 01.6**	**-2.6**
URUA	**Uruapan**	**4.75**	**80**	*eP*	**Pn**	**18 08 06.8**	**-1.8**
URUA				*eS*	**Sn**	**18 09 01.6**	**-2.6**
UON	**La Union**	**5.00**	**97**	*eP*	**Pn**	**18 08 10.5**	**-1.4**
UON				*eS*	**Sn**	**18 09 05.7**	**-4.5**
ZIIG	**Zihuatanejo**	**5.40**	**100**		**Pn**	**18 08 14.9**	**-2.4**
ZIIG					**Sn**	**18 09 12.1**	**-7.9**
ZIIG	**Zihuatanejo**	**5.40**	**100**	↑*eP*	**Pn**	**18 08 14.9**	**-2.4**
ZIIG				*eS*	**Sn**	**18 09 12.1**	**-7.9**
AAIG	**Aguscalientes**	**5.46**	**52**	↑*eP*	**Pn**	**18 08 17.2**	**-1.2**
MOIG	**Morelia**	**5.61**	**79**		**Pn**	**18 08 17.8**	**-2.7**
MOIG	**Morelia**	**5.61**	**79**		**Sn**	**18 09 19.8**	**-5.8**
MOIG	**Morelia**	**5.61**	**79**	↑*eP*	**Pn**	**18 08 18.9**	**-1.6**
MOIG				*eS*	**Sn**	**18 09 19.8**	**-5.8**
SLBS	**Sierra La Lagu**	**5.69**	**332**	↑↑P	**Pn**	**18 08 19.1**	**-2.2**
SLBS	**Sierra La Lagu**	**5.69**	**332**	Pn	**Pn**	**18 08 20.3**	**-1.0**
SLBS	**Sierra La Lagu**	**5.69**	**332**	*eP*	**Pn**	**18 08 18.5**	**-2.9**
IGIG	**Irapuato, Guan**	**5.76**	**68**		**Pn**	**18 08 21.9**	**-0.6**
IGIG					**Sb**	**18 09 44.3**	**-2.4**
IGIG	**Irapuato, Guan**	**5.76**	**68**	↑*eP*	**Pn**	**18 08 21.9**	**-0.6**
IGIG				*eS*	**Sb**	**18 09 44.3**	**-2.4**
ZAIG	**Zacatecas**	**5.84**	**45**	Pn	**Pn**	**18 08 22.2**	**-1.5**
ZAIG	**Zacatecas**	**5.84**	**45**		**Sn**	**18 09 33.7**	**+2.4**
ZAIG	**Zacatecas**	**5.84**	**45**	↑*eP*	**Pn**	**18 08 22.8**	**-0.8**
ZAIG				*eS*	**Sn**	**18 09 33.7**	**+2.4**
SSIG	**Sanalona**	**6.12**	**359**	↓*eP*	**Pn**	**18 08 24.7**	**-2.6**
SSIG				*eS*	**Sn**	**18 09 31.3**	**-6.6**
LPIG	**La Paz**	**6.21**	**331**	Pn	**Pn**	**18 08 25.8**	**-2.7**
LPIG	12nm,0.3s,baz=152,slow=16,SNR=2.1			LR	LR	18 10 22.5	
	comp=Z,1440μm,18.1s,baz=172,slow=34						
LPIG	**La Paz**	**6.21**	**331**		**Pn**	**18 08 26.9**	**-1.6**
LPIG					**Sn**	**18 09 39.6**	**-0.4**
LPIG	**La Paz**	**6.21**	**331**	↓*eP*	**Pn**	**18 08 26.9**	**-1.6**
LPIG				*eS*	**Sn**	**18 09 39.6**	**-0.4**
ARIG	**Puente Sto Nin**	**6.35**	**92**		**Pn**	**18 08 29.0**	**-1.5**
ARIG					**Sn**	**18 09 35.8**	**-7.8**
ARIG	**Puente Sto Nin**	**6.35**	**92**	↑*eP*	**Pn**	**18 08 29.0**	**-1.5**
ARIG				*eS*	**Sn**	**18 09 35.8**	**-7.8**
PDIG	**Papasquiaro**	**6.52**	**13**	↓*eP*	**Pn**	**18 08 32.3**	**-0.7**
PDIG				*eS*	**Sn**	**18 09 43.9**	**-4.1**
JRQG	**Juriquilla Cam**	**6.53**	**71**		**Pn**	**18 08 31.7**	**-1.4**
JRQG					**Sn**	**18 09 56.5**	**+8.3**
JRQG	**Juriquilla Cam**	**6.53**	**71**	↓*eP*	**Pn**	**18 08 31.7**	**-1.4**
JRQG				*eS*	**Sn**	**18 09 56.5**	**+8.3**
CAIG	**El Cayaco**	**6.64**	**103**		**Pn**	**18 08 33.2**	**-1.2**
CAIG					**Sn**	**18 09 43.1**	**-7.5**
CAIG	**El Cayaco**	**6.64**	**103**	↑*eP*	**Pn**	**18 08 33.2**	**-1.2**
CAIG				*eS*	**Sn**	**18 09 43.1**	**-7.5**
TOVM	**TOLUCA**	**6.98**	**84**		**Pn**	**18 08 39.0**	**-0.4**
TOVM	**TOLUCA**	**6.98**	**84**	*eP*	**Pn**	**18 08 39.0**	**-0.4**
MEIG	**Mezcala**	**7.08**	**95**		**Pn**	**18 08 39.7**	**-0.8**
MEIG					**Sn**	**18 09 55.5**	**-6.0**
MEIG	**Mezcala**	**7.08**	**95**	↑*eP*	**Pn**	**18 08 39.7**	**-0.8**
MEIG				*eS*	**Sn**	**18 09 55.5**	**-6.0**
MAVM	**Malinalco, Edo**	**7.14**	**86**		**Pn**	**18 08 40.8**	**-0.7**
MAVM	**Malinalco, Edo**	**7.14**	**86**	*eP*	**Pn**	**18 08 40.8**	**-0.7**
TSIG	**Topolobambo**	**7.15**	**345**	↓*eP*	**Pn**	**18 08 41.1**	**-0.2**
TSIG				*eS*	**Sn**	**18 09 59.6**	**-3.4**
PLIG	**Platanillo**	**7.15**	**91**		**Pn**	**18 08 40.6**	**-0.9**
PLIG					Sn	18 09 53.2	-10
PLIG	**Platanillo**	**7.15**	**91**	↑*eP*	**Pn**	**18 08 40.6**	**-0.9**
PLIG				*eS*	Sn	18 09 53.2	-10
DAIG	**Los Arroyos**	**7.22**	**102**		**Pn**	**18 08 38.9**	**-3.5**
DAIG					Sn	18 09 55.2	-10
DAIG	**Los Arroyos**	**7.22**	**102**	↓*eP*	**Pn**	**18 08 38.9**	**-3.5**
DAIG				*eS*	Sn	18 09 55.2	-10
AOVM	**Tlapan**	**7.32**	**84**	*eP*	**Pn**	**18 08 44.0**	**-0.2**
RPIG	**Rio Verde**	**7.35**	**63**	↓*eP*	**Pn**	**18 08 44.2**	**-0.1**
RPIG				*eS*	Sb	18 10 23.9	-8.4
CJVM	**Cuajimalpa**	**7.36**	**83**	*eP*	**Pn**	**18 08 43.7**	**-0.9**
MHVM	**Bosque de Chap**	**7.43**	**83**	*eP*	**Pn**	**18 08 45.9**	**+0.3**
UNM	**Universidad Na**	**7.46**	**84**	P	**Pn**	**18 08 45.5**	**-0.4**
UNM	**Universidad Na**	**7.46**	**84**	↑↑P	**Pn**	**18 08 46.2**	**+0.3**
UNM	**Universidad Na**	**7.46**	**84**	Pn	**Pn**	**18 08 45.5**	**-0.4**

UNM	**Universidad Na**	**7.46**	**84**	↑*eP*	**Pn**	**18 08 45.3**	**-0.7**
UNM				*eS*	Sn	18 10 00.1	-11
BJVM	**Benito Juarez**	**7.47**	**83**	*eP*	**Pn**	**18 08 45.4**	**-0.6**
TLVM	**San Miguel Top**	**7.47**	**85**	*eP*	**Pn**	**18 08 45.4**	**-0.8**
XCVM	**Xochimilco**	**7.51**	**84**	*eP*	**Pn**	**18 08 45.8**	**-0.8**
GMVM	**Gustavo A Made**	**7.53**	**82**	*eP*	**Pn**	**18 08 45.9**	**-1.1**
PTVM	**Pico Tres Padr**	**7.54**	**82**		**Pn**	**18 08 46.9**	**-0.2**
PTVM	**Pico Tres Padr**	**7.54**	**82**	*eP*	**Pn**	**18 08 46.9**	**-0.2**
YAIG	**Yautepec**	**7.55**	**87**		**Pn**	**18 08 46.7**	**-0.3**
YAIG					Sn	18 10 03.3	-10
YAIG	**Yautepec**	**7.55**	**87**	↑*eP*	**Pn**	**18 08 46.7**	**-0.3**
YAIG				*eS*	Sn	18 10 03.3	-10
PBVM	**Pinon**	**7.55**	**83**		**Pn**	**18 08 46.4**	**-0.6**
PBVM	**Pinon**	**7.55**	**83**	*eP*	**Pn**	**18 08 46.4**	**-0.6**
THVM	**De Xico**	**7.65**	**84**	*eP*	**Pn**	**18 08 46.8**	**-1.8**
DEIG	**Demacu**	**7.71**	**77**	↑*eP*	**Pn**	**18 08 49.4**	**0.0**
DEIG				*eS*	**Sn**	**18 10 15.6**	**-1.9**
CRIG	**Cruz Grande**	**7.77**	**103**		**Pn**	**18 08 48.8**	**-1.1**
CRIG					Sn	18 10 07.5	-11
CRIG	**Cruz Grande**	**7.77**	**103**	↑*eP*	**Pn**	**18 08 48.8**	**-1.1**
CRIG				*eS*	Sn	18 10 07.5	-11
PPM	**Popocatepetl**	**7.97**	**86**	↑*eP*	**Pn**	**18 08 53.2**	**+0.1**
PPM				*eS*	**Sn**	**18 10 26.6**	**+2.5**
TLIG	**Tlapa**	**8.12**	**96**		**Pn**	**18 08 54.1**	**-0.8**
TLIG	**Tlapa**	**8.12**	**96**		**Sn**	**18 10 19.6**	**-7.7**
TLIG	**Tlapa**	**8.12**	**96**	↑*eP*	**Pn**	**18 08 54.8**	**-0.1**
TLIG				*eS*	**Sn**	**18 10 19.6**	**-7.7**
CSIG	**Choix**	**8.22**	**352**	↓*eP*	**Pn**	**18 08 56.5**	**+0.5**
CSIG				*eS*	**Sn**	**18 10 25.2**	**-4.2**
HPIG		**8.32**	**8**		**Pn**	**18 08 57.3**	**-0.5**
HPIG		**8.32**	**8**		**Sn**	**18 10 25.9**	**-6.4**
HPIG		**8.32**	**8**	↑*eP*	**Pn**	**18 08 58.9**	**+1.1**
HPIG				*eS*	**Sn**	**18 10 25.9**	**-6.4**
FTIG	**Fresnillo de T**	**8.49**	**94**	↑*eP*	**Pn**	**18 08 59.6**	**-0.3**
FTIG				*eS*	Sn	18 10 25.7	-11
GTIG	**Gomez Farias**	**8.55**	**58**	↑*eP*	**Pn**	**18 08 59.3**	**-1.4**
GTIG				*eS*	Sn	18 10 54.6	+17
PNIG	**Pinotepa**	**8.79**	**104**		**Pn**	**18 09 03.9**	**-0.1**
PNIG	**Pinotepa**	**8.79**	**104**	↑*eP*	**Pn**	**18 09 03.9**	**-0.1**
PNIG				*eS*	Sn	18 10 26.2	-17
HLIG	**Huajuapan de L**	**8.81**	**94**	↑*eP*	**Pn**	**18 09 04.3**	**-0.1**
HLIG				*eS*	**Sn**	**18 10 38.5**	**-5.7**
TXIG	**Tlaxiaco**	**8.93**	**98**	↑*eP*	**Pn**	**18 09 06.4**	**+0.3**
TXIG				*eS*	**Sn**	**18 10 41.0**	**-6.3**
YOIG	**Yosondua**	**9.21**	**100**	↑*eP*	**Pn**	**18 09 10.6**	**+0.6**
YOIG				*eS*	Sn	18 10 40.0	-14
LNIG	**Linares**	**9.37**	**47**		**Pn**	**18 09 11.2**	**-0.7**
LNIG	**Linares**	**9.37**	**47**	↑*eP*	**Pn**	**18 09 11.2**	**-0.7**
LNIG				*eS*	Sn	18 11 36.9	+39
TOIG	**Toxpalan**	**9.48**	**92**	↑*eP*	**Pn**	**18 09 13.6**	**+0.1**
TOIG				*eS*	**Sn**	**18 10 57.2**	**-3.5**
PEIG	**Puerto Escondi**	**9.80**	**104**	↑*eP*	**Pn**	**18 09 18.6**	**+0.7**
PEIG				*eS*	Sn	18 10 53.5	-15
GUYB	**Guaymas**	**9.84**	**340**	*eP*	**Pn**	**18 09 19.2**	**+0.8**
SRIG	**Santa Rosalia**	**9.86**	**332**		**Pn**	**18 09 19.2**	**+0.7**
SRIG					Sn	18 11 19.3	+10
SRIG	**Santa Rosalia**	**9.86**	**332**	↓*eP*	**Pn**	**18 09 19.2**	**+0.7**
SRIG				*eS*	Sn	18 11 19.3	+10
VHO	**Vista Hermosa**	**9.93**	**98**	↑*eP*	**Pn**	**18 09 20.5**	**+0.7**
VHO				*eS*	**Sn**	**18 11 18.8**	**+6.8**
OXBJ	**Oaxaca**	**9.94**	**98**		**Pn**	**18 09 21.8**	**+1.8**
OXBJ	**Oaxaca**	**9.94**	**98**	*eP*	**Pn**	**18 09 21.8**	**+1.8**
OXBJ				*eS*	Sn	18 11 34.8	+23
OXLC	**Oaxaca**	**9.96**	**98**	*eP*	**Pn**	**18 09 22.1**	**+1.9**
OXLC				*eS*	Sn	18 11 33.3	+21
LVIG	**Laguna Verde**	**10.08**	**82**		**Pn**	**18 09 19.8**	**-1.9**
LVIG					**Sn**	**18 11 15.0**	**-0.3**
LVIG	**Laguna Verde**	**10.08**	**82**	↑*eP*	**Pn**	**18 09 19.8**	**-1.9**
LVIG				*eS*	**Sn**	**18 11 15.0**	**-0.3**
MCIG	**Muzquiz**	**10.49**	**28**	↑*eP*	**Pn**	**18 09 25.2**	**-2.0**
MCIG				*eS*	Sn	18 11 42.1	+17
HUIG	**Huatulco**	**10.83**	**104**		**Pn**	**18 09 33.0**	**+1.1**
HUIG					Sn	18 11 24.6	-9.0
HUIG	**Huatulco**	**10.83**	**104**	↑*eP*	**Pn**	**18 09 33.0**	**+1.1**
HUIG				*eS*	Sn	18 11 24.6	-9.0
HSIG		**10.91**	**342**		**Pn**	**18 09 34.7**	**+1.7**
HSIG					**Sn**	**18 11 32.3**	**-3.2**
HSIG		**10.91**	**342**	↓*eP*	**Pn**	**18 09 34.7**	**+1.7**
HSIG				*eS*	**Sn**	**18 11 32.3**	**-3.2**
TX31	**Lajitas Ar. Si**	**11.05**	**15**	↓↓P	**Pn**	**18 09 35.5**	**+0.5**
TX31	**Lajitas Ar. Si**	**11.05**	**15**		**Pn**	**18 09 34.8**	**-0.2**
TX32	**Lajitas Array**	**11.05**	**15**	Pn	**Pn**	**18 09 35.2**	**+0.1**
TXAR	**Lajitas Array**	**11.05**	**15**	Pn	**Pn**	**18 09 35.0**	**0.0**
	4.0nm,0.3s,baz=195,slow=13,SNR=92						
TXAR				LR	LR	18 13 47.3	
	comp=Z,243μm,18.2s,baz=196,slow=38						
TXAR	**Lajitas Array**	**11.05**	**15**	P	**Pn**	**18 09 35.0**	**0.0**
TXAR	**Lajitas Array**	**11.05**	**15**	Pn	**Pn**	**18 09 35.4**	**+0.4**
CMIG	**Matias Romero**	**11.67**	**96**	Pn	**Pn**	**18 09 43.0**	**-0.4**
	11nm,0.3s,baz=295,slow=10,SNR=113						
CMIG				LR	LR	18 14 13.7	
	comp=Z,93μm,21.0s,baz=282,slow=38						
CMIG	**Matias Romero**	**11.67**	**96**		**Pn**	**18 09 43.5**	**+0.1**
CMIG	

comp=Z,401nm,0.7s
113A Mohawk Valley, 15.29 338 Pn 18 10 33.5 +0.8
Y22D IRIS PASSCAL I 15.35 0 Pn 18 10 33.5 -0.1
Y22D IRIS PASSCAL I 15.35 0 P **Pn 18 10 34.0 +0.4**
baz=180
GUVIX Guadalupe Vict 15.39 333 Pn 18 10 34.0 0.0
ABTX Abilene, Hawle 15.40 24 Pn 18 10 34.6 +0.3
ABTX IAmb IAmb 18 10 48.2
comp=Z,2μm,1.7s
ABTX Abilene, Hawle 15.40 24 P **Pn 18 10 33.5 -0.7**
baz=207,SNR=39
ABTX S **Sn 18 13 27.3 +1.9**
baz=207
BNM Barren Site 15.43 1 Pn **Pn 18 10 34.8 +0.1**
LENM Lemitar 15.44 0 Pn 18 10 33.8 -1.0
MBIG Mexicali 15.53 333 Pn 18 10 28.4 -7.5
MBIG P **P 18 10 37.5 -2.9**
MBIG Mexicali 15.53 333 *e*P Pn 18 10 28.4 -7.5
MBIG ⇓*e*P **P 18 10 37.5 -2.9**
CPBX Cerro Prieto 15.59 333 P **Pn 18 10 37.2 +0.6**
MSTX Muleshoe 15.71 13 Pn 18 10 37.5 -0.8
MSTX IAmb IAmb 18 11 02.6
comp=Z,2μm,1.4s
MSTX Muleshoe 15.71 13 P **Pn 18 10 38.0 -0.3**
baz=195,SNR=36
MSTX S **Sn 18 13 32.8 -0.1**
baz=195
CCX Cicese 15.76 328 P **Pn 18 10 38.4 -0.4**
UABX UABC, Campus M 15.83 333 Pn **Pn 18 10 39.3 -0.4**
WHTX Lake Whitney, 15.83 31 Pn **Pn 18 10 37.7 -2.1**
WHTX Lake Whitney, 15.83 31 P **Pn 18 10 39.3 -0.4**
baz=215,SNR=29
WHTX S **Sn 18 13 37.9 +2.2**
baz=215
GLA Glamis 15.94 335 P **Pn 18 10 41.4 +0.1**
GLA pmax pmax
comp=Z,7μm,2.0s
GLA Glamis 15.94 335 P **Pn 18 10 41.4 +0.1**
GLA Glamis 15.94 335 P **Pn 18 10 42.1 +0.8**
baz=152,SNR=166
GLA S **S 18 13 46.7 -6.2**
baz=152
X18A Snowflake 16.01 351 P **Pn 18 10 43.0 +0.7**
RMX La Rumorosa 16.08 331 Pn 18 10 43.1 -0.1
RMX IAmb IAmb 18 10 53.8
comp=Z,2μm,1.6s
Y14A Wickenburg 16.12 342 P **Pn 18 10 43.6 0.0**
Y14A IAmb IAmb 18 10 49.3
comp=Z,2μm,1.6s
CBX Cerro Bola 16.12 329 P **Pn 18 10 43.9 +0.2**
IKP In-Ko-Pah, Jac 16.14 331 P **Pn 18 10 44.5 +0.7**
baz=147,SNR=187
X16A Lo Mia Camp, P 16.17 347 Pn 18 10 44.4 0.0
ANMO Albuquerque 16.22 2 Pn **Pn 18 10 43.5 -1.5**
comp=Z,0.4nm,0.3s,baz=180,slow=13,SNR=40
ANMO LR LR 18 16 51.9
comp=Z,262μm,18.0s,baz=187,slow=37
ANMO Albuquerque 16.22 2 ⇑P **Pn 18 10 45.2 +0.2**
ANMO Albuquerque 16.22 2 Pn 18 10 44.9 -0.2
ANMO Albuquerque 16.22 2 P **Pn 18 10 44.5 -0.5**
baz=182
ANMO S **S 18 13 52.8 -6.1**
baz=182
TJIG Tijuana 16.22 330 Pn 18 10 44.5 -0.4
TJIG Tijuana 16.22 330 ⇓*e*P **Pn 18 10 44.5 -0.4**
SWSC Sam W. Stewart 16.25 333 P **Pn 18 10 45.8 +0.6**
baz=148,SNR=211
APG El Apazote 16.27 100 Pn **Pn 18 10 45.4 -0.4**
comp=Z,2.4nm,0.3s,baz=323,slow=8.3,SNR=31
APG LR LR 18 16 29.3
comp=Z,45μm,19.7s,baz=282,slow=35
TKX Tecate 16.30 330 P **Pn 18 10 45.8 -0.2**
BAR Barrett 16.42 330 Pn 18 10 47.5 0.0
BAR IAmb IAmb 18 11 09.9
comp=Z,2μm,1.9s
MYIG Mrida 16.43 79 Pn 18 10 44.4 -3.1
MYIG Mrida 16.43 79 ⇑*e*P **Pn 18 10 44.4 -3.1**
PETF Flores 16.44 93 P **Pn 18 10 47.2 -0.5**
PETF IAmb IAmb 18 11 02.8
comp=Z,2μm,1.8s
TJX Tijuana 16.47 329 P **Pn 18 10 47.1 -0.9**
MONP2 Monument Peak 16.48 331 P **Pn 18 10 49.1 +0.7**
baz=146,SNR=151
W18A Petrified Fore 16.56 352 P **Pn 18 10 49.5 +0.1**
W18A IAmb IAmb 18 11 01.9
comp=Z,1μm,1.7s
W18A Petrified Fore 16.56 352 P **Pn 18 10 49.9 +0.5**
baz=171,SNR=99
W18A S **S 18 14 01.5 -4.3**
baz=171
237A Washetta, Mont 16.69 35 P **Pn 18 10 49.6 -1.2**
BC3 Big Chuckawall 16.72 335 P **Pn 18 10 52.1 +0.8**
baz=151,SNR=210
BC3 S **S 18 14 05.0 -3.9**
baz=151
109C Camp Elliot, M 16.80 329 Pn 18 10 51.9 -0.4
109C Camp Elliot, M 16.80 329 P **Pn 18 10 52.8 +0.6**
baz=145,SNR=32
PDMCI Parker Dam,Lak 16.81 339 P **Pn 18 10 52.9 +0.5**
baz=156,SNR=62
PDMCI S **S 18 14 05.0 -5.6**
baz=156
AMTX Amarillo 16.84 15 P **Pn 18 10 52.1 -0.7**
AMTX IAmb IAmb 18 11 07.1
comp=Z,2μm,1.8s
AMTX Amarillo 16.84 15 P **Pn 18 10 51.9 -0.9**
baz=198
AMTX S **Sn 18 14 03.1 +2.8**
baz=198
Z35A Perchaven, San 17.03 29 P **Pn 18 10 53.3 -1.8**
Z35A IAmb IAmb 18 11 05.3
comp=Z,1μm,1.1s
IRM Iron Mountain 17.04 336 P **Pn 18 10 55.8 +0.5**
baz=152,SNR=134
TPFO Pinon Flats 17.10 332 P **Pn 18 10 56.9 +0.8**
baz=148,SNR=406
PFO Pinyon Flats O 17.11 332 Pn **P 18 10 57.2 -0.8**
comp=Z,2.2nm,0.3s,baz=149,slow=13,SNR=136
PFO LR LR 18 16 52.8
comp=Z,378μm,18.6s,baz=137,slow=35
PFO Pinyon Flats O 17.11 332 P **Pn 18 10 56.8 +0.6**
PFO pmax pmax
comp=Z,7μm,1.9s
PFO Pinyon Flats O 17.11 332 Pn 18 10 56.8 +0.6
PFO Pinyon Flats O 17.11 332 P **P 18 10 57.1 -0.8**
baz=148,SNR=429
NATX Nacogdoches 17.16 38 Pn 18 10 55.7 -1.1
NATX Nacogdoches 17.16 38 P **Pn 18 10 55.1 -1.6**
baz=223,SNR=79
WUAZ Wupatki 17.22 348 ⇑P **Pn 18 10 58.3 +0.6**
WUAZ Wupatki 17.22 348 P **Pn 18 10 57.7 +0.1**
WUAZ IAmb IAmb 18 11 07.4
comp=Z,1μm,1.4s
WUAZ Wupatki 17.22 348 P **Pn 18 10 58.2 +0.6**
baz=166,SNR=213
WUAZ S **S 18 14 15.9 -3.3**
baz=166
BELC Belle Mtn. Jos 17.24 334 P **P 18 10 59.1 -0.4**
baz=150,SNR=271
441A DeRidder 17.38 44 P **Pn 18 10 58.6 -0.9**
NEE2 Needles Airpor 17.40 339 P **P 18 11 00.6 -0.5**
baz=155,SNR=8.7
NEE2 S **S 18 14 23.7 +1.2**
baz=155
MURC Murrieta 17.43 331 P **P 18 11 01.0 -0.5**
baz=146,SNR=99
ESQI Esquipulas 17.43 101 P **P 18 11 01.9 +0.2**
W13A Hualapai Mount 17.46 341 Pn 18 11 01.0 +0.3
MTO3 Monteristo 17.46 101 P **Pn 18 10 59.4 -1.5**
SCI2 San Clemente I 17.60 326 P **P 18 11 02.9 -0.4**
baz=141,SNR=39
WMOK Wichita Mounta 17.61 23 P **Pn 18 11 01.0 -1.4**
WMOK pmax pmax
comp=Z,382nm,1.2s
WMOK Wichita Mounta 17.61 23 ⇑P **Pn 18 11 00.9 -1.4**
WMOK Wichita Mounta 17.61 23 Pn 18 11 01.0 -1.4
WMOK Wichita Mounta 17.61 23 P **Pn 18 11 01.0 -1.4**
baz=206,SNR=96
WMOK S **Sn 18 14 18.7 -0.2**
baz=206
LOOK Love County 17.61 28 P **Pn 18 11 01.6 -0.8**
LOOK IAmb IAmb 18 11 13.1
comp=Z,1μm,1.2s
GMRC Granite Mounta 17.79 336 P **P 18 11 05.8 +0.3**
baz=152,SNR=177
X34A Smith Ranch, M 17.86 25 Pn 18 11 05.8 +0.3
X34A IAmb IAmb 18 11 16.5
comp=Z,1μm,1.2s
BBRC Big Bear Solar 17.86 332 P **P 18 11 07.4 +1.0**
baz=148,SNR=25
CIS Catalina Islan 17.87 327 P **P 18 11 06.0 -0.3**
baz=142,SNR=88
FMP Fort Macarthur 18.05 328 P **P 18 11 08.1 -0.2**
baz=143
HEC Hector,Ludlow 18.10 335 P **P 18 11 09.3 +0.5**
baz=150,SNR=60
Z38A Mt. Pleasant 18.10 34 Pn 18 11 07.1 -1.3
BFSC Mount Baldy Ra 18.17 331 P **P 18 11 10.3 +0.5**
baz=146,SNR=122
U15A North Rim 18.29 346 P **P 18 11 11.5 +0.3**
SNCC San Nicolas Is 18.33 325 P **P 18 11 12.1 +0.7**
SNCC San Nicolas Is 18.33 325 P **P 18 11 11.6 +0.2**
baz=139,SNR=41
342A Flagon Creek P 18.35 44 P **Pn 18 11 09.8 -1.7**
MWC Mount Wilson 18.35 330 P **Pn 18 11 11.2 -0.5**
MWC pmax pmax
comp=Z,5μm,1.9s
MWC Mount Wilson 18.35 330 P **Pn 18 11 11.2 -0.5**
PASC Pasadena Art C 18.37 329 P **P 18 11 12.3 +0.5**
PASC IAmb IAmb 18 11 43.1
comp=Z,3μm,1.9s
RRX Edison Barstow 18.41 333 P **Pn 18 11 12.7 +0.4**
baz=148
TUQ Turquoise Moun 18.47 337 P **Pn 18 11 13.7 +0.6**
baz=152,SNR=102
TUQ S **S 18 14 49.0 +4.5**
baz=152
DECC Green Verdugo 18.51 329 P **Pn 18 11 14.2 +0.7**
baz=144,SNR=31
MVCO Mesa Verde 18.52 356 P 18 11 13.4 -0.3
MVCO Mesa Verde 18.52 356 P **P 18 11 13.7 +0.1**
baz=175,SNR=67
MVCO S **S 18 14 49.7 +4.1**
baz=175
T25A Trinidad 18.55 7 P **P 18 11 14.1 +0.2**
baz=188,SNR=42
T25A S **S 18 14 49.6 +3.4**
baz=188
FNO Franklin 18.60 25 P 18 11 13.8 -0.5
FNO IAmb IAmb 18 12 00.9
comp=Z,987nm,1.4s
GSC Goldstone, Bar 18.70 334 P **P 18 11 15.4 -0.1**
GSC pmax pmax
comp=Z,2μm,2.0s
GSC Goldstone, Bar 18.70 334 P **P 18 11 15.4 -0.1**
GSC IAmb IAmb 18 11 29.6
comp=Z,2μm,1.9s
GSC Goldstone, Bar 18.70 334 P **Pn 18 11 16.2 +0.3**
baz=150,SNR=97
OKCFA Oklahoma City 18.72 25 P 18 11 15.1 -0.5
W35A Tecumseh 18.73 27 P 18 11 15.1 -0.6
EDW2 Edwards Air Fo 18.86 331 P **P 18 11 16.9 -0.3**
baz=146,SNR=83
BCOK Bluff Creek, N 18.87 24 P 18 11 17.7 +0.5
OK025 Westminster Rd 18.91 25 P **P 18 11 17.9 +0.2**
OK025 IAmb IAmb 18 11 30.5
comp=Z,1μm,1.6s
X37A Clayton 18.95 31 P **P 18 11 17.6 -0.6**
X37A IAmb IAmb 18 11 27.8
comp=Z,2μm,1.5s
KNB Kanab 18.98 346 P **P 18 11 18.5 -0.1**
KNB pmax pmax
comp=Z,3μm,1.8s
KNB Kanab 18.98 346 P 18 11 18.5 -0.1
KNB IAmb IAmb 18 11 30.4
comp=Z,3μm,1.8s
OSI Osito Audit: C 18.99 329 P **P 18 11 18.7 0.0**
OSI Osito Audit: C 18.99 329 P **P 18 11 18.6 0.0**
baz=143,SNR=9.6
S22A 4UR Ranch, Cre 19.01 0 P **P 18 11 19.4 +0.2**
baz=180,SNR=82
S22A S **S 18 15 03.1 +7.4**
baz=180
SHOC Shoshone, Teco 19.01 336 P **P 18 11 19.1 +0.2**
baz=152,SNR=19
SHOC S **S 18 15 01.1 +5.9**
baz=152
U32A Winter Ranch, 19.01 20 P 18 11 19.1 +0.2
U32A IAmb IAmb 18 11 30.7
comp=Z,997nm,1.1s
SDCO Great Sand Dun 19.05 4 P **P 18 11 19.0 -0.6**
SDCO Great Sand Dun 19.05 4 P **P 18 11 19.9 +0.2**
baz=184,SNR=102
SDCO S **S 18 15 03.1 +6.5**
baz=184
LCMT Little Creek M 19.07 345 P **P 18 11 19.8 +0.1**
SHPR Sheep Range 19.16 340 P **P 18 11 18.2 -2.4**
SHPR IAmb IAmb 18 11 32.3
comp=Z,940nm,1.6s
LRMC Laurel Mtn Rad 19.22 333 P **P 18 11 21.1 -0.2**
baz=148,SNR=162
PKCU Pink Cliffs 19.27 347 P **P 18 11 22.5 +0.5**
PKCU IAmb IAmb 18 11 46.7
comp=Z,2μm,1.5s
QSM Queen of Sheba 19.30 335 P **P 18 11 21.5 -0.5**
Z41A Richland Creek 19.33 38 P **P 18 11 22.4 +0.1**
baz=225,SNR=66
Z41A S **Sn 18 15 00.6 +0.2**
baz=225
SBC Santa Barbara 19.35 327 P **P 18 11 22.8 +0.3**
baz=141
OK035 E0210 Rd and N 19.41 20 P 18 11 22.7 -0.5
OK035 IAmb IAmb 18 11 39.7
comp=Z,3μm,2.0s
GWY Greenwater Val 19.41 336 P **P 18 11 23.1 -0.4**
GWY IAmb IAmb 18 11 40.7
comp=Z,1μm,1.6s
PV05 Paradox Valley 19.43 355 P **P 18 11 23.6 0.0**
OK031 S. Brethren Rd 19.43 26 P **P 18 11 21.9 -1.6**
OK031 IAmb IAmb 18 11 40.0
comp=Z,692nm,1.2s
OK030 Cody Creek RV 19.43 26 P 18 11 23.0 -0.5
OK030 IAmb IAmb 18 11 39.3
comp=Z,862nm,1.3s
PV01 Paradox Valley 19.44 356 P **P 18 11 22.7 -1.1**
PV01 IAmb IAmb 18 12 11.6
comp=Z,1μm,1.8s
ARVC Arvin 19.45 330 P **P 18 11 23.4 -0.3**
baz=144,SNR=17
WLAR White Oak Lake 19.45 37 P **P 18 11 23.0 -0.7**
344A Westbrook Farm 19.46 46 P **P 18 11 23.9 0.0**
OK033 Mehan 19.47 25 P 18 11 23.2 -0.6
CROK Carrier 19.48 22 P 18 11 24.7 +0.7
PV13 Radium Mtn., P 19.48 356 P **P 18 11 24.0 -0.3**
PV02 Paradox Valley 19.53 356 P **P 18 11 24.0 -0.7**
PV18 Skein Mesa, Pa 19.58 356 P **P 18 11 24.2 -1.1**
PV03 Paradox Valley 19.58 356 P 18 11 23.7 -1.6
PV03 IAmb IAmb 18 11 32.9
comp=Z,1μm,1.7s
SZCU Shurtz Canyon 19.59 346 P **P 18 11 25.3 -0.2**
SZCU IAmb IAmb 18 11 35.0
comp=Z,2μm,1.8s
CCUT Cedar City 19.61 345 P **P 18 11 25.8 +0.1**
CCUT IAmb IAmb 18 11 31.3
comp=Z,1μm,1.7s
PV17 East Wray Mesa 19.61 355 P **P 18 11 24.9 -0.8**
PV17 IAmb IAmb 18 11 35.6
comp=Z,3μm,2.0s
PV11 David Mesa, Pa 19.63 356 P **P 18 11 25.0 -0.8**
PV11 IAmb IAmb 18 11 33.4
comp=Z,1μm,1.7s
MPMC Manual Prospec 19.63 334 P **P 18 11 26.0 +0.2**
baz=149,SNR=170
PV12 Saucer Basin, 19.64 356 P **P 18 11 25.4 -0.5**
PV12 IAmb IAmb 18 11 33.8
comp=Z,2μm,1.7s
PV16 Nyswonger Mesa 19.64 356 P **P 18 11 25.0 -0.9**
PV16 IAmb IAmb 18 11 37.2
comp=Z,1μm,1.5s
PV15 Paradox Valley 19.64 357 P **P 18 11 25.2 -0.9**
PV19 Morning Glory 19.65 355 P **P 18 11 25.4 -0.7**
PV19 IAmb IAmb 18 11 35.9
comp=Z,2μm,2.0s
QUOK Quay 19.67 26 P 18 11 25.7 -0.3
QUOK IAmb IAmb 18 11 36.1
comp=Z,689nm,1.2s
PV20 West Nyswonger 19.68 355 P **P 18 11 25.3 -1.0**
PV14 Lion Creek, Pa 19.71 355 P **P 18 11 26.1 -0.7**
PV14 IAmb IAmb 18 11 34.4
comp=Z,2μm,2.0s
PV10 Paradox Valley 19.72 355 P **P 18 11 24.9 -1.9**
PV04 Paradox Valley 19.72 356 P **P 18 11 26.7 -0.1**
PV04 IAmb IAmb 18 11 31.4
comp=Z,2μm,1.9s
ISA Isabella, Lake 19.73 331 P **P 18 11 26.3 -0.4**
ISA pmax pmax
comp=Z,611nm,1.5s
ISA Isabella, Lake 19.73 331 P **P 18 11 26.3 -0.4**
ISA Isabella, Lake 19.73 331 P **P 18 11 26.8 0.0**
baz=146,SNR=94
FURC Furnace Creek, 19.73 336 P **P 18 11 26.2 -0.5**
baz=151
PKM Mcpherson Peak 19.75 327 P **P 18 11 26.9 -0.2**
baz=141,SNR=64
PV07 Paradox Valley 19.75 356 P **P 18 11 26.8 -0.3**
PV07 IAmb IAmb 18 11 31.9
comp=Z,2μm,1.9s
PV23 Carpenter Ridg 19.79 355 P **P 18 11 27.1 -0.6**
143A Socs Landing, 19.81 42 P **P 18 11 27.7 +0.2**
MTPU Mount Pierson 19.82 348 P 18 11 28.4 +0.3
MTPU IAmb IAmb 18 11 37.0
comp=Z,2μm,1.6s
GC02 Grant County # 19.83 22 P 18 11 27.0 -0.8
MIAR Mount Ida 19.84 34 P **P 18 11 26.2 -1.7**
MIAR pmax pmax
comp=Z,663nm,1.4s
MIAR Mount Ida 19.84 34 P **P 18 11 26.2 -1.7**
MIAR Mount Ida 19.84 34 P **P 18 11 26.8 -1.1**
baz=220
TUL1 Leonard 19.84 28 P 18 11 27.2 -0.7
TUL1 IAmb IAmb 18 11 43.8
comp=Z,1μm,1.2s
TUL1 Leonard 19.84 28 P **P 18 11 27.7 -0.2**
baz=213,SNR=77
TUL1 S **S 18 15 08.3 -3.6**
baz=213
KAN14 Manchester OK 19.89 22 P 18 11 27.9 -0.5
KAN14 IAmb IAmb 18 11 37.8
comp=Z,620nm,1.1s
PV21 Cone Mtn., Par 19.89 356 P **P 18 11 28.1 -0.7**
PV21 IAmb IAmb 18 11 37.9
comp=Z,2μm,2.0s
TPNV Topopah Spring 19.93 338 P **P 18 11 27.6 -1.5**
TPNV pmax pmax
comp=Z,497nm,1.5s
TPNV Topopah Spring 19.93 338 ⇓P **P 18 11 29.6 +0.5**
TPNV Topopah Spring 19.93 338 P **P 18 11 27.6 -1.5**
TPNV Topopah Spring 19.93 338 P **Pn 18 11 30.0 -0.8**
baz=153,SNR=242
TPNV S **Sn 18 15 19.6 +4.3**
baz=153
PRN Pahroc Range 19.95 341 ⇓P **P 18 11 29.2 0.0**
PRN Pahroc Range 19.95 341 P **P 18 11 28.6 -0.6**
BLOK Blackwell 19.99 24 P 18 11 28.9 -0.6
BLOK IAmb IAmb 18 11 39.6
comp=Z,2μm,1.7s
KAN10 Anthony SW Sta 19.99 21 P 18 11 29.2 -0.3
KAN10 IAmb IAmb 18 11 41.0
comp=Z,1μm,1.4s
KAN17 Caldwell West 20.04 22 P 18 11 29.8 -0.2
KAN17 IAmb IAmb 18 11 38.7
comp=Z,584nm,1.2s
KAN05 Bluff City Nor 20.05 22 P **P 18 11 28.8 -1.4**
KAN05 IAmb IAmb 18 11 40.7
comp=Z,681nm,1.4s
VBMS Vicksburg 20.07 45 P **P 18 11 29.7 -0.8**
VBMS Vicksburg 20.07 45 P **P 18 11 30.4 -0.1**
baz=232,SNR=22
KAN16 Harper SW Stat 20.09 21 P **P 18 11 30.5 -0.2**
KAN16 IAmb IAmb 18 11 41.4
comp=Z,1μm,1.4s
KAN13 South Haven SW 20.11 23 P 18 11 31.1 +0.2
KAN13 IAmb IAmb 18 11 41.2
comp=Z,2μm,1.8s
CRIN San Cristobal 20.12 104 P Pn 18 11 33.3 +0.3
CRIN IAmb IAmb 18 12 17.5
comp=Z,893nm,1.3s
KAN08 Anthony NE Sta 20.13 21 P 18 11 31.1 +0.1
KAN08 IAmb IAmb 18 11 41.7
comp=Z,1μm,1.5s
KAN01 Argonia South 20.14 22 P **P 18 11 31.3 +0.2**
VES Vestal, Richgr 20.15 330 P **P 18 11 31.6 +0.3**
baz=145,SNR=47
SMMC Simmler 20.17 328 P **P 18 11 31.4 -0.3**
baz=142,SNR=40
KAN12 Harper NE Stat 20.18 21 P 18 11 30.1 -1.6
KAN12 IAmb IAmb 18 11 42.4
comp=Z,1μm,1.4s
KAN06 Argonia West S 20.18 22 P **P 18 11 31.8 +0.1**
KAN06 IAmb IAmb 18 11 42.3
comp=Z,1μm,1.6s
X40A Basin Creek Fa 20.20 36 P **P 18 11 30.7 -1.2**
X40A Basin Creek Fa 20.20 36 P **P 18 11 30.6 -1.2**
baz=222,SNR=131
X40A S **S 18 15 15.5 -3.6**
baz=222
CWC Cottonwood Cre 20.20 333 P **P 18 11 32.3 +0.2**
baz=148
W39A Magazine 20.23 33 P **P 18 11 31.2 -0.9**
W39A Magazine 20.23 33 P **P 18 11 31.7 -0.4**
baz=219,SNR=142
W39A S **S 18 15 20.7 +1.1**
baz=219
MSU Marysvale 20.28 348 P **P 18 11 32.5 -0.4**
MSU Marysvale 20.28 348 P **P 18 11 32.5 -0.4**
Q24A Divide 20.29 4 P **P 18 11 33.0 -0.1**
baz=185,SNR=34
Q24A S Sn 18 15 27.7 +3.6
baz=185
346A Big Creek Wild 20.30 48 P **P 18 11 32.5 -0.5**
346A IAmb IAmb 18 11 44.0
comp=Z,1μm,1.4s
S11A Rachel 20.39 340 P **P 18 11 33.6 -0.5**
GRAC Grapevine Rang 20.39 336 P **P 18 11 34.1 +0.1**
baz=150
T35A Sooner Cattle 20.39 25 P 18 11 33.2 -0.8
T35A IAmb IAmb 18 11 46.6
comp=Z,773nm,1.2s
CCAR Cane Creek 20.40 39 P **P 18 11 33.2 -0.8**
TCRU Three Creeks R 20.42 348 P **P 18 11 33.3 -1.2**
TCRU IAmb IAmb 18 11 47.8
comp=Z,643nm,1.2s
SMCO Snowmass 20.44 0 ⇓P **P 18 11 35.1 +0.2**
SMCO Snowmass 20.44 0 P **P 18 11 34.5 -0.4**
SMCO IAmb IAmb 18 11 47.5
comp=Z,762nm,1.5s
Q16A Castle Valley 20.50 351 P **P 18 11 34.6 -0.7**
Q16A IAmb IAmb 18 12 03.6
comp=Z,2μm,1.6s
CNGN Cerro Negro 20.51 104 P **P 18 11 36.6 +1.1**
CNGN IAmb IAmb 18 11 59.6
comp=Z,979nm,1.5s
SRU San Rafael Swe 20.60 352 P **P 18 11 35.8 -0.5**
SRU pmax pmax
comp=Z,1μm,1.8s
SRU San Rafael Swe 20.60 352 P **P 18 11 35.8 -0.5**
SRU IAmb IAmb 18 11 47.3
comp=Z,1μm,1.8s
PAGB Antelope Grade 20.63 328 P **P 18 11 36.0 -0.5**
KSCO Kaye Shedlock' 20.63 10 P **P 18 11 36.1 -0.5**
KSCO Kaye Shedlock' 20.63 10 P **P 18 11 36.3 -0.3**
baz=192,SNR=9.9
PSUT Pine Spring 20.67 345 P **P 18 11 36.9 -0.2**
PSUT IAmb IAmb 18 11 46.2
comp=Z,630nm,1.1s
VOG Valley Oaks Go 20.68 331 P **P 18 11 36.1 -1.0**
baz=145
LCH Last Change Ra 20.71 335 P **P 18 11 37.0 -0.5**
LCH IAmb IAmb 18 11 50.6
comp=Z,2μm,1.8s
TIN Tinemaha, Big 20.79 334 P **P 18 11 38.6 +0.3**
baz=148,SNR=15
TMUT Trail Mountain 20.87 351 P **P 18 11 39.2 -0.2**
U38A Gravette 20.92 30 P **P 18 11 38.1 -1.6**
U38A IAmb IAmb 18 12 16.4
comp=Z,2μm,1.9s
R32A Long Quarter, 20.98 19 P **P 18 11 38.9 -1.4**
R32A IAmb IAmb 18 12 00.7
comp=Z,709nm,1.2s
P17A Butcher Ranch, 20.98 352 P **P 18 11 39.5 -0.9**
P17A IAmb IAmb 18 12 13.8
comp=Z,1μm,1.6s
R11A Troy Canyon, C 20.98 341 P **P 18 11 40.2 -0.3**
R11A IAmb IAmb 18 11 53.5
comp=Z,1μm,1.6s
R11A Troy Canyon, C 20.98 341 P **P 18 11 40.6 +0.1**

baz=156,SNR=354
HHAR Hobbs 21.00 31 P P 18 11 39.3 -1.3
W41B Gary Mavity, V 21.03 36 P P 18 11 39.9 -1.0
baz=222,SNR=57
W41B S **S** 18 15 36.4 +0.9
baz=222
CBKS Cedar Bluff 21.05 16 P P 18 11 40.4 -0.7
CBKS pmax pmax
comp=Z,1μm,1.3s
CBKS MLR MLR
comp=Z,266μm,18.0s
CBKS Cedar Bluff 21.05 16 ⇓P **P 18 11 39.3 -1.8**
CBKS Cedar Bluff 21.05 16 P **P 18 11 40.4 -0.7**
CBKS IAmb IAmb 18 11 50.5
comp=Z,1μm,1.2s
CBKS Cedar Bluff 21.05 16 P P 18 11 40.1 -1.0
baz=199,SNR=39
CBKS S **S** 18 15 38.0 +1.9
baz=199
P18A Preston Nutter 21.07 353 P P 18 11 40.8 -0.8
P18A IAmb IAmb 18 11 55.2
comp=Z,584nm,1.1s
WHAR Wooly Hollow 21.09 35 P P 18 11 40.8 -0.7
WHAR IAmb IAmb 18 11 50.9
comp=Z,1μm,1.2s
ISCO Idaho Springs 21.09 3 P P 18 11 41.1 -0.7
ISCO pmax pmax
comp=Z,225nm,1.0s
ISCO MLR MLR
comp=Z,328μm,21.0s
ISCO Idaho Springs 21.09 3 P P 18 11 41.1 -0.7
ISCO Idaho Springs 21.09 3 P P 18 11 41.3 -0.6
baz=184,SNR=68
ISCO S Sn 18 15 43.4 0.0
baz=184
SPR3 Spring Creek 3 21.23 344 P P 18 11 41.9 -1.4
SPR3 IAmb IAmb 18 11 50.2
comp=Z,882nm,1.6s
TPH Tonopah 21.29 337 P P 18 11 43.5 -0.3
TPH pmax pmax
comp=Z,3μm,1.4s
TPH Tonopah 21.29 337 P P 18 11 43.5 -0.3
PMPB Monarch Peak 21.29 328 P P 18 11 43.3 -0.4
146A Union 21.31 46 P P 18 11 43.4 -0.5
O20A White River Ci 21.42 357 P P 18 11 44.5 -0.8
O20A White River Ci 21.42 357 P P 18 11 45.1 -0.1
baz=177,SNR=81
BOAB BOACO BROADBAN 21.48 104 ⇑P **P 18 11 46.1 +0.3**
BOAB BOACO BROADBAN 21.48 104 P P 18 11 45.4 -0.5
MLAC Mammoth, Mammo 21.53 334 P P 18 11 47.0 +0.5
baz=148,SNR=28
U40A Yellville 21.60 32 P P 18 11 45.3 -1.7
U40A Yellville 21.60 32 P P 18 11 45.6 -1.4
baz=219,SNR=20
U40A S **S** 18 15 47.5 +0.6
baz=219
FCAR Ozark Folk Cen 21.63 35 P P 18 11 46.0 -1.2
FCAR IAmb IAmb 18 11 59.0
comp=Z,1μm,1.2s
NLU North Lily Min 21.66 349 P P 18 11 46.9 -0.9
NLU IAmb IAmb 18 11 57.8
comp=Z,896nm,1.6s
BBGB Big Mountain B 21.69 328 P P 18 11 47.9 -0.2
Y45A Yeager Farm, C 21.74 42 P P 18 11 48.2 -0.4
LHV Little Huntoon 21.93 335 P P 18 11 50.6 +0.2
LHV IAmb IAmb 18 12 04.7
comp=Z,927nm,1.5s
BRAL Brewton 21.94 52 ⇑P **P 18 11 50.6 0.0**
BRAL Brewton 21.94 52 P P 18 11 50.6 0.0
BRAL Brewton 21.94 52 P P 18 11 50.4 -0.2
baz=240,SNR=22
BRAL S **S** 18 15 51.0 -2.5
baz=240
RDMU Red Mountain 21.94 355 P P 18 11 49.9 -0.9
RDMU IAmb IAmb 18 12 18.9
comp=Z,549nm,1.3s
Q09A Carvers 21.95 338 P P 18 11 50.7 -0.2
Q09A IAmb IAmb 18 12 20.1
comp=Z,900nm,1.3s
NV11 Mina Array Sit 21.95 336 P P 18 11 50.4 -0.5
NV11 IAmb IAmb 18 12 02.2
comp=Z,736nm,1.4s
NVAR Mina Array Bea 22.00 336 P P 18 11 51.4 -0.2
comp=Z,104nm,1.1s,baz=157,slow=9.7,SNR=137
NVAR LR LR 18 19 45.7
comp=Z,148μm,18.4s,baz=152,slow=35
NVAR P3KPbc 18 45 42.8
comp=Z,0.7nm,0.7s,baz=296,slow=3.7,SNR=4.6
NVAR Mina Array Bea 22.00 336 P P 18 11 50.9 -0.7
DUG Dugway, Tooele 22.03 348 P P 18 11 51.3 -0.4
DUG pmax pmax
comp=Z,2μm,2.0s
DUG MLR MLR
comp=Z,203μm,18.0s
DUG Dugway, Tooele 22.03 348 P P 18 11 51.3 -0.4
DUG IAMs_20 IAMs_20 18 19 43.0
comp=Z,203μm,18.0s
DUG Dugway, Tooele 22.03 348 P P 18 11 51.7 0.0
baz=165,SNR=171
DUG S Sn 18 16 04.4 -1.1
baz=165
SAO San Andreas Ge 22.04 328 P P 18 11 52.2 +0.5
SAO pmax pmax
comp=Z,1μm,1.9s
SAO MLR MLR
comp=Z,155μm,20.0s
SAO San Andreas Ge 22.04 328 ⇓P **P 18 11 50.4 -1.3**
SAO San Andreas Ge 22.04 328 P **P 18 11 52.2 +0.5**
SAO IAmb IAmb 18 12 02.0
comp=Z,1μm,1.9s
SAO IAMs_20 IAMs_20 18 18 47.1
comp=Z,155μm,20.0s
ACON Acoyapa 22.09 104 P P 18 11 56.1 +3.6
HZTE Horizontes, Gu 22.17 108 P P 18 11 58.0 +4.7
N23A Red Feather La 22.17 2 P P 18 11 53.1 -0.3
baz=182,SNR=81
N23A S **S** 18 16 03.0 +4.6
baz=182
JLU Jordanelle 22.19 351 P P 18 11 52.8 -0.7
JLU IAmb IAmb 18 12 26.7
comp=Z,739nm,1.4s
HBAR Harrisburg 22.20 37 P P 18 11 53.3 -0.1
HBAR IAmb IAmb 18 12 04.1
comp=Z,889nm,1.1s
RYN Ryan 22.26 336 P P 18 11 54.0 -0.2
RYN IAmb IAmb 18 12 05.5
comp=Z,887nm,1.5s
GBS3 Finca Las Img 22.27 108 *i* P **P 18 11 58.7 +4.3**
KSU1 Kansas State U 22.28 22 ⇓P **P 18 11 54.4 +0.2**
KSU1 Kansas State U 22.28 22 P **P 18 11 53.3 -1.0**
KSU1 IAmb IAmb 18 12 03.0
comp=Z,641nm,1.2s
KSU1 Kansas State U 22.28 22 IAMs_20 IAMs_20 18 20 45.0
comp=Z,138μm,18.0s
KSU1 Kansas State U 22.28 22 P P 18 11 52.0 -2.3
baz=207,SNR=49
KSU1 S **S** 18 16 03.4 +3.5
baz=207
LCAR Lake Charles 22.29 36 P P 18 11 52.6 -1.8
LAPC Finca la Perla 22.30 108 *eP* **P 18 11 57.0 +2.4**
BUEV Buena Vista 22.31 107 *eP* **P 18 11 58.7 +3.8**
GB1A Borinquen Arri 22.31 107 *eP* **P 18 11 58.7 +3.8**
Z47A Carrollton 22.31 46 P P 18 11 53.9 -0.8
CTU Camp Tracy 22.32 351 P P 18 11 54.3 -0.6
MET Memphis--Engin 22.33 39 P P 18 11 54.7 -0.1
BUAI Buenos Aires 22.35 107 *eP* **P 18 11 57.0 +1.8**
GPS2 Hotel Rincn d 22.38 108 *eP* **P 18 11 58.7 +3.1**
GUAI GUAI 22.43 109 *eP* **P 18 11 58.7 +2.7**
S39A Bolivar 22.43 30 P P 18 11 54.7 -1.1
S39A IAmb IAmb 18 12 07.3
comp=Z,899nm,1.6s
ORTG Ortega, Santa 22.44 109 P P 18 11 57.4 +1.2
ORTG IAmb IAmb 18 12 34.2
comp=Z,1μm,1.6s
KVN Kaiserville 22.47 337 P P 18 11 55.8 -0.7
KVN pmax pmax
comp=Z,1μm,1.5s
KVN Kaiserville 22.47 337 P P 18 11 55.8 -0.7
KVN IAmb IAmb 18 12 07.7
comp=Z,1μm,1.5s
MGMO Mountain Grove 22.52 32 P P 18 11 54.3 -2.5
MGMO IAmb IAmb 18 12 24.5
comp=Z,864nm,1.6s
DUNO Dulce Nombre, 22.52 109 P P 18 11 58.8 +1.7
CMB Columbia Colle 22.55 332 P P 18 11 55.7 -1.5
CMB pmax pmax
comp=Z,408nm,1.3s
CMB MLR MLR
comp=Z,212μm,20.0s
CMB Columbia Colle 22.55 332 P P 18 11 55.7 -1.5
CMB IAMs_20 IAMs_20 18 19 38.4
comp=Z,212μm,20.0s
COLC Colonia 22.55 108 *eP* **P 18 12 01.0 +3.6**
CUI Cuipilapa 22.59 108 *eP* **P 18 12 01.6 +3.8**
PHWY Pilot Hill 22.60 3 IAMs_20 IAMs_20 18 20 47.4
comp=Z,168μm,20.0s
OGNE Ogallala 22.61 10 P P 18 11 56.9 -1.0
OGNE IAmb IAmb 18 12 23.5
comp=Z,515nm,1.2s
OGNE IAMs_20 IAMs_20 18 20 35.8
comp=Z,216μm,22.0s
OGNE Ogallala 22.61 10 P P 18 11 56.8 -1.1
baz=192,SNR=10
OGNE S **S** 18 16 07.6 +1.2
baz=192
451A Vernon 22.66 54 P P 18 11 57.5 -0.9
ACAL Aguas Claras 22.71 108 *eP* **P 18 12 02.6 +3.5**
PTEN Parque Tenorio 22.72 107 ⇑*eP* **P 18 12 00.3 +1.1**
W45A Hickory Valley 22.81 40 P P 18 11 58.5 -1.4
W45A IAmb IAmb 18 12 09.8
comp=Z,700nm,1.0s
ESPN Las Esperanzas 22.82 103 P P 18 12 01.9 +1.6
SOR Soroa 22.83 76 P P 18 11 59.6 -0.7
SOR pmax pmax
comp=Z,254nm,1.0s
SOR Soroa 22.83 76 P P 18 11 59.6 -0.7
YERR Yerington 22.85 335 P P 18 11 59.8 -0.8
YERR IAmb IAmb 18 12 04.4
comp=Z,761nm,1.5s
GNAR Gosnell 22.86 38 P P 18 11 59.8 -0.7
JTS Las Juntas de 22.92 108 P P 18 12 02.0 +0.8
comp=Z,2.4nm,0.3s
JTS Las Juntas de 22.92 108 *c iP* **P 18 12 02.2 +0.9**
JTS pmax pmax
comp=Z,295nm,1.3s
JTS MLR MLR
comp=Z,7μm,15.0s
JTS Las Juntas de 22.92 108 ⇑P **P 18 12 02.4 +1.1**
JTS Las Juntas de 22.92 108 P P 18 12 05.0 +3.7
250A Grady 22.92 51 P P 18 12 00.3 -0.8
RWWY Rawlins 22.95 360 P P 18 12 01.8 +0.2
RWWY IAmb IAmb 18 12 08.3
comp=Z,1μm,1.9s
CAO2 Cobano, Puntar 23.03 110 P P 18 12 03.2 +0.8
T42A Van Buren 23.03 34 P P 18 12 00.7 -1.5
PEBM Pemiscott Bayo 23.05 38 P P 18 12 01.5 -0.9
PNTR Pine Nut 23.09 334 P P 18 12 02.0 -1.0
ELK Elko 23.11 344 P P 18 12 02.5 -0.7
comp=Z,80nm,1.0s,baz=175,slow=7.8,SNR=59
ELK LR LR 18 20 30.1
comp=Z,208μm,19.8s,baz=169,slow=36
ELK Elko 23.11 344 P P 18 12 01.7 -1.5
ELK pmax pmax
comp=Z,684nm,1.7s
ELK MLR MLR
comp=Z,205μm,20.0s
ELK Elko 23.11 344 P P 18 12 01.7 -1.5
ELK IAmb IAmb 18 12 42.5
comp=Z,684nm,1.7s
ELK IAMs_20 IAMs_20 18 20 08.7
comp=Z,205μm,20.0s
EMB Emerald Bay 23.20 333 P P 18 12 03.5 -0.7
PBMO Poplar Bluff 23.20 36 P P 18 12 02.4 -1.6
PBMO IAmb IAmb 18 12 15.2
comp=Z,553nm,1.4s
HALT Halls 23.22 39 P P 18 12 03.7 -0.4
COVE Coope Vega, Sa 23.25 107 P P 18 12 06.0 +1.3
COVE IAmb IAmb 18 12 18.0
comp=Z,324nm,1.1s
LNXT Lenox 23.26 38 P P 18 12 04.0 -0.6
VCNR Virginia City 23.28 335 P P 18 12 04.1 -0.9
RUBR Rubicon Trail 23.29 333 P P 18 12 05.0 -0.1
PVMO Portageville 23.36 37 P P 18 12 05.8 +0.3
PVMO IAmb IAmb 18 12 14.9
comp=Z,630nm,0.9s
PLAL Pickwick Lake 23.39 42 P P 18 12 04.3 -1.6
PLAL IAmb IAmb 18 12 27.5
comp=Z,592nm,1.4s
BMN Battle Mountai 23.40 340 P P 18 12 04.8 -1.3
BMN pmax pmax
comp=Z,2μm,2.0s
BMN Battle Mountai 23.40 340 P P 18 12 04.8 -1.3
R40A Maddies Statio 23.41 30 P P 18 12 04.0 -2.0
R40A IAmb IAmb 18 12 39.3
comp=Z,422nm,1.3s
MPK Martis Peak 23.44 334 P P 18 12 06.0 -0.7
JACO JACO, Garabito 23.44 109 P P 18 12 07.1 +0.5
JACO IAmb IAmb 18 12 23.9
comp=Z,392nm,1.3s
N33A J Bar K, Exete 23.49 18 P P 18 12 04.3 -2.6
N33A IAmb IAmb 18 12 40.0
comp=Z,837nm,1.6s
GLAT Glass 23.50 38 P P 18 12 05.7 -1.3
PARMO Parma 23.50 37 P P 18 12 05.2 -1.8
553A Crawfordville 23.51 57 P P 18 12 07.4 +0.3
553A IAmb IAmb 18 12 14.2
comp=Z,526nm,1.2s
PAHR Pah Rah Range 23.53 336 P P 18 12 07.0 -0.5
HVU Hansel Valley 23.55 349 P P 18 12 06.5 -1.1
HVU pmax pmax
comp=Z,1μm,1.6s
HVU Hansel Valley 23.55 349 P P 18 12 06.5 -1.1
HICK Hickman 23.72 38 P P 18 12 07.4 -1.7
CCM Cathedral Cave 23.73 32 P P 18 12 07.8 -1.4
CCM pmax pmax
comp=Z,1μm,1.7s
CCM MLR MLR
comp=Z,51μm,20.0s
CCM Cathedral Cave 23.73 32 ⇑P **P 18 12 07.0 -2.2**
CCM Cathedral Cave 23.73 32 P P 18 12 07.8 -1.4
CCM Cathedral Cave 23.73 32 P P 18 12 06.6 -2.6
baz=220
CCM S **S** 18 16 24.2 -0.8
baz=220
X48A Hartselle 23.74 45 P P 18 12 07.1 -2.2
X48A IAmb IAmb 18 12 17.0
comp=Z,736nm,1.4s
HDC Heredia 23.79 108 P P 18 12 12.4 +2.2
HDC IAmb IAmb 18 12 38.6
comp=Z,629nm,1.6s
UTMT University of 23.80 39 P P 18 12 08.5 -1.4
Y49A Blount Mountai 23.82 47 P P 18 12 08.2 -2.0
MCCM Marconi Confer 23.83 328 P P 18 12 06.8 -3.4
MCCM IAmb IAmb 18 12 32.4
comp=Z,1μm,1.9s
MCCM IAMs_20 IAMs_20 18 19 25.7
comp=Z,116μm,22.0s
BGNE Belgrade 23.91 17 P P 18 12 09.4 -1.5
BGNE IAmb IAmb 18 12 30.9
comp=Z,706nm,1.2s
BGNE Belgrade 23.91 17 P P 18 12 09.2 -1.7
baz=201,SNR=15
BGNE S **S** 18 16 28.3 +0.5
baz=201
K22A Casper 23.91 1 P P 18 12 09.5 -1.6
K22A Casper 23.91 1 P P 18 12 10.2 -0.9
baz=181,SNR=75
K22A S **S** 18 16 29.4 +1.2
baz=181
P38A Dawn 23.93 26 P P 18 12 10.4 -0.7
P38A IAmb IAmb 18 12 19.2
comp=Z,854nm,1.4s
FVM French Village 24.09 34 P P 18 12 10.7 -2.0
FVM pmax pmax
comp=Z,897nm,1.4s
FVM French Village 24.09 34 P P 18 12 10.7 -2.0
RIMA Rio Macho 24.11 108 P P 18 12 14.8 +1.4
RIMA IAmb IAmb 18 12 34.5
comp=Z,688nm,1.6s
BW06 Boulder Array 24.12 355 P P 18 12 11.2 -1.9
BW06 IAMs_20 IAMs_20 18 21 30.2
comp=Z,179μm,19.0s
BW06 Boulder Array 24.12 355 P P 18 12 11.8 -1.4
baz=174,SNR=54
BW06 S **S** 18 16 33.5 +1.9
baz=174
PD31 Pinedale Array 24.12 355 ⇓P **P 18 12 11.4 -1.7**
PD31 Pinedale Array 24.12 355 P P 18 12 11.1 -2.1
PDAR Pinedale Array 24.12 355 P P 18 12 11.4 -1.7
comp=Z,26nm,1.0s,baz=169,slow=8.5,SNR=54
PDAR LR LR 18 21 19.5
comp=Z,137μm,20.5s,baz=187,slow=36
PDAR Pinedale Array 24.12 355 P P 18 12 11.1 -2.1
N35A Tabor 24.18 21 P P 18 12 13.1 -0.5
N35A IAmb IAmb 18 12 45.3
comp=Z,527nm,1.3s
AHID Auburn Hatcher 24.27 353 P P 18 12 13.6 -0.9
AHID IAMs_20 IAMs_20 18 21 11.2
comp=Z,158μm,20.0s
WVT Waverly 24.28 40 P P 18 12 12.3 -2.1
WVT pmax pmax
comp=Z,237nm,1.0s
WVT MLR MLR
comp=Z,68μm,21.0s
WVT Waverly 24.28 40 ⇑P **P 18 12 12.8 -1.6**
WVT Waverly 24.28 40 P P 18 12 12.3 -2.1
WVT Waverly 24.28 40 P P 18 12 12.8 -1.6
baz=229
WVT S **S** 18 16 35.2 +1.3
baz=229
ORV Oroville 24.29 332 P P 18 12 13.7 -0.8
ORV pmax pmax
comp=Z,2μm,2.0s
ORV MLR MLR
comp=Z,205μm,19.0s
ORV Oroville 24.29 332 P P 18 12 13.7 -0.8
GDXM Geysers 24.30 329 P P 18 12 14.3 -0.4
T45A Paducah 24.39 38 P P 18 12 13.8 -1.6
T45A IAmb IAmb 18 12 22.4
comp=Z,508nm,0.9s
Z51A Franklin 24.40 49 P P 18 12 14.3 -1.2
Z51A IAmb IAmb 18 12 21.1
comp=Z,629nm,1.4s
152A Waverly Hall 24.40 51 P P 18 12 14.3 -1.3
PEZE Perez Zeledon, 24.44 109 P P 18 12 18.0 +1.8
PEZE IAmb IAmb 18 12 50.8
comp=Z,700nm,1.9s
P40A Paris 24.50 29 P P 18 12 15.0 -1.4
S44A Carbondale 24.51 36 P P 18 12 15.1 -1.4
S44A IAmb IAmb 18 12 29.6
comp=Z,552nm,1.4s
HOPS Hopland Field 24.58 329 P P 18 12 16.3 -0.8
ECR Eagle Creek 24.59 352 P P 18 12 16.7 -0.8
V48A Smith Brothers 24.66 42 P P 18 12 16.0 -1.9
V48A IAmb IAmb 18 12 22.9
comp=Z,677nm,1.6s
SLM Saint Louis 24.68 33 P P 18 12 16.8 -1.3
SLM pmax pmax
comp=Z,1μm,1.4s
SLM Saint Louis 24.68 33 P P 18 12 16.8 -1.3
TIGA Tifton 24.69 54 P P 18 12 16.9 -1.3
TIGA Tifton 24.69 54 P P 18 12 17.2 -1.0
baz=245,SNR=82
TIGA S **S** 18 16 41.6 +1.1
baz=245
656A Willston 24.73 60 P P 18 12 18.1 -0.5
656A IAmb IAmb 18 12 23.1
comp=Z,540nm,1.1s
FPAL Fort Paine 24.75 46 P P 18 12 17.4 -1.4
FPAL IAmb IAmb 18 12 23.4
comp=Z,594nm,1.1s
SRBA San Rafael, Bu 24.78 109 P P 18 12 20.9 +1.5
REDW Red Top Meadow 24.83 353 P P 18 12 18.2 -1.5
REDW IAmb IAmb 18 12 38.2
comp=Z,555nm,1.4s
REDW IAMs_20 IAMs_20 18 21 18.5
comp=Z,147μm,22.0s
DRK0 Durika 24.88 109 P P 18 12 21.6 +1.3
K31A O'Neill 24.89 15 P P 18 12 18.9 -1.1
K31A IAmb IAmb 18 12 32.6
comp=Z,515nm,1.1s
SNOW Snow King Moun 24.92 354 P P 18 12 19.2 -1.2
SNOW IAmb IAmb 18 12 37.0
comp=Z,525nm,1.2s
SNOW IAMs_20 IAMs_20 18 21 22.8
comp=Z,133μm,20.0s
SWET Sewanee 24.93 44 P P 18 12 18.8 -1.5
SWET IAmb IAmb 18 12 25.0
comp=Z,421nm,1.4s
L34A Svendsen Farm, 24.94 19 P P 18 12 19.7 -0.7
O03E Paynes Creek 25.03 333 P P 18 12 20.3 -0.9
O03E IAmb IAmb 18 12 30.2
comp=Z,572nm,1.2s
O03E IAMs_20 IAMs_20 18 21 25.0
comp=Z,138μm,18.0s
O03E Paynes Creek 25.03 333 P P 18 12 20.4 -0.9
baz=145,SNR=62
O03E S **S** 18 16 46.4 +0.3
baz=145
N38A Joes South For 25.03 25 P P 18 12 21.1 -0.1
LOHW Long Hollow 25.05 354 P P 18 12 20.0 -1.6
LOHW IAmb IAmb 18 12 38.8
comp=Z,442nm,1.2s
LOHW IAMs_20 IAMs_20 18 21 40.3
comp=Z,134μm,20.0s
FXWY Fox Creek 25.12 353 P P 18 12 21.0 -1.3
FXWY IAMs_20 IAMs_20 18 21 28.2
comp=Z,124μm,20.0s
061Z Ochoppi 25.18 69 P P 18 12 21.8 -1.0
CLTN Cedars of Leba 25.19 42 P P 18 12 21.1 -1.6
CLTN IAmb IAmb 18 12 29.7
comp=Z,746nm,1.5s
MOOW Moose Ponds 25.20 354 P P 18 12 21.0 -2.0
MOOW IAMs_20 IAMs_20 18 21 32.3
comp=Z,103μm,22.0s
DWPF Disney Wildern 25.26 63 ⇑P **P 18 12 23.0 -0.4**
DWPF Disney Wildern 25.26 63 P P 18 12 22.0 -1.4
DWPF Disney Wildern 25.26 63 P P 18 12 22.7 -0.7
baz=254
DWPF S **S** 18 16 48.4 -1.4
baz=254
T47A Sharon Grove 25.28 40 P P 18 12 22.3 -1.2
X51A Calhoun 25.29 47 P P 18 12 22.0 -1.6
X51A IAmb IAmb 18 12 29.6
comp=Z,432nm,1.2s
PAYG Puerto Ayora 25.30 138 P P 18 12 25.4 +1.6
PAYG IAmb IAmb 18 12 32.2
comp=Z,408nm,1.2s
W50A Signal Mountai 25.33 45 P P 18 12 22.8 -1.2
W50A IAmb IAmb 18 12 31.9
comp=Z,258nm,0.9s
KCPM Cahto Peak 25.36 329 P P 18 12 24.7 +0.3
KCPM IAmb IAmb 18 12 43.0
comp=Z,292nm,1.2s
LCCY Blossom Villag 25.47 83 P P 18 12 22.9 -2.5
Y52A Lilburn 25.48 49 P P 18 12 24.0 -1.3
Y52A IAmb IAmb 18 12 32.4
comp=Z,764nm,1.6s
CDITO Canoas 25.50 110 P P 18 12 25.4 -0.3
RSSD Black Hills 25.50 5 P P 18 12 24.5 -1.2
RSSD pmax pmax
comp=Z,184nm,1.3s
RSSD MLR MLR
comp=Z,242μm,20.0s
RSSD Black Hills 25.50 5 ⇓P **P 18 12 25.4 -0.3**
RSSD Black Hills 25.50 5 P P 18 12 24.5 -1.2
RSSD Black Hills 25.50 5 P P 18 12 23.7 -2.0
baz=186
RSSD S **S** 18 16 53.6 -0.2
baz=186
Q44A Meyer Farm, Va 25.52 34 P P 18 12 24.4 -1.2
FLWY Flagg Ranch 25.53 354 P P 18 12 24.5 -1.4
FLWY IAMs_20 IAMs_20 18 22 03.9
comp=Z,124μm,18.0s
BRU2 Volcan 25.57 109 P P 18 12 26.4 -0.1
BRU2 IAmb IAmb 18 12 49.2
comp=Z,358nm,1.4s
154A Montrose 25.57 52 P P 18 12 25.4 -0.8
WDC Whiskeytown Da 25.59 332 P P 18 12 23.5 -2.7
WDC pmax pmax
comp=Z,299nm,1.7s
WDC MLR MLR
comp=Z,168μm,19.0s
WDC Whiskeytown Da 25.59 332 ⇑P **P 18 12 24.2 -2.1**
WDC Whiskeytown Da 25.59 332 P P 18 12 23.5 -2.7
WDC IAMs_20 IAMs_20 18 21 39.9
comp=Z,168μm,19.0s
HLID Hailey 25.59 348 P P 18 12 25.6 -0.8
HLID IAmb IAmb 18 12 35.2
comp=Z,376nm,1.4s
HLID IAMs_20 IAMs_20 18 21 45.3
comp=Z,153μm,20.0s
HLID Hailey 25.59 348 P P 18 12 25.7 -0.8
baz=163,SNR=92
HLID S **S** 18 16 57.4 +2.3

baz=163
456A Hilliard 25.63 57 P P 18 12 25.4 -1.3
WVOR Wild Horse Val 25.66 340 P P 18 12 26.0 -1.0
WVOR pmax pmax
comp=Z,494nm,1.3s
WVOR MLR MLR
comp=Z,141µm,18.0s
WVOR Wild Horse Val 25.66 340 ⇑P P 18 12 26.1 -1.0
WVOR Wild Horse Val 25.66 340 P P 18 12 26.0 -1.0
WVOR IAmb IAmb 18 12 36.8
comp=Z,494nm,1.2s
WVOR IAMs_20 IAMs_20 18 23 08.4
comp=Z,141µm,18.0s
GOGA Godfrey 25.68 50 P P 18 12 25.8 -1.4
GOGA pmax pmax
comp=Z,768nm,1.4s
GOGA MLR MLR
comp=Z,30µm,19.0s
GOGA Godfrey 25.68 50 P P 18 12 25.8 -1.4
GOGA Godfrey 25.68 50 P P 18 12 26.0 -1.2
baz=241,SNR=53
GOGA S S 18 16 56.1 -0.4
baz=241
255A Hazlehurst 25.75 54 P P 18 12 27.2 -0.7
MFID Camas Ranch 25.77 345 P P 18 12 26.7 -1.3
MFID IAmb IAmb 18 13 20.6
comp=Z,618nm,1.9s
MOD Modoc Plateau 25.77 337 P P 18 12 27.3 -0.9
MOD IAmb IAmb 18 12 37.9
comp=Z,527nm,1.4s
U49A Red Boiling Sp 25.80 42 P P 18 12 26.6 -1.6
U49A IAmb IAmb 18 12 59.3
comp=Z,286nm,1.4s
P43A Skaggs, Pawnee 25.80 32 P P 18 12 26.6 -1.6
P43A IAmb IAmb 18 12 34.5
comp=Z,461nm,1.1s
H17A Grant Village 25.82 354 P P 18 12 27.7 -0.9
H17A Grant Village 25.82 354 P P 18 12 28.5 -0.1
baz=172,SNR=50
H17A S S 18 16 59.6 +0.6
baz=172
KMRM Mail Ridge 25.84 330 P P 18 12 28.2 -0.5
KMRM IAmb IAmb 18 12 52.2
comp=Z,670nm,1.4s
OLIL Olney 25.89 36 P P 18 12 27.7 -1.3
OLIL IAmb IAmb 18 12 51.0
comp=Z,525nm,1.3s
060A Indiantown 25.91 66 P P 18 12 25.3 -4.0
LKWY Lake 25.98 354 P P 18 12 29.1 -0.9
LKWY pmax pmax
comp=Z,637nm,1.8s
LKWY MLR MLR
comp=Z,161µm,20.0s
LKWY Lake 25.98 354 P P 18 12 29.1 -0.9
LKWY IAmb IAmb 18 12 51.0
comp=Z,637nm,1.8s
LKWY IAMs_20 IAMs_20 18 21 57.3
comp=Z,161µm,20.0s
N02D Trinity Center 25.98 332 P P 18 12 27.7 -2.2
N02D IAMs_20 IAMs_20 18 21 52.2
comp=Z,150µm,19.0s
N02D Trinity Center 25.98 332 P P 18 12 27.8 -2.1
baz=144,SNR=15
N02D S S 18 17 05.6 +4.4
baz=144
SCIA State Center 25.98 24 P P 18 12 29.4 -0.4
SCIA IAMs_20 IAMs_20 18 23 24.9
comp=Z,106µm,18.0s
SCIA State Center 25.98 24 P P 18 12 27.6 -2.3
baz=211,SNR=11
SCIA S S 18 17 00.4 -0.7
baz=211
N41A Harden Midland 25.99 29 P P 18 12 28.7 -1.2
CPCT Cooper Cave 26.00 45 P P 18 12 28.1 -2.0
BCYI Bear Canyon 26.12 350 P P 18 12 30.2 -1.1
YMP Mirror Lake Pl 26.13 355 P P 18 12 30.9 -0.6
YMP IAmb IAmb 18 13 12.0
comp=Z,788nm,1.9s
YUF Upper Falls 26.13 354 P P 18 12 31.2 -0.3
YUF IAmb IAmb 18 12 48.3
comp=Z,810nm,1.9s
YMR Madison River 26.13 354 P P 18 12 30.8 -0.6
YMR IAmb IAmb 18 12 39.1
comp=Z,753nm,1.8s
YNR Norris Junctio 26.15 354 P P 18 12 30.6 -1.1
KMPM Mount Pierce 26.19 329 P P 18 12 31.8 -0.1
KMPM IAmb IAmb 18 12 45.3
comp=Z,342nm,1.4s
W52A Murphy 26.21 47 P P 18 12 30.3 -1.7
W52A IAmb IAmb 18 12 38.4
comp=Z,485nm,1.3s
M04C Macdoel 26.27 334 P P 18 12 31.7 -0.9
M04C IAmb IAmb 18 12 39.6
comp=Z,379nm,1.2s
M04C Macdoel 26.27 334 P P 18 12 31.2 -1.4
baz=147,SNR=33
V51A Loudon 26.32 45 P P 18 12 31.0 -2.0
V51A IAmb IAmb 18 12 39.9
comp=Z,282nm,1.1s
QLMT Earthquake Lak 26.34 353 P P 18 12 32.5 -0.9
KHMM Horse Mountain 26.36 331 P P 18 12 33.7 +0.2
M02C Callahan 26.38 333 P P 18 12 31.8 -1.8
M02C IAMs_20 IAMs_20 18 22 15.8
comp=Z,155µm,20.0s
M02C Callahan 26.38 333 P P 18 12 31.4 -2.1
baz=144
M02C S S 18 17 07.5 -0.1
baz=144
J08A Circle Bar Ran 26.44 341 P P 18 12 32.2 -2.0
J08A IAmb IAmb 18 12 40.7
comp=Z,398nm,1.3s
RLMT Red Lodge 26.44 356 P P 18 12 32.0 -2.3
RLMT IAmb IAmb 18 13 02.1
comp=Z,457nm,1.6s
RLMT IAMs_20 IAMs_20 18 22 35.7
comp=Z,95µm,22.0s
RLMT Red Lodge 26.44 356 P P 18 12 32.9 -1.3
baz=175,SNR=74
RLMT S S 18 17 10.1 +1.4
baz=175
ECSD EROS Data Cent 26.48 17 P P 18 12 34.1 -0.3
ECSD EROS Data Cent 26.48 17 IAMs_20 IAMs_20 18 23 07.2
comp=Z,144µm,18.0s
ECSD EROS Data Cent 26.48 17 P P 18 12 32.5 -1.9
baz=202,SNR=9.8
ECSD S S 18 17 09.4 +0.5
baz=202
MCMT McKenzie Canyo 26.53 351 P P 18 12 34.5 -0.6
SUSD Miller 26.57 13 P P 18 12 34.5 -0.7
SUSD Miller 26.57 13 P P 18 12 33.2 -2.0
baz=197,SNR=11
SUSD S S 18 17 10.3 -0.1
baz=197
WCI Wyandotte Cave 26.58 39 P P 18 12 34.4 -0.9
WCI pmax pmax
comp=Z,151nm,0.9s
WCI MLR MLR
comp=Z,45µm,21.0s
WCI Wyandotte Cave 26.58 39 ⇑P P 18 12 34.9 -0.4
WCI Wyandotte Cave 26.58 39 P P 18 12 34.4 -0.9
WCI Wyandotte Cave 26.58 39 P P 18 12 32.9 -2.4
baz=229
WCI S S 18 17 11.6 +1.0
baz=229
YBH Yreka Blue Hor 26.60 333 P P 18 12 34.7 -0.8
comp=Z,20nm,0.8s,baz=165,slow=6.6,SNR=12
YBH LR LR 18 22 46.1
comp=Z,136µm,20.5s,baz=158,slow=36
YBH Yreka Blue Hor 26.60 333 P P 18 12 33.6 -1.9
YBH pmax pmax
comp=Z,84nm,1.3s
YBH MLR MLR
comp=Z,132µm,20.0s
YBH Yreka Blue Hor 26.60 333 P P 18 12 33.6 -1.9
YBH IAMs_20 IAMs_20 18 22 25.5
comp=Z,132µm,20.0s
HDIL Hopedale 26.61 31 P P 18 12 33.9 -1.6
HDIL Hopedale 26.61 31 P P 18 12 34.2 -1.3
baz=220,SNR=45
HDIL S S 18 17 11.6 +0.6
baz=220
TKL Tuckaleechee C 26.62 46 P P 18 12 34.0 -1.8
comp=Z,25nm,1.0s,baz=214,slow=12,SNR=14
TKL LR LR 18 24 54.4
comp=Z,39µm,18.6s,baz=245,slow=41
TKL Tuckaleechee C 26.62 46 P P 18 12 33.9 -1.8
TKL pmax pmax
comp=Z,177nm,1.2s
TKL Tuckaleechee C 26.62 46 P P 18 12 33.9 -1.8
K05A Summer Lake 26.71 337 P P 18 12 35.9 -0.8
K05A IAmb IAmb 18 12 48.2
comp=Z,392nm,1.1s
T50A Nancy 26.71 42 P P 18 12 34.8 -1.7
KRPM Rodgers 26.72 331 P P 18 12 36.7 +0.1
O44A Mansfield 26.73 33 P P 18 12 34.3 -2.3
O44A IAmb IAmb 18 12 41.0
comp=Z,602nm,1.6s
K38A Parkersburg 26.79 24 P P 18 12 36.5 -0.7
K38A IAmb IAmb 18 12 44.6
comp=Z,360nm,1.4s
L04D Klamath Falls 26.83 334 P P 18 12 35.9 -1.7
L04D Klamath Falls 26.83 334 P P 18 12 36.2 -1.4
baz=146,SNR=20
L04D S S 18 17 17.3 +2.6
baz=146
V52A Sevierville 26.85 46 P P 18 12 35.9 -1.8
V52A IAmb IAmb 18 13 13.9
comp=Z,405nm,1.6s
BG3 Lake Jocassee 26.86 48 P P 18 12 36.7 -1.1
BG3 IAmb IAmb 18 12 46.4
comp=Z,365nm,1.1s
257A Skidaway Islan 26.90 55 P P 18 12 38.0 -0.2
L40A Anamosa 26.92 27 P P 18 12 37.7 -0.7
L40A IAmb IAmb 18 12 46.9
comp=Z,370nm,1.4s
K04D Chiloquin, OR 26.95 336 P P 18 12 37.1 -1.6
baz=148,SNR=12
K04D S S 18 17 20.1 +3.6
baz=148
HODGE Hodges 26.96 50 P P 18 12 37.1 -1.6
P46A Rosedale 27.01 35 P P 18 12 38.1 -1.0
P46A IAmb IAmb 18 12 43.4
comp=Z,282nm,1.1s
DLMT Dillon 27.02 351 P P 18 12 38.7 -0.6
BLO Bloomington 27.08 37 P P 18 12 38.2 -1.6
BLO pmax pmax
comp=Z,766nm,2.0s
BLO Bloomington 27.08 37 P P 18 12 38.2 -1.6
BLO IAmb IAmb 18 12 44.1
comp=Z,766nm,1.9s
BOZ Bozeman (W) 27.12 353 P P 18 12 38.9 -1.4
BOZ pmax pmax
comp=Z,391nm,1.9s
BOZ MLR MLR
comp=Z,110µm,19.0s
BOZ Bozeman (W) 27.12 353 P P 18 12 38.9 -1.4
BOZ IAmb IAmb 18 13 32.9
comp=Z,391nm,1.9s
BOZ IAMs_20 IAMs_20 18 22 55.7
comp=Z,110µm,19.0s
BOZ Bozeman (W) 27.12 353 P P 18 12 38.9 -1.4
baz=170,SNR=57
BOZ S S 18 17 22.4 +3.1
baz=170
GCMT Greycliff 27.14 356 P P 18 12 38.9 -1.5
KSXB Camp Six Broad 27.19 332 P P 18 12 39.8 -1.1
KSXB IAmb IAmb 18 12 48.1
comp=Z,371nm,1.2s
TZTN Tazewell 27.27 44 P P 18 12 40.4 -1.2
TZTN IAmb IAmb 18 12 49.5
comp=Z,399nm,1.2s
TZTN Tazewell 27.27 44 P P 18 12 39.3 -2.2
baz=236,SNR=45
TZTN S S 18 17 22.5 +1.0
baz=236
R49A Shelbyville 27.29 40 P P 18 12 40.4 -1.3
R49A IAmb IAmb 18 12 49.1
comp=Z,563nm,1.9s
V53A Saluda 27.29 47 P P 18 12 40.5 -1.3
V53A IAmb IAmb 18 13 23.8
comp=Z,318nm,1.4s
J05D Fort Rock, OR 27.32 337 P P 18 12 40.9 -1.1
baz=149,SNR=53
J05D S S 18 17 26.5 +4.2
baz=149
L02E Cave Junction 27.33 332 P P 18 12 40.9 -1.2
L02E IAmb IAmb 18 13 02.8
comp=Z,254nm,1.2s
L02E IAMs_20 IAMs_20 18 23 39.9
comp=Z,118µm,18.0s
L02E Cave Junction 27.33 332 P P 18 12 40.7 -1.3
baz=144,SNR=8.9
L02E S S 18 17 24.4 +2.0
baz=144
PLID Pearl Lake 27.39 346 P P 18 12 40.7 -2.0
PLID IAmb IAmb 18 13 33.5
comp=Z,495nm,1.9s
I07A Izee 27.42 340 P P 18 12 41.9 -1.0
I07A IAmb IAmb 18 13 39.2
comp=Z,413nm,2.0s
HUMO Hull Mountain 27.42 334 ⇓P P 18 12 42.3 -0.5
HUMO Hull Mountain 27.42 334 P P 18 12 41.5 -1.3
HUMO IAMs_20 IAMs_20 18 23 14.2
comp=Z,128µm,19.0s
LRM Limekiln Ridge 27.45 352 P P 18 12 42.0 -1.3
BMO Blue Mountains 27.48 344 P P 18 12 41.2 -2.3
BMO pmax pmax
comp=Z,594nm,2.0s
BMO MLR MLR
comp=Z,120µm,20.0s
BMO Blue Mountains 27.48 344 P P 18 12 41.2 -2.3
BMO IAmb IAmb 18 12 50.8
comp=Z,594nm,2.0s
BMO IAMs_20 IAMs_20 18 22 49.5
comp=Z,120µm,20.0s
L42A Oliver, Polo 27.56 29 P P 18 12 42.0 -2.0
PAULI Pauline 27.56 49 P P 18 12 42.4 -1.8
SFIN Lafayette 27.61 34 P P 18 12 42.6 -1.9
SFIN Lafayette 27.61 34 P P 18 12 41.4 -3.1
baz=224,SNR=24
SFIN S S 18 17 26.2 -0.5
baz=224
J04D Umpqua Nationa 27.61 336 P P 18 12 43.7 -1.0
J04D Umpqua Nationa 27.61 336 P P 18 12 42.5 -2.2
baz=148,SNR=11
J04D S S 18 17 30.5 +3.4
baz=148
PINE Pine Mountain 27.65 338 P P 18 12 44.1 -0.9
KBO Bosley Butte 27.65 332 P P 18 12 44.7 -0.3
KBO IAmb IAmb 18 13 16.2
comp=Z,634nm,1.5s
JSC Jenkinsville 27.71 51 P P 18 12 44.4 -1.1
JSC pmax pmax
comp=Z,271nm,1.1s
JSC Jenkinsville 27.71 51 P P 18 12 44.4 -1.1
JSC IAmb IAmb 18 12 53.6
comp=Z,271nm,1.1s
I37A Lemond, Waseca 27.75 21 P P 18 12 44.3 -1.4
I37A IAmb IAmb 18 13 35.1
comp=Z,487nm,1.6s
K02D Willamette Mer 27.79 333 P P 18 12 44.7 -1.6
baz=144,SNR=24
K02D S S 18 17 33.4 +3.6
baz=144
R50A Paris 27.80 41 P P 18 12 44.3 -2.0
M44A Midewin, Midew 27.86 32 P P 18 12 45.0 -1.7
M44A IAmb IAmb 18 12 51.0
comp=Z,272nm,1.2s
S51A Beattyville 27.87 42 P P 18 12 45.1 -1.9
P48A Milroy 27.90 38 P P 18 12 46.1 -1.0
LAO LASA Array 27.95 1 P P 18 12 45.6 -2.0
LAO IAmb IAmb 18 12 50.9
comp=Z,372nm,1.4s
LAO LASA Array 27.95 1 P P 18 12 45.7 -1.9
baz=181,SNR=47
LAO S S 18 17 35.1 +2.9
baz=181
DBO Dodson Butte 27.96 334 P P 18 12 47.0 -0.7
DBO IAmb IAmb 18 13 18.5
comp=Z,280nm,1.4s
MTDJ Mount Denham 27.97 86 ⇑P P 18 12 48.4 +0.3
MTDJ Mount Denham 27.97 86 P P 18 12 48.8 +0.7
NHSC New Hope 28.01 54 P P 18 12 48.4 +0.2
NHSC New Hope 28.01 54 P P 18 12 44.7 -3.5
baz=246,SNR=12
NHSC S S 18 17 34.1 +1.0
baz=246
JFWS Jewell Farm 28.04 27 P P 18 12 46.5 -1.8
JFWS pmax pmax
comp=Z,612nm,1.4s
JFWS MLR MLR
comp=Z,37µm,18.0s
JFWS Jewell Farm 28.04 27 P P 18 12 46.5 -1.8
JFWS Jewell Farm 28.04 27 P P 18 12 47.4 -0.9
baz=216,SNR=46
JFWS S S 18 17 32.4 -1.0
baz=216
KMSC Kings Mountain 28.06 49 P P 18 12 47.1 -1.5
KMSC Kings Mountain 28.06 49 P P 18 12 46.0 -2.7
baz=241,SNR=21
KMSC S S 18 17 35.6 +1.6
baz=241
KEBM Edson Butte 28.23 332 P P 18 12 50.1 0.0
Y57A Sumter 28.23 52 P P 18 12 48.4 -1.7
Y57A IAmb IAmb 18 12 57.7
comp=Z,276nm,1.2s
HRY Holter Researc 28.25 353 P P 18 12 49.3 -1.0
HQIL Hanson Quary C 28.26 31 P P 18 12 48.9 -1.5
HQIL IAmb IAmb 18 12 54.8
comp=Z,371nm,1.3s
I05D Terrebonne, OR 28.27 338 P P 18 12 49.9 -0.5
baz=150,SNR=20
I05D S S 18 17 43.4 +6.3
baz=150
J01E Myrtle Point 28.29 333 P P 18 12 49.7 -0.8
J01E Myrtle Point 28.29 333 P P 18 12 48.2 -2.3
baz=144,SNR=11
J01E S S 18 17 43.1 +5.8
baz=144
E28A Huff 28.32 9 P P 18 12 49.4 -1.4
E28A IAmb IAmb 18 12 54.3
comp=Z,261nm,1.4s
G08A Pilot Rock 28.34 342 P P 18 12 49.5 -1.7
P49A Miami Univ. Ec 28.36 38 P P 18 12 50.0 -1.3
P49A IAmb IAmb 18 12 56.0
comp=Z,529nm,1.4s
P49A Miami Univ. Ec 28.36 38 P P 18 12 48.6 -2.7
baz=229,SNR=37
P49A S S 18 17 38.6 -0.1
baz=229
U54A Nelsons Funny 28.42 46 P P 18 12 50.0 -1.9
BIRD Birdtown, Kers 28.46 51 P P 18 12 50.7 -1.5
BIRD IAmb IAmb 18 12 59.6
comp=Z,325nm,1.6s
I03D Drain, OR 28.48 335 P P 18 12 50.7 -1.5
baz=146,SNR=10
I03D S S 18 17 44.0 +3.6
baz=146
V55A Taylorsville 28.50 48 P P 18 12 51.0 -1.5
F10A Beach Ranch, E 28.51 345 ⇑P P 18 12 51.2 -1.4
F10A Beach Ranch, E 28.51 345 P P 18 12 50.9 -1.7
F10A IAmb IAmb 18 13 47.9
comp=Z,368nm,1.8s
L44A Lake County Fo 28.52 31 P P 18 12 50.1 -2.5
L44A IAmb IAmb 18 13 47.8
comp=Z,420nm,1.4s
L44A Lake County Fo 28.52 31 P P 18 12 51.3 -1.3
baz=220
L44A S S 18 17 41.5 +0.4
baz=220
F33A 5 Mile Ranch, 28.52 16 P P 18 12 51.6 -1.0
MSO Missoula 28.66 350 P P 18 12 52.0 -1.9
MSO IAmb IAmb 18 13 05.0
comp=Z,230nm,1.1s
MSO IAMs_20 IAMs_20 18 23 38.3
comp=Z,133µm,22.0s
MSO Missoula 28.66 350 P P 18 12 52.9 -1.0
baz=166,SNR=70
MSO S S 18 17 43.1 -0.2
baz=166
I40A Norwalk 28.68 25 P P 18 12 53.4 -0.7
I40A IAmb IAmb 18 13 02.0
comp=Z,575nm,1.6s
N47A Urbana 28.72 35 P P 18 12 52.5 -1.9
K43A Burlington 28.73 29 P P 18 12 53.4 -1.0
K43A IAmb IAmb 18 13 02.0
comp=Z,191nm,1.1s
Y58A Scranton 28.73 53 P P 18 12 52.8 -1.7
Y58A IAmb IAmb 18 13 08.3
comp=Z,248nm,1.0s
BUCK Buck Mountain 28.76 336 P P 18 12 54.4 -0.4
Q51A Peebles 28.86 40 P P 18 12 54.2 -1.6
Q51A IAmb IAmb 18 13 02.8
comp=Z,265nm,1.4s
H04A Detroit Lake 28.87 337 P P 18 12 54.2 -1.5
H04A IAmb IAmb 18 13 02.5
comp=Z,397nm,1.5s
H04D Lebanon 28.94 336 P P 18 12 54.9 -1.4
H04D IAmb IAmb 18 13 08.1
comp=Z,291nm,1.4s
H04D IAMs_20 IAMs_20 18 24 30.2
comp=Z,131µm,19.0s
H04D Lebanon 28.94 336 P P 18 12 54.2 -2.1
baz=148,SNR=7.2
H04D S S 18 17 51.1 +3.6
baz=148
SPMN Marine on St. 29.01 21 P P 18 12 55.6 -1.3
SPMN Marine on St. 29.01 21 P P 18 12 55.3 -1.7
baz=209
SPMN S S 18 17 47.8 -0.9
baz=209
O49A Covington 29.01 38 P P 18 12 55.0 -2.0
O49A IAmb IAmb 18 13 05.0
comp=Z,273nm,1.0s
I02E Swisshome, OR 29.03 335 P P 18 12 55.7 -1.4
I02E IAmb IAmb 18 13 04.8
comp=Z,438nm,1.4s
I02E IAMs_20 IAMs_20 18 24 23.6
comp=Z,129µm,20.0s
I02E Swisshome, OR 29.03 335 P P 18 12 56.2 -0.9
baz=145
I02E S S 18 17 55.0 +6.1
baz=145
W57A Gilead 29.04 50 P P 18 12 55.0 -2.3
F07A Phinny Hill Vi 29.18 341 P P 18 12 57.6 -0.8
L46A Eue Claire 29.20 33 P P 18 12 57.5 -1.2
L46A IAmb IAmb 18 13 03.3
comp=Z,320nm,1.2s
COR Corvallis 29.21 336 P P 18 12 58.0 -0.7
COR pmax pmax
comp=Z,1µm,2.0s
COR MLR MLR
comp=Z,154µm,22.0s
COR Corvallis 29.21 336 ⇑P P 18 13 00.4 +1.7
COR Corvallis 29.21 336 P P 18 12 58.0 -0.7
COR Corvallis 29.21 336 IAMs_20 IAMs_20 18 23 29.5
comp=Z,154µm,22.0s
HOOD Mount Hood Mea 29.23 339 P P 18 12 57.8 -1.3
E09A Wood Farm, Sta 29.25 344 P P 18 12 56.9 -2.1
X58A Rowland 29.25 52 P P 18 12 57.6 -1.6
X58A IAmb IAmb 18 13 06.8
comp=Z,295nm,1.4s
P51A Williamsport 29.32 40 P P 18 12 58.1 -1.7
U56A King 29.33 48 P P 18 12 58.6 -1.3
U56A IAmb IAmb 18 13 07.4
comp=Z,328nm,1.6s
R53A Hurricane 29.33 43 P P 18 12 58.5 -1.4
R53A IAmb IAmb 18 13 07.5
comp=Z,311nm,1.2s
F36A Milaca 29.34 19 P P 18 12 58.3 -1.6
Y59A Loris 29.36 53 P P 18 12 58.5 -1.7
Y59A IAmb IAmb 18 13 08.6
comp=Z,207nm,1.1s
EGMT Eagleton 29.37 356 P P 18 12 58.5 -1.7
EGMT IAmb IAmb 18 13 03.8
comp=Z,390nm,1.6s
EGMT IAMs_20 IAMs_20 18 24 20.4
comp=Z,118µm,22.0s
EGMT Eagleton 29.37 356 P P 18 12 59.4 -0.7
baz=174,SNR=42
EGMT S S 18 17 55.6 +1.2
baz=174
I42A Draeger Farm, 29.40 27 P P 18 12 58.8 -1.6
S54A Dingess, Beckl 29.45 44 P P 18 12 59.7 -1.3
S54A IAmb IAmb 18 13 09.3
comp=Z,517nm,1.8s
E08A Dider Farm, El 29.47 343 P P 18 12 59.9 -1.1
Q52A Bidwell 29.50 42 P P 18 12 59.5 -1.8
Q52A IAmb IAmb 18 13 20.1
comp=Z,580nm,1.9s
HAWA Hanford 29.51 342 ⇑P P 18 13 00.2 -1.1
HAWA Hanford 29.51 342 P P 18 12 59.7 -1.7
HAWA IAMs_20 IAMs_20 18 24 29.3
comp=Z,99µm,22.0s
D32A Dogwood Acres, 29.56 14 P P 18 12 60.0 -1.8
N49A Columbus Grove 29.58 37 P P 18 13 00.2 -1.8
N49A IAmb IAmb 18 13 06.1

comp=Z,188nm,1.1s
F05D White Salmon 29.66 339 P **P** **18 13 01.5 -1.2**
F05D IAmb IAmb 18 13 10.4
comp=Z,607nm,1.8s
F05D IAMs_20 IAMs_20 18 24 21.0
comp=Z,124µm,22.0s
F05D White Salmon 29.66 339 P **P** **18 13 00.8 -2.0**
baz=151,SNR=8.5
F05D S **S** **18 17 59.3 +0.4**
baz=151
G03D McMinnville, O 29.72 337 P **P** **18 13 03.0 -0.2**
G03D IAMs_20 IAMs_20 18 25 02.8
comp=Z,130µm,20.0s
G03D McMinnville, O 29.72 337 P **P** **18 13 01.4 -1.8**
baz=148,SNR=6.9
G03D S **S** **18 18 02.9 +3.1**
baz=148
MDND Maddock 29.73 10 P **P** **18 13 00.4 -2.9**
MDND IAmb IAmb 18 13 30.8
comp=Z,211nm,1.2s
MDND Maddock 29.73 10 P **P** **18 13 01.2 -2.1**
baz=194,SNR=12
MDND S **S** **18 17 58.8 -1.2**
baz=194
BLA Blacksburg 29.74 46 P **P** **18 13 01.6 -2.0**
BLA pmax pmax
comp=Z,150nm,1.2s
BLA MLR MLR
comp=Z,59µm,20.0s
BLA Blacksburg 29.74 46 P **P** **18 13 01.6 -2.0**
BLA Blacksburg 29.74 46 P **P** **18 13 00.1 -3.5**
baz=239
BLA S **S** **18 18 01.2 +0.7**
baz=239
E07A Sunnyside 29.76 342 P **P** **18 13 02.2 -1.4**
DGMT Dagmar 29.82 4 P **P** **18 13 02.9 -1.3**
DGMT IAmb IAmb 18 13 52.7
comp=Z,480nm,1.6s
DGMT Dagmar 29.82 4 IAMs_20 IAMs_20 18 23 48.1
comp=Z,125µm,19.0s
DGMT Dagmar 29.82 4 P **P** **18 13 01.5 -2.6**
baz=185
DGMT S **S** **18 18 09.3 +7.9**
baz=185
ACSO Alum Creek Sta 29.83 39 P **P** **18 13 02.9 -1.4**
ACSO IAmb IAmb 18 13 26.5
comp=Z,251nm,1.4s
ACSO Alum Creek Sta 29.83 39 P **P** **18 13 01.3 -3.0**
baz=231
ACSO S **S** **18 18 01.3 -0.4**
baz=231
D08A Wollman Farm, 29.95 344 P **P** **18 13 04.3 -1.0**
P52A Corning 29.98 41 P **P** **18 13 03.8 -1.8**
P52A IAMs_20 IAMs_20 18 26 08.6
comp=Z,104µm,19.0s
P52A Corning 29.98 41 P **P** **18 13 02.6 -3.0**
baz=233,SNR=18
P52A S **S** **18 18 05.2 +1.1**
baz=233
P52A S S 18 18 07.4 +3.3
baz=233
G40A Rib Lake 30.00 24 P **P** **18 13 05.6 -0.1**
GTBY Guantanamo Bay 30.13 82 ⇑P **P** **18 13 07.8 +0.6**
GTBY Guantanamo Bay 30.13 82 P **P** **18 13 04.5 -2.6**
GTBY IAmb IAmb 18 13 14.8
comp=Z,380nm,1.5s
L48A N Adams 30.14 35 P **P** **18 13 04.6 -2.4**
L48A IAmb IAmb 18 13 11.5
comp=Z,289nm,1.4s
P53A Whipple 30.36 42 P **P** **18 13 06.4 -2.5**
P53A IAmb IAmb 18 13 16.7
comp=Z,540nm,1.8s
H43A Windswept, Lux 30.36 28 P **P** **18 13 07.0 -1.9**
H43A IAmb IAmb 18 13 16.6
comp=Z,301nm,1.3s
F04D Rainier, OR 30.37 338 P **P** **18 13 06.1 -2.9**
baz=149
Q54A Coxs Mills 30.42 43 P **P** **18 13 07.8 -1.7**
Q54A IAmb IAmb 18 13 16.4
comp=Z,190nm,1.2s
T57A Hurt 30.44 47 P **P** **18 13 08.3 -1.4**
T57A IAmb IAmb 18 13 57.4
comp=Z,315nm,1.4s
O52A Adamsville 30.45 40 P **P** **18 13 07.0 -2.8**
C09A Chrisman Ranch 30.47 345 P **P** **18 13 08.5 -1.4**
R55A Marlinton 30.50 45 P **P** **18 13 08.7 -1.7**
R55A IAmb IAmb 18 13 17.5
comp=Z,229nm,1.2s
M50A Fremont 30.55 37 P **P** **18 13 08.8 -1.9**
M50A IAmb IAmb 18 13 18.9
comp=Z,295nm,0.9s
CNNC Cliffs of the 30.62 51 P **P** **18 13 10.2 -1.1**
CNNC Cliffs of the 30.62 51 P **P** **18 13 08.7 -2.6**
baz=245
CNNC S **S** **18 18 15.0 +0.8**
baz=245
E04D Cinebar 30.62 339 P **P** **18 13 10.4 -0.8**
E04D IAmb IAmb 18 13 22.8
comp=Z,535nm,1.6s
E04D Cinebar 30.62 339 P **P** **18 13 09.6 -1.6**
baz=150,SNR=14
N51A Ashland 30.62 38 P **P** **18 13 09.2 -2.1**
LTY Liberty 30.63 342 P **P** **18 13 09.8 -1.5**
LTY IAmb IAmb 18 13 18.8
comp=Z,413nm,1.6s
E38A The Farm, Brul 30.64 21 P **P** **18 13 09.7 -1.7**
NEW Newport 30.64 347 P **P** **18 13 09.7 -1.7**
comp=Z,20nm,1.0s,baz=156,slow=9.5,SNR=28
NEW LR LR 18 24 52.5
comp=Z,109µm,19.5s,baz=166,slow=35
NEW Newport 30.64 347 P **P** **18 13 10.6 -0.8**
NEW pmax pmax
comp=Z,604nm,2.0s
NEW MLR MLR
comp=Z,99µm,19.0s
NEW Newport 30.64 347 P **P** **18 13 10.6 -0.8**
NEW IAmb IAmb 18 13 51.1
comp=Z,604nm,2.0s
NEW Newport 30.64 347 IAMs_20 IAMs_20 18 25 18.6
comp=Z,99µm,19.0s
NEW Newport 30.64 347 P **P** **18 13 10.1 -1.3**
baz=161
NEW S **S** **18 18 16.5 +2.2**
baz=161
I45A Fountain 30.73 30 P **P** **18 13 11.3 -0.9**
AAM Ann Arbor 30.80 35 P **P** **18 13 11.4 -1.4**
AAM pmax pmax
comp=Z,190nm,0.9s
AAM MLR MLR
comp=Z,36µm,18.0s
AAM Ann Arbor 30.80 35 P **P** **18 13 11.4 -1.4**
AAM IAmb IAmb 18 13 20.8
comp=Z,190nm,0.9s
AAM Ann Arbor 30.80 35 P **P** **18 13 11.0 -1.8**
baz=227,SNR=9.0
AAM S **S** **18 18 15.3 -1.6**
baz=227
WALA Waterton Lakes 30.82 351 ⇓P **P** **18 13 12.8 -0.3**
WALA Waterton Lakes 30.82 351 P **P** **18 13 11.9 -1.2**
WALA IAmb IAmb 18 13 35.2
comp=Z,240nm,1.6s
J47A Sunmer 30.84 33 P **P** **18 13 12.0 -1.2**
J47A IAmb IAmb 18 13 17.8
comp=Z,319nm,1.4s
O53A New Philadelph 30.91 40 P **P** **18 13 11.9 -2.0**
O53A IAmb IAmb 18 13 20.6
comp=Z,195nm,1.1s
O53A New Philadelph 30.91 40 P **P** **18 13 11.1 -2.8**
baz=233,SNR=19
O53A S **S** **18 18 16.5 -2.2**
baz=233
AGMN Agassiz Nation 30.92 15 P **P** **18 13 12.0 -1.8**
AGMN IAmb IAmb 18 13 24.3
comp=Z,315nm,2.0s
AGMN Agassiz Nation 30.92 15 P **P** **18 13 12.0 -1.8**
baz=201,SNR=14
AGMN S **S** **18 18 18.0 -0.6**
baz=201
E03A Lebam 30.96 338 P **P** **18 13 12.5 -1.7**
D05A Enumclaw 30.98 340 P **P** **18 13 13.7 -0.7**
S57A Dark Hollow, R 31.02 46 P **P** **18 13 13.7 -1.2**
S57A IAmb IAmb 18 13 22.1
comp=Z,242nm,1.5s
U59A Littleton 31.18 50 P **P** **18 13 15.0 -1.2**
U59A IAmb IAmb 18 14 19.7
comp=Z,402nm,1.9s

F42A Maple Grove Fa 31.23 26 P **P** **18 13 15.4 -1.2**
F42A IAmb IAmb 18 13 24.0
comp=Z,232nm,1.6s
D04E Lakebay 31.23 339 P **P** **18 13 15.0 -1.6**
baz=150,SNR=6.0
B08A Colville Reser 31.26 344 P **P** **18 13 14.8 -2.0**
B08A IAmb IAmb 18 13 21.8
comp=Z,395nm,1.6s
C06D Leavenworth 31.29 342 P **P** **18 13 15.9 -1.2**
baz=154
O54A Avella 31.39 41 P **P** **18 13 15.4 -2.7**
O54A IAmb IAmb 18 13 25.7
comp=Z,320nm,1.4s
MCWV Mont Chateau 31.43 43 P **P** **18 13 16.8 -1.7**
MCWV IAmb IAmb 18 14 16.7
comp=Z,326nm,1.6s
MCWV IAMs_20 IAMs_20 18 27 53.2
comp=Z,56µm,18.0s
MCWV Mont Chateau 31.43 43 P **P** **18 13 16.1 -2.4**
baz=236,SNR=11
MCWV S **S** **18 18 25.5 -1.4**
baz=236
N53A Lisbon 31.48 40 P **P** **18 13 16.6 -2.3**
N53A IAmb IAmb 18 14 18.4
comp=Z,202nm,1.4s
WISH Wishkah 31.52 338 P **P** **18 13 18.4 -0.7**
Q56A Snyder Ridge, 31.53 44 P **P** **18 13 17.9 -1.5**
Q56A IAmb IAmb 18 14 13.9
comp=Z,376nm,1.6s
B35A Bob, Littlefor 31.53 17 P **P** **18 13 16.8 -2.4**
M52A Chesterland 31.61 38 P **P** **18 13 18.3 -1.7**
T59A Double "B" Far 31.62 49 P **P** **18 13 18.8 -1.4**
T59A IAmb IAmb 18 14 17.4
comp=Z,472nm,2.0s
D03D Eldon 31.65 339 P **P** **18 13 19.0 -1.2**
baz=150,SNR=12
D03D S **S** **18 18 33.6 +3.7**
baz=150
K50A Casco 31.69 35 P **P** **18 13 18.5 -2.1**
K50A IAmb IAmb 18 13 24.6
comp=Z,215nm,1.1s
JSRW J. Sargeant Re 31.73 47 P **P** **18 13 19.2 -1.9**
G45A Suttons Bay 31.76 29 P **P** **18 13 18.7 -2.5**
G45A IAmb IAmb 18 13 28.9
comp=Z,209nm,0.8s
NLWA Neilton Lookou 31.79 338 P **P** **18 13 19.2 -2.3**
V61A Roper 31.82 51 P **P** **18 13 20.6 -1.4**
R58B Mineral 31.86 47 P **P** **18 13 20.9 -1.4**
M53A WI Miller and 31.95 39 P **P** **18 13 20.9 -2.1**
M53A IAmb IAmb 18 13 30.6
comp=Z,242nm,1.2s
M53A WI Miller and 31.95 39 P **P** **18 13 21.2 -1.9**
baz=233,SNR=19
M53A S **S** **18 18 34.1 -0.9**
baz=233
B05A Bryant 31.96 341 P **P** **18 13 21.1 -1.8**
baz=152,SNR=12
B05A S **S** **18 18 39.5 +4.7**
baz=152
B06A Marblemount 32.00 342 P **P** **18 13 20.7 -2.6**
SJCC San Jacinto, C 32.03 101 *e*P **P** **18 13 23.8 -0.2**
SJCC San Jacinto, C 32.03 101 P **P** **18 13 24.6 +0.6**
N54A Moraine State 32.09 40 P **P** **18 13 21.9 -2.3**
N54A IAMs_20 IAMs_20 18 27 23.4
comp=Z,77µm,18.0s
N54A Moraine State 32.09 40 P **P** **18 13 22.0 -2.2**
baz=234,SNR=28
N54A S **S** **18 18 36.5 -0.5**
baz=234
GLMI Grayling 32.09 31 P **P** **18 13 23.4 -0.8**
GLMI IAMs_20 IAMs_20 18 25 17.2
comp=Z,63µm,21.0s
GLMI Grayling 32.09 31 P **P** **18 13 22.5 -1.7**
baz=223
GLMI S **S** **18 18 40.3 +3.3**
baz=223
D41A Chassel 32.12 24 P **P** **18 13 23.5 -0.9**
D41A IAmb IAmb 18 13 36.4
comp=Z,182nm,1.3s
DBBC Dabeiba 32.14 107 *e*P **P** **18 13 28.6 +3.6**
E43A Lone Tree Farm 32.20 26 P **P** **18 13 24.2 -0.9**
PNT Penticton 32.22 344 ⇑P **P** **18 13 25.8 +0.6**
B04A Port Angeles 32.24 339 P **P** **18 13 25.3 -0.1**
CBN Corbin Frederi 32.33 47 P **P** **18 13 24.9 -1.4**
CBN Corbin Frederi 32.33 47 P **P** **18 13 26.0 -0.3**
baz=241
CBN S **S** **18 18 42.9 +2.1**
baz=241
I49A Point Hope 32.37 34 P **P** **18 13 24.5 -2.1**
ALLY Alegheny Colle 32.40 39 P **P** **18 13 25.1 -1.9**
UREC San Jos de Ur 32.47 105 *e*P **P** **18 13 29.6 +1.7**
P57A Homestead Farm 32.53 44 P **P** **18 13 26.3 -1.8**
A04D Lummi Island 32.56 341 P **P** **18 13 26.3 -1.9**
baz=151
A04D S **S** **18 18 49.1 +5.0**
baz=151
O56A Blue Knob Stat 32.59 43 P **P** **18 13 26.6 -2.0**
O56A IAmb IAmb 18 14 24.7
comp=Z,232nm,1.4s
O56A IAMs_20 IAMs_20 18 27 52.8
comp=Z,75µm,19.0s
O56A Blue Knob Stat 32.59 43 P **P** **18 13 28.0 -0.7**
baz=237
O56A S **S** **18 18 46.2 +1.2**
baz=237
LGNH Logne 32.60 85 P **P** **18 13 26.1 -2.8**
LGNH IAmb IAmb 18 13 59.9
comp=Z,337nm,1.4s
M54A Oil Creek Stat 32.60 40 P **P** **18 13 26.8 -2.0**
M54A IAMs_20 IAMs_20 18 27 42.0
comp=Z,66µm,18.0s
M54A Oil Creek Stat 32.60 40 P **P** **18 13 25.8 -3.0**
baz=234,SNR=35
M54A S **S** **18 18 43.7 -1.4**
baz=234
JAKH Jacmel 32.71 85 P **P** **18 13 29.3 -0.6**
JAKH IAmb IAmb 18 13 40.6
comp=Z,212nm,1.0s
ULM Lac du Bonnet 32.75 13 P **P** **18 13 27.7 -2.2**
comp=Z,63nm,1.0s,baz=198,slow=8.6,SNR=18
ULM LR LR 18 26 48.6
comp=Z,115µm,19.4s,baz=200,slow=37
ULM Lac du Bonnet 32.75 13 ⇑P **P** **18 13 27.9 -2.0**
ULM Lac du Bonnet 32.75 13 P **P** **18 13 27.7 -2.2**
ULM IAmb IAmb 18 13 53.7
comp=Z,174nm,1.1s
ERPA Erie 32.77 39 P **P** **18 13 27.9 -2.3**
ERPA IAmb IAmb 18 13 34.3
comp=Z,237nm,1.3s
ERPA Erie 32.77 39 P **P** **18 13 26.9 -3.3**
baz=233,SNR=6.5
CBOC Ciudad Bolivar 32.80 109 *e*P **P** **18 13 34.4 +3.4**
ARGC Ariguani, Magd 32.91 101 *e*P **P** **18 13 32.5 +0.8**
PLMC San Jos del P 32.98 111 *e*P **P** **18 13 32.5 0.0**
HELC Santa Helena 33.10 108 *e*P **P** **18 13 36.3 +2.5**
CLRS Cowichan Lake 33.11 339 P **P** **18 13 32.7 -0.3**
CLRS IAmb IAmb 18 13 41.1
comp=Z,514nm,2.0s
M55A Ridgway 33.13 41 P **P** **18 13 31.1 -2.3**
M55A IAmb IAmb 18 13 40.8
comp=Z,220nm,1.2s
ZARC Zaragoza, Cauc 33.18 105 *e*P **P** **18 13 34.4 +0.3**
ZARC Zaragoza, Cauc 33.18 105 P **P** **18 13 35.1 +1.0**
SSPA Standing Stone 33.22 43 ⇓P **P** **18 13 32.9 -1.3**
SSPA Standing Stone 33.22 43 P **P** **18 13 32.6 -1.6**
SSPA IAmb IAmb 18 13 39.7
comp=Z,364nm,1.7s
SSPA Standing Stone 33.22 43 P **P** **18 13 32.3 -1.8**
baz=237
SSPA S **S** **18 18 58.8 +4.0**
baz=237
SDMD Soldier's Deli 33.28 45 P **P** **18 13 32.6 -2.1**
E46A Sault Ste Mari 33.38 29 P **P** **18 13 34.3 -1.1**
E46A IAmb IAmb 18 13 43.1
comp=Z,389nm,1.8s
SMLC San Martn de 33.43 103 *e*P **P** **18 13 36.3 +0.1**
OTAV Otavalo 33.51 120 P **P** **18 13 37.3 -0.1**
OTAV pmax pmax
comp=Z,229nm,1.4s
OTAV MLR MLR
comp=Z,22µm,19.0s
OTAV Otavalo 33.51 120 ⇓P **P** **18 13 37.7 +0.3**
OTAV Otavalo 33.51 120 P **P** **18 13 37.3 -0.1**
OTAV IAmb IAmb 18 13 45.4
comp=Z,229nm,1.4s

CUSE Cuicocha Este 33.51 120 *e*P **P** **18 13 40.1 +2.7**
GUY2C Guyana, Caldas 33.66 109 *e*P **P** **18 13 43.5 +4.8**
PAGS Pennsylvania G 33.77 44 P **P** **18 13 36.7 -2.2**
PAGS IAmb IAmb 18 13 45.6
comp=Z,215nm,1.1s
POPC Popayan, Colom 33.77 115 *e*P **P** **18 13 41.1 +1.6**
WVNY West Valley, N 33.77 39 P **P** **18 13 37.1 -1.8**
WVNY IAmb IAmb 18 13 42.9
comp=Z,206nm,1.1s
TULM Tulcn-Chalpat 33.79 119 *e*P **P** **18 13 41.1 +1.2**
SDDR Presa de Saban 33.80 84 ⇑P **P** **18 13 39.8 +0.3**
SDDR Presa de Saban 33.80 84 P **P** **18 13 39.2 -0.3**
SDDR IAmb IAmb 18 13 53.1
comp=Z,190nm,1.1s
CRJC Cerrejon, Guaj 33.83 98 *e*P **P** **18 13 40.1 +0.3**
LL6C La Loma 6 Bece 33.86 100 *e*P **P** **18 13 40.1 +0.1**
MVL Millersville 33.90 45 P **P** **18 13 38.8 -1.2**
PTBC PUERTO BERRIO, 33.92 107 *e*P **P** **18 13 43.0 +2.4**
ANIL Santa Ana 33.95 111 *e*P **P** **18 13 43.0 +1.9**
NORC Norcasia 33.95 108 *e*P **P** **18 13 44.9 +4.0**
LLLB Lillooet 34.00 343 P **P** **18 13 39.6 -1.2**
SOTA Rioblanco 34.03 115 *e*P **P** **18 13 43.9 +1.9**
Q61A Milford 34.06 47 P **P** **18 13 40.0 -1.5**
baz=243
Q61A S **S** **18 19 08.1 +0.4**
baz=243
M57A Sunshine Farm, 34.09 42 P **P** **18 13 39.7 -1.9**
N58A Sunbury 34.09 43 P **P** **18 13 39.9 -1.8**
N58A IAmb IAmb 18 13 48.3
comp=Z,217nm,1.4s
PCON Cinco Dias 34.12 115 *e*P **P** **18 13 44.9 +2.0**
L56A Greenwood 34.25 41 P **P** **18 13 40.8 -2.4**
L56A IAmb IAmb 18 13 48.6
comp=Z,172nm,1.1s
J54A Appleton 34.26 38 P **P** **18 13 40.5 -2.6**
J54A IAmb IAmb 18 13 47.1
comp=Z,285nm,1.1s
SC01 Santiago de lo 34.28 83 P **P** **18 13 42.7 -0.9**
P60A Greenville 34.29 45 P **P** **18 13 42.0 -1.4**
P60A Greenville 34.29 45 P **P** **18 13 41.3 -2.2**
baz=241
P60A S **S** **18 19 12.3 +1.1**
baz=241
MEDO Medina 34.31 38 P **P** **18 13 41.5 -2.1**
MEDO IAmb IAmb 18 13 47.5
comp=Z,280nm,1.3s
OCAC Ocana 34.32 103 *e*P **P** **18 13 43.9 -0.2**
OCAC Ocana 34.32 103 P **P** **18 13 44.7 +0.5**
ORTC Ortega, Tolima 34.35 111 *e*P **P** **18 13 44.9 +0.6**
WUPA West Chester U 34.37 45 P **P** **18 13 42.9 -1.2**
MMNY Mt. Morris Dam 34.38 39 P **P** **18 13 42.3 -1.9**
MMNY IAmb IAmb 18 13 48.1
comp=Z,331nm,1.2s
URIC Uribia, Colomb 34.47 97 *e*P **P** **18 13 46.8 +1.5**
URIC Uribia, Colomb 34.47 97 P **P** **18 13 45.7 +0.4**
CBB Campbell River 34.56 339 P **P** **18 13 45.3 -0.4**
CBB IAmb IAmb 18 13 53.2
comp=Z,372nm,1.5s
SPBC San Pablo de B 34.64 108 *e*P **P** **18 13 49.7 +2.8**
N59A State Game Lan 34.74 44 P **P** **18 13 45.8 -1.6**
N59A IAMs_20 IAMs_20 18 29 24.8
comp=Z,95µm,21.0s
N59A State Game Lan 34.74 44 P **P** **18 13 44.4 -3.0**
baz=240,SNR=11
N59A S **S** **18 19 19.8 +1.5**
baz=240
J55A Hilton 34.74 39 P **P** **18 13 46.1 -1.2**
J55A IAmb IAmb 18 13 51.2
comp=Z,272nm,1.2s
ROSC El Rosal 34.76 109 P **P** **18 13 51.1 +2.8**
comp=Z,50nm,1.1s,baz=328,slow=8.9,SNR=13
ROSC El Rosal 34.76 109 P **P** **18 13 48.2 0.0**
ROSC pmax pmax
comp=Z,190nm,1.4s
ROSC El Rosal 34.76 109 P **P** **18 13 48.2 0.0**
ROSC IAmb IAmb 18 14 25.1
comp=Z,190nm,1.4s
PRAC Prado 34.76 111 *e*P **P** **18 13 49.7 +1.8**
P61A Hammonton 34.80 46 P **P** **18 13 44.8 -3.0**
EDM Edmonton 34.84 353 P **P** **18 13 46.2 -1.9**
EDM pmax pmax
comp=Z,456nm,1.4s
EDM Edmonton 34.84 353 P **P** **18 13 46.2 -1.9**
LUPA Lehigh Univers 34.85 44 P **P** **18 13 47.2 -1.1**
SADO Sadowa 34.90 36 P **P** **18 13 46.5 -2.2**
comp=Z,67nm,1.2s,baz=263,slow=9.3,SNR=14
SADO Sadowa 34.90 36 ⇓P **P** **18 13 47.1 -1.5**
SADO Sadowa 34.90 36 P **P** **18 13 46.4 -2.2**
SADO IAmb IAmb 18 13 52.9
comp=Z,258nm,1.3s
BARC Barichara 35.06 106 *e*P **P** **18 13 53.5 +2.8**
KSPA Keystone Colle 35.07 43 P **P** **18 13 48.5 -1.7**
SDD Santo Domingo 35.15 84 P **P** **18 13 48.7 -2.4**
PAMC Pamplona, Colo 35.22 104 *e*P **P** **18 13 53.5 +1.2**
K57A Scipio Center 35.23 40 P **P** **18 13 49.5 -2.1**
K57A IAmb IAmb 18 15 08.7
comp=Z,299nm,1.6s
BINY Binghamton 35.27 42 P **P** **18 13 50.0 -2.0**
BINY IAmb IAmb 18 13 59.6
comp=Z,170nm,1.2s
BINY IAMs_20 IAMs_20 18 29 24.6
comp=Z,67µm,19.0s
BINY Binghamton 35.27 42 P **P** **18 13 48.4 -3.5**
baz=238,SNR=16
BINY S **S** **18 19 26.1 -0.2**
baz=238
J56A Wolcott 35.32 39 P **P** **18 13 50.7 -1.6**
J56A IAmb IAmb 18 13 56.5
comp=Z,292nm,1.4s
CHIC Chingaza 35.38 109 *e*P **P** **18 13 56.4 +2.8**
BRNJ Basking Ridge 35.42 45 P **P** **18 13 52.0 -1.2**
RUSC La Rusia 35.43 107 *e*P **P** **18 13 55.4 +1.3**
TLCB Telegraph Cove 35.51 338 P **P** **18 13 51.8 -2.0**
TLCB IAmb IAmb 18 14 01.2
comp=Z,607nm,1.9s
ODNJ Ogdensburg 35.59 44 P **P** **18 13 50.6 -4.0**
DELO Deloro Mine 35.60 37 P **P** **18 13 52.5 -2.2**
PECO Prince Edward 35.62 38 P **P** **18 13 52.9 -1.9**
PECO IAmb IAmb 18 13 59.0
comp=Z,220nm,1.0s
L59A Walton 35.86 42 P **P** **18 13 55.6 -1.4**
L59A IAmb IAmb 18 14 00.9
comp=Z,539nm,1.9s
TRNY Table Rock, Ra 35.87 44 P **P** **18 13 55.2 -1.9**
CPNY Central Park 35.88 45 P **P** **18 13 55.1 -2.0**
J57A Williamstown 35.92 40 P **P** **18 13 54.7 -2.7**
J57A IAmb IAmb 18 14 01.4
comp=Z,205nm,1.1s
DABV Dabajuro 35.97 97 *e*P **P** **18 13 59.2 +1.1**
PAL Palisades 36.02 45 P **P** **18 13 56.8 -1.5**
PAL pmax pmax
comp=Z,135nm,1.1s
PAL MLR MLR
comp=Z,51µm,18.0s
PAL Palisades 36.02 45 P **P** **18 13 56.8 -1.5**
PAL IAMs_20 IAMs_20 18 30 36.5
comp=Z,51µm,18.0s
PAL Palisades 36.02 45 P **P** **18 13 53.8 -4.5**
baz=242,SNR=8.7
PAL S **S** **18 19 36.9 -0.9**
baz=242
J58A Remsen 36.33 40 P **P** **18 13 58.9 -2.1**
MACC Macarena, Meta 36.42 113 *e*P **P** **18 14 04.0 +2.0**
WSPT Westport, CT 36.48 45 P **P** **18 14 01.1 -1.2**
KAPO Kapuskasing 36.49 27 ⇓P **P** **18 14 02.1 -0.1**
SOCV Socops 36.59 101 *e*P **P** **18 14 03.1 -0.5**
SDV Santo Domingo 36.59 100 LR LR 18 30 57.5
comp=Z,8µm,18.8s,baz=300,slow=39
SDV Santo Domingo 36.59 100 *e*P **P** **18 14 04.0 +0.2**
SDV Santo Domingo 36.59 100 *e*P **P** **18 14 04.4 +0.6**
SDV Santo Domingo 36.59 100 P **P** **18 14 03.7 -0.1**
SDV IAmb IAmb 18 14 20.0
comp=Z,423nm,1.1s
PTLC Puerto Leguiza 36.59 117 *e*P **P** **18 14 07.8 +4.3**
KSCT Kent School, K 36.64 44 P **P** **18 14 02.4 -1.2**
YLE Yale 36.81 45 IAMs_20 IAMs_20 18 31 10.5
comp=Z,49µm,18.0s
J59A Piesco 36.86 41 P **P** **18 14 02.9 -2.6**
TRY Troy 37.01 42 P **P** **18 14 05.2 -1.6**
TRY IAMs_20 IAMs_20 18 30 27.8
comp=Z,89µm,20.0s
NCB Newcomb 37.30 40 P **P** **18 14 07.1 -2.2**
BBB Bella Bella 37.31 339 LR LR 18 29 48.7
comp=Z,80µm,18.0s,baz=170,slow=37

ACCN Adirondack Com 37.34 41 P **P 18 14 07.0 -2.6**
LONY Lake Ozonia 37.44 39 P **P 18 14 07.6 -2.8**
LONY IAMs_20 IAMs_20 18 30 13.8
comp=Z,64µm,20.0s
LONY Lake Ozonia 37.44 39 P **P 18 14 06.3 -4.1**
baz=237,SNR=9.8
LONY S **S 18 19 57.4 -2.0**
baz=237
M63A Gales Ferry 37.45 45 P **P 18 14 09.2 -1.3**
M63A IAmb IAmb 18 14 18.2
comp=Z,181nm,0.9s
UCCT U. Connecticut 37.50 45 P **P 18 14 10.3 -0.7**
L61B Northampton 37.51 43 P **P 18 14 09.9 -1.1**
L61B IAMs_20 IAMs_20 18 30 58.0
comp=Z,85µm,19.0s
L61B Northampton 37.51 43 P **P 18 14 08.1 -2.9**
baz=241
L61B S **S 18 20 01.9 +1.4**
baz=241
GAC Glen Almond 37.52 37 ⇑P **P 18 14 10.1 -1.0**
QUA2 Belchertown 37.64 44 P **P 18 14 09.0 -3.1**
QUA2 IAMs_20 IAMs_20 18 31 11.6
comp=Z,81µm,20.0s
K62A Royalston 37.90 43 P **P 18 14 13.6 -0.8**
MLPR Magueyes Islan 37.91 85 P **P 18 14 13.4 -1.3**
VLDQ Val d'Or 37.94 33 P **P 18 14 12.6 -1.9**
BRYW Bryant College 38.02 45 P **P 18 14 15.2 -0.1**
J61A Chester 38.03 42 P **P 18 14 14.6 -0.8**
AOPR Arecibo Observ 38.14 84 *e*P **P 18 14 14.2 -2.5**
AOPR Arecibo Observ 38.14 84 P **P 18 14 15.8 -0.8**
ATAH Atahualpa 38.14 130 LR LR 18 26 59.7
comp=Z,27µm,21.7s,baz=311,slow=32
FRNY Flat Rock 38.15 39 P **P 18 14 14.4 -2.0**
HRV Adam Dziewonsk 38.27 44 P **P 18 14 16.7 -0.8**
HRV pmax pmax
comp=Z,276nm,2.0s
HRV MLR MLR
comp=Z,78µm,20.0s
HRV Adam Dziewonsk 38.27 44 P **P 18 14 16.7 -0.8**
HRV Adam Dziewonsk 38.27 44 IAMs_20 IAMs_20 18 31 30.2
comp=Z,78µm,20.0s
HRV Adam Dziewonsk 38.27 44 P **P 18 14 13.6 -3.9**
baz=243
HRV S **S 18 20 14.5 +2.4**
baz=243
OBIP Obispado Ponce 38.32 84 P **P 18 14 18.1 0.0**
TRQ Mont Tremblant 38.35 37 P **P 18 14 15.5 -2.7**
TRQ IAmb IAmb 18 14 26.0
comp=Z,345nm,1.2s
WES Weston 38.37 44 IAMs_20 IAMs_20 18 31 41.9
comp=Z,72µm,21.0s
HNH Hanover 38.37 42 P **P 18 14 16.5 -1.8**
HNH IAMs_20 IAMs_20 18 30 59.7
comp=Z,71µm,18.0s
VT1 Waterbury 38.39 41 P **P 18 14 17.9 -0.6**
VT1 IAMs_20 IAMs_20 18 30 10.2
comp=Z,53µm,19.0s
ICMP Isla Caja de M 38.41 85 P **P 18 14 18.8 -0.1**
ICMP IAmb IAmb 18 14 24.5
comp=Z,274nm,1.0s
M65A Busby, Falmout 38.46 46 IAMs_20 IAMs_20 18 31 48.3
comp=Z,56µm,20.0s
M65A Busby, Falmout 38.46 46 P **P 18 14 16.4 -2.6**
baz=245
M65A S **S 18 20 15.6 +0.7**
baz=245
MNTQ Montreal, Queb 38.49 38 P **P 18 14 17.1 -2.1**
L64A Middleborough 38.49 45 P **P 18 14 18.3 -1.0**
FFD Franklin Falls 38.66 42 IAMs_20 IAMs_20 18 33 11.4
comp=Z,54µm,19.0s
SJG San Juan 38.74 84 P **P 18 14 20.3 -1.4**
SJG pmax pmax
comp=Z,404nm,1.1s
SJG MLR MLR
comp=Z,13µm,19.0s
SJG San Juan 38.74 84 ⇑P **P 18 14 20.9 -0.8**
SJG San Juan 38.74 84 P **P 18 14 20.3 -1.4**
SJG IAmb IAmb 18 14 27.4
comp=Z,404nm,1.1s
GCPR Guaynabo City 38.77 84 P **P 18 14 21.2 -0.8**
LBNH Lisbon 38.86 41 P **P 18 14 21.6 -0.8**
LBNH pmax pmax
comp=Z,325nm,1.8s
LBNH MLR MLR
comp=Z,78µm,21.0s
LBNH Lisbon 38.86 41 P **P 18 14 21.6 -0.8**
LBNH IAMs_20 IAMs_20 18 31 03.7
comp=Z,78µm,21.0s
LBNH Lisbon 38.86 41 P **P 18 14 20.2 -2.3**
baz=240
LBNH S **S 18 20 22.6 +1.6**
baz=240
PDPR Patillas Dam, 38.87 84 P **P 18 14 22.0 -0.8**
CBYP Canovanas 38.99 84 P **P 18 14 23.6 -0.3**
BAUV El Baul 39.00 99 P **P 18 14 22.7 -1.2**
HUMP Col San Antoni 39.02 84 P **P 18 14 23.5 -0.5**
I62A Tamworth 39.05 42 P **P 18 14 24.2 +0.2**
MTP Monte Pirata 39.30 84 P **P 18 14 24.9 -1.5**
H62A Milan 39.51 41 P **P 18 14 27.7 -0.1**
CUPR Culebra, Puert 39.53 84 P **P 18 14 27.8 -0.5**
I63A Otisfield 39.62 42 P **P 18 14 27.6 -1.2**
RUBB Prince Rupert 39.81 339 P **P 18 14 30.3 +0.2**
RUBB IAmb IAmb 18 14 38.0
comp=Z,396nm,1.8s
STVI Saint Thomas 39.83 84 P **P 18 14 30.6 -0.2**
STVI IAmb IAmb 18 14 36.1
comp=Z,436nm,1.3s
CDVI St. Croix 40.09 84 *e*P P 18 14 26.7 -6.3
CDVI St. Croix 40.09 84 P **P 18 14 33.4 +0.5**
CDVI IAmb IAmb 18 14 40.6
comp=Z,284nm,0.9s
G62A West of Eustis 40.21 41 P **P 18 14 33.3 -0.4**
BBSR BB Station 40.31 62 P **P 18 14 34.9 +0.3**
BBSR IAmb IAmb 18 14 45.3
comp=Z,328nm,1.4s
WVL Waterville 40.45 42 IAMs_20 IAMs_20 18 32 32.6
comp=Z,75µm,20.0s
PKME Peaks-Kenny Pk 41.00 41 IAMs_20 IAMs_20 18 32 39.3
comp=Z,69µm,20.0s
PKME Peaks-Kenny Pk 41.00 41 P **P 18 14 37.6 -2.6**
baz=242
PKME S **S 18 20 54.4 +1.5**
baz=242
FCC Fort Churchill 41.15 10 P **P 18 14 39.1 -2.0**
FCC pmax pmax
comp=Z,181nm,1.2s
FCC Fort Churchill 41.15 10 P **P 18 14 39.1 -2.0**
F63A Nahmakanta, Br 41.32 41 P **P 18 14 41.2 -1.6**
LMQ La Malbaie 41.50 38 P **P 18 14 44.8 +0.5**
E62A Clayton Lake 41.51 39 P **P 18 14 43.2 -1.2**
SMRT St. Maarten 41.65 84 *e*P P 18 14 41.0 -4.8
SMRT St. Maarten 41.65 84 P **P 18 14 45.4 -0.4**
SMRT IAmb IAmb 18 14 53.7
comp=Z,446nm,1.1s
CRAG Craig 41.72 338 P **P 18 14 46.4 +0.5**
CRAG IAmb IAmb 18 15 31.6
comp=Z,461nm,1.6s
CRAG Craig 41.72 338 P **P 18 14 42.6 -3.3**
baz=141,SNR=5.4
CRAG S **S 18 21 09.2 +5.8**
baz=141
SEUS St. Eustatius 41.81 84 *e*P **P 18 14 46.1 -1.1**
SEUS St. Eustatius 41.81 84 P **P 18 14 45.5 -1.6**
F64A Sherman 41.86 41 P **P 18 14 45.8 -1.4**
D62A Allapoint, All 42.02 39 P **P 18 14 46.8 -1.7**
SKI Saint Kitts 42.07 85 *e*P **P 18 14 49.2 -0.1**
SKOC St. Kitts, UWI 42.08 85 *e*P **P 18 14 51.0 +1.6**
WRAK Wrangell Islan 42.21 339 IAMs_20 IAMs_20 18 31 06.9
comp=Z,56µm,20.0s
WRAK Wrangell Islan 42.21 339 P **P 18 14 47.4 -2.5**
baz=143
WRAK S **S 18 21 16.3 +5.7**
baz=143
PQI Presque Isle 42.44 40 P **P 18 14 50.8 -1.1**
NNA Nana 42.59 133 LR LR 18 29 36.4
comp=Z,14µm,19.8s,baz=316,slow=32
NNA Nana 42.59 133 *ce*P **P 18 14 54.1 +0.5**
NNA pmax pmax
comp=Z,280nm,1.3s
NNA Nana 42.59 133 ⇑P **P 18 14 52.8 -0.8**
NNA Nana 42.59 133 P **P 18 14 53.4 -0.2**
TAOE Nuku Hiva Isla 42.60 233 *e*P **P 18 14 55.9 +2.2**
comp=Z,352nm,1.2s
TAOE *e*S **S 18 21 18.4 +0.8**
comp=Z,18µm,25.1s
TAOE *e*LQ LQ 18 24 51.2
comp=Z,90µm,26.8s
TAOE *e*LR LR 18 26 31.7
comp=Z,259µm,25.7s,baz=49
TAOE Nuku Hiva Isla 42.60 233 *e*T T 18 59 39.3
comp=Z,791nm,0.2s
CZSB Cruzeiro do Su 42.83 125 *e*P **P 18 14 56.2 +0.7**
CZSB Cruzeiro do Su 42.83 125 P **P 18 14 55.4 -0.1**
ANWB Willy Bob 42.91 84 *e*P **P 18 14 52.2 -3.9**
ANWB Willy Bob 42.91 84 P **P 18 14 54.8 -1.4**
ANBD Bethesda, Anti 43.03 85 *e*P **P 18 14 58.0 +0.9**
TBTG Tabatinga, AM 43.04 118 *e*P **P 18 14 55.8 -1.5**
TBTG Tabatinga, AM 43.04 118 P **P 18 14 57.3 +0.1**
DLBC Dease Lake 43.15 343 P **P 18 14 56.2 -1.4**
comp=Z,65nm,1.1s,baz=166,slow=5.5,SNR=31
DLBC LR LR 18 33 38.5
comp=Z,126µm,19.6s,baz=150,slow=37
DLBC Dease Lake 43.15 343 P **P 18 14 57.6 0.0**
DLBC IAmb IAmb 18 15 05.6
comp=Z,701nm,1.9s
CBE Ff, Capester 43.34 86 *e*P P 18 14 51.1 -8.6
TDBA Terre de Bas, 43.36 86 *e*P **P 18 15 00.2 +0.4**
ABD La Joyeuse, An 43.39 86 *e*P **P 18 15 02.7 +2.7**
DSLB Salisbury 43.64 87 *e*P P 18 14 57.0 -5.0
MAGL Barre de l'ile 43.67 86 *e*P **P 18 15 00.5 -1.8**
MDN Morne-Daniel 43.69 87 *e*P **P 18 15 00.8 -1.7**
SIT Sitka 43.73 338 P **P 18 14 59.7 -2.5**
baz=139
SIT S **S 18 21 38.3 +5.3**
baz=139
DLPL La Plaine 43.82 87 *e*P **P 18 15 07.4 +3.8**
DLPL La Plaine 43.82 87 P **P 18 15 03.0 -0.5**
BATG Bathurst New B 43.91 40 P **P 18 15 03.3 -0.6**
FDF Fort de France 44.03 88 *e*P **P 18 15 00.8 -4.4**
LMN Caledonia Moun 44.09 42 P **P 18 15 03.9 -1.4**
LMN IAmb IAmb 18 15 12.5
comp=Z,227nm,1.4s
YKA Yellowknife Ar 44.10 355 P **P 18 15 02.8 -2.3**
comp=Z,10nm,0.8s,baz=171,slow=7.9,SNR=94
YKA PcP **PcP 18 16 52.6 +2.4**
comp=Z,6.0nm,1.0s,baz=156,slow=3.0,SNR=2.2
YKA LR LR 18 33 32.9
comp=Z,106µm,19.6s,baz=172,slow=36
YKA Yellowknife Ar 44.10 355 P **P 18 15 02.4 -2.7**
YKA 18 16 52.6
YKA Yellowknife Ar 44.10 355 P **P 18 15 02.4 -2.7**
GRGR Grenville 44.13 92 *e*P P 18 14 55.9 -10
GRGR Grenville 44.13 92 P **P 18 15 05.5 -0.6**
BIM Bigot 44.15 88 *e*P P 18 14 54.0 -12
SVB Belmont 44.25 90 *e*P **P 18 15 07.4 +0.4**
WTLY Watson Lake, Y 44.25 345 P **P 18 15 03.1 -3.3**
baz=150
WTLY S **S 18 21 46.4 +5.9**
baz=150
GCMP Grenada, Carri 44.27 91 *e*P **P 18 15 02.6 -4.5**
ILAM Ilet Lapin Mar 44.28 88 *e*P P 18 14 53.8 -13
SLBI Saint Lucia, B 44.34 89 *e*P P 18 14 54.6 -13
JIS Juneau Island 44.35 340 P **P 18 15 07.0 -0.2**
JIS IAmb IAmb 18 15 15.0
comp=Z,253nm,1.7s
JIS IAMs_20 IAMs_20 18 32 19.7
comp=Z,52µm,20.0s
MPOM Morne Pois Mar 44.37 88 *e*P P 18 14 58.6 -9.3
HAL Halifax 44.42 45 P **P 18 15 07.8 -0.1**
HAL pmax pmax
comp=Z,155nm,1.3s
HAL Halifax 44.42 45 P **P 18 15 07.8 -0.1**
MCLT Moule a Chique 44.44 89 *e*P **P 18 15 10.6 +2.0**
BESE Bessie Mountai 44.75 340 P **P 18 15 10.3 -0.2**
TRN Trinidad (W) 44.76 94 *e*P **P 18 15 14.6 +3.5**
TOSP Speyside 45.41 92 *e*P **P 18 15 19.6 +3.4**
TOSP Speyside 45.41 92 *e*S **S 18 22 00.8 +2.5**
P33M Teslin, Yukon 45.42 342 P **P 18 15 14.7 -1.2**
P33M Teslin, Yukon 45.42 342 P **P 18 15 12.9 -2.9**
baz=144,SNR=10.0
P33M S **S 18 22 02.3 +4.7**
baz=144
HLP Hilina Pali 45.54 279 P **P 18 15 17.9 +0.7**
RPN Rapa Nui 45.58 183 LR LR 18 28 54.6
comp=Z,3µm,21.1s,baz=4.0,slow=29
MLH Mauna Loa 45.59 279 P **P 18 15 19.8 +2.0**
MLH IAmb IAmb 18 15 27.9
comp=Z,252nm,1.1s
SKAG Skagway 45.59 340 ⇑P **P 18 15 17.9 +0.9**
SKAG Skagway 45.59 340 P **P 18 15 16.7 -0.3**
SKAG IAmb IAmb 18 15 52.8
comp=Z,221nm,1.6s
SKAG Skagway 45.59 340 P **P 18 15 13.9 -3.1**
baz=141
SKAG S **S 18 22 05.4 +5.6**
baz=141
AIN Ainahou 45.67 279 P **P 18 15 19.5 +1.1**
POHA Pohakuloa 45.69 280 P **P 18 15 20.6 +1.9**
MLOA Mauna Loa Obse 45.76 279 P **P 18 15 20.0 +0.5**
MWH Moku'aweowe 45.78 279 P **P 18 15 18.8 -1.0**
HPAH Hawaii Prepara 45.81 280 P **P 18 15 19.4 -0.1**
HPAH IAmb IAmb 18 15 37.7
comp=Z,293nm,1.4s
BBGH Gun Hill 45.88 90 *e*P **P 18 15 22.5 +2.5**
BBGH Gun Hill 45.88 90 *e*S **S 18 22 13.2 +7.9**
WRGLY Wrigley 45.94 350 P **P 18 15 17.7 -2.0**
baz=158,SNR=18
WRGLY S **S 18 22 05.6 +0.8**
baz=158
GBN Guysborough 46.07 44 P **P 18 15 20.1 -0.9**
WHY Whitehorse 46.39 341 ⇓P **P 18 15 23.6 0.0**
WHY Whitehorse 46.39 341 P **P 18 15 23.3 -0.2**
WHY Whitehorse 46.39 341 P **P 18 15 20.5 -3.0**
baz=142,SNR=10
WHY S **S 18 22 16.6 +4.9**
baz=142
PNL Peninsula 47.12 338 P **P 18 15 25.5 -3.5**
baz=136
PNL S **S 18 22 25.7 +3.9**
baz=136
FARO Faro, Yukon 47.23 344 P **P 18 15 27.4 -2.5**
baz=145,SNR=10
FARO S **S 18 22 27.9 +4.6**
baz=145
SCHQ Schefferville 47.28 31 P **P 18 15 29.6 -0.7**
comp=Z,45nm,1.0s,baz=244,slow=6.7,SNR=17
SCHQ LR LR 18 33 06.6
comp=Z,27µm,21.7s,baz=245,slow=33
SCHQ Schefferville 47.28 31 ⇓P **P 18 15 29.9 -0.4**
SCHQ Schefferville 47.28 31 P **P 18 15 29.3 -1.1**
SCHQ IAmb IAmb 18 15 37.5
comp=Z,90nm,1.1s
N31M Braeburn, Yuko 47.31 342 P **P 18 15 30.5 -0.1**
N31M IAmb IAmb 18 16 02.4
comp=Z,288nm,1.6s
N31M Braeburn, Yuko 47.31 342 P **P 18 15 28.6 -2.0**
baz=142,SNR=18
N31M S **S 18 22 26.8 +2.2**
baz=142
M31M Drury Creek, Y 47.49 343 P **P 18 15 31.2 -0.8**
M31M IAmb IAmb 18 15 57.0
comp=Z,138nm,1.3s
M31M Drury Creek, Y 47.49 343 P **P 18 15 31.1 -0.8**
baz=144,SNR=17
M31M S **S 18 22 33.5 +6.4**
baz=144
PINM Pinnacle 47.72 338 P **P 18 15 32.7 -1.1**
baz=135
PINM S **S 18 22 37.5 +6.9**
baz=135
PCA Pinnacle 47.73 338 P **P 18 15 33.8 -0.1**
PCA IAmb IAmb 18 15 43.3
comp=Z,94nm,0.8s
HON Honolulu 47.81 282 P **P 18 15 35.5 +0.5**
HON pmax pmax
comp=Z,340nm,1.0s
HON Honolulu 47.81 282 P **P 18 15 35.5 +0.5**
KIP Kipapa 47.81 282 P **P 18 15 35.8 +0.8**
KIP pmax pmax
comp=Z,196nm,1.1s
KIP MLR MLR
comp=Z,72µm,21.0s
KIP Kipapa 47.81 282 P **P 18 15 35.8 +0.8**
KIP IAmb IAmb 18 15 45.4
comp=Z,196nm,1.1s
TABL Table Mountain 48.28 338 P **P 18 15 38.6 +0.3**
TABL IAmb IAmb 18 15 56.5
comp=Z,231nm,1.4s
TABL IAMs_20 IAMs_20 18 33 59.6
comp=Z,39µm,21.0s
BOAV Boa Vista 48.31 104 *e*P **P 18 15 40.8 +1.9**
BOAV Boa Vista 48.31 104 P **P 18 15 39.3 +0.4**
MESA MESA 48.39 338 P **P 18 15 39.5 +0.3**
MESA IAMs_20 IAMs_20 18 33 46.5
comp=Z,36µm,19.0s
MESA MESA 48.39 338 P **P 18 15 37.6 -1.5**
baz=133
MESA S **S 18 22 47.0 +6.8**
baz=133
YAH Yahtse 48.44 338 P **P 18 15 39.6 0.0**
YAH IAMs_20 IAMs_20 18 33 50.9
comp=Z,48µm,21.0s
LOGN Logan Glacier 48.50 339 P **P 18 15 38.4 -1.6**
LOGN IAmb IAmb 18 15 53.2
comp=Z,248nm,1.4s
LOGN IAMs_20 IAMs_20 18 38 26.5
comp=Z,46µm,22.0s
GRNC Granite Creek 48.70 338 P **P 18 15 41.0 -0.5**
GRNC IAmb IAmb 18 15 56.4
comp=Z,208nm,1.3s
GRNC IAMs_20 IAMs_20 18 34 11.8
comp=Z,46µm,22.0s
SNH Sunshine Point 48.71 337 IAMs_20 IAMs_20 18 33 30.1
comp=Z,45µm,20.0s
CTGM Chitina Glacie 48.72 339 P **P 18 15 41.9 +0.3**
CTGM IAMs_20 IAMs_20 18 38 33.2
comp=Z,39µm,20.0s
CTG Chitna Glacier 48.72 339 P **P 18 15 39.7 -2.0**
baz=134
CTG S **S 18 22 50.9 +6.1**
baz=134
ISLE Juniper Island 48.82 338 P **P 18 15 42.2 -0.2**
ISLE IAMs_20 IAMs_20 18 34 01.9
comp=Z,42µm,20.0s
BARN Barnard Glacie 48.90 338 P **P 18 15 41.3 -1.7**
BARN IAmb IAmb 18 16 03.2
comp=Z,325nm,1.7s
BARN IAMs_20 IAMs_20 18 34 29.9
comp=Z,39µm,20.0s
WAX Waxell Ridge 48.90 337 P **P 18 15 42.5 -0.5**
WAX IAMs_20 IAMs_20 18 36 17.1
comp=Z,39µm,21.0s
SUCK Suckling Hills 48.99 337 IAMs_20 IAMs_20 18 35 27.6
comp=Z,35µm,18.0s
YUK3 Moose Creek 49.00 340 P **P 18 15 43.2 -0.7**
baz=136,SNR=16
YUK3 S **S 18 22 55.2 +6.3**
baz=136
MAYO Mayo, Yukon 49.02 343 P **P 18 15 43.0 -0.8**
baz=143
MAYO S **S 18 22 54.1 +5.4**
baz=143
TGL Tana Glacier 49.10 338 P **P 18 15 44.3 -0.3**
TGL IAmb IAmb 18 16 02.5
comp=Z,264nm,1.4s
TGL IAMs_20 IAMs_20 18 34 09.5
comp=Z,38µm,21.0s
KAIM Kayak Island 49.14 336 P **P 18 15 42.5 -2.2**
baz=130
BERG Berg Lake 49.18 337 P **P 18 15 45.7 +0.7**
BERG IAmb IAmb 18 15 55.0
comp=Z,213nm,1.1s
BERG IAMs_20 IAMs_20 18 33 43.4
comp=Z,51µm,20.0s
ETMB Extrema 49.22 122 P **P 18 15 43.6 -2.3**
ETMB IAmb IAmb 18 16 22.9
comp=Z,194nm,1.5s
HMT Hamilton 49.35 337 P **P 18 15 45.8 -0.6**
HMT IAmb IAmb 18 15 56.2
comp=Z,223nm,1.2s
HMT IAMs_20 IAMs_20 18 33 46.9
comp=Z,38µm,20.0s
RAGM Ragged Mountai 49.54 337 IAMs_20 IAMs_20 18 33 52.0
comp=Z,38µm,20.0s
Q23K Middleton Isla 49.58 335 P **P 18 15 46.3 -1.7**
baz=128
Q23K S **S 18 23 03.6 +7.0**
baz=128
BVCY Beaver Creek 49.59 340 P **P 18 15 47.3 -0.8**
baz=136,SNR=21
BVCY S **S 18 23 04.2 +7.3**
baz=136
VRDI Verde Repeater 49.65 338 P **P 18 15 48.3 -0.5**
VRDI IAMs_20 IAMs_20 18 34 36.7
comp=Z,32µm,22.0s
M27K Edge Creek, AK 49.89 340 P **P 18 15 49.7 -0.8**
M27K IAmb IAmb 18 16 05.2
comp=Z,186nm,1.1s
M27K IAMs_20 IAMs_20 18 35 23.2
comp=Z,34µm,20.0s
M27K Edge Creek, AK 49.89 340 P **P 18 15 50.2 -0.3**
baz=135
BMRM Bremner River 49.89 337 P **P 18 15 50.2 -0.3**
BMRM IAmb IAmb 18 16 00.2
comp=Z,183nm,1.1s
BMRM IAMs_20 IAMs_20 18 34 17.3
comp=Z,38µm,21.0s
BMRM Bremner River 49.89 337 P **P 18 15 49.2 -1.3**
baz=131,SNR=8.0
BMRM S **S 18 23 08.2 +7.1**
baz=131
GLB Gilahina Butte 49.92 338 P **P 18 15 49.8 -0.9**
GLB IAmb IAmb 18 16 00.3
comp=Z,131nm,1.0s
GLB IAMs_20 IAMs_20 18 38 42.9
comp=Z,34µm,19.0s
EYAK Cordova Ski Ar 50.05 336 P **P 18 15 51.8 +0.2**
EYAK Cordova Ski Ar 50.05 336 P **P 18 15 51.0 -0.6**
baz=129,SNR=9.9
EYAK S **S 18 23 08.9 +5.8**
baz=129
M26K Nabesna, AK 50.29 339 P **P 18 15 53.0 -0.5**
M26K Nabesna, AK 50.29 339 P **P 18 15 52.4 -1.1**
baz=134
N25K Chitina, Valde 50.31 338 P **P 18 15 53.6 -0.1**
N25K IAMs_20 IAMs_20 18 38 58.5
comp=Z,39µm,19.0s
N25K Chitina, Valde 50.31 338 P **P 18 15 53.1 -0.6**
baz=131,SNR=18
N25K S **S 18 23 10.9 +3.9**
baz=131
J29M Klondike Camp 50.33 343 P **P 18 15 52.7 -1.1**
J29M Klondike Camp 50.33 343 P **P 18 15 52.6 -1.1**
baz=140
J29M S **S 18 23 12.4 +5.3**
baz=140
BCAR Beaver Creek A 50.36 340 P **P 18 15 51.5 -2.5**
DAWY Dawson 50.37 342 P **P 18 15 53.0 -1.0**
DAWY Dawson 50.37 342 P **P 18 15 52.5 -1.5**
baz=139,SNR=21
DAWY S **S 18 23 11.8 +4.2**
baz=139
L27K Beaver Creek, 50.37 340 P **P 18 15 52.4 -1.7**
L27K IAMs_20 IAMs_20 18 36 48.9
comp=Z,52µm,19.0s
L27K Beaver Creek, 50.37 340 P **P 18 15 52.2 -1.9**
baz=135
DIV Divide 50.43 337 P **P 18 15 54.4 -0.2**
FID Port Fidalgo 50.46 336 P **P 18 15 54.4 -0.3**
FID IAMs_20 IAMs_20 18 34 25.3
comp=Z,28µm,20.0s
MACA Manacapuru-AM 50.51 111 *e*P **P 18 15 56.0 +0.2**
MACA Manacapuru-AM 50.51 111 P **P 18 15 54.9 -0.8**
MACA IAmb IAmb 18 16 05.1
comp=Z,219nm,1.1s
KLU Klutina 50.72 337 P **P 18 15 56.2 -0.6**
KLU IAmb IAmb 18 16 11.8
comp=Z,153nm,1.0s
KLU IAMs_20 IAMs_20 18 34 54.3
comp=Z,30µm,19.0s
KLU Klutina 50.72 337 P **P 18 15 55.3 -1.4**
baz=130,SNR=19
KLU S **S 18 23 19.2 +6.6**
baz=130
GLI Glacier Island 50.77 336 P **P 18 15 56.3 -0.8**
GLI IAmb IAmb 18 16 06.7
comp=Z,240nm,1.0s
GLI Glacier Island 50.77 336 P **P 18 15 56.2 -0.9**
baz=128,SNR=9.2
GLI S **S 18 23 18.8 +5.5**
baz=128
L26K Log Cabin Wild 50.84 340 P **P 18 15 56.4 -1.2**
L26K IAMs_20 IAMs_20 18 39 03.3
comp=Z,40µm,19.0s
L26K Log Cabin Wild 50.84 340 P **P 18 15 56.4 -1.2**
baz=134,SNR=13
L26K S **S 18 23 19.3 +5.1**

	baz=134					
MENT	**Mentasta**	**50.90 339**	P	**P**	**18 15 57.4**	**-0.7**
HARP	**HAARP**	**51.03 338**	P	**P**	**18 15 58.1**	**-0.9**
	baz=131,SNR=12					
I29M	**Ogilvie Camp,**	**51.06 344**	P	**P**	**18 15 57.5**	**-1.7**
I29M			IAmb	IAmb	18 16 06.6	
	comp=Z,454nm,1.9s					
I29M	**Ogilvie Camp,**	**51.06 344**	P	**P**	**18 15 57.4**	**-1.8**
	baz=141,SNR=20					
I29M			S	**S**	**18 23 18.8**	**+1.7**
	baz=141					
M24K	**Tolsona, Glenn**	**51.20 338**	P	**P**	**18 15 59.8**	**-0.6**
M24K			IAmb	IAmb	18 16 23.1	
	comp=Z,298nm,1.1s					
M24K			IAMs_20	IAMs_20	18 39 35.1	
	comp=Z,37μm,19.0s					
M24K	**Tolsona, Glenn**	**51.20 338**	P	**P**	**18 15 59.7**	**-0.7**
	baz=130,SNR=23					
M24K			S	**S**	**18 23 22.0**	**+2.7**
	baz=130					
PWL	**Port Wells**	**51.24 336**	P	**P**	**18 15 59.4**	**-1.3**
PWL			IAmb	IAmb	18 16 31.8	
	comp=Z,201nm,1.4s					
PWL			IAMs_20	IAMs_20	18 34 35.3	
	comp=Z,38μm,20.0s					
PWL	**Port Wells**	**51.24 336**	P	**P**	**18 15 58.9**	**-1.8**
	baz=126,SNR=11					
PWL			S	**S**	**18 23 24.5**	**+4.7**
	baz=126					
SEW	**Seward**	**51.25 334**	P	**P**	**18 15 59.3**	**-1.3**
SEW			IAmb	IAmb	18 16 12.7	
	comp=Z,133nm,1.1s					
SEW	**Seward**	**51.25 334**	P	**P**	**18 15 57.3**	**-3.4**
	baz=125					
SEW			S	**S**	**18 23 22.3**	**+2.5**
	baz=125					
KDAK	**Kodiak Island**	**51.37 331**	P	**P**	**18 16 01.2**	**-0.4**
	comp=Z,37nm,0.8s,baz=231,slow=2.9,SNR=7.2					
KDAK			LR	LR	18 34 51.0	
	comp=Z,55μm,21.7s,baz=150,slow=33					
KDAK	**Kodiak Island**	**51.37 331**	P	**P**	**18 16 01.0**	**-0.6**
KDAK			pmax	pmax		
	comp=Z,435nm,1.5s					
KDAK			MLR	MLR		
	comp=Z,53μm,21.0s					
KDAK	**Kodiak Island**	**51.37 331**	⇑P	**P**	**18 16 02.4**	**+0.8**
KDAK	**Kodiak Island**	**51.37 331**	P	**P**	**18 16 01.0**	**-0.6**
KDAK	**Kodiak Island**	**51.37 331**	IAMs_20	IAMs_20	18 34 40.1	
	comp=Z,53μm,21.0s					
KDAK	**Kodiak Island**	**51.37 331**	P	**P**	**18 15 57.3**	**-4.3**
	baz=120					
KDAK			S	**S**	**18 23 25.4**	**+3.8**
	baz=120					
EGAK	**Eagle**	**51.41 342**	P	**P**	**18 16 00.1**	**-1.7**
EGAK	**Eagle**	**51.41 342**	P	**P**	**18 16 00.7**	**-1.1**
	baz=137,SNR=29					
EGAK			S	**S**	**18 23 24.9**	**+3.0**
	baz=137					
OHAK	**Old Harbor**	**51.43 330**	P	**P**	**18 16 02.3**	**+0.3**
OHAK			IAmb	IAmb	18 16 11.5	
	comp=Z,390nm,1.4s					
OHAK	**Old Harbor**	**51.43 330**	P	**P**	**18 16 00.3**	**-1.7**
	baz=119,SNR=5.4					
OHAK			S	**S**	**18 23 23.6**	**+1.3**
	baz=119					
SCM	**Sheep Creek Mo**	**51.45 337**	P	**P**	**18 16 01.7**	**-0.6**
SCM			pmax	pmax		
	comp=Z,262nm,1.6s					
SCM			MLR	MLR		
	comp=Z,40μm,22.0s					
SCM	**Sheep Creek Mo**	**51.45 337**	P	**P**	**18 16 01.6**	**-0.6**
SCM			IAmb	IAmb	18 17 42.3	
	comp=Z,262nm,1.6s					
SCM			IAMs_20	IAMs_20	18 35 03.8	
	comp=Z,40μm,22.0s					
SCM	**Sheep Creek Mo**	**51.45 337**	P	**P**	**18 16 00.2**	**-2.1**
	baz=128					
SCM			S	**S**	**18 23 27.0**	**+4.2**
	baz=128					
DOT	**Dot Lake**	**51.50 340**	P	**P**	**18 16 01.6**	**-1.0**
PAX	**Paxson**	**51.52 339**	P	**P**	**18 16 01.3**	**-1.5**
PAX			pmax	pmax		
	comp=Z,107nm,0.8s					
PAX	**Paxson**	**51.52 339**	P	**P**	**18 16 01.3**	**-1.5**
PAX			IAmb	IAmb	18 16 11.5	
	comp=Z,107nm,0.8s					
PAX	**Paxson**	**51.52 339**	P	**P**	**18 16 01.6**	**-1.2**
	baz=131,SNR=31					
PAX			S	**S**	**18 23 28.3**	**+4.7**
	baz=131					
SII	**Sitkinak Islan**	**51.55 329**	IAMs_20	IAMs_20	18 34 11.0	
	comp=Z,52μm,21.0s					
SII	**Sitkinak Islan**	**51.55 329**	P	**P**	**18 16 01.8**	**-1.2**
	baz=117					
SII			S	**S**	**18 23 28.9**	**+4.8**
	baz=117					
BRSE	**Bradley Lake S**	**51.58 333**	P	**P**	**18 16 02.1**	**-1.1**
	baz=123,SNR=8.4					
BRSE			S	**S**	**18 23 27.9**	**+3.4**
	baz=123					
KNK	**Knik Glacier**	**51.62 336**	P	**P**	**18 16 02.9**	**-0.6**
KNK			IAMs_20	IAMs_20	18 39 25.3	
	comp=Z,25μm,18.0s					
KNK	**Knik Glacier**	**51.62 336**	P	**P**	**18 16 02.4**	**-1.1**
	baz=127,SNR=11					
KNK			S	**S**	**18 23 30.9**	**+5.8**
	baz=127					
BRLK	**Bradley Lake**	**51.66 333**	P	**P**	**18 16 03.2**	**-0.5**
BRLK			IAmb	IAmb	18 16 12.8	
	comp=Z,175nm,1.0s					
CNPM	**China Poot**	**51.68 333**	P	**P**	**18 16 03.1**	**-0.8**
CNPM			IAmb	IAmb	18 16 13.2	
	comp=Z,326nm,1.5s					
CNPM			IAMs_20	IAMs_20	18 34 30.0	
	comp=Z,32μm,20.0s					
LPAZ	**La Paz**	**51.69 130**	P	**P**	**18 16 03.9**	**-1.4**
	comp=Z,20nm,0.8s,baz=240,slow=15,SNR=7.5					
LPAZ			LR	LR	18 37 12.7	
	comp=Z,7μm,18.8s,baz=314,slow=35					
LPAZ	**La Paz**	**51.69 130**	P	**P**	**18 16 04.3**	**-1.0**
LPAZ			pmax	pmax		
	comp=Z,86nm,1.1s					
LPAZ	**La Paz**	**51.69 130**	*e*P	**P**	**18 16 04.5**	**-0.7**
LPAZ	**La Paz**	**51.69 130**	P	**P**	**18 16 04.2**	**-1.0**
PB12	**IPOC Station P**	**51.69 134**	P	**P**	**18 16 04.0**	**-0.7**
SCRK	**Sand Creek**	**51.70 340**	P	**P**	**18 16 03.2**	**-1.0**
SCRK			IAMs_20	IAMs_20	18 37 27.2	
	comp=Z,40μm,20.0s					
SCRK	**Sand Creek**	**51.70 340**	P	**P**	**18 16 03.2**	**-1.0**
	baz=133,SNR=47					
SCRK			S	**S**	**18 23 29.8**	**+3.5**
	baz=133					
C36M	**Paulatuk**	**51.75 352**	P	**P**	**18 16 02.7**	**-1.6**
C36M	**Paulatuk**	**51.75 352**	P	**P**	**18 16 02.8**	**-1.6**
	baz=159					
C36M			S	**S**	**18 23 27.5**	**+1.1**
	baz=159					
SML	**Sawmill**	**51.81 336**	P	**P**	**18 16 03.7**	**-1.3**
SML			IAmb	IAmb	18 16 14.1	
	comp=Z,132nm,0.8s					
SML			IAMs_20	IAMs_20	18 37 59.3	
	comp=Z,27μm,20.0s					
SML	**Sawmill**	**51.81 336**	P	**P**	**18 16 04.1**	**-0.9**
	baz=127,SNR=24					
SML			S	**S**	**18 23 30.9**	**+3.3**
	baz=127					
RIDG	**Independent Ri**	**51.82 340**	P	**P**	**18 16 04.1**	**-0.9**
RIDG			IAMs_20	IAMs_20	18 38 19.3	
	comp=Z,43μm,19.0s					
RIDG	**Independent Ri**	**51.82 340**	P	**P**	**18 16 03.8**	**-1.2**
	baz=132,SNR=60					
RIDG			S	**S**	**18 23 30.6**	**+2.8**
	baz=132					
HOM	**Homer**	**51.92 333**	P	**P**	**18 16 05.0**	**-0.7**
	baz=122					
HOM			S	**S**	**18 23 32.2**	**+3.1**
	baz=122					
RC01	**Rabbit Creek A**	**51.93 335**	P	**P**	**18 16 04.4**	**-1.3**
RC01			IAMs_20	IAMs_20	18 35 04.6	
	comp=Z,36μm,21.0s					
RC01	**Rabbit Creek A**	**51.93 335**	P	**P**	**18 16 02.9**	**-2.9**
	baz=125,SNR=11					
RC01			S	**S**	**18 23 33.1**	**+3.9**
	baz=125					
J26L	**Joseph Creek**	**51.94 341**	P	**P**	**18 16 04.6**	**-1.2**
J26L			IAmb	IAmb	18 16 38.0	
	comp=Z,276nm,1.4s					
J26L			IAMs_20	IAMs_20	18 38 06.2	
	comp=Z,50μm,19.0s					
J26L	**Joseph Creek**	**51.94 341**	P	**P**	**18 16 04.5**	**-1.4**
	baz=134					
CHIR	**Chirikof Islan**	**51.94 327**	IAMs_20	IAMs_20	18 33 59.4	
	comp=Z,37μm,20.0s					
CHIR	**Chirikof Islan**	**51.94 327**	S	**S**	**18 23 32.2**	**+2.8**
	baz=115					
PMR	**Palmer**	**51.99 336**	P	**P**	**18 16 05.0**	**-1.2**
PMR			pmax	pmax		
	comp=Z,379nm,1.8s					
PMR	**Palmer**	**51.99 336**	P	**P**	**18 16 05.0**	**-1.2**
PMR			IAmb	IAmb	18 16 14.8	
	comp=Z,379nm,1.8s					
PMR	**Palmer**	**51.99 336**	P	**P**	**18 16 04.7**	**-1.5**
	baz=126,SNR=12					
PMR			S	**S**	**18 23 32.7**	**+2.8**
	baz=126					
GHO	**Glory Hole Cre**	**52.02 336**	P	**P**	**18 16 05.1**	**-1.4**
FRB	**Frobisher Bay**	**52.05 21**	LR	LR	18 38 30.0	
	comp=Z,85μm,19.1s,baz=231,slow=36					
FRB	**Frobisher Bay**	**52.05 21**	⇓P	**P**	**18 16 07.1**	**+0.6**
PB16	**IPOC Station P**	**52.07 133**	P	**P**	**18 16 07.1**	**-0.9**
PB16			IAmb	IAmb	18 16 13.4	
	comp=Z,185nm,1.4s					
WAT6	**Susitna Watana**	**52.07 337**	P	**P**	**18 16 05.4**	**-1.6**
	baz=128,SNR=22					
FIS	**Fire Island**	**52.16 335**	P	**P**	**18 16 06.6**	**-0.8**
FIS			IAmb	IAmb	18 16 16.8	
	comp=Z,219nm,0.8s					
FIS			IAMs_20	IAMs_20	18 35 01.4	
	comp=Z,30μm,22.0s					
DHY	**Denali Highway**	**52.25 338**	P	**P**	**18 16 07.9**	**-0.5**
DHY	**Denali Highway**	**52.25 338**	P	**P**	**18 16 05.6**	**-2.7**
	baz=129,SNR=11					
DHY			S	**S**	**18 23 35.1**	**+1.2**
	baz=129					
VAH	**Vaihoa**	**52.28 233**	*e*P	**P**	**18 16 11.9**	**+3.0**
	comp=Z,195nm,1.1s					
VAH	**Vaihoa**	**52.28 233**	*e*T	T	19 11 46.3	
	comp=Z,14nm,0.3s					
CAPN	**Captain Cook N**	**52.32 334**	IAMs_20	IAMs_20	18 36 57.9	
	comp=Z,31μm,20.0s					
CAPN	**Captain Cook N**	**52.32 334**	P	**P**	**18 16 06.9**	**-1.8**
	baz=123					
PMOR	**Pomariorio Ree**	**52.34 233**	*e*P	**P**	**18 16 12.3**	**+2.9**
	comp=Z,205nm,1.2s					
PMOR	**Pomariorio Ree**	**52.34 233**	*e*T	T	19 12 16.1	
	comp=Z,16nm,0.2s					
INK	**Inuvik**	**52.35 348**	P	**P**	**18 16 07.0**	**-1.8**
	comp=Z,82nm,1.1s,baz=142,slow=8.1,SNR=76					
INK			LR	LR	18 40 47.6	
	comp=Z,27μm,18.5s,baz=146,slow=39					
INK	**Inuvik**	**52.35 348**	P	**P**	**18 16 06.9**	**-1.8**
INK			pmax	pmax		
	comp=Z,368nm,1.5s					
INK	**Inuvik**	**52.35 348**	⇓P	**P**	**18 16 07.0**	**-1.8**
INK	**Inuvik**	**52.35 348**	P	**P**	**18 16 06.9**	**-1.8**
INK			IAmb	IAmb	18 16 20.9	
	comp=Z,368nm,1.5s					
INK	**Inuvik**	**52.35 348**	P	**P**	**18 16 07.1**	**-1.6**
	baz=148,SNR=99					
INK			S	**S**	**18 23 35.5**	**+0.8**
	baz=148					
Q19K	**Cape Douglas,**	**52.43 332**	IAMs_20	IAMs_20	18 35 38.0	
	comp=Z,34μm,21.0s					
Q19K	**Cape Douglas,**	**52.43 332**	P	**P**	**18 16 07.3**	**-2.2**
	baz=120					
Q19K			S	**S**	**18 23 39.0**	**+2.8**
	baz=120					
M22K	**Willow**	**52.47 336**	P	**P**	**18 16 08.3**	**-1.4**
M22K	**Willow**	**52.47 336**	P	**P**	**18 16 07.3**	**-2.4**
	baz=125					
WAT1	**Susitna Watana**	**52.52 337**	P	**P**	**18 16 08.1**	**-2.1**
	baz=128					
WAT1			S	**S**	**18 23 38.4**	**+1.1**
	baz=128					
SUA	**Susitna One**	**52.55 335**	P	**P**	**18 16 09.3**	**-1.2**
SUA			IAmb	IAmb	18 16 18.2	
	comp=Z,143nm,0.8s					
SUA	**Susitna One**	**52.55 335**	P	**P**	**18 16 08.8**	**-1.7**
	baz=124					
SUA			S	**S**	**18 23 39.9**	**+2.0**
	baz=124					
O20K	**Slope Mountain**	**52.57 333**	P	**P**	**18 16 07.8**	**-2.8**
	baz=121					
O20K			S	**S**	**18 23 39.6**	**+1.5**
	baz=121					
J25K	**Salcha River,**	**52.58 340**	P	**P**	**18 16 09.3**	**-1.3**
J25K			IAMs_20	IAMs_20	18 40 03.3	
	comp=Z,35μm,18.0s					
RSO	**Redoubt South**	**52.82 334**	P	**P**	**18 16 11.8**	**-0.9**
CUT	**Chulitna**	**52.90 336**	P	**P**	**18 16 12.0**	**-0.9**
CUT			IAMs_20	IAMs_20	18 38 31.1	
	comp=Z,33μm,18.0s					
CUT	**Chulitna**	**52.90 336**	P	**P**	**18 16 11.1**	**-1.8**
	baz=125,SNR=16					
CUT			S	**S**	**18 23 44.3**	**+1.9**
	baz=125					
PB11	**IPOC Station P**	**52.94 134**	P	**P**	**18 16 12.5**	**-1.4**
PB11			IAmb	IAmb	18 16 24.8	
	comp=Z,499nm,2.0s					
HDA	**Harding Lake**	**52.96 340**	P	**P**	**18 16 11.7**	**-1.6**
HDA			IAmb	IAmb	18 16 57.6	
	comp=Z,203nm,1.6s					
HDA			IAMs_20	IAMs_20	18 40 54.4	
	comp=Z,34μm,19.0s					
HDA	**Harding Lake**	**52.96 340**	P	**P**	**18 16 11.4**	**-1.9**
	baz=130,SNR=17					
HDA			S	**S**	**18 23 44.7**	**+1.5**
	baz=130					
HDA			S	**S**	**18 23 44.7**	**+1.5**
	baz=130					
TA02	**Huaiquique**	**52.97 135**	P	**P**	**18 16 13.3**	**-0.7**
RND	**Reindeer**	**52.98 338**	P	**P**	**18 16 12.3**	**-1.3**
RND			pmax	pmax		
	comp=Z,675nm,1.9s					
RND			MLR	MLR		
	comp=Z,29μm,20.0s					
RND	**Reindeer**	**52.98 338**	P	**P**	**18 16 12.3**	**-1.3**
RND			IAMs_20	IAMs_20	18 36 17.1	
	comp=Z,29μm,20.0s					
TA01	**Diego Aracena**	**53.15 135**	P	**P**	**18 16 15.2**	**-0.1**
TA01			IAmb	IAmb	18 16 20.3	
	comp=Z,158nm,1.2s					
IL31		**53.18 340**	P	**P**	**18 16 12.5**	**-2.4**
IL31			IAmb	IAmb	18 16 26.8	
	comp=Z,157nm,1.1s					
ILAR	**Eielson Array**	**53.18 340**	P	**P**	**18 16 13.0**	**-2.0**
	comp=Z,42nm,1.1s,baz=149,slow=5.9,SNR=96					
ILAR			LR	LR	18 40 31.8	
	comp=Z,36μm,18.3s,baz=136,slow=38					
ILAR	**Eielson Array**	**53.18 340**	P	**P**	**18 16 12.8**	**-2.2**
GO01	**Chusmiza**	**53.19 134**	P	**P**	**18 16 15.8**	**-0.5**
GO01			IAmb	IAmb	18 16 27.1	
	comp=Z,151nm,1.2s					
MCK	**McKinley**	**53.21 338**	P	**P**	**18 16 13.7**	**-1.5**
MCK			pmax	pmax		
	comp=Z,163nm,1.1s					
MCK			MLR	MLR		
	comp=Z,28μm,21.0s					
MCK	**McKinley**	**53.21 338**	P	**P**	**18 16 13.7**	**-1.5**
MCK			IAmb	IAmb	18 16 26.7	
	comp=Z,163nm,1.1s					
MCK			IAMs_20	IAMs_20	18 38 30.1	
	comp=Z,28μm,21.0s					
MCK	**McKinley**	**53.21 338**	P	**P**	**18 16 13.5**	**-1.8**
	baz=128,SNR=25					
MCK			S	**S**	**18 23 48.8**	**+2.1**
	baz=128					
PRP	**Porcupine Dome**	**53.24 341**	P	**P**	**18 16 14.5**	**-1.1**
PRP			IAMs_20	IAMs_20	18 39 05.6	
	comp=Z,46μm,20.0s					
PRP	**Porcupine Dome**	**53.24 341**	P	**P**	**18 16 14.0**	**-1.6**
	baz=132,SNR=11					
PRP			S	**S**	**18 23 50.4**	**+3.0**
	baz=132					
PATCX	**Punta Patache**	**53.34 136**	P	**P**	**18 16 16.4**	**-0.5**
PATCX			IAmb	IAmb	18 16 21.9	
	comp=Z,146nm,1.3s					
P18K	**Big Mountain,**	**53.37 332**	P	**P**	**18 16 14.6**	**-1.8**
P18K			IAMs_20	IAMs_20	18 36 05.8	
	comp=Z,33μm,21.0s					
P18K	**Big Mountain,**	**53.37 332**	P	**P**	**18 16 14.7**	**-1.8**
	baz=118,SNR=9.8					
P18K			S	**S**	**18 23 50.3**	**+1.3**
	baz=118					
WRH	**Wood River Hil**	**53.38 339**	P	**P**	**18 16 15.0**	**-1.5**
WRH			IAMs_20	IAMs_20	18 38 43.6	
	comp=Z,37μm,18.0s					
CCB	**Clear Creek Bu**	**53.40 339**	P	**P**	**18 16 14.5**	**-2.0**
CCB			IAMs_20	IAMs_20	18 38 44.9	
	comp=Z,32μm,18.0s					
TRF	**Thorofare Moun**	**53.52 337**	P	**P**	**18 16 15.9**	**-1.8**
TRF			IAmb	IAmb	18 16 26.3	
	comp=Z,264nm,1.0s					
TRF			IAMs_20	IAMs_20	18 36 31.5	
	comp=Z,40μm,22.0s					
TRF	**Thorofare Moun**	**53.52 337**	P	**P**	**18 16 15.8**	**-2.0**
	baz=126,SNR=34					
TRF			S	**S**	**18 23 52.8**	**+1.6**
	baz=126					
PB08	**IPOC Station P**	**53.54 134**	P	**P**	**18 16 17.8**	**-0.9**
PB08			IAmb	IAmb	18 16 29.3	
	comp=Z,169nm,1.2s					
COLA	**College**	**53.56 340**	*i* P	**P**	**18 16 15.7**	**-2.0**
COLA			pmax	pmax		
	comp=Z,143nm,2.2s					
COLA			MLR	MLR		
	comp=Z,26μm,15.0s					
COLA	**College**	**53.56 340**	P	**P**	**18 16 16.1**	**-1.6**
COLA	**College**	**53.56 340**	IAMs_20	IAMs_20	18 39 19.3	
	comp=Z,37μm,20.0s					
COLA	**College**	**53.56 340**	P	**P**	**18 16 16.0**	**-1.7**
	baz=130					
COLA			S	**S**	**18 23 54.5**	**+3.2**
	baz=130					
TCOL	**CIGO, UAF Yank**	**53.56 340**	P	**P**	**18 16 15.9**	**-1.9**
TCOL			IAMs_20	IAMs_20	18 39 19.3	
	comp=Z,39μm,20.0s					
TCOL	**CIGO, UAF Yank**	**53.56 340**	P	**P**	**18 16 16.3**	**-1.4**
	baz=130					
TCOL			S	**S**	**18 23 55.8**	**+4.5**
	baz=130					
CHGN	**Chignik**	**53.56 327**	P	**P**	**18 16 16.8**	**-1.0**
	baz=113					
CHGN			S	**S**	**18 23 55.2**	**+3.6**
	baz=113					
O18K	**Koktuh Hills**	**53.58 332**	P	**P**	**18 16 17.1**	**-0.9**
O18K			IAmb	IAmb	18 16 26.5	
	comp=Z,205nm,1.2s					
O18K			IAMs_20	IAMs_20	18 36 24.3	
	comp=Z,33μm,21.0s					
O18K	**Koktuh Hills**	**53.58 332**	P	**P**	**18 16 15.6**	**-2.4**
	baz=118,SNR=10					
O18K			S	**S**	**18 23 54.9**	**+3.1**
	baz=118					
POKR	**Poker Plat Res**	**53.58 340**	P	**P**	**18 16 15.9**	**-2.1**
POKR			IAMs_20	IAMs_20	18 39 29.7	
	comp=Z,37μm,19.0s					
POKR	**Poker Plat Res**	**53.58 340**	P	**P**	**18 16 16.2**	**-1.7**
	baz=130,SNR=11					
POKR			S	**S**	**18 23 55.9**	**+4.3**
	baz=130					
CNBA	**Chernabura Isl**	**53.63 325**	P	**P**	**18 16 17.0**	**-1.4**
CNBA			IAmb	IAmb	18 16 35.5	
	comp=Z,224nm,1.3s					
CNBA			IAMs_20	IAMs_20	18 33 14.2	
	comp=Z,38μm,22.0s					
CHNA	**Chernabura Isl**	**53.63 325**	P	**P**	**18 16 15.3**	**-3.1**
	baz=111					
CHNA			S	**S**	**18 23 56.6**	**+4.0**
	baz=111					
BWN	**Browne**	**53.66 338**	P	**P**	**18 16 16.6**	**-1.9**
BWN			IAMs_20	IAMs_20	18 41 00.6	
	comp=Z,37μm,19.0s					
N19K	**Bonanza Creek**	**53.73 333**	P	**P**	**18 16 17.0**	**-2.2**
N19K			IAmb	IAmb	18 16 27.5	
	comp=Z,208nm,1.1s					
N19K			IAMs_20	IAMs_20	18 37 10.4	
	comp=Z,27μm,20.0s					
N19K	**Bonanza Creek**	**53.73 333**	P	**P**	**18 16 15.4**	**-3.8**
	baz=120					
MDM	**Murphy Dome**	**53.74 340**	P	**P**	**18 16 17.6**	**-1.5**
MDM			IAMs_20	IAMs_20	18 39 44.0	
	comp=Z,35μm,19.0s					
NEA2	**Nenana**	**53.79 339**	P	**P**	**18 16 17.3**	**-2.2**
NEA2			IAmb	IAmb	18 16 31.3	
	comp=Z,175nm,1.1s					
NEA2			IAMs_20	IAMs_20	18 38 27.3	
	comp=Z,32μm,18.0s					
NEA2	**Nenana**	**53.79 339**	P	**P**	**18 16 17.1**	**-2.3**
	baz=128,SNR=35					
NEA2			S	**S**	**18 23 56.5**	**+2.1**
	baz=128					
KTH	**Kantishna Hill**	**53.81 337**	P	**P**	**18 16 17.8**	**-2.0**
KTH			IAmb	IAmb	18 16 36.4	
	comp=Z,345nm,1.5s					
KTH			IAMs_20	IAMs_20	18 36 39.2	
	comp=Z,41μm,22.0s					
FYU	**Fort Yukon**	**53.87 342**	P	**P**	**18 16 18.7**	**-1.3**
FYU			IAMs_20	IAMs_20	18 37 53.4	
	comp=Z,48μm,21.0s					
PPLA	**Purkeypile**	**53.91 336**	P	**P**	**18 16 18.0**	**-2.6**
PPLA	**Purkeypile**	**53.91 336**	P	**P**	**18 16 18.5**	**-2.1**
	baz=124,SNR=60					
PPLA			S	**S**	**18 23 59.2**	**+2.7**
	baz=124					
PB01	**IPOC Station P**	**53.94 135**	P	**P**	**18 16 19.9**	**-1.3**
PB01			IAmb	IAmb	18 16 26.5	
	comp=Z,129nm,1.2s					
PB07	**IPOC Station P**	**54.16 136**	P	**P**	**18 16 21.9**	**-1.0**
PB07			IAmb	IAmb	18 16 30.6	
	comp=Z,174nm,1.3s					
BPAW	**Bear Paw Mtn.**	**54.16 338**	P	**P**	**18 16 20.3**	**-1.9**
BPAW			IAMs_20	IAMs_20	18 38 57.2	
	comp=Z,27μm,20.0s					
BPAW	**Bear Paw Mtn.**	**54.16 338**	P	**P**	**18 16 19.8**	**-2.4**
	baz=126					
BPAW			S	**S**	**18 24 02.7**	**+3.2**
	baz=126					
CAST	**Castle Rocks**	**54.17 337**	P	**P**	**18 16 20.1**	**-2.2**
CAST			IAmb	IAmb	18 16 37.9	
	comp=Z,364nm,1.6s					
CAST	**Castle Rocks**	**54.17 337**	P	**P**	**18 16 20.0**	**-2.3**
	baz=124,SNR=44					
CAST			S	**S**	**18 24 00.6**	**+0.9**
	baz=124					
H24K	**Noodor Dome**	**54.19 341**	P	**P**	**18 16 20.6**	**-1.8**
H24K			IAmb	IAmb	18 16 34.7	
	comp=Z,170nm,1.1s					
H24K			IAMs_20	IAMs_20	18 41 11.7	
	comp=Z,44μm,18.0s					
H24K	**Noodor Dome**	**54.19 341**	P	**P**	**18 16 20.3**	**-2.1**
	baz=130					
I23K	**Minto, Yukon-K**	**54.23 339**	P	**P**	**18 16 20.9**	**-1.7**
I23K			IAMs_20	IAMs_20	18 40 01.0	
	comp=Z,32μm,20.0s					
I23K	**Minto, Yukon-K**	**54.23 339**	P	**P**	**18 16 20.9**	**-1.7**
	baz=128,SNR=40					
I23K			S	**S**	**18 24 02.8**	**+2.5**
	baz=128					
M19K	**Big River Lodg**	**54.25 335**	P	**P**	**18 16 20.8**	**-2.1**
M19K			IAmb	IAmb	18 16 31.6	
	comp=Z,184nm,1.1s					
M19K			IAMs_20	IAMs_20	18 38 29.9	
	comp=Z,30μm,19.0s					
MEH	**Mehetia**	**54.27 230**	*e*T	T	19 14 29.3	
	comp=Z,17nm,0.2s					
BMAR	**Burnt Mountain**	**54.29 343**	P	**P**	**18 16 21.1**	**-2.0**
SDPT	**Sand Point**	**54.29 326**	P	**P**	**18 16 22.5**	**-0.8**
SDPT	**Sand Point**	**54.29 326**	P	**P**	**18 16 22.3**	**-1.0**
	baz=110					
SDPT			S	**S**	**18 24 02.7**	**+1.2**
	baz=110					
SVW2	**Sparrevohn**	**54.34 333**	P	**P**	**18 16 21.4**	**-2.2**
SVW2			IAmb	IAmb	18 16 31.4	
	comp=Z,146nm,1.1s					
L20K	**Farewell, AK**	**54.34 335**	P	**P**	**18 16 21.2**	**-2.3**
	baz=122					
A36M	**Sachs Harbour**	**54.37 353**	P	**P**	**18 16 20.9**	**-2.6**
A36M			IAmb	IAmb	18 16 32.1	
	comp=Z,184nm,0.9s					
A36M	**Sachs Harbour**	**54.37 353**	P	**P**	**18 16 21.2**	**-2.3**
	baz=158,SNR=31					
A36M			S	**S**	**18 24 01.8**	**-0.3**
	baz=158					
PB04	**IPOC Station P**	**54.41 137**	P	**P**	**18 16 24.9**	**+0.1**
PB04			IAmb	IAmb	18 16 34.5	
	comp=Z,164nm,1.3s					
CHUM	**Lake Minchumin**	**54.51 337**	P	**P**	**18 16 22.5**	**-2.2**
	baz=124,SNR=14					
CHUM

L19K White Mountain 54.58 335 P **P 18 16 22.8 -2.5**
L19K IAmb IAmb 18 16 33.6
comp=Z,154nm,1.1s
L19K IAMs_20 IAMs_20 18 39 48.6
comp=Z,41µm,19.0s
L19K White Mountain 54.58 335 P **P 18 16 23.3 -2.0**
L19K S **S 18 24 05.3 0.0**
baz=120,SNR=29
baz=120
PB09 IPOC Station P 54.63 136 P **P 18 16 25.0 -1.3**
MDP Montagnes des 54.69 97 LR LR 18 41 11.0
comp=Z,5µm,21.2s,baz=292,slow=38
K20K Telida 54.88 336 P **P 18 16 25.1 -2.4**
K20K IAMs_20 IAMs_20 18 42 05.5
comp=Z,26µm,19.0s
K20K Telida 54.88 336 P **P 18 16 24.6 -2.8**
baz=122
PB10 IPOC Station P 55.00 138 P **P 18 16 29.0 +0.2**
TIAR Tiarei 55.01 232 *e*P **P 18 16 31.9 +2.9**
comp=Z,0.9nm,1.0s
TIAR Tiarei 55.01 232 *e*T T 19 15 37.0
comp=Z,4.4nm,0.2s
PB06 IPOC Station P 55.05 137 P **P 18 16 28.4 -1.0**
PB06 IAmb IAmb 18 16 34.6
comp=Z,181nm,1.3s
I21K Tanana 55.14 339 P **P 18 16 27.4 -1.8**
I21K IAmb IAmb 18 16 41.0
comp=Z,158nm,1.1s
I21K Tanana 55.14 339 P **P 18 16 26.7 -2.5**
baz=125
PPT Papeete 55.19 232 LR LR 18 33 16.7
comp=Z,65µm,21.9s,baz=45,slow=29
PPTF Pamatai, Papee 55.20 232 IAMs_20 IAMs_20 18 33 26.1
comp=Z,53µm,22.0s
PPT2 Papeete2 55.20 232 *e*P **P 18 16 33.4 +2.9**
comp=Z,96nm,1.5s
PPT2 *e*S **S 18 24 14.9 +0.1**
comp=Z,39µm,26.5s
PPT2 *e*LR LR 18 32 22.0
comp=Z,253µm,26.8s,baz=42
PAE Paea 55.25 232 *e*P **P 18 16 33.4 +2.7**
comp=Z,21nm,1.2s
J20K Nowinta River 55.35 337 P **P 18 16 28.3 -2.5**
J20K IAmb IAmb 18 16 38.9
comp=Z,191nm,1.1s
J20K Nowinta River 55.35 337 P **P 18 16 28.7 -2.1**
baz=122
LVC Limon Verde 55.42 136 P **P 18 16 32.4 +0.1**
LVC pmax pmax
comp=Z,139nm,1.3s
LVC MLR MLR
comp=Z,7µm,21.0s
LVC Limon Verde 55.42 136 ⇓P **P 18 16 33.2 +0.9**
LVC Limon Verde 55.42 136 *e*P **P 18 16 33.4 +1.1**
LVC Limon Verde 55.42 136 P **P 18 16 32.4 +0.1**
LVC IAmb IAmb 18 16 38.2
comp=Z,139nm,1.2s
TTA Tatalina 55.42 335 P **P 18 16 29.0 -2.4**
TTA pmax pmax
comp=Z,81nm,0.9s
TTA Tatalina 55.42 335 ⇑P **P 18 16 29.1 -2.3**
TTA Tatalina 55.42 335 P **P 18 16 29.0 -2.4**
TTA Tatalina 55.42 335 P **P 18 16 28.8 -2.6**
baz=120,SNR=31
TTA S **S 18 24 16.7 +0.1**
baz=120
PB15 IPOC Station P 55.48 137 P **P 18 16 32.0 -0.5**
H21K Melozitna Rive 55.69 339 P **P 18 16 30.8 -2.5**
H21K IAmb IAmb 18 16 44.9
comp=Z,245nm,1.1s
H21K IAMs_20 IAMs_20 18 37 57.7
comp=Z,35µm,21.0s
H21K Melozitna Rive 55.69 339 P **P 18 16 31.1 -2.1**
baz=124,SNR=82
MALB Monte Alegre 55.73 106 *e*P **P 18 16 36.0 +1.7**
FALS False Pass 55.73 324 P **P 18 16 32.8 -0.9**
FALS False Pass 55.73 324 P **P 18 16 31.0 -2.7**
baz=107
FALS S **S 18 24 20.1 -0.7**
baz=107
COLD Coldfoot 55.79 341 P **P 18 16 31.7 -2.2**
COLD IAmb IAmb 18 16 46.3
comp=Z,171nm,1.3s
COLD Coldfoot 55.79 341 P **P 18 16 32.3 -1.6**
baz=128,SNR=63
COLD S **S 18 24 24.2 +2.9**
baz=128
VILB Vilhena 55.84 121 *e*P **P 18 16 36.0 +0.9**
VILB Vilhena 55.84 121 P **P 18 16 34.7 -0.4**
VILB IAmb IAmb 18 16 44.3
comp=Z,137nm,1.1s
PB14 IPOC Station P 55.90 139 P **P 18 16 35.5 -0.2**
PB14 IAmb IAmb 18 16 47.9
comp=Z,149nm,1.5s
IMAR Indian Mountai 56.20 339 P **P 18 16 34.1 -2.7**
RES Resolute Bay 56.42 4 P **P 18 16 35.6 -2.7**
comp=Z,15nm,1.0s,baz=197,slow=9.9,SNR=15
RES LR LR 18 40 17.9
comp=Z,58µm,20.8s,baz=184,slow=36
RES Resolute Bay 56.42 4 P **P 18 16 33.7 -4.6**
GCSA Galena City Sc 56.66 337 P **P 18 16 37.7 -2.4**
baz=120,SNR=9.7
GCSA S **S 18 24 29.5 -3.3**
baz=120
SIV San Ignacio 56.85 124 LR LR 18 39 15.7
comp=Z,12µm,19.5s,baz=320,slow=34
AKUT Akutan 56.86 323 ⇓P **P 18 16 41.3 -0.4**
AKUT Akutan 56.86 323 P **P 18 16 40.7 -1.0**
MCPB Macapa, AP 57.17 103 *e*P **P 18 16 43.9 -0.7**
UNV Unalaska Valle 57.21 323 P **P 18 16 41.8 -2.4**
UNV Unalaska Valle 57.21 323 P **P 18 16 42.0 -2.2**
baz=104,SNR=6.6
UNV S **S 18 24 41.6 +1.2**
baz=104
PTLB Pontes e Lacer 58.08 123 P **P 18 16 49.2 -1.6**
PTLB IAmb IAmb 18 17 00.1
comp=Z,115nm,1.2s
AC04 Llanos de Chal 58.15 142 P **P 18 16 50.5 -0.7**
GO03 Copiap 58.18 141 P **P 18 16 51.4 -0.1**
AC02 Maricunga 58.29 140 P **P 18 16 52.7 -0.1**
AC02 IAmb IAmb 18 17 06.1
comp=Z,117nm,1.2s
H03N2 Juan Fernandez 58.35 152 T T 19 20 21.7
baz=330,slow=77,SNR=6332
H03N1 Juan Fernandez 58.36 152 T T 19 20 10.0
baz=330,slow=77,SNR=8066
H03N3 Juan Fernandez 58.36 152 T T 19 20 08.7
baz=330,slow=77,SNR=7721
NIKH Nikolski High 58.39 321 P **P 18 16 51.3 -1.3**
NIKH Nikolski High 58.39 321 P **P 18 16 50.0 -2.6**
baz=101
NIKH S **S 18 24 56.1 +0.1**
baz=101
CLDB Colider 58.44 116 *e*P **P 18 16 53.5 +0.1**
H03S3 Juan Fernandez 58.68 153 T T 19 20 31.5
baz=290,SNR=6.0
H03S2 Juan Fernandez 58.69 153 T T 19 20 38.6
baz=290,SNR=7.5
H03S1 Juan Fernandez 58.70 153 T T 19 20 32.4
baz=290,SNR=5.6
LCO Las Campanas 58.97 143 ⇑P **P 18 16 59.0 +1.8**
LCO Las Campanas 58.97 143 IAMs_20 IAMs_20 18 37 19.6
comp=Z,23µm,21.0s
CO05 La Serena 59.35 144 P **P 18 16 59.0 -0.5**
CO05 IAmb IAmb 18 17 34.1
comp=Z,197nm,1.6s
CO06 Fray Jorge 59.71 145 P **P 18 17 03.0 +1.0**
GO04 Tololo Observa 59.79 144 P **P 18 17 03.4 +0.6**
GO04 IAmb IAmb 18 17 07.8
comp=Z,85nm,0.9s
ANM Nome 59.88 335 P **P 18 17 01.1 -1.6**
ANM pmax pmax
comp=Z,228nm,1.6s
ANM MLR MLR
comp=Z,19µm,20.0s
ANM Nome 59.88 335 P **P 18 17 01.1 -1.6**
ANM IAmb IAmb 18 17 18.8
comp=Z,228nm,1.6s
ANM Nome 59.88 335 P **P 18 17 00.5 -2.2**
baz=111
SPIA Saint Paul Isl 60.03 326 P **P 18 17 00.6 -3.3**
baz=102
SPIA S **S 18 25 18.0 +0.9**
baz=102
A21K Barrow 60.05 344 P **P 18 17 01.2 -2.5**
A21K IAmb IAmb 18 17 09.3
comp=Z,289nm,1.9s
A21K IAMs_20 IAMs_20 18 45 02.5
comp=Z,38µm,20.0s
A21K Barrow 60.05 344 P **P 18 17 01.7 -2.0**
baz=124,SNR=8.8
A21K S **S 18 25 15.2 -1.7**
baz=124
SFJD Kangerlussuaq 60.09 22 P **P 18 17 03.8 -0.2**
comp=Z,10nm,0.7s,baz=239,slow=12,SNR=3.1
RDOG Red Dog Mine 60.35 339 IAMs_20 IAMs_20 18 40 43.7
comp=Z,29µm,20.0s
RDOG Red Dog Mine 60.35 339 P P 18 17 13.4 +7.5
baz=115,SNR=21
CO03 El Pedregal 60.36 144 P **P 18 17 05.5 -1.0**
CO03 IAmb IAmb 18 17 11.5
comp=Z,143nm,1.0s
TULEG Thule 61.06 10 *e*P **P 18 17 06.6 -4.0**
TULEG IAmb IAmb 18 17 26.4
comp=Z,276nm,2.0s
TULEG Thule 61.06 10 ⇓P **P 18 17 11.0 +0.4**
TULEG Thule 61.06 10 P **P 18 17 09.7 -0.9**
TULEG IAmb IAmb 18 17 27.1
comp=Z,244nm,1.9s
TNA Tin City 61.24 336 ⇑P **P 18 17 10.4 -1.5**
TNA Tin City 61.24 336 P **P 18 17 10.0 -1.9**
TNA Tin City 61.24 336 P **P 18 17 09.8 -2.1**
baz=109,SNR=28
TNA S **S 18 25 30.7 -1.5**
baz=109
NUUG Nuugaatsiaq 61.33 17 *i*P **P 18 17 11.6 -0.8**
NUUG IAmb IAmb 18 17 25.0
comp=Z,125nm,1.3s
DY2G Dye2 61.49 23 *i*P **P 18 17 13.6 -0.4**
DY2G IAmb IAmb 18 17 19.2
comp=Z,146nm,1.0s
VA01 Torpederas 61.52 146 P **P 18 17 13.7 -0.6**
VA01 IAmb IAmb 18 17 27.8
comp=Z,129nm,1.2s
TMAB Tom-Au,PA,Br 61.59 103 *e*P **P 18 17 17.0 +1.8**
VA03 San Esteban 61.91 145 P **P 18 17 16.3 -0.7**
MT02 Curacav 61.98 146 P **P 18 17 16.1 -1.2**
VA05 Santo Domingo 62.04 147 P **P 18 17 16.5 -1.2**
VA05 IAmb IAmb 18 17 30.4
comp=Z,114nm,1.2s
EUNU Eureka 62.12 4 P **P 18 17 15.5 -2.3**
PEL Peldehue 62.13 146 P **P 18 17 17.6 -0.8**
PEL pmax pmax
comp=Z,170nm,1.2s
PEL MLR MLR
comp=Z,12µm,18.0s
PEL Peldehue 62.13 146 P **P 18 17 17.6 -0.8**
PEL IAmb IAmb 18 17 32.1
comp=Z,170nm,1.2s
GAMB Gambell 62.28 333 P **P 18 17 17.2 -1.8**
GAMB IAmb IAmb 18 18 14.6
comp=Z,197nm,2.0s
GAMB IAMs_20 IAMs_20 18 44 21.2
comp=Z,24µm,18.0s
GAMB Gambell 62.28 333 P **P 18 17 17.1 -1.8**
baz=104
GAMB S **S 18 25 49.1 +3.7**
baz=104
MT05 Renca 62.29 146 P **P 18 17 18.8 -0.7**
MT01 Popeta 62.39 147 P **P 18 17 20.8 +0.7**
MT09 Talagante 62.45 146 P **P 18 17 19.6 -1.1**
MT09 IAmb IAmb 18 17 34.2
comp=Z,158nm,1.1s
PP1B Ponte de Pedra 62.66 122 *e*P **P 18 17 24.4 +2.2**
SNDB Serra Nova Dou 62.83 115 *e*P **P 18 17 22.7 -0.7**
BO01 Tunca 62.88 147 P **P 18 17 23.0 -0.4**
GO05 Huala 62.94 148 P **P 18 17 22.0 -1.7**
GO05 IAmb IAmb 18 17 37.0
comp=Z,97nm,1.1s
ADK Adak 63.00 319 P **P 18 17 21.7 -2.3**
ADK pmax pmax
comp=Z,308nm,1.2s
ADK MLR MLR
comp=Z,40µm,22.0s
ADK Adak 63.00 319 ⇑P **P 18 17 22.5 -1.5**
ADK Adak 63.00 319 P **P 18 17 21.7 -2.3**
ADK Adak 63.00 319 IAMs_20 IAMs_20 18 37 32.5
comp=Z,40µm,22.0s
KIWB Kanaga Island 63.29 319 P **P 18 17 24.4 -1.5**
BO02 Sierra Bellavi 63.35 147 P **P 18 17 25.4 -1.2**
BO02 IAmb IAmb 18 17 40.2
comp=Z,169nm,1.2s
AQDB Aquidauana 63.59 125 P **P 18 17 26.6 -1.7**
AQDB IAmb IAmb 18 17 33.0
comp=Z,130nm,1.1s
ML02 Panimavida 63.79 148 P **P 18 17 27.9 -1.4**
ARAG Araguaiana, MT 64.20 119 *e*P **P 18 17 31.0 -1.4**
MIDW Midway 64.46 293 P **P 18 17 31.6 -2.4**
MIDW IAMs_20 IAMs_20 18 37 48.3
comp=Z,19µm,20.0s
ANGG Ammassalik, Gr 64.66 25 ⇓P **P 18 17 37.5 +2.8**
ANGG Ammassalik, Gr 64.66 25 P **P 18 17 33.0 -1.6**
ANGG IAmb IAmb 18 17 47.6
comp=Z,72nm,0.9s
ICESG Greenland Ices 64.67 22 *i*P **P 18 17 34.5 -0.6**
ICESG IAmb IAmb 18 17 40.4
comp=Z,122nm,0.8s
SMTB Santa Maria do 64.68 110 *e*P **P 18 17 35.0 -0.7**
RAR Rarotonga 65.10 235 LR LR 18 38 35.7
comp=Z,76µm,19.3s,baz=74,slow=29
ROSB Rosrio 65.46 102 *e*P **P 18 17 40.9 +0.1**
PEXB Peixe 65.48 113 *e*P **P 18 17 42.6 +1.8**
CPUP Villa Florida 65.80 131 P **P 18 17 43.2 +0.5**
comp=Z,45nm,1.1s,baz=322,slow=7.8,SNR=19
CPUP LR LR 18 45 17.3
comp=Z,6µm,18.9s,baz=320,slow=35
CPUP Villa Florida 65.80 131 P **P 18 17 41.7 -1.0**
CPUP pmax pmax
comp=Z,194nm,1.6s
CPUP Villa Florida 65.80 131 ⇓P **P 18 17 43.8 +1.2**
CPUP ⇓P **P 18 17 43.9 +1.2**
CPUP Villa Florida 65.80 131 *e*P **P 18 17 43.6 +1.0**
CPUP Villa Florida 65.80 131 P **P 18 17 41.7 -1.0**
CPUP IAmb IAmb 18 18 00.4
comp=Z,194nm,1.6s
SUMG Summit 65.94 18 P **P 18 17 40.9 -2.5**
SUMG pmax pmax
comp=Z,222nm,1.3s
SUMG MLR MLR
comp=Z,45µm,21.0s
SUMG Summit 65.94 18 *i*P **P 18 17 42.0 -1.4**
SUMG IAmb IAmb 18 18 01.3
comp=Z,2µm,2.8s
SUMG Summit 65.94 18 ⇑P **P 18 17 42.2 -1.2**
SUMG Summit 65.94 18 P **P 18 17 40.9 -2.5**
LC01 Cunco 66.05 151 P **P 18 17 43.1 -1.0**
LC01 IAmb IAmb 18 17 48.1
comp=Z,83nm,1.1s
BDFB Brasilia 67.36 116 P **P 18 17 54.2 +1.2**
comp=Z,63nm,1.1s,baz=295,slow=7.1,SNR=24
BDFB Brasilia 67.36 116 P **P 18 17 52.2 -0.8**
BDFB pmax pmax
comp=Z,151nm,1.2s
BDFB Brasilia 67.36 116 P **P 18 17 52.2 -0.8**
BDFB IAmb IAmb 18 18 03.3
comp=Z,151nm,1.2s
LL05 Los Muermos 67.38 153 P **P 18 17 52.9 +0.5**
ITRB Iturama 67.41 122 *e*P **P 18 17 54.4 +1.3**
LL04 Puerto Octay 67.43 152 P **P 18 17 52.2 -0.6**
LL04 IAmb IAmb 18 17 57.0
comp=Z,74nm,1.0s
SOEG Soedalen 67.49 23 *e*P **P 18 17 51.4 -1.4**
SOEG IAmb IAmb 18 17 58.3
comp=Z,79nm,0.9s
PCMB Pacaembu 67.68 124 *e*P **P 18 17 54.4 -0.4**
PLCA Paso Flores 68.13 151 P **P 18 17 57.2 -0.1**
comp=Z,60nm,1.0s,baz=328,slow=7.4,SNR=40
PLCA LR LR 18 42 02.0
comp=Z,23µm,18.7s,baz=328,slow=31
PLCA Paso Flores 68.13 151 P **P 18 17 56.4 -0.9**
PLCA pmax pmax
comp=Z,102nm,1.1s
PLCA Paso Flores 68.13 151 ⇑P **P 18 17 56.7 -0.6**
PLCA ⇑P **P 18 17 57.3 0.0**
PLCA Paso Flores 68.13 151 P **P 18 17 56.4 -0.9**
PLCA IAmb IAmb 18 18 02.2
comp=Z,102nm,1.1s
IPMB Ipameri, GO 68.31 119 *e*P **P 18 17 58.8 -0.1**
ITQB Itaqui 68.34 134 P **P 18 17 57.5 -1.2**
ITQB IAmb IAmb 18 18 16.5
comp=Z,174nm,1.1s
NBPS Pedro II - PI 68.50 103 *e*P **P 18 18 00.2 0.0**
LL07 Hotel Espejo d 68.55 154 P **P 18 17 58.8 -1.0**
SDBA SAO DESIDERIO 68.59 112 *e*P **P 18 18 00.5 -0.2**
SHEM Shemya Is, Ala 68.66 320 LR LR 18 41 07.9
comp=Z,28µm,21.9s,baz=96,slow=30
GO07 Milladeo Hill, 68.71 154 P **P 18 18 02.9 +2.2**
NBMO Morrinhos-CE 69.41 101 *e*P **P 18 18 07.5 +1.7**
LL02 Futaleuf 69.53 153 P **P 18 18 05.4 -0.5**
BB19B Bebedouro 69.58 122 *e*P **P 18 18 07.5 +0.8**
ITAB Concordia 70.09 129 *e*P **P 18 18 10.4 +0.8**
ITAB Concordia 70.09 129 P **P 18 18 08.8 -0.9**
ITAB IAmb IAmb 18 18 20.4
comp=Z,307nm,1.7s
JANB Januaria 70.27 114 *e*P **P 18 18 13.1 +2.0**
NBPB Pedra_Branca-C 70.65 103 *e*P **P 18 18 14.6 +1.2**
SCO Scoresbysund 70.92 21 P **P 18 18 12.8 -1.2**
SCO pmax pmax
comp=Z,184nm,1.7s
SCO MLR MLR
comp=Z,62µm,19.0s
SCO Scoresbysund 70.92 21 *e*P **P 18 18 15.4 +1.3**
SCO IAmb IAmb 18 18 33.5
comp=Z,207nm,1.8s
SCO Scoresbysund 70.92 21 P **P 18 18 12.8 -1.2**
SCO IAmb IAmb 18 18 34.0
comp=Z,184nm,1.7s
CPSB Cacapava Do Su 70.98 133 *e*P **P 18 18 15.4 +0.3**
RCLB Rio Claro- Sao 71.06 123 *e*P **P 18 18 17.4 +1.6**
DBG Daneborg 71.31 17 *e*P **P 18 18 19.4 +3.0**
DBG IAmb IAmb 18 18 34.6
comp=Z,320nm,2.2s
NBCL Cascavel-CE 71.36 101 *e*P **P 18 18 18.9 +1.1**
COYC Coyhaique 71.38 155 P **P 18 18 18.8 +1.7**
COYC IAmb IAmb 18 18 31.4
comp=Z,130nm,1.3s
COYC Coyhaique 71.38 155 IAMs_20 IAMs_20 18 42 27.3
comp=Z,21µm,20.0s
TIJ01 Guaruva-PR 71.40 126 *e*P **P 18 18 18.9 +1.0**
BORG Borgarnes 71.47 27 IAMs_20 IAMs_20 18 46 01.3
comp=Z,27µm,21.0s
AFI Afiamalu 71.53 248 LR LR 18 41 35.3
comp=Z,44µm,20.9s,baz=80,slow=29
DAG Danmarks Havn 71.59 14 *i*P **P 18 18 16.0 -2.1**
DAG IAmb IAmb 18 18 22.7
comp=Z,87nm,1.0s
DAG Danmarks Havn 71.59 14 ⇑P **P 18 18 15.9 -2.1**
DAG ⇑P **pP 18 18 17.3 -1.2**
BILL Bilibino 71.62 337 ⇓*i*P **P 18 18 17.0 -1.4**
BILL *i* *SP **sP 18 18 22.3 +3.3**
BILL *e* 18 18 36.4
BILL *e* 18 21 02.7
BILL *i* S **S 18 27 39.5 +1.3**
BILL *i* PS **PnS 18 28 10.4 +4.4**
BILL *i* SS **SS 18 32 10.9 -2.0**
BILL *e*SSS SSS 18 35 23.8
BILL pmax pmax
comp=Z,201nm,2.5s
BILL Bilibino 71.62 337 P **P 18 18 16.1 -2.2**
BILL IAmb IAmb 18 18 33.9
comp=Z,93nm,1.1s
PLTB Pedras Altas 71.67 134 P **P 18 18 18.7 -0.5**
PLTB IAmb IAmb 18 18 37.6
comp=Z,151nm,1.5s
NOR Nord 71.71 9 *i*P **P 18 18 16.4 -2.4**
NOR IAmb IAmb 18 18 34.2
comp=Z,431nm,2.1s
VAO Valinhos 71.80 123 *e*P **P 18 18 20.6 +0.3**
NBMA Muriti-CE 72.08 104 *e*P **P 18 18 22.9 +0.8**
NBPN Ponto Novo - B 72.13 108 *e*P **P 18 18 22.4 0.0**
PET01 Itanhaem-SP 72.21 124 *e*P **P 18 18 24.4 +1.8**
DIAM Diamantina, MG 72.27 117 *e*P **P 18 18 24.7 +1.5**
BSCB Bom Sucesso 72.60 120 *e*P **P 18 18 25.0 -0.1**
NBPA Parau_RN 73.01 102 *e*P **P 18 18 28.8 +1.2**
TER01 Tubaro-SC 73.02 129 *e*P **P 18 18 29.6 +2.3**
PARB Paraibuna 73.04 122 *e*P **P 18 18 28.5 +0.8**
GDU01 Guandu, BA 73.84 111 *e*P **P 18 18 34.3 +1.8**
MAN01 Angra dos Reis 74.15 121 *e*P **P 18 18 36.0 +1.9**
RCBR Riachuelo 74.16 102 P **P 18 18 32.9 -1.5**
RCBR pmax pmax
comp=Z,132nm,1.4s
RCBR MLR MLR
comp=Z,5µm,20.0s
RCBR Riachuelo 74.16 102 *e*P **P 18 18 35.8 +1.3**
RCBR Riachuelo 74.16 102 P **P 18 18 32.9 -1.5**
RCBR IAmb IAmb 18 18 45.0
comp=Z,132nm,1.4s
NBLA Lagarto - SE 74.36 108 *e*P **P 18 18 36.9 +1.4**
NBIT Itapeh - BA 74.47 112 *e*P **P 18 18 37.8 +1.7**
SJMB Sao Joao De Ma 74.56 116 *e*P **P 18 18 38.7 +2.1**
CMC01 Camacan, BA 74.57 112 *e*P **P 18 18 38.4 +1.7**
GUA01 Guaratinga, BA 74.83 114 *e*P **P 18 18 40.1 +1.9**
DUB01 Friburgo-RJ 75.08 120 *e*P **P 18 18 41.0 +1.4**
NBAN Anadia - AL 75.23 106 *e*P **P 18 18 42.1 +1.6**
JMIC Jan Mayen 75.25 20 LR LR 18 51 48.6
comp=Z,32µm,18.2s,baz=292,slow=36
RIB01 Linhares ES 75.50 116 *e*P **P 18 18 43.6 +1.6**
CAM01 Campos-RJ 75.55 119 *e*P **P 18 18 44.2 +1.9**
ALF01 Guarapari-ES 75.79 118 *e*P **P 18 18 45.9 +2.3**
NBRF Rio Formoso - 75.91 104 *e*P **P 18 18 45.6 +1.2**
FUNA Funafuti 77.57 257 IAMs_20 IAMs_20 18 54 19.8
comp=Z,16µm,19.0s
PET Petropavlovsk 77.85 322 *e*P **P 18 18 57.2 +2.5**
PET *e*S **S 18 28 51.7 +3.4**
PET *e*SS **SS 18 33 44.8 -3.3**
PET pmax pmax
comp=Z,138nm,1.8s
PET pmax pmax
comp=Z,5µm,7.3s
PET pmax pmax
comp=Z,4µm,9.2s
PET smax smax
comp=E,8µm,12.5s
PET smax smax
comp=E,12µm,19.0s
PET smax smax
comp=N,7µm,13.0s
PET Petropavlovsk 77.85 322 IAMs_20 IAMs_20 18 45 38.0
comp=Z,25µm,22.0s
SPITS Spitsbergen Ar 78.25 10 LR LR 18 53 44.1
comp=Z,45µm,18.0s,baz=350,slow=36
SPITS Spitsbergen Ar 78.25 10 P **P 18 18 55.9 -0.7**
SPITS pmax pmax
comp=Z,421nm,1.8s
SPB2 Spitsbergen Ar 78.25 10 P **P 18 18 56.2 -0.4**
SEY Seymchan 78.27 333 P **P 18 18 55.3 -1.6**
comp=Z,20nm,0.8s,baz=81,slow=6.3,SNR=28
SEY LR LR 18 51 58.8
comp=Z,18µm,18.7s,baz=62,slow=35
PEA0B Petropavlovsk- 78.39 322 P **P 18 18 56.5 -1.3**
PEA0B pmax pmax
comp=Z,495nm,1.6s
PEA0B Petropavlovsk- 78.39 322 P **P 18 18 56.5 -1.3**
PETK Petropavlovsk- 78.39 322 P **P 18 18 57.0 -0.8**
comp=Z,33nm,1.1s,baz=70,slow=13,SNR=13
PETK LR LR 18 46 41.5
comp=Z,18µm,21.9s,baz=78,slow=30
PETK Petropavlovsk- 78.39 322 P **P 18 18 57.0 -0.8**
PETK Petropavlovsk- 78.39 322 P **P 18 18 56.6 -1.2**
HSPB Hornsund (broa 78.79 11 *e*P **P 18 19 01.7 +2.2**
HSPB *e*S **S 18 29 01.0 +3.4**
HSPB *e*SS **SS 18 34 08.6 +7.4**
HSPB *e*L L 18 53 10.0
comp=Z,37µm,21.2s
PMOZ Porto Moniz, M 79.98 59 *e*S S 18 29 21.8 +10
PMOZ Porto Moniz, M 79.98 59 *e*LR LR 18 45 02.1
comp=Z,6µm,20.0s
SKR Severo-Kuril's 80.01 320 *e*P **P 18 19 06.4 -0.2**
SKR *e*S **S 18 29 08.4 -3.0**
SKR pmax pmax
comp=Z,2µm,9.5s
SKR MLR MLR
comp=Z,3µm,18.0s
MA2 Magadan 80.10 330 *ce*P **P 18 19 05.2 -1.8**
MA2 pmax pmax
comp=Z,243nm,2.5s
MA2 MLR MLR
comp=Z,10µm,16.0s
MA2 Magadan 80.10 330 P **P 18 19 05.2 -1.8**
MA2 IAmb IAmb 18 19 12.2
comp=Z,193nm,1.4s
MA2 IAMs_20 IAMs_20 18 52 26.8
comp=Z,19µm,22.0s
USHA Ushuaia 80.26 159 LR LR 18 47 18.2
comp=Z,26µm,20.8s,baz=317,slow=30

H11N3 WAKE ISLAND Hy 80.32 288 T T 19 48 40.2
baz=58,slow=74,SNR=102
H11N2 WAKE ISLAND Hy 80.33 288 T T 19 48 11.9
baz=58,slow=74,SNR=91
H11N1 WAKE ISLAND Hy 80.34 288 T T 19 48 13.0
baz=58,slow=74,SNR=103
KPL Plockton 80.45 33 *e*P **P** **18 19 10.1 +1.2**
KPL IAMs_20 IAMs_20 18 55 04.2
comp=Z,30μm,14.4s
PMPST Porto Santo, M 80.61 58 *e*P **P** **18 19 11.1 +0.8**
WAKE Wake Island 80.68 287 IAMs_20 IAMs_20 18 46 02.6
comp=Z,22μm,20.0s
H11S1 WAKE ISLAND Hy 80.86 286 T T 19 49 15.4
baz=58,slow=74,SNR=103
H11S2 WAKE ISLAND Hy 80.86 286 T T 19 49 15.6
baz=58,slow=74,SNR=86
H11S3 WAKE ISLAND Hy 80.87 286 T T 19 49 16.7
baz=58,slow=74,SNR=56
BIGH Upper Bighouse 80.92 31 *e*P **P** **18 19 12.0 +0.6**
BIGH IAmb IAmb 18 19 16.7
comp=Z,93nm,1.1s
BIGH IAMs_20 IAMs_20 18 56 10.9
comp=Z,24μm,13.8s
IWEX Carrickbyrne, 81.50 38 *e*P **P** **18 19 15.2 +0.6**
PGBU Glenifferbraes 81.58 34 *e*P **P** **18 19 15.0 0.0**
PGBU IAmb IAmb 18 19 19.7
comp=Z,208nm,1.1s
PGBU IAMs_20 IAMs_20 18 54 11.3
comp=Z,23μm,18.9s
INVG Invergeldie, C 81.59 33 *e*P **P** **18 19 16.0 +0.9**
INVG IAMs_20 IAMs_20 18 56 50.1
comp=Z,29μm,15.3s
MSVF Nonsavu 82.02 248 P **P** **18 19 20.3 +2.3**
MSVF LR LR 18 47 47.9
comp=Z,49μm,19.7s,baz=47,slow=30
MSVF Nonsavu 82.02 248 *i* P **P** **18 19 21.0 +3.0**
MSVF pmax pmax
comp=Z,84nm,1.1s
MSVF Nonsavu 82.02 248 P **P** **18 19 17.9 -0.2**
EFI East Falkland 82.03 152 *ce*P **P** **18 19 18.4 +1.2**
EFI pmax pmax
comp=Z,50nm,1.0s
EFI East Falkland 82.03 152 P **P** **18 19 19.2 +2.0**
EFI IAmb IAmb 18 19 46.6
comp=Z,239nm,1.7s
DRUM Mains of Drumt 82.22 32 *e*P **P** **18 19 17.9 -0.4**
DRUM IAmb IAmb 18 19 26.7
comp=Z,313nm,1.3s
DRUM IAMs_20 IAMs_20 18 54 54.8
comp=Z,26μm,15.2s
TIXI Tiksi 82.33 345 P **P** **18 19 16.2 -2.4**
comp=Z,4.8nm,0.4s,baz=40,slow=5.2,SNR=18
TIXI LR LR 18 58 39.4
comp=Z,16μm,19.1s,baz=64,slow=38
TIXI Tiksi 82.33 345 *ce*P **P** **18 19 16.6 -2.0**
TIXI pmax pmax
comp=Z,239nm,2.5s
TIXI MLR MLR
comp=Z,27μm,22.0s
TIXI Tiksi 82.33 345 P **P** **18 19 16.2 -2.4**
TIXI IAmb IAmb 18 19 22.7
comp=Z,230nm,1.5s
TIXI IAMs_20 IAMs_20 18 55 58.4
comp=Z,27μm,22.0s
EBL Broad Law 82.36 34 *e*P **P** **18 19 18.8 -0.3**
ESK Eskdalemuir 82.44 34 *e*P **P** **18 19 20.7 +1.2**
ESK IAMs_20 IAMs_20 18 57 55.4
comp=Z,27μm,17.2s
ESK Eskdalemuir 82.44 34 P **P** **18 19 18.3 -1.2**
ESK pmax pmax
comp=Z,228nm,1.5s
ESK MLR MLR
comp=Z,26μm,18.0s
ESK Eskdalemuir 82.44 34 P **P** **18 19 18.3 -1.2**
ESK IAmb IAmb 18 19 28.2
comp=Z,228nm,1.5s
EKA Eskdalemuir Ar 82.46 34 LR LR 18 55 12.9
comp=Z,21μm,18.3s,baz=298,slow=35
ESY Stoneypath 82.53 33 *e*P **P** **18 19 19.8 -0.1**
EDMD Edmundbyers 83.29 34 *e*P **P** **18 19 23.7 -0.2**
EDMD IAmb IAmb 18 19 30.2
comp=Z,452nm,1.4s
EDMD IAMs_20 IAMs_20 18 58 20.7
comp=Z,29μm,18.6s
RAO Raoul Island 83.31 236 LR LR 18 47 05.0
comp=Z,41μm,21.6s,baz=58,slow=29
HLM1 Long Mynd 83.67 37 *e*P **P** **18 19 25.9 0.0**
HLM1 IAmb IAmb 18 19 30.6
comp=Z,307nm,1.3s
HLM1 IAMs_20 IAMs_20 18 50 23.8
comp=Z,42μm,27.8s
MCH1 Michaelchurch 83.80 37 *e*P **P** **18 19 27.7 +1.1**
MCH1 IAmb IAmb 18 19 34.8
comp=Z,232nm,1.3s
MCH1 IAMs_20 IAMs_20 18 50 41.0
comp=Z,41μm,25.8s
HPK Haverah Park 83.81 35 *e*P **P** **18 19 28.2 +1.6**
HPK IAMs_20 IAMs_20 18 52 29.1
comp=Z,28μm,22.4s
LBWR Ladybower, Pea 83.97 36 *e*P **P** **18 19 27.5 0.0**
LBWR IAmb IAmb 18 19 32.5
comp=Z,259nm,1.2s
LBWR IAMs_20 IAMs_20 18 54 06.3
comp=Z,29μm,19.9s
PGAV Gavieira, Arco 84.02 48 *e*P **P** **18 19 28.7 +0.6**
PGAV Gavieira, Arco 84.02 48 *e*S **S** **18 29 54.4 +1.1**
PGAV *e*SS **SS** **18 35 30.2 +9.3**
PGAV *e*LQ LQ 18 41 47.5
PGAV *e*LR LR 18 46 41.4
comp=Z,9μm,22.0s
PCAB Cabril 84.27 48 *e*P **P** **18 19 31.6 +2.3**
comp=Z,250nm,1.5s
PMST Lisbon--Monsan 84.43 51 *e*P **P** **18 19 32.4 +2.3**
comp=Z,400nm,1.8s
LIS Lisbon 84.46 51 *e*P **P** **18 19 30.4 +0.1**
LIS *e*SKSac **SKSac** **18 29 53.0 -2.1**
LIS IAMs_20 IAMs_20 18 55 36.7
comp=Z,17μm,12.4s
LIS Lisbon 84.46 51 *e*P **P** **18 19 32.4 +2.2**
comp=Z,422nm,1.9s
LIS Lisbon 84.46 51 *e*P **P** **18 19 30.3 +0.1**
LIS *e* 18 29 53.0
CWF Charnwood Fore 84.47 36 *e*P **P** **18 19 30.7 +0.7**
CWF IAmb IAmb 18 19 34.6
comp=Z,109nm,1.2s
CWF IAMs_20 IAMs_20 18 50 48.3
comp=Z,33μm,26.7s
POLO Lamas de Olo 84.55 48 *e*P **P** **18 19 30.4 -0.4**
PVRL Vila Real 84.64 48 *e*P **P** **18 19 32.0 +0.8**
comp=Z,227nm,1.4s
PVIS Viseu 84.70 49 *e*P **P** **18 19 30.4 -1.1**
PMTG Montargil 85.02 51 *e*P **P** **18 19 32.2 -0.9**
MTE Manteigas 85.06 49 *e*P **P** **18 19 32.7 -0.7**
comp=Z,159nm,1.3s
MTE Manteigas 85.06 49 *e*S **S** **18 30 03.4 -0.3**
MTE *e*SS **SS** **18 35 45.6 +9.3**
MTE *e*LQ LQ 18 42 42.2
MTE *e*LR LR 18 47 42.8
comp=Z,8μm,18.0s
MTE Manteigas 85.06 49 P **P** **18 19 32.0 -1.3**
MTE IAmb IAmb 18 19 44.3
comp=Z,186nm,1.4s
PNCL Nicolau / Gran 85.12 52 *e*P **P** **18 19 34.2 +0.6**
PBRG Braganca 85.14 48 *e*P **P** **18 19 36.8 +3.1**
MVO Moncorvo 85.16 48 *e*S **S** **18 30 05.5 +0.8**
MVO *e*SS **SS** **18 35 46.5 +8.7**
MVO *e*LQ LQ 18 42 32.6
MVO *e*LR LR 18 47 21.5
comp=Z,8μm,16.0s
PCBR Castelo Branco 85.30 50 *e*P **P** **18 19 33.7 -0.8**
MORF Marmelete 85.31 52 *e*P **P** **18 19 34.8 +0.2**
MORF *e*SKSac **SKSac** **18 29 58.6 -2.2**
MORF IAMs_20 IAMs_20 18 51 46.0
comp=N,9μm,13.1s
MORF Marmelete 85.31 52 *e*P **P** **18 19 36.2 +1.6**
MORF Marmelete 85.31 52 *e*P **P** **18 19 34.8 +0.2**
MORF *e* 18 29 58.5
EVO Evora 85.36 51 P **P** **18 19 37.1 +2.3**
EVO S **S** **18 30 06.7 +0.1**
EVO Evora 85.36 51 *e*P **P** **18 19 35.1 +0.3**
comp=N,173nm,1.7s
MESJ Messejana 85.45 52 *e*P **P** **18 19 35.5 +0.2**
MESJ *e*SKSac **SKSac** **18 29 59.4 -2.1**
MESJ *e*SS **SS** **18 35 41.5 -0.5**
MESJ IAMs_20 IAMs_20 18 56 10.6
comp=Z,13μm,17.5s
MESJ Messejana 85.45 52 *e*P **P** **18 19 35.5 +0.2**
MESJ Messejana 85.45 52 *e*P **P** **18 19 35.4 +0.2**
MESJ *e* 18 29 59.4
MESJ *e*SS SS 18 35 41.4 -0.6
PMRV Marv??o 85.51 50 *e*S **S** **18 30 05.0 -3.1**
PMRV *e*SS SS 18 35 54.1 +11
PMRV *e*LQ LQ 18 42 38.7
PMRV *e*LR LR 18 47 18.9
comp=Z,12μm,16.0s
PESTR Estremoz 85.56 51 *e*P **P** **18 19 39.1 +3.3**
PCVE Castro Verde 85.65 52 *e*P **P** **18 19 36.8 +0.5**
ARCES ARCESS Array B 85.85 15 P **P** **18 19 35.5 -1.1**
comp=Z,6.3nm,0.8s,baz=322,slow=3.7,SNR=7.5
ARCES LR LR 18 58 07.0
comp=Z,32μm,21.0s,baz=311,slow=36
PVAQ Vaqueiros 85.97 52 *e*S **S** **18 30 12.7 +0.1**
PVAQ *e*SS SS 18 36 02.2 +12
PVAQ *e*LQ LQ 18 42 28.4
PVAQ *e*LR LR 18 47 21.9
comp=Z,9μm,18.0s
ELMS Elmsett, Ipswi 86.02 36 *e*P **P** **18 19 39.0 +1.3**
ELMS IAmb IAmb 18 19 45.4
comp=Z,185nm,0.9s
ELMS IAMs_20 IAMs_20 18 51 47.0
comp=Z,34μm,26.1s
NBO00 NORSAR Array S 86.41 26 P **P** **18 19 39.6 0.0**
NB2 NORSAR Subarra 86.58 25 P **P** **18 19 40.2 -0.2**
comp=Z,285nm,3.3s,baz=305,slow=5.1
NB2 NORSAR Subarra 86.58 25 P **P** **18 19 40.2 -0.2**
baz=305,slow=5.1
NOA NORSAR Array B 86.58 25 P **P** **18 19 39.8 -0.6**
comp=Z,4.1nm,0.9s,baz=304,slow=4.7,SNR=9.9
NB201 NORSAR Array S 86.61 25 P **P** **18 19 39.5 -1.1**
NB201 IAmb IAmb 18 19 54.3
comp=Z,171nm,1.6s
KONO Kongsberg 86.66 27 *i* P **P** **18 19 40.6 -0.1**
KONO pmax pmax
comp=Z,91nm,1.4s
KONO MLR MLR
comp=Z,21μm,17.0s
KONO Kongsberg 86.66 27 P **P** **18 19 39.7 -1.1**
KONO IAmb IAmb 18 19 53.9
comp=Z,82nm,1.2s
KONO Kongsberg 86.66 27 IAMs_20 IAMs_20 18 55 37.9
comp=Z,25μm,21.0s
ARNO Arenosillo 86.81 52 P P 18 19 47.4 +5.4
ARNO S **S** **18 30 14.3 -6.5**
NC602 NORSAR Array S 86.89 26 P **P** **18 19 41.5 -0.4**
NC602 IAmb IAmb 18 20 14.5
comp=Z,233nm,1.6s
KUR Kuril'sk 87.10 317 *e*P **P** **18 19 44.9 +1.7**
KUR *e*PPP PPP 18 25 00.3
KUR *e*S **SKSac** **18 30 14.0 +2.5**
KUR pmax pmax
comp=Z,7μm,4.2s
KUR MLR MLR
comp=Z,4μm,10.0s
SFS San Fernando 87.44 52 P P 18 19 50.1 +5.1
SFS S **S** **18 30 20.4 -6.4**
SFS San Fernando 87.44 52 IAMs_20 IAMs_20 19 04 27.9
comp=Z,11μm,18.0s
AVE Averroes 87.64 56 P P 18 19 52.5 +6.4
AVE S **S** **18 30 20.7 -8.3**
PAB San Pablo 87.66 49 P **P** **18 19 44.8 -1.4**
PAB pmax pmax
comp=Z,97nm,1.5s
PAB MLR MLR
comp=Z,10μm,18.0s
PAB San Pablo 87.66 49 P **P** **18 19 44.8 -1.4**
PAB IAmb IAmb 18 19 57.9
comp=Z,97nm,1.4s
TYV Tymovskoe 87.85 324 *e*P **P** **18 19 46.3 -0.4**
TYV *e*S **S** **18 30 29.3 -0.9**
TYV pmax pmax
comp=Z,53nm,1.2s
TYV pmax pmax
comp=Z,2μm,7.6s
TYV smax smax
comp=N,3μm,7.7s
TYV smax smax
comp=E,5μm,7.7s
NKL Nikolayevsk 87.86 326 *e*P **P** **18 19 49.1 +2.4**
NKL *e*S **S** **18 30 23.7 -6.5**
NKL pmax pmax
comp=N,336nm,0.7s
NKL pmax pmax
comp=Z,36nm,1.6s
NKL pmax pmax
comp=E,4.0nm,1.1s
ESBB Sonseca Array 87.89 49 P **P** **18 19 46.4 -0.8**
ESDC Sonseca Array 87.89 49 P **P** **18 19 46.3 -0.9**
comp=E,6.4nm,0.9s,baz=300,slow=5.2,SNR=12
ESDC PP **PP** **18 23 14.8 +1.9**
comp=E,6.0nm,1.3s,baz=293,slow=7.7,SNR=4.0
ESDC LR LR 18 59 11.9
comp=E,5μm,19.0s,baz=302,slow=36
ESDC Sonseca Array 87.89 49 P **P** **18 19 45.6 -1.6**
YAK Yakutsk 87.98 337 LR LR 19 00 35.6
comp=E,16μm,21.0s,baz=39,slow=37
YAK Yakutsk 87.98 337 *e*P **P** **18 19 45.7 -1.4**
YAK *e* 18 23 18.4
YAK *e*PPP PPP 18 25 06.9
YAK *e*S **SKSac** **18 30 10.0 -6.2**
YAK *e**SS **pS** **18 30 32.0 +0.4**
YAK *e*SS **SS** **18 36 20.2 +2.7**
YAK *e*SSS SSS 18 39 50.9
YAK pmax pmax
comp=Z,152nm,1.2s
YAK pmax pmax
comp=N,34nm,1.3s
YAK pmax pmax
comp=E,55nm,1.1s
YAK pmax pmax
comp=Z,1μm,5.6s
YAK pmax pmax
comp=N,212nm,5.0s
YAK pmax pmax
comp=E,530nm,5.3s
YAK smax smax
comp=N,2μm,6.3s
YAK smax smax
comp=E,987nm,6.1s
YAK MLR MLR
comp=Z,13μm,17.0s
YAK MLR MLR
comp=N,5μm,17.0s
YAK MLR MLR
comp=E,9μm,17.0s
YAK Yakutsk 87.98 337 P **P** **18 19 45.1 -2.0**
YAK IAMs_20 IAMs_20 19 00 24.2
comp=Z,17μm,20.0s
UCM Universidad Co 88.15 48 P P 18 19 54.7 +6.2
UCM S **S** **18 30 26.1 -7.6**
CLF Chambon-Foret 88.53 39 P **P** **18 19 48.6 -1.4**
CLF IAmb IAmb 18 19 58.3
comp=Z,135nm,1.3s
SNF Seneffe 88.58 37 P **P** **18 19 51.1 +0.9**
comp=Z,26nm,1.0s
YUK Yuzh-Kuril'sk 88.90 316 *d* *i*P **P** **18 19 49.6 -2.2**
YUK *e*S **SKSac** **18 30 17.4 -5.0**
YUK *e* 18 30 40.6
YUK *e*SS **SS** **18 36 31.4 -0.6**
YUK *e*SSS SSS 18 40 04.4
YUK pmax pmax
comp=Z,382nm,1.6s
YUK pmax pmax
comp=N,119nm,0.9s
YUK pmax pmax
comp=E,124nm,0.8s
YUK pmax pmax
comp=Z,784nm,2.5s
BMRD Maredsous 88.95 37 P **P** **18 19 51.0 -0.9**
comp=Z,51nm,1.1s
DOU Dourbes 88.95 37 P **P** **18 19 52.0 +0.1**
comp=Z,24nm,1.3s
DOU PcP **PcP** **18 19 53.7 +0.2**
UGL Uglegorsk 89.01 322 *e*P P 18 19 58.5 +6.3
UGL *e*S **SKSac** **18 30 30.2 +7.4**
UGL *i* 18 31 50.1
UGL *e*SS **SS** **18 36 39.6 +6.3**
UGL pmax pmax
comp=Z,3μm,9.0s
UGL pmax pmax
comp=Z,2μm,8.0s
UGL smax smax
comp=Z,4μm,13.0s
UGL smax smax
comp=E,6μm,10.0s
UGL smax smax
comp=N,5μm,14.0s
BGES Gesves 89.09 36 P **P** **18 19 52.4 -0.2**
comp=N,44nm,1.2s
BCLA Clavier 89.19 36 P **P** **18 19 53.4 +0.3**
comp=N,26nm,1.3s
BEBN Eben Emael 89.22 36 P **P** **18 19 53.7 +0.5**
comp=N,42nm,1.0s
APA Apatity 89.24 14 ⇓ *i*P P 18 19 57.9 +5.0
APA *i* 18 23 30.0
APA *i* S **S** **18 30 44.0 +1.2**
APA pmax pmax
comp=Z,13nm,1.1s
APA MLR MLR
comp=Z,46μm,17.0s
LVZ Lovozero 89.25 14 *i* P **P** **18 19 53.4 +0.3**
LVZ pmax pmax
comp=Z,104nm,1.7s
LVZ MLR MLR
comp=Z,40μm,18.0s
LVZ Lovozero 89.25 14 P **P** **18 19 53.2 +0.2**
LVZ IAmb IAmb 18 20 06.1
comp=Z,144nm,1.6s
BSTI Sart Tilman 89.26 36 P **P** **18 19 53.9 +0.6**
comp=Z,9.0nm,1.2s
RCHB Rochefort 89.28 37 P **P** **18 19 52.6 -0.9**
comp=Z,34nm,1.2s
IFR Ifrane 89.34 55 P **P** **18 19 53.3 -1.1**
IFR S **SKSac** **18 30 28.3 +2.4**
MEM Membach 89.49 36 P **P** **18 19 54.0 -0.4**
comp=Z,23nm,1.2s
BTNL Ternell 89.57 36 x P 18 19 59.9 +5.0
YSS Yuzh-Sakhalins 89.58 320 *e*P **P** **18 19 56.0 +1.1**
YSS *e* 18 23 25.5
YSS *e* 18 30 27.9
YSS *e*S **S** **18 30 42.8 -3.9**
YSS *e*PS **PS** **18 31 53.0 +1.2**
YSS pmax pmax
comp=Z,70nm,0.8s
YSS pmax pmax
comp=Z,2μm,7.4s
YSS pmax pmax
comp=Z,4μm,7.9s
YSS pmax pmax
comp=E,1μm,8.9s
YSS MLR MLR
comp=Z,8μm,17.0s
YSS Yuzh-Sakhalins 89.58 320 P **P** **18 19 54.1 -0.8**
YSS IAmb IAmb 18 20 01.7
comp=Z,80nm,1.0s
YSS IAMs_20 IAMs_20 18 51 15.3
comp=Z,16μm,22.0s
BHOU Houvegnez 89.62 36 P **P** **18 19 55.1 0.0**
comp=Z,16nm,1.3s
MDT Midelt 90.01 55 LR LR 18 57 00.0
comp=Z,6μm,21.3s,baz=326,slow=33
WLF Walferdange 90.04 37 P **P** **18 19 55.7 -1.4**
WLF pmax pmax
comp=Z,90nm,1.0s
WLF MLR MLR
comp=Z,19μm,21.0s
WLF Walferdange 90.04 37 P **P** **18 19 55.7 -1.4**
WLF IAmb IAmb 18 20 04.9
comp=Z,90nm,1.0s
WLF IAMs_20 IAMs_20 18 59 17.1
comp=Z,19μm,21.0s
WLF Walferdange 90.04 37 P **P** **18 19 57.0 -0.1**
comp=Z,51nm,1.1s
URZ Urewera 90.79 230 LR LR 18 51 10.6
comp=Z,51μm,22.0s,baz=76,slow=29
URZ Urewera 90.79 230 P **P** **18 20 01.1 +0.4**
CART Cartagena 90.84 50 P P 18 20 07.5 +6.5
CART S **SKSac** **18 30 39.8 +5.8**
ASAJ Asahikawa 90.97 318 P **P** **18 20 03.3 +1.7**
comp=Z,31nm,0.8s,baz=315,slow=3.5,SNR=7.5
ASAJ LR LR 18 53 15.7
comp=Z,12μm,21.8s,baz=82,slow=31
RGN Rugen 91.18 30 IAMs_20 IAMs_20 18 59 55.6
comp=Z,17μm,18.0s
SSB Saint Sauveur 91.19 41 P **P** **18 20 03.3 +0.7**
SSB pmax pmax
comp=Z,19nm,1.2s
SSB MLR MLR
comp=Z,18μm,18.0s
SSB Saint Sauveur 91.19 41 P **P** **18 20 03.3 +0.7**
SSB Saint Sauveur 91.19 41 IAMs_20 IAMs_20 19 02 40.0
comp=Z,18μm,18.0s
ECH Echery 91.33 38 P **P** **18 20 02.0 -1.2**
ECH pmax pmax
comp=Z,30nm,1.1s
ECH MLR MLR
comp=Z,22μm,22.0s
ECH Echery 91.33 38 P **P** **18 20 02.0 -1.2**
ECH IAMs_20 IAMs_20 18 56 47.5
comp=Z,23μm,22.0s
GRNR Gornyy 91.33 325 ⇑ *i*P **P** **18 20 02.2 -0.9**
GRNR pmax pmax
comp=Z,6.0nm,0.9s
GRNR MLR MLR
comp=E,2μm,14.0s
GRNR MLR MLR
comp=N,3μm,19.0s
GRNR MLR MLR
comp=Z,4μm,20.0s
ERM Erimo 91.56 315 *ce*P **P** **18 20 04.4 +0.1**
ERM pmax pmax
comp=Z,87nm,1.7s
ERM Erimo 91.56 315 IAMs_20 IAMs_20 18 51 16.7
comp=Z,22μm,21.0s
BKZ Black Stump Fm 91.59 229 P **P** **18 20 04.6 +0.2**
BKZ IAmb IAmb 18 20 18.6
comp=Z,66nm,1.1s
NRIK Noril'sk 91.61 355 P **P** **18 20 02.2 -1.8**
comp=Z,16nm,1.0s,baz=19,slow=3.8,SNR=32
NRIK PP **PP** **18 23 42.4 +0.9**
comp=Z,5.3nm,0.8s,baz=29,slow=8.4,SNR=3.9
NRIK PKKPbc **PKKPbc** **18 37 25.3 -0.3**
comp=Z,0.7nm,0.3s,baz=329,slow=4.3,SNR=3.5
NRIK LR LR 19 03 17.9
comp=Z,37μm,19.0s,baz=26,slow=37
NRIK Noril'sk 91.61 355 *ce*P **P** **18 20 02.4 -1.6**
NRIK pmax pmax
comp=Z,60nm,1.1s
NRIK MLR MLR
comp=Z,42μm,18.0s
NRIK Noril'sk 91.61 355 P **P** **18 20 01.7 -2.3**
NRIK IAmb IAmb 18 20 28.5
comp=Z,119nm,1.4s
FINES FINESS Array B 91.85 21 P **P** **18 20 04.1 -1.1**
comp=Z,3.8nm,0.8s,baz=318,slow=8.2,SNR=6.5
FINES PP **PP** **18 23 42.9 -0.5**
comp=Z,3.4nm,1.0s,baz=12,slow=7.1,SNR=2.8
FINES FINESS Array B 91.85 21 P **P** **18 20 03.2 -1.9**
BFO Black Forest 91.95 37 P **P** **18 20 05.5 -0.5**
BFO Black Forest 91.95 37 P **P** **18 20 05.5 -0.5**
BFO IAMs_20 IAMs_20 18 59 59.7
comp=Z,16μm,21.0s
STU Stuttgart 92.21 36 IAMs_20 IAMs_20 19 02 14.5
comp=Z,14μm,19.0s
PATS Pohnpei 92.22 278 IAMs_20 IAMs_20 18 50 48.7
comp=Z,20μm,22.0s
OUZ Omahuta 92.27 234 P **P** **18 20 07.8 +0.3**
OUZ IAmb IAmb 18 20 20.9
comp=Z,59nm,1.0s
BNI Bardonecchia 92.62 41 P **P** **18 20 07.8 -1.5**
BNI pmax pmax
comp=Z,22nm,1.3s
BNI MLR MLR
comp=Z,19μm,18.0s
BNI Bardonecchia 92.62 41 P **P** **18 20 07.8 -1.5**
BNI IAMs_20 IAMs_20 19 01 52.9
comp=Z,19μm,18.0s
LIFNC LIFOU 92.64 249 IAMs_20 IAMs_20 18 51 30.6
comp=Z,19μm,21.0s
GRA1 Grafenberg Arr 92.84 35 IAMs_20 IAMs_20 18 59 27.0
comp=Z,20μm,22.0s
GRF Grafenberg Arr 92.84 35 *e*P **P** **18 20 10.5 +0.4**
comp=Z,252nm,2.7s,baz=299,slow=4.5
GRF *e*S SKSac 18 30 55.6 +11
GRF *e*L L 18 59 37.2
comp=Z,17μm,21.4s

GRFO	**Grafenberg**	92.84	35	IAMs_20	IAMs_20	18 59 27.0		
	comp=Z,20µm,22.0s							
CLL	**Collm**	92.88	33	*i* P	**P**	**18 20 09.5**	**-0.7**	
CLL				*e*S	**ScS**	**18 31 18.0**	**-0.5**	
CLL				pmax	pmax			
	comp=Z,40nm,2.3s							
CLL				MLR	MLR			
	comp=Z,19µm,18.7s							
CLL	**Collm**	92.88	33	*i* P	**P**	**18 20 09.5**	**-0.7**	
	comp=Z,40nm,2.3s							
CLL				*i* sP	**pwP**	**18 20 15.6**	**+1.6**	
	comp=Z,15nm,1.3s							
CLL				*e*PP	**PP**	**18 23 51.0**	**-0.9**	
CLL				*ex*	x	18 24 10.0		
CLL				*e*SKSac	**SKSac**	**18 30 42.0**	**-2.9**	
CLL				*e*S	**ScS**	**18 31 18.0**	**-0.5**	
	comp=N,3µm,29.2s							
CLL				*e*S	**ScS**	**18 31 18.0**	**-0.5**	
	comp=E,3µm,28.4s							
CLL				*e*PS	**PS**	**18 32 29.0**	**+0.8**	
CLL				*e*SS	**SS**	**18 37 32.0**	**+3.2**	
CLL				*ex*	x	18 38 42.0		
CLL				*e*SSSS		18 44 18.0		
CLL				*ex*	x	18 46 36.0		
CLL				Lmax		18 58 00.0		
CLL				LmH		19 01 00.0		
	comp=N,11µm,19.9s							
CLL				LmH		19 01 00.0		
	comp=E,18µm,20.3s							
CLL				LmV		19 02 00.0		
	comp=Z,19µm,18.7s							
CLL	**Collm**	92.88	33	P	**P**	**18 20 09.2**	**-0.9**	
NKC	**Novy Kostel**	93.19	34	AMS	AMS	18 58 50.0		
	comp=Z,24µm,20.9s							
DAVA	**Damuels**	93.39	37	*i* P	**P**	**18 20 13.4**	**+0.5**	
	comp=Z,38nm,1.2s,SNR=12							
TUE	**Stuetta**	93.51	38	P	**P**	**18 20 12.2**	**-1.3**	
BRG	**Berggiesshubel**	93.61	33	*e*P	**P**	**18 20 15.6**	**+2.0**	
BRG				Amp		18 20 20.1		
	comp=Z,10nm,1.2s							
BRG				PP	**PP**	**18 23 58.4**	**+0.7**	
BRG				Amp		18 24 04.1		
	comp=Z,33nm,1.8s							
BRG	**Berggiesshubel**	93.61	33	S	**S**	**18 31 27.0**	**+3.9**	
BRG	**Berggiesshubel**	93.61	33	PS	PS	18 32 43.0	+6.7	
BRG	**Berggiesshubel**	93.61	33	SS	SS	18 37 44.0	+4.6	
BRG				Amp		18 58 41.0		
	comp=E,7.2nm,21.5s							
BRG				Amp		18 58 47.0		
	comp=Z,19nm,21.8s							
BRG				Amp		18 58 52.0		
	comp=N,16nm,21.5s							
BRG	**Berggiesshubel**	93.61	33	*e*P	**P**	**18 20 15.6**	**+2.0**	
BRG						18 23 58.4		
BRG				*e*S	**SKSac**	**18 30 48.0**	**-1.0**	
BRG				pmax	pmax			
	comp=Z,11nm,1.3s							
BRG				pmax	pmax			
	comp=Z,33nm,1.8s							
BRG				MLR	MLR			
	comp=Z,19µm,21.8s							
BRG				MLR	MLR			
	comp=N,16µm,21.5s							
DAVOX	**Davos/Dischmat**	93.66	38	LR	LR	19 01 04.2		
	comp=N,30µm,21.0s,baz=303,slow=35							
DZM	**Mont Dzumac**	93.76	248	P	**P**	**18 20 16.5**	**+1.7**	
	comp=N,12nm,1.1s,baz=110,slow=9.2,SNR=4.9							
DZM				LR	LR	18 53 00.3		
	comp=N,53µm,20.8s,baz=120,slow=30							
DZM	**Mont Dzumac**	93.76	248	*e*P	**P**	**18 20 16.6**	**+1.7**	
	comp=N,67nm,1.4s							
DZM	**Mont Dzumac**	93.76	248	*e*PP	PP	18 23 56.3	-4.1	
	comp=N,1µm,25.6s							
DZM	**Mont Dzumac**	93.76	248	*e*PS	PS	18 32 38.8	-0.8	
	comp=N,9µm,27.4s							
DZM				*e*SS	SS	18 37 44.1	-0.2	
	comp=N,18µm,27.2s							
DZM				*e*LQ	LQ	18 46 27.0		
	comp=N,11µm,29.4s							
DZM				*e*LR	LR	18 50 24.3		
	comp=N,169µm,26.8s,baz=84							
RETA	**Reutte**	93.78	37	*i* P	**P**	**18 20 14.8**	**+0.3**	
	comp=N,29nm,1.6s,SNR=14							
FETA	**Feichten**	94.02	37	*i* P	**P**	**18 20 14.5**	**-1.2**	
	comp=N,59nm,1.3s,SNR=14							
MOTA	**Moosalm**	94.06	37	*i* P	**P**	**18 20 15.1**	**-0.8**	
	comp=N,113nm,1.1s,SNR=21							
PVCC	**Panska Ves**	94.14	33	AMS	AMS	19 05 20.0		
	comp=N,16µm,18.6s							
ZEA	**Zeya**	94.18	331	*e*P	**P**	**18 20 14.8**	**-1.3**	
ZEA				*e*		18 23 57.8		
ZEA				*e*		18 32 49.2		
ZEA				pmax	pmax			
	comp=E,10.0nm,1.3s							
ZEA				pmax	pmax			
	comp=N,10.0nm,1.4s							
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.4s							
ZEA				pmax	pmax			
	comp=Z,700nm,7.5s							
ZEA				pmax	pmax			
	comp=E,700nm,7.2s							
ZEA				pmax	pmax			
	comp=N,400nm,7.8s							
ZEA				pmax	pmax			
	comp=Z,1µm,7.6s							
SQTA	**Sankt Quirin**	94.19	37	*i* P	**P**	**18 20 15.5**	**-0.9**	
	comp=Z,72nm,1.0s,SNR=19							
VSU	**Vasula**	94.25	22	*i* P	**P**	**18 20 15.7**	**-0.6**	
VSU				pmax	pmax			
	comp=Z,57nm,1.2s							
VSU				MLR	MLR			
	comp=Z,88µm,18.0s							
TEY	**Ternei**	94.25	320	⇓*e*P	**P**	**18 20 16.1**	**-0.5**	
TEY				*e*		18 23 59.5		
TEY				pmax	pmax			
	comp=Z,100nm,2.5s							
TEY				pmax	pmax			
	comp=Z,20nm,2.0s							
WATA	**Walderalm**	94.33	37	*i* P	**P**	**18 20 16.3**	**-0.8**	
	comp=Z,79nm,1.3s,SNR=23							
WTTA	**Wattenberg**	94.40	37	*i* P	**P**	**18 20 18.0**	**+0.4**	
	comp=Z,82nm,1.3s,SNR=18							
KHC	**Kasperske Hory**	94.43	35	*i* P	**P**	**18 20 16.9**	**-0.5**	
KHC				pmax	pmax			
	comp=Z,30nm,1.7s							
KHC	**Kasperske Hory**	94.43	35	*e*P	**P**	**18 20 17.5**	**+0.1**	
KHC				*ex*	x	18 20 22.3		
KHC				*e*PP	**PP**	**18 24 02.3**	**-1.8**	
KHC				*ex*	x	18 31 02.0		
KHC				AMS	AMS	19 06 00.0		
	comp=Z,21µm,16.9s							
PRU	**Pruhonice**	94.44	33	*e*P	P	18 20 22.6	+5.2	
PRU				MLR	MLR			
	comp=Z,21µm,21.8s							
PRU	**Pruhonice**	94.44	33	*e*P	P	18 20 22.6	+5.2	
PRU				AMS	AMS	18 58 40.0		
	comp=Z,21µm,21.8s							
GERES	**GERESS Array B**	94.66	35	P	**P**	**18 20 18.1**	**-0.5**	
	comp=Z,0.6nm,0.4s,baz=307,slow=4.9,SNR=8.6							
GERES				PP	**PP**	**18 24 04.2**	**-1.8**	
	comp=Z,2.5nm,1.0s,baz=268,slow=4.0,SNR=4.4							
GERES				PKKPbc	**PKKPbc**	**18 37 17.4**	**+0.1**	
	comp=Z,0.3nm,0.5s,baz=249,slow=2.6,SNR=3.6							
GERES				PKPPKP	**P'P'df**	**18 45 29.6**	**-2.7**	
	comp=Z,0.1nm,0.3s,baz=150,slow=2.9,SNR=3.7							
GERES				LR	LR	19 02 28.5		
	comp=Z,14µm,18.0s,baz=311,slow=35							
GERES	**GERESS Array B**	94.66	35	P	**P**	**18 20 17.4**	**-1.1**	
KLR	**Kul'dur**	94.70	326	P	**P**	**18 20 19.1**	**+0.5**	
	comp=Z,6.7nm,0.9s,baz=41,slow=5.1,SNR=6.3							
KLR				LR	LR	18 57 52.9		
	comp=Z,14µm,21.2s,baz=48,slow=32							
KLR	**Kul'dur**	94.70	326	*ce*P	**P**	**18 20 17.7**	**-0.9**	
KLR				pmax	pmax			
	comp=Z,41nm,2.2s							
CHVC	**Chvalec**	94.86	32	AMS	AMS	19 00 50.0		
	comp=Z,17µm,20.9s							
OSTC	**Ostas**	94.96	32	*e*P	**P**	**18 20 21.0**	**+1.2**	
OSTC				*ex*	x	18 31 00.8		
OSTC				AMS	AMS	19 02 20.0		
	comp=Z,17µm,17.1s							
CKRC	**Cesky Krumlov**	95.00	35	*e*SKS	**SKSac**	**18 31 02.9**	**+6.2**	
CKRC				AMS	AMS	19 00 00.0		
	comp=Z,19µm,21.6s							
CTI	**Castel Tesino**	95.08	38	P	**P**	**18 20 18.6**	**-2.0**	
CTI				pmax	pmax			
	comp=Z,42nm,1.1s							
CTI	**Castel Tesino**	95.08	38	P	**P**	**18 20 18.6**	**-2.0**	
CTI				IAmb	IAmb	18 20 28.0		
	comp=Z,42nm,1.1s							
DPC	**Dobruska-Polom**	95.14	32	*e*P	**P**	**18 20 20.4**	**-0.3**	
DPC				MLR	MLR			
	comp=Z,17µm,17.6s							
DPC	**Dobruska-Polom**	95.14	32	*e*P	**P**	**18 20 20.4**	**-0.3**	
DPC				AMS	AMS	19 05 20.0		
	comp=Z,17µm,17.6s							
PABE	**Paberze**	95.29	26	P	**P**	**18 20 19.2**	**-1.9**	
TREC	**Trest**	95.34	34	AMS	AMS	18 59 20.0		
	comp=Z,24µm,21.7s							
VLC	**Villacollemand**	95.36	40	IAMs_20	IAMs_20	19 02 40.1		
	comp=Z,14µm,20.0s							
KBA	**Koelnbreinsper**	95.47	36	*e*P	**P**	**18 20 22.9**	**+0.5**	
	comp=Z,67nm,1.1s							
MOA	**Molln**	95.54	35	*e*P	**P**	**18 20 24.1**	**+1.6**	
	comp=Z,26nm,1.6s							
KRLC	**Kraliky**	95.54	33	*e*P	**P**	**18 20 24.2**	**+1.7**	
KRLC				MLR	MLR			
	comp=Z,17µm,17.4s							
KRLC	**Kraliky**	95.54	33	*e*P	**P**	**18 20 24.2**	**+1.7**	
KRLC				AMS	AMS	19 05 20.0		
	comp=Z,17µm,17.4s							
STAL	**STALIGIAL**	95.58	37	P	**P**	**18 20 20.8**	**-1.9**	
STAL				IAmb	IAmb	18 20 44.5		
	comp=Z,102nm,1.2s							
ZCCA	**Zocca**	95.61	40	P	**P**	**18 20 21.1**	**-1.8**	
ZCCA				IAmb	IAmb	18 21 23.0		
	comp=Z,92nm,1.5s							
HNR	**Honiara**	95.80	262	LR	LR	18 54 06.0		
	comp=Z,21µm,21.5s,baz=68,slow=30							
MYKA	**Terra Mystica**	95.90	37	*e*P	**P**	**18 20 25.3**	**+1.1**	
	comp=Z,29nm,1.3s							
VRAC	**Vranov**	95.92	33	LR	LR	19 01 39.4		
	comp=Z,15µm,21.8s,baz=308,slow=34							
VRAC	**Vranov**	95.92	33	*e*P	**P**	**18 20 23.3**	**-0.9**	
VRAC				*e*PP	**PP**	**18 24 12.8**	**-2.8**	
KRUC	**Moravsky**	95.96	34	*e*P	**P**	**18 20 24.2**	**-0.2**	
KRUC				*e*PP	**PP**	**18 24 12.8**	**-3.2**	
SUW	**Suwalki**	95.99	27	*e*P	**P**	**18 20 23.3**	**-1.1**	
SUW				*e*SS	SS	18 38 16.8	+3.9	
SUW				*e*L	L	19 03 45.9		
	comp=Z,20µm,21.6s							
SUW	**Suwalki**	95.99	27	P	**P**	**18 20 22.6**	**-1.8**	
SUW				MLR	MLR			
	comp=Z,23µm,19.0s							
SUW	**Suwalki**	95.99	27	P	**P**	**18 20 22.6**	**-1.8**	
MORC	**Moravsky Berou**	96.11	32	⇓P	P	18 20 30.0	+4.9	
MORC	**Moravsky Berou**	96.11	32	⇓P	P	18 20 30.0	+4.9	
MORC	**Moravsky Berou**	96.11	32	*e*P	**P**	**18 20 24.4**	**-0.7**	
MORC				*e*PP	**PP**	**18 24 13.8**	**-3.4**	
MORC	**Moravsky Berou**	96.11	32	P	**P**	**18 20 23.6**	**-1.6**	
CADS	**Cadrg**	96.18	37	*i* P	**P**	**18 20 24.1**	**-1.4**	
CADS				*e*PP	**PP**	**18 24 23.0**	**+5.1**	
CADS				*i* SKSac	**SKSac**	**18 31 11.5**	**+8.4**	
CADS				*e*S	**ScS**	**18 31 54.6**	**+8.2**	
CADS				*e*SP	**SP**	**18 33 10.7**	**+6.7**	
CADS				*e*SS	**SS**	**18 38 24.9**	**+8.6**	
OSSC	**Osservatorio P**	96.22	40	P	**P**	**18 20 23.0**	**-2.7**	
RAC	**Raciborz**	96.25	32	*e*P	**P**	**18 20 25.5**	**-0.2**	
RAC	**Raciborz**	96.25	32	*e*P	**P**	**18 20 25.5**	**-0.2**	
RAC				*e*		18 31 01.1		
RAC				MLR	MLR			
	comp=Z,22µm,17.9s							
KLMR	**Klimovskoe**	96.30	16	*e*P	**P**	**18 20 22.9**	**-2.7**	
KLMR				*e*		18 24 16.1		
KLMR				*e*S	**SKSac**	**18 30 59.7**	**-3.2**	
KLMR				*e*SS	**SS**	**18 38 20.8**	**+3.9**	
KLMR				pmax	pmax			
	comp=Z,48nm,1.4s							
KLMR				MLR	MLR			
	comp=Z,19µm,20.0s							
KLMR	**Klimovskoe**	96.30	16	*e*P	**P**	**18 20 23.0**	**-2.7**	
KLMR				AMP		18 20 38.8		
	comp=Z,48nm,1.4s							
KLMR				*e*PP	**PP**	**18 24 16.2**	**-2.0**	
KLMR				*e*S	**SKSac**	**18 30 59.8**	**-3.2**	
KLMR				*e*S	**SKSac**	**18 30 59.8**	**-3.2**	
KLMR				*e*SS	**SS**	**18 38 20.8**	**+3.9**	
KLMR				*e*SS	**SS**	**18 38 20.8**	**+3.9**	
KLMR				LQ	LQ	18 52 57.0		
KLMR				LQ	LQ	18 52 57.0		
KLMR				LR	LR	18 58 53.8		
KLMR				AMP		19 02 46.6		
	comp=Z,19µm,19.5s							
CONA	**Conrad Observa**	96.36	35	*e*P	**P**	**18 20 27.4**	**+1.1**	
	comp=Z,15nm,1.6s							
OKC	**Ostrava-Krasne**	96.38	32	*e*SKS	**SKSac**	**18 31 06.3**	**+2.4**	
OKC				AMS	AMS	19 07 10.0		
	comp=Z,18µm,14.8s							
OBKA	**Obir**	96.48	36	*i* P	**P**	**18 20 26.9**	**0.0**	
	comp=Z,89nm,1.4s,SNR=22							
BOD	**Bodaibo**	96.54	339	*e*P	**P**	**18 20 23.7**	**-3.1**	
BOD				pmax	pmax			
	comp=Z,35nm,1.4s							
ARSA	**Arzberg**	96.58	35	P	**P**	**18 20 28.9**	**+1.7**	
	comp=Z,9.2nm,1.1s							
SOKA	**Soboth**	96.65	36	*i* P	**P**	**18 20 27.2**	**-0.5**	
	comp=Z,42nm,1.3s,SNR=15							
PERS	**Pernice**	96.72	36	*i* P	**P**	**18 20 27.6**	**-0.4**	
SMOL	**Smolenice**	96.84	34	*e*	P	18 20 39.9	+12	
MODS	**Modra-Piesok**	96.84	34	*e*	P	18 20 40.7	+12	
NACGM	**Naroch**	96.85	25	*i* P	P	18 20 23.0	-5.3	
PRGR	**Permogore**	97.04	13	*e*P	**P**	**18 20 27.6**	**-1.4**	
PRGR				*e*		18 24 26.6		
PRGR				pmax	pmax			
	comp=Z,35nm,1.1s							
USRK	**Ussuriysk Ar.**	97.47	322	P	**P**	**18 20 30.3**	**-1.0**	
	comp=Z,1.9nm,0.7s,baz=145,slow=37,SNR=1.8							
USRK				LR	LR	18 58 32.4		
	comp=Z,11µm,21.8s,baz=43,slow=32							
MJAR	**Matsushiro Arr**	97.54	312	P	**P**	**18 20 30.5**	**-1.3**	
	comp=Z,4.0nm,0.9s,baz=23,slow=3.1,SNR=6.4							
MJAR				LR	LR	18 55 30.5		
	comp=Z,19µm,21.6s,baz=69,slow=30							
MJAR	**Matsushiro Arr**	97.54	312	P	**P**	**18 20 30.5**	**-1.3**	
MAJO	**Matsushiro**	97.54	312	*i* P	Pdif	18 20 32.5	+0.6	
MAJO				pmax	pmax			
	comp=Z,27nm,0.9s							
MAJO				MLR	MLR			
	comp=Z,9µm,20.0s							
MAT	**Matsushiro**	97.54	312	P	**P**	**18 20 30.7**	**-1.1**	
MAT				S	**S**	**18 31 55.4**	**-2.4**	
VYHS	**Vyhne**	97.58	33	*e*P	Pdif	18 20 37.2	+5.4	
VYHS	**Vyhne**	97.58	33	*e*	Pdif	18 20 37.2	+5.4	
MNK	**Minsk**	97.58	25	*i* P	**P**	**18 20 31.1**	**-0.5**	
MNK				*i*		18 24 27.6		
MNK				*i* PPP	PPP	18 26 31.7		
MNK				*i* S	**SKSac**	**18 31 08.3**	**-1.6**	
MNK				*i* SS	**SS**	**18 38 34.5**	**-0.8**	
MNK				*i* SSS	SSS	18 42 24.4		
MNK				pmax	pmax			
	comp=N,27nm,1.8s							
MNK				pmax	pmax			
	comp=E,3.0nm,1.7s							
MNK				pmax	pmax			
	comp=Z,14nm,0.9s							
MNK				MLR	MLR			
	comp=N,11µm,24.0s							
MNK				MLR	MLR			
	comp=E,2µm,20.0s							
MNK				MLR	MLR			
	comp=Z,19µm,20.0s							
MNK	**Minsk**	97.58	25	*i* P	**P**	**18 20 31.2**	**-0.4**	
	comp=E,3.0nm,1.7s							
MNK				*i* P	**P**	**18 20 31.2**	**-0.4**	
	comp=N,27nm,1.8s							
MNK				*i* P	**P**	**18 20 31.2**	**-0.4**	
	comp=Z,14nm,0.9s,baz=318							
MNK				*i* PP	**PP**	**18 24 27.6**	**-0.6**	
MNK				*i* PPP	PPP	18 26 31.7		
MNK				*i* S	**SKSac**	**18 31 08.3**	**-1.6**	
MNK				*i* SS	**SS**	**18 38 34.5**	**-0.8**	
MNK				*i* SSS	SSS	18 42 24.5		
MNK				*i* LQ	LQ	18 58 29.2		
MNK				*i* LR	LR	19 02 23.8		
MNK				*i* LRM	MLR	19 06 01.3		
	comp=N,11µm,23.7s							
MNK				*i* LRM	MLR	19 06 01.9		
	comp=E,2µm,19.9s							
MNK				*i* LRM	MLR	19 06 16.5		
	comp=Z,19µm,20.4s							
MPLH	**Magyarpolny**	97.72	35	PDIF	**P**	**18 20 31.8**	**-0.6**	
JHJ	**Hachijo jima 2**	98.06	309	LR	LR	18 59 14.0		
	comp=Z,24µm,19.5s,baz=66,slow=32							
AQU	**L'Aquila**	98.19	40	IAMs_20	IAMs_20	19 03 23.1		
	comp=Z,16µm,22.0s							
PSZ	**Piszkesteto**	98.49	33	⇑P	Pdif	18 20 41.0	+5.1	
PSZ	**Piszkesteto**	98.49	33	⇑P	Pdif	18 20 41.0	+5.0	
PSZ	**Piszkesteto**	98.49	33	IAMs_20	IAMs_20	19 07 27.4		
	comp=Z,15µm,18.0s							
PSZ	**Piszkesteto**	98.49	33	PDIF	Pdif	18 20 36.2	+0.2	
MDJ	**Mudanjiang**	98.61	323	IAMs_20	IAMs_20	19 02 53.1		
	comp=Z,13µm,22.0s							
KOVH	**Kovagotottos**	98.70	35	PDIF	Pdif	18 20 36.7	-0.1	
MORH	**Mrgy, Hungar**	98.91	35	⇑P	Pdif	18 20 42.4	+4.6	
MORH	**Mrgy, Hungar**	98.91	35	PDIF	**P**	**18 20 37.3**	**-0.4**	
KEST	**Kesra**	99.07	48	P	**Pdif**	**18 20 37.1**	**-1.7**	
	comp=Z,9.2nm,1.0s,baz=274,slow=5.9,SNR=6.6							
KEST				LR	LR	19 03 34.4		
	comp=Z,9µm,21.9s,baz=264,slow=34							
KEST	**Kesra**	99.07	48		**Pdif**	**18 20 36.4**	**-2.4**	
KEST				IAmb	IAmb	18 20 54.3		
	comp=Z,43nm,1.1s							
BNX	**BinXian**	99.15	325	⇓P	**Pdif**	**18 20 39.0**	**+0.2**	
BNX				PP	**PP**	**18 24 46.5**	**+5.9**	
BNX				SS	SS	18 39 01.1	+3.2	
BNX				pmax	pmax			
	comp=Z,920nm,5.4s							
BNX				LR	LR			
	comp=Z,4µm,20.3s							
BNX				LR	LR			
	comp=Z,12µm,22.0s							
BNX				LR	LR			
	comp=Z,16µm,21.3s							
TIC	**Toumodi**	99.17	80	*e*P	**Pdif**	**18 20 40.9**	**+1.3**	
UZH	**Uzhgorod**	99.24	31	*e*P	**Pdif**	**18 20 35.4**	**-3.7**	
UZH				*e*		18 20 45.5		
UZH				*e*		18 24 35.3		
UZH				*e*		18 31 11.6		
UZH				*e*S	S	18 31 59.2	-12	
UZH				*i* SP	**SP**	**18 33 35.4**	**-1.4**	
UZH				*e*SS	**SS**	**18 38 51.3**	**-7.5**	
UZH				MLR	MLR			
	comp=N,2µm,17.0s							
UZH				MLR	MLR			
	comp=E,4µm,17.0s							
UZH				MLR	MLR			
	comp=Z,2µm,17.0s							
LVV	**L'vov**	99.26	30	*e*P	**Pdif**	**18 20 41.8**	**+2.6**	
LVV				*e*		18 24 42.0		
LVV				*e*		18 31 17.2		
LVV				*e*S	**S**	**18 32 09.3**	**-2.5**	
LVV				*e*		18 33 38.6		
LVV				*e*		18 38 58.1		
LVV				MLR	MLR			
	comp=E,4µm,18.0s							
LVV				MLR	MLR			
	comp=N,12µm,20.0s							
LVV				MLR	MLR			
	comp=Z,18µm,20.0s							
LIC	**Lamto**	99.31	80	*e*P	**Pdif**	**18 20 41.4**	**+1.2**	
	comp=Z,106nm,1.4s							
DBIC	**Dimbokro**	99.32	80	P	**Pdif**	**18 20 40.5**	**+0.3**	
	comp=Z,9.6nm,1.1s,baz=322,slow=1.6,SNR=4.0							
DBIC				LR	LR	19 01 59.6		
	comp=Z,5µm,22.0s,baz=302,slow=33							
KIC	**Kosan Boka**	99.53	80	*e*P	**Pdif**	**18 20 42.5**	**+1.4**	
	comp=Z,24nm,1.2s							
TRPA	**Tarpa**	99.69	32	⇑P	**Pdif**	**18 20 40.7**	**-0.4**	
MOS	**Moscow**	100.08	19	*e*P	**Pdif**	**18 20 40.2**	**-2.5**	
MOS				*e*PP	**PP**	**18 24 44.7**	**-2.4**	
DCZ	**Deep Cove**	100.22	225	IAMs_20	IAMs_20	18 59 18.5		
	comp=Z,17µm,19.0s							
FRGS	**Fruska Gora**	100.22	35	⇑P	**Pdif**	**18 20 45.8**	**+2.2**	
OBN	**Obninsk**	100.25	20	⇑*e*P	**Pdif**	**18 20 43.4**	**-0.1**	
OBN				*e*		18 24 50.8		
OBN				*e*PPP	PPP	18 26 59.0		
OBN				*i*		18 32 16.7		
OBN				*i* SS	SS	18 39 10.2	-2.3	
OBN				*i* SSS	SSS	18 42 55.2		
OBN				pmax	pmax			
	comp=Z,48nm,1.9s							
OBN				MLR	MLR			
	comp=Z,32µm,17.0s							
HIA	**Hailar**	100.66	331	IAMs_20	IAMs_20	19 13 53.2		
	comp=Z,15µm,19.0s							
BZS	**Buzias**	100.89	34	⇑P	**Pdif**	**18 20 49.6**	**+3.0**	
BZS	**Buzias**	100.89	34	⇑P	**Pdif**	**18 20 49.6**	**+3.0**	
AKASG	**Malin Array Be**	100.95	27	P	**Pdif**	**18 20 44.6**	**-2.1**	
	comp=Z,4.0nm,0.8s,baz=300,slow=3.6,SNR=11							
AKASG				PP	**PP**	**18 24 52.1**	**-1.8**	
	comp=Z,7.7nm,1.0s,baz=314,slow=6.2,SNR=7.3							
AKASG				PKKP	**PKKPdf**	**18 37 05.0**	**+0.4**	
	comp=Z,0.5nm,0.6s,baz=112,slow=1.7,SNR=5.3							
AKASG	**Malin Array Be**	100.95	27	P	**Pdif**	**18 20 44.4**	**-2.3**	
AKASG	**Malin Array Be**	100.95	27	Pdif	**Pdif**	**18 20 44.4**	**-2.3**	
DIVS	**Divibare**	100.99	36	IAMs_20	IAMs_20	19 10 34.8		
	comp=Z,13µm,18.0s							
ARCR	**ARCALIA**	101.30	32	⇓P	**Pdif**	**18 20 51.2**	**+2.8**	
BUR01	**Bucovina Ar. S**	101.36	31	⇓P	**Pdif**	**18 20 51.4**	**+2.7**	
CN2	**Changchun**	101.46	324	*e*P	**Pdif**	**18 20 42.0**	**-7.1**	
CN2				*e*PP	**PP**	**18 24 53.6**	**-4.5**	
CN2	**Changchun**	101.46	324	*es*S	sS	18 32 36.3	+5.1	
CN2	**Changchun**	101.46	324	*e*SS	SS	18 39 16.8	-13	
CN2				LR	LR			
	comp=N,6µm,18.0s							
CN2				LR	LR			
	comp=E,7µm,18.0s							
CN2				LR	LR			
	comp=Z,12µm,20.0s							
MDVR	**Moldovita**	101.49	35	⇑P	**Pdif**	**18 20 55.0**	**+5.7**	
PDG	**Podgorica**	101.63	38	⇑P	**Pdif**	**18 20 50.5**	**+0.6**	
PDG	**Podgorica**	101.63	38	IAMs_20	IAMs_20	19 05 40.8		
	comp=Z,16µm,20.0s							
GZR	**Gura Zlata**	101.65	34	⇑P	**Pdif**	**18 20 55.3**	**+5.2**	
HERR	**Herculane**	101.80	34	⇓P	**Pdif**	**18 20 59.2**	**+8.6**	
TIP	**Timpagrande**	102.10	41	IAMs_20	IAMs_20	19 11 04.7		
	comp=Z,10µm,18.0s							
SORM	**Soroca**	102.46	29	⇑P	**Pdif**	**18 20 55.3**	**+1.8**	
SORM	**Soroca**	102.46	29	⇑

PYAG				AMS	AMS			
	comp=Z,911nm,4.4s							
PGB	**Panagyurishte**	**104.30**	**35**	P	**PKiKP**	**18 25 18.9**	**+0.3**	
IRK	**Irkutsk**	**104.31**	**341**	*e*P	**Pdif**	**18 21 02.4**	**+0.7**	
IRK				pmax	pmax			
	comp=Z,40nm,3.2s							
VSR	**Storozhevoye**	**104.37**	**21**	*e*P	**Pdif**	**18 21 00.5**	**-1.4**	
VSR				pmax	pmax			
	comp=Z,8.0nm,0.4s							
SUJ	**Sinuiju**	**104.38**	**322**	P	**Pdif**	**18 21 11.1**	**+8.9**	
PVL	**Pavlikeni**	**104.47**	**34**	P	**PKiKP**	**18 25 19.7**	**+1.0**	
CFR	**Carcaliu**	**104.51**	**31**	⇑P	**Pdif**	**18 21 04.7**	**+2.0**	
CFR	**Carcaliu**	**104.51**	**31**	⇑P	**Pdif**	**18 21 04.7**	**+2.0**	
MMB	**Musomiste**	**104.71**	**36**	P	**PKiKP**	**18 25 15.5**	**-3.8**	
SZH	**Strazhica**	**104.75**	**34**	P	**PKiKP**	**18 25 21.7**	**+2.4**	
HARR	**Harsova**	**104.77**	**31**	⇑P	**Pdif**	**18 21 08.3**	**+4.5**	
HARR	**Harsova**	**104.77**	**31**	⇑P	**Pdif**	**18 21 08.3**	**+4.5**	
PLD	**Plovdiv**	**104.90**	**35**	P	**PKiKP**	**18 25 21.8**	**+2.2**	
RZN	**Rozhen**	**105.19**	**35**	P	PKiKP	18 25 29.4	+9.0	
DIM	**Dimitrovgrad**	**105.39**	**35**	P	**PKiKP**	**18 25 25.8**	**+5.3**	
PRD	**Provadia**	**105.56**	**33**	P	PKiKP	18 25 29.7	+9.0	
KDZ	**Kurdzhali**	**105.60**	**35**	P	**PKiKP**	**18 25 28.0**	**+7.1**	
JMB	**Yambol**	**105.66**	**34**	P	PKiKP	18 25 29.6	+8.6	
BELG	**Belogornoye**	**105.88**	**16**	PP	PKiKP	18 25 29.2	+8.2	
	comp=Z,16nm,1.0s,baz=312,slow=4.8,SNR=4.7							
ZAK	**Zakamensk**	**106.23**	**340**	*e*P	**Pdif**	**18 21 05.8**	**-4.6**	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.8s							
DL2	**Dalian**	**106.83**	**322**	Pdif	**Pdif**	**18 21 13.8**	**+0.7**	
DL2				PP	**PP**	**18 25 39.3**	**+1.1**	
DL2				SS	SS	18 40 49.0	+5.0	
DL2				AMB	AMB			
	comp=Z,850nm,9.0s							
DL2				LR	LR			
	comp=Z,6μm,23.2s							
DL2				LR	LR			
	comp=Z,7μm,19.8s							
DL2				LR	LR			
	comp=Z,12μm,18.4s							
ZALV	**Zalesovo Beam**	**106.97**	**353**	Pdiff	**Pdif**	**18 21 16.6**	**+3.2**	
	comp=Z,0.4nm,0.4s,baz=1.4,slow=5.8,SNR=2.7							
ZALV				PP	**PP**	**18 25 35.9**	**-2.5**	
	comp=Z,1.7nm,0.9s,baz=350,slow=5.0,SNR=2.4							
ZALV				PKKP	**PKKPdf**	**18 36 55.3**	**+1.7**	
	comp=Z,0.2nm,0.3s,baz=251,slow=4.4,SNR=1.9							
SBA	**Scott Base**	**107.32**	**193**	IAMs_20	IAMs_20	19 11 33.4		
	comp=Z,8μm,19.0s							
SONM	**Songino Array**	**107.34**	**337**	Pdiff	**Pdif**	**18 21 09.4**	**-6.0**	
	comp=Z,0.6nm,0.9s,baz=141,slow=3.1,SNR=3.5							
SONM				PP	**PP**	**18 25 37.8**	**-3.8**	
	comp=Z,2.2nm,1.1s,baz=7.8,slow=3.8,SNR=5.6							
SONM				PKKP	**PKKPdf**	**18 36 50.6**	**-2.4**	
	comp=Z,1.7nm,1.1s,baz=183,slow=1.0,SNR=4.9							
BVAR	**Borovoye Array**	**108.57**	**2**	PP	**PP**	**18 25 48.4**	**-1.8**	
	comp=Z,3.5nm,1.0s,baz=42,slow=6.8,SNR=5.4							
BJI	**Beijing**	**109.06**	**326**	Pdif	**Pdif**	**18 21 28.9**	**+5.9**	
BJI				PP	**PP**	**18 26 00.0**	**+5.7**	
BJI				S	**Sdif**	**18 33 35.0**	**+1.0**	
BJI				SS	**SS**	**18 41 20.0**	**+6.0**	
BJI				AMB	AMB			
	comp=Z,1μm,8.1s							
BJI				LR	LR			
	comp=Z,6μm,22.2s							
BJI				LR	LR			
	comp=Z,9μm,21.4s							
BJI				LR	LR			
	comp=Z,20μm,22.8s							
BJT	**Baijiatuau**	**109.08**	**326**	IAMs_20	IAMs_20	19 04 29.0		
	comp=Z,17μm,22.0s							
AKTO	**Aktyubinsk**	**109.95**	**10**	PKKPbc	PKKPbc	18 36 33.0	+0.3	
	comp=Z,1.1nm,0.8s,baz=298,slow=6.3,SNR=3.6							
HHC	**Hu-ho-hao-te**	**110.78**	**330**	*e*PKP	**PKiKP**	**18 25 29.9**	**-0.9**	
HHC				PP	**PP**	**18 26 11.0**	**+4.2**	
HHC				SKKS		18 32 59.5		
HHC				SS	**SS**	**18 41 38.9**	**+1.8**	
HHC				AMB	AMB			
	comp=Z,3μm,8.8s							
HHC				LR	LR			
	comp=Z,11μm,19.5s							
HHC				LR	LR			
	comp=Z,9μm,18.1s							
HHC				LR	LR			
	comp=Z,16μm,20.7s							
KURBB	**Kurchatov Arra**	**110.84**	**356**	PP	**PP**	**18 26 04.3**	**-2.3**	
	comp=Z,3.5nm,1.0s,baz=7.4,slow=6.3,SNR=4.1							
SEM	**Semipalatinsk**	**110.93**	**355**	*e*PP	**PP**	**18 26 04.4**	**-3.1**	
	baz=355							
SOC	**Sochi**	**110.95**	**25**	*i* PKIKP	**PKiKP**	**18 25 29.1**	**-1.7**	
SOC				*e*		18 26 05.5		
SOC				*e*PPP	PPP	18 28 24.8		
SOC				*e*PS	**SP**	**18 35 34.7**	**-3.3**	
SOC				*e*SS	**SS**	**18 41 34.8**	**-4.0**	
SOC				MLR	MLR			
	comp=Z,20μm,18.0s							
ISP	**Isparta**	**111.08**	**35**	IAMs_20	IAMs_20	19 13 06.2		
	comp=Z,16μm,21.0s							
BRTR	**Keskin Array B**	**111.29**	**32**	PKiKP	**PKiKP**	**18 25 32.4**	**+0.6**	
	comp=Z,1.2nm,0.8s,baz=96,slow=3.7,SNR=5.3							
BRTR				PKKPbc	**PKKPbc**	**18 36 29.2**	**+1.1**	
	comp=Z,0.8nm,0.9s,baz=151,slow=6.3,SNR=2.7							
BRZS	**Berezniki**	**111.66**	**0**	*e*PP	**PP**	**18 26 10.9**	**-1.6**	
	baz=0.3							
BTO	**Baotou**	**111.70**	**330**	*e*PKP	**PKiKP**	**18 25 35.3**	**+2.8**	
BTO				PP	**PP**	**18 26 18.4**	**+5.0**	
BTO				LR	LR			
	comp=Z,16μm,19.3s							
BTO				LR	LR			
	comp=Z,46μm,22.8s							
HNS	**HongShan**	**111.78**	**325**	⇓Pdif	**Pdif**	**18 21 32.4**	**-2.7**	
HNS				PP	**PP**	**18 26 14.3**	**+0.4**	
HNS				LR	LR			
	comp=Z,8μm,20.6s							
HNS				LR	LR			
	comp=Z,13μm,19.1s							
HNS				LR	LR			
	comp=Z,14μm,19.8s							
KIV	**Kislovodsk**	**111.79**	**23**	*i* P	**Pdif**	**18 21 33.9**	**-1.3**	
KIV				*i*		18 25 30.9		
KIV				*e*		18 26 12.0		
KIV				*e*PS	**PS**	**18 35 44.6**	**-2.3**	
KIV				*e*SS	SS	18 41 47.3	-2.8	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,16μm,21.0s							
SSE	**Sheshan**	**112.23**	**316**	PKP	**PKiKP**	**18 25 36.3**	**+2.7**	
SSE				PP	**PP**	**18 26 22.8**	**+5.2**	
SSE				SS	SS	18 41 59.8	+2.7	
SSE				AMB	AMB			
	comp=Z,980nm,7.1s							
SSE				LR	LR			
	comp=Z,1μm,19.4s							
SSE				LR	LR			
	comp=Z,3μm,19.2s							
NEY	**Neytrino**	**112.41**	**23**	*i* PKIKP	**PKiKP**	**18 25 34.1**	**+0.2**	
ZSN	**Zaisan**	**113.33**	**351**	*e*PP	**PP**	**18 26 21.8**	**-2.7**	
	baz=351							
GROC	**Groznyy**	**113.56**	**21**	*i* PKIKP	**PKiKP**	**18 25 31.8**	**-4.0**	
GROC				*e*		18 26 23.4		
GROC				*e*		18 32 48.6		
GROC				pmax	pmax			
	comp=Z,9.0nm,0.5s							
MKAR	**Makanchi Array**	**114.31**	**353**	PKP	PKPdf	18 25 37.7	+0.5	
	comp=Z,2.0nm,0.9s,baz=8.7,slow=2.2,SNR=7.3							
MKAR				PP	**PP**	**18 26 26.5**	**-4.9**	
	comp=Z,2.5nm,1.0s,baz=0.0,slow=2.4,SNR=3.8							
MKAR				PKKPbc	**PKKPbc**	**18 36 19.5**	**+1.3**	
	comp=Z,2.2nm,1.1s,baz=190,slow=6.2,SNR=4.1							
MAKZ	**Makanchi**	**114.33**	**353**	IAMs_20	IAMs_20	19 20 41.3		
	comp=Z,14μm,21.0s							
MAK	**Makhachkala**	**114.35**	**20**	*i* P	**Pdif**	**18 21 39.5**	**-7.0**	
MAK				*i*		18 25 33.1		
MAK				*e*		18 26 27.6		
MAK				*e*		18 32 15.4		
MAK				*e*PS	**PS**	**18 36 04.0**	**-6.2**	
MAK				*e*PS	PKKPbc	18 36 09.0	-8.8	
MAK				pmax	pmax			
	comp=Z,292nm,1.0s							
MAK				pmax	pmax			
	comp=Z,1μm,2.3s							
MAK				MLR	MLR			
	comp=Z,12μm,17.0s							
CSS	**Mathiatis**	**114.72**	**35**	IAMs_20	IAMs_20	19 16 34.0		
	comp=Z,8μm,19.0s							
LYN	**LuoYang**	**115.10**	**325**	*e*PKP	**PKPdf**	**18 25 41.3**	**+2.3**	
LYN				PP	**PP**	**18 26 44.0**	**+6.4**	
LYN				AMB	AMB			
	comp=Z,1μm,9.8s							
LYN				LR	LR			
	comp=Z,7μm,23.5s							
LYN				LR	LR			
	comp=Z,6μm,25.5s							
GNI	**Garni**	**115.84**	**24**	IAMs_20	IAMs_20	19 16 50.7		
	comp=Z,13μm,18.0s							
TATO	**Taipei**	**115.87**	**311**	IAMs_20	IAMs_20	19 05 33.9		
	comp=Z,15μm,22.0s							
YHNB	**Yeheng**	**116.14**	**311**	IAMs_20	IAMs_20	19 08 41.1		
	comp=Z,12μm,21.0s							
NACB	**Ninganchiao**	**116.28**	**310**	IAMs_20	IAMs_20	19 18 02.0		
	comp=Z,9μm,19.0s							
WMQ	**Urumqi**	**116.37**	**348**	*e*PKP	**PKPdf**	**18 25 44.4**	**+3.1**	
WMQ				PP	**PP**	**18 26 47.9**	**+1.9**	
WMQ				SKKS		18 33 46.4		
WMQ				SS	**SS**	**18 42 47.1**	**-3.0**	
WMQ				AMB	AMB			
	comp=Z,2μm,9.7s							
WMQ				LR	LR			
	comp=Z,26μm,17.3s							
WMQ				LR	LR			
	comp=Z,13μm,21.1s							
WMQ				LR	LR			
	comp=Z,16μm,18.5s							
TDK	**Taldyqorghan**	**116.45**	**356**	*e*PKIKP	**PKiKP**	**18 25 40.2**	**-1.1**	
TDK				*e*		18 26 44.3		
TDK	**Taldyqorghan**	**116.45**	**356**	*e*PKP	**PKiKP**	**18 25 40.3**	**-1.1**	
	baz=356							
TDK				*e*PP	**PP**	**18 26 44.4**	**-2.1**	
	baz=356							
BTLS	**Baital**	**116.59**	**359**	*e*PP	PP	18 26 44.9	-2.5	
	baz=359							
WHN	**Wuhan**	**116.92**	**320**	PKPbc	PKiKP	18 25 50.8	+8.2	
WHN				PP	**PP**	**18 26 49.3**	**-1.3**	
WHN	**Wuhan**	**116.92**	**320**	SS	SS	18 42 43.1	-16	
WHN				AMB	AMB			
	comp=Z,3μm,5.9s							
WHN				LR	LR			
	comp=N,10μm,18.2s							
WHN				LR	LR			
	comp=E,15μm,16.5s							
WHN				LR	LR			
	comp=Z,27μm,18.3s							
YULB	**Yu-li**	**116.97**	**310**	IAMs_20	IAMs_20	19 11 59.4		
	comp=Z,9μm,20.0s							
SSLB	**Suanglung**	**116.98**	**310**	IAMs_20	IAMs_20	19 12 40.5		
	comp=Z,11μm,22.0s							
GTA	**Gaotai**	**117.01**	**337**	*e*PKP	**PKiKP**	**18 25 44.8**	**+2.0**	
GTA				PP	**PP**	**18 26 51.9**	**+1.1**	
GTA				SS	SS	18 42 59.5	+0.5	
GTA				AMB	AMB			
	comp=Z,2μm,10.5s							
GTA				LR	LR			
	comp=Z,11μm,24.0s							
GTA				LR	LR			
	comp=Z,11μm,20.0s							
GTA				LR	LR			
	comp=Z,17μm,23.6s							
XAN	**Xi'an**	**117.39**	**327**	Pdif	**Pdif**	**18 21 56.1**	**-4.2**	
XAN				PKP	**PKPdf**	**18 25 40.8**	**-2.7**	
XAN				sPKP		18 25 52.4		
XAN				PP	**PP**	**18 26 53.5**	**-0.2**	
XAN				PKS	**PKSdf**	**18 29 22.3**	**+2.0**	
XAN				SS	SS	18 43 03.4	-1.0	
XAN				AMB	AMB			
	comp=Z,2μm,8.8s							
XAN				LR	LR			
	comp=Z,11μm,19.8s							
XAN				LR	LR			
	comp=Z,10μm,19.6s							
XAN				LR	LR			
	comp=Z,16μm,20.1s							
STKA	**Stephens Creek**	**117.46**	**243**	PKP	**PKiKP**	**18 25 44.3**	**+0.8**	
	comp=Z,3.3nm,0.9s,baz=334,slow=6.2,SNR=5.6							
STKA				PKKPab	**PKKPab**	**18 36 09.3**	**+0.3**	
	comp=Z,6.1nm,0.9s,baz=292,slow=6.2,SNR=8.3							
STKA	**Stephens Creek**	**117.46**	**243**	PKIKP	**PKiKP**	**18 25 44.6**	**+1.1**	
STKA	**Stephens Creek**	**117.46**	**243**		**PKiKP**	**18 25 44.6**	**+1.1**	
TPUB	**Ta-pu**	**117.51**	**310**	IAMs_20	IAMs_20	19 12 37.7		
	comp=Z,10μm,21.0s							
KUU	**Kurty**	**117.67**	**357**	*e*PP	PP	18 26 52.5	-2.5	
	baz=357							
KUU				*e*SKP		18 29 16.1		
	baz=357							
CHKK	**Chushkaly**	**117.68**	**357**	*e*PKP	**PKPdf**	**18 25 42.6**	**-1.2**	
	baz=357							
CHKK				*e*PP	**PP**	**18 26 52.3**	**-2.7**	
	baz=357							
SGDS	**Sogindy**	**118.17**	**359**	*e*PP	PP	18 26 56.4	-2.1	
	baz=359							
LZH	**Lanzhou**	**118.20**	**332**	*e*PKP	**PKiKP**	**18 25 48.9**	**+3.7**	
LZH				PP	**PP**	**18 27 01.8**	**+2.5**	
LZH				SKKS		18 34 00.8		
LZH				AMB	AMB			
	comp=Z,2μm,4.9s							
LZH				LR	LR			
	comp=Z,15μm,18.4s							
LZH				LR	LR			
	comp=Z,17μm,17.9s							
LZH				LR	LR			
	comp=Z,30μm,19.5s							
UZB	**Uzynbulak**	**118.24**	**355**	*e*PP	PP	18 26 56.4	-2.7	
	baz=355							
UZB				*e*SKP		18 29 18.1		
	baz=355							
MDOK	**Medeo**	**118.36**	**357**	*e*PP	PP	18 26 58.7	-1.3	
	baz=357							
SATY	**Saty**	**118.38**	**355**	*e*PP	PP	18 26 58.3	-1.7	
	baz=356							
KNMB	**Chin-men Tao**	**118.38**	**312**	IAMs_20	IAMs_20	19 20 28.3		
	comp=Z,8μm,19.0s							
KST	**Kastek**	**118.54**	**358**	*e*PP	PP	18 26 59.1	-2.1	
	baz=358							
AAK	**Ala-Archa**	**118.99**	**359**	PKP	**PKiKP**	**18 25 48.0**	**+1.5**	
	comp=Z,2.1nm,0.9s,baz=190,slow=4.0,SNR=6.2							
AAK				PP	**PP**	**18 27 01.9**	**-2.4**	
	comp=Z,3.5nm,1.1s,baz=41,slow=2.1,SNR=4.7							
AAK	**Ala-Archa**	**118.99**	**359**	PKIKP	**PKiKP**	**18 25 47.6**	**+1.0**	
AAK				MLR	MLR			
	comp=Z,45μm,19.0s							
AAK	**Ala-Archa**	**118.99**	**359**		**PKiKP**	**18 25 47.6**	**+1.0**	
CNSH	**ChangSha**	**119.47**	**319**	⇑PKP	**PKiKP**	**18 25 49.3**	**+1.7**	
CNSH				LR	LR			
	comp=Z,6μm,18.8s							
CNSH				LR	LR			
	comp=Z,7μm,19.6s							
CNSH				LR	LR			
	comp=Z,9μm,18.9s							
TARG	**Taragay, Kyrgy**	**119.74**	**356**		**PKPdf**	**18 25 47.2**	**-1.1**	
ENH	**Enshi**	**119.97**	**324**		**PKPdf**	**18 25 47.8**	**-0.8**	
ENH				IAMs_20	IAMs_20	19 19 50.1		
	comp=Z,11μm,22.0s							
GOMU	**GeErMu**	**121.65**	**339**	Pdif	**Pdif**	**18 22 18.8**	**-0.8**	
GOMU				SKS	**SKSdf**	**18 33 01.3**	**-4.2**	
GOMU				SS	**SS**	**18 43 58.8**	**-0.5**	
GOMU				AMB	AMB			
	comp=Z,190nm,5.7s							
GOMU				LR	LR			
	comp=Z,8μm,21.1s							
GOMU				LR	LR			
	comp=Z,10μm,20.1s							
GOMU				LR	LR			
	comp=Z,8μm,21.8s							
GEYT	**Alibeck**	**122.00**	**14**	PKP	**PKiKP**	**18 25 53.6**	**+1.2**	
	comp=Z,9.6nm,0.9s,baz=27,slow=3.6,SNR=7.5							
KSH	**Kashi**	**122.05**	**357**	PKP	**PKPdf**	**18 25 48.5**	**-3.9**	
KSH				PP	PP	18 27 35.8	+11	
KSH				SKS	**SKSdf**	**18 33 02.3**	**-3.3**	
KSH	**Kashi**	**122.05**	**357**	PKP	**PKiKP**	**18 25 54.3**	**+1.7**	
KSH				PP	**PP**	**18 27 32.4**	**+7.2**	
KSH				SKKS		18 34 28.5		
KSH				AMB	AMB			
	comp=Z,570nm,5.5s							
KSH				LR	LR			
	comp=Z,36μm,21.0s							
KSH				LR	LR			
	comp=Z,20μm,19.2s							
KSH				LR	LR			
	comp=Z,32μm,20.6s							
DAV	**Davao City (W)**	**122.17**	**291**	IAMs_20	IAMs_20	19 05 38.5		
	comp=Z,11μm,22.0s							
WB0	**Warramunga Arr**	**122.28**	**258**	PKPdf	**PKPdf**	**18 25 51.5**	**-1.6**	
WRAB	**Tennant Creek**	**122.35**	**258**	*i* PKIKP	**PKiKP**	**18 25 54.7**	**+1.2**	
WB2	**Warramunga Arr**	**122.35**	**258**	PKPdf	**PKPdf**	**18 25 50.0**	**-3.2**	
WRA	**Warramunga Arr**	**122.36**	**258**	PKP	**PKPdf**	**18 25 50.8**	**-2.5**	
	comp=Z,8.9nm,1.0s,baz=78,slow=2.3,SNR=27							
WRA				PP	**PP**	**18 27 29.8**	**+0.3**	
	comp=Z,4.2nm,1.2s,baz=78,slow=5.6,SNR=6.2							
WRA				PKKPab	**PKKPab**	**18 35 49.6**	**+1.2**	
	comp=Z,1.2nm,1.1s,baz=253,slow=2.6,SNR=2.2							
WRA	**Warramunga Arr**	**122.36**	**258**	PKPdf	**PKPdf**	**18 25 50.1**	**-3.2**	
CD2	**Chengdu**	**122.50**	**329**	PKP	**PKiKP**	**18 25 53.8**	**+0.2**	
CD2				SS	SS	18 44 09.5	-0.6	
CD2				AMB	AMB			
	comp=Z,2μm,8.3s							
CD2				LR	LR			
	comp=Z,11μm,19.6s							
CD2				LR	LR			
	comp=Z,12μm,18.6s							
HKPS	**Hong Kong Po S**	**122.76**	**314**	IAMs_20	IAMs_20	19 09 03.0		
	comp=Z,11μm,22.0s							
AS31	**Alice Springs**	**123.32**	**254**	PKPdf	**PKPdf**	**18 25 53.6**	**-1.5**	
ASAR	**Alice Springs**	**123.32**	**254**	PKP	**PKPdf**	**18 25 54.2**	**-0.8**	
	comp=Z,7.7nm,1.0s,baz=95,slow=2.0,SNR=21							
ASAR				PKKPab	**PKKPbc**	**18 35 47.0**	**+2.5**	
	comp=Z,2.2nm,1.0s,baz=258,slow=3.9,SNR=5.5							
ASAR	**Alice Springs**	**123.32**	**254**	PKPdf	**PKPdf**	**18 25 53.6**	**-1.5**	
LBMI	**Labuha**	**123.61**	**282**	PKP	**PKPdf**	**18 25 55.1**	**-0.8**	
GYA	**Guiyang**	**124.48**	**323**	⇑PKP	**PKiKP**	**18 25 59.8**	**+2.1**	
GYA				PP	**PP**	**18 27 42.1**	**-0.3**	
GYA				SKKS		18 34 42.5		
GYA				SS	**SS**	**18 44 35.8**	**+0.1**	
GYA				AMB	AMB			
	comp=Z,1μm,8.1s							
GYA				LR	LR			
	comp=Z,8μm,23.0s							
GYA				LR	LR			
	comp=Z,5μm,20.9s							
GYA				LR	LR			
	comp=Z,12μm,23.3s							
SANI	**Sanana**	**125.54**	**281**	PKP	**PKiKP**	**18 26 03.1**	**+3.1**	
SYO	**Syowa Base**	**125.59**	**166**	⇑*e*Pdiff	**Pdif**	**18 22 37.0**	**+1.3**	
CASY	**Casey**	**126.51**	**198**	IAMs_20	IAMs_20	19 11 28.1		
	comp=Z,9μm,21.0s							
PZH	**PanZhiHua**	**127.12**	**327**	PKP	**PKiKP**	**18 26 03.8**	**+0.8**	
PZH				sPKP		18 26 06.5		
PZH				PP	**PP**	**18 28 01.6**	**+1.8**	
PZH				SKS	**SKSdf**	**18 33 14.3**	**-1.3**	
PZH				SKKS	**SKKSac**	**18 34 57.5**	**-2.5**	
PZH				AMB	AMB			
	comp=Z,1μm,9.3s							
PZH				LR	LR			
	comp=Z,6μm,15.9s							
PZH				LR	LR			
	comp=Z,7μm,15.0s							
PZH				LR	LR			
	comp=Z,7μm,16.3s							
KMI	**Kunming**	**127.71**	**325**	⇑PKP	**PKiKP**	**18 26 04.9**	**+0.6**	
KMI				PP	**PP**	**18 28 05.3**	**+1.4**	
KMI				SKKS		18 35 03.9		
KMI				AMB	AMB			
	comp=Z,1μm,7.3s							
KMI				LR	LR			
	comp=Z,4μm,20.8s							
KMI				LR	LR			
	comp=Z,10μm,17.8s							
KMI				LR	LR			
	comp=Z,9μm,24.3s							
QIZ	**Qiongzhong**	**127.91**	**314**	PKP	**PKPdf**	**18 26 03.9**	**-0.1**	
QIZ				PP	**PP**	**18 28 04.9**	**-0.5**	
QIZ				SS	SS	18 45 17.1	-1.9	
QIZ				AMB	AMB			
	comp=Z,2μm,8.0s							
QIZ				LR	LR			
	comp=Z,7μm,16.6s							
QIZ				LR	LR			
	comp=Z,6μm,20.8s							
QIZ				LR	LR			
	comp=Z,11μm,35.6s							
QIZ	**Qiongzhong**	**127.91**	**314**	IAMs_20	IAMs_20	19 34 13.2		
	comp=Z,7μm,19.0s							
LSA	**Lhasa**	**128.82**	**340**	PKP	**PKiKP**	**18 26 07.6**	**+0.8**	
LSA				LR	LR			
	comp=Z,14μm,17.8s							
LSA				LR	LR			
	comp=Z,9μm,16.7s							
LSA				LR	LR			
	comp=Z,20μm,16.0s							
APSI	**Ampana**	**129.12**	**285**	PKP	**PKiKP**	**18 26 09.4**	**+2.3**	
LKP	**Lekhapani**	**129.18**	**334**	*i* x	**PP**	**18 28 11.1**	**-1.9**	
DHRM	**DHARAMSHALA**	**129.27**	**356**	*e*P	**PKiKP**	**18 26 08.9**	**+1.6**	
DHRM				IAmb	IAmb	18 26 11.1		
	comp=Z,118nm,2.1s							
DHRM				*i* x	**PP**	**18 28 15.5**	**+2.1**	
SLVN	**Son La**	**130.02**	**321**	IAMs_20	IAMs_20	19 33 06.1		
	comp=Z,9μm,18.0s							
MPSI	**Mapaga**	**130.21**	**287**	PKP	**PKiKP**	**18 26 09.1**	**-0.2**	
ITAN	**ITANAGAR**	**130.21**	**336**	*e*P	**PKiKP**	**18 26 10.5**	**+1.5**	
ITAN				*i* x	**PP**	**18 28 22.8**	**+3.1**	
RAYN	**Ar Rayn**	**130.23**	**34**	IAMs_20	IAMs_20	19 26 06.6		
	comp=Z,9μm,22.0s							
SMLA	**Simla**	**130.33**	**355**	*e*P	**PKiKP**	**18 26 10.8**	**+1.7**	
BATI	**Baumata**	**130.33**	**272**	PKP	**PKPdf**	**18 26 08.2**	**-0.5**	
JORH	**JORHAT**	**130.36**	**335**	*i* x	**PP**	**18 28 24.4**	**+3.7**	
MOKO	**MOKOCHONG**	**130.62**	**334**	*e*x	**PKPdf**	**18 26 07.6**	**-1.6**	
MOKO				IAmb	IAmb	18 26 13.5		
	comp=Z,7.3nm,0.8s							
MOKO				*i* x	PP	18 28 30.4	+7.8	
KKM	**Kota Kinabalu**	**130.81**	**296**	IAMs_20	IAMs_20	19 12 24.6		
	comp=Z,7μm,22.0s							
DDI	**Dehra Dun**	**131.05**	**354**	*e*P	**PKiKP**	**18 26 10.1**	**-0.6**	
DDI				IAmb	IAmb	18 26 14.4		
	comp=Z,24nm,0.5s							
DDI				*i* x	**PP**	**18 28 30.6**	**+5.8**	
MMRI	**Maumere**	**131.24**	**275**	IAMs_20	IAMs_20	19 16 14.1		
	comp=Z,6μm,20.0s							
KOHI	**KOHIMA**	**131.32**	**334**	*e*P	**PKiKP**	**18 26 10.8**	**-0.7**	
IMP	**Imphal**	**132.18**	**334**	*e*P	**PKPdf**	**18 26 12.1**	**0.0**	
IMP				IAmb	IAmb	18 26 16.6		
	comp=Z,27nm,1.4s							
SHL	**Shillong**	**132.34**	**337**	*e*P	**PKiKP**	**18 26 14.1**	**+0.5**	
SHL				IAmb	IAmb	18 26 16.5		
	comp=Z,5.4nm,0.7s							
SHL				*i* x	**PP**	**18 28 35.0**	**+1.4**	
SILR	**SILCHAR**	**132.69**	**335**	*e*x	x	18 24 27.6		
SILR				*i* x	**PP**	**18

PCJI	**Pacitan**	**141.49 280**	PKP	**PKPdf**	**18 26 29.3**	**-0.1**
PCJI			PKP	**PKiKP**	**18 26 31.8**	**-0.4**
SMRI	**Semarang**	**141.78 283**	PKP	**PKPdf**	**18 26 28.9**	**-1.1**
SMRI			PKP	**pPKPdf**	**18 26 30.3**	**-0.1**
SMRI	**Semarang**	**141.78 283**	IAMs_20	IAMs_20	19 25 34.4	
	comp=Z,7μm,22.0s					
RPR	**Rampur**	**142.19 350**	*e*PKPdf	**PKPdf**	**18 26 30.6**	**+0.1**
SRSP	**Sriramsagar**	**142.27 352**	*e*PKPdf	**PKPdf**	**18 26 29.5**	**-1.3**
VIS	**Vishakhapatnam**	**142.43 344**	*e*P	**PKPdf**	**18 26 32.1**	**+1.1**
VIS			IAmb	IAmb	18 26 34.9	
	comp=Z,20nm,0.3s					
TPI	**Tanjungpandan**	**142.55 291**	PKP	**PKPdf**	**18 26 29.9**	**-1.4**
DGPR	**DIGLIPUR**	**142.74 327**	*e*P	**PKPdf**	**18 26 32.2**	**+0.6**
DGPR			IAmb	IAmb	18 26 38.7	
	comp=Z,115nm,1.5s					
POO	**Poona**	**143.03 359**	*e*P	PKPbc	18 26 29.0	+0.2
POO			*e*P	**PKPdf**	**18 26 31.8**	**-0.4**
POO			IAmb	IAmb	18 26 36.1	
	comp=Z,13nm,0.5s					
KLRI	**Killari**	**143.32 354**	*e*PKPdf	**PKPdf**	**18 26 31.6**	**-1.1**
MYKOM	**Kota Tinggi**	**143.45 301**	IAMs_20	IAMs_20	19 36 40.0	
	comp=Z,8μm,20.0s					
PPBI	**Pangkal Pinang**	**143.60 293**	PKP	PKPbc	18 26 31.5	+1.0
HYBB	**Hyderabad (bro**	**143.72 351**	*e*PKPdf	**PKPdf**	**18 26 32.8**	**-0.5**
HYBB			*e*PP	**PP**	**18 29 45.3**	**+1.3**
HYB	**Hyderabad**	**143.72 351**	*ex*	**PKPdf**	**18 26 30.6**	**-2.8**
HYB			IAmb	IAmb	18 26 34.0	
	comp=Z,143nm,1.8s					
KULM	**Kulim**	**143.79 308**	IAMs_20	IAMs_20	19 44 36.3	
	comp=Z,9μm,19.0s					
KULM	**Kulim**	**143.79 308**	P	**PKiKP**	**18 26 35.0**	**-2.0**
CMJI	**Cimerak**	**143.88 283**	PKP	PKPab	18 26 30.5	-0.2
MYLAV	**Mylavaram**	**144.01 347**	*e*PKPdf	**PKPdf**	**18 26 33.1**	**-0.7**
IPM	**Ipoh**	**144.04 307**	PKPdf	**PKPdf**	**18 26 33.3**	**-0.7**
IPM	**Ipoh**	**144.04 307**	P	**PKPdf**	**18 26 34.0**	**0.0**
SOCY	**Socotra**	**144.08 33**	IAMs_20	IAMs_20	19 32 31.9	
	comp=Z,8μm,22.0s					
DSRI	**Dabo**	**144.10 297**	PKP	**PKPdf**	**18 26 33.4**	**-0.7**
PBA	**Port Blair**	**144.11 326**	*e*P	**PKPdf**	**18 26 33.7**	**-0.3**
PBA			IAmb	IAmb	18 26 38.2	
LEM	**Lembang**	**144.29 285**	PKP	**PKPdf**	**18 26 34.1**	**-0.5**
	comp=Z,24nm,0.9s,baz=72,slow=7.8,SNR=10					
LEM	**Lembang**	**144.29 285**	PKP	**PKPab**	**18 26 32.1**	**-0.4**
NJS	**Nagarjunasagar**	**144.45 350**	*e*PKPdf	**PKPdf**	**18 26 33.9**	**-0.7**
CBJI	**Citeko**	**144.84 286**	PKP	**PKPab**	**18 26 33.3**	**-1.0**
CNJI	**Cibinong**	**144.92 284**	PKP	**PKPab**	**18 26 32.3**	**-2.3**
TNG	**Tangerang**	**144.93 286**	PKP	**PKPdf**	**18 26 36.6**	**+1.1**
SRLM	**Srisailam**	**144.96 350**	*e*PKPdf	**PKPab**	**18 26 34.2**	**-0.4**
DBJI	**Dramaga**	**144.98 286**	PKP	**PKPab**	**18 26 32.8**	**-2.0**
ADKI	**Addanki**	**145.02 348**	*e*P	**PKPab**	**18 26 33.8**	**-1.0**
ADKI			*e*PP	**PP**	**18 29 54.0**	**+2.2**
PMBI	**Palembang**	**145.17 293**	PKP	**PKPdf**	**18 26 35.8**	**-0.1**
PMBI	**Palembang**	**145.17 293**	IAMs_20	IAMs_20	19 34 37.0	
	comp=Z,10μm,21.0s					
SKJI	**Sukabumi**	**145.34 285**	PKP	**PKPbc**	**18 26 34.6**	**-1.4**
JMBI	**JAMBI**	**145.50 296**	PKP	**PKPbc**	**18 26 36.0**	**-0.5**
RCLA	**Racherla**	**145.58 350**	*e*PKPbc	**PKPdf**	**18 26 35.5**	**-1.1**
RCLA			*e*SKKSdf	SKKSdf	18 42 50.9	-2.2
BLSI	**Bandar Lampung**	**145.86 289**	PKP	**PKPdf**	**18 26 36.7**	**-0.4**
CGJI	**Cibinong**	**145.97 286**	PKP	**PKPdf**	**18 26 35.2**	**-2.1**
KLSI		**146.02 290**	PKP	**PKPdf**	**18 26 36.3**	**-1.1**
GOA	**Goa**	**146.05 359**	*e*P	**PKPab**	**18 26 38.8**	**+0.2**
GOA			IAmb	IAmb	18 26 41.6	
	comp=Z,77nm,0.9s					
URV	**Uravakonda**	**146.33 353**	*e*PKPdf	**PKPdf**	**18 26 37.1**	**-0.8**
URV			*e*PKPab	**PKPbc**	**18 26 38.8**	**-0.2**
MDSI	**Maura Dua**	**146.42 291**	PKP	**PKPdf**	**18 26 37.5**	**-0.5**
LHMI	**Lhok Sumawe**	**146.50 313**	IAMs_20	IAMs_20	19 46 06.2	
	comp=Z,9μm,20.0s					
TSI	**Tuntungan**	**146.53 309**	PKP	**PKPdf**	**18 26 38.2**	**0.0**
BKNI	**Bangkinang**	**146.59 301**	PKP	**PKPbc**	**18 26 39.1**	**-0.7**
BKNI	**Bangkinang**	**146.59 301**	IAMs_20	IAMs_20	19 43 08.8	
	comp=Z,8μm,21.0s					
KASI	**Kota Agung**	**146.60 289**	PKP	**PKPdf**	**18 26 38.6**	**+0.3**
PSI	**Prapat**	**146.72 307**	PKPbc	**PKPdf**	**18 26 38.7**	**-0.1**
	comp=Z,73nm,1.0s,baz=270,slow=1.4,SNR=30					
LWLI	**Liwa**	**146.77 290**	PKP	**PKPbc**	**18 26 39.5**	**-1.0**
KCSI	**Kotacane, Aceh**	**147.10 310**	PKP	**PKPdf**	**18 26 37.5**	**-1.7**
CRZF	**Crozet Islands**	**147.30 153**	IAMs_20	IAMs_20	19 46 48.9	
	comp=Z,6μm,22.0s					
MNAI	**Manna**	**147.44 292**	IAMs_20	IAMs_20	19 33 59.0	
	comp=Z,7μm,21.0s					
MASI	**Maura Aman, Be**	**147.47 295**	PKP	**PKPdf**	**18 26 38.3**	**-1.6**
MNSI	**Mandailing Nat**	**147.47 304**	PKP	**PKPdf**	**18 26 37.9**	**-1.9**
PPI	**Padang Panjang**	**147.56 301**	PKP	**PKPbc**	**18 26 42.0**	**-0.6**
KRJI	**Kerinci**	**147.59 297**	PKP	**PKPbc**	**18 26 41.8**	**-1.0**
GSI	**Gunungsitoli**	**148.71 307**	PKP	**PKPdf**	**18 26 42.5**	**+0.6**
GSI	**Gunungsitoli**	**148.71 307**		**PKPdf**	**18 26 42.3**	**+0.4**
GSI			IAMs_20	IAMs_20	19 45 03.0	
	comp=Z,10μm,22.0s					
SISI	**Saibi**	**149.13 301**	PKP	**PKPbc**	**18 26 45.8**	**-0.9**
PALK	**Pallekele**	**153.12 343**	PKPbc	**PKPbc**	**18 26 54.6**	**-1.5**
	comp=Z,18nm,1.0s,baz=324,slow=5.0,SNR=4.0					
VOI	**Vohitsoka**	**155.25 102**	IAMs_20	IAMs_20	19 48 06.1	
	comp=Z,7μm,20.0s					
OPO	**Ambohidratompo**	**155.57 94**	PKPbc	PKPdf	18 26 59.8	+7.7
	comp=Z,4.8nm,0.9s,baz=202,slow=0.2,SNR=3.6					
ABPO	**Ambohimpanom**	**155.64 95**	IAMs_20	IAMs_20	19 41 34.5	
	comp=Z,8μm,20.0s					

*IDC **21** 18:07:23.7±1.1,30.°53N×132.°72E,h0km,mb3.8/10, mb1 3.9/12,mb1mx3.7/63,mbtmp3.8/12,ML3.5/2,MS3.0/1, Ms1 3.0/1,ms1mx2.4/95,Error ellipse: s-maj=42.8km s-min=19.2km az=70.0*

*NEIC **21** 18:07:25.5±1.0,30.°58N±0.°08×132.°81E±0.°09,h10km±1km, mb4.2/13,Error ellipse: s-maj=14.2km s-min=12.0km az=132.0*

*JMA **21** 18:07:26.6±0.2,30.°52N×132.°76E,h72km,M3.8*

*NIED **21** 18:07:26.7,30.°52N×132.°76E,h72km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}-7.25; $M_{\theta\theta}$1.08; $M_{\phi\phi}$6.17; $M_{r\theta}$-0.73; $M_{r\phi}$0.86; $M_{\theta\phi}$-3.42; Fault plane solution: $M_0$7.63000×10^14^ NP1:ϕ_s10.00000°, δ59.00000°,λ-89.00000°. NP2:ϕ_s188.00000°,δ31.00000°, λ-92.00000°.*

ISC 21 18:07:28.2±0.7,30.°58N±0.°06×132.°85E±0.°05,h35km,n55, σ1§55/63,mb3.9/16,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.61**	**273**	P	**Pn**	**18 07 52.3**	**-1.8**
JTN				*e*S	**Sn**	**18 08 12.0**	**-1.7**
JNAR	**Kushima--Naru**	**1.65**	**305**	P	**Pn**	**18 07 53.8**	**-0.8**
JNAR				S	**Sn**	**18 08 13.6**	**-1.0**
JNKG	**Nichinankitago**	**1.66**	**311**	P	**Pn**	**18 07 54.0**	**-0.8**
JNKG				S	**Sn**	**18 08 14.0**	**-0.8**
JMTN	**Minamitane**	**1.69**	**264**	P	**Pn**	**18 07 53.6**	**-1.6**
JMTN				S	**Sn**	**18 08 12.8**	**-2.9**
JTSR	**Tashiro 2**	**1.76**	**290**	P	**Pn**	**18 07 54.6**	**-1.5**
JTZ	**Takazaki**	**2.00**	**312**	P	**Pn**	**18 07 58.5**	**-1.0**
JTZ				*e*S	**Sn**	**18 08 22.2**	**-1.1**
JYAK	**Yakushimahirau**	**2.05**	**261**	P	**Pn**	**18 07 58.1**	**-2.0**
JYAK				S	**Sn**	**18 08 22.0**	**-2.5**
JSU	**Suzuyama**	**2.25**	**295**		**Pn**	**18 08 02.1**	**-0.8**
JTO	**Tosashimizu**	**2.27**	**359**	P	**Pn**	**18 08 01.5**	**-1.7**
JTO				S	**Sn**	**18 08 25.1**	**-4.9**
JNN	**Nakanoshima**	**2.68**	**255**	P	**Pn**	**18 08 07.3**	**-1.5**
JNN				S	**Sn**	**18 08 37.4**	**-2.6**
JSJ	**Shimokoshiki**	**2.90**	**293**	P	**Pn**	**18 08 10.2**	**-1.6**
JSJ				*e*S	**Sn**	**18 08 43.6**	**-1.9**
JNA	**Nagahama**	**2.98**	**354**	P	**Pn**	**18 08 12.2**	**-0.8**
JNA				S	**Sn**	**18 08 43.6**	**-3.9**
JNU	**Nakatsue**	**3.04**	**327**	Pn	**Pn**	**18 08 13.9**	**+0.2**
	12nm,0.3s,baz=210,slow=5.5,SNR=177						
JNU				Sn	**Sn**	**18 08 49.0**	**+0.1**
	3.1nm,0.3s,baz=138,slow=14,SNR=4.4						
JNU	**Nakatsue**	**3.04**	**327**		**Pn**	**18 08 13.5**	**-0.3**
JMN	**Monobe**	**3.26**	**15**	P	**Pn**	**18 08 16.4**	**-0.4**
JMN	**Monobe**	**3.26**	**15**	Pn	**Pn**	**18 08 15.6**	**-1.2**
JAI	**Aioi**	**3.48**	**23**	P	**Pn**	**18 08 19.2**	**-0.6**
JAI				S	**Sn**	**18 08 54.9**	**-4.8**
JHT	**Toyohira**	**4.08**	**355**	P	**Pn**	**18 08 27.7**	**-0.5**
JHS	**Saijyo**	**4.41**	**3**		**Pn**	**18 08 32.3**	**-0.3**
JOW	**Kunigami**	**5.49**	**228**	Pn	**Pn**	**18 08 45.8**	**-1.6**
INU	**Inuyama**	**5.90**	**35**	Pn	**Pn**	**18 08 52.8**	**-0.4**
JGF	**Kuroka**	**6.27**	**36**	Pn	**Pn**	**18 08 56.8**	**-1.4**
JHJ	**Hachijo jima 2**	**6.42**	**65**	LR	LR	18 11 13.1	
	comp=Z,115nm,19.2s,baz=307,slow=35						
MAJO	**Matsushiro**	**7.44**	**36**	Pn	**Pn**	**18 09 13.7**	**-0.5**
MJAR	**Matsushiro Arr**	**7.44**	**36**	Pn	**Pn**	**18 09 16.4**	**+2.2**
	0.3nm,0.3s,baz=204,slow=13,SNR=10						
MJAR	**Matsushiro Arr**	**7.44**	**36**		**Pn**	**18 09 14.8**	**+0.6**
MJB9	**Matsu-Tunnel**	**7.44**	**35**	Pn	**Pn**	**18 09 14.4**	**+0.2**
ENH	**Enshi**	**20.14 275**		P	**P**	**18 11 58.6**	**-0.8**
ENH				IAmb	IAmb	18 12 09.8	
	comp=Z,13nm,1.0s						
ULN	**Ulaanbaatar**	**26.22 318**		P	**P**	**18 12 59.9**	**+0.1**
ULN				IAmb	IAmb	18 13 02.4	
	comp=Z,2.3nm,0.8s						
SONM	**Songino Array**	**26.58 318**		P	**P**	**18 13 05.0**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=138,slow=8.3,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**32.54 101**		T	T	18 48 16.5	
	baz=292,slow=74						
H11N1	**WAKE ISLAND Hy**	**32.55 101**		T	T	18 48 15.7	
	baz=292						
H11N3	**WAKE ISLAND Hy**	**32.56 101**		T	T	18 48 14.6	
	baz=292,slow=74						
CMAR	**Chiang Mai Arr**	**33.00 256**		P	**P**	**18 13 59.0**	**-1.1**
ZAA0	**Zalesovo Array**	**41.48 318**		P	**P**	**18 15 11.9**	**+0.4**
ZAA0				IAmb	IAmb	18 15 12.4	
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**41.48 318**		P	**P**	**18 15 12.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=98,slow=9.0,SNR=2.6						
MK31	**Makanchi Array**	**41.90 307**		P	**P**	**18 15 15.6**	**+0.4**
MKAR	**Makanchi Array**	**41.90 307**		P	**P**	**18 15 15.6**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=91,slow=10,SNR=14						
MKAR				PcP	**PcP**	**18 17 10.7**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=106,slow=3.9,SNR=4.3						
MKAR	**Makanchi Array**	**41.90 307**		P	**P**	**18 15 14.9**	**-0.3**
TARG	**Taragay, Kyrgy**	**45.13 300**		P	**P**	**18 15 41.4**	**-0.3**
TARG				IAmb	IAmb	18 15 44.8	
	comp=Z,4.1nm,0.9s						
NRIK	**Noril'sk**	**46.48 340**		P	**P**	**18 15 51.6**	**+0.2**
NRIK				IAmb	IAmb	18 15 52.4	
	comp=Z,2.6nm,0.7s						
BRVK	**Borovoye**	**49.95 316**		P	**P**	**18 16 19.4**	**+1.0**
NIL	**Nilore**	**49.96 290**		P	**P**	**18 16 20.7**	**+1.8**
NIL				IAmb	IAmb	18 16 21.8	
	comp=Z,5.3nm,0.9s						
WRA	**Warramunga Arr**	**50.25 178**		P	**P**	**18 16 21.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=354,slow=8.8,SNR=2.1						
CHGR	**Chuyangaron**	**52.11 297**		P	**P**	**18 16 35.2**	**+0.2**
ASAR	**Alice Springs**	**53.95 179**		P	**P**	**18 16 49.1**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=14,slow=8.8,SNR=4.4						
ARU	**Arti**	**56.59 320**		P	**P**	**18 17 08.0**	**+0.8**
ABKAR	**Akbulak array**	**56.73 311**		P	**P**	**18 17 09.0**	**+0.7**
ABKAR	**Akbulak array**	**56.73 311**		P	**P**	**18 17 08.7**	**+0.4**
ABKAR				IAmb	IAmb	18 17 09.9	
	comp=Z,1.6nm,0.7s						
KBZ	**Khabaz**	**69.56 309**		P	**P**	**18 18 34.5**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=60,slow=7.6,SNR=4.9						
FINES	**FINESS Array B**	**71.07 331**		P	**P**	**18 18 42.4**	**0.0**
	comp=Z,1.3nm,0.5s,baz=74,slow=5.4,SNR=10						
AKASG	**Malin Array Be**	**74.84 320**		P	**P**	**18 19 05.3**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=54,slow=6.3,SNR=18						
AKASG	**Malin Array Be**	**74.84 320**		IAmb	IAmb	18 19 06.4	
	comp=Z,0.5nm,0.7s						
BRTR	**Keskin Array B**	**77.54 309**		P	**P**	**18 19 21.5**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=102,slow=5.8,SNR=6.7						
GERES	**GERESS Array B**	**84.11 325**		P	**P**	**18 19 56.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=35,slow=3.3,SNR=4.1						

IDC 21 18:12:40.6±1.7,19.°25S×176.°43E,h479km±94km,mb3.0/4, mb1 3.2/5,mb1mx3.0/36,mbtmp3.7/5,Error ellipse: s-maj=188.2km s-min=26.0km az=32.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.16**	**46**	P	P	18 13 44.7	0.0
	2.6nm,0.3s,baz=271,slow=21,SNR=14						
WRA	**Warramunga Arr**	**39.58**	**262**	P	P	18 19 30.5	+0.7
	0.2nm,0.3s,baz=93,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**39.71**	**256**	P	P	18 19 29.8	-1.0
	0.9nm,0.5s,baz=93,slow=8.1,SNR=14						
FITZ	**Fitzroy Crossi**	**47.99**	**263**	P	P	18 20 35.1	-0.2
	0.5nm,0.4s,baz=56,slow=7.6						
VNDA	**Vanda**	**58.75**	**184**	P	P	18 21 51.1	0.0
	3.2nm,0.8s,baz=13,slow=3.9,SNR=8.4						

*IDC **21** 18:21:00.4±2.9,32.°80N×141.°96E,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.1/58,mbtmp3.4/3,ML3.1/1,Error ellipse: s-maj=63.4km s-min=24.7km az=44.0*

*JMA **21** 18:21:07.6±0.4,33.°27N×141.°70E,h53km,M3.6*

ISC 21 18:21:04.5±1.6,33.°03N±0.°09×142.°0E±0.°1,h40km,n13, σ0§81/15,Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.83**	**273**	P	**Pn**	**18 21 33.9**	**+0.5**
BSO1	**Boso 1**	**1.83**	**333**	P	**Pn**	**18 21 33.0**	**+0.1**
JHCJ	**Hachijojimakas**	**1.84**	**272**	*e*S	**Sn**	**18 21 54.0**	**-1.7**
JHJ	**Hachijo jima 2**	**1.86**	**273**	Pn	**Pn**	**18 21 34.1**	**+0.2**
	21nm,0.3s,baz=161,slow=22,SNR=9.7						
JHJ				Sn	**Sn**	**18 21 57.3**	**+1.2**
	55nm,0.3s,baz=65,slow=21,SNR=2.7						
BSO3	**Boso 3**	**2.16**	**326**	P	**Pn**	**18 21 37.7**	**0.0**
JIM2	**Oshima 3**	**2.72**	**309**	P	**Pn**	**18 21 45.1**	**-0.6**
JIZS	**Izushimoda**	**3.09**	**304**	P	**Pn**	**18 21 51.1**	**+0.3**
JOD2	**Odawara 2**	**3.28**	**314**	P	**Pn**	**18 21 53.2**	**-0.2**
JYN	**Shimob**	**3.77**	**312**	P	**Pn**	**18 22 00.7**	**+0.5**
MJAR	**Matsushiro Arr**	**4.69**	**319**	Pn	**Pn**	**18 22 13.7**	**+1.0**
	0.7nm,0.3s,baz=140,slow=13,SNR=47						
MAT	**Matsushiro**	**4.69**	**319**	P	**Pn**	**18 22 13.7**	**+0.9**
MAT				*e*S	**Sn**	**18 23 05.6**	**-0.3**
WRA	**Warramunga Arr**	**53.18**	**189**	P	**P**	**18 30 18.9**	**+0.3**
	0.9nm,1.2s,baz=4.7,slow=7.4,SNR=4.8						
ASAR	**Alice Springs**	**56.90**	**189**	P	**P**	**18 30 44.9**	**-0.6**
	0.4nm,1.0s,baz=4.6,slow=8.6,SNR=1.2						

*NOU **21** 18:26:51.3,20.°50S×169.°03E,h8km,MLv4.5/15,Vanuatu Islands*

*IDC **21** 18:26:52.9±8.9,20.°15S×168.°42E,h0km,mb4.2/4, mb1 4.3/5,mb1mx3.8/39,mbtmp4.2/5,ML3.7/1,Error ellipse: s-maj=166.4km s-min=44.5km az=105.0*

*NEIC **21** 18:26:55.2±0.9,20.°53S±0.°06×168.°81E±0.°06,h29km±9km, mb4.3/7,Error ellipse: s-maj=8.7km s-min=7.9km az=123.0*

ISC 21 18:26:54.8±0.9,20.°50S±0.°05×168.°88E±0.°08,h31km,n31, σ1§00/33,mb4.2/7,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.26**	**219**		**Pn**	**18 27 15.6**	**-0.6**
MARNC				Sn	**Sn**	**18 27 31.0**	**-1.1**
MARNC	**Mare, Loyalty**	**1.26**	**219**	P	**Pn**	**18 27 15.7**	**-0.5**
LIFNC	**LIFOU**	**1.56**	**259**		**Pn**	**18 27 20.0**	**-0.3**
LIFNC				Sn	**Sn**	**18 27 39.3**	**-0.2**
LIFNC	**LIFOU**	**1.56**	**259**	P	**Pn**	**18 27 20.2**	**-0.1**
YATNC	**Mamie plateau,**	**2.42**	**230**	P	**Pn**	**18 27 31.7**	**-0.5**
PINNC	**Pines Island,**	**2.49**	**212**	Pn	**Pn**	**18 27 32.6**	**-0.5**
PINNC	**Pines Island,**	**2.49**	**212**	P	**Pn**	**18 27 33.1**	**-0.1**
OUENC	**Ouen Island, N**	**2.69**	**224**	Pn	**Pn**	**18 27 35.6**	**-0.3**
OUENC	**Ouen Island, N**	**2.69**	**224**	P	**Pn**	**18 27 36.8**	**+0.9**
RTV	**Rentapao**	**2.72**	**351**	P	**Pn**	**18 27 36.5**	**+0.1**
DZM	**Mont Dzumac**	**2.75**	**235**	Pn	**Pn**	**18 27 37.0**	**+0.1**
	14nm,0.3s,baz=109,slow=11,SNR=609						
DZM				Sn	**Sn**	**18 28 10.9**	**+1.7**
	25nm,0.3s,baz=143,slow=14,SNR=3.7						
DZM	**Mont Dzumac**	**2.75**	**235**	P	**Pn**	**18 27 37.2**	**+0.3**
DVP	**Devils Point**	**2.83**	**347**	P	**Pn**	**18 27 36.8**	**-1.1**
NOUC	**Port Laguerre**	**2.88**	**236**	P	**Pn**	**18 27 39.5**	**+1.0**
ONTNC	**Ouen Toro**	**2.89**	**231**	Pn	**Pn**	**18 27 39.1**	**+0.5**
ONTNC	**Ouen Toro**	**2.89**	**231**	P	**Pn**	**18 27 39.6**	**+1.0**
KOUNC	**Koumac, New Ca**	**4.30**	**268**	P	**Pn**	**18 28 00.2**	**+2.1**
SANVU	**Saraoutou**	**5.27**	**342**	Pn	**Pn**	**18 28 11.7**	**+0.3**
SANVU	**Saraoutou**	**5.27**	**342**	P	**Pn**	**18 28 11.3**	**-0.1**
MSVF	**Nonsavu**	**9.10**	**74**	Pn	**Pn**	**18 29 05.7**	**+1.6**
BKZ	**Black Stump Fm**	**19.73**	**162**	P	**P**	**18 31 22.0**	**+0.1**
BKZ				IAmb	IAmb	18 31 45.8	
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**26.90**	**240**	P	**P**	**18 32 33.7**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=66,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**26.90**	**240**	IAmb	IAmb	18 32 52.9	
	comp=Z,0.7nm,1.1s						
WB2	**Warramunga Arr**	**32.37**	**265**	P	**P**	**18 33 19.2**	**-2.5**
WB2				IAmb	IAmb	18 33 20.8	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**32.38**	**265**	P	**P**	**18 33 20.6**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=94,slow=8.5,SNR=10.0						
AS31	**Alice Springs**	**32.51**	**258**	P	**P**	**18 33 22.4**	**-0.6**
AS31				IAmb	IAmb	18 33 23.3	
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**32.51**	**258**	P	**P**	**18 33 22.5**	**-0.5**
	comp=Z,6.2nm,0.7s,baz=83,slow=9.2,SNR=119						
ASAR	**Alice Springs**	**32.51**	**258**	P	**P**	**18 33 22.3**	**-0.8**
MTN	**Manton Dam**	**36.88**	**276**	P	**P**	**18 33 59.0**	**-1.8**
MTN				IAmb	IAmb	18 34 01.2	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**38.36**	**270**	P	**P**	**18 34 12.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**40.79**	**266**	P	**P**	**18 34 33.5**	**0.0**
	comp=Z,3.9nm,0.7s,baz=114,slow=7.9,SNR=14						

*DJA **21** 18:35:16.6±0.5,6.°S±4.°×12.°8E±.°,h349km±12km,M3.9/13, mb3.8/7,mB4.7/2,MLv3.9/13,Mw(mB)4.0/2,MwMwp5.2/1, Mwp5.5/1*

*IDC **21** 18:35:16.6±1.2,6.°24S×128.°43E,h287km±18km,mb2.7/1, mb1 3.4/6,mb1mx2.9/44,mbtmp4.0/6,Error ellipse: s-maj=25.8km s-min=12.6km az=117.0*

*NEIC **21** 18:35:17.9±1.1,6.°3S±0.°1×128.°47E±0.°04,h296km±14km, mb4.4/1,Error ellipse: s-maj=15.1km s-min=5.3km az=167.0*

ISC 21 18:35:17.2±0.8,6.°29S±0.°07×128.°52E±0.°07,h334km,n26, σ2§10/29,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.61**	**353**	P	**Pn**	**18 36 13.0**	**+1.1**
MSAI	**Masohi**	**2.95**	**8**	P	**Pn**	**18 36 15.1**	**+0.1**
SAUI	**Saumlaki**	**3.23**	**122**	Pn	**Pn**	**18 36 14.7**	**-2.8**
SAUI					**S**	**18 37 01.6**	**-4.3**
SANI	**Sanana**	**4.91**	**329**	P	**Pn**	**18 36 35.2**	**0.0**
FAKI	**Fak Fak**	**5.00**	**48**	P	**Pn**	**18 36 36.9**	**+0.7**
	0.2nm43nm,0.8s						
FAKI	**Fak Fak**	**5.00**	**48**	Pn	**Pn**	**18 36 36.9**	**+0.7**
LBMI	**Labuha**	**5.71**	**350**	P	**Pn**	**18 36 45.4**	**+1.2**
	0.1nm14nm,0.8s						
SIJI	**Sorong**	**6.04**	**27**	P	**Pn**	**18 36 47.9**	**-0.2**
	0.9nm,0.3s,baz=249,slow=23,SNR=20						
SIJI				S	**S**	**18 37 57.1**	**-4.5**
	2.2nm,0.3s,baz=62,slow=23,SNR=14						
SWI	**Sorong**	**6.04**	**27**	P	**Pn**	**18 36 47.8**	**-0.3**
	0.1nm18nm,1.1s						
BATI	**Baumata**	**6.18**	**231**	P	**Pn**	**18 36 49.2**	**-0.5**
	31nm,0.3s,baz=71,slow=3.4,SNR=64						
BATI				S	**S**	**18 37 59.1**	**-5.5**
	5.7nm,0.3s,baz=249,slow=22,SNR=12						
BATI	**Baumata**	**6.18**	**231**	P	**Pn**	**18 36 49.3**	**-0.4**
	0.2nm1μm32nm,0.5s						
MTN	**Manton Dam**	**7.00**	**159**		**Pn**	**18 37 00.0**	**+0.8**
EDFI	**Ende, Flores**	**7.20**	**250**	P	**Pn**	**18 37 01.2**	**-0.5**
	0.1nm2.7nm,1.1s						
KNRA	**Kununurra**	**9.33**	**179**	Pn	**Pn**	**18 37 27.6**	**+0.5**
WBSI	**Waikabubak, Su**	**9.64**	**249**	P	**Pn**	**18 37 29.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**12.07**	**193**	P	**Pn**	**18 37 59.7**	**-0.3**
	0.6nm,0.3s,baz=32,slow=9.8,SNR=12						
WB0	**Warramunga Arr**	**14.56**	**157**	P	**Pn**	**18 38 30.0**	**+0.5**
WRAB	**Tennant Creek**	**14.69**

ISC 21 19:22:42.4±1.0, 28°.05N±0°.03×85°.03E±0°.02, h15km±6km, n216, σ1966/249, mb4.5/59, 14C-3D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKN	**Kakani**	**0.34**	**139**	*e*Pg	**Pg**	**19 22 49.2**	**-0.3**
KKN				*e*Sg	**Sg**	**19 22 53.4**	**-0.9**
GKN	**Gorkha**	**0.35**	**263**	*e*Pg	**Pb**	**19 22 50.5**	**0.0**
GKN				*e*Sg	**Sb**	**19 22 55.6**	**-0.3**
	29μm,0.3s						
DMN	**Daman**	**0.44**	**171**	*e*Pg	**Pg**	**19 22 51.6**	**+0.3**
DMN				*e*Sg	**Sb**	**19 22 58.4**	**-0.2**
	21μm,0.4s						
PKIN	**Phulchoki**	**0.57**	**145**	*e*Pg	**Pg**	**19 22 53.6**	**-0.1**
PKIN				*e*Sg	**Sg**	**19 23 00.9**	**-0.4**
PKI	**Pulchoki**	**0.58**	**144**	*e*Pg	**Pg**	**19 22 53.7**	**-0.2**
PKI				*e*Sg	**Sg**	**19 23 00.8**	**-0.9**
GUN	**Gumba**	**0.76**	**100**	*e*Pg	**Pg**	**19 22 56.7**	**-0.7**
GUN				*e*Sg	**Sg**	**19 23 06.3**	**-1.2**
	15μm,0.3s						
JIRN	**Jiri**	**1.10**	**110**	*e*Sg	**Sb**	**19 23 16.0**	**-1.7**
DANN	**Dangsing**	**1.16**	**285**	*e*Pg	**Pg**	**19 23 05.5**	**+0.6**
DANN				*e*Sg	**Sn**	**19 23 21.4**	**+1.1**
	2μm,0.3s						
VLK	**Valmikinagar**	**1.26**	**235**	*e*P	**Pg**	**19 23 06.5**	**-0.3**
VLK				*e*S	**Sn**	**19 23 22.8**	**+0.5**
KOLN	**Koldanda**	**1.29**	**258**	*e*Pg	**Pg**	**19 23 08.2**	**+0.8**
PYUN	**Piuthan**	**1.80**	**272**	*e*Pg	**Pg**	**19 23 17.6**	**+0.5**
PYUN				*e*Sg	**Sg**	**19 23 40.7**	**+0.2**
	602nm,0.3s						
PYUN				*e*Sg	**Sb**	**19 23 41.5**	**+3.7**
VAR	**Varanasi**	**3.27**	**214**	*ex*	**Pg**	**19 23 44.3**	**-0.9**
ALBI	**Allahabad**	**3.97**	**227**	*e*P	**Pn**	**19 23 44.9**	**+2.1**
BOK	**Bokaro**	**4.30**	**169**	*e*P	**Pn**	**19 23 49.5**	**+2.1**
BOK				*i* x	**Pg**	**19 24 02.4**	**-2.4**
LGTI	**Lohaghat**	**4.43**	**290**	*ex*	**Pn**	**19 23 53.0**	**+3.9**
LGTI				*e*P	**Pn**	**19 23 53.0**	**+3.9**
PTH	**Pithoragarh**	**4.48**	**291**	*e*P	**Pn**	**19 23 52.5**	**+2.5**
PTH				*e*PN	Pb	19 23 54.9	-6.1
PTH				*e*SN	**Sg**	**19 25 01.3**	**-5.1**
LSA	**Lhasa**	**5.62**	**71**	Pn	**Pn**	**19 24 08.8**	**+2.9**
LSA				Sn	**Sn**	**19 25 09.4**	**-1.0**
JHNI	**Jhansi**	**6.34**	**248**	*e*P	**Pn**	**19 24 16.4**	**+0.8**
JHSG	**JHARSUGUGA**	**6.36**	**191**	*e*P	**Pn**	**19 24 18.3**	**+2.6**
BLSP	**Bilaspur**	**6.45**	**205**	*e*P	**Pn**	**19 24 18.1**	**+1.2**
SHL	**Shillong**	**6.60**	**110**	*e*P	**Pn**	**19 24 20.9**	**+1.7**
SHL	**Shillong**	**6.60**	**110**	Pn	**Pn**	**19 24 17.7**	**-1.5**
JBP	**Jabalpur**	**6.66**	**224**	*e*P	**Pn**	**19 24 21.7**	**+1.9**
JBP				*e*S	**Sn**	**19 25 37.7**	**+2.3**
NDI	**New Delhi**	**6.91**	**277**	*e*P	**Pn**	**19 24 27.0**	**+3.7**
NDI				*e*S	**Sn**	**19 25 42.0**	**+0.2**
SMLA	**Simla**	**7.50**	**296**	*e*P	**Pn**	**19 24 34.1**	**+2.8**
SMLA				*e*S	**Sn**	**19 25 55.5**	**-0.7**
SMLA				IAML		19 26 00.4	
	comp=E,98nm,1.0s						
SMLA				IAML		19 26 00.5	
	comp=N,92nm,0.4s						
KUDL	**Kundal**	**7.54**	**273**	*e*P	**Pn**	**19 24 33.7**	**+1.8**
BWNR	**Bhubaneshwar**	**7.75**	**175**	*e*P	**Pn**	**19 24 37.5**	**+2.8**
ITAN	**ITANAGAR**	**7.76**	**95**	*e*P	**Pn**	**19 24 37.6**	**+2.6**
ITAN				*ex*	**Sn**	**19 26 02.0**	**-0.7**
BHK	**Bhakra**	**8.21**	**296**	*e*P	**Pn**	**19 24 43.5**	**+2.4**
BHPL	**Bhopal**	**8.36**	**237**	*e*P	**Pn**	**19 24 43.0**	**-0.2**
BHPL				*e*S	**Sn**	**19 26 13.2**	**-4.3**
KOHI	**KOHIMA**	**8.43**	**104**	*e*P	**Pn**	**19 24 45.1**	**+0.8**
KOHI				*ex*	**Sn**	**19 26 18.6**	**-0.7**
IMP	**Imphal**	**8.61**	**110**	*e*P	**Pn**	**19 24 48.6**	**+1.9**
IMP				IAmb	IAmb	19 24 50.3	
	comp=Z,37nm,0.7s						
IMP				*e*S	**Sn**	**19 26 26.2**	**+2.6**
MOKO	**MOKOCHONG**	**8.62**	**99**	*e*P	**Pn**	**19 24 47.5**	**+0.6**
MOKO				*e*S	**Sn**	**19 26 21.5**	**-2.5**
DHRM	**DHARAMSHALA**	**8.64**	**301**	*e*P	**Pn**	**19 24 48.0**	**+0.8**
DHRM				*e*S	**Sn**	**19 26 22.0**	**-2.6**
DHRM				IAML		19 26 33.0	
	comp=N,63nm,0.6s						
DHRM				IAML		19 26 33.7	
	comp=E,92nm,0.2s						
RAGD	**RAYAGADA**	**8.88**	**190**	*e*P	**Pn**	**19 24 51.5**	**+1.2**
THN	**Thein Dam**	**9.16**	**301**	*e*P	**Pn**	**19 24 54.8**	**+0.7**
AJM	**Ajmer**	**9.37**	**263**	*e*P	**Pn**	**19 24 58.5**	**+1.4**
CHLP	**Challavanipeta**	**9.54**	**186**	*e*Pn	**Pn**	**19 24 59.8**	**+0.5**
LKP	**Lekhapani**	**9.62**	**92**	*e*P	**Pn**	**19 25 00.3**	**-0.1**
LKP				*e*S	**Sn**	**19 26 42.8**	**-5.4**
JMU	**Jammu**	**9.91**	**300**	*e*P	**Pn**	**19 25 06.8**	**+2.5**
AKL	**Akola**	**10.33**	**227**	*e*P	**Pn**	**19 25 10.2**	**0.0**
RPR	**Rampur**	**10.55**	**211**	*e*Pn	**Pn**	**19 25 12.4**	**-0.8**
RPR				*e*Sn	**Sn**	**19 27 12.0**	**+0.8**
SRSP	**Sriramsagar**	**10.95**	**215**	*e*Pn	**Pn**	**19 25 17.4**	**-1.3**
SRSP				*e*Sn	**Sn**	**19 27 20.8**	**-0.2**
SARP	**Sargodha**	**11.39**	**293**	P	**Pn**	**19 25 23.1**	**-1.5**
CHCP	**Chirah Chowk**	**11.55**	**302**	P	**Pn**	**19 25 26.8**	**-0.1**
NIL	**Nilore**	**11.56**	**302**	Pn	**Pn**	**19 25 26.2**	**-0.8**
GOMU	**GeErMu**	**11.61**	**43**	P	**Pn**	**19 25 30.0**	**+2.0**
GOMU				pP		19 25 34.6	
GOMU				sP		19 25 37.3	
MYLAV	**Mylavaram**	**11.95**	**201**	*e*Pn	**Pn**	**19 25 32.7**	**+0.3**
MYLAV				*e*Sn	**Sn**	**19 27 46.6**	**+1.0**
CUPL	**Choutuppal**	**12.09**	**209**	*e*Pn	**Pn**	**19 25 34.1**	**-0.2**
CUPL				*e*Sn	**Sn**	**19 27 50.0**	**+1.0**
HYBB	**Hyderabad (bro**	**12.14**	**211**	*e*Pn	**Pn**	**19 25 37.0**	**+1.9**
HYB	**Hyderabad**	**12.14**	**211**	*e*P	**Pn**	**19 25 32.0**	**-3.1**
HYB				IAmb	IAmb	19 25 44.6	
	comp=Z,11nm,0.6s						
HYB				*e*S	**Sn**	**19 27 44.0**	**-6.4**
THW	**Thamme Wali**	**12.40**	**296**	P	**Pn**	**19 25 36.5**	**-2.1**
NJS	**Nagarjunasagar**	**12.60**	**206**	*e*Pn	**Pn**	**19 25 41.6**	**+0.3**
NJS				*e*Sn	**Sn**	**19 28 02.3**	**+0.9**
CEP	**Cherat**	**12.65**	**300**	⇑P	**Pn**	**19 25 40.1**	**-1.9**
ADKI	**Addanki**	**13.01**	**202**	*e*Pn	**Pn**	**19 25 47.7**	**+0.7**
SRLM	**Srisailam**	**13.17**	**207**	*e*Pn	**Pn**	**19 25 49.0**	**-0.2**
SRLM				*e*Sn	**Sn**	**19 28 16.2**	**+0.6**
KSH	**Kashi**	**13.69**	**329**	P	**Pn**	**19 25 53.4**	**-2.8**
KSH				pP	P	19 25 55.8	-9.1
KSH				S	**Sn**	**19 28 19.8**	**-8.2**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RCLA	**Racherla**	**13.73**	**205**	*e*Pn	**Pn**	**19 25 57.0**	**+0.3**
RCLA				*e*Sn	**Sn**	**19 28 29.5**	**+0.3**
POO	**Poona**	**13.96**	**230**	*e*P	**Pn**	**19 25 56.0**	**-3.9**
	comp=Z,20nm,0.8s						
POO				IAmb	IAmb	19 26 04.3	
	comp=Z,14nm,0.7s						
POO				*i* S	**Sn**	**19 28 28.0**	**-6.8**
TARG	**Taragay, Kyrgy**	**14.87**	**338**		**Pn**	**19 26 10.6**	**-2.1**
URV	**Uravakonda**	**14.90**	**211**	*e*Pn	**Pn**	**19 26 13.2**	**+0.5**
URV				*e*Sn	**Sn**	**19 28 58.5**	**+0.9**
PZH	**PanZhiHua**	**14.94**	**92**	P	**Pn**	**19 26 15.3**	**+1.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
KBL	**Kabul**	**15.12**	**299**	Pn	**Pn**	**19 26 12.7**	**-3.0**
KBL				IAmb	IAmb	19 26 23.5	
	comp=Z,55nm,1.4s						
CHTO	**Chiang Mai**	**15.72**	**123**	P	**P**	**19 26 26.6**	**-0.9**
DRK	**Karamyk**	**15.83**	**319**	Pn	**Pn**	**19 26 22.4**	**-2.7**
DRK				IAmb	IAmb	19 26 35.7	
	comp=Z,14nm,0.5s						
UZB	**Uzynbulak**	**15.83**	**344**	*e*P	**Pn**	**19 26 23.9**	**-1.0**
	baz=344						
UZB				*i* S	**Sn**	**19 29 19.4**	**-0.9**
	baz=344						
WMQ	**Urumqi**	**15.89**	**7**	*e*P	**P**	**19 26 31.0**	**+1.7**
WMQ				pP	sP	19 26 36.3	+0.2
WMQ				pmax	pmax		
	comp=Z,24nm,1.1s						
SATY	**Saty**	**15.91**	**342**	*e*P	**Pn**	**19 26 25.5**	**-0.5**
	baz=342						
CM31	**Chiang Mai Arr**	**15.94**	**124**	Pn	**Pn**	**19 26 25.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**15.94**	**124**	Pn	**Pn**	**19 26 25.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=305,slow=12,SNR=29						
CMAR	**Chiang Mai Arr**	**15.94**	**124**		**Pn**	**19 26 25.4**	**-1.0**
ZHN	**Zhinishke**	**16.00**	**342**	*e*P	**Pn**	**19 26 26.6**	**-0.5**
	baz=342						
TNSS	**Tian-Shan**	**16.33**	**338**	*i* P	**Pn**	**19 26 29.1**	**-2.4**
	baz=339						
MDOK	**Medeo**	**16.41**	**339**	*i* P	**Pn**	**19 26 30.2**	**-2.2**
	baz=339						
KST	**Kastek**	**16.67**	**336**	*e*P	**Pn**	**19 26 34.0**	**-1.6**
	baz=336						
GTA	**Gaotai**	**16.70**	**43**	⇑P	**P**	**19 26 38.8**	**+0.4**
GTA				pP	pP	19 26 43.0	-0.3
GTA				sP	sP	19 26 47.8	+2.2
GTA				pmax	pmax		
	comp=Z,15nm,0.9s						
BTK	**Batken**	**16.77**	**319**	Pn	**Pn**	**19 26 33.6**	**-3.4**
AAK	**Ala-Archa**	**16.89**	**332**	Pn	**Pn**	**19 26 39.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=166,slow=12,SNR=16						
AAK	**Ala-Archa**	**16.89**	**332**	Pn	**Pn**	**19 26 37.3**	**-1.1**
CHGR	**Chuyangaron**	**16.94**	**313**	Pn	**Pn**	**19 26 37.3**	**-1.7**
CHGR				IAmb	IAmb	19 26 44.4	
	comp=Z,27nm,0.7s						
FRU1	**Bishkek**	**16.97**	**333**	Pn	**Pn**	**19 26 39.3**	**-0.2**
FRU1				IAmb	IAmb	19 26 44.6	
	comp=Z,26nm,1.2s						
CHKK	**Chushkaly**	**17.05**	**340**	*i* P	**Pn**	**19 26 38.3**	**-2.1**
	baz=340						
KUU	**Kurty**	**17.29**	**338**	*e*P	**Pn**	**19 26 42.8**	**-0.6**
	baz=339						
SGDS	**Sogindy**	**17.52**	**334**	*e*P	**Pn**	**19 26 45.9**	**-0.2**
	baz=334						
TDK	**Taldyqorghan**	**17.73**	**344**	*i* P	**Pn**	**19 26 46.9**	**-1.9**
	baz=344						
LZH	**Lanzhou**	**17.83**	**59**	*e*P	**P**	**19 26 53.5**	**+2.6**
LZH				sP	sP	19 27 04.8	+6.7
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
DZA	**Taraz**	**18.51**	**327**	*e*P	**P**	**19 26 57.1**	**-1.1**
	baz=327						
IUG	**Iuzhnay**	**18.63**	**323**	*i* P	**P**	**19 26 57.3**	**-2.3**
	baz=323						
MK31	**Makanchi Array**	**18.84**	**354**	P	**P**	**19 27 01.8**	**0.0**
MKAR	**Makanchi Array**	**18.84**	**354**	P	**Pn**	**19 27 02.8**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=175,slow=11,SNR=90						
MKAR	**Makanchi Array**	**18.84**	**354**	P	**P**	**19 27 01.1**	**-0.7**
MAKZ	**Makanchi**	**18.88**	**354**	P	**P**	**19 27 00.6**	**-1.6**
KKAR	**Karatay Array**	**19.07**	**326**	P	**P**	**19 27 02.2**	**-2.1**
GYA	**Guiyang**	**19.30**	**90**	⇑*i*P	**Pn**	**19 27 08.9**	**+0.7**
GYA				pP	sP	19 27 13.1	-0.8
GYA				pmax	pmax		
	comp=Z,24nm,1.0s						
ZSN	**Zaisan**	**19.37**	**360**	*e*P	**P**	**19 27 07.7**	**+0.1**
	baz=360						
XAN	**Xi'an**	**21.30**	**68**	P	**P**	**19 27 28.6**	**-0.1**
XAN				pP	sP	19 27 35.3	-0.1
XAN				sP	pP	19 27 39.0	+5.7
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ENH	**Enshi**	**21.47**	**78**	P	**P**	**19 27 30.0**	**-0.5**
ENH				IAmb	IAmb	19 27 43.5	
	comp=Z,20nm,0.9s						
SEM	**Semipalatinsk**	**22.63**	**352**	*e*P	**P**	**19 27 42.6**	**-0.4**
	baz=352						
UBPT	**Khong Chiam**	**22.81**	**120**	P	**P**	**19 27 44.3**	**-0.6**
KURBB	**Kurchatov Arra**	**23.08**	**349**	P	**P**	**19 27 47.6**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=169,slow=9.3,SNR=20						
KURK	**Kurchatov**	**23.16**	**350**	P	**P**	**19 27 48.8**	**+0.6**
KURK				IAmb	IAmb	19 27 51.2	
	comp=Z,12nm,1.1s						
BRZS	**Berezniki**	**23.85**	**340**	*i* P	**P**	**19 27 53.3**	**-1.8**
	baz=340						
GEYT	**Alibeck**	**24.56**	**301**	P	**P**	**19 28 03.1**	**+1.3**
	comp=Z,3.2nm,0.7s,baz=192,slow=21,SNR=4.1						
GEYT	**Alibeck**	**24.56**	**301**	IAmb	IAmb	19 28 12.5	
	comp=Z,4.2nm,0.8s						
HHC	**Hu-ho-hao-te**	**25.23**	**53**	*e*P	**P**	**19 28 09.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**25.82**	**34**	P	**P**	**19 28 15.1**	**+1.9**
	comp=Z,12nm,0.9s,baz=221,slow=9.4,SNR=37						
SONM	**Songino Array**	**25.82**	**34**	P	**P**	**19 28 12.9**	**-0.3**
SONM				IAmb	IAmb	19 28 18.3	
	comp=Z,16nm,1.0s						
ZAA0	**Zalesovo Array**	**25.88**	**360**	P	**P**	**19 28 13.4**	**-0.2**
ZAA0				IAmb	IAmb	19 28 21.3	
	comp=Z,6.6nm,0.8s						
ZALV	**Zalesovo Beam**	**25.88**	**360**	P	**P**	**19 28 14.5**	**+0.9**
	comp=Z,4.4nm,0.7s,baz=182,slow=9.6,SNR=28						
ZALV	**Zalesovo Beam**	**25.88**	**360**	P	**P**	**19 28 13.6**	**+0.1**
ULN	**Ulaanbaatar**	**26.17**	**35**	P	**P**	**19 28 17.1**	**+0.7**
ULN				IAmb	IAmb	19 28 21.5	
	comp=Z,20nm,0.9s						
HNS	**HongShan**	**26.56**	**62**	⇓P	**P**	**19 28 21.4**	**+1.5**
HNS				pmax	pmax		
	comp=Z,20nm,1.0s						
BVAR	**Borovoye Array**	**27.21**	**340**	P	**P**	**19 28 26.7**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=126,slow=7.5,SNR=6.7						
ABKAR	**Akbulak array**	**28.62**	**325**	P	**P**	**19 28 38.4**	**+0.2**
ABKAR	**Akbulak array**	**28.62**	**325**	P	**P**	**19 28 38.5**	**+0.3**
ABKAR				IAmb	IAmb	19 28 40.5	
	comp=Z,4.1nm,0.8s						
XLT	**XiLinHaoTe**	**29.48**	**49**	*e*P	**P**	**19 28 47.4**	**+1.4**
XLT				pmax	pmax		
	comp=Z,15nm,0.7s						
NJ2	**Nanjing**	**29.48**	**74**	*e*P	**P**	**19 28 47.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKTO	**Aktyubinsk**	**30.33**	**325**	P	**P**	**19 28 54.3**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=115,slow=7.9,SNR=7.4						
ARU	**Arti**	**34.06**	**334**	P	**P**	**19 29 26.3**	**+0.3**
ARU				IAmb	IAmb	19 29 27.9	
	comp=Z,5.7nm,0.6s						
CN2	**Changchun**	**35.92**	**53**	*e*P	**P**	**19 29 41.6**	**-0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BELG	**Belogornoye**	**36.88**	**322**	P	**P**	**19 29 50.1**	**-0.2**
	comp=Z,7.2nm,0.9s,baz=132,slow=7.2,SNR=3.9						
KSRS	**Korea Array**	**37.01**	**64**	P	**P**	**19 29 51.4**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=257,slow=8.7,SNR=8.5						
BNX	**BinXian**	**37.71**	**51**	⇓P	**P**	**19 29 58.1**	**+0.7**
BNX				pmax	pmax		
	comp=Z,24nm,1.0s						
USRK	**Ussuriysk Ar.**	**40.64**	**54**	P	**P**	**19 30 22.3**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=251,slow=10,SNR=4.3						
KLR	**Kul'dur**	**41.37**	**46**	P	**P**	**19 30 28.7**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=264,slow=9.8,SNR=6.3						
BRTR	**Keskin Array B**	**43.69**	**299**	P	**P**	**19 30 48.1**	**+1.0**
	comp=Z,1.8nm,1.1s,baz=116,slow=13,SNR=4.5						
BRTR				PcP	**PcP**	**19 32 34.3**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=121,slow=4.8,SNR=3.9						
KLMR	**Klimovskoe**	**44.68**	**330**	*e*P	**P**	**19 30 50.9**	**-3.6**
KLMR				AMP		19 30 56.0	
	comp=Z,11nm,1.1s						
KLMR				*e*PP	**PcP**	**19 32 35.2**	**-1.6**
YAK	**Yakutsk**	**44.85**	**28**	P	**P**	**19 30 57.3**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=214,slow=0.6,SNR=4.9						
YAK	**Yakutsk**	**44.85**	**28**	P	**P**	**19 30 56.0**	**+0.2**
YAK				IAmb	IAmb	19 31 03.0	
	comp=Z,8.2nm,0.8s						
ELL	**Elmali**	**46.80**	**295**	P	**P**	**19 31 12.5**	**+0.7**
AKASG	**Malin Array Be**	**47.40**	**314**	P	**P**	**19 31 16.1**	**0.0**
	comp=Z,0.4nm,0.4s,baz=77,slow=7.1,SNR=15						
AKASG	**Malin Array Be**	**47.40**	**314**	P	**P**	**19 31 14.7**	**-1.4**
AKBB	**Malin Array Si**	**47.40**	**314**	P	**P**	**19 31 15.5**	**-0.6**
AKBB				IAmb	IAmb	19 31 16.9	
	comp=Z,5.3nm,0.8s						
SORM	**Soroca**	**47.74**	**311**	⇑P	**P**	**19 31 18.3**	**-0.4**
CFR	**Carcaliu**	**47.77**	**307**	⇑P	**P**	**19 31 19.3**	**+0.2**
VLDR	**Vladesti**	**47.82**	**308**	⇑P	**P**	**19 31 20.8**	**+1.4**
VRI	**Vrincioaia**	**48.77**	**308**	⇑P	**P**	**19 31 28.1**	**+1.3**
PLOR	**Plostina**	**48.82**	**308**	⇑P	**P**	**19 31 28.4**	**+1.2**
TESR	**Tescani**	**48.83**	**309**	⇑P	**P**	**19 31 28.2**	**+0.9**
MLR	**Muntele Rosu**	**49.32**	**307**	⇑P	**P**	**19 31 33.1**	**+1.9**
MLR	**Muntele Rosu**	**49.32**	**307**	P	**P**	**19 31 32.6**	**+1.5**
	comp=Z,9.8nm,0.8s,baz=107,slow=3.6,SNR=22						
MLR	**Muntele Rosu**	**49.32**	**307**	P	**P**	**19 31 31.9**	**+0.8**
DOPR	**Dopca**	**49.70**	**308**	⇑P	**P**	**19 31 35.2**	**+1.2**
TIXI	**Tiksi**	**49.79**	**17**	P	**P**	**19 31 34.3**	**+0.2**
TIXI				IAmb	IAmb	19 31 35.8	
	comp=Z,4.7nm,0.8s						
BURAR	**Bucovina Array**	**49.83**	**310**	⇓P	**P**	**19 31 35.8**	**+0.8**
BURAR	**Bucovina Array**	**49.83**	**310**	P	**P**	**19 31 34.7**	**-0.2**
BURAR				IAmb	IAmb	19 31 37.0	
	comp=Z,3.7nm,0.8s						
BUR08	**Bucovina Ar. S**	**49.84**	**310**	P	**P**	**19 31 34.6**	**-0.5**
BUR08				IAmb	IAmb	19 31 45.2	
	comp=Z,4.2nm,1.1s						
VOIR		**49.95**	**307**	⇑P	**P**	**19 31 36.3**	**+0.4**
FIA1	**FINESS Array S**	**51.01**	**328**	P	**P**	**19 31 43.8**	**+0.3**
FINES	**FINESS Array B**	**51.01**	**328**	P	**P**	**19 31 44.0**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=107,slow=10,SNR=15						
FINES	**FINESS Array B**	**51.01**	**328**	P	**P**	**19 31 43.7**	**+0.2**
VTS	**Vitosha**	**51.40**	**304**	⇑P	**P**	**19 31 48.4**	**+1.4**
VTS	**Vitosha**	**51.40**	**304**	P	**P**	**19 31 47.5**	**+0.5**
VTS				IAmb	IAmb	19 31 49.2	
	comp=Z,4.8nm,0.8s						
KWP	**Kalwaria Pacla**	**51.52**	**313**	P	**P**	**19 31 47.8**	**+0.2**
TRPA	**Tarpa**	**51.63**	**311**	⇑P	**P**	**19 31 50.1**	**+1.7**
AGG	**Agios Georgios**	**52.48**	**299**	P	**P**	**19 31 54.5**	**-0.4**
AGG				IAmb	IAmb	19 31 55.1	
	comp=Z,5.8nm,1.0s						
LODK	**Lodwar**	**53.22**	**252**	P	**P**	**19 31 59.8**	**-0.9**
ARA0	**ARCESS Array S**	**53.45**	**338**	*e*P	**P**	**19 32 02.3**	**+0.7**
ARCES	**ARCESS Array B**	**53.45**	**338**	P	**P**	**19 32 02.3**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=102,slow=8.0,SNR=39						
ARCES	**ARCESS Array B**	**53.45**	**338**	IAmb	IAmb	19 32 02.5	
	comp=Z,14nm,1.2s						
TIR	**Tirane**	**54.03**	**302**	P	**P**	**19 32 04.6**	**-1.7**
KTK1	**Kautokeino**	**54.07**	**337**	*e*P	**P**	**19 32 06.5**	**+0.3**
HAMF	**Hammerfest**	**54.39**	**339**	*e*P	**P**	**19 32 09.7**	**+1.3**
JETT	**Jettan, Norway**	**55.18**	**337**	*e*P	**P**	**19 32 15.7**	**+1.4**
TRO	**Tromso**	**55.70**	**337**	*e*P	**P**	**19 32 18.6**	**+0.8**
GERES	**GERESS Array B**	**57.45**	**312**	P	**P**	**19 32 30.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=98,slow=6.9,SNR=6.2						
NB2	**NORSAR Subarra**	**58.10**	**327**	P	**P**	**19 32 34.6**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=87,slow=7.4						
NB2	**NORSAR Subarra**	**58.10**	**327**	P	**P**	**19 32 34.6**	**-0.5**
	baz=87,slow=7.4						
NOA	**NORSAR Array B**	**58.10**	**327**	P	**P**	**19 32 34.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=89,slow=7.3,SNR=5.5						
HSPB	**Hornsund (broa**	**58.29**	**346**	*e*P	**P**	**19 32 36.3**	**+0.2**
SPA0	**Spitsbergen Ar**	**58.40**	**347**	*e*P	**P**	**19 32 38.3**	**+1.4**
KEST	**Kesra**	**63.27**	**298**	P	**P**	**19 33 11.6**	**+0.8**
	comp=Z,5.9nm,0.9s,baz=51,slow=3.3,SNR=7.1						
KEST	**Kesra**	**63.27**	**298**	P	**P**	**19 33 11.0**	**+0.2**
WB0	**Warramunga Arr**	**67.36**	**129**	P	**P**	**19 33 36.9**	**-0.5**
WRA	**Warramunga Arr**	**67.45**	**129**	P	**P**	**19 33 38.6**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=322,slow=6.4,SNR=36						
WRA	**Warramunga Arr**	**67.45**	**129**	IAmb	IAmb	19 33 39.6	
	comp=Z,0.2nm,0.8s						
WRAB	**Tennant Creek**	**67.45**	**129**	P	**P**	**19 33 38.0**	**+0.1**
WRAB				IAmb	IAmb	19 33 39.6	
	comp=Z,6.4nm,0.8s						
WB2	**Warramunga Arr**	**67.45**	**129**	P	**P**	**19 33 38.0**	**+0.1**
WR0	**Warramunga Arr**	**67.59**	**129**	P	**P**	**19 33 39.4**	**+0.5**
WR0				IAmb	IAmb	19 33 47.0	
	comp=Z,4.8nm,0.9s						
AS31	**Alice Springs**	**69.74**	**133**	P	**P**	**19 33 52.6**	**+0.5**
ASAR	**Alice Springs**	**69.74**	**133**	P	**P**	**19 33 52.8**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=315,slow=6.2,SNR=35						
ASAR	**Alice Springs**	**69.74**	**133**	P	**P**	**19 33 50.3**	**-1.9**
LSZ	**Lusaka**	**69.87**	**239**	P	**P**	**19 33 53.3**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=31,slow=7.3,SNR=5.8						
LSZ	**Lusaka**	**69.87**	**239**	P	**P**	**19 33 52.9**	**-0.4**
LSZ				IAmb	IAmb	19 33 54.8	
	comp=Z,7.2nm,1.4s						
ESDC	**Sonseca Array**	**71.98**	**306**	P	**P**	**19 34 05.7**	**0.0**
	comp=Z,1.7nm,0.9s,baz=45,slow=6.6,SNR=11						
ESDC	**Sonseca Array**	**71.98**	**306**	P	**P**	**19 34 05.4**	**-0.3**
EUNU	**Eureka**	**72.02**	**358**	P	**P**	**19 34 05.7**	**+0.4**
EUNU				IAmb	IAmb	19 34 07.5	
	comp=Z,6.6nm,0.8s						
SUMG	**Summit**	**72.60**	**345**	*i* P	**P**	**19 34 10.0**	**+0.7**
**SUMG

RRRZ	Republican Roa	1.21	70	P	Pn	19 27 59.5 +0.9
KWHZ	Kaweka Forest	1.24	122	P	Pn	19 28 00.7 +2.0
TARZ	Mount Tarawera	1.24	65	P	Pn	19 27 59.9 +1.0
KRHZ	Kereru	1.33	131	P	Pn	19 28 00.9 +1.6
MUGZ	Murupara	1.36	78	P	Pn	19 28 00.3 +0.8
MTHZ	Maungataniwha	1.38	94	P	Pn	19 28 00.9 +1.3
NMHZ	Naumai	1.39	104	P	Pn	19 28 01.8 +2.1
MCHZ	McNeill Hill	1.43	119	P	Pn	19 28 02.2 +2.3
PNHZ	Pukenui	1.44	143	P	Pn	19 28 01.5 +1.5
OPRZ	Ohinepanea	1.48	52	P	Pn	19 28 01.1 +0.8
ARHZ	Aropaoanui	1.58	109	P	Pn	19 28 02.7 +1.9
WPHZ	Waipukurau	1.67	141	P	Pn	19 28 03.2 +1.7
POWZ	Post Office Ro	1.71	162	P	Pn	19 28 03.1 +1.3
KAHZ	Kahuranaki	1.73	127	P	Pn	19 28 04.0 +2.0
DVHZ	Dannevirke	1.75	151	P	Pn	19 28 03.4 +1.4
SNGZ	Shannon Statio	1.77	91	P	Pn	19 28 03.7 +1.4
CKHZ	Cape Kidnapper	1.79	120	P	Pn	19 28 04.6 +2.2
RAGZ	Rawiri	1.85	82	P	Pn	19 28 04.2 +1.2
PXZ	Pawanui	1.87	133	P	Pn	19 28 04.7 +1.7
PRWZ	Pori Road	1.91	159	P	Pn	19 28 05.0 +1.7
PRHZ	Porangahau	1.92	142	P	Pn	19 28 05.1 +1.7
WIAZ	Waiheke Island	1.97	1	P	Pn	19 28 05.1 +1.1
MBAZ	Motutapu North	2.00	356	P	Pn	19 28 05.8 +1.7
ANWZ	Angora Road	2.01	148	P	Pn	19 28 05.8 +1.7
OGWZ	Otaki Gorge	2.05	178	P	Pn	19 28 05.8 +1.4
KIW	Kapiti Island	2.10	183	P	Pn	19 28 06.1 +1.3
RIGZ	Rimuhau	2.10	89	P	Pn	19 28 06.5 +1.5
BFZ	Birch Farm	2.11	155	P	Pn	19 28 06.2 +1.3
BFZ	Birch Farm	2.11	155	P	Pn	19 28 06.5 +1.5
HOWZ	Holdsworth Sta	2.15	171	P	Pn	19 28 06.4 +1.1
RUGZ	Raukumara Rang	2.20	69	P	Pn	19 28 05.7 -0.2
TKGZ	Te Karaka	2.20	82	P	Pn	19 28 07.4 +1.7
PRGZ	Paritu Road	2.20	95	P	Pn	19 28 07.2 +1.4
DUWZ	D'Urville Isla	2.22	203	P	Pn	19 28 07.4 +1.5
MHGZ	Mahia Peninsul	2.24	101	P	Pn	19 28 07.7 +1.6
CPWZ	Castlepoint	2.31	158	P	Pn	19 28 08.6 +2.0
CAW	Cannon Point	2.34	180	P	Pn	19 28 08.2 +1.3
TWGZ	Tauwhareparae	2.35	76	P	Pn	19 28 08.5 +1.3
MTW	Mount Morrison	2.41	172	P	Pn	19 28 08.6 +1.1
TMWZ	Te Maipa	2.42	165	P	Pn	19 28 08.9 +1.3
CNGZ	Carnagh Statio	2.47	84	P	Pn	19 28 10.0 +1.8
TCW	Tory Channel	2.52	194	P	Pn	19 28 10.0 +1.5
PKGZ	Pakihiroa	2.52	71	P	Pn	19 28 09.4 +0.7
SNZO	South Karori	2.56	186	P	Pn	19 28 10.2 +1.4
PAWZ	Paruwai Farm	2.62	174	P	Pn	19 28 10.8 +1.2
BHW	Baring Head	2.64	183	P	Pn	19 28 10.8 +1.2
MSWZ	Moikau Station	2.65	177	P	Pn	19 28 10.9 +1.1
TRWZ	Traveller	2.67	170	P	Pn	19 28 11.8 +1.9
NNZ	Nelson	2.77	208	P	Pn	19 28 12.3 +1.4
TKNZ	Takaka Hill	2.79	215	P	Pn	19 28 12.0 +0.9
WMGZ	Waiomatatini S	2.79	71	P	Pn	19 28 12.2 +0.9
TUWZ	Tuamarina	2.80	198	P	Pn	19 28 12.8 +1.6
PLWZ	Palliser	2.80	177	P	Pn	19 28 12.4 +1.1
MXZ	Matakaoa Point	2.82	66	P	Pn	19 28 12.4 +1.0
QRZ	Quartz Range	2.84	223	P	Pn	19 28 12.3 +0.7
QRZ	Quartz Range	2.84	223	P	Pn	19 28 12.2 +0.6
CMWZ	Cape Campbell	3.05	192	P	Pn	19 28 15.8 +2.1
BSWZ	Blackbirch Sta	3.08	197	P	Pn	19 28 15.8 +1.7
MRNZ	Matariki Terra	3.17	213	P	Pn	19 28 15.9 +0.9
DSZ	Denniston Nort	3.89	219	P	Pn	19 28 23.4 +0.7
GVZ	Greta Valley S	4.47	200	P	Pn	19 28 30.3 +1.1
LTZ	Lake Taylor	4.54	207	P	Pn	19 28 31.0 +0.9
AMCZ	Amberley	4.77	202	P	Pn	19 28 33.6 +0.9
OXZ	Oxford	5.10	206	P	Pn	19 28 37.1 +0.6
OKCZ	Okains Bay	5.18	196	P	Pn	19 28 38.7 +1.2
MQZ	McQueen's Vall	5.26	200	P	Pn	19 28 38.7 +0.4
AKCZ	Akaroa Harbour	5.35	197	P	Pn	19 28 40.5 +1.0
RACZ	Rakaia	5.43	203	P	Pn	19 28 41.0 +0.7
MHCZ	Mount Hutt	5.45	208	P	Pn	19 28 41.4 +0.7
WACZ	Wakanui South	5.71	204	P	Pn	19 28 44.8 +1.0
GCSZ	Gaunt Creek Bo	5.79	217	P	Pn	19 28 45.5 +0.7
ARCZ	Arundel	5.95	208	P	Pn	19 28 47.4 +0.8
TMZ	Timaru	6.39	207	P	Pn	19 28 53.2 +1.2
LBZ	Lake Benmore	6.70	212	P	Pn	19 28 56.7 +0.8
WKZ	Wanaka	7.56	215	P	Pn	19 29 06.6 +0.2

*IDC **21** 19:28:57.3±0.4,27°.31N×54°.86E,h0km,mb4.6/39, mb1 4.6/42,mb1mx4.6/54,mbtmp4.6/42,ML4.3/3,Error ellipse: s-maj=10.8km s-min=9.1km az=121.0*
*MOS **21** 19:28:58.1±0.9,27°.33N×54°.84E,h19km,mb4.8/28,Error ellipse: s-maj=5.8km s-min=4.1km az=96.5*
*NEIC **21** 19:28:59.4±1.3,27°.34N±0°.06×54°.82E±0°.07,h10km±1km, mb4.7/84,mb_Lg4.6(TEH),Error ellipse: s-maj=11.0km s-min=10.7km az=67.0*
*TEH **21** 19:29:00.1,27°.25N×54°.88E,h16km,ML4.6*
*OMAN **21** 19:29:01.9±0.1,27°.14N×54°.90E,h10km,mb6.4/9, ml4.6/20,ms4.7/1,Error ellipse: s-maj=1.5km s-min=0.7km az=20.0*
*DSN **21** 19:29:01.2±0.6,27°.23N×54°.80E,h10km,mb5.2/2, ML4.5/14,Error ellipse: s-maj=8.9km s-min=6.1km az=44.0*

ISC 21 19:28:59.2±0.6,27°.22N±0°.02×54°.88E±0°.02,h15km±3km, n490,σ1§50/555,mb4.7/133,MS4.6/4,10C-5D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.64**	**315**	*e*Pg	**Pb**	**19 29 11.9**	**-0.2**
LAR1				*e*Sg	**Sb**	**19 29 21.5**	**+0.6**
LAR1				*e*		19 29 27.2	
	comp=Z,4μm,0.3s						
GENO	**Geno**	**1.16**	**81**	*e*Pg	**Pg**	**19 29 22.6**	**+1.0**
GENO				*e*Sg	**Sg**	**19 29 38.6**	**+1.8**
IBND	**Bandar-abas**	**1.49**	**81**	*e*Pg	**Pg**	**19 29 27.7**	**-0.2**
LMD1	**Lamerd**	**1.53**	**275**	*e*Pg	**Pg**	**19 29 29.3**	**+0.6**
LMD1				*e*		19 30 10.3	
	comp=Z,72μm,0.5s						
SHME	**Shamm**	**1.62**	**136**	*e*Pn	**Pb**	**19 29 29.3**	**+0.5**
SHME	**Shamm**	**1.62**	**136**	P	**Pb**	**19 29 29.0**	**+0.1**
	SNR=26						
SHME				S	**Sg**	**19 29 51.1**	**-0.3**
SHME	**Shamm**	**1.62**	**136**	*e*P	**Pb**	**19 29 29.1**	**+0.3**
	SNR=249						
SHME				S	**Sg**	**19 29 52.7**	**+1.3**
JHRM	**Jahrom**	**1.73**	**318**	*e*Pg	**Pb**	**19 29 31.1**	**+0.4**
BANOM	**Banah**	**1.81**	**135**	*e*Pn	**Pb**	**19 29 32.3**	**+0.2**
BANOM	**Banah**	**1.81**	**135**	P	**Pb**	**19 29 32.0**	**-0.1**
	SNR=182						
BANOM				S	**Sg**	**19 29 58.0**	**+0.6**
BANOM	**Banah**	**1.81**	**135**	*e*P	**Pb**	**19 29 32.0**	**-0.1**
	SNR=182						
BANOM				S	**Sg**	**19 30 00.3**	**+2.8**
UMQ	**Umm Al-Quwin**	**1.83**	**157**	P	**Pg**	**19 29 37.0**	**+2.8**
	SNR=42						
UMQ				S	**Sg**	**19 30 00.6**	**+2.7**
UMQ	**Umm Al-Quwin**	**1.83**	**157**	*e*P	**Pg**	**19 29 33.7**	**-0.5**
	SNR=39						
GHIR	**Ghir-Karzin**	**1.99**	**303**	*e*Pg	**Pb**	**19 29 34.8**	**-0.4**
QIR1	**Qir**	**2.05**	**308**	*e*Pn	**Pb**	**19 29 35.7**	**-0.6**
QIR1				*e*		19 30 12.4	
	comp=Z,75μm,0.8s						
MASF	**Masafi**	**2.17**	**148**	P	**Pb**	**19 29 38.1**	**-0.1**
	SNR=31						
MASF				S	**Sb**	**19 30 03.4**	**-1.5**
MSFE	**Esma-Masafi**	**2.18**	**148**	*e*Pn	**Pb**	**19 29 38.1**	**-0.3**
MSFE	**Esma-Masafi**	**2.18**	**148**	*e*P	**Pb**	**19 29 38.0**	**-0.4**
	SNR=107						
NAZ	**Nazwa, Dubai**	**2.33**	**162**	*e*Pn	**Pb**	**19 29 41.0**	**+0.1**
NAZ	**Nazwa, Dubai**	**2.33**	**162**	P	**Pb**	**19 29 42.0**	**+1.0**
	SNR=107						
NAZ	**Nazwa, Dubai**	**2.33**	**162**	*e*P	**Pb**	**19 29 41.0**	**+0.1**
	SNR=30						
FAQ	**Al Faqa, Dubai**	**2.54**	**165**	*e*Pn	**Pb**	**19 29 43.8**	**-0.8**
FAQ	**Al Faqa, Dubai**	**2.54**	**165**	P	**Pb**	**19 29 44.0**	**-0.6**
	SNR=19						
FAQ				S	**Sb**	**19 30 15.3**	**-0.4**
FAQ	**Al Faqa, Dubai**	**2.54**	**165**	*e*P	**Pb**	**19 29 44.0**	**-0.6**
	SNR=19						
UOSS	**Minazif**	**2.56**	**152**	*e*Pn	**Pb**	**19 29 42.9**	**-1.9**
UOSS	**Minazif**	**2.56**	**152**	P	**Pb**	**19 29 43.1**	**-1.8**
UOSS				S	**Sn**	**19 30 12.6**	**+1.5**
UOSS	**Minazif**	**2.56**	**152**		**Pb**	**19 29 42.7**	**-2.1**
UOSS	**Minazif**	**2.56**	**152**	*e*P	**Pb**	**19 29 43.2**	**-1.6**
	SNR=54						
KHNJ	**Kahnooj**	**2.61**	**73**	*e*Pn	**Pn**	**19 29 42.3**	**+1.4**
ASUD	**Al Ashush, Dub**	**2.61**	**171**	*e*Pn	**Pb**	**19 29 45.3**	**-0.5**
ASUD	**Al Ashush, Dub**	**2.61**	**171**	P	**Pb**	**19 29 45.2**	**-0.6**
	SNR=72						
ASUD	**Al Ashush, Dub**	**2.61**	**171**	*e*P	**Pb**	**19 29 45.2**	**-0.6**
	SNR=72						
HATD	**Hatta, Dubai**	**2.63**	**154**	*e*Pn	**Pb**	**19 29 44.5**	**-1.7**
HATD	**Hatta, Dubai**	**2.63**	**154**	P	**Pb**	**19 29 45.0**	**-1.1**
	SNR=15						
HATD	**Hatta, Dubai**	**2.63**	**154**	*e*P	**Pb**	**19 29 44.7**	**-1.4**
	SNR=15						
AJN	**Ajban**	**2.65**	**178**	*e*Pn	**Pb**	**19 29 45.8**	**-0.5**
AJN	**Ajban**	**2.65**	**178**	P	**Pb**	**19 29 45.6**	**-0.8**
AJN				S	**Sb**	**19 30 20.0**	**+1.3**
AJN	**Ajban**	**2.65**	**178**	*e*P	**Pb**	**19 29 45.4**	**-0.9**
	SNR=23						
ASHO	**Ashiyiah**	**2.74**	**157**	*e*Pn	**Pb**	**19 29 45.9**	**-2.0**
ASHO	**Ashiyiah**	**2.74**	**157**	P	**Pb**	**19 29 45.6**	**-2.3**
	SNR=186						
ASHO				S	**Sb**	**19 30 20.2**	**-1.1**
ASHO	**Ashiyiah**	**2.74**	**157**	*e*P	**Pb**	**19 29 45.6**	**-2.3**
	SNR=187						
NGRK	**Negar Kerman**	**2.91**	**34**	*e*Pn	**Pn**	**19 29 46.7**	**+1.3**
NGRK				*e*		19 30 56.3	
	comp=Z,8μm,1.2s						
SHI	**Shiraz**	**3.19**	**320**	*e*Pn	**Pn**	**19 29 50.9**	**+1.8**
SHI				*e*		19 30 54.8	
	comp=Z,11μm,0.8s						
KRBR	**Kerman**	**3.21**	**31**	*e*Pn	**Pn**	**19 29 51.9**	**+2.5**
TVBK	**TV Kerman**	**3.21**	**30**	*e*Pn	**Pn**	**19 29 51.9**	**+2.4**
TVBK				*e*		19 30 47.6	
	comp=Z,19μm,0.6s						
ALNE	**Al Ain**	**3.25**	**166**	*e*Pn	**Pb**	**19 29 53.3**	**-3.3**
ALNE	**Al Ain**	**3.25**	**166**	P	**Pn**	**19 29 53.0**	**+3.4**
	SNR=12						
ALNE				S	**Sb**	**19 30 34.1**	**-1.9**
ALNE	**Al Ain**	**3.25**	**166**	*i* P	**Pn**	**19 29 53.0**	**+3.4**
	SNR=12						
KHGB	**Koh Gabri**	**3.44**	**24**	*e*Pn	**Pn**	**19 29 55.3**	**+2.7**
KHGB				*e*		19 30 38.6	
	comp=Z,8μm,0.4s						
CHMN	**Cheshme madani**	**3.52**	**41**	*e*Pn	**Pn**	**19 29 56.7**	**+3.0**
CHMN				*e*		19 31 01.8	
	comp=Z,7μm,0.7s						
MZWR	**Madinat Zayed**	**3.56**	**195**	*e*Pn	**Pn**	**19 29 57.4**	**+3.4**
MZWR	**Madinat Zayed**	**3.56**	**195**	P	**Pn**	**19 29 57.3**	**+3.3**
AHBU	**AHRAM**	**3.57**	**298**	*e*Pn	**Pn**	**19 29 55.4**	**+1.3**
KBAM	**BAM**	**3.68**	**58**	*e*Pn	**Pn**	**19 29 58.5**	**+2.7**
KBAM				*e*		19 30 46.6	
	comp=Z,8μm,0.6s						
GHWR	**Ruwais**	**3.71**	**210**	*e*Pn	**Pn**	**19 29 58.7**	**+2.7**
GHWR	**Ruwais**	**3.71**	**210**	P	**Pn**	**19 29 58.7**	**+2.7**
GHWR				S	**Sn**	**19 30 43.7**	**+4.1**
KAZ1	**Kazerun**	**3.73**	**311**	*e*Pn	**Pn**	**19 29 59.8**	**+3.4**
KAZ1				*e*		19 31 15.7	
	comp=Z,23μm,0.8s						
ZRDN	**Zarand Kerman**	**4.00**	**21**	*e*Pn	**Pn**	**19 30 03.0**	**+2.7**
SAKB	**Bahrain**	**4.08**	**253**	P	**Pn**	**19 30 04.0**	**+2.8**
SAKB				S	**Sn**	**19 30 51.7**	**+3.0**
ARQ	**Araqi**	**4.14**	**159**	P	**Pn**	**19 30 04.7**	**+2.8**
	SNR=95						
ARQ				S	**Sn**	**19 30 52.9**	**+2.7**
IMEH	**Mehriz**	**4.16**	**357**	*e*		19 30 06.4	
	comp=Z,4μm,0.2s						
IMEH				*e*Pn	**Pn**	**19 30 04.7**	**+2.2**
HOQ	**Hoqain**	**4.24**	**148**	P	**Pn**	**19 30 05.3**	**+2.0**
	SNR=15						
HOQ				S	**Sn**	**19 30 54.6**	**+2.1**
SLWR	**Sila**	**4.26**	**223**	*e*Pn	**Pn**	**19 30 05.8**	**+2.3**
MZR	**Muzera**	**4.39**	**197**	*e*Pn	**Pn**	**19 30 07.8**	**+2.4**
MZR	**Muzera**	**4.39**	**197**	P	**Pn**	**19 30 07.7**	**+2.4**
	SNR=80						
MZR				S	**Sn**	**19 30 59.6**	**+3.3**
MZR	**Muzera**	**4.39**	**197**	*i* P	**Pn**	**19 30 07.7**	**+2.4**
	SNR=80						
UMZA	**Um Al Zommool**	**4.49**	**177**	*e*Pn	**Pn**	**19 30 09.7**	**+2.9**
UMZA	**Um Al Zommool**	**4.49**	**177**	P	**Pn**	**19 30 09.7**	**+2.9**
UMZA				S	**Sn**	**19 31 01.1**	**+2.3**
BIDO	**Bidbid**	**4.71**	**141**	*e*Pn	**Pn**	**19 30 13.0**	**+3.2**
BIDO	**Bidbid**	**4.71**	**141**	P	**Pn**	**19 30 11.4**	**+1.7**
	SNR=8.2						
BIDO				S	**Sn**	**19 31 05.4**	**+1.2**
KLNJ	**Kolanjah**	**4.75**	**323**	*e*Pn	**Pn**	**19 30 11.5**	**+0.9**
ISAD	**Sadrabad**	**4.79**	**348**	*e*Pn	**Pn**	**19 30 13.2**	**+2.0**
BSY	**Bisya**	**4.93**	**154**	P	**Pn**	**19 30 15.7**	**+2.9**
	SNR=14						
BSY				S	**Sn**	**19 31 12.3**	**+2.7**
ICHK	**Chekchek**	**5.03**	**355**	*e*Pn	**Pn**	**19 30 16.5**	**+2.2**
SMDO	**Samad**	**5.04**	**145**	P	**Pn**	**19 30 17.6**	**+3.2**
	SNR=43						
SMDO				S	**Sn**	**19 31 16.0**	**+3.5**
IRAM	**Ramesheh**	**5.07**	**335**	*e*Pn	**Pn**	**19 30 17.0**	**+2.1**
YZKH	**Yazd**	**5.16**	**357**	*e*Pn	**Pn**	**19 30 18.5**	**+2.5**
WSAR	**Wadi Sarin**	**5.22**	**139**	Pn	**Pn**	**19 30 19.2**	**+2.4**
	comp=Z,7.9nm,0.3s,baz=325,slow=4.1,SNR=84						
WSAR				Sn	**Sn**	**19 31 17.3**	**+0.5**
	comp=Z,21nm,0.3s,baz=84,slow=18,SNR=9.4						
ABEH	**Behbahan**	**5.27**	**311**	*e*Pn	**Pn**	**19 30 19.3**	**+1.8**
IBRJ	**Brojen**	**5.64**	**327**	*e*Pn	**Pn**	**19 30 26.2**	**+3.4**
JMDO	**Jabal Madar**	**5.64**	**148**	P	**Pn**	**19 30 24.7**	**+2.1**
	SNR=9.5						
JMDO				S	**Sn**	**19 31 28.6**	**+1.3**
ZHDN	**Zahedan**	**5.66**	**66**	*e*Pn	**Pn**	**19 30 25.2**	**+2.2**
ZHSF	**Zahedan**	**5.71**	**64**	*e*Pn	**Pn**	**19 30 26.9**	**+3.2**
IGAR	**Gharneh**	**5.73**	**335**	*e*Pn	**Pn**	**19 30 25.3**	**+1.3**
NASN	**Na'in**	**5.84**	**343**	*e*Pn	**Pn**	**19 30 27.3**	**+1.6**
WBK	**Wadi Bani Khal**	**5.90**	**140**	P	**Pn**	**19 30 28.0**	**+1.8**
	SNR=81						
WBK				S	**Sn**	**19 31 34.7**	**+1.0**
NGCH	**Negor - Chabah**	**5.91**	**107**	*e*Pn	**Pn**	**19 30 28.4**	**+2.1**
TPRV	**Parvadeh(Tabas**	**6.00**	**15**	*e*Pn	**Pn**	**19 30 29.7**	**+2.2**
BSRN	**Basiran**	**6.00**	**37**	*e*Pn	**Pn**	**19 30 29.3**	**+1.6**
ANAR	**Anarak**	**6.03**	**351**	*e*Pn	**Pn**	**19 30 29.5**	**+1.4**
IZEF	**Zefreh**	**6.08**	**339**	*e*Pn	**Pn**	**19 30 29.4**	**+0.6**
NHDN	**Nehbandan**	**6.14**	**46**	*e*Pn	**Pn**	**19 30 31.7**	**+2.2**
SHK1	**Shahrekord**	**6.16**	**327**	*e*Pn	**Pn**	**19 30 34.2**	**+4.2**
IKOO	**Kooshah**	**6.30**	**34**	*e*Pn	**Pn**	**19 30 33.2**	**+1.3**
IPIR	**Pirpir**	**6.45**	**329**	*e*Pn	**Pn**	**19 30 35.5**	**+1.5**
JLN	**Jalan Bani Buh**	**6.51**	**140**	P	**Pn**	**19 30 35.8**	**+1.2**
	SNR=30						
JLN				S	**Sn**	**19 31 45.6**	**-3.1**
ITEG	**Tejag**	**6.58**	**30**	*e*Pn	**Pn**	**19 30 37.5**	**+1.9**
AMIS	**Naft Sefid**	**6.59**	**314**	*e*Pn	**Pn**	**19 30 35.9**	**+0.3**
TKDS	**Koohdasht(Taba**	**6.66**	**16**	*e*Pn	**Pn**	**19 30 38.5**	**+1.8**
SRVN	**Saravan**	**6.69**	**87**	*e*Pn	**Pn**	**19 30 39.5**	**+2.4**
TABS	**Tabas**	**6.69**	**16**	*e*Pn	**Pn**	**19 30 39.2**	**+2.1**
IKLH	**Kolahrood**	**6.72**	**336**	*e*Pn	**Pn**	**19 30 39.1**	**+1.5**
TNSJ	**Nastanj**	**6.88**	**12**	*e*Pn	**Pn**	**19 30 41.2**	**+1.4**
IDAH	**Dahanechah**	**7.00**	**37**	*e*Pn	**Pn**	**19 30 44.4**	**+3.0**
KRSH	**Karshahi**	**7.13**	**341**	*e*Pn	**Pn**	**19 30 44.9**	**+1.7**
AFRZ	**Afriz**	**7.14**	**29**	*e*Pn	**Pn**	**19 30 45.3**	**+2.0**
QAMS	**Qamsar**	**7.16**	**336**	*e*Pn	**Pn**	**19 30 45.0**	**+1.4**
IMON	**Monand**	**7.25**	**34**	*e*Pn	**Pn**	**19 30 47.6**	**+2.7**
ISFB	**Sefidab**	**7.46**	**343**	*e*Pn	**Pn**	**19 30 49.4**	**+1.7**
KHMZ	**Khomeyn**	**7.76**	**328**	*e*Pn	**Pn**	**19 30 53.4**	**+1.5**
GHVR	**GHOM**	**7.87**	**338**	*e*Pn	**Pn**	**19 30 55.8**	**+2.6**
SHRT	**Shahrakht**	**7.92**	**35**	*e*Pn	**Pn**	**19 30 56.7**	**+2.7**
IVRN	**Varamin**	**8.21**	**342**	*e*Pn	**Pn**	**19 30 59.2**	**+1.3**
IANJ	**Anjilo**	**8.26**	**354**	*e*Pn	**Pn**	**19 31 00.2**	**+1.4**
IQOM	**Qom**	**8.27**	**338**	*e*Pn	**Pn**	**19 30 59.3**	**+0.4**
BMDN	**Meydan**	**8.29**	**322**	*e*Pn	**Pn**	**19 31 00.3**	**+1.2**
ILAS	**Lasjerd**	**8.30**	**349**	*e*Pn	**Pn**	**19 31 01.6**	**+2.3**
ASAO	**Ashtian**	**8.41**	**331**	*e*Pn	**Pn**	**19 31 02.6**	**+1.8**
DOK	**Doka**	**8.59**	**185**	P	**Pn**	**19 31 04.2**	**+1.1**
	SNR=36						
DOK				S	**Sn**	**19 32 35.8**	**-4.0**
ISHM	**Shahmirzad**	**8.67**	**351**	*e*Pn	**Pn**	**19 31 06.6**	**+2.2**
IDOB	**Doab**	**8.73**	**320**	*e*Pn	**Pn**	**19 31 07.1**	**+1.9**
IKFM	**Kafar-mosalman**	**8.74**	**318**	*e*Pn	**Pn**	**19 31 07.0**	**+1.9**
HSAM	**Samen**	**8.82**	**324**	*e*Pn	**Pn**	**19 31 06.6**	**+0.2**
HAGD	**Aghdareh**	**9.04**	**328**	*e*Pn	**Pn**	**19 31 10.6**	**+1.2**
SHAO	**Shalim**	**9.18**	**176**	P	**Pn**	**19 31 12.4**	**+1.2**
	SNR=43						
SHAO				S	**Sn**	**19 32 50.9**	**-3.4**
SHAO	**Shalim**	**9.18**	**176**	*i* P	**Pn**	**19 31 12.0**	**+0.8**
	SNR=44						
IRAZ	**Razeghan**	**9.19**	**334**	*e*Pn	**Pn**	**19 31 12.0**	**+0.5**
RAYN	**Ar Rayn**	**9.25**	**249**	P	**Pn**	**19 31 11.3**	**-0.8**
RAYN	**Ar Rayn**	**9.25**	**249**	Pn	**Pn**	**19 31 11.3**	**-0.8**
RAYN	**Ar Rayn**	**9.25**	**249**	*i* P	**Pn**	**19 31 12.6**	**+0.5**
	SNR=20						
IPRN	**Peran**	**9.25**	**347**	*e*Pn	**Pn**	**19 31 15.2**	**+2.9**
TBJM	**Torbat-e-JAM**	**9.28**	**29**	*e*Pn	**Pn**	**19 31 14.9**	**+2.2**
IGLO	**Ghaloghah**	**9.30**	**355**	*e*Pn	**Pn**	**19 31 16.1**	**+3.1**
WHFO	**Wadi Hawf**	**9.31**	**187**	P	**Pn**	**19 31 14.0**	**+1.0**
	SNR=48						
WHFO				S	**Sn**	**19 32 54.7**	**-2.9**
	SNR=12						
SBZV	**Sabzevar**	**9.43**	**14**	*e*Pn	**Pn**	**19 31 16.1**	**+1.3**
DMTO	**DMTO**	**9.46**	**180**	P	**Pn**	**19 31 15.6**	**+0.6**
DMTO				S	**Sn**	**19 32 58.4**	**-2.8**
HRA	**Herat**	**9.54**	**40**	Pn	**Pn**	**19 31 16.6**	**+0.3**
QABG	**Abgarm-Qazvin**	**9.60**	**333**	*e*Pn	**Pn**	**19 31 14.7**	**-2.4**
IMOG	**Moghan**	**9.64**	**22**	*e*Pn	**Pn**	**19 31 20.5**	**+2.8**
RBK	**Rabkut**	**9.69**	**184**	P	**Pn**	**19 31 19.2**	**+1.0**
	SNR=8.9						
RBK				S	**Sn**	**19 33 04.4**	**-2.5**
KCHF	**Cheshme Sefid,**	**9.74**	**318**	*e*Pn	**Pn**	**19 31 15.6**	**-3.4**
KER	**Kermanshah**	**9.77**	**319**	*e*Pn	**Pn**	**19 31 19.6**	**+0.3**
JRKH	**Jarkhoshk**	**9.84**	**27**	*e*Pn	**Pn**	**19 31 23.7**	**+3.5**
QALM	**Alamut, Qazvin**	**9.87**	**340**	*e*Pn	**Pn**	**19 31 21.9**	**+1.1**
IAKL	**Akhelmad**	**9.92**	**18**	*e*Pn	**Pn**	**19 31 23.1**	**+1.6**
ABTO	**Aybut**	**9.93**	**189**	P	**Pn**	**19 31 22.3**	**+0.8**
	SNR=21						
ABTO				P	**Pn**	**19 31 22.3**	**+0.8**
	SNR=21						
ABTO				S	**Sn**	**19 33 11.2**	**-1.6**
ABTO				S	**Sn**	**19 33 11.2**	**-1.6**
IGHG	**Ghaleghazi**	**10.06**	**317**	*e*Pn	**Pn**	**19 31 25.1**	**+1.6**
IMYA	**Miami**	**10.12**	**25**	*e*Pn	**Pn**	**19 31 27.5**	**+3.3**
IKRD	**Kardeh**	**10.31**	**21**	*e*Pn	**Pn**	**19 31 29.9**	**+3.1**
IDHR	**Dehrash**	**10.43**	**318**	*e*Pn	**Pn**	**19 31 28.5**	**+0.1**
GEYT	**Alibeck**	**11.02**	**13**	Pn	**Pn**	**19 31 39.2**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=355,slow=21,SNR=3.7						
GEYT	**Alibeck**	**11.02**	**13**	Pn	**Pn**	**19 31 35.7**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**11.02**	**13**	Pn	**Pn**	**19 31 35.8**	**-0.6**
ISHB	**Shabestar**	**13.50**	**327**	*e*Pn	**Pn**	**19 32 12.1**	**+1.6**
IMRD	**Marand**	**13.80**	**328**	*e*Pn	**Pn**	**19 32 18.5**	**+4.0**
KBL	**Kabul**	**14.17**	**56**	P	**Pn**	**19 32 18.7**	**-0.9**
KBL	**Kabul**	**14.17**	**56**	Pn	**Pn**	**19 32 18.7**	**-0.9**
SIRT	**Sirnak**	**14.67**	**317**	Pn	**Pn**	**19 32 23.1**	**-3.3**
SOCY	**Socotra**	**14.98**	**183**	Pn	**Pn**	**19 32 28.2**	**-2.4**
GNI	**Garni**	**15.40**	**329**	Pn	**P**	**19 32 40.1**	**-0.6**
	comp=Z,3.9nm,0.3s,baz=26,slow=1.1,SNR=25						
GNI	**Garni**	**15.40**	**329**	*i* P	**Pn**	**19 32 32.8**	**-3.3**
GNI	**Garni**	**15.40**	**329**	Pn	**Pn**	**19 32 35.6**	**-0.5**
GNI				P	**P**	**19 32 39.9**	**-0.8**
GNI				IAmb	IAmb	19 33 04.7	
	comp=Z,45nm,0.8s						
GNI	**Garni**	**15.40**	**329**	P	**P**	**19 32 40.1**	**-0.

baz=45
KOLN Koldanda 25.46 82 *e*P **P 19 34 28.6 +1.6**
comp=Z,63nm,1.0s
DANN Dangsing 25.55 81 *e*P **P 19 34 30.2 +2.3**
comp=Z,224nm,0.8s
BALB Balikesir 25.61 306 P **P 19 34 27.7 -0.3**
BALB IAmb IAmb 19 34 52.4
comp=Z,18nm,0.8s
BELG Belogornoye 25.73 350 P **P 19 34 29.2 +0.3**
comp=Z,25nm,0.6s,baz=336,slow=3.1,SNR=18
BELG PcP **PcP 19 37 58.7 0.0**
comp=Z,9.8nm,0.7s,baz=176,slow=6.8,SNR=3.6
BELG Belogornoye 25.73 350 *i* P **P 19 34 28.4 -0.5**
BELG pmax pmax
comp=Z,5.0nm,0.6s
TDK Taldyqorghan 25.85 40 *e*P **P 19 34 29.4 -0.8**
TDK pmax pmax
comp=Z,11nm,0.5s
TDK Taldygorghan 25.85 40 *e*P **P 19 34 29.4 -0.8**
comp=Z,11nm,0.5s,baz=41
GKN Gorkha 26.35 81 *e*P **P 19 34 36.0 +1.0**
comp=Z,7.2nm,0.4s
VORD Divnogorie 26.51 338 *e*P **P 19 34 35.5 -0.5**
VORD pmax pmax
comp=Z,10.0nm,0.6s
BRZS Berezniki 26.51 26 *e*P **P 19 34 35.2 -0.9**
BRZS Berezniki 26.51 26 *e*P **P 19 34 35.2 -0.9**
baz=26
VSR Storozhevoye 26.77 338 *e*P **P 19 34 37.5 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.5s
IDI Anoyia 26.80 295 P **P 19 34 39.8 +0.9**
comp=Z,11nm,0.6s,baz=98,slow=8.4,SNR=12
DMN Daman 26.80 82 *e*P **P 19 34 40.4 +1.1**
comp=Z,6.5nm,0.4s
KKN Kakani 26.94 82 *e*P **P 19 34 42.0 +1.6**
comp=Z,22nm,0.5s
PKIN Phulchoki 27.06 82 *e*P **P 19 34 42.5 +0.9**
comp=Z,16nm,0.6s
PKI Pulchoki 27.07 82 *e*P **P 19 34 42.8 +1.0**
comp=Z,25nm,0.8s
VORR Voronezh 27.14 338 *e*P **P 19 34 39.7 -2.0**
VORR pmax pmax
comp=Z,49nm,0.4s
GUN Gumba 27.45 81 *e*P **P 19 34 46.1 +0.9**
comp=Z,69nm,0.7s
LPSR Galich'ya Gora 28.02 339 *e*P **P 19 34 49.2 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BRVK Borovoye 28.24 20*c i*P **P 19 34 51.8 +0.3**
BRVK pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 28.24 20 P **P 19 34 51.8 +0.3**
BRVK IAmb IAmb 19 34 52.6
comp=Z,16nm,0.7s
BVAR Borovoye Array 28.25 20 P **P 19 34 51.6 0.0**
comp=Z,20nm,0.6s,baz=182,slow=7.0,SNR=92
BVAR PcP **PcP 19 38 04.9 +0.2**
comp=Z,3.9nm,0.6s,baz=48,slow=2.2,SNR=7.4
MAKZ Makanchi 28.93 40 P **P 19 34 58.2 +0.4**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
MAKZ Makanchi 28.93 40 P **P 19 34 58.2 +0.4**
MAKZ IAmb IAmb 19 35 06.7
comp=Z,6.7nm,0.9s
MK31 Makanchi Array 29.10 41 *i* P **P 19 34 59.4 +0.1**
MK31 Makanchi Array 29.10 41 P **P 19 34 59.4 +0.1**
MKAR Makanchi Array 29.10 41 P **P 19 34 59.4 +0.1**
comp=Z,3.5nm,0.6s,baz=227,slow=8.2,SNR=58
MKAR PcP **PcP 19 38 06.8 -0.3**
comp=Z,1.3nm,0.6s,baz=232,slow=2.9,SNR=6.0
SRS Serrai 29.19 306 P **P 19 35 01.1 +0.9**
SOH Sokhos 29.27 306 P **P 19 35 02.4 +1.5**
ARU Arti 29.31 4 P **P 19 35 01.3 +0.3**
comp=Z,1.1nm,0.6s,baz=174,slow=3.4,SNR=7.0
ARU PcP **PcP 19 38 07.2 -0.1**
comp=Z,1.1nm,0.6s,baz=111,slow=7.9,SNR=3.2
ARU Arti 29.31 4*d i*P **P 19 35 01.3 +0.3**
ARU 19 35 50.1
ARU S **S 19 39 56.8 +3.2**
ARU SS **SnSn 19 41 21.2 +1.7**
ARU pmax pmax
comp=Z,10.0nm,1.4s
ARU Arti 29.31 4 P **P 19 35 01.3 +0.3**
ARU IAmb IAmb 19 35 23.4
comp=Z,14nm,1.4s
KURBB Kurchatov Arra 29.50 31 P **P 19 35 03.1 +0.3**
comp=Z,7.1nm,0.8s,baz=232,slow=8.7,SNR=65
KURBB PcP **PcP 19 38 07.8 -0.1**
comp=Z,2.6nm,0.7s,baz=228,slow=3.3,SNR=12
KURK Kurchatov 29.61 31 *i* P **P 19 35 02.2 -1.5**
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 29.61 31 P **P 19 35 03.3 -0.4**
KURK IAmb IAmb 19 35 05.2
comp=Z,7.9nm,0.8s
KURK Kurchatov 29.61 31 **PcP 19 38 07.8 -0.3**
SVE Sverdlovsk 29.87 6 *e*P **P 19 35 06.1 +0.1**
SVE pmax pmax
comp=Z,9.0nm,0.8s
GRG Griva 30.00 306 P **P 19 35 08.2 +0.8**
LODK Lodwar 30.14 222 P **P 19 35 10.1 +1.3**
SEM Semipalatinsk 30.18 33 *e*P **P 19 35 08.1 -0.9**
SEM Semipalatinsk 30.18 33 *e*P **P 19 35 08.2 -0.8**
baz=33
AKASG Malin Array Be 30.51 327 P **P 19 35 10.7 -1.0**
comp=Z,1.4nm,0.4s,baz=130,slow=8.7,SNR=22
AKASG PcP **PcP 19 38 09.9 -0.5**
comp=Z,2.2nm,0.6s,baz=92,slow=2.2,SNR=11
AKASG Malin Array Be 30.51 327 P **P 19 35 09.9 -1.7**
AKBB Malin Array Si 30.51 327 P **P 19 35 09.8 -1.8**
AKBB pmax pmax
comp=Z,10.0nm,1.0s
AKBB Malin Array Si 30.51 327 P **P 19 35 09.8 -1.8**
AKBB IAmb IAmb 19 35 11.5
comp=Z,9.5nm,0.9s
FNA Florina 30.70 305 P **P 19 35 12.8 -0.8**
FNA pmax pmax
comp=Z,9.0nm,0.6s
FNA Florina 30.70 305 P **P 19 35 12.8 -0.8**
FNA IAmb IAmb 19 35 15.0
comp=Z,9.4nm,0.6s
BURAR Bucovina Array 30.85 319 P **P 19 35 14.1 -0.7**
BUR08 Bucovina Ar. S 30.87 319 P **P 19 35 14.4 -0.7**
OBN Obninsk 30.90 339*c i*P **P 19 35 15.4 +0.4**
OBN *i* *SP **pP 19 35 19.0 -0.7**
OBN *i* 19 35 24.6
OBN 19 36 17.0
OBN PPP PPP 19 36 33.0
OBN pmax pmax
comp=Z,32nm,0.7s
OBN MLR MLR
comp=Z,2μm,19.0s
OBN Obninsk 30.90 339 P **P 19 35 15.3 +0.3**
KBN Korca 31.09 304 P **P 19 35 16.8 -0.2**
KBN pmax pmax
comp=Z,15nm,0.6s
KBN Korca 31.09 304 P **P 19 35 16.8 -0.2**
MOS Moscow 31.11 341 *e*P **P 19 35 16.5 -0.4**
WMQ Urumqi 31.17 49 *e*P **P 19 35 18.8 +1.1**
WMQ pP sP 19 35 23.5 -0.7
WMQ pmax pmax
comp=Z,20nm,0.7s
KIRV Kirov 31.58 355 *i* P **P 19 35 20.2 -0.8**
KMBO Kilima Mbogo 32.90 214 P **P 19 35 35.9 +2.6**
comp=Z,6.0nm,0.9s,baz=27,slow=11,SNR=12
KMBO Kilima Mbogo 32.90 214 *i* P **P 19 35 34.9 +1.6**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
DGZ Jazzator, Alta 33.55 39 *i* P **P 19 35 37.5 -1.1**
DGZ pmax pmax
comp=Z,6.0nm,0.6s
MNK Minsk 33.66 331 *i* P **P 19 35 38.7 -0.6**
MNK *i* 19 36 46.9
MNK *i* S **S 19 41 02.6 +1.1**
MNK *i* SS SS 19 43 06.1 -21
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=N,21nm,0.7s
MNK MLR MLR
comp=N,1μm,19.0s
MNK MLR MLR
comp=E,150nm,24.0s
MNK MLR MLR
comp=Z,724nm,24.0s
MNK Minsk 33.66 331 *i* P **P 19 35 38.7 -0.6**
comp=E,3.0nm,1.1s
MNK *i* P **P 19 35 38.7 -0.6**
comp=N,21nm,0.7s
MNK *i* P **P 19 35 38.7 -0.6**
comp=Z,10.0nm,0.8s,baz=134
MNK *i* PP **PnPn 19 36 46.9 -4.2**
MNK *i* S **S 19 41 02.6 +1.1**
MNK *i* SS **SnSn 19 43 06.1 +0.9**
MNK *i* LQ LQ 19 46 45.4
MNK *i* LR LR 19 48 59.6
MNK *i* LRM MLR 19 50 12.8
comp=N,1μm,19.3s
MNK *i* LRM MLR 19 50 24.2
comp=E,150nm,23.5s
MNK *i* LRM MLR 19 50 38.9
comp=Z,724nm,24.5s
CRVS Cervenica-Dubn 33.66 319 *e*P **P 19 35 39.5 +0.1**
CRVS Cervenica-Dubn 33.66 319 *e*P **P 19 35 39.5 +0.1**
NACGM Naroch 34.40 331 *i* P **P 19 35 45.8 +0.1**
ZAA0 Zalesovo Array 34.60 31 P **P 19 35 47.0 -0.4**
ZALV Zalesovo Beam 34.60 31 P **P 19 35 47.2 -0.2**
comp=Z,38nm,0.6s,baz=239,slow=9.3,SNR=166
ZALV PcP **PcP 19 38 20.8 -0.9**
comp=Z,3.0nm,0.6s,baz=224,slow=4.0,SNR=4.6
ZALV Zalesovo Beam 34.60 31 P **P 19 35 46.8 -0.6**
IDID Didziasalis 34.70 332 *e*P **P 19 35 48.6 +0.4**
GOMU GeErMu 34.93 65 P **P 19 35 52.3 +1.3**
GOMU pP sP 19 35 57.6 -0.1
GOMU sP pP 19 35 59.6 +3.9
GOMU PcP **PcP 19 38 24.8 +1.3**
GOMU pmax pmax
comp=Z,9.0nm,0.9s
IIGN Ignalina 34.94 331 *e*P **P 19 35 51.0 +0.6**
LANS Liptovska Anna 34.95 318 *e*P **P 19 35 51.2 +0.6**
LANS Liptovska Anna 34.95 318 *e*P **P 19 35 51.2 +0.6**
KLMR Klimovskoe 35.21 347 *e*P **P 19 35 50.8 -1.8**
KLMR *e* 19 37 10.7
KLMR pmax pmax
comp=Z,16nm,1.0s
KLMR Klimovskoe 35.21 347 *e*P **P 19 35 50.8 -1.8**
KLMR AMP 19 36 04.0
comp=Z,16nm,1.0s
KLMR *e*PP **PP 19 37 10.8 -1.6**
OJC Ojcow 35.23 320 P **P 19 35 52.4 -0.6**
OJC pmax pmax
comp=Z,13nm,0.9s
OJC Ojcow 35.23 320 P **P 19 35 52.4 -0.6**
OJC IAmb IAmb 19 35 53.7
comp=Z,13nm,0.9s
SUW Suwalki 35.47 328 P **P 19 35 53.3 -1.6**
SUW pmax pmax
comp=Z,24nm,1.1s
SUW Suwalki 35.47 328 P **P 19 35 53.3 -1.6**
JAVC Velka Javorina 35.90 317 *e*P **P 19 35 58.7 -0.1**
PABE Paberze 36.02 330 *e*P **P 19 35 58.8 -0.8**
PABE Paberze 36.02 330 P **P 19 35 58.5 -1.2**
MBAR Mbarara 36.12 224 P **P 19 36 02.4 +1.3**
comp=Z,3.3nm,0.2s,baz=33,slow=13,SNR=10
MBAR Mbarara 36.12 224 P **P 19 36 00.7 -0.4**
MORC Moravsky Berou 36.35 318 P **P 19 36 01.9 -0.7**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 36.35 318 *e*P **P 19 36 02.0 -0.7**
MORC Moravsky Berou 36.35 318 P **P 19 36 01.9 -0.7**
MORC IAmb IAmb 19 36 03.1
comp=Z,5.2nm,0.8s
VRAC Vranov 36.73 317 P **P 19 36 05.3 -0.6**
comp=Z,2.8nm,0.7s,baz=118,slow=8.3,SNR=4.8
VRAC Vranov 36.73 317 *e*P **P 19 36 05.3 -0.6**
KRUC Moravsky 36.76 317 *e*P **P 19 36 05.7 -0.4**
VSU Vasula 36.89 336 *i* P **P 19 36 05.5 -1.5**
VSU pmax pmax
comp=Z,43nm,0.8s
VSU Vasula 36.89 336 *e*P **P 19 36 07.1 +0.1**
KRLC Kraliky 36.92 319 *e*P **P 19 36 06.5 -1.0**
KRLC Kraliky 36.92 319 *e*P **P 19 36 06.5 -1.0**
NRCA Norcia 37.18 306 P **P 19 36 10.1 +0.3**
NRCA IAmb IAmb 19 36 20.6
comp=Z,22nm,1.1s
DPC Dobruska-Polom 37.30 319 *e*P **P 19 36 10.4 -0.3**
DPC Dobruska-Polom 37.30 319 *e*P **P 19 36 10.4 -0.3**
OSTC Ostas 37.45 319 *e*P **P 19 36 11.3 -0.6**
CHVC Chvalec 37.56 319 *e*P **P 19 36 12.7 -0.1**
VALR Valaam 37.76 341 *i* P **P 19 36 13.2 -1.1**
VALR pmax pmax
comp=Z,18nm,0.9s
KBA Koelnbreinsper 38.03 313 *e*P **P 19 36 16.9 -0.2**
comp=Z,4.9nm,0.7s
MTSE Matsula 38.17 334 *e*P **P 19 36 18.0 +0.2**
GERES GERESS Array B 38.34 315 P **P 19 36 18.9 -0.8**
comp=Z,1.5nm,0.8s,baz=106,slow=8.4,SNR=10
GERES PcP **PcP 19 38 33.0 -0.2**
comp=Z,1.8nm,0.7s,baz=131,slow=3.9,SNR=9.3
GERES GERESS Array B 38.34 315 P **P 19 36 18.5 -1.1**
ABTA Abfaltersbach 38.49 312 *e*P **P 19 36 20.3 -0.5**
comp=Z,4.0nm,0.8s
KHC Kasperske Hory 38.51 316 *e*P **P 19 36 20.5 -0.5**
KHC *e* 19 36 27.5
KHC Kasperske Hory 38.51 316 *e*P **P 19 36 20.5 -0.5**
KHC *ex* x 19 36 27.5
KHC Kasperske Hory 38.51 316 P **P 19 36 20.5 -0.5**
CTI Castel Tesino 38.89 311 P **P 19 36 23.3 -1.0**
CTI pmax pmax
comp=Z,10.0nm,0.9s
CTI Castel Tesino 38.89 311 P **P 19 36 23.3 -1.0**
CTI IAmb IAmb 19 36 37.5
comp=Z,9.6nm,0.9s
BRG Berggiesshubel 38.90 319 *e*P **P 19 36 24.0 -0.2**
BRG Amp 19 36 25.8
comp=Z,3.3nm,0.8s
BRG *ex* x 19 36 31.9
BRG Amp 19 36 34.8
comp=Z,10nm,1.5s
BRG Berggiesshubel 38.90 319 *e*P **P 19 36 24.0 -0.2**
BRG *e* 19 36 31.8
BRG pmax pmax
comp=Z,3.0nm,0.8s
GTA Gaotai 39.10 60 ⇑P **P 19 36 27.0 +0.9**
GTA pP pP 19 36 30.3 -0.6
GTA sP sP 19 36 33.0 +0.2
GTA pmax pmax
comp=Z,22nm,0.8s
WTTA Wattenberg 39.20 312 *e*P **P 19 36 26.1 -0.9**
comp=Z,7.5nm,0.6s
WTTA *e*P **PcP 19 38 36.0 -0.1**
comp=Z,2.6nm,0.5s
WATA Walderalm 39.26 313 *e*P **P 19 36 26.6 -0.8**
comp=Z,5.4nm,0.6s
WATA *e*P **PcP 19 38 35.9 -0.3**
comp=Z,2.1nm,0.5s
FIA1 FINESS Array S 39.29 339 P **P 19 36 26.6 -0.6**
FIA1 IAmb IAmb 19 36 27.7
comp=Z,13nm,0.7s
FINES FINESS Array B 39.29 339 P **P 19 36 26.9 -0.3**
comp=Z,10nm,0.6s,baz=142,slow=9.5,SNR=69
FINES S **S 19 42 25.2 -2.2**
comp=Z,1.8nm,0.9s,baz=106,slow=14,SNR=4.0
FINES FINESS Array B 39.29 339 *i* P **P 19 36 27.2 0.0**
FINES pmax pmax
comp=Z,10.0nm,0.6s
FINES FINESS Array B 39.29 339 P **P 19 36 26.4 -0.8**
KEST Kesra 39.47 294 P **P 19 36 30.0 +0.8**
comp=Z,6.2nm,0.8s,baz=118,slow=3.4,SNR=9.7
KEST PcP **PcP 19 38 37.3 +0.4**
comp=Z,2.4nm,0.6s,baz=288,slow=3.1,SNR=4.8
KEST Kesra 39.47 294 P **P 19 36 28.5 -0.7**
SQTA Sankt Quirin 39.47 312 *i* P **P 19 36 28.0 -1.2**
comp=Z,8.6nm,0.5s,SNR=11
SQTA *e*P **PcP 19 38 37.0 +0.2**
comp=Z,3.9nm,0.5s
VSL Villasalto 39.55 300 P **P 19 36 30.3 +0.6**
VSL IAmb IAmb 19 36 32.0
comp=Z,24nm,0.8s
MOTA Moosalm 39.57 312 *i* P **P 19 36 27.9 -2.1**
comp=Z,14nm,1.2s,SNR=5.7
MOTA *e*P **PcP 19 38 36.7 -0.5**
comp=Z,6.2nm,0.9s
CLL Collm 39.62 319 P **P 19 36 28.7 -1.4**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 39.62 319 *i* P **P 19 36 29.9 -0.2**
comp=Z,5.0nm,0.8s
CLL *ex* x 19 36 41.0
CLL Collm 39.62 319 P **P 19 36 28.7 -1.4**
FETA Feichten 39.74 312 *e*P **P 19 36 30.5 -0.9**
comp=Z,13nm,1.1s
FETA *e*P **PcP 19 38 38.0 +0.2**
comp=Z,2.0nm,0.6s
RETA Reutte 39.83 313 *i* P **P 19 36 30.8 -1.3**
comp=Z,5.5nm,0.7s,SNR=4.3
DAVOX Davos/Dischmat 40.25 311 P **P 19 36 35.4 -0.3**
comp=Z,6.1nm,0.6s,baz=108,slow=7.7,SNR=11
DAVA Damuels 40.37 312 *e*P **P 19 36 35.6 -1.0**
comp=Z,13nm,0.6s
CHTO Chiang Mai 41.24 92 P **P 19 36 44.5 +0.6**
CHTO pmax pmax
comp=Z,7.0nm,1.1s
CHTO Chiang Mai 41.24 92 P **P 19 36 44.5 +0.6**
CM31 Chiang Mai Arr 41.36 93 P **P 19 36 45.0 0.0**
CMAR Chiang Mai Arr 41.36 93 P **P 19 36 46.1 +1.1**
comp=Z,2.3nm,0.8s,baz=286,slow=9.5,SNR=19
CMAR PcP **PcP 19 38 43.7 +0.5**
comp=Z,2.1nm,0.8s,baz=287,slow=5.4,SNR=9.5
CMAR Chiang Mai Arr 41.36 93 *i* P **P 19 36 46.2 +1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
PZH PanZhiHua 41.62 80 P **P 19 36 48.1 +1.0**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.1s
SENIN Lac Senin/Sane 41.91 310 P **P 19 36 48.5 -0.9**
BNI Bardonecchia 42.13 308 P **P 19 36 50.2 -0.9**
BNI pmax pmax
comp=Z,10.0nm,0.9s
BNI Bardonecchia 42.13 308 P **P 19 36 50.2 -0.9**
BNI IAmb IAmb 19 36 55.7
comp=Z,9.7nm,0.9s
LPG La Plagne 42.15 309 P **P 19 36 50.6 -0.8**
LPL La Plagne 42.16 309 P **P 19 36 49.9 -1.6**
LZH Lanzhou 42.23 65 *e*P **P 19 36 53.3 +1.2**
LZH pP sP 19 36 58.8 0.0
LZH sP pP 19 37 02.5 +5.6
LZH pmax pmax
comp=Z,17nm,1.0s
KMI Kunming 42.80 82 ⇑P **P 19 36 56.4 -0.5**
KMI pP pP 19 37 01.8 +0.1
KMI pmax pmax
comp=Z,16nm,1.0s
HFS Hagfors 43.17 331 P **P 19 36 58.5 -0.7**
comp=Z,9.0nm,0.7s,baz=123,slow=11,SNR=16
NC405 NORSAR Array S 44.51 332 P **P 19 37 08.0 -1.9**
SSF Saint Saulge 44.60 310 P **P 19 37 09.6 -1.2**
NB201 NORSAR Array S 44.66 331 P **P 19 37 10.3 -0.8**
NB2 NORSAR Subarra 44.69 331 P **P 19 37 09.5 -1.9**
comp=Z,7.6nm,0.7s,baz=119,slow=8.6
NB2 NORSAR Subarra 44.69 331 P **P 19 37 09.5 -1.9**
baz=119,slow=8.6
NOA NORSAR Array B 44.69 331 P **P 19 37 09.9 -1.5**
comp=Z,5.8nm,0.7s,baz=119,slow=7.9,SNR=29
NOA PcP **PcP 19 38 52.5 -1.2**
comp=Z,1.6nm,0.7s,baz=103,slow=4.0,SNR=4.7
HOMB Homborsund 44.69 327 *e*P **P 19 37 11.6 +0.2**
SONM Songino Array 44.80 48 P **P 19 37 12.8 +0.2**
comp=Z,2.8nm,0.9s,baz=254,slow=8.7,SNR=13
SONM Songino Array 44.80 48 P **P 19 37 13.0 +0.4**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 44.80 48 P **P 19 37 13.0 +0.4**
NC204 NORSAR Array S 44.99 332 P **P 19 37 12.7 -1.1**
NC204 IAmb IAmb 19 37 17.7
comp=Z,24nm,1.4s
ULN Ulaanbaatar 45.24 49 *i* P **P 19 37 15.2 -0.9**
ULN pmax pmax
comp=Z,3.0nm,0.5s
ULN Ulaanbaatar 45.24 49 P **P 19 37 16.2 0.0**
ULN IAmb IAmb 19 37 17.2
comp=Z,5.2nm,1.0s
ARA0 ARCESS Array S 45.67 346 *e*P **P 19 37 19.3 +0.3**
ARCES ARCESS Array B 45.67 346 P **P 19 37 19.1 +0.1**
comp=Z,3.0nm,0.6s,baz=140,slow=7.9,SNR=16
ARCES PcP **PcP 19 38 56.8 -0.1**
comp=Z,2.2nm,0.7s,baz=160,slow=3.9,SNR=12
KTK1 Kautokeino 45.77 345 *e*P **P 19 37 19.3 -0.5**
DOMB Dombas 46.07 332 *e*P **P 19 37 22.6 +0.2**
NSS Namsos 46.19 336 *e*P **P 19 37 22.7 -0.5**
ODD1 Odda 46.23 329 *e*P **P 19 37 24.1 +0.4**
NRIK Noril'sk 46.26 15 P **P 19 37 23.8 +0.2**
comp=Z,5.3nm,0.8s,baz=216,slow=5.4,SNR=7.8
NRIK Noril'sk 46.26 15*c i*P **P 19 37 23.7 +0.1**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
NRIK Noril'sk 46.26 15 P **P 19 37 23.5 -0.1**
NRIK IAmb IAmb 19 37 25.0
comp=Z,7.6nm,0.9s
MOR8 Moi Rana 46.28 339 *e*P **P 19 37 24.3 +0.3**
XAN Xi'an 46.55 68 ⇑P **P 19 37 26.3 -0.2**
XAN pP sP 19 37 36.3 +3.1
XAN pmax pmax
comp=Z,11nm,1.0s
FAUS Fauske 46.77 340 *e*P **P 19 37 27.7 0.0**
JETT Jettan, Norway 46.85 344 *e*P **P 19 37 28.8 +0.4**
HAMF Hammerfest 46.93 346 *e*P **P 19 37 29.0 +0.2**
BTO Baotou 46.96 59 *e*P **P 19 37 30.0 +0.3**
BTO S **S 19 44 19.8 -0.9**
STEI Steigen 47.13 341 *e*P **P 19 37 30.1 -0.3**
TRO Tromso 47.27 344 *e*P **P 19 37 30.9 -0.6**
HHC Hu-ho-hao-te 48.12 58 *e*P **P 19 37 39.6 +0.8**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,810nm,5.4s
EDMD Edmundbyers 49.24 320 *e*P **P 19 37 46.1 -0.9**
EDMD IAmb IAmb 19 37 47.6
comp=Z,31nm,0.8s
LYN LuoYang 49.39 67 ⇓*i*P **P 19 37 49.6 +1.1**
LYN pmax pmax
comp=Z,10.0nm,0.5s
MCH1 Michaelchurch 49.44 316 *e*P **P 19 37 47.4 -1.1**
MCH1 IAmb IAmb 19 37 48.7
comp=Z,35nm,0.8s
LSZ Lusaka 49.56 215 P **P 19 37 51.2 +1.3**
comp=Z,1.2nm,0.3s,baz=29,slow=8.8,SNR=8.1
LSZ Lusaka 49.56 215 P **P 19 37 51.4 +1.5**
LSZ pmax pmax
comp=Z,9.0nm,1.3s
LSZ Lusaka 49.56 215 P **P 19 37 51.4 +1.5**
LSZ IAmb IAmb 19 37 52.5
comp=Z,8.8nm,1.2s
ESY Stoneypath 49.80 322 *e*P **P 19 37 50.6 -0.6**
ESDC Sonseca Array 49.84 300 P **P 19 37 51.7 -0.3**
comp=Z,4.3nm,0.7s,baz=64,slow=7.5,SNR=16
ESDC Sonseca Array 49.84 300 P **P 19 37 51.5 -0.5**
ESDC IAmb IAmb 19 37 52.7
comp=Z,5.9nm,1.1s
DRUM Mains of Drumt 49.92 323 *e*P **P 19 37 51.9 -0.2**
DRUM IAmb IAmb 19 37 53.1
comp=Z,25nm,0.7s
EKA Eskdalemuir Ar 50.01 321 P **P 19 37 51.7 -1.1**
comp=Z,3.2nm,0.7s,baz=122,slow=7.9,SNR=6.3
EBL Broad Law 50.02 321 *e*P **P 19 37 52.2 -0.7**
EBL IAmb IAmb 19 37 57.8
comp=Z,48nm,1.5s
PAB San Pablo 50.15 300 P **P 19 37 53.7 -0.6**
PAB pmax pmax
comp=Z,11nm,0.8s
PAB San Pablo 50.15 300 P **P 19 37 53.7 -0.6**
PAB IAmb IAmb 19 37 55.2
comp=Z,11nm,0.8s
INVG Invergeldie, C 50.68 322 *e*P **P 19 37 56.9 -1.0**
HNS HongShan 50.83 63 ⇓P **P 19 38 00.0 +0.7**
HNS pmax pmax
comp=Z,6.0nm,0.9s
BOD Bodaibo 51.03 36 *e*P **P 19 38 00.2 -0.3**
BOD pmax pmax
comp=Z,20nm,0.9s
XLT XiLinHaoTe 51.35 54 *e*P **P 19 38 04.1 +0.8**
XLT pmax pmax
comp=Z,19nm,0.7s
TORD Torodi Ar. Bea 51.49 265 P **P 19 38 04.3 -0.4**
comp=Z,18nm,0.7s,baz=56,slow=7.0,SNR=102
TORD Torodi Ar. Bea 51.49 265 P **P 19 38 04.2 -0.4**
TORD IAmb IAmb 19 38 05.3
comp=Z,15nm,0.8s
BJT Baijiatuau 51.69 59 P **P 19 38 04.8 -0.9**
BJT pmax pmax

comp=Z,6.0nm,0.7s
BJT Baijiatuau 51.69 59 P **P 19 38 04.8 -0.9**
BJT IAmb IAmb 19 38 07.2
comp=Z,6.4nm,0.7s
MVO Moncorvo 52.06 302 *e*P **P 19 38 09.3 +0.7**
comp=Z,32nm,1.8s
POLO Lamas de Olo 52.61 303 *e*P **P 19 38 13.2 +0.5**
PESTR Estremoz 52.73 300 *e*P **P 19 38 13.4 -0.1**
PVIS Viseu 52.75 302 *e*P **P 19 38 14.8 +1.1**
TIA Tai'an 52.91 64 ⇓P **P 19 38 15.6 +0.7**
TIA pmax pmax
comp=Z,22nm,0.7s
EVO Evora 53.10 299 *e*P **P 19 38 16.7 +0.5**
comp=Z,21nm,1.7s
PCVE Castro Verde 53.24 298 *e*P **P 19 38 17.3 0.0**
PCAS Casmilo, Conde 53.28 301 *e*P **P 19 38 17.8 +0.2**
MATP Matopo 53.82 211 P **P 19 38 22.5 +0.7**
comp=Z,4.4nm,0.7s,baz=27,slow=13,SNR=14
PFVI Vila Bisbo 53.94 298 *e*P **P 19 38 22.6 +0.2**
KBS Kingsbay 55.08 351 *e*P **P 19 38 30.0 -0.1**
NJ2 Nanjing 55.10 68 *e*P **P 19 38 31.6 +0.7**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
CN2 Changchun 58.11 54 *e*P **P 19 38 51.5 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
ZEA Zeya 58.25 42 *e*P **P 19 38 53.6 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
TSUM Tsumeb 58.62 222 P **P 19 38 57.3 +1.2**
comp=Z,8.2nm,0.8s,baz=22,slow=7.9,SNR=16
TSUM Tsumeb 58.62 222 P **P 19 38 56.9 +0.8**
TSUM IAmb IAmb 19 38 58.5
comp=Z,10nm,0.8s
LBTB Lobatse 59.11 211 P **P 19 39 00.7 +1.3**
comp=Z,7.5nm,0.6s,baz=16,slow=8.1,SNR=10
LBTB Lobatse 59.11 211 P **P 19 39 00.1 +0.7**
LBTB pmax pmax
comp=Z,8.0nm,0.8s
LBTB Lobatse 59.11 211 P **P 19 39 00.1 +0.7**
LBTB IAmb IAmb 19 39 01.6
comp=Z,7.6nm,0.8s
BNX BinXian 59.20 51 ⇓P **P 19 38 59.5 -0.2**
BNX pmax pmax
comp=Z,21nm,0.9s
YAK Yakutsk 59.25 32 *e*P **P 19 38 56.5 -3.2**
YAK pmax pmax
comp=Z,14nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK Yakutsk 59.25 32 P **P 19 38 57.6 -2.2**
TIXI Tiksi 59.38 21 *i* P **P 19 38 59.5 -1.0**
TIXI pmax pmax
comp=Z,15nm,1.7s
DBIC Dimbokro 60.12 262 P **P 19 39 06.4 -0.1**
comp=Z,14nm,0.8s,baz=56,slow=6.4,SNR=17
DBIC Dimbokro 60.12 262 P **P 19 39 06.3 -0.1**
KIC Kosan Boka 60.16 261 *e*P **P 19 39 06.6 -0.2**
comp=Z,16nm,0.6s
SCO Scoresbysund 60.22 338 P **P 19 39 06.7 +0.4**
SCO pmax pmax
comp=Z,9.0nm,1.4s
SCO Scoresbysund 60.22 338 P **P 19 39 06.7 +0.4**
SCO IAmb IAmb 19 39 32.3
comp=Z,8.7nm,1.4s
TIC Toumodi 60.27 262 *e*P **P 19 39 07.4 -0.2**
LIC Lamto 60.47 261 *e*P **P 19 39 08.6 -0.3**
comp=Z,48nm,0.8s
KSRS Korea Array 61.17 60 P **P 19 39 12.6 -0.7**
comp=Z,3.1nm,0.8s,baz=283,slow=6.1,SNR=8.1
KLR Kul'dur 61.56 47 *i* P **P 19 39 13.4 -2.4**
KLR pmax pmax
comp=Z,6.0nm,0.9s
PMOZ Porto Moniz, M 61.57 294 *e*P **P 19 39 16.9 +0.6**
BOSA Boshof 62.37 209 P **P 19 39 22.1 +0.5**
comp=Z,8.8nm,0.7s,baz=29,slow=6.2,SNR=27
BOSA Boshof 62.37 209 P **P 19 39 21.8 +0.3**
SUMG Summit 65.28 341 P **P 19 39 39.2 -1.3**
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 65.28 341 *i* P **P 19 39 40.0 -0.5**
SUMG Summit 65.28 341 P **P 19 39 39.2 -1.3**
YSS Yuzh-Sakhalins 69.26 47 P **P 19 40 05.3 -0.4**
TULEG Thule 70.94 348 P **P 19 40 14.8 -0.7**
TULEG IAmb IAmb 19 40 16.0
comp=Z,7.6nm,0.8s
BILL Bilibino 72.58 22 ⇑*i*P **P 19 40 26.1 +0.6**
BILL *e**PP **pP 19 40 30.0 -0.5**
BILL *e**SP **sP 19 40 31.8 -0.6**
BILL 19 40 43.0
BILL *e* 19 50 25.1
BILL pmax pmax
comp=Z,21nm,3.5s
BILL MLR MLR
comp=Z,426nm,15.0s
BILL Bilibino 72.58 22 P **P 19 40 25.9 +0.4**
BILL IAmb IAmb 19 40 26.5
comp=Z,3.6nm,0.7s
A21K Barrow 79.28 10 P **P 19 41 04.1 +0.5**
A21K IAmb IAmb 19 41 15.9
comp=Z,7.0nm,0.6s
A36M Sachs Harbour 81.06 0 P **P 19 41 12.9 -0.3**
C36M Paulatuk 83.71 360 P **P 19 41 26.4 -0.8**
C36M IAmb IAmb 19 41 26.9
comp=Z,5.8nm,0.8s
SCHQ Schefferville 84.25 330 P **P 19 41 29.9 -0.2**
comp=Z,8.9nm,0.8s,baz=43,slow=3.8,SNR=11
SCHQ Schefferville 84.25 330 P **P 19 41 29.7 -0.5**
BMAR Burnt Mountain 84.52 7 P **P 19 41 32.4 +1.1**
H21K Melozitna Rive 85.00 11 P **P 19 41 34.0 +0.2**
FYU Fort Yukon 85.26 8 P **P 19 41 36.3 +1.2**
J20K Nowinta River 86.10 12 P **P 19 41 39.5 +0.2**
J20K IAmb IAmb 19 41 40.6
comp=Z,10nm,1.0s
MDM Murphy Dome 86.38 10 P **P 19 41 40.7 0.0**
COLA College 86.52 10 *i* P **P 19 41 38.9 -2.4**
COLA pmax pmax
comp=Z,4.0nm,1.0s
ILAR Eielson Array 86.75 9 P **P 19 41 41.2 -1.2**
comp=Z,1.6nm,0.7s,baz=323,slow=4.0,SNR=19
J25K Salcha River, 87.11 9 P **P 19 41 43.6 -0.7**
J25K IAmb IAmb 19 41 45.1
comp=Z,7.2nm,1.1s
J26L Joseph Creek 87.45 8 P **P 19 41 46.0 0.0**
EGAK Eagle 87.46 7 P **P 19 41 46.0 +0.1**
SCRK Sand Creek 87.90 8 P **P 19 41 48.5 +0.3**
SCRK IAmb IAmb 19 42 00.2
comp=Z,6.5nm,1.0s
WRA Warramunga Arr 90.06 112 P **P 19 41 58.6 -0.3**
comp=Z,1.3nm,0.9s,baz=315,slow=4.0,SNR=14
WRA Warramunga Arr 90.06 112 *i* P **P 19 41 58.0 -0.9**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRAB Tennant Creek 90.06 112 *i* P **P 19 41 56.1 -2.8**
WRAB pmax pmax
comp=Z,3.0nm,1.0s
YKA Yellowknife Ar 90.20 355 P **P 19 41 58.7 -0.1**
comp=Z,3.8nm,0.7s,baz=6.5,slow=5.1,SNR=70
YKA Yellowknife Ar 90.20 355 P **P 19 41 59.0 +0.2**
YKA Yellowknife Ar 90.20 355 P **P 19 41 59.0 +0.2**
ASAR Alice Springs 91.50 116 P **P 19 42 05.2 -0.4**
comp=Z,2.0nm,0.9s,baz=302,slow=4.5,SNR=16
NVAR Mina Array Bea 114.38 354 PKP PKPdf 19 47 39.7 +0.7
comp=Z,1.0nm,0.7s,baz=267,slow=0.6,SNR=6.8
NVAR Mina Array Bea 114.38 354 PKPdf 19 47 39.1 +0.1
TXAR Lajitas Array 120.13 338 PKP **PKPdf 19 47 49.6 -0.5**
comp=Z,0.6nm,0.8s,baz=207,slow=1.4,SNR=4.8

*SFS **21** 19:35:07.0,35°.64N×3°.79W, ML2.6, ALBORAN SUR*
*INMG **21** 19:35:08.5±1.7,35°.72N×3°.78W, h0km±4km, ML2.5, Error ellipse: s-maj=3.5km s-min=3.3km az=6.0*
*CNRM **21** 19:35:10.1,35°.61N×3°.73W, h28km, ml2.9*
ISC 21 19:35:08.1±1.3, 35°.69N±0°.03×3°.68W±0°.03, h21km±4km, n38, σ1§67/70, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**205**	P	**Pb**	**19 35 18.4**	**-0.1**
PALE				S	**Sb**	**19 35 26.4**	**+0.8**
CHAS	**Isla Isabel II**	**1.14**	**116**	P	**Pb**	**19 35 29.2**	**+0.2**
CHAS				S	**Sb**	**19 35 43.2**	**-0.1**
EMAL	**Malaga-Limoner**	**1.23**	**331**	P	**Pn**	**19 35 29.2**	**-0.9**
EMAL				S	**Sb**	**19 35 43.3**	**-2.7**
SMIR	**Smir Dam**	**1.39**	**270**	P	**Pb**	**19 35 33.6**	**+0.3**
SMIR				S	**Sb**	**19 35 53.7**	**+3.1**
CEU	**Ceuta**	**1.40**	**279**	P	**Pn**	**19 35 28.3**	**-4.0**
CEU				S	**Sn**	**19 35 44.0**	**-6.0**
CHEFC	**Chefchaouen**	**1.48**	**247**	P	**Pb**	**19 35 33.9**	**-1.0**
CHEFC				S	**Sn**	**19 35 51.2**	**-1.1**
JBK	**JBK**	**1.63**	**146**	P	**Pn**	**19 35 35.2**	**-0.5**
JBK				S	**Sn**	**19 35 54.8**	**-1.4**
SICH	**Sidi Chahed**	**2.08**	**221**	P	**Pn**	**19 35 40.5**	**-1.3**
SICH				S	**Sn**	**19 36 07.2**	**+0.2**
LCRM	**LCR**	**2.22**	**206**	P	**Pb**	**19 35 46.5**	**-1.1**
LCRM				S	**Sb**	**19 36 15.2**	**+0.4**
IFR	**Ifrane**	**2.48**	**209**	P	**Pb**	**19 35 51.8**	**-0.2**
IFR				S	**Sn**	**19 36 13.1**	**-3.9**
MD31	**MD31**	**2.96**	**198**	P	**Pn**	**19 35 55.3**	**+1.5**
MD31				S	**Sn**	**19 36 30.6**	**+1.8**
MDT	**Midelt**	**2.97**	**195**	P	**Pn**	**19 35 55.9**	**+1.8**
MDT				S	**Sn**	**19 36 30.9**	**+1.7**
TDRA	**Tendrara**	**2.97**	**152**	P	**Pn**	**19 35 54.8**	**+0.5**
TDRA				S	**Sn**	**19 36 30.6**	**+1.2**
ZHG	**ZHG**	**3.32**	**228**	P	**Pn**	**19 35 59.2**	**+0.4**
ZHG				S	**Sn**	**19 36 38.3**	**+0.6**
PVAQ	**Vaqueiros**	**3.68**	**299**	*e*Pn	**Pn**	**19 36 04.0**	**+0.3**
PVAQ				*e*Sn	**Sn**	**19 36 46.0**	**-0.4**
PVAQ				A	A	19 36 51.4	
6.2nm,0.5s							
PVAQ	**Vaqueiros**	**3.68**	**299**	P	**Pn**	**19 36 05.3**	**+1.6**
PVAQ				S	**Sn**	**19 36 46.6**	**+0.2**
PBDV	**Barranco-do-Ve**	**3.76**	**296**	*e*Pn	**Pn**	**19 36 05.2**	**+0.3**
PBDV				*e*Sn	**Sn**	**19 36 48.8**	**+0.2**
PBDV				A	A	19 36 56.6	
6.2nm,0.7s							
PCVE	**Castro Verde**	**4.01**	**300**	*e*Pn	**Pn**	**19 36 09.3**	**+1.0**
PCVE				*e*Sn	**Sn**	**19 36 54.3**	**-0.3**
PCVE				A	A	19 37 02.0	
5.9nm,0.6s							
PBEJ	**Beja**	**4.09**	**306**	*e*Sn	**Sn**	**19 36 56.0**	**-0.6**
MORF	**Marmelete**	**4.32**	**293**	*e*Pn	**Pn**	**19 36 13.3**	**+0.7**
MORF				*e*Sn	**Sn**	**19 37 01.5**	**-0.9**
MORF				A	A	19 37 14.7	
3.9nm,0.4s							
PFVI	**Vila Bisbo**	**4.40**	**291**	*e*Pn	**Pn**	**19 36 14.9**	**+1.3**
PFVI				*e*Sn	**Sn**	**19 37 03.0**	**-1.2**
PFVI				A	A	19 37 09.1	
5.1nm,0.9s							
PFVI	**Vila Bisbo**	**4.40**	**291**	P	**Pn**	**19 36 15.7**	**+2.1**
PFVI				S	**Sn**	**19 37 04.5**	**+0.3**
PESTR	**Estremoz**	**4.45**	**317**	*e*Pn	**Pn**	**19 36 16.3**	**+2.0**
PESTR				*e*Sn	**Sn**	**19 37 04.8**	**-0.7**
PESTR				A	A	19 37 05.3	
5.1nm,0.7s							
PESTR	**Estremoz**	**4.45**	**317**	P	**Pn**	**19 36 16.8**	**+2.5**
PESTR				S	**Sn**	**19 37 08.6**	**+3.1**
PTEO	**Sao Teotonio**	**4.46**	**296**	*e*Sn	**Sn**	**19 37 06.4**	**+0.6**
EVO	**Evora**	**4.48**	**311**	*e*Pn	**Pn**	**19 36 15.6**	**+0.9**
EVO				*e*Sn	**Sn**	**19 37 05.3**	**-0.9**
EVO				A	A	19 37 07.3	
5.6nm,0.5s							
PNCL	**Nicolau / Gran**	**4.58**	**303**	*e*Pn	**Pn**	**19 36 17.0**	**+0.9**
PNCL				*e*Sn	**Sn**	**19 37 07.8**	**-0.8**
PNCL				A	A	19 37 16.8	
4.1nm,0.7s							
PMRV	**Marv??o**	**4.76**	**323**	*e*Pn	**Pn**	**19 36 19.8**	**+1.2**
PMRV				*e*Sn	**Sn**	**19 37 12.6**	**-0.5**
PMRV				A	A	19 37 13.8	
3.2nm,1.0s							
PMTG	**Montargil**	**4.95**	**314**	*e*Pn	**Pn**	**19 36 22.8**	**+1.6**
PMTG				*e*Sn	**Sn**	**19 37 16.9**	**-0.9**
PMTG				A	A	19 37 22.8	
2.6nm,0.4s							
PCBR	**Castelo Branco**	**5.12**	**325**	*e*Pn	**Pn**	**19 36 25.5**	**+1.9**
PCBR				*e*Sn	**Sn**	**19 37 20.8**	**-1.2**
PCBR				A	A	19 37 22.8	
4.3nm,0.4s							
OUZM	**OUZ**	**5.42**	**209**	P	**Pn**	**19 36 29.8**	**+1.9**
OUZM				S	**Sn**	**19 37 30.9**	**+1.2**
MTE	**Manteigas**	**5.61**	**328**	*e*Sn	**Sn**	**19 37 33.1**	**-1.0**
MTE				A	A	19 37 36.3	
4.8nm,0.6s							
PCAS	**Casmilo, Conde**	**5.79**	**320**	*e*Sn	**Sn**	**19 37 37.4**	**-1.1**
PCAS				A	A	19 37 38.5	
3.7nm,0.5s							
PVIS	**Viseu**	**6.02**	**328**	*e*Sn	**Sn**	**19 37 43.3**	**-0.9**
PVIS				A	A	19 37 47.7	
3.9nm,0.9s							
MVO	**Moncorvo**	**6.07**	**335**	*e*Pn	**Pn**	**19 36 38.3**	**+1.7**
MVO				*e*Sn	**Sn**	**19 37 44.3**	**-1.1**
MVO				A	A	19 38 10.3	
9.5nm,0.7s							
POLO	**Lamas de Olo**	**6.53**	**332**	*e*Pn	**Pn**	**19 36 44.6**	**+1.6**
POLO				*e*Sn	**Sn**	**19 37 54.5**	**-2.3**
POLO				A	A	19 38 15.0	
2.1nm,0.5s							
PBRG	**Braganca**	**6.56**	**340**	*e*Pn	**Pn**	**19 36 45.0**	**+1.7**
PBRG				*e*Sn	**Sn**	**19 37 58.4**	**+0.9**
PGAV	**Gavieira, Arco**	**7.22**	**332**	*e*Sn	**Sn**	**19 38 11.7**	**-2.1**

PRU 21 19:36:45.7±0.0, 50°.25N×18°.97E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.53**	**93**	*e*Pg	Pg	19 36 55.9	0.0
OJC				*e*Sg	Sg	19 37 03.6	+0.8
MORC	**Moravsky Berou**	**1.04**	**243**	*e*PG	Pg	19 37 05.5	0.0
MORC				*e*SG	Sg	19 37 19.4	+0.5
LANS	**Liptovska Anna**	**1.15**	**163**	*e*SG	Sg	19 37 22.6	+0.1
KRLC	**Kraliky**	**1.42**	**264**	*e*PG	Pn	19 37 11.6	-1.2
KRLC				*e*SG	Sg	19 37 30.6	-0.6
DPC	**Dobruska-Polom**	**1.70**	**274**	*e*PG	Pn	19 37 16.5	-0.2
DPC				*e*SG	Sb	19 37 40.0	+0.2

*GEN **21** 19:47:21.1,46°.49N×7°.91E, h3km±1km, Ml1.1*
ZUR 21 19:47:21.0,46°.54N×7°.91E, h3km±2km, MLh1.3/9, 7C-3D, Error ellipse: s-maj=4.3km s-min=0.5km az=308.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUCH	**Lauchernalp**	**0.16**	**217**	⇑Pg	Pg	19 47 24.5	+0.3
LAUCH				⇑Pg	Pg	19 47 24.5	+0.3
0.3nm,SNR=5.3							
LAUCH	**Lauchernalp**	**0.16**	**217**	P	Pg	19 47 24.5	+0.3
LAUCH				S	Sg	19 47 26.7	+0.4
FIESA	**Fiescheralp**	**0.17**	**128**	⇓Pg	Pg	19 47 24.8	+0.4
0.1nm,SNR=1.9							
FIESA				Sg	Sg	19 47 27.3	+0.6
WIMIS	**Wimmis**	**0.23**	**302**	Pg	Pg	19 47 25.8	+0.3
0.1nm,SNR=0.9							
WIMIS				Sg	Sg	19 47 29.3	+0.7
BIBA	**Brigerbad**	**0.24**	**177**	Sg	Sg	19 47 29.1	+0.3
LKBD2	**Leukerbad 2**	**0.25**	**228**	⇑Pg	Pg	19 47 26.0	+0.2
LKBD2				⇑Pg	Pg	19 47 26.0	+0.2
0.1nm,SNR=1.3							
LKBD	**Leukerbad**	**0.25**	**232**	⇑Pg	Pg	19 47 26.0	+0.2
0.1nm,SNR=2.1							
LKBD				⇑Pg	Pg	19 47 26.0	+0.2
LKBD				Sg	Sg	19 47 29.5	+0.4
SVIO	**Visp Obere Sta**	**0.25**	**185**	Sg	Sg	19 47 29.5	+0.4
HASLI	**Hasliberg/Brie**	**0.27**	**37**	Pg	Pg	19 47 26.3	+0.1
0.1nm,SNR=1.5							
GRIMS	**Grimsel Gerste**	**0.28**	**83**	Pg	Pg	19 47 26.7	+0.2
0.1nm,SNR=1.8							
GRIMS				Pg	Pg	19 47 26.7	+0.2
SIMPL	**Simplonpass**	**0.31**	**166**	⇓Pg	Pg	19 47 27.3	+0.3
0.1nm,SNR=1.6							
SIMPL				⇓Pg	Pg	19 47 27.3	+0.3
SIMPL				Sg	Sg	19 47 31.5	+0.4
SIMPL	**Simplonpass**	**0.31**	**166**	P	Pg	19 47 27.3	+0.3
SIMPL				S	Sg	19 47 31.6	+0.5
EMBD	**Embd, Matterta**	**0.33**	**190**	Pg	Pg	19 47 27.5	+0.2
0.1nm,SNR=1.1							
EMBD	**Embd, Matterta**	**0.33**	**190**	Pg	Pg	19 47 27.6	+0.2
EMBD	**Embd, Matterta**	**0.33**	**190**	P	Pg	19 47 27.5	+0.2
EMBD				S	Sg	19 47 31.4	-0.3
SENIN	**Lac Senin/Sane**	**0.46**	**247**	Pg	Pg	19 47 29.6	-0.2
0.1nm,SNR=0.9							
MMK	**Mattmark**	**0.49**	**176**	P	Pg	19 47 30.6	+0.2
MMK				S	Sg	19 47 36.9	0.0
FUSIO	**Fusio**	**0.53**	**99**	Pg	Pg	19 47 31.2	+0.1
0.1nm,SNR=1.8							
FUSIO	**Fusio**	**0.53**	**99**	P	Pg	19 47 31.1	0.0
FUSIO				S	Sg	19 47 38.1	+0.1
DIX	**Grande Dixence**	**0.58**	**217**	⇑Pg	Pg	19 47 32.0	-0.2
0.1nm,SNR=1.5							
DIX	**Grande Dixence**	**0.58**	**217**	S	Sg	19 47 40.7	+1.1
BRANT	**Les Verrieres**	**1.07**	**292**	Pg	Pb	19 47 41.9	-0.3
CHMF	**Charmoille**	**1.12**	**310**	Pg	Pb	19 47 43.0	+0.1
CHMF				Sg	Sb	19 47 58.2	+0.3
LSD	**Lago del Serru**	**1.21**	**207**	P	Pg	19 47 36.8	-7.4

*LDG **21** 19:47:38.8±0.1, 44°.39N×7°.11E, h5km, Md1.4/1, Ml1.5/7, Error ellipse: s-maj=1.7km s-min=1.0km az=59.0*
STR 21 19:47:39.0±0.7, 44°N±4°×7°±°, h0km, MLv1.2/7, preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISO	**Isola**	**0.19**	**188**	Pg	Pg	19 47 42.9	+0.4
ISO				Sg	Sg	19 47 45.6	+0.6
SURF	**Saint Ours**	**0.23**	**300**	Pg	Pg	19 47 43.8	+0.4
SPIF	**crte de Spivo**	**0.33**	**161**	Pg	Pg	19 47 45.6	+0.3
SPIF				Sg	Sg	19 47 50.4	+0.9
MBDF	**Montbardon**	**0.42**	**328**	*e*Pg	Pg	19 47 47.2	0.0
MBDF				*e*Sg	Sg	19 47 53.0	+0.3
3.4nm,0.2s							
TURF	**col de Turini**	**0.45**	**151**	Pg	Pg	19 47 47.8	+0.2
TURF				Sg	Sg	19 47 54.2	+0.7
SBF	**Sospel**	**0.56**	**153**	*e*Pg	Pg	19 47 49.8	0.0
SBF				*e*Sg	Sg	19 47 57.3	+0.2
2.2nm,0.2s							
ESCA	**l'Escarene**	**0.57**	**159**	Pg	Pg	19 47 50.3	+0.3
ESCA				Sg	Sg	19 47 58.6	+1.1
CALF	**Calern**	**0.63**	**191**	Pg	Pb	19 47 52.9	0.0
ORIF	**Oris-en-Rattie**	**1.02**	**303**	*e*Pg	Pg	19 47 57.8	-0.8
ORIF				*e*Sg	Sg	19 48 11.8	-0.1
1.5nm,0.3s							
LMR	**La Mourre**	**1.11**	**202**	*e*Pg	Pg	19 48 00.6	+0.2
LMR				*e*Sg	Sg	19 48 14.8	0.0
2.0nm,0.2s							
LPG	**La Plagne**	**1.16**	**348**	*e*Pg	Pg	19 48 00.1	-1.1
LPG				*e*Sg	Sg	19 48 14.7	-1.4
0.7nm,0.2s							
SMRF	**Simiane la Rot**	**1.16**	**251**	*e*Pg	Pg	19 48 01.3	+0.1
SMRF				*e*Sg	Sg	19 48 16.6	+0.5
0.6nm,0.2s							
LPL	**La Plagne**	**1.18**	**348**	*e*Sg	Sg	19 48 15.3	-1.5
PGF	**Pioggiola**	**2.29**	**142**	*e*Pn	Pn	19 48 15.3	-2.9
PGF				*e*Sn	Sn	19 48 42.5	-4.6
0.3nm,0.2s							

DJA 21 19:51:07.0±0.3, 1°S±3°×12°2E±°, h10km, M3.7/12, mb4.1/4, MLv3.5/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.60**	**249**	P	Pg	19 51 18.4	-0.3
APSI				S	Sg	19 51 27.0	+0.4
LUWI	**Luwuk**	**0.66**	**122**	P	Pb	19 51 20.6	-0.1
LUWI				S	Sb	19 51 29.3	-0.6
MRSI	**Marisa**	**1.19**	**347**	P	Pb	19 51 26.9	-2.8
GTOI	**Gorontalo**	**1.54**	**31**	P	Pn	19 51 33.8	-0.8
KMSI	**Cibinong**	**2.17**	**55**	P	Pn	19 51 44.5	+1.3
MPSI	**Mapaga**	**2.53**	**294**	P	Pn	19 51 49.6	+1.5
TTSI	**Tana Toraja**	**3.34**	**226**	P	Pn	19 52 00.1	+0.7
SANI	**Sanana**	**4.01**	**110**	P	Pn	19 52 07.6	-1.0
SPSI	**Sidrap Palu**	**4.07**	**217**	P	Pn	19 52 09.9	+0.6
BNSI	**Bone**	**4.24**	**210**	P	Pn	19 52 11.3	-0.4
BBSI	**Bau Bau**	**4.78**	**176**	P	Pn	19 52 19.4	+0.3
BKSI	**Bulukumba**	**5.05**	**204**	P	Pn	19 52 22.7	-0.2
0.1nm13nm,1.3s							
BSSI	**Bau Bau, Buton**	**5.68**	**198**	P	Pn	19 52 31.5	-0.1
0.2nm36nm,1.1s							
EDFI	**Ende, Flores**	**8.02**	**184**	P	Pn	19 53 03.8	0.0

*IDC **21** 19:52:43.2±0.8, 22°.08S×68°.28W, h104km±10km, mb4.1/3, mb1 4.1/6, mb1mx3.7/26, mbtmp4.3/6, Error ellipse: s-maj=34.9km s-min=19.2km az=122.0*
*NEIC **21** 19:52:43.6±1.9, 22°.00S±0°.06×68°.50W±0°.10, h108km±6km, Error ellipse: s-maj=12.9km s-min=8.0km az=94.0*
*VAO **21** 19:52:43.5±0.7, 21°.98S×68°.49W, h120km±9km, mb4.3*
*GUC **21** 19:52:44.6±0.9, 22°.02S×68°.53W, h108km±5km, ML4.0*
ISC 21 19:52:43.3±0.6, 22°.01S±0°.04×68°.51W±0°.06, h115km±6km, n78, σ1§12/93, mb4.1/4, 14C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.70**	**212**	P	**Pn**	**19 53 02.9**	**+0.3**
300nm,0.3s,baz=349,slow=9.9,SNR=1135							
LVC				S	**Sn**	**19 53 17.1**	**0.0**
baz=246,slow=19							
LVC	**Limon Verde**	**0.70**	**212**	⇑*i*P	**Pn**	**19 53 02.9**	**+0.3**
LVC				*i* S	**Sn**	**19 53 16.9**	**-0.2**
LVC	**Limon Verde**	**0.70**	**212**	*e*P	**Pn**	**19 53 03.2**	**+0.6**
PB09	**IPOC Station P**	**0.71**	**287**	⇑*i*P	**Pn**	**19 53 03.0**	**+0.6**
PB09				*i* S	**Sn**	**19 53 17.3**	**+0.5**
PB09	**IPOC Station P**	**0.71**	**287**		**Pn**	**19 53 02.7**	**+0.3**
PB03	**IPOC Station P**	**1.15**	**268**	⇑*i*P	**Pn**	**19 53 06.8**	**+0.2**
PB03				*i* S	**Sn**	**19 53 24.3**	**0.0**
PB03				IAML		19 53 26.3	
comp=E,2μm,0.5s							
PB06	**IPOC Station P**	**1.20**	**235**	⇑*i*P	**Pn**	**19 53 07.7**	**+0.6**
PB06				*i* S	**Sn**	**19 53 25.7**	**+0.5**
PB06				IAML		19 53 28.9	
comp=E,4μm,0.5s							
PB06	**IPOC Station P**	**1.20**	**235**		**Pn**	**19 53 07.5**	**+0.3**
PB07	**IPOC Station P**	**1.31**	**282**	⇑*i*P	**Pn**	**19 53 08.6**	**+0.3**
PB07				*i* S	**Sn**	**19 53 27.3**	**0.0**
PB07				IAML		19 53 28.3	
comp=E,2μm,0.4s							
PB07	**IPOC Station P**	**1.31**	**282**		**Pn**	**19 53 07.6**	**-0.7**
PB01	**IPOC Station P**	**1.32**	**316**	⇑*i*P	**Pn**	**19 53 08.6**	**+0.2**
PB01				*i* S	**Sn**	**19 53 27.2**	**-0.3**
PB01				IAML		19 53 29.8	
comp=N,2μm,0.3s							
PB01	**IPOC Station P**	**1.32**	**316**		**Pn**	**19 53 08.2**	**-0.3**
PB02	**IPOC Station P**	**1.46**	**298**	⇑*i*P	**Pn**	**19 53 10.0**	**0.0**
PB02				*i* S	**Sn**	**19 53 29.2**	**-1.1**
PB02				IAML		19 53 35.3	
comp=E,3μm,0.5s							
PB15	**IPOC Station P**	**1.49**	**216**	⇑*i*P	**Pn**	**19 53 11.2**	**+0.8**
PB15				*i* S	**Sn**	**19 53 32.1**	**+1.1**
PB15	**IPOC Station P**	**1.49**	**216**		**Pn**	**19 53 11.2**	**+0.8**
PB04	**IPOC Station P**	**1.55**	**258**	⇑*i*P	**Pn**	**19 53 11.2**	**0.0**
PB04				*i* S	**Sn**	**19 53 32.2**	**-0.1**
PB04				IAML		19 53 34.6	
comp=E,2μm,0.4s							
PB04	**IPOC Station P**	**1.55**	**258**		**Pn**	**19 53 11.2**	**0.0**
PATCX	**Punta Patache**	**1.93**	**307**	⇑*i*P	**Pn**	**19 53 15.6**	**-0.2**
PATCX				*i* S	**Sn**	**19 53 39.5**	**-1.0**
PATCX				IAML		19 53 48.0	
comp=N,3μm,0.3s							
PATCX	**Punta Patache**	**1.93**	**307**		**Pn**	**19 53 15.6**	**-0.2**
PB08	**IPOC Station P**	**1.95**	**342**	⇑*i*P	**Pn

PB11 *i* S **Sn** **19 53 52.4 -0.8**
PB11 IPOC Station P 2.48 334 Pn **Pn** **19 53 22.5 -0.2**
PB14 IPOC Station P 3.13 213 Pn **Pn** **19 53 31.9 +0.5**
PB16 IPOC Station P 3.77 345 Pn **Pn** **19 53 40.8 +0.5**
PB12 IPOC Station P 3.78 333 Pn **Pn** **19 53 38.0 -2.0**
AC02 Maricunga 4.84 187 Pn **Pn** **19 53 54.3 -0.1**
LPAZ La Paz 5.70 4 P **Pn** **19 54 08.7 +2.5**
comp=N,2.0nm,0.3s,baz=188,slow=6.1,SNR=21
LPAZ La Paz 5.70 4 *eP* **Pn** **19 54 07.3 +1.1**
LPAZ La Paz 5.70 4 Pn **Pn** **19 54 05.7 -0.6**
GO03 Copiap 5.78 195 Pn **Pn** **19 54 04.6 -2.1**
AC04 Llanos de Chal 6.59 200 Pn **Pn** **19 54 14.5 -3.1**
GO04 Tololo Observa 8.38 194 **Pn** **19 54 38.8 -3.3**
CO03 El Pedregal 9.01 192 Pn **Pn** **19 54 46.5 -3.9**
SIV San Ignacio 9.24 51 P **Pn** **19 54 50.9 -2.7**
comp=N,3.6nm,0.3s,baz=230,slow=13,SNR=105
PTLB Pontes e Lacer 11.02 55 Pn **Pn** **19 55 15.4 -2.2**
MT02 Curacav 11.45 191 Pn **Pn** **19 55 21.9 -1.4**
VILB Vilhena 12.00 43 Pn **Pn** **19 55 30.0 -0.6**
AQDB Aquidauana 12.05 85 **Pn** **19 55 31.2 0.0**
MT01 Popeta 12.05 191 Pn **Pn** **19 55 30.3 -1.0**
BO01 Tunca 12.54 190 **Pn** **19 55 37.6 0.0**
SALV Santo Antonio 13.56 66 *eP* **Pn** **19 55 49.2 -1.8**
ML02 Panimavida 13.94 190 Pn **Pn** **19 55 55.2 -0.6**
ITAB Concordia 15.77 113 *eP* **Pn** **19 56 19.8 +0.8**
ITAB Concordia 15.77 113 **Pn** **19 56 19.6 +0.6**
PCMB Pacaembu 16.03 92 *eP* **Pn** **19 56 22.9 +0.7**
PLTB Pedras Altas 16.45 129 *eP* **Pn** **19 56 27.8 +0.4**
PLTB Pedras Altas 16.45 129 **Pn** **19 56 27.6 +0.2**
PLTB IAmb IAmb 19 56 28.8
comp=Z,5.9nm,0.6s
PLCA Paso Flores 18.75 185 P **P** **19 56 54.8 +1.6**
comp=Z,0.3nm,0.3s,baz=351,slow=9.3,SNR=2.5
PLCA Paso Flores 18.75 185 P **P** **19 56 53.9 +0.7**
LL04 Puerto Octay 19.13 189 P **P** **19 56 58.0 +0.7**
LL04 IAmb IAmb 19 56 59.5
comp=Z,16nm,0.7s
SNDB Serra Nova Dou 19.24 62 *eP* **P** **19 56 57.4 -1.3**
IPMB Ipameri, GO 19.49 82 *eP* **P** **19 57 00.7 -0.8**
PET01 Itanhaem-SP 19.66 101 *eP* **P** **19 57 03.2 0.0**
MACA Manacapuru-AM 20.22 23 *eP* **P** **19 57 08.8 -0.5**
ITTB Itaituba 21.47 37 *eP* **P** **19 57 21.3 -1.5**
BOAV Boa Vista 25.48 19 P **P** **19 58 01.7 +0.8**
BOAV IAmb IAmb 19 58 02.3
comp=Z,6.7nm,1.2s
GUA01 Guaratinga, BA 27.60 84 *eP* **P** **19 58 19.9 -0.1**
GDU01 Guandu, BA 28.71 78 *eP* **P** **19 58 28.5 -1.4**
SJCC San Jacinto, C 32.38 348 P **P** **19 59 02.3 +0.1**
DBIC Dimbokro 68.53 73 P **P** **20 03 34.2 +0.3**
comp=Z,2.9nm,0.4s,baz=276,slow=3.2,SNR=11
DBIC Dimbokro 68.53 73 IAmb IAmb 20 03 34.8
comp=Z,4.8nm,0.8s
TORD Torodi Ar. Bea 77.18 70 P **P** **20 04 24.9 -0.1**
comp=Z,1.6nm,0.4s,baz=251,slow=5.2,SNR=22
TORD Torodi Ar. Bea 77.18 70 IAmb IAmb 20 04 27.3
comp=Z,1.8nm,0.8s
YKA Yellowknife Ar 91.79 340 P **P** **20 05 38.6 +1.0**
comp=Z,0.5nm,0.5s,baz=134,slow=4.5,SNR=13
YKA pP **pP** **20 06 10.1 +1.5**
comp=Z,0.4nm,0.8s,baz=135,slow=4.9,SNR=3.0
ASAR Alice Springs 129.63 207 PKP **PKPdf** **20 11 40.3 +0.7**
comp=Z,0.5nm,0.8s,baz=141,slow=1.8,SNR=4.4
WRA Warramunga Arr 132.70 210 PKP **PKPdf** **20 11 46.8 +1.3**
comp=Z,0.9nm,1.1s,baz=156,slow=1.8,SNR=8.6
WRA Warramunga Arr 132.70 210 **PKPdf** **20 11 45.6 +0.2**
MKAR Makanchi Array 145.82 37 PKPbc **PKPbc** **20 12 10.3 +1.2**
comp=Z,0.3nm,0.7s,baz=316,slow=3.3,SNR=3.8
MKAR Makanchi Array 145.82 37 **PKPbc** **20 12 10.0 +0.9**

UCR 21 19:53:24.2±1.0, 10°.36N×85°.30W, h50km±2km, MW3.7, 2C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.05**	**254**	⇑*eP*	Pn	19 53 31.6	-0.5
PLVR				*eS*	Sn	19 53 37.9	+0.3
ORTG	**Ortega, Santa**	**0.15**	**270**	*eP*	Pn	19 53 32.1	-0.3
ORTG				*eS*	Sn	19 53 38.4	+0.3
GUAI	**GUAI**	**0.23**	**246**	⇑*iP*	Pn	19 53 32.5	-0.2
GUAI				*i* S	Sn	19 53 40.2	+1.5
NICO	**Nicoya**	**0.27**	**212**	*eP*	Pn	19 53 33.6	+0.5
COLC	**Colonia**	**0.32**	**18**	⇓*iP*	Pn	19 53 33.3	-0.2
COLC				*i* S	Sn	19 53 41.0	+0.8
CUI	**Cuipilapa**	**0.32**	**25**	⇓*eP*	Pn	19 53 33.4	-0.2
CUI				⇓*iP*	Pn	19 53 33.5	-0.2
CUI				*i* S	Sn	19 53 41.2	+0.9
LIM1	**Limonal**	**0.34**	**8**	⇓*iP*	Pn	19 53 33.6	-0.2
JTS	**Las Juntas de**	**0.35**	**102**	*eP*	Pn	19 53 33.4	-0.4
JTS				*eS*	Sn	19 53 40.3	-0.4
GUAB	**Guayabo de Bag**	**0.35**	**12**	⇓*iP*	Pn	19 53 33.6	-0.3
ACAL	**Aguas Claras**	**0.38**	**44**	⇓*iP*	Pn	19 53 34.0	-0.1
LAPC	**Finca la Perla**	**0.42**	**342**	⇓*iP*	Pn	19 53 34.3	-0.3
VRLE	**La Escondida,**	**0.43**	**352**	*eP*	Pn	19 53 34.4	-0.3
GBS3	**Finca Las Img**	**0.44**	**340**	*iP*	Pn	19 53 34.6	-0.3
BUEV	**Buena Vista**	**0.45**	**346**	*eP*	Pn	19 53 34.6	-0.3
BUEV				*iP*		19 53 34.8	
HZTE	**Horizontes, Gu**	**0.45**	**320**	*eP*	Pn	19 53 35.1	+0.2
HZTE				*eS*	Sn	19 53 43.8	+1.3
PTEN	**Parque Tenorio**	**0.47**	**41**	⇓*iP*	Pn	19 53 35.0	-0.1
VMAR	**Armenia, Volca**	**0.48**	**22**	*eP*	Pn	19 53 35.2	-0.1
SAJU	**San Juanillo,**	**0.50**	**234**	*eP*	Pn	19 53 34.5	-0.9
BUAI	**Buenos Aires**	**0.51**	**357**	⇓*iP*	Pn	19 53 35.7	+0.1
GRZA	**Playa Garza**	**0.55**	**217**	*eP*	Pn	19 53 35.0	-1.1
CASO	**Castillo**	**0.56**	**83**	*iP*	Pn	19 53 36.5	+0.2
ARE1	**Arenal 1**	**0.58**	**80**	*eP*	Pn	19 53 36.7	+0.3
CEDE	**Laguna Cedeo**	**0.60**	**78**	⇓*eP*	Pn	19 53 36.9	+0.2
CEDE				⇓*iP*		19 53 37.0	
FORC	**Fortuna**	**0.63**	**80**	*iP*	Pn	19 53 37.2	+0.1
LAFE	**Finca La Fe, P**	**0.67**	**145**	*eP*	Pn	19 53 37.0	-0.5
CAO2	**Cobano, Puntar**	**0.70**	**164**	*eP*	Pn	19 53 37.3	-0.6
JACO	**JACO, Garabito**	**0.94**	**138**	*eP*	Pn	19 53 40.8	-0.3
CRPO	**Crater poas**	**1.07**	**99**	*eP*	Pn	19 53 44.3	+1.1
HDC	**Heredia**	**1.22**	**107**	*eP*	Pn	19 53 45.7	+0.6
OCM	**Ochomogo**	**1.40**	**109**	*eP*	Pn	19 53 47.8	+0.3
LCR2	**La Lucha 2**	**1.42**	**116**	*eP*	Pn	19 53 48.1	+0.3
RIMA	**Rio Macho**	**1.53**	**113**	*eP*	Pn	19 53 50.0	+0.6
ACON	**Acoyapa**	**1.60**	**4**	*eP*	Pn	19 53 50.0	-0.1
CDM	**Cerro de Muert**	**1.71**	**118**	*eP*	Pn	19 53 52.5	+0.4
ESPN	**Las Esperanzas**	**2.07**	**28**	*eP*	Pn	19 53 56.4	-0.1

*NEIC **21** 20:08:48.7±1.0, 43°.64N±0°.04×105°.30W±0°.09, h0km±2km, ML3.6/52, Error ellipse: s-maj=10.6km s-min=7.3km az=94.0*
*IDC **21** 20:08:48.5±1.1, 43°.95N×105°.68W, h0km, mb1 3.6/4, mb1mx3.4/51, mbtmp3.3/4, ML3.4/4, Error ellipse: s-maj=21.4km s-min=9.2km az=147.0*
ISC 21 20:08:47.4±0.9, 43°.64N±0°.05×105°.33W±0°.05, h0km, n50, σ1§41/49, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.05**	**62**	Pg	**Pg**	**20 09 07.3**	**-0.3**
K22A	**Casper**	**1.32**	**222**	Pg	**Pg**	**20 09 11.2**	**-1.5**
PHWY	**Pilot Hill**	**2.34**	**182**	Pn	**Pn**	**20 09 27.1**	**-0.3**
RWWY	**Rawlins**	**2.39**	**216**		**Pn**	**20 09 29.5**	**+1.4**
RWWY				IAML		20 10 04.5	
239nm,1.3s
RWWY				IAML		20 10 10.8	
461nm,1.0s
LAO	**LASA Array**	**3.12**	**349**	Pn	**Pn**	**20 09 38.5**	**+0.6**
LAO				IAML		20 10 37.9	
185nm,0.9s
LAO				IAML		20 10 39.9	
258nm,0.8s
RLMT	**Red Lodge**	**3.19**	**299**	Pn	**Pn**	**20 09 40.1**	**+1.0**
RLMT				IAML		20 10 39.0	
116nm,0.5s
RLMT				IAML		20 11 37.0	
116nm,4.0s
BW06	**Boulder Array**	**3.21**	**256**		**Pn**	**20 09 40.1**	**+0.7**
BW06				IAML		20 10 30.4	
94nm,0.4s
PD31	**Pinedale Array**	**3.21**	**256**	Pn	**Pn**	**20 09 40.0**	**+0.6**
PDAR	**Pinedale Array**	**3.21**	**256**	Pn	**Pn**	**20 09 40.9**	**+1.5**
4.7nm,0.3s,baz=65,slow=19,SNR=36
PDAR				Lg	Lg	20 10 24.7	
18nm,0.3s,baz=73,slow=30,SNR=8.7
PDAR	**Pinedale Array**	**3.21**	**256**		**Pn**	**20 09 39.6**	**+0.2**
OGNE	**Ogallala**	**3.63**	**137**	Pn	**Pn**	**20 09 45.7**	**+0.7**
OGNE				IAML		20 10 48.8	
156nm,1.0s
YMP	**Mirror Lake Pl**	**3.65**	**289**		**Pn**	**20 09 46.7**	**+1.3**
GCMT	**Greycliff**	**3.77**	**306**		**Pn**	**20 09 48.1**	**+1.2**
LKWY	**Lake**	**3.77**	**286**		**Pn**	**20 09 48.5**	**+1.4**
LKWY				IAML		20 10 17.9	
109nm,0.9s
LKWY				IAML		20 10 58.3	
65nm,2.7s
LOHW	**Long Hollow**	**3.83**	**271**		**Pn**	**20 09 50.6**	**+2.8**
ISCO	**Idaho Springs**	**3.84**	**183**	Pn	**Pn**	**20 09 49.0**	**+0.9**
H17A	**Grant Village**	**3.86**	**283**		**Pn**	**20 09 49.9**	**+1.6**
H17A				IAML		20 10 54.1	
comp=N,78nm,2.2s
H17A				IAML		20 10 54.8	
comp=E,95nm,2.4s
FLWY	**Flagg Ranch**	**3.91**	**278**		**Pn**	**20 09 50.5**	**+1.6**
MOOW	**Moose Ponds**	**3.93**	**273**	Pn	**Pn**	**20 09 50.8**	**+1.6**
SNOW	**Snow King Moun**	**3.95**	**269**		**Pn**	**20 09 50.6**	**+1.1**
SNOW				IAML		20 11 09.4	
comp=E,120nm,2.2s
SNOW				IAML		20 11 23.1	
comp=E,88nm,2.6s
YNR	**Norris Junctio**	**4.00**	**287**		**Pn**	**20 09 50.8**	**+0.6**
YNR				IAML		20 11 16.3	
comp=E,59nm,2.8s
YNR				IAML		20 11 19.4	
comp=N,57nm,2.7s
REDW	**Red Top Meadow**	**4.03**	**268**		**Pn**	**20 09 52.2**	**+1.6**
REDW				IAML		20 11 17.6	
comp=N,106nm,1.4s
O20A	**White River Ci**	**4.12**	**213**	Pn	**Pn**	**20 09 53.0**	**+1.2**
O20A				IAML		20 11 29.9	
comp=E,97nm,2.9s
YMR	**Madison River**	**4.19**	**286**		**Pn**	**20 09 54.5**	**+1.7**
YMR				IAML		20 11 21.9	
comp=N,93nm,2.0s
YMR				IAML		20 11 23.0	
comp=E,63nm,2.1s
AHID	**Auburn Hatcher**	**4.31**	**260**		**Pn**	**20 09 55.6**	**+1.2**
AHID				IAML		20 11 12.8	
comp=E,81nm,2.2s
AHID				IAML		20 11 28.2	
comp=E,45nm,1.3s
E28A	**Huff**	**4.40**	**47**		**Pn**	**20 09 56.2**	**+0.8**
RDMU	**Red Mountain**	**4.40**	**227**	Pn	**Pn**	**20 09 57.6**	**+1.9**
RDMU				IAML		20 11 19.8	
comp=E,49nm,0.8s
RDMU				IAML		20 11 19.8	
comp=N,60nm,1.5s
DGMT	**Dagmar**	**4.89**	**9**		**Pn**	**20 10 03.5**	**+1.3**
BOZ	**Bozeman (W)**	**4.91**	**296**		**Pn**	**20 10 04.5**	**+2.0**
BOZ				IAML		20 11 24.0	
comp=N,35nm,2.2s
BOZ				IAML		20 13 05.7	
comp=N,32nm,4.5s
EGMT	**Eagleton**	**5.37**	**326**	Pn	**Pn**	**20 10 10.1**	**+1.3**
P18A	**Preston Nutter**	**5.45**	**224**		**Pn**	**20 10 11.2**	**+1.1**
JLU	**Jordanelle**	**5.47**	**238**		**Pn**	**20 10 09.8**	**-0.6**
CTU	**Camp Tracy**	**5.61**	**241**	Pn	**Pn**	**20 10 13.0**	**+0.7**
PV07	**Paradox Valley**	**5.77**	**207**		**Pn**	**20 10 16.2**	**+1.8**
PV15	**Paradox Valley**	**5.80**	**205**	Pn	**Pn**	**20 10 17.1**	**+2.1**
P17A	**Butcher Ranch,**	**5.81**	**226**		**Pn**	**20 10 16.5**	**+1.5**
BCYI	**Bear Canyon**	**5.87**	**279**	Pn	**Pn**	**20 10 17.9**	**+2.1**
PV23	**Carpenter Ridg**	**5.88**	**210**		**Pn**	**20 10 17.9**	**+1.8**
SDCO	**Great Sand Dun**	**5.89**	**181**		**Pn**	**20 10 17.8**	**+1.6**
PV10	**Paradox Valley**	**5.96**	**209**	Pn	**Pn**	**20 10 19.3**	**+2.2**
PV11	**David Mesa, Pa**	**5.97**	**208**		**Pn**	**20 10 18.6**	**+1.4**
SRU	**San Rafael Swe**	**5.98**	**223**	Pn	**Pn**	**20 10 18.1**	**+0.7**
PV13	**Radium Mtn., P**	**6.08**	**207**		**Pn**	**20 10 19.7**	**+0.9**
TMUT	**Trail Mountain**	**6.19**	**228**		**Pn**	**20 10 21.7**	**+1.3**
ECSD	**EROS Data Cent**	**6.32**	**86**		**Pn**	**20 10 22.9**	**+1.1**
Q16A	**Castle Valley**	**6.45**	**225**		**Pn**	**20 10 24.6**	**+0.8**
I10CA	**LAC DU BONNET**	**9.14**	**41**	*i*		21 06 05.0
baz=217,slow=329,SNR=5.6
ULM	**Lac du Bonnet**	**9.24**	**41**	Pn	**Pn**	**20 10 59.8**	**-2.1**
comp=N,1.0nm,0.3s,baz=230,slow=13,SNR=6.4
ULM				Lg	Lg	20 13 32.4	
comp=N,0.4nm,0.3s,baz=327,slow=14,SNR=1.6
TXAR	**Lajitas Array**	**14.34**	**174**	Pn	**P**	**20 12 19.5**	**+0.4**
comp=N,0.1nm,0.3s,baz=341,slow=13,SNR=1.7
TXAR				Pg		20 13 17.2	
comp=N,0.1nm,0.3s,baz=352,slow=19,SNR=3.7
TXAR				Lg	Lg	20 16 23.4	
baz=355,slow=29,SNR=3.3
YKA	**Yellowknife Ar**	**19.65**	**347**	P	**P**	**20 13 16.5**	**-1.0**
comp=N,0.0nm,0.3s,baz=156,slow=12,SNR=3.1

*MAN **21** 20:10:29.1, 2°.74N×127°.13E, h55km, mb5.2, ML4.1, MS4.2*
*MOS **21** 20:10:36.7±1.0, 3°.81N×126°.78E, h10km, mb5.0/26, MS4.8/5, Error ellipse: s-maj=13.1km s-min=5.4km az=120.2*
*IDC **21** 20:10:37.3±0.5, 3°.89N×126°.83E, h0km, mb4.5/30, mb1 4.6/32, mb1mx4.4/49, mbtmp4.5/32, ML4.1/1, MS4.4/3, Ms1 4.5/3, ms1mx3.7/79, Error ellipse: s-maj=19.3km s-min=10.0km az=75.0*
*BJI **21** 20:10:37.2±0.0, 3°.64N×126°.89E, h24km, mb4.8/56, mB5.3/20, Ms4.7/19, Ms7 4.5/19*
*NEIC **21** 20:10:38.6±1.6, 3°.78N±0°.06×126°.78E±0°.08, h10km±1km, mb5.0/68, Error ellipse: s-maj=14.1km s-min=9.1km az=64.0*
*DJA **21** 20:10:38.4±0.7, 4°N±4°×12°7E±°, h16km±4km, M4.7/12, mb4.7/8, mB5.0/3, MLv4.7/12, Mw(mB)4.3/3*
ISC 21 20:10:38.5±0.5, 3°.82N±0°.03×126°.89E±0°.05, h12km±2km, n293, σ1§86/320, mb4.9/105, MS4.7/16, 40C-16D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.36**	**264**	P	**Pg**	**20 11 05.9**	**+1.2**
DDMP	**Don Marcelino,**	**2.55**	**333**	⇓*eP*	**Pb**	**20 11 23.4**	**-0.9**
DDMP				*eS*	**Sg**	**20 12 06.3**	**+5.6**
GSPH	**General Santos**	**2.97**	**319**	⇑*iP*	**Pn**	**20 11 28.1**	**+2.6**
GSPH				*i* S	**Sg**	**20 12 17.2**	**+3.3**
TNTI	**Ternate**	**3.06**	**171**	P	**Pn**	**20 11 29.7**	**+2.9**
TNTI	**Ternate**	**3.06**	**171**	Pn	**Pn**	**20 11 26.4**	**-0.3**
TNTI	**Ternate**	**3.06**	**171**	P	**Pb**	**20 11 30.4**	**-2.6**
MATI	**Mati**	**3.17**	**349**	⇓*eP*	**Pb**	**20 11 33.6**	**-1.2**
MATI				*eS*	**Sb**	**20 12 14.9**	**+1.6**
DAV	**Davao City (W)**	**3.48**	**338**	Pn	**Pb**	**20 11 39.0**	**-1.1**
33nm,0.3s,baz=62,slow=9.6,SNR=7.4
DAV				Lg	Lg	20 12 27.5	
60nm,0.3s,baz=314,slow=16,SNR=4.8
DAV	**Davao City (W)**	**3.48**	**338**	Pn	**Pn**	**20 11 32.4**	**-0.1**
KCP	**Kidapawan**	**3.64**	**331**	⇓*iP*	**Pb**	**20 11 39.8**	**-3.0**
CTBH	**Cotabato--PC H**	**4.28**	**322**	*eP*	**Pn**	**20 11 47.2**	**+3.7**
CTBH				*i* S	**Sb**	**20 12 44.0**	**-1.4**
KMSI	**Cibinong**	**4.34**	**222**	P	**Pn**	**20 11 48.1**	**+3.8**
LBMI	**Labuha**	**4.47**	**172**	P	**Pn**	**20 11 49.1**	**+3.0**
GTOI	**Gorontalo**	**5.00**	**231**	P	**Pn**	**20 11 57.2**	**+3.8**
0.1nm578nm37nm,0.6s
PAGZ	**Pagadian**	**5.31**	**319**	⇓*eP*	**Pn**	**20 12 02.0**	**+4.4**
PAGZ				*eS*	Sg	20 13 52.9	+24
SANI	**Sanana**	**5.90**	**189**	P	**Pn**	**20 12 06.3**	**+0.6**
0.2nm33nm,0.9s
SANI	**Sanana**	**5.90**	**189**	P	**Pn**	**20 12 07.6**	**+1.9**
MRSI	**Marisa**	**5.95**	**236**	P	**Pn**	**20 12 10.9**	**+4.4**
0.6nm1μm193nm,0.8s
LUWI	**Luwuk**	**6.34**	**220**	Pn	**Pn**	**20 12 09.1**	**-2.7**
SWI	**Sorong**	**6.38**	**137**	P	**Pn**	**20 12 12.4**	**0.0**
0.2nm59nm,0.9s
SIJI	**Sorong**	**6.39**	**137**	Pn	**Pn**	**20 12 14.7**	**+2.2**
4.0nm,0.3s,baz=310,slow=17,SNR=16
SIJI				Sn	**Sn**	**20 13 25.8**	**+0.3**
baz=325,slow=23,SNR=0.8
TBP	**Tagbilaran**	**6.56**	**333**	*eP*	Pn	20 12 20.7	+5.9
MSLP	**Maasin**	**6.59**	**342**	⇓*eP*	Pn	20 12 20.3	+5.1
MSLP				*eS*	**Sb**	**20 13 48.3**	**-3.5**
TOLI2	**Tolitoli**	**6.67**	**246**	Pn	**Pn**	**20 12 13.7**	**-2.6**
TOLI2	**Tolitoli**	**6.67**	**246**	P	**Pn**	**20 12 20.3**	**+4.0**
APSI	**Ampana**	**7.03**	**228**	P	**Pn**	**20 12 25.5**	**+4.2**
0.5nm1μm149nm,1.0s
LLP	**Lapu-Lapu**	**7.08**	**336**	*eP*	Pn	20 12 26.8	+4.9
LLP				*eS*	**Sb**	**20 13 58.4**	**-7.5**
CNOP	**Candoni, Negro**	**7.31**	**325**	⇑*eP*	Pn	20 12 30.1	+5.0
MYLDM	**Lahad Datu**	**8.47**	**279**	Pn	**Pn**	**20 12 38.2**	**-2.9**
FAKI	**Fak Fak**	**8.57**	**141**	P	**Pn**	**20 12 43.7**	**+1.2**
60nm,1.2s
FAKI	**Fak Fak**	**8.57**	**141**	Pn	**Pn**	**20 12 45.9**	**+3.4**
FAKI	**Fak Fak**	**8.57**	**141**	P	**Pn**	**20 12 45.4**	**+2.9**
RCP	**Roxas**	**8.72**	**332**	⇓*eP*	Pn	20 12 49.8	+5.3
KKM	**Kota Kinabalu**	**10.86**	**282**		**Pn**	**20 13 15.0**	**+1.0**
KKM	**Kota Kinabalu**	**10.86**	**282**	P	Pn	20 13 21.3	+7.4
SAUI	**Saumlaki**	**12.52**	**159**	Pn	**Pn**	**20 13 32.4**	**-4.2**
MMRI	**Maumere**	**13.21**	**201**	Pn	**Pn**	**20 13 42.8**	**-3.2**
BATI	**Baumata**	**14.30**	**193**	Pn	**Pn**	**20 14 02.4**	**+1.5**
baz=357,slow=15,SNR=1.5
SBUM	**Sibu**	**14.71**	**265**	Pn	Pn	20 13 58.4	-8.1
SBUM				P	**P**	**20 14 11.5**	**-1.2**
JAY	**Jayapura**	**15.18**	**114**	Pn	**P**	**20 14 18.2**	**+0.2**
0.4nm,0.3s,baz=247,slow=12,SNR=4.0
KSM	**Kuching**	**16.72**	**262**		**P**	**20 14 35.5**	**+0.5**
MTN	**Manton Dam**	**17.08**	**166**	Pn	**Pn**	**20 14 36.3**	**-1.0**
KNRA	**Kununurra**	**19.46**	**175**		**P**	**20 15 03.0**	**-2.2**
TWG	**Pinlang**	**19.71**	**344**	P	**P**	**20 15 04.5**	**-3.4**
DLV	**T Lat**	**19.92**	**295**	P	**P**	**20 15 07.3**	**-3.1**
DLV				IAmb	IAmb	20 15 18.8	
comp=Z,112nm,1.3s
YULB	**Yu-li**	**20.20**	**345**	P	**P**	**20 15 11.7**	**-1.6**
TPUB	**Ta-pu**	**20.29**	**343**	P	**P**	**20 15 10.2**	**-4.0**
TPUB				IAmb	IAmb	20 15 19.0	
comp=Z,82nm,0.9s
SSLB	**Suanglung**	**20.66**	**344**	P	**P**	**20 15 14.0**	**-4.3**
SSLB				IAmb	IAmb	20 15 21.4	
comp=Z,52nm,0.9s
FITZ	**Fitzroy Crossi**	**21.81**	**183**	P	**P**	**20 15 31.8**	**+1.1**
comp=Z,3.4nm,0.6s,baz=4.7,slow=7.1,SNR=4.4
LEM	**Lembang**	**21.95**	**241**	P	**P**	**20 15 33.4**	**+0.9**
comp=Z,18nm,0.6s,baz=37,slow=17,SNR=4.0
GZH	**Guangzhou**	**23.21**	**327**	P	**P**	**20 15 48.3**	**+2.9**
UBPT	**Khong Chiam**	**23.96**	**300**	P	**P**	**20 15 52.2**	**-0.7**
WB0	**Warramunga Arr**	**24.57**	**163**	P	**P**	**20 15 58.4**	**-0.2**
WB0				IAmb	IAmb	20 16 07.7	
comp=Z,30nm,0.9s
WRAB	**Tennant Creek**	**24.72**	**163**	*ceP*	**P**	**20 15 59.3**	**-0.5**
WRAB				pmax	pmax		
comp=Z,22nm,1.0s
WRAB	**Tennant Creek**	**24.72**	**163**	P	**P**	**20 15 59.7**	**-0.1**
WRAB				IAmb	IAmb	20 16 09.2	
comp=Z,27nm,0.8s
WRA	**Warramunga Arr**	**24.72**	**163**	P	**P**	**20 15 59.7**	**-0.2**
comp=Z,8.9nm,0.8s,baz=342,slow=10,SNR=49
WRA				S	**S**	**20 20 19.0**	**-2.8**
comp=Z,2.2nm,1.0s,baz=343,slow=20,SNR=3.6
WRA	**Warramunga Arr**	**24.72**	**163**	*iP*	**P**	**20 15 59.9**	**0.0**
WRA				pmax	pmax		
comp=Z,11nm,0.7s
WRA	**Warramunga Arr**	**24.72**	**163**	P	**P**	**20 15 59.1**	**-0.8**
WB2	**Warramunga Arr**	**24.73**	**163**	P	**P**	**20 15 59.1**	**-0.8**
WB2				IAmb	IAmb	20 16 09.3	
comp=Z,39nm,0.9s
WR0	**Warramunga Arr**	**24.80**	**163**	P	**P**	**20 16 00.1**	**-0.4**
WR0				IAmb	IAmb	20 16 10.0	
comp=Z,20nm,0.8s
PSA00	**Pilbara Seismi**	**26.16**	**195**	P	**P**	**20 16 11.2**	**-1.6**
PSA00				IAmb	IAmb	20 16 33.8	
comp=Z,22nm,1.0s
PSI	**Prapat**	**27.93**	**269**	P	**P**	**20 16 28.9**	**-0.3**
comp=Z,4.8nm,0.8s,baz=88,slow=10,SNR=5.6
RPSI	**Rantau Prapat**	**27.94**	**269**	P	**P**	**20 16 28.9**	**-0.2**
AS31	**Alice Springs**	**28.16**	**166**	P	**P**	**20 16 28.9**	**-2.0**
ASAR	**Alice Springs**	**28.16**	**166**	P	**P**	**20 16 30.6**	**-0.4**
comp=Z,0.4nm,0.3s,baz=350,slow=7.0,SNR=14
ASAR				PcP	**PcP**	**20 19 45.9**	**+0.9**
comp=Z,0.9nm,0.9s,baz=341,slow=2.0,SNR=3.4
ASAR				S	**S**	**20 21 24.0**	**+7.8**
comp=Z,1.2nm,1.0s,baz=358,slow=19,SNR=5.5
ASAR	**Alice Springs**	**28.16**	**166**	P	**P**	**20 16 29.5**	**-1.4**
ASAR	**Alice Springs**	**28.16**	**166**	P	**P**	**20 16 29.5**	**-1.4**
NJ2	**Nanjing**	**29.08**	**346**	*eP*	**P**	**20 16 38.6**	**-0.3**
NJ2				pmax	pmax		
comp=Z,5.0nm,0.5s
WHN	**Wuhan**	**29.10**	**337**	⇓P	**P**	**20 16 40.1**	**+1.0**
GSI	**Gunungsitoli**	**29.39**	**266**	P	**P**	**20 16 40.5**	**-1.4**
GSI				IAmb	IAmb	20 17 06.8	
comp=Z,14nm,0.8s
JNU	**Nakatsue**	**29.39**	**7**	P	**P**	**20 16 41.2**	**-0.5**
comp=Z,12nm,1.0s,baz=186,slow=10,SNR=2.4
CMAR	**Chiang Mai Arr**	**30.96**	**300**	P	**P**	**20 16 56.0**	**+0.1**
comp=Z,2.7nm,0.8s,baz=120,slow=7.5,SNR=27
CMAR				PcP	**PcP**	**20 19 53.9**	**+1.7**
comp=Z,0.9nm,0.7s,baz=188,slow=0.2,SNR=5.4
CMAR	**Chiang Mai Arr**	**30.96**	**300**	*iP*	**P**	**20 16 56.7**	**+0.9**
CMAR				pmax	pmax		
comp=Z,3.0nm,0.8s
CMAR	**Chiang Mai Arr**	**30.96**	**300**	P	**P**	**20 16 54.7**	**-1.1**
ENH	**Enshi**	**31.03**	**330**	P	**P**	**20 16 55.6**	**-0.7**
ENH				IAmb	IAmb	20 16 57.1	
comp=Z,23nm,0.9s
CHTO	**Chiang Mai**	**31.11**	**301**	P	**P**	**20 16 56.7**	**-0.4**
CHTO				pmax	pmax		
comp=Z,30nm,1.5s
CHTO	**Chiang Mai**	**31.11**	**301**	P	**P**	**20 16 56.7**	**-0.4**
CHTO				IAmb	IAmb	20 16 59.5	
comp=Z,30nm,1.5s
PZH	**PanZhiHua**	**32.99**	**316**	P	**P**	**20 17 15.5**	**+1.8**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s
PZH				pmax	pmax		
comp=Z,110nm,4.9s
LYN	**LuoYang**	**33.38**	**338**	⇓*iP*	**P**	**20 17 17.8**	**+1.0**
LYN				pmax	pmax		
comp=Z,10.0n

SHL	**Shillong**	**39.95**	**306**	P	**P**	**20 18 12.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**40.47**	**6**	P	**P**	**20 18 18.6**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=156,slow=7.9,SNR=3.0						
XLT	**XiLinHaoTe**	**41.04**	**348⇑**	*i*P	**P**	**20 18 23.3**	**+1.5**
XLT				pP	sP	20 18 27.5	+0.6
XLT				S	**S**	**20 24 37.1**	**+2.9**
XLT				pmax	pmax		
	comp=Z,57nm,0.9s						
XLT				LR	LR		
	comp=Z,930nm,14.3s						
XLT				LR	LR		
	comp=Z,840nm,15.2s						
XLT				LR	LR		
	comp=Z,560nm,16.8s						
BNX	**BinXian**	**41.76**	**1**	⇑P	**P**	**20 18 28.8**	**+1.3**
BNX				pmax	pmax		
	comp=Z,20nm,1.0s						
BNX				pmax	pmax		
	comp=Z,300nm,6.9s						
GTA	**Gaotai**	**43.10**	**329**	⇑P	**P**	**20 18 38.4**	**-0.4**
GTA				PP	**PP**	**20 20 16.8**	**-2.2**
GTA				PcP	**PcP**	**20 20 30.9**	**+2.3**
GTA				ScP	**ScP**	**20 24 20.5**	**+0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GOMU	**GeErMu**	**43.71**	**322**	P	**P**	**20 18 45.1**	**+1.0**
GOMU				pP	sP	20 18 52.8	+3.6
GOMU				sP	pP	20 18 59.3	+12
GOMU				PP	**PcP**	**20 20 31.4**	**+0.3**
KLR	**Kul'dur**	**45.44**	**4**	LR	LR	20 41 53.8	
	comp=Z,384nm,18.0s,baz=268,slow=41						
KLR	**Kul'dur**	**45.44**	**4**	*ce*P	**P**	**20 18 57.7**	**+0.5**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.6s						
HIA	**Hailar**	**45.69**	**353**	P	**P**	**20 18 59.4**	**+0.2**
HIA				pmax	pmax		
	comp=Z,27nm,1.2s						
HIA	**Hailar**	**45.69**	**353**	P	**P**	**20 18 59.4**	**+0.2**
HIA				IAmb	IAmb	20 19 08.0	
	comp=Z,27nm,1.2s						
ULN	**Ulaanbaatar**	**47.08**	**342**	*ce*P	**P**	**20 19 10.9**	**+0.5**
ULN				pmax	pmax		
	comp=Z,14nm,1.1s						
ULN	**Ulaanbaatar**	**47.08**	**342**	P	**P**	**20 19 10.0**	**-0.3**
SONM	**Songino Array**	**47.26**	**341**	P	**P**	**20 19 12.1**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=158,slow=9.0,SNR=23						
SONM				PcP	**PcP**	**20 20 44.4**	**+1.5**
	comp=Z,5.8nm,0.8s,baz=161,slow=3.1,SNR=13						
SONM	**Songino Array**	**47.26**	**341**	P	**P**	**20 19 12.1**	**+0.3**
SONM						20 20 44.4	
SONM				pmax	pmax		
	comp=Z,13nm,1.3s						
SONM	**Songino Array**	**47.26**	**341**	P	**P**	**20 19 12.1**	**+0.3**
SONM				IAmb	IAmb	20 19 14.9	
	comp=Z,13nm,1.3s						
GRNR	**Gornyy**	**47.47**	**8⇑**	*i*P	**P**	**20 19 14.7**	**+1.6**
GRNR				*i*		20 19 15.3	
GRNR				MLR	MLR		
	comp=E,270nm,20.0s						
GRNR				MLR	MLR		
	comp=N,280nm,19.0s						
GRNR				MLR	MLR		
	comp=Z,650nm,16.0s						
ZEA	**Zeya**	**49.76**	**0**	*e*P	**P**	**20 19 32.9**	**+2.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZAK	**Zakamensk**	**50.49**	**341**	*e*P	**P**	**20 19 36.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
IRK	**Irkutsk**	**51.79**	**342**	*e*P	**P**	**20 19 45.9**	**-0.2**
IRK				pmax	pmax		
	comp=Z,34nm,2.1s						
MOY	**Mondy**	**52.35**	**340**	*e*P	**P**	**20 19 52.0**	**+1.6**
MOY				pmax	pmax		
	comp=Z,43nm,2.0s						
WMQ	**Urumqi**	**52.74**	**325**	*e*P	**P**	**20 19 55.0**	**+1.6**
WMQ				pP	sP	20 19 57.8	-0.7
WMQ				sP	pP	20 20 02.9	+5.8
WMQ				pmax	pmax		
	comp=Z,27nm,1.1s						
WMQ				LR	LR		
	comp=Z,700nm,16.7s						
WMQ				LR	LR		
	comp=Z,760nm,19.9s						
WMQ				LR	LR		
	comp=Z,510nm,17.1s						
BOD	**Bodaibo**	**54.80**	**352**	*e*P	**P**	**20 20 09.2**	**+1.1**
BOD				pmax	pmax		
	comp=Z,25nm,1.6s						
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**20 20 12.4**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=207,slow=4.8,SNR=4.5						
ZSN	**Zaisan**	**56.52**	**327**	*e*P	**P**	**20 20 20.1**	**-0.5**
ZSN	**Zaisan**	**56.52**	**327**	*e*P	**P**	**20 20 20.2**	**-0.5**
	baz=327						
MK31	**Makanchi Array**	**57.57**	**325**	P	**P**	**20 20 27.2**	**-0.9**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MK31	**Makanchi Array**	**57.57**	**325**	P	**P**	**20 20 27.2**	**-0.9**
MK31				IAmb	IAmb	20 20 30.2	
	comp=Z,8.3nm,0.8s						
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**20 20 28.6**	**+0.5**
	comp=Z,8.9nm,0.7s,baz=126,slow=8.2,SNR=85						
MKAR				PcP	**PcP**	**20 21 22.4**	**+0.9**
	comp=Z,5.8nm,0.9s,baz=133,slow=5.3,SNR=5.1						
MKAR				ScP	**ScP**	**20 25 28.0**	**+6.5**
	comp=Z,0.8nm,0.9s,baz=108,slow=4.0,SNR=3.5						
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**20 20 27.7**	**-0.4**
MKAR					**PcP**	**20 21 21.7**	**+0.3**
UZB	**Uzynbulak**	**57.65**	**320**	*e*P	**P**	**20 20 28.6**	**-0.3**
UZB				pmax	pmax		
	comp=Z,25nm,2.3s						
UZB	**Uzynbulak**	**57.65**	**320**	*e*P	**P**	**20 20 28.7**	**-0.3**
	comp=Z,25nm,2.3s,baz=320						
PRZ	**Przheval'sk**	**57.74**	**319**	P	**P**	**20 20 27.9**	**-1.7**
PRZ				pmax	pmax		
	comp=Z,43nm,1.5s						
PRZ	**Przheval'sk**	**57.74**	**319**	P	**P**	**20 20 27.9**	**-1.7**
MAKZ	**Makanchi**	**57.76**	**325**	P	**P**	**20 20 29.2**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,13nm,0.9s						
MAKZ	**Makanchi**	**57.76**	**325**	P	**P**	**20 20 29.2**	**-0.2**
MAKZ				IAmb	IAmb	20 20 31.5	
	comp=Z,13nm,0.8s						
TARG	**Taragay, Kyrgy**	**57.79**	**318**	P	**P**	**20 20 27.6**	**-2.7**
TARG				IAmb	IAmb	20 20 47.9	
	comp=Z,13nm,1.2s						
NIL	**Nilore**	**57.99**	**308**	P	**P**	**20 20 28.0**	**-3.4**
NIL				pmax	pmax		
	comp=Z,29nm,1.2s						
NIL	**Nilore**	**57.99**	**308**	P	**P**	**20 20 27.9**	**-3.4**
SATY	**Saty**	**58.01**	**320**	*e*P	**P**	**20 20 31.3**	**-0.1**
SATY	**Saty**	**58.01**	**320**	*e*P	**P**	**20 20 31.3**	**-0.1**
	baz=320						
ZHN	**Zhinishke**	**58.04**	**320**	*e*P	**P**	**20 20 31.8**	**+0.2**
ZHN	**Zhinishke**	**58.04**	**320**	*e*P	**P**	**20 20 31.9**	**+0.2**
	baz=320						
KSH	**Kashi**	**58.09**	**315**	P	**P**	**20 20 33.0**	**+0.9**
KSH				pP	sP	20 20 38.6	+1.3
KSH				pmax	pmax		
	comp=Z,9.0nm,1.5s						
KSH				LR	LR		
	comp=Z,480nm,14.1s						
KSH				LR	LR		
	comp=Z,690nm,15.5s						
KSH				LR	LR		
	comp=Z,800nm,19.2s						
YAK	**Yakutsk**	**58.12**	**2**	*ce*P	**P**	**20 20 32.1**	**+0.5**
YAK				pmax	pmax		
	comp=Z,32nm,0.7s						
YAK	**Yakutsk**	**58.12**	**2**	P	**P**	**20 20 31.2**	**-0.4**
MDOK	**Medeo**	**58.94**	**319**	*e*P	**P**	**20 20 37.4**	**-0.5**
MDOK	**Medeo**	**58.94**	**319**	*e*P	**P**	**20 20 37.5**	**-0.5**
	baz=319						
TDK	**Taldyqorghan**	**58.94**	**322**	*e*P	**P**	**20 20 37.7**	**-0.1**
TDK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TDK	**Taldyqorghan**	**58.94**	**322**	*e*P	**P**	**20 20 37.7**	**-0.1**
	comp=Z,8.3nm,1.1s,baz=322						
TNSS	**Tian-Shan**	**58.95**	**319**	*e*P	**P**	**20 20 38.3**	**0.0**
	baz=319						
KST	**Kastek**	**59.59**	**319**	*e*P	**P**	**20 20 42.2**	**-0.2**
	comp=Z,8.3nm,0.9s,baz=319						
KUU	**Kurty**	**59.73**	**320**	*e*P	**P**	**20 20 42.8**	**-0.4**
KUU				pmax	pmax		
	comp=Z,24nm,1.7s						
KUU	**Kurty**	**59.73**	**320**	*e*P	**P**	**20 20 42.9**	**-0.4**
	comp=Z,24nm,1.7s,baz=320						
AAK	**Ala-Archa**	**60.40**	**318**	*ce*P	**P**	**20 20 48.6**	**+0.6**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
AAK	**Ala-Archa**	**60.40**	**318**	P	**P**	**20 20 48.0**	**0.0**
ZAA0	**Zalesovo Array**	**60.58**	**333**	P	**P**	**20 20 48.4**	**-0.4**
ZALV	**Zalesovo Beam**	**60.58**	**333**	P	**P**	**20 20 48.6**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=123,slow=7.2,SNR=9.9						
ZALV	**Zalesovo Beam**	**60.58**	**333**	*i* P	**P**	**20 20 48.7**	**-0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**60.58**	**333**	P	**P**	**20 20 47.4**	**-1.4**
KBL	**Kabul**	**61.59**	**307**	P	**P**	**20 20 54.8**	**-1.6**
KBL				pmax	pmax		
	comp=Z,14nm,1.1s						
KBL	**Kabul**	**61.59**	**307**	P	**P**	**20 20 54.8**	**-1.6**
KBL				IAmb	IAmb	20 20 57.0	
	comp=Z,14nm,1.1s						
BTLS	**Baital**	**61.71**	**320**	*e*P	**P**	**20 20 56.8**	**+0.2**
BTLS	**Baital**	**61.71**	**320**	*e*P	**P**	**20 20 56.9**	**+0.2**
	baz=320						
KURK	**Kurchatov**	**61.75**	**327**	*ce*P	**P**	**20 20 56.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,17nm,0.9s						
KURK	**Kurchatov**	**61.75**	**327**	P	**P**	**20 20 56.5**	**-0.3**
BTK	**Batken**	**61.97**	**314**	P	**P**	**20 20 58.2**	**-0.5**
BTK				pmax	pmax		
	comp=Z,25nm,1.4s						
BTK	**Batken**	**61.97**	**314**	P	**P**	**20 20 58.2**	**-0.5**
DZA	**Taraz**	**62.64**	**317**	*e*P	**P**	**20 21 03.4**	**+0.4**
DZA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
DZA	**Taraz**	**62.64**	**317**	*e*P	**P**	**20 21 03.5**	**+0.4**
	comp=Z,6.2nm,1.2s,baz=317						
CHGR	**Chuyangaron**	**62.72**	**312**	P	**P**	**20 21 02.9**	**-0.8**
IUG	**Iuzhnay**	**63.26**	**316**	*e*P	**P**	**20 21 06.8**	**-0.4**
IUG	**Iuzhnay**	**63.26**	**316**	*e*P	**P**	**20 21 06.9**	**-0.4**
	baz=316						
BRLS	**Borolday**	**63.71**	**317**	*e*P	**P**	**20 21 10.4**	**+0.3**
BRLS	**Borolday**	**63.71**	**317**	*e*P	**P**	**20 21 10.4**	**+0.3**
	baz=316						
BRZS	**Berezniki**	**64.71**	**325**	*e*P	**P**	**20 21 16.6**	**+0.1**
BRZS	**Berezniki**	**64.71**	**325**	*e*P	**P**	**20 21 16.7**	**+0.1**
	baz=325						
HRA	**Herat**	**67.01**	**306**	P	**P**	**20 21 30.6**	**-1.3**
HRA				IAmb	IAmb	20 21 32.7	
	comp=Z,13nm,1.4s						
BRVK	**Borovoye**	**67.40**	**327**	*ce*P	**P**	**20 21 34.1**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,14nm,0.9s						
BRVK	**Borovoye**	**67.40**	**327**	P	**P**	**20 21 33.3**	**-0.4**
BRVK				IAmb	IAmb	20 21 37.0	
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	**67.75**	**1**	*ce*P	**P**	**20 21 35.8**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,20nm,1.3s						
TIXI	**Tiksi**	**67.75**	**1**	P	**P**	**20 21 34.2**	**-1.3**
WSAR	**Wadi Sarin**	**68.53**	**293**	P	**P**	**20 21 40.6**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=113,slow=10.0,SNR=4.1						
BILL	**Biiibino**	**69.43**	**15⇑**	*e*P	**P**	**20 21 46.4**	**+0.3**
BILL				*PP	**pP**	**20 21 50.0**	**0.0**
BILL				*e*SP	**sP**	**20 21 52.0**	**+0.6**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,329nm,17.0s						
NRIK	**Noril'sk**	**70.38**	**346**	P	**P**	**20 21 52.8**	**+0.8**
	comp=Z,9.2nm,0.7s,baz=133,slow=7.4,SNR=11						
NRIK	**Noril'sk**	**70.38**	**346**	*ce*P	**P**	**20 21 52.6**	**+0.6**
NRIK				pmax	pmax		
	comp=Z,12nm,0.8s						
NRIK	**Noril'sk**	**70.38**	**346**	P	**P**	**20 21 52.4**	**+0.5**
NRIK				IAmb	IAmb	20 21 53.9	
	comp=Z,11nm,0.8s						
GEYT	**Alibeck**	**70.96**	**309**	P	**P**	**20 21 57.0**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=124,slow=7.2,SNR=2.2						
ABKAR	**Akbulak array**	**72.18**	**321**	P	**P**	**20 22 02.8**	**-0.4**
ABKAR	**Akbulak array**	**72.18**	**321**	P	**P**	**20 22 02.3**	**-1.0**
ABKAR				IAmb	IAmb	20 22 05.1	
	comp=Z,5.9nm,0.9s						
SVE	**Sverdlovsk**	**73.97**	**328⇑**	*e*P	**P**	**20 22 14.1**	**+0.4**
SVE				pmax	pmax		
	comp=Z,28nm,1.6s						
ARU	**Arti**	**74.94**	**328**	*d i* P	**P**	**20 22 19.6**	**+0.2**
ARU						20 25 02.8	
ARU				S	**S**	**20 32 00.0**	**+3.4**
ARU				SS	**SS**	**20 36 45.6**	**+0.6**
ARU				pmax	pmax		
	comp=Z,15nm,1.2s						
ARU				MLR	MLR		
	comp=Z,1μm,18.0s						
ARU	**Arti**	**74.94**	**328**	P	**P**	**20 22 18.9**	**-0.5**
ANM	**Nome**	**77.12**	**24**	P	**P**	**20 22 33.2**	**+1.6**
	baz=251						
KIRV	**Kirov**	**80.23**	**329**	*ce*P	**P**	**20 22 48.9**	**+0.1**
BELG	**Belogornoye**	**80.43**	**322**	*i* P	**P**	**20 22 50.5**	**+0.5**
BELG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
RAYN	**Ar Rayn**	**80.59**	**293**	P	**P**	**20 22 50.4**	**-1.2**
RAYN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
RAYN	**Ar Rayn**	**80.59**	**293**	P	**P**	**20 22 50.4**	**-1.2**
TTA	**Tatalina**	**80.75**	**27**	P	**P**	**20 22 52.7**	**+1.1**
	baz=260						
OPO	**Ambohidratompo**	**81.47**	**251**	P	**P**	**20 22 57.1**	**+0.6**
	comp=Z,5.3nm,0.8s,baz=92,slow=5.8,SNR=4.3						
OPO				LR	LR	20 55 13.5	
	comp=Z,199nm,18.9s,baz=107,slow=33						
J20K	**Nowinta River**	**81.77**	**26**	P	**P**	**20 22 58.2**	**+1.3**
J20K				IAmb	IAmb	20 22 59.5	
	comp=Z,9.8nm,1.1s						
J20K	**Nowinta River**	**81.77**	**26**	P	**P**	**20 22 59.5**	**+2.5**
	baz=262						
IMAR	**Indian Mountai**	**82.20**	**24**	P	**P**	**20 22 59.9**	**+0.8**
PRGR	**Permogore**	**82.50**	**332**	*e*P	**P**	**20 23 00.0**	**-0.8**
PRGR				pmax	pmax		
	comp=Z,137nm,1.4s						
AKH	**Akhalkalaki**	**82.53**	**311**	⇓P	**P**	**20 23 04.9**	**+3.3**
H21K	**Melozitna Rive**	**82.54**	**24**	P	**P**	**20 23 02.5**	**+1.5**
H21K				IAmb	IAmb	20 23 04.1	
	comp=Z,10nm,1.1s						
H21K	**Melozitna Rive**	**82.54**	**24**	P	**P**	**20 23 02.9**	**+1.9**
	baz=263						
CAST	**Castle Rocks**	**82.58**	**27**	P	**P**	**20 23 02.6**	**+1.3**
CAST	**Castle Rocks**	**82.58**	**27**	P	**P**	**20 23 03.0**	**+1.8**
	baz=264						
I21K	**Tanana**	**82.82**	**25**	P	**P**	**20 23 04.3**	**+1.8**
I21K				IAmb	IAmb	20 23 05.6	
	comp=Z,16nm,1.1s						
I21K	**Tanana**	**82.82**	**25**	P	**P**	**20 23 04.9**	**+2.4**
	baz=264						
KBZ	**Khabaz**	**83.03**	**313**	P	**P**	**20 23 05.7**	**+1.8**
	comp=Z,3.1nm,0.9s,baz=126,slow=5.2,SNR=4.1						
KTH	**Kantishna Hill**	**83.12**	**27**	P	**P**	**20 23 04.7**	**+0.6**
KTH				IAmb	IAmb	20 23 06.3	
	comp=Z,16nm,1.2s						
KIV	**Kislovodsk**	**83.19**	**314**	*e*P	**P**	**20 23 02.5**	**-2.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SIRT	**Sirnak**	**83.29**	**307**	P	**P**	**20 23 06.0**	**+0.4**
GURO	**Guroymak-BITLI**	**83.61**	**308**	P	**P**	**20 23 06.8**	**-0.5**
GURO				IAmb	IAmb	20 23 11.0	
	comp=Z,7.4nm,1.0s						
COLD	**Coldfoot**	**83.75**	**23**	P	**P**	**20 23 09.6**	**+2.4**
	baz=265						
I23K	**Minto, Yukon-K**	**83.92**	**25**	P	**P**	**20 23 09.7**	**+1.6**
I23K	**Minto, Yukon-K**	**83.92**	**25**	P	**P**	**20 23 09.9**	**+1.8**
	baz=266						
NEA2	**Nenana**	**84.01**	**26**	P	**P**	**20 23 10.5**	**+1.9**
NEA2				IAmb	IAmb	20 23 11.7	
	comp=Z,9.1nm,1.1s						
MCK	**McKinley**	**84.01**	**26**	P	**P**	**20 23 10.0**	**+1.3**
	baz=266						
RND	**Reindeer**	**84.03**	**27**	P	**P**	**20 23 08.4**	**-0.4**
RND				pmax	pmax		
	comp=Z,12nm,0.9s						
RND	**Reindeer**	**84.03**	**27**	P	**P**	**20 23 08.4**	**-0.4**
RND				IAmb	IAmb	20 23 14.8	
	comp=Z,12nm,0.9s						
SML	**Sawmill**	**84.19**	**28**	P	**P**	**20 23 11.4**	**+1.8**
	baz=267						
WAT6	**Susitna Watana**	**84.50**	**28**	P	**P**	**20 23 12.9**	**+1.6**
	baz=268						
ILAR	**Eielson Array**	**84.96**	**25**	P	**P**	**20 23 13.2**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=250,slow=5.3,SNR=5.7						
KLMR	**Klimovskoe**	**85.40**	**331**	*e*P	**P**	**20 23 13.7**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,68nm,1.2s						
KLMR	**Klimovskoe**	**85.40**	**331**	*e*P	**P**	**20 23 13.8**	**-1.9**
KLMR				AMP		20 23 18.1	
	comp=Z,68nm,1.2s						
PAX	**Paxson**	**85.55**	**27**	P	**P**	**20 23 18.4**	**+1.9**
PAX				pmax	pmax		
	comp=Z,22nm,1.5s						
PAX	**Paxson**	**85.55**	**27**	P	**P**	**20 23 18.4**	**+1.9**
PAX				IAmb	IAmb	20 23 19.7	
	comp=Z,22nm,1.5s						
VORR	**Voronezh**	**85.59**	**321**	*e*P	**P**	**20 23 17.5**	**+0.7**
VORR				pmax	pmax		
	comp=Z,49nm,0.8s						
VSR	**Storozhevoye**	**85.62**	**321**	*e*P	**P**	**20 23 16.2**	**-0.7**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LPSR	**Galich'ya Gora**	**85.75**	**322**	*e*P	**P**	**20 23 17.7**	**+0.2**
LPSR				pmax	pmax		
	comp=Z,40nm,1.1s						
MOS	**Moscow**	**86.45**	**325**	*e*P	**P**	**20 23 19.6**	**-1.4**
MOS				pmax	pmax		
	comp=Z,61nm,1.2s						
OBN	**Obninsk**	**87.08**	**325**	*c i* P	**P**	**20 23 24.1**	**+0.1**
OBN				*i* *SP	**sP**	**20 23 29.3**	**0.0**
OBN				*e*S	**SKSac**	**20 33 45.4**	**-5.7**
OBN				pmax	pmax		
	comp=Z,80nm,1.7s						
OBN				MLR	MLR		
	comp=Z,385nm,17.0s						
ASF	**Jabal al Asfar**	**87.98**	**302**	P	**P**	**20 23 30.0**	**+1.0**
	comp=Z,5.6nm,0.8s,baz=68,slow=3.0,SNR=3.6						
KIBK	**Kibwezi**	**89.00**	**268**	P	**P**	**20 23 32.8**	**-1.4**
KIBK				IAmb	IAmb	20 23 36.5	
	comp=Z,11nm,1.1s						
MMAI	**Mount Meron Ar**	**89.19**	**303**	P	**P**	**20 23 35.4**	**+0.7**
	comp=Z,5.6nm,1.0s,baz=54,slow=7.3,SNR=7.4						
KMBO	**Kilima Mbogo**	**89.71**	**269**	P	**P**	**20 23 38.5**	**+0.7**
	comp=Z,4.9nm,1.0s,baz=56,slow=4.7,SNR=10.0						
KMBO	**Kilima Mbogo**	**89.71**	**269**	P	**P**	**20 23 36.0**	**-1.8**
KMBO				IAmb	IAmb	20 23 40.2	
	comp=Z,15nm,1.3s						
EIL	**Elat**	**89.81**	**300**	P	**P**	**20 23 38.0**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=77,slow=12,SNR=4.4						
BR131	**Keskin Array S**	**90.08**	**310**	P	**P**	**20 23 37.5**	**-1.4**
BR131				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BR131	**Keskin Array S**	**90.08**	**310**	P	**P**	**20 23 37.5**	**-1.4**
BR131				IAmb	IAmb	20 23 40.7	
	comp=Z,6.0nm,0.9s						
BRTR	**Keskin Array B**	**90.08**	**310**	P	**P**	**20 23 38.5**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=117,slow=5.3,SNR=16						
BRTR	**Keskin Array B**	**90.08**	**310**	P	**P**	**20 23 37.7**	**-1.1**
ARCES	**ARCESS Array B**	**90.42**	**340**	P	**P**	**20 23 39.5**	**-0.1**
	comp=Z,4.5nm,0.7s,baz=72,slow=5.8,SNR=8.7						
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**20 23 46.5**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=90,slow=2.8,SNR=5.7						
FINES	**FINESS Array B**	**91.83**	**332**	*i* P	**P**	**20 23 48.2**	**+2.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**91.92**	**321**	P	**P**	**20 23 46.6**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=68,slow=4.6,SNR=21						
AKASG	**Malin Array Be**	**91.92**	**321**	P	**P**	**20 23 46.4**	**-0.5**
AKASG				IAmb	IAmb	20 23 47.9	
	comp=Z,9.5nm,1.2s						
AKBB	**Malin Array Si**	**91.92**	**321**	P	**P**	**20 23 45.6**	**-1.3**
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AKBB	**Malin Array Si**	**91.92**	**321**	P	**P**	**20 23 45.6**	**-1.3**
AKBB				IAmb	IAmb	20 23 47.6	
	comp=Z,8.6nm,0.9s						
PURM	**Purcari**	**92.08**	**317**	⇓P	**P**	**20 23 48.0**	**+0.3**
MNK	**Minsk**	**92.14**	**325**	*i* P	**P**	**20 23 48.5**	**+0.7**
MNK				*i*		20 27 28.1	
MNK				*i* PPP	PPP	20 29 27.0	
MNK				*i* S	**SKSac**	**20 34 21.2**	**+0.3**
MNK				*i* SS	**SS**	**20 41 01.6**	**+2.3**
MNK				*i* SSS	SSS	20 44 40.3	
MNK				pmax	pmax		
	comp=N,8.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,16nm,1.0s						
MNK				pmax	pmax		
	comp=E,3.0nm,1.3s						
MNK				MLR	MLR		
	comp=Z,282nm,20.0s						
MNK				MLR	MLR		
	comp=E,24nm,15.0s						
MNK				MLR	MLR		
	comp=N,209nm,19.0s						
MNK	**Minsk**	**92.14**	**325**	*i* P	**P**	**20 23 48.5**	**+0.7**
	comp=E,3.0nm,1.3s						
MNK				*i* P	**P**	**20 23 48.5**	**+0.7**
	comp=N,8.0nm,0.8s						
MNK				*i* P	**P**	**20 23 48.5**	**+0.7**
	comp=Z,16nm,0.9s,baz=260						
MNK				*i* PP	**PP**	**20 27 28.2**	**+0.5**
MNK				*i* PPP	PPP	20 29 27.0	
MNK				*i* S	**SKSac**	**20 34 21.3**	**+0.4**
MNK				*i* SS	**SS**	**20 41 01.7**	**+2.4**
MNK				*i* SSS	SSS	20 44 40.3	
MNK				*i* LQ	LQ	20 59 25.5	
MNK				*i* LR	LR	21 02 44.0	
MNK				*i* LRM	MLR	21 05 44.6	
	comp=Z,282nm,19.7s						
MNK				*i* LRM	MLR	21 05 46.5	
	comp=E,24nm,14.9s						
MNK				*i* LRM	MLR	21 05 51.6	
	comp=N,209nm,19.4s						
SYO	**Syowa Base**	**92.56**	**201⇑**	*e*P	**P**	**20 23 47.0**	**-2.4**
SORM	**Soroca**	**92.87**	**318**	⇑P	**P**	**20 23 51.1**	**-0.3**
SORM	**Soroca**	**92.87**	**318**	⇑P	**P**	**20 23 51.1**	**-0.3**
VLDR	**Vladesti**	**93.41**	**316**	⇓P	**P**	**20 23 54.4**	**+0.6**
CFR	**Carcaliu**	**93.47**	**316**	⇑P	**P**	**20 23 54.8**	**+0.6**
CFR	**Carcaliu**	**93.47**	**316**	⇑P	**P**	**20 23 54.8**	**+0.6**
VASR	**Vaslui**	**93.48**	**317**	⇓P	**P**	**20 23 54.4**	**+0.2**
TESR	**Tescani**	**94.28**	**317**	⇓P	**P**	**20 23 58.5**	**+0.6**
VRI	**Vrincioaia**	**94.34**	**316**	⇑P	**P**	**20 23 59.8**

```
BRG                                  MLR   MLR
      comp=N,1µm,19.3s
BRG   Berggiesshubel   101.26 323    ex    x     20 24 30.9
BRG   Berggiesshubel   101.26 323    Amp         20 24 33.9
      comp=Z,15nm,1.6s
BRG   Berggiesshubel   101.26 323    Amp         20 24 49.0
      comp=Z,2.3nm,20.9s
BRG   Berggiesshubel   101.26 323    Amp         20 24 54.0
      comp=E,1.0nm,19.3s
CLL   Collm            101.66 324    eP    Pdif  20 24 31.0  0.0
CLL                                  pmax  pmax
      comp=Z,94nm,2.8s
CLL   Collm            101.66 324    ePdif Pdif  20 24 31.0  0.0
CLL                                  ex    x     20 24 41.0
CLL                                  e(PP)       20 28 30.0
      comp=Z,94nm,2.8s
CLL                                  ePKiKP PKiKP 20 28 51.0 -3.6
CLL                                  ex    x     20 29 10.0
GERES GERESS Array B 102.11 322      P     Pdif  20 24 34.1 +0.9
      comp=Z,0.7nm,0.8s,baz=66,slow=4.8,SNR=6.0
TORD  Torodi Ar. Bea   123.04 288    PKP   PKPdf 20 29 36.0  0.0
      comp=Z,1.6nm,0.8s,baz=22,slow=2.1,SNR=8.7
```

*IDC **21** 20:12:32.6±0.6, 19°.75N×76°.07W, h0km, mb4.1/18, mb1 4.2/23, mb1mx4.1/42, mbtmp4.1/23, ML3.6/5, Error ellipse: s-maj=17.7km s-min=14.3km az=39.0*
*SSNC **21** 20:12:34.7±1.6, 19°.74N×76°.05W, h2km, ML4.3, MW4.2*
*NEIC **21** 20:12:34.3±1.5, 19°.77N±0°.06×76°.07W±0°.04, h7km±4km, mb4.3/43, Error ellipse: s-maj=9.4km s-min=6.2km az=177.0*
*OSPL **21** 20:12:35.7±1.0, 19°.89N×76°.09W, h0km±14km, ML4.2*
*JSN **21** 20:12:41.3±1.6, 17°.11N×75°.81W, h15km±43km, MD4.3*
ISC 21 20:12:33.8±1.2, **19°.77N**±0°.03×**76°.13W**±0°.02, **h9**km±7km, **n117**, σ1§**41**/127, **mb4.2**/41, **Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.46**	**61**	*e*P	**Pg**	**20 12 42.7**	**-0.1**
RCC				*e*S	**Sg**	**20 12 48.1**	**-0.8**
LMGC	**Las Mercedes**	**0.88**	**290**	*e*P	**Pg**	**20 12 50.9**	**+0.1**
LMGC				*e*S	**Sg**	**20 13 02.5**	**+0.3**
LMGC	**Las Mercedes**	**0.88**	**290**	*e*P	**Pg**	**20 12 50.8**	**+0.1**
LMGC				*e*S	**Sb**	**20 13 02.9**	**-0.2**
GTBY	**Guantanamo Bay**	**0.97**	**80**		**Pg**	**20 12 51.4**	**-1.0**
GTBY	**Guantanamo Bay**	**0.97**	**80**	*e*P	**Pg**	**20 12 51.4**	**-1.0**
GTBY	**Guantanamo Bay**	**0.97**	**80**	*i* P	**Pg**	**20 12 51.5**	**-0.9**
GTBY				*e*S	**Sg**	**20 13 04.6**	**-0.5**
GTBY				IAML		20 13 07.5	
	comp=Z,7µm,0.5s						
GTMO	**Guantanamo**	**0.98**	**71**	*e*P	**Pg**	**20 12 52.6**	**-0.1**
GTMO				*e*S	**Sb**	**20 13 06.7**	**+0.7**
GTMO	**Guantanamo**	**0.98**	**71**	*e*S	**Sb**	**20 13 06.6**	**+0.7**
HLGC	**Holguin**	**1.12**	**3**	*e*P	**Pg**	**20 12 55.1**	**-0.2**
HLGC				*e*S	**Sn**	**20 13 10.6**	**-0.6**
HLGC				IAML		20 13 14.9	
	comp=N,8µm,0.5s						
HLGC				IAML		20 13 15.2	
	comp=E,11µm,0.7s						
HLGC	**Holguin**	**1.12**	**3**	*e*P	**Pg**	**20 12 55.0**	**-0.4**
HLGC				*e*S	**Sn**	**20 13 10.9**	**-0.3**
HLGC				IAML		20 13 14.9	
	comp=N,8µm,0.5s						
HLGC				IAML		20 13 15.2	
	comp=E,11µm,0.7s						
MOAC	**Moa**	**1.41**	**51**	*e*P	**Pn**	**20 12 57.6**	**-2.0**
MOAC				*e*S	**Sn**	**20 13 15.8**	**-2.5**
MOAC	**Moa**	**1.41**	**51**	*e*P	**Pn**	**20 12 57.3**	**-2.4**
MOAC				*e*S	**Sn**	**20 13 16.3**	**-2.0**
CMJ	**Castle Mountai**	**1.64**	**188**	*i* P	**Pn**	**20 13 01.7**	**-1.2**
GWJ	**Greenwich**	**1.78**	**199**	*i* P	**Pn**	**20 13 03.1**	**-1.8**
STH	**Stony Hill**	**1.80**	**201**	*i* P	**Pn**	**20 13 03.4**	**-1.7**
HOJ	**Hope**	**1.85**	**199**	*i* P	**Pn**	**20 13 04.0**	**-1.8**
MTDJ	**Mount Denham**	**2.03**	**221**	Pn	**Pn**	**20 13 06.9**	**-1.5**
MTDJ	**Mount Denham**	**2.03**	**221**	*e*P	**Pn**	**20 13 07.3**	**-1.0**
MTDJ	**Mount Denham**	**2.03**	**221**	*e*P	**Pn**	**20 13 05.5**	**-2.9**
CCCC	**Cccc**	**2.10**	**313**	*e*P	**Pn**	**20 13 06.2**	**-2.9**
CCCC				*e*S	**Sn**	**20 13 29.3**	**-6.1**
CCCC	**Cccc**	**2.10**	**313**	*e*P	**Pn**	**20 13 06.2**	**-2.9**
CCCC				*e*S	**Sn**	**20 13 29.8**	**-5.5**
CCCC				IAML		20 13 35.1	
	comp=E,1µm,0.6s						
CCCC				IAML		20 13 35.2	
	comp=N,1µm,0.5s						
MCJ	**Malvern**	**2.36**	**219**	*i* P	**Pn**	**20 13 13.1**	**+0.3**
MCJ				*i* S	**Sn**	**20 13 36.8**	**-5.0**
LGNH	**Logne**	**3.55**	**110**	Pn	**Pn**	**20 13 26.6**	**-2.6**
LCCY	**Blossom Villag**	**3.73**	**269**		**Pn**	**20 13 31.8**	**+0.3**
JAKH	**Jacmel**	**3.74**	**113**		**Pn**	**20 13 30.1**	**-1.6**
JAKH	**Jacmel**	**3.74**	**113**	*i* P	**Pn**	**20 13 33.3**	**+1.6**
MGV	**Manicaragua**	**4.29**	**304**	*e*P	**Pn**	**20 13 40.3**	**+1.0**
SDDR	**Presa de Saban**	**4.63**	**99**	Pn	**Pn**	**20 13 42.3**	**-1.8**
SDDR	**Presa de Saban**	**4.63**	**99**	*e*P	**Pn**	**20 13 44.7**	**+0.6**
SDDR	**Presa de Saban**	**4.63**	**99**	*e*P	**Pn**	**20 13 42.8**	**-1.3**
SDDR	**Presa de Saban**	**4.63**	**99**	*i* P	**Pn**	**20 13 44.5**	**+0.4**
GRTK	**Grand Turk**	**4.99**	**69**	Pn	**Pn**	**20 13 48.3**	**-0.5**
GRTK	**Grand Turk**	**4.99**	**69**	*i* P	**Pn**	**20 13 49.0**	**+0.1**
SC01	**Santiago de lo**	**5.10**	**93**		**Pn**	**20 13 49.7**	**-0.7**
SOR	**Soroa**	**7.09**	**296**	Pn	**Pn**	**20 14 18.2**	**+0.4**
SDV	**Santo Domingo**	**12.05**	**153**	Pn	**Pn**	**20 15 26.6**	**+0.5**
	comp=N,1.1nm,0.3s,baz=354,slow=12,SNR=4.2						
BAUV	**El Baul**	**13.30**	**143**	Pn	**Pn**	**20 15 43.0**	**0.0**
APG	**El Apazote**	**14.48**	**253**	Pn	**Pn**	**20 16 01.2**	**+1.9**
	comp=N,0.2nm,0.3s,baz=61,slow=18,SNR=2.3						
PCRV	**Puerto La Cruz**	**14.62**	**129**	Pn	**Pn**	**20 16 02.0**	**+0.9**
	comp=N,0.6nm,0.3s,baz=304,slow=7.3,SNR=1.9						
PLCV	**Puerto La Cruz**	**14.67**	**129**		**Pn**	**20 16 02.0**	**+0.3**
FPAL	**Fort Paine**	**16.95**	**332**	Pn	**Pn**	**20 16 31.4**	**+0.1**
TKL	**Tuckaleechee C**	**17.20**	**339**	P	**Pn**	**20 16 34.1**	**-0.4**
	comp=N,0.3nm,0.3s,baz=159,slow=14,SNR=1.8						
TKL	**Tuckaleechee C**	**17.20**	**339**	IAmb	IAmb	20 16 43.9	
	comp=Z,9.2nm,1.2s						
CPCT	**Cooper Cave**	**17.29**	**336**		**P**	**20 16 36.3**	**-0.6**
CMIG	**Matias Romero**	**18.00**	**265**	P	**P**	**20 16 45.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=45,slow=10.0,SNR=5.6						
R58B	**Mineral**	**18.19**	**356**	Pn	**Pn**	**20 16 44.6**	**-2.1**
NCB	**Newcomb**	**24.18**	**3**	P	**P**	**20 17 51.2**	**+0.6**
NCB				IAmb	IAmb	20 17 53.0	
	comp=Z,14nm,0.9s						
P38A	**Dawn**	**24.82**	**327**	P	**P**	**20 17 57.0**	**+0.6**
P38A				IAmb	IAmb	20 18 00.0	
	comp=Z,20nm,1.2s						
WMOK	**Wichita Mounta**	**24.98**	**311**	P	**P**	**20 17 57.9**	**0.0**
PTGA	**Pitinga**	**25.81**	**140**	P	**P**	**20 18 07.0**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=325,slow=12,SNR=2.7						
JFWS	**Jewell Farm**	**25.96**	**336**	P	**P**	**20 18 06.9**	**+0.2**
JFWS				IAmb	IAmb	20 18 10.1	
	comp=Z,8.9nm,0.7s						
KSU1	**Kansas State U**	**26.15**	**322**	P	**P**	**20 18 07.8**	**-0.6**
I42A	**Draeger Farm,**	**26.33**	**339**	P	**P**	**20 18 10.3**	**+0.4**
I42A				IAmb	IAmb	20 18 14.3	
	comp=Z,8.4nm,0.8s						
TXAR	**Lajitas Array**	**26.74**	**296**	P	**P**	**20 18 16.2**	**+2.2**
	comp=Z,1.0nm,0.9s,baz=96,slow=8.3,SNR=3.3						
F36A	**Milaca**	**29.71**	**335**	P	**P**	**20 18 40.8**	**+0.5**
F36A				IAmb	IAmb	20 18 50.4	
	comp=Z,7.5nm,1.2s						
K31A	**O'Neill**	**29.72**	**325**	P	**P**	**20 18 39.0**	**-1.3**
ETMB	**Extrema**	**30.98**	**161**	P	**P**	**20 18 51.1**	**-0.5**
ETMB				IAmb	IAmb	20 19 01.4	
	comp=Z,9.4nm,1.4s						
PV13	**Radium Mtn., P**	**33.73**	**310**	P	**P**	**20 19 17.1**	**+1.2**
PV13				IAmb	IAmb	20 19 19.0	
	comp=Z,4.2nm,0.8s						
PV03	**Paradox Valley**	**33.79**	**310**	P	**P**	**20 19 17.2**	**+0.7**
PV03				IAmb	IAmb	20 19 19.7	
	comp=Z,2.3nm,0.9s						
ULM	**Lac du Bonnet**	**34.23**	**337**	P	**P**	**20 19 21.1**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=166,slow=9.0,SNR=3.0						
ULM	**Lac du Bonnet**	**34.23**	**337**	P	**P**	**20 19 20.1**	**+0.3**
WUAZ	**Wupatki**	**34.73**	**304**	P	**P**	**20 19 24.6**	**0.0**
WUAZ				IAmb	IAmb	20 19 36.8	
	comp=Z,4.7nm,0.9s						
RDMU	**Red Mountain**	**35.27**	**313**	P	**P**	**20 19 29.0**	**-0.2**
RDMU				IAmb	IAmb	20 19 31.5	
	comp=Z,3.6nm,1.0s						
SRU	**San Rafael Swe**	**35.33**	**311**	P	**P**	**20 19 30.0**	**+0.2**
SRU				IAmb	IAmb	20 19 51.2	
	comp=Z,4.3nm,1.3s						
P18A	**Preston Nutter**	**35.34**	**312**	P	**P**	**20 19 30.7**	**+0.8**
P18A				IAmb	IAmb	20 19 47.8	
	comp=Z,2.3nm,0.9s						
SCHQ	**Schefferville**	**35.71**	**9**	P	**P**	**20 19 33.1**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=191,slow=7.3,SNR=4.5						
SCHQ	**Schefferville**	**35.71**	**9**	IAmb	IAmb	20 19 34.5	
	comp=Z,9.6nm,1.1s						
MTPU	**Mount Pierson**	**36.15**	**308**	P	**P**	**20 19 35.4**	**-1.6**
MTPU				IAmb	IAmb	20 19 50.0	
	comp=Z,4.6nm,1.0s						
PD31	**Pinedale Array**	**36.27**	**317**	P	**P**	**20 19 38.0**	**+0.2**
PDAR	**Pinedale Array**	**36.27**	**317**	P	**P**	**20 19 38.5**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=117,slow=11,SNR=6.6						
LOHW	**Long Hollow**	**37.35**	**317**	P	**P**	**20 19 48.9**	**+1.9**
LOHW				IAmb	IAmb	20 19 49.6	
	comp=Z,3.5nm,1.0s						
DUG	**Dugway, Tooele**	**37.38**	**311**	P	**P**	**20 19 48.6**	**+1.4**
DUG				IAmb	IAmb	20 19 50.4	
	comp=Z,4.1nm,0.9s						
REDW	**Red Top Meadow**	**37.39**	**317**	P	**P**	**20 19 48.3**	**+1.0**
REDW				IAmb	IAmb	20 19 49.8	
	comp=Z,5.5nm,0.9s						
MOOW	**Moose Ponds**	**37.50**	**317**	P	**P**	**20 19 48.5**	**+0.3**
MOOW				IAmb	IAmb	20 19 50.6	
	comp=Z,3.9nm,0.8s						
ECR	**Eagle Creek**	**37.58**	**316**	P	**P**	**20 19 49.4**	**+0.4**
HVU	**Hansel Valley**	**37.97**	**313**	P	**P**	**20 19 53.4**	**+1.2**
SPR3	**Spring Creek 3**	**38.06**	**309**	P	**P**	**20 19 54.6**	**+1.5**
SPR3				IAmb	IAmb	20 19 56.9	
	comp=Z,4.8nm,1.0s						
SIV	**San Ignacio**	**38.49**	**156**	P	**P**	**20 19 56.4**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=322,slow=6.2,SNR=8.5						
MCMT	**McKenzie Canyo**	**39.34**	**318**	P	**P**	**20 20 03.9**	**+0.1**
BCYI	**Bear Canyon**	**39.46**	**317**	P	**P**	**20 20 05.1**	**+0.3**
HLID	**Hailey**	**39.80**	**315**	P	**P**	**20 20 09.2**	**+1.6**
NVAR	**Mina Array Bea**	**40.87**	**306**	P	**P**	**20 20 18.1**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=119,slow=7.3,SNR=6.2						
NVAR	**Mina Array Bea**	**40.87**	**306**	P	**P**	**20 20 17.2**	**+0.8**
KVN	**Kaiserville**	**40.88**	**307**	P	**P**	**20 20 17.8**	**+1.3**
PLID	**Pearl Lake**	**41.47**	**317**	P	**P**	**20 20 21.8**	**+0.4**
JTMT	**Jette**	**41.59**	**321**	P	**P**	**20 20 22.6**	**+0.4**
JTMT				IAmb	IAmb	20 20 24.5	
	comp=Z,3.9nm,0.9s						
YKA	**Yellowknife Ar**	**50.20**	**338**	P	**P**	**20 21 30.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=129,slow=8.7,SNR=13						
A36M	**Sachs Harbour**	**59.25**	**344**	P	**P**	**20 22 34.6**	**-0.5**
BCAR	**Beaver Creek A**	**61.57**	**332**	P	**P**	**20 22 51.9**	**+0.6**
J26L	**Joseph Creek**	**62.65**	**333**	P	**P**	**20 22 59.9**	**+1.3**
J26L				IAmb	IAmb	20 23 00.4	
	comp=Z,4.0nm,0.9s						
BMAR	**Burnt Mountain**	**63.66**	**336**	P	**P**	**20 23 06.2**	**+1.0**
ILAR	**Eielson Array**	**64.10**	**333**	P	**P**	**20 23 08.3**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=98,slow=6.2,SNR=7.1						
ESDC	**Sonseca Array**	**64.12**	**55**	P	**P**	**20 23 08.6**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=283,slow=6.9,SNR=6.4						
ESDC	**Sonseca Array**	**64.12**	**55**	IAmb	IAmb	20 23 12.3	
	comp=Z,1.2nm,1.0s						
SML	**Sawmill**	**64.37**	**330**	P	**P**	**20 23 10.1**	**+0.1**
CCB	**Clear Creek Bu**	**64.47**	**333**	P	**P**	**20 23 11.8**	**+1.4**
H24K	**Noodor Dome**	**64.67**	**334**	P	**P**	**20 23 12.7**	**+0.9**
H24K	**Noodor Dome**	**64.67**	**334**	P	**P**	**20 23 13.1**	**+1.2**
	baz=267						
MDM	**Murphy Dome**	**64.70**	**333**	P	**P**	**20 23 13.2**	**+1.2**
NB2	**NORSAR Subarra**	**71.64**	**31**	P	**P**	**20 23 56.3**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=278,slow=6.2						
NOA	**NORSAR Array B**	**71.64**	**31**	P	**P**	**20 23 56.5**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=278,slow=6.1,SNR=5.4						
FETA	**Feichten**	**73.71**	**45**	*e*P	**P**	**20 24 09.7**	**+1.3**
	comp=Z,1.5nm,0.6s						
MOTA	**Moosalm**	**73.89**	**45**	P	**P**	**20 24 10.0**	**+0.5**
	comp=Z,0.3nm,0.2s						
WATA	**Walderalm**	**74.21**	**45**	*e*P	**P**	**20 24 12.9**	**+1.6**
	comp=Z,0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**74.36**	**81**	P	**P**	**20 24 11.9**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=288,slow=4.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**74.36**	**81**	P	**P**	**20 24 11.5**	**-1.0**
TORD				IAmb	IAmb	20 24 12.8	
	comp=Z,1.4nm,0.8s						
KEST	**Kesra**	**75.17**	**57**	P	**P**	**20 24 17.8**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=214,slow=3.6,SNR=5.3						
GERES	**GERESS Array B**	**75.27**	**43**	P	**P**	**20 24 17.7**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=270,slow=3.9,SNR=8.3						
GERES	**GERESS Array B**	**75.27**	**43**	P	**P**	**20 24 17.1**	**-0.2**
ARCES	**ARCESS Array B**	**75.64**	**21**	P	**P**	**20 24 18.9**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=270,slow=3.6,SNR=11						
FINES	**FINESS Array B**	**78.51**	**29**	P	**P**	**20 24 35.5**	**+0.3**
	comp=Z,3.7nm,0.5s,baz=288,slow=3.1,SNR=18						
AKASG	**Malin Array Be**	**84.21**	**38**	P	**P**	**20 25 05.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=289,slow=4.1,SNR=2.2						
AKASG	**Malin Array Be**	**84.21**	**38**	IAmb	IAmb	20 25 11.4	
	comp=Z,2.0nm,1.2s						
BRTR	**Keskin Array B**	**91.81**	**47**	P	**P**	**20 25 42.4**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=339,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	**151.36**	**264**	PKPbc	**PKPbc**	**20 32 28.1**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=95,slow=2.4,SNR=5.6						
WRA				PKPab	**PKPab**	**20 32 36.6**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=118,slow=3.2,SNR=4.0						
WRA	**Warramunga Arr**	**151.36**	**264**		**PKPdf**	**20 32 22.8**	**0.0**
ASAR	**Alice Springs**	**151.86**	**257**	PKPbc	**PKPbc**	**20 32 28.9**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=121,slow=1.9,SNR=9.5						
ASAR				PKPab	**PKPab**	**20 32 37.9**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=74,slow=2.3,SNR=5.1						

*INMG **21** 20:13:25.8±1.2, 36°.58N×9°.72W, h19km±4km, ML1.7, Error ellipse: s-maj=4.3km s-min=4.0km az=50.0*
*IGIL **21** 20:13:25.3, 36°.58N×9°.74W, h15km, ML1.6*
*SFS **21** 20:13:25.0, 36°.61N×9°.77W, h21km, ML2.3, SW CABO DE SAN VICENTE*
*CNRM **21** 20:13:26.0, 36°.43N×9°.54W, h49km, ml2.6*
ISC 21 20:13:23.0±1.9, **36°.52N**±0°.03×**9°.75W**±0°.09, **h29**km±14km, **n33**, σ1§**21**/64, **6C-1D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.96**	**50⇑**	*i*P	**Pb**	**20 13 42.0**	**+0.9**
PFVI				*e*S	**Sn**	**20 13 54.1**	**+0.9**
PFVI				A	A	20 13 55.8	
	8.5nm,0.1s						
PFVI	**Vila Bisbo**	**0.96**	**50**	P	**Pb**	**20 13 42.1**	**+0.9**
PFVI				S	**Sn**	**20 13 54.2**	**+1.0**
MORF	**Marmelete**	**1.18**	**48**	*e*P	**Pb**	**20 13 45.0**	**+0.2**
MORF				*e*S	**Sn**	**20 13 59.3**	**+0.6**
MORF				IAML		20 14 00.1	
	comp=N,11nm,0.1s						
MORF	**Marmelete**	**1.18**	**48⇑**	*i*P	**Pb**	**20 13 45.0**	**+0.2**
MORF				*e*S	**Sn**	**20 13 59.4**	**+0.7**
MORF				A	A	20 14 00.1	
	comp=N,11nm,0.1s						
PTEO	**Sao Teotonio**	**1.31**	**38**	*e*P	**Pb**	**20 13 46.8**	**-0.3**
PTEO				*e*S	**Sn**	**20 14 02.8**	**+0.9**
PTEO				A	A	20 14 07.1	
	comp=N,7.5nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.62**	**63⇑**	*e*Pn	**Pb**	**20 13 51.4**	**-1.0**
PBDV				*e*Sn	**Sn**	**20 14 10.2**	**+0.5**
PBDV				A	A	20 14 17.2	
	comp=N,2.5nm,0.1s						
PCVE	**Castro Verde**	**1.76**	**50⇑**	*e*Pn	**Pb**	**20 13 53.3**	**-1.4**
PCVE				*e*Sn	**Sn**	**20 14 14.1**	**+1.1**
PCVE				A	A	20 14 15.8	
	comp=N,3.5nm,0.4s						
MESJ	**Messejana**	**1.80**	**42**	*e*P	**Pn**	**20 13 53.4**	**+1.4**
MESJ				*e*S	**Sn**	**20 14 14.1**	**+0.2**
MESJ				IAML		20 14 16.1	
	comp=N,5.5nm,0.4s						
MESJ	**Messejana**	**1.80**	**42**	*e*P	**Pn**	**20 13 53.4**	**+1.4**
MESJ				*e*S	**Sn**	**20 14 14.1**	**+0.2**
MESJ				IAML		20 14 16.1	
PVAQ	**Vaqueiros**	**1.85**	**61⇑**	*e*Pn	**Pn**	**20 13 54.4**	**+1.6**
PVAQ				*e*Sn	**Sn**	**20 14 15.6**	**+0.4**
PVAQ				A	A	20 14 17.4	
	comp=N,4.9nm,0.3s						
PVAQ	**Vaqueiros**	**1.85**	**61**	P	**Pb**	**20 13 54.8**	**-1.3**
PVAQ				S	**Sb**	**20 14 17.6**	**-1.3**
PNCL	**Nicolau / Gran**	**1.86**	**31⇑**	*e*Pn	**Pn**	**20 13 54.0**	**+1.0**
PNCL				*e*Sn	**Sn**	**20 14 15.6**	**+0.1**
PNCL				A	A	20 14 17.7	
	comp=N,3.0nm,0.1s						
PBEJ	**Beja**	**2.12**	**44**	*e*Pn	**Pn**	**20 13 57.7**	**+1.1**
PBEJ				*e*Sn	**Sn**	**20 14 22.4**	**+0.4**
PBEJ				A	A	20 14 24.4	
	comp=N,2.1nm,0.4s						
EVO	**Evora**	**2.44**	**34**	P	**Pn**	**20 14 00.0**	**-0.9**
EVO				S	**Sn**	**20 14 28.8**	**-0.9**
EVO	**Evora**	**2.44**	**34**	*e*Pn	**Pn**	**20 14 01.8**	**+0.9**
EVO				*e*Sn	**Sn**	**20 14 28.9**	**-0.8**
EVO				A	A	20 14 29.6	
	comp=N,4.2nm,0.1s						
PMAFR	**Mafra**	**2.46**	**8**	*e*Pn	**Pn**	**20 14 02.1**	**+0.9**
PMAFR				*e*Sn	**Sn**	**20 14 29.8**	**-0.5**
PMAFR				A	A	20 14 32.2	
	comp=N,15nm,0.8s						
PMTG	**Montargil**	**2.82**	**25**	*e*Pn	**Pn**	**20 14 07.1**	**+1.0**
PMTG				*e*Sn	**Sn**	**20 14 38.1**	**-1.0**
PMTG				A	A	20 14 39.3	
	comp=N,2.3nm,0.5s						
PESTR	**Estremoz**	**2.90**	**35**	*e*Pn	**Pn**	**20 14 07.9**	**+0.6**
PESTR				*e*Sn	**Sn**	**20 14 40.3**	**-0.9**
PESTR				A	A	20 14 43.6	
	comp=N,2.4nm,0.5s						
PESTR	**Estremoz**	**2.90**	**35**	P	**Pn**	**20 14 08.7**	**+1.4**
PESTR				S	**Sn**	**20 14 42.1**	**+0.9**
PSBE	**So Bento**	**3.08**	**14**	*e*Pn	**Pn**	**20 14 10.6**	**+0.8**
PSBE				*e*Sn	**Sn**	**20 14 45.9**	**+0.2**
PMRV	**Marv??o**	**3.45**	**32⇓**	*e*Pn	**Pn**	**20 14 15.7**	**+0.9**
PMRV				*e*Sn	**Sn**	**20 14 53.0**	**-1.7**
PMRV				A	A	20 14 55.1	
	comp=N,1.7nm,0.3s						
PCAS	**Casmilo, Conde**	**3.66**	**15**	*e*Pn	**Pn**	**20 14 17.7**	**0.0**
PCAS				*e*Sn	**Sn**	**20 14 58.2**	**-1.8**
PCAS				A	A	20 15 02.1	
	comp=N,1.4nm,0.1s						
PCBR	**Castelo Branco**	**3.77**	**28**	*e*Pn	**Pn**	**20 14 20.2**	**+1.1**
PCBR				*e*Sn	**Sn**	**20 15 02.1**	**-0.4**
ZHG	**ZHG**	**3.98**	**139**	P	**Pn**	**20 14 23.6**	**+1.4**
ZHG				S	**Sn**	**20 15 07.2**	**-0.8**
MTE	**Manteigas**	**4.24**	**23**	*e*Pn	**Pn**	**20 14 26.7**	**+0.9**
PVIS	**Viseu**	**4.44**	**18**	*e*Pn	**Pn**	**20 14 29.6**	**+1.2**
POLO	**Lamas de Olo**	**5.08**	**17**	*e*Pn	**Pn**	**20 14 37.9**	**+0.6**
POLO				*e*Sn	**Sn**	**20 15 32.6**	**-2.4**
MVO	**Moncorvo**	**5.10**	**24**	*e*Pn	**Pn**	**20 14 38.3**	**+0.8**
MVO				*e*Sn	**Sn**	**20 15 32.8**	**-2.7**
MD31	**MD31**	**5.49**	**130**	P	**Pn**	**20 14 44.0**	**+1.1**
MD31				S	**Sn**	**20 15 42.5**	**-2.6**
OUK	**Oukaimeden**	**5.52**	**163**	P	**Pn**	**20 14 47.4**	**+3.8**
OUK				S	**Sn**	**20 15 45.2**	**-1.0**
MDT	**Midelt**	**5.62**	**130**	P	**Pn**	**20 14 45.9**	**+1.2**
MDT				S	**Sn**	**20 15 46.9**	**-1.3**
TTIG	**Tnine Tigouga,**	**6.05**	**169**	P	**Pn**	**20 14 51.2**	**+0.5**
TTIG				S	**Sn**	**20 15 59.3**	**+0.2**
OUZM	**OUZ**	**6.12**	**155**	P	**Pn**	**20 14 52.3**	**+0.7**
OUZM				S	**Sn**	**20 15 59.9**	**-0.8**

IDC 21 20:17:16.6±1.6, **3°.89N**×**127°.19E**, **h0**km, **mb3.4**/5, **mb1 3.6**/5, **mb1mx3.3**/49, **mbtmp3.5**/5, **Error ellipse: s-maj=106.7km s-min=21.1km az=73.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.90**	**184**	P	P	20 22 13.0	+1.5
	1.0nm,0.6s,baz=2.2,slow=8.3,SNR=1.1						
WRA	**Warramunga Arr**	**24.70**	**164**	P	P	20 22 39.9	+0.2
	0.7nm,0.7s,baz=343,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**28.16**	**167**	P	P	20 23 09.5	-1.4
	0.5nm,1.0s,baz=346,slow=8.7,SNR=1.3						
SONM	**Songino Array**	**47.30**	**341**	P	P	20 25 53.0	+1.0
	0.3nm,0.5s,baz=154,slow=7.7,SNR=2.4						
MKAR	**Makanchi Array**	**57.69**	**325**	P	P	20 27 08.3	-0.7
	0.2nm,0.3s,baz=118,slow=7.6,SNR=9.0						

*TAP **21** 20:22:02.4, 24°.98N×122°.41E, h12km, ML3.1, C*
*JMA **21** 20:22:03.2±0.2, 25°.07N×122°.37E, h38km, M2.8*
ISC 21 20:22:02.4±1.2, **24°.95N**±0°.03×**122°.43E**±0°.03, **h9**km±9km, **n88**, σ0§**79**/122, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40**	**278**	*i* P	**Pb**	**20 22 10.7**	**-0.9**
	baz=274				

ETLH				S	Sg	20 22 39.5 +0.5
	baz=227					
TWD	Chiawan	1.15 221	*i*	P	Pn	20 22 24.6 0.0
	baz=219					
NFF	Wufeng Townshi	1.23 255	P		Pg	20 22 26.0 0.0
	baz=267					
FUSS	Fushou	1.29 237	*i*	P	Pg	20 22 27.4 +0.3
	baz=235					
FUSS				S	Sg	20 22 44.5 +0.7
	baz=235					
LIOB	Emei	1.32 257	*i*	P	Pb	20 22 27.1 -0.2
	baz=255					
WHF	Hehuan Shan	1.33 233	*i*	P	Pg	20 22 28.1 +0.1
	baz=231					
WHF				S	Sg	20 22 45.9 +0.7
	baz=231					
NSTT	Nanjuang	1.33 256	*i*	P	Pb	20 22 27.3 -0.3
	baz=254					
NSTT				S	Sg	20 22 45.9 +0.6
	baz=254					
TWT	Tachien	1.33 239	*i*	P	Pg	20 22 28.3 +0.3
	baz=221					
IRIF	Iriomote-Funau	1.34 117	*e*	S	Sg	20 22 45.9 +0.5
CHGB	Renai	1.45 232		P	Pg	20 22 30.3 +0.2
	baz=230					
CHGB				S	Sg	20 22 49.2 +0.3
	baz=230					
ESL	Shilin	1.45 219	*i*	P	Pn	20 22 28.6 -0.2
	baz=216					
ESL			*e*	S	Sg	20 22 49.1 0.0
	baz=216					
WHP	Taichung City	1.51 244	*i*	P	Pg	20 22 31.5 +0.2
	baz=258					
OWD	Renai	1.51 229	*i*	P	Pg	20 22 31.2 -0.2
	baz=228					
NMLH	Miaoli	1.54 255	*e*	P	Pb	20 22 30.4 -0.8
	baz=254					
EGFH	Guangfu	1.57 216	*i*	P	Pb	20 22 31.7 +0.1
	baz=195					
EGFH			*e*	S	Sb	20 22 51.6 0.0
	baz=195					
WCS	Beigang Elemen	1.64 237		P	Pb	20 22 33.3 +0.4
	baz=222					
JJJ	Ishigaki jima	1.67 110		P	Pn	20 22 31.7 -0.1
VWDT	VWDT	1.67 225		P	Pb	20 22 33.1 -0.2
	baz=223					
VWDT			*e*	S	Sb	20 22 55.2 +0.7
	baz=223					
HGSD	Ruisui	1.72 212		P	Pn	20 22 32.6 +0.1
	baz=195					
SMLT	Sun Moon Lake	1.75 233	*i*	P	Pb	20 22 35.1 +0.3
	baz=217					
EHY	Hungye	1.76 215	*i*	P	Pn	20 22 32.3 -0.7
	baz=214					
TYC	Yuchr	1.77 234	*i*	P	Pb	20 22 35.5 +0.4
	baz=233					
SSLB	Suanglung	1.77 229		P	Pb	20 22 35.1 0.0
	baz=240					
SSLB			*e*	S	Sb	20 22 57.8 +0.3
	baz=240					
TCU	Taichung	1.79 244	*e*	P	Pb	20 22 35.0 -0.3
	baz=242					
YULB	Yu-li	1.86 214		P	Pn	20 22 33.4 -1.1
	baz=212					
EYUL	Yuli	1.89 213	*i*	P	Pn	20 22 35.2 +0.4
	baz=211					
WJS	Zhushan	1.92 234		P	Pg	20 22 39.1 0.0
	baz=232					
WNT	Mingjian	1.92 236	*e*	P	Pb	20 22 37.1 -0.3
	baz=233					
WNT			*e*	S	Sg	20 23 03.1 -0.9
	baz=233					
FULB	Fuli	2.03 211	*i*	P	Pn	20 22 36.4 -0.4
	baz=193					
ALS	Alishan	2.06 226	*i*	P	Pb	20 22 39.3 -0.9
	baz=207					
ALS			*e*	S	Sb	20 23 05.6 -0.4
	baz=207					
CHN5	Tsauling	2.09 230	*i*	P	Pb	20 22 41.2 +0.7
	baz=228					
WDLH	Douliu	2.13 234	*e*	P	Pn	20 22 39.4 +1.3
	baz=232					
WDLH			*e*	S	Sg	20 23 09.8 -1.2
	baz=232					
ELDTW	Lidau	2.18 217	*i*	P	Pn	20 22 39.5 +0.7
	baz=202					
EDH	Donghe	2.22 208	*e*	P	Pn	20 22 39.3 -0.1
	baz=192					
WTK	Tuku	2.25 236	*e*	P	Pn	20 22 41.2 +1.5
	baz=234					
CHN4	Tsaushan	2.31 227	*i*	P	Pb	20 22 43.9 -0.4
	baz=208					
CHN4			*e*	S	Sb	20 23 13.9 +1.0
	baz=208					
TPUB	Ta-pu	2.32 225		P	Pb	20 22 43.8 -0.7
	baz=206					
TPUB			*e*	S	Sb	20 23 14.4 +1.1
	baz=206					
STYH	Taoyuan	2.33 221		P	Pn	20 22 42.2 +1.3
	baz=204					
LONT	Longtian	2.36 210		P	Pn	20 22 41.2 0.0
	baz=209					
TWK	Hsinying	2.44 227		P	Pb	20 22 46.1 -0.4
	baz=225					
TWGBT	Beinan	2.46 210	*e*	P	Pn	20 22 41.4 -1.3
	baz=209					
SNST	Tainan City	2.47 226	*e*	S	Sb	20 23 17.9 +0.5
	baz=207					
CHN1	Nanshi	2.47 225	*i*	P	Pb	20 22 45.7 -1.3
	baz=206					
CHN1			*e*	S	Sb	20 23 17.2 -0.4
	baz=206					
SGST	Jiashian	2.51 223		P	Pb	20 22 46.3 -1.4
	baz=204					
SGST			*e*	S	Sb	20 23 19.2 +0.5
	baz=204					
MATB	Ma-tsu	2.54 299	*e*	P	Pn	20 22 44.9 +1.1
	baz=296					
MATB			*e*	S	Sn	20 23 15.5 +0.7
	baz=296					
SLGT	Liugui	2.54 220		P	Pb	20 22 46.5 -1.6
	baz=218					
SLGT			*e*	S	Sb	20 23 18.7 -0.8
	baz=218					
SSD	Sandimen	2.74 217		P	Pn	20 22 48.6 +2.0
	baz=200					
TSMG	Majia	2.77 216	*e*	P	Pb	20 22 49.8 -2.3
	baz=201					
XPSS	Dashiqiu	2.82 315	*e*	P	Pn	20 22 49.1 +1.5
	baz=313					
MASBT	Mashibuluo	2.85 216		P	Pb	20 22 50.9 -2.6
	baz=214					
LYJJ	Jianjiangzhen	2.88 304		P	Pn	20 22 49.7 +1.2
	baz=302					
EAST	Anshuo	2.94 210	*e*	P	Pn	20 22 49.8 +0.5
	baz=209					
PTMZ	Houxiangcun	3.00 272	*e*	P	Pn	20 22 51.7 +1.6
	baz=272					
KNMB	Chin-men Tao	3.71 263	*e*	P	Pn	20 23 00.3 +0.5
	baz=262					
KNMB			*e*	S	Sn	20 23 45.3 +1.7
	baz=262					
AXDP	Jialang	4.05 270	*e*	P	Pn	20 23 05.7 +1.2
	baz=270					

PRU 21 20:22:57.3±0.0, 50°.29N×19°.02E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	1.08	242	*e*PG	Pg	20 23 18.3	+0.3
MORC				*e*SG	Sg	20 23 32.3	+0.3
LANS	Liptovska Anna	1.18	166	*e*PG	Pg	20 23 19.2	-0.6
LANS				*e*SG	Sg	20 23 35.0	-0.1
LANS				eLG	Lg	20 23 37.3	
KRLC	Kraliky	1.46	262	*e*SG	Sg	20 23 43.4	-0.6
DPC	Dobruska-Polom	1.73	273	*e*SG	Sb	20 23 52.2	-0.1

*MAN **21** 20:23:14.5, 2°.64N×127°.47E, h9km, mb5.3, ML4.2, MS4.4*
*IDC **21** 20:23:28.6±0.4, 3°.87N×126°.85E, h0km, mb4.4/30, mb1 4.4/31, mb1mx4.3/57, mbtmp4.4/31, ML4.2/1, Error ellipse: s-maj=19.5km s-min=8.9km az=78.0*
*BJI **21** 20:23:29.1±0.0, 3°.45N×127°.00E, h36km, mb4.6/35, mB5.2/8, Ms5.0/6, Ms7 4.5/6*
*DJA **21** 20:23:29.7±0.3, 4°N±3°×12°7E±°, h10km, M4.9/30, mb4.7/30, mB5.7/6, MLv4.7/12, Mw(mB)5.3/6, MwMwp8.6/1, Mwp8.0/1*
*NEIC **21** 20:23:30.2±1.6, 3°.79N±0°.06×126°.87E±0°.08, h12km±4km, mb4.7/56, Error ellipse: s-maj=12.2km s-min=7.7km az=65.0*
ISC 21 20:23:30.4±1.4, 3°.83N±0°.03×126°.93E±0°.06, h14km±8km, n158, σ19°81/163, mb4.7/63, MS4.7/3, 7C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.40	264	P	Pg	20 23 57.6	+0.1
SGSI				S	Sg	20 24 21.8	+6.0
DDMP	Don Marcelino,	2.56	332	⇑*e*P	Pn	20 24 14.1	+2.5
DDMP				*e*S	Sb	20 24 48.3	+0.6
GSPH	General Santos	2.99	319	⇑*i*P	Pn	20 24 19.6	+2.1
TNTI	Ternate	3.07	172	P	Pb	20 24 21.8	-3.1
TNTI	Ternate	3.07	172	Pn	Pn	20 24 17.5	-1.0
TNTI	Ternate	3.07	172	P	Pb	20 24 22.1	-2.8
MATI	Mati	3.17	348	⇑*e*P	Pn	20 24 23.6	+3.8
MATI				*e*S	Sg	20 25 16.4	+4.1
DAV	Davao City (W)	3.49	337	Pn	Pb	20 24 29.8	-2.2
	80nm,0.3s,baz=312,slow=12,SNR=2.0						
DAV				Lg	Lg	20 25 18.7	
	38nm,0.3s,baz=64,slow=20,SNR=4.5						
DAV	Davao City (W)	3.49	337		Pn	20 24 24.9	+0.6
KCP	Kidapawan	3.65	330	⇓*i*P	Pb	20 24 31.2	-3.6
CTBH	Cotabato--PC H	4.30	322	*e*P	Pb	20 24 41.6	-4.2
CTBH				*i*S	Sb	20 25 34.9	-2.7
KMSI	Cibinong	4.37	222	P	Pb	20 24 41.2	-5.9
LBMI	Labuha	4.47	173	P	Pn	20 24 40.4	+2.5
GTOI	Gorontalo	5.04	231	P	Pn	20 24 48.9	+3.3
	0.1nm40nm,0.7s						
PAGZ	Pagadian	5.33	319	⇑*e*P	Pn	20 24 53.5	+3.9
SANI	Sanana	5.92	189	P	Pn	20 25 00.0	+2.3
	0.1nm20nm,0.8s						
SANI	Sanana	5.92	189	P	Pn	20 25 01.3	+3.6
MRSI	Marisa	5.99	236	P	Pn	20 25 03.5	+4.7
	0.5nm2μm112nm,0.5s						
SIJI	Sorong	6.37	137	Pn	Pn	20 25 06.0	+2.0
	5.0nm,0.3s,baz=328,slow=16,SNR=16						
SIJI				Sn	Sn	20 26 17.0	+0.4
	0.7nm,0.3s,baz=126,slow=23,SNR=1.4						
LUWI	Luwuk	6.38	221	P	Pn	20 25 09.5	+5.5
	0.6nm2μm167nm,0.9s						
LUWI	Luwuk	6.38	221	Pn	Pn	20 25 04.4	+0.4
LUWI	Luwuk	6.38	221	P	Pn	20 25 09.9	+5.9
MSLP	Maasin	6.59	342	⇑*e*P	Pn	20 25 09.7	+2.7
TOLI2	Tolitoli	6.71	246	Pn	Pn	20 25 06.4	-2.2
APSI	Ampana	7.07	228	P	Pn	20 25 18.7	+5.1
	0.3nm1μm113nm,0.8s						
MYLDM	Lahad Datu	8.51	279	Pn	Pn	20 25 31.6	-1.7
FAKI	Fak Fak	8.56	142	Pn	Pn	20 25 34.1	+0.1
FAKI	Fak Fak	8.56	142	P	Pn	20 25 36.1	+2.1
TTSI	Tana Toraja	9.85	226	P	Pn	20 25 59.3	+7.5
	37nm,1.4s						
KKM	Kota Kinabalu	10.90	282	Pn	Pn	20 26 06.6	+0.5
KKM	Kota Kinabalu	10.90	282	P	Pn	20 26 11.0	+4.8
EDFI	Ende, Flores	13.54	203	P	Pn	20 26 46.0	+3.6
	12nm,0.7s						
BBKI	Banjar Baru	14.08	239	P	P	20 26 55.1	-2.3
	22nm,0.9s						
BATI	Baumata	14.32	193	Pn	P	20 26 56.4	-3.6
	0.5nm,0.3s,baz=150,slow=14,SNR=2.1						
SBUM	Sibu	14.75	265	Pn	Pn	20 26 54.4	-4.4
WBSI	Waikabubak, Su	15.35	209	P	P	20 27 12.0	+0.5
	68nm,0.8s						
STKI	Sintang	15.88	257	P	P	20 27 20.6	+3.2
DRS	Darwin Rock St	16.63	166	P	Pn	20 27 23.1	-0.2
KSM	Kuching	16.77	262	P	P	20 27 27.8	+0.6
MTN	Manton Dam	17.08	166	P	Pn	20 27 28.5	-0.5
BLJI	Banyuglugur	17.58	229	P	P	20 27 42.5	+6.3
	42nm,1.0s						
JAGI	Jajag, Banyuwa	17.65	226	P	P	20 27 40.3	+3.3
	41nm,0.8s						
JAGI	Jajag, Banyuwa	17.65	226		P	20 27 35.9	-1.1
JAGI				IAmb	IAmb	20 27 41.0	
	comp=Z,29nm,0.6s						
JAGI	Jajag, Banyuwa	17.65	226	P	P	20 27 40.1	+3.1
KNRA	Kununurra	19.47	175	Pn	P	20 27 57.1	+0.2
KNRA				IAmb	IAmb	20 28 00.2	
	comp=Z,55nm,1.3s						
KNRA	Kununurra	19.47	175	P	P	20 27 57.2	+0.2
DLV	T Lat	19.95	295	P	Pn	20 28 03.5	-0.7
DLV				IAmb	IAmb	20 28 13.2	
	comp=Z,37nm,1.0s						
YULB	Yu-li	20.20	345	P	P	20 28 03.3	-1.6
YULB				IAmb	IAmb	20 28 08.9	
	comp=Z,62nm,1.2s						
TPUB	Ta-pu	20.29	343	P	P	20 28 04.7	-1.3
SSLB	Suanglung	20.66	344	P	P	20 28 08.4	-1.6
SSLB				IAmb	IAmb	20 28 17.5	
	comp=Z,26nm,0.8s						
NACB	Ninganchiao	20.87	346	P	P	20 28 13.0	+0.9
NACB				IAmb	IAmb	20 28 37.1	
	comp=Z,26nm,0.9s						
YHNB	Yeheng	21.40	346	P	P	20 28 17.7	-0.3
FITZ	Fitzroy Crossi	21.83	183	P	P	20 28 22.1	-0.4
	comp=Z,3.2nm,0.5s,baz=3.6,slow=9.0,SNR=16						
LEM	Lembang	21.99	241	P	P	20 28 24.5	0.0
	comp=Z,12nm,0.3s,baz=19,slow=19,SNR=3.8						
CBJI	Citeko	22.48	243	P	P	20 28 32.0	+2.4
	comp=Z,40nm,0.8s						
KLSI		23.74	249	P	P	20 28 44.5	+2.0
	comp=Z,12nm,0.9s						
UBPT	Khong Chiam	23.99	300	P	P	20 28 44.1	-0.8
MDSI	Maura Dua	24.18	250	P	P	20 28 47.2	+0.5
	comp=Z,13nm,1.0s						
KASI	Kota Agung	24.25	248	P	P	20 28 49.5	+2.2
	comp=Z,29nm,0.8s						
LWLI	Liwa	24.48	249	P	P	20 28 52.3	+2.8
	comp=Z,138μmcomp=Z,28nm,0.7s						
WB0	Warramunga Arr	24.57	163	P	P	20 28 48.8	-1.4
WB0				IAmb	IAmb	20 29 00.4	
	comp=Z,18nm,0.9s						
WRAB	Tennant Creek	24.71	163	P	P	20 28 50.3	-1.1
WRAB				IAmb	IAmb	20 29 01.6	
	comp=Z,15nm,0.7s						
WRA	Warramunga Arr	24.72	163	P	P	20 28 51.0	-0.5
	comp=Z,9.1nm,0.8s,baz=342,slow=10,SNR=80						
WRA				S	S	20 33 13.7	+0.5
	comp=Z,1.8nm,1.0s,baz=345,slow=18,SNR=3.8						
WRA	Warramunga Arr	24.72	163	P	P	20 28 49.9	-1.6
WB2	Warramunga Arr	24.73	163	P	P	20 28 50.5	-1.0
WB2				IAmb	IAmb	20 29 01.6	
	comp=Z,17nm,0.7s						
WR0	Warramunga Arr	24.80	163	P	P	20 28 51.2	-0.9
WR0				IAmb	IAmb	20 28 53.8	
	comp=Z,9.5nm,0.7s						
PSA00	Pilbara Seismi	26.18	195	P	P	20 29 02.3	-2.4
PSA00				IAmb	IAmb	20 29 16.9	
	comp=Z,16nm,0.9s						
PSI	Prapat	27.98	269	P	P	20 29 21.3	+0.2
	comp=Z,1.8nm,0.4s,baz=153,slow=9.0,SNR=1.2						
RPSI	Rantau Prapat	27.98	269	P	P	20 29 21.3	+0.3
AS31	Alice Springs	28.16	166	P	P	20 29 20.4	-2.1
ASAR	Alice Springs	28.16	166	P	P	20 29 21.7	-0.9
	comp=Z,1.7nm,0.7s,baz=338,slow=7.6,SNR=19						
ASAR				S	S	20 34 17.2	+9.5
	comp=Z,1.0nm,1.0s,baz=354,slow=16,SNR=4.3						
ASAR	Alice Springs	28.16	166	P	P	20 29 21.2	-1.3
JNU	Nakatsue	29.38	7	P	P	20 29 32.0	-1.2
	comp=Z,8.8nm,1.1s,baz=69,slow=8.6,SNR=1.7						
CM31	Chiang Mai Arr	30.99	300	P	P	20 29 47.7	0.0
CMAR	Chiang Mai Arr	30.99	300	P	P	20 29 47.7	0.0
	comp=Z,1.9nm,0.8s,baz=119,slow=7.9,SNR=17						
CMAR				PcP	PcP	20 32 45.1	+1.2
	comp=Z,0.6nm,0.7s,baz=100,slow=2.2,SNR=2.6						
CMAR				ScP	ScP	20 36 30.8	+4.3
	comp=Z,0.3nm,0.5s,baz=132,slow=1.3,SNR=1.4						
ENH	Enshi	31.04	330	P	P	20 29 46.3	-1.7
CHTO	Chiang Mai	31.14	301	P	P	20 29 48.1	-0.9
CHTO				IAmb	IAmb	20 29 50.7	
	comp=Z,5.5nm,0.6s						
KSRS	Korea Array	33.48	1	P	P	20 30 09.6	+0.3
	comp=Z,1.1nm,0.5s,baz=177,slow=9.9,SNR=3.3						
MJAR	Matsushiro Arr	34.17	16	P	P	20 30 16.2	+0.8
	comp=Z,1.2nm,0.6s,baz=200,slow=9.4,SNR=2.6						
MJAR	Matsushiro Arr	34.17	16	IAmb	IAmb	20 30 24.3	
	comp=Z,4.9nm,1.4s						
XAN	Xi'an	34.42	333	⇑P	P	20 30 16.5	-1.1
XAN				pP	sP	20 30 33.5	+10
XAN				PcP	PcP	20 32 50.3	-2.8
XAN				pmax	pmax		
	comp=Z,26nm,0.8s						
XAN				LR	LR		
	comp=Z,1μm,14.4s						
XAN				LR	LR		
	comp=Z,830nm,15.8s						
XAN				LR	LR		
	comp=Z,770nm,14.4s						
BJT	Baijiatuau	37.32	346	P	P	20 30 42.8	+0.5
STKA	Stephens Creek	38.15	160	P	P	20 30 49.8	+0.4
	comp=Z,5.0nm,0.5s,baz=339,slow=11,SNR=25						
STKA	Stephens Creek	38.15	160	P	P	20 30 49.1	-0.3
LZH	Lanzhou	38.52	329	*e*P	P	20 30 53.1	+0.4
LZH				pP	sP	20 30 59.3	+0.5
LZH				sP	pP	20 31 04.6	+7.6
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
SHL	Shillong	39.98	306	P	P	20 31 04.0	-1.1
USRK	Ussuriysk Ar.	40.45	6	P	P	20 31 08.2	-0.3
	comp=Z,0.8nm,0.5s,baz=194,slow=4.8,SNR=1.4						
USRK	Ussuriysk Ar.	40.45	6	P	P	20 31 09.0	+0.5
XLT	XiLinHaoTe	41.04	348	*e*P	P	20 31 14.0	+0.5
XLT				pmax	pmax		
	comp=Z,33nm,0.9s						
GTA	Gaotai	43.11	329	*e*P	P	20 31 30.3	-0.2
GTA				PcP	PcP	20 33 21.8	+1.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				LR	LR		
	comp=Z,540nm,14.2s						
GTA				LR	LR		
	comp=Z,260nm,13.8s						
GTA				LR	LR		
	comp=Z,550nm,13.8s						
GOMU	GeErMu	43.73	322	P	P	20 31 36.9	+1.0
GOMU				pP	sP	20 31 43.3	+1.4
GOMU				sP	pP	20 31 45.8	+5.6
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,110nm,5.9s						
KLR	Kul'dur	45.42	4	P	P	20 31 48.8	+0.1
	comp=Z,2.6nm,0.6s,baz=188,slow=7.9,SNR=13						
HIA	Hailar	45.69	353	P	P	20 31 50.8	-0.1
HIA				IAmb	IAmb	20 31 55.3	
	comp=Z,7.3nm,0.9s						
PKIN	Phulchoki	46.09	305	*e*P	P	20 31 52.7	-1.9
	comp=Z,3.0nm,0.5s						
KKN	Kakani	46.27	305	*e*P	P	20 31 54.5	-1.5
	comp=Z,4.1nm,0.4s						
GKN	Gorkha	46.87	305	*e*P	P	20 31 59.3	-1.4
	comp=Z,8.4nm,0.6s						
ULN	Ulaanbaatar	47.09	342	P	P	20 32 02.7	+0.7
ULN				IAmb	IAmb	20 32 04.8	
	comp=Z,12nm,1.1s						
SONM	Songino Array	47.27	341	P	P	20 32 04.1	+0.7
	comp=Z,2.7nm,0.5s,baz=158,slow=7.9,SNR=31						
SONM				PcP	PcP	20 33 35.4	+1.0
	comp=Z,3.0nm,0.7s,baz=165,slow=3.0,SNR=11						
SONM	Songino Array	47.27	341	P	P	20 32 03.7	+0.3
SONM					PcP	20 33 34.9	+0.4
KOLN	Koldanda	47.63	305	*e*P	P	20 32 05.9	-0.8
	comp=Z,23nm,0.5s						
DANN	Dangsing	47.72	305	*e*P	P	20 32 06.5	-1.0
	comp=Z,26nm,0.6s						
PYUN	Piuthan	48.25	305	*e*P	P	20 32 10.6	-0.9
	comp=Z,16nm,0.6s						
PETK	Petropavlovsk-	55.26	22	P	P	20 33 03.4	+0.2
	comp=Z,6.9nm,1.1s,baz=197,slow=4.5,SNR=4.2						
MK31	Makanchi Array	57.59	325	P	P	20 33 19.4	-0.5
MK31				IAmb	IAmb	20 33 21.4	
	comp=Z,5.5nm,0.9s						
MKAR	Makanchi Array	57.59	325	P	P	20 33 19.5	-0.4
	comp=Z,4.8nm,0.6s,baz=122,slow=7.2,SNR=43						
MKAR				PcP	PcP	20 34 13.7	+0.6
	comp=Z,2.1nm,0.6s,baz=154,slow=2.9,SNR=4.9						
MKAR				ScP	ScP	20 38 18.5	+5.6
	comp=Z,0.5nm,0.8s,baz=113,slow=4.0,SNR=4.0						
MKAR	Makanchi Array	57.59	325	P	P	20 33 19.3	-0.6
MAKZ	Makanchi	57.77	325	P	P	20 33 20.7	-0.5
MAKZ				IAmb	IAmb	20 33 22.2	
	comp=Z,6.8nm,0.8s						
TARG	Taragay, Kyrgy	57.81	318	P	P	20 33 22.4	+0.4
NIL	Nilore	58.02	308	P	P	20 33 22.5	-0.7
NIL				IAmb	IAmb	20 33 23.7	
	comp=Z,16nm,1.1s						
YAK	Yakutsk	58.10	2	P	P	20 33 22.9	-0.2
KSH	Kashi	58.11	315	*e*P	P	20 33 25.1	+1.2
KSH				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KSH				LR	LR		
	comp=Z,360nm,14.4s						
KSH				LR	LR		
	comp=Z,460nm,15.8s						
KSH				LR	LR		
	comp=Z,730nm,17.9s						
AAK	Ala-Archa	60.42	318	P	P	20 33 38.8	-1.0
ZAA0	Zalesovo Array	60.59	333	P	P	20 33 39.5	-1.0
ZALV	Zalesovo Beam	60.59	333	P	P	20 33 39.6	-0.9
	comp=Z,1.4nm,0.4s,baz=126,slow=7.1,SNR=12						
ZALV	Zalesovo Beam	60.59	333	P	P	20 33 39.0	-1.5
DRK	Karamyk	61.08	313	P	P	20 33 44.4	-0.2
KBL	Kabul	61.62	307	P	P	20 33 47.2	-0.9
KBL				IAmb	IAmb	20 33 48.3	
	comp=Z,4.7nm,0.8s						
KURK	Kurchatov	61.76	327	P	P	20 33 48.2	-0.3
SEY	Seymchan	61.89	13	P	P	20 33 50.5	+1.3
	comp=Z,1.2nm,0.8s,baz=225,slow=13,SNR=5.0						
BTK	Batken	61.99	314	P	P	20 33 50.1	-0.3
BTK				IAmb	IAmb	20 33 55.7	
	comp=Z,4.9nm,0.8s						
CHGR	Chuyangaron	62.75	312	P	P	20 33 54.8	-0.8
HRA	Herat	67.04	306	P	P	20 34 23.1	-0.6
HRA				IAmb	IAmb	20 34 23.9	
	comp=Z,8.5nm,1.4s						
BRVK	Borovoye	67.42	327	P	P	20 34 25.5	0.0
TIXI	Tiksi	67.74	1	P	P	20 34 27.2	0.0
	comp=Z,2.5nm,0.4s,baz=156,slow=6.2,SNR=9.6						
TIXI	Tiksi	67.74	1	P	P	20 34 26.9	-0.3
TIXI				IAmb	IAmb	20 34 28.8	
	comp=Z,12nm,1.3s						
NRIK	Noril'sk	70.38	346	P	P	20 34 44.1	+0.6
	comp=Z,7.4nm,0.6s,baz=119,slow=6.1,SNR=9.7						
NRIK	Noril'sk	70.38	346	P	P	20 34 43.7	+0.1
NRIK				IAmb	IAmb	20 34 45.1	
	comp=Z,6.8nm,0.7s						
ABKAR	Akbulak array	72.20	321	P	P	20 34 54.6	-0.4
ABKAR	Akbulak array	72.20	321	P	P	20 34 53.9	-1.0
ARU	Arti	74.96	328	P	P	20 35 10.9	-0.2
ARU				IAmb	IAmb	20 35 21.1	
	comp=Z,5.1nm,0.6s						
RAYN	Ar Rayn	80.62	293	P	P	20 35 42.0	-1.4
H21K	Melozitna Rive	82.51	24	P	P	20 35 52.7	+0.2
H21K				IAmb	IAmb	20 36 02.8	
	comp=Z,5.3nm,1.1s						
I21K	Tanana	82.80	25	P	P	20 35 55.2	+1.2
I21K				IAmb	IAmb	20 36 20.5	
	comp=Z,9.1nm,1.2s						
VNDA	Vanda	83.50	173	P	P	20 35 58.6	+1.3
	comp=Z,5.8nm,1.0s,baz=312,slow=4.3,SNR=3.6						
ILAR	Eielson Array	84.93	25	P	P	20 36 05.7	+0.8
	comp=Z,0.2nm,0.7s,baz=248,slow=6.4,SNR=2.1						
KLMR	Klimovskoe	85.42	331	*e*P	P	20 36 05

BURAR	Bucovina Array	95.06 318	P	P	20 36 52.6	-0.6
BUR08	Bucovina Ar. S	95.06 318	P	P	20 36 52.4	-0.9
CRVS	Cervenica-Dubn	97.22 320	*e*PDIFF	Pdif	20 37 04.2	+1.2
NOA	NORSAR Array B	98.79 334	P	P	20 37 08.1	-1.6
	comp=Z,1.4nm,0.9s,baz=66,slow=4.5,SNR=3.4					
YKA	Yellowknife Ar	99.33 24	P	Pdif	20 37 13.8	+1.8
	comp=Z,0.3nm,0.8s,baz=298,slow=4.6,SNR=2.0					
CLL	Collm	101.67 324	*e*Pdif	Pdif	20 37 21.0	-1.7
CLL			*e*PP	PP	20 41 34.0	+1.2
GERES	GERESS Array B	102.13 322	P	Pdif	20 37 25.3	+0.3
	comp=Z,0.1nm,0.2s,baz=81,slow=6.1,SNR=4.4					
TORD	Torodi Ar. Bea	123.08 288	PKP	PKPdf	20 42 27.1	-0.5
	comp=Z,1.7nm,0.8s,baz=59,slow=1.8,SNR=7.0					
TORD	Torodi Ar. Bea	123.08 288		PKPdf	20 42 26.6	-1.1

IDC 21 20:35:37.1±10.0, 30°27'N×139°71'E, h157km±102km, mb3.2/3, mb1 3.3/4, mb1mx2.9/48, mbtmp3.7/4, Error ellipse: s-maj=287.8km s-min=21.6km az=82.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	Kul'dur	19.88	345	P	P	20 39 56.1	0.0
	0.2nm,0.3s,baz=157,slow=10,SNR=4.2						
WRA	Warramunga Arr	50.19	187	P	P	20 44 16.9	0.0
	0.4nm,0.3s,baz=5.1,slow=7.5,SNR=18						
ASAR	Alice Springs	53.92	187	P	P	20 44 44.1	-0.3
	0.2nm,0.4s,baz=1.2,slow=5.8,SNR=8.6						
FINES	FINESS Array B	74.14	333	P	P	20 46 56.1	+0.2
	1.1nm,0.9s,baz=68,slow=7.7,SNR=3.8						
H03N2	Juan Fernandez	147.15	106	T	T	23 39 00.4	
	baz=265,slow=73						
H03N3	Juan Fernandez	147.16	106	T	T	23 39 01.0	
	baz=265,slow=73						
H03N1	Juan Fernandez	147.17	106	T	T	23 39 19.4	
	baz=265,slow=73						

JMA 21 20:36:08.0, 34°10'N×135°34'E, h6km, M0.6, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	Kouya	0.24	61	P	Pg	20 36 12.9	+0.1
JWY				S	Sg	20 36 16.5	+0.5
JWM	Minabe	0.25	177	P	Pg	20 36 13.0	+0.1
JWM				S	Sg	20 36 16.4	+0.2
JTNC	Tanabenakahech	0.36	141	P	Pg	20 36 15.3	+0.3
JTNC				S	Sg	20 36 20.0	+0.3

NIED ***21*** *20:37:28.2, 24°.94N×122°.38E, h49km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.44; $M_{\theta\theta}$3.87; $M_{\phi\phi}$-1.42; $M_{r\theta}$-3.37; $M_{\theta\phi}$0.58; $M_{\phi r}$1.55; Fault plane solution: $M_0$5.03000×10^{15} NP1: ϕ_s110.00000°, δ73.00000°, λ-65.00000°. NP2: ϕ_s232.00000°, δ30.00000°, λ-144.00000°.*
TAP ***21*** *20:37:28.2, 24°.96N×122°.31E, h14km, ML4.4, C*
NEIC ***21*** *20:37:28.1±1.9, 24°.90N±0°.07×122°.34E±0°.02, h10km±5km, mb4.4/18, ML4.4(TAP), Error ellipse: s-maj=10.3km s-min=1.4km az=194.0*
JMA ***21*** *20:37:28.1±0.1, 24°.94N×122°.38E, h49km±2km, M3.9*
IDC ***21*** *20:37:42.6±4.5, 24°.94N×122°.29E, h140km±44km, mb3.4/12, mb1 3.5/14, mb1mx3.3/52, mbtmp3.8/14, MS3.7/1, Ms1 3.7/1, ms1mx3.1/50, Error ellipse: s-maj=21.6km s-min=13.4km az=70.0*

ISC 21 20:37:27.6±1.0, 24°93N±0°02×122°38E±0°02, h12km±6km, n206, σ0°90/275, mb4.2/21, 1C-22D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.36	283	⇓*i*P	Pg	20 37 34.8	0.0
	baz=280						
TWB1				*i* S	Sg	20 37 39.4	-0.2
	baz=280						
EGS		0.41	259	⇓P	Pb	20 37 36.1	-0.7
	baz=251						
SXI1	Grass Mountain	0.48	290	⇓*i*P	Pb	20 37 37.5	-0.6
	baz=289						
SXI1				*i* S	Sg	20 37 43.8	+0.2
	baz=289						
NTC	Toucheng	0.50	262	⇓*i*P	Pb	20 37 37.6	-0.7
	baz=257						
TIPB	Shuangxi	0.50	275	⇓*i*P	Pg	20 37 37.5	+0.1
	baz=272						
TIPB				S	Sg	20 37 44.3	+0.2
	baz=272						
NWF	Wu-fen Shan	0.56	285	⇓*i*P	Pb	20 37 39.0	-0.4
	baz=283						
NWF				*i* S	Sg	20 37 46.0	+0.1
	baz=283						
WFSB	Wu-fen Shan	0.56	285	⇓*i*P	Pb	20 37 39.0	-0.4
	baz=283						
WFSB				S	Sg	20 37 45.9	0.0
	baz=283						
TWC	Suao	0.57	237	⇓*i*P	Pg	20 37 38.8	0.0
	baz=229						
TWC				*e*S	Sb	20 37 47.9	+0.2
	baz=229						
TNOU	National Taiwa	0.59	292	⇓P	Pb	20 37 39.5	-0.4
	baz=291						
TNOU				*e*S	Sg	20 37 46.4	-0.5
	baz=291						
ILA	Ilan	0.59	255	⇓P	Pb	20 37 39.3	-0.5
	baz=249						
ILA				*e*S	Sb	20 37 48.7	+0.5
	baz=249						
NDS	Dongshan	0.67	244	⇓*e*P	Pg	20 37 40.4	-0.1
	baz=239						
NDS				*e*S	Sb	20 37 50.5	+0.1
	baz=239						
TWE	Neicheng	0.68	253	⇓*i*P	Pg	20 37 40.7	0.0
	baz=247						
TWE				*e*S	Sb	20 37 50.4	-0.2
	baz=247						
JYNG	Yonagunijimaku	0.70	132	P	Pb	20 37 41.8	+0.1
JYNG				S	Sb	20 37 52.3	+0.9
NWRT	Kuosheng	0.70	293	*e*P	Pb	20 37 41.8	0.0
	baz=293						
NWRT				*e*S	Sb	20 37 51.7	+0.2
	baz=293						
TWA	Mucha	0.72	275	⇓*i*P	Pb	20 37 41.8	-0.3
	baz=272						
TWA				*e*S	Sb	20 37 51.8	-0.2
	baz=272						
EWUT	Wuta	0.72	229	*i* P	Pg	20 37 41.6	0.0
	baz=223						
EWUT				*e*S	Sb	20 37 51.7	-0.3
	baz=223						
FUSB	Fushanzhiwuyua	0.73	257	⇓*i*P	Pg	20 37 41.8	0.0
	baz=253						
FUSB				*e*S	Sn	20 37 53.8	-1.3
	baz=253						
NHY	Taipei	0.74	279	*e*P	Pb	20 37 42.7	+0.2
	baz=277						
NHY				*e*S	Sb	20 37 52.9	+0.4
	baz=277						
YOJ	Yonaguni jima	0.74	128	P	Pb	20 37 42.4	0.0
YOJ				S	Sb	20 37 53.0	+0.5
YOJ	Yonaguni jima	0.74	128	P	Pb	20 37 42.4	0.0
	baz=128						
YOJ				*e*S	Sb	20 37 53.3	+0.8
	baz=128						
YOJ	Yonaguni jima	0.74	128		Pb	20 37 42.3	-0.1
PCYT	Pengchaiyu	0.75	339	*i* P	Pb	20 37 42.5	-0.2
	baz=343						
PCYT				S	Sb	20 37 53.6	+0.7
	baz=343						
YM08	YM08	0.76	290	⇓*i*P	Pb	20 37 42.6	-0.1
	baz=289						
YM08				*e*S	Sg	20 37 51.6	-0.7
	baz=289						
ENA	Nanau	0.76	230	*i* P	Pg	20 37 42.3	0.0
	baz=224						
ENA				*e*S	Sg	20 37 52.2	0.0
	baz=224						
YM01	YM01	0.76	287	⇓*i*P	Pb	20 37 43.0	+0.2
	baz=286						
YM01				*e*S	Sb	20 37 52.9	-0.3
	baz=286						
NHDH	Xindian Distri	0.77	273	⇓*i*P	Pb	20 37 43.1	+0.1
	baz=270						
NHDH				*e*S	Sb	20 37 53.6	+0.2
	baz=270						
TAP1	Taipei	0.78	279	*e*P	Pn	20 37 43.8	-0.6
	baz=276						
TAP1				*e*S	Sn	20 37 55.5	-0.6
	baz=276						
TWY	Chenhua	0.79	297	*i* P	Pb	20 37 43.2	0.0
	baz=296						
TWY				*e*S	Sb	20 37 53.9	+0.1
	baz=296						
ENTT	Nioudou	0.79	249	P	Pg	20 37 42.6	-0.3
	baz=244						
ENTT				*e*S	Sb	20 37 54.5	+0.5
	baz=244						
TAP	Taipei	0.80	278	P	Pb	20 37 43.7	+0.3
	baz=276						
TAP				*e*S	Sb	20 37 54.0	-0.1
	baz=276						
NSM	Shimen	0.80	297	*e*P	Pb	20 37 43.6	+0.2
	baz=297						
NSM				*e*S	Sn	20 37 55.2	-1.4
	baz=297						
NWLT	Wulai	0.81	260	⇓*i*P	Pg	20 37 43.0	-0.1
	baz=256						
NWLT				*e*S	Sb	20 37 54.2	-0.2
	baz=256						
TATO	Taipei	0.81	274	⇓*e*P	Pb	20 37 43.6	0.0
	baz=271						
TATO				*e*S	Sb	20 37 54.6	+0.1
	baz=271						
TATO	Taipei	0.81	274		Pg	20 37 43.1	-0.1
ANP	Anpu	0.82	289	⇓P	Pb	20 37 43.7	-0.1
	baz=288						
ANP				*e*S	Sg	20 37 53.4	-0.7
	baz=288						
EHP	Heping Village	0.84	223	*e*P	Pn	20 37 44.7	-0.5
	baz=218						
NDT	Datong Townshi	0.85	248	*e*P	Pb	20 37 44.0	-0.2
	baz=244						
NDT				*e*S	Sn	20 37 56.9	-0.8
	baz=244						
BACT	New Taipei Cit	0.85	275	*e*P	Pn	20 37 45.0	-0.3
	baz=273						
BACT				*e*S	Sn	20 37 56.5	-1.3
	baz=273						
LATG	Datong	0.86	243	P	Pg	20 37 44.2	-0.1
	baz=239						
LATG				*e*S	Sb	20 37 56.5	+0.3
	baz=239						
NTST	Danshui	0.87	286	P	Pn	20 37 45.0	-0.7
	baz=285						
NTST				*e*S	Sn	20 37 57.8	-0.6
	baz=285						
TWS1	Kuangyinshan	0.89	282	P	Pn	20 37 45.1	-0.8
	baz=280						
TWS1				*e*S	Sn	20 37 57.7	-1.0
	baz=280						
YHNB	Yeheng	0.94	255	⇓*i*P	Pg	20 37 45.5	-0.3
	baz=251						
YHNB				*e*S	Sb	20 37 58.1	-0.3
	baz=251						
YHNB	Yeheng	0.94	255	Pg	Pg	20 37 45.4	-0.3
NSK	Sanguang	0.96	255	⇓*i*P	Pg	20 37 45.7	-0.4
	baz=252						
NSK				*e*S	Sn	20 37 59.8	-0.8
	baz=252						
NTY	Taoyuan	0.98	275	*e*P	Pn	20 37 47.2	0.0
	baz=273						
NTY				*e*S	Sn	20 37 60.0	-1.0
	baz=273						
ETL	Fush Village	1.02	222	*e*P	Pb	20 37 47.1	-0.2
	baz=218						
NNSB	Datong	1.03	241	P	Pg	20 37 47.4	0.0
	baz=238						
NNSB				*e*S	Sg	20 38 00.8	-0.1
	baz=238						
NACB	Ninganchiao	1.03	224	P	Pb	20 37 47.2	-0.2
	baz=220						
NACB				*e*S	Sb	20 37 59.5	-1.4
	baz=220						
NACB	Ninganchiao	1.03	224		Pb	20 37 46.9	-0.5
NNS	Nan Shan	1.03	242	P	Pg	20 37 47.5	0.0
	baz=238						
NNS				*e*S	Sb	20 38 00.7	-0.3
	baz=238						
NCU	National Centr	1.08	273	*e*P	Pn	20 37 48.8	+0.2
	baz=270						
NCUH	Zhongli	1.08	273	*e*P	Pn	20 37 48.6	0.0
	baz=271						
ETLH	Xiulin Townshi	1.08	229	P	Pb	20 37 48.2	-0.1
	baz=225						
ETLH				*e*S	Sg	20 38 02.5	-0.1
	baz=225						
TWD	Chiawan	1.10	220	P	Pg	20 37 48.8	+0.1
	baz=216						
TWD				*e*S	Sg	20 38 03.1	0.0
	baz=216						
HWA	Hwalien	1.18	217	*e*P	Pg	20 37 51.4	+1.2
	baz=213						
NFF	Wufeng Townshi	1.18	256	P	Pb	20 37 49.7	-0.3
	baz=253						
NFF				*e*S	Sb	20 38 04.4	-0.8
	baz=253						
NJD	Zhudong	1.19	261	*e*P	Pg	20 37 50.1	-0.2
	baz=259						
NHW	Xinwu Township	1.21	274	*e*P	Pn	20 37 50.0	-0.3
	baz=272						
FUSS	Fushou	1.23	237	*e*P	Pb	20 37 50.7	-0.2
	baz=234						
FUSS				*e*S	Sb	20 38 06.6	-0.3
	baz=234						
HSN1	Hsinchu	1.24	264	*e*P	Pn	20 37 50.5	-0.3
	baz=261						
ETM	Tongmen	1.25	220	*e*P	Pg	20 37 51.3	-0.3
	baz=217						
ETM				*e*S	Sg	20 38 07.9	+0.1
	baz=217						
LIOB	Emei	1.27	258	P	Pb	20 37 51.0	-0.4
	baz=255						
LIOB				*e*S	Sb	20 38 07.1	-0.6
	baz=255						
SBCB	Hsinchu	1.27	264	*e*P	Pb	20 37 51.0	-0.4
	baz=262						
SBCB				*e*S	Sb	20 38 06.5	-1.2
	baz=262						
TEYL	Yanliau Villag	1.27	214	*e*P	Pn	20 37 50.6	-0.6
	baz=211						
WHF	Hehuan Shan	1.27	233	*e*P	Pb	20 37 51.6	-0.2
	baz=229						
WHF				*e*S	Sn	20 38 08.6	-0.3
	baz=229						
TWT	Tachien	1.28	239	*e*P	Pg	20 37 52.2	-0.1
	baz=236						
HSN	Hsinchu	1.28	265	*e*P	Pn	20 37 50.7	-0.6
	baz=264						
NSTT	Nanjuang	1.28	257	*e*P	Pn	20 37 51.1	-0.2
	baz=254						
TDCB	Techi	1.29	239	*e*P	Pg	20 37 52.2	-0.2
	baz=236						
TDCB				*e*S	Sb	20 38 08.4	-0.2
	baz=236						
IRIF	Iriomote-Funau	1.37	115	P	Pn	20 37 51.1	-1.4
CHGB	Renai	1.39	232	P	Pb	20 37 53.8	+0.1
	baz=229						
CHGB				*e*S	Sg	20 38 12.0	-0.5
	baz=229						
ESL	Shilin	1.40	218	*e*P	Pn	20 37 53.0	0.0
	baz=215						
ESL				*e*S	Sb	20 38 11.9	+0.4
	baz=215						
WHP	Taichung City	1.45	244	*e*P	Pb	20 37 54.8	+0.2
	baz=241						
WHP				*e*S	Sn	20 38 12.2	-0.7
	baz=241						
OWD	Renai	1.46	229	*e*P	Pb	20 37 54.8	0.0
	baz=226						
OWD				*e*S	Sg	20 38 14.5	-0.1
	baz=226						
WUSB	Renai	1.48	231	*e*P	Pb	20 37 55.3	+0.3
	baz=228						
WUSB				*e*S	Sb	20 38 14.3	+0.5
	baz=228						
NMLH	Miaoli	1.49	255	*e*P	Pn	20 37 54.4	+0.2
	baz=253						
EGFH	Guangfu	1.52	215	P	Pb	20 37 55.0	-0.7
	baz=212						
EGFH				*e*S	Sn	20 38 14.2	-0.1
	baz=212						
NSY	Sanyi	1.55	251	*e*P	Pb	20 37 56.1	-0.2
	baz=249						
HATJ	Hateruma jima	1.56	123	P	Pn	20 37 54.6	-0.6
HATJ				S	Sn	20 38 12.8	-2.6
TWQ1	Liyutan	1.57	249	*e*P	Pb	20 37 56.5	0.0
	baz=246						
WPL	Puli Township	1.58	235	*e*P	Pg	20 37 57.3	-0.6
	baz=233						
WCS	Beigang Elemen	1.59	237	*e*P	Pg	20 37 57.6	-0.4
	baz=235						
DPDB	Guoxing	1.59	236	*e*P	Pg	20 37 57.9	-0.2
	baz=234						
DPDB				*e*S	Sg	20 38 18.8	0.0
	baz=234						
VWDT	VWDT	1.62	224	⇑*e*P	Pb	20 37 57.2	-0.2
	baz=222						
VWDT				*e*S	Sg	20 38 19.2	-0.6
	baz=222						
JKRS	Kuro-shima	1.64	114	P	Pn	20 37 55.4	-0.8
JKRS				*e*S	Sn	20 38 14.9	-2.3
HGSD	Ruisui	1.67	212	*e*P	Pn	20 37 57.1	+0.4
	baz=209						
WDJ	Dajia District	1.68	250	*e*P	Pb	20 37 58.4	-0.1
	baz=248						
SMLT	Sun Moon Lake	1.70	233	*e*P	Pb	20 37 59.0	+0.1
	baz=230						
JIJ	Ishigaki jima	1.70	109	P	Pn	20 37 55.8	-1.3
JIJ				S	Sn	20 38 16.5	-2.4
EHY	Hungye	1.71	214	*e*P	Pn	20 37 56.8	-0.4
	baz=212						
TYC	Yuchr	1.72	234	*e*P	Pb	20 37 59.4	+0.3
	baz=231						
SSLB	Suanglung	1.72	229	*e*P	Pb	20 37 59.0	-0.2
	baz=227						
SSLB	Suanglung	1.72	229		Pb	20 37 58.9	-0.2
TCU	Taichung	1.73	244	*e*P	Pg	20 38 02.1	+1.4
	baz=241						
TCU				*e*S	Sg	20 38 23.8	+0.5
	baz=241						
WWF	Wufeng	1.76	240	*e*P	Pb	20 38 00.3	+0.5
	baz=238						
JISG	Ishigakijimahi	1.79	100	P	Pn	20 37 57.1	-1.2
ECBN	Changbin	1.81	208	*e*P	Pn	20 37 58.7	+0.1
	baz=206						
YULB	Yu-li	1.82	213	*e*P	Pn	20 37 58.4	-0.4
	baz=211						
YULB	Yu-li	1.82	213		Pn	20 37 58.0	-0.7
EYUL	Yuli	1.84	212	*e*P	Pn	20 37 59.0	-0.1
	baz=209						
WNT1	Nantou City	1.85	237	*e*P	Pg	20 38 02.9	-0.2
	baz=235						
TWF1	Yuli	1.85	212	*e*P	Pn	20 37 58.9	-0.3
	baz=210						
TWF1				*e*S	Sn	20 38 22.3	-0.3
	baz=210						
WCHH	Zhanghua	1.86	243	*e*P	Pb	20 38 01.2	-0.3
	baz=241						
WJS	Zhushan	1.86	234	*e*P	Pb	20 38 02.1	+0.6
	baz=232						
WNT	Mingjian	1.86	236	*e*P	Pg	20 38 02.4	-0.9
	baz=234						
FULB	Fuli	1.98	210	*e*P	Pn	20 38 01.2	+0.1
	baz=208						
ALS	Alishan	2.01	226	*e*P	Pb	20 38 03.5	-0.8
	baz=223						
CHN5	Tsauling	2.04	230	*e*P	Pb	20 38 04.4	-0.2
	baz=228						
CHN5				*e*S	Sb	20 38 30.8	+0.9
	baz=228						
CHKT	Chengkung	2.04	207	*e*P	Pn	20 38 01.3	-0.4
	baz=205						
WGK	Gukeng	2.06	234	*e*P	Pb	20 38 04.7	-0.3
	baz=231						
WDLH	Douliu	2.08	234	*e*P	Pb	20 38 05.2	-0.1
	baz=232						
WRL	Guolierlin Hig	2.09	241	*e*P	Pn	20 38 03.5	+1.1
	baz=239						
ELDTW	Lidau	2.13	216	*e*P	Pn	20 38 03.0	-0.1
	baz=214						
JTJ	Tarama	2.13	97	P	Pn	20 38 03.0	-0.1
EDH	Donghe	2.18	207	*e*P	Pn	20 38 03.4	-0.3
	baz=205						
WTK	Tuku	2.19	236	*e*P	Pb	20 38 06.3	-0.8
	baz=234						
CHN2	Minshiung	2.22	232	*e*P	Pb	20 38 08.1	+0.4
	baz=230						
CHN4	Tsaushan	2.26	226	*e*P	Pb	20 38 07.7	-0.6
	baz=224						
CHN4				*e*S	Sb	20 38 35.4	-0.9
	baz=224						
TPUB	Ta-pu	2.27	225	*e*P	Pb	20 38 07.6	-1.0
	baz=223						
TPUB	Ta-pu	2.27	225		Pn	20 38 05.0	0.0
STYH	Taoyuan	2.28	220	*e*P	Pb	20 38 06.8	-1.8
	baz=218						
CHY	Chiayi	2.28	232	*e*P	Pb	20 38 07.7	-1.0
	baz=230						
STYT	Tauyuan	2.29	220	*e*P	Pb	20 38 07.2	-1.8
	baz=218						
LONT	Longtian	2.31	210	*e*P	Pn	20 38 05.7	+0.1
	baz=208						
WTP	Ta-pu	2.32	224	*e*P	Pb	20 38 08.2	-1.2
	baz=222						
WTP				*e*S	Sb	20 38 37.9	-0.2
	baz=222						
TWK	Hsinying	2.39	227	*e*P	Pb	20 38 09.6	-1.0
	baz=224						
LDUT	Ludao	2.39	200	*e*P	Pn	20 38 06.0	-0.6
	baz=199						
WSL	Shuilin Townsh	2.41	235	*e*P	Pb	20 38 08.8	-2.0
	baz=233						
TWGBT	Beinan	2.41	210	*e*P	Pn	20 38 06.5	-0.4
	baz=208						
TWG	Pinlang	2.41	210	*e*P	Pn	20 38 06.5	-0.4
	baz=208						
TWG	Pinlang	2.41	210		Pn	20 38 06.0	-0.9
CHN1	Nanshi	2.42	225	*e*P	Pb	20 38 09.6	-1.5
	baz=223						
SGST	Jiashian	2.46	222	*e*P	Pn	20 38 09.0	+1.4
	baz=220						
ICHU	Yijhu	2.47	231	*e*P	Pb	20 38 10.8	-1.1
	baz=229						
SLGT	Liugui	2.49	220	*e*P	Pb	20 38 10.6	-1.7
	baz=218						
MATB	Ma-tsu	2.51	300	*e*P	Pn	20 38 07.3	-1.0
	baz=299						
MATB				*e*S	Sn	20 38 37.0	-1.9
	baz=299						
CHN8	Yiju	2.53	232	*e*P	Pn	20 38 10.3	+1.9
	baz=230						
MSUT	Lienchiang	2.54	300	*e*P	Pn	20 38 07.9	-0.7
	baz=299						
MSUT				*e*S	Sn	20 38 36.6	-2.9
	baz=299						
JIKM	Ikemajima	2.61	89	P	Pn	20 38 10.9	+1.3
SHHT	Tainan City	2.65	225	*e*P	Pb	20 38 14.0	-1.0
	baz=223						
ECL	Taimali	2.66	210	*e*P	Pn	20 38 10.2	-0.1
	baz=208						
JMJ2	Miyako jima3	2.69	93	P	Pn	20 38 10.7	0.0
SSD	Sandimen	2.69	217	*e*P	Pn	20 38 12.9	+2.2
	baz=215						
TSMG	Majia	2.72	216	*e*P	Pb	20 38 13.5	-2.6
	baz=214						
TWM1	Shoushan	2.75	221	*e*P	Pb	20 38 15.9	-0.8
	baz=219						
MASBT	Mashibuluo	2.80	215	*e*P	Pn	20 38 14.0	+1.7
	baz=213						
XPSS	Dashiqiu	2.80	316	*e*P	Pn	20 38 11.4	-0.9
	baz=316						
LYJJ	Jianjiangzhen	2.86	305	*e*P	Pn	20 38 12.1	-1.0
	baz=305						
EAST	Anshuo	2.89	209	*e*P	Pn	20 38 14.4	+0.9
	baz=207						
TAWH	Dawu Township	2.91	208	*e*P	Pn	20 38 15.1	+1.3
	baz=207						
PHUB	P'eng-hu	2.92	242	*e*P	Pn	20 38 14.0	+0.1
	baz=240						
SSPT	Xinbi	2.94	215	*e*P	Pb	20 38 17.4	-2.6
	baz=213						
PTMZ	Houxiangcun	2.96	273	*e*P	Pn	20 38 13.4	-0.9
	baz=272						
LAY	Lan-yu	2.97	195	*e*P	Pn	20 38 14.8	+0.2
	baz=193						
WDGT	Dungji	2.98	237	*e*P	Pn	20 38 17.1	+2.3
	baz=235						
LYUB	Lan-yu	3.00	194	*e*P	Pn	20 38 12.6	-2.4
	baz=193						
SCZT	Fangliau	3.01	213	*e*P	Pb	20 38 18.2	-2.9
	baz=211						

SLIU	**Shizi**	**3.06 209**	*e*P		**Pn**	**20 38 16.7**	**+0.9**
	baz=207						
KNMB	**Chin-men Tao**	**3.66 264**	*e*P		**Pn**	**20 38 23.2**	**-0.8**
	baz=262						
KNMB	**Chin-men Tao**	**3.66 264**			**Pn**	**20 38 23.2**	**-0.8**
AXDP	**Jialang**	**4.00 271**	*e*P		**Pn**	**20 38 28.1**	**-0.6**
	baz=269						
AXDP			*e*S		**Sn**	**20 39 11.8**	**-3.8**
	baz=269						
DSXP	**Dongshan**	**4.67 256**	*e*P		**Pn**	**20 38 37.8**	**-0.2**
	baz=254						
KSRS	**Korea Array**	**13.36 19**	P		**P**	**20 40 48.4**	**+1.7**
	0.6nm,0.3s,baz=193,slow=11,SNR=10						
KSRS			LR		LR	20 46 24.7	
	comp=Z,314nm,18.3s,baz=5.0,slow=39						
MJAR	**Matsushiro Arr**	**17.84 46**	P		P	20 41 43.4	+6.9
	0.1nm,0.3s,baz=223,slow=4.5,SNR=2.0						
USA0B	**Ussuriysk Arra**	**20.77 20**	P		**P**	**20 42 07.9**	**-0.4**
USA0B			IAmb		IAmb	20 42 31.1	
	comp=Z,9.5nm,0.9s						
CHTO	**Chiang Mai**	**22.56 259**	P		**P**	**20 42 28.0**	**+0.1**
CHTO			IAmb		IAmb	20 42 36.9	
	comp=Z,15nm,1.3s						
CMAR	**Chiang Mai Arr**	**22.69 258**	P		**P**	**20 42 32.5**	**+3.2**
	comp=Z,3.8nm,1.0s,baz=62,slow=8.5,SNR=13						
CMAR	**Chiang Mai Arr**	**22.69 258**	P		**P**	**20 42 29.5**	**+0.3**
HIA	**Hailar**	**24.39 356**	P		**P**	**20 42 44.6**	**-1.0**
HIA			IAmb		IAmb	20 42 52.3	
	comp=Z,8.4nm,1.1s						
KLR	**Kul'dur**	**25.35 14**	P		**P**	**20 42 55.9**	**+1.6**
	comp=Z,3.7nm,1.0s,baz=217,slow=11,SNR=7.5						
KLR	**Kul'dur**	**25.35 14**	P		**P**	**20 42 55.9**	**+1.6**
LBMI	**Labuha**	**25.89 168**	P		**P**	**20 43 01.6**	**+2.0**
	comp=Z,45nm,1.0s						
SONM	**Songino Array**	**26.13 335**	P		**P**	**20 43 02.8**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=154,slow=11,SNR=6.7						
SONM	**Songino Array**	**26.13 335**	P		**P**	**20 43 02.8**	**+1.1**
SONM	**Songino Array**	**26.13 335**	IAmb		IAmb	20 43 18.9	
	comp=Z,6.1nm,1.2s						
SHL	**Shillong**	**27.56 278**	P		**P**	**20 43 15.0**	**+0.2**
SHL			IAmb		IAmb	20 43 26.5	
	comp=Z,12nm,1.1s						
MK31	**Makanchi Array**	**38.58 315**	P		**P**	**20 44 50.2**	**-0.1**
MKAR	**Makanchi Array**	**38.58 315**	P		**P**	**20 44 50.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=102,slow=11,SNR=14						
MKAR	**Makanchi Array**	**38.58 315**	P		**P**	**20 44 50.2**	**-0.1**
ZAA0	**Zalesovo Array**	**40.23 326**	P		**P**	**20 45 03.8**	**-0.1**
ZALV	**Zalesovo Beam**	**40.23 326**	P		**P**	**20 45 03.0**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=104,slow=11,SNR=2.9						
ZALV	**Zalesovo Beam**	**40.23 326**	P		**P**	**20 45 02.3**	**-1.6**
KURK	**Kurchatov**	**42.23 319**	P		**P**	**20 45 20.3**	**-0.2**
KURK			IAmb		IAmb	20 45 31.9	
	comp=Z,4.9nm,1.2s						
KURBB	**Kurchatov Arra**	**42.25 319**	P		**P**	**20 45 21.8**	**+1.1**
	comp=Z,1.3nm,0.2s,baz=112,slow=9.2,SNR=3.4						
WB0	**Warramunga Arr**	**45.94 164**	P		**P**	**20 45 50.7**	**+0.2**
WB0			IAmb		IAmb	20 45 58.1	
	comp=Z,7.0nm,0.9s						
WRAB	**Tennant Creek**	**46.09 164**	P		**P**	**20 45 52.1**	**+0.5**
WRA	**Warramunga Arr**	**46.09 164**	P		**P**	**20 45 52.1**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=346,slow=8.7,SNR=14						
WRA			PcP		**PcP**	**20 47 27.3**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=345,slow=3.5,SNR=1.2						
WRA	**Warramunga Arr**	**46.09 164**	P		**P**	**20 45 52.3**	**+0.6**
WRA	**Warramunga Arr**	**46.09 164**			**PcP**	**20 47 27.3**	**-0.6**
WB2	**Warramunga Arr**	**46.09 164**	P		**P**	**20 45 52.2**	**+0.4**
WR0	**Warramunga Arr**	**46.16 164**	P		**P**	**20 45 52.8**	**+0.6**
KBL	**Kabul**	**46.83 295**	P		**P**	**20 45 58.0**	**+0.2**
KBL			IAmb		IAmb	20 46 09.4	
	comp=Z,8.5nm,1.4s						
BRVK	**Borovoye**	**47.87 320**	P		**P**	**20 46 05.5**	**+0.2**
BRVK			IAmb		IAmb	20 46 18.9	
	comp=Z,3.4nm,0.8s						
ASAR	**Alice Springs**	**49.58 166**	P		**P**	**20 46 19.8**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=343,slow=9.3,SNR=12						
ASAR			PcP		**PcP**	**20 47 38.9**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=340,slow=3.0,SNR=1.2						
ASAR	**Alice Springs**	**49.58 166**	P		**P**	**20 46 17.6**	**-1.2**
ASAR	**Alice Springs**	**49.58 166**			**PcP**	**20 47 38.9**	**-1.5**
ABKAR	**Akbulak array**	**53.71 314**	P		**P**	**20 46 49.6**	**+0.2**
ABKAR			IAmb		IAmb	20 46 59.5	
	comp=Z,5.9nm,1.4s						
ABKAR	**Akbulak array**	**53.71 314**	P		**P**	**20 46 49.6**	**+0.2**
FYU	**Fort Yukon**	**68.35 25**	P		**P**	**20 48 26.6**	**-1.9**
FINES	**FINESS Array B**	**71.36 330**	P		**P**	**20 48 46.7**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=70,slow=6.3,SNR=5.4						
AKASG	**Malin Array Be**	**73.04 318**	P		**P**	**20 48 58.6**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=71,slow=6.0,SNR=2.5						
AKASG	**Malin Array Be**	**73.04 318**	P		**P**	**20 48 58.6**	**+1.2**
AKASG	**Malin Array Be**	**73.04 318**	IAmb		IAmb	20 49 03.3	
	comp=Z,1.9nm,1.4s						
BRTR	**Keskin Array B**	**73.61 307**	P		**P**	**20 49 01.2**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=96,slow=5.6,SNR=1.4						
BRTR	**Keskin Array B**	**73.61 307**	P		**P**	**20 49 01.2**	**+0.1**
YKA	**Yellowknife Ar**	**81.87 23**	P		**P**	**20 49 45.9**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=310,slow=5.1,SNR=3.4						

TAP 21 20:37:39.8, 24°.99N×122°.32E, h12km±1km, ML4.0, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.30 274**		*i* P	Pb	20 37 46.6	-0.5
	baz=273						
TWB1				*i* S	Sb	20 37 51.2	-0.7
	baz=273						
EGS		**0.38 248**		P	Pb	20 37 48.0	-0.4
	baz=247						
SXI1	**Grass Mountain**	**0.42 285**		P	Pb	20 37 49.2	+0.2
	baz=284						
SXI1				*e*S	Sb	20 37 55.8	+0.4
	baz=284						
TIPB	**Shuangxi**	**0.45 268**		*e*P	Pb	20 37 50.3	+0.7
	baz=268						
TIPB				*e*S	Sb	20 37 56.1	-0.1
	baz=268						
NTC	**Toucheng**	**0.46 253**		*e*P	Pb	20 37 49.5	-0.4
	baz=253						
WFSB	**Wu-fen Shan**	**0.49 279**		*e*P	Pb	20 37 51.1	+0.7
	baz=279						
WFSB				*e*S	Sb	20 37 57.5	0.0
	baz=279						
TNOU	**National Taiwa**	**0.52 288**		*e*P	Pb	20 37 51.5	+0.7
	baz=288						
TNOU				*e*S	Sb	20 37 57.6	-0.7
	baz=288						

*JMA **21** 21:01:18.2±0.1, 24°.95N×122°.36E, h52km±3km, M2.9*
*TAP **21** 21:01:19.7, 24°.95N×122°.26E, h10km, ML3.7, C*
*IDC **21** 21:01:22.4±7.2, 24°.84N×122°.01E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/52, mbtmp3.4/3, Error ellipse: s-maj=493.4km s-min=29.0km az=59.0*

ISC 21 21:01:18.0±1.2, 24°.92N±0°.02×122°.38E±0°.02, h3km±11km, n96, σ0s87/139, mb3.5/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.37 283**		*i* P	**Pg**	**21 01 25.6**	**+0.4**
	baz=283						
TWB1				*i* S	**Sg**	**21 01 30.0**	**+0.1**
	baz=283						
EGS		**0.42 259**		P	**Pg**	**21 01 26.6**	**+0.5**
	baz=249						
EGS				S	**Sg**	**21 01 31.0**	**-0.5**
	baz=249						
SXI1	**Grass Mountain**	**0.49 290**		P	**Pb**	**21 01 28.2**	**-1.2**
	baz=292						
SXI1				*i* S	**Sg**	**21 01 33.9**	**0.0**
	baz=292						
NTC	**Toucheng**	**0.51 262**		*e*P	**Pb**	**21 01 28.6**	**-0.9**
	baz=256						
TIPB	**Shuangxi**	**0.51 276**		P	**Pg**	**21 01 28.4**	**+0.5**
	baz=273						
TIPB				S	**Sg**	**21 01 34.6**	**+0.1**
	baz=273						
NWF	**Wu-fen Shan**	**0.57 285**		P	**Pb**	**21 01 29.7**	**-0.9**
	baz=285						
NWF				S	**Sg**	**21 01 36.3**	**0.0**
	baz=285						
WFSB	**Wu-fen Shan**	**0.57 285**		P	**Pb**	**21 01 29.6**	**-1.0**
	baz=285						
WFSB				*e*S	**Sg**	**21 01 35.9**	**-0.4**
	baz=285						
TWC	**Suao**	**0.58 237**		*e*P	**Pb**	**21 01 30.0**	**-0.8**
	baz=227						
TNOU	**National Taiwa**	**0.60 292**		P	**Pg**	**21 01 30.0**	**+0.4**
	baz=294						
TNOU				*e*S	**Sg**	**21 01 37.0**	**-0.3**
	baz=294						
ILA	**Ilan**	**0.60 255**		*e*P	**Pb**	**21 01 31.2**	**+0.1**
	baz=248						
NDS	**Dongshan**	**0.67 245**		*e*P	**Pb**	**21 01 31.6**	**-0.8**
	baz=237						
NDS				*e*S	**Sb**	**21 01 41.2**	**-0.9**
	baz=237						
TWE	**Neicheng**	**0.68 253**		*e*P	**Pg**	**21 01 31.4**	**+0.3**
	baz=246						
TWE				*e*S	**Sb**	**21 01 41.1**	**-1.3**
	baz=246						
JYNG	**Yonagunijimaku**	**0.69 133**		P	**Pg**	**21 01 32.3**	**+0.9**
JYNG				S	**Sb**	**21 01 42.7**	**0.0**
NWRT	**Kuosheng**	**0.71 293**		*e*P	**Pb**	**21 01 32.5**	**-0.6**
	baz=295						
NWRT				*e*S	**Sb**	**21 01 42.0**	**-1.3**
	baz=295						
EWUT	**Wuta**	**0.73 229**		*e*P	**Pg**	**21 01 32.7**	**+0.7**
	baz=221						
EWUT				*e*S	**Sg**	**21 01 41.7**	**+0.2**
	baz=221						
TWA	**Mucha**	**0.73 275**		*e*P	**Pb**	**21 01 32.6**	**-0.8**
	baz=272						
TWA				*e*S	**Sg**	**21 01 41.8**	**+0.3**
	baz=272						
YOJ	**Yonaguni jima**	**0.73 129**		P	**Pg**	**21 01 32.9**	**+0.8**
YOJ				S	**Sb**	**21 01 43.2**	**-0.6**
YOJ	**Yonaguni jima**	**0.73 129**		*e*P	**Pb**	**21 01 34.0**	**+0.6**
	baz=125						
FUSB	**Fushanzhiwuyua**	**0.74 257**		*e*P	**Pg**	**21 01 32.5**	**+0.2**
	baz=252						
FUSB				*e*S	**Sg**	**21 01 42.5**	**+0.5**
	baz=252						
NHY	**Taipei**	**0.75 279**		*e*P	**Pb**	**21 01 33.2**	**-0.5**
	baz=278						
NHY				S	**Sb**	**21 01 42.8**	**-1.5**
	baz=278						
PCYT	**Pengchaiyu**	**0.76 338**		P	**Pb**	**21 01 33.5**	**-0.4**
	baz=346						
PCYT				S	**Sb**	**21 01 43.9**	**-0.6**
	baz=346						
ENA	**Nanau**	**0.77 230**		*e*P	**Pg**	**21 01 33.2**	**+0.5**
	baz=221						
ENA				*e*S	**Sg**	**21 01 43.3**	**+0.7**
	baz=221						
YM08	**YM08**	**0.77 290**		P	**Pb**	**21 01 33.3**	**-0.8**
	baz=291						
YM08				S	**Sg**	**21 01 42.8**	**+0.1**
	baz=291						
YM01	**YM01**	**0.77 287**		P	**Pb**	**21 01 33.5**	**-0.6**
	baz=287						
YM01				S	**Sg**	**21 01 43.3**	**+0.5**
	baz=287						
NHDH	**Xindian Distri**	**0.78 273**		*e*P	**Pb**	**21 01 34.0**	**-0.3**
	baz=271						
NHDH				S	**Sb**	**21 01 43.8**	**-1.4**
	baz=271						
TAP1	**Taipei**	**0.79 279**		*e*P	**Pb**	**21 01 34.5**	**+0.1**
	baz=277						
TAP1				*e*S	**Sb**	**21 01 44.4**	**-1.1**
	baz=277						
TWY	**Chenhua**	**0.79 296**		*e*P	**Pb**	**21 01 34.3**	**-0.1**
	baz=298						
TWY				*e*S	**Sb**	**21 01 44.2**	**-1.4**
	baz=298						
ENTT	**Nioudou**	**0.80 249**		*e*P	**Pb**	**21 01 34.0**	**-0.5**
	baz=243						
ENTT				*e*S	**Sb**	**21 01 44.6**	**-1.0**
	baz=243						
TAP	**Taipei**	**0.81 278**		*e*P	**Pb**	**21 01 34.4**	**-0.3**
	baz=277						
TAP				S	**Sb**	**21 01 44.6**	**-1.3**
	baz=277						
NSM	**Shimen**	**0.81 297**		*e*P	**Pb**	**21 01 34.1**	**-0.5**
	baz=299						
NSM				*e*S	**Sb**	**21 01 45.5**	**-0.5**
	baz=299						
NWLT	**Wulai**	**0.81 260**		*e*P	**Pb**	**21 01 34.1**	**-0.7**
	baz=256						
NWLT				*e*S	**Sg**	**21 01 44.9**	**+0.6**
	baz=256						
TATO	**Taipei**	**0.81 274**		*e*P	**Pb**	**21 01 34.3**	**-0.5**
	baz=272						
TATO				*e*S	**Sb**	**21 01 45.1**	**-1.1**
	baz=272						
ANP	**Anpu**	**0.83 289**		*e*P	**Pb**	**21 01 34.4**	**-0.7**
	baz=289						
ANP				*e*S	**Sg**	**21 01 44.6**	**0.0**
	baz=289						
NDT	**Datong Townshi**	**0.85 248**		*e*P	**Pb**	**21 01 35.2**	**-0.3**
	baz=243						
BACT	**New Taipei Cit**	**0.86 275**		*e*P	**Pn**	**21 01 35.6**	**-1.3**
	baz=273						
LATG	**Datong**	**0.87 244**		*e*P	**Pb**	**21 01 35.5**	**-0.3**
	baz=238						
LATG				*e*S	**Sg**	**21 01 46.7**	**+0.6**
	baz=238						
NTST	**Danshui**	**0.88 286**		*e*P	**Pb**	**21 01 35.4**	**-0.6**
	baz=286						
TWS1	**Kuangyinshan**	**0.89 282**		*e*P	**Pn**	**21 01 36.3**	**-1.1**
	baz=281						
TWS1				*e*S	**Sb**	**21 01 47.9**	**-0.6**
	baz=281						
YHNB	**Yeheng**	**0.95 255**		*e*P	**Pg**	**21 01 36.4**	**+0.1**
	baz=250						
YHNB				*e*S	**Sg**	**21 01 49.0**	**+0.3**
	baz=250						
NSK	**Sanguang**	**0.96 255**		*e*P	**Pg**	**21 01 36.6**	**0.0**
	baz=251						
NSK				*e*S	**Sg**	**21 01 49.4**	**+0.3**
	baz=251						
NTY	**Taoyuan**	**0.99 275**		*e*P	**Pn**	**21 01 38.7**	**-0.1**
	baz=273						
NTY				S	**Sb**	**21 01 50.5**	**-0.8**
	baz=273						
ETL	**Fush Village**	**1.03 222**		*e*P	**Pg**	**21 01 38.2**	**+0.4**
	baz=216						
NNSB	**Datong**	**1.04 242**		*e*P	**Pg**	**21 01 37.9**	**0.0**
	baz=237						
NNSB				*e*S	**Sg**	**21 01 51.5**	**+0.1**
	baz=237						
NACB	**Ninganchiao**	**1.04 224**		P	**Pb**	**21 01 38.3**	**-0.3**
	baz=218						
NACB				*e*S	**Sg**	**21 01 50.9**	**-0.5**
	baz=218						
NNS	**Nan Shan**	**1.04 243**		*e*P	**Pg**	**21 01 38.2**	**+0.3**
	baz=237						
NNS				*e*S	**Sg**	**21 01 51.6**	**+0.1**
	baz=237						
NCU	**National Centr**	**1.09 273**		*e*P	**Pn**	**21 01 39.9**	**-0.3**
	baz=271						
ETLH	**Xiulin Townshi**	**1.09 229**		*e*P	**Pn**	**21 01 39.8**	**-0.5**
	baz=223						
ETLH				*e*S	**Sg**	**21 01 53.4**	**+0.4**
	baz=223						
NCUH	**Zhongli**	**1.09 273**		*e*P	**Pn**	**21 01 40.4**	**+0.2**
	baz=271						
TWD	**Chiawan**	**1.10 221**		*e*P	**Pg**	**21 01 39.7**	**+0.5**
	baz=214						
TWD				*e*S	**Sg**	**21 01 53.0**	**-0.6**
	baz=214						
HWA	**Hwalien**	**1.18 217**		*e*P	**Pg**	**21 01 42.7**	**+2.0**
	baz=211						
NFF	**Wufeng Townshi**	**1.19 256**		*e*P	**Pg**	**21 01 42.3**	**+1.5**
	baz=253						
NJD	**Zhudong**	**1.19 261**		*e*P	**Pg**	**21 01 42.4**	**+1.5**
	baz=258						
FUSS	**Fushou**	**1.24 237**		*e*P	**Pg**	**21 01 42.6**	**+0.8**
	baz=232						
FUSS				*e*S	**Sb**	**21 01 58.0**	**-0.6**
	baz=232						
HSN1	**Hsinchu**	**1.25 264**		*e*P	**Pg**	**21 01 43.0**	**+1.0**
	baz=261						
ETM	**Tongmen**	**1.25 221**		*e*P	**Pb**	**21 01 42.2**	**-0.1**
	baz=215						
LIOB	**Emei**	**1.27 258**		*e*P	**Pg**	**21 01 44.0**	**+1.5**
	baz=255						
SBCB	**Hsinchu**	**1.28 264**		*e*P	**Pg**	**21 01 43.7**	**+1.1**
	baz=262						
WHF	**Hehuan Shan**	**1.28 233**		*e*P	**Pg**	**21 01 42.9**	**+0.3**
	baz=228						
WHF				S	**Sb**	**21 01 59.2**	**-0.8**
	baz=228						
TWT	**Tachien**	**1.29 239**		*e*P	**Pg**	**21 01 43.7**	**+1.0**
	baz=235						
NSTT	**Nanjuang**	**1.29 257**		*e*P	**Pg**	**21 01 43.7**	**+0.9**
	baz=254						
TDCB	**Techi**	**1.30 239**		*e*P	**Pg**	**21 01 44.0**	**+1.0**
	baz=235						
IRIF	**Iriomote-Funau**	**1.36 115**		P	**Pn**	**21 01 41.5**	**-2.4**
CHGB	**Renai**	**1.40 232**		*e*P	**Pg**	**21 01 46.2**	**+1.3**
	baz=228						
CHGB				*e*S	**Sb**	**21 02 02.6**	**-0.6**
	baz=228						
ESL	**Shilin**	**1.41 218**		*e*P	**Pg**	**21 01 45.5**	**+0.5**
	baz=213						
WHP	**Taichung City**	**1.46 244**		*e*P	**Pg**	**21 01 46.0**	**0.0**
	baz=240						
WUSB	**Renai**	**1.48 231**		*e*P	**Pg**	**21 01 46.8**	**+0.3**
	baz=227						
WUSB				S	**Sb**	**21 02 04.9**	**-0.7**
	baz=227						
NMLH	**Miaoli**	**1.50 255**		*e*P	**Pg**	**21 01 47.7**	**+0.9**
	baz=252						
EGFH	**Guangfu**	**1.52 215**		*e*P	**Pg**	**21 01 47.5**	**+0.2**
	baz=210						
HATJ	**Hateruma jima**	**1.56 123**		P	**Pn**	**21 01 44.6**	**-2.0**
NSY	**Sanyi**	**1.56 251**		*e*P	**Pg**	**21 01 48.7**	**+0.8**
	baz=248						
TWQ1	**Liyutan**	**1.57 249**		*e*P	**Pg**	**21 01 49.5**	**+1.2**
	baz=246						
WPL	**Puli Township**	**1.59 235**		*e*P	**Pg**	**21 01 48.6**	**+0.1**
	baz=232						
WCS	**Beigang Elemen**	**1.59 238**		*e*P	**Pg**	**21 01 49.1**	**+0.5**
	baz=234						
DPDB	**Guoxing**	**1.60 237**		*e*P	**Pg**	**21 01 49.1**	**+0.4**
	baz=233						
VWDT	**VWDT**	**1.63 224**		*e*P	**Pg**	**21 01 49.2**	**0.0**
	baz=220						
VWDT				*e*S	**Sb**	**21 02 09.1**	**-0.5**
	baz=220						
JKRS	**Kuro-shima**	**1.63 114**		P	**Pn**	**21 01 45.7**	**-1.9**
HGSD	**Ruisui**	**1.67 212**		*e*P	**Pg**	**21 01 51.0**	**+0.9**
	baz=207						
JIJ	**Ishigaki jima**	**1.69 109**		P	**Pn**	**21 01 46.4**	**-2.1**
SMLT	**Sun Moon Lake**	**1.70 233**		*e*P	**Pg**	**21 01 50.9**	**+0.1**
	baz=229						
EHY	**Hungye**	**1.71 215**		*e*P	**Pb**	**21 01 49.8**	**-0.4**
	baz=210						
SSLB	**Suanglung**	**1.73 229**		*e*P	**Pg**	**21 01 51.1**	**-0.1**
	baz=225						
SSLB				*e*S	**Sb**	**21 02 12.0**	**-0.5**
	baz=225						
WWF	**Wufeng**	**1.77 241**		*e*P	**Pb**	**21 01 51.2**	**+0.1**
	baz=237						
JISG	**Ishigakijimahi**	**1.78 100**		P	**Pn**	**21 01 47.9**	**-1.8**
YULB	**Yu-li**	**1.82 213**		*e*P	**Pb**	**21 01 51.0**	**-1.0**
	baz=209						
EYUL	**Yuli**	**1.85 212**		*e*P	**Pb**	**21 01 52.6**	**+0.2**
	baz=208						
TWF1	**Yuli**	**1.85 213**		*e*P	**Pg**	**21 01 54.1**	**+0.5**
	baz=208						
ALS	**Alishan**	**2.02 226**		*e*P	**Pg**	**21 01 56.2**	**-0.5**
	baz=222						
CHN5	**Tsauling**	**2.04 230**		*e*P	**Pb**	**21 01 55.2**	**-0.7**
	baz=227						
ELDTW	**Lidau**	**2.13 216**		*e*P	**Pb**	**21 01 56.0**	**-1.4**
	baz=212						
CHN4	**Tsaushan**	**2.27 227**		*e*P	**Pb**	**21 01 58.8**	**-0.8**
	baz=223						
STYH	**Taoyuan**	**2.28 220**		*e*P	**Pb**	**21 01 60.0**	**+0.1**
	baz=217						
TWGBT	**Beinan**	**2.41 210**		*e*P	**Pb**	**21 02 02.1**	**0.0**
	baz=206						
SSD	**Sandimen**	**2.70 217**		*e*P	**Pb**	**21 02 04.9**	**-2.1**
	baz=214						
MKAR	**Makanchi Array**	**38.58 315**		P	**P**	**21 08 45.3**	**+3.1**
	0.2nm,0.6s,baz=99,slow=8.9,SNR=4.2						
WRA	**Warramunga Arr**	**46.09 164**		P	P	21 09 47.6	+4.1
	0.8nm,0.8s,baz=347,slow=8.7,SNR=5.1						
ASAR	**Alice Springs**	**49.58 166**		P	P	21 10 16.2	+5.6
	0.3nm,0.5s,baz=344,slow=7.5,SNR=5.8						

*NEIC **21** 21:15:45.3±1.2, 30°.93N±0°.07×142°.9E±0°.2, h25km±4km, mb4.4/10, Error ellipse: s-maj=22.6km s-min=9.5km az=77.0*
*IDC **21** 21:15:46.7±8.7, 30°.25N×141°.83E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/37, mbtmp3.8/4, Error ellipse: s-maj=324.6km s-min=24.1km az=68.0*

ISC 21 21:15:43.2±1.0, 30°.93N±0°.09×142°.9E±0°.1, h10km, n22, σ1s80/24, mb4.2/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.40 311**		Pn	**Pn**	**21 16 36.2**	**-0.1**
JHJ	**Hachijo jima 2**	**3.43 310**		Pn	**Pn**	**21 16 36.5**	**-0.2**
	10nm,0.3s,baz=97,slow=17,SNR=9.9						
JHJ				Sn	**Sn**	**21 17 14.6**	**-2.7**
	27nm,0.3s,baz=93,slow=21,SNR=8.4						
JCJ	**Chichijima**	**3.87 189**		Pn	**Pn**	**21 16 43.0**	**+0.3**
JGF	**Kuroka**	**6.57 317**		Pn	**Pn**	**21 17 22.4**	**+2.5**
MJAR	**Matsushiro Arr**	**6.82 326**		Pn	**Pn**	**21 17 23.5**	**+0.1**
	0.1nm,0.3s,baz=153,slow=11,SNR=4.1						
MJAR				Sn	**Sn**	**21 18 36.9**	**-4.2**
	0.2nm,0.3s,baz=185,slow=27,SNR=3.3						
MAJO	**Matsushiro**	**6.82 326**		Pn	**Pn**	**21 17 23.3**	**-0.1**
MJB9	**Matsu-Tunnel**	**6.83 326**		Pn	**Pn**	**21 17 23.3**	**-0.2**
SONM	**Songino Array**	**32.50 312**		P	**P**	**21 22 16.9**	**+2.7**
	0.9nm,0.8s,baz=111,slow=9.3,SNR=7.2						
SONM	**Songino Array**	**32.50 312**		P	**P**	**21 22 16.8**	**+2.7**
KKM	**Kota Kinabalu**	**35.20 231**		P	**P**	**21 22 37.3**	**-0.5**
KKM				IAmb	IAmb	21 22 47.7	
	comp=Z,20nm,1.1s						
CHGN	**Chignik**	**47.67 40**		P	**P**	**21 24 19.9**	**+0.4**
MK31	**Makanchi Array**	**48.59 307**		P	**P**	**21 24 27.8**	**+0.9**
MK31				IAmb	IAmb	21 24 43.5	
	comp=Z,1.4nm,1.1s						
MKAR	**Makanchi Array**	**48.59 307**		P	**P**	**21 24 29.7**	**+2.8**
	comp=Z,0.9nm,0.8s,baz=88,slow=9.0,SNR=9.8						
MKAR	**Makanchi Array**	**48.59 307**		P	**P**	**21 24 28.1**	**+1.2**
KDAK	**Kodiak Island**	**50.96 39**		P	**P**	**21 24 43.6**	**-1.1**
WB0	**Warramunga Arr**	**51.06 190**		P	**P**	**21 24 44.9**	**-0.9**
WB0				IAmb	IAmb	21 24 45.5	
	comp=Z,3.9nm,0.8s						
WR0	**Warramunga Arr**	**51.23 190**		P	**P**	**21 24 46.1**	**-1.0**
WR0				IAmb	IAmb	21 24 46.2	
	comp=Z,4.6nm,1.3s						
WRAB	**Tennant Creek**	**51.23 190**		P	**P**	**21 24 45.7**	**-1.4**
WRAB				IAmb	IAmb	21 24 50.3	
	comp=Z,6.9nm,1.4s						
WB2	**Warramunga Arr**	**51.24 190**		P

JKRS	Kuro-shima	1.28	267	P	Pn	21 24 21.2	-1.0
HATJ	Hateruma jima	1.48	260	P	Pn	21 24 24.0	-1.1
IRIF	Iriomote-Funau	1.53	271	P	Pn	21 24 25.1	-0.6
YOJ	Yonaguni jima	2.19	274	Pn	Pg	21 24 39.1	-1.2
NACB	Ninganchiao	3.48	268	Pn	Pn	21 24 53.9	+1.3
JOW	Kunigami	3.60	45	Pn	Pn	21 24 52.6	-1.6
	5.4nm,0.3s,baz=201,slow=20,SNR=2.2						
JOW				Sn	Sn	21 25 36.2	-0.7
	8.4nm,0.3s,baz=318,slow=30,SNR=1.7						
JOW	Kunigami	3.60	45		Pb	21 24 57.7	-4.5
TATO	Taipei	3.62	281	Pn	Pn	21 24 56.3	+1.7
YHNB	Yeheng	3.69	276	Pn	Pn	21 24 55.0	-0.5
MAJO	Matsushiro	16.42	39	Pn	P	21 27 49.5	-2.2
MAJO				IAmb	IAmb	21 27 57.7	
	comp=Z,57nm,1.9s						
MJAR	Matsushiro Arr	16.42	39	Pn	P	21 27 49.8	-1.9
	comp=Z,0.1nm,0.3s,baz=234,slow=10,SNR=9.4						
MJAR	Matsushiro Arr	16.42	39		P	21 27 51.0	-0.8
MJB9	Matsu-Tunnel	16.42	39	Pn	P	21 27 49.6	-2.1
MJB9				IAmb	IAmb	21 27 57.7	
	comp=Z,56nm,1.9s						
SONM	Songino Array	27.90	332	P	P	21 29 51.8	+3.2
	comp=Z,0.7nm,0.5s,baz=152,slow=8.9,SNR=7.3						
SONM	Songino Array	27.90	332	P	P	21 29 50.8	+2.1
KULM	Kulim	30.40	235	P	P	21 30 10.9	-0.1
MTN	Manton Dam	37.36	171	P	P	21 31 08.0	-3.2
MTN				IAmb	IAmb	21 32 32.4	
	comp=Z,22nm,1.8s						
KNRA	Kununurra	39.89	175	P	P	21 31 29.8	-2.7
MK31	Makanchi Array	40.97	314	P	P	21 31 45.1	+3.8
MKAR	Makanchi Array	40.97	314	P	P	21 31 44.7	+3.4
	comp=Z,0.9nm,0.6s,baz=103,slow=10.0,SNR=14						
ZAA0	Zalesovo Array	42.28	325	P	P	21 31 53.7	+1.8
ZAA0				IAmb	IAmb	21 33 29.0	
	comp=Z,4.0nm,1.4s						
ZALV	Zalesovo Beam	42.28	325	P	P	21 31 54.6	+2.7
	comp=Z,1.1nm,0.4s,baz=108,slow=9.4,SNR=7.8						
BOOM	Boomskoye usch	44.43	307	P	P	21 32 10.8	+1.2
BOOM				IAmb	IAmb	21 32 10.9	
	comp=Z,7.4nm,0.9s						
KURK	Kurchatov	44.50	319	P	P	21 32 13.1	+3.2
KURK				IAmb	IAmb	21 32 17.2	
	comp=Z,3.3nm,1.1s						
KURBB	Kurchatov Arra	44.53	318	P	P	21 32 13.7	+3.6
	comp=Z,0.9nm,0.7s,baz=109,slow=8.2,SNR=6.8						
WB0	Warramunga Arr	44.69	168	P	P	21 32 09.4	-2.2
WB0				IAmb	IAmb	21 32 10.0	
	comp=Z,2.7nm,0.7s						
WRAB	Tennant Creek	44.84	168	P	P	21 32 10.8	-2.0
WRAB				IAmb	IAmb	21 32 12.2	
	comp=Z,11nm,1.3s						
WRA	Warramunga Arr	44.85	168	P	P	21 32 10.8	-2.2
	comp=Z,2.0nm,0.6s,baz=349,slow=8.8,SNR=26						
WRA	Warramunga Arr	44.85	168	P	P	21 32 10.7	-2.2
WB2	Warramunga Arr	44.85	168	P	P	21 32 10.8	-2.2
WB2				IAmb	IAmb	21 32 12.1	
	comp=Z,12nm,1.4s						
WR0	Warramunga Arr	44.90	168	P	P	21 32 11.3	-2.0
WR0				IAmb	IAmb	21 32 12.1	
	comp=Z,4.0nm,0.8s						
AS31	Alice Springs	48.41	170	P	P	21 32 39.0	-1.8
ASAR	Alice Springs	48.41	170	P	P	21 32 39.2	-1.6
	comp=Z,0.7nm,0.5s,baz=356,slow=14,SNR=19						
ASAR	Alice Springs	48.41	170	P	P	21 32 38.7	-2.1
BRVK	Borovoye	50.10	320	P	P	21 32 57.1	+3.6
BRVK				IAmb	IAmb	21 34 48.7	
	comp=Z,8.9nm,1.8s						
NRIK	Noril'sk	50.32	344	P	P	21 32 58.4	+3.5
NRIK				IAmb	IAmb	21 33 03.9	
	comp=Z,2.5nm,0.6s						
UNV	Unalaska Valle	57.89	40	P	P	21 33 52.5	+2.2
H21K	Melozitna Rive	64.74	27	P	P	21 34 42.2	+5.6
SII	Sitkinak Islan	64.84	37	P	P	21 34 39.7	+2.3
ILAR	Eielson Array	67.32	28	P	P	21 34 54.5	+1.4
	comp=Z,0.3nm,0.6s,baz=256,slow=5.0,SNR=6.1						
ILAR	Eielson Array	67.32	28	P	P	21 34 55.1	+1.9
KBZ	Khabaz	68.39	309	P	P	21 35 04.5	+4.3
	comp=Z,3.0nm,1.0s,baz=188,slow=7.1,SNR=2.9						
FINES	FINESS Array B	73.26	330	P	P	21 35 34.1	+4.6
	comp=Z,1.6nm,0.6s,baz=46,slow=6.0,SNR=10.0						
AKASG	Malin Array Be	75.31	319	P	P	21 35 45.7	+4.0
	comp=Z,0.5nm,0.5s,baz=58,slow=5.5,SNR=2.6						
NB2	NORSAR Subarra	79.88	333	P	P	21 36 11.2	+4.1
	comp=Z,0.5nm,0.6s,baz=55,slow=5.6						
NOA	NORSAR Array B	79.88	333	P	P	21 36 11.7	+4.6
	comp=Z,0.7nm,0.6s,baz=53,slow=5.7,SNR=3.7						
YKA	Yellowknife Ar	81.32	24	P	P	21 36 16.9	+2.2
	comp=Z,0.3nm,0.6s,baz=302,slow=5.2,SNR=3.0						

IDC 21 21:38:19.4±1.5,**2°.09N**×**126°.50E,h0**km,**mb3.4**/4, **mb1 3.6**/4,**mb1mx3.4**/37,**mbtmp3.4**/4,**MS3.5**/1,**Ms1 3.5**/1, **ms1mx2.7**/39,**Error ellipse: s-maj=148.0km s-min=21.7km az=69.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.08	182	LR	LR	21 49 52.8	
	comp=Z,153nm,21.3s,baz=109,slow=34						
WRA	Warramunga Arr	23.21	161	P	P	21 43 26.3	-1.9
	1.2nm,0.5s,baz=340,slow=11,SNR=13						
ASAR	Alice Springs	26.60	165	P	P	21 44 01.5	+1.8
	0.4nm,0.5s,baz=346,slow=11,SNR=7.0						
SONM	Songino Array	48.77	342	P	P	21 47 07.2	+0.9
	0.3nm,0.6s,baz=150,slow=6.4,SNR=2.4						
MKAR	Makanchi Array	58.77	326	P	P	21 48 18.6	-0.8
	0.2nm,0.4s,baz=120,slow=7.2,SNR=6.3						

*TEH **21** 21:51:26.5,32°.63N×47°.76E,h8km,ML3.1*
*ISN **21** 21:51:26.5±0.6,32°.66N×47°.67E,h6km±3km,ML3.0*
ISC 21 21:51:27.4±1.4,**32°.65N**±0°.04×**47°.73E**±0°.03,**h5**km±11km, **n40**,σ0°**91**/47,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	Dehloran	0.38	275	ePg	Pg	21 51 34.4	-0.3
DHL1				eSg	Sg	21 51 41.4	+1.8
IKFM	Kafar-mosalman	0.88	7	ePg	Pg	21 51 43.4	-0.9
IDOB	Doab	1.20	18	ePg	Pg	21 51 50.1	-0.3
IDOB				eSg	Sn	21 52 08.2	+0.3
BMDN	Meydan	1.38	42	ePg	Pn	21 51 53.1	-0.4
BMDN				e		21 51 55.8	
	comp=Z,3μm,0.2s						
BMDN				eSg	Sn	21 52 12.7	+0.5
AHWZ	Ahwaz	1.53	149	ePg	Pn	21 51 54.9	-0.4
IBDR	Badra	1.58	288	ePg	Pn	21 51 56.0	-0.1
IBDR				eSg	Sn	21 52 17.0	+0.1
IBDR				AML	AML	21 52 32.2	
	comp=E,162nm,0.8s						
IBDR				AML	AML	21 52 34.2	
	comp=N,169nm,0.7s						
AMIS	Naft Sefid	1.65	126	ePg	Pn	21 51 57.8	+0.8
RAFI	Al-Rafai	1.65	236	ePn	Pn	21 51 57.0	0.0
RAFI				eSn	Sb	21 52 20.0	+0.7
KCHF	Cheshme Sefid,	1.72	341	ePn	Pn	21 51 58.8	+0.6
KCHF				e		21 52 30.2	
	comp=Z,3μm,0.5s						
HSAM	Samen	1.73	25	ePn	Pn	21 51 58.7	+0.4
HSAM				e		21 52 02.3	
	comp=Z,2μm,0.3s						
KER	Kermanshah	1.80	344	ePn	Pb	21 52 00.4	-0.6
IGHG	Ghaleghazi	1.94	330	ePn	Pn	21 52 02.3	+1.1
KHMZ	Khomeyn	2.17	59	ePn	Pn	21 52 05.6	+1.2
IALM	Almabolaq	2.24	9	ePn	Pb	21 52 07.1	-1.4
IDHR	Dehrash	2.33	332	e		21 52 47.6	
	comp=Z,2μm,0.6s						
IDHR				ePn	Pn	21 52 07.2	+0.6
SNGE	Sanandaj	2.46	353	ePn	Pn	21 52 06.6	-1.8
HAGD	Aghdareh	2.47	28	e		21 52 14.5	
HAGD				ePn	Pn	21 52 09.5	+1.0
IPIR	Pirpir	2.67	88	ePn	Pn	21 52 12.5	+1.1
IPIR				e		21 52 53.3	
	comp=Z,496nm,0.5s						
SHK1	Shahrekord	2.69	96	ePn	Pn	21 52 11.6	+0.1
SHK1				e		21 53 01.2	
	comp=Z,444nm,0.6s						
ASAO	Ashtian	2.70	45	ePn	Pn	21 52 12.9	+1.2
BHD	Baghdad	2.88	283	ePn	Pn	21 52 14.0	+0.1
BHD				eSn	Sn	21 52 49.0	0.0
BHD				AML	AML	21 53 09.6	
	comp=E,155nm,0.5s						
IBRJ	Brojen	3.08	103	ePn	Pn	21 52 16.8	-0.2
QAMS	Qamsar	3.26	70	ePn	Pn	21 52 21.2	+1.7
IRAZ	Razeghan	3.31	33	ePn	Pn	21 52 21.8	+1.8
IRAZ				e		21 53 31.2	
	comp=Z,560nm,1.0s						
IKLH	Kolahrood	3.31	77	ePn	Pn	21 52 20.3	+0.2
IKLH				e		21 53 23.9	
	comp=Z,272nm,0.5s						
QABG	Abgarm-Qazvin	3.42	26	ePn	Pn	21 52 21.8	+0.2
GHVR	GHOM	3.50	57	ePn	Pn	21 52 23.9	+1.4
IQOM	Qom	3.54	51	ePn	Pn	21 52 22.7	-0.6
IGAR	Gharneh	3.65	93	ePn	Pn	21 52 24.9	+0.1
KLNJ	Kolanjah	3.67	115	ePn	Pn	21 52 25.7	+0.5
KLNJ				e		21 53 46.0	
	comp=Z,262nm,0.7s						
IZEF	Zefreh	3.89	85	ePn	Pn	21 52 29.0	+1.0
KRSH	Karshahi	3.92	69	ePn	Pn	21 52 28.7	+0.3
IKRK	Kirkuk	3.93	315	ePn	Pn	21 52 29.0	+0.6
IKRK				eSn	Sn	21 53 14.0	-0.9
IRAM	Ramesheh	4.03	101	ePn	Pn	21 52 29.5	-0.5
IVRN	Varamin	4.07	54	ePn	Pn	21 52 31.5	+1.1
NASN	Na'in	4.29	87	ePn	Pn	21 52 34.2	+0.6
MAHB	Mahabad	4.43	339	ePn	Pn	21 52 36.1	+0.6
MAHB				e		21 52 37.0	
	comp=Z,340nm,0.5s						
QALM	Alamut, Qazvin	4.48	32	ePn	Pn	21 52 37.8	+1.6
ISHM	Shahmirzad	5.59	54	ePn	Pn	21 52 50.6	-0.8
IANJ	Anjilo	5.86	60	ePn	Pn	21 52 55.8	+0.7

*JMA **21** 22:01:32.6±0.1,24°.96N×122°.38E,h44km±3km,M2.8*
*TAP **21** 22:01:32.4,24°.95N×122°.31E,h11km,ML3.3,C*
ISC 21 22:01:31.8±1.0,**24°.95N**±0°.02×**122°.38E**±0°.02,**h15**km±8km, **n81**,σ0°**67**/146,**2D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.36	279	⇓iP	Pg	22 01 39.2	0.0
TWB1				i S	Sg	22 01 43.6	-0.7
	baz=272						
EGS		0.42	255	P	Pg	22 01 39.8	-0.5
EGS				eS	Sg	22 01 45.8	-0.2
	baz=252						
TIPB	Shuangxi	0.51	272	i P	Pg	22 01 42.1	+0.2
TIPB				i S	Sg	22 01 48.3	-0.4
	baz=273						
NTC	Toucheng	0.51	259	eP	Pg	22 01 42.1	+0.2
NWF	Wu-fen Shan	0.56	282	i P	Pg	22 01 43.2	+0.3
NWF				i S	Sg	22 01 50.4	+0.1
	baz=284						
WFSB	Wu-fen Shan	0.56	282	P	Pg	22 01 43.1	+0.3
WFSB				S	Sb	22 01 50.8	-0.3
	baz=284						
TNOU	National Taiwa	0.59	290	P	Pb	22 01 43.9	+0.1
TNOU				eS	Sg	22 01 51.0	-0.1
	baz=292						
TWC	Suao	0.59	235	i P	Pg	22 01 43.1	-0.4
TWC				S	Sg	22 01 50.6	-0.7
	baz=231						
ILA	Ilan	0.60	252	eP	Pb	22 01 44.1	0.0
ILA				S	Sb	22 01 53.5	+1.0
	baz=250						
NDS	Dongshan	0.68	242	P	Pg	22 01 45.4	+0.2
NDS				S	Sb	22 01 55.1	+0.4
	baz=233						
TWE	Neicheng	0.69	251	i P	Pg	22 01 45.2	-0.1
TWE				S	Sg	22 01 54.6	+0.2
	baz=236						
NWRT	Kuosheng	0.70	291	eS	Sb	22 01 55.4	+0.2
	baz=293						
JYNG	Yonagunijimaku	0.71	134	P	Pb	22 01 46.6	+0.6
JYNG				S	Sb	22 01 56.4	+0.8
PCYT	Pengchaiyu	0.73	337	P	Pb	22 01 46.5	+0.2
PCYT				S	Sn	22 01 58.3	-0.2
	baz=342						
EWUT	Wuta	0.75	228	P	Pg	22 01 46.2	-0.1
EWUT				S	Sg	22 01 56.0	-0.2
	baz=214						
YOJ	Yonaguni jima	0.75	130	P	Pg	22 01 46.9	+0.4
YOJ				eS	Sg	22 01 57.0	+0.6
YOJ	Yonaguni jima	0.75	130	P	Pb	22 01 47.4	+0.7
YOJ				S	Sb	22 01 57.6	+0.9
	baz=115						
YM01	YM01	0.76	285	P	Pb	22 01 47.2	+0.3
YM01				S	Sb	22 01 57.6	+0.6
	baz=286						
NHDH	Xindian Distri	0.78	271	i P	Pn	22 01 47.7	-0.5
NHDH				i S	Sb	22 01 58.0	+0.5
	baz=271						
TWY	Chenhua	0.78	295	i P	Pb	22 01 47.4	+0.3
TWY				i S	Sn	22 01 58.6	-1.1
	baz=297						
ENA	Nanau	0.78	228	i P	Pg	22 01 46.6	-0.4
ENA				S	Sg	22 01 56.6	-0.8
	baz=214						
ENTT	Nioudou	0.80	247	i P	Pg	22 01 47.8	+0.3
ENTT				S	Sn	22 01 59.5	-0.8
	baz=235						
ANP	Anpu	0.82	287	i P	Pg	22 01 48.1	+0.4
ANP				S	Sb	22 01 59.3	+0.7
	baz=274						
NWLT	Wulai	0.82	258	P	Pg	22 01 48.3	+0.6
NWLT				S	Sb	22 01 59.6	+1.0
	baz=257						
NDT	Datong Townshi	0.86	246	i P	Pb	22 01 48.7	+0.2
NDT				S	Sn	22 02 01.2	-0.7
	baz=245						
EHP	Heping Village	0.87	222	eS	Sg	22 02 01.0	+1.0
NTST	Danshui	0.87	284	P	Pg	22 01 49.1	+0.4
NTST				S	Sn	22 02 01.2	-0.9
	baz=285						
TWS1	Kuangyinshan	0.89	280	i P	Pn	22 01 50.3	+0.5
TWS1				i S	Sn	22 02 02.0	-0.4
	baz=281						
YHNB	Yeheng	0.96	253	P	Pb	22 01 50.1	-0.1
YHNB				eS	Sb	22 02 02.5	-0.1
	baz=270						
NSK	Sanguang	0.97	254	i P	Pb	22 01 50.2	-0.2
NSK				S	Sb	22 02 03.1	0.0
	baz=270						
NNSB	Datong	1.05	240	P	Pn	22 01 52.1	0.0
NNSB				S	Sb	22 02 05.6	+0.2
	baz=227						
ETL	Fush Village	1.05	221	P	Pb	22 01 51.8	+0.1
ETL				eS	Sg	22 02 05.9	+0.1
	baz=219						
NNS	Nan Shan	1.05	241	P	Pb	22 01 52.0	+0.2
NNS				S	Sb	22 02 05.3	-0.1
	baz=227						
NACB	Ninganchiao	1.06	223	P	Pb	22 01 51.8	0.0
NACB				S	Sg	22 02 06.0	-0.1
	baz=220						
NCU	National Centr	1.08	271	eP	Pg	22 01 53.0	+0.2
NCU				eS	Sn	22 02 07.6	+0.3
	baz=271						
NCUH	Zhongli	1.09	271	eP	Pb	22 01 52.4	+0.1
NCUH				eS	Sg	22 02 07.0	0.0
	baz=271						
ETLH	Xiulin Townshi	1.11	228	P	Pb	22 01 52.9	+0.1
ETLH				S	Sb	22 02 07.3	+0.3
	baz=214						
TWD	Chiawan	1.13	220	i P	Pb	22 01 53.2	+0.2
TWD				i S	Sb	22 02 07.5	0.0
	baz=217						
NFF	Wufeng Townshi	1.19	255	P	Pn	22 01 54.1	+0.1
NFF				S	Sb	22 02 09.5	0.0
	baz=254						
HWA	Hwalien	1.20	216	eP	Pg	22 01 55.4	+0.4
HWA				eS	Sg	22 02 11.1	+0.4
	baz=223						
FUSS	Fushou	1.25	236	i P	Pb	22 01 55.7	+0.4
FUSS				S	Sg	22 02 12.2	-0.1
	baz=223						
LIOB	Emei	1.28	256	i P	Pn	22 01 55.4	+0.2
LIOB				i S	Sb	22 02 11.6	-0.4
	baz=256						
NSTT	Nanjuang	1.29	256	eP	Pn	22 01 55.7	+0.3
NSTT				eS	Sn	22 02 12.5	0.0
	baz=255						
WHF	Hehuan Shan	1.30	232	⇓iP	Pg	22 01 56.7	-0.1
WHF				i S	Sb	22 02 12.9	+0.1
	baz=230						
TWT	Tachien	1.30	238	i P	Pg	22 01 57.6	+0.7
TWT				i S	Sg	22 02 13.9	0.0
	baz=226						
TDCB	Techi	1.31	238	eP	Pn	22 01 56.1	+0.3
TDCB				eS	Sg	22 02 14.2	-0.1
	baz=227						
IRIF	Iriomote-Funau	1.37	116	eS	Sn	22 02 13.0	-1.4
CHGB	Renai	1.41	231	P	Pg	22 01 58.8	-0.3
CHGB				S	Sb	22 02 16.3	+0.3
	baz=230						
ESL	Shilin	1.43	218	P	Pn	22 01 57.5	+0.3
ESL				S	Sb	22 02 16.9	+0.8
	baz=233						
WHP	Taichung City	1.47	243	P	Pg	22 01 59.9	-0.2
WHP				S	Sg	22 02 18.9	-0.3
	baz=242						
OWD	Renai	1.48	228	P	Pb	22 01 59.5	+0.3
OWD				eS	Sb	22 02 18.5	+0.6
	baz=227						
EGFH	Guangfu	1.55	214	eP	Pb	22 02 00.9	+0.7
EGFH				eS	Sb	22 02 20.4	+0.8
	baz=215						
HATJ	Hateruma jima	1.57	124	P	Pn	22 01 58.8	-0.4
HATJ				eS	Sn	22 02 19.1	-0.2
WCS	Beigang Elemen	1.61	237	eP	Pg	22 02 02.7	-0.1
WCS				eS	Sg	22 02 24.1	+0.4
	baz=222						
JKRS	Kuro-shima	1.64	115	P	Pn	22 01 59.8	-0.4
VWDT	VWDT	1.65	224	P	Pb	22 02 01.6	-0.3
VWDT				S	Sb	22 02 23.0	+0.6
	baz=230						
HGSD	Ruisui	1.70	211	eP	Pb	22 02 02.2	-0.5
HGSD				eS	Sb	22 02 23.7	-0.2
	baz=195						
JIJ	Ishigaki jima	1.71	110	P	Pn	22 02 00.4	-0.7
JIJ				eS	Sn	22 02 20.8	-1.8
SMLT	Sun Moon Lake	1.72	232	i P	Pb	22 02 04.2	+0.9
TYC	Yuchr	1.74	233	P	Pg	22 02 04.8	-0.4
	baz=230						
SSLB	Suanglung	1.74	229	P	Pb	22 02 03.6	0.0
SSLB				S	Sb	22 02 26.0	+0.7
	baz=227						
YULB	Yu-li	1.84	213	P	Pn	22 02 02.5	-0.4
YULB				eS	Sn	22 02 26.5	+0.4
	baz=213						
EYUL	Yuli	1.87	211	eP	Pn	22 02 04.0	+0.7
WJS	Zhushan	1.88	234	eP	Pb	22 02 06.6	+0.7
WJS				eS	Sg	22 02 32.2	-0.2
	baz=254						
FULB	Fuli	2.01	210	P	Pn	22 02 05.3	0.0
FULB				S	Sb	22 02 31.9	-1.0
	baz=191						
ALS	Alishan	2.03	225	P	Pb	22 02 08.4	-0.3
ALS				S	Sb	22 02 34.9	+1.0
	baz=211						
CHN5	Tsauling	2.06	229	i P	Pb	22 02 08.5	-0.5
CHN5				S	Sb	22 02 34.9	+0.5
	baz=230						
WDLH	Douliu	2.10	234	eP	Pb	22 02 09.8	+0.1
ELDTW	Lidau	2.15	216	eP	Pn	22 02 07.7	+0.4
ELDTW				eS	Sb	22 02 35.9	-1.3
	baz=202						
EDH	Donghe	2.20	207	eP	Pn	22 02 08.7	+0.8
CHN4	Tsaushan	2.28	226	P	Pb	22 02 12.2	-0.5
TPUB	Ta-pu	2.29	225	P	Pb	22 02 12.1	-0.9
TPUB				eS	Sb	22 02 41.6	+0.4
	baz=209						
STYH	Taoyuan	2.30	220	P	Pb	22 02 11.6	-1.5
STYH				eS	Sb	22 02 39.7	-1.7
	baz=221						
WTP	Ta-pu	2.34	224	P	Pb	22 02 12.4	-1.5
WTP				eS	Sb	22 02 43.4	+0.8
	baz=209						
TWK	Hsinying	2.41	226	eP	Pb	22 02 14.3	-0.7
TWK				eS	Sb	22 02 45.2	+0.6
	baz=209						
CHN1	Nanshi	2.44	224	eP	Pb	22 02 14.7	-0.8
CHN1				eS	Sb	22 02 46.0	+0.6
	baz=226						
SLGT	Liugui	2.52	219	eP	Pn	22 02 14.6	+2.3
SSD	Sandimen	2.72	216	eP	Pb	22 02 18.2	-1.9
	baz=200						
TSMG	Majia	2.75	216	eP	Pn	22 02 17.6	+2.2
MASBT	Mashibuluo	2.83	215	eP	Pn	22 02 18.5	+2.0
	baz=214						
LYJJ	Jianjiangzhen	2.85	304	eP	Pn	22 02 16.5	-0.3
	baz=305						

*BJI **21** 22:58:44.8±0.0,14°.40N×145°.66E,h87km,mb4.5/24, mB5.0/8,Ms4.7/3*
*IDC **21** 22:58:47.0±0.9,14°.47N×145°.52E,h91km±8km,mb3.9/26, mb1 4.1/26,mb1mx3.9/58,mbtmp4.3/26,MS3.0/2, Ms1 3.0/2,ms1mx2.5/74,Error ellipse: s-maj=17.0km s-min=11.9km az=97.0*
*NEIC **21** 22:58:47.5±1.5,14°.45N±0°.06×145°.5E±0°.1,h90km±6km, mb4.6/58,Error ellipse: s-maj=16.2km s-min=5.4km az=115.0*
ISC 21 22:58:48.7±0.4,**14°.40N**±0°.06×**145°.49E**±0°.09,**h109**km, **n109**,σ1°**12**/106,**mb4.5**/59,**1C,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.00	217	P	Pn	22 59 08.2	-1.7

389nm,0.3s,baz=10,slow=1.7,SNR=122
GUMO S **Sn** 22 59 23.2 -2.6
2μm,0.3s,baz=156,slow=20,SNR=24
GUMO Guam 1.00 217 Pn **Pn** 22 59 08.0 -1.9
GUMO Sn **Sn** 22 59 23.1 -2.8
GUMO Guam 1.00 217 P **Pn** 22 59 08.6 -1.3
PATS Pohnpei 14.67 119 Pn **Pn** 23 02 09.1 -1.9
JHJ Hachijo jima 2 19.35 345 LR LR 23 09 54.8
comp=Z,45nm,20.3s,baz=136,slow=35
H11S3 WAKE ISLAND Hy 20.73 76 T T 23 24 46.9
baz=263,slow=75,SNR=37
H11S1 WAKE ISLAND Hy 20.75 76 T T 23 24 38.5
baz=263,slow=75,SNR=48
H11S2 WAKE ISLAND Hy 20.75 76 T T 23 24 39.0
baz=263,slow=75,SNR=37
H11N1 WAKE ISLAND Hy 21.13 73 T T 23 25 06.3
baz=260,slow=74,SNR=11
H11N2 WAKE ISLAND Hy 21.14 72 T T 23 25 11.4
baz=260,slow=74,SNR=8.5
H11N3 WAKE ISLAND Hy 21.15 73 T T 23 25 14.2
baz=260,slow=74,SNR=13
FAKI Fak Fak 21.64 218 P **P** 23 03 31.6 +1.2
FAKI IAmb IAmb 23 03 48.5
comp=Z,54nm,1.4s
JNU Nakatsue 22.89 327 P **P** 23 03 42.3 -0.9
JNU IAmb IAmb 23 04 10.2
comp=Z,38nm,1.2s
MJAR Matsushiro Arr 22.99 345 P **P** 23 03 43.0 -1.2
comp=Z,1.8nm,0.8s,baz=160,slow=12,SNR=1.8
MJAR LR LR 23 10 42.8
comp=Z,42nm,19.8s,baz=200,slow=31
NJ2 Nanjing 30.00 310 *e*P **P** 23 04 47.8 +0.7
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MTN Manton Dam 30.57 208 P **P** 23 04 52.9 +0.6
MTN IAmb IAmb 23 04 54.1
comp=Z,7.8nm,0.8s
KNRA Kununurra 34.15 210 P **P** 23 05 24.2 +0.7
KNRA IAmb IAmb 23 05 24.6
comp=Z,7.2nm,0.8s
WB0 Warramunga Arr 35.66 198 P **P** 23 05 36.5 -0.1
HNS HongShan 35.66 316 ⇑P **P** 23 05 38.1 +1.7
HNS pmax pmax
comp=Z,7.0nm,1.0s
WR0 Warramunga Arr 35.80 198 P **P** 23 05 38.3 +0.5
WB2 Warramunga Arr 35.84 198 P **P** 23 05 38.7 +0.6
WB2 IAmb IAmb 23 05 39.5
comp=Z,5.2nm,0.9s
WRA Warramunga Arr 35.84 198 P **P** 23 05 38.7 +0.6
comp=Z,3.4nm,0.9s,baz=21,slow=9.7,SNR=17
WRA ScP **ScP** 23 11 41.2 +1.5
comp=Z,1.6nm,0.8s,baz=11,slow=3.7,SNR=9.9
WRA Warramunga Arr 35.84 198 P **P** 23 05 37.5 -0.6
KLR Kul'dur 36.52 345 P **P** 23 05 42.8 -0.8
comp=Z,1.1nm,0.8s,baz=123,slow=10.0,SNR=4.2
XAN Xi'an 38.38 307 P **P** 23 06 00.8 +1.3
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN LR LR
comp=Z,510nm,12.4s
XAN LR LR
comp=Z,280nm,15.1s
ASAR Alice Springs 39.49 197 P **P** 23 06 09.4 +0.6
comp=Z,0.6nm,0.6s,baz=18,slow=12,SNR=10
ASAR ScP **ScP** 23 11 55.0 +1.6
comp=Z,0.4nm,0.6s,baz=14,slow=4.0,SNR=4.4
HHC Hu-ho-hao-te 39.56 318 *e*P **P** 23 06 12.8 +3.4
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,100nm,6.0s
DZM Mont Dzumac 41.66 150 P **P** 23 06 28.2 +1.4
DZM IAmb IAmb 23 06 30.2
comp=Z,11nm,1.1s
PZH PanZhiHua 42.52 294 P **P** 23 06 35.5 +1.6
PZH pmax pmax
comp=Z,9.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.6s
CMAR Chiang Mai Arr 44.73 282 P **P** 23 06 52.7 +1.1
comp=Z,2.3nm,0.3s,baz=82,slow=5.9,SNR=11
ULN Ulaanbaatar 46.07 324 P **P** 23 07 03.4 +1.6
ULN IAmb IAmb 23 07 03.8
comp=Z,5.9nm,0.7s
STKA Stephens Creek 46.16 185 P **P** 23 07 02.9 +0.4
comp=Z,1.2nm,0.5s,baz=355,slow=10,SNR=4.5
STKA Stephens Creek 46.16 185 P **P** 23 07 03.2 +0.7
SONM Songino Array 46.42 324 P **P** 23 07 05.6 +1.0
comp=Z,3.8nm,0.6s,baz=134,slow=7.0,SNR=20
SONM PcP **PcP** 23 08 37.6 -0.1
comp=Z,0.5nm,0.4s,baz=151,slow=3.4,SNR=3.7
SONM Songino Array 46.42 324 P **P** 23 07 06.0 +1.4
BBOO Buckleboo 47.80 191 P **P** 23 07 15.9 +0.7
BILL Bilibino 55.27 9 P **P** 23 08 09.6 -0.8
BILL IAmb IAmb 23 08 09.9
comp=Z,5.2nm,0.7s
OUZ Omahuta 56.09 152 P **P** 23 08 20.1 +3.5
WMQ Urumqi 57.02 313 *e*P **P** 23 08 25.1 +1.7
WMQ pP pP 23 08 44.8 -4.1
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,78nm,5.7s
ZAA0 Zalesovo Array 61.32 324 P **P** 23 08 52.9 +0.1
ZAA0 IAmb IAmb 23 08 54.3
comp=Z,3.5nm,0.7s
ZALV Zalesovo Beam 61.32 324 P **P** 23 08 52.8 +0.1
comp=Z,3.6nm,0.6s,baz=102,slow=7.2,SNR=19
ZALV Zalesovo Beam 61.32 324 P **P** 23 08 52.5 -0.2
MK31 Makanchi Array 61.33 316 P **P** 23 08 53.9 +0.9
MKAR Makanchi Array 61.33 316 P **P** 23 08 53.6 +0.6
comp=Z,2.0nm,0.5s,baz=91,slow=8.8,SNR=41
MAKZ Makanchi 61.54 316 P **P** 23 08 55.1 +0.7
MAKZ IAmb IAmb 23 08 56.2
comp=Z,5.0nm,0.9s
KHZ Kahutara 62.15 157 P **P** 23 08 58.5 +0.2
SVW2 Sparrevohn 62.68 28 P **P** 23 09 02.4 +0.7
KDAK Kodiak Island 63.07 32 P **P** 23 09 05.0 +0.7
comp=Z,15nm,0.9s,baz=281,slow=10,SNR=1.9
N19K Bonanza Creek 63.09 28 P **P** 23 09 05.2 +0.7
N19K IAmb IAmb 23 09 05.9
comp=Z,8.7nm,0.8s
TTA Tatalina 63.17 26 P **P** 23 09 04.8 -0.2
TTA IAmb IAmb 23 09 05.8
comp=Z,6.5nm,1.2s
CNPM China Poot 64.24 30 P **P** 23 09 11.7 -0.3
KURK Kurchatov 64.36 320 P **P** 23 09 13.2 +0.3
KURK IAmb IAmb 23 09 14.4
comp=Z,12nm,0.9s
KURBB Kurchatov Arra 64.40 319 P **P** 23 09 13.6 +0.4
comp=Z,9.9nm,0.8s,baz=98,slow=6.8,SNR=87
J20K Nowinta River 64.41 25 P **P** 23 09 13.5 +0.5
J20K IAmb IAmb 23 09 16.9
comp=Z,7.2nm,1.2s
BRLK Bradley Lake 64.47 30 P **P** 23 09 12.1 -1.5
PPLA Purkeypile 64.80 27 P **P** 23 09 16.1 +0.3
PPLA IAmb IAmb 23 09 16.4
comp=Z,9.0nm,0.9s
CAST Castle Rocks 65.01 26 P **P** 23 09 16.9 0.0
SUA Susitna One 65.01 28 P **P** 23 09 16.8 -0.3
IMAR Indian Mountai 65.22 23 P **P** 23 09 17.6 -0.7
RC01 Rabbit Creek A 65.38 29 P **P** 23 09 19.0 -0.3
RC01 IAmb IAmb 23 09 19.6
comp=Z,10.0nm,0.8s
H21K Melozitna Rive 65.47 24 P **P** 23 09 19.8 0.0
NRIK Noril'sk 65.57 341 P **P** 23 09 19.4 -1.0
comp=Z,3.8nm,0.6s,baz=116,slow=8.1,SNR=13
NRIK Noril'sk 65.57 341 P **P** 23 09 19.6 -0.9
NRIK IAmb IAmb 23 09 20.3
comp=Z,4.7nm,0.7s
TRF Thorofare Moun 65.79 26 P **P** 23 09 21.4 -0.8
TRF IAmb IAmb 23 09 42.4
comp=Z,8.2nm,1.3s
PWL Port Wells 65.98 29 P **P** 23 09 23.4 +0.1
KNK Knik Glacier 66.06 29 P **P** 23 09 23.6 -0.1
MLY Manley 66.08 25 P **P** 23 09 24.1 +0.2
SML Sawmill 66.22 28 P **P** 23 09 24.4 -0.4
SCM Sheep Creek Mo 66.69 28 P **P** 23 09 28.1 +0.3
FID Port Fidalgo 66.84 30 P **P** 23 09 28.6 -0.2
DHY Denali Highway 66.96 27 P **P** 23 09 30.0 +0.3
DHY IAmb IAmb 23 09 34.8
comp=Z,10nm,1.4s
WRH Wood River Hil 67.01 26 P **P** 23 09 28.9 -0.7
WRH IAmb IAmb 23 09 32.1
comp=Z,12nm,1.4s

MDM Murphy Dome 67.08 25 P **P** 23 09 31.2 +1.0
MDM IAmb IAmb 23 09 56.7
comp=Z,5.7nm,1.2s
KLU Klutina 67.26 29 P **P** 23 09 31.6 +0.2
KLU IAmb IAmb 23 09 50.3
comp=Z,19nm,1.4s
H24K Noodor Dome 67.46 24 P **P** 23 09 32.4 -0.2
IL31 67.58 25 P **P** 23 09 31.9 -1.3
ILAR Eielson Array 67.58 25 P **P** 23 09 31.6 -1.7
comp=Z,1.1nm,0.6s,baz=250,slow=6.0,SNR=22
J25K Salcha River, 68.18 26 P **P** 23 09 35.9 -1.3
VRDI Verde Repeater 68.38 29 P **P** 23 09 38.8 +0.2
VRDI IAmb IAmb 23 09 39.2
comp=Z,14nm,1.1s
BMAR Burnt Mountain 69.13 23 P **P** 23 09 43.3 +0.4
BARN Barnard Glacie 69.22 30 P **P** 23 09 44.3 +0.5
BARN IAmb IAmb 23 09 44.6
comp=Z,15nm,1.1s
M27K Edge Creek, AK 69.30 28 P **P** 23 09 44.7 +0.5
M27K IAmb IAmb 23 09 47.0
comp=Z,9.1nm,1.2s
CTGM Chitina Glacie 69.36 30 P **P** 23 09 45.2 +0.6
BCAR Beaver Creek A 69.45 28 P **P** 23 09 45.3 +0.2
BVAR Borovoye Array 69.67 322 P **P** 23 09 46.6 +0.1
comp=Z,1.9nm,0.3s,baz=93,slow=10,SNR=25
BRVK Borovoye 69.73 322 P **P** 23 09 47.7 +0.8
BRVK IAmb IAmb 23 09 47.8
comp=Z,4.8nm,0.8s
M31M Drury Creek, Y 72.77 29 P **P** 23 10 05.5 +0.5
M31M IAmb IAmb 23 10 18.5
comp=Z,7.9nm,1.3s
INK Inuvik 73.39 23 P **P** 23 10 08.1 -0.5
comp=Z,1.1nm,0.6s,baz=294,slow=8.4,SNR=4.7
DLBC Dease Lake 74.98 33 P **P** 23 10 18.7 +0.6
comp=Z,5.5nm,0.9s,baz=292,slow=4.5,SNR=5.7
DLBC Dease Lake 74.98 33 P **P** 23 10 18.9 +0.8
DLBC IAmb IAmb 23 10 28.4
comp=Z,8.1nm,1.1s
ABKAR Akbulak array 76.35 318 P **P** 23 10 25.4 -0.6
ARU Arti 76.45 325 P **P** 23 10 26.1 -0.3
comp=Z,0.8nm,0.5s,baz=169,slow=5.2,SNR=6.8
KIRV Kirov 80.98 328 P **P** 23 10 50.4 -0.7
comp=Z,2.3nm,0.6s,baz=122,slow=13,SNR=3.9
YKA Yellowknife Ar 81.87 28 P **P** 23 10 55.0 -0.7
comp=Z,0.6nm,0.6s,baz=291,slow=5.4,SNR=7.4
B08A Colville Reser 82.78 42 P **P** 23 11 01.5 +0.7
B08A IAmb IAmb 23 11 02.8
comp=Z,7.7nm,1.1s
RES Resolute Bay 83.63 13 P **P** 23 11 03.9 -0.7
NEW Newport 84.23 42 P **P** 23 11 09.0 +0.7
comp=Z,2.5nm,0.6s,baz=284,slow=2.7,SNR=6.2
NEW Newport 84.23 42 IAmb IAmb 23 11 09.4
comp=Z,5.3nm,0.9s
PLID Pearl Lake 85.83 45 P **P** 23 11 17.1 +0.5
NVAR Mina Array Bea 85.95 52 P **P** 23 11 18.6 +1.3
comp=Z,0.4nm,0.4s,baz=275,slow=5.5,SNR=3.7
ELK Elko 87.59 49 P **P** 23 11 26.1 +0.8
comp=Z,3.0nm,0.8s,baz=298,slow=3.9,SNR=11
KBZ Khabaz 89.02 315 P **P** 23 11 30.6 -0.9
comp=Z,1.4nm,0.7s,baz=138,slow=6.9,SNR=4.3
FINES FINESS Array B 90.68 335 P **P** 23 11 37.1 -1.8
comp=Z,0.8nm,0.6s,baz=72,slow=6.2,SNR=5.4
PDAR Pinedale Array 90.97 45 P **P** 23 11 41.5 +0.4
comp=Z,0.6nm,0.7s,baz=207,slow=1.7,SNR=5.1
BRTR Keskin Array B 96.94 314 P **P** 23 12 07.2 -1.2
comp=Z,0.7nm,0.5s,baz=86,slow=3.9,SNR=4.7
CRVS Cervenica-Dubn 99.91 326 *e*PDIFF **Pdif** 23 12 21.6 +0.3
GERES GERESS Array B 103.95 329 Pdiff **Pdif** 23 12 36.5 -2.9
comp=Z,0.8nm,0.7s,baz=31,slow=3.1,SNR=7.5
GERES GERESS Array B 103.95 329 **Pdif** 23 12 37.0 -2.4
TORD Torodi Ar. Bea 134.89 306 PKP **PKPdf** 23 17 56.1 +0.1
comp=Z,0.4nm,0.7s,baz=54,slow=2.5,SNR=1.8

*TAP **21** 23:12:41.8, 24°.92N×122°.34E, h5km, ML4.0, C*
*JMA **21** 23:12:41.5, 24°.95N×122°.39E, h43km±2km, M3.2*
*IDC **21** 23:12:58.7±8.0, 24°.85N×122°.17E, h178km±89km, mb3.0/5, mb1 3.2/6, mb1mx3.0/47, mbtmp3.5/6, MS3.1/3, Ms1 3.1/3, ms1mx2.7/20, Error ellipse: s-maj=43.8km s-min=20.0km az=57.0*
ISC 21 23:12:41.1±1.0, 24°.91N±0°.02×122°.37E±0°.02, h13km±7km, n109, σ0°75/136, mb3.6/5, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=284	**0.36**	**285**	‖ *i*P		**Pg**	**23 12 48.0**	**-0.3**
TWB1	baz=284			*i* S		**Sg**	**23 12 52.6**	**-0.5**
EGS	baz=257	**0.40**	**260**	P		**Pb**	**23 12 49.6**	**-0.4**
NTC	**Toucheng** baz=261	**0.49**	**263**	*e*P		**Pg**	**23 12 50.9**	**+0.1**
TIPB	**Shuangxi** baz=275	**0.49**	**277**	*e*P		**Pg**	**23 12 50.8**	**-0.1**
TIPB	baz=275			*e*S		**Sg**	**23 12 57.4**	**-0.1**
NWF	**Wu-fen Shan** baz=286	**0.56**	**287**	P		**Pg**	**23 12 52.1**	**+0.2**
NWF	baz=286			*e*S		**Sg**	**23 12 59.2**	**-0.1**
WFSB	**Wu-fen Shan** baz=286	**0.56**	**287**	*e*P		**Pg**	**23 12 52.2**	**+0.2**
WFSB	baz=286			S		**Sg**	**23 12 59.4**	**+0.1**
TWC	**Suao** baz=234	**0.56**	**237**	P		**Pb**	**23 12 52.1**	**-0.6**
TWC	baz=234			*e*S		**Sb**	**23 12 60.0**	**-0.6**
ILA	**Ilan** baz=253	**0.58**	**255**	*e*P		**Pn**	**23 12 54.8**	**-0.2**
TNOU	**National Taiwa** baz=293	**0.59**	**294**	*e*P		**Pg**	**23 12 52.8**	**+0.2**
TNOU	baz=293			*e*S		**Sg**	**23 12 59.7**	**-0.7**
NDS	**Dongshan** baz=243	**0.65**	**245**	*e*P		**Pb**	**23 12 53.9**	**-0.4**
NDS	baz=243			*e*S		**Sb**	**23 13 02.6**	**-0.8**
TWE	**Neicheng** baz=251	**0.66**	**253**	P		**Pb**	**23 12 54.1**	**-0.4**
JYNG	**Yonagunijimaku**	**0.70**	**131**	P		**Pg**	**23 12 55.1**	**+0.4**
JYNG				*e*S		**Sb**	**23 13 05.3**	**+0.7**
NWRT	**Kuosheng** baz=294	**0.70**	**294**	*e*P		**Pb**	**23 12 55.2**	**+0.1**
NWRT	baz=294			*e*S		**Sb**	**23 13 04.2**	**-0.5**
EWUT	**Wuta** baz=227	**0.71**	**229**	*e*P		**Pb**	**23 12 55.5**	**+0.2**
NHY	**Taipei** baz=279	**0.73**	**280**	*e*P		**Pn**	**23 12 56.4**	**-0.7**
YOJ	**Yonaguni jima**	**0.74**	**127**	P		**Pg**	**23 12 55.6**	**+0.2**
YOJ				*e*S		**Sg**	**23 13 06.0**	**+0.9**
YOJ	**Yonaguni jima** baz=127	**0.74**	**127**	*i* P		**Pg**	**23 12 55.6**	**+0.2**
YOJ	baz=127			*i* S		**Sb**	**23 13 06.7**	**+0.9**
ENA	**Nanau** baz=227	**0.75**	**230**	P		**Pb**	**23 12 55.8**	**-0.1**
ENA	baz=227			S		**Sb**	**23 13 05.9**	**-0.1**
YM08	**YM08** baz=290	**0.76**	**291**	*e*P		**Pg**	**23 12 55.9**	**+0.1**
YM01	**YM01** baz=287	**0.76**	**288**	*e*P		**Pb**	**23 12 56.1**	**0.0**
PCYT	**Pengchaiyu** baz=341	**0.76**	**339**	*e*P		**Pg**	**23 12 55.8**	**-0.1**
NHDH	**Xindian Distri** baz=272	**0.77**	**274**	P		**Pb**	**23 12 56.1**	**-0.1**
NHDH	baz=272			*e*S		**Sb**	**23 13 06.3**	**-0.2**
ENTT	**Nioudou** baz=247	**0.78**	**250**	P		**Pb**	**23 12 56.3**	**-0.2**
NWLT	**Wulai** baz=259	**0.80**	**260**	*e*P		**Pb**	**23 12 56.4**	**-0.3**
NWLT	baz=259			S		**Sb**	**23 13 07.0**	**-0.5**
NSM	**Shimen** baz=297	**0.80**	**298**	*e*P		**Pb**	**23 12 57.4**	**+0.6**
NSM	baz=297			*e*S		**Sb**	**23 13 07.6**	**+0.1**
TATO	**Taipei** baz=273	**0.80**	**275**	*e*P		**Pb**	**23 12 56.8**	**0.0**
ANP	**Anpu** baz=289	**0.81**	**290**	*e*P		**Pg**	**23 12 57.0**	**+0.1**
NDT	**Datong Townshi**	**0.84**	**248**	*e*P		**Pb**	**23 12 57.6**	**+0.2**
	baz=246							
BACT	**New Taipei Cit** baz=275	**0.84**	**276**	*e*P		**Pn**	**23 12 58.2**	**-0.4**
NTST	**Danshui** baz=286	**0.87**	**287**	*e*P		**Pb**	**23 12 58.2**	**+0.2**
TWS1	**Kuangyinshan** baz=281	**0.88**	**282**	*e*P		**Pb**	**23 12 58.4**	**+0.2**
TWS1	baz=281			*e*S		**Sb**	**23 13 10.0**	**+0.1**
YHNB	**Yeheng** baz=253	**0.93**	**255**	*e*P		**Pb**	**23 12 58.8**	**-0.4**
NSK	**Sanguang** baz=254	**0.95**	**256**	P		**Pb**	**23 12 59.0**	**-0.4**
ETL	**Fush Village** baz=220	**1.01**	**222**	P		**Pn**	**23 13 00.9**	**0.0**
ETL	baz=220			*e*S		**Sn**	**23 13 14.6**	**-0.4**
NNSB	**Datong** baz=240	**1.02**	**242**	P		**Pg**	**23 13 00.6**	**-0.1**
NNSB	baz=240			S		**Sn**	**23 13 14.2**	**-1.1**
NACB	**Ninganchiao** baz=222	**1.02**	**224**	*e*P		**Pn**	**23 13 00.6**	**-0.4**
NACB	baz=222			*e*S		**Sg**	**23 13 13.5**	**-0.5**
NNS	**Nan Shan** baz=240	**1.02**	**243**	P		**Pn**	**23 13 00.9**	**-0.2**
NNS	baz=240			*e*S		**Sn**	**23 13 14.7**	**-0.7**
ETLH	**Xiulin Townshi** baz=227	**1.07**	**229**	*e*P		**Pn**	**23 13 01.9**	**+0.1**
ETLH	baz=227			*e*S		**Sn**	**23 13 15.8**	**-0.8**
NCU	**National Centr** baz=272	**1.07**	**273**	P		**Pb**	**23 13 01.1**	**-0.4**
NCUH	**Zhongli** baz=272	**1.07**	**273**	*e*P		**Pn**	**23 13 02.7**	**+0.9**
TWD	**Chiawan** baz=218	**1.09**	**220**	*e*P		**Pn**	**23 13 02.1**	**+0.2**
HWA	**Hwalien** baz=215	**1.16**	**217**	*e*P		**Pg**	**23 13 05.4**	**+2.0**
NFF	**Wufeng Townshi** baz=255	**1.17**	**256**	*e*P		**Pn**	**23 13 02.9**	**-0.3**
FUSS	**Fushou** baz=236	**1.22**	**237**	*e*P		**Pg**	**23 13 04.4**	**-0.2**
FUSS	baz=236			*e*S		**Sn**	**23 13 20.2**	**-0.2**
ETM	**Tongmen** baz=219	**1.23**	**220**	*e*P		**Pg**	**23 13 04.6**	**-0.2**
TEYL	**Yanliau Villag** baz=213	**1.25**	**214**	*e*P		**Pg**	**23 13 06.0**	**+0.8**
LIOB	**Emei** baz=257	**1.26**	**258**	*e*P		**Pn**	**23 13 04.2**	**-0.2**
SBCB	**Hsinchu** baz=263	**1.26**	**265**	*e*P		**Pg**	**23 13 04.9**	**-0.4**
WHF	**Hehuan Shan** baz=231	**1.26**	**233**	*e*P		**Pg**	**23 13 05.5**	**+0.1**
WHF	baz=231			S		**Sg**	**23 13 21.9**	**0.0**
NSTT	**Nanjuang** baz=256	**1.27**	**258**	*e*P		**Pg**	**23 13 06.1**	**+0.5**
TDCB	**Techi** baz=238	**1.28**	**239**	*e*P		**Pg**	**23 13 06.4**	**+0.6**
TDCB	baz=238			S		**Sg**	**23 13 22.3**	**-0.2**
IRIF	**Iriomote-Funau**	**1.37**	**115**	P		**Pn**	**23 13 04.5**	**-1.3**
IRIF				*e*S		**Sn**	**23 13 21.9**	**-1.9**
CHGB	**Renai** baz=231	**1.38**	**232**	*e*P		**Pg**	**23 13 07.7**	**+0.1**
CHGB	baz=231			*e*S		**Sg**	**23 13 25.9**	**+0.3**
ESL	**Shilin** baz=216	**1.39**	**218**	*e*P		**Pg**	**23 13 07.8**	**0.0**
WHP	**Taichung City** baz=243	**1.44**	**244**	*e*P		**Pg**	**23 13 08.7**	**-0.1**
OWD	**Renai** baz=227	**1.45**	**229**	*e*P		**Pg**	**23 13 08.4**	**-0.4**
OWD	baz=227			*e*S		**Sg**	**23 13 26.9**	**-0.8**
EGFH	**Guangfu** baz=213	**1.51**	**215**	*e*P		**Pg**	**23 13 10.3**	**+0.3**
HATJ	**Hateruma jima**	**1.56**	**123**	P		**Pn**	**23 13 07.9**	**-0.6**
HATJ				*e*S		**Sn**	**23 13 28.3**	**-0.3**
WPL	**Puli Township** baz=234	**1.57**	**235**	*e*P		**Pg**	**23 13 10.9**	**-0.3**
WCS	**Beigang Elemen** baz=236	**1.58**	**238**	*e*P		**Pg**	**23 13 11.3**	**-0.1**
DPDB	**Guoxing** baz=235	**1.58**	**237**	*e*P		**Pg**	**23 13 11.5**	**+0.1**
VWDT	**VWDT** baz=223	**1.61**	**224**	*e*P		**Pb**	**23 13 10.7**	**+0.1**
JKRS	**Kuro-shima**	**1.64**	**114**	P		**Pn**	**23 13 08.6**	**-1.0**
HGSD	**Ruisui** baz=210	**1.66**	**212**	*e*P		**Pb**	**23 13 11.2**	**-0.3**
WDJ	**Dajia District** baz=249	**1.67**	**251**	*e*P		**Pb**	**23 13 12.0**	**+0.3**
SMLT	**Sun Moon Lake** baz=231	**1.69**	**233**	*e*P		**Pg**	**23 13 13.2**	**-0.3**
EHY	**Hungye** baz=213	**1.69**	**214**	*e*P		**Pb**	**23 13 11.3**	**-0.8**
TYC	**Yuchr** baz=232	**1.70**	**234**	*e*P		**Pg**	**23 13 13.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.71**	**108**	P		**Pn**	**23 13 09.8**	**-0.7**
JIJ				S		**Sn**	**23 13 31.1**	**-1.1**
SSLB	**Suanglung** baz=228	**1.71**	**229**	*e*P		**Pg**	**23 13 12.7**	**-1.1**
JISG	**Ishigakijimahi**	**1.80**	**100**	*e*S		**Sn**	**23 13 32.8**	**-1.6**
YULB	**Yu-li** baz=212	**1.80**	**213**	*e*P		**Pn**	**23 13 11.7**	**-0.1**
EYUL	**Yuli** baz=210	**1.83**	**212**	*e*P		**Pb**	**23 13 14.4**	**0.0**
TWF1	**Yuli** baz=211	**1.84**	**212**	*e*P		**Pn**	**23 13 13.0**	**+0.7**
WJS	**Zhushan** baz=233	**1.85**	**234**	*e*P		**Pb**	**23 13 15.0**	**+0.3**
FULB	**Fuli** baz=209	**1.97**	**210**	*e*P		**Pb**	**23 13 15.7**	**-1.1**
ALS	**Alishan** baz=224	**2.00**	**226**	*e*P		**Pb**	**23 13 17.2**	**-0.2**
CHN5	**Tsauling** baz=228	**2.02**	**230**	*e*P		**Pg**	**23 13 18.9**	**-1.0**
CHKT	**Chengkung** baz=205	**2.02**	**207**	*e*P		**Pb**	**23 13 17.9**	**+0.2**
WDLH	**Douliu** baz=233	**2.07**	**234**	*e*P		**Pb**	**23 13 17.9**	**-0.5**
WRL	**Guolierlin Hig** baz=240	**2.08**	**241**	*e*P		**Pb**	**23 13 18.1**	**-0.4**
ELDTW	**Lidau** baz=214	**2.11**	**216**	*e*P		**Pb**	**23 13 18.6**	**-0.7**
JTJ	**Tarama**	**2.14**	**97**	S		**Sn**	**23 13 40.1**	**-2.8**
EDH	**Donghe** baz=206	**2.16**	**207**	*e*P		**Pb**	**23 13 18.6**	**-1.5**
WTK	**Tuku** baz=235	**2.18**	**236**	*e*P		**Pb**	**23 13 20.3**	**0.0**
CHN4	**Tsaushan** baz=225	**2.25**	**227**	*e*P		**Pb**	**23 13 21.4**	**-0.1**
TPUB	**Ta-pu** baz=224	**2.26**	**225**	*e*P		**Pb**	**23 13 20.8**	**-0.9**
STYH	**Taoyuan** baz=219	**2.26**	**220**	*e*P		**Pb**	**23 13 20.0**	**-1.8**
STYT	**Tauyuan** baz=219	**2.28**	**221**	*e*P		**Pb**	**23 13 20.7**	**-1.4**
LONT	**Longtian** baz=208	**2.30**	**210**	*e*P		**Pb**	**23 13 21.0**	**-1.3**
WTP	**Ta-pu** baz=223	**2.31**	**224**	*e*P		**Pb**	**23 13 21.8**	**-0.8**
TWK	**Hsinying** baz=225	**2.37**	**227**	*e*P		**Pb**	**23 13 23.2**	**-0.5**
WSL	**Shuilin Townsh** baz=234	**2.39**	**235**	*e*P		**Pb**	**23 13 23.5**	**-0.5**
TWGBT	**Beinan** baz=208	**2.40**	**210**	*e*P		**Pb**	**23 13 23.3**	**-0.7**
TWG	**Pinlang** baz=208	**2.40**	**210**	*e*P		**Pb**	**23 13 23.3**	**-0.8**
CHN1	**Nanshi** baz=223	**2.41**	**225**	*e*P		**Pb**	**23 13 23.5**	**-0.7**
SGST	**Jiashian** baz=221	**2.45**	**222**	*e*P		**Pb**	**23 13 23.7**	**-1.2**
ICHU	**Yijhu** baz=230	**2.46**	**231**	*e*P		**Pb**	**23 13 24.0**	**-1.1**
SLGT	**Liugui** baz=218	**2.48**	**220**	*e*P		**Pb**	**23 13 24.0**	**-1.4**
MATB	**Ma-tsu** baz=299	**2.51**	**300**	*e*P		**Pb**	**23 13 24.4**	**-1.6**
ECL	**Taimali** baz=208	**2.64**	**210**	*e*P		**Pn**	**23 13 24.5**	**+1.1**
KSRS	**Korea Array** 0.3nm,0.3s,baz=196,slow=11,SNR=2.4	**13.37**	**19**	P		**P**	**23 16 02.9**	**+2.8**

KSRS LR LR 23 21 29.2
comp=Z,56nm,19.6s,baz=195,slow=38
MJAR Matsushiro Arr 17.86 46 LR LR 23 25 29.4
comp=Z,55nm,20.5s,baz=219,slow=42
CMAR Chiang Mai Arr 22.68 258 P **P 23 17 43.5 +1.1**
0.7nm,0.3s,baz=61,slow=7.3,SNR=1.5
KLR Kul'dur 25.36 14 LR LR 23 28 43.3
comp=Z,68nm,18.1s,baz=183,slow=37
MKAR Makanchi Array 38.58 315 P **P 23 20 03.5 -0.2**
1.0nm,0.8s,baz=113,slow=9.6,SNR=2.7
ZALV Zalesovo Beam 40.23 326 P **P 23 20 17.1 -0.1**
0.2nm,0.3s,baz=114,slow=7.1,SNR=2.0
WRA Warramunga Arr 46.08 164 P **P 23 21 04.5 -0.5**
0.8nm,0.7s,baz=346,slow=8.4,SNR=10
ASAR Alice Springs 49.57 166 P **P 23 21 32.0 +0.1**
0.4nm,0.7s,baz=344,slow=7.9,SNR=4.8

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*IDC **21** 23:20:33.2±0.8, 5°.78S×153°.12E, h0km, mb4.0/12, mb1 4.1/13, mb1mx4.0/35, mbtmp4.0/13, ML2.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/60, Error ellipse: s-maj=26.1km s-min=17.0km az=111.0*
*NEIC **21** 23:20:45.9±1.7, 6°.1S±0°.1×153°.1E±0°.2, h93km±12km, mb4.2/8, Error ellipse: s-maj=23.6km s-min=15.8km az=86.0*
ISC 21 23:20:45.7±0.7,**6°.02S**±0°.09×**153°.0E**±0°.1,**h100**km,**n27,** σ1§**27**/28,**mb4.0**/14,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.02**	**335**		**Pn**	**23 21 18.8**	**+0.3**
PMG	**Port Moresby**	**6.72**	**240**	Pn	Pn	23 22 15.7	-6.1
	4.1nm,0.3s,baz=42,slow=10,SNR=8.8						
PMG				Sn	**Sn**	**23 23 36.0**	**-1.0**
	1.8nm,0.3s,baz=296,slow=24,SNR=1.9						
PMG				LR	LR	23 24 09.9	
	comp=Z,48nm,19.7s,baz=188,slow=31						
PMG	**Port Moresby**	**6.72**	**240**		**Pn**	**23 22 20.4**	**-1.4**
DZM	**Mont Dzumac**	**20.56**	**142**	P	**P**	**23 25 15.6**	**-1.0**
	7.5nm,0.9s,baz=272,slow=19,SNR=3.8						
DZM	**Mont Dzumac**	**20.56**	**142**	P	**P**	**23 25 17.0**	**+0.4**
MTN	**Manton Dam**	**22.63**	**251**	P	**P**	**23 25 42.2**	**+3.7**
WR0	**Warramunga Arr**	**22.69**	**231**	P	**P**	**23 25 40.4**	**+1.3**
WR0				IAmb	IAmb	23 25 42.6	
	comp=Z,22nm,1.8s						
WB0	**Warramunga Arr**	**22.70**	**231**	P	**P**	**23 25 39.2**	**+0.1**
WB0				IAmb	IAmb	23 25 52.8	
	comp=Z,14nm,1.5s						
WRAB	**Tennant Creek**	**22.82**	**231**	P	**P**	**23 25 41.7**	**+1.3**
WB2	**Warramunga Arr**	**22.83**	**231**	P	**P**	**23 25 41.2**	**+0.7**
WB2				IAmb	IAmb	23 26 09.3	
	comp=Z,22nm,1.8s						
WRA	**Warramunga Arr**	**22.84**	**231**	P	**P**	**23 25 40.3**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=55,slow=10,SNR=9.7						
WRA				PcP	**PcP**	**23 29 30.1**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=47,slow=2.6,SNR=3.3						
WRA				LR	LR	23 33 49.0	
	comp=Z,62nm,20.9s,baz=80,slow=34						
WRA	**Warramunga Arr**	**22.84**	**231**	IAmb	IAmb	23 25 47.2	
	comp=Z,0.5nm,1.4s						
ASAR	**Alice Springs**	**25.43**	**224**	P	**P**	**23 26 05.2**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=56,slow=9.4,SNR=9.2						
ASAR				PcP	**PcP**	**23 29 34.7**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=48,slow=2.0,SNR=2.4						
ASAR				LR	LR	23 35 08.3	
	comp=Z,52nm,20.0s,baz=27,slow=34						
ASAR	**Alice Springs**	**25.43**	**224**	P	**P**	**23 26 04.8**	**+0.5**
STKA	**Stephens Creek**	**27.86**	**201**	P	**P**	**23 26 27.0**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=22,slow=11,SNR=4.5						
FITZ	**Fitzroy Crossi**	**29.30**	**243**	P	**P**	**23 26 39.0**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=48,slow=9.9,SNR=13						
KLR	**Kul'dur**	**58.08**	**344**	P	**P**	**23 30 26.2**	**-2.2**
	comp=Z,2.0nm,0.9s,baz=180,slow=14,SNR=4.9						
CMAR	**Chiang Mai Arr**	**58.61**	**296**	P	**P**	**23 30 32.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=111,slow=5.1,SNR=4.1						
SONM	**Songino Array**	**67.48**	**328**	P	**P**	**23 31 29.7**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=148,slow=7.0,SNR=3.8						
SONM	**Songino Array**	**67.48**	**328**	P	**P**	**23 31 31.8**	**+0.8**
SONM				IAmb	IAmb	23 31 46.7	
	comp=Z,3.3nm,1.3s						
MKAR	**Makanchi Array**	**81.39**	**319**	P	**P**	**23 32 52.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=92,slow=8.3,SNR=10						
ZALV	**Zalesovo Beam**	**82.29**	**326**	P	**P**	**23 32 56.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=118,slow=5.3,SNR=5.3						
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**23 32 58.5**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=235,slow=6.6,SNR=4.9						
NRIK	**Noril'sk**	**87.19**	**341**	P	**P**	**23 33 20.7**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=90,slow=5.6,SNR=5.9						
GERES	**GERESS Array B**	**125.21**	**328**	PKP	**PKiKP**	**23 39 36.1**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=0.0,slow=2.7,SNR=4.6						
BDFB	**Brasilia**	**150.04**	**136**	PKPbc	**PKiKP**	**23 40 27.4**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=27,slow=3.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**150.89**	**286**	PKPbc	**PKiKP**	**23 40 28.9**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=54,slow=2.2,SNR=14						

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*IDC **21** 23:57:30.3±0.7, 52°.38N×168°.49W, h0km, mb4.1/28, mb1 4.3/29, mb1mx4.1/58, mbtmp4.1/29, ML3.0/1, MS3.5/9, Ms1 3.5/9, ms1mx3.0/96, Error ellipse: s-maj=21.1km s-min=13.1km az=176.0*
*NEIC **21** 23:57:31.7±2.5, 52°.25N±0°.05×168°.30W±0°.09, h10km±1km, mb4.1/44, ML3.5/31(AEIC), Error ellipse: s-maj=9.1km s-min=7.4km az=240.0*
*AEIC **21** 23:57:32±2.4, 52°.24N±0°.05×168°.28W±0°.09, h8km±4km, Error ellipse: s-maj=8.4km s-min=6.2km az=51.0*
ISC 21 23:57:31.9±1.2,**52°.31N**±0°.06×**168°.35W**±0°.04,**h12**km±6km,
n165, σ1§**18**/163,**mb4.3**/49,**MS3.5**/8,**1D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.74**	**336**		**Pn**	**23 57 48.0**	**-0.2**
NIKH					**Sn**	**23 57 59.4**	**0.0**
OKSP	**Okmok Steeple**	**0.95**	**2**		**Pb**	**23 57 51.1**	**+0.7**
CLCO	**Concord Point,**	**0.97**	**300**		**Pn**	**23 57 51.4**	**+0.1**
OKSO	**Okmok South**	**1.06**	**6**		**Pn**	**23 57 53.1**	**+0.4**
OKSO					**Sn**	**23 58 08.9**	**+1.5**
CLES	**Cleveland East**	**1.08**	**299**	Pn	**Pn**	**23 57 53.2**	**+0.3**
CLES					**Sg**	**23 58 06.3**	**-0.3**
OKFG	**Magazine Ridge**	**1.14**	**13**		**Pg**	**23 57 54.1**	**+0.3**
OKFG					**Sn**	**23 58 11.1**	**+1.8**
OKER	**Okmok East Rim**	**1.17**	**9**		**Pg**	**23 57 54.9**	**+0.6**
MAPS	**Pakushin South**	**1.73**	**29**		**Pn**	**23 58 01.9**	**+0.1**
MAPS					**Sb**	**23 58 25.9**	**+0.6**
MSW	**Makushin Switc**	**1.87**	**30**		**Pn**	**23 58 04.6**	**+0.8**
MSW					**Sb**	**23 58 29.0**	**-0.4**
UNV	**Unalaska Valle**	**1.90**	**35**	Pn	**Pn**	**23 58 04.4**	**+0.2**
MTBL	**Makushin Table**	**1.95**	**30**		**Pn**	**23 58 05.4**	**+0.4**
AKBBA	**Akutan Broad B**	**2.31**	**38**		**Pn**	**23 58 11.0**	**+1.1**
AKUT	**Akutan**	**2.40**	**39**	Pn	**Pn**	**23 58 11.8**	**+0.7**
AKSA	**Akutan Strait**	**2.43**	**40**		**Pn**	**23 58 12.4**	**+0.9**
WECS	**Westdahl Cape**	**3.09**	**42**		**Pn**	**23 58 21.7**	**+1.1**
WESE	**West Dahl East**	**3.13**	**45**		**Pn**	**23 58 22.5**	**+1.3**
KOFP	**Korovin Flat P**	**3.53**	**272**		**Pn**	**23 58 27.9**	**+1.2**
KONE	**Korovin Northe**	**3.54**	**274**		**Pn**	**23 58 27.8**	**+1.1**
ATKA	**Atka Island**	**3.59**	**271**		**Pn**	**23 58 28.6**	**+1.2**
ATKA					**Sn**	**23 59 11.8**	**+2.0**
ISLZ	**Isanotski Laza**	**3.68**	**47**		**Pn**	**23 58 30.1**	**+1.4**
GSTD	**Great Sitkin T**	**4.80**	**270**		**Pn**	**23 58 46.0**	**+1.8**
GSCK	**Great Sitkin C**	**4.82**	**270**		**Pn**	**23 58 45.9**	**+1.6**
SPIA	**Saint Paul Isl**	**5.00**	**348**		**Pn**	**23 58 47.9**	**+1.1**
ADK	**Adak**	**5.16**	**269**	Pn	**Pn**	**23 58 49.8**	**+0.9**
KIWB	**Kanaga Island**	**5.45**	**269**	Pn	**Pn**	**23 58 53.7**	**+0.8**
SDPT	**Sand Point**	**5.57**	**54**		**Pn**	**23 58 55.8**	**+1.2**
CNBA	**Chernabura Isl**	**5.80**	**61**	Pn	**Pn**	**23 58 57.7**	**0.0**
CHGN	**Chignik**	**7.06**	**52**	Pn	**Pn**	**23 59 16.3**	**+1.4**
SII	**Sitkinak Islan**	**9.29**	**57**	Pn	**Pn**	**23 59 46.6**	**+1.1**
P18K	**Big Mountain,**	**10.22**	**41**	Pn	**Pn**	**23 59 57.6**	**-0.8**
KDAK	**Kodiak Island**	**10.57**	**53**	Pn	**Pn**	**00 00 02.8**	**-0.2**
	0.5nm,0.3s,baz=111,slow=22,SNR=1.6						
Q19K	**Cape Douglas,**	**10.62**	**46**	Pn	**Pn**	**00 00 04.3**	**+0.5**
SHEM	**Shemya Is, Ala**	**10.71**	**279**	LR	LR	00 04 04.9	
	comp=Z,239nm,18.6s,baz=8.0,slow=37						
SVW2	**Sparrevohn**	**11.24**	**33**	Pn	**Pn**	**00 00 14.9**	**+2.6**
N19K	**Bonanza Creek**	**11.43**	**36**	Pn	**Pn**	**00 00 15.2**	**+0.2**
CNPM	**China Poot**	**11.99**	**46**	Pn	**Pn**	**00 00 20.9**	**-1.7**
M19K	**Big River Lodg**	**12.22**	**33**	Pn	**Pn**	**00 00 27.7**	**+2.0**
BRLK	**Bradley Lake**	**12.27**	**46**	Pn	**Pn**	**00 00 27.1**	**+0.8**
TTA	**Tatalina**	**12.51**	**27**	Pn	**Pn**	**00 00 33.2**	**+3.6**
SEW	**Seward**	**13.06**	**46**	Pn	**Pn**	**00 00 36.8**	**-0.3**
SUA	**Susitna One**	**13.25**	**39**	Pn	**Pn**	**00 00 40.7**	**+0.9**
TNA	**Tin City**	**13.30**	**1**	Pn	**Pn**	**00 00 41.4**	**+1.1**
RC01	**Rabbit Creek A**	**13.44**	**42**	Pn	**Pn**	**00 00 42.8**	**+0.5**
PPLA	**Purkeypile**	**13.65**	**33**	Pn	**Pn**	**00 00 47.5**	**+2.2**
PWL	**Port Wells**	**13.91**	**44**	Pn	**Pn**	**00 00 46.6**	**-2.2**
J20K	**Nowinta River**	**14.01**	**26**	Pn	**Pn**	**00 00 51.9**	**+1.9**
CAST	**Castle Rocks**	**14.05**	**31**	Pn	**Pn**	**00 00 52.6**	**+2.0**
KNK	**Knik Glacier**	**14.14**	**42**	Pn	**Pn**	**00 00 51.1**	**-0.8**
GHO	**Glory Hole Cre**	**14.14**	**40**	Pn	**Pn**	**00 00 51.3**	**-0.6**
MID	**Middleton Isla**	**14.22**	**51**	Pn	**Pn**	**00 00 53.6**	**+0.7**
SML	**Sawmill**	**14.40**	**41**	Pn	**Pn**	**00 00 54.5**	**-0.9**
KTH	**Kantishna Hill**	**14.52**	**32**	Pn	**Pn**	**00 00 58.1**	**+1.0**
TRF	**Thorofare Moun**	**14.66**	**33**	Pn	**Pn**	**00 00 58.8**	**-0.4**
FID	**Port Fidalgo**	**14.67**	**46**	Pn	**Pn**	**00 00 57.5**	**-1.6**
SCM	**Sheep Creek Mo**	**14.82**	**42**	Pn	**Pn**	**00 00 59.8**	**-1.4**
EYAK	**Cordova Ski Ar**	**14.91**	**48**	Pn	**Pn**	**00 01 03.2**	**+0.8**
KLU	**Klutina**	**15.24**	**44**		**Pn**	**00 01 05.2**	**-1.6**
RAGM	**Ragged Mountai**	**15.35**	**49**	Pn	**Pn**	**00 01 09.7**	**+1.6**
M24K	**Tolsona, Glenn**	**15.43**	**42**		**Pn**	**00 01 08.0**	**-1.2**
DHY	**Denali Highway**	**15.47**	**38**	Pn	**Pn**	**00 01 10.0**	**+0.1**
DHY				IAmb	IAmb	00 01 13.8	
	comp=Z,9.9nm,1.1s						
BMRM	**Bremner River**	**15.60**	**47**	Pn	**Pn**	**00 01 11.1**	**-0.4**
BMRM				IAmb	IAmb	00 01 11.5	
	comp=Z,23nm,1.2s						
MLY	**Manley**	**15.62**	**28**	P	**P**	**00 01 14.4**	**-1.5**
MLY				IAmb	IAmb	00 01 17.3	
	comp=Z,16nm,0.9s						
N25K	**Chitina, Valde**	**15.86**	**45**	Pn	**Pn**	**00 01 13.3**	**-1.6**
N25K				IAmb	IAmb	00 01 24.7	
	comp=Z,14nm,1.1s						
WRH	**Wood River Hil**	**16.07**	**33**	Pn	**Pn**	**00 01 17.4**	**0.0**
GLB	**Gilahina Butte**	**16.14**	**46**	Pn	**Pn**	**00 01 16.8**	**-1.7**
GLB				IAmb	IAmb	00 01 27.7	
	comp=Z,6.8nm,0.8s						
PAX	**Paxson**	**16.15**	**40**	Pn	**Pn**	**00 01 17.6**	**-0.9**
VRDI	**Verde Repeater**	**16.21**	**47**	Pn	**Pn**	**00 01 18.6**	**-1.0**
WAX	**Waxell Ridge**	**16.22**	**50**	Pn	**Pn**	**00 01 19.0**	**-0.4**
CCB	**Clear Creek Bu**	**16.27**	**33**	Pn	**Pn**	**00 01 20.0**	**-0.1**
TGL	**Tana Glacier**	**16.33**	**49**	P	**Pn**	**00 01 21.4**	**+0.5**
MDM	**Murphy Dome**	**16.34**	**31**	P	**Pn**	**00 01 20.9**	**-0.1**
HDA	**Harding Lake**	**16.41**	**34**	P	**Pn**	**00 01 20.9**	**-0.9**
HDA				IAmb	IAmb	00 01 25.9	
	comp=Z,4.1nm,0.4s						
ISLE	**Juniper Island**	**16.51**	**50**	P	**Pn**	**00 01 24.1**	**+0.9**
ISLE				IAmb	IAmb	00 01 41.5	
	comp=Z,17nm,0.9s						
ILAR	**Eielson Array**	**16.66**	**33**	Pn	**Pn**	**00 01 22.9**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=226,slow=11,SNR=9.9						
ILAR				LR	LR	00 08 27.6	
	comp=Z,104nm,19.6s,baz=193,slow=40						
YAH	**Yahtse**	**16.71**	**51**	Pn	**Pn**	**00 01 26.6**	**+0.7**
RIDG	**Independent Ri**	**16.79**	**38**	Pn	**Pn**	**00 01 27.4**	**+0.7**
GRNC	**Granite Creek**	**16.82**	**49**	P	**Pn**	**00 01 26.6**	**-0.6**
GRNC				IAmb	IAmb	00 01 32.5	
	comp=Z,22nm,1.0s						
M26K	**Nabesna, AK**	**16.89**	**43**		**Pn**	**00 01 27.1**	**-0.9**
M26K				IAmb	IAmb	00 01 31.1	
	comp=Z,7.1nm,0.8s						
BARN	**Barnard Glacie**	**16.97**	**48**	Pn	**Pn**	**00 01 29.1**	**-0.1**
BARN				IAmb	IAmb	00 01 40.7	
	comp=Z,11nm,1.1s						
TABL	**Table Mountain**	**17.02**	**51**		**P**	**00 01 31.0**	**-0.7**
TABL				IAmb	IAmb	00 01 36.9	
	comp=Z,26nm,1.0s						
H24K	**Noodor Dome**	**17.04**	**29**	P	**P**	**00 01 31.0**	**-0.7**
H24K				IAmb	IAmb	00 01 33.1	
	comp=Z,9.1nm,1.1s						
DOT	**Dot Lake**	**17.04**	**39**	Pn	**Pn**	**00 01 30.2**	**+0.4**
J25K	**Salcha River,**	**17.09**	**35**	P	**Pn**	**00 01 29.6**	**-0.8**
J25K				IAmb	IAmb	00 01 30.7	
	comp=Z,6.9nm,0.9s						
CTGM	**Chitina Glacie**	**17.09**	**49**	Pn	**Pn**	**00 01 30.9**	**+0.3**
CTGM				IAmb	IAmb	00 01 40.9	
	comp=Z,13nm,1.0s						
LOGN	**Logan Glacier**	**17.20**	**50**		**P**	**00 01 33.6**	**+0.1**
LOGN				IAmb	IAmb	00 01 37.0	
	comp=Z,16nm,1.0s						
SCRK	**Sand Creek**	**17.24**	**38**	Pn	**Pn**	**00 01 31.6**	**-0.8**
M27K	**Edge Creek, AK**	**17.34**	**44**	P	**Pn**	**00 01 32.8**	**-1.0**
M27K				IAmb	IAmb	00 01 36.3	
	comp=Z,11nm,1.0s						
L27K	**Beaver Creek,**	**17.66**	**42**	P	**Pn**	**00 01 36.5**	**-1.0**
J26L	**Joseph Creek**	**17.67**	**37**	P	**Pn**	**00 01 37.6**	**-0.1**
J26L				IAmb	IAmb	00 01 39.4	
	comp=Z,9.3nm,0.8s						
BCAR	**Beaver Creek A**	**17.68**	**42**	P	**P**	**00 01 38.3**	**-0.3**
FYU	**Fort Yukon**	**18.33**	**30**		**Pn**	**00 01 45.7**	**0.0**
FYU				IAmb	IAmb	00 01 53.0	
	comp=Z,19nm,1.2s						
EGAK	**Eagle**	**18.71**	**38**	P	**P**	**00 01 49.9**	**0.0**
DAWY	**Dawson**	**19.07**	**41**	P	**P**	**00 01 53.2**	**-0.8**
BMAR	**Burnt Mountain**	**19.09**	**28**	P	**P**	**00 01 54.3**	**+0.2**
SKAG	**Skagway**	**19.69**	**56**	P	**P**	**00 02 01.0**	**+0.3**
WHY	**Whitehorse**	**20.09**	**52**	P	Pn	00 02 07.2	+0.3
PEA0B	**Petropavlovsk-**	**20.48**	**286**	P	**P**	**00 02 09.4**	**0.0**
PETK	**Petropavlovsk-**	**20.48**	**286**	P	**P**	**00 02 08.5**	**-0.9**
	comp=Z,7.9nm,0.6s,baz=91,slow=13,SNR=10						
PETK	**Petropavlovsk-**	**20.48**	**286**	P	**P**	**00 02 08.7**	**-0.7**
P33M	**Teslin, Yukon**	**21.04**	**54**	P	**P**	**00 02 17.5**	**+2.0**
P33M				IAmb	IAmb	00 02 36.8	
	comp=Z,9.1nm,1.1s						
SEY	**Seymchan**	**23.17**	**313**	P	**P**	**00 02 37.1**	**-0.9**
	comp=Z,3.9nm,0.7s,baz=99,slow=11,SNR=8.3						
YKA	**Yellowknife Ar**	**29.81**	**49**	P	**P**	**00 03 38.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=270,slow=8.8,SNR=13						
YKA				PcP	**PcP**	**00 06 41.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=271,slow=2.6,SNR=5.4						
YKA				LR	LR	00 18 09.5	
	comp=Z,161nm,19.0s,baz=279,slow=42						
YKA	**Yellowknife Ar**	**29.81**	**49**	P	**P**	**00 03 38.7**	**+0.3**
RES	**Resolute Bay**	**36.16**	**26**	LR	LR	00 21 28.8	
	comp=Z,83nm,19.0s,baz=86,slow=40						
NVAR	**Mina Array Bea**	**37.04**	**92**	P	**P**	**00 04 44.0**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=300,slow=7.2,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**37.80**	**220**	T	T	00 45 55.5	
	baz=24,slow=76,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**37.81**	**220**	T	T	00 45 52.6	
	baz=24,slow=76,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**37.82**	**220**	T	T	00 45 48.2	
	baz=24,slow=76,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**38.98**	**220**	T	T	00 46 57.3	
	baz=23,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**39.00**	**219**	T	T	00 47 02.2	
	baz=23,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**39.00**	**220**	T	T	00 46 58.5	
	baz=23,slow=76,SNR=12						
USRK	**Ussuriysk Ar.**	**39.52**	**283**	LR	LR	00 25 15.7	
	comp=Z,32nm,18.3s,baz=123,slow=42						
PDAR	**Pinedale Array**	**39.80**	**80**	P	**P**	**00 05 05.8**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=303,slow=5.2,SNR=11						
PDAR	**Pinedale Array**	**39.80**	**80**	P	**P**	**00 05 06.0**	**+1.0**
MJAR	**Matsushiro Arr**	**40.32**	**269**	P	**P**	**00 05 08.7**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=56,slow=8.1,SNR=4.9						
FCC	**Fort Churchill**	**40.50**	**51**	P	**P**	**00 05 10.6**	**+0.4**
FCC				IAmb	IAmb	00 05 12.2	
	comp=Z,4.0nm,0.9s						
O20A	**White River Ci**	**42.15**	**82**	P	**P**	**00 05 24.7**	**+0.4**
PV13	**Radium Mtn., P**	**43.02**	**85**	P	**P**	**00 05 30.9**	**-0.6**
PV13				IAmb	IAmb	00 05 44.7	
	comp=Z,5.7nm,0.9s						
PV15	**Paradox Valley**	**43.12**	**84**	P	**P**	**00 05 32.7**	**+0.5**
PV15				IAmb	IAmb	00 05 51.0	
	comp=Z,6.8nm,1.1s						
CN2	**Changchun**	**43.63**	**286**	*e*P	**P**	**00 05 34.6**	**-1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSRS	**Korea Array**	**46.03**	**277**	P	**P**	**00 05 55.5**	**+0.3**
	comp=Z,5.3nm,0.8s,baz=52,slow=6.8,SNR=11						
KSRS				LR	LR	00 23 42.6	
	comp=Z,28nm,21.2s,baz=170,slow=34						
ANMO	**Albuquerque**	**46.55**	**86**	LR	LR	00 25 31.5	
	comp=Z,46nm,18.8s,baz=334,slow=36						
SONM	**Songino Array**	**51.87**	**301**	P	**P**	**00 06 40.4**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=45,slow=4.4,SNR=4.4						
TXAR	**Lajitas Array**	**52.12**	**90**	P	**P**	**00 06 42.8**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=292,slow=5.3,SNR=10.0						
P40A	**Paris**	**52.21**	**72**	P	**P**	**00 06 41.5**	**-1.0**
HNS	**HongShan**	**54.00**	**286**	⇓P	**P**	**00 06 56.5**	**+0.9**
HNS				pmax	pmax		
	comp=Z,13nm,1.0s						
ZALV	**Zalesovo Beam**	**57.89**	**318**	P	**P**	**00 07 22.2**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=41,slow=9.5,SNR=3.5						
ZALV				LR	LR	00 33 49.8	
	comp=Z,44nm,18.0s,baz=48,slow=38						
ARCES	**ARCESS Array B**	**58.05**	**354**	P	**P**	**00 07 23.3**	**-0.9**
	comp=Z,3.1nm,0.9s,baz=356,slow=7.4,SNR=1.6						
XAN	**Xi'an**	**59.71**	**287**	P	**P**	**00 07 36.1**	**-0.3**
XAN				pP	pwP	00 07 47.0	+3.3
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN				LR	LR		
	comp=N,390nm,12.4s						
XAN				LR	LR		
	comp=E,290nm,11.0s						
GTA	**Gaotai**	**61.06**	**298**	*e*P	**P**	**00 07 44.9**	**-0.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURBB	**Kurchatov Arra**	**62.94**	**319**	P	**P**	**00 07 57.7**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=46,slow=7.9,SNR=9.8						
WMQ	**Urumqi**	**64.06**	**309**	*e*P	**P**	**00 08 05.9**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
BVAR	**Borovoye Array**	**64.12**	**325**	P	**P**	**00 08 05.2**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=52,slow=9.6,SNR=8.9						
MKAR	**Makanchi Array**	**64.30**	**314**	P	**P**	**00 08 06.0**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=48,slow=6.7,SNR=16						
MKAR	**Makanchi Array**	**64.30**	**314**	P	**P**	**00 08 06.6**	**-0.4**
ARU	**Arti**	**64.96**	**333**	P	**P**	**00 08 09.3**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=211,slow=0.5,SNR=5.5						
FINES	**FINESS Array B**	**66.02**	**352**	P	**P**	**00 08 17.1**	**-0.7**
	comp=Z,3.9nm,0.8s,baz=14,slow=8.5,SNR=9.6						
GOMU	**GeErMu**	**66.11**	**299**	P	**P**	**00 08 16.0**	**-3.3**
GOMU				pP	sP	00 08 22.0	-0.8
GOMU				sP	pwP	00 08 24.3	-2.4
GOMU				PP	PP	00 10 52.5	+8.2
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**67.00**	**0**	P	**P**	**00 08 23.0**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=358,slow=6.1,SNR=3.8						
PZH	**PanZhiHua**	**69.44**	**287**	P	**P**	**00 08 39.9**	**-0.2**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,6.2s						
AKTO	**Aktyubinsk**	**70.38**	**331**	P	**P**	**00 08 45.2**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=9.0,slow=7.2,SNR=6.0						
AAK	**Ala-Archa**	**70.98**	**316**	P	**P**	**00 08 49.3**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=158,slow=3.5,SNR=5.7						
AAK				LR	LR	00 41 24.5	
	comp=Z,27nm,19.0s,baz=58,slow=37						
KSH	**Kashi**	**72.88**	**313**	P	**P**	**00 09 04.3**	**+3.5**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AKASG	**Malin Array Be**	**76.30**	**349**	P	**P**	**00 09 18.9**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=14,slow=5.8,SNR=9.6						
CMAR	**Chiang Mai Arr**	**77.24**	**284**	P	**P**	**00 09 26.1**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=26,slow=6.4,SNR=18						
DPC	**Dobruska-Polom**	**77.64**	**357**	*e*P	**P**	**00 09 24.2**	**-3.7**
KRLC	**Kraliky**	**77.90**	**357**	*e*P	**P**	**00 09 28.4**	**-0.9**
KHC	**Kasperske Hory**	**78.93**	**359**	*e*P	**P**	**00 09 32.0**	**-3.0**
GERES	**GERESS Array B**	**79.21**	**359**	P	**P**	**00 09 37.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=20,slow=4.3,SNR=6.0						
CONA	**Conrad Observa**	**80.08**	**357**	*e*P	**P**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=272						
ENA	**Nanau**	**0.79**	**228**	P	**Pb**	**23 59 59.6**	**-0.1**
	baz=224						
ENA				*i* S	**Sb**	**00 00 10.8**	**+0.5**
	baz=224						
TAP	**Taipei**	**0.80**	**276**	P	**Pg**	**00 00 00.1**	**+0.1**
	baz=278						
TAP				S	**Sg**	**00 00 11.3**	**+0.8**
	baz=278						
ENTT	**Nioudou**	**0.81**	**247**	P	**Pg**	**00 00 00.3**	**+0.2**
	baz=245						
ENTT				S	**Sg**	**00 00 10.8**	**0.0**
	baz=245						
ANP	**Anpu**	**0.82**	**286**	*i* P	**Pb**	**00 00 00.2**	**-0.1**
	baz=290						
ANP				S	**Sb**	**00 00 11.9**	**+0.8**
	baz=290						
NWLT	**Wulai**	**0.82**	**257**	*e*P	**Pg**	**00 00 00.5**	**+0.1**
	baz=258						
NWLT				*e*S	**Sn**	**00 00 12.2**	**-1.1**
	baz=258						
NDT	**Datong Townshi**	**0.87**	**246**	P	**Pg**	**00 00 01.3**	**+0.1**
	baz=245						
NDT				*e*S	**Sg**	**00 00 13.4**	**+0.7**
	baz=245						
EHP	**Heping Village**	**0.87**	**222**	*e*S	**Sg**	**00 00 13.3**	**+0.5**
	baz=218						
NTST	**Danshui**	**0.88**	**284**	P	**Pn**	**00 00 02.6**	**+0.6**
	baz=287						
NTST				*e*S	**Sn**	**00 00 14.0**	**-0.5**
	baz=287						
LATG	**Datong**	**0.89**	**242**	P	**Pg**	**00 00 01.8**	**+0.2**
	baz=240						
LATG				S	**Sb**	**00 00 12.8**	**-0.4**
	baz=240						
TWS1	**Kuangyinshan**	**0.89**	**279**	P	**Pn**	**00 00 02.7**	**+0.5**
	baz=282						
TWS1				S	**Sg**	**00 00 13.7**	**+0.4**
	baz=282						
NSK	**Sanguang**	**0.98**	**253**	*i* P	**Pb**	**00 00 02.9**	**-0.1**
	baz=253						
NSK				S	**Sn**	**00 00 16.6**	**-0.5**
	baz=253						
NNSB	**Datong**	**1.06**	**240**	*e*P	**Pn**	**00 00 04.6**	**0.0**
	baz=238						
NNSB				*e*S	**Sn**	**00 00 18.9**	**-0.3**
	baz=238						
ETL	**Fush Village**	**1.06**	**221**	P	**Pb**	**00 00 04.0**	**-0.3**
	baz=218						
ETL				S	**Sb**	**00 00 17.9**	**-0.1**
	baz=218						
NNS	**Nan Shan**	**1.06**	**241**	P	**Pn**	**00 00 04.8**	**+0.1**
	baz=239						
NNS				S	**Sg**	**00 00 18.6**	**0.0**
	baz=239						
NCU	**National Centr**	**1.09**	**271**	*e*S	**Sn**	**00 00 20.3**	**+0.5**
	baz=272						
NCUH	**Zhongli**	**1.09**	**271**	*e*S	**Sn**	**00 00 20.2**	**+0.3**
	baz=272						
ETLH	**Xiulin Townshi**	**1.11**	**228**	*e*P	**Pn**	**00 00 05.5**	**0.0**
	baz=225						
ETLH				S	**Sb**	**00 00 19.7**	**0.0**
	baz=225						
TWD	**Chiawan**	**1.13**	**220**	P	**Pn**	**00 00 05.5**	**-0.1**
	baz=216						
TWD				*e*S	**Sn**	**00 00 20.9**	**0.0**
	baz=216						
NFF	**Wufeng Townshi**	**1.20**	**254**	*e*P	**Pn**	**00 00 06.4**	**-0.1**
	baz=254						
NFF				*e*S	**Sg**	**00 00 23.6**	**+0.4**
	baz=254						
FUSS	**Fushou**	**1.26**	**236**	*e*P	**Pb**	**00 00 08.2**	**+0.3**
	baz=234						
FUSS				*e*S	**Sn**	**00 00 24.6**	**+0.3**
	baz=234						
SBCB	**Hsinchu**	**1.28**	**263**	*e*P	**Pb**	**00 00 08.2**	**+0.1**
	baz=263						
SBCB				*e*S	**Sg**	**00 00 25.6**	**-0.2**
	baz=263						
LIOB	**Emei**	**1.29**	**256**	P	**Pn**	**00 00 07.8**	**0.0**
	baz=256						
LIOB				*e*S	**Sn**	**00 00 24.6**	**-0.1**
	baz=256						
HSN	**Hsinchu**	**1.30**	**263**	*e*P	**Pn**	**00 00 07.9**	**0.0**
	baz=265						
NSTT	**Nanjuang**	**1.30**	**256**	*e*P	**Pb**	**00 00 08.4**	**-0.1**
	baz=255						
WHF	**Hehuan Shan**	**1.30**	**232**	P	**Pg**	**00 00 09.8**	**+0.3**
	baz=229						
WHF				S	**Sn**	**00 00 26.1**	**+0.3**
	baz=229						
TWT	**Tachien**	**1.31**	**238**	P	**Pb**	**00 00 08.9**	**+0.3**
	baz=236						
TWT				*e*S	**Sg**	**00 00 26.7**	**0.0**
	baz=236						
TDCB	**Techi**	**1.32**	**238**	P	**Pb**	**00 00 08.7**	**-0.2**
	baz=236						
TDCB				*e*S	**Sn**	**00 00 26.2**	**+0.4**
	baz=236						
IRIF	**Iriomote-Funau**	**1.37**	**117**	P	**Pn**	**00 00 07.8**	**-1.1**
IRIF				*e*S	**Sn**	**00 00 25.2**	**-1.5**
CHGB	**Renai**	**1.42**	**231**	P	**Pg**	**00 00 11.5**	**-0.3**
	baz=229						
CHGB				*e*S	**Sb**	**00 00 29.2**	**+0.5**
	baz=229						
ESL	**Shilin**	**1.44**	**218**	*e*P	**Pb**	**00 00 10.5**	**-0.2**
	baz=214						
ESL				*e*S	**Sg**	**00 00 30.1**	**-0.5**
	baz=214						
WHP	**Taichung City**	**1.48**	**243**	*e*P	**Pn**	**00 00 11.0**	**+0.6**
	baz=242						
WHP				*e*S	**Sg**	**00 00 31.1**	**-0.9**
	baz=242						
OWD	**Renai**	**1.49**	**228**	P	**Pb**	**00 00 11.9**	**+0.2**
	baz=226						
OWD				*e*S	**Sb**	**00 00 30.2**	**-0.3**
	baz=226						
WUSB	**Renai**	**1.51**	**230**	*e*P	**Pb**	**00 00 12.7**	**+0.6**
	baz=228						
WUSB				*e*S	**Sb**	**00 00 31.8**	**+0.8**
	baz=228						
EGFH	**Guangfu**	**1.56**	**214**	*e*S	**Sb**	**00 00 32.2**	**-0.1**
	baz=211						
WCS	**Beigang Elemen**	**1.62**	**237**	*e*P	**Pb**	**00 00 13.6**	**-0.2**
	baz=235						
JKRS	**Kuro-shima**	**1.64**	**116**	P	**Pn**	**00 00 12.4**	**-0.2**
VWDT	**VWDT**	**1.65**	**224**	*e*P	**Pb**	**00 00 14.1**	**-0.4**
	baz=221						
VWDT				*e*S	**Sb**	**00 00 35.8**	**+0.7**
	baz=221						
JIJ	**Ishigaki jima**	**1.70**	**110**	*e*S	**Sn**	**00 00 35.2**	**+0.2**
SSLB	**Suanglung**	**1.75**	**229**	*e*P	**Pb**	**00 00 16.5**	**+0.3**
	baz=226						
SSLB				*e*S	**Sb**	**00 00 38.1**	**+0.1**
	baz=226						

*NNC **22** 00:00:12.3±4.6, 37.°72N×71.°92E, h148km±69km, mb3.3, mpv4.2, Error ellipse: s-maj=43.4km s-min=24.0km az=2.0*
*IDC **22** 00:00:13.1±8.1, 37.°69N×72.°37E, h170km±51km, mb2.9/2, mb1 3.1/8, mb1mx2.9/55, mbtmp3.7/8, Error ellipse: s-maj=72.5km s-min=41.7km az=4.0*
ISC 22 00:00:07.1±0.7, 37.°36N±0.°05×72.°00E±0.°07, h200km, n32, σ2°72/39, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.53**	**181**	P	**Pn**	**00 01 04.0**	**+0.7**
CEP				S	**Sn**	**00 01 45.0**	**-2.2**
CHCP	**Chirah Chowk**	**3.83**	**164**	P	**Pn**	**00 01 07.5**	**+0.6**
THW	**Thamme Wali**	**4.56**	**183**	P	**Pn**	**00 01 15.7**	**-0.3**
AML	**Almayashu**	**4.94**	**15**	P	**Pn**	**00 01 21.0**	**-0.1**
	SNR=34						
UCH	**Uchtor**	**5.23**	**21**	P	**Pn**	**00 01 25.1**	**+0.3**
	SNR=51						
EKS2	**Erkin-Say**	**5.47**	**14**	P	**Pn**	**00 01 28.1**	**+0.6**
	SNR=18						
AAK	**Ala-Archa**	**5.61**	**19**	P	**Pn**	**00 01 30.1**	**+0.8**
	9.2nm,0.3s,baz=200,slow=8.5,SNR=103						
AAK				S	**Sn**	**00 02 30.2**	**-4.2**
	2.1nm,0.3s,baz=139,slow=22,SNR=7.9						
AAK	**Ala-Archa**	**5.61**	**19**	P	**Pn**	**00 01 30.2**	**+0.8**
	SNR=50						
AAK	**Ala-Archa**	**5.61**	**19**	⇑P	**Pn**	**00 01 30.0**	**+0.6**
	38nm,0.6s						
AAK				⇑S	**Sn**	**00 02 30.5**	**-4.0**
	22nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**5.75**	**22**	P	**Pn**	**00 01 32.8**	**+1.6**
	SNR=16						
KK08	**Karatay Array**	**5.85**	**349**	⇑P	**Pn**	**00 01 32.7**	**+0.4**
	4.8nm,0.3s,baz=170,slow=13						
KK08				⇑S	**Sn**	**00 02 34.4**	**-5.5**
	19nm,0.5s,baz=170,slow=23						
ULHL	**Ulahol**	**5.87**	**32**	P	**Pn**	**00 01 32.8**	**0.0**
	SNR=13						
CHMS	**Chumysh**	**6.01**	**20**	P	**Pn**	**00 01 35.1**	**+0.7**
	SNR=39						
TKM2	**Tokmak 2**	**6.20**	**25**	P	**Pn**	**00 01 38.2**	**+1.1**
	SNR=14						
TKM2	**Tokmak 2**	**6.20**	**25**	⇑P	**Pn**	**00 01 37.4**	**+0.4**
	11nm,0.7s						
TKM2				⇓S	**Sn**	**00 02 45.3**	**-3.1**
	1.9nm,0.5s						
USP	**Ospenovka**	**6.20**	**17**	P	**Pn**	**00 01 37.2**	**+0.3**
	SNR=9.4						
GEYT	**Alibeck**	**11.02**	**277**	P	**Pn**	**00 02 40.1**	**+0.6**
	1.3nm,0.3s,baz=88,slow=10,SNR=4.6						
GEYT				S	**Sn**	**00 04 36.4**	**-6.0**
	0.6nm,0.3s,baz=78,slow=31,SNR=2.6						
MK31	**Makanchi Array**	**12.13**	**36**	⇓P	**Pn**	**00 02 53.1**	**-0.4**
	1.2nm,0.5s,baz=196,slow=5.9,SNR=9.7						
MKAR	**Makanchi Array**	**12.13**	**36**	P	**Pn**	**00 02 54.9**	**+1.4**
	0.2nm,0.3s,baz=216,slow=14,SNR=9.3						
PYUN	**Piuthan**	**13.06**	**132**	*e*P	**Pn**	**00 03 04.3**	**-1.3**
	40nm,0.4s						
KOLN	**Koldanda**	**13.67**	**131**	*e*P	**Pn**	**00 03 12.5**	**-0.7**
	20nm,0.4s						
KURBB	**Kurchatov Arra**	**14.06**	**17**	P	**Pn**	**00 03 17.9**	**+0.4**
	0.0nm,0.3s,baz=206,slow=12,SNR=7.9						
GKN	**Gorkha**	**14.14**	**128**	*e*P	**Pn**	**00 03 18.1**	**-0.9**
	14nm,0.3s						
KKN	**Kakani**	**14.70**	**127**	*e*P	**Pn**	**00 03 25.5**	**-0.4**
	3.9nm,0.2s						
AB31	**Akbulak array**	**14.75**	**328**	P	**P**	**00 03 29.9**	**+2.9**
	1.0nm,0.3s,baz=132,slow=15,SNR=35						
PKIN	**Phulchoki**	**14.92**	**127**	*e*P	**P**	**00 03 28.9**	**-0.5**
	8.7nm,0.3s						
BVAR	**Borovoye Array**	**15.71**	**356**	P	**Pn**	**00 03 40.1**	**+2.5**
	0.6nm,0.3s,baz=140,slow=12,SNR=10						
BVAR				S	**S**	**00 06 28.5**	**-3.2**
	baz=165,slow=22,SNR=3.5						
AKTO	**Aktyubinsk**	**16.46**	**327**	P	**Pn**	**00 03 52.4**	**+5.6**
	0.4nm,0.3s,baz=139,slow=14,SNR=8.2						
AKTO				S	**S**	**00 06 45.6**	**-2.2**
	0.4nm,0.3s,baz=156,slow=23,SNR=7.4						
AKTO	**Aktyubinsk**	**16.46**	**327**	⇓P	**Pn**	**00 03 52.6**	**+5.8**
	2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**18.80**	**24**	P	**Pn**	**00 04 14.9**	**+0.7**
	0.6nm,0.3s,baz=211,slow=10,SNR=8.8						
ARU	**Arti**	**21.10**	**339**	P	**P**	**00 04 42.5**	**+6.7**
	0.3nm,0.4s,baz=148,slow=15,SNR=3.8						
YKA	**Yellowknife Ar**	**80.35**	**3**	P	P	00 12 03.1	+7.6
	0.3nm,0.5s,baz=351,slow=5.5,SNR=8.6						

*UUSS **22** 00:10:38.3±2.1, 36.°87N±0.°02×113.°49W±0.°04, h12km±6km, ML3.0/9, ML2.7/5(REN), ML2.8/83(NEIC), Error ellipse: s-maj=5.2km s-min=2.0km az=123.0*
*REN **22** 00:10:38.6±2.9, 36.°91N±0.°03×113.°45W±0.°05, h16km±1km, Error ellipse: s-maj=5.5km s-min=4.1km az=106.0*
*ANF **22** 00:10:39.0±0.5, 36.°89N×113.°50W, h21km±4km, ML2.8/12, Error ellipse: s-maj=3.3km s-min=2.5km az=24.0*
NEIC 22 00:10:38.2±1.6, 36.°86N±0.°03×113.°50W±0.°02, h2km±7km, Error ellipse: s-maj=4.3km s-min=2.1km az=192.0, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCMT	**Little Creek M**	**0.26**	**54**		Pg	00 10 43.6	+0.5
LCMT	**Little Creek M**	**0.26**	**54**		Sg	00 10 47.0	+0.6
ICU	**Indian Springs**	**0.44**	**310**		Pg	00 10 47.5	+0.7
KNB	**Kanab**	**0.56**	**74**		Pg	00 10 48.7	-0.3
KNB				IAML		00 10 57.0	
	comp=N,520nm,0.2s						
KNB	**Kanab**	**0.56**	**74**		Sg	00 10 56.0	-0.4
CCUT	**Cedar City**	**0.70**	**9**		Pg	00 10 51.6	0.0
CCUT					Sg	00 11 00.5	-0.1
SZCU	**Shurtz Canyon**	**0.80**	**24**		Pg	00 10 53.1	-0.5
U15A	**North Rim**	**1.06**	**114**		Pg	00 10 57.7	-0.9
U15A				IAML		00 11 15.9	
	comp=N,167nm,0.4s						
U15A				IAML		00 11 16.1	
	comp=E,221nm,0.7s						
PKCU	**Pink Cliffs**	**1.11**	**58**		Pg	00 10 59.4	-0.1
PRN	**Pahroc Range**	**1.35**	**294**		Pg	00 11 03.1	-1.1
PRN				IAML		00 11 29.0	
	comp=N,173nm,0.8s						
PRN				IAML		00 11 32.5	
	comp=E,199nm,0.8s						
SHPR	**Sheep Range**	**1.38**	**256**		Pn	00 11 03.1	-1.4
SHPR				IAML		00 11 21.8	
	comp=N,285nm,0.2s						
SHPR				IAML		00 11 22.6	
	comp=E,218nm,0.4s						
MTPU	**Mount Pierson**	**1.58**	**41**	Pn	Pn	00 11 05.5	-1.9
MTPU				IAML		00 11 29.1	
	comp=N,181nm,0.3s						
PSUT	**Pine Spring**	**1.69**	**351**		Pn	00 11 07.6	-1.3
PSUT	**Pine Spring**	**1.69**	**351**	IAML		00 11 32.3	
	comp=E,84nm,0.5s						
W13A	**Hualapai Mount**	**1.79**	**190**		Pn	00 11 10.5	+0.3
W13A				IAML		00 11 35.7	
	comp=E,67nm,0.3s						
W13A				IAML		00 11 37.2	
	comp=N,81nm,0.6s						
TCRU	**Three Creeks R**	**1.94**	**25**		Pn	00 11 11.9	-0.3
TCRU				IAML		00 11 39.7	
	comp=E,87nm,0.2s						
TCRU				IAML		00 11 41.8	
	comp=N,76nm,0.4s						
MSU	**Marysvale**	**1.95**	**32**		Pn	00 11 12.2	-0.3
S11A	**Rachel**	**1.96**	**294**		Pn	00 11 13.0	+0.5
S11A				IAML		00 11 46.6	
	comp=N,69nm,0.6s						
S11A				IAML		00 12 05.2	
	comp=E,121nm,0.0s						
WUAZ	**Wupatki**	**2.18**	**127**		Pn	00 11 14.7	-0.9
WUAZ	**Wupatki**	**2.18**	**127**	P	Pn	00 11 14.4	-1.2
	baz=309,SNR=20						
WUAZ				S	Sn	00 11 41.8	-1.4
	baz=309						
TPNV	**Topopah Spring**	**2.21**	**273**	P	Pn	00 11 14.8	-1.1
	baz=91,SNR=26						
TPNV				Sb	Sb	00 11 47.1	+0.5
	baz=91						
R11A	**Troy Canyon, C**	**2.22**	**313**		Pn	00 11 17.0	+0.8
R11A	**Troy Canyon, C**	**2.22**	**313**	Pb	Pb	00 11 18.1	-1.0
	baz=131,SNR=27						
R11A				Sb	Sb	00 11 47.0	-0.2
	baz=131						
SPR3	**Spring Creek 3**	**2.23**	**343**		Pn	00 11 16.4	-0.1
SPR3				IAML		00 11 48.9	
	comp=N,42nm,0.6s						
NEE2	**Needles Airpor**	**2.28**	**204**	Sb	Sb	00 11 50.0	+1.4
	baz=23						
TUQ	**Turquoise Moun**	**2.42**	**235**	P	Pn	00 11 17.6	-1.2
	baz=53,SNR=6.2						
TUQ				Sb	Sb	00 11 53.4	+0.5
	baz=53						
SHOC	**Shoshone, Teco**	**2.44**	**248**	Sb	Sb	00 11 53.5	+0.3
	baz=66						
PDMCI	**Parker Dam,Lak**	**2.60**	**192**	Sb	Sb	00 11 59.9	+1.9
	baz=11						
GWY	**Greenwater Val**	**2.64**	**256**		Pn	00 11 22.6	+0.8
GWY				IAML		00 12 01.7	
	comp=N,35nm,0.3s						
GWY				IAML		00 12 04.7	
	comp=E,28nm,0.7s						
GMRC	**Granite Mounta**	**2.71**	**221**	P	Pn	00 11 21.5	-1.4
	baz=40						
GMRC				Sb	Sb	00 12 02.8	+1.5
	baz=40						
FURC	**Furnace Creek,**	**2.73**	**263**	Sb	Sb	00 12 02.6	+1.0
	baz=80						
Q16A	**Castle Valley**	**2.76**	**41**		Pn	00 11 23.0	-0.6
Q16A				IAML		00 12 04.3	
	comp=E,32nm,0.4s						
Q16A					Sg	00 12 06.3	-0.5
Q16A				IAML		00 12 07.3	
	comp=N,29nm,0.6s						
QSM	**Queen of Sheba**	**2.86**	**253**		Pn	00 11 24.1	-0.7
X16A	**Lo Mia Camp, P**	**2.96**	**145**		Pn	00 11 26.6	+0.2
X16A				IAML		00 12 14.0	
	comp=N,30nm,0.5s						
IRM	**Iron Mountain**	**3.01**	**207**	P	Pn	00 11 26.1	-0.8
	baz=26,SNR=8.7						
IRM				Sb	Sg	00 12 12.6	-2.4
	baz=26						
TMUT	**Trail Mountain**	**3.03**	**36**		Pn	00 11 27.3	-0.1
TMUT				IAML		00 12 15.8	
	comp=N,24nm,0.7s						
TMUT				IAML		00 12 16.9	
	comp=E,32nm,0.8s						
GSC	**Goldstone, Bar**	**3.10**	**241**		Pn	00 11 27.4	-0.7
GSC				IAML		00 12 22.4	
	comp=N,19nm,1.0s						
TPH	**Tonopah**	**3.20**	**293**		Pn	00 11 29.7	+0.1
SRU	**San Rafael Swe**	**3.25**	**45**		Pn	00 11 30.1	-0.3
SRU				IAML		00 12 20.8	
	comp=E,23nm,0.5s						
SRU				IAML		00 12 22.7	
	comp=N,43nm,0.6s						
NLU	**North Lily Min**	**3.29**	**19**		Pn	00 11 30.1	-0.7
MPMC	**Manual Prospec**	**3.31**	**257**	P	Pn	00 11 30.2	-1.0
	baz=75						
MPMC				Sb	Sb	00 12 19.7	+1.1
	baz=75						
LCH	**Last Change Ra**	**3.34**	**278**		Pn	00 11 30.9	-0.5
DUG	**Dugway, Tooele**	**3.37**	**9**		Pn	00 11 31.3	-0.6
BELC	**Belle Mtn. Jos**	**3.51**	**216**	P	Pn	00 11 32.6	-1.2
	baz=35						
W18A	**Petrified Fore**	**3.51**	**119**		Pn	00 11 37.3	+3.4
W18A				IAML		00 12 39.6	
	comp=E,34nm,0.7s						
W18A	**Petrified Fore**	**3.51**	**119**	Pb	Pb	00 11 41.1	-0.1
	baz=301						
Q09A	**Carvers**	**3.52**	**305**		Pn	00 11 33.9	-0.1
Q09A				IAML		00 12 40.9	
	comp=E,26nm,1.3s						
Q09A				IAML		00 12 50.0	
	comp=N,30nm,1.9s						
X18A	**Snowflake**	**3.71**	**128**		Pb	00 11 46.4	+1.9
X18A				IAML		00 12 40.3	
	comp=N,22nm,0.7s						
P18A	**Preston Nutter**	**3.77**	**42**	IAML		00 12 34.2	
	comp=N,13nm,0.7s						
P18A				IAML		00 12 36.1	
	comp=E,18nm,0.6s						
PV23	**Carpenter Ridg**	**3.90**	**65**		Pn	00 11 39.1	-0.2
PV13	**Radium Mtn., P**	**3.94**	**69**		Pn	00 11 39.1	-0.7
PV11	**David Mesa, Pa**	**3.95**	**67**		Pn	00 11 39.8	-0.1
NV11	**Mina Array Sit**	**4.01**	**294**	Pg	Pg	00 11 52.5	-2.6
NV11				IAML		00 13 32.9	
	comp=E,9.9nm,4.5s						
NV11				IAML		00 14 14.6	
	comp=N,9.5nm,5.0s						
MVCO	**Mesa Verde**	**4.02**	**84**		Pg	00 11 53.5	-1.7
JLU	**Jordanelle**	**4.06**	**23**	IAML		00 12 41.1	
	comp=E,12nm,4.7s						
JLU				IAML		00 12 48.5	
	comp=N,8.8nm,4.0s						
NVAR	**Mina Array Bea**	**4.12**	**294**	Pg	Pg	00 11 54.8	-2.4
KVN	**Kaiserville**	**4.24**	**302**	Pg	Pg	00 11 57.7	-1.7
KVN				IAML		00 12 13.2	
	comp=N,7.7nm,4.9s						
RYN	**Ryan**	**4.35**	**295**	Pg	Pg	00 11 58.9	-2.7
RYN				IAML		00 13 03.9	
	comp=N,9.5nm,2.5s						
RYN				IAML		00 13 08.4	
	comp=E,9.5nm,4.3s						

*JMA **22** 00:16:09.4±0.5, 31.°00N×128.°66E, h8km±4km, M3.6*
*NIED **22** 00:16:09.5, 31.°00N×128.°66E, h8km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}-1.45; $M_{\theta\theta}$3.10; $M_{\phi\phi}$-1.65; $M_{r\theta}$1.45; $M_{\theta\phi}$6.48; $M_{\phi r}$-4.22; Fault plane solution: $M_0$8.28000×10^14^ NP1:ϕ_s14.00000°, δ75.00000°, λ-151.00000°. NP2:ϕ_s276.00000°, δ62.00000°, λ-17.00000°.*
*IDC **22** 00:16:10.6±1.2, 30.°73N×128.°17E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.4/34, mbtmp3.4/7, ML3.1/2, MS3.5/3, Ms1 3.5/3, ms1mx2.7/42 Error ellipse: s-maj=36.0km s-min=22.7km az=84.0*
ISC 22 00:16:10.2±1.0, 31.°02N±0.°05×128.°79E±0.°07, h10km, n18, σ0°66/16, mb3.4/5, MS3.4/3, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**1.03**	**50**	P	**Pn**	**00 16 30.8**	**+0.1**
JKC	**Kuchinoerabu**	**1.33**	**114**	P	**Pg**	**00 16 35.8**	**0.0**
JKC				*e*S	**Sg**	**00 16 53.9**	**+0.8**
JNN	**Nakanoshima**	**1.50**	**141**	P	**Pb**	**00 16 37.6**	**-0.6**
JSU	**Suzuyama**	**1.51**	**71**	P	**Pg**	**00 16 38.6**	**-0.5**
JFU	**Fukue jima 2**	**1.63**	**359**	P	**Pb**	**00 16 39.5**	**-0.8**
JYAK	**Yakushimahirau**	**1.68**	**117**	P	**Pn**	**00 16 38.9**	**-0.7**
JTN	**Tanegashima 3**	**1.92**	**100**	P	**Pn**	**00 16 43.2**	**+0.3**
JMTN	**Minamitane**	**1.92**	**108**	P	**Pn**	**00 16 43.3**	**+0.3**
JTZ	**Takazaki**	**2.15**	**65**	P	**Pb**	**00 16 48.3**	**-0.9**
JNU	**Nakatsue**	**2.75**	**40**	Pn	**Pg**	**00 17 03.1**	**+0.3**
	3.6nm,0.3s,baz=264,slow=5.9,SNR=14						
JNU				Sn	**Sg**	**00 17 39.2**	**+0.8**
	3.9nm,0.3s,baz=196,slow=23,SNR=4.1						
KSRS	**Korea Array**	**6.46**	**354**	Pn	Pn	00 17 50.1	+4.9
	0.2nm,0.3s,baz=174,slow=15,SNR=2.5						
KSRS				Lg	Lg	00 19 33.0	
	0.4nm,0.3s,baz=183,slow=29,SNR=4.3						
SONM	**Songino Array**	**23.97**	**321**	P	**P**	**00 21 25.5**	**+0.7**
	0.8nm,0.7s,baz=134,slow=10,SNR=2.4						
SONM				LR	LR	00 33 09.9	
	comp=Z,105nm,18.4s,baz=147,slow=43						
MKAR	**Makanchi Array**	**38.86**	**307**	P	**P**	**00 23 35.3**	**-0.2**
	0.7nm,0.8s,baz=88,slow=8.8,SNR=3.4						
WRA	**Warramunga Arr**	**50.95**	**173**	P	**P**	**00 25 11.5**	**-0.4**
	0.3nm,0.8s,baz=353,slow=7.9,SNR=2.1						
ASAR	**Alice Springs**	**54.60**	**174**	P	**P**	**00 25 39.8**	**+0.9**
	0.2nm,0.5s,baz=0.8,slow=11,SNR=2.1						
AKTO	**Aktyubinsk**	**54.90**	**312**	LR	LR	00 50 22.7	
	comp=Z,61nm,18.6s,baz=50,slow=38						
YKA	**Yellowknife Ar**	**74.00**	**26**	P	P	00 27 51.1	+5.5
	0.2nm,0.6s,baz=301,slow=5.7,SNR=4.9						
NOA	**NORSAR Array B**	**75.25**	**334**	LR	LR	01 02 49.3	
	comp=Z,13nm,18.0s,baz=345,slow=37						

IDC 22 00:47:04.6±4.6, 15.°92S×174.°33W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/31, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=271.7km s-min=29.7km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.17**	**51**	Pn	Pn	00 47 56.0	+0.1
	21nm,0.3s,baz=231,slow=6.5,SNR=5.7						
AFI				Sn	Sn	00 48 26.6	-8.0
	42nm,0.3s,baz=80,slow=14,SNR=7.5						
WRA	**Warramunga Arr**	**48.86**	**257**	P	P	00 55 52.5	+0.1
	0.2nm,0.5s,baz=92,slow=6.9,SNR=7.3						

comp=Z,2μm,0.5s
KHGB Koh Gabri 2.17 20 *e*Pn **Pn 00 55 55.6 +0.6**
KHGB *e* 00 56 34.1
comp=Z,581nm,0.6s
CHMN Cheshme madani 2.27 47 *e*Pn **Pn 00 55 57.0 +0.7**
CHMN *e* 00 56 02.6
comp=Z,607nm,0.4s
QIR1 Qir 2.29 274 *e*Pn **Pb 00 55 58.5 -1.4**
GHIR Ghir-Karzin 2.33 270 *e*Pn **Pb 00 55 59.7 -1.0**
IMEH Mehriz 3.18 344 *e*Pn **Pn 00 56 10.0 +1.2**
YZKH Yazd 4.15 348 *e*Pn **Pn 00 56 24.8 +2.8**
KLNJ Kolanjah 4.42 308 *e*Pn **Pn 00 56 27.8 +1.9**
IRAM Ramesheh 4.47 322 *e*Pn **Pn 00 56 28.2 +1.6**
BSRN Basiran 4.72 39 *e*Pn **Pn 00 56 34.0 +4.0**
TPRV Parvadeh(Tabas 4.78 11 *e*Pn **Pn 00 56 32.0 +1.4**
IKOO Kooshah 5.02 35 *e*Pn **Pn 00 56 36.2 +2.1**
ANAR Anarak 5.12 342 *e*Pn **Pn 00 56 37.4 +2.0**
SRVN Saravan 6.06 97 *e*Pn **Pn 00 56 49.2 +0.9**
BRTR Keskin Array B 21.43 308 P **P 01 00 05.6 -1.2**
comp=Z,0.3nm,0.5s,baz=128,slow=9.3,SNR=2.0
MKAR Makanchi Array 27.84 41 P **P 01 01 08.5 +0.5**
comp=Z,0.2nm,0.8s,baz=251,slow=8.8,SNR=1.9
OPO Ambohidratompo 47.33 191 LR LR 01 24 32.0
comp=Z,40nm,18.1s,baz=242,slow=37
TORD Torodi Ar. Bea 52.25 265 P **P 01 04 28.2 -2.0**
comp=Z,0.3nm,0.3s,baz=60,slow=7.7,SNR=6.7

IDC ***22*** *01:00:13.6±0.7,24°.57S×116°.17W,h0km,mb4.4/15, mb1 4.6/15,mb1mx4.4/38,mbtmp4.4/15,MS4.7/49, Ms1 4.7/49,ms1mx4.7/51,Error ellipse: s-maj=24.2km s-min=19.2km az=52.0*

NEIC ***22*** *01:00:17.3±2.2,24°.47S±0°.09×116°.1W±0°.1,h10km±1km, mb5.0/148,Ms_20 5.1/64,Mwb5.3/14,Error ellipse: s-maj=18.3km s-min=14.6km az=276.0*

NEIC ***22*** *01:00:18.2,24°.36S×115°.98W,h14km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.00; $M_{\theta\theta}$-0.98; $M_{\phi\phi}$0.99; $M_{r\theta}$-0.04; $M_{\theta\phi}$0.52; $M_{\phi r}$-0.36; Fault plane solution: $M_0$1.17000×10^{17} NP1:ϕ_s147.78000°, δ80.41000°,λ.166.61000°. NP2:ϕ_s240.05000°,δ76.80000°, λ9.85000°. Principal axes: T 1.2184, Plg16.0000°, Azm104.0000°; N -0.1054, Plg74.0000°, Azm293.0000°; P -1.1130, Plg3.0000°, Azm194.0000°;*

GCMT ***22*** *01:00:19.3±0.1,24°.70S±0°.01×116°.18W±0°.01,h14km, MW5.3/131,Moment Tensor Solution. s91,c143; s131,c246; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.39±.02; $M_{\theta\theta}$-0.94±.02; $M_{\phi\phi}$1.34±.02; $M_{r\theta}$-0.27±.04; $M_{\theta\phi}$0.46±.01; $M_{\phi r}$0.28±.04; Best double couple: $M_0$1.31600×10^{17} NP1:ϕ_s54.00000°,δ69.00000°, λ-12.00000°. NP2:ϕ_s149.00000°,δ79.00000°, λ-158.00000°. Principal axes: T 1.4590, Plg7.0000°, Azm280.0000°; N -0.2830, Plg66.0000°, Azm174.0000°; P -1.1730, Plg23.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 01:00:15.3±0.4,24°.55S±0°.09×116°.36W±0°.07,h10km, n323,σ1s27/202,mb4.9/84,MS5.0/86,3C,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**6.76**	**114**	Pn	**Pn**	**01 01 55.2**	**+0.7**
RPN	**Rapa Nui**	**6.83**	**114**	LR	LR	01 03 54.2	
comp=Z,23μm,18.1s,baz=330,slow=33							
RPN	**Rapa Nui**	**6.83**	**114**	Pn	**Pn**	**01 01 54.0**	**-1.5**
TAOE	**Nuku Hiva Isla**	**27.55**	**300**	*e*LR	LR	01 12 51.9	
comp=Z,9μm,26.4s							
PPT2	**Papeete2**	**31.70**	**276**	*e*S	**S**	**01 11 44.6**	**-4.8**
560nm,25.2s							
PPT2				*e*LR	LR	01 14 45.4	
comp=Z,7μm,27.2s,baz=108							
PPT	**Papeete**	**31.71**	**276**	LR	LR	01 15 43.1	
comp=Z,3μm,20.7s,baz=96,slow=29							
H03N2	**Juan Fernandez**	**33.76**	**114**	T	T	01 42 46.7	
baz=280,slow=75,SNR=182							
H03N3	**Juan Fernandez**	**33.77**	**114**	T	T	01 42 41.1	
baz=280,slow=75,SNR=256							
H03N1	**Juan Fernandez**	**33.78**	**114**	T	T	01 42 40.5	
baz=280,slow=75,SNR=305							
NNA	**Nana**	**39.41**	**79**	LR	LR	01 19 44.9	
comp=Z,3μm,19.1s,baz=245,slow=30							
NNA	**Nana**	**39.41**	**79**	IAMs_20	IAMs_20	01 19 31.4	
comp=Z,3μm,18.0s							
RAR	**Rarotonga**	**40.02**	**266**	LR	LR	01 19 49.9	
comp=Z,862nm,20.4s,baz=119,slow=29							
LC01	**Cunco**	**40.06**	**122**	P	**P**	**01 07 51.5**	**+0.7**
ATAH	**Atahualpa**	**40.23**	**71**	P	**P**	**01 07 50.8**	**-2.2**
comp=Z,6.6nm,1.0s,baz=282,slow=7.2,SNR=5.6							
ATAH				LR	LR	01 20 12.1	
comp=Z,2μm,18.1s,baz=239,slow=30							
BO02	**Sierra Bellavi**	**40.60**	**115**	P	**P**	**01 07 56.7**	**+1.3**
PEL	**Peldehue**	**40.65**	**113**	IAMs_20	IAMs_20	01 20 05.7	
comp=Z,2μm,19.0s							
COYC	**Coyhaique**	**41.23**	**132**	P	**P**	**01 08 03.3**	**+2.9**
PLCA	**Paso Flores**	**41.33**	**124**	P	**P**	**01 08 00.4**	**-1.0**
comp=Z,8.2nm,1.1s,baz=293,slow=8.0,SNR=6.5							
PLCA				LR	LR	01 20 44.4	
comp=Z,2μm,21.0s,baz=278,slow=30							
PLCA	**Paso Flores**	**41.33**	**124**	P	**P**	**01 08 02.4**	**+1.0**
PB10	**IPOC Station P**	**41.70**	**98**	IAMs_20	IAMs_20	01 20 15.6	
comp=Z,3μm,22.0s							
PB04	**IPOC Station P**	**42.30**	**97**	IAMs_20	IAMs_20	01 20 33.5	
comp=Z,3μm,22.0s							
AC02	**Maricunga**	**42.43**	**104**	P	**P**	**01 08 10.8**	**-0.3**
PATCX	**Punta Patache**	**42.64**	**95**	IAMs_20	IAMs_20	01 20 40.5	
comp=Z,3μm,22.0s							
PB07	**IPOC Station P**	**42.67**	**96**	P	**P**	**01 08 11.7**	**-1.0**
PB07				IAmb	IAmb	01 08 13.8	
comp=Z,34nm,1.5s							
PB07				IAMs_20	IAMs_20	01 20 53.3	
comp=Z,2μm,20.0s							
PB15	**IPOC Station P**	**42.73**	**98**	IAMs_20	IAMs_20	01 20 59.0	
comp=Z,3μm,19.0s							
PB06	**IPOC Station P**	**42.75**	**97**	IAMs_20	IAMs_20	01 20 47.3	
comp=Z,3μm,22.0s							
PB01	**IPOC Station P**	**43.19**	**95**	IAMs_20	IAMs_20	01 21 08.1	
comp=Z,2μm,20.0s							
PB09	**IPOC Station P**	**43.24**	**96**	IAMs_20	IAMs_20	01 21 11.4	
comp=Z,2μm,19.0s							
PB11	**IPOC Station P**	**43.36**	**93**	IAMs_20	IAMs_20	01 21 10.4	
comp=Z,2μm,21.0s							
LVC	**Limon Verde**	**43.36**	**98**	LR	LR	01 21 38.7	
comp=Z,2μm,19.0s,baz=254,slow=30							
LVC	**Limon Verde**	**43.36**	**98**	P	**P**	**01 08 18.1**	**-0.5**
LVC	**Limon Verde**	**43.36**	**98**	IAMs_20	IAMs_20	01 21 17.6	
comp=Z,2μm,20.0s							
PB08	**IPOC Station P**	**43.72**	**94**	P	**P**	**01 08 21.8**	**+0.3**
PB08				IAMs_20	IAMs_20	01 21 23.0	
comp=Z,2μm,21.0s							
PB16	**IPOC Station P**	**43.88**	**91**	P	**P**	**01 08 21.4**	**-1.6**
PB16				IAmb	IAmb	01 08 25.0	
comp=Z,26nm,1.5s							
CZSB	**Cruzeiro do Su**	**44.91**	**76**	P	**P**	**01 08 28.9**	**-1.7**
CZSB				IAmb	IAmb	01 08 36.5	
comp=Z,22nm,1.0s							
TLIG	**Tlapa**	**45.31**	**24**	P	**P**	**01 08 33.7**	**-0.1**
TLIG				IAmb	IAmb	01 08 37.3	
comp=Z,16nm,1.1s							
LPAZ	**La Paz**	**45.75**	**89**	P	**P**	**01 08 36.7**	**-1.3**
comp=Z,15nm,1.1s,baz=268,slow=6.1,SNR=21							
LPAZ				LR	LR	01 23 12.5	
comp=Z,1μm,19.6s,baz=248,slow=30							
LPAZ	**La Paz**	**45.75**	**89**	P	**P**	**01 08 37.0**	**-1.0**
LPAZ				IAmb	IAmb	01 08 40.1	
comp=Z,29nm,1.3s							
JTS	**Las Juntas de**	**46.25**	**45**	LR	LR	01 22 27.0	
comp=Z,423nm,20.9s,slow=29							
MOIG	**Morelia**	**46.38**	**20**	P	**P**	**01 08 43.4**	**+1.1**
CMIG	**Matias Romero**	**46.39**	**29**	LR	LR	01 24 17.3	
comp=Z,930nm,18.8s,baz=205,slow=31							
APG	**El Apazote**	**46.74**	**35**	LR	LR	01 23 22.7	
comp=Z,383nm,21.3s,baz=208,slow=30							
MTO3	**Montecristo**	**46.83**	**37**	IAmb	IAmb	01 08 48.4	
comp=Z,18nm,1.2s							
PETF	**Flores**	**48.65**	**35**	P	**P**	**01 09 00.0**	**+0.3**
LPIG	**La Paz**	**48.72**	**7**	LR	LR	01 24 22.9	
comp=Z,1μm,21.1s,baz=192,slow=30							
ZAIG	**Zacatecas**	**48.91**	**17**	P	**P**	**01 09 02.5**	**+0.5**
ETMB	**Extrema**	**49.82**	**82**	P	**P**	**01 09 06.7**	**-2.1**
ETMB				IAmb	IAmb	01 09 08.5	
comp=Z,18nm,1.4s							
ROSC	**El Rosal**	**50.26**	**60**	LR	LR	01 27 16.6	
comp=Z,959nm,18.1s,baz=230,slow=32							
LPA	**La Plata**	**51.15**	**116**	*e*P	**P**	**01 09 21.6**	**+3.0**
LPA				PCP	PcP	01 10 24.9	-9.3
LPA				PP	**PP**	**01 11 16.2**	**+0.9**
LPA				pPP		01 11 24.3	
LPA				PPP	PPP	01 12 20.0	
LPA				S	**S**	**01 16 37.3**	**+0.5**
LPA				PS	SPn	01 16 43.6	-0.8
LPA				PPS	PPS	01 16 54.7	
LPA				PKIKP	**PKiKP**	**01 17 16.9**	**-0.3**
LPA				SCS	**ScS**	**01 19 06.8**	**-2.8**
LPA				SS	SS	01 20 24.1	+12
LPA				SKIKP		01 20 50.8	
LPA				PKIKP		01 20 55.7	
LPA				SSS	SSS	01 22 17.2	
LPA				SKIKS		01 24 28.3	
EFI	**East Falkland**	**51.59**	**137**	IAMs_20	IAMs_20	01 27 31.5	
comp=Z,2μm,18.0s							
HPIG		**52.22**	**12**	P	**P**	**01 09 27.7**	**+0.9**
PMSA	**Palmer Station**	**52.27**	**155**	LR	LR	01 25 33.6	
comp=Z,192nm,19.9s,baz=322,slow=29							
SIV	**San Ignacio**	**52.27**	**92**	LR	LR	01 28 26.6	
comp=Z,860nm,20.6s,baz=279,slow=32							
CPUP	**Villa Florida**	**52.93**	**105**	LR	LR	01 27 48.9	
comp=Z,1μm,21.0s,baz=258,slow=31							
AFI	**Afiamalu**	**53.09**	**271**	LR	LR	01 27 21.1	
comp=Z,3μm,18.1s,baz=98,slow=31							
VILB	**Vilhena**	**54.10**	**88**	P	**P**	**01 09 39.4**	**-1.4**
PTLB	**Pontes e Lacer**	**54.21**	**92**	P	**P**	**01 09 39.8**	**-1.7**
PTLB				IAmb	IAmb	01 09 42.0	
comp=Z,19nm,1.5s							
RAO	**Raoul Island**	**54.56**	**251**	LR	LR	01 29 41.9	
comp=Z,858nm,19.3s,baz=122,slow=32							
TX31	**Lajitas Ar. Si**	**54.95**	**14**	P	**P**	**01 09 46.6**	**-0.1**
TX31				IAmb	IAmb	01 10 04.7	
comp=Z,27nm,1.5s							
TX32	**Lajitas Array**	**54.95**	**14**	P	**P**	**01 09 46.9**	**+0.2**
TXAR	**Lajitas Array**	**54.95**	**14**	P	**P**	**01 09 47.2**	**+0.6**
comp=Z,1.8nm,1.0s,baz=198,slow=7.9,SNR=13							
TXAR				LR	LR	01 28 38.0	
comp=Z,428nm,18.5s,baz=170,slow=31							
SDV	**Santo Domingo**	**55.61**	**59**	LR	LR	01 30 09.8	
comp=Z,704nm,20.3s,baz=225,slow=32							
319A	**Douglas**	**56.02**	**7**	P	**P**	**01 09 55.3**	**+0.9**
319A				IAmb	IAmb	01 09 58.3	
comp=Z,26nm,1.3s							
214A	**Organ Pipe Nat**	**56.29**	**4**	P	**P**	**01 09 58.1**	**+1.9**
214A				IAmb	IAmb	01 10 00.2	
comp=Z,26nm,1.4s							
214A	**Organ Pipe Nat**	**56.29**	**4**	P	**P**	**01 09 57.1**	**+0.9**
baz=184							
TUC	**Tucson**	**56.79**	**6**	P	**P**	**01 10 00.7**	**+0.9**
TUC				IAmb	IAmb	01 10 03.1	
comp=Z,14nm,1.3s							
TUC	**Tucson**	**56.79**	**6**	P	**P**	**01 10 00.5**	**+0.7**
baz=186							
EPT	**El Paso**	**56.79**	**10**	IAMs_20	IAMs_20	01 29 12.0	
comp=Z,1μm,21.0s							
IKP	**In-Ko-Pah, Jac**	**56.88**	**0**	P	**P**	**01 10 01.2**	**+0.7**
baz=180							
MNTX	**Cornudas Mount**	**56.91**	**11**	P	**P**	**01 10 00.2**	**-0.4**
MNTX				IAmb	IAmb	01 10 03.7	
comp=Z,19nm,1.2s							
MNTX	**Cornudas Mount**	**56.91**	**11**	P	**P**	**01 10 00.3**	**-0.3**
baz=192,SNR=19							
JCT	**Junction City**	**56.98**	**17**	P	**P**	**01 10 00.7**	**-0.4**
JCT	**Junction City**	**56.98**	**17**	P	**P**	**01 10 00.3**	**-0.8**
baz=198							
MONP2	**Monument Peak**	**57.12**	**360**	P	**P**	**01 10 02.9**	**+0.6**
baz=180							
URZ	**Urewera**	**57.30**	**239**	LR	LR	01 30 27.2	
comp=Z,917nm,18.5s,baz=118,slow=32							
121A	**Cookes Peak, D**	**57.35**	**9**	IAmb	IAmb	01 10 06.5	
comp=Z,17nm,0.9s							
121A	**Cookes Peak, D**	**57.35**	**9**	P	**P**	**01 10 04.2**	**+0.3**
baz=189							
MURC	**Murrieta**	**57.84**	**359**	P	**P**	**01 10 08.2**	**+1.1**
baz=179							
PFO	**Pinyon Flats O**	**57.84**	**360**	LR	LR	01 28 47.5	
comp=Z,558nm,19.2s,baz=182,slow=30							
PFO	**Pinyon Flats O**	**57.84**	**360**	P	**P**	**01 10 08.4**	**+1.2**
baz=180							
BC3	**Big Chuckawall**	**57.89**	**1**	P	**P**	**01 10 09.5**	**+1.9**
baz=181							
BELC	**Belle Mtn. Jos**	**58.23**	**0**	P	**P**	**01 10 11.8**	**+1.8**
baz=180							
IRM	**Iron Mountain**	**58.40**	**1**	P	**P**	**01 10 12.0**	**+1.0**
baz=181							
MWC	**Mount Wilson**	**58.48**	**358**	P	**P**	**01 10 12.7**	**+0.9**
MWC				IAmb	IAmb	01 10 19.4	
comp=Z,18nm,1.4s							
BFSC	**Mount Baldy Ra**	**58.48**	**359**	P	**P**	**01 10 13.1**	**+1.4**
baz=178							
X16A	**Lo Malia Camp, P**	**58.83**	**5**	IAmb	IAmb	01 10 18.3	
comp=Z,12nm,1.3s							
Y22D	**IRIS PASSCAL I**	**58.99**	**9**	P	**P**	**01 10 16.4**	**+1.1**
GMRC	**Granite Mounta**	**59.02**	**1**	P	**P**	**01 10 17.1**	**+1.6**
baz=180							
ABTX	**Abilene, Hawle**	**59.05**	**16**	IAmb	IAmb	01 10 17.9	
comp=Z,13nm,1.1s							
ABTX	**Abilene, Hawle**	**59.05**	**16**	P	**P**	**01 10 15.4**	**-0.2**
baz=198							
HEC	**Hector,Ludlow**	**59.06**	**0**	P	**P**	**01 10 17.4**	**+1.7**
baz=178							
X18A	**Snowflake**	**59.07**	**6**	IAmb	IAmb	01 10 18.7	
comp=Z,11nm,0.8s							
EDW2	**Edwards Air Fo**	**59.13**	**358**	P	**P**	**01 10 17.4**	**+1.3**
baz=178							
PTGA	**Pitinga**	**59.39**	**75**	LR	LR	01 33 14.7	
comp=Z,880nm,18.7s,baz=246,slow=34							
GSC	**Goldstone, Bar**	**59.53**	**360**	P	**P**	**01 10 20.9**	**+1.9**
GSC	**Goldstone, Bar**	**59.53**	**360**	P	**P**	**01 10 19.7**	**+0.7**
baz=179							
MSTX	**Muleshoe**	**59.62**	**13**	P	**P**	**01 10 19.5**	**-0.1**
baz=194							
W18A	**Petrified Fore**	**59.68**	**6**	IAmb	IAmb	01 10 23.8	
comp=Z,14nm,1.3s							
W18A	**Petrified Fore**	**59.68**	**6**	P	**P**	**01 10 20.7**	**+0.6**
baz=187							
LRMC	**Laurel Mtn Rad**	**59.72**	**359**	P	**P**	**01 10 20.8**	**+0.5**
baz=178							
ANMO	**Albuquerque**	**59.91**	**9**	P	**P**	**01 10 22.9**	**+1.2**
comp=Z,2.6nm,0.9s,baz=184,slow=6.1,SNR=8.8							
ANMO				LR	LR	01 31 39.9	
comp=Z,599nm,18.7s,baz=196,slow=32							
ANMO	**Albuquerque**	**59.91**	**9**	P	**P**	**01 10 22.0**	**+0.3**
ANMO	**Albuquerque**	**59.91**	**9**	P	**P**	**01 10 22.5**	**+0.8**
baz=190							
ISA	**Isabella, Lake**	**59.92**	**358**	P	**P**	**01 10 23.8**	**+2.2**
ISA				IAmb	IAmb	01 10 43.7	
comp=Z,16nm,1.6s							
ISA	**Isabella, Lake**	**59.92**	**358**	P	**P**	**01 10 22.6**	**+1.0**
baz=178							
WUAZ	**Wupatki**	**59.93**	**5**	IAmb	IAmb	01 10 33.0	
comp=Z,11nm,1.1s							
WUAZ	**Wupatki**	**59.93**	**5**	P	**P**	**01 10 22.8**	**+1.0**
baz=185							
SHOC	**Shoshone, Teco**	**60.12**	**0**	P	**P**	**01 10 24.5**	**+1.6**
baz=180							
QSM	**Queen of Sheba**	**60.19**	**360**	P	**P**	**01 10 24.9**	**+1.5**
MPMC	**Manual Prospec**	**60.29**	**359**	P	**P**	**01 10 25.0**	**+0.7**
baz=179							
BOAV	**Boa Vista**	**60.41**	**72**	P	**P**	**01 10 23.9**	**-1.5**
BOAV				IAmb	IAmb	01 10 25.6	
comp=Z,11nm,1.3s							
CWC	**Cottonwood Cre**	**60.69**	**358**	P	**P**	**01 10 28.1**	**+1.2**
baz=178							
AMTX	**Amarillo**	**60.73**	**14**	P	**P**	**01 10 27.6**	**+0.4**
baz=195							
SHPR	**Sheep Range**	**60.74**	**1**	IAmb	IAmb	01 10 31.8	
comp=Z,14nm,1.4s							
U15A	**North Rim**	**60.77**	**4**	IAmb	IAmb	01 10 31.2	
comp=Z,14nm,1.2s							
MSVF	**Nonsavu**	**61.07**	**263**	LR	LR	01 31 28.2	
comp=Z,377nm,21.9s,baz=137,slow=31							
TPNV	**Topopah Spring**	**61.17**	**0**	P	**P**	**01 10 31.2**	**+0.9**
WMOK	**Wichita Mounta**	**61.28**	**16**	P	**P**	**01 10 30.3**	**-0.6**
baz=198							
KNB	**Kanab**	**61.33**	**3**	IAmb	IAmb	01 10 35.4	
comp=Z,15nm,1.4s							
PRN	**Pahroc Range**	**61.64**	**1**	IAmb	IAmb	01 10 40.3	
comp=Z,13nm,1.4s							
Z41A	**Richland Creek**	**61.71**	**22**	P	**P**	**01 10 33.6**	**-0.2**
baz=204							
MVCO	**Mesa Verde**	**61.88**	**7**	IAmb	IAmb	01 10 58.7	
comp=Z,16nm,1.4s							
MVCO	**Mesa Verde**	**61.88**	**7**	P	**P**	**01 10 35.6**	**+0.5**
baz=188							
SZCU	**Shurtz Canyon**	**61.89**	**3**	IAmb	IAmb	01 10 38.3	
comp=Z,10.0nm,1.2s							
WLAR	**White Oak Lake**	**62.00**	**22**	P	**P**	**01 10 35.6**	**0.0**
CMB	**Columbia Colle**	**62.37**	**356**	P	**P**	**01 10 39.0**	**+0.8**
CMB				IAMs_20	IAMs_20	01 30 21.9	
comp=Z,1μm,22.0s							
T25A	**Trinidad**	**62.38**	**11**	P	**P**	**01 10 38.0**	**-0.5**
baz=192,SNR=5.4							
S22A	**4UR Ranch, Cre**	**62.61**	**8**	P	**P**	**01 10 40.6**	**+0.5**
baz=190							
NVAR	**Mina Array Bea**	**62.68**	**358**	P	**P**	**01 10 42.0**	**+1.6**
comp=Z,4.9nm,0.9s,baz=184,slow=8.5,SNR=19							
NVAR				LR	LR	01 32 06.9	
comp=Z,960nm,18.2s,baz=137,slow=30							
SDCO	**Great Sand Dun**	**62.80**	**10**	P	**P**	**01 10 41.1**	**-0.3**
baz=191,SNR=23							
X40A	**Basin Creek Fa**	**62.82**	**22**	P	**P**	**01 10 42.2**	**+1.1**
X40A	**Basin Creek Fa**	**62.82**	**22**	P	**P**	**01 10 41.0**	**-0.1**
baz=204							
TCRU	**Three Creeks R**	**62.94**	**3**	P	**P**	**01 10 43.3**	**+1.1**
W39A	**Magazine**	**63.16**	**21**	P	**P**	**01 10 42.2**	**-1.2**
baz=203							
TUL1	**Leonard**	**63.20**	**19**	P	**P**	**01 10 43.6**	**-0.1**
baz=201							
SPR3	**Spring Creek 3**	**63.25**	**2**	IAmb	IAmb	01 10 47.8	
comp=Z,14nm,1.4s							
Q16A	**Castle Valley**	**63.32**	**5**	IAmb	IAmb	01 11 01.7	
comp=Z,20nm,1.5s							
PNTR	**Pine Nut**	**63.38**	**357**	P	**P**	**01 10 47.4**	**+2.3**
SRU	**San Rafael Swe**	**63.56**	**5**	IAmb	IAmb	01 10 49.4	
comp=Z,17nm,1.3s							
VCNR	**Virginia City**	**63.59**	**357**	IAmb	IAmb	01 10 57.8	
comp=Z,9.6nm,1.3s							
MPK	**Martis Peak**	**63.61**	**357**	IAmb	IAmb	01 10 50.9	
comp=Z,14nm,1.0s							
W41B	**Gary Mavity, V**	**63.64**	**22**	P	**P**	**01 10 45.8**	**-0.8**
baz=204							
TMUT	**Trail Mountain**	**63.70**	**4**	IAmb	IAmb	01 10 57.0	
comp=Z,11nm,1.3s							
P17A	**Butcher Ranch,**	**63.91**	**5**	IAmb	IAmb	01 10 51.2	
comp=Z,15nm,1.1s							
T35A	**Sooner Cattle**	**63.94**	**18**	IAmb	IAmb	01 10 49.6	
comp=Z,14nm,1.1s							
SMCO	**Snowmass**	**64.00**	**8**	IAmb	IAmb	01 10 55.1	
comp=Z,12nm,1.3s							
Q24A	**Divide**	**64.05**	**10**	P	**P**	**01 10 49.7**	**+0.1**
baz=191							
P18A	**Preston Nutter**	**64.10**	**5**	IAmb	IAmb	01 11 03.2	
comp=Z,12nm,1.4s							
BDFB	**Brasilia**	**64.25**	**96**	P	**P**	**01 10 50.0**	**-1.3**
comp=Z,0.9nm,0.3s,baz=212,slow=10,SNR=5.6							
BDFB				LR	LR	01 35 04.5	
comp=Z,1μm,21.9s,baz=275,slow=33							
BDFB	**Brasilia**	**64.25**	**96**	P	**P**	**01 10 51.9**	**+0.7**
BDFB				IAmb	IAmb	01 10 52.2	
comp=Z,16nm,1.3s							
NLU	**North Lily Min**	**64.30**	**4**	IAmb	IAmb	01 10 55.0	
comp=Z,12nm,1.2s							
MPU	**Maple Canyon**	**64.38**	**4**	IAmb	IAmb	01 10 54.8	
comp=Z,20nm,1.4s							
VNDA	**Vanda**	**64.43**	**194**	LR	LR	01 32 38.2	
comp=Z,487nm,18.0s,baz=92,slow=30							
DUG	**Dugway, Tooele**	**64.50**	**3**	IAmb	IAmb	01 10 55.8	
comp=Z,19nm,1.4s							
DUG	**Dugway, Tooele**	**64.50**	**3**	P	**P**	**01 10 53.2**	**+0.9**
baz=183							
U40A	**Yellville**	**64.52**	**21**	P	**P**	**01 10 51.8**	**-0.6**
baz=203							
O03E	**Paynes Creek**	**64.71**	**355**	P	**P**	**01 10 55.0**	**+1.4**
baz=174							
O20A	**White River Ci**	**64.80**	**7**	P	**P**	**01 10 54.6**	**+0.2**
baz=188							
ISCO	**Idaho Springs**	**64.80**	**9**	P	**P**	**01 10 55.3**	**+0.8**
ISCO				IAmb	IAmb	01 10 57.8	
comp=Z,12nm,1.2s							
ISCO	**Idaho Springs**	**64.80**	**9**	P	**P**	**01 10 54.6**	**+0.1**
baz=191,SNR=8.9							
CBKS	**Cedar Bluff**	**64.93**	**14**	P	**P**	**01 10 54.9**	**-0.2**
baz=196							
ELK	**Elko**	**64.97**	**1**	P	**P**	**01 10 55.8**	**+0.3**
comp=Z,1.4nm,0.8s,baz=111,slow=3.4,SNR=3.9							
ELK				LR	LR	01 34 02.7	
comp=Z,692nm,18.2s,baz=188,slow=31							
JLU	**Jordanelle**	**64.98**	**4**	IAmb	IAmb	01 10 58.0	
comp=Z,8.7nm,0.9s							
CTU	**Camp Tracy**	**65.05**	**4**	IAmb	IAmb	01 10 58.4	
comp=Z,7.9nm,0.9s							
MGMO	**Mountain Grove**	**65.44**	**21**	IAmb	IAmb	01 10 59.9	
comp=Z,11nm,1.1s							
N02D	**Trinity Center**	**65.46**	**355**	P	**P**	**01 10 59.7**	**+1.2**
baz=173							
S39A	**Bolivar**	**65.59**	**20**	IAmb	IAmb	01 11 00.6	
comp=Z,16nm,1.2s							
GOGA	**Godfrey**	**65.60**	**30**	P	**P**	**01 10 57.5**	**-1.9**
baz=213							
QSPA	**South Pole Qui**	**65.60**	**180**	LR	LR	01 34 35.3	
comp=Z,928nm,20.0s,baz=97,slow=31							
QSPA	**South Pole Qui**	**65.60**	**180**	P	**P**	**01 10 59.2**	**-0.1**
QSPA	**South Pole Qui**	**65.60**	**180**	IAMs_20	IAMs_20	01 34 03.6	
comp=Z,913nm,20.0s							
N23A	**Red Feather La**	**65.83**	**9**	P	**P**	**01 11 00.7**	**-0.5**
baz=190,SNR=8.3							
M02C	**Callahan**

YMR	**Madison River**	69.06	4	IAmb	IAmb	01 11 23.7
	comp=Z,8.3nm,0.9s					
RSSD	**Black Hills**	69.27	9	P	P	01 11 22.0 -0.7
RSSD				IAmb	IAmb	01 11 24.4
	comp=Z,11nm,1.0s					
RSSD	**Black Hills**	69.27	9	P	P	01 11 22.8 +0.1
	baz=192					
HDIL	**Hopedale**	69.50	22	P	P	01 11 22.9 -1.0
	baz=206					
SCIA	**State Center**	69.51	18	P	P	01 11 23.4 -0.6
	baz=202					
G08A	**Pilot Rock**	69.55	358	P	P	01 11 26.1 +1.8
G08A				IAmb	IAmb	01 11 38.3
	comp=Z,10nm,1.3s					
RLMT	**Red Lodge**	69.64	5	IAmb	IAmb	01 11 39.8
	comp=Z,15nm,1.4s					
RLMT	**Red Lodge**	69.64	5	P	P	01 11 24.3 -0.7
	baz=187,SNR=6.2					
BOZ	**Bozeman (W)**	69.94	4	P	P	01 11 26.4 -0.4
	baz=184					
DZM	**Mont Dzumac**	70.03	254	*e*S	S	01 20 34.3 -4.7
	comp=Z,234nm,27.9s					
DZM	**Mont Dzumac**	70.03	254	*e*LR	LR	01 32 30.9
	comp=Z,3μm,26.6s					
ECSD	**EROS Data Cent**	70.33	15	IAmb	IAmb	01 11 30.4
	comp=Z,9.8nm,1.1s					
ECSD	**EROS Data Cent**	70.33	15	P	P	01 11 28.1 -0.9
	baz=199					
SUSD	**Miller**	70.48	13	P	P	01 11 28.9 -1.0
	baz=196					
L42A	**Oliver, Polo**	70.68	21	IAmb	IAmb	01 11 31.6
	comp=Z,14nm,1.1s					
E04D	**Cinebar**	71.00	355	P	P	01 11 34.0 +1.1
	baz=174					
MSO	**Missoula**	71.08	2	P	P	01 11 33.7 +0.1
	baz=182					
JFWS	**Jewell Farm**	71.31	20	P	P	01 11 33.8 -1.2
	baz=205					
LAO	**LASA Array**	71.50	7	P	P	01 11 35.4 -0.7
	baz=190,SNR=6.6					
D04E	**Lakebay**	71.63	355	P	P	01 11 36.5 -0.3
	baz=174					
K43A	**Burlington**	71.74	21	P	P	01 11 37.3 -0.3
VNA3	**Neumayer Olymp**	72.16	161	P	P	01 11 44.0 +4.2
F33A	**5 Mile Ranch,**	72.39	15	IAmb	IAmb	01 11 42.3
	comp=Z,15nm,1.4s					
L48A	**N Adams**	72.46	24	IAmb	IAmb	01 11 42.3
	comp=Z,13nm,0.9s					
NEW	**Newport**	72.48	359	P	P	01 11 40.7 -1.3
	comp=Z,7.8nm,1.1s,baz=190,slow=5.6,SNR=7.2					
NEW				LR	LR	01 38 09.5
	comp=Z,1μm,18.5s,baz=192,slow=31					
NEW	**Newport**	72.48	359	IAmb	IAmb	01 11 45.3
	comp=Z,22nm,1.4s					
NEW	**Newport**	72.48	359	P	P	01 11 42.0 0.0
	baz=179					
EGMT	**Eagleton**	72.48	5	IAmb	IAmb	01 11 45.1
	comp=Z,21nm,1.2s					
EGMT	**Eagleton**	72.48	5	P	P	01 11 41.9 -0.1
	baz=186,SNR=5.8					
SPMN	**Marine on St.**	72.69	17	P	P	01 11 42.6 -0.6
	baz=202					
VNA2	**Neumayer--Watz**	72.97	161	P	P	01 11 43.5 -1.1
	baz=294,slow=11					
F36A	**Milaca**	73.09	16	IAmb	IAmb	01 11 48.1
	comp=Z,22nm,1.2s					
N54A	**Moraine State**	73.41	28	P	P	01 11 47.2 -0.4
	baz=214					
DGMT	**Dagmar**	73.50	8	P	P	01 11 48.7 +0.7
	baz=191					
M53A	**WI Miller and**	73.52	27	P	P	01 11 47.5 -0.7
	baz=213					
SNAA	**Sanae**	73.92	162	P	P	01 11 49.1 -1.2
SNAA	**Sanae**	73.92	162	LR	LR	01 41 53.1
	comp=Z,130nm,18.1s,baz=252,slow=34					
SNAA	**Sanae**	73.92	162	P	P	01 11 51.0 +0.7
AGMN	**Agassiz Nation**	74.81	14	P	P	01 11 56.9 +1.3
AGMN	**Agassiz Nation**	74.81	14	P	P	01 11 56.1 +0.5
	baz=199					
B35A	**Bob, Littlefor**	75.36	15	IAmb	IAmb	01 12 01.0
	comp=Z,13nm,1.2s					
ULM	**Lac du Bonnet**	76.66	13	P	P	01 12 04.1 -2.0
	comp=Z,4.2nm,0.9s,baz=225,slow=7.0,SNR=3.8					
ULM				LR	LR	01 42 03.1
	comp=Z,468nm,20.1s,baz=195,slow=33					
SADO	**Sadowa**	76.91	26	LR	LR	01 43 18.3
	comp=Z,305nm,20.6s,baz=202,slow=34					
BBB	**Bella Bella**	77.10	353	LR	LR	01 38 36.1
	comp=Z,199nm,20.4s,baz=214,slow=30					
HNR	**Honiara**	80.45	264	LR	LR	01 40 17.8
	comp=Z,847nm,21.7s,baz=130,slow=30					
CASY	**Casey**	82.75	197	IAms_20	IAms_20	01 44 06.5
	comp=Z,896nm,19.0s					
DLBC	**Dease Lake**	83.45	353	LR	LR	01 43 47.5
	comp=Z,265nm,18.6s,baz=161,slow=31					
SYO	**Syowa Base**	85.08	172	*e*P	P	01 12 48.4 -2.6
P33M	**Teslin, Yukon**	85.52	352	P	P	01 12 54.2 +1.0
	baz=165					
H11S2	**WAKE ISLAND Hy**	86.27	292	T	T	02 48 14.3
	baz=118,slow=75,SNR=491					
H11S1	**WAKE ISLAND Hy**	86.28	292	T	T	02 48 17.1
	baz=118,slow=75,SNR=316					
H11S3	**WAKE ISLAND Hy**	86.29	292	T	T	02 48 28.4
	baz=118,slow=75,SNR=219					
H11N3	**WAKE ISLAND Hy**	86.66	293	T	T	02 48 46.2
	baz=114,slow=77,SNR=11					
H11N1	**WAKE ISLAND Hy**	86.67	293	T	T	02 49 00.9
	baz=114,slow=77,SNR=14					
H11N2	**WAKE ISLAND Hy**	86.67	293	T	T	02 48 48.5
	baz=114,slow=77,SNR=23					
YKA	**Yellowknife Ar**	86.75	1	P	P	01 12 58.4 -0.7
	comp=Z,7.0nm,1.0s,baz=173,slow=5.0,SNR=64					
YKA				LR	LR	01 47 33.3
	comp=Z,593nm,18.2s,baz=188,slow=33					
STKA	**Stephens Creek**	86.82	236	P	P	01 13 01.0 +0.6
	comp=Z,1.6nm,0.6s,baz=69,slow=5.0,SNR=3.6					
STKA				LR	LR	01 50 18.1
	comp=Z,211nm,18.3s,baz=90,slow=35					
STKA	**Stephens Creek**	86.82	236	IAmb	IAmb	01 13 01.8
	comp=Z,1.6nm,1.4s					
N31M	**Braeburn, Yuko**	87.16	351	P	P	01 13 02.1 +0.9
	baz=162					
KDAK	**Kodiak Island**	87.44	342	LR	LR	01 45 07.2
	comp=Z,193nm,18.5s,baz=178,slow=31					
MAW	**Mawson**	88.12	180	LR	LR	01 48 26.0
	comp=Z,511nm,19.5s,baz=210,slow=33					
CTAO	**Charters Tower**	88.22	249	IAms_20	IAms_20	01 44 03.9
	comp=Z,820nm,20.0s					
BCAR	**Beaver Creek A**	89.62	349	P	P	01 13 13.5 +0.7
SCHQ	**Schefferville**	89.72	26	LR	LR	01 51 56.4
	comp=Z,151nm,18.1s,baz=236,slow=35					
ILAR	**Eielson Array**	92.13	347	P	P	01 13 23.0 -1.4
	comp=Z,1.0nm,1.1s,baz=181,slow=4.7,SNR=3.3					
ILAR				LR	LR	01 45 56.9
	comp=Z,138nm,20.4s,baz=154,slow=30					
TTA	**Tatalina**	92.67	343	P	P	01 13 27.1 +0.1
	baz=144					
H24K	**Noodor Dome**	93.27	348	P	P	01 13 30.1 +0.4
	baz=151					
INK	**Inuvik**	93.45	354	LR	LR	01 50 06.8
	comp=Z,176nm,18.2s,baz=141,slow=32					
INK	**Inuvik**	93.45	354	P	P	01 13 30.2 -0.1
	baz=164					
SHEM	**Shemya Is, Ala**	97.73	325	LR	LR	01 48 00.1
	comp=Z,125nm,20.0s,baz=315,slow=29					
TNA	**Tin City**	98.06	341	P	P	01 13 51.8 +0.4
	baz=134					
WRA	**Warramunga Arr**	98.23	244	P	Pdif	01 13 55.1 +1.6
	comp=Z,0.8nm,0.9s,baz=114,slow=4.4,SNR=2.2					
RES	**Resolute Bay**	99.97	6	LR	LR	01 55 59.8
	comp=Z,325nm,18.8s,baz=218,slow=34					
FAKI	**Fak Fak**	108.11	258	IAms_20	IAms_20	02 00 25.5
	comp=Z,384nm,20.0s					
KAPI	**Kappang**	118.03	250	IAms_20	IAms_20	02 02 13.0
	comp=Z,398nm,22.0s					
TORD	**Torodi Ar. Bea**	120.70	89	PKP	PKPdf	01 19 07.1 -1.3
	comp=Z,1.3nm,1.0s,baz=302,slow=3.4,SNR=6.2					
ESDC	**Sonseca Array**	122.04	57	PKP	PKPdf	01 19 10.4 +0.1
	comp=Z,1.3nm,1.0s,baz=302,slow=3.4,SNR=6.2					
BKB	**Balikpapan**	122.39	252	IAms_20	IAms_20	02 18 20.4
	comp=Z,361nm,18.0s					
HIA	**Hailar**	130.16	315	IAms_20	IAms_20	02 10 06.7
	comp=Z,388nm,20.0s					
NJ2	**Nanjing**	131.25	292	*e*PKP	PKiKP	01 19 32.3 +3.3
CLL	**Collm**	133.17	42	*e*SS	SS	01 39 40.0 -1.3
CLL				*e*SSS	SSS	01 44 36.0
CLL				LmV		02 20 00.0
	comp=Z,200nm,18.9s					
HHC	**Hu-ho-hao-te**	137.07	304	*e*PKP	PKPdf	01 19 39.9 +1.0
HHC				LR	LR	
	comp=Z,540nm,18.4s					
HHC				LR	LR	
	comp=Z,820nm,17.1s					
CEL	**Celeste**	137.46	60	IAMs_20	IAMs_20	02 25 10.7
	comp=Z,364nm,21.0s					
SONM	**Songino Array**	139.10	316	PKP	PKPdf	01 19 42.8 +0.4
	comp=Z,0.3nm,0.5s,baz=37,slow=3.6,SNR=2.2					
XAN	**Xi'an**	139.67	294	PKP	PKiKP	01 19 47.1 +1.0
XAN				LR	LR	
	comp=Z,320nm,13.7s					
XAN				LR	LR	
	comp=Z,390nm,19.2s					
AKASG	**Malin Array Be**	142.81	36	PKP	PKPdf	01 19 48.3 -0.5
	comp=Z,0.6nm,0.6s,baz=297,slow=2.0,SNR=6.0					
AKASG	**Malin Array Be**	142.81	36	PKPdf	PKPdf	01 19 47.8 -1.0
SLVN	**Son La**	142.87	273	IAMs_20	IAMs_20	02 11 03.7
	comp=Z,395nm,21.0s					
MLR	**Muntele Rosu**	143.18	46	IAMs_20	IAMs_20	02 25 11.2
	comp=Z,255nm,18.0s					
LZH	**Lanzhou**	143.68	298	*e*PKP	PKPbc	01 19 50.0 +1.5
LZH				pPKP	PKiKP	01 20 00.8 +6.4
KMBO	**Kilima Mbogo**	143.85	131	PKP	PKPab	01 19 49.4 +0.3
	comp=Z,0.8nm,0.3s,baz=166,slow=4.2,SNR=2.2					
CD2	**Chengdu**	144.07	289	PKP	PKiKP	01 19 55.0 -0.3
CD2				PP	PP	01 23 11.5 +5.2
CD2				AMB	AMB	
	comp=Z,190nm,6.3s					
CD2				LR	LR	
	comp=Z,300nm,16.7s					
CD2				LR	LR	
	comp=Z,360nm,18.6s					
KMI	**Kunming**	144.60	279	⇑PKPbc	PKPab	01 19 52.0 +0.4
KMI				LR	LR	
	comp=Z,290nm,22.7s					
KMI				LR	LR	
	comp=Z,330nm,26.2s					
KMI				LR	LR	
	comp=Z,460nm,29.1s					
TIRR	**Tirgusor**	145.19	46		PKPbc	01 19 52.6 -0.2
SANT	**Santorini**	145.25	61		PKPbc	01 19 52.1 -1.2
LODK	**Lodwar**	145.59	123		PKPab	01 19 55.8 +0.5
LODK				IAMs_20	IAMs_20	02 24 13.5
	comp=Z,313nm,19.0s					
PZH	**PanZhiHua**	145.65	282	PKPbc	PKiKP	01 19 58.6 -0.1
GTA	**Gaotai**	146.18	305	⇑PKPbc	PKPbc	01 19 56.6 +0.4
GTA				LR	LR	
	comp=Z,240nm,18.5s					
GTA				LR	LR	
	comp=Z,480nm,19.6s					
GTA				LR	LR	
	comp=Z,650nm,22.5s					
ZAA0	**Zalesovo Array**	146.64	337	PKPbc	PKPdf	01 19 56.3 +1.0
ZALV	**Zalesovo Beam**	146.64	337	PKPbc	PKPdf	01 19 56.2 +0.9
	comp=Z,3.5nm,0.6s,baz=28,slow=2.9,SNR=20					
CM31	**Chiang Mai Arr**	146.66	267	PKPbc	PKiKP	01 20 01.1 +0.2
CMAR	**Chiang Mai Arr**	146.66	267	PKPbc	PKPbc	01 19 58.9 +0.8
	comp=Z,3.4nm,0.8s,baz=104,slow=1.4,SNR=21					
CMAR	**Chiang Mai Arr**	146.66	267	PKPbc	PKPbc	01 19 59.2 +1.1
CHTO	**Chiang Mai**	146.76	267	PKPbc	PKPbc	01 19 59.2 +0.9
CHTO				IAMs_20	IAMs_20	02 14 27.1
	comp=Z,225nm,19.0s					
ARU	**Arti**	147.94	5	PKPbc	PKPbc	01 20 00.2 -0.2
ELL	**Elmali**	148.70	59	PKPbc	PKPbc	01 20 02.7 -0.5
BR231	**Keskin MP Arra**	149.94	52	PKPbc	PKPbc	01 20 05.0 -1.2
ANTO	**Ankara**	149.94	52	PKPbc	PKPbc	01 20 06.1 -0.1
ILGA	**Ilgaz**	150.14	49	PKPbc	PKPbc	01 20 06.9 +0.1
BRTR	**Keskin Array B**	150.60	52	PKP	PKPdf	01 20 01.8 -0.7
	comp=Z,6.6nm,1.0s,baz=20,slow=4.6,SNR=3.8					
BRTR				PKPbc	sPKPdf	01 20 06.8 +1.1
	comp=Z,7.1nm,1.0s,baz=152,slow=2.1,SNR=22					
GOMU	**GeErMu**	150.83	301	PKPbc	PKPbc	01 20 09.0 +0.2
BRVK	**Borovoye**	151.09	352		PKPbc	01 20 07.6 -0.8
KURK	**Kurchatov**	151.43	340		PKPbc	01 20 08.7 -0.5
WMQ	**Urumqi**	152.50	320	*e*PKPbc	PKPdf	01 20 08.6 +3.5
WMQ				AMB	AMB	
	comp=Z,67nm,6.5s					
WMQ				LR	LR	
	comp=Z,220nm,20.3s					
WMQ				LR	LR	
	comp=Z,380nm,16.9s					
WMQ				LR	LR	
	comp=Z,340nm,21.7s					
MKAR	**Makanchi Array**	153.26	331	PKP	PKPdf	01 20 06.2 +0.1
	comp=Z,1.7nm,1.0s,baz=36,slow=2.3,SNR=7.8					
MKAR				PKPbc	sPKPdf	01 20 11.5 +2.1
	comp=Z,2.3nm,1.0s,baz=23,slow=1.7,SNR=7.5					
GHAJ	**Ghor Haditha**	154.34	68	IAMs_20	IAMs_20	02 28 19.2
	comp=Z,328nm,20.0s					
ABKAR	**Akbulak array**	155.17	6	PKPdf	PKPdf	01 20 08.6 0.0
ABKAR				PKPab	PKPab	01 20 33.2 -0.1
AAK	**Ala-Archa**	159.86	336	IAMs_20	IAMs_20	02 26 16.0
	comp=Z,358nm,22.0s					
KSH	**Kashi**	161.81	328	*e*PKP	PKPdf	01 20 26.9 +10
HRA	**Herat**	170.12	7		PKPdf	01 20 24.1 +0.1
HRA				PKPab	PKPab	01 21 39.0 -0.3

IDC ***22*** *01:02:19.4±1.3, 52°.79N×168°.48W, h0km, mb3.9/15, mb1 4.1/17, mb1mx3.9/57, mbtmp3.9/17, ML3.3/2, Error ellipse: s-maj=34.3km s-min=15.7km az=171.0*
AEIC ***22*** *01:02:21±1.9, 52°.26N±0°.06×168°.34W±0°.06, h38km±7km, Error ellipse: s-maj=9.6km s-min=3.1km az=147.0*
NEIC ***22*** *01:02:23.2±1.6, 52°.38N±0°.06×168°.43W±0°.06, h37km±11km, ML3.6/6, ML3.2(AEIC), Error ellipse: s-maj=8.9km s-min=5.3km az=165.0*
ISC 22 01:02:21.3±2.0, 52°.37N±0°.09×168°.38W±0°.05, h23km±13km, n46, σ1s29/45, mb3.9/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.67	335		Pn	01 02 35.5	+0.1
NIKH					Sn	01 02 46.9	+1.8
OKSP	**Okmok Steeple**	0.89	4		Pb	01 02 38.6	+0.6
CLCO	**Concord Point,**	0.92	298		Pb	01 02 38.8	+0.3
CLCO					Sn	01 02 53.6	+2.3
CLES	**Cleveland East**	1.03	297		Pn	01 02 40.6	+0.3
CLES	**Cleveland East**	1.03	297	IAML		01 02 59.1	
	comp=N,2μm,0.3s						
CLES				IAML		01 03 02.2	
	comp=E,2μm,0.2s						
OKFG	**Magazine Ridge**	1.08	15		Pb	01 02 41.7	+0.4
OKFG					Sn	01 02 58.3	+2.9
OKWE	**Okmok W'ng Wal**	1.11	4		Pb	01 02 42.2	+0.4
MAPS	**Pakushin South**	1.69	31		Pn	01 02 49.6	+0.3
MAPS					Sb	01 03 11.9	-0.4
MSW	**Makushin Switc**	1.82	31		Pn	01 02 52.0	+0.7
MNAT	**Makushin Natee**	1.83	33		Pn	01 02 52.2	+0.8
UNV	**Unalaska Valle**	1.86	37		Pn	01 02 52.1	+0.3
UNV					Sn	01 03 15.7	+1.1
MTBL	**Makushin Table**	1.91	32		Pn	01 02 53.3	+0.9
AKMO	**Akutan Morgan**	2.24	39		Pn	01 02 57.7	+0.8
AKUT	**Akutan**	2.37	41	Pn	Pn	01 02 58.9	+0.3
AKUT				IAML		01 03 43.5	
	comp=N,116nm,2.6s						
KOFP	**Korovin Flat P**	3.51	271		Pn	01 03 15.8	+1.4
ATKA	**Atka Island**	3.57	270		Pn	01 03 16.0	+0.8
ATKA					Sn	01 03 57.3	+0.6
GSTR	**Great Sitkin T**	4.73	270	Pn	Pn	01 03 31.4	+0.3
GSTD	**Great Sitkin T**	4.78	269		Pn	01 03 32.7	+0.8
ADK	**Adak**	5.14	268		Pn	01 03 37.8	+1.1
ADK					Sn	01 04 36.0	+0.8
ADK	**Adak**	5.14	268	IAML		01 06 22.8	
	comp=N,81nm,3.6s						
KIWB	**Kanaga Island**	5.43	268	Pn	Pn	01 03 40.8	+0.1
CNBA	**Chernabura Isl**	5.79	61	Pn	Pn	01 03 44.7	-0.9
CHGN	**Chignik**	7.03	52	Pn	Pn	01 04 04.0	+1.3
KDAK	**Kodiak Island**	10.55	53	Pn	Pn	01 04 50.4	-0.4
	comp=N,0.5nm,0.3s,baz=178,slow=4.9,SNR=6.5						
ILAR	**Eielson Array**	16.62	33	Pn	Pn	01 06 08.0	-4.5
	comp=N,0.1nm,0.3s,baz=241,slow=11,SNR=5.8						
PETK	**Petropavlovsk-**	20.44	286	P	P	01 06 56.5	-0.3
	comp=N,4.3nm,0.5s,baz=88,slow=13,SNR=7.8						
INK	**Inuvik**	23.02	33	P	P	01 07 22.6	-1.6
	comp=N,1.8nm,0.8s,baz=226,slow=12,SNR=4.9						
SEY	**Seymchan**	23.11	313	P	P	01 07 24.0	-1.3
	comp=N,1.2nm,0.4s,baz=112,slow=9.6,SNR=3.7						
YKA	**Yellowknife Ar**	29.79	49	P	P	01 08 26.0	+0.2
	comp=N,0.2nm,0.4s,baz=273,slow=7.9,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	37.84	220	T	T	01 50 17.5	
	baz=26,slow=74						
H11N3	**WAKE ISLAND Hy**	37.84	220	T	T	01 50 22.9	
	baz=26,slow=74						
H11N1	**WAKE ISLAND Hy**	37.85	220	T	T	01 50 11.6	
	baz=26						
H11S1	**WAKE ISLAND Hy**	39.02	219	T	T	01 51 35.1	
	baz=24,slow=76						
H11S2	**WAKE ISLAND Hy**	39.03	219	T	T	01 51 30.0	
	baz=24,slow=76						
H11S3	**WAKE ISLAND Hy**	39.04	219	T	T	01 51 35.0	
	baz=24,slow=76						
PDAR	**Pinedale Array**	39.81	80	P	P	01 09 53.9	+1.2
	comp=N,0.3nm,0.8s,baz=289,slow=5.4,SNR=2.9						
KSRS	**Korea Array**	46.00	277	P	P	01 10 43.5	+0.8
	comp=N,2.1nm,0.8s,baz=48,slow=9.4,SNR=4.7						
TXAR	**Lajitas Array**	52.14	90	P	P	01 11 32.2	+2.3
	comp=N,0.3nm,0.7s,baz=306,slow=4.7,SNR=4.3						
ARCES	**ARCESS Array B**	57.98	354	P	P	01 12 10.6	-0.8
	comp=N,7.5nm,1.1s,baz=0.8,slow=6.5,SNR=2.1						
MKAR	**Makanchi Array**	64.24	314	P	P	01 12 53.1	-1.1
	comp=N,0.8nm,0.8s,baz=53,slow=6.4,SNR=9.3						
FINES	**FINESS Array B**	65.95	352	P	P	01 13 03.9	-1.0
	comp=N,0.5nm,0.3s,baz=15,slow=7.9,SNR=9.7						
NOA	**NORSAR Array B**	66.94	0	P	P	01 13 10.1	-1.3
	comp=N,0.7nm,0.8s,baz=360,slow=6.4,SNR=1.8						
AKASG	**Malin Array Be**	76.23	349	P	P	01 14 06.6	-0.8
	comp=N,1.0nm,0.4s,baz=15,slow=5.8,SNR=5.5						
CMAR	**Chiang Mai Arr**	77.21	284	P	P	01 14 14.0	+0.6
	comp=N,1.1nm,0.4s,baz=28,slow=6.6,SNR=6.7						
BRTR	**Keskin Array B**	86.30	343	P	P	01 15 02.0	+0.7
	comp=N,0.3nm,0.3s,baz=59,slow=2.3,SNR=2.9						
ESDC	**Sonseca Array**	87.34	12	P	P	01 15 06.0	-0.2
	comp=N,0.3nm,0.8s,baz=340,slow=5.1,SNR=5.3						

IDC ***22*** *01:09:21.7±10.0, 6°.96S×128°.65E, h209km±106km, mb3.3/1, mb1 3.8/5, mb1mx3.2/37, mbtmp4.3/5, Error ellipse: s-maj=126.3km s-min=24.0km az=50.0*
ISC 22 01:09:22.2±1.3, 7°.2S±0°.1×128°.55E±0°.09, h200km, n17, σ2s36/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	5.68	238	P	Pn	01 10 47.9	+2.6
	29nm,0.3s,baz=174,slow=0.4,SNR=7.1						
BATI				S	Sn	01 11 51.5	+0.4
	20nm,0.3s,baz=84,slow=20,SNR=7.6						
DRS	**Darwin Rock St**	5.69	156	P	Pn	01 10 49.9	+4.4
MTN	**Manton Dam**	6.16	156	P	Pn	01 10 54.4	+2.8
KDU	**Kakadu**	6.69	145	P	Pn	01 11 01.8	+3.4
KNRA	**Kununurra**	8.43	179	P	Pn	01 11 23.8	+2.7
FITZ	**Fitzroy Crossi**	11.20	194	P	Pn	01 11 59.5	+2.7
	baz=22,slow=15						
FITZ				S	Sn	01 14 00.1	-1.7
	0.3nm,0.3s,baz=315,slow=23,SNR=2.1						
WRAB	**Tennant Creek**	13.86	157	P	Pn	01 12 31.0	+0.6
WRA	**Warramunga Arr**	13.86	157	P	Pn	01 12 31.0	+0.5
	0.7nm,0.3s,baz=329,slow=12,SNR=51						
WRA				S	Sn	01 15 04.9	-0.5
	0.5nm,0.3s,baz=337,slow=21,SNR=21						
COEN	**Coen**	15.87	116	P	Pn	01 12 56.3	+1.3
ASAR	**Alice Springs**	17.16	163	P	Pn	01 13 10.2	-0.3
	1.4nm,0.3s,baz=343,slow=11,SNR=68						
ASAR				S	S	01 16 12.4	-5.1
	0.1nm,0.3s,baz=348,slow=17,SNR=6.1						
WRKA	**Warakurna**	17.74	181	P	Pn	01 13 16.2	-1.1
OOD	**Oodnadatta**	21.57	163	P	P	01 13 55.8	-0.4
FORT	**Forrest**	23.46	181	P	P	01 14 14.8	+1.1
MULG	**Mulgathing**	23.54	168	P	P	01 14 14.3	-0.1
LCRK	**Leigh Creek**	24.84	160	P	P	01 14 25.4	-0.9
BBOO	**Buckleboo**	26.42	166	P	P	01 14 40.0	-0.5
MKAR	**Makanchi Array**	67.61	328	P	P	01 19 55.0	-2.3
	0.8nm,0.7s,baz=130,slow=7.8,SNR=10						

MOS ***22*** *01:17:25.0±0.9, 49°.71N×155°.12E, h123km, mb3.8/9, Error ellipse: s-maj=14.9km s-min=4.9km az=70.0*
KRSC ***22*** *01:17:26.0±2.3, 49°.37N×157°.10E, h50km±43km, ML4.3*
NEIC ***22*** *01:17:25.3±1.7, 49°.7N±0°.2×155°.1E±0°.2, h110km±9km, mb4.0/6, Error ellipse: s-maj=25.7km s-min=16.9km az=145.0*
IDC ***22*** *01:17:29.7±2.9, 49°.92N×155°.11E, h143km±24km, mb3.4/17, mb1 3.6/19, mb1mx3.4/46, mbtmp3.8/19, Error ellipse: s-maj=24.6km s-min=14.1km az=166.0*
ISC 22 01:17:26.3±1.2, 49°.7N±0°.1×155°.35E±0°.09, h124km±8km, n90, σ1s75/98, mb3.7/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	1.09	26	*e*PN	Pn	01 17 50.2	+0.7
SKR				*e*S	Sn	01 18 07.6	+0.4
SKR				smax	smax		
	comp=N,2μm,0.5s						
SKR				smax	smax		
	comp=E,2μm,0.7s						
SKR	**Severo-Kuril's**	1.09	26	*e*P	Pn	01 17 50.6	+1.1
SKR				*e*S	Sn	01 18 07.4	+0.2
PAU	**Pauzhetka**	1.99	27	PN	Pn	01 18 00.6	+0.9
PAU				S	Sn	01 18 25.8	+0.4
PAU	**Pauzhetka**	1.99	27	*e*P	Pn	01 18 00.7	+1.0
PAU				*e*S	Sn	01 18 25.8	+0.4
KDTR	**Khodutka, Kamc**	2.72	38	PN	Pn	01 18 08.8	-0.2
KDTR				S	Sn	01 18 39.3	-2.6
KDTR	**Khodutka, Kamc**	2.72	38	*e*P	Pn	01 18 08.6	-0.4
KDTR				*e*S	Sn	01 18 39.1	-2.8
GRL	**Gorelyy**	3.32	30	PN	Pn	01 18 18.7	+1.8
GRL				S	Sn	01 18 57.0

```
BILL                                  pmax    pmax
     comp=Z,2.0nm,0.6s
BILL                                  MLR     MLR
     comp=Z,50nm,13.0s
H11N2 WAKE ISLAND Hy 31.30 159        T       T       01 56 56.0
     baz=347,slow=76
H11N1 WAKE ISLAND Hy 31.32 159        T       T       01 56 55.6
     baz=347,slow=76,SNR=5.5
H11N3 WAKE ISLAND Hy 31.32 159        T       T       01 56 58.4
     baz=347,slow=76
ULN   Ulaanbaatar    31.44 285   i P      P       01 23 35.2 -0.6
ULN                                   pmax    pmax
     comp=Z,3.0nm,1.4s
SONM  Songino Array  31.87 286        P       P       01 23 38.8 -0.6
     comp=Z,0.3nm,0.3s,baz=68,slow=9.4,SNR=1.6
H11S1 WAKE ISLAND Hy 32.44 160        T       T       01 58 21.9
     baz=343,slow=76
H11S3 WAKE ISLAND Hy 32.45 160        T       T       01 58 18.3
     baz=343
H11S2 WAKE ISLAND Hy 32.45 160        T       T       01 58 22.9
     baz=343,slow=76
COLA  College        32.90  41   i P      P       01 23 49.6 +1.5
COLA                                  pmax    pmax
     comp=Z,3.0nm,1.0s
IL31                 33.32  41     P      P       01 23 51.1 -0.5
ILAR  Eielson Array  33.32  41     P      P       01 23 52.5 +0.8
     comp=Z,0.5nm,0.5s,baz=260,slow=6.1,SNR=12
ILAR  Eielson Array  33.32  41   eP       P       01 23 53.0 +1.3
ILAR                                  pmax    pmax
     comp=Z,1.0nm,0.5s
INK   Inuvik         38.35  35     P      P       01 24 36.0 +1.5
     comp=Z,1.6nm,0.6s,baz=305,slow=5.9,SNR=10
INK   Inuvik         38.35  35     IAmb   IAmb    01 24 36.7
     comp=Z,2.1nm,0.7s
ZAA0  Zalesovo Array 42.15 304     P      P       01 25 04.7 -1.2
ZAA0                                  IAmb    IAmb    01 25 25.4
     comp=Z,1.3nm,0.7s
ZALV  Zalesovo Beam  42.15 304     P      P       01 25 06.2 +0.2
     comp=Z,0.5nm,0.4s,baz=65,slow=6.7,SNR=3.6
ZALV  Zalesovo Beam  42.15 304   eP       P       01 25 07.3 +1.3
MK31  Makanchi Array 46.95 296     P      P       01 25 43.7 -0.6
MK31                                  pmax    pmax
     comp=Z,2.0nm,1.4s
MK31  Makanchi Array 46.95 296     P      P       01 25 43.7 -0.6
MKAR  Makanchi Array 46.95 296     P      P       01 25 44.5 +0.3
     comp=Z,0.5nm,0.6s,baz=41,slow=5.2,SNR=7.6
MKAR  Makanchi Array 46.95 296   eP       P       01 25 45.0 +0.7
MKAR                                  pmax    pmax
     comp=Z,1.0nm,0.6s
KURK  Kurchatov      47.01 302     P      P       01 25 44.5 -0.1
KURK                                  pmax    pmax
     comp=Z,3.0nm,0.7s
KURK  Kurchatov      47.01 302     P      P       01 25 44.5 -0.1
KURK                                  IAmb    IAmb    01 25 45.6
     comp=Z,2.6nm,0.7s
YKA   Yellowknife Ar 47.67  39     P      P       01 25 50.6 +1.1
     comp=Z,0.9nm,0.6s,baz=298,slow=7.4,SNR=9.3
ARCES ARCESS Array B 55.55 341     P      P       01 26 46.7 -1.3
     comp=Z,4.5nm,1.0s,baz=36,slow=7.8,SNR=2.1
ABKAR Akbulak array  57.69 309     P      P       01 27 02.4 -1.0
PDAR  Pinedale Array 61.82  56     P      P       01 27 33.9 +1.8
     comp=Z,0.4nm,0.7s,baz=311,slow=1.6,SNR=4.0
FINES FINESS Array B 61.99 335     P      P       01 27 31.4 -1.2
     comp=Z,1.9nm,0.9s,baz=45,slow=3.0,SNR=5.0
FINES FINESS Array B 61.99 335   eP       P       01 27 32.7 +0.1
FINES                                 pmax    pmax
     comp=Z,2.0nm,0.9s
OBN   Obninsk        63.71 326   eP       P       01 27 45.8 +1.8
OBN                                   e               01 28 20.4
OBN                                   e               01 30 04.8
OBN                                   ePPP    PPP     01 31 35.1
OBN                                   pmax    pmax
     comp=Z,2.0nm,0.7s
NOA   NORSAR Array B 65.90 342     P      P       01 27 57.7 -0.5
     comp=Z,0.8nm,0.8s,baz=23,slow=6.8,SNR=2.3
KBZ   Khabaz         69.87 314     P      P       01 28 22.9 -0.3
     comp=Z,2.6nm,0.9s,baz=307,slow=5.1,SNR=2.4
KBZ   Khabaz         69.87 314     P      P       01 28 23.0 -0.3
AKASG Malin Array Be 69.90 327     P      P       01 28 22.5 -0.9
     comp=Z,0.2nm,0.3s,baz=34,slow=6.5,SNR=4.4
SCHQ  Schefferville  70.00  24     P      P       01 28 24.6 +0.7
     comp=Z,1.3nm,0.4s,baz=344,slow=7.4,SNR=6.5
WRA   Warramunga Arr 71.81 201     P      P       01 28 37.0 +1.9
     comp=Z,0.2nm,0.9s,baz=20,slow=6.6,SNR=6.0
WRA   Warramunga Arr 71.81 201     P      P       01 28 37.0 +1.9
TXAR  Lajitas Array  74.77  63     P      P       01 28 54.2 +1.5
     comp=Z,0.2nm,0.5s,baz=299,slow=4.5,SNR=8.1
GERES GERESS Array B 76.43 335     P      P       01 29 01.5 -0.3
     comp=Z,0.2nm,0.3s,baz=19,slow=6.3,SNR=2.7
BRTR  Keskin Array B 77.23 318     P      P       01 29 07.6 +1.0
     comp=Z,0.2nm,0.3s,baz=39,slow=9.4,SNR=1.8
```

*SFS **22** 01:22:16.0, 35°.67N×3°.76W, ML2.2, ALBORAN SUR*
*INMG **22** 01:22:17.0±1.7, 35°.70N×3°.75W, h0km±4km, ML2.0, Error ellipse: s-maj=3.3km s-min=3.0km az=15.0*
*CNRM **22** 01:22:18.0, 35°.67N×3°.66W, h26km, ml2.5*
*IGIL **22** 01:22:19.7, 35°.57N×3°.71W, h35km*

ISC 22 01:22:17.9±1.5, 35°.68N±0°.04×3°.69W±0°.05, h25km±14km, n33, σ1s44/57, Strait of Gibraltar

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Code  Station Name        Δ°   AZ°   Phase ID          Time        Res
                                     Op      ISC     h m s       ISC
PALE  Palemas             0.50 204   P       Pb      01 22 28.0  -0.2
PALE                                 S       Sb      01 22 35.6  +0.5
CHAS  Isla Isabel II      1.14 115   P       Pn      01 22 36.4  -1.9
CHAS                                 S       Sn      01 22 50.5  -2.7
CEU   Ceuta               1.38 280   P       Pn      01 22 38.6  -3.0
CEU                                  S       Sn      01 22 53.5  -5.6
CHEFC Chefchaouen         1.46 248   P       Pb      01 22 43.4  -1.0
CHEFC                                S       Sb      01 23 04.7  +2.1
JBK   JBK                 1.63 145   P       Pn      01 22 44.7  -0.5
JBK                                  S       Sn      01 23 04.7  -0.7
SICH  Sidi Chahed         2.06 221   P       Pn      01 22 51.0  +0.1
SICH                                 S       Sb      01 23 18.4  -1.4
LCRM  LCR                 2.21 206   P       Pn      01 22 53.3  +0.2
LCRM                                 S       Sb      01 23 23.5  -0.7
MD31  MD31                2.94 198   P       Pn      01 23 04.5  +1.3
MD31                                 S       Sn      01 23 37.9  +0.3
MDT   Midelt              2.96 195   P       Pn      01 23 05.0  +1.6
MDT                                  S       Sn      01 23 39.7  +1.6
TDRA  Tendrara            2.97 152   P       Pn      01 23 04.2  +0.6
TDRA                                 S       Sn      01 23 39.7  +1.2
PVAQ  Vaqueiros           3.67 299   ePn     Pn      01 23 13.4  +0.3
PVAQ                                 eSn     Sn      01 23 54.6  -1.0
PVAQ                                 A       A       01 23 58.1
     1.9nm,0.2s
PVAQ  Vaqueiros           3.67 299   P       Pn      01 23 13.9  +0.8
PVAQ                                 S       Sn      01 23 56.4  +0.9
PCVE  Castro Verde        4.00 300   ePn     Pn      01 23 17.9  +0.3
PCVE                                 eSn     Sn      01 24 03.6  -0.2
PCVE                                 A       A       01 24 15.8
     2.1nm,0.7s
MESJ  Messejana           4.23 302   eP      Pn      01 23 20.9  +0.2
MESJ  Messejana           4.23 302   eP      Pn      01 23 20.9  +0.2
MORF  Marmelete           4.31 294   eP      Pn      01 23 22.2  +0.2
MORF  Marmelete           4.31 294   ePn     Pn      01 23 22.6  +0.6
MORF                                 eSn     Sn      01 24 12.1  +0.6
MORF                                 A       A       01 24 21.1
     2.2nm,0.9s
PFVI  Vila Bisbo          4.39 291   ePn     Pn      01 23 24.0  +1.0
PFVI                                 eSn     Sn      01 24 12.7  -0.6
PFVI  Vila Bisbo          4.39 291   P       Pn      01 23 24.5  +1.5
PFVI                                 S       Sn      01 24 14.4  +1.1
PESTR Estremoz            4.45 317   ePn     Pn      01 23 24.7  +0.9
PESTR                                eSn     Sn      01 24 14.7  -0.1
PESTR                                A       A       01 24 15.8
     2.7nm,0.6s
PESTR Estremoz            4.45 317   P       Pn      01 23 24.2  +0.4
PESTR                                S       Sn      01 24 14.7  -0.1
PTEO  Sao Teotonio        4.46 296   ePn     Pn      01 23 25.6  +1.7
EVO   Evora               4.48 311   ePn     Pn      01 23 25.2  +1.0
EVO                                  eSn     Sn      01 24 15.4  -0.1
EVO                                  A       A       01 24 29.3
     1.8nm,0.6s
PNCL  Nicolau / Gran      4.58 304   ePn     Pn      01 23 26.0  +0.5
PNCL                                 eSn     Sn      01 24 17.4  -0.4
PNCL                                 A       A       01 24 22.2
     1.5nm,0.6s
PMRV  Marv??o             4.76 323   ePn     Pn      01 23 29.4  +1.3
PMRV                                 eSn     Sn      01 24 21.9  -0.6
PMRV                                 A       A       01 24 23.3
     1.4nm,0.7s
PMTG  Montargil           4.95 315   ePn     Pn      01 23 31.7  +1.1
PMTG                                 eSn     Sn      01 24 26.5  -0.6
PMTG                                 A       A       01 24 27.6
     1.4nm,0.6s
PCBR  Castelo Branco      5.12 325   ePn     Pn      01 23 35.4  +2.3
PCBR                                 eSn     Sn      01 24 31.6  +0.2
PCBR                                 A       A       01 24 34.3
     1.3nm,0.4s
OUZM  OUZ                 5.41 209   P       Pn      01 23 38.4  +1.4
OUZM                                 S       Sn      01 24 40.5  +2.0
PSBE  So Bento            5.58 315   ePn     Pn      01 23 40.7  +1.4
PSBE                                 eSn     Sn      01 24 41.0  -1.6
PVIS  Viseu               6.02 328   ePn     Pn      01 23 47.2  +1.8
MVO   Moncorvo            6.07 335   ePn     Pn      01 23 48.2  +2.1
PVRL  Vila Real           6.42 332   eSn     Sn      01 25 02.4  -0.9
PBRG  Braganca            6.56 340   ePn     Pn      01 23 54.6  +1.7
```

IDC 22 01:25:23.5±10.0, 47°.71S×102°.41E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/33, mbtmp3.7/2, Error ellipse: s-maj=742.9km s-min=66.0km az=132.0, Southeast Indian Ridge

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Code  Station Name        Δ°   AZ°   Phase ID          Time        Res
                                     Op      ISC     h m s       ISC
H01W2 Cape Leeuwin H      15.51  39  T       T       01 45 02.6
     baz=211,slow=74
H01W1 Cape Leeuwin H      15.53  39  T       T       01 45 03.5
     baz=211
H01W3 Cape Leeuwin H      15.53  39  T       T       01 45 03.5
     baz=211,slow=74
ASAR  Alice Springs       34.68  57  P       P       01 32 14.9  +0.1
     0.5nm,0.8s,baz=211,slow=9.5,SNR=5.9
WRA   Warramunga Arr      37.88  54  P       P       01 32 42.0  -0.2
     0.9nm,0.9s,baz=219,slow=8.1,SNR=6.6
NVAR  Mina Array Bea      149.15 92  PKPbc   PKPbc   01 45 13.1  -0.5
     1.0nm,0.8s,baz=217,slow=4.4,SNR=5.4
```

*NEIC **22** 01:26:40.1±1.7, 25°.3S±0°.1×177°.3W±0°.1, h101km±5km, mb4.4/10, Error ellipse: s-maj=18.8km s-min=10.5km az=218.0*
*IDC **22** 01:26:47.3±3.4, 25°.36S×177°.51W, h170km±28km, mb3.8/14, mb1 4.0/17, mb1mx3.9/38, mbtmp4.3/17, MS4.4/1, Ms1 4.4/1, ms1mx3.2/57, Error ellipse: s-maj=23.1km s-min=14.6km az=152.0*

ISC 22 01:26:46.0±0.5, 25°.45±0°.1×177°.47W±0°.09, h160km, n71, σ0s82/64, mb4.1/17, South of Fiji Islands

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Code  Station Name        Δ°   AZ°   Phase ID          Time        Res
                                     Op      ISC     h m s       ISC
MSVF  Nonsavu             8.66 330   P       Pn      01 28 49.3  +1.0
     0.8nm,0.3s,baz=136,slow=14,SNR=12
MSVF  Nonsavu             8.66 330   P       Pn      01 28 47.9  -0.4
NIUE  Niue                9.38  50   Pn      Pn      01 28 49.9  -7.7
AFI   Afiamalu            12.59  26   S       Sn      01 31 36.9  -22
     7.4nm,0.3s,baz=46,slow=22,SNR=7.8
DZM   Mont Dzumac         15.10 279   P       Pn      01 30 11.5  +0.3
     0.1nm,0.3s,baz=94,slow=19,SNR=1.1
DZM   Mont Dzumac         15.10 279   IAmb    IAmb    01 30 22.0
     comp=Z,28nm,1.4s
RAR   Rarotonga           16.77  79   P       Pn      01 30 32.4  +0.8
     comp=Z,1.0nm,0.3s,baz=258,slow=19,SNR=1.5
RAR                                  S       S       01 33 18.3  -19
     comp=Z,0.9nm,0.3s,baz=55,slow=17,SNR=1.8
MSWZ  Moikau Station      17.11 199   P       P       01 30 34.5  -0.2
SANVU Saraoutou           17.41 302   P       P       01 30 36.9  -1.3
CTA   Charters Tower      33.80 271   P       P       01 33 14.0  +1.0
     comp=Z,3.9nm,0.8s,baz=87,slow=8.1,SNR=5.5
STKA  Stephens Creek      36.36 250   P       P       01 33 34.3  -0.4
     comp=Z,1.3nm,0.4s,baz=99,slow=13,SNR=3.6
AS31  Alice Springs       44.08 261   P       P       01 34 38.6  +0.2
ASAR  Alice Springs       44.09 261   P       P       01 34 38.2  -0.2
     comp=Z,2.1nm,0.8s,baz=104,slow=8.1,SNR=7
ASAR                                 PcP     PcP     01 36 21.1  +0.2
     comp=Z,0.4nm,0.6s,baz=79,slow=4.8,SNR=1.8
WB2   Warramunga Arr      44.61 267   P       P       01 34 41.6  -0.9
WRA   Warramunga Arr      44.62 267   P       P       01 34 41.8  -0.9
     comp=Z,1.2nm,0.8s,baz=98,slow=6.7,SNR=14
FITZ  Fitzroy Crossi      53.02 266   P       P       01 35 45.9  -0.8
     comp=Z,1.3nm,0.8s,baz=268,slow=7.9,SNR=2.4
SIJI  Sorong              55.08 288   LR      LR      02 00 53.6
     comp=Z,340nm,18.9s,baz=182,slow=37
MAW   Mawson              77.18 200   P       P       01 38 22.3  +0.7
     comp=Z,12nm,1.0s,baz=102,slow=9.3,SNR=1.5
KSRS  Korea Array         80.85 319   P       P       01 38 43.1  +1.1
     comp=Z,1.5nm,0.7s,baz=160,slow=7.8,SNR=3.1
PETK  Petropavlovsk-      81.08 345   P       P       01 38 42.7  -0.1
     comp=Z,11nm,0.7s,baz=125,slow=6.2,SNR=13
H03S2 Juan Fernandez      82.86 124   T       T       03 10 19.8
     baz=240
H03S1 Juan Fernandez      82.87 124   T       T       03 10 20.4
     baz=240
H03S3 Juan Fernandez      82.88 124   T       T       03 10 21.4
     baz=240
SNAA  Sanae               83.16 178   P       P       01 38 53.6  -0.1
VNA3  Neumayer Olymp      83.28 176   P       P       01 38 54.2  -0.1
VNA2  Neumayer--Watz      83.72 177   P       P       01 38 56.8  +0.3
     baz=178,slow=5.2
NVAR  Mina Array Bea      84.23  43   P       P       01 38 59.9  +0.1
     comp=Z,1.4nm,0.6s,baz=222,slow=8.9,SNR=10
NVAR  Mina Array Bea      84.23  43   P       P       01 38 58.7  -1.0
PLCA  Paso Flores         85.59 133   P       P       01 39 06.8  +0.2
     comp=Z,1.9nm,0.9s,baz=223,slow=12,SNR=3.5
PLCA  Paso Flores         85.59 133   IAmb    IAmb    01 39 13.7
     comp=Z,5.2nm,1.2s
TUC   Tucson              85.61  51   P       P       01 39 06.4  -0.2
TUC                                  IAmb    IAmb    01 39 08.5
     comp=Z,4.2nm,0.9s
MTPU  Mount Pierson       87.86  46   P       P       01 39 18.2  +0.4
MTPU                                 IAmb    IAmb    01 39 20.4
     comp=Z,2.3nm,0.8s
TMUT  Trail Mountain      89.20  45   P       P       01 39 23.2  -0.8
TMUT                                 IAmb    IAmb    01 39 25.7
     comp=Z,3.7nm,0.8s
TXAR  Lajitas Array       89.27  57   P       P       01 39 25.1  +0.8
     comp=Z,1.2nm,1.1s,baz=212,slow=6.8,SNR=6.4
TXAR  Lajitas Array       89.27  57   P       P       01 39 23.8  -0.5
BCYI  Bear Canyon         90.72  40   P       P       01 39 29.7  -1.1
PD31  Pinedale Array      92.16  43   P       P       01 39 36.4  -1.1
PD31                                 IAmb    IAmb    01 39 54.1
     comp=Z,3.2nm,1.5s
PDAR  Pinedale Array      92.16  43   P       P       01 39 37.4  -0.1
     comp=Z,1.1nm,0.7s,baz=207,slow=3.2,SNR=14
PDAR  Pinedale Array      92.16  43   P       P       01 39 36.9  -0.6
CMAR  Chiang Mai Arr      92.19 289   P       P       01 39 39.6  +1.7
     comp=Z,0.9nm,0.3s,baz=145,slow=4.2,SNR=5.4
ILAR  Eielson Array       92.93  13   P       P       01 39 39.8  -0.4
     comp=Z,0.5nm,0.8s,baz=225,slow=4.6,SNR=5.8
ZALV  Zalesovo Beam       114.55 320  PKP     PKPdf   01 45 05.8  -0.8
     comp=Z,0.6nm,0.6s,baz=111,slow=3.8,SNR=2.7
MKAR  Makanchi Array      114.84 312  PKP     PKPdf   01 45 06.7  -0.8
     comp=Z,0.4nm,0.5s,baz=164,slow=6.6,SNR=9.5
BOSA  Boshof              122.06 204  PKP     PKPdf   01 45 21.9  -0.3
     comp=Z,2.1nm,0.9s,baz=63,slow=6.8,SNR=2.3
ARCES ARCESS Array B 133.77 349  PKP     PKPdf   01 45 43.1  +0.1
     comp=Z,0.8nm,0.5s,baz=352,slow=2.1,SNR=11
FINES FINESS Array B 140.55 342  PKhKP   PKPpre  01 45 47.0
     comp=Z,1.2nm,0.8s,baz=20,slow=6.1,SNR=4.0
FINES                                PKP     PKPdf   01 45 57.0  +1.4
     comp=Z,0.5nm,0.4s,baz=90,slow=1.9,SNR=4.7
NB2   NORSAR Subarra143.85 353   PKP     PKPab   01 45 58.8  -0.2
     comp=Z,1.5nm,0.6s,baz=13,slow=3.4
NOA   NORSAR Array B143.85 353   PKP     PKPab   01 45 59.2  +0.2
     comp=Z,0.8nm,0.6s,baz=68,slow=1.0,SNR=13
GURO  Guroymak-BITLI 144.27 301  PKPdf   PKPdf   01 46 02.7  -0.5
PABE  Paberze             146.04 338  PKPbc   PKPdf   01 46 06.1  +0.7
AKASG Malin Array Be      147.44 328  PKPbc   PKPbc   01 46 09.7  -1.0
     comp=Z,3.8nm,0.6s,baz=44,slow=4.1,SNR=18
AKASG Malin Array Be      147.44 328  PKPbc   PKiKP   01 46 10.2  -0.5
AKBB  Malin Array Si      147.44 328  PKPbc   PKiKP   01 46 11.9  -0.8
SUW   Suwalki             147.52 337  PKPbc   PKiKP   01 46 12.3  -0.5
BNN   Bunyan              148.93 304  PKPbc   PKPbc   01 46 15.0  -0.2
BRTR  Keskin Array B      150.30 306  PKPbc   PKPbc   01 46 18.4  0.0
     comp=Z,2.4nm,0.9s,baz=132,slow=3.8,SNR=11
OSTC  Ostas               152.72 341  ePKPDF  PKiKP   01 46 23.9  +0.2
DPC   Dobruska-Polom      152.87 340  ePKPDF  PKiKP   01 46 24.3  +0.2
DPC                                  ePKPAB  PKPab   01 46 36.2  +0.6
CLL   Collm               152.88 346  i PKPbc PKPbc   01 46 23.6  -0.2
     comp=Z,5.0nm,0.8s
KRLC  Kraliky             152.97 340  ePKPDF  PKiKP   01 46 24.6  +0.3
KHC   Kasperske Hory      154.75 343  ePKPDF  PKPbc   01 46 24.5  -3.5
KHC                                  ePKPAB  PKPab   01 46 44.2  +0.6
GERES GERESS Array B 154.98 342  PKP     PKPdf   01 46 19.1  -0.5
     comp=Z,0.1nm,0.5s,baz=57,slow=3.6,SNR=1.2
GERES                                PKPab   PKPab   01 46 44.6  0.0
     comp=Z,0.2nm,0.6s,baz=36,slow=7.4,SNR=3.6
CONA  Conrad Observa      155.14 338  eP      PKPab   01 46 46.8  +1.5
     comp=Z,5.0nm,1.2s
RETA  Reutte              156.98 346  eP      PKPab   01 46 53.8  +0.6
     comp=Z,0.7nm,0.4s
WTTA  Wattenberg          156.98 344  eP      PKPab   01 46 54.0  +0.7
     comp=Z,0.8nm,0.3s
MOTA  Moosalm             157.03 345  eP      PKPab   01 46 53.8  +0.2
     comp=Z,1.5nm,0.5s
SQTA  Sankt Quirin        157.12 345  eP      PKPab   01 46 54.7  +0.8
     comp=Z,1.1nm,0.6s
ABTA  Abfaltersbach       157.22 342  eP      PKPab   01 46 54.5  +0.2
     comp=Z,1.0nm,0.5s
DAVA  Damuels             157.36 347  eP      PKPab   01 46 55.5  +0.6
     comp=Z,2.8nm,0.6s
FETA  Feichten            157.42 345  eP      PKPab   01 46 55.4  +0.2
     comp=Z,0.7nm,0.6s
TORD  Torodi Ar. Bea      167.82 176  PKP     PKPdf   01 46 33.2  -0.7
     comp=Z,0.6nm,0.7s,baz=70,slow=0.1,SNR=5.5
TORD                                 PKPab   PKPab   01 47 41.4  +0.1
     comp=Z,0.8nm,0.8s,baz=156,slow=3.3,SNR=3.5
```

*IDC **22** 01:32:46.6±2.8, 11°.85S×166°.30E, h54km±23km, mb3.9/10, mb1 4.1/14, mb1mx4.0/39, mbtmp4.3/14, ML4.6/3, MS4.0/5, Ms1 4.1/5, ms1mx3.4/56, Error ellipse: s-maj=21.5km s-min=18.6km az=29.0*
*NEIC **22** 01:32:47.5±1.4, 11°.9S±0°.1×166°.3E±0°.1, h55km±9km, mb4.3/12, Error ellipse: s-maj=19.9km s-min=12.8km az=225.0*

ISC 22 01:32:46.2±0.6, 11°.90S±0°.08×166°.27E±0°.09, h50km, n38, σ0s99/38, mb4.2/12, MS4.2/4, Santa Cruz Islands

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Code  Station Name        Δ°   AZ°   Phase ID          Time        Res
                                     Op      ISC     h m s       ISC
SANVU Saraoutou           3.64 166    P       Pn      01 33 41.2  +1.1
HNR   Honiara             6.68 291    P       Pn      01 34 22.2  +0.3
     9.9nm,0.3s,baz=242,slow=2.2,SNR=2.3
HNR                                  S       Sn      01 35 37.4  +0.6
     46nm,0.3s,baz=153,slow=22,SNR=5.8
DZM   Mont Dzumac         10.12 179   P       Pn      01 35 09.9  +0.9
     4.7nm,0.3s,baz=201,slow=18,SNR=2.6
DZM                                  S       Sn      01 36 58.2  -3.0
     0.7nm,0.3s,baz=109,slow=22,SNR=2.6
DZM   Mont Dzumac         10.12 179   Pn      Pn      01 35 10.1  +1.1
ONTNC Ouen Toro           10.35 179   Pn      Pn      01 35 12.4  +0.3
OUENC Ouen Island, N      10.48 177   Pn      Pn      01 35 13.6  -0.3
PINNC Pines Island,       10.71 174   Pn      Pn      01 35 18.1  +1.1
MSVF  Nonsavu             12.78 118   P       Pn      01 35 47.3  +2.0
     0.2nm,0.3s,baz=281,slow=16,SNR=0.9
MSVF                                 LR      LR      01 40 00.1
     comp=Z,186nm,21.6s,baz=25,slow=34
PMG   Port Moresby        18.95 276   P       Pn      01 37 05.5  +1.1
     2.0nm,0.3s,baz=89,slow=5.6,SNR=3.5
PMG   Port Moresby        18.95 276   IAmb    IAmb    01 37 06.8
     comp=Z,20nm,0.9s
EIDS  Eidsvold            19.64 225   P       P       01 37 11.3  +0.4
EIDS                                 IAmb    IAmb    01 37 14.0
     comp=Z,16nm,1.5s
CTA   Charters Tower      20.88 245   P       P       01 37 25.2  +0.8
     comp=Z,2.2nm,0.6s,baz=68,slow=13,SNR=3.7
STKA  Stephens Creek      30.19 225   P       P       01 38 52.5  +0.5
     comp=Z,2.6nm,0.6s,baz=18,slow=11,SNR=5.2
STKA  Stephens Creek      30.19 225   IAmb    IAmb    01 38 53.9
     comp=Z,0.7nm,0.8s
WB0   Warramunga Arr      31.61 252   P       P       01 39 04.3  -0.4
WB0                                  IAmb    IAmb    01 39 05.2
     comp=Z,5.3nm,0.6s
WB2   Warramunga Arr      31.68 251   P       P       01 39 04.3  -0.9
WB2                                  IAmb    IAmb    01 39 05.7
     comp=Z,2.4nm,0.7s
WRA   Warramunga Arr      31.69 251   P       P       01 39 05.0  -0.4
     comp=Z,2.1nm,0.6s,baz=85,slow=9.1,SNR=31
WRA                                  PcP     PcP     01 41 56.9  +0.4
     comp=Z,2.1nm,0.9s,baz=78,slow=3.0,SNR=10
WRA   Warramunga Arr      31.69 251   IAmb    IAmb    01 39 05.4
     comp=Z,0.4nm,1.4s
WRA                                  PcP     PcP     01 41 56.8  +0.4
AS31  Alice Springs       32.88 245   P       P       01 39 15.2  -0.6
ASAR  Alice Springs       32.88 245   P       P       01 39 15.1  -0.8
     comp=Z,4.1nm,0.6s,baz=68,slow=9.7,SNR=55
ASAR                                 PcP     PcP     01 41 59.5  -0.2
     comp=Z,2.1nm,0.6s,baz=75,slow=2.4,SNR=20
GUMO  Guam                33.04 319   LR      LR      01 52 30.5
     comp=Z,179nm,21.4s,baz=108,slow=36
FITZ  Fitzroy Crossi      39.67 256   P       P       01 40 14.2  +0.5
     comp=Z,2.3nm,0.9s,baz=84,slow=7.6,SNR=4.4
FITZ                                 PcP     PcP     01 42 20.5  +0.6
     comp=Z,1.8nm,1.1s,baz=45,slow=2.9,SNR=6.5
KAPI  Kappang             46.47 274   LR      LR      02 03 41.2
     comp=Z,202nm,20.8s,baz=142,slow=40
JOW   Kunigami            53.33 317   LR      LR      02 02 02.5
     comp=Z,912nm,21.4s,baz=108,slow=33
KSRS  Korea Array         60.87 326   P       P       01 42 53.9  +0.2
     comp=Z,1.5nm,0.6s,baz=143,slow=7.8,SNR=4.4
CMAR  Chiang Mai Arr      72.92 294   P       P       01 44 12.5  +1.7
     comp=Z,1.3nm,0.4s,baz=115,slow=4.3,SNR=5.2
CMAR                                 LR      LR      02 16 50.7
     comp=Z,155nm,20.6s,baz=120,slow=36
CHTO  Chiang Mai          73.04 294   P       P       01 44 12.0  +0.5
CHTO                                 IAmb    IAmb    01 44 27.5
     comp=Z,2.8nm,0.5s
SONM  Songino Array       79.66 324   P       P       01 44 48.5  -0.1
     comp=Z,0.6nm,0.4s,baz=141,slow=4.8,SNR=3.7
SONM  Songino Array       79.66 324   IAmb    IAmb    01 44 50.4
     comp=Z,3.5nm,1.3s
SHL   Shillong            81.38 298   P       P       01 44 57.5  -0.9
ILAR  Eielson Array       84.15  18   P       P       01 45 10.2  -1.5
     comp=Z,0.3nm,0.5s,baz=263,slow=4.8,SNR=6.7
MK31  Makanchi Array      94.49 317   P       P       01 46 00.7  -0.6
MKAR  Makanchi Array      94.49 317   P       P       01 46 01.4  +0.1
     comp=Z,2.7nm,0.6s,baz=86,slow=5.9,SNR=38
MAKZ  Makanchi            94.71 317   P       P       01 46 01.4  -0.8
ARCES ARCESS Array B 117.28 346  PKP     PKPdf   01 51 24.2  -1.3
     comp=Z,6.0nm,1.1s,baz=67,slow=1.8,SNR=14
KEST  Kesra               148.40 323  PKPbc   PKPbc   01 52 26.4  -1.4
     comp=Z,1.6nm,0.9s,baz=326,slow=3.6,SNR=2.3
ESDC  Sonseca Array       151.01 344  PKPbc   PKPbc   01 52 33.4  -0.7
     comp=Z,0.9nm,1.2s,baz=6.1,slow=4.2,SNR=2.2
TORD  Torodi Ar. Bea      164.89 276  PKP     PKPdf   01 52 45.6  -0.2
     comp=Z,0.3nm,0.8s,baz=11,slow=1.5,SNR=1.5
TORD                                 PKPab   PKPab   01 53 41.9  -0.3
     comp=Z,0.6nm,0.8s,baz=96,slow=5.4,SNR=2.9
```

*FUNV **22** 01:43:01.5, 10°.51N×63°.38W, h2km, MW3.4*
*TRN **22** 01:43:03.2, 10°.57N×63°.47W, h115km, MD4.2*

ISC 22 01:43:01.2±1.0, 10°.57N±0°.05×63°.43W±0°.04, h14km±7km, n40, σ1s48/54, 2C, Near coast of Venezuela

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Code  Station Name        Δ°   AZ°   Phase ID          Time        Res
                                     Op      ISC     h m s       ISC
CRUV  Carupano            0.22  61⇑ ePg   Pg      01 43 05.6  -0.6
CRUV                                 eS      Sg      01 43 09.1  -0.5
COAV  Cumanacoa           0.56 224⇑ iP      Pg      01 43 12.3  0.0
COAV                                 eS      Sg      01 43 20.6  +0.8
CUMV  Cumana_UDO          0.76 260   eP      Pb      01 43 16.9  +0.7
CUMV                                 eS      Sn      01 43 28.4  -0.4
PCRV  Puerto La Cruz      1.24 252   eP      Pn      01 43 24.7  +0.5
PCRV                                 eS      Sg      01 43 41.6  +0.1
TPP   Pointe-a-Pierr      1.97  97   eP      Pb      01 43 37.1  +0.3
TRN   Trinidad (W)        2.00  87   eP      Pn      01 43 36.3  +1.7
TRN                                  eS      Sb      01 44 02.0  -0.1
PRGV  PARIAGUAN           2.15 214   eP      Pn      01 43 38.0  +1.3
PRGV                                 eS      Sn      01 44 04.3  +1.0
GRGR  Grenville           2.34  48   eP      Pn      01 43 39.7  +0.4
GRGR                                 eS      Sn      01 44 09.0  +1.2
GCMP  Grenada, Carri      2.74  46   eP      Pn      01 43 45.6  +0.8
GCMP                                 eS      Sn      01 44 19.3  +1.5
BIRV  Birongo             2.79 268   eP      Pn      01 43 47.2  +1.8
BIRV                                 eS      Sn      01 44 20.9  +2.0
TOSP  Speyside            2.94  75   eP      Pn      01 43 49.3  +1.8
MERV  Las Mercedes        3.11 245   eP      Pn      01 43 51.1  +1.2
MERV                                 eS      Sn      01 44 27.6  +0.8
SVB   Belmont             3.44  38   eP      Pn      01 43 56.0  +1.6
MCLT  Moule a Chique      3.96  38   eP      Pn      01 44 02.1  +0.4
BENV  Beln                4.14 262   eP      Pn      01 44 05.4  +1.3
BENV                                 eS      Sn      01 44 52.3  -0.2
SLBI  Saint Lucia, B      4.20  35   eP      Pn      01 44 04.8  0.0
SLBI  Saint Lucia, B      4.20  35   eS      Sn      01 44 50.7  -2.9
CACV  CAICARA DEL OR      4.28 226   eP      Pn      01 44 01.9  -4.0
CACV                                 eS      Sn      01 44 46.0  -10
BIM   Bigot               4.56  30   eP      Pn      01 44 09.9  +0.1
BIM   Bigot               4.56  30   eS      Sn      01 44 59.9  -2.7
MPOM  Morne Pois Mar      4.60  33   eP      Pn      01 44 11.5  +1.1
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MPOM	Morne Pois Mar	4.60	33	eS	Sn	01 45 00.3	-3.4
ZAM	Aeronautique	4.62	30	eP	Pn	01 44 11.6	+0.9
LPMF	Morne Lapointe	4.66	31	eP	Pn	01 44 12.0	+0.8
MVM	Montagne Vaucl	4.68	32	eP	Pn	01 44 12.1	+0.6
FDF	Fort de France	4.71	28	eP	Pn	01 44 12.5	+0.7
PML	Morne Lenard	4.73	27	eP	Pn	01 44 12.7	+0.5
PCM	Pelee Case Pet	4.75	27	eP	Pn	01 44 13.0	+0.6
GBMF	Grand Be	4.75	28	eP	Pn	01 44 13.0	+0.4
BAMF	Morne Balai	4.78	28	eP	Pn	01 44 13.2	+0.3
SVN	Savane Anatole	4.79	27	eP	Pn	01 44 13.3	+0.2
BAUV	El Baul	4.82	251	eP	Pn	01 44 13.4	0.0
BAUV	El Baul	4.82	251	eP	Pn	01 44 14.0	+0.6
BAUV				eS	Sn	01 45 07.3	-1.7
MAPV	Macapo	5.00	262	eP	Pn	01 44 16.6	+0.7
MAPV				eS	Sn	01 45 11.9	-1.7
MAGL	Barre de l'ile	5.75	21	eP	Pn	01 44 25.6	-0.6
CBE	Ff, Capester	5.75	18	eP	Pn	01 44 27.0	+0.7
MONV	Montecano	6.56	283	eP	Pn	01 44 37.4	+0.1
PAYV	Puerto Ayacuch	6.60	220	eP	Pn	01 44 37.4	-0.5
PAYV				eS	Sn	01 45 48.2	-4.8
ANBD	Bethesda, Anti	6.64	14	eP	Pn	01 44 39.3	+0.8
SOCV	Socops	7.67	253	eP	Pn	01 44 51.9	-0.7

IDC 22 01:53:28.1±448.0, 42°36N×115°07W, h0km, Error ellipse: s-maj=168.8km s-min=129.9km az=177.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	NEWPORT INFRAS	6.08	347	i		02 31 50.0	
baz=164,slow=318							
I57US	PINON FLAT INF	8.81	188	i		02 48 40.0	
baz=4.9,slow=305,SNR=0.6							
I10CA	LAC DU BONNET	15.29	53	i		03 29 20.0	
baz=246,slow=340,SNR=3.6							

DDA 22 02:31:38.6±0.0, 38°14N×29°07E, h7km±2km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PASA	Karahalli, USA	0.39	57	P	Pg	02 31 46.6	+0.4
PASA				S	Sg	02 31 52.0	+0.8
USAK	Uak-Merkez	0.58	356	P	Pg	02 31 50.1	+0.3
USAK				S	Sg	02 31 57.6	+0.3
USAK				i AML	AML	02 31 58.0	
comp=E,28nm,1.3s							
USAK				i AML	AML	02 32 00.0	
comp=N,19nm,1.2s							

*IDC **22** 02:33:16.5±0.9, 24°63N×141°97E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.7/54, mbtmp3.8/11, Error ellipse: s-maj=36.9km s-min=18.4km az=85.0*
*NEIC **22** 02:33:27.1±1.4, 24°6N±0°1×141°8E±0°4, h79km±12km, mb4.2/8, Error ellipse: s-maj=52.3km s-min=12.2km az=76.0.*

ISC 22 02:33:28.5±0.8, 24°6N±0°1×142°0E±0°2, h100km, n28, σ0§89/21, mb3.9/16, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.48	4		Pn	02 34 05.8	-1.4
H11N1	WAKE ISLAND Hy	23.58	97	T	T	03 03 27.1	
baz=283							
H11N2	WAKE ISLAND Hy	23.58	97	T	T	03 03 31.9	
baz=283							
H11N3	WAKE ISLAND Hy	23.59	97	T	T	03 03 08.4	
baz=283							
H11S3	WAKE ISLAND Hy	23.76	100	T	T	03 04 07.0	
baz=289,slow=74,SNR=3.3							
H11S1	WAKE ISLAND Hy	23.77	100	T	T	03 04 07.1	
baz=289,slow=74,SNR=3.4							
H11S2	WAKE ISLAND Hy	23.78	100	T	T	03 04 00.8	
baz=289,slow=74,SNR=4.2							
KLR	Kul'dur	25.84	345	P	P	02 38 50.2	-0.2
0.8nm,0.5s,baz=170,slow=12,SNR=2.2							
COEN	Coen	38.36	178	P	P	02 40 40.0	+0.1
COEN				IAmb	IAmb	02 41 01.8	
comp=Z,9.5nm,1.3s							
WRAB	Tennant Creek	44.90	190	P	P	02 41 32.0	-1.2
WB2	Warramunga Arr	44.91	190		P	02 41 32.3	-1.0
WRA	Warramunga Arr	44.91	190	P	P	02 41 33.4	0.0
comp=Z,5.0nm,0.4s,baz=10,slow=8.7,SNR=71							
WRA	Warramunga Arr	44.91	190		P	02 41 33.2	-0.2
AS31	Alice Springs	48.63	190	P	P	02 42 00.8	-1.5
AS31				IAmb	IAmb	02 42 03.9	
comp=Z,1.0nm,0.7s							
ASAR	Alice Springs	48.63	190	P	P	02 42 02.1	-0.2
comp=Z,1.1nm,0.6s,baz=17,slow=9.4,SNR=24							
ZAA0	Zalesovo Array	51.25	320	P	P	02 42 20.1	-1.6
ZAA0				IAmb	IAmb	02 42 42.8	
comp=Z,1.4nm,0.7s							
ZALV	Zalesovo Beam	51.25	320	P	P	02 42 20.7	-1.0
comp=Z,0.4nm,0.4s,baz=93,slow=5.8,SNR=2.1							
MKAR	Makanchi Array	51.92	311	P	P	02 42 27.4	+0.4
comp=Z,0.3nm,0.7s,baz=93,slow=8.3,SNR=4.8							
KURK	Kurchatov	54.60	316	P	P	02 42 46.9	+0.5
KURK	Kurchatov	54.60	316	IAmb	IAmb	02 43 03.4	
comp=Z,6.2nm,1.4s							
KURBB	Kurchatov Arra	54.65	316	P	P	02 42 46.9	+0.1
comp=Z,1.4nm,0.5s,baz=92,slow=8.3,SNR=16							
BVAR	Borovoye Array	59.74	318	P	P	02 43 23.3	+0.6
comp=Z,0.9nm,0.6s,baz=82,slow=11,SNR=6.7							
ILAR	Eielson Array	59.98	28	P	P	02 43 24.2	+0.1
comp=Z,0.3nm,0.7s,baz=274,slow=5.6,SNR=4.5							
ABKAR	Akbulak array	66.69	315	P	P	02 44 08.7	0.0
YKA	Yellowknife Ar	74.41	28	P	P	02 44 56.2	+1.0
comp=Z,0.2nm,0.6s,baz=292,slow=6.1,SNR=3.6							
ARCES	ARCESS Array B	75.81	341	P	P	02 45 04.3	+1.1
comp=Z,2.4nm,1.0s,baz=56,slow=8.8,SNR=4.5							
FINES	FINESS Array B	80.08	334	P	P	02 45 27.5	+0.6
comp=Z,0.8nm,0.4s,baz=64,slow=6.3,SNR=1.9							
AKASG	Malin Array Be	84.50	324	P	P	02 45 50.5	+0.3
comp=Z,0.3nm,0.4s,baz=53,slow=4.9,SNR=2.6							

*NEIC **22** 02:34:43.6±1.5, 12°5S±0°1×167°2E±0°1, h231km±6km, mb4.3/18, Error ellipse: s-maj=19.4km s-min=12.6km az=134.0*
*IDC **22** 02:34:49.0±2.7, 12°56S×166°90E, h275km±26km, mb3.6/14, mb1 3.7/17, mb1mx3.6/48, mbtmp4.2/17, Error ellipse: s-maj=19.5km s-min=14.5km az=165.0*

ISC 22 02:34:42.5±0.4, 12°53S±0°07×167°05E±0°08, h220km, n48, σ1§46/50, mb4.0/22, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	2.91	177		Pn	02 35 34.1	+2.0
DZM	Mont Dzumac	9.51	183	P	P	02 37 01.3	-1.8
0.5nm,0.3s,baz=50,slow=5.1,SNR=6.5							
DZM				S	S	02 38 43.0	+0.8
0.2nm,0.3s,baz=263,slow=20,SNR=1.5							
MSVF	Nonsavu	11.81	117	P	P	02 37 32.7	+3.8
baz=252,slow=5.6,SNR=4.9							
MSVF	Nonsavu	11.81	117	Pn	Pn	02 37 23.6	-1.0
FUNA	Funafuti	12.58	73	Pn	Pn	02 37 33.0	-1.2
EIDS	Eidsvold	19.75	227		P	02 38 57.0	+1.0
PMG	Port Moresby	19.77	277	P	P	02 38 58.0	+1.8
1.6nm,0.3s,baz=69,slow=4.5,SNR=4.7							
PMG	Port Moresby	19.77	277	P	P	02 38 57.5	+1.3
CTA	Charters Tower	21.32	247	P	P	02 39 12.9	+0.4
8.5nm,0.7s,baz=73,slow=10,SNR=12							
CTAO	Charters Tower	21.32	247	P	P	02 39 12.9	+0.4
CTAO				IAmb	IAmb	02 39 14.3	
comp=Z,9.1nm,0.8s							
COEN	Coen	23.29	264	P	P	02 39 31.7	+0.8
COEN				IAmb	IAmb	02 39 34.8	
comp=Z,5.6nm,0.8s							
BKZ	Black Stump Fm	27.82	164	P	P	02 40 12.2	+0.8
BKZ				IAmb	IAmb	02 40 13.6	
comp=Z,5.2nm,0.7s							
STKA	Stephens Creek	30.30	226	P	P	02 40 35.0	+1.5
comp=Z,0.7nm,0.3s,baz=40,slow=8.1,SNR=4.3							
WB0	Warramunga Arr	32.15	253	P	P	02 40 49.1	-0.6
WB0				IAmb	IAmb	02 40 50.2	
comp=Z,2.6nm,0.8s							
WB2	Warramunga Arr	32.21	252	P	P	02 40 50.0	-0.3
WRA	Warramunga Arr	32.22	252	P	P	02 40 50.0	-0.3
comp=Z,0.9nm,0.4s,baz=84,slow=9.0,SNR=16							
WRA				S	S	02 45 39.7	-7.5
comp=Z,0.5nm,0.7s,baz=82,slow=14,SNR=2.4							

AS31	Alice Springs	33.32	246	P	P	02 40 58.5	-1.3
ASAR	Alice Springs	33.32	246	P	P	02 40 59.5	-0.4
comp=Z,0.9nm,0.7s,baz=70,slow=9.5,SNR=12							
ASAR				PcP	PcP	02 43 35.5	-1.1
comp=Z,0.4nm,0.7s,baz=83,slow=4.0,SNR=2.7							
BBOO	Buckleboo	34.80	229	P	P	02 41 12.4	-0.1
BBOO				IAmb	IAmb	02 41 31.9	
comp=Z,22nm,1.5s							
KNRA	Kununurra	37.23	261	P	P	02 41 33.7	+0.4
MJAR	Marbushiro Arr	55.87	332	P	P	02 43 56.7	-0.7
comp=Z,2.5nm,0.8s,baz=174,slow=7.8,SNR=2.1							
VNDA	Vanda	65.05	181	P	P	02 45 00.1	+1.3
comp=Z,1.7nm,0.6s,baz=358,slow=5.0,SNR=1.0							
KLR	Kul'dur	68.92	336	P	P	02 45 24.9	+1.4
comp=Z,1.5nm,0.8s,baz=125,slow=12,SNR=4.2							
CMAR	Chiang Mai Arr	73.88	294	P	P	02 45 55.5	+1.7
comp=Z,0.5nm,0.3s,baz=124,slow=4.4,SNR=5.8							
BILL	Bilibino	80.35	360	P	P	02 46 29.1	+0.4
BILL				IAmb	IAmb	02 46 30.6	
comp=Z,9.4nm,1.2s							
SONM	Songino Array	80.61	323	P	P	02 46 32.0	+1.2
comp=Z,0.7nm,0.4s,baz=131,slow=6.1,SNR=5.6							
SONM	Songino Array	80.61	323	IAmb	IAmb	02 46 32.9	
comp=Z,3.5nm,1.2s							
IMAR	Indian Mountai	83.51	15	P	P	02 46 45.1	-0.1
HDA	Harding Lake	84.23	18	P	P	02 46 48.3	-0.6
MDM	Murphy Dome	84.24	18	P	P	02 46 48.1	-0.9
MDM				IAmb	IAmb	02 46 49.9	
comp=Z,15nm,1.3s							
IL31		84.51	18	P	P	02 46 49.6	-0.6
IL31				IAmb	IAmb	02 46 50.7	
comp=Z,7.9nm,1.0s							
ILAR	Eielson Array	84.51	18	P	P	02 46 50.1	-0.2
comp=Z,3.1nm,0.7s,baz=240,slow=5.7,SNR=39							
NVAR	Mina Array Bea	86.00	49	P	P	02 46 59.2	+0.6
comp=Z,0.6nm,0.8s,baz=234,slow=8.6,SNR=4.3							
NVAR	Mina Array Bea	86.00	49	P	P	02 46 57.8	-0.8
TXAR	Lajitas Array	95.41	61	P	P	02 47 43.0	+0.4
comp=Z,0.6nm,0.8s,baz=205,slow=5.5,SNR=5.7							
MK31	Makanchi Array	95.47	317	P	P	02 47 42.2	0.0
MK31				IAmb	IAmb	02 47 44.4	
comp=Z,4.5nm,1.4s							
MKAR	Makanchi Array	95.47	317	P	P	02 47 43.2	+0.9
comp=Z,2.4nm,0.9s,baz=96,slow=6.4,SNR=19							
MKAR	Makanchi Array	95.47	317	P	P	02 47 42.7	+0.4
ZALV	Zalesovo Beam	95.50	324	P	P	02 47 40.9	-1.2
YKA	Yellowknife Ar	95.70	27	P	P	02 47 42.1	-0.8
comp=Z,0.5nm,0.6s,baz=257,slow=4.7,SNR=6.7							
VNA3	Neumayer Olymp	96.40	181	P	P	02 47 45.6	-0.5
VNA2	Neumayer--Watz	96.66	182	P	P	02 47 47.0	-0.2
baz=186,slow=5.6							
ARCES	ARCESS Array B	118.08	346	PKP	PKPdf	02 53 01.8	-0.8
comp=Z,1.6nm,0.6s,baz=66,slow=1.9,SNR=18							
FINES	FINESS Array B	123.61	339	PKP	PKiKP	02 53 13.4	-0.2
comp=Z,1.5nm,0.9s,baz=49,slow=6.1,SNR=4.0							
BOSA	Boshof	124.89	222	PKhKP	PKPpre	02 53 11.3	
comp=Z,2.5nm,1.0s,baz=135,slow=5.7,SNR=3.9							
BOSA				PKP	PKPdf	02 53 16.8	-0.3
comp=Z,1.2nm,0.7s,baz=45,slow=4.3,SNR=3.7							
RAFF	Raffo Rosso	145.33	320	PKPbc	PKPab	02 53 56.1	+1.0
ESDC	Sonseca Array	151.82	345	PKPbc	PKiKP	02 54 11.9	+0.1
comp=Z,1.5nm,0.8s,baz=9.0,slow=2.8,SNR=9.7							
ESDC				PKPab	PKPab	02 54 22.2	+1.0
comp=Z,0.9nm,0.8s,baz=14,slow=4.6,SNR=6.3							
ESDC	Sonseca Array	151.82	345		PKPbc	02 54 10.2	-1.3

*IDC **22** 02:38:03.7±0.9, 30°12N×51°61E, h0km, mb3.8/14, mb1 3.9/20, mb1mx3.7/52, mbtmp3.8/20, ML3.5/6, MS3.5/1, Ms1 3.5/1, ms1mx2.7/83, Error ellipse: s-maj=20.3km s-min=16.6km az=146.0*
*TEH **22** 02:38:05.1, 30°19N×51°68E, h9km, ML3.8*
*OMAN **22** 02:38:11.8±0.1, 29°80N×51°98E, h10km, mb5.3/15, ml4.1/1, Error ellipse: s-maj=1.7km s-min=1.1km az=355.0*
*DSN **22** 02:38:12.4±2.1, 29°58N×51°77E, h10km, ML3.9/9, Error ellipse: s-maj=30.3km s-min=9.2km az=14.0*

ISC 22 02:38:05.5±0.5, 30°17N±0°03×51°77E±0°03, h15km, n119, σ2§17/139, mb4.0/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ1	Kazerun	0.55	191	ePg	Pg	02 38 16.7	+0.2
KAZ1				eSg	Sb	02 38 24.4	-0.3
KAZ1				e		02 38 28.2	
comp=Z,79μm,0.2s							
SHI	Shiraz	0.83	129	ePg	Pg	02 38 22.3	+0.5
SHI				eSg	Sn	02 38 36.5	+1.5
SHI				e		02 38 39.0	
comp=Z,58μm,0.3s							
KLNJ	Kolanjah	0.85	350	ePg	Pg	02 38 21.1	-1.0
KLNJ				eSg	Sb	02 38 34.2	+0.6
KLNJ				e		02 38 36.3	
comp=Z,62μm,0.3s							
AHBU	AHRAM	1.36	198	ePg	Pg	02 38 33.1	+1.3
ABEH	Behbahan	1.38	289	ePg	Pb	02 38 31.0	0.0
IRAM	Ramesheh	1.72	18	ePg	Pb	02 38 37.7	+0.7
IRAM				e		02 39 05.6	
comp=Z,7μm,0.4s							
IBRJ	Brojen	1.79	346	ePg	Pb	02 38 38.3	+0.1
IBRJ				e		02 39 13.0	
comp=Z,5μm,0.8s							
QIR1	Qir	2.02	146	ePn	Pb	02 38 41.7	-0.3
GHIR	Ghir-Karzin	2.16	150	ePn	Pb	02 38 43.7	-0.7
IGAR	Gharneh	2.24	6	ePn	Pb	02 38 44.9	-1.0
SHK1	Shahrekord	2.28	341	ePn	Pn	02 38 44.8	+1.9
JHRM	Jahrom	2.29	136	ePn	Pb	02 38 46.2	-0.4
ISAD	Sadrabad	2.40	43	ePn	Pb	02 38 48.0	-0.5
AMIS	Naft Sefid	2.60	306	ePn	Pn	02 38 48.7	+1.6
IPIR	Pirpir	2.62	344	ePn	Pn	02 38 49.5	+1.9
IMEH	Mehriz	2.74	63	ePn	Pb	02 38 53.3	-1.0
IZEF	Zefreh	2.76	10	ePn	Pn	02 38 52.3	+2.8
NASN	Na'in	2.77	18	ePn	Pn	02 38 52.5	+2.8
AHWZ	Ahwaz	2.93	294	ePn	Pn	02 38 52.4	+0.9
ICHK	Chekchek	3.07	47	ePn	Pn	02 38 56.7	+3.0
ICHK				e		02 39 07.7	
comp=Z,1μm,0.6s							
LMD1	Lamerd	3.07	156	ePn	Pn	02 38 56.3	+2.7
LMD1				e		02 39 11.1	
comp=Z,6μm,0.7s							
IKLH	Kolahrood	3.15	357	ePn	Pn	02 38 57.0	+2.2
YZKH	Yazd	3.28	47	ePn	Pn	02 39 00.3	+3.8
LAR1	LAR	3.38	137	ePn	Pn	02 39 00.0	+2.2
ANAR	Anarak	3.45	29	ePn	Pn	02 39 02.1	+3.3
QAMS	Qamsar	3.57	355	ePn	Pn	02 39 02.4	+1.8
KRSH	Karshahi	3.80	5	ePn	Pn	02 39 05.8	+2.1
KHMZ	Khomeyn	3.88	337	ePn	Pn	02 39 06.5	+1.7
KHGB	Koh Gabri	4.08	86	ePn	Pn	02 39 11.0	+3.4
ZRDN	Zarand Kerman	4.19	78	ePn	Pn	02 39 12.6	+3.5
ISFB	Sefidab	4.19	5	ePn	Pn	02 39 10.8	+1.8
BMDN	Meydan	4.30	325	ePn	Pn	02 39 11.3	+0.8
SAKB	Bahrain	4.31	195	P	Pn	02 39 12.7	+2.1
SAKB				S	Sn	02 40 02.6	+2.0
KRBR	Kerman	4.33	91	ePn	Pn	02 39 15.1	+3.9
TVBK	TV Kerman	4.33	91	ePn	Pn	02 39 14.9	+3.7
TVBK				e		02 39 59.0	
comp=Z,1μm,0.5s							
NGRK	Negar Kerman	4.34	96	ePn	Pn	02 39 14.6	+3.3
NGRK				e		02 40 09.2	
comp=Z,823nm,0.4s							
SHMA	Al-Shehemyia	4.35	190	P	Pn	02 39 13.6	+2.4
SHMA				S	Sn	02 40 01.4	-0.2
KHOR	Al-Khor Airpor	4.53	183	P	Pn	02 39 16.1	+2.5
KHOR				S	Sn	02 40 07.3	+1.2
ASAO	Ashtian	4.61	342	ePn	Pn	02 39 16.9	+2.0
IQOM	Qom	4.70	353	ePn	Pn	02 39 17.5	+1.4
IDOB	Doab	4.72	321	ePn	Pn	02 39 17.1	+0.7
IKFM	Kafar-mosalman	4.72	316	ePn	Pn	02 39 17.9	+1.7
GENO	Geno	4.75	124	ePn	Pn	02 39 18.0	+1.2
IVRN	Varamin	4.81	360	ePn	Pn	02 39 19.4	+1.9
HSAM	Samen	4.84	327	ePn	Pn	02 39 19.9	+1.8
CHMN	Cheshme madani	5.02	92	ePn	Pn	02 39 23.8	+3.2
TPRV	Parvadeh(Tabas	5.07	55	ePn	Pn	02 39 24.4	+3.3
HAGD	Aghdareh	5.14	335	ePn	Pn	02 39 23.4	+1.2
IHSB	Hasanabad	5.27	356	ePn	Pn	02 39 26.4	+2.5
ILAS	Lasjerd	5.30	11	ePn	Pn	02 39 27.2	+2.9
TRNA	Turayna	5.43	185	P	Pn	02 39 27.9	+1.9
TRNA				S	Sn	02 40 28.7	+0.4
IRAZ	Razeghan	5.45	344	ePn	Pn	02 39 28.2	+1.8
DAMV	Damavand	5.45	2	ePn	Pn	02 39 28.3	+1.8
IANJ	Anjilo	5.58	18	ePn	Pn	02 39 31.2	+2.9
TNSJ	Nastanj	5.59	46	ePn	Pn	02 39 31.9	+3.7
SHME	Shamm	5.64	136	P	Pn	02 39 30.8	+2.0

SHME				S	Sn	02 40 31.1	-2.2
SHME	Shamm	5.64	136	P	Pn	02 39 30.5	+1.7
SHME				S	Sn	02 40 31.6	-1.7
KHNJ	Kahnooj	5.65	112	ePn	Pn	02 39 31.3	+2.3
TKDS	Koohdasht(Taba	5.71	52	ePn	Pn	02 39 33.5	+3.7
TABS	Tabas	5.72	51	ePn	Pn	02 39 34.1	+4.0
CHTH	Charan	5.75	355	ePn	Pn	02 39 32.5	+1.9
KER	Kermanshah	5.75	318	ePn	Pn	02 39 31.2	+0.7
ISHM	Shahmirzad	5.77	12	ePn	Pn	02 39 33.7	+2.9
QABG	Abgarm-Qazvin	5.82	342	ePn	Pn	02 39 33.0	+1.5
BANOM	Banah	5.83	135	P	Pn	02 39 32.7	+1.3
SNR=20							
BANOM				S	Sn	02 40 37.2	-0.8
BANOM	Banah	5.83	135	i P	Pn	02 39 33.0	+1.6
SNR=21							
BANOM				S	Sn	02 40 36.5	-1.5
KBAM	BAM	5.91	98	ePn	Pn	02 39 36.2	+3.6
IGHG	Ghaleghazi	6.05	315	ePn	Pn	02 39 36.3	+1.6
SLWR	Sila	6.08	181	P	Pn	02 39 36.8	+1.9
SLWR				S	Sn	02 40 44.1	0.0
MASF	Masafi	6.16	140	P	Pn	02 39 37.7	+1.6
SNR=7.1							
MASF				S	Sn	02 40 43.8	-2.6
SNGE	Sanandaj	6.16	324	ePn	Pn	02 39 34.9	-1.3
MSFE	Esma-Masafi	6.17	140	i P	Pn	02 39 37.3	+1.1
SNR=18							
NAZ	Nazwa, Dubai	6.21	145	P	Pn	02 39 38.6	+1.9
SNR=13							
NAZ				S	Sn	02 40 45.7	-1.8
NAZ	Nazwa, Dubai	6.21	145	i P	Pn	02 39 38.6	+1.9
SNR=13							
AJN	Ajban	6.28	152	P	Pn	02 39 39.4	+1.8
AJN				S	Sn	02 40 49.1	+0.1
QALM	Alamut, Qazvin	6.32	352	ePn	Pn	02 39 40.1	+1.7
ASUD	Al Ashush, Dub	6.36	149	P	Pn	02 39 41.0	+2.3
SNR=22							
ASUD	Al Ashush, Dub	6.36	149	i P	Pn	02 39 40.5	+1.7
SNR=22							
IDHR	Dehrash	6.41	316	ePn	Pn	02 39 41.3	+1.7
UOSS	Minazif	6.53	142	P	Pn	02 39 42.7	+1.7
UOSS				S	Sn	02 40 52.3	-3.0
UOSS	Minazif	6.53	142	i P	Pn	02 39 41.6	+0.6
SNR=8.5							
ITEG	Tejag	6.55	64	ePn	Pn	02 39 45.0	+3.5
BSRN	Basiran	6.56	72	ePn	Pn	02 39 45.5	+3.8
HATD	Hatta, Dubai	6.58	143	P	Pn	02 39 43.4	+1.6
IKOO	Kooshah	6.59	68	ePn	Pn	02 39 46.0	+3.9
MZWR	Madinat Zayed	6.66	163	P	Pn	02 39 45.1	+2.3
MZWR				S	Sn	02 40 57.2	-1.2
ASHO	Ashiyiah	6.66	144	P	Pn	02 39 44.8	+1.9
SNR=16							
ASHO				S	Sn	02 40 56.5	-2.2
ASHO	Ashiyiah	6.66	144	i P	Pn	02 39 43.6	+0.7
SNR=16							
SHRO	Shahrood	6.81	30	ePn	Pn	02 39 48.8	+3.8
ALNE	Al Ain	7.05	149	P	Pn	02 39 50.7	+2.5
ARQ	Araqi	8.02	147	P	Pn	02 40 02.2	+0.6
SNR=11							
HOQ	Hoqain	8.22	142	P	Pn	02 40 05.3	+1.0
SNR=7.9							
HOQ				S	Sn	02 41 32.3	-4.6
MRVT	Maraveh tapeh	8.29	25	ePn	Pn	02 40 08.1	+2.8
RAYN	Ar Rayn	8.66	222	i P	Pn	02 40 09.7	-0.7
SNR=72							
SQUM	Sultan Qaboos	8.70	137	S	Sn	02 41 42.0	-6.7
SNR=6.6							
WSAR	Wadi Sarin	9.23	137	Pn	Pn	02 40 17.5	-0.7
comp=Z,1.0nm,0.3s,baz=337,slow=9.5,SNR=20							
WSAR				Sn	Sn	02 41 56.6	-5.2
comp=Z,2.3nm,0.3s,baz=225,slow=22,SNR=7.9							
WBK	Wadi Bani Khal	9.91	138	P	Pn	02 40 27.1	-0.4
SNR=22							
DOK	Doka	11.70	169	P	Pn	02 40 51.1	-0.9
SNR=13							
WHFO	Wadi Hawf	12.33	171	P	Pn	02 40 59.0	-1.7
SNR=41							
ABTO	Aybut	12.83	173	P	Pn	02 41 06.0	-1.6
SNR=30							
ASF	Jabal al Asfar	12.89	283	Pn	Pn	02 41 07.6	-0.7
comp=Z,0.9nm,0.3s,baz=47,slow=9.3,SNR=7.2							
MMAI	Mount Meron Ar	14.23	286	Pn	Pn	02 41 24.8	-1.8
comp=Z,0.2nm,0.3s,baz=94,slow=15,SNR=1.9							
EIL	Elat	14.59	272	Pn	Pn	02 41 30.6	-0.9
comp=Z,0.2nm,0.3s,baz=90,slow=8.1,SNR=2.0							
KBZ	Khabaz	15.26	335	Pn	P	02 41 43.2	-2.1
comp=Z,0.1nm,0.3s,baz=143,slow=10,SNR=2.0							
BRTR	Keskin Array B	17.63	308	P	Pn	02 42 10.8	0.0
comp=Z,0.1nm,0.3s,baz=127,slow=13,SNR=8.4							
BRTR				LR	LR	02 50 21.5	
comp=Z,144nm,18.8s,baz=77,slow=42							
AKTO	Aktyubinsk	20.78	11	P	P	02 42 46.5	+0.5
comp=Z,1.0nm,0.6s,baz=185,slow=7.8,SNR=1.9							
IDI	Anoyia	23.14	290	P

YOTC Yotoco, Valle 2.19 116⇑iP Pn 02 41 46.9 -1.0
YOTC i 02 42 13.7
comp=Z,929nm,0.5s
YOTC eS Sn **02 42 13.7 -0.7**
PTAC Punta Ardita, 2.22 13 eP Pn 02 41 45.1 -3.3
PTAC eS Sn **02 42 09.2 -5.8**
PTAC Punta Ardita, 2.22 13 eP Pn 02 41 45.2 -3.1
CBOC Ciudad Bolivar 2.45 69⇑iP Pn 02 41 50.1 -1.5
CBOC eS Sn **02 42 18.3 -2.7**
POPC Popayan, Colom 2.91 146⇑iP Pn 02 41 56.7 -1.3
DBBC Dabeiba 2.92 46 eP Pn 02 41 57.6 -0.4
DBBC eS Sn **02 42 31.8 -0.5**
DBBC i 02 42 40.1
comp=Z,1µm,0.5s
ANIL Santa Ana 2.93 99⇑iP Pn 02 41 58.4 0.0
ANIL eS Sn **02 42 33.1 +0.1**
ANIL i 02 42 38.4
comp=Z,915nm,0.4s
GUY2C Guyana, Caldas 2.94 85⇑iP Pn 02 41 58.8 +0.1
GUY2C eS Sn **02 42 31.9 -1.6**
GUY2C i 02 42 39.2
comp=Z,244nm,0.6s
HELC Santa Helena 3.02 66⇑eP Pn 02 41 59.4 -0.3
HELC eS Sn **02 42 33.1 -2.2**
HELC i 02 42 45.8
comp=Z,98nm,0.4s
HELC Santa Helena 3.02 66 eP Pn 02 41 60.0 +0.3
TUMC Tumaco 3.15 188 eP Pn 02 42 00.8 -0.4
TUMC eS Sn **02 42 34.9 -3.2**
TUMC Tumaco 3.15 188 Pn Pn 02 41 59.2 -1.9
TUMC Sn **02 42 35.6 -2.5**
MARP Paez Belalcaza 3.16 132 eP Pn 02 42 01.7 +0.2
MARP eS Sn **02 42 37.1 -1.5**
MARP i 02 42 47.8
comp=Z,96nm,0.5s
ORTC Ortega, Tolima 3.23 109⇑iP Pn 02 42 03.3 +1.1
ORTC eS Sn **02 42 42.0 +2.0**
ORTC i 02 42 44.3
comp=Z,315nm,0.5s
PCON Cinco Dias 3.24 144⇑iP Pn 02 42 03.0 +0.1
PCON eS Sn **02 42 44.0 +3.0**
PCON i 02 42 47.5
comp=Z,442nm,0.7s
SOTA Rioblanco 3.29 149⇑iP Pn 02 42 02.9 -0.6
SOTA eS Sn **02 42 42.7 +0.6**
AZU Azuero 3.42 325⇑eP Pn 02 42 01.0 -3.8
AZU eS Sn 02 42 38.3 -6.4
CACAO El Cacao, Vera 3.47 313 eP Pn 02 42 01.1 -4.4
CACAO eS Sn 02 42 39.1 -6.7
NORC Norcasia 3.47 80⇑iP Pn 02 42 07.0 +1.4
NORC eS Sn **02 42 48.0 +1.9**
NORC i 02 42 50.2
comp=Z,253nm,0.4s
UPD2 Meteti 3.57 5 eP Pn 02 42 07.0 +0.1
PRAC Prado 3.63 110⇑iP Pn 02 42 09.1 +1.3
PRAC eS Sn **02 42 53.6 +3.6**
PRAC i 02 42 55.7
comp=Z,367nm,0.5s
BETC Betania 3.65 128 eP Pn 02 42 10.0 +1.9
BETC eS Sn **02 42 53.6 +3.1**
BETC i 02 42 58.3
comp=Z,316nm,0.6s
CAPC Capurgana 3.77 15 eP Pn 02 42 08.5 -1.1
CAPC eS Sn **02 42 48.4 -4.8**
GCUF Volcan Galeras 3.84 165⇑eP Pn 02 42 10.2 -0.8
GCUF eS Sn **02 42 53.5 -2.2**
GCUF i 02 43 01.9
comp=Z,166nm,0.6s
UREC San Jos de Ur 3.91 45 eP Pn 02 42 12.2 +0.6
UREC eS Sn **02 42 57.9 +1.2**
UREC San Jos de Ur 3.91 45 eP Pn 02 42 12.8 +1.2
UREC eS Sn **02 42 59.1 +2.4**
GARC Garzon, Huila 3.94 134⇑iP Pn 02 42 13.6 +1.3
GARC eS Sn **02 42 59.0 +1.1**
ROSC El Rosal 3.98 92 Pn Pn 02 42 15.2 +2.4
comp=Z,19nm,0.3s,baz=227,slow=22,SNR=37
ROSC Sn **Sn 02 43 02.6 +3.7**
comp=Z,10nm,0.3s,baz=58,slow=22,SNR=1.4
ROSC LR LR 02 44 19.7
comp=Z,3µm,21.7s,baz=314,slow=48
ROSC El Rosal 3.98 92⇑iP Pn 02 42 15.6 +2.8
ROSC eS Sb **02 43 06.9 -3.5**
ROSC i 02 43 23.1
comp=Z,47nm,0.4s
ROSC El Rosal 3.98 92 Pn Pn 02 42 13.7 +0.8
GMAL Guarumal, Vera 4.02 314 eP Pn 02 42 10.2 -2.9
GMAL eS Sn **02 42 54.5 -5.0**
PTBC PUERTO BERRIO, 4.14 68⇑eP Pn 02 42 16.1 +1.4
PTBC eS Sn **02 43 03.9 +1.5**
PTBC i 02 43 11.4
comp=Z,93nm,0.5s
ZARC Zaragoza, Cauc 4.25 54 eP Pn 02 42 17.6 +1.4
ZARC eS Sn **02 43 07.3 +2.2**
ZARC i 02 43 23.5
comp=Z,61nm,0.5s
ZARC Zaragoza, Cauc 4.25 54 Pn 02 42 17.1 +0.9
TULM Tulcn-Chalpat 4.26 173 eS Sn 02 42 59.2 -6.8
SPBC San Pablo de B 4.27 81⇑iP Pn 02 42 18.2 +1.6
SPBC eS Sn **02 43 08.3 +2.5**
SPBC i 02 43 12.6
comp=Z,107nm,0.5s
FLOC Florencia 4.28 142⇑iP Pn 02 42 17.9 +1.2
FLOC eS Sn **02 43 06.8 +0.8**
FLOC i 02 43 11.0
comp=Z,178nm,0.7s
LCBC Los crdobas, 4.32 26 eP Pn 02 42 18.6 +1.4
LCBC eS Sn **02 43 08.6 +1.7**
LCBC i 02 43 11.5
comp=Z,80nm,0.4s
LCBC Los crdobas, 4.32 26 eP Pn 02 42 18.4 +1.2
LCBC eS Sn **02 43 09.7 +2.9**
BCIP Isla Barro Col 4.44 340 eP Pn 02 42 15.9 -3.0
BCIP eS Sn **02 43 06.0 -3.8**
BCIP i 02 43 11.0
comp=Z,176nm,0.4s
BCIP Isla Barro Col 4.44 340 eP Pn 02 42 16.1 -2.8
BCIP eS Sn **02 43 06.5 -3.4**
CHIC Chingaza 4.57 94⇑iP Pn 02 42 23.8 +2.7
CHIC eS Sn **02 43 16.5 +2.8**
CHIC i 02 43 27.0
comp=Z,55nm,0.5s
MOTC Monteria, Cord 4.61 35 eP Pn 02 42 23.9 +2.7
MOTC eS Sn **02 43 12.2 -1.8**
MOTC Monteria, Cord 4.61 35 Pn 02 42 21.6 +0.4
CUSE Cuicocha Este 4.63 181 eP Pn 02 42 20.9 -1.0
CUSE eS Sn **02 43 12.0 -3.3**
CUSE i 02 43 17.2
comp=Z,250nm,0.2s
VILC Villavicencio, 4.68 100 eP Pn 02 42 26.1 +3.8
VILC eS Sn **02 43 21.8 +5.9**
PAC1 Pacto, Paraso 4.70 186 eP Pn 02 42 18.5 -4.1
PAC1 eS Sn **02 43 12.4 -4.0**
PAC1 i 02 43 24.4
comp=Z,213nm,0.2s
OTAV Otavalo 4.70 182 eP Pn 02 42 20.6 -2.2
OTAV eS Sn **02 43 11.9 -5.1**
OTAV i 02 43 19.0
comp=Z,54nm,0.5s
OTAV Otavalo 4.70 182 eP Pn 02 42 21.9 -1.0
OTAV Otavalo 4.70 182 Pn 02 42 21.0 -1.9
MACC Macarena, Meta 5.26 122 eP Pn 02 42 30.8 +0.6
MACC eS Sn **02 43 31.4 +1.2**
MACC i 02 43 51.2
comp=Z,105nm,0.5s
RUSC La Rusia 5.28 80⇑iP Pn 02 42 31.9 +1.0
RUSC eS Sn **02 43 31.0 -0.3**
RUSC i 02 43 40.8
comp=Z,41nm,0.5s
BARC Barichara 5.35 72 eP Pn 02 42 33.8 +2.2
BARC eS Sn **02 43 34.3 +1.6**
BARC i 02 43 44.2
comp=Z,137nm,0.4s
SMLC San Martn de 5.67 48 eP Pn 02 42 36.9 +1.0
SMLC eS Sn **02 43 39.2 -1.1**
SMLC i 02 44 11.9
comp=Z,17nm,0.3s
CCOL Caracol de Cor 5.76 307 eP Pn 02 42 35.0 -2.0
BRU2 Volcan 5.78 311 Pn 02 42 36.0 -1.5
CDITO Canoas 5.78 309 eP Pn 02 42 33.7 -3.6
CDITO Canoas 5.78 309 Pn 02 42 35.5 -1.8
SJCC San Jacinto, C 5.80 32 eP Pn 02 42 37.5 -0.1
SJCC eS Sn **02 43 37.6 -5.8**
SJCC San Jacinto, C 5.80 32 Pn 02 42 38.1 +0.5
PTLC Puerto Leguiza 5.92 144 eP Pn 02 42 43.2 +4.0
PTLC eS Sn **02 43 50.5 +4.2**
PTLC i 02 44 38.7
comp=Z,25nm,0.5s
OCAC Ocana 5.92 56 eP Pn 02 42 41.3 +1.9
OCAC eS Sn **02 43 47.0 +0.3**
OCAC i 02 44 02.3
comp=Z,83nm,0.6s
OCAC Ocana 5.92 56 Pn 02 42 41.1 +1.6
PAMC Pamplona, Colo 6.05 67 eP Pn 02 42 43.2 +1.8
PAMC eS Sn **02 43 51.9 +1.5**
PAMC i 02 43 58.0
comp=Z,49nm,0.4s
GUVC San Jose del G 6.16 113 eP Pn 02 42 43.3 +0.8
GUVC eS Sn **02 43 52.0 -0.3**
GUVC i 02 43 55.7
comp=Z,110nm,0.8s
PTGC Puerto Gaitan, 6.20 97⇑eP Pn 02 42 44.1 +1.0
PTGC eS Sn **02 43 52.2 -1.1**
PTGC i 02 44 55.5
comp=Z,21nm,0.5s
DRK0 Durika 6.50 311 eP Pn 02 42 44.8 -2.5
DRK0 Durika 6.50 311 Pn 02 42 45.2 -2.1
DRK0 Durika 6.50 311 eP Pn 02 42 46.8 -0.5
DRK0 eS Sn **02 43 57.1 -3.8**
SRBA San Rafael, Bu 6.56 310 eP Pn 02 42 47.3 -0.9
SRBA San Rafael, Bu 6.56 310 Pn 02 42 47.7 -0.5
TAMC Tame, Arauca 6.65 77 eP Pn 02 42 50.6 +1.4
TAMC eS Sn **02 44 06.6 +2.2**
TAMC i 02 44 14.7
comp=Z,50nm,0.4s
PEZE Perez Zeledon, 6.90 310 eP Pn 02 42 49.6 -3.2
PEZE Perez Zeledon, 6.90 310 Pn 02 42 53.1 +0.3
CDM Cerro de Muert 7.07 310 eP Pn 02 42 52.1 -3.4
RIMA Rio Macho 7.29 311 Pn 02 42 57.5 -0.6
LCR2 La Lucha 2 7.38 310 eP Pn 02 42 58.0 -1.5
HDC Heredia 7.62 311 Pn Pn 02 43 04.9 +2.1
JACO JACO, Garabito 7.84 307 Pn 02 43 07.8 +2.2
SOCV Socops 8.10 66 eP Pn 02 43 10.6 +1.3
SOCV eS Sn **02 44 37.8 -2.4**
CAO2 Cobano, Puntar 8.21 305 Pn 02 43 13.3 +2.6
COVE Coope Vega, Sa 8.31 314 Pn 02 43 14.7 +2.5
JTS Las Juntas de 8.45 309 LR LR 02 46 23.0
comp=Z,2µm,19.7s,slow=37
JTS Las Juntas de 8.45 309 eP Pn 02 43 11.5 -2.5
JTS Las Juntas de 8.45 309 Pn Pn 02 43 14.3 +0.3
SDV Santo Domingo 8.55 63 Pn Pn 02 43 16.6 +1.0
comp=Z,8.0nm,0.3s,baz=239,slow=15,SNR=54
SDV Sn **Sn 02 44 50.3 -1.2**
comp=Z,3.0nm,0.3s,baz=23,slow=21,SNR=2.0
SDV LR LR 02 47 10.4
comp=Z,591nm,19.4s,baz=242,slow=42
SDV Santo Domingo 8.55 63⇑eP Pn 02 43 16.7 +1.1
SDV eS Sn **02 44 50.2 -1.3**
SDV i 02 45 02.7
comp=Z,22nm,0.5s
SDV Santo Domingo 8.55 63 eP Pn 02 43 14.7 -1.0
SDV Santo Domingo 8.55 63 Pn 02 43 15.8 +0.2
ORTG Ortega, Santa 8.88 308 Pn 02 43 22.4 +2.4
SAJU San Juanillo, 8.92 305 eP Pn 02 43 20.9 +0.5
ELOV Elorza 9.01 77⇑iP Pn 02 43 21.2 -0.4
ELOV eS Sn **02 44 57.5 -4.8**
ESPN Las Esperanzas 9.31 321 Pn 02 43 27.5 +1.8
BOAB BOACO BROADBAN 10.40 316 Pn Pn 02 43 42.4 +1.7
BAUV El Baul 10.93 68 Pn Pn 02 43 46.3 -1.7
ATAH Atahualpa 12.02 180 Pn Pn 02 44 04.0 +0.7
comp=Z,2.2nm,0.3s,baz=14,slow=13,SNR=12
ATAH LR LR 02 48 40.1
comp=Z,453nm,21.4s,baz=3.6,slow=37
TBTG Tabatinga, AM 12.37 137 eP Pn 02 44 06.2 -1.6
TBTG Tabatinga, AM 12.37 137 eP Pn 02 44 06.2 -1.6
TBTG Tabatinga, AM 12.37 137 Pn 02 44 05.9 -1.9
CZSB Cruzeiro do Su 13.80 156 eP Pn 02 44 25.6 -1.6
CZSB Cruzeiro do Su 13.80 156 Pn Pn 02 44 25.5 -1.8
ESQI Esquipulas 14.45 312 Pn Pn 02 44 37.5 +1.2
PCRV Puerto La Cruz 14.50 68 Pn Pn 02 44 36.1 -0.8
comp=Z,0.7nm,0.3s,baz=237,slow=7.8,SNR=2.0
PLCV Puerto La Cruz 14.54 68 Pn 02 44 36.1 -1.4
APG El Apazote 15.57 311 Pn Pn 02 44 51.5 +0.1
comp=Z,0.1nm,0.3s,baz=128,slow=9.7,SNR=16
PETF Flores 16.41 317 P P 02 45 03.8 -0.8
NNA Nana 16.91 175 Pn P 02 45 10.5 +0.4
comp=Z,3.1nm,0.3s,baz=351,slow=7.2,SNR=9.9
NNA LR LR 02 52 38.1
comp=Z,158nm,21.3s,baz=347,slow=41
NNA Nana 16.91 175 Pn 02 45 08.1 -0.2
NNA IAmb IAmb 02 45 14.5
comp=Z,119nm,1.2s
CCIG Comitan 17.62 311 Pn Pn 02 45 17.7 +0.4
BOAV Boa Vista 17.93 98 eP Pn 02 45 18.6 -2.3
BOAV Boa Vista 17.93 98 Pn Pn 02 45 18.0 -2.9
ETMB Extrema 19.00 141 eP P 02 45 32.3 -0.8
ETMB Extrema 19.00 141 P 02 45 32.0 -1.2
PTGA Pitinga 19.18 107 P P 02 45 34.7 -0.4
comp=Z,1.0nm,0.3s,baz=298,slow=16,SNR=12
PTGA LR LR 02 53 27.7
comp=Z,840nm,18.1s,baz=301,slow=38
MACA Manacapuru-AM 19.37 114 P P 02 45 35.4 -1.8
MACA IAmb IAmb 02 45 45.2
comp=Z,52nm,0.8s
SMRT St. Maarten 19.77 48 P P 02 45 41.1 -0.5
SMRT IAmb IAmb 02 45 53.8
comp=Z,118nm,1.2s
CMIG Matias Romero 20.22 308 P P 02 45 46.5 0.0
comp=Z,8.6nm,0.8s,baz=104,slow=9.5,SNR=16
LPAZ La Paz 23.40 155 P P 02 46 19.8 -1.1
comp=Z,12nm,0.8s,baz=332,slow=11,SNR=13
LPAZ LR LR 02 56 22.1
comp=Z,406nm,20.4s,baz=324,slow=39
LPAZ La Paz 23.40 155 eP P 02 46 20.3 -0.6
TLIG Tlapa 23.45 304 P P 02 46 21.3 +0.4
ITTB Itaituba 24.38 112 eP P 02 46 28.6 -1.1
AP01 Chacalluta 24.48 161 P P 02 46 30.1 -0.4
PB12 IPOC Station P 24.72 162 P P 02 46 33.5 +0.8
MALB Monte Alegre 24.96 105 eP P 02 46 33.5 -1.3
VILB Vilhena 25.31 135 eP P 02 46 38.5 +0.4
VILB Vilhena 25.31 135 P P 02 46 37.0 -1.1
MDP Montagnes des 25.57 89 P P 02 46 41.4 +1.0
comp=Z,11nm,0.7s,baz=267,slow=9.9,SNR=6.8
MDP LR LR 02 57 21.4
comp=Z,816nm,19.0s,baz=271,slow=38
NPGB Novo Progresso 25.83 117 eP P 02 46 41.1 -1.7
GO01 Chusmiza 26.07 160 IAmb IAmb 02 46 51.9
comp=Z,43nm,0.8s
PB08 IPOC Station P 26.52 160 IAmb IAmb 02 46 59.7
comp=Z,39nm,0.9s
SIV San Ignacio 26.92 141 P P 02 46 54.2 +1.6
comp=Z,4.1nm,0.7s,baz=320,slow=12,SNR=6.9
SIV LR LR 02 57 25.9
comp=Z,541nm,21.2s,baz=302,slow=36
CLDB Colider 27.38 125 eP P 02 46 56.0 -0.8
PTLB Pontes e Lacer 27.79 137 eP P 02 46 58.5 -1.9
PTLB Pontes e Lacer 27.79 137 P P 02 46 58.3 -2.0
154A Montrose 27.87 351 IAmb IAmb 02 47 12.5
comp=Z,41nm,1.0s
NHSC New Hope 28.05 357 P P 02 47 04.7 +2.2
baz=176
GOGA Godfrey 28.70 351 P P 02 47 09.9 +1.5
baz=169
LVC Limon Verde 28.91 162 P P 02 47 12.7 +2.0
comp=Z,3.6nm,0.7s,baz=344,slow=7.4,SNR=3.1
LVC LR LR 03 00 06.6
comp=Z,207nm,21.6s,baz=330,slow=39
HODGE Hodges 29.35 353 P P 02 47 15.9 +1.8
HODGE IAmb IAmb 02 47 19.2
comp=Z,34nm,1.5s
ZAIG Zacatecas 29.37 309 P P 02 47 16.8 +2.0
BG3 Lake Jocassee 30.18 352 IAmb IAmb 02 47 32.8
comp=Z,25nm,1.2s
SALV Santo Antonio 30.51 133 eP P 02 47 24.6 0.0
W50A Signal Mountai 30.77 349 IAmb IAmb 02 47 34.5
comp=Z,31nm,1.4s
SWET Sewanee 30.91 348 IAmb IAmb 02 47 31.4
comp=Z,22nm,1.4s
TKL Tuckaleechee C 30.95 351 LR LR 03 00 25.8
comp=Z,133nm,18.6s,baz=164,slow=37
V52A Sevierville 31.11 352 P P 02 47 30.8 +1.2
V52A IAmb IAmb 02 47 40.4
comp=Z,21nm,1.3s
V51A Loudon 31.19 350 IAmb IAmb 02 47 34.7
comp=Z,14nm,1.0s
U56A King 31.29 357 IAmb IAmb 02 47 42.7
comp=Z,15nm,1.0s
U54A Nelsons Funny 31.57 355 IAmb IAmb 02 47 44.9
comp=Z,21nm,1.1s
V48A Smith Brothers 31.61 347 IAmb IAmb 02 47 37.1
comp=Z,25nm,1.1s
SNDB Serra Nova Dou 31.70 122 eP P 02 47 34.8 -0.4
TZTN Tazewell 31.79 352 P P 02 47 37.3 +1.6
baz=170
T57A Hurt 31.89 359 IAmb IAmb 02 47 41.8
comp=Z,23nm,1.3s
U49A Red Boiling Sp 32.14 349 IAmb IAmb 02 47 43.1
comp=Z,30nm,1.7s
BLA Blacksburg 32.15 357 IAmb IAmb 02 47 44.1
comp=Z,17nm,1.1s
BLA Blacksburg 32.15 357 P P 02 47 40.9 +2.0
baz=176
X40A Basin Creek Fa 32.31 337 P P 02 47 41.7 +1.4
X40A IAmb IAmb 02 47 50.0
comp=Z,20nm,1.4s
X40A Basin Creek Fa 32.31 337 P P 02 47 42.3 +2.0
baz=152
T50A Nancy 32.46 350 IAmb IAmb 02 47 46.0
comp=Z,22nm,1.6s
JCT Junction City 32.47 324 P P 02 47 42.7 +0.9
baz=137
W41B Gary Mavity, V 32.70 339 P P 02 47 45.5 +1.8
baz=154
T47A Sharon Grove 32.87 347 IAmb IAmb 02 47 47.5
comp=Z,25nm,1.2s
S51A Beattyville 32.88 352 IAmb IAmb 02 47 55.9
comp=Z,27nm,1.2s
W39A Magazine 33.31 337 IAmb IAmb 02 47 59.0
comp=Z,28nm,1.6s
W39A Magazine 33.31 337 P P 02 47 50.8 +1.8
baz=151
ARAG Araguaiana, MT 33.32 129 eP P 02 47 48.2 -1.1
R50A Paris 33.61 351 IAmb IAmb 02 47 58.8
comp=Z,38nm,1.6s
AQDB Aquidauana 33.65 139 eP P 02 47 51.4 -0.7
AQDB Aquidauana 33.65 139 P P 02 47 50.5 -1.6
AQDB IAmb IAmb 02 47 59.6
comp=Z,18nm,1.0s
WCI Wyandotte Cave 33.90 349 P P 02 47 56.0 +1.9
baz=166
ABTX Abilene, Hawle 33.98 327 P P 02 47 56.7 +1.9
ABTX IAmb IAmb 02 48 10.4
comp=Z,41nm,1.7s
ABTX Abilene, Hawle 33.98 327 P P 02 47 56.0 +1.1
baz=140
U40A Yellville 33.98 339 P P 02 47 55.6 +0.8
baz=153
T42A Van Buren 33.99 342 IAmb IAmb 02 47 56.3
comp=Z,29nm,1.6s
TXAR Lajitas Array 34.10 318 P P 02 47 56.8 +0.7
comp=Z,3.3nm,1.0s,baz=135,slow=9.0,SNR=15
TXAR PcP PcP **02 50 34.0 +0.6**
comp=Z,1.2nm,0.9s,baz=108,slow=5.2,SNR=6.1
TXAR Lajitas Array 34.10 318 P P 02 47 56.7 +0.6
TX31 Lajitas Ar. Si 34.10 318 P P 02 47 57.9 +1.7
TX32 Lajitas Array 34.10 318 P P 02 47 57.6 +1.5
Q51A Peebles 34.21 353 IAmb IAmb 02 48 07.9
comp=Z,14nm,1.0s
PEXB Peixe 34.32 120 eP P 02 47 57.5 -0.5
MGMO Mountain Grove 34.49 340 IAmb IAmb 02 48 10.7
comp=Z,24nm,1.4s
MCWV Mont Chateau 34.56 358 P P 02 48 01.0 +1.2
baz=177
W35A Tecumseh 34.59 333 IAmb IAmb 02 48 03.3
comp=Z,11nm,0.9s
FVM French Village 34.67 343 IAmb IAmb 02 48 16.6
comp=Z,24nm,1.2s
P52A Corning 34.68 355 P P 02 48 01.6 +0.8
baz=173
TUL1 Leonard 34.75 335 P P 02 48 02.0 +0.5
baz=148
OLIL Olney 34.77 347 IAmb IAmb 02 48 05.5
comp=Z,14nm,0.8s
P60A Greenville 34.77 4 P P 02 48 01.9 +0.4
baz=184
P49A Miami Univ. Ec 34.90 351 P P 02 48 03.4 +0.7
baz=169
FNO Franklin 34.92 332 P P 02 48 04.4 +1.4
CCM Cathedral Cave 34.98 342 P P 02 48 03.5 +0.1
CCM IAmb IAmb 02 48 19.4
comp=Z,10nm,0.9s
CCM Cathedral Cave 34.98 342 P P 02 48 03.8 +0.3
baz=157
ROSB Rosrio 35.03 102 eP P 02 48 03.6 -0.6
O54A Avella 35.11 357 IAmb IAmb 02 48 18.6
comp=Z,25nm,1.2s
O52A Adamsville 35.14 355 IAmb IAmb 02 48 15.5
comp=Z,24nm,1.1s
WMOK Wichita Mounta 35.17 330 P P 02 48 04.6 -0.5
baz=143
O53A New Philadelph 35.22 356 P P 02 48 06.2 +0.6
baz=175
OK031 S. Brethren Rd 35.24 333 IAmb IAmb 02 48 09.2
comp=Z,25nm,1.0s
S39A Bolivar 35.34 339 IAmb IAmb 02 48 22.5
comp=Z,28nm,1.6s
ACSO Alum Creek Sta 35.36 354 P P 02 48 08.2 +1.5
baz=172
OK033 Mehan 35.36 333 P P 02 48 08.2 +1.4
N59A State Game Lan 35.86 3 P P 02 48 12.9 +1.9
baz=184
N54A Moraine State 35.87 358 P P 02 48 12.5 +1.4
baz=177
T35A Sooner Cattle 35.91 335 IAmb IAmb 02 48 15.2
comp=Z,19nm,1.1s
BDFB Brasilia 36.32 125 P P 02 48 15.0 -0.3
comp=Z,5.5nm,0.7s,baz=284,slow=9.7,SNR=5.8
BDFB LR LR 03 03 55.4
comp=Z,673nm,19.8s,baz=312,slow=38
BDFB Brasilia 36.32 125 P P 02 48 14.2 -1.1
BDFB IAmb IAmb 02 48 28.6
comp=Z,12nm,1.0s
CO03 El Pedregal 36.34 169 IAmb IAmb 02 48 18.0
comp=Z,24nm,1.2s
N47A Urbana 36.37 351 IAmb IAmb 02 48 19.1
comp=Z,16nm,1.0s
M53A WI Miller and 36.38 357 P P 02 48 16.4 +1.0
baz=176
M54A Oil Creek Stat 36.40 358 P P 02 48 17.1 +1.5
baz=178
M50A Fremont 36.52 354 IAmb IAmb 02 48 19.2
comp=Z,28nm,1.3s
P40A Paris 36.58 342 IAmb IAmb 02 48 27.3
comp=Z,31nm,1.7s
MSTX Muleshoe 36.73 325 IAmb IAmb 02 48 22.2
comp=Z,11nm,0.9s
MSTX Muleshoe 36.73 325 P P 02 48 19.5 +0.9
baz=136
MNTX Cornudas Mount 36.76 320 P P 02 48 19.6 +0.8
MNTX Cornudas Mount 36.76 320 P P 02 48 19.8 +1.0
baz=131,SNR=9.6
ITRB Iturama 36.84 133 eP P 02 48 18.9 -0.7
CPUP Villa Florida 37.17 148 LR LR 03 04 08.9
comp=Z,310nm,20.6s,baz=330,slow=37
CPUP Villa Florida 37.17 148 eP P 02 48 22.4 +0.1
PCMB Pacaembu 37.42 136 eP P 02 48 24.6 0.0
SDBA SAO DESIDERIO 37.42 118 eP P 02 48 24.1 -0.6
IPMB Ipameri, GO 37.44 128 eP P 02 48 23.9 -0.9
KSU1 Kansas State U 37.81 337 P P 02 48 28.5 +0.8
baz=149
NBPS Pedro II - PI 37.98 104 eP P 02 48 29.1 -0.3
VA03 San Esteban 38.24 169 P P 02 48 31.6 +0.2
PEL Peldehue 38.59 170 IAmb IAmb 02 48 36.8
comp=Z,31nm,1.3s
MT05 Renca 38.82 170 P P 02 48 36.7 +0.5
121A Cookes Peak, D 38.86 319 IAmb IAmb 02 48 43.1
comp=Z,26nm,1.1s
121A Cookes Peak, D 38.86 319 P P 02 48 37.5 +0.7
baz=129,SNR=5.5
CBKS Cedar Bluff 38.90 333 IAmb IAmb 02 48 46.5
comp=Z,31nm,1.1s
CBKS Cedar Bluff 38.90 333 P P 02 48 38.0 +1.1
baz=145
N35A Tabor 38.98 339 IAmb IAmb 02 48 40.3
comp=Z,15nm,0.8s
PTGB Pitanga 39.02 140 eP P 02 48 39.3 +1.2
BB19B Bebedouro 39.02 133 eP P 02 48 38.1 0.0
NBMO Morrinhos-CE 39.10 101 eP P 02 48 37.7 -1.2
JANB Januaria 39.12 121 eP P 02 48 38.2 -0.9
MT09 Talagante 39.15 170 IAmb IAmb 02 48 41.5
comp=Z,30nm,1.1s
JFWS Jewell Farm 39.24 346 IAmb IAmb 02 48 42.1
comp=Z,50nm,1.9s
JFWS Jewell Farm 39.24 346 P P 02 48 40.8 +1.2

baz=161
ANMO Albuquerque 39.58 323 LR LR 03 08 08.5
comp=Z,83nm,18.1s,baz=143,slow=41
ANMO Albuquerque 39.58 323 P **P** **02 48 44.1 +1.2**
ANMO Albuquerque 39.58 323 P **P** **02 48 43.7 +0.9**
baz=133
SADO Sadowa 39.65 359 LR LR 03 07 38.3
comp=Z,84nm,19.0s,baz=194,slow=40
SADO Sadowa 39.65 359 IAmb IAmb 02 48 47.2
comp=Z,25nm,1.2s
BO01 Tunca 39.74 171 IAmb IAmb 02 48 46.1
comp=Z,41nm,1.4s
T25A Trinidad 39.94 327 P **P** **02 48 46.3 +0.5**
baz=137,SNR=5.8
NBPB Pedra_Branca-C 40.05 105 *e*P **P** **02 48 45.7 -1.1**
GLMI Grayling 40.08 353 P **P** **02 48 47.9 +1.4**
baz=170
GO05 Huala 40.22 172 P **P** **02 48 47.9 +0.1**
GO05 IAmb IAmb 02 48 49.6
comp=Z,23nm,0.9s
BGNE Belgrade 40.39 337 P **P** **02 48 50.8 +1.6**
BGNE IAmb IAmb 02 48 51.8
comp=Z,25nm,1.1s
BGNE Belgrade 40.39 337 P **P** **02 48 50.8 +1.6**
baz=149
TUC Tucson 40.76 316 P **P** **02 48 53.9 +1.4**
TUC Tucson 40.76 316 P **P** **02 48 52.7 +0.2**
baz=125
ITAB Concordia 40.80 143 *e*P **P** **02 48 53.1 +0.4**
SDCO Great Sand Dun 40.98 326 P **P** **02 48 56.2 +1.7**
SDCO Great Sand Dun 40.98 326 P **P** **02 48 55.0 +0.5**
baz=136,SNR=8.5
ML02 Panimavida 41.03 171 P **P** **02 48 54.6 +0.1**
ML02 IAmb IAmb 02 48 56.3
comp=Z,20nm,1.0s
NBPN Ponto Novo - B 41.06 113 *e*P **P** **02 48 54.7 -0.4**
DIAM Diamantina, MG 41.24 125 *e*P **P** **02 48 56.5 -0.2**
VAO Valinhos 41.35 134 *e*P **P** **02 48 59.0 +1.6**
OGNE Ogallala 41.66 333 P **P** **02 49 00.9 +1.1**
baz=143
Q24A Divide 41.68 328 P **P** **02 49 01.0 +0.8**
baz=138
S22A 4UR Ranch, Cre 41.72 325 P **P** **02 49 02.0 +1.4**
baz=134,SNR=5.9
ECSD EROS Data Cent 41.85 340 P **P** **02 49 00.9 -0.2**
ECSD EROS Data Cent 41.85 340 P **P** **02 49 02.0 +0.8**
baz=152
214A Organ Pipe Nat 41.99 314 P **P** **02 49 03.3 +0.7**
baz=123
SPMN Marine on St. 42.05 345 IAmb IAmb 02 49 04.9
comp=Z,48nm,1.8s
SPMN Marine on St. 42.05 345 P **P** **02 49 03.7 +0.9**
baz=158
MVCO Mesa Verde 42.33 323 P **P** **02 49 06.6 +1.1**
baz=132
ISCO Idaho Springs 42.54 328 P **P** **02 49 08.2 +1.0**
baz=138
GDU01 Guandu, BA 42.69 116 *e*P **P** **02 49 07.7 -0.7**
WUAZ Wupatki 43.04 319 IAmb IAmb 02 49 17.0
comp=Z,20nm,1.1s
WUAZ Wupatki 43.04 319 P **P** **02 49 11.9 +0.7**
baz=127,SNR=16
PV15 Paradox Valley 43.08 325 IAmb IAmb 02 49 17.1
comp=Z,32nm,1.0s
PV13 Radium Mtn., P 43.15 324 IAmb IAmb 02 49 17.4
comp=Z,34nm,1.0s
Y14A Wickenburg 43.21 316 P **P** **02 49 14.9 +2.5**
SUSD Miller 43.30 338 IAmb IAmb 02 49 15.6
comp=Z,24nm,0.9s
SUSD Miller 43.30 338 P **P** **02 49 13.8 +0.9**
baz=149
NBIT Itapeh - BA 43.30 118 *e*P **P** **02 49 13.0 -0.3**
NBLA Lagarto - SE 43.33 112 *e*P **P** **02 49 12.3 -1.3**
CMC01 Camacan, BA 43.40 118 *e*P **P** **02 49 13.9 -0.3**
PLTB Pedras Altas 43.45 149 *e*P **P** **02 49 15.2 +0.9**
SJMB Sao Joao De Ma 43.49 124 *e*P **P** **02 49 14.2 -0.5**
F33A 5 Mile Ranch, 43.62 342 IAmb IAmb 02 49 16.4
comp=Z,44nm,2.0s
GLA Glamis 44.02 314 P **P** **02 49 21.9 +3.0**
GLA Glamis 44.02 314 P **P** **02 49 21.0 +2.0**
baz=122
O20A White River Ci 44.18 327 P **P** **02 49 21.8 +1.5**
baz=135
PDMCI Parker Dam,Lak 44.20 316 P **P** **02 49 22.2 +1.8**
baz=123
NBAN Anadia - AL 44.33 109 *e*P **P** **02 49 20.9 -0.8**
RIB01 Linhares ES 44.44 124 *e*P **P** **02 49 21.9 -0.5**
SWSC Sam W. Stewart 44.66 313 P **P** **02 49 25.8 +1.7**
baz=120
IKP In-Ko-Pah, Jac 44.74 313 P **P** **02 49 26.5 +1.7**
baz=120
RWWY Rawlins 44.74 329 IAmb IAmb 02 49 29.4
comp=Z,13nm,0.8s
BC3 Big Chuckawall 44.78 314 P **P** **02 49 26.8 +1.7**
baz=122
PKCU Pink Cliffs 44.81 321 IAmb IAmb 02 49 31.4
comp=Z,17nm,1.1s
IRM Iron Mountain 44.82 315 P **P** **02 49 26.9 +1.5**
baz=122,SNR=13
KNB Kanab 44.88 320 IAmb IAmb 02 49 54.2
comp=Z,19nm,1.3s
P18A Preston Nutter 44.96 325 IAmb IAmb 02 49 31.7
comp=Z,10nm,0.9s
RSSD Black Hills 45.08 334 P **P** **02 49 28.9 +1.3**
RSSD IAmb IAmb 02 49 31.8
comp=Z,32nm,1.2s
RSSD Black Hills 45.08 334 P **P** **02 49 28.8 +1.3**
baz=142
MONP2 Monument Peak 45.09 313 P **P** **02 49 28.5 +0.8**
baz=120
K22A Casper 45.11 331 P **P** **02 49 29.7 +2.1**
baz=138
P17A Butcher Ranch, 45.14 324 IAmb IAmb 02 49 32.5
comp=Z,21nm,1.0s
RDMU Red Mountain 45.21 326 IAmb IAmb 02 49 33.3
comp=Z,16nm,1.1s
BELC Belle Mtn. Jos 45.34 314 P **P** **02 49 30.8 +1.1**
baz=121,SNR=14
TPFO Pinon Flats 45.47 314 P **P** **02 49 32.3 +1.7**
baz=120
PFO Pinyon Flats O 45.48 314 LR LR 03 10 04.9
comp=Z,144nm,18.0s,baz=130,slow=38
PFO Pinyon Flats O 45.48 314 P **P** **02 49 32.2 +1.6**
baz=120
GMRC Granite Mounta 45.52 316 P **P** **02 49 32.6 +1.6**
baz=122
TCRU Three Creeks R 45.61 322 P **P** **02 49 33.0 +1.2**
TCRU IAmb IAmb 02 49 39.8
comp=Z,14nm,1.0s
AGMN Agassiz Nation 45.71 344 IAmb IAmb 02 49 34.6
comp=Z,33nm,1.8s
AGMN Agassiz Nation 45.71 344 P **P** **02 49 34.0 +1.9**
baz=155
LL04 Puerto Octay 45.97 174 IAmb IAmb 02 49 35.5
comp=Z,11nm,0.9s
MURC Murrieta 46.00 313 P **P** **02 49 35.5 +0.7**
baz=120
HEC Hector,Ludlow 46.01 315 P **P** **02 49 36.2 +1.3**
baz=122
MPU Maple Canyon 46.02 324 IAmb IAmb 02 49 40.5
comp=Z,12nm,0.9s
PLCA Paso Flores 46.03 172 P **P** **02 49 35.7 +0.9**
comp=Z,7.8nm,0.7s,baz=351,slow=9.1,SNR=20
PLCA Paso Flores 46.03 172 P **P** **02 49 34.7 -0.1**
TUQ Turquoise Moun 46.05 316 P **P** **02 49 36.9 +1.7**
baz=122
SHPR Sheep Range 46.11 318 P **P** **02 49 37.2 +1.5**
JLU Jordanelle 46.30 325 IAmb IAmb 02 49 42.2
comp=Z,17nm,1.2s
MDND Maddock 46.46 340 P **P** **02 49 39.9 +1.9**
baz=150
CTU Camp Tracy 46.53 325 IAmb IAmb 02 49 44.4
comp=Z,14nm,1.1s
SHOC Shoshone, Teco 46.53 317 P **P** **02 49 40.3 +1.4**
baz=122
GSC Goldstone, Bar 46.59 315 IAmb IAmb 02 49 44.5
comp=Z,16nm,1.5s
GSC Goldstone, Bar 46.59 315 P **P** **02 49 40.4 +1.1**
baz=122
BFSC Mount Baldy Ra 46.65 314 P **P** **02 49 40.8 +0.8**
baz=120
BW06 Boulder Array 46.73 328 IAmb IAmb 02 49 46.2
comp=Z,14nm,1.2s
BW06 Boulder Array 46.73 328 P **P** **02 49 41.2 +0.6**
baz=135,SNR=8.6
PD31 Pinedale Array 46.73 328 IAmb IAmb 02 49 46.2
comp=Z,14nm,1.2s
PDAR Pinedale Array 46.73 328 P **P** **02 49 40.8 +0.2**
comp=Z,6.6nm,1.1s,baz=125,slow=9.8,SNR=22
PDAR LR LR 03 12 18.8
comp=Z,59nm,18.7s,baz=95,slow=40
PDAR Pinedale Array 46.73 328 P **P** **02 49 41.8 +1.2**
DUG Dugway, Tooele 46.83 323 IAmb IAmb 02 49 46.5
comp=Z,18nm,1.1s
DUG Dugway, Tooele 46.83 323 P **P** **02 49 42.2 +0.9**
baz=129,SNR=17
SPR3 Spring Creek 3 47.02 321 IAmb IAmb 02 49 53.3
comp=Z,13nm,1.2s
TPNV Topopah Spring 47.08 318 P **P** **02 49 44.6 +1.3**
baz=123
EDW2 Edwards Air Fo 47.21 314 P **P** **02 49 45.2 +0.9**
baz=120
FURC Furnace Creek, 47.24 317 P **P** **02 49 46.0 +1.7**
baz=122
LRMC Laurel Mtn Rad 47.29 315 P **P** **02 49 46.0 +1.1**
baz=121
R11A Troy Canyon, C 47.43 320 P **P** **02 49 46.9 +0.9**
baz=125,SNR=5.9
MPMC Manual Prospec 47.45 316 P **P** **02 49 47.6 +1.3**
baz=121
ULM Lac du Bonnet 47.49 345 P **P** **02 49 45.1 -0.9**
comp=Z,10nm,0.9s,baz=154,slow=8.4,SNR=8.2
ULM LR LR 03 08 39.8
comp=Z,116nm,21.9s,baz=192,slow=35
ULM Lac du Bonnet 47.49 345 P **P** **02 49 45.2 -0.8**
ULM IAmb IAmb 02 49 48.8
comp=Z,17nm,1.0s
AHID Auburn Hatcher 47.55 327 IAmb IAmb 02 49 51.7
comp=Z,19nm,1.1s
SNOW Snow King Moun 47.84 328 IAmb IAmb 02 49 53.9
comp=Z,21nm,1.1s
GRAC Grapevine Rang 47.86 317 P **P** **02 49 50.9 +1.6**
baz=122
LOHW Long Hollow 47.87 328 IAmb IAmb 02 49 54.1
comp=Z,13nm,1.1s
ECR Eagle Creek 47.89 327 P **P** **02 49 50.6 +1.0**
ARVC Arvin 47.93 314 P **P** **02 49 52.2 +2.5**
baz=119
ISA Isabella, Lake 47.94 315 P **P** **02 49 51.6 +1.7**
baz=120
MOOW Moose Ponds 48.04 328 IAmb IAmb 02 49 55.6
comp=Z,12nm,1.1s
CWC Cottonwood Cre 48.06 316 P **P** **02 49 52.6 +1.7**
baz=121
FLWY Flagg Ranch 48.25 329 IAmb IAmb 02 50 02.6
comp=Z,22nm,1.2s
RLMT Red Lodge 48.27 331 IAmb IAmb 02 49 55.6
comp=Z,9.6nm,1.1s
RLMT Red Lodge 48.27 331 P **P** **02 49 52.8 +0.3**
baz=137,SNR=8.8
LL02 Futaleuf 48.29 174 P **P** **02 49 51.6 -0.7**
H17A Grant Village 48.40 329 P **P** **02 49 55.3 +1.7**
baz=135
VES Vestal, Richgr 48.46 315 P **P** **02 49 54.6 +0.8**
baz=120
PKM Mcpherson Peak 48.52 313 P **P** **02 49 55.6 +1.1**
baz=118
ELK Elko 48.62 323 LR LR 03 12 23.0
comp=Z,98nm,20.2s,baz=132,slow=38
DGMT Dagmar 48.65 337 P **P** **02 49 55.5 +0.4**
DGMT Dagmar 48.65 337 P **P** **02 49 56.3 +1.3**
baz=145
YMR Madison River 48.79 329 IAmb IAmb 02 50 07.1
comp=Z,10nm,1.1s
SMMC Simmler 48.85 314 P **P** **02 49 57.9 +1.0**
baz=118
NV11 Mina Array Sit 49.16 318 IAmb IAmb 02 50 09.3
comp=Z,20nm,1.4s
PAGB Antelope Grade 49.23 314 IAmb IAmb 02 50 03.9
comp=Z,14nm,1.0s
NVAR Mina Array Bea 49.25 318 P **P** **02 50 01.5 +1.3**
comp=Z,5.3nm,0.8s,baz=129,slow=6.1,SNR=18
NVAR PcP **PcP** **02 51 22.9 0.0**
comp=Z,1.3nm,0.9s,baz=118,slow=5.2,SNR=2.3
NVAR LR LR 03 14 51.4
comp=Z,131nm,19.4s,baz=96,slow=41
NVAR Mina Array Bea 49.25 318 P **P** **02 50 00.5 +0.4**
LHV Little Huntoon 49.29 318 IAmb IAmb 02 50 10.1
comp=Z,14nm,1.1s
BMN Battle Mountai 49.66 321 IAmb IAmb 02 50 07.4
comp=Z,12nm,1.0s
BOZ Bozeman (W) 49.78 330 P **P** **02 50 05.4 +1.5**
baz=134
BCYI Bear Canyon 49.83 327 P **P** **02 50 05.7 +1.2**
HLID Hailey 49.89 326 P **P** **02 50 05.3 +0.4**
baz=130,SNR=9.2
YERR Yerington 50.17 318 IAmb IAmb 02 50 12.8
comp=Z,9.7nm,1.0s
PNTR Pine Nut 50.46 318 P **P** **02 50 10.7 +1.4**
PNTR IAmb IAmb 02 50 15.1
comp=Z,12nm,1.1s
SCHQ Schefferville 50.58 9 P **P** **02 50 11.4 +1.8**
comp=Z,7.6nm,0.9s,baz=153,slow=8.8,SNR=4.8
SCHQ LR LR 03 13 24.0
comp=Z,71nm,19.1s,baz=162,slow=38
MFID Camas Ranch 50.60 325 IAmb IAmb 02 50 14.4
comp=Z,14nm,1.1s
COYC Coyhaique 50.62 174 IAmb IAmb 02 50 11.7
comp=Z,15nm,0.8s
EGMT Eagleton 50.63 333 IAmb IAmb 02 50 26.9
comp=Z,16nm,1.1s
EGMT Eagleton 50.63 333 P **P** **02 50 11.2 +1.0**
baz=138
PLID Pearl Lake 51.74 327 P **P** **02 50 19.0 +0.2**
PLID IAmb IAmb 02 50 22.1
comp=Z,12nm,1.2s
MSO Missoula 51.79 329 P **P** **02 50 19.5 +0.5**
baz=132
ORV Oroville 51.97 318 IAmb IAmb 02 50 25.8
comp=Z,20nm,1.1s
J08A Circle Bar Ran 52.11 323 IAmb IAmb 02 50 25.3
comp=Z,9.3nm,0.9s
JTMT Jette 52.58 330 IAmb IAmb 02 50 36.1
comp=Z,21nm,1.5s
F10A Beach Ranch, E 52.97 327 IAmb IAmb 02 50 32.8
comp=Z,16nm,1.2s
M04C Macdoel 53.32 320 P **P** **02 50 31.0 +0.5**
baz=121
G08A Pilot Rock 53.52 325 IAmb IAmb 02 50 37.7
comp=Z,14nm,1.1s
K04D Chiloquin, OR 53.71 321 P **P** **02 50 33.9 +0.6**
baz=122
J05D Fort Rock, OR 53.74 322 P **P** **02 50 34.1 +0.6**
baz=123
YBH Yreka Blue Hor 53.86 320 LR LR 03 15 13.8
comp=Z,147nm,20.4s,baz=356,slow=38
NEW Newport 54.36 329 LR LR 03 17 44.5
comp=Z,135nm,18.3s,baz=312,slow=40
NEW Newport 54.36 329 IAmb IAmb 02 50 46.7
comp=Z,22nm,1.5s
NEW Newport 54.36 329 P **P** **02 50 38.3 +0.5**
baz=130
D08A Wollman Farm, 54.56 327 P **P** **02 50 40.3 +1.0**
D08A IAmb IAmb 02 50 43.2
comp=Z,9.4nm,1.0s
E07A Sunnyside 54.78 326 IAmb IAmb 02 50 44.9
comp=Z,10nm,0.9s
H04A Detroit Lake 55.07 323 IAmb IAmb 02 50 53.6
comp=Z,19nm,1.0s
I03D Drain, OR 55.26 321 P **P** **02 50 45.2 +0.8**
baz=121
F05D White Salmon 55.30 324 P **P** **02 50 45.4 +0.7**
baz=124
B08A Colville Reser 55.57 328 IAmb IAmb 02 50 57.1
comp=Z,10nm,1.1s
LTY Liberty 55.64 326 P **P** **02 50 48.2 +1.0**
LTY IAmb IAmb 02 50 51.3
comp=Z,16nm,1.1s
B05A Bryant 57.00 327 P **P** **02 50 58.2 +1.5**
baz=125
FRB Frobisher Bay 59.09 5 LR LR 03 19 44.5
comp=Z,92nm,18.1s,baz=231,slow=39
BBB Bella Bella 62.38 328 LR LR 03 22 32.5
comp=Z,139nm,18.9s,baz=198,slow=40
YKA Yellowknife Ar 63.32 342 P **P** **02 51 39.0 -0.8**
comp=Z,17nm,0.8s,baz=134,slow=6.6,SNR=178
SFJD Kangerlussuaq 64.80 12 LR LR 03 17 55.4
comp=Z,77nm,21.7s,baz=226,slow=34
DLBC Dease Lake 66.56 333 LR LR 03 25 53.8
comp=Z,139nm,18.2s,baz=267,slow=40
P33M Teslin, Yukon 68.69 334 P **P** **02 52 15.5 +1.0**
baz=120
WHY Whitehorse 69.81 334 P **P** **02 52 20.9 -0.5**
baz=118
FARO Faro, Yukon 69.92 336 P **P** **02 52 23.4 +1.4**
baz=120
RES Resolute Bay 70.33 355 LR LR 03 23 21.8
comp=Z,76nm,19.9s,baz=121,slow=36
M31M Drury Creek, Y 70.33 336 IAmb IAmb 02 52 31.1
comp=Z,21nm,1.4s
M31M Drury Creek, Y 70.33 336 P **P** **02 52 25.9 +1.3**
baz=119
N31M Braeburn, Yuko 70.58 335 P **P** **02 52 27.4 +1.3**
baz=117
TULEG Thule 71.71 2 P **P** **02 52 32.0 -0.5**
TULEG IAmb IAmb 02 52 33.5
comp=Z,11nm,1.0s
SUMG Summit 71.79 12 *i* P **P** **02 52 33.0 -0.7**
SUMG Summit 71.79 12 P **P** **02 52 33.6 0.0**
PESTR Estremoz 71.90 51 P **P** **02 52 33.8 -0.7**
YUK3 Moose Creek 72.73 334 P **P** **02 52 40.6 +1.3**
baz=113,SNR=7.5
CTG Chitna Glacier 72.81 333 P **P** **02 52 39.9 +0.3**
baz=112
A36M Sachs Harbour 72.94 346 P **P** **02 52 39.0 -0.9**
A36M Sachs Harbour 72.94 346 P **P** **02 52 39.3 -0.7**
baz=130,SNR=36
DBIC Dimbokro 73.03 85 P **P** **02 52 41.4 -0.3**
comp=Z,8.3nm,1.1s,baz=299,slow=8.5,SNR=4.1
DBIC LR LR 03 20 35.0
comp=Z,80nm,21.5s,baz=296,slow=32
INK Inuvik 73.07 341 LR LR 03 26 29.5
comp=Z,108nm,20.2s,baz=128,slow=37
INK Inuvik 73.07 341 P **P** **02 52 41.2 +0.4**
baz=121,SNR=16
BVCY Beaver Creek 73.15 334 P **P** **02 52 42.0 +0.5**
baz=112
DAWY Dawson 73.20 336 IAmb IAmb 02 52 45.5
comp=Z,9.4nm,0.9s
DAWY Dawson 73.20 336 P **P** **02 52 42.3 +0.5**
baz=114
I29M Ogilvie Camp, 73.33 338 P **P** **02 52 43.2 +0.7**
baz=116
M27K Edge Creek, AK 73.57 334 P **P** **02 52 45.0 +0.9**
baz=112
PPT Papeete 73.78 250 LR LR 03 18 10.1
comp=Z,83nm,20.8s,baz=64,slow=30
PPT2 Papeete2 73.78 250 *e*S **S** **03 02 18.0 +1.5**
comp=Z,79nm,27.2s
PPT2 *e*LR LR 03 15 31.0
comp=Z,164nm,25.5s
L27K Beaver Creek, 73.81 335 P **P** **02 52 46.4 +1.1**
baz=112
M26K Nabesna, AK 74.07 334 P **P** **02 52 47.0 +0.1**
baz=110
GLB Gilahina Butte 74.10 333 IAmb IAmb 02 52 52.3
comp=Z,25nm,1.2s
EGAK Eagle 74.19 337 IAmb IAmb 02 53 00.9
comp=Z,13nm,1.1s
EGAK Eagle 74.19 337 P **P** **02 52 48.0 +0.5**
baz=113
BMRM Bremner River 74.31 332 P **P** **02 52 48.0 -0.4**
baz=109
L26K Log Cabin Wild 74.44 335 IAmb IAmb 02 52 53.6
comp=Z,20nm,1.0s
L26K Log Cabin Wild 74.44 335 P **P** **02 52 49.7 +0.7**
baz=110,SNR=9.1
N25K Chitina, Valde 74.51 333 P **P** **02 52 49.7 +0.2**
baz=109
MENT Mentasta 74.57 334 IAmb IAmb 02 52 54.1
comp=Z,10.0nm,0.9s
EYAK Cordova Ski Ar 74.71 332 P **P** **02 52 51.4 +0.8**
baz=108
ESDC Sonseca Array 74.80 50 P **P** **02 52 52.2 +0.5**
comp=Z,4.1nm,1.1s,baz=269,slow=6.3,SNR=14
ESDC Sonseca Array 74.80 50 P **P** **02 52 50.9 -0.8**
HARP HAARP 75.02 334 P **P** **02 52 53.1 +0.7**
baz=108
SCRK Sand Creek 75.04 335 P **P** **02 52 53.2 +0.6**
SCRK Sand Creek 75.04 335 P **P** **02 52 53.4 +0.8**
baz=110,SNR=8.0
J26L Joseph Creek 75.05 336 IAmb IAmb 02 52 57.8
comp=Z,16nm,0.9s
J26L Joseph Creek 75.05 336 P **P** **02 52 54.0 +1.4**
baz=110
KLU Klutina 75.08 333 P **P** **02 52 54.0 +1.2**
baz=108
EUNU Eureka 75.16 359 IAmb IAmb 02 54 46.7
comp=Z,26nm,1.9s
RIDG Independent Ri 75.32 335 P **P** **02 52 54.9 +0.8**
baz=109,SNR=11
PAX Paxson 75.33 334 IAmb IAmb 02 52 57.6
comp=Z,29nm,1.5s
PAX Paxson 75.33 334 P **P** **02 52 55.2 +0.9**
baz=108
M24K Tolsona, Glenn 75.38 333 P **P** **02 52 55.7 +1.2**
baz=108
J25K Salcha River, 75.82 336 IAmb IAmb 02 53 01.1
comp=Z,17nm,1.0s
J25K Salcha River, 75.82 336 P **P** **02 52 57.5 +0.5**
baz=109,SNR=10.0
SCM Sheep Creek Mo 75.82 333 P **P** **02 52 57.9 +0.8**
baz=106
PWL Port Wells 76.02 332 P **P** **02 52 58.1 -0.1**
baz=105
PRP Porcupine Dome 76.17 337 P **P** **02 52 59.5 +0.4**
PRP IAmb IAmb 02 53 02.9
comp=Z,17nm,1.0s
KNK Knik Glacier 76.22 332 P **P** **02 52 58.7 -0.6**
baz=105
SML Sawmill 76.27 333 P **P** **02 53 00.2 +0.6**
baz=105
HDA Harding Lake 76.40 335 P **P** **02 53 00.5 +0.2**
baz=107,SNR=16
BMAR Burnt Mountain 76.46 339 P **P** **02 53 00.9 +0.3**
IL31 76.49 336 IAmb IAmb 02 53 12.9
comp=Z,34nm,1.7s
ILAR Eielson Array 76.49 336 P **P** **02 53 00.5 -0.2**
comp=Z,5.2nm,0.8s,baz=107,slow=4.2,SNR=27
ILAR LR LR 03 31 27.5
comp=Z,59nm,18.9s,baz=148,slow=40
PMR Palmer 76.58 332 P **P** **02 53 00.8 -0.4**
baz=105
RC01 Rabbit Creek A 76.74 332 P **P** **02 53 02.5 +0.3**
baz=104
POKR Poker Plat Res 76.81 336 IAmb IAmb 02 53 10.7
comp=Z,13nm,1.1s
POKR Poker Plat Res 76.81 336 P **P** **02 53 02.5 -0.1**
baz=107
COLA College 76.91 336 P **P** **02 53 03.6 +0.5**
baz=107
TCOL CIGO, UAF Yank 76.92 336 P **P** **02 53 03.5 +0.4**
baz=107
RND Reindeer 76.93 334 P **P** **02 53 04.3 +1.0**
MCK McKinley 77.05 334 IAmb IAmb 02 53 05.3
comp=Z,23nm,1.2s
MCK McKinley 77.05 334 P **P** **02 53 04.6 +0.6**
baz=105
M22K Willow 77.08 332 P **P** **02 53 04.7 +0.7**
baz=104
MDM Murphy Dome 77.09 336 IAmb IAmb 02 53 07.8
comp=Z,19nm,1.1s
H24K Noodor Dome 77.20 337 IAmb IAmb 02 53 08.8
comp=Z,14nm,1.1s
H24K Noodor Dome 77.20 337 P **P** **02 53 05.3 +0.5**
baz=107
CUT Chulitna 77.30 333 P **P** **02 53 06.1 +0.8**
baz=104
SUA Susitna One 77.30 332 P **P** **02 53 05.5 0.0**
baz=103
NEA2 Nenana 77.34 335 P **P** **02 53 06.2 +0.7**
NEA2 Nenana 77.34 335 P **P** **02 53 05.1 -0.4**
baz=105,SNR=6.9
KDAK Kodiak Island 77.45 328 LR LR 03 30 41.2
comp=Z,84nm,18.4s,baz=102,slow=38
TRF Thorofare Moun 77.56 334 P **P** **02 53 06.8 -0.3**
baz=104
I23K Minto, Yukon-K 77.60 336 IAmb IAmb 02 53 11.5
comp=Z,22nm,1.3s
I23K Minto, Yukon-K 77.60 336 P **P** **02 53 07.7 +0.7**
baz=105
SII Sitkinak Islan 78.10 327 P **P** **02 53 10.4 +0.4**
baz=99
MLY Manley 78.14 336 IAmb IAmb 02 53 14.1
comp=Z,15nm,1.0s
MLY Manley 78.14 336 P **P** **02 53 10.2 +0.1**
baz=104
Q19K Cape Douglas, 78.21 329 P **P** **02 53 10.2 -0.3**
baz=100
PPLA Purkeypile 78.28 333 P **P** **02 53 11.0 +0.1**
baz=102
CAST Castle Rocks 78.34 334 IAmb IAmb 02 53 14.2
comp=Z,14nm,1.0s

CAST	Castle Rocks	78.34	334	P		P	02 53 10.7	-0.5
	baz=102,SNR=6.7							
COLD	Coldfoot	78.48	338	IAmb		IAmb	02 53 13.9	
	comp=Z,12nm,1.1s							
COLD	Coldfoot	78.48	338	P		P	02 53 11.4	-0.4
	baz=105,SNR=11							
CHUM	Lake Minchumin	78.54	334	P		P	02 53 12.5	+0.3
	baz=102							
I21K	Tanana	78.69	336	P		P	02 53 13.6	+0.6
	baz=103							
N19K	Bonanza Creek	78.95	331	P		P	02 53 13.6	-1.1
	baz=100							
L20K	Farewell, AK	78.96	333	P		P	02 53 14.4	-0.2
	baz=100							
H21K	Melozitna Rive	79.12	336	P		P	02 53 15.9	+0.5
	baz=102							
TORD	Torodi Ar. Bea	79.17	78	P		P	02 53 16.2	-0.4
	comp=Z,2.4nm,0.8s,baz=283,slow=6.7,SNR=12							
TORD	Torodi Ar. Bea	79.17	78	P		P	02 53 15.6	-1.0
TORD				IAmb		IAmb	02 53 17.6	
	comp=Z,17nm,1.6s							
K20K	Telida	79.21	334	P		P	02 53 16.2	+0.3
	baz=100							
L19K	White Mountain	79.36	332	P		P	02 53 16.7	-0.1
	baz=100							
J20K	Nowinta River	79.39	334	IAmb		IAmb	02 53 19.6	
	comp=Z,26nm,1.4s							
J20K	Nowinta River	79.39	334	P		P	02 53 17.3	+0.5
	baz=101							
SVW2	Sparrevohn	79.52	331	IAmb		IAmb	02 53 20.9	
	comp=Z,18nm,1.0s							
TTA	Tatalina	80.00	333	P		P	02 53 20.7	+0.4
	baz=99							
A21K	Barrow	81.58	341	IAmb		IAmb	02 53 32.1	
	comp=Z,18nm,1.1s							
A21K	Barrow	81.58	341	P		P	02 53 28.5	+0.1
	baz=100,SNR=9.1							
ANM	Nome	84.28	334	IAmb		IAmb	02 53 46.5	
	comp=Z,8.2nm,1.1s							
ANM	Nome	84.28	334	P		P	02 53 43.3	+0.7
	baz=90							
VSL	Villasalto	85.09	51	P		P	02 53 46.7	-0.6
DAVA	Damuels	85.16	43	*e*P		P	02 53 49.0	+1.4
	comp=Z,12nm,1.1s							
KEST	Kesra	85.23	55	P		P	02 53 48.9	+0.8
	comp=Z,4.3nm,0.9s,baz=251,slow=2.1,SNR=5.6							
KEST	Kesra	85.23	55	P		P	02 53 48.1	0.0
KEST				IAmb		IAmb	02 54 07.9	
	comp=Z,8.7nm,1.1s							
TNA	Tin City	85.35	335	IAmb		IAmb	02 53 52.1	
	comp=Z,8.1nm,1.0s							
TNA	Tin City	85.35	335	P		P	02 53 48.6	+0.7
	baz=88							
NOA	NORSAR Array B	85.46	29	P		P	02 53 48.9	+0.2
	comp=Z,3.5nm,1.1s,baz=278,slow=4.7,SNR=4.4							
FETA	Feichten	85.74	43	*e*P		P	02 53 51.2	+0.6
	comp=Z,8.2nm,1.2s							
RETA	Reutte	85.75	43	*e*P		P	02 53 50.9	+0.5
	comp=Z,5.3nm,1.3s							
MOTA	Moosalm	85.98	43	*e*P		P	02 53 52.8	+1.0
	comp=Z,13nm,2.2s							
SQTA	Sankt Quirin	86.06	43	*e*P		P	02 53 52.2	+0.1
	comp=Z,9.8nm,1.5s							
WTTA	Wattenberg	86.35	43	*e*P		P	02 53 55.0	+1.4
	comp=Z,5.4nm,1.3s							
ABTA	Abfaltersbach	86.98	44	*e*P		P	02 53 57.6	+1.1
	comp=Z,9.1nm,1.3s							
CLL	Collm	86.98	39	*i* P		P	02 53 57.5	+1.2
	comp=Z,11nm,1.3s							
GAMB	Gambell	87.08	334	P		P	02 53 56.9	+0.4
	baz=85							
KHC	Kasperske Hory	87.52	41	*e*P		P	02 54 00.3	+1.3
KHC				*ep*P		sP	02 54 09.2	+1.4
KHC	Kasperske Hory	87.52	41	IAmb		IAmb	02 54 01.2	
	comp=Z,13nm,1.5s							
BRG	Berggiesshubel	87.61	39	*e*P		P	02 54 00.8	+1.4
BRG				Amp			02 54 03.1	
	comp=Z,13nm,1.6s							
GERES	GERESS Array B	87.62	41	P		P	02 54 00.2	+0.6
	comp=Z,1.9nm,0.8s,baz=258,slow=3.8,SNR=12							
GERES				LR		LR	03 31 51.0	
	comp=Z,21nm,18.8s,baz=292,slow=35							
GERES	GERESS Array B	87.62	41	P		P	02 53 58.7	-0.9
VNA3	Neumayer Olymp	87.94	162	P		P	02 54 01.0	+0.5
VNA2	Neumayer--Watz	88.52	162	P		P	02 54 03.5	+0.3
	baz=293,slow=4.1							
CHVC	Chvalec	88.97	39	*e*P		P	02 54 07.4	+1.5
ARSA	Arzberg	88.99	43	*e*P		P	02 54 07.2	+1.2
	comp=Z,2.8nm,1.0s							
OSTC	Ostas	89.08	39	*e*P		P	02 54 07.7	+1.3
OSTC				*ep*P		sP	02 54 16.3	+1.2
CONA	Conrad Observa	89.14	42	*e*P		P	02 54 07.6	+0.8
	comp=Z,5.7nm,1.5s							
DPC	Dobruska-Polom	89.17	40	*e*P		P	02 54 07.7	+0.9
DPC				*ep*P		sP	02 54 16.9	+1.3
VRAC	Vranov	89.47	41	LR		LR	03 28 09.3	
	comp=Z,45nm,21.3s,baz=286,slow=32							
KRLC	Kraliky	89.49	40	*e*P		P	02 54 10.0	+1.6
SNAA	Sanae	90.14	162	P		P	02 54 11.3	+0.3
SNAA	Sanae	90.14	162	P		P	02 54 11.0	+0.1
	comp=Z,4.0nm,0.7s,baz=298,slow=4.9,SNR=6.2							
SNAA	Sanae	90.14	162	P		P	02 54 10.7	-0.2
SNAA				IAmb		IAmb	02 54 11.8	
	comp=Z,7.0nm,0.9s							
ARCES	ARCESS Array B	90.18	20	LR		LR	03 30 24.7	
	comp=Z,25nm,20.2s,baz=196,slow=33							
FINES	FINESS Array B	92.49	28	LR		LR	03 30 48.7	
	comp=Z,33nm,20.2s,baz=308,slow=32							
AFI	Afiamalu	94.54	256	LR		LR	03 25 23.6	
	comp=Z,65nm,20.6s,baz=341,slow=28							
QSPA	South Pole Qui	94.99	180	P		P	02 54 33.5	+0.1
AKASG	Malin Array Be	97.15	38	LR		LR	03 38 56.3	
	comp=Z,31nm,19.0s,baz=258,slow=36							
TSUM	Tsumeb	97.17	109	LR		LR	03 36 02.3	
	comp=Z,186nm,20.1s,baz=272,slow=34							
TSUM	Tsumeb	97.17	109	P		P	02 54 40.6	-3.8
ZALV	Zalesovo Beam	119.61	11	PKP		PKPdf	03 00 00.6	-0.3
	comp=Z,1.1nm,0.6s,baz=308,slow=3.5,SNR=6.1							
ZALV	Zalesovo Beam	119.61	11			PKPdf	02 59 59.7	-1.2
BNX	BinXian	124.56	338	PKP		PKPdf	03 00 08.6	-2.0
MKAR	Makanchi Array	125.67	16	PKP		PKPdf	03 00 11.9	-0.9
	comp=Z,1.3nm,0.9s,baz=327,slow=2.0,SNR=9.9							
SONM	Songino Array	127.26	356	PKP		PKPdf	03 00 15.9	0.0
	comp=Z,1.7nm,0.8s,baz=346,slow=1.9,SNR=7.5							
XLT	XiLinHaoTe	129.66	347	*e*PKP		PKPdf	03 00 13.3	-7.3
XLT				PP		PP	03 02 31.4	+1.6
XLT				AMB		AMB		
	comp=Z,160nm,5.5s							
KSH	Kashi	129.78	26	PKP		PKiKP	03 00 23.0	+1.2
WMQ	Urumqi	129.82	13	*e*PKP		PKiKP	03 00 21.6	0.0
WMQ				AMB		AMB		
	comp=Z,170nm,4.3s							
KSRS	Korea Array	131.23	332	PKP		PKPdf	03 00 23.5	-0.1
	comp=Z,2.7nm,0.8s,baz=48,slow=1.8,SNR=6.1							
HHC	Hu-ho-hao-te	133.51	350	*e*PKP		PKPdf	03 00 28.8	+0.8
HHC				AMB		AMB		
	comp=Z,150nm,5.3s							
STKA	Stephens Creek	134.06	229	PKP		PKPdf	03 00 28.5	-0.6
	comp=Z,4.2nm,0.7s,baz=86,slow=2.9,SNR=2.9							
GTA	Gaotai	135.81	2	⇑PKP		PKPdf	03 00 32.9	+0.5
GTA				LR		LR		
	comp=Z,150nm,17.4s							
GTA				LR		LR		
	comp=Z,380nm,24.0s							
GTA				LR		LR		
	comp=Z,100nm,17.8s							
NJ2	Nanjing	139.72	337	*e*PKP		PKPdf	03 00 40.3	+0.7
XAN	Xi'an	140.61	351	PKP		PKPdf	03 00 41.1	-0.1
AS31	Alice Springs	143.83	236	PKPdf		PKPab	03 00 44.0	-0.2
ASAR	Alice Springs	143.83	236	PKhKP		PKPpre	03 00 43.6	
	comp=Z,23nm,0.9s,baz=118,slow=4.0,SNR=119							
ENH	Enshi	144.17	348	PKPdf		PKPbc	03 00 46.6	+1.0
CD2	Chengdu	144.27	357	PKP		PKPbc	03 00 47.0	+1.0
WR0	Warramunga Arr	144.74	242	PKPdf		PKPab	03 00 46.7	-1.0
WB2	Warramunga Arr	144.91	242	PKPdf		PKPab	03 00 47.0	-1.3
WRA	Warramunga Arr	144.92	242	PKP		PKPab	03 00 47.6	-0.7
	comp=Z,42nm,1.0s,baz=108,slow=3.2,SNR=195							
WB0	Warramunga Arr	144.94	242	PKPdf		PKPab	03 00 47.6	-0.7
SHL	Shillong	148.19	17	PKPbc		PKPdf	03 00 56.0	+1.3
PZH	PanZhiHua	148.72	360	PKPbc		PKPdf	03 00 55.3	-0.2
MTN	Manton Dam	149.91	253	PKPbc		PKPdf	03 00 56.9	-0.6
KMI	Kunming	150.07	358	PKPbc		PKPdf	03 00 58.1	+0.2
CMAR	Chiang Mai Arr	156.56	7	PKP		PKPdf	03 01 07.7	+0.6
	comp=Z,1.0nm,0.3s,baz=304,slow=2.0,SNR=6.3							
CMAR				PKPab		PKPab	03 01 35.4	-0.3
	comp=Z,1.1nm,0.4s,baz=333,slow=5.5,SNR=5.1							

VAO ***22*** *02:41:55.9±0.8, 23°.17S×68°.46W, h119km±7km, mb4.3*
GUC ***22*** *02:41:56.8±0.8, 23°.21S×68°.51W, h122km±4km, ML3.9*

ISC 22 02:41:55.7±0.8,**23°.20S**±0°.04×**68°.54W**±0°.08,**h133**km±9km,
n37,σ1°**07/53**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.68**	**330**	*e*P	**Pn**	**02 42 16.6**	**-0.2**
LVC				*i* S	**Sn**	**02 42 31.6**	**-1.0**
LVC	**Limon Verde**	**0.68**	**330**	*e*P	**Pn**	**02 42 16.2**	**-0.5**
PB15	**IPOC Station P**	**0.86**	**269**	*e*P	**Pn**	**02 42 18.2**	**+0.3**
PB15				*i* S	**Sn**	**02 42 34.6**	**0.0**
PB06	**IPOC Station P**	**1.07**	**297**	*e*P	**Pn**	**02 42 20.1**	**+0.3**
PB06				*i* S	**Sn**	**02 42 37.5**	**-0.4**
PB06				IAML		02 42 39.4	
	comp=N,7μm,0.1s						
PB09	**IPOC Station P**	**1.54**	**335**	*e*P	**Pn**	**02 42 25.5**	**+0.8**
PB09				*i* S	**Sn**	**02 42 47.0**	**+0.2**
PB09				IAML		02 42 49.1	
	comp=E,596nm,0.2s						
PB03	**IPOC Station P**	**1.60**	**315**	*e*P	**Pn**	**02 42 25.8**	**+0.4**
PB03				*i* S	**Sn**	**02 42 47.7**	**-0.2**
PB03				IAML		02 42 49.2	
	comp=N,1μm,0.4s						
PB04	**IPOC Station P**	**1.72**	**300**	*e*P	**Pn**	**02 42 27.1**	**+0.4**
PB04				*i* S	**Sn**	**02 42 50.0**	**-0.3**
PB04				IAML		02 42 51.9	
	comp=N,2μm,0.4s						
PB10	**IPOC Station P**	**1.88**	**260**	*e*P	**Pn**	**02 42 29.0**	**+0.5**
PB10				*i* S	**Sn**	**02 42 52.6**	**-0.8**
PB10				IAML		02 42 55.2	
	comp=N,833nm,0.3s						
PB07	**IPOC Station P**	**1.92**	**319**	*e*P	**Pn**	**02 42 29.7**	**+0.5**
PB07				*i* S	**Sn**	**02 42 54.4**	**-0.3**
PB07				IAML		02 42 55.9	
	comp=E,588nm,0.3s						
PB14	**IPOC Station P**	**2.22**	**230**	*e*P	**Pn**	**02 42 33.4**	**+0.5**
PB14				*i* S	**Sn**	**02 43 01.4**	**0.0**
PB02	**IPOC Station P**	**2.25**	**326**	*e*P	**Pn**	**02 42 33.3**	**+0.1**
PB02				*i* S	**Sn**	**02 43 01.5**	**-0.3**
PB02				IAML		02 43 06.8	
	comp=E,743nm,0.2s						
PB01	**IPOC Station P**	**2.32**	**337**	*e*P	**Pn**	**02 42 33.9**	**0.0**
PB01				*i* S	**Sn**	**02 43 02.8**	**-0.4**
PB01				IAML		02 43 05.7	
	comp=N,892nm,0.3s						
PATCX	**Punta Patache**	**2.80**	**327**	*e*P	**Pn**	**02 42 39.4**	**-0.7**
TA01	**Diego Aracena**	**3.03**	**329**	*e*P	**Pn**	**02 42 41.9**	**-1.0**
TA01				*i* S	**Sn**	**02 43 18.5**	**-0.8**
TA01				IAML		02 43 27.8	
	comp=N,256nm,0.4s						
PB08	**IPOC Station P**	**3.10**	**349**	*e*P	**Pn**	**02 42 44.8**	**+0.7**
PB08				*i* S	**Sn**	**02 43 21.6**	**+0.2**
PB08				IAML		02 43 25.8	
	comp=E,167nm,0.5s						
HMBC	**Humberstone**	**3.17**	**336**	*e*P	**Pn**	**02 42 43.6**	**-1.2**
HMBC				*i* S	**Sn**	**02 43 17.1**	**-5.5**
HMBC				IAML		02 43 32.6	
	comp=E,250nm,0.2s						
GO01	**Chusmiza**	**3.56**	**350**	*e*P	**Pn**	**02 42 50.6**	**+0.2**
GO01				*i* S	**Sn**	**02 43 32.3**	**-0.2**
PB11	**IPOC Station P**	**3.58**	**343**	*i* S	**Sn**	**02 43 31.0**	**-1.2**
PB11				IAML		02 43 35.2	
	comp=E,282nm,0.2s						
GO03	**Copiap**	**4.64**	**199**	*e*P	**Pn**	**02 43 03.0**	**-1.1**
GO03				*i* S	**Sn**	**02 43 55.6**	**-1.7**
AQDB	**Aquidauana**	**12.23**	**80**	*e*P	**Pn**	**02 44 44.8**	**-0.8**
VILB	**Vilhena**	**12.90**	**39**	*e*P	**Pn**	**02 44 53.4**	**-1.0**
SALV	**Santo Antonio**	**14.11**	**61**	*e*P	**Pn**	**02 45 09.7**	**-0.1**
CPSB	**Cacapava Do Su**	**15.26**	**121**	*e*P	**Pn**	**02 45 24.5**	**+0.2**
PDRB	**Porto dos Gac**	**16.10**	**46**	*e*P	**P**	**02 45 36.1**	**+0.6**
ITRB	**Iturama**	**17.27**	**82**	*e*P	**P**	**02 45 49.4**	**+1.0**
ARAG	**Araguaiana, MT**	**17.43**	**68**	*e*P	**P**	**02 45 51.1**	**+1.0**
TIJ01	**Guaruva-PR**	**17.94**	**101**	*e*P	**P**	**02 45 55.3**	**-0.4**
IPMB	**Ipameri, GO**	**19.72**	**79**	*e*P	**P**	**02 46 15.9**	**+0.8**
SNDB	**Serra Nova Dou**	**19.84**	**59**	*e*P	**P**	**02 46 15.9**	**-0.5**
VAO	**Valinhos**	**19.84**	**94**	*e*P	**P**	**02 46 17.0**	**+0.5**
NPGB	**Novo Progresso**	**20.46**	**40**	*e*P	**P**	**02 46 22.5**	**-0.6**
MACA	**Manacapuru-AM**	**21.32**	**22**	*e*P	**P**	**02 46 33.7**	**+1.4**
PEXB	**Peixe**	**22.18**	**64**	*e*P	**P**	**02 46 40.4**	**-0.9**
JANB	**Januaria**	**24.25**	**75**	*e*P	**P**	**02 47 01.3**	**+0.6**
PRPB	**Parauapebas**	**24.73**	**50**	*e*P	**P**	**02 47 05.3**	**+0.3**
SDBA	**SAO DESIDERIO**	**24.89**	**69**	*e*P	**P**	**02 47 07.7**	**+1.2**
GDU01	**Guandu, BA**	**29.00**	**76**	*e*P	**P**	**02 47 44.2**	**+1.0**

OSPL ***22*** *02:42:40.6±0.3, 19°.34N×73°.07W, h0km±5km, ML2.3*
SSNC ***22*** *02:42:40.3±1.0, 19°.21N×72°.88W, h5km, MD2.9, ML1.9*

ISC 22 02:42:43.2±1.3,**19°.24N**±0°.09×**73°.05W**±0°.07,**h35**km,**n6**,
σ1°**12/10**,**1D**,**Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	**Logne**	**0.84**	**149**	*i* P	**Pn**	**02 42 57.3**	**-1.3**
LGNH				*e*S	**Sn**	**02 43 09.6**	**0.0**
LGNH				IAML		02 43 17.7	
	comp=Z,12nm,14.4s						
PAPH	**Port-au-Prince**	**1.01**	**135**	*e*S	**Sn**	**02 43 14.6**	**+0.8**
PAPH				IAML		02 43 18.8	
	comp=Z,70nm,0.4s						
JAKH	**Jacmel**	**1.11**	**153**	*e*S	**Sn**	**02 43 18.6**	**+2.1**
JAKH				IAML		02 43 23.0	
	comp=Z,28nm,0.3s						
MASC	**Masc**	**1.45**	**310**	⇓*e*P	**Pn**	**02 43 06.4**	**-0.6**
MASC				*e*S	**Sn**	**02 43 25.2**	**+0.4**
MASC				IAML		02 43 27.7	
	comp=E,16nm,0.4s						
MASC				IAML		02 43 28.0	
	comp=N,10nm,0.4s						
SDDR	**Presa de Saban**	**1.69**	**98**	*i* P	**Pn**	**02 43 09.9**	**-0.4**
SDDR				*e*S	**Sn**	**02 43 31.5**	**+0.7**
SDDR				IAML		02 43 34.2	
	comp=Z,37nm,0.8s						
RCC	**Rio Carpintero**	**2.60**	**287**	*e*P	**Pn**	**02 43 22.4**	**-0.5**
RCC				*e*S	**Sn**	**02 43 54.1**	**+0.9**

VAO ***22*** *02:47:43.4±1.4, 22°.46S×69°.41W, h175km±7km, mb4.0*
IDC ***22*** *02:47:48.7±0.8, 21°.96S×68°.38W, h106km±16km, mb3.4/2, mb1 3.4/4, mb1mx3.2/20, mbtmp3.7/4, Error ellipse: s-maj=52.4km s-min=23.7km az=109.0*
GUC ***22*** *02:47:49.9±0.6, 21°.90S×68°.74W, h113km±3km, ML3.9*

ISC 22 02:47:47.8±0.7,**21°.89S**±0°.04×**68°.76W**±0°.07,**h128**km±7km,
n38,σ1°**21/57**,**8C-6D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.46**	**282**	⇑*i*P	**Pn**	**02 48 07.1**	**+0.5**
PB09				*e*S	**Sn**	**02 48 20.2**	**-0.6**
PB09				IAML		02 48 21.7	
	comp=N,3μm,0.2s						
LVC	**Limon Verde**	**0.73**	**191**	P	**Pn**	**02 48 09.0**	**+0.3**
	comp=N,541nm,0.3s,baz=22,slow=9.8,SNR=866						
LVC				S	**Sn**	**02 48 23.5**	**-0.9**
	comp=N,132nm,0.3s,baz=223,slow=19,SNR=41						
LVC	**Limon Verde**	**0.73**	**191**	*e*P	**Pn**	**02 48 08.3**	**-0.4**
LVC				*e*S	**Sn**	**02 48 23.1**	**-1.4**
LVC	**Limon Verde**	**0.73**	**191**	*e*P	**Pn**	**02 48 08.8**	**+0.1**
PB03	**IPOC Station P**	**0.94**	**260**	⇑*i*P	**Pn**	**02 48 10.8**	**+0.7**
PB03				*e*S	**Sn**	**02 48 26.6**	**-0.5**
PB03				IAML		02 48 27.3	
	comp=N,4μm,0.2s						
PB07	**IPOC Station P**	**1.06**	**279**	⇑*i*P	**Pn**	**02 48 12.0**	**+0.7**
PB07				*e*S	**Sn**	**02 48 29.0**	**-0.1**
PB07				IAML		02 48 30.5	
	comp=N,3μm,0.1s						
PB01	**IPOC Station P**	**1.08**	**321**	⇓*i*P	**Pn**	**02 48 11.7**	**+0.3**
PB01				*e*S	**Sn**	**02 48 28.7**	**-0.7**
PB01				IAML		02 48 31.2	
	comp=N,2μm,0.1s						
PB06	**IPOC Station P**	**1.11**	**223**	⇑*i*P	**Pn**	**02 48 12.7**	**+1.0**
PB06				*e*S	**Sn**	**02 48 30.1**	**+0.1**
PB02	**IPOC Station P**	**1.20**	**298**	⇓*i*P	**Pn**	**02 48 13.3**	**+0.6**
PB02				*e*S	**Sn**	**02 48 31.1**	**-0.4**
PB02				IAML		02 48 32.0	
	comp=N,3μm,0.4s						
PB04	**IPOC Station P**	**1.36**	**251**	⇑*i*P	**Pn**	**02 48 15.3**	**+0.8**
PB04				*e*S	**Sn**	**02 48 34.6**	**-0.1**
PB04				IAML		02 48 41.1	
	comp=N,2μm,0.2s						
PB15	**IPOC Station P**	**1.47**	**206**	⇑*i*P	**Pn**	**02 48 16.9**	**+1.2**
PB15				*e*S	**Sn**	**02 48 36.9**	**0.0**
PB15				IAML		02 48 44.5	
	comp=N,6μm,0.2s						
PATCX	**Punta Patache**	**1.68**	**309**	*e*P	**Pn**	**02 48 18.3**	**+0.3**
PATCX				*e*S	**Sn**	**02 48 40.8**	**-0.1**
PATCX				IAML		02 48 45.5	
	comp=E,834nm,0.2s						
PB08	**IPOC Station P**	**1.78**	**348**	⇓*i*P	**Pn**	**02 48 20.6**	**+1.2**
PB08				*e*S	**Sn**	**02 48 44.3**	**+0.8**
PB08				IAML		02 48 46.2	
	comp=E,725nm,0.1s						
TA01	**Diego Aracena**	**1.87**	**315**	⇓*e*P	**Pn**	**02 48 20.1**	**0.0**
TA01				*e*S	**Sn**	**02 48 44.9**	**+0.1**
TA01				IAML		02 48 47.1	
	comp=N,630nm,0.3s						
HMBC	**Humberstone**	**1.92**	**327**	⇓*i*P	**Pn**	**02 48 20.7**	**-0.1**
HMBC				*e*S	**Sn**	**02 48 45.4**	**-0.7**
HMBC				IAML		02 48 47.9	
	comp=N,2μm,0.2s						
TA02	**Huaiquique**	**2.06**	**321**	*e*P	**Pn**	**02 48 22.5**	**+0.1**
TA02				*e*S	**Sn**	**02 48 48.6**	**-0.3**
TA02				IAML		02 48 50.7	
	comp=N,1μm,0.1s						
GO01	**Chusmiza**	**2.25**	**350**	⇓*e*P	**Pn**	**02 48 26.2**	**+1.0**
GO01				*e*S	**Sn**	**02 48 54.9**	**+1.0**
GO01				IAML		02 48 57.1	
	comp=E,2μm,0.1s						
PB11	**IPOC Station P**	**2.28**	**338**	⇑*e*P	**Pn**	**02 48 25.5**	**+0.1**
PB11				*e*S	**Sn**	**02 48 53.2**	**-0.8**
PB10	**IPOC Station P**	**2.31**	**225**	*e*P	**Pn**	**02 48 26.1**	**+0.5**
PB10				*e*S	**Sn**	**02 48 52.6**	**-2.0**
PB12	**IPOC Station P**	**3.58**	**335**	⇑*i*P	**Pn**	**02 48 41.0**	**-1.1**
PB12				*e*S	**Sn**	**02 49 20.7**	**-3.3**
LPAZ	**La Paz**	**5.61**	**6**	P	**Pn**	**02 49 12.2**	**+2.6**
	comp=E,0.9nm,0.3s,baz=196,slow=8.1,SNR=23						
LPAZ	**La Paz**	**5.61**	**6**	*e*P	**Pn**	**02 49 12.8**	**+3.1**
SIV	**San Ignacio**	**9.34**	**52**	P	**Pn**	**02 49 57.5**	**-2.0**
	comp=E,0.6nm,0.3s,baz=248,slow=14,SNR=2.1						
SALV	**Santo Antonio**	**13.72**	**67**	*e*P	**P**	**02 51 02.5**	**+1.1**
PDRB	**Porto dos Gac**	**15.39**	**50**	*e*P	**P**	**02 51 20.8**	**+0.8**
CLDB	**Colider**	**16.56**	**51**	*e*P	**P**	**02 51 33.5**	**+0.5**
ARAG	**Araguaiana, MT**	**17.18**	**72**	*e*P	**P**	**02 51 39.6**	**-0.1**
SNDB	**Serra Nova Dou**	**19.38**	**62**	*e*P	**P**	**02 52 03.9**	**+0.1**
NPGB	**Novo Progresso**	**19.63**	**43**	*e*P	**P**	**02 52 07.8**	**+1.3**
IPMB	**Ipameri, GO**	**19.70**	**82**	*e*P	**P**	**02 52 07.1**	**-0.3**
MACA	**Manacapuru-AM**	**20.20**	**24**	*e*P	**P**	**02 52 14.7**	**+2.0**
ITTB	**Itaituba**	**21.52**	**38**	*e*P	**P**	**02 52 26.9**	**+0.2**
PTGA	**Pitinga**	**22.71**	**23**	P	**P**	**02 52 39.4**	**+0.5**
	comp=E,0.9nm,0.3s,baz=188,slow=12,SNR=1.0						
NBLA	**Lagarto - SE**	**31.55**	**75**	*e*P	**P**	**02 53 56.7**	**-1.6**
NBPS	**Pedro II - PI**	**31.68**	**61**	*e*P	**P**	**02 53 57.9**	**-1.5**
NBMA	**Muriti-CE**	**32.33**	**68**	*e*P	**P**	**02 54 01.8**	**-3.3**
TORD	**Torodi Ar. Bea**	**77.36**	**70**	P	**P**	**02 59 30.4**	**+1.4**
	comp=E,0.3nm,0.5s,baz=259,slow=5.7,SNR=5.7						
MKAR	**Makanchi Array**	**145.87**	**36**	PKPbc	**PKiKP**	**03 07 15.3**	**-0.2**
	comp=E,0.2nm,0.6s,baz=324,slow=4.1,SNR=3.7						

THE ***22*** *02:51:57.9, 39°.65N×25°.86E, h8km±1km, ML2.2/8, Error ellipse: s-maj=1.6km s-min=0.7km az=97.0*
DDA ***22*** *02:51:57.6±0.0, 39°.65N×25°.89E, h9km±1km, ML2.5*
ISK ***22*** *02:51:57.2, 39°.64N×25°.86E, h5km, ML2.6/23*

ISC 22 02:51:57.6±0.9,**39°.64N**±0°.02×**25°.86E**±0°.02,**h10**km±8km,
n54,σ0°**48/83**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.25**	**37**	PG	**Pg**	**02 52 02.6**	**-0.2**
BOZC				SG	**Sg**	**02 52 06.9**	**+0.6**
BOZC	**Bozcaada**	**0.25**	**37**	P	**Pg**	**02 52 02.4**	**-0.4**
BOZC				S	**Sg**	**02 52 06.2**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.26**	**122**	P	**Pg**	**02 52 02.9**	**0.0**
KOCA				S	**Sg**	**02 52 06.4**	**0.0**
KOCA				*i* AML	AML	02 52 07.0	
	comp=E,696nm,0.5s						
EZN	**Ezine**	**0.41**	**63**	P	**Pg**	**02 52 05.4**	**-0.2**
EZN				S	**Sg**	**02 52 11.4**	**+0.4**
	570nm,0.1s						
EZN	**Ezine**	**0.41**	**63**	PG	**Pg**	**02 52 05.4**	**-0.2**
EZN				SG	**Sg**	**02 52 11.5**	**+0.4**
SIGR	**SIGRI

SART				*i* AML	AML	02 52 46.0	
	comp=E,68nm,0.5s						
SART				*i* AML	AML	02 52 52.0	
	comp=N,57nm,0.4s						
STEP	**BALIKESIR_Sava**	**1.46**	**100**	P	**Pb**	**02 52 24.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.47**	**73**	PN	**Pb**	**02 52 24.9**	**-0.1**
MAR6	**Marsite Statio**	**1.52**	**45**	PN	**Pb**	**02 52 25.7**	**-0.1**
RDO	**Rodhopi**	**1.52**	**351**	P	**Pn**	**02 52 24.8**	**-0.1**
RDO	**Rodhopi**	**1.52**	**351**	PN	**Pn**	**02 52 25.2**	**+0.3**
MAR3	**Marsite Statio**	**1.56**	**45**	PN	**Pb**	**02 52 26.3**	**-0.3**
BALB	**Balikesir**	**1.56**	**89**	PN	**Pb**	**02 52 26.2**	**-0.4**
GZKV	**Gazikoy-Tekird**	**1.58**	**45**	PN	**Pb**	**02 52 27.0**	**+0.1**
MAR4	**Marsite Statio**	**1.59**	**44**	PN	**Pb**	**02 52 26.7**	**-0.5**
OUR	**Ouranopolis**	**1.60**	**296**	PN	**Pb**	**02 52 26.8**	**-0.4**
UKOP	**Uzunkopru-Edir**	**1.60**	**21**	PN	**Pb**	**02 52 27.0**	**-0.3**
EDC	**Edincik**	**1.70**	**65**	PN	**Pb**	**02 52 28.4**	**-0.5**
KCTX	**Karacabey (Bur**	**2.02**	**71**	PN	**Pn**	**02 52 32.5**	**+0.7**
SLVT	**Silivri**	**2.40**	**48**	PN	**Pn**	**02 52 38.2**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.44**	**72**	PN	**Pn**	**02 52 39.1**	**+1.6**
CRVS	**Cervenica-Dubn**	**9.78**	**343**	*e*P	**Pn**	**02 54 17.2**	**-1.1**

*MDD **22** 03:14:02.1±0.5, 35°.64N×3°.78W, h0km, mbLg3.2/12, Error ellipse: s-maj=5.6km s-min=3.3km az=19.0*
MDD EMS: II INTENSIDAD MAIXMA (ESPAOA).
*CNRM **22** 03:14:02.5, 35°.65N×3°.57W, h18km, ml3.6*
*IDC **22** 03:14:02.9±2.2, 35°.71N×4°.11W, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.2/42, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=81.5km s-min=24.1km az=97.0*
*CRAAG **22** 03:14:02.9, 35°.68N×3°.71W, Ml3.2*
*SFS **22** 03:14:02.0, 35°.63N×3°.78W, ML3.2, ALBORAN SUR*
*INMG **22** 03:14:03.2±1.6, 35°.65N×3°.75W, h6km±6km, MD3.2, ML3.0, Error ellipse: s-maj=3.5km s-min=2.9km az=120.0*
*LDG **22** 03:14:03.5±0.3, 35°.52N×3°.69W, h10km, Ml3.2/2, Error ellipse: s-maj=6.7km s-min=3.4km az=175.0*
*IGIL **22** 03:14:03.8, 35°.58N×3°.75W, h7km, ML3.1*
ISC 22 03:14:03.6±1.1, 35°.67N±0°.03×3°.68W±0°.02, h15km±9km, n105, σ2°.03/172, 3C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.50**	**205**	P	**Pg**	**03 14 12.4**	**-1.0**
PALE				S	**Sg**	**03 14 19.6**	**-0.5**
EALB	**Alboran**	**0.59**	**63**	⇑Pg	**Pg**	**03 14 15.0**	**-0.2**
	245nm,0.1s,SNR=18						
EALB				Lg	Lg	03 14 24.3	
	2μm,0.2s,SNR=17						
EMEL	**Melilla**	**0.70**	**122**	⇑Pg	**Pg**	**03 14 16.2**	**-0.9**
	1μm,0.1s,SNR=18						
EMEL				Lg	Lg	03 14 25.3	
	6μm,0.2s,SNR=30						
CHAS	**Isla Isabel II**	**1.13**	**115**	P	**Pb**	**03 14 22.1**	**-2.7**
CHAS				S	**Sb**	**03 14 35.7**	**-3.6**
ELGU	**Los Guajares,**	**1.20**	**2**	⇓Pg	Pn	03 14 23.8	-2.1
	20nm,0.2s,SNR=18						
ELGU				Lg	Lg	03 14 39.5	
	1μm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.26**	**316**	⇓Pg	**Pn**	**03 14 24.3**	**-2.3**
	8.8nm,0.2s,SNR=18						
EMIJ				Lg	Lg	03 14 39.8	
	553nm,0.4s,SNR=24						
EBER	**Berja**	**1.38**	**27**	⇓Pn	Pn	03 14 26.8	-1.8
	20nm,0.4s,SNR=18						
EBER				Sn	**Sn**	**03 14 44.9**	**-1.8**
	276nm,0.3s,SNR=18						
CEU	**Ceuta**	**1.40**	**280**	P	Pn	03 14 24.4	-4.1
CEU				S	**Sb**	**03 14 40.8**	**-6.2**
ECEU	**Ceuta**	**1.40**	**280**	Pg	Pn	03 14 25.4	-3.1
	13nm,0.2s,SNR=42						
ECEU				Lg	Lg	03 14 41.8	
	45nm,0.1s,SNR=14						
CHEFC	**Chefchaouen**	**1.47**	**248**	P	**Pn**	**03 14 28.3**	**-1.3**
CHEFC				S	**Sn**	**03 14 46.9**	**-1.7**
EGOR	**Sierra Gorda,**	**1.48**	**347**	Pn	**Pn**	**03 14 28.6**	**-1.3**
	6.6nm,0.3s,SNR=7.9						
EGOR				Lg	Lg	03 14 49.8	
	387nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**1.54**	**7**	Pn	**Pn**	**03 14 29.8**	**-0.9**
	8.4nm,0.2s,SNR=106						
EQUE				Sn	**Sn**	**03 14 50.8**	**+0.2**
	105nm,0.4s,SNR=6.5						
JBK	**JBK**	**1.61**	**145**	P	**Pn**	**03 14 29.7**	**-2.0**
JBK				S	**Sn**	**03 14 48.5**	**-3.9**
EJIF	**Jimena Fronter**	**1.65**	**299**	Pn	**Pn**	**03 14 30.1**	**-1.8**
	9μm,0.3s,SNR=7.9						
EJIF				Sn	**Sb**	**03 14 56.7**	**+2.5**
	SNR=7.9						
ENIJ	**Nijar**	**1.76**	**42**	⇑Pn	Pn	03 14 31.5	-2.1
	16nm,0.4s,SNR=18						
ENIJ				Sn	**Sn**	**03 14 52.8**	**-3.0**
	238nm,0.3s,SNR=7.9						
RSA	**Sarsar**	**1.92**	**247**	P	**Pn**	**03 14 36.4**	**+0.6**
RSA				S	**Sn**	**03 15 01.2**	**+1.5**
SICH	**Sidi Chahed**	**2.06**	**221**	P	**Pg**	**03 14 47.1**	**+4.0**
SICH				S	**Sb**	**03 15 06.0**	**-0.1**
EQES	**Quesada**	**2.19**	**13**	Pn	**Pn**	**03 14 40.4**	**+0.9**
	7.2nm,0.3s,SNR=424						
EQES				Sn	**Sn**	**03 15 07.9**	**+1.6**
	215nm,0.4s						
SFS	**San Fernando**	**2.19**	**292**	S	Sn	03 14 47.5	-19
LCRM	**LCR**	**2.20**	**206**	P	**Pn**	**03 14 39.0**	**-0.8**
LCRM				S	**Sn**	**03 15 08.5**	**+1.6**
OTSS	**Djebel Tessala**	**2.39**	**98**	P	**Pb**	**03 14 49.0**	**+2.7**
IFR	**Ifrane**	**2.46**	**209**	P	**Pn**	**03 14 41.9**	**-1.4**
IFR				S	**Sn**	**03 15 10.8**	**-2.4**
TLOR	**Lorca, Murcia**	**2.55**	**38**	Pn	**Pn**	**03 14 43.9**	**-0.6**
	7.0nm,0.3s,SNR=7.9						
TLOR				Sn	**Sn**	**03 15 14.1**	**-1.1**
	195nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**2.59**	**344**	Pn	**Pn**	**03 14 45.1**	**0.0**
	0.4nm,0.2s,SNR=26						
EADA				Pg	**Pb**	**03 14 48.5**	**-1.3**
	36nm,0.5s,SNR=23						
EADA				Sn	**Sn**	**03 15 15.2**	**-1.2**
	22nm,0.3s,SNR=5.2						
EADA				Lg	Lg	03 15 21.9	
	46nm,0.3s,SNR=5.0						
EZAR	**Zarzadilla de**	**2.72**	**35**	Pn	**Pn**	**03 14 45.8**	**-1.0**
	2.9nm,0.2s,SNR=7.9						
EZAR				Sn	**Sn**	**03 15 17.6**	**-1.9**
	25nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.78**	**330**	Pn	**Pn**	**03 14 47.7**	**+0.1**
	0.6nm,0.2s,SNR=32						
ECAB				Pg	**Pb**	**03 14 51.1**	**-1.8**
	SNR=7.9						
ECAB				Sn	**Sn**	**03 15 20.1**	**-0.7**
	28nm,0.4s,SNR=5.7						
ECAB				Lg	Lg	03 15 27.0	
	62nm,0.3s,SNR=6.4						
CART	**Cartagena**	**2.88**	**48**	P	Pn	03 14 46.8	-2.2
CART				S	**Sn**	**03 15 19.3**	**-4.0**
ODJA	**Bouhanifia**	**2.90**	**96**	P	**Pb**	**03 14 55.0**	**-0.1**
EMUR	**La Murta**	**2.92**	**41**	Pn	**Pn**	**03 14 48.3**	**-1.3**
	2.1nm,0.3s,SNR=7.9						
EMUR				Sn	**Sn**	**03 15 21.2**	**-3.3**
	59nm,0.4s,SNR=7.9						
MD31	**MD31**	**2.93**	**198**	P	**Pn**	**03 14 49.0**	**-0.8**
MDT	**Midelt**	**2.95**	**195**	Pn	**Pn**	**03 14 49.1**	**-0.9**
	1.6nm,0.3s,baz=16,slow=18,SNR=54						
MDT				Sn	**Sn**	**03 15 24.0**	**-1.2**
	5.2nm,0.3s,baz=55,slow=18,SNR=4.6						
MDT				Lg	Lg	03 15 31.2	
	4.0nm,0.3s,baz=18,slow=20,SNR=5.9						
MDT	**Midelt**	**2.95**	**195**	P	**Pn**	**03 14 49.3**	**-0.7**
TDRA	**Tendrara**	**2.96**	**152**	P	**Pn**	**03 14 49.5**	**-0.7**
EMIN	**Mina Concepcio**	**3.19**	**312**	Pn	**Pn**	**03 14 52.2**	**-1.0**
	1.5nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**03 15 28.2**	**-2.7**
	7.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.42**	**29**	Pn	**Pn**	**03 14 57.2**	**+0.7**
	2.0nm,0.2s,SNR=7.9						
ETOB				Sn	**Sn**	**03 15 35.1**	**-1.8**
	28nm,0.5s,SNR=7.9						
ETOB				Lg	Lg	03 15 44.9	
	7.0nm,0.2s						
EGRO	**El Granado**	**3.58**	**302**	Pn	**Pn**	**03 14 57.4**	**-1.2**
	2.6nm,0.2s,SNR=7.9						
EGRO				Sn	**Sn**	**03 15 36.1**	**-4.5**
	16nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.68**	**299**	*e*Pn	**Pn**	**03 14 59.1**	**-0.9**
PVAQ				*e*Sn	**Sn**	**03 15 40.6**	**-2.5**
PVAQ				A	A	03 15 46.8	
	22nm,0.6s						
PVAQ	**Vaqueiros**	**3.68**	**299**	P	**Pn**	**03 14 59.1**	**-0.9**
PBDV	**Barranco-do-Ve**	**3.77**	**296**	*e*Pn	**Pn**	**03 15 00.0**	**-1.2**
PBDV				*e*Sn	**Sn**	**03 15 43.0**	**-2.3**
PBDV				A	A	03 15 57.5	
	23nm,0.6s						
AVE	**Averroes**	**3.88**	**234**	P	**Pn**	**03 15 02.2**	**-0.5**
AFON	**Font Roja**	**3.90**	**39**	Pn	**Pn**	**03 15 03.9**	**+0.8**
	1.2nm,0.3s,SNR=6.7						
AFON				Sn	**Sn**	**03 15 47.3**	**-1.4**
	14nm,0.4s,SNR=7.9						
PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**03 15 03.1**	**0.0**
	3.1nm,0.3s,SNR=7.9						
PAB				Sn	**Sn**	**03 15 47.6**	**-1.2**
	6.3nm,0.3s,SNR=7.9						
PAB				Lg	Lg	03 16 02.4	
	13nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**4.00**	**357**	Pn	**Pn**	**03 15 05.2**	**+0.7**
	1.8nm,0.3s,baz=178,slow=12,SNR=176						
ESDC				Sn	**Sn**	**03 15 49.5**	**-1.7**
	1.5nm,0.3s,baz=181,slow=23,SNR=4.4						
ESDC				Lg	Lg	03 16 04.5	
	3.2nm,0.3s,baz=178,slow=28,SNR=7.5						
ESDC	**Sonseca Array**	**4.00**	**357**	Pn	**Pn**	**03 15 04.4**	**-0.1**
	2.8nm,0.3s,baz=178,slow=12,SNR=142						
ESDC				Pg	**Pb**	**03 15 16.3**	**+2.4**
	3.3nm,0.4s,baz=180,slow=15,SNR=12						
ESDC				Lg	Lg	03 16 04.3	
	17nm,0.6s,baz=177,slow=27,SNR=5.7						
PCVE	**Castro Verde**	**4.01**	**300**	*e*Pn	**Pn**	**03 15 03.5**	**-1.0**
PCVE				*e*Sn	**Sn**	**03 15 48.4**	**-2.9**
PCVE				A	A	03 15 58.2	
	22nm,0.3s						
FIGM	**Figuig**	**4.06**	**150**	P	**Pn**	**03 15 05.0**	**-0.3**
EBAD	**Badajoz**	**4.07**	**320**	Pn	**Pn**	**03 15 04.5**	**-0.8**
	0.7nm,0.3s,SNR=39						
EBAD				Sn	**Sn**	**03 15 49.9**	**-2.8**
	22nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**4.10**	**306**	*e*Pn	**Pn**	**03 15 05.1**	**-0.6**
PBEJ				*e*Sn	**Sn**	**03 15 51.0**	**-2.4**
PBEJ				A	A	03 16 10.1	
	10nm,0.4s						
MESJ	**Messejana**	**4.24**	**302**	*e*P	**Pn**	**03 15 07.0**	**-0.6**
MESJ				*e*S	**Sn**	**03 15 53.0**	**-3.9**
MESJ				IAML		03 16 03.4	
	comp=N,30nm,0.4s						
MESJ	**Messejana**	**4.24**	**302**	*e*P	**Pn**	**03 15 07.0**	**-0.6**
MESJ				*e*S	**Sn**	**03 15 53.0**	**-3.9**
MESJ				iAML		03 16 03.4	
MORF	**Marmelete**	**4.33**	**294**	*e*P	**Pn**	**03 15 07.8**	**-1.0**
MORF				*e*S	**Sn**	**03 15 54.7**	**-4.4**
MORF				IAML		03 16 03.2	
	comp=N,48nm,0.2s						
MORF	**Marmelete**	**4.33**	**294**	*e*Pn	**Pn**	**03 15 08.1**	**-0.8**
MORF				*e*Sn	**Sn**	**03 15 57.1**	**-2.0**
MORF				A	A	03 16 07.2	
	comp=N,12nm,0.2s						
PFVI	**Vila Bisbo**	**4.40**	**291**	*e*Pn	**Pn**	**03 15 08.9**	**-0.9**
PFVI				*e*Sn	**Sn**	**03 15 58.1**	**-2.7**
PFVI				A	A	03 16 09.7	
	comp=N,12nm,0.5s						
PFVI	**Vila Bisbo**	**4.40**	**291**	P	**Pn**	**03 15 10.6**	**+0.8**
PFVI	**Vila Bisbo**	**4.40**	**291**	Pn	**Pn**	**03 15 08.7**	**-1.1**
	comp=N,6.0nm,0.8s,SNR=7.9						
PFVI				Sn	**Sn**	**03 15 57.3**	**-3.6**
	comp=N,4.3nm,0.1s,SNR=5.7						
PESTR	**Estremoz**	**4.46**	**317**	*e*Pn	**Pn**	**03 15 10.5**	**-0.2**
PESTR				*e*Sn	**Sn**	**03 16 00.1**	**-2.3**
PESTR				A	A	03 16 06.8	
	comp=N,12nm,0.4s						
PESTR	**Estremoz**	**4.46**	**317**	P	**Pn**	**03 15 11.0**	**+0.3**
ECHE	**Chera**	**4.47**	**28**	Pn	**Pn**	**03 15 11.3**	**+0.5**
	comp=N,0.4nm,0.3s,SNR=7.9						
ECHE				Sn	**Sn**	**03 16 02.3**	**-0.3**
	SNR=7.9						
PTEO	**Sao Teotonio**	**4.47**	**296**	*e*Pn	**Pn**	**03 15 10.5**	**-0.3**
PTEO				*e*Sn	**Sn**	**03 16 00.3**	**-2.2**
PTEO				A	A	03 16 09.7	
	comp=N,19nm,0.4s						
EVO	**Evora**	**4.49**	**311**	*e*Pn	**Pn**	**03 15 10.5**	**-0.6**
EVO				*e*Sn	**Sn**	**03 16 00.1**	**-2.9**
EVO				A	A	03 16 04.7	
	comp=N,19nm,0.3s						
PNCL	**Nicolau / Gran**	**4.59**	**304**	*e*Pn	**Pn**	**03 15 11.8**	**-0.6**
PNCL				*e*Sn	**Sn**	**03 16 02.9**	**-2.5**
PNCL				A	A	03 16 13.2	
	comp=N,14nm,0.4s						
UCM	**Universidad Co**	**4.64**	**4**	P	**Pn**	**03 15 13.4**	**+0.2**
UCM				S	**Sn**	**03 16 04.9**	**-2.0**
PMRV	**Marv??o**	**4.77**	**323**	*e*Pn	**Pn**	**03 15 14.8**	**-0.2**
PMRV				*e*Sn	**Sn**	**03 16 08.2**	**-1.8**
PMRV				A	A	03 16 10.3	
	comp=N,6.9nm,0.4s						
EPLA	**Plasencia**	**4.78**	**337**	Pn	**Pn**	**03 15 15.4**	**+0.3**
	comp=N,2.5nm,0.3s,SNR=15						
EPLA				Sn	**Sn**	**03 16 07.8**	**-2.5**
	comp=N,1.8nm,0.1s,SNR=7.9						
EPLA				Lg	Lg	03 16 30.3	
	comp=N,21nm,0.4s						
PMTG	**Montargil**	**4.96**	**315**	*e*Pn	**Pn**	**03 15 17.3**	**-0.2**
PMTG				*e*Sn	**Sn**	**03 16 12.6**	**-2.1**
PMTG				A	A	03 16 54.1	
	comp=N,14nm,0.6s						
GUD	**Guadarrama**	**4.98**	**356**	Pn	**Pn**	**03 15 17.3**	**-0.7**
	comp=N,18nm,1.1s,SNR=21						
GUD				Sn	**Sn**	**03 16 13.4**	**-1.9**
	comp=N,4.1nm,0.3s,SNR=7.9						
GUD				Lg	Lg	03 16 38.4	
	comp=N,6.3nm,0.4s						
TZRR	**Tazzarine**	**5.12**	**199**	P	**Pn**	**03 15 20.0**	**+0.1**
PCBR	**Castelo Branco**	**5.14**	**325**	*e*Pn	**Pn**	**03 15 19.8**	**-0.1**
PCBR				*e*Sn	**Sn**	**03 16 17.0**	**-2.0**
PCBR				A	A	03 16 24.1	
	comp=N,17nm,0.5s						
EIBI	**Ibiza**	**5.22**	**49**	Pn	**Pn**	**03 15 20.1**	**-1.0**
	comp=N,0.3nm,0.3s,SNR=7.9						
EIBI				Sn	**Sn**	**03 16 16.4**	**-4.7**
	comp=N,14nm,0.3s,SNR=7.9						
ETOR	**Torete**	**5.30**	**13**	Pn	**Pn**	**03 15 22.9**	**+0.6**
	comp=N,5.1nm,0.4s,SNR=13						
ETOR				Lg	Lg	03 16 44.8	
	comp=N,18nm,0.4s,SNR=5.7						
EMOS	**Mosqueruela**	**5.33**	**27**	Pn	**Pn**	**03 15 22.5**	**-0.3**
	comp=N,1.4nm,0.5s,SNR=7.9						
PMST	**Lisbon--Monsan**	**5.35**	**307**	*e*Pn	**Pn**	**03 15 22.4**	**-0.5**
PMST				*e*Sn	**Sn**	**03 16 22.9**	**-1.4**
PMST				A	A	03 16 54.8	
	comp=N,17nm,0.6s						
OUZM	**OUZ**	**5.40**	**209**	P	**Pn**	**03 15 23.5**	**-0.2**
PMAFR	**Mafra**	**5.54**	**308**	*e*Pn	**Pn**	**03 15 25.6**	**+0.1**
PMAFR				*e*Sn	**Sn**	**03 16 28.0**	**-0.9**
PMAFR				A	A	03 16 32.8	
	comp=N,20nm,0.3s						
PMAFR	**Mafra**	**5.54**	**308**	Pn	**Pn**	**03 15 24.9**	**-0.6**
	comp=N,11nm,0.4s,SNR=7.9						
PMAFR				Sn	**Sn**	**03 16 24.1**	**-4.9**
	comp=N,5.4nm,0.2s,SNR=7.9						
PSBE	**So Bento**	**5.59**	**315**	*e*Pn	**Pn**	**03 15 26.3**	**+0.1**
PSBE				*e*Sn	**Sn**	**03 16 28.4**	**-1.8**
PSBE				A	A	03 17 07.3	
	comp=N,12nm,0.5s						
MTE	**Manteigas**	**5.62**	**328**	*e*Pn	**Pn**	**03 15 27.4**	**+0.7**
MTE				*e*Sn	**Sn**	**03 16 28.8**	**-2.2**
MTE				A	A	03 17 03.8	
	comp=N,25nm,0.6s						
OUK	**Oukaimeden**	**5.66**	**219**	P	**Pn**	**03 15 26.0**	**-1.5**
PCAS	**Casmilo, Conde**	**5.80**	**320**	*e*Pn	**Pn**	**03 15 29.0**	**-0.1**
PCAS				*e*Sn	**Sn**	**03 16 30.9**	**-4.5**
PCAS				A	A	03 17 06.8	
	comp=N,13nm,0.6s						
PVIS	**Viseu**	**6.03**	**328**	*e*Pn	**Pn**	**03 15 32.6**	**+0.3**
PVIS				*e*Sn	**Sn**	**03 16 37.7**	**-3.4**
PVIS				A	A	03 16 42.6	
	comp=N,6.7nm,0.4s						
MVO	**Moncorvo**	**6.08**	**335**	*e*Pn	**Pn**	**03 15 33.4**	**+0.3**
MVO				*e*Sn	**Sn**	**03 16 39.6**	**-2.8**
MVO				A	A	03 17 16.4	
	comp=N,14nm,0.5s						
MVO	**Moncorvo**	**6.08**	**335**	Pn	**Pn**	**03 15 33.3**	**+0.3**
	comp=N,5.6nm,0.4s,SNR=7.9						
MVO				Sn	**Sn**	**03 16 39.1**	**-3.3**
	SNR=7.9						
ERTA	**Horta de San J**	**6.15**	**30**	Pn	**Pn**	**03 15 34.5**	**+0.6**
	comp=N,1.3nm,0.4s,SNR=7.9						
ERTA				Sn	**Sn**	**03 16 42.1**	**-1.9**
	SNR=7.9						
PVRL	**Vila Real**	**6.43**	**332**	*e*Pn	**Pn**	**03 15 37.9**	**+0.1**
PVRL				*e*Sn	**Sn**	**03 16 46.6**	**-4.3**
PVRL				A	A	03 16 51.5	
	comp=N,11nm,0.3s						
POLO	**Lamas de Olo**	**6.54**	**332**	*e*Pn	**Pn**	**03 15 39.8**	**+0.4**
POLO				*e*Sn	**Sn**	**03 16 49.8**	**-4.0**
POLO				A	A	03 17 38.6	
	comp=N,5.5nm,0.5s						
ETOS	**Mallorca**	**6.58**	**50**	Pn	**Pn**	**03 15 39.0**	**-0.8**
	comp=N,1.7nm,0.2s,SNR=7.9						
ETOS				Sn	Sn	03 16 49.3	-5.2
	comp=N,1.2nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.58**	**340**	*e*Pn	**Pn**	**03 15 40.3**	**+0.5**
PBRG				*e*Sn	**Sn**	**03 16 53.0**	**-1.5**
PBRG				A	A	03 17 13.0	
	comp=N,7.0nm,0.2s						
PTO	**Porto**	**6.69**	**326**	*e*Pn	**Pn**	**03 15 41.2**	**-0.1**
PTO				*e*Sn	**Sn**	**03 16 56.5**	**-0.7**
PTO				A	A	03 17 04.3	
	comp=N,9.8nm,0.5s						
EPOB	**Poblet**	**6.79**	**32**	Pn	**Pn**	**03 15 43.8**	**+1.0**
	SNR=7.9						
PCAB	**Cabril**	**6.92**	**332**	*e*Pn	**Pn**	**03 15 45.6**	**+1.1**
PCAB				*e*Sn	**Sn**	**03 16 59.1**	**-3.9**
PCAB				A	A	03 17 40.4	
	comp=N,13nm,0.8s						
ELOB	**Lobios**	**7.07**	**332**	Pn	**Pn**	**03 15 47.4**	**+0.8**
	comp=N,3.2nm,0.3s,SNR=7.9						
ELOB				Sn	Sn	03 17 00.7	-6.0
	comp=N,2.9nm,0.3s,SNR=5.2						
PGAV	**Gavieira, Arco**	**7.23**	**332**	*e*Pn	**Pn**	**03 15 50.0**	**+1.1**
PGAV				*e*Sn	**Sn**	**03 17 06.7**	**-4.1**
PGAV				A	A	03 17 22.9	
	comp=N,9.7nm,0.7s						
EORO	**Oroz-Betelu**	**7.44**	**14**	Pn	**Pn**	**03 15 51.6**	**-0.1**
	comp=N,3.0nm,0.6s,SNR=7.0						
ELAN	**Lanestosa**	**7.55**	**1**	Pn	**Pn**	**03 15 53.2**	**0.0**
	comp=N,0.7nm,0.5s,SNR=7.9						
ELAN				Sn	**Sn**	**03 17 16.9**	**-1.7**
	SNR=7.9						
ETSF	**Etsaut**	**7.61**	**18**	*e*Pn	**Pn**	**03 15 55.9**	**+1.9**
ETSF				*e*Sn	**Sn**	**03 17 16.5**	**-3.6**
	comp=N,1.6nm,0.3s						
CSOR	**Sort**	**7.67**	**28**	Pn	**Pn**	**03 15 55.5**	**+0.6**
	comp=N,3.2nm,0.4s,SNR=16						
CSOR				Sn	**Sn**	**03 17 18.7**	**-2.9**
	SNR=7.9						
SJPF	**Ste Jean**	**7.67**	**14**	*e*Pn	**Pn**	**03 15 55.8**	**+1.0**
SJPF				*e*Sn	**Sn**	**03 17 18.4**	**-3.1**
	comp=N,6.8nm,0.7s						
EARI	**Arriondas**	**7.71**	**352**	Pn	**Pn**	**03 15 55.9**	**+0.5**
	comp=N,4.5nm,0.7s,SNR=7.9						
EARI				Sn	**Sn**	**03 17 19.7**	**-2.8**
	SNR=7.9						
EALK	**Alkurruntz**	**7.72**	**12**	Pn	**Pn**	**03 15 56.4**	**+0.8**
	comp=N,5.4nm,0.3s,SNR=7.9						
ATE	**Arette**	**7.76**	**16**	Pn	**Pn**	**03 15 57.9**	**+1.9**
	SNR=7.9						
EPF	**Esparros**	**7.98**	**22**	*e*Pn	**Pn**	**03 16 00.2**	**+1.1**
MFF	**Saint Martin d**	**11.24**	**13**	*e*Pn	**Pn**	**03 16 44.8**	**+1.1**
PGF	**Pioggiola**	**12.00**	**51**	*e*P	**Pn**	**03 16 56.4**	**+2.2**
TORD	**Torodi Ar. Bea**	**22.94**	**166**	P	**P**	**03 19 11.4**	**+4.1**
	comp=N,0.8nm,0.7s,baz=346,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**62.54**	**51**	P	**P**	**03 24 29.7**	**+2.9**
	comp=N,0.2nm,0.6s,baz=297,slow=6.3,SNR=2.0						

*EAF **22** 03:14:13.4±3.2, 21°.83S×32°.78E, h0km±51km, MD4.5*
BUL 22 03:14:12.8±3.1, 21°.85S×32°.81E, h0km±48km, MD5.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.11**	**218**	*i* P	Pn	03 14 50.5	+1.1
MOPA	**Mopani**	**2.11**	**218**	*i* P	Pn	03 14 50.5	+1.1
MSNA	**Messina**	**2.63**	**259**	*i* P	Pn	03 14 58.1	+1.5
MSNA	**Messina**	**2.63**	**259**	*i* P	Pn	03 14 58.1	+1.5
MATP	**Matopo**	**4.26**	**289**	*i* P	Pn	03 15 20.2	+1.1
MATP	**Matopo**	**4.26**	**289**	*i* P	Pn	03 15 20.2	+1.1
CNG	**Changalane**	**4.46**	**187**	*i* P	Pn	03 15 19.9	-1.9
CNG	**Changalane**	**4.46**	**187**	*i* P	Pn	03 15 19.9	-1.9
KRI	**Karoi**	**5.83**	**328**	*i* P	Pn	03 15 29.3	-11
KRI				*i* Sg	Sn	03 16 51.7	+3.4
KRI	**Karoi**	**5.83**	**328**	*i* P	Pn	03 15 29.3	-11
KRI				*i* Sg	Sn	03 16 51.7	+3.4
LBTB	**Lobatse**	**7.33**	**243**	*i* P	Pn	03 16 01.2	-0.1
LBTB				*i* Sg	Sb	03 17 58.6	+9.5
LBTB	**Lobatse**	**7.33**	**243**	*i* P	Pn	03 16 01.2	-0.1
LBTB				*i* Sg	Sb	03 17 58.6	+9.5

*DJA **22** 03:16:35.1±1.1, 3°N±5°×12°8E±1°1, h166km±7km

DAT	**Datca**	**0.90 317**	P	**Pn**	**03 28 28.8**	**0.0**	
DAT	**Datca**	**0.90 317**	PG	**Pn**	**03 28 28.8**	**0.0**	
DAT			SG	**Sn**	**03 28 40.8**	**-0.5**	
DAT	**Datca**	**0.90 317**	P	**Pn**	**03 28 28.9**	**0.0**	
DAT			S	**Sn**	**03 28 40.5**	**-0.8**	
DAT			*i* AML	AML	03 28 41.0		
	comp=E,266nm,0.3s						
DAT			*i* AML	AML	03 28 41.0		
	comp=N,596nm,0.2s						
AKAS	**Kas**	**1.04 80**	PG	**Pn**	**03 28 32.5**	**+1.9**	
AKAS	**Kas**	**1.04 80**	P	**Pn**	**03 28 32.1**	**+1.5**	
AKAS			S	**Sn**	**03 28 45.7**	**+1.2**	
YER	**Yerkesik**	**1.07 358**	P	**Pn**	**03 28 31.3**	**+0.4**	
YER	**Yerkesik**	**1.07 358**	PG	**Pn**	**03 28 31.7**	**+0.8**	
YER			SG	**Sn**	**03 28 44.9**	**-0.1**	
NIS1	**Nisyros Isl.**	**1.08 300**	P	**Pn**	**03 28 31.3**	**+0.3**	
NIS1			S	**Sn**	**03 28 44.5**	**-0.7**	
	1µm,0.3s						
NIS1	**Nisyros Isl.**	**1.08 300**	PG	**Pn**	**03 28 31.6**	**+0.6**	
NIS1			SG	**Sn**	**03 28 44.9**	**-0.3**	
MULA	**Mugla, Merkez-**	**1.19 359**	P	**Pn**	**03 28 33.4**	**+0.9**	
MULA			S	**Sn**	**03 28 47.8**	**-0.1**	
KOSK	**Kos Island**	**1.29 302**	PN	**Pn**	**03 28 34.6**	**+0.8**	
BODT	**Bodrum**	**1.29 321**	P	**Pn**	**03 28 33.5**	**-0.3**	
BODT	**Bodrum**	**1.29 321**	PN	**Pn**	**03 28 33.7**	**-0.1**	
MLSB	**Milas**	**1.31 340**	PN	**Pn**	**03 28 34.2**	**+0.2**	
CAEL	**Denizli, Camel**	**1.32 37**	P	**Pn**	**03 28 35.6**	**+1.3**	
CAEL			S	**Sn**	**03 28 52.1**	**+1.1**	
CAEL			*i* AML	AML	03 28 55.0		
	comp=N,113nm,0.3s						
CAEL			*i* AML	AML	03 28 58.0		
	comp=E,98nm,0.3s						
ELL	**Elmali**	**1.44 61**	PN	**Pn**	**03 28 37.9**	**+2.1**	
ELL	**Elmali**	**1.44 61**	P	**Pn**	**03 28 38.0**	**+2.1**	
ELL			S	**Sn**	**03 28 57.9**	**+4.0**	
TAVA	**DENIZLI_Tavas**	**1.47 18**	P	**Pn**	**03 28 36.8**	**+0.5**	
TAVA			S	**Sn**	**03 28 54.0**	**-0.7**	
GOLH	**Golhisar**	**1.53 40**	P	**Pn**	**03 28 38.6**	**+1.6**	
GOLH			S	**Sn**	**03 28 56.8**	**+0.8**	
GOLH			*i* AML	AML	03 28 59.0		
	comp=E,76nm,0.5s						
AKUM	**Antalya-Kumluc**	**1.64 80**	P	**Pn**	**03 28 40.1**	**+1.7**	
AKUM			S	**Sn**	**03 29 01.3**	**+2.7**	
DDIM	**Aydin, Didim**	**1.65 328**	P	**Pn**	**03 28 38.2**	**-0.3**	
DDIM			S	**Sn**	**03 28 56.1**	**-2.5**	
DDIM			*i* AML	AML	03 28 59.0		
	comp=E,81nm,0.8s						
GCAM	**G?zelcaml?**	**1.86 332**	PN	**Pn**	**03 28 41.5**	**+0.1**	
GCAM	**G?zelcaml?**	**1.86 332**	P	**Pn**	**03 28 40.8**	**-0.5**	
GCAM			S	**Sn**	**03 29 00.9**	**-2.9**	
KORT	**Korkueli**	**1.87 59**	PN	**Pn**	**03 28 43.4**	**+1.7**	
KORT	**Korkueli**	**1.87 59**	P	**Pn**	**03 28 43.7**	**+2.0**	
ZKR	**Zakros**	**1.97 242**	P	**Pn**	**03 28 45.8**	**+2.9**	
ZKR			S	**Sn**	**03 29 09.1**	**+2.6**	
BRDR	**BURDUR-Merkez**	**2.14 40**	P	**Pn**	**03 28 46.6**	**+1.3**	
BUCA	**Burdur, Bucak-**	**2.19 54**	P	**Pn**	**03 28 47.4**	**+1.5**	
DGB	**zmir**	**2.30 330**	P	**Pn**	**03 28 46.7**	**-0.6**	
PASA	**Karahalli, USA**	**2.46 22**	P	**Pn**	**03 28 49.6**	**0.0**	
KULA	**Kula-Manisa**	**2.46 6**	PN	**Pn**	**03 28 49.7**	**+0.1**	
ZEYE	**Izmir, Urla-Ze**	**2.62 327**	P	**Pn**	**03 28 50.8**	**-0.9**	
ZEYE			S	**Sn**	**03 29 18.6**	**-3.7**	
URLA	**Izmir**	**2.68 329**	PN	**Pn**	**03 28 53.3**	**+0.7**	
URLA	**Izmir**	**2.68 329**	P	**Pn**	**03 28 51.8**	**-0.8**	
URLA			S	**Sn**	**03 29 19.3**	**-4.6**	
URLA			*i* AML	AML	03 29 25.0		
	comp=N,21nm,1.3s						
USAK	**Uak-Merkez**	**2.70 11**	P	**Pn**	**03 28 52.7**	**-0.2**	
USAK			*i* AML	AML	03 29 21.0		
	comp=E,64nm,1.4s						
USAK			*i* AML	AML	03 29 22.0		
	comp=N,37nm,0.9s						
AKMS	**Akamas**	**3.42 107**	P	**Pn**	**03 29 04.3**	**+1.6**	
AKMS			AML	AML	03 29 43.8		
	1.6nm,0.5s						
AKMS			AML	AML	03 29 43.8		
	0.6nm,0.4s						
OSC1	**CSNet OBS 1**	**3.52 136**	P	**Pn**	**03 29 04.7**	**+0.7**	
OSC1			S	**Sn**	**03 29 45.1**	**+0.6**	
ALFC	**Alefka**	**3.59 103**	P	**Pn**	**03 29 06.1**	**+1.1**	
ALFC			AML	AML	03 29 47.3		
	0.5nm,0.5s						
ALFC			AML	AML	03 29 47.6		
	0.6nm,0.2s						
NATA	**Nata**	**3.69 109**	P	**Pn**	**03 29 08.3**	**+2.0**	
NATA			AML	AML	03 29 51.3		
	2.5nm,0.2s						
NATA			AML	AML	03 29 51.5		
	1.3nm,0.2s						
SZAC	**Souni**	**3.94 108**	P	**Pn**	**03 29 11.6**	**+1.8**	
SZAC			S	**Sn**	**03 29 56.4**	**+1.8**	
SZAC			AML	AML	03 29 57.1		
	0.8nm,0.6s						
SZAC			AML	AML	03 29 57.1		
	0.8nm,0.6s						
SZAC			AML	AML	03 29 58.1		
	0.4nm,0.2s						
SZAC			AML	AML	03 29 58.1		
	0.4nm,0.2s						
ASGA	**Asgata**	**4.21 106**	P	**Pn**	**03 29 14.9**	**+1.4**	
CSS	**Mathiatis**	**4.22 104**	S	**Sn**	**03 30 03.5**	**+1.8**	
OSC2	**CSNet OBS 4**	**4.40 131**	P	**Pn**	**03 29 17.5**	**+1.4**	
MVOU	**Mavrovouni**	**4.44 102**	P	**Pn**	**03 29 18.4**	**+1.7**	
MVOU			S	**Sn**	**03 30 09.0**	**+1.9**	
SLUM	**Salum**	**5.25 211**	P	**Pn**	**03 29 29.1**	**+1.3**	
	baz=214						
MMA0B	**Mount Meron ar**	**6.58 116**	Pn	**Pn**	**03 29 47.3**	**+1.3**	
MMA0B			Sn	**Sn**	**03 30 56.9**	**-2.7**	
GEM	**Giv'at Ha'Em**	**6.67 113**	Pn	**Pn**	**03 29 48.7**	**+1.4**	
GEM			Sn	**Sn**	**03 30 59.4**	**-2.5**	
NATI	**Neve Ativ**	**6.71 112**	Pn	**Pn**	**03 29 49.3**	**+1.6**	
NATI			Sn	**Sn**	**03 31 00.1**	**-2.5**	
KOT	**Kottamia**	**6.79 153**	P	**Pn**	**03 29 50.2**	**+1.4**	
	baz=151						
HHAG	**Hagoal**	**6.86 152**	P	**Pn**	**03 29 52.1**	**+2.2**	
HHAG			S	**Sn**	**03 31 00.9**	**-5.7**	
	baz=149						
MMLI	**Mount Malkishu**	**6.89 120**	Pn	**Pn**	**03 29 50.7**	**+0.5**	
MMLI			Sn	**Sn**	**03 31 03.9**	**-3.4**	
HSAF	**As Saff**	**6.97 156**	P	**Pn**	**03 29 53.0**	**+1.6**	
	baz=154						
GLL	**Jalalah**	**7.06 155**	P	**Pn**	**03 29 53.8**	**+1.1**	
	baz=153						
HMDT	**Nahal Hemdat**	**7.07 120**	Pn	**Pn**	**03 29 53.8**	**+1.2**	
KZIT	**Kziot**	**7.21 134**	Pn	**Pn**	**03 29 55.6**	**+0.9**	
KZIT			Sn	**Sn**	**03 31 11.4**	**-3.8**	
SWA2		**7.22 200**	P	**Pn**	**03 29 56.2**	**+1.4**	
	baz=202						
SUZ	**Suez**	**7.26 147**	P	**Pn**	**03 29 58.2**	**+2.8**	
	baz=145						
YTIR	**Yattir**	**7.34 128**	Pn	**Pn**	**03 29 56.9**	**+0.5**	
YTIR			Sn	**Sn**	**03 31 15.4**	**-2.9**	
DSI	**Dead Sea**	**7.38 125**	Pn	**Pn**	**03 29 58.1**	**+1.2**	
DSI			Sn	**Sn**	**03 31 16.6**	**-2.5**	
GHAJ	**Ghor Haditha**	**7.67 126**	Pn	**Pn**	**03 30 01.9**	**+1.1**	
PRNI	**Paran**	**7.98 134**	Pn	**Pn**	**03 30 05.8**	**+0.7**	
PRNI			Sn	**Sn**	**03 31 29.9**	**-4.0**	
KRMI	**Paran Flat**	**7.99 136**	Pn	**Pn**	**03 30 05.8**	**+0.5**	
KRMI			Sn	**Sn**	**03 31 30.9**	**-3.4**	
HRFI	**Mount Harif**	**8.23 135**	Pn	**Pn**	**03 30 09.2**	**+0.6**	
HRFI			Sn	**Sn**	**03 31 36.9**	**-3.2**	
MBRI	**Mt Berech**	**8.34 137**	Pn	**Pn**	**03 30 10.7**	**+0.5**	
MBRI			Sn	**Sn**	**03 31 40.2**	**-2.8**	
EIL	**Elat**	**8.46 137**	Pn	**Pn**	**03 30 12.8**	**+1.1**	
EIL			Sn	**Sn**	**03 31 41.9**	**-3.8**	
HKAT	**Jabal Katrina**	**8.91 146**	P	**Pn**	**03 30 19.0**	**+0.9**	
	baz=144						

*IDC **22** 04:00:06.8±1.8, 1°.24N×126°.04E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=119.7km s-min=23.1km az=68.0*
*DJA **22** 04:00:11.9±1.3, 1°.N±3°×12°.6E±°, h27km±13km, M3.6/7, MLv3.6/7*

ISC 22 04:00:12.1±1.1, 1°.36N±0°.07×126°.30E±0°.07, h35km, n10, σ1§17/12, mb3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.22 118**		P	**Pn**	**04 00 32.5**	**-0.1**
TNTI				S	**Sn**	**04 00 50.2**	**+2.4**
LBMI	**Labuha**	**2.32 149**		P	**Pn**	**04 00 48.2**	**+0.5**
LBMI				S	**Sn**	**04 01 15.5**	**+0.5**
SGSI	**Sangihe**	**2.44 342**		P	**Pn**	**04 00 49.6**	**+0.1**
KMSI	**Cibinong**	**2.44 252**		P	**Pn**	**04 00 49.4**	**-0.1**
GTOI	**Gorontalo**	**3.36 258**		P	**Pn**	**04 01 03.7**	**+1.5**
SANI	**Sanana**	**3.40 185**		P	**Pn**	**04 01 02.6**	**0.0**
FITZ	**Fitzroy Crossi**	**19.34 182**		P	**P**	**04 04 33.6**	**-1.0**
	0.2nm,0.3s,baz=15,slow=11,SNR=9.5						
WRA	**Warramunga Arr**	**22.59 160**		P	**P**	**04 05 08.2**	**-1.5**
	1.3nm,0.5s,baz=336,slow=11,SNR=24						
ASAR	**Alice Springs**	**25.95 164**		P	**P**	**04 05 40.8**	**-0.7**
	0.5nm,0.5s,baz=345,slow=11,SNR=10						
MKAR	**Makanchi Array**	**59.26 326**		P	**P**	**04 10 09.9**	**-0.3**
	0.2nm,0.4s,baz=122,slow=7.7,SNR=8.1						

*NEIC **22** 04:15:41.7±0.8, 15°.73N±0°.08×145°.06E±0°.05, h29km±6km, mb4.0/6, Error ellipse: s-maj=11.6km s-min=5.2km az=202.0*
*IDC **22** 04:15:42.0±5.7, 15°.75N×144°.88E, h37km±51km, mb3.5/7, mb1 3.7/8, mb1mx3.5/44, mbtmp3.7/8, ML3.8/1, MS3.2/12, Ms1 3.2/12, ms1mx3.0/48, Error ellipse: s-maj=58.5km s-min=21.6km az=84.0*

ISC 22 04:15:41.8±1.1, 15°.75N±0°.08×144°.9E±0°.4, h35km, n32, σ0§77/17, mb3.8/11, MS3.2/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.15 181**		Pn	**Pn**	**04 16 15.2**	**+0.1**
	27nm,0.3s,baz=23,slow=20,SNR=2.0						
GUMO				Sn	**Sn**	**04 16 40.5**	**-0.1**
	50nm,0.3s,baz=169,slow=21,SNR=5.7						
GUMO				LR	LR	04 17 12.4	
	comp=Z,221nm,18.5s,baz=10.0,slow=42						
JOW	**Kunigami**	**18.99 308**		LR	LR	04 25 41.9	
	comp=Z,122nm,21.4s,baz=120,slow=32						
DAV	**Davao City (W)**	**20.79 248**		LR	LR	04 30 27.5	
	comp=Z,40nm,18.1s,baz=344,slow=43						
H11S3	**WAKE ISLAND Hy 21.00**	**79**		T	T	04 42 11.6	
	baz=265,slow=75,SNR=7.0						
H11S1	**WAKE ISLAND Hy 21.02**	**79**		T	T	04 42 12.4	
	baz=265,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy 21.02**	**79**		T	T	04 42 13.7	
	baz=265,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy 21.32**	**76**		T	T	04 42 31.4	
	baz=264,slow=75,SNR=25						
H11N2	**WAKE ISLAND Hy 21.32**	**76**		T	T	04 42 32.0	
	baz=264,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy 21.33**	**76**		T	T	04 42 31.7	
	baz=264,slow=75,SNR=24						
MJAR	**Matsushiro Arr**	**21.55 345**		LR	LR	04 28 35.5	
	comp=Z,21nm,19.6s,baz=196,slow=36						
KSRS	**Korea Array**	**26.33 328**		P	**P**	**04 21 16.0**	**+1.6**
	1.3nm,0.7s,baz=134,slow=10,SNR=4.2						
ASAJ	**Asahikawa**	**28.34 357**		LR	LR	04 33 39.0	
	comp=Z,24nm,18.5s,baz=152,slow=38						
HNR	**Honiara**	**29.12 148**		LR	LR	04 33 49.0	
	comp=Z,58nm,18.1s,baz=318,slow=37						
BATI	**Baumata**	**33.27 221**		LR	LR	04 35 52.1	
	comp=Z,93nm,19.0s,baz=340,slow=36						
WB0	**Warramunga Arr**	**36.77 197**		P	**P**	**04 22 46.3**	**0.0**
WB0				IAmb	IAmb	04 23 14.4	
	comp=Z,4.1nm,1.2s						
WB2	**Warramunga Arr**	**36.95 197**		P	**P**	**04 22 47.8**	**0.0**
WB2				IAmb	IAmb	04 22 48.9	
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**36.95 197**		P	**P**	**04 22 48.0**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=16,slow=9.6,SNR=9.4						
WRA				LR	LR	04 38 29.3	
	comp=Z,41nm,19.7s,baz=288,slow=37						
WRA	**Warramunga Arr**	**36.95 197**		IAmb	IAmb	04 22 48.8	
	comp=Z,0.2nm,1.1s						
HIA	**Hailar**	**39.22 334**		P	**P**	**04 23 07.2**	**+0.6**
HIA				IAmb	IAmb	04 23 16.4	
	comp=Z,4.1nm,0.8s						
AS31	**Alice Springs**	**40.62 196**		P	**P**	**04 23 18.9**	**+0.4**
AS31				IAmb	IAmb	04 23 47.5	
	comp=Z,0.7nm,1.1s						
ASAR	**Alice Springs**	**40.62 196**		P	**P**	**04 23 18.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=15,slow=8.6,SNR=2.8						
ASAR				LR	LR	04 40 44.4	
	comp=Z,52nm,18.2s,baz=354,slow=37						
CMAR	**Chiang Mai Arr**	**43.92 280**		LR	LR	04 42 27.0	
	comp=Z,9.7nm,18.1s,baz=85,slow=37						
PSI	**Prapat**	**47.03 259**		LR	LR	04 47 37.8	
	comp=Z,26nm,18.0s,baz=146,slow=41						
ZALV	**Zalesovo Beam**	**59.90 324**		P	**P**	**04 25 43.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=116,slow=6.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**59.90 324**		P	**P**	**04 25 43.7**	**-0.5**
MKAR	**Makanchi Array**	**59.97 315**		P	**P**	**04 25 44.3**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=87,slow=5.1,SNR=2.3						
MKAR	**Makanchi Array**	**59.97 315**		P	**P**	**04 25 46.1**	**+1.3**
KURK	**Kurchatov**	**62.97 319**		P	**P**	**04 26 04.7**	**-0.3**
NRIK	**Noril'sk**	**64.11 341**		P	**P**	**04 26 10.9**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=105,slow=6.9,SNR=4.9						
ILAR	**Eielson Array**	**66.62 26**		LR	LR	04 50 55.1	
	comp=Z,44nm,21.6s,baz=160,slow=32						
ABKAR	**Akbulak array**	**74.97 317**		P	**P**	**04 27 18.6**	**-0.9**
YKA	**Yellowknife Ar**	**80.94 28**		P	**P**	**04 27 53.0**	**+0.5**
	comp=Z,0.6nm,1.1s,baz=288,slow=5.3,SNR=3.2						

*IDC **22** 04:38:49.4±6.5, 37°.42N×73°.79E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/37, mbtmp3.5/5, ML2.7/2, MS3.7/2, Ms1 3.7/2, ms1mx2.5/85, Error ellipse: s-maj=129.7km s-min=43.6km az=155.0*
*NNC **22** 04:38:59.3±4.0, 38°.62N×72°.89E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=30.2km s-min=19.3km az=167.0*

ISC 22 04:39:06.7±1.8, 39°.2N±0°.1×72°.68E±0°.07, h10km, n20, σ1§88/19, mb3.4/3, 4C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.54**	**7**	Pg	**Pg**	**04 40 13.7**	**-0.9**
	12nm,0.6s						
MRKS				Lg	Lg	04 41 12.9	
	27nm,0.4s						
AAK	**Ala-Archa**	**3.68**	**21**	⇓Pg	**Pb**	**04 40 13.8**	**+1.9**
	16nm,0.7s						
AAK				⇓Lg	Lg	04 41 06.7	
	15nm,0.6s						
KK08	**Karatay Array**	**4.21**	**338**	⇓Pn	**Pn**	**04 40 13.4**	**+2.4**
	4.8nm,0.5s,baz=154,slow=12						
KK08				⇑Sn	**Sb**	**04 41 11.2**	**-0.7**
	6.6nm,0.5s,baz=147,slow=24						
TKM2	**Tokmak 2**	**4.30**	**30**	⇑Pn	**Pn**	**04 40 16.3**	**+4.0**
	11nm,0.7s						
TKM2				⇑Sn	**Sb**	**04 41 14.0**	**-0.5**
	12nm,0.7s						
BRLS	**Borolday**	**4.36**	**331**	Pg	**Pb**	**04 40 25.9**	**+2.4**
	1.8nm,0.2s						
BRLS				Lg	Lg	04 41 33.0	
	13nm,0.7s						
SGDS	**Sogindy**	**4.47**	**19**	Pg	**Pg**	**04 40 30.7**	**-1.6**
	7.6nm,0.8s						
SGDS				Lg	Lg	04 41 40.8	
	10.0nm,0.8s						
KST	**Kastek**	**4.55**	**32**	Pg	**Pb**	**04 40 28.7**	**+2.0**
	6.6nm,0.6s						
KST				Lg	Lg	04 41 37.7	
	23nm,0.7s						
TNSS	**Tian-Shan**	**4.99**	**39**	Pg	**Pb**	**04 40 35.2**	**+0.9**
	3.9nm,0.4s						
TNSS				Lg	Lg	04 41 48.5	
	5.2nm,0.8s						
MDOK	**Medeo**	**5.13**	**39**	Pg	**Pb**	**04 40 38.8**	**+2.1**
	3.4nm,0.6s						
MDOK				Lg	Lg	04 41 54.6	
	13nm,0.6s						
KUU	**Kurty**	**5.41**	**29**	Pg	**Pb**	**04 40 42.3**	**+1.0**
	3.7nm,0.5s						
KUU				Lg	Lg	04 42 00.6	
	11nm,0.7s						
ARXS	**Arharly**	**6.30**	**36**	Pg	**Pb**	**04 40 58.2**	**+1.7**
	1.9nm,0.7s						
ARXS				Lg	Lg	04 42 28.7	
	9.2nm,0.7s						
MKAR	**Makanchi Array**	**10.33**	**40**	Pn	**Pn**	**04 41 33.2**	**-1.6**
	0.1nm,0.3s,baz=224,slow=13,SNR=6.7						
AB31	**Akbulak array**	**13.54**	**322**	⇓Pn	**Pn**	**04 42 17.6**	**-1.2**
	0.5nm,0.5s,baz=131,slow=13,SNR=12						
AKTO	**Aktyubinsk**	**15.26**	**322**	⇑Pn	**P**	**04 42 46.3**	**-0.7**
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**16.89**	**25**	P	**P**	**04 43 03.4**	**-1.6**
	0.1nm,0.3s,baz=223,slow=11,SNR=2.0						
IDI	**Anoyia**	**37.89**	**279**	LR	LR	05 05 53.8	
	comp=Z,22nm,18.0s,baz=21,slow=42						
ARCES	**ARCESS Array B**	**39.17**	**336**	P	**P**	**04 46 35.3**	**+1.1**
	4.8nm,1.1s,baz=110,slow=9.8,SNR=2.1						
NOA	**NORSAR Array B**	**43.05**	**321**	P	**P**	**04 47 06.0**	**-0.3**
	0.6nm,0.8s,baz=93,slow=7.6,SNR=1.5						
YKA	**Yellowknife Ar**	**78.46**	**3**	P	P	04 51 01.2	-6.1
	0.1nm,0.5s,baz=348,slow=5.3,SNR=2.9						
BBB	**Bella Bella**	**87.18**	**13**	LR	LR	05 35 41.4	
	comp=Z,131nm,19.6s,baz=202,slow=38						

IDC 22 05:06:17.1±2.8, 54°.21N×87°.09E, h0km, mb1 3.1/2, mb1mx3.0/45, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=24.5km s-min=15.5km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36 260**		*i*		05 13 42.2	
	baz=78,slow=339,SNR=11						
ZALV	**Zalesovo Beam**	**1.36 260**		Pg	Pg	05 06 41.4	-1.8
	0.7nm,0.3s,baz=81,slow=16,SNR=12						
ZALV				Lg	Lg	05 07 00.3	
	1.3nm,0.3s,baz=78,slow=26,SNR=11						
ZALV				Rg	Rg	05 07 08.0	
	3.3nm,0.4s,baz=80,slow=34,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.35 239**		Pn	Pn	05 07 53.6	+1.7
	0.1nm,0.3s,baz=52,slow=14,SNR=1.6						
KURBB				Lg	Lg	05 09 38.7	
	0.0nm,0.3s,baz=50,slow=34,SNR=1.6						
MKAR	**Makanchi Array**	**8.03 204**		Pn	Pn	05 08 16.0	+1.0
	0.1nm,0.3s,baz=25,slow=11,SNR=8.7						
MKAR				Sn	Sn	05 09 46.3	-0.2
	0.1nm,0.3s,baz=23,slow=27,SNR=4.3						
MKAR				Lg	Lg	05 10 31.6	
	0.1nm,0.3s,baz=27,slow=30,SNR=2.9						

IDC 22 06:08:07.3±3.2, 54°.20N×87°.42E, h0km, mb1 2.8/2, mb1mx2.7/57, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=26.1km s-min=16.8km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.55 262**		*i*		06 18 40.0	
	baz=79,slow=340,SNR=18						
ZALV	**Zalesovo Beam**	**1.55 262**		Pg	Pn	06 08 34.4	-1.8
	0.6nm,0.3s,baz=76,slow=13,SNR=18						
ZALV				Lg	Lg	06 08 57.0	
	0.9nm,0.3s,baz=79,slow=32,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.51 240**		Pn	Pn	06 09 45.1	+0.9
	0.1nm,0.3s,baz=55,slow=14,SNR=6.7						
KURBB				Lg	Lg	06 11 34.3	
	0.0nm,0.3s,baz=53,slow=31,SNR=5.8						
MKAR	**Makanchi Array**	**8.10 206**		Pn	Pn	06 10 07.7	+1.5
	0.0nm,0.3s,baz=25,slow=13,SNR=3.0						
MKAR				Sn	Sn	06 11 37.1	-1.3
	0.1nm,0.3s,baz=24,slow=28,SNR=4.7						
MKAR				Lg	Lg	06 12 24.5	
	0.0nm,0.3s,baz=19,slow=31,SNR=5.5						

*OSPL **22** 06:09:30.3±0.7, 17°.90N×68°.37W, h76km±11km, ML3.1*
*NEIC **22** 06:09:30.3±0.8, 18°.0N±0°.3×68°.34W±0°.05, h64km±22km, Error ellipse: s-maj=39.5km s-min=5.4km az=174.0*
*RSPR **22** 06:09:30.8, 17°.96N×68°.34W, h63km±4km, MD3.6/19*

ISC 22 06:09:29.2±1.3, 17°.90N±0°.07×68°.38W±0°.03, h50km, n72, σ0§94/82, 13C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.61**	**0**	⇓*i*P	**Pn**	**06 09 42.6**	**+0.7**
PCDR	**Punta Cana, DR**	**0.61**	**0**	*e*S	**Sn**	**06 09 52.1**	**+1.1**
PCDR	**Punta Cana, DR**	**0.61**	**0**		**Pn**	**06 09 42.6**	**+0.7**
PCDR					**Sn**	**06 09 52.1**	**+1.1**
PCDR	**Punta Cana, DR**	**0.61**	**0**	IAML		06 09 52.7	
	comp=N,2µm,0.7s						
IDE	**Isla Desecheo**	**0.99**	**61**	⇑*i*P	**Pn**	**06 09 47.7**	**+0.8**
IDE	**Isla Desecheo**	**0.99**	**61**	*e*S	**Sn**	**06 10 01.1**	**+1.2**
CRPR	**Cabo Rojo, PR**	**1.22**	**85**	⇑*i*P	**Pn**	**06 09 50.9**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.22**	**85**	*e*S	**Sn**	**06 10 05.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.22**	**85**		**Pn**	**06 09 50.9**	**+0.9**
CRPR					**Sn**	**06 10 05.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.22**	**85**	*i* P	**Pn**	**06 09 50.8**	**+0.9**
CRPR				*e*S	**Sn**	**06 10 05.7**	**+0.4**
CRPR				IAML		06 10 07.1	
	comp=Z,364nm,0.1s						
PRSN	**Puerto Rico Se**	**1.22**	**75**	⇑*e*P	**Pn**	**06 09 50.6**	**+0.7**
PRSN	**Puerto Rico Se**	**1.22**	**75**	*e*S	**Sn**	**06 10 05.7**	**+0.3**
PRSN	**Puerto Rico Se**	**1.22**	**75**		**Pn**	**06 09 50.6**	**+0.7**
PRSN					**Sn**	**06 10 05.7**	**+0.3**
PRSN	**Puerto Rico Se**	**1.22**	**75**	IAML		06 10 09.8	
	comp=E,669nm,0.2s						
LSP	**Las Mesas**	**1.27**	**77**	⇑*e*P	**Pn**	**06 09 51.4**	**+0.8**
LSP	**Las Mesas**	**1.27**	**77**	*e*S	**Sn**	**06 10 07.1**	**+0.6**
MLPR	**Magueyes Islan**	**1.28**	**87**	⇑*i*P	**Pn**	**06 09 50.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.28**	**87**	*e*S	**Sn**	**06 10 07.1**	**+0.4**
MLPR	**Magueyes Islan**	**1.28**	**87**	

CUPR	Culebra, Puert	2.98	82	⇑eP		Pn	06 10 13.6	-0.4
CUPR	Culebra, Puert	2.98	82	eS		Sn	06 10 46.7	-1.8
CUPR	Culebra, Puert	2.98	82			Pn	06 10 13.6	-0.4
CUPR						Sn	06 10 46.7	-1.8
STVI	Saint Thomas	3.29	82	⇑eP		Pn	06 10 18.7	+0.3
STVI	Saint Thomas	3.29	82	eS		Sn	06 10 54.7	-1.6
STVI	Saint Thomas	3.29	82			Pn	06 10 18.7	+0.3
STVI						Sn	06 10 54.7	-1.6
STVI	Saint Thomas	3.29	82	IAML			06 10 58.9	
	comp=N,60nm,0.4s							
TBVI	Tortola	3.62	81	⇑eP		Pn	06 10 24.2	+1.4
GRTK	Grand Turk	4.43	325	eS		Sn	06 11 19.6	-4.6
GRTK				IAML			06 11 21.5	
	comp=Z,102nm,1.5s							

NNC 22 06:35:08.9±2.0, 38°.50N×76°.84E, h0km, mb3.8, mpv3.5, 3C-4D, Error ellipse: s-maj=15.6km s-min=13.2km az=98.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.51	337	⇑Pg	Pb	06 36 29.6	+0.6
	1.2nm,0.3s						
AAK				⇓Lg	Lg	06 37 32.8	
	14nm,0.7s						
TKM2	Tokmak 2	4.52	348	⇑Pg	Pb	06 36 31.0	+1.7
	2.7nm,0.6s						
TKM2				⇓Lg	Lg	06 37 31.5	
	3.1nm,0.4s						
TNSS	Tian-Shan	4.54	1	Pg	Pb	06 36 31.1	+1.4
	3.7nm,0.5s						
TNSS				Lg	Lg	06 37 32.9	
	7.5nm,1.0s						
MDOK	Medeo	4.67	2	Pg	Pg	06 36 37.0	-1.3
	4.2nm,0.7s						
MDOK				⇓Lg	Lg	06 37 38.2	
	9.7nm,0.5s						
MDOK	Medeo	4.67	2	Pg	Pb	06 36 34.3	+2.7
	3.5nm,0.5s						
MDOK				Lg	Lg	06 37 37.8	
	9.9nm,0.4s						
SATY	Saty	4.71	14	Pg	Pb	06 36 35.2	+2.8
	3.2nm,0.3s						
SATY				Lg	Lg	06 37 39.6	
	15nm,0.5s						
KOTS	Kotyrbulak	4.74	2	Pg	Pb	06 36 36.1	+3.2
	3.4nm,0.4s						
KOTS				Lg	Lg	06 37 41.1	
	21nm,0.4s						
DGS	Degeres	4.81	351	Pg	Pb	06 36 37.2	+3.1
	3.6nm,0.6s						
DGS				Lg	Lg	06 37 43.5	
	6.8nm,0.6s						
ZHN	Zhinishke	4.82	14	Pg	Pb	06 36 35.8	+1.5
	1.7nm,0.1s						
ZHN				Lg	Lg	06 37 40.0	
	12nm,0.4s						
PDGK	Podgornoye	5.23	22	⇑Pg	Pb	06 36 45.1	+3.9
	2.5nm,0.7s						
PDGK				⇓Lg	Lg	06 37 55.6	
	8.2nm,0.6s						
BLB	Baldybastay	5.73	12	Pg	Pb	06 36 52.6	+2.9
	3.3nm,0.1s						
BLB				Lg	Lg	06 38 09.3	
	13nm,0.5s						
ARXS	Arharly	5.76	7	Pg	Pb	06 36 52.6	+2.4
	2.0nm,0.6s						
ARXS				Lg	Lg	06 38 09.3	
	4.9nm,0.6s						
DJR	Jarkent	6.24	20	Pg	Pb	06 37 01.8	+3.4
	1.1nm,0.2s						
DJR				Lg	Lg	06 38 25.0	
	1.4nm,0.1s						

IDC 22 07:03:47.2±0.8, 32°.68S×67°.57W, h0km, mb4.1/6, mb1 4.2/9, mb1mx4.0/28, mbtmp4.1/9, ML4.1/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/50, Error ellipse: s-maj=29.7km s-min=21.3km az=94.0
GUC 22 07:03:50.4±0.9, 32°.79S×67°.12W, h80km±460km, ML4.7
SJA 22 07:03:51.7±0.6, 32°.58S×67°.66W, h26km±2km, ML4.3, MW4.1
NEIC 22 07:03:52.5±1.0, 32°.59S±0°.04×67°.55W±0°.10, h27km±3km, mb4.5/11, Mwr3.9/34, Md4.1(SJA), Error ellipse: s-maj=12.0km s-min=6.5km az=88.0
NEIC 22 07:03:53.6, 32°.58S×67°.58W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}7.96; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-7.64; $M_{r\theta}$-2.06; $M_{\theta\phi}$2.22; $M_{\phi r}$-0.03; Fault plane solution: $M_0$8.37000×10^{14} NP1:$\phi_1$331.04000°, δ48.47000°, λ71.59000°. NP2:$\phi_2$177.71000°, δ44.75000°, λ109.63000°. Principal axes: T 8.4648, Plg76.0000°, Azm172.0000°; N -0.1840, Plg14.0000°, Azm343.0000°; P -8.2807, Plg2.0000°, Azm74.0000°;

ISC 22 07:03:52.3±1.4, 32°.58S±0°.05×67°.53W±0°.06, h32km±11km, n76, σ1§10/83, mb4.3/8, 2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAL	Salagasta	1.10	269	eP	Pn	07 04 11.2	-0.5
ASAL				eP	Pb	07 04 13.2	+0.3
ASAL				eS	Sn	07 04 24.0	-1.9
RTCV	Cerro Valdivia	1.12	310	eP	Pn	07 04 11.5	-0.3
RTCV				eS	Sn	07 04 26.7	+0.6
AAGR	Agrelo	1.21	245	eP	Pn	07 04 13.2	+0.2
ARCO	CERRO ARCO	1.21	257	eP	Pn	07 04 13.1	-0.1
ARCO				eS	Sb	07 04 30.3	+0.1
ARCO				IAML		07 04 31.3	
	comp=Z,15μm,0.5s						
ZON	Zonda	1.42	316	Pn	Pn	07 04 16.1	+0.1
ZON	Zonda	1.42	316	eP	Pn	07 04 16.9	+0.9
ZON				eS	Sb	07 04 36.0	-0.1
ZON				IAML		07 04 37.7	
	comp=Z,3μm,0.3s						
RTLL	Cerro Villicun	1.49	327	eP	Pn	07 04 18.0	+1.2
RTLL				eS	Sb	07 04 39.5	+1.6
AUSP	Uspallata	1.61	282	eP	Pn	07 04 19.8	+1.0
RTLS	Leoncito	1.69	297	eP	Pn	07 04 21.1	+1.2
RTLS				eS	Sb	07 04 42.7	-1.4
RTLS				IAML		07 04 44.1	
	comp=Z,2μm,0.3s						
AVFE	Valle Fertil	1.92	2	eP	Pb	07 04 25.3	-1.4
AVFE				eS	Sb	07 04 51.2	+0.9
AVFE				IAML		07 04 52.6	
	comp=Z,2μm,0.5s						
VA03	San Esteban	2.56	265	eP	Pn	07 04 34.2	+2.6
VA03				eS	Sb	07 05 08.5	-0.1
VA03				IAML		07 05 11.1	
	comp=N,4μm,0.4s						
VA03	San Esteban	2.56	265		Pn	07 04 33.0	+1.4
LMEL	Las Melosas	2.57	240	eP	Pn	07 04 34.0	+2.1
LMEL				eS	Sn	07 05 05.2	+3.0
LMEL				IAML		07 05 12.4	
	comp=E,2μm,0.2s						
PEL	Peldehue	2.72	257	eP	Pn	07 04 35.1	+1.4
PEL				IAML		07 05 17.7	
	comp=E,1μm,0.2s						
PEL	Peldehue	2.72	257		Pn	07 04 34.6	+0.8
MT05	Renca	2.82	253		Pn	07 04 35.1	0.0
BO04	La Punta	2.94	241	eP	Pn	07 04 38.0	+1.2
BO04				IAML		07 05 22.8	
	comp=E,1μm,0.4s						
ROCH	El Roble	2.96	262	⇓eP	Pb	07 04 38.9	-5.6
ROCH				eP	Pn	07 04 38.0	+0.8
ROCH				eS	Sb	07 05 19.2	-1.2
ROCH				IAML		07 05 25.6	
	comp=N,3μm,0.7s						
MT02	Curacav	3.11	257		Pn	07 04 39.6	+0.4
MT09	Talagante	3.14	247	eP	Pn	07 04 41.5	+1.9
MT09				IAML		07 05 29.9	
	comp=N,1μm,0.4s						
MT09	Talagante	3.14	247		Pn	07 04 39.6	0.0
CO03	El Pedregal	3.21	302	eP	Pn	07 04 43.5	+3.0
CO03	El Pedregal	3.21	302		Pn	07 04 41.0	+0.4
MT01	Popeta	3.37	247	⇓eP	Pn	07 04 43.5	+0.7
MT01				IAML		07 05 35.1	
	comp=N,603nm,0.2s						
MT01	Popeta	3.37	247		Pn	07 04 42.7	-0.1
BO01	Tunca	3.48	238	eP	Pn	07 04 45.1	+0.9
BO01				IAML		07 05 40.3	
	comp=E,196nm,0.6s						
BO01	Tunca	3.48	238		Pn	07 04 45.1	+0.9
BO02	Sierra Bellavi	3.50	230		Pn	07 04 44.9	+0.4
VA05	Santo Domingo	3.59	252		Pn	07 04 45.8	+0.1
GO04	Tololo Observa	3.69	310		Pn	07 04 48.0	+0.6
CO06	Fray Jorge	3.99	297		Pn	07 04 50.9	-0.3
CO05	La Serena	4.14	309		Pn	07 04 53.1	-0.2
GO05	Huala	4.39	235		Pn	07 04 57.0	+0.2
LCO	Las Campanas	4.49	322		Pn	07 04 59.0	+0.7
ML02	Panimavida	4.52	224		Pn	07 05 00.2	+1.7
AC04	Llanos de Chal	5.33	324		Pn	07 05 10.5	+0.8
GO03	Copiap	5.50	334		Pn	07 05 13.5	+1.4
AC02	Maricunga	5.90	346		Pn	07 05 20.4	+2.6
LC01	Cunco	7.22	208		Pn	07 05 37.9	+2.3
PB14	IPOC Station P	8.32	342		Pn	07 05 51.4	+0.4
PLCA	Paso Flores	8.49	196	Pn	Pn	07 05 58.4	+5.4
	comp=E,0.1nm,0.3s,baz=2,1,slow=12,SNR=3.3						
PLCA				Lg	Lg	07 08 13.0	
	comp=E,1.0nm,0.3s,baz=111,slow=12,SNR=3.3						
LL04	Puerto Octay	9.19	204	Pn	Pn	07 06 01.6	-0.9
LVC	Limon Verde	10.01	353	Lg	Lg	07 09 04.3	
	comp=E,0.3nm,0.3s,baz=344,slow=16,SNR=3.8						
LVC				LR	LR	07 10 45.2	
	comp=E,92nm,21.5s,baz=212,slow=41						
CPUP	Villa Florida	10.85	58	Pn	Pn	07 06 25.9	+0.5
	comp=E,0.3nm,0.3s,baz=245,slow=11,SNR=4.2						
CPUP				Sn	Sn	07 08 37.3	+12
	comp=E,0.6nm,0.3s,baz=261,slow=13,SNR=1.4						
CPUP				Lg	Lg	07 09 32.1	
	comp=E,1.1nm,0.3s,baz=182,slow=16,SNR=3.0						
PB12	IPOC Station P	14.14	349	Pn	Pn	07 07 10.8	+0.4
PB16	IPOC Station P	14.30	352		Pn	07 07 11.7	-1.4
LPAZ	La Paz	16.23	358	Pn	P	07 07 40.5	-1.0
	comp=E,0.4nm,0.3s,baz=115,slow=7.5,SNR=10						
LPAZ	La Paz	16.23	358	P	Pn	07 07 38.4	-0.2
SIV	San Ignacio	17.53	21	P	Pn	07 07 54.4	+0.2
	comp=E,0.4nm,0.3s,baz=218,slow=15,SNR=14						
PTLB	Pontes e Lacer	18.69	26	P	Pn	07 08 09.0	+0.6
EFI	East Falkland	20.30	163	P	P	07 08 24.9	-0.3
EFI				IAmb	IAmb	07 08 43.4	
	comp=Z,54nm,1.4s						
ETMB	Extrema	22.69	3	P	P	07 08 51.4	+0.1
ETMB				IAmb	IAmb	07 08 57.0	
	comp=Z,8.6nm,0.9s						
PTGA	Pitinga	32.48	14	P	P	07 10 19.8	-0.1
	comp=Z,1.8nm,0.6s,baz=204,slow=12,SNR=7.1						
BOAV	Boa Vista	35.42	12	P	P	07 10 45.2	-0.2
BOAV				IAmb	IAmb	07 11 01.8	
	comp=Z,5.0nm,1.1s						
MDP	Montagnes des	40.06	23	LR	LR	07 27 28.8	
	comp=Z,53nm,20.0s,baz=203,slow=35						
VNA3	Neumayer Olymp	49.27	159	P	P	07 12 37.4	-0.2
VNA2	Neumayer--Watz	49.88	158	P	P	07 12 42.1	-0.1
	baz=283,slow=7.3						
SNAA	Sanae	51.49	159	P	P	07 12 54.3	-0.1
SNAA	Sanae	51.49	159	P	P	07 12 53.7	-0.7
	comp=Z,1.8nm,0.5s,baz=288,slow=7.9,SNR=17						
SNAA	Sanae	51.49	159	P	P	07 12 54.1	-0.3
SNAA				IAmb	IAmb	07 12 55.2	
	comp=Z,14nm,1.5s						
TXAR	Lajitas Array	70.48	327	P	P	07 15 04.1	+0.3
	comp=Z,0.4nm,0.7s,baz=130,slow=5.1,SNR=3.6						
DBIC	Dimbokro	71.14	69	P	P	07 15 08.4	+0.3
	comp=Z,4.7nm,0.8s,baz=255,slow=5.6,SNR=5.5						
DBIC	Dimbokro	71.14	69	P	P	07 15 08.5	+0.4
SUR	Sutherland	72.16	117	P	P	07 15 14.3	0.0
BOSA	Boshof	77.33	116	P	P	07 15 44.3	+0.1
	comp=Z,0.7nm,0.4s,baz=228,slow=6.5,SNR=6.6						
BOSA	Boshof	77.33	116	IAmb	IAmb	07 16 05.9	
	comp=Z,6.2nm,1.1s						
TORD	Torodi Ar. Bea	80.18	68	P	P	07 16 00.0	+0.3
	comp=Z,1.1nm,0.6s,baz=275,slow=5.9,SNR=8.4						
TORD	Torodi Ar. Bea	80.18	68	P	P	07 16 00.1	+0.3
TORD				IAmb	IAmb	07 16 14.5	
	comp=Z,2.6nm,1.2s						
ARCES	ARCESS Array B	121.16	24	PKP	PKPdf	07 22 40.8	0.0
	comp=Z,2.9nm,1.0s,baz=286,slow=3.4,SNR=1.0						
WRA	Warramunga Arr	123.74	205	PKP	PKPdf	07 22 46.3	-1.1
	comp=Z,0.3nm,0.5s,baz=162,slow=1.7,SNR=4.7						
BVAR	Borovoye Array	143.67	43	PKP	PKPbc	07 23 22.0	+1.1
	comp=Z,0.4nm,0.6s,baz=15,slow=6.0,SNR=2.3						
AAK	Ala-Archa	148.51	60	PKPbc	PKPbc	07 23 36.5	+0.6
	comp=Z,1.2nm,0.5s,baz=243,slow=5.2,SNR=4.9						
KURBB	Kurchatov Arra	149.24	44	PKPbc	PKPbc	07 23 37.5	+0.3
	comp=Z,2.9nm,0.6s,baz=296,slow=3.3,SNR=24						
ZALV	Zalesovo Beam	150.97	34	PKPbc	PKPbc	07 23 41.5	+0.3
	comp=Z,6.5nm,0.4s,baz=314,slow=2.8,SNR=33						
ZALV				PKPab	PKPab	07 23 49.3	+0.5
	comp=Z,4.3nm,0.5s,baz=308,slow=3.0,SNR=10						
MKAR	Makanchi Array	152.98	49	PKPbc	PKPbc	07 23 46.0	-0.1
	comp=Z,0.8nm,0.6s,baz=304,slow=1.9,SNR=9.0						
PZH	PanZhiHua	168.87	120	PKP	PKPdf	07 23 53.4	-3.1

IDC 22 07:12:59.6±1.8, 0°.87N×122°.37E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/60, mbtmp3.3/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/28, Error ellipse: s-maj=209.8km s-min=27.8km az=61.0
DJA 22 07:12:59.5±0.4, 1°.N±5°.×12°.1E±°., h10km, M3.6/3, MLv3.6/3

ISC 22 07:12:60.0±2.0, 1°.0N±0°.2×121°.04E±0°.06, h35km, n8, σ1§57/9, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.03	119	P	Pn	07 13 18.7	+0.7
MRSI				S	Sn	07 13 32.9	+1.7
MPSI	Mapaga	1.31	241	P	Pn	07 13 22.3	+0.5
MPSI				S	Sn	07 13 39.4	+1.4
APSI	Ampana	1.98	162	P	Pn	07 13 30.9	-0.1
GTOI	Gorontalo	2.00	100	P	Pn	07 13 31.5	+0.2
GTOI				S	Sn	07 13 56.2	+1.0
DAV	Davao City (W)	7.56	37	LR	LR	07 18 28.3	
	comp=Z,32nm,18.2s,baz=314,slow=47						
WRA	Warramunga Arr	24.55	149	P	P	07 18 14.2	-2.5
	0.6nm,0.6s,baz=329,slow=10,SNR=7.3						
ASAR	Alice Springs	27.51	154	P	P	07 18 42.1	-1.3
	0.2nm,0.5s,baz=342,slow=14,SNR=9.5						
MKAR	Makanchi Array	56.76	329	P	P	07 22 51.1	+11
	0.2nm,0.5s,baz=125,slow=7.2,SNR=2.6						

ISK 22 07:22:52.1, 39°.30N×40°.26E, h2km, ML3.9/30
IDC 22 07:22:55.9±1.1, 39°.53N×39°.85E, h0km, mb3.7/5, mb1 3.8/11, mb1mx3.5/54, mbtmp3.7/11, ML3.4/5, MS3.0/5, Ms1 3.0/5, ms1mx2.7/89, Error ellipse: s-maj=23.3km s-min=10.6km az=163.0
DDA 22 07:22:57.1±0.0, 39°.27N×40°.13E, h7km±8km, MW4.1
AZER 22 07:23:05.9±4.3, 39°.03N×40°.31E, h14km, Error ellipse: s-maj=46.2km s-min=35.8km az=97.0, Hypocentre not reviewed by the ISC

ISC 22 07:22:54.9±0.9, 39°.35N±0°.02×40°.26E±0°.02, h5km±7km, n65, σ1§95/83, mb3.7/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	Yedisu-Bingol	0.24	75	PG	Pg	07 22 58.4	-1.0
YEDI				SG	Sg	07 23 02.6	+0.1
ERZN	Erzincan	0.46	297	PG	Pg	07 23 02.8	-0.7
ERZN				SG	Sb	07 23 10.2	-2.2
BNGB	Bingl	0.51	139	PG	Pg	07 23 01.9	-2.6
BNGB				SG	Sg	07 23 08.6	-2.5
EUZM	Uzumlu	0.54	308	P	Pn	07 23 06.8	-2.2
EUZM				S	Sn	07 23 15.9	-2.6
TNCL	Tunceli-Merkez	0.61	245	SPECP		07 23 04.0	
TNCL				P	Pg	07 23 04.1	-2.3
TNCL				S	Sg	07 23 13.8	-0.4
KARO	Karliova-Bingo	0.62	96	PG	Pg	07 23 04.3	-2.4
KARO				SG	Sg	07 23 14.9	+0.1
SLHN	Bingol, Solhan	0.73	125	P	Pn	07 23 11.0	-0.7
SLHN				S	Sn	07 23 22.4	-0.9
KOVA	Elazig, Kovanc	0.75	207	SPECP		07 23 09.0	
KOVA				P	Pb	07 23 09.0	-1.2
KOVA				S	Sg	07 23 18.1	-0.7
BAYB	BAYBURT	0.88	0	P	Pn	07 23 16.8	+3.0
BAYB				S	Sn	07 23 31.2	+4.1
VRTB	Varto-Mus	0.96	103	PG	Pg	07 23 10.8	-2.3
HANI	Diyarbakir_Han	0.97	173	SPECP	P	07 23 15.0	+1.8
HANI				P	P	07 23 15.0	+1.8
HANI				S	Sn	07 23 30.6	+1.6
BAYT	Aydıntepe-Bayb	1.02	355	PN	Pn	07 23 14.1	-1.6
SVRC	Sivrice-ELAZID	1.24	217	PN	Pn	07 23 15.7	-3.0
SVRC				SN	Sb	07 23 32.6	-2.3
ILIC	ilic-Erzincan	1.30	274	PN	Pn	07 23 17.9	-1.7
ELZG	Elazig	1.32	229	P	Pg	07 23 21.4	+1.5
ELZG				S	Sg	07 23 39.9	+2.8
KOPR	Koprukoy-ERZUR	1.38	63	PN	Pn	07 23 19.6	-1.1
DYBB	Diyarbakir	1.42	183	PN	Pn	07 23 18.2	-2.9
SVAN	Silvan-Diyarba	1.43	148	PN	Pn	07 23 18.1	-3.1
SVAN				SN	Sn	07 23 38.4	-2.0
SVAN	Silvan-Diyarba	1.43	148	P	Pg	07 23 23.4	+1.4
SVAN				S	Sg	07 23 47.2	+6.6
DIYA	Diyarbakir	1.45	184	P	Pg	07 23 24.2	+1.7
DIYA				S	Sg	07 23 45.5	+4.1
ARPR	Arapgir-MALATY	1.51	260	PN	Pn	07 23 21.0	-1.4
ARPR				SN	Sg	07 23 41.7	-1.6
GURO	Guroymak-BITLI	1.62	120	PN	Pn	07 23 22.0	-1.9
KTUT	Trabzon	1.65	347	PN	Pb	07 23 24.6	-0.9
CHOM	Cayeli-Rize	1.76	13	PN	Pb	07 23 25.9	-1.5
MLAZ	Malazgirt-MUS	1.80	97	PN	Pn	07 23 25.4	-1.0
SENK	Senkaya-Erzuru	2.00	53	PN	Pn	07 23 28.7	-0.5
AGRB	Hanur-Agry	2.13	84	PN	Pn	07 23 29.9	-1.1
URFA	Urfa	2.23	211	PN	Pn	07 23 31.0	-1.3
DARE	Darende-Malaty	2.30	250	PN	Pn	07 23 31.8	-1.4
AKDM	Akdamar-Van	2.38	115	PN	Pn	07 23 33.3	-1.0
RSDY	Resadiye-TOKAT	2.47	295	PN	Pn	07 23 35.5	0.0
BATM	Batumi	2.48	26	PN	Pn	07 23 36.0	+0.3
KARS	Kars	2.51	59	PN	Pn	07 23 35.9	-0.2
SIRT	Sirnak	2.54	137	PN	Pn	07 23 34.9	-1.7
SVSK	Karacayir	2.57	283	PN	Pn	07 23 36.8	0.0
VANB	Van	2.57	107	PN	Pn	07 23 36.2	-0.7
TOKT	Tokat	3.00	289	PN	Pn	07 23 42.7	-0.1
TASB	TASBURUN-IGDIR	3.14	78	PN	Pn	07 23 44.9	+0.2
SARI	SarD1z-Kayseri	3.14	253	PN	Pn	07 23 44.7	-0.2
GAZ	Gaziantep	3.25	228	PN	Pn	07 23 45.8	-0.4
CUKT	Cukurca	3.39	128	PN	Pn	07 23 47.9	-0.4
GNI	Garni	3.55	76	Pn	Pb	07 23 58.1	+0.1
	3.5nm,0.3s,baz=284,slow=4.2,SNR=12						
GNI	Garni	3.55	76	PN	Pn	07 23 50.1	-0.3
KBZ	Khabaz	4.78	24	Pn	Pn	07 24 11.2	+4.0
	1.0nm,0.3s,baz=323,slow=16,SNR=4.5						
KBZ				LR	LR	07 26 13.3	
	comp=Z,166nm,18.1s,baz=196,slow=41						
KVAR	Kislovodsk Arr	4.93	21	Pn	Pn	07 24 13.0	+3.7
	baz=258,slow=20,SNR=2.2						
BRTR	Keskin Array B	5.12	276	Pn	Pn	07 24 11.2	-0.9
	1.4nm,0.3s,baz=104,slow=14,SNR=22						
MMAI	Mount Meron Ar	7.46	213	Pn	Pn	07 24 45.7	+1.7
	1.8nm,0.3s,baz=55,slow=13,SNR=3.5						
ASF	Jabal al Asfar	7.69	202	Lg	Lg	07 26 53.5	
	0.4nm,0.3s,baz=240,slow=20,SNR=2.4						
EIL	Elat	10.62	206	Lg	Lg	07 28 33.9	
	0.1nm,0.3s,baz=71,slow=15,SNR=2.6						
EIL				LR	LR	07 29 20.4	
	comp=Z,45nm,18.6s,baz=252,slow=36						
AKASG	Malin Array Be	13.73	329	Pn	Pn	07 26 10.8	+1.1
	0.4nm,0.3s,baz=131,slow=13,SNR=5.8						
AKTO	Aktyubinsk	16.71	43	Pn	P	07 26 50.8	-0.8
	0.1nm,0.3s,baz=230,slow=8.9,SNR=8.9						
AKTO				LR	LR	07 35 08.7	
	comp=Z,44nm,19.5s,baz=65,slow=44						
KIRV	Kirov	20.11	14	LR	LR	07 35 50.2	
	comp=Z,57nm,19.6s,baz=249,slow=39						
ARU	Arti	20.91	29	P	Pn	07 27 39.2	-0.9
	1.8nm,0.2s,baz=212,slow=8.3,SNR=10						
GERES	GERESS Array B	21.19	305	P	P	07 27 39.2	-1.6
	0.4nm,0.6s,baz=109,slow=8.4,SNR=2.0						
KLMR	Klimovskoe	21.51	359	e	P	07 27 46.8	+2.8
KLMR				AMP		07 27 52.9	
	comp=Z,17nm,1.2s						
WSAR	Wadi Sarin	22.41	130	LR	LR	07 37 18.2	
	comp=Z,69nm,19.9s,baz=322,slow=38						
FINES	FINESS Array B	23.76	343	P	P	07 28 08.2	+0.7
	comp=Z,2.8nm,0.6s,baz=150,slow=11,SNR=13						
KEST	Kesra	24.71	271	P	P	07 28 16.4	-0.3
	comp=Z,3.0nm,0.8s,baz=320,slow=7.7,SNR=4.5						
YKA	Yellowknife Ar	76.47	348	P	P	07 34 45.7	+0.8
	comp=Z,0.2nm,0.7s,baz=15,slow=5.7,SNR=4.5						

NNC 22 07:32:27.8±0.6, 49°.99N×78°.69E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=5.6km s-min=2.9km az=65.0, Suspected Mining explosion.
IDC 22 07:32:29.2±0.8, 50°.03N×78°.61E, h0km, mb1 3.1/3, mb1mx3.0/48, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=9.7km s-min=5.8km az=57.0

ISC 22 07:32:25.4±0.9, 49°.86N±0°.04×78°.66E±0°.05, h0km, n27, σ1§38/37, 17C-13D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.73	353	⇑P	Pb	07 32 39.9	-1.1
KUR07				⇓S	Sg	07 32 48.9	0.0
KUR06	Kurchatov Arra	0.75	354	⇑P	Pb	07 32 40.3	-1.0
KUR06				⇑S	Sg	07 32 49.5	0.0
KUR14	Kurchatov Arra	0.76	357	⇓P	Pb	07 32 40.1	-1.4
KUR14				⇓S	Sg	07 32 49.0	-0.8
KUR15	Kurchatov Arra	0.77	355	⇑P	Pb	07 32 40.3	-1.3
KUR15				⇓S	Sg	07 32 49.5	-0.4
KURBB	Kurchatov Arra	0.77	354	Pg	Pb	07 32 40.6	-1.1
	6.3nm,0.3s,baz=167,slow=18,SNR=145						
KURBB				Lg	Lg	07 32 49.2	
	7.6nm,0.3s,baz=177,slow=32,SNR=26						
KURBB	Kurchatov Arra	0.77	354	⇑P	Pb	07 32 40.5	-1.1
	33nm,0.3s						
KURBB				⇓S	Sg	07 32 49.4	-0.7
	92nm,0.5s						
KUR16	Kurchatov Arra	0.78	353	⇓P	Pb	07 32 40.7	-1.1
KUR16				⇑S	Sg	07 32 49.9	-0.5
KUR17	Kurchatov Arra	0.79	351	⇑P	Pb	07 32

2.9nm,1.0s
SATY Lg Lg 07 36 07.2
7.6nm,0.4s
TKM2 Tokmak 2 7.25 198 ⇑Lg Lg 07 36 20.1
3.8nm,0.6s

IDC 22 07:39:06.6±27.0, 20°68S×173°96W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/33, mbtmp4.3/4, Error ellipse: s-maj=500.3km s-min=146.0km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.23 264**		P	P	07 46 20.8	+0.6
	2.4nm,0.4s,baz=98,slow=10,SNR=7.4						
STKA	**Stephens Creek**	**41.13 245**		P	P	07 46 52.9	+0.1
	1.9nm,0.4s,baz=93,slow=11,SNR=10						
ASAR	**Alice Springs**	**48.16 256**		P	P	07 47 48.6	-0.4
	2.9nm,0.6s,baz=100,slow=7.9,SNR=38						
WRA	**Warramunga Arr**	**48.32 261**		P	P	07 47 49.6	-0.6
	0.9nm,0.3s,baz=99,slow=7.6,SNR=22						

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*TAP **22** 07:44:07.4, 24°40N×122°95E, h34km±1km, ML2.9, D*
*JMA **22** 07:44:07.4±0.1, 24°46N×122°77E, h93km±2km, M2.3*

ISC 22 07:44:08.4±1.0, 24°48N±0°05×122°84E±0°03, h22km±8km, n40, σ1°9/14/67, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.16**	**95**	*eP*	**Pb**	**07 44 12.6**	**-0.7**
	baz=35						
YOJ				*i* S	**Sb**	**07 44 17.1**	**+0.4**
	baz=35						
IRIF	**Iriomote-Funau**	**0.83**	**99**	*e*S	Sb	07 44 40.2	+5.3
TWC	**Suao**	**0.91**	**279**	P	**Pn**	**07 44 25.6**	**-0.3**
	baz=281						
TWC				S	**Sb**	**07 44 39.3**	**+2.2**
	baz=281						
HATJ	**Hateruma jima**	**0.98**	**115**	P	**Pb**	**07 44 27.8**	**+1.1**
HATJ				*e*S	**Sb**	**07 44 43.4**	**+4.2**
ENA	**Nanau**	**1.00**	**268**	P	**Pn**	**07 44 27.1**	**0.0**
	baz=271						
ENA				*e*S	**Sb**	**07 44 41.8**	**+2.0**
	baz=271						
NDS	**Dongshan**	**1.03**	**279**	P	**Pn**	**07 44 27.2**	**-0.3**
	baz=281						
NDS				*e*S	**Sn**	**07 44 41.5**	**+0.2**
	baz=281						
TIPB	**Shuangxi**	**1.04**	**299**	*i* P	**Pn**	**07 44 27.4**	**-0.3**
	baz=298						
TIPB				*e*S	**Sn**	**07 44 41.9**	**+0.3**
	baz=298						
SXI1	**Grass Mountain**	**1.07**	**305**	*i* P	**Pn**	**07 44 27.9**	**-0.2**
	baz=305						
TWE	**Neicheng**	**1.09**	**283**	*i* P	**Pn**	**07 44 28.1**	**-0.3**
	baz=285						
JKRS	**Kuro-shima**	**1.10**	**102**	P	**Pb**	**07 44 29.8**	**+1.1**
JKRS				S	**Sb**	**07 44 45.8**	**+3.2**
NWF	**Wu-fen Shan**	**1.13**	**302**	*i* P	**Pn**	**07 44 28.8**	**-0.2**
	baz=302						
ETL	**Fush Village**	**1.15**	**254**	P	**Pn**	**07 44 28.5**	**-0.7**
	baz=258						
FUSB	**Fushanzhiwuyua**	**1.17**	**284**	*i* P	**Pn**	**07 44 29.2**	**-0.4**
	baz=285						
FUSB				*e*S	**Sn**	**07 44 44.8**	**0.0**
	baz=285						
NACB	**Ninganchiao**	**1.17**	**255**	*i* P	**Pn**	**07 44 28.6**	**-0.8**
	baz=259						
NACB				*i* S	**Sn**	**07 44 44.5**	**-0.2**
	baz=259						
LATG	**Datong**	**1.19**	**273**	P	**Pn**	**07 44 29.5**	**-0.4**
	baz=275						
LATG				*e*S	**Sn**	**07 44 45.9**	**+0.4**
	baz=275						
TWD	**Chiawan**	**1.20**	**251**	*e*P	**Pn**	**07 44 29.1**	**-0.7**
	baz=255						
TWD				S	**Sn**	**07 44 45.1**	**-0.3**
	baz=255						
JIJ	**Ishigaki jima**	**1.20**	**95**	P	**Pb**	**07 44 30.5**	**+0.1**
JIJ				S	**Sb**	**07 44 46.6**	**+1.1**
ETLH	**Xiulin Townshi**	**1.26**	**258**	P	**Pn**	**07 44 29.9**	**-0.9**
	baz=261						
ETLH				S	**Sn**	**07 44 46.2**	**-0.9**
	baz=261						
YHNB	**Yeheng**	**1.34**	**279**	P	**Pn**	**07 44 31.4**	**-0.5**
	baz=280						
YHNB				S	**Sn**	**07 44 48.5**	**-0.6**
	baz=280						
JISG	**Ishigakijimahi**	**1.35**	**85**	*e*S	**Sb**	**07 44 49.9**	**0.0**
NSK	**Sanguang**	**1.36**	**279**	P	**Pn**	**07 44 31.6**	**-0.5**
	baz=280						
NSK				S	**Sn**	**07 44 49.7**	**+0.2**
	baz=280						
ESL	**Shilin**	**1.44**	**243**	*i* P	**Pn**	**07 44 32.2**	**-0.9**
	baz=246						
ESL				S	**Sn**	**07 44 50.7**	**-0.7**
	baz=246						
FUSS	**Fushou**	**1.47**	**261**	P	**Pn**	**07 44 33.1**	**-0.7**
	baz=264						
FUSS				S	**Sn**	**07 44 51.5**	**-0.9**
	baz=264						
WHF	**Hehuan Shan**	**1.47**	**257**	*i* P	**Pn**	**07 44 33.1**	**-0.8**
	baz=260						
WHF				S	**Sn**	**07 44 51.6**	**-1.1**
	baz=260						
EGFH	**Guangfu**	**1.52**	**238**	S	**Sn**	**07 44 52.1**	**-1.1**
	baz=242						
CHGB	**Renai**	**1.57**	**255**	*i* P	**Pn**	**07 44 34.4**	**-0.8**
	baz=258						
CHGB				S	**Sn**	**07 44 53.9**	**-1.0**
	baz=258						
NFF	**Wufeng Townshi**	**1.57**	**276**	P	**Pn**	**07 44 34.4**	**-0.7**
	baz=277						
NFF				*e*S	**Sn**	**07 44 53.8**	**-1.0**
	baz=277						
OWD	**Renai**	**1.60**	**251**	P	**Pn**	**07 44 34.7**	**-0.9**
	baz=254						
OWD				*e*S	**Sn**	**07 44 54.2**	**-1.4**
	baz=254						
HGSD	**Ruisui**	**1.62**	**233**	S	**Sn**	**07 44 54.9**	**-0.9**
	baz=236						
LIOB	**Emei**	**1.67**	**276**	*e*P	**Pn**	**07 44 35.7**	**-0.6**
	baz=277						
VWDT	**VWDT**	**1.71**	**245**	P	**Pn**	**07 44 36.1**	**-0.7**
	baz=248						
VWDT				S	**Sn**	**07 44 56.5**	**-1.4**
	baz=248						
JTJ	**Tarama**	**1.71**	**84**	P	**Pb**	**07 44 36.9**	**-2.3**
JTJ				*e*S	**Sb**	**07 44 59.4**	**-0.8**
WHP	**Taichung City**	**1.73**	**264**	*i* P	**Pn**	**07 44 37.5**	**+0.2**
	baz=266						
WHP				S	**Sn**	**07 44 58.4**	**-0.4**
	baz=266						
YULB	**Yu-li**	**1.77**	**233**	P	**Pn**	**07 44 36.5**	**-1.3**
	baz=236						
YULB				S	**Sn**	**07 44 57.6**	**-2.0**
	baz=236						
EYUL	**Yuli**	**1.78**	**231**	*e*S	**Sn**	**07 44 59.8**	**-0.1**
	baz=234						
SSLB	**Suanglung**	**1.85**	**249**	P	**Pn**	**07 44 37.9**	**-0.9**
	baz=251						
SSLB				S	**Sn**	**07 45 00.6**	**-1.0**
	baz=251						
EDH	**Donghe**	**2.05**	**223**	S	**Sn**	**07 45 03.8**	**-2.6**
	baz=226						
ALS	**Alishan**	**2.09**	**243**	P	**Pn**	**07 44 42.5**	**+0.1**
	baz=245						
ALS				S	**Sn**	**07 45 07.7**	**-0.2**
	baz=245						
CHN5	**Tsauling**	**2.16**	**247**	*e*P	**Pn**	**07 44 43.7**	**+0.6**
	baz=248						
CHN5				*e*S	**Sn**	**07 45 09.8**	**+0.6**
	baz=248						
STYH	**Taoyuan**	**2.29**	**236**	S	**Sn**	**07 45 12.2**	**-0.2**
	baz=238						

IDC 22 07:51:44.6±2.9, 53°42N×87°39E, h0km, mb1 2.9/2, mb1mx2.9/47, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=25.9km s-min=15.1km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.62 290**		*i*		08 00 48.5	
	baz=107,slow=337,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.62 290**		Pg	Pn	07 52 13.6	-0.8
	0.7nm,0.3s,baz=109,slow=16,SNR=15						
ZALV				Lg	Lg	07 52 35.9	
	0.6nm,0.3s,baz=110,slow=23,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.14 246**		Pn	Pn	07 53 17.3	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=5.3						
KURBB				Lg	Lg	07 55 00.0	
	0.0nm,0.3s,baz=65,slow=35,SNR=8.0						
MKAR	**Makanchi Array**	**7.39 208**		Pn	Pn	07 53 35.0	+1.2
	0.1nm,0.3s,baz=30,slow=13,SNR=5.4						
MKAR				Lg	Lg	07 55 38.5	
	0.0nm,0.3s,baz=25,slow=29,SNR=6.2						

IDC 22 07:54:58.9±2.2, 7°00S×150°96E, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.4/36, mbtmp3.4/4, MS3.3/2, Ms1 3.3/2, ms1mx2.5/29, Error ellipse: s-maj=122.2km s-min=28.6km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.63 230**		P	P	07 59 40.1	0.0
	0.4nm,0.5s,baz=56,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**23.30 223**		P	P	08 00 08.8	+0.1
	0.3nm,0.5s,baz=57,slow=8.7,SNR=7.9						
FITZ	**Fitzroy Crossi**	**27.02 244**		P	P	08 00 42.4	-0.6
	0.9nm,0.6s,baz=59,slow=7.1,SNR=1.6						
DAV	**Davao City (W)**	**28.92 298**		LR	LR	08 13 14.1	
	comp=Z,59nm,19.1s,baz=331,slow=38						
MJAR	**Matsushiro Arr**	**44.93 345**		LR	LR	08 20 16.7	
	comp=Z,34nm,19.5s,baz=41,slow=34						
ILAR	**Eielson Array**	**84.87 22**		P	P	08 07 35.6	+0.3
	0.5nm,0.9s,baz=245,slow=5.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.15 284**		PKPbc	PKPbc	08 14 50.0	-0.4
	0.4nm,0.5s,baz=70,slow=2.5,SNR=2.1						

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*NNC **22** 08:00:41.0±3.1, 54°56N×86°59E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=39.1km s-min=18.3km az=156.0, Suspected Mining explosion.*

IDC 22 08:00:41.3±3.0, 54°60N×86°52E, h0km, mb1 3.3/2, mb1mx3.0/40, mbtmp3.3/2, ML3.0/2, 1C-4D, Error ellipse: s-maj=24.7km s-min=14.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.19 238**		*i*		08 07 27.8	
	baz=56,slow=341,SNR=9.4						
ZAA0	**Zalesovo Array**	**1.19 238**		⇓P	Pg	08 01 02.8	-1.3
	0.2nm,0.2s						
ZAA0				⇑S	Sb	08 01 20.5	-0.2
	1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**1.19 238**		Pg	Pg	08 01 02.9	-1.2
	2.0nm,0.3s,baz=55,slow=17,SNR=17						
ZALV				Lg	Lg	08 01 20.5	
	1.9nm,0.3s,baz=55,slow=28,SNR=5.6						
KURK	**Kurchatov**	**6.18 234**		⇓Pn	Pn	08 02 14.3	+0.6
	1.5nm,0.5s						
KURK				Sn	Sn	08 03 28.3	+3.3
	3.5nm,0.8s						
KURK				Lg	Lg	08 04 00.6	
	3.2nm,0.6s						
KURBB	**Kurchatov Arra**	**6.29 234**		Pn	Pn	08 02 16.1	+1.0
	0.3nm,0.3s,baz=50,slow=14,SNR=11						
KURBB				Lg	Lg	08 04 00.3	
	0.1nm,0.3s,baz=50,slow=33,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.29 234**		Pn	Pn	08 02 16.2	+1.1
	4.3nm,0.5s						
KURBB				Sn	Sn	08 03 27.2	-0.4
	5.2nm,0.6s						
KURBB				Lg	Lg	08 03 59.6	
	12nm,0.9s						
MK31	**Makanchi Array**	**8.26 201**		Pn	Pn	08 02 43.5	+1.2
	0.1nm,0.2s,baz=56,slow=6.6,SNR=7.7						
MK31				⇓Sn	Sn	08 04 16.0	-0.3
	0.4nm,0.5s,baz=24,slow=27,SNR=8.7						
MK31				⇓Lg	Lg	08 05 00.5	
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**8.26 201**		Pn	Pn	08 02 43.1	+0.9
	0.2nm,0.3s,baz=24,slow=13,SNR=9.1						
MKAR				Sn	Sn	08 04 15.2	-1.1
	0.3nm,0.3s,baz=23,slow=25,SNR=10						
MKAR				Lg	Lg	08 05 04.7	
	0.1nm,0.3s,baz=23,slow=33,SNR=4.2						

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*IDC **22** 08:09:22.8±2.9, 53°83N×88°17E, h0km, mb1 3.4/2, mb1mx3.1/36, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=25.8km s-min=16.1km az=58.0*
*NNC **22** 08:09:23.7±2.0, 53°65N×88°14E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=15.4km s-min=10.4km az=55.0, Suspected Mining explosion.*

ISC 22 08:09:24.7±3.7, 53°8N±0°1×88°0E±0°2, h0km, n8, σ0°9/70/12, 5C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89 277**		*i*		08 24 00.0	
	baz=92,slow=336,SNR=3.2						
ZAA0	**Zalesovo Array**	**1.89 277**		⇓P	**Pn**	**08 09 57.9**	**-0.3**
	2.6nm,0.6s						
ZAA0				⇓S	**Sg**	**08 10 25.6**	**+0.3**
	4.0nm,0.3s						
ZALV	**Zalesovo Beam**	**1.89 277**		Pg	**Pn**	**08 09 58.3**	**+0.1**
	4.5nm,0.3s,baz=90,slow=13,SNR=45						
ZALV				Lg	Lg	08 10 25.6	
	12nm,0.3s,baz=93,slow=25,SNR=24						
KURK	**Kurchatov**	**6.51 246**		⇑Pn	**Pn**	**08 11 01.0**	**-0.7**
	1.7nm,0.8s						
KURK				⇑Sn	**Sn**	**08 12 17.0**	**+0.4**
	1.4nm,0.5s						
KURK				⇑Lg	Lg	08 12 50.2	
	6.4nm,0.9s						
KURBB	**Kurchatov Arra**	**6.61 245**		Pn	**Pn**	**08 11 03.5**	**+0.4**
	0.3nm,0.3s,baz=61,slow=14,SNR=22						
KURBB				Lg	Lg	08 12 56.6	
	0.1nm,0.3s,baz=52,slow=32,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.61 245**		⇓Pn	**Pn**	**08 11 02.6**	**-0.5**
	2.4nm,0.3s						
KURBB				⇑Sn	**Sn**	**08 12 19.2**	**+0.2**
	5.7nm,0.6s						
KURBB				⇓Lg	Lg	08 12 56.8	
	6.8nm,0.7s						
MK31	**Makanchi Array**	**7.87 210**		⇑Pn	**Pn**	**08 11 20.7**	**+0.4**
	0.2nm,0.3s,baz=30,slow=13,SNR=15						
MK31				⇓Sn	**Sn**	**08 12 48.5**	**-1.6**
	0.5nm,0.5s,baz=32,slow=25,SNR=5.6						
MK31				⇓Lg	Lg	08 13 34.0	
	2.8nm,0.8s						
MKAR	**Makanchi Array**	**7.87 210**		Pn	**Pn**	**08 11 21.0**	**+0.6**
	0.4nm,0.3s,baz=32,slow=13,SNR=16						
MKAR				Sn	**Sn**	**08 12 50.5**	**+0.3**
	0.3nm,0.3s,baz=31,slow=25,SNR=7.5						
MKAR				Lg	Lg	08 13 34.2	
	0.2nm,0.3s,baz=27,slow=32,SNR=2.7						

IDC 22 08:12:52.7±2.6, 54°68N×83°80E, h0km, mb1 2.4/2, mb1mx2.0/44, mbtmp2.4/2, Error ellipse: s-maj=20.0km s-min=12.1km az=172.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95 141**		*i*		08 17 45.1	
	baz=319,slow=331,SNR=3.5						
ZALV	**Zalesovo Beam**	**0.95 141**		Pg	Pg	08 13 10.3	-0.5
	1.1nm,0.3s,baz=322,slow=16,SNR=11						
ZALV				Lg	Lg	08 13 24.6	
	3.3nm,0.3s,baz=322,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**5.18 220**		Pn	Pn	08 14 11.1	-0.2
	baz=39,slow=13,SNR=1.6						
KURBB				Lg	Lg	08 15 37.5	
	0.0nm,0.3s,baz=43,slow=32,SNR=3.3						
MKAR	**Makanchi Array**	**7.96 188**		Pn	Pn	08 14 49.9	+0.3
	baz=6.8,slow=13,SNR=0.8						
MKAR				Lg	Lg	08 17 07.6	
	0.0nm,0.3s,baz=10,slow=25,SNR=3.4						

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*EAF **22** 08:14:02.4±0.9, 21°94S×32°09E, h13km±17km, MD4.0*

BUL 22 08:14:00.8±2.1, 22°05S×32°11E, h13km±39km, MD4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**1.61 204**		*i* P	Pg	08 14 31.2	-0.5
MOPA	**Mopani**	**1.61 204**		*i* P	Pg	08 14 31.2	-0.5
MATP	**Matopo**	**3.74 295**		*i* P	Pn	08 14 58.8	+0.4
MATP	**Matopo**	**3.74 295**		*i* P	Pn	08 14 58.8	+0.4
BLWY	**Bulawayo**	**3.78 299**		*i* P	Pn	08 15 00.0	+1.1
BLWY				*i* Sg	Sb	08 15 57.5	+4.1
BLWY	**Bulawayo**	**3.78 299**		*i* P	Pn	08 15 00.0	+1.1
BLWY				*i* Sg	Sb	08 15 57.5	+4.1
KRI	**Karoi**	**5.70 335**		*i* P	Pn	08 15 15.9	-9.4
KRI				*i* S	Sn	08 16 09.0	-22
KRI	**Karoi**	**5.70 335**		*i* P	Pn	08 15 15.9	-9.4
KRI				*i* S	Sn	08 16 09.0	-22

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*IPEC **22** 08:25:51.0±0.3, 51°52N×16°29E, h0km, ML3.2/3, Error ellipse: s-maj=2.9km s-min=1.4km az=47.0*
*LDG **22** 08:25:52.1±0.2, 51°41N×16°20E, h1km, Ml3.3/3, Error ellipse: s-maj=5.1km s-min=3.3km az=18.0, Suspected Mining induced.*
*DNK **22** 08:25:52.7±1.9, 51°66N×16°57E, h0km±103km, ML2.3*
*BGR **22** 08:25:53.6±0.4, 51°41N×16°21E, h1km, ML3.3/14, Error ellipse: s-maj=4.4km s-min=2.2km az=15.0*
*IDC **22** 08:25:53.0±0.5, 51°44N×16°11E, h0km, mb3.6/4, mb1 3.7/11, mb1mx3.3/79, mbtmp3.5/11, ML3.2/7, Error ellipse: s-maj=10.0km s-min=5.7km az=110.0*
*UPP **22** 08:25:55.3±3.2, 51°68N×16°13E, h0km, ML3.0, Suspected explosion*
*VIE **22** 08:25:56.5±0.8, 51°19N×15°98E, h0km, mb3.1/18, ml3.0/16, ms3.8/1, Error ellipse: s-maj=5.2km s-min=4.3km az=156.0 72 km W of Wroclaw Suspected Mining induced.*

ISC 22 08:25:51.1±0.5, 51°46N±0°02×16°17E±0°02, h0km, n105, σ1°9/91/190, mb3.6/4, 2C-15D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62 172**		*i* Pg	**Pb**	**08 26 04.4**	**-0.4**
KSP				*e*Sg	**Sg**	**08 26 12.3**	**+1.4**
KSP	**Ksiaz**	**0.62 172**		*e*Pg	**Pb**	**08 26 04.4**	**-0.4**
KSP				*e*Sg	**Sg**	**08 26 11.9**	**+1.0**
CHVC	**Chvalec**	**0.87 185**		⇓*i*PG	**Pb**	**08 26 09.3**	**+0.2**
CHVC				*e*SG	**Sg**	**08 26 20.4**	**+1.3**
OSTC	**Ostas**	**0.90 178**		⇓*i*PG	**Pb**	**08 26 09.8**	**+0.2**
OSTC				*e*SG	**Sg**	**08 26 20.7**	**+0.7**
	comp=Z,187nm,0.6s						
UPC	**Upice**	**0.95 186**		⇓*i*PG	**Pb**	**08 26 10.5**	**0.0**
UPC				*e*SG	**Sg**	**08 26 22.4**	**+0.6**
	comp=Z,539nm,0.4s						
DPC	**Dobruska-Polom**	**1.11 175**		⇓*i*PG	**Pb**	**08 26 13.2**	**0.0**
DPC				*e*SG	**Sg**	**08 26 27.4**	**+0.6**
	comp=Z,232nm,0.5s						
DPC	**Dobruska-Polom**	**1.11 175**		*e*Pg	**Pb**	**08 26 13.2**	**0.0**
DPC				*e*Sg	**Sb**	**08 26 28.3**	**0.0**
PVCC	**Panska Ves**	**1.37 228**		⇓*e*PG	**Pb**	**08 26 18.8**	**+1.2**
PVCC				*e*SG	**Sn**	**08 26 38.0**	**+1.6**
	comp=Z,711nm,0.3s						
KRLC	**Kraliky**	**1.44 164**		⇓*i*PG	**Pb**	**08 26 18.8**	**0.0**
KRLC				*e*SG	**Sb**	**08 26 37.7**	**+0.1**
	comp=Z,135nm,0.5s						
BRG	**Berggiesshubel**	**1.52 248**		*e*Pn	**Pn**	**08 26 19.9**	**+0.4**
BRG				*e*Sg	**Sn**	**08 26 41.2**	**+1.3**
PRU	**Pruhonice**	**1.80 216**		⇓*e*PN	**Pn**	**08 26 23.3**	**0.0**
PRU				*e*PG	**Pg**	**08 26 26.0**	**+0.5**
PRU				*e*SG	**Sg**	**08 26 48.8**	**0.0**
	comp=Z,142nm,0.6s						
RUE	**Ruedersdorf**	**1.80 306**		*e*P	**Pn**	**08 26 23.9**	**+0.6**
RUE				*e*S	**Sg**	**08 26 51.3**	**+2.4**
RUE				IAML		08 26 55.0	
	comp=Z,118nm,0.5s						
FBE	**Freiberg**	**1.85 254**		*e*Pn	**Pb**	**08 26 25.3**	**-0.4**
FBE				*e*Sg	**Sg**	**08 26 52.4**	**+2.0**
MORC	**Moravsky Berou**	**1.90 152**		⇓P	**Pn**	**08 26 25.1**	**+0.3**
MORC				⇑S	**Sn**	**08 26 41.9**	**-7.4**
MORC	**Moravsky Berou**	**1.90 152**		*e*Pn	**Pn**	**08 26 24.9**	**+0.1**
	baz=336						
MORC				*e*Sg	**Sb**	**08 26 50.8**	**-0.1**
	comp=Z,140nm,0.8s,baz=336						
MORC	**Moravsky Berou**	**1.90 152**		*e*Pn	**Pn**	**08 26 25.0**	**+0.3**
GKP	**Gorka Klasztor**	**1.93 19**		*e*P	**Pg**	**08 26 28.6**	**+0.4**
GKP				*e*S	**Sg**	**08 26 59.9**	**+6.8**
CLL	**Collm**	**1.99 267**		*e*Pn	**Pn**	**08 26 27.0**	**+1.0**
CLL				*e*Pg	**Pg**	**08 26 30.0**	**+0.8**
CLL				*ex*	x	08 26 33.0	
CLL				*e*Sg	**Sg**	**08 26 57.0**	**+2.1**
	comp=Z,86nm,0.6s						
CLL	**Collm**	**1.99 267**		*e*Pn	**Pn**	**08 26 26.5**	**+0.6**
CLL				*e*Sg	**Sg**	**08 26 57.4**	**+2.4**
OKC	**Ostrava-Krasne**	**2.05 141**		⇓*e*PG	**Pg**	**08 26 30.6**	**+0.2**
OKC				*e*SG	**Sb**	**08 26 55.9**	**+0.6**
	comp=Z,154nm,0.6s						
OKC	**Ostrava-Krasne**	**2.05 141**		*e*Pg	**Pg**	**08 26 30.7**	**+0.2**
OKC				*e*Sg	**Sb**	**08 26 56.0**	**+0.6**
VRAC	**Vranov**	**2.17 173**		⇓P	**Pb**	**08 26 31.1**	**-0.1**
VRAC				⇑S	**Sn**	**08 26 56.9**	**+0.9**
VRAC	**Vranov**	**2.17 173**		Pn	**Pb**	**08 26 30.0**	**-1.2**
	comp=Z,8.7nm,0.3s,baz=345,slow=14,SNR=21						
VRAC				Lg	Lg	08 27 01.0	
	comp=Z,16nm,0.3s,baz=262,slow=19,SNR=8.4						
VRAC	**Vranov**	**2.17 173**		*e*Pn	**Pn**	**08 26 29.2**	**+0.7**
	baz=355						
VRAC				*e*Sg	**Sg**	**08 27 00.4**	**-0.3**
	comp=Z,136nm,1.1s,baz=355						
TREC	**Trest**	**2.21 192**		⇓*e*PN	**Pn**	**08 26 30.0**	**+1.0**
TREC				*e*PG	**Pg**	**08 26 33.2**	**-0.2**
TREC				*e*SG	**Sg**	**08 27 01.8**	**-0.2**
PBCC	**Pribram**	**2.25 219**		⇓*e*PG	**Pg**	**08 26 34.4**	**+0.2**
KRUC	**Moravsky**	**2.40 176**		*e*Pn	**Pn**	**08 26 32.5**	**+0.8**
	baz=358						
KRUC				*e*Sg	**Sg**	**08 27 08.0**	**-0.2**
	comp=Z,133nm,1.1s,baz=358						
TANN	**Tannenbergstha**	**2.56 247**		*e*Pn	**Pn**	**08 26 35.5**	**+1.5**
TANN				*e*Sg	**Sg**	**08 27 15.0**	**+1.6**
OJC	**Ojcow**	**2.62 117**		*e*Pn	**Pn**	**08 26 35.2**	**+0.6**
OJC				*e*Pg	**Pg**	**08 26 41.9**	**+0.7**
OJC				*e*Sg	**Sg**	**08 27 15.7**	**+0.6**
OJC	**Ojcow**	**2.62 117**		*e*Pn	**Pn**	**08 26 35.3**	**+0.6**
OJC				*e*Sg	**Sg**	**08 27 16.4**	**+1.3**
WERD	**Werda**	**2.64 249**		*e*Pn	**Pn**	**08 26 36.5**	**+1.5**
WERD				*e*Sg	**Sg**	**08 27 18.1**	**+2.2**
NKC	**Novy Kostel**	**2.66 244**		⇓*e*PN	**Pn**	**08 26 36.5**	**+1.3**
NKC				*e*PG	**Pg**	**08 26 43.1**	**+1.1**
NKC				*e*SG	**Sg**	**08 27 18.7**	**+2.3**
	comp=Z,117nm,0.3s						
JAVC	**Velka Javorina**	**2.77 159**		*e*PN	**Pn**	**08 26 37.2**	**+0.3**
JAVC				*e*SG	**Sb**	**08 27 18.1**	**+2.0**
KHC	**Kasperske Hory**	**2.86 216**		⇓*e*PN	**Pn**	**08 26 39.3**	**+1.3**
KHC				*e*PG	**Pg**	**08 26 45.1**	**-0.8**
KHC				*e*SN	**Sn**	**08 27 12.5**	**-0.6**
KHC				*e*SG	**Sg**	**08 27 22.1**	**-0.8**
	comp=Z,46nm,0.4s						
CKRC	**Cesky Krumlov**	**2.90 205**		⇓*e*PN	**Pn**	**08 26 40.3**	**+1.8**
CKRC				*e*PG	**Pg**	**08 26 46.0**	**-0.6**
CKRC				*e*SG	**

VYHS				eSG	Sg	08 27 41.3	+0.1
CONA	**Conrad Observa**	**3.54 183**		Pn	Pn	08 26 48.9	+1.5
	comp=Z,2.3nm,0.3s,SNR=9.5						
CONA				eSg	Sg	08 27 46.1	+1.4
	comp=Z,58nm,0.5s						
GRF	**Grafenberg Arr**	**3.61 243**		ePn	Pn	08 26 49.8	+1.5
GRF				eSg	Sg	08 27 48.7	+1.6
CLZ	**Clausthal**	**3.63 278**		ePn	Pn	08 26 50.6	+2.1
BSD	**Bornholm Skovb**	**3.74 349**		i P	Pn	08 26 49.5	-0.5
BSD				IAML		08 26 52.5	
	comp=Z,3.1nm,0.4s						
BSD				eS	Sn	08 27 31.1	-3.7
BSD	**Bornholm Skovb**	**3.74 349**		eP	Pn	08 26 50.1	0.0
SOP	**Sopron**	**3.79 176**		PG	Pg	08 27 06.2	+2.6
MOA	**Molln**	**3.81 200**		Pn	Pn	08 26 52.3	+1.2
	comp=Z,5.0nm,0.3s,SNR=19						
MOA				eSg	Sg	08 27 55.3	+1.7
	comp=Z,41nm,0.6s						
ARSA	**Arzberg**	**4.23 186**		ePn	Pn	08 26 59.0	+2.2
	comp=Z,2.6nm,0.3s						
ARSA				eSg	Sg	08 28 08.8	+1.9
	comp=Z,23nm,0.4s						
CRVS	**Cervenica-Dubn**	**4.26 125**		ePG	Pg	08 27 13.0	+0.4
CRVS				eSG	Sg	08 28 08.3	+0.5
KBA	**Koelnbreinsper**	**4.75 204**		ePn	Pn	08 27 05.9	+1.8
	comp=Z,5.7nm,0.4s						
KBA				eSg	Sg	08 28 25.0	+1.2
	comp=Z,28nm,0.6s						
SOKA	**Soboth**	**4.84 189**		ePn	Pn	08 27 07.5	+2.3
	comp=Z,0.9nm,0.2s						
SOKA				eSg	Sg	08 28 26.0	-0.5
	comp=Z,4.4nm,0.5s						
BLEU	**Blekinge**	**4.86 358**		i P	Pn	08 27 05.8	+0.3
SUW	**Suwalki**	**4.97 56**		eP	Pn	08 27 07.2	+0.3
OBKA	**Obir**	**5.06 193**		ePn	Pn	08 27 09.8	+1.5
	comp=Z,1.6nm,0.3s						
OBKA				eSg	Sg	08 28 34.7	+1.0
	comp=Z,15nm,0.5s						
WATA	**Walderalm**	**5.10 218**		Pn	Pn	08 27 11.3	+2.4
	comp=Z,11nm,0.5s,SNR=4.1						
WATA				eSg	Sg	08 28 35.8	+1.0
	comp=Z,12nm,0.4s						
MYKA	**Terra Mystica**	**5.11 200**		ePn	Pn	08 27 09.8	+0.9
	comp=Z,1.3nm,0.3s						
MYKA				eSg	Sg	08 28 34.8	-0.3
	comp=Z,13nm,0.7s						
WTTA	**Wattenberg**	**5.13 217**		ePn	Pn	08 27 12.0	+2.6
	comp=Z,2.3nm,0.2s						
WTTA				eSg	Sg	08 28 33.7	-2.3
	comp=Z,10nm,0.4s						
DEL	**Delary**	**5.20 346**		i P	Pn	08 27 09.0	-1.1
DEL				P	Pn	08 27 09.9	-0.3
DEL				S	Sn	08 28 06.7	-4.1
DEL	**Delary**	**5.20 346**		P	Pn	08 27 09.9	-0.3
DEL				S	Sn	08 28 06.7	-4.1
MOTA	**Moosalm**	**5.28 221**		ePn	Pn	08 27 13.2	+1.9
	comp=Z,1.2nm,0.2s						
MOTA				eSg	Sg	08 28 42.3	+1.7
	comp=Z,13nm,0.6s						
ABTA	**Abfaltersbach**	**5.29 208**		ePn	Pn	08 27 14.0	+2.6
	comp=Z,3.4nm,0.4s						
ABTA				eSg	Sg	08 28 41.3	+0.4
	comp=Z,27nm,0.8s						
RETA	**Reutte**	**5.31 224**		i Pn	Pn	08 27 12.8	+1.1
	comp=Z,3.6nm,0.4s,SNR=4.7						
RETA				eSg	Sg	08 28 42.0	+0.4
	comp=Z,13nm,0.6s						
SQTA	**Sankt Quirin**	**5.33 219**		Pn	Pn	08 27 14.7	+2.7
	comp=Z,2.0nm,0.1s,SNR=4.2						
SQTA				eSg	Sg	08 28 45.0	+2.6
	comp=Z,9.5nm,0.4s						
FETA	**Feichten**	**5.69 221**		ePn	Pn	08 27 19.0	+2.0
	comp=Z,1.1nm,0.4s						
FETA				eSg	Sg	08 28 53.9	+0.2
	comp=Z,9.0nm,0.9s						
DAVA	**Damuels**	**5.85 227**		ePn	Pn	08 27 19.9	+0.6
	comp=Z,1.4nm,0.2s						
DAVA				eSg	Sg	08 29 02.8	+3.7
	comp=Z,5.8nm,0.4s						
FABU	**Falkenberg**	**5.91 341**		i P	Pn	08 27 19.4	-0.5
FABU				P	Pn	08 27 19.4	-0.5
FABU				S	Sn	08 28 25.4	-2.8
FABU	**Falkenberg**	**5.91 341**		P	Pn	08 27 19.4	-0.5
FABU				S	Sn	08 28 25.4	-2.8
GNOU	**Gnosjoe**	**6.01 347**		P	Pn	08 27 21.2	-0.1
GNOU	**Gnosjoe**	**6.01 347**		P	Pn	08 27 21.2	-0.1
DAVOX	**Davos/Dischmat**	**6.24 224**		Pn	Pn	08 27 25.8	+1.3
	comp=Z,0.6nm,0.3s,baz=351,slow=14,SNR=2.9						
DAVOX				Sn	Sn	08 28 39.7	+3.1
	baz=343,slow=19						
DAVOX				Lg	Lg	08 29 09.8	
	comp=Z,0.9nm,0.3s,baz=22,slow=8.5,SNR=4.5						
CDF	**Champ du Feu**	**6.50 245**		ePn	Pn	08 27 26.8	-1.2
CDF				eSg	Sg	08 29 17.3	-2.4
BORU	**Boraas**	**6.50 344**		P	Pn	08 27 28.0	+0.1
BORU				i P	Pn	08 27 28.4	+0.5
BORU	**Boraas**	**6.50 344**		P	Pn	08 27 28.0	+0.1
HINF	**Hinteralfeld**	**7.06 243**		ePn	Pn	08 27 35.1	-0.6
HINF				eSg	Sg	08 29 34.2	-3.5
	comp=Z,6.9nm,0.4s						
SLIT	**Slitere, Latvi**	**7.13 28**		eP	Pn	08 27 36.9	+0.3
IIGN	**Ignalina**	**7.17 53**		eP	Pn	08 27 38.7	+1.6
IIGN				IAML		08 28 07.4	
	comp=Z,5.2nm,0.5s						
HAU	**Haudompre**	**7.24 245**		ePn	Pn	08 27 39.1	+1.0
HAU				eSg	Sg	08 29 40.3	-3.1
	comp=Z,7.5nm,0.4s						
NACGM	**Naroch**	**7.25 57**		i P	Pn	08 27 39.4	+1.1
PAGF	**Fort de Pagny**	**7.33 251**		ePn	Pn	08 27 39.1	-0.2
	baz=72						
PAGF	**Fort de Pagny**	**7.33 251**		ePg	Pg	08 28 07.2	-4.2
PAGF				eSg	Sg	08 29 40.5	-5.8
	comp=Z,1.1nm,0.3s						
SAVF	**Savonnieres en**	**7.66 253**		ePg	Pg	08 28 11.8	-5.9
SFTF	**Sexfontaines**	**7.90 250**		eP	Pn	08 27 51.2	+4.1
AKASG	**Malin Array Be**	**8.26 90**		Pn	Pn	08 27 51.0	-1.1
	comp=Z,1.8nm,0.3s,baz=280,slow=12,SNR=10						
AKASG				Sn	Sn	08 29 20.9	-5.2
	comp=Z,1.0nm,0.3s,baz=305,slow=18,SNR=3.1						
AKASG				Lg	Lg	08 30 17.0	
	comp=Z,0.3nm,0.3s,baz=273,slow=27,SNR=4.2						
LPL	**La Plagne**	**8.63 230**		ePn	Pn	08 27 56.5	-0.9
LPL	**La Plagne**	**8.63 230**		eP	Pn	08 27 59.8	+2.4
LPG	**La Plagne**	**8.64 230**		eP	Pn	08 28 00.3	+2.8
HFS	**Hagfors**	**8.81 352**		Pn	Pn	08 27 59.3	-0.2
	comp=Z,0.4nm,0.3s,baz=173,slow=16,SNR=8.3						
HFS				Sn	Sn	08 29 36.2	-3.2
	comp=Z,0.4nm,0.3s,baz=169,slow=27,SNR=2.5						
AAL	**Aland**	**9.00 12**		eP	Pn	08 28 02.8	+0.6
LOR	**Lormes**	**9.06 247**		ePn	Pn	08 28 01.0	-2.0
MBDF	**Montbardon**	**9.21 227**		ePn	Pn	08 28 04.8	-0.4
MBDF	**Montbardon**	**9.21 227**		eP	Pn	08 28 08.7	+3.5
VSU	**Vasula**	**9.28 37**		eP	Pn	08 28 05.2	-0.8
NOA	**NORSAR Array B**	**9.99 346**		Pn	Pn	08 28 14.4	-1.4
	comp=Z,0.0nm,0.3s,baz=158,slow=12,SNR=6.8						
FINES	**FINESS Array B**	**11.40 25**		Pn	Pn	08 28 33.0	-2.0
	comp=Z,0.6nm,0.3s,baz=210,slow=12,SNR=20						
FINES				Sn	Sn	08 30 34.8	-8.1
	comp=Z,0.6nm,0.3s,baz=207,slow=20,SNR=6.1						
EKA	**Eskdalemuir Ar**	**12.16 296**		Pn	Pn	08 28 44.0	-1.4
	baz=99,slow=14,SNR=1.7						
ARCES	**ARCESS Array B**	**18.67 10**		P	P	08 30 07.2	-3.1
	baz=193,slow=12,SNR=18						
BVAR	**Borovoye Array**	**32.58 66**		P	P	08 32 26.1	+2.3
	comp=Z,0.7nm,0.7s,baz=336,slow=7.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**39.96 202**		P	P	08 33 28.0	+0.8
	comp=Z,1.3nm,1.0s,baz=15,slow=9.3,SNR=4.5						
YKA	**Yellowknife Ar**	**59.92 336**		P	P	08 35 59.9	+1.6
	comp=Z,0.5nm,0.7s,baz=26,slow=7.2,SNR=7.9						
PDAR	**Pinedale Array**	**75.00 322**		P	P	08 37 36.0	+1.6
	comp=Z,0.2nm,0.6s,baz=62,slow=4.5,SNR=2.4						

IDC ***22*** *08:28:13.7±0.8, 24°.08N×122°.64E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.4/70, mbtmp3.7/9, ML3.4/2, MS2.9/6, Ms1 3.0/6, ms1mx2.7/90, Error ellipse: s-maj=34.4km s-min=19.1km az=68.0*

TAP ***22*** *08:28:18.1, 23°.94N×122°.72E, h38km±1km, ML4.2, D*

JMA ***22*** *08:28:18.5±0.2, 23°.98N×122°.64E, h33km±4km, M3.6*

NIED ***22*** *08:28:18.5, 23°.98N×122°.64E, h33km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; M_{rr}4.56; $M_{\theta\theta}$-4.52; $M_{\phi\phi}$-0.04; $M_{r\theta}$7.33; $M_{\theta\phi}$-0.08; $M_{\phi r}$4.23; Fault plane solution: $M_0$9.58000×10^14^ NP1:ϕ_s64.00000°, δ77.00000°, λ79.00000°. NP2:ϕ_s284.00000°, δ17.00000°, λ129.00000°.*

ISC 22 08:28:17.1±1.0, 23°.86N±0°.02×122°.68E±0°.02, h28km±8km, n116, σ0.91/195, mb3.7/7, MS2.8/4, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.64**	**22**	P	**Pb**	**08 28 29.5**	**-0.2**
JYNG				S	**Sb**	**08 28 36.6**	**-1.7**
YOJ	**Yonaguni jima**	**0.67**	**27**	P	**Pb**	**08 28 30.2**	**-0.1**
YOJ				S	**Sb**	**08 28 37.8**	**-1.5**
YOJ	**Yonaguni jima**	**0.67**	**27**	eP	**Pb**	**08 28 30.0**	**-0.2**
	baz=26						
YOJ				eS	**Sb**	**08 28 37.5**	**-1.7**
	baz=26						
HWA	**Hwalien**	**0.99**	**277**	eP	**Pb**	**08 28 35.6**	**0.0**
	baz=262						
HWA				eS	**Sb**	**08 28 49.5**	**+1.3**
	baz=262						
EWUT	**Wuta**	**1.01**	**306**	i P	**Pb**	**08 28 35.9**	**0.0**
	baz=301						
EWUT				eS	**Sb**	**08 28 50.2**	**+1.4**
	baz=301						
ETL	**Fush Village**	**1.01**	**287**	eP	**Pb**	**08 28 36.2**	**+0.3**
	baz=270						
ETL				eS	**Sb**	**08 28 52.4**	**+3.5**
	baz=270						
TWD	**Chiawan**	**1.01**	**283**	P	**Pb**	**08 28 35.7**	**-0.3**
	baz=279						
TWD				eS	**Sn**	**08 28 48.3**	**-0.5**
	baz=279						
ENA	**Nanau**	**1.03**	**304**	eP	**Pn**	**08 28 35.1**	**-0.5**
	baz=299						
ENA				eS	**Sb**	**08 28 50.5**	**+1.1**
	baz=299						
NACB	**Ninganchiao**	**1.04**	**288⇑**	i P	**Pn**	**08 28 36.1**	**+0.3**
	baz=272						
NACB				eS	**Sb**	**08 28 51.0**	**+1.3**
	baz=272						
HATJ	**Hateruma jima**	**1.05**	**79**	P	**Pb**	**08 28 37.6**	**+1.0**
HATJ				S	**Sb**	**08 28 51.3**	**+1.3**
TWC	**Suao**	**1.06**	**315⇓**	i P	**Pn**	**08 28 36.4**	**+0.3**
	baz=311						
TWC				eS	**Sn**	**08 28 49.5**	**-0.5**
	baz=311						
IRIF	**Iriomote-Funau**	**1.07**	**64**	P	**Pb**	**08 28 37.3**	**+0.3**
IRIF				eS	**Sb**	**08 28 50.7**	**+0.1**
ETLH	**Xiulin Townshi**	**1.15**	**288**	P	**Pb**	**08 28 38.1**	**-0.2**
	baz=274						
ETLH				eS	**Sb**	**08 28 52.9**	**+0.1**
	baz=274						
EGFH	**Guangfu**	**1.16**	**261**	eP	**Pb**	**08 28 38.5**	**0.0**
	baz=247						
EGFH				eS	**Sb**	**08 28 53.4**	**+0.3**
	baz=247						
NDS	**Dongshan**	**1.17**	**311**	i P	**Pb**	**08 28 38.5**	**-0.1**
	baz=308						
NDS				eS	**Sn**	**08 28 52.9**	**+0.3**
	baz=308						
HGSD	**Ruisui**	**1.21**	**253**	eP	**Pb**	**08 28 38.8**	**-0.5**
	baz=250						
HGSD				eS	**Sb**	**08 28 54.6**	**+0.2**
	baz=250						
ILA	**Ilan**	**1.24**	**317**	eP	**Pb**	**08 28 42.4**	**+2.6**
	baz=314						
ILA				eS	**Sb**	**08 28 56.9**	**+1.6**
	baz=314						
TWE	**Neicheng**	**1.26**	**313**	eP	**Pb**	**08 28 39.7**	**-0.5**
	baz=310						
TWE				eS	**Sb**	**08 28 56.7**	**+0.7**
	baz=310						
JKRS	**Kuro-shima**	**1.27**	**73**	P	**Pb**	**08 28 40.8**	**+0.4**
JKRS				eS	**Sb**	**08 28 57.6**	**+1.2**
ENTT	**Nioudou**	**1.28**	**308**	P	**Pb**	**08 28 40.1**	**-0.4**
	baz=293						
ENTT				eS	**Sb**	**08 28 57.4**	**+0.9**
	baz=293						
EHY	**Hungye**	**1.29**	**254**	eP	**Pb**	**08 28 40.8**	**0.0**
	baz=251						
EHY				eS	**Sn**	**08 28 55.8**	**+0.1**
	baz=251						
NDT	**Datong Townshi**	**1.29**	**305**	eP	**Pb**	**08 28 40.5**	**-0.3**
	baz=290						
NDT				eS	**Sb**	**08 28 58.0**	**+1.0**
	baz=290						
TWB1	**Santiao Chiao**	**1.30**	**331**	eP	**Pb**	**08 28 40.2**	**-0.7**
	baz=329						
TWB1				eS	**Sb**	**08 28 56.8**	**-0.5**
	baz=329						
NNSB	**Datong**	**1.31**	**296**	i P	**Pb**	**08 28 40.5**	**-0.7**
	baz=283						
NNSB				eS	**Sb**	**08 28 59.7**	**+2.0**
	baz=283						
WHF	**Hehuan Shan**	**1.32**	**283**	eP	**Pn**	**08 28 40.8**	**+0.7**
	baz=280						
WHF				eS	**Sb**	**08 28 58.5**	**+0.3**
	baz=280						
NNS	**Nan Shan**	**1.32**	**296**	i P	**Pb**	**08 28 40.6**	**-0.7**
	baz=293						
NNS				eS	**Sb**	**08 28 57.5**	**-0.5**
	baz=293						
EYUL	**Yuli**	**1.35**	**248**	eP	**Pb**	**08 28 41.2**	**-0.5**
	baz=236						
EYUL				eS	**Sb**	**08 28 58.4**	**-0.1**
	baz=236						
YULB	**Yu-li**	**1.35**	**250**	eP	**Pb**	**08 28 41.3**	**-0.4**
	baz=238						
YULB				eS	**Sb**	**08 28 58.0**	**-0.6**
	baz=238						
TIPB	**Shuangxi**	**1.35**	**325**	eP	**Pb**	**08 28 41.9**	**+0.1**
	baz=335						
TIPB				eS	**Sb**	**08 28 59.3**	**+0.6**
	baz=335						
FUSS	**Fushou**	**1.37**	**287**	eP	**Pb**	**08 28 42.3**	**+0.1**
	baz=284						
FUSS				eS	**Sn**	**08 28 57.9**	**0.0**
	baz=284						
OWD	**Renai**	**1.38**	**274**	eP	**Pb**	**08 28 41.8**	**-0.5**
	baz=271						
OWD				eS	**Sn**	**08 28 58.4**	**+0.4**
	baz=271						
CHGB	**Renai**	**1.39**	**279**	i P	**Pb**	**08 28 41.8**	**-0.7**
	baz=276						
CHGB				eS	**Sn**	**08 28 58.4**	**0.0**
	baz=276						
NWLT	**Wulai**	**1.41**	**311**	P	**Pb**	**08 28 42.6**	**-0.1**
	baz=308						
NWLT				eS	**Sb**	**08 29 02.5**	**+2.1**
	baz=308						
VWDT	**VWDT**	**1.41**	**266**	eP	**Pb**	**08 28 42.1**	**-0.6**
	baz=263						
VWDT				eS	**Sn**	**08 28 58.9**	**+0.3**
	baz=263						
CHKT	**Chengkung**	**1.42**	**238**	eP	**Pb**	**08 28 42.1**	**-0.8**
	baz=227						
CHKT				eS	**Sn**	**08 28 58.8**	**-0.1**
	baz=227						
TWT	**Tachien**	**1.43**	**286**	eP	**Pb**	**08 28 43.0**	**-0.2**
	baz=273						
TWT				eS	**Sn**	**08 28 60.0**	**+0.7**
	baz=273						
FULB	**Fuli**	**1.43**	**243**	eP	**Pb**	**08 28 42.2**	**-0.9**
	baz=232						
FULB				eS	**Sn**	**08 28 59.5**	**+0.3**
	baz=232						
JIJ	**Ishigaki jima**	**1.43**	**69**	P	**Pb**	**08 28 42.3**	**-0.8**
JIJ				S	**Sb**	**08 29 00.5**	**-0.4**
YHNB	**Yeheng**	**1.44**	**304**	i P	**Pb**	**08 28 42.6**	**-0.6**
	baz=290						
TDCB	**Techi**	**1.44**	**286**	eP	**Pb**	**08 28 43.0**	**-0.4**
	baz=283						
NSK	**Sanguang**	**1.45**	**304**	i P	**Pb**	**08 28 42.6**	**-0.9**
	baz=302						
NSK				eS	**Sb**	**08 29 02.5**	**+0.9**
	baz=302						
NWF	**Wu-fen Shan**	**1.46**	**326**	eP	**Pb**	**08 28 43.1**	**-0.5**
	baz=324						
NWF				eS	**Sb**	**08 29 01.0**	**-0.7**
	baz=324						
TWA	**Mucha**	**1.50**	**318**	P	**Pb**	**08 28 43.2**	**-1.0**
	baz=317						
TWA				eS	**Sb**	**08 29 04.1**	**+1.3**
	baz=317						
NHDH	**Xindian Distri**	**1.52**	**317**	eP	**Pb**	**08 28 43.6**	**-1.0**
	baz=329						
NHDH				eS	**Sb**	**08 29 03.9**	**+0.4**
	baz=329						
EDH	**Donghe**	**1.54**	**235**	eP	**Pn**	**08 28 43.4**	**+0.7**
	baz=226						
EDH				eS	**Sn**	**08 29 01.5**	**-0.3**
	baz=226						
SSLB	**Suanglung**	**1.58**	**268**	P	**Pb**	**08 28 45.2**	**-0.5**
	baz=265						
TAP	**Taipei**	**1.59**	**318**	eP	**Pn**	**08 28 43.2**	**-0.1**
	baz=330						
TAP				eS	**Sb**	**08 29 05.5**	**+0.1**
	baz=330						
NFF	**Wufeng Townshi**	**1.62**	**299**	eP	**Pb**	**08 28 45.7**	**-0.6**
	baz=287						
LDUT	**Ludao**	**1.62**	**224**	eP	**Pn**	**08 28 44.9**	**+1.1**
	baz=222						
LDUT				eS	**Sn**	**08 29 04.0**	**+0.2**
	baz=222						
SMLT	**Sun Moon Lake**	**1.63**	**271**	eP	**Pb**	**08 28 46.0**	**-0.6**
	baz=260						
WCS	**Beigang Elemen**	**1.63**	**277**	eP	**Pb**	**08 28 46.5**	**0.0**
	baz=275						
YM01	**YM01**	**1.63**	**322**	P	**Pn**	**08 28 45.2**	**+1.2**
	baz=320						
WHP	**Taichung City**	**1.64**	**285**	eP	**Pb**	**08 28 46.9**	**+0.2**
	baz=282						
JISG	**Ishigakijimahi**	**1.66**	**64**	P	**Pn**	**08 28 45.3**	**+1.0**
JISG				eS	**Sb**	**08 29 06.0**	**-1.4**
TYC	**Yuchr**	**1.67**	**272**	P	**Pb**	**08 28 46.1**	**-1.0**
	baz=270						
TWS1	**Kuangyinshan**	**1.69**	**317**	eP	**Pb**	**08 28 47.2**	**-0.2**
	baz=315						
LIOB	**Emei**	**1.71**	**298**	eP	**Pb**	**08 28 47.4**	**-0.4**
	baz=296						
LIOB				eS	**Sb**	**08 29 08.9**	**+0.1**
	baz=296						
LONT	**Longtian**	**1.71**	**237**	eP	**Pb**	**08 28 46.6**	**-1.2**
	baz=228						
LONT				eS	**Sn**	**08 29 06.6**	**+0.6**
	baz=228						
NSTT	**Nanjuang**	**1.71**	**297**	eP	**Pb**	**08 28 47.0**	**-0.9**
	baz=295						
NSTT				eS	**Sb**	**08 29 09.4**	**+0.4**
	baz=295						
TWY	**Chenhua**	**1.72**	**325**	eP	**Pb**	**08 28 47.1**	**-0.9**
	baz=323						
ALS	**Alishan**	**1.75**	**259**	eP	**Pb**	**08 28 48.7**	**0.0**
	baz=256						
ALS				eS	**Sb**	**08 29 09.7**	**-0.7**
	baz=256						
NCU	**National Centr**	**1.75**	**309**	eS	**Sb**	**08 29 09.3**	**-0.9**
	baz=308						
NCUH	**Zhongli**	**1.75**	**309**	eP	**Pb**	**08 28 48.9**	**+0.4**
	baz=307						
TTN	**Taitung**	**1.79**	**232**	eP	**Pb**	**08 28 47.9**	**-1.2**
	baz=230						
TTN				eS	**Sb**	**08 29 10.8**	**-0.3**
	baz=230						
WJS	**Zhushan**	**1.79**	**269**	eP	**Pb**	**08 28 47.8**	**-1.3**
	baz=259						
WJS				eS	**Sb**	**08 29 11.0**	**-0.1**
	baz=259						
TWGBT	**Beinan**	**1.80**	**235**	eP	**Pb**	**08 28 48.0**	**-1.3**
	baz=225						
TWGBT				eS	**Sn**	**08 29 07.7**	**-0.4**
	baz=225						
SBCB	**Hsinchu**	**1.80**	**301**	eP	**Pb**	**08 28 48.2**	**-1.1**
	baz=300						
SBCB				eS	**Sb**	**08 29 11.2**	**-0.3**
	baz=300						
TWG	**Pinlang**	**1.80**	**235**	eP	**Pn**	**08 28 47.3**	**+1.0**
	baz=225						
TWG				eS	**Sn**	**08 29 07.4**	**-0.9**
	baz=225						
TWQ1	**Liyutan**	**1.81**	**286**	eP	**Pb**	**08 28 49.0**	**-0.5**
	baz=284						
TWQ1				eS	**Sb**	**08 29 12.1**	**+0.3**
	baz=284						
WNT	**Mingjian**	**1.82**	**271**	eP	**Pb**	**08 28 50.1**	**+0.3**
	baz=269						
WNT				eS	**Sb**	**08 29 12.8**	**+0.6**
	baz=269						
NSY	**Sanyi**	**1.84**	**288**	eP	**Pb**	**08 28 49.6**	**-0.4**
	baz=286						
NSY				eS	**Sb**	**08 29 12.8**	**+0.2**
	baz=286						
NMLH	**Miaoli**	**1.85**	**292**	eP	**Pb**	**08 28 49.6**	**-0.6**
	baz=290						
NMLH				eS	**Sb**	**08 29 12.7**	**-0.3**
	baz=290						
TCU	**Taichung**	**1.85**	**279**	eP	**Pb**	**08 28 50.9**	**+0.6**
	baz=278						
TCU				eS	**Sb**	**08 29 12.7**	**-0.4**
	baz=278						
STYH	**Taoyuan**	**1.88**	**249**	eP	**Pb**	**08 28 49.5**	**-1.1**
	baz=240						
STYH				eS	**Sb**	**08 29 12.0**	**-1.7**
	baz=240						
WDJ	**Dajia District**	**1.92**	**285**	eP	**Pb**	**08 28 50.9**	**-0.6**
	baz=284						
WDJ				eS	**Sb**	**08 29 14.9**	**-0.2**
	baz=284						
WCHH	**Zhanghua**	**1.95**	**277**	eP	**Pb**	**08 28 51.1**	**-0.8**
	baz=288						
WCHH				eS	**Sb**	**08 29 16.0**	**+0.2**
	baz=288						
TPUB	**Ta-pu**	**1.96**	**254**	eP	**Pb**	**08 28 51.5**	**-0.6**
	baz=245						
TPUB				eS	**Sb**	**08 29 15.7**	**-0.5**
	baz=245						
WDLH	**Douliu**	**1.97**	**265**	eP	**Pb**	**08 28 51.8**	**-0.4**
	baz=263						
WDLH				eS	**Sb**	**08 29 17.2**	**+0.9**
	baz=263						
CHN4	**Tsaushan**	**1.98**	**256**	eP	**Pb**	**08 28 52.7**	**+0.3**
	baz=245						
CHN4				eS	**Sb**	**08 29 17.9**	**+1.2**
	baz=245						
WTP	**Ta-pu**	**1.99**	**253**	eP	**Pb**	**08 28 51.9**	**-0.7**
	baz=243						
WTP				eS	**Sb**	**08 29 17.0**	**0.0**
	baz=243						
JTJ	**Tarama**	**2.00**	**67**	P	**Pn**	**08 28 49.7**	**+0.6**
JTJ				eS	**Sn**	**08 29 13.7**	**+0.4**
ECL	**Taimali**	**2.02**	**232**	eP	**Pn**	**08 28 50.7**	**+1.4**
	baz=240						
ECL				eS	**Sn**	**08 29 13.5**	**-0.2**
	baz=240						
CHN2	**Minshiung**	**2.04**	**261**	eS	**Sb**	**08 29 19.3**	**+0.8**
	baz=259						
SGST	**Jiashian**	**2.07**	**248**	eP	**Pb**	**08 28 53.0**	**-1.0**
	baz=237						
SGST				eS	**Sb**	**08 29 19.2**	**-0.2**
	baz=237						
CHN1	**Nanshi**	**2.08**	**252**	eP	**Pb**	**08 28 54.6**	**+0.4**
	baz=249						
CHN1				eS	**Sb**	**08 29 19.9**	**+0.2**
	baz=249						
LAY	**Lan-yu**	**2.09**	**210**	eP	**Pn**	**08 28 51.0**	**+0.7**
	baz=209						
LAY				eS	**Sn**	**08 29 15.1**	**-0.3**
	baz=209						
TWK	**Hsinying**	**2.09**	**254**	eP	**Pb**	**08 28 54.5**	**+0.1**
	baz=251						
TWK				eS	**Sb**	**08 29 19.5**	**-0.6**
	baz=251						
CHY	**Chiayi**	**2.10**	**261**	eP	**Pb**	**08 28 55.1**	**+0.7**

TAWH	Dawu Township	2.24 228	eP	Pn	08 28 52.8	+0.5
	baz=234					
TAWH			eS	Sn	08 29 18.4	-0.6
	baz=234					
MASBT	Mashibuluo	2.25 237	eP	Pb	08 28 55.9	-1.2
	baz=229					
ICHU	Yijhu	2.25 258	eP	Pb	08 28 55.7	-1.4
	baz=255					
ICHU			eS	Sb	08 29 23.1	-1.5
	baz=255					
WSF	Szhu	2.26 265	eS	Sb	08 29 24.5	-0.3
	baz=263					
WSL	Shuilin Townsh	2.27 262	eP	Pb	08 28 55.4	-2.0
	baz=260					
WSL			eS	Sb	08 29 23.0	-2.1
	baz=260					
SHHT	Tainan City	2.30 249	eP	Pb	08 28 58.2	+0.4
	baz=247					
SHHT			eS	Sb	08 29 25.8	0.0
	baz=247					
CHN8	Yiju	2.32 258	eP	Pb	08 28 56.2	-2.0
	baz=255					
CHN8			eS	Sb	08 29 24.7	-1.8
	baz=255					
JOW	Kunigami	5.87 59	Pn	Pn	08 29 41.3	-0.9
	2.7nm,0.3s,baz=200,slow=11,SNR=2.1					
JNU	Nakatsue	11.71 36	LR	LR	08 36 13.8	
	comp=Z,16nm,19.6s,baz=181,slow=42					
KSRS	Korea Array	14.28 17	Pn	Pn	08 31 35.7	-1.7
	0.2nm,0.3s,baz=198,slow=12,SNR=1.3					
KSRS			LR	LR	08 37 17.8	
	comp=Z,52nm,19.0s,baz=160,slow=39					
CMAR	Chiang Mai Arr	22.77 261	LR	LR	08 43 42.4	
	comp=Z,19nm,19.2s,baz=190,slow=41					
GUMO	Guam	23.34 112	LR	LR	08 42 21.5	
	comp=Z,16nm,19.0s,baz=334,slow=36					
KLR	Kul'dur	26.31 13	LR	LR	08 45 14.4	
	comp=Z,54nm,18.4s,baz=214,slow=39					
SONM	Songino Array	27.21 336	LR	LR	08 45 54.8	
	comp=Z,126nm,20.5s,baz=84,slow=39					
MKAR	Makanchi Array	39.52 316	P	P	08 35 45.3	-0.2
	0.8nm,0.6s,baz=100,slow=9.2,SNR=14					
MKAR			PcP	PcP	08 37 53.2	+0.5
	0.3nm,0.7s,baz=97,slow=3.3,SNR=3.7					
KURBB	Kurchatov Arra	43.24 320	P	P	08 36 15.0	-0.8
	0.5nm,0.5s,baz=110,slow=10,SNR=5.5					
WRA	Warramunga Arr	45.00 164	P	P	08 36 32.2	+2.0
	0.5nm,0.5s,baz=346,slow=8.8,SNR=9.2					
ASAR	Alice Springs	48.48 166	P	P	08 37 00.4	+2.9
	0.6nm,0.5s,baz=347,slow=7.7,SNR=12					
FINES	FINESS Array B	72.41 330	P	P	08 39 39.9	-0.6
	0.6nm,0.4s,baz=35,slow=7.0,SNR=5.3					
NOA	NORSAR Array B	79.14 333	P	P	08 40 18.1	-0.9
	0.6nm,0.8s,baz=55,slow=8.1,SNR=1.6					
YKA	Yellowknife Ar	82.73 23	P	P	08 40 37.9	-0.2
	0.6nm,0.9s,baz=310,slow=5.0,SNR=9.6					

IDC 22 08:40:34.8±1.9, 4°.21N×123°.57E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.0/45, mbtmp3.5/4, Error ellipse: s-maj=158.5km s-min=25.0km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.26	175	P	P	08 45 33.7	+0.1
	1.4nm,0.7s,baz=21,slow=8.6,SNR=1.7						
WRA	Warramunga Arr	26.23	157	P	P	08 46 11.9	+0.2
	0.3nm,0.3s,baz=334,slow=9.7,SNR=5.8						
ASAR	Alice Springs	29.48	160	P	P	08 46 40.5	-0.3
	0.1nm,0.4s,baz=346,slow=13,SNR=6.2						
MKAR	Makanchi Array	55.40	327	P	P	08 50 10.8	-0.1
	0.2nm,0.3s,baz=126,slow=8.3,SNR=5.9						

IDC 22 08:57:22.2±2.0, 0°.41N×126°.28E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/32, mbtmp3.4/3, Error ellipse: s-maj=182.4km s-min=26.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.71	159	P	P	09 02 14.6	-0.6
	1.0nm,0.6s,baz=338,slow=12,SNR=3.2						
ASAR	Alice Springs	25.05	163	P	P	09 02 48.9	+0.4
	0.2nm,0.3s,baz=343,slow=10,SNR=6.1						
MKAR	Makanchi Array	60.03	327	P	P	09 07 30.9	-0.1
	0.2nm,0.3s,baz=129,slow=7.1,SNR=7.7						

IDC 22 09:04:56.4±3.6, 8°.24S×118°.26E, h200km±31km, mb3.1/2, mb1 3.3/4, mb1mx2.6/48, mbtmp3.8/4, Error ellipse: s-maj=94.6km s-min=15.3km az=47.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.68	111	P	Pn	09 06 20.9	+1.4
	5.1nm,0.3s,baz=16,slow=11,SNR=1.6						
BATI				S	Sn	09 07 18.2	-6.9
	18nm,0.3s,baz=96,slow=21,SNR=10						
WRA	Warramunga Arr	19.43	128	P	P	09 09 06.2	-1.7
	0.3nm,0.3s,baz=304,slow=13,SNR=18						
WRA				S	S	09 12 38.2	+1.5
	0.1nm,0.3s,baz=314,slow=18,SNR=1.5						
ASAR	Alice Springs	21.44	137	P	P	09 09 29.4	+0.2
	0.6nm,0.3s,baz=315,slow=8.9,SNR=37						
ASAR				pP	pP	09 09 59.5	-3.6
	0.3nm,0.6s,baz=311,slow=12,SNR=2.3						
MKAR	Makanchi Array	63.45	333	P	P	09 15 05.2	+0.2
	0.4nm,0.4s,baz=144,slow=5.2,SNR=7.5						

NNC 22 09:16:43.3±4.3, 52°.12N×75°.75E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=73.9km s-min=24.2km az=27.0, Suspected Mining explosion.
IDC 22 09:16:45.9±0.9, 51°.68N×75°.60E, h0km, mb1 2.6/4, mb1mx2.6/48, mbtmp2.6/4, ML2.1/4, Error ellipse: s-maj=39.2km s-min=7.7km az=28.0

ISC 22 09:16:40.2±1.1, 52°.4N±0°.1×75°.91E±0°.06, h0km, n9, σ0°55/8, 3C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	2.39	134	⇑Pg	Pb	09 17 24.2	0.0
	1.5nm,0.5s						
KURK				⇓Lg	Lg	09 17 53.3	
	11nm,0.5s						
KURBB	Kurchatov Arra	2.42	137	Pn	Pn	09 17 21.6	+0.5
	0.4nm,0.3s,baz=300,slow=18,SNR=34						
KURBB				Lg	Lg	09 17 53.1	
	0.4nm,0.3s,baz=304,slow=31,SNR=11						
KURBB	Kurchatov Arra	2.42	137	⇓Pg	Pg	09 17 25.9	-0.7
	2.8nm,0.5s,baz=312,slow=14						
KURBB				⇑Lg	Lg	09 17 59.2	
	35nm,0.6s						
BVA4	Borovoye Array	3.41	283	⇓Lg	Lg	09 18 31.1	
	9.2nm,0.7s						
BVAR	Borovoye Array	3.42	283	Pn	Pb	09 17 41.5	-0.2
	0.3nm,0.3s,baz=112,slow=13,SNR=5.6						
BVAR				Pg	Pg	09 17 45.5	-0.2
	0.6nm,0.3s,baz=108,slow=19,SNR=8.6						
BVAR				Sn	Sb	09 18 23.5	-0.2
	0.8nm,0.3s,baz=99,slow=26,SNR=6.7						
BVAR				Lg	Lg	09 18 31.1	
	1.6nm,0.3s,baz=100,slow=33,SNR=9.3						
I46RU	ZALESOVO INFRA	5.57	70	*i*		09 53 10.0	
	baz=252,slow=314,SNR=1.0						
ZALV	Zalesovo Beam	5.57	70	Pn	Pb	09 18 18.3	-0.1
	0.2nm,0.3s,baz=258,slow=15,SNR=2.6						
MK31	Makanchi Array	6.98	141	⇑Lg	Lg	09 20 13.3	
	1.6nm,0.5s,baz=320,slow=26,SNR=4.4						
MKAR	Makanchi Array	6.98	141	Pn	Pn	09 18 24.4	+0.7
	0.1nm,0.3s,baz=317,slow=11,SNR=4.4						

ARE 22 09:19:51±1.3, 12°.56S±0°.08×77°.3W±0°.2, h31km±9km, ML4.0, Error ellipse: s-maj=21.8km s-min=10.9km az=102.0

NEIC 22 09:19:52.8±0.8, 12°.6S±0°.1×77°.0W±0°.2, h43km±26km, Error ellipse: s-maj=22.5km s-min=14.2km az=71.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	0.59	18	Pn	Pn	09 20 04.9	-0.1
NNA				Sn	Sn	09 20 12.7	-0.9
PB12	IPOC Station P	8.83	134	Pn	Pn	09 21 57.6	-0.4
PB16	IPOC Station P	9.25	129	Pn	Pn	09 22 03.5	-0.8
LPAZ	La Paz	9.39	114	Pn	Pn	09 22 06.0	-0.1
PB11	IPOC Station P	10.07	136	Pn	Pn	09 22 14.9	-0.2

NNC 22 09:20:21.3±6.2, 53°.21N×87°.89E, h0km, mb3.2, mpv2.8, 7C-3D, Error ellipse: s-maj=47.2km s-min=26.6km az=76.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.97	293	⇑P	Pn	09 20 54.7	-1.3
	0.4nm,0.3s						
ZAA0				⇑S	Sn	09 21 22.2	+0.8
	1.3nm,0.3s						
KURK	Kurchatov	6.25	250	⇑Pn	Pn	09 21 56.6	+1.9
	1.5nm,0.8s						
KURK				⇑Sn	Sn	09 23 07.2	+0.4
	1.0nm,0.7s						
KURK				⇓Lg	Lg	09 23 45.4	
	2.7nm,0.9s						
KURBB	Kurchatov Arra	6.34	250	⇑Pn	Pn	09 21 59.8	+3.8
	1.0nm,0.3s						
KURBB				⇓Lg	Lg	09 23 48.3	
	4.3nm,0.8s						
MK31	Makanchi Array	7.37	212	⇑Pn	Pn	09 22 15.2	+5.1
	0.3nm,0.5s,baz=29,slow=14,SNR=5.0						
MK31				⇑Sn	Sn	09 23 28.6	-5.7
	0.1nm,0.3s,baz=27,slow=14,SNR=11						
MK31				⇓Lg	Lg	09 24 18.0	
	0.3nm,0.6s,baz=21,slow=41,SNR=4.0						

IDC 22 09:21:39.4±2.4, 53°.62N×86°.89E, h0km, mb1 2.9/2, mb1mx2.3/46, mbtmp2.9/2, ML2.6/2, 1C, Error ellipse: s-maj=22.3km s-min=13.7km az=77.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.27	286	Pg	Pg	09 22 01.8	-1.9
	1.8nm,0.3s,baz=106,slow=17,SNR=6.3						
ZALV				Lg	Lg	09 22 20.8	
	1.7nm,0.3s,baz=105,slow=28,SNR=7.9						
I46RU	ZALESOVO INFRA	1.27	286	*i*		09 28 47.8	
	baz=104,slow=338,SNR=8.4						
KURBB	Kurchatov Arra	5.96	243	Pn	Pn	09 23 10.3	+1.5
	0.1nm,0.3s,baz=62,slow=14,SNR=5.3						
KURBB				Lg	Lg	09 24 47.8	
	baz=54,slow=31,SNR=2.8						
KURBB	Kurchatov Arra	5.96	243	⇑Sn	Pn	09 23 10.1	+1.3
	1.2nm,0.5s						
MKAR	Makanchi Array	7.44	205	Pn	Pn	09 23 30.4	+1.3
	0.2nm,0.3s,baz=27,slow=14,SNR=8.2						
MKAR				Lg	Lg	09 25 32.7	
	baz=29,slow=28,SNR=2.3						

IDC 22 09:25:27.2±2.5, 54°.02N×86°.53E, h0km, mb1 3.0/2, mb1mx2.9/44, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=20.2km s-min=11.6km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.01	267	*i*		09 31 34.2	
	baz=88,slow=339,SNR=9.2						
ZALV	Zalesovo Beam	1.01	267	Pg	Pg	09 25 44.7	-1.9
	0.9nm,0.3s,baz=84,slow=16,SNR=7.0						
ZALV				Lg	Lg	09 26 01.3	
	2.4nm,0.3s,baz=84,slow=31,SNR=12						
KURBB	Kurchatov Arra	5.97	238	Pn	Pn	09 26 57.8	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=5.7						
KURBB				Lg	Lg	09 28 36.9	
	0.0nm,0.3s,baz=55,slow=34,SNR=1.7						
MKAR	Makanchi Array	7.72	202	Pn	Pn	09 27 21.8	+0.9
	0.2nm,0.3s,baz=24,slow=13,SNR=8.4						
MKAR				Sn	Sn	09 28 49.5	+0.4
	0.1nm,0.3s,baz=21,slow=29,SNR=4.3						
MKAR				Lg	Lg	09 29 33.0	
	0.0nm,0.3s,baz=20,slow=31,SNR=2.5						

IDC 22 09:30:24.8±2.7, 54°.11N×86°.50E, h0km, mb1 2.9/2, mb1mx2.3/55, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=22.0km s-min=12.4km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.01	261	*i*		09 36 08.3	
	baz=83,slow=337,SNR=12						
ZALV	Zalesovo Beam	1.01	261	Pg	Pg	09 30 43.2	-0.9
	0.6nm,0.3s,baz=81,slow=16,SNR=6.3						
ZALV				Lg	Lg	09 30 58.1	
	1.9nm,0.3s,baz=77,slow=27,SNR=12						
KURBB	Kurchatov Arra	6.01	238	Pn	Pn	09 31 55.8	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=7.6						
MKAR	Makanchi Array	7.80	202	Pn	Pn	09 32 20.2	+0.6
	0.1nm,0.3s,baz=22,slow=13,SNR=7.0						
MKAR				Sn	Sn	09 33 49.5	+0.9
	0.1nm,0.3s,baz=23,slow=28,SNR=2.2						
MKAR				Lg	Lg	09 34 31.9	
	0.0nm,0.3s,baz=21,slow=30,SNR=4.2						

JMA 22 09:40:52.7±0.2, 29°.53N×140°.07E, h457km±4km, M3.7
IDC 22 09:40:55.7±1.4, 29°.39N×139°.38E, h421km±14km, mb3.2/21, mb1 3.3/26, mb1mx3.2/57, mbtmp4.0/26, Error ellipse: s-maj=15.3km s-min=12.5km az=92.0

ISC 22 09:40:54.9±0.6, 29°.46N±0°.06×139°.56E±0°.09, h414km, n36, σ1°30/45, mb3.6/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.30	135	P	P	09 42 01.1	-0.5
CBIJ				eS	S	09 42 55.0	-0.8
JHJ2	Mitsune	3.64	3	P	P	09 42 05.7	+1.4
JHH2	Haha-jima-NKT2	3.65	140	P	P	09 42 03.9	-0.7
JHH2				eS	S	09 43 00.2	-1.0
JHJ	Hachijo jima 2	3.65	3	P	P	09 42 06.5	+2.0
	14nm,0.3s,baz=26,slow=23,SNR=11						
JHJ				S	S	09 42 58.1	-3.0
	13nm,0.3s,baz=46,slow=21,SNR=1.9						
BSO1	Boso 1	5.31	13	eS	S	09 43 28.8	-0.7
BSO3	Boso 3	5.38	8	P	P	09 42 20.8	-0.1
BSO3				eS	S	09 43 30.3	-1.1
JOD2	Odawara 2	5.80	356	P	P	09 42 26.2	+0.7
JHU	Hanno	6.37	358	P	P	09 42 31.3	-0.3
JHU				eS	S	09 43 49.8	-1.3
JRY	Ryogami san	6.56	355	P	P	09 42 33.8	-0.5
JRY				eS	S	09 43 52.9	-1.9
JAG	Ashikaga	6.94	359	P	P	09 42 37.0	-1.4
JAG				S	S	09 43 57.8	-4.7
MJAR	Matsushiro Arr	7.15	351	P	P	09 42 39.9	-0.8
	0.2nm,0.3s,baz=165,slow=9.7,SNR=7.8						
JHS	Saijyo	7.76	317	P	P	09 42 48.7	+1.2
JNU	Nakatsue	8.28	298	P	P	09 42 54.1	+1.0
	0.5nm,0.3s,baz=128,slow=4.6,SNR=5.9						
KSRS	Korea Array	12.56	312	P	P	09 43 40.8	+0.6
	0.4nm,0.3s,baz=132,slow=12,SNR=12						
USRK	Ussuriysk Ar.	15.90	340	P	P	09 44 17.4	+1.1
	baz=152,slow=13,SNR=4.5						
KLR	Kul'dur	20.62	345	P	P	09 45 05.7	+1.8
	1.4nm,0.6s,baz=156,slow=9.4,SNR=4.9						
SONM	Songino Array	31.41	315	P	P	09 46 40.0	+0.1
	1.7nm,0.6s,baz=111,slow=8.1,SNR=5.5						
SEY	Seymchan	34.50	10	P	P	09 47 07.8	+2.0
	0.3nm,0.3s,baz=118,slow=17,SNR=1.2						
CMAR	Chiang Mai Arr	38.53	263	P	P	09 47 38.4	-1.7
	2.0nm,0.3s,baz=51,slow=9.3,SNR=9.2						
ZALV	Zalesovo Beam	46.19	318	P	P	09 48 39.8	-0.5
	0.6nm,0.4s,baz=111,slow=6.5,SNR=4.7						
MKAR	Makanchi Array	47.20	308	P	P	09 48 47.9	-0.3
	2.1nm,0.8s,baz=92,slow=9.4,SNR=22						
MKAR				PcP	PcP	09 50 12.2	+0.3
	0.6nm,0.9s,baz=93,slow=2.9,SNR=3.2						
WRA	Warramunga Arr	49.38	186	P	P	09 49 04.3	-0.5
	0.3nm,0.5s,baz=4.9,slow=7.9,SNR=6.6						
WRA				PcP	PcP	09 50 19.8	-0.3
	0.2nm,0.8s,baz=360,slow=5.9,SNR=1.1						
KURBB	Kurchatov Arra	49.74	313	P	P	09 49 06.7	-0.5
	2.2nm,0.5s,baz=92,slow=7.3,SNR=21						
ASAR	Alice Springs	53.10	186	P	P	09 49 31.8	-0.3
	0.4nm,1.1s,baz=3.1,slow=7.0,SNR=5.0						
BVAR	Borovoye Array	54.74	316	P	P	09 49 43.3	-0.1
	2.6nm,0.5s,baz=75,slow=11,SNR=17						
ILAR	Eielson Array	56.77	29	P	P	09 49 58.5	+1.1
	0.5nm,0.8s,baz=260,slow=5.4,SNR=2.9						
ARU	Arti	61.14	321	P	P	09 50 27.1	0.0
	1.7nm,0.2s,baz=114,slow=9.4,SNR=5.8						
INK	Inuvik	61.85	25	P	P	09 50 32.3	+0.7
	0.5nm,0.3s,baz=289,slow=6.5,SNR=8.5						
AKTO	Aktyubinsk	62.73	315	P	P	09 50 36.9	-0.8
	2.3nm,0.7s,baz=58,slow=9.6,SNR=6.8						
ARCES	ARCESS Array B	70.54	340	P	P	09 51 26.9	+0.8
	2.7nm,0.9s,baz=73,slow=7.6,SNR=7.6						
YKA	Yellowknife Ar	71.16	28	P	P	09 51 30.8	+1.0
	0.2nm,0.4s,baz=300,slow=6.2,SNR=4.1						
KBZ	Khabaz	74.71	312	P	P	09 51 50.5	-0.2
	2.5nm,0.8s,baz=82,slow=3.7,SNR=4.4						
FINES	FINESS Array B	74.80	333	P	P	09 51 50.4	-0.4
	0.3nm,0.2s,baz=55,slow=7.2,SNR=4.5						
AKASG	Malin Array Be	79.34	323	P	P	09 52 15.8	-0.3
	0.2nm,0.3s,baz=54,slow=5.6,SNR=5.0						
NVAR	Mina Array Bea	80.85	51	P	P	09 52 25.6	+1.0
	0.2nm,0.3s,baz=303,slow=8.2,SNR=2.0						
BRTR	Keskin Array B	82.70	312	P	P	09 52 33.3	-0.7
	1.0nm,0.7s,baz=104,slow=5.2,SNR=5.5						

IDC 22 09:45:59.7±2.6, 53°.92N×86°.44E, h0km, mb1 2.6/2, mb1mx2.6/50, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=21.0km s-min=12.7km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.96	273	*i*		09 51 54.2	
	baz=89,slow=336,SNR=15						
ZALV	Zalesovo Beam	0.96	273	Pg	Pg	09 46 16.6	-1.4
	0.4nm,0.3s,baz=93,slow=18,SNR=6.4						
ZALV				Lg	Lg	09 46 31.8	
	0.8nm,0.3s,baz=95,slow=29,SNR=9.5						
KURBB	Kurchatov Arra	5.87	239	Pn	Pn	09 47 29.1	+1.3
	0.1nm,0.3s,baz=56,slow=14,SNR=6.0						
MKAR	Makanchi Array	7.61	202	Pn	Pn	09 47 52.5	+0.7
	0.1nm,0.3s,baz=19,slow=13,SNR=2.3						

ISK 22 09:48:50.8, 38°.55N×43°.10E, h1km, ML2.7/16
DDA 22 09:48:51.6±0.0, 38°.48N×43°.09E, h7km±6km, ML2.5

ISC 22 09:48:52.1±0.9, 38°.53N±0°.03×43°.10E±0°.02, h12km±8km, n25, σ0°86/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKDM	Akdamar-Van	0.22	205	PG	Pg	09 48 56.4	-0.5
AKDM				SG	Sg	09 49 01.5	+1.4
VANB	Van	0.24	73	PG	Pg	09 48 56.9	-0.3
VANB				SG	Sg	09 49 00.8	+0.1
ADCV	BITLIS_Adilcev	0.40	314	P	Pb	09 49 00.7	-0.6
ADCV				S	Sb	09 49 07.7	+0.1
ADCV				*i* AML	AML	09 49 09.0	
	comp=N,562nm,0.5s						
ERCV	ERCIS-VAN	0.53	21	PG	Pg	09 49 01.5	-1.0
VMUR	Van-Muradiye	0.59	39	P	Pg	09 49 03.5	-0.2
VMUR				S	Sb	09 49 12.7	-0.3
VMUR				*i* AML	AML	09 49 18.0	
	comp=N,308nm,0.5s						
OZAP	Van, Ozalp-Mer	0.72	79	P	Pb	09 49 05.8	-0.8
OZAP				S	Sn	09 49 19.1	-0.2
PERV	Siirt/Pervari-	0.72	217	P	Pb	09 49 06.7	-0.1
PERV				S	Sn	09 49 19.0	-0.4
MLAZ	Malazgirt-MUS	0.75	325	PG	Pg	09 49 06.1	-0.5
MLAZ				SG	Sb	09 49 16.9	-0.5
BLIS	Bitlis-Merkez	0.78	262	P	Pg	09 49 06.5	-0.6
BLIS				S	Sg	09 49 16.9	-0.5
GURO	Guroymak-BITLI	0.83	272	PG	Pg	09 49 07.5	-0.7
GURO				SG	Sb	09 49 19.6	-0.3
AGRB	Hanur-Agry	1.05	356	PG	Pg	09 49 11.4	-1.0
AGRB				SG	Sb	09 49 27.1	+0.9
HAKT	HAKKARI	1.08	153	P	Pg	09 49 11.0	-2.0
SIRT	Sirnak	1.15	207	PN	Pn	09 49 14.7	+0.6
CUKT	Cukurca	1.34	162	PN	Pb	09 49 17.9	+0.7
EATA	Eleskirt	1.41	341	P	Pn	09 49 17.5	-0.4
EATA				S	Sn	09 49 38.3	+1.6
EATA				*i* AML	AML	09 49 41.0	
	comp=N,63nm,0.4s						
SVAN	Silvan-Diyarba	1.54	256	PN	Pg	09 49 20.8	-0.8
BTMN	Batman	1.57	247	P	Pn	09 49 19.9	-0.1
BTMN				S	Sg	09 49 43.7	+1.1
BTMN				*i* AML	AML	09 49 45.0	
	comp=N,147nm,0.4s						
TASB	TASBURUN-IGDIR	1.70	31	PN	Pn	09 49 22.3	+0.6
KOPR	Koprukoy-ERZUR	1.75	327	PN	Pn	09 49 23.4	+0.9
KARO	Karliova-Bingo	1.78	297	PN	Pb	09 49 24.1	-0.6
DIGO	Kars	1.90	6	P	Pn	09 49 25.7	+1.1
BNGB	Bingl	1.95	285	PN	Pb	09 49 26.6	-1.0
GNI	Garni	2.06	38	PN	Pn	09 49 27.5	+0.8
SENK	Senkaya-Erzuru	2.11	344	PN	Pn	09 49 28.1	+0.6
SVRC	Sivrice-ELAZID	2.98	268	PN	Pn	09 49 40.8	+1.5

NNC 22 09:51:05.4±4.0, 54°.24N×86°.20E, h0km, mb3.4, mpv2.6, Error ellipse: s-maj=35.7km s-min=19.6km az=2.0, Suspected Mining explosion.
IDC 22 09:51:07.7±2.2, 54°.24N×86°.03E, h0km, mb1 3.1/2, mb1mx2.9/50, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=17.3km s-min=10.4km az=55.0

ISC 22 09:50:56.8±1.7, 52°.99N±0°.05×86°.0E±0°.1, h0km, n8, σ1°21/12, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.20	324	⇑P	Pb	09 51 20.8	+0.4
	0.2nm,0.2s						
ZAA0				⇑S	Sg	09 51 34.6	-0.6
	3.6nm,0.6s						
ZALV	Zalesovo Beam	1.20	324	Pg	Pn	09 51 21.2	+0.4
	1.8nm,0.3s,baz=66,slow=17,SNR=14						
ZALV				Lg	Lg	09 51 33.2	
	5.6nm,0.3s,baz=71,slow=30,SNR=15						
I46RU	ZALESOVO INFRA	1.20	324	*i*		09 55 55.8	
	baz=67,slow=341,SNR=6.7						
KURK	Kurchatov	5.12	247	⇑Pn	Pg	09 52 35.5	+0.6
	0.9nm,0.5s						
KURK				⇓Sn	Sg	09 53 40.2	-1.1
	0.2nm,0.5s						
KURK				⇓Lg	Lg	09 54 12.3	
	0.8nm,0.6s						
KURBB	Kurchatov Arra	5.22	246	Pn	Pg	09 52 36.8	+0.1
	0.2nm,0.3s,baz=52,slow=13,SNR=15						
KURBB				Lg	Lg	09 54 14.9	
	0.0nm,0.3s,baz=44,slow=28,SNR=2.7						
KURBB	Kurchatov Arra	5.22	246	⇓Pn	Pg	09 52 35.5	-1.3
	0.7nm,0.3s						
KURBB				⇑Sn	Sg	09 53 44.5	+0.2
	0.9nm,0.3s						
KURBB				⇑Lg	Lg	09 54 19.2	
	2.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBK				S	**Sn**	**09 55 20.1**	**-1.3**
CHEFC	**Chefchaouen**	**1.44**	**256**	P	**Pg**	**09 55 04.7**	**+0.7**
CHEFC				S	**Sg**	**09 55 21.8**	**-0.9**
EMAL	**Malaga-Limoner**	**1.45**	**334**	P	**Pn**	**09 55 01.8**	**-1.0**
EMAL				S	**Sn**	**09 55 19.9**	**-1.9**
CEU	**Ceuta**	**1.48**	**288**	P	**Pn**	**09 55 01.6**	**-1.5**
CEU				S	**Sn**	**09 55 18.4**	**-4.1**
IFR	**Ifrane**	**2.29**	**213**	P	**Pg**	**09 55 19.9**	**-0.5**
IFR				S	**Sn**	**09 55 44.0**	**+1.2**
ZHG	**ZHG**	**3.19**	**232**	P	**Pn**	**09 55 27.6**	**+0.9**
ZHG				S	**Sn**	**09 56 05.7**	**+1.0**
PVAQ	**Vaqueiros**	**3.82**	**302**	*e*Pn	**Pn**	**09 55 36.6**	**+1.3**
PVAQ				*e*Sn	**Sn**	**09 56 18.9**	**-1.3**
PVAQ				A	A	09 56 35.0	
	3.9nm,0.8s						
PVAQ	**Vaqueiros**	**3.82**	**302**	P	**Pn**	**09 55 38.1**	**+2.9**
PVAQ				S	**Sn**	**09 56 20.5**	**+0.2**
PBDV	**Barranco-do-Ve**	**3.90**	**299**	*e*Pn	**Pn**	**09 55 37.8**	**+1.4**
PBDV				*e*Sn	**Sn**	**09 56 21.4**	**-0.8**
PCVE	**Castro Verde**	**4.16**	**303**	*e*Pn	**Pn**	**09 55 41.7**	**+1.8**
PTEO	**Sao Teotonio**	**4.60**	**298**	*e*Sn	**Sn**	**09 56 39.4**	**0.0**
EVO	**Evora**	**4.66**	**313**	*e*Pn	**Pn**	**09 55 48.8**	**+2.0**
EVO				*e*Sn	**Sn**	**09 56 40.0**	**-0.9**
PNCL	**Nicolau / Gran**	**4.74**	**305**	*e*Pn	**Pn**	**09 55 49.0**	**+1.1**
PNCL				*e*Sn	**Sn**	**09 56 42.5**	**-0.3**
PMRV	**Marv??o**	**4.96**	**324**	*e*Pn	**Pn**	**09 55 53.0**	**+2.0**

MAN 22 09:55:10.1, 13°.68N×120°.31E, h96km, mb3.8, ML2.5, MS2.0, Mindoro

*NEIC **22** 09:56:27.2±1.7, 23°.48S±0°.09×179°.8E±0°.1, h518km±7km, mb4.4/28, Error ellipse: s-maj=16.4km s-min=9.3km az=131.0*
*IDC **22** 09:56:28.6±1.5, 23°.44S×179°.60E, h528km±12km, mb3.3/10, mb1 3.5/12, mb1mx3.4/26, mbtmp4.2/12, Error ellipse: s-maj=23.4km s-min=13.9km az=142.0*
ISC 22 09:56:29.4±0.4, 23°.49S±0°.05×179°.69E±0°.08, h550km, n107, σ1§88/130, mb4.1/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.93**	**345**	P	**P**	**09 58 05.7**	**-1.9**
	7.4nm,0.3s,baz=223,slow=5.4,SNR=18						
MSVF				S	**S**	**09 59 24.2**	**-3.5**
	baz=90,slow=20,SNR=0.4						
RAO	**Raoul Island**	**6.13**	**160**	P	**P**	**09 58 06.3**	**-2.7**
GLKZ	**Green Lake**	**6.14**	**160**	P	**P**	**09 58 08.7**	**-0.5**
AFI	**Afiamalu**	**12.49**	**42**	P	P	09 59 08.2	-5.0
	3.5nm,0.3s,baz=149,slow=6.4,SNR=6.6						
OUZ	**Omahuta**	**12.84**	**203**	P	**P**	**09 59 19.1**	**+2.6**
WCZ	**Waipu Caves**	**13.25**	**199**	P	**P**	**09 59 23.4**	**+2.8**
KUZ	**Kuaotunu**	**13.65**	**194**	P	**P**	**09 59 26.3**	**+1.5**
WIAZ	**Waiheke Island**	**13.83**	**195**	P	**P**	**09 59 26.9**	**+0.3**
SANVU	**Saraoutou**	**14.23**	**302**	P	**P**	**09 59 29.3**	**-1.8**
HAZ	**Te Kaha**	**14.32**	**186**	P	**P**	**09 59 31.3**	**-0.3**
HAZ				S	**S**	**10 01 59.1**	**-2.6**
WMGZ	**Waiomatatini S**	**14.33**	**184**	P	**P**	**09 59 33.6**	**+1.8**
WMGZ				S	**S**	**10 02 03.6**	**+1.6**
PKGZ	**Pakihiroa**	**14.42**	**185**	P	**P**	**09 59 33.4**	**+0.6**
TGRZ	**Tauranga**	**14.50**	**191**	P	**P**	**09 59 36.7**	**+3.2**
RUGZ	**Raukumara Rang**	**14.53**	**186**	P	**P**	**09 59 31.8**	**-2.3**
RUGZ				S	**S**	**10 02 02.3**	**-3.9**
PUZ	**Puketiti**	**14.59**	**184**	P	**P**	**09 59 36.5**	**+2.0**
PUZ				S	**S**	**10 02 05.9**	**-1.1**
TOZ	**Tahuroa Road**	**14.64**	**193**	P	**P**	**09 59 37.7**	**+2.7**
TWGZ	**Tauwhareparae**	**14.72**	**185**	P	**P**	**09 59 35.5**	**-0.3**
TWGZ				S	**S**	**10 02 07.7**	**-1.7**
FUNA	**Funafuti**	**14.88**	**358**	P	**P**	**09 59 35.5**	**-2.4**
URZ	**Urewera**	**14.89**	**188**	P	**P**	**09 59 35.4**	**-2.1**
	8.9nm,0.3s,baz=22,slow=2.9,SNR=61						
URZ				S	**S**	**10 02 09.2**	**-3.3**
	1.5nm,0.3s,baz=66,slow=20,SNR=9.9						
URZ	**Urewera**	**14.89**	**188**	P	**P**	**09 59 35.7**	**-1.8**
URZ				S	**S**	**10 02 09.4**	**-3.0**
URZ	**Urewera**	**14.89**	**188**	P	**P**	**09 59 36.3**	**-1.3**
MWZ	**Matawai**	**14.91**	**187**	P	**P**	**09 59 36.4**	**-1.5**
MWZ				S	**S**	**10 02 10.2**	**-2.9**
TKGZ	**Te Karaka**	**14.99**	**186**	P	**P**	**09 59 38.2**	**-0.3**
CNGZ	**Carnagh Statio**	**15.00**	**185**	P	**P**	**09 59 39.1**	**+0.4**
RRRZ	**Republican Roa**	**15.05**	**190**	P	**P**	**09 59 41.2**	**+2.0**
RAGZ	**Rawiri**	**15.09**	**187**	P	**P**	**09 59 41.8**	**+2.1**
GRRZ	**Galatos Road**	**15.13**	**191**	P	**P**	**09 59 42.2**	**+2.2**
HRRZ	**Handcock Road**	**15.14**	**190**	P	**P**	**09 59 39.6**	**-0.6**
TLZ	**Tolley Road**	**15.21**	**193**	P	**P**	**09 59 39.0**	**-1.9**
SNGZ	**Shannon Statio**	**15.38**	**187**	P	**P**	**09 59 39.3**	**-3.3**
SNGZ				S	**S**	**10 02 18.5**	**-2.7**
PRGZ	**Paritu Road**	**15.46**	**185**	P	**P**	**09 59 45.6**	**+2.2**
MTHZ	**Maungataniwha**	**15.51**	**188**	P	**P**	**09 59 43.7**	**-0.2**
MTHZ				S	**S**	**10 02 19.1**	**-4.3**
HIZ	**Hauiti**	**15.54**	**194**	P	**P**	**09 59 50.8**	**+6.6**
RAHZ	**Arahi**	**15.54**	**188**	P	**P**	**09 59 44.7**	**+0.4**
RAHZ				S	**S**	**10 02 25.0**	**+1.0**
KNZ	**Kokohu**	**15.58**	**186**	P	**P**	**09 59 43.6**	**-1.0**
KNZ				S	**S**	**10 02 19.5**	**-5.0**
MHGZ	**Mahia Peninsul**	**15.69**	**185**	P	**P**	**09 59 47.0**	**+1.2**
BKZ	**Black Stump Fm**	**15.87**	**189**	P	**P**	**09 59 44.6**	**-2.9**
BKZ				S	**S**	**10 02 25.4**	**-4.0**
ARHZ	**Aropaoanui**	**15.89**	**188**	P	**P**	**09 59 46.9**	**-0.8**
WTVZ	**West Tongariro**	**15.96**	**192**	P	**P**	**09 59 49.3**	**+0.7**
NNVZ	**North Ngauruho**	**15.98**	**192**	P	**P**	**09 59 49.1**	**+0.4**
OTVZ	**Oturere**	**16.00**	**191**	P	**P**	**09 59 47.4**	**-1.5**
NGZ	**Ngauruhoe**	**16.02**	**192**	P	**P**	**09 59 51.0**	**+1.9**
SNVZ	**South Ngauruho**	**16.02**	**191**	P	**P**	**09 59 48.3**	**-0.9**
TUVZ	**Tukino**	**16.10**	**191**	P	**P**	**09 59 50.3**	**+0.4**
MCHZ	**McNeill Hill**	**16.11**	**188**	P	**P**	**09 59 47.7**	**-2.1**
MCHZ				S	**S**	**10 02 32.3**	**-1.0**
KWHZ	**Kaweka Forest**	**16.13**	**189**	P	**P**	**09 59 47.7**	**-2.4**
KWHZ				S	**S**	**10 02 32.3**	**-1.6**
VRZ	**Vera Road**	**16.14**	**194**	P	**P**	**09 59 53.3**	**+3.2**
BHHZ	**Black Hill Sta**	**16.25**	**190**	P	**P**	**09 59 48.2**	**-3.0**
BHHZ				S	**S**	**10 02 33.3**	**-2.5**
KRHZ	**Kereru**	**16.35**	**189**	P	**P**	**09 59 51.1**	**-1.0**
KAHZ	**Kahuranaki**	**16.43**	**188**	P	**P**	**09 59 51.8**	**-1.1**
KAHZ				S	**S**	**10 02 36.9**	**-1.9**
PXZ	**Pawanui**	**16.67**	**188**	P	**P**	**09 59 54.1**	**-0.8**
PXZ				S	**S**	**10 02 42.5**	**0.0**
TSZ	**Takapari Road**	**16.82**	**190**	P	**P**	**09 59 56.6**	**+0.2**
MSWZ	**Moikau Station**	**18.26**	**191**	P	**P**	**10 00 09.0**	**-0.5**
KHZ	**Kahutara**	**19.56**	**194**	P	**P**	**10 00 21.0**	**-0.2**
KHZ				IAmb	IAmb	10 00 25.2	
	comp=Z,17nm,0.8s						
ARMA	**Armidale**	**25.91**	**248**	P	**P**	**10 01 20.3**	**+2.0**
ARMA				IAmb	IAmb	10 01 37.6	
	comp=Z,20nm,1.4s						
EIDS	**Eidsvold**	**26.10**	**260**	P	**P**	**10 01 21.5**	**+1.6**
EIDS				IAmb	IAmb	10 01 23.8	
	comp=Z,11nm,1.5s						
PPTF	**Pamatai, Papee**	**29.34**	**84**	P	**P**	**10 01 47.4**	**-1.0**
CTAO	**Charters Tower**	**31.19**	**270**	P	**P**	**10 02 05.2**	**+0.9**
CTAO				IAmb	IAmb	10 02 05.9	
	comp=Z,14nm,0.6s						
TOO	**Toolangi**	**32.44**	**236**	P	**P**	**10 02 14.5**	**-0.2**
TOO				IAmb	IAmb	10 02 36.0	
	comp=Z,15nm,1.5s						
PMG	**Port Moresby**	**34.09**	**289**	P	**P**	**10 02 27.6**	**-1.2**
STKA	**Stephens Creek**	**34.62**	**248**	P	**P**	**10 02 33.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=90,slow=13,SNR=5.2						
STKA	**Stephens Creek**	**34.62**	**248**	P	**P**	**10 02 31.7**	**-1.3**
COEN	**Coen**	**35.77**	**279**	P	**P**	**10 02 43.5**	**+0.7**
COEN				IAmb	IAmb	10 02 45.1	
	comp=Z,4.5nm,0.9s						
BBOO	**Buckleboo**	**39.35**	**246**	P	**P**	**10 03 12.1**	**+0.3**
BBOO				IAmb	IAmb	10 03 30.4	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**41.82**	**260**	P	**P**	**10 03 30.9**	**-0.8**
ASAR	**Alice Springs**	**41.82**	**260**	P	**P**	**10 03 32.0**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=101,slow=6.9,SNR=50						
ASAR				PcP	**PcP**	**10 05 16.0**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=99,slow=4.1,SNR=3.4						
ASAR				ScP	**ScP**	**10 08 17.2**	**+4.2**
	comp=Z,0.5nm,0.7s,baz=107,slow=4.0,SNR=5.0						
ASAR				S	**S**	**10 09 09.9**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=97,slow=15,SNR=2.1						
ASAR	**Alice Springs**	**41.82**	**260**	P	**P**	**10 03 31.1**	**-0.6**
WR0	**Warramunga Arr**	**41.97**	**266**	P	**P**	**10 03 32.5**	**-0.4**
WB2	**Warramunga Arr**	**42.14**	**266**	P	**P**	**10 03 33.7**	**-0.5**
WB2				IAmb	IAmb	10 03 34.7	
	comp=Z,7.7nm,0.8s						
WB0	**Warramunga Arr**	**42.14**	**266**	P	**P**	**10 03 33.7**	**-0.5**
WB0				IAmb	IAmb	10 03 34.7	
	comp=Z,5.7nm,0.7s						
WRAB	**Tennant Creek**	**42.15**	**266**	P	**P**	**10 03 34.1**	**-0.2**
WRAB				IAmb	IAmb	10 03 34.7	
	comp=Z,6.5nm,0.9s						
WRA	**Warramunga Arr**	**42.15**	**266**	P	**P**	**10 03 34.0**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=89,slow=5.9,SNR=66						
WRA				PcP	**pwP**	**10 05 16.3**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=100,slow=3.8,SNR=2.4						
WRA				ScP	**ScP**	**10 08 18.6**	**+4.3**
	comp=Z,0.3nm,0.7s,baz=99,slow=4.2,SNR=2.2						
WRA	**Warramunga Arr**	**42.15**	**266**	P	**P**	**10 03 33.7**	**-0.7**
FORT	**Forrest**	**46.19**	**249**	P	**P**	**10 04 03.2**	**-2.1**
MTN	**Manton Dam**	**47.14**	**274**	P	**P**	**10 04 11.0**	**-1.6**
KNRA	**Kununurra**	**48.41**	**270**	P	**P**	**10 04 21.6**	**-0.5**
KNRA				IAmb	IAmb	10 04 22.7	
	comp=Z,7.9nm,0.6s						
QSPA	**South Pole Qui**	**66.59**	**180**	P	**P**	**10 06 25.2**	**0.0**
SBUM	**Sibu**	**70.45**	**282**	P	**P**	**10 06 49.6**	**+0.4**
KSRS	**Korea Array**	**77.75**	**320**	P	**P**	**10 07 30.5**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=116,slow=5.5,SNR=4.2						
PEA0B	**Petropavlovsk-**	**78.64**	**347**	P	**P**	**10 07 33.8**	**-0.5**
PETK	**Petropavlovsk-**	**78.64**	**347**	P	**P**	**10 07 35.0**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=114,slow=7.2,SNR=7.2						
PETK	**Petropavlovsk-**	**78.64**	**347**	P	**P**	**10 07 35.6**	**+1.3**
KLR	**Kul'dur**	**84.04**	**331**	P	**P**	**10 08 02.0**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=104,slow=4.2,SNR=1.8						
NVAR	**Mina Array Bea**	**84.65**	**44**	P	**P**	**10 08 07.6**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=221,slow=6.7,SNR=2.0						
SNAA	**Sanae**	**85.08**	**179**	P	**P**	**10 08 08.2**	**+1.2**
SNAA				IAmb	IAmb	10 08 12.5	
	comp=Z,4.7nm,1.2s						
BRLK	**Bradley Lake**	**86.39**	**14**	P	**P**	**10 08 14.1**	**+0.8**
TLCB	**Telegraph Cove**	**87.51**	**31**	P	**P**	**10 08 18.4**	**-0.3**
PWL	**Port Wells**	**87.96**	**15**	P	**P**	**10 08 20.6**	**+0.1**
PMR	**Palmer**	**88.42**	**14**	P	**P**	**10 08 23.4**	**+0.8**
PMR				IAmb	IAmb	10 08 37.7	
	comp=Z,18nm,1.5s						
CMAR	**Chiang Mai Arr**	**89.12**	**290**	P	**P**	**10 08 29.1**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=124,slow=3.9,SNR=4.9						
TRF	**Thorofare Moun**	**89.82**	**13**	P	**P**	**10 08 29.9**	**+0.6**
TRF				IAmb	IAmb	10 08 32.1	
	comp=Z,4.6nm,1.2s						
TXAR	**Lajitas Array**	**90.45**	**58**	P	**P**	**10 08 35.6**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=218,slow=5.9,SNR=5.1						
PDAR	**Pinedale Array**	**92.59**	**44**	P	**P**	**10 08 43.0**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=249,slow=9.6,SNR=2.9						
MKAR	**Makanchi Array**	**111.67**	**313**	PKiKP	**PKiKP**	**10 14 01.6**	**0.0**
	comp=Z,0.2nm,0.7s,baz=86,slow=0.4,SNR=4.8						
ARCES	**ARCESS Array B**	**131.43**	**348**	PKP	**PKPdf**	**10 14 39.0**	**+0.2**
	comp=Z,3.6nm,1.0s,baz=71,slow=1.8,SNR=8.8						
FINES	**FINESS Array B**	**137.97**	**341**	PKP	**PKPdf**	**10 14 51.3**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=90,slow=1.9,SNR=4.7						
FINES				SKPbc	**SKPbc**	**10 17 35.6**	**+1.9**
	comp=Z,3.3nm,0.9s,baz=38,slow=9.3,SNR=4.3						
NOA	**NORSAR Array B**	**141.63**	**351**	PKhKP	PKPpre	10 14 53.9	
	comp=Z,0.6nm,0.6s,baz=16,slow=4.7,SNR=1.8						
AKASG	**Malin Array Be**	**144.47**	**327**	PKP	**PKPdf**	**10 15 03.2**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=44,slow=4.2,SNR=15						
BRTR	**Keskin Array B**	**147.10**	**308**	PKPbc	**PKPbc**	**10 15 11.1**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=145,slow=5.1,SNR=6.3						
OSTC	**Ostas**	**150.07**	**339**	*e*PKP	**PKiKP**	**10 15 19.8**	**+1.2**
DPC	**Dobruska-Polom**	**150.21**	**338**	*e*PKP	**PKiKP**	**10 15 20.0**	**+1.1**
KRLC	**Kraliky**	**150.29**	**338**	*e*PKP	**PKiKP**	**10 15 19.7**	**+0.6**
CLL	**Collm**	**150.38**	**343**	*i* PKPbc	**PKiKP**	**10 15 19.7**	**+0.5**
	comp=Z,9.0nm,0.8s						
KHC	**Kasperske Hory**	**152.16**	**340**	*e*PKP	**PKiKP**	**10 15 23.9**	**+0.9**
GERES	**GERESS Array B**	**152.37**	**340**	PKPbc	**PKPbc**	**10 15 23.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=46,slow=3.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**169.54**	**191**	PKPab	**PKPab**	**10 16 52.9**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=170,slow=3.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**169.54**	**191**		**PKPab**	**10 16 50.6**	**-1.2**

*HEL **22** 09:59:25.8±0.1, 64°.72N×30°.62E, h0km, ML1.9, Explosion*
*IDC **22** 09:59:26.9±3.6, 64°.73N×30°.90E, h0km, mb1 2.7/2, mb1mx2.6/42, mbtmp2.6/2, ML1.7/2, Error ellipse: s-maj=64.7km s-min=11.2km az=97.0*
ISC 22 09:59:25.1±1.2, 64°.80N±0°.03×31°.07E±0°.07, h0km, n24, σ1§52/36, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.33**	**339**	PG	**Pg**	**09 59 50.0**	**-0.5**
	baz=169						
KU6				MSG		10 00 06.5	
	comp=Z,5.2nm,0.2s						
KU6				SG	**Sg**	**10 00 07.3**	**-0.4**
MSF	**Maaselka**	**1.41**	**324**	PG	**Pn**	**09 59 50.6**	**-1.3**
	baz=149						
MSF				SG	**Sg**	**10 00 08.0**	**-2.2**
JOF	**Joensuu**	**1.89**	**177**	PG	**Pn**	**09 59 58.7**	**+0.1**
JOF				SG	**Sn**	**10 00 23.4**	**+0.3**
OUL	**Oulu**	**2.22**	**280**	PG	**Pn**	**10 00 02.7**	**-0.4**
OUL				SG	**Sn**	**10 00 29.1**	**-2.1**
OUF	**Merijarvi**	**2.77**	**264**	PB	**Pn**	**10 00 09.9**	**-0.7**
	baz=76						
OUF				MSG		10 00 41.7	
	comp=Z,8.8nm,0.2s						
OUF				SG	**Sn**	**10 00 45.0**	**+0.4**
RNF	**Rovaniemi**	**2.77**	**313**	PB	**Pn**	**10 00 12.0**	**+1.3**
RNF				SG	**Sn**	**10 00 46.8**	**+2.0**
OBF0	**Syolatti, Pyha**	**2.96**	**267**	PG	**Pn**	**10 00 15.7**	**+2.6**
OBF0				SG	**Sn**	**10 00 50.5**	**+1.3**
SUF	**Sumiainen**	**3.02**	**229**	PB	**Pn**	**10 00 14.3**	**+0.2**
SUF				MSG		10 00 49.0	
	comp=Z,4.3nm,0.2s						
SUF				SG	**Sn**	**10 00 52.1**	**+1.2**
VRF	**Varrio**	**3.02**	**349**	PB	**Pn**	**10 00 16.7**	**+2.6**
VRF				MSG		10 00 56.0	
	comp=Z,1.5nm,0.2s						
TOF	**Tornio**	**3.10**	**298**	MSG		10 00 53.1	
	comp=Z,4.2nm,0.2s						
TOF				SB	**Sn**	**10 00 53.4**	**+0.6**
SGF	**Sodankyl**	**3.23**	**327**	PN	**Pn**	**10 00 18.4**	**+1.4**
SGF				SB	**Sb**	**10 01 00.9**	**-2.3**
KALU	**Kalix**	**3.41**	**292**	PG	**Pb**	**10 00 26.6**	**+0.5**
	baz=108						
KAF	**Kangasniemi**	**3.44**	**221**	PB	**Pn**	**10 00 21.2**	**+1.3**
	baz=38						
KEF	**Keuruu**	**3.83**	**229**	PB	**Pn**	**10 00 25.9**	**+0.7**
KEF				SG	**Sb**	**10 01 19.9**	**-0.5**
PAJU	**Pajala**	**3.95**	**308**	PB	**Pn**	**10 00 29.5**	**+2.6**
FIA0	**FINESS Array S**	**4.06**	**216**	PN	**Pn**	**10 00 28.0**	**-0.3**
	baz=35						
FIA0				SG	**Sb**	**10 01 28.7**	**+1.9**
FINES	**FINESS Array B**	**4.06**	**216**	Pn	**Pn**	**10 00 27.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=1.7						
FINES				Pg	**Pb**	**10 00 36.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=31,slow=16,SNR=5.8						
FINES				Lg	Lg	10 01 24.4	
	comp=Z,0.8nm,0.3s,baz=34,slow=24,SNR=12						
ERTU	**Ertsjaerv**	**4.08**	**300**	PN	**Pn**	**10 00 29.4**	**+0.9**
VAF	**Yitstaro**	**4.11**	**248**	PN	**Pn**	**10 00 28.6**	**-0.4**
BURU	**Burvik**	**4.17**	**271**	PN	**Pn**	**10 00 27.9**	**-1.9**
BURU				SG	**Sb**	**10 01 31.7**	**+1.8**
HEF	**Hetta**	**4.67**	**324**	SG	**Sb**	**10 01 46.8**	**+2.2**
ARCES	**ARCESS Array B**	**5.23**	**338**	Pn	**Pn**	**10 00 44.8**	**+0.4**
	baz=153,slow=13,SNR=20						
ARCES				Sn	**Sn**	**10 01 42.6**	**-2.6**
	baz=158,slow=22,SNR=2.1						
ARCES				Lg	Lg	10 02 05.4	
	baz=158,slow=27,SNR=7.6						
I43RU	**DUBNA INFRASON**	**8.64**	**157**	*i*		10 51 30.0	
	baz=345,slow=333,SNR=1.6						
I31KZ	**AKTYUBINSK INF**	**20.17**	**123**	*i*		12 07 20.0	
	baz=329,slow=331,SNR=1.2						

UCR 22 10:18:40.1±1.1, 10°.12N×84°.19W, h81km±3km, MW3.6, 5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDC	**Heredia**	**0.14**	**146**	*e*P	Pn	10 18 52.0	0.0
HDC				*e*S	Sn	10 19 01.3	+0.5
SRA1	**San Ramn**	**0.28**	**263**	*e*P	Pn	10 18 52.4	-0.2
SRA1				*e*S	Sn	10 19 01.6	-0.1
LCR2	**La Lucha 2**	**0.42**	**154**	*e*P	Pn	10 18 53.4	-0.2
LCR2				*e*S	Sn	10 19 03.8	+0.3
RIMA	**Rio Macho**	**0.48**	**137**	*e*P	Pn	10 18 54.0	-0.1
RIMA				*e*S	Sn	10 19 04.8	+0.5
ARE1	**Arenal 1**	**0.62**	**303**	*e*P	Pn	10 18 55.2	+0.2
CEDE	**Laguna Cedeo**	**0.62**	**306**	||*i*P	Pn	10 18 55.2	+0.1
CEDE				*i* S	Sn	10 19 07.3	+1.0
COVE	**Coope Vega, Sa**	**0.63**	**341**	*e*P	Pn	10 18 55.0	-0.2
JACO	**JACO, Garabito**	**0.65**	**225**	*e*P	Pn	10 18 55.2	-0.1
JACO				*e*S	Sn	10 19 07.4	+0.8
JTS	**Las Juntas de**	**0.77**	**283**	*e*P	Pn	10 18 56.3	-0.2
LAFE	**Finca La Fe, P**	**0.77**	**246**	*e*P	Pn	10 18 57.3	+0.7
LAFE				*e*S	Sn	10 19 10.4	+1.5
PEZE	**Perez Zeledon,**	**0.89**	**145**	*e*P	Pn	10 18 58.1	0.0
EDDO	**Dominical**	**0.92**	**159**	*e*P	Pn	10 18 58.6	+0.3
ACAL	**Aguas Claras**	**0.97**	**302**	||*i*P	Pn	10 18 58.9	-0.1
PTEN	**Parque Tenorio**	**0.98**	**307**	||*i*P	Pn	10 18 59.0	-0.1
CUI	**Cuipilapa**	**1.09**	**299**	||*i*P	Pn	10 19 00.4	0.0
COLC	**Colonia**	**1.13**	**299**	||*i*P	Pn	10 19 00.9	0.0
SRBA	**San Rafael, Bu**	**1.21**	**137**	*e*P	Pn	10 19 02.1	+0.2
GUAI	**GUAI**	**1.30**	**277**	*i* P	Pn	10 19 03.5	+0.5
BUAI	**Buenos Aires**	**1.35**	**304**	*i* P	Pn	10 19 03.5	-0.1
BUAI				*i* S	Sn	10 19 22.0	+0.8
BUEV	**Buena Vista**	**1.37**	**300**	*i* P	Pn	10 19 03.8	-0.1
LAPC	**Finca la Perla**	**1.38**	**298**	*i* P	Pn	10 19 03.8	-0.1
GBS3	**Finca Las Img**	**1.40**	**298**	*i* P	Pn	10 19 04.1	-0.1
SAJU	**San Juanillo,**	**1.49**	**268**	*e*P	Pn	10 19 04.8	-0.6
HZTE	**Horizontes, Gu**	**1.50**	**293**	*e*P	Pn	10 19 05.5	+0.1

*NORS **22** 10:19:21.4±0.0, 42°.60N×44°.98E, h8km, MPVA3.5*
*MOS **22** 10:19:21.3±0.0, 42°.69N×44°.98E, h18km, MPVA3.4*
*TIF **22** 10:19:23.9, 42°.74N×44°.88E, h10km*
ISC 22 10:19:22.1±1.2, 42°.71N±0°.03×44°.97E±0°.02, h12km±10km, n25, σ0§81/48, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNSH	**Pansheti**	**0.27**	**254**	P	**Pb**	**10 19 29.0**	**0.0**
PNSH				S	**Sb**	**10 19 32.8**	**-0.9**
MTEO	**Meteo**	**0.32**	**265**	P	**Pb**	**10 19 29.8**	**-0.3**
MTEO				S	**Sb**	**10 19 34.6**	**-0.8**
KMGR	**Komgaron**	**0.36**	**347**	*e*Pg	**Pb**	**10 19 30.8**	**+0.4**
KMGR				*e*Sg	**Sb**	**10 19 37.4**	**+1.3**
VLKR	**Vladikavkaz**	**0.40**	**327**	*e*Pg	**Pb**	**10 19 31.8**	**+0.6**
VLKR				*e*Sg	**Sb**	**10 19 38.6**	**+1.3**
GUDG	**Gudauri**	**0.44**	**236**	P	**Pb**	**10 19 32.6**	**+0.7**
GUDG				S	**Sb**	**10 19 38.7**	**+0.1**
GUDG	**Gudauri**	**0.44**	**236**	*e*Pg	**Pb**	**10 19 32.6**	**+0.7**
GUDG				*e*Sg	**Sb**	**10 19 38.7**	**+0.1**
LACR	**Lac**	**0.51**	**284**	*e*Pg	**Pb**	**10 19 32.8**	**-0.3**
LACR				*e*Sg	**Sb**	**10 19 39.7**	**-0.8**
KORR	**Kora**	**0.76**	**300**	*e*Pg	**Pn**	**10 19 39.0**	**+0.3**
KORR				*e*Sg	**Sn**	**10 19 50.6**	**+0.4**
GROC	**Groznyy**	**0.78**	**51**	*e*Pg	**Pb**	**10 19 37.8**	**+0.1**
GROC				*e*Sg	**Sn**	**10 19 50.6**	**+0.1**
ZEI	**Tsey**	**0.79**	**276**	*e*Pg	**Pb**	**10 19 37.6**	**-0.3**
ZEI				*e*Sg	**Sb**	**10 19 48.6**	**-0.1**
DVE	**Vedeno**	**0.89**	**73**	*e*Pg	**Pn**	**10 19 39.5**	**-0.9**
DVE				*e*Sg	**Sn**	**10 19 52.3**	**-0.9**
BTLR	**Botlikh**	**0.92**	**92**	*e*Pg	**Pn**

LKRN	Lenkeran, Azer	1.11	141	*e*Pg		Pb	10 42 15.5	+0.2
IML	Ismayilli	1.23	11	*e*Pg		Pg	10 42 18.5	+0.9
ASTR	Astara	1.24	145	*e*Pg		Pn	10 42 17.5	+0.2
GBS	Qobustan	1.25	40	*e*Pg		Pg	10 42 20.9	+2.9
PQL	Pirkuli	1.32	24	*e*Pg		Pg	10 42 20.3	+1.0
MNGR	Mingechevir, A	1.34	333	*e*Pg		Pb	10 42 20.2	+1.1
QBL	Gabala	1.36	359	*e*Pg		Pn	10 42 20.1	+1.0
IHRS	Heris	1.42	208	*e*Pg		Pn	10 42 20.3	+0.3
ATGJ	Altiaghaj	1.51	32	*e*Pn		Pg	10 42 24.4	+1.5
XNQ	Khinaliq	1.60	7	*e*Pn		Pn	10 42 23.1	+0.6
GANJ	Ganja	1.60	312	*e*Pn		Pn	10 42 22.4	+0.1
ORD	Ordubad	1.61	247	*e*Pn		Pn	10 42 22.7	+0.3
ISRB	Sarab	1.76	186	*e*Pg		Pn	10 42 26.3	+1.6
SBZ	Shahbuz	1.81	265	*e*Pn		Pn	10 42 26.3	+1.0
NAX	Nakhchivan	1.90	255	*e*Pn		Pn	10 42 28.3	+1.9
IMRD	Marand	1.90	244	*e*Pg		Pn	10 42 28.0	+1.4
IMRD				*e*			10 42 30.6	
	comp=Z,34μm,0.2s							
TAB1	Tabriz	1.95	219	*e*Pg		Pb	10 42 30.3	+0.6
IBST	Bostanabad	2.03	203	*e*Pn		Pn	10 42 29.8	+1.4
IBST				*e*			10 42 57.9	
	comp=Z,8μm,0.3s							
ISHB	Shabestar	2.19	234	*e*Pn		Pn	10 42 31.2	+0.6
ISHB				*e*			10 43 02.5	
	comp=Z,10μm,0.4s							
CSN1	Caspian	2.23	154	*e*Pn		Pn	10 42 31.6	+0.7
CSN1				*e*			10 43 02.9	
	comp=Z,7μm,0.2s							
HYR	Heyderabad	2.34	274	*e*Pn		Pn	10 42 34.6	+2.0
IAZR	Azarshahr	2.42	219	*e*Pn		Pn	10 42 35.3	+1.6
IAZR				*e*			10 43 12.0	
	comp=Z,12μm,0.3s							
QZX	Qazax, Azerbai	2.42	308	*e*Pn		Pn	10 42 35.2	+1.6
GNI	Garni	2.48	284	Pn		Pb	10 42 39.4	+0.7
	comp=Z,44nm,0.3s,baz=343,slow=0.9,SNR=74							
GNI				Lg		Lg	10 43 11.6	
	comp=Z,58nm,0.3s,baz=108,slow=21,SNR=12							
GNI	Garni	2.48	284	*i* P		Pb	10 42 39.6	+0.9
GNI				*i* S		Sg	10 43 13.0	-0.7
MAKU	Maku	2.49	266	*e*Pn		Pn	10 42 36.9	+2.3
NRKZ	NAREK	2.52	281	*i* P		Pb	10 42 41.3	+2.0
NRKZ				*i* S		Sg	10 43 14.3	-0.5
KAPZ	Kaputan	2.56	288	*i* P		Pb	10 42 40.6	+0.6
KAPZ				*i* S		Sb	10 43 13.7	+2.2
LHJ2	Lahijan - Gila	2.96	144	*e*Pn		Pn	10 42 41.1	+0.2
METS	Metsamor	2.98	282	*i* P		Pb	10 42 45.7	-1.4
METS				*i* S		Sb	10 43 25.9	+2.3
STE	Stepanavan	3.04	299	*i* P		Pb	10 42 48.8	+0.6
STE				*i* S		Sb	10 43 26.5	+1.1
VNNZ	Vanand	3.17	281	*i* P		Pb	10 42 52.9	+2.5
VNNZ				*i* S		Sg	10 43 34.6	-1.1
JIR1	Jirandeh	3.24	152	*e*Pn		Pn	10 42 45.6	+0.6
IGZV	Ghazvin	3.69	149	*e*Pn		Pn	10 42 52.4	+1.2
IGZV				*e*			10 43 38.5	
	comp=Z,3μm,0.2s							
QALM	Alamut, Qazvin	3.83	144	*e*Pn		Pn	10 42 53.5	+0.4
QABG	Abgarm-Qazvin	4.09	160	*e*Pn		Pn	10 42 56.9	+0.1
THKV	Tehran--Karaj	4.36	146	*e*Pn		Pn	10 43 01.1	+0.7
IMHD	Mahdasht	4.47	150	*e*Pn		Pn	10 43 04.6	+2.7
IRAZ	Razeghan	4.48	158	*e*Pn		Pn	10 43 03.1	+1.1
CHTH	Charan	4.48	144	*e*Pn		Pn	10 43 04.1	+2.0
SNGE	Sanandaj	4.50	186	*e*Pn		Pn	10 43 02.8	+0.4
IPRN	Peran	4.85	132	*e*Pn		Pn	10 43 08.0	+0.9
IDHR	Dehrash	5.02	194	*e*Pn		Pn	10 43 11.4	+2.0
DAMV	Damavand	5.11	139	*e*Pn		Pn	10 43 13.6	+2.9
ASAO	Ashtian	5.31	161	*e*Pn		Pn	10 43 16.0	+2.5
IVRN	Varamin	5.51	145	*e*Pn		Pn	10 43 17.6	+1.5
IGLO	Ghaloghah	5.61	121	*e*Pn		Pn	10 43 19.8	+2.2
ISHM	Shahmirzad	5.71	130	*e*Pn		Pn	10 43 21.3	+2.3
ISHM				*e*			10 44 30.5	
	comp=Z,1μm,0.4s							
ILAS	Lasjerd	5.82	135	*e*Pn		Pn	10 43 21.3	+0.8
KHMZ	Khomeyn	6.07	163	*e*Pn		Pn	10 43 25.6	+1.7
ISFB	Sefidab	6.28	145	*e*Pn		Pn	10 43 28.6	+2.0
IANJ	Anjilo	6.31	129	*e*Pn		Pn	10 43 29.8	+2.6
KRSH	Karshahi	6.56	147	*e*Pn		Pn	10 43 33.1	+2.5
IKLH	Kolahrood	6.92	153	*e*Pn		Pn	10 43 38.6	+2.9
ANAR	Anarak	7.93	142	*e*Pn		Pn	10 43 51.5	+2.1
GEYT	Alibeck	8.16	98	Pn		Pn	10 43 52.5	0.0
	comp=Z,0.6nm,0.3s,baz=268,slow=18,SNR=2.7							
GEYT				Sn		Sn	10 45 23.4	-1.5
	comp=Z,1.0nm,0.3s,baz=266,slow=21,SNR=2.2							
SBZV	Sabzevar	8.31	109	*e*Pn		Pn	10 43 55.5	+0.8
ISFR	Sfrayin	8.34	104	*e*Pn		Pn	10 43 56.4	+1.2
IEMG	Emamgholi	8.72	101	*e*Pn		Pn	10 44 01.7	+1.4
IKRD	Kardeh	9.58	103	*e*Pn		Pn	10 44 13.0	+0.9
AKTO	Aktyubinsk	12.99	30	Pn		Pn	10 44 54.8	-3.7
	comp=Z,0.4nm,0.3s,baz=192,slow=11,SNR=11							
AKTO				Sn		Sn	10 47 10.4	-13
	comp=Z,0.2nm,0.3s,baz=336,slow=22,SNR=1.5							
AKASG	Malin Array Be	17.18	316	Pn		Pn	10 45 52.8	-1.0
	comp=Z,0.3nm,0.3s,baz=123,slow=11,SNR=1.8							
ARU	Arti	18.27	19	Pn		Pn	10 46 02.5	-4.8
	comp=Z,0.0nm,0.3s,baz=196,slow=10,SNR=1.8							
KIRV	Kirov	19.05	2	P		P	10 46 14.2	-1.8
	comp=Z,2.1nm,0.3s,baz=212,slow=4.3,SNR=2.3							
BVAR	Borovoye Array	20.44	41	P		P	10 46 31.1	-0.2
	comp=Z,0.5nm,0.4s,baz=222,slow=17,SNR=6.0							
BVAR				S		S	10 49 57.6	-22
	comp=Z,0.5nm,0.5s,baz=230,slow=34,SNR=1.8							
KURBB	Kurchatov Arra	24.11	53	P		P	10 47 10.3	+0.7
	comp=Z,0.4nm,0.4s,baz=264,slow=9.1,SNR=2.2							
FINES	FINESS Array B	25.66	336	P		P	10 47 23.1	-0.5
	comp=Z,1.0nm,0.5s,baz=145,slow=10,SNR=11							
MKAR	Makanchi Array	25.95	63	P		P	10 47 27.2	+0.8
	comp=Z,0.3nm,0.5s,baz=263,slow=5.8,SNR=2.4							
GERES	GERESS Array B	26.00	302	P		P	10 47 27.2	+0.3
	comp=Z,0.5nm,0.5s,baz=98,slow=9.6,SNR=5.1							
ARCES	ARCESS Array B	32.28	345	P		P	10 48 21.9	-0.5
	comp=Z,3.3nm,0.9s,baz=147,slow=8.4,SNR=5.2							

KRNET ***22*** *10:51:27.5±0.1, 42°.37N×78°.40E, h17km, mb3.3*
SOME ***22*** *10:51:27.1, 42°.35N×78°.32E, h5km*
NNC ***22*** *10:51:28.4±0.7, 42°.43N×78°.39E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=4.6km s-min=2.1km az=159.0*
ISC 22 10:51:28.0±1.1**, 42°.37N**±0°.03×**78°.38E**±0°.02**, h6**km±8km**, n63**, σ0s**80**/121**, 17C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.11	10	⇑*i*P	Pg	10 51 30.5	0.0
	baz=59						
PRZ				⇑*i*S	Sg	10 51 33.6	+1.3
	baz=59						
ANVS	Anan'yevo	0.66	308	⇑*i*P	Pg	10 51 40.3	-0.5
	baz=8.0						
ANVS				⇑*i*S	Sg	10 51 50.4	+0.9
	baz=8.0						
SATY	Saty	0.69	2	*e*P	Pg	10 51 41.0	-0.2
	40nm,0.1s						
SATY				*e*S	Sg	10 51 50.1	-0.1
	170nm,0.1s						
SATY	Saty	0.69	2	P	Pg	10 51 41.0	-0.2
	40nm,0.1s						
SATY				S	Sg	10 51 50.1	-0.1
	170nm,0.1s						
TARG	Taragay, Kyrgy	0.77	214	⇑*i*P	Pg	10 51 41.9	-1.0
	baz=15						
TARG				⇑*i*S	Sg	10 51 53.1	+0.2
	baz=15						
ZHN	Zhinishke	0.79	3	*e*P	Pg	10 51 43.0	-0.3
	35nm,0.2s						
ZHN				*e*S	Sg	10 51 53.6	0.0
	223nm,0.2s						
ZHN	Zhinishke	0.79	3	P	Pg	10 51 43.0	-0.3
	35nm,0.2s						
ZHN				S	Sg	10 51 53.7	0.0
	223nm,0.2s						
ZHN	Zhinishke	0.79	3	*e*P	Pg	10 51 43.0	-0.3
	baz=2.0						
ZHN				*e*S	Sg	10 51 53.7	0.0
	baz=2.0						
UZB	Uzynbulak	0.91	31	*e*P	Pg	10 51 44.7	-0.8
	11nm,0.1s						
UZB				*e*S	Sg	10 51 56.6	-0.6
	70nm,0.2s						
UZB	Uzynbulak	0.91	31	P	Pg	10 51 44.7	-0.8
	11nm,0.1s						
UZB				P	Pg	10 51 44.7	-0.8
	11nm,0.1s						
UZB				S	Sg	10 51 56.6	-0.6
	70nm,0.2s						
UZB				S	Sg	10 51 56.7	-0.6
	72nm,0.1s						
UZB	Uzynbulak	0.91	31	*e*P	Pg	10 51 44.7	-0.8
	baz=30						
UZB				*e*S	Sg	10 51 56.7	-0.6
	baz=30						
KDJ	Kajisay	0.92	255	⇑*i*P	Pg	10 51 44.7	-1.0
	baz=56						
KDJ				⇑*i*S	Sg	10 51 58.0	+0.4
	baz=56						
KURS	Kuram	1.12	352	*e*P	Pg	10 51 48.8	-0.8
	6.3nm,0.1s						
KURS				*e*S	Sg	10 52 03.7	-0.5
	13nm,0.4s						
KURS	Kuram	1.12	352	P	Pg	10 51 48.8	-0.8
	6.3nm,0.1s						
KURS				S	Sg	10 52 03.7	-0.5
	13nm,0.4s						
KURS	Kuram	1.12	352	*e*P	Pg	10 51 48.8	-0.8
	baz=51						
KURS				*e*S	Sg	10 52 03.6	-0.5
	baz=51						
TNSS	Tian-Shan	1.24	303	*e*P	Pg	10 51 51.3	-0.6
	14nm,0.1s						
TNSS				*e*S	Sb	10 52 08.4	-0.2
	25nm,0.2s						
TNSS	Tian-Shan	1.24	303	P	Pg	10 51 51.3	-0.6
	14nm,0.1s						
TNSS				S	Sb	10 52 08.4	-0.2
	25nm,0.2s						
TNSS	Tian-Shan	1.24	303	*e*P	Pg	10 51 51.3	-0.6
	baz=3.0						
TNSS				*e*S	Sb	10 52 08.4	-0.2
	baz=3.0						
MDOK	Medeo	1.26	309	*e*P	Pg	10 51 51.4	-0.7
	27nm,0.2s						
MDOK				*e*S	Sg	10 52 08.1	-0.3
	34nm,0.4s						
MDOK	Medeo	1.26	309	P	Pg	10 51 51.5	-0.7
	11nm,0.4s						
MDOK				S	Sg	10 52 08.0	-0.3
	10nm,0.3s						
MDOK	Medeo	1.26	309	Pg	Pg	10 51 51.4	-0.7
	27nm,0.2s						
MDOK				Lg	Lg	10 52 08.1	
	34nm,0.4s						
MDOK	Medeo	1.26	309	*e*P	Pg	10 51 51.4	-0.7
	baz=9.0						
MDOK				*e*S	Sg	10 52 08.1	-0.3
	baz=9.0						
PDGK	Podgornoye	1.26	40	⇑P	Pg	10 51 50.7	-1.4
	1.2nm,0.2s						
PDGK				⇓S	Sg	10 52 06.9	-1.6
	11nm,0.3s						
KOTS	Kotyrbulak	1.27	313	*e*P	Pg	10 51 51.6	-0.7
	41nm,0.2s						
KOTS				*e*S	Sg	10 52 08.3	-0.4
	44nm,0.2s						
KOTS	Kotyrbulak	1.27	313	P	Pg	10 51 51.6	-0.7
	41nm,0.2s						
KOTS				P	Pb	10 51 51.9	-0.5
	41nm,0.2s						
KOTS				S	Sg	10 52 08.3	-0.4
	44nm,0.2s						
KOTS				S	Sb	10 52 09.0	+0.1
	117nm,0.2s						
KOTS	Kotyrbulak	1.27	313	*e*P	Pg	10 51 51.6	-0.7
	baz=13						
KOTS				*e*S	Sg	10 52 08.4	-0.4
	baz=13						
ULHL	Ulahol	1.59	266	⇑*i*P	Pn	10 51 56.8	-0.1
	baz=66						
ULHL				⇑*i*S	Sg	10 52 18.7	-0.4
	baz=66						
MTBS	Maitube	1.62	298	*e*P	Pb	10 51 57.9	-0.4
	28nm,0.3s						
MTBS				*e*S	Sb	10 52 19.2	+0.1
	41nm,0.5s						
MTBS	Maitube	1.62	298	P	Pb	10 51 57.9	-0.4
	28nm,0.3s						
MTBS				S	Sb	10 52 19.2	+0.1
	41nm,0.5s						
MTBS	Maitube	1.62	298	*e*P	Pb	10 51 57.9	-0.4
	baz=98						
MTBS				*e*S	Sb	10 52 19.2	+0.1
	baz=98						
BLB	Baldybastay	1.72	2	*e*P	Pb	10 51 59.6	-0.6
	94nm,0.1s						
BLB				*e*S	Sb	10 52 22.1	0.0
	192nm,0.2s						
BLB	Baldybastay	1.72	2	P	Pb	10 51 59.6	-0.6
	94nm,0.1s						
BLB				S	Sb	10 52 22.1	0.0
	192nm,0.2s						
CHKK	Chushkaly	1.79	326	*e*P	Pb	10 52 01.0	-0.3
	72nm,0.2s						
CHKK				*e*S	Sb	10 52 24.4	+0.4
	58nm,0.3s						
CHKK	Chushkaly	1.79	326	P	Pb	10 52 01.0	-0.3
	72nm,0.2s						
CHKK				S	Sb	10 52 24.5	+0.4
	58nm,0.3s						
CHKK	Chushkaly	1.79	326	*e*P	Pb	10 52 01.0	-0.3
	baz=26						
CHKK				*e*S	Sb	10 52 24.5	+0.4
	baz=26						
BOOM	Boomskoye usch	1.81	274	⇑*i*P	Pb	10 52 00.6	-1.0
	baz=75						
BOOM				⇑*i*S	Sb	10 52 24.6	+0.1
	baz=75						
KTBS	Karatobe	1.82	318	*e*P	Pb	10 52 01.5	-0.3
	29nm,0.2s						
KTBS				*e*S	Sb	10 52 25.4	+0.4
	94nm,0.5s						
KTBS	Karatobe	1.82	318	P	Pb	10 52 01.5	-0.3
	29nm,0.2s						
KTBS				S	Sb	10 52 25.3	+0.4
	94nm,0.5s						
KTBS	Karatobe	1.82	318	*e*P	Pb	10 52 01.5	-0.3
	baz=17						
KTBS				*e*S	Sb	10 52 25.4	+0.4
	baz=17						
ARXS	Arharly	1.88	348	*e*P	Pb	10 52 02.3	-0.5
	44nm,0.5s						
ARXS				*e*S	Sb	10 52 26.7	+0.1
	21nm,0.2s						
ARXS	Arharly	1.88	348	P	Pb	10 52 02.2	-0.5
ARXS				P	Pb	10 52 02.3	-0.5
	44nm,0.5s						
ARXS				S	Sb	10 52 26.7	+0.1
	21nm,0.2s						
ARXS				S	Sg	10 52 27.0	-1.5
KST	Kastek	1.90	291	*e*P	Pb	10 52 03.3	+0.1
	15nm,0.2s						
KST				*e*S	Sg	10 52 28.4	-0.6
	53nm,0.5s						
KST	Kastek	1.90	291	P	Pb	10 52 03.3	+0.1
	15nm,0.2s						
KST				S	Sg	10 52 28.4	-0.6
	53nm,0.5s						
DGS	Degeres	2.10	295	*e*P	Pb	10 52 06.4	-0.2
	11nm,0.3s						
DGS				*e*S	Sb	10 52 33.8	+0.8
	21nm,0.3s						
DGS	Degeres	2.10	295	Pg	Pb	10 52 06.3	-0.3
DGS				Pg	Pb	10 52 06.4	-0.2
	11nm,0.3s						
DGS				Lg	Lg	10 52 33.8	
	21nm,0.3s						
DGS				Lg	Lg	10 52 34.1	
TKM2	Tokmak 2	2.12	286	⇓P	Pb	10 52 07.0	0.0
	0.7nm,0.2s						
TKM2				⇓S	Sg	10 52 35.1	-1.1
	19nm,0.5s						
TKM2	Tokmak 2	2.12	286	⇑*i*P	Pn	10 52 05.2	+1.0
	baz=86						
TKM2				⇑*i*S	Sn	10 52 32.2	+1.2
	baz=86						
KUU	Kurty	2.13	316	*e*P	Pb	10 52 06.2	-0.8
	12nm,0.3s						
KUU				*e*S	Sb	10 52 33.4	-0.2
	39nm,0.4s						
KUU	Kurty	2.13	316	Pg	Pb	10 52 06.2	-0.8
	12nm,0.3s						
KUU				Lg	Lg	10 52 33.4	
	39nm,0.4s						
DJR	Jarkent	2.21	27	*e*P	Pb	10 52 07.7	-0.8
	6.5nm,0.1s						
DJR				*e*S	Sb	10 52 36.2	+0.1
	60nm,0.2s						
DJR	Jarkent	2.21	27	Pg	Pb	10 52 07.7	-0.8
	6.5nm,0.1s						
DJR				Lg	Lg	10 52 36.2	
	60nm,0.2s						
KRBS	Karabastau	2.38	305	*e*P	Pb	10 52 10.1	-1.2
	15nm,0.4s						
KRBS				*e*S	Sb	10 52 40.1	-0.8
	39nm,0.3s						
KRBS	Karabastau	2.38	305	Pg	Pb	10 52 10.1	-1.2
	15nm,0.4s						
KRBS				Pg	Pg	10 52 11.3	-2.3
KRBS				Lg	Lg	10 52 40.1	
	39nm,0.3s						
KRBS				Lg	Lg	10 52 42.6	
AAK	Ala-Archa	2.88	277	⇑Lg	Lg	10 52 55.0	
	7.0nm,0.7s						
SGDS	Sogindy	2.95	293	*e*P	Pb	10 52 21.3	+0.2
	1.7nm,0.3s						
SGDS				*e*S	Sb	10 52 59.4	+2.0
	12nm,0.4s						
SGDS	Sogindy	2.95	293	Pg	Pb	10 52 20.9	-0.2
SGDS				Pg	Pb	10 52 21.3	+0.2
	1.7nm,0.3s						
SGDS				Lg	Lg	10 52 59.2	
SGDS				Lg	Lg	10 52 59.4	
	12nm,0.4s						
KAPS	Kapalarasan	3.00	13	*e*P	Pb	10 52 21.1	-0.7
	4.1nm,0.3s						
KAPS				*e*S	Sb	10 53 00.2	+1.6
	11nm,0.3s						
KAPS	Kapalarasan	3.00	13	Pg	Pb	10 52 21.1	-0.7
	4.1nm,0.3s						
KAPS				Lg	Lg	10 53 00.2	
	11nm,0.3s						
MRKS	Merke	3.82	277	*e*P	Pb	10 52 37.9	+2.0
	1.2nm,0.3s						
MRKS				*e*S	Sg	10 53 27.8	-3.0
	3.9nm,0.3s						
MRKS	Merke	3.82	277	Pg	Pb	10 52 37.9	+2.0
	1.2nm,0.3s						
MRKS				Lg	Lg	10 53 27.8	
	3.9nm,0.3s						
MK31	Makanchi Array	5.23	31	⇑Pn	Pn	10 52 49.0	+2.3
	0.3nm,0.2s,baz=221,slow=15,SNR=7.4						
MK31				⇓Sn	Sn	10 53 47.2	-0.1
	baz=343,slow=19,SNR=4.4						
MK31				⇓Lg	Lg	10 54 08.8	
	0.1nm,0.2s,baz=215,slow=28,SNR=4.5						
KK08	Karatay Array	5.86	280	⇓Lg	Lg	10 54 33.8	
	0.8nm,0.4s						
OTUK	Ortayu	7.25	326	⇓Lg	Lg	10 55 14.6	
	2.5nm,0.7s						

ANF ***22*** *10:59:08.3±0.3, 36°.59N×97°.77W, h5km, ML4.5/16, Error ellipse: s-maj=3.6km s-min=3.5km az=51.0*
TUL ***22*** *10:59:08.7±0.8, 36°.603N±0°.004×97°.83W±0°.04, h7km±7km, ML3.7, mb_Lg3.6/91(NEIC), Error ellipse: s-maj=4.2km s-min=0.4km az=96.0*
IDC ***22*** *10:59:08.2±1.2, 36°.72N×97°.99W, h0km, mb3.1/1, mb1 3.5/5, mb1mx3.4/37, mbtmp3.2/5, ML3.7/3, Error ellipse: s-maj=15.7km s-min=14.4km az=139.0*
NEIC ***22*** *10:59:09.4±0.6, 36°.60N±0°.02×97°.83W±0°.05, h5km±7km, Error ellipse: s-maj=6.2km s-min=2.6km az=71.0*
ISC 22 10:59:09.2±0.9**, 36°.59N**±0°.02×**97°.81W**±0°.02**, h12**km±6km**, n134**, σ0s**91**/143**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.16	238	Pg	Pg	10 59 12.2	-0.7
CROK				Sg	Sg	10 59 14.7	-0.8
GC02	Grant County #	0.26	352	Pg	Pg	10 59 14.1	-0.5
GC02				Sg	Sg	10 59 18.0	-0.3
KAN14	Manchester OK	0.39	342	Pg	Pg	10 59 16.2	-0.6
KAN14				Sg	Sg	10 59 21.6	-0.4
KAN17	Caldwell West	0.45	5	Pg	Pg	10 59 17.6	-0.5
KAN17				Sg	Sg	10 59 23.9	-0.3
KAN13	South Haven SW	0.50	32	Pg	Pg	10 59 18.7	-0.3
KAN13				Sg	Sg	10 59 25.6	0.0
BLOK	Blackwell	0.51	70	Pg	Pg	10 59 18.9	-0.2
BLOK				Sg	Sg	10 59 26.4	+0.5
KAN05	Bluff City Nor	0.52	355		Pg	10 59 18.8	-0.6
KAN05				Sg	Sg	10 59 25.9	-0.3
KAN01	Argonia South	0.56	4		Pg	10 59 19.6	-0.6
KAN10	Anthony SW Sta	0.58	337	Pg	Pg	10 59 19.7	-0.7
KAN10				Sg	Sg	10 59 27.5	-0.6
KAN08	Anthony NE Sta	0.65	349		Pg	10 59 21.1	-0.7
KAN08				Sg	Sg	10 59 29.9	-0.4
KAN06	Argonia West S	0.66	357		Pg	10 59 21.3	-0.6
KAN06				Sg	Sg	10 59 30.3	-0.3
KAN16	Harper SW Stat	0.67	342	Pg	Pg	10 59 21.4	-0.8
KAN12	Harper NE Stat	0.72	348	Pg	Pg	10 59 22.4	-0.7
KAN12				Sg	Sg	10 59 32.1	-0.6
OK033	Mehan	0.89	127	Pg	Pg	10 59 25.9	-0.5
OK033				Sg	Sg	10 59 38.1	+0.1
BCOK	Bluff Creek, N	0.95	170		Pg	10 59 26.6	-0.8
U32A	Winter Ranch,	0.98	258		Pg	10 59 26.9	-1.2
U32A				Sg	Sg	10 59 40.2	-0.7
QUOK	Quay	0.98	115	Pg	Pg	10 59 27.5	-0.6
QUOK				Sg	Sg	10 59 40.7	-0.2
OK031	S. Brethren Rd	1.01	129		Pg	10 59 28.1	-0.6
OK031				Sg	Sg	10 59 41.7	-0.1
OK009	Oakdale Elemen	1.05	163	Pg	Pg	10 59 29.1	-0.4
OK025	Westminster Rd	1.08	159	Pg	Pg	10 59 29.2	-0.7
T35A	Sooner Cattle	1.09	72		Pg	10 59 29.5	-0.7
OKCFA	Oklahoma City	1.21	166		Pg	10 59 31.4	-1.0
OKCSW	OKLAHOMA CITY	1.22	166		Pg	10 59 31.7	-0.9
FNO	Franklin	1.37	166		Pn	10 59 34.0	-0.2
W35A	Tecumseh	1.62	152	Pn	Pn	10 59 38.2	+0.5
TUL1	Leonard	1.77	112		Pn	10 59 40.3	+0.7
TUL1				IAmb_Lg		11 00 06.4	
	comp=Z,512nm,0.9s						
TUL1	Leonard	1.77	112	P	Pn	10 59 40.1	+0.4
	baz=293						
TUL1				Sb	Sb	11 00 04.5	+0.8
	baz=293						
R32A	Long Quarter,	1.96	339		Pn	10 59 43.4	+1.0
X34A	Smith Ranch, M	1.98	181		Pn	10 59 43.9	+1.3
WMOK	Wichita Mounta	2.01	203		Pn	10 59 43.6	+0.6
WMOK				IAmb_Lg		11 00 15.2	
	comp=Z,274nm,0.9s						
WMOK	Wichita Mounta	2.01	203	P	Pn	10 59 42.6	-0.4
	baz=23						
WMOK				Sb	Sb	11 00 11.0	+0.3
	baz=23						
LOOK

N33A				IAmb_Lg				11 01 31.2
	comp=Z,212nm,1.2s							
ABTX	**Abilene, Hawle**	**4.24**	**201**	Pn		**Pn**		**11 00 12.7**	**-0.9**
ABTX				IAmb_Lg				11 01 25.3
	comp=Z,157nm,1.1s							
ABTX	**Abilene, Hawle**	**4.24**	**201**	P		**Pn**		**11 00 13.0**	**-0.6**
	baz=20							
MGMO	**Mountain Grove**	**4.48**	**81**			**Pn**		**11 00 17.9**	**+1.0**
MGMO				IAmb_Lg				11 01 29.7
	comp=Z,97nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.51**	**304**	Pn		**Pn**		**11 00 17.8**	**+0.2**
KSCO				IAmb_Lg				11 01 38.6
	comp=Z,112nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.51**	**304**	P		**Pn**		**11 00 18.3**	**+0.8**
	baz=121							
KSCO				S		**Sn**		**11 01 09.3**	**-0.7**
	baz=121							
P38A	**Dawn**	**4.54**	**47**	Pn		**Pn**		**11 00 18.3**	**+0.6**
P38A				IAmb_Lg				11 01 40.1
	comp=Z,145nm,0.9s							
X40A	**Basin Creek Fa**	**4.57**	**116**			**Pn**		**11 00 18.6**	**+0.4**
X40A				IAmb_Lg				11 01 40.9
	comp=Z,143nm,0.8s							
X40A	**Basin Creek Fa**	**4.57**	**116**	P		**Pn**		**11 00 18.5**	**+0.4**
	baz=299							
N35A	**Tabor**	**4.59**	**21**			**Pn**		**11 00 18.7**	**+0.3**
WHTX	**Lake Whitney,**	**4.60**	**176**			**Pn**		**11 00 18.8**	**+0.2**
WHTX	**Lake Whitney,**	**4.60**	**176**	P		**Pn**		**11 00 18.8**	**+0.2**
	baz=356							
FCAR	**Ozark Folk Cen**	**4.65**	**97**	Pn		**Pn**		**11 00 20.0**	**+0.8**
FCAR				IAmb_Lg				11 01 35.8
	comp=Z,75nm,0.9s							
WHAR	**Wooly Hollow**	**4.67**	**105**	Pn		**Pn**		**11 00 20.4**	**+0.9**
WHAR				IAmb_Lg				11 01 43.1
	comp=Z,150nm,0.9s							
R40A	**Maddies Statio**	**4.73**	**67**	Pn		**Pn**		**11 00 20.6**	**+0.3**
R40A				IAmb_Lg				11 01 48.2
	comp=Z,127nm,0.8s							
W41B	**Gary Mavity, V**	**4.73**	**106**	S		**Sn**		**11 01 15.3**	**0.0**
	baz=289							
BGNE	**Belgrade**	**4.82**	**357**	Pn		**Pn**		**11 00 21.7**	**+0.1**
BGNE				IAmb_Lg				11 01 50.7
	comp=Z,121nm,0.7s							
BGNE	**Belgrade**	**4.82**	**357**	P		**Pn**		**11 00 21.6**	**0.0**
	baz=177,SNR=12							
WLAR	**White Oak Lake**	**4.82**	**126**	IAmb_Lg				11 01 55.6
	comp=Z,176nm,1.0s							
MSTX	**Muleshoe**	**4.83**	**239**	Pn		**Pn**		**11 00 22.0**	**+0.2**
MSTX	**Muleshoe**	**4.83**	**239**	P		**Pn**		**11 00 22.6**	**+0.8**
	baz=56							
237A	**Washetta, Mont**	**4.87**	**160**	Pn		**Pn**		**11 00 22.3**	**+0.1**
Z41A	**Richland Creek**	**5.29**	**127**	S		**Sn**		**11 01 27.5**	**-1.4**
	baz=310							
T25A	**Trinidad**	**5.32**	**278**	P		**Pn**		**11 00 28.9**	**+0.2**
	baz=94,SNR=6.5							
T42A	**Van Buren**	**5.41**	**83**			**Pn**		**11 00 30.3**	**+0.6**
T42A				IAmb_Lg				11 02 07.9
	comp=Z,61nm,0.8s							
CCM	**Cathedral Cave**	**5.43**	**72**	Pn		**Pn**		**11 00 30.6**	**+0.5**
CCM				IAmb_Lg				11 02 05.3
	comp=Z,112nm,0.9s							
CCM	**Cathedral Cave**	**5.43**	**72**	P		**Pn**		**11 00 30.0**	**0.0**
	baz=256							
OGNE	**Ogallala**	**5.46**	**324**	Pn		**Pn**		**11 00 31.5**	**+1.1**
OGNE				IAmb_Lg				11 02 10.0
	comp=Z,168nm,0.8s							
OGNE	**Ogallala**	**5.46**	**324**	P		**Pn**		**11 00 31.4**	**+1.0**
	baz=142							
OGNE				S		**Sn**		**11 01 34.2**	**+1.0**
	baz=142							
NATX	**Nacogdoches**	**5.48**	**151**	IAmb_Lg				11 02 14.1
	comp=Z,94nm,0.7s							
NATX	**Nacogdoches**	**5.48**	**151**	S		**Sn**		**11 01 32.5**	**-1.1**
	baz=332							
L34A	**Svendsen Farm,**	**5.48**	**11**	Pn		**Pn**		**11 00 31.3**	**+0.6**
N38A	**Joes South For**	**5.51**	**39**			**Pn**		**11 00 31.4**	**+0.2**
HBAR	**Harrisburg**	**5.89**	**98**	IAmb_Lg				11 02 27.8
	comp=Z,90nm,0.7s							
PBMO	**Poplar Bluff**	**5.94**	**86**	IAmb_Lg				11 02 27.2
	comp=Z,106nm,0.7s							
FVM	**French Village**	**6.05**	**75**			**Pn**		**11 00 38.7**	**+0.2**
FVM				IAmb_Lg				11 02 19.0
	comp=Z,86nm,1.0s							
SDCO	**Great Sand Dun**	**6.25**	**283**	P		**Pn**		**11 00 42.4**	**+0.9**
	baz=98,SNR=6.7							
Q24A	**Divide**	**6.28**	**294**	P		**Pn**		**11 00 41.7**	**-0.2**
	baz=110							
Q24A				S		**Sn**		**11 01 53.0**	**-0.8**
	baz=110							
JCT	**Junction City**	**6.32**	**196**	Pn		**Pn**		**11 00 41.9**	**-0.4**
JCT				IAmb_Lg				11 02 34.4
	comp=Z,103nm,1.1s							
JCT	**Junction City**	**6.32**	**196**	P		**Pn**		**11 00 41.8**	**-0.4**
	baz=15							
JCT				S		**Sn**		**11 01 53.7**	**-0.7**
	baz=15							
SLM	**Saint Louis**	**6.35**	**69**	IAmb_Lg				11 02 30.7
	comp=Z,95nm,0.8s							
SCIA	**State Center**	**6.39**	**32**	Pn		**Pn**		**11 00 44.5**	**+1.3**
SCIA	**State Center**	**6.39**	**32**	P		**Pn**		**11 00 43.8**	**+0.5**
	baz=215							
SCIA				S		**Sn**		**11 01 54.8**	**-1.3**
	baz=215							
143A	**Socs Landing,**	**6.55**	**124**	IAmb_Lg				11 02 43.0
	comp=Z,78nm,0.7s							
S44A	**Carbondale**	**6.92**	**78**	Pn		**Pn**		**11 00 50.5**	**0.0**
S44A				IAmb_Lg				11 02 48.5
	comp=Z,120nm,0.7s							
ISCO	**Idaho Springs**	**6.93**	**300**	Pn		**Pn**		**11 00 51.3**	**+0.4**
ISCO				IAmb_Lg				11 02 51.8
	comp=Z,52nm,0.8s							
ISCO	**Idaho Springs**	**6.93**	**300**	P		**Pn**		**11 00 50.9**	**0.0**
	baz=115							
ISCO				S		**Sn**		**11 02 08.0**	**-1.8**
	baz=115							
W45A	**Hickory Valley**	**7.15**	**99**	IAmb_Lg				11 03 04.9
	comp=Z,78nm,0.8s							
K38A	**Parkersburg**	**7.19**	**31**	Pn		**Pn**		**11 00 52.7**	**-1.5**
ECSD	**EROS Data Cent**	**7.19**	**7**	Pn		**Pn**		**11 00 52.6**	**-1.6**
ECSD	**EROS Data Cent**	**7.19**	**7**	P		**Pn**		**11 00 52.9**	**-1.3**
	baz=188,SNR=11							
ECSD				S		**Sn**		**11 02 13.9**	**-1.9**
	baz=188							
UTMT	**University of**	**7.21**	**89**	IAmb_Lg				11 03 17.4
	comp=Z,114nm,0.7s							
ANMO	**Albuquerque**	**7.22**	**259**	Pn		**Pn**		**11 00 54.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=75,slow=16,SNR=1.8							
ANMO				Pg		**Pb**		**11 01 18.4**	**+3.9**
	comp=Z,1.9nm,0.3s,baz=81,slow=18,SNR=28							
ANMO				Lg		Lg		11 02 51.9
	comp=Z,1.8nm,0.3s,baz=67,slow=13,SNR=4.1							
Y45A	**Yeager Farm, C**	**7.29**	**109**	IAmb_Lg				11 03 09.4
	comp=Z,62nm,1.1s							
Q44A	**Meyer Farm, Va**	**7.34**	**69**	Pn		**Pn**		**11 00 54.9**	**-1.3**
L40A	**Anamosa**	**7.48**	**41**	Pn		**Pn**		**11 00 58.1**	**0.0**
L40A				IAmb_Lg				11 03 12.3
	comp=Z,95nm,0.8s							
PHWY	**Pilot Hill**	**7.59**	**311**	Pn		**Pn**		**11 00 59.9**	**-0.1**
PHWY				IAmb_Lg				11 03 26.2
	comp=Z,47nm,0.8s							
N23A	**Red Feather La**	**7.67**	**307**	P		**Pn**		**11 01 02.0**	**+1.0**
	baz=122							
HDIL	**Hopedale**	**7.76**	**57**	Pn		**Pn**		**11 01 00.8**	**-1.1**
Y22D	**IRIS PASSCAL I**	**7.86**	**254**	IAmb_Lg				11 03 33.7
	comp=Z,83nm,0.8s							
SUSD	**Miller**	**7.89**	**354**	Pn		**Pn**		**11 01 03.1**	**-0.7**
SUSD				IAmb_Lg				11 03 26.7
	comp=Z,64nm,0.8s							
SUSD	**Miller**	**7.89**	**354**	P		**Pn**		**11 01 03.3**	**-0.5**
	baz=173							
I37A	**Lemond, Waseca**	**8.14**	**23**	IAmb_Lg				11 03 31.1
	comp=Z,46nm,0.8s							
L42A	**Oliver, Polo**	**8.31**	**47**	IAmb_Lg				11 03 47.5
	comp=Z,92nm,0.8s							
JFWS	**Jewell Farm**	**8.59**	**40**	Pn		**Pn**		**11 01 14.5**	**+1.2**
JFWS				IAmb_Lg				11 03 52.5
	comp=Z,73nm,0.8s							
JFWS	**Jewell Farm**	**8.59**	**40**	P		**Pn**		**11 01 13.3**	**0.0**
	baz=225							
TX31	**Lajitas Ar. Si**	**8.75**	**216**			**Pn**		**11 01 15.2**	**-0.5**
TX32	**Lajitas Array**	**8.75**	**216**	Pn		**Pn**		**11 01 15.1**	**-0.5**
TXAR	**Lajitas Array**	**8.75**	**216**	Pn		**Pn**		**11 01 14.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=47,slow=12,SNR=17							
TXAR				Lg		Lg		11 03 40.1
	comp=Z,1.8nm,0.3s,baz=36,slow=26,SNR=8.1							
RWWY	**Rawlins**	**8.90**	**308**	IAmb_Lg				11 04 05.6
	comp=Z,48nm,0.9s							
M44A	**Midewin, Midew**	**8.99**	**55**	IAmb_Lg				11 04 00.1
	comp=Z,69nm,0.8s							
K22A	**Casper**	**9.04**	**315**	IAmb_Lg				11 04 16.7
	comp=Z,56nm,0.9s							
I40A	**Norwalk**	**9.13**	**35**			**Pn**		**11 01 19.3**	**-1.5**
I40A				IAmb_Lg				11 04 06.2
	comp=Z,53nm,0.8s							
F33A	**5 Mile Ranch,**	**9.31**	**7**			**Pn**		**11 01 21.5**	**-1.7**
SPMN	**Marine on St.**	**9.42**	**22**	Pn		**Pn**		**11 01 23.9**	**-0.8**
SPMN	**Marine on St.**	**9.42**	**22**	P		**Pn**		**11 01 25.6**	**+0.9**
	baz=205							
I42A	**Draeger Farm,**	**9.97**	**40**	IAmb_Lg				11 04 23.7
	comp=Z,45nm,0.9s							
CPCT	**Cooper Cave**	**10.82**	**92**	Pn		**Pn**		**11 01 45.5**	**+1.6**
V51A	**Loudon**	**10.91**	**90**	Pn		**Pn**		**11 01 45.5**	**+0.4**
PDAR	**Pinedale Array**	**10.95**	**308**	Pn		**Pn**		**11 01 44.0**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=126,slow=16,SNR=2.9							
PDAR				Lg		Lg		11 04 43.0
	comp=Z,0.4nm,0.3s,baz=117,slow=29,SNR=4.8							
TKL	**Tuckaleechee C**	**11.39**	**91**	Pn		**Pn**		**11 01 53.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=274,slow=10,SNR=2.1							
S51A	**Beattyville**	**11.40**	**80**	Pn		**Pn**		**11 01 52.2**	**+0.4**
TZTN	**Tazewell**	**11.47**	**86**	Pn		**Pn**		**11 01 52.4**	**-0.5**
V52A	**Sevierville**	**11.51**	**90**	Pn		**Pn**		**11 01 52.8**	**-0.6**
AGMN	**Agassiz Nation**	**11.79**	**6**	Pn		**Pn**		**11 01 54.6**	**-2.5**
YKA	**Yellowknife Ar**	**27.95**	**343**	P		**P**		**11 05 00.1**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=146,slow=8.7,SNR=4.4							

IDC 22 11:03:54.6±2.3, 12°.11N×140°.15E, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/35, mbtmp3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/74, Error ellipse: s-maj=182.1km s-min=25.0km az=109.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**20.91**	**359**	LR	LR	11 15 33.6	
	comp=Z,34nm,19.9s,baz=118,slow=33						
WRA	**Warramunga Arr**	**32.36**	**190**	P	P	11 10 25.0	-1.0
	1.1nm,0.8s,baz=13,slow=9.6,SNR=6.8						
ASAR	**Alice Springs**	**36.08**	**190**	P	P	11 10 58.6	+0.4
	0.8nm,0.6s,baz=18,slow=13,SNR=16						
ILAR	**Eielson Array**	**71.87**	**26**	P	P	11 15 19.0	-0.2
	0.4nm,0.7s,baz=258,slow=6.1,SNR=5.0						
NVAR	**Mina Array Bea**	**91.42**	**50**	P	P	11 17 02.9	-0.4
	0.5nm,0.8s,baz=274,slow=4.2,SNR=2.4						
LPAZ	**La Paz**	**152.29**	**102**	PKPbc	PKiKP	11 23 54.9	+0.4
	1.5nm,0.7s,baz=288,slow=2.1,SNR=6.4						

*BUL **22** 11:18:16.9±2.1, 26°.55S×27°.56E, h0km±15km, MD3.8*
*EAF **22** 11:18:16.9±2.1, 26°.54S×27°.57E, h0km±15km, MD3.6*
*PRE **22** 11:18:16.6±1.0, 26°.41S×27°.64E, h2km, ML2.3*

ISC 22 11:18:18.1±0.9, 26°.40S±0°.03×27°.60E±0°.03, h10km, n19, σ1°.49/38, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**0.52**	**9**	*e*P	**Pg**	**11 18 26.6**	**-1.5**
HRAO				*e*S	**Sg**	**11 18 32.9**	**-2.1**
HRAO				IAML		11 18 34.7	
	comp=Z,142nm,0.2s						
PRYS	**Parys**	**0.56**	**202**	*e*P	**Pg**	**11 18 26.8**	**-2.3**
PRYS				*e*S	**Sg**	**11 18 34.9**	**-1.7**
PRYS				IAML		11 18 38.8	
	comp=Z,164nm,0.3s						
SLR	**Silverton**	**0.90**	**43**	*e*P	**Pg**	**11 18 34.1**	**-1.4**
SLR				*e*S	**Sg**	**11 18 45.9**	**-1.4**
SLR				IAML		11 18 51.6	
	comp=Z,80nm,0.2s						
SWZ	**Schweizer**	**2.17**	**249**	*e*P	**Pn**	**11 18 55.2**	**+0.8**
SWZ				*e*S	**Sn**	**11 19 23.1**	**+1.7**
SWZ				IAML		11 19 24.7	
	comp=Z,65nm,0.2s						
CRLN	**Carolina, Mapu**	**2.21**	**80**	*e*P	**Pn**	**11 18 55.2**	**+0.2**
CRLN				*e*S	**Sn**	**11 19 23.0**	**+0.4**
CRLN				IAML		11 19 23.9	
	comp=Z,12nm,0.3s						
LBTB	**Lobatse**	**2.27**	**307**	*e*P	**Pn**	**11 18 56.3**	**+0.5**
LBTB				*e*S	**Sn**	**11 19 25.7**	**+1.8**
LBTB				IAML		11 19 30.1	
	comp=Z,52nm,0.3s						
LBTB	**Lobatse**	**2.27**	**307**	*i* P	**Pn**	**11 18 56.7**	**+0.9**
LBTB				*i* Sg	**Sb**	**11 19 28.2**	**+0.7**
LBTB	**Lobatse**	**2.27**	**307**	*i* P	**Pn**	**11 18 56.7**	**+0.9**
LBTB				*i* Sg	**Sb**	**11 19 28.2**	**+0.7**
BOSA	**Boshof**	**3.03**	**223**	*e*P	**Pn**	**11 19 07.4**	**+1.1**
BOSA				*e*S	**Sn**	**11 19 43.5**	**+0.8**
BOSA				IAML		11 19 53.1	
	comp=Z,13nm,0.8s						
POGA	**Pongola**	**3.79**	**105**	*e*P	**Pn**	**11 19 16.4**	**-0.1**
POGA				*e*S	**Sn**	**11 19 59.8**	**-1.4**
POGA				IAML		11 20 18.5	
	comp=Z,11nm,1.1s						
CNG	**Changalane**	**4.12**	**89**	*i* P	**Pn**	**11 19 22.2**	**+1.2**
CNG				*i* Sg	**Sb**	**11 20 24.1**	**+3.6**
CNG	**Changalane**	**4.12**	**89**	*i* P	**Pn**	**11 19 22.2**	**+1.2**
CNG				*i* Sg	**Sb**	**11 20 24.1**	**+3.6**
MOPA	**Mopani**	**4.49**	**51**	*e*P	**Pn**	**11 19 25.8**	**-0.4**
MOPA				*e*S	**Sn**	**11 20 17.0**	**-1.5**
MOPA				IAML		11 20 27.6	
	comp=Z,3.8nm,4.8s						
MOPA	**Mopani**	**4.49**	**51**	*i* P	**Pn**	**11 19 27.8**	**+1.6**
MOPA				*i* S	**Sn**	**11 20 17.7**	**-0.8**
MOPA	**Mopani**	**4.49**	**51**	*i* P	**Pn**	**11 19 27.8**	**+1.6**
MOPA				*i* S	**Sn**	**11 20 17.7**	**-0.8**
MSNA	**Messina**	**4.60**	**29**	*i* P	**Pn**	**11 19 28.8**	**+1.0**
MSNA				*i* S	**Sn**	**11 20 22.6**	**+1.3**
MSNA	**Messina**	**4.60**	**29**	*i* P	**Pn**	**11 19 28.8**	**+1.0**
MSNA				*i* S	**Sn**	**11 20 22.6**	**+1.3**
MATP	**Matopo**	**6.00**	**8**	*i* P	**Pn**	**11 19 48.1**	**+0.9**
MATP				*i* S	**Sn**	**11 20 55.3**	**-0.8**
MATP	**Matopo**	**6.00**	**8**	*i* P	**Pn**	**11 19 48.1**	**+0.9**
MATP				*i* S	**Sn**	**11 20 55.3**	**-0.8**

IDC 22 11:37:10.7±14.0, 3°.30S×136°.31E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/23, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=210.1km s-min=98.0km az=172.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.66**	**186**	Pn	P	11 41 07.4	-0.9
	0.1nm,0.3s,baz=8.4,slow=12,SNR=8.6						
ASAR	**Alice Springs**	**20.39**	**186**	P	P	11 41 48.1	-1.2
	0.2nm,0.5s,baz=12,slow=11,SNR=8.4						
STKA	**Stephens Creek**	**28.86**	**171**	P	P	11 43 11.5	+0.4
	0.6nm,0.4s,baz=342,slow=9.6,SNR=3.1						

AUST 22 11:41:04.5±3.9, 33°.57S×149°.10E, h0km, Error ellipse: s-maj=42.5km s-min=12.4km az=121.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGCD	**Mangrove Creek**	**1.72**	**79**	P	Pn	11 41 35.0	-0.7
	baz=1.7						
MGCD				S	Sg	11 41 59.6	-0.3
	baz=1.7						
CNB	**Canberra Magne**	**1.75**	**173**	P	Pn	11 41 36.0	-0.3
	baz=1.8						
CNB				S	Sb	11 42 00.2	-0.1
	baz=1.8						

*TUL **22** 11:45:55.9±1.3, 36°.76N±0°.01×98°.05W±0°.04, h6km±6km, ML3.2, mb_Lg3.3/80(NEIC), Error ellipse: s-maj=4.4km s-min=2.0km az=98.0*
*ANF **22** 11:45:56.8±1.4, 36°.80N×98°.07W, h6km±10km, ML4.2/9, Error ellipse: s-maj=3.8km s-min=3.1km az=143.0*
*NEIC **22** 11:45:56.3±1.3, 36°.74N±0°.01×98°.02W±0°.04, h5km±2km, Error ellipse: s-maj=4.8km s-min=3.0km az=273.0*

ISC 22 11:45:56.6±0.9, 36°.75N±0°.02×98°.02W±0°.03, h9km±8km, n102, σ0°.94/101, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.16**	**50**	Pg	**Pg**	**11 46 00.0**	**0.0**
GC02				Sg	**Sg**	**11 46 03.0**	**+0.5**
KAN14	**Manchester OK**	**0.21**	**12**	Pg	**Pg**	**11 46 00.6**	**-0.4**
KAN14				Sg	**Sg**	**11 46 03.8**	**-0.1**
CROK	**Carrier**	**0.24**	**174**	Pg	**Pg**	**11 46 01.3**	**-0.2**
CROK				Sg	**Sg**	**11 46 05.1**	**+0.3**
KAN17	**Caldwell West**	**0.36**	**34**	Pg	**Pg**	**11 46 03.4**	**-0.3**
KAN17				Sg	**Sg**	**11 46 08.7**	**+0.2**
KAN05	**Bluff City Nor**	**0.38**	**18**		**Pg**	**11 46 03.7**	**-0.4**
KAN05				Sg	**Sg**	**11 46 09.0**	**0.0**
KAN10	**Anthony SW Sta**	**0.38**	**351**	Pg	**Pg**	**11 46 03.5**	**-0.6**
KAN10				Sg	**Sg**	**11 46 08.8**	**-0.4**
KAN01	**Argonia South**	**0.46**	**27**		**Pg**	**11 46 05.1**	**-0.4**
KAN16	**Harper SW Stat**	**0.48**	**355**	Pg	**Pg**	**11 46 05.2**	**-0.8**
KAN16				Sg	**Sg**	**11 46 12.1**	**-0.1**
KAN08	**Anthony NE Sta**	**0.48**	**4**		**Pg**	**11 46 05.4**	**-0.6**
KAN08				Sg	**Sg**	**11 46 12.2**	**-0.1**
KAN13	**South Haven SW**	**0.51**	**58**	Pg	**Pg**	**11 46 06.2**	**-0.2**
KAN06	**Argonia West S**	**0.52**	**14**		**Pg**	**11 46 06.1**	**-0.5**
KAN06				Sg	**Sg**	**11 46 13.3**	**-0.1**
KAN12	**Harper NE Stat**	**0.55**	**2**	Pg	**Pg**	**11 46 06.7**	**-0.6**
BLOK	**Blackwell**	**0.64**	**89**	Pg	**Pg**	**11 46 08.8**	**-0.2**
BLOK				Sg	**Sg**	**11 46 17.9**	**+0.4**
U32A	**Winter Ranch,**	**0.87**	**245**	Pg	**Pg**	**11 46 12.0**	**-1.4**
U32A				Sg	**Sg**	**11 46 23.9**	**-0.9**
OK033	**Mehan**	**1.12**	**129**		**Pg**	**11 46 17.6**	**-0.5**
BCOK	**Bluff Creek, N**	**1.14**	**163**		**Pg**	**11 46 17.2**	**-1.2**
QUOK	**Quay**	**1.20**	**118**		**Pg**	**11 46 19.1**	**-0.6**
T35A	**Sooner Cattle**	**1.22**	**82**		**Pg**	**11 46 19.2**	**-0.8**
OK031	**S. Brethren Rd**	**1.24**	**129**		**Pn**	**11 46 19.4**	**-0.7**
OK031					**Sg**	**11 46 36.5**	**+0.1**
OK025	**Westminster Rd**	**1.29**	**155**		**Pn**	**11 46 20.2**	**-0.6**
OKCFA	**Oklahoma City**	**1.41**	**161**		**Pn**	**11 46 22.2**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**1.42**	**161**		**Pn**	**11 46 22.3**	**-0.3**
FNO	**Franklin**	**1.57**	**161**		**Pn**	**11 46 24.5**	**-0.2**
R32A	**Long Quarter,**	**1.76**	**342**		**Pn**	**11 46 27.3**	**0.0**
R32A				IAmb_Lg		11 46 54.3	
	comp=Z,144nm,0.8s						
W35A	**Tecumseh**	**1.84**	**149**		**Pn**	**11 46 29.0**	**+0.6**
TUL1	**Leonard**	**1.98**	**114**		**Pn**	**11 46 30.7**	**+0.3**
TUL1	**Leonard**	**1.98**	**114**	P	**Pn**	**11 46 31.5**	**+1.1**
	baz=295						
WMOK	**Wichita Mounta**	**2.10**	**197**		**Pn**	**11 46 32.7**	**+0.7**
WMOK				IAmb_Lg		11 47 05.7	
	comp=Z,107nm,0.8s						
WMOK	**Wichita Mounta**	**2.10**	**197**	P	**Pn**	**11 46 32.4**	**+0.4**
	baz=16						
WMOK				S	**Sb**	**11 47 00.7**	**-0.4**
	baz=16						
X34A	**Smith Ranch, M**	**2.15**	**176**		**Pn**	**11 46 33.0**	**+0.4**
X34A				IAmb_Lg		11 47 09.0	
	comp=Z,125nm,0.7s						
CBKS	**Cedar Bluff**	**2.47**	**327**		**Pn**	**11 46 37.1**	**-0.1**
CBKS				IAmb_Lg		11 47 18.0	
	comp=Z,140nm,1.1s						
CBKS	**Cedar Bluff**	**2.47**	**327**	P	**Pn**	**11 46 37.4**	**+0.2**
	baz=147						
CBKS				S	**Sn**	**11 47 08.3**	**+0.7**
	baz=147						
KSU1	**Kansas State U**	**2.60**	**25**		**Pn**	**11 46 39.0**	**+0.2**
KSU1	**Kansas State U**	**2.60**	**25**	P	**Pn**	**11 46 39.4**	**+0.5**
	baz=206						
KSU1				Sb	**Sb**	**11 47 16.0**	**+0.5**
	baz=206						
LOOK	**Love County**	**2.83**	**166**		**Pn**	**11 46 43.4**	**+1.3**
U38A	**Gravette**	**2.94**	**95**	Pn	**Pn**	**11 46 43.9**	**+0.4**
U38A				IAmb_Lg		11 47 35.6	
	comp=Z,77nm,0.8s						
X37A	**Clayton**	**3.05**	**134**		**Pn**	**11 46 46.0**	**+1.0**
X37A				IAmb_Lg		11 47 40.8	
	comp=Z,102nm,1.0s						
HHAR	**Hobbs**	**3.32**	**97**		**Pn**	**11 46 49.4**	**+0.6**
AMTX	**Amarillo**	**3.51**	**239**		**Pn**	**11 46 52.9**	**+1.5**
AMTX				IAmb_Lg		11 47 47.0	
	comp=Z,71nm,0.7s						
AMTX	**Amarillo**	**3.51**	**239**	Pb	**Pb**	**11 46 59.5**	**+0.6**
	baz=57						
AMTX				Sb	**Sb**	**11 47 44.7**	**+2.9**
	baz=57						
W39A	**Magazine**	**3.77**	**113**		**Pn**	**11 46 54.4**	**-0.5**
W39A	**Magazine**	**3.77**	**113**	P	**Pn**	**11 46 56.4**	**+1.5**
	baz=295						
W39A				Sb	**Sg**	**11 47 55.9**	**-1.6**
	baz=295						
S39A	**Bolivar**	**3.86**	**74**		**Pn**	**11 46 56.7**	**+0.5**
S39A				IAmb_Lg		11 48 00.1	
	comp=Z,52nm,0.9s						
N33A	**J Bar K, Exete**	**4.01**	**6**	IAmb_Lg		11 48 08.7	
	comp=Z,50nm,0.8s						
U40A	**Yellville**	**4.18**	**94**	IAmb_Lg		11 48 08.7	
	comp=Z,80nm,0.8s						
MIAR	**Mount Ida**	**4.23**	**120**	IAmb_Lg		11 48 20.4	
	comp=Z,50nm,0.8s						
Z38A	**Mt. Pleasant**	**4.28**	**144**	IAmb_Lg		11 48 18.5	
	comp=Z,90nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.29**	**303**		**Pn**	**11 47 02.3**	**+0.1**
KSCO				IAmb_Lg		11 48 23.2	
	comp=Z,72nm,

MNTX	Cornudas Mount	7.91	233	Pn	Pn	11 47 53.0	+1.2
O44A	Mansfield	8.23	63	IAmb_Lg		11 50 22.3	
	comp=Z,26nm,0.8s						
WVT	Waverly	8.23	91	Pn	Pn	11 47 56.0	-0.3
L42A	Oliver, Polo	8.33	48	IAmb_Lg		11 50 32.6	
	comp=Z,33nm,0.8s						
JFWS	Jewell Farm	8.58	42	Pn	Pn	11 48 00.4	-0.6
JFWS				IAmb_Lg		11 50 39.9	
	comp=Z,28nm,0.8s						
RWWY	Rawlins	8.67	307	IAmb_Lg		11 50 40.9	
	comp=Z,37nm,1.0s						
RSSD	Black Hills	8.68	330	Pn	Pn	11 48 01.9	-0.6
RSSD				IAmb_Lg		11 50 35.5	
	comp=Z,28nm,1.2s						
TX31	Lajitas Ar. Si	8.78	214	Pn	Pn	11 48 03.1	-0.8
TX32	Lajitas Array	8.78	214	Pn	Pn	11 48 03.2	-0.7
TXAR	Lajitas Array	8.78	214	Pn	Pn	11 48 01.5	-2.4
K22A	Casper	8.81	315	Pn	Pn	11 48 01.8	-2.5
F33A	5 Mile Ranch,	9.18	8	IAmb_Lg		11 50 52.5	
	comp=Z,18nm,1.1s						
G40A	Rib Lake	10.36	32	Pn	Pn	11 48 24.6	-0.7
CPCT	Cooper Cave	11.00	93	Pn	Pn	11 48 34.5	+0.4
S51A	Beattyville	11.54	81	Pn	Pn	11 48 41.6	0.0
TKL	Tuckaleechee C	11.56	91	Pn	Pn	11 48 42.2	+0.4

*NNC **22** 12:18:57.6±3.0, 38°.06N×71°.44E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=23.4km s-min=16.5km az=175.0*

ISC 22 12:18:58.5±2.6, 38°.8N±0°.2×70°.0E±0°.1, h10km, n11, σ1§09/14, 3C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	Karatay Array	4.31	5	⇑P	Pb	12 20 15.8	+1.4
	1.9nm,0.4s,baz=161,slow=16						
KK08				⇑S	Sg	12 21 15.7	-1.3
	7.2nm,0.7s,baz=172,slow=27						
AML	Almayashu	4.36	39	P	Pn	12 20 04.5	-0.7
	SNR=14						
EKS2	Erkin-Say	4.81	36	P	Pn	12 20 11.7	+0.6
	SNR=6.3						
UCH	Uchtor	4.85	44	P	Pn	12 20 11.2	-0.8
	SNR=7.7						
AAK	Ala-Archa	5.13	40	P	Pn	12 20 15.2	-0.4
	SNR=8.3						
AAK	Ala-Archa	5.13	40	⇓P	Pn	12 20 14.8	-0.8
	3.8nm,0.5s						
AAK				⇑S	Sn	12 21 17.0	+2.0
	3.4nm,0.7s						
KBK	Karagaybulak	5.38	43	P	Pn	12 20 19.4	+0.3
	SNR=23						
USP	Ospenovka	5.61	36	P	Pn	12 20 21.2	-0.8
	SNR=6.6						
TKM2	Tokmak 2	5.91	44	P	Pn	12 20 25.7	-0.6
	SNR=9.5						
TKM2	Tokmak 2	5.91	44	⇓P	Pn	12 20 25.5	-0.9
	2.9nm,0.5s						
TKM2				⇓S	Sn	12 21 33.2	-1.0
	0.5nm,0.3s						
AB31	Akbulak array	12.69	329	P	Pn	12 21 58.6	-0.4
	0.5nm,0.5s,baz=161,slow=9.9,SNR=16						

*BJI **22** 12:56:27.6±0.0, 36°.21N×70°.44E, h99km, mb4.7/40, mB4.9/22*
*MOS **22** 12:56:28.5±1.0, 36°.12N×70°.44E, h114km, mb4.5/30, Error ellipse: s-maj=7.4km s-min=3.6km az=77.6*
*IDC **22** 12:56:29.6±2.5, 35°.96N×70°.44E, h116km±22km, mb3.9/23, mb1 4.0/28, mb1mx3.9/46, mbtmp4.4/28, MS3.4/3, Ms1 3.4/3, ms1mx2.6/85, Error ellipse: s-maj=14.8km s-min=10.6km az=8.0*
*NEIC **22** 12:56:30.3±1.9, 36°.08N±0°.03×70°.40E±0°.07, h118km±6km, mb4.5/66, Error ellipse: s-maj=8.4km s-min=3.4km az=69.0*
*NNC **22** 12:56:33.5±2.7, 36°.44N×70°.44E, h126km±43km, mb4.5, mpv5.0, Error ellipse: s-maj=21.9km s-min=19.2km az=30.0*

ISC 22 12:56:29.1±0.3, 36°.06N±0°.04×70°.46E±0°.04, h110km, n289, σ1§59/311, mb4.4/77, 12C-14D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.90	218	PN	Pn	12 57 02.8	+1.8
KBL	Kabul	1.90	218	Pn	Pn	12 57 02.8	+1.8
CEP	Cherat	2.53	151	P	Pn	12 57 10.5	+1.5
CEP				S	Sn	12 57 41.0	+1.4
CHGR	Chuyangaron	2.79	339	Pn	Pn	12 57 12.6	+0.2
NIL	Nilore	3.32	135	PN	Pn	12 57 21.2	+1.8
NIL	Nilore	3.32	135		Pn	12 57 21.2	+1.8
CHCP	Chirah Chowk	3.33	135	P	Pn	12 57 21.0	+1.6
THW	Thamme Wali	3.42	162	P	Pn	12 57 21.9	+1.2
DRK	Karamyk	3.58	17		Pn	12 57 24.6	+1.6
BTK	Batken	4.01	4	PN	Pn	12 57 30.0	+1.4
BTK	Batken	4.01	4	Pn	Pn	12 57 30.0	+1.4
SARP	Sargodha	4.52	155	P	Pn	12 57 35.4	0.0
JMU	Jammu	4.96	131	eP	Pn	12 57 42.1	+0.8
JMU				eS	Sn	12 58 36.4	-1.2
TAS	Tashkent	5.34	351	PN	Pn	12 57 47.2	+0.8
TAS	Tashkent	5.34	351	Pn	Pn	12 57 47.2	+0.8
THN	Thein Dam	5.66	128	eP	Pn	12 57 51.8	+1.0
THN				eS	Sn	12 58 53.8	-0.7
IUG	Iuzhnay	6.09	357	ePN	Pn	12 57 55.3	-1.4
IUG	Iuzhnay	6.09	357	eP	Pn	12 57 55.3	-1.4
	baz=356						
IUG				eS	Sn	12 59 01.8	-3.3
	baz=356						
DHRM	DHARAMSHALA	6.16	126	eP	Pn	12 57 57.9	+0.1
DHRM				eS	Sn	12 59 04.0	-2.9
DHRM				IAML		12 59 06.3	
	comp=E,1μm,0.6s						
DHRM				IAML		12 59 06.7	
	comp=N,1μm,0.6s						
AML	Almayashu	6.57	22	P	Pn	12 58 03.5	0.0
	SNR=381						
BHK	Bhakra	6.79	131	eP	Pn	12 58 06.7	+0.6
DZA	Taraz	6.86	5	ePN	Pn	12 58 05.8	-1.2
DZA	Taraz	6.86	5	eP	Pn	12 58 05.8	-1.2
	baz=4.9						
DZA				eS	Sn	12 59 20.1	-3.5
	baz=4.9						
UCH	Uchtor	6.92	26	P	Pn	12 58 08.2	-0.1
	SNR=98						
HRA	Herat	6.92	258	Pn	Pn	12 58 09.4	+1.3
KK02	Karatay Array	7.04	0	⇓P	Pn	12 58 08.9	-0.5
	comp=N,94nm,0.4s,baz=182,slow=13						
KK02				⇓S	Sn	12 59 23.9	-4.0
	comp=N,105nm,0.7s,baz=192,slow=24						
KKAR	Karatay Array	7.04	0	PN	Pn	12 58 09.2	-0.3
KKAR	Karatay Array	7.04	0	Pn	Pn	12 58 09.2	-0.3
EKS2	Erkin-Say	7.08	20	P	Pn	12 58 10.3	+0.2
	SNR=122						
AAK	Ala-Archa	7.28	24	P	Pn	12 58 13.0	+0.2
	comp=N,29nm,0.3s,baz=198,slow=6.5,SNR=132						
AAK				S	Sn	12 59 31.9	-2.1
	comp=N,20nm,0.3s,baz=335,slow=21,SNR=21						
AAK	Ala-Archa	7.28	24	P	Pn	12 58 13.1	+0.2
	SNR=75						
AAK	Ala-Archa	7.28	24	PN	Pn	12 58 12.9	+0.1
AAK	Ala-Archa	7.28	24	⇑P	Pn	12 58 13.0	+0.2
	comp=N,64nm,0.6s						
AAK				⇓S	Sn	12 59 31.6	-2.4
	comp=N,300nm,0.8s						
AAK	Ala-Archa	7.28	24	Pn	Pn	12 58 13.2	+0.3
SMLA	Simla	7.45	129	eP	Pn	12 58 14.3	-0.8
SMLA				eS	Sn	12 59 33.4	-4.5
SMLA				IAML		12 59 39.4	
	comp=N,397nm,0.0s						
SMLA				IAML		12 59 39.6	
	comp=E,368nm,0.4s						
KBK	Karagaybulak	7.45	26	P	Pn	12 58 15.6	+0.4
	SNR=59						
FRU1	Bishkek	7.48	24	PN	Pn	12 58 16.5	+1.0
FRU1	Bishkek	7.48	24	Pn	Pn	12 58 16.5	+1.0
ULHL	Ulahol	7.64	34	P	Pn	12 58 17.9	+0.1
	SNR=23						
CHMS	Chumysh	7.69	24	P	Pn	12 58 18.1	-0.1
	SNR=107						
BOOM	Boomskoye usch	7.70	32	PN	Pn	12 58 19.3	+0.7
BOOM	Boomskoye usch	7.70	32		Pn	12 58 19.3	+0.7
USP	Ospenovka	7.85	22	P	Pn	12 58 19.8	-0.7
	SNR=95						
TKM2	Tokmak 2	7.92	29	P	Pn	12 58 21.5	-0.2
	SNR=84						
TKM2	Tokmak 2	7.92	29	PN	Pn	12 58 21.2	-0.4
TKM2	Tokmak 2	7.92	29	⇑P	Pn	12 58 21.2	-0.4
	comp=E,39nm,0.5s						
TKM2				⇑S	Sn	12 59 45.6	-4.1
	comp=E,96nm,1.1s						
KDJ	Kajisay	8.01	39	PN	Pn	12 58 22.8	0.0
KDJ	Kajisay	8.01	39	Pn	Pn	12 58 22.8	0.0
SGDS	Sogindy	8.05	22	ePN	Pn	12 58 22.2	-1.1
SGDS				pmax	pmax		
	comp=Z,7.0nm,0.2s						
SGDS	Sogindy	8.05	22	eP	Pn	12 58 21.6	-1.7
	comp=Z,15nm,0.5s,baz=22						
SGDS				eS	Sn	12 59 48.3	-4.4
	baz=22						
TARG	Taragay, Kyrgy	8.06	43		Pn	12 58 24.2	+0.6
MDOK	Medeo	8.73	34	PN	Pn	12 58 32.8	+0.3
MDOK	Medeo	8.73	34	⇓P	Pn	12 58 32.8	+0.3
	comp=Z,58nm,1.0s						
KNDC	Almaty	8.74	33	PN	Pn	12 58 34.6	+2.1
PRZ	Przheval'sk	8.89	41	PN	Pn	12 58 35.8	+1.0
PRZ	Przheval'sk	8.89	41		Pn	12 58 35.8	+1.0
KUU	Kurty	9.03	28	ePN	Pn	12 58 34.6	-1.9
KUU				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KUU	Kurty	9.03	28	eP	Pn	12 58 34.7	-1.9
	comp=Z,7.6nm,0.5s,baz=28						
KHET	Khetri	9.16	149	eP	Pn	12 58 36.6	-1.7
NDI	New Delhi	9.31	140	eP	Pn	12 58 39.3	-1.0
BTLS	Baital	9.38	16	eP	Pn	12 58 39.0	-2.1
BTLS	Baital	9.38	16	eP	Pn	12 58 39.1	-2.1
	baz=16						
KUDL	Kundal	9.40	145	eP	Pn	12 58 40.2	-1.3
AYAN	Aya Nagar	9.43	141	eP	Pn	12 58 40.9	-0.9
SONA	Sohna	9.60	142	eP	Pn	12 58 43.4	-0.8
SONA				eS	Sn	13 00 22.4	-7.7
UZB	Uzynbulak	9.68	40	eP	Pn	12 58 43.5	-1.9
UZB				pmax	pmax		
	comp=Z,6.0nm,0.6s						
UZB	Uzynbulak	9.68	40	eP	Pn	12 58 43.6	-1.9
	comp=Z,5.9nm,0.6s,baz=40						
ARXS	Arharly	9.91	32	eP	Pn	12 58 43.3	-5.1
SHLS	Shalkode	9.92	42	eP	Pn	12 58 50.3	+1.7
SHLS	Shalkode	9.92	42	eP	Pn	12 58 50.4	+1.7
	baz=43						
GEYT	Alibeck	10.05	284	P	Pn	12 58 48.9	-1.4
	comp=Z,5.0nm,0.3s,baz=111,slow=12,SNR=39						
GEYT				S	Sn	13 00 37.5	-3.5
	comp=Z,10nm,0.3s,baz=139,slow=38,SNR=9.5						
GEYT	Alibeck	10.05	284		Pn	12 58 48.7	-1.6
GYA0B	ALIBECK ARRAY	10.05	284		Pn	12 58 48.9	-1.4
PDGK	Podgornoye	10.06	41	P	Pn	12 58 50.0	-0.5
PDGK	Podgornoye	10.06	41	⇓P	Pn	12 58 50.0	-0.5
	comp=Z,14nm,0.7s						
AJM	Ajmer	10.20	158	eP	Pn	12 58 51.4	-1.0
TDK	Taldyqorghan	10.79	32	eP	Pn	12 58 58.3	-1.9
TDK				pmax	pmax		
	comp=Z,14nm,0.9s						
TDK	Taldyqorghan	10.79	32	eP	Pn	12 58 58.3	-1.9
	comp=Z,14nm,0.9s,baz=32						
JHNI	Jhansi	12.63	144	eP	Pn	12 59 22.3	-2.5
PYUN	Piuthan	13.25	123	eP	Pn	12 59 29.4	-3.7
	comp=Z,43nm,0.4s						
DANN	Dangsing	13.63	121	eP	Pn	12 59 34.7	-3.4
	comp=Z,26nm,0.3s						
MAKZ	Makanchi	13.77	35	P	Pn	12 59 39.9	+0.3
MAKZ	Makanchi	13.77	35	⇑P	P	12 59 42.2	-2.1
	comp=Z,36nm,0.6s						
MAKZ	Makanchi	13.77	35		Pn	12 59 39.9	+0.3
KOLN	Koldanda	13.88	123	eP	Pn	12 59 37.6	-3.6
	comp=Z,10nm,0.3s						
MK31	Makanchi Array	13.91	36	iP	Pn	12 59 41.1	-0.2
MK31	Makanchi Array	13.91	36	Pn	Pn	12 59 40.8	-0.5
MKAR	Makanchi Array	13.91	36	P	Pn	12 59 40.7	-0.6
MKAR	Makanchi Array	13.91	36	Pn	Pn	12 59 40.7	-0.6
BRZS	Berezniki	14.01	6	eP	Pn	12 59 40.8	-1.8
BRZS	Berezniki	14.01	6	eP	Pn	12 59 40.8	-1.8
	baz=5.7						
BHPL	Bhopal	14.13	153	eP	Pn	12 59 42.2	-2.1
BHPL				ex	Sn	13 02 08.9	-11
VLK	Valmikinagar	14.35	124	ex	Pn	12 59 45.0	-2.1
GKN	Gorkha	14.45	120	eP	Pn	12 59 45.1	-3.4
	comp=Z,24nm,0.4s						
ALBI	Allahabad	14.48	135	eP	Pn	12 59 47.0	-1.8
DMN	Daman	15.02	120	eP	Pn	12 59 52.6	-3.2
	comp=Z,31nm,0.5s						
KKN	Kakani	15.03	119	eP	Pn	12 59 53.2	-2.8
	comp=Z,33nm,0.5s						
PKIN	Phulchoki	15.24	119	eP	Pn	12 59 55.3	-3.4
	comp=Z,38nm,0.4s						
PKI	Pulchoki	15.26	119	eP	Pn	12 59 55.6	-3.3
	comp=Z,33nm,0.4s						
AB31	Akbulak array	15.27	333	iP	Pn	12 59 57.2	-1.3
AB31	Akbulak array	15.27	333	P	Pn	12 59 57.3	-1.3
	comp=Z,92nm,0.7s,baz=144,slow=12,SNR=1162						
ABKAR	Akbulak array	15.27	333		Pn	12 59 57.6	-1.0
ABKAR	Akbulak array	15.27	333		Pn	12 59 57.7	-0.8
ABKAR				IAmb	IAmb	12 59 58.7	
	comp=Z,105nm,0.7s						
JBP	Jabalpur	15.27	145	eP	Pn	12 59 55.8	-3.0
JBP				IAmb	IAmb	12 59 58.1	
	comp=Z,27nm,1.0s						
JBP				⇓eS	Sn	13 02 38.8	-8.8
WMQ	Urumqi	15.31	54	eP	Pn	12 59 58.8	-0.4
WMQ				pmax	pmax		
	comp=Z,27nm,1.5s						
GUN	Gumba	15.39	118	eP	Pn	12 59 57.8	-2.8
	comp=Z,24nm,0.4s						
ZSN	Zaisan	15.63	39	eP	Pn	13 00 02.7	-0.4
ZSN	Zaisan	15.63	39	eP	Pn	13 00 02.8	-0.4
	baz=39						
KURBB	Kurchatov Arra	15.69	19	P	Pn	13 00 00.8	-2.9
	comp=Z,0.4nm,0.3s,baz=214,slow=12,SNR=25						
KURK	Kurchatov	15.79	19	deP	Pn	13 00 02.8	-2.3
KURK				pmax	pmax		
	comp=Z,12nm,1.0s						
KURK	Kurchatov	15.79	19	Pn	Pn	13 00 04.3	-0.7
AKL	Akola	16.34	158	ex	pn	13 00 12.8	
WSAR	Wadi Sarin	16.38	222	P	Pn	13 00 13.0	+0.5
	comp=Z,0.6nm,0.3s,baz=69,slow=7.1,SNR=7.5						
AKTO	Aktyubinsk	16.95	332	P	P	13 00 19.6	+0.1
	comp=Z,3.6nm,0.3s,baz=141,slow=13,SNR=91						
AKTO				S	Sn	13 03 14.9	-13
	comp=Z,0.6nm,0.3s,baz=58,slow=19,SNR=2.4						
AKTO				LR	LR	13 07 15.8	
	comp=Z,31nm,19.8s,baz=163,slow=38						
BVAR	Borovoye Array	16.97	360	P	Pn	13 00 18.7	-0.8
	comp=Z,4.0nm,0.3s,baz=147,slow=9.7,SNR=37						
BRVK	Borovoye	17.00	360	diP	Pn	13 00 18.7	-1.2
BRVK				pmax	pmax		
	comp=Z,24nm,1.0s						
BRVK	Borovoye	17.00	360	⇓P	Pn	13 00 18.4	-1.5
	comp=Z,19nm,0.8s						
BRVK	Borovoye	17.00	360	P	Pn	13 00 19.3	-0.6
BRVK				IAmb	IAmb	13 00 22.6	
	comp=Z,36nm,1.2s						
DGZ	Jazzator, Alta	18.40	37	ciP	P	13 00 36.2	+0.6
DGZ				pmax	pmax		
	comp=Z,35nm,0.5s						
LSA	Lhasa	18.49	104	P	Pn	13 00 39.9	+1.4
LSA				pmax	pmax		
	comp=Z,120nm,1.0s						
GOMU	GeErMu	19.67	82	P	Pn	13 00 51.3	-0.9
GOMU				pmax	pmax		
	comp=Z,77nm,4.7s						
HYBB	Hyderabad (bro	19.91	157	eP	Pn	13 00 53.5	-1.2
HYBB				eS	S	13 04 32.3	+2.2
HYBB				eSn	Sn	13 04 43.9	+4.9
ZAA0	Zalesovo Array	20.50	25	P	P	13 00 58.5	+0.4
ZALV	Zalesovo Beam	20.50	25	P	P	13 00 58.4	+0.3
	comp=Z,61nm,0.5s,baz=221,slow=11,SNR=218						
GNI	Garni	20.62	289	P	Pn	13 01 01.8	-1.2
	comp=Z,12nm,0.7s,baz=45,slow=7.8,SNR=3.5						
GNI	Garni	20.62	289	P	P	13 00 58.5	-1.2
GNI				pmax	pmax		
	comp=Z,26nm,1.1s						
GNI	Garni	20.62	289	P	P	13 00 58.5	-1.2
GNI				IAmb	IAmb	13 01 23.3	
	comp=Z,26nm,1.1s						
NJS	Nagarjunasagar	20.96	156	eP	P	13 01 04.3	+1.0
SHL	Shillong	21.12	114	P	P	13 01 07.4	+2.1
SHL				pmax	pmax		
	comp=Z,27nm,1.2s						
SHL	Shillong	21.12	114	P	P	13 01 07.3	+2.1
SHL				IAmb	IAmb	13 01 09.3	
	comp=Z,27nm,1.2s						
MYLAV	Mylavaram	21.25	152	eP	P	13 01 05.4	-1.1
SVE	Sverdlovsk	21.81	345	eP	P	13 01 13.0	+1.0
SVE				eS	S	13 05 10.9	+4.6
SVE				pmax	pmax		
	comp=Z,21nm,0.8s						
ADKI	Addanki	21.84	155	eP	P	13 01 14.1	+1.3
RCLA	Racherla	21.88	158	eP	P	13 01 14.1	+1.0
RCLA				eS	S	13 05 09.3	+1.2
ARU	Arti	21.91	342	P	P	13 01 14.5	+1.3
	comp=Z,7.9nm,0.5s,baz=154,slow=6.2,SNR=18						
ARU	Arti	21.91	342	diP	P	13 01 14.5	+1.3
ARU						13 01 47.8	
ARU				S	S	13 05 10.4	+2.2
ARU				SS	SnSn	13 05 50.2	+5.6
ARU				pmax	pmax		
	comp=Z,33nm,0.8s						
ARU	Arti	21.91	342	P	P	13 01 13.6	+0.5
ARU				IAmb	IAmb	13 01 16.8	
	comp=Z,26nm,0.7s						
KBZ	Khabaz	22.42	298	P	P	13 01 19.1	+0.6
	comp=Z,2.8nm,0.6s,baz=58,slow=16,SNR=1.3						
KBZ	Khabaz	22.42	298	⇓eP	P	13 01 18.8	+0.3
KBZ				pmax	pmax		
	comp=Z,14nm,2.4s						
KIV	Kislovodsk	22.61	299	eP	P	13 01 20.4	-0.2
KIV				eS	S	13 05 21.0	+0.8
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KOHI	KOHIMA	22.71	110	eP	P	13 01 22.8	+1.0
KOHI				IAmb	IAmb	13 01 23.2	
	comp=Z,12nm,0.9s						
GTA	Gaotai	23.41	73	⇑P	P	13 01 29.9	+1.5
GTA				pP	pP	13 01 51.4	-0.7
GTA				sP	sP	13 02 07.1	+1.0
GTA				pmax	pmax		
	comp=Z,15nm,0.9s						
ZAK	Zakamensk	27.61	48	eP	P	13 02 06.7	+0.6
ZAK				e		13 02 43.4	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CD2	Chengdu	28.16	91	eP	P	13 02 11.0	-0.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH	PanZhiHua	28.28	101	P	P	13 02 14.6	+2.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
SONM	Songino Array	28.95	55	P	P	13 02 19.3	+1.2
	comp=Z,4.9nm,1.0s,baz=256,slow=9.8,SNR=16						
SONM	Songino Array	28.95	55	P	P	13 02 19.0	+1.0
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	Songino Array	28.95	55	P	P	13 02 19.0	+1.0
BR131	Keskin Array S	29.15	288	P	P	13 02 20.1	+0.2
BR131				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BR131	Keskin Array S	29.15	288	P	P	13 02 20.1	+0.2
BRTR	Keskin Array B	29.15	288	P	P	13 02 20.6	+0.7
	comp=Z,0.8nm,0.7s,baz=59,slow=3.7,SNR=3.7						
BRTR	Keskin Array B	29.15	288	iP	P	13 02 21.8	+1.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULN	Ulaanbaatar	29.39	55	⇑eP	P	13 02 22.7	+0.8
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	Ulaanbaatar	29.39	55	P	P	13 02 22.2	+0.3
ANTO	Ankara	29.79	289	P	P	13 02 24.5	-1.0
ANTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ANTO	Ankara	29.79	289	P	P	13 02 24.5	-1.0
ANTO				IAmb	IAmb	13 02 51.0	
	comp=Z,5.2nm,0.8s						
OBN	Obninsk	29.99	320	eP	P	13 02 27.0	+0.1
OBN				e*PP	pP	13 02 50.6	-1.1
OBN				e*SP	sP	13 03 04.1	-0.6
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	Chiang Mai Arr	30.64	117	P	P	13 02 34.2	+1.2
	comp=Z,1.2nm,0.8s,baz=300,slow=8.4,SNR=11						
CMAR	Chiang Mai Arr	30.64	117	iP	P	13 02 34.7	+1.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
XAN	Xi'an	31.42	82	P	P	13 02 40.9	+1.0
XAN				pP	pP	13 03 04.8	-0.7
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KLMR	Klimovskoe	31.66	331	eP	P	13 02 40.5	-0.9
KLMR				e		13 05 29.7	
KLMR				pmax	pmax		
	comp=Z,13nm,1.3s						
KLMR	Klimovskoe	31.66	331	eP	P	13 02 40.6	-0.9
KLMR				AMP		13 02 53.2	
	comp=Z,13nm,1.3s						
KLMR				ePcP	PcP	13 05 29.7	-1.0
HHC	Hu-ho-hao-te	32.33	69	eP	P	13 02 49.3	+1.5
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,6.6s						
AKASG	Malin Array Be	32.88	309	P	P	13 02 52.6	+0.2
	comp=Z,0.5nm,0.4s,baz=84,slow=7.1,SNR=6.5						
AKASG				PcP	PcP	13 05 33.0	-1.4
	comp=Z,0.9nm,0.5s,baz=75,slow=3.4,SNR=4.9						
AKBB	Malin Array Si	32.88	309	P	P	13 02 52.6	+0.2
AKBB				pmax	pmax		
	comp=Z,5.0nm,1.3s						
AKBB	Malin Array Si	32.88	309	P	P	13 02 52.6	+0.2
NRIK	Noril'sk	34.64	11	P	P	13 03 08.8	+1.5
	comp=Z,6.2nm,0.4s,baz=200,slow=5.9,SNR=20						
NRIK	Noril'sk	34.64	11	P	P	13 03 08.9	+1.5
NRIK				pmax	pmax		
	comp=Z,21nm,1.1s						
NRIK	Noril'sk	34.64	11	P	P	13 03 08.9	+1.5
BURAR	Bucovina Array	35.16	303	P	P	13 03 13.4	+1.1
HNS	HongShan	35.25	74	⇑P	P	13 03 14.3	+1.3
UBPT	Khong Chiam	37.44	114	P	P	13 03 31.4	-0.4
UBPT				IAmb	IAmb	13 03 47.1	
	comp=Z,12nm,1.4s						
FIA1	FINESS Array S	37.61	327	P	P	13 03 33.5	+0.8
FIA1				IAmb	IAmb	13 03 57.0	
	comp=Z,21nm,1.4s						
FINES	FINESS Array B	37.61	327	P	P	13 03 33.6	+0.9
	comp=Z,2.4nm,0.5s,baz=

NC405 NORSAR Array S 44.24 323 P **P** **13 04 26.9 -0.2**
NC602 NORSAR Array S 44.28 323 *e*P **P** **13 04 27.8 +0.3**
NC602 NORSAR Array S 44.28 323 P **P** **13 04 27.7 +0.3**
NC602 IAmb IAmb 13 04 44.3
comp=Z,25nm,1.3s
NC303 NORSAR Array S 44.42 324 P **P** **13 04 29.2 +0.7**
NB2 NORSAR Subarra 44.47 323 P **P** **13 04 29.3 +0.3**
comp=Z,1.1nm,0.3s,baz=99,slow=7.9
NB2 NORSAR Subarra 44.47 323 P **P** **13 04 29.3 +0.3**
baz=99,slow=7.9
NOA NORSAR Array B 44.47 323 P **P** **13 04 29.1 +0.2**
comp=Z,1.7nm,0.5s,baz=103,slow=7.0,SNR=22
NOA LR LR 13 26 54.1
comp=Z,19nm,18.7s,baz=335,slow=41
YAK Yakutsk 44.58 35⇑ *i*P **P** **13 04 29.2 -0.6**
YAK pmax pmax
comp=Z,9.0nm,0.5s
YAK Yakutsk 44.58 35 P **P** **13 04 29.5 -0.3**
KONS Konsvik 44.59 331 *e*P **P** **13 04 30.5 +0.7**
NAO01 NORSAR Array S 44.61 323 P **P** **13 04 30.7 +0.7**
NBO00 NORSAR Array S 44.68 323 P **P** **13 04 30.0 -0.6**
NC204 NORSAR Array S 44.72 324 P **P** **13 04 31.5 +0.6**
KS19 Wonju Array Si 45.39 70 P **P** **13 04 37.6 +1.1**
KS19 IAmb IAmb 13 05 00.0
comp=Z,14nm,1.2s
KSAR Wonju Array Be 45.42 70 P **P** **13 04 37.4 +0.7**
KSAR Wonju Array Be 45.42 70 P **P** **13 04 37.4 +0.7**
KSRS Korea Array 45.44 70 P **P** **13 04 37.4 +0.4**
comp=Z,2.9nm,0.6s,baz=271,slow=6.7,SNR=8.0
BJO1 Bjornoya 45.56 343 *e*P **P** **13 04 38.5 +1.2**
KLR Kul'dur 45.76 53⇑ *i*P **P** **13 04 39.5 +0.2**
KLR pmax pmax
comp=Z,12nm,2.0s
STU Stuttgart 45.80 306 P **P** **13 04 38.3 -1.3**
STU pmax pmax
comp=Z,70nm,0.8s
STU Stuttgart 45.80 306 P **P** **13 04 38.3 -1.3**
SKAR Skarslia 45.86 323 *e*P **P** **13 04 38.6 -1.4**
TIXI Tiksi 46.35 22*c i*P **P** **13 04 43.9 +0.3**
TIXI pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 46.35 22 P **P** **13 04 44.3 +0.7**
TIXI IAmb IAmb 13 04 44.8
comp=Z,15nm,0.8s
SPB2 Spitsbergen Ar 47.82 347 P **P** **13 04 56.4 +1.5**
SPA0 Spitsbergen Ar 47.82 347 *e*P **P** **13 04 56.8 +1.8**
SPITS Spitsbergen Ar 47.82 347 P **P** **13 04 56.5 +1.5**
SPITS pmax pmax
comp=Z,52nm,1.5s
KEST Kesra 48.76 289 P **P** **13 05 03.1 +0.3**
comp=Z,1.9nm,0.5s,baz=248,slow=19,SNR=2.5
KBS Kingsbay 48.95 347 P **P** **13 05 04.5 +1.0**
KBS pmax pmax
comp=Z,37nm,1.2s
KBS Kingsbay 48.95 347 *e*P **P** **13 05 05.4 +1.8**
KBS Kingsbay 48.95 347 P **P** **13 05 04.5 +1.0**
MA2 Magadan 54.98 38⇓ *e*P **P** **13 05 48.8 +0.3**
MA2 pmax pmax
comp=Z,9.0nm,1.2s
DAG Danmarks Havn 55.03 344 *i*P **P** **13 05 48.2 -0.4**
ESDC Sonseca Array 57.27 298 P **P** **13 06 05.4 +0.2**
comp=Z,0.9nm,0.7s,baz=54,slow=8.6,SNR=6.5
ESDC Sonseca Array 57.27 298 IAmb IAmb 13 06 06.6
comp=Z,4.5nm,1.5s
BILL Bilibino 59.20 26*d i*P **P** **13 06 18.0 -0.1**
BILL *e**PP **pP** **13 06 43.2 -2.7**
BILL *e**SP **sP** **13 06 56.9 -1.5**
BILL *e* 13 08 31.7
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL Bilibino 59.20 26 P **P** **13 06 18.9 +0.8**
BILL IAmb IAmb 13 06 20.7
comp=Z,4.6nm,0.5s
PETK Petropavlovsk- 60.59 44 P **P** **13 06 28.0 +0.2**
comp=Z,3.0nm,1.0s,baz=336,slow=3.3,SNR=1.8
SUMG Summit 61.34 341 P **P** **13 06 34.7 +1.6**
SUMG pmax pmax
comp=Z,14nm,1.2s
SUMG Summit 61.34 341 *i*P **P** **13 06 33.9 +0.9**
SUMG Summit 61.34 341 P **P** **13 06 34.7 +1.6**
EUNU Eureka 63.42 356 P **P** **13 06 48.1 +1.7**
TORD Torodi Ar. Bea 65.27 269 P **P** **13 06 58.5 -0.8**
comp=Z,1.9nm,0.6s,baz=50,slow=6.0,SNR=16
A21K Barrow 67.86 15 P **P** **13 07 15.4 +0.5**
A21K IAmb IAmb 13 07 16.5
comp=Z,7.7nm,0.8s
SFJD Kangerlussuaq 68.01 339 P **P** **13 07 15.2 -0.8**
SFJD pmax pmax
comp=Z,59nm,1.5s
SFJD Kangerlussuaq 68.01 339 P **P** **13 07 15.2 -0.8**
RES Resolute Bay 69.11 356 P **P** **13 07 23.2 +0.5**
RES pmax pmax
comp=Z,3.0nm,1.2s
RES Resolute Bay 69.11 356 P **P** **13 07 23.2 +0.5**
TNA Tin City 69.14 22 P **P** **13 07 23.7 +0.7**
A36M Sachs Harbour 71.69 5 P **P** **13 07 39.0 +0.6**
A36M IAmb IAmb 13 07 40.1
comp=Z,6.3nm,0.8s
COLD Coldfoot 72.52 15 P **P** **13 07 44.0 +0.5**
COLD IAmb IAmb 13 07 44.3
comp=Z,3.1nm,0.5s
IMAR Indian Mountai 72.73 17 P **P** **13 07 44.7 0.0**
BMAR Burnt Mountain 73.47 13 P **P** **13 07 50.1 +0.9**
J20K Nowinta River 74.09 19 P **P** **13 07 53.3 +0.6**
J20K IAmb IAmb 13 07 54.6
comp=Z,8.0nm,1.1s
H24K Noodor Dome 74.19 15 P **P** **13 07 54.0 +0.6**
H24K IAmb IAmb 13 07 54.8
comp=Z,2.8nm,0.6s
DBIC Dimbokro 74.23 267 P **P** **13 07 54.2 -0.2**
comp=Z,2.3nm,0.9s,baz=33,slow=7.6,SNR=3.0
C36M Paulatuk 74.36 5 P **P** **13 07 54.1 -0.1**
INK Inuvik 74.41 9 P **P** **13 07 55.0 +0.5**
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 74.41 9 P **P** **13 07 55.0 +0.5**
INK IAmb IAmb 13 07 55.7
comp=Z,4.8nm,0.6s
TTA Tatalina 74.59 20 P **P** **13 07 56.3 +0.5**
TTA pmax pmax
comp=Z,6.0nm,1.2s
TTA Tatalina 74.59 20 P **P** **13 07 56.3 +0.5**
TTA IAmb IAmb 13 08 03.9
comp=Z,6.1nm,1.2s
K20K Telida 74.78 19 P **P** **13 07 57.6 +0.9**
K20K IAmb IAmb 13 07 58.3
comp=Z,8.7nm,1.2s
MDM Murphy Dome 74.87 16 P **P** **13 07 58.1 +0.8**
MDM IAmb IAmb 13 08 05.5
comp=Z,13nm,1.1s
POKR Poker Plat Res 74.91 16 P **P** **13 07 58.3 +0.8**
POKR IAmb IAmb 13 07 58.8
comp=Z,7.1nm,0.6s
BPAW Bear Paw Mtn. 74.95 18 P **P** **13 07 58.0 +0.3**
BPAW IAmb IAmb 13 07 58.5
comp=Z,7.3nm,1.2s
PRP Porcupine Dome 74.97 15 P **P** **13 07 59.2 +1.2**
PRP IAmb IAmb 13 07 59.5
comp=Z,4.8nm,0.6s
COLA College 75.03 16⇓ *i*P **P** **13 07 58.5 +0.4**
COLA pmax pmax
comp=Z,7.0nm,1.2s
CAST Castle Rocks 75.24 18 P **P** **13 07 60.0 +0.5**
CAST IAmb IAmb 13 08 00.6
comp=Z,11nm,1.2s
IL31 75.33 16 P **P** **13 07 59.5 -0.2**
ILAR Eielson Array 75.33 16 P **P** **13 07 59.4 -0.5**
comp=Z,1.1nm,0.6s,baz=301,slow=4.8,SNR=34
KNRA Kununurra 75.36 122 P **P** **13 08 00.9 +0.2**
KNRA IAmb IAmb 13 08 01.6
comp=Z,5.7nm,0.7s
MCK McKinley 75.75 17 P **P** **13 08 02.7 +0.4**
MCK pmax pmax
comp=Z,9.0nm,1.4s
MCK McKinley 75.75 17 P **P** **13 08 02.7 +0.4**
MCK IAmb IAmb 13 08 27.5
comp=Z,9.1nm,1.4s
J26L Joseph Creek 76.26 14 P **P** **13 08 05.5 +0.2**
J26L IAmb IAmb 13 08 05.7
comp=Z,3.9nm,0.5s
I29M Ogilvie Camp, 76.45 12 P **P** **13 08 06.4 +0.1**
I29M IAmb IAmb 13 08 09.5
comp=Z,4.2nm,0.6s
SCRK Sand Creek 76.64 15 P **P** **13 08 07.8 +0.4**
SCRK IAmb IAmb 13 08 08.4
comp=Z,4.4nm,0.4s
PAX Paxson 77.21 16 P **P** **13 08 10.8 +0.2**
PAX pmax pmax
comp=Z,10.0nm,1.5s
PAX Paxson 77.21 16 P **P** **13 08 10.8 +0.2**
PAX IAmb IAmb 13 08 15.8
comp=Z,10nm,1.5s
DAWY Dawson 77.45 13 P **P** **13 08 12.0 +0.1**
KDAK Kodiak Island 79.77 22 LR LR 13 45 34.9
comp=Z,140nm,19.0s,baz=244,slow=37
WHY Whitehorse 81.41 12 P **P** **13 08 33.2 -0.3**
WHY IAmb IAmb 13 08 35.8
comp=Z,10nm,1.4s
YKA Yellowknife Ar 81.71 2 P **P** **13 08 34.9 0.0**
comp=Z,1.6nm,0.3s,baz=351,slow=5.4,SNR=64
YKA Yellowknife Ar 81.71 2 P **P** **13 08 35.0 +0.1**
YKA Yellowknife Ar 81.71 2 P **P** **13 08 35.0 +0.1**
WRA Warramunga Arr 82.13 121 P **P** **13 08 36.7 -1.0**
comp=Z,0.7nm,0.4s,baz=326,slow=4.9,SNR=38
WRA Warramunga Arr 82.13 121 P **P** **13 08 37.0 -0.8**
WRA Warramunga Arr 82.13 121 P **P** **13 08 37.0 -0.8**
WRAB Tennant Creek 82.13 121⇑ *e*P **P** **13 08 36.7 -1.0**
WRAB pmax pmax
comp=Z,3.0nm,1.1s
WRAB Tennant Creek 82.13 121 P **P** **13 08 37.1 -0.7**
WB2 Warramunga Arr 82.14 121 P **P** **13 08 36.9 -0.9**
WR0 Warramunga Arr 82.28 121 P **P** **13 08 37.7 -0.9**
ASAR Alice Springs 84.36 124 P **P** **13 08 48.2 -0.9**
comp=Z,1.1nm,0.7s,baz=312,slow=4.8,SNR=33
ASAR Alice Springs 84.36 124 P **P** **13 08 48.7 -0.5**
ASAR Alice Springs 84.36 124 P **P** **13 08 48.7 -0.5**
FCC Fort Churchill 84.66 352 P **P** **13 08 50.5 +0.4**
FCC pmax pmax
comp=Z,4.0nm,1.4s
FCC Fort Churchill 84.66 352 P **P** **13 08 50.5 +0.4**
CTA Charters Tower 90.76 114 P **P** **13 09 19.0 -0.9**
comp=Z,0.9nm,0.5s,baz=80,slow=9.8,SNR=1.6

BJI ***22*** *13:26:42.3±0.0, 49°.79N×156°.24E, h78km, mb4.4/27, mB4.9/17, Ms4.4/4, Ms7 4.2/4*
KRSC ***22*** *13:26:43.4±2.7, 49°.68N×156°.89E, h44km±31km, ML5.2*
MOS ***22*** *13:26:44.0±1.1, 49°.79N×155°.89E, h74km, mb4.8/30, MS3.3/4, Error ellipse: s-maj=7.6km s-min=3.3km az=72.6*
MOS Felt (II-III) at Severo-Kuril'sk.
NEIC ***22*** *13:26:45.5±1.2, 49°.82N±0°.09×155°.8E±0°.1, h67km±4km, mb4.8/120, Error ellipse: s-maj=15.7km s-min=8.6km az=136.0*
IDC ***22*** *13:26:46.0±2.2, 49°.87N×155°.63E, h75km±19km, mb4.1/27, mb1 4.3/33, mb1mx4.2/42, mbtmp4.4/33, MS3.6/4/1, Ms1 3.6/41, ms1mx3.4/96, Error ellipse: s-maj=14.7km s-min=9.2km az=139.0*
ISC 22 13:26:44.5±0.5,**49.76N**±0.05×**156.00E**±0.04,**h67**km±4km,
h67km:**pP-P,n479,**σ1§**50**/493,**mb4.6**/108,**21C-17D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.93**	**5**	⇓ *i*PN	**Pn**	**13 27 01.0**	**-0.9**
SKR				*e*S	**Sn**	**13 27 13.9**	**-1.0**
SKR				pmax	pmax		
	comp=Z,10μm,0.7s						
SKR				smax	smax		
	comp=N,49μm,0.3s						
SKR				smax	smax		
	comp=E,44μm,0.3s						
SKR	**Severo-Kuril's**	**0.93**	**5**	*e*P	**Pn**	**13 27 01.4**	**-0.5**
SKR				*e*S	**Sn**	**13 27 14.5**	**-0.4**
PAU	**Pauzhetka**	**1.79**	**16**	PN	**Pn**	**13 27 13.2**	**0.0**
PAU				S	**Sn**	**13 27 35.7**	**+0.8**
PAU	**Pauzhetka**	**1.79**	**16**	*e*P	**Pn**	**13 27 13.2**	**0.0**
PAU				*e*S	**Sn**	**13 27 35.7**	**+0.8**
KDTR	**Khodutka, Kamc**	**2.44**	**32**	PN	**Pn**	**13 27 21.4**	**-0.6**
KDTR				S	**Sn**	**13 27 49.2**	**-1.5**
KDTR	**Khodutka, Kamc**	**2.44**	**32**	*e*P	**Pn**	**13 27 21.4**	**-0.6**
KDTR				*e*S	**Sn**	**13 27 49.2**	**-1.5**
MTVR	**Mutnovka**	**3.06**	**26**	PN	**Pn**	**13 27 31.0**	**+0.5**
MTVR				S	**Sn**	**13 28 06.8**	**+0.8**
MTVR	**Mutnovka**	**3.06**	**26**	P	**Pn**	**13 27 31.0**	**+0.5**
MTVR				S	**Sn**	**13 28 06.8**	**+0.8**
GRL	**Gorelyy**	**3.09**	**24**	PN	**Pn**	**13 27 31.7**	**+0.8**
GRL				S	**Sn**	**13 28 07.8**	**+1.1**
GRL	**Gorelyy**	**3.09**	**24**	*e*P	**Pn**	**13 27 31.7**	**+0.8**
GRL				*e*S	**Sn**	**13 28 07.8**	**+1.1**
RUS	**Russkaya**	**3.11**	**30**	PN	**Pn**	**13 27 30.5**	**-0.6**
RUS				S	**Sn**	**13 28 05.4**	**-1.7**
RUS	**Russkaya**	**3.11**	**30**	P	**Pn**	**13 27 30.5**	**-0.6**
RUS				*e*S	**Sn**	**13 28 05.4**	**-1.7**
APC	**Apacha**	**3.25**	**12**	PN	**Pn**	**13 27 35.1**	**+2.0**
APC	**Apacha**	**3.25**	**12**	*e*P	**Pn**	**13 27 35.1**	**+2.0**
KRMR	**Karymshinskiy**	**3.35**	**23**	PN	**Pn**	**13 27 35.8**	**+1.4**
KRMR	**Karymshinskiy**	**3.35**	**23**	*e*P	**Pn**	**13 27 35.8**	**+1.4**
PEA0B	**Petropavlovsk-**	**3.52**	**17**	*d i*PN	**Pn**	**13 27 38.2**	**+1.5**
PEA0B	**Petropavlovsk-**	**3.52**	**17**	Pn	**Pn**	**13 27 38.4**	**+1.6**
PETK	**Petropavlovsk-**	**3.52**	**17**	P	**Pn**	**13 27 37.6**	**+0.9**
	comp=E,18nm,0.3s,baz=190,slow=15,SNR=232						
PETK				S	**Sn**	**13 28 23.4**	**+6.3**
	comp=E,12nm,0.3s,baz=157,slow=19,SNR=3.6						
PETK				LR	LR	13 29 12.0	
	comp=E,604nm,20.8s,baz=202,slow=42						
PETK	**Petropavlovsk-**	**3.52**	**17**	Pn	**Pn**	**13 27 37.3**	**+0.6**
PET	**Petropavlovsk**	**3.67**	**26**	PN	**Pn**	**13 27 39.7**	**+1.0**
PET				S	**Sn**	**13 28 21.8**	**+1.1**
PET	**Petropavlovsk**	**3.67**	**26**		**Pn**	**13 27 38.9**	**+0.2**
DALK	**Dalny**	**3.70**	**27**	PN	**Pn**	**13 27 39.8**	**+0.6**
DALK				S	**Sn**	**13 28 21.6**	**+0.1**
DALK	**Dalny**	**3.70**	**27**	*e*P	**Pn**	**13 27 39.8**	**+0.6**
DALK				*e*S	**Sn**	**13 28 21.6**	**+0.1**
UGLR	**Uglovaya**	**3.88**	**26**	PN	**Pn**	**13 27 43.4**	**+1.7**
UGLR	**Uglovaya**	**3.88**	**26**	*e*P	**Pn**	**13 27 43.4**	**+1.7**
KOK	**Koryaka**	**3.90**	**24**	PN	**Pn**	**13 27 44.4**	**+2.4**
KOK	**Koryaka**	**3.90**	**24**	*e*P	**Pn**	**13 27 44.4**	**+2.4**
AVH	**Avacha**	**3.91**	**25**	PN	**Pn**	**13 27 44.1**	**+2.1**
AVH	**Avacha**	**3.91**	**25**	*e*P	**Pn**	**13 27 44.1**	**+2.1**
SMAR	**Somma**	**3.92**	**25**	PN	**Pn**	**13 27 44.1**	**+1.7**
SMAR	**Somma**	**3.92**	**25**	*e*P	**Pn**	**13 27 44.1**	**+1.7**
KRER	**Koryakskii**	**3.94**	**25**	PN	**Pn**	**13 27 44.8**	**+2.1**
KRER	**Koryakskii**	**3.94**	**25**	*e*P	**Pn**	**13 27 44.8**	**+2.1**
SDLR	**Sedlovina**	**3.96**	**26**	PN	**Pn**	**13 27 43.8**	**+1.0**
SDLR	**Sedlovina**	**3.96**	**26**	*e*P	**Pn**	**13 27 43.8**	**+1.0**
NLC	**Nalytchevo**	**4.01**	**30**	PN	**Pn**	**13 27 42.3**	**-1.0**
NLC				S	**Sn**	**13 28 25.9**	**-3.1**
NLC	**Nalytchevo**	**4.01**	**30**	*e*P	**Pn**	**13 27 42.3**	**-1.0**
NLC				*e*S	**Sn**	**13 28 25.9**	**-3.1**
GNL	**Ganaly**	**4.12**	**16**	PN	**Pn**	**13 27 47.2**	**+2.1**
GNL	**Ganaly**	**4.12**	**16**	*e*P	**Pn**	**13 27 47.2**	**+2.1**
SPN	**Mys Shipunski**	**4.19**	**35**	PN	**Pn**	**13 27 45.9**	**+0.1**
SPN				S	**Sn**	**13 28 32.0**	**-1.4**
SPN	**Mys Shipunski**	**4.19**	**35**	*e*P	**Pn**	**13 27 45.9**	**+0.1**
SPN				*e*S	**Sn**	**13 28 32.0**	**-1.4**
KII	**Karymskiy**	**4.79**	**25**	PN	**Pn**	**13 27 56.8**	**+2.7**
KII	**Karymskiy**	**4.79**	**25**	*e*P	**Pn**	**13 27 56.8**	**+2.7**
TUMD	**Tumrok D**	**6.08**	**25**	*e*P	**Pn**	**13 28 13.1**	**+1.4**
TUMR	**Tumrok**	**6.08**	**23**	PN	**Pn**	**13 28 13.1**	**+1.3**
TUMR	**Tumrok**	**6.08**	**23**	*e*P	**Pn**	**13 28 14.4**	**+2.6**
ESO	**Esso**	**6.39**	**14**	PN	**Pn**	**13 28 19.5**	**+3.6**
ESO	**Esso**	**6.39**	**14**	*e*P	**Pn**	**13 28 19.5**	**+3.6**
KMNR	**Kamenistaya**	**6.54**	**22**	PN	**Pn**	**13 28 20.5**	**+2.5**
KMNR	**Kamenistaya**	**6.54**	**22**	*e*P	**Pn**	**13 28 20.5**	**+2.5**
KPT	**Kopyto**	**6.72**	**21**	PN	**Pn**	**13 28 23.7**	**+3.2**
KPT	**Kopyto**	**6.72**	**21**	*e*P	**Pn**	**13 28 23.7**	**+3.2**
BZWR	**Bezymyannyi-We**	**6.79**	**22**	PN	**Pn**	**13 28 24.0**	**+2.5**
BZWR	**Bezymyannyi-We**	**6.79**	**22**	*e*P	**Pn**	**13 28 24.0**	**+2.5**
KUR	**Kuril'sk**	**7.13**	**234**	*e*PN	**Pn**	**13 28 28.2**	**+2.2**
KUR				*e*S	**Sn**	**13 29 48.4**	**+2.9**
KUR				pmax	pmax		
	comp=N,56nm,0.7s						
KUR				pmax	pmax		
	comp=E,47nm,0.7s						
KUR				pmax	pmax		
	comp=Z,107nm,0.7s						
KUR				smax	smax		
	comp=N,84nm,0.8s						
KUR				smax	smax		
	comp=E,62nm,0.4s						
KBTR	**Krutoberegovo**	**7.66**	**30**	PN	**Pn**	**13 28 33.0**	**-0.2**
KBTR	**Krutoberegovo**	**7.66**	**30**	*e*P	**Pn**	**13 28 33.0**	**-0.2**
KBG	**Krutoberegovo**	**7.66**	**29**	PN	**Pn**	**13 28 34.8**	**+1.6**
KBG	**Krutoberegovo**	**7.66**	**29**	*e*P	**Pn**	**13 28 34.8**	**+1.6**
BKI	**Bering**	**8.17**	**44**	PN	**Pn**	**13 28 38.5**	**-1.7**
BKI				S	Sn	13 30 01.4	-9.4
SHO	**Shikotan**	**8.61**	**230**	*e*PN	Pn	13 28 41.4	-4.9
SHO				pmax	pmax		
	comp=Z,33nm,0.3s						
TYV	**Tymovskoe**	**8.62**	**282**	*e*PN	**Pn**	**13 28 50.3**	**+4.0**
TYV				*e*S	**Sn**	**13 30 25.1**	**+3.3**
TYV				pmax	pmax		
	comp=Z,46nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,3.7s						
TYV				smax	smax		
	comp=N,15nm,1.3s						
TYV				smax	smax		
	comp=E,12nm,1.3s						
TYV				smax	smax		
	comp=N,400nm,5.6s						
TYV				smax	smax		
	comp=E,500nm,5.6s						
YUK	**Yuzh-Kuril'sk**	**8.99**	**234**	*e*PN	**Pn**	**13 28 51.0**	**-0.5**
YUK				pmax	pmax		
	comp=Z,203nm,0.2s						
GRPR	**Tuman**	**9.07**	**234**	*e*PN	**Pn**	**13 28 51.7**	**-0.8**
GRPR				pmax	pmax		
	comp=Z,86nm,0.2s						
UGL	**Uglegorsk**	**9.11**	**271**	*e*PN	**Pn**	**13 28 57.0**	**+3.9**
UGL				S	**Sn**	**13 30 36.8**	**+2.8**
UGL				pmax	pmax		
	comp=Z,204nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.26**	**257**	*e*PN	**Pn**	**13 28 58.1**	**+3.0**
YSS				*e*S	**Sn**	**13 30 39.6**	**+2.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				smax	smax		
	comp=E,10.0nm,0.7s						
YSS				MLR	MLR		
	comp=Z,700nm,12.0s						
YSS	**Yuzh-Sakhalins**	**9.26**	**257**	Pn	**Pn**	**13 28 55.9**	**+0.9**
RUSJ	**Misakicho**	**9.27**	**237**	*e*PN	**Pn**	**13 28 57.1**	**+1.8**
RUSJ				*e*S	**Sn**	**13 30 39.1**	**+1.1**
GLVR	**Golovnino**	**9.38**	**234**	*e*PN	**Pn**	**13 28 55.9**	**-0.8**
GLVR				pmax	pmax		
	comp=Z,85nm,0.2s						
NMR	**Nemuro--Hokkai**	**9.53**	**232**	*e*PN	**Pn**	**13 28 54.7**	**-4.1**
MA2	**Magadan**	**10.29**	**345***ce*PN	**Pn**	**13 29 10.1**	**+1.0**
MA2				pmax	pmax		
	comp=Z,19nm,0.6s						
MA2	**Magadan**	**10.29**	**345**	Pn	**Pn**	**13 29 09.7**	**+0.5**
JKA	**Kamikawa-asahi**	**10.76**	**243**		**Pn**	**13 29 17.8**	**+2.2**
ASAJ	**Asahikawa**	**10.76**	**243**	P	**Pn**	**13 29 16.7**	**+1.1**
	comp=Z,4.1nm,0.3s,baz=74,slow=13,SNR=28						
ASAJ				LR	LR	13 32 51.5	
	comp=Z,213nm,22.0s,baz=5.5,slow=34						
ASAJ	**Asahikawa**	**10.76**	**243**	PN	**Pn**	**13 29 17.8**	**+2.2**
SHEM	**Shemya Is, Ala**	**11.72**	**68**	LR	LR	13 35 09.6	
	comp=Z,90nm,19.0s,baz=284,slow=42						
SMY	**Shemya**	**11.72**	**68**	PN	**Pn**	**13 29 28.7**	**0.0**
SMY	**Shemya**	**11.72**	**68**	Pn	**Pn**	**13 29 28.7**	**0.0**
ERM	**Erimo**	**11.82**	**234**⇓ *e*PN	**Pn**	**13 29 32.9**	**+2.8**
ERM	**Erimo**	**11.82**	**234**	Pn	**Pn**	**13 29 29.6**	**-0.5**
SEY	**Seymchan**	**13.36**	**353**	P	**Pn**	**13 29 52.0**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=146,slow=11,SNR=17						
SEY				LR	LR	13 35 29.3	
	comp=Z,186nm,19.7s,baz=308,slow=40						
KLR	**Kul'dur**	**15.75**	**277**	P	**P**	**13 30 24.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=78,slow=9.4,SNR=14						
KLR				LR	LR	13 36 43.8	
	comp=Z,191nm,19.3s,baz=50,slow=39						
KLR	**Kul'dur**	**15.75**	**277**⇓ *i*P	**P**	**13 30 24.1**	**-0.6**
KLR				MLR	MLR		
	comp=Z,132nm,16.0s						
USA0B	**Ussuriysk Arra**	**17.27**	**260**	P	**P**	**13 30 42.7**	**+1.2**
USA0B				pmax	pmax		
	comp=Z,60nm,1.7s						
USA0B	**Ussuriysk Arra**	**17.27**	**260**	P	**P**	**13 30 42.7**	**+1.2**
USRK	**Ussuriysk Ar.**	**17.27**	**260**	P	**Pn**	**13 30 37.5**	**-3.4**
	baz=64,slow=11,SNR=3.3						
USRK	**Ussuriysk Ar.**	**17.27**	**260**	P	**P**	**13 30 42.7**	**+1.2**
USRK	**Ussuriysk Ar.**	**17.27**	**260**	P	**P**	**13 30 42.7**	**+1.2**
JSD	**Sado**	**17.29**	**234**	P	**P**	**13 30 43.9**	**+2.1**
JSD				IAmb	IAmb	13 30 51.4	
	comp=Z,116nm,1.2s						
ZEA	**Zeya**	**18.18**	**294**	*e*P	**Pn**	**13 30 53.3**	**+1.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MJB9	**Matsu-Tunnel**	**18.46**	**231**	P	**P**	**13 30 54.3**	**-0.3**
MAJO	**Matsushiro**	**18.46**	**231***de*P	**Pn**	**13 30 55.7**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,64nm,2.5s						
MAJO	**Matsushiro**	**18.46**	**231**	P	**P**	**13 30 54.1**	**-0.6**
MAT	**Matsushiro**	**18.46**	**231**	P	**P**	**13 30 54.0**	**-0.7**
MJAR	**Matsushiro Arr**	**18.46**	**231**	P	**P**	**13 30 52.8**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=21,slow=13,SNR=16						
MJAR				LR	LR	13 38 30.8	
	comp=Z,97nm,19.6s,baz=52,slow=38						
MJAR	**Matsushiro Arr**	**18.46**	**231**	P	**P**	**13 30 54.6**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MJAR	**Matsushiro Arr**	**18.46**	**231**	P	**P**	**13 30 54.5**	**-0.1**
MDJ	**Mudanjiang**	**18.62**	**264**	P	**Pn**	**13 30 57.4**	**0.0**
MDJ				pP	pP	13 31 11.3	+1.1
MDJ				sP	sP	13 31 21.1	+2.6
MDJ				pmax	pmax		
	comp=Z,18nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,300nm,6.0s						
YAK	**Yakutsk**	**19.03**	**320**	P	**P**	**13 31 00.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=89,slow=1.1,SNR=13						
YAK				LR	LR	13 38 07.8	
	comp=Z,154nm,21.8s,baz=69,slow=36						
YAK	**Yakutsk**	**19.03**	**320**	*e*P	**P**	**13 31 00.6**	**-0.1**
YAK				*e*S	**S**	**13 34 31.3**	**-1.6**
YAK				pmax	pmax		
	comp=Z,48nm,0.8s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
YAK				smax	smax		
	comp=E,43nm,3.0s						
YAK				smax	smax		
	comp=N,38nm,2.2s						
YAK	**Yakutsk**	**19.03**	**320**	P	**P**	**13 31 00.2**	**-0.5**
YAK				IAmb	IAmb	13 31 04.3	
	comp=Z,63nm,0.9s						
BILL	**Bilibino**	**19.04**	**12***c i*P	**P**	**13 31 00.9**	**+0.2**
BILL				pmax	pmax		
	comp=Z,15nm,0.9s						
BILL				MLR	MLR		
	comp=Z,95nm,10.0s						
BNX	**BinXian**	**19.59**	**269**	⇓P	**P**	**13 31 05.6**	**-1.3**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,290nm,3.5s						
INU	**Inuyama**	**19.99**	**231**	P	**P**	**13 31 10.6**	**-0.8**
GAMB	**Gambell**	**22.26**	**39**	P	**P**	**13 31 35.3**	**-0.2**
	baz=247						
KSRS	**Korea Array**	**23.61**	**249**	P	**P**	**13 31 49.0**	**-0.2**
	comp=Z,12nm,0.9s,baz=47,slow=10,SNR=23						
KSRS				LR	LR	13 40 24.2	
	comp=Z,63nm,19.9s,baz=65,slow=35						
TNA	**Tin City**	**24.46**	**36**	P	**P**	**13 31 58.0**	**+1.4**
TNA				IAmb	IAmb	13 31 59.7	
	comp=Z,32nm,0.8s						
TNA	**Tin City**	**24.46**	**36**	P	**P**	**13 31 58.2**	**+1.5**
	baz=248,SNR=29						
TJN	**Taejon**	**24.65**	**248**⇑ *e*P	**P**	**13 31 59.2**	**+0.5**
**

comp=Z,25nm,0.8s
TIXI MLR MLR
comp=Z,86nm,26.0s
TIXI Tiksi 25.20 340 P **P** **13 32 02.8 -0.6**
TIXI IAmb IAmb 13 32 04.0
comp=Z,22nm,0.7s
GCSA Galena City Sc 28.73 41 P **P** **13 32 35.2 +0.2**
baz=262
TTA Tatalina 28.91 45 P **P** **13 32 38.2 +1.5**
TTA pmax pmax
comp=Z,26nm,1.7s
TTA Tatalina 28.91 45 P **P** **13 32 38.2 +1.5**
TTA IAmb IAmb 13 33 22.2
comp=Z,26nm,1.7s
TTA Tatalina 28.91 45 P **P** **13 32 37.7 +0.9**
baz=266
K20K Telida 29.81 44 P **P** **13 32 46.1 +1.4**
K20K IAmb IAmb 13 33 15.2
comp=Z,26nm,1.9s
J20K Nowinta River 29.84 42 P **P** **13 32 46.4 +1.5**
J20K Nowinta River 29.84 42 P **P** **13 32 46.1 +1.2**
baz=265
L20K Farewell, AK 29.86 46 P **P** **13 32 46.3 +1.2**
baz=269
IMAR Indian Mountai 30.20 39 P **P** **13 32 48.8 +0.7**
A21K Barrow 30.45 28 P **P** **13 32 50.8 +0.7**
A21K IAmb IAmb 13 32 51.5
comp=Z,14nm,0.6s
A21K Barrow 30.45 28 P **P** **13 32 50.5 +0.3**
baz=251,SNR=14
H21K Melozitna Rive 30.55 39 P **P** **13 32 52.4 +1.2**
CHUM Lake Minchumin 30.62 43 P **P** **13 32 53.2 +1.4**
baz=268
PPLA Purkeypile 30.65 45 P **P** **13 32 54.3 +2.1**
PPLA IAmb IAmb 13 33 29.4
comp=Z,52nm,1.8s
PPLA Purkeypile 30.65 45 P **P** **13 32 53.7 +1.5**
baz=269
CAST Castle Rocks 30.71 44 P **P** **13 32 54.0 +1.4**
CAST Castle Rocks 30.71 44 P **P** **13 32 54.1 +1.5**
baz=269,SNR=6.1
I21K Tanana 30.85 40 P **P** **13 32 54.8 +1.0**
baz=266
H11N2 WAKE ISLAND Hy 31.20 160 T T 14 06 54.8
baz=290,slow=74,SNR=153
H11N3 WAKE ISLAND Hy 31.21 160 T T 14 06 48.4
baz=344,slow=74,SNR=319
KTH Kantishna Hill 31.23 44 P **P** **13 32 59.2 +1.9**
KTH IAmb IAmb 13 32 59.8
comp=Z,13nm,1.0s
CNPM China Poot 31.25 51 P **P** **13 32 58.8 +1.4**
BRLK Bradley Lake 31.41 51 P **P** **13 32 59.9 +1.1**
TRF Thorofare Moun 31.52 44 P **P** **13 33 01.4 +1.5**
TRF Thorofare Moun 31.52 44 P **P** **13 33 00.9 +1.0**
baz=270
COLD Coldfoot 31.76 37 P **P** **13 33 03.2 +1.4**
COLD IAmb IAmb 13 33 04.2
comp=Z,8.0nm,0.6s
COLD Coldfoot 31.76 37 P **P** **13 33 02.8 +1.0**
baz=264,SNR=8.8
ULN Ulaanbaatar 31.84 286⇑ *e*P **P** **13 33 02.3 -0.6**
ULN pmax pmax
comp=Z,1.0nm,0.6s
RC01 Rabbit Creek A 31.86 48 P **P** **13 33 02.9 +0.2**
baz=274
I23K Minto, Yukon-K 31.95 41 P **P** **13 33 04.6 +1.2**
baz=268
NEA2 Nenana 32.06 42 P **P** **13 33 05.6 +1.2**
baz=269
HHC Hu-ho-hao-te 32.09 271 *e*P **P** **13 33 05.3 +0.2**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,140nm,4.8s
SEW Seward 32.09 50 P **P** **13 33 05.3 +0.6**
baz=276
PMR Palmer 32.12 47 P **P** **13 33 06.2 +1.3**
PMR pmax pmax
comp=Z,59nm,1.9s
PMR Palmer 32.12 47 P **P** **13 33 06.2 +1.3**
PMR Palmer 32.12 47 P **P** **13 33 06.0 +1.1**
baz=274
MCK McKinley 32.12 43 P **P** **13 33 06.0 +1.0**
MCK pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 32.12 43 P **P** **13 33 06.0 +1.0**
MCK IAmb IAmb 13 33 06.7
comp=Z,9.1nm,0.9s
MCK McKinley 32.12 43 P **P** **13 33 05.9 +0.8**
baz=271,SNR=5.4
RND Reindeer 32.16 44 P **P** **13 33 06.1 +0.6**
RND pmax pmax
comp=Z,14nm,0.9s
RND Reindeer 32.16 44 P **P** **13 33 06.1 +0.6**
RND IAmb IAmb 13 33 06.9
comp=Z,14nm,0.9s
SONM Songino Array 32.26 286 P **P** **13 33 04.5 -2.0**
comp=Z,0.4nm,0.4s,baz=71,slow=7.8,SNR=2.1
SONM PcP **PcP** **13 35 53.7 +0.5**
comp=Z,1.9nm,0.7s,baz=124,slow=1.7,SNR=6.9
H11S1 WAKE ISLAND Hy 32.34 161 T T 14 07 13.8
baz=347,slow=76,SNR=2551
H11S3 WAKE ISLAND Hy 32.35 161 T T 14 07 15.0
baz=347,slow=76,SNR=4240
H11S2 WAKE ISLAND Hy 32.36 161 T T 14 07 14.4
baz=347,slow=76,SNR=2422
MDM Murphy Dome 32.43 41 P **P** **13 33 08.8 +1.1**
MDM IAmb IAmb 13 33 11.1
comp=Z,7.4nm,0.7s
KNK Knik Glacier 32.45 48 P **P** **13 33 08.7 +0.7**
KNK IAmb IAmb 13 33 09.9
comp=Z,18nm,0.7s
KNK Knik Glacier 32.45 48 P **P** **13 33 08.8 +0.9**
baz=275
SML Sawmill 32.48 47 P **P** **13 33 09.4 +1.2**
SML Sawmill 32.48 47 P **P** **13 33 09.1 +0.9**
baz=274,SNR=8.7
WRH Wood River Hil 32.49 42 P **P** **13 33 09.8 +1.6**
PWL Port Wells 32.56 49 P **P** **13 33 09.2 +0.3**
PWL Port Wells 32.56 49 P **P** **13 33 09.4 +0.5**
baz=276
TCOL CIGO, UAF Yank 32.59 41 P **P** **13 33 10.1 +1.1**
baz=270,SNR=7.3
COLA College 32.59 41 *d i*P **P** **13 33 10.7 +1.7**
COLA pmax pmax
comp=Z,19nm,0.7s
COLA College 32.59 41 P **P** **13 33 09.9 +0.9**
baz=270
H24K Noodor Dome 32.59 39 P **P** **13 33 10.4 +1.3**
H24K Noodor Dome 32.59 39 P **P** **13 33 10.0 +0.8**
baz=269
CCB Clear Creek Bu 32.61 42 P **P** **13 33 10.3 +1.0**
CCB IAmb IAmb 13 33 11.1
comp=Z,6.8nm,0.6s
NJ2 Nanjing 32.76 251 *e*P **P** **13 33 11.3 +0.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
POKR Poker Plat Res 32.77 41 P **P** **13 33 12.4 +1.8**
POKR IAmb IAmb 13 33 13.6
comp=Z,12nm,0.6s
POKR Poker Plat Res 32.77 41 P **P** **13 33 11.7 +1.1**
baz=270,SNR=5.6
SCM Sheep Creek Mo 32.95 47 P **P** **13 33 13.5 +1.1**
SCM pmax pmax
comp=Z,35nm,1.2s
SCM Sheep Creek Mo 32.95 47 P **P** **13 33 13.5 +1.1**
SCM Sheep Creek Mo 32.95 47 P **P** **13 33 13.5 +1.1**
baz=275
HDA Harding Lake 32.98 42 P **P** **13 33 12.0 -0.5**
HDA Harding Lake 32.98 42 P **P** **13 33 13.1 +0.5**
baz=272,SNR=16
IL31 33.00 41 P **P** **13 33 13.3 +0.7**
IL31 IAmb IAmb 13 33 14.6
comp=Z,7.9nm,0.6s
ILAR Eielson Array 33.00 41 P **P** **13 33 13.2 +0.6**
comp=Z,6.1nm,0.7s,baz=256,slow=6.0,SNR=62
ILAR LR LR 13 47 13.9
comp=Z,92nm,18.1s,baz=192,slow=37
ILAR Eielson Array 33.00 41 P **P** **13 33 13.9 +1.2**
ZAK Zakamensk 33.26 292 *e*P **P** **13 33 15.9 +0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
M24K Tolsona, Glenn 33.47 46 P **P** **13 33 18.2 +1.3**
M24K Tolsona, Glenn 33.47 46 P **P** **13 33 17.7 +0.9**
baz=276
FID Port Fidalgo 33.48 49 P **P** **13 33 17.2 +0.3**

PRP Porcupine Dome 33.57 40 P **P** **13 33 19.0 +1.2**
PRP Porcupine Dome 33.57 40 P **P** **13 33 18.9 +1.1**
baz=271,SNR=6.5
KLU Klutina 33.66 47 P **P** **13 33 19.6 +1.1**
KLU IAmb IAmb 13 34 07.6
comp=Z,30nm,1.5s
PAX Paxson 33.72 45 P **P** **13 33 20.1 +1.1**
PAX pmax pmax
comp=Z,34nm,1.9s
PAX Paxson 33.72 45 P **P** **13 33 20.1 +1.1**
PAX IAmb IAmb 13 33 40.6
comp=Z,34nm,1.9s
PAX Paxson 33.72 45 P **P** **13 33 20.0 +1.1**
baz=275
HARP HAARP 33.92 46 P **P** **13 33 22.0 +1.3**
baz=276
RIDG Independent Ri 33.94 43 P **P** **13 33 21.4 +0.5**
RIDG IAmb IAmb 13 33 22.1
comp=Z,9.5nm,0.8s
RIDG Independent Ri 33.94 43 P **P** **13 33 21.7 +0.8**
baz=274
BMAR Burnt Mountain 33.95 37 P **P** **13 33 22.1 +1.1**
N25K Chitina, Valde 34.27 47 P **P** **13 33 24.7 +0.9**
N25K IAmb IAmb 13 33 26.0
comp=Z,10.0nm,0.7s
N25K Chitina, Valde 34.27 47 P **P** **13 33 24.6 +0.9**
baz=278
DOT Dot Lake 34.29 43 P **P** **13 33 23.6 -0.4**
DOT IAmb IAmb 13 33 38.7
comp=Z,33nm,1.7s
SCRK Sand Creek 34.30 43 P **P** **13 33 24.1 0.0**
SCRK IAmb IAmb 13 33 25.3
comp=Z,8.3nm,1.0s
SCRK Sand Creek 34.30 43 P **P** **13 33 24.4 +0.3**
baz=275,SNR=5.8
BMRM Bremner River 34.36 48 P **P** **13 33 25.7 +1.2**
J26L Joseph Creek 34.44 42 P **P** **13 33 25.5 +0.2**
J26L IAmb IAmb 13 34 08.4
comp=Z,15nm,1.8s
MENT Mentasta 34.52 45 P **P** **13 33 27.1 +1.2**
MENT IAmb IAmb 13 33 27.8
comp=Z,5.0nm,0.6s
GLB Gilahina Butte 34.67 47 P **P** **13 33 29.6 +2.4**
L26K Log Cabin Wild 34.68 44 P **P** **13 33 28.9 +1.6**
L26K IAmb IAmb 13 33 44.3
comp=Z,16nm,1.6s
L26K Log Cabin Wild 34.68 44 P **P** **13 33 28.7 +1.5**
baz=277
VRDI Verde Repeater 34.87 47 P **P** **13 33 30.3 +1.2**
M26K Nabesna, AK 34.91 45 P **P** **13 33 31.1 +1.8**
M26K IAmb IAmb 13 33 32.4
comp=Z,11nm,0.8s
M26K Nabesna, AK 34.91 45 P **P** **13 33 30.9 +1.6**
baz=278
WAX Waxell Ridge 35.29 49 P **P** **13 33 34.0 +1.4**
L27K Beaver Creek, 35.36 44 P **P** **13 33 35.2 +2.1**
L27K Beaver Creek, 35.36 44 P **P** **13 33 35.0 +1.9**
baz=278
BCAR Beaver Creek A 35.38 44 P **P** **13 33 35.3 +2.0**
M27K Edge Creek, AK 35.44 45 P **P** **13 33 35.1 +1.2**
M27K IAmb IAmb 13 33 37.0
comp=Z,11nm,0.9s
M27K Edge Creek, AK 35.44 45 P **P** **13 33 35.6 +1.7**
baz=279
EGAK Eagle 35.45 41 P **P** **13 33 34.5 +0.6**
EGAK Eagle 35.45 41 P **P** **13 33 34.3 +0.5**
baz=276,SNR=12
ISLE Juniper Island 35.51 48 P **P** **13 33 36.5 +1.9**
BARN Barnard Glacie 35.76 47 P **P** **13 33 39.0 +2.3**
BARN IAmb IAmb 13 33 39.5
comp=Z,15nm,0.7s
GRNC Granite Creek 35.77 48 P **P** **13 33 39.4 +2.5**
GRNC IAmb IAmb 13 33 39.5
comp=Z,18nm,0.8s
YAH Yahtse 35.85 49 P **P** **13 33 40.0 +2.5**
BVCY Beaver Creek 35.90 45 P **P** **13 33 39.3 +1.6**
baz=280,SNR=6.4
CTG Chitna Glacier 35.93 48 P **P** **13 33 39.6 +1.5**
baz=281
CTGM Chitina Glacie 35.93 48 P **P** **13 33 40.3 +2.1**
LOGN Logan Glacier 36.12 48 P **P** **13 33 41.4 +1.7**
YUK3 Moose Creek 36.19 46 P **P** **13 33 41.7 +1.2**
baz=281,SNR=6.0
DAWY Dawson 36.30 42 P **P** **13 33 42.7 +1.5**
DAWY Dawson 36.30 42 P **P** **13 33 42.1 +0.9**
baz=278
I29M Ogilvie Camp, 36.59 40 P **P** **13 33 45.0 +1.4**
baz=278
PCA Pinnacle 36.63 49 P **P** **13 33 45.6 +1.6**
EPYK Eagle Plains 37.10 38 P **P** **13 33 49.7 +1.8**
EPYK IAmb IAmb 13 33 50.2
comp=Z,7.6nm,0.9s
EPYK Eagle Plains 37.10 38 P **P** **13 33 49.1 +1.1**
baz=278,SNR=5.2
GUMO Guam 37.20 198 LR LR 13 48 45.5
comp=Z,25nm,20.0s,baz=18,slow=35
NRIK Noril'sk 37.23 327 LR LR 13 51 00.2
comp=Z,84nm,18.7s,baz=16,slow=39
NRIK Noril'sk 37.23 327⇓ *e*P **P** **13 33 48.5 -0.4**
NRIK pmax pmax
comp=Z,7.0nm,2.0s
MAYO Mayo, Yukon 37.91 42 P **P** **13 33 56.8 +2.0**
baz=282,SNR=6.7
INK Inuvik 38.08 35 P **P** **13 33 57.5 +1.5**
comp=Z,2.8nm,0.4s,baz=291,slow=5.8,SNR=29
INK Inuvik 38.08 35 P **P** **13 33 57.6 +1.5**
INK Inuvik 38.08 35 P **P** **13 33 57.5 +1.5**
baz=278,SNR=5.3
TPUB Ta-pu 38.22 239 P **P** **13 33 57.8 0.0**
N31M Braeburn, Yuko 38.44 46 P **P** **13 34 01.7 +2.5**
N31M Braeburn, Yuko 38.44 46 P **P** **13 34 01.6 +2.4**
baz=285
M31M Drury Creek, Y 38.90 44 P **P** **13 34 05.1 +2.1**
M31M IAmb IAmb 13 34 07.0
comp=Z,14nm,1.3s
M31M Drury Creek, Y 38.90 44 P **P** **13 34 05.5 +2.5**
baz=285
WHY Whitehorse 39.08 47 P **P** **13 34 07.0 +2.3**
baz=286
SKAG Skagway 39.20 49 P **P** **13 34 07.8 +2.3**
baz=287
FARO Faro, Yukon 39.36 44 P **P** **13 34 08.8 +1.9**
baz=286
P33M Teslin, Yukon 40.19 47 P **P** **13 34 16.6 +2.7**
P33M IAmb IAmb 13 34 26.1
comp=Z,36nm,1.8s
P33M Teslin, Yukon 40.19 47 P **P** **13 34 16.0 +2.2**
baz=288
A36M Sachs Harbour 40.29 28 P **P** **13 34 16.1 +1.6**
A36M Sachs Harbour 40.29 28 P **P** **13 34 15.8 +1.3**
baz=281,SNR=25
GTA Gaotai 40.46 277 *e*P **P** **13 34 17.0 +0.6**
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,61nm,4.6s
GTA LR LR
comp=Z,98nm,16.0s
GTA LR LR
comp=Z,130nm,15.6s
GTA LR LR
comp=Z,130nm,14.9s
C36M Paulatuk 41.25 32 P **P** **13 34 23.7 +1.4**
C36M IAmb IAmb 13 34 24.6
comp=Z,21nm,1.1s
C36M Paulatuk 41.25 32 P **P** **13 34 23.5 +1.1**
baz=285,SNR=18
DLBC Dease Lake 42.14 49 P **P** **13 34 32.1 +2.3**
comp=Z,4.1nm,0.9s,baz=290,slow=8.4,SNR=5.9
ZALV Zalesovo Beam 42.47 304 P **P** **13 34 31.6 -1.0**
comp=Z,1.5nm,0.4s,baz=58,slow=6.9,SNR=10
ZALV PcP **PcP** **13 36 24.7 +0.6**
comp=Z,2.4nm,0.5s,baz=58,slow=3.7,SNR=10
ZALV LR LR 13 51 29.3
comp=Z,52nm,18.8s,baz=40,slow=35
ZALV Zalesovo Beam 42.47 304 P **P** **13 34 31.9 -0.6**
DGZ Jazzator, Alta 42.88 297⇓ *e*P **P** **13 34 36.2 +0.1**
DGZ pmax pmax
comp=Z,6.0nm,2.7s
CD2 Chengdu 43.08 264 *e*P **P** **13 34 37.0 -0.8**
WMQ Urumqi 45.68 290 *e*P **P** **13 34 59.9 +1.5**
EUNU Eureka 45.78 12 P **P** **13 34 59.5 +0.7**
EUNU IAmb IAmb 13 35 00.4
comp=Z,16nm,0.7s
MK31 Makanchi Array 47.31 296 P **P** **13 35 09.9 -1.2**
MK31 pmax pmax

comp=Z,3.0nm,1.0s
MK31 Makanchi Array 47.31 296 P **P** **13 35 09.9 -1.2**
MKAR Makanchi Array 47.31 296 P **P** **13 35 10.7 -0.4**
MKAR Makanchi Array 47.31 296 P **P** **13 35 10.7 -0.4**
KURK Kurchatov 47.34 302 *d i*P **P** **13 35 10.2 -1.0**
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 47.34 302 P **P** **13 35 10.7 -0.5**
KURK IAmb IAmb 13 35 11.7
comp=Z,11nm,0.8s
RES Resolute Bay 47.36 20 P **P** **13 35 11.9 +0.9**
comp=Z,3.7nm,0.6s,baz=308,slow=6.4,SNR=22
RES LR LR 13 57 58.8
comp=Z,48nm,18.4s,baz=37,slow=40
RES Resolute Bay 47.36 20 P **P** **13 35 12.2 +1.2**
RES pmax pmax
comp=Z,4.0nm,0.7s
RES Resolute Bay 47.36 20 P **P** **13 35 12.2 +1.2**
YKA Yellowknife Ar 47.36 39 P **P** **13 35 12.6 +1.4**
comp=Z,4.7nm,0.7s,baz=300,slow=8.1,SNR=37
PZH PanZhiHua 47.37 261 P **P** **13 35 13.3 +1.4**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.1s
SPITS Spitsbergen Ar 49.99 350 P **P** **13 35 29.3 -1.9**
SPITS pmax pmax
comp=Z,71nm,1.5s
BRVK Borovoye 50.50 309 *d i*P **P** **13 35 34.9 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 50.50 309 P **P** **13 35 34.8 -0.6**
BRVK IAmb IAmb 13 35 35.9
comp=Z,7.7nm,0.9s
EDM Edmonton 52.86 49 P **P** **13 35 54.8 +1.8**
EDM pmax pmax
comp=Z,12nm,0.7s
EDM Edmonton 52.86 49 P **P** **13 35 54.8 +1.8**
EDM IAmb IAmb 13 35 55.2
comp=Z,12nm,0.7s
KDJ Kajisay 52.97 294 P **P** **13 35 53.6 -0.5**
KDJ pmax pmax
comp=Z,7.0nm,1.2s
KDJ Kajisay 52.97 294 P **P** **13 35 53.6 -0.5**
KDJ IAmb IAmb 13 35 54.8
comp=Z,7.1nm,1.2s
BOOM Boomskoye usch 53.48 295 P **P** **13 35 58.3 +0.4**
BOOM pmax pmax
comp=Z,4.0nm,1.0s
BOOM Boomskoye usch 53.48 295 P **P** **13 35 58.3 +0.4**
DAG Danmarks Havn 53.70 358 *i*P **P** **13 35 56.4 -2.3**
DAG IAmb IAmb 13 35 58.8
comp=Z,2.3nm,0.7s
NEW Newport 53.85 56 LR LR 13 58 55.3
comp=Z,86nm,18.6s,baz=258,slow=36
J04D Umpqua Nationa 54.09 63 P **P** **13 36 04.3 +1.9**
baz=308
ARU Arti 54.11 317 LR LR 14 02 12.0
comp=Z,65nm,18.9s,baz=59,slow=40
ARU Arti 54.11 317 *c i*P **P** **13 36 00.4 -1.6**
ARU 13 37 59.8
ARU S **S** **13 43 32.6 -0.6**
ARU SS **SS** **13 47 15.1 +0.3**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 54.11 317 P **P** **13 36 00.9 -1.1**
ARU IAmb IAmb 13 36 01.4
comp=Z,12nm,1.0s
AAK Ala-Archa 54.24 296 LR LR 14 00 43.3
comp=Z,124nm,18.7s,baz=53,slow=38
AAK Ala-Archa 54.24 296⇑ *i*P **P** **13 36 03.2 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 54.24 296 P **P** **13 36 03.4 0.0**
J05D Fort Rock, OR 54.57 63 P **P** **13 36 07.8 +2.0**
baz=308
L04D Klamath Falls 54.61 64 P **P** **13 36 07.6 +1.6**
baz=308
CHTO Chiang Mai 54.69 257 P **P** **13 36 06.8 +0.1**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CHTO Chiang Mai 54.69 257 P **P** **13 36 06.8 +0.1**
CHTO IAmb IAmb 13 36 08.1
comp=Z,8.0nm,0.7s
SIJI Sorong 54.72 211 P **P** **13 36 06.6 -0.3**
comp=Z,5.4nm,0.7s,baz=145,slow=23,SNR=1.3
CM31 Chiang Mai Arr 54.95 257 P **P** **13 36 08.9 +0.3**
CM31 IAmb IAmb 13 36 10.4
comp=Z,8.4nm,0.9s
CMAR Chiang Mai Arr 54.95 257 P **P** **13 36 09.6 +1.0**
comp=Z,4.1nm,0.7s,baz=29,slow=6.9,SNR=29
CMAR LR LR 14 00 40.6
comp=Z,20nm,18.9s,baz=255,slow=37
CMAR Chiang Mai Arr 54.95 257 P **P** **13 36 09.3 +0.7**
CMAR Chiang Mai Arr 54.95 257 P **P** **13 36 09.3 +0.7**
ARCES ARCESS Array B 55.64 341 P **P** **13 36 10.5 -2.4**
comp=Z,4.9nm,0.9s,baz=40,slow=7.3,SNR=6.7
ARCES LR LR 14 03 35.4
comp=Z,43nm,19.7s,baz=310,slow=40
KKAR Karatay Array 56.25 299 P **P** **13 36 17.3 -0.3**
KKAR Karatay Array 56.25 299 P **P** **13 36 17.3 -0.3**
KIRV Kirov 56.53 323 LR LR 14 03 10.5
comp=Z,72nm,18.4s,baz=38,slow=39
KIRV Kirov 56.53 323⇑ *e*P **P** **13 36 17.7 -1.7**
WVOR Wild Horse Val 56.60 62 P **P** **13 36 21.9 +1.6**
WVOR pmax pmax
comp=Z,6.0nm,1.0s
WVOR Wild Horse Val 56.60 62 P **P** **13 36 21.9 +1.6**
WVOR IAmb IAmb 13 36 37.3
comp=Z,5.5nm,1.0s
SUMG Summit 57.55 5 P **P** **13 36 26.9 0.0**
SUMG pmax pmax
comp=Z,19nm,0.9s
SUMG Summit 57.55 5 *i*P **P** **13 36 26.3 -0.6**
SUMG IAmb IAmb 13 36 27.6
comp=Z,13nm,0.9s
SUMG Summit 57.55 5 P **P** **13 36 26.9 0.0**
FCC Fort Churchill 57.69 35 P **P** **13 36 28.5 +1.0**
FCC pmax pmax
comp=Z,9.0nm,0.7s
FCC Fort Churchill 57.69 35 P **P** **13 36 28.5 +1.0**
FCC IAmb IAmb 13 36 29.4
comp=Z,8.5nm,0.7s
EGMT Eagleton 57.86 52 P **P** **13 36 30.0 +0.9**
baz=310
ABKAR Akbulak array 57.98 310 P **P** **13 36 29.0 -0.8**
ABKAR IAmb IAmb 13 36 30.2
comp=Z,4.8nm,0.6s
ABKAR Akbulak array 57.98 310 P **P** **13 36 29.0 -0.8**
BTK Batken 58.01 296 P **P** **13 36 29.4 -0.8**
BTK pmax pmax
comp=Z,4.0nm,0.8s
BTK Batken 58.01 296 P **P** **13 36 29.4 -0.8**
BTK IAmb IAmb 13 36 30.8
comp=Z,4.4nm,0.8s
AKTO Aktyubinsk 58.16 312 LR LR 14 01 25.7
comp=Z,32nm,20.0s,baz=28,slow=36
HLID Hailey 58.26 59 P **P** **13 36 33.7 +1.7**
baz=311
BOZ Bozeman (W) 58.45 55 P **P** **13 36 34.3 +1.0**
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 58.45 55 P **P** **13 36 34.3 +1.0**
BOZ IAmb IAmb 13 36 36.0
comp=Z,5.5nm,0.8s
BOZ Bozeman (W) 58.45 55 P **P** **13 36 35.1 +1.8**
baz=311,SNR=5.6
HNR Honiara 59.04 175 LR LR 13 58 23.7
comp=Z,26nm,21.4s,baz=316,slow=32
GCMT Greycliff 59.37 54 P **P** **13 36 41.3 +1.6**
NVAR Mina Array Bea 59.38 66 P **P** **13 36 41.9 +2.0**
comp=Z,1.6nm,0.7s,baz=290,slow=8.0,SNR=9.1
PMG Port Moresby 59.42 190 LR LR 13 58 45.7
comp=Z,31nm,21.6s,baz=40,slow=32
H17A Grant Village 59.81 56 P **P** **13 36 46.3 +3.5**
baz=312,SNR=5.6
CHGR Chuyangaron 59.90 295 P **P** **13 36 43.0 -0.4**
MOOW Moose Ponds 60.14 57 P **P** **13 36 47.3 +2.2**
REDW Red Top Meadow 60.34 57 P **P** **13 36 48.6 +2.2**
REDW IAmb IAmb 13 36 49.3
comp=Z,6.8nm,1.1s
LAO LASA Array 60.55 52 P **P** **13 36 49.8 +2.2**
LAO IAmb IAmb 13 36 51.1
comp=Z,8.8nm,0.9s
LAO LASA Array 60.55 52 P **P** **13 36 48.9 +1.3**
baz=313

CWC	Cottonwood Cre	60.83	67	P		P	13 36 50.9 +1.1
	baz=312						
R11A	Troy Canyon, C	61.02	64	P		P	13 36 52.7 +1.6
	baz=312						
SPR3	Spring Creek 3	61.31	63	P		P	13 36 55.5 +2.3
SPR3				IAmb		IAmb	13 36 56.4
	comp=Z,3.9nm,0.8s						
DUG	Dugway, Tooele	61.38	61	P		P	13 36 54.6 +1.2
	baz=313						
MPMC	Manual Prospec	61.44	67	P		P	13 36 55.2 +1.2
	baz=313						
BW06	Boulder Array	61.45	57	P		P	13 36 54.8 +0.9
BW06				IAmb		IAmb	13 36 56.7
	comp=Z,3.9nm,0.8s						
BW06	Boulder Array	61.45	57	P		P	13 36 55.5 +1.6
	baz=313,SNR=5.7						
PD31	Pinedale Array	61.45	57	P		P	13 36 55.9 +1.9
PDAR	Pinedale Array	61.45	57	P		P	13 36 55.5 +1.6
	comp=Z,1.7nm,0.8s,baz=69,slow=17,SNR=34						
PDAR	Pinedale Array	61.45	57	P		P	13 36 55.2 +1.3
FURC	Furnace Creek,	61.54	66	P		P	13 36 55.6 +1.3
	baz=313						
FRB	Frobisher Bay	61.56	21	LR		LR	14 05 00.6
	comp=Z,62nm,18.3s,baz=260,slow=37						
TPNV	Topopah Spring	61.58	66	P		P	13 36 55.7 +0.9
	baz=313						
LRMC	Laurel Mtn Rad	61.72	68	P		P	13 36 56.8 +1.0
	baz=313						
SFJD	Kangerlussuaq	61.83	12	*i* P		P	13 36 54.8 -1.1
SFJD				IAmb		IAmb	13 36 55.9
	comp=Z,4.1nm,0.4s						
EDW2	Edwards Air Fo	61.94	68	P		P	13 36 58.3 +1.1
	baz=313						
FINES	FINESS Array B	62.13	335	P		P	13 36 55.7 -2.2
	comp=Z,1.6nm,0.5s,baz=33,slow=6.5,SNR=18						
FINES				LR		LR	14 05 39.9
	comp=Z,99nm,18.1s,baz=33,slow=38						
FINES	FINESS Array B	62.13	335	*i* P		P	13 36 56.2 -1.7
FINES				pmax		pmax	
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	62.13	335	P		P	13 36 56.1 -1.8
GSC	Goldstone, Bar	62.36	67	P		P	13 37 01.6 +1.6
	baz=313						
TUQ	Turquoise Moun	62.80	67	P		P	13 37 04.4 +1.4
	baz=314						
TMUT	Trail Mountain	62.90	61	P		P	13 37 04.7 +1.0
RDMU	Red Mountain	62.94	59	P		P	13 37 06.0 +2.1
RDMU				IAmb		IAmb	13 37 06.8
	comp=Z,9.7nm,0.8s						
HEC	Hector,Ludlow	62.97	67	P		P	13 37 05.6 +1.5
	baz=314						
MDND	Maddock	63.00	47	P		P	13 37 05.4 +1.5
	baz=315						
GMRC	Granite Mounta	63.40	67	P		P	13 37 08.5 +1.6
	baz=314						
RSSD	Black Hills	63.43	52	P		P	13 37 08.5 +1.3
RSSD				pmax		pmax	
	comp=Z,7.0nm,0.9s						
RSSD	Black Hills	63.43	52	P		P	13 37 08.5 +1.3
RSSD				IAmb		IAmb	13 37 09.4
	comp=Z,7.1nm,0.9s						
RSSD	Black Hills	63.43	52	P		P	13 37 08.2 +1.0
	baz=315						
BELC	Belle Mtn. Jos	63.74	68	P		P	13 37 09.7 +0.5
	baz=314						
OBN	Obninsk	63.90	326	*e*P		P	13 37 09.6 -0.1
OBN				*e**PP		pP	13 37 29.3 +1.9
OBN				*e**SP		PcP	13 37 39.4 -5.4
OBN				*e*			13 37 45.7
OBN				pmax		pmax	
	comp=Z,6.0nm,1.2s						
O20A	White River Ci	63.97	58	P		P	13 37 11.1 +0.4
	baz=314						
IRM	Iron Mountain	64.14	67	P		P	13 37 13.2 +1.5
	baz=314						
BC3	Big Chuckawall	64.30	68	P		P	13 37 14.3 +1.4
	baz=314						
COEN	Coen	64.44	194	P		P	13 37 14.7 +1.1
COEN				IAmb		IAmb	13 37 14.9
	comp=Z,9.5nm,0.9s						
ISOG	Isortoq, Green	64.45	7	*i* P		P	13 37 11.3 -1.8
ISOG				IAmb		IAmb	13 37 13.1
	comp=Z,8.0nm,0.6s						
PDMCI	Parker Dam,Lak	64.64	66	P		P	13 37 16.3 +1.4
	baz=314						
N23A	Red Feather La	64.69	56	P		P	13 37 17.0 +1.5
	baz=315						
GLA	Glamis	65.10	68	P		P	13 37 18.9 +0.9
	baz=315						
ISCO	Idaho Springs	65.64	57	P		P	13 37 23.3 +1.5
ISCO				pmax		pmax	
	comp=Z,5.0nm,0.9s						
ISCO	Idaho Springs	65.64	57	P		P	13 37 23.3 +1.5
ISCO	Idaho Springs	65.64	57	P		P	13 37 23.4 +1.7
	baz=316,SNR=5.8						
MVCO	Mesa Verde	65.88	61	P		P	13 37 24.7 +1.5
	baz=315						
NB2	NORSAR Subarra	65.98	342	P		P	13 37 22.7 -0.5
	comp=Z,0.6nm,0.5s,baz=24,slow=6.5						
NOA	NORSAR Array B	65.98	342	P		P	13 37 22.4 -0.9
	comp=Z,0.9nm,0.6s,baz=23,slow=5.6,SNR=5.3						
NOA				LR		LR	14 10 20.1
	comp=Z,44nm,18.9s,baz=40,slow=40						
HFS	Hagfors	66.29	340	LR		LR	14 08 56.4
	comp=Z,46nm,19.3s,baz=48,slow=38						
S22A	4UR Ranch, Cre	66.43	59	P		P	13 37 28.2 +1.3
	baz=316						
Q24A	Divide	66.49	57	P		P	13 37 28.3 +1.1
	baz=316						
W18A	Petrified Fore	66.65	63	P		P	13 37 29.4 +1.3
	baz=316						
GEYT	Alibeck	66.70	301	LR		LR	14 07 50.6
	comp=Z,38nm,19.2s,baz=20,slow=37						
OGNE	Ogallala	66.73	54	P		P	13 37 29.6 +1.2
	baz=317						
SDCO	Great Sand Dun	67.17	58	P		P	13 37 31.7 +0.2
	baz=316						
MNK	Minsk	67.37	330	*i* P		P	13 37 28.9 -3.2
MNK				*i* *PP		pP	13 37 47.4 -2.5
MNK				*i*			13 39 56.9
MNK				*i* PPP		PPP	13 41 37.0
MNK				*i* S		S	13 46 18.8 -3.3
MNK				*i* *SS		sS	13 46 50.5 -1.6
MNK				*i* SS		SS	13 50 39.5 -2.5
MNK				pmax		pmax	
	comp=E,2.0nm,1.0s						
MNK				pmax		pmax	
	comp=Z,6.0nm,0.8s						
MNK				pmax		pmax	
	comp=N,12nm,0.8s						
MNK				MLR		MLR	
	comp=Z,127nm,20.0s						
MNK				MLR		MLR	
	comp=E,12nm,15.0s						
MNK				MLR		MLR	
	comp=N,97nm,19.0s						
MNK	Minsk	67.37	330	*i* P		P	13 37 28.9 -3.2
	comp=E,2.0nm,0.9s						
MNK				*i* P		P	13 37 28.9 -3.2
	comp=N,12nm,0.8s						
MNK				*i* P		P	13 37 28.9 -3.2
	comp=Z,6.0nm,0.8s,baz=34						
MNK				*i* pP		pP	13 37 47.4 -2.5
MNK				*i* PP		PP	13 39 57.0 -3.6
MNK				*i* PPP		PPP	13 41 37.0
MNK				*i* S		S	13 46 18.9 -3.3
MNK				*i* sS		sS	13 46 50.6 -1.5
MNK				*i* SS		SS	13 50 39.5 -2.4
MNK				*i* SSS		SSS	13 53 54.8
MNK				*i* LQ		LQ	14 02 18.2
MNK				*i* LR		LR	14 06 59.4
MNK				*i* LRM		MLR	14 09 29.5
	comp=Z,127nm,20.4s						
MNK				*i* LRM		MLR	14 09 34.9
	comp=E,12nm,14.6s						
MNK				*i* LRM		MLR	14 09 46.6
	comp=N,97nm,19.1s						
NACGM	Naroch	67.38	331	*i* P		P	13 37 19.3 -13
ECSD	EROS Data Cent	67.43	49	P		P	13 37 33.7 +1.0
ECSD	EROS Data Cent	67.43	49	P		P	13 37 32.8 +0.1
	baz=318						
KSCO	Kaye Shedlock'	67.82	56	P		P	13 37 36.5 +1.1
	baz=317						
TUC	Tucson	68.03	66	P		P	13 37 38.0 +1.3
	baz=316						
T25A	Trinidad	68.21	58	P		P	13 37 38.8 +0.8
	baz=317						
ANMO	Albuquerque	68.65	61	⇓*i* P		P	13 37 42.6 +1.9
ANMO				pmax		pmax	
	comp=Z,2.0nm,1.3s						
ANMO	Albuquerque	68.65	61	P		P	13 37 41.9 +1.2
	baz=317						
CBKS	Cedar Bluff	69.49	54	P		P	13 37 46.3 +0.6
	baz=318						
SCHQ	Schefferville	69.78	25	P		P	13 37 47.9 +0.8
	comp=Z,7.2nm,0.5s,baz=341,slow=5.9,SNR=31						
SCHQ	Schefferville	69.78	25	P		P	13 37 48.5 +1.4
CTA	Charters Tower	70.07	190	LR		LR	14 08 31.3
	comp=Z,24nm,18.8s,baz=72,slow=36						
AKASG	Malin Array Be	70.09	327	P		P	13 37 47.4 -1.6
	comp=Z,2.1nm,0.4s,baz=32,slow=6.3,SNR=8.6						
AKASG				LR		LR	14 10 18.2
	comp=Z,74nm,19.4s,baz=63,slow=37						
AKBB	Malin Array Si	70.09	327	⇑*e*P		P	13 37 46.9 -2.2
AKBB				pmax		pmax	
	comp=Z,7.0nm,1.4s						
KBZ	Khabaz	70.14	315	P		P	13 37 49.4 0.0
	comp=Z,2.5nm,0.5s,baz=109,slow=3.7,SNR=5.1						
KBZ				LR		LR	14 12 39.2
	comp=Z,31nm,19.1s,baz=26,slow=39						
AMTX	Amarillo	71.36	58	P		P	13 37 58.0 +0.8
	baz=318						
MNTX	Cornudas Mount	71.63	63	P		P	13 37 59.9 +1.2
	baz=318						
WB0	Warramunga Arr	71.82	201	P		P	13 37 59.9 +0.1
WR0	Warramunga Arr	71.97	201	P		P	13 38 01.0 +0.3
WRAB	Tennant Creek	71.99	201	⇑*e*P		P	13 38 00.6 -0.2
WRAB				pmax		pmax	
	comp=Z,15nm,2.7s						
WRAB	Tennant Creek	71.99	201	P		P	13 38 00.7 -0.2
WB2	Warramunga Arr	72.00	201	P		P	13 38 01.0 +0.1
WRA	Warramunga Arr	72.00	201	P		P	13 38 00.7 -0.2
	comp=Z,3.2nm,0.6s,baz=16,slow=6.5,SNR=51						
WRA	Warramunga Arr	72.00	201	P		P	13 38 00.5 -0.4
WRA	Warramunga Arr	72.00	201	P		P	13 38 00.5 -0.4
GNI	Garni	72.03	311	LR		LR	14 14 06.1
	comp=Z,44nm,18.1s,baz=49,slow=40						
DZM	Mont Dzumac	72.11	170	LR		LR	14 01 44.5
	comp=Z,61nm,21.1s,baz=26,slow=29						
WMOK	Wichita Mounta	73.05	56	P		P	13 38 08.1 +0.9
	baz=319,SNR=6.5						
BUR08	Bucovina Ar. S	74.09	328	P		P	13 38 12.5 -0.7
BUR08				IAmb		IAmb	13 39 50.9
	comp=Z,22nm,1.9s						
BURAR	Bucovina Array	74.11	328	⇑P		P	13 38 11.5 -1.8
BURAR	Bucovina Array	74.11	328	⇑P		P	13 38 11.5 -1.8
BURAR	Bucovina Array	74.11	328	P		P	13 38 13.5 +0.3
ABTX	Abilene, Hawle	74.17	58	P		P	13 38 15.2 +1.4
	baz=320						
TX31	Lajitas Ar. Si	74.37	63	P		P	13 38 16.8 +1.7
TX32	Lajitas Array	74.37	63	P		P	13 38 16.4 +1.4
TX32				IAmb		IAmb	13 38 17.4
	comp=Z,8.0nm,0.8s						
TXAR	Lajitas Array	74.37	63	P		P	13 38 16.5 +1.4
	comp=Z,7.3nm,0.7s,baz=298,slow=4.3,SNR=96						
CCM	Cathedral Cave	74.38	49	P		P	13 38 15.0 +0.1
	baz=322						
CLL	Collm	74.49	337	*e*P		P	13 38 15.0 -0.3
CLL				*e**SP		sP	13 38 40.0 -0.8
CLL	Collm	74.49	337	*e*P		P	13 38 15.0 -0.3
CLL				*e*sP		sP	13 38 40.0 -0.8
LANS	Liptovska Anna	74.63	332	*e*P		P	13 38 17.2 +1.0
LANS	Liptovska Anna	74.63	332	*e*P		P	13 38 17.2 +1.0
U40A	Yellville	74.91	51	P		P	13 38 18.2 +0.3
	baz=322						
CFR	Carcaliu	75.14	325	⇑P		P	13 38 18.6 -0.5
CFR	Carcaliu	75.14	325	⇑P		P	13 38 18.6 -0.5
VRAC	Vranov	75.34	334	LR		LR	14 14 28.0
	comp=Z,120nm,18.1s,baz=22,slow=38						
MLR	Muntele Rosu	75.67	326	⇑P		P	13 38 21.9 -0.5
MLR	Muntele Rosu	75.67	326	LR		LR	14 16 01.6
	comp=Z,79nm,18.1s,baz=105,slow=39						
MLR	Muntele Rosu	75.67	326	⇑P		P	13 38 21.9 -0.5
AS31	Alice Springs	75.69	201	P		P	13 38 23.2 +0.8
ASAR	Alice Springs	75.69	201	P		P	13 38 23.1 +0.7
	comp=Z,0.3nm,0.3s,baz=84,slow=8.4,SNR=6.7						
ASAR				LR		LR	14 15 42.1
	comp=Z,17nm,18.3s,baz=39,slow=39						
ASAR	Alice Springs	75.69	201	P		P	13 38 22.5 +0.1
ASAR	Alice Springs	75.69	201	P		P	13 38 22.5 +0.1
JCT	Junction City	75.71	60	P		P	13 38 23.2 +0.5
	baz=320						
MIAR	Mount Ida	75.94	53	P		P	13 38 24.4 +0.5
	baz=322						
VOIR		76.04	327	⇓P		P	13 38 24.3 -0.1
VOIR		76.04	327	⇓P		P	13 38 24.3 -0.1
W41B	Gary Mavity, V	76.14	52	P		P	13 38 25.9 +0.9
	baz=322						
KHC	Kasperske Hory	76.33	336	*e*P		P	13 38 17.0 -8.9
KHC	Kasperske Hory	76.33	336	*e*P		P	13 38 17.0 -8.9
GERES	GERESS Array B	76.56	335	P		P	13 38 26.5 -0.8
	comp=Z,0.4nm,0.5s,baz=42,slow=6.1,SNR=5.3						
WCI	Wyandotte Cave	76.61	46	P		P	13 38 28.3 +0.7
	baz=324						
GZR	Gura Zlata	76.87	328	⇑P		P	13 38 28.3 -0.8
GZR	Gura Zlata	76.87	328	⇑P		P	13 38 28.3 -0.8
N54A	Moraine State	77.15	40	P		P	13 38 31.2 +0.5
	baz=327						
WSAR	Wadi Sarin	77.17	291	LR		LR	14 17 12.4
	comp=Z,50nm,19.6s,baz=71,slow=39						
UOSS	Minazif	77.35	294	P		P	13 38 31.5 -0.5
UOSS				IAmb		IAmb	13 38 32.2
	comp=Z,9.1nm,0.8s						
HERR	Herculane	77.44	328	⇑P		P	13 38 30.9 -1.3
BR131	Keskin Array S	77.48	318	⇓*e*P		P	13 38 33.6 +0.9
BRTR	Keskin Array B	77.48	318	P		P	13 38 32.2 -0.5
	comp=Z,1.0nm,0.5s,baz=99,slow=2.4,SNR=10						
BRTR	Keskin Array B	77.48	318	*i* P		P	13 38 32.7 0.0
BRTR				pmax		pmax	
	comp=Z,1.0nm,0.5s						
FRGS	Fruska Gora	78.07	330	⇓P		P	13 38 34.5 -1.2
DIVS	Divibare	78.95	329	P		P	13 38 39.7 -0.9
DIVS				IAmb		IAmb	13 38 40.8
	comp=Z,4.0nm,0.5s						
VTS	Vitosha	79.14	327	⇑P		P	13 38 41.9 +0.1
VTS	Vitosha	79.14	327	⇑P		P	13 38 41.9 +0.1
DAVOX	Davos/Dischmat	79.46	337	LR		LR	14 18 32.9
	comp=Z,50nm,18.1s,baz=15,slow=39						
PDG	Podgorica	80.68	329	⇑P		P	13 38 48.1 -1.8
STKA	Stephens Creek	82.28	192	LR		LR	14 14 13.8
	comp=Z,20nm,20.6s,baz=28,slow=35						
RAYN	Ar Rayn	84.63	300	P		P	13 39 10.8 0.0
RAYN				pmax		pmax	
	comp=Z,13nm,0.7s						
RAYN	Ar Rayn	84.63	300	P		P	13 39 10.8 0.0
VAE	Valguarnera	86.74	330	LR		LR	14 21 43.4
	comp=Z,20nm,19.9s,baz=358,slow=38						
ESDC	Soneca Array	89.21	345	P		P	13 39 32.5 -0.2
	comp=Z,0.8nm,0.5s,baz=356,slow=3.9,SNR=9.1						
ESDC				LR		LR	14 25 16.7
	comp=Z,53nm,18.2s,baz=358,slow=39						
KEST	Kesra	89.90	333	P		P	13 39 36.6 +0.5
	comp=Z,4.7nm,0.7s,baz=243,slow=19,SNR=5.8						
LPAZ	La Paz	131.24	63	PKP		PKiKP	13 45 50.7 +0.1
	comp=Z,0.9nm,0.7s,baz=359,slow=4.5,SNR=2.4						
CPUP	Villa Florida	145.29	60	PKPbc		PKPab	13 46 15.2 +0.8
	comp=Z,4.7nm,0.8s,baz=284,slow=5.9,SNR=4.8						
PLCA	Paso Flores	146.48	92	PKPbc		PKPab	13 46 18.3 -0.3
	comp=Z,2.6nm,0.9s,baz=291,slow=3.7,SNR=5.1						
PLCA	Paso Flores	146.48	92			PKPbc	13 46 17.5 0.0

NEIC ***22*** *13:32:01.0±1.3, 43°.66N±0°.09×139°.8E±0°.1, h212km±5km, mb4.1/6, Error ellipse: s-maj=15.2km s-min=12.8km az=104.0*

JMA ***22*** *13:32:00.7±0.2, 43°.69N×139°.75E, h211km±3km, M2.8*

IDC ***22*** *13:32:00.6±1.0, 43°.64N×139°.75E, h209km±13km, mb3.2/4, mb1 3.2/8, mb1mx2.9/33, mbtmp3.6/8, MS3.9/1, Ms1 3.9/1, ms1mx2.5/23, Error ellipse: s-maj=21.1km s-min=16.7km az=53.0*

ISC 22 13:32:01.1±0.7, 43°.60N±0°.06×139°.87E±0°.07, h217km±7km, n45, σ0.99/54, mb3.8/8, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	Shakotan	0.50	119	P	Pn	13 32 29.6	-0.5
JSH	Shimam	0.96	172	P	Pn	13 32 32.1	-0.3
JSH				*e*S	S	13 32 55.9	-0.8
JHR	Hokuryu	1.35	83	P	Pn	13 32 35.0	-0.1
JHR				*e*S	S	13 33 01.7	+0.3
JEW	Eniwo	1.38	123	P	Pn	13 32 35.9	+0.6
JEW				*e*S	S	13 33 03.5	+1.7
JEW	Eniwo	1.38	123	Pn	Pn	13 32 35.5	+0.1
JYG	Yagishiri	1.39	53	P	Pn	13 32 34.5	-0.8
JNB	Noboribetsu	1.42	142	P	Pn	13 32 35.4	-0.2
JOSM	Okushiri--Mats	1.54	191	P	Pn	13 32 36.8	+0.1
JKB	Kayabe	1.91	153	P	Pn	13 32 39.8	-0.2
JRBN	Rebuntou	2.01	25	P	Pn	13 32 39.9	-1.0
JFR	Furan	2.03	101	P	Pn	13 32 41.7	+0.5
JFR				*e*S	S	13 33 12.7	+0.5
ASAJ	Asahikawa	2.04	74	P	Pn	13 32 41.1	-0.1
	3.1nm,0.3s,baz=265,slow=9.1,SNR=14						
ASAJ				S	S	13 33 12.5	+0.2
	0.5nm,0.3s,baz=104,slow=26,SNR=1.5						
JKA	Kamikawa-asahi	2.04	74		Pn	13 32 40.6	-0.6
JOMM	Oshimamatsumae	2.08	177	P	Pn	13 32 41.8	+0.2
JKK2	Kamakawa 2	2.10	82	P	Pn	13 32 42.0	+0.1
JKK2				*e*S	S	13 33 14.4	+0.9
JWK2	Keihoku	2.25	39	P	Pn	13 32 43.3	0.0
JNBK	Urakawa-nobuka	2.49	121	P	Pn	13 32 46.5	+0.6
JNBK				*e*S	S	13 33 21.7	+1.0
JCH	Churui	2.74	110	P	Pn	13 32 47.5	-1.1
JCH				*e*S	S	13 33 22.7	-2.8
JAR	Ashorobuto	2.85	95	P	Pn	13 32 50.0	+0.1
JAR				*e*S	S	13 33 28.9	+1.0
ERM	Erimo	2.89	122	Pn	Pn	13 32 50.8	+0.5
JTM	Tenmabayashi	2.95	162	Pn	Pn	13 32 50.5	-0.5
JANG	Nango	3.45	159	P	Pn	13 32 55.8	-1.1
JAK	Akkeshi	3.57	98	P	Pn	13 32 57.5	-0.7
JAK				*e*S	S	13 33 40.8	-2.1
USRK	Ussuriysk Ar.	5.73	279	P	Pn	13 33 22.6	-2.5
	baz=89,slow=12,SNR=2.8						
JMM	Marumori	5.77	173	Pn	Pn	13 33 25.5	-0.1
MJB9	Matsu-Tunnel	7.16	191	Pn	Pn	13 33 44.2	+0.7
MAJO	Matsushiro	7.16	191	Pn	Pn	13 33 44.4	+0.9
MJAR	Matsushiro Arr	7.16	191	P	Pn	13 33 44.3	+0.7
	0.1nm,0.3s,baz=349,slow=15,SNR=4.3						
JYT	Yasato	7.37	178	Pn	Pn	13 33 43.3	-2.9
KLR	Kul'dur	7.95	318	P	Pn	13 33 52.2	-1.3
	0.1nm,0.3s,baz=130,slow=12,SNR=6.8						
ZALV	Zalesovo Beam	36.85	306	P	P	13 38 47.8	-0.4
	0.8nm,0.4s,baz=81,slow=6.7,SNR=5.7						
ZALV	Zalesovo Beam	36.85	306	P	P	13 38 47.9	-0.3
MKAR	Makanchi Array	39.93	295	LR	LR	13 56 03.3	
	comp=Z,180nm,20.0s,baz=38,slow=36						
KURK	Kurchatov	41.19	302	P	P	13 39 23.6	-0.5
KURK				IAmb	IAmb	13 39 25.0	
	comp=Z,2.5nm,0.8s						
TOLI2	Tolitoli	45.60	207	P	P	13 39 59.4	-0.3
TOLI2				IAmb	IAmb	13 40 11.7	
	comp=Z,9.5nm,1.0s						
INK	Inuvik	49.16	29	P	P	13 40 27.1	+0.6
ABKAR	Akbulak array	52.96	306	P	P	13 40 56.0	+1.0
KNRA	Kununurra	59.86	192	P	P	13 41 44.6	+0.8
KNRA				IAmb	IAmb	13 41 45.9	
	comp=Z,11nm,1.4s						
FIA1	FINESS Array S	62.50	330	P	P	13 42 00.9	-0.1
FINES	FINESS Array B	62.50	330	P	P	13 42 01.0	0.0
	comp=Z,1.1nm,0.5s,baz=60,slow=7.7,SNR=9.8						
FINES	FINESS Array B	62.50	330	P	P	13 42 00.5	-0.5
WRA	Warramunga Arr	63.43	186	P	P	13 42 07.3	-0.3
	comp=Z,0.5nm,1.1s,baz=3.8,slow=7.1,SNR=2.6						
WR0	Warramunga Arr	63.43	186	P	P	13 42 08.1	+0.4
WR0				IAmb	IAmb	13 42 24.8	
	comp=Z,4.0nm,1.4s						
ASAR	Alice Springs	67.16	186	P	P	13 42 32.8	+1.4
	comp=Z,0.3nm,0.5s,baz=355,slow=5.9,SNR=2.6						
PDAR	Pinedale Array	73.92	46	P	P	13 43 12.4	-0.2

IDC ***22*** *13:47:36.7±1.7, 18°.93S×169°.65E, h272km±19km, mb3.6/12, mb1 3.8/16, mb1mx3.4/46, mbtmp4.4/16, Error ellipse: s-maj=21.6km s-min=12.8km az=169.0*

NEIC ***22*** *13:47:37.2±1.9, 19°.02S±0°.09×169°.6E±0°.1, h268km±9km, mb4.2/15, Error ellipse: s-maj=14.4km s-min=12.4km az=90.0*

ISC 22 13:47:34.9±0.6, 18°.83S±0°.09×169°.61E±0°.07, h246km, n43, σ1.43/43, mb4.1/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.95	229	Pn	Pn	13 48 28.3	+1.7
MARNC	Mare, Loyalty	3.02	209	Pn	Pn	13 48 28.4	+1.0
SANVU	Saraoutou	4.08	325	Pn	Pn	13 48 44.3	+4.8
PINNC	Pines Island,	4.27	208	Pn	Pn	13 48 42.5	+0.8
DZM	Mont Dzumac	4.38	222	P	Pn	13 48 45.2	+2.0
	15nm,0.3s,baz=65,slow=17,SNR=179						
DZM				S	S	13 49 37.7	+0.3
	3.1nm,0.3s,baz=135,slow=19,SNR=1.0						
DZM	Mont Dzumac	4.38	222	*e*Pn	Pn	13 48 45.2	+2.0
	169nm,0.8s						
OUENC	Ouen Island, N	4.41	216	Pn	Pn	13 48 45.0	+1.6
ONTNC	Ouen Toro	4.55	220	Pn	Pn	13 48 46.3	+1.2
MSVF	Nonsavu	8.09	84	P	Pn	13 49 32.4	+2.9
	1.9nm,0.3s,baz=273,slow=14,SNR=18						
MSVF	Nonsavu	8.09	84	Pn	Pn	13 49 32.1	+2.6
HNR	Honiara	13.23	314	P	P	13 50 36.0	+0.5
	14nm,0.3s,baz=208,slow=4.8,SNR=15						
HNR	Honiara	13.23	314	P	P	13 50 37.1	+1.6
OUZ	Omahuta	16.70	169	P	P	13 51 13.9	+0.3
AFI	Afiamalu	18.51	77	P	P	13 51 32.0	-1.6
	0.5nm,0.3s,baz=270,slow=22,SNR=0.8						
ARMA	Armidale	19.98	231	P	P	13 51 49.5	+0.4
ARMA				IAmb	IAmb	13 51 50.3	
	comp=Z,17nm,1.1s						
URZ	Urewera	20.43	163	P	P	13 51 52.9	-0.8
	comp=Z,3.1nm,0.3s,baz=239,slow=7.2,SNR=1.9						
CTA	Charters Tower	22.06	263	P	P	13 52 10.0	0.0
	comp=Z,3.4nm,0.7s,baz=102,slow=9.3,SNR=9.5						
CTAO	Charters Tower	22.06	263	P	P	13 52 09.9	0.0
CTAO				IAmb	IAmb	13 52 26.4	
	comp=Z,9.3nm,1.3s						
PMG	Port Moresby	23.68	290

*IDC **22** 13:50:52.8±1.3, 22°.89N×144°.26E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.5/51, mbtmp3.6/8, Error ellipse: s-maj=43.5km s-min=21.6km az=87.0*
ISC 22 13:50:58.1±1.2, 22°.9N±0°.1×144°.2E±0°.3, h35km, n11, σ0°99/8, mb3.4/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.20	320	P	P	13 55 30.5	+0.7
	1.5nm,0.8s,baz=142,slow=9.0,SNR=3.9						
H11N1	WAKE ISLAND Hy	21.35	94	T	T	14 17 54.8	
	baz=281						
H11N2	WAKE ISLAND Hy	21.35	94	T	T	14 17 55.0	
	baz=281						
H11N3	WAKE ISLAND Hy	21.37	94	T	T	14 17 57.8	
	baz=281						
KLR	Kul'dur	28.09	343	P	P	13 56 46.8	+0.4
	2.5nm,0.7s,baz=134,slow=8.4,SNR=9.3						
CMAR	Chiang Mai Arr	42.47	273	P	P	13 58 51.0	+0.9
	0.3nm,0.4s,baz=83,slow=7.4,SNR=1.6						
WRA	Warramunga Arr	43.64	194	P	P	13 58 59.2	-0.3
	0.2nm,0.5s,baz=17,slow=9.4,SNR=6.5						
ASAR	Alice Springs	47.34	193	P	P	13 59 29.0	+0.2
	0.3nm,0.8s,baz=9.9,slow=7.5,SNR=4.1						
MKAR	Makanchi Array	54.62	312	P	P	14 00 22.0	-1.3
	0.3nm,0.8s,baz=97,slow=6.0,SNR=2.3						
YKA	Yellowknife Ar	74.97	28	P	P	14 02 36.2	+0.7
	0.2nm,0.5s,baz=292,slow=5.9,SNR=2.4						
FINES	FINESS Array B	82.53	335	P	P	14 03 16.0	-1.1
	2.1nm,1.0s,baz=73,slow=4.7,SNR=6.2						

*EAF **22** 14:07:40.8±2.0, 26°.02S×29°.21E, h0km±24km, MD4.1*
BUL 22 14:07:40.7±1.0, 26°.06S×29°.19E, h0km±12km, MD4.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	Changalane	2.71	95	*i* P	Pn	14 08 25.4	-0.2
CNG				*i* Sg	Sb	14 09 04.4	+0.5
CNG	Changalane	2.71	95	*i* P	Pn	14 08 25.4	-0.2
CNG				*i* Sg	Sb	14 09 04.4	+0.5
MOPA	Mopani	3.23	39	*i* P	Pn	14 08 31.5	-1.3
MOPA				*i* S	Sn	14 09 07.0	-5.1
MOPA	Mopani	3.23	39	*i* P	Pn	14 08 31.5	-1.3
MOPA				*i* S	Sn	14 09 07.0	-5.1
LBTB	Lobatse	3.41	287	*i* Sg	Sb	14 09 25.9	+1.9
LBTB	Lobatse	3.41	287	*i* Sg	Sb	14 09 25.9	+1.9
MATP	Matopo	5.65	353	*i* P	Pn	14 09 05.8	-0.3
MATP				*i* S	Sn	14 10 06.6	-5.2
MATP	Matopo	5.65	353	*i* P	Pn	14 09 05.8	-0.3
MATP				*i* S	Sn	14 10 06.6	-5.2
BLWY	Bulawayo	5.92	355	*i* P	Pn	14 09 08.6	-1.2
BLWY				*i* S	Sn	14 10 13.4	-5.1
BLWY	Bulawayo	5.92	355	*i* P	Pn	14 09 08.6	-1.2
BLWY				*i* S	Sn	14 10 13.4	-5.1

*IDC **22** 14:20:06.2±1.8, 11°.92N×126°.05E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.4/45, mbtmp3.8/7, Error ellipse: s-maj=75.8km s-min=21.7km az=61.0*
*MAN **22** 14:20:11.8, 11°.85N×125°.83E, h28km, mb4.6, ML3.4, MS3.3*
*NEIC **22** 14:20:13.2±0.4, 11°.86N±0°.08×125°.9E±0°.2, h35km±2km, mb4.2/8, Error ellipse: s-maj=28.6km s-min=4.0km az=64.0*
ISC 22 14:20:11.0±2.1, 11°.87N±0°.06×125°.97E±0°.08, h27km±13km, n34, σ1°67/38, mb4.0/10, 2C-6D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.59	243⇓	*e*P	Pb	14 20 20.3	-2.5
BESP				*e*S	Sn	14 20 30.9	-1.3
OCLP	Ormoc	1.56	239⇓	*e*P	Pn	14 20 37.1	+0.1
MSLP	Maasin	2.04	213⇓	*i*P	Pn	14 20 45.1	+1.5
MSLP				*i* S	Sb	14 21 17.5	+5.1
SCPH	Surigao	2.13	193⇑	*e*P	Pn	14 20 44.3	-0.4
SCPH				*e*S	Sn	14 21 10.6	+0.3
LLP	Lapu-Lapu	2.50	232	*e*P	Pb	14 20 52.9	-2.4
LLP				*e*S	Sb	14 21 26.8	+1.2
BUTP	Butuan	2.90	187⇓	*e*P	Pn	14 20 57.3	+1.9
TBP	Tagbilaran	3.00	224	*e*P	Pb	14 21 00.7	-3.1
TBP				*i* S	Sb	14 21 42.5	+2.5
RCP	Roxas	3.18	265⇑	*e*P	Pn	14 21 01.8	+2.5
CNOP	Candoni, Negro	3.85	239⇓	*e*P	Pn	14 21 09.7	+1.2
CNOP				*i* S	Sn	14 21 52.9	0.0
JCNP	Jose Panganiba	4.00	307⇓	*e*P	Pn	14 21 10.8	+0.3
TNTI	Ternate	11.11	173	Pn	Pn	14 22 50.2	+2.1
TOLI2	Tolitoli	11.86	206	Pn	Pn	14 22 59.4	+0.9
TOLI2				Sn	Sn	14 25 06.2	-3.9
BATI	Baumata	22.05	186	P	P	14 25 03.9	+0.1
	19nm,0.7s,baz=316,slow=5.3,SNR=5.1						
CMAR	Chiang Mai Arr	26.88	287	P	P	14 25 49.3	-0.5
	0.2nm,0.3s,baz=97,slow=7.4,SNR=1.7						
KNRA	Kununurra	27.51	174	P	P	14 25 55.7	+0.3
KNRA				IAmb	IAmb	14 26 19.4	
	comp=Z,8.1nm,1.1s						
WRA	Warramunga Arr	32.66	165	P	P	14 26 39.6	-1.4
	comp=Z,0.8nm,1.2s,baz=351,slow=9.4,SNR=2.0						
AS31	Alice Springs	36.16	168	P	P	14 27 11.8	+0.5
ASAR	Alice Springs	36.16	168	P	P	14 27 10.7	-0.6
	comp=Z,0.3nm,0.7s,baz=353,slow=7.3,SNR=7.2						
ASAR	Alice Springs	36.16	168	P	P	14 27 11.3	+0.1
H11N1	WAKE ISLAND Hy	40.06	74	T	T	15 11 15.9	
	baz=262						
H11N2	WAKE ISLAND Hy	40.06	73	T	T	15 11 11.3	
	baz=262						
H11N3	WAKE ISLAND Hy	40.08	73	T	T	15 11 12.0	
	baz=262						
STKA	Stephens Creek	46.00	161	P	P	14 28 32.0	-0.1
	comp=Z,1.4nm,0.8s,baz=341,slow=11,SNR=3.8						
STKA	Stephens Creek	46.00	161	P	P	14 28 32.6	+0.6
MK31	Makanchi Array	50.59	322	P	P	14 29 07.4	0.0
MK31				IAmb	IAmb	14 29 09.7	
	comp=Z,2.9nm,1.0s						
MKAR	Makanchi Array	50.59	322	P	P	14 29 07.4	0.0
KURK	Kurchatov	54.60	325	P	P	14 29 37.3	+0.3
KKAR	Karatay Array	56.94	314	P	P	14 29 54.3	+0.3
ABKAR	Akbulak array	65.49	319	P	P	14 30 52.1	+0.4
ARCES	ARCESS Array B	82.61	340	P	P	14 32 32.0	+0.7
BRTR	Keskin Array B	84.30	309	P	P	14 32 40.6	-0.3
	comp=Z,0.5nm,0.6s,baz=95,slow=9.1,SNR=2.4						
AKASG	Malin Array Be	85.15	321	P	P	14 32 44.7	0.0
	comp=Z,1.4nm,0.8s,baz=65,slow=4.7,SNR=5.4						
AKASG	Malin Array Be	85.15	321	P	P	14 32 44.1	-0.6
AKASG				IAmb	IAmb	14 32 46.2	
	comp=Z,1.5nm,1.1s						
BURAR	Bucovina Array	88.46	318	P	P	14 33 01.2	+0.1
BURAR				IAmb	IAmb	14 33 12.6	
	comp=Z,0.8nm,0.8s						

*TRN **22** 14:26:16.6, 10°.50N×62°.57W, h64km, MD3.5*
*FUNV **22** 14:26:18.0, 10°.48N×62°.56W, h32km, MW3.5*
ISC 22 14:26:15.7±1.2, 10°.45N±0°.05×62°.57W±0°.04, h72km±16km, n18, σ1°82/32, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.69	289	*e*P	Pn	14 26 31.4	+0.8
CRUV				*e*S	Sn	14 26 38.8	-2.9
TRN	Trinidad (W)	1.16	80	*e*P	Pn	14 26 37.8	+1.5
TRN				*e*S	Sn	14 26 51.6	-0.2
COAV	Cumanacoa	1.27	257	*e*P	Pn	14 26 40.0	+2.1
COAV				*e*S	Sn	14 26 55.3	+0.8
CUMV	Cumana_UDO	1.60	269	*e*P	Pn	14 26 44.0	+2.0
CUMV				*e*S	Sn	14 27 02.7	+0.8
GRGR	Grenville	1.90	28	*e*P	Pn	14 26 46.6	+0.7
GRGR				*e*S	Sn	14 27 08.7	-0.3
PCRV	Puerto La Cruz	2.05	262	*e*P	Pn	14 26 49.3	+1.2
PCRV				*e*S	Sn	14 27 12.4	-0.5
TOSP	Speyside	2.17	67	*e*P	Pn	14 26 50.1	+0.5
TOSP				*e*S	Sn	14 27 15.7	+0.2
GCMP	Grenada, Carri	2.31	29	*e*P	Pn	14 26 51.9	+0.4
GCMP				*e*S	Sn	14 27 17.6	-1.4
PRGV	PARIAGUAN	2.65	231	*e*P	Pn	14 26 57.7	+1.5
PRGV				*e*S	Sn	14 27 28.5	+1.2
SVB	Belmont	3.08	25	*e*S	Sn	14 27 37.1	-0.7
MCLT	Moule a Chique	3.61	26	*e*P	Pn	14 27 09.9	+0.7
MCLT				*e*S	Sn	14 27 49.5	-1.1
BIRV	Birongo	3.64	271	*e*P	Pn	14 27 12.2	+2.5
BIRV				*e*S	Sn	14 27 50.3	-1.2
MERV	Las Mercedes	3.86	252	*e*P	Pn	14 27 14.3	+1.6
MERV				*e*S	Sn	14 27 55.7	-1.2
MPOM	Morne Pois Mar	4.30	23	*e*S	Sn	14 28 05.5	-2.2
LUEV	Luepa	4.71	166	*e*P	Pn	14 27 25.5	+1.1
LUEV				*e*S	Sn	14 28 15.6	-2.3
CACV	CAICARA DEL OR	4.86	234	*e*P	Pn	14 27 22.6	-3.7
CACV				*e*S	Sn	14 28 10.0	-11
BAUV	El Baul	5.60	255	*e*P	Pn	14 27 37.5	+1.0
BAUV				*e*S	Sn	14 28 35.5	-3.9
PAYV	Puerto Ayacuch	7.10	226	*e*P	Pn	14 27 57.8	+0.9
PAYV				*e*S	Sn	14 29 11.5	-4.7

*IDC **22** 14:32:55.9±2.2, 15°.44S×173°.45W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.7/32, mbtmp3.8/8, ML4.4/1, MS3.6/4, Ms1 3.6/4, ms1mx2.9/65, Error ellipse: s-maj=137.4km s-min=18.8km az=145.0*
*NEIC **22** 14:32:59.4±0.9, 15°.21S±0°.09×173°.6W±0°.1, h10km±1km, mb4.3/11, Error ellipse: s-maj=23.0km s-min=8.1km az=306.0*
*NOU **22** 14:33:00.2, 15°.11S×173°.30W, h0km, mb4.9/6, Tonga Islands*
ISC 22 14:32:58.2±0.6, 15°.07S±0°.09×173°.5W±0°.1, h10km, n35, σ1°62/29, mb4.1/14, MS3.3/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.03	56	Pn	Pn	14 33 32.9	+0.4
	112nm,0.3s,baz=204,slow=3.1,SNR=218						
AFI				Sn	Sn	14 33 53.5	-4.5
	217nm,0.3s,baz=56,slow=22,SNR=30						
NIUE	Niue	5.25	140	Pn	Pn	14 34 17.4	+0.6
NIUE	Niue	5.25	140	P	Pn	14 34 17.4	+0.6
MSVF	Nonsavu	8.53	251	LR	LR	14 37 24.9	
	comp=Z,120nm,20.4s,baz=47,slow=32						
DZM	Mont Dzumac	20.24	247	LR	LR	14 44 08.5	
	comp=Z,116nm,19.5s,baz=104,slow=33						
URZ	Urewera	24.55	198	LR	LR	14 45 50.9	
	comp=Z,101nm,19.0s,baz=32,slow=32						
WHZ	Wether Hill Ro	34.46	203	P	P	14 39 46.1	-0.1
ARMA	Armidale	35.43	238	P	P	14 39 53.4	-1.5
H11S2	WAKE ISLAND Hy	38.63	329	T	T	15 21 03.8	
	baz=147,slow=75,SNR=7.2						
H11S3	WAKE ISLAND Hy	38.64	329	T	T	15 21 15.0	
	baz=147,slow=75,SNR=6.5						
H11S1	WAKE ISLAND Hy	38.65	329	T	T	15 21 15.2	
	baz=147,slow=75,SNR=5.8						
CAN	Canberra	39.16	232	P	P	14 40 24.5	-1.9
CAN				IAmb	IAmb	14 40 29.7	
	comp=Z,24nm,1.4s						
STKA	Stephens Creek	44.12	240	P	P	14 41 04.4	-2.6
	comp=Z,0.9nm,0.7s,baz=98,slow=15,SNR=3.7						
STKA	Stephens Creek	44.12	240	P	P	14 41 06.2	-0.9
WR0	Warramunga Arr	49.64	256	P	P	14 41 49.6	-0.8
WR0				IAmb	IAmb	14 41 53.4	
	comp=Z,5.7nm,1.5s						
WB0	Warramunga Arr	49.79	257	P	P	14 41 50.5	-1.0
WB0				IAmb	IAmb	14 42 09.1	
	comp=Z,3.2nm,1.2s						
WB2	Warramunga Arr	49.81	256	P	P	14 41 50.8	-1.0
WB2				IAmb	IAmb	14 42 04.0	
	comp=Z,3.7nm,1.1s						
WRAB	Tennant Creek	49.82	257	P	P	14 41 50.0	-1.7
WRAB				IAmb	IAmb	14 42 17.9	
	comp=Z,3.8nm,1.1s						
WRA	Warramunga Arr	49.83	256	P	P	14 41 50.5	-1.4
	comp=Z,0.9nm,0.9s,baz=91,slow=6.9,SNR=12						
WRA	Warramunga Arr	49.83	256	P	P	14 41 50.8	-1.0
AS31	Alice Springs	50.12	252	P	P	14 41 51.9	-2.2
AS31				IAmb	IAmb	14 41 53.5	
	comp=Z,1.1nm,0.7s						
ASAR	Alice Springs	50.12	252	P	P	14 41 52.6	-1.4
	comp=Z,3.9nm,0.7s,baz=87,slow=7.9,SNR=74						
ASAR	Alice Springs	50.12	252	P	P	14 41 52.1	-1.9
NVAR	Mina Array Bea	74.15	42	P	P	14 44 36.6	+1.3
	comp=Z,0.8nm,0.7s,baz=238,slow=8.4,SNR=4.4						
NVAR	Mina Array Bea	74.15	42	P	P	14 44 36.9	+1.5
QSPA	South Pole Qui	74.97	180	P	P	14 44 40.4	+0.8
QSPA				IAmb	IAmb	14 44 40.7	
	comp=Z,4.1nm,0.8s						
USRK	Ussuriysk Ar.	77.06	323	P	P	14 44 53.0	+1.4
BBB	Bella Bella	77.63	27	LR	LR	15 15 02.7	
	comp=Z,140nm,19.3s,baz=173,slow=32						
PDAR	Pinedale Array	82.08	42	P	P	14 45 20.2	+0.9
	comp=Z,0.1nm,0.6s,baz=234,slow=5.2,SNR=1.6						
PDAR	Pinedale Array	82.08	42	P	P	14 45 21.1	+1.8
ILAR	Eielson Array	82.14	11	P	P	14 45 19.5	+0.7
	comp=Z,0.3nm,0.7s,baz=216,slow=7.3,SNR=2.5						
BMAR	Burnt Mountain	84.34	11	P	P	14 45 34.9	+1.7
YKA	Yellowknife Ar	89.83	23	P	P	14 45 57.5	+0.7
	comp=Z,0.3nm,0.9s,baz=237,slow=4.3,SNR=2.7						
BRTR	Keskin Array B	145.84	321	PKPbc	PKPbc	14 52 38.6	+0.3
	comp=Z,1.3nm,0.7s,baz=81,slow=1.9,SNR=6.8						
BRTR	Keskin Array B	145.84	321	PKPdf	PKPdf	14 52 37.7	0.0

IDC 22 14:45:39.1±3.5, 6°.60S×149°.26E, h0km, mb2.6/1, mb1 3.1/3, mb1mx2.9/30, mbtmp2.9/3, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/7, Error ellipse: s-maj=126.4km s-min=36.6km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.48	217	Pn	Pn	14 46 35.7	+1.2
	2.1nm,0.3s,baz=35,slow=11,SNR=7.3						
PMG				Sn	Sn	14 47 16.6	+0.2
	2.1nm,0.3s,baz=306,slow=17,SNR=3.5						
CTA	Charters Tower	13.72	192	LR	LR	14 53 12.6	
	comp=Z,34nm,20.4s,baz=92,slow=33						
WRA	Warramunga Arr	19.64	226	P	P	14 50 09.3	-0.3
	0.1nm,0.3s,baz=52,slow=11,SNR=6.4						
ASAR	Alice Springs	22.49	219	P	P	14 50 40.0	-0.3
	0.2nm,0.8s,baz=56,slow=9.9,SNR=1.2						
TORD	Torodi Ar. Bea	147.41	284	PKPbc	PKPbc	15 05 25.3	-0.8
	0.4nm,0.4s,baz=72,slow=4.8,SNR=6.4						

*IDC **22** 14:48:51.6±0.4, 26°.96S×67°.19E, h0km, mb4.6/25, mb1 4.7/25, mb1mx4.5/41, mbtmp4.6/25, MS3.9/42, Ms1 3.9/42, ms1mx3.7/73, Error ellipse: s-maj=15.5km s-min=13.2km az=3.0*
*NEIC **22** 14:48:54.4±1.5, 26°.9S±0°.1×67°.0E±0°.1, h10km±1km, mb4.9/68, Error ellipse: s-maj=18.1km s-min=15.8km az=205.0*
*GCMT **22** 14:48:56.4±0.3, 27°.02S±0°.02×66°.88E±0°.04, h19km±1km, MW4.9/87, Moment Tensor Solution. s25,c27; s87,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.03±.23; $M_{\theta\theta}$2.47±.15; $M_{\phi\phi}$0.56±.13; $M_{r\theta}$-0.45±.28; $M_{\theta\phi}$1.23±.08; $M_{r\phi}$0.90±.32; Best double couple: $M_0$3.20500×10^{16} NP1:$\phi_0$228.00000°, δ47.00000°, λ-113.00000°. NP2: ϕ_0=80.00000°, δ48.00000°, λ-67.00000°. Principal axes: T 3.0730, Plg0.0000°, Azm154.0000°; N 0.2670, Plg17.0000°, Azm244.0000°; P -3.3380, Plg73.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 14:48:53.8±0.4, 26°.83S±0°.08×67°.01E±0°.07, h10km, n208, σ0°99/176, mb5.0/89, MS4.0/42, 2C, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	11.74	296	Pn	Pn	14 51 39.3	-2.2
VOI	Vohitsoka	19.05	281		Pn	14 53 19.3	+2.1
H08S1	Diego Carcia H	19.77	16	T	T	15 13 60.0	
	baz=195,slow=76,SNR=4.4						
H08S2	Diego Garcia H	19.78	16	T	T	15 14 02.3	
	baz=195,slow=76,SNR=8.7						
H08S3	Diego Garcia H	19.79	16	T	T	15 13 59.5	
	baz=195,slow=76,SNR=13						
OPO	Ambohidratompo	20.03	290	P	Pn	14 53 30.1	+1.1
	8.1nm,0.8s,baz=113,slow=12,SNR=6.6						
MATP	Matopo	35.76	272	LR	LR	15 10 12.3	
	comp=Z,25nm,19.4s,baz=88,slow=36						
PALK	Pallekele	36.41	23	LR	LR	15 08 01.7	
	comp=Z,234nm,18.2s,baz=312,slow=32						
BOSA	Boshof	36.87	257	P	P	14 56 04.5	+1.8
	6.7nm,1.1s,baz=108,slow=7.5,SNR=7.2						
BOSA				LR	LR	15 08 30.9	
	comp=Z,72nm,19.7s,baz=86,slow=32						
BOSA	Boshof	36.87	257	P	P	14 56 05.0	+2.3
BOSA				IAmb	IAmb	14 56 07.3	
	comp=Z,20nm,1.4s						
LBTB	Lobatse	37.18	263	P	P	14 56 05.4	+0.1
	comp=Z,2.6nm,0.8s,baz=121,slow=12,SNR=3.0						
LBTB				LR	LR	15 08 22.4	
	comp=Z,104nm,21.1s,baz=100,slow=31						
LBTB	Lobatse	37.18	263	P	P	14 56 07.2	+1.9
LSZ	Lusaka	37.87	280	LR	LR	15 10 09.3	
	comp=Z,148nm,19.1s,baz=142,slow=34						
LSZ	Lusaka	37.87	280	P	P	14 56 13.3	+2.0
LSZ				IAmb	IAmb	14 56 15.5	
	comp=Z,15nm,0.9s						
KMBO	Kilima Mbogo	38.34	307	LR	LR	15 08 47.7	
	comp=Z,112nm,18.5s,baz=92,slow=31						
SUR	Sutherland	40.31	251	P	P	14 56 32.2	+0.6
	comp=Z,8.4nm,1.1s,baz=104,slow=4.7,SNR=2.3						
SUR				LR	LR	15 09 43.4	
	comp=Z,98nm,18.3s,baz=124,slow=31						
MAW	Mawson	40.87	182	P	P	14 56 33.9	-1.7
	comp=Z,12nm,0.8s,baz=124,slow=3.6,SNR=1.9						
MAW				LR	LR	15 09 23.7	
	comp=Z,183nm,19.0s,baz=50,slow=30						
MAW	Mawson	40.87	182	P	P	14 56 35.0	-0.5
H01W2	Cape Leeuwin H	40.94	113	T	T	15 40 02.9	
	baz=268,slow=75,SNR=28						
H01W3	Cape Leeuwin H	40.94	113	T	T	15 40 03.1	
	baz=268,slow=75,SNR=29						
H01W1	Cape Leeuwin H	40.95	113	T	T	15 40 04.2	
	baz=268,slow=75,SNR=31						
KRJI	Kerinci	41.18	59	P	P	14 56 41.2	+2.3
	comp=Z,5μmcomp=Z,151nm,0.6s						
PPI	Padang Panjang	41.44	56	P	P	14 56 43.7	+2.8
KLI	Kotabumi	42.19	66	P	P	14 56 48.3	+1.3
LODK	Lodwar	42.89	310	P	P	14 56 53.5	+0.7
RGRI	Rengat	42.97	58	P	P	14 57 05.7	+12
MBAR	Mbarara	43.53	301	LR	LR	15 12 30.5	
	comp=Z,217nm,19.5s,baz=84,slow=32						
MBAR	Mbarara	43.53	301	P	P	14 56 58.5	+0.4
ATD	Arta Tunnel	44.78	325	LR	LR	15 13 22.9	
	comp=Z,149nm,18.0s,baz=127,slow=33						
IPM	Ipoh	45.28	52	P	P	14 57 12.8	+0.9
IPM				IAmb	IAmb	14 57 14.4	
	comp=Z,22nm,1.2s						
TSUM	Tsumeb	45.89	269	LR	LR	15 15 36.3	
	comp=Z,92nm,19.3s,baz=146,slow=35						
WSAR	Wadi Sarin	50.43	350	LR	LR	15 15 22.8	
	comp=Z,149nm,19.4s,baz=189,slow=32						
SBUM	Sibu	52.42	63	P	P	14 58 06.8	0.0
SBUM				IAmb	IAmb	14 58 08.0	
	comp=Z,9.4nm,1.0s						
RAYN	Ar Rayn	54.20	335	P	P	14 58 20.2	+0.5
FITZ	Fitzroy Crossi	54.47	94	P	P	14 58 21.0	-0.9
	comp=Z,1.7nm,0.8s,baz=150,slow=7.3,SNR=3.9						
CM31	Chiang Mai Arr	54.65	38	P	P	14 58 22.9	-0.2
CMAR	Chiang Mai Arr	54.65	38	P	P	14 58 23.2	+0.2
	comp=Z,18nm,0.9s,baz=231,slow=7.2,SNR=124						
CMAR				LR	LR	15 17 43.2	
	comp=Z,56nm,20.7s,baz=250,slow=32						
CMAR	Chiang Mai Arr	54.65	38	P	P	14 58 23.1	0.0
EDFI	Ende, Flores	54.65	81	P	P	14 58 32.7	+9.4
CHTO	Chiang Mai	54.94	38	P	P	14 58 24.8	-0.4
CHTO				IAmb	IAmb	14 58 26.2	
	comp=Z,21nm,1.2s						
TTSI	Tana Toraja	55.73	74	P	P	14 58 35.2	+4.2
UBPT	Khong Chiam	56.10	46	P	P	14 58 33.4	-0.1
UBPT				IAmb	IAmb	14 58 34.6	
	comp=Z,22nm,1.2s						
KOLN	Koldanda	56.58	18	*e*P	P	14 58 36.9	-0.1
PYUN	Piuthan	56.73	17	*e*P	P	14 58 37.8	-0.3
	comp=Z,64nm,1.4s						
DMN	Daman	56.85	19	*e*P	P	14 58 38.9	-0.1
	comp=Z,21nm,1.0s						
PKI	Pulchokí	56.91	20	*e*P	P	14 58 38.8	-0.7
	comp=Z,18nm,1.1s						
PKIN	Phulchoki	56.91	20	*e*P	P	14 58 38.5	-0.9
	comp=Z,14nm,1.0s						
KKN	Kakani	57.08	19	*e*P	P	14 58 40.4	-0.1
GKN	Gorkha	57.09	19	*e*P	P	14 58 40.3	-0.2
	comp=Z,48nm,1.2s						
DANN	Dangsing	57.17	18	*e*P	P	14 58 41.2	-0.1
	comp=Z,55nm,1.0s						
SHL	Shillong	57.35	27	P	P	14 58 43.1	+0.6
GUN	Gumba	57.37	20	*e*P	P	14 58 42.7	0.0
	comp=Z,46nm,1.0s						
SNAA	Sanae	58.45	200	P	P	14 58 50.8	+1.3
SNAA	Sanae	58.45	200	P	P	14 58 48.5	-1.0
	comp=Z,3.6nm,0.8s,baz=107,slow=6.4,SNR=9.5						
SNAA	Sanae	58.45	200	P	P	14 58 50.4	+0.9
MYLDM	Lahad Datu	59.08	65	P	P	14 58 53.6	-1.0
BBOO	Buckleboo	59.26	114	P	P	14 58 56.2	+0.6
SLVN	Son La	59.74	40	P	P	14 58 59.2	+0.2
SLVN				IAmb	IAmb	14 59 00.6	
	comp=Z,14nm,1.1s						
VNA2	Neumayer-Watz	59.80	201	P	P	14 58 59.1	+0.3
	baz=98,slow=6.0						
ASAR	Alice Springs	59.95	103	P	P	14 58 58.8	-1.9
	comp=Z,2.3nm,0.7s,baz=250,slow=6.2,SNR=26						
ASAR	Alice Springs	59.95	103	P	P	14 59 00.6	0.0
AS31	Alice Springs	59.95	103	P	P	14 58 59.7	-0.9
NIL	Nilore	60.44	6	P	P	14 59 03.4	-0.2
NIL				IAmb	IAmb	14 59 04.3	
	comp=Z,22nm,1.2s						
HRA	Herat	61.05	355	P	P	14 59 07.0	-1.0
KBL	Kabul	61.07	2	P	P	14 59 08.7	+0.7
KBL				IAmb	IAmb	14 59 09.9	
	comp=Z,18nm,1.1s						
MTN	Manton Dam	61.34	90	P	P	14 59 09.9	-0.3
MTN				IAmb	IAmb	14 59 27.6	
	comp=Z,7.8nm,1.1s						
WRA	Warram

GOMU sP PcP 15 00 08.6 -11
GOMU pmax pmax
comp=Z,2.0nm,0.9s
GOMU pmax pmax
comp=Z,88nm,5.2s
SIRT Sirnak 68.03 339 P **P 14 59 54.0 +0.6**
IUG Iuzhnay 68.69 2 *eP* **P 14 59 56.8 -0.7**
baz=2.2
AML Almayashu 68.89 5 P **P 14 59 59.5 +0.4**
SNR=8.5
GURO Guroymak-BITLI 69.12 339 P **P 15 00 01.8 +1.6**
GURO IAmb IAmb 15 00 03.0
comp=Z,10nm,1.1s
KDJ Kajisay 69.26 8 P **P 15 00 01.4 +0.3**
KDJ IAmb IAmb 15 00 01.6
comp=Z,6.5nm,0.9s
EKS2 Erkin-Say 69.43 5 P **P 15 00 03.0 +0.9**
SNR=25
AAK Ala-Archa 69.47 6 LR LR 15 27 49.4
comp=Z,72nm,21.5s,baz=160,slow=34
AAK Ala-Archa 69.47 6 P **P 15 00 03.4 +1.0**
SNR=13
AAK Ala-Archa 69.47 6 P **P 15 00 02.9 +0.5**
AAK IAmb IAmb 15 00 04.2
comp=Z,15nm,1.1s
BOOM Boomskoye usch 69.47 7 P **P 15 00 02.5 +0.1**
BOOM IAmb IAmb 15 00 03.7
comp=Z,7.4nm,1.1s
DZA Taraz 69.49 3 *eP* **P 15 00 01.6 -0.7**
comp=Z,17nm,0.8s,baz=3.2
KBK Karagaybulak 69.53 6 P **P 15 00 03.3 +0.6**
SNR=5.0
BRLS Borolday 69.56 2 *eP* **P 15 00 00.5 -2.3**
baz=1.9
KKAR Karatay Array 69.66 3 P **P 15 00 03.7 +0.4**
PRZ Przheval'sk 69.77 9 P **P 15 00 05.3 +1.0**
GNI Garni 69.79 342 LR LR 15 28 36.2
comp=Z,178nm,20.2s,baz=180,slow=34
ENH Enshi 69.82 38 P **P 15 00 04.6 -0.1**
ENH IAmb IAmb 15 00 05.3
comp=Z,16nm,1.0s
TKM2 Tokmak 2 69.86 7 P **P 15 00 05.0 +0.2**
SNR=13
USP Ospenovka 70.09 6 P **P 15 00 06.4 +0.4**
SNR=22
MDOK Medeo 70.26 8 *eP* **P 15 00 06.2 -0.9**
baz=7.6
SGDS Sogindy 70.29 6 *eP* **P 15 00 06.2 -1.1**
comp=Z,9.4nm,1.2s,baz=5.7
SATY Saty 70.33 9 *eP* **P 15 00 06.7 -0.9**
comp=Z,12nm,1.5s,baz=8.6
UZB Uzynbulak 70.50 9 *eP* **P 15 00 07.8 -0.9**
baz=9.1
SHLS Shalkode 70.58 10 *eP* **P 15 00 08.8 -0.4**
baz=9.8
KUU Kurty 70.90 7 *eP* **P 15 00 10.2 -0.7**
comp=Z,32nm,1.1s,baz=6.9
CHKK Chushkaly 70.93 8 *eP* **P 15 00 10.6 -0.5**
baz=7.4
LZH Lanzhou 71.58 31 *eP* **P 15 00 15.5 +0.1**
LZH pP pwP 15 00 22.5 +0.3
LZH sP sP 15 00 25.6 +7.3
LZH pmax pmax
comp=Z,17nm,1.2s
BTLS Baital 71.81 5 *eP* **P 15 00 15.8 -0.6**
comp=Z,8.2nm,0.8s,baz=5.1
CTA Charters Tower 71.94 104 LR LR 15 28 00.1
comp=Z,113nm,22.0s,baz=292,slow=33
TDK Taldygorghan 72.24 8 *eP* **P 15 00 18.2 -0.7**
comp=Z,19nm,1.4s,baz=8.3
XAN Xi'an 72.42 36 ⇑P **P 15 00 19.4 -0.9**
XAN pmax pmax
comp=Z,26nm,1.1s
GTA Gaotai 72.66 26 *eP* **P 15 00 21.4 -0.4**
GTA pP pwP 15 00 31.4 +2.8
GTA sP PcP 15 00 35.4 -3.8
GTA pmax pmax
comp=Z,15nm,1.2s
BR131 Keskin Array S 73.16 334 P **P 15 00 25.3 +0.6**
BR131 IAmb IAmb 15 00 26.1
comp=Z,12nm,0.9s
BRTR Keskin Array B 73.16 334 P **P 15 00 25.3 +0.6**
comp=Z,6.2nm,0.9s,baz=154,slow=6.7,SNR=25
BRTR LR LR 15 30 00.6
comp=Z,56nm,20.1s,baz=143,slow=34
BRTR Keskin Array B 73.16 334 P **P 15 00 24.8 +0.1**
IDI Anoyia 73.50 325 LR LR 15 30 33.3
comp=Z,30nm,21.9s,baz=146,slow=34
ANTO Ankara 73.62 333 P **P 15 00 28.0 +0.6**
ANTO IAmb IAmb 15 01 06.8
comp=Z,25nm,1.5s
KBZ Khabaz 73.62 342 P **P 15 00 27.4 +0.2**
comp=Z,4.5nm,0.9s,baz=159,slow=6.4,SNR=5.6
KBZ LR LR 15 31 15.8
comp=Z,109nm,20.3s,baz=174,slow=34
MAKZ Makanchi 74.53 11 P **P 15 00 32.6 +0.2**
MK31 Makanchi Array 74.57 11 P **P 15 00 32.3 -0.4**
MKAR Makanchi Array 74.57 11 P **P 15 00 32.2 -0.5**
TORD Torodi Ar. Bea 74.81 293 P **P 15 00 34.6 -0.2**
comp=Z,1.1nm,0.7s,baz=98,slow=4.3,SNR=8.9
TORD Torodi Ar. Bea 74.81 293 P **P 15 00 34.2 -0.5**
ZSN Zaisan 75.67 12 *eP* **P 15 00 38.6 -0.4**
baz=12
ABKAR Akbulak array 76.00 355 P **P 15 00 40.7 -0.1**
ABKAR Akbulak array 76.00 355 P **P 15 00 41.0 +0.2**
ABKAR IAmb IAmb 15 00 42.0
comp=Z,30nm,0.9s
BRZS Berezniki 76.64 4 *eP* **P 15 00 43.8 -0.6**
baz=3.6
KIC Kosan Boka 76.78 284 *eP* **P 15 00 46.7 +0.6**
comp=Z,9.8nm,0.8s
LIC Lamto 76.96 284 *eP* **P 15 00 47.8 +0.7**
comp=Z,34nm,1.0s
DBIC Dimbokro 77.03 284 P **P 15 00 48.3 +0.8**
comp=Z,6.2nm,0.9s,baz=158,slow=5.0,SNR=7.5
DBIC LR LR 15 33 29.8
comp=Z,96nm,19.2s,baz=132,slow=35
DBIC Dimbokro 77.03 284 P **P 15 00 46.7 -0.8**
DBIC IAmb IAmb 15 00 48.8
comp=Z,8.3nm,0.9s
TIC Toumodi 77.16 284 *eP* **P 15 00 48.9 +0.7**
SEM Semipalatinsk 77.79 9 *eP* **P 15 00 50.4 -0.7**
baz=8.5
KURK Kurchatov 77.89 8 P **P 15 00 51.3 -0.1**
KURK IAmb IAmb 15 00 52.7
comp=Z,14nm,1.0s
BRVK Borovoye 79.60 2 P **P 15 01 00.7 -0.1**
BRVK IAmb IAmb 15 01 01.7
comp=Z,8.7nm,0.9s
VAE Valguarnera 80.81 320 LR LR 15 35 23.8
comp=Z,47nm,19.4s,baz=160,slow=34
MLR Muntele Rosu 81.10 332 LR LR 15 36 36.6
comp=Z,42nm,18.6s,baz=121,slow=35
MLR Muntele Rosu 81.10 332 P **P 15 01 08.8 -0.4**
MLR IAmb IAmb 15 01 10.8
comp=Z,16nm,1.1s
PMSA Palmer Station 81.13 199 LR LR 15 32 41.8
comp=Z,47nm,21.3s,baz=144,slow=32
ZAA0 Zalesovo Array 81.91 11 P **P 15 01 13.2 +0.2**
ZALV Zalesovo Beam 81.91 11 P **P 15 01 13.1 0.0**
comp=Z,25nm,0.8s,baz=204,slow=4.4,SNR=108
ZALV LR LR 15 35 46.0
comp=Z,58nm,19.0s,baz=210,slow=34
SONM Songino Array 82.33 26 P **P 15 01 16.1 +0.4**
comp=Z,15nm,0.9s,baz=210,slow=5.0,SNR=36
SONM Songino Array 82.33 26 P **P 15 01 15.7 0.0**
ULN Ulaanbaatar 82.61 26 P **P 15 01 17.4 +0.3**
KEST Kesra 82.66 316 LR LR 15 38 44.1
comp=Z,106nm,18.3s,baz=313,slow=36
DIVS Divibare 82.67 328 P **P 15 01 18.2 +0.7**
DIVS IAmb IAmb 15 01 19.2
comp=Z,18nm,1.3s
BURAR Bucovina Array 83.10 333 P **P 15 01 20.4 +0.8**
BUR08 Bucovina Ar. S 83.13 333 P **P 15 01 21.4 +1.6**
BUR08 IAmb IAmb 15 01 22.0
comp=Z,9.7nm,1.3s
ARU Arti 83.24 355 LR LR 15 36 51.0
comp=Z,49nm,18.4s,baz=138,slow=34
ARU Arti 83.24 355 P **P 15 01 20.1 +0.1**
XLT XiLinHaoTe 83.51 33 *eP* **P 15 01 22.4 +0.6**
XLT pmax pmax
comp=Z,23nm,0.9s
XLT pmax pmax
comp=Z,240nm,5.3s
AKASG Malin Array Be 84.11 337 P **P 15 01 24.4 -0.2**
comp=Z,5.5nm,0.8s,baz=143,slow=4.2,SNR=26
AKASG LR LR 15 39 58.2
comp=Z,29nm,19.2s,baz=152,slow=36
AKASG Malin Array Be 84.11 337 P **P 15 01 24.0 -0.5**
AKBB Malin Array Si 84.11 337 P **P 15 01 24.2 -0.3**
AKBB IAmb IAmb 15 01 25.4
comp=Z,10nm,0.8s
KSAR Wonju Array Be 85.73 44 P **P 15 01 31.9 -1.1**
KSRS Korea Array 85.77 44 P **P 15 01 32.8 -0.4**
comp=Z,6.4nm,0.8s,baz=221,slow=5.1,SNR=14
KIRV Kirov 86.35 351 LR LR 15 40 53.7
comp=Z,59nm,18.0s,baz=160,slow=36
ARSA Arzberg 87.11 328 *eP* **P 15 01 39.7 0.0**
comp=Z,9.8nm,1.4s
JAVC Velka Javorina 87.28 330 *eP* **P 15 01 41.5 +1.0**
OJC Ojcow 87.37 332 P **P 15 01 40.7 -0.2**
CONA Conrad Observa 87.44 328 *eP* **P 15 01 41.5 +0.2**
comp=Z,16nm,1.2s
KRUC Moravsky 88.01 329 *eP* **P 15 01 43.7 -0.2**
MORC Moravsky Berou 88.02 330 *eP* **P 15 01 44.0 0.0**
MORC Moravsky Berou 88.02 330 P **P 15 01 44.3 +0.4**
MORC IAmb IAmb 15 01 45.0
comp=Z,7.4nm,1.0s
VRAC Vranov 88.10 330 *eP* **P 15 01 44.4 +0.1**
MOA Molln 88.14 328 *eP* **P 15 01 44.7 +0.2**
comp=Z,12nm,0.9s
ABTA Abfaltersbach 88.23 326 *eP* **P 15 01 45.6 +0.5**
comp=Z,10nm,0.9s
NACGM Naroch 88.42 338 *i* P **P 15 01 46.0 +0.3**
WTTA Wattenberg 89.02 326 *eP* **P 15 01 49.2 +0.2**
comp=Z,8.4nm,0.9s
WATA Walderalm 89.10 326 *i* P **P 15 01 49.3 0.0**
comp=Z,15nm,1.2s
GERES GERESS Array B 89.10 328 P **P 15 01 48.5 -0.7**
comp=Z,1.4nm,0.8s,baz=131,slow=6.1,SNR=9.3
GERES GERESS Array B 89.10 328 P **P 15 01 47.6 -1.6**
SQTA Sankt Quirin 89.21 326 *i* P **P 15 01 49.9 +0.2**
comp=Z,15nm,1.1s
FETA Feichten 89.32 325 *i* P **P 15 01 50.9 +0.5**
comp=Z,21nm,1.0s
MOTA Moosalm 89.34 326 *i* P **P 15 01 50.6 +0.1**
comp=Z,14nm,0.9s
DAVOX Davos/Dischmat 89.59 325 LR LR 15 39 53.0
comp=Z,19nm,22.0s,baz=202,slow=34
RETA Reutte 89.61 326 *i* P **P 15 01 52.0 +0.4**
comp=Z,7.6nm,0.7s
DAVA Damuels 89.93 325 *i* P **P 15 01 53.4 +0.2**
comp=Z,8.6nm,0.7s
KLMR Klimovskoe 90.20 347 *eP* **P 15 01 52.1 -1.8**
KLMR AMP 15 01 55.0
comp=Z,20nm,1.2s
MDT Midelt 90.28 307 LR LR 15 42 46.8
comp=Z,59nm,18.4s,baz=142,slow=36
BRG Berggiesshubel 90.41 330 *eP* **P 15 01 56.5 +1.4**
BRG Amp 15 01 57.6
comp=Z,8.1nm,1.2s
CLL Collm 91.14 329 *i* P **P 15 01 59.4 +0.9**
comp=Z,13nm,1.3s
JHJ Hachijo jima 2 91.26 53 LR LR 15 37 45.8
comp=Z,177nm,20.4s,baz=256,slow=32
MJAR Matsushiro Arr 91.96 50 P **P 15 02 01.5 -1.3**
comp=Z,9.1nm,1.2s,baz=245,slow=5.0,SNR=5.8
MJAR LR LR 15 40 35.7
comp=Z,92nm,20.6s,baz=205,slow=34
ESDC Sonseca Array 93.48 313 P **P 15 02 09.6 -0.1**
comp=Z,1.7nm,0.8s,baz=101,slow=3.3,SNR=11
ESDC LR LR 15 43 32.9
comp=Z,27nm,21.0s,baz=142,slow=35
FINES FINESS Array B 93.98 342 P **P 15 02 10.5 -0.9**
comp=Z,2.8nm,0.9s,baz=120,slow=8.2,SNR=5.6
FINES LR LR 15 44 26.2
comp=Z,51nm,20.2s,baz=122,slow=35
HFS Hagfors 96.98 336 LR LR 15 46 52.7
comp=Z,49nm,18.8s,baz=87,slow=36
NRIK Noril'sk 97.05 7 LR LR 15 46 36.4
comp=Z,84nm,18.6s,baz=220,slow=36
ILAR Eielson Array 136.34 20 PKP **PKPdf 15 08 12.7 -2.3**
comp=Z,1.2nm,1.0s,baz=312,slow=4.0,SNR=8.5
YKA Yellowknife Ar 144.32 1 PKP **PKPab 15 08 27.4 -0.1**
comp=Z,4.6nm,0.8s,baz=342,slow=3.5,SNR=146
YKA PP **PP 15 11 42.7 -1.7**
comp=Z,1.1nm,1.0s,baz=354,slow=6.5,SNR=7.9
YKA Yellowknife Ar 144.32 1 PKPdf **PKPab 15 08 26.9 -0.6**
ULM Lac du Bonnet 153.19 335 PKPbc **PKPbc 15 08 49.8 -1.8**
comp=Z,6.0nm,0.8s,baz=40,slow=5.0,SNR=4.9
PDAR Pinedale Array 163.86 351 PKP **PKPdf 15 08 56.6 -0.9**
comp=Z,1.7nm,0.9s,baz=163,slow=1.5,SNR=11
PDAR PKPab **pPKPab 15 09 51.4 -0.6**
comp=Z,0.4nm,0.8s,baz=14,slow=1.1,SNR=2.2
PDAR Pinedale Array 163.86 351 **PKPdf 15 08 56.6 -0.9**
PDAR **PKPab 15 09 50.2 +0.3**
NVAR Mina Array Bea 167.60 20 PKP **PKPdf 15 09 00.9 +0.2**
comp=Z,0.9nm,0.9s,baz=190,slow=1.6,SNR=5.2
NVAR PKPab **PKPab 15 10 05.7 -0.8**
comp=Z,1.3nm,0.8s,baz=301,slow=3.5,SNR=6.9
TXAR Lajitas Array 171.40 289 PKP **PKPdf 15 09 02.9 -0.1**
comp=Z,0.7nm,0.8s,baz=164,slow=0.7,SNR=6.2
TXAR Lajitas Array 171.40 289 **PKPdf 15 09 02.0 -1.1**
TXAR PKPab **PKPab 15 10 22.5 -1.2**

*IDC **22** 15:04:23.9±0.8, 2°.44S×134°.60E, h0km, mb4.3/8, mb1 4.5/11, mb1mx4.1/32, mbtmp4.3/11, ML3.9/3, MS3.5/4, Ms1 3.5/4, ms1mx2.9/65, Error ellipse: s-maj=24.7km s-min=16.1km az=56.0*
*DJA **22** 15:04:25.6±0.2, 2°S±4°×13°5E±°, h10km, M4.5/12, mb4.7/7, mB5.1/5, MLv4.5/12, Mw(mB)4.5/5*
*NEIC **22** 15:04:26.7±2.4, 2°.5S±0°.1×134°.6E±0°.1, h25km±6km, mb4.5/13, Error ellipse: s-maj=18.1km s-min=11.8km az=222.0*

ISC 22 15:04:27.6±0.5, 2°.49S±0°.06×134°.63E±0°.05, h30km, n67, σ1§45/66, mb4.3/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.72**	**69**	P	**Pn**	**15 04 56.7**	**+1.2**
SRPI				S	**Sb**	**15 05 19.3**	**-0.5**
BAKI	**Biak**	**1.96**	**49**	P	**Pn**	**15 04 59.3**	**+0.5**
FAKI	**Fak Fak**	**2.42**	**260**	P	**Pn**	**15 05 05.2**	**+0.1**
FAKI	**Fak Fak**	**2.42**	**260**		**Pn**	**15 05 05.2**	**+0.1**
FAKI	**Fak Fak**	**2.42**	**260**	P	**Pn**	**15 05 06.5**	**+1.4**
SIJI	**Sorong**	**3.73**	**296**	Pn	**Pn**	**15 05 22.6**	**-0.6**
	32nm,0.3s,baz=197,slow=23,SNR=139						
SIJI				Sn	**Sn**	**15 06 06.9**	**+0.8**
	16nm,0.3s,baz=108,slow=24,SNR=8.8						
SIJI				LR	LR	15 07 09.1	
	comp=Z,1μm,20.3s,baz=146,slow=45						
SWI	**Sorong**	**3.74**	**296**	P	**Pn**	**15 05 23.3**	**0.0**
SMPI	**Sarmi**	**4.10**	**83**	P	**Pn**	**15 05 28.7**	**+0.4**
GENI	**Genyem**	**5.53**	**91**	P	**Pn**	**15 05 47.5**	**-0.4**
GENI	**Genyem**	**5.53**	**91**	P	Pn	15 05 54.4	+6.5
	128nm,0.7s						
MSAI	**Masohi**	**5.76**	**261**	P	**Pn**	**15 05 50.9**	**-0.2**
	0.1nm403nm20nm,0.5s						
JAY	**Jayapura**	**6.07**	**90**	Pn	**Pn**	**15 05 56.2**	**+0.8**
	0.5nm,0.3s,baz=312,slow=22,SNR=3.1						
JAY				Sn	**Sn**	**15 07 06.4**	**+2.6**
	0.2nm,0.3s,baz=116,slow=23,SNR=1.8						
JAY	**Jayapura**	**6.07**	**90**	P	**Pn**	**15 05 54.8**	**-0.5**
	0.1nm16nm,1.1s						
SAUI	**Saumlaki**	**6.39**	**211**	P	**Pn**	**15 06 00.1**	**+0.4**
	0.8nm7μm48nm,0.9s						
AAI	**Ambon**	**6.54**	**259**	P	**Pn**	**15 05 59.3**	**-2.5**
	0.3nm2μm56nm,0.8s						
LBMI	**Labuha**	**7.36**	**284**	P	**Pn**	**15 06 11.1**	**-2.0**
	0.2nm47nm,0.9s						
SANI	**Sanana**	**8.65**	**273**	P	**Pn**	**15 06 29.5**	**-1.3**
	51nm,0.8s						
SANI	**Sanana**	**8.65**	**273**	P	**Pn**	**15 06 31.9**	**+1.1**
KDU	**Kakadu**	**10.35**	**192**	P	**Pn**	**15 06 55.1**	**+1.0**
DRS	**Darwin Rock St**	**10.55**	**200**	P	**Pn**	**15 06 58.3**	**+1.5**
MTN	**Manton Dam**	**10.85**	**198**	Pn	**Pn**	**15 07 00.8**	**-0.2**
MTN	**Manton Dam**	**10.85**	**198**	P	**Pn**	**15 07 02.0**	**+1.0**
LUWI	**Luwuk**	**11.94**	**277**	Pn	**Pn**	**15 07 13.0**	**-2.9**
DAV	**Davao City (W)**	**13.11**	**316**	LR	LR	15 13 06.8	
	comp=Z,122nm,18.2s,baz=129,slow=40						
BATI	**Baumata**	**13.32**	**234**	LR	LR	15 13 00.6	
	comp=Z,163nm,21.9s,baz=102,slow=39						
COEN	**Coen**	**14.18**	**144**	Pn	**Pn**	**15 07 44.8**	**-1.7**
COEN	**Coen**	**14.18**	**144**	P	**P**	**15 07 51.0**	**-2.6**
	11nm,0.6s						
PMG	**Port Moresby**	**14.22**	**119**	LR	LR	15 15 32.0	
	comp=Z,223nm,18.0s,baz=311,slow=47						
KNRA	**Kununurra**	**14.32**	**203**	Pn	**Pn**	**15 07 47.3**	**-1.1**
KNRA	**Kununurra**	**14.32**	**203**	P	**Pn**	**15 07 47.5**	**-0.9**
WB0	**Warramunga Arr**	**17.17**	**181**		**Pn**	**15 08 22.7**	**-2.8**
WRAB	**Tennant Creek**	**17.34**	**181**		**Pn**	**15 08 25.5**	**-2.0**
WRAB				IAmb	IAmb	15 08 32.1	
	comp=Z,29nm,0.8s						
WRAB	**Tennant Creek**	**17.34**	**181**	P	**P**	**15 08 29.2**	**+0.5**
WB2	**Warramunga Arr**	**17.35**	**181**	Pn	**Pn**	**15 08 25.3**	**-2.3**
WB2				IAmb	IAmb	15 08 32.3	
	comp=Z,35nm,0.9s						
WRA	**Warramunga Arr**	**17.35**	**181**	P	**Pn**	**15 08 24.8**	**-2.9**
	comp=Z,1.6nm,0.3s,baz=4.6,slow=13,SNR=40						
WRA				S	Sn	15 11 29.7	-10
	comp=Z,0.4nm,0.3s,baz=1.0,slow=23,SNR=5.9						
WRA	**Warramunga Arr**	**17.35**	**181**		**Pn**	**15 08 25.6**	**-2.0**
WR0	**Warramunga Arr**	**17.36**	**180**		**Pn**	**15 08 26.0**	**-1.9**
WR0				IAmb	IAmb	15 08 34.9	
	comp=Z,25nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.84**	**209**	P	**Pn**	**15 08 33.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=36,slow=13,SNR=21						
FITZ				S	Sn	15 11 38.9	-13
	comp=Z,0.4nm,0.3s,baz=178,slow=22,SNR=2.1						
MTSU	**Mount Surprise**	**18.22**	**149**	P	**Pn**	**15 08 40.8**	**+2.4**
QIS	**Mount Isa**	**18.60**	**165**	P	**P**	**15 08 42.5**	**-0.1**
CTA	**Charters Tower**	**20.85**	**148**	P	**P**	**15 09 09.0**	**+1.9**
	comp=Z,3.6nm,0.6s,baz=318,slow=12,SNR=11						
CTAO	**Charters Tower**	**20.85**	**148**	P	**P**	**15 09 06.3**	**-0.8**
CTAO				IAmb	IAmb	15 09 17.6	
	comp=Z,36nm,1.6s						
AS31	**Alice Springs**	**21.06**	**182**	P	**P**	**15 09 11.1**	**+1.7**
AS31				IAmb	IAmb	15 09 13.4	
	comp=Z,18nm,0.7s						
ASAR	**Alice Springs**	**21.06**	**182**	P	**P**	**15 09 10.5**	**+1.0**
	comp=Z,52nm,0.8s,baz=7.1,slow=12,SNR=270						
ASAR				S	**S**	**15 13 02.4**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=18,slow=13,SNR=4.5						
ASAR	**Alice Springs**	**21.06**	**182**	P	**P**	**15 09 10.7**	**+1.2**
WRKA	**Warakurna**	**23.23**	**195**	P	**P**	**15 09 33.1**	**+0.6**
KSM	**Kuching**	**24.64**	**279**	P	**P**	**15 09 48.4**	**+2.6**
OOD	**Oodnadatta**	**25.18**	**178**	P	**P**	**15 09 51.9**	**+1.4**
QLP	**Quilpie**	**25.67**	**160**	P	**P**	**15 09 55.5**	**+0.6**
STKA	**Stephens Creek**	**29.96**	**168**	P	**P**	**15 10 34.5**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=347,slow=8.2,SNR=13						
STKA	**Stephens Creek**	**29.96**	**168**	P	**P**	**15 10 33.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**40.83**	**302**	P	**P**	**15 12 07.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=130,slow=7.2,SNR=8.0						
XAN	**Xi'an**	**43.66**	**329**	P	**P**	**15 12 30.6**	**+0.8**
XAN				sP	sP	15 12 48.6	+6.2
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
LZH	**Lanzhou**	**47.94**	**326**	*eP*	**P**	**15 13 00.4**	**-3.3**
LZH				pP	pP	15 13 06.8	-6.0
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
GTA	**Gaotai**	**52.55**	**326**	*eP*	**P**	**15 13 40.0**	**+1.5**
GTA				pP	sP	15 13 53.8	+2.6
GTA				sP	pP	15 13 58.5	+11
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,78nm,5.8s						
GTA				LR	LR		
	comp=N,93nm,19.3s						
GTA				LR	LR		
	comp=E,180nm,18.5s						
GTA				LR	LR		
	comp=Z,250nm,19.6s						
MK31	**Makanchi Array**	**67.17**	**324**	P	**P**	**15 15 18.5**	**-0.3**
MK31				IAmb	IAmb	15 15 22.3	
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**67.17**	**324**	P	**P**	**15 15 19.4**	**+0.6**
MAKZ	**Makanchi**	**67.36**	**324**	P	**P**	**15 15 18.9**	**-1.1**
ZALV	**Zalesovo Beam**	**69.74**	**331**	P	**P**	**15 15 34.9**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=108,slow=9.3,SNR=6.1						
TIXI	**Tiksi**	**74.10**	**358**	P	**P**	**15 16 01.2**	**+0.7**
BRVK	**Borovoye**	**76.90**	**326**	P	**P**	**15 16 15.6**	**-1.3**
BRVK				IAmb	IAmb	15 16 20.1	
	comp=Z,2.8nm,0.8s						
NRIK	**Noril'sk**	**78.40**	**345**	P	**P**	**15 16 26.0**	**+1.1**
	comp=Z,5.0nm,0.9s,baz=134,slow=4.0,SNR=8.8						
ABKAR	**Akbulak array**	**81.94**	**320**	P	**P**	**15 16 43.7**	**-0.7**
ILAR	**Eielson Array**	**87.33**	**25**	P	**P**	**15 17 11.8**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=270,slow=5.2,SNR=5.8						
QSPA	**South Pole Qui**	**87.45**	**180**	P	**P**	**15 17 12.5**	**+0.4**
ARCES	**ARCESS Array B**	**98.95**	**340**	P	Pdif	15 18 05.6	+0.8
	comp=Z,4.7nm,1.0s,baz=79,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**132.28**	**285**	PKP	**PKiKP**	**15 23 40.6**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=68,slow=2.2,SNR=8.9						

*DJA **22** 15:19:05.4±1.3, 4°N±13°×12°7E±°, h10km±4km, M4.3/11, mb4.1/6, MLv4.3/11*
*IDC **22** 15:19:06.0±1.1, 3°.66N×126°.75E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/42, mbtmp4.0/9, ML4.1/2, MS3.6/24, Ms1 3.6/24, ms1mx3.3/79, Error ellipse: s-maj=53.3km s-min=13.1km az=63.0*
*MAN **22** 15:19:06.8, 3°.23N×126°.86E, h50km, mb4.6, ML3.5, MS3.3*
*NEIC **22** 15:19:06.2±1.5, 3°.85N±0°.09×126°.9E±0°.1, h10km±1km, mb4.3/14, Error ellipse: s-maj=20.2km s-min=12.4km az=57.0*

ISC 22 15:19:05.2±0.7, 4°.04N±0°.05×127°.11E±0°.06, h10km, n60, σ1§68/41, mb4.2/12, MS3.6/22, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.61**	**257**	P	**Pb**	**15 19 34.8**	**-0.4**
SGSI				S	**Sg**	**15 19 58.2**	**+0.9**
GSPH	**General Santos**	**2.96**	**313**	‖*eP*	**Pb**	**15 19 57.9**	**-0.3**
GSPH				*i* S	**Sb**	**15 20 36.7**	**+2.2**
TNTI	**Ternate**	**3.26**	**175**	P	**Pn**	**15 19 56.9**	**+0.5**
TNTI	**Ternate**	**3.26**	**175**	Pn	**Pn**	**15 19 54.4**	**-2.1**
DAV	**Davao City (W)**	**3.37**	**333**	Pn	**Pb**	**15 20 04.2**	**-1.0**
	17nm,0.3s,baz=80,slow=14,SNR=1.0						
KCP	**Kidapawan**	**3.57**	**326**	‖*eP*	**Pb**	**15 20 09.4**	**+0.9**
KCP				*i* S	**Sg**	**15 20 57.7**	**-2.3**
KMSI	**Cibinong**	**4.65**	**222**	P	**Pn**	**15 20 17.1**	**+1.5**
LBMI	**Labuha**	**4.66**	**175**	P	**Pn**	**15 20 15.8**	**0.0**
GTOI	**Gorontalo**	**5.31**	**231**	P	**Pn**	**15 20 25.2**	**+0.5**
	0.1nm12nm,1.2s						
SWI	**Sorong**	**6.40**	**139**	P	**Pn**	**15 20 39.3**	**-0.3**
	0.1nm29nm,1.1s						
SIJI	**Sorong**	**6.41**	**139**	Pn	**Pn**	**15 20 42.6**	**+2.8**
	3.4nm,0.3s,baz=320,slow=17,SNR=13						
SIJI				Sn	**Sn**	**15 21 56.1**	**+3.1**
	0.9nm,0.3s,baz=192,slow=23,SNR=6.1						
LUWI	**Luwuk**	**6.65**	**221**	Pn	**Pn**	**15 20 40.9**	**-2.2**
TOLI2	**Tolitoli**	**6.96**	**245**	Pn	**Pn**	**15 20 45.3**	**-2.0**
APSI	**Ampana**	**7.34**	**228**	P	**Pn**	**15 20 53.6**	**+0.9**
FAKI	**Fak Fak**	**8.61**	**143**	Pn	**Pn**	**15 21 13.0**	**+2.9**
KAPI	**Kappang**	**11.62**	**219**	LR	LR	15 26 40.7	
	comp=Z,162nm,20.6s,baz=85,slow=41						
MTN	**Manton Dam**	**17.24**	**167**	Pn	**Pn**	**15 23 04.8**	**-1.6**
MTN				IAmb	IAmb	15 23 20.1	
	comp=Z,9.4nm,0.8s						
KNRA	**Kununurra**	**19.66**	**175**	Pn	**P**	**15 23 34.6**	**+0.2**
KNRA				IAmb	IAmb	15 23 56.6	
	comp=Z,10nm,0.9s						
GUMO	**Guam**	**19.93**	**60**	LR	LR	15 30 01.2	
	comp=Z,217nm,21.5s,baz=222,slow=32						
YULB	**Yu-li**	**20.04**	**344**		Pn	15 23 41.7	+1.3
YULB				IAmb	IAmb	15 23 44.4	
	comp=Z,34nm,1.2s						
FITZ	**Fitzroy Crossi**	**22.05**	**184**	P	**P**	**15 23 59.7**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=15,slow=9.2,SNR=8.9						
LEM	**Lembang**	**22.25**	**241**	LR	LR	15 33 20.6	
	comp=Z,218nm,20.2s,baz=22,slow=39						
PMG	**Port Moresby**	**24.04**	**124**	LR	LR	15 34 31.3	
	comp=Z,150nm,18.8s,baz=315,slow=38						
UBPT	**Khong Chiam**	**24.05**	**299**	P	**P**	**15 24 19.8**	**-1.0**
UBPT				IAmb	IAmb	15 24 22.1	
	comp=Z,13nm,1.3s						
WB0	**Warramunga Arr**	**24.72**	**163**	P	**P**	**15 24 24.9**	**-2.1**
WRAB	**Tennant Creek**	**24.86**	**164**	P	**P**	**15 24 27.5**	**-0.7**
WRAB				IAmb	IAmb	15 24 39.6	
	comp=Z,11nm,1.0s						
**WRA

ASAR	Alice Springs	28.32 167	P	P	15 25 00.3	+0.9
	comp=Z,0.6nm,0.4s,baz=342,slow=9.7,SNR=11					
ASAR	Alice Springs	28.32 167	P	P	15 24 58.2	-1.2
CTA	Charters Tower	30.48 143	LR	LR	15 37 26.7	
	comp=Z,129nm,18.2s,baz=342,slow=36					
CMAR	Chiang Mai Arr	31.04 300	P	P	15 25 24.9	+1.2
	comp=Z,0.7nm,0.5s,baz=125,slow=7.8,SNR=8.2					
CMAR			LR	LR	15 37 17.7	
	comp=Z,60nm,20.9s,baz=120,slow=35					
HNR	Honiara	35.36 112	LR	LR	15 39 36.8	
	comp=Z,71nm,21.7s,baz=328,slow=35					
BBOO	Buckleboo	37.62 168	P	P	15 26 17.7	-2.7
STKA	Stephens Creek	38.29 160	P	P	15 26 26.1	0.0
	comp=Z,3.4nm,0.6s,baz=336,slow=7.0,SNR=14					
STKA	Stephens Creek	38.29 160	P	P	15 26 25.2	-0.8
USRK	Ussuriysk Ar.	40.23 5	LR	LR	15 42 48.1	
	comp=Z,58nm,21.3s,baz=186,slow=35					
PALK	Pallekele	46.28 276	LR	LR	15 49 42.5	
	comp=Z,52nm,18.3s,baz=217,slow=40					
MSVF	Nonsavu	54.70 115	LR	LR	15 50 19.6	
	comp=Z,35nm,19.6s,baz=307,slow=34					
MK31	Makanchi Array	57.52 325	P	P	15 28 55.8	+0.9
MK31			IAmb	IAmb	15 29 09.6	
	comp=Z,3.7nm,1.4s					
MKAR	Makanchi Array	57.52 325	P	P	15 28 57.5	+2.6
	comp=Z,0.6nm,0.4s,baz=136,slow=8.6					
BOOM	Boomskoye usch	59.35 318	P	P	15 29 06.2	-1.8
BOOM			IAmb	IAmb	15 29 17.3	
	comp=Z,2.4nm,0.9s					
AAK	Ala-Archa	60.38 318	LR	LR	15 57 19.0	
	comp=Z,70nm,20.0s,baz=98,slow=38					
ZALV	Zalesovo Beam	60.48 333	P	P	15 29 18.5	+3.2
	comp=Z,0.5nm,0.5s,baz=105,slow=9.1,SNR=2.4					
URZ	Urewera	62.51 137	LR	LR	15 57 34.4	
	comp=Z,71nm,18.3s,baz=32,slow=37					
AFI	Afiamalu	63.18 108	LR	LR	15 51 51.9	
	comp=Z,40nm,21.0s,baz=356,slow=31					
AKTO	Aktyubinsk	73.65 321	LR	LR	16 07 30.2	
	comp=Z,66nm,18.3s,baz=99,slow=39					
ARU	Arti	74.88 328	LR	LR	16 05 40.2	
	comp=Z,54nm,18.3s,baz=109,slow=37					
KIRV	Kirov	80.16 329	LR	LR	16 09 15.4	
	comp=Z,56nm,19.8s,baz=88,slow=38					
KDAK	Kodiak Island	81.43 32	LR	LR	16 03 23.7	
	comp=Z,63nm,20.9s,baz=26,slow=32					
GNI	Garni	81.58 310	LR	LR	16 13 48.8	
	comp=Z,22nm,19.1s,baz=64,slow=40					
KBZ	Khabaz	83.04 313	LR	LR	16 13 20.9	
	comp=Z,26nm,19.0s,baz=49,slow=39					
AKASG	Malin Array Be	91.89 321	LR	LR	16 16 43.6	
	comp=Z,27nm,18.9s,baz=44,slow=38					
IDI	Anoyia	97.61 306	LR	LR	16 23 32.7	
	comp=Z,13nm,18.2s,baz=338,slow=40					
NOA	NORSAR Array B	98.68 334	LR	LR	16 22 39.0	
	comp=Z,38nm,19.9s,baz=70,slow=39					
LSZ	Lusaka	99.65 255	LR	LR	16 13 22.9	
	comp=Z,51nm,18.5s,baz=150,slow=33					

EAF ***22*** *15:24:26.2±1.8, 25°.76S×29°.92E, h10km, MD3.7*
BUL 22 15:24:26.2±1.8, 25°.76S×29°.92E, h10km, MD3.9, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	Changalane	2.11	105	*i* P	Pn	15 25 01.8	+0.2
CNG				*i* Sg	Sb	15 25 30.9	+0.1
CNG	Changalane	2.11	105	*i* P	Pn	15 25 01.8	+0.2
CNG				*i* Sg	Sb	15 25 30.9	+0.1
MSNA	Messina	3.40	2	*i* P	Pn	15 25 20.4	+1.1
MSNA				*i* S	Sn	15 25 56.7	-3.1
MSNA	Messina	3.40	2	*i* P	Pn	15 25 20.4	+1.1
MSNA				*i* S	Sn	15 25 56.7	-3.1
LBTB	Lobatse	3.98	280	*i* P	Pn	15 25 28.0	+0.6
LBTB				*i* S	Sn	15 26 09.8	-4.3
LBTB	Lobatse	3.98	280	*i* P	Pn	15 25 28.0	+0.6
LBTB				*i* S	Sn	15 26 09.8	-4.3
MATP	Matopo	5.47	346	*i* P	Pn	15 25 47.4	-0.5
MATP				*i* S	Sn	15 26 46.0	-5.0
MATP	Matopo	5.47	346	*i* P	Pn	15 25 47.4	-0.5
MATP				*i* S	Sn	15 26 46.0	-5.0

IDC 22 15:44:18.8±4.0, 30°.61N×141°.63E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/25, mbtmp3.7/5, ML2.7/1, MS3.2/3, Ms1 3.3/3, ms1mx2.6/84, Error ellipse: s-maj=238.0km s-min=21.8km az=78.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.95	328	LR	LR	15 46 27.7	
	comp=Z,154nm,19.8s,baz=73,slow=44						
MJAR	Matsushiro Arr	6.56	335	Pn	Pn	15 45 57.8	+1.3
	0.2nm,0.3s,baz=163,slow=14,SNR=7.6						
MJAR				Sn	Sn	15 47 10.5	-1.6
	0.1nm,0.3s,baz=214,slow=45,SNR=1.5						
CMAR	Chiang Mai Arr	40.45	263	LR	LR	16 09 07.2	
	comp=Z,13nm,19.4s,baz=170,slow=37						
WRA	Warramunga Arr	50.75	189	P	P	15 53 20.6	-0.1
	0.7nm,0.5s,baz=4.5,slow=7.5,SNR=7.3						
ASAR	Alice Springs	54.48	189	P	P	15 53 48.1	-0.2
	0.3nm,0.5s,baz=3.0,slow=6.6,SNR=7.4						
FINES	FINESS Array B	74.59	333	P	P	15 55 58.3	-1.0
	2.4nm,1.0s,baz=69,slow=4.6,SNR=4.1						
NVAR	Mina Array Bea	78.74	52	LR	LR	16 26 54.8	
	comp=Z,65nm,21.6s,baz=279,slow=32						
AKASG	Malin Array Be	79.50	323	P	P	15 56 28.2	+1.0
	0.2nm,0.3s,baz=57,slow=5.4,SNR=1.7						

JMA ***22*** *15:59:56.7±0.3, 44°.03N×148°.01E, h0km, M4.6*
MOS ***22*** *15:59:56.4±1.1, 44°.49N×148°.21E, h63km, mb4.5/1, Error ellipse: s-maj=15.7km s-min=9.1km az=49.9*
NIED ***22*** *15:59:56.8, 44°.03N×148°.02E, h0km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr 1.62; Mθθ 0.32; Mφφ -1.94; Mrθ 2.60; Mφφ -1.32; Mφr 2.60; Fault plane solution: M0 4.28000×10^14 NP1: φs 44.00000°, δ 77.00000°, λ 105.00000°. NP2: φs 176.00000°, δ 20.00000°, λ 43.00000°.*
SKHL ***22*** *15:59:58.0±0.3, 44°.40N×148°.20E, h77km±7km, mb5.0/9*
IDC ***22*** *16:00:00.1±2.7, 44°.55N×148°.10E, h76km±24km, mb3.3/10, mb1 3.5/15, mb1mx3.4/46, mbtmp3.7/15, MS2.8/3, Ms1 2.8/3, ms1mx2.5/39, Error ellipse: s-maj=27.7km s-min=15.0km az=120.0*
ISC 22 15:59:56.9±1.2, 44°.32N±0°.06×148°.32E±0°.09, h50km±12km, n57, σ1§48/67, mb3.6/10, 1C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.97	341	*d i* PN	Pn	16 00 13.1	-1.1
KUR				*i* S	Sn	16 00 24.7	-2.2
KUR				pmax	pmax		
	comp=Z,1μm,0.3s						
KUR				pmax	pmax		
	comp=E,320nm,0.1s						
KUR				pmax	pmax		
	comp=N,278nm,0.3s						
KUR				smax	smax		
	comp=N,3μm,0.2s						
KUR				smax	smax		
	comp=E,2μm,0.2s						
KUR	Kuril'sk	0.97	341	*i* P	Pn	16 00 13.1	-1.1
KUR				AMB	AMB	16 00 13.6	
	comp=E,1μm,0.3s						
KUR				*i* S	Sn	16 00 24.7	-2.2
KUR				A	A	16 00 26.8	
	comp=E,3μm,0.2s						
KUR				A	A	16 00 26.8	
	comp=E,2μm,0.2s						
SHO	Shikotan	1.16	248	⇓ *i* PN	Pn	16 00 16.3	-0.5
SHO				*i* S	Sn	16 00 29.2	-2.3
SHO				pmax	pmax		
	comp=E,191nm,0.3s						
SHO				pmax	pmax		
	comp=Z,223nm,0.3s						
SHO				pmax	pmax		
	comp=N,50nm,0.2s						
SHO				smax	smax		
	comp=N,1μm,0.2s						
SHO				smax	smax		
	comp=E,3μm,0.2s						
SHO	Shikotan	1.16	248	*i* P	Pn	16 00 16.3	-0.5
SHO				AMB	AMB	16 00 17.3	
	comp=E,350nm,0.3s						
SHO				*i* S	Sn	16 00 29.7	-1.8
SHO				A	A	16 00 30.3	
	comp=E,770nm,0.3s						
SHO				A	A	16 00 30.3	
	comp=E,3μm,0.3s						
YUK	Yuzh-Kuril'sk	1.79	262	⇓ *i* PN	Pn	16 00 25.3	0.0
YUK				*e* S	Sn	16 00 45.1	-1.8
YUK				pmax	pmax		
	comp=Z,531nm,0.1s						
YUK				pmax	pmax		
	comp=N,334nm,0.2s						
YUK				pmax	pmax		
	comp=E,360nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
YUK	Yuzh-Kuril'sk	1.79	262	*i* P	Pn	16 00 24.9	-0.4
YUK				AMB	AMB	16 00 27.3	
	comp=E,530nm,0.2s						
YUK				*e* S	Sn	16 00 45.0	-1.8
YUK				A	A	16 00 50.7	
	comp=E,1μm,0.3s						
YUK				A	A	16 00 50.7	
	comp=E,1μm,0.3s						
GRPR	Tuman	1.86	261	⇑ *i* PN	Pn	16 00 26.4	+0.1
GRPR				*e* S	Sn	16 00 47.7	-0.9
GRPR				pmax	pmax		
	comp=N,479nm,0.2s						
GRPR				pmax	pmax		
	comp=E,394nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,552nm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.4s						
GRPR				smax	smax		
	comp=N,2μm,0.3s						
GRPR	Tuman	1.86	261	*i* P	Pn	16 00 26.0	-0.3
GRPR				AMB	AMB	16 00 29.1	
	comp=N,550nm,0.2s						
GRPR				*e* S	Sn	16 00 47.0	-1.6
GRPR				A	A	16 00 50.3	
	comp=N,1μm,0.4s						
NEM2	Nemuro 2	2.09	244	P	Pn	16 00 29.0	-0.4
NEM2				*e* S	Sn	16 00 52.2	-2.1
GLVR	Golovnino	2.10	255	⇓ *i* PN	Pn	16 00 29.8	+0.2
GLVR				*e* S	Sn	16 00 53.8	-0.6
GLVR				pmax	pmax		
	comp=Z,262nm,0.3s						
GLVR				smax	smax		
	comp=E,1μm,0.2s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR	Golovnino	2.10	255	*i* P	Pn	16 00 29.7	+0.2
GLVR				AMB	AMB	16 00 32.6	
	comp=N,260nm,0.3s						
GLVR				*e* S	Sn	16 00 53.5	-0.9
GLVR				A	A	16 01 03.3	
	comp=N,2μm,0.3s						
GLVR				A	A	16 01 03.3	
	comp=N,1μm,0.3s						
NMR	Nemuro--Hokkai	2.10	244	⇓ *i* PN	Pn	16 00 29.0	-0.6
NMR				*e* S	Sn	16 00 52.9	-1.5
NMR	Nemuro--Hokkai	2.10	244	*i* P	Pn	16 00 29.3	-0.2
NMR				*e* S	Sn	16 00 53.0	-1.5
RUSJ	Misakicho	2.22	266	*e* PN	Pn	16 00 32.3	+1.1
RUSJ				*e* S	Sn	16 00 57.7	+0.4
JRA	Rausu	2.33	262	P	Pn	16 00 33.9	+1.2
JRA				*e* S	Sn	16 01 01.2	+1.1
JNSB	Nemuroshibetsu	2.45	258	P	Pn	16 00 35.3	+1.0
JKHN	Kushirohamanak	2.60	243	P	Pn	16 00 36.5	+0.1
JKHN				*e* S	Sn	16 01 05.9	-0.9
JNK	Nakash	2.70	255	P	Pn	16 00 38.5	+0.7
JNK				*e* S	Sn	16 01 08.7	-0.5
AKK	Akkeshi	2.84	244	*e* P	Pn	16 00 39.7	0.0
AKK				*e* S	Sn	16 01 11.0	-1.6
JAK	Akkeshi	2.94	245	P	Pn	16 00 41.1	0.0
JTKR	Abashiri--Toko	3.19	265	P	Pn	16 00 45.4	+0.9
JAR	Ashorobuto	3.45	254	P	Pn	16 00 49.4	+1.4
JCH	Churui	3.99	246	P	Pn	16 00 55.8	+0.3
JCH				*e* S	Sn	16 01 40.3	-0.6
JKK2	Kamakawa 2	4.04	266	P	Pn	16 00 59.7	+3.6
JKA	Kamikawa-asahi	4.12	269	*e* P	Pn	16 00 59.2	+2.0
ASAJ	Asahikawa	4.12	269	P	Pn	16 00 59.2	+2.0
	comp=N,2.4nm,0.3s,baz=54,slow=20,SNR=17						
ASAJ				LR	LR	16 02 45.7	
	comp=N,45nm,20.3s,baz=93,slow=42						
JFR	Furan	4.30	256	P	Pn	16 01 02.2	+2.4
JNBK	Urakawa-nobuka	4.54	245	P	Pn	16 01 03.6	+0.5
JWK2	Keihoku	4.67	285	P	Pn	16 01 06.9	+2.1
YSS	Yuzh-Sakhalins	4.71	306	*e* P	Pn	16 01 05.4	+0.1
YSS				AMB	AMB	16 01 07.4	
	comp=N,30nm,0.3s						
JEW	Eniwo	5.20	256	P	Pn	16 01 15.8	+3.7
JKB	Kayabe	5.86	248	P	Pn	16 01 22.1	+1.0
JKB				*e* S	Sn	16 02 26.3	-0.6
JOT	Ohata	6.09	244	P	Pn	16 01 24.9	+0.6
SKR	Severo-Kuril's	8.27	37	*e* P	Pn	16 01 56.2	+2.1
SKR				AMB	AMB	16 01 56.8	
	comp=N,50nm,0.8s						
PAU	Pauzhetka	9.14	36	*e* P	Pn	16 02 08.2	+2.2
PETK	Petropavlovsk-	10.75	32	P	Pn	16 02 28.2	+0.2
	comp=N,0.1nm,0.3s,baz=88,slow=19,SNR=1.4						
MJAR	Matsushiro Arr	10.93	228	P	Pn	16 02 34.3	+3.6
	comp=N,0.0nm,0.3s,baz=30,slow=14,SNR=2.2						
KLR	Kul'dur	12.37	299	LR	LR	16 07 36.9	
	comp=N,50nm,21.4s,baz=107,slow=38						
JNU	Nakatsue	17.57	236	P	Pn	16 03 59.3	+1.1
	comp=N,0.2nm,0.3s,baz=219,slow=22,SNR=1.9						
SEY	Seymchan	18.80	6	P	P	16 04 11.9	0.0
	comp=N,0.1nm,0.3s,baz=159,slow=23,SNR=1.3						
H11N2	WAKE ISLAND Hy	29.00	142	T	T	16 36 37.1	
	baz=332,slow=76,SNR=168						
H11N1	WAKE ISLAND Hy	29.02	142	T	T	16 36 43.3	
	baz=332,slow=76,SNR=140						
H11N3	WAKE ISLAND Hy	29.02	142	T	T	16 36 43.6	
	baz=332,slow=76,SNR=177						
H11S1	WAKE ISLAND Hy	30.00	143	T	T	16 37 56.6	
	baz=333,slow=76,SNR=478						
H11S3	WAKE ISLAND Hy	30.00	143	T	T	16 37 50.9	
	baz=333,slow=76,SNR=336						
H11S2	WAKE ISLAND Hy	30.01	143	T	T	16 37 55.0	
	baz=333,slow=76,SNR=258						
ZALV	Zalesovo Beam	41.33	307	LR	LR	16 27 31.7	
	comp=N,25nm,18.3s,baz=46,slow=40						
INK	Inuvik	45.48	31	P	P	16 08 10.4	-0.2
	comp=N,0.3nm,0.4s,baz=284,slow=8.3,SNR=1.8						
CMAR	Chiang Mai Arr	48.49	254	P	P	16 08 34.8	0.0
	comp=N,0.2nm,0.3s,baz=52,slow=5.2,SNR=4.1						
YKA	Yellowknife Ar	54.86	34	P	P	16 09 21.3	-0.3
	comp=N,0.5nm,0.7s,baz=300,slow=7.1,SNR=7.8						
ARCES	ARCESS Array B	59.01	340	P	P	16 09 49.2	-1.7
	comp=N,2.1nm,0.9s,baz=37,slow=9.1,SNR=1.3						
FINES	FINESS Array B	64.75	333	P	P	16 10 27.1	-2.5
	comp=N,2.1nm,0.9s,baz=38,slow=7.0,SNR=2.6						
WRA	Warramunga Arr	65.22	194	P	P	16 10 33.8	+0.8
	comp=N,0.3nm,0.7s,baz=8.0,slow=6.8,SNR=2.3						
ASAR	Alice Springs	68.93	194	P	P	16 10 58.2	+1.6
	comp=N,0.2nm,0.5s,baz=13,slow=6.9,SNR=12						
NOA	NORSAR Array B	69.37	339	P	P	16 10 57.2	-1.7
	comp=N,0.6nm,0.8s,baz=34,slow=7.9,SNR=1.5						
AKASG	Malin Array Be	71.61	324	P	P	16 11 11.9	-0.9
	comp=N,0.2nm,0.4s,baz=30,slow=5.2,SNR=1.6						
TXAR	Lajitas Array	81.63	57	P	P	16 12 10.5	+0.7
	comp=N,0.4nm,0.5s,baz=300,slow=4.5,SNR=6.9						

IDC ***22*** *16:17:52.3±1.9, 21°.35S×178°.14W, h543km±16km, mb3.1/5, mb1 3.3/9, mb1mx2.9/34, mbtmp4.1/9, Error ellipse: s-maj=31.5km s-min=20.4km az=134.0*
ISC 22 16:17:53.1±0.9, 21°.25S±0°.1×178°.2W±0°.1, h550km, n21, σ1§39/22, mb3.7/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.92	314	P	P	16 19 23.7	+1.2
	2.3nm,0.3s,baz=133,slow=15,SNR=19						
MSVF				S	S	16 20 36.2	+0.9
	0.1nm,0.3s,baz=134,slow=22,SNR=1.4						
AFI	Afiamalu	9.49	41	P	P	16 20 05.9	-0.2
	2.9nm,0.3s,baz=231,slow=2.5,SNR=5.9						
DZM	Mont Dzumac	14.29	264	P	P	16 20 54.2	-1.3
	0.2nm,0.3s,baz=149,slow=20,SNR=1.7						
HAZ	Te Kaha	16.87	191	P	P	16 21 22.2	+1.7
TWGZ	Tauwhareparae	17.25	190	P	P	16 21 25.9	+1.9
MWZ	Matawai	17.48	191	P	P	16 21 26.9	+0.8
URZ	Urewera	17.48	192	P	P	16 21 24.2	-1.9
	0.8nm,0.3s,baz=319,slow=9.3,SNR=1.8						
URZ	Urewera	17.48	192	P	P	16 21 25.9	-0.2
MUGZ	Murupara	17.76	193	P	P	16 21 28.9	+0.2
SNGZ	Shannon Statio	17.95	191	P	P	16 21 31.7	+1.3
TWVZ	Taurewa	18.64	196	P	P	16 21 38.0	+1.2
WNVZ	Wahianoa	18.84	195	P	P	16 21 39.4	+0.7
VRZ	Vera Road	18.86	197	P	P	16 21 42.3	+3.6
BHHZ	Black Hill Sta	18.89	194	P	P	16 21 38.3	-0.7
STKA	Stephens Creek	37.31	245	P	P	16 24 18.1	-0.9
	0.7nm,0.5s,baz=39,slow=6.5,SNR=1.5						
ASAR	Alice Springs	44.16	257	P	P	16 25 13.8	+0.1
	2.7nm,0.6s,baz=88,slow=8.4,SNR=100						
WRA	Warramunga Arr	44.30	263	P	P	16 25 14.3	-0.5
	0.7nm,0.3s,baz=96,slow=7.6,SNR=55						
PETK	Petropavlovsk-	76.88	345	P	P	16 28 48.0	-0.6
	3.6nm,1.1s,baz=134,slow=10,SNR=2.4						
CMAR	Chiang Mai Arr	90.15	290	P	P	16 29 56.8	+1.3
	0.3nm,0.5s,baz=147,slow=4.4,SNR=4.2						
AKASG	Malin Array Be	143.51	330	PKP	PKPdf	16 36 24.0	-1.2
	1.0nm,0.4s,baz=44,slow=4.3,SNR=9.3						
BRTR	Keskin Array B	147.14	311	PKPbc	PKiKP	16 36 36.1	-0.8
	0.5nm,0.8s,baz=46,slow=6.2,SNR=2.2						

IDC ***22*** *16:33:49.6±1.4, 35°.12N×139°.35E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.2/53, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=33.5km s-min=16.9km az=70.0*
NIED ***22*** *16:33:52.1, 35°.06N×139°.08E, h5km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr -1.08; Mθθ -2.15; Mφφ 3.24; Mrθ 4.92; Mφθ -4.07; Mφr 0.70; Fault plane solution: M0 6.87000×10^14 NP1: φs 289.00000°, δ 79.00000°, λ -139.00000°. NP2: φs 189.00000°, δ 50.00000°, λ -14.00000°.*
JMA ***22*** *16:33:52.1±0.1, 35°.06N×139°.08E, h5km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs 284.00000°, δ 77.00000°, λ 168.00000°. NP2: φs 16.00000°, δ 78.00000°, λ 14.00000°. Principal axes: T Plg18.0000°, Azm240.0000°; N Plg72.0000°, Azm57.0000°; P Plg1.0000°, Azm150.0000°;*
JMA Felt III J1.
ISC 22 16:33:51.5±0.9, 35°.06N±0°.03×139°.15E±0°.05, h9km±5km, n23, σ0§90/27, 3C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJI	Ajiro2	0.05	251	⇑ P	Pg	16 33 53.2	-0.2
AJI				S	Sg	16 33 53.8	-0.9
KTJ3	Kamata3	0.14	207	⇓ P	Pg	16 33 54.8	+0.1
KTJ3				S	Sg	16 33 56.7	-0.2
JHTM	Izuhatsuma	0.15	229	⇑ P	Pg	16 33 55.0	+0.1
JHTM				S	Sg	16 33 57.1	-0.1
JOD2	Odawara 2	0.21	346	⇓ P	Pg	16 33 56.6	+0.7
JOD2				S	Sg	16 34 00.1	+1.3
JFNN	Fujinakano	0.40	289	P	Pg	16 33 59.5	0.0
JFNN				S	Sg	16 34 05.1	+0.3
JIZS	Izushimoda	0.41	213	⇑ P	Pg	16 33 59.4	-0.2
JIM2	Oshima 3	0.41	146	⇓ P	Pb	16 34 00.9	-0.1
JTHY	Toshimahigashi	0.55	168	P	Pb	16 34 03.2	-0.1
JYN	Shimob	0.66	311	⇓ P	Pg	16 34 04.1	-0.2
JYN				S	Sg	16 34 13.0	0.0
SHZ3	Shizuoka 3	0.77	271	P	Pg	16 34 06.5	+0.1
SHZ3				S	Sg	16 34 17.0	+0.5
MJAR	Matsushiro Arr	1.66	333	Pn	Pn	16 34 21.3	+0.4
	15nm,0.3s,baz=161,slow=16,SNR=410						
MJAR				Sn	Sn	16 34 42.1	-0.3
	11nm,0.3s,baz=157,slow=27,SNR=5.2						
MJAR				LR	LR	16 34 45.5	
	comp=Z,84nm,19.2s,baz=133,slow=33						
MAT	Matsushiro	1.67	333	P	Pb	16 34 21.7	-0.7
MAT				S	Sn	16 34 43.1	+0.6
JHJ	Hachijo jima 2	2.01	165	Pn	Pn	16 34 26.7	+1.1
	167nm,0.3s,baz=33,slow=9.1,SNR=25						
JHJ				Sn	Sb	16 34 53.5	+0.1
	74nm,0.3s,baz=269,slow=21,SNR=2.1						
JNU	Nakatsue	7.13	257	Pn	Pn	16 35 37.0	+0.9
	0.5nm,0.3s,baz=30,slow=5.9,SNR=6.4						
KSRS	Korea Array	9.38	288	Pn	Pn	16 36 09.3	+2.4
	0.1nm,0.3s,baz=106,slow=14,SNR=2.1						
H11N2	WAKE ISLAND Hy	28.86	115	T	T	17 09 59.9	
	baz=308,slow=75,SNR=147						
H11N1	WAKE ISLAND Hy	28.87	115	T	T	17 09 59.5	
	baz=308,slow=75,SNR=71						
H11N3	WAKE ISLAND Hy	28.87	115	T	T	17 10 01.2	
	baz=308,slow=75,SNR=77						
H11S3	WAKE ISLAND Hy	29.47	117	T	T	17 10 44.6	
	baz=310,slow=75,SNR=21						
H11S1	WAKE ISLAND Hy	29.47	117	T	T	17 10 44.8	
	baz=310,slow=75,SNR=26						
H11S2	WAKE ISLAND Hy	29.48	117	T	T	17 10 45.8	
	baz=310,slow=75,SNR=17						
ILAR	Eielson Array	52.13	31	P	P	16 42 59.8	-2.0
	0.2nm,0.6s,baz=287,slow=6.3,SNR=1.5						
WRA	Warramunga Arr	54.89	186	P	P	16 43 21.2	-1.3
	0.8nm,0.7s,baz=0.7,slow=7.6,SNR=5.3						

NOU ***22*** *16:34:30.8, 13°.66S×172°.03E, h0km, mb5.0/43, Vanuatu Islands Region*
NEIC ***22*** *16:34:35.4±1.5, 13°.75S±0°.1×172°.06E±0°.08, h44km±6km, mb5.0/34, Ms_20 5.1/61, Mww5.6, Error ellipse: s-maj=14.7km s-min=11.8km az=182.0*
GCMT ***22*** *16:34:35.4±0.1, 13°.71S±0°.01×172°.20E±0°.01, h12km, MW5.4/142, Moment Tensor Solution. s123, c224; s142, c289; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr -1.76±.02; Mθθ 1.58±.02; Mφφ 0.18±.02; Mrθ -0.18±.04; Mφθ 0.55±.01; Mφr -0.39±.05; Best double couple: M0 1.81600×10^17 NP1: φ 260.00000°, δ 41.00000°, λ -76.00000°. NP2: φ 61.00000°, δ 51.00000°, λ -102.00000°. Principal axes: T 1.7970, Plg5.0000°, Azm160.0000°; N 0.0410, Plg9.0000°, Azm69.0000°; P -1.8360, Plg79.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***22*** *16:34:37.2±2.6, 13°.89S×172°.13E, h62km±23km, mb4.4/29, mb1 4.5/32, mb1mx4.3/47, mbtmp4.7/32, ML5.9/1, MS4.7/56, Ms1 4.7/56, ms1mx4.6/61 Error ellipse: s-maj=15.7km s-min=12.4km az=162.0*
NEIC ***22*** *16:34:38, 13°.77S×172°.22E, h26km, Moment Tensor Solution. Duration: 5§6 Moment tensor: Scale 10^17 Nm; Mrr -1.44; Mθθ 1.28; Mφφ 0.16; Mrθ -2.38; Mφθ 0.61; Mφr -0.18; Fault plane

DZM			*e*LR	LR	16 39 16.6		
	comp=Z,13μm,26.6s						
DZM	**Mont Dzumac**	**9.83 213**	P	**Pn**	**16 36 55.1**	**-0.3**	
OUENC	**Ouen Island, N**	**9.92 210**		**Pn**	**16 36 55.9**	**-0.6**	
OUENC	**Ouen Island, N**	**9.92 210**	P	**Pn**	**16 36 56.9**	**+0.4**	
NOUC	**Port Laguerre**	**9.93 214**	P	**Pn**	**16 36 56.9**	**+0.2**	
ONTNC	**Ouen Toro**	**10.02 212**	P	**Pn**	**16 36 58.8**	**+0.9**	
KOUNC	**Koumac, New Ca**	**10.07 228**	P	**Pn**	**16 36 58.6**	**0.0**	
HNR	**Honiara**	**12.79 289**	P	**Pn**	**16 37 36.9**	**+1.1**	
	baz=201,slow=8.5,SNR=2.9						
HNR			LR	LR	16 42 11.6		
	comp=Z,4μm,18.2s,baz=124,slow=36						
HNR	**Honiara**	**12.79 289**	P	**Pn**	**16 37 33.6**	**-2.2**	
RAO	**Raoul Island**	**17.84 151**	P	**P**	**16 38 42.5**	**+1.5**	
	533nm,0.3s,baz=265,slow=20,SNR=5.7						
RAO			LR	LR	16 44 02.8		
	comp=Z,6μm,21.5s,baz=344,slow=32						
RABL	**Rabaul**	**21.99 294**	P	**P**	**16 39 24.2**	**-2.0**	
RABL			IAmb	IAmb	16 39 32.5		
	comp=Z,98nm,0.9s						
RABL	**Rabaul**	**21.99 294**	P	**P**	**16 39 25.2**	**-1.0**	
EIDS	**Eidsvold**	**22.92 237**	P	**P**	**16 39 34.6**	**-1.5**	
	baz=23,SNR=5.0						
EIDS	**Eidsvold**	**22.92 237**	P	**P**	**16 39 37.4**	**+1.4**	
	comp=Z,32nm,2.8s						
MXZ	**Matakaoa Point**	**24.22 168**	IAMs_20	IAMs_20	16 46 57.8		
	comp=Z,8μm,19.0s						
URZ	**Urewera**	**24.68 171**	P	**P**	**16 39 52.1**	**-0.2**	
	comp=Z,9.6nm,0.8s,baz=47,slow=15,SNR=2.3						
URZ			LR	LR	16 47 30.6		
	comp=Z,4μm,18.1s,baz=42,slow=31						
URZ	**Urewera**	**24.68 171**	P	**P**	**16 39 53.0**	**+0.7**	
URZ			IAmb	IAmb	16 40 05.8		
	comp=Z,35nm,1.1s						
URZ			IAMs_20	IAMs_20	16 47 12.0		
	comp=Z,6μm,19.0s						
PMG	**Port Moresby**	**24.93 278**	P	**P**	**16 39 53.3**	**-1.5**	
	comp=Z,7.0nm,0.8s,baz=64,slow=12,SNR=4.8						
PMG			LR	LR	16 48 21.6		
	comp=Z,1μm,19.2s,baz=75,slow=33						
ARMA	**Armidale**	**25.12 226**		**P**	**16 39 55.6**	**-1.0**	
RMQ	**Roma**	**25.29 237**	P	**P**	**16 39 58.1**	**+0.1**	
	baz=25,SNR=21						
RMQ	**Roma**	**25.29 237**	P	**P**	**16 39 59.1**	**+1.1**	
CTA	**Charters Tower**	**25.57 252**	P	**P**	**16 39 59.4**	**-1.2**	
	comp=Z,9.1nm,1.1s,baz=97,slow=8.5,SNR=5.8						
CTA			LR	LR	16 48 35.2		
	comp=Z,805nm,18.6s,baz=68,slow=33						
CTA	**Charters Tower**	**25.57 252**	P	**P**	**16 40 00.7**	**+0.2**	
CTAO	**Charters Tower**	**25.57 252**	P	**P**	**16 39 59.0**	**-1.6**	
CTAO	**Charters Tower**	**25.57 252**	P	**P**	**16 40 00.8**	**+0.2**	
MTSU	**Mount Surprise**	**27.13 257**	P	**P**	**16 40 13.5**	**-1.3**	
	baz=27,SNR=12						
MTSU	**Mount Surprise**	**27.13 257**	P	**P**	**16 40 14.5**	**-0.3**	
RAR	**Rarotonga**	**27.66 109**	LR	LR	16 49 34.7		
	comp=Z,475nm,20.1s,baz=278,slow=32						
THZ	**Tophouse**	**27.80 179**	P	**P**	**16 40 19.5**	**-1.0**	
THZ			IAmb	IAmb	16 40 29.1		
	comp=Z,60nm,1.3s						
QLP	**Quilpie**	**29.06 240**	P	**P**	**16 40 32.2**	**+0.3**	
	baz=29,SNR=4.1						
QLP	**Quilpie**	**29.06 240**	P	**P**	**16 40 32.3**	**+0.4**	
CMSA	**Cobar Meteorol**	**30.00 230**	P	**P**	**16 40 41.0**	**+0.9**	
	baz=30,SNR=7.8						
CMSA	**Cobar Meteorol**	**30.00 230**	P	**P**	**16 40 40.9**	**+0.8**	
QIS	**Mount Isa**	**31.81 253**	P	**P**	**16 40 55.8**	**-0.4**	
	baz=32,SNR=5.0						
QIS	**Mount Isa**	**31.81 253**	P	**P**	**16 40 56.5**	**+0.3**	
INKA	**Innaminka**	**32.38 240**	P	**P**	**16 41 01.9**	**+0.8**	
H11S2	**WAKE ISLAND Hy**	**32.61 350**	T	T	17 15 18.5		
	baz=171,slow=76,SNR=53						
H11S3	**WAKE ISLAND Hy**	**32.62 350**	T	T	17 15 20.1		
	baz=171,slow=76,SNR=44						
H11S1	**WAKE ISLAND Hy**	**32.63 350**	T	T	17 15 23.8		
	baz=171,slow=76,SNR=45						
JAY	**Jayapura**	**33.11 287**	LR	LR	16 54 51.6		
	comp=Z,1μm,18.6s,baz=60,slow=37						
STKA	**Stephens Creek**	**33.25 232**	P	**P**	**16 41 08.3**	**-0.4**	
	comp=Z,16nm,1.0s,baz=54,slow=9.5,SNR=19						
STKA			PcP	**PcP**	**16 43 51.3**	**+1.2**	
	comp=Z,4.2nm,1.0s,baz=348,slow=1.6,SNR=3.4						
STKA			LR	LR	16 54 30.5		
	comp=Z,555nm,18.4s,baz=57,slow=36						
STKA	**Stephens Creek**	**33.25 232**	P	**P**	**16 41 09.0**	**+0.3**	
	baz=33,SNR=14						
STKA	**Stephens Creek**	**33.25 232**	P	**P**	**16 41 07.5**	**-1.2**	
STKA	**Stephens Creek**	**33.25 232**	P	**P**	**16 41 09.9**	**+1.2**	
TOO	**Toolangi**	**33.50 220**	P	**P**	**16 41 12.8**	**+2.0**	
	baz=33,SNR=3.8						
TOO	**Toolangi**	**33.50 220**	P	**P**	**16 41 09.6**	**-1.3**	
TOO			IAmb	IAmb	16 41 12.6		
	comp=Z,28nm,1.3s						
TOO	**Toolangi**	**33.50 220**	P	**P**	**16 41 12.9**	**+2.0**	
LCRK	**Leigh Creek**	**35.37 237**	P	**P**	**16 41 27.4**	**+0.4**	
ARPS	**Mount Arapiles**	**35.43 224**	P	**P**	**16 41 28.4**	**+0.9**	
	baz=35,SNR=6.6						
ARPS	**Mount Arapiles**	**35.43 224**	P	**P**	**16 41 29.4**	**+1.9**	
HTT	**Hallett**	**35.95 231**	P	**P**	**16 41 33.1**	**+1.0**	
	baz=36,SNR=3.8						
HTT	**Hallett**	**35.95 231**	P	**P**	**16 41 33.1**	**+1.0**	
NAPP	**Napperby**	**36.44 232**	P	**P**	**16 41 37.9**	**+1.7**	
	comp=Z,61nm,1.1s						
WR0	**Warramunga Arr**	**36.49 255**	P	**P**	**16 41 32.4**	**-4.4**	
WR0			IAmb	IAmb	16 41 42.3		
	comp=Z,20nm,1.3s						
WB0	**Warramunga Arr**	**36.62 256**	P	**P**	**16 41 35.1**	**-2.8**	
WB2	**Warramunga Arr**	**36.66 255**	P	**P**	**16 41 36.4**	**-1.9**	
WRAB	**Tennant Creek**	**36.67 255**	P	**P**	**16 41 35.7**	**-2.6**	
WRAB	**Tennant Creek**	**36.67 255**	P	**P**	**16 41 37.0**	**-1.3**	
WRAB	**Tennant Creek**	**36.67 255**	P	**P**	**16 41 35.8**	**-2.5**	
WRAB			pP	**pP**	**16 41 51.5**	**-0.2**	
WRA	**Warramunga Arr**	**36.68 255**	P	**P**	**16 41 35.8**	**-2.6**	
	comp=Z,15nm,1.1s,baz=87,slow=8.3,SNR=40						
WRA			PcP	**PcP**	**16 44 01.1**	**+0.7**	
	comp=Z,2.4nm,1.0s,baz=82,slow=3.4,SNR=5.5						
WRA			LR	LR	16 54 54.1		
	comp=Z,545nm,21.5s,baz=60,slow=33						
WRA	**Warramunga Arr**	**36.68 255**	P	**P**	**16 41 36.5**	**-1.9**	
WRA			PcP	**PcP**	**16 44 01.8**	**+1.4**	
OOD	**Oodnadatta**	**36.69 242**	P	**P**	**16 41 39.0**	**+0.7**	
WHYH	**Whyalla**	**36.82 233**	P	**P**	**16 41 40.8**	**+1.4**	
	comp=Z,38nm,1.2s						
PPT2	**Papeete2**	**36.93 101**	*e*S	**S**	**16 47 21.4**	**-0.6**	
	comp=Z,498nm,26.2s						
PPT2			*e*LQ	LQ	16 50 08.4		
	comp=Z,3μm,28.5s						
PPT2			*e*LR	LR	16 51 44.7		
	comp=Z,2μm,27.8s,baz=270						
PPT	**Papeete**	**36.93 101**	LR	LR	16 52 42.1		
	comp=Z,1μm,21.0s,baz=268,slow=29						
AS31	**Alice Springs**	**37.45 249**	P	**P**	**16 41 43.4**	**-1.6**	
AS31			IAmb	IAmb	16 41 44.9		
	comp=Z,24nm,1.3s						
ASAR	**Alice Springs**	**37.45 249**	P	**P**	**16 41 43.4**	**-1.6**	
	comp=Z,33nm,1.0s,baz=74,slow=9.4,SNR=330						
ASAR			PcP	**PcP**	**16 44 03.5**	**+0.7**	
	comp=Z,5.8nm,1.0s,baz=87,slow=2.4,SNR=8.8						
ASAR			LR	LR	16 55 42.4		
	comp=Z,1μm,19.6s,baz=82,slow=34						
ASAR	**Alice Springs**	**37.45 249**	P	**P**	**16 41 43.2**	**-1.8**	
BBOO	**Buckleboo**	**37.92 234**	P	**P**	**16 41 49.2**	**+0.4**	
	baz=38,SNR=14						
BBOO	**Buckleboo**	**37.92 234**	P	**P**	**16 41 49.0**	**+0.2**	
BBOO	**Buckleboo**	**37.92 234**	P	**P**	**16 41 49.4**	**+0.6**	
GUMO	**Guam**	**38.44 314**	LR	LR	16 54 53.6		
	comp=Z,816nm,21.4s,baz=118,slow=32						
KDU	**Kakadu**	**38.66 267**	P	**P**	**16 41 55.2**	**0.0**	
MULG	**Mulgathing**	**38.73 239**	P	**P**	**16 41 55.8**	**+0.3**	
MTN	**Manton Dam**	**39.95 266**	P	**P**	**16 42 05.3**	**-0.6**	
	baz=40,SNR=4.1						
MTN	**Manton Dam**	**39.95 266**	P	**P**	**16 42 06.3**	**+0.4**	
DRS	**Darwin Rock St**	**40.22 267**	P	**P**	**16 42 09.1**	**+1.0**	
	comp=Z,12nm,1.4s						
KNRA	**Kununurra**	**42.00 262**	P	**P**	**16 42 21.9**	**-0.8**	
	baz=42,SNR=7.8						
KNRA	**Kununurra**	**42.00 262**	P	**P**	**16 42 22.3**	**-0.4**	
KNRA			IAmb	IAmb	16 42 23.8		
	comp=Z,57nm,1.4s						
KNRA	**Kununurra**	**42.00 262**	P	**P**	**16 42 22.1**	**-0.7**	
SIJI	**Sorong**	**42.51 284**	LR	LR	16 59 08.7		
	comp=Z,870nm,21.4s,baz=90,slow=35						
WRKA	**Warakurna**	**42.70 248**	P	**P**	**16 42 27.0**	**-1.5**	
	baz=42,SNR=17						
WRKA	**Warakurna**	**42.70 248**	P	**P**	**16 42 28.4**	**-0.1**	
FORT	**Forrest**	**43.86 240**	P	**P**	**16 42 37.9**	**+0.2**	
	baz=44,SNR=8.8						
FORT	**Forrest**	**43.86 240**	P	**P**	**16 42 37.4**	**-0.3**	
FORT	**Forrest**	**43.86 240**	P	**P**	**16 42 37.7**	**0.0**	
FITZ	**Fitzroy Crossi**	**44.88 258**	LR	LR	16 59 54.9		
	comp=Z,1μm,20.4s,baz=94,slow=34						
TAOE	**Nuku Hiva Isla**	**46.91 89**	*e*S	**S**	**16 49 47.9**	**-1.7**	
	comp=Z,287nm,25.3s						
TAOE			*e*LR	LR	16 56 23.4		
	comp=Z,862nm,24.3s						
BATI	**Baumata**	**47.56 269**	LR	LR	17 01 17.8		
	comp=Z,488nm,21.6s,baz=111,slow=34						
DAV	**Davao City (W)**	**50.74 291**	LR	LR	17 04 17.8		
	comp=Z,613nm,19.5s,baz=100,slow=35						
MEEK	**Meekatharra**	**51.53 247**	P	**P**	**16 43 37.2**	**0.0**	
	baz=51,SNR=4.9						
KLBR	**Kellerberrin**	**52.70 241**	P	**P**	**16 43 44.9**	**-1.0**	
	baz=52,SNR=7.0						
MORW	**Morawa**	**53.95 244**	P	**P**	**16 43 55.6**	**+0.5**	
	baz=54,SNR=6.7						
MORW	**Morawa**	**53.95 244**	P	**P**	**16 43 53.5**	**-1.5**	
JHJ	**Hachijo jima 2**	**56.05 327**	LR	LR	17 03 14.0		
	comp=Z,632nm,21.9s,baz=130,slow=31						
TGY	**Tagaytay City**	**57.87 297**	LR	LR	17 05 58.5		
	comp=Z,761nm,21.1s,baz=119,slow=32						
JOW	**Kunigami**	**58.80 314**	LR	LR	17 07 25.2		
	comp=Z,610nm,20.6s,baz=140,slow=34						
INU	**Inuyama**	**59.23 327**	IAMs_20	IAMs_20	17 04 51.9		
	comp=Z,1μm,21.0s						
MJAR	**Matsushiro Arr**	**59.52 328**	P	**P**	**16 44 33.4**	**-0.9**	
	comp=Z,3.3nm,0.8s,baz=156,slow=6.4,SNR=5.6						
MJAR			LR	LR	17 07 08.8		
	comp=Z,294nm,21.9s,baz=134,slow=33						
MAT	**Matsushiro**	**59.52 328**	P	**P**	**16 44 33.9**	**-0.4**	
MAT			S	**S**	**16 52 36.2**	**-3.8**	
JNU	**Nakatsue**	**61.15 321**	P	**P**	**16 44 47.0**	**+1.5**	
	comp=Z,17nm,1.0s,baz=64,slow=4.4,SNR=4.8						
JNU			LR	LR	17 05 50.2		
	comp=Z,423nm,21.0s,baz=126,slow=31						
TWG	**Pinlang**	**61.94 305**	IAMs_20	IAMs_20	17 06 04.9		
	comp=Z,1μm,20.0s						
ASAJ	**Asahikawa**	**63.71 337**	P	**P**	**16 45 03.5**	**+1.2**	
	comp=Z,17nm,0.8s,baz=188,slow=10,SNR=5.5						
ASAJ			LR	LR	17 08 12.5		
	comp=Z,1μm,21.1s,baz=179,slow=32						
VNDA	**Vanda**	**63.88 182**	LR	LR	17 08 59.5		
	comp=Z,506nm,19.7s,baz=10,slow=32						
KSRS	**Korea Array**	**65.85 322**	P	**P**	**16 45 16.9**	**+0.5**	
	comp=Z,2.3nm,0.9s,baz=121,slow=7.8,SNR=4.2						
KSRS			LR	LR	17 12 36.1		
	comp=Z,413nm,19.1s,baz=125,slow=35						
SSE	**Sheshan**	**66.32 313**	P	**P**	**16 45 19.1**	**-0.4**	
SSE			S	**S**	**16 54 12.4**	**+7.2**	
SSE			pmax	pmax			
	comp=Z,21nm,0.8s						
SSE			pmax	pmax			
	comp=Z,220nm,4.0s						
SSE			LR	LR			
	comp=Z,440nm,24.0s						
SHEM	**Shemya Is, Ala**	**66.34 1**	LR	LR	17 07 57.5		
	comp=Z,463nm,21.9s,baz=164,slow=30						
CCD	**Concordia, Ant**	**66.72 192**	P	**P**	**16 45 26.0**	**+4.0**	
CCD			pP	**sP**	**16 45 43.4**	**+1.2**	
PEA0B	**Petropavlovsk-**	**67.86 351**	P	**P**	**16 45 27.1**	**-1.8**	
PEA0B			IAmb	IAmb	16 45 33.8		
	comp=Z,18nm,1.0s						
PETK	**Petropavlovsk-**	**67.86 351**	P	**P**	**16 45 28.6**	**-0.3**	
	comp=Z,6.3nm,0.6s,baz=139,slow=6.5,SNR=10.0						
PETK			LR	LR	17 10 25.5		
	comp=Z,1μm,20.7s,baz=156,slow=32						
USRK	**Ussuriysk Ar.**	**68.41 330**	P	**P**	**16 45 33.3**	**+0.8**	
	comp=Z,1.0nm,0.6s,baz=127,slow=50,SNR=4.0						
USRK			LR	LR	17 12 35.5		
	comp=Z,330nm,19.4s,baz=131,slow=33						
USRK	**Ussuriysk Ar.**	**68.41 330**	P	**P**	**16 45 30.9**	**-1.6**	
NJ2	**Nanjing**	**68.50 313**	*e*P	**P**	**16 45 33.4**	**+0.1**	
NJ2			pmax	pmax			
	comp=Z,8.0nm,0.5s						
NIKH	**Nikolski High**	**68.53 12**	P	**P**	**16 45 32.5**	**-0.6**	
	baz=200						
QIZ	**Qiongzhong**	**69.58 297**	P	**P**	**16 45 40.3**	**0.0**	
QIZ			S	**S**	**16 54 53.4**	**+8.8**	
QIZ			LR	LR			
	comp=N,270nm,12.9s						
QIZ			LR	LR			
	comp=E,400nm,19.1s						
QIZ			LR	LR			
	comp=Z,530nm,20.3s						
MDJ	**Mudanjiang**	**69.89 329**	P	**P**	**16 45 42.1**	**+0.4**	
MDJ			S	**S**	**16 54 51.9**	**+4.5**	
MDJ			sS	sS	16 55 16.4	+4.7	
MDJ			pmax	pmax			
	comp=Z,21nm,1.3s						
MDJ			pmax	pmax			
	comp=Z,370nm,4.7s						
MDJ			LR	LR			
	comp=N,730nm,24.6s						
MDJ			LR	LR			
	comp=E,660nm,24.6s						
MDJ			LR	LR			
	comp=Z,1μm,23.0s						
MDJ	**Mudanjiang**	**69.89 329**	IAMs_20	IAMs_20	17 12 44.5		
	comp=Z,513nm,20.0s						
CN2	**Changchun**	**71.49 326**	*e*P	**P**	**16 45 52.0**	**+0.6**	
CN2			*e*S	**S**	**16 55 04.3**	**-1.7**	
CN2	**Changchun**	**71.49 326**	SS	SS	16 59 41.5	-0.7	
CN2			pmax	pmax			
	comp=Z,20nm,1.5s						
CN2			pmax	pmax			
	comp=Z,400nm,3.0s						
CN2			LR	LR			
	comp=N,500nm,20.0s						
CN2			LR	LR			
	comp=E,600nm,20.0s						
CN2			LR	LR			
	comp=Z,700nm,25.0s						
BNX	**BinXian**	**71.78 329**	⇑P	**P**	**16 45 53.3**	**+0.2**	
BNX			pmax	pmax			
	comp=Z,23nm,0.6s						
BNX			pmax	pmax			
	comp=Z,390nm,3.8s						
KLR	**Kul'dur**	**72.27 333**	P	**P**	**16 45 56.2**	**+0.3**	
	comp=Z,6.2nm,0.7s,baz=157,slow=1.0,SNR=20						
KLR			LR	LR	17 12 38.9		
	comp=Z,791nm,21.4s,baz=160,slow=32						
SDPT	**Sand Point**	**72.70 16**	P	**P**	**16 45 58.1**	**-0.2**	
	baz=208						
HNS	**HongShan**	**74.25 316**	⇓P	**P**	**16 46 08.8**	**+0.9**	
HNS			S	**S**	**16 55 44.8**	**+7.3**	
HNS			pmax	pmax			
	comp=Z,17nm,2.5s						
HNS			LR	LR			
	comp=E,400nm,21.7s						
HNS			LR	LR			
	comp=Z,670nm,23.9s						
LYN	**LuoYang**	**74.37 312**	⇓P	**P**	**16 46 09.3**	**+0.6**	
LYN			pP	pP	16 46 20.3	-2.7	
LYN			S	**S**	**16 55 47.8**	**+8.8**	
LYN	**LuoYang**	**74.37 312**	SS	SS	17 00 31.1	+4.6	
LYN			pmax	pmax			
	comp=Z,30nm,2.4s						
LYN			pmax	pmax			
	comp=Z,200nm,3.7s						
LYN			LR	LR			
	comp=E,390nm,20.0s						
LYN			LR	LR			
	comp=Z,680nm,23.9s						
PSI	**Prapat**	**74.49 277**	LR	LR	17 20 54.5		
	comp=Z,139nm,19.4s,baz=114,slow=37						
ENH	**Enshi**	**74.60 307**	P	**P**	**16 46 08.8**	**-1.4**	
ENH			IAmb	IAmb	16 46 17.5		
	comp=Z,33nm,1.2s						
ENH			IAMs_20	IAMs_20	17 13 13.2		
	comp=Z,563nm,22.0s						
ENH	**Enshi**	**74.60 307**	P	**P**	**16 46 10.1**	**-0.1**	
BJI	**Beijing**	**74.69 319**	P	**P**	**16 46 11.4**	**+1.0**	
BJI			sP	**sP**	**16 46 32.8**	**+2.3**	
BJI			S	**S**	**16 55 49.0**	**+6.6**	
BJI			sS	**sS**	**16 56 08.3**	**+1.2**	
BJI	**Beijing**	**74.69 319**	ScS	**ScS**	**16 56 14.8**	**-2.7**	
BJI			pmax	pmax			
	comp=Z,14nm,1.7s						
BJI			pmax	pmax			
	comp=Z,340nm,3.8s						
BJI			LR	LR			
	comp=N,230nm,21.0s						
BJI			LR	LR			
	comp=E,350nm,21.1s						
BJI			LR	LR			
	comp=Z,520nm,24.0s						
GYA	**Guiyang**	**75.23 302**	⇑P	**P**	**16 46 15.0**	**+1.0**	
GYA			pP	PcP	16 46 26.0	-1.2	
GYA			S	**S**	**16 55 54.9**	**+5.6**	
GYA			pmax	pmax			
	comp=Z,12nm,1.3s						
GYA			pmax	pmax			
	comp=Z,240nm,4.4s						
GYA			LR	LR			
	comp=Z,720nm,22.8s						
TIY	**Taiyuan**	**75.96 315**	P	**P**	**16 46 19.8**	**+1.9**	
TIY			S	S	16 56 08.1	+11	
TIY	**Taiyuan**	**75.96 315**	SS	SS	17 00 47.9	-2.8	
TIY			pmax	pmax			
	comp=Z,350nm,3.7s						
TIY			LR	LR			
	comp=N,320nm,11.8s						
TIY			LR	LR			
	comp=E,430nm,22.6s						
TIY			LR	LR			
	comp=Z,550nm,21.0s						
QSPA	**South Pole Qui**	**76.16 180**	P	**P**	**16 46 17.8**	**-0.8**	
QSPA			IAmb	IAmb	16 46 27.1		
	comp=Z,20nm,1.2s						
QSPA	**South Pole Qui**	**76.16 180**	IAMs_20	IAMs_20	17 14 30.3		
	comp=Z,1μm,21.0s						
OHAK	**Old Harbor**	**76.38 18**	P	**P**	**16 46 18.7**	**-1.0**	
XAN	**Xi'an**	**76.71 310**	P	**P**	**16 46 22.4**	**+0.2**	
XAN			pP	PcP	16 46 33.4	0.0	
XAN			PcP	**pP**	**16 46 35.4**	**-1.2**	
XAN			sP	pwP	16 46 37.8	-3.6	
XAN			S	**S**	**16 56 11.0**	**+5.8**	
XLT	**XiLinHaoTe**	**76.90 322**	⇑*i*P	**P**	**16 46 24.3**	**+1.2**	
XLT			pP	pwP	16 46 40.1	-2.2	
XLT			sP	sP	16 46 46.3	+3.1	
XLT			S	S	16 56 22.1	+15	
XLT	**XiLinHaoTe**	**76.90 322**	sS	sS	16 56 33.0	+1.5	
XLT	**XiLinHaoTe**	**76.90 322**	SS	SS	17 01 10.9	+6.2	
XLT			pmax	pmax			
	comp=Z,19nm,2.2s						
XLT			pmax	pmax			
	comp=Z,420nm,3.7s						
XLT			LR	LR			
	comp=N,440nm,18.5s						
XLT			LR	LR			
	comp=E,750nm,23.7s						
XLT			LR	LR			
	comp=Z,940nm,20.6s						
KDAK	**Kodiak Island**	**77.06 18**	LR	LR	17 14 11.1		
	comp=Z,782nm,19.9s,baz=236,slow=31						
P18K	**Big Mountain,**	**77.63 16**	P	**P**	**16 46 26.1**	**-0.6**	
	baz=212						
KMI	**Kunming**	**77.98 300**	⇓P	**P**	**16 46 31.0**	**+1.3**	
KMI			PcP	**PcP**	**16 46 37.6**	**-1.7**	
KMI			sP	sP	16 46 49.6	-0.3	
KMI			S	**S**	**16 56 20.4**	**+0.8**	
KMI	**Kunming**	**77.98 300**	SS	SS	17 01 23.8	+1.7	
KMI			pmax	pmax			
	comp=Z,22nm,1.7s						
KMI			pmax	pmax			
	comp=Z,270nm,3.5s						
KMI			LR	LR			
	comp=N,340nm,16.4s						
KMI			LR	LR			
	comp=E,390nm,18.4s						
KMI			LR	LR			
	comp=Z,480nm,18.0s						
HIA	**Hailar**	**78.02 328**	IAMs_20	IAMs_20	17 15 48.4		
	comp=Z,504nm,21.0s						
SEY	**Seymchan**	**78.10 351**	P	**P**	**16 46 28.4**	**-0.8**	
	comp=Z,7.2nm,0.7s,baz=166,slow=5.0,SNR=38						
SEY			LR	LR	17 15 14.5		
	comp=Z,2μm,22.0s,baz=166,slow=31						
HHC	**Hu-ho-hao-te**	**78.11 317**	*e*P	**P**	**16 46 30.6**	**+0.7**	
HHC			pP	pP	16 46 44.8	+0.4	
HHC			S	**S**	**16 56 23.8**	**+3.6**	
HHC	**Hu-ho-hao-te**	**78.11 317**	SS	SS	17 01 26.1	+2.9	
HHC			pmax	pmax			
	comp=Z,14nm,1.1s						
HHC			pmax	pmax			
	comp=Z,320nm,4.4s						
HHC			LR	LR			
	comp=N,370nm,17.8s						
HHC			LR	LR			
	comp=E,410nm,16.5s						
HHC			LR	LR			
	comp=Z,640nm,17.2s						
GAMB	**Gambell**	**78.39 7**	P	**P**	**16 46 27.9**	**-2.8**	
GAMB			IAMs_20	IAMs_20	17 13 41.6		
	comp=Z,675nm,22.0s						
GAMB	**Gambell**	**78.39 7**	P	**P**	**16 46 30.5**	**-0.2**	
	baz=196						
CMAR	**Chiang Mai Arr**	**79.02 292**	P	**P**	**16 46 35.5**	**+0.2**	
	comp=Z,5.0nm,0.9s,baz=125,slow=3.8,SNR=28						
CMAR			LR	LR	17 18 01.5		
	comp=Z,412nm,22.0s,baz=105,slow=33						
CHTO	**Chiang Mai**	**79.13 293**	IAMs_20	IAMs_20	17 17 31.0		
	comp=Z,580nm,22.0s						
CHTO	**Chiang Mai**	**79.13 293**	P	**P**	**16 46 36.4**	**+0.5**	
CHTO			pP	**pwP**	**16 46 55.1**	**-0.1**	
BRLK	**Bradley Lake**	**79.19 18**	P	**P**	**16 46 32.8**	**-2.5**	
PZH	**PanZhiHua**	**79.32 301**	P	**P**	**16 46 38.1**	**+1.2**	
PZH			pmax	pmax			
	comp=Z,10.0nm,1.0s						
PZH			pmax	pmax			
	comp=Z,100nm,5.2s						
CD2	**Chengdu**	**79.35 306**	P	**P**	**16 46 37.1**	**+0.2**	
CD2			S	**S**	**16 56 34.0**	**+0.4**	
CD2			pmax	pmax			
	comp=Z,20nm,0.5s						
CD2			LR	LR			
	comp=E,1μm,29.4s						
CD2			LR	LR			
	comp=Z,800nm,30.4s						
ANM	**Nome**	**80.04 10**	P	**P**	**16 46 39.0**	**-0.8**	
ANM			IAMs_20	IAMs_20	17 15 00.5		
	comp=Z,1μm,22.0s						
ANM	**Nome**	**80.04 10**	P	**P**	**16 46 40.1**	**+0.3**	
	baz=202						
TTA	**Tatalina**	**80.45 14**	P	**P**	**16 46 40.6**	**-1.6**	
TTA	**Tatalina**	**80.45 14**	P	**P**	**16 46 42.4**	**+0.3**	
	baz=211						
PKM	**Mcpherson Peak**	**80.57 51**	P	**P**	**16 46 42.6**	**-1.0**	
	baz=246						
RC01	**Rabbit Creek A**	**80.59 18**	P	**P**	**16 46 41.4**	**-1.5**	
	baz=218						
**TN

comp=Z,550nm,19.0s
CAST Castle Rocks 81.83 15 P **P 16 46 48.3 -1.1**
baz=215
ISA Isabella, Lake 81.89 50 P **P 16 46 50.6 +0.2**
baz=247
SCM Sheep Creek Mo 81.89 18 P **P 16 46 50.3 +0.4**
baz=220
EDW2 Edwards Air Fo 81.94 51 P **P 16 46 51.8 +1.1**
baz=247
BFSC Mount Baldy Ra 81.95 52 P **P 16 46 50.6 -0.2**
baz=247
J20K Nowinta River 81.95 14 IAMs_20 IAMs_20 17 15 54.3
comp=Z,912nm,20.0s
I03D Drain, OR 81.95 41 P **P 16 46 50.8 +0.4**
baz=242
L04D Klamath Falls 81.96 43 P **P 16 46 50.4 -0.4**
baz=243
KLU Klutina 82.07 19 P **P 16 46 51.2 +0.4**
baz=221
M04C Macdoel 82.07 44 P **P 16 46 51.7 +0.4**
baz=244
BMRM Bremner River 82.09 20 P **P 16 46 50.1 -0.8**
baz=222
CHUM Lake Minchumin 82.15 15 P **P 16 46 50.4 -0.6**
baz=215
KTH Kantishna Hill 82.24 16 IAMs_20 IAMs_20 17 21 00.2
comp=Z,821nm,20.0s
TRF Thorofare Moun 82.33 16 P **P 16 46 51.2 -1.0**
baz=217
MONP2 Monument Peak 82.39 54 P **P 16 46 53.4 +0.1**
baz=248,SNR=7.9
LRMC Laurel Mtn Rad 82.41 51 P **P 16 46 53.0 -0.2**
baz=247
M24K Tolsona, Glenn 82.45 18 P **P 16 46 53.2 +0.4**
baz=221
CWC Cottonwood Cre 82.49 50 P **P 16 46 54.1 +0.4**
baz=247
J04D Umpqua Nationa 82.55 42 P **P 16 46 54.2 +0.4**
baz=243
IKP In-Ko-Pah, Jac 82.55 54 P **P 16 46 54.8 +0.8**
baz=248
N25K Chitina, Valde 82.57 19 P **P 16 46 53.9 +0.5**
baz=222
PFO Pinyon Flats O 82.63 53 P **P 16 46 54.3 -0.1**
comp=Z,2.0nm,0.7s,baz=266,slow=6.7,SNR=6.0
PFO LR LR 17 15 15.3
comp=Z,366nm,21.4s,baz=257,slow=30
PFO Pinyon Flats O 82.63 53 P **P 16 46 55.6 +1.2**
baz=248
TPFO Pinon Flats 82.64 53 P **P 16 46 55.3 +0.9**
baz=248
YAK Yakutsk 82.68 341 P **P 16 46 52.7 -1.1**
comp=Z,8.0nm,0.7s,baz=77,slow=0.5,SNR=9.9
YAK LR LR 17 18 21.6
comp=Z,683nm,21.4s,baz=98,slow=32
YAK Yakutsk 82.68 341 IAMs_20 IAMs_20 17 17 47.7
comp=Z,1μm,22.0s
RND Reindeer 82.68 17 P **P 16 46 53.7 -0.2**
RND IAmb IAmb 16 47 01.1
comp=Z,24nm,1.3s
RND IAMs_20 IAMs_20 17 14 39.9
comp=Z,871nm,20.0s
MPMC Manual Prospec 82.78 50 P **P 16 46 55.7 +0.5**
baz=247
CRAG Craig 82.87 28 P **P 16 46 54.4 -0.5**
baz=233
SWSC Sam W. Stewart 82.90 54 P **P 16 46 56.2 +0.6**
baz=249
MCK McKinley 82.92 16 P **P 16 46 54.9 -0.2**
baz=218
PNL Peninsula 82.99 22 P **P 16 46 55.9 +0.4**
baz=227
HARP HAARP 82.99 19 P **P 16 46 55.9 +0.5**
baz=222
GSC Goldstone, Bar 83.00 51 P **P 16 46 56.2 -0.1**
baz=248
NVAR Mina Array Bea 83.11 48 P **P 16 46 57.5 +0.6**
comp=Z,3.7nm,0.8s,baz=229,slow=8.7,SNR=17
NVAR LR LR 17 17 24.9
comp=Z,146nm,18.8s,baz=268,slow=31
NVAR Mina Array Bea 83.11 48 P **P 16 46 56.7 -0.3**
BELC Belle Mtn. Jos 83.13 53 P **P 16 46 58.0 +0.9**
baz=248,SNR=16
J05D Fort Rock, OR 83.14 42 P **P 16 46 57.3 +0.4**
baz=244
HEC Hector,Ludlow 83.18 52 P **P 16 46 57.3 +0.2**
baz=248,SNR=11
NV11 Mina Array Sit 83.22 48 P **P 16 46 56.0 -1.4**
NV11 IAmb IAmb 16 47 04.1
comp=Z,10nm,1.2s
GRAC Grapevine Rang 83.23 49 P **P 16 46 58.4 +1.0**
baz=247,SNR=7.3
I21K Tanana 83.31 14 IAMs_20 IAMs_20 17 17 21.2
comp=Z,881nm,22.0s
PAX Paxson 83.32 18 P **P 16 46 58.9 +1.7**
baz=221
FURC Furnace Creek, 83.40 50 P **P 16 46 58.5 +0.4**
baz=248
BC3 Big Chuckawall 83.43 53 P **P 16 47 00.2 +1.7**
baz=249
BBB Bella Bella 83.44 32 LR LR 17 17 00.6
comp=Z,470nm,19.5s,baz=249,slow=30
H21K Melozitna Rive 83.51 14 IAMs_20 IAMs_20 17 16 53.4
comp=Z,1μm,21.0s
I05D Terrebonne, OR 83.54 41 P **P 16 46 59.8 +1.0**
baz=244
IMAR Indian Mountai 83.56 13 P **P 16 46 58.0 -0.3**
RDOG Red Dog Mine 83.66 9 IAMs_20 IAMs_20 17 17 33.9
comp=Z,863nm,22.0s
RDOG Red Dog Mine 83.66 9 P P 16 47 10.2 +11
baz=204
M26K Nabesna, AK 83.67 19 P **P 16 46 59.0 -0.1**
baz=224
GMRC Granite Mounta 83.68 52 P **P 16 47 00.3 +0.5**
baz=249,SNR=8.0
GLA Glamis 83.70 54 P **P 16 47 01.1 +1.3**
baz=249
TUQ Turquoise Moun 83.72 51 P **P 16 47 00.6 +0.5**
baz=248,SNR=8.1
WRH Wood River Hil 83.73 16 P **P 16 46 57.5 -1.7**
WRH IAmb IAmb 16 47 01.9
comp=Z,16nm,1.0s
E04D Cinebar 83.77 39 P **P 16 47 00.9 +1.2**
baz=243
IRM Iron Mountain 83.85 53 P **P 16 47 00.5 -0.1**
baz=249,SNR=17
I23K Minto, Yukon-K 83.93 15 P **P 16 47 00.6 +0.4**
baz=218
CCB Clear Creek Bu 83.95 16 P **P 16 46 58.8 -1.4**
HDA Harding Lake 84.00 17 P **P 16 47 00.5 -0.1**
baz=220
L26K Log Cabin Wild 84.02 19 P **P 16 47 01.7 +0.9**
baz=223
TPNV Topopah Spring 84.04 50 P **P 16 47 02.3 +0.6**
baz=248
YUK3 Moose Creek 84.06 21 P **P 16 47 01.5 +0.3**
baz=226
RIDG Independent Ri 84.09 18 P **P 16 47 00.6 -0.5**
baz=222
TCOL CIGO, UAF Yank 84.11 16 P **P 16 47 00.3 -0.8**
baz=219
COLA College 84.11 16 P **P 16 47 00.6 -0.5**
baz=219
ILAR Eielson Array 84.29 16 P **P 16 47 01.1 -1.0**
comp=Z,10nm,0.7s,baz=234,slow=5.0,SNR=108
ILAR LR LR 17 19 23.1
comp=Z,664nm,20.5s,baz=239,slow=32
ILAR Eielson Array 84.29 16 P **P 16 47 01.4 -0.7**
BVCY Beaver Creek 84.38 20 P **P 16 47 02.9 +0.3**
baz=226
SKAG Skagway 84.41 24 P **P 16 47 05.3 +2.6**
baz=231
POKR Poker Plat Res 84.41 16 P **P 16 47 02.5 -0.2**
baz=219
MAW Mawson 84.45 201 LR LR 17 20 00.8
comp=Z,511nm,20.4s,baz=78,slow=32
LPIG La Paz 84.51 64 LR LR 17 19 08.9
comp=Z,186nm,18.0s,baz=230,slow=32
SCRK Sand Creek 84.52 18 P **P 16 47 03.2 -0.2**
SCRK IAmb IAmb 16 47 04.3
comp=Z,18nm,1.4s
SCRK Sand Creek 84.52 18 P **P 16 47 03.4 0.0**
baz=223
BCAR Beaver Creek A 84.54 19 P **P 16 47 03.0 -0.4**
PDMCI Parker Dam,Lak 84.68 53 P **P 16 47 05.4 +0.7**
baz=250
SONM Songino Array 84.72 322 P **P 16 47 04.1 -0.7**
comp=Z,1.5nm,0.7s,baz=94,slow=4.5,SNR=3.9
SONM LR LR 17 25 15.6
comp=Z,310nm,18.8s,baz=114,slow=36
214A Organ Pipe Nat 84.92 56 P **P 16 47 07.4 +1.4**
baz=250
R11A Troy Canyon, C 85.05 49 P **P 16 47 07.6 +0.9**
baz=248
WHY Whitehorse 85.34 23 P **P 16 47 09.3 +1.8**
baz=231
COLD Coldfoot 85.40 14 P **P 16 47 09.1 +1.5**
baz=217
N31M Braeburn, Yuko 85.53 22 P **P 16 47 09.6 +1.2**
baz=230
GTA Gaotai 85.58 312 ||P **P 16 47 10.1 +0.8**
GTA pP pP 16 47 23.5 -0.8
GTA sP sP 16 47 31.4 +1.4
GTA Gaotai 85.58 312 S **S 16 57 36.3 -0.9**
GTA Gaotai 85.58 312 SS SS 17 03 11.8 -2.7
GTA pmax pmax
comp=Z,14nm,1.7s
GTA pmax pmax
comp=Z,250nm,4.4s
GTA LR LR
comp=N,330nm,22.5s
GTA LR LR
comp=E,410nm,22.5s
GTA LR LR
comp=Z,600nm,22.2s
EGAK Eagle 85.95 18 P **P 16 47 10.5 +0.1**
EGAK IAmb IAmb 16 47 14.6
comp=Z,6.3nm,0.8s
EGAK Eagle 85.95 18 P **P 16 47 10.1 -0.2**
baz=225
DLBC Dease Lake 85.99 26 LR LR 17 17 19.8
comp=Z,730nm,21.9s,baz=262,slow=30
DAWY Dawson 86.01 19 P **P 16 47 11.1 +0.4**
baz=227
ELK Elko 86.19 47 P **P 16 47 13.3 +0.9**
comp=Z,2.7nm,0.7s,baz=253,slow=7.1,SNR=12
ELK LR LR 17 21 22.7
comp=Z,140nm,18.9s,baz=258,slow=32
ELK Elko 86.19 47 P **P 16 47 11.7 -0.8**
ELK IAmb IAmb 16 47 25.9
comp=Z,7.7nm,1.2s
BMAR Burnt Mountain 86.93 15 P **P 16 47 15.4 +0.3**
WUAZ Wupatki 87.23 53 P **P 16 47 18.8 +1.3**
baz=251
A21K Barrow 87.58 10 IAMs_20 IAMs_20 17 21 07.6
comp=Z,734nm,20.0s
DUG Dugway, Tooele 87.72 48 P **P 16 47 20.4 +0.6**
baz=250
HLID Hailey 87.80 44 P **P 16 47 21.2 +1.2**
baz=249
NEW Newport 87.84 39 P **P 16 47 20.1 +0.1**
comp=Z,5.5nm,0.9s,baz=258,slow=5.0,SNR=5.3
NEW LR LR 17 21 49.9
comp=Z,146nm,18.0s,baz=250,slow=32
NEW Newport 87.84 39 P **P 16 47 20.7 +0.7**
baz=247
W18A Petrified Fore 88.37 53 P **P 16 47 24.1 +1.1**
baz=252
EPYK Eagle Plains 88.39 18 P **P 16 47 23.3 +1.1**
baz=229
121A Cookes Peak, D 89.14 56 P **P 16 47 27.7 +1.0**
baz=253
TIXI Tiksi 90.12 347 P **P 16 47 29.0 -1.1**
comp=Z,6.0nm,0.9s,baz=127,slow=4.8,SNR=19
TIXI LR LR 17 23 35.1
comp=Z,793nm,21.3s,baz=127,slow=33
TIXI Tiksi 90.12 347 P **P 16 47 29.9 -0.2**
TIXI IAmb IAmb 16 47 33.4
comp=Z,9.3nm,1.1s
TIXI IAMs_20 IAMs_20 17 23 13.3
comp=Z,863nm,21.0s
TIXI Tiksi 90.12 347 P **P 16 47 29.3 -0.8**
INK Inuvik 90.58 18 LR LR 17 22 50.5
comp=Z,526nm,20.7s,baz=222,slow=32
H17A Grant Village 90.69 44 P **P 16 47 35.1 +1.4**
baz=251
SYO Syowa Base 90.85 195||*e*P **P 16 47 33.2 -0.5**
SYO Syowa Base 90.85 195||*e*PcP **PcP 16 47 36.0 +1.3**
MNTX Cornudas Mount 90.87 58 P **P 16 47 36.0 +1.5**
baz=254
BW06 Boulder Array 90.87 46 P **P 16 47 35.6 +1.0**
baz=252
PDAR Pinedale Array 90.87 46 P **P 16 47 34.0 -0.7**
comp=Z,1.2nm,0.7s,baz=211,slow=2.6,SNR=7.8
PDAR LR LR 17 26 23.8
comp=Z,121nm,19.7s,baz=267,slow=34
ANMO Albuquerque 90.89 54 P **P 16 47 35.2 +0.4**
comp=Z,7.6nm,1.0s,baz=215,slow=5.3,SNR=13
ANMO Albuquerque 90.89 54 P **P 16 47 34.8 0.0**
baz=254
PMSA Palmer Station 90.92 159 LR LR 17 20 47.4
comp=Z,488nm,20.9s,baz=232,slow=30
S22A 4UR Ranch, Cre 91.39 52 P **P 16 47 38.2 +1.1**
baz=254
TXAR Lajitas Array 91.68 60 P **P 16 47 39.3 +0.9**
comp=Z,2.8nm,0.8s,baz=225,slow=4.9,SNR=32
TXAR LR LR 17 22 54.6
comp=Z,83nm,18.1s,baz=276,slow=32
TXAR Lajitas Array 91.68 60 P **P 16 47 38.5 0.0**
SDCO Great Sand Dun 92.40 52 P **P 16 47 42.4 +0.6**
baz=255
ISCO Idaho Springs 92.87 50 P **P 16 47 44.9 +0.9**
baz=255
N23A Red Feather La 92.92 49 P **P 16 47 44.9 +0.8**
baz=254
PALK Pallekele 93.17 277 LR LR 17 29 35.7
comp=Z,118nm,21.9s,baz=209,slow=35
MSTX Muleshoe 93.58 56 P **P 16 47 47.2 +0.1**
baz=256
SNAA Sanae 94.60 182 P **P 16 47 51.0 -0.1**
SNAA Sanae 94.60 182 LR LR 17 26 16.3
comp=Z,728nm,22.0s,baz=144,slow=33
SNAA Sanae 94.60 182 IAMs_20 IAMs_20 17 25 43.4
comp=Z,877nm,19.0s
YKA Yellowknife Ar 94.62 26 P **P 16 47 50.4 -0.6**
comp=Z,3.1nm,0.7s,baz=254,slow=4.7,SNR=44
YKA LR LR 17 23 52.1
comp=Z,520nm,20.1s,baz=254,slow=31
YKA Yellowknife Ar 94.62 26 P **P 16 47 51.5 +0.4**
AMTX Amarillo 94.67 55 P **P 16 47 52.8 +0.7**
baz=257
VNA3 Neumayer Olymp 95.09 179 P **P 16 47 53.1 -0.2**
JCT Junction City 95.21 60 P **P 16 47 55.3 +0.6**
baz=257
VNA2 Neumayer--Watz 95.42 180 P **P 16 47 54.8 0.0**
baz=142,slow=3.2
WMQ Urumqi 95.57 314 *e*P **P 16 47 56.1 +0.1**
WMQ pP pP 16 48 08.1 -2.9
WMQ pmax pmax
comp=Z,11nm,1.5s
WMQ LR LR
comp=N,200nm,21.1s
WMQ LR LR
comp=E,500nm,18.3s
WMQ LR LR
comp=Z,560nm,21.1s
VNA1 Neumayer--Stat 95.69 180 P **P 16 47 55.3 -0.6**
CMIG Matias Romero 96.70 74 LR LR 17 22 57.6
comp=Z,124nm,20.1s,baz=213,slow=30
ZALV Zalesovo Beam 99.55 323 P **Pdif 16 48 12.4 -1.2**
comp=Z,1.5nm,0.9s,baz=90,slow=7.4,SNR=5.5
ZALV LR LR 17 32 41.1
comp=Z,331nm,19.6s,baz=94,slow=35
MAKZ Makanchi 100.12 316 IAMs_20 IAMs_20 17 37 54.6
comp=Z,319nm,19.0s
KURK Kurchatov 102.86 319 IAMs_20 IAMs_20 17 30 03.6
comp=Z,519nm,22.0s
AAK Ala-Archa 104.89 311 IAMs_20 IAMs_20 17 35 13.0
comp=Z,339nm,20.0s
BRVK Borovoye 108.12 322 IAMs_20 IAMs_20 17 37 56.8
comp=Z,470nm,20.0s
ARCES ARCESS Array B 120.56 347 PKP **PKPdf 16 53 18.9 -2.6**
comp=Z,2.1nm,0.6s,baz=308,slow=4.0,SNR=7.4
KLMR Klimovskoe 122.01 335 *e*PKPdf **PKPdf 16 53 23.1 -1.4**
KLMR AMP 16 53 29.1
comp=Z,13nm,1.3s
KLMR LQ LQ 17 34 34.8
KLMR LQ LQ 17 34 34.8
KLMR LR LR 17 41 00.4
MNK Minsk 130.82 333 *i* PKP **PKPdf 16 53 39.3 -2.2**
comp=E,2.0nm,1.1s,baz=49
MNK *i* PKP **PKPdf 16 53 39.3 -2.2**
comp=N,17nm,1.1s
MNK *i* PKP **PKPdf 16 53 39.3 -2.2**
comp=Z,7.0nm,0.9s
MNK *i* PP **PP 16 55 55.4 -2.1**
MNK *i* SKP 16 57 06.9
MNK *i* PKS **PKSdf 16 57 15.8 -1.9**
MNK *i* SKS **SKSdf 17 00 48.1 -0.1**
MNK *i* SKKS **SKKSdf 17 10 43.7 -7.5**
MNK *i* SS **SS 17 13 21.8 -0.9**
MNK *i* SSS SSS 17 18 18.9
MNK *i* LR LR 17 46 59.6
MNK *i* LRM MLR 17 50 18.1
comp=Z,577nm,24.1s
MNK *i* LRM MLR 17 50 35.3
comp=N,349nm,24.9s
MNK *i* LRM MLR 17 50 44.8
comp=E,51nm,18.9s
AKASG Malin Array Be 132.61 329 PKP **PKPdf 16 53 42.3 -2.7**
comp=E,0.7nm,0.7s,baz=52,slow=2.7,SNR=5.9
ISP Isparta 138.50 312 IAMs_20 IAMs_20 18 00 50.3
comp=Z,280nm,22.0s
GERES GERESS Array B 140.88 337 PKP **PKPdf 16 53 58.7 -1.8**
comp=Z,0.2nm,0.3s,baz=69,slow=3.3,SNR=1.7
DIVS Divibare 141.65 327 IAMs_20 IAMs_20 17 53 35.3
comp=Z,456nm,22.0s
ITM Ithomi 144.79 317 PKPdf **PKPdf 16 54 07.5 -0.3**
TIP Timpagrande 146.77 324 IAMs_20 IAMs_20 18 00 04.1
comp=Z,465nm,21.0s
CEL Celeste 147.89 323 IAMs_20 IAMs_20 18 06 11.8
comp=Z,286nm,19.0s
VSL Villasalto 150.33 333 **PKiKP 16 54 23.4 +0.6**
MVO Moncorvo 152.80 359 *e*PKPbc **PKiKP 16 54 28.7 +0.8**
PVIS Viseu 153.25 0 *e*PKPab **PKPab 16 54 40.6 +0.1**
ESDC Sonseca Array 154.07 353 PKPbc **PKPbc 16 54 29.5 -1.0**
comp=Z,0.6nm,0.8s,baz=32,slow=2.1,SNR=4.7
ESDC PKPab **sPKPdf 16 54 43.2 -0.4**
comp=Z,4.6nm,0.8s,baz=359,slow=3.7,SNR=27
TORD Torodi Ar. Bea 170.75 267 PKP **PKPdf 16 54 38.5 -1.0**
comp=Z,1.0nm,1.0s,baz=16,slow=0.8,SNR=4.3
TORD PKPab **PKPab 16 55 57.0 -0.7**
comp=Z,2.1nm,0.9s,baz=89,slow=3.6,SNR=9.6

EAF 22 16:37:44.1±5.2, 22°.27S×34°.91E, h10km, MD3.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.47**	**248**	*i* P	Pb	16 38 44.4	-1.2
MOPA				*i* Sg	Sg	16 39 34.4	-1.1
MOPA	**Mopani**	**3.47**	**248**	*i* P	Pb	16 38 44.4	-1.2
MOPA				*i* Sg	Sg	16 39 34.4	-1.1
MSNA	**Messina**	**4.52**	**268**	*i* P	Pn	16 38 51.9	-0.8
MSNA				*i* S	Sn	16 39 46.6	+1.1
MSNA	**Messina**	**4.52**	**268**	*i* P	Pn	16 38 51.9	-0.8
MSNA				*i* S	Sn	16 39 46.6	+1.1
CNG	**Changalane**	**4.71**	**211**	*i* P	Pn	16 38 42.8	-12
CNG	**Changalane**	**4.71**	**211**	*i* P	Pn	16 38 42.8	-12
BLWY	**Bulawayo**	**6.25**	**289**	*i* P	Pn	16 39 13.6	-2.9
BLWY				*i* S	Sn	16 40 24.1	-4.0
BLWY	**Bulawayo**	**6.25**	**289**	*i* P	Pn	16 39 13.6	-2.9
BLWY				*i* S	Sn	16 40 24.1	-4.0
MATP	**Matopo**	**6.25**	**286**	*i* P	Pn	16 39 11.9	-4.6
MATP				*i* S	Sn	16 40 21.4	-6.8
MATP	**Matopo**	**6.25**	**286**	*i* P	Pn	16 39 11.9	-4.6
MATP				*i* S	Sn	16 40 21.4	-6.8

JMA 22 16:48:57.0±0.6, 45°.57N×151°.12E, h30km, M4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.43**	**242**	P	Pn	16 50 01.2	-1.0
NEM2				*e*S	Sn	16 50 48.8	-3.9
JRA	**Rausu**	**4.57**	**251**	P	Pn	16 50 06.2	+2.1
JNK	**Nakash**	**4.98**	**249**	P	Pn	16 50 10.8	+1.1
JAK	**Akkeshi**	**5.28**	**243**	P	Pn	16 50 13.0	-0.8
JAK				*e*S	Sn	16 51 09.7	-3.9
JTKR	**Abashiri--Toko**	**5.38**	**255**	P	Pn	16 50 17.3	+2.2
JAR	**Ashorobuto**	**5.73**	**249**	P	Pn	16 50 21.5	+1.5
JMP	**Maruseppu**	**5.74**	**257**	P	Pn	16 50 23.1	+3.0
JOB	**Onbets**	**5.87**	**246**	P	Pn	16 50 22.0	+0.1
JKK2	**Kamakawa 2**	**6.20**	**257**	P	Pn	16 50 29.6	+3.1
JCH	**Churui**	**6.32**	**245**	P	Pn	16 50 27.8	-0.3
JCH				*e*S	Sn	16 51 34.7	-4.5
JNBK	**Urakawa-nobuka**	**6.88**	**244**	P	Pn	16 50 34.8	-0.9
JNB	**Noboribetsu**	**7.90**	**250**	P	Pn	16 50 50.5	+0.8
JKB	**Kayabe**	**8.18**	**247**	P	Pn	16 50 53.0	-0.6
JKB				*e*S	Sn	16 52 18.0	-6.9
JANG	**Nango**	**8.75**	**237**	P	Pn	16 50 58.3	-3.1

IDC ***22*** *17:04:29.4±2.5, 6°.72S×130°.22E, h77km±26km, mb3.4/7, mb1 3.8/13, mb1mx3.5/45, mbtmp4.0/13, Error ellipse: s-maj=26.8km s-min=15.7km az=66.0*
NEIC ***22*** *17:04:31.9±1.5, 6°.58S±0°.07×130°.1E±0°.1, h114km±5km, mb4.2/9, Error ellipse: s-maj=15.1km s-min=9.4km az=85.0*
DJA ***22*** *17:04:33.0±0.4, 7°.S±2°.×13°.1E±°, h160km±7km, M4.5/12, mb4.3/6, mB5.2/4, MLv4.5/12, Mw(mB)4.6/4*
ISC 22 17:04:34.3±0.5, 6°.61S±0°.05×130°.41E±0°.05, h150km, n72, σ2°.51/72, mb3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.63**	**147**	P	**Pn**	**17 05 04.1**	**-1.1**
SAUI				S	**Sn**	**17 05 28.7**	**-0.3**
SAUI	**Saumlaki**	**1.63**	**147**	Pn	**Pn**	**17 05 03.7**	**-1.5**
SAUI				Sn	**Sn**	**17 05 26.7**	**-2.2**
SAUI	**Saumlaki**	**1.63**	**147**	P	**Pn**	**17 05 04.6**	**-0.6**
BNDI	**Bandanaira**	**2.13**	**346**	P	**Pn**	**17 05 09.6**	**-1.4**
MSAI	**Masohi**	**3.56**	**336**	P	**Pn**	**17 05 28.6**	**-0.3**
MSAI				S	**Sn**	**17 06 11.2**	**0.0**
AAI	**Ambon**	**3.64**	**323**	P	**Pn**	**17 05 30.2**	**+0.3**
FAKI	**Fak Fak**	**4.10**	**27**	P	**Pn**	**17 05 34.1**	**-1.8**
FAKI	**Fak Fak**	**4.10**	**27**	Pn	**Pn**	**17 05 33.9**	**-2.0**
FAKI				Sn	**Sn**	**17 06 17.5**	**-6.3**
FAKI	**Fak Fak**	**4.10**	**27**	P	**Pn**	**17 05 33.9**	**-2.0**
KMPI	**Kaimana, Papua**	**4.40**	**48**	P	Pn	17 05 35.2	-4.6
SIJI	**Sorong**	**5.77**	**9**	P	**Pn**	**17 05 55.1**	**-2.8**
	6.3nm,0.3s,baz=111,slow=23,SNR=106						
SWI	**Sorong**	**5.77**	**9**	P	**Pn**	**17 05 58.8**	**+0.8**
	3.9nm9μm42nm,0.7s						
DRS	**Darwin Rock St**	**5.81**	**175**	P	**Pn**	**17 05 56.9**	**-1.5**
MTN	**Manton Dam**	**6.24**	**173**	Pn	**Pn**	**17 06 01.9**	**-2.3**
MTN				Sn	**Sn**	**17 07 09.0**	**-5.5**
MTN	**Manton Dam**	**6.24**	**173**	P	**Pn**	**17 06 02.5**	**-1.7**
SANI	**Sanana**	**6.32**	**316**	P	**Pn**	**17 06 05.3**	**0.0**
KDU	**Kakadu**	**6.37**	**162**	P	**Pn**	**17 06 04.3**	**-1.7**
LBMI	**Labuha**	**6.60**	**334**	P	**Pn**	**17 06 09.2**	**+0.1**
	0.2nm20nm,1.1s						
BATI	**Baumata**	**7.57**	**241**	P	**Pn**	**17 06 19.0**	**-3.0**
	14nm,0.3s,baz=134,slow=3.7,SNR=31						
BATI				S	**Sn**	**17 07 40.3**	**-6.3**
	9.4nm,0.3s,baz=82,slow=23,SNR=9.0						
BATI	**Baumata**	**7.57**	**241**	P	**Pn**	**17 06 21.7**	**-0.3**
	0.2nm52nm,0.9s						
EDFI	**Ende, Flores**	**8.89**	**256**	P	**Pn**	**17 06 40.0**	**+0.2**
	14nm,1.0s						
KNRA	**Kununurra**	**9.15**	**190**		**Pn**	**17 06 40.1**	**-3.0**
KNRA	**Kununurra**	**9.15**	**190**	P	**Pn**	**17 06 40.4**	**-2.7**
BASI	**Baing, Sumba**	**10.36**	**249**	P	**Pn**	**17 06 59.4**	**+0.3**
	42nm,0.9s						
GENI	**Genyem**	**10.52**	**68**	P	**Pn**	**17 07 02.0**	**+0.8**
JAY	**Jayapura**	**11.04**	**69**	P	**Pn**	**17 07 05.8**	**-2.4**
	0.2nm,0.3s,baz=156,slow=16,SNR=2.0						
FITZ	**Fitzroy Crossi**	**12.33**	**202**	P	**Pn**	**17 07 20.2**	**-4.7**
	1.5nm,0.3s,baz=1.0,slow=8.9,SNR=48						
FITZ				S	Sn	17 09 25.0	-16
	baz=360,slow=8.2						
WB0	**Warramunga Arr**	**13.64**	**164**	Pn	Pn	17 07 36.8	-4.9
WRAB	**Tennant Creek**	**13.79**	**164**		Pn	17 07 36.7	-6.9
WRA	**Warramunga Arr**	**13.79**	**164**	P	**Pn**	**17 07 39.9**	**-3.8**
	1.2nm,0.3s,baz=344,slow=13,SNR=44						
WRA				S	Sn	17 10 04.6	-12
	2.3nm,0.3s,baz=343,slow=23,SNR=11						
WRA	**Warramunga Arr**	**13.79**	**164**	Pn	Pn	17 07 36.7	-6.9
WB2	**Warramunga Arr**	**13.80**	**164**	Pn	Pn	17 07 37.3	-6.4
WR0	**Warramunga Arr**	**13.87**	**164**		Pn	17 07 39.8	-4.8
COEN	**Coen**	**14.53**	**121**		**Pn**	**17 07 53.9**	**+1.0**
COEN	**Coen**	**14.53**	**121**	P	**Pn**	**17 07 54.5**	**+1.6**
JAGI	**Jajag, Banyuwa**	**16.22**	**262**	P	**Pn**	**17 08 10.2**	**-3.6**
JAGI				IAmb	IAmb	17 08 48.3	
	comp=Z,25nm,1.1s						
JAGI	**Jajag, Banyuwa**	**16.22**	**262**	P	**Pn**	**17 08 12.2**	**-1.6**

QIS	**Mount Isa**	**16.49**	**148**	P	**Pn**	**17 08 17.6**	**+0.5**
PMG	**Port Moresby**	**16.82**	**101**	P	**Pn**	**17 08 22.6**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=298,slow=17,SNR=1.6						
PMG				S	**S**	**17 11 19.1**	**-9.1**
	comp=Z,0.6nm,0.3s,baz=193,slow=18,SNR=1.7						
AS31	**Alice Springs**	**17.29**	**169**		**P**	**17 08 26.1**	**+0.3**
ASAR	**Alice Springs**	**17.29**	**169**	P	**P**	**17 08 26.2**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=348,slow=10,SNR=106						
ASAR				S	S	17 11 27.5	-11
	comp=Z,0.8nm,0.3s,baz=350,slow=26,SNR=8.4						
ASAR	**Alice Springs**	**17.29**	**169**		**P**	**17 08 26.1**	**+0.2**
MTSU	**Mount Surprise**	**17.75**	**131**	P	**Pn**	**17 08 33.5**	**+1.2**
WRKA	**Warakurna**	**18.44**	**186**	P	**Pn**	**17 08 39.9**	**-0.4**
CTA	**Charters Tower**	**20.40**	**133**	P	**P**	**17 09 02.0**	**+2.4**
	comp=Z,5.9nm,0.7s,baz=316,slow=12,SNR=8.8						
CTAO	**Charters Tower**	**20.40**	**133**	P	**P**	**17 09 01.3**	**+1.6**
CTAO				IAmb	IAmb	17 09 06.0	
	comp=Z,7.8nm,0.9s						
OOD	**Oodnadatta**	**21.66**	**167**	P	**P**	**17 09 13.9**	**+0.9**
GIRL	**Giralia**	**22.30**	**223**	P	**P**	**17 09 20.2**	**+0.6**
GIRL	**Giralia**	**22.30**	**223**	P	**P**	**17 09 20.3**	**+0.8**
MULG	**Mulgathing**	**23.80**	**172**	P	**P**	**17 09 35.2**	**+1.9**
QLP	**Quilpie**	**23.83**	**148**	P	**P**	**17 09 36.0**	**+2.3**
FORT	**Forrest**	**24.15**	**185**	P	**P**	**17 09 37.9**	**+1.4**
FORT				IAmb	IAmb	17 09 39.8	
	comp=Z,22nm,1.1s						
FORT	**Forrest**	**24.15**	**185**	P	**P**	**17 09 38.0**	**+1.5**
LCRK	**Leigh Creek**	**24.82**	**164**	P	**P**	**17 09 44.5**	**+1.8**
BBOO	**Buckleboo**	**26.60**	**169**	P	**P**	**17 09 59.3**	**+0.6**
BBOO	**Buckleboo**	**26.60**	**169**	P	**P**	**17 10 00.1**	**+1.5**
STKA	**Stephens Creek**	**27.23**	**159**	P	**P**	**17 10 05.5**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=338,slow=8.7,SNR=8.4						
STKA	**Stephens Creek**	**27.23**	**159**	P	**P**	**17 10 05.9**	**+1.6**
STKA	**Stephens Creek**	**27.23**	**159**	P	**P**	**17 10 05.9**	**+1.6**
CMSA	**Cobar Meteorol**	**28.63**	**152**	P	**P**	**17 10 19.2**	**+2.5**
ARPS	**Mount Arapiles**	**31.79**	**162**	P	**P**	**17 10 46.4**	**+1.9**
CAN	**Canberra**	**33.30**	**152**	P	**P**	**17 10 59.5**	**+1.7**
DZM	**Mont Dzumac**	**38.01**	**118**	P	**P**	**17 11 40.9**	**+2.6**
	comp=Z,1.9nm,0.6s,baz=189,slow=20,SNR=1.2						
CMAR	**Chiang Mai Arr**	**39.79**	**309**	P	**P**	**17 11 53.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=116,slow=8.1,SNR=1.7						
PZH	**PanZhiHua**	**43.08**	**321**	P	**P**	**17 12 21.3**	**+1.5**
PZH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.4s						
HHC	**Hu-ho-hao-te**	**50.30**	**341**	*e*P	P	17 13 21.3	+5.6
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.8s						
WMQ	**Urumqi**	**63.29**	**327**	*e*P	**P**	**17 14 49.5**	**+2.3**
MK31	**Makanchi Array**	**68.12**	**327**	P	**P**	**17 15 18.6**	**+0.6**
MK31				IAmb	IAmb	17 15 29.6	
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**17 15 18.2**	**+0.1**
ZALV	**Zalesovo Beam**	**71.41**	**334**	P	**P**	**17 15 41.9**	**+3.9**
	comp=Z,0.2nm,0.4s,baz=117,slow=5.2,SNR=2.6						
KURBB	**Kurchatov Arra**	**72.39**	**328**	P	**P**	**17 15 47.5**	**+3.6**
	comp=Z,0.2nm,0.5s,baz=133,slow=4.6,SNR=2.5						
BVAR	**Borovoye Array**	**77.95**	**328**	P	**P**	**17 16 19.3**	**+3.6**
	comp=Z,0.2nm,0.4s,baz=148,slow=12,SNR=2.2						

*IDC **22** 17:15:51.4±1.1, 27.°39N×66.°53E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.5/53, mbtmp3.7/9, ML4.1/1, Error ellipse: s-maj=26.4km s-min=25.3km az=158.0*

ISC 22 17:15:55.9±1.2, 27.°2N±0.°1×66.°2E±0.°1, h35km, n18, σ3°15/17, mb3.6/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.94**	**242**	Pn	**Pn**	**17 17 52.8**	**+4.0**
	2.5nm,0.3s,baz=102,slow=8.2,SNR=33						
WSAR				Sn	**Sn**	**17 19 12.6**	**-4.9**
	baz=12,slow=20,SNR=1.4						
JLN	**Jalan Bani Buh**	**7.99**	**232**	P	Pn	17 17 54.3	+4.7
	SNR=8.6						
JLN				S	**Sn**	**17 19 16.9**	**-1.8**
WBK	**Wadi Bani Khal**	**8.02**	**237**	P	Pn	17 17 55.0	+4.9
	SNR=27						
WBK				S	**Sn**	**17 19 16.4**	**-3.2**
BIDO	**Bidbid**	**8.20**	**245**	P	Pn	17 17 58.9	+6.5
SMDO	**Samad**	**8.49**	**243**	P	Pn	17 18 01.9	+5.4
SMDO				S	**Sn**	**17 19 28.8**	**-2.3**
HOQ	**Hoqain**	**8.84**	**248**	P	**Pn**	**17 18 05.7**	**+4.5**
BANOM	**Banah**	**8.99**	**264**	P	**Pn**	**17 18 06.3**	**+3.0**
BANOM				S	**Sn**	**17 19 42.0**	**-1.4**
UOSS	**Minazif**	**9.29**	**258**	P	**Pn**	**17 18 10.0**	**+2.5**
UOSS				S	**Sn**	**17 19 47.0**	**-3.9**
ASHO	**Ashiyiah**	**9.50**	**257**	P	Pn	17 18 16.9	+6.6
ASHO				S	**Sn**	**17 19 52.7**	**-3.2**
ARQ	**Araqi**	**9.60**	**248**	P	Pn	17 18 18.8	+7.1
	SNR=12						
KURBB	**Kurchatov Arra**	**25.20**	**19**	P	**P**	**17 21 16.4**	**-1.8**
	0.3nm,0.4s,baz=212,slow=8.8,SNR=5.4						
BVAR	**Borovoye Array**	**25.98**	**6**	P	**P**	**17 21 24.6**	**-0.6**
	1.1nm,0.6s,baz=188,slow=9.7,SNR=10						
MMAI	**Mount Meron Ar**	**27.24**	**290**	P	**P**	**17 21 40.3**	**+3.4**
	1.3nm,0.8s,baz=114,slow=9.9,SNR=2.6						
FINES	**FINESS Array B**	**43.46**	**333**	P	**P**	**17 23 54.7**	**-0.7**
	0.8nm,0.7s,baz=134,slow=11,SNR=4.8						
NOA	**NORSAR Array B**	**49.78**	**329**	P	**P**	**17 24 43.6**	**-1.3**
	1.0nm,1.0s,baz=117,slow=6.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**61.59**	**271**	P	P	17 26 12.6	+2.3
	0.5nm,0.5s,baz=56,slow=6.3,SNR=4.1						
WRA	**Warramunga Arr**	**80.89**	**118**	P	**P**	**17 28 05.7**	**-1.2**
	0.4nm,0.9s,baz=300,slow=6.2,SNR=2.8						
ASAR	**Alice Springs**	**82.60**	**121**	P	P	17 28 17.4	+1.5
	0.3nm,0.9s,baz=317,slow=5.3,SNR=3.2						

*ISK **22** 17:30:05.3, 36.°01N×28.°13E, h76km±1km, ML2.8/13*
*NIC **22** 17:30:06.4±0.0, 35.°73N×28.°25E, h29km±1km, Ml3.7/4*
*DDA **22** 17:30:07.1±0.0, 36.°10N×28.°29E, h7km±6km, ML2.4*
*ATH **22** 17:30:07.0, 35.°87N×27.°84E, h44km±7km, ML2.5/2, Error ellipse: s-maj=8.1km s-min=1.7km az=61.0*

ISC 22 17:30:05.4±1.3, 35.°90N±0.°04×28.°11E±0.°04, h69km±10km, n42, σ0°84/57, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.32**	**2**	P	**Pn**	**17 30 17.1**	**+0.5**
ARG				S	**Sn**	**17 30 24.6**	**-0.2**
ARG				AML	AML	17 30 25.8	
	comp=E,1419μm,0.3s						
ARG				AML	AML	17 30 25.9	
	comp=N,930μm,0.2s						
ARG	**Arkhangelos**	**0.32**	**2**	P	**Pn**	**17 30 17.0**	**+0.5**
ARG				S	**Sn**	**17 30 25.1**	**+0.3**
TURN	**Turunc**	**0.88**	**7**	PG	**Pn**	**17 30 22.7**	**+0.3**
TURN				SG	**Sn**	**17 30 34.7**	**-0.2**
TURN	**Turunc**	**0.88**	**7**	P	**Pn**	**17 30 22.2**	**-0.2**
TURN				S	**Sn**	**17 30 34.9**	**-0.1**
TURN				*i* AML	AML	17 30 35.0	
	comp=N,285nm,0.7s						
TURN				*i* AML	AML	17 30 35.0	
	comp=N,332nm,0.2s						
DAT	**Datca**	**0.94**	**333**	PG	**Pn**	**17 30 23.1**	**0.0**
DAT				SG	**Sn**	**17 30 35.9**	**-0.4**
DAT	**Datca**	**0.94**	**333**	P	**Pn**	**17 30 23.1**	**0.0**
DAT				S	**Sn**	**17 30 35.8**	**-0.4**
DAT				*i* AML	AML	17 30 36.0	
	comp=N,105nm,0.2s						
DAT				*i* AML	AML	17 30 36.0	
	comp=N,156nm,0.2s						
DALY	**Dalyan (Mula)**	**1.02**	**25**	PG	**Pn**	**17 30 23.9**	**-0.1**
DALY				SG	**Sn**	**17 30 37.1**	**-0.8**
NIS1	**Nisyros Isl.**	**1.03**	**313**	P	**Pn**	**17 30 24.6**	**+0.4**
NIS1				S	**Sn**	**17 30 36.9**	**-1.4**
FETY	**Fethiye**	**1.08**	**46**	PG	**Pn**	**17 30 24.6**	**-0.2**
FETY				SG	**Sn**	**17 30 38.5**	**-0.8**
FETY	**Fethiye**	**1.08**	**46**	P	**Pn**	**17 30 23.8**	**-1.0**
FETY				S	**Sn**	**17 30 38.2**	**-1.1**
FETY				*i* AML	AML	17 30 39.0	
	comp=N,136nm,0.4s						
FETY				*i* AML	AML	17 30 39.0	
	comp=N,102nm,0.4s						
YER	**Yerkesik**	**1.24**	**6**	PN	**Pn**	**17 30 26.1**	**-0.9**
AKAS	**Kas**	**1.25**	**74**	PN	**Pn**	**17 30 27.2**	**0.0**
AKAS	**Kas**	**1.25**	**74**	P	**Pn**	**17 30 27.5**	**+0.3**
AKAS				S	**Sn**	**17 30 43.2**	**-0.3**
AKAS				*i* AML	AML	17 30 47.0	
	comp=N,124nm,0.2s						
AKAS				*i* AML	AML	17 30 48.0	
	comp=N,242nm,0.5s						
BODT	**Bodrum**	**1.33**	**331**	PN	**Pn**	**17 30 27.2**	**-0.9**
MULA	**Mugla, Merkez-**	**1.37**	**7**	P	**Pn**	**17 30 29.4**	**+0.8**
MULA				S	**Sn**	**17 30 46.2**	**+0.1**
MULA				*i* AML	AML	17 30 47.0	
	comp=N,76nm,0.2s						
MLSB	**Milas**	**1.42**	**349**	PN	**Pn**	**17 30 28.9**	**-0.4**
CAEL	**Denizli, Camel**	**1.56**	**38**	P	**Pn**	**17 30 31.6**	**+0.3**
CAEL				*i* AML	AML	17 30 51.0	
	comp=N,114nm,1.0s						
CAEL				S	**Sn**	**17 30 51.5**	**+0.8**
CAEL				*i* AML	AML	17 30 58.0	
	comp=N,146nm,0.6s						
ELL	**Elmali**	**1.68**	**59**	PN	**Pn**	**17 30 33.2**	**+0.4**
ELL	**Elmali**	**1.68**	**59**	P	**Pn**	**17 30 33.8**	**+1.0**
ELL				S	**Sn**	**17 30 55.2**	**+1.6**
TAVA	**DENIZLI_Tavas**	**1.69**	**22**	P	**Pn**	**17 30 32.8**	**-0.1**
TAVA				S	**Sn**	**17 30 53.0**	**-0.8**
TAVA				*i* AML	AML	17 30 53.0	
	comp=N,39nm,0.3s						
TAVA				*i* AML	AML	17 30 53.0	
	comp=N,53nm,0.5s						
ZKR	**Zakros**	**1.73**	**244**	P	Pn	17 30 34.7	+1.3
ZKR				AML	AML	17 31 00.4	
	comp=E,376μm,0.3s						
ZKR				AML	AML	17 31 00.8	
	comp=N,182μm,0.5s						
ZKR	**Zakros**	**1.73**	**244**	P	Pn	17 30 35.1	+1.7
ZKR				S	**Sn**	**17 30 57.4**	**+2.7**
GOLH	**Golhisar**	**1.77**	**41**	P	**Pn**	**17 30 34.8**	**+0.8**
GOLH				S	**Sn**	**17 30 56.5**	**+0.7**
GOLH				*i* AML	AML	17 30 57.0	
	comp=N,98nm,0.4s						
GOLH				*i* AML	AML	17 30 59.0	
	comp=N,57nm,0.6s						
GCAM	**G?zelcaml?**	**1.93**	**339**	PN	**Pn**	**17 30 36.4**	**+0.3**
SMG	**Samos**	**2.08**	**331**	P	Pn	17 30 42.3	+4.3
KORT	**Korkueli**	**2.11**	**58**	PN	**Pn**	**17 30 39.5**	**+0.9**
NPS	**Neapolis**	**2.13**	**253**	P	Pn	17 30 40.6	+1.8
KULA	**Kula-Manisa**	**2.65**	**9**	PN	**Pn**	**17 30 45.1**	**-0.8**
SUTC	**Sutluce-Ispart**	**2.81**	**55**	PN	**Pn**	**17 30 48.6**	**+0.6**
SHUT	**Suhut-Afyon**	**3.29**	**36**	PN	**Pn**	**17 30 54.8**	**+0.2**
SEYD	**Seydisehir-KON**	**3.35**	**62**	PN	**Pn**	**17 30 56.9**	**+1.4**
GAZI	**Gazipasa**	**3.42**	**83**	PN	**Pn**	**17 30 58.0**	**+1.7**
OSC1	**CSNet OBS 1**	**3.54**	**132**	P	**Pn**	**17 30 57.4**	**-0.5**
OSC1				S	**Sn**	**17 31 37.6**	**-0.8**
AKMS	**Akamas**	**3.56**	**103**	P	**Pn**	**17 30 57.3**	**-0.8**
AKMS				AML	AML	17 31 37.4	
	comp=N,0.5nm,0.7s						
AKMS				AML	AML	17 31 38.9	
	comp=N,0.4nm,0.3s						
HDMB	**Hadim**	**3.68**	**72**	PN	**Pn**	**17 31 01.5**	**+1.4**
ALFC	**Alefka**	**3.73**	**100**	P	**Pn**	**17 31 00.1**	**-0.4**
ALFC				AML	AML	17 31 41.3	
	comp=N,0.4nm,0.3s						
ALFC				AML	AML	17 31 42.0	
	comp=N,0.4nm,0.2s						
NATA	**Nata**	**3.81**	**106**	P	**Pn**	**17 31 01.3**	**-0.3**
SZAC	**Souni**	**4.06**	**105**	P	**Pn**	**17 31 05.3**	**+0.2**
SZAC				AML	AML	17 31 51.4	
	comp=N,0.3nm,0.3s						
SZAC				AML	AML	17 31 51.8	
	comp=N,0.3nm,0.2s						
ASGA	**Asgata**	**4.34**	**103**	P	**Pn**	**17 31 08.7**	**-0.2**
ASGA				AML	AML	17 31 57.2	
	comp=N,0.2nm,0.2s						
ASGA				AML	AML	17 31 58.4	
	comp=N,0.2nm,0.2s						
CSS	**Mathiatis**	**4.36**	**101**	P	**Pn**	**17 31 09.5**	**+0.4**
OSC2	**CSNet OBS 4**	**4.44**	**128**	P	**Pn**	**17 31 09.7**	**-0.4**
OSC2				S	**Sn**	**17 31 58.7**	**-1.8**
MVOU	**Mavrovouni**	**4.59**	**99**	P	**Pn**	**17 31 12.7**	**+0.5**

NNC 22 18:03:07.7±7.5, 37.°16N×70.°58E, h0km, mb4.0, mpv3.6, 3C-3D, Error ellipse: s-maj=59.6km s-min=55.2km az=154.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.52**	**25**	P	Pn	18 04 32.2	+0.8
	SNR=26						
UCH	**Uchtor**	**5.90**	**30**	P	Pn	18 04 36.9	+0.1
	SNR=18						
KK09	**Karatay Array**	**5.96**	**359**	⇑P	Pn	18 04 38.2	+1.1
	1.6nm,0.3s,baz=175,slow=12						
KK09				⇑S	Sn	18 05 46.0	0.0
	2.9nm,0.5s,baz=189,slow=22						
EKS2	**Erkin-Say**	**6.02**	**23**	P	Pn	18 04 38.8	+0.7
	SNR=9.9						
AAK	**Ala-Archa**	**6.24**	**28**	P	Pn	18 04 41.4	+0.2
	SNR=7.2						
AAK	**Ala-Archa**	**6.24**	**28**	⇓P	Pn	18 04 41.1	-0.1
	2.0nm,0.4s						
AAK				⇓S	Sn	18 05 56.6	+3.2
	5.5nm,0.7s						
TKM2	**Tokmak 2**	**6.92**	**32**	P	Pn	18 04 49.7	-0.9
	SNR=9.2						
TKM2	**Tokmak 2**	**6.92**	**32**	⇓P	Pn	18 04 49.4	-1.2
	3.0nm,0.4s						
TKM2				⇑S	Sn	18 06 10.6	+0.5
	1.3nm,0.7s						

*KRSC **22** 18:11:17.1±1.4, 53.°10N×157.°11E, h296km±12km, ML3.5*
*IDC **22** 18:11:19.6±0.9, 52.°76N×157.°82E, h278km±10km, mb2.6/3, mb1 3.0/3, mb1mx2.6/27, mbtmp3.2/3, Error ellipse: s-maj=78.0km s-min=26.0km az=137.0*

ISC 22 18:11:19.7±1.1, 53.°09N±0.°09×157.°3E±0.°1, h286km±7km, n25, σ0°74/31, mb2.9/3, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**0.19**	**207**	*e*P	**Pn**	**18 11 55.8**	**-0.4**
PETK	**Petropavlovsk-**	**0.24**	**86**	P	**Pn**	**18 11 55.4**	**-0.9**
	2.2nm,0.3s,baz=114,slow=3.6,SNR=10.0						
PETK				S	**S**	**18 12 24.9**	**-0.3**
	baz=59,slow=24,SNR=1.3						
KRMR	**Karymshinskiy**	**0.57**	**117**	*e*P	**Pn**	**18 11 56.9**	**0.0**
GRL	**Gorelyy**	**0.72**	**139**	*e*P	**Pn**	**18 11 58.5**	**+0.9**
GNL	**Ganaly**	**0.72**	**32**	*e*P	**Pn**	**18 11 57.3**	**-0.2**
GNL				*e*S	**S**	**18 12 27.7**	**+0.2**
PET	**Petropavlovsk**	**0.82**	**94**	*e*P	**Pn**	**18 11 58.0**	**+0.2**
KOK	**Koryaka**	**0.83**	**75**	*e*P	**Pn**	**18 11 58.4**	**+0.5**
DALK	**Dalny**	**0.88**	**93**	*e*P	**Pn**	**18 11 58.1**	**+0.1**
DALK				*e*S	**S**	**18 12 29.0**	**+0.6**
KRER	**Koryakskii**	**0.90**	**76**	*e*P	**Pn**	**18 11 58.7**	**+0.3**
SMAR	**Somma**	**0.92**	**79**	*e*P	**Pn**	**18 11 59.1**	**+0.6**
UGLR	**Uglovaya**	**0.93**	**82**	*e*P	**Pn**	**18 11 59.2**	**+0.8**
SDLR	**Sedlovina**	**0.97**	**78**	*e*P	**Pn**	**18 11 58.8**	**+0.2**
RUS	**Russkaya**	**0.99**	**131**	*e*P	**Pn**	**18 11 58.4**	**-0.2**
RUS				*e*S	**S**	**18 12 29.4**	**0.0**
NLC	**Nalytchevo**	**1.24**	**85**	*e*P	**Pn**	**18 12 00.3**	**+0.5**
NLC				*e*S	**S**	**18 12 32.9**	**+1.3**
KDTR	**Khodutka, Kamc**	**1.37**	**159**	*e*S	**S**	**18 12 31.9**	**-1.3**
SPN	**Mys Shipunski**	**1.64**	**89**	*e*P	**Pn**	**18 12 02.1**	**-0.4**
SPN				*e*S	**S**	**18 12 34.3**	**-2.1**
TUMR	**Tumrok**	**2.76**	**36**	*e*P	**Pn**	**18 12 12.3**	**+0.1**
ESO	**Esso**	**2.96**	**16**	*e*P	**Pn**	**18 12 13.7**	**-0.3**
KMNR	**Kamenistaya**	**3.17**	**32**	*e*P	**Pn**	**18 12 16.1**	**-0.2**
KRSR	**Krestovskiy**	**3.66**	**30**	*e*P	**Pn**	**18 12 21.2**	**-0.3**
KLY	**Klyuchi**	**3.77**	**30**	*e*P	**Pn**	**18 12 22.8**	**+0.3**
KBTR	**Krutoberegovo**	**4.48**	**44**	*e*P	**Pn**	**18 12 29.2**	**-1.3**
YKA	**Yellowknife Ar**	**44.30**	**42**	P	**P**	**18 19 01.1**	**+0.1**
	0.2nm,0.5s,baz=305,slow=7.1,SNR=2.3						
TXAR	**Lajitas Array**	**72.18**	**65**	P	**P**	**18 22 14.6**	**+0.9**
	0.1nm,0.4s,baz=292,slow=4.8,SNR=2.4						
ASAR	**Alice Springs**	**79.10**	**202**	P	**P**	**18 22 52.0**	**-0.4**
	0.3nm,0.7s,baz=24,slow=5.6,SNR=4.5						

*NEIC **22** 18:44:26.2±0.9, 22.°6S±0.°2×179.°3W±0.°2, h588km±15km, mb4.2/16, Error ellipse: s-maj=24.7km s-min=23.2km az=174.0*
*IDC **22** 18:44:26.4±2.7, 22.°63S×179.°43W, h579km±28km, mb3.0/2, mb1 3.3/4, mb1mx2.6/35, mbtmp4.1/4, Error ellipse: s-maj=47.3km s-min=40.0km az=92.0*

ISC 22 18:44:25.6±0.9, 22.°6S±0.°1×179.°3W±0.°1, h579km, n27, σ0°81/26, mb4.0/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.49**	**332**	P	**P**	**18 46 01.6**	**+0.1**
	2.8nm,0.3s,baz=97,slow=4.3,SNR=7.7						
MSVF	**Nonsavu**	**5.49**	**332**	P	**P**	**18 46 01.3**	**-0.2**
NIUE	**Niue**	**9.42**	**70**	P	**P**	**18 46 38.6**	**+0.4**
DZM	**Mont Dzumac**	**13.24**	**270**	P	**P**	**18 47 18.5**	**+1.4**
OUZ	**Omahuta**	**14.01**	**205**	P	**P**	**18 47 24.9**	**+0.4**
URZ	**Urewera**	**15.88**	**190**	P	**P**	**18 47 42.4**	**-0.2**
	2.0nm,0.3s,baz=267,slow=2.3,SNR=9.8						
URZ	**Urewera**	**15.88**	**190**	IAmb	IAmb	18 47 43.6	
	comp=Z,12nm,0.8s						
BKZ	**Black Stump Fm**	**16.87**	**191**	P	**P**	**18 47 51.0**	**-0.7**
BKZ				IAmb	IAmb	18 47 52.9	
	comp=Z,17nm,1.5s						
QRZ	**Quartz Range**	**19.41**	**199**	P	**P**	**18 48 14.2**	**-0.6**
TUWZ	**Tuamarina**	**19.59**	**195**	P	**P**	**18 48 16.2**	**-0.2**
KHZ	**Kahutara**	**20.62**	**195**	P	**P**	**18 48 25.8**	**+0.1**
FOZ	**Fox Glacier**	**22.72**	**201**	P	**P**	**18 48 44.2**	**-0.2**
CTAO	**Charters Tower**	**32.17**	**268**	P	**P**	**18 50 06.9**	**-0.3**
CTAO				IAmb	IAmb	18 50 08.1	
	comp=Z,4.2nm,0.8s						
TOO	**Toolangi**	**33.71**	**236**	P	**P**	**18 50 20.5**	**+0.6**
COEN	**Coen**	**36.61**	**277**	P	**P**	**18 50 44.1**	**-0.1**
COEN				IAmb	IAmb	18 50 49.4	
	comp=Z,15nm,1.6s						
AS31	**Alice Springs**	**42.92**	**259**	P	**P**	**18 51 34.0**	**-0.6**
ASAR	**Alice Springs**	**42.92**	**259**	P	**P**	**18 51 34.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=99,slow=7.2,SNR=34						
ASAR	**Alice Springs**	**42.92**	**259**	P	**P**	**18 51 33.4**	**-1.3**
WR0	**Warramunga Arr**	**43.00**	**265**	P	**P**	**18 51 34.2**	**-1.0**
WR0				IAmb	IAmb	18 51 44.7	
	comp=Z,5.3nm,1.6s						
WB0	**Warramunga Arr**	**43.17**	**265**	P	**P**	**18 51 35.6**	**-1.0**
WB0				IAmb	IAmb	18 51 36.3	
	comp=Z,2.7nm,0.6s						
WB2	**Warramunga Arr**	**43.17**	**265**	P	**P**	**18 51 35.6**	**-0.9**
WRAB	**Tennant Creek**	**43.18**	**265**	P	**P**	**18 51 35.4**	**-1.2**
WRA	**Warramunga Arr**	**43.19**	**265**	P	**P**	**18 51 35.8**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=96,slow=8.4,SNR=69						
WRA	**Warramunga Arr**	**43.19**	**265**	P	**P**	**18 51 35.0**	**-1.7**
MTN	**Manton Dam**	**48.05**	**273**	P	**P**	**18 52 12.7**	**-1.0**
MTN				IAmb	IAmb	18 52 13.5	
	comp=Z,3.7nm,0.6s						
KNRA	**Kununurra**	**49.38**	**268**	P	**P**	**18 52 23.1**	**-0.4**
KNRA				IAmb	IAmb	18 52 23.9	
	comp=Z,11nm,1.1s						
AKASG	**Malin Array Be**	**144.26**	**329**	PKP	**PKPab**	**19 02 56.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=44,slow=4.9,SNR=5.3						

MAN 22 18:49:58.8, 18.°28N×122.°22E, h32km, mb4.2, ML3.0, MS2.7, Luzon

*INMG **22** 18:55:35.8±1.8, 35.°65N×3.°77W, h0km±5km, ML2.5, Error ellipse: s-maj=3.7km s-min=3.5km az=32.0*
*SFS **22** 18:55:35.0, 35.°67N×3.°76W, ML2.7, ALBORAN SUR*
*CNRM **22** 18:55:36.6, 35.°62N×3.°61W, h97km*
*IGIL **22** 18:55:37.2, 35.°67N×3.°77W, h0km, ML2.3*

ISC 22 18:55:34.2±1.4, 35.°67N±0.°03×3.°69W±0.°04, h4km±11km, n42, σ1°74/72, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.49**	**205**	P	**Pn**	**18 55 51.0**	**+2.9**
GOG	**Mont Gurugu**	**0.72**	**128**	P	Pn	18 55 60.0	+8.7
CHAS	**Isla Isabel II**	**1.14**	**115**	P	**Pg**	**18 55 55.6**	**-0.4**
CHAS				S	**Sg**	**18 56 09.3**	**-1.4**
EMAL	**Malaga-Limoner**	**1.25**	**331**	P	**Pg**	**18 55 57.7**	**-0.3**
EMAL				S	**Sg**	**18 56 12.4**	**-1.8**
SMIR	**Smir Dam**	**1.38**	**271**	Pn	Pn	18 56 10.9	+11
SMIR				S	Sn	18 56 28.4	+9.5
CHEFC	**Chefchaouen**	**1.46**	**248**	P	**Pg**	**18 56 02.0**	**-0.2**
CHEFC				S	**Sb**	**18 56 21.2**	**+0.2**
JBK	**JBK**	**1.62**	**145**	P	**Pn**	**18 56 03.3**	**-0.4**
JBK				S	**Sn**	**18 56 22.6**	**-2.5**
SICH	**Sidi Chahed**	**2.06**	**221**	P	**Pn**	**18 56 11.6**	**+2.0**
SICH				S	**Sb**	**18 56 38.9**	**+0.8**
LCRM	**LCR**	**2.20**	**206**	P	**Pn**	**18 56 12.1**	**+0.4**
LCRM				S	**Sb**	**18 56 41.9**	**-0.4**
IFR	**Ifrane**	**2.45**	**209**	P	**Pn**	**18 56 15.3**	**+0.1**
IFR				S	**Sn**	**18 56 43.8**	**-1.9**
MD31	**MD31**	**2.93**	**198**	P	**Pn**	**18 56 23.0**	**+1.3**
MD31				S	**Sn**	**18 56 57.5**	**+0.1**
TDRA	**Tendrara**	**2.96**	**152**	P	**Pn**	**18 56 22.4**	**+0.2**
TDRA				S	**Sn**	**18 56 58.1**	**-0.1**
ZHG	**ZHG**	**3.29**	**229**	P	**Pn**	**18 56 27

comp=N,3.7nm,0.9s
PVIS Viseu 6.03 328 *e*Pn **Pn 18 57 05.5 +1.3**
MVO Moncorvo 6.08 335 *e*Pn **Pn 18 57 06.9 +2.0**
MVO *e*Sn **Sn 18 58 12.7 -2.3**
MVO A A 18 58 13.4
comp=N,4.4nm,0.7s
PVRL Vila Real 6.43 332 *e*Sn **Sn 18 58 20.3 -3.2**
POLO Lamas de Olo 6.54 332 *e*Pn **Pn 18 57 13.1 +1.8**
POLO *e*Sn **Sn 18 58 23.1 -3.3**
POLO A A 18 58 27.3
comp=N,1.6nm,0.4s
PBRG Braganca 6.58 340 *e*Pn **Pn 18 57 14.0 +2.3**
PBRG *e*Sn **Sn 18 58 25.9 -1.2**

NEIC ***22*** *18:56:07.7±3.0, 14°.77S±0°.06×179°.79E±0°.03, h10km±1km, mb5.0/97, Error ellipse: s-maj=10.8km s-min=2.8km az=207.0*
IDC ***22*** *18:56:08.8±0.7, 15°.02S×179°.83E, h0km, mb4.3/17, mb1 4.5/19, mb1mx4.2/49, mbtmp4.4/19, ML5.5/1, MS4.3/44, Ms1 4.3/44, ms1mx4.3/52, Error ellipse: s-maj=22.9km s-min=14.5km az=146.0*
GCMT ***22*** *18:56:11.7±0.2, 14°.86S±0°.01×179°.94E±0°.01, h18km, MW5.2/128, Moment Tensor Solution. s69,c95; s128,c198; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=-0.01±.13; Mθθ=-2.36±.13; Mφφ2.37±.12; Mrθ=-0.83±.28; Mθφ5.96±.11; Mφr=-1.69±.27; Best double couple: M0=6.66900×10^16 NP1:φs=260.00000°, δ=78.00000°, λ=9.00000°. NP2:φs=168.00000°, δ=81.00000°, λ=167.00000°. Principal axes: T 6.9190, Plg15.0000°, Azm124.0000°; N -0.5000, Plg75.0000°, Azm314.0000°; P -6.4180, Plg2.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***22*** *18:56:18.1, 15°.54S×179°.99W, h24km, mb4.7/16, Fiji Islands Region*
ISC 22 18:56:07.9±0.4, 14°.84S±0°.06×179°.89E±0°.06, h10km, n208, σ2.09/169, mb5.0/70, MS4.3/47, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DGTI	**Dogotuki**	**1.46**	**186**	P	**Pn**	**18 56 33.4**	**-1.0**
TAVE	**Taveuni**	**1.87**	**174**	P	**Pn**	**18 56 38.9**	**-1.1**
MSVF	**Nonsavu**	**3.38**	**211**	Pn	**Pn**	**18 57 01.2**	**+0.4**
	22nm,0.3s,baz=54,slow=6.9,SNR=181						
MSVF				Sn	**Sn**	**18 57 36.6**	**-4.4**
	20nm,0.3s,baz=118,slow=17,SNR=5.9						
MSVF				LR	LR	18 58 15.4	
	comp=Z,12μm,18.6s,baz=25,slow=40						
MSVF	**Nonsavu**	**3.38**	**211**	Pn	**Pn**	**18 57 00.3**	**-0.5**
MSVF	**Nonsavu**	**3.38**	**211**	P	**Pn**	**18 57 01.5**	**+0.7**
LKBA	**Tubou, Lakemba**	**3.60**	**160**	P	**Pn**	**18 57 03.5**	**-0.3**
FUNA	**Funafuti**	**6.31**	**354**	Pn	**Pn**	**18 57 39.1**	**-1.9**
FUNA					**Sn**	**18 58 46.6**	**-6.6**
AFI	**Afiamalu**	**8.13**	**85**	Pn	**Pn**	**18 58 08.9**	**+2.8**
	0.6nm,0.3s,baz=101,slow=13,SNR=6.0						
AFI				LR	LR	19 00 07.4	
	comp=Z,661nm,18.4s,baz=262,slow=29						
NIUE	**Niue**	**10.62**	**115**	Pn	**Pn**	**18 58 40.4**	**+0.2**
SANVU	**Saraoutou**	**12.26**	**266**	Pn	**Pn**	**18 59 00.4**	**-2.3**
SANVU	**Saraoutou**	**12.26**	**266**	P	Pn	18 59 12.7	+10
	62nm,1.3s						
MARNC	**Mare, Loyalty**	**13.06**	**238**	Pn	**Pn**	**18 59 12.8**	**-0.8**
PINNC	**Pines Island,**	**14.09**	**235**	Pn	**Pn**	**18 59 27.7**	**0.0**
OUENC	**Ouen Island, N**	**14.48**	**237**	P	**Pn**	**18 59 29.4**	**-3.6**
OUENC	**Ouen Island, N**	**14.48**	**237**	P	**P**	**18 59 37.7**	**-2.1**
DZM	**Mont Dzumac**	**14.64**	**239**	Pn	**P**	**18 59 38.6**	**-3.1**
	0.1nm,0.3s,baz=51,slow=12,SNR=4.0						
DZM				LR	LR	19 04 15.9	
	comp=Z,2μm,21.2s,baz=66,slow=34						
DZM	**Mont Dzumac**	**14.64**	**239**	*e*Pn	**P**	**18 59 45.0**	**+3.3**
	88nm,1.4s						
DZM				*e*LQ	LQ	19 02 36.1	
	3μm,25.0s						
DZM				*e*LQ	LQ	19 02 37.0	
	6μm,25.3s						
DZM				*e*LR	LR	19 03 16.2	
	comp=Z,3μm,26.6s						
DZM	**Mont Dzumac**	**14.64**	**239**		Pn	18 59 27.7	-7.6
DZM	**Mont Dzumac**	**14.64**	**239**	P	**P**	**18 59 40.4**	**-1.3**
ONTNC	**Ouen Toro**	**14.74**	**238**	Pn	**Pn**	**18 59 32.3**	**-4.3**
ONTNC	**Ouen Toro**	**14.74**	**238**	P	**Pn**	**18 59 41.5**	**-1.2**
NOUC	**Port Laguerre**	**14.77**	**239**	P	**P**	**18 59 42.9**	**-0.1**
KOUNC	**Koumac, New Ca**	**15.91**	**247**	P	**P**	**18 59 58.6**	**+2.9**
HNR	**Honiara**	**20.22**	**283**	P	Pn	19 00 45.3	+0.1
	38nm,0.6s,baz=206,slow=1.7,SNR=8.5						
HNR				LR	LR	19 07 21.4	
	comp=Z,5μm,19.2s,baz=118,slow=33						
HNR	**Honiara**	**20.22**	**283**	P	**P**	**19 00 42.8**	**-0.4**
HNR	**Honiara**	**20.22**	**283**	P	Pn	19 00 54.0	+8.8
RAR	**Rarotonga**	**20.34**	**111**	LR	LR	19 06 51.5	
	comp=Z,690nm,20.8s,baz=294,slow=32						
OUZ	**Omahuta**	**21.07**	**194**		**P**	**19 00 50.3**	**-2.0**
URZ	**Urewera**	**23.46**	**186**	P	**P**	**19 01 17.6**	**0.0**
	7.0nm,0.7s,baz=359,slow=8.6,SNR=4.2						
URZ				LR	LR	19 08 57.2	
	comp=Z,863nm,19.0s,baz=12,slow=33						
URZ	**Urewera**	**23.46**	**186**	P	**P**	**19 01 16.8**	**-0.7**
URZ				IAmb	IAmb	19 01 44.5	
	comp=Z,44nm,1.2s						
HIZ	**Hauiti**	**24.00**	**190**	P	**P**	**19 01 22.3**	**-0.5**
HIZ				IAmb	IAmb	19 01 58.9	
	comp=Z,57nm,1.0s						
BKZ	**Black Stump Fm**	**24.42**	**186**	P	**P**	**19 01 26.4**	**-0.3**
PLWZ	**Palliser**	**26.94**	**188**	P	**P**	**19 01 48.7**	**-0.8**
TUWZ	**Tuamarina**	**26.99**	**190**	P	**P**	**19 01 48.0**	**-1.9**
THZ	**Tophouse**	**27.50**	**191**	P	**P**	**19 01 54.5**	**-0.1**
THZ				IAmb	IAmb	19 02 00.3	
	comp=Z,19nm,0.9s						
LTZ	**Lake Taylor**	**28.61**	**192**	P	**P**	**19 02 05.2**	**+0.7**
LTZ				IAmb	IAmb	19 02 22.3	
	comp=Z,18nm,0.9s						
EIDS	**Eidsvold**	**28.95**	**244**	P	**P**	**19 02 07.3**	**-0.3**
OXZ	**Oxford**	**29.18**	**192**	P	**P**	**19 02 08.3**	**-1.1**
PPT	**Papeete**	**29.43**	**99**	LR	LR	19 11 10.5	
	comp=Z,672nm,20.6s,baz=263,slow=31						
PPT2	**Papeete2**	**29.43**	**100**	*e*S	**S**	**19 06 58.6**	**-7.8**
	comp=Z,203nm,28.5s						
PPT2				*e*LQ	LQ	19 08 17.2	
	comp=Z,2μm,27.5s						
PPT2				*e*LR	LR	19 09 29.8	
	comp=Z,2μm,26.5s,baz=269						
PMG	**Port Moresby**	**32.43**	**276**	P	**P**	**19 02 40.9**	**+2.4**
	comp=Z,25nm,1.1s,baz=132,slow=5.3,SNR=1.6						
PMG				LR	LR	19 13 58.0	
	comp=Z,527nm,19.3s,baz=110,slow=33						
TOO	**Toolangi**	**37.95**	**227**	P	**P**	**19 03 23.8**	**-2.1**
STKA	**Stephens Creek**	**38.79**	**237**	P	**P**	**19 03 34.6**	**+1.7**
	comp=Z,7.2nm,0.9s,baz=72,slow=8.5,SNR=8.2						
STKA				LR	LR	19 17 49.2	
	comp=Z,370nm,19.6s,baz=66,slow=34						
STKA	**Stephens Creek**	**38.79**	**237**	P	**P**	**19 03 32.8**	**-0.1**
TAOE	**Nuku Hiva Isla**	**39.52**	**86**	*e*LR	LR	19 14 10.4	
	comp=Z,530nm,34.8s						
JAY	**Jayapura**	**40.54**	**284**	LR	LR	19 18 47.2	
	comp=Z,512nm,21.7s,baz=88,slow=34						
MIDW	**Midway**	**42.88**	**4**	P	**P**	**19 04 04.1**	**-2.5**
WR0	**Warramunga Arr**	**43.47**	**257**	P	**P**	**19 04 11.9**	**+0.2**
BBOO	**Buckleboo**	**43.55**	**238**	P	**P**	**19 04 11.6**	**-0.6**
BBOO				IAmb	IAmb	19 04 23.4	
	comp=Z,34nm,1.4s						
WB0	**Warramunga Arr**	**43.62**	**257**	P	**P**	**19 04 12.5**	**-0.4**
WB2	**Warramunga Arr**	**43.65**	**257**	P	**P**	**19 04 11.7**	**-1.4**
WRAB	**Tennant Creek**	**43.65**	**257**	P	**P**	**19 04 11.2**	**-2.0**
WRA	**Warramunga Arr**	**43.66**	**257**	P	**P**	**19 04 13.4**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=91,slow=8.2,SNR=36						
WRA				LR	LR	19 20 41.4	
	comp=Z,314nm,18.9s,baz=33,slow=34						
WRA	**Warramunga Arr**	**43.66**	**257**	P	**P**	**19 04 12.9**	**-0.4**
AS31	**Alice Springs**	**44.13**	**251**	P	**P**	**19 04 16.4**	**-0.6**
ASAR	**Alice Springs**	**44.14**	**251**	P	**P**	**19 04 17.8**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=86,slow=8.3,SNR=22						
ASAR	**Alice Springs**	**44.14**	**251**	P	**P**	**19 04 15.4**	**-1.6**
MTN	**Manton Dam**	**47.31**	**266**	P	**P**	**19 04 40.9**	**-1.3**
MTN				IAmb	IAmb	19 04 57.0	
	comp=Z,10nm,0.9s						
KNRA	**Kununurra**	**49.23**	**262**	P	**P**	**19 04 55.1**	**-1.9**
KNRA				IAmb	IAmb	19 05 20.6	
	comp=Z,16nm,1.2s						
FORT	**Forrest**	**49.91**	**242**	P	**P**	**19 04 59.9**	**-2.1**
SIJI	**Sorong**	**49.98**	**282**	LR	LR	19 24 42.5	
	comp=Z,500nm,21.8s,baz=90,slow=34						
FITZ	**Fitzroy Crossi**	**51.98**	**258**	P	**P**	**19 05 19.8**	**+2.1**
	comp=Z,3.9nm,1.0s,baz=86,slow=8.7,SNR=6.2						
FITZ				LR	LR	19 28 00.1	
	comp=Z,256nm,18.4s,baz=87,slow=37						
BATI	**Baumata**	**54.97**	**268**	P	**P**	**19 05 41.8**	**+2.0**
	comp=Z,19nm,1.0s,baz=60,slow=3.4,SNR=5.4						
DAV	**Davao City (W)**	**58.07**	**288**	LR	LR	19 30 52.2	
	comp=Z,173nm,18.1s,baz=125,slow=36						
KAPI	**Kappang**	**59.88**	**273**	LR	LR	19 31 05.7	
	comp=Z,114nm,20.8s,baz=120,slow=35						
JHJ	**Hachijo jima 2**	**61.16**	**322**	LR	LR	19 27 40.0	
	comp=Z,93nm,21.0s,baz=122,slow=31						
VNDA	**Vanda**	**63.36**	**184**	P	**P**	**19 06 38.5**	**+1.6**
	comp=Z,2.3nm,1.0s,baz=68,slow=5.4,SNR=1.8						
VNDA				LR	LR	19 32 09.9	
	comp=Z,105nm,18.1s,baz=357,slow=34						
MJAR	**Matsushiro Arr**	**64.48**	**324**	P	**P**	**19 06 48.4**	**+3.5**
	comp=Z,6.0nm,1.2s,baz=125,slow=6.1,SNR=3.4						
MJAR				LR	LR	19 29 22.8	
	comp=Z,312nm,21.2s,baz=145,slow=31						
JOW	**Kunigami**	**65.02**	**309**	LR	LR	19 32 49.2	
	comp=Z,225nm,19.6s,baz=110,slow=34						
RPN	**Rapa Nui**	**66.47**	**113**	LR	LR	19 28 23.1	
	comp=Z,312nm,21.5s,baz=272,slow=29						
SHEM	**Shemya Is, Ala**	**67.47**	**356**	LR	LR	19 32 04.4	
	comp=Z,73nm,21.9s,baz=302,slow=32						
ASAJ	**Asahikawa**	**67.81**	**332**	LR	LR	19 35 34.4	
	comp=Z,157nm,18.1s,baz=164,slow=35						
LEM	**Lembang**	**71.19**	**268**	LR	LR	19 39 13.4	
	comp=Z,95nm,19.2s,baz=146,slow=36						
KSRS	**Korea Array**	**71.33**	**319**	LR	LR	19 33 33.6	
	comp=Z,150nm,21.7s,baz=120,slow=31						
USRK	**Ussuriysk Ar.**	**73.17**	**326**	LR	LR	19 38 20.5	
	comp=Z,174nm,18.3s,baz=170,slow=34						
NJ2	**Nanjing**	**74.73**	**310**	*e*P	**P**	**19 07 52.3**	**+4.0**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
QSPA	**South Pole Qui**	**75.20**	**180**	P	**P**	**19 07 51.0**	**+0.4**
CN2	**Changchun**	**76.60**	**323**	*e*P	P	19 08 05.3	+6.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**76.65**	**330**	LR	LR	19 37 20.6	
	comp=Z,320nm,20.7s,baz=144,slow=32						
WDC	**Whiskeytown Da**	**76.70**	**41**	P	**P**	**19 08 01.3**	**+2.0**
WDC				IAmb	IAmb	19 08 15.7	
	comp=Z,30nm,1.6s						
ORV	**Oroville**	**76.82**	**43**	P	**P**	**19 08 01.8**	**+1.7**
ORV				IAmb	IAmb	19 08 20.9	
	comp=Z,31nm,2.0s						
ISA	**Isabella, Lake**	**76.91**	**47**	P	**P**	**19 08 01.2**	**+0.4**
ISA				IAmb	IAmb	19 08 19.0	
	comp=Z,16nm,1.4s						
O03E	**Paynes Creek**	**77.02**	**42**	P	**P**	**19 07 59.8**	**-1.4**
O03E				IAmb	IAmb	19 08 37.2	
	comp=Z,27nm,1.4s						
YBH	**Yreka Blue Hor**	**77.22**	**40**	LR	LR	19 34 17.3	
	comp=Z,375nm,19.3s,baz=257,slow=30						
RMX	**La Rumorosa**	**77.23**	**51**	P	**P**	**19 08 02.4**	**-0.4**
RMX				IAmb	IAmb	19 08 22.8	
	comp=Z,25nm,1.6s						
PFO	**Pinyon Flats O**	**77.41**	**50**	LR	LR	19 33 52.6	
	comp=Z,194nm,21.4s,baz=244,slow=29						
PFO	**Pinyon Flats O**	**77.41**	**50**	P	**P**	**19 08 01.4**	**-2.3**
YERR	**Yerington**	**78.03**	**44**	P	P	19 07 59.4	-7.7
YERR				IAmb	IAmb	19 08 27.1	
	comp=Z,22nm,1.4s						
LHV	**Little Huntoon**	**78.16**	**45**		**P**	**19 08 05.0**	**-2.5**
LHV				IAmb	IAmb	19 08 33.8	
	comp=Z,21nm,1.2s						
QSM	**Queen of Sheba**	**78.20**	**48**	P	**P**	**19 08 07.7**	**-0.2**
QSM				IAmb	IAmb	19 08 25.3	
	comp=Z,34nm,1.7s						
LCH	**Last Change Ra**	**78.26**	**46**	P	**P**	**19 08 06.8**	**-1.6**
LCH				IAmb	IAmb	19 08 57.9	
	comp=Z,18nm,1.7s						
PAHR	**Pah Rah Range**	**78.30**	**43**	P	**P**	**19 08 08.7**	**+0.2**
PAHR				IAmb	IAmb	19 08 31.7	
	comp=Z,15nm,1.4s						
RYN	**Ryan**	**78.33**	**45**	P	**P**	**19 08 06.7**	**-2.0**
RYN				IAmb	IAmb	19 08 29.8	
	comp=Z,40nm,1.9s						
LPIG	**La Paz**	**78.36**	**61**	LR	LR	19 35 08.5	
	comp=Z,352nm,19.5s,baz=232,slow=30						
GLA	**Glamis**	**78.38**	**51**	P	**P**	**19 08 08.0**	**-1.0**
GLA				IAmb	IAmb	19 08 29.3	
	comp=Z,38nm,1.8s						
NVAR	**Mina Array Bea**	**78.39**	**45**	P	**P**	**19 08 12.0**	**+2.9**
	comp=Z,0.7nm,0.6s,baz=221,slow=6.8,SNR=4.3						
NVAR				LR	LR	19 34 57.1	
	comp=Z,469nm,21.2s,baz=263,slow=30						
NVAR	**Mina Array Bea**	**78.39**	**45**	P	**P**	**19 08 05.5**	**-3.7**
GWY	**Greenwater Val**	**78.45**	**48**	P	**P**	**19 08 07.0**	**-2.5**
NV11	**Mina Array Sit**	**78.49**	**45**	P	**P**	**19 08 06.5**	**-3.2**
NV11				IAmb	IAmb	19 08 26.1	
	comp=Z,29nm,1.5s						
TPH	**Tonopah**	**78.96**	**46**	P	**P**	**19 08 10.4**	**-1.8**
113A	**Mohawk Valley,**	**79.06**	**52**	P	**P**	**19 08 09.1**	**-3.5**
HG4B	**Hotspring**	**79.07**	**28**	P	**P**	**19 08 10.1**	**-2.2**
TPNV	**Topopah Spring**	**79.11**	**47**	P	**P**	**19 08 12.7**	**-0.4**
L19K	**White Mountain**	**79.31**	**12**	P	**P**	**19 08 12.0**	**-1.4**
L19K				IAmb	IAmb	19 08 27.8	
	comp=Z,39nm,1.6s						
UBPT	**Khong Chiam**	**79.39**	**289**	P	**P**	**19 08 11.9**	**-2.9**
UBPT				IAmb	IAmb	19 10 37.2	
	comp=Z,40nm,1.7s						
214A	**Organ Pipe Nat**	**79.44**	**53**	P	**P**	**19 08 12.2**	**-2.7**
214A				IAmb	IAmb	19 08 32.7	
	comp=Z,22nm,1.5s						
RC01	**Rabbit Creek A**	**79.45**	**14**	P	**P**	**19 08 11.2**	**-3.0**
SHPR	**Sheep Range**	**79.68**	**48**	P	**P**	**19 08 11.5**	**-4.7**
TTA	**Tatalina**	**79.77**	**11**	P	**P**	**19 08 13.0**	**-3.0**
TTA				IAmb	IAmb	19 08 35.5	
	comp=Z,24nm,1.5s						
W13A	**Hualapai Mount**	**79.98**	**50**	P	**P**	**19 08 14.8**	**-3.1**
BMN	**Battle Mountai**	**80.09**	**44**	P	**P**	**19 08 16.9**	**-1.5**
Y14A	**Wickenburg**	**80.13**	**51**	P	**P**	**19 08 19.0**	**+0.4**
WVOR	**Wild Horse Val**	**80.16**	**41**	P	**P**	**19 08 17.5**	**-1.2**
PRN	**Pahroc Range**	**80.17**	**47**	P	**P**	**19 08 18.4**	**-0.3**
PRN				IAmb	IAmb	19 08 40.0	
	comp=Z,31nm,1.7s						
SEY	**Seymchan**	**80.44**	**348**	P	**P**	**19 08 23.2**	**+3.8**
	comp=Z,2.0nm,0.7s,baz=156,slow=5.1,SNR=6.8						
BBB	**Bella Bella**	**80.44**	**29**	LR	LR	19 35 38.4	
	comp=Z,290nm,21.2s,baz=239,slow=29						
K20K	**Telida**	**80.53**	**12**	P	**P**	**19 08 18.3**	**-1.6**
K20K				IAmb	IAmb	19 08 34.4	
	comp=Z,15nm,1.1s						
TUC	**Tucson**	**81.16**	**53**	P	**P**	**19 08 22.3**	**-1.8**
TUC				IAmb	IAmb	19 08 45.5	
	comp=Z,22nm,1.8s						
SPR3	**Spring Creek 3**	**81.39**	**46**	P	**P**	**19 08 26.4**	**+0.9**
SPR3				IAmb	IAmb	19 08 50.8	
	comp=Z,15nm,1.4s						
CCUT	**Cedar City**	**81.43**	**48**	P	**P**	**19 08 24.2**	**-1.4**
X16A	**Lo Mia Camp, P**	**81.51**	**51**	P	**P**	**19 08 24.4**	**-1.7**
ELK	**Elko**	**81.57**	**44**	LR	LR	19 37 25.7	
	comp=Z,460nm,20.4s,baz=247,slow=30						
ELK	**Elko**	**81.57**	**44**	P	**P**	**19 08 25.9**	**-0.4**
KNB	**Kanab**	**81.59**	**48**	P	**P**	**19 08 27.0**	**+0.5**
KNB				IAmb	IAmb	19 08 47.7	
	comp=Z,29nm,1.9s						
SZCU	**Shurtz Canyon**	**81.65**	**48**	P	**P**	**19 08 26.8**	**0.0**
SZCU				IAmb	IAmb	19 08 47.9	
	comp=Z,24nm,1.7s						
RND	**Reindeer**	**81.67**	**14**	P	**P**	**19 08 27.3**	**+1.2**
RND				IAmb	IAmb	19 08 52.5	
	comp=Z,33nm,1.6s						
U15A	**North Rim**	**81.72**	**49**	P	**P**	**19 08 27.7**	**+0.4**
E08A	**Dider Farm, El**	**81.98**	**38**	P	**P**	**19 08 28.8**	**+0.8**
E08A				IAmb	IAmb	19 11 33.2	
	comp=Z,38nm,1.9s						
PSI	**Prapat**	**81.99**	**275**	LR	LR	19 44 29.3	
	comp=Z,59nm,21.0s,baz=124,slow=35						
WUAZ	**Wupatki**	**82.01**	**50**	P	**P**	**19 08 28.3**	**-0.4**
WUAZ				IAmb	IAmb	19 08 50.0	
	comp=Z,19nm,1.4s						
PKCU	**Pink Cliffs**	**82.14**	**48**	P	**P**	**19 08 30.6**	**+1.0**
BMO	**Blue Mountains**	**82.21**	**40**	P	**P**	**19 08 29.2**	**-0.2**
BMO				IAmb	IAmb	19 09 17.6	
	comp=Z,16nm,1.8s						
M26K	**Nabesna, AK**	**82.30**	**16**	P	**P**	**19 08 30.6**	**+1.2**
M26K				IAmb	IAmb	19 08 56.9	
	comp=Z,16nm,1.3s						
MFID	**Camas Ranch**	**82.44**	**41**	P	**P**	**19 08 28.0**	**-2.7**
MTPU	**Mount Pierson**	**82.48**	**48**	P	**P**	**19 08 27.9**	**-3.4**
MTPU				IAmb	IAmb	19 08 52.4	
	comp=Z,24nm,1.5s						
TCRU	**Three Creeks R**	**82.54**	**47**	P	**P**	**19 08 31.0**	**-0.5**
TCRU				IAmb	IAmb	19 09 02.2	
	comp=Z,12nm,1.2s						
WRH	**Wood River Hil**	**82.76**	**13**	P	**P**	**19 08 32.0**	**+0.2**
F10A	**Beach Ranch, E**	**82.82**	**39**	P	**P**	**19 08 29.2**	**-3.4**
F10A				IAmb	IAmb	19 09 03.0	
	comp=Z,15nm,1.4s						
IMAR	**Indian Mountai**	**82.97**	**11**	P	**P**	**19 08 33.0**	**+0.3**
DUG	**Dugway, Tooele**	**82.97**	**45**	P	**P**	**19 08 33.1**	**-0.5**
DUG				IAmb	IAmb	19 09 09.6	
	comp=Z,17nm,1.8s						
CCB	**Clear Creek Bu**	**82.98**	**13**	P	**P**	**19 08 34.2**	**+1.4**
CCB				IAmb	IAmb	19 09 02.9	
	comp=Z,11nm,1.1s						
DOT	**Dot Lake**	**83.04**	**15**	P	**P**	**19 08 33.4**	**+0.2**
XAN	**Xi'an**	**83.10**	**308**	P	P	19 08 41.1	+6.8
XAN				pP	pwP	19 08 50.1	+10
XAN				sP	PcP	19 08 54.9	+16
XAN				pmax	pmax		
	comp=Z,7.0nm,1.9s						
MDM	**Murphy Dome**	**83.15**	**13**	P	**P**	**19 08 33.7**	**0.0**
MDM				IAmb	IAmb	19 09 03.8	
	comp=Z,12nm,1.1s						
IL31		**83.29**	**14**	P	**P**	**19 08 34.0**	**-0.4**
IL31				IAmb	IAmb	19 09 04.6	
	comp=Z,16nm,1.2s						
ILAR	**Eielson Array**	**83.29**	**14**	P	**P**	**19 08 37.2**	**+2.8**
	comp=Z,3.3nm,1.0s,baz=226,slow=6.1,SNR=13						
ILAR	**Eielson Array**	**83.29**	**14**	P	**P**	**19 08 35.2**	**+0.7**
NLU	**North Lily Min**	**83.38**	**46**	P	**P**	**19 08 36.9**	**+1.1**
HLID	**Hailey**	**83.42**	**42**	P	**P**	**19 08 33.3**	**-2.6**
HLID				IAmb	IAmb	19 08 53.6	
	comp=Z,15nm,1.6s						
Q16A	**Castle Valley**	**83.58**	**47**	P	**P**	**19 08 35.5**	**-1.3**
HVU	**Hansel Valley**	**83.70**	**44**	P	**P**	**19 08 35.5**	**-1.8**
TMUT	**Trail Mountain**	**83.71**	**47**	P	**P**	**19 08 35.7**	**-1.9**
J26L	**Joseph Creek**	**83.86**	**15**	P	**P**	**19 08 38.1**	**+0.6**
J26L				IAmb	IAmb	19 09 09.2	
	comp=Z,12nm,1.2s						
CTU	**Camp Tracy**	**83.92**	**45**	P	**P**	**19 08 37.5**	**-1.0**
CTU				IAmb	IAmb	19 08 58.2	
	comp=Z,6.1nm,0.8s						
HHC	**Hu-ho-hao-te**	**83.96**	**315**	*e*P	P	19 08 43.3	+4.7
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.1s						
HHC				LR	LR		
	comp=N,190nm,18.4s						
HHC				LR	LR		
	comp=E,220nm,17.8s						
HHC				LR	LR		
	comp=Z,390nm,18.4s						
JLU	**Jordanelle**	**84.09**	**45**	P	**P**	**19 08 39.8**	**+0.3**
JLU				IAmb	IAmb	19 09 09.8	
	comp=Z,15nm,1.4s						
P17A	**Butcher Ranch,**	**84.11**	**47**	P	**P**	**19 08 37.5**	**-1.9**
SRU	**San Rafael Swe**	**84.11**	**47**	P	**P**	**19 08 38.3**	**-1.3**
EGAK	**Eagle**	**84.70**	**16**	P	**P**	**19 08 40.5**	**-1.2**
COLD	**Coldfoot**	**84.72**	**11**	P	**P**	**19 08 41.0**	**-0.7**
COLD				IAmb	IAmb	19 08 57.4	
	comp=Z,6.7nm,1.0s						
PV14	**Lion Creek, Pa**	**84.89**	**48**	P	**P**	**19 08 40.8**	**-2.8**
TXAR	**Lajitas Array**	**85.76**	**58**	P	**P**	**19 08 51.4**	**+3.5**
	comp=Z,0.7nm,0.7s,baz=215,slow=6.1,SNR=6.4						
TXAR	**Lajitas Array**	**85.76**	**58**	P	**P**	**19 08 46.1**	**-1.8**
CD2	**Chengdu**	**86.03**	**303**	*e*P	**P**	**19 08 48.0**	**-1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YMR	**Madison River**	**86.14**	**42**	P	**P**	**19 08 49.2**	**-0.4**
PDAR	**Pinedale Array**	**86.28**	**44**	P	**P**	**19 08 54.1**	**+3.7**
	comp=Z,1.6nm,0.9s,baz=200,slow=2.7,SNR=8.4						
PDAR	**Pinedale Array**	**86.28**	**44**	P	**P**	**19 08 49.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**86.31**	**290**	P	**P**	**19 08 53.7**	**+2.9**
	comp=Z,0.9nm,0.4s,baz=114,slow=3.1,SNR=9.0						
CMAR				LR	LR	19 45 06.0	
	comp=Z,154nm,19.9s,baz=110,slow=34						
CMAR	**Chiang Mai Arr**	**86.31**	**290**	P	**P**	**19 08 49.1**	**-1.7**
CHTO	**Chiang Mai**	**86.41**	**290**	P	**P**	**19 08 51.0**	**-0.2**
PMSA	**Palmer Station**	**87.26**	**157**	LR	LR	19 38 34.2	
	comp=Z,106nm,21.0s,baz=258,slow=29						
LZH	**Lanzhou**	**87.73**	**308**	*e*P	P	19 09 03.8	+6.3
LZH				pP	pwP	19 09 09.8	+6.4
LZH				sP	sP	19 09 12.3	+11
LZH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
LZH				LR	LR		
	comp=N,230nm,15.9s						
LZH				LR	LR		
	comp=E,230

WATA	**Walderalm**	**146.17**	**346**	*eP*	**PKiKP**	**19 15 50.3**	**-1.7**
	comp=Z,8.6nm,1.3s						
RETA	**Reutte**	**146.21**	**347**	*eP*	**PKiKP**	**19 15 51.1**	**-0.8**
	comp=Z,12nm,1.3s						
WTTA	**Wattenberg**	**146.22**	**346**	*eP*	**PKiKP**	**19 15 51.3**	**-0.9**
	comp=Z,14nm,1.2s						
MOTA	**Moosalm**	**146.27**	**346**	*eP*	**PKiKP**	**19 15 51.1**	**-1.1**
	comp=Z,8.1nm,0.9s						
SQTA	**Sankt Quirin**	**146.36**	**346**	*eP*	**PKiKP**	**19 15 52.2**	**-0.2**
	comp=Z,8.2nm,1.0s						
FETA	**Feichten**	**146.66**	**346**	*eP*	**PKiKP**	**19 15 54.5**	**+1.4**
	comp=Z,7.8nm,1.1s						
FNA	**Florina**	**148.09**	**328**		**PKPdf**	**19 15 51.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**177.57**	**226**	PKP	**PKPdf**	**19 16 22.1**	**+2.4**
	comp=Z,1.0nm,1.0s,baz=207,slow=1.7,SNR=3.7						

*IDC **22** 19:11:56.2±0.6, 8°.88S×74°.51W, h141km±5km, mb3.5/7, mb1 3.8/13, mb1mx3.7/32, mbtmp4.1/13, MS4.2/2, Ms1 4.2/2, ms1mx2.9/33, Error ellipse: s-maj=14.8km s-min=11.8km az=132.0*

*NEIC **22** 19:11:57.3±2.3, 8°.81S±0°.05×74°.54W±0°.06, h140km±7km, mb4.1/12, Error ellipse: s-maj=11.7km s-min=2.4km az=130.0*

*VAO **22** 19:11:59.5±0.7, 8°.73S×74°.29W, h139km±5km, mb4.2*

ISC 22 19:11:56.6±0.4, 8°.84S±0°.05×74°.54W±0°.05, h145km, n62, σ1§33/71, mb3.8/9, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.12**	**59**	*eP*	**Pn**	**19 12 34.0**	**+1.1**
CZSB	**Cruzeiro do Su**	**2.12**	**59**	Pn	**Pn**	**19 12 33.9**	**+0.9**
CZSB				Sn	**Sn**	19 13 00.5	**-0.3**
NNA	**Nana**	**3.87**	**216**	P	**Pn**	**19 12 55.7**	**+0.6**
	16nm,0.3s,baz=11,slow=3.7,SNR=24						
NNA				S	**Sn**	**19 13 38.9**	**-1.6**
	66nm,0.3s,baz=256,slow=15,SNR=11						
NNA				LR	LR	19 14 07.6	
	comp=Z,50nm,20.7s,baz=312,slow=34						
NNA	**Nana**	**3.87**	**216**	Pn	**Pn**	**19 12 56.1**	**+1.0**
NNA				Sn	**Sn**	**19 13 41.1**	**+0.6**
ATAH	**Atahualpa**	**4.18**	**294**	P	**Pn**	**19 12 59.9**	**+0.3**
	30nm,0.3s,baz=83,slow=3.8,SNR=442						
ATAH				S	**Sn**	**19 13 43.4**	**-4.9**
	7.3nm,0.3s,baz=314,slow=6.9,SNR=5.9						
TBTG	**Tabatinga, AM**	**6.52**	**45**	Pn	**Pn**	**19 13 30.0**	**-0.3**
ETMB	**Extrema**	**8.27**	**97**	*eP*	**Pn**	**19 13 51.8**	**-1.9**
ETMB	**Extrema**	**8.27**	**97**	Pn	**Pn**	**19 13 52.0**	**-1.8**
LPAZ	**La Paz**	**9.69**	**140**	P	**Pn**	**19 14 13.3**	**0.0**
	0.5nm,0.3s,baz=343,slow=9.4,SNR=5.4						
LPAZ	**La Paz**	**9.69**	**140**	*eP*	**Pn**	**19 14 14.7**	**+1.4**
LPAZ	**La Paz**	**9.69**	**140**	Pn	**Pn**	**19 14 14.1**	**+0.8**
OTAV	**Otavalo**	**9.82**	**336**	*eP*	**Pn**	**19 14 16.5**	**+1.6**
PB12	**IPOC Station P**	**10.54**	**158**	Pn	**Pn**	**19 14 20.7**	**-3.4**
VILB	**Vilhena**	**14.66**	**107**	*eP*	**Pn**	**19 15 18.6**	**+1.4**
VILB	**Vilhena**	**14.66**	**107**		**Pn**	**19 15 16.4**	**-0.8**
MACA	**Manacapuru-AM**	**14.88**	**69**	*eP*	**Pn**	**19 15 18.2**	**-1.8**
MACA	**Manacapuru-AM**	**14.88**	**69**	P	**Pn**	**19 15 20.8**	**+0.8**
SIV	**San Ignacio**	**14.94**	**120**	P	**Pn**	**19 15 20.7**	**0.0**
	1.3nm,0.3s,baz=292,slow=13,SNR=21						
SIV				S	**Sn**	**19 18 02.1**	**-4.7**
	0.8nm,0.3s,baz=267,slow=19,SNR=1.5						
ZARC	**Zaragoza, Cauc**	**16.22**	**359**		**Pn**	**19 15 36.8**	**+0.3**
PTLB	**Pontes e Lacer**	**16.42**	**115**	*eP*	**Pn**	**19 15 38.6**	**-0.3**
PTLB	**Pontes e Lacer**	**16.42**	**115**	P	**P**	**19 15 40.4**	**+1.3**
PTLB				IAmb	IAmb	19 15 41.8	
	comp=Z,8.4nm,0.9s						
PTGA	**Pitinga**	**16.59**	**62**	P	**P**	**19 15 40.0**	**-0.9**
	comp=Z,2.5nm,0.3s,baz=327,slow=23,SNR=16						
PTGA				S	S	19 18 34.7	-11
	comp=Z,0.3nm,0.3s,baz=328,slow=23,SNR=1.7						
PDRB	**Porto dos Gac**	**17.74**	**100**	*eP*	**P**	**19 15 54.4**	**+0.8**
BOAV	**Boa Vista**	**17.88**	**52**	*eP*	**P**	**19 15 55.8**	**+0.7**
BOAV	**Boa Vista**	**17.88**	**52**		**P**	**19 15 55.3**	**+0.2**
BOAV				IAmb	IAmb	19 15 59.8	
	comp=Z,11nm,1.1s						
SDV	**Santo Domingo**	**18.03**	**13**	P	**P**	**19 15 57.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=207,slow=6.8,SNR=2.4						
SDV	**Santo Domingo**	**18.03**	**13**	*eP*	**Pn**	**19 15 58.9**	**+0.5**
CLDB	**Colider**	**18.57**	**98**	*eP*	**P**	**19 16 03.1**	**+0.4**
SJCC	**San Jacinto, C**	**18.62**	**358**	P	**P**	**19 16 04.8**	**+1.6**
SJCC				IAmb	IAmb	19 16 12.4	
	comp=Z,17nm,1.2s						
BAUV	**El Baul**	**18.81**	**20**	P	**P**	**19 16 06.0**	**+0.8**
BAUV				IAmb	IAmb	19 16 08.7	
	comp=Z,11nm,0.7s						
NPGB	**Novo Progresso**	**19.08**	**86**	*eP*	**P**	**19 16 08.3**	**+0.1**
ITTB	**Itaituba**	**19.19**	**78**	*eP*	**P**	**19 16 10.9**	**+1.5**
SALV	**Santo Antonio**	**19.69**	**113**	*eP*	**Pn**	**19 16 17.3**	**-0.4**
BIRV	**Birongo**	**20.87**	**23**	P	**P**	**19 16 29.1**	**+1.6**
MALB	**Monte Alegre**	**21.33**	**72**	*eP*	**P**	**19 16 32.7**	**+0.3**
SNDB	**Serra Nova Dou**	**23.07**	**100**	*eP*	**P**	**19 16 49.8**	**+0.1**
MCPB	**Macapa, AP**	**23.92**	**71**	*eP*	**P**	**19 16 58.0**	**+0.5**
PRPB	**Parauapebas**	**24.65**	**86**	*eP*	**P**	**19 17 05.0**	**+0.9**
BDFB	**Brasilia**	**26.77**	**107**	P	**P**	**19 17 24.5**	**+1.2**
BDFB				IAmb	IAmb	19 17 57.1	
	comp=Z,6.1nm,1.2s						
SDBA	**SAO DESIDERIO**	**29.33**	**100**	*eP*	**P**	**19 17 47.6**	**+1.5**
PLTB	**Pedras Altas**	**29.98**	**142**	*eP*	**P**	**19 17 54.0**	**+2.5**
JANB	**Januaria**	**30.19**	**105**	*eP*	**P**	**19 17 55.4**	**+1.7**
NBPS	**Pedro II - PI**	**33.15**	**85**	*eP*	**P**	**19 18 19.8**	**+0.1**
NBPN	**Ponto Novo - B**	**33.88**	**96**	*eP*	**P**	**19 18 27.6**	**+1.7**
TXAR	**Lajitas Array**	**47.20**	**325**	P	**P**	**19 20 16.1**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=151,slow=8.7,SNR=10						
TXAR	**Lajitas Array**	**47.20**	**325**	P	**P**	**19 20 16.3**	**+1.2**
TX31	**Lajitas Ar. Si**	**47.20**	**325**	P	**P**	**19 20 15.2**	**+0.1**
TX32	**Lajitas Array**	**47.20**	**325**	P	**P**	**19 20 15.3**	**+0.2**
TX32				IAmb	IAmb	19 20 36.0	
	comp=Z,3.5nm,1.4s						
PDAR	**Pinedale Array**	**60.48**	**331**	P	**P**	**19 21 52.0**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=145,slow=5.4,SNR=5.1						
NVAR	**Mina Array Bea**	**62.22**	**322**	P	**P**	**19 22 03.0**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=152,slow=4.1,SNR=2.0						
FCC	**Fort Churchill**	**69.20**	**349**	P	**P**	**19 22 47.0**	**-0.3**
DBIC	**Dimbokro**	**71.14**	**80**	P	**P**	**19 22 59.9**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=284,slow=5.2,SNR=5.6						
DBIC				pP	**pP**	**19 23 34.7**	**-0.8**
	comp=Z,4.0nm,0.9s,baz=360,slow=16,SNR=2.9						
DBIC	**Dimbokro**	**71.14**	**80**	P	**P**	**19 22 60.0**	**-0.1**
FRB	**Frobisher Bay**	**72.51**	**3**	LR	LR	19 55 01.2	
	comp=Z,211nm,22.0s,baz=312,slow=36						
YKA	**Yellowknife Ar**	**77.53**	**342**	P	**P**	**19 23 35.9**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=140,slow=5.8,SNR=13						
YKA				pP	**pP**	**19 24 10.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=140,slow=6.2,SNR=4.1						
SFJD	**Kangerlussuaq**	**77.60**	**9**	LR	LR	19 58 32.8	
	comp=Z,128nm,21.4s,baz=314,slow=36						
TORD	**Torodi Ar. Bea**	**78.78**	**75**	P	**P**	**19 23 43.6**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=285,slow=5.1,SNR=11						
TORD				pP	**pP**	**19 24 18.5**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=284,slow=6.4,SNR=7.0						
ILAR	**Eielson Array**	**90.54**	**336**	P	**P**	**19 24 41.9**	**0.0**
	comp=Z,0.2nm,0.4s,baz=101,slow=4.8,SNR=2.4						
ILAR				pP	**pP**	**19 25 18.1**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=171,slow=2.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**132.05**	**16**	PKP	**PKPdf**	**19 30 53.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=1.9,SNR=2.7						
ZALV				pPKP	**pPKPdf**	**19 31 31.4**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=306,slow=3.5,SNR=3.4						
ASAR	**Alice Springs**	**137.38**	**220**	PKP	**PKPdf**	**19 31 04.3**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=121,slow=1.8,SNR=9.2						
ASAR				pPKP	**pPKPdf**	**19 31 42.0**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=116,slow=2.0,SNR=1.4						
WRA	**Warramunga Arr**	**139.68**	**225**	PKhKP	PKPpre	19 31 02.3	
	comp=Z,0.4nm,0.6s,baz=120,slow=1.9,SNR=7.0						
WRA				PKP	**PKPdf**	**19 31 08.7**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=119,slow=2.1,SNR=41						
WRA				pPKP	pPKPdf	19 31 45.5	-1.4
	comp=Z,0.3nm,0.6s,baz=134,slow=1.8,SNR=2.2						
PZH	**PanZhiHua**	**162.08**	**11**	PKP	**PKPdf**	**19 31 41.3**	**-0.4**

MAN 22 19:16:35.0, 14°.14N×120°.40E, h112km, mb4.3, ML3.1, MS2.8, 1C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACP	**Maragondon, Ca**	**0.33**	**69**	⇓*eP*	Pn	19 16 52.2	+1.1
MACP				*eS*	Sn	19 17 06.2	+3.0
LUBP	**Lubang**	**0.43**	**200**	⇓*eP*	Pn	19 16 53.4	+1.8
LUBP				*eS*	Sn	19 17 07.1	+2.9
PGP	**Puerto Galera**	**0.83**	**140**	⇑*eP*	Pn	19 16 55.2	+0.4
PGP				*i S*	Sn	19 17 11.4	+1.8
SCZP	**Santa Cruz**	**1.69**	**344**	⇓*eP*	Pn	19 17 05.3	+1.0
SCZP				*eS*	Sn	19 17 28.0	+1.5
BALP	**Baler**	**1.95**	**35**	⇓*iP*	Pn	19 17 08.1	+0.6
BALP				*i S*	Sn	19 17 33.1	+0.8
SMPP	**San Manuel, Pa**	**2.01**	**8**	⇓*eP*	Pn	19 17 08.4	+0.2
SMPP				*eS*	Sn	19 17 34.3	+0.6

IDC 22 20:10:48.2±19.0, 0°.46S×12°.95W, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.5/30, mbtmp3.7/3, ML3.6/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/74, Error ellipse: s-maj=445.3km s-min=85.1km az=168.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.48**	**192**	T	T	20 19 27.2	
	baz=9.1,slow=74,SNR=244						
H10N3	**ASCENSION HYDR**	**7.49**	**192**	T	T	20 19 31.5	
	baz=9.1,slow=74,SNR=177						
H10N1	**ASCENSION HYDR**	**7.49**	**192**	T	T	20 19 28.5	
	baz=9.1,slow=74,SNR=465						
DBIC	**Dimbokro**	**10.74**	**49**	Pn	Pn	20 13 23.6	+0.2
	0.2nm,0.3s,baz=228,slow=21,SNR=2.0						
DBIC				Sn	Sn	20 15 22.8	-1.7
	0.3nm,0.3s,baz=162,slow=11,SNR=1.7						
TORD	**Torodi Ar. Bea**	**19.84**	**47**	P	P	20 15 20.7	-0.1
	0.5nm,0.3s,baz=231,slow=10,SNR=23						
GERES	**GERESS Array B**	**54.24**	**21**	P	P	20 20 15.9	-0.1
	0.6nm,0.8s,baz=221,slow=7.9,SNR=4.5						
GERES				LR	LR	20 44 16.0	
	comp=Z,63nm,18.1s,baz=268,slow=37						

*ASRS **22** 20:11:37.6±0.3, 47°N±2°×8°.2E±°, h10km, MLh4.0/5, Error ellipse: s-maj=5.2km s-min=2.9km az=115.7*

*SOME **22** 20:11:38.8, 47°.48N×82°.07E, h5km*

*NNC **22** 20:11:40.6±1.2, 47°.32N×82°.36E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=9.0km s-min=5.9km az=170.0*

ISC 22 20:11:40.2±1.2, 47°.30N±0°.03×82°.34E±0°.04, h11km±11km, n49, σ2§96/87, 7C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.51**	**184**	⇓P	**Pg**	**20 11 50.5**	**+0.3**
	28nm,0.1s,baz=15,slow=18,SNR=4506						
MK31				⇓S	**Sb**	**20 11 59.1**	**+0.4**
	57nm,0.2s,baz=15,slow=28,SNR=41						
MKAR	**Makanchi Array**	**0.51**	**184**	⇓Pg	**Pg**	**20 11 50.5**	**+0.3**
MKAR				Sg	**Sb**	**20 11 59.2**	**+0.5**
MAKZ	**Makanchi**	**0.55**	**206**	⇑P	**Pg**	**20 11 51.4**	**+0.5**
	33nm,0.2s						
MAKZ				⇑S	**Sb**	**20 12 00.1**	**+0.2**
	188nm,0.3s						
MAKZ	**Makanchi**	**0.55**	**206**	Pg	**Pg**	**20 11 51.6**	**+0.6**
MAKZ				Sg	**Sb**	**20 12 01.0**	**+1.1**
ZSN	**Zaisan**	**1.73**	**84**	*eP*	**Pn**	**20 12 08.9**	**-1.4**
	67nm,0.1s						
ZSN				*eS*	**Sn**	**20 12 31.4**	**-0.9**
	112nm,0.2s						
ZSN	**Zaisan**	**1.73**	**84**	P	**Pn**	**20 12 08.9**	**-1.4**
	67nm,0.1s						
ZSN				S	**Sn**	**20 12 31.4**	**-0.9**
	112nm,0.2s						
KAPS	**Kapalarasan**	**2.89**	**227**	*eP*	**Pb**	**20 12 31.4**	**-0.4**
	5.9nm,0.4s						
KAPS				*eS*	**Sb**	**20 13 09.2**	**+2.0**
	70nm,0.2s						
KAPS	**Kapalarasan**	**2.89**	**227**	Pg	**Pb**	**20 12 31.9**	**+0.1**
	8.5nm,0.2s						
KAPS				Lg	Lg	20 13 09.1	
	70nm,0.2s						
SEM	**Semipalatinsk**	**3.40**	**337**	*eP*	**Pn**	**20 12 37.1**	**+3.7**
	14nm,0.3s						
SEM				*eS*	**Sb**	**20 13 19.8**	**-2.3**
	71nm,0.2s						
SEM	**Semipalatinsk**	**3.40**	**337**	Pg	**Pn**	**20 12 37.1**	**+3.7**
	14nm,0.3s						
SEM				Lg	Lg	20 13 19.8	
	71nm,0.2s						
DJR	**Jarkent**	**3.46**	**212**	*eP*	**Pb**	**20 12 43.0**	**+1.4**
	4.6nm,0.1s						
DJR				*eS*	**Sg**	**20 13 29.8**	**-1.7**
	15nm,0.3s						
DJR	**Jarkent**	**3.46**	**212**	Pg	**Pb**	**20 12 43.0**	**+1.4**
	4.6nm,0.1s						
DJR				Lg	Lg	20 13 29.8	
	15nm,0.3s						
TDK	**Taldyqorghan**	**3.57**	**231**	*eP*	**Pb**	**20 12 46.6**	**+3.2**
	25nm,0.4s						
TDK				*eS*	**Sg**	**20 13 34.6**	**-0.3**
	71nm,0.5s						
TDK	**Taldyqorghan**	**3.57**	**231**	Pg	**Pb**	**20 12 46.6**	**+3.2**
	25nm,0.4s						
TDK				Lg	Lg	20 13 34.6	
	71nm,0.5s						
UKR	**Ust'-Kan**	**3.97**	**23**	Pn	**Pn**	**20 12 40.0**	**-1.2**
UKR				Pg	**Pb**	**20 12 47.7**	**-2.6**
UKR				S	**Sn**	**20 13 23.8**	**-4.0**
UKR				Sg	**Sb**	**20 13 40.4**	**+2.0**
DGZ	**Jazzator, Alta**	**4.15**	**53**	Pn	**Pn**	**20 12 43.0**	**-0.7**
DGZ				Pg	**Pb**	**20 12 53.1**	**-0.2**
DGZ				Sg	**Sb**	**20 13 44.7**	**+1.1**
KURBB	**Kurchatov Arra**	**4.16**	**324**	⇑Pg	**Pb**	**20 12 52.7**	**-0.8**
	7.4nm,0.4s						
KURBB				⇑Lg	Lg	20 13 48.9	
	173nm,0.6s						
BLB	**Baldybastay**	**4.19**	**222**	*eP*	**Pb**	**20 12 57.5**	**+3.4**
	6.2nm,0.6s						
BLB				*eS*	**Sg**	**20 13 54.4**	**-0.5**
	45nm,0.3s						
BLB	**Baldybastay**	**4.19**	**222**	Pg	**Pg**	**20 12 58.8**	**-1.8**
	19nm,0.3s						
BLB				Lg	Lg	20 13 54.4	
	45nm,0.3s						
KURK	**Kurchatov**	**4.20**	**326**	⇑Pg	**Pb**	**20 12 53.2**	**-0.9**
	3.8nm,0.3s						
KURK				⇓Lg	Lg	20 13 48.8	
	41nm,0.4s						
KURK	**Kurchatov**	**4.20**	**326**	Pn	**Pn**	**20 12 43.7**	**-0.5**
KURK				Pg	**Pb**	**20 12 54.0**	**-0.1**
KURK				Sg	**Sb**	**20 13 48.9**	**+4.1**
ARXS	**Arharly**	**4.42**	**227**	*eP*	**Pb**	**20 13 01.3**	**+3.4**
	3.7nm,0.2s						
ARXS				*eS*	**Sg**	**20 14 00.3**	**-1.6**
	98nm,0.4s						
ARXS	**Arharly**	**4.42**	**227**	Pg	**Pb**	**20 13 01.3**	**+3.4**
	3.7nm,0.2s						
ARXS				Lg	Lg	20 14 00.3	
	98nm,0.4s						
PDGK	**Podgornoye**	**4.45**	**208**	⇑Pn	**Pn**	**20 12 49.2**	**+1.4**
	8.4nm,0.6s						
PDGK				⇓Lg	Lg	20 14 00.3	
	13nm,0.5s						
CHBI	**Chibit, Altay**	**4.55**	**47**	Pn	**Pn**	**20 12 48.9**	**-0.3**
CHBI				Pg	**Pb**	**20 13 02.4**	**+2.3**
CHBI				S	**Sn**	**20 13 40.7**	**-1.4**
CHBI				Sg	**Sb**	**20 13 58.1**	**+3.1**
AKAR	**Aktash**	**4.62**	**47**	Pn	**Pn**	**20 12 49.1**	**-1.0**
AKAR				Sg	**Sb**	**20 13 59.5**	**+2.6**
UZB	**Uzynbulak**	**4.77**	**211**	*eP*	**Pb**	**20 13 05.9**	**+2.0**
	5.6nm,0.3s						
UZB				*eS*	**Sg**	**20 14 09.3**	**-4.0**
	21nm,0.3s						
UZB	**Uzynbulak**	**4.77**	**211**	Pg	**Pb**	**20 13 05.9**	**+2.0**
	5.6nm,0.3s						
UZB				Lg	Lg	20 14 09.3	
	21nm,0.3s						
KURS	**Kuram**	**4.81**	**219**	*eP*	**Pb**	**20 13 08.4**	**+3.8**
	2.7nm,0.2s						
KURS				*eS*	**Sg**	**20 14 12.3**	**-2.3**
	7.5nm,0.5s						
KURS	**Kuram**	**4.81**	**219**	Pg	**Pb**	**20 13 08.4**	**+3.8**
	2.7nm,0.2s						
KURS				Lg	Lg	20 14 12.4	
	7.5nm,0.5s						
CUR	**Chagan-Uzun**	**4.87**	**53**	Pn	**Pn**	**20 12 52.6**	**-0.9**
CUR				Pg	**Pb**	**20 13 08.6**	**+3.0**
CUR				Sg	**Sb**	**20 14 07.9**	**+3.7**
ZHN	**Zhinishke**	**4.97**	**215**	*eP*	**Pb**	**20 13 09.2**	**+1.9**
	7.7nm,0.1s						
ZHN				*eS*	**Sg**	**20 14 14.6**	**-5.1**
	39nm,0.1s						
ZHN	**Zhinishke**	**4.97**	**215**	Pg	**Pb**	**20 13 09.2**	**+1.9**
	7.7nm,0.1s						
ZHN				Lg	Lg	20 14 14.6	
	39nm,0.1s						
ULGR	**Ulagan, Altay**	**4.98**	**46**	Pn	**Pn**	**20 12 54.8**	**-0.2**
ULGR				Pg	Pb	20 12 55.9	-12
ULGR				S	**Sn**	**20 13 52.6**	**+0.1**
ULGR				Sg	**Sb**	**20 14 12.3**	**+5.1**
SATY	**Saty**	**5.07**	**215**	*eP*	**Pb**	**20 13 13.6**	**+4.5**
	3.8nm,0.3s						
SATY				*eS*	**Sg**	**20 14 20.5**	**-2.5**
	25nm,0.3s						
SATY	**Saty**	**5.07**	**215**	Pg	**Pb**	**20 13 13.6**	**+4.5**
	3.8nm,0.3s						
SATY				Lg	Lg	20 14 20.5	
	25nm,0.3s						
CHKK	**Chushkaly**	**5.10**	**229**	*eP*	**Pb**	**20 13 12.9**	**+3.4**
	1.8nm,0.2s						
CHKK				*eS*	**Sg**	**20 14 19.8**	**-4.0**
	19nm,0.3s						
CHKK	**Chushkaly**	**5.10**	**229**	Pg	**Pb**	**20 13 12.9**	**+3.4**
	1.8nm,0.2s						
CHKK				Lg	Lg	20 14 19.8	
	19nm,0.3s						
KTBS	**Karatobe**	**5.36**	**230**	*eP*	**Pb**	**20 13 17.8**	**+3.9**
	1.9nm,0.2s						
KTBS				*eS*	**Sg**	**20 14 28.2**	**-3.9**
	33nm,0.5s						
KTBS	**Karatobe**	**5.36**	**230**	Pg	**Pb**	**20 13 17.8**	**+3.9**
	1.9nm,0.2s						
KTBS				Lg	Lg	20 14 28.2	
	33nm,0.5s						
ARTR	**Artybash**	**5.53**	**34**	Pn	**Pn**	**20 13 00.8**	**-1.7**
ARTR				S	**Sn**	**20 14 02.3**	**-3.8**
ARTR				Sg	**Sb**	**20 14 25.0**	**+1.9**
MDOK	**Medeo**	**5.57**	**224**	Pg	**Pg**	**20 13 28.2**	**+1.3**
	4.1nm,0.5s						
MDOK				Lg	Lg	20 14 34.9	
	12nm,0.6s						
TNSS	**Tian-Shan**	**5.72**	**224**	*eP*	**Pb**	**20 13 23.9**	**+3.7**
	1.4nm,0.1s						
TNSS				*eS*	**Sg**	**20 14 38.6**	**-5.2**
	6.2nm,0.4s						
TNSS	**Tian-Shan**	**5.72**	**224**	Pg	**Pb**	**20 13 23.9**	**+3.7**
	1.4nm,0.1s						
TNSS				Lg	Lg	20 14 38.6	
	6.2nm,0.4s						
ELT	**Eltsovka**	**6.47**	**21**	Pn	**Pn**	**20 13 13.1**	**-2.2**
ELT				S	**Sn**	**20 14 21.7**	**-7.4**
ELT				Sg	**Sb**	**20 14 57.2**	**+7.3**
TKM2	**Tokmak 2**	**6.47**	**230**	Pn	**Pn**	**20 13 19.8**	**+4.1**
TKM2				Lg	Lg	20 15 05.5	
TASR	**Tashtagol**	**6.53**	**31**	S	**Sn**	**20 14 25.5**	**-5.1**
TASR				Sg	**Sb**	**20 14 57.7**	**+6.0**
OTUK	**Ortayu**	**6.80**	**282**	Pn	**Pn**	**20 13 20.8**	**+0.7**
OTUK				Lg	Lg	20 15 12.4	
AAK	**Ala-Archa**	**7.26**	**233**	⇑Pn	Pn	20 13 31.4	+5.1
	1.0nm,0.5s						
AAK				⇓Lg	Lg	20 15 28.9	
	5.0nm,0.7s						

*ISN **22** 20:35:36.5±0.9, 32°.54N×47°.75E, h9km±19km, ML3.5*

*TEH **22** 20:35:37.1, 32°.60N×47°.75E, h7km, ML3.6*

ISC 22 20:35:36.8±1.3, 32°.57N±0°.03×47°.74E±0°.03, h1km±12km, n51, σ1§56/56, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.41**	**286**	*ePg*	**Pg**	**20 35 44.9**	**+0.3**
DHL1				*eSg*	**Sb**	**20 35 52.3**	**-1.2**
IKFM	**Kafar-mosalman**	**0.96**	**5**	*ePg*	**Pg**	**20 35 54.6**	**-0.5**
IDOB	**Doab**	**1.27**	**17**	*ePg*	**Pg**	**20 36 01.5**	**+0.4**
BMDN	**Meydan**	**1.43**	**39**	*e*		20 36 34.7	
	comp=Z,8μm,0.3s						
BMDN				*ePg*	**Pg**	**20 36 04.4**	**+0.3**
AHWZ	**Ahwaz**	**1.45**	**148**	*eSg*	**Sg**	**20 36 26.9**	**+3.4**
AHWZ				*ePg*	**Pg**	**20 36 05.4**	**+0.8**
AMIS	**Naft Sefid**	**1.59**	**124**	*ePg*	**Pg**	**20 36 07.3**	**0.0**
IBDR	**Badra**	**1.62**	**290**	*ePn*	**Pb**	**20 36 07.2**	**-0.3**
IBDR				*eSn*	**Sg**	**20 36 29.0**	**+0.2**
IBDR				AML	AML	20 36 35.0	
	comp=E,370nm,0.7s						
IBDR				AML	AML	20 36 37.2	
	comp=N,562nm,0.7s						
RAFI	**Al-Rafai**	**1.62**	**239**	*ePn*	**Pg**	**20 36 07.2**	**-0.6**
RAFI				*eSn*	**Sg**	**20 36 29.0**	**+0.2**
RAFI				AML	AML	20 36 42.4	
	comp=E,1μm,0.5s						
HSAM	**Samen**	**1.79**	**23**	*ePg*	**Pg**	**20 36 10.9**	**-0.2**
HSAM				*e*		20 36 12.4	
	comp=Z,3μm,0.2s						
KCHF	**Cheshme Sefid,**	**1.80**	**341**	*e*		20 36 39.2	
	comp=Z,6μm,0.4s						
KCHF				*ePn*	**Pb**	**20 36 09.8**	**-0.9**
KER	**Kermanshah**

GCMT **22** *20:51:45.6±0.2, 28°.20N±0°.01×55°.18E±0°.02, h21km, MW5.1/114, Moment Tensor Solution. s63,c86; s114,c183; Duration: 0 Moment tensor: Scale 1016Nm; Mrr5.19±.21; Mθθ-6.19±.14; Mφφ 1.00±.14; Mrθ-0.79±.23; Mφφ-2.24±.11; Mφr-1.33±.33; Best double couple: M0 6.25800×1016 NP1:φs89.00000°, δ42.00000°, λ113.00000°. NP2:φs240.00000°, δ52.00000°, λ71.00000°. Principal axes: T 5.5780, Plg74.0000°, Azm93.0000°; N 1.3590, Plg15.0000°, Azm252.0000°; P -6.9370, Plg5.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC **22** *20:51:45.9±1.7, 28°.28N×55°.42E, h18km±9km, mb5.1/41, mb1 5.2/46, mb1mx5.1/55, mbtmp5.2/46, ML4.6/5, MS4.4/67, Ms1 4.4/67, ms1mx4.3/86 Error ellipse: s-maj=7.4km s-min=6.6km az=19.0*

DSN **22** *20:51:46.5±0.4, 28°.29N×55°.30E, h10km, mb5.5/4, ML5.2/13, Error ellipse: s-maj=8.5km s-min=5.1km az=79.0*

THR **22** *20:51:46.8±1.0, 28°.38N×55°.30E, h15km±8km, ML5.1*

TEH **22** *20:51:46.3, 28°.26N×55°.35E, h16km, ML5.4*

NEIC **22** *20:51:46.6±1.8, 28°.35N±0°.05×55°.29E±0°.06, h20km±3km, mb5.5/297, Mww5.1, mb_Lg5.4(TEH), Error ellipse: s-maj=7.9km s-min=6.1km az=128.0*

OMAN **22** *20:51:48.9±0.0, 28°.21N×55°.40E, h28km, mb6.5/14, ml5.5/16, Mwp5.3/14, Error ellipse: s-maj=1.2km s-min=0.8km az=243.0*

BGR **22** *20:51:48.1±0.0, 28°.01N×54°.68E, h21km, mb5.2, Ms4.3*

NEIC **22** *20:51:49, 28°.24N×55°.42E, h18km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 1016Nm; Mrr5.24; Mθθ-3.83; Mφφ-1.41; Mrθ-2.90; Mφφ-2.06; Mφr-1.23; Fault plane solution: M0 6.02000×1016 NP1: φs57.00000°, δ29.00000°, λ84.00000°. NP2:φs244.00000°, δ61.00000°, λ93.00000°. Principal axes: T 6.1425, Plg74.0000°, Azm162.0000°; N -0.2500, Plg3.0000°, Azm62.0000°; P -5.8925, Plg16.0000°, Azm331.0000°;*

ISC 22 20:51:46.7±0.4, 28°.28N±0°.02×55°.34E±0°.02, h23km±2km, h23km:pP-P, n1507, σ1s57/1614, mb5.4/393, MS4.5/100, 121C-41D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**1.05**	**235**	*e*		20 52 31.9	
	comp=Z,1002μm,0.6s						
LAR1				*e*Pg	**Pb**	**20 52 06.3**	**0.0**
LAR1	**LAR**	**1.05**	**235**		**Pb**	**20 52 06.3**	**0.0**
GENO	**Geno**	**1.14**	**140**	*e*		20 52 29.8	
	comp=Z,1240μm,0.9s						
GENO				*e*Pg	**Pn**	**20 52 07.3**	**-0.2**
GENO	**Geno**	**1.14**	**140**		**Pn**	**20 52 07.3**	**-0.2**
JHRM	**Jahrom**	**1.57**	**279**	*e*Pg	**Pb**	**20 52 15.9**	**+0.7**
JHRM				*e*		20 52 49.2	
	comp=Z,48μm,0.5s						
JHRM	**Jahrom**	**1.57**	**279**	Pg	**Pb**	**20 52 15.9**	**+0.7**
NGRK	**Negar Kerman**	**1.82**	**41**	*e*Pn	**Pn**	**20 52 17.9**	**+0.9**
NGRK				*e*		20 52 52.6	
	comp=Z,36μm,1.1s						
NGRK	**Negar Kerman**	**1.82**	**41**	Pn	**Pn**	**20 52 17.9**	**+0.9**
QIR1	**Qir**	**2.04**	**276**	*e*Pn	**Pb**	**20 52 22.0**	**-1.1**
QIR1				*e*		20 53 04.9	
	comp=Z,56μm,0.6s						
GHIR	**Ghir-Karzin**	**2.08**	**271**	*e*Pn	**Pb**	**20 52 22.8**	**-1.1**
GHIR	**Ghir-Karzin**	**2.08**	**271**	*e*Pn	**Pb**	**20 52 22.8**	**-1.1**
GHIR				*e*Sg	**Sb**	**20 52 51.3**	**+2.0**
GHIR				IAML		20 53 09.8	
	comp=N,6μm,0.5s						
KRBR	**Kerman**	**2.10**	**36**	*e*Pn	**Pb**	**20 52 23.0**	**-1.4**
KRBR	**Kerman**	**2.10**	**36**	*e*Pn	**Pb**	**20 52 23.0**	**-1.4**
KRBR				*e*Sg	**Sb**	**20 52 51.2**	**+1.0**
KRBR				IAML		20 52 59.7	
	comp=E,16μm,0.6s						
KRBR				IAML		20 53 02.4	
	comp=N,18μm,0.5s						
TVBK	**TV Kerman**	**2.10**	**36**	*e*Pn	**Pb**	**20 52 23.1**	**-1.3**
TVBK				*e*		20 53 03.3	
	comp=Z,84μm,0.5s						
TVBK	**TV Kerman**	**2.10**	**36**	Pn	**Pb**	**20 52 23.1**	**-1.3**
KHNJ	**Kahnooj**	**2.11**	**98**	*e*Pn	**Pn**	**20 52 21.8**	**+1.1**
KHNJ	**Kahnooj**	**2.11**	**98**	Pn	**Pn**	**20 52 21.7**	**+1.1**
LMD1	**Lamerd**	**2.15**	**245**	*e*Pn	**Pb**	**20 52 24.0**	**-0.9**
LMD1				*e*		20 53 21.8	
	comp=Z,27μm,1.4s						
LMD1	**Lamerd**	**2.15**	**245**	Pn	**Pb**	**20 52 24.0**	**-0.9**
KHGB	**Koh Gabri**	**2.31**	**25**	*e*Pn	**Pn**	**20 52 25.5**	**+1.9**
KHGB				*e*		20 53 07.8	
	comp=Z,780nm,1.2s						
SHME	**Shamm**	**2.33**	**162**	*e*Pn	**Pn**	**20 52 24.7**	**+1.0**
SHME	**Shamm**	**2.33**	**162**	P	**Pn**	**20 52 24.9**	**+1.3**
	SNR=340						
SHME				P	**Pn**	**20 52 24.9**	**+1.3**
	SNR=340						
SHME				S	**Sb**	**20 52 55.0**	**-1.4**
SHME				S	**Sb**	**20 52 55.0**	**-1.4**
SHME	**Shamm**	**2.33**	**162**	Pn	**Pn**	**20 52 24.6**	**+0.9**
SHME	**Shamm**	**2.33**	**162**	*e*P	**Pn**	**20 52 24.8**	**+1.2**
	SNR=28						
CHMN	**Cheshme madani**	**2.49**	**50**	*e*Pn	**Pn**	**20 52 28.3**	**+2.1**
CHMN				*e*		20 53 08.1	
	comp=Z,97μm,0.8s						
CHMN	**Cheshme madani**	**2.49**	**50**	Pn	**Pn**	**20 52 28.2**	**+2.1**
BANOM	**Banah**	**2.50**	**160**	*e*Pn	**Pn**	**20 52 28.3**	**+2.3**
BANOM	**Banah**	**2.50**	**160**	P	**Pn**	**20 52 27.1**	**+1.1**
	SNR=102						
BANOM				S	**Sn**	**20 52 57.9**	**+2.1**
BANOM	**Banah**	**2.50**	**160**	*e*P	**Pn**	**20 52 27.1**	**+1.1**
	SNR=102						
UMQ	**Umm Al-Quwin**	**2.76**	**174**	*e*Pn	**Pb**	**20 52 33.2**	**-2.1**
UMQ	**Umm Al-Quwin**	**2.76**	**174**	P	**Pb**	**20 52 33.3**	**-2.1**
	SNR=11						
UMQ				P	**Pb**	**20 52 33.3**	**-2.1**
	SNR=11						
UMQ	**Umm Al-Quwin**	**2.76**	**174**	*e*P	**Pn**	**20 52 32.0**	**+2.5**
	SNR=12						
SHI	**Shiraz**	**2.83**	**299**	*e*Pn	**Pn**	**20 52 32.3**	**+1.6**
SHI				*e*		20 53 59.6	
	comp=Z,73μm,1.1s						
KBAM	**BAM**	**2.86**	**72**	*e*Pn	**Pb**	**20 52 34.2**	**-3.0**
KBAM				*e*		20 53 23.9	
	comp=Z,14μm,0.7s						
ZRDN	**Zarand Kerman**	**2.87**	**21**	*e*Pn	**Pn**	**20 52 33.9**	**+2.6**
MASF	**Masafi**	**2.99**	**166**	P	**Pn**	**20 52 35.0**	**+2.3**
	SNR=208						
MASF				P	**Pn**	**20 52 35.0**	**+2.3**
	SNR=208						
MASF				S	**Sn**	**20 53 09.1**	**+1.3**
MASF				S	**Sn**	**20 53 09.1**	**+1.3**
MSFE	**Esma-Masafi**	**3.00**	**166**	*e*Pn	**Pn**	**20 52 35.4**	**+2.5**
MSFE	**Esma-Masafi**	**3.00**	**166**	*i* P	**Pn**	**20 52 34.9**	**+2.0**
	SNR=208						
IMEH	**Mehriz**	**3.17**	**349**	*e*Pn	**Pn**	**20 52 38.2**	**+2.8**
IMEH				*e*		20 53 33.3	
	comp=Z,68μm,0.7s						
NAZ	**Nazwa, Dubai**	**3.29**	**175**	*e*Pn	**Pn**	**20 52 39.8**	**+2.9**
NAZ	**Nazwa, Dubai**	**3.29**	**175**	P	**Pn**	**20 52 40.0**	**+3.1**
	SNR=109						
NAZ				P	**Pn**	**20 52 40.0**	**+3.1**
	SNR=109						
NAZ	**Nazwa, Dubai**	**3.29**	**175**	*i* P	**Pn**	**20 52 39.7**	**+2.9**
	SNR=110						
UOSS	**Minazif**	**3.41**	**167**	*e*Pn	**Pn**	**20 52 40.2**	**+1.7**
UOSS	**Minazif**	**3.41**	**167**	Pn	**Pn**	**20 52 40.1**	**+1.6**
UOSS	**Minazif**	**3.41**	**167**	*i* P	**Pn**	**20 52 40.2**	**+1.7**
	SNR=364						
HATD	**Hatta, Dubai**	**3.51**	**168**	*e*Pn	**Pn**	**20 52 42.2**	**+2.3**
HATD	**Hatta, Dubai**	**3.51**	**168**	P	**Pn**	**20 52 42.0**	**+2.1**
	SNR=291						
HATD				P	**Pn**	**20 52 42.0**	**+2.1**
	SNR=291						
HATD				S	**Sn**	**20 53 20.7**	**-0.1**
HATD				S	**Sn**	**20 53 20.7**	**-0.1**
HATD	**Hatta, Dubai**	**3.51**	**168**	*i* P	**Pn**	**20 52 41.8**	**+1.9**
	SNR=297						
KAZ1	**Kazerun**	**3.51**	**293**	*e*Pn	**Pn**	**20 52 41.2**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.53**	**176**	*e*Pn	**Pn**	**20 52 42.5**	**+2.4**
FAQ	**Al Faqa, Dubai**	**3.53**	**176**	P	**Pn**	**20 52 43.0**	**+2.9**
	SNR=226						
FAQ				P	**Pn**	**20 52 43.0**	**+2.9**
	SNR=226						
FAQ	**Al Faqa, Dubai**	**3.53**	**176**	*i* P	**Pn**	**20 52 42.8**	**+2.7**
	SNR=38						
AHBU	**AHRAM**	**3.61**	**280**	*e*Pn	**Pn**	**20 52 42.5**	**+1.3**
ASHO	**Ashiyiah**	**3.64**	**170**	*e*Pn	**Pn**	**20 52 43.9**	**+2.3**
ASHO	**Ashiyiah**	**3.64**	**170**	P	**Pn**	**20 52 44.0**	**+2.3**
	SNR=118						
ASHO				S	**Sn**	**20 53 27.1**	**+3.2**
ASHO	**Ashiyiah**	**3.64**	**170**	*i* P	**Pn**	**20 52 43.4**	**+1.7**
	SNR=118						
ASUD	**Al Ashush, Dub**	**3.64**	**180**	*e*Pn	**Pn**	**20 52 45.1**	**+3.5**
ASUD	**Al Ashush, Dub**	**3.64**	**180**	P	**Pn**	**20 52 45.0**	**+3.3**
	SNR=131						
ASUD				P	**Pn**	**20 52 45.0**	**+3.3**
	SNR=131						
ASUD	**Al Ashush, Dub**	**3.64**	**180**	*i* P	**Pn**	**20 52 44.5**	**+2.8**
	SNR=233						
AJN	**Ajban**	**3.71**	**185**	*e*Pn	**Pn**	**20 52 45.6**	**+2.9**
AJN	**Ajban**	**3.71**	**185**	P	**Pn**	**20 52 45.4**	**+2.8**
	SNR=66						
AJN				P	**Pn**	**20 52 45.4**	**+2.8**
	SNR=66						
AJN				S	**Sn**	**20 53 28.1**	**+2.4**
AJN				S	**Sn**	**20 53 28.1**	**+2.4**
AJN	**Ajban**	**3.71**	**185**	*i* P	**Pn**	**20 52 45.1**	**+2.4**
	SNR=66						
ISAD	**Sadrabad**	**3.90**	**339**	*e*Pn	**Pn**	**20 52 48.4**	**+2.9**
ICHK	**Chekchek**	**4.04**	**349**	*e*Pn	**Pn**	**20 52 49.7**	**+2.4**
YZKH	**Yazd**	**4.15**	**351**	*e*Pn	**Pn**	**20 52 51.7**	**+2.9**
YZKH				IAML		20 54 14.6	
	comp=E,1μm,0.4s						
ALNE	**Al Ain**	**4.22**	**175**	*e*Pn	**Pn**	**20 52 52.0**	**+2.3**
ALNE	**Al Ain**	**4.22**	**175**	P	**Pn**	**20 52 52.0**	**+2.3**
	SNR=54						
ALNE				S	**Sn**	**20 53 40.3**	**+2.0**
ALNE	**Al Ain**	**4.22**	**175**	*i* P	**Pn**	**20 52 51.8**	**+2.1**
	SNR=54						
KLNJ	**Kolanjah**	**4.25**	**311**	*e*Pn	**Pn**	**20 52 51.7**	**+1.3**
IRAM	**Ramesheh**	**4.36**	**325**	*e*Pn	**Pn**	**20 52 54.2**	**+2.5**
SHMA	**Al-Shehemyia**	**4.59**	**239**	P	**Pn**	**20 52 56.7**	**+2.0**
SHMA				S	**Sn**	**20 53 49.9**	**+2.6**
MZWR	**Madinat Zayed**	**4.69**	**197**	*e*Pn	**Pn**	**20 52 57.8**	**+1.7**
MZWR	**Madinat Zayed**	**4.69**	**197**	P	**Pn**	**20 52 58.0**	**+1.9**
MZWR				P	**Pn**	**20 52 58.0**	**+1.9**
MZWR				S	**Sn**	**20 53 51.9**	**+2.1**
MZWR				S	**Sn**	**20 53 51.9**	**+2.1**
GHWR	**Ruwais**	**4.84**	**208**	*e*Pn	**Pn**	**20 52 59.2**	**+1.1**
GHWR	**Ruwais**	**4.84**	**208**	P	**Pn**	**20 52 59.2**	**+1.1**
GHWR				S	**Sn**	**20 53 54.5**	**+1.1**
SAKB	**Bahrain**	**4.86**	**243**	P	**Pn**	**20 53 00.6**	**+2.2**
TPRV	**Parvadeh(Tabas**	**4.87**	**13**	*e*Pn	**Pn**	**20 53 01.1**	**+2.4**
BSRN	**Basiran**	**4.92**	**41**	*e*Pn	**Pn**	**20 53 01.2**	**+1.8**
BSRN	**Basiran**	**4.92**	**41**	*e*Pn	**Pn**	**20 53 01.2**	**+1.8**
BSRN				IAML		20 54 41.2	
	comp=N,987nm,0.8s						
ZHDN	**Zahedan**	**4.92**	**76**	*e*Pn	**Pn**	**20 53 01.9**	**+2.4**
ZHSF	**Zahedan**	**4.94**	**73**	*e*Pn	**Pn**	**20 53 03.1**	**+3.4**
ZHSF	**Zahedan**	**4.94**	**73**	*e*Pn	**Pn**	**20 53 03.1**	**+3.4**
HOQ	**Hoqain**	**5.00**	**159**	P	**Pn**	**20 53 00.1**	**-0.3**
	SNR=77						
HOQ				P	**Pn**	**20 53 00.1**	**-0.3**
	SNR=77						
IGAR	**Gharneh**	**5.00**	**326**	*e*Pn	**Pn**	**20 53 02.6**	**+2.0**
ABEH	**Behbahan**	**5.01**	**299**	*e*Pn	**Pn**	**20 53 02.9**	**+2.4**
NASN	**Na'in**	**5.01**	**335**	*e*Pn	**Pn**	**20 53 02.5**	**+1.7**
NASN	**Na'in**	**5.01**	**335**	*e*Pn	**Pn**	**20 53 02.5**	**+1.7**
ARQ	**Araqi**	**5.03**	**168**	P	**Pn**	**20 53 02.7**	**+1.8**
	SNR=146						
IBRJ	**Brojen**	**5.06**	**317**	*e*Pn	**Pn**	**20 53 03.2**	**+1.8**
ANAR	**Anarak**	**5.09**	**345**	*e*Pn	**Pn**	**20 53 03.8**	**+2.1**
TRNA	**Turayna**	**5.11**	**227**	P	**Pn**	**20 53 03.2**	**+1.2**
TRNA				S	**Sn**	**20 54 00.8**	**+0.5**
NHDN	**Nehbandan**	**5.13**	**52**	*e*Pn	**Pn**	**20 53 04.7**	**+2.4**
IKOO	**Kooshah**	**5.20**	**37**	*e*Pn	**Pn**	**20 53 05.4**	**+2.0**
IZEF	**Zefreh**	**5.29**	**331**	*e*Pn	**Pn**	**20 53 05.4**	**+0.9**
SLWR	**Sila**	**5.32**	**219**	*e*Pn	**Pn**	**20 53 05.3**	**+0.5**
BIDO	**Bidbid**	**5.36**	**152**	P	**Pn**	**20 53 07.0**	**+1.7**
	SNR=12						
BIDO				S	**Sn**	**20 54 06.4**	**0.0**
ITEG	**Tejag**	**5.46**	**32**	*e*Pn	**Pn**	**20 53 08.9**	**+2.1**
TKDS	**Koohdasht(Taba**	**5.53**	**16**	*e*Pn	**Pn**	**20 53 10.3**	**+2.5**
UMZA	**Um Al Zommool**	**5.54**	**182**	*e*Pn	**Pn**	**20 53 09.5**	**+1.6**
UMZA	**Um Al Zommool**	**5.54**	**182**	P	**Pn**	**20 53 09.5**	**+1.6**
UMZA				P	**Pn**	**20 53 09.5**	**+1.6**
UMZA				S	**Sn**	**20 54 09.8**	**-1.0**
UMZA				S	**Sn**	**20 54 09.8**	**-1.0**
TABS	**Tabas**	**5.57**	**15**	*e*Pn	**Pn**	**20 53 10.5**	**+2.3**
TABS	**Tabas**	**5.57**	**15**	*e*Pn	**Pn**	**20 53 10.5**	**+2.3**
SHK1	**Shahrekord**	**5.58**	**317**	*e*Pn	**Pn**	**20 53 10.0**	**+1.4**
SMDO	**Samad**	**5.74**	**154**	P	**Pn**	**20 53 12.0**	**+1.3**
	SNR=111						
SMDO				P	**Pn**	**20 53 12.0**	**+1.3**
	SNR=111						
SMDO				S	**Sn**	**20 54 15.6**	**-0.3**
SMDO				S	**Sn**	**20 54 15.6**	**-0.3**
TNSJ	**Nastanj**	**5.77**	**11**	*e*Pn	**Pn**	**20 53 13.0**	**+2.0**
WSAR	**Wadi Sarin**	**5.83**	**149**	Pn	**Pn**	**20 53 11.7**	**0.0**
	comp=N,39nm,0.3s,baz=340,slow=8.9,SNR=283						
WSAR				Sn	**Sn**	**20 54 15.9**	**-2.0**
	comp=N,54nm,0.3s,baz=62,slow=12,SNR=7.2						
IPIR	**Pirpir**	**5.83**	**320**	*e*Pn	**Pn**	**20 53 13.8**	**+1.7**
IDAH	**Dahanechah**	**5.92**	**40**	*e*Pn	**Pn**	**20 53 15.5**	**+2.3**
NGCH	**Negor - Chabah**	**5.94**	**118**	*e*Pn	**Pn**	**20 53 15.2**	**+2.0**
IKLH	**Kolahrood**	**5.98**	**328**	*e*Pn	**Pn**	**20 53 14.5**	**+0.5**
AFRZ	**Afriz**	**6.02**	**31**	*e*Pn	**Pn**	**20 53 17.4**	**+2.8**
IMON	**Monand**	**6.15**	**36**	*e*Pn	**Pn**	**20 53 19.5**	**+3.1**
AMIS	**Naft Sefid**	**6.25**	**304**	*e*Pn	**Pn**	**20 53 19.9**	**+2.4**
KRSH	**Karshahi**	**6.30**	**335**	*e*Pn	**Pn**	**20 53 20.3**	**+1.9**
SRVN	**Saravan**	**6.31**	**96**	*e*Pn	**Pn**	**20 53 20.8**	**+2.3**
JMDO	**Jabal Madar**	**6.39**	**156**	P	**Pn**	**20 53 21.0**	**+1.5**
	SNR=132						
JMDO				P	**Pn**	**20 53 21.0**	**+1.5**
	SNR=132						
JMDO				S	**Sn**	**20 54 31.3**	**-0.5**
JMDO				S	**Sn**	**20 54 31.3**	**-0.5**
QAMS	**Qamsar**	**6.41**	**329**	*e*Pn	**Pn**	**20 53 20.8**	**+0.9**
WBK	**Wadi Bani Khal**	**6.53**	**149**	P	**Pn**	**20 53 22.0**	**+0.6**
	SNR=277						
WBK				S	**Sn**	**20 54 30.9**	**-4.2**
AHWZ	**Ahwaz**	**6.57**	**299**	*e*Pn	**Pn**	**20 53 23.5**	**+1.6**
ISFB	**Sefidab**	**6.61**	**337**	*e*Pn	**Pn**	**20 53 24.2**	**+1.6**
SHRT	**Shahrakht**	**6.83**	**37**	*e*Pn	**Pn**	**20 53 28.3**	**+2.7**
SHRT	**Shahrakht**	**6.83**	**37**	*e*Pn	**Pn**	**20 53 28.3**	**+2.7**
GHVR	**GHOM**	**7.08**	**332**	*e*Pn	**Pn**	**20 53 30.7**	**+1.7**
GHVR	**GHOM**	**7.08**	**332**	*e*Pn	**Pn**	**20 53 30.7**	**+1.7**
JLN	**Jalan Bani Buh**	**7.13**	**148**	P	**Pn**	**20 53 30.0**	**+0.4**
	SNR=169						
JLN				S	**Sn**	**20 54 44.4**	**-5.4**
KHMZ	**Khomeyn**	**7.14**	**321**	*e*Pn	**Pn**	**20 53 31.5**	**+1.6**
KHMZ	**Khomeyn**	**7.14**	**321**	*e*Pn	**Pn**	**20 53 31.5**	**+1.6**
IANJ	**Anjilo**	**7.27**	**351**	*e*Pn	**Pn**	**20 53 34.0**	**+2.2**
ILAS	**Lasjerd**	**7.37**	**345**	*e*Pn	**Pn**	**20 53 36.0**	**+2.9**
IVRN	**Varamin**	**7.37**	**336**	*e*Pn	**Pn**	**20 53 34.6**	**+1.6**
IQOM	**Qom**	**7.49**	**332**	*e*Pn	**Pn**	**20 53 35.8**	**+1.0**
QJF1	**Jafarie**	**7.68**	**329**	*e*Pn	**Pn**	**20 53 33.3**	**-3.9**
ISHM	**Shahmirzad**	**7.71**	**347**	*e*Pn	**Pn**	**20 53 40.4**	**+2.6**
SHRO	**Shahrood**	**7.71**	**4**	*e*Pn	**Pn**	**20 53 39.2**	**+1.5**
SHRO	**Shahrood**	**7.71**	**4**	*e*Pn	**Pn**	**20 53 39.2**	**+1.5**
ASAO	**Ashtian**	**7.73**	**325**	*e*Pn	**Pn**	**20 53 39.7**	**+1.7**
ASAO	**Ashtian**	**7.73**	**325**	*e*Pn	**Pn**	**20 53 39.7**	**+1.7**
BMDN	**Meydan**	**7.76**	**315**	*e*Pn	**Pn**	**20 53 39.0**	**+0.6**
DAMV	**Damavand**	**7.87**	**340**	*e*Pn	**Pn**	**20 53 42.2**	**+2.2**
DAMV	**Damavand**	**7.87**	**340**	*e*Pn	**Pn**	**20 53 42.2**	**+2.2**
IHSB	**Hasanabad**	**7.93**	**335**	*e*Pn	**Pn**	**20 53 42.9**	**+2.2**
TBJM	**Torbat-e-JAM**	**8.16**	**30**	*e*Pn	**Pn**	**20 53 47.2**	**+3.3**
TEH	**Tehran**	**8.16**	**337**	*e*Pn	**Pn**	**20 53 47.0**	**+3.1**
TEHA	**Amirabad Tehra**	**8.17**	**337**	*e*Pn	**Pn**	**20 53 46.4**	**+2.4**
DHL1	**Dehloran**	**8.22**	**304**	*e*Pn	**Pn**	**20 53 44.8**	**+0.2**
IDOB	**Doab**	**8.24**	**314**	*e*Pn	**Pn**	**20 53 46.2**	**+1.1**
HSAM	**Samen**	**8.26**	**317**	*e*Pn	**Pn**	**20 53 45.4**	**0.0**
IKFM	**Kafar-mosalman**	**8.29**	**311**	*e*Pn	**Pn**	**20 53 46.1**	**+0.5**
IGLO	**Ghaloghah**	**8.30**	**352**	*e*Pn	**Pn**	**20 53 48.9**	**+3.0**
SBZV	**Sabzevar**	**8.31**	**13**	*e*Pn	**Pn**	**20 53 48.0**	**+2.0**
IPRN	**Peran**	**8.34**	**343**	*e*Pn	**Pn**	**20 53 49.7**	**+3.4**
IMHD	**Mahdasht**	**8.38**	**333**	*e*Pn	**Pn**	**20 53 48.4**	**+1.5**
HAGD	**Aghdareh**	**8.40**	**323**	*e*Pn	**Pn**	**20 53 49.0**	**+1.7**
CHTH	**Charan**	**8.40**	**336**	*e*Pn	**Pn**	**20 53 49.2**	**+1.9**
CHTH	**Charan**	**8.40**	**336**	*e*Pn	**Pn**	**20 53 49.2**	**+1.9**
IRAZ	**Razeghan**	**8.46**	**328**	*e*Pn	**Pn**	**20 53 47.9**	**-0.2**
HRA	**Herat**	**8.48**	**42**	Pn	**Pn**	**20 53 50.6**	**+2.3**
THKV	**Tehran--Karaj**	**8.50**	**335**	*e*Pn	**Pn**	**20 53 49.4**	**+0.7**
THKV	**Tehran--Karaj**	**8.50**	**335**	*e*Pn	**Pn**	**20 53 49.4**	**+0.7**
IMOG	**Moghan**	**8.51**	**22**	*e*Pn	**Pn**	**20 53 52.8**	**+4.0**
JRKH	**Jarkhoshk**	**8.71**	**28**	*e*Pn	**Pn**	**20 53 55.0**	**+3.6**
IPAY	**Payeh**	**8.71**	**20**	*e*Pn	**Pn**	**20 53 55.0**	**+3.5**
QABG	**Abgarm-Qazvin**	**8.88**	**328**	*e*Pn	**Pn**	**20 53 53.0**	**-0.8**
IBZA	**Bozab**	**8.89**	**316**	*e*Pn	**Pn**	**20 53 54.7**	**+0.7**
IMND	**Minoodasht**	**8.95**	**0**	*e*Pn	**Pn**	**20 53 56.4**	**+1.8**
IALM	**Almabolaq**	**8.97**	**319**	*e*Pn	**Pn**	**20 53 56.8**	**+1.7**
IMYA	**Miami**	**8.99**	**25**	*e*Pn	**Pn**	**20 53 59.4**	**+4.1**
ISFR	**Sfrayin**	**9.03**	**14**	*e*Pn	**Pn**	**20 53 57.2**	**+1.2**
QALM	**Alamut, Qazvin**	**9.05**	**335**	*e*Pn	**Pn**	**20 53 58.1**	**+2.0**
IGZV	**Ghazvin**	**9.17**	**333**	*e*Pn	**Pn**	**20 54 00.0**	**+2.2**
IKRD	**Kardeh**	**9.17**	**21**	*e*Pn	**Pn**	**20 54 01.6**	**+3.7**
QCNT	**Qazvin**	**9.17**	**332**	*e*Pn	**Pn**	**20 53 58.7**	**+0.9**
KCHF	**Cheshme Sefid,**	**9.28**	**312**	*e*Pn	**Pn**	**20 53 58.9**	**-0.4**
KER	**Kermanshah**	**9.29**	**313**	*e*Pn	**Pn**	**20 53 59.1**	**-0.3**
MRVT	**Maraveh tapeh**	**9.38**	**4**	*e*Pn	**Pn**	**20 54 02.3**	**+1.8**
MRVT	**Maraveh tapeh**	**9.38**	**4**	*e*Pn	**Pn**	**20 54 02.3**	**+1.8**
IEMG	**Emamgholi**	**9.53**	**16**	*e*Pn	**Pn**	**20 54 05.2**	**+2.5**
BJRD	**Bojnurd**	**9.55**	**10**	*e*Pn	**Pn**	**20 54 05.4**	**+2.4**
BJRD	**Bojnurd**	**9.55**	**10**	*e*Pn	**Pn**	**20 54 05.4**	**+2.4**
JIR1	**Jirandeh**	**9.62**	**332**	*e*Pn	**Pn**	**20 54 05.4**	**+1.5**
SNGE	**Sanandaj**	**9.62**	**317**	*e*Pn	**Pn**	**20 54 00.9**	**-3.1**
SNGE	**Sanandaj**	**9.62**	**317**	*e*Pn	**Pn**	**20 54 00.9**	**-3.1**
IGHG	**Ghaleghazi**	**9.63**	**311**	*e*Pn	**Pn**	**20 54 05.0**	**+0.9**
DOK	**Doka**	**9.68**	**187**	P	**Pn**	**20 54 04.8**	**+0.1**
	SNR=104						
GEYT	**Alibeck**	**9.90**	**13**	Pn	**Pn**	**20 54 09.7**	**+2.0**
	comp=N,0.4nm,0.3s,baz=222,slow=26,SNR=17						
GEYT				LR	LR	20 58 38.3	
	comp=N,4μm,19.6s,baz=208,slow=42						
GEYT	**Alibeck**	**9.90**	**13**	Pn	**Pn**	**20 54 09.1**	**+1.4**
GYA0B	**ALIBECK ARRAY**	**9.90**	**13**		**Pn**	**20 54 09.2**	**+1.5**
LHJ2	**Lahijan - Gila**	**9.91**	**335**	*e*Pn	**Pn**	**20 54 10.7**	**+2.9**
IDHR	**Dehrash**	**9.97**	**312**	*e*Pn	**Pn**	**20 54 09.0**	**+0.3**
RAYN	**Ar Rayn**	**10.04**	**244**	P	**Pn**	**20 54 07.3**	**-2.4**
RAYN	**Ar Rayn**	**10.04**	**244**	Pn	**Pn**	**20 54 07.3**	**-2.4**
RAYN	**Ar Rayn**	**10.04**	**244**	*i* P	**Pn**	**20 54 07.5**	**-2.2**
	SNR=193						
ZNJK	**Zanjan**	**10.08**	**328**	*e*Pn	**Pn**	**20 54 11.1**	**+0.8**
ZNJK	**Zanjan**	**10.08**	**328**	*e*Pn	**Pn**	**20 54 11.1**	**+0.8**
SHAO	**Shalim**	**10.21**	**178**	P	**Pn**	**20 54 12.0**	**0.0**
	SNR=114						
SHAO				S	**Sn**	**20 56 05.0**	**-0.8**
	SNR=14						
SHAO	**Shalim**	**10.21**	**178**	*i* P	**Pn**	**20 54 12.0**	**0.0**
	SNR=114						
WHFO	**Wadi Hawf**	**10.41**	**188**	P	**Pn**	**20 54 14.1**	**-0.7**
	SNR=38						
DMTO	**DMTO**	**10.52**	**182**	P	**Pn**	**20 54 15.2**	**-0.9**
	SNR=47						
DMTO				P	**Pn**	**20 54 15.2**	**-0.9**
	SNR=47	

NEY pmax pmax
comp=Z,29nm,0.9s
IUG Iuzhnay 18.28 37 *e*P **Pn 20 55 57.5 -1.4**
IUG *e*S **Sn 20 59 22.6 +0.3**
IUG Iuzhnay 18.28 37 *e*P **Pn 20 55 57.5 -1.4**
baz=37
IUG *e*S **Sn 20 59 22.6 +0.3**
baz=37
KBZ Khabaz 18.38 330 P **Pn 20 56 01.9 +2.0**
comp=Z,0.9nm,0.3s,baz=144,slow=7.5,SNR=35
KBZ S **S 20 59 27.5 -1.0**
comp=Z,0.0nm,0.3s,baz=153,slow=22,SNR=1.1
KBZ ScP **ScP 21 04 05.2 +0.8**
comp=Z,0.1nm,0.3s,baz=221,slow=3.9,SNR=3.7
DHRM DHARAMSHALA 18.53 73 *e*P **Pn 20 56 02.2 +0.2**
DHRM *i* x x 21 02 44.5
KVAR Kislovodsk Arr 18.65 330 P **Pn 20 56 04.3 +0.9**
baz=282,slow=20,SNR=19
KVAR S **S 20 59 33.8 -0.3**
baz=33,slow=4.3,SNR=1.4
KIV Kislovodsk 18.65 330 ⇓P **Pn 20 56 05.5 +2.1**
KIV Kislovodsk 18.65 330 *e*P **Pn 20 56 05.3 +1.9**
KIV *e*S **S 20 59 36.7 +2.6**
KIV pmax pmax
comp=Z,274nm,1.0s
KIV MLR MLR
comp=Z,201nm,14.0s
KIV Kislovodsk 18.65 330 P **Pn 20 56 05.4 +1.9**
KIV Kislovodsk 18.65 330 P **Pn 20 56 04.2 +0.8**
KIV IAmb IAmb 20 56 13.4
comp=Z,283nm,1.0s
KIV Kislovodsk 18.65 330 *i* P **Pn 20 56 05.6 +2.2**
SNR=87
BRLS Borolday 18.81 35 *e*P **P 20 56 00.6 -4.0**
BRLS *e*S **Sn 20 59 29.3 -5.7**
BRLS Borolday 18.81 35 *e*P **P 20 56 00.6 -4.0**
baz=35
BRLS *e*S **Sn 20 59 29.3 -5.7**
baz=35
SMLA Simla 19.17 76 *e*P **Pn 20 56 09.6 0.0**
SMLA IAmb IAmb 20 56 13.9
comp=Z,58nm,0.9s
KKAR Karatay Array 19.20 36 P **P 20 56 08.5 -0.5**
KKAR Karatay Array 19.20 36 P **P 20 56 08.4 -0.5**
BNN Bunyan 19.33 308 P **P 20 56 10.8 +0.2**
BNN IAmb IAmb 20 56 26.7
comp=Z,358nm,0.9s
GOF Gofitskoye 19.40 333⇑*e*P **Pn 20 56 12.6 +0.3**
GOF pmax pmax
comp=Z,167nm,1.1s
DZA Taraz 19.49 37 *e*P **P 20 56 11.7 -0.4**
DZA Taraz 19.49 37 *e*P **P 20 56 11.7 -0.4**
baz=37
POO Poona 19.54 116 *e*P **Pn 20 56 16.1 +1.9**
TOKA Tokat 19.63 313 P **P 20 56 12.6 -1.1**
SOC Sochi 19.78 325*c i*P **P 20 56 15.7 +0.5**
SOC *e* 20 59 59.3
SOC pmax pmax
comp=Z,136nm,0.8s
SOC MLR MLR
comp=Z,716nm,12.0s
CSS Mathiatis 19.88 295 P **P 20 56 16.7 +0.3**
DDI Dehra Dun 19.91 79 *e*P **Pn 20 56 18.2 -0.3**
DDI IAmb IAmb 20 56 23.1
comp=Z,295nm,1.3s
LEF Lefka 20.26 295 ⇓P Pn 20 56 22.9 +0.3
AML Almayashu 20.33 42 P **P 20 56 22.4 +0.6**
SNR=90
AML Almayashu 20.33 42 *i* P **P 20 56 22.4 +0.6**
SNR=129
ATD Arta Tunnel 20.36 218 P **P 20 56 22.7 +0.9**
comp=Z,173nm,1.1s,baz=18,slow=6.1,SNR=38
ATD S **S 21 00 10.9 +1.8**
comp=Z,5.8nm,0.7s,baz=306,slow=16,SNR=1.1
ATD LR LR 21 05 51.5
comp=Z,2μm,18.0s,baz=34,slow=41
ATD Arta Tunnel 20.36 218 P **P 20 56 22.7 +0.9**
ATD IAmb IAmb 20 56 25.6
comp=Z,425nm,1.4s
ATD Arta Tunnel 20.36 218 *e*P Pn 20 56 26.8 +2.9
ATD *e*S Sn 21 00 17.1 +4.3
KSH Kashi 20.42 51 P **P 20 56 16.3 -6.1**
KSH S S 20 59 54.3 -16
KSH PcP **PcP 21 00 32.3 -2.0**
KSH pmax pmax
comp=Z,260nm,3.5s
KSH LR LR
comp=Z,2μm,13.7s
KSH LR LR
comp=Z,2μm,13.7s
KSH LR LR
comp=Z,2μm,11.4s
BHPL Bhopal 20.50 99 *e*P Pn 20 56 25.6 +0.1
BHPL IAmb IAmb 20 56 31.0
comp=Z,74nm,1.1s
BHPL *i* x x 21 05 29.9
EKS2 Erkin-Say 20.70 41 P **P 20 56 26.4 +0.9**
SNR=152
UCH Uchtor 20.88 43 P **P 20 56 28.4 +0.6**
SNR=45
AAK Ala-Archa 21.11 42 P **P 20 56 31.0 +1.1**
comp=Z,40nm,0.7s,baz=217,slow=5.4,SNR=110
AAK S **S 21 00 23.8 0.0**
comp=Z,5.2nm,1.0s,baz=155,slow=6.2,SNR=1.9
AAK Ala-Archa 21.11 42 P **P 20 56 31.6 +1.7**
SNR=55
AAK Ala-Archa 21.11 42*c i*P **P 20 56 31.1 +1.3**
AAK pmax pmax
comp=Z,119nm,1.7s
AAK Ala-Archa 21.11 42 P **P 20 56 30.7 +0.8**
AAK IAmb IAmb 20 56 45.8
comp=Z,134nm,1.1s
AAK Ala-Archa 21.11 42 *i* P **P 20 56 31.2 +1.3**
SNR=88
ABKAR Akbulak array 21.24 8 P **P 20 56 31.0 0.0**
ABKAR Akbulak array 21.24 8 P **P 20 56 31.2 +0.2**
ABKAR IAmb IAmb 20 56 43.3
comp=Z,144nm,0.9s
BR131 Keskin Array S 21.25 308 P **P 20 56 31.6 +0.2**
BR131 pmax pmax
comp=Z,398nm,0.9s
BR131 Keskin Array S 21.25 308 P **P 20 56 31.6 +0.2**
BRTR Keskin Array B 21.25 308 P **P 20 56 32.4 +0.9**
comp=Z,233nm,0.9s,baz=131,slow=13,SNR=253
BRTR PcP **PcP 21 00 36.1 +0.2**
comp=Z,3.3nm,0.8s,baz=115,slow=9.7,SNR=2.7
BRTR LR LR 21 07 05.7
comp=Z,1μm,19.8s,baz=124,slow=43
BRTR Keskin Array B 21.25 308 P **P 20 56 31.8 +0.3**
FRU1 Bishkek 21.30 42 P **P 20 56 32.7 +1.0**
FRU1 pmax pmax
comp=Z,266nm,1.4s
FRU1 Bishkek 21.30 42 P **P 20 56 32.7 +1.0**
FRU1 IAmb IAmb 20 56 45.1
comp=Z,266nm,1.4s
GOA Goa 21.32 123 *e*P **P 20 56 32.4 +0.4**
GOA *i* x **S 21 00 30.6 +2.8**
SNOP Sinop 21.36 315 P **P 20 56 30.1 -2.3**
SNOP IAmb IAmb 20 56 37.1
comp=Z,272nm,1.0s
KBK Karagaybulak 21.39 43 P **P 20 56 34.4 +1.5**
SNR=100
CHMS Chumysh 21.48 42 P **P 20 56 36.5 +2.8**
SNR=49
USP Ospenovka 21.50 41 P **P 20 56 34.3 +0.4**
SNR=52
SGDS Sogindy 21.68 41 *e*P **P 20 56 36.2 +0.3**
SGDS pmax pmax
comp=Z,52nm,1.2s
SGDS Sogindy 21.68 41 *e*P **P 20 56 34.8 -1.1**
comp=Z,52nm,1.2s,baz=40
ILGA Ilgaz 21.81 311 P **P 20 56 36.5 -1.0**
BOOM Boomskoye usch 21.90 44 P **P 20 56 39.4 +1.0**
BOOM pmax pmax
comp=Z,130nm,1.0s
BOOM Boomskoye usch 21.90 44 P **P 20 56 39.4 +1.0**
BOOM IAmb IAmb 20 56 43.6
comp=Z,130nm,0.9s
ANTO Ankara 21.90 308 P **P 20 56 38.6 +0.3**
ANTO pmax pmax
comp=Z,260nm,1.1s
ANTO Ankara 21.90 308 P **P 20 56 38.6 +0.3**
ANTO IAmb IAmb 20 57 08.2
comp=Z,260nm,1.1s
BR231 Keskin MP Arra 21.91 308 P **P 20 56 38.7 +0.4**
BR231 IAmb IAmb 20 56 43.3
comp=Z,190nm,1.0s
TKM2 Tokmak 2 21.93 43 P **P 20 56 39.3 +0.5**
SNR=65
ULHL Ulahol 21.95 45 P **P 20 56 38.6 -0.4**
SNR=12
KLRI Killari 21.99 113 *e*P **P 20 56 39.8 +0.4**
HARA HARA 22.05 213 *e*P **P 20 56 42.0 +1.8**
BZK Bozkurt 22.08 314 P **P 20 56 41.2 +1.1**
AKTO Aktyubinsk 22.22 5 P **P 20 56 41.5 0.0**
comp=Z,97nm,0.8s,baz=183,slow=11,SNR=221
AKTO S **S 21 00 46.4 +1.5**
comp=Z,3.7nm,0.8s,baz=138,slow=22,SNR=1.6
AKTO LR LR 21 06 26.3
comp=Z,1μm,19.2s,baz=171,slow=40
BTLS Baital 22.38 37 *e*P **P 20 56 42.6 -0.7**
BTLS *e*S **S 21 00 49.5 +1.5**
BTLS Baital 22.38 37 *e*P **P 20 56 42.6 -0.7**
baz=36
BTLS *e*S **S 21 00 49.6 +1.5**
baz=36
BTLS *i* S **S 21 00 49.6 +1.5**
baz=36
KDJ Kajisay 22.48 46 P **P 20 56 45.8 +1.1**
KDJ pmax pmax
comp=Z,123nm,1.1s
KDJ Kajisay 22.48 46 P **P 20 56 45.8 +1.1**
KDJ IAmb IAmb 20 57 44.4
comp=Z,123nm,1.1s
TARG Taragay, Kyrgy 22.69 48 P **P 20 56 47.4 +0.3**
TARG IAmb IAmb 20 57 00.4
comp=Z,91nm,0.9s
ISP Isparta 22.82 301 P **P 20 56 47.2 -1.0**
ISP pmax pmax
comp=Z,146nm,1.1s
ISP Isparta 22.82 301 P **P 20 56 47.2 -1.0**
ISP IAmb IAmb 20 57 14.4
comp=Z,146nm,1.1s
KUU Kurty 22.94 42 *e*P **P 20 56 48.2 -1.0**
KUU pmax pmax
comp=Z,47nm,1.0s
KUU Kurty 22.94 42 *e*P **P 20 56 48.3 -1.0**
comp=Z,47nm,1.0s,baz=42
MDOK Medeo 22.95 44 *e*P **P 20 56 48.1 -1.4**
MDOK Medeo 22.95 44 *e*P **P 20 56 48.2 -1.4**
baz=44
ELL Elmali 23.00 298 P **P 20 56 50.2 +0.1**
ELL pmax pmax
comp=Z,1μm,1.2s
ELL Elmali 23.00 298 P **P 20 56 50.2 +0.1**
SRSP Sriramsagar 23.00 109 *e*P **P 20 56 52.4 +2.3**
AKAS Kas 23.12 297 P **P 20 56 49.9 -1.4**
AKAS IAmb IAmb 20 57 05.0
comp=Z,102nm,0.7s
MDUB Mudurnu 23.27 308 P **P 20 56 53.0 +0.3**
CHKK Chushkaly 23.30 42 *e*P **P 20 56 52.6 -0.3**
baz=42
PRZ Przheval'sk 23.45 47 P **P 20 56 55.1 +0.6**
PRZ pmax pmax
comp=Z,157nm,1.4s
PRZ Przheval'sk 23.45 47 P **P 20 56 55.1 +0.6**
PRZ IAmb IAmb 20 57 00.3
comp=Z,157nm,1.4s
BORA Eskisehir 23.56 306 P **P 20 56 55.5 -0.1**
BORA IAmb IAmb 20 57 11.3
comp=Z,196nm,1.3s
FETY Fethiye 23.62 297 P **P 20 57 02.7 +6.6**
ANKE Ethiopia-Afar 23.69 221 *e*P **P 20 56 59.4 +2.2**
ANKE *e*S Sn 21 01 25.6 -7.4
SIM Simferopol' 23.70 320*c i*P **P 20 56 55.9 -0.9**
SIM *e*S **S 21 01 12.3 +1.8**
SIM pmax pmax
comp=Z,306nm,1.2s
SATY Saty 23.74 45 *e*P **P 20 56 56.6 -0.7**
SATY Saty 23.74 45 *e*P **P 20 56 56.6 -0.7**
baz=45
ZHN Zhinishke 23.81 45 *e*P **P 20 56 57.4 -0.6**
ZHN Zhinishke 23.81 45 *e*P **P 20 56 57.4 -0.6**
baz=45
RPR Rampur 23.83 108 *e*P **P 20 57 00.6 +2.4**
RPR *e*S **S 21 01 15.3 +2.4**
HYBB Hyderabad (bro 23.92 112 *e*P **P 20 57 01.4 +2.3**
HYBB *e*S **S 21 01 16.5 +2.1**
HYB Hyderabad 23.92 112 *e*P **P 20 57 01.3 +2.1**
HYB IAmb IAmb 20 57 04.9
comp=Z,53nm,1.2s
HYB *i* x **S 21 01 24.4 +10**
ARXS Arharly 24.00 43 *e*P **P 20 57 00.4 +0.7**
UZB Uzynbulak 24.17 46 *e*P **P 20 57 01.0 -0.4**
UZB pmax pmax
comp=Z,38nm,0.7s
UZB Uzynbulak 24.17 46 *e*P **P 20 57 01.0 -0.4**
comp=Z,38nm,0.7s,baz=46
URV Uravakonda 24.26 119 *e*P **P 20 57 03.6 +1.4**
CUPL Choutuppal 24.28 112 *e*S **S 21 01 22.9 +2.6**
ARG Arkhangelos 24.29 296 P **P 20 57 03.6 +1.3**
PYUN Piuthan 24.35 84 *e*P **P 20 57 04.3 +1.0**
comp=Z,191nm,0.6s
YER Yerkesik 24.36 298 P **P 20 57 06.4 +3.3**
KULA Kula-Manisa 24.43 302 P **P 20 57 04.6 +0.9**
SHLS Shalkode 24.46 46 *e*P **P 20 57 05.3 +1.3**
SHLS pmax pmax
comp=Z,58nm,0.8s
SHLS Shalkode 24.46 46 *e*P **P 20 57 05.3 +1.3**
comp=Z,58nm,0.8s,baz=46
TDK Taldyqorghan 24.79 42 *e*P **P 20 57 06.1 -0.7**
TDK pmax pmax
comp=Z,75nm,0.7s
TDK Taldyqorghan 24.79 42 *e*P **P 20 57 06.2 -0.7**
comp=Z,75nm,0.7s,baz=41
DAT Datca 24.82 297 P **P 20 57 07.4 +0.1**
FURI Furi 24.86 222 P **P 20 57 10.0 +1.9**
FURI IAmb IAmb 20 57 49.3
comp=Z,126nm,1.1s
FURI Furi 24.86 222 *e*P **P 20 57 14.0 +5.9**
FURI *e*S S 21 01 45.6 +15
KOLN Koldanda 24.93 84 *e*P **P 20 57 09.3 +0.8**
comp=Z,112nm,1.0s
NJS Nagarjunasagar 24.98 113 *e*P **P 20 57 11.1 +2.3**
NJS *e*S **S 21 01 33.5 +2.0**
ISK Istanbul-Kandi 24.99 308 P **P 20 57 09.2 +0.5**
DANN Dangsing 25.00 83 *e*P **P 20 57 10.5 +1.3**
comp=Z,1μm,1.1s
VRH Novokhopyorsk 25.10 340 *e*P **P 20 57 09.8 +0.3**
VRH pmax pmax
comp=Z,510nm,0.9s
BODT Bodrum 25.10 298 P **P 20 57 10.0 +0.3**
RCLA Racherla 25.30 115 *e*P **P 20 57 14.0 +2.4**
RCLA *e*S **S 21 01 39.9 +3.4**
BRZS Berezniki 25.39 27 *e*P **P 20 57 12.1 -0.1**
BRZS Berezniki 25.39 27 *e*P **P 20 57 12.1 -0.1**
baz=26
SMG Samos 25.61 299 P **P 20 57 15.7 +1.3**
ZKR Zakros 25.64 293 P **P 20 57 15.6 +0.9**
VORD Divnogorie 25.70 336 *e*P **P 20 57 15.7 +0.7**
VORD pmax pmax
comp=Z,170nm,1.1s
GKN Gorkha 25.81 84 *e*P **P 20 57 16.9 +0.5**
comp=Z,308nm,1.1s
ADKI Addanki 25.90 113 *e*P **P 20 57 17.9 +0.8**
ADKI *e*P **P 20 57 17.9 +0.8**
ADKI *e*S **S 21 01 49.2 +3.2**
VSR Storozhevoye 25.95 336 *e*P **P 20 57 17.6 +0.3**
VSR pmax pmax
comp=Z,190nm,1.0s
MYLAV Mylavaram 25.97 111 *e*P **P 20 57 19.1 +1.3**
MYLAV *e*S **S 21 01 49.1 +2.0**
FRMA Ierapetra Chan 26.03 292 P **P 20 57 19.4 +1.3**
NPS Neapolis 26.15 293 P **P 20 57 22.8 +3.5**
DMN Daman 26.27 84 *e*P **P 20 57 21.3 +0.6**
comp=Z,84nm,0.9s
CHOS Chios island 26.37 300 P **P 20 57 22.6 +1.3**
KKN Kakani 26.40 84 *e*P **P 20 57 22.5 +0.7**
comp=Z,152nm,0.8s
PRK Paraskevi 26.42 302 P **P 20 57 25.6 +3.9**
SANT Santorini 26.43 295 P **P 20 57 22.2 +0.3**
MANR Mangalia 26.46 313 ⇑P **P 20 57 22.8 +0.8**
PKIN Phulchoki 26.53 84 *e*P **P 20 57 23.6 +0.5**
comp=Z,104nm,0.8s
EZN Ezine 26.54 303 P **P 20 57 28.1 +5.4**
PKI Pulchoki 26.55 84 *e*P **P 20 57 23.8 +0.5**
comp=Z,119nm,0.8s
EFOR EFORIE 26.55 314 ⇑P **P 20 57 24.2 +1.5**
PSN Preselentsi 26.66 312 P **P 20 57 23.6 -0.2**
JURR Jurilovca 26.72 315 ⇑P **P 20 57 24.6 +0.3**
MFTR Murfatlar 26.73 314 ⇑P **P 20 57 25.0 +0.6**
IDI Anoyia 26.74 293 P **P 20 57 25.5 +0.8**
comp=Z,106nm,0.8s,baz=67,slow=11,SNR=20
IDI LR LR 21 11 45.9
comp=Z,820nm,21.1s,baz=108,slow=45
IDI Anoyia 26.74 293 P **P 20 57 25.9 +1.2**
TIRR Tirgusor 26.87 314 ⇑P **P 20 57 25.6 0.0**
TIRR Tirgusor 26.87 314 P **P 20 57 25.2 -0.4**
TIRR pmax pmax
comp=Z,148nm,0.9s
TIRR Tirgusor 26.87 314 P **P 20 57 25.2 -0.4**
TIRR IAmb IAmb 20 57 26.8
comp=Z,148nm,0.9s
EDRB Edirne 26.90 308 P **P 20 57 30.1 +4.2**
GUN Gumba 26.91 83 *e*P **P 20 57 27.2 +0.6**
comp=Z,134nm,0.8s
ENEZ Enez 26.94 305 P **P 20 57 30.4 +4.1**
TLCR 26.97 316 ⇓P **P 20 57 26.5 +0.1**
PRD Provadia 26.97 311 P **P 20 57 26.9 +0.3**
TPGR Topolog 27.05 315 ⇓P **P 20 57 27.5 +0.2**
ALN Alexandroupoli 27.07 305 P **P 20 57 30.9 +3.4**
ALN Alexandroupoli 27.07 305 P **P 20 57 26.9 -0.6**
ALN pmax pmax
comp=Z,113nm,1.0s
ALN Alexandroupoli 27.07 305 P **P 20 57 26.9 -0.6**
ALN IAmb IAmb 20 57 33.3
comp=Z,113nm,1.0s
DILA Dilla 27.08 220 *e*P **P 20 57 31.6 +3.7**
ICOR Ion Corvin 27.10 313 ⇓P **P 20 57 28.5 +0.8**
BRVK Borovoye 27.11 20*c i*P **P 20 57 27.8 +0.1**
BRVK pmax pmax
comp=Z,37nm,0.8s
BRVK Borovoye 27.11 20 P **P 20 57 27.3 -0.4**
BVAR Borovoye Array 27.12 20 P **P 20 57 27.9 +0.1**
comp=Z,56nm,0.8s,baz=180,slow=5.9,SNR=326
BVAR PcP **PcP 21 00 48.3 +0.2**
comp=Z,8.0nm,0.6s,baz=108,slow=2.2,SNR=6.4
TLBR Topalu 27.14 314 ⇑P **P 20 57 28.5 +0.4**
LPSR Galich'ya Gora 27.19 338 *e*P **P 20 57 30.2 +1.8**
LPSR pmax pmax
comp=Z,90nm,0.8s
HARR Harsova 27.28 314 ⇑P **P 20 57 29.8 +0.5**
GVD Gavdhos 27.35 292 P **P 20 57 30.2 +0.1**
CFR Carcaliu 27.38 315 ⇑P **P 20 57 30.4 +0.2**
GIUM Giurgiulesti 27.49 316 ⇑P **P 20 57 31.9 +0.7**
IMMV Iera Moni Meta 27.50 293 P **P 20 57 33.1 +1.7**
RDO Rodhopi 27.52 306 P **P 20 57 32.2 +0.7**
RASA Rasa 27.57 313 ⇑P **P 20 57 32.6 +0.7**
AMRR Amara 27.62 314 ⇑P **P 20 57 33.4 +1.0**
TATR Tatarca 27.64 316 ⇑P **P 20 57 32.6 +0.1**
SCTR Scanteiesti 27.71 316 ⇓P **P 20 57 33.5 +0.3**
SCHL Schela 27.73 316 ⇑P **P 20 57 33.9 +0.6**
VLDR Vladesti 27.74 317 ⇑P **P 20 57 33.8 +0.4**
BOK Bokaro 27.76 92 *e*P **P 20 57 35.1 +1.2**
BOK IAmb IAmb 20 57 35.9
comp=Z,23nm,0.8s
IZVR Izvoarele 27.79 316 ⇑P **P 20 57 33.9 +0.1**
MAKZ Makanchi 27.86 41 P **P 20 57 34.5 -0.1**
MAKZ pmax pmax
comp=Z,79nm,1.0s
MAKZ Makanchi 27.86 41 P **P 20 57 34.5 -0.1**
MAKZ IAmb IAmb 20 57 39.3
comp=Z,79nm,0.9s
MILM Milestii Mici 27.86 319 ⇓P **P 20 57 34.4 -0.1**
MILM Milestii Mici 27.86 319⇑*i*P **P 20 57 34.0 -0.5**
comp=Z,80nm,0.7s
MILM *e*LR LR 21 10 30.0
comp=Z,700nm,17.0s
MILM Milestii Mici 27.86 319*c i*P **P 20 57 34.0 -0.5**
MILM pmax pmax
comp=Z,80nm,0.7s
MILM MLR MLR
comp=E,500nm,17.0s
MILM MLR MLR
comp=Z,700nm,17.0s
LEHL Lehliu 27.89 313 ⇑P **P 20 57 35.9 +1.1**
VARL Varlezi 27.91 316 ⇑P **P 20 57 35.4 +0.5**
SZH Strazhica 27.98 310 P **P 20 57 36.0 +0.4**
ATHU Athens Univers 28.03 298 P P 20 57 44.7 +8.6
CHLP Challavanipeta 28.03 104 *e*S **S 21 02 22.6 +3.0**
MK31 Makanchi Array 28.04 41 P **P 20 57 35.9 -0.2**
MK31 pmax pmax
comp=Z,28nm,1.0s
MK31 Makanchi Array 28.04 41 P **P 20 57 35.9 -0.2**
MKAR Makanchi Array 28.04 41 PcP **PcP 21 00 49.9 -0.6**
comp=Z,5.0nm,0.9s,baz=223,slow=2.6,SNR=2.7
MKAR Makanchi Array 28.04 41 P **P 20 57 36.6 +0.5**
MKAR Makanchi Array 28.04 41 P **P 20 57 36.6 +0.5**
BIR Birlad 28.23 317 ⇑P **P 20 57 38.2 +0.5**
ARU Arti 28.23 4 P **P 20 57 37.5 -0.1**
comp=Z,5.2nm,1.0s,baz=183,slow=9.3,SNR=16
ARU LR LR 21 09 41.5
comp=Z,899nm,19.5s,baz=186,slow=38
ARU Arti 28.23 4*d i*P **P 20 57 38.4 +0.8**
ARU 20 58 25.4
ARU 21 00 47.1
ARU S **S 21 02 29.1 +7.1**
ARU SS **SnSn 21 03 49.0 +10**
ARU pmax pmax
comp=Z,13nm,0.7s
ARU MLR MLR
comp=Z,783nm,15.0s
ARU Arti 28.23 4 P **P 20 57 36.3 -1.3**
GHRR 28.26 316 ⇑P **P 20 57 39.1 +1.0**
RZN Rozhen 28.27 306 P **P 20 57 38.5 0.0**
VASR Vaslui 28.32 318 ⇓P **P 20 57 38.9 +0.4**
ODBI Odobesti 28.33 316 ⇓P **P 20 57 40.4 +1.7**
SGRR Singureni 28.34 312 ⇓P **P 20 57 39.7 +0.9**
SULR 28.34 313 ⇑P **P 20 57 40.1 +1.3**
ISR Istrita 28.35 314 ⇑P **P 20 57 40.3 +1.3**
KURBB Kurchatov Arra 28.39 32 P **P 20 57 39.4 +0.3**
comp=Z,17nm,0.8s,baz=232,slow=8.8,SNR=75
KURBB PcP **PcP 21 00 51.2 0.0**
comp=Z,2.6nm,0.7s,baz=228,slow=2.7,SNR=4.3
KURBB ScP **ScP 21 04 31.1 +0.2**
comp=Z,1.6nm,0.8s,baz=225,slow=3.9,SNR=4.9
KURBB LR LR 21 10 39.4
comp=Z,1μm,18.3s,baz=207,slow=40
BISRR Bisoca 28.44 315 ⇑P **P 20 57 40.8 +1.0**
KURK Kurchatov 28.50 32*c i*P **P 20 57 40.5 +0.4**
KURK pmax pmax
comp=Z,22nm,0.8s
KURK Kurchatov 28.50 32 P **P 20 57 40.5 +0.4**
KURK Kurchatov 28.50 32 P **P 20 57 40.4 +0.4**
KURK Kurchatov 28.50 32 **ScP 21 04 31.1 -0.1**
VRI Vrincioaia 28.58 316 ⇑P **P 20 57 41.9 +1.0**
SECR 28.62 314 ⇑P **P 20 57 42.7 +1.3**
PLOR Plostina 28.62 316 ⇑P **P 20 57 42.4 +1.0**
NEHR Nehoiu 28.65 315 ⇓P **P 20 57 43.4 +1.8**
SVE Sverdlovsk 28.78 6⇑*e*P **P 20 57 43.1 +0.5**
SVE pmax pmax
comp=Z,28nm,1.2s
SVE MLR MLR
comp=Z,1μm,13.0s
NVR Nevrokopi 28.78 305 P **P 20 57 43.7 +0.9**
SORM Soroca 28.79 321 ⇓P **P 20 57 42.3 -0.4**
COVR Voineasa-Covas 28.89 315 ⇓P **P 20 57 45.2 +1.5**
MLR Muntele Rosu 28.90 314 ⇓P **P 20 57 45.7 +1.8**
MLR Muntele Rosu 28.90 314 P **P 20 57 44.7 +0.8**
comp=Z,63nm,0.8s,baz=29,slow=2.4,SNR=56
MLR Muntele Rosu 28.90 314 P **P 20 57 44.4 +0.5**
MLR pmax pmax
comp=Z,77nm,0.9s
MLR Muntele Rosu 28.90 314 P **P 20 57 44.4 +0.5**
MLR IAmb IAmb 20 57 47.8
comp=Z,77nm,0.9s
SRS Serrai 28.91 305 P **P 20 57 44.0 +0.1**
TESR Tescani 28.94 317 ⇑P **P 20 57 44.4 +0.2**
MMB Musomiste 28.95 306 P **P 20 57 44.1 -0.2**
SOH Sokhos 29.00 304 P **P 20 57 45.9 +1.1**
SEM Semipalatinsk 29.07 34 *e*P **P 20 57 44.5 -1.0**
SEM Semipalatinsk 29.07 34 *e*P **P 20 57 44.6 -1.0**
baz=34
HUMR Humele 29.11 312 ⇑P **P 20 57 46.2 +0.5**
HORT Hortiatis 29.13 303 P **P 20 57 46.7 +0.7**
STFAR Stefanesti-Arg 29.26 313 ⇑P **P 20 57 48.2 +1.2**
OZUR 29.27 315 ⇓P **P 20 57 47.5 +0.4**
VLAD Vladila 29.29 311 ⇑P **P 20 57 48.3 +1.1**
KLV Kalavryta, Ach 29.31 298 P **P 20 57 48.5 +0.9**
MTUR Matau 29.34 313 ⇑P **P 20 57 49.5 +1.7**
AGG Ágios Georgios 29.35 300 P **P 20 57 47.3 -0.6**
AGG pmax pmax

comp=Z,40nm,1.0s
AGG Agios Georgios 29.35 300 P **P 20 57 47.3 -0.6**
ITM Ithomi 29.36 296 P **P 20 57 47.3 -0.7**
ITM IAmb IAmb 20 58 42.5
comp=Z,50nm,1.0s
VOIR 29.44 314 ⇑P **P 20 57 49.6 +0.9**
SERG Sergoula 29.45 299 P **P 20 57 47.6 -1.2**
DOPR Dopca 29.46 315 ⇑P **P 20 57 49.5 +0.7**
LIT Litokhoron 29.46 302 P **P 20 57 48.4 -0.5**
LIT pmax pmax
comp=Z,36nm,1.1s
LIT Litokhoron 29.46 302 P **P 20 57 48.4 -0.5**
PRAR RASCA 29.61 318 ⇑P **P 20 57 49.9 -0.1**
VTS Vitosha 29.61 307 ⇑P **P 20 57 51.0 +0.7**
VTS Vitosha 29.61 307 P **P 20 57 49.7 -0.6**
VTS pmax pmax
comp=Z,31nm,1.1s
VTS Vitosha 29.61 307 P **P 20 57 49.7 -0.6**
VTS Vitosha 29.61 307 *e*P **P 20 57 50.1 -0.3**
VTS Vitosha 29.61 307 P **P 20 57 50.0 -0.3**
DRO Drossia 29.64 298 P **P 20 57 51.1 +0.6**
ARR Arges 29.68 313 ⇑P **P 20 57 51.7 +0.9**
VAY Valandovo 29.71 305 *i* P **P 20 57 51.6 +0.6**
GRG Griva 29.73 304 P **P 20 57 51.3 0.0**
AKASG Malin Array Be 29.85 326 P **P 20 57 52.0 -0.2**
comp=Z,74nm,0.9s,baz=130,slow=8.1,SNR=223
AKASG PcP **PcP 21 00 53.8 -1.1**
comp=Z,8.8nm,1.0s,baz=89,slow=2.6,SNR=5.3
AKASG ScP **ScP 21 04 35.6 0.0**
comp=Z,0.4nm,0.4s,baz=119,slow=2.2,SNR=5.7
AKASG LR LR 21 11 24.6
comp=Z,304nm,18.5s,baz=130,slow=39
AKASG Malin Array Be 29.85 326 P **P 20 57 51.0 -1.1**
AKASG IAmb IAmb 20 57 53.7
comp=Z,101nm,1.1s
AKBB Malin Array Si 29.85 326*c i*P **P 20 57 51.9 -0.2**
AKBB pmax pmax
comp=Z,180nm,0.9s
AKBB Malin Array Si 29.85 326 P **P 20 57 51.5 -0.7**
ZSN Zaisan 29.89 42 *e*P **P 20 57 52.1 -0.4**
ZSN Zaisan 29.89 42 *e*P **P 20 57 52.2 -0.4**
baz=42
OBN Obninsk 30.06 338 ⇑P **P 20 57 54.6 +0.6**
OBN Obninsk 30.06 338 P **P 20 57 54.2 +0.3**
comp=Z,6.2nm,0.4s,baz=142,slow=7.3,SNR=14
OBN Obninsk 30.06 338*c i*P **P 20 57 54.5 +0.6**
OBN *e* 20 58 53.1
OBN *e* 21 00 54.8
OBN pmax pmax
comp=Z,85nm,1.3s
OBN MLR MLR
comp=Z,267nm,22.0s
OBN Obninsk 30.06 338 P **P 20 57 53.1 -0.8**
STIP Stip 30.09 305 *i* P **P 20 57 53.4 -1.0**
BOSS Bosilegrad 30.11 307 *e*P **P 20 57 54.9 +0.4**
MDB Medias 30.17 315 ⇑P **P 20 57 57.1 +2.1**
WMQ Urumqi 30.18 50 *e*P **P 20 57 56.5 +1.3**
WMQ pP pP 20 58 02.1 -0.6
WMQ sP sP 20 58 10.4 +4.8
WMQ S **S 21 02 54.1 +1.0**
WMQ pmax pmax
comp=Z,55nm,0.9s
WMQ pmax pmax
comp=Z,370nm,3.7s
WMQ LR LR
comp=Z,1μm,13.9s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,490nm,19.9s
ZAPS Zavoj 30.24 308 *e*P **P 20 57 56.1 +0.4**
MOS Moscow 30.25 340 *e*P **P 20 57 54.2 -1.4**
MOS *e* 20 58 52.8
MOS *e*S **S 21 02 50.8 -3.0**
MOS pmax pmax
comp=Z,200nm,1.3s
MOS pmax pmax
comp=Z,135nm,1.3s
LOT Lotru 30.27 313 ⇓P **P 20 57 56.1 +0.1**
BURAR Bucovina Array 30.33 318 ⇓P **P 20 57 57.2 +0.7**
BURAR Bucovina Array 30.33 318 P **P 20 57 56.0 -0.5**
SRE Strehaia 30.33 311 ⇓P **P 20 57 57.8 +1.3**
BUR08 Bucovina Ar. S 30.35 318 P **P 20 57 56.1 -0.6**
PRVS Prvonek 30.39 307 *e*P **P 20 57 57.2 +0.1**
FNA Florina 30.45 303 P **P 20 57 58.1 +0.5**
FNA Florina 30.45 303 P **P 20 57 56.9 -0.7**
FNA pmax pmax
comp=Z,45nm,0.9s
FNA Florina 30.45 303 P **P 20 57 56.9 -0.7**
FNA IAmb IAmb 20 58 12.9
comp=Z,45nm,0.9s
VLS Valsamata 30.55 298 P **P 20 57 57.3 -1.2**
KIRV Kirov 30.57 354 LR LR 21 11 02.5
comp=Z,653nm,20.9s,baz=164,slow=38
KIRV Kirov 30.57 354*c i*P **P 20 57 58.7 +0.3**
ARCR ARCALIA 30.60 316 ⇓P **P 20 57 59.4 +0.6**
BARS Barje 30.67 307 *e*P **P 20 57 59.3 -0.2**
BARS Barje 30.67 307 *e*P **P 20 58 00.9 +1.4**
ZAGS Zajecar 30.69 309 *e*P **P 20 57 59.3 -0.3**
SKO Skopje 30.70 305 *i* P **P 20 57 59.9 +0.1**
DJES Djerdap 30.79 311 ⇑P **P 20 58 01.7 +1.1**
DJES Djerdap 30.79 311 *e*P **P 20 58 01.2 +0.7**
KBN Korca 30.85 303 P **P 20 58 01.2 0.0**
KBN Korca 30.85 303 P **P 20 58 01.0 -0.2**
KBN pmax pmax
comp=Z,151nm,1.0s
KBN Korca 30.85 303 P **P 20 58 01.0 -0.2**
GZR Gura Zlata 30.89 312 ⇑P **P 20 58 01.9 +0.4**
CJR Cluj-Napoca 30.90 315 ⇑P **P 20 58 03.2 +1.7**
HERR Herculane 30.94 311 ⇑P **P 20 58 01.8 0.0**
OHR Ohrid 30.95 304 *i* P **P 20 58 02.4 +0.3**
BOVS Bovan 31.00 309 ⇑P **P 20 58 01.9 -0.4**
BOVS Bovan 31.00 309 *e*P **P 20 58 02.2 -0.1**
DEV Deva 31.00 313 ⇑P **P 20 58 04.3 +1.9**
LODK Lodwar 31.20 221 P **P 20 58 07.0 +2.6**
SNR=66
LODK Lodwar 31.20 221 P **P 20 58 04.9 +0.4**
LODK IAmb IAmb 20 58 08.4
comp=Z,66nm,1.2s
KUBS Kucevo 31.27 310 *e*P **P 20 58 04.0 -0.8**
SELS Selova 31.27 308 *e*P **P 20 58 03.6 -1.3**
LSA Lhasa 31.28 79 P **P 20 58 06.4 +0.9**
LSA pmax pmax
comp=Z,26nm,0.8s
PHP Peshkopia 31.35 305 P **P 20 58 06.0 +0.5**
MDVR Moldovita 31.37 311 ⇑P **P 20 58 06.6 +0.9**
BMR Baia Mare 31.38 317 ⇑P **P 20 58 06.5 +0.8**
DRGR 31.49 315 ⇑P **P 20 58 07.5 +0.8**
DRGR 31.49 315 P **P 20 58 07.6 +0.8**
MESR Meseseni 31.49 316 ⇓P **P 20 58 07.9 +1.2**
SVIS Svilajnac 31.53 310 *e*P **P 20 58 11.2 +4.2**
TIR Tirane 31.69 304 ⇑P **P 20 58 08.5 0.0**
TIR Tirane 31.69 304 P **P 20 58 07.7 -0.8**
TIR pmax pmax
comp=Z,122nm,1.0s
TIR Tirane 31.69 304 P **P 20 58 07.7 -0.8**
BZS Buzias 31.73 312 ⇑P **P 20 58 08.9 +0.2**
GRUS Gruza 31.76 309 *e*P **P 20 58 08.3 -0.7**
PALK Pallekele 31.80 126 P **P 20 58 10.2 +0.6**
comp=Z,5.7nm,0.8s,baz=57,slow=9.6,SNR=4.1
PALK Pallekele 31.80 126 P **P 20 58 08.3 -1.4**
PALK pmax pmax
comp=Z,30nm,1.4s
PALK Pallekele 31.80 126 P **P 20 58 08.3 -1.4**
SIRR Siria 31.94 313 ⇓P **P 20 58 12.1 +1.4**
BANR Banloc 31.96 312 ⇑P **P 20 58 12.4 +1.6**
TIM Timisoara 32.03 312 ⇓P **P 20 58 13.0 +1.6**
IVAS Ivanjica 32.05 308 *e*P **P 20 58 10.7 -1.0**
TRUS Trudelj 32.07 309 *e*P **P 20 58 11.5 -0.3**
SJES Sjenica 32.09 307 *e*P **P 20 58 12.0 -0.1**
LVV L'vov 32.10 321 *e*P **P 20 58 11.8 -0.2**
LVV *e*S **S 21 03 22.0 -0.9**
LVV pmax pmax
comp=Z,40nm,1.4s
LVV MLR MLR
comp=E,200nm,17.0s
LVV MLR MLR
comp=N,400nm,18.0s
LVV MLR MLR
comp=Z,300nm,17.0s
TRPA Tarpa 32.16 317 ⇑P **P 20 58 13.0 +0.5**
TRPA Tarpa 32.16 317 P **P 20 58 12.9 +0.3**
BORR Bors 32.19 315 ⇑P **P 20 58 14.1 +1.3**

LTVH Ltavrtes, Hu 32.24 315 P **P 20 58 14.7 +1.5**
DIVS Divibare 32.32 309 *e*P **P 20 58 13.5 -0.6**
DIVS Divibare 32.32 309 P **P 20 58 12.5 -1.6**
DIVS Divibare 32.32 309 *e*P **P 20 58 13.3 -0.8**
DRME Dracevica, Mon 32.38 305 *e*P **P 20 58 12.8 -1.7**
PDG Podgorica 32.38 305 P **P 20 58 13.6 -1.0**
PDG IAmb IAmb 20 58 17.9
comp=Z,46nm,1.1s
DGZ Jazzator, Alta 32.48 40*c i*P **P 20 58 16.4 +0.9**
DGZ pmax pmax
comp=Z,32nm,0.7s
SCTE Santa Cesarea 32.48 301 P **P 20 58 16.1 +0.6**
SCTE IAmb IAmb 20 58 42.8
comp=Z,62nm,0.9s
UZH Uzhgorod 32.53 318*d i*P **P 20 58 15.2 -0.6**
UZH *i* S **S 21 03 26.3 -3.3**
UZH MLR MLR
comp=Z,200nm,16.0s
AMBH Ambrzfalva 32.58 313 ⇓P **P 20 58 17.6 +1.4**
AMBH Ambrzfalva 32.58 313 P **P 20 58 18.0 +1.9**
RUDO Rudo 32.61 308 *e*P **P 20 58 16.7 +0.1**
SHL Shillong 32.62 86 *e*P **P 20 58 15.7 -1.3**
BBLS Lazići 32.66 308 *e*P **P 20 58 16.6 -0.4**
BBLS Lazići 32.66 308 *e*P **P 20 58 16.4 -0.6**
KWP Kalwaria Pacla 32.76 320 *e*P **P 20 58 18.3 +0.5**
KWP Kalwaria Pacla 32.76 320 P **P 20 58 17.0 -0.8**
KWP Kalwaria Pacla 32.76 320 P **P 20 58 17.0 -0.8**
MSEY Mahe Island 32.76 180 P **P 20 58 18.6 +0.5**
MSEY pmax pmax
comp=Z,200nm,1.8s
MSEY Mahe Island 32.76 180 P **P 20 58 18.6 +0.5**
FRGS Fruska Gora 32.77 311 ⇑P **P 20 58 17.9 -0.1**
FRGS Fruska Gora 32.77 311 *e*P **P 20 58 17.4 -0.5**
FRGS Fruska Gora 32.77 311 *e*P **P 20 58 17.1 -0.8**
MNK Minsk 32.94 330 *i* P **P 20 58 18.4 -0.8**
MNK *i* 20 59 27.6
MNK *i* 21 01 01.8
MNK *i* S **S 21 03 37.5 +1.7**
MNK *i* SS **SnSn 21 05 36.9 +3.2**
MNK pmax pmax
comp=N,87nm,1.2s
MNK pmax pmax
comp=E,22nm,1.2s
MNK pmax pmax
comp=Z,172nm,0.9s
MNK MLR MLR
comp=Z,438nm,17.0s
MNK MLR MLR
comp=N,207nm,14.0s
MNK Minsk 32.94 330 *i* P **P 20 58 18.4 -0.8**
comp=E,22nm,1.2s
MNK *i* P **P 20 58 18.4 -0.8**
comp=N,87nm,1.2s
MNK *i* P **P 20 58 18.4 -0.8**
comp=Z,172nm,0.9s,baz=131
MNK *i* PP **PP 20 59 27.7 -6.1**
MNK *i* PPP PPP 20 59 38.1
MNK *i* S **S 21 03 37.6 +1.8**
MNK *i* SS **SnSn 21 05 37.0 +3.2**
MNK *i* SSS SSS 21 05 52.0
MNK *i* LQ LQ 21 09 11.9
MNK *i* LR LR 21 11 42.8
MNK *i* LRM MLR 21 14 06.5
comp=Z,438nm,17.4s
MNK *i* LRM MLR 21 14 11.6
comp=N,207nm,13.5s
MNK *i* LRM MLR 21 14 19.4
comp=E,22nm,11.6s
BRY Bratogost 33.01 306 *e*P **P 20 58 19.6 -0.6**
TREB Trebinje 33.10 306 *e*P **P 20 58 19.4 -1.5**
CRVS Cervenica-Dubn 33.15 318 *e*P **P 20 58 21.7 +0.5**
CRVS pmax pmax
comp=Z,54nm,1.0s
CRVS Cervenica-Dubn 33.15 318 *e*P **P 20 58 21.7 +0.5**
BSZH Besenyszg 33.22 314 ⇑P **P 20 58 23.1 +1.3**
BSZH Besenyszg 33.22 314 P **P 20 58 23.5 +1.7**
ZAA0 Zalesovo Array 33.49 32 P **P 20 58 23.8 -0.2**
ZAA0 IAmb IAmb 20 58 25.0
comp=Z,64nm,0.8s
ZALV Zalesovo Beam 33.49 32 P **P 20 58 23.9 -0.1**
comp=Z,61nm,0.7s,baz=239,slow=9.1,SNR=290
ZALV PcP **PcP 21 01 03.2 -1.5**
comp=Z,4.7nm,0.5s,baz=247,slow=4.7,SNR=2.0
ZALV ScP **ScP 21 04 50.5 +2.8**
comp=Z,1.0nm,0.4s,baz=111,slow=9.0,SNR=4.1
ZALV LR LR 21 12 41.3
comp=Z,505nm,19.2s,baz=228,slow=38
ZALV Zalesovo Beam 33.49 32 *i* P **P 20 58 23.8 -0.3**
ZALV pmax pmax
comp=Z,61nm,0.7s
KECS Kecovo 33.55 317 *e*P **P 20 58 25.7 +1.0**
KECS pmax pmax
comp=Z,27nm,1.0s
KECS Kecovo 33.55 317 *e*P **P 20 58 25.7 +1.0**
TIP Timpagrande 33.66 299 ⇑P **P 20 58 26.2 +0.4**
TIP Timpagrande 33.66 299 P **P 20 58 24.8 -1.0**
TIP IAmb IAmb 20 58 45.7
comp=Z,96nm,1.3s
NACGM Naroch 33.68 330 *i* P **P 20 58 26.2 +0.5**
PSZ Piszkesteto 33.69 315 ⇓P **P 20 58 26.4 +0.4**
PSZ Piszkesteto 33.69 315 P **P 20 58 25.9 -0.2**
PSZ pmax pmax
comp=Z,51nm,0.9s
PSZ Piszkesteto 33.69 315 P **P 20 58 25.9 -0.2**
PSZ IAmb IAmb 20 58 32.9
comp=Z,51nm,0.9s
PSZ Piszkesteto 33.69 315 P **P 20 58 26.4 +0.4**
MORH Mrgy, Hungar 33.88 312 ⇑P **P 20 58 28.0 +0.4**
MORH Mrgy, Hungar 33.88 312 *e*P **P 20 58 28.0 +0.4**
MORH Mrgy, Hungar 33.88 312 P **P 20 58 27.9 +0.4**
IDID Didziasalis 33.97 331 *e*P **P 20 58 28.9 +0.7**
PRGR Permogore 33.98 352 *e*P **P 20 58 27.1 -1.1**
PRGR pmax pmax
comp=Z,140nm,1.5s
KMBO Kilima Mbogo 34.00 214 P **P 20 58 31.1 +1.8**
comp=Z,24nm,1.0s,baz=31,slow=10,SNR=36
KMBO Kilima Mbogo 34.00 214*i* P **P 20 58 30.9 +1.7**
KMBO IAmb IAmb 20 58 32.5
comp=Z,127nm,1.1s
KMBO Kilima Mbogo 34.00 214 P **P 20 58 30.1 +0.9**
KMBO pmax pmax
comp=Z,42nm,1.1s
KMBO Kilima Mbogo 34.00 214 P **P 20 58 30.1 +0.9**
KMBO IAmb IAmb 20 58 32.8
comp=Z,42nm,1.1s
KMBO Kilima Mbogo 34.00 214 *e*P P 20 58 19.2 -10
KMBO Kilima Mbogo 34.00 214 *i* P **P 20 58 31.3 +2.1**
SNR=24
NIE Niedzica 34.06 318 *e*P **P 20 58 30.2 +1.0**
IZAB Izabela 34.06 316 *e*P **P 20 58 30.1 +1.0**
BUD Budapest 34.08 314 P **P 20 58 29.8 +0.6**
GOMU GeErMu 34.12 66 P **P 20 58 31.3 +1.0**
GOMU pP pP 20 58 35.8 -2.0
GOMU sP sP 20 58 41.6 +0.7
GOMU pmax pmax
comp=Z,30nm,0.9s
GOMU pmax pmax
comp=Z,200nm,5.5s
GOMU LR LR
comp=Z,540nm,19.1s
GOMU LR LR
comp=Z,410nm,19.4s
GOMU LR LR
comp=Z,530nm,18.0s
KOVH Kovagotottos 34.20 311 P **P 20 58 30.4 0.0**
IIGN Ignalina 34.22 330 *e*P **P 20 58 31.1 +0.7**
CEL Celeste 34.23 297 P **P 20 58 29.6 -1.3**
CEL IAmb IAmb 20 59 03.2
comp=Z,33nm,0.9s
CEL PcP **PcP 21 01 05.5 -1.7**
KLMR Klimovskoe 34.27 346 *e*P **P 20 58 30.0 -0.8**
KLMR pmax pmax
comp=Z,68nm,1.2s
KLMR Klimovskoe 34.27 346 *e*P **P 20 58 30.0 -0.8**
KLMR AMP 20 58 31.8
comp=Z,68nm,1.2s
KLMR LQ LQ 21 10 47.5
KLMR LQ LQ 21 10 47.5
KLMR LR LR 21 14 03.2
MGRS Mrkonjic Grad 34.41 308 *e*P **P 20 58 31.8 -0.5**
BLY Banja Luka 34.43 309 *e*P **P 20 58 32.2 -0.2**
LANS Liptovska Anna 34.44 317 *e*P **P 20 58 33.3 +0.8**
LANS pmax pmax
comp=Z,38nm,1.2s

LANS Liptovska Anna 34.44 317 *e*P **P 20 58 33.3 +0.8**
CSKK Cskako 34.52 314 P **P 20 58 34.7 +1.6**
CSKK S **S 21 04 03.8 +3.3**
KOHI KOHIMA 34.54 85 *e*P **P 20 58 33.9 +0.2**
KOHI IAmb IAmb 20 58 36.0
comp=Z,69nm,1.3s
VYHS Vyhne 34.57 316 *e*P **P 20 58 33.9 +0.4**
VYHS pmax pmax
comp=Z,45nm,0.9s
VYHS Vyhne 34.57 316 *e*P **P 20 58 33.9 +0.4**
SRO2 Moca 34.57 314 *e*P **P 20 58 33.4 -0.2**
SRO2 pmax pmax
comp=Z,201nm,0.9s
SRO2 Moca 34.57 314 *e*P **P 20 58 33.4 -0.2**
TIH Tihany 34.60 313 P **P 20 58 33.7 0.0**
IMP Imphal 34.60 87 *e*P **P 20 58 35.4 +1.2**
SRO Srobarova 34.64 314 *e*P **P 20 58 35.2 +1.0**
SRO pmax pmax
comp=Z,162nm,0.9s
SRO Srobarova 34.64 314 *e*P **P 20 58 35.2 +1.0**
KIBK Kibwezi 34.69 211 P **P 20 58 37.1 +2.2**
SNR=10.0
KIBK Kibwezi 34.69 211 P **P 20 58 34.8 -0.2**
MRAK Mrakovica 34.70 309 *e*P **P 20 58 34.3 -0.5**
OJC Ojcow 34.70 319 *i* P **P 20 58 34.9 +0.3**
OJC Ojcow 34.70 319 P **P 20 58 33.6 -1.0**
OJC pmax pmax
comp=Z,71nm,1.0s
OJC Ojcow 34.70 319 P **P 20 58 33.6 -1.0**
OJC IAmb IAmb 20 58 36.1
comp=Z,70nm,1.0s
MOKO MOKOCHONG 34.76 84 *e*P **P 20 58 36.6 +0.9**
MOKO IAmb IAmb 20 58 38.1
comp=Z,93nm,1.1s
SGRT San Giovanni R 34.80 303 P **P 20 58 35.1 -0.6**
SGRT IAmb IAmb 20 58 41.9
comp=Z,142nm,1.8s
SUW Suwalki 34.80 327 *i* P **P 20 58 35.6 +0.2**
SUW Suwalki 34.80 327 P **P 20 58 34.7 -0.8**
SUW pmax pmax
comp=Z,533nm,1.0s
SUW Suwalki 34.80 327 *e*P **P 20 58 36.0 +0.6**
SUW Suwalki 34.80 327 P **P 20 58 34.7 -0.8**
MPLH Magyarpolny 34.91 313 P **P 20 58 37.0 +0.5**
BEHE Becsehely 35.19 312 *e*P **P 20 58 39.5 +0.6**
BEHE Becsehely 35.19 312 P **P 20 58 39.8 +0.8**
PABE Paberze 35.31 329 *e*P **P 20 58 40.4 +0.6**
PABE Paberze 35.31 329 P **P 20 58 39.0 -0.9**
PABE PcP **PcP 21 01 09.2 -0.6**
RAFF Raffo Rosso 35.38 295 P **P 20 58 41.7 +1.0**
RAFF IAmb IAmb 20 58 51.3
comp=Z,79nm,1.1s
JAVC Velka Javorina 35.42 316 *e*P **P 20 58 42.0 +1.0**
SMOL Smolenice 35.45 315 *e*P **P 20 58 41.4 +0.3**
SMOL pmax pmax
comp=Z,38nm,1.1s
SMOL Smolenice 35.45 315 *e*P **P 20 58 41.4 +0.3**
OKC Ostrava-Krasne 35.51 318 *e*P **P 20 58 42.0 +0.4**
OKC Ostrava-Krasne 35.51 318 *e*P **P 20 58 42.0 +0.4**
KOGS Kog 35.53 311 *i* P **P 20 58 42.2 +0.3**
ZST Bratislava 35.54 315 *e*P **P 20 58 42.1 +0.2**
ZST pmax pmax
comp=Z,187nm,1.1s
ZST Bratislava 35.54 315 *e*P **P 20 58 42.1 +0.2**
PAOL Paolisi 35.56 302 P **P 20 58 41.7 -0.6**
PAOL IAmb IAmb 20 58 57.2
comp=Z,58nm,1.1s
SOP Sopron 35.71 314 P **P 20 58 43.7 +0.3**
LKP Lekhapani 35.72 82 *e*P **P 20 58 44.6 +0.9**
LKP IAmb IAmb 20 58 46.8
comp=Z,39nm,0.9s
GCIS Gornji Cirnik 35.79 310 *e*P **P 20 58 44.5 +0.4**
PUL Pulkovo 35.82 339⇓*e*P **P 20 58 46.8 +2.7**
PUL pmax pmax
comp=Z,143nm,0.8s
MORC Moravsky Berou 35.84 317 P **P 20 58 43.9 -0.7**
MORC pmax pmax
comp=Z,54nm,1.1s
MORC Moravsky Berou 35.84 317 *e*P **P 20 58 44.4 -0.2**
MORC Moravsky Berou 35.84 317 P **P 20 58 43.9 -0.7**
MORC IAmb IAmb 20 58 45.8
comp=Z,54nm,1.1s
CRES Cresnjev 35.89 310 *e*P **P 20 58 45.2 +0.2**
LEGS Legarje 36.02 310 *e*P **P 20 58 46.4 +0.4**
VSU Vasula 36.11 335*d i*P **P 20 58 46.0 -0.6**
VSU pmax pmax
comp=Z,152nm,1.0s
VSU Vasula 36.11 335 *e*P **P 20 58 47.1 +0.5**
CONA Conrad Observa 36.23 314 *i* P **P 20 58 48.1 +0.1**
comp=Z,74nm,1.1s,SNR=34
VRAC Vranov 36.24 316 ⇑P **P 20 58 48.2 +0.2**
VRAC Vranov 36.24 316 LR LR 21 17 00.8
comp=Z,457nm,18.3s,baz=122,slow=42
VRAC Vranov 36.24 316 *e*P **P 20 58 48.3 +0.4**
ARSA Arzberg 36.25 312 *i* P **P 20 58 48.4 +0.4**
comp=Z,62nm,1.1s,SNR=26
ARSA Arzberg 36.25 312 *e*P **P 20 58 48.3 +0.3**
baz=108,slow=8.3
KRUC Moravsky 36.28 316 *e*P **P 20 58 48.5 +0.3**
CLTB Caltabellotta 36.30 296 P **P 20 58 48.9 +0.2**
SOKA Soboth 36.40 311 *i* P **P 20 58 49.5 +0.1**
comp=Z,26nm,1.1s,SNR=9.4
SOKA *e*S **S 21 04 31.9 +2.2**
comp=Z,3.5nm,0.8s
KRLC Kraliky 36.41 317 *e*P **P 20 58 49.1 -0.3**
KRLC Kraliky 36.41 317 *e*P **P 20 58 49.1 -0.3**
PBUR Paburge 36.55 329 *e*P **P 20 58 50.9 +0.5**
CEY Cerknica 36.57 310 *e*P **P 20 58 50.7 -0.1**
LJU Ljubljana 36.57 310 *e*P **P 20 58 50.9 +0.1**
LJU Ljubljana 36.57 310 *i* P **P 20 58 51.4 +0.6**
KLNR Kaliningrad 36.59 326*c i*P **P 20 58 51.0 +0.3**
KLNR pmax pmax
comp=Z,378nm,0.9s
AQU L'Aquila 36.62 304 P **P 20 58 50.9 -0.4**
AQU pmax pmax
comp=Z,103nm,1.0s
AQU L'Aquila 36.62 304 *e*P **P 20 58 51.8 +0.5**
AQU L'Aquila 36.62 304 P **P 20 58 50.9 -0.4**
AQU IAmb IAmb 20 59 26.8
comp=Z,103nm,1.0s
OBKA Obir 36.68 311 *i* P **P 20 58 52.2 +0.3**
comp=Z,32nm,1.2s,SNR=10
OBKA Obir 36.68 311 *e*P **P 20 58 51.8 0.0**
baz=108,slow=8.3
DPC Dobruska-Polom 36.79 318 *e*P **P 20 58 52.5 -0.1**
DPC MLR MLR
comp=Z,500nm,17.1s
DPC Dobruska-Polom 36.79 318 *e*P **P 20 58 52.5 -0.1**
DPC AMS AMS 21 20 40.0
comp=Z,500nm,17.1s
NRCA Norcia 36.90 305 P **P 20 58 53.6 -0.1**
NRCA IAmb IAmb 20 59 08.3
comp=Z,52nm,0.9s
NRCA PcP **PcP 21 01 15.0 0.0**
TREC Trest 36.92 316 *e*P **P 20 58 54.1 +0.4**
TREC Trest 36.92 316 *e*P **P 20 58 54.1 +0.4**
OSTC Ostas 36.93 318 *e*P **P 20 58 53.9 +0.1**
KSP Ksiaz 36.99 318 *e*P **P 20 58 54.5 +0.2**
VOJS Vojsko 37.01 310 *i* P **P 20 58 54.5 -0.1**
UPC Upice 37.03 318 *e*P **P 20 58 55.0 +0.4**
UPC Upice 37.03 318 *e*P **P 20 58 55.0 +0.4**
CHVC Chvalec 37.04 318 *e*P **P 20 58 54.4 -0.3**
MBAR Mbarara 37.16 224 LR LR 21 14 42.0
comp=Z,1μm,21.8s,baz=31,slow=37
MBAR Mbarara 37.16 224 P **P 20 58 57.3 +1.0**
MBAR Mbarara 37.16 224 P **P 20 58 57.3 +1.0**
MBAR IAmb IAmb 20 58 58.8
comp=Z,51nm,0.9s
MBAR Mbarara 37.16 224 *e*P **P 20 59 00.2 +3.9**
MBAR *e*S S 21 04 51.3 +9.4
MOA Molln 37.23 313 *i* P **P 20 58 56.6 +0.2**
comp=Z,94nm,0.9s,SNR=40
MOA Molln 37.23 313 *e*P **P 20 58 56.6 +0.2**
baz=108,slow=8.3
MYKA Terra Mystica 37.32 311 *e*P **P 20 58 57.3 +0.1**
comp=Z,21nm,0.9s
SLIT Slitere, Latvi 37.35 331 *e*P **P 20 58 57.8 +0.6**
MURB Monte Urbino 37.40 305 P **P 20 58 58.1 +0.2**
MURB IAmb IAmb 20 59 14.0
comp=Z,118nm,1.1s
MTSE Matsula 37.41 333 *e*P **P 20 58 58.2 +0.6**
CKRC Cesky Krumlov 37.50 315 *e*P **P 20 58 58.7 +0.1**
KBA Koelnbreinsper 37.63 311 *i* P **P 20 59 00.0 +0.1**
comp=Z,84nm,1.3s,SNR=44

KBA Koelnbreinsper 37.63 311 *eP* **P 20 58 60.0 +0.1**
baz=108,slow=8.3
PRU Pruhonice 37.73 316 *eP* **P 20 59 00.3 -0.3**
PRU MLR MLR
comp=Z,600nm,19.2s
PRU Pruhonice 37.73 316 *eP* **P 20 59 00.3 -0.3**
PRU AMS AMS 21 18 30.0
comp=Z,600nm,19.2s
LATE Laterza 37.83 304 P **P 20 59 00.6 -1.0**
LATE IAmb IAmb 20 59 03.2
comp=Z,62nm,1.1s
LATE PcP **PcP 21 01 16.4 -1.3**
STAL STALIGIAL 37.85 310 P **P 20 59 00.9 -0.8**
STAL IAmb IAmb 20 59 05.5
comp=Z,55nm,1.0s
GEC2 GERESS Array S 37.89 314 *eP* **P 20 59 01.9 -0.2**
comp=Z,66nm,1.0s,baz=108,slow=8.3
GEC2 *eS* **S 21 04 51.7 -0.4**
GEC2 GERESS Array S 37.89 314 P **P 20 59 01.5 -0.5**
GEC2 IAmb IAmb 20 59 03.0
comp=Z,56nm,1.0s
GEC2 PcP **PcP 21 01 16.9 -1.0**
GERES GERESS Array B 37.89 314 P **P 20 59 01.8 -0.2**
comp=Z,31nm,0.9s,baz=108,slow=8.6,SNR=151
GERES PcP **PcP 21 01 18.1 +0.2**
comp=Z,7.1nm,0.9s,baz=105,slow=3.2,SNR=4.1
GERES S **S 21 04 49.4 -2.7**
comp=Z,0.2nm,0.4s,baz=146,slow=29,SNR=1.6
GERES LR LR 21 17 46.5
comp=Z,356nm,19.1s,baz=123,slow=41
GERES GERESS Array B 37.89 314 P **P 20 59 01.2 -0.8**
GERES *PP **pP 20 59 06.8 -2.8**
GERES 21 01 17.4
GERES GERESS Array B 37.89 314 P **P 20 59 01.2 -0.8**
GERES pP **pP 20 59 06.8 -2.8**
GERES PcP **PcP 21 01 17.4 -0.5**
PVCC Panska Ves 37.90 317 *eP* **P 20 59 01.9 -0.1**
PVCC Panska Ves 37.90 317 *eP* **P 20 59 01.9 -0.1**
PBCC Pribram 37.97 316 *eP* **P 20 59 02.3 -0.3**
KHC Kasperske Hory 38.05 315 P **P 20 59 02.2 -1.1**
KHC pmax pmax
comp=Z,153nm,0.9s
KHC Kasperske Hory 38.05 315 *eP* **P 20 59 03.2 -0.1**
KHC *ep*P **pP 20 59 11.5 +0.5**
KHC AMS AMS 21 18 20.0
comp=Z,600nm,15.8s
KHC Kasperske Hory 38.05 315 P **P 20 59 02.2 -1.1**
ABTA Abfaltersbach 38.10 311 *i* P **P 20 59 03.8 0.0**
comp=Z,62nm,1.0s,SNR=27
ABTA *eS* **S 21 04 54.2 -1.2**
comp=Z,9.5nm,1.5s
RJOB Jochberg 38.16 312 *eP* **P 20 59 03.9 -0.4**
comp=Z,40nm,1.1s,baz=108,slow=8.3
GTA Gaotai 38.22 61 ⇑P **P 20 59 06.3 +1.3**
GTA pP sP 20 59 17.1 +1.5
GTA sP pP 20 59 22.9 +10
GTA S **S 21 04 56.3 -1.3**
GTA ScS **ScS 21 09 13.8 -1.6**
GTA pmax pmax
comp=Z,89nm,1.0s
GTA pmax pmax
comp=Z,340nm,4.6s
GTA LR LR
comp=Z,620nm,12.7s
GTA LR LR
comp=Z,790nm,17.1s
GTA LR LR
comp=Z,1μm,16.7s
OSSC Osservatorio P 38.36 305 P **P 20 59 04.5 -1.5**
TEOL Teolo 38.37 308 P **P 20 59 05.2 -0.9**
BRG Berggiesshubel 38.39 318⇑*iP* **P 20 59 06.0 -0.1**
BRG Amp 20 59 07.9
comp=Z,64nm,1.2s
BRG *ex* x 20 59 23.9
BRG Amp 20 59 29.2
comp=Z,294nm,1.3s
BRG Amp 21 22 10.0
comp=Z,0.6nm,14.5s
BRG Amp 21 22 12.0
comp=N,0.7nm,16.2s
BRG Amp 21 22 39.0
comp=E,0.3nm,16.2s
BRG Berggiesshubel 38.39 318⇑*iP* **P 20 59 06.0 -0.1**
BRG pmax pmax
comp=Z,64nm,1.2s
BRG MLR MLR
comp=Z,570nm,14.5s
BRG MLR MLR
comp=N,670nm,16.2s
BRG MLR MLR
comp=E,260nm,16.2s
BRG Berggiesshubel 38.39 318 *eP* **P 20 59 06.1 0.0**
comp=E,64nm,1.2s,baz=108,slow=8.3
FIA1 FINESS Array S 38.46 338 P **P 20 59 06.2 -0.3**
FINES FINESS Array B 38.46 338 P **P 20 59 06.7 +0.1**
comp=E,16nm,0.5s,baz=144,slow=9.9,SNR=175
FINES FINESS Array B 38.46 338 P **P 20 59 06.4 -0.2**
KRAR Krasnoyarsk 38.49 33⇑*iP* **P 20 59 07.5 +0.7**
WET Wettzell 38.49 315 *eP* **P 20 59 06.6 -0.4**
comp=E,85nm,1.1s,baz=108,slow=8.3
CTI Castel Tesino 38.52 309 P **P 20 59 07.0 -0.4**
CTI pmax pmax
comp=Z,38nm,1.0s
CTI Castel Tesino 38.52 309 P **P 20 59 07.0 -0.4**
CASP Castiglione de 38.53 304 P **P 20 59 06.5 -0.9**
ZCCA Zocca 38.68 307 P **P 20 59 08.9 +0.2**
FBE Freiberg 38.76 317 *eP* **P 20 59 09.4 +0.2**
comp=Z,50nm,1.2s,baz=108,slow=8.3
WTTA Wattenberg 38.80 311 *i* P **P 20 59 09.3 -0.5**
comp=Z,133nm,1.0s,SNR=51
WTTA *eS* **S 21 05 03.9 -2.3**
comp=Z,22nm,1.1s
WATA Walderalm 38.86 311 *i* P **P 20 59 09.5 -0.8**
comp=Z,110nm,1.0s,SNR=35
WATA S **S 21 05 03.4 -3.6**
comp=Z,18nm,1.6s
RUE Ruedersdorf 39.06 320 *eP* **P 20 59 11.8 +0.2**
RUE Ruedersdorf 39.06 320 *eP* **P 20 59 11.9 +0.2**
comp=Z,62nm,1.0s,baz=108,slow=8.3
VLC Villacollemand 39.07 306 P **P 20 59 11.0 -0.9**
VLC IAmb IAmb 20 59 26.9
comp=Z,57nm,1.0s
SQTA Sankt Quirin 39.08 311 *i* P **P 20 59 11.4 -0.7**
comp=Z,76nm,0.8s,SNR=42
SQTA *eS* **S 21 05 07.0 -3.2**
comp=Z,13nm,1.0s
NKC Novy Kostel 39.09 316 *eP* **P 20 59 12.2 +0.2**
NKC Novy Kostel 39.09 316 *eP* **P 20 59 12.2 +0.2**
ROTZ Rotzenmuhle 39.09 315 *eP* **P 20 59 12.3 +0.2**
comp=Z,27nm,1.1s,baz=108,slow=8.3
CLL Collm 39.10 318⇑*iP* **P 20 59 11.9 -0.1**
CLL *eS* **S 21 05 15.0 +4.9**
CLL pmax pmax
comp=Z,88nm,1.2s
CLL MLR MLR
comp=Z,500nm,18.4s
CLL Collm 39.10 318⇑*iP* **P 20 59 11.9 -0.1**
comp=Z,88nm,1.2s
CLL *eS* **S 21 05 15.0 +4.9**
CLL *e*SS **SS 21 08 12.0 +9.2**
CLL Lm MLR 21 19 00.0
comp=N,400nm,20.3s
CLL Lm MLR 21 19 00.0
comp=E,600nm,18.1s
CLL Lm MLR 21 19 00.0
comp=Z,500nm,18.4s
CLL Collm 39.10 318 *eP* **P 20 59 12.3 +0.3**
comp=Z,88nm,1.2s,baz=108,slow=8.3
CLL Collm 39.10 318 P **P 20 59 11.8 -0.1**
CLL IAmb IAmb 20 59 13.4
comp=Z,74nm,1.1s
TANN Tannenbergstha 39.13 316 *eP* **P 20 59 12.3 -0.2**
comp=Z,70nm,2.1s,baz=108,slow=8.3
DGAR Diego Garcia 39.14 152 P **P 20 59 14.1 +1.4**
DGAR Diego Garcia 39.14 152 P **P 20 59 14.1 +1.4**
WERN Wernitzgruen 39.15 316 *eP* **P 20 59 12.9 +0.4**
comp=Z,53nm,1.2s,baz=108,slow=8.3
MOTA Moosalm 39.17 311 *i* P **P 20 59 12.0 -1.0**
comp=Z,105nm,1.0s,SNR=53
MOTA *eS* **S 21 05 08.8 -3.0**
comp=Z,13nm,1.2s
GUNZ Gunzen 39.20 316 *eP* **P 20 59 12.7 -0.2**
comp=Z,34nm,1.5s,baz=108,slow=8.3
PRMA PARMA 39.21 307 P **P 20 59 13.8 +0.7**
PRMA IAmb IAmb 20 59 15.3
comp=Z,76nm,1.0s

SALO Salr 39.21 309 P **P 20 59 12.7 -0.5**
SALO IAmb IAmb 20 59 14.3
comp=Z,66nm,0.9s
MANZ Manzenberg 39.22 316 *eP* **P 20 59 13.0 -0.1**
comp=Z,11nm,1.1s,baz=108,slow=8.3
WERD Werda 39.24 316 *eP* **P 20 59 12.9 -0.4**
comp=Z,27nm,1.3s,baz=108,slow=8.3
FUR Furstenfeldbru 39.25 313 *eP* **P 20 59 13.0 -0.5**
comp=Z,165nm,1.2s,baz=108,slow=8.3
PLN Plauen 39.34 316 *eP* **P 20 59 13.9 -0.2**
comp=Z,25nm,1.3s,baz=108,slow=8.3
FETA Feichten 39.35 311 *i* P **P 20 59 14.0 -0.4**
comp=Z,110nm,1.0s,SNR=50
FETA *eS* **S 21 05 12.0 -2.4**
comp=Z,21nm,1.1s
VSL Villasalto 39.38 299 P **P 20 59 14.5 -0.1**
VSL IAmb IAmb 20 59 17.1
comp=Z,65nm,1.1s
KEST Kesra 39.42 293 P **P 20 59 16.5 +1.5**
comp=Z,26nm,0.9s,baz=274,slow=0.7,SNR=23
KEST LR LR 21 19 02.2
comp=Z,409nm,19.5s,baz=0.5,slow=41
KEST Kesra 39.42 293 P **P 20 59 16.5 +1.5**
RETA Reutte 39.43 311 *i* P **P 20 59 14.0 -1.0**
comp=Z,34nm,0.9s,SNR=9.0
RETA *eS* **S 21 05 12.2 -3.3**
comp=Z,20nm,1.2s
BSD Bornholm Skovb 39.51 324 *i* P **P 20 59 13.5 -1.9**
BSD IAmb IAmb 20 59 20.7
comp=Z,61nm,0.9s
BSD Bornholm Skovb 39.51 324 *eP* **P 20 59 14.8 -0.7**
GRA1 Grafenberg Arr 39.69 315 P **P 20 59 16.6 -0.4**
GRF Grafenberg Arr 39.69 315 P **P 20 59 16.6 -0.4**
GRF pmax pmax
comp=Z,231nm,1.1s
GRF Grafenberg Arr 39.69 315 *eP* **P 20 59 17.2 +0.2**
comp=Z,219nm,1.0s,baz=108,slow=8.3
GRF *eL* L 21 20 35.5
comp=Z,462nm,19.1s
GRFO Grafenberg 39.69 315 P **P 20 59 16.5 -0.5**
GRFO pmax pmax
comp=Z,191nm,1.0s
GRFO Grafenberg 39.69 315 P **P 20 59 16.5 -0.5**
MSSA Maissana 39.71 306 P **P 20 59 15.4 -2.0**
MOX Moxa 39.72 316 *eP* **P 20 59 17.4 +0.1**
comp=Z,43nm,1.1s,baz=108,slow=8.3
MOX *eL* L 21 19 03.5
comp=Z,375nm,21.1s
NEUB Neuenburg 39.79 317 *eP* **P 20 59 18.0 +0.2**
comp=Z,78nm,1.1s,baz=108,slow=8.3
AAL Aland 39.85 333 *eP* **P 20 59 18.3 +0.2**
DAVOX Davos/Dischmat 39.87 310 LR LR 21 18 38.7
comp=Z,432nm,18.5s,baz=98,slow=40
UBR Ueberruh 39.91 312 *eP* **P 20 59 18.3 -0.7**
comp=Z,135nm,1.0s,baz=108,slow=8.3
DAVA Damuels 39.97 311 *i* P **P 20 59 19.0 -0.6**
comp=Z,184nm,1.2s,SNR=38
DAVA *eS* **S 21 05 19.2 -4.5**
comp=Z,21nm,1.5s
DAVA Damuels 39.97 311 *eS* **S 21 05 20.4 -3.4**
RGN Rugen 40.11 323 *eP* **P 20 59 21.7 +1.3**
RGN Rugen 40.11 323 *eP* **P 20 59 21.3 +0.9**
comp=Z,394nm,1.3s,baz=108,slow=8.3
RGN Rugen 40.11 323 P **P 20 59 19.9 -0.5**
TUE Stuetta 40.17 310 P **P 20 59 19.9 -1.4**
TUE IAmb IAmb 20 59 27.6
comp=Z,83nm,1.4s
FLTG Flechtingen 40.47 319 *eP* **P 20 59 24.0 +0.6**
comp=Z,190nm,1.2s,baz=108,slow=8.3
UPP Uppsala 40.63 332 *eP* **P 20 59 24.6 +0.1**
DEL Delary 40.64 326 *i* P **P 20 59 24.0 -0.8**
ASSE Asse, Remlinge 40.73 318 *eP* **P 20 59 26.2 +0.7**
comp=Z,55nm,1.2s,baz=108,slow=8.3
STU Stuttgart 40.74 313 P **P 20 59 23.9 -1.8**
STU pmax pmax
comp=Z,42nm,1.2s
STU Stuttgart 40.74 313 *eP* **P 20 59 24.6 -1.2**
comp=Z,92nm,1.2s,baz=108,slow=8.3
STU Stuttgart 40.74 313 P **P 20 59 23.9 -1.8**
UBBA Unterbreizbach 40.75 316 *eP* **P 20 59 26.4 +0.7**
comp=Z,44nm,1.1s,baz=108,slow=8.3
CLZ Clausthal 40.82 318 *eP* **P 20 59 27.2 +0.8**
comp=Z,178nm,1.1s,baz=108,slow=8.3
CHTO Chiang Mai 40.88 94 P **P 20 59 27.9 +0.7**
CHTO pmax pmax
comp=Z,36nm,1.0s
CHTO Chiang Mai 40.88 94 P **P 20 59 27.9 +0.7**
CHTO Chiang Mai 40.88 94 P **P 20 59 28.8 +1.6**
GTTG Gottingen 40.98 317 *eP* **P 20 59 28.5 +0.9**
comp=Z,101nm,1.2s,baz=108,slow=8.3
CM31 Chiang Mai Arr 41.01 94 P **P 20 59 29.3 +0.9**
CM31 PcP **PcP 21 01 27.5 -0.7**
CMAR Chiang Mai Arr 41.01 94 P **P 20 59 29.3 +1.0**
comp=Z,12nm,0.7s,baz=290,slow=8.5,SNR=70
CMAR PcP **PcP 21 01 28.9 +0.7**
comp=Z,6.3nm,0.7s,baz=282,slow=4.4,SNR=7.2
CMAR ScP **ScP 21 05 17.1 +0.6**
comp=Z,3.7nm,1.1s,baz=286,slow=5.0,SNR=5.9
CMAR LR LR 21 19 18.1
comp=Z,639nm,21.3s,baz=280,slow=40
CMAR Chiang Mai Arr 41.01 94 P **P 20 59 29.1 +0.8**
CMAR PcP **PcP 21 01 28.5 +0.3**
CMAR **ScP 21 05 17.6 +1.0**
PZH PanZhiHua 41.04 81⇓P **P 20 59 29.0 +0.4**
PZH pP **sP 20 59 38.4 -0.9**
PZH sP **pP 20 59 40.9 +4.6**
PZH PP **PP 21 01 05.3 +1.9**
PZH S **S 21 05 39.8 -0.3**
PZH pmax pmax
comp=Z,30nm,1.3s
PZH pmax pmax
comp=Z,220nm,4.9s
PZH LR LR
comp=Z,2μm,17.9s
PZH LR LR
comp=Z,3μm,18.1s
PZH LR LR
comp=Z,3μm,18.3s
MOY Mondy 41.17 43 *eP* **P 20 59 30.8 +1.4**
MOY pmax pmax
comp=Z,112nm,2.7s
NRDL Niedersach Rie 41.18 319 *eP* **P 20 59 30.5 +1.3**
comp=Z,150nm,1.3s,baz=108,slow=8.3
BFO Black Forest 41.21 312 P **P 20 59 28.4 -1.3**
BFO pmax pmax
comp=Z,19nm,1.0s
BFO Black Forest 41.21 312 *eP* **P 20 59 29.8 +0.2**
comp=Z,19nm,1.2s,baz=108,slow=8.3
BFO Black Forest 41.21 312 P **P 20 59 28.4 -1.3**
LZH Lanzhou 41.43 66 *eP* **P 20 59 32.8 +1.0**
LZH pP sP 20 59 41.4 -1.0
LZH sP pP 20 59 47.5 +8.1
LZH pmax pmax
comp=Z,140nm,1.0s
LZH pmax pmax
comp=Z,400nm,5.5s
LZH LR LR
comp=Z,650nm,14.1s
LZH LR LR
comp=Z,640nm,14.9s
LZH LR LR
comp=Z,820nm,16.5s
APA Apatity 41.48 347⇓*iP* **P 20 59 30.5 -1.0**
APA *i* 21 01 09.0
APA *i* 21 01 37.0
APA *i* S **S 21 05 44.0 -1.3**
APA pmax pmax
comp=Z,48nm,0.9s
APA MLR MLR
comp=Z,900nm,12.0s
BSEG Bad Segeberg 41.53 321 *eP* **P 20 59 32.7 +0.6**
comp=Z,71nm,1.3s,baz=108,slow=8.3
LVZ Lovozero 41.54 348⇓*eP* **P 20 59 32.7 +0.6**
LVZ pmax pmax
comp=Z,50nm,1.5s
LVZ Lovozero 41.54 348 P **P 20 59 31.8 -0.2**
SENIN Lac Senin/Sane 41.55 309 P **P 20 59 31.2 -1.6**
SENIN IAmb IAmb 20 59 41.7
comp=Z,155nm,1.8s
TNS Taunus Mts 41.55 315 *eP* **P 20 59 33.0 +0.5**
comp=Z,131nm,1.2s,baz=108,slow=8.3
RETH Rethem/Aller, 41.69 319 *eP* **P 20 59 34.1 +0.7**
comp=Z,98nm,1.7s,baz=108,slow=8.3
BNI Bardonecchia 41.81 307 P **P 20 59 32.7 -2.1**
BNI pmax pmax
comp=Z,53nm,0.9s

BNI Bardonecchia 41.81 307 P **P 20 59 32.7 -2.1**
BNI IAmb IAmb 20 59 47.1
comp=Z,53nm,0.9s
CD2 Chengdu 41.92 74 P **P 20 59 35.6 -0.1**
CD2 S **S 21 05 52.6 -0.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,710nm,15.7s
CD2 LR LR
comp=Z,640nm,15.7s
ECH Echery 41.96 312 P **P 20 59 34.4 -1.4**
ECH pmax pmax
comp=Z,73nm,1.1s
ECH Echery 41.96 312 P **P 20 59 34.4 -1.4**
ECH IAmb IAmb 20 59 36.7
comp=Z,73nm,1.1s
ZAK Zakamensk 42.24 45 *eP* **P 20 59 38.6 +0.5**
ZAK pmax pmax
comp=Z,27nm,1.4s
KMI Kunming 42.25 83 ⇑P **P 20 59 39.1 +0.4**
KMI pP sP 20 59 48.6 -0.8
KMI sP pP 20 59 51.6 +5.3
KMI SS SS 21 08 58.8 -8.0
KMI pmax pmax
comp=Z,24nm,0.9s
KMI pmax pmax
comp=Z,200nm,3.9s
KMI LR LR
comp=Z,320nm,18.7s
KMI LR LR
comp=Z,420nm,16.6s
KMI LR LR
comp=Z,460nm,16.5s
HFS Hagfors 42.45 330 LR LR 21 20 15.7
comp=Z,359nm,19.8s,baz=138,slow=40
AHRW Bad Neuenahr-A 42.48 315 *eP* **P 20 59 40.8 +0.9**
comp=Z,77nm,1.0s,baz=108,slow=8.3
IBBN Ibbenburen 42.50 318 *eP* **P 20 59 41.1 +1.0**
comp=Z,138nm,1.2s,baz=108,slow=8.3
BUG Bochum-Univer 42.57 317 *eP* **P 20 59 41.5 +0.9**
comp=Z,155nm,1.2s,baz=108,slow=8.3
BUG *ep*P **pP 20 59 47.0 -1.3**
WLF Walferdange 42.88 314 P **P 20 59 42.3 -0.9**
WLF pmax pmax
comp=Z,80nm,1.0s
WLF Walferdange 42.88 314 *eP* **P 20 59 43.0 -0.2**
comp=Z,98nm,1.1s,baz=108,slow=8.3
WLF *ep*P **pP 20 59 48.8 -2.1**
WLF Walferdange 42.88 314 P **P 20 59 42.3 -0.9**
WLF IAmb IAmb 20 59 44.7
comp=Z,80nm,1.0s
WLF Walferdange 42.88 314 P **P 20 59 42.9 -0.3**
comp=Z,51nm,1.0s
MUD Monsted U'grnd 43.02 324 *i* P **P 20 59 44.1 -0.1**
MUD IAmb IAmb 20 59 45.7
comp=Z,47nm,0.9s
BTNL Ternell 43.08 315 P **P 20 59 45.3 +0.5**
comp=Z,38nm,1.0s
BHOU Houvegnez 43.11 315 P **P 20 59 45.8 +0.7**
comp=Z,19nm,1.1s
MEM Membach 43.16 315 P **P 20 59 46.5 +1.0**
comp=Z,38nm,1.0s
HGN Heimansgroeve 43.24 315 *eP* **P 20 59 46.8 +0.7**
IRK Irkutsk 43.28 43 *eP* **P 20 59 46.3 -0.1**
IRK *e* 21 01 32.5
IRK pmax pmax
comp=Z,87nm,1.8s
SSB Saint Sauveur 43.34 307 P **P 20 59 45.4 -1.7**
SSB pmax pmax
comp=Z,34nm,1.2s
SSB Saint Sauveur 43.34 307 P **P 20 59 45.4 -1.7**
BEBN Eben Emael 43.41 315 P **P 20 59 48.1 +0.7**
comp=Z,77nm,1.0s
BSTI Sart Tilman 43.43 315 P **P 20 59 48.3 +0.7**
comp=Z,8.8nm,1.0s
RCHB Rochefort 43.56 314 P **P 20 59 49.3 +0.6**
comp=Z,35nm,1.2s
BCLA Clavier 43.56 315 P **P 20 59 48.5 -0.2**
comp=Z,51nm,1.0s
OSL Oslo 43.68 329⇑*iP* **P 20 59 49.7 +0.3**
NC602 NORSAR Array S 43.68 330 *eP* **P 20 59 49.2 -0.3**
NC602 NORSAR Array S 43.68 330 P **P 20 59 48.8 -0.7**
NC602 IAmb IAmb 20 59 50.1
comp=Z,95nm,0.9s
BGES Gesves 43.69 315 P **P 20 59 50.2 +0.4**
comp=Z,55nm,1.0s
NC405 NORSAR Array S 43.78 331 P **P 20 59 48.8 -1.6**
SONM Songino Array 43.80 49 P **P 20 59 48.8 -2.0**
comp=Z,25nm,1.0s,baz=255,slow=8.6,SNR=34
SONM LR LR 21 18 54.1
comp=Z,679nm,18.2s,baz=252,slow=37
SONM Songino Array 43.80 49 P **P 20 59 49.9 -0.9**
SONM pmax pmax
comp=Z,36nm,1.2s
SONM Songino Array 43.80 49 P **P 20 59 49.9 -0.9**
BMRD Maredsous 43.88 314 P **P 20 59 51.5 +0.3**
comp=Z,43nm,1.2s
NB201 NORSAR Array S 43.93 331 P **P 20 59 50.7 -0.8**
NB201 PcP **PP 21 01 35.4 +1.5**
DOU Dourbes 43.95 314 *eP* **P 20 59 52.3 +0.4**
DOU Dourbes 43.95 314 P **P 20 59 50.7 -1.1**
comp=Z,75nm,1.1s
NB2 NORSAR Subarra 43.96 331 P **P 20 59 50.6 -1.2**
comp=Z,74nm,0.9s,baz=116,slow=8.6
NB2 NORSAR Subarra 43.96 331 P **P 20 59 50.6 -1.2**
baz=116,slow=8.6
NOA NORSAR Array B 43.96 331 P **P 20 59 50.7 -1.1**
comp=Z,56nm,0.9s,baz=117,slow=8.0,SNR=123
NC300 NORSAR Array S 43.98 331 P **P 20 59 51.4 -0.6**
NC300 IAmb IAmb 20 59 52.8
comp=Z,71nm,1.0s
NC303 NORSAR Array S 43.98 331 P **P 20 59 51.0 -0.9**
NC303 IAmb IAmb 20 59 52.8
comp=Z,65nm,1.1s
NAO01 NORSAR Array S 44.01 330 P **P 20 59 51.1 -1.1**
HOMB Homborsund 44.03 326 *i* P **P 20 59 50.0 -2.3**
HOMB Homborsund 44.03 326 *eP* **P 20 59 51.6 -0.8**
KONO Kongsberg 44.06 328*ceP* **P 20 59 52.1 -0.5**
KONO pmax pmax
comp=Z,127nm,1.3s
KONO Kongsberg 44.06 328⇑*iP* **P 20 59 52.4 -0.2**
KONO Kongsberg 44.06 328 P **P 20 59 51.6 -1.0**
KONO IAmb IAmb 20 59 53.9
comp=Z,130nm,1.1s
NBO00 NORSAR Array S 44.15 331 P **P 20 59 51.5 -1.8**
SNF Seneffe 44.22 315 P **P 20 59 54.3 +0.3**
comp=Z,87nm,1.0s
UCC Uccle 44.23 315 P **P 20 59 54.5 +0.5**
UCC pmax pmax
comp=Z,27nm,1.2s
UCC Uccle 44.23 315 P **P 20 59 54.5 +0.5**
UCC Uccle 44.23 315 P **P 20 59 54.4 +0.3**
comp=Z,9.2nm,1.1s
ULN Ulaanbaatar 44.24 49*d iP* **P 20 59 54.3 -0.1**
ULN pmax pmax
comp=Z,36nm,1.1s
ULN Ulaanbaatar 44.24 49 P **P 20 59 54.8 +0.4**
NC204 NORSAR Array S 44.27 331 P **P 20 59 53.6 -0.7**
NC204 IAmb IAmb 20 59 55.6
comp=Z,139nm,1.2s
SLVN Son La 44.38 88 P **P 20 59 58.7 +2.9**
KEV Kevo 44.60 346 P **P 20 59 56.9 +0.2**
KEV pmax pmax
comp=Z,106nm,1.0s
KEV Kevo 44.60 346 P **P 20 59 56.9 +0.2**
KEV IAmb IAmb 20 59 58.5
comp=Z,106nm,1.0s
SNART Snartemo 44.69 326 *eP* **P 20 59 57.9 +0.3**
ARA0 ARCESS Array S 44.74 346⇑*iP* **P 20 59 58.4 +0.4**
ARCES ARCESS Array B 44.74 346 P **P 20 59 58.3 +0.4**
comp=Z,20nm,0.8s,baz=148,slow=7.1,SNR=28
ARCES PcP **PcP 21 01 40.5 +0.7**
comp=Z,12nm,1.0s,baz=167,slow=5.4,SNR=2.7
ARCES ScP **ScP 21 05 29.9 -0.9**
comp=Z,3.1nm,0.9s,baz=151,slow=2.8,SNR=3.7
ARCES LR LR 21 20 06.4
comp=Z,362nm,18.1s,baz=132,slow=38
ARCES ARCESS Array B 44.74 346 P **P 20 59 57.8 -0.2**
ARCES IAmb IAmb 21 00 04.8
comp=Z,51nm,1.1s
KTK1 Kautokeino 44.86 344⇑*iP* **P 20 59 59.0 +0.1**
SKAR Skarslia 45.08 329⇑*iP* **P 21 00 01.6 +0.8**
NRIK Noril'sk 45.13 15 P **P 21 00 01.2 +0.2**
comp=Z,19nm,1.0s,baz=213,slow=5.7,SNR=18

NRIK LR LR 21 20 09.1
comp=Z,672nm,19.8s,baz=216,slow=38
NRIK Noril'sk 45.13 15c *i*P **P 21 00 01.4 +0.4**
NRIK pmax pmax
comp=Z,27nm,1.0s
NRIK Noril'sk 45.13 15 P **P 21 00 00.7 -0.3**
CLF Chambon-Foret 45.18 311 P **P 21 00 00.5 -1.2**
CLF IAmb IAmb 21 00 02.5
comp=Z,60nm,1.1s
GYA Guiyang 45.33 80 ⇑P **P 21 00 07.0 +3.7**
GYA sP sP 21 00 18.1 +4.0
GYA PcP **PcP 21 01 44.9 +2.1**
GYA S **S 21 06 48.4 +5.4**
GYA pmax pmax
comp=Z,13nm,1.4s
GYA pmax pmax
comp=Z,240nm,4.5s
DOMB Dombas 45.34 331 *e*P **P 21 00 02.9 +0.1**
NSS Namsos 45.40 335 *e*P **P 21 00 01.8 -1.4**
TBLU Trondheim 45.41 333 *e*P **P 21 00 02.7 -0.5**
BLS5 Blasjo 45.45 327 *e*P **P 21 00 04.7 +1.0**
MOR8 Moi Rana 45.45 338 *e*P **P 21 00 02.5 -1.1**
ODD1 Odda 45.55 328 *e*P **P 21 00 05.7 +1.2**
XAN Xi'an 45.78 69 ⇑P **P 21 00 06.4 -0.3**
XAN pP pP 21 00 13.8 -0.6
XAN sP sP 21 00 16.8 -0.6
XAN pmax pmax
comp=Z,100nm,1.1s
XAN pmax pmax
comp=Z,380nm,5.1s
XAN LR LR
comp=Z,1μm,14.4s
XAN LR LR
comp=Z,850nm,16.5s
XAN LR LR
comp=Z,1μm,18.6s
FAUS Fauske 45.91 340⇑*i*P **P 21 00 08.0 +0.9**
JETT Jettan, Norway 45.95 344⇑*i*P **P 21 00 09.1 +1.6**
HAMF Hammerfest 46.00 346⇑*i*P **P 21 00 08.5 +0.7**
SRIT Nakonsritamara 46.00 106 P **P 21 00 07.8 -0.7**
STOK Stokkvaagen 46.02 338 *e*P **P 21 00 08.2 +0.2**
BTO Baotou 46.07 60 *e*P **P 21 00 08.9 -0.1**
KONS Konsvik 46.08 338 *e*P **P 21 00 08.6 +0.2**
MOL Molde 46.20 332 *e*P **P 21 00 10.6 +1.0**
HYA Hoyanger 46.23 329 *e*P **P 21 00 10.2 +0.5**
STEI Steigen 46.27 340 *e*P **P 21 00 09.4 -0.5**
AKN Aaknes 46.27 331⇑*i*P **P 21 00 10.7 +0.5**
BER Bergen 46.32 328 *e*P **P 21 00 10.8 +0.3**
BER Bergen 46.32 328⇑*e*P **P 21 00 11.2 +0.7**
TRO Tromso 46.37 343 *e*P **P 21 00 11.7 +0.9**
ASK Askoy 46.42 328⇑*i*P **P 21 00 11.8 +0.5**
SUE Sulen 46.83 329 *e*P **P 21 00 14.1 -0.4**
ENH Enshi 46.90 74 P **P 21 00 14.9 -0.6**
ENH IAmb IAmb 21 00 47.0
comp=Z,36nm,1.0s
FOO Floro 46.90 330 *e*P **P 21 00 15.7 +0.7**
HHC Hu-ho-hao-te 47.23 59 *e*P **P 21 00 19.3 +1.2**
HHC S **S 21 07 09.9 0.0**
HHC sS sS 21 07 22.0 -0.6
HHC SS **SS 21 10 31.1 -6.0**
HHC pmax pmax
comp=Z,44nm,0.9s
HHC pmax pmax
comp=Z,380nm,5.7s
HHC LR LR
comp=Z,790nm,17.1s
HHC LR LR
comp=Z,430nm,17.8s
HHC LR LR
comp=Z,470nm,17.8s
KCSI Kotacane, Aceh 47.27 114 P P 21 00 25.3 +6.8
CART Cartagena 47.58 296 P **P 21 00 20.0 -0.7**
ABPO Ambohimpanom 47.67 190 P **P 21 00 21.5 -0.1**
ABPO pmax pmax
comp=Z,35nm,1.5s
ABPO Ambohimpanom 47.67 190 P **P 21 00 21.5 -0.1**
WOL Wolverton 47.79 315 *e*P **P 21 00 21.7 -0.3**
UBPT Khong Chiam 48.00 95 P **P 21 00 23.9 -0.3**
UBPT IAmb IAmb 21 00 28.9
comp=Z,29nm,1.0s
TIY Taiyuan 48.16 63 P **P 21 00 26.0 +0.8**
TIY pP **sP 21 00 41.0 +5.1**
TIY S **S 21 07 23.0 0.0**
TIY pmax pmax
comp=Z,51nm,1.0s
TIY LR LR
comp=Z,510nm,13.4s
TIY LR LR
comp=Z,420nm,14.4s
TIY LR LR
comp=Z,480nm,15.8s
SWN1 Swindon 48.17 315 *e*P **P 21 00 25.4 +0.3**
JSA Saint Aubin 48.21 312 *e*P **P 21 00 24.3 -1.0**
JSA IAmb IAmb 21 00 25.7
comp=Z,143nm,1.2s
STRD Stroud 48.42 316 *e*P **P 21 00 26.7 -0.2**
STRD IAmb IAmb 21 00 27.4
comp=Z,81nm,0.8s
GSI Gunungsitoli 48.43 116 P P 21 00 32.7 +5.2
GSI Gunungsitoli 48.43 116 P **P 21 00 28.3 +0.7**
GSI Gunungsitoli 48.43 116 P **P 21 00 31.8 +4.3**
FIGM Figuig 48.60 289 P **P 21 00 30.0 +1.2**
LYN LuoYang 48.61 68 ⇓P **P 21 00 27.3 -1.4**
LYN S **S 21 07 32.3 +3.0**
LYN pmax pmax
comp=Z,60nm,0.8s
LYN pmax pmax
comp=Z,120nm,5.2s
LYN LR LR
comp=Z,640nm,15.6s
LYN LR LR
comp=Z,600nm,13.2s
PSI Prapat 48.62 113 P **P 21 00 28.6 -0.5**
comp=Z,5.0nm,0.5s,baz=126,slow=23,SNR=12
PSI LR LR 21 24 34.1
comp=Z,276nm,18.7s,baz=301,slow=40
KULM Kulim 48.63 109 P **P 21 00 28.4 -0.7**
KULM IAmb IAmb 21 00 36.5
comp=Z,31nm,1.1s
EDMD Edmundbyers 48.70 320 *e*P **P 21 00 28.5 -0.6**
EDMD IAmb IAmb 21 00 30.2
comp=Z,86nm,1.2s
ROSF Rostrenen 48.89 311 *e*P **P 21 00 30.2 -0.5**
ROSF IAmb IAmb 21 00 31.0
comp=Z,140nm,1.2s
TETE Tete 48.93 208 *e*P **P 21 00 32.2 +1.0**
TETE IAmb IAmb 21 00 36.6
comp=Z,66nm,1.1s
HLM1 Long Mynd 48.94 316 *e*P **P 21 00 30.7 -0.3**
HLM1 IAmb IAmb 21 00 31.4
comp=Z,82nm,1.1s
MCH1 Michaelchurch 48.96 316 *e*P **P 21 00 30.3 -0.8**
MCH1 IAmb IAmb 21 00 31.4
comp=Z,86nm,0.9s
TDRA Tendrara 49.07 291 P **P 21 00 34.0 +1.5**
ESY Stoneypath 49.24 321 *e*P **P 21 00 33.0 -0.2**
JBK JBK 49.28 292 P **P 21 00 35.3 +1.2**
KESW Keswick, Cumbr 49.32 319 *e*P **P 21 00 33.2 -0.7**
KESW IAmb IAmb 21 00 34.0
comp=Z,100nm,1.0s
DRUM Mains of Drumt 49.34 322 *e*P **P 21 00 33.5 -0.4**
DRUM IAmb IAmb 21 00 36.6
comp=Z,100nm,1.1s
LRW Lerwick 49.34 327 *e*P **P 21 00 33.6 -0.3**
LRW IAmb IAmb 21 00 35.0
comp=Z,118nm,0.8s
IPM Ipoh 49.39 110 P **P 21 00 33.4 -1.5**
LLW Llanuwychllyn 49.45 317 *e*P **P 21 00 34.3 -0.5**
EBL Broad Law 49.45 321 *e*P **P 21 00 34.6 -0.2**
EKA Eskdalemuir Ar 49.45 320 LR LR 21 27 52.7
comp=Z,393nm,18.3s,baz=126,slow=44
GOG Mont Gurugu 49.49 294 P **P 21 00 37.0 +1.4**
ESBB Sonseca Array 49.67 299 P **P 21 00 35.9 -0.9**
ESDC Sonseca Array 49.67 299 P **P 21 00 36.7 -0.1**
comp=Z,14nm,1.0s,baz=76,slow=7.0,SNR=73
ESDC LR LR 21 24 34.9
comp=Z,383nm,18.3s,baz=76,slow=40
ESDC Sonseca Array 49.67 299 P **P 21 00 35.2 -1.6**
BJO1 Bjornoya 49.84 348⇑*i*P **P 21 00 37.6 +0.2**
BOD Bodaibo 49.94 37 *e*P **P 21 00 38.2 -0.3**
BOD pmax pmax
comp=Z,94nm,1.6s
PAB San Pablo 49.98 299 P **P 21 00 38.0 -1.3**
PAB pmax pmax
comp=Z,35nm,1.0s
PAB San Pablo 49.98 299 P **P 21 00 38.0 -1.3**
PAB IAmb IAmb 21 00 40.4
comp=Z,35nm,0.9s
PAB San Pablo 49.98 299 P **P 21 00 39.2 0.0**
HNS HongShan 49.99 63 ⇑P **P 21 00 39.6 +0.4**
HNS S **S 21 07 55.3 +6.7**
HNS pmax pmax
comp=Z,43nm,1.3s
HNS LR LR
comp=Z,480nm,16.3s
HNS LR LR
comp=Z,460nm,18.6s
RSBS Rosebush, Pemb 50.03 316 *e*P **P 21 00 38.9 -0.4**
RSBS IAmb IAmb 21 00 39.8
comp=Z,59nm,0.9s
INVG Invergeldie, C 50.11 321 *e*P **P 21 00 39.2 -0.5**
INVG IAmb IAmb 21 00 40.2
comp=Z,55nm,1.1s
PALE Palemas 50.25 294 P **P 21 00 42.1 +0.9**
CNSH ChangSha 50.30 76 ⇓P **P 21 00 42.3 +0.6**
CNSH pmax pmax
comp=Z,64nm,0.9s
MNSI Mandailing Nat 50.33 115 P **P 21 00 46.3 +4.3**
XLT XiLinHaoTe 50.41 55⇑*i*P **P 21 00 43.4 +1.0**
XLT pP pP 21 00 51.3 +1.2
XLT sP sP 21 00 53.9 +0.8
XLT S **S 21 07 56.4 +1.9**
XLT sS sS 21 08 08.6 +1.3
XLT pmax pmax
comp=Z,53nm,1.1s
XLT pmax pmax
comp=Z,260nm,3.7s
XLT LR LR
comp=Z,990nm,16.8s
XLT LR LR
comp=Z,580nm,14.0s
XLT LR LR
comp=Z,600nm,22.7s
QIZ Qiongzhong 50.41 88 P **P 21 00 43.6 +1.0**
QIZ S **S 21 07 59.0 +4.1**
QIZ LR LR
comp=Z,670nm,12.2s
QIZ LR LR
comp=Z,400nm,20.2s
QIZ LR LR
comp=Z,540nm,19.2s
VOI Vohitsoka 50.57 190 P **P 21 00 45.1 +1.4**
SNR=7.4
VOI Vohitsoka 50.57 190 P **P 21 00 44.1 +0.4**
VOI IAmb IAmb 21 01 24.6
comp=Z,51nm,1.1s
VOI Vohitsoka 50.57 190 P **P 21 00 46.0 +2.2**
LSZ Lusaka 50.66 215 LR LR 21 25 19.0
comp=Z,472nm,18.2s,baz=29,slow=40
LSZ Lusaka 50.66 215⇑*i*P **P 21 00 45.5 +1.0**
LSZ IAmb IAmb 21 00 46.7
comp=Z,233nm,0.9s
LSZ Lusaka 50.66 215 *i*P **P 21 00 47.4 +2.9**
LSZ Lusaka 50.66 215 *i*P **P 21 00 47.4 +2.9**
LSZ Lusaka 50.66 215 P **P 21 00 44.4 -0.1**
LSZ PcP **PcP 21 02 01.6 -0.2**
BJT Baijiatuau 50.80 60 P **P 21 00 45.5 +0.2**
BJT IAmb IAmb 21 00 50.1
comp=Z,44nm,1.3s
BJT PcP **PcP 21 02 01.7 -0.2**
BJI Beijing 50.80 60 P **P 21 00 45.8 +0.5**
BJI pP **pP 21 00 52.9 -0.1**
BJI PcP **PcP 21 02 02.8 +0.8**
BJI pmax pmax
comp=Z,25nm,1.2s
BJI pmax pmax
comp=Z,230nm,3.8s
BJI LR LR
comp=Z,760nm,20.0s
BJI LR LR
comp=Z,360nm,19.7s
BJI LR LR
comp=Z,280nm,22.7s
WHN Wuhan 50.94 72 ⇑P **P 21 00 46.8 +0.3**
WHN pmax pmax
comp=Z,36nm,0.7s
KPL Plockton 51.11 322 *e*P **P 21 00 46.5 -0.7**
SISI Saibi 51.23 118 P **P 21 00 51.7 +2.9**
MDT Midelt 51.24 291 LR LR 21 27 05.8
comp=Z,209nm,18.4s,baz=95,slow=41
MDT Midelt 51.24 291 P **P 21 00 49.8 +0.9**
LCRM LCR 51.27 292 P **P 21 00 51.0 +1.8**
CHEFC Chefchaouen 51.40 294 P **P 21 00 51.0 +1.0**
PBRG Braganca 51.56 302 *e*P **P 21 00 50.9 -0.1**
PPI Padang Panjang 51.73 116 P **P 21 00 54.7 +2.1**
GOLM Goulmima 51.76 290 P **P 21 00 55.0 +2.2**
BKNI Bangkinang 51.78 114 P P 21 00 59.6 +6.7
BKNI Bangkinang 51.78 114 P **P 21 00 52.4 -0.5**
BKNI Bangkinang 51.78 114 P **P 21 00 56.4 +3.5**
MVO Moncorvo 51.84 302 *e*P **P 21 00 53.3 +0.1**
comp=Z,47nm,1.1s
SFS San Fernando 51.86 296 P **P 21 00 52.1 -1.1**
SFS pmax pmax
comp=Z,268nm,1.0s
SFS San Fernando 51.86 296 P **P 21 00 52.1 -1.1**
TORD Torodi Ar. Bea 51.99 265 P **P 21 00 54.2 -0.4**
comp=Z,58nm,0.7s,baz=59,slow=7.2,SNR=408
TORD Torodi Ar. Bea 51.99 265 P **P 21 00 54.0 -0.6**
TORD IAmb IAmb 21 00 55.2
comp=Z,61nm,0.8s
DLV T Lat 52.08 97 P **P 21 00 56.2 +0.8**
DLV IAmb IAmb 21 00 57.7
comp=Z,44nm,0.8s
DLV T Lat 52.08 97 P **P 21 00 57.0 +1.6**
TIA Tai'an 52.09 65 ⇑P **P 21 00 55.5 +0.5**
TIA pmax pmax
comp=Z,54nm,0.9s
TIA LR LR
comp=Z,440nm,17.8s
TIA LR LR
comp=Z,450nm,9.7s
TIA LR LR
comp=Z,610nm,13.2s
HSPB Hornsund (broa 52.24 349 *e*P **P 21 00 57.1 +1.7**
MTE Manteigas 52.32 301 *e*P **P 21 00 57.4 +0.6**
comp=Z,67nm,1.6s
MTE Manteigas 52.32 301 P **P 21 00 55.5 -1.3**
PMRV Marv??o 52.34 300 *e*P **P 21 00 56.7 -0.1**
comp=Z,43nm,1.2s
PCBR Castelo Branco 52.34 300 *e*P **P 21 00 57.2 +0.4**
comp=Z,87nm,1.4s
PVRL Vila Real 52.34 302 *e*P **P 21 00 57.9 +1.0**
comp=Z,59nm,1.8s
POLO Lamas de Olo 52.39 302 *e*P **P 21 00 57.8 +0.5**
comp=Z,30nm,1.7s
TZRR Tazzarine 52.48 289 P **P 21 00 60.0 +1.8**
PCAB Cabril 52.53 303 *e*P **P 21 00 58.2 0.0**
PVIS Viseu 52.55 301 *e*P **P 21 00 59.1 +0.7**
comp=Z,73nm,1.4s
PESTR Estremoz 52.57 299 *e*P **P 21 00 58.3 -0.2**
comp=Z,36nm,1.3s
PESTR Estremoz 52.57 299 P **P 21 00 56.8 -1.7**
PESTR Estremoz 52.57 299 P **P 21 00 58.6 +0.1**
PGAV Gavieira, Arco 52.68 303 *e*P **P 21 00 59.9 +0.5**
comp=Z,94nm,1.5s
ZGR Zagora 52.68 288 P **P 21 01 01.1 +1.5**
HIA Hailar 52.72 48 P **P 21 00 59.5 0.0**
HIA pmax pmax
comp=Z,37nm,1.1s
HIA Hailar 52.72 48 P **P 21 00 59.5 0.0**
ZHG ZHG 52.78 292 P **P 21 01 01.0 +0.8**
PVAQ Vaqueiros 52.90 297 *e*P **P 21 01 00.5 -0.5**
comp=Z,34nm,1.7s
PVAQ Vaqueiros 52.90 297 P **P 21 00 59.9 -1.1**
PVAQ Vaqueiros 52.90 297 P **P 21 01 01.9 +1.0**
PBEJ Beja 52.91 298 *e*P **P 21 01 01.0 -0.1**
comp=Z,36nm,1.6s
SPB2 Spitsbergen Ar 52.94 351 P **P 21 01 01.2 +0.5**
SPB2 IAmb IAmb 21 01 09.6
comp=Z,73nm,0.9s
EVO Evora 52.95 299 *e*P **P 21 01 01.4 +0.1**
comp=Z,44nm,2.0s
SPA0 Spitsbergen Ar 52.95 351⇑*i*P **P 21 01 01.6 +0.8**
SPITS Spitsbergen Ar 52.95 351 LR LR 21 26 16.2
comp=Z,355nm,18.9s,baz=166,slow=39
SPITS Spitsbergen Ar 52.95 351 P **P 21 01 01.1 +0.3**
SPITS pmax pmax
comp=Z,114nm,1.2s
PTO Porto 53.03 302 *e*P **P 21 01 03.4 +1.6**
PMTG Montargil 53.03 299 *e*P **P 21 01 01.5 -0.4**
comp=Z,33nm,1.6s
PCAS Casmilo, Conde 53.09 300 *e*P **P 21 01 02.0 -0.4**
comp=Z,71nm,1.5s
PCVE Castro Verde 53.11 297 *e*P **P 21 01 02.1 -0.5**
MESJ Messejana 53.22 298 *e*P **P 21 01 02.9 -0.4**
MESJ IAmb IAmb 21 01 07.9
comp=Z,134nm,2.5s
MESJ Messejana 53.22 298 *e*P **P 21 01 03.1 -0.2**
comp=Z,26nm,1.5s
MESJ Messejana 53.22 298 *e*P **P 21 01 02.9 -0.4**
MYKOM Kota Tinggi 53.22 111 P **P 21 01 02.3 -1.3**
MYKOM IAmb IAmb 21 02 51.7
comp=Z,47nm,1.2s
PNCL Nicolau / Gran 53.41 298 *e*P **P 21 01 04.8 0.0**
comp=Z,48nm,1.1s
OUZM OUZ 53.45 289 P **P 21 01 07.0 +1.7**
KRJI Kerinci 53.57 116 P **P 21 01 07.9 +1.6**
MORF Marmelete 53.65 297 *e*P **P 21 01 06.1 -0.5**
MORF IAmb IAmb 21 01 13.0
comp=Z,35nm,1.6s
MORF Marmelete 53.65 297 *e*P **P 21 01 06.6 0.0**
comp=Z,45nm,1.5s
MORF Marmelete 53.65 297 *e*P **P 21 01 06.0 -0.5**
PFVI Vila Bisbo 53.82 297 *e*P **P 21 01 07.4 -0.3**
PFVI Vila Bisbo 53.82 297 P **P 21 01 07.0 -0.7**
PFVI IAmb IAmb 21 01 08.7
comp=Z,57nm,0.9s
PMAFR Mafra 53.86 299 *e*P **P 21 01 09.0 +1.0**
KBS Kingsbay 54.11 351 P **P 21 01 09.4 +0.2**
KBS pmax pmax
comp=Z,66nm,0.9s
KBS Kingsbay 54.11 351⇑*i*P **P 21 01 09.7 +0.5**
KBS Kingsbay 54.11 351 P **P 21 01 09.4 +0.2**
KBS IAmb IAmb 21 01 10.8
comp=Z,66nm,0.9s
OUK Oukaimeden 54.30 290 P **P 21 01 13.0 +1.2**
NJ2 Nanjing 54.34 69 ⇓P **P 21 01 12.1 +0.5**
NJ2 pmax pmax
comp=Z,42nm,0.8s
BLWY Bulawayo 54.63 211⇑*i*P **P 21 01 13.9 0.0**
BLWY IAmb IAmb 21 01 14.9
comp=Z,275nm,1.6s
BLWY Bulawayo 54.63 211 *i*P **P 21 01 14.9 +1.0**
BLWY Bulawayo 54.63 211 *i*P **P 21 01 14.9 +1.0**
MASI Maura Aman, Be 54.82 117 P **P 21 01 17.2 +1.9**
MATP Matopo 54.93 211 LR LR 21 26 56.9
comp=Z,263nm,19.0s,baz=3.0,slow=38
MATP Matopo 54.93 211 *i*P **P 21 01 17.0 +0.9**
MATP Matopo 54.93 211 *i*P **P 21 01 17.0 +0.9**
TTIG Tnine Tigouga, 54.94 289 P **P 21 01 18.0 +1.8**
JMIC Jan Mayen 55.06 339 LR LR 21 27 11.8
comp=Z,149nm,18.6s,baz=62,slow=39
MSNA Messina 55.95 209 *e*P **P 21 01 23.0 -0.3**
MSNA IAmb IAmb 21 01 28.9
comp=Z,21nm,1.0s
MSNA Messina 55.95 209 *i*P **P 21 01 24.4 +1.2**
MSNA Messina 55.95 209 *i*P **P 21 01 24.4 +1.2**
SNY Shenyang 56.11 57 ⇑P **P 21 01 23.8 -0.4**
SNY pmax pmax
comp=Z,27nm,0.9s
SNY pmax pmax
comp=Z,470nm,3.6s
SNY LR LR
comp=Z,670nm,17.0s
SNY LR LR
comp=Z,360nm,14.0s
SNY LR LR
comp=Z,610nm,14.1s
MOPA Mopani 56.43 207⇑*i*P **P 21 01 26.9 +0.2**
MOPA IAmb IAmb 21 01 31.9
comp=Z,7.1nm,1.0s
MOPA Mopani 56.43 207 *i*P **P 21 01 27.7 +1.0**
MOPA Mopani 56.43 207 *i*P **P 21 01 27.7 +1.0**
CN2 Changchun 57.15 54 *e*P **P 21 01 31.8 +0.2**
CN2 *e*pP sP 21 01 44.1 +1.7
CN2 *e*sP pP 21 01 50.0 +11
CN2 S **S 21 09 20.0 -5.6**
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 pmax pmax
comp=Z,400nm,4.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,600nm,16.0s
MDSI Maura Dua 57.17 117 P **P 21 01 31.7 -0.4**
ZEA Zeya 57.19 42 *e*P **P 21 01 32.6 +0.9**
ZEA pmax pmax
comp=E,30nm,1.0s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,60nm,0.9s
ZEA pmax pmax
comp=N,100nm,5.7s
ZEA pmax pmax
comp=Z,200nm,4.0s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,300nm,18.0s
PPBI Pangkal Pinang 57.35 113 P **P 21 01 37.4 +4.0**
LWLI Liwa 57.40 117 P **P 21 01 36.4 +2.5**
KLSI 57.73 117 P **P 21 01 37.8 +1.8**
KASI Kota Agung 58.05 117 P **P 21 01 40.8 +2.5**
YAK Yakutsk 58.14 32 P **P 21 01 37.1 -1.1**
comp=Z,11nm,0.6s,baz=270,slow=1.1,SNR=14
YAK LR LR 21 28 53.2
comp=Z,407nm,19.7s,baz=268,slow=38
YAK Yakutsk 58.14 32 *e*P **P 21 01 37.1 -1.1**
YAK *e**PP **pP 21 01 42.2 -3.9**
YAK *e* 21 02 28.6
YAK *e* 21 03 52.7
YAK *e*S **S 21 09 38.9 +1.0**
YAK *e**SS **sS 21 09 50.8 -0.1**
YAK *e*SS **SS 21 13 31.5 +2.4**
YAK *e*SSS SSS 21 15 44.2
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,1.0nm,0.9s
YAK pmax pmax
comp=E,18nm,1.1s
YAK pmax pmax
comp=Z,86nm,2.8s
YAK pmax pmax
comp=N,60nm,3.0s
YAK pmax pmax
comp=E,56nm,2.5s
YAK smax smax
comp=E,35nm,1.9s
YAK smax smax
comp=N,18nm,1.4s
YAK MLR MLR
comp=Z,949nm,14.0s
YAK MLR MLR
comp=E,880nm,16.0s
YAK Yakutsk 58.14 32 P **P 21 01 37.2 -1.1**
YAK IAmb IAmb 21 01 49.3
comp=Z,34nm,0.9s
BNX BinXian 58.22 52 ⇑P **P 21 01 38.8 -0.3**
BNX pmax pmax
comp=Z,27nm,1.0s
BNX pmax pmax
comp=Z,160nm,3.8s
TIXI Tiksi 58.25 21 LR LR 21 29 06.4
comp=Z,469nm,18.5s,baz=260,slow=38
TIXI Tiksi 58.25 21c *i*P **P 21 01 38.4 -0.4**
TIXI pmax pmax
comp=Z,23nm,1.3s
TIXI Tiksi 58.25 21 P **P 21 01 38.2 -0.6**
TIXI IAmb IAmb 21 02 31.1
comp=Z,34nm,1.1s
CNG Changalane 58.64 204 *e*P **P 21 01 42.3 +0.2**
CNG IAmb IAmb 21 01 46.8
comp=Z,11nm,1.1s
CNG Changalane 58.64 204 *i*P **P 21 01 42.8 +0.7**
CNG Changalane 58.64 204 *i*P **P 21 01 42.8 +0.7**
KSM Kuching 58.79 107 P **P 21 01 42.8 -0.7**
KSM IAmb IAmb 21 01 49.6
comp=Z,48nm,1.5s
KSM Kuching 58.79 107 P **P 21 01 46.5 +3.0**

TWG	**Pinlang**	**58.92**	**79**	P	**P**	**21 01 44.6**	**-0.3**
TWG				IAmb	IAmb	21 01 49.8	
	comp=Z,58nm,1.2s						
DAG	**Danmarks Havn**	**59.03**	**345**	*i* P	**P**	**21 01 43.4**	**-0.8**
DAG				IAmb	IAmb	21 01 45.7	
	comp=Z,5.4nm,0.6s						
BORG	**Borgarnes**	**59.14**	**331**	LR	LR	21 28 39.2	
	comp=Z,236nm,20.6s,baz=106,slow=37						
CRLN	**Carolina, Mapu**	**59.20**	**207**	*eP*	**P**	**21 01 45.7**	**-0.5**
INCN	**Inchon**	**59.29**	**61**	P	**P**	**21 01 46.1**	**-0.7**
INCN				pmax	pmax		
	comp=Z,62nm,1.0s						
INCN	**Inchon**	**59.29**	**61**	P	**P**	**21 01 46.1**	**-0.7**
INCN	**Inchon**	**59.29**	**61**	P	**P**	**21 01 47.3**	**+0.6**
SCO	**Scoresbysund**	**59.40**	**338**	P	**P**	**21 01 46.5**	**-0.4**
SCO				pmax	pmax		
	comp=Z,25nm,1.1s						
SCO	**Scoresbysund**	**59.40**	**338**	*i* P	**P**	**21 01 47.9**	**+1.1**
SCO				IAmb	IAmb	21 01 48.5	
	comp=Z,6.7nm,0.8s						
SCO	**Scoresbysund**	**59.40**	**338**	P	**P**	**21 01 46.5**	**-0.4**
SCO				IAmb	IAmb	21 01 48.9	
	comp=Z,25nm,1.1s						
TSUM	**Tsumeb**	**59.68**	**222**	LR	LR	21 29 08.3	
	comp=Z,721nm,19.5s,baz=36,slow=38						
TSUM	**Tsumeb**	**59.68**	**222**	⇑*i* P	**P**	**21 01 50.5**	**+0.9**
TSUM	**Tsumeb**	**59.68**	**222**	P	**P**	**21 01 49.9**	**+0.2**
TSUM				IAmb	IAmb	21 01 51.9	
	comp=Z,73nm,1.1s						
POGA	**Pongola**	**59.78**	**204**	⇑*i P*	**P**	**21 01 50.4**	**+0.4**
POGA				IAmb	IAmb	21 01 51.4	
	comp=Z,40nm,1.2s						
SBUM	**Sibu**	**59.90**	**105**	P	**P**	**21 01 50.2**	**-1.0**
MDJ	**Mudanjiang**	**59.94**	**53**	P	**P**	**21 01 52.8**	**+1.7**
MDJ				sP	sP	21 02 04.1	+2.2
MDJ				S	**S**	**21 10 02.3**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,390nm,5.4s						
MDJ				LR	LR		
	comp=Z,830nm,12.6s						
MDJ				LR	LR		
	comp=Z,770nm,21.3s						
MDJ				LR	LR		
	comp=Z,880nm,18.0s						
MDJ	**Mudanjiang**	**59.94**	**53**	P	**P**	**21 01 50.5**	**-0.6**
MDJ				IAmb	IAmb	21 03 43.4	
	comp=Z,104nm,2.0s						
HRAO	**HartRAO**	**60.06**	**209**	⇑*i P*	**P**	**21 01 52.6**	**+0.4**
HRAO				IAmb	IAmb	21 01 53.7	
	comp=Z,98nm,1.6s						
TJN	**Taejon**	**60.13**	**62**	P	**P**	**21 01 51.4**	**-1.1**
TJN	**Taejon**	**60.13**	**62**	P	**P**	**21 01 51.4**	**-1.1**
LBTB	**Lobatse**	**60.23**	**211**	LR	LR	21 29 28.8	
	comp=Z,394nm,18.5s,baz=25,slow=38						
LBTB	**Lobatse**	**60.23**	**211**	⇑*i P*	**P**	**21 01 53.9**	**+0.6**
LBTB				IAmb	IAmb	21 01 55.0	
	comp=Z,67nm,1.1s						
LBTB	**Lobatse**	**60.23**	**211**	P	**P**	**21 01 53.3**	**0.0**
LBTB				pmax	pmax		
	comp=Z,57nm,1.0s						
LBTB	**Lobatse**	**60.23**	**211**	P	**P**	**21 01 53.3**	**0.0**
LBTB				IAmb	IAmb	21 01 55.3	
	comp=Z,57nm,1.0s						
KS19	**Wonju Array Si**	**60.24**	**61**	P	**P**	**21 01 53.1**	**-0.2**
KS19				IAmb	IAmb	21 01 54.1	
	comp=Z,33nm,0.8s						
KSAR	**Wonju Array Be**	**60.27**	**61**	P	**P**	**21 01 52.6**	**-0.8**
KSAR	**Wonju Array Be**	**60.27**	**61**	P	**P**	**21 01 52.6**	**-0.8**
KSRS	**Korea Array**	**60.30**	**61**	P	**P**	**21 01 53.1**	**-0.4**
	comp=Z,26nm,0.6s,baz=280,slow=6.6,SNR=71						
KSRS				LR	LR	21 30 09.2	
	comp=Z,233nm,18.4s,baz=270,slow=38						
KSR	**Koster**	**60.37**	**210**	*eP*	**P**	**21 01 54.2**	**-0.1**
KSR				IAmb	IAmb	21 01 59.4	
	comp=Z,40nm,1.0s						
STKI	**Sintang**	**60.53**	**107**	P	**P**	**21 01 58.3**	**+2.8**
KLR	**Kul'dur**	**60.54**	**47**	P	**P**	**21 01 54.6**	**-0.4**
	comp=Z,37nm,1.0s,baz=285,slow=7.7,SNR=50						
KLR				LR	LR	21 30 59.6	
	comp=Z,702nm,19.1s,baz=281,slow=39						
KLR	**Kul'dur**	**60.54**	**47**	*c i P*	**P**	**21 01 54.5**	**-0.6**
KLR				pmax	pmax		
	comp=Z,45nm,1.0s						
SKJI	**Sukabumi**	**60.57**	**117**	P	P	21 02 02.0	+6.3
DBIC	**Dimbokro**	**60.67**	**261**	P	**P**	**21 01 56.2**	**-0.3**
	comp=Z,49nm,0.9s,baz=58,slow=6.8,SNR=47						
DBIC				LR	LR	21 29 41.2	
	comp=Z,648nm,19.1s,baz=68,slow=38						
DBIC	**Dimbokro**	**60.67**	**261**	*eP*	**P**	**21 01 54.9**	**-1.6**
DBIC	**Dimbokro**	**60.67**	**261**	P	**P**	**21 01 55.0**	**-1.5**
DBIC				pmax	pmax		
	comp=Z,75nm,1.1s						
DBIC	**Dimbokro**	**60.67**	**261**	P	**P**	**21 01 55.0**	**-1.5**
KIC	**Kosan Boka**	**60.72**	**261**	*eP*	**P**	**21 01 56.3**	**-0.5**
	comp=Z,60nm,0.7s						
NWCL	**Newcastle**	**60.81**	**206**	*eP*	**P**	**21 01 57.5**	**+0.3**
NWCL				IAmb	IAmb	21 02 01.4	
	comp=Z,33nm,1.1s						
TIC	**Toumodi**	**60.83**	**261**	*eP*	**P**	**21 01 57.2**	**-0.4**
LIC	**Lamto**	**61.04**	**261**	*eP*	**P**	**21 01 58.4**	**-0.6**
	comp=Z,154nm,1.0s						
PRYS	**Parys**	**61.11**	**209**	⇑*i P*	**P**	**21 01 59.2**	**-0.1**
PRYS				IAmb	IAmb	21 02 00.3	
	comp=Z,28nm,1.3s						
LEM	**Lembang**	**61.30**	**116**	LR	LR	21 31 04.8	
	comp=Z,206nm,20.0s,baz=336,slow=38						
PMAR	**Madeira**	**61.31**	**294**	*eP*	**P**	**21 02 01.4**	**+0.6**
	comp=Z,158nm,1.2s						
MSHR	**Mys Shultsa**	**61.49**	**55**	⇑*eP*	**P**	**21 02 00.7**	**-0.9**
MSHR				pmax	pmax		
	comp=Z,36nm,1.0s						
PMOZ	**Porto Moniz, M**	**61.51**	**294**	P	**P**	**21 02 01.4**	**-0.6**
KKM	**Kota Kinabalu**	**61.56**	**99**	P	**P**	**21 02 02.3**	**-0.4**
KKM	**Kota Kinabalu**	**61.56**	**99**	P	**P**	**21 02 03.2**	**+0.6**
USA0B	**Ussuriysk Arra**	**61.71**	**53**	P	**P**	**21 02 02.2**	**-0.9**
USA0B				pmax	pmax		
	comp=Z,28nm,1.0s						
USA0B	**Ussuriysk Arra**	**61.71**	**53**	P	**P**	**21 02 02.2**	**-0.9**
USA0B				IAmb	IAmb	21 02 06.3	
	comp=Z,28nm,0.9s						
USRK	**Ussuriysk Ar.**	**61.71**	**53**	P	**P**	**21 02 01.9**	**-1.2**
	comp=Z,16nm,0.7s,baz=279,slow=6.0,SNR=15						
USRK				LR	LR	21 31 15.3	
	comp=Z,613nm,18.8s,baz=275,slow=38						
USRK	**Ussuriysk Ar.**	**61.71**	**53**	P	**P**	**21 02 02.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**61.71**	**53**	P	**P**	**21 02 02.2**	**-0.9**
USRK				PcP	**PcP**	**21 02 47.2**	**+2.9**
VLA	**Vladivostok**	**61.88**	**54**	⇓*eP*	**P**	**21 02 03.2**	**-1.1**
VLA				pmax	pmax		
	comp=Z,43nm,0.9s						
XMIS	**Christmas Isla**	**62.04**	**121**	P	**P**	**21 02 04.3**	**-1.4**
SWZ	**Schweizer**	**62.21**	**210**	*eP*	**P**	**21 02 06.9**	**+0.1**
SWZ				IAmb	IAmb	21 02 07.5	
	comp=Z,38nm,0.8s						
MACI	**Morro de la Ar**	**62.34**	**289**	P	**P**	**21 02 07.5**	**-0.3**
WIN	**Windhoek**	**62.58**	**220**	*eP*	**P**	**21 02 10.6**	**+1.3**
WIN				IAmb	IAmb	21 02 11.7	
	comp=Z,25nm,1.7s						
WIN	**Windhoek**	**62.58**	**220**	P	**P**	**21 02 09.0**	**-0.4**
WIN				pmax	pmax		
	comp=Z,68nm,1.7s						
WIN	**Windhoek**	**62.58**	**220**	P	**P**	**21 02 09.0**	**-0.4**
WIN				IAmb	IAmb	21 02 12.2	
	comp=Z,68nm,1.7s						
GRNR	**Gornyy**	**63.20**	**45**	⇑*i P*	**P**	**21 02 12.8**	**-0.1**
GRNR				pmax	pmax		
	comp=Z,20nm,1.0s						
GRNR				MLR	MLR		
	comp=E,360nm,16.0s						
GRNR				MLR	MLR		
	comp=N,410nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,360nm,17.0s						
BOSA	**Boshof**	**63.48**	**210**	P	**P**	**21 02 15.1**	**-0.1**
	comp=Z,24nm,0.8s,baz=29,slow=6.7,SNR=53						
BOSA				LR	LR	21 33 05.5	
	comp=Z,202nm,19.8s,baz=32,slow=39						
BOSA	**Boshof**	**63.48**	**210**	⇑*i P*	**P**	**21 02 15.1**	**-0.1**
BOSA				IAmb	IAmb	21 02 16.2	
	comp=Z,98nm,1.5s						
BOSA	**Boshof**	**63.48**	**210**	P	**P**	**21 02 14.7**	**-0.4**
BOSA				pmax	pmax		
	comp=Z,97nm,1.5s						
BOSA	**Boshof**	**63.48**	**210**	*i P*	**P**	**21 02 15.1**	**-0.1**
BOSA	**Boshof**	**63.48**	**210**	*i P*	**P**	**21 02 15.1**	**-0.1**
BOSA	**Boshof**	**63.48**	**210**	P	**P**	**21 02 14.7**	**-0.4**
JNU	**Nakatsue**	**63.82**	**65**	LR	LR	21 35 47.5	
	comp=Z,309nm,18.4s,baz=306,slow=41						
JNU	**Nakatsue**	**63.82**	**65**	P	**P**	**21 02 16.6**	**-0.8**
JNU				IAmb	IAmb	21 04 06.7	
	comp=Z,61nm,1.5s						
MYLDM	**Lahad Datu**	**63.96**	**99**	P	**P**	**21 02 18.1**	**-0.4**
JSU	**Suzuyama**	**63.98**	**67**	P	**P**	**21 02 18.2**	**-0.3**
UGM	**Wanagama**	**64.25**	**115**	P	**P**	**21 02 19.8**	**-0.6**
SUMG	**Summit**	**64.42**	**341**	P	**P**	**21 02 20.6**	**-0.5**
SUMG				pmax	pmax		
	comp=Z,54nm,0.9s						
SUMG	**Summit**	**64.42**	**341**	*i* P	**P**	**21 02 21.2**	**+0.1**
SUMG				IAmb	IAmb	21 02 28.0	
	comp=Z,29nm,0.8s						
SUMG	**Summit**	**64.42**	**341**	P	**P**	**21 02 20.6**	**-0.5**
SUMG				IAmb	IAmb	21 02 28.4	
	comp=Z,54nm,0.9s						
UPI	**Upington**	**65.10**	**213**	⇑*i P*	**P**	**21 02 26.5**	**+0.8**
UPI				IAmb	IAmb	21 02 27.3	
	comp=Z,30nm,1.2s						
ARMS	**Ukamas**	**65.58**	**214**	*eP*	**P**	**21 02 29.0**	**+0.2**
ARMS				IAmb	IAmb	21 02 30.6	
	comp=Z,63nm,1.1s						
JMN	**Monobe**	**66.01**	**63**	P	**P**	**21 02 30.2**	**-1.5**
AUSN	**Aus**	**66.28**	**218**	*eP*	**P**	**21 02 33.7**	**+0.3**
AUSN				IAmb	IAmb	21 02 35.8	
	comp=Z,32nm,0.9s						
SOE	**Somerset East**	**66.93**	**207**	*eP*	**P**	**21 02 37.9**	**+0.6**
SOE				IAmb	IAmb	21 02 39.1	
	comp=Z,47nm,1.0s						
TYV	**Tymovskoe**	**67.00**	**43**	*eP*	**P**	**21 02 38.0**	**+0.4**
TYV				pmax	pmax		
	comp=Z,36nm,1.5s						
TYV				pmax	pmax		
	comp=Z,400nm,4.3s						
JAGI	**Jajag, Banyuwa**	**67.49**	**114**	P	**P**	**21 02 41.1**	**-0.1**
JAGI				IAmb	IAmb	21 03 12.2	
	comp=Z,24nm,0.9s						
MPSI	**Mapaga**	**67.56**	**102**	P	**P**	**21 02 43.0**	**+1.3**
MBO	**M'Bour**	**67.90**	**275**	P	**P**	**21 02 42.0**	**-1.8**
INU	**Inuyama**	**67.92**	**61**	P	**P**	**21 02 42.8**	**-0.9**
INU				IAmb	IAmb	21 02 57.6	
	comp=Z,35nm,0.9s						
INU	**Inuyama**	**67.92**	**61**	P	**P**	**21 02 43.5**	**-0.2**
TOLI2	**Tolitoli**	**67.94**	**101**	P	**P**	**21 02 42.7**	**-1.4**
TOLI2				IAmb	IAmb	21 02 48.3	
	comp=Z,72nm,1.6s						
TOLI2	**Tolitoli**	**67.94**	**101**	P	**P**	**21 02 44.3**	**+0.2**
JSD	**Sado**	**67.97**	**58**	P	**P**	**21 02 42.6**	**-1.4**
GRAN	**Grantham**	**68.00**	**210**	*eP*	**P**	**21 02 44.4**	**+0.2**
GRAN				IAmb	IAmb	21 02 45.9	
	comp=Z,12nm,0.8s						
JGF	**Kuroka**	**68.10**	**60**	P	**P**	**21 02 43.3**	**-1.6**
SRBI	**Singaraja**	**68.13**	**113**	P	**P**	**21 02 47.5**	**+2.3**
YSS	**Yuzh-Sakhalins**	**68.25**	**47**	⇑*i P*	**P**	**21 02 45.0**	**-0.5**
YSS				*e*		21 03 10.6	
YSS				pmax	pmax		
	comp=Z,400nm,4.2s						
YSS				pmax	pmax		
	comp=Z,70nm,0.9s						
YSS				MLR	MLR		
	comp=E,500nm,13.0s						
YSS				MLR	MLR		
	comp=Z,900nm,13.0s						
YSS	**Yuzh-Sakhalins**	**68.25**	**47**	P	**P**	**21 02 44.7**	**-0.9**
YSS	**Yuzh-Sakhalins**	**68.25**	**47**	P	**P**	**21 02 45.4**	**-0.1**
SEY	**Seymchan**	**68.31**	**29**	LR	LR	21 36 06.6	
	comp=Z,1um,18.5s,baz=299,slow=39						
MJB9	**Matsu-Tunnel**	**68.43**	**59**	P	**P**	**21 02 46.2**	**-0.8**
MJB9				IAmb	IAmb	21 03 18.1	
	comp=Z,23nm,1.1s						
MAJO	**Matsushiro**	**68.43**	**59**	⇓*i P*	**P**	**21 02 46.4**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,63nm,2.8s						
MAJO	**Matsushiro**	**68.43**	**59**	P	**P**	**21 02 46.0**	**-0.9**
MAJO	**Matsushiro**	**68.43**	**59**	P	**P**	**21 02 46.3**	**-0.6**
MAT	**Matsushiro**	**68.43**	**59**	P	**P**	**21 02 45.8**	**-1.1**
MAT				*eS*	**S**	**21 11 41.4**	**-6.0**
MJAR	**Matsushiro Arr**	**68.43**	**59**	P	**P**	**21 02 46.6**	**-0.4**
	comp=Z,7.1nm,0.8s,baz=286,slow=7.6,SNR=13						
MJAR				LR	LR	21 36 10.5	
	comp=Z,172nm,18.2s,baz=302,slow=39						
MJAR	**Matsushiro Arr**	**68.43**	**59**	P	**P**	**21 02 45.9**	**-1.1**
ROSN	**Rosenhof**	**68.56**	**207**	*eP*	**P**	**21 02 48.3**	**+0.9**
SUR	**Sutherland**	**68.68**	**211**	LR	LR	21 33 43.5	
	comp=Z,449nm,18.5s,baz=32,slow=37						
SUR	**Sutherland**	**68.68**	**211**	P	**P**	**21 02 47.2**	**-1.3**
SUR				IAmb	IAmb	21 02 51.5	
	comp=Z,64nm,1.4s						
MA2	**Magadan**	**68.70**	**33**	*c i P*	**P**	**21 02 48.1**	**-0.1**
MA2				pmax	pmax		
	comp=Z,48nm,0.9s						
MA2	**Magadan**	**68.70**	**33**	P	**P**	**21 02 47.6**	**-0.6**
MA2				IAmb	IAmb	21 02 52.5	
	comp=Z,38nm,0.8s						
MA2	**Magadan**	**68.70**	**33**	P	**P**	**21 02 48.4**	**+0.2**
ASAJ	**Asahikawa**	**69.06**	**50**	LR	LR	21 35 59.5	
	comp=Z,568nm,18.3s,baz=290,slow=38						
JTM	**Tenmabayashi**	**69.11**	**54**	P	**P**	**21 02 50.8**	**-0.3**
MRSI	**Marisa**	**69.25**	**101**	P	**P**	**21 02 55.9**	**+3.6**
DAV	**Davao City (W)**	**69.29**	**93**	LR	LR	21 35 57.5	
	comp=Z,200nm,21.6s,baz=307,slow=38						
MATJ	**Matjiesfontein**	**69.53**	**211**	*eP*	**P**	**21 02 54.1**	**+0.5**
MATJ				IAmb	IAmb	21 02 55.5	
	comp=Z,99nm,1.5s						
EUNU	**Eureka**	**69.90**	**353**	P	**P**	**21 02 55.2**	**-0.1**
EUNU				IAmb	IAmb	21 03 02.9	
	comp=Z,35nm,0.9s						
JMM	**Marumori**	**69.91**	**57**	P	**P**	**21 02 54.1**	**-1.9**
JYT	**Yasato**	**70.04**	**59**	P	**P**	**21 02 55.3**	**-1.6**
JYT				IAmb	IAmb	21 03 00.0	
	comp=Z,50nm,1.1s						
ERM	**Erimo**	**70.16**	**52**	P	**P**	**21 02 55.7**	**-1.8**
ERM				pmax	pmax		
	comp=Z,145nm,1.4s						
ERM	**Erimo**	**70.16**	**52**	P	**P**	**21 02 55.7**	**-1.8**
CER	**Ceres**	**70.19**	**212**	⇑*i P*	**P**	**21 02 59.1**	**+1.4**
CER				IAmb	IAmb	21 02 59.5	
	comp=Z,16nm,0.9s						
KAPI	**Kappang**	**70.21**	**107**	LR	LR	21 35 35.9	
	comp=Z,63nm,19.4s,baz=327,slow=38						
KAPI	**Kappang**	**70.21**	**107**	P	**P**	**21 02 57.1**	**-1.1**
KAPI				pmax	pmax		
	comp=Z,33nm,1.1s						
KAPI	**Kappang**	**70.21**	**107**	P	**P**	**21 02 57.1**	**-1.1**
KAPI				IAmb	IAmb	21 02 59.5	
	comp=Z,33nm,1.1s						
KAPI	**Kappang**	**70.21**	**107**	P	**P**	**21 02 58.9**	**+0.7**
SFJD	**Kangerlussuaq**	**70.24**	**336**	LR	LR	21 34 57.7	
	comp=Z,208nm,21.5s,baz=68,slow=37						
SFJD	**Kangerlussuaq**	**70.24**	**336**	P	**P**	**21 02 56.6**	**-0.9**
SFJD				pmax	pmax		
	comp=Z,38nm,1.3s						
SFJD	**Kangerlussuaq**	**70.24**	**336**	P	**P**	**21 02 56.6**	**-0.9**
SFJD				IAmb	IAmb	21 02 58.8	
	comp=Z,38nm,1.2s						
JHJ	**Hachijo jima 2**	**70.85**	**62**	LR	LR	21 40 44.8	
	comp=Z,230nm,18.0s,baz=280,slow=42						
ELIM	**Elim**	**71.02**	**211**	*eP*	**P**	**21 03 02.6**	**-0.1**
ELIM				IAmb	IAmb	21 03 03.9	
	comp=Z,32nm,0.9s						
BILL	**Bilibino**	**71.45**	**22**	*d i P*	**P**	**21 03 05.7**	**+0.8**
BILL				*e*		21 03 17.7	
BILL				*e*		21 03 24.5	
BILL				*e*		21 05 42.2	
BILL				*e*PPP	PPP	21 07 28.6	
BILL				pmax	pmax		
	comp=Z,41nm,1.0s						
BILL				MLR	MLR		
	comp=Z,292nm,17.0s						
BILL	**Bilibino**	**71.45**	**22**	P	**P**	**21 03 04.8**	**-0.1**
BILL				IAmb	IAmb	21 03 06.9	
	comp=Z,45nm,1.1s						
IVI	**Ivigtut**	**71.78**	**330**	P	**P**	**21 03 06.9**	**-0.1**
BBSI	**Bau Bau**	**72.84**	**106**	P	P	21 03 24.4	+10
SACV	**Santiago Islan**	**73.48**	**278**	P	**P**	**21 03 16.1**	**-1.8**
SHEL	**Horse Pasture**	**73.66**	**241**	P	**P**	**21 03 17.6**	**-1.3**
SHEL				pmax	pmax		
	comp=Z,65nm,0.9s						
SHEL	**Horse Pasture**	**73.66**	**241**	P	**P**	**21 03 17.6**	**-1.3**
SHEL				IAmb	IAmb	21 03 21.0	
	comp=Z,64nm,0.8s						
BASI	**Baing, Sumba**	**73.70**	**111**	P	P	21 03 30.5	+11
EDFI	**Ende, Flores**	**73.83**	**109**	P	**P**	**21 03 18.2**	**-1.8**
TNTI	**Ternate**	**73.83**	**98**	P	**P**	**21 03 22.1**	**+2.2**
TNTI	**Ternate**	**73.83**	**98**	P	**P**	**21 03 19.4**	**-0.6**
TNTI				IAmb	IAmb	21 03 23.0	
	comp=Z,81nm,1.1s						
TNTI	**Ternate**	**73.83**	**98**	P	**P**	**21 03 21.5**	**+1.6**
SANI	**Sanana**	**74.02**	**101**	P	**P**	**21 03 21.3**	**+0.3**
SANI	**Sanana**	**74.02**	**101**	P	**P**	**21 03 21.4**	**+0.4**
MMRI	**Maumere**	**74.22**	**109**	P	**P**	**21 03 23.3**	**+1.1**
MMRI	**Maumere**	**74.22**	**109**	P	**P**	**21 03 20.1**	**-2.1**
LBMI	**Labuha**	**74.63**	**99**	P	**P**	**21 03 25.9**	**+1.3**
PEA0B	**Petropavlovsk-**	**74.80**	**38**	P	**P**	**21 03 22.7**	**-2.2**
PEA0B				pmax	pmax		
	comp=Z,39nm,1.1s						
PEA0B	**Petropavlovsk-**	**74.80**	**38**	P	**P**	**21 03 22.7**	**-2.2**
PEA0B				IAmb	IAmb	21 03 28.0	
	comp=Z,39nm,1.1s						
PETK	**Petropavlovsk-**	**74.80**	**38**	P	**P**	**21 03 23.2**	**-1.7**
	comp=Z,12nm,0.9s,baz=219,slow=6.9,SNR=11						
PETK				PKKP	**PKKPdf**	**21 22 36.4**	**+1.3**
	comp=Z,5.5nm,1.1s,baz=88,slow=15,SNR=3.8						
PETK				LR	LR	21 39 18.3	
	comp=Z,351nm,19.5s,baz=295,slow=38						
PETK	**Petropavlovsk-**	**74.80**	**38**	P	**P**	**21 03 22.8**	**-2.2**
JCJ	**Chichijima**	**75.12**	**67**	P	**P**	**21 03 26.8**	**-0.4**
RES	**Resolute Bay**	**75.47**	**352**	LR	LR	21 42 13.8	
	comp=Z,202nm,19.1s,baz=38,slow=40						
RES	**Resolute Bay**	**75.47**	**352**	P	**P**	**21 03 28.0**	**-0.4**
RES				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RES	**Resolute Bay**	**75.47**	**352**	P	**P**	**21 03 28.0**	**-0.4**
GIRL	**Giralia**	**76.08**	**125**	P	**P**	**21 03 32.6**	**0.0**
ASCN	**Ascension**	**76.21**	**253**	P	**P**	**21 03 32.0**	**-1.6**
BATI	**Baumata**	**76.25**	**110**	P	**P**	**21 03 33.6**	**-0.2**
	comp=Z,78nm,0.7s,baz=216,slow=1.0,SNR=25						
BATI	**Baumata**	**76.25**	**110**	P	**P**	**21 03 34.2**	**+0.3**
AAI	**Ambon**	**76.74**	**102**	P	**P**	**21 03 40.9**	**+4.2**
MSAI	**Masohi**	**77.20**	**101**	P	**P**	**21 03 40.8**	**+1.5**
SWI	**Sorong**	**78.02**	**98**	P	**P**	**21 03 44.6**	**+0.7**
A21K	**Barrow**	**78.17**	**10**	P	**P**	**21 03 44.0**	**+0.4**
A21K	**Barrow**	**78.17**	**10**	P	**P**	**21 03 44.7**	**+1.0**
	baz=332						
FRB	**Frobisher Bay**	**78.26**	**338**	LR	LR	21 39 33.6	
	comp=Z,244nm,18.8s,baz=47,slow=37						
RDOG	**Red Dog Mine**	**79.84**	**14**	P		21 04 03.4	+10
RDOG				IAmb	IAmb	21 04 05.8	
	comp=Z,49nm,1.1s						
RDOG	**Red Dog Mine**	**79.84**	**14**	P	P	21 04 04.5	+12
	baz=326						
FAKI	**Fak Fak**	**79.88**	**99**	P	**P**	**21 03 54.5**	**+0.4**
FAKI				IAmb	IAmb	21 03 58.5	
	comp=Z,136nm,1.7s						
A36M	**Sachs Harbour**	**80.01**	**0**	P	**P**	**21 03 53.5**	**-0.2**
A36M	**Sachs Harbour**	**80.01**	**0**	P	**P**	**21 03 54.1**	**+0.4**
	baz=360,SNR=18						
TNA	**Tin City**	**80.71**	**17**	P	**P**	**21 03 57.7**	**+0.1**
TNA				IAmb	IAmb	21 04 02.5	
	comp=Z,24nm,0.9s						
TNA	**Tin City**	**80.71**	**17**	P	**P**	**21 03 58.3**	**+0.7**
	baz=322						
GAMB	**Gambell**	**81.07**	**19**	P	**P**	**21 03 58.7**	**-0.8**
GAMB	**Gambell**	**81.07**	**19**	P	**P**	**21 03 59.7**	**+0.2**
	baz=319,SNR=7.1						
MORW	**Morawa**	**81.37**	**129**	P	**P**	**21 04 00.5**	**-1.1**
MORW	**Morawa**	**81.37**	**129**	P	**P**	**21 04 02.2**	**+0.5**
SAUI	**Saumlaki**	**81.55**	**104**	P	**P**	**21 04 05.2**	**+2.2**
SAUI	**Saumlaki**	**81.55**	**104**	P	**P**	**21 04 02.2**	**-0.8**
SAUI	**Saumlaki**	**81.55**	**104**	P	**P**	**21 04 04.3**	**+1.3**
MEEK	**Meekatharra**	**81.67**	**126**	P	**P**	**21 04 03.0**	**-0.3**
ANM	**Nome**	**82.16**	**17**	P	**P**	**21 04 05.3**	**0.0**
ANM				pmax	pmax		
	comp=Z,51nm,0.9s						
ANM	**Nome**	**82.16**	**17**	P	**P**	**21 04 05.3**	**0.0**
ANM				IAmb	IAmb	21 04 10.8	
	comp=Z,50nm,0.9s						
ANM	**Nome**	**82.16**	**17**	P	**P**	**21 04 06.3**	**+0.9**
	baz=325,SNR=43						
C36M	**Paulatuk**	**82.66**	**360**	P	**P**	**21 04 07.5**	**-0.3**
C36M				IAmb	IAmb	21 04 14.0	
	comp=Z,31nm,0.8s						
C36M	**Paulatuk**	**82.66**	**360**	P	**P**	**21 04 07.5**	**-0.3**
	baz=0.6,SNR=16						
BLDU	**Ballidu**	**82.79**	**130**	P	**P**	**21 04 08.7**	**-0.4**
COLD	**Coldfoot**	**82.86**	**10**	P	**P**	**21 04 09.6**	**+0.6**
COLD				IAmb	IAmb	21 04 16.3	
	comp=Z,41nm,0.9s						
COLD	**Coldfoot**	**82.86**	**10**	P	**P**	**21 04 09.9**	**+0.9**
	baz=338						
GUMO	**Guam**	**83.27**	**78**	LR	LR	21 44 17.6	
	comp=Z,67nm,20.5s,baz=280,slow=38						
MUN	**Mundaring**	**83.31**	**132**	P	**P**	**21 04 13.9**	**+2.2**
SHEM	**Shemya Is, Ala**	**83.33**	**32**	LR	LR	21 43 55.6	
	comp=Z,208nm,19.9s,baz=300,slow=38						
KNRA	**Kununurra**	**83.34**	**112**	P	**P**	**21 04 12.6**	**+0.3**
KNRA				IAmb	IAmb	21 04 13.9	
	comp=Z,37nm,1.0s						
KNRA	**

POKR IAmb IAmb 21 04 23.1
comp=Z,56nm,1.2s
POKR Poker Plat Res 85.24 9 P **P 21 04 21.7 +0.6**
baz=340,SNR=12
TCOL CIGO, UAF Yank 85.41 10 P **P 21 04 21.9 0.0**
baz=340
COLA College 85.41 10 *ce*P **P 21 04 22.4 +0.5**
COLA pmax pmax
comp=Z,28nm,1.1s
COLA College 85.41 10 P **P 21 04 21.8 -0.2**
COLA College 85.41 10 P **P 21 04 21.9 0.0**
baz=340
NEA2 Nenana 85.49 10 IAmb IAmb 21 04 28.9
comp=Z,27nm,1.1s
NEA2 Nenana 85.49 10 P **P 21 04 22.4 0.0**
baz=339,SNR=9.6
CHUM Lake Minchumin 85.59 12 P **P 21 04 23.6 +0.8**
baz=336,SNR=29
BPAW Bear Paw Mtn. 85.63 11 P **P 21 04 23.6 +0.4**
baz=337,SNR=11
CCB Clear Creek Bu 85.63 10 P **P 21 04 22.1 -0.9**
ILAR Eielson Array 85.65 9 P **P 21 04 22.6 -0.5**
comp=Z,9.1nm,0.8s,baz=331,slow=3.8,SNR=64
ILAR PP **PP 21 07 43.7 +2.4**
comp=Z,1.4nm,1.0s,baz=349,slow=7.4,SNR=3.8
ILAR PKKPbc **PKKPbc 21 22 25.0 -1.6**
comp=Z,0.7nm,0.7s,baz=185,slow=2.2,SNR=8.5
ILAR LR LR 21 47 27.0
comp=Z,133nm,18.1s,baz=336,slow=39
ILAR Eielson Array 85.65 9 P **P 21 04 22.2 -0.9**
TTA Tatalina 85.73 14 IAmb IAmb 21 04 25.7
comp=Z,61nm,1.4s
TTA Tatalina 85.73 14 P **P 21 04 24.2 +0.5**
baz=333,SNR=19
K20K Telida 85.74 13 P **P 21 04 23.6 0.0**
K20K Telida 85.74 13 P **P 21 04 24.5 +0.8**
baz=334
HDA Harding Lake 85.98 10 P **P 21 04 23.4 -1.4**
HDA IAmb IAmb 21 04 30.8
comp=Z,18nm,0.8s
HDA Harding Lake 85.98 10 P **P 21 04 23.9 -0.9**
baz=340,SNR=10
CAST Castle Rocks 86.06 12 P **P 21 04 25.7 +0.4**
baz=336,SNR=43
I29M Ogilvie Camp, 86.07 6 IAmb IAmb 21 04 31.8
comp=Z,38nm,0.9s
I29M Ogilvie Camp, 86.07 6 P **P 21 04 25.2 0.0**
baz=348,SNR=26
KTH Kantishna Hill 86.14 11 IAmb IAmb 21 04 32.9
comp=Z,29nm,1.0s
MCK McKinley 86.31 11 P **P 21 04 26.2 -0.3**
MCK pmax pmax
comp=Z,45nm,0.8s
MCK McKinley 86.31 11 P **P 21 04 26.2 -0.3**
MCK McKinley 86.31 11 P **P 21 04 26.4 -0.1**
baz=339,SNR=22
TRF Thorofare Moun 86.35 11 IAmb IAmb 21 04 40.6
comp=Z,38nm,0.9s
TRF Thorofare Moun 86.35 11 P **P 21 04 27.3 +0.4**
baz=338,SNR=14
EGAK Eagle 86.36 7 P **P 21 04 27.1 +0.4**
baz=346,SNR=35
PPLA Purkeypile 86.52 12 IAmb IAmb 21 04 39.9
comp=Z,70nm,1.4s
PPLA Purkeypile 86.52 12 P **P 21 04 27.3 -0.4**
baz=336,SNR=5.3
L20K Farewell, AK 86.57 13 P **P 21 04 28.5 +0.7**
baz=334,SNR=22
SPIA Saint Paul Isl 86.61 23 P **P 21 04 28.4 +0.4**
baz=321
RND Reindeer 86.63 11 P **P 21 04 27.3 -0.8**
RND pmax pmax
comp=Z,44nm,1.2s
RND Reindeer 86.63 11 P **P 21 04 27.3 -0.8**
RND IAmb IAmb 21 04 28.8
comp=Z,44nm,1.2s
L19K White Mountain 86.64 14 IAmb IAmb 21 04 39.8
comp=Z,45nm,1.2s
L19K White Mountain 86.64 14 P **P 21 04 28.9 +0.7**
baz=334
SCRK Sand Creek 86.80 8 P **P 21 04 29.8 +0.8**
baz=343,SNR=48
RIDG Independent Ri 86.91 9 IAmb IAmb 21 04 30.7
comp=Z,36nm,1.2s
RIDG Independent Ri 86.91 9 P **P 21 04 29.4 -0.1**
baz=342
J29M Klondike Camp 86.97 6 P **P 21 04 30.4 +0.7**
baz=348
M19K Big River Lodg 86.99 14 P **P 21 04 29.8 0.0**
M19K IAmb IAmb 21 04 43.3
comp=Z,58nm,1.5s
M19K Big River Lodg 86.99 14 P **P 21 04 30.0 +0.2**
baz=334
DOT Dot Lake 87.11 9 P **P 21 04 29.6 -0.8**
DOT IAmb IAmb 21 04 32.0
comp=Z,34nm,1.0s
DAWY Dawson 87.24 6 IAmb IAmb 21 04 33.4
comp=Z,47nm,1.1s
DAWY Dawson 87.24 6 P **P 21 04 31.5 +0.4**
baz=347,SNR=37
CUT Chulitna 87.32 12 P **P 21 04 31.9 +0.5**
baz=338
SVW2 Sparrevohn 87.46 14 IAmb IAmb 21 04 45.2
comp=Z,30nm,1.2s
PAX Paxson 87.56 9 P **P 21 04 32.8 +0.1**
baz=342
L26K Log Cabin Wild 87.80 8 IAmb IAmb 21 04 35.9
comp=Z,23nm,1.2s
L26K Log Cabin Wild 87.80 8 P **P 21 04 34.2 +0.5**
baz=344,SNR=6.8
MENT Mentasta 87.83 9 P **P 21 04 34.3 +0.4**
MENT IAmb IAmb 21 04 40.8
comp=Z,20nm,0.9s
WRKA Warakurna 87.92 120 P **P 21 04 35.9 +1.0**
L27K Beaver Creek, 87.95 8 IAmb IAmb 21 04 36.7
comp=Z,34nm,1.2s
L27K Beaver Creek, 87.95 8 P **P 21 04 35.2 +0.7**
baz=345
BCAR Beaver Creek A 87.95 8 P **P 21 04 35.2 +0.7**
BCAR pP **pP 21 04 41.3 -1.3**
N19K Bonanza Creek 87.95 14 P **P 21 04 35.0 +0.4**
baz=334
M22K Willow 87.95 12 P **P 21 04 34.5 +0.1**
baz=338,SNR=8.1
MAYO Mayo, Yukon 88.01 5 P **P 21 04 35.1 +0.4**
baz=350
SPCR Spurr Chakacha 88.07 13 P **P 21 04 34.8 -0.3**
baz=336
SUA Susitna One 88.11 12 P **P 21 04 34.9 -0.4**
HARP HAARP 88.15 9 P **P 21 04 35.7 +0.3**
baz=342
SML Sawmill 88.22 11 P **P 21 04 36.1 +0.3**
baz=339
M24K Tolsona, Glenn 88.28 10 P **P 21 04 37.0 +0.9**
baz=341
PMR Palmer 88.28 11 IAmb IAmb 21 04 37.4
comp=Z,35nm,1.0s
PMR Palmer 88.28 11 P **P 21 04 36.1 +0.2**
baz=339
SCM Sheep Creek Mo 88.36 11 P **P 21 04 36.8 +0.4**
baz=340
M26K Nabesna, AK 88.44 8 IAmb IAmb 21 05 08.3
comp=Z,30nm,1.5s
M26K Nabesna, AK 88.44 8 P **P 21 04 37.1 +0.3**
baz=344
KNK Knik Glacier 88.56 11 IAmb IAmb 21 04 44.4
comp=Z,32nm,1.0s
KNK Knik Glacier 88.56 11 P **P 21 04 37.6 +0.2**
baz=339
M27K Edge Creek, AK 88.63 8 P **P 21 04 37.1 -0.7**
M27K IAmb IAmb 21 04 40.1
comp=Z,49nm,1.2s
M27K Edge Creek, AK 88.63 8 P **P 21 04 38.3 +0.5**
baz=345
RC01 Rabbit Creek A 88.64 12 P **P 21 04 38.5 +0.8**
baz=338
BVCY Beaver Creek 88.69 7 P **P 21 04 38.7 +0.7**
baz=346
WRGLY Wrigley 88.80 359 P **P 21 04 39.2 +0.8**
baz=1.1
KLU Klutina 88.90 10 IAmb IAmb 21 04 41.2
comp=Z,52nm,1.3s
KLU Klutina 88.90 10 P **P 21 04 39.3 +0.2**
baz=341
N25K Chitina, Valde 88.99 9 P **P 21 04 39.7 +0.3**
baz=343
O20K Slope Mountain 89.01 14 P **P 21 04 40.2 +0.6**
baz=336
PWL Port Wells 89.10 11 P **P 21 04 40.3 +0.3**
baz=339
YKA Yellowknife Ar 89.19 355 P **P 21 04 40.7 +0.4**
comp=Z,15nm,0.8s,baz=3.9,slow=4.8,SNR=206
YKA PKKPbc **PKKPbc 21 22 16.6 -1.4**
comp=Z,0.4nm,0.6s,baz=180,slow=2.4,SNR=9.9
YKA Yellowknife Ar 89.19 355 P **P 21 04 39.7 -0.5**
GLI Glacier Island 89.30 11 P **P 21 04 40.8 -0.1**
baz=340
YUK3 Moose Creek 89.36 7 P **P 21 04 41.9 +0.5**
baz=346
M31M Drury Creek, Y 89.50 5 P **P 21 04 42.2 +0.4**
baz=352
FARO Faro, Yukon 89.54 4 P **P 21 04 42.3 +0.4**
baz=352
HOM Homer 89.60 13 P **P 21 04 41.9 -0.4**
baz=336
BMRM Bremner River 89.60 10 P **P 21 04 42.9 +0.6**
baz=343
SEW Seward 89.61 12 P **P 21 04 41.7 -0.6**
baz=338
FCC Fort Churchill 89.63 345 IAmb IAmb 21 05 07.2
comp=Z,32nm,1.8s
BRSE Bradley Lake S 89.70 13 P **P 21 04 42.5 -0.2**
baz=337
EYAK Cordova Ski Ar 89.83 10 P **P 21 04 42.5 -0.7**
baz=342
Q19K Cape Douglas, 89.84 15 P **P 21 04 42.9 -0.5**
baz=335
CTG Chitna Glacier 90.04 8 P **P 21 04 43.8 -0.7**
baz=345
CTGM Chitina Glacie 90.04 8 IAmb IAmb 21 04 51.9
comp=Z,24nm,0.9s
WRA Warramunga Arr 90.08 113 P **P 21 04 45.0 -0.1**
comp=Z,8.9nm,0.8s,baz=314,slow=4.0,SNR=67
WRA PKKPbc **PKKPbc 21 22 15.2 -0.2**
comp=Z,0.6nm,0.8s,baz=126,slow=2.3,SNR=6.2
WRA LR LR 21 49 31.2
comp=Z,51nm,19.2s,baz=208,slow=38
WRA Warramunga Arr 90.08 113 *i* P **P 21 04 45.0 -0.1**
WRA pmax pmax
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 90.08 113 P **P 21 04 44.9 -0.3**
WRAB Tennant Creek 90.08 113 *ce*P **P 21 04 45.3 +0.1**
WRAB pmax pmax
comp=Z,17nm,0.9s
WRAB Tennant Creek 90.08 113 P **P 21 04 44.0 -1.2**
WRAB IAmb IAmb 21 04 48.2
comp=Z,15nm,0.9s
WRAB Tennant Creek 90.08 113 P **P 21 04 45.4 +0.2**
N31M Braeburn, Yuko 90.10 5 P **P 21 04 44.7 +0.1**
baz=350
LOGN Logan Glacier 90.22 8 IAmb IAmb 21 04 58.1
comp=Z,44nm,1.4s
WR0 Warramunga Arr 90.25 112 P **P 21 04 45.2 -0.7**
NIKH Nikolski High 90.41 25 P **P 21 04 46.1 0.0**
baz=322
FORT Forrest 90.83 125 P **P 21 04 47.6 -0.7**
FORT Forrest 90.83 125 P **P 21 04 49.0 +0.7**
KDAK Kodiak Island 91.12 15 P **P 21 04 49.7 +0.4**
comp=Z,38nm,1.0s,baz=35,slow=7.3,SNR=4.9
KDAK Kodiak Island 91.12 15 P **P 21 04 48.9 -0.4**
baz=336
OHAK Old Harbor 91.47 15 P **P 21 04 50.5 -0.5**
baz=335
PNL Peninsula 91.54 7 P **P 21 04 51.0 -0.3**
baz=347
P33M Teslin, Yukon 91.58 4 P **P 21 04 51.3 -0.3**
baz=353
ASAR Alice Springs 91.59 116 P **P 21 04 52.0 -0.2**
comp=Z,5.8nm,0.8s,baz=304,slow=4.7,SNR=69
ASAR PKKPbc **PKKPbc 21 22 11.3 -0.4**
comp=Z,1.1nm,1.2s,baz=134,slow=3.3,SNR=4.7
ASAR LR LR 21 50 01.7
comp=Z,90nm,18.6s,baz=296,slow=38
ASAR Alice Springs 91.59 116 P **P 21 04 51.2 -0.9**
ASAR Alice Springs 91.59 116 P **P 21 04 51.2 -0.9**
SKAG Skagway 92.14 5 P **P 21 04 53.3 -0.7**
baz=351
DLBC Dease Lake 93.50 3 P **P 21 05 00.7 +0.2**
comp=Z,3.8nm,0.9s,baz=333,slow=4.5,SNR=3.8
DLBC LR LR 21 52 06.5
comp=Z,184nm,18.7s,baz=342,slow=39
LONY Lake Ozonia 94.26 327 IAmb IAmb 21 05 05.2
comp=Z,15nm,1.0s
LONY Lake Ozonia 94.26 327 P **P 21 05 03.5 -0.7**
baz=43
SIT Sitka 94.52 6 P **P 21 05 04.0 -1.0**
baz=351
QIS Mount Isa 94.70 111 P **P 21 05 06.6 +0.1**
L61B Northampton 94.89 324 P **P 21 05 06.3 -0.8**
baz=44
OOD Oodnadatta 95.02 119 P **P 21 05 07.9 +0.1**
comp=Z,16nm,1.9s
MAW Mawson 95.75 177 LR LR 21 44 49.9
comp=Z,110nm,18.2s,baz=306,slow=33
SADO Sadowa 96.28 329 LR LR 21 50 16.7
comp=Z,119nm,19.7s,baz=26,slow=36
MTSU Mount Surprise 97.51 106 P **P 21 05 19.4 0.0**
ULM Lac du Bonnet 97.75 342 LR LR 21 51 33.1
comp=Z,138nm,21.3s,baz=75,slow=37
EDM Edmonton 98.25 353 P **P 21 05 19.9 -2.2**
EDM pmax pmax
comp=Z,17nm,0.9s
EDM Edmonton 98.25 353 P **P 21 05 19.9 -2.2**
EDM IAmb IAmb 21 05 28.9
comp=Z,17nm,0.9s
SSPA Standing Stone 98.86 326 P **P 21 05 24.0 -1.1**
baz=40
INKA Innaminka 98.95 117 P Pdif 21 05 26.6 +1.1
BBB Bella Bella 99.83 2 LR LR 21 57 41.8
comp=Z,131nm,18.2s,baz=356,slow=40
CTA Charters Tower 100.03 107 LR LR 21 54 56.3
comp=Z,58nm,19.5s,baz=266,slow=38
O53A New Philadelph 100.77 328 P **Pdif 21 05 32.5 -1.0**
baz=38
G03D McMinnville, O 106.85 359 P **PKiKP 21 10 09.9 -0.5**
baz=1.3
SNAA Sanae 107.45 196 PKiKP **PKiKP 21 10 10.5 -0.1**
PDAR Pinedale Array 107.95 348 PKiKP **PKiKP 21 10 12.0 -0.8**
comp=Z,0.8nm,0.8s,baz=63,slow=2.6,SNR=4.6
PDAR PKKPab **PKKPab 21 21 40.6 -2.0**
comp=Z,0.9nm,0.9s,baz=198,slow=4.2,SNR=3.6
VNA2 Neumayer--Watz 108.20 198 PKiKP **PKiKP 21 10 11.9 0.0**
baz=15,slow=3.5
VNA3 Neumayer Olymp 108.99 198 PKiKP **PKiKP 21 10 13.1 -0.4**
SDCO Great Sand Dun 111.91 344 P **PKiKP 21 10 20.6 +0.1**
baz=18
NVAR Mina Array Bea 113.37 355 PKiKP **PKiKP 21 10 23.9 +0.7**
comp=Z,1.6nm,0.6s,baz=3.0,slow=1.6,SNR=14
MPMC Manual Prospec 115.65 354 P **PKiKP 21 10 27.6 0.0**
baz=7.0
GSC Goldstone, Bar 116.33 353 P **PKPdf 21 10 29.1 +0.4**
baz=7.7
PDMCI Parker Dam,Lak 116.97 350 P **PKiKP 21 10 30.5 +0.6**
baz=10
IRM Iron Mountain 117.25 351 P **PKiKP 21 10 31.2 +0.7**
baz=9.4
121A Cookes Peak, D 117.43 344 P **PKiKP 21 10 31.4 +0.3**
baz=17
BELC Belle Mtn. Jos 117.52 352 P **PKPdf 21 10 31.0 -0.2**
baz=8.6
MNTX Cornudas Mount 117.59 341 **PKPdf 21 10 31.0 -0.2**
MNTX Cornudas Mount 117.59 341 P **PKiKP 21 10 31.2 0.0**
baz=19
BC3 Big Chuckawall 117.79 351 P **PKiKP 21 10 32.2 +0.5**
baz=9.2
PFO Pinyon Flats O 117.96 352 P **PKPdf 21 10 31.8 -0.2**
baz=8.2
QSPA South Pole Qui 118.12 180 **PKPdf 21 10 30.3 -0.8**
GLA Glamis 118.30 351 P **PKiKP 21 10 33.5 +0.9**
baz=9.8
214A Organ Pipe Nat 119.05 348 P **PKiKP 21 10 34.2 +0.2**
baz=12
TXAR Lajitas Array 119.30 339 PKP **PKPdf 21 10 34.4 -0.3**
comp=Z,1.6nm,0.7s,baz=167,slow=0.8,SNR=8.0
TXAR Lajitas Array 119.30 339 PKPdf **PKPdf 21 10 32.1 -2.5**
SIV San Ignacio 120.43 267 PP PP 21 11 59.7 -4.1
comp=Z,1.9nm,0.7s,baz=67,slow=4.4,SNR=3.4
ETMB Extrema 122.33 276 *eP* **PKPdf 21 10 40.4 -0.2**
ETMB Extrema 122.33 276 PKPdf **PKPdf 21 10 39.6 -1.0**
ETMB PP **PP 21 12 09.4 -7.3**
LPAZ La Paz 126.77 270 PKP **PKPdf 21 10 49.5 -0.3**
comp=Z,2.6nm,0.7s,baz=83,slow=2.7,SNR=8.5
LPAZ PP **PP 21 12 44.5 -2.7**
comp=Z,3.4nm,1.1s,baz=50,slow=6.8,SNR=3.5
LPAZ La Paz 126.77 270 PKIKP **PKPdf 21 10 48.6 -1.2**
LPAZ 21 12 42.2
LPAZ La Paz 126.77 270 PKPdf **PKPdf 21 10 48.6 -1.2**
LPAZ PP **PP 21 12 42.2 -5.0**
PB16 IPOC Station P 128.76 269 PKPdf **PKPdf 21 10 51.5 -2.1**
PB16 PP **PP 21 12 53.6 -6.7**
PB11 IPOC Station P 129.41 267 PKPdf **PKPdf 21 10 53.4 -0.8**
PB11 PP PP 21 12 54.8 -9.2
LVC Limon Verde 129.71 263 PP PP 21 13 04.1 -2.1
comp=Z,4.5nm,0.7s,baz=31,slow=5.9,SNR=4.1
LC01 Cunco 135.32 242 PKPdf **PKPdf 21 11 02.5 -2.2**
LC01 **PP 21 13 35.3 -6.2**

*IDC **22** 21:01:51.0±1.7, 43°.78N×105°.50W, h0km, mb1 3.8/5, mb1mx3.2/69, mbtmp3.5/5, ML3.1/4, Error ellipse: s-maj=43.8km s-min=9.7km az=147.0*
*NEIC **22** 21:01:52.4±1.8, 43°.76N±0°.05×105°.31W±0°.08, h0km±2km, ML3.6/66, Error ellipse: s-maj=9.7km s-min=8.6km az=106.0*
ISC 22 21:01:51.7±0.9, **43°.76N**±0°.05×**105°.29W**±0°.06, **h0**km, **n87**, σ1**9**00/86, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**68**	Pg	**Pg**	**21 02 09.9**	**-0.5**
K22A	**Casper**	**1.43**	**219**		**Pn**	**21 02 16.8**	**-2.2**
K22A				IAML		21 02 41.8	
	comp=E,658nm,0.4s						
K22A				IAML		21 02 42.1	
	comp=N,988nm,0.3s						
PHWY	**Pilot Hill**	**2.46**	**183**	Pn	**Pn**	**21 02 33.1**	**-0.3**
PHWY				IAML		21 03 14.1	
	comp=N,148nm,0.6s						
RWWY	**Rawlins**	**2.51**	**215**		**Pn**	**21 02 34.5**	**+0.5**
RWWY				IAML		21 03 11.4	
	comp=N,392nm,0.9s						
RWWY				IAML		21 03 11.6	
	comp=N,390nm,1.1s						
LAO	**LASA Array**	**3.00**	**348**		**Pn**	**21 02 41.6**	**+1.1**
LAO				IAML		21 03 34.8	
	comp=N,278nm,1.0s						
RLMT	**Red Lodge**	**3.15**	**297**		**Pn**	**21 02 42.6**	**-0.2**
RLMT				IAML		21 03 35.7	
	comp=N,113nm,1.1s						
RLMT				IAML		21 03 44.9	
	comp=N,95nm,1.0s						
BW06	**Boulder Array**	**3.27**	**254**	Pn	**Pn**	**21 02 44.6**	**+0.2**
BW06				IAML		21 03 40.4	
	comp=N,72nm,1.2s						
PD31	**Pinedale Array**	**3.27**	**254**		**Pn**	**21 02 44.6**	**+0.2**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**21 02 44.5**	**+0.1**
	comp=N,27nm,0.3s,baz=80,slow=18,SNR=63						
PDAR				Lg	Lg	21 03 27.2	
	comp=N,9.0nm,0.3s,baz=72,slow=29,SNR=3.7						
PDAR	**Pinedale Array**	**3.27**	**254**		**Pn**	**21 02 44.0**	**-0.4**
YMP	**Mirror Lake Pl**	**3.63**	**287**		**Pn**	**21 02 49.9**	**+0.5**
YMP				IAML		21 03 59.6	
	comp=N,147nm,1.0s						
OGNE	**Ogallala**	**3.71**	**138**		**Pn**	**21 02 51.2**	**+0.9**
GCMT	**Greycliff**	**3.72**	**305**		**Pn**	**21 02 50.6**	**+0.1**
LKWY	**Lake**	**3.76**	**284**		**Pn**	**21 02 50.9**	**-0.3**
LKWY				IAML		21 04 09.0	
	comp=N,72nm,1.1s						
LKWY				IAML		21 04 21.1	
	comp=N,62nm,1.2s						
LOHW	**Long Hollow**	**3.86**	**270**		**Pn**	**21 02 52.7**	**+0.3**
H17A	**Grant Village**	**3.86**	**281**		**Pn**	**21 02 53.1**	**+0.6**
H17A				IAML		21 03 57.5	
	comp=N,54nm,1.2s						
FLWY	**Flagg Ranch**	**3.92**	**277**		**Pn**	**21 02 53.5**	**+0.2**
FLWY				IAML		21 04 01.1	
	comp=N,117nm,2.3s						
FLWY				IAML		21 04 01.4	
	comp=N,84nm,1.0s						
MOOW	**Moose Ponds**	**3.95**	**272**		**Pn**	**21 02 54.7**	**+1.0**
ISCO	**Idaho Springs**	**3.97**	**184**		**Pn**	**21 02 53.8**	**-0.2**
SNOW	**Snow King Moun**	**3.98**	**268**	Pn	**Pn**	**21 02 56.0**	**+1.9**
SNOW				IAML		21 04 01.6	
	comp=N,84nm,1.0s						
SNOW				IAML		21 04 15.4	
	comp=N,80nm,1.1s						
YNR	**Norris Junctio**	**3.99**	**286**		**Pn**	**21 02 55.3**	**+1.1**
REDW	**Red Top Meadow**	**4.06**	**266**		**Pn**	**21 02 55.5**	**+0.3**
REDW				IAML		21 04 11.2	
	comp=N,89nm,1.1s						
REDW				IAML		21 04 27.4	
	comp=N,76nm,1.1s						
TPAW	**Teton Pass**	**4.12**	**268**	IAML		21 04 16.7	
	comp=N,60nm,1.0s						
TPAW				IAML		21 04 23.3	
	comp=N,91nm,1.0s						
YHH	**Holmes Hill**	**4.12**	**286**		**Pn**	**21 02 56.9**	**+0.8**
YHH				IAML		21 04 09.0	
	comp=N,49nm,1.1s						
FXWY	**Fox Creek**	**4.16**	**270**	Pn	**Pn**	**21 02 57.2**	**+0.6**
YMR	**Madison River**	**4.18**	**284**		**Pn**	**21 02 57.9**	**+1.1**
YMR				IAML		21 04 35.0	
	comp=N,86nm,1.2s						
O20A	**White River Ci**	**4.24**	**212**	IAML		21 04 10.1	
	comp=E,78nm,1.1s						
O20A				IAML		21 04 22.3	
	comp=N,73nm,1.2s						
E28A	**Huff**	**4.30**	**48**		**Pn**	**21 02 58.6**	**+0.3**
E28A				IAML		21 04 52.8	
	comp=N,96nm,0.9s						
AHID	**Auburn Hatcher**	**4.36**	**259**		**Pn**	**21 02 58.2**	**-1.1**
AHID				IAML		21 04 19.0	
	comp=N,76nm,1.1s						
AHID				IAML		21 04 38.4	
	comp=N,56nm,1.1s						
ECR	**Eagle Creek**	**4.49**	**263**		**Pn**	**21 03 00.3**	**-0.8**
RDMU	**Red Mountain**	**4.50**	**226**		**Pn**	**21 03 01.4**	**+0.1**
RDMU				IAML		21 04 17.5	
	comp=E,67nm,1.1s						
RDMU				IAML		21 04 32.0	
	comp=N,50nm,1.1s						
QLMT	**Earthquake Lak**	**4.53**	**286**		**Pn**	**21 03 03.6**	**+1.9**
SUSD	**Miller**	**4.61**	**79**	Pn	**Pn**	**21 03 04.7**	**+2.1**
SMCO	**Snowmass**	**4.75**	**196**		**Pn**	**21 03 04.6**	**-0.3**
SMCO				IAML		21 04 26.1	
	comp=N,35nm,1.0s						
SMCO				IAML		21 04 30.2	
	comp=N,46nm,1.0s						
DGMT	**Dagmar**	**4.77**	**9**		**Pn**	**21 03 06.0**	**+1.2**
BOZ	**Bozeman (W)**	**4.88**	**294**		**Pn**	**21 03 07.5**	**+1.1**
BOZ				IAML		21 04 24.6	
	comp=N,30nm,1.1s						
BOZ				IAML		21 04 27.8	
	comp=N,35nm,1.0s						
K31A	**O'Neill**	**4.91**	**101**		**Pn**	**21 03 07.9**	**+1.2**
K31A				Pg	**Pg**	**21 03 26.3**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.15**	**156**	Pn	**Pn**	**21 03 09.8**	**-0.3**
KSCO				Pg	**Pg**	**21 03 30.0**	**-0.4**
EGMT	**Eagleton**	**5.28**	**325**		**Pn**	**21 03 10.9**	**-0.9**
DLMT	**Dillon**	**5.46**	**290**	Pn	**Pn**	**21 03 14.5**	**+0.1**
MCMT	**McKenzie Canyo**	**5.53**	**284**	Pn	**Pn**	**21 03 18.2**	**+2.8**
P18A	**Preston Nutter**	**5.55**	**224**		**Pn**	**21 03 16.5**	**+0.7**
JLU	**Jordanelle**	**5.56**	**237**	Pn	**Pn**	**21 03 15.7**	**-0.2**
CTU	**Camp Tracy**	**5.69**	**240**	Pn	**Pn**	**21 03 17.7**	**0.0**
MDND	**Maddock**	**5.70**	**42**	Pn	**Pn**	**21 03 19.5**	**+2.0**
BGNE	**Belgrade**	**5.77**	**112**	Pn	**Pn**	**21 03 21.0**	**+2.4**
HVU	**Hansel Valley**	**5.85**	**253**	Pn	**Pn**	**21 03 20.4**	**+0.5**
BCYI	**Bear Canyon**	**5.87**	**278**	Pn	**Pn**	**21 03 21.9**	**+1.7**
PV07	**Paradox Valley**	**5.89**	**207**		**Pn**	**21 03 21.1**	**+0.7**
P17A	**Butcher Ranch,**	**5.92**	**225**		**Pn**	**21 03 21.9**	**+1.2**
PV15	**Paradox Valley**	**5.93**	**205**	Pn	**Pn**	**21 03 22.2**	**+1.3**
PV23	**Carpenter Ridg**	**6.00**	**209**		**Pn**	**21 03 23.0**	**+1.0**
SDCO	**Great Sand Dun**	**6.01**	**182**		**Pn**	**21 03 22.5**	**+0.3**
MPU	**Maple Canyon**	**6.03**	**234**	Pn	**Pn**	**21 03 23.3**	**+1.0**
PV10	**Paradox Valley**	**6.08**	**209**	Pn	**Pn**	**21 03 24.0**	**+1.0**
PV13	**Radium Mtn., P**	**6.20**	**207**		**Pn**	**21 03 25.6**	**+0.9**
ECSD	**EROS Data Cent**	**6.29**	**87**		**Pn**	**21 03 25.9**	**+0.3**
NLU	**North Lily Min**	**6.33**	**235**	Pn	**Pn**	**21 03 25.9**	**-0.5**
CBKS	**Cedar Bluff**	**6.48**	**138**	Pn	**Pn**	**21 03 28.1**	**-0.1**
CBKS				Pg	**Pg**	**21 03 55.9**	**+0.2**
HLID	**Hailey**	**6.62**	**271**	Pn	**Pn**	**21 03 31.2**	**+0.9**
DUG	**Dugway, Tooele**	**6.64**	**240**	Pn	**Pn**	**21 03 30.8**	**+0.1**
F33A	**5 Mile Ranch,**	**6.73**	**69**		**Pn**	**21 03 33.1**	**+1.4**
L34A	**Svendsen Farm,**	**6.79**	**102**	Pn	**Pn**	**21 03 31.3**	**-1.3**
MSO	**Missoula**	**6.83**	**300**	Pn	**Pn**	**21 03 32.2**	**-0.9**
MVCO	**Mesa Verde**	**6.99**	**202**	Pn	**Pn**	**21 03 36.7**	**+1.3**
MVCO				Pg	Pg	21 04 00.9	-4.6

R32A	Long Quarter,	7.29 135	Pn		Pn	21 03 40.3 +0.9
TCRU	Three Creeks R	7.46 229			Pn	21 03 42.7 +0.8
MFID	Camas Ranch	7.66 271	Pn		Pn	21 03 45.6 +1.0
MTPU	Mount Pierson	7.74 225	Pn		Pn	21 03 46.0 +0.1
PLID	Pearl Lake	7.78 284	Pn		Pn	21 03 47.0 +0.7
ELK	Elko	7.97 251	Pn		Pn	21 03 49.9 +0.9
	comp=N,0.9nm,0.3s,baz=69,slow=10,SNR=13					
ELK			Lg		Lg	21 05 56.5
	comp=N,0.1nm,0.3s,baz=179,slow=20,SNR=1.3					
PKCU	Pink Cliffs	8.27 223	Pn		Pn	21 03 53.2 +0.1
SPR3	Spring Creek 3	8.29 238	Pn		Pn	21 03 54.7 +1.3
SZCU	Shurtz Canyon	8.54 226	Pn		Pn	21 03 57.0 +0.2
F36A	Milaca	8.63 72	Pn		Pn	21 03 57.3 -0.4
CCUT	Cedar City	8.72 227	Pn		Pn	21 03 59.4 +0.1
KNB	Kanab	8.85 223	Pn		Pn	21 04 01.4 +0.4
I10CA	LAC DU BONNET	9.03 41	*i*			22 00 50.0
	baz=221,slow=308,SNR=1.9					
SPMN	Marine on St.	9.05 76	Pn		Pn	21 04 02.6 -0.8
LCMT	Little Creek M	9.07 225	Pn		Pn	21 04 04.6 +0.7
U15A	North Rim	9.08 219	Pn		Pn	21 04 05.3 +1.1
ULM	Lac du Bonnet	9.13 41	Pn		Pn	21 04 02.5 -2.1
	comp=N,1.2nm,0.3s,baz=234,slow=10,SNR=3.4					
ULM			Pg			21 04 34.2
	comp=N,0.6nm,0.3s,baz=240,slow=20,SNR=1.7					
ULM			Lg		Lg	21 06 33.5
	comp=N,0.5nm,0.3s,baz=130,slow=22,SNR=1.4					
B35A	Bob, Littlefor	9.26 56	Pn		Pn	21 04 04.7 -1.6
W18A	Petrified Fore	9.29 203	Pn		Pn	21 04 07.5 +0.5
NEW	Newport	9.38 303	Lg		Lg	21 06 38.9
	comp=N,0.1nm,0.3s,baz=75,slow=19,SNR=3.9					
NVAR	Mina Array Bea	11.17 246	Pn		Pn	21 04 33.0 +0.3
	comp=N,0.1nm,0.3s,baz=59,slow=14,SNR=4.8					
YKA	Yellowknife Ar	19.54 347	P		P	21 06 20.7 +0.2
	comp=N,0.1nm,0.3s,baz=167,slow=12,SNR=1.1					

KRSC ***22*** *21:11:16.9±0.5, 53°.84N×160°.45E, h78km±12km, ML4.8*
MOS ***22*** *21:11:18.6±1.2, 53°.96N×160°.09E, h94km, mb4.3/13, Error ellipse: s-maj=8.4km s-min=3.8km az=74.7*
NEIC ***22*** *21:11:19.6±1.4, 53°.97N±0°.07×160°.0E±0°.1, h85km±5km, mb4.4/121, Error ellipse: s-maj=12.3km s-min=9.2km az=112.0*
IDC ***22*** *21:11:20.6±1.1, 54°.10N×159°.82E, h98km±10km, mb3.8/32, mb1 4.0/34, mb1mx3.9/59, mbtmp4.2/34, MS3.4/2, Ms1 3.4/2, ms1mx2.8/90, Error ellipse: s-maj=12.7km s-min=9.6km az=147.0*
ISC 22 21:11:18.1±0.6, 53°.90N±0°.03×160°.29E±0°.03, h80km±5km, n303, σ1s57/324, mb4.5/105, 5C-10D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.52	286	PN	Pn	21 11 32.2	+0.1
KII	Karymskiy	0.52	286	*e*P	Pn	21 11 32.2	+0.1
SPN	Mys Shipunski	0.82	191	PN	Pn	21 11 34.8	-0.3
SPN				S	Sn	21 11 46.8	-0.8
SPN	Mys Shipunski	0.82	191	*e*P	Pn	21 11 34.8	-0.3
SPN				*e*S	Sn	21 11 46.8	-0.8
NLC	Nalytchevo	0.92	218	PN	Pn	21 11 36.5	+0.3
NLC				S	Sn	21 11 50.0	+0.3
NLC	Nalytchevo	0.92	218	*e*P	Pn	21 11 36.5	+0.3
NLC				*e*S	Sn	21 11 50.0	+0.3
SDLR	Sedlovina	1.04	234	PN	Pn	21 11 38.4	+0.6
SDLR	Sedlovina	1.04	234	*e*P	Pn	21 11 38.4	+0.6
SMAR	Somma	1.09	235	PN	Pn	21 11 39.1	+0.6
SMAR				S	Sn	21 11 54.1	+0.4
SMAR	Somma	1.09	235	*e*P	Pn	21 11 39.1	+0.6
SMAR				*e*S	Sn	21 11 54.1	+0.4
KRER	Koryakskii	1.09	238	PN	Pn	21 11 39.3	+0.8
KRER				S	Sn	21 11 54.9	+1.2
KRER	Koryakskii	1.09	238	*e*P	Pn	21 11 39.3	+0.8
KRER				*e*S	Sn	21 11 54.9	+1.2
UGLR	Uglovaya	1.11	232	PN	Pn	21 11 39.5	+0.8
UGLR				S	Sn	21 11 55.1	+1.1
UGLR	Uglovaya	1.11	232	*e*P	Pn	21 11 39.5	+0.8
UGLR				*e*S	Sn	21 11 55.1	+1.1
AVH	Avacha	1.12	236	PN	Pn	21 11 39.7	+1.0
AVH				S	Sn	21 11 55.7	+1.6
AVH	Avacha	1.12	236	*i* P	Pn	21 11 39.7	+1.0
AVH				*e*S	Sn	21 11 55.7	+1.6
KOK	Koryaka	1.16	239	PN	Pn	21 11 40.0	+0.8
KOK	Koryaka	1.16	239	*i* P	Pn	21 11 40.0	+0.8
DALK	Dalny	1.26	227	PN	Pn	21 11 41.1	+0.7
DALK				S	Sn	21 11 57.9	+0.8
DALK	Dalny	1.26	227	*e*P	Pn	21 11 41.1	+0.7
DALK				*e*S	Sn	21 11 57.9	+0.8
TUMD	Tumrok D	1.31	3	*e*P	Pn	21 11 41.7	+0.7
TUMD				*e*S	Sn	21 11 59.1	+0.9
PET	Petropavlovsk	1.31	229	‖ *i*PN	Pn	21 11 41.8	+0.8
PET				*e*S	Sn	21 11 58.1	-0.1
PET				pmax	pmax		
	comp=Z,690nm,0.3s						
PET				smax	smax		
	comp=E,19μm,0.7s						
PET				smax	smax		
	comp=N,13μm,0.6s						
PET	Petropavlovsk	1.31	229		Pn	21 11 41.8	+0.8
PET				Sn	Sn	21 11 58.1	-0.1
TUMR	Tumrok	1.39	357	PN	Pn	21 11 41.7	-0.4
TUMR				S	Sn	21 11 59.1	-1.1
TUMR	Tumrok	1.39	357	*e*P	Pn	21 11 43.5	+1.4
TUMR				*e*S	Sn	21 12 02.3	+2.1
GNL	Ganaly	1.41	263	PN	Pn	21 11 43.2	+0.9
GNL				S	Sn	21 12 01.6	+1.0
GNL	Ganaly	1.41	263	*e*P	Pn	21 11 43.2	+0.9
GNL				*e*S	Sn	21 12 01.6	+1.0
KRMR	Karymshinskiy	1.68	231	PN	Pn	21 11 46.4	+0.7
KRMR	Karymshinskiy	1.68	231	*e*P	Pn	21 11 46.4	+0.7
PEA0B	Petropavlovsk-	1.74	244	PN	Pn	21 11 47.3	+0.8
PEA0B						21 12 07.1	
PEA0B	Petropavlovsk-	1.74	244	Pn	Pn	21 11 47.3	+0.8
PEA0B				Sn	Sn	21 12 07.1	-1.0
PETK	Petropavlovsk-	1.74	244	P	Pn	21 11 46.3	-0.2
	comp=N,64nm,0.3s,baz=75,slow=16,SNR=1145						
PETK				S	Sn	21 12 09.0	+0.9
	comp=N,55nm,0.3s,baz=108,slow=4.8,SNR=7.0						
RUS	Russkaya	1.82	217	PN	Pn	21 11 47.9	+0.4
RUS				S	Sn	21 12 09.6	-0.3
RUS	Russkaya	1.82	217	*e*P	Pn	21 11 47.9	+0.4
RUS				*e*S	Sn	21 12 09.6	-0.3
KMNR	Kamenistaya	1.86	359	PN	Pn	21 11 50.1	+1.8
KMNR	Kamenistaya	1.86	359	*e*P	Pn	21 11 50.1	+1.8
GRL	Gorelyy	1.90	226	PN	Pn	21 11 50.0	+1.3
GRL	Gorelyy	1.90	226	*i* P	Pn	21 11 50.0	+1.3
MTVR	Mutnovka	1.90	223	PN	Pn	21 11 50.0	+1.2
MTVR	Mutnovka	1.90	223	*e*P	Pn	21 11 50.0	+1.2
KIRR	Kirishev	2.06	1	PN	Pn	21 11 52.6	+1.7
KIRR	Kirishev	2.06	1	*e*P	Pn	21 11 52.6	+1.7
KPT	Kopyto	2.07	359	PN	Pn	21 11 52.7	+1.7
KPT	Kopyto	2.07	359	*e*P	Pn	21 11 52.7	+1.7
BZWR	Bezymyannyi-We	2.07	3	PN	Pn	21 11 53.3	+2.2
BZWR	Bezymyannyi-We	2.07	3	*e*P	Pn	21 11 53.3	+2.2
APC	Apacha	2.11	244	PN	Pn	21 11 52.9	+1.4
APC				S	Sn	21 12 18.2	+1.3
APC	Apacha	2.11	244	*e*P	Pn	21 11 52.9	+1.4
APC				*e*S	Sn	21 12 18.2	+1.3
ZLN	Zelenaya	2.14	8	PN	Pn	21 11 54.5	+2.5
ZLN	Zelenaya	2.14	8	*e*P	Pn	21 11 54.5	+2.5
ESO	Esso	2.23	336	PN	Pn	21 11 54.8	+1.8
ESO				S	Sn	21 12 22.2	+2.5
ESO	Esso	2.23	336	*e*P	Pn	21 11 54.8	+1.8
ESO				*e*S	Sn	21 12 22.2	+2.5
KRSR	Krestovskiy	2.33	4	PN	Pn	21 11 56.4	+1.9
KRSR	Krestovskiy	2.33	4	*e*P	Pn	21 11 56.4	+1.9
KLY	Klyuchi	2.43	5	PN	Pn	21 11 57.9	+2.2
KLY				S	Sn	21 12 27.6	+3.1
KLY	Klyuchi	2.43	5	*e*P	Pn	21 11 57.9	+2.2
KLY				*e*S	Sn	21 12 27.6	+3.1
KDTR	Khodutka, Kamc	2.48	214	PN	Pn	21 11 57.2	+0.7
KDTR				S	Sn	21 12 26.3	+0.5
KDTR	Khodutka, Kamc	2.48	214	*e*P	Pn	21 11 57.2	+0.7
KDTR				*e*S	Sn	21 12 26.3	+0.5
BDR	Baidarnaya	2.73	11	PN	Pn	21 12 02.1	+2.3
BDR	Baidarnaya	2.73	11	*e*P	Pn	21 12 02.1	+2.3
KBTR	Krutoberegovo	2.73	31	PN	Pn	21 12 00.8	+1.0
KBTR				S	Sn	21 12 32.4	+0.5
KBTR	Krutoberegovo	2.73	31	*e*P	Pn	21 12 00.8	+1.0
KBTR				*e*S	Sn	21 12 32.4	+0.5
KBG	Krutoberegovo	2.74	29	PN	Pn	21 12 00.6	+0.7
KBG	Krutoberegovo	2.74	29	*e*P	Pn	21 12 00.6	+0.7
SMKR	Semkarok	2.77	14	PN	Pn	21 12 02.5	+2.1
SMKR	Semkarok	2.77	14	*e*P	Pn	21 12 02.5	+2.1
SRKR	Sorokina	2.81	10	PN	Pn	21 12 03.3	+2.4
SRKR	Sorokina	2.81	10	*e*P	Pn	21 12 03.3	+2.4
PAU	Pauzhetka	3.23	222	PN	Pn	21 12 08.7	+2.2
PAU	Pauzhetka	3.23	222	*e*P	Pn	21 12 08.7	+2.2
BKI	Bering	3.56	66	PN	Pn	21 12 11.1	+0.2
BKI				S	Sn	21 12 49.2	-2.6
BKI	Bering	3.56	66	*e*P	Pn	21 12 11.1	+0.2
BKI				*e*S	Sn	21 12 49.2	-2.6
SKR	Severo-Kuril's	4.11	220	*e*PN	Pn	21 12 22.4	+3.9
SKR				*e*S	Sn	21 13 11.1	+5.7
SKR				pmax	pmax		
	comp=Z,274nm,0.8s						
SKR				smax	smax		
	comp=E,1μm,0.6s						
SKR				smax	smax		
	comp=N,757nm,0.6s						
SKR				MLR	MLR		
	comp=Z,3μm,17.0s						
SKR	Severo-Kuril's	4.11	220	*e*P	Pn	21 12 20.6	+2.1
MA2	Magadan	7.73	321	‖ *e*PN	Pn	21 13 09.4	+1.7
MA2				pmax	pmax		
	comp=Z,24nm,1.7s						
MA2	Magadan	7.73	321	Pn	Pn	21 13 09.1	+1.4
SHEM	Shemya Is, Ala	8.36	92	LR	LR	21 16 36.3	
	comp=Z,83nm,20.9s,baz=9.0,slow=36						
SEY	Seymchan	9.95	339	P	Pn	21 13 40.0	+2.0
	comp=Z,0.1nm,0.3s,baz=173,slow=23,SNR=2.0						
YSS	Yuzh-Sakhalins	13.14	245	‖ *e*PN	Pn	21 14 22.8	+1.5
BILL	Bilibino	14.47	9	*e*P	P	21 14 41.9	-1.1
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ASAJ	Asahikawa	15.14	237	P	P	21 14 49.3	-1.3
	comp=Z,1.5nm,0.3s,baz=231,slow=8.1,SNR=2.9						
YAK	Yakutsk	18.01	309	P	P	21 15 20.8	-1.3
	comp=Z,0.3nm,0.3s,baz=272,slow=1.3,SNR=18						
YAK	Yakutsk	18.01	309	*d i* P	Pn	21 15 21.6	-1.1
YAK				pmax	pmax		
	comp=Z,28nm,0.6s						
YAK	Yakutsk	18.01	309	P	Pn	21 15 21.4	-1.2
KLR	Kul'dur	18.28	267	P	Pn	21 15 26.9	+0.8
	comp=Z,0.6nm,0.3s,baz=76,slow=7.8,SNR=13						
KLR	Kul'dur	18.28	267	‖ *i* P	Pn	21 15 27.4	+1.3
KLR				pmax	pmax		
	comp=Z,25nm,2.4s						
ZEA	Zeya	19.41	283	*e*P	Pn	21 15 37.9	-1.6
TNA	Tin City	19.56	41	P	Pn	21 15 41.4	+0.4
TNA				IAmb	IAmb	21 15 42.5	
	comp=Z,14nm,1.0s						
AKUT	Akutan	19.84	76	P	Pn	21 15 44.9	+0.5
AKUT				IAmb	IAmb	21 15 58.3	
	comp=Z,30nm,1.0s						
ANM	Nome	20.27	45	P	Pn	21 15 49.4	0.0
ANM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ANM	Nome	20.27	45	P	Pn	21 15 49.4	0.0
USRK	Ussuriysk Ar.	20.80	254	P	P	21 15 53.5	+0.8
	comp=Z,2.2nm,0.7s,baz=59,slow=9.9,SNR=2.8						
JMM	Marumori	20.89	228	P	P	21 15 54.8	+1.1
TIXI	Tiksi	22.40	334	P	P	21 16 08.0	-1.5
	comp=Z,1.0nm,0.3s,baz=130,slow=14,SNR=2.8						
TIXI	Tiksi	22.40	334	‖ *e*P	P	21 16 08.8	-0.7
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.4s						
MJA0	Matsu Arr-Jizo	23.13	230	*e*P	P	21 16 18.8	+1.5
MJA0				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MJB9	Matsu-Tunnel	23.14	230	P	P	21 16 17.9	+0.4
MJB9				IAmb	IAmb	21 16 21.8	
	comp=Z,17nm,0.8s						
MAJO	Matsushiro	23.14	230	⇑ *i* P	P	21 16 17.8	+0.3
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s						
MAJO	Matsushiro	23.14	230	P	P	21 16 17.7	+0.3
MAJO				IAmb	IAmb	21 16 21.8	
	comp=Z,17nm,0.8s						
MAT	Matsushiro	23.14	230	P	P	21 16 17.7	+0.3
MJAR	Matsushiro Arr	23.14	230	P	P	21 16 17.8	+0.4
	comp=Z,10nm,0.6s,baz=13,slow=11,SNR=13						
MJAR	Matsushiro Arr	23.14	230	P	P	21 16 18.4	+1.0
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MJAR	Matsushiro Arr	23.14	230	P	P	21 16 18.4	+1.0
TTA	Tatalina	24.14	51	P	P	21 16 27.8	+1.5
TTA				pmax	pmax		
	comp=Z,12nm,0.8s						
TTA	Tatalina	24.14	51	P	P	21 16 27.8	+1.5
TTA				IAmb	IAmb	21 16 29.3	
	comp=Z,12nm,0.8s						
L19K	White Mountain	24.68	52	P	P	21 16 33.5	+2.4
P18K	Big Mountain,	24.69	59	P	P	21 16 32.6	+1.4
P18K				IAmb	IAmb	21 16 45.6	
	comp=Z,12nm,1.0s						
CN2	Changchun	24.81	260	*e*P	P	21 16 30.8	-1.7
J20K	Nowinta River	25.03	48	IAmb	IAmb	21 16 37.5	
	comp=Z,12nm,1.0s						
K20K	Telida	25.04	50	IAmb	IAmb	21 16 37.8	
	comp=Z,11nm,1.1s						
IMAR	Indian Mountai	25.33	43	P	P	21 16 37.8	+0.8
HIA	Hailar	25.36	276	⇑ *e*P	P	21 16 37.2	-0.2
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
A21K	Barrow	25.53	31	P	P	21 16 39.6	+0.9
H21K	Melozitna Rive	25.69	44	P	P	21 16 41.6	+1.4
RSO	Redoubt South	25.80	56	P	P	21 16 45.3	+3.8
BOD	Bodaibo	25.87	298	*e*P	P	21 16 40.0	-1.9
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PPLA	Purkeypile	25.89	51	P	P	21 16 44.2	+2.0
PPLA				IAmb	IAmb	21 16 59.2	
	comp=Z,13nm,1.2s						
RND	Reindeer	27.38	49	P	P	21 16 56.1	+0.5
RND				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RND	Reindeer	27.38	49	P	P	21 16 56.0	+0.5
MDM	Murphy Dome	27.59	46	P	P	21 16 58.0	+0.7
KSRS	Korea Array	27.64	247	P	P	21 16 59.3	+1.4
	comp=Z,0.9nm,0.4s,baz=41,slow=8.8,SNR=4.6						
KSRS	Korea Array	27.64	247	*e*P	P	21 17 00.7	+2.8
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRH	Wood River Hil	27.66	47	P	P	21 16 59.8	+1.9
KNK	Knik Glacier	27.76	54	P	P	21 17 00.2	+1.3
KNK				IAmb	IAmb	21 17 00.7	
	comp=Z,12nm,0.9s						
SML	Sawmill	27.77	53	P	P	21 17 00.7	+1.7
SML				IAmb	IAmb	21 17 00.9	
	comp=Z,14nm,1.0s						
CCB	Clear Creek Bu	27.78	47	P	P	21 17 00.1	+1.2
PWL	Port Wells	27.90	55	P	P	21 17 00.9	+0.8
PWL				IAmb	IAmb	21 17 06.2	
	comp=Z,20nm,1.2s						
POKR	Poker Plat Res	27.92	46	P	P	21 17 01.9	+1.6
HDA	Harding Lake	28.16	47	P	P	21 17 03.4	+1.0
IL31		28.17	46	P	P	21 17 03.6	+1.2
ILAR	Eielson Array	28.17	46	P	P	21 17 03.2	+0.8
	comp=Z,2.5nm,0.8s,baz=268,slow=8.3,SNR=28						
ILAR				PcP	PcP	21 20 12.9	-1.1
	comp=Z,0.5nm,0.8s,baz=248,slow=3.1,SNR=3.4						
SCM	Sheep Creek Mo	28.24	53	P	P	21 17 04.6	+1.4
SCM				pmax	pmax		
	comp=Z,20nm,1.2s						
SCM	Sheep Creek Mo	28.24	53	P	P	21 17 04.6	+1.4
M24K	Tolsona, Glenn	28.74	52	P	P	21 17 09.6	+1.9
BMAR	Burnt Mountain	29.05	41	P	P	21 17 11.8	+1.5
SCRK	Sand Creek	29.49	48	P	P	21 17 15.1	+0.8
N25K	Chitina, Valde	29.56	53	P	P	21 17 16.5	+1.6
N25K				IAmb	IAmb	21 17 22.8	
	comp=Z,12nm,1.1s						
BMRM	Bremner River	29.68	54	P	P	21 17 17.1	+1.1
BMRM				IAmb	IAmb	21 17 22.7	
	comp=Z,14nm,1.2s						
GLB	Gilahina Butte	29.96	53	P	P	21 17 19.2	+0.8
M26K	Nabesna, AK	30.16	51	P	P	21 17 23.1	+2.9
M26K				IAmb	IAmb	21 17 23.7	
	comp=Z,8.1nm,1.1s						
VRDI	Verde Repeater	30.18	53	P	P	21 17 22.0	+1.6
VRDI				IAmb	IAmb	21 17 28.4	
	comp=Z,11nm,1.2s						
L27K	Beaver Creek,	30.58	49	P	P	21 17 25.7	+1.8
L27K				IAmb	IAmb	21 17 27.6	
	comp=Z,5.8nm,0.8s						
EGAK	Eagle	30.61	46	IAmb	IAmb	21 17 25.5	
	comp=Z,6.2nm,0.9s						
M27K	Edge Creek, AK	30.68	51	IAmb	IAmb	21 17 31.2	
	comp=Z,5.1nm,0.9s						
BARN	Barnard Glacie	31.06	53	P	P	21 17 30.2	+2.0
BARN				IAmb	IAmb	21 17 33.2	
	comp=Z,7.2nm,0.9s						
GRNC	Granite Creek	31.09	54	P	P	21 17 30.0	+1.4
GRNC				IAmb	IAmb	21 17 34.3	
	comp=Z,10nm,1.0s						
CTGM	Chitina Glacie	31.24	53	P	P	21 17 31.6	+1.9
CTGM				IAmb	IAmb	21 17 35.9	
	comp=Z,14nm,1.2s						
LOGN	Logan Glacier	31.43	53	P	P	21 17 33.1	+1.6
LOGN				IAmb	IAmb	21 17 49.0	
	comp=Z,9.9nm,1.0s						
TABL	Table Mountain	31.46	54	P	P	21 17 33.3	+1.6
DAWY	Dawson	31.48	47	P	P	21 17 33.3	+1.5
INK	Inuvik	33.16	38	P	P	21 17 47.3	+1.0
	comp=Z,0.9nm,0.4s,baz=280,slow=7.9,SNR=4.1						
M31M	Drury Creek, Y	34.12	49	P	P	21 17 57.2	+2.4
WHY	Whitehorse	34.36	52	P	P	21 17 58.8	+1.8
WHY				IAmb	IAmb	21 18 06.3	
	comp=Z,6.1nm,1.1s						
H11N2	WAKE ISLAND Hy	34.48	169	T	T	21 55 02.3	
	baz=354,slow=76,SNR=376						
H11N3	WAKE ISLAND Hy	34.50	169	T	T	21 54 55.5	
	baz=354,slow=76,SNR=348						
H11N1	WAKE ISLAND Hy	34.50	169	T	T	21 55 05.5	
	baz=354,slow=76,SNR=406						
A36M	Sachs Harbour	35.37	31	P	P	21 18 06.9	+1.5
H11S1	WAKE ISLAND Hy	35.67	170	T	T	21 56 22.3	
	baz=352,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	35.68	170	T	T	21 56 32.4	
	baz=352,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy	35.69	170	T	T	21 56 30.6	
	baz=352,slow=76,SNR=7.1						
C36M	Paulatuk	36.32	35	P	P	21 18 14.3	+0.9
DLBC	Dease Lake	37.47	54	P	P	21 18 26.2	+2.7
	comp=Z,4.6nm,0.8s,baz=300,slow=4.9,SNR=8.1						
DLBC	Dease Lake	37.47	54	IAmb	IAmb	21 18 35.2	
	comp=Z,4.2nm,0.9s						
GRNB	Grenville Isla	39.59	61	P	P	21 18 43.3	+2.1
EUNU	Eureka	41.14	14	P	P	21 18 54.3	+0.6
EUNU				IAmb	IAmb	21 18 55.5	
	comp=Z,9.0nm,0.9s						
ZALV	Zalesovo Beam	42.44	302	P	P	21 19 02.7	-1.8
	comp=Z,0.4nm,0.3s,baz=70,slow=9.3,SNR=3.1						
YKA	Yellowknife Ar	42.49	43	P	P	21 19 06.0	+1.1
	comp=Z,2.3nm,0.7s,baz=298,slow=8.0,SNR=21						
YKA				PcP	PcP	21 20 56.4	+0.3
	comp=Z,0.5nm,0.6s,baz=305,slow=3.4,SNR=4.5						
RES	Resolute Bay	42.53	22	P	P	21 19 05.9	+0.9
RES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RES	Resolute Bay	42.53	22	P	P	21 19 05.9	+0.9
RES				IAmb	IAmb	21 19 06.2	
	comp=Z,2.6nm,0.7s						
GTA	Gaotai	42.64	276	⇑ P	P	21 19 06.1	-0.4
GTA				pP	pP	21 19 19.8	-6.2
GTA				sP	sP	21 19 25.8	-9.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ENH	Enshi	43.29	258	P	P	21 19 12.6	+0.9
DGZ	Jazzator, Alta	43.42	295	*c i* P	P	21 19 12.3	-0.4
DGZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SPITS	Spitsbergen Ar	46.36	350	P	P	21 19 34.5	-1.0
	comp=Z,6.4nm,0.9s,baz=58,slow=7.9,SNR=6.6						
SPB2	Spitsbergen Ar	46.36	350	P	P	21 19 35.7	+0.2
KURK	Kurchatov	47.41	301	‖ *e*P	P	21 19 42.3	-1.7
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURBB	Kurchatov Arra	47.51	301	P	P	21 19 41.9	-2.8
	comp=Z,3.8nm,0.6s,baz=58,slow=7.6,SNR=30						
KURBB				PcP	PcP	21 21 12.6	-1.0
	comp=Z,0.6nm,0.6s,baz=53,slow=3.5,SNR=4.6						
MK31	Makanchi Array	47.91	295	P	P	21 19 46.3	-1.7
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	Makanchi Array	47.91	295	P	P	21 19 46.3	-1.7
MKAR	Makanchi Array	47.91	295	PcP	PcP	21 21 14.1	-1.0
	comp=Z,0.5nm,0.7s,baz=42,slow=6.6,SNR=3.5						
MKAR	Makanchi Array	47.91	295	P	P	21 19 46.2	-1.8
MKAR	Makanchi Array	47.91	295	P	P	21 19 46.2	-1.8
EDM	Edmonton	48.19	54	P	P	21 19 51.0	+1.0
EDM				pmax	pmax		
	comp=Z,6.0nm,0.6s						
EDM	Edmonton	48.19	54	P	P	21 19 51.0	+1.0
HUMO	Hull Mountain	49.92	70	P	P	21 20 05.3	+1.9
HUMO				IAmb	IAmb	21 20 08.6	
	comp=Z,4.7nm,1.1s						
BVAR	Borovoye Array	49.98	308	P	P	21 20 01.4	-2.2
	comp=Z,1.4nm,0.5s,baz=60,slow=12,SNR=14						
BVAR				PcP	PcP	21 21 20.2	-2.3
	comp=Z,0.9nm,0.4s,baz=38,slow=5.7,SNR=6.8						
BRVK	Borovoye	50.01	308	‖ *i* P	P	21 20 01.6	-2.3
BRVK				pmax	pmax		
	comp=Z,12nm,2.9s						

AAK	Ala-Archa	54.83	296	P	P	21 20 38.8	-1.0
GCMT	Greycliff	54.86	59	P	P	21 20 42.1	+2.1
YHH	Holmes Hill	54.95	60	P	P	21 20 42.7	+1.9
KVN	Kaiserville	55.04	70	IAmb	IAmb	21 20 44.4	
comp=Z,4.1nm,0.7s							
NVAR	Mina Array Bea	55.36	71	P	P	21 20 46.0	+2.2
comp=Z,5.2nm,0.9s,baz=301,slow=7.2,SNR=16							
ELK	Elko	55.43	67	IAmb	IAmb	21 20 47.5	
comp=Z,2.7nm,0.8s							
FLWY	Flagg Ranch	55.52	61	P	P	21 20 47.2	+2.3
FLWY				IAmb	IAmb	21 20 48.3	
comp=Z,4.6nm,0.9s							
RLMT	Red Lodge	55.53	59	P	P	21 20 46.8	+1.9
RLMT				IAmb	IAmb	21 20 47.7	
comp=Z,5.0nm,0.9s							
MOOW	Moose Ponds	55.72	61	P	P	21 20 48.1	+1.8
TPAW	Teton Pass	55.80	62	P	P	21 20 48.6	+1.7
PAGB	Antelope Grade	56.17	74	P	P	21 20 49.3	-0.1
LCH	Last Change Ra	56.58	71	P	P	21 20 54.9	+2.5
KKAR	Karatay Array	56.60	299	P	P	21 20 50.5	-1.8
KKAR	Karatay Array	56.60	299	P	P	21 20 50.5	-1.8
BW06	Boulder Array	57.03	61	IAmb	IAmb	21 20 58.0	
comp=Z,3.0nm,0.7s							
PD31	Pinedale Array	57.03	61	IAmb	IAmb	21 20 58.0	
comp=Z,2.7nm,0.7s							
PDAR	Pinedale Array	57.03	61	P	P	21 20 57.5	+1.9
comp=Z,2.7nm,0.7s,baz=318,slow=2.6,SNR=24							
DUG	Dugway, Tooele	57.13	66	P	P	21 20 59.1	+2.8
DUG				pmax	pmax		
comp=Z,4.0nm,1.0s							
DUG	Dugway, Tooele	57.13	66	P	P	21 20 59.1	+2.8
DUG				IAmb	IAmb	21 20 59.5	
comp=Z,3.8nm,1.0s							
SPR3	Spring Creek 3	57.16	68	IAmb	IAmb	21 21 00.4	
comp=Z,4.5nm,0.8s							
SFJD	Kangerlussuaq	57.20	14	P	P	21 20 55.0	-1.2
SFJD	Kangerlussuaq	57.20	14	P	P	21 20 55.0	-1.2
ABKAR	Akbulak array	57.36	310	P	P	21 20 56.8	-0.8
AKTO	Aktyubinsk	57.37	312	P	P	21 20 56.0	-1.5
comp=Z,1.4nm,0.6s,baz=71,slow=9.6,SNR=5.7							
AKTO				PcP	PcP	21 21 50.1	-0.5
comp=Z,1.2nm,0.5s,baz=64,slow=5.2,SNR=4.0							
GWY	Greenwater Val	57.87	71	IAmb	IAmb	21 21 04.0	
comp=Z,5.0nm,0.9s							
PRN	Pahroc Range	57.90	69	P	P	21 21 04.0	+2.3
PRN				IAmb	IAmb	21 21 18.4	
comp=Z,3.1nm,1.0s							
QSM	Queen of Sheba	57.92	72	IAmb	IAmb	21 21 04.2	
comp=Z,3.1nm,0.7s							
ULM	Lac du Bonnet	58.19	47	*eP*	P	21 21 04.2	+0.9
ULM				pmax	pmax		
comp=Z,3.0nm,0.4s							
CMAR	Chiang Mai Arr	58.46	258	P	P	21 21 05.1	-0.6
comp=Z,0.4nm,0.3s,baz=15,slow=7.5,SNR=2.4							
TMUT	Trail Mountain	58.64	65		P	21 21 08.6	+1.5
TMUT				IAmb	IAmb	21 21 10.0	
comp=Z,3.8nm,0.7s							
RSSD	Black Hills	58.86	57	P	P	21 21 10.1	+1.7
RSSD				pmax	pmax		
comp=Z,10.0nm,0.7s							
RSSD	Black Hills	58.86	57	P	P	21 21 10.1	+1.7
GUN	Gumba	58.93	276	*eP*	P	21 21 08.4	-0.8
comp=Z,5.5nm,0.4s							
SRU	San Rafael Swe	59.14	65	P	P	21 21 12.3	+1.9
SRU				pmax	pmax		
comp=Z,6.0nm,0.7s							
SRU	San Rafael Swe	59.14	65		P	21 21 12.2	+1.9
KKN	Kakani	59.37	276	*eP*	P	21 21 11.6	-0.5
comp=Z,9.8nm,0.4s							
FIA1	FINESS Array S	59.42	336	P	P	21 21 11.6	-0.1
FIA1				IAmb	IAmb	21 21 11.7	
comp=Z,3.2nm,0.9s							
FINES	FINESS Array B	59.43	336	P	P	21 21 09.9	-1.8
comp=Z,0.8nm,0.4s,baz=39,slow=6.8,SNR=14							
FINES				PcP	PcP	21 21 57.5	-1.0
comp=Z,0.9nm,0.7s,baz=45,slow=3.0,SNR=4.0							
FINES	FINESS Array B	59.43	336	*eP*	P	21 21 12.5	+0.8
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
FINES	FINESS Array B	59.43	336	P	P	21 21 10.5	-1.2
PKI	Pulchoki	59.46	276	*eP*	P	21 21 12.2	-0.7
PKIN	Phulchoki	59.46	276	*eP*	P	21 21 12.1	-0.7
GKN	Gorkha	59.59	277	*eP*	P	21 21 12.8	-0.8
comp=Z,1.5nm,0.2s							
DMN	Daman	59.61	276	*eP*	P	21 21 12.8	-1.0
DANN	Dangsing	59.85	278	*eP*	P	21 21 14.1	-1.4
comp=Z,3.6nm,0.5s							
W13A	Hualapai Mount	60.22	70	P	P	21 21 19.6	+1.7
KOLN	Koldanda	60.37	277	*eP*	P	21 21 17.9	-1.1
comp=Z,4.0nm,0.4s							
PV23	Carpenter Ridg	60.43	65	P	P	21 21 11.1	+1.8
PV23				IAmb	IAmb	21 21 22.1	
comp=Z,3.4nm,0.8s							
PV14	Lion Creek, Pa	60.48	65	P	P	21 21 21.7	+2.1
PV14				IAmb	IAmb	21 21 31.4	
comp=Z,3.0nm,0.7s							
PYUN	Piuthan	60.48	278	*eP*	P	21 21 18.7	-1.0
comp=Z,1.5nm,0.3s							
PV17	East Wray Mesa	60.58	65	P	P	21 21 22.1	+1.8
PV07	Paradox Valley	60.63	64	P	P	21 21 23.1	+2.5
PV07				IAmb	IAmb	21 21 41.3	
comp=Z,2.5nm,0.9s							
PV18	Skein Mesa, Pa	60.63	65	P	P	21 21 22.2	+1.6
PV18				IAmb	IAmb	21 21 22.9	
comp=Z,3.7nm,0.7s							
PV05	Paradox Valley	60.66	65	P	P	21 21 22.5	+1.7
CBX	Cerro Bola	60.69	75	P	P	21 21 22.7	+1.7
CBX				IAmb	IAmb	21 21 23.9	
comp=Z,1.7nm,0.7s							
ISCO	Idaho Springs	61.23	61	P	P	21 21 26.8	+2.1
ISCO				pmax	pmax		
comp=Z,4.0nm,1.1s							
ISCO	Idaho Springs	61.23	61		P	21 21 26.8	+2.1
ISCO				IAmb	IAmb	21 21 28.4	
comp=Z,4.0nm,1.1s							
FAKI	Fak Fak	61.26	212	P	P	21 21 25.1	+0.3
ECSD	EROS Data Cent	62.74	53	P	P	21 21 35.6	+1.1
ECSD				IAmb	IAmb	21 21 35.9	
comp=Z,3.3nm,0.7s							
NOA	NORSAR Array B	62.80	344	P	P	21 21 33.3	-1.3
comp=Z,0.5nm,0.5s,baz=19,slow=6.6,SNR=5.8							
NOA				PcP	PcP	21 22 11.7	-0.6
comp=Z,0.9nm,0.6s,baz=23,slow=3.4,SNR=4.3							
NOA	NORSAR Array B	62.80	344	*eP*	P	21 21 33.7	-0.9
HFS	Hagfors	63.22	342	P	P	21 21 36.4	-1.0
comp=Z,1.6nm,0.7s,baz=44,slow=4.4,SNR=1.5							
SCHQ	Schefferville	64.88	28	P	P	21 21 47.8	-0.6
comp=Z,9.2nm,1.0s,baz=342,slow=9.6,SNR=6.5							
SCHQ	Schefferville	64.88	28	IAmb	IAmb	21 21 48.9	
comp=Z,7.2nm,0.9s							
NACGM	Naroch	64.99	332	*i* P	P	21 21 48.8	-0.2
AKASG	Malin Array Be	67.98	329	P	P	21 22 04.9	-3.2
comp=Z,0.4nm,0.3s,baz=28,slow=6.5,SNR=4.8							
AKASG	Malin Array Be	67.98	329	*eP*	P	21 22 09.7	+1.6
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
KVAR	Kislovodsk Arr	68.92	317	LR	LR	21 55 41.0	
comp=Z,94nm,18.7s,baz=89,slow=39							
KBZ	Khabaz	69.03	316	P	P	21 22 13.2	-1.5
comp=Z,1.0nm,0.7s,baz=85,slow=2.3,SNR=4.8							
R40A	Maddies Statio	69.03	54	IAmb	IAmb	21 22 15.8	
comp=Z,5.9nm,0.8s							
TX32	Lajitas Array	70.22	67	IAmb	IAmb	21 22 24.8	
comp=Z,4.9nm,0.7s							
TXAR	Lajitas Array	70.22	67	P	P	21 22 24.0	+1.6
comp=Z,3.7nm,0.6s,baz=299,slow=4.7,SNR=51							
EKA	Eskdalemuir Ar	70.28	350	P	P	21 22 20.6	-1.6
comp=Z,1.1nm,0.5s,baz=22,slow=5.8,SNR=6.1							
MTN	Manton Dam	70.97	210	P	P	21 22 27.8	+0.9
GERES	GERESS Array B	73.81	338	P	P	21 22 42.4	-1.2
comp=Z,0.2nm,0.5s,baz=72,slow=3.2,SNR=2.2							
GERES	GERESS Array B	73.81	338	P	P	21 22 43.2	-0.4
GERES	GERESS Array B	73.81	338	P	P	21 22 43.2	-0.4
WRAB	Tennant Creek	76.85	205	*ceP*	P	21 23 02.1	+1.0
WRAB				pmax	pmax		
comp=Z,13nm,1.7s							
WRAB	Tennant Creek	76.85	205	IAmb	IAmb	21 23 02.3	
comp=Z,7.5nm,0.9s							
WRA	Warramunga Arr	76.86	205	P	P	21 23 01.5	+0.4
comp=Z,5.8nm,0.8s,baz=18,slow=6.2,SNR=52							
352A	Blakely	78.06	52	P	P	21 23 11.6	+3.7
ASAR	Alice Springs	80.54	204	P	P	21 23 22.2	+0.9
comp=Z,4.8nm,0.9s,baz=18,slow=5.5,SNR=44							
ESDC	Sonseca Array	85.81	348	P	P	21 23 47.3	-1.2
comp=Z,2.1nm,0.7s,baz=2.8,slow=4.9,SNR=30							
STKA	Stephens Creek	86.94	196	P	P	21 23 54.1	+0.4
comp=Z,1.9nm,0.7s,baz=353,slow=10,SNR=4.4							
STKA	Stephens Creek	86.94	196	*eP*	P	21 23 55.3	+1.6
STKA				pmax	pmax		
comp=Z,2.0nm,0.7s							
KEST	Kesra	87.26	337	P	P	21 23 55.2	-0.5
comp=Z,2.6nm,0.5s,baz=316,slow=1.5,SNR=13							
CPUP	Villa Florida	140.92	60	PKP	PKiKP	21 30 40.2	-0.9
comp=Z,2.2nm,0.3s,baz=52,slow=2.2,SNR=4.1							
PLCA	Paso Flores	143.90	90	PKP	PKPbc	21 30 41.9	+0.4
comp=Z,1.5nm,0.8s,baz=308,slow=5.5,SNR=4.4							

TAP 22 21:27:46.0, 22°.91N×120°.86E, h12km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGT	Liugui	0.21	292	*eP*	Pb	21 27 51.2	-0.6
baz=292							
TWG	Pinlang	0.22	115	P	Pg	21 27 51.1	+0.4
TWG				S	Sg	21 27 54.9	+1.0
baz=115							
TWGBT	Beinan	0.22	115	P	Pg	21 27 51.1	+0.3
TWGBT				S	Sg	21 27 55.0	+0.8
baz=115							
LONT	Longtian	0.25	92	P	Pg	21 27 51.6	+0.3
baz=93							
STYT	Tauyuan	0.27	339	*eP*	Pb	21 27 52.8	0.0
baz=349							
STYT				*eS*	Sg	21 27 56.3	+0.9
baz=349							
STYH	Taoyuan	0.27	343	*eP*	Pb	21 27 52.9	+0.2
baz=350							
SSD	Sandimen	0.27	232	*eP*	Pb	21 27 52.2	-0.5
baz=226							
TSMG	Majia	0.29	224	*eP*	Pb	21 27 52.5	-0.5
baz=221							
SGST	Jiashian	0.30	303	*eP*	Pb	21 27 52.9	-0.5
baz=304							
SGST				*eS*	Sb	21 27 58.5	+0.1
baz=304							
ELDTW	Lidau	0.31	28	*eP*	Pb	21 27 53.1	-0.4
baz=36							
ECL	Taimali	0.33	165	*eP*	Pg	21 27 53.0	+0.4
baz=158							
ECL				*eS*	Sg	21 27 57.9	+0.8
baz=158							
MASBT	Mashibuluo	0.37	215	*eP*	Pb	21 27 54.0	-0.4
baz=213							
WTP	Ta-pu	0.40	326	*eP*	Pb	21 27 56.2	+1.1
baz=324							
WTP				*eS*	Sb	21 28 02.3	+1.2
baz=324							
CHN1	Nanshi	0.41	311	*eP*	Pb	21 27 55.2	0.0
baz=313							
CHN1				*eS*	Sb	21 28 01.4	0.0
baz=313							
EDH	Donghe	0.41	82	*eP*	Pb	21 27 55.4	+0.2
baz=80							
EDH				*eS*	Sb	21 28 01.3	-0.1
baz=80							
FULB	Fuli	0.49	55	*eP*	Pg	21 27 55.4	-0.3
baz=57							
FULB				*eS*	Sg	21 28 01.2	-1.0
baz=57							
TWK	Hsinying	0.49	316	*eS*	Sb	21 28 05.1	+1.4
baz=319							
CHN4	Tsaushan	0.50	331	*eP*	Pb	21 27 56.6	-0.1
baz=334							
CHN4				*eS*	Sg	21 28 02.2	-0.3
baz=334							

IDC 22 22:09:53.5±1.8, 18°.14S×65°.47E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/58, mbtmp3.7/7, MS3.2/3, Ms1 3.3/3, ms1mx2.7/75, Error ellipse: s-maj=64.1km s-min=30.1km az=35.0

ISC 22 22:09:56.4±1.7, 18°.2S±0°.4×65°.5E±0°.3, h17km, n15, σ1°.45/7, mb3.9/7, MS3.1/3, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	12.46	34	T	T	22 25 10.2	
baz=213,slow=76,SNR=22							
H08S2	Diego Garcia H	12.47	34	T	T	22 25 08.6	
baz=213,slow=76,SNR=24							
H08S3	Diego Garcia H	12.48	34	T	T	22 25 07.5	
baz=213,slow=76,SNR=48							
MBAR	Mbarara	38.33	293	LR	LR	22 30 28.6	
comp=Z,31nm,18.4s,baz=230,slow=32							
H01W3	Cape Leeuwin H	46.15	121	T	T	23 07 58.9	
baz=278,slow=75,SNR=13							
H01W2	Cape Leeuwin H	46.15	121	T	T	23 08 07.3	
baz=278,slow=75,SNR=15							
H01W1	Cape Leeuwin H	46.17	121	T	T	23 08 08.4	
baz=278,slow=75,SNR=12							
CMAR	Chiang Mai Arr	49.03	44	P	P	22 18 42.9	+0.2
0.9nm,0.3s,baz=240,slow=8.0,SNR=5.6							
CMAR				LR	LR	22 36 28.3	
comp=Z,19nm,21.0s,baz=110,slow=32							
AAK	Ala-Archa	61.05	8	LR	LR	22 45 46.7	
comp=Z,33nm,18.8s,baz=222,slow=35							
ASAR	Alice Springs	63.62	108	P	P	22 20 25.2	-1.8
0.2nm,0.4s,baz=271,slow=5.5,SNR=2.3							
WRA	Warramunga Arr	64.67	104	P	P	22 20 35.7	+1.8
0.4nm,0.9s,baz=266,slow=4.6,SNR=2.6							
KURBB	Kurchatov Arra	69.42	9	P	P	22 21 02.4	-0.9
0.3nm,0.3s,baz=204,slow=6.3,SNR=1.3							
AKASG	Malin Array Be	75.60	337	P	P	22 21 39.7	-0.4
0.8nm,0.7s,baz=141,slow=4.8,SNR=4.8							
FINES	FINESS Array B	85.33	342	P	P	22 22 33.0	+1.0
1.0nm,0.8s,baz=120,slow=8.2,SNR=1.6							
ESDC	Sonseca Array	86.52	314	P	P	22 22 38.7	+0.1
0.4nm,0.7s,baz=93,slow=5.1,SNR=2.9							

SOME 22 22:16:02.8, 40°.17N×82°.20E, h5km
NNC 22 22:16:05.5±7.7, 40°.47N×82°.49E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=59.4km s-min=40.8km az=166.0

ISC 22 22:16:09.4±2.8, 40°.4N±0°.1×82°.03E±0°.10, h10km, n12, σ1°.81/21, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	3.47	328	⇑Pn	Pn	22 17 03.5	-0.1
1.7nm,0.3s							
PDGK				⇓Sn	Sn	22 17 47.8	+3.0
30nm,0.5s							
UZB	Uzynbulak	3.53	321	*eP*	Pb	22 17 13.4	+1.3
UZB				*eS*	Sg	22 18 04.5	+1.8
SATY	Saty	3.78	315	*eP*	Pg	22 17 18.5	-3.3
2.4nm,0.5s							
SATY				*eS*	Sg	22 18 13.1	+2.3
8.7nm,0.1s							
ZHN	Zhinishke	3.84	317	*eP*	Pb	22 17 18.4	+1.1
2.6nm,0.4s							
ZHN				*eS*	Sg	22 18 12.9	+0.2
18nm,0.3s							
KURS	Kuram	4.20	318	*eP*	Pb	22 17 24.3	+0.9
4.4nm,1.2s							
KURS				*eS*	Sg	22 18 22.6	-1.8
7.2nm,0.8s							
BLB	Baldybastay	4.52	325	*eP*	Pb	22 17 30.8	+1.9
5.5nm,0.4s							
BLB				*eS*	Sg	22 18 33.7	-0.8
15nm,0.6s							
TNSS	Tian-Shan	4.61	306	*eP*	Pb	22 17 32.4	+1.7
1.2nm,0.3s							
TNSS				*eS*	Sg	22 18 37.1	-0.4
4.2nm,0.6s							
MDOK	Medeo	4.62	308	*eP*	Pb	22 17 32.5	+1.8
1.8nm,0.6s							
MDOK				*eS*	Sg	22 18 37.2	-0.6
7.0nm,0.6s							
MDOK	Medeo	4.62	308	Pg	Pg	22 17 35.6	-2.3
4.6nm,0.6s							
MDOK				Lg	Lg	22 18 39.9	
6.0nm,0.6s							
TKM2	Tokmak 2	5.43	299	⇑Pg	Pg	22 17 51.4	-1.9
1.1nm,0.6s							
TKM2				⇓Lg	Lg	22 19 02.4	
4.3nm,0.5s							
MK31	Makanchi Array	6.37	2	⇑Pn	Pn	22 17 44.3	+1.0
0.3nm,0.2s,baz=180,slow=12,SNR=49							
MK31				⇑Sn	Sn	22 18 56.3	+0.1
0.3nm,0.2s,baz=182,slow=26,SNR=7.7							
MAKZ	Makanchi	6.38	360	⇓Pn	Pn	22 17 33.5	-10
1.0nm,0.4s							
MAKZ				⇓Sn	Sn	22 18 54.7	-1.7
3.1nm,0.5s							

NEIC 22 22:17:24.1±1.9, 7°.11S±0°.09×156°.09E±0°.08, h85km±7km, mb4.7/65, Error ellipse: s-maj=14.0km s-min=9.4km az=218.0
IDC 22 22:17:24.6±1.7, 7°.11S×156°.01E, h93km±16km, mb4.2/17, mb1 4.3/22, mb1mx4.1/39, mbtmp4.5/22, MS3.4/17, Ms1 3.4/17, ms1mx3.2/58, Error ellipse: s-maj=13.9km s-min=10.7km az=19.0
DJA 22 22:17:26.2±0.6, 7°.5±5°.5×156°.6E±°, h102km±6km, M4.8/11, mb4.9/11, mB5.1/4, MLv4.8/2, Mw(mB)4.4/4

ISC 22 22:17:24.9±0.4, 7°.12S±0°.06×156°.06E±0°.06, h100km, n122, σ0°.82/110, mb4.7/52, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.48	121	P	Pn	22 18 29.6	-1.0
29nm,0.3s,baz=279,slow=3.0,SNR=7.0							
HNR				S	Sn	22 19 23.3	+1.6
45nm,0.3s,baz=318,slow=18,SNR=5.9							
HNR				LR	LR	22 20 30.2	
comp=Z,316nm,18.3s,baz=317,slow=41							
HNR	Honiara	4.48	121	Pn	Pn	22 18 29.4	-1.3
RABL	Rabaul	4.84	307	Pn	Pn	22 18 35.1	-0.5
PMG	Port Moresby	9.10	255	P	Pn	22 19 34.4	+1.1
9.5nm,0.3s,baz=60,slow=8.8,SNR=25							
PMG				S	Sn	22 21 13.5	-0.5
0.8nm,0.3s,baz=86,slow=17,SNR=2.5							
PMG				LR	LR	22 22 48.0	
comp=Z,244nm,21.4s,baz=1.5,slow=36							
PMG	Port Moresby	9.10	255	Pn	Pn	22 19 33.1	-0.2
PATS	Pohnpei	14.04	9	Pn	Pn	22 20 38.5	-1.0
COEN	Coen	14.37	241	Pn	Pn	22 20 44.2	+0.5
JAY	Jayapura	15.96	286	P	Pn	22 21 03.6	-0.3
1.6nm,0.3s,baz=85,slow=4.5,SNR=6.4							
CTA	Charters Tower	16.02	215	P	P	22 21 05.5	-0.5
0.4nm,0.3s,baz=39,slow=12,SNR=11							
CTA				LR	LR	22 26 09.4	
comp=Z,186nm,21.1s,baz=82,slow=33							
CTAO	Charters Tower	16.02	215		P	22 21 06.1	+0.1
LIFNC	LIFOU	17.37	143	P	P	22 21 18.1	-2.7
LIFNC				IAmb	IAmb	22 21 20.2	
comp=Z,44nm,0.8s							
DZM	Mont Dzumac	17.93	147	P	Pn	22 21 28.2	+0.3
comp=Z,0.7nm,0.3s,baz=332,slow=9.3,SNR=6.9							
DZM				LR	LR	22 26 36.8	
comp=Z,141nm,19.4s,baz=104,slow=31							
OUENC	Ouen Island, N	18.42	147	P	P	22 21 32.9	+0.4
EIDS	Eidsvold	18.76	194	P	Pn	22 21 37.9	+0.1
GUMO	Guam	23.38	332	LR	LR	22 30 42.5	
comp=Z,26nm,19.3s,baz=124,slow=34							
GUMO	Guam	23.38	332	P	P	22 22 26.5	+1.6
ARMA	Armidale	23.55	190	P	P	22 22 25.2	-1.3
MSVF	Nonsavu	23.90	118	P	P	22 22 30.2	+0.6
comp=Z,4.4nm,0.7s,baz=290,slow=9.0,SNR=6.1							
MSVF	Nonsavu	23.90	118	P	P	22 22 30.4	+0.7
WR0	Warramunga Arr	24.46	236	P	P	22 22 34.2	-0.5
WR0				IAmb	IAmb	22 22 37.1	
comp=Z,17nm,1.0s							
WB0	Warramunga Arr	24.50	237	P	P	22 22 34.9	-0.1
WRAB	Tennant Creek	24.61	237	P	P	22 22 35.9	-0.2
WRAB				IAmb	IAmb	22 22 37.5	
comp=Z,16nm,0.6s							
WB2	Warramunga Arr	24.61	237	P	P	22 22 36.1	0.0
WB2				IAmb	IAmb	22 22 37.6	
comp=Z,14nm,0.6s							
WRA	Warramunga Arr	24.62	237	P	P	22 22 36.0	-0.1
comp=Z,10nm,0.5s,baz=61,slow=9.2,SNR=227							
WRA				PcP	PcP	22 26 11.8	+0.2
comp=Z,1.0nm,0.6s,baz=60,slow=2.0,SNR=6.0							
WRA				LR	LR	22 32 08.0	
comp=Z,121nm,18.1s,baz=59,slow=36							
WRA	Warramunga Arr	24.62	237	P	P	22 22 35.0	-1.2
MTN	Manton Dam	25.19	255	P	P	22 22 41.1	-0.2
MTN				IAmb	IAmb	22 22 41.7	
comp=Z,20nm,1.1s							
SIJI	Sorong	25.49	283	P	P	22 22 43.2	-0.8
comp=Z,9.5nm,0.4s,baz=61,slow=18,SNR=9.3							
SIJI				LR	LR	22 33 49.7	
comp=Z,52nm,21.9s,baz=66,slow=39							
AS31	Alice Springs	26.89	230	P	P	22 22 55.4	-1.3
ASAR	Alice Springs	26.89	230	P	P	22 22 55.8	-0.9
comp=Z,2.7nm,0.5s,baz=59,slow=9.5,SNR=49							
ASAR				PcP	PcP	22 26 17.9	+1.2
comp=Z,0.8nm,0.5s,baz=68,slow=2.8,SNR=7.0							
ASAR				LR	LR	22 32 47.4	
comp=Z,131nm,19.8s,baz=101,slow=34							
ASAR	Alice Springs	26.89	230		PcP	22 26 17.4	+0.7
H11S3	WAKE ISLAND Hy	27.53	22	T	T	22 51 24.2	
baz=202,slow=76,SNR=1335							
H11S2	WAKE ISLAND Hy	27.53	22	T	T	22 51 23.8	
baz=202,slow=76,SNR=793							
H11S1	WAKE ISLAND Hy	27.54	22	T	T	22 51 26.9	
baz=202,slow=76,SNR=398							
KNRA	Kununurra	28.05	250	P	P	22 23 06.3	-0.8
STKA	Stephens Creek	28.09	207	P	P	22 23 07.6	+0.4
comp=Z,1.3nm,0.5s,baz=31,slow=11,SNR=4.9							
STKA				LR	LR	22 34 28.9	
comp=Z,94nm,18.7s,baz=25,slow=36							
H11N1	WAKE ISLAND Hy	28.72	22	T	T	22 52 49.4	
baz=202,slow=76,SNR=40							
H11N3	WAKE ISLAND Hy	28.73	22	T	T	22 52 52.2	
baz=202,slow=76,SNR=34							
H11N2	WAKE ISLAND Hy	28.74	22	T	T	22 52 51.9	
baz=202,slow=76,SNR=22							
LBMI	Labuha	29.19	281	P	P	22 23 19.7	+2.4
comp=Z,56nm,1.2s							
FITZ	Fitzroy Crossi	31.57	247	P	P	22 23 37.4	-0.8
comp=Z,9.2nm,0.5s,baz=81,slow=7.9,SNR=34							
BATI	Baumata	32.16	262	LR	LR	22 38 32.4	
comp=Z,142nm,18.8s,baz=85,slow=40							
FORT	Forrest	35.23	224	P	P	22 24 09.5	-0.3
TOLI2	Tolitoli	36.13	282	P	P	22 24 17.6	-0.1
TOLI2				IAmb	IAmb	22 24 36

TPUB	Ta-pu	45.97	312	P	P	22 25 37.5	-0.8
JGF	Kuroka	46.00	339	P	P	22 25 38.9	+0.5
SSLB	Suanglung	46.02	313	P	P	22 25 38.5	-0.2
YHNB	Yeheng	46.26	314	P	P	22 25 41.6	+0.9
KSM	Kuching	46.44	279	P	P	22 25 41.8	-0.3
KSM				IAmb	IAmb	22 25 42.6	
	comp=Z,11nm,0.6s						
MJAR	Matsushiro Arr	46.55	340	P	P	22 25 41.8	-0.8
	comp=Z,2.8nm,0.7s,baz=171,slow=8.3,SNR=6.6						
MJAR	Matsushiro Arr	46.55	340	IAmb	IAmb	22 25 42.8	
	comp=Z,3.3nm,0.8s						
MAJO	Matsushiro	46.55	340	P	P	22 25 41.4	-1.2
MAJO				IAmb	IAmb	22 25 42.9	
	comp=Z,10nm,0.8s						
MJB9	Matsu-Tunnel	46.55	340	P	P	22 25 42.2	-0.4
MJB9				IAmb	IAmb	22 25 42.8	
	comp=Z,10nm,0.8s						
JNU	Nakatsue	46.63	331	P	P	22 25 43.5	+0.2
	comp=Z,9.5nm,0.8s,baz=237,slow=3.7,SNR=4.0						
JNU	Nakatsue	46.63	331	P	P	22 25 42.8	-0.5
JNU				IAmb	IAmb	22 25 46.0	
	comp=Z,15nm,1.0s						
JHS	Saijyo	47.16	334	P	P	22 25 47.5	+0.2
DLV	T Lat	50.95	292	P	P	22 26 17.4	+0.4
KSRS	Korea Array	51.55	331	P	P	22 26 20.9	+0.2
	comp=Z,3.4nm,0.5s,baz=148,slow=7.2,SNR=12						
KSRS				LR	LR	22 46 05.7	
	comp=Z,9.2nm,21.9s,baz=140,slow=33						
ASAJ	Asahikawa	52.43	348	LR	LR	22 48 29.3	
	comp=Z,38nm,19.0s,baz=211,slow=36						
QIZ	Qiongzhong	52.43	300	P	P	22 26 28.6	+1.0
UBPT	Khong Chiam	54.84	294	P	P	22 26 45.2	-0.1
UBPT				IAmb	IAmb	22 26 46.1	
	comp=Z,7.1nm,0.7s						
USRK	Ussuriysk Ar.	55.52	339	P	P	22 26 49.9	+0.4
	comp=Z,1.4nm,0.6s,baz=151,slow=41,SNR=4.2						
KULM	Kulim	56.65	281	P	P	22 26 57.1	-1.2
KULM				IAmb	IAmb	22 27 11.0	
	comp=Z,9.6nm,1.1s						
PETK	Petropavlovsk-	60.01	1	LR	LR	22 49 41.7	
	comp=Z,26nm,21.8s,baz=146,slow=32						
CMAR	Chiang Mai Arr	61.79	295	P	P	22 27 34.5	+0.9
	comp=Z,10nm,0.9s,baz=114,slow=4.9,SNR=46						
CMAR				LR	LR	22 54 30.0	
	comp=Z,5.2nm,18.6s,baz=140,slow=36						
CHTO	Chiang Mai	61.90	296	P	P	22 27 35.0	+0.6
CHTO				IAmb	IAmb	22 27 36.4	
	comp=Z,9.7nm,1.1s						
ULN	Ulaanbaatar	69.67	327	P	P	22 28 25.4	+1.5
SONM	Songino Array	70.01	327	P	P	22 28 27.3	+1.3
	comp=Z,16nm,0.6s,baz=141,slow=7.0,SNR=24						
SONM	Songino Array	70.01	327	IAmb	IAmb	22 28 28.1	
	comp=Z,16nm,0.9s						
PKIN	Phulchoki	76.41	300	*e*P	P	22 29 04.2	0.0
	comp=Z,13nm,0.5s						
PALK	Pallekele	76.50	279	P	P	22 29 04.9	+0.2
	comp=Z,2.5nm,0.6s,baz=212,slow=11,SNR=1.6						
PALK	Pallekele	76.50	279	P	P	22 29 05.6	+0.9
KKN	Kakani	76.56	301	*e*P	P	22 29 05.3	+0.3
	comp=Z,31nm,0.7s						
GKN	Gorkha	77.17	301	*e*P	P	22 29 08.6	+0.3
	comp=Z,40nm,0.7s						
KOLN	Koldanda	78.00	300	*e*P	P	22 29 13.0	0.0
	comp=Z,24nm,0.6s						
PYUN	Piuthan	78.60	300	*e*P	P	22 29 15.7	-0.6
	comp=Z,11nm,0.6s						
QSPA	South Pole Qui	82.86	180	P	P	22 29 38.3	+0.2
	comp=Z,3.0nm,0.4s,baz=322,slow=1.1,SNR=12						
QSPA	South Pole Qui	82.86	180	P	P	22 29 39.4	+1.2
QSPA				IAmb	IAmb	22 29 55.5	
	comp=Z,5.5nm,0.8s						
ILAR	Eielson Array	83.10	21	P	P	22 29 39.0	-0.2
	comp=Z,0.3nm,0.4s,baz=248,slow=5.4,SNR=8.9						
MK31	Makanchi Array	84.19	318	IAmb	IAmb	22 29 46.9	
	comp=Z,9.1nm,0.8s						
MAKZ	Makanchi	84.41	318	P	P	22 29 47.3	+1.0
ZAA0	Zalesovo Array	84.87	326	IAmb	IAmb	22 29 48.6	
	comp=Z,5.6nm,0.6s						
ZALV	Zalesovo Beam	84.87	326	P	P	22 29 48.2	-0.2
	comp=Z,6.0nm,0.5s,baz=116,slow=5.7,SNR=30						
BBB	Bella Bella	86.99	37	LR	LR	23 00 23.3	
	comp=Z,66nm,21.1s,baz=252,slow=30						
KURK	Kurchatov	87.58	322	P	P	22 30 01.7	0.0
KURK				IAmb	IAmb	22 30 02.6	
	comp=Z,5.0nm,0.9s						
NIL	Nilore	87.95	304	P	P	22 30 03.9	-0.1
YBH	Yreka Blue Hor	88.19	48	LR	LR	23 09 28.8	
	comp=Z,39nm,18.0s,baz=292,slow=35						
AAK	Ala-Archa	88.60	313	P	P	22 30 07.8	+0.7
AAK				IAmb	IAmb	22 30 08.6	
	comp=Z,3.1nm,0.8s						
NRIK	Noril'sk	89.20	341	P	P	22 30 08.2	-0.8
	comp=Z,0.8nm,0.3s,baz=159,slow=8.6,SNR=2.0						
BTK	Batken	90.90	310	P	P	22 30 17.9	+0.1
BTK				IAmb	IAmb	22 30 19.1	
	comp=Z,6.2nm,0.9s						
NVAR	Mina Array Bea	90.97	52	LR	LR	23 09 00.1	
	comp=Z,67nm,18.0s,baz=232,slow=34						
KBL	Kabul	91.54	304	P	P	22 30 19.8	-1.2
BRVK	Borovoye	93.10	323	P	P	22 30 27.2	-0.3
BRVK				IAmb	IAmb	22 30 27.8	
	comp=Z,3.4nm,0.8s						
FINES	FINESS Array B	114.48	336	PKP	PKiKP	22 35 52.5	-0.4
	comp=Z,1.3nm,0.9s,baz=300,slow=3.8,SNR=3.6						
AKASG	Malin Array Be	118.25	325	PKP	PKPdf	22 36 00.5	0.0
	comp=Z,0.7nm,0.4s,baz=49,slow=2.6,SNR=5.6						
BOSA	Boshof	120.76	231	PKP	PKiKP	22 36 07.3	+1.0
	comp=Z,1.2nm,0.7s,baz=180,slow=6.3,SNR=3.0						
CLL	Collm	126.42	332	*e*PKPdf	PKiKP	22 36 17.0	+0.4
GERES	GERESS Array B	127.70	329	PKP	PKiKP	22 36 19.8	+0.4
	comp=Z,1.1nm,0.7s,baz=72,slow=1.7,SNR=9.7						
ESDC	Sonseca Array	142.95	334	PKP	PKPdf	22 36 44.9	-2.5
	comp=Z,0.3nm,0.8s,baz=9.5,slow=3.6,SNR=5.1						
BDFB	Brasilia	147.14	134	PKPbc	PKPbc	22 36 58.5	+1.0
	comp=Z,10nm,0.6s,baz=249,slow=0.5,SNR=15						
TORD	Torodi Ar. Bea	154.07	285	PKPbc	PKPbc	22 37 14.2	+0.2
	comp=Z,1.9nm,0.6s,baz=34,slow=2.6,SNR=12						
TORD				PKPab	PKPab	22 37 27.2	-0.7
	comp=Z,1.3nm,0.5s,baz=80,slow=4.1,SNR=8.6						
DBIC	Dimbokro	161.05	270	PKPab	PKPab	22 37 58.4	+0.2
	comp=Z,1.8nm,0.5s,baz=123,slow=2.0,SNR=4.1						

IDC ***22*** *23:19:02.2±1.6,* **2°.75N×31°.06W, h0km, mb3.6**/4, **mb1 3.8**/4, **mb1mx3.5**/30, **mbtmp3.6**/4, **MS3.3**/3, **Ms1 3.3**/3, **ms1mx2.8**/72, **Error ellipse: s-maj=67.3km s-min=27.5km az=151.0, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	ASCENSION HYDR	19.58	123	T	T	22 43 41.6	
	baz=301,slow=75,SNR=95						
H10N2	ASCENSION HYDR	19.59	123	T	T	22 43 42.0	
	baz=301,slow=75,SNR=100						
H10N1	ASCENSION HYDR	19.60	123	T	T	22 43 43.1	
	baz=301,slow=75,SNR=102						
H10S3	ASCENSION HYDR	20.06	126	T	T	22 44 14.1	
	baz=300,slow=74,SNR=69						
H10S2	ASCENSION HYDR	20.07	126	T	T	22 44 15.5	
	baz=280,slow=74,SNR=28						
PTGA	Pitinga	29.11	264	LR	LR	22 35 09.2	
	comp=Z,39nm,18.1s,baz=12,slow=33						
TORD	Torodi Ar. Bea	33.99	70	P	P	22 25 47.8	-0.2
	0.8nm,0.8s,baz=255,slow=8.5,SNR=6.0						
SIV	San Ignacio	35.03	237	LR	LR	22 39 52.0	
	comp=Z,62nm,18.2s,baz=7.0,slow=36						
MDT	Midelt	38.85	37	LR	LR	22 40 35.8	
	comp=Z,46nm,19.6s,baz=213,slow=33						
LPAZ	La Paz	41.23	241	P	P	22 26 50.0	0.0
	1.2nm,0.7s,baz=47,slow=5.0,SNR=6.0						
ESDC	Sonseca Array	44.22	30	P	P	22 27 13.7	+0.3
	0.3nm,0.9s,baz=216,slow=8.5,SNR=2.0						
YKA	Yellowknife Ar	84.59	332	P	P	22 31 37.0	-0.3
	0.4nm,0.8s,baz=98,slow=5.5,SNR=5.0						

DDA ***22*** *23:13:50.3±0.0, 40°.97N×33°.25E, h7km±1km, ML2.0*
ISK ***22*** *23:13:50.5, 40°.95N×33°.32E, h1km, ML2.5/10*
ISC 22 23:13:50.6±1.1, 40°.96N±0°.03×33°.27E±0°.03, h10km±10km, n20, σ0°65/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PELI	Kastamonı-Ara	0.34	5	P	Pg	23 13 57.3	-0.1
PELI				*i* AML	AML	23 14 02.0	
	comp=E,381nm,0.3s						
PELI				S	Sg	23 14 02.3	+0.3
PELI				*i* AML	AML	23 14 03.0	
	comp=N,272nm,0.3s						
ILGA	Ilgaz	0.35	74	P	Pg	23 13 57.5	0.0
ILGA				S	Sb	23 14 03.5	-1.2
ILGA				*i* AML	AML	23 14 04.0	
	comp=N,168nm,0.4s						
ILGA				*i* AML	AML	23 14 05.0	
	comp=E,339nm,0.3s						
CANT	Cankiri	0.44	143	PG	Pg	23 13 59.6	+0.4
CANT				SG	Sb	23 14 06.2	-0.9
ELDT	Eldivan	0.48	166	P	Pg	23 13 59.8	-0.2
ELDT				S	Sb	23 14 07.7	-0.8
KBUK	KARABUK-Merkez	0.56	300	P	Pg	23 14 01.2	-0.3
KBUK				S	Sg	23 14 09.6	+0.7
KBUK				*i* AML	AML	23 14 10.0	
	comp=E,88nm,0.2s						
KBUK				*i* AML	AML	23 14 10.0	
	comp=N,98nm,0.3s						
KMON	Kastamonu	0.57	43	PG	Pg	23 14 01.5	-0.1
KMON				SG	Sb	23 14 10.5	-0.3
KAST	KASTAMONU	0.73	43	P	Pg	23 14 04.4	-0.2
KAST				S	Sb	23 14 14.9	-0.4
KAGI	orum-Kargı	0.93	79	P	Pg	23 14 08.2	-0.3
KAGI				*i* AML	AML	23 14 24.0	
	comp=N,41nm,0.5s						
LOD	Lodumlu	1.14	200	PN	Pn	23 14 13.2	+0.6
BZK	Bozkurt	1.14	29	PN	Pn	23 14 13.4	+0.8
ANTO	Ankara	1.15	199	PN	Pn	23 14 13.6	+0.8
BOYA	Sinop/Boyabat-	1.21	61	P	Pg	23 14 13.2	-0.5
BOYA				S	Sn	23 14 30.8	+0.8
BOYA				*i* AML	AML	23 14 35.0	
	comp=N,30nm,0.9s						
BOYA				*i* AML	AML	23 14 36.0	
	comp=E,38nm,0.5s						
BRTR	Keskin Array B	1.26	167	PN	Pn	23 14 14.9	+0.5
CORM	Corum	1.30	127	PN	Pn	23 14 15.7	+0.9
KAMT	Kaman	1.62	168	PN	Pb	23 14 20.9	+0.2
MDUB	Mudurnu	1.65	253	PN	Pg	23 14 22.1	-0.1
SERE	Sereflikochisa	2.02	174	PN	Pb	23 14 27.2	-0.3
YOZ	Yozgat	2.05	129	PN	Pb	23 14 27.0	-0.9
GULT	Gulveren	2.16	257	PN	Pb	23 14 29.3	-0.5
SRCK	Saricakaya, Es	2.22	246	PN	Pb	23 14 29.7	-1.0

IDC ***22*** *23:31:54.5±6.0, 5°.26S×151°.63E, h45km±49km, mb4.0/5, mb1 4.3/6, mb1mx3.7/34, mbtmp4.3/6, ML2.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/57, Error ellipse: s-maj=91.3km s-min=33.6km az=125.0*
NEIC ***22*** *23:31:58.7±1.8, 5°.50S±0°.08×151°.71E±0°.10, h70km±16km, mb4.4/14, Error ellipse: s-maj=16.0km s-min=9.3km az=124.0*
ISC 22 23:31:57.2±0.6, 5°.52S±0°.07×151°.72E±0°.09, h57km, n45, σ1°67/48, mb4.5/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.39	19	P	Pn	23 32 21.8	+1.4
RABL				Sn	Sn	23 32 41.6	+3.8
RABL	Rabaul	1.39	19	P	Pn	23 32 22.2	+1.8
MANU	Manus Island	5.55	308	Pn	Pn	23 33 19.0	+1.7
PMG	Port Moresby	5.95	229	P	Pn	23 33 22.9	+0.2
	8.1nm,0.3s,baz=34,slow=9.6,SNR=8.3						
PMG				S	Sn	23 34 29.7	+0.1
	16nm,0.3s,baz=86,slow=22,SNR=16						
PMG	Port Moresby	5.95	229		Pn	23 33 24.4	+1.6
PMG					Sn	23 34 29.3	-0.2
PMG	Port Moresby	5.95	229	P	Pn	23 33 25.1	+2.4
HNR	Honiara	9.04	116	LR	LR	23 37 16.8	
	comp=Z,74nm,18.8s,baz=322,slow=35						
COEN	Coen	11.88	224	Pn	Pn	23 34 45.0	+1.1
PATS	Pohnpei	13.93	28	Pn	Pn	23 35 12.3	+0.4
CTA	Charters Tower	15.43	200	P	P	23 35 37.3	+2.3
	0.3nm,0.3s,baz=16,slow=15,SNR=2.5						
CTAO	Charters Tower	15.43	200	P	P	23 35 37.0	+2.0
QIS	Mount Isa	19.02	217	P	Pn	23 36 15.8	-0.1
EIDS	Eidsvold	19.75	182	P	P	23 36 21.9	-0.6
EIDS				IAmb	IAmb	23 36 28.2	
	comp=Z,9.6nm,1.1s						
KDU	Kakadu	20.28	248	P	P	23 36 27.0	-1.4
MTN	Manton Dam	21.57	249	P	P	23 36 42.1	-0.2
MTN	Manton Dam	21.57	249	P	P	23 36 42.1	-0.2
WB0	Warramunga Arr	22.02	228	P	P	23 36 46.2	-0.9
WB0				IAmb	IAmb	23 36 49.4	
	comp=Z,8.3nm,0.7s						
WR0	Warramunga Arr	22.03	228	P	P	23 36 46.7	-0.5
WR0				IAmb	IAmb	23 36 49.4	
	comp=Z,12nm,0.8s						
WRAB	Tennant Creek	22.15	228	P	P	23 36 47.2	-1.3
WRAB				IAmb	IAmb	23 36 50.9	
	comp=Z,25nm,0.9s						
WRAB	Tennant Creek	22.15	228	P	P	23 36 47.7	-0.8
WB2	Warramunga Arr	22.16	228	P	P	23 36 48.0	-0.6
WB2				IAmb	IAmb	23 36 50.7	
	comp=Z,16nm,0.6s						
WRA	Warramunga Arr	22.17	228	P	P	23 36 47.3	-1.4
	comp=Z,14nm,0.6s,baz=53,slow=9.8,SNR=93						
WRA				S	S	23 40 54.4	+4.8
	comp=Z,0.2nm,0.8s,baz=50,slow=15,SNR=1.7						
WRA	Warramunga Arr	22.17	228	P	P	23 36 49.1	+0.4
MARNC	Mare, Loyalty	22.40	137	P	P	23 36 49.9	-1.1
INKA	Innaminka	24.44	204	P	P	23 37 11.7	+1.0
KNRA	Kununurra	24.69	244	P	P	23 37 12.4	-0.7
KNRA				IAmb	IAmb	23 37 14.5	
	comp=Z,7.5nm,0.8s						
KNRA	Kununurra	24.69	244	P	P	23 37 12.3	-0.9
AS31	Alice Springs	24.90	222		P	23 37 15.2	+0.2
AS31				IAmb	IAmb	23 37 17.3	
	comp=Z,6.8nm,0.5s						
ASAR	Alice Springs	24.90	222	P	P	23 37 15.2	+0.1
	comp=Z,14nm,0.6s,baz=56,slow=8.9,SNR=117						
ASAR	Alice Springs	24.90	222		P	23 37 15.0	0.0
LCRK	Leigh Creek	27.87	206	P	P	23 37 42.1	+0.4
FITZ	Fitzroy Crossi	28.37	242	P	P	23 37 44.6	-1.7
	comp=Z,5.5nm,0.5s,baz=44,slow=9.2,SNR=14						
WRKA	Warakurna	29.68	227	P	P	23 37 57.4	-0.6
MULG	Mulgathing	29.73	212	P	P	23 37 57.8	-0.4
BBOO	Buckleboo	30.83	206	P	P	23 38 06.3	-1.6
GHSS	Government Hou	31.67	201	P	P	23 38 16.7	+1.4
	comp=Z,123nm,0.4s						
FORT	Forrest	33.56	219	P	P	23 38 31.1	-0.8
FORT	Forrest	33.56	219	P	P	23 38 31.3	-0.6
MORW	Morawa	41.06	231	P	P	23 39 35.8	+0.4
MORW				IAmb	IAmb	23 39 51.3	
	comp=Z,19nm,1.5s						
LTZ	Lake Taylor	41.34	157	P	P	23 39 41.5	+3.9
LBZ	Lake Benmore	41.97	160	P	P	23 39 42.3	-0.3
ZALV	Zalesovo Beam	81.15	327	P	P	23 44 04.2	-2.3
	comp=Z,0.4nm,0.4s,baz=104,slow=6.1,SNR=2.5						
ILAR	Eielson Array	83.23	22	P	P	23 44 13.9	-3.3
	comp=Z,0.2nm,0.6s,baz=240,slow=7.2,SNR=1.9						
GERES	GERESS Array B	124.09	328	PKP	PKPdf	23 50 47.1	-2.5
	comp=Z,0.2nm,0.5s,baz=66,slow=2.5,SNR=2.0						
TORD	Torodi Ar. Bea	149.49	287	PKPbc	PKPbc	23 51 40.0	-1.2
	comp=Z,2.2nm,0.6s,baz=65,slow=3.2,SNR=20						

SFS ***22*** *23:32:25.0, 36°.22N×9°.89W, h53km, ML4.3, SW. CABO DE SAN VICENTE*
CNRM ***22*** *23:32:26.1, 36°.16N×9°.62W, h52km*
INMG ***22*** *23:32:26.7±1.3, 36°.25N×9°.86W, h31km±13km, MD3.2, ML3.4, Error ellipse: s-maj=9.3km s-min=2.8km az=55.0*
LDG ***22*** *23:32:26.1±0.1, 36°.24N×9°.88W, h31km, Ml3.3/16, Error ellipse: s-maj=2.7km s-min=2.1km az=53.0*
IGIL ***22*** *23:32:27.3, 36°.22N×9°.84W, h31km, ML3.6*
IDC ***22*** *23:32:39.6±3.3, 36°.71N×8°.36W, h0km, mb3.3/1, mb1 3.7/2, mb1mx3.3/33, mbtmp3.5/2, ML4.0/1, Error ellipse: s-maj=79.4km s-min=32.7km az=112.0*
ISC 22 23:32:22.9±1.4, 36°.19N±0°.04×9°.86W±0°.08, h35km, n77, σ2°00/129, 11C-4D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSVI	Cabo S. Vicent	1.08	40	*e*P	Pn	23 32 44.2	+2.7
PSVI				*e*S	Sn	23 32 57.1	+1.8
PSVI				A	A	23 33 00.3	
	733nm,0.6s						
PFVI	Vila Bisbo	1.25	41	*e*P	Pn	23 32 46.1	+2.2
PFVI				*e*S	Sn	23 33 00.5	+1.0
PFVI				A	A	23 33 01.9	
	320nm,0.4s						
PFVI	Vila Bisbo	1.25	41	P	Pn	23 32 45.8	+1.9
PFVI				S	Sn	23 33 00.9	+1.4
PLAGO	Lagos	1.30	46	*e*Sn	Sn	23 33 02.0	+1.2
PALJ	Aljezur	1.41	37	*e*Pn	Pn	23 32 48.3	+2.2
PALJ				*e*Sn	Sn	23 33 04.5	+1.1
PALJ				A	A	23 33 06.3	
	854nm,0.4s						
MORF	Marmelete	1.48	41	*e*P	Pn	23 32 49.2	+2.2
MORF				*e*S	Sn	23 33 05.4	+0.3
MORF				IAML		23 33 08.7	
	comp=N,860nm,0.2s						
MORF	Marmelete	1.48	41	*e*Pn	Pn	23 32 49.2	+2.2
MORF				*e*Sn	Sn	23 33 05.5	+0.3
MORF				A	A	23 33 07.8	
	comp=N,288nm,0.1s						
PALBU	Albufeira	1.58	55	*e*Pn	Pn	23 32 50.8	+2.4
PALBU				*e*Sn	Sn	23 33 08.6	+1.1
PALBU				A	A	23 33 09.8	
	comp=N,489nm,0.3s						
PTEO	Sao Teotonio	1.63	34	*e*Pn	Pn	23 32 51.2	+2.1
PTEO				*e*Sn	Sn	23 33 09.5	+0.7
PTEO				A	A	23 33 10.5	
	comp=N,239nm,0.1s						
PFARO	Faro	1.77	61	*e*Sn	Sn	23 33 14.0	+1.8
PTAV	Tavira	2.00	62	*e*Sn	Sn	23 33 18.9	+0.9
PCVE	Castro Verde	2.05	45	*e*Pn	Pn	23 32 57.2	+2.4
PCVE				*e*Sn	Sn	23 33 19.7	+0.5
PCVE				A	A	23 33 21.4	
	comp=N,194nm,0.5s						
PVAQ	Vaqueiros	2.10	54	*e*Pn	Pn	23 32 57.9	+2.3
PVAQ				*e*Sn	Sn	23 33 20.9	+0.4
PVAQ				A	A	23 33 22.4	
	comp=N,310nm,0.6s						
PVAQ	Vaqueiros	2.10	54	P	Pn	23 32 57.9	+2.3
PVAQ				S	Sn	23 33 19.8	-0.6
MESJ	Messejana	2.10	38	*e*P	Pn	23 32 57.8	+2.1
MESJ				*e*S	Sn	23 33 20.4	-0.1
MESJ				IAML		23 33 22.9	
	comp=N,210nm,0.3s						
MESJ	Messejana	2.10	38	*e*Pn	Pn	23 32 57.7	+2.1
MESJ				*e*Sn	Sn	23 33 21.0	+0.5
MESJ				A	A	23 33 23.9	
	comp=N,178nm,0.5s						
PNCL	Nicolau / Gran	2.19	29	*e*Pn	Pn	23 32 58.6	+1.8
PNCL				*e*Sn	Sn	23 33 22.9	+0.2
PNCL				A	A	23 33 24.7	
	comp=N,88nm,0.2s						
PBEJ	Beja	2.43	40	*e*Pn	Pn	23 33 02.0	+1.9
PBEJ				*e*Sn	Sn	23 33 28.6	+0.1
PBEJ				A	A	23 33 30.0	
	comp=N,103nm,0.4s						
LIS	Lisbon	2.58	12	*e*P	Pn	23 33 04.6	+2.4
LIS				*e*S	Sn	23 33 31.8	-0.6
LIS				IAML		23 33 37.3	
	comp=N,438nm,0.5s						
LIS	Lisbon	2.58	12	*e*Sn	Sn	23 33 32.3	0.0
LIS				A	A	23 33 37.4	
	comp=N,188nm,0.4s						
PMST	Lisbon--Monsan	2.60	12	*e*Pn	Pn	23 33 04.2	+1.8
PMST				*e*Sn	Sn	23 33 32.3	-0.4
PMST				A	A	23 33 35.8	
	comp=N,159nm,0.3s						
ARNO	Arenosillo	2.67	69	S	Sn	23 33 34.9	+0.3
EVO	Evora	2.76	32	P	Pn	23 33 06.2	+1.5
EVO				S	Sn	23 33 35.5	-1.2
EVO	Evora	2.76	32	*e*Pn	Pn	23 33 06.4	+1.8
EVO				*e*Sn	Sn	23 33 36.3	-0.4
EVO				A	A	23 33 37.8	
	comp=N,197nm,0.1s						
PMAFR	Mafra	2.80	9	*e*Pn	Pn	23 33 06.8	+1.6
PMAFR				*e*Sn	Sn	23 33 37.4	-0.3
PMAFR				A	A	23 33 40.7	
	comp=N,254nm,0.4s						
SFS	San Fernando	2.96	84	S	Sn	23 33 43.6	+1.9
PBAR	Barrancos	3.00	46	*e*Pn	Pn	23 33 09.8	+1.9
PBAR				*e*Sn	Sn	23 33 42.6	0.0
PBAR				A	A	23 33 44.1	
	comp=N,92nm,0.4s						
PMTG	Montargil	3.15	24	*e*Pn	Pn	23 33 11.8	+1.8
PMTG				*e*Sn	Sn	23 33 45.7	-0.7
PMTG				A	A	23 33 48.4	
	comp=N,62nm,0.3s						
PESTR	Estremoz	3.22	33	*e*Pn	Pn	23 33 12.4	+1.4
PESTR				*e*Sn	Sn	23 33 47.5	-0.7
PESTR				A	A	23 33 50.4	
	comp=N,29nm,0.4s						
PESTR	Estremoz	3.22	33	P	Pn	23 33 11.9	+0.9
PESTR				S	Sn	23 33 47.2	-1.0
PSBE	So Bento	3.42	14	*e*Pn	Pn	23 33 15.5	+1.7
PSBE				*e*Sn	Sn	23 33 51.1	-2.0
PSBE				A	A	23 33 56.7	
	comp=N,62nm,0.5s						
AVE	Averroes	3.52	144	P	Pn	23 33 17.1	+2.0
AVE				S	Sn	23 33 55.1	-0.4
AVE	Averroes	3.52	144	P	Pn	23 33 17.5	+2.4
AVE				S	Sn	23 33 55.7	+0.2
CEU	Ceuta	3.65	93	P	Pn	23 33 20.0	+3.2
CEU				S	Sn	23 34 00.9	+2.4
PMRV	Marv??o	3.77	30	*e*Pn	Pn	23 33 20.3	+1.7
PMRV				*e*Sn	Sn	23 34 00.0	-1.8
PMRV				A	A	23 34 03.0	
	comp=N,60nm,0.5s						
CHEFC	Chefchaouen	3.83	105	P	Pn	23 33 22.2	+2.7
CHEFC				S	Sn	23 34 00.7	-2.7
PCAS	Casmilo, Conde	4.00	15	*e*Pn	Pn	23 33 22.7	+1.0
PCAS				*e*Sn	Sn	23 34 04.9	-2.5
PCAS				A	A	23 34 09.3	
	comp=N,35nm,0.5s						
PCBR	Castelo Branco	4.10	27	*e

ZGR				S		Sn	23 35 15.1	-6.8
TDRA	**Tendrara**	**7.18**	**114**	P		**Pn**	**23 34 06.8**	**+1.3**
TDRA				S		**Sn**	**23 35 23.0**	**-3.0**
CART	**Cartagena**	**7.23**	**76**	S		**Sn**	**23 35 22.9**	**-4.0**
FIGM	**Figuig**	**8.19**	**117**	P		**Pn**	**23 34 22.4**	**+3.0**
FIGM				S		**Sn**	**23 35 50.0**	**-0.8**
SJPF	**Ste Jean**	**9.59**	**41**	*e*Pn		**Pn**	**23 34 40.1**	**+1.7**
SJPF				*e*Sn		**Sn**	**23 36 19.8**	**-5.1**
	comp=N,9.9nm,0.5s							
ETSF	**Etsaut**	**9.81**	**44**	*e*Pn		**Pn**	**23 34 43.7**	**+2.2**
ETSF				*e*Sn		**Sn**	**23 36 25.3**	**-5.2**
	comp=N,3.6nm,0.4s							
EPF	**Esparros**	**10.41**	**46**	*e*Pn		**Pn**	**23 34 50.8**	**+1.1**
EPF				*e*Sn		**Sn**	**23 36 39.8**	**-5.3**
	comp=N,6.3nm,0.4s							
MTLF	**Montolieu**	**11.71**	**49**	*e*Pn		**Pn**	**23 35 09.5**	**+2.1**
MTLF				*e*Sn		Sn	23 37 10.5	-6.3
	comp=N,0.7nm,0.2s							
LFF	**La Frestale**	**11.88**	**39**	*e*Pn		**Pn**	**23 35 10.6**	**+0.9**
LFF				*e*Sn		**Sn**	**23 37 14.8**	**-6.0**
	comp=N,1.3nm,0.3s							
RJF	**Les Rejaudoux**	**12.53**	**40**	*e*Pn		**Pn**	**23 35 18.7**	**+0.1**
RJF				*e*Sn		Sn	23 37 29.9	-6.9
	comp=N,0.4nm,0.2s							
CAF	**Calviac**	**12.57**	**42**	*e*Pn		**Pn**	**23 35 19.5**	**+0.3**
CAF				*e*Sn		Sn	23 37 31.0	-6.9
	comp=N,0.7nm,0.2s							
MFF	**Saint Martin d**	**12.69**	**32**	*e*Pn		**Pn**	**23 35 21.6**	**+0.8**
MFF				*e*Sn		Sn	23 37 33.6	-7.1
	comp=N,0.3nm,0.2s							
QUIF	**Quistinic**	**12.72**	**21**	*e*Pn		**Pn**	**23 35 21.9**	**+0.8**
QUIF				*e*Sn		Sn	23 37 34.2	-7.2
	comp=N,0.5nm,0.3s							
ROSF	**Rostrenen**	**13.07**	**20**	*e*Pn		**Pn**	**23 35 26.7**	**+0.7**
ROSF				*e*Sn		Sn	23 37 42.6	-7.4
	comp=N,0.5nm,0.3s							
LASF	**Ste Croix**	**13.11**	**49**	*e*Pn		**Pn**	**23 35 27.5**	**+1.0**
LASF				*e*Sn		Sn	23 37 44.0	-7.0
	comp=N,0.2nm,0.3s							
TCF	**Toulx Ste Croi**	**13.55**	**38**	*e*Pn		**Pn**	**23 35 32.5**	**-0.1**
GRR	**Gorron**	**13.88**	**26**	*e*Pn		**Pn**	**23 35 37.6**	**+0.7**
GRR				*e*Sn		Sn	23 38 01.8	-7.8
	comp=N,0.2nm,0.2s							
LDF	**La Druitiere**	**14.31**	**27**	*e*Pn		**Pn**	**23 35 43.7**	**+0.8**
LDF				*e*Sn		Sn	23 38 11.8	-8.5
	comp=N,0.1nm,0.2s							
FLN	**La Foliniere**	**14.32**	**26**	*e*Pn		**Pn**	**23 35 43.8**	**+0.7**
	baz=206							
SSF	**Saint Saulge**	**14.73**	**38**	*e*Pn		**Pn**	**23 35 48.5**	**-0.1**
SSF				*e*Sn		Sn	23 38 22.0	-8.6
	comp=N,0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**25.19**	**153**	P		P	23 38 05.1	+20
	comp=N,0.6nm,0.8s,baz=327,slow=10,SNR=3.0							
ASAR	**Alice Springs**	**146.40**	**78**	PKPbc		PKiKP	23 52 19.8	+16
	comp=N,0.4nm,0.8s,baz=320,slow=2.4,SNR=4.2							

*IDC **22** 23:37:05.9±1.3, 14°.99S×177°.54W, h372km±14km, mb3.4/9, mb1 3.7/12, mb1mx3.6/28, mbtmp4.2/12, Error ellipse: s-maj=33.5km s-min=11.5km az=151.0*
*NEIC **22** 23:37:05.5±2.6, 14°.9S±0°.1×177°.4W±0°.1, h362km±9km, mb4.1/31, Error ellipse: s-maj=18.9km s-min=12.8km az=152.0*

ISC 22 23:37:05.8±0.6, 14°.89S±0°.10×177°.52W±0°.08, h372km, n73, σ1s36/74, mb4.0/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.11**	**236**	P	**Pn**	**23 38 27.6**	**-0.1**
	4.6nm,0.3s,baz=46,slow=11,SNR=18						
MSVF				S	**S**	**23 39 34.7**	**+0.6**
	baz=304,slow=22,SNR=12						
MSVF	**Nonsavu**	**5.11**	**236**	Pn	**Pn**	**23 38 28.0**	**+0.3**
AFI	**Afiamalu**	**5.65**	**81**	P	**Pn**	**23 38 32.2**	**-1.5**
	14nm,0.3s,baz=298,slow=0.5,SNR=19						
FUNA	**Funafuti**	**7.09**	**333**	Pn	**Pn**	**23 38 47.9**	**-2.0**
NIUE	**Niue**	**8.37**	**121**	Pn	**Pn**	**23 39 03.0**	**-1.7**
MARNC	**Mare, Loyalty**	**15.21**	**242**	P	**P**	**23 40 22.9**	**+1.2**
MARNC	**Mare, Loyalty**	**15.21**	**242**	P	**Pn**	**23 40 23.5**	**-1.0**
LIFNC	**LIFOU**	**15.64**	**246**	P	**P**	**23 40 25.1**	**-1.4**
LIFNC	**LIFOU**	**15.64**	**246**	P	**P**	**23 40 26.3**	**-0.1**
PINNC	**Pines Island,**	**16.17**	**239**	P	**P**	**23 40 32.6**	**+0.5**
OUENC	**Ouen Island, N**	**16.59**	**241**	P	**P**	**23 40 38.1**	**+1.4**
OUENC				IAmb	IAmb	23 40 40.2	
	comp=Z,20nm,1.0s						
OUENC	**Ouen Island, N**	**16.59**	**241**	P	**P**	**23 40 37.9**	**+1.2**
DZM	**Mont Dzumac**	**16.80**	**242**	P	**P**	**23 40 39.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=146,slow=17,SNR=9.0						
DZM	**Mont Dzumac**	**16.80**	**242**	P	**P**	**23 40 39.5**	**+0.5**
DZM				IAmb	IAmb	23 40 41.4	
	comp=Z,7.3nm,0.8s						
ONTNC	**Ouen Toro**	**16.88**	**242**	P	**P**	**23 40 41.7**	**+1.9**
NOUC	**Port Laguerre**	**16.93**	**243**	P	**P**	**23 40 41.6**	**+1.3**
KOUNC	**Koumac, New Ca**	**18.22**	**249**	P	**P**	**23 40 53.1**	**-1.0**
OUZ	**Omahuta**	**21.76**	**200**	P	**P**	**23 41 29.9**	**+1.7**
MXZ	**Matakaoa Point**	**22.89**	**189**	P	**P**	**23 41 37.5**	**-0.8**
URZ	**Urewera**	**23.76**	**191**	P	**P**	**23 41 44.0**	**-2.2**
	comp=Z,3.9nm,0.5s,baz=356,slow=1.8,SNR=3.5						
URZ	**Urewera**	**23.76**	**191**	P	**P**	**23 41 44.7**	**-1.5**
URZ				IAmb	IAmb	23 41 48.6	
	comp=Z,9.9nm,1.2s						
QRZ	**Quartz Range**	**27.26**	**197**	P	**P**	**23 42 17.2**	**-0.2**
QRZ				IAmb	IAmb	23 42 28.1	
	comp=Z,8.3nm,1.2s						
QRZ	**Quartz Range**	**27.26**	**197**	P	**P**	**23 42 19.0**	**+1.6**
NNZ	**Nelson**	**27.40**	**195**	P	**P**	**23 42 16.3**	**-2.3**
THZ	**Tophouse**	**28.03**	**195**	P	**P**	**23 42 24.1**	**-0.1**
KHZ	**Kahutara**	**28.49**	**194**	P	**P**	**23 42 26.9**	**-1.4**
KHZ				IAmb	IAmb	23 42 36.4	
	comp=Z,8.7nm,1.1s						
KHZ	**Kahutara**	**28.49**	**194**	P	**P**	**23 42 27.1**	**-1.1**
FOZ	**Fox Glacier**	**30.54**	**198**	P	**P**	**23 42 44.1**	**-2.0**
FOZ				IAmb	IAmb	23 42 52.0	
	comp=Z,25nm,1.2s						
EIDS	**Eidsvold**	**31.20**	**245**	P	**P**	**23 42 53.7**	**+1.5**
EIDS				IAmb	IAmb	23 42 55.7	
	comp=Z,5.3nm,0.8s						
ARMA	**Armidale**	**32.26**	**236**	P	**P**	**23 43 02.9**	**+1.5**
ARMA				IAmb	IAmb	23 43 04.6	
	comp=Z,7.8nm,0.7s						
ARMA	**Armidale**	**32.26**	**236**	P	**P**	**23 43 03.7**	**+2.3**
MLZ	**Mavora Lakes**	**32.71**	**199**	P	**P**	**23 43 05.0**	**-0.1**
MLZ				IAmb	IAmb	23 43 06.3	
	comp=Z,14nm,1.1s						
MGCD	**Mangrove Creek**	**33.77**	**232**	P	**P**	**23 43 15.7**	**+1.5**
CTA	**Charters Tower**	**34.89**	**256**	P	**P**	**23 43 23.3**	**-0.6**
	comp=Z,4.5nm,0.4s,baz=88,slow=10.0,SNR=9.9						
CTAO	**Charters Tower**	**34.89**	**256**	P	**P**	**23 43 23.4**	**-0.6**
CTAO				IAmb	IAmb	23 43 28.3	
	comp=Z,5.5nm,0.6s						
CTAO	**Charters Tower**	**34.89**	**256**	P	**P**	**23 43 23.6**	**-0.3**
CMSA	**Cobar Meteorol**	**37.43**	**237**	P	**P**	**23 43 46.9**	**+1.8**
QLP	**Quilpie**	**37.48**	**246**	P	**P**	**23 43 45.8**	**+0.3**
COEN	**Coen**	**38.05**	**266**	P	**P**	**23 43 50.6**	**+0.2**
COEN				IAmb	IAmb	23 43 51.0	
	comp=Z,4.5nm,0.7s						
TOO	**Toolangi**	**39.77**	**228**	P	**P**	**23 44 03.0**	**-1.2**
INKA	**Innaminka**	**40.74**	**245**	P	**P**	**23 44 13.1**	**+0.9**
STKA	**Stephens Creek**	**40.88**	**238**	P	**P**	**23 44 14.2**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=69,slow=9.9,SNR=9.8						
STKA	**Stephens Creek**	**40.88**	**238**	P	**P**	**23 44 14.9**	**+1.6**
STKA	**Stephens Creek**	**40.88**	**238**	P	**P**	**23 44 15.7**	**+2.4**
QIS	**Mount Isa**	**41.14**	**256**	P	**P**	**23 44 12.9**	**-2.7**
LCRK	**Leigh Creek**	**43.39**	**241**	P	**P**	**23 44 33.0**	**-0.4**
HTT	**Hallett**	**43.45**	**237**	P	**P**	**23 44 35.3**	**+1.4**
OOD	**Oodnadatta**	**45.18**	**246**	P	**P**	**23 44 47.4**	**0.0**
BBOO	**Buckleboo**	**45.66**	**239**	P	**P**	**23 44 51.3**	**+0.3**
BBOO				IAmb	IAmb	23 44 54.9	
	comp=Z,8.1nm,0.8s						
BBOO	**Buckleboo**	**45.66**	**239**	P	**P**	**23 44 52.2**	**+1.2**
WB0	**Warramunga Arr**	**46.04**	**257**	P	**P**	**23 44 53.1**	**-1.2**
WB2	**Warramunga Arr**	**46.08**	**257**	P	**P**	**23 44 54.4**	**-0.1**
WRA	**Warramunga Arr**	**46.09**	**257**	P	**P**	**23 44 53.0**	**-1.6**
	comp=Z,1.4nm,0.7s,baz=94,slow=7.8,SNR=30						
WRA	**Warramunga Arr**	**46.09**	**257**	P	**P**	**23 44 53.8**	**-0.8**
AS31	**Alice Springs**	**46.49**	**251**	P	**P**	**23 44 57.2**	**-0.4**
ASAR	**Alice Springs**	**46.49**	**251**	P	**P**	**23 44 57.0**	**-0.7**
	comp=Z,31nm,0.4s,baz=85,slow=8.6,SNR=231						
ASAR				S	**S**	**23 51 14.9**	**-2.6**
	comp=Z,0.4nm,0.8s,baz=85,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**46.49**	**251**		**P**	**23 44 57.4**	**-0.3**
KNRA	**Kununurra**	**51.71**	**262**	P	**P**	**23 45 36.8**	**+0.1**
FORT	**Forrest**	**52.11**	**242**	P	**P**	**23 45 38.7**	**-0.8**
NWAO	**Narrogin (SRO)**	**61.41**	**240**	P	**P**	**23 46 47.3**	**+3.2**
NWAO				IAmb	IAmb	23 46 49.6	
	comp=Z,5.6nm,0.7s						
MORW	**Morawa**	**62.50**	**245**	P	**P**	**23 46 53.3**	**+1.8**
MORW				IAmb	IAmb	23 46 55.3	
	comp=Z,6.2nm,1.0s						
NVAR	**Mina Array Bea**	**76.67**	**44**	P	**P**	**23 48 18.7**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=228,slow=7.5,SNR=5.4						
K20K	**Telida**	**80.10**	**10**	P	**P**	**23 48 35.8**	**+1.0**
K20K				IAmb	IAmb	23 48 36.2	
	comp=Z,2.8nm,0.5s						
HLID	**Hailey**	**81.80**	**41**	P	**P**	**23 48 44.9**	**+0.5**
HLID				IAmb	IAmb	23 48 47.2	
	comp=Z,1.7nm,0.7s						
TMUT	**Trail Mountain**	**81.93**	**46**		**P**	**23 48 46.5**	**+1.1**
TMUT				IAmb	IAmb	23 48 48.5	
	comp=Z,4.0nm,0.8s						
ILAR	**Eielson Array**	**82.77**	**13**	P	**P**	**23 48 48.4**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=228,slow=5.8,SNR=10						
ILAR	**Eielson Array**	**82.77**	**13**	P	**P**	**23 48 48.8**	**+0.1**
TXAR	**Lajitas Array**	**83.67**	**58**	P	**P**	**23 48 55.8**	**+1.6**
	comp=Z,2.3nm,0.9s,baz=225,slow=6.6,SNR=18						
TXAR	**Lajitas Array**	**83.67**	**58**	P	**P**	**23 48 55.9**	**+1.8**
PDAR	**Pinedale Array**	**84.58**	**43**	P	**P**	**23 48 59.6**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=190,slow=6.0,SNR=5.0						
YKA	**Yellowknife Ar**	**91.25**	**24**	P	**P**	**23 49 29.9**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=243,slow=4.7,SNR=3.1						
CLL	**Collm**	**142.70**	**349**	*e*(PKPdf)	**PKPdf**	**23 55 53.0**	**-2.2**
GERES	**GERESS Array B**	**144.90**	**347**	PKPbc	PKPbc	23 55 59.5	+0.1
	comp=Z,0.3nm,0.3s,baz=30,slow=3.2,SNR=3.8						

IDC 23 00:03:38.9±3.3, 8°.88S×109°.67E, h91km±28km, mb3.1/3, mb1 3.3/4, mb1mx3.1/30, mbtmp3.4/4, Error ellipse: s-maj=110.0km s-min=23.4km az=40.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.88**	**315**	P	Pn	00 04 23.4	+0.4
	9.1nm,0.3s,baz=164,slow=19,SNR=3.9						
LEM				S	Sn	00 04 57.3	+0.5
	7.1nm,0.3s,baz=307,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**26.26**	**117**	P	P	00 09 05.8	-0.1
	0.2nm,0.6s,baz=289,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**60.56**	**339**	P	P	00 13 38.8	-0.9
	0.1nm,0.5s,baz=138,slow=5.1,SNR=2.3						
BRTR	**Keskin Array B**	**85.04**	**311**	P	P	00 16 05.7	+0.8
	0.8nm,0.7s,baz=99,slow=6.4,SNR=4.2						

*NORS **23** 00:14:18.9±0.0, 43°.01N×43°.97E, h6km, MPVA3.6*
*TIF **23** 00:14:19.6, 43°.05N×44°.01E, h26km±2km*
*MOS **23** 00:14:20.9±0.0, 43°.03N×43°.93E, h3km, MPVA3.5*
*DRS **23** 00:14:30.8±0.0, 43°.10N×44°.08E, h24km*

ISC 23 00:14:20.3±0.9, 43°.02N±0°.02×43°.96E±0°.02, h6km±8km, n46, σ0s89/88, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORR	**Kora**	**0.10**	**51**	*e*Pg	**Pg**	**00 14 21.9**	**-0.7**
KORR				*e*Sg	**Sg**	**00 14 24.1**	**0.0**
ZEI	**Tsey**	**0.23**	**190**	*i* Pg	**Pg**	**00 14 25.5**	**+0.5**
ZEI				*e*Sg	**Sg**	**00 14 29.4**	**+1.4**
LSNR	**Lesken**	**0.28**	**340**	*e*Pg	**Pg**	**00 14 26.2**	**+0.5**
LSNR				*e*Sg	**Sb**	**00 14 31.7**	**-1.1**
DIGR	**Digorskoe uzhe**	**0.30**	**247**	*i* Pg	**Pg**	**00 14 26.8**	**+0.5**
DIGR				*e*Sg	**Sg**	**00 14 31.6**	**+1.4**
LACR	**Lac**	**0.32**	**127**	*i* Pg	**Pg**	**00 14 27.0**	**+0.5**
LACR				*e*Sg	**Sb**	**00 14 32.2**	**-1.7**
STDR	**Stavd-Durt**	**0.36**	**13**	*e*Pg	**Pg**	**00 14 27.7**	**+0.4**
STDR				*e*Sg	**Sb**	**00 14 34.5**	**-0.5**
VLKR	**Vladikavkaz**	**0.53**	**87**	*e*Pg	**Pg**	**00 14 30.8**	**+0.3**
VLKR				*e*Sg	**Sb**	**00 14 39.0**	**-1.0**
MTEO	**Meteo**	**0.54**	**128**	P	**Pg**	**00 14 30.9**	**+0.1**
MTEO				S	**Sg**	**00 14 38.5**	**+0.5**
NCK	**Nalchik**	**0.54**	**331**	*e*Pg	**Pb**	**00 14 32.0**	**-0.3**
NCK				*e*Sg	**Sb**	**00 14 40.9**	**+0.5**
BTKR	**Batakoyurt**	**0.56**	**50**	*e*Pg	**Pb**	**00 14 32.3**	**-0.2**
BTKR				*e*Sg	**Sg**	**00 14 39.5**	**+1.2**
ONI	**Oni**	**0.57**	**221**	P	**Pb**	**00 14 32.2**	**-0.5**
ONI				S	**Sb**	**00 14 41.2**	**+0.1**
ONI	**Oni**	**0.57**	**221**	*e*Pg	**Pb**	**00 14 32.2**	**-0.5**
ONI				*e*Sg	**Sb**	**00 14 41.2**	**+0.1**
PNSH	**Pansheti**	**0.62**	**128**	P	**Pg**	**00 14 32.1**	**-0.2**
PNSH				S	**Sg**	**00 14 41.1**	**+0.8**
KMGR	**Komgaron**	**0.67**	**86**	*e*Pg	**Pb**	**00 14 35.4**	**+0.9**
KMGR				*e*Sg	**Sb**	**00 14 44.1**	**+0.1**
GUDG	**Gudauri**	**0.68**	**145**	P	**Pg**	**00 14 33.5**	**+0.2**
GUDG				S	**Sb**	**00 14 43.7**	**-0.7**
GUDG	**Gudauri**	**0.68**	**145**	*e*Pg	**Pg**	**00 14 33.5**	**+0.2**
GUDG				*e*Sg	**Sb**	**00 14 43.7**	**-0.7**
PRTR	**Priterechnaya**	**0.77**	**18**	*i* Pg	**Pn**	**00 14 37.5**	**-0.2**
PRTR				*e*Sg	**Sb**	**00 14 48.0**	**+1.1**
KBTC	**Kuba-Taba**	**0.89**	**334**	*e*Pg	**Pg**	**00 14 38.1**	**+0.6**
KBTC				*e*Sg	**Sb**	**00 14 50.4**	**0.0**
TRKR	**Terskaya**	**0.90**	**39**	*e*Pg	**Pn**	**00 14 39.4**	**-0.2**
TRKR				*e*Sg	**Sn**	**00 14 52.7**	**-0.3**
NEY	**Neytrino**	**0.93**	**285**	*e*Pg	**Pg**	**00 14 38.0**	**-0.2**
NEY				*e*Sg	**Sg**	**00 14 50.1**	**-0.2**
TKB	**Tkibuli**	**0.97**	**227**	P	**Pb**	**00 14 39.8**	**+0.2**
TKB	**Tkibuli**	**0.97**	**227**	*e*Pg	**Pb**	**00 14 39.8**	**+0.2**
KBZ	**Khabaz**	**1.05**	**313**	*e*Pg	**Pg**	**00 14 39.9**	**-0.6**
KBZ				*e*Sg	**Sb**	**00 14 55.2**	**+0.3**
SHA1	**Shidzhatmaz**	**1.19**	**308**	*e*Pg	**Pg**	**00 14 43.3**	**+0.2**
SHA1				*e*Sg	**Sb**	**00 14 59.2**	**0.0**
PYA1	**Pyatigorsk**	**1.22**	**329**	*e*Pg	**Pg**	**00 14 43.2**	**-0.4**
PYA1				*e*Sg	**Sg**	**00 14 59.8**	**+0.4**
BEYR	**Belyy Ugol+**	**1.29**	**321**	*e*Pg	**Pn**	**00 14 44.7**	**-0.4**
BEYR				*e*Sg	**Sg**	**00 15 02.5**	**+0.6**
KIV0	**Kislovodsk Arr**	**1.31**	**316**	*e*Pg	**Pn**	**00 14 45.0**	**-0.4**
KIV0				*e*Sg	**Sg**	**00 15 03.1**	**+0.6**
KIV	**Kislovodsk**	**1.31**	**316**	*e*Pg	**Pn**	**00 14 45.0**	**-0.4**
KIV				*e*Sg	**Sg**	**00 15 03.1**	**+0.5**
GROC	**Groznyy**	**1.36**	**82**	*e*Pg	**Pg**	**00 14 47.0**	**+0.6**
GROC				*e*Sg	**Sn**	**00 15 07.1**	**+2.8**
ABS	**Abastumani**	**1.52**	**214**	P	**Pg**	**00 14 49.7**	**+0.2**
DVE	**Vedeno**	**1.59**	**92**	*e*Pg	**Pn**	**00 14 49.6**	**+0.4**
DVE				*e*Sg	**Sb**	**00 15 10.6**	**-0.1**
BTLR	**Botlikh**	**1.70**	**101**	*e*Pg	**Pb**	**00 14 52.5**	**+0.3**
BTLR				*e*Sg	**Sg**	**00 15 15.5**	**+0.4**
ALER	**Alexandrovskoy**	**1.90**	**337**	*i* Pg	**Pb**	**00 14 55.0**	**-0.4**
ALER				*e*Sg	**Sb**	**00 15 19.8**	**+0.3**
DLMR	**Dylym**	**1.96**	**88**	*e*Pg	**Pg**	**00 14 58.1**	**+0.2**
DLMR				*e*Sg	**Sg**	**00 15 22.6**	**-0.7**
XNZR	**Khunzakh**	**2.08**	**102**	*e*Pg	**Pg**	**00 15 00.2**	**+0.1**
XNZR				*e*Sg	**Sb**	**00 15 23.6**	**-1.2**
DBC	**Dubki**	**2.11**	**89**	*e*Pg	**Pn**	**00 14 57.3**	**+1.0**
DBC				*e*Sg	**Sb**	**00 15 24.6**	**-0.9**
UNCR	**Uncukul**	**2.11**	**97**	*e*Pg	**Pb**	**00 14 57.6**	**-1.4**
UNCR				*e*Sg	**Sb**	**00 15 24.4**	**-1.1**
GOF	**Gofitskoye**	**2.14**	**342**	*e*Pg	**Pb**	**00 14 59.4**	**-0.2**
GOF				*e*Sg	**Sg**	**00 15 28.4**	**-0.7**
NVNR	**Nevinnomyssk**	**2.15**	**319**	*e*Pn	**Pb**	**00 15 00.3**	**+0.6**
NVNR				*e*Sn	**Sb**	**00 15 26.6**	**0.0**
KRNR	**Karanay**	**2.18**	**94**	*e*Pg	**Pb**	**00 14 58.9**	**-1.3**
KRNR				*e*Sg	**Sn**	**00 15 24.8**	**+0.3**
ARKR	**Arakani**	**2.27**	**100**	*e*Pn	**Pb**	**00 15 01.0**	**-0.8**
ARKR				*e*Sn	**Sb**	**00 15 28.8**	**-1.4**
GNBR	**Gunib**	**2.31**	**105**	*e*Pn	**Pb**	**00 15 02.4**	**+0.1**
GNBR				*e*Sn	**Sb**	**00 15 30.6**	**-0.5**
BUJR	**Buynaksk**	**2.32**	**94**	*e*Pn	**Pg**	**00 15 04.0**	**-0.8**
BUJR				*e*Sn	**Sb**	**00 15 30.8**	**-0.9**
KMKR	**Kumukh**	**2.48**	**110**	*e*Pn	**Pn**	**00 15 03.3**	**+1.7**
KMKR				*e*Sn	**Sb**	**00 15 35.1**	**-1.4**
GNI	**Garni**	**2.93**	**168**	*e*Pn	**Pb**	**00 15 10.5**	**-2.5**
GUZR	**Guzeripl'**	**2.96**	**291**	*e*Pn	**Pb**	**00 15 11.4**	**-2.1**
GUZR				*e*Sn	**Sb**	**00 15 47.2**	**-2.7**

*IDC **23** 00:19:05.9±1.6, 1°.84S×80°.65W, h0km, mb3.6/3, mb1 4.0/8, mb1mx3.7/30, mbtmp3.9/8, ML3.8/5, MS3.0/3, Ms1 3.0/3, ms1mx2.7/46, Error ellipse: s-maj=39.8km s-min=23.9km az=72.0*
*IGQ **23** 00:19:10±0.5, 2°.S±2°.×8°.0W±°, h6km*

ISC 23 00:19:10.8±1.2, 2°.01S±0°.03×80°.27W±0°.04, h15km±9km, n69, σ1s53/75, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIL	**Milagro (Trans**	**0.68**	**101**	P	**Pn**	**00 19 27.0**	**+1.1**
AMIL				S	**Sn**	**00 19 38.0**	**+1.7**
ISPG	**Isla Puna-Puer**	**0.96**	**174**	P	**Pg**	**00 19 31.0**	**+1.6**
ISPT	**Isla de la Pla**	**1.10**	**312**	P	**Pb**	**00 19 31.0**	**-0.5**
ISPT				S	**Sg**	**00 19 47.0**	**+0.7**
COHC	**Cochancay**	**1.11**	**114**	P	**Pg**	**00 19 31.0**	**-1.2**
COHC				S	**Sg**	**00 19 45.0**	**-1.7**
CHSH	**Refugio Sur-Vo**	**1.48**	**70**	P	**Pg**	**00 19 39.0**	**-0.4**
CHSH				S	**Sn**	**00 19 59.0**	**+2.0**
ARNL	**Arenillas**	**1.54**	**173**	P	**Pn**	**00 19 38.0**	**+0.2**
ARNL				S	**Sn**	**00 19 56.0**	**-1.6**
TAMH	**Tambohuasha Ch**	**1.55**	**73**	P	**Pn**	**00 19 39.0**	**+0.6**
PORT	**Chimborazo Vol**	**1.58**	**70**	P	**Pn**	**00 19 40.0**	**+1.1**
CAB1	**Cabo Pasado-Ma**	**1.62**	**354**	P	**Pn**	**00 19 40.0**	**+1.2**
FLF1	**Flavio Alfaro-**	**1.69**	**14**	P	**Pn**	**00 19 41.0**	**+1.1**
IGUA	**Igualata**	**1.70**	**73**	P	**Pb**	**00 19 42.0**	**-0.2**
JAMA	**Jama**	**1.73**	**2**	P	**Pn**	**00 19 42.0**	**+1.5**
BMAS	**Trigal station**	**1.85**	**74**	P	**Pb**	**00 19 44.0**	**-0.6**
BBIL	**Ulba Tungurahu**	**1.86**	**73**	P	**Pn**	**00 19 44.0**	**+1.5**
ARRY	**Arrayan**	**1.88**	**75**	P	**Pn**	**00 19 44.0**	**+1.3**
JUI6	**Juive**	**1.89**	**72**	P	**Pb**	**00 19 45.0**	**-0.1**
SANGA	**Volcan Sangay**	**1.89**	**91**	P	**Pn**	**00 19 44.0**	**+1.0**
BPAT	**Tungurahua Vol**	**1.90**	**75**	P	**Pb**	**00 19 45.0**	**-0.4**
RETU	**Refugio**	**1.90**	**73**	P	**Pb**	**00 19 45.0**	**-0.5**
POND	**Pondoa**	**1.90**	**72**	P	**Pb**	**00 19 45.0**	**-0.4**
BRUN	**Tungurahua Vol**	**1.94**	**73**	P	**Pb**	**00 19 46.0**	**-0.1**
MAG1	**Magdalena**	**1.98**	**14**	P	**Pn**	**00 19 45.0**	**+1.1**
ILLI	**Illinizas Sur**	**2.00**	**50**	P	**Pn**	**00 19 46.0**	**+1.4**
PIS1	**Pisayambo**	**2.10**	**63**	P	**Pb**	**00 19 49.0**	**+0.1**
BOSC	**San Juan Bosco**	**2.10**	**123**	P	**Pn**	**00 19 48.0**	**+2.4**
SRAM	**San Ramn-Vol**	**2.11**	**54**	P	**Pb**	**00 19 49.0**	**0.0**
SLOR	**San Lorenzo -**	**2.17**	**54**	P	**Pb**	**00 19 50.0**	**-0.2**
CAMI	**Rancho Maria**	**2.20**	**53**	P	**Pb**	**00 19 50.0**	**-0.6**
VCES	**Cotopaxi**	**2.22**	**57**	P	**Pb**	**00 19 51.0**	**0.0**
BNAS	**Cotopaxi Volca**	**2.22**	**53**	P	**Pb**	**00 19 51.0**	**0.0**
SUCR	**Mariscal Sucre**	**2.23**	**53**	P	**Pb**	**00 19 51.0**	**-0.1**
PIAT	**Ana Tenorio**	**2.24**	**63**	P	**Pb**	**00 19 51.0**	**-0.2**
NAS2	**Nasa**	**2.25**	**53**	P	**Pb**	**00 19 52.0**	**+0.6**
BREF	**Cotopaxi Volca**	**2.26**	**54**	P	**Pb**	**00 19 52.0**	**+0.4**
PUYO	**Puyo, Santa Ro**	**2.30**	**77**	P	**Pg**	**00 19 54.0**	**-0.9**
TAMB	**Tambo**	**2.30**	**56**	P	**Pb**	**00 19 52.0**	**-0.4**
VC1	**Cotopaxi 1**	**2.30**	**54**	P	**Pb**	**00 19 52.0**	**-0.4**
MCRA	**Macar, Loja**	**2.37**	**172**	P	**Pn**	**00 19 49.0**	**-0.2**
BV15	**Puerto Quito-O**	**2.39**	**26**	P	**Pn**	**00 19 50.0**	**+0.5**
GGPT	**Toaza - Volcan**	**2.42**	**43**	P	**Pn**

comp=N,19nm,0.8s
TURN Turunc 1.26 102 PN **Pg 00 25 07.8 +0.1**
YER Yerkesik 1.26 86 PN **Pg 00 25 07.4 -0.3**

*IDC **23** 00:36:00.6±3.5, 37°.04N×72°.02E, h124km±28km, mb3.3/9, mb1 3.4/16, mb1mx3.2/46, mbtmp3.7/16, Error ellipse: s-maj=31.7km s-min=17.2km az=163.0*
*NNC **23** 00:36:05.7±4.5, 37°.60N×71°.69E, h149km±86km, mb3.0, mpv3.8, Error ellipse: s-maj=42.1km s-min=26.9km az=163.0*
ISC 23 00:36:02.8±0.7, 37°.25N±0°.06×72°.02E±0°.07, h150km, n35, σ2°27/38, mb3.5/9, 7C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.05**	**14**	P	**Pn**	**00 37 17.0**	**-0.1**
	SNR=59						
UCH	**Uchtor**	**5.33**	**20**	P	**Pn**	**00 37 21.1**	**+0.1**
	SNR=32						
EKS2	**Erkin-Say**	**5.58**	**13**	P	**Pn**	**00 37 24.5**	**+0.6**
	SNR=28						
AAK	**Ala-Archa**	**5.71**	**19**	P	**Pn**	**00 37 26.1**	**+0.4**
	4.5nm,0.3s,baz=169,slow=7.4,SNR=89						
AAK				S	**Sn**	**00 38 27.3**	**-3.2**
	4.0nm,0.3s,baz=100,slow=17,SNR=21						
AAK	**Ala-Archa**	**5.71**	**19**	P	**Pn**	**00 37 26.3**	**+0.6**
	SNR=9.3						
AAK	**Ala-Archa**	**5.71**	**19**	⇓P	**Pn**	**00 37 26.1**	**+0.4**
	7.3nm,0.4s						
AAK				⇑S	**Sn**	**00 38 26.3**	**-4.3**
	58nm,0.8s						
KBK	**Karagaybulak**	**5.85**	**22**	P	**Pn**	**00 37 28.5**	**+0.9**
	SNR=9.4						
KK02	**Karatay Array**	**5.96**	**349**	⇓P	**Pn**	**00 37 28.2**	**-0.8**
	7.1nm,0.3s,baz=158,slow=11						
KK02				⇑S	**Sn**	**00 38 31.0**	**-5.5**
	16nm,0.3s,baz=167,slow=23						
CHMS	**Chumysh**	**6.11**	**19**	P	**Pn**	**00 37 31.3**	**+0.3**
	SNR=6.0						
TKM2	**Tokmak 2**	**6.29**	**25**	⇑P	**Pn**	**00 37 33.5**	**-0.1**
	3.7nm,0.8s						
TKM2				⇓S	**Sn**	**00 38 43.9**	**-0.7**
	9.7nm,0.6s						
GEYT	**Alibeck**	**11.06**	**278**	P	**Pn**	**00 38 34.7**	**-2.1**
	1.2nm,0.3s,baz=108,slow=14,SNR=9.2						
GEYT				S	Sn	00 40 31.3	-7.7
	1.7nm,0.3s,baz=192,slow=13,SNR=6.2						
GYA0B	**ALIBECK ARRAY**	**11.06**	**278**	⇑P	**Pn**	**00 38 36.0**	**-0.7**
GYA0B				⇑S	Sn	00 40 30.0	-9.0
MKAR	**Makanchi Array**	**12.21**	**35**	P	**Pn**	**00 38 52.5**	**+0.9**
	0.1nm,0.3s,baz=216,slow=14,SNR=4.1						
PYUN	**Piuthan**	**12.97**	**132**	*e*P	**Pn**	**00 38 59.8**	**-2.0**
	13nm,0.7s						
DANN	**Dangsing**	**13.26**	**129**	*e*P	**Pn**	**00 39 04.0**	**-1.6**
	4.8nm,0.3s						
KOLN	**Koldanda**	**13.58**	**131**	*e*P	**Pn**	**00 39 08.5**	**-1.1**
	5.3nm,0.4s						
GKN	**Gorkha**	**14.05**	**127**	*e*P	**Pn**	**00 39 13.4**	**-2.2**
	10nm,0.4s						
KURBB	**Kurchatov Arra**	**14.16**	**17**	P	**P**	**00 39 19.8**	**+0.3**
	0.1nm,0.3s,baz=209,slow=10,SNR=16						
KKN	**Kakani**	**14.61**	**126**	*e*P	Pn	00 39 18.4	-4.2
	1.6nm,0.2s						
DMN	**Daman**	**14.63**	**127**	*e*P	Pn	00 39 18.7	-4.1
	12nm,0.2s						
PKIN	**Phulchoki**	**14.83**	**127**	*e*P	**Pn**	**00 39 22.0**	**-3.4**
	8.0nm,0.6s						
AB31	**Akbulak array**	**14.86**	**328**	⇓P	**Pn**	**00 39 25.1**	**-0.2**
	0.6nm,0.3s,baz=132,slow=15,SNR=44						
AB31				⇓S	Sn	00 42 00.7	-9.5
	1.5nm,0.5s,baz=156,slow=23,SNR=11						
BVAR	**Borovoye Array**	**15.82**	**356**	P	**Pn**	**00 39 37.1**	**-0.1**
	0.2nm,0.3s,baz=146,slow=13,SNR=4.7						
AKTO	**Aktyubinsk**	**16.57**	**327**	P	**Pn**	**00 39 46.9**	**+0.6**
	0.3nm,0.3s,baz=131,slow=13,SNR=2.2						
AKTO				S	S	00 42 37.9	-12
	0.2nm,0.3s,baz=81,slow=16,SNR=1.8						
AKTO	**Aktyubinsk**	**16.57**	**327**	⇑P	**P**	**00 39 42.9**	**-3.3**
	1.5nm,0.7s						
AKTO				⇑S	**S**	**00 42 43.0**	**-7.3**
	2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**18.90**	**24**	P	**Pn**	**00 40 12.8**	**-1.1**
	0.6nm,0.3s,baz=217,slow=10,SNR=12						
BRTR	**Keskin Array B**	**30.00**	**287**	P	**P**	**00 41 59.5**	**+2.1**
	0.7nm,0.8s,baz=87,slow=6.0,SNR=4.3						
AKASG	**Malin Array Be**	**33.13**	**308**	P	**P**	**00 42 25.9**	**+1.4**
	0.4nm,0.4s,baz=107,slow=8.8,SNR=2.8						
NRIK	**Noril'sk**	**33.25**	**10**	P	**P**	**00 42 27.3**	**+2.1**
	1.3nm,0.3s,baz=181,slow=4.2,SNR=4.3						
FINES	**FINESS Array B**	**37.33**	**325**	P	**P**	**00 43 01.5**	**+1.3**
	1.1nm,0.9s,baz=116,slow=9.4,SNR=1.2						
KLR	**Kul'dur**	**44.04**	**55**	P	**P**	**00 43 57.7**	**+2.3**
	1.0nm,0.7s,baz=294,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**66.55**	**269**	P	**P**	**00 46 37.4**	**+0.4**
	0.3nm,0.5s,baz=45,slow=6.5,SNR=4.2						
ILAR	**Eielson Array**	**73.84**	**16**	P	**P**	**00 47 22.1**	**+1.5**
	0.5nm,0.9s,baz=352,slow=4.6,SNR=3.8						
YKA	**Yellowknife Ar**	**80.46**	**3**	P	**P**	**00 47 59.2**	**+1.7**
	0.5nm,0.5s,baz=351,slow=5.4,SNR=10.0						
WRA	**Warramunga Arr**	**81.69**	**123**	P	**P**	**00 48 04.4**	**-0.2**
	0.2nm,0.7s,baz=326,slow=5.2,SNR=1.9						

*UCR **23** 01:33:52.8±1.4, 8°.39N×82°.85W, h30km±4km, MW3.5*
*UPA **23** 01:33:53.0±0.6, 8°.42N×82°.87W, h18km±1km, MW4.1*
ISC 23 01:33:52.9±1.0, 8°.41N±0°.04×82°.87W±0°.03, h24km±6km, n21, σ0°68/34, 5C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.08**	**93**	⇑*e*P	**Pb**	**01 33 57.3**	**0.0**
LESP3				*e*S	**Sb**	**01 33 59.2**	**-0.9**
CDITO	**Canoas**	**0.16**	**358**	⇑*e*P	**Pb**	**01 33 58.1**	**+0.1**
CDITO				*e*S	**Sb**	**01 34 00.8**	**-0.7**
PTPM	**Petroterminale**	**0.20**	**184**	⇑*e*P	**Pb**	**01 33 58.4**	**-0.1**
PTPM				*e*S	**Sb**	**01 34 02.7**	**+0.4**
DVD	**David**	**0.41**	**86**	*e*P	**Pb**	**01 34 01.5**	**-0.2**
DVD				*i* S	**Sb**	**01 34 08.6**	**+1.1**
BRU2	**Volcan**	**0.42**	**24**	⇓*i*P	**Pb**	**01 34 02.2**	**+0.3**
BRU2				*e*S	**Sb**	**01 34 08.8**	**+0.9**
EDSV	**San Vito**	**0.42**	**346**	*e*P	**Pb**	**01 34 02.2**	**+0.3**
EDSV				*e*S	**Sn**	**01 34 10.0**	**-0.7**
PTJ1	**Puerto Jimnez**	**0.45**	**286**	*e*S	**Sb**	**01 34 09.9**	**+1.4**
BCO2	**Palmira**	**0.45**	**47**	⇓*i*P	**Pb**	**01 34 02.7**	**+0.2**
BCO2				*e*S	**Sn**	**01 34 10.4**	**-1.2**
PIRO	**Carate, Puerto**	**0.47**	**269**	*e*P	**Pb**	**01 34 01.8**	**-0.8**
PIRO				*e*S	**Sb**	**01 34 10.4**	**+1.3**
PIRO	**Carate, Puerto**	**0.47**	**269**	⇓*e*P	**Pb**	**01 34 02.0**	**-0.5**
PIRO				*e*S	**Sb**	**01 34 09.2**	**+0.2**
LOMA3	**Las Lomas, Chi**	**0.47**	**87**	*e*P	**Pb**	**01 34 02.6**	**0.0**
BC3P	**Paso Ancho**	**0.48**	**32**	⇑*e*P	**Pb**	**01 34 03.1**	**+0.2**
CHIR3	**Chiriqui UPA,**	**0.53**	**92**	⇓*e*P	**Pb**	**01 34 03.3**	**-0.4**
LNBQ3	**Los Naranjos,**	**0.56**	**48**	*e*P	**Pb**	**01 34 04.2**	**-0.1**
LNBQ3				*e*S	**Sb**	**01 34 12.6**	**+0.5**
CHGR2	**Aguacate**	**0.89**	**54**	⇑*e*P	**Pb**	**01 34 09.0**	**-0.7**
CHGR2				*e*S	**Sb**	**01 34 21.2**	**+0.1**
DRK0	**Durika**	**0.93**	**336**	*e*P	**Pb**	**01 34 09.7**	**-0.7**
DRK0				*e*S	**Sb**	**01 34 22.4**	**0.0**
SRBA	**San Rafael, Bu**	**0.95**	**329**	*e*P	**Pb**	**01 34 09.8**	**-1.0**
PEZE	**Perez Zeledon,**	**1.25**	**320**	*e*P	**Pn**	**01 34 15.1**	**-0.1**
RIMA	**Rio Macho**	**1.67**	**324**	*e*P	**Pn**	**01 34 21.1**	**+0.2**
LCR2	**La Lucha 2**	**1.74**	**320**	*e*P	**Pn**	**01 34 22.4**	**+0.6**
JTS	**Las Juntas de**	**2.78**	**312**	*e*P	**Pn**	**01 34 36.2**	**+0.1**
JTS				*e*S	**Sn**	**01 35 09.6**	**+0.7**

*IDC **23** 01:43:12.8±1.6, 6°.18N×125°.32E, h90km±15km, mb3.1/5, mb1 3.3/5, mb1mx3.2/33, mbtmp3.4/5, Error ellipse: s-maj=61.6km s-min=19.7km az=83.0*
*MAN **23** 01:43:13.7, 6°.29N×125°.95E, h56km, mb4.8, ML3.7, MS3.6*
ISC 23 01:43:13.9±0.9, 6°.22N±0°.08×125°.6E±0°.1, h100km, n8, σ0°77/12, mb3.3/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.66**	**259**	⇑*i*P	**Pn**	**01 43 30.6**	**-0.5**
GSPH				*i* S	**Sn**	**01 43 44.2**	**+0.3**
DAV	**Davao City (W)**	**0.85**	**359**	P	**Pn**	**01 43 32.7**	**-0.1**
	195nm,0.3s,baz=252,slow=9.2,SNR=3.6						
DAV				S	**Sn**	**01 43 46.2**	**-0.7**
	272nm,0.3s,baz=252,slow=20,SNR=14						
KCP	**Kidapawan**	**0.93**	**327**	⇑*i*P	**Pn**	**01 43 34.2**	**+0.5**
KCP				*i* S	**Sn**	**01 43 48.8**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.16**	**180**	P	**P**	**01 48 22.0**	**+1.1**
	0.5nm,0.4s,baz=351,slow=8.9						
WRA	**Warramunga Arr**	**27.38**	**162**	P	**P**	**01 48 49.1**	**-1.0**
	0.2nm,0.3s,baz=334,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**30.79**	**165**	P	**P**	**01 49 19.7**	**-0.6**
	0.1nm,0.3s,baz=340,slow=7.9,SNR=2.7						
ASAR				PcP	**PcP**	**01 52 16.2**	**+0.7**
	0.2nm,0.5s,baz=332,slow=2.0,SNR=2.8						
MKAR	**Makanchi Array**	**54.88**	**325**	P	**P**	**01 52 33.2**	**-1.0**
	0.2nm,0.5s,baz=119,slow=8.0,SNR=2.4						
ILAR	**Eielson Array**	**83.36**	**26**	P	**P**	**01 55 30.3**	**+0.6**
	0.6nm,0.9s,baz=255,slow=5.0,SNR=6.4						

*IDC **23** 02:07:16.0±1.6, 30°.18S×177°.40W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/33, mbtmp4.2/4, Error ellipse: s-maj=35.3km s-min=25.6km az=92.0*
ISC 23 02:07:20.4±1.7, 30°.25S±0°.1×177°.3W±0°.2, h35km, n8, σ0°65/9, mb4.2/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.06**	**328**	Pn	**Pn**	**02 07 38.6**	**-0.1**
	182nm,0.3s,baz=107,slow=20,SNR=1.4						
RAO				Sn	**Sn**	**02 07 52.3**	**+0.1**
	2μm,0.3s,baz=72,slow=19,SNR=16						
CTA	**Charters Tower**	**34.37**	**278**	P	**P**	**02 14 05.0**	**+0.7**
	5.4nm,0.6s,baz=102,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**35.14**	**255**	P	**P**	**02 14 11.2**	**+0.4**
	1.3nm,0.4s,baz=92,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**43.74**	**266**	P	**P**	**02 15 21.6**	**-1.0**
	0.7nm,0.5s,baz=105,slow=7.5,SNR=6.9						
WRA	**Warramunga Arr**	**44.71**	**272**	P	**P**	**02 15 29.6**	**-0.8**
	1.5nm,0.3s,baz=112,slow=7.6,SNR=9.3						
FINES	**FINESS Array B**	**145.13**	**341**	PKPbc	**PKPdf**	**02 26 53.7**	**+0.3**
	3.0nm,0.6s,baz=63,slow=3.9,SNR=29						
NOA	**NORSAR Array B**	**148.60**	**352**	PKPbc	**PKiKP**	**02 27 04.2**	**-0.3**
	1.1nm,1.0s,baz=16,slow=4.0,SNR=1.9						
AKASG	**Malin Array Be**	**151.48**	**324**	PKPbc	**PKPbc**	**02 27 10.4**	**+0.1**
	0.9nm,0.5s,baz=51,slow=2.7,SNR=7.1						

*IDC **23** 02:08:02.9±1.3, 3°.68N×126°.10E, h130km±11km, mb4.0/13, mb1 4.1/17, mb1mx3.7/50, mbtmp4.5/17, MS2.9/4, Ms1 2.9/4, ms1mx2.5/74, Error ellipse: s-maj=24.3km s-min=9.3km az=72.0*
*MAN **23** 02:08:03.2, 3°.68N×125°.89E, h87km, mb4.2, ML4.1, MS4.2*
*NEIC **23** 02:08:03.8±1.9, 3°.49N±0°.05×126°.20E±0°.06, h145km±10km, mb4.3/18, Error ellipse: s-maj=11.4km s-min=4.0km az=130.0*
*DJA **23** 02:08:04.8±0.5, 4°N±5°×12°6E±°, h87km±6km, M4.6/13, mb4.8/11, mB5.0/6, MLv4.7/13, Mw(mB)4.3/6*
ISC 23 02:08:01.7±0.4, 3°.69N±0°.05×126°.17E±0°.07, h116km, n96, σ1°88/99, mb4.3/24, 4C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.64**	**270**	P	**Pn**	**02 08 21.4**	**+1.3**
SGSI				S	**Sn**	**02 08 35.9**	**+1.8**
DDMP	**Don Marcelino,**	**2.44**	**349**	⇓*e*P	**Pn**	**02 08 41.4**	**+0.8**
GSPH	**General Santos**	**2.67**	**333**	⇑*e*P	**Pn**	**02 08 44.0**	**+0.2**
GSPH				*i* S	**Sn**	**02 09 14.8**	**-1.2**
TNTI	**Ternate**	**3.13**	**158**	P	**Pn**	**02 08 51.0**	**+1.3**
TNTI	**Ternate**	**3.13**	**158**	Pn	**Pn**	**02 08 49.4**	**-0.2**
TNTI	**Ternate**	**3.13**	**158**	P	**Pn**	**02 08 50.8**	**+1.1**
MATI	**Mati**	**3.24**	**2**	⇓*e*P	**Pn**	**02 08 53.4**	**+2.4**
DAV	**Davao City (W)**	**3.41**	**350**	P	**Pn**	**02 08 56.1**	**+2.8**
	75nm,0.3s,baz=253,slow=7.9,SNR=1.6						
DAV				S	**Sn**	**02 09 35.7**	**+2.5**
	84nm,0.3s,baz=203,slow=21,SNR=4.3						
DAV	**Davao City (W)**	**3.41**	**350**	Pn	Pn	02 08 59.1	+5.8
KCP	**Kidapawan**	**3.47**	**342**	⇑*i*P	**Pn**	**02 08 55.7**	**+1.6**
KCP				*i* S	**Sn**	**02 09 39.7**	**+5.0**
KMSI	**Cibinong**	**3.79**	**215**	P	**Pn**	**02 09 01.4**	**+3.1**
CTBH	**Cotabato--PC H**	**4.00**	**331**	⇑*i*P	**Pn**	**02 09 01.8**	**+0.7**
CTBH				*i* S	**Sn**	**02 09 46.6**	**-0.6**
GTOI	**Gorontalo**	**4.38**	**226**	P	**Pn**	**02 09 07.7**	**+1.5**
LBMI	**Labuha**	**4.50**	**163**	P	**Pn**	**02 09 09.2**	**+1.3**
PAGZ	**Pagadian**	**4.98**	**326**	⇓*e*P	**Pn**	**02 09 16.2**	**+1.9**
MRSI	**Marisa**	**5.29**	**233**	P	**Pn**	**02 09 20.3**	**+1.7**
	1.1nm3μm286nm,0.7s						
SANI	**Sanana**	**5.70**	**182**	P	**Pn**	**02 09 23.1**	**-1.1**
	1.1nm6μm154nm,0.7s						
SANI	**Sanana**	**5.70**	**182**	P	**Pn**	**02 09 23.0**	**-1.1**
LUWI	**Luwuk**	**5.80**	**216**	P	**Pn**	**02 09 28.1**	**+2.7**
	1.3nm230nm,1.3s						
LUWI	**Luwuk**	**5.80**	**216**	Pn	**Pn**	**02 09 26.2**	**+0.9**
TOLI2	**Tolitoli**	**5.96**	**245**	Pn	**Pn**	**02 09 27.9**	**+0.3**
TOLI2	**Tolitoli**	**5.96**	**245**	P	**Pn**	**02 09 28.9**	**+1.3**
GLSP	**General Luna,**	**6.06**	**360**	⇓*e*P	**Pn**	**02 09 27.4**	**-1.5**
APSI	**Ampana**	**6.42**	**225**	P	**Pn**	**02 09 36.5**	**+2.6**
	0.3nm700nm68nm,0.8s						
CNOP	**Candoni, Negro**	**7.03**	**330**	⇑*i*P	**Pn**	**02 09 44.0**	**+1.9**
MPSI	**Mapaga**	**7.10**	**242**	P	**Pn**	**02 09 44.9**	**+2.0**
	0.2nm19nm,0.7s						
MYLDM	**Lahad Datu**	**7.79**	**281**	Pn	**Pn**	**02 09 55.8**	**+3.5**
PCI	**Palu**	**7.80**	**234**	P	**Pn**	**02 09 54.2**	**+1.7**
	3μm173nm,1.0s						
FAKI	**Fak Fak**	**8.94**	**137**	P	**Pn**	**02 10 09.9**	**+1.9**
	70nm,1.2s						
FAKI	**Fak Fak**	**8.94**	**137**	Pn	**Pn**	**02 10 07.3**	**-0.7**
FAKI	**Fak Fak**	**8.94**	**137**	P	**Pn**	**02 10 10.0**	**+1.9**
TTSI	**Tana Toraja**	**9.22**	**224**	P	**Pn**	**02 10 14.1**	**+2.4**
SPSI	**Sidrap Palu**	**9.93**	**220**	P	**Pn**	**02 10 22.7**	**+1.3**
BNSI	**Bone**	**10.06**	**217**	P	Pn	02 10 31.4	+8.3
KAPI	**Kappang**	**10.76**	**217**	P	**Pn**	**02 10 33.3**	**+0.8**
	0.7nm,0.3s,baz=32,slow=15,SNR=6.7						
KAPI				LR	LR	02 14 27.0	
	comp=Z,49nm,21.0s,baz=52,slow=36						
KAPI	**Kappang**	**10.76**	**217**		**Pn**	**02 10 32.2**	**-0.3**
BAKI	**Biak**	**11.05**	**116**	P	Pn	02 10 41.6	+5.1
KBKI	**Kotabaru**	**12.17**	**235**	P	**Pn**	**02 10 54.2**	**+2.9**
MMRI	**Maumere**	**12.86**	**198**	Pn	**Pn**	**02 10 57.7**	**-2.5**
EDFI	**Ende, Flores**	**13.14**	**200**	P	**Pn**	**02 11 04.6**	**+0.6**
	204nm19nm,0.8s						
BBKI	**Banjar Baru**	**13.37**	**238**	P	**P**	**02 11 10.0**	**-2.2**
SBUM	**Sibu**	**13.98**	**265**		**Pn**	**02 11 16.6**	**+1.7**
BATI	**Baumata**	**14.03**	**190**	P	**P**	**02 11 17.4**	**-2.2**
	4.0nm,0.3s,baz=18,slow=0.6,SNR=5.4						
BATI	**Baumata**	**14.03**	**190**	P	**P**	**02 11 21.2**	**+1.6**
WBSI	**Waikabubak, Su**	**14.87**	**207**	P	**Pn**	**02 11 26.8**	**+0.7**
GENI	**Genyem**	**15.32**	**114**	P	**P**	**02 11 37.4**	**+3.5**
GENI	**Genyem**	**15.32**	**114**	P	**P**	**02 11 37.2**	**+3.3**
JAY	**Jayapura**	**15.78**	**113**	P	**P**	**02 11 40.1**	**+1.0**
	0.8nm,0.3s,baz=296,slow=11,SNR=8.6						
KSM	**Kuching**	**16.00**	**263**		**Pn**	**02 11 40.9**	**+0.7**
KSM	**Kuching**	**16.00**	**263**	P	**P**	**02 11 43.3**	**+1.9**
SRBI	**Singaraja**	**16.01**	**223**	P	**P**	**02 11 43.1**	**+1.6**
JAGI	**Jajag, Banyuwa**	**17.02**	**225**		**P**	**02 11 51.5**	**-1.2**
MTN	**Manton Dam**	**17.15**	**163**		**P**	**02 11 52.0**	**-2.1**
KDU	**Kakadu**	**17.43**	**159**	P	**Pn**	**02 11 59.1**	**+1.4**
KNRA	**Kununurra**	**19.41**	**172**	P	**P**	**02 12 18.6**	**-0.3**
KNRA				IAmb	IAmb	02 12 30.4	
	comp=Z,11nm,0.8s						
KNRA	**Kununurra**	**19.41**	**172**	P	**Pn**	**02 12 20.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.66**	**181**	P	**P**	**02 12 42.5**	**-0.5**
	comp=Z,20nm,0.7s,baz=13,slow=8.4,SNR=45						
PMG	**Port Moresby**	**24.63**	**122**	P	**P**	**02 13 11.4**	**-0.2**
	comp=Z,6.9nm,0.5s,baz=340,slow=12,SNR=3.3						
WB0	**Warramunga Arr**	**24.67**	**161**	P	**P**	**02 13 10.5**	**-1.4**
WB0				IAmb	IAmb	02 13 26.9	
	comp=Z,8.7nm,0.9s						
WRA	**Warramunga Arr**	**24.82**	**161**	P	**P**	**02 13 12.4**	**-0.8**
	comp=Z,4.8nm,0.7s,baz=343,slow=10,SNR=32						
WRA				S	**S**	**02 17 31.6**	**+4.0**
	comp=Z,2.6nm,1.1s,baz=349,slow=20,SNR=4.9						
WRA				ScP	**ScP**	**02 20 13.5**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=343,slow=3.1,SNR=5.0						
WRA	**Warramunga Arr**	**24.82**	**161**	P	**P**	**02 13 10.5**	**-2.7**
WB2	**Warramunga Arr**	**24.82**	**161**	P	**P**	**02 13 11.9**	**-1.4**
WB2				IAmb	IAmb	02 13 16.0	
	comp=Z,10.0nm,0.8s						
WR0	**Warramunga Arr**	**24.90**	**161**	P	**P**	**02 13 12.3**	**-1.7**
WR0				IAmb	IAmb	02 13 27.5	
	comp=Z,5.0nm,0.8s						
MNSI	**Mandailing Nat**	**26.72**	**264**	P	P	02 13 50.9	+20
PSI	**Prapat**	**27.21**	**269**	LR	LR	02 26 13.3	
	comp=Z,24nm,20.5s,baz=74,slow=40						
ASAR	**Alice Springs**	**28.21**	**165**	P	**P**	**02 13 43.5**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=350,slow=8.1,SNR=26						
ASAR				PcP	**PcP**	**02 16 55.2**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=344,slow=2.8,SNR=8.4						
ASAR				S	**S**	**02 18 25.5**	**+4.3**
	comp=Z,0.3nm,0.7s,baz=338,slow=20,SNR=5.5						
ASAR				ScP	**ScP**	**02 20 24.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=6.4,slow=2.4,SNR=8.0						
CMAR	**Chiang Mai Arr**	**30.41**	**301**	P	**P**	**02 14 04.1**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=118,slow=7.3,SNR=9.2						
CMAR	**Chiang Mai Arr**	**30.41**	**301**	P	**P**	**02 14 02.7**	**-0.5**
CTAO	**Charters Tower**	**30.78**	**141**	P	**P**	**02 14 03.3**	**-3.2**
CTAO				IAmb	IAmb	02 14 05.5	
	comp=Z,5.6nm,0.8s						
JHJ	**Hachijo jima 2**	**31.93**	**22**	LR	LR	02 32 27.2	
	comp=Z,14nm,18.0s,baz=196,slow=46						
PZH	**PanZhiHua**	**32.59**	**317**	P	**P**	**02 14 25.1**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
XAN	**Xi'an**	**34.20**	**334**	P	**P**	**02 14 39.9**	**+3.6**
XAN				pP	pP	02 14 51.3	-11
XAN				pmax	pmax		
	comp=Z,6.0nm,1.4s						
STKA	**Stephens Creek**	**38.29**	**159**	P	**P**	**02 15 11.5**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=322,slow=10,SNR=3.3						
HHC	**Hu-ho-hao-te**	**39.27**	**342**	*e*P	**P**	**02 15 22.1**	**+3.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,160nm,5.6s						
PALK	**Pallekele**	**45.38**	**277**	LR	LR	02 35 57.9	
	comp=Z,24nm,18.4s,baz=245,slow=37						
WMQ	**Urumqi**	**52.44**	**325**	*e*P	**P**	**02 17 04.8**	**+2.3**
MK31	**Makanchi Array**	**57.27**	**326**	P	**P**	**02 17 36.3**	**-0.9**
MK31				IAmb	IAmb	02 17 38.1	
	comp=Z,1.9nm,0.6s						
MKAR	**Makanchi Array**	**57.27**	**326**	P	**P**	**02 17 36.3**	**-0.9**
	comp=Z,1.9nm,0.4s,baz=121,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**57.27**	**326**	P	**P**	**02 17 36.4**	**-0.8**
NIL	**Nilore**	**57.51**	**308**	P	**P**	**02 17 38.1**	**-1.1**
NIL				IAmb	IAmb	02 17 40.6	
	comp=Z,4.0nm,0.7s						
ZAA0	**Zalesovo Array**	**60.37**	**333**	P	**P**	**02 17 58.2**	**-0.3**
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**	**02 17 57.0**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=144,slow=5.5,SNR=3.7						
KBL	**Kabul**	**61.10**	**308**	P	**P**	**02 18 03.4**	**-0.7**
KBL				IAmb	IAmb	02 18 04.1	
	comp=Z,4.0nm,0.7s						
KURK	**Kurchatov**	**61.48**	**328**	P	**P**	**02 18 04.5**	**-1.5**
KKAR	**Karatay Array**	**62.88**	**317**	P	**P**	**02 18 13.7**	**-1.9**
NRIK	**Noril'sk**	**70.34**	**346**	P	**P**	**02 19 02.6**	**+0.2**
	comp=Z,4.6nm,0.6s,baz=125,slow=5.6,SNR=12						
NRIK	**Noril'sk**	**70.34**	**346**	P	**P**	**02 19 02.4**	**0.0**
ABKAR	**Akbulak array**	**71.83**	**321**	P	**P**	**02 19 10.2**	**-1.6**
GURO	**Guroymak-BITLI**	**83.13**	**308**	P	**P**	**02 20 14.2**	**-1.0**
GURO				IAmb	IAmb	02 20 17.0	
	comp=Z,2.4nm,0.8s						
KLMR	**Klimovskoe**	**85.17**	**331**	*e*P	**P**	**02 20 22.8**	**-2.0**
KLMR				AMP		02 20 24.9	
	comp=Z,6.0nm,0.6s						
BRTR	**Keskin Array B**	**89.62**	**310**	P	**P**	**02 20 44.6**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=149,slow=5.8,SNR=4.3						
ARCES	**ARCESS Array B**	**90.29**	**340**	P	**P**	**02 20 47.0**	**-2.2**
	comp=Z,1.9nm,0.8s,baz=87,slow=7.3

*IDC **23** 02:35:51.3±1.1, 39°.40N×26°.11E, h0km, mb3.4/4, mb1 3.6/9, mb1mx3.4/47, mbtmp3.5/9, ML3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/51, Error ellipse: s-maj=19.9km s-min=14.7km az=101.0*
*ISK **23** 02:35:52.4, 39°.51N×25°.98E, h14km, ML3.8/24*
*DDA **23** 02:35:53.2±0.0, 39°.51N×26°.02E, h12km, MW3.7*
*THE **23** 02:35:53.3, 39°.51N×25°.98E, h7km±1km, ML3.6/5, Error ellipse: s-maj=1.8km s-min=0.5km az=115.0*
*ATH **23** 02:35:53.5, 39°.50N×25°.94E, h16km±5km, ML3.7/7, Error ellipse: s-maj=5.5km s-min=1.2km az=142.0*

ISC 23 02:35:53.2±0.8, **39°.50N**±0°.02×**26°.00E**±0°.02, **h13**km±5km, **n124**, σ0°**76**/147, **mb3.5**/4, **18C-17D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.11**	**88**	P	**Pg**	**02 35 56.2**	**-0.1**
KOCA				*i* AML	AML	02 35 58.0	
	comp=E,3μm,0.5s						
KOCA				S	**Sg**	**02 35 58.2**	**-0.2**
KOCA				*i* AML	AML	02 36 01.0	
	comp=N,2μm,0.3s						
SIGR	**SIGRI**	**0.31**	**202**	P	**Pg**	**02 35 59.3**	**-0.2**
SIGR				S	**Sg**	**02 36 03.7**	**-0.1**
	19μm,0.3s						
SIGR	**SIGRI**	**0.31**	**202**	P	**Pg**	**02 35 59.3**	**-0.2**
SIGR				S	**Sg**	**02 36 03.9**	**+0.2**
SIGR				AML	AML	02 36 04.3	
	comp=E,20368μm,0.4s						
SIGR				AML	AML	02 36 04.6	
	comp=N,56627μm,0.3s						
SIGR	**SIGRI**	**0.31**	**202**	PG	**Pg**	**02 35 59.3**	**-0.2**
SIGR				SG	**Sg**	**02 36 04.3**	**+0.5**
PRK	**Paraskevi**	**0.33**	**140**	P	**Pb**	**02 36 00.9**	**0.0**
PRK				S	**Sb**	**02 36 06.1**	**0.0**
	comp=N,28μm,0.5s						
PRK	**Paraskevi**	**0.33**	**140**	P	**Pb**	**02 36 01.0**	**+0.1**
PRK				S	**Sb**	**02 36 06.3**	**+0.2**
PRK				AML	AML	02 36 06.4	
	comp=N,44643μm,0.3s						
PRK				AML	AML	02 36 07.8	
	comp=E,58103μm,0.7s						
BOZC	**Bozcaada**	**0.34**	**7**	PG	**Pg**	**02 35 59.9**	**-0.3**
BOZC				SG	**Sg**	**02 36 05.0**	**+0.1**
BOZC	**Bozcaada**	**0.34**	**7**	S	**Sg**	**02 36 05.3**	**+0.4**
EZN	**Ezine**	**0.41**	**37**	P	**Pg**	**02 36 01.1**	**-0.3**
EZN				S	**Sg**	**02 36 07.1**	**+0.2**
EZN	**Ezine**	**0.41**	**37**	PG	**Pg**	**02 36 01.2**	**-0.2**
EZN				SG	**Sg**	**02 36 07.3**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.49**	**60**	SPECP		02 36 02.0	
BAYC				P	**Pg**	**02 36 02.5**	**-0.3**
BAYC				*i* AML	AML	02 36 09.0	
	comp=E,4μm,0.4s						
BAYC				*i* AML	AML	02 36 09.0	
	comp=E,3μm,0.4s						
BAYC				S	**Sg**	**02 36 09.3**	**+0.1**
ECEA	**Canakkale, Ece**	**0.56**	**14**	SPECP		02 36 04.0	
ECEA				P	**Pg**	**02 36 04.1**	**-0.1**
ECEA				*i* AML	AML	02 36 12.0	
	comp=E,1μm,0.3s						
ECEA				S	**Sb**	**02 36 12.6**	**-0.2**
ECEA				*i* AML	AML	02 36 14.0	
	comp=E,7μm,0.4s						
AYVA	**Ayvalik**	**0.57**	**109**	P	**Pg**	**02 36 04.3**	**0.0**
AYVA				*i* AML	AML	02 36 16.0	
	comp=E,3μm,0.6s						
AYVA				*i* AML	AML	02 36 21.0	
	comp=E,1μm,0.5s						
GOKA	**anakkale-Gk**	**0.69**	**354**	SPECP		02 36 06.0	
GOKA				P	**Pg**	**02 36 06.2**	**-0.5**
GOKA				S	**Sb**	**02 36 16.5**	**-0.1**
GOKA				*i* AML	AML	02 36 22.0	
	comp=E,4μm,0.4s						
GADA	**Gvkgeada**	**0.69**	**353**	P	**Pg**	**02 36 05.9**	**-0.8**
GADA				S	**Sg**	**02 36 16.0**	**+0.1**
GADA	**Gvkgeada**	**0.69**	**353**	PG	**Pg**	**02 36 06.0**	**-0.8**
GADA				SG	**Sg**	**02 36 15.9**	**+0.1**
LIA	**Limnos Island**	**0.75**	**302**	P	**Pg**	**02 36 07.3**	**-0.3**
LIA				S	**Sb**	**02 36 18.4**	**+0.2**
	comp=E,3μm,0.5s						
LIA	**Limnos Island**	**0.75**	**302**	P	**Pg**	**02 36 07.4**	**-0.3**
LIA				AML	AML	02 36 19.2	
	comp=E,6031μm,0.5s						
LIA				AML	AML	02 36 20.5	
	comp=N,7573μm,0.6s						
EFSA	**Agios Efstrati**	**0.79**	**273**	P	**Pb**	**02 36 08.6**	**-0.1**
DKL	**Dikili**	**0.82**	**121**	PG	**Pg**	**02 36 09.1**	**0.0**
CAND	**Candarli**	**0.83**	**131**	PG	**Pg**	**02 36 09.2**	**0.0**
BUHA	**Balikesir, Bur**	**0.83**	**90**	SPECP		02 36 09.0	
BUHA				P	**Pg**	**02 36 09.1**	**-0.2**
BUHA				S	**Sg**	**02 36 20.5**	**+0.3**
BUHA				*i* AML	AML	02 36 24.0	
	comp=N,3μm,0.5s						
BUHA				*i* AML	AML	02 36 26.0	
	comp=N,2μm,0.7s						
GELI	**Tayfur-Gelibol**	**0.97**	**22**	PG	**Pg**	**02 36 11.2**	**-0.7**
ZEDA	**zmir-Bergama**	**0.99**	**122**	SPECP		02 36 12.0	
ZEDA				P	**Pb**	**02 36 12.1**	**-0.1**
ZEDA				S	**Sb**	**02 36 26.4**	**+1.2**
ZEDA				*i* AML	AML	02 36 28.0	
	comp=N,826nm,0.2s						
ZEDA				*i* AML	AML	02 36 29.0	
	comp=N,877nm,0.2s						
PSRA	**Psara**	**1.01**	**200**	P	**Pg**	**02 36 12.9**	**+0.1**
PSRA				AML	AML	02 36 29.9	
	comp=E,26414μm,0.4s						
PSRA				AML	AML	02 36 31.7	
	comp=N,19265μm,0.2s						
SMTH	**Samothraki Isl**	**1.04**	**340**	P	**Pb**	**02 36 12.4**	**-0.6**
SMTH				S	**Sn**	**02 36 27.3**	**-0.5**
	comp=N,2μm,0.5s						
SMTH	**Samothraki Isl**	**1.04**	**340**	P	**Pb**	**02 36 12.5**	**-0.6**
SMTH				S	**Sb**	**02 36 26.7**	**+0.2**
SMTH				AML	AML	02 36 27.5	
	comp=N,4068μm,0.5s						
SMTH				AML	AML	02 36 28.1	
	comp=E,4756μm,0.5s						
LPK	**Lapseki**	**1.05**	**34**	PG	**Pb**	**02 36 12.5**	**-0.7**
CHOS	**Chios island**	**1.11**	**178**	P	**Pb**	**02 36 13.5**	**-0.8**
CHOS				S	**Sn**	**02 36 29.8**	**0.0**
	comp=E,5μm,0.4s						
CHOS	**Chios island**	**1.11**	**178**	P	**Pb**	**02 36 13.6**	**-0.8**
CHOS				AML	AML	02 36 32.7	
	comp=N,9307μm,0.3s						
CHOS				AML	AML	02 36 34.7	
	comp=E,11470μm,0.4s						
CHOS	**Chios island**	**1.11**	**178**	PN	**Pb**	**02 36 13.4**	**-0.8**
CAVK	**Edirne/Enez-Ca**	**1.20**	**6**	SPECP	**Pn**	**02 36 15.0**	**-0.7**
CAVK				P	**Pn**	**02 36 15.0**	**-0.7**
CAVK				*i* AML	AML	02 36 41.0	
	comp=E,910nm,0.6s						
CAVK				*i* AML	AML	02 36 42.0	
	comp=E,933nm,0.8s						
URLA	**Izmir**	**1.23**	**158**	PN	**Pn**	**02 36 15.2**	**-0.9**
URLA	**Izmir**	**1.23**	**158**	P	**Pn**	**02 36 15.2**	**-0.9**
ERIK	**Erikli-Kesan**	**1.23**	**18**	PN	**Pn**	**02 36 15.4**	**-0.7**
ENEZ	**Enez**	**1.24**	**5**	P	**Pn**	**02 36 15.8**	**-0.4**
ENEZ	**Enez**	**1.24**	**5**	PN	**Pn**	**02 36 15.8**	**-0.4**
BALY	**Balya**	**1.27**	**79**	SPECP		02 36 16.0	
BALY				P	**Pn**	**02 36 16.5**	**-0.2**
BALY				*i* AML	AML	02 36 35.0	
	comp=E,1μm,0.6s						
BALY				*i* AML	AML	02 36 37.0	
	comp=E,1μm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**1.32**	**163**	P	**Pn**	**02 36 16.4**	**-0.9**
STEP	**BALIKESIR_Sava**	**1.33**	**95**	SPECP		02 36 17.0	
STEP				P	**Pn**	**02 36 17.8**	**+0.2**
STEP				*i* AML	AML	02 36 38.0	
	comp=E,956nm,0.3s						
STEP				*i* AML	AML	02 36 39.0	
	comp=E,1μm,0.4s						
KRBG	**Karabiga-Canak**	**1.34**	**48**	PN	**Pn**	**02 36 17.2**	**-0.4**
ALN	**Alexandroupoli**	**1.40**	**1**	P	**Pn**	**02 36 18.0**	**-0.4**
ALN	**Alexandroupoli**	**1.40**	**1**	P	**Pn**	**02 36 17.8**	**-0.6**
ALN				AML	AML	02 36 40.5	
	comp=E,1374μm,0.4s						
ALN				AML	AML	02 36 45.5	
	comp=N,2190μm,0.9s						
ALN	**Alexandroupoli**	**1.40**	**1**	PN	**Pn**	**02 36 17.6**	**-0.8**
GONE	**Gonen-Balikesi**	**1.41**	**67**	PN	**Pn**	**02 36 18.7**	**+0.2**
THAS	**Thassos island**	**1.48**	**319**	P	**Pn**	**02 36 19.1**	**-0.4**
THAS	**Thassos island**	**1.48**	**319**	P	**Pn**	**02 36 19.3**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.49**	**37**	PN	**Pn**	**02 36 19.3**	**-0.4**
MAR6	**Marsite Statio**	**1.54**	**38**	PN	**Pb**	**02 36 21.3**	**-0.4**
MAR3	**Marsite Statio**	**1.59**	**38**	PN	**Pn**	**02 36 20.7**	**-0.4**
GZKV	**Gazikoy-Tekird**	**1.61**	**39**	PN	**Pn**	**02 36 21.7**	**+0.4**
EDC	**Edincik**	**1.66**	**59**	PN	**Pn**	**02 36 20.8**	**-1.3**
RDO	**Rodhopi**	**1.68**	**348**	P	**Pn**	**02 36 22.1**	**-0.2**
RDO	**Rodhopi**	**1.68**	**348**	P	**Pn**	**02 36 22.1**	**-0.2**
RDO	**Rodhopi**	**1.68**	**348**	PN	**Pn**	**02 36 21.3**	**-1.0**
UKOP	**Uzunkopru-Edir**	**1.70**	**16**	PN	**Pn**	**02 36 22.3**	**-0.2**
OUR	**Ouranopolis**	**1.76**	**299**	P	**Pn**	**02 36 23.1**	**-0.3**
OUR	**Ouranopolis**	**1.76**	**299**	P	**Pn**	**02 36 23.0**	**-0.3**
OUR	**Ouranopolis**	**1.76**	**299**	PN	**Pn**	**02 36 23.1**	**-0.3**
PAIG	**Paliouri**	**1.84**	**284**	P	**Pn**	**02 36 23.6**	**-0.9**
KAVA	**Kavala**	**1.88**	**323**	P	**Pn**	**02 36 24.6**	**-0.4**
SMG	**Samos**	**1.90**	**160**	P	**Pn**	**02 36 25.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.97**	**66**	PN	**Pn**	**02 36 25.9**	**-0.4**
DST	**Dursunbey**	**2.03**	**86**	PN	**Pn**	**02 36 27.1**	**0.0**
GCAM	**G?zelcaml?**	**2.04**	**151**	PN	**Pn**	**02 36 27.1**	**-0.1**
EDRB	**Edirne**	**2.41**	**13**	P	**Pn**	**02 36 31.9**	**-0.5**
NVR	**Nevrokopi**	**2.47**	**319**	P	**Pn**	**02 36 33.3**	**+0.1**
VAY	**Valandovo**	**3.19**	**306**	*i* Pn	**Pn**	**02 36 45.6**	**+2.6**
STIP	**Stip**	**3.64**	**308**	*i* Pn	**Pn**	**02 36 48.2**	**-1.0**
VTS	**Vitosha**	**3.75**	**327**	⇓P	**Pn**	**02 36 51.6**	**+0.7**
BOSS	**Bosilegrad**	**4.01**	**319**	*e*Pn	**Pn**	**02 36 55.3**	**+1.0**
PRVS	**Prvonek**	**4.22**	**317**	*e*Pn	**Pn**	**02 36 57.7**	**+0.4**
IDI	**Anoyia**	**4.30**	**192**	Pn	**Pn**	**02 36 57.1**	**-1.2**
	comp=N,0.8nm,0.3s,baz=178,slow=9.8,SNR=1.5						
IDI				Sn	**Sn**	**02 37 45.4**	**-3.0**
	comp=N,3.6nm,0.3s,baz=334,slow=18,SNR=5.9						
ZAPS	**Zavoj**	**4.54**	**327**	*e*Pn	**Pn**	**02 37 03.2**	**+1.5**
BARS	**Barje**	**4.58**	**318**	*e*Pn	**Pn**	**02 37 02.4**	**+0.3**
MANR	**Mangalia**	**4.73**	**23**	⇑P	**Pn**	**02 37 04.1**	**-0.1**
RASA	**Rasa**	**4.79**	**10**	⇓P	**Pn**	**02 37 05.4**	**+0.4**
ICOR	**Ion Corvin**	**4.81**	**16**	⇓P	**Pn**	**02 37 05.7**	**+0.5**
MFTR	**Murfatlar**	**5.01**	**20**	⇑P	**Pn**	**02 37 08.1**	**+0.1**
HUMR	**Humele**	**5.08**	**352**	⇓P	**Pn**	**02 37 09.4**	**+0.4**
ZAGS	**Zajecar**	**5.15**	**328**	*e*Pn	**Pn**	**02 37 10.0**	**0.0**
SELS	**Selova**	**5.22**	**317**	*e*Pn	**Pn**	**02 37 10.6**	**-0.5**
TLBR	**Topalu**	**5.27**	**16**	⇑P	**Pn**	**02 37 12.1**	**+0.5**
TIRR	**Tirgusor**	**5.27**	**19**	⇓P	**Pn**	**02 37 11.5**	**-0.1**
HARR	**Harsova**	**5.38**	**15**	⇓P	**Pn**	**02 37 13.2**	**+0.1**
TPGR	**Topolog**	**5.65**	**18**	⇑P	**Pn**	**02 37 16.7**	**-0.1**
SJES	**Sjenica**	**5.89**	**312**	*e*Pn	**Pn**	**02 37 21.2**	**+1.0**
CFR	**Carcaliu**	**5.89**	**15**	⇑P	**Pn**	**02 37 19.6**	**-0.5**
BRTR	**Keskin Array B**	**5.90**	**85**	Pn	**Pn**	**02 37 21.8**	**+1.3**
	comp=N,0.7nm,0.3s,baz=256,slow=12,SNR=21						
BRTR				Sn	**Sn**	**02 38 26.6**	**-1.4**
	comp=N,0.3nm,0.3s,baz=266,slow=18,SNR=1.8						
BRTR				Lg	Lg	02 39 04.4	
	baz=265,slow=27,SNR=3.1						
GRUS	**Gruza**	**5.91**	**320**	*e*Pn	**Pn**	**02 37 20.1**	**-0.3**
ARR	**Arges**	**5.95**	**351**	⇑P	**Pn**	**02 37 20.9**	**-0.1**
VOIR		**5.98**	**354**	⇑P	**Pn**	**02 37 21.5**	**+0.1**
IVAS	**Ivanjica**	**5.99**	**315**	*e*Pn	**Pn**	**02 37 21.5**	**0.0**
MLR	**Muntele Rosu**	**5.99**	**360**	⇑P	**Pn**	**02 37 22.4**	**+0.8**
MLR	**Muntele Rosu**	**5.99**	**360**	Pn	**Pn**	**02 37 23.3**	**+1.7**
	comp=N,1.8nm,0.3s,baz=252,slow=2.0,SNR=20						
MLR				LR	LR	02 40 23.0	
	comp=N,156nm,18.3s,baz=118,slow=45						
HERR	**Herculane**	**6.00**	**335**	⇑P	**Pn**	**02 37 21.0**	**-0.6**
TLCR		**6.05**	**19**	⇑P	**Pn**	**02 37 22.8**	**+0.4**
MDVR	**Moldovita**	**6.17**	**330**	⇓P	**Pn**	**02 37 24.0**	**0.0**
LOT	**Lotru**	**6.17**	**345**	⇑P	**Pn**	**02 37 24.0**	**-0.1**
TATR	**Tatarca**	**6.28**	**13**	⇓P	**Pn**	**02 37 25.9**	**+0.5**
COVR	**Voineasa-Covas**	**6.34**	**1**	⇑P	**Pn**	**02 37 28.1**	**+1.7**
SCTR	**Scanteiesti**	**6.34**	**13**	⇑P	**Pn**	**02 37 26.6**	**+0.2**
GZR	**Gura Zlata**	**6.35**	**339**	⇑P	**Pn**	**02 37 26.7**	**+0.1**
PLOR	**Plostina**	**6.37**	**4**	⇓P	**Pn**	**02 37 28.2**	**+1.5**
VRI	**Vrincioaia**	**6.39**	**5**	⇓P	**Pn**	**02 37 28.2**	**+1.2**
DIVS	**Divibare**	**6.42**	**318**	*e*Pn	**Pn**	**02 37 27.1**	**-0.5**
DOPR	**Dopca**	**6.48**	**356**	⇓P	**Pn**	**02 37 29.4**	**+1.1**
VLDR	**Vladesti**	**6.52**	**13**	⇑P	**Pn**	**02 37 29.3**	**+0.5**
VARL	**Varlezi**	**6.54**	**11**	⇑P	**Pn**	**02 37 30.0**	**+1.0**
OZUR		**6.59**	**359**	⇓P	**Pn**	**02 37 31.1**	**+1.2**
BZS	**Buzias**	**6.92**	**334**	⇓P	**Pn**	**02 37 34.8**	**+0.5**
TESR	**Tescani**	**7.03**	**4**	⇓P	**Pn**	**02 37 36.6**	**+0.9**
GIRR	**Girov**	**7.46**	**3**	⇓P	**Pn**	**02 37 41.9**	**+0.2**
SIRR	**Siria**	**7.48**	**336**	⇓P	**Pn**	**02 37 41.9**	**0.0**
PURM	**Purcari**	**7.58**	**21**	⇑P	**Pn**	**02 37 43.1**	**-0.2**
MILM	**Milestii Mici**	**7.69**	**15**	⇓P	**Pn**	**02 37 45.5**	**+0.7**
MILM	**Milestii Mici**	**7.69**	**15**	*e*P	**Pn**	**02 37 45.0**	**+0.1**
	comp=N,11nm,0.5s						
BURAR	**Bucovina Array**	**8.13**	**356**	⇑P	**Pn**	**02 37 52.9**	**+1.9**
MMAI	**Mount Meron Ar**	**9.97**	**128**	Pn	**Pn**	**02 38 14.0**	**-2.2**
	comp=N,0.4nm,0.3s,baz=197,slow=13,SNR=2.1						
AKASG	**Malin Array Be**	**11.43**	**10**	Pn	**Pn**	**02 38 35.1**	**-0.9**
	comp=N,0.4nm,0.3s,baz=197,slow=13,SNR=2.1						
FINES	**FINESS Array B**	**21.97**	**0**	P	**P**	**02 40 48.9**	**+2.4**
	comp=N,3.6nm,1.1s,baz=202,slow=15,SNR=0.8						
ESDC	**Sonseca Array**	**23.05**	**280**	P	**P**	**02 40 59.6**	**+1.4**
	comp=N,0.6nm,0.9s,baz=72,slow=5.2,SNR=5.0						
NOA	**NORSAR Array B**	**23.43**	**342**	P	**P**	**02 41 02.7**	**+0.8**
	comp=N,1.0nm,1.0s,baz=151,slow=11,SNR=2.6						
TORD	**Torodi Ar. Bea**	**33.89**	**226**	P	**P**	**02 42 35.8**	**-0.1**
	comp=N,0.5nm,0.5s,baz=38,slow=9.3,SNR=7.0						

*NOU **23** 02:38:09.8, 39°.70S×173°.34E, h0km, MLv3.8/7, Off W. Coast of N. Island, N.Z.*
*WEL **23** 02:38:10.7±0.6, 40°.S±3°.×17°.3E±°, h12km, M3.1/28, ML3.4/31, MLv3.1/28, Error ellipse: s-maj=0.0km s-min=0.0km az=118.9*

ISC 23 02:38:08.5±1.6, **39°.68S**±0°.03×**173°.30E**±0°.05, **h6**km±11km, **n62**, σ1°**13**/78, **Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.52**	**60**	P	**Pb**	**02 38 20.8**	**+0.9**
NMEZ				S	**Sb**	**02 38 28.9**	**+1.1**
NBEZ	**Newall Road No**	**0.60**	**47**	P	**Pb**	**02 38 22.6**	**+1.2**
KHEZ	**Kahui Hut**	**0.67**	**56**	P	**Pb**	**02 38 23.7**	**+1.0**
PKE	**Pukeiti**	**0.72**	**48**	P	**Pb**	**02 38 24.5**	**+1.1**
PKE				S	**Sb**	**02 38 34.5**	**+0.9**
NEZ	**North Egmont**	**0.74**	**57**	P	**Pb**	**02 38 24.4**	**+0.6**
NEZ				S	**Sb**	**02 38 34.4**	**+0.2**
PREZ	**Palmer Road**	**0.74**	**64**	P	**Pb**	**02 38 24.6**	**+0.7**
PREZ				S	**Sb**	**02 38 34.8**	**+0.5**
DREZ	**Durham Road**	**0.85**	**55**	P	**Pb**	**02 38 26.5**	**+0.8**
DREZ				S	**Sb**	**02 38 38.4**	**+1.1**
DUWZ	**D'Urville Isla**	**1.22**	**157**	P	**Pg**	**02 38 31.5**	**-0.4**
VRZ	**Vera Road**	**1.26**	**65**	P	**Pg**	**02 38 32.2**	**-0.4**
VRZ				S	**Sg**	**02 38 48.3**	**-0.6**
QRZ	**Quartz Range**	**1.29**	**207**	P	**Pn**	**02 38 32.9**	**-0.3**
QRZ	**Quartz Range**	**1.29**	**207**	P	**Pn**	**02 38 34.1**	**+1.0**
WAZ	**Wanganui**	**1.30**	**94**	P	**Pg**	**02 38 32.9**	**-0.5**
NNZ	**Nelson**	**1.54**	**178**	P	**Pn**	**02 38 36.2**	**-0.3**
PKVZ	**Pokaka**	**1.63**	**77**	P	**Pn**	**02 38 37.6**	**-0.2**
HIZ	**Hauiti**	**1.68**	**47**	P	**Pn**	**02 38 37.8**	**-0.6**
HIZ	**Hauiti**	**1.68**	**47**	P	**Pn**	**02 38 38.0**	**-0.4**
MTVZ	**Mangateitei**	**1.70**	**81**	P	**Pn**	**02 38 39.0**	**+0.2**
TCW	**Tory Channel**	**1.71**	**154**	P	**Pn**	**02 38 39.1**	**+0.3**
KIW	**Kapiti Island**	**1.71**	**134**	P	**Pn**	**02 38 39.0**	**+0.2**
KIW				S	**Sn**	**02 39 00.2**	**-0.9**
TWVZ	**Taurewa**	**1.76**	**71**	P	**Pn**	**02 38 39.4**	**-0.3**
TWVZ				S	**Sn**	**02 39 00.4**	**-2.1**
TRVZ	**Turoa**	**1.78**	**79**	P	**Pn**	**02 38 40.3**	**+0.2**
FWVZ	**Far West T-bar**	**1.79**	**77**	P	**Pn**	**02 38 40.5**	**+0.2**
FWVZ				S	**Sn**	**02 39 02.0**	**-1.5**
WNVZ	**Wahianoa**	**1.81**	**80**	P	**Pn**	**02 38 40.7**	**+0.2**
TUWZ	**Tuamarina**	**1.82**	**165**	P	**Pn**	**02 38 40.8**	**+0.5**
TUWZ				S	**Sb**	**02 39 05.4**	**+0.1**
OGWZ	**Otaki Gorge**	**1.83**	**129**	P	**Pn**	**02 38 40.9**	**+0.3**
NGZ	**Ngauruhoe**	**1.85**	**75**	P	**Pn**	**02 38 41.1**	**+0.2**
NGZ				S	**Sn**	**02 39 03.5**	**-1.3**
WTVZ	**West Tongariro**	**1.86**	**73**	P	**Pn**	**02 38 41.2**	**+0.2**
WTVZ				S	**Sn**	**02 39 04.0**	**-1.0**
TUVZ	**Tukino**	**1.87**	**78**	P	**Pn**	**02 38 40.7**	**-0.5**
OTVZ	**Oturere**	**1.90**	**75**	P	**Pn**	**02 38 41.9**	**+0.2**
MOVZ	**Moawhango**	**1.92**	**83**	P	**Pn**	**02 38 41.7**	**0.0**
MOVZ				S	**Sn**	**02 39 04.0**	**-2.3**
NTVZ	**North Tongarir**	**1.93**	**73**	P	**Pn**	**02 38 41.9**	**-0.1**
SNZO	**South Karori**	**1.95**	**147**	P	**Pn**	**02 38 42.5**	**+0.3**
CAW	**Cannon Point**	**1.97**	**137**	P	**Pn**	**02 38 42.8**	**+0.4**
KATZ	**Kakaramea**	**1.98**	**70**	P	**Pn**	**02 38 43.1**	**+0.3**
KATZ				S	**Sn**	**02 39 06.4**	**-1.7**
MRZ	**Mangatainoka R**	**2.00**	**120**	P	**Pn**	**02 38 43.9**	**+1.0**
BSWZ	**Blackbirch Sta**	**2.08**	**168**	P	**Pn**	**02 38 45.1**	**+1.1**
TSZ	**Takapari Road**	**2.08**	**101**	P	**Pn**	**02 38 45.2**	**+1.1**
HOWZ	**Holdsworth Sta**	**2.09**	**126**	P	**Pn**	**02 38 45.3**	**+1.3**
BHW	**Baring Head**	**2.10**	**146**	P	**Pn**	**02 38 45.3**	**+1.1**
THZ	**Tophouse**	**2.11**	**188**	P	**Pn**	**02 38 45.0**	**+0.6**
BHHZ	**Black Hill Sta**	**2.14**	**86**	P	**Pn**	**02 38 44.2**	**-0.7**
MTW	**Mount Morrison**	**2.24**	**132**	P	**Pn**	**02 38 47.4**	**+1.3**
MTW				S	**Sg**	**02 39 19.2**	**-1.3**
MSWZ	**Moikau Station**	**2.29**	**140**	P	**Pn**	**02 38 48.0**	**+1.2**
DVHZ	**Dannevirke**	**2.29**	**107**	P	**Pb**	**02 38 49.9**	**-0.3**
PAWZ	**Paruwai Farm**	**2.35**	**137**	P	**Pn**	**02 38 49.9**	**+2.1**
DSZ	**Denniston Nort**	**2.36**	**208**	P	**Pn**	**02 38 48.2**	**+0.4**
KRHZ	**Kereru**	**2.37**	**90**	P	**Pn**	**02 38 50.3**	**+2.3**
KRHZ				S	**Sb**	**02 39 21.2**	**+0.1**
PLWZ	**Palliser**	**2.41**	**142**	P	**Pn**	**02 38 48.4**	**-0.1**
BFZ	**Birch Farm**	**2.47**	**115**	P	**Pn**	**02 38 50.7**	**+1.4**
BFZ	**Birch Farm**	**2.47**	**115**	P	**Pn**	**02 38 50.7**	**+1.4**
TRWZ	**Traveller**	**2.50**	**134**	P	**Pb**	**02 38 55.2**	**+1.3**
BKZ	**Black Stump Fm**	**2.52**	**79**	P	**Pn**	**02 38 52.7**	**+2.6**
TOZ	**Tahuroa Road**	**2.60**	**42**	P	**Pn**	**02 38 50.3**	**-0.7**
KHZ	**Kahutara**	**2.74**	**176**	P	**Pn**	**02 38 54.5**	**+1.4**
KHZ	**Kahutara**	**2.74**	**176**	P	**Pn**	**02 38 54.4**	**+1.4**
MTHZ	**Maungataniwha**	**2.87**	**74**	P	**Pn**	**02 38 56.4**	**+1.6**
LTZ	**Lake Taylor**	**3.20**	**194**	P	**Pn**	**02 39 01.5**	**+2.1**
URZ	**Urewera**	**3.29**	**66**	P	**Pn**	**02 39 03.7**	**+3.1**
URZ	**Urewera**	**3.29**	**66**	P	**Pn**	**02 39 03.5**	**+2.9**
INZ	**Inchbonnie**	**3.35**	**204**	P	**Pn**	**02 39 02.2**	**+0.7**
MHCZ	**Mount Hutt**	**4.07**	**198**	P	**Pn**	**02 39 11.6**	**+0.3**
TMZ	**Timaru**	**5.00**	**199**	P	**Pn**	**02 39 23.8**	**-0.4**

PRU 23 02:46:04.7±0.0, **50°.26N**×**18°.96E**, **h0km**, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**1.03**	**243**	*e*PG	Pg	02 46 24.3	-0.2
MORC				*e*SG	Sg	02 46 36.8	-1.1
LANS	**Liptovska Anna**	**1.16**	**163**	*e*PG	Pg	02 46 26.7	-0.2
LANS				*e*SG	Sg	02 46 41.6	-0.3
LANS				*e*LG	Lg	02 46 45.1	
DPC	**Dobruska-Polom**	**1.69**	**274**	*e*PG	Pn	02 46 35.5	-0.1
DPC				*e*SG	Sg	02 46 59.4	+0.3
VYHS	**Vyhne**	**1.77**	**183**	*e*SN	Sn	02 46 58.3	-1.5
VRAC	**Vranov**	**1.81**	**239**	*e*SG	Sn	02 47 00.5	-0.2
CHVC	**Chvalec**	**1.89**	**281**	*e*SG	Sg	02 47 06.8	+1.5

*TIR **23** 02:46:45.6, 42°.88N×19°.43E, h10km, Md3.1*
*PDG **23** 02:46:49.5±0.1, 42°.34N×18°.99E, h11km, MD3.2/11, ML3.1/14, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
*RHSSO **23** 02:46:50.3±0.3, 42°.33N×19°.06E, h3km±1km, ML3.3/15*
*BEO **23** 02:46:50.9±0.3, 42°.37N×19°.01E, h0km±1km, ML2.9/17*
*PRU **23** 02:46:52.7±0.0, 42°.36N×19°.22E, h0km*
*IDC **23** 02:46:54.1±1.2, 42°.63N×19°.21E, h0km, mb1 3.7/6, mb1mx3.1/45, mbtmp3.6/6, ML3.0/6, Error ellipse: s-maj=22.0km s-min=9.0km az=32.0*

ISC 23 02:46:51.1±0.6, **42°.36N**±0°.02×**18°.99E**±0°.01, **h10**km, **n126**, σ1°**68**/226, **22C-18D, Northwestern Balkan Peninsula**

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

MATE				⇑S	Sn	02 48 02.0	+1.6
BLJ	**Bijeljina**	**2.43**	**5**	*e*Pn	Pn	02 47 30.9	0.0
BLJ				*e*Sn	Sn	02 48 00.6	-0.1
DOB	**Doboj**	**2.46**	**345**	*e*Pn	Pn	02 47 32.4	+1.1
DOB				*e*Sn	Sb	02 48 03.2	-2.6
STIP	**Stip**	**2.47**	**104**	*i* Pn	Pb	02 47 34.9	-0.7
KIJV	**Kijevo**	**2.51**	**312**	*e*Pn	Pb	02 47 33.6	-2.6
KIJV				Sn	Sb	02 48 06.0	-1.1
LSK	**Leskovik**	**2.52**	**151**	P	Pn	02 47 33.2	+1.1
LSK	baz=150			S	Sg	02 48 09.9	-2.0
	baz=150						
BOSS	**Bosilegrad**	**2.59**	**86**	*e*Pn	Pn	02 47 33.4	+0.4
BOSS				*e*Sn	Sn	02 48 06.0	+1.5
BLY	**Banja Luka**	**2.73**	**332**	*e*Pn	Pn	02 47 36.3	+1.3
BLY				*e*Sn	Sn	02 48 09.5	+1.5
ZIRJ	**Zirje**	**2.78**	**299**	*e*Pn	Pn	02 47 36.2	+0.6
ZIRJ				Sn	Sn	02 48 10.7	+1.5
ZAGS	**Zajecar**	**2.78**	**57**	*e*Pn	Pn	02 47 36.3	+0.6
ZAGS				*e*Sn	Sn	02 48 11.4	+2.0
ZAPS	**Zavoj**	**2.83**	**70**	*e*Pn	Pn	02 47 37.3	+0.9
ZAPS				*e*Sn	Sn	02 48 12.4	+1.8
MORI	**Morici**	**2.84**	**303**	*e*Pn	Pn	02 47 37.7	+1.2
MORI				Sn	Sn	02 48 12.9	+2.2
FRGS	**Fruska Gora**	**2.86**	**12**	⇓S	Sn	02 48 13.1	+1.7
FRGS	**Fruska Gora**	**2.86**	**12**	*e*Pn	Pn	02 47 36.5	-0.4
FRGS				*e*Sn	Sn	02 48 12.2	+0.9
FRGS	**Fruska Gora**	**2.86**	**12**	*e*Pn	Pn	02 47 36.4	-0.4
FRGS				*e*Sn	Sn	02 48 12.5	+1.2
FRGS	**Fruska Gora**	**2.86**	**12**	⇓P	Pn	02 47 36.5	-0.4
VAY	**Valandovo**	**2.87**	**110**	*i* Pn	Pn	02 47 38.6	+1.7
VAY				*i* Sn	Sb	02 48 19.4	+1.9
BLKB	**Belogradchik**	**2.98**	**64**	⇓S	Sb	02 48 17.0	-3.8
MRAK	**Mrakovica**	**3.06**	**331**	*e*Pn	Pn	02 47 40.4	+0.8
MRAK				*e*Sn	Sn	02 48 17.4	+1.2
PRIJ	**Prijedor**	**3.10**	**329**	*e*Pn	Pn	02 47 40.5	+0.5
PRIJ				*e*Sn	Sn	02 48 18.3	+1.2
MDVR	**Moldovita**	**3.13**	**38**	⇑S	Sn	02 48 19.6	+1.7
VTS	**Vitosha**	**3.15**	**84**	⇑P	Pn	02 47 41.7	+0.8
VTS				⇑S	Sn	02 48 21.4	+2.8
A252A	**Venje**	**3.19**	**345**	*e*Pn	Pn	02 47 42.7	+1.4
A252A				Sn	Sb	02 48 22.8	-3.9
UDBI	**Udbina**	**3.20**	**314**	*e*Pn	Pn	02 47 43.6	+2.1
UDBI				Sn	Sn	02 48 21.9	+2.2
DUGI	**Dugi Otok**	**3.31**	**301**	Sn	Sn	02 48 24.4	+2.1
DUGI	**Dugi Otok**	**3.31**	**301**	*e*Pn	Pn	02 47 43.8	+0.9
BANR	**Banloc**	**3.40**	**26**	⇑S	Sn	02 48 26.4	+1.9
A251A	**Rujevac**	**3.40**	**325**	*e*Pn	Pn	02 47 46.5	+2.3
A251A				Sn	Sn	02 48 27.4	+2.8
PLIT	**Plitvice**	**3.51**	**317**	*e*Pn	Pn	02 47 46.9	+1.1
PLIT				Sn	Sn	02 48 30.8	+3.4
HERR	**Herculane**	**3.54**	**43**	⇑P	Pn	02 47 46.2	0.0
HERR				⇓S	Sn	02 48 29.6	+1.5
TIP	**Timpagrande**	**3.60**	**209**	⇑P	Pn	02 47 46.2	-0.8
TIP				⇓S	Sn	02 48 29.9	+0.2
MOSL	**Moslavina**	**3.63**	**334**	*e*Pn	Pn	02 47 48.6	+1.2
MOSL				Sn	Sn	02 48 33.3	+2.9
NVLJ	**Novalja**	**3.72**	**308**	*e*Pn	Pn	02 47 49.4	+0.8
NVLJ				Sn	Sn	02 48 34.0	+1.5
BZS	**Buzias**	**3.77**	**29**	⇑P	Pn	02 47 49.4	+0.2
BZS				⇑S	Sn	02 48 35.1	+1.5
SRE	**Strehaia**	**3.83**	**52**	⇑P	Pn	02 47 51.6	+1.4
MORH	**Mrgy, Hungar**	**3.87**	**356**	*e*Pn	Pn	02 47 50.7	+0.1
MORH				*e*Sn	Sn	02 48 35.9	-0.1
RABC	**Rab**	**3.88**	**309**	*e*Pn	Pn	02 47 52.0	+1.2
RABC				Sn	Sn	02 48 38.8	+2.3
GZR	**Gura Zlata**	**4.09**	**41**	⇓P	Pn	02 47 54.5	+0.8
GZR				⇓S	Sn	02 48 43.6	+2.1
OZLJ	**Ozalj**	**4.13**	**323**	*e*Pn	Pn	02 47 56.2	+1.9
OZLJ				Sn	Sn	02 48 46.0	+3.4
AQU	**L'Aquila**	**4.14**	**272**	*e*Sn	Sn	02 48 43.3	+0.3
PTJ	**Puntijarka**	**4.16**	**330**	*e*Pn	Pn	02 47 57.1	+2.3
KALN	**Kalnik**	**4.19**	**335**	*e*Pn	Pn	02 47 56.8	+1.7
CRES	**Cresnjev**	**4.30**	**325**	*e*Pn	Pn	02 47 57.2	+0.6
CRES				*e*Sn	Sn	02 48 46.7	-0.1
LOBO	**Lobor**	**4.34**	**332**	*e*Pn	Pn	02 47 58.2	+1.1
SIRR	**Siria**	**4.35**	**25**	⇑P	Pn	02 47 57.6	+0.3
SIRR				⇓S	Sn	02 48 49.7	+1.7
BEHE	**Becsehely**	**4.41**	**340**	*e*Pn	Pn	02 47 58.6	+0.6
BEHE				*e*Sn	Sn	02 48 49.1	-0.3
RIY	**Rijeka**	**4.41**	**314**	*e*Pn	Pn	02 47 58.5	+0.4
RIY				Sn	Sn	02 48 52.3	+2.9
BRJN	**Brijuni**	**4.58**	**306**	*e*Pn	Pn	02 48 00.9	+0.5
BRJN				Sn	Sn	02 48 54.8	+1.3
CEY	**Cerknica**	**4.72**	**317**	*e*Pn	Pn	02 48 02.6	+0.3
CEY				*e*Sn	Sn	02 48 56.9	-0.2
LJU	**Ljubljana**	**4.89**	**320**	*e*Pn	Pn	02 48 05.2	+0.6
LJU				*e*Sn	Sn	02 49 01.3	+0.1
ARR	**Arges**	**5.07**	**52**	⇑P	Pn	02 48 07.9	+0.7
ARR				⇑S	Sn	02 49 09.0	+3.2
SOKA	**Soboth**	**5.17**	**328**	*e*Pn	Pn	02 48 10.8	+2.3
SOKA	6.1nm,0.3s,SNR=24			*e*Sn	Sn	02 49 07.3	-0.9
	3.1nm,0.6s						
OBKA	**Obir**	**5.23**	**324**	*i* Pn	Pn	02 48 12.6	+3.2
OBKA	2.0nm,0.2s			*i* Sn	Sn	02 49 11.5	+1.7
	3.5nm,0.4s						
VOIR		**5.35**	**53**	⇓P	Pn	02 48 12.4	+1.4
VOIR				⇑S	Sn	02 49 15.5	+2.7
SGRR	**Singureni**	**5.43**	**68**	⇓P	Pn	02 48 13.1	+1.1
SGRR				⇑S	Sn	02 49 17.8	+3.4
ARSA	**Arzberg**	**5.48**	**334**	*i* Pn	Pn	02 48 14.9	+2.1
ARSA	2.2nm,0.3s			*e*Sn	Sn	02 49 17.3	+1.4
	2.9nm,0.5s						
PSZ	**Piszkesteto**	**5.60**	**6**	⇓P	Pn	02 48 15.1	+0.7
CONA	**Conrad Observa**	**5.99**	**339**	*i* Pn	Pn	02 48 21.9	+2.0
CONA	1.4nm,0.3s			*e*Sn	Sn	02 49 29.6	+0.9
	5.2nm,0.8s						
MODS	**Modra-Piesok**	**6.14**	**349**	*e*PN	Pn	02 48 25.8	+4.0
VYHS	**Vyhne**	**6.14**	**359**	*e*PN	Pn	02 48 24.0	+2.2
VYHS				*e*SN	Sn	02 49 33.6	+1.5
VYHS				*e*		02 56 06.0	
KBA	**Koelnbreinsper**	**6.20**	**321**	*i* Pn	Pn	02 48 26.0	+3.2
	0.8nm,0.2s						
KOLL	**Kolacno**	**6.24**	**356**	*e*PN	Pn	02 48 26.2	+3.1
KOLL				*e*SN	Sn	02 49 37.0	+2.6
ABTA	**Abfaltersbach**	**6.38**	**316**	*i* Pn	Pn	02 48 27.5	+2.3
ABTA	0.9nm,0.2s			*i* Sn	Sn	02 49 38.8	+0.7
	1.2nm,0.2s						
MOA	**Molln**	**6.43**	**330**	*i* Pn	Pn	02 48 29.4	+3.6
MOA	1.2nm,0.3s			*e*Sn	Sn	02 49 41.1	+1.8
	2.9nm,0.3s						
CRVS	**Cervenica-Dubn**	**6.77**	**14**	*e*PN	Pn	02 48 32.8	+2.3
BURAR	**Bucovina Array**	**6.86**	**38**	⇓P	Pn	02 48 33.2	+1.4
WTTA	**Wattenberg**	**7.17**	**316**	*i* Pn	Pn	02 48 39.1	+3.0
WTTA	0.8nm,0.2s			*e*Sn	Sn	02 50 00.0	+2.3
	5.7nm,0.6s						
GERES	**GERESS Array B**	**7.47**	**332**	Pn	Pn	02 48 42.2	+2.0
GERES	0.4nm,0.3s,baz=158,slow=14,SNR=16			Sn	Sn	02 50 07.1	+2.1
	0.3nm,0.3s,baz=146,slow=24,SNR=2.9						
MOTA	**Moosalm**	**7.50**	**314**	*i* Pn	Pn	02 48 44.1	+3.5
MOTA	0.7nm,0.2s			*i* Sn	Sn	02 50 07.5	+1.7
	2.8nm,0.6s						
FETA	**Feichten**	**7.51**	**311**	*e*Pn	Pn	02 48 43.3	+2.5
FETA	0.8nm,0.3s			*i* Sn	Sn	02 50 05.7	-0.3
	2.0nm,0.7s						
KHC	**Kasperske Hory**	**7.76**	**333**	*e*PN	Pn	02 48 47.8	+3.7
KHC				*e*SN	Sn	02 50 13.8	+1.8
RETA	**Reutte**	**7.77**	**314**	*e*Sn	Sn	02 50 14.1	+1.8
	2.8nm,0.5s						
DAVOX	**Davos/Dischmat**	**7.87**	**307**	Pn	Pn	02 48 49.4	+3.8
	0.4nm,0.3s,baz=339,slow=10,SNR=5.6						
DAVA	**Damuels**	**8.14**	**310**	*i* Sn	Sn	02 50 23.3	+1.8
	4.7nm,0.5s						
BRTR	**Keskin Array B**	**11.37**	**98**	Pn	Pn	02 49 36.5	+2.8
	0.1nm,0.3s,baz=278,slow=14,SNR=1.9						
HFS	**Hagfors**	**18.10**	**351**	P	P	02 51 02.6	-0.2
	0.2nm,0.3s,baz=180,slow=16,SNR=4.8						
NOA	**NORSAR Array B**	**19.30**	**349**	P	Pn	02 51 16.2	-0.7
	0.0nm,0.3s,baz=170,slow=12,SNR=1.7						
FINES	**FINESS Array B**	**19.59**	**10**	P	Pn	02 51 21.1	+0.7
	0.1nm,0.3s,baz=178,slow=17,SNR=2.2						

DDA ***23*** *02:52:05.7±0.0, 39°.51N×26°.02E, h13km, ML3.0*
ISK ***23*** *02:52:05.0, 39°.51N×25°.99E, h10km, ML3.3/27*
THE ***23*** *02:52:05.9, 39°.51N×25°.97E, h4km±3km, ML3.3/4, Error ellipse: s-maj=3.9km s-min=0.7km az=120.0*
ATH ***23*** *02:52:06.2, 39°.50N×25°.97E, h15km±3km, ML3.2/3, Error ellipse: s-maj=3.6km s-min=1.3km az=205.0*

ISC 23 02:52:05.7±0.8, 39°.50N±0°.02×25°.99E±0°.02, h13km±6km, n75, σ0s54/94, 5C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.11**	**90**	P	**Pg**	**02 52 08.8**	**0.0**
KOCA				*i* AML	AML	02 52 11.0	
	comp=E,1μm,0.6s						
KOCA				S	**Sg**	**02 52 11.1**	**0.0**
KOCA				*i* AML	AML	02 52 12.0	
	comp=N,5μm,0.3s						
SIGR	**SIGRI**	**0.31**	**200**	P	**Pg**	**02 52 11.9**	**-0.1**
SIGR				S	**Sg**	**02 52 16.3**	**0.0**
	8μm,0.2s						
SIGR	**SIGRI**	**0.31**	**200**	P	**Pg**	**02 52 11.8**	**-0.3**
SIGR				S	**Sg**	**02 52 16.1**	**-0.2**
SIGR				AML	AML	02 52 16.8	
	comp=E,11024μm,0.2s						
SIGR				AML	AML	02 52 17.1	
	comp=N,21588μm,0.3s						
SIGR	**SIGRI**	**0.31**	**200**	PG	**Pg**	**02 52 11.9**	**-0.1**
SIGR				SG	**Sg**	**02 52 16.7**	**+0.4**
PRK	**Paraskevi**	**0.33**	**140**	P	**Pb**	**02 52 13.5**	**-0.1**
PRK				S	**Sb**	**02 52 18.6**	**-0.2**
	comp=N,9μm,0.3s						
PRK	**Paraskevi**	**0.33**	**140**	P	**Pb**	**02 52 13.6**	**+0.1**
PRK				S	**Sb**	**02 52 18.4**	**-0.4**
PRK				AML	AML	02 52 18.8	
	comp=N,17727μm,0.3s						
PRK				AML	AML	02 52 19.4	
	comp=E,16906μm,0.4s						
BOZC	**Bozcaada**	**0.34**	**8**	PG	**Pg**	**02 52 12.5**	**-0.2**
BOZC				SG	**Sg**	**02 52 17.7**	**+0.4**
BOZC	**Bozcaada**	**0.34**	**8**	P	**Pg**	**02 52 12.5**	**-0.2**
BOZC				S	**Sg**	**02 52 17.9**	**+0.5**
BOZC				*i* AML	AML	02 52 18.0	
	comp=E,3μm,0.2s						
BOZC				*i* AML	AML	02 52 18.0	
	comp=E,2μm,0.3s						
EZN	**Ezine**	**0.41**	**38**	P	**Pg**	**02 52 13.6**	**-0.3**
EZN				S	**Sg**	**02 52 19.5**	**0.0**
	comp=E,2μm,0.1s						
EZN	**Ezine**	**0.41**	**38**	PG	**Pg**	**02 52 13.7**	**-0.2**
EZN				SG	**Sg**	**02 52 19.5**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.49**	**61**	P	**Pg**	**02 52 15.1**	**-0.3**
BAYC				S	**Sg**	**02 52 21.8**	**-0.1**
BAYC				*i* AML	AML	02 52 22.0	
	comp=E,876nm,0.2s						
BAYC				*i* AML	AML	02 52 22.0	
	comp=E,931nm,0.4s						
ECEA	**Canakkale, Ece**	**0.56**	**14**	P	**Pg**	**02 52 16.8**	**+0.1**
ECEA				*i* AML	AML	02 52 25.0	
	comp=E,2μm,0.4s						
ECEA				S	**Sb**	**02 52 25.1**	**-0.3**
ECEA				*i* AML	AML	02 52 26.0	
	comp=E,2μm,0.3s						
AYVA	**Ayvalik**	**0.57**	**109**	P	**Pg**	**02 52 16.8**	**-0.1**
AYVA				S	**Sg**	**02 52 25.1**	**+0.5**
AYVA				*i* AML	AML	02 52 29.0	
	comp=E,581nm,0.7s						
AYVA				*i* AML	AML	02 52 30.0	
	comp=E,357nm,0.5s						
GOKA	**anakkale-Gk**	**0.69**	**355**	P	**Pg**	**02 52 19.0**	**-0.2**
GOKA				S	**Sb**	**02 52 28.9**	**-0.3**
GOKA				*i* AML	AML	02 52 34.0	
	comp=E,968nm,0.3s						
GADA	**Gvkgeada**	**0.69**	**354**	P	**Pg**	**02 52 18.8**	**-0.4**
GADA	**Gvkgeada**	**0.69**	**354**	PG	**Pg**	**02 52 18.7**	**-0.4**
LIA	**Limnos Island**	**0.74**	**303**	P	**Pg**	**02 52 20.1**	**0.0**
LIA	**Limnos Island**	**0.74**	**303**	P	**Pg**	**02 52 19.9**	**-0.2**
LIA				S	**Sb**	**02 52 30.6**	**+0.1**
LIA				AML	AML	02 52 31.9	
	comp=E,2122μm,0.6s						
LIA				AML	AML	02 52 32.9	
	comp=N,1775μm,0.3s						
EFSA	**Agios Efstrati**	**0.78**	**273**	P	**Pb**	**02 52 21.4**	**+0.2**
DKL	**Dikili**	**0.83**	**121**	PG	**Pg**	**02 52 21.6**	**-0.1**
BUHA	**Balikesir, Bur**	**0.84**	**90**	P	**Pg**	**02 52 21.7**	**-0.2**
BUHA				S	**Sg**	**02 52 33.1**	**+0.2**
BUHA				*i* AML	AML	02 52 37.0	
	comp=N,670nm,0.5s						
BUHA				*i* AML	AML	02 52 38.0	
	comp=N,436nm,0.8s						
GELI	**Tayfur-Gelibol**	**0.97**	**22**	PG	**Pb**	**02 52 23.8**	**-0.6**
ZEDA	**zmir-Bergama**	**1.00**	**122**	P	**Pb**	**02 52 24.7**	**-0.2**
ZEDA				S	**Sg**	**02 52 38.9**	**+0.9**
ZEDA				*i* AML	AML	02 52 40.0	
	comp=N,285nm,0.2s						
ZEDA				*i* AML	AML	02 52 41.0	
	comp=N,260nm,0.2s						
PSRA	**Psara**	**1.01**	**199**	P	**Pb**	**02 52 25.5**	**+0.3**
SMTH	**Samothraki Isl**	**1.03**	**340**	P	**Pb**	**02 52 25.2**	**-0.3**
SMTH				S	**Sg**	**02 52 39.3**	**+0.2**
SMTH	**Samothraki Isl**	**1.03**	**340**	P	**Pb**	**02 52 25.0**	**-0.4**
LPK	**Lapseki**	**1.05**	**34**	PG	**Pb**	**02 52 25.2**	**-0.6**
CHOS	**Chios island**	**1.11**	**178**	P	**Pb**	**02 52 26.8**	**-0.1**
CHOS				S	**Sn**	**02 52 42.4**	**0.0**
	comp=N,2μm,0.3s						
CHOS	**Chios island**	**1.11**	**178**	P	**Pb**	**02 52 26.3**	**-0.6**
CHOS	**Chios island**	**1.11**	**178**	PN	**Pb**	**02 52 26.6**	**-0.3**
URLA	**Izmir**	**1.23**	**157**	PN	**Pn**	**02 52 27.8**	**-0.9**
ERIK	**Erikli-Kesan**	**1.23**	**19**	PN	**Pn**	**02 52 28.1**	**-0.6**
ENEZ	**Enez**	**1.24**	**6**	P	**Pn**	**02 52 28.7**	**-0.1**
ENEZ	**Enez**	**1.24**	**6**	PN	**Pn**	**02 52 28.7**	**-0.1**
KRBG	**Karabiga-Canak**	**1.34**	**48**	PN	**Pn**	**02 52 29.7**	**-0.5**
ALN	**Alexandroupoli**	**1.39**	**2**	P	**Pb**	**02 52 31.7**	**0.0**
ALN	**Alexandroupoli**	**1.39**	**2**	P	**Pn**	**02 52 30.7**	**-0.3**
ALN	**Alexandroupoli**	**1.39**	**2**	PN	**Pn**	**02 52 30.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.41**	**67**	PN	**Pn**	**02 52 31.4**	**+0.2**
THAS	**Thassos island**	**1.47**	**319**	P	**Pn**	**02 52 31.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.49**	**37**	PN	**Pn**	**02 52 32.7**	**+0.4**
MAR6	**Marsite Statio**	**1.55**	**39**	PN	**Pn**	**02 52 33.2**	**+0.2**
MAR3	**Marsite Statio**	**1.59**	**38**	PN	**Pn**	**02 52 33.8**	**+0.2**
GZKV	**Gazikoy-Tekird**	**1.61**	**39**	PN	**Pn**	**02 52 34.2**	**+0.3**
EDC	**Edincik**	**1.67**	**59**	PN	**Pb**	**02 52 35.6**	**-0.7**
RDO	**Rodhopi**	**1.68**	**348**	P	**Pn**	**02 52 34.8**	**-0.1**
RDO	**Rodhopi**	**1.68**	**348**	PN	**Pn**	**02 52 34.7**	**-0.1**
UKOP	**Uzunkopru-Edir**	**1.70**	**17**	PN	**Pn**	**02 52 35.0**	**-0.1**
OUR	**Ouranopolis**	**1.76**	**299**	PN	**Pn**	**02 52 36.0**	**+0.1**
SMG	**Samos**	**1.91**	**159**	P	**Pn**	**02 52 37.6**	**-0.4**
KCTX	**Karacabey (Bur**	**1.97**	**66**	PN	**Pn**	**02 52 38.9**	**0.0**
GCAM	**G?zelcaml?**	**2.04**	**151**	PN	**Pn**	**02 52 40.3**	**+0.5**
CRLT	**Corlu**	**2.10**	**39**	PN	**Pn**	**02 52 41.2**	**+0.5**
KULA	**Kula-Manisa**	**2.30**	**115**	PN	**Pn**	**02 52 43.7**	**+0.2**
SIMA	**Simav-Kutahya**	**2.36**	**99**	PN	**Pn**	**02 52 44.8**	**+0.6**
EDRB	**Edirne**	**2.41**	**13**	PN	**Pn**	**02 52 44.5**	**-0.4**
SLVT	**Silivri**	**2.42**	**44**	PN	**Pn**	**02 52 45.1**	**+0.1**
CTKS	**Kestanelik-??a**	**2.59**	**47**	PN	**Pn**	**02 52 47.7**	**+0.4**
STIP	**Stip**	**3.63**	**308**	*i* Pn	**Pn**	**02 53 01.4**	**-0.3**
BOSS	**Bosilegrad**	**4.00**	**319**	*e*Pn	**Pn**	**02 53 06.2**	**-0.6**
PRVS	**Prvonek**	**4.22**	**317**	*e*Pn	**Pn**	**02 53 09.5**	**-0.3**
ZAPS	**Zavoj**	**4.54**	**327**	*e*Pn	**Pn**	**02 53 15.1**	**+0.9**
BARS	**Barje**	**4.57**	**318**	*e*Pn	**Pn**	**02 53 15.1**	**+0.5**
ZAGS	**Zajecar**	**5.15**	**328**	*e*Pn	**Pn**	**02 53 21.5**	**-1.0**
VOIR		**5.97**	**354**	⇑P	**Pn**	**02 53 34.7**	**+0.8**
MLR	**Muntele Rosu**	**5.99**	**360**	⇑P	**Pn**	**02 53 35.0**	**+0.8**
HERR	**Herculane**	**6.00**	**335**	⇑P	**Pn**	**02 53 34.3**	**+0.1**
GZR	**Gura Zlata**	**6.35**	**339**	⇓P	**Pn**	**02 53 39.0**	**-0.1**
PLOR	**Plostina**	**6.36**	**4**	⇓P	**Pn**	**02 53 41.1**	**+1.9**
VRI	**Vrincioaia**	**6.38**	**5**	⇑P	**Pn**	**02 53 41.0**	**+1.5**
DOPR	**Dopca**	**6.48**	**356**	⇓P	**Pn**	**02 53 42.9**	**+2.1**
VLDR	**Vladesti**	**6.52**	**13**	⇓P	**Pn**	**02 53 42.3**	**+0.9**
BZS	**Buzias**	**6.91**	**334**	⇑P	**Pn**	**02 53 47.6**	**+0.9**
TESR	**Tescani**	**7.02**	**4**	⇓P	**Pn**	**02 53 49.2**	**+0.9**
SIRR	**Siria**	**7.47**	**336**	⇓P	**Pn**	**02 53 54.4**	**0.0**

NNC 23 03:04:55.4±8.9, 37°.28N×70°.91E, h0km, mb3.8, mpv3.4, 3C-3D, Error ellipse: s-maj=68.7km s-min=56.2km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**5.82**	**357**	⇑P	Pn	03 06 25.2	+2.2
	0.8nm,0.6s,baz=186,slow=12						
KK02				⇓S	Sn	03 07 31.9	+1.5
	3.1nm,0.3s,baz=180,slow=24						
AAK	**Ala-Archa**	**6.01**	**26**	⇓P	Pn	03 06 25.7	-0.1
	2.7nm,0.6s						
AAK				⇑S	Sn	03 07 37.1	+1.7
	3.9nm,0.6s						
TKM2	**Tokmak 2**	**6.68**	**31**	⇑P	Pn	03 06 33.4	-1.5
	3.9nm,0.6s						
TKM2				⇓S	Sn	03 07 51.1	-0.8
	1.3nm,0.7s						

THE ***23*** *03:32:11.8, 39°.53N×25°.95E, h4km±18km, ML2.0/2, Error ellipse: s-maj=18.0km s-min=0.8km az=132.0*
DDA ***23*** *03:32:11.9±0.0, 39°.51N×26°.02E, h12km, ML1.9*
ATH ***23*** *03:32:12.0, 39°.48N×25°.94E, h14km±7km, ML2.2/1, Error ellipse: s-maj=8.2km s-min=1.2km az=206.0*
ISK ***23*** *03:32:11.3, 39°.50N×25°.99E, h8km, ML2.5/17*

ISC 23 03:32:11.7±0.9, 39°.51N±0°.02×25°.98E±0°.02, h13km±6km, n34, σ0s35/55, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.12**	**92**	P	**Pg**	**03 32 14.8**	**-0.1**
KOCA				*i* AML	AML	03 32 17.0	
	comp=E,1μm,0.1s						
KOCA				*i* AML	AML	03 32 17.0	
	comp=N,1μm,0.1s						
KOCA				S	**Sg**	**03 32 17.1**	**-0.1**
SIGR	**SIGRI**	**0.31**	**199**	P	**Pg**	**03 32 17.9**	**-0.2**
SIGR				S	**Sg**	**03 32 22.3**	**0.0**
	268nm,0.2s						
SIGR	**SIGRI**	**0.31**	**199**	P	**Pg**	**03 32 17.8**	**-0.2**
SIGR				S	**Sg**	**03 32 21.9**	**-0.4**
SIGR	**SIGRI**	**0.31**	**199**	PG	**Pg**	**03 32 17.9**	**-0.2**
SIGR				SG	**Sg**	**03 32 22.6**	**+0.3**
BOZC	**Bozcaada**	**0.34**	**9**	PG	**Pg**	**03 32 18.6**	**0.0**
BOZC				SG	**Sg**	**03 32 23.8**	**+0.6**
BOZC	**Bozcaada**	**0.34**	**9**	P	**Pg**	**03 32 18.6**	**0.0**
BOZC				S	**Sg**	**03 32 23.8**	**+0.6**
BOZC				*i* AML	AML	03 32 24.0	
	comp=E,148nm,0.3s						
BOZC				*i* AML	AML	03 32 24.0	
	comp=N,165nm,0.2s						
PRK	**Paraskevi**	**0.34**	**139**	P	**Pb**	**03 32 19.6**	**-0.1**
PRK				S	**Sb**	**03 32 24.6**	**-0.4**
	485nm,0.4s						
PRK	**Paraskevi**	**0.34**	**139**	P	**Pb**	**03 32 19.5**	**-0.1**
PRK				S	**Sg**	**03 32 23.6**	**+0.3**
PRK				AML	AML	03 32 24.8	
	comp=N,921μm,0.4s						
PRK				AML	AML	03 32 25.5	
	comp=E,1025μm,0.4s						
EZN	**Ezine**	**0.41**	**40**	P	**Pg**	**03 32 19.8**	**-0.2**
EZN				S	**Sg**	**03 32 25.4**	**-0.1**
EZN	**Ezine**	**0.41**	**40**	PG	**Pg**	**03 32 19.7**	**-0.2**
EZN				SG	**Sg**	**03 32 25.9**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.49**	**61**	P	**Pg**	**03 32 21.0**	**-0.4**
BAYC				S	**Sg**	**03 32 27.9**	**-0.2**
BAYC				*i* AML	AML	03 32 28.0	
	comp=E,116nm,0.4s						
BAYC				*i* AML	AML	03 32 28.0	
	comp=E,89nm,0.2s						
ECEA	**Canakkale, Ece**	**0.56**	**15**	P	**Pg**	**03 32 22.8**	**+0.1**
ECEA				S	**Sg**	**03 32 30.7**	**+0.7**
ECEA				*i* AML	AML	03 32 31.0	
	comp=E,128nm,0.3s						
ECEA				*i* AML	AML	03 32 36.0	
	comp=E,60nm,0.2s						
AYVA	**Ayvalik**	**0.58**	**110**	P	**Pg**	**03 32 22.9**	**-0.2**
AYVA				S	**Sg**	**03 32 31.3**	**+0.5**
AYVA				*i* AML	AML	03 32 37.0	
	comp=E,40nm,0.7s						
AYVA				*i* AML	AML	03 32 37.0	
	comp=E,68nm,0.3s						
GADA	**Gvkgeada**	**0.69**	**355**	P	**Pg**	**03 32 24.7**	**-0.4**
GADA				S	**Sg**	**03 32 33.8**	**-0.3**
GADA	**Gvkgeada**	**0.69**	**355**	PG	**Pg**	**03 32 25.0**	**-0.1**
LIA	**Limnos Island**	**0.73**	**303**	P	**Pg**	**03 32 25.4**	**-0.5**

FORT	**Forrest**	**43.77 240**	P	**P**	**04 08 08.9 +0.4**
FORT			IAmb	IAmb	04 08 09.9
	comp=Z,6.6nm,0.7s				
JHJ	**Hachijo jima 2**	**55.91 327**	LR	LR	04 28 32.2
	comp=Z,36nm,19.9s,baz=86,slow=31				
ASAJ	**Asahikawa**	**63.58 337**	LR	LR	04 33 01.9
	comp=Z,46nm,20.5s,baz=100,slow=31				
KSRS	**Korea Array**	**65.71 323**	LR	LR	04 33 27.7
	comp=Z,111nm,21.5s,baz=145,slow=30				
PETK	**Petropavlovsk-**	**67.76 351**	LR	LR	04 35 57.3
	comp=Z,49nm,20.4s,baz=136,slow=32				
KLR	**Kul'dur**	**72.14 334**	P	**P**	**04 11 28.6 +1.6**
	comp=Z,1.1nm,0.7s,baz=126,slow=4.9,SNR=4.0				
KLR			LR	LR	04 37 58.1
	comp=Z,23nm,20.0s,baz=124,slow=32				
SEY	**Seymchan**	**78.00 351**	P	**P**	**04 12 00.8 +0.4**
	comp=Z,0.8nm,0.3s,baz=118,slow=4.6,SNR=7.9				
CMAR	**Chiang Mai Arr**	**78.86 292**	P	**P**	**04 12 08.2 +2.0**
	comp=Z,1.1nm,0.3s,baz=118,slow=4.2,SNR=6.7				
CMAR	**Chiang Mai Arr**	**78.86 292**	P	**P**	**04 12 05.8 -0.4**
BILL	**Bilibino**	**81.72 358**	P	**P**	**04 12 21.2 +0.8**
BILL			IAmb	IAmb	04 12 28.5
	comp=Z,6.0nm,1.4s				
NVAR	**Mina Array Bea**	**83.17 48**	P	**P**	**04 12 27.7 -1.4**
IL31		**84.26 16**	P	**P**	**04 12 32.9 -0.8**
IL31			IAmb	IAmb	04 12 34.1
	comp=Z,1.5nm,0.8s				
ILAR	**Eielson Array**	**84.26 16**	P	**P**	**04 12 33.4 -0.3**
	comp=Z,1.5nm,0.7s,baz=234,slow=5.2,SNR=25				
ANMO	**Albuquerque**	**90.97 54**	P	**P**	**04 13 06.2 -0.9**
	comp=Z,0.8nm,0.6s,baz=235,slow=7.3,SNR=4.0				
ANMO	**Albuquerque**	**90.97 54**	IAmb	IAmb	04 13 08.4
	comp=Z,5.4nm,1.4s				
TX32	**Lajitas Array**	**91.76 60**	P	**P**	**04 13 11.0 +0.3**
TXAR	**Lajitas Array**	**91.76 60**	P	**P**	**04 13 10.8 0.0**
	comp=Z,0.5nm,0.8s,baz=224,slow=3.5,SNR=5.4				
YKA	**Yellowknife Ar**	**94.61 27**	P	**P**	**04 13 22.2 -0.7**
	comp=Z,0.5nm,0.8s,baz=260,slow=3.7,SNR=6.5				
YKA			LR	LR	04 50 35.4
	comp=Z,41nm,18.5s,baz=295,slow=32				

*IDC **23** 04:00:42.8±0.9, 36°.73N×29°.52E, h0km, mb3.8/7, mb1 4.0/14, mb1mx3.6/66, mbtmp3.9/14, ML4.0/7, MS3.2/5, Ms1 3.3/5, ms1mx2.7/89, Error ellipse: s-maj=17.2km s-min=14.7km az=165.0*

*ISK **23** 04:00:44.6, 36°.72N×29°.51E, h8km, ML4.1/21*

*NIC **23** 04:00:44.0±0.0, 36°.96N×29°.53E, h22km±1km, Ml4.2/4*

*DDA **23** 04:00:44.7±0.0, 36°.72N×29°.48E, h27km±2km, MW3.9*

*NEIC **23** 04:00:45.5±2.2, 36°.65N±0°.05×29°.57E±0°.04, h10km±1km, mb4.2/7, ML4.1(ISK), Error ellipse: s-maj=9.0km s-min=4.1km az=148.0*

*GII **23** 04:00:47.9±0.0, 36°.39N×29°.43E, h27km, MD3.3/5, Mm3.4/3*

ISC 23 04:00:45.2±0.9, 36°.72N±0°.02×29°.53E±0°.02, h18km±4km, n157, σ1§64/196, mb4.0/10, MS3.4/3, 10C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.31**	**84**	PG	**Pb**	**04 00 51.8**	**-0.5**
ELL	**Elmali**	**0.31**	**84**	P	**Pb**	**04 00 51.7**	**-0.5**
ELL				S	**Sb**	**04 00 58.5**	**+1.5**
ELL	**Elmali**	**0.31**	**84**		**Pb**	**04 00 51.6**	**-0.6**
FETY	**Fethiye**	**0.37**	**257**	PG	**Pg**	**04 00 52.1**	**-0.8**
FETY				SG	**Sg**	**04 00 57.7**	**-0.4**
FETY	**Fethiye**	**0.37**	**257**		**Pg**	**04 00 52.0**	**-0.8**
FETY	**Fethiye**	**0.37**	**257**	SPECP		04 00 52.0	
FETY				P	**Pg**	**04 00 52.1**	**-0.8**
FETY				S	**Sg**	**04 00 58.0**	**-0.1**
FETY				*i* AML	AML	04 00 59.0	
	comp=N,1μm,0.5s						
FETY				*i* AML	AML	04 01 00.0	
	comp=E,1μm,0.4s						
CAEL	**Denizli, Camel**	**0.44**	**337**	SPECP		04 00 53.0	
CAEL				P	**Pg**	**04 00 53.5**	**-0.7**
CAEL				S	**Sb**	**04 01 00.9**	**0.0**
CAEL				*i* AML	AML	04 01 06.0	
	comp=N,2μm,0.8s						
CAEL				*i* AML	AML	04 01 08.0	
	comp=E,2μm,0.5s						
AKAS	**Kas**	**0.49**	**173**	PG	**Pg**	**04 00 54.7**	**-0.5**
AKAS	**Kas**	**0.49**	**173**		**Pg**	**04 00 54.6**	**-0.5**
AKAS	**Kas**	**0.49**	**173**	SPECP		04 00 54.0	
AKAS				P	**Pg**	**04 00 54.7**	**-0.5**
AKAS				S	**Sb**	**04 01 04.9**	**+2.7**
AKAS				*i* AML	AML	04 01 08.0	
	comp=E,1μm,0.4s						
AKAS				*i* AML	AML	04 01 20.0	
	comp=N,8μm,0.4s						
GOLH	**Golhisar**	**0.52**	**3**	SPECP		04 00 55.0	
GOLH				P	**Pg**	**04 00 55.2**	**-0.5**
GOLH				S	**Sb**	**04 01 04.3**	**+1.2**
GOLH				*i* AML	AML	04 01 05.0	
	comp=N,7μm,0.4s						
GOLH				*i* AML	AML	04 01 08.0	
	comp=E,6μm,0.4s						
DEMR	**Demre-Antalya**	**0.57**	**148**	PG	**Pg**	**04 00 56.3**	**-0.3**
DEMR	**Demre-Antalya**	**0.57**	**148**		**Pg**	**04 00 56.2**	**-0.3**
DALY	**Dalyan (Mula)**	**0.71**	**278**	PG	**Pg**	**04 00 57.9**	**-1.3**
DALY				SG	**Sb**	**04 01 09.0**	**+0.5**
KORT	**Korkueli**	**0.72**	**67**	PG	**Pg**	**04 00 58.6**	**-0.7**
KORT	**Korkueli**	**0.72**	**67**		**Pb**	**04 00 59.1**	**-0.1**
KORT	**Korkueli**	**0.72**	**67**	SPECP		04 00 58.0	
KORT				P	**Pb**	**04 00 58.9**	**-0.4**
KORT				S	**Sn**	**04 01 13.6**	**+2.4**
KORT				*i* AML	AML	04 01 14.0	
	comp=N,1μm,0.5s						
KORT				*i* AML	AML	04 01 14.0	
	comp=E,7μm,0.5s						
AKUM	**Antalya-Kumluc**	**0.77**	**121**	SPECP		04 01 00.0	
AKUM				P	**Pn**	**04 01 00.7**	**-0.4**
AKUM				S	**Sn**	**04 01 16.2**	**+4.1**
AKUM				*i* AML	AML	04 01 20.0	
	comp=E,2μm,0.5s						
AKUM				*i* AML	AML	04 01 21.0	
	comp=N,3μm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.89**	**327**	SPECP		04 01 01.0	
TAVA				P	**Pg**	**04 01 01.6**	**-1.1**
TAVA				S	**Sb**	**04 01 15.1**	**+1.2**
TAVA				*i* AML	AML	04 01 17.0	
	comp=E,1μm,0.9s						
TAVA				*i* AML	AML	04 01 18.0	
	comp=N,1μm,0.6s						
ANTB	**Antalya**	**0.92**	**78**	PG	**Pb**	**04 01 02.9**	**+0.3**
BUCA	**Burdur, Bucak-**	**1.02**	**53**	SPECP		04 01 04.0	
BUCA				P	**Pn**	**04 01 04.8**	**0.0**
BUCA				*i* AML	AML	04 01 25.0	
	comp=N,2μm,0.5s						
BUCA				*i* AML	AML	04 01 33.0	
	comp=E,2μm,0.5s						
TURN	**Turunc**	**1.03**	**274**	PG	**Pb**	**04 01 03.4**	**-1.2**
TURN	**Turunc**	**1.03**	**274**	SPECP		04 01 03.0	
TURN				P	**Pb**	**04 01 03.9**	**-0.7**
TURN				S	**Sn**	**04 01 20.3**	**+1.5**
TURN				*i* AML	AML	04 01 23.0	
	comp=N,2μm,0.4s						
TURN				*i* AML	AML	04 01 23.0	
	comp=E,1μm,0.3s						
BRDR	**BURDUR-Merkez**	**1.06**	**23**	SPECP		04 01 04.0	
BRDR				P	**Pb**	**04 01 04.7**	**-0.5**
BRDR				*i* AML	AML	04 01 27.0	
	comp=N,959nm,0.4s						
BRDR				*i* AML	AML	04 01 30.0	
	comp=E,1μm,0.4s						
YER	**Yerkesik**	**1.08**	**293**	PG	**Pb**	**04 01 05.6**	**+0.2**
MULA	**Mugla, Merkez-**	**1.11**	**299**	SPECP		04 01 05.0	
MULA				P	**Pb**	**04 01 05.9**	**0.0**
MULA				S	**Sn**	**04 01 23.9**	**+3.1**
MULA				*i* AML	AML	04 01 25.0	
	comp=E,2μm,0.6s						
MULA				*i* AML	AML	04 01 27.0	
	comp=N,862nm,0.7s						
BCK	**Bucak**	**1.13**	**48**	PN	**Pn**	**04 01 06.6**	**+0.4**
BCK				SN	**Sn**	**04 01 23.1**	**+1.9**
ARG	**Arkhangelos**	**1.24**	**247**	PN	**Pn**	**04 01 07.5**	**-0.1**
ARG				SN	**Sg**	**04 01 26.0**	**+0.8**
ARG	**Arkhangelos**	**1.24**	**247**	P	**Pn**	**04 01 07.3**	**-0.3**
ARG				S	**Sg**	**04 01 26.1**	**+0.8**
BASM	**Basmaki-Afyon**	**1.27**	**19**	PN	**Pb**	**04 01 08.7**	**+0.1**
ISP	**Isparta**	**1.36**	**35**	PN	**Pg**	**04 01 10.6**	**-0.8**
ISP	**Isparta**	**1.36**	**35**	Pn	**Pg**	**04 01 10.8**	**-0.6**
SUTC	**Sutluce-Ispart**	**1.40**	**57**	PN	**Pg**	**04 01 11.2**	**-1.0**
MLSB	**Milas**	**1.52**	**293**	PN	**Pb**	**04 01 12.8**	**0.0**
DAT	**Datca**	**1.57**	**271**	PN	**Pn**	**04 01 13.3**	**+1.0**
DAT	**Datca**	**1.57**	**271**	SPECP		04 01 13.0	
DAT				P	**Pb**	**04 01 13.8**	**+0.1**
DAT				*i* AML	AML	04 01 39.0	
	comp=E,2μm,0.5s						
DAT				*i* AML	AML	04 01 44.0	
	comp=N,2μm,0.5s						
KZIL	**AFYON_Kizioren**	**1.61**	**17**	SPECP		04 01 14.0	
KZIL				P	**Pb**	**04 01 14.3**	**-0.2**
KZIL				*i* AML	AML	04 01 39.0	
	comp=N,837nm,0.6s						
KZIL				*i* AML	AML	04 01 41.0	
	comp=E,979nm,0.5s						
BAGO	**Egridir - ISPA**	**1.62**	**38**	SPECP		04 01 14.0	
BAGO				P	**Pb**	**04 01 14.8**	**+0.2**
BAGO				*i* AML	AML	04 01 40.0	
	comp=N,735nm,0.5s						
BAGO				*i* AML	AML	04 01 40.0	
	comp=E,612nm,0.7s						
PASA	**Karahalli, USA**	**1.63**	**359**	SPECP		04 01 13.0	
PASA				P	**Pn**	**04 01 13.9**	**+0.8**
PASA				*i* AML	AML	04 01 38.0	
	comp=N,375nm,0.8s						
PASA				*i* AML	AML	04 01 41.0	
	comp=E,411nm,0.8s						
KEPZ	**Antalya-Kepez**	**1.68**	**83**	SPECP		04 01 17.0	
KEPZ				P	**Pg**	**04 01 17.3**	**-0.1**
KEPZ				*i* AML	AML	04 01 45.0	
	comp=E,352nm,0.5s						
KEPZ				*i* AML	AML	04 01 46.0	
	comp=N,516nm,0.4s						
BODT	**Bodrum**	**1.81**	**282**	PN	**Pn**	**04 01 16.9**	**+1.4**
BODT	**Bodrum**	**1.81**	**282**		**Pb**	**04 01 17.3**	**-0.6**
NIS1	**Nisyros Isl.**	**1.89**	**267**	PN	**Pn**	**04 01 17.9**	**+1.2**
KULA	**Kula-Manisa**	**1.92**	**339**	PN	**Pn**	**04 01 18.3**	**+1.2**
SEDI	**Konya, Seydise**	**1.92**	**67**	SPECP		04 01 20.0	
SEDI				P	**Pb**	**04 01 20.4**	**+0.5**
SEDI				*i* AML	AML	04 01 49.0	
	comp=E,841nm,0.7s						
SEDI				*i* AML	AML	04 02 00.0	
	comp=N,523nm,0.7s						
SEYD	**Seydisehir-KON**	**1.97**	**69**	PN	**Pb**	**04 01 19.5**	**-1.1**
DDIM	**Aydin, Didim**	**1.97**	**293**	SPECP		04 01 21.0	
DDIM				P	**Pb**	**04 01 21.6**	**+1.0**
DDIM				*i* AML	AML	04 01 59.0	
	comp=E,814nm,1.0s						
DDIM				*i* AML	AML	04 02 02.0	
	comp=N,829nm,1.3s						
SHUT	**Suhut-Afyon**	**2.00**	**24**	PN	**Pn**	**04 01 19.7**	**+1.4**
USAK	**Uak-Merkez**	**2.03**	**349**	SPECP		04 01 19.0	
USAK				P	**Pn**	**04 01 19.9**	**+1.2**
USAK				*i* AML	AML	04 01 47.0	
	comp=N,170nm,0.8s						
USAK				*i* AML	AML	04 01 47.0	
	comp=E,243nm,0.5s						
KOSK	**Kos Island**	**2.05**	**272**	PN	**Pn**	**04 01 20.1**	**+1.3**
GCAM	**G?zelcaml?**	**2.08**	**299**	PN	**Pn**	**04 01 20.6**	**+1.4**
GCAM	**G?zelcaml?**	**2.08**	**299**	SPECP		04 01 20.0	
GCAM				P	**Pn**	**04 01 21.0**	**+1.8**
GCAM				*i* AML	AML	04 02 00.0	
	comp=E,354nm,0.7s						
GCAM				*i* AML	AML	04 02 02.0	
	comp=N,343nm,0.9s						
AFYO	**Afyonkarahisar**	**2.15**	**16**	SPECP		04 01 21.0	
AFYO				P	**Pn**	**04 01 21.7**	**+1.3**
AFYO				*i* AML	AML	04 01 53.0	
	comp=E,884nm,1.0s						
AFYO				*i* AML	AML	04 02 00.0	
	comp=N,689nm,1.0s						
GAZI	**Gazipasa**	**2.30**	**101**	PN	**Pn**	**04 01 24.1**	**+1.9**
SIMA	**Simav-Kutahya**	**2.40**	**350**	PN	**Pn**	**04 01 24.8**	**+1.1**
DGB	**zmir**	**2.49**	**303**	SPECP		04 01 26.0	
DGB				P	**Pn**	**04 01 26.0**	**+1.2**
DGB				*i* AML	AML	04 02 15.0	
	comp=N,176nm,0.9s						
DGB				*i* AML	AML	04 02 15.0	
	comp=E,112nm,0.7s						
AKMS	**Akamas**	**2.84**	**126**	P	**Pn**	**04 01 30.0**	**+0.3**
AKMS				AML	AML	04 02 10.5	
	1.6nm,0.5s						
AKMS				AML	AML	04 02 23.6	
	1.8nm,0.7s						
URLA	**Izmir**	**2.85**	**306**	PN	**Pn**	**04 01 31.6**	**+1.8**
ALFC	**Alefka**	**2.94**	**121**	P	**Pn**	**04 01 31.4**	**+0.3**
ALFC				S	**Sn**	**04 02 08.3**	**+2.4**
ALFC				AML	AML	04 02 16.6	
	1.3nm,0.6s						
ALFC				AML	AML	04 02 16.6	
	1.3nm,0.6s						
ALFC				AML	AML	04 02 23.5	
	1.1nm,0.7s						
ALFC				AML	AML	04 02 23.5	
	1.1nm,0.7s						
ZKR	**Zakros**	**3.13**	**240**	P	**Pn**	**04 01 34.6**	**+1.0**
ZKR				S	**Sn**	**04 02 12.8**	**+2.3**
NATA	**Nata**	**3.14**	**127**	P	**Pn**	**04 01 34.9**	**+1.1**
NATA				AML	AML	04 02 41.0	
	4.1nm,1.1s						
NATA				AML	AML	04 02 44.2	
	3.6nm,0.9s						
BORA	**Eskisehir**	**3.24**	**13**	Pn	**Pn**	**04 01 37.3**	**+2.1**
SANT	**Santorini**	**3.30**	**265**	Pn	**Pn**	**04 01 37.4**	**+1.4**
SZAC	**Souni**	**3.36**	**125**	P	**Pn**	**04 01 37.7**	**+0.9**
SZAC				AML	AML	04 02 27.1	
	1.2nm,0.3s						
SZAC				AML	AML	04 02 30.9	
	1.4nm,0.4s						
OSC1	**CSNet OBS 1**	**3.52**	**155**	P	**Pn**	**04 01 40.0**	**+1.1**
CSS	**Mathiatis**	**3.55**	**118**	P	**Pn**	**04 01 39.9**	**+0.4**
CSS	**Mathiatis**	**3.55**	**118**	Pn	**Pn**	**04 01 38.8**	**-0.6**
ASGA	**Asgata**	**3.59**	**121**	P	**Pn**	**04 01 41.1**	**+1.1**
ASGA				S	**Sn**	**04 02 25.0**	**+3.1**
MVOU	**Mavrovouni**	**3.74**	**116**	P	**Pn**	**04 01 42.2**	**+0.2**
MDUB	**Mudurnu**	**3.97**	**19**	Pn	**Pn**	**04 01 47.8**	**+2.5**
IDI	**Anoyia**	**4.02**	**251**	Pn	**Pn**	**04 01 47.2**	**+1.2**
	7.3nm,0.3s,baz=78,slow=14,SNR=31						
IDI				Sn	**Sn**	**04 02 32.6**	**-0.1**
	46nm,0.3s,baz=320,slow=22,SNR=18						
BR231	**Keskin MP Arra**	**4.03**	**38**		**Pn**	**04 01 48.3**	**+2.2**
ANTO	**Ankara**	**4.06**	**38**		**Pn**	**04 01 48.5**	**+1.9**
OSC2	**CSNet OBS 4**	**4.27**	**147**	P	**Pn**	**04 01 49.8**	**+0.5**
BR131	**Keskin Array S**	**4.41**	**46**	Pn	**Pn**	**04 01 53.6**	**+2.2**
BRTR	**Keskin Array B**	**4.41**	**46**	Pn	**Pn**	**04 01 52.6**	**+1.2**
	2.0nm,0.3s,baz=228,slow=14,SNR=53						
BRTR				Sn	**Sn**	**04 02 45.8**	**+3.4**
	5.3nm,0.3s,baz=216,slow=24,SNR=16						
BRTR	**Keskin Array B**	**4.41**	**46**	Pn	**Pn**	**04 01 53.2**	**+1.8**
ALN	**Alexandroupoli**	**4.98**	**328**	Pn	**Pn**	**04 02 02.4**	**+3.3**
BNN	**Bunyan**	**5.44**	**65**	Pn	**Pn**	**04 02 07.5**	**+2.0**
HWQ	**Hawqa**	**5.77**	**113**	*e*P	**Pn**	**04 02 11.4**	**+1.3**
DQRL	**Deir Qamar**	**5.79**	**120**	*e*P	**Pn**	**04 02 09.5**	**-0.8**
HNTI	**Hanita**	**5.89**	**126**	Pn	**Pn**	**04 02 11.6**	**0.0**
HNTI				Sn	**Sn**	**04 03 17.3**	**-1.3**
MMC7	**Mount Meron ar**	**6.07**	**126**	Pn	**Pn**	**04 02 14.1**	**0.0**
OFRI	**`Ofer**	**6.08**	**131**	Pn	**Pn**	**04 02 14.0**	**-0.2**
OFRI				Sn	**Sn**	**04 03 21.6**	**-1.7**
MMA0B	**Mount Meron ar**	**6.08**	**126**	Pn	**Pn**	**04 02 14.3**	**+0.1**
MMA0B				Sn	**Sn**	**04 03 23.0**	**-0.4**
MMAI	**Mount Meron Ar**	**6.08**	**126**	Pn	**Pn**	**04 02 14.3**	**+0.1**
	30nm,0.3s,baz=306,slow=12,SNR=522						
MMAI				Sn	**Sn**	**04 03 21.9**	**-1.5**
	12nm,0.3s,baz=309,slow=29,SNR=1.0						
RCY	**Rachaya**	**6.09**	**120**	*e*P	**Pn**	**04 02 14.2**	**-0.2**
BLGI	**Bet Lehem HaGe**	**6.13**	**129**	Pn	**Pn**	**04 02 14.8**	**0.0**
BLGI				Sn	**Sn**	**04 03 23.8**	**-0.6**
GEM	**Giv'at Ha'Em**	**6.13**	**123**	Pn	**Pn**	**04 02 15.4**	**+0.5**
GEM				Sn	**Sn**	**04 03 24.2**	**-0.4**
NATI	**Neve Ativ**	**6.15**	**122**	Pn	**Pn**	**04 02 15.2**	**+0.1**
NATI				Sn	**Sn**	**04 03 24.3**	**-0.7**
GAZ	**Gaziantep**	**6.17**	**83**	Pn	**Pn**	**04 02 16.5**	**+1.0**
SLTI	**Sal'it**	**6.38**	**133**	Pn	**Pn**	**04 02 18.2**	**-0.1**
SLTI				Sn	**Sn**	**04 03 28.9**	**-1.7**
MMLI	**Mount Malkishu**	**6.47**	**130**	Pn	**Pn**	**04 02 19.6**	**0.0**
HMDT	**Nahal Hemdat**	**6.66**	**130**	Pn	**Pn**	**04 02 22.5**	**+0.4**
HMDT				Sn	**Sn**	**04 03 36.2**	**-1.4**
AMAZ	**Amatzia**	**6.83**	**138**	Pn	**Pn**	**04 02 24.7**	**+0.1**
AMAZ				Sn	**Sn**	**04 03 39.2**	**-2.7**
DSI	**Dead Sea**	**7.06**	**135**	Pn	**Pn**	**04 02 28.1**	**+0.4**
DSI				Sn	**Sn**	**04 03 45.7**	**-1.8**
KZIT	**Kziot**	**7.07**	**144**	Pn	**Pn**	**04 02 27.8**	**0.0**
KZIT				Sn	**Sn**	**04 03 44.3**	**-3.4**
YTIR	**Yattir**	**7.07**	**137**	Pn	**Pn**	**04 02 27.6**	**-0.3**
YTIR				Sn	**Sn**	**04 03 44.9**	**-3.0**
GHAJ	**Ghor Haditha**	**7.37**	**135**	Pn	**Pn**	**04 02 32.0**	**+0.1**
GHAJ	**Ghor Haditha**	**7.37**	**135**	Pn	**Pn**	**04 02 31.9**	**+0.1**
ASF	**Jabal al Asfar**	**7.59**	**125**	Pn	**Pn**	**04 02 36.1**	**+1.1**
	1.8nm,0.3s,baz=325,slow=2.9,SNR=7.8						
ZFRI	**Zfri**	**7.74**	**141**	Pn	**Pn**	**04 02 36.2**	**-0.8**
TIRR	**Tirgusor**	**7.78**	**354**	⇑P	**Pn**	**04 02 39.1**	**+1.7**
PRNI	**Paran**	**7.82**	**143**	Pn	**Pn**	**04 02 37.6**	**-0.5**
PRNI				Sn	**Sn**	**04 04 03.0**	**-3.3**
KRMI	**Paran Flat**	**7.88**	**145**	Pn	**Pn**	**04 02 38.2**	**-0.8**
KRMI				Sn	**Sn**	**04 04 04.2**	**-3.6**
HRFI	**Mount Harif**	**8.10**	**144**	Pn	**Pn**	**04 02 41.2**	**-0.7**
HRFI				Sn	**Sn**	**04 04 09.4**	**-3.7**
TPGR	**Topolog**	**8.17**	**354**	⇑P	**Pn**	**04 02 45.0**	**+2.1**
MBRI	**Mt Berech**	**8.24**	**145**	Pn	**Pn**	**04 02 43.5**	**-0.5**
MBRI				Sn	**Sn**	**04 04 13.3**	**-3.5**
EIL	**Elat**	**8.37**	**146**	Pn	**Pn**	**04 02 45.2**	**-0.4**
	5.9nm,0.3s,baz=338,slow=3.1,SNR=108						
EIL				Sn	**Sn**	**04 04 14.5**	**-5.1**
	4.0nm,0.3s,baz=92,slow=20,SNR=6.6						
EIL	**Elat**	**8.37**	**146**	Pn	**Pn**	**04 02 44.8**	**-0.8**
EIL				Sn	**Sn**	**04 04 15.1**	**-4.5**
SEV	**Sevastopol'**	**8.43**	**21**	*e*P	**Pn**	**04 02 47.9**	**+1.6**
SEV				Pm		04 02 50.1	
	comp=Z,13nm,0.5s						
SEV				*e*S	**Sn**	**04 04 19.4**	**-1.5**
SEV				Sm		04 04 19.9	
	comp=N,5.0nm,0.4s						
SEV				Sm		04 04 19.9	
	comp=E,8.0nm,0.5s						
TLCR		**8.48**	**357**	⇓P	**Pn**	**04 02 49.3**	**+2.3**
CFR	**Carcaliu**	**8.52**	**353**	⇑P	**Pn**	**04 02 49.0**	**+1.4**
YAL	**Yalta**	**8.52**	**23**	*e*P	**Pn**	**04 02 50.1**	**+2.5**
YAL				Pm		04 02 50.9	
	comp=Z,10.0nm,0.2s						
YAL				*e*S	**Sn**	**04 04 22.3**	**-0.9**
YAL				Sm		04 04 28.9	
	comp=N,6.0nm,0.2s						
YAL				Sm		04 04 28.9	
	comp=E,19nm,0.5s						
SIM	**Simferopol'**	**8.93**	**21**	*e*P	**Pn**	**04 02 55.3**	**+2.1**
SIM				Sm		04 00 34.5	
	comp=E,4.0nm,0.3s						
SIM				Pm		04 02 58.1	
	comp=Z,51nm,0.4s						
SIM				*e*S	**Sn**	**04 04 32.1**	**-1.1**
SIM				Sm		04 04 34.5	
	comp=N,14nm,0.4s						
SCTR	**Scanteiesti**	**9.02**	**353**	⇑P	**Pn**	**04 02 57.5**	**+3.0**
SUDU	**Sudak**	**9.15**	**25**	*e*P	**Pn**	**04 02 59.0**	**+2.7**
SUDU				Sm		04 00 46.4	
	comp=E,14nm,0.5s						
SUDU				Pm		04 03 01.9	
	comp=Z,5.0nm,0.4s						
SUDU				*e*S	**Sn**	**04 04 39.0**	**+0.2**
SUDU				Sm		04 04 46.4	
	comp=N,20nm,0.6s						
MLR	**Muntele Rosu**	**9.17**	**344**	⇑P	**Pn**	**04 02 59.1**	**+2.4**
MLR	**Muntele Rosu**	**9.17**	**344**	Pn	**Pn**	**04 02 58.5**	**+1.8**
	comp=N,0.6nm,0.3s,baz=351,slow=11,SNR=5.0						
MLR	**Muntele Rosu**	**9.17**	**344**	Pn	**Pn**	**04 02 60.0**	**+3.3**
VLDR	**Vladesti**	**9.18**	**354**	⇓P	**Pn**	**04 02 59.2**	**+2.5**
VOIR		**9.34**	**340**	⇓P	**Pn**	**04 03 00.9**	**+2.0**
PLOR	**Plostina**	**9.38**	**348**	⇓P	**Pn**	**04 03 02.6**	**+3.2**
VRI	**Vrincioaia**	**9.38**	**348**	⇑P	**Pn**	**04 03 00.4**	**+0.9**
COVR	**Voineasa-Covas**	**9.46**	**346**	⇑P	**Pn**	**04 03 03.9**	**+3.4**
DOPR	**Dopca**	**9.75**	**343**	⇓P	**Pn**	**04 03 06.9**	**+2.4**
VASR	**Vaslui**	**10.00**	**353**	⇓P	**Pn**	**04 03 10.4**	**+2.4**
MILM	**Milestii Mici**	**10.21**	**357**	⇓P	**Pn**	**04 03 12.2**	**+1.5**
MILM	**Milestii Mici**	**10.21**	**357**	⇑P	**Pn**	**04 03 12.3**	**+1.5**
	comp=N,9.0nm,0.5s						
MILM				*e*LR	LR	04 08 50.0	
	comp=N,600nm,5.4s						
BURAR	**Bucovina Array**	**11.35**	**345**	⇑P	**Pn**	**04 03 28.9**	**+2.5**
BUR08	**Bucovina Ar. S**	**11.38**	**345**	Pn	**Pn**	**04 03 29.1**	**+2.2**
SORM	**Soroca**	**11.44**	**356**	⇑P	**Pn**	**04 03 29.0**	**+1.4**
AKASG	**Malin Array Be**	**13.98**	**359**	LR	LR	04 09 29.1	
	comp=N,68nm,19.8s,baz=204,slow=38						
NRCA	**Norcia**	**14.02**	**301**	Pn	**Pn**	**04 04 04.0**	**+1.1**
GEC2	**GERESS Array S**	**16.75**	**321**	Pn	**Pn**	**04 04 38.8**	**0.0**
GERES	**GERESS Array B**	**16.75**	**321**	Pn	**P**	**04 04 41.3**	**+0.3**
	comp=N,0.1nm,0.3s,baz=132,slow=13,SNR=7.2						
DAVOX	**Davos/Dischmat**	**17.73**	**311**	LR	LR	04 11 44.8	
	comp=N,71nm,19.4s,baz=240,slow=37						
MNK	**Minsk**	**17.82**	**357**	*i* P	Pn	04 04 42.5	-10
	comp=E,1.0nm,1.0s						
MNK				*i* P	Pn	04 04 42.5	-10
	comp=N,14nm,1.1s						
MNK				*i* P	Pn	04 04 42.5	-10
	comp=Z,10.0nm,1.0s,baz=176						
MNK				*i* PP	**P**	**04 04 53.2**	**+0.5**
MNK				*i* PPP	PPP	04 05 00.9	
MNK				*

NTC			S		Sb	04 02 30.2	+1.0
	baz=296						
EWUT	**Wuta**	**0.53 254**	P		**Pg**	**04 02 21.4**	**-0.6**
	baz=261						
EWUT			S		**Sb**	**04 02 29.4**	**+0.2**
	baz=261						
ILA	**Ilan**	**0.56 288**	P		**Pb**	**04 02 21.9**	**-0.6**
	baz=275						
ILA			*e*S		**Sn**	**04 02 32.0**	**-1.2**
	baz=275						
NDS	**Dongshan**	**0.57 274**	*e*P		**Pb**	**04 02 21.8**	**-0.8**
	baz=261						
NDS			*e*S		**Sg**	**04 02 30.4**	**+0.1**
	baz=261						
ENA	**Nanau**	**0.57 253**	⇑*i*P		**Pb**	**04 02 22.0**	**-0.6**
	baz=261						
ENA			S		**Sg**	**04 02 30.4**	**+0.1**
	baz=261						
JYNG	**Yonagunijimaku**	**0.57 104**	P		**Pg**	**04 02 23.4**	**+0.6**
JYNG			*e*S		**Sg**	**04 02 31.6**	**+1.1**
TIPB	**Shuangxi**	**0.60 309**	⇓*i*P		**Pb**	**04 02 22.7**	**-0.5**
	baz=299						
TIPB			*e*S		**Sb**	**04 02 31.0**	**-0.1**
	baz=299						
EHP	**Heping Village**	**0.61 243**	*e*P		**Pg**	**04 02 23.7**	**+0.3**
	baz=250						
TWE	**Neicheng**	**0.62 282**	⇓*i*P		**Pb**	**04 02 22.8**	**-0.7**
	baz=279						
TWE			*e*S		**Sg**	**04 02 32.7**	**+0.7**
	baz=279						
YOJ	**Yonaguni jima**	**0.63 102**	P		**Pg**	**04 02 23.9**	**+0.1**
YOJ			*e*S		**Sg**	**04 02 32.8**	**+0.6**
YOJ	**Yonaguni jima**	**0.63 102**	*e*P		**Pb**	**04 02 23.5**	**-0.2**
	baz=104						
YOJ			*e*S		**Sb**	**04 02 31.8**	**-0.2**
	baz=104						
NWF	**Wu-fen Shan**	**0.69 313**	P		**Pg**	**04 02 25.1**	**+0.1**
	baz=304						
NWF			*e*S		**Sn**	**04 02 35.9**	**-0.7**
	baz=304						
ENTT	**Nioudou**	**0.70 274**	*e*P		**Pb**	**04 02 24.4**	**-0.6**
	baz=263						
ENTT			*e*S		**Sn**	**04 02 35.5**	**-1.2**
	baz=263						
NDT	**Datong Townshi**	**0.75 271**	P		**Pb**	**04 02 25.3**	**-0.4**
	baz=269						
NDT			*e*S		**Sg**	**04 02 36.2**	**+0.2**
	baz=269						
NWLT	**Wulai**	**0.78 284**	*e*P		**Pb**	**04 02 25.7**	**-0.6**
	baz=281						
NWLT			*e*S		**Sb**	**04 02 36.6**	**+0.1**
	baz=281						
ETL	**Fush Village**	**0.78 236**	P		**Pb**	**04 02 26.2**	**-0.1**
	baz=244						
ETL			*e*S		**Sg**	**04 02 37.5**	**+0.5**
	baz=244						
TWA	**Mucha**	**0.78 299**	*e*P		**Pg**	**04 02 26.5**	**-0.2**
	baz=289						
TWA			*e*S		**Sn**	**04 02 37.9**	**-0.8**
	baz=289						
NACB	**Ninganchiao**	**0.80 238**	P		**Pb**	**04 02 26.1**	**-0.4**
	baz=237						
NHDH	**Xindian Distri**	**0.82 297**	P		**Pg**	**04 02 27.3**	**-0.1**
	baz=287						
NHDH			*e*S		**Sn**	**04 02 39.0**	**-0.6**
	baz=287						
TWD	**Chiawan**	**0.85 233**	*e*P		**Pb**	**04 02 27.4**	**0.0**
	baz=239						
ETLH	**Xiulin Townshi**	**0.87 244**	P		**Pb**	**04 02 27.8**	**-0.1**
	baz=252						
TAP	**Taipei**	**0.87 301**	*e*P		**Pn**	**04 02 28.7**	**+0.1**
	baz=292						
TAP			*e*S		**Sn**	**04 02 41.0**	**+0.1**
	baz=292						
YHNB	**Yeheng**	**0.88 275**	P		**Pb**	**04 02 27.8**	**-0.3**
	baz=273						
YHNB			*e*S		**Sb**	**04 02 38.8**	**-0.6**
	baz=273						
YHNB	**Yeheng**	**0.88 275**	P		**Pg**	**04 02 28.2**	**-0.2**
NNSB	**Datong**	**0.88 259**	P		**Pb**	**04 02 27.9**	**-0.2**
	baz=257						
NNSB			S		**Sg**	**04 02 40.2**	**-0.1**
	baz=257						
YM01	**YM01**	**0.89 308**	P		**Pg**	**04 02 28.6**	**-0.1**
	baz=307						
YM01			*e*S		**Sn**	**04 02 40.8**	**-0.4**
	baz=307						
NNS	**Nan Shan**	**0.89 260**	P		**Pb**	**04 02 28.0**	**-0.3**
	baz=258						
NNS			*e*S		**Sg**	**04 02 40.7**	**+0.2**
	baz=258						
NSK	**Sanguang**	**0.89 275**	*e*P		**Pg**	**04 02 28.5**	**-0.3**
	baz=283						
HWA	**Hwalien**	**0.91 227**	*e*P		**Pn**	**04 02 29.6**	**+0.5**
	baz=227						
ANP	**Anpu**	**0.95 309**	*e*P		**Pg**	**04 02 29.7**	**0.0**
	baz=307						
ANP			*e*S		**Sg**	**04 02 42.1**	**-0.2**
	baz=307						
TWY	**Chenhua**	**0.95 316**	*e*P		**Pb**	**04 02 29.0**	**-0.2**
	baz=314						
TWY			*e*S		**Sn**	**04 02 42.6**	**-0.2**
	baz=314						
TWS1	**Kuangyinshan**	**0.97 301**	*e*P		**Pg**	**04 02 30.5**	**+0.2**
	baz=300						
TWS1			*e*S		**Sn**	**04 02 44.1**	**+0.8**
	baz=300						
NTST	**Danshui**	**0.98 305**	*e*P		**Pg**	**04 02 30.4**	**0.0**
	baz=304						
NTST			*e*S		**Sn**	**04 02 43.7**	**+0.1**
	baz=304						
FUSS	**Fushou**	**1.05 251**	P		**Pn**	**04 02 31.3**	**0.0**
	baz=249						
FUSS			*e*S		**Sn**	**04 02 45.5**	**-0.2**
	baz=249						
PCYT	**Pengchaiyu**	**1.06 347**	*e*P		**Pb**	**04 02 30.0**	**-1.0**
	baz=347						
WHF	**Hehuan Shan**	**1.07 246**	P		**Pb**	**04 02 31.4**	**-0.2**
	baz=253						
WHF			*e*S		**Sn**	**04 02 45.9**	**-0.5**
	baz=253						
NCU	**National Centr**	**1.11 290**	*e*P		**Pb**	**04 02 32.1**	**+0.1**
	baz=288						
NCU			*e*S		**Sg**	**04 02 48.7**	**+1.4**
	baz=288						
NFF	**Wufeng Townshi**	**1.11 272**	*e*P		**Pg**	**04 02 32.8**	**0.0**
	baz=260						
NFF			*e*S		**Sg**	**04 02 48.0**	**+0.6**
	baz=260						
NCUH	**Zhongli**	**1.11 290**	*e*P		**Pb**	**04 02 32.1**	**+0.2**
	baz=288						
NCUH			*e*S		**Sg**	**04 02 48.5**	**+1.1**
	baz=288						
TDCB	**Techi**	**1.13 253**	*e*P		**Pg**	**04 02 32.8**	**-0.3**
	baz=252						
ESL	**Shilin**	**1.13 227**	*e*P		**Pg**	**04 02 33.1**	**-0.2**
	baz=211						
ESL			*e*S		**Sg**	**04 02 49.5**	**+1.4**
	baz=211						
CHGB	**Renai**	**1.19 244**	P		**Pg**	**04 02 33.9**	**-0.4**
	baz=249						
CHGB			*e*S		**Sg**	**04 02 51.7**	**+1.8**
	baz=249						
LIOB	**Emei**	**1.20 273**	P		**Pg**	**04 02 34.9**	**+0.3**
	baz=262						
LIOB			*e*S		**Sg**	**04 02 50.7**	**+0.3**
	baz=262						
NSTT	**Nanjuang**	**1.22 272**	P		**Pg**	**04 02 34.9**	**0.0**
	baz=270						
NSTT			*e*S		**Sg**	**04 02 51.0**	**+0.2**
	baz=270						
OWD	**Renai**	**1.24 239**	P		**Pg**	**04 02 34.8**	**-0.5**
	baz=244						
OWD			*e*S		**Sg**	**04 02 51.5**	**0.0**
	baz=244						
EGFH	**Guangfu**	**1.24 222**	*e*P		**Pb**	**04 02 34.4**	**+0.2**
	baz=203						
EGFH			*e*S		**Sg**	**04 02 51.8**	**+0.2**
	baz=203						
SBCB	**Hsinchu**	**1.24 279**	*e*P		**Pg**	**04 02 35.3**	**-0.1**
	baz=298						
SBCB			*e*S		**Sg**	**04 02 52.2**	**+0.5**
	baz=298						
HSN	**Hsinchu**	**1.26 280**	*e*P		**Pb**	**04 02 34.8**	**+0.3**
	baz=300						
HSN			*e*S		**Sg**	**04 02 51.4**	**-0.8**
	baz=300						
IRIF	**Iriomote-Funau**	**1.30 101**	P		**Pb**	**04 02 35.3**	**+0.2**
IRIF			*e*S		**Sb**	**04 02 52.0**	**+0.6**
WHP	**Taichung City**	**1.31 256**	*e*P		**Pg**	**04 02 36.3**	**-0.2**
	baz=254						
WHP			*e*S		**Sg**	**04 02 52.8**	**-0.9**
	baz=254						
VWDT	**VWDT**	**1.38 233**	*e*P		**Pg**	**04 02 37.3**	**-0.6**
	baz=214						
VWDT			*e*S		**Sb**	**04 02 54.7**	**+1.0**
	baz=214						
HGSD	**Ruisui**	**1.38 217**	P		**Pb**	**04 02 36.3**	**-0.2**
	baz=203						
WCS	**Beigang Elemen**	**1.41 248**	P		**Pg**	**04 02 38.0**	**-0.4**
	baz=246						
WCS			*e*S		**Sg**	**04 02 57.2**	**+0.4**
	baz=246						
NMLH	**Miaoli**	**1.41 268**	P		**Pg**	**04 02 38.5**	**0.0**
	baz=281						
NMLH			*e*S		**Sg**	**04 02 58.3**	**+1.4**
	baz=281						
EHY	**Hungye**	**1.43 221**	P		**Pb**	**04 02 37.0**	**-0.4**
	baz=219						
EHY			*e*S		**Sg**	**04 02 56.6**	**-0.8**
	baz=219						
HATJ	**Hateruma jima**	**1.44 111**	P		**Pb**	**04 02 37.2**	**-0.4**
HATJ			S		**Sb**	**04 02 56.0**	**+0.4**
TWQ1	**Liyutan**	**1.45 261**	P		**Pg**	**04 02 39.8**	**+0.6**
	baz=272						
TWQ1			*e*S		**Sg**	**04 02 59.6**	**+1.5**
	baz=272						
NSY	**Sanyi**	**1.45 263**	*e*P		**Pg**	**04 02 39.8**	**+0.6**
	baz=276						
NSY			*e*S		**Sg**	**04 02 59.9**	**+1.8**
	baz=276						
SMLT	**Sun Moon Lake**	**1.49 242**	*e*P		**Pg**	**04 02 39.6**	**-0.5**
	baz=227						
SSLB	**Suanglung**	**1.50 238**	*e*P		**Pg**	**04 02 39.4**	**-0.8**
	baz=221						
SSLB	**Suanglung**	**1.50 238**	P		**Pg**	**04 02 39.8**	**-0.4**
TYC	**Yuchr**	**1.52 243**	*e*P		**Pg**	**04 02 40.2**	**-0.3**
	baz=247						
TYC			*e*S		**Sg**	**04 03 00.5**	**+0.2**
	baz=247						
YULB	**Yu-li**	**1.53 219**	P		**Pb**	**04 02 38.5**	**-0.6**
	baz=217						
YULB			*e*S		**Sb**	**04 02 58.2**	**+0.1**
	baz=217						
EYUL	**Yuli**	**1.55 217**	P		**Pn**	**04 02 38.4**	**+0.4**
	baz=203						
WDJ	**Dajia District**	**1.56 261**	*e*P		**Pb**	**04 02 39.8**	**+0.1**
	baz=251						
WDJ			*e*S		**Sg**	**04 03 03.1**	**+1.2**
	baz=251						
JKRS	**Kuro-shima**	**1.57 103**	P		**Pn**	**04 02 38.8**	**+0.6**
JKRS			*e*S		**Sb**	**04 02 59.1**	**-0.1**
TCU	**Taichung**	**1.58 254**	*e*P		**Pg**	**04 02 41.0**	**-0.7**
	baz=251						
TCU			*e*S		**Sg**	**04 03 03.5**	**+1.2**
	baz=251						
WJS	**Zhushan**	**1.66 243**	*e*P		**Pg**	**04 02 43.4**	**+0.2**
	baz=222						
WJS			*e*S		**Sg**	**04 03 06.8**	**+2.0**
	baz=222						
JIJ	**Ishigaki jima**	**1.66 98**	P		**Pn**	**04 02 39.6**	**+0.1**
JIJ			*e*S		**Sn**	**04 03 00.9**	**+0.6**
WNT	**Mingjian**	**1.67 245**	*e*P		**Pg**	**04 02 43.6**	**+0.2**
	baz=245						
FULB	**Fuli**	**1.69 215**	*e*P		**Pb**	**04 02 40.8**	**-1.0**
	baz=198						
FULB			*e*S		**Sb**	**04 03 03.6**	**+0.9**
	baz=198						
WCHH	**Zhanghua**	**1.70 253**	*e*P		**Pb**	**04 02 42.1**	**+0.1**
	baz=253						
CHKT	**Chengkung**	**1.73 211**	*e*P		**Pn**	**04 02 40.6**	**+0.2**
	baz=194						
CHKT			*e*S		**Sn**	**04 03 02.0**	**-0.1**
	baz=194						
ALS	**Alishan**	**1.77 233**	*e*P		**Pb**	**04 02 43.9**	**+0.6**
	baz=217						
JISG	**Ishigakijimahi**	**1.80 90**	P		**Pb**	**04 02 42.5**	**-1.2**
JISG			S		**Sb**	**04 03 05.5**	**-0.3**
CHN5	**Tsauling**	**1.81 237**	*e*P		**Pg**	**04 02 45.2**	**-0.9**
	baz=238						
ELDTW	**Lidau**	**1.85 221**	*e*P		**Pn**	**04 02 42.7**	**+0.6**
	baz=221						
EDH	**Donghe**	**1.87 211**	*e*P		**Pn**	**04 02 42.1**	**-0.3**
	baz=195						
EDH			*e*S		**Sn**	**04 03 05.2**	**-0.3**
	baz=195						
WDLH	**Douliu**	**1.87 242**	*e*P		**Pg**	**04 02 46.8**	**-0.6**
	baz=222						
WDLH			*e*S		**Sg**	**04 03 11.8**	**+0.1**
	baz=222						
WRL	**Guolierlin Hig**	**1.92 249**	*e*P		**Pb**	**04 02 45.7**	**0.0**
	baz=247						
WRL			*e*S		**Sb**	**04 03 11.1**	**+1.8**
	baz=247						
WTK	**Tuku**	**2.00 243**	*e*P		**Pb**	**04 02 47.0**	**0.0**
	baz=241						
WTK			*e*S		**Sg**	**04 03 15.8**	**+0.2**
	baz=241						
CHN2	**Minshiung**	**2.00 238**	*e*P		**Pb**	**04 02 46.7**	**-0.5**
	baz=224						
LONT	**Longtian**	**2.01 214**	*e*P		**Pn**	**04 02 44.0**	**-0.3**
	baz=214						
STYH	**Taoyuan**	**2.01 226**	P		**Pb**	**04 02 46.8**	**-0.5**
	baz=209						
STYH			*e*S		**Sb**	**04 03 12.4**	**+0.4**
	baz=209						
CHN4	**Tsaushan**	**2.02 233**	*e*P		**Pb**	**04 02 48.2**	**+0.7**
	baz=233						
TPUB	**Ta-pu**	**2.02 231**	*e*P		**Pb**	**04 02 47.7**	**+0.2**
	baz=215						
TPUB			*e*S		**Sg**	**04 03 14.5**	**-2.0**
	baz=215						
TPUB	**Ta-pu**	**2.02 231**	P		**Pb**	**04 02 48.2**	**+0.6**
CHY	**Chiayi**	**2.06 238**	*e*P		**Pb**	**04 02 47.1**	**-1.1**
	baz=222						
WTP	**Ta-pu**	**2.07 230**	*e*P		**Pb**	**04 02 48.7**	**+0.3**
	baz=230						
TWGBT	**Beinan**	**2.11 213**	*e*P		**Pn**	**04 02 45.5**	**-0.2**
	baz=213						
TWK	**Hsinying**	**2.15 232**	*e*P		**Pb**	**04 02 50.0**	**+0.3**
	baz=230						
TWK			*e*S		**Sg**	**04 03 18.2**	**-2.3**
	baz=230						
JTJ	**Tarama**	**2.15 88**	*e*S		**Sb**	**04 03 15.6**	**-0.5**
CHN1	**Nanshi**	**2.17 230**	*e*P		**Pb**	**04 02 50.2**	**+0.1**
	baz=231						
SGST	**Jiashian**	**2.20 227**	*e*P		**Pb**	**04 02 49.1**	**-1.5**
	baz=212						
WSL	**Shuilin Townsh**	**2.20 241**	*e*P		**Pb**	**04 02 50.5**	**-0.1**
	baz=242						
SLGT	**Liugui**	**2.22 224**	*e*P		**Pb**	**04 02 49.9**	**-1.1**
	baz=225						
ICHU	**Yijhu**	**2.25 237**	*e*P		**Pb**	**04 02 50.2**	**-1.2**
	baz=238						
ECL	**Taimali**	**2.36 213**	*e*P		**Pn**	**04 02 49.1**	**0.0**
	baz=213						
SSD	**Sandimen**	**2.41 221**	*e*P		**Pb**	**04 02 52.4**	**-1.8**
	baz=210						
TSMG	**Majia**	**2.44 220**	*e*P		**Pb**	**04 02 53.4**	**-1.1**
	baz=208						
MASBT	**Mashibuluo**	**2.52 219**	*e*P		**Pn**	**04 02 53.1**	**+1.9**
	baz=208						
SNJT	**Kaohsiung City**	**2.59 225**	*e*P		**Pb**	**04 02 56.5**	**-0.7**
	baz=226						
TAWH	**Dawu Township**	**2.61 211**	*e*P		**Pn**	**04 02 53.7**	**+1.2**
	baz=211						
SSPT	**Xinbi**	**2.66 218**	*e*P		**Pb**	**04 02 56.1**	**-2.2**
	baz=208						
LYUB	**Lan-yu**	**2.67 195**	*e*P		**Pn**	**04 02 52.0**	**-1.4**
	baz=195						
SCZT	**Fangliau**	**2.72 216**	*e*P		**Pn**	**04 02 56.1**	**+2.1**
	baz=203						
PHUB	**P'eng-hu**	**2.75 247**	*e*P		**Pn**	**04 02 56.5**	**+2.1**
	baz=248						
SLIU	**Shizi**	**2.76 211**	*e*P		**Pn**	**04 02 55.9**	**+1.4**
	baz=201						
PTMZ	**Houxiangcun**	**2.96 279**	*e*P		**Pn**	**04 02 58.4**	**+1.1**
	baz=280						
TWKBT	**Hengchun**	**2.99 208**	*e*P		**Pn**	**04 02 58.2**	**+0.4**
	baz=209						
TWK1	**Hengchun**	**2.99 208**	*e*P		**Pn**	**04 02 58.2**	**+0.4**
	baz=209						
LYJJ	**Jianjiangzhen**	**3.03 310**	*e*P		**Pn**	**04 02 57.9**	**-0.4**
	baz=310						
KNMB	**Chin-men Tao**	**3.60 269**	*e*P		**Pn**	**04 03 06.8**	**+0.6**
	baz=270						

NNC 23 04:02:39.6±10.0, 36°.91N×70°.35E, h0km, mb3.8, mpv3.4, 2C-2D, Error ellipse: s-maj=81.1km s-min=69.3km az=169.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.18**	**1**	⇑P	Pn	04 04 13.2	+1.0
	1.0nm,0.3s,baz=177,slow=13						
KK02				⇑S	Sn	04 05 26.1	+2.5
	1.1nm,0.7s,baz=187,slow=26						
AAK	**Ala-Archa**	**6.55**	**28**	P	Pn	04 04 18.2	+0.9
	1.4nm,0.5s						
AAK				S	Sn	04 05 33.3	+0.5
	5.6nm,0.9s						
TKM2	**Tokmak 2**	**7.23**	**32**	⇓P	Pn	04 04 25.4	-1.3
	2.1nm,0.5s						
TKM2				⇓S	Sn	04 05 48.9	-0.7
	0.9nm,0.6s						

*NNC **23** 04:09:54.9±0.9, 42°.38N×78°.43E, h0km, mb3.0, mpv3.0, Error ellipse: s-maj=6.4km s-min=2.7km az=162.0*
*SOME **23** 04:09:55.7, 42°.38N×78°.37E, h15km*
*KRNET **23** 04:09:55.4±0.1, 42°.33N×78°.40E, h14km, mb2.4*
ISC 23 04:09:55.1±1.1, 42°.36N±0°.03×78°.41E±0°.03, h14km±7km, n44, σ0°.72/81, 17C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.12**	**355**	⇑*i*P	**Pg**	**04 09 59.0**	**+0.3**
	baz=1.0						
PRZ				⇑*i*S	**Sb**	**04 10 02.0**	**0.0**
	baz=1.0						
ANVS	**Anan'yevo**	**0.69**	**307**	⇑*i*P	**Pg**	**04 10 08.7**	**+0.1**
	baz=10.0						
ANVS				⇑*i*S	**Sb**	**04 10 18.3**	**-0.2**
	baz=10.0						
SATY	**Saty**	**0.69**	**360**	*e*P	**Pg**	**04 10 08.5**	**-0.2**
	9.3nm,0.0s						
SATY				*e*S	**Sg**	**04 10 17.3**	**-0.5**
	39nm,0.1s						
SATY	**Saty**	**0.69**	**360**	P	**Pg**	**04 10 08.5**	**-0.2**
	12nm,0.1s						
SATY				S	**Sg**	**04 10 17.3**	**-0.5**
	39nm,0.1s						
TARG	**Taragay, Kyrgy**	**0.78**	**216**	⇑*i*P	**Pg**	**04 10 09.6**	**-0.7**
	baz=17						
TARG				⇑*i*S	**Sg**	**04 10 19.9**	**-0.7**
	baz=17						
ZHN	**Zhinishke**	**0.80**	**1**	*e*P	**Pg**	**04 10 10.6**	**-0.1**
	23nm,0.1s						
ZHN				*e*S	**Sg**	**04 10 21.2**	**-0.1**
	40nm,0.2s						
ZHN	**Zhinishke**	**0.80**	**1**	P	**Pg**	**04 10 10.6**	**-0.1**
	23nm,0.1s						
ZHN				S	**Sg**	**04 10 21.2**	**-0.1**
	40nm,0.2s						
UZB	**Uzynbulak**	**0.90**	**30**	*e*P	**Pg**	**04 10 12.1**	**-0.4**
	3.0nm,0.2s						
UZB				*e*S	**Sg**	**04 10 24.1**	**-0.3**
	16nm,0.2s						
UZB	**Uzynbulak**	**0.90**	**30**	P	**Pg**	**04 10 12.1**	**-0.4**
	3.0nm,0.2s						
UZB				S	**Sg**	**04 10 24.1**	**-0.3**
	16nm,0.2s						
KDJ	**Kajisay**	**0.94**	**256**	⇑*i*P	**Pb**	**04 10 12.9**	**-0.4**
	baz=58						
KDJ				⇑*i*S	**Sg**	**04 10 25.8**	**0.0**
	baz=58						
KURS	**Kuram**	**1.14**	**351**	*e*P	**Pn**	**04 10 16.8**	**+0.2**
	2.4nm,0.3s						
KURS				*e*S	**Sn**	**04 10 31.8**	**-0.2**
	4.2nm,0.5s						
KURS	**Kuram**	**1.14**	**351**	P	**Pn**	**04 10 16.8**	**+0.2**
	2.4nm,0.3s						
KURS				S	**Sn**	**04 10 31.8**	**-0.2**
	4.2nm,0.5s						
PDGK	**Podgornoye**	**1.25**	**39**	⇑P	**Pn**	**04 10 17.6**	**-0.6**
	0.4nm,0.2s						
PDGK				⇑S	**Sb**	**04 10 34.7**	**+0.3**
	2.2nm,0.3s						
TNSS	**Tian-Shan**	**1.27**	**302**	*e*P	**Pn**	**04 10 18.9**	**+0.1**
	3.8nm,0.1s						
TNSS				*e*S	**Sg**	**04 10 35.9**	**-0.4**
	6.4nm,0.2s						
TNSS	**Tian-Shan**	**1.27**	**302**	P	**Pn**	**04 10 18.9**	**+0.1**
	3.8nm,0.1s						
TNSS				S	**Sg**	**04 10 35.9**	**-0.4**
	6.4nm,0.2s						
MDOK	**Medeo**	**1.28**	**309**	*e*P	**Pb**	**04 10 19.1**	**0.0**
	6.1nm,0.3s						
MDOK				*e*S	**Sn**	**04 10 35.8**	**0.0**
	9.6nm,0.3s						
MDOK	**Medeo**	**1.28**	**309**	Pg	**Pb**	**04 10 19.1**	**0.0**
	6.1nm,0.3s						
MDOK				Lg	Lg	04 10 35.8	
	9.6nm,0.3s						
KOTS	**Kotyrbulak**	**1.29**	**313**	*e*P	**Pb**	**04 10 19.4**	**+0.1**
	8.6nm,0.2s						
KOTS				*e*S	**Sg**	**04 10 36.4**	**-0.5**
	10.0nm,0.3s						
KOTS	**Kotyrbulak**	**1.29**	**313**	P	**Pb**	**04 10 19.4**	**+0.1**
	8.6nm,0.2s						
KOTS				S	**Sg**	**04 10 36.4**	**-0.5**
	10.0nm,0.3s						
ULHL	**Ulahol**	**1.61**	**267**	⇑*e*P	**Pb**	**04 10 25.0**	**+0.2**
	baz=68						
ULHL				⇑*i*S	**Sg**	**04 10 46.8**	**-0.3**
	baz=68						
MTBS	**Maitube**	**1.65**	**298**	*e*P	**Pb**	**04 10 25.6**	**+0.3**
	5.1nm,0.2s						
MTBS				*e*S	**Sg**	**04 10 47.2**	**-1.0**
	10nm,0.5s						
MTBS	**Maitube**	**1.65**	**298**	P	**Pb**	**04 10 25.6**	**+0.3**
	5.1nm,0.2s						
MTBS				S	**Sg**	**04 10 47.2**	**-1.0**
	10nm,0.5s						
BLB	**Baldybastay**	**1.73**	**2**	*e*P	**Pb**	**04 10 27.3**	**+0.6**
	20nm,0.1s						
BLB				*e*S	**Sg**	**04 10 50.0**	**-0.9**
	34nm,0.2s						
BLB	**Baldybastay**	**1.73**	**2**	P	**Pb**	**04 10 27.3**	**+0.6**
	20nm,0.1s						
BLB				S	**Sg**	**04 10 49.9**	**-0.9**
	34nm,0.2s						
CHKK	**Chushkaly**	**1.82**	**325**	*e*P	**Pb**	**04 10 28.6**	**+0.5**
	15nm,0.2s						
CHKK				*e*S	**Sg**	**04 10 52.5**	**-1.1**
	14nm,0.2s						
CHKK	**Chushkaly**	**1.82**	**325**	P	**Pb**	**04 10 28.6**	**+0.5**
	15nm,0.2s						
CHKK				S	**Sg**	**04 10 52.5**	**-1.1**
	14nm,0.2s						
BOOM	**Boomskoye usch**	**1.84**	**275**	⇑*i*P	**Pb**	**04 10 29.0**	**+0.5**
	baz=76						
BOOM				⇑*i*S	**Sg**	**04 10 53.7**	**-0.5**
	baz=76						
KTBS	**Karatobe**	**1.85**	**317**	*e*P	**Pg**	**04 10 29.7**	**-0.9**
	6.2nm,0.1s						
KTBS				*e*S	**Sg**	**04 10 54.2**	**-0.4**
	22nm,0.5s						
KTBS	**Karatobe**	**1.85**	**317**	P	**Pg**	**04 10 29.7**	**-0.9**
	6.2nm,0.3s						
KTBS				S	**Sg**	**04 10 54.2**	**-0.4**
	22nm,0.5s						
ARXS	**Arharly**	**1.90**	**347**	*e*P	**Pb**	**04 10 30.2**	**+0.7**
	6.1nm,0.1s						
ARXS				*e*S	**Sg**	**04 10 54.9**	**-1.2**
	5.5nm,0.2s						
KST	**Kastek**	**1.93**	**291**	*e*P	**Pb**	**04 10 30.5**	**+0.4**
	3.5nm,0.2s						
KST				*e*S	**Sg**	**04 10 55.9**	**-1.3**
	10nm,0.4s						
KST	**Kastek**	**1.93**	**291**	P	**Pb**	**04 10 30.5**	**+0.4**
	3.5nm,0.2s						
KST				S	**Sg**	**04 10 55.9**	**-1.3**
	10nm,0.4s						
KNOS	**Konyrlen**	**2.07**	**15**	*e*P	**Pb**	**04 10 33.5**	**+1.0**
	3.1nm,0.1s						
KNOS				*e*S	**Sg**	**04 11 00.6**	**-1.1**
	7.

DGS Lg Lg 04 11 01.0
5.8nm,0.3s
TKM2 Tokmak 2 2.15 286 ⇓Pg **Pn 04 10 31.6 +1.0**
0.3nm,0.4s
TKM2 ⇓Lg Lg 04 11 02.6
6.4nm,0.5s
TKM2 Tokmak 2 2.15 286 ⇑*i*P **Pb 04 10 33.6 -0.3**
baz=87
TKM2 ⇑*i*S **Sb 04 11 01.7 +1.2**
baz=87
KUU Kurty 2.15 316 *e*P **Pb 04 10 34.2 +0.4**
2.4nm,0.4s
KUU *e*S **Sg 04 11 02.4 -1.9**
8.7nm,0.4s
KUU Kurty 2.15 316 Pg **Pb 04 10 34.2 +0.4**
2.4nm,0.4s
KUU Lg Lg 04 11 02.4
8.7nm,0.4s
DJR Jarkent 2.21 27 *e*P **Pb 04 10 35.7 +0.9**
2.1nm,0.3s
DJR *e*S **Sg 04 11 04.2 -1.9**
13nm,0.1s
DJR Jarkent 2.21 27 Pg **Pb 04 10 35.7 +0.9**
2.1nm,0.3s
DJR Lg Lg 04 11 04.2
13nm,0.2s
KRBS Karabastau 2.41 304 *e*P **Pb 04 10 38.2 0.0**
2.8nm,0.4s
KRBS *e*S **Sb 04 11 09.3 +1.5**
10nm,0.4s
KRBS Karabastau 2.41 304 Pg **Pb 04 10 38.2 0.0**
2.8nm,0.4s
KRBS Lg Lg 04 11 10.2
10nm,0.4s
AAK Ala-Archa 2.91 277 ⇑Pg **Pb 04 10 48.6 +1.8**
1.0nm,0.9s
AAK ⇓Lg Lg 04 11 23.9
1.2nm,0.5s

IDC ***23*** *04:20:20.5±0.8,33°.76N×46°.89E,h0km,mb4.2/22, mb1 4.2/29,mb1mx4.0/64,mbtmp4.1/29,ML4.0/6,MS3.4/11, Ms1 3.4/11,ms1mx3.0/85,Error ellipse: s-maj=18.5km s-min=12.7km az=156.0*
MOS ***23*** *04:20:20.7±1.2,33°.62N×46°.87E,h18km,mb4.4/21,Error ellipse: s-maj=8.1km s-min=5.2km az=96.1*
NEIC ***23*** *04:20:22.3±1.8,33°.71N±0°.04×46°.89E±0°.06,h10km±1km, mb4.3/33,mb_Lg4.0(TEH),Error ellipse: s-maj=9.3km s-min=5.2km az=116.0*
TEH ***23*** *04:20:22.6,33°.80N×46°.97E,h20km,ML4.0*
ISN ***23*** *04:20:22.2±0.7,33°.78N×46°.99E,h7km±4km,ML4.1*
OMAN ***23*** *04:20:31.7±0.1,32°.54N×46°.95E,h4km,mb5.7/28,ms3.0/3, Error ellipse: s-maj=2.1km s-min=1.0km az=243.0*
DSN ***23*** *04:20:31.7±1.4,32°.75N×47°.14E,h10km,mb5.6/1,Error ellipse: s-maj=19.8km s-min=10.9km az=15.0*
ISC 23 04:20:20.8±1.1,33°.65N±0°.02×46°.97E±0°.03,h5km±7km, n285,σ2957/312,mb4.3/47,MS3.3/10,14C-23D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCHF	**Cheshme Sefid,**	**0.62**	**5**	*e*Pg	**Pg**	**04 20 32.6**	**-0.2**
KCHF				*e*Sg	**Sg**	**04 20 40.0**	**-1.0**
KCHF				*e*		04 20 41.8	
	comp=Z,58μm,0.4s						
KCHF	**Cheshme Sefid,**	**0.62**	**5**	Pg	**Pg**	**04 20 32.6**	**-0.2**
KCHF				Sg	**Sg**	**04 20 40.0**	**-1.0**
IKFM	**Kafar-mosalman**	**0.74**	**100**	*e*Pg	**Pn**	**04 20 37.5**	**-0.4**
KER	**Kermanshah**	**0.74**	**10**	*e*Pg	**Pg**	**04 20 34.8**	**-0.3**
IGHG	**Ghaleghazi**	**0.76**	**334**	*e*Pg	**Pg**	**04 20 35.2**	**-0.1**
IGHG				*e*		04 20 58.4	
	comp=Z,14μm,0.7s						
DHL1	**Dehloran**	**1.00**	**165**	*e*Pg	**Pn**	**04 20 44.1**	**+2.6**
DHL1				*e*Sg	**Sn**	**04 21 00.8**	**+4.8**
IDOB	**Doab**	**1.01**	**82**	*e*Pg	**Pn**	**04 20 41.8**	**-0.1**
IBDR	**Badra**	**1.03**	**239**	*e*Pg	**Pn**	**04 20 43.9**	**+2.1**
IBDR				*e*Sg	**Sn**	**04 20 58.7**	**+2.1**
IBDR				AML	AML	04 21 04.1	
	comp=N,4μm,0.5s						
IBDR				AML	AML	04 21 05.5	
	comp=E,5μm,0.4s						
IBZA	**Bozab**	**1.10**	**42**	*e*Pg	**Pg**	**04 20 42.0**	**+0.1**
IBZA				*e*		04 20 46.3	
	comp=Z,51μm,0.4s						
IDHR	**Dehrash**	**1.15**	**335**	*e*Pg	**Pg**	**04 20 42.3**	**-0.6**
IDHR				*e*Sg	**Sg**	**04 20 57.4**	**-0.5**
HSAM	**Samen**	**1.47**	**67**	*e*Pg	**Pg**	**04 20 49.6**	**+0.7**
HSAM				*e*		04 20 53.0	
	comp=Z,19μm,0.5s						
HSAM	**Samen**	**1.47**	**67**		**Pg**	**04 20 49.6**	**+0.7**
SNGE	**Sanandaj**	**1.47**	**12**	*e*Pg	**Pn**	**04 20 46.0**	**-2.2**
IALM	**Almabolaq**	**1.56**	**39**	*e*Pg	**Pg**	**04 20 51.0**	**+0.3**
RAFI	**Al-Rafai**	**2.06**	**201**	*e*Pn	**Pg**	**04 21 00.5**	**+0.3**
RAFI				*e*Sn	**Sg**	**04 21 29.1**	**+2.3**
RAFI				AML	AML	04 21 41.0	
	comp=E,1μm,0.7s						
HAGD	**Aghdareh**	**2.14**	**56**	*e*Pn	**Pb**	**04 21 00.6**	**+0.4**
HAGD				*e*		04 21 33.3	
	comp=Z,9μm,0.3s						
KHMZ	**Khomeyn**	**2.49**	**87**	*e*Pn	**Pb**	**04 21 05.8**	**-0.4**
ASAO	**Ashtian**	**2.69**	**70**	*e*Pn	**Pb**	**04 21 08.2**	**-1.3**
AMIS	**Naft Sefid**	**2.78**	**135**	*e*Pn	**Pb**	**04 21 09.7**	**-1.3**
IKRK	**Kirkuk**	**2.79**	**309**	*e*Pn	**Pn**	**04 21 08.0**	**+1.9**
IKRK				*e*Sn	**Sn**	**04 21 41.8**	**+1.7**
IKRK				AML	AML	04 21 44.0	
	comp=E,2μm,0.4s						
IKRK				AML	AML	04 21 56.4	
	comp=N,1μm,0.4s						
QABG	**Abgarm-Qazvin**	**2.97**	**46**	*e*Pn	**Pn**	**04 21 10.4**	**+1.5**
QABG	**Abgarm-Qazvin**	**2.97**	**46**	Pn	**Pn**	**04 21 10.4**	**+1.5**
IRAZ	**Razeghan**	**3.00**	**54**	*e*Pn	**Pn**	**04 21 12.0**	**+2.7**
IRAZ				*e*		04 22 08.8	
	comp=Z,7μm,0.7s						
QJF1	**Jafarie**	**3.13**	**68**	*e*Pn	**Pb**	**04 21 14.6**	**-2.5**
ZNJK	**Zanjan**	**3.32**	**24**	*e*Pn	**Pn**	**04 21 16.4**	**+2.7**
IPIR	**Pirpir**	**3.43**	**105**	*e*Pn	**Pn**	**04 21 18.3**	**+3.1**
IPIR				*e*		04 22 34.2	
	comp=Z,2μm,0.6s						
SHK1	**Shahrekord**	**3.54**	**111**	*e*Pn	**Pn**	**04 21 20.1**	**+3.4**
SHK1				*e*		04 22 08.2	
	comp=Z,3μm,0.7s						
IQOM	**Qom**	**3.60**	**70**	*e*Pn	**Pn**	**04 21 19.7**	**+2.2**
IQOM				*e*		04 21 32.8	
	comp=Z,4μm,0.6s						
IMHD	**Mahdasht**	**3.66**	**55**	*e*Pn	**Pn**	**04 21 20.7**	**+2.5**
GHVR	**GHOM**	**3.68**	**76**	*e*Pn	**Pn**	**04 21 21.3**	**+2.8**
GHVR	**GHOM**	**3.68**	**76**	Pn	**Pn**	**04 21 21.2**	**+2.8**
QAMS	**Qamsar**	**3.69**	**87**	*e*Pn	**Pn**	**04 21 21.6**	**+2.9**
QAMS				*e*		04 22 26.7	
	comp=Z,2μm,0.5s						
IGZV	**Ghazvin**	**3.81**	**43**	*e*Pn	**Pn**	**04 21 22.5**	**+2.1**
JIR1	**Jirandeh**	**3.83**	**36**	*e*Pn	**Pn**	**04 21 22.9**	**+2.3**
IKLH	**Kolahrood**	**3.86**	**94**	*e*Pn	**Pn**	**04 21 24.2**	**+3.1**
IKLH				*e*		04 22 57.9	
	comp=Z,2μm,0.7s						
THKV	**Tehran--Karaj**	**3.93**	**54**	*e*Pn	**Pn**	**04 21 22.5**	**+0.5**
IHSB	**Hasanabad**	**3.97**	**62**	*e*Pn	**Pn**	**04 21 25.0**	**+2.5**
IBRJ	**Brojen**	**4.01**	**115**	*e*Pn	**Pn**	**04 21 26.2**	**+3.1**
IBST	**Bostanabad**	**4.04**	**359**	*e*Pn	**Pn**	**04 21 25.4**	**+1.9**
CHTH	**Charan**	**4.09**	**55**	*e*Pn	**Pn**	**04 21 26.6**	**+2.3**
QALM	**Alamut, Qazvin**	**4.10**	**46**	*e*Pn	**Pn**	**04 21 26.1**	**+1.8**
IAZR	**Azarshahr**	**4.10**	**349**	*e*Pn	**Pn**	**04 21 25.9**	**+1.5**
IVRN	**Varamin**	**4.16**	**70**	*e*Pn	**Pn**	**04 21 27.3**	**+2.3**
ISRB	**Sarab**	**4.20**	**8**	*e*Pn	**Pn**	**04 21 27.9**	**+2.1**
KRSH	**Karshahi**	**4.31**	**84**	*e*Pn	**Pn**	**04 21 29.7**	**+2.5**
ISFB	**Sefidab**	**4.43**	**79**	*e*Pn	**Pn**	**04 21 30.9**	**+2.1**
IGAR	**Gharneh**	**4.44**	**105**	*e*Pn	**Pn**	**04 21 31.8**	**+2.8**
IZEF	**Zefreh**	**4.55**	**98**	*e*Pn	**Pn**	**04 21 33.4**	**+2.8**
IZEF				*e*		04 23 06.2	
	comp=Z,653nm,0.8s						
DAMV	**Damavand**	**4.57**	**63**	*e*Pn	**Pn**	**04 21 33.1**	**+2.3**
KLNJ	**Kolanjah**	**4.72**	**123**	*e*Pn	**Pn**	**04 21 35.3**	**+2.4**
ISHB	**Shabestar**	**4.75**	**347**	*e*Pn	**Pn**	**04 21 34.6**	**+1.3**
ISHB				*e*		04 22 58.1	
	comp=Z,1μm,0.6s						
IRAM	**Ramesheh**	**4.92**	**110**	*e*Pn	**Pn**	**04 21 38.4**	**+2.8**
NASN	**Na'in**	**4.96**	**98**	*e*Pn	**Pn**	**04 21 38.8**	**+2.5**
IPRN	**Peran**	**5.11**	**58**	*e*Pn	**Pn**	**04 21 41.1**	**+3.0**
IMRD	**Marand**	**5.15**	**349**	*e*Pn	**Pn**	**04 21 41.4**	**+2.6**
ILAS	**Lasjerd**	**5.24**	**69**	*e*Pn	**Pn**	**04 21 42.5**	**+2.5**
SIRT	**Sirnak**	**5.33**	**317**	*e*Pn	**Pn**	**04 21 41.7**	**+0.6**
SIRT	**Sirnak**	**5.33**	**317**	Pn	**Pn**	**04 21 41.7**	**+0.6**
ISHM	**Shahmirzad**	**5.63**	**66**	*e*Pn	**Pn**	**04 21 48.0**	**+2.6**
ANAR	**Anarak**	**5.67**	**93**	*e*Pn	**Pn**	**04 21 48.1**	**+2.3**
ISAD	**Sadrabad**	**5.91**	**105**	*e*Pn	**Pn**	**04 21 52.6**	**+3.3**
IANJ	**Anjilo**	**6.01**	**71**	*e*Pn	**Pn**	**04 21 52.3**	**+1.7**
AHBU	**AHRAM**	**6.04**	**141**	*e*Pn	**Pn**	**04 21 55.5**	**+4.7**
IGLO	**Ghaloghah**	**6.30**	**61**	*e*Pn	**Pn**	**04 21 57.2**	**+2.6**
GURO	**Guroymak-BITLI**	**6.32**	**322**	*e*Pn	**Pn**	**04 21 54.8**	**+0.1**
GURO	**Guroymak-BITLI**	**6.32**	**322**	Pn	**Pn**	**04 21 54.8**	**+0.1**
ICHK	**Chekchek**	**6.41**	**101**	*e*Pn	**Pn**	**04 21 58.1**	**+2.0**
GNI	**Garni**	**6.73**	**345**	Pn	**Pn**	**04 22 01.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=320,slow=17,SNR=2.2						
GNI				Lg	Lg	04 23 56.0	
	comp=Z,0.3nm,0.3s,baz=356,slow=23,SNR=1.5						
GNI	**Garni**	**6.73**	**345**	P	**Pg**	**04 22 26.3**	**-3.3**
GNI	**Garni**	**6.73**	**345**	Pn	**Pn**	**04 22 03.0**	**+2.7**
IMEH	**Mehriz**	**6.84**	**107**	*e*Pn	**Pn**	**04 22 04.3**	**+2.3**
SHRO	**Shahrood**	**7.79**	**70**	*e*Pn	**Pn**	**04 22 18.1**	**+3.2**
TNSJ	**Nastanj**	**8.03**	**85**	*e*Pn	**Pn**	**04 22 20.5**	**+2.3**
TPRV	**Parvadeh(Tabas**	**8.15**	**92**	*e*Pn	**Pn**	**04 22 22.2**	**+2.3**
MRVT	**Maraveh tapeh**	**8.43**	**59**	*e*Pn	**Pn**	**04 22 25.9**	**+2.3**
TABS	**Tabas**	**8.46**	**87**	*e*Pn	**Pn**	**04 22 27.5**	**+3.4**
SHMA	**Al-Shehemyia**	**8.51**	**155**	P	**Pn**	**04 22 25.3**	**+0.7**
SHMA				S	**Sn**	**04 23 59.6**	**-1.5**
ASF	**Jabal al Asfar**	**8.60**	**263**	Pn	**Pn**	**04 22 27.6**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=17,slow=14,SNR=4.1						
ASF				Lg	Lg	04 24 59.5	
	comp=Z,1.7nm,0.3s,baz=250,slow=23,SNR=4.4						
GAZ	**Gaziantep**	**8.71**	**297**	Pn	**Pn**	**04 22 27.4**	**-0.1**
KRBR	**Kerman**	**9.10**	**111**	*e*Pn	**Pn**	**04 22 37.3**	**+4.2**
KRBR	**Kerman**	**9.10**	**111**	Pn	**Pn**	**04 22 37.2**	**+4.2**
MAK	**Makhachkala**	**9.30**	**2**	*e*P	**Pn**	**04 22 31.9**	**-3.6**
MAK				*i* S	**Sn**	**04 24 18.5**	**-2.1**
MAK				pmax	pmax		
	comp=Z,255nm,1.2s						
MAK				MLR	MLR		
	comp=Z,204nm,11.0s						
ONI	**Oni**	**9.34**	**344**	P	**Pn**	**04 22 38.1**	**+1.9**
ONI	**Oni**	**9.34**	**344**	Pn	**Pn**	**04 22 38.1**	**+1.9**
TRNA	**Turayna**	**9.62**	**156**	P	**Pn**	**04 22 42.2**	**+2.2**
MMAI	**Mount Meron Ar**	**9.70**	**269**	Pn	**Pn**	**04 22 42.0**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=64,slow=16,SNR=2.0						
MMAI				Lg	Lg	04 25 34.9	
	comp=Z,2.5nm,0.3s,baz=92,slow=32,SNR=1.9						
GEYT	**Alibeck**	**10.01**	**62**	LR	LR	04 26 51.9	
	comp=Z,82nm,19.2s,baz=280,slow=39						
RAYN	**Ar Rayn**	**10.17**	**188**	P	**Pn**	**04 22 47.3**	**-0.3**
RAYN	**Ar Rayn**	**10.17**	**188**	P	**Pn**	**04 22 47.0**	**-0.6**
RAYN	**Ar Rayn**	**10.17**	**188**	Pn	**Pn**	**04 22 47.3**	**-0.3**
RAYN	**Ar Rayn**	**10.17**	**188**	*i* P	**Pn**	**04 22 46.8**	**-0.8**
	SNR=15						
BSRN	**Basiran**	**10.37**	**96**	*e*Pn	**Pn**	**04 22 51.2**	**+0.9**
SHME	**Shamm**	**10.98**	**131**	P	**Pn**	**04 22 59.9**	**+1.3**
	SNR=5.4						
SHME				S	**Sn**	**04 24 59.4**	**-2.6**
SHME	**Shamm**	**10.98**	**131**	P	**Pn**	**04 22 59.4**	**+0.7**
EIL	**Elat**	**10.98**	**252**	Pn	**Pn**	**04 23 00.2**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=134,slow=6.9,SNR=9.9						
EIL				LR	LR	04 28 20.0	
	comp=Z,274nm,18.2s,baz=66,slow=44						
BANOM	**Banah**	**11.17**	**131**	P	**Pn**	**04 23 01.6**	**+0.4**
BANOM				S	**Sn**	**04 25 02.4**	**-4.2**
BANOM	**Banah**	**11.17**	**131**	*i* P	**Pn**	**04 23 01.6**	**+0.4**
	SNR=19						
SOC	**Sochi**	**11.42**	**332**	*e*P	**Pn**	**04 23 03.0**	**-1.5**
SOC				*e*		04 25 12.3	
SOC				MLR	MLR		
	comp=Z,173nm,14.0s						
AJN	**Ajban**	**11.45**	**140**	P	**Pn**	**04 23 07.3**	**+2.3**
AJN				S	**Sn**	**04 25 10.1**	**-3.2**
NAZ	**Nazwa, Dubai**	**11.48**	**136**	P	**Pn**	**04 23 07.2**	**+1.7**
	SNR=7.5						
NAZ				S	**Sn**	**04 25 09.9**	**-4.3**
	SNR=6.4						
NAZ	**Nazwa, Dubai**	**11.48**	**136**	*i* P	**Pn**	**04 23 06.9**	**+1.4**
	SNR=27						
MASF	**Masafi**	**11.49**	**134**	P	**Pn**	**04 23 07.2**	**+1.6**
	SNR=14						
MASF				S	**Sn**	**04 25 10.2**	**-4.2**
	SNR=9.7						
MSFE	**Esma-Masafi**	**11.50**	**134**	*i* P	**Pn**	**04 23 06.2**	**+0.5**
	SNR=15						
ASUD	**Al Ashush, Dub**	**11.58**	**139**	P	**Pn**	**04 23 08.6**	**+1.8**
	SNR=27						
ASUD				S	**Sn**	**04 25 11.6**	**-4.9**
ASUD	**Al Ashush, Dub**	**11.58**	**139**	*i* P	**Pn**	**04 23 08.5**	**+1.7**
	SNR=27						
FAQ	**Al Faqa, Dubai**	**11.63**	**137**	P	**Pn**	**04 23 07.8**	**+0.3**
	SNR=12						
FAQ				S	**Sn**	**04 25 13.9**	**-4.0**
	SNR=7.6						
FAQ	**Al Faqa, Dubai**	**11.63**	**137**	*i* P	**Pn**	**04 23 08.1**	**+0.6**
	SNR=12						
UOSS	**Minazif**	**11.83**	**135**	P	**Pn**	**04 23 11.3**	**+1.0**
UOSS				P	**Pn**	**04 23 11.3**	**+1.0**
UOSS				S	**Sn**	**04 25 15.4**	**-7.4**
UOSS				S	**Sn**	**04 25 15.4**	**-7.4**
UOSS	**Minazif**	**11.83**	**135**	Pn	**Pn**	**04 23 09.5**	**-0.8**
UOSS	**Minazif**	**11.83**	**135**	*i* P	**Pn**	**04 23 10.5**	**+0.3**
	SNR=9.9						
HATD	**Hatta, Dubai**	**11.88**	**135**	P	**Pn**	**04 23 12.3**	**+1.4**
	SNR=15						
HATD				S	**Sn**	**04 25 17.8**	**-6.2**
HATD	**Hatta, Dubai**	**11.88**	**135**	*i* P	**Pn**	**04 23 12.0**	**+1.1**
	SNR=15						
HATD				S	**Sn**	**04 25 17.6**	**-6.4**
ASHO	**Ashiyiah**	**11.95**	**136**	P	**Pn**	**04 23 12.6**	**+0.7**
	SNR=11						
ASHO				S	**Sn**	**04 25 18.8**	**-6.8**
	SNR=14						
ASHO	**Ashiyiah**	**11.95**	**136**	*i* P	**Pn**	**04 23 13.0**	**+1.1**
	SNR=65						
ALNE	**Al Ain**	**12.27**	**139**	P	**Pn**	**04 23 17.5**	**+1.3**
ALNE				S	**Sn**	**04 25 28.5**	**-4.9**
BRTR	**Keskin Array B**	**12.29**	**303**	Pn	**Pn**	**04 23 18.4**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=122,slow=14,SNR=2.2						
SOHO	**SOHO**	**12.64**	**136**	P	**Pn**	**04 23 22.0**	**+0.7**
SOHO				P	**Pn**	**04 23 22.0**	**+0.7**
SOHO				S	**Sn**	**04 25 36.5**	**-6.1**
SOHO				S	**Sn**	**04 25 36.5**	**-6.1**
SOHO	**SOHO**	**12.64**	**136**	*i* P	**Pn**	**04 23 21.5**	**+0.1**
	SNR=9.5						
UMZA	**Um Al Zommool**	**13.06**	**144**	P	**Pn**	**04 23 27.2**	**+0.1**
UMZA				S	**Sn**	**04 25 45.0**	**-7.9**
ARQ	**Araqi**	**13.26**	**138**	P	**Pn**	**04 23 30.8**	**+0.9**
	SNR=8.0						
ARQ				S	**Sn**	**04 25 51.5**	**-6.3**
HOQ	**Hoqain**	**13.52**	**135**	P	**Pn**	**04 23 34.4**	**+1.1**
HOQ				P	**Pn**	**04 23 34.4**	**+1.1**
HOQ				S	**Sn**	**04 25 56.7**	**-7.4**
HOQ				S	**Sn**	**04 25 56.7**	**-7.4**
BSY	**Bisya**	**14.11**	**138**	P	**Pn**	**04 23 41.6**	**+0.2**
BSY				S	Sn	04 26 08.1	-10
SMDO	**Samad**	**14.36**	**134**	P	**Pn**	**04 23 44.4**	**-0.5**
SMDO				S	**Sn**	**04 26 16.5**	**-8.1**
	SNR=6.5						
WSAR	**Wadi Sarin**	**14.57**	**132**	Pn	**Pn**	**04 23 46.9**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=344,slow=13,SNR=10						
WSAR				LR	LR	04 30 38.8	
	comp=Z,79nm,18.4s,baz=328,slow=42						
BORA	**Eskisehir**	**14.62**	**300**	Pn	**Pn**	**04 23 48.6**	**+0.2**
JMDO	**Jabal Madar**	**14.92**	**136**	P	**Pn**	**04 23 51.9**	**-0.5**
JMDO				S	**Sn**	**04 26 30.6**	**-7.6**
WBK	**Wadi Bani Khal**	**15.25**	**133**	P	**Pn**	**04 23 56.6**	**-0.3**
WBK				S	**Sn**	**04 26 39.3**	**-7.0**
JLN	**Jalan Bani Buh**	**15.86**	**133**	P	**Pn**	**04 24 05.5**	**+0.6**
DOK	**Doka**	**16.28**	**155**	P	**Pn**	**04 24 08.4**	**-1.9**
	SNR=13						
DOK				S	Sn	04 27 00.7	-11
DQM	**DQM**	**16.59**	**143**	P	**Pn**	**04 24 12.8**	**-1.4**
DQM				S	Sn	04 27 05.9	-13
WHFO	**Wadi Hawf**	**16.81**	**157**	P	**Pn**	**04 24 15.4**	**-1.6**
	SNR=21						
WHFO				S	Sn	04 27 11.9	-12
ABTO	**Aybut**	**17.20**	**159**	P	**Pn**	**04 24 20.2**	**-1.8**
ABTO				S	Sn	04 27 19.9	-14
RBK	**Rabkut**	**17.34**	**156**	P	**Pn**	**04 24 22.6**	**-1.2**
SHAO	**Shalim**	**17.39**	**151**	P	**P**	**04 24 25.7**	**0.0**
	SNR=21						
SHAO				S	**Sn**	**04 27 31.1**	**-7.1**
SHAO	**Shalim**	**17.39**	**151**	*i* P	**Pn**	**04 24 22.3**	**-2.0**
	SNR=21						
DMTO	**DMTO**	**17.41**	**154**	P	**Pn**	**04 24 23.8**	**-0.7**
	SNR=9.5						
DMTO				S	**Sn**	**04 27 28.6**	**-10**
SANT	**Santorini**	**17.83**	**285**		**Pn**	**04 24 29.6**	**-0.1**
VRH	**Novokhopyorsk**	**17.95**	**349**	*e*P	**Pn**	**04 24 29.8**	**-1.3**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORD	**Divnogorie**	**18.19**	**344**	*e*P	**Pn**	**04 24 32.9**	**-1.1**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.5s						
IDI	**Anoyia**	**18.28**	**281**	P	**P**	**04 24 35.5**	**0.0**
	comp=Z,1.4nm,0.3s,baz=82,slow=16,SNR=7.1						
KBL	**Kabul**	**18.30**	**81**	P	**P**	**04 24 36.8**	**+0.9**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBL	**Kabul**	**18.30**	**81**	P	**P**	**04 24 36.8**	**+0.9**
ABKAR	**Akbulak array**	**18.33**	**28**	P	**Pn**	**04 24 35.6**	**-0.1**
VSR	**Storozhevoye**	**18.45**	**344**	*e*P	**P**	**04 24 36.1**	**-1.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CHGR	**Chuyangaron**	**18.59**	**68**	P	**Pn**	**04 24 39.6**	**+0.6**
CHGR				pmax	pmax		
	comp=Z,1.0nm,8.0s						
CHGR	**Chuyangaron**	**18.59**	**68**	P	**Pn**	**04 24 39.6**	**+0.6**
CHGR				IAmb	IAmb	04 25 01.3	
	comp=Z,8.1nm,0.8s						
AKTO	**Aktyubinsk**	**18.63**	**23**	P	**P**	**04 24 38.7**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=204,slow=11,SNR=8.7						
AKTO				LR	LR	04 33 49.1	
	comp=Z,112nm,19.9s,baz=193,slow=44						
PLOR	**Plostina**	**19.75**	**314**	⇓P	**Pn**	**04 24 56.0**	**+3.0**
PLOR	**Plostina**	**19.75**	**314**	⇓P	**Pn**	**04 24 56.0**	**+3.0**
LPSR	**Galich'ya Gora**	**19.81**	**345**	*e*P	**P**	**04 24 49.7**	**-2.3**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
MLR	**Muntele Rosu**	**20.00**	**312**	⇓P	**Pn**	**04 24 59.8**	**+3.8**
MLR	**Muntele Rosu**	**20.00**	**312**	P	**Pn**	**04 24 55.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=26,slow=15,SNR=1.8						
MLR	**Muntele Rosu**	**20.00**	**312**	⇓P	**Pn**	**04 24 59.8**	**+3.8**
COVR	**Voineasa-Covas**	**20.01**	**314**	⇓P	**Pn**	**04 24 56.4**	**+0.4**
BTK	**Batken**	**20.09**	**65**	P	Pn	04 24 56.4	-0.7
BTK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BTK	**Batken**	**20.09**	**65**	P	**P**	**04 24 56.4**	**+1.0**
TESR	**Tescani**	**20.10**	**316**	⇑P	**P**	**04 24 55.2**	**-0.1**
SORM	**Soroca**	**20.11**	**322**	⇑P	**P**	**04 24 54.3**	**-1.0**
SORM	**Soroca**	**20.11**	**322**	⇑P	**P**	**04 24 54.3**	**-1.0**
OZUR		**20.39**	**314**	⇓P	**P**	**04 24 58.6**	**+0.1**
VOIR		**20.53**	**311**	⇓P	Pn	04 25 01.1	-1.1
VOIR		**20.53**	**311**	⇓P	Pn	04 25 01.1	-1.1
DOPR	**Dopca**	**20.57**	**313**	⇑P	**P**	**04 25 01.1**	**+0.7**
KKAR	**Karatay Array**	**20.67**	**56**	P	**P**	**04 25 02.2**	**+0.7**
KKAR	**Karatay Array**	**20.67**	**56**	P	**P**	**04 25 02.2**	**+0.7**
ITM	**Ithomi**	**20.70**	**287**		**P**	**04 24 59.2**	**-2.6**
DRK	**Karamyk**	**20.74**	**67**	P	**P**	**04 25 02.1**	**-0.5**
DRK				IAmb	IAmb	04 25 16.6	
	comp=Z,9.4nm,1.1s						
ARR	**Arges**	**20.76**	**311**	⇓P	Pn	04 25 03.7	-1.2
BOSS	**Bosilegrad**	**21.15**	**302**	*e*P	**P**	**04 25 03.5**	**-3.2**
ZAPS	**Zavoj**	**21.28**	**304**	*e*P	**P**	**04 25 12.3**	**+4.2**
LOT	**Lotru**	**21.34**	**310**	⇓P	**P**	**04 25 11.8**	**+3.0**
AKASG	**Malin Array Be**	**21.43**	**328**	P	**P**	**04 25 08.9**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=139,slow=9.9,SNR=14						
AKASG				LR	LR	04 35 41.4	
	comp=Z,63nm,20.1s,baz=123,slow=43						
AKASG	**Malin Array Be**	**21.43**	**328**	*ce*P	**P**	**04 25 11.1**	**+1.5**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**21.43**	**328**	P	**P**	**04 25 08.7**	**-0.9**
AKBB	**Malin Array Si**	**21.43**	**328**	⇑*e*P	**P**	**04 25 11.1**	**+1.5**
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKBB	**Malin Array Si**	**21.43**	**328**	P	**P**	**04 25 08.7**	**-0.9**
AKBB				IAmb	IAmb	04 25 12.1	
	comp=Z,7.8nm,0.8s						
PRVS	**Prvonek**	**21.44**	**302**	*e*P	**P**	**04 25 12.1**	**+2.3**
PRVS	**Prvonek**	**21.44**	**302**	*e*P	**P**	**04 25 14.0**	**+4.2**
BURAR	**Bucovina Array**	**21.52**	**317**	⇓P	**P**	**04 25 10.9**	**+0.2**
BURAR	**Bucovina Array**	**21.52**	**317**	⇓P	**P**	**04 25 10.9**	**+0.2**
BURAR	**Bucovina Array**	**21.52**	**317**	IAmb	IAmb	04 25 14.9	
	comp=Z,12nm

MNK *i* LRM MLR 04 36 23.2
comp=N,189nm,18.6s
PSZ Piszkesteto 24.81 313 P **P 04 25 42.5 -1.3**
PSZ pmax pmax
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 24.81 313 P **P 04 25 42.5 -1.3**
PSZ IAmb IAmb 04 26 03.8
comp=Z,7.9nm,1.1s
KIRV Kirov 24.99 3 P **P 04 25 44.3 -0.9**
comp=Z,11nm,0.6s,baz=291,slow=4.3,SNR=4.8
KIRV LR LR 04 37 42.7
comp=Z,149nm,19.6s,baz=232,slow=42
KIRV Kirov 24.99 3⇑*eP* **P 04 25 47.4 +2.2**
SVE Sverdlovsk 25.00 18 *eP* **P 04 25 46.1 +0.8**
SVE pmax pmax
comp=Z,10.0nm,0.9s
NACGM Naroch 25.52 332 *i* P **P 04 25 48.2 -1.9**
BRVK Borovoye 25.56 34 *d i* P **P 04 25 51.3 +0.8**
BRVK pmax pmax
comp=Z,16nm,1.7s
BRVK Borovoye 25.56 34 P **P 04 25 50.5 0.0**
BRVK IAmb IAmb 04 25 52.2
comp=Z,5.8nm,0.8s
BVAR Borovoye Array 25.59 34 P **P 04 25 51.7 +1.0**
comp=Z,6.6nm,0.6s,baz=197,slow=4.6,SNR=35
TARG Taragay, Kyrgy 25.59 63 IAmb IAmb 04 25 54.2
comp=Z,3.3nm,0.7s
LANS Liptovska Anna 25.61 315 *eP* P 04 26 01.1 +10
LANS Liptovska Anna 25.61 315 *eP* P 04 26 01.1 +10
IDID Didziasalis 25.85 333 *eP* **P 04 25 53.7 +0.7**
IIGN Ignalina 26.07 333 *eP* **P 04 25 55.8 +0.8**
SUW Suwalki 26.40 328 *eP* **P 04 25 57.6 -0.4**
PABE Paberze 27.07 331 *eP* **P 04 26 03.9 -0.1**
PABE Paberze 27.07 331 P **P 04 26 03.6 -0.4**
KLMR Klimovskoe 27.64 352 *eP* **P 04 26 05.5 -3.6**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 27.64 352 *eP* **P 04 26 05.6 -3.6**
KLMR AMP 04 26 09.5
comp=Z,10.0nm,1.0s
KURBB Kurchatov Arra 28.61 44 P **P 04 26 19.2 +1.4**
comp=Z,3.9nm,0.7s,baz=250,slow=9.1,SNR=26
KURK Kurchatov 28.70 44 *ceP* **P 04 26 19.8 +1.1**
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 28.70 44 P **P 04 26 18.9 +0.2**
KURK IAmb IAmb 04 26 21.0
comp=Z,5.0nm,0.8s
GERES GERESS Array B 28.98 312 P **P 04 26 21.7 +0.3**
comp=Z,0.6nm,0.5s,baz=107,slow=8.9,SNR=4.1
MKAR Makanchi Array 29.73 53 LR LR 04 40 45.7
comp=Z,36nm,19.0s,baz=228,slow=41
MKAR Makanchi Array 29.73 53 P **P 04 26 28.8 +0.9**
MKAR Makanchi Array 29.73 53 P **P 04 26 28.8 +0.9**
CLL Collm 30.28 316 *eP* **P 04 26 30.0 -2.7**
CLL Collm 30.28 316 *eP* **P 04 26 30.0 -2.7**
FINES FINESS Array B 30.89 340 P **P 04 26 37.1 -0.8**
comp=Z,1.5nm,0.5s,baz=147,slow=10,SNR=12
FINES FINESS Array B 30.89 340 *i* P **P 04 26 38.0 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
BNI Bardonecchia 32.86 302 P **P 04 26 55.0 -0.6**
BNI pmax pmax
comp=Z,14nm,0.6s
BNI Bardonecchia 32.86 302 P **P 04 26 55.0 -0.6**
WMQ Urumqi 33.05 60 *eP* **P 04 27 01.1 +3.8**
ZAA0 Zalesovo Array 33.46 41 IAmb IAmb 04 27 02.4
comp=Z,2.6nm,0.8s
ZALV Zalesovo Beam 33.46 41 P **P 04 27 01.0 +0.4**
comp=Z,2.1nm,0.5s,baz=260,slow=7.4,SNR=10.0
ZALV Zalesovo Beam 33.46 41 P **P 04 27 00.8 +0.1**
ZALV Zalesovo Beam 33.46 41 P **P 04 27 00.8 +0.1**
DGZ Jazzator, Alta 33.74 49⇓*eP* **P 04 27 04.8 +1.5**
DGZ pmax pmax
comp=Z,6.0nm,1.8s
HFS Hagfors 34.26 331 P **P 04 27 06.9 -0.5**
comp=Z,7.5nm,0.5s,baz=119,slow=8.6,SNR=30
NB2 NORSAR Subarra 35.78 331 P **P 04 27 19.4 -1.2**
comp=Z,1.5nm,0.8s,baz=124,slow=9.3
NOA NORSAR Array B 35.78 331 P **P 04 27 18.5 -2.1**
comp=Z,0.9nm,0.6s,baz=124,slow=8.7,SNR=6.1
NOA LR LR 04 44 10.4
comp=Z,45nm,18.6s,baz=260,slow=40
ARCES ARCESS Array B 37.88 348 P **P 04 27 37.6 -0.7**
comp=Z,3.2nm,0.7s,baz=156,slow=8.6,SNR=25
GOMU GeErMu 39.00 72 P **P 04 27 48.8 +0.1**
GOMU pP sP 04 27 53.5 +2.2
GOMU sP pP 04 27 57.1 +6.6
GOMU pmax pmax
comp=Z,4.0nm,0.9s
EKA Eskdalemuir Ar 40.70 318 P **P 04 28 00.5 -1.5**
comp=Z,2.1nm,0.6s,baz=104,slow=8.9,SNR=10
ESDC Sonseca Array 40.85 294 P **P 04 28 03.1 -0.5**
comp=Z,0.4nm,0.6s,baz=73,slow=8.2,SNR=6.0
ESDC Sonseca Array 40.85 294 IAmb IAmb 04 28 09.4
comp=Z,1.9nm,1.2s
NRIK Noril'sk 42.23 20 LR LR 04 49 48.3
comp=Z,69nm,19.0s,baz=223,slow=42
NRIK Noril'sk 42.23 20⇓*iP* **P 04 28 15.3 +0.8**
NRIK pmax pmax
comp=Z,7.0nm,1.3s
NRIK Noril'sk 42.23 20 P **P 04 28 15.3 +0.8**
NRIK IAmb IAmb 04 28 16.4
comp=Z,5.5nm,1.1s
GTA Gaotai 42.35 66 *eP* **P 04 28 17.4 +1.4**
GTA pP sP 04 28 24.4 +5.8
GTA sP pP 04 28 28.6 +11
GTA pmax pmax
comp=Z,3.0nm,1.0s
TORD Torodi Ar. Bea 45.86 255 P **P 04 28 44.3 0.0**
comp=Z,2.0nm,0.8s,baz=69,slow=6.6,SNR=13
TORD Torodi Ar. Bea 45.86 255 P **P 04 28 43.6 -0.7**
TORD IAmb IAmb 04 28 49.0
comp=Z,4.5nm,1.3s
ULN Ulaanbaatar 46.53 54⇓*eP* **P 04 28 51.1 +1.7**
ULN pmax pmax
comp=Z,4.0nm,0.9s
SPITS Spitsbergen Ar 46.55 352 P **P 04 28 48.6 -0.3**
comp=Z,8.8nm,0.8s,baz=136,slow=11,SNR=16
PZH PanZhiHua 47.47 83 P **P 04 28 58.3 +1.3**
PZH pmax pmax
comp=Z,7.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.2s
XAN Xi'an 50.73 71⇑P **P 04 29 21.8 +0.1**
XAN pP sP 04 29 23.4 +4.9
XAN sP pP 04 29 33.0 +9.4
XAN pmax pmax
comp=Z,10.0nm,0.9s
HHC Hu-ho-hao-te 50.88 62 *eP* **P 04 29 22.8 -0.1**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.7s
DAG Danmarks Havn 51.98 345 *i* P **P 04 29 30.0 -0.4**
DBIC Dimbokro 54.85 253 LR LR 04 55 58.4
comp=Z,87nm,18.3s,baz=54,slow=39
TIXI Tiksi 55.91 22⇓*eP* **P 04 30 01.5 +2.3**
TIXI pmax pmax
comp=Z,3.0nm,1.4s
SUMG Summit 56.91 339 P **P 04 30 07.0 +0.2**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 56.91 339 *i* P **P 04 30 06.5 -0.3**
SUMG Summit 56.91 339 P **P 04 30 07.0 +0.2**
KSRS Korea Array 64.00 61 P **P 04 30 55.1 -0.2**
comp=Z,3.6nm,0.7s,baz=287,slow=7.4,SNR=8.4
BOSA Boshof 65.26 201 P **P 04 31 04.3 +0.7**
comp=Z,1.6nm,0.5s,baz=346,slow=4.6,SNR=7.6
BOSA Boshof 65.26 201 IAmb IAmb 04 31 21.2
comp=Z,3.6nm,1.1s
BILL Bilibino 69.05 21⇓*eP* **P 04 31 26.2 -1.0**
BILL pmax pmax
comp=Z,8.0nm,2.1s
RES Resolute Bay 69.06 350 P **P 04 31 26.9 -0.2**
comp=Z,0.8nm,0.6s,baz=31,slow=8.1,SNR=9.7
RES Resolute Bay 69.06 350 IAmb IAmb 04 31 29.0
comp=Z,0.8nm,0.8s
FRB Frobisher Bay 70.48 335 P **P 04 31 35.5 -0.5**
comp=Z,2.5nm,0.7s,baz=50,slow=6.4,SNR=9.7
A36M Sachs Harbour 74.51 357 P **P 04 32 00.1 +0.2**
INK Inuvik 78.35 0 P **P 04 32 20.6 -1.1**
comp=Z,1.1nm,0.8s,baz=358,slow=9.9,SNR=6.3
YKA Yellowknife Ar 83.05 352 P **P 04 32 45.2 -1.7**
comp=Z,1.2nm,0.7s,baz=16,slow=5.5,SNR=20
YKA Yellowknife Ar 83.05 352 *ceP* **P 04 32 46.0 -1.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 83.05 352 P **P 04 32 46.4 -0.6**

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*ISK **23** 04:27:48.9, 36°.70N×29°.51E, h5km, ML3.4/22*
*IDC **23** 04:27:48.5±0.2, 36°.64N×29°.45E, h0km, mb3.7/4, mb1 3.8/10, mb1mx3.5/44, mbtmp3.7/10, ML3.6/6, Error ellipse: s-maj=2.4km s-min=1.3km az=116.0*
*NIC **23** 04:27:49.7±0.0, 36°.72N×29°.51E, h2km±1km, Ml3.5/3*
*DDA **23** 04:27:50.1±0.0, 36°.68N×29°.53E, h7km±5km, ML3.2*
*GII **23** 04:27:53.7±0.0, 36°.30N×29°.64E, h7km, Mm3.5/3*
ISC 23 04:27:50.0±1.0**, 36°.67N**±0°.02×**29°.51E**±0°.02**, h12**km±8km**, n68**, σ1**.38**/93**, mb3.7**/4**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.33**	**75**	PG	**Pg**	**04 27 56.2**	**-0.6**
ELL				SG	**Sb**	**04 28 02.3**	**-0.9**
ELL	**Elmali**	**0.33**	**75**	P	**Pg**	**04 27 56.2**	**-0.6**
ELL				S	**Sg**	**04 28 01.3**	**+0.1**
FETY	**Fethiye**	**0.35**	**265**	PG	**Pg**	**04 27 56.9**	**-0.1**
FETY				SG	**Sb**	**04 28 02.9**	**-0.7**
FETY	**Fethiye**	**0.35**	**265**	P	**Pg**	**04 27 57.0**	**-0.1**
FETY				S	**Sb**	**04 28 03.7**	**0.0**
FETY				*i* AML	AML	04 28 05.0	
	comp=N,3μm,0.8s						
FETY				*i* AML	AML	04 28 05.0	
	comp=E,4μm,0.6s						
AKAS	**Kas**	**0.44**	**170**	PG	**Pg**	**04 27 59.2**	**+0.5**
AKAS	**Kas**	**0.44**	**170**	P	**Pb**	**04 27 59.4**	**-0.4**
AKAS				S	**Sb**	**04 28 09.1**	**+2.7**
AKAS				*i* AML	AML	04 28 13.0	
	comp=E,3μm,0.4s						
AKAS				*i* AML	AML	04 28 17.0	
	comp=N,5μm,0.3s						
CAEL	**Denizli, Çamel**	**0.48**	**341**	P	**Pg**	**04 27 58.8**	**-0.8**
CAEL				S	**Sb**	**04 28 06.9**	**-0.7**
CAEL				*i* AML	AML	04 28 10.0	
	comp=E,3μm,0.9s						
CAEL				*i* AML	AML	04 28 15.0	
	comp=N,4μm,0.7s						
DEMR	**Demre-Antalya**	**0.53**	**143**	PG	**Pg**	**04 28 00.6**	**+0.2**
GOLH	**Golhisar**	**0.57**	**4**	P	**Pg**	**04 28 00.0**	**-1.2**
GOLH				S	**Sb**	**04 28 09.9**	**-0.3**
GOLH				*i* AML	AML	04 28 11.0	
	comp=N,4μm,0.5s						
GOLH				*i* AML	AML	04 28 12.0	
	comp=E,4μm,0.4s						
DALY	**Dalyan (Mula)**	**0.71**	**283**	PG	**Pg**	**04 28 02.8**	**-0.9**
DALY				SG	**Sb**	**04 28 14.0**	**+0.1**
KORT	**Korkueli**	**0.75**	**63**	PG	**Pg**	**04 28 04.5**	**-0.1**
KORT	**Korkueli**	**0.75**	**63**	P	**Pb**	**04 28 05.0**	**-0.2**
KORT				*i* AML	AML	04 28 19.0	
	comp=N,2μm,0.5s						
KORT				S	**Sn**	**04 28 19.1**	**+1.1**
KORT				*i* AML	AML	04 28 22.0	
	comp=E,2μm,0.5s						
AKUM	**Antalya-Kumluc**	**0.75**	**117**	P	**Pb**	**04 28 05.2**	**+0.1**
AKUM				*i* AML	AML	04 28 25.0	
	comp=E,511nm,0.6s						
AKUM				*i* AML	AML	04 28 30.0	
	comp=N,581nm,0.7s						
KEMT	**Kemer-ANTALYA**	**0.84**	**94**	PG	**Pb**	**04 28 06.8**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.93**	**329**	P	**Pg**	**04 28 06.9**	**-1.1**
TAVA				S	**Sb**	**04 28 21.3**	**+0.7**
TAVA				*i* AML	AML	04 28 23.0	
	comp=N,892nm,0.6s						
TAVA				*i* AML	AML	04 28 25.0	
	comp=E,787nm,0.6s						
ANTB	**Antalya**	**0.95**	**75**	PG	**Pg**	**04 28 08.1**	**-0.2**
TURN	**Turunc**	**1.02**	**277**	PG	**Pb**	**04 28 09.8**	**+0.1**
TURN	**Turunc**	**1.02**	**277**	P	**Pb**	**04 28 09.6**	**-0.1**
TURN				S	**Sn**	**04 28 26.5**	**+2.0**
TURN				*i* AML	AML	04 28 28.0	
	comp=N,658nm,0.3s						
TURN				*i* AML	AML	04 28 29.0	
	comp=E,407nm,0.4s						
YER	**Yerkesik**	**1.09**	**296**	PG	**Pg**	**04 28 10.7**	**-0.3**
MULA	**Mugla, Merkez-**	**1.12**	**302**	P	**Pg**	**04 28 10.7**	**-0.9**
MULA				S	**Sn**	**04 28 28.7**	**+1.6**
MULA				*i* AML	AML	04 28 31.0	
	comp=E,774nm,0.6s						
MULA				*i* AML	AML	04 28 32.0	
	comp=N,380nm,0.5s						
BCK	**Bucak**	**1.17**	**47**	PN	**Pg**	**04 28 11.9**	**-0.7**
ARG	**Arkhangelos**	**1.20**	**249**	PN	**Pn**	**04 28 13.3**	**+0.6**
ARG	**Arkhangelos**	**1.20**	**249**	P	**Pg**	**04 28 12.7**	**-0.5**
ARG				S	**Sn**	**04 28 31.8**	**+2.8**
BASM	**Basmaki-Afyon**	**1.32**	**19**	PN	**Pn**	**04 28 14.7**	**+0.3**
ISP	**Isparta**	**1.41**	**35**	PN	**Pb**	**04 28 16.4**	**+0.1**
ISP	**Isparta**	**1.41**	**35**	Pn	**Pg**	**04 28 16.8**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.44**	**55**	PN	**Pg**	**04 28 17.1**	**-0.6**
MLSB	**Milas**	**1.52**	**295**	PN	**Pb**	**04 28 18.4**	**+0.1**
DAT	**Datca**	**1.56**	**273**	PN	**Pb**	**04 28 18.7**	**-0.1**
BODT	**Bodrum**	**1.81**	**283**	PN	**Pb**	**04 28 22.8**	**-0.3**
NIS1	**Nisyros Isl.**	**1.88**	**269**	PN	**Pb**	**04 28 24.0**	**-0.3**
KULA	**Kula-Manisa**	**1.97**	**340**	PN	**Pn**	**04 28 23.4**	**+0.1**
SEYD	**Seydisehir-KON**	**2.00**	**68**	PN	**Pn**	**04 28 25.2**	**+1.4**
SHUT	**Suhut-Afyon**	**2.06**	**23**	PN	**Pn**	**04 28 25.4**	**+0.8**
GAZI	**Gazipasa**	**2.30**	**100**	PN	**Pn**	**04 28 29.5**	**+1.7**
HDMB	**Hadim**	**2.41**	**82**	PN	**Pn**	**04 28 31.1**	**+1.7**
AKMS	**Akamas**	**2.82**	**125**	P	**Pn**	**04 28 37.0**	**+2.0**
AKMS				AML	AML	04 29 11.0	
	0.3nm,0.5s						
AKMS				AML	AML	04 29 15.0	
	0.5nm,0.7s						
ALFC	**Alefka**	**2.92**	**120**	P	**Pn**	**04 28 37.9**	**+1.5**
ALFC				AML	AML	04 29 14.7	
	0.4nm,0.6s						
ALFC				AML	AML	04 29 14.7	
	0.4nm,0.6s						
ALFC				S	**Sn**	**04 29 15.0**	**+3.5**
ALFC				AML	AML	04 29 18.1	
	0.4nm,0.7s						
ALFC				AML	AML	04 29 18.1	
	0.4nm,0.7s						
NATA	**Nata**	**3.12**	**126**	P	**Pn**	**04 28 40.3**	**+1.2**
SZAC	**Souni**	**3.34**	**124**	P	**Pn**	**04 28 43.9**	**+1.7**
SZAC				S	**Sn**	**04 29 25.1**	**+3.4**
SZAC				AML	AML	04 29 26.3	
	0.3nm,0.4s						
SZAC				AML	AML	04 29 26.3	
	0.3nm,0.4s						
SZAC				AML	AML	04 29 26.6	
	0.3nm,0.5s						
SZAC				AML	AML	04 29 26.6	
	0.3nm,0.5s						
CSS	**Mathiatis**	**3.54**	**118**	P	**Pn**	**04 28 46.1**	**+1.3**
CSS	**Mathiatis**	**3.54**	**118**	Pn	**Pn**	**04 28 46.0**	**+1.2**
ASGA	**Asgata**	**3.57**	**121**	P	**Pn**	**04 28 46.9**	**+1.6**
IDI	**Anoyia**	**3.99**	**251**	Pn	**Pn**	**04 28 52.0**	**+0.9**
	2.6nm,0.3s,baz=49,slow=15,SNR=12						
IDI				Sn	**Sn**	**04 29 38.6**	**+0.7**
	6.7nm,0.3s,baz=265,slow=18,SNR=7.8						
OSC2	**CSNet OBS 4**	**4.24**	**147**	P	**Pn**	**04 28 55.4**	**+1.0**
BRTR	**Keskin Array B**	**4.46**	**46**	Pn	**Pn**	**04 28 58.9**	**+1.3**
	0.5nm,0.3s,baz=217,slow=9.8,SNR=17						
BRTR				Sn	**Sn**	**04 29 52.8**	**+3.3**
	1.5nm,0.3s,baz=219,slow=26,SNR=18						
HNTI	**Hanita**	**5.87**	**126**	Pn	**Pn**	**04 29 16.8**	**0.0**
OFRI	**`Ofer**	**6.05**	**130**	Pn	**Pn**	**04 29 20.0**	**+0.6**
OFRI				Sn	**Sn**	**04 30 25.6**	**-3.0**
MMA0B	**Mount Meron ar**	**6.06**	**125**	Pn	**Pn**	**04 29 20.2**	**+0.7**
MMAI	**Mount Meron Ar**	**6.06**	**125**	Pn	**Pn**	**04 29 19.9**	**+0.3**
	3.9nm,0.3s,baz=305,slow=12,SNR=24						
GEM	**Giv'at Ha'Em**	**6.12**	**123**	Pn	**Pn**	**04 29 20.5**	**+0.3**
GEM				Sn	**Sn**	**04 30 28.1**	**-2.0**
NATI	**Neve Ativ**	**6.13**	**122**	Pn	**Pn**	**04 29 21.4**	**+0.9**
NATI				Sn	**Sn**	**04 30 28.8**	**-1.8**
MMLI	**Mount Malkishu**	**6.45**	**129**	Pn	**Pn**	**04 29 25.1**	**+0.3**
MMLI				Sn	**Sn**	**04 30 36.3**	**-2.0**
HMDT	**Nahal Hemdat**	**6.64**	**130**	Pn	**Pn**	**04 29 28.0**	**+0.6**
HMDT				Sn	**Sn**	**04 30 41.4**	**-1.5**
DSI	**Dead Sea**	**7.04**	**135**	Pn	**Pn**	**04 29 33.5**	**+0.6**
KZIT	**Kziot**	**7.04**	**143**	Pn	**Pn**	**04 29 32.6**	**-0.3**
ASF	**Jabal al Asfar**	**7.57**	**124**	Pn	**Pn**	**04 29 40.5**	**+0.2**
	0.9nm,0.3s,baz=15,slow=15,SNR=6.5						
PRNI	**Paran**	**7.79**	**142**	Pn	**Pn**	**04 29 43.1**	**-0.1**
PRNI				Sn	**Sn**	**04 31 07.1**	**-4.3**
KRMI	**Paran Flat**	**7.85**	**145**	Pn	**Pn**	**04 29 43.6**	**-0.5**
HRFI	**Mount Harif**	**8.06**	**143**	Pn	**Pn**	**04 29 46.8**	**-0.2**
HRFI				Sn	**Sn**	**04 31 14.6**	**-3.6**
MBRI	**Mt Berech**	**8.21**	**145**	Pn	**Pn**	**04 29 48.7**	**-0.4**
MBRI				Sn	**Sn**	**04 31 18.9**	**-2.9**
EIL	**Elat**	**8.33**	**145**	Pn	**Pn**	**04 29 51.1**	**+0.5**
	1.2nm,0.3s,baz=2.2,slow=5.8,SNR=13						
EIL	**Elat**	**8.33**	**145**	Pn	**Pn**	**04 29 50.4**	**-0.3**
MLR	**Muntele Rosu**	**9.22**	**344**	Pn	**Pn**	**04 30 04.5**	**+1.6**
	0.2nm,0.3s,baz=356,slow=1.1,SNR=3.7						
AKTO	**Aktyubinsk**	**24.64**	**47**	P	**P**	**04 33 09.2**	**-1.1**
	1.2nm,0.6s,baz=243,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**24.89**	**356**	P	**P**	**04 33 11.9**	**-0.5**
	0.7nm,0.7s,baz=178,slow=12,SNR=4.8						
TORD	**Torodi Ar. Bea**	**34.20**	**234**	P	**P**	**04 34 36.2**	**+0.7**
	0.5nm,0.5s,baz=29,slow=8.1,SNR=6.8						
KURBB	**Kurchatov Arra**	**37.42**	**52**	P	**P**	**04 35 02.2**	**-0.6**
	1.4nm,0.5s,baz=275,slow=8.8,SNR=20						

IDC 23 04:30:04.6±7.6**, 20°.48S**×**179°.94W, h650**km±35km**, mb3.0**/4**, mb1 3.2**/5**, mb1mx2.9**/24**, mbtmp3.9**/5**, Error ellipse: s-maj=217.4km s-min=28.7km az=144.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.32**	**325**	P	P	04 31 29.6	-0.3
	2.3nm,0.3s,baz=280,slow=23,SNR=10						
CTA	**Charters Tower**	**31.68**	**265**	P	P	04 35 39.4	+1.2
	1.5nm,0.4s,baz=91,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**42.75**	**257**	P	P	04 37 07.5	-0.3
	1.5nm,0.5s,baz=93,slow=7.7,SNR=21						
WRA	**Warramunga Arr**	**42.80**	**262**	P	P	04 37 07.9	-0.3
	0.8nm,0.3s,baz=97,slow=7.7,SNR=13						
ILAR	**Eielson Array**	**88.71**	**14**	P	P	04 41 50.5	+0.2
	0.4nm,0.7s,baz=221,slow=5.6,SNR=4.2						

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*SOME **23** 04:32:06.4, 39°.30N×73°.65E, h5km*
*NNC **23** 04:32:06.3±3.5, 39°.04N×74°.82E, h14km±19km, mb3.8, mpv3.4, Error ellipse: s-maj=24.3km s-min=22.8km az=73.0*
ISC 23 04:32:06.0±2.4**, 39°.1N**±0°.1×**74°.90E**±0°.08**, h10**km**, n19, σ2**.46**/28**, 7C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.58**	**355**	⇑Pg	**Pb**	**04 33 11.5**	**+2.0**
	4.1nm,0.6s						
AAK				⇑Lg	Lg	04 34 04.3	
	6.5nm,0.7s						
TKM2	**Tokmak 2**	**3.89**	**8**	⇑Pn	**Pn**	**04 33 06.9**	**+0.9**
	1.3nm,0.3s						
TKM2				⇑Lg	Lg	04 34 12.1	
	9.8nm,0.6s						
MRKS	**Merke**	**3.89**	**341**	*eP*	**Pn**	**04 33 09.6**	**+3.7**
	1.7nm,0.2s						
MRKS				*eS*	**Sn**	**04 33 54.1**	**+2.4**
	4.1nm,0.4s						
MRKS	**Merke**	**3.89**	**341**	Pg	**Pn**	**04 33 09.6**	**+3.7**
	1.9nm,0.5s						
MRKS				Lg	Lg	04 33 54.1	
	5.2nm,1.0s						
KST	**Kastek**	**4.05**	**11**	*eP*	**Pg**	**04 33 22.4**	**-1.3**
	3.3nm,0.0s						
KST				*eS*	**Sg**	**04 34 16.9**	**+0.7**
	19nm,0.7s						
KST	**Kastek**	**4.05**	**11**	Pg	**Pg**	**04 33 22.4**	**-1.3**
	3.9nm,0.4s						
KST				Lg	Lg	04 34 16.9	
	19nm,0.7s						
MTBS	**Maitube**	**4.22**	**15**	*eP*	**Pg**	**04 33 25.6**	**-1.3**
	2.0nm,0.4s						
MTBS				*eS*	**Sg**	**04 34 21.1**	**-0.5**
	7.3nm,0.5s						
MTBS	**Maitube**	**4.22**	**15**	Pg	**Pg**	**04 33 25.6**	**-1.3**
	2.0nm,0.4s						
MTBS				Lg	Lg	04 34 21.1	
	7.3nm,0.5s						
DGS	**Degeres**	**4.23**	**9**	*eP*	**Pb**	**04 33 23.5**	**+3.0**
	3.2nm,0.2s						
DGS				*eS*	**Sg**	**04 34 18.5**	**-3.2**
	4.8nm,0.5s						
DGS	**Degeres**	**4.23**	**9**	Pg	**Pb**	**04 33 23.5**	**+3.0**
	5.5nm,0.5s						
DGS				Lg	Lg	04 34 18.5	
	6.0nm,0.8s						
SGDS	**Sogindy**	**4.39**	**357**	*eP*	**Pb**	**04 33 26.8**	**+3.6**
	0.8nm,0.3s						
SGDS				*eS*	**Sg**	**04 34 24.3**	**-2.6**
	1.4nm,0.1s						
MDOK	**Medeo**	**4.40**	**21**	Pg	**Pb**	**04 33 24.0**	**+0.4**
	2.3nm,0.6s						
MDOK				Lg	Lg	04 34 25.9	
	11nm,0.7s						
IUG	**Iuzhnay**	**4.82**	**311**	*eP*	**Pn**	**04 33 18.6**	**-0.1**
	91nm,0.5s						
IUG				*eS*	**Sn**	**04 34 09.8**	**-4.9**
	12nm,0.8s						
IUG	**Iuzhnay**	**4.82**	**311**	Pg	**Pn**	**04 33 18.6**	**-0.1**
	91nm,0.5s						
IUG				Lg	Lg	04 34 09.8	
	12nm,0.8s						
KTBS	**Karatobe**	**4.83**	**15**	*eP*	**Pg**	**04 33 35.6**	**-2.9**
	1.6nm,0.2s						
KTBS				*eS*	**Sg**	**04 34 39.5**	**-1.7**
	16nm,0.5s						
KK02	**Karatay Array**	**5.22**	**322**	⇑Pn	**Pn**	**04 33 23.5**	**-0.7**
	1.4nm,0.4s,baz=135,slow=13						
KK02				⇓Sn	**Sn**	**04 34 24.0**	**-0.5**
	1.6nm,0.6s,baz=141,slow=21						
PDGK	**Podgornoye**	**5.49**	**38**	⇑Pg	**Pg**	**04 33 48.1**	**-2.9**
	3.9nm,1.1s						
PDGK				⇑Lg	Lg	04 35 03.7	
	7.9nm,0.8s						
BRLS	**Boroldaу**	**5.51**	**318**	*eP*	**Pn**	**04 33 30.6**	**+2.5**
	1.6nm,0.3s						
BRLS				*eS*	**Sn**	**04 34 30.2**	**-1.3**
	1.6nm,0.0s						
BRLS	**Boroldaу**	**5.51**	**318**	Pg	**Pn**	**04 33 30.6**	**+2.5**
	1.6nm,0.3s						
BRLS				Lg	Lg	04 34 29.5	
	1.1nm,0.4s						

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*AEIC **23** 04:39:26±1.4, 52°.9N±0°.1×168°.7W±0°.1, h49km±8km, Error ellipse: s-maj=19.2km s-min=4.9km az=151.0*
NEIC 23 04:39:27±0.9**, 52°.9N**±0°.1×**168°.7W**±0°.1**, h43**km±16**km, ML3.5**/6**, ML3.3**(AEIC)**, Error ellipse: s-maj=21.2km s-min=5.2km az=152.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.16**	**318**		Pn	04 39 34.5	+0.2
OKSP	**Okmok Steeple**	**0.46**	**30**		Pn	04 39 37.1	-0.3
CLCO	**Concord Point,**	**0.64**	**265**		Pn	04 39 39.3	-0.3
OKFG	**Magazine Ridge**	**0.72**	**39**		Pn	04 39 40.5	-0.3
CLES	**Cleveland East**	**0.74**	**268**		Pn	04 39 41.0	-0.1
CLES	**Cleveland East**	**0.74**	**268**	IAML		04 39 56.6	
	comp=N,3μm,0.4s						
CLES				IAML		04 39 58.3	
	comp=E,4μm,0.3s						
MAPS	**Pakushin South**	**1.41**	**47**		Pn	04 39 49.4	-0.8
MSW	**Makushin Switc**	**1.55**	**46**		Pn	04 39 51.6	-0.6
MTBL	**Makushin Table**	**1.64**	**46**		Pn	04 39 53.0	-0.4
AKBBA	**Akutan Broad B**	**2.06**	**52**		Pn	04 39 58.1	-1.0
AKGG	**Akutan Green G**	**2.09**	**49**		Pn	04 39 59.7	+0.2
AKUT	**Akutan**	**2.16**	**52**		Pn	04 40 00.7	+0.3
AKUT	**Akutan**	**2.16**	**52**	IAML		04 40 37.0	
	comp=E,91nm,0.7s

MOS ***23*** *04:54:10.0±1.1, 36.°64N×71.°59E, h100km, mb5.1/57, Error ellipse: s-maj=5.1km s-min=3.3km az=93.2*
BJI ***23*** *04:54:10.3±0.0, 36.°65N×71.°66E, h84km, mb4.8/44, mB4.8/26, Ms4.3/18, Ms7 4.0/11*
NNC ***23*** *04:54:11.6±4.5, 36.°84N×71.°08E, h117km±57km, mb4.7, mpv5.5, Error ellipse: s-maj=41.1km s-min=20.7km az=163.0*
NEIC ***23*** *04:54:11.3±1.8, 36.°67N±0.°04×71.°35E±0.°06, h95km±4km, mb5.0/150, Error ellipse: s-maj=8.3km s-min=4.7km az=125.0*
GCMT ***23*** *04:54:13.3±0.3, 36.°50N±0.°02×71.°42E±0.°02, h98km±3km, MW4.9/89, Moment Tensor Solution. s30,c31; s89,c122; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr1.66±.09; Mθθ-1.69±.11; Mφφ0.03±.12; Mrθ0.29±.08; Mθφ-2.13±.10; Mφr1.07±.07; Best double couple: M0 2.82100×10^16 NP1:φs270.00000°, δ48.00000°, λ145.00000°. NP2: φs26.00000°, δ65.00000°, λ48.00000°. Principal axes: T 2.3680, Plg51.0000°, Azm247.0000°; N 0.9070, Plg37.0000°, Azm47.0000°; P -3.2740, Plg10.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
SOME ***23*** *04:54:16.8, 38.°25N×71.°62E, h5km, MS4.3*
ISC 23 04:54:10.3±0.3, 36.°61N±0.°03×71.°45E±0.°03, h92km±3km, h92km:pP-P, n862, σ1s79/870, mb5.0/234, 151C-143D,
Fault plane solution: NP1:φs56.71271°, δ45.93140°, λ50.86864°. **NP2:**φs286.18625°, δ56.12747°, λ123.10273°.
Principal axes: T Plg62.3637°, Azm252.5471°; N Plg26.9653°, Azm86.2167°; P Plg5.6069°, Azm353.3538°;

Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.74**	**319**	PN	**Pn**	**Pn**	**04 54 52.1**	**-0.4**
CHGR	**Chuyangaron**	**2.74**	**319**	Pn	**Pn**	**Pn**	**04 54 52.1**	**-0.4**
CEP	**Cherat**	**2.80**	**172**	P	**Pn**	**Pn**	**04 54 54.8**	**+1.4**
CEP				S		**Sn**	**04 55 29.0**	**+2.5**
KBL	**Kabul**	**2.84**	**224**	PN	**Pn**	**Pn**	**04 54 55.6**	**+1.6**
KBL	**Kabul**	**2.84**	**224**	P	**Pn**	**Pn**	**04 54 55.8**	**+1.8**
	SNR=133							
KBL	**Kabul**	**2.84**	**224**	Pn	**Pn**	**Pn**	**04 54 55.6**	**+1.6**
DRK	**Karamyk**	**2.88**	**5**		**Pn**	**Pn**	**04 54 56.6**	**+2.0**
CHCP	**Chirah Chowk**	**3.30**	**153**	P	**Pn**	**Pn**	**04 55 01.9**	**+1.9**
NIL	**Nilore**	**3.30**	**153**	PN	**Pn**	**Pn**	**04 55 01.9**	**+1.9**
NIL	**Nilore**	**3.30**	**153**	P	**Pn**	**Pn**	**04 55 02.1**	**+2.1**
NIL	**Nilore**	**3.30**	**153**	Pn	**Pn**	**Pn**	**04 55 01.9**	**+1.9**
BTK	**Batken**	**3.48**	**352**	PN	**Pn**	**Pn**	**04 55 03.9**	**+1.4**
BTK	**Batken**	**3.48**	**352**		**Pn**	**Pn**	**04 55 03.9**	**+1.4**
THW	**Thamme Wali**	**3.81**	**176**	P	**Pn**	**Pn**	**04 55 07.3**	**+0.4**
KSH	**Kashi**	**4.60**	**50**	P	**Pn**	**Pn**	**04 55 13.9**	**-3.8**
KSH				S		Sn	04 56 00.3	-10
KSH				pmax		pmax		
	comp=Z,450nm,0.6s							
KSH				smax		smax		
	comp=N,5μm,0.8s							
KSH				smax		smax		
	comp=E,2μm,1.0s							
SARP	**Sargodha**	**4.78**	**167**	P	**Pn**	**Pn**	**04 55 19.4**	**-0.6**
JMU	**Jammu**	**4.81**	**143**	*e*P	**Pn**	**Pn**	**04 55 20.6**	**+0.2**
JMU				*e*S		**Sn**	**04 56 12.6**	**-2.3**
TAS	**Tashkent**	**5.00**	**341**	PN	**Pn**	**Pn**	**04 55 23.2**	**+0.2**
TAS	**Tashkent**	**5.00**	**341**	Pn	**Pn**	**Pn**	**04 55 23.2**	**+0.2**
THN	**Thein Dam**	**5.45**	**139**	*e*P	**Pn**	**Pn**	**04 55 29.4**	**+0.3**
THN				*i* x		**Pn**	**04 55 30.4**	**+1.3**
THN				*e*S		**Sn**	**04 56 28.1**	**-2.4**
IUG	**Iuzhnay**	**5.64**	**349**	⇓*i*PN		**Pn**	**04 55 32.3**	**+0.6**
IUG	**Iuzhnay**	**5.64**	**349**	*e*P		**Pn**	**04 55 35.0**	**+3.2**
	3μm,0.1s							
IUG				*e*S		**Sn**	**04 56 34.6**	**-0.6**
	2μm,0.6s							
IUG	**Iuzhnay**	**5.64**	**349**	⇓*i*P		**Pn**	**04 55 32.3**	**+0.6**
	baz=348							
IUG				*e*S		**Sn**	**04 56 34.5**	**-0.6**
	baz=348							
AML	**Almayashu**	**5.79**	**17**	P	**Pn**	**Pn**	**04 55 34.8**	**+0.9**
	SNR=2060							
AML	**Almayashu**	**5.79**	**17**	P	**Pn**	**Pn**	**04 55 34.9**	**+0.9**
AML	**Almayashu**	**5.79**	**17**	*i* P	**Pn**	**Pn**	**04 55 34.9**	**+0.9**
	SNR=608							
CHM	**Chimkent**	**5.88**	**347**	*e*P	**Pn**	**Pn**	**04 55 37.3**	**+2.4**
	290nm,0.1s							
CHM				*e*S		**Sn**	**04 56 38.7**	**-2.2**
	3μm,0.5s							
DHRM	**DHARAMSHALA**	**5.91**	**136**	*e*P	**Pn**	**Pn**	**04 55 35.1**	**-0.5**
DHRM				*e*S		**Sn**	**04 56 38.8**	**-3.3**
UCH	**Uchtor**	**6.09**	**22**	P	**Pn**	**Pn**	**04 55 39.1**	**+0.9**
	SNR=203							
DZA	**Taraz**	**6.28**	**359**	*e*PN	**Pn**	**Pn**	**04 55 40.6**	**+0.3**
DZA	**Taraz**	**6.28**	**359**	*e*P	**Pn**	**Pn**	**04 55 43.0**	**+2.6**
	806nm,0.0s							
DZA				*e*S		**Sn**	**04 56 49.0**	**-1.6**
	840nm,0.1s							
DZA	**Taraz**	**6.28**	**359**	*e*P	**Pn**	**Pn**	**04 55 40.6**	**+0.3**
	baz=358							
DZA				*e*S		**Sn**	**04 56 48.1**	**-2.5**
	baz=358							
MRKS	**Merke**	**6.28**	**12**	*e*P	**Pn**	**Pn**	**04 55 43.2**	**+2.8**
	463nm,0.2s							
MRKS				*e*S		**Sn**	**04 56 49.4**	**-1.5**
	607nm,1.0s							
EKS2	**Erkin-Say**	**6.31**	**16**	P	**Pn**	**Pn**	**04 55 42.0**	**+1.1**
	SNR=225							
AAK	**Ala-Archa**	**6.46**	**20**	P	**Pn**	**Pn**	**04 55 43.6**	**+0.6**
	126nm,0.3s,baz=166,slow=6.2,SNR=774							
AAK				S		**Sn**	**04 56 52.2**	**-3.1**
	20nm,0.3s,baz=322,slow=23,SNR=9.4							
AAK				LR		LR	04 57 36.9	
	comp=Z,126nm,18.5s,baz=206,slow=32							
AAK	**Ala-Archa**	**6.46**	**20**	P	**Pn**	**Pn**	**04 55 44.3**	**+1.2**
	SNR=333							
AAK	**Ala-Archa**	**6.46**	**20**	*d i*PN	**Pn**	**Pn**	**04 55 44.1**	**+1.1**
AAK				pmax		pmax		
	comp=Z,312nm,0.8s							
AAK	**Ala-Archa**	**6.46**	**20**	P	**Pn**	**Pn**	**04 55 44.1**	**+1.1**
AAK	**Ala-Archa**	**6.46**	**20**	⇓P	**Pn**	**Pn**	**04 55 44.0**	**+1.1**
	comp=Z,179nm,0.4s							
AAK				S		**Sn**	**04 56 55.2**	**-0.2**
	comp=Z,321nm,0.8s							
AAK	**Ala-Archa**	**6.46**	**20**	Pn	**Pn**	**Pn**	**04 55 44.1**	**+1.1**
AAK	**Ala-Archa**	**6.46**	**20**	*i* P	**Pn**	**Pn**	**04 55 44.0**	**+1.0**
	SNR=383							
KK02	**Karatay Array**	**6.53**	**354**	⇑P	**Pn**	**Pn**	**04 55 44.0**	**+0.2**
	comp=Z,508nm,0.5s,baz=180,slow=13							
KK02				⇓S		**Sn**	**04 56 55.5**	**-1.2**
	comp=Z,323nm,0.6s,baz=187,slow=26							
KKAR	**Karatay Array**	**6.53**	**354**	PN	**Pn**	**Pn**	**04 55 43.9**	**+0.2**
KKAR	**Karatay Array**	**6.53**	**354**	Pn	**Pn**	**Pn**	**04 55 43.9**	**+0.2**
BRLS	**Borolday**	**6.53**	**350**	*e*P	**Pn**	**Pn**	**04 55 42.6**	**-1.2**
	comp=Z,159nm,0.0s							
BRLS				*e*S		**Sn**	**04 56 48.3**	**-8.6**
	comp=Z,347nm,0.1s							
KBK	**Karagaybulak**	**6.62**	**23**	P	**Pn**	**Pn**	**04 55 46.4**	**+1.3**
	SNR=89							
BHK	**Bhakra**	**6.62**	**140**	*e*P	**Pn**	**Pn**	**04 55 44.2**	**-0.8**
FRU1	**Bishkek**	**6.66**	**21**	PN	**Pn**	**Pn**	**04 55 46.7**	**+1.1**
FRU1	**Bishkek**	**6.66**	**21**		**Pn**	**Pn**	**04 55 46.7**	**+1.1**
ULHL	**Ulahol**	**6.74**	**32**	P	**Pn**	**Pn**	**04 55 48.4**	**+1.5**
	SNR=7.4							
BOOM	**Boomskoye usch**	**6.82**	**29**	PN	**Pn**	**Pn**	**04 55 48.9**	**+1.0**
BOOM	**Boomskoye usch**	**6.82**	**29**	Pn	**Pn**	**Pn**	**04 55 48.9**	**+1.0**
CHMS	**Chumysh**	**6.87**	**21**	P	**Pn**	**Pn**	**04 55 49.9**	**+1.5**
	SNR=129							
TKM2	**Tokmak 2**	**7.07**	**26**	P	**Pn**	**Pn**	**04 55 52.5**	**+1.2**
	SNR=161							
TKM2	**Tokmak 2**	**7.07**	**26**	PN	**Pn**	**Pn**	**04 55 52.4**	**+1.2**
TKM2	**Tokmak 2**	**7.07**	**26**	⇑P	**Pn**	**Pn**	**04 55 52.5**	**+1.2**
	comp=Z,110nm,0.6s							
TKM2				⇓S		**Sn**	**04 57 08.5**	**-1.6**
	comp=Z,96nm,0.8s							
KDJ	**Kajisay**	**7.08**	**37**	PN	**Pn**	**Pn**	**04 55 52.3**	**+0.9**
KDJ	**Kajisay**	**7.08**	**37**		**Pn**	**Pn**	**04 55 52.3**	**+0.9**
TARG	**Taragay, Kyrgy**	**7.11**	**42**		**Pn**	**Pn**	**04 55 52.2**	**+0.2**
SMLA	**Simla**	**7.24**	**137**	*e*P	**Pn**	**Pn**	**04 55 52.5**	**-1.0**
SMLA				*e*S		**Sn**	**04 57 08.8**	**-5.4**
SGDS	**Sogindy**	**7.26**	**19**	⇑*i*P	**Pn**	**Pn**	**04 55 53.4**	**-0.4**
	comp=Z,33nm,0.7s,baz=18							
HRA	**Herat**	**7.83**	**256**		**Pn**	**Pn**	**04 56 03.9**	**+2.3**
MDOK	**Medeo**	**7.83**	**32**	PN	**Pn**	**Pn**	**04 56 03.2**	**+1.6**
MDOK	**Medeo**	**7.83**	**32**	*e*P	**Pn**	**Pn**	**04 56 00.9**	**-0.7**
	baz=31							
MDOK	**Medeo**	**7.83**	**32**	⇑P	**Pn**	**Pn**	**04 56 03.2**	**+1.6**
	comp=Z,98nm,0.8s							
MDOK				⇑S		**Sn**	**04 57 30.3**	**+1.6**
	comp=Z,95nm,0.8s							
KNDC	**Almaty**	**7.84**	**31**	⇑P	**Pn**	**Pn**	**04 56 02.4**	**+0.7**
	comp=Z,215nm,0.7s							
KNDC				⇑S		**Sn**	**04 57 25.3**	**-3.6**
	comp=Z,314nm,1.0s							
PRZ	**Przheval'sk**	**7.95**	**40**	PN	**Pn**	**Pn**	**04 56 04.4**	**+1.1**
PRZ	**Przheval'sk**	**7.95**	**40**		**Pn**	**Pn**	**04 56 04.4**	**+1.1**
KKR	**Kurukshetra**	**8.01**	**144**	*e*P	**Pn**	**Pn**	**04 56 02.4**	**-1.6**
KUU	**Kurty**	**8.18**	**26**	*e*PN	**Pn**	**Pn**	**04 56 05.6**	**-0.6**
KUU				pmax		pmax		
	comp=Z,30nm,0.7s							
KUU	**Kurty**	**8.18**	**26**	*e*P	**Pn**	**Pn**	**04 56 05.7**	**-0.6**
	comp=Z,30nm,0.7s,baz=25							
DDI	**Dehra Dun**	**8.35**	**137**	*e*P	**Pn**	**Pn**	**04 56 07.1**	**-1.5**
DDI				*i* x		x	04 56 09.1	
SATY	**Saty**	**8.37**	**38**	*e*PN	**Pn**	**Pn**	**04 56 08.1**	**-0.9**
SATY	**Saty**	**8.37**	**38**	*e*P	**Pn**	**Pn**	**04 56 08.2**	**-0.9**
	baz=37							
CHKK	**Chushkaly**	**8.38**	**29**	*e*P	**Pn**	**Pn**	**04 56 08.6**	**-0.5**
	baz=28							
ZHN	**Zhinishke**	**8.47**	**37**	*e*PN	**Pn**	**Pn**	**04 56 09.5**	**-0.7**
ZHN	**Zhinishke**	**8.47**	**37**	*e*P	**Pn**	**Pn**	**04 56 09.6**	**-0.7**
	baz=37							
BTLS	**Baital**	**8.65**	**12**	*d i*PN	**Pn**	**Pn**	**04 56 12.1**	**-0.5**
BTLS				pmax		pmax		
	comp=Z,29nm,0.7s							
BTLS	**Baital**	**8.65**	**12**	⇓*i*P	**Pn**	**Pn**	**04 56 12.2**	**-0.4**
	comp=Z,29nm,0.7s,baz=12							
UZB	**Uzynbulak**	**8.75**	**39**	*e*PN	**Pn**	**Pn**	**04 56 12.8**	**-1.3**
UZB	**Uzynbulak**	**8.75**	**39**	*e*P	**Pn**	**Pn**	**04 56 12.8**	**-1.3**
	baz=39							
ARXS	**Arharly**	**9.02**	**31**	*i* PN	**Pn**	**Pn**	**04 56 17.1**	**-0.6**
PDGK	**Podgornoye**	**9.12**	**40**	P	**Pn**	**Pn**	**04 56 18.8**	**-0.3**
PDGK	**Podgornoye**	**9.12**	**40**	⇓P	**Pn**	**Pn**	**04 56 18.8**	**-0.3**
	comp=Z,133nm,0.9s							
PDGK				⇓S		**Sn**	**04 57 59.4**	**-0.6**
	comp=Z,54nm,0.9s							
NDI	**New Delhi**	**9.28**	**147**	*e*P	**Pn**	**Pn**	**04 56 18.7**	**-2.5**
AYAN	**Aya Nagar**	**9.41**	**148**	*e*P	**Pn**	**Pn**	**04 56 19.9**	**-3.1**
KUDL	**Kundal**	**9.45**	**152**	*e*P	**Pn**	**Pn**	**04 56 20.0**	**-3.6**
KUDL				*e*S		**Sn**	**04 58 00.3**	**-7.7**
SONA	**Sohna**	**9.59**	**149**	*e*P	**Pn**	**Pn**	**04 56 22.4**	**-3.1**
JASL	**Jaisalmer**	**9.66**	**183**	*e*P	**Pn**	**Pn**	**04 56 24.6**	**-1.9**
TDK	**Taldyqorghan**	**9.90**	**30**	*e*P	**Pn**	**Pn**	**04 56 28.5**	**-1.1**
TDK	**Taldyqorghan**	**9.90**	**30**	*e*P	**Pn**	**Pn**	**04 56 28.6**	**-1.1**
	baz=30							
PTH	**Pithoragarh**	**10.18**	**131**	*e*P	**Pn**	**Pn**	**04 56 30.5**	**-3.1**
LGTI	**Lohaghat**	**10.27**	**132**	*e*P	**Pn**	**Pn**	**04 56 31.1**	**-3.6**
AJM	**Ajmer**	**10.46**	**164**	*e*P	**Pn**	**Pn**	**04 56 35.2**	**-2.2**
GEYT	**Alibeck**	**10.71**	**281**	P	**Pn**	**Pn**	**04 56 36.4**	**-4.3**
	comp=Z,29nm,0.3s,baz=95,slow=16,SNR=84							
GEYT				S		**Sn**	**04 58 31.3**	**-7.4**
	comp=Z,30nm,0.3s,baz=95,slow=15,SNR=6.6							
GEYT				LR		LR	05 02 13.5	
	comp=Z,411nm,19.1s,baz=118,slow=45							
GEYT	**Alibeck**	**10.71**	**281**	Pn	**Pn**	**Pn**	**04 56 36.6**	**-4.1**
GYA0B	**ALIBECK ARRAY**	**10.71**	**281**	⇑P	**Pn**	**Pn**	**04 56 37.6**	**-3.1**
GYA0B				⇑S		**Sn**	**04 58 30.4**	**-8.2**
GYA0B	**ALIBECK ARRAY**	**10.71**	**281**	Pn	**Pn**	**Pn**	**04 56 36.6**	**-4.1**
OTUK	**Ortayu**	**11.65**	**3**	P	**Pn**	**Pn**	**04 56 51.3**	**-2.0**
OTUK	**Ortayu**	**11.65**	**3**	⇓P	**Pn**	**Pn**	**04 56 51.3**	**-2.0**
	comp=Z,138nm,0.8s							
JHNI	**Jhansi**	**12.65**	**149**	*e*P	**Pn**	**Pn**	**04 57 02.8**	**-4.2**
MAKZ	**Makanchi**	**12.86**	**34**	P	**Pn**	**Pn**	**04 57 07.3**	**-2.3**
MAKZ	**Makanchi**	**12.86**	**34**	⇓P	**Pn**	**Pn**	**04 57 06.9**	**-2.6**
	comp=Z,50nm,1.1s							
MAKZ	**Makanchi**	**12.86**	**34**		**Pn**	**Pn**	**04 57 07.3**	**-2.3**
PYUN	**Piuthan**	**12.92**	**128**	*e*P	**Pn**	Pn	04 57 05.5	-5.1
	comp=Z,904nm,0.5s							
MK31	**Makanchi Array**	**12.99**	**35**	P	**Pn**	**Pn**	**04 57 10.2**	**-1.1**
MK31	**Makanchi Array**	**12.99**	**35**	⇑P	**Pn**	**Pn**	**04 57 10.0**	**-1.3**
	comp=Z,16nm,0.7s,baz=210,slow=11,SNR=102							
MK31	**Makanchi Array**	**12.99**	**35**	Pn	**Pn**	**Pn**	**04 57 10.2**	**-1.1**
MKAR	**Makanchi Array**	**12.99**	**35**	LR	LR	LR	05 02 09.2	
	comp=Z,176nm,18.4s,baz=219,slow=37							
MKAR	**Makanchi Array**	**12.99**	**35**	P	**Pn**	**Pn**	**04 57 10.1**	**-1.2**
MKAR	**Makanchi Array**	**12.99**	**35**	Pn	**Pn**	**Pn**	**04 57 10.1**	**-1.2**
DANN	**Dangsing**	**13.25**	**125**	*e*P	**Pn**	**Pn**	**04 57 10.8**	**-4.2**
	comp=Z,584nm,0.3s							
KOLN	**Koldanda**	**13.54**	**127**	*e*P	**Pn**	**Pn**	**04 57 14.2**	**-4.5**
	comp=Z,543nm,0.4s							
VLK	**Valmikinagar**	**14.02**	**128**	*e*P	**Pn**	**Pn**	**04 57 20.8**	**-4.0**
GKN	**Gorkha**	**14.06**	**124**	*e*P	**Pn**	**Pn**	**04 57 21.5**	**-4.0**
	comp=Z,879nm,0.5s							
BHPL	**Bhopal**	**14.29**	**157**	*e*P	**Pn**	**Pn**	**04 57 24.7**	**-3.6**
BHPL				*i* x		**P**	**04 57 33.5**	**+0.7**
BHPL				*e*x		Sn	04 59 56.3	-9.4
ALBI	**Allahabad**	**14.33**	**139**	*e*x		Pn	04 57 23.3	-5.6
WMQ	**Urumqi**	**14.34**	**55**	*e*P	**Pn**	**Pn**	**04 57 29.1**	**+0.2**
WMQ				pmax		pmax		
	comp=Z,30nm,1.3s							
WMQ				pmax		pmax		
	comp=Z,180nm,6.3s							
WMQ				LR		LR		
	comp=Z,310nm,7.1s							
WMQ				LR		LR		
	comp=Z,410nm,4.9s							
KKN	**Kakani**	**14.63**	**123**	*e*P	**Pn**	**Pn**	**04 57 28.7**	**-4.2**
	comp=Z,645nm,0.5s							
DMN	**Daman**	**14.63**	**124**	*e*P	**Pn**	**Pn**	**04 57 28.6**	**-4.3**
	comp=Z,438nm,0.4s							
ZSN	**Zaisan**	**14.70**	**38**	*e*P	**Pn**	**Pn**	**04 57 31.9**	**-1.5**
ZSN	**Zaisan**	**14.70**	**38**	*e*P	**Pn**	**Pn**	**04 57 31.9**	**-1.5**
	baz=38							
PKIN	**Phulchoki**	**14.85**	**123**	*e*P		Pn	04 57 30.9	-4.8
	comp=Z,602nm,0.4s							
PKI	**Pulchoki**	**14.86**	**123**	*e*P		Pn	04 57 31.1	-4.8
	comp=Z,349nm,0.4s							
KURBB	**Kurchatov Arra**	**14.91**	**18**	P	**Pn**	**Pn**	**04 57 32.0**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=33							
KURBB				LR		LR	05 03 59.7	
	comp=Z,126nm,18.4s,baz=180,slow=40							
KURBB	**Kurchatov Arra**	**14.91**	**18**	⇓P	**Pn**	**Pn**	**04 57 32.4**	**-3.7**
	comp=Z,40nm,0.7s							
GUN	**Gumba**	**14.96**	**121**	*e*P		Pn	04 57 31.8	-5.4
	comp=Z,2μm,0.8s							
KURK	**Kurchatov**	**15.02**	**18**	*d i*P	**Pn**	**Pn**	**04 57 33.4**	**-4.0**
KURK	**Kurchatov**	**15.02**	**18**	P	**Pn**	**Pn**	**04 57 33.9**	**-3.5**
KURK	**Kurchatov**	**15.02**	**18**	⇓P	**Pn**	**Pn**	**04 57 33.3**	**-4.0**
	comp=Z,38nm,0.8s							
KURK	**Kurchatov**	**15.02**	**18**	Pn	**Pn**	**Pn**	**04 57 34.1**	**-3.3**
AB31	**Akbulak array**	**15.17**	**330**	P	**Pn**	**Pn**	**04 57 36.8**	**-2.5**
AB31	**Akbulak array**	**15.17**	**330**	P	**Pn**	**Pn**	**04 57 36.9**	**-2.5**
	comp=Z,12nm,0.3s,baz=138,slow=11,SNR=802							
AB31				⇓S		**Sn**	**05 00 17.6**	**-9.0**
	comp=Z,116nm,0.9s,baz=151,slow=23,SNR=10							
ABKAR	**Akbulak array**	**15.17**	**330**	Pn	**Pn**	**Pn**	**04 57 36.1**	**-3.3**
JBP	**Jabalpur**	**15.29**	**149**	⇓*e*P	**Pn**	**Pn**	**04 57 36.5**	**-4.6**
JBP				IAmb		IAmb	04 57 38.2	
	comp=Z,87nm,0.5s							
JBP				*e*S		Sn	05 00 17.1	-13
BVAR	**Borovoye Array**	**16.43**	**358**	P	**Pn**	**Pn**	**04 57 53.2**	**-2.0**
	comp=Z,7.4nm,0.3s,baz=153,slow=8.2,SNR=80							
BVAR				S		**Sn**	**05 00 59.8**	**+2.7**
	comp=Z,1.0nm,0.3s,baz=156,slow=22,SNR=5.3							
BRVK	**Borovoye**	**16.47**	**358**	P	**Pn**	**Pn**	**04 57 53.7**	**-1.9**
BRVK				pmax		pmax		
	comp=Z,71nm,1.1s							
BRVK	**Borovoye**	**16.47**	**358**	P	**Pn**	**Pn**	**04 57 54.1**	**-1.5**
BRVK	**Borovoye**	**16.47**	**358**	⇑P	**Pn**	**Pn**	**04 57 53.2**	**-2.4**
	comp=Z,61nm,1.1s							
BRVK	**Borovoye**	**16.47**	**358**	Pn	**Pn**	**Pn**	**04 57 53.7**	**-1.9**
BRVK				IAmb		IAmb	04 58 12.8	
	comp=Z,71nm,1.1s							
AKL	**Akola**	**16.58**	**161**	*e*P	**Pn**	**Pn**	**04 57 54.1**	**-3.1**
BANOM	**Banah**	**16.75**	**235**	P	**Pn**	**Pn**	**04 57 59.2**	**0.0**
	SNR=20							
BANOM	**Banah**	**16.75**	**235**	*i* P	**Pn**	**Pn**	**04 58 57.0**	**-5.5**
	SNR=16							
SHME	**Shamm**	**16.76**	**235**	P	**Pn**	**Pn**	**04 57 59.6**	**+0.2**
	SNR=17							
SHME	**Shamm**	**16.76**	**235**	*i* P	**P**	**P**	**04 57 60.0**	**-0.2**
	SNR=17							
AKTO	**Aktyubinsk**	**16.87**	**329**	P	**Pn**	**Pn**	**04 57 59.3**	**-1.3**
	comp=Z,8.7nm,0.3s,baz=138,slow=13,SNR=138							
AKTO				S		Sn	05 00 54.1	-13
	baz=47,slow=18,SNR=6.5							
AKTO				LR		LR	05 05 49.2	
	comp=Z,62nm,20.7s,baz=151,slow=41							
AKTO	**Aktyubinsk**	**16.87**	**329**	P	**Pn**	**Pn**	**04 57 58.7**	**-1.9**
AKTO	**Aktyubinsk**	**16.87**	**329**	⇓P	**Pn**	**Pn**	**04 57 58.8**	**-1.7**
	comp=Z,82nm,0.9s							
AKTO				⇓S		**Sn**	**05 00 59.3**	**-8.3**
	comp=Z,98nm,1.3s							
BLSP	**Bilaspur**	**17.15**	**144**	*e*P	**Pn**	**Pn**	**04 58 01.7**	**-2.5**
MASF	**Masafi**	**17.22**	**234**	P	**Pn**	**Pn**	**04 58 05.3**	**+0.2**
	SNR=11							
MSFE	**Esma-Masafi**	**17.22**	**234**	*i* P	**Pn**	**Pn**	**04 58 05.1**	**0.0**
	SNR=10							
GTK	**Tadong**	**17.23**	**118**	*e*P	**Pn**	**Pn**	**04 58 00.2**	**-5.0**
GTK				IAmb		IAmb	04 58 02.9	
	comp=Z,126nm,1.3s							
WSAR	**Wadi Sarin**	**17.32**	**223**	P	**Pn**	**Pn**	**04 58 04.0**	**-2.3**
	comp=Z,2.1nm,0.3s,baz=59,slow=14,SNR=19							
WSAR				LR		LR	05 06 21.2	
	comp=Z,103nm,18.2s,baz=58,slow=42							
DGZ	**Jazzator, Alta**	**17.48**	**37**	*c e*P	**P**	**P**	**04 58 06.7**	**-1.3**
UOSS	**Minazif**	**17.49**	**233**	P	**Pn**	**Pn**	**04 58 08.7**	**+0.4**
UOSS	**Minazif**	**17.49**	**233**	P	**P**	**P**	**04 58 05.8**	**-2.3**
UOSS				IAmb		IAmb	04 58 11.3	
	comp=Z,79nm,1.3s							
UOSS	**Minazif**	**17.49**	**233**	*i* P	**P**	**P**	**04 58 06.5**	**-1.6**
	SNR=10.0							
HATD	**Hatta, Dubai**	**17.62**	**232**	P	**Pn**	**Pn**	**04 58 10.8**	**+0.9**
	SNR=9.7							
HATD	**Hatta, Dubai**	**17.62**	**232**	*i* P	**Pn**	**Pn**	**04 58 10.1**	**+0.2**
	SNR=10							
WBK	**Wadi Bani Khal**	**17.65**	**221**	P	**Pn**	**Pn**	**04 58 12.3**	**+2.1**
	SNR=16							
ASHO	**Ashiyiah**	**17.76**	**232**	P	**Pn**	**Pn**	**04 58 12.3**	**+0.6**
	SNR=25							
ASHO	**Ashiyiah**	**17.76**	**232**	*i* P	**Pn**	**Pn**	**04 58 12.4**	**+0.6**
	SNR=35							
SMDO	**Samad**	**17.79**	**224**	P	**Pn**	**Pn**	**04 58 12.8**	**+0.8**
	SNR=7.5							
JLN	**Jalan Bani Buh**	**17.80**	**219**	P	**Pn**	**Pn**	**04 58 13.7**	**+1.7**
	SNR=11							
NAZ	**Nazwa, Dubai**	**17.80**	**234**	P	**Pn**	**Pn**	**04 58 12.6**	**+0.5**
	SNR=8.3							
NAZ	**Nazwa, Dubai**	**17.80**	**234**	*i* P	**Pn**	**Pn**	**04 58 12.9**	**+0.8**
	SNR=7.3							
HOQ	**Hoqain**	**17.81**	**227**	P	**Pn**	**Pn**	**04 58 13.3**	**+1.1**
BOK	**Bokaro**	**17.83**	**132**	*e*P	**P**	**P**	**04 58 08.2**	**-3.6**
BOK				IAmb		IAmb	04 58 10.8	
	comp=Z,53nm,0.5s							
FAQ	**Al Faqa, Dubai**	**18.02**	**233**	P	**Pn**	**Pn**	**04 58 15.0**	**+0.3**
	SNR=6.7							
FAQ	**Al Faqa, Dubai**	**18.02**	**233**	*i* P	**Pn**	**Pn**	**04 58 14.8**	**0.0**
	SNR=11							
POO	**Poona**	**18.13**	**173**	IAmb	IAmb	IAmb	04 58 17.8	
	comp=Z,56nm,0.9s							
JHSG	**JHARSUGUGA**	**18.27**	**141**	*e*P	**P**	**P**	**04 58 14.8**

MOKO MOKOCHONG 22.14 111 *eP* **P 04 58 58.8 +0.2**
KOHI KOHIMA 22.17 113 *eP* **P 04 58 59.2 +0.2**
URV Uravakonda 22.19 165 *eP* **P 04 59 00.0 +1.0**
URV *eS* **S 05 02 59.7 +2.1**
ONI Oni 22.33 294 IAmb IAmb 04 59 06.1
comp=Z,67nm,0.8s
NCK Nalchik 22.34 297⇑ *eP* **P 04 59 02.4 +1.9**
NCK pmax pmax
comp=Z,80nm,0.6s
GTA Gaotai 22.49 74 *eP* **P 04 59 03.1 +0.9**
GTA pP pP 04 59 22.8 +1.0
GTA sP sP 04 59 32.0 -1.9
GTA S **S 05 03 01.3 -1.3**
GTA pmax pmax
comp=Z,39nm,0.9s
GTA pmax pmax
comp=Z,130nm,4.1s
GTA LR LR
comp=Z,190nm,12.4s
GTA LR LR
comp=Z,170nm,13.4s
IMP Imphal 22.57 115 *eP* **P 04 59 04.0 +0.9**
KBZ Khabaz 22.87 297 P **P 04 59 06.4 +0.5**
comp=Z,20nm,0.7s,baz=113,slow=8.4,SNR=43
KBZ LR LR 05 09 48.5
comp=Z,153nm,18.2s,baz=104,slow=41
KBZ Khabaz 22.87 297 *d iP* **P 04 59 06.3 +0.4**
KBZ pmax pmax
comp=Z,29nm,0.9s
NEY Neytrino 22.93 296⇑ *eP* **P 04 59 09.7 +2.9**
NEY pmax pmax
comp=Z,14nm,1.1s
GOF Gofitskoye 23.00 300⇑ *eP* **P 04 59 09.1 +1.9**
GOF pmax pmax
comp=Z,71nm,0.6s
KVAR Kislovodsk Arr 23.05 297 P **P 04 59 08.1 +0.3**
comp=Z,10nm,0.6s,baz=270,slow=20,SNR=6.3
KVAR S **S 05 03 19.8 +8.4**
comp=Z,27nm,0.8s,baz=201,slow=8.8,SNR=5.6
KIV Kislovodsk 23.06 297 *eP* **P 04 59 09.3 +1.4**
KIV *eS* **S 05 03 13.9 +2.4**
KIV pmax pmax
comp=Z,39nm,1.1s
KIV MLR MLR
comp=Z,89nm,14.0s
KIV Kislovodsk 23.06 297 P **P 04 59 08.3 +0.4**
KIV Kislovodsk 23.06 297 *i P* **P 04 59 08.9 +1.0**
SNR=8.2
SIRT Sirnak 23.13 281 IAmb IAmb 04 59 21.9
comp=Z,80nm,0.8s
SHAO Shalim 23.18 221 P **P 04 59 11.5 +2.3**
GURO Guroymak-BITLI 23.35 284 P **P 04 59 12.0 +1.3**
DOK Doka 23.52 225 P **P 04 59 12.7 +0.5**
SNR=6.4
DMTO DMTO 23.80 222 P **P 04 59 15.5 +0.8**
SKHT Srikalahasti 23.94 160 *eP* **P 04 59 16.7 +0.7**
SKHT *eS* **S 05 03 27.9 +2.0**
WHFO Wadi Hawf 24.29 225 P **P 04 59 19.4 +0.2**
RBK Rabkut 24.38 223 P **P 04 59 20.4 +0.4**
ABTO Aybut 25.01 225 P **P 04 59 27.5 +1.8**
SOC Sochi 25.15 296 *eP* **P 04 59 27.1 +0.4**
SOC *e* 05 00 07.7
SOC *eS* **S 05 03 46.5 +1.6**
SOC MLR MLR
comp=Z,91nm,16.0s
VRH Novokhopyorsk 25.69 314 *eP* **P 04 59 32.3 +0.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
MOY Mondy 25.78 45 *eP* **P 04 59 38.2 +5.7**
RAYN Ar Rayn 25.87 247 P **P 04 59 33.5 -0.1**
RAYN pmax pmax
comp=Z,68nm,1.0s
RAYN Ar Rayn 25.87 247 P **P 04 59 33.8 +0.3**
RAYN Ar Rayn 25.87 247 P **P 04 59 33.5 -0.1**
RAYN IAmb IAmb 04 59 35.2
comp=Z,68nm,1.0s
RAYN Ar Rayn 25.87 247 *i P* **P 04 59 33.1 -0.4**
SNR=50
LZH Lanzhou 26.04 81 *eP* **P 04 59 37.3 +2.2**
LZH pP pP 04 59 58.8 +1.5
LZH sP sP 05 00 07.0 -1.8
LZH pmax pmax
comp=Z,35nm,1.0s
LZH pmax pmax
comp=Z,190nm,5.3s
LZH LR LR
comp=Z,400nm,14.6s
LZH LR LR
comp=Z,320nm,13.1s
LZH LR LR
comp=Z,410nm,14.6s
KIRV Kirov 26.30 334 P **P 04 59 37.4 +0.5**
comp=Z,25nm,0.6s,baz=135,slow=23,SNR=13
KIRV LR LR 05 10 36.3
comp=Z,140nm,20.5s,baz=139,slow=37
KIRV Kirov 26.30 334 *c iP* **P 04 59 38.3 +1.3**
ZAK Zakamensk 26.65 49 *eP* **P 04 59 41.3 +0.9**
ZAK pmax pmax
comp=Z,11nm,1.2s
VORD Divnogorie 27.04 312 *eP* **P 04 59 44.0 +0.4**
VORD pmax pmax
comp=Z,9.0nm,0.7s
VSR Storozhevoye 27.19 313 *eP* **P 04 59 44.4 -0.7**
VSR pmax pmax
comp=Z,40nm,1.3s
GAZ Gaziantep 27.30 282 P **P 04 59 46.5 +0.1**
CD2 Chengdu 27.38 92 *eP* **P 04 59 48.0 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
PZH PanZhiHua 27.61 103 P **P 04 59 52.8 +3.6**
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.8s
LPSR Galich'ya Gora 27.83 315 *eP* **P 04 59 51.3 +0.6**
LPSR pmax pmax
comp=Z,30nm,0.9s
SONM Songino Array 27.98 55 P **P 04 59 51.7 -0.6**
comp=Z,2.7nm,0.5s,baz=251,slow=13,SNR=6.3
SONM Songino Array 27.98 55 P **P 04 59 53.5 +1.2**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 27.98 55 P **P 04 59 53.5 +1.2**
ULN Ulaanbaatar 28.42 55⇓ *iP* **P 04 59 57.5 +1.2**
ULN pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 28.42 55 P **P 04 59 56.9 +0.6**
KMI Kunming 29.07 104⇑ P **P 05 00 02.9 +0.6**
KMI pP pP 05 00 21.4 -3.2
KMI sP sP 05 00 32.3 -3.5
KMI PcP **PcP 05 03 12.1 +3.8**
KMI ScP **ScP 05 06 45.3 +3.8**
KMI pmax pmax
comp=Z,8.0nm,0.7s
MMAI Mount Meron Ar 29.70 274 P **P 05 00 08.8 +1.1**
comp=Z,1.1nm,0.4s,baz=70,slow=9.8,SNR=13
MMAI LR LR 05 13 32.3
comp=Z,67nm,20.8s,baz=208,slow=39
BR131 Keskin Array S 29.75 288 *ceP* **P 05 00 09.6 +1.5**
BRTR Keskin Array B 29.75 288 P **P 05 00 08.9 +0.8**
comp=Z,5.3nm,0.6s,baz=100,slow=8.4,SNR=23
BRTR LR LR 05 16 07.4
comp=Z,50nm,19.8s,baz=74,slow=44
BRTR Keskin Array B 29.75 288 *i P* **P 05 00 09.6 +1.5**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 29.75 288 P **P 05 00 08.1 0.0**
MOS Moscow 29.80 321 *eP* **P 05 00 07.8 -0.4**
MOS *e*PP* **pP 05 00 34.0 +4.0**
MOS *e* 05 01 06.9
MOS *eS* **S 05 04 52.1 -5.8**
MOS pmax pmax
comp=Z,52nm,1.2s
PRGR Permogore 29.82 335 *eP* **P 05 00 08.3 0.0**
PRGR *e*PP* **pP 05 00 32.5 +2.2**
PRGR *e* 05 01 07.4
PRGR pmax pmax
comp=Z,50nm,0.9s
CHTO Chiang Mai 29.95 119 P **P 05 00 11.0 +1.1**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 29.95 119 P **P 05 00 11.0 +1.1**
OBN Obninsk 30.09 319 LR LR 05 12 43.8
comp=Z,37nm,19.2s,baz=146,slow=37
OBN Obninsk 30.09 319 *c iP* **P 05 00 11.8 +1.1**
OBN *e* 05 01 11.4
OBN pmax pmax
comp=Z,36nm,0.6s
OBN MLR MLR
comp=Z,94nm,16.0s
OBN Obninsk 30.09 319 P **P 05 00 10.7 -0.1**
GHAJ Ghor Haditha 30.11 270 P **P 05 00 11.2 0.0**
CM31 Chiang Mai Arr 30.19 119 P **P 05 00 12.1 +0.1**
CM31 IAmb IAmb 05 00 29.0
comp=Z,19nm,1.1s
CMAR Chiang Mai Arr 30.19 119 P **P 05 00 11.6 -0.5**
comp=Z,11nm,0.9s,baz=307,slow=8.8,SNR=46
CMAR LR LR 05 15 07.9
comp=Z,50nm,20.3s,baz=300,slow=42
CMAR Chiang Mai Arr 30.19 119 *i P* **P 05 00 12.6 +0.6**
CMAR pmax pmax
comp=Z,11nm,0.9s
ANTO Ankara 30.38 288 P **P 05 00 14.7 +1.1**
ANTO pmax pmax
comp=Z,41nm,1.4s
ANTO Ankara 30.38 288 P **P 05 00 14.7 +1.1**
ANTO IAmb IAmb 05 00 16.8
comp=Z,41nm,1.4s
PALK Pallekele 30.40 162 P **P 05 00 14.2 +0.4**
comp=Z,10nm,0.6s,baz=85,slow=11,SNR=6.8
PALK LR LR 05 13 07.7
comp=Z,126nm,19.0s,baz=104,slow=38
PALK Pallekele 30.40 162 P **P 05 00 14.2 +0.4**
PALK IAmb IAmb 05 00 15.2
comp=Z,14nm,0.8s
XAN Xi'an 30.56 84 P **P 05 00 15.8 +0.6**
XAN pP pP 05 00 36.6 -1.1
XAN sP sP 05 00 50.1 +1.1
XAN pmax pmax
comp=Z,9.0nm,0.8s
EIL Elat 31.20 268 LR LR 05 13 25.2
comp=Z,83nm,20.6s,baz=68,slow=37
HHC Hu-ho-hao-te 31.39 70 *eP* **P 05 00 24.8 +2.3**
HHC S **S 05 05 26.8 +3.5**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,170nm,6.6s
GYA Guiyang 31.52 99 ⇓P **P 05 00 25.6 +1.8**
GYA pmax pmax
comp=Z,17nm,1.0s
KLMR Klimovskoe 31.57 330 *eP* **P 05 00 23.4 -0.3**
KLMR *e*PP* **pP 05 00 45.4 -0.1**
KLMR *e* 05 01 30.5
KLMR pmax pmax
comp=Z,24nm,0.8s
KLMR Klimovskoe 31.57 330 *eP* **P 05 00 23.4 -0.3**
KLMR AMP 05 00 26.1
comp=Z,24nm,0.8s
KLMR *e*pP **pP 05 00 45.5 -0.1**
KLMR *e*PP **PnPn 05 01 30.6 0.0**
SLVN Son La 32.03 109 P **P 05 00 28.8 +0.5**
SLVN IAmb IAmb 05 00 30.8
comp=Z,24nm,1.2s
PURM Purcari 32.32 301 ⇑P **P 05 00 32.2 +1.8**
TLCR 33.02 298 ⇑P **P 05 00 38.6 +2.0**
MILM Milestii Mici 33.06 302 ⇑*iP* **P 05 00 38.0 +1.1**
comp=Z,70nm,1.0s
MILM Milestii Mici 33.06 302 *c iP* **P 05 00 38.0 +1.1**
MILM pmax pmax
comp=Z,70nm,1.0s
AKASG Malin Array Be 33.16 309 P **P 05 00 38.5 +0.8**
comp=Z,12nm,0.5s,baz=82,slow=6.9,SNR=55
AKASG LR LR 05 15 23.8
comp=Z,125nm,19.0s,baz=88,slow=38
AKASG Malin Array Be 33.16 309 IAmb IAmb 05 00 41.5
comp=Z,38nm,0.9s
AKBB Malin Array Si 33.16 309 *c iP* **P 05 00 38.4 +0.7**
AKBB pmax pmax
comp=Z,23nm,0.8s
AKBB Malin Array Si 33.16 309 IAmb IAmb 05 00 40.9
comp=Z,20nm,0.7s
LYN LuoYang 33.25 81 *eP* **P 05 00 41.4 +2.7**
LYN S **S 05 05 51.5 -0.6**
LYN pmax pmax
comp=Z,10.0nm,0.8s
TPGR Topolog 33.31 298 ⇑P **P 05 00 40.9 +1.7**
SORM Soroca 33.44 304 ⇑P **P 05 00 41.3 +1.1**
CFR Carcaliu 33.51 298 ⇑P **P 05 00 42.2 +1.5**
VLDR Vladesti 33.54 300 ⇑P **P 05 00 43.2 +2.1**
TATR Tatarca 33.56 299 ⇓P **P 05 00 43.6 +2.3**
SCTR Scanteiesti 33.60 299 ⇑P **P 05 00 44.0 +2.4**
VARL Varlezi 33.70 300 ⇑P **P 05 00 45.0 +2.5**
ICOR Ion Corvin 33.77 297 ⇑P **P 05 00 45.1 +2.0**
BIR Birlad 33.86 300 ⇓P **P 05 00 46.9 +3.0**
NRIK Noril'sk 33.96 10 P **P 05 00 45.7 +1.3**
comp=Z,14nm,0.7s,baz=202,slow=5.4,SNR=19
NRIK Noril'sk 33.96 10 *c iP* **P 05 00 45.2 +0.8**
NRIK pmax pmax
comp=Z,14nm,0.7s
NRIK Noril'sk 33.96 10 P **P 05 00 44.8 +0.3**
NRIK IAmb IAmb 05 00 46.4
comp=Z,14nm,0.7s
ODBI Odobesti 34.26 300 ⇑P **P 05 00 50.6 +3.3**
HNS HongShan 34.33 75 ⇓P **P 05 00 49.6 +1.6**
HNS pmax pmax
comp=Z,11nm,1.0s
VRI Vrincioaia 34.49 300 ⇓P **P 05 00 52.0 +2.7**
TESR Tescani 34.54 301 ⇓P **P 05 00 51.5 +1.8**
PLOR Plostina 34.54 300 ⇑P **P 05 00 52.7 +2.9**
ISR Istrita 34.63 298 ⇑P **P 05 00 53.9 +3.2**
MNK Minsk 34.68 315 *i P* **P 05 00 52.4 +1.6**
MNK *i *PP* **pP 05 01 15.1 +2.3**
MNK *i* 05 02 11.9
MNK *i* 05 03 23.8
MNK *i* S **S 05 06 15.3 +1.6**
MNK *i *SS* **sS 05 06 55.8 +3.8**
MNK *i* SS **SnSn 05 08 40.5 +4.9**
MNK *i* 05 11 03.3
MNK pmax pmax
comp=N,18nm,1.1s
MNK pmax pmax
comp=E,6.0nm,1.2s
MNK pmax pmax
comp=Z,40nm,1.1s
MNK MLR MLR
comp=Z,148nm,19.0s
MNK MLR MLR
comp=E,16nm,15.0s
MNK MLR MLR
comp=N,91nm,17.0s
MNK Minsk 34.68 315 *i P* **P 05 00 52.5 +1.6**
comp=E,6.0nm,1.2s
MNK *i P* **P 05 00 52.5 +1.6**
comp=N,18nm,1.1s
MNK *i P* **P 05 00 52.5 +1.6**
comp=Z,40nm,1.1s,baz=281
MNK *i* pP **pP 05 01 15.2 +2.3**
MNK *i* PP **PP 05 02 11.9 +0.9**
MNK *i* S **S 05 06 15.4 +1.7**
MNK *i* sS **sS 05 06 55.9 +3.9**
MNK *i* SS **SnSn 05 08 40.6 +5.0**
MNK *i* LR LR 05 15 14.4
MNK *i* LRM MLR 05 16 31.6
comp=Z,148nm,18.8s
MNK *i* LRM MLR 05 16 45.3
comp=E,16nm,15.2s
MNK *i* LRM MLR 05 16 51.8
comp=N,91nm,16.6s
RAZG Razgrad 34.74 296 ⇓P **P 05 00 53.9 +2.4**
NEHR Nehoiu 34.80 299 ⇓P **P 05 00 55.4 +3.3**
PRAR RASCA 34.84 302 ⇑P **P 05 00 53.6 +1.3**
COVR Voineasa-Covas 34.85 300 ⇓P **P 05 00 55.3 +2.8**
SECR 34.97 298 ⇓P **P 05 00 56.6 +3.1**
PUL Pulkovo 35.03 325⇑ *eP* **P 05 00 55.8 +2.0**
PUL pmax pmax
comp=Z,56nm,1.2s
BOD Bodaibo 35.04 39 *eP* **P 05 00 53.7 -0.2**
BOD pmax pmax
comp=Z,12nm,1.6s
MLR Muntele Rosu 35.04 299 ⇓P **P 05 00 57.3 +3.0**
OZUR 35.14 300 ⇑P **P 05 00 57.1 +2.1**
NACGM Naroch 35.39 315 *i P* **P 05 00 58.5 +1.5**
DOPR Dopca 35.42 300 ⇓P **P 05 01 00.1 +2.8**
IDID Didziasalis 35.51 316 *eP* **P 05 00 59.8 +1.9**
BUR01 Bucovina Ar. S 35.53 303 ⇓P **P 05 00 60.4 +1.6**
BURAR Bucovina Array 35.53 303 ⇓P **P 05 00 60.0 +1.6**
BURAR Bucovina Array 35.53 303 IAmb IAmb 05 01 01.4
comp=Z,18nm,0.8s
BUR08 Bucovina Ar. S 35.54 303 IAmb IAmb 05 01 01.2
comp=Z,12nm,0.8s
COPA Copaceanca 35.63 297 ⇑P **P 05 01 01.9 +2.8**
MTUR Matau 35.67 299 ⇓P **P 05 01 02.2 +2.6**
VOIR 35.67 299 ⇑P **P 05 01 01.5 +1.8**
IIGN Ignalina 35.80 316 *eP* **P 05 01 02.2 +1.8**
ARR Arges 35.97 299 ⇓P **P 05 01 04.3 +2.1**
ARCR ARCALIA 36.12 302 ⇓P **P 05 01 06.0 +2.7**
VSU Vasula 36.33 321 *c iP* **P 05 01 05.5 +0.7**
VSU pmax pmax
comp=Z,113nm,0.9s
VSU Vasula 36.33 321 *eP* **P 05 01 05.7 +0.8**
LOT Lotru 36.58 299 ⇑P **P 05 01 09.2 +1.9**
CJR Cluj-Napoca 36.64 301 ⇓P **P 05 01 10.5 +2.7**
CBBR Cluj-Babes-Bol 36.67 301 ⇑P **P 05 01 10.9 +2.9**
BMR Baia Mare 36.69 303 ⇓P **P 05 01 10.4 +2.3**
SRE Strehaia 37.03 298 ⇓P **P 05 01 12.8 +1.8**
MESR Meseseni 37.07 302 ⇓P **P 05 01 14.3 +2.9**
PABE Paberze 37.09 316 *eP* **P 05 01 13.1 +1.7**
DEV Deva 37.16 300 ⇓P **P 05 01 14.8 +2.7**
VTS Vitosha 37.22 294 ⇑P **P 05 01 14.9 +2.1**
VTS Vitosha 37.22 294 IAmb IAmb 05 01 16.0
comp=Z,20nm,0.9s
KWP Kalwaria Pacla 37.24 306 *eP* **P 05 01 14.7 +1.9**
DRGR 37.25 301 ⇓P **P 05 01 15.3 +2.3**
PUNG Punghina 37.26 297 ⇑P **P 05 01 15.1 +2.1**
GZR Gura Zlata 37.28 299 ⇓P **P 05 01 14.9 +1.7**
SUW Suwalki 37.30 313 *eP* **P 05 01 14.1 +0.9**
SUW Suwalki 37.30 313 *eP* **P 05 01 14.1 +0.9**
TRPA Tarpa 37.33 304 ⇓P **P 05 01 15.3 +1.8**
TRPA Tarpa 37.33 304 P **P 05 01 15.8 +2.2**
IDI Anoyia 37.43 282 P **P 05 01 15.8 +1.2**
comp=Z,14nm,0.8s,baz=126,slow=16,SNR=8.1
LVZ Lovozero 37.49 338⇑ *eP* **P 05 01 15.5 +0.8**
LVZ pmax pmax
comp=Z,83nm,2.4s
LVZ Lovozero 37.49 338 P **P 05 01 15.8 +1.1**
LVZ IAmb IAmb 05 01 33.6
comp=Z,16nm,1.0s
UZH Uzhgorod 37.50 304 *d iP* **P 05 01 16.4 +1.5**
HERR Herculane 37.57 298 ⇓P **P 05 01 16.9 +1.3**
ZAPS Zavoj 37.58 296 *eP* **P 05 01 17.9 +2.2**
FIA1 FINESS Array S 37.60 326 P **P 05 01 15.9 +0.4**
FIA1 IAmb IAmb 05 01 17.7
comp=Z,27nm,0.8s
FINES FINESS Array B 37.60 326 P **P 05 01 16.9 +1.4**
comp=Z,16nm,0.6s,baz=116,slow=9.3,SNR=90
FINES LR LR 05 19 14.8
comp=Z,106nm,18.8s,baz=82,slow=40
FINES FINESS Array B 37.60 326 P **P 05 01 17.0 +1.4**
APA Apatity 37.68 337 ⇓*iP* **P 05 01 17.4 +1.2**
APA pmax pmax
comp=Z,5.0nm,0.9s
APA MLR MLR
comp=Z,800nm,14.0s
BOSS Bosilegrad 37.79 294 *eP* **P 05 01 18.8 +1.3**
ZAGS Zajecar 37.80 297 *eP* **P 05 01 18.9 +1.3**
SRIT Nakonsritamara 37.84 130 P **P 05 01 18.2 +0.1**
SRIT IAmb IAmb 05 01 19.4
comp=Z,18nm,0.7s
MTSE Matsula 37.87 321 *eP* **P 05 01 19.1 +1.3**
SIRR Siria 38.00 301 ⇓P **P 05 01 21.9 +2.7**
CRVS Cervenica-Dubn 38.05 305 *eP* **P 05 01 22.8 +3.2**
CRVS Cervenica-Dubn 38.05 305 *eP* **P 05 01 22.8 +3.2**
BZS Buzias 38.07 300 ⇑P **P 05 01 21.9 +2.0**
MDVR Moldovita 38.08 298 ⇑P **P 05 01 21.8 +1.8**
PRVS Prvonek 38.08 295 *eP* **P 05 01 21.1 +1.1**
KUBS Kucevo 38.14 298 *eP* **P 05 01 21.4 +1.0**
BOVS Bovan 38.20 296 ⇑P **P 05 01 22.4 +1.5**
BOVS Bovan 38.20 296 *eP* **P 05 01 22.1 +1.1**
BARS Barje 38.23 295 *eP* **P 05 01 18.2 -3.0**
BARS Barje 38.23 295 *eP* **P 05 01 22.4 +1.2**
PBUR Paburge 38.31 316 *eP* **P 05 01 23.3 +1.6**
SLIT Slitere, Latvi 38.41 319 *eP* **P 05 01 23.0 +0.5**
SELS Selova 38.68 296 *eP* **P 05 01 25.9 +0.9**
NIE Niedzica 38.80 306 *eP* **P 05 01 29.0 +3.1**
FNA Florina 38.88 292 IAmb IAmb 05 01 28.7
comp=Z,18nm,0.9s
GRUS Gruza 38.88 297 *eP* **P 05 01 28.3 +1.6**
BSZH Besenyszg 38.89 302 P **P 05 01 28.8 +2.2**
TRUS Trudelj 39.07 297 *eP* **P 05 01 29.2 +1.0**
NJ2 Nanjing 39.10 82 *eP* **P 05 01 28.9 +0.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KLNR Kaliningrad 39.10 314 ⇓*eP* **P 05 01 31.3 +3.0**
KLNR pmax pmax
comp=Z,153nm,1.6s
PSZ Piszkesteto 39.12 303 ⇑P **P 05 01 31.0 +2.4**
PSZ Piszkesteto 39.12 303 IAmb IAmb 05 01 31.9
comp=Z,16nm,1.0s
PSZ Piszkesteto 39.12 303 P **P 05 01 30.4 +1.7**
OJC Ojcow 39.13 307 *eP* **P 05 01 30.0 +1.4**
OJC Ojcow 39.13 307 IAmb IAmb 05 01 31.1
comp=Z,26nm,1.0s
IVAS Ivanjica 39.33 297 *eP* **P 05 01 31.3 +0.8**
LANS Liptovska Anna 39.35 305 *eP* **P 05 01 33.1 +2.5**
LANS Liptovska Anna 39.35 305 *eP* **P 05 01 33.1 +2.5**
DIVS Divibare 39.38 297 IAmb IAmb 05 01 33.7
comp=Z,38nm,1.0s
DIVS Divibare 39.38 297 *eP* **P 05 01 32.1 +1.2**
FRGS Fruska Gora 39.38 299 ⇑P **P 05 01 31.9 +1.1**
FRGS Fruska Gora 39.38 299 *eP* **P 05 01 31.3 +0.5**
SJES Sjenica 39.50 296 *eP* **P 05 01 33.2 +1.2**
BUD Budapest 39.73 303 P **P 05 01 35.4 +1.8**
VYHS Vyhne 39.80 304 *eP* **P 05 01 36.1 +1.9**
VYHS pmax pmax
comp=Z,18nm,1.1s
VYHS Vyhne 39.80 304 *eP* **P 05 01 36.1 +1.9**
BBLS Lazići 39.83 297 *eP* **P 05 01 34.3 -0.3**
KOLL Kolacno 40.08 304 *eP* **P 05 01 39.0 +2.5**
MORH Mrgy, Hungar 40.09 301 P **P 05 01 38.3 +1.7**
AAL Aland 40.10 323 *eP* **P 05 01 37.2 +0.7**
SRO2 Moca 40.13 303 *eP* **P 05 01 38.8 +1.9**
SRO2 pmax pmax
comp=Z,61nm,0.9s
SRO2 Moca 40.13 303 *eP* **P 05 01 38.8 +1.9**
PDG Podgorica 40.15 295 ⇓P **P 05 01 38.4 +1.2**
PDG Podgorica 40.15 295 *eP* **P 05 01 37.5 +0.3**
SRO Srobarova 40.18 303 *eP* **P 05 01 40.2 +2.8**
SRO pmax pmax
comp=Z,49nm,0.9s
SRO Srobarova 40.18 303 *eP* **P 05 01 40.2 +2.8**
TIH Tihany 40.54 302 P **P 05 01 41.0 +0.7**
JAVC Velka Javorina 40.55 305 *eP* **P 05 01 43.2 +2.7**
MORC Moravsky Berou 40.59 306 ⇓P **P 05 01 42.9 +2.1**
MORC Moravsky Berou 40.59 306 *eP* **P 05 01 42.5 +1.7**
MORC Moravsky Berou 40.59 306 IAmb IAmb 05 01 43.8
comp=Z,17nm,0.8s
SMOL Smolenice 40.73 304 *eP* **P 05 01 44.1 +2.2**
SMOL pmax pmax
comp=Z,6.0nm,0.8s
SMOL Smolenice 40.73 304 *eP* **P 05 01 44.1 +2.2**
MPLH Magyarpolny 40.76 302 P **P 05 01 43.5 +1.4**
TREB Trebinje 40.77 296 *eP* **P 05 01 42.5 +0.2**
GKP Gorka Klasztor 40.77 312 *eP* **P 05 01 44.0 +1.9**
MODS Modra-Piesok 40.84 304 *eP* **P 05 01 45.7 +2.9**
MODS pmax pmax
comp=Z,19nm,1.2s
MODS Modra-Piesok 40.84 304 *eP* **P 05 01 45.7 +2.9**
ZST Bratislava 40.97 304 *eP* **P 05 01 46.0 +2.2**
ZST Bratislava 40.97 304 *eP* **P 05 01 46.0 +2.2**
KRLC Kraliky 41.07 307 *eP* **P 05 01 46.5 +1.8**
KRLC Kraliky 41.07 307 *eP* **P 05 01 46.5 +1.8**
ARA0 ARCESS Array S 41.18 337 *eP* **P 05 01 46.5 +1.2**
ARCES ARCESS Array B 41.18 337 P **P 05 01 46.7 +1.4**
comp=Z,7.0nm,0.6s,baz=118,slow=9.1,SNR=90
ARCES LR LR 05 19 24.9
comp=Z,206nm,19.4s,baz=119,slow=37
ARCES ARCESS Array B 41.18 337 P **P 05 01 45.0 -0.3**
ARCES pmax pmax
comp=Z,9.0nm,0.8s
ARCES ARCESS Array B 41.18 337 P **P 05 01 45.0 -0.3**
UPP Uppsala 41.21 322 *eP* **P 05 01 46.7 +1.1**
VRAC Vranov 41.23 306 ⇑P **P 05 01 48.2 +2.2**
VRAC Vranov 41.23 306 *eP* **P 05 01 48.0 +2.0**
CN2 Changchun 41.24 63 *eP* **P 05 01 44.3 -1.8**
BEHE Becsehely 41.35 301 P **P 05 01 49.0 +2.0**
DPC Dobruska-Polom 41.35 307 *eP* **P 05 01 49.3 +2.3**
DPC Dobruska-Polom 41.35 307 *eP* **P 05 01 49.3 +2.3**
KSP Ksiaz 41.35 308 *eP* **P 05 01 48.5 +1.6**
KRUC Moravsky 41.38 305 *eP* **P 05 01 49.0 +1.8**
SOP Sopron 41.38 303 P **P 05 01 49.0 +1.8**

OSTC **Ostas** 41.41 308 *eP* P 05 01 49.4 +1.9
CHVC **Chvalec** 41.52 308 *eP* P 05 01 50.3 +2.0
UPC **Upice** 41.55 308 *eP* P 05 01 50.6 +2.1
UPC **Upice** 41.55 308 *eP* P 05 01 50.6 +2.1
KTK1 **Kautokeino** 41.66 336 *eP* P 05 01 50.1 +0.8
KOGS **Kog** 41.71 301 *i* P P 05 01 51.4 +1.5
comp=Z,68nm,1.0s
CONA **Conrad Observa** 41.82 304 *i* P P 05 01 52.5 +1.6
comp=Z,53nm,1.2s,SNR=22
IPM **Ipoh** 41.95 133 P P 05 01 51.5 -0.7
IPM IAmb IAmb 05 01 53.1
comp=Z,30nm,0.9s
PSI **Prapat** 42.11 137 LR LR 05 21 38.4
comp=Z,21nm,18.8s,baz=274,slow=39
ARSA **Arzberg** 42.12 303 *i* P P 05 01 54.8 +1.5
comp=Z,13nm,1.1s,SNR=7.6
BSD **Bornholm Skovb** 42.19 314 *eP* P 05 01 54.0 +0.3
HAMF **Hammerfest** 42.26 338 *eP* P 05 01 55.5 +1.5
PRU **Pruhonice** 42.52 307 *eP* P 05 01 58.6 +2.2
PRU **Pruhonice** 42.52 307 *eP* P 05 01 58.6 +2.2
SOKA **Soboth** 42.52 302 *i* P P 05 01 58.5 +1.9
comp=Z,34nm,0.7s,SNR=18
GSI **Gunungsitoli** 42.64 139 P P 05 01 58.2 +0.4
CKRC **Cesky Krumlov** 42.77 305 *eP* P 05 02 00.4 +1.9
JETT **Jettan, Norway** 42.81 336 *eP* P 05 02 00.9 +2.3
DEL **Delary** 42.83 316 *i* P P 05 01 59.0 +0.1
BRG **Berggiesshubel** 42.84 308 *i* P P 05 02 00.8 +1.8
BRG Amp 05 02 02.0
comp=Z,27nm,0.9s
BRG *ex* x 05 02 15.9
BRG Amp 05 02 16.8
comp=Z,10nm,1.1s
BRG *ex* x 05 02 25.7
BRG Amp 05 02 26.9
comp=Z,8.0nm,1.1s
BRG *ex* x 05 04 12.0
BRG Amp 05 04 13.6
comp=Z,6.1nm,1.1s
BRG **Berggiesshubel** 42.84 308 *i* P P 05 02 00.8 +1.8
BRG *e* 05 02 25.6
BRG pmax pmax
comp=Z,27nm,0.9s
BRG **Berggiesshubel** 42.84 308 *eP* P 05 02 00.9 +1.8
comp=Z,27nm,0.9s,baz=84,slow=7.9
RUE **Ruedersdorf** 42.87 311 *eP* P 05 02 00.3 +1.2
comp=Z,31nm,1.1s,baz=84,slow=7.9
OBKA **Obir** 42.87 302 *i* P P 05 02 01.3 +1.8
comp=Z,22nm,1.0s,SNR=9.6
MOA **Molln** 42.90 304 *i* P P 05 02 01.0 +1.4
comp=Z,27nm,0.9s,SNR=15
LJU **Ljubljana** 42.95 301 *i* P P 05 02 01.9 +1.9
comp=Z,61nm,0.8s
LUNU **Lund** 43.04 315 *i* P P 05 02 01.1 +0.6
GEC2 **GERESS Array S** 43.16 305 *eP* P 05 02 03.3 +1.5
comp=Z,12nm,1.1s,baz=84,slow=7.9
GEC2 **GERESS Array S** 43.16 305 P P 05 02 01.8 0.0
GERES **GERESS Array B** 43.16 305 P P 05 02 03.2 +1.4
comp=Z,3.0nm,0.6s,baz=86,slow=7.0,SNR=22
GERES PP PcP 05 03 49.7 0.0
comp=Z,1.7nm,0.7s,baz=96,slow=7.2,SNR=4.0
FBE **Freiberg** 43.21 308 *eP* P 05 02 03.9 +1.9
comp=Z,32nm,0.9s,baz=84,slow=7.9
KHC **Kasperske Hory** 43.22 306⇑ *eP* P 05 02 03.8 +1.7
KHC pmax pmax
comp=Z,32nm,1.0s
KHC **Kasperske Hory** 43.22 306 *eP* P 05 02 03.9 +1.8
KHC *es*P sP 05 02 35.5 +0.3
KHC **Kasperske Hory** 43.22 306 IAmb IAmb 05 02 05.0
comp=Z,14nm,1.0s
TRO **Tromso** 43.32 336 *eP* P 05 02 03.5 +0.9
CLL **Collm** 43.41 309 *i* P P 05 02 04.2 +0.6
CLL pmax pmax
comp=Z,17nm,1.0s
CLL **Collm** 43.41 309 *i* P P 05 02 04.2 +0.6
comp=Z,17nm,1.0s
CLL *eP*P PP 05 03 45.0 -1.0
CLL *es*PP 05 04 17.0
CLL *es*SS SS 05 11 42.0 +0.4
CLL **Collm** 43.41 309 *eP* P 05 02 04.7 +1.1
comp=Z,16nm,1.0s,baz=84,slow=7.9
CLL **Collm** 43.41 309 IAmb IAmb 05 02 05.9
comp=Z,13nm,0.9s
CADS **Cadrg** 43.47 301 *i* P P 05 02 05.5 +1.3
MYKA **Terra Mystica** 43.48 302 *i* P P 05 02 06.0 +1.7
comp=Z,12nm,0.6s
CEL **Celeste** 43.58 290 P P 05 02 03.3 -1.9
CEL IAmb IAmb 05 02 07.5
comp=Z,58nm,1.5s
KBA **Koelnbreinsper** 43.61 303 *eP* P 05 02 06.8 +1.2
comp=Z,11nm,0.7s,SNR=9.3
YAK **Yakutsk** 43.67 35 P P 05 02 05.4 -0.2
comp=Z,14nm,0.5s,baz=179,slow=2.0,SNR=8.3
YAK LR LR 05 21 06.5
comp=Z,51nm,21.6s,baz=267,slow=37
YAK **Yakutsk** 43.67 35 *eP* P 05 02 05.3 -0.2
YAK *e**PP pP 05 02 29.7 +0.9
YAK *e* 05 03 44.7
YAK *e* 05 03 52.7
YAK *eS* S 05 08 26.4 -1.8
YAK *e**SS sS 05 09 09.0 +1.6
YAK *e* 05 11 56.7
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,192nm,4.3s
YAK pmax pmax
comp=N,94nm,4.4s
YAK pmax pmax
comp=E,113nm,4.2s
YAK smax smax
comp=N,17nm,1.0s
YAK smax smax
comp=E,18nm,1.4s
WET **Wettzell** 43.67 306 *eP* P 05 02 07.4 +1.6
comp=E,9.9nm,1.2s,baz=84,slow=7.9
TANN **Tannenbergstha** 43.82 308 *eP* P 05 02 08.6 +1.6
comp=E,11nm,1.0s,baz=84,slow=7.9
NKC **Novy Kostel** 43.84 307 *eP* P 05 02 09.1 +2.0
NKC **Novy Kostel** 43.84 307 *eP* P 05 02 09.1 +2.0
PAOL **Paolisi** 43.87 294 IAmb IAmb 05 02 09.7
comp=Z,19nm,0.8s
FAUS **Fauske** 43.88 332 *eP* P 05 02 08.3 +1.2
WERN **Wernitzgruen** 43.88 307 *eP* P 05 02 09.2 +1.8
comp=Z,12nm,1.3s,baz=84,slow=7.9
RJOB **Jochberg** 43.89 304 *eP* P 05 02 09.0 +1.4
comp=Z,25nm,1.0s,baz=84,slow=7.9
MOR8 **Moi Rana** 43.90 331 *eP* P 05 02 07.8 +0.4
GUNZ **Gunzen** 43.90 308 *eP* P 05 02 09.3 +1.7
comp=Z,14nm,1.0s,baz=84,slow=7.9
WERD **Werda** 43.91 308 *eP* P 05 02 09.4 +1.7
comp=Z,14nm,1.1s,baz=84,slow=7.9
PLN **Plauen** 44.00 308 *eP* P 05 02 09.6 +1.2
comp=Z,9.2nm,1.0s,baz=84,slow=7.9
ROTZ **Rotzenmuhle** 44.04 307 *eP* P 05 02 11.2 +2.4
comp=Z,7.4nm,1.4s,baz=84,slow=7.9
STEI **Steigen** 44.04 333 *eP* P 05 02 10.7 +2.3
MANZ **Manzenberg** 44.08 307 *eP* P 05 02 11.2 +2.2
comp=Z,5.2nm,1.1s,baz=84,slow=7.9
NEUB **Neuenburg** 44.18 309 *eP* P 05 02 11.4 +1.7
comp=Z,30nm,0.9s,baz=84,slow=7.9
ABTA **Abfaltersbach** 44.23 302 *i* P P 05 02 11.1 +0.7
comp=Z,10nm,0.7s,SNR=6.9
NC405 **NORSAR Array S** 44.28 323 P P 05 02 09.3 -1.2
NC602 **NORSAR Array S** 44.33 323 *eP* P 05 02 11.2 +0.4
MOX **Moxa** 44.33 308 *eP* P 05 02 12.7 +1.7
comp=Z,15nm,1.0s,baz=84,slow=7.9
AQU **L'Aquila** 44.42 296 IAmb IAmb 05 02 14.9
comp=Z,19nm,0.9s
FLTG **Flechtingen** 44.43 310 *eP* P 05 02 12.9 +1.2
comp=Z,32nm,0.8s,baz=84,slow=7.9
KONS **Konsvik** 44.49 331 *eP* P 05 02 13.2 +1.2
STOK **Stokkvaagen** 44.50 331 *eP* P 05 02 12.4 +0.3
KSRS **Korea Array** 44.50 71 P P 05 02 12.3 -0.2
comp=Z,2.1nm,0.4s,baz=275,slow=6.9,SNR=12
NB2 **NORSAR Subarra** 44.51 323 P P 05 02 12.8 +0.4
comp=Z,14nm,0.5s,baz=97,slow=7.9
NB2 **NORSAR Subarra** 44.51 323 P P 05 02 12.8 +0.4
baz=97,slow=7.9
NOA **NORSAR Array B** 44.51 323 P P 05 02 12.7 +0.4
comp=Z,18nm,0.5s,baz=102,slow=7.2,SNR=99
NRCA **Norcia** 44.52 297 IAmb IAmb 05 02 15.3
comp=Z,18nm,1.0s

NSS **Namsos** 44.60 328 *eP* P 05 02 13.2 +0.3
OSL **Oslo** 44.68 321 *eP* P 05 02 14.1 +0.5
GRA1 **Grafenberg Arr** 44.69 307 IAmb IAmb 05 02 16.9
comp=Z,22nm,1.0s
GRF **Grafenberg Arr** 44.69 307 *eP* P 05 02 16.1 +2.3
comp=Z,94nm,1.6s,baz=84,slow=7.9
GRFO **Grafenberg** 44.69 307 P P 05 02 13.6 -0.2
GRFO pmax pmax
comp=Z,20nm,1.0s
GRFO **Grafenberg** 44.69 307 P P 05 02 13.6 -0.2
GRFO IAmb IAmb 05 02 16.8
comp=Z,20nm,1.0s
LOF **Lofoten** 44.71 333 *eP* P 05 02 16.2 +2.4
WTTA **Wattenberg** 44.74 303 *i* P P 05 02 15.2 +0.7
comp=Z,33nm,0.8s,SNR=12
NC204 **NORSAR Array S** 44.75 323 P P 05 02 14.1 -0.2
WATA **Walderalm** 44.77 303 *i* P P 05 02 15.3 +0.6
comp=Z,18nm,0.9s,SNR=6.2
KLR **Kul'dur** 44.79 54 P P 05 02 15.3 +0.7
comp=Z,2.9nm,0.5s,baz=280,slow=7.6,SNR=21
KLR LR LR 05 23 22.6
comp=Z,59nm,19.2s,baz=258,slow=39
KLR **Kul'dur** 44.79 54⇓ *iP* P 05 02 15.2 +0.5
KLR pmax pmax
comp=Z,19nm,3.3s
FUR **Furstenfeldbru** 44.85 305 *eP* P 05 02 17.2 +2.0
comp=Z,62nm,1.2s,baz=84,slow=7.9
BSEG **Bad Segeberg** 44.88 313 *eP* P 05 02 17.3 +2.0
comp=Z,35nm,1.1s,baz=84,slow=7.9
VAE **Valguarnera** 44.92 289 LR LR 05 25 39.4
comp=Z,61nm,19.3s,baz=128,slow=42
CLZ **Clausthal** 45.00 310 *eP* P 05 02 18.3 +1.9
comp=Z,32nm,1.3s,baz=84,slow=7.9
SQTA **Sankt Quirin** 45.03 303 *i* P P 05 02 17.3 +0.5
comp=Z,16nm,0.6s,SNR=10
MOTA **Moosalm** 45.09 303 *i* P P 05 02 17.6 +0.4
comp=Z,24nm,0.8s,SNR=11
NRDL **Niedersach Rie** 45.11 311 *eP* P 05 02 18.9 +1.9
comp=Z,19nm,1.1s,baz=84,slow=7.9
TBLU **Trondheim** 45.17 326 *eP* P 05 02 17.8 +0.3
KONO **Kongsberg** 45.23 321 *eP* P 05 02 18.9 +0.9
BJO1 **Bjornoya** 45.27 343 *eP* P 05 02 18.9 +0.8
GTTG **Gottingen** 45.28 309 *eP* P 05 02 20.3 +1.8
comp=Z,48nm,1.0s,baz=84,slow=7.9
RETA **Reutte** 45.29 304 *i* P P 05 02 19.4 +0.6
comp=Z,13nm,0.8s,SNR=8.7
BKNI **Bangkinang** 45.33 136 P P 05 02 18.9 -0.4
UBBA **Unterbreizbach** 45.34 308 *eP* P 05 02 21.4 +2.6
comp=Z,9.4nm,1.1s,baz=84,slow=7.9
FETA **Feichten** 45.39 303 *eP* P 05 02 19.6 0.0
comp=Z,17nm,0.6s,SNR=11
LATE **Laterza** 45.52 297 IAmb IAmb 05 02 22.4
comp=Z,33nm,0.9s
RETH **Rethem/Aller,** 45.54 311 *eP* P 05 02 22.3 +1.8
comp=Z,15nm,1.1s,baz=84,slow=7.9
TIXI **Tiksi** 45.54 22 *ceP* P 05 02 20.1 -0.2
TIXI pmax pmax
comp=Z,16nm,0.6s
TIXI **Tiksi** 45.54 22 P P 05 02 19.5 -0.7
TIXI IAmb IAmb 05 02 21.0
comp=Z,21nm,0.7s
DOMB **Dombas** 45.62 324 *eP* P 05 02 21.6 +0.6
UBR **Ueberruh** 45.70 304 *eP* P 05 02 23.2 +1.2
baz=84,slow=7.9
OSSC **Osservatorio P** 45.71 298 IAmb IAmb 05 02 24.9
comp=Z,33nm,0.9s
ZCCA **Zocca** 45.72 299 IAmb IAmb 05 02 31.6
comp=Z,21nm,0.7s
HOMB **Homborsund** 45.77 319 *eP* P 05 02 22.1 -0.2
USRK **Ussuriysk Ar.** 45.80 61 LR LR 05 23 13.5
comp=Z,38nm,19.3s,baz=244,slow=38
SKAR **Skarslia** 45.91 322 *eP* P 05 02 25.2 +1.8
DAVA **Damuels** 45.91 304 *i* P P 05 02 24.7 +0.9
comp=Z,63nm,0.6s,SNR=34
DAVOX **Davos/Dischmat** 46.01 303 LR LR 05 26 02.9
comp=Z,87nm,21.3s,baz=62,slow=42
STU **Stuttgart** 46.13 306 *eP* P 05 02 27.1 +1.9
comp=Z,66nm,0.9s,baz=84,slow=7.9
STU **Stuttgart** 46.13 306 IAmb IAmb 05 02 27.9
comp=Z,29nm,1.0s
VLC **Villacollemand** 46.18 299 IAmb IAmb 05 02 28.9
comp=Z,33nm,0.9s
MOL **Molde** 46.36 325 *eP* P 05 02 29.8 +3.1
TNS **Taunus Mts** 46.39 308 *eP* P 05 02 28.7 +1.4
comp=Z,16nm,1.0s,baz=84,slow=7.9
TUE **Stuetta** 46.42 303 IAmb IAmb 05 02 31.9
comp=Z,13nm,0.7s
SNART **Snartemo** 46.46 319 *eP* P 05 02 29.1 +1.5
IBBN **Ibbenburen** 46.56 311 *eP* P 05 02 30.0 +1.5
comp=Z,33nm,1.0s,baz=84,slow=7.9
AKN **Aaleses** 46.59 324 *eP* P 05 02 31.9 +3.2
ODD1 **Odda** 46.74 321 *eP* P 05 02 32.4 +2.5
MSSA **Maissana** 46.75 300 IAmb IAmb 05 02 32.1
comp=Z,30nm,0.8s
BFO **Black Forest** 46.77 305 P P 05 02 29.6 -0.7
BFO pmax pmax
comp=Z,15nm,1.0s
BFO **Black Forest** 46.77 305 *eP* P 05 02 31.1 +0.9
comp=Z,17nm,1.1s,baz=84,slow=7.9
BFO **Black Forest** 46.77 305 P P 05 02 29.6 -0.7
BFO IAmb IAmb 05 02 32.3
comp=Z,15nm,1.0s
LODK **Lodwar** 46.82 234 P P 05 02 32.9 +1.8
LODK **Lodwar** 46.82 234 P P 05 02 31.8 +0.7
BLS5 **Blasjo** 46.83 321 *eP* P 05 02 32.5 +1.9
HYA **Hoyanger** 46.96 323 *eP* P 05 02 32.9 +1.4
BUG **Bochum--Univer** 46.97 310 *eP* P 05 02 33.1 +1.4
comp=Z,28nm,1.1s,baz=84,slow=7.9
WTSB **Winterswijk** 47.19 310 *eP* P 05 02 35.1 +1.7
baz=84,slow=7.9
AHRW **Bad Neuenahr-A** 47.22 308 *eP* P 05 02 35.9 +2.2
comp=Z,18nm,0.8s,baz=84,slow=7.9
BER **Bergen** 47.38 322 *eP* P 05 02 36.3 +1.5
ASK **Askoy** 47.45 322 *eP* P 05 02 36.5 +1.3
SPA0 **Spitsbergen Ar** 47.47 347 *eP* P 05 02 37.7 +2.3
SPITS **Spitsbergen Ar** 47.47 347 LR LR 05 28 09.2
comp=Z,82nm,18.2s,baz=166,slow=43
FOO **Floro** 47.51 324 *eP* P 05 02 36.9 +1.1
ECH **Echery** 47.56 305 IAmb IAmb 05 02 39.7
comp=Z,12nm,0.9s
BTNL **Ternell** 47.80 309 P P 05 02 37.8 -0.5
comp=Z,13nm,0.9s
MEM **Membach** 47.88 309 P P 05 02 39.6 +0.7
comp=Z,14nm,1.0s
HGN **Heimansgroeve** 47.90 309 *eP* P 05 02 40.4 +1.4
baz=84,slow=7.9
WLF **Walferdange** 47.95 307 *eP* P 05 02 41.3 +1.9
comp=Z,42nm,0.9s,baz=84,slow=7.9
WLF **Walferdange** 47.95 307 P P 05 02 41.6 +2.2
comp=Z,26nm,1.0s
BSTI **Sart Tilman** 48.16 309 P P 05 02 42.4 +1.4
BCLA **Clavier** 48.35 308 P P 05 02 43.5 +1.0
RCHB **Rochefort** 48.45 308 P P 05 02 43.1 -0.1
comp=Z,8.9nm,0.7s
BGES **Gesves** 48.50 308 P P 05 02 42.8 -0.8
BNI **Bardonecchia** 48.55 301 IAmb IAmb 05 02 46.3
comp=Z,21nm,0.9s
KBS **Kingsbay** 48.59 347 *eP* P 05 02 42.3 -1.6
BMRD **Maredsous** 48.71 308 P P 05 02 44.9 -0.3
comp=Z,20nm,1.0s
DOU **Dourbes** 48.86 308 P P 05 02 48.0 +1.7
comp=Z,14nm,1.0s
SNF **Seneffe** 48.98 309 P P 05 02 47.3 0.0
KMBO **Kilima Mbogo** 49.17 228 P P 05 02 50.7 +1.3
comp=Z,6.4nm,0.5s,baz=33,slow=12,SNR=18
KMBO **Kilima Mbogo** 49.17 228 *i* P P 05 02 51.2 +1.8
KMBO pmax pmax
comp=Z,6.0nm,0.5s
KMBO **Kilima Mbogo** 49.17 228 P P 05 02 50.0 +0.6
KMBO IAmb IAmb 05 02 52.6
comp=Z,6.5nm,0.6s
KMBO **Kilima Mbogo** 49.17 228 *i* P P 05 02 51.1 +1.7
SNR=9.1
KEST **Kesra** 49.34 289 P P 05 02 52.3 +1.9
comp=Z,13nm,0.8s,baz=317,slow=1.7,SNR=45
KIBK **Kibwezi** 49.67 226 P P 05 02 55.0 +2.0
KIBK **Kibwezi** 49.67 226 IAmb IAmb 05 02 55.4
comp=Z,18nm,0.7s
SSB **Saint Sauveur** 49.96 302 P P 05 02 54.7 -0.2
SSB pmax pmax
comp=Z,25nm,0.9s
SSB **Saint Sauveur** 49.96 302 P P 05 02 54.7 -0.2
SBUM **Sibu** 50.65 122 P P 05 03 01.4 +1.0
SBUM IAmb IAmb 05 03 02.8
comp=Z,8.9nm,0.9s
ELMS **Elmsett, Ipswi** 50.70 311 *eP* P 05 03 01.2 +0.9

KKM **Kota Kinabalu** 50.93 116 P P 05 03 02.7 +0.1
HPK **Haverah Park** 51.87 314 *eP* P 05 03 09.8 +0.8
EDMD **Edmundbyers** 51.89 315 *eP* P 05 03 09.7 +0.6
EDMD IAmb IAmb 05 03 12.5
comp=Z,30nm,0.5s
ESY **Stoneypath** 52.04 317 *eP* P 05 03 10.8 +0.6
MCD **Coleburn Disti** 52.08 319 *eP* P 05 03 11.4 +0.9
EDI **Edinburgh** 52.35 317 *eP* P 05 03 13.0 +0.5
EKA **Eskdalemuir Ar** 52.46 316 LR LR 05 31 42.9
comp=Z,251nm,18.4s,baz=47,slow=43
ESK **Eskdalemuir** 52.49 316 *eP* P 05 03 13.9 +0.3
SWN1 **Swindon** 52.52 311 *eP* P 05 03 14.4 +0.6
SWN1 IAmb IAmb 05 03 16.0
comp=Z,63nm,0.8s
MAT **Matsushiro** 52.58 69 P P 05 03 14.6 +0.1
MJAR **Matsushiro Ar** 52.58 69 P P 05 03 15.1 +0.6
comp=Z,1.7nm,0.5s,baz=297,slow=9.4,SNR=5.1
STRD **Stroud** 52.68 311 *eP* P 05 03 15.1 +0.1
STRD IAmb IAmb 05 03 17.4
comp=Z,34nm,0.7s
MBAR **Mbarara** 52.86 235 *ceP* P 05 03 17.6 +0.6
MBAR pmax pmax
comp=Z,22nm,0.6s
MBAR **Mbarara** 52.86 235 P P 05 03 17.7 +0.7
MBAR **Mbarara** 52.86 235 P P 05 03 16.8 -0.2
NEWG **New Galloway** 53.11 316 *eP* P 05 03 18.7 +0.6
NEWG IAmb IAmb 05 03 21.4
comp=Z,29nm,0.7s
MCH1 **Michaelchurch** 53.13 312 *eP* P 05 03 18.6 +0.4
MCH1 IAmb IAmb 05 03 19.6
comp=Z,54nm,0.7s
IOMK **Kirk Michael** 53.49 315 *eP* P 05 03 21.7 +0.8
SEY **Seymchan** 54.13 34 P P 05 03 25.3 -0.1
comp=Z,2.0nm,0.6s,baz=269,slow=12,SNR=9.2
RSBS **Rosebush, Pemb** 54.18 312 *eP* P 05 03 26.1 +0.1
RSBS IAmb IAmb 05 03 27.4
comp=Z,19nm,0.7s
ROSF **Rostrenen** 54.29 308 *eP* P 05 03 27.3 +0.5
ROSF IAmb IAmb 05 03 28.0
comp=Z,36nm,0.7s
DAG **Danmarks Havn** 54.73 344 *i* P P 05 03 30.0 +0.4
LEM **Lembang** 54.91 134 LR LR 05 30 53.0
comp=Z,34nm,18.1s,baz=190,slow=40
ESDC **Sonseca Array** 57.73 298 P P 05 03 52.6 +1.1
comp=Z,18nm,0.8s,baz=57,slow=7.2,SNR=199
ESDC LR LR 05 32 57.9
comp=Z,18nm,18.9s,baz=69,slow=40
ESDC **Sonseca Array** 57.73 298 IAmb IAmb 05 03 53.2
comp=Z,15nm,0.9s
PAB **San Pablo** 58.05 298 P P 05 03 53.6 -0.2
PAB pmax pmax
comp=Z,34nm,1.4s
PAB **San Pablo** 58.05 298 P P 05 03 53.6 -0.2
PAB IAmb IAmb 05 03 55.7
comp=Z,34nm,1.4s
PAB **San Pablo** 58.05 298 P P 05 03 55.0 +1.1
BILL **Bilibino** 58.35 26 *ceP* P 05 03 56.0 +0.6
BILL pmax pmax
comp=Z,5.0nm,0.6s
BILL **Bilibino** 58.35 26 P P 05 03 56.2 +0.8
BILL IAmb IAmb 05 03 56.6
comp=Z,6.4nm,0.5s
PBRG **Braganca** 58.84 301 *eP* P 05 04 00.3 +1.0
comp=Z,31nm,1.9s
FIGM **Figuig** 58.86 289 P P 05 03 60.0 +0.4
MRSI **Marisa** 58.88 116 P P 05 04 01.3 +1.5
JBK **JBK** 58.89 292 P P 05 04 01.0 +1.1
TDRA **Tendrara** 59.04 290 P P 05 04 02.5 +1.5
MVO **Moncorvo** 59.29 301 *eP* P 05 04 03.6 +1.2
comp=Z,29nm,1.5s
GTOI **Gorontalo** 59.55 115 P P 05 04 04.2 -0.2
PETK **Petropavlovsk-** 59.64 44 LR LR 05 31 25.5
comp=Z,49nm,18.4s,baz=301,slow=38
PVRL **Vila Real** 59.72 301 *eP* P 05 04 06.8 +1.5
POLO **Lamas de Olo** 59.73 301 *eP* P 05 04 06.4 +0.9
PCAB **Cabril** 59.76 302 *eP* P 05 04 07.3 +1.7
comp=Z,67nm,1.1s
PGAV **Gavieira, Arco** 59.82 302 *eP* P 05 04 07.5 +1.4
comp=Z,73nm,1.8s
TTSI **Tana Toraja** 59.84 120 P P 05 04 08.3 +2.0
ABPO **Ambohimpanom** 59.87 207 P P 05 04 06.7 +0.1
ABPO pmax pmax
comp=Z,18nm,0.8s
ABPO **Ambohimpanom** 59.87 207 P P 05 04 06.7 +0.1
MTE **Manteigas** 59.96 300 *eP* P 05 04 08.6 +1.6
comp=Z,50nm,1.6s
PVIS **Viseu** 60.07 300 *eP* P 05 04 09.3 +1.5
comp=Z,42nm,0.8s
PCBR **Castelo Branco** 60.14 299 *eP* P 05 04 10.1 +1.9
comp=Z,20nm,1.3s
PMRV **Marv??o** 60.25 299 *eP* P 05 04 09.9 +0.9
comp=Z,28nm,1.4s
LUWI **Luwuk** 60.52 116 P P 05 04 24.5 +13
PESTR **Estremoz** 60.63 298 *eP* P 05 04 12.5 +1.0
comp=Z,25nm,1.2s
PESTR **Estremoz** 60.63 298 P P 05 04 11.1 -0.4
PESTR IAmb IAmb 05 04 13.3
comp=Z,9.5nm,1.0s
PESTR **Estremoz** 60.63 298 P P 05 04 12.7 +1.1
PCAS **Casmilo, Conde** 60.77 300 *eP* P 05 04 13.0 +0.6
comp=Z,48nm,1.9s
PMTG **Montargil** 60.99 299 *eP* P 05 04 14.7 +0.8
EVO **Evora** 61.07 298 *eP* P 05 04 15.7 +1.2
comp=Z,24nm,1.5s
SUMG **Summit** 61.08 341 P P 05 04 15.0 +0.5
SUMG pmax pmax
comp=Z,33nm,1.3s
SUMG **Summit** 61.08 341 P P 05 04 15.0 +0.5
PBEJ **Beja** 61.18 298 *eP* P 05 04 16.7 +1.4
comp=Z,23nm,1.4s
PSBE **So Bento** 61.20 300 *eP* P 05 04 16.9 +1.5
comp=Z,56nm,1.3s
PVAQ **Vaqueiros** 61.34 297 *eP* P 05 04 17.8 +1.4
comp=Z,32nm,1.5s
PVAQ **Vaqueiros** 61.34 297 P P 05 04 16.8 +0.4
PVAQ IAmb IAmb 05 04 18.9
comp=Z,15nm,1.1s
PCVE **Castro Verde** 61.47 297 *eP* P 05 04 18.6 +1.4
MESJ **Messejana** 61.51 298 *eP* P 05 04 18.5 +1.0
MESJ IAmb IAmb 05 04 19.9
comp=Z,16nm,0.9s
MESJ **Messejana** 61.51 298 *eP* P 05 04 19.1 +1.6
MESJ **Messejana** 61.51 298 *eP* P 05 04 18.5 +1.0
PNCL **Nicolau / Gran** 61.62 298 *eP* P 05 04 19.9 +1.7
comp=Z,28nm,1.9s
PMAFR **Mafra** 61.78 299 *eP* P 05 04 20.6 +1.3
comp=Z,104nm,1.4s
PMST **Lisbon--Monsan** 61.81 299 *eP* P 05 04 22.3 +2.9
comp=Z,73nm,1.3s
PTEO **Sao Teotonio** 62.00 298 *eP* P 05 04 21.8 +1.0
PFVI **Vila Bisbo** 62.26 297 *eP* P 05 04 24.3 +1.8
comp=Z,93nm,1.6s
VOI **Vohitsoka** 62.68 206 P P 05 04 25.8 +0.3
VOI **Vohitsoka** 62.68 206 P P 05 04 26.6 +1.2
TZRR **Tazzarine** 62.74 289 P P 05 04 27.1 +1.1
ZGR **Zagora** 63.10 289 P P 05 04 30.0 +1.6
TETE **Tete** 63.49 221⇑ *iP* P 05 04 31.4 +0.6
TETE IAmb IAmb 05 04 32.1
comp=Z,56nm,0.7s
OUZM **OUZ** 63.59 290 P P 05 04 33.0 +1.4
WBSI **Waikabubak, Su** 64.36 126 P P 05 04 36.2 -0.4
LSZ **Lusaka** 65.79 226⇑ *iP* P 05 04 46.0 +0.1
LSZ IAmb IAmb 05 04 47.0
comp=Z,334nm,0.7s
LSZ **Lusaka** 65.79 226 P P 05 04 45.3 -0.6
LSZ pmax pmax
comp=Z,37nm,0.7s
LSZ **Lusaka** 65.79 226 *i* P P 05 04 46.6 +0.7
LSZ **Lusaka** 65.79 226 *i* P P 05 04 46.6 +0.7
LSZ **Lusaka** 65.79 226 P P 05 04 45.3 -0.6
TORD **Torodi Ar. Bea** 66.08 269 P P 05 04 46.5 -1.3
comp=Z,29nm,0.5s,baz=50,slow=6.1,SNR=371
TORD **Torodi Ar. Bea** 66.08 269 P P 05 04 46.2 -1.6
KRI **Karoi** 66.21 224 *i* P P 05 04 49.2 +0.6
KRI **Karoi** 66.21 224 *i* P P 05 04 49.2 +0.6
A21K **Barrow** 67.12 15 P P 05 04 53.6 +0.2
A21K IAmb IAmb 05 04 55.4
comp=Z,9.1nm,0.6s
A21K **Barrow** 67.12 15 P P 05 04 53.7 +0.2
baz=320
SFJD **Kangerlussuaq** 67.79 339 LR LR 05 33 45.1
comp=Z,68nm,20.8s,baz=48,slow=35
TNA **Tin City** 68.32 23 P P 05 05 00.8 -0.4
TNA **Tin City** 68.32 23 P P 05 05 01.5 +0.4
baz=312

BLWY	Bulawayo	69.44	223	*i* P		P	05 05 09.2	+0.3
BLWY	Bulawayo	69.44	223	*i* P		P	05 05 09.2	+0.3
MATP	Matopo	69.73	223	*i* P		P	05 05 10.2	-0.4
MATP	Matopo	69.73	223	*i* P		P	05 05 10.2	-0.4
ANM	Nome	69.80	23	P		P	05 05 11.2	+0.9
baz=314								
MSNA	Messina	70.48	221	⇑*i* P		P	05 05 15.4	+0.3
MSNA				IAmb	IAmb		05 05 16.8	
comp=Z,26nm,0.5s								
MSNA	Messina	70.48	221	*i* P		P	05 05 15.8	+0.7
MSNA	Messina	70.48	221	*i* P		P	05 05 15.8	+0.7
MOPA	Mopani	70.74	219	⇑*i* P		P	05 05 16.6	0.0
MOPA				IAmb	IAmb		05 05 17.6	
comp=Z,8.3nm,1.1s								
MOPA	Mopani	70.74	219	*i* P		P	05 05 17.0	+0.4
MOPA	Mopani	70.74	219	*i* P		P	05 05 17.0	+0.4
A36M	Sachs Harbour	71.07	5	IAmb	IAmb		05 05 25.3	
comp=Z,9.9nm,0.8s								
A36M	Sachs Harbour	71.07	5	P		P	05 05 18.5	+0.6
baz=346,SNR=13								
COLD	Coldfoot	71.77	16	P		P	05 05 22.4	+0.2
baz=326								
IMAR	Indian Mountai	71.96	18	P		P	05 05 22.7	-0.7
H21K	Melozitna Rive	72.46	18	P		P	05 05 25.7	-0.7
baz=324								
CNG	Changalane	72.68	217	*i* P		P	05 05 27.4	-0.7
CNG	Changalane	72.68	217	*i* P		P	05 05 27.4	-0.7
BMAR	Burnt Mountain	72.75	14	P		P	05 05 28.7	+0.6
J20K	Nowinta River	73.31	19	P		P	05 05 31.6	+0.2
baz=323								
H24K	Noodor Dome	73.45	16	P		P	05 05 32.9	+0.7
baz=328								
C36M	Paulatuk	73.74	6	IAmb	IAmb		05 05 35.1	
comp=Z,18nm,0.5s								
C36M	Paulatuk	73.74	6	P		P	05 05 33.8	0.0
baz=347,SNR=18								
INK	Inuvik	73.74	9	P		P	05 05 34.4	+0.6
comp=Z,6.2nm,0.5s,baz=358,slow=7.5,SNR=64								
INK				LR	LR		05 41 52.6	
comp=Z,49nm,18.4s,baz=100,slow=39								
INK	Inuvik	73.74	9	P		P	05 05 34.4	+0.6
baz=339,SNR=12								
POGA	Pongola	73.80	216	⇑*i* P		P	05 05 34.9	+0.3
POGA				IAmb	IAmb		05 05 35.6	
comp=Z,33nm,0.8s								
TTA	Tatalina	73.80	21	P		P	05 05 34.4	0.0
baz=322								
K20K	Telida	73.99	20	IAmb	IAmb		05 05 36.8	
comp=Z,10nm,0.6s								
K20K	Telida	73.99	20	P		P	05 05 36.0	+0.6
baz=324								
CHUM	Lake Minchumin	74.03	19	P		P	05 05 35.9	+0.3
baz=325,SNR=6.1								
POKR	Poker Plat Res	74.16	16	P		P	05 05 36.8	+0.4
baz=328,SNR=6.1								
SLR	Silverton	74.16	220	*e*P		P	05 05 37.2	+0.2
SLR				IAmb	IAmb		05 05 38.0	
comp=Z,15nm,1.0s								
PRP	Porcupine Dome	74.23	15	P		P	05 05 37.6	+0.6
baz=330								
NEA2	Nenana	74.23	17	IAmb	IAmb		05 05 37.4	
comp=Z,8.7nm,0.6s								
NEA2	Nenana	74.23	17	P		P	05 05 36.7	-0.1
baz=327,SNR=6.5								
TCOL	CIGO, UAF Yank	74.27	16	IAmb	IAmb		05 05 37.8	
comp=Z,11nm,0.8s								
TCOL	CIGO, UAF Yank	74.27	16	P		P	05 05 37.6	+0.6
baz=328								
COLA	College	74.27	16	*de*P		P	05 05 37.2	+0.2
COLA				pmax	pmax			
comp=Z,9.0nm,0.8s								
COLA	College	74.27	16	P		P	05 05 36.8	-0.1
COLA				IAmb	IAmb		05 05 37.8	
comp=Z,10nm,0.8s								
CAST	Castle Rocks	74.47	19	IAmb	IAmb		05 05 39.1	
comp=Z,8.9nm,0.6s								
CAST	Castle Rocks	74.47	19	P		P	05 05 38.5	+0.3
baz=325,SNR=14								
ILAR	Eielson Array	74.58	16	P		P	05 05 38.0	-0.7
comp=Z,1.5nm,0.6s,baz=291,slow=4.5,SNR=26								
ILAR				LR	LR		05 41 10.4	
comp=Z,40nm,18.3s,baz=308,slow=38								
ILAR	Eielson Array	74.58	16	P		P	05 05 38.3	-0.5
ILAR	Eielson Array	74.58	16	P		P	05 05 38.3	-0.5
HRAO	HartRAO	74.59	220	⇑*i* P		P	05 05 40.0	+0.4
HRAO				IAmb	IAmb		05 05 40.5	
comp=Z,90nm,0.7s								
KTH	Kantishna Hill	74.65	18	IAmb	IAmb		05 05 39.4	
comp=Z,17nm,1.3s								
L19K	White Mountain	74.72	21	P		P	05 05 40.0	+0.3
baz=323								
L20K	Farewell, AK	74.75	20	P		P	05 05 40.3	+0.4
baz=324								
PPLA	Purkeypile	74.87	19	IAmb	IAmb		05 05 41.8	
comp=Z,14nm,0.6s								
PPLA	Purkeypile	74.87	19	P		P	05 05 40.5	-0.1
baz=325,SNR=5.7								
HDA	Harding Lake	74.88	16	P		P	05 05 39.5	-1.0
baz=329								
TRF	Thorofare Moun	74.90	18	P		P	05 05 41.7	+0.8
baz=326								
KNRA	Kununurra	74.98	123	P		P	05 05 42.0	+0.3
KNRA				IAmb	IAmb		05 05 44.0	
comp=Z,19nm,0.8s								
MCK	McKinley	74.99	17	IAmb	IAmb		05 05 42.6	
comp=Z,9.1nm,0.5s								
MCK	McKinley	74.99	17	P		P	05 05 41.2	0.0
baz=328,SNR=8.1								
NWCL	Newcastle	75.00	217	⇑*i* P		P	05 05 41.8	0.0
NWCL				IAmb	IAmb		05 05 42.4	
comp=Z,34nm,1.0s								
LBTB	Lobatse	75.00	222	⇑*i* P		P	05 05 42.1	+0.3
LBTB				IAmb	IAmb		05 05 43.0	
comp=Z,35nm,0.7s								
LBTB	Lobatse	75.00	222	P		P	05 05 41.7	-0.1
LBTB				pmax	pmax			
comp=Z,36nm,0.7s								
LBTB	Lobatse	75.00	222	*i* P		P	05 05 42.6	+0.8
LBTB	Lobatse	75.00	222	*i* P		P	05 05 42.6	+0.8
LBTB	Lobatse	75.00	222	P		P	05 05 41.7	-0.1
DBIC	Dimbokro	75.06	267	P		P	05 05 41.0	-1.4
comp=Z,9.1nm,0.6s,baz=45,slow=6.6,SNR=24								
DBIC				LR	LR		05 43 40.0	
comp=Z,42nm,19.2s,baz=26,slow=40								
DBIC	Dimbokro	75.06	267	⇑*i* P		P	05 05 40.9	-1.4
DBIC	Dimbokro	75.06	267	P		P	05 05 41.3	-1.1
DBIC				pmax	pmax			
comp=Z,9.0nm,0.6s								
DBIC	Dimbokro	75.06	267	P		P	05 05 41.3	-1.1
DBIC				IAmb	IAmb		05 05 41.9	
comp=Z,9.0nm,0.6s								
M19K	Big River Lodg	75.07	21	P		P	05 05 42.2	+0.4
baz=323								
EPYK	Eagle Plains	75.08	11	P		P	05 05 41.4	-0.3
baz=337								
KIC	Kosan Boka	75.15	267	*e*P		P	05 05 41.1	-1.8
comp=Z,28nm,0.5s								
TIC	Toumodi	75.21	267	*e*P		P	05 05 41.5	-1.8
TSUM	Tsumeb	75.27	232	⇑*i* P		P	05 05 43.5	-0.1
TSUM	Tsumeb	75.27	232	P		P	05 05 43.3	-0.2
TSUM				IAmb	IAmb		05 05 44.5	
comp=Z,23nm,0.7s								
RND	Reindeer	75.29	18	IAmb	IAmb		05 05 43.5	
comp=Z,8.4nm,0.5s								
LIC	Lamto	75.46	267	*e*P		P	05 05 43.0	-1.7
comp=Z,37nm,0.6s								
J26L	Joseph Creek	75.53	15	P		P	05 05 44.2	-0.1
baz=332								
PRYS	Parys	75.61	220	⇑*i* P		P	05 05 45.3	-0.1
PRYS				IAmb	IAmb		05 05 45.6	
comp=Z,15nm,1.0s								
I29M	Ogilvie Camp,	75.75	12	P		P	05 05 45.4	-0.1
baz=336								
CUT	Chulitna	75.78	19	P		P	05 05 45.1	-0.5
baz=327								
SCRK	Sand Creek	75.90	15	P		P	05 05 46.7	+0.2
baz=331,SNR=6.8								
PAX	Paxson	76.45	16	P		P	05 05 49.3	-0.4
baz=330,SNR=5.5								
O18K	Koktuh Hills	76.48	22	P		P	05 05 50.7	+1.0
baz=323								
DAWY	Dawson	76.73	13	P		P	05 05 51.3	+0.1
baz=335								
SML	Sawmill	76.77	18	P		P	05 05 51.1	-0.3
baz=328								
P18K	Big Mountain,	76.84	22	P		P	05 05 52.2	+0.3
baz=323								
SWZ	Schweizer	76.87	221	*e*P		P	05 05 51.4	-1.1
SWZ				IAmb	IAmb		05 05 53.1	
comp=Z,40nm,1.0s								
SCM	Sheep Creek Mo	77.00	18	P		P	05 05 52.6	-0.2
baz=329								
HARP	HAARP	77.02	17	P		P	05 05 53.7	+0.9
baz=331								
M24K	Tolsona, Glenn	77.04	17	P		P	05 05 53.6	+0.6
baz=330								
L27K	Beaver Creek,	77.16	15	P		P	05 05 54.2	+0.6
baz=333								
MORW	Morawa	77.61	141	P		P	05 05 56.6	+0.3
M27K	Edge Creek, AK	77.78	15	P		P	05 05 57.8	+0.6
baz=333								
BVCY	Beaver Creek	77.94	15	P		P	05 05 59.0	+1.0
baz=334								
WIN	Windhoek	78.06	230	*e*P		P	05 05 59.8	+0.6
WIN				IAmb	IAmb		05 06 00.5	
comp=Z,4.1nm,0.9s								
BOSA	Boshof	78.06	220	P		P	05 05 58.8	-0.3
comp=Z,17nm,0.8s,baz=29,slow=6.0,SNR=37								
BOSA	Boshof	78.06	220	⇑*i* P		P	05 05 58.8	-0.3
BOSA				IAmb	IAmb		05 05 59.4	
comp=Z,37nm,1.1s								
BOSA	Boshof	78.06	220	P		P	05 05 58.1	-0.9
BOSA				pmax	pmax			
comp=Z,37nm,1.2s								
BOSA	Boshof	78.06	220	*i* P		P	05 05 58.9	-0.2
BOSA	Boshof	78.06	220	*i* P		P	05 05 58.9	-0.2
BOSA	Boshof	78.06	220	P		P	05 05 58.1	-0.9
BOSA				IAmb	IAmb		05 05 59.7	
comp=Z,37nm,1.1s								
CTG	Chitna Glacier	79.15	16	P		P	05 06 05.1	+0.4
baz=334								
UPI	Upington	80.02	223	*e*P		P	05 06 09.3	-0.4
UPI				IAmb	IAmb		05 06 10.6	
comp=Z,10nm,1.0s								
WHY	Whitehorse	80.70	13	P		P	05 06 13.1	0.0
baz=339								
YKA	Yellowknife Ar	81.12	3	P		P	05 06 15.0	-0.1
comp=Z,5.1nm,0.5s,baz=350,slow=5.4,SNR=164								
P33M	Teslin, Yukon	81.48	12	P		P	05 06 17.0	-0.1
baz=341								
WB0	Warramunga Arr	81.66	122	P		P	05 06 17.4	-1.1
WRA	Warramunga Arr	81.74	122	P		P	05 06 18.1	-0.9
comp=Z,4.0nm,0.5s,baz=326,slow=4.7,SNR=50								
WRAB	Tennant Creek	81.74	122	*c i* P		P	05 06 17.9	-1.1
WRAB				pmax	pmax			
comp=Z,11nm,0.9s								
WB2	Warramunga Arr	81.75	122	IAmb	IAmb		05 06 19.0	
comp=Z,14nm,0.9s								
SCHQ	Schefferville	82.14	337	P		P	05 06 20.5	-0.1
comp=Z,5.0nm,0.7s,baz=36,slow=6.9,SNR=11								
SCHQ				LR	LR		05 41 30.4	
comp=Z,140nm,18.6s,baz=57,slow=35								
SCHQ	Schefferville	82.14	337	P		P	05 06 21.2	+0.6
SCHQ				IAmb	IAmb		05 06 38.0	
comp=Z,24nm,1.5s								
ASAR	Alice Springs	84.02	125	P		P	05 06 29.7	-1.0
comp=Z,6.6nm,0.7s,baz=310,slow=4.9,SNR=94								
ASAR	Alice Springs	84.02	125	P		P	05 06 29.5	-1.2
COEN	Coen	84.11	112	P		P	05 06 31.5	+0.3
MATJ	Matjiesfontein	84.18	221	*e*P		P	05 06 31.0	-0.4
MATJ				IAmb	IAmb		05 06 34.6	
comp=Z,45nm,1.5s								
FCC	Fort Churchill	84.22	352	P		P	05 06 31.4	+0.2
FCC				pmax	pmax			
comp=Z,7.0nm,0.9s								
FCC	Fort Churchill	84.22	352	P		P	05 06 31.4	+0.2
FORT	Forrest	85.48	134	P		P	05 06 37.5	-0.3
FORT				IAmb	IAmb		05 06 38.0	
comp=Z,16nm,0.7s								
CTAO	Charters Tower	90.26	115	P		P	05 07 00.0	-0.9
CTAO				pmax	pmax			
comp=Z,12nm,0.7s								
CTAO	Charters Tower	90.26	115	P		P	05 07 00.0	-0.9
VLDQ	Val d'Or	91.21	340	P		P	05 07 05.0	0.0
VLDQ				IAmb	IAmb		05 07 06.6	
comp=Z,12nm,1.0s								
LONY	Lake Ozonia	93.50	336	P		P	05 07 16.4	+0.8
baz=27								
STKA	Stephens Creek	94.56	127	P		P	05 07 19.1	-1.4
comp=Z,1.3nm,0.5s,baz=333,slow=3.9,SNR=4.6								
SADO	Sadowa	94.74	339	LR	LR		05 50 03.6	
comp=Z,39nm,19.8s,baz=12,slow=35								
NEW	Newport	95.16	6	LR	LR		05 55 05.8	
comp=Z,36nm,18.7s,baz=332,slow=38								
BMO	Blue Mountains	98.53	6	P		P	05 07 37.2	-1.4
BMO				pmax	pmax			
comp=Z,9.0nm,1.3s								
BMO	Blue Mountains	98.53	6	P		P	05 07 37.1	-1.4
BMO				IAmb	IAmb		05 07 38.3	
comp=Z,9.2nm,1.3s								
SYO	Syowa Base	107.91	192	⇑*e*X		Pdif	05 08 18.2	-1.1
TXAR	Lajitas Array	114.25	355	PKP		PKiKP	05 12 39.3	-0.1
comp=Z,0.2nm,0.5s,baz=8.9,slow=0.3,SNR=6.1								
VNA2	Neumayer--Watz	120.63	202	PKPdf		PKPdf	05 12 48.9	-1.2
baz=41,slow=3.1								
VNA3	Neumayer Olymp	121.44	202	PKPdf		PKPdf	05 12 50.2	-1.5
SIV	San Ignacio	133.28	283	PKP		PKPdf	05 13 15.1	-0.8
comp=Z,0.5nm,0.3s,baz=92,slow=7.5,SNR=4.4								
CPUP	Villa Florida	135.58	268	PKP		PKPdf	05 13 18.8	-1.1
comp=Z,2.7nm,0.7s,baz=41,slow=1.4,SNR=5.4								
PB15	IPOC Station P	143.84	281	PKPdf	PKPab		05 13 32.7	+0.1
PB10	IPOC Station P	144.85	281	PKPdf	PKPab		05 13 35.0	-1.1
AC02	Maricunga	145.28	275	PKPbc	PKPbc		05 13 37.7	-0.3
GO03	Copiap	146.50	274	PKPbc	PKPbc		05 13 40.7	-0.4
ZON	Zonda	146.76	267	PKP2	PKPbc		05 13 41.4	-0.4
ZON	Zonda	146.76	267	PKPbc	PKPbc		05 13 41.4	-0.4
CO05	La Serena	148.24	271	PKPbc	PKPbc		05 13 44.7	-1.1
VA03	San Esteban	148.65	266	PKPbc	PKPbc		05 13 46.2	-0.7
PEL	Peldehue	148.87	265	PKP2	PKPbc		05 13 47.3	-0.1
PEL	Peldehue	148.87	265	PKPbc	PKPbc		05 13 47.3	-0.1
BO02	Sierra Bellavi	149.40	262	PKPbc	PKPbc		05 13 47.6	-1.0
PLCA	Paso Flores	150.20	250	PKPbc	PKPbc		05 13 49.9	-0.5
comp=Z,7.4nm,0.9s,baz=338,slow=7.3,SNR=12								

*NEIC **23** 05:34:08.1±1.5, 3°.30S±0°.08×146°.2E±0°.1, h10km±2km, mb4.3/11 Error ellipse: s-maj=25.3km s-min=11.4km az=111.0*
*IDC **23** 05:34:21.8±9.9, 3°.79S×143°.86E, h0km, mb3.8/2, mb1 4.3/3, mb1mx3.8/25, mbtmp4.0/3, ML3.7/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/53, Error ellipse: s-maj=225.9km s-min=36.5km az=82.0*

ISC 23 05:34:07.7±0.9, 3°.34S±0°.08×146°.2E±0°.1, h10km, n23, σ0°88/19, mb4.3/6, MS3.1/4, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	1.72	42		Pn	05 34 38.3	+0.6
PMG	Port Moresby	6.10	171	Pn	Pn	05 35 39.1	+1.1
COEN	Coen	10.97	196	Pn	Pn	05 36 45.5	+0.6
CTA	Charters Tower	16.65	180	LR	LR	05 45 29.2	
comp=Z,67nm,19.2s,baz=246,slow=41							
MTN	Manton Dam	17.66	237		Pn	05 38 13.6	-0.4
MTN				IAmb	IAmb	05 38 17.0	
comp=Z,11nm,1.2s							
WB0	Warramunga Arr	20.00	214	P	P	05 38 40.1	-0.5
WB0				IAmb	IAmb	05 38 45.6	
comp=Z,9.6nm,0.9s							
WB2	Warramunga Arr	20.16	214	P	P	05 38 41.9	-0.5
WB2				IAmb	IAmb	05 38 47.5	
comp=Z,12nm,0.9s							
WRA	Warramunga Arr	20.17	214	P	P	05 38 41.4	-1.1
comp=Z,0.3nm,0.3s,baz=39,slow=12,SNR=36							
WRA	Warramunga Arr	20.17	214	P	P	05 38 42.6	0.0
KNRA	Kununurra	21.11	233	P	P	05 38 52.9	+0.2
KNRA				IAmb	IAmb	05 38 58.3	
comp=Z,15nm,0.8s							
EIDS	Eidsvold	22.40	168	P	P	05 39 06.1	-0.3
EIDS				IAmb	IAmb	05 39 26.1	
comp=Z,15nm,1.4s							
AS31	Alice Springs	23.45	209	P	P	05 39 18.0	+0.4
ASAR	Alice Springs	23.46	209	P	P	05 39 16.9	-0.6
comp=Z,2.8nm,0.8s,baz=33,slow=9.5,SNR=20							
ASAR				LR	LR	05 47 48.9	
comp=Z,59nm,19.3s,baz=41,slow=37							
ASAR	Alice Springs	23.46	209	P	P	05 39 16.9	-0.6
FORT	Forrest	32.24	210	P	P	05 40 35.3	-1.1
MAJO	Matsushiro	40.38	350	P	P	05 41 44.9	-0.9
MAJO				IAmb	IAmb	05 41 55.3	
comp=Z,15nm,1.3s							
MJB9	Matsu-Tunnel	40.38	350	P	P	05 41 44.6	-1.3
MJB9				IAmb	IAmb	05 41 55.2	
comp=Z,15nm,1.3s							
KSRS	Korea Array	44.01	339	LR	LR	05 57 42.5	
comp=Z,15nm,21.4s,baz=0.0,slow=32							
URZ	Urewera	44.75	145	LR	LR	06 01 57.7	
comp=Z,31nm,19.7s,baz=21,slow=36							
ENH	Enshi	48.46	316	P	P	05 42 51.2	+0.5
CMAR	Chiang Mai Arr	51.34	297	P	P	05 43 14.1	+1.3
comp=Z,1.0nm,0.3s,baz=130,slow=5.9,SNR=4.3							
CMAR	Chiang Mai Arr	51.34	297	P	P	05 43 14.1	+1.3
BBB	Bella Bella	89.95	38	LR	LR	06 23 31.0	
comp=Z,23nm,19.1s,baz=242,slow=32							

*ISK **23** 05:44:30.3, 39°.51N×25°.99E, h6km, ML3.0/23*
*DDA **23** 05:44:31.8±0.0, 39°.53N×26°.03E, h7km±1km, ML2.5*
*THE **23** 05:44:31.2, 39°.52N×25°.99E, h0km±2km, ML2.5/3, Error ellipse: s-maj=2.7km s-min=0.8km az=356.0*
*ATH **23** 05:44:31.7, 39°.49N×25°.96E, h14km±4km, ML2.6/3, Error ellipse: s-maj=4.2km s-min=1.6km az=207.0*

ISC 23 05:44:31.4±0.9, 39°.52N±0°.02×25°.98E±0°.03, h11km±8km, n44, σ0°66/58, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	Canakkale, Ayv	0.12	96	P	Pg	05 44 34.1	-0.2
KOCA				*i* AML	AML	05 44 36.0	
comp=N,2μm,0.1s							
KOCA				*i* AML	AML	05 44 36.0	
comp=E,4μm,0.3s							
KOCA				S	Sg	05 44 36.2	-0.3
SIGR	SIGRI	0.32	198	P	Pg	05 44 37.2	-0.6
SIGR				S	Sg	05 44 42.1	+0.1
SIGR	SIGRI	0.32	198	P	Pg	05 44 37.0	-0.8
SIGR				S	Sg	05 44 41.6	-0.4
SIGR				AML	AML	05 44 42.3	
comp=N,4447μm,0.3s							
SIGR				AML	AML	05 44 43.3	
comp=E,1924μm,0.2s							
SIGR	SIGRI	0.32	198	PG	Pg	05 44 37.2	-0.6
SIGR				SG	Sg	05 44 41.7	-0.4
BOZC	Bozcaada	0.33	9	PG	Pg	05 44 37.8	-0.2
BOZC				SG	Sg	05 44 42.7	+0.2
BOZC	Bozcaada	0.33	9	P	Pg	05 44 37.8	-0.2
BOZC				*i* AML	AML	05 44 43.0	
comp=E,747nm,0.5s							
BOZC				*i* AML	AML	05 44 43.0	
comp=E,935nm,0.3s							
BOZC				S	Sg	05 44 43.1	+0.7
PRK	Paraskevi	0.35	140	P	Pg	05 44 38.9	+0.6
PRK				S	Sg	05 44 44.0	+1.0
comp=E,3μm,0.4s							
PRK	Paraskevi	0.35	140	P	Pg	05 44 38.6	+0.3
PRK				S	Sg	05 44 43.9	+0.9
PRK				AML	AML	05 44 44.1	
comp=N,5762μm,0.3s							
PRK				AML	AML	05 44 44.8	
comp=E,5605μm,0.4s							
EZN	Ezine	0.41	40	P	Pg	05 44 39.0	-0.4
EZN				S	Sg	05 44 45.0	+0.1
comp=E,732nm,0.1s							
EZN	Ezine	0.41	40	PG	Pg	05 44 39.0	-0.4
EZN				SG	Sg	05 44 44.9	+0.1
BAYC	CANAKKALE_Bayr	0.49	62	P	Pg	05 44 40.3	-0.7
BAYC				*i* AML	AML	05 44 47.0	
comp=E,360nm,0.1s							
BAYC				*i* AML	AML	05 44 47.0	
comp=E,314nm,0.4s							
BAYC				S	Sg	05 44 47.2	-0.2
GADA	Gvkgeada	0.68	354	P	Pg	05 44 44.1	-0.4
GADA	Gvkgeada	0.68	354	PG	Pg	05 44 43.9	-0.6
LIA	Limnos Island	0.73	302	P	Pg	05 44 45.4	0.0
LIA				S	Sb	05 44 57.0	+1.0
comp=E,258nm,0.5s							
LIA	Limnos Island	0.73	302	P	Pg	05 44 45.3	-0.2
LIA				S	Sb	05 44 57.0	+1.0
LIA				AML	AML	05 44 58.5	
comp=E,552μm,0.4s							
LIA				AML	AML	05 44 58.6	
comp=N,470μm,0.5s							
DKL	Dikili	0.84	121	PG	Pg	05 44 46.9	-0.7
GELI	Tayfur-Gelibol	0.96	23	PG	Pg	05 44 49.1	-0.7
GELI				SG	Sg	05 45 02.5	+0.1
SMTH	Samothraki Isl	1.02	340	P	Pg	05 44 50.3	-0.6
SMTH	Samothraki Isl	1.02	340	P	Pg	05 44 50.2	-0.8
PSRA	Psara	1.02	199	P	Pg	05 44 50.8	-0.3
LPK	Lapseki	1.04	35	PG	Pg	05 44 50.8	-0.7
CHOS	Chios island	1.13	177	P	Pg	05 44 52.2	-0.9
CHOS	Chios island	1.13	177	P	Pg	05 44 51.4	-1.6
CHOS	Chios island	1.13	177	PN	Pg	05 44 51.9	-1.2
ERIK	Erikli-Kesan	1.22	19	PN	Pg	05 44 53.3	-1.6
ENEZ	Enez	1.23	6	PN	Pg	05 44 53.6	-1.3
URLA	Izmir	1.25	157	PN	Pb	05 44 54.6	-0.3
KRBG	Karabiga-Canak	1.34	49	PN	Pn	05 44 55.0	-1.0
ALN	Alexandroupoli	1.38	2	PN	Pn	05 44 56.5	-0.1
GONE	Gonen-Balikesi	1.42	67	PN	Pn	05 44 57.1	+0.1
RKY	Sarkoy-Tekirda	1.49	38	PN	Pn	05 44 58.2	+0.1
MAR6	Marsite Statio	1.54	39	PN	Pn	05 44 58.9	+0.1
MAR3	Marsite Statio	1.59	39	PN	Pn	05 44 59.2	-0.2
GZKV	Gazikoy-Tekird	1.60	39	PN	Pn	05 44 59.9	+0.3
RDO	Rodhopi	1.67	348	PN	Pn	05 45 00.4	-0.1
EDC	Edincik	1.67	60	PN	Pn	05 45 00.7	+0.2
UKOP	Uzunkopru-Edir	1.69	17	PN	Pn	05 45 01.2	+0.4
OUR	Ouranopolis	1.74	299	PN	Pn	05 45 01.9	+0.4
KCTX	Karacabey (Bur	1.97	67	PN	Pn	05 45 04.8	+0.1
SIMA	Simav-Kutahya	2.37	100	PN	Pn	05 45 10.6	+0.4
MDNY	Mudanya-Bursa	2.39	68	PN	Pn	05 45 10.9	+0.5
EDRB	Edirne	2.40	14	PN	Pn	05 45 11.2	+0.6
SLVT	Silivri	2.41

NOA	NORSAR Array B	32.74	36	LR		LR	06 44 40.0	
	comp=Z,62nm,18.1s,baz=250,slow=33							
FRB	Frobisher Bay	33.01	329	LR		LR	06 43 50.9	
	comp=Z,94nm,19.6s,baz=262,slow=31							
HFS	Hagfors	33.60	38	LR		LR	06 45 28.3	
	comp=Z,117nm,18.1s,baz=258,slow=33							
VRAC	Vranov	33.80	58	LR		LR	06 45 31.7	
	comp=Z,45nm,20.4s,baz=285,slow=33							
VAE	Valguarnera	34.25	80	LR		LR	06 46 44.4	
	comp=Z,285nm,18.6s,baz=344,slow=35							
SADO	Sadowa	36.43	294	LR		LR	06 47 55.6	
	comp=Z,203nm,19.2s,baz=38,slow=35							
TORD	Torodi Ar. Bea	38.35	125	P		P	06 34 13.0	-0.2
	0.9nm,0.8s,baz=330,slow=6.4,SNR=4.1							
FINES	FINESS Array B	39.80	38	P		P	06 34 25.0	+0.2
	2.9nm,1.0s,baz=273,slow=8.2,SNR=2.4							
FINES				LR		LR	06 48 59.4	
	comp=Z,90nm,19.3s,baz=241,slow=33							
DBIC	Dimbokro	39.89	139	P		P	06 34 26.1	+0.1
	2.8nm,0.9s,baz=348,slow=5.9,SNR=3.1							
DBIC				LR		LR	06 49 50.2	
	comp=Z,40nm,18.2s,baz=326,slow=35							
ARCES	ARCESS Array B	41.19	26	LR		LR	06 49 45.4	
	comp=Z,66nm,18.3s,baz=179,slow=33							
AKASG	Malin Array Be	41.78	55	P		P	06 34 41.3	0.0
	1.0nm,0.7s,baz=275,slow=8.3,SNR=4.9							
AKASG				LR		LR	06 51 34.8	
	comp=Z,101nm,18.6s,baz=272,slow=36							
TKL	Tuckaleechee C	42.42	282	LR		LR	06 50 42.1	
	comp=Z,99nm,19.5s,baz=54,slow=34							
IDI	Anoyia	42.93	78	LR		LR	06 51 27.5	
	comp=Z,67nm,20.6s,baz=281,slow=34							
ULM	Lac du Bonnet	46.43	306	LR		LR	06 53 05.1	
	comp=Z,94nm,18.1s,baz=76,slow=34							
BRTR	Keskin Array B	47.70	69	LR		LR	06 55 58.4	
	comp=Z,53nm,18.7s,baz=294,slow=37							
PTGA	Pitinga	48.99	222	LR		LR	06 52 40.6	
	comp=Z,50nm,19.5s,baz=54,slow=32							
ROSC	El Rosal	53.20	241	LR		LR	06 56 48.6	
	comp=Z,81nm,19.6s,baz=54,slow=34							
YKA	Yellowknife Ar	53.31	325	P		P	06 36 10.0	-0.7
	0.1nm,0.6s,baz=66,slow=7.7,SNR=1.8							
JTS	Las Juntas de	56.99	255	LR		LR	06 56 53.0	
	comp=Z,59nm,21.9s,slow=32							
ARU	Arti	57.02	41	LR		LR	06 58 30.4	
	comp=Z,39nm,21.8s,baz=86,slow=33							
PDAR	Pinedale Array	57.87	301	P		P	06 36 44.9	+0.7
	0.6nm,0.8s,baz=64,slow=10,SNR=5.5							
PDAR				LR		LR	07 01 48.5	
	comp=Z,114nm,18.5s,baz=74,slow=36							
INK	Inuvik	58.35	335	LR		LR	06 58 56.0	
	comp=Z,34nm,19.5s,baz=24,slow=33							
ANMO	Albuquerque	59.41	292	LR		LR	07 01 28.5	
	comp=Z,88nm,19.1s,baz=64,slow=35							
NEW	Newport	60.11	310	LR		LR	07 01 27.7	
	comp=Z,128nm,18.8s,baz=47,slow=35							
TXAR	Lajitas Array	60.21	285	P		P	06 37 00.2	-0.2
	0.4nm,0.6s,baz=78,slow=6.5,SNR=6.2							
TXAR				LR		LR	07 01 27.6	
	comp=Z,76nm,20.5s,baz=72,slow=34							
CMIG	Matias Romero	60.31	268	LR		LR	06 59 54.0	
	comp=Z,54nm,21.6s,baz=46,slow=33							
ELK	Elko	62.57	301	LR		LR	07 04 29.3	
	comp=Z,82nm,19.1s,baz=48,slow=36							
SIV	San Ignacio	62.82	214	LR		LR	07 00 33.5	
	comp=Z,40nm,20.0s,baz=288,slow=32							
BBB	Bella Bella	64.28	317	LR		LR	07 03 36.9	
	comp=Z,71nm,18.3s,baz=50,slow=34							
ATAH	Atahualpa	64.85	235	LR		LR	07 04 11.5	
	comp=Z,56nm,21.3s,baz=7.6,slow=35							
NVAR	Mina Array Bea	65.79	301	LR		LR	07 06 51.3	
	comp=Z,84nm,18.1s,baz=53,slow=37							
LPAZ	La Paz	66.39	221	LR		LR	07 05 28.3	
	comp=Z,36nm,18.6s,baz=82,slow=35							
YBH	Yreka Blue Hor	66.84	306	LR		LR	07 04 20.4	
	comp=Z,97nm,19.3s,baz=25,slow=34							
NNA	Nana	67.66	231	LR		LR	07 05 15.3	
	comp=Z,31nm,20.4s,baz=124,slow=34							
LPIG	La Paz	68.04	284	LR		LR	07 07 46.1	
	comp=Z,72nm,18.6s,baz=349,slow=36							
MBAR	Mbarara	68.10	110	LR		LR	07 05 30.7	
	comp=Z,42nm,21.8s,baz=281,slow=34							
ATD	Arta Tunnel	69.32	92	LR		LR	07 08 16.8	
	comp=Z,30nm,20.4s,baz=67,slow=36							
KURBB	Kurchatov Arra	70.17	40	LR		LR	07 08 12.6	
	comp=Z,58nm,19.8s,baz=262,slow=35							
ZALV	Zalesovo Beam	70.93	35	LR		LR	07 08 58.2	
	comp=Z,34nm,19.3s,baz=356,slow=36							
AAK	Ala-Archa	73.02	48	LR		LR	07 11 51.1	
	comp=Z,36nm,18.1s,baz=328,slow=37							
TSUM	Tsumeb	73.47	134	LR		LR	07 09 15.0	
	comp=Z,75nm,18.2s,baz=332,slow=35							
LSZ	Lusaka	76.85	123	LR		LR	07 12 33.3	
	comp=Z,108nm,18.5s,baz=298,slow=36							
LBTB	Lobatse	82.60	131	LR		LR	07 15 06.7	
	comp=Z,34nm,18.2s,baz=255,slow=35							
BOSA	Boshof	85.17	134	LR		LR	07 15 06.8	
	comp=Z,61nm,20.5s,baz=344,slow=34							
SUR	Sutherland	85.78	139	LR		LR	07 13 49.7	
	comp=Z,25nm,20.5s,baz=268,slow=33							

*ATH **23** 07:02:33.9, 38°.72N×26°.13E, h18km±7km, ML2.2/3, Error ellipse: s-maj=10.4km s-min=1.1km az=251.0*
*ISK **23** 07:02:33.2, 38°.70N×26°.17E, h18km, ML2.5/10*
*THE **23** 07:02:34.0, 38°.71N×25°.95E, h20km±1km, ML1.9/2, Error ellipse: s-maj=3.3km s-min=0.6km az=264.0*
*DDA **23** 07:02:36.4±0.0, 38°.82N×26°.26E, h7km±1km, ML2.0*
ISC 23 07:02:33.6±0.9, 38°.71N±0°.02×26°.18E±0°.03, h17km±8km, n35, σ0°49/62, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.34**	**197**	P		**Pg**	**07 02 40.9**	**+0.1**
CHOS				S		**Sb**	**07 02 46.4**	**+0.1**
	575nm,0.2s							
CHOS	**Chios island**	**0.34**	**197**	P		**Pg**	**07 02 40.9**	**+0.1**
CHOS				S		**Sg**	**07 02 45.9**	**+0.2**
CHOS				AML		AML	07 02 46.8	
	comp=N,747μm,0.2s							
CHOS				AML		AML	07 02 48.0	
	comp=E,1542μm,0.2s							
CHOS	**Chios island**	**0.34**	**197**	PG		**Pg**	**07 02 40.9**	**+0.1**
CHOS				SG		**Sg**	**07 02 45.9**	**+0.2**
FOCM	**Foa**	**0.43**	**90**	PG		**Pg**	**07 02 42.7**	**+0.3**
FOCM				SG		**Sb**	**07 02 49.4**	**+0.5**
URLA	**Izmir**	**0.48**	**137**	PG		**Pg**	**07 02 43.4**	**+0.2**
URLA				SG		**Sb**	**07 02 50.3**	**0.0**
URLA	**Izmir**	**0.48**	**137**	P		**Pg**	**07 02 43.5**	**+0.2**
URLA				S		**Sg**	**07 02 48.6**	**-1.1**
ZEYE	**Izmir, Urla-Ze**	**0.54**	**152**	P		**Pg**	**07 02 43.5**	**-0.8**
ZEYE				S		**Sg**	**07 02 50.2**	**-1.3**
ZEYE					*i* AML	AML	07 02 52.0	
	comp=E,168nm,0.4s							
ZEYE					*i* AML	AML	07 02 52.0	
	comp=E,119nm,0.5s							
PRK	**Paraskevi**	**0.54**	**8**	P		**Pb**	**07 02 45.0**	**+0.4**
PRK				S		**Sn**	**07 02 54.5**	**-0.6**
PRK	**Paraskevi**	**0.54**	**8**	P		**Pg**	**07 02 44.5**	**+0.1**
PRK				S		**Sb**	**07 02 52.0**	**0.0**
PRK				AML		AML	07 02 56.4	
	comp=E,324μm,0.4s							
PRK				AML		AML	07 02 57.5	
	comp=N,458μm,0.5s							
SIGR	**SIGRI**	**0.56**	**333**	P		**Pg**	**07 02 44.5**	**-0.2**
SIGR				S		**Sg**	**07 02 51.4**	**-0.9**
	comp=N,92nm,0.4s							
SIGR	**SIGRI**	**0.56**	**333**	P		**Pg**	**07 02 44.4**	**-0.4**
SIGR	**SIGRI**	**0.56**	**333**	PG		**Pg**	**07 02 44.6**	**-0.2**
DKL	**Dikili**	**0.67**	**57**	PG		**Pn**	**07 02 48.2**	**0.0**
DKL				SG		**Sn**	**07 02 57.4**	**-0.9**
AYVA	**Ayvalik**	**0.72**	**34**	P		**Pb**	**07 02 46.5**	**-1.1**
AYVA				S		**Sg**	**07 02 56.4**	**-0.8**
AYVA	**Ayvalik**	**0.72**	**34**	P		**Pn**	**07 02 48.6**	**-0.3**
AYVA				S		**Sg**	**07 02 56.8**	**-0.4**
ZEDA	**zmir-Bergama**	**0.75**	**70**	P		**Pn**	**07 02 49.2**	**0.0**
ZEDA				S		**Sg**	**07 02 58.6**	**+0.5**
ZEDA	**zmir-Bergama**	**0.75**	**70**	P		**Pn**	**07 02 49.8**	**+0.5**
ZEDA				S		**Sg**	**07 02 58.4**	**+0.3**
KOCA	**Canakkale, Ayv**	**0.79**	**358**	P		**Pg**	**07 02 49.2**	**+0.2**
KOCA					*i* AML	AML	07 02 59.0	
	comp=N,98nm,2.2s							
KOCA				S		**Sg**	**07 02 59.9**	**+0.3**
KOCA					*i* AML	AML	07 03 09.0	
	comp=N,62nm,0.9s							
KOCA	**Canakkale, Ayv**	**0.79**	**358**	P		**Pg**	**07 02 49.5**	**+0.5**
KOCA				S		**Sg**	**07 03 00.3**	**+0.8**
KOCA					*i* AML	AML	07 03 09.0	
	comp=N,75nm,1.2s							
DGB	**zmir**	**0.86**	**140**	P		**Pb**	**07 02 50.1**	**+0.1**
DGB				S		**Sg**	**07 03 02.0**	**+0.3**
DGB					*i* AML	AML	07 03 03.0	
	comp=N,63nm,0.4s							
BUHA	**Balikesir, Bur**	**1.05**	**41**	P		**Pg**	**07 02 54.4**	**+0.3**
BUHA				S		**Sg**	**07 03 07.7**	**-0.1**
BUHA					*i* AML	AML	07 03 12.0	
	comp=N,58nm,0.5s							
BUHA	**Balikesir, Bur**	**1.05**	**41**	P		**Pg**	**07 02 54.1**	**+0.1**
BUHA				S		**Sg**	**07 03 07.9**	**0.0**
BUHA					*i* AML	AML	07 03 12.0	
	comp=N,58nm,0.5s							
BAYC	**CANAKKALE_Bayr**	**1.07**	**15**	P		**Pg**	**07 02 54.3**	**0.0**
BAYC					*i* AML	AML	07 03 07.0	
	comp=N,75nm,2.3s							
BAYC				S		**Sb**	**07 03 07.8**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**1.07**	**15**	P		**Pb**	**07 02 53.8**	**+0.2**
BAYC				S		**Sn**	**07 03 08.0**	**-0.2**
BAYC					*i* AML	AML	07 03 08.0	
	comp=N,70nm,1.5s							
EZN	**Ezine**	**1.12**	**6**	PN		**Pb**	**07 02 54.7**	**+0.3**
SMG	**Samos**	**1.13**	**152**	P		**Pg**	**07 02 55.2**	**-0.2**
SMG				S		**Sg**	**07 03 11.2**	**+1.1**
SMG	**Samos**	**1.13**	**152**	P		**Pn**	**07 02 54.7**	**+0.2**
SMG				AML		AML	07 03 12.1	
	comp=E,322μm,0.3s							
SMG				AML		AML	07 03 14.0	
	comp=N,340μm,0.4s							
BOZC	**Bozcaada**	**1.13**	**355**	PN		**Pb**	**07 02 54.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.31**	**140**	PN		**Pn**	**07 02 57.0**	**0.0**
STEP	**BALIKESIR_Sava**	**1.37**	**60**	P		**Pg**	**07 03 00.1**	**+0.1**
STEP				S		**Sg**	**07 03 18.0**	**+0.1**
STEP					*i* AML	AML	07 03 25.0	
	comp=N,21nm,0.5s							
STEP					*i* AML	AML	07 03 36.0	
	comp=N,31nm,1.6s							
STEP					*i* AML	AML	07 03 39.0	
	comp=N,31nm,1.5s							
STEP	**BALIKESIR_Sava**	**1.37**	**60**	P		**Pg**	**07 02 59.6**	**-0.4**
STEP				S		**Sb**	**07 03 16.6**	**+0.7**
STEP					*i* AML	AML	07 03 36.0	
	comp=N,31nm,1.6s							
STEP					*i* AML	AML	07 03 39.0	
	comp=N,31nm,1.5s							
GADA	**Gvkgeada**	**1.49**	**352**	PN		**Pn**	**07 02 59.7**	**+0.1**
BALY	**Balya**	**1.52**	**47**	P		**Pg**	**07 03 02.6**	**-0.3**
BALY				S		**Sb**	**07 03 20.4**	**+0.1**
BALY					*i* AML	AML	07 03 29.0	
	comp=N,22nm,1.0s							
BALY					*i* AML	AML	07 03 36.0	
	comp=N,22nm,0.8s							
BALY	**Balya**	**1.52**	**47**	P		**Pb**	**07 03 01.1**	**-0.2**
BALY				S		**Sg**	**07 03 22.3**	**-0.3**
KULA	**Kula-Manisa**	**1.95**	**95**	PN		**Pn**	**07 03 06.9**	**+0.9**

*NNC **23** 07:18:04.5±1.2, 50°.03N×78°.75E, h5km±23km, mb3.1, mpv2.9, Error ellipse: s-maj=13.5km s-min=11.7km az=2.0, Suspected Mining explosion.*
*IDC **23** 07:18:05.6±1.2, 50°.05N×78°.67E, h0km, mb1 2.7/2, mb1mx2.1/55, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=18.3km s-min=7.1km az=69.0*
ISC 23 07:18:05.7±0.9, 50°.02N±0°.06×78°.73E±0°.05, h0km, n12, σ0°81/16, 7C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.62**	**348**	Pg		**Pg**	**07 18 16.8**	**-0.8**
	1.2nm,0.3s,baz=167,slow=18,SNR=65							
KURBB				Lg		Lg	07 18 25.9	
	4.4nm,0.3s,baz=170,slow=31,SNR=60							
KURBB	**Kurchatov Arra**	**0.62**	**348**	⇑P		**Pg**	**07 18 16.5**	**-1.1**
	19nm,0.6s							
KURBB				⇑S		**Sg**	**07 18 26.4**	**+0.8**
	71nm,0.6s							
KURK	**Kurchatov**	**0.70**	**354**	⇑P		**Pg**	**07 18 17.9**	**-1.3**
	8.6nm,0.6s							
KURK				⇑S		**Sg**	**07 18 27.3**	**-1.0**
	23nm,0.5s							
SEM	**Semipalatinsk**	**1.05**	**67**	P		**Pg**	**07 18 25.3**	**-0.5**
	13nm,0.1s							
SEM				S		**Sg**	**07 18 40.1**	**+0.6**
	55nm,0.5s							
MAKZ	**Makanchi**	**3.87**	**145**	⇓Pg		**Pb**	**07 19 14.2**	**-0.6**
	2.0nm,0.5s							
MAKZ				⇑Lg		Lg	07 20 05.7	
	9.2nm,0.6s							
BRZS	**Berezniki**	**3.91**	**272**	Pg		**Pb**	**07 19 16.2**	**+0.9**
	1.7nm,0.3s							
BRZS				Lg		Lg	07 20 07.3	
	6.7nm,0.8s							
MK31	**Makanchi Array**	**4.00**	**142**	⇑Pn		**Pn**	**07 19 08.6**	**+0.4**
	0.1nm,0.4s,baz=346,slow=12,SNR=5.9							
MK31				⇑Pg		**Pb**	**07 19 17.4**	**+0.4**
	1.2nm,0.5s,baz=323,slow=14,SNR=9.0							
MK31				Lg		Lg	07 20 10.1	
	8.4nm,0.6s,baz=331,slow=27,SNR=18							
MKAR	**Makanchi Array**	**4.00**	**142**	Pn		**Pn**	**07 19 08.0**	**-0.3**
	0.2nm,0.3s,baz=321,slow=10,SNR=4.2							
MKAR				Pg		**Pb**	**07 19 17.2**	**+0.2**
	0.5nm,0.3s,baz=327,slow=16,SNR=13							
OTUK	**Ortayu**	**4.56**	**250**	⇓Pn		**Pn**	**07 19 15.7**	**-0.2**
	0.9nm,0.4s							
OTUK				⇓Lg		Lg	07 20 32.0	
	2.6nm,0.6s							
ZALV	**Zalesovo Beam**	**5.45**	**41**	Pn		**Pn**	**07 19 29.1**	**+1.0**
	0.4nm,0.3s,baz=233,slow=14,SNR=7.9							
ZALV				Lg		Lg	07 20 60.0	
	0.5nm,0.3s,baz=230,slow=25,SNR=6.5							
I46RU	**ZALESOVO INFRA**	**5.45**	**41**	*i*			07 49 10.0	
	baz=225,slow=332,SNR=2.5							
BVAR	**Borovoye Array**	**6.02**	**303**	Sn		**Sn**	**07 20 45.3**	**-0.1**
	0.6nm,0.3s,baz=108,slow=29,SNR=10							
BVAR				Lg		Lg	07 21 17.1	
	0.6nm,0.3s,baz=105,slow=32,SNR=4.0							

*ARE **23** 07:31:08±1.2, 16°.74S±0°.10×72°.4W±0°.2, h48km±10km, ML4.5, Error ellipse: s-maj=20.5km s-min=13.4km az=85.0*
NEIC 23 07:31:09.2±1.5, 16°.79S±0°.08×72°.5W±0°.1, h60km±62km, Error ellipse: s-maj=18.3km s-min=7.9km az=118.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.58**	**128**	Pn		Pn	07 31 46.2	-2.4
AP01				Sn		Sn	07 32 17.9	-0.9
PB12	**IPOC Station P**	**2.74**	**132**			Pn	07 31 51.0	+0.1
PB16	**IPOC Station P**	**3.23**	**119**			Pn	07 31 59.0	+1.0
MNMC	**Minye Minye**	**3.60**	**131**			Pn	07 32 03.9	+1.0
PB11	**IPOC Station P**	**3.99**	**138**			Pn	07 32 08.0	-0.1
TA02	**Huaiquique**	**4.12**	**147**	Pn		Pn	07 32 09.5	-0.2
GO01	**Chusmiza**	**4.24**	**133**			Pn	07 32 13.0	+1.2
TA01	**Diego Aracena**	**4.34**	**150**	Pn		Pn	07 32 12.6	-0.1
PB08	**IPOC Station P**	**4.59**	**137**	Pn		Pn	07 32 17.2	+0.7
PB01	**IPOC Station P**	**5.09**	**147**	Pn		Pn	07 32 22.8	-0.3
PB07	**IPOC Station P**	**5.49**	**154**	Pn		Pn	07 32 28.4	-0.2
PB09	**IPOC Station P**	**5.84**	**149**	Pn		Pn	07 32 34.0	+0.6
PB04	**IPOC Station P**	**5.94**	**159**	Pn		Pn	07 32 35.0	+0.2
PB06	**IPOC Station P**	**6.49**	**155**	Pn		Pn	07 32 42.0	-0.4
LVC	**Limon Verde**	**6.70**	**150**	Pn		Pn	07 32 45.8	+0.5
PB10	**IPOC Station P**	**6.93**	**165**	Pn		Pn	07 32 47.9	-0.3
PB14	**IPOC Station P**	**8.03**	**166**	Pn		Pn	07 33 02.8	-0.8
ETMB	**Extrema**	**9.24**	**42**	Pn		Pn	07 33 18.6	-1.3
AC02	**Maricunga**	**10.47**	**163**	Pn		Pn	07 33 36.1	-0.9

*IDC **23** 07:48:04.9±2.8, 5°.89S×149°.31E, h155km±26km, mb3.6/5, mb1 3.8/6, mb1mx3.4/46, mbtmp4.1/6, Error ellipse: s-maj=69.9km s-min=20.6km az=116.0*
ISC 23 07:48:05.3±1.3, 5°.7S±0°.2×149°.1E±0°.4, h150km, n14, σ0°98/13, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.14**	**208**	P		**Pn**	**07 49 06.8**	**-0.6**
	7.2nm,0.3s,baz=19,slow=10.0,SNR=17							
PMG				S		**Sn**	**07 49 54.8**	**-0.9**
	27nm,0.3s,baz=305,slow=23,SNR=17							
PMG	**Port Moresby**	**4.14**	**208**	P		**Pn**	**07 49 08.7**	**+1.3**
PMG	**Port Moresby**	**4.14**	**208**	P		**Pn**	**07 49 08.8**	**+1.3**
MTSU	**Mount Surprise**	**13.19**	**201**	P		**Pn**	**07 51 07.5**	**+0.5**
CTA	**Charters Tower**	**14.54**	**191**	P		P	07 51 31.7	+5.2
CTAO	**Charters Tower**	**14.54**	**191**	P		P	07 51 31.6	+5.1
QIS	**Mount Isa**	**17.40**	**211**	P		**P**	**07 51 57.5**	**-0.6**
WRAB	**Tennant Creek**	**20.15**	**224**	P		**P**	**07 52 27.6**	**-0.4**
WRA	**Warramunga Arr**	**20.16**	**224**	P		**P**	**07 52 26.9**	**-1.3**
	3.3nm,0.5s,baz=49,slow=10,SNR=30							
ASAR	**Alice Springs**	**23.08**	**218**	P		**P**	**07 52 57.6**	**-0.4**
	2.5nm,0.5s,baz=56,slow=8.6,SNR=42							
KSRS	**Korea Array**	**47.31**	**337**	P		**P**	**07 56 24.1**	**+0.3**
	1.0nm,0.4s,baz=156,slow=8.6,SNR=3.4							
PETK	**Petropavlovsk-**	**59.07**	**6**	P		**P**	**07 57 49.9**	**+0.3**
	1.8nm,0.5s,baz=168,slow=7.3,SNR=15							
ILAR	**Eielson Array**	**84.41**	**23**	P		**P**	**08 00 19.4**	**-1.2**
	0.9nm,0.6s,baz=249,slow=5.1,SNR=12							
TORD	**Torodi Ar. Bea**	**147.08**	**285**	PKPbc		**PKPdf**	**08 07 30.2**	**+0.9**
	0.5nm,0.3s,baz=84,slow=2.8,SNR=8.9							

*IDC **23** 07:49:42.2±0.5, 14°.58S×166°.78E, h0km, mb4.6/24, mb1 4.7/27, mb1mx4.6/44, mbtmp4.6/27, ML3.7/3, MS4.0/6, Ms1 4.0/6, ms1mx3.5/37, Error ellipse: s-maj=17.9km s-min=13.0km az=88.0*
*BJI **23** 07:49:42.1±0.0, 14°.35S×167°.35E, h15km, mb4.9/41, mB5.2/21, Ms5.2/6, Ms7 4.9/3*
*NEIC **23** 07:49:44.2±1.4, 14°.58S±0°.05×166°.9E±0°.1, h10km±1km, mb5.1/45, Ms_20 5.0/10, Error ellipse: s-maj=20.0km s-min=6.5km az=72.0*
*NOU **23** 07:49:47.4, 14°.78S×166°.83E, h0km, MLv5.0/13, Vanuatu Islands*
ISC 23 07:49:43.8±0.3, 14°.56S±0°.05×166°.83E±0°.07, h10km, n217, σ1°48/219, mb4.9/59, MS4.3/12, 3C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.96**	**158**	Pg		**Pg**	**07 50 01.4**	**-0.9**
SANVU				Sg		**Sg**	**07 50 12.7**	**-2.1**
SANVU	**Saraoutou**	**0.96**	**158**	P		**Pg**	**07 50 01.7**	**-0.6**
DVP	**Devils Point**	**3.41**	**158**	P		**Pn**	**07 50 40.0**	**+2.9**
LIFNC	**LIFOU**	**6.20**	**176**	Pn		**Pn**	**07 51 14.9**	**-0.6**
KOUNC	**Koumac, New Ca**	**6.44**	**202**	P		**Pn**	**07 51 20.2**	**+1.5**
MARNC	**Mare, Loyalty**	**6.98**	**171**	Pn		**Pn**	**07 51 25.8**	**-0.4**
MARNC	**Mare, Loyalty**	**6.98**	**171**	P		**Pn**	**07 51 27.7**	**+1.5**
DZM	**Mont Dzumac**	**7.48**	**183**	Pn		**Pn**	**07 51 33.6**	**+0.4**
	3.6nm,0.3s,baz=320,slow=12,SNR=62							
DZM				LR		LR	07 54 07.3	
	comp=Z,2μm,21.2s,baz=7.5,slow=36							
DZM	**Mont Dzumac**	**7.48**	**183**	*e*Pn		**Pn**	**07 51 34.5**	**+1.3**
	63nm,0.8s							
DZM				*e*LR		LR	07 53 16.0	
	comp=Z,2μm,24.1s							
DZM	**Mont Dzumac**	**7.48**	**183**	Pn		**Pn**	**07 51 33.2**	**0.0**
DZM	**Mont Dzumac**	**7.48**	**183**	P		**Pn**	**07 51 33.7**	**+0.5**
NOUC	**Port Laguerre**	**7.52**	**184**	P		**Pn**	**07 51 35.2**	**+1.6**
ONTNC	**Ouen Toro**	**7.72**	**183**	Pn		**Pn**	**07 51 36.4**	**+0.1**
ONTNC	**Ouen Toro**	**7.72**	**183**	P		**Pn**	**07 51 38.0**	**+1.7**
OUENC	**Ouen Island, N**	**7.82**	**180**			**Pn**	**07 51 38.9**	**+1.2**
OUENC	**Ouen Island, N**	**7.82**	**180**	P		**Pn**	**07 51 39.5**	**+1.8**
PINNC	**Pines Island,**	**8.04**	**176**			**Pn**	**07 51 39.0**	**-1.7**
HNR	**Honiara**	**8.44**	**306**	Pn		**Pn**	**07 51 47.4**	**+1.2**
	9.4nm,0.3s,baz=352,slow=9.6,SNR=3.9							
HNR	**Honiara**	**8.44**	**306**	Pn		**Pn**	**07 51 44.8**	**-1.4**
MSVF	**Nonsavu**	**11.24**	**108**	Pn		Pn	07 52 29.6	+4.9
	0.1nm,0.3s,baz=251,slow=5.5,SNR=10							
MSVF				LR		LR	07 55 50.2	
	comp=Z,1μm,19.1s,baz=287,slow=33							
EIDS	**Eidsvold**	**18.28**	**232**	P		**P**	**07 53 59.0**	**+1.2**
	baz=18,SNR=3.5							
EIDS	**Eidsvold**	**18.28**	**232**	P		**P**	**07 53 59.4**	**+1.6**
PMG	**Port Moresby**	**19.90**	**283**	P		**P**	**07 54 16.4**	**+0.6**
	0.7nm,0.3s,baz=84,slow=4.4,SNR=4.6							
PMG	**Port Moresby**	**19.90**	**283**	P		**P**	**07 54 17.4**	**+1.6**
CTAO	**Charters Tower**	**20.39**	**251**	P		**P**	**07 54 21.4**	**+0.3**
RMQ	**Roma**	**20.64**	**232**	P		**P**	**07 54 25.4**	**+1.7**
	baz=21,SNR=14							
AFI	**Afiamalu**	**20.75**	**91**	LR		LR	08 00 36.5	
	comp=Z,347nm,19.0s,baz=266,slow=32							
OUZ	**Omahuta**	**21.46**	**165**	P		**P**	**07 54 34.7**	**+2.3**
MTSU	**Mount Surprise**	**21.89**	**258**	P		**P**	**07 54 38.0**	**+0.8**
	baz=22,SNR=11							
COEN	**Coen**	**22.93**	**269**	P		**P**	**07 54 49.5**	**+1.1**
URZ	**Urewera**	**25.30**	**161**	P		**P**	**07 55 11.3**	**+0.7**
	24nm,0.8s,baz=346,slow=4.7,SNR=

CN2 sP sP 08 00 58.5 +3.6
CN2 S **S** **08 09 56.8 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,1.8s
BNX BinXian 69.78 332 ⇓P **P** **08 00 54.8 +0.5**
BNX pmax pmax
comp=Z,21nm,0.6s
BNX pmax pmax
comp=Z,620nm,4.2s
KLR Kul'dur 70.68 336 P **P** **08 01 00.4 +0.7**
comp=Z,5.5nm,0.8s,baz=102,slow=3.5,SNR=16
LYN LuoYang 71.05 315 ⇑P **P** **08 01 03.0 +0.7**
LYN pmax pmax
comp=Z,10.0nm,0.8s
GYA Guiyang 71.27 305 ⇑P P 08 00 57.5 -6.4
GYA pmax pmax
comp=Z,29nm,0.8s
XAN Xi'an 73.26 313 ⇑P **P** **08 01 16.0 +0.4**
XAN pP PcP 08 01 27.3 -4.8
XAN pmax pmax
comp=Z,18nm,0.8s
KMI Kunming 73.85 302 ⇓P **P** **08 01 21.4 +1.9**
KMI pP sP 08 01 24.1 +0.9
KMI pmax pmax
comp=Z,19nm,0.8s
XLT XiLinHaoTe 74.32 324 *e*P **P** **08 01 21.8 +0.1**
XLT pP sP 08 01 26.8 +1.4
XLT sP pP 08 01 28.9 +4.5
XLT pmax pmax
comp=Z,18nm,1.5s
CMAR Chiang Mai Arr 74.49 294 P **P** **08 01 24.4 +1.4**
comp=Z,4.6nm,0.8s,baz=127,slow=4.3,SNR=23
CHTO Chiang Mai 74.62 294 P **P** **08 01 24.6 +0.8**
HHC Hu-ho-hao-te 75.18 320 *e*P **P** **08 01 28.3 +1.6**
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,190nm,6.3s
PZH PanZhiHua 75.25 303 P **P** **08 01 28.3 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,4.7s
QSPA South Pole Qui 75.47 180 P **P** **08 01 27.9 -0.2**
comp=Z,6.6nm,0.8s,baz=348,slow=1.4,SNR=28
QSPA South Pole Qui 75.47 180 P **P** **08 01 28.0 -0.1**
QSPA IAmb IAmb 08 01 28.7
comp=Z,9.3nm,0.9s
CD2 Chengdu 75.56 308 *e*P **P** **08 01 30.0 +0.9**
LZH Lanzhou 77.89 312 *e*P **P** **08 01 43.9 +1.6**
LZH sP PcP 08 01 58.0 +5.9
LZH pmax pmax
comp=Z,23nm,1.2s
GAMB Gambell 79.83 10 P **P** **08 01 52.9 +0.9**
GAMB IAmb IAmb 08 01 53.5
comp=Z,18nm,0.8s
GAMB Gambell 79.83 10 P **P** **08 01 52.9 +0.9**
baz=201
P18K Big Mountain, 79.85 19 P **P** **08 01 52.1 -0.3**
P18K IAmb IAmb 08 01 55.6
comp=Z,16nm,0.9s
BRLK Bradley Lake 81.54 20 P **P** **08 02 01.5 +0.1**
ANM Nome 81.68 12 P **P** **08 02 03.0 +0.9**
ANM IAmb IAmb 08 02 04.0
comp=Z,14nm,0.9s
ANM Nome 81.68 12 P **P** **08 02 03.5 +1.5**
baz=207
YAK Yakutsk 81.74 343 P **P** **08 02 02.2 -0.2**
comp=Z,3.6nm,0.3s,baz=171,slow=1.5,SNR=4.7
M19K Big River Lodg 82.10 17 P **P** **08 02 06.3 +2.0**
baz=218
SONM Songino Array 82.10 324 P **P** **08 02 04.3 -0.5**
comp=Z,2.4nm,0.7s,baz=142,slow=5.6,SNR=8.1
TNA Tin City 82.11 10 P **P** **08 02 05.2 +1.0**
baz=204
L19K White Mountain 82.19 17 P **P** **08 02 05.8 +1.0**
baz=217
GTA Gaotai 82.24 314 *e*P **P** **08 02 07.0 +1.3**
GTA pP sP 08 02 10.8 +1.4
GTA sP PcP 08 02 14.8 +3.8
GTA pmax pmax
comp=Z,12nm,1.5s
O22K Cooper Landing 82.46 20 P **P** **08 02 07.0 +0.8**
O22K Cooper Landing 82.46 20 P **P** **08 02 06.7 +0.6**
baz=222
TTA Tatalina 82.47 16 P **P** **08 02 06.6 +0.3**
TTA IAmb IAmb 08 02 10.5
comp=Z,15nm,1.5s
TTA Tatalina 82.47 16 P **P** **08 02 07.2 +0.9**
baz=216
L20K Farewell, AK 82.71 17 P **P** **08 02 08.7 +1.2**
baz=218
SUA Susitna One 82.87 19 P **P** **08 02 08.5 +0.1**
baz=221
RC01 Rabbit Creek A 82.91 20 P **P** **08 02 09.1 +0.5**
baz=222
PWL Port Wells 83.21 20 P **P** **08 02 09.8 -0.2**
PWL Port Wells 83.21 20 P **P** **08 02 10.7 +0.6**
baz=223
M22K Willow 83.28 19 P **P** **08 02 10.2 -0.2**
M22K Willow 83.28 19 P **P** **08 02 10.8 +0.5**
baz=222
PMR Palmer 83.48 20 P **P** **08 02 11.9 +0.5**
baz=222
KNK Knik Glacier 83.57 20 P **P** **08 02 12.7 +0.8**
baz=223
CAST Castle Rocks 83.96 17 P **P** **08 02 13.8 -0.1**
baz=220
J20K Nowinta River 83.98 16 P **P** **08 02 15.4 +1.4**
baz=218
SCM Sheep Creek Mo 84.25 20 P **P** **08 02 16.1 +0.6**
baz=224
CHUM Lake Minchumin 84.25 17 P **P** **08 02 15.7 +0.4**
baz=219
KTH Kantishna Hill 84.40 18 P **P** **08 02 15.5 -0.7**
KTH IAmb IAmb 08 02 16.8
comp=Z,20nm,0.8s
TRF Thorofare Moun 84.51 18 P **P** **08 02 16.4 -0.5**
TRF IAmb IAmb 08 02 17.9
comp=Z,18nm,0.8s
TRF Thorofare Moun 84.51 18 P **P** **08 02 16.3 -0.5**
baz=221
GOMU GeErMu 84.55 309 P **P** **08 02 20.4 +2.4**
GOMU pP sP 08 02 25.0 +3.3
GOMU sP PcP 08 02 27.9 +6.4
GOMU pmax pmax
comp=Z,2.0nm,0.7s
GOMU pmax pmax
comp=Z,170nm,5.4s
RND Reindeer 84.91 18 P **P** **08 02 18.8 0.0**
MCK McKinley 85.12 18 P **P** **08 02 19.6 -0.1**
MCK IAmb IAmb 08 02 21.6
comp=Z,21nm,0.9s
MCK McKinley 85.12 18 P **P** **08 02 20.2 +0.4**
baz=222
BWN Browne 85.29 18 P **P** **08 02 20.6 0.0**
I21K Tanana 85.34 16 P **P** **08 02 21.9 +1.1**
baz=220
H21K Melozitna Rive 85.50 16 P **P** **08 02 22.8 +1.2**
baz=219
IMAR Indian Mountai 85.51 15 P **P** **08 02 22.3 +0.6**
NEA2 Nenana 85.72 18 P **P** **08 02 22.5 -0.3**
baz=222
CTG Chitna Glacier 85.76 23 P **P** **08 02 24.2 +1.0**
baz=230
WRH Wood River Hil 85.92 18 P **P** **08 02 23.4 -0.3**
WRH IAmb IAmb 08 02 24.2
comp=Z,12nm,0.7s
M26K Nabesna, AK 86.11 21 P **P** **08 02 24.9 +0.1**
baz=228
CCB Clear Creek Bu 86.13 18 P **P** **08 02 24.0 -0.7**
CCB IAmb IAmb 08 02 25.0
comp=Z,9.7nm,0.6s
HDA Harding Lake 86.22 18 P **P** **08 02 25.0 -0.1**
HDA Harding Lake 86.22 18 P **P** **08 02 25.2 0.0**
baz=224
MDM Murphy Dome 86.23 18 P **P** **08 02 24.4 -0.9**
MDM IAmb IAmb 08 02 26.2
comp=Z,15nm,1.0s
TCOL CIGO, UAF Yank 86.28 18 P **P** **08 02 25.2 -0.2**
baz=224
RIDG Independent Ri 86.40 19 P **P** **08 02 26.4 +0.2**
baz=226
L26K Log Cabin Wild 86.41 20 P **P** **08 02 26.8 +0.6**
baz=228
ILAR Eielson Array 86.50 18 P **P** **08 02 25.1 -1.4**
comp=Z,14nm,0.7s,baz=237,slow=4.7,SNR=118
ILAR Eielson Array 86.50 18 P **P** **08 02 25.4 -1.1**
POKR Poker Plat Res 86.58 18 P **P** **08 02 26.4 -0.6**
baz=224
DOT Dot Lake 86.60 20 P **P** **08 02 27.3 +0.2**
DOT IAmb IAmb 08 02 28.6
comp=Z,7.2nm,0.9s
SCRK Sand Creek 86.84 20 P **P** **08 02 29.0 +0.5**
SCRK IAmb IAmb 08 02 31.0
comp=Z,8.6nm,0.9s
SCRK Sand Creek 86.84 20 P **P** **08 02 28.8 +0.4**
baz=227
L27K Beaver Creek, 86.95 21 P **P** **08 02 29.6 +0.7**
baz=229
COLD Coldfoot 87.38 15 P **P** **08 02 32.1 +1.3**
baz=221
PRP Porcupine Dome 87.43 18 P **P** **08 02 31.8 +0.6**
baz=226
NVAR Mina Array Bea 87.48 49 P **P** **08 02 32.4 +0.1**
comp=Z,1.5nm,0.8s,baz=222,slow=8.0,SNR=8.0
EGAK Eagle 88.30 20 P **P** **08 02 34.8 -0.5**
EGAK IAmb IAmb 08 05 17.0
comp=Z,27nm,1.8s
EGAK Eagle 88.30 20 P **P** **08 02 35.1 -0.2**
baz=230
SYO Syowa Base 88.75 197 ⇓*e*P **P** **08 02 35.8 -1.6**
LPIG La Paz 89.51 65 LR LR 08 33 07.2
comp=Z,68nm,21.5s,baz=298,slow=29
TIXI Tiksi 89.72 349 P **P** **08 02 40.3 -1.5**
comp=Z,1.4nm,0.7s,baz=118,slow=4.7,SNR=4.4
WMQ Urumqi 92.30 315 *e*P **P** **08 02 55.5 +1.0**
WMQ sP sP 08 03 02.5 +4.3
WMQ pmax pmax
comp=Z,30nm,0.9s
WMQ pmax pmax
comp=Z,31nm,3.7s
INK Inuvik 92.86 19 P **P** **08 02 56.1 -0.3**
comp=Z,0.4nm,0.5s,baz=256,slow=7.1,SNR=4.4
SNAA Sanae 93.70 180 P **P** **08 02 59.4 -1.1**
SNAA Sanae 93.70 183 P **P** **08 03 00.0 -0.5**
SNAA IAmb IAmb 08 03 04.2
comp=Z,38nm,2.0s
VNA3 Neumayer Olymp 94.38 181 P **P** **08 03 02.3 -1.3**
VNA2 Neumayer--Watz 94.64 182 P **P** **08 03 03.9 -0.8**
baz=174,slow=4.3
VNA1 Neumayer--Stat 94.94 182 P **P** **08 03 05.2 -0.9**
PDAR Pinedale Array 95.14 47 P **P** **08 03 09.0 +1.2**
comp=Z,0.2nm,0.5s,baz=226,slow=3.3,SNR=2.6
ANMO Albuquerque 95.56 55 LR LR 08 37 32.6
comp=Z,96nm,21.7s,baz=257,slow=30
C36M Paulatuk 96.37 19 IAMs_20 IAMs_20 08 40 19.3
comp=Z,251nm,19.0s
TXAR Lajitas Array 96.57 62 P **P** **08 03 14.3 -0.2**
comp=Z,0.5nm,1.0s,baz=218,slow=5.3,SNR=2.8
MK31 Makanchi Array 96.78 316 P **P** **08 03 14.8 -0.1**
MK31 IAmb IAmb 08 03 16.3
comp=Z,3.6nm,1.1s
MKAR Makanchi Array 96.78 316 P **P** **08 03 15.1 +0.1**
comp=Z,2.8nm,0.8s,baz=101,slow=6.6,SNR=10
MKAR Makanchi Array 96.78 316 P **P** **08 03 14.9 0.0**
ZALV Zalesovo Beam 97.00 324 P **P** **08 03 14.8 -0.9**
comp=Z,2.4nm,0.8s,baz=108,slow=4.3,SNR=7.8
A36M Sachs Harbour 97.13 17 P **P** **08 03 15.6 -0.3**
baz=245
POO Poona 97.27 287 *e*P **P** **08 03 16.0 -1.8**
YKA Yellowknife Ar 97.59 27 P **P** **08 03 17.2 -0.9**
comp=Z,1.8nm,0.8s,baz=254,slow=4.5
YKA PKKPbc **PKKPdf** **08 19 59.0 -0.8**
comp=Z,0.3nm,0.8s,baz=72,slow=2.6,SNR=3.8
ARCES ARCESS Array B 119.98 345 PKP **PKPdf** **08 08 33.7 -0.5**
comp=Z,7.1nm,0.8s,baz=83,slow=1.5,SNR=17
KLMR Klimovskoe 120.34 333 *e*PKPdf **PKPdf** **08 08 33.1 -1.9**
KLMR AMP 08 08 39.8
comp=Z,13nm,1.0s
CPUP Villa Florida 120.88 133 PKP **PKPdf** **08 08 36.0 -1.2**
comp=Z,4.4nm,0.9s,baz=340,slow=8.2,SNR=3.7
BOSA Boshof 123.23 221 PKP **PKPdf** **08 08 41.2 -0.7**
comp=Z,3.4nm,0.8s,baz=84,slow=3.7,SNR=6.6
BCX Boston College 123.23 49 IAMs_20 IAMs_20 08 53 25.3
comp=Z,523nm,20.0s
FINES FINESS Array B 125.40 338 PKP **PKPdf** **08 08 44.2 -0.6**
comp=Z,8.6nm,1.0s,baz=104,slow=6.1,SNR=7.2
MNK Minsk 128.96 330 *i* PKP **PKPdf** **08 08 45.3 -6.4**
MNK comp=E,3.0nm,0.9s *i* PKP **PKPdf** **08 08 45.3 -6.4**
MNK comp=N,25nm,0.7s *i* PKP **PKPdf** **08 08 45.3 -6.4**
MNK comp=Z,7.0nm,0.7s,baz=232 *i* PP **PP** **08 10 52.3 -6.5**
MNK *i* PPP PPP 08 13 38.4
MNK *i* SKS **SKSdf** **08 15 57.0 -6.5**
MNK *i* PS **PS** **08 21 07.9 0.0**
MNK *i* SS **SS** **08 28 13.0 -4.5**
MNK *i* SSS SSS 08 32 58.7
MNK *i* LR LR 09 03 45.0
MNK *i* LRM MLR 09 04 40.0
MNK comp=E,9.0nm,13.0s *i* LRM MLR 09 05 06.5
MNK comp=N,71nm,20.2s *i* LRM MLR 09 05 34.2
MNK comp=Z,82nm,16.6s
NACGM Naroch 129.24 331 *i* PKP **PKPdf** **08 08 50.5 -1.7**
NB2 NORSAR Subarra130.34 345 PKPdf **PKPdf** **08 08 54.8 +0.5**
comp=Z,15nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra130.34 345 PKPdf **PKPdf** **08 08 54.8 +0.5**
baz=31,slow=1.9
NOA NORSAR Array B130.34 345 PKP **PKPdf** **08 08 54.5 +0.2**
comp=Z,3.7nm,0.9s,baz=35,slow=2.0,SNR=7.3
AKASG Malin Array Be 130.35 326 PKP **PKPdf** **08 08 54.1 -0.4**
comp=Z,1.9nm,0.8s,baz=50,slow=2.5,SNR=7.5
HFS Hagfors 130.43 343 PKP **PKPdf** **08 08 54.3 -0.1**
comp=Z,4.7nm,0.9s,baz=77,slow=6.5,SNR=2.9
BRTR Keskin Array B 132.07 311 PKP **PKPdf** **08 08 59.2 +0.9**
comp=Z,1.3nm,0.9s,baz=134,slow=3.6,SNR=4.9
SMRT St. Maarten 132.09 79 IAMs_20 IAMs_20 08 48 38.8
comp=Z,414nm,20.0s
CRVS Cervenica-Dubn 135.51 328 *e*PKP **PKiKP** **08 09 09.7 +3.8**
OSTC Ostas 136.93 333 *e*PKPDF **PKPdf** **08 09 07.7 +0.8**
DPC Dobruska-Polom 137.03 332 *e*PKPDF **PKiKP** **08 09 09.0 0.0**
BRG Berggiesshubel 137.67 335 *e*PKP **PKPdf** **08 09 09.2 +1.0**
BRG Amp 08 09 15.0
comp=Z,26nm,1.9s
CLL Collm 137.72 336 *e*PKiKP **PKiKP** **08 09 10.0 -0.3**
CLL *i* pPKiKP **pPKiKP** **08 09 14.0 +0.9**
comp=Z,6.0nm,0.8s
KRUC Moravsky 137.91 331 *e*PKP **PKPdf** **08 09 08.7 -0.1**
MODS Modra-Piesok 137.96 330 *e*PKP **PKiKP** **08 09 12.7 +1.8**
CONA Conrad Observa 138.96 330 *e*P **PKiKP** **08 09 13.3 +0.2**
comp=Z,6.6nm,0.9s
CKRC Cesky Krumlov 139.04 332 *e*PKPDF **PKPdf** **08 09 11.1 +0.2**
CKRC *ex* x 08 10 01.8
KHC Kasperske Hory 139.14 333 *e*PKPDF **PKPdf** **08 09 12.0 +0.9**
KHC *ex* x 08 10 02.1
GERES GERESS Array B 139.29 333 PKP **PKPdf** **08 09 11.6 +0.2**
comp=Z,1.3nm,0.7s,baz=70,slow=1.6,SNR=7.6
ARSA Arzberg 139.59 330 *e*P **PKPdf** **08 09 12.2 +0.3**
comp=Z,3.7nm,1.6s
SOKA Soboth 140.23 329 *e*P **PKPdf** **08 09 13.4 +0.2**
comp=Z,3.8nm,1.2s
KBA Koelnbreinsper 140.76 331 *e*P **PKPdf** **08 09 14.0 -0.2**
comp=Z,5.2nm,1.1s
WATA Walderalm 141.37 333 *e*P **PKPdf** **08 09 15.3 0.0**
comp=Z,4.8nm,0.8s
ABTA Altaltersbach 141.39 331 *e*P **PKPdf** **08 09 14.8 -0.5**
comp=Z,9.4nm,1.2s
WTTA Wattenberg 141.40 333 *i* P **PKPdf** **08 09 15.6 +0.2**
comp=Z,13nm,1.3s
MOTA Moosalm 141.57 333 *i* P **PKPdf** **08 09 15.7 0.0**
comp=Z,9.1nm,1.1s
SQTA Sankt Quirin 141.62 333 *e*P **PKPdf** **08 09 15.8 0.0**
comp=Z,5.4nm,1.0s
FETA Feichten 141.98 333 *i* P **PKPdf** **08 09 16.9 +0.4**
comp=Z,9.8nm,1.0s
DAVA Damuels 142.14 334 *i* P **PKiKP** **08 09 18.9 -0.8**
comp=Z,6.8nm,1.0s
DAVOX Davos/Dischmat 142.54 334 PKP **PKPdf** **08 09 18.4 +1.0**
comp=Z,3.4nm,0.7s,baz=43,slow=8.8,SNR=7.4
BNI Bardonecchia 145.26 335 **PKPbc** **08 09 21.2 -0.7**
SSB Saint Sauveur 145.91 337 PKPdf **PKPdf** **08 09 22.4 -0.8**
CLTB Caltabellotta 147.23 319 IAMs_20 IAMs_20 09 19 47.5
comp=Z,300nm,20.0s
KEST Kesra 150.81 320 PKPbc **PKPbc** **08 09 36.8 -0.3**
comp=Z,26nm,0.9s,baz=275,slow=3.3,SNR=12
ABSA Djebel Ababsia 151.56 323 P **PKiKP** **08 09 43.5 +4.2**
CAEH 'Ain El Ouahch 151.56 325 P **PKPbc** **08 09 38.4 -0.4**
CKFL Kef-Lekhel 151.91 324 P **PKiKP** **08 09 44.2 +4.1**
DFRA Djebel Bou Aff 152.27 326 P **PKPbc** **08 09 37.9 -2.6**
ESDC Sonseca Array 153.70 344 PKP **PKPdf** **08 09 36.5 +0.7**
comp=Z,0.7nm,0.5s,baz=0.3,slow=2.7,SNR=8.2
ESDC PKPbc **PKPbc** **08 09 43.3 -0.2**
comp=Z,2.7nm,0.9s,baz=20,slow=2.4,SNR=6.1
CART Cartagena 154.64 337 IAMs_20 IAMs_20 09 01 35.2
comp=Z,512nm,20.0s
TORD Torodi Ar. Bea 165.49 266 PKPab **PKPab** **08 10 47.3 -0.8**
comp=Z,1.3nm,0.9s,baz=92,slow=4.3,SNR=5.7

IDC ***23*** *07:50:31.7±0.5, 14°.40S×166°.84E, h0km, mb4.5/8, mb1 4.6/8, mb1mx4.3/42, mbtmp4.5/8, MS3.9/5, Ms1 3.9/5, ms1mx3.3/40, Error ellipse: s-maj=29.3km s-min=15.1km az=82.0*
NEIC ***23*** *07:50:32.4±1.9, 14°.51S±0°.08×166°.48E±0°.10, h10km±1km, mb4.9/25, Ms_20 4.7/8, Error ellipse: s-maj=21.4km s-min=3.0km az=49.0*
ISC 23 07:50:35.3±0.5, 14°.63S±0°.07×166°.4E±0°.1, h28km, n57, σ1§17/45, mb4.8/20, MS4.1/8, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	Saraoutou	1.13	136	Pn	Pn	07 50 54.6	-0.8
ONTNC	Ouen Toro	7.64	180		Pn	07 52 25.2	+0.4
OUENC	Ouen Island, N	7.76	177	Pn	Pn	07 52 26.3	-0.2
HNR	Honiara	8.14	309	Pn	Pn	07 52 30.3	-1.5
RABL	Rabaul	17.43	305		Pn	07 54 35.8	-0.9
RABL				IAmb	IAmb	07 54 51.4	
comp=Z,42nm,0.4s							
OUZ	Omahuta	21.51	164	P	P	07 55 22.2	+0.1
URZ	Urewera	25.38	160	P	P	07 56 01.8	+1.6
comp=Z,14nm,0.8s,baz=323,slow=5.1,SNR=3.2							
URZ	Urewera	25.38	160	P	P	07 55 59.0	-1.2
URZ				IAmb	IAmb	07 56 04.0	
comp=Z,49nm,1.3s							
BKZ	Black Stump Fm	26.01	162	P	P	07 56 05.0	-1.0
STKA	Stephens Creek	28.42	229	P	P	07 56 27.2	-0.5
WB0	Warramunga Arr	30.96	256	P	P	07 56 50.6	+0.2
WRAB	Tennant Creek	31.01	256	P	P	07 56 50.4	-0.5
WRAB				IAmb	IAmb	07 57 35.6	
comp=Z,9.4nm,0.5s							
WRAB	Tennant Creek	31.01	256	IAMs_20	IAMs_20	08 07 40.9	
comp=Z,519nm,20.0s							
AS31	Alice Springs	31.91	249	P	P	07 56 58.5	-0.3
TAU	Tasmania Unive	32.61	206	P	P	07 57 04.9	+0.4
FAKI	Fak Fak	35.62	286	IAMs_20	IAMs_20	08 10 52.9	
comp=Z,436nm,22.0s							
FITZ	Fitzroy Crossi	39.20	259	LR	LR	08 13 10.5	
comp=Z,248nm,18.9s,baz=81,slow=34							
PPT	Papeete	42.34	100	LR	LR	08 13 14.6	
comp=Z,92nm,20.2s,baz=266,slow=32							
DAV	Davao City (W)	45.85	295	LR	LR	08 18 05.9	
comp=Z,69nm,18.2s,baz=164,slow=36							
MJAR	Matsushiro Arr	57.42	333	P	P	08 00 20.6	-0.9
MJAR				IAmb	IAmb	08 01 03.2	
comp=Z,20nm,1.8s							
VNDA	Vanda	62.95	181	P	P	08 00 60.0	+1.1
PETK	Petropavlovsk-	67.87	354	P	P	08 01 31.9	+1.0
comp=Z,6.0nm,0.8s,baz=172,slow=12,SNR=5.1							
PETK	Petropavlovsk-	67.87	354	P	P	08 01 29.4	-1.5
KLR	Kul'dur	70.57	337	P	P	08 01 49.6	+1.9
comp=Z,1.0nm,0.6s,baz=156,slow=5.2,SNR=4.2							
MA2	Magadan	75.02	352	IAMs_20	IAMs_20	08 33 32.4	
comp=Z,0.1nm,21.0s							
QSPA	South Pole Qui	75.40	180	P	P	08 02 17.0	+0.6
comp=Z,3.7nm,1.0s,baz=235,slow=5.5,SNR=1.2							
QSPA	South Pole Qui	75.40	180	P	P	08 02 16.2	-0.2
QSPA				IAmb	IAmb	08 02 52.4	
comp=Z,11nm,1.4s							
HIA	Hailar	75.78	331	P	P	08 02 18.8	+0.3
HIA				IAmb	IAmb	08 02 20.2	
comp=Z,30nm,1.8s							
LZH	Lanzhou	77.62	313	*e*P	P	08 02 32.8	+3.3
LZH				pP	pwP	08 02 41.5	-0.6
LZH				pmax	pmax		
comp=Z,19nm,1.4s							
GAMB	Gambell	79.97	10	P	P	08 02 41.3	-0.2
GAMB				IAmb	IAmb	08 02 42.7	
comp=Z,11nm,0.8s							
ANM	Nome	81.84	12	P	P	08 02 51.5	+0.1
ANM				IAmb	IAmb	08 02 53.2	
comp=Z,11nm,1.0s							
SONM	Songino Array	81.91	324	P	P	08 02 52.5	+0.1
comp=Z,1.0nm,0.5s,baz=158,slow=4.8,SNR=3.8							
SONM	Songino Array	81.91	324	IAmb	IAmb	08 02 55.2	
comp=Z,6.7nm,1.4s							
GTA	Gaotai	81.98	314	*e*P	P	08 02 55.3	+2.3
GTA				pP	pP	08 03 00.8	0.0
GTA				sP	sP	08 03 04.0	-0.1
GTA				pmax	pmax		
comp=Z,7.0nm,1.2s							
TNA	Tin City	82.25	10	P	P	08 02 53.7	+0.1
TNA				IAmb	IAmb	08 02 55.0	
comp=Z,6.0nm,1.0s							
BILL	Bilibino	82.44	360	P	P	08 02 55.2	+0.6
BILL				IAmb	IAmb	08 02 56.1	
comp=Z,11nm,0.7s							
TTA	Tatalina	82.66	16	P	P	08 02 55.0	-0.9
TTA				IAmb	IAmb	08 05 13.9	
comp=Z,20nm,1.8s							
KTH	Kantishna Hill	84.59	18	P	P	08 03 04.2	-1.6
RND	Reindeer	85.11	19	P	P	08 03 07.9	-0.5
MCK	McKinley	85.32	18	P	P	08 03 08.2	-1.2
CCB	Clear Creek Bu	86.33	18	P	P	08 03 12.5	-1.8
CCB				IAmb	IAmb	08 03 13.8	
comp=Z,4.6nm,0.6s							
MDM	Murphy Dome	86.43	18	P	P	08 03 13.3	-1.5
MDM				IAmb	IAmb	08 03 16.5	
comp=Z,11nm,1.1s							
ILAR	Eielson Array	86.69	18	P	P	08 03 14.5	-1.6
comp=Z,6.9nm,0.7s,baz=239,slow=5.0,SNR=11							
NVAR	Mina Array Bea	87.85	49	P	P	08 03 22.9	+0.2
comp=Z,1.0nm,0.8s,baz=229,slow=5.7,SNR=4.0							
SYO	Syowa Base	88.56	197	⇓*e*P	P	08 03 23.8	-1.4
SNAA	Sanae	93.60	183	P	P	08 03 47.6	-1.1
ANMO	Albuquerque	95.95	56	LR	LR	08 47 39.9	
comp=Z,86nm,18.1s,baz=255,slow=36							
ZALV	Zalesovo Beam	96.81	324	P	P	08 04 03.3	-0.1
comp=Z,1.2nm,0.6s,baz=129,slow=4.2,SNR=4.1							
ZALV	Zalesovo Beam	96.81	324	P	P	08 04 03.0	-0.4
A36M	Sachs Harbour	97.32	17	IAMs_20	IAMs_20	08 39 12.1	
comp=Z,299nm,20.0s							
NRIK	Noril'sk	99.67	339	LR	LR	08 52 15.2	
comp=Z,46nm,18.0s,baz=81,slow=37							
435B	Jarrell	102.43	61	IAMs_20	IAMs_20	08 37 46.9	
comp=Z,37μm,20.0s							
ARCES	ARCESS Array B 119.94	345		PKP	PKPdf	08 09 22.4	-0.2
comp=Z,3.7nm,0.7s,baz=79,slow=1.4,SNR=5.6							
BCX	Boston College	123.60	49	IAMs_20	IAMs_20	09 01 04.1	
comp=Z,550nm,18.0s							
FINES	FINESS Array B	125.31	338	PKP	PKiKP	08 09 34.8	+1.4
comp=Z,3.1nm,0.8s,baz=48,slow=2.8,SNR=6.5							
AKASG	Malin Array Be	130.17	326	PKP	PKiKP	08 09 45.0	+1.5
comp=Z,0.7nm,0.6s,baz=74,slow=2.0,SNR=4.2							
GERES	GERESS Array B 139.16	332		PKP	PKiKP	08 10 01.5	-0.5
comp=Z,0.7nm,0.7s,baz=72,slow=3.2,SNR=1.8							

GII ***23*** *07:53:10.6±0.0, 41°.11N×43°.69E, h5km, Mm5.1/2*
AZER ***23*** *07:53:43.1±0.6, 37°.77N×42°.26E, h6km, Error ellipse: s-maj=7.2km s-min=5.1km az=134.0, Hypocentre not reviewed by the ISC*
ISK ***23*** *07:53:44.2, 38°.06N×42°.70E, h4km, ML4.4/23*
IDC ***23*** *07:53:44.3±0.8, 37°.88N×42°.60E, h0km, mb3.9/15, mb1 4.0/24, mb1mx3.8/59, mbtmp3.9/24, ML3.8/6, MS3.6/31, Ms1 3.6/31, ms1mx3.4/86, Error ellipse: s-maj=15.8km s-min=10.9km az=167.0*
NEIC ***23*** *07:53:44.4±2.6, 38°.05N±0°.04×42°.69E±0°.03, h11km±5km, mb4.3/27, ML4.4(ISK), Error ellipse: s-maj=6.2km s-min=3.5km az=164.0*
ISN ***23*** *07:53:44.0±1.1, 38°.08N×42°.66E, h0km±999km, ML4.3*
DDA ***23*** *07:53:44.6±0.0, 38°.05N×42°.67E, h15km±1km, MW4.5*
TEH ***23*** *07:53:45.1, 38°.09N×42°.68E, h9km, ML4.4*
NSSP ***23*** *07:53:45.5, 38°.10N×42°.58E, h7km, Ms4.0*
MCSM ***23*** *07:53:48.3±1.1, 38°.N±6°.×4°.3E±°, h9km±4km, mb4.3/7*
ISC 23 07:53:44.9±0.7, 38°.02N±0°.01×42°.73E±0°.01, h11km±4km, n328, σ2§67/387, mb4.2/31, MS3.5/25, 6C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PERV	Siirt/Pervari-	0.16	240	P	Pg	07 53 48.9	+0.2

PERV				S	Sg	07 53 52.1	+0.8	
AKDM	**Akdamar-Van**	**0.36**	**34**	PG	**Pg**	**07 53 51.9**	**-0.4**	
AKDM				SG	**Sg**	**07 53 57.1**	**-0.1**	
AKDM	**Akdamar-Van**	**0.36**	**34**	*e*Pg	**Pg**	**07 53 51.8**	**-0.5**	
SIRT	**Sirnak**	**0.57**	**203**	PG	**Pb**	**07 53 56.9**	**-0.1**	
SIRT				SG	**Sb**	**07 54 05.1**	**-0.1**	
SIRT	**Sirnak**	**0.57**	**203**	*e*Pg	**Pb**	**07 53 57.1**	**+0.1**	
SIRT	**Sirnak**	**0.57**	**203**		**Pg**	**07 53 56.7**	**+0.6**	
SIRT					**Sg**	**07 54 03.2**	**-0.4**	
BLIS	**Bitlis-Merkez**	**0.61**	**309**	*e*Pg	**Pg**	**07 53 55.7**	**-1.2**	
BLIS	**Bitlis-Merkez**	**0.61**	**309**	P	**Pg**	**07 53 55.8**	**-1.2**	
BLIS				S	**Sg**	**07 54 04.6**	**-0.5**	
TVAN	**Van**	**0.74**	**47**	*e*Pg	**Pg**	**07 53 58.5**	**-0.8**	
TVAN	**Van**	**0.74**	**47**	P	**Pg**	**07 53 58.5**	**-0.8**	
TVAN				S	**Sb**	**07 54 10.2**	**0.0**	
GURO	**Guroymak-BITLI**	**0.75**	**314**	PG	**Pg**	**07 53 58.1**	**-1.5**	
GURO				SG	**Sg**	**07 54 09.3**	**-0.1**	
GURO	**Guroymak-BITLI**	**0.75**	**314**	*e*Pg	**Pg**	**07 53 58.1**	**-1.5**	
GURO	**Guroymak-BITLI**	**0.75**	**314**	Pg	**Pg**	**07 53 57.9**	**-1.7**	
VANB	**Van**	**0.78**	**43**	PG	**Pg**	**07 53 58.3**	**-1.7**	
VANB	**Van**	**0.78**	**43**	*e*Pg	**Pg**	**07 53 58.3**	**-1.7**	
ADCV	**BITLIS_Adilcev**	**0.78**	**0**	*e*Pg	**Pg**	**07 53 59.4**	**-0.7**	
ADCV	**BITLIS_Adilcev**	**0.78**	**0**	P	**Pg**	**07 53 59.5**	**-0.7**	
ADCV				S	**Sg**	**07 54 10.2**	**-0.1**	
HAKT	**HAKKARI**	**0.91**	**121**	*e*Pg	**Pg**	**07 54 02.8**	**+0.2**	
HAKT	**HAKKARI**	**0.91**	**121**	P	**Pg**	**07 54 02.6**	**0.0**	
HAKT				S	**Sn**	**07 54 17.1**	**-0.2**	
CUKT	**Cukurca**	**1.05**	**138**	PN	**Pg**	**07 54 05.4**	**+0.2**	
CUKT	**Cukurca**	**1.05**	**138**	*e*Pg	**Pn**	**07 54 05.7**	**-0.1**	
CUKT	**Cukurca**	**1.05**	**138**	SPECP		07 54 05.0		
CUKT				P	**Pg**	**07 54 05.4**	**+0.2**	
CUKT				S	**Sn**	**07 54 21.8**	**+1.3**	
ERCV	**ERCIS-VAN**	**1.10**	**26**	*e*Pg	**Pb**	**07 54 06.1**	**-0.2**	
MLAZ	**Malazgirt-MUS**	**1.12**	**353**	PN	**Pb**	**07 54 05.2**	**-1.3**	
MLAZ				SN	**Sn**	**07 54 21.8**	**-0.5**	
MLAZ	**Malazgirt-MUS**	**1.12**	**353**	*e*Pg	**Pb**	**07 54 05.2**	**-1.3**	
BTMN	**Batman**	**1.15**	**264**	*e*Pg	**Pg**	**07 54 07.4**	**+0.2**	
BTMN	**Batman**	**1.15**	**264**	SPECP		07 54 07.0		
BTMN				P	**Pg**	**07 54 07.2**	**+0.1**	
BTMN				S	**Sn**	**07 54 24.8**	**+1.8**	
VMUR	**Van-Muradiye**	**1.17**	**35**	*e*Pg	**Pb**	**07 54 06.5**	**-0.9**	
VMUR	**Van-Muradiye**	**1.17**	**35**	P	**Pb**	**07 54 06.5**	**-0.9**	
VMUR				S	**Sn**	**07 54 24.6**	**+0.9**	
MUSM	**Mu-Merkez**	**1.18**	**307**	P	**Pb**	**07 54 05.9**	**-1.6**	
MUSM				S	**Sb**	**07 54 22.6**	**-0.2**	
OZAP	**Van, Ozalp-Mer**	**1.19**	**57**	SPECP		07 54 06.0		
OZAP				P	**Pb**	**07 54 06.3**	**-1.4**	
OZAP				S	**Sn**	**07 54 28.5**	**+4.5**	
SVAN	**Silvan-Diyarba**	**1.21**	**276**	PN	**Pn**	**07 54 07.8**	**-0.1**	
SVAN				SN	**Sn**	**07 54 24.7**	**+0.4**	
SVAN	**Silvan-Diyarba**	**1.21**	**276**	*e*Pn	**Pn**	**07 54 07.4**	**-0.5**	
SVAN	**Silvan-Diyarba**	**1.21**	**276**	P	**Pn**	**07 54 07.8**	**-0.1**	
SVAN				S	**Sn**	**07 54 25.1**	**+0.8**	
MIDY	**Mardin/Midyat-**	**1.22**	**240**	P	**Pg**	**07 54 08.9**	**+0.5**	
MIDY				S	**Sn**	**07 54 27.0**	**+2.5**	
YOVA	**Hakkari_Yksek**	**1.32**	**109**	*e*Pg	**Pg**	**07 54 10.8**	**+0.5**	
YOVA	**Hakkari_Yksek**	**1.32**	**109**	P	**Pg**	**07 54 10.8**	**+0.5**	
YOVA				S	**Sg**	**07 54 32.5**	**+5.0**	
EKAR	**Karacoban**	**1.33**	**338**	*e*Pg	**Pn**	**07 54 09.4**	**-0.4**	
EKAR	**Karacoban**	**1.33**	**338**	P	**Pn**	**07 54 09.4**	**-0.4**	
EKAR				S	**Sg**	**07 54 30.5**	**+2.6**	
VRTB	**Varto-Mus**	**1.50**	**319**	PN	**Pb**	**07 54 12.5**	**-0.6**	
VRTB	**Varto-Mus**	**1.50**	**319**	*e*Pn	**Pb**	**07 54 12.5**	**-0.6**	
VRTB	**Varto-Mus**	**1.50**	**319**	P	**Pb**	**07 54 12.4**	**-0.6**	
VRTB				S	**Sg**	**07 54 33.9**	**+0.5**	
AGRB	**Hanur-Agry**	**1.56**	**8**	PN	**Pn**	**07 54 13.1**	**+0.2**	
AGRB	**Hanur-Agry**	**1.56**	**8**	*e*Pn	**Pn**	**07 54 13.1**	**+0.2**	
SLHN	**Bingol, Solhan**	**1.62**	**305**	SPECP		07 54 14.0		
SLHN				P	**Pb**	**07 54 14.4**	**-0.6**	
SLHN				S	**Sg**	**07 54 37.4**	**+0.2**	
DYDN	**Diyadin**	**1.69**	**26**	*e*Pn	**Pg**	**07 54 17.7**	**+0.2**	
DYDN	**Diyadin**	**1.69**	**26**	P	**Pg**	**07 54 17.1**	**-0.4**	
DYDN				S	**Sg**	**07 54 44.2**	**+4.7**	
MARD	**Mardin**	**1.70**	**246**		**Pn**	**07 54 15.0**	**+0.3**	
MARD	**Mardin**	**1.70**	**246**	P	**Pb**	**07 54 15.8**	**-0.5**	
MARD				S	**Sg**	**07 54 39.6**	**+0.1**	
KOTA	**Agri, Merkez-K**	**1.81**	**12**	P	**Pn**	**07 54 17.2**	**+0.9**	
KOTA				S	**Sb**	**07 54 42.0**	**+0.8**	
EATA	**Eleskirt**	**1.84**	**355**	P	**Pn**	**07 54 17.7**	**+0.9**	
EATA				S	**Sg**	**07 54 44.0**	**-0.2**	
BNGB	**Bingl**	**1.87**	**302**	PN	**Pb**	**07 54 18.2**	**-1.0**	
HANI	**Diyarbakir_Han**	**1.87**	**283**	SPECP		07 54 17.0		
HANI				P	**Pn**	**07 54 17.1**	**+0.1**	
HANI				S	**Sg**	**07 54 44.0**	**-1.0**	
BINT	**Bingol**	**1.94**	**297**	*e*Pn	**Pn**	**07 54 22.0**	**-0.1**	
MAKU	**Maku**	**2.03**	**49**	*e*Pg	**Pb**	**07 54 20.1**	**+0.2**	
DYBB	**Diyarbakir**	**2.04**	**269**	PN	**Pn**	**07 54 20.1**	**+0.8**	
DIYA	**Diyarbakir**	**2.06**	**268**	SPECP		07 54 19.0		
DIYA				P	**Pn**	**07 54 20.2**	**+0.6**	
DIYA				S	**Sn**	**07 54 46.0**	**+0.7**	
KOPR	**Koprukoy-ERZUR**	**2.08**	**341**	PN	**Pn**	**07 54 21.0**	**+1.1**	
HOMI	**Horasan**	**2.11**	**343**	P	**Pb**	**07 54 22.9**	**-0.5**	
HOMI				S	**Sg**	**07 54 54.6**	**+1.6**	
EJDE	**Erzurum, Palan**	**2.12**	**329**	P	**Pn**	**07 54 20.7**	**0.0**	
EJDE				S	**Sn**	**07 54 47.6**	**+0.5**	
IGDI	**IGDIR**	**2.12**	**30**	P	**Pb**	**07 54 24.5**	**+1.0**	
IGDI				S	**Sb**	**07 54 48.7**	**-1.2**	
ERZM	**Erzurum**	**2.15**	**331**	P	**Pb**	**07 54 23.3**	**-0.8**	
ERZM				S	**Sb**	**07 54 51.1**	**+0.1**	
YEDI	**Yedisu-Bingol**	**2.21**	**310**	PN	**Pn**	**07 54 22.5**	**+0.8**	
YEDI	**Yedisu-Bingol**	**2.21**	**310**	*e*Pn	**Pn**	**07 54 22.6**	**+0.8**	
VNNZ	**Vanand**	**2.25**	**22**	*i* P	**Pg**	**07 54 29.2**	**+1.2**	
VNNZ				*i* S	**Sg**	**07 55 03.2**	**+6.1**	
TASB	**TASBURUN-IGDIR**	**2.29**	**31**	PN	**Pn**	**07 54 24.0**	**+1.3**	
TASB	**TASBURUN-IGDIR**	**2.29**	**31**	*e*Pn	**Pn**	**07 54 24.2**	**+1.5**	
ISHB	**Shabestar**	**2.30**	**83**	*e*Pn	**Pn**	**07 54 24.7**	**+1.6**	
ISHB				*e*		07 55 15.2		
	comp=Z,8μm,1.0s							
KOVA	**Elazig, Kovanc**	**2.38**	**287**	P	**Pn**	**07 54 24.3**	**+0.2**	
KOVA				S	**Sb**	**07 54 59.1**	**+1.7**	
DIGO	**Kars**	**2.44**	**12**	P	**Pb**	**07 54 27.9**	**-1.1**	
DIGO				S	**Sb**	**07 55 00.2**	**+1.0**	
IMRD	**Marand**	**2.44**	**73**	*e*Pn	**Pb**	**07 54 27.9**	**-1.2**	
IMRD				*e*		07 55 18.0		
	comp=Z,26μm,0.6s							
SENK	**Senkaya-Erzuru**	**2.55**	**354**	PN	**Pn**	**07 54 27.7**	**+1.2**	
IAZR	**Azarshahr**	**2.60**	**97**	*e*Pn	**Pb**	**07 54 30.8**	**-1.1**	
IAZR				*e*		07 54 43.7		
	comp=Z,16μm,0.6s							
KARS	**Kars**	**2.61**	**6**	PN	**Pn**	**07 54 28.2**	**+0.9**	
KARS	**Kars**	**2.61**	**6**		**Pn**	**07 54 25.5**	**-1.8**	
GNI	**Garni**	**2.64**	**36**	Pn	**Pb**	**07 54 31.5**	**-0.9**	
	comp=Z,4.2nm,0.3s,baz=350,slow=3.3,SNR=11							
GNI				Sn	**Sb**	**07 55 07.2**	**+2.3**	
	comp=Z,14nm,0.3s,baz=355,slow=22,SNR=9.0							
GNI				LR	LR	07 55 25.2		
	comp=Z,58nm,21.0s,baz=226,slow=36							
GNI	**Garni**	**2.64**	**36**	*i* P	**Pb**	**07 54 31.2**	**-1.2**	
GNI				*i* S	**Sb**	**07 55 06.4**	**+1.5**	
GNI	**Garni**	**2.64**	**36**	PN	**Pn**	**07 54 28.7**	**+1.0**	
GNI	**Garni**	**2.64**	**36**	P	**Pb**	**07 54 32.5**	**+0.1**	
GNI	**Garni**	**2.64**	**36**		**Pn**	**07 54 28.5**	**+0.8**	
GNI	**Garni**	**2.64**	**36**	Pb	**Pb**	**07 54 30.5**	**-1.9**	
MAHB	**Mahabad**	**2.69**	**117**	*e*Pn	**Pb**	**07 54 31.9**	**-1.3**	
MAHB				*e*		07 55 20.9		
	comp=Z,28μm,0.8s							
KRIK	**Erzurum-spir**	**2.69**	**329**	P	**Pb**	**07 54 31.1**	**-2.3**	
KRIK				S	**Sg**	**07 55 12.1**	**+0.5**	
SVRC	**Sivrice-ELAZID**	**2.71**	**278**	PN	**Pn**	**07 54 29.3**	**+0.6**	
TNCL	**Tunceli-Merkez**	**2.72**	**295**	P	**Pn**	**07 54 29.6**	**+0.9**	
TNCL				S	**Sb**	**07 55 07.8**	**+0.7**	
EAK	**Akyaka**	**2.74**	**14**	P	**Pb**	**07 54 33.1**	**-1.1**	
EAK				SPECP		07 54 36.0		
EAK				S	**Sg**	**07 55 11.6**	**-1.6**	
KAPZ	**Kaputan**	**2.76**	**33**	*i* P	**Pn**	**07 54 31.0**	**+1.7**	
KAPZ				*i* S	**Sb**	**07 55 05.9**	**-2.5**	
EUZM	**Uzumlu**	**2.90**	**306**	P	**Pn**	**07 54 33.0**	**+1.8**	
EUZM				S	**Sb**	**07 55 14.7**	**+2.5**	
IKRK	**Kirkuk**	**2.93**	**153**	*e*Pn	**Pn**	**07 54 34.0**	**+2.5**	
IKRK				*e*Sn	**Sb**	**07 55 11.5**	**-1.5**	
IKRK				AML	AML	07 55 29.1		
	comp=N,2μm,0.8s							
IKRK				AML	AML	07 55 37.3		
	comp=E,2μm,0.7s							
BAYB	**BAYBURT**	**2.94**	**320**	P	**Pb**	**07 54 35.2**	**-2.3**	
BAYB				S	**Sb**	**07 55 15.0**	**+1.4**	
DDEM	**Demirkent**	**2.96**	**346**	P	**Pb**	**07 54 34.9**	**-2.9**	
ELZG	**Elazig**	**2.98**	**280**	SPECP		07 54 32.0		
ELZG				P	**Pn**	**07 54 32.5**	**+0.2**	
ELZG				S	**Sb**	**07 55 16.0**	**+1.4**	
SANL	**SANLIURFA_Merk**	**3.08**	**255**	SPECP		07 54 34.0		
SANL				P	**Pn**	**07 54 34.6**	**+1.0**	
SANL				S	**Sg**	**07 55 22.0**	**-2.0**	
DBAD	**Bademkaya**	**3.09**	**345**	P	**Pn**	**07 54 36.8**	**+3.0**	
BAYT	**Aydıntepe-Bayb**	**3.10**	**321**	PN	**Pn**	**07 54 35.7**	**+1.7**	
DAGI	**Agillar**	**3.11**	**349**	P	**Pn**	**07 54 36.2**	**+2.1**	
DAGI				S	**Sg**	**07 55 23.9**	**-1.0**	
URFA	**Urfa**	**3.15**	**260**	PN	**Pn**	**07 54 35.1**	**+0.5**	
IBST	**Bostanabad**	**3.32**	**94**	*e*Pn	**Pn**	**07 54 40.2**	**+3.1**	
EPOS	**Posof**	**3.47**	**0**	SPECP		07 54 41.0		
EPOS				P	**Pn**	**07 54 41.8**	**+2.7**	
EPOS				S	**Sg**	**07 55 40.1**	**+3.5**	
KEMA	**Kemaliye**	**3.53**	**292**	P	**Pn**	**07 54 41.5**	**+1.6**	
KEMA				S	**Sg**	**07 55 43.3**	**+4.8**	
ARPR	**Arapgir-MALATY**	**3.60**	**289**	PN	**Pn**	**07 54 41.4**	**+0.6**	
ISRB	**Sarab**	**3.92**	**91**	*e*Pn	**Pn**	**07 54 49.0**	**+3.7**	
SUSE	**Susehri**	**4.13**	**303**	SPECP		07 54 51.0		
SUSE				P	**Pn**	**07 54 51.3**	**+3.1**	
SUSE				S	**Sb**	**07 55 50.9**	**+3.0**	
GRMI	**Germi**	**4.14**	**78**	*e*Pn	**Pn**	**07 54 50.7**	**+2.4**	
GZT	**Gaziantep**	**4.14**	**262**	SPECP		07 54 48.0		
GZT				P	**Pn**	**07 54 48.3**	**-0.1**	
GZT				S	**Sg**	**07 55 58.0**	**-0.1**	
DARE	**Darende-Malaty**	**4.16**	**279**	PN	**Pn**	**07 54 50.5**	**+2.0**	
IDHR	**Dehrash**	**4.45**	**137**	*e*Pn	**Pn**	**07 54 55.4**	**+2.8**	
IDHR				*e*		07 56 23.6		
	comp=Z,6μm,0.7s							
GAZ	**Gaziantep**	**4.46**	**261**	PN	**Pn**	**07 54 54.8**	**+2.2**	
GAZ	**Gaziantep**	**4.46**	**261**	Pn	**Pn**	**07 54 51.5**	**-1.1**	
IGHG	**Ghaleghazi**	**4.83**	**139**	*e*Pn	**Pn**	**07 55 01.0**	**+3.2**	
IGHG				*e*		07 56 58.6		
	comp=Z,8μm,1.0s							
SVSK	**Karacayir**	**4.84**	**295**	PN	**Pn**	**07 54 59.9**	**+2.1**	
ZNJK	**Zanjan**	**4.94**	**104**	*e*Pn	**Pn**	**07 55 02.8**	**+3.4**	
KER	**Kermanshah**	**5.09**	**134**	*e*Pn	**Pn**	**07 55 02.9**	**+1.5**	
KCHF	**Cheshme Sefid,**	**5.12**	**136**	*e*Pn	**Pn**	**07 55 04.7**	**+2.9**	
KCHF				*e*		07 57 01.0		
	comp=Z,3μm,0.9s							
IALM	**Almabolaq**	**5.41**	**124**	*e*Pn	**Pn**	**07 55 09.5**	**+3.6**	
BNN	**Bunyan**	**5.46**	**281**	Pn	**Pn**	**07 55 08.2**	**+1.7**	
BNN	**Bunyan**	**5.46**	**281**	Pn	**Pn**	**07 55 09.1**	**+2.7**	
	comp=Z,75nm,0.9s							
IBZA	**Bozab**	**5.46**	**129**	*e*Pn	**Pn**	**07 55 09.5**	**+2.9**	
IBDR	**Badra**	**5.56**	**151**	*e*Pn	**Pn**	**07 55 11.0**	**+3.3**	
IBDR				*e*Sn	**Sn**	**07 56 15.0**	**+3.4**	
KBZ	**Khabaz**	**5.70**	**1**	Pn	**Pn**	**07 55 13.5**	**+4.0**	
	comp=Z,0.1nm,0.3s,baz=162,slow=6.4,SNR=1.3							
QABG	**Abgarm-Qazvin**	**5.97**	**111**	*e*Pn	**Pn**	**07 55 15.8**	**+2.3**	
HSAM	**Samen**	**6.10**	**127**	*e*Pn	**Pn**	**07 55 18.3**	**+3.0**	
IDOB	**Doab**	**6.12**	**132**	*e*Pn	**Pn**	**07 55 18.6**	**+3.0**	
IKFM	**Kafar-mosalman**	**6.13**	**136**	*e*Pn	**Pn**	**07 55 18.2**	**+2.8**	
QALM	**Alamut, Qazvin**	**6.52**	**102**	*e*Pn	**Pn**	**07 55 24.6**	**+3.5**	
ASAO	**Ashtian**	**6.84**	**118**	*e*Pn	**Pn**	**07 55 30.0**	**+4.4**	
RAFI	**Al-Rafai**	**6.88**	**155**	*e*Pn	**Pn**	**07 55 30.0**	**+4.2**	
RAFI				*e*Sn	**Sn**	**07 56 46.0**	**+1.9**	
KHMZ	**Khomeyn**	**7.27**	**124**	*e*Pn	**Pn**	**07 55 35.4**	**+4.1**	
BR131	**Keskin Array S**	**7.28**	**286**	Pn	**Pn**	**07 55 29.7**	**-1.8**	
BRTR	**Keskin Array B**	**7.28**	**286**	Pn	**Pn**	**07 55 33.4**	**+1.9**	
	comp=Z,0.2nm,0.3s,baz=119,slow=15,SNR=8.0							
BRTR				LR	LR	07 58 54.7		
	comp=Z,770nm,21.6s,baz=100,slow=43							
BRTR	**Keskin Array B**	**7.28**	**286**	Pn	**Pn**	**07 55 29.7**	**-1.8**	
NATI	**Neve Ativ**	**7.41**	**232**	Pn	**Pn**	**07 55 35.4**	**+2.4**	
NATI				Sn	**Sb**	**07 57 30.1**	**+8.2**	
GEM	**Giv'at Ha'Em**	**7.49**	**232**	Pn	**Pn**	**07 55 37.1**	**+2.9**	
GEM				Sn	**Sb**	**07 57 32.3**	**+8.1**	
ASF	**Jabal al Asfar**	**7.54**	**221**	Pn	**Pn**	**07 55 34.4**	**-0.6**	
	comp=Z,0.6nm,0.3s,baz=31,slow=11,SNR=4.9							
ILGA	**Ilgaz**	**7.58**	**296**	Pn	**Pn**	**07 55 32.6**	**-3.0**	
MMA0B	**Mount Meron ar**	**7.78**	**232**	Pn	**Pn**	**07 55 41.3**	**+3.1**	
MMAI	**Mount Meron Ar**	**7.78**	**232**	Pn	**Pn**	**07 55 38.2**	**-0.1**	
	comp=Z,3.8nm,0.3s,baz=66,slow=15,SNR=17							
MMAI				LR	LR	07 58 53.9		
	comp=Z,238nm,21.4s,baz=218,slow=41							
MMC7	**Mount Meron ar**	**7.78**	**232**	Pn	**Pn**	**07 55 41.9**	**+3.6**	
HNTI	**Hanita**	**7.88**	**234**	Pn	**Pn**	**07 55 43.3**	**+3.7**	
ANTO	**Ankara**	**7.95**	**286**	Pn	**Pn**	**07 55 39.3**	**-1.3**	
BLGI	**Bet Lehem HaGe**	**8.10**	**232**	Pn	**Pn**	**07 55 45.9**	**+3.3**	
BLGI				Sn	Sb	07 57 46.7	+4.9	
MMLI	**Mount Malkishu**	**8.17**	**229**	Pn	**Pn**	**07 55 48.1**	**+4.6**	
HMDT	**Nahal Hemdat**	**8.24**	**228**	Pn	**Pn**	**07 55 48.7**	**+4.3**	
OFRI	**`Ofer**	**8.31**	**232**	Pn	**Pn**	**07 55 48.9**	**+3.5**	
AMIS	**Naft Sefid**	**8.33**	**138**	*e*Pn	**Pn**	**07 55 47.0**	**+1.3**	
ISFB	**Sefidab**	**8.53**	**113**	*e*Pn	**Pn**	**07 55 52.8**	**+4.3**	
IPIR	**Pirpir**	**8.54**	**128**	*e*Pn	**Pn**	**07 55 51.1**	**+2.2**	
KRSH	**Karshahi**	**8.64**	**115**	*e*Pn	Pn	07 55 55.0	+4.9	
IZEF	**Zefreh**	**9.36**	**120**	*e*Pn	**Pn**	**07 56 03.6**	**+3.5**	
KLNJ	**Kolanjah**	**10.12**	**131**	*e*Pn	**Pn**	**07 56 12.1**	**+1.5**	
HRFI	**Mount Harif**	**10.20**	**221**	Pn	Pn	07 56 16.9	+5.5	
HRFI				Sn	Sn	07 58 44.4	+39	
MRVT	**Maraveh tapeh**	**10.58**	**88**	*e*Pn	**Pn**	**07 56 20.3**	**+3.7**	
SBZV	**Sabzevar**	**11.99**	**93**	*e*Pn	**Pn**	**07 56 39.9**	**+3.9**	
GEYT	**Alibeck**	**12.15**	**86**	Pn	**Pn**	**07 56 41.0**	**+2.9**	
	comp=Z,0.6nm,0.3s,baz=310,slow=9.0,SNR=6.9							
GEYT				LR	LR	08 02 47.4		
	comp=Z,318nm,18.2s,baz=316,slow=44							
GEYT	**Alibeck**	**12.15**	**86**		**Pn**	**07 56 35.5**	**-2.6**	
GYA0B	**ALIBECK ARRAY**	**12.15**	**86**		**Pn**	**07 56 36.0**	**-2.1**	
ISFR	**Sfrayin**	**12.17**	**90**	*e*Pn	**Pn**	**07 56 42.7**	**+4.1**	
ALN	**Alexandroupoli**	**13.20**	**288**	Pn	**Pn**	**07 56 49.7**	**-2.7**	
SAKB	**Bahrain**	**13.71**	**149**	P	**Pn**	**07 56 58.8**	**-0.6**	
SAKB				S	**Sn**	**07 59 26.2**	**-5.6**	
SHMA	**Al-Shehemyia**	**14.00**	**148**	P	**Pn**	**07 57 02.2**	**-1.1**	
SHMA				S	**Sn**	**07 59 32.8**	**-5.9**	
SORM	**Soroca**	**14.55**	**319**	⇓P	**P**	**07 57 19.2**	**+2.0**	
MLR	**Muntele Rosu**	**14.56**	**306**	⇓P	**P**	**07 57 21.1**	**+3.6**	
MLR	**Muntele Rosu**	**14.56**	**306**	Pn	**Pn**	**07 57 13.3**	**+2.3**	
	comp=Z,0.1nm,0.3s,baz=144,slow=14,SNR=2.0							
MLR	**Muntele Rosu**	**14.56**	**306**	Pn	**Pn**	**07 57 06.9**	**-4.1**	
TESR	**Tescani**	**14.59**	**311**	⇓P	**P**	**07 57 20.4**	**+2.6**	
RAYN	**Ar Rayn**	**14.65**	**170**	P	**Pn**	**07 57 10.7**	**-1.7**	
RAYN	**Ar Rayn**	**14.65**	**170**	Pn	**Pn**	**07 57 10.1**	**-2.3**	
TRNA	**Turayna**	**15.09**	**149**	P	**Pn**	**07 57 17.5**	**-0.7**	
TRNA				S	**Sn**	**07 59 57.2**	**-8.2**	
VOIR		**15.11**	**305**	⇑P	**P**	**07 57 27.3**	**+3.7**	
DOPR	**Dopca**	**15.11**	**307**	⇑P	**P**	**07 57 27.1**	**+3.5**	
ARR	**Arges**	**15.35**	**304**	⇑P	**P**	**07 57 28.0**	**+1.6**	
VTS	**Vitosha**	**15.55**	**293**	Pn	**Pn**	**07 57 22.1**	**-2.1**	
VTS				IAmb	IAmb	07 57 33.6		
	comp=Z,19nm,1.5s							
AKASG	**Malin Array Be**	**15.89**	**327**	Pn	**P**	**07 57 30.5**	**-1.7**	
	comp=Z,4.0nm,0.3s,baz=137,slow=10,SNR=85							
AKASG				LR	LR	08 05 03.4		
	comp=Z,133nm,19.9s,baz=154,slow=42							
AKASG	**Malin Array Be**	**15.89**	**327**		**Pn**	**07 57 26.1**	**-2.4**	
AKBB	**Malin Array Si**	**15.89**	**327**	Pn	**Pn**	**07 57 26.4**	**-2.1**	
AKBB				IAmb	IAmb	07 57 39.5		
	comp=Z,40nm,1.2s							
AKBB	**Malin Array Si**	**15.89**	**327**	P	**P**	**07 57 30.6**	**-1.6**	
	comp=Z,34nm,1.2s							
AKBB				pP	**pP**	**07 57 32.8**	**-3.1**	
	comp=Z,34nm,1.2s							
BURAR	**Bucovina Array**	**15.99**	**312**	⇑P	**P**	**07 57 36.1**	**+2.7**	
BURAR	**Bucovina Array**	**15.99**	**312**		**Pn**	**07 57 27.6**	**-2.4**	
BUR08	**Bucovina Ar. S**	**16.02**	**312**		**Pn**	**07 57 29.0**	**-1.2**	
ARCR	**ARCALIA**	**16.25**	**310**	⇓P	**P**	**07 57 40.1**	**+3.9**	
SHME	**Shamm**	**16.47**	**133**	P	**Pn**	**07 57 35.0**	**-1.1**	
GHWR	**Ruwais**	**16.48**	**145**	P	**Pn**	**07 57 36.0**	**-0.2**	
AKTO	**Aktyubinsk**	**16.51**	**36**	Pn	**P**	**07 57 39.0**	**-0.1**	
	comp=Z,0.3nm,0.3s,baz=225,slow=10.0,SNR=16							
AKTO				LR	LR	08 05 35.6		
	comp=Z,79nm,18.7s,baz=231,slow=43							
GZR	**Gura Zlata**	**16.59**	**303**	⇑P	**P**	**07 57 40.8**	**+0.8**	
BANOM	**Banah**	**16.66**	**132**	P	**Pn**	**07 57 37.9**	**-0.6**	
BANOM				S	**Sn**	**08 00 36.0**	**-7.6**	
BANOM	**Banah**	**16.66**	**132**	Pn	**Pn**	**07 57 36.5**	**-2.1**	
BANOM				Sn	**Sn**	**08 00 35.7**	**-7.8**	
HERR	**Herculane**	**16.67**	**301**	⇓P	**P**	**07 57 41.9**	**+1.1**	
ABKAR	**Akbulak array**	**16.73**	**42**	P	**Pn**	**07 57 38.8**	**-0.4**	
ABKAR	**Akbulak array**	**16.73**	**42**	Pn	**Pn**	**07 57 38.7**	**-0.6**	
MASF	**Masafi**	**17.00**	**134**	P	**Pn**	**07 57 42.5**	**-0.3**	
AJN	**Ajban**	**17.01**	**139**	P	**Pn**	**07 57 43.7**	**+0.8**	
MSFE	**Esma-Masafi**	**17.01**	**134**	Pn	**Pn**	**07 57 41.5**	**-1.5**	
NAZ	**Nazwa, Dubai**	**17.03**	**136**	P	**Pn**	**07 57 42.6**	**-0.5**	
MDVR	**Moldovita**	**17.12**	**300**	⇑P	**P**	**07 57 45.5**	**-0.4**	
MZWR	**Madinat Zayed**	**17.12**	**143**	S	**Sn**	**08 00 47.1**	**-7.6**	
ASUD	**Al Ashush, Dub**	**17.14**	**138**	P	**Pn**	**07 57 43.5**	**-1.0**	
	SNR=5.5							
ASUD				S	**Sn**	**08 00 48.7**	**-6.4**	
ASUD	**Al Ashush, Dub**	**17.14**	**138**	*i* Pn	**Pn**	**07 57 43.3**	**-1.2**	
	SNR=5.8							
FAQ	**Al Faqa, Dubai**	**17.18**	**137**	P	**Pn**	**07 57 44.3**	**-0.8**	
	SNR=6.2							
FAQ				S	**Sn**	**08 00 47.3**	**-8.9**	
UOSS	**Minazif**	**17.36**	**135**	S	**Sn**	**08 00 50.2**	**-10**	
UOSS	**Minazif**	**17.36**	**135**		**Pn**	**07 57 45.7**	**-1.6**	
UOSS				IAmb	IAmb	07 58 04.8		
	comp=Z,20nm,0.8s							
UOSS	**Minazif**	**17.36**	**135**	Pn	**Pn**	**07 57 45.0**	**-2.3**	
HATD	**Hatta, Dubai**	**17.41**	**135**	P	**Pn**	**07 57 47.4**	**-0.6**	
	SNR=10							
HATD				S	**Sn**	**08 00 53.8**	**-8.1**	
HATD	**Hatta, Dubai**	**17.41**	**135**	*i* Pn	**Pn**	**07 57 46.0**	**-1.9**	
	SNR=7.3							
MEZ	**Mezhgor'ye**	**17.43**	**313**	P	**P**	**07 57 51.9**	**+2.6**	
	comp=Z,7.1nm,1.8s							
ASHO	**Ashiyiah**	**17.49**	**136**	P	**Pn**	**07 57 47.5**	**-1.4**	
	SNR=12							
ASHO				S	**Sn**	**08 00 54.3**

```
HFS                                  LR      LR      08 11 23.7
     comp=Z,164nm,19.1s,baz=138,slow=37
MK31 Makanchi Array   30.23 60  P       P       07 59 55.2 -0.4
MK31                                 IAmb    IAmb    07 59 58.9
     comp=Z,3.9nm,0.9s
MKAR Makanchi Array   30.23 60  LR      LR      08 15 31.1
     comp=Z,37nm,18.0s,baz=222,slow=43
MKAR Makanchi Array   30.23 60  P       P       07 59 55.9 +0.2
NOA  NORSAR Array B   30.28 330 LR      LR      08 13 31.5
     comp=Z,103nm,18.6s,baz=135,slow=39
ZAA0 Zalesovo Array   32.74 47  P       P       08 00 16.6 -0.9
ZALV Zalesovo Beam    32.74 47  P       P       08 00 20.4 +2.8
     comp=Z,0.7nm,0.3s,baz=226,slow=8.1,SNR=4.2
ZALV                                 LR      LR      08 15 39.7
     comp=Z,56nm,18.5s,baz=232,slow=40
ZALV Zalesovo Beam    32.74 47  P       P       08 00 16.6 -0.9
ARCES ARCESS Array B  32.91 349 P       P       08 00 21.9 +3.1
     comp=Z,0.8nm,0.5s,baz=19,slow=7.9,SNR=9.0
ARCES                                LR      LR      08 14 17.1
     comp=Z,152nm,20.0s,baz=138,slow=37
EKA  Eskdalemuir Ar   35.16 315 LR      LR      08 19 27.4
     comp=Z,220nm,18.2s,baz=154,slow=44
ESDC Sonseca Array    36.08 288 P       P       08 00 46.6 -0.1
     comp=Z,0.6nm,0.7s,baz=64,slow=8.8,SNR=4.3
ESDC                                 LR      LR      08 17 18.3
     comp=Z,100nm,19.2s,baz=50,slow=39
MDT  Midelt           38.59 277 LR      LR      08 17 45.7
     comp=Z,10nm,19.2s,baz=272,slow=37
KMBO Kilima Mbogo     39.28 189 LR      LR      08 16 32.5
     comp=Z,69nm,18.6s,baz=80,slow=35
NRIK Noril'sk         39.44 23  P       P       08 01 17.5 +2.8
     comp=Z,2.1nm,0.6s,baz=235,slow=7.4,SNR=6.8
NRIK Noril'sk         39.44 23  P       P       08 01 13.8 -0.9
NRIK                                 IAmb    IAmb    08 01 20.7
     comp=Z,6.9nm,1.3s
TORD Torodi Ar. Bea   44.02 247 P       P       08 01 51.6 -1.3
     comp=Z,0.4nm,0.5s,baz=49,slow=10,SNR=3.7
BORG Borgarnes        45.38 327 LR      LR      08 21 35.1
     comp=Z,67nm,18.5s,baz=169,slow=37
SONM Songino Array    46.43 56  LR      LR      08 24 31.8
     comp=Z,79nm,18.9s,baz=270,slow=40
PZH  PanZhiHua        50.47 85  P       P       08 02 46.8 +3.6
PZH                                  pmax    pmax
     comp=Z,8.0nm,1.0s
PZH                                  pmax    pmax
     comp=Z,100nm,5.2s
HHC  Hu-ho-hao-te     51.98 64  eP      P       08 02 57.5 +3.2
HHC                                  pmax    pmax
     comp=Z,18nm,0.9s
HHC                                  pmax    pmax
     comp=Z,140nm,4.9s
CMAR Chiang Mai Arr   52.43 95  P       P       08 02 58.0 +0.2
     comp=Z,0.7nm,0.5s,baz=298,slow=9.0,SNR=5.4
CMAR                                 LR      LR      08 31 30.4
     comp=Z,34nm,18.0s,baz=70,slow=43
XAN  Xi'an            52.67 73  P       P       08 03 01.3 +1.9
XAN                                  pP      sP      08 03 13.8 +8.6
XAN                                  pmax    pmax
     comp=Z,9.0nm,1.4s
ROSA Rosais           54.29 294 P       P       08 03 10.0 -1.2
SFJD Kangerlussuaq    56.91 332 LR      LR      08 27 27.7
     comp=Z,73nm,18.7s,baz=90,slow=36
LBTB Lobatse          64.74 197 P       P       08 04 23.1 -0.3
KSAR Wonju Array Be   64.89 61  P       P       08 04 23.2 -1.1
WIN  Windhoek         64.90 206 P       P       08 04 24.4 -0.3
KSRS Korea Array      64.91 61  P       P       08 04 26.4 +1.9
     comp=Z,2.5nm,0.7s,baz=281,slow=6.7,SNR=8.5
SEY  Seymchan         64.92 28  P       P       08 04 26.6 +2.5
     comp=Z,2.5nm,0.7s,baz=335,slow=17
FRB  Frobisher Bay    65.03 335 LR      LR      08 32 05.2
     comp=Z,113nm,18.1s,baz=356,slow=35
YKA  Yellowknife Ar   78.17 349 P       P       08 05 45.5 +1.6
     comp=Z,0.4nm,0.9s,baz=12,slow=5.1,SNR=3.8
YKA                                  LR      LR      08 41 18.0
     comp=Z,93nm,19.1s,baz=337,slow=36
ULM  Lac du Bonnet    84.83 335 LR      LR      08 47 28.1
     comp=Z,54nm,19.5s,baz=79,slow=38
BATI Baumata          89.18 104 LR      LR      08 51 11.9
     comp=Z,35nm,19.6s,baz=0,slow=39
TKL  Tuckaleechee C   91.52 319 LR      LR      08 50 33.0
     comp=Z,57nm,18.5s,baz=292,slow=37
```

NNC 23 07:57:51.9±1.2, 50°.90N×73°.71E, h0km, mb3.6, mpv3.3, 6C-3D, Error ellipse: s-maj=12.3km s-min=8.7km az=160.0, Suspected Mining explosion., Central Kazakhstan

```
Code Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op      ISC             h m s    ISC
OTUK Ortayu           2.80 199 ⇑Pn    Pn              07 58 39.0 +1.1
     2.8nm,0.7s
OTUK                           ⇑Lg    Lg              07 59 17.5
     18nm,0.9s
BRVK Borovoye         3.03 317 ⇑Lg    Lg              07 59 27.4
     10nm,0.6s
KURBB Kurchatov Arra  3.07  93 ⇓Pg    Pb              07 58 48.8 +1.4
     5.9nm,0.6s,baz=279,slow=18
KURBB                          ⇓Lg    Lg              07 59 30.0
     27nm,0.8s,baz=278,slow=29
KURK Kurchatov        3.12  91 ⇑Pg    Pb              07 58 48.0 -0.2
     2.4nm,0.6s
KURK                           ⇑Lg    Lg              07 59 30.5
     5.9nm,0.6s
MAKZ Makanchi         6.81 124 ⇑Pg    Pb              07 59 55.9 +4.7
     3.8nm,0.7s
MAKZ                           Lg     Lg              08 01 29.2
     3.7nm,0.8s
MK31 Makanchi Array   6.99 123 ⇓Pg    Pb              07 59 57.1 +2.9
     7.3nm,1.1s,baz=268,slow=6.7,SNR=28
MK31                           Lg     Lg              08 01 32.5
     2.6nm,0.6s,baz=317,slow=26,SNR=2.5
```

IDC 23 08:02:50.6±1.3, 37°.84N×101°.90E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/50, mbtmp3.7/8, ML4.2/2, MS3.6/5, Ms1 3.6/5, ms1mx2.9/91, Error ellipse: s-maj=27.4km s-min=25.5km az=109.0

ISC 23 08:02:55.6±1.1, 37°.8N±0°.1×101°.9E±0°.2, h35km, n11, σ1§42/8, mb3.8/3, MS4.0/3, Qinghai

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Code Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op      ISC             h m s    ISC
SONM Songino Array    10.54 17  Pn      Pn              08 05 23.6 -0.6
     0.6nm,0.3s,baz=191,slow=14,SNR=5.3
SONM                           Lg     Lg              08 08 24.3
     0.8nm,0.3s,baz=207,slow=28,SNR=8.9
SONM                           LR     LR              08 10 03.5
     comp=Z,127nm,20.9s,baz=56,slow=41
CMAR Chiang Mai Arr   19.46 188 P       P               08 07 18.0 -1.3
     0.8nm,0.3s,baz=5.2,slow=11,SNR=1.6
CMAR                           LR     LR              08 15 25.8
     comp=Z,62nm,20.8s,baz=350,slow=39
ZALV Zalesovo Beam    19.95 329 P       P               08 07 23.6 -0.9
     0.1nm,0.3s,baz=123,slow=11,SNR=5.9
KSRS Korea Array      20.59 83  P       P               08 07 32.4 +0.9
     1.5nm,0.8s,baz=275,slow=8.1,SNR=2.6
KURBB Kurchatov Arra  20.97 315 P       P               08 07 34.1 -1.4
     3.4nm,0.6s,baz=119,slow=11,SNR=27
BRTR Keskin Array B   52.06 295 P       P               08 12 04.1 +2.1
     0.8nm,0.8s,baz=57,slow=5.3,SNR=2.1
ILAR Eielson Array    64.60 26  P       P               08 13 28.6 -0.4
     0.9nm,0.8s,baz=281,slow=5.0,SNR=10
YKA  Yellowknife Ar   75.80 17  P       P               08 14 37.8 +0.3
     0.4nm,0.7s,baz=329,slow=5.1,SNR=8.7
SCHQ Schefferville    87.21 354 LR      LR              08 55 05.2
     comp=Z,81nm,20.0s,baz=84,slow=36
LBTB Lobatse          94.97 242 LR      LR              08 54 36.8
     comp=Z,46nm,21.9s,baz=146,slow=33
TSUM Tsumeb           97.21 251 LR      LR              09 00 53.3
     comp=Z,44nm,19.8s,baz=153,slow=36
```

UCR 23 08:09:35.7±1.6, 9°.79N×83°.81W, h0km±3km, MW3.7
IASPEI 23 08:09:36.1±0.9, 9°.78N±0°.03×83°.81W±0°.03, h13km±5km, Error ellipse: s-maj=4.4km s-min=3.0km az=50.6, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009
UPA 23 08:09:36.5±1.0, 9°.87N×83°.81W, h9km±5km, MW4.1

ISC 23 08:09:36.4±0.8, 9°.79N±0°.02×83°.82W±0°.02, h13km±5km, n65, σ0§94/84, 2C, Costa Rica

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Code Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op      ISC             h m s    ISC
RIMA Rio Macho        0.05 243 eP      Pg              08 09 38.4 -0.6
     RIMA                       eS     Sg              08 09 40.0 -1.0
RAFA San Farael, Vo   0.17  2  eP      Pg              08 09 41.6 +1.1
     RAFA                       eS     Sg              08 09 44.5 +1.1
OCM  Ochomogo         0.18 306 eP      Pg              08 09 40.3 -0.2
LCR2 La Lucha 2       0.19 256 eP      Pg              08 09 40.7 -0.1
     LCR2                       eS     Sg              08 09 43.9 0.0
VTCV VTCV, Calle Va   0.21  25 eP      Pg              08 09 41.0 -0.1
VTRT Volcan Turrial   0.21  7  eP      Pg              08 09 41.1 -0.2
CVTR Volcan Turrial   0.24  14 eP      Pg              08 09 41.6 -0.1
VTUN Crater Central   0.24  13 eP      Pg              08 09 41.6 -0.1
VTUC Crater, Volcan   0.24  13 eP      Pg              08 09 41.6 -0.1
CDM  Cerro de Muert   0.24 167 eP      Pg              08 09 41.5 -0.3
SJS  Escuela Geolog   0.28 302 eP      Pg              08 09 42.3 +0.1
HDC3 Heredia 3        0.36 306 eP      Pb              08 09 43.9 -0.8
HDC  Heredia          0.36 306 eP      Pb              08 09 43.9 -0.9
HDC  Heredia          0.36 306 eP      Pg              08 09 43.6 -0.1
     HDC                        eS     Sb              08 09 49.3 -1.1
MRVA Moravia de Chi   0.37  85 eP      Pg              08 09 43.5 -0.3
PEZE Perez Zeledon,   0.43 161 eP      Pg              08 09 44.3 -0.6
RIFO Rio Frio, Sara   0.53 349 eP      Pb              08 09 46.9 -0.7
EDDO Dominical        0.54 185 eP      Pg              08 09 47.2 +0.3
CRPO Crater poas      0.57 315 eP      Pb              08 09 47.7 -0.8
SRBA San Rafael, Bu   0.71 141 eP      Pg              08 09 49.0 -1.3
SRA1 San Ramn         0.72 294 eP      Pg              08 09 49.9 -0.4
DRK0 Durika           0.77 133 eP      Pg              08 09 50.3 -1.1
DRK0 Durika           0.77 133 eP      Pg              08 09 50.3 -1.1
     DRK0                       eS     Sg              08 10 00.7 -0.8
EDBA Buenos Aires     0.82 139 eP      Pg              08 09 50.9 -1.4
JACO JACO, Garabito   0.84 261 eP      Pg              08 09 52.1 -0.5
EDPN Palmar Norte     0.90 157 eP      Pg              08 09 53.8 +0.1
LAFE Finca La Fe, P   1.08 271 eP      Pg              08 09 56.9 -0.2
COVE Coope Vega, Sa   1.09 328 eP      Pg              08 09 56.1 -1.2
CASO Castillo         1.11 305 i P     Pg              08 09 56.8 -0.9
ARE1 Arenal 1         1.11 307 eP      Pg              08 09 56.9 -0.9
CEDE Laguna Cedeo     1.11 309 i P     Pg              08 09 57.3 -0.5
     CEDE                       i S    Sn              08 10 14.5 +1.4
RIOS Rincon, Osa      1.12 165 eP      Pg              08 09 56.4 -1.6
JTS  Las Juntas de    1.22 294 eP      Pg              08 09 58.5 -1.4
JTS  Las Juntas de    1.22 294 eP      Pg              08 09 58.6 -1.4
     JTS                        eS     Sg              08 10 14.8 -1.1
EDSV San Vito         1.27 139 eP      Pg              08 10 00.4 -0.5
CAO2 Cobano, Puntar   1.28 266 eP      Pn              08 09 59.6 -0.3
CNI2 El Empalme, Bo   1.38 105 eP      Pn              08 10 00.4 -1.0
     CNI2                       eS     Sb              08 10 18.4 -1.2
PIRO Carate, Puerto   1.46 161 eP      Pn              08 10 03.3 +0.8
PIRO Carate, Puerto   1.46 161 eP      Pn              08 10 03.5 +1.0
     PIRO                       eS     Sn              08 10 23.2 +1.8
ACAL Aguas Claras     1.46 305 i P     Pb              08 10 03.5 -0.1
PTEN Parque Tenorio   1.47 309 i P     Pn              08 10 02.8 0.0
BRU2 Volcan           1.49 132 eP      Pn              08 10 03.1 +0.1
BRU2 Volcan           1.49 132 eP      Pn              08 10 03.1 +0.1
     BRU2                       eS     Sg              08 10 24.7 +0.3
CDITO Canoas          1.53 142 eP      Pn              08 10 03.4 0.0
CDITO Canoas          1.53 142 eP      Pn              08 10 03.5 0.0
     CDITO                      eS     Sn              08 10 23.6 +0.5
BC3P Paso Ancho       1.54 129 eP      Pn              08 10 04.3 +0.6
     BC3P                       eS     Sn              08 10 25.1 +1.4
CUI  Cuipilapa        1.58 303 ⇑iP     Pn              08 10 04.6 +0.4
     CUI                        eP     Pn              08 10 04.7 +0.4
COLC Colonia          1.62 303 i P     Pn              08 10 05.5 +0.7
NICO Nicoya           1.64 282 eP      Pb              08 10 06.8 +0.2
BCO2 Palmira          1.66 130 eP      Pn              08 10 05.9 +0.5
     BCO2                       eS     Sb              08 10 29.0 +1.1
INDI Punta indio, G   1.66 273 eP      Pn              08 10 06.2 +0.9
DUNO Dulce Nombre,    1.68 280 eP      Pn              08 10 06.3 +0.8
LNBQ3 Los Naranjos,   1.68 126 eP      Pn              08 10 06.1 +0.4
     LNBQ3                      eS     Sn              08 10 28.2 +1.0
ORTG Ortega, Santa    1.71 290 eP      Pn              08 10 06.5 +0.5
GUAI GUAI             1.73 286 i P     Pn              08 10 06.9 +0.6
GRZA Playa Garza      1.80 274 eP      Pn              08 10 08.3 +1.2
PTPM Petroterminale   1.83 149 eP      Pn              08 10 08.4 +0.9
     PTPM                       eS     Sn              08 10 32.7 +2.1
CHGR2 Aguacate        1.85 117 eP      Pn              08 10 08.6 +0.6
     CHGR2                      eS     Sn              08 10 32.5 +1.2
BUEV Buena Vista      1.86 303 i P     Pb              08 10 09.7 -0.6
SAJU San Juanillo,    1.89 279 eP      Pn              08 10 09.5 +1.2
DVD  David            1.91 135 ⇑eP     Pn              08 10 09.6 +1.0
     DVD                        eS     Sn              08 10 33.3 +0.7
HZTE Horizontes, Gu   1.98 298 eP      Pn              08 10 11.1 +1.5
CHIR3 Chiriqui UPA,   2.02 133 eP      Pn              08 10 11.2 +1.0
GMAL Guarumal, Vera   3.25 128 eP      Pn              08 10 30.3 +3.1
     GMAL                       eS     Sb              08 11 12.2 -1.4
BCIP Isla Barro Col   3.98  99 eP      Pn              08 10 36.9 -0.2
```

IDC 23 08:16:58.2±9.2, 2°.05N×126°.19E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/32, mbtmp3.6/3, Error ellipse: s-maj=194.0km s-min=142.3km az=72.0, Northern Molucca Sea

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Code Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op      ISC             h m s    ISC
WRA  Warramunga Arr   23.27 160 P       P               08 22 07.2 -0.4
     2.6nm,1.1s,baz=339,slow=11,SNR=9.1
ASAR Alice Springs    26.64 164 P       P               08 22 39.4 +0.5
     0.2nm,0.4s,baz=342,slow=9.8,SNR=6.9
STKA Stephens Creek   36.77 158 P       P               08 24 07.4 -0.3
     0.9nm,0.6s,baz=326,slow=9.7,SNR=4.0
```

IDC 23 08:20:58.2±1.8, 26°.25N×105°.04E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/38, mbtmp3.7/6, Error ellipse: s-maj=114.9km s-min=21.8km az=70.0

ISC 23 08:21:03.3±1.7, 26°.2N±0°.3×105°.0E±0°.6, h35km, n6, σ0§83/6, mb3.5/6, Southeastern China

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Code Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op      ISC             h m s    ISC
SONM Songino Array    21.60  3  P       P               08 25 50.8 +0.6
     0.8nm,0.5s,baz=188,slow=9.0,SNR=3.9
ZALV Zalesovo Beam    31.46 337 P       P               08 27 21.1 -0.2
     1.6nm,0.6s,baz=142,slow=8.7,SNR=7.2
NRIK Noril'sk         44.35 351 P       P               08 29 10.2 +0.5
     2.2nm,0.8s,baz=156,slow=10.0,SNR=4.4
WRA  Warramunga Arr   54.03 145 P       P               08 30 24.7 +0.4
     0.4nm,0.8s,baz=325,slow=6.9,SNR=2.7
ASAR Alice Springs    56.96 148 P       P               08 30 45.5 +0.1
     0.3nm,0.6s,baz=329,slow=6.3,SNR=4.8
YKA  Yellowknife Ar   86.11  17 P       P               08 33 39.2 -1.1
     0.2nm,0.6s,baz=324,slow=5.2,SNR=6.5
```

ANF 23 08:28:09.8±1.8, 35°.71N×121°.11W, h5km, ML3.0/6, Error ellipse: s-maj=19.8km s-min=14.0km az=42.0
NEIC 23 08:28:10.9±0.8, 35°.71N±0°.02×121°.07W±0°.03, h13km±4km, Error ellipse: s-maj=4.4km s-min=1.5km az=50.0
NCEDC 23 08:28:11.2±1.4, 35°.71N±0°.02×121°.05W±0°.03, h7km±7km, ML3.1/24, ML2.8/14(NEIC), Error ellipse: s-maj=4.3km s-min=1.1km az=49.0

ISC 23 08:28:10.7±1.2, 35°.70N±0°.04×121°.08W±0°.05, h14km±8km, n35, σ0§61/37, Central California

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Code Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op      ISC             h m s    ISC
RAMR Ramage Ranch     0.18 109 Pg      Pg              08 28 15.0 0.0
     RAMR                       Sg     Sg              08 28 18.0 +0.2
PKD  Bear Valley Ra   0.50  60 Pg      Pg              08 28 20.5 -0.2
TCHL Shandon          0.55  90 Pg      Pb              08 28 22.0 -0.2
PMPB Monarch Peak     0.57  23 Pg      Pg              08 28 21.7 -0.2
     PMPB                       IAML   IAML            08 28 32.8
     comp=E,2μm,0.5s
TRAM Private Proper   0.66  91 Pg      Pg              08 28 23.6 +0.1
PAGB Antelope Grade   0.68  87 Pg      Pg              08 28 23.5 -0.4
     PAGB                       IAML   IAML            08 28 38.0
     comp=E,835nm,0.6s
     PAGB                       IAML   IAML            08 28 43.0
     comp=N,674nm,0.6s
BSMM Soledad Missio   0.74 338 Pg      Pg              08 28 25.1 0.0
HAST Hastings Reser   0.79 331 Pg      Pg              08 28 25.9 -0.1
BBNM San Benito       0.81  0  Pg      Pb              08 28 26.6 0.0
PDRM Domengine Ranc   0.86  42 Pg      Pb              08 28 27.9 +0.5
BBGB Big Mountain B   0.88  2  Pg Pg   Pb              08 28 28.3 +0.5
PMLM Mount Lospe      0.89 154 Pg      Pg              08 28 28.1 +0.2
BJCM Johnson Can.     0.89 343 Pg      Pg              08 28 27.5 -0.4
SCZ  Santa Cruz       0.94 344 Pg      Pg              08 28 28.5 -0.4
SMMC Simmler          0.96 113 P       Pg              08 28 29.0 -0.3
     baz=295
     SMMC                       S      Sn              08 28 43.9 +0.6
     baz=295
BLRM Lewis Ranch      0.98 351 Pb      Pb              08 28 29.6 +0.1
SAO  San Andreas Ge   1.11 345 Pb      Pb              08 28 31.4 -0.3
SAO  San Andreas Ge   1.11 345 Pb      Pb              08 28 31.8 +0.2
HSFM Saint Francis    1.17 343 Pb      Pb              08 28 32.5 -0.1
PKM  Mcpherson Peak   1.31 127 P       Pn              08 28 35.1 +0.4
     baz=309
HFEM San Felipe       1.31 349 Pn      Pn              08 28 34.4 -0.2
VES  Vestal, Richgr   1.63  84 S       Sn              08 28 59.3 -0.4
     baz=266
MHC  Mount Hamilton   1.71 345 Pn      Pn              08 28 40.1 0.0
COSM Mount Oso        1.83 353 Pn      Pn              08 28 42.2 +0.5
HELL Mitchell Peak,   1.93  59 Pn      Pn              08 28 43.4 +0.2
JRSC Jasper Ridge     1.94 332 Pn      Pn              08 28 42.5 -0.8
ISA  Isabella, Lake   2.12  90 Pn      Pn              08 28 46.1 +0.3
     ISA                        IAML   IAML            08 29 16.9
     comp=N,55nm,0.4s
     ISA                        IAML   IAML            08 29 19.8
     comp=E,49nm,0.5s
ISA  Isabella, Lake   2.12  90 P       Pn              08 28 45.8 0.0
     baz=272
KCC  Kaiser Creek     2.16  41 Pn      Pn              08 28 46.6 +0.3
CMB  Columbia Colle   2.40  13 Pn      Pn              08 28 50.5 +0.9
CWC  Cottonwood Cre   2.54  72 P       Pb              08 28 54.2 -2.0
     baz=254
MDCM Deadman Creek    2.59  39 Pn      Pn              08 28 54.5 +2.0
EDW2 Edwards Air Fo   2.65 107 P       Pn              08 28 53.7 +0.6
     baz=289
MWC  Mount Wilson     2.88 120 Pn      Pn              08 28 56.5 +0.2
     MWC                        IAML   IAML            08 29 37.7
     comp=E,30nm,0.5s
     MWC                        IAML   IAML            08 29 37.7
     comp=N,37nm,0.4s
TPNV Topopah Spring   4.09  71 Pn      Pn              08 29 13.0 0.0
     TPNV                       IAML   IAML            08 31 17.4
     comp=N,7.7nm,4.5s
```

NORS 23 08:35:11.4±0.0, 43°.06N×45°.78E, h97km±3km, MPVA4.1
MOS 23 08:35:11.6±0.6, 43°.15N×45°.77E, h100km, mb3.7/1, Error ellipse: s-maj=12.7km s-min=6.5km az=27.9
MOS 23 08:35:11.4±0.0, 43°.15N×45°.78E, h96km±2km, MPVA3.9
DRS 23 08:35:14.3±0.0, 43°.46N×45°.33E, h32km

ISC 23 08:35:12.4±0.9, 43°.17N±0°.04×45°.78E±0°.03, h95km±6km, n75, σ1§29/140, 5C-6D, Eastern Caucasus

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Code Station Name     Δ°   AZ°  Phase ID                Time     Res
                                Op      ISC             h m s    ISC
GROC Groznyy          0.03  21 eP      Pn              08 35 25.9 +0.2
     GROC                       e                      08 35 36.5
     GROC                       pmax   pmax
     comp=Z,43nm,0.2s
     GROC                       smax   smax
     comp=N,379nm,0.2s
     GROC                       smax   smax
     comp=N,358nm,0.2s
     GROC                       smax   smax
     comp=E,97nm,0.3s
GROC Groznyy          0.03  21 ePg     Pn              08 35 26.1 +0.4
     GROC                       eSg    Sn              08 35 36.6 +1.0
DVE  Vedeno           0.33 130 i P     Pn              08 35 26.2 -0.5
     DVE                        i S    Sn              08 35 36.9 -0.5
     DVE                        pmax   pmax
     comp=Z,149nm,0.2s
     DVE                        smax   smax
     comp=Z,178nm,0.1s
DVE  Vedeno           0.33 130 i Pg    Pn              08 35 26.2 -0.5
     DVE                        eSg    Sn              08 35 36.4 -1.0
BTLR Botlikh          0.60 147 eP      Pn              08 35 28.8 +0.2
     BTLR                       eS     Sn              08 35 40.4 -0.3
     BTLR                       pmax   pmax
     comp=Z,159nm,0.2s
BTLR Botlikh          0.60 147 ePg     Pn              08 35 28.8 +0.2
     BTLR                       eSg    Sn              08 35 40.4 -0.3
DLMR Dylym            0.63  99 eP      Pn              08 35 28.8 0.0
     DLMR                       eS     Sn              08 35 40.8 -0.2
     DLMR                       pmax   pmax
     comp=Z,48nm,0.2s
DLMR Dylym            0.63  99 ePg     Pn              08 35 28.9 0.0
     DLMR                       eSg    Sn              08 35 40.9 -0.2
KMGR Komgaron         0.68 260 ⇓iP     Pn              08 35 29.9 +0.6
     KMGR                       eS     Sn              08 35 43.8 +1.9
KMGR Komgaron         0.68 260 i Pg    Pn              08 35 29.9 +0.6
     KMGR                       eSg    Sn              08 35 42.6 +0.7
DBC  Dubki            0.78 101 eP      Pn              08 35 30.3 0.0
     DBC                        eS     Sn              08 35 43.0 -0.7
     DBC                        eS     Sn              08 35 43.4 -0.3
     DBC                        pmax   pmax
     comp=Z,34nm,0.2s
     DBC                        smax   smax
     comp=N,237nm,0.3s
     DBC                        smax   smax
     comp=E,293nm,0.3s
     DBC                        smax   smax
     comp=E,273nm,0.2s
DBC  Dubki            0.78 101 ePg     Pn              08 35 30.2 0.0
     DBC                        eSg    Sn              08 35 42.7 -0.9
VLKR Vladikavkaz      0.82 261 eP      Pn              08 35 31.2 +0.6
     VLKR                       eS     Sn              08 35 45.8 +1.6
VLKR Vladikavkaz      0.82 261 ePg     Pn              08 35 31.2 +0.6
     VLKR                       eSg    Sn              08 35 45.1 +0.9
UNCR Uncukul          0.88 121 eP      Pn              08 35 31.0 -0.2
     UNCR                       eS     Sn              08 35 44.1 -1.2
     UNCR                       pmax   pmax
     comp=Z,21nm,0.2s
UNCR Uncukul          0.88 121 ePg     Pn              08 35 31.0 -0.2
     UNCR                       eSg    Sn              08 35 44.3 -0.9
KRNR Karanay          0.90 112 ⇑iP     Pn              08 35 31.3 -0.1
     KRNR                       eS     Sn              08 35 44.8 -0.9
     KRNR                       pmax   pmax
     comp=Z,20nm,0.1s
KRNR Karanay          0.90 112 i Pg    Pn              08 35 31.4 -0.1
     KRNR                       eSg    Sn              08 35 44.9 -0.9
BTKR Batakoyurt       0.93 283 eP      Pn              08 35 32.5 +0.8
     BTKR                       eS     Sn              08 35 48.2 +2.0
BTKR Batakoyurt       0.93 283 ePg     Pn              08 35 32.5 +0.8
     BTKR                       eSg    Sn              08 35 48.2 +2.0
XNZR Khunzakh         0.93 133 eP      Pn              08 35 32.2 +0.3
     XNZR                       eS     Sn              08 35 46.7 +0.2
XNZR Khunzakh         0.93 133 ePg     Pn              08 35 32.2 +0.3
     XNZR                       eSg    Sn              08 35 46.7 +0.2
TRKR Terskaya         0.94 306 ⇓iP     Pn              08 35 32.7 +0.9
     TRKR                       eS     Sn              08 35 48.4 +2.0
TRKR Terskaya         0.94 306 i Pg    Pn              08 35 32.7 +0.9
     TRKR                       eSg    Sn              08 35 47.3 +0.9
BUJR Buynaksk         1.03 109 eP      Pn              08 35 33.3 +0.4
     BUJR                       eS     Sn              08 35 48.4 +0.2
     BUJR                       pmax   pmax
     comp=Z,41nm,0.4s
BUJR Buynaksk         1.03 109 ePg     Pn              08 35 33.4 +0.4
     BUJR                       eSg    Sn              08 35 48.5 +0.2
ARKR Arakani          1.06 122 eP      Pn              08 35 33.8 +0.6
     ARKR                       eS     Sn              08 35 49.1 +0.3
     ARKR                       pmax   pmax
     comp=Z,17nm,0.3s
ARKR Arakani          1.06 122 ePg     Pn              08 35 33.9 +0.6
     ARKR                       eSg    Sn              08 35 48.7 -0.1
LACR Lac              1.14 253 eP      Pn              08 35 33.6 -0.6
     LACR                       pmax   pmax
     comp=Z,37nm,0.1s
LACR Lac              1.14 253 ePg     Pn              08 35 33.6 -0.6
     LACR                       eSg    Sn              08 35 49.3 -1.3
GNBR Gunib            1.17 132 eP      Pn              08 35 35.2 +0.7
     GNBR                       eS     Sn              08 35 51.6 +0.5
     GNBR                       pmax   pmax
     comp=Z,26nm,0.1s
GNBR Gunib            1.17 132 ePg     Pn              08 35 35.2 +0.7
     GNBR                       eSg    Sn              08 35 51.7 +0.5
PRTR Priterechnaya    1.23 298 i P     Pn              08 35 36.1 +1.0
     PRTR                       pmax   pmax
     comp=Z,255nm,0.1s
PRTR Priterechnaya    1.23 298 i Pg    Pn              08 35 36.2 +1.0
     PRTR                       eSg    Sn              08 35 54.2 +1.9
KORR Kora             1.26 267 eP      Pn              08 35 35.7 +0.3
     KORR                       pmax   pmax
     comp=Z,17nm,0.2s
KORR Kora             1.26 267 ePg     Pn              08 35 35.8 +0.3
     KORR                       eSg    Sn              08 35 53.4 +0.5
STDR Stavd-Durt       1.27 279 eP      Pn              08 35 36.4 +0.8
     STDR                       eS     Sn              08 35 55.1 +2.0
STDR Stavd-Durt       1.27 279 ePg     Pn              08 35 36.4 +0.8
     STDR                       eSg    Sn              08 35 55.1 +2.0
MAK  Makhachkala      1.28  99 ⇑iP     Pn              08 35 36.1 +0.4
```

MAK				*e*			08 35 53.3
MAK				pmax	pmax		
	comp=Z,102nm,0.5s						
MAK				smax	smax		
	comp=N,225nm,0.4s						
MAK				smax	smax		
	comp=N,185nm,0.3s						
MAK	**Makhachkala**	**1.28**	**99**	*e*Pg	**Pn**	**08 35 36.9**	**+1.2**
MAK				*e*Sg	**Sn**	**08 35 53.1**	**-0.1**
KMKR	**Kumukh**	**1.43**	**137**	*e*P	**Pn**	**08 35 38.3**	**+0.6**
KMKR				*e*S	**Sn**	**08 35 56.7**	**-0.1**
KMKR				pmax	pmax		
	comp=Z,28nm,0.1s						
KMKR	**Kumukh**	**1.43**	**137**	*e*Pg	**Pn**	**08 35 38.4**	**+0.7**
KMKR				*e*Sg	**Sn**	**08 35 56.8**	**-0.1**
ZEI	**Tsey**	**1.43**	**255**	*e*P	**Pn**	**08 35 37.1**	**-0.7**
ZEI				*e*S	**Sn**	**08 35 55.0**	**-2.0**
ZEI	**Tsey**	**1.43**	**255**	*e*Pg	**Pn**	**08 35 37.1**	**-0.7**
ZEI				*e*Sg	**Sn**	**08 35 55.0**	**-2.0**
LSNR	**Lesken**	**1.43**	**275**	*e*P	**Pn**	**08 35 38.2**	**+0.6**
LSNR				*e*S	**Sn**	**08 35 57.9**	**+1.2**
LSNR	**Lesken**	**1.43**	**275**	*e*Pg	**Pn**	**08 35 38.0**	**+0.4**
LSNR				*e*Sg	**Sn**	**08 35 57.2**	**+0.5**
NCK	**Nalchik**	**1.63**	**282**	*i* P	**Pn**	**08 35 40.5**	**+0.5**
NCK				*i* S	**Sn**	**08 36 02.4**	**+1.4**
NCK				pmax	pmax		
	comp=Z,164nm,0.2s						
NCK				smax	smax		
	comp=Z,84nm,0.3s						
NCK	**Nalchik**	**1.63**	**282**	*e*Pg	**Pn**	**08 35 40.5**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.64**	**261**	*e*P	**Pn**	**08 35 39.6**	**-0.7**
DIGR				*e*S	**Sn**	**08 36 00.1**	**-1.4**
DIGR	**Digorskoe uzhe**	**1.64**	**261**	*e*Pg	**Pn**	**08 35 39.6**	**-0.7**
DIGR				*e*Sg	**Sn**	**08 35 59.5**	**-2.1**
URKR	**Urkarakh**	**1.70**	**126**	*e*P	**Pn**	**08 35 41.6**	**+0.6**
URKR				*e*S	**Sn**	**08 36 03.8**	**+1.0**
URKR				pmax	pmax		
	comp=Z,21nm,0.3s						
URKR	**Urkarakh**	**1.70**	**126**	*e*Pg	**Pn**	**08 35 41.6**	**+0.6**
URKR				*e*Sg	**Sn**	**08 36 03.8**	**+1.0**
PYA1	**Pyatigorsk**	**2.14**	**295**	*de*P	**Pn**	**08 35 46.5**	**-0.2**
PYA1				*i* S	**Sn**	**08 36 11.1**	**-1.8**
PYA1				pmax	pmax		
	comp=Z,3.0nm,0.2s						
PYA1				smax	smax		
	comp=Z,8.0nm,0.1s						
PYA1	**Pyatigorsk**	**2.14**	**295**	*e*Pg	**Pn**	**08 35 46.5**	**-0.2**
PYA1				*e*Sg	**Sn**	**08 36 11.4**	**-1.5**
KBZ	**Khabaz**	**2.17**	**286**	*d i* P	**Pn**	**08 35 46.5**	**-0.5**
KBZ	**Khabaz**	**2.17**	**286**	*e*Pg	**Pn**	**08 35 46.5**	**-0.5**
KBZ				*e*Sg	**Sn**	**08 36 11.6**	**-1.8**
AKT	**Akhty**	**2.23**	**139**	*e*P	**Pn**	**08 35 48.4**	**+0.5**
AKT				*e*S	**Sn**	**08 36 15.6**	**+0.6**
AKT				pmax	pmax		
	comp=Z,10.0nm,0.2s						
AKT	**Akhty**	**2.23**	**139**	*e*Pg	**Pn**	**08 35 48.4**	**+0.5**
AKT				*e*Sg	**Sn**	**08 36 14.5**	**-0.5**
NEY	**Neytrino**	**2.24**	**273**	*e*P	**Pn**	**08 35 48.1**	**+0.1**
NEY				*e*S	**Sn**	**08 36 14.4**	**-0.9**
NEY	**Neytrino**	**2.24**	**273**	*e*Pg	**Pn**	**08 35 48.1**	**+0.1**
NEY				*e*Sg	**Sn**	**08 36 14.3**	**-1.0**
BEYR	**Belyy Ugol+**	**2.31**	**292**	*e*Pn	**Pn**	**08 35 48.6**	**-0.3**
BEYR				*e*Sn	**Sn**	**08 36 15.1**	**-1.7**
KSMR	**Kasumkent**	**2.34**	**131**	*e*Pn	**Pn**	**08 35 53.4**	**+4.0**
KSMR				*e*Sn	**Sn**	**08 36 20.0**	**+2.4**
SHA1	**Shidzhatmaz**	**2.34**	**285**	*e*P	**Pn**	**08 35 49.2**	**-0.3**
SHA1				*e*S	**Sn**	**08 36 16.3**	**-1.6**
SHA1	**Shidzhatmaz**	**2.34**	**285**	*e*Pn	**Pn**	**08 35 49.2**	**-0.3**
SHA1				*e*Sn	**Sn**	**08 36 16.2**	**-1.6**
KIV0	**Kislovodsk Arr**	**2.38**	**290**	*e*Pn	**Pn**	**08 35 49.5**	**-0.3**
KIV0				*e*Sn	**Sn**	**08 36 16.9**	**-1.6**
KIV	**Kislovodsk**	**2.38**	**290**	*i* P	**Pn**	**08 35 49.5**	**-0.4**
KIV				*i* S	**Sn**	**08 36 17.9**	**-0.7**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KIV				pmax	pmax		
	comp=Z,20nm,0.2s						
KIV	**Kislovodsk**	**2.38**	**290**	*e*Pn	**Pn**	**08 35 49.6**	**-0.2**
KIV				*e*Sn	**Sn**	**08 36 17.0**	**-1.5**
ALER	**Alexandrovskoy**	**2.61**	**308**	*e*Pn	**Pn**	**08 35 53.3**	**+0.5**
ALER				*e*Sn	**Sn**	**08 36 23.8**	**-0.1**
GOF	**Gofitskoye**	**2.73**	**315⇑**	*e*P	**Pn**	**08 35 54.7**	**+0.4**
GOF				*e*S	**Sn**	**08 36 26.6**	**0.0**
GOF				pmax	pmax		
	comp=Z,16nm,0.6s						
GOF				smax	smax		
	comp=E,70nm,0.7s						
GOF				smax	smax		
	comp=N,49nm,0.4s						
GOF	**Gofitskoye**	**2.73**	**315**	*e*Pn	**Pn**	**08 35 54.8**	**+0.4**
GOF				*e*Sn	**Sn**	**08 36 26.7**	**+0.1**
GUZR	**Guzeripl'**	**4.20**	**283**	*e*Pn	Pn	08 36 20.7	+6.5
GUZR				*e*Sn	**Sn**	**08 37 06.0**	**+3.9**
BR131	**Keskin Array S**	**9.74**	**253**	*i* P	**Pn**	**08 37 29.1**	**-0.6**
AKTO	**Aktyubinsk**	**11.08**	**45**	⇑Pn	**Pn**	**08 37 48.2**	**+0.5**
	comp=N,1.9nm,0.8s						
AKTO				⇓Sn	Sn	08 39 39.8	-10
	comp=N,2.1nm,0.9s						
AB31	**Akbulak array**	**11.54**	**53**	⇑Pn	**Pn**	**08 37 58.6**	**+4.8**
	comp=N,0.3nm,0.6s,baz=239,slow=12,SNR=5.4						
AB31				⇓Sn	**Sn**	**08 39 52.9**	**-7.6**
	comp=N,0.5nm,0.4s,baz=242,slow=19,SNR=5.0						
OBN	**Obninsk**	**13.37**	**337**	*e*P	**Pn**	**08 38 17.9**	**-0.1**
OBN				pmax	pmax		
	comp=Z,12nm,0.3s						

*IDC **23** 08:37:43.7±2.4, 13°.03S×166°.87E, h179km±20km, mb3.8/6, mb1 4.0/7, mb1mx3.6/29, mbtmp4.2/7, Error ellipse: s-maj=38.6km s-min=17.3km az=131.0*

ISC 23 08:37:43.8±0.9, 13°.05S±0°.1×166°.9E±0°.2, h180km, n10, σ0.82/12, mb4.1/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.01**	**183**	P	**Pn**	**08 39 51.0**	**+0.5**
	0.5nm,0.3s,baz=356,slow=16,SNR=13						
STKA	**Stephens Creek**	**29.85**	**227**	P	**P**	**08 43 34.4**	**+0.1**
	4.7nm,0.5s,baz=52,slow=9.7,SNR=22						
WRA	**Warramunga Arr**	**31.92**	**253**	P	**P**	**08 43 52.4**	**-0.3**
	1.5nm,0.6s,baz=85,slow=9.1,SNR=18						
WRA				ScP	**ScP**	**08 50 05.3**	**-0.1**
	0.3nm,0.8s,baz=86,slow=2.7,SNR=4.8						
ASAR	**Alice Springs**	**32.97**	**247**	P	**P**	**08 44 01.2**	**-0.6**
	2.8nm,0.5s,baz=76,slow=9.0,SNR=102						
ASAR				ScP	**ScP**	**08 50 09.2**	**+0.1**
	0.9nm,0.8s,baz=78,slow=2.7,SNR=8.8						
PETK	**Petropavlovsk-**	**66.33**	**354**	P	**P**	**08 48 14.6**	**+1.8**
	2.5nm,0.9s,baz=163,slow=5.4,SNR=2.4						
ILAR	**Eielson Array**	**85.03**	**18**	P	**P**	**08 49 58.4**	**-0.3**
	1.7nm,0.4s,baz=244,slow=5.0,SNR=48						
YKA	**Yellowknife Ar**	**96.21**	**27**	P	**P**	**08 50 49.7**	**-1.3**
	0.1nm,0.4s,baz=256,slow=4.9,SNR=2.8						
ARCES	**ARCESS Array B**	**118.51**	**346**	PKP	**PKPdf**	**08 56 09.1**	**-0.4**
	0.9nm,0.3s,baz=78,slow=2.3,SNR=24						
FINES	**FINESS Array B**	**124.01**	**339**	PKP	**PKPdf**	**08 56 20.2**	**-0.1**
	0.9nm,0.5s,baz=122,slow=2.5,SNR=7.6						
ESDC	**Sonseca Array**	**152.25**	**345**	PKPbc	**PKPbc**	**08 57 18.8**	**+0.2**
	0.7nm,0.8s,baz=11,slow=3.8,SNR=5.6						

*IDC **23** 08:50:45.3±1.2, 6°.88S×131°.74E, h117km±10km, mb3.9/1, mb1 4.0/3, mb1mx3.4/22, mbtmp4.2/3, Error ellipse: s-maj=33.7km s-min=9.1km az=83.0*

ISC 23 08:50:47.8±2.5, 7°.3S±0°.2×129°.9E±0°.2, h150km, n15, σ1.85/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.51**	**117**	P	**Pn**	**08 51 18.8**	**+1.4**
DRS	**Darwin Rock St**	**5.19**	**170**	P	**Pn**	**08 52 06.4**	**+2.7**
MTN	**Manton Dam**	**5.63**	**168**	P	**Pn**	**08 52 12.2**	**+2.5**
KDU	**Kakadu**	**5.91**	**155**	P	**Pn**	**08 52 15.1**	**+1.8**
WRAB	**Tennant Creek**	**13.27**	**162**	P	**Pn**	**08 53 50.9**	**+0.4**
WRA	**Warramunga Arr**	**13.28**	**162**	P	**Pn**	**08 53 48.8**	**-1.8**
	0.9nm,0.3s,baz=346,slow=13,SNR=25						
WRA				S	**Sn**	**08 56 15.1**	**-2.5**
	2.0nm,0.3s,baz=339,slow=22,SNR=9.8						
COEN	**Coen**	**14.59**	**118**	P	**Pn**	**08 54 05.8**	**-1.4**
QIS	**Mount Isa**	**16.17**	**146**	P	**Pn**	**08 54 27.0**	**+0.3**
ASAR	**Alice Springs**	**16.72**	**167**	P	**P**	**08 54 34.0**	**+1.0**
	1.8nm,0.3s,baz=347,slow=11,SNR=118						
ASAR				S	**S**	**08 57 41.9**	**+2.6**
	0.6nm,0.3s,baz=357,slow=26,SNR=5.5						
WRKA	**Warakurna**	**17.71**	**185**	P	**P**	**08 54 44.1**	**+0.1**
OOD	**Oodnadatta**	**21.10**	**166**	P	**P**	**08 55 19.8**	**-0.7**
MULG	**Mulgathing**	**23.19**	**171**	P	**P**	**08 55 40.0**	**-1.3**
FORT	**Forrest**	**23.43**	**184**	P	**P**	**08 55 42.2**	**-1.3**
LCRK	**Leigh Creek**	**24.30**	**162**	P	**P**	**08 55 49.9**	**-1.5**
STKA	**Stephens Creek**	**26.76**	**158**	P	**P**	**08 56 11.8**	**-1.8**
	1.5nm,0.3s,baz=342,slow=7.6,SNR=11						

*GCMT **23** 09:05:33.0±0.3, 35°.93S±0°.02×103°.18W±0°.02, h14km±2km, MW4.9/86, Moment Tensor Solution. s22,c24; s86,c115; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.16±.10; Mθθ-0.90±.10; Mφφ0.73±.10; Mrθ0.68±.23; Mθφ-2.28±.10; Mφr0.69±.23; Best double couple: M0 2.58200×10^16 NP1:φs281.00000°, δ74.00000°, λ-171.00000°. NP2: φs189.00000°, δ81.00000°, λ-16.00000°. Principal axes: T 2.3540, Plg5.0000°, Azm236.0000°; N 0.4540, Plg71.0000°, Azm341.0000°; P -2.8090, Plg18.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 23 09:05:19.9±22.0, 37°.49S×103°.08W, h0km, mb3.6/3, mb1 4.1/3, mb1mx3.7/24, mbtmp3.6/3, MS3.9/27, Ms1 3.9/27, ms1mx3.8/41 Error ellipse: s-maj=688.0km s-min=347.1km az=134.0, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.60**	**331**	LR	LR	09 10 44.2	
	comp=Z,900nm,19.6s,baz=135,slow=28						
PLCA	**Paso Flores**	**25.37**	**107**	LR	LR	09 18 40.2	
	comp=Z,103nm,18.7s,baz=253,slow=32						
LVC	**Limon Verde**	**32.88**	**73**	LR	LR	09 21 55.5	
	comp=Z,130nm,20.5s,baz=245,slow=30						
NNA	**Nana**	**34.60**	**50**	LR	LR	09 22 11.7	
	comp=Z,497nm,21.8s,baz=223,slow=29						
PMSA	**Palmer Station**	**35.67**	**152**	LR	LR	09 23 57.7	
	comp=Z,264nm,19.0s,baz=278,slow=31						
ATAH	**Atahualpa**	**37.63**	**43**	LR	LR	09 24 07.1	
	comp=Z,214nm,18.2s,baz=233,slow=30						
CPUP	**Villa Florida**	**40.05**	**87**	LR	LR	09 26 36.5	
	comp=Z,93nm,19.6s,baz=238,slow=32						
SIV	**San Ignacio**	**42.74**	**72**	LR	LR	09 28 26.6	
	comp=Z,114nm,21.6s,baz=284,slow=32						
ROSC	**El Rosal**	**49.91**	**39**	LR	LR	09 30 58.3	
	comp=Z,246nm,20.7s,baz=211,slow=31						
JTS	**Las Juntas de**	**50.48**	**23**	LR	LR	09 30 16.0	
	comp=Z,192nm,18.5s,slow=30						
QSPA	**South Pole Qui**	**52.72**	**180**	LR	LR	09 34 12.0	
	comp=Z,40nm,19.3s,baz=106,slow=33						
APG	**El Apazote**	**53.55**	**15**	LR	LR	09 32 02.5	
	comp=Z,96nm,19.1s,baz=14,slow=30						
PTGA	**Pitinga**	**53.97**	**58**	LR	LR	09 34 49.8	
	comp=Z,124nm,18.8s,baz=216,slow=33						
VNDA	**Vanda**	**54.81**	**195**	LR	LR	09 34 17.6	
	comp=Z,81nm,18.1s,baz=98,slow=32						
CMIG	**Matias Romero**	**54.83**	**10**	LR	LR	09 31 48.0	
	comp=Z,79nm,19.0s,baz=182,slow=29						
SNAA	**Sanae**	**57.98**	**158**	LR	LR	09 37 14.8	
	comp=Z,124nm,18.0s,baz=278,slow=33						
URZ	**Urewera**	**61.02**	**242**	LR	LR	09 36 18.4	
	comp=Z,121nm,19.9s,baz=36,slow=30						
MDP	**Montagnes des**	**63.19**	**59**	LR	LR	09 39 18.9	
	comp=Z,131nm,21.1s,baz=335,slow=32						
TXAR	**Lajitas Array**	**66.48**	**359**	P	P	09 16 11.2	-0.1
	0.2nm,0.7s,baz=186,slow=8.2,SNR=2.6						
MSVF	**Nonsavu**	**70.74**	**262**	LR	LR	09 39 30.6	
	comp=Z,88nm,22.0s,baz=47,slow=29						
PFO	**Pinyon Flats O**	**71.83**	**348**	LR	LR	09 40 05.9	
	comp=Z,95nm,18.1s,baz=190,slow=29						
ANMO	**Albuquerque**	**72.14**	**357**	LR	LR	09 42 14.4	
	comp=Z,42nm,19.2s,baz=162,slow=31						
MAW	**Mawson**	**74.69**	**174**	LR	LR	09 46 09.2	
	comp=Z,87nm,19.5s,baz=240,slow=33						
TKL	**Tuckaleechee C**	**74.95**	**16**	LR	LR	09 48 35.6	
	comp=Z,64nm,18.1s,baz=184,slow=35						
NVAR	**Mina Array Bea**	**76.84**	**348**	P	P	09 17 13.9	+0.3
	0.4nm,0.7s,baz=169,slow=9.7,SNR=2.7						
DZM	**Mont Dzumac**	**77.27**	**252**	LR	LR	09 43 06.6	
	comp=Z,140nm,19.4s,baz=195,slow=29						
PDAR	**Pinedale Array**	**80.10**	**355**	P	P	09 17 31.5	0.0
	1.0nm,0.7s,baz=160,slow=6.1,SNR=10						
YBH	**Yreka Blue Hor**	**80.86**	**345**	LR	LR	09 46 26.3	
	comp=Z,57nm,18.7s,baz=178,slow=30						
STKA	**Stephens Creek**	**88.33**	**230**	LR	LR	09 51 53.6	
	comp=Z,104nm,18.4s,baz=200,slow=32						
HNR	**Honiara**	**89.81**	**258**	LR	LR	09 53 17.2	
	comp=Z,45nm,19.3s,baz=87,slow=32						

*DDA **23** 09:14:24.4±0.0, 35°.09N×27°.81E, h14km±2km, ML3.1*
*ISK **23** 09:14:25.8, 35°.25N×27°.79E, h134km±2km, ML3.1/14*
*GII **23** 09:14:28.6±0.0, 34°.76N×27°.97E, h15km, Mm3.3/1*
*IDC **23** 09:14:30.6±2.6, 35°.30N×27°.69E, h57km±40km, mb3.4/3, mb1 3.4/4, mb1mx3.1/26, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=39.2km s-min=15.9km az=116.0*

ISC 23 09:14:25.9±1.8, 35°.04N±0°.05×27°.87E±0°.06, h14km±12km, n40, σ1.48/53, mb3.7/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.20**	**10**	PG	**Pg**	**09 14 48.9**	**-0.1**
ZKR	**Zakros**	**1.35**	**274**	PN	Pn	09 14 52.3	+2.0
ZKR				SN	**Sn**	**09 15 12.3**	**+4.2**
NIS1	**Nisyros Isl.**	**1.66**	**341**	PN	**Pn**	**09 14 54.2**	**-0.4**
DAT	**Datca**	**1.71**	**352**	PN	**Pn**	**09 14 54.9**	**-0.4**
DAT				SN	**Sn**	**09 15 15.6**	**-1.3**
DAT	**Datca**	**1.71**	**352**	P	**Pn**	**09 14 54.7**	**-0.6**
DAT				S	**Sn**	**09 15 18.3**	**+1.4**
DAT				*i* AML	AML	09 15 27.0	
	comp=N,194nm,0.7s						
TURN	**Turunc**	**1.76**	**10**	PN	**Pn**	**09 14 55.6**	**-0.3**
TURN	**Turunc**	**1.76**	**10**	P	**Pn**	**09 14 56.3**	**+0.4**
TURN				S	**Sn**	**09 15 20.7**	**+2.5**
TURN				*i* AML	AML	09 15 26.0	
	comp=E,173nm,1.0s						
TURN				*i* AML	AML	09 15 30.0	
	comp=Z,154nm,0.8s						
AKAS	**Kas**	**1.85**	**49**	PN	**Pn**	**09 14 57.9**	**+0.6**
AKAS				SN	**Sn**	**09 15 21.6**	**+1.0**
AKAS	**Kas**	**1.85**	**49**	P	**Pn**	**09 14 58.1**	**+0.8**
AKAS				S	**Sn**	**09 15 21.4**	**+0.8**
AKAS				*i* AML	AML	09 15 28.0	
	comp=N,156nm,0.5s						
FETY	**Fethiye**	**1.88**	**31**	PN	**Pn**	**09 14 57.8**	**+0.2**
DALY	**Dalyan (Mula)**	**1.89**	**20**	PN	**Pn**	**09 14 57.5**	**-0.2**
BODT	**Bodrum**	**2.07**	**348**	PN	**Pn**	**09 14 58.8**	**-1.4**
YER	**Yerkesik**	**2.12**	**9**	PN	**Pn**	**09 14 59.9**	**-1.0**
CAME	**Cameli-Denizli**	**2.23**	**31**	PN	**Pn**	**09 15 01.3**	**-1.2**
MULA	**Mugla, Merkez-**	**2.25**	**9**	P	**Pn**	**09 15 03.6**	**+0.9**
MULA				S	**Sg**	**09 15 38.6**	**+0.4**
MLSB	**Milas**	**2.26**	**358**	PN	**Pn**	**09 15 01.3**	**-1.5**
CAEL	**Denizli, Camel**	**2.39**	**29**	P	**Pn**	**09 15 05.5**	**+0.8**
CAEL				*i* AML	AML	09 15 37.0	
	comp=E,154nm,0.9s						
CAEL				*i* AML	AML	09 16 13.0	
	comp=Z,138nm,0.9s						
CAEL				*i* AML	AML	09 16 16.0	
	comp=N,178nm,1.5s						
DDIM	**Aydin, Didim**	**2.47**	**348**	P	**Pn**	**09 15 07.0**	**+1.4**
DDIM				S	**Sn**	**09 15 37.4**	**+1.9**
DDIM				*i* AML	AML	09 15 43.0	
	comp=E,171nm,1.1s						
DDIM				*i* AML	AML	09 15 58.0	
	comp=Z,111nm,0.9s						
DDIM				*i* AML	AML	09 16 12.0	
	comp=N,182nm,2.5s						
TAVA	**DENIZLI_Tavas**	**2.57**	**19**	P	**Pn**	**09 15 07.2**	**+0.1**
GOLH	**Golhisar**	**2.59**	**32**	P	**Pn**	**09 15 09.2**	**+1.8**
GOLH				S	**Sn**	**09 15 41.7**	**+3.0**
GOLH				*i* AML	AML	09 16 11.0	
	comp=N,74nm,0.9s						
GCAM	**G?zelcaml?**	**2.71**	**349**	**Pn**	**Pn**	**09 15 06.7**	**-2.2**
GCAM	**G?zelcaml?**	**2.71**	**349**	P	**Pn**	**09 15 08.1**	**-0.8**
GCAM				*i* AML	AML	09 16 39.0	
	comp=N,185nm,2.7s						
GCAM				*i* AML	AML	09 16 39.0	
	comp=E,80nm,2.4s						
KORT	**Korkueli**	**2.81**	**45**	**Pn**	**Pn**	**09 15 09.7**	**-0.8**
KORT	**Korkueli**	**2.81**	**45**	P	**Pn**	**09 15 12.8**	**+2.3**
PASA	**Karahalli, USA**	**3.55**	**21**	P	**Pn**	**09 15 19.9**	**-0.8**
KEPZ	**Antalya-Kepez**	**3.56**	**57**	P	**Pn**	**09 15 22.4**	**+1.7**
KEPZ				S	**Sn**	**09 16 03.1**	**+0.5**
SEDI	**Konya, Seydise**	**3.96**	**51**	P	**Pn**	**09 15 28.8**	**+2.5**
SEDI				S	**Sn**	**09 16 14.8**	**+2.2**
SEDI				*i* AML	AML	09 16 19.0	
	comp=E,37nm,0.7s						
BRTR	**Keskin Array B**	**6.56**	**43**	P	**Pn**	**09 16 03.4**	**+1.4**
	0.1nm,0.3s,baz=217,slow=15,SNR=3.3						
MMLI	**Mount Malkishu**	**6.81**	**110**	Pn	**Pn**	**09 16 06.5**	**+1.2**
KZIT	**Kziot**	**6.86**	**125**	Pn	**Pn**	**09 16 06.7**	**+0.7**
HMDT	**Nahal Hemdat**	**6.96**	**111**	Pn	**Pn**	**09 16 07.9**	**+0.5**
YTIR	**Yattir**	**7.09**	**119**	Pn	**Pn**	**09 16 11.1**	**+1.8**
YTIR				Sn	**Sn**	**09 17 29.7**	**-0.1**
KRMI	**Paran Flat**	**7.58**	**128**	Pn	**Pn**	**09 16 16.7**	**+0.7**
PRNI	**Paran**	**7.62**	**126**	Pn	**Pn**	**09 16 16.9**	**+0.5**
HRFI	**Mount Harif**	**7.84**	**127**	Pn	**Pn**	**09 16 19.2**	**-0.3**
HRFI				Sn	**Sn**	**09 17 46.5**	**-1.6**
MBRI	**Mt Berech**	**7.92**	**129**	Pn	**Pn**	**09 16 21.8**	**+1.1**
MBRI				Sn	**Sn**	**09 17 50.1**	**-0.1**
EIL	**Elat**	**8.03**	**130**	Pn	**Pn**	**09 16 22.5**	**+0.4**
ESDC	**Sonseca Array**	**25.64**	**290**	P	**P**	**09 19 52.8**	**-2.3**
	0.3nm,0.6s,baz=83,slow=9.2,SNR=6.2						
FINES	**FINESS Array B**	**26.45**	**358**	P	**P**	**09 19 59.5**	**-2.6**
	1.2nm,0.6s,baz=163,slow=10,SNR=5.3						
TORD	**Torodi Ar. Bea**	**32.16**	**234**	P	**P**	**09 20 53.3**	**+0.1**
	0.8nm,0.7s,baz=27,slow=9.2,SNR=5.9						

*BUL **23** 09:29:28.8±1.4, 26°.90S×26°.96E, h7km±13km, MD4.8*
*EAF **23** 09:29:28.7±1.4, 26°.90S×26°.97E, h6km±13km, MD4.3*
*PRE **23** 09:29:32.0±0.7, 26°.87S×26°.68E, h2km, ML2.9*

ISC 23 09:29:29.8±1.3, 26°.91S±0°.03×26°.92E±0°.03, h17km±10km, n26, σ3.47/43, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.39**	**92**	*e*P	**Pn**	**09 29 44.3**	**+3.4**
PRYS				*e*S	**Sb**	**09 29 52.2**	**+7.9**
PRYS				IAML		09 29 56.1	
	comp=Z,535nm,0.8s						
KSR	**Koster**	**1.06**	**359**	*e*P	**Pn**	**09 29 52.4**	**+2.3**
KSR				*e*S	**Sn**	**09 30 06.2**	**+1.7**
KSR				IAML		09 30 13.4	
	comp=Z,841nm,0.1s						
HRAO	**HartRAO**	**1.23**	**34**	*e*P	Pn	09 29 57.6	+5.2
HRAO				*e*S	**Sn**	**09 30 16.2**	**+7.5**
HRAO				IAML		09 30 18.4	
	comp=Z,236nm,0.3s						
SLR	**Silverton**	**1.69**	**46**	*e*P	**Pg**	**09 30 05.3**	**+2.9**
SLR				*e*S	**Sg**	**09 30 29.5**	**+5.1**
SLR				IAML		09 30 32.1	
	comp=Z,209nm,0.2s						
LBTB	**Lobatse**	**2.24**	**327**	*e*P	**Pb**	**09 30 08.9**	**-0.9**
LBTB				*e*S	**Sn**	**09 30 35.7**	**+2.2**
LBTB				IAML		09 30 40.0	
	comp=Z,267nm,0.6s						
LBTB	**Lobatse**	**2.24**	**327**	*i* P	**Pn**	**09 30 06.0**	**-0.2**
LBTB				*i* Sg	**Sb**	**09 30 38.8**	**+1.5**
LBTB	**Lobatse**	**2.24**	**327**	*i* P	**Pn**	**09 30 06.0**	**-0.2**
LBTB				*i* Sg	**Sb**	**09 30 38.8**	**+1.5**
BOSA	**Boshof**	**2.25**	**221**	*e*P	**Pb**	**09 30 09.1**	**-0.9**
BOSA				*e*S	**Sn**	**09 30 37.2**	**+3.4**
BOSA				IAML		09 30 51.3	
	comp=Z,58nm,0.5s						
BOSA	**Boshof**	**2.25**	**221**	*i* P	**Pn**	**09 30 06.1**	**-0.3**
BOSA				*i* Sg	**Sb**	**09 30 40.0**	**+2.4**
BOSA	**Boshof**	**2.25**	**221**	*i* P	**Pn**	**09 30 06.1**	**-0.3**
BOSA				*i* Sg	**Sb**	**09 30 40.0**	**+2.4**
NWCL	**Newcastle**	**2.77**	**108**	*e*P	**Pg**	**09 30 21.1**	**-1.8**
NWCL				*e*S	**Sg**	**09 30 57.6**	**-1.2**
NWCL				IAML		09 31 09.7	
	comp=Z,77nm,0.4s						
CRLN	**Carolina, Mapu**	**2.93**	**72**	*e*P	**Pg**	**09 30 23.2**	**-2.8**
CRLN				*e*S	**Sg**	**09 31 00.5**	**-3.4**
CRLN				IAML		09 31 28.9	
	comp=Z,32nm,1.8s						
POGA	**Pongola**	**4.29**	**97**	*e*P	**Pb**	**09 30 42.3**	**-2.4**
POGA				*e*S	**Sb**	**09 31 34.0**	**-2.3**
POGA				IAML		09 31 50.9	
	comp=Z,22nm,0.5s						
CNG	**Changalane**	**4.76**	**84**	*i* S	**Sn**	**09 31 32.4**	**-3.2**
CNG	**Changalane**	**4.76**	**84**	*i* S	**Sn**	**09 31 32.4**	**-3.2**
MOPA	**Mopani**	**5.28**	**51**	*e*P	Pb	09 30 54.7	-7.0
MOPA				*e*S	**Sn**	**09 31 54.7**	**+6.2**
MOPA				IAML		09 32 24.7	
	comp=Z,26nm,0.8s						
MOPA	**Mopani**	**5.28**

M_R=0.14±.08; M_V=1.35±.03; M_P=0.61±.09; Best double couple: M_0=2.51700×10^{17} NP1:ϕ_s=63.00000°,δ73.00000°,λ10.00000°. NP2:ϕ_s=330.00000°,δ81.00000°,λ162.00000°. Principal axes: T 2.2610, Plg19.0000°, Azm286.0000°; N 0.5120, Plg70.0000°, Azm123.0000°; P -2.7740, Plg5.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 23 10:07:60.0±0.2,**22'36S**±0'.06×**114°01W**±0°.06,**h10**km, **n782**,σ1$35/611,**mb5.5**/203,**MS5.2**/134,**17C-2D**,**Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.37**	**139**	P	**Pn**	**10 09 35.0**	**+1.0**
RPN	**Rapa Nui**	**6.37**	**139**	Pn	**Pn**	**10 09 35.0**	**+1.0**
TAOE	**Nuku Hiva Isla**	**28.46**	**294**	*e*S	S	10 18 32.5	-11
TAOE	578nm,29.7s						
	comp=Z,10μm,25.5s,baz=127			*e*LR	LR	10 20 56.1	
TAOE	**Nuku Hiva Isla**	**28.46**	**294**	P	**P**	**10 13 56.2**	**+0.6**
PAYG	**Puerto Ayora**	**31.59**	**50**	P	**P**	**10 14 23.0**	**-0.1**
PAYG				IAmb	IAmb	10 14 40.4	
	comp=Z,85nm,1.3s						
H03N2	**Juan Fernandez**	**32.76**	**117**	T	T	10 49 09.3	
	baz=285,slow=75,SNR=264						
H03N3	**Juan Fernandez**	**32.77**	**117**	T	T	10 49 10.5	
	baz=285,slow=75,SNR=394						
H03N1	**Juan Fernandez**	**32.78**	**117**	T	T	10 49 13.9	
	baz=285,slow=75,SNR=534						
PPTF	**Pamatai, Papee**	**33.70**	**272**	P	**P**	**10 14 43.7**	**+2.0**
PPT2	**Papeete2**	**33.71**	**272**	*e*S	S	10 19 48.2	-17
	comp=Z,470nm,28.0s						
PPT2				*e*LQ	LQ	10 21 48.4	
	comp=Z,3μm,24.8s						
PPT2				*e*LR	LR	10 23 10.0	
	comp=Z,5μm,28.8s						
PPT	**Papeete**	**33.72**	**272**	LR	LR	10 25 01.6	
	comp=Z,705nm,18.0s,baz=98,slow=30						
NNA	**Nana**	**36.88**	**80**	LR	LR	10 26 21.6	
	comp=Z,3μm,18.7s,baz=248,slow=30						
NNA	**Nana**	**36.88**	**80**	*ce*P	**P**	**10 15 11.1**	**+2.0**
NNA				pmax	pmax		
	comp=Z,77nm,2.5s						
NNA	**Nana**	**36.88**	**80**	P	**P**	**10 15 08.9**	**-0.2**
NNA	**Nana**	**36.88**	**80**	IAMs_20	IAMs_20	10 25 58.4	
	comp=Z,4μm,18.0s						
ATAH	**Atahualpa**	**37.49**	**72**	LR	LR	10 26 35.0	
	comp=Z,3μm,21.2s,baz=242,slow=30						
CO06	**Fray Jorge**	**38.63**	**112**	P	**P**	**10 15 22.9**	**-0.8**
GO05	**Huala**	**38.74**	**118**	P	**P**	**10 15 25.7**	**+1.1**
VA05	**Santo Domingo**	**38.84**	**116**	P	**P**	**10 15 25.3**	**-0.2**
LL05	**Los Muermos**	**38.88**	**129**	P	**P**	**10 15 25.9**	**+0.3**
LL05				IAmb	IAmb	10 16 26.9	
	comp=Z,259nm,1.9s						
CO05	**La Serena**	**38.95**	**110**	P	**P**	**10 15 24.0**	**-2.4**
AC04	**Llanos de Chal**	**39.11**	**108**	P	**P**	**10 15 27.8**	**+0.1**
MT01	**Popeta**	**39.16**	**117**	P	**P**	**10 15 29.0**	**+0.9**
MT02	**Curacav**	**39.20**	**116**	P	**P**	**10 15 26.4**	**-2.1**
ML02	**Panimavida**	**39.26**	**120**	P	**P**	**10 15 29.1**	**+0.2**
ML02				IAmb	IAmb	10 15 32.1	
	comp=Z,126nm,1.4s						
GO04	**Tololo Observa**	**39.34**	**111**	P	**P**	**10 15 30.5**	**+0.6**
BO01	**Tunca**	**39.36**	**117**	P	**P**	**10 15 30.9**	**+1.1**
MT09	**Talagante**	**39.37**	**116**	P	**P**	**10 15 30.6**	**+0.5**
CO03	**El Pedregal**	**39.45**	**112**	P	**P**	**10 15 31.1**	**+0.4**
LL04	**Puerto Octay**	**39.52**	**128**	P	**P**	**10 15 31.3**	**+0.2**
MT05	**Renca**	**39.55**	**116**	P	**P**	**10 15 31.4**	**0.0**
PEL	**Peldehue**	**39.57**	**115**	P	**P**	**10 15 32.4**	**+0.8**
PEL				pmax	pmax		
	comp=Z,94nm,1.6s						
PEL	**Peldehue**	**39.57**	**115**	P	**P**	**10 15 32.4**	**+0.8**
LL03	**Petrohue**	**39.59**	**128**	P	**P**	**10 15 32.9**	**+1.3**
BO02	**Sierra Bellavi**	**39.65**	**118**	P	**P**	**10 15 33.5**	**+1.2**
VA03	**San Esteban**	**39.66**	**115**	P	**P**	**10 15 32.7**	**+0.3**
GO03	**Copiap**	**39.87**	**107**	P	**P**	**10 15 34.3**	**+0.1**
PB14	**IPOC Station P**	**39.93**	**102**	P	**P**	**10 15 35.5**	**+0.4**
PB14				IAMs_20	IAMs_20	10 27 12.5	
	comp=Z,5μm,22.0s						
TA01	**Diego Aracena**	**40.72**	**96**	P	**P**	**10 15 41.9**	**+0.7**
PB07	**IPOC Station P**	**40.79**	**98**	P	**P**	**10 15 41.9**	**-0.1**
PB07				IAmb	IAmb	10 15 45.0	
	comp=Z,98nm,1.5s						
TA02	**Huaiquique**	**40.83**	**96**	P	**P**	**10 15 42.7**	**+0.6**
PLCA	**Paso Flores**	**40.84**	**127**	P	**P**	**10 15 41.0**	**-1.1**
	comp=Z,11nm,1.3s,baz=281,slow=6.8,SNR=4.8						
PLCA				LR	LR	10 28 12.2	
	comp=Z,3μm,20.6s,baz=281,slow=30						
PLCA	**Paso Flores**	**40.84**	**127**	P	**P**	**10 15 41.9**	**-0.2**
PLCA				pmax	pmax		
	comp=Z,50nm,1.7s						
PLCA	**Paso Flores**	**40.84**	**127**	P	**P**	**10 15 41.9**	**-0.2**
AC02	**Maricunga**	**40.89**	**106**	P	**P**	**10 15 43.3**	**+0.2**
PB06	**IPOC Station P**	**40.93**	**99**	P	**P**	**10 15 43.2**	**0.0**
PB12	**IPOC Station P**	**40.98**	**93**	P	**P**	**10 15 44.2**	**+0.7**
AP01	**Chacalluta**	**41.03**	**93**	P	**P**	**10 15 45.0**	**+1.3**
AP01				IAmb	IAmb	10 15 56.6	
	comp=Z,95nm,1.1s						
COYC	**Coyhaique**	**41.15**	**135**	P	**P**	**10 15 45.5**	**+1.1**
ZON	**Zonda**	**41.19**	**113**	P	**P**	**10 15 46.1**	**+1.0**
ZON				pmax	pmax		
	comp=Z,64nm,1.2s						
ZON	**Zonda**	**41.19**	**113**	P	**P**	**10 15 46.1**	**+1.0**
PB01	**IPOC Station P**	**41.27**	**97**	P	**P**	**10 15 46.4**	**+0.5**
PB01				IAMs_20	IAMs_20	10 28 32.3	
	comp=Z,3μm,19.0s						
OTAV	**Otavalo**	**41.28**	**62**	P	**P**	**10 15 47.3**	**+0.9**
OTAV				pmax	pmax		
	comp=Z,85nm,1.4s						
OTAV	**Otavalo**	**41.28**	**62**	*e*P	**P**	**10 15 49.0**	**+2.7**
OTAV	**Otavalo**	**41.28**	**62**	P	**P**	**10 15 47.3**	**+0.9**
OTAV				IAmb	IAmb	10 15 55.4	
	comp=Z,85nm,1.4s						
CUSE	**Cuicocha Este**	**41.36**	**62**	*e*P	P	10 15 56.1	+9.1
PB11	**IPOC Station P**	**41.36**	**95**	P	**P**	**10 15 46.9**	**+0.2**
PB11				IAMs_20	IAMs_20	10 28 05.7	
	comp=Z,3μm,20.0s						
PB09	**IPOC Station P**	**41.37**	**98**	P	**P**	**10 15 47.5**	**+0.7**
LVC	**Limon Verde**	**41.55**	**99**	P	**P**	**10 15 47.4**	**-1.0**
	comp=Z,9.7nm,0.9s,baz=253,slow=7.6,SNR=13						
LVC				LR	LR	10 28 30.7	
	comp=Z,1μm,18.6s,baz=255,slow=30						
LVC	**Limon Verde**	**41.55**	**99**	P	**P**	**10 15 49.2**	**+0.7**
LVC				pmax	pmax		
	comp=Z,30nm,1.2s						
LVC	**Limon Verde**	**41.55**	**99**	P	**P**	**10 15 49.2**	**+0.7**
MNMC	**Minye Minye**	**41.55**	**94**	P	**P**	**10 15 48.7**	**+0.4**
MNMC				IAMs_20	IAMs_20	10 28 14.4	
	comp=Z,3μm,20.0s						
PB08	**IPOC Station P**	**41.75**	**96**	P	**P**	**10 15 50.8**	**+0.6**
PB08				IAMs_20	IAMs_20	10 28 19.0	
	comp=Z,3μm,20.0s						
PB16	**IPOC Station P**	**41.81**	**93**	P	**P**	**10 15 51.5**	**+0.6**
GO01	**Chusmiza**	**41.81**	**95**	P	**P**	**10 15 51.0**	**+0.2**
TULM	**Tulcn-Chalpat**	**42.09**	**62**	*e*P	**P**	**10 15 54.9**	**+1.8**
CZSB	**Cruzeiro do Su**	**42.29**	**76**	P	**P**	**10 15 55.1**	**+0.9**
CZSB				IAmb	IAmb	10 15 59.0	
	comp=Z,94nm,1.3s						
RAR	**Rarotonga**	**42.39**	**263**	LR	LR	10 28 47.9	
	comp=Z,2μm,18.5s,baz=100,slow=30						
TLIG	**Tlapa**	**42.46**	**22**	P	**P**	**10 15 57.3**	**+1.8**
CAO2	**Cobano, Puntar**	**42.63**	**45**	P	**P**	**10 15 58.1**	**+1.2**
GCUF	**Volcan Galeras**	**42.75**	**62**	*e*P	**P**	**10 16 01.9**	**+3.4**
JACO	**JACO, Garabito**	**42.90**	**45**	P	**P**	**10 15 59.7**	**+0.6**
ORTG	**Ortega, Santa**	**42.91**	**44**	P	**P**	**10 15 60.0**	**+0.8**
RIOS	**Rincon, Osa**	**42.97**	**47**	P	**P**	**10 16 00.9**	**+1.4**
RIOS				IAmb	IAmb	10 16 04.3	
	comp=Z,172nm,1.9s						
JTS	**Las Juntas de**	**43.18**	**44**	LR	LR	10 29 41.7	
	comp=Z,952nm,18.6s,slow=30						
JTS	**Las Juntas de**	**43.18**	**44**	*i* P	**P**	**10 16 01.5**	**+0.2**
JTS				pmax	pmax		
	comp=Z,17nm,1.3s						
JTS	**Las Juntas de**	**43.18**	**44**	*e*P	**P**	**10 16 04.0**	**+2.7**
JTS	**Las Juntas de**	**43.18**	**44**	P	**P**	**10 16 02.3**	**+1.0**
JTS				IAmb	IAmb	10 16 08.8	
	comp=Z,188nm,1.9s						
GO09	**Cerro Castillo**	**43.23**	**142**	P	**P**	**10 16 02.1**	**+0.8**
GO09				IAmb	IAmb	10 16 14.2	
	comp=Z,139nm,1.6s						
CDITO	**Canoas**	**43.31**	**48**	P	**P**	**10 16 03.1**	**+0.7**
PEZE	**Perez Zeledon,**	**43.35**	**47**	P	**P**	**10 16 03.7**	**+0.9**
SRBA	**San Rafael, Bu**	**43.45**	**47**	P	**P**	**10 16 03.7**	**+0.1**
RIMA	**Rio Macho**	**43.50**	**46**	P	**P**	**10 16 05.3**	**+1.1**
HDC	**Heredia**	**43.51**	**45**	P	**P**	**10 16 05.6**	**+1.5**
HDC				IAmb	IAmb	10 16 13.6	
	comp=Z,160nm,1.6s						
DRK0	**Durika**	**43.55**	**47**	P	**P**	**10 16 05.1**	**+0.5**
LPAZ	**La Paz**	**43.59**	**90**	P	**P**	**10 16 06.0**	**+0.6**
	comp=Z,19nm,1.1s,baz=261,slow=5.4,SNR=40						
LPAZ				LR	LR	10 29 58.9	
	comp=Z,2μm,20.9s,baz=252,slow=30						
LPAZ	**La Paz**	**43.59**	**90**	P	**P**	**10 16 06.2**	**+0.8**
LPAZ				pmax	pmax		
	comp=Z,155nm,1.8s						
LPAZ	**La Paz**	**43.59**	**90**	*e*P	**P**	**10 16 06.3**	**+1.0**
LPAZ	**La Paz**	**43.59**	**90**	P	**P**	**10 16 06.2**	**+0.8**
LPAZ				IAmb	IAmb	10 16 19.9	
	comp=Z,155nm,1.8s						
BRU2	**Volcan**	**43.60**	**48**	*e*P	**P**	**10 16 07.6**	**+2.8**
BRU2	**Volcan**	**43.60**	**48**	P	**P**	**10 16 06.1**	**+1.2**
MOIG	**Morelia**	**43.62**	**18**	P	**P**	**10 16 06.5**	**+1.5**
APG	**El Apazote**	**43.72**	**34**	LR	LR	10 30 16.4	
	comp=Z,843nm,18.2s,baz=242,slow=31						
COVE	**Coope Vega, Sa**	**43.85**	**44**	P	**P**	**10 16 07.9**	**+1.2**
COVE				IAmb	IAmb	10 16 12.2	
	comp=Z,158nm,1.9s						
SOTA	**Rioblanco**	**43.87**	**61**	*e*P	**P**	**10 16 09.1**	**+1.6**
UNM	**Universidad Na**	**43.90**	**20**	IAMs_20	IAMs_20	10 30 47.5	
	comp=Z,3μm,20.0s						
ESQI	**Esquipulas**	**43.94**	**36**	P	**P**	**10 16 08.6**	**+1.1**
POPC	**Popayan, Colom**	**44.05**	**61**	*e*P	**P**	**10 16 10.6**	**+1.9**
PCON	**Cinco Dias**	**44.16**	**61**	*e*P	**P**	**10 16 13.2**	**+3.4**
FLOC	**Florencia**	**44.34**	**63**	*e*P	**P**	**10 16 13.0**	**+2.3**
BOAB	**BOACO BROADBAN**	**44.37**	**42**	P	**P**	**10 16 11.7**	**+0.8**
ESPN	**Las Esperanzas**	**45.03**	**43**	P	**P**	**10 16 17.2**	**+1.1**
ESPN				IAmb	IAmb	10 16 20.3	
	comp=Z,50nm,1.2s						
YOTC	**Yotoco, Valle**	**45.17**	**59**	*e*P	**P**	**10 16 18.1**	**+0.6**
PETF	**Flores**	**45.63**	**33**	P	**P**	**10 16 21.2**	**+0.3**
PLMC	**San Jos del P**	**45.78**	**58**	*e*P	**P**	**10 16 23.2**	**+0.9**
BCIP	**Isla Barro Col**	**45.86**	**51**	*e*P	**P**	**10 16 20.6**	**-2.2**
SLBS	**Sierra La Lagu**	**45.94**	**5**	P	**P**	**10 16 25.3**	**+2.0**
ORTC	**Ortega, Tolima**	**46.01**	**60**	*e*P	**P**	**10 16 26.4**	**+2.4**
PTAC	**Punta Ardita,**	**46.01**	**55**	*e*P	**P**	**10 16 26.4**	**+2.5**
MACC	**Macarena, Meta**	**46.14**	**63**	*e*P	**P**	**10 16 26.8**	**+1.7**
PRAC	**Prado**	**46.18**	**61**	*e*P	**P**	**10 16 28.2**	**+2.8**
ZAIG	**Zacatecas**	**46.22**	**15**	P	**P**	**10 16 25.7**	**-0.1**
ANIL	**Santa Ana**	**46.23**	**59**	*e*P	**P**	**10 16 27.7**	**+1.7**
LPIG	**La Paz**	**46.32**	**5**	LR	LR	10 31 18.5	
	comp=Z,4μm,20.3s,baz=181,slow=30						
TBTG	**Tabatinga, AM**	**46.33**	**74**	*e*P	**P**	**10 16 23.0**	**-3.6**
TBTG	**Tabatinga, AM**	**46.33**	**74**	P	**P**	**10 16 26.4**	**-0.2**
TBTG				IAmb	IAmb	10 16 29.7	
	comp=Z,39nm,1.1s						
CBOC	**Ciudad Bolivar**	**46.58**	**57**	*e*P	**P**	**10 16 30.7**	**+2.0**
GUY2C	**Guyana, Caldas**	**46.70**	**59**	*e*P	**P**	**10 16 32.1**	**+2.2**
USHA	**Ushuaia**	**46.89**	**146**	LR	LR	10 32 13.4	
	comp=Z,5μm,19.5s,baz=318,slow=31						
DBBC	**Dabeiba**	**47.14**	**56**	*e*P	**P**	**10 16 35.6**	**+2.6**
HELC	**Santa Helena**	**47.16**	**58**	*e*P	**P**	**10 16 35.5**	**+2.2**
NORC	**Norcasia**	**47.29**	**59**	*e*P	**P**	**10 16 34.9**	**+0.8**
ROSC	**El Rosal**	**47.30**	**60**	P	**P**	**10 16 35.0**	**+0.5**
	comp=Z,4.7nm,0.4s,baz=206,slow=18,SNR=1.2						
ROSC	**El Rosal**	**47.30**	**60**	P	**P**	**10 16 35.7**	**+1.1**
ROSC				pmax	pmax		
	comp=Z,186nm,2.0s						
ROSC	**El Rosal**	**47.30**	**60**	*e*P	**P**	**10 16 38.0**	**+3.4**
ROSC	**El Rosal**	**47.30**	**60**	P	**P**	**10 16 35.7**	**+1.1**
VILC	**Villavicencio,**	**47.38**	**61**	*e*P	**P**	**10 16 36.5**	**+1.6**
CHIC	**Chingaza**	**47.65**	**61**	*e*P	**P**	**10 16 40.1**	**+2.8**
SPBC	**San Pablo de B**	**47.98**	**59**	*e*P	**P**	**10 16 40.4**	**+0.9**
UREC	**San Jos de Ur**	**48.13**	**56**	*e*P	**P**	**10 16 41.4**	**+0.9**
PTBC	**PUERTO BERRIO,**	**48.21**	**58**	*e*P	**P**	**10 16 43.4**	**+2.2**
ZARC	**Zaragoza, Cauc**	**48.48**	**57**	*e*P	**P**	**10 16 45.3**	**+2.1**
ZARC	**Zaragoza, Cauc**	**48.48**	**57**	P	**P**	**10 16 44.2**	**+0.9**
MOTC	**Monteria, Cord**	**48.68**	**55**	*e*P	**P**	**10 16 48.5**	**+3.8**
PTGC	**Puerto Gaitan,**	**48.70**	**62**	*e*P	**P**	**10 16 47.5**	**+2.5**
RUSC	**La Rusia**	**48.91**	**60**	*e*P	**P**	**10 16 49.0**	**+1.8**
BARC	**Barichara**	**49.25**	**59**	*e*P	**P**	**10 16 50.5**	**+1.0**
SRIG	**Santa Rosalia**	**49.42**	**2**	P	**P**	**10 16 50.4**	**+0.3**
SRIG				IAmb	IAmb	10 17 19.2	
	comp=Z,68nm,1.3s						
HPIG		**49.66**	**10**	P	**P**	**10 16 52.9**	**+0.6**
SJCC	**San Jacinto, C**	**49.76**	**54**	*e*P	**P**	**10 16 55.3**	**+2.2**
SJCC	**San Jacinto, C**	**49.76**	**54**	P	**P**	**10 16 53.0**	**-0.1**
SJCC				IAmb	IAmb	10 17 08.5	
	comp=Z,89nm,1.8s						
SMLC	**San Martn de**	**49.91**	**56**	*e*P	**P**	**10 16 55.7**	**+1.6**
PAMC	**Pamplona, Colo**	**50.08**	**59**	*e*P	**P**	**10 16 57.1**	**+1.1**
OCAC	**Ocana**	**50.14**	**57**	*e*P	**P**	**10 16 57.5**	**+1.4**
OCAC	**Ocana**	**50.14**	**57**	P	**P**	**10 16 57.0**	**+0.9**
SIV	**San Ignacio**	**50.20**	**93**	LR	LR	10 34 02.3	
	comp=Z,820nm,20.9s,baz=272,slow=31						
ARGC	**Aruani, Magd**	**50.44**	**55**	*e*P	**P**	**10 17 00.2**	**+2.0**
CPUP	**Villa Florida**	**51.45**	**106**	P	**P**	**10 17 04.5**	**-1.3**
	comp=Z,6.1nm,0.9s,baz=271,slow=9.5,SNR=4.5						
CPUP				LR	LR	10 34 42.3	
	comp=Z,879nm,20.8s,baz=263,slow=31						
CPUP	**Villa Florida**	**51.45**	**106**	P	**P**	**10 17 06.4**	**+0.7**
CPUP				pmax	pmax		
	comp=Z,44nm,1.6s						
CPUP	**Villa Florida**	**51.45**	**106**	P	**P**	**10 17 06.4**	**+0.7**
ITQB	**Itaqui**	**51.65**	**111**	P	**P**	**10 17 07.3**	**+0.2**
ITQB				IAmb	IAmb	10 17 51.2	
	comp=Z,174nm,2.0s						
EFI	**East Falkland**	**51.78**	**139**	*i* P	**P**	**10 17 08.7**	**+0.9**
EFI				pmax	pmax		
	comp=Z,57nm,1.1s						
EFI	**East Falkland**	**51.78**	**139**	IAMs_20	IAMs_20	10 34 37.5	
	comp=Z,3μm,20.0s						
VILB	**Vilhena**	**51.89**	**89**	P	**P**	**10 17 09.6**	**+0.3**
VILB				IAmb	IAmb	10 17 20.4	
	comp=Z,40nm,1.0s						
KVTX	**Kingsville**	**52.00**	**18**	P	**P**	**10 17 10.5**	**+0.9**
SOCV	**Socops**	**52.10**	**59**	*e*P	**P**	**10 17 10.9**	**+0.2**
PTLB	**Pontes e Lacer**	**52.14**	**93**	P	**P**	**10 17 10.9**	**-0.1**
NIUE	**Niue**	**52.16**	**263**	P	**P**	**10 17 11.2**	**+0.1**
CRJC	**Cerrejon, Guaj**	**52.21**	**55**	*e*P	**P**	**10 17 12.4**	**+0.9**
833A	**Chaparral WMA,**	**52.32**	**16**	P	**P**	**10 17 13.2**	**+1.1**
	baz=197,SNR=14						
TXAR	**Lajitas Array**	**52.35**	**11**	P	**P**	**10 17 12.7**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=198,slow=8.2,SNR=21						
TXAR				LR	LR	10 35 29.8	
	comp=Z,2μm,18.3s,baz=184,slow=32						
TX31	**Lajitas Ar. Si**	**52.35**	**11**	IAmb	IAmb	10 17 41.7	
	comp=Z,74nm,1.4s						
ELOV	**Elorza**	**52.46**	**61**	*e*P	**P**	**10 17 12.9**	**-0.4**
SDV	**Santo Domingo**	**52.64**	**59**	LR	LR	10 36 38.4	
	comp=Z,446nm,19.9s,baz=234,slow=33						
SDV	**Santo Domingo**	**52.64**	**59**	*e*P	**P**	**10 17 15.9**	**+1.0**
SDV	**Santo Domingo**	**52.64**	**59**	P	**P**	**10 17 15.7**	**+0.8**
SDV				IAmb	IAmb	10 17 42.4	
	comp=Z,60nm,1.6s						
PMSA	**Palmer Station**	**53.35**	**156**	LR	LR	10 34 08.1	
	comp=Z,1μm,20.7s,baz=308,slow=30						
319A	**Douglas**	**53.62**	**5**	P	**P**	**10 17 23.3**	**+1.6**
319A				IAmb	IAmb	10 17 25.1	
	comp=Z,76nm,1.5s						
214A	**Organ Pipe Nat**	**54.02**	**1**	P	**P**	**10 17 25.9**	**+1.4**
214A				IAmb	IAmb	10 17 28.0	
	comp=Z,48nm,1.4s						
214A	**Organ Pipe Nat**	**54.02**	**1**	P	**P**	**10 17 26.8**	**+2.3**
	baz=181,SNR=5.3						
AQDB	**Aquidauana**	**54.02**	**100**	P	**P**	**10 17 25.0**	**+0.2**
JCT	**Junction City**	**54.28**	**15**	IAMs_20	IAMs_20	10 36 29.6	
	comp=Z,2μm,22.0s						
JCT	**Junction City**	**54.28**	**15**	P	**P**	**10 17 27.3**	**+0.9**
	baz=196,SNR=22						
MNTX	**Cornudas Mount**	**54.38**	**9**	IAmb	IAmb	10 17 29.7	
	comp=Z,40nm,1.4s						
MNTX				IAMs_20	IAMs_20	10 36 01.4	
	comp=Z,2μm,21.0s						
MNTX	**Cornudas Mount**	**54.38**	**9**	P	**P**	**10 17 28.6**	**+1.5**
	baz=190,SNR=17						
TUC	**Tucson**	**54.45**	**3**	P	**P**	**10 17 28.4**	**+0.7**
TUC				pmax	pmax		
	comp=Z,58nm,2.0s						
TUC	**Tucson**	**54.45**	**3**	P	**P**	**10 17 28.4**	**+0.7**
TUC				IAmb	IAmb	10 17 43.2	
	comp=Z,58nm,1.9s						
TUC	**Tucson**	**54.45**	**3**	IAMs_20	IAMs_20	10 35 21.2	
	comp=Z,2μm,21.0s						
TUC	**Tucson**	**54.45**	**3**	P	**P**	**10 17 29.8**	**+2.2**
	baz=184						
TKX	**Tecate**	**54.67**	**357**	P	**P**	**10 17 30.6**	**+1.4**
TKX				IAmb	IAmb	10 17 32.5	
	comp=Z,68nm,1.3s						
RMX	**La Rumorosa**	**54.69**	**358**	P	**P**	**10 17 29.9**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**54.73**	**358**	P	**P**	**10 17 32.3**	**+2.5**
	baz=178						
BAUV	**El Baul**	**54.74**	**60**	P	**P**	**10 17 29.4**	**-0.6**
BAUV				IAmb	IAmb	10 17 36.4	
	comp=Z,68nm,1.1s						
BAR	**Barrett**	**54.79**	**357**	P	**P**	**10 17 31.6**	**+1.5**
BAR				IAmb	IAmb	10 17 33.4	
	comp=Z,46nm,1.1s						
113A	**Mohawk Valley,**	**54.82**	**0**	P	**P**	**10 17 31.4**	**+1.2**
113A				IAmb	IAmb	10 17 33.6	
	comp=Z,58nm,1.5s						
HKT	**Hockley**	**54.87**	**19**	*i* P	**P**	**10 17 31.3**	**+0.7**
HKT				pmax	pmax		
	comp=Z,25nm,1.2s						
HKT	**Hockley**	**54.87**	**19**	P	**P**	**10 17 31.7**	**+1.2**
121A	**Cookes Peak, D**	**54.91**	**6**	P	**P**	**10 17 32.5**	**+1.4**
121A	**Cookes Peak, D**	**54.91**	**6**	P	**P**	**10 17 33.2**	**+2.1**
	baz=187,SNR=9.2						
MONP2	**Monument Peak**	**54.99**	**358**	P	**P**	**10 17 34.0**	**+2.3**
	baz=177,SNR=7.3						
109C	**Camp Elliot, M**	**55.02**	**357**	P	**P**	**10 17 33.8**	**+2.1**
	baz=176						
SWSC	**Sam W. Stewart**	**55.02**	**358**	P	**P**	**10 17 33.9**	**+2.2**
	baz=178						
MACA	**Manacapuru-AM**	**55.05**	**78**	P	**P**	**10 17 31.5**	**-0.9**
GLA	**Glamis**	**55.10**	**359**	P	**P**	**10 17 33.9**	**+1.5**
GLA				pmax	pmax		
	comp=Z,31nm,1.5s						
GLA	**Glamis**	**55.10**	**359**	P	**P**	**10 17 33.9**	**+1.5**
GLA	**Glamis**	**55.10**	**359**	P	**P**	**10 17 34.5**	**+2.1**
	baz=179						
AFI	**Afiamalu**	**55.27**	**268**	P	**P**	**10 17 32.5**	**-1.5**
	comp=Z,28nm,1.0s,baz=106,slow=22,SNR=4.0						
AFI				LR	LR	10 35 24.6	
	comp=Z,1μm,18.2s,baz=101,slow=30						
CIS	**Catalina Islan**	**55.61**	**356**	P	**P**	**10 17 37.6**	**+1.6**
	baz=175						
TPFO	**Pinon Flats**	**55.70**	**358**	P	**P**	**10 17 39.0**	**+2.2**
	baz=177,SNR=5.4						
PFO	**Pinyon Flats O**	**55.71**	**358**	LR	LR	10 35 38.7	
	comp=Z,1μm,20.9s,baz=180,slow=30						
PFO	**Pinyon Flats O**	**55.71**	**358**	P	**P**	**10 17 36.9**	**+0.1**
PFO				pmax	pmax		
	comp=Z,58nm,1.8s						
PFO	**Pinyon Flats O**	**55.71**	**358**	P	**P**	**10 17 36.9**	**+0.1**
PFO				IAmb	IAmb	10 17 54.8	
	comp=Z,58nm,1.8s						
PFO	**Pinyon Flats O**	**55.71**	**358**	P	**P**	**10 17 39.0**	**+2.2**
	baz=177,SNR=6.4						
BC3	**Big Chuckawall**	**55.72**	**359**	P	**P**	**10 17 38.7**	**+1.8**
	baz=178,SNR=9.5						
MURC	**Murrieta**	**55.73**	**357**	P	**P**	**10 17 38.7**	**+1.8**
	baz=176,SNR=6.8						
Y14A	**Wickenburg**	**55.99**	**1**	P	**P**	**10 17 40.1**	**+1.3**
Y14A				IAmb	IAmb	10 17 54.6	
	comp=Z,90nm,2.0s						
BELC	**Belle Mtn. Jos**	**56.08**	**358**	P	**P**	**10 17 42.1**	**+2.6**
	baz=178,SNR=8.6						
IRM	**Iron Mountain**	**56.21**	**359**	P	**P**	**10 17 42.7**	**+2.4**
	baz=179,SNR=10						
WHTX	**Lake Whitney,**	**56.32**	**17**	P	**P**	**10 17 41.8**	**+0.8**
WHTX				IAmb	IAmb	10 17 43.2	
	comp=Z,34nm,1.1s						
WHTX	**Lake Whitney,**	**56.32**	**17**	P	**P**	**10 17 42.6**	**+1.5**
	baz=198						
PDMCI	**Parker Dam,Lak**	**56.35**	**360**	P	**P**	**10 17 43.7**	**+2.5**
	baz=180,SNR=5.7						
ABTX	**Abilene, Hawle**	**56.37**	**15**	P	**P**	**10 17 41.5**	**+0.1**
ABTX				IAmb	IAmb	10 17 43.6	
	comp=Z,52nm

PCRV	Puerto La Cruz	58.20	62	LR	LR	10 41 28.3	
	comp=Z,932nm,18.5s,slow=34						
Z38A	Mt. Pleasant	58.21	19	P	P	10 17 55.0	+0.6
Z38A				IAmb	IAmb	10 18 13.3	
	comp=Z,51nm,1.2s						
GWY	Greenwater Val	58.28	357	P	P	10 17 55.6	+0.5
LOOK	Love County	58.28	16		P	10 17 55.0	0.0
LOOK				IAmb	IAmb	10 17 56.9	
	comp=Z,36nm,0.9s						
U15A	North Rim	58.49	2	P	P	10 17 58.1	+1.5
U15A				IAmb	IAmb	10 18 12.6	
	comp=Z,61nm,1.5s						
SHPR	Sheep Range	58.55	359	P	P	10 17 58.7	+1.8
SHPR				IAmb	IAmb	10 18 00.8	
	comp=Z,60nm,1.2s						
FURC	Furnace Creek,	58.57	357	P	P	10 17 58.9	+2.1
	baz=177,SNR=10						
VOG	Valley Oaks Go	58.58	355	P	P	10 17 59.1	+2.2
	baz=174						
WMOK	Wichita Mounta	58.60	15	P	P	10 17 57.2	0.0
WMOK				pmax	pmax		
	comp=Z,28nm,1.5s						
WMOK	Wichita Mounta	58.60	15		P	10 17 57.1	0.0
WMOK	Wichita Mounta	58.60	15	IAms_20	IAms_20	10 39 47.9	
	comp=Z,2µm,20.0s						
WMOK	Wichita Mounta	58.60	15	P	P	10 17 57.0	-0.1
	baz=196						
CWC	Cottonwood Cre	58.61	356	P	P	10 17 59.6	+2.2
	baz=176						
X34A	Smith Ranch, M	58.70	16		P	10 17 57.8	0.0
X34A				IAmb	IAmb	10 17 59.7	
	comp=Z,25nm,1.0s						
143A	Socs Landing,	58.86	22	P	P	10 17 59.6	+0.7
Z41A	Richland Creek	58.89	21	P	P	10 18 00.8	+1.7
	baz=203,SNR=5.1						
TPNV	Topopah Spring	59.02	358	P	P	10 18 01.9	+1.7
TPNV				pmax	pmax		
	comp=Z,82nm,2.0s						
TPNV	Topopah Spring	59.02	358	P	P	10 18 01.9	+1.7
TPNV				IAmb	IAmb	10 18 05.3	
	comp=Z,82nm,1.9s						
TPNV	Topopah Spring	59.02	358	P	P	10 18 02.3	+2.0
	baz=178,SNR=11						
LCMT	Little Creek M	59.05	1	P	P	10 18 01.7	+1.2
LCMT				IAmb	IAmb	10 18 03.7	
	comp=Z,46nm,1.7s						
KNB	Kanab	59.06	1	P	P	10 18 01.7	+1.2
KNB				pmax	pmax		
	comp=Z,47nm,1.4s						
KNB	Kanab	59.06	1	P	P	10 18 01.7	+1.2
KNB				IAmb	IAmb	10 18 16.4	
	comp=Z,47nm,1.4s						
GRAC	Grapevine Rang	59.12	357	P	P	10 18 03.0	+2.3
	baz=176,SNR=9.5						
WLAR	White Oak Lake	59.18	20	P	P	10 18 01.8	+0.6
SAO	San Andreas Ge	59.22	353	P	P	10 18 01.8	+0.4
SAO				pmax	pmax		
	comp=Z,29nm,1.0s						
SAO	San Andreas Ge	59.22	353	P	P	10 18 01.8	+0.4
SAO				IAmb	IAmb	10 18 04.5	
	comp=Z,29nm,1.0s						
TIN	Tinemaha, Big	59.23	356	P	P	10 18 04.0	+2.4
	baz=175						
X37A	Clayton	59.34	18		P	10 18 02.3	0.0
LCH	Last Change Ra	59.37	357	P	P	10 18 03.7	+1.1
FNO	Franklin	59.43	16		P	10 18 03.2	+0.3
FNO				IAmb	IAmb	10 18 07.2	
	comp=Z,66nm,1.3s						
PRN	Pahroc Range	59.45	359	P	P	10 18 04.6	+1.4
PRN				IAmb	IAmb	10 18 07.1	
	comp=Z,47nm,1.3s						
W35A	Tecumseh	59.46	16		P	10 18 02.3	-0.8
W35A				IAmb	IAmb	10 18 20.1	
	comp=Z,32nm,1.2s						
MVCO	Mesa Verde	59.48	5	IAmb	IAmb	10 18 18.6	
	comp=Z,78nm,1.5s						
MVCO				IAms_20	IAms_20	10 38 47.3	
	comp=Z,2µm,19.0s						
MVCO	Mesa Verde	59.48	5	P	P	10 18 04.1	+0.7
	baz=186,SNR=14						
PKCU	Pink Cliffs	59.50	2	P	P	10 18 05.7	+2.0
OKCFA	Oklahoma City	59.56	16		P	10 18 04.4	+0.6
CCUT	Cedar City	59.59	1	IAmb	IAmb	10 18 08.0	
	comp=Z,43nm,1.3s						
SZCU	Shurtz Canyon	59.64	1	IAmb	IAmb	10 18 20.6	
	comp=Z,46nm,1.4s						
146A	Union	59.66	24	P	P	10 18 04.9	+0.4
S11A	Rachel	59.70	358	P	P	10 18 07.0	+2.1
OK025	Westminster Rd	59.75	16	IAms_20	IAms_20	10 39 53.7	
	comp=Z,2µm,22.0s						
BCOK	Bluff Creek, N	59.75	15		P	10 18 05.4	+0.3
BCOK				IAmb	IAmb	10 18 07.1	
	comp=Z,54nm,1.1s						
MIAR	Mount Ida	59.83	19	P	P	10 18 05.4	-0.2
MIAR				pmax	pmax		
	comp=Z,74nm,1.5s						
MIAR	Mount Ida	59.83	19	P	P	10 18 05.4	-0.2
MIAR				IAmb	IAmb	10 18 18.7	
	comp=Z,74nm,1.5s						
MIAR	Mount Ida	59.83	19	P	P	10 18 05.1	-0.5
	baz=202						
T25A	Trinidad	59.87	9	P	P	10 18 07.4	+1.3
	baz=190,SNR=7.3						
X40A	Basin Creek Fa	60.01	20	P	P	10 18 07.7	+0.8
X40A	Basin Creek Fa	60.01	20	P	P	10 18 08.7	+1.8
	baz=203						
MTPU	Mount Pierson	60.10	2	P	P	10 18 09.1	+1.2
MTPU				IAmb	IAmb	10 18 11.2	
	comp=Z,102nm,2.0s						
S22A	4UR Ranch, Cre	60.16	7	P	P	10 18 09.6	+1.3
	baz=188,SNR=15						
TPH	Tonopah	60.19	357	P	P	10 18 09.2	+0.9
TPH				pmax	pmax		
	comp=Z,235nm,1.4s						
TPH	Tonopah	60.19	357	P	P	10 18 09.2	+0.9
OK031	S. Brethren Rd	60.23	16		P	10 18 08.3	-0.1
OK031				IAms_20	IAms_20	10 40 31.3	
	comp=Z,2µm,20.0s						
URZ	Urewera	60.28	238	LR	LR	10 39 14.8	
	comp=Z,1µm,18.8s,baz=107,slow=31						
URZ	Urewera	60.28	238	P	P	10 18 09.4	+0.5
OK033	Mehan	60.29	16		P	10 18 09.0	+0.2
OK033				IAms_20	IAms_20	10 40 33.0	
	comp=Z,2µm,19.0s						
SDCO	Great Sand Dun	60.32	8	IAmb	IAmb	10 18 11.8	
	comp=Z,40nm,1.4s						
SDCO				IAms_20	IAms_20	10 39 41.6	
	comp=Z,3µm,20.0s						
SDCO	Great Sand Dun	60.32	8	P	P	10 18 10.3	+1.0
	baz=189,SNR=18						
CMB	Columbia Colle	60.37	354	IAmb	IAmb	10 18 12.5	
	comp=Z,37nm,1.3s						
CMB				IAms_20	IAms_20	10 37 59.2	
	comp=Z,1µm,20.0s						
W39A	Magazine	60.37	19	IAmb	IAmb	10 18 11.0	
	comp=Z,26nm,0.9s						
W39A	Magazine	60.37	19	P	P	10 18 09.4	+0.1
	baz=202						
PV13	Radium Mtn., P	60.39	5	IAmb	IAmb	10 18 20.8	
	comp=Z,71nm,2.0s						
R11A	Troy Canyon, C	60.40	359	IAmb	IAmb	10 18 13.5	
	comp=Z,59nm,1.6s						
R11A	Troy Canyon, C	60.40	359	P	P	10 18 11.6	+1.8
	baz=178,SNR=21						
LHV	Little Huntoon	60.44	356	IAmb	IAmb	10 18 13.7	
	comp=Z,54nm,1.2s						
TUL1	Leonard	60.46	17	IAmb	IAmb	10 18 11.3	
	comp=Z,79nm,1.5s						
TUL1				IAms_20	IAms_20	10 40 39.5	
	comp=Z,3µm,21.0s						
TUL1	Leonard	60.46	17	P	P	10 18 09.8	-0.2
	baz=199,SNR=7.3						
Z47A	Carrollton	60.54	25	P	P	10 18 10.9	+0.4
Z47A				IAmb	IAmb	10 18 12.6	
	comp=Z,44nm,0.9s						
PSUT	Pine Spring	60.57	0	P	P	10 18 12.1	+1.2
PSUT				IAmb	IAmb	10 18 26.0	
	comp=Z,50nm,1.5s						
MSU	Marysvale	60.57	2	P	P	10 18 11.8	+0.9
MSU	Marysvale	60.57	2	P	P	10 18 11.8	+0.9
PV10	Paradox Valley	60.59	4	P	P	10 18 11.3	+0.2
PV10				IAmb	IAmb	10 18 13.1	
	comp=Z,79nm,1.6s						
NV11	Mina Array Sit	60.59	356	IAmb	IAmb	10 18 14.2	
	comp=Z,52nm,1.1s						
NVAR	Mina Array Bea	60.60	356	P	P	10 18 12.0	+0.9
	comp=Z,21nm,0.9s,baz=187,slow=9.1,SNR=83						
NVAR				LR	LR	10 38 39.5	
	comp=Z,2µm,19.2s,baz=171,slow=30						
PV15	Paradox Valley	60.60	5	P	P	10 18 11.7	+0.5
PV15				IAmb	IAmb	10 18 13.6	
	comp=Z,23nm,1.0s						
TCRU	Three Creeks R	60.66	1	P	P	10 18 13.0	+1.4
TCRU				IAmb	IAmb	10 18 21.4	
	comp=Z,24nm,0.9s						
PV23	Carpenter Ridg	60.67	4	P	P	10 18 12.6	+0.9
PV23				IAmb	IAmb	10 18 14.2	
	comp=Z,49nm,1.4s						
PV07	Paradox Valley	60.68	5	P	P	10 18 12.2	+0.5
RYN	Ryan	60.81	356	P	P	10 18 13.9	+1.4
RYN				IAmb	IAmb	10 18 15.9	
	comp=Z,63nm,1.6s						
W41B	Gary Mavity, V	60.83	20	P	P	10 18 12.7	+0.3
	baz=203						
BLOK	Blackwell	60.90	15		P	10 18 13.4	+0.5
KAN14	Manchester OK	60.91	15		P	10 18 12.7	-0.3
WHAR	Wooly Hollow	60.92	20	IAmb	IAmb	10 18 26.6	
	comp=Z,81nm,1.6s						
CRPR	Cabo Rojo, PR	60.94	53	P	P	10 18 14.1	+0.6
MLPR	Magueyes Islan	60.97	53	P	P	10 18 14.0	+0.3
Q16A	Castle Valley	61.01	3	IAmb	IAmb	10 18 29.2	
	comp=Z,104nm,1.9s						
SPR3	Spring Creek 3	61.03	360	IAmb	IAmb	10 18 16.8	
	comp=Z,68nm,1.7s						
KAN17	Caldwell West	61.04	15		P	10 18 14.5	+0.6
KAN17				IAmb	IAmb	10 18 22.3	
	comp=Z,64nm,1.4s						
KAN05	Bluff City Nor	61.07	15	P	P	10 18 14.3	+0.2
KAN13	South Haven SW	61.08	15		P	10 18 14.3	+0.2
KAN13				IAmb	IAmb	10 18 16.1	
	comp=Z,43nm,1.1s						
KAN16	Harper SW Stat	61.14	14		P	10 18 14.8	+0.2
KAN16				IAmb	IAmb	10 18 23.1	
	comp=Z,64nm,1.2s						
KAN01	Argonia South	61.14	15	P	P	10 18 14.9	+0.3
KVN	Kaiserville	61.21	356	P	P	10 18 15.7	+0.5
KVN				pmax	pmax		
	comp=Z,49nm,1.3s						
KVN	Kaiserville	61.21	356	P	P	10 18 15.7	+0.5
KVN				IAmb	IAmb	10 18 18.5	
	comp=Z,48nm,1.3s						
KAN12	Harper NE Stat	61.22	15	IAmb	IAmb	10 18 17.4	
	comp=Z,55nm,1.1s						
SRU	San Rafael Swe	61.23	3	IAmb	IAmb	10 18 17.8	
	comp=Z,34nm,1.2s						
PNTR	Pine Nut	61.35	355	P	P	10 18 17.5	+1.3
PNTR				IAmb	IAmb	10 18 19.6	
	comp=Z,50nm,0.9s						
U38A	Gravette	61.35	18	IAmb	IAmb	10 18 33.1	
	comp=Z,40nm,1.6s						
TMUT	Trail Mountain	61.39	2	IAmb	IAmb	10 18 43.9	
	comp=Z,33nm,1.4s						
FCAR	Ozark Folk Cen	61.52	20	P	P	10 18 17.5	+0.3
FCAR				IAmb	IAmb	10 18 30.4	
	comp=Z,69nm,1.8s						
VCNR	Virginia City	61.56	355	IAmb	IAmb	10 18 20.8	
	comp=Z,43nm,1.3s						
Q24A	Divide	61.56	8	P	P	10 18 18.4	+0.7
	baz=189						
P17A	Butcher Ranch,	61.58	3	IAmb	IAmb	10 18 20.4	
	comp=Z,33nm,1.1s						
U40A	Yellville	61.73	19	IAmb	IAmb	10 18 20.2	
	comp=Z,39nm,1.1s						
U40A	Yellville	61.73	19	P	P	10 18 18.7	+0.1
	baz=202						
PAHR	Pah Rah Range	61.95	355	IAmb	IAmb	10 18 23.4	
	comp=Z,26nm,1.1s						
KSCO	Kaye Shedlock'	61.97	10	IAmb	IAmb	10 18 23.8	
	comp=Z,59nm,1.3s						
KSCO	Kaye Shedlock'	61.97	10	P	P	10 18 21.1	+0.8
	baz=192						
ORV	Oroville	61.99	353	IAmb	IAmb	10 18 29.7	
	comp=Z,32nm,1.4s						
ORV				IAms_20	IAms_20	10 38 43.0	
	comp=Z,1µm,18.0s						
NLU	North Lily Min	62.02	2	IAmb	IAmb	10 18 23.8	
	comp=Z,76nm,1.8s						
MPU	Maple Canyon	62.09	2	IAmb	IAmb	10 18 24.0	
	comp=Z,43nm,1.5s						
R32A	Long Quarter,	62.14	14	IAmb	IAmb	10 18 39.6	
	comp=Z,48nm,1.4s						
DUG	Dugway, Tooele	62.24	1	IAmb	IAmb	10 18 37.7	
	comp=Z,38nm,1.4s						
DUG	Dugway, Tooele	62.24	1	P	P	10 18 23.4	+1.3
	baz=181,SNR=11						
CBKS	Cedar Bluff	62.30	13	IAmb	IAmb	10 18 26.6	
	comp=Z,66nm,1.6s						
CBKS				IAms_20	IAms_20	10 41 56.1	
	comp=Z,2µm,18.0s						
CBKS	Cedar Bluff	62.30	13	P	P	10 18 22.8	+0.4
	baz=195						
ISCO	Idaho Springs	62.33	7	P	P	10 18 23.4	+0.5
ISCO				pmax	pmax		
	comp=Z,21nm,1.2s						
ISCO	Idaho Springs	62.33	7	P	P	10 18 23.4	+0.5
ISCO	Idaho Springs	62.33	7	P	P	10 18 23.7	+0.8
	baz=189,SNR=10						
BDFB	Brasilia	62.34	96	P	P	10 18 22.9	-0.4
	comp=Z,7.7nm,1.0s,baz=267,slow=8.3,SNR=5.8						
BDFB				LR	LR	10 43 32.3	
	comp=Z,903nm,18.1s,baz=271,slow=34						
BDFB	Brasilia	62.34	96	P	P	10 18 23.3	0.0
BDFB				pmax	pmax		
	comp=Z,77nm,1.9s						
BDFB	Brasilia	62.34	96	P	P	10 18 23.3	0.0
BDFB				IAmb	IAmb	10 19 34.5	
	comp=Z,77nm,1.9s						
O20A	White River Ci	62.40	5	P	P	10 18 24.7	+1.5
	baz=186,SNR=8.0						
MGMO	Mountain Grove	62.64	19	IAmb	IAmb	10 18 26.5	
	comp=Z,38nm,1.1s						
RDMU	Red Mountain	62.74	4	IAmb	IAmb	10 18 27.9	
	comp=Z,39nm,1.0s						
ELK	Elko	62.79	359	LR	LR	10 40 25.0	
	comp=Z,1µm,18.2s,baz=184,slow=31						
ELK	Elko	62.79	359	IAmb	IAmb	10 18 29.1	
	comp=Z,32nm,1.3s						
S39A	Bolivar	62.82	18	IAmb	IAmb	10 18 43.2	
	comp=Z,46nm,1.3s						
PBMO	Poplar Bluff	62.89	21	IAmb	IAmb	10 18 30.2	
	comp=Z,44nm,1.4s						
T42A	Van Buren	62.90	20	IAmb	IAmb	10 18 37.2	
	comp=Z,88nm,1.9s						
PARMO	Parma	63.01	22	P	P	10 18 27.9	+0.8
WDC	Whiskeytown Da	63.12	353	IAmb	IAmb	10 18 48.8	
	comp=Z,49nm,1.4s						
WVT	Waverly	63.22	24	P	P	10 18 28.0	-0.5
WVT				pmax	pmax		
	comp=Z,51nm,1.5s						
WVT	Waverly	63.22	24	P	P	10 18 28.0	-0.5
WVT				IAmb	IAmb	10 18 41.2	
	comp=Z,51nm,1.5s						
WVT	Waverly	63.22	24	P	P	10 18 27.9	-0.7
	baz=207						
V48A	Smith Brothers	63.26	25	IAmb	IAmb	10 18 32.2	
	comp=Z,66nm,1.4s						
KSU1	Kansas State U	63.27	15	IAmb	IAmb	10 18 32.1	
	comp=Z,44nm,1.1s						
KSU1	Kansas State U	63.27	15	IAms_20	IAms_20	10 41 49.7	
	comp=Z,1µm,21.0s						
KSU1	Kansas State U	63.27	15	P	P	10 18 29.3	+0.5
	baz=198,SNR=7.7						
N23A	Red Feather La	63.37	7	P	P	10 18 30.7	+0.9
	baz=188,SNR=6.4						
MSVF	Nonsavu	63.52	261	LR	LR	10 41 36.5	
	comp=Z,720nm,18.5s,baz=113,slow=32						
N02D	Trinity Center	63.52	353	P	P	10 18 31.7	+1.1
N02D				IAmb	IAmb	10 18 34.9	
	comp=Z,45nm,1.1s						
N02D	Trinity Center	63.52	353	P	P	10 18 31.9	+1.3
	baz=171,SNR=8.0						
CCM	Cathedral Cave	63.79	20	P	P	10 18 31.8	-0.4
CCM				pmax	pmax		
	comp=Z,26nm,1.1s						
CCM	Cathedral Cave	63.79	20	P	P	10 18 31.8	-0.4
CCM				IAmb	IAmb	10 18 45.9	
	comp=Z,26nm,1.1s						
CCM	Cathedral Cave	63.79	20	P	P	10 18 31.9	-0.4
	baz=203						
HVU	Hansel Valley	63.82	1	IAmb	IAmb	10 19 00.5	
	comp=Z,47nm,2.0s						
M02C	Callahan	63.95	353	IAmb	IAmb	10 18 36.6	
	comp=Z,38nm,1.1s						
M02C	Callahan	63.95	353	P	P	10 18 34.5	+1.2
	baz=171						
OGNE	Ogallala	63.95	10	IAms_20	IAms_20	10 41 59.8	
	comp=Z,2µm,20.0s						
OGNE	Ogallala	63.95	10	P	P	10 18 34.7	+1.3
	baz=192						
FVM	French Village	63.99	21	IAmb	IAmb	10 18 35.1	
	comp=Z,71nm,1.7s						
MOD	Modoc Plateau	64.20	355	IAmb	IAmb	10 18 50.5	
	comp=Z,48nm,1.3s						
MOD				IAms_20	IAms_20	10 40 31.9	
	comp=Z,2µm,20.0s						
RPZ	Rata Peaks	64.22	231	P	P	10 18 35.7	+0.4
RPZ				IAmb	IAmb	10 19 01.2	
	comp=Z,34nm,1.3s						
M04C	Macdoel	64.23	354	P	P	10 18 36.6	+1.4
	baz=172,SNR=6.9						
T47A	Sharon Grove	64.25	24	IAmb	IAmb	10 18 38.9	
	comp=Z,49nm,1.2s						
YBH	Yreka Blue Hor	64.27	353	LR	LR	10 40 13.7	
	comp=Z,2µm,20.7s,baz=182,slow=30						
YBH	Yreka Blue Hor	64.27	353	IAmb	IAmb	10 18 54.4	
	comp=Z,29nm,1.4s						
YBH				IAms_20	IAms_20	10 40 02.9	
	comp=Z,2µm,19.0s						
TKL	Tuckaleechee C	64.42	27	LR	LR	10 45 51.2	
	comp=Z,706nm,18.9s,baz=216,slow=35						
P38A	Dawn	64.56	17	P	P	10 18 36.6	-0.7
P38A				IAmb	IAmb	10 18 38.8	
	comp=Z,30nm,1.3s						
WVOR	Wild Horse Val	64.61	356	IAmb	IAmb	10 18 41.1	
	comp=Z,42nm,1.1s						
WVOR				IAms_20	IAms_20	10 40 34.7	
	comp=Z,2µm,20.0s						
L04D	Klamath Falls	64.71	353	P	P	10 18 38.8	+0.4
L04D	Klamath Falls	64.71	353	P	P	10 18 39.3	+1.0
	baz=172,SNR=6.0						
LBZ	Lake Benmore	64.76	230	P	P	10 18 39.1	+0.3
AHID	Auburn Hatcher	64.85	2	IAmb	IAmb	10 19 43.1	
	comp=Z,37nm,1.6s						
BW06	Boulder Array	64.93	4	P	P	10 18 39.7	-0.2
BW06				IAmb	IAmb	10 18 43.6	
	comp=Z,77nm,1.9s						
BW06				IAms_20	IAms_20	10 41 14.0	
	comp=Z,1µm,20.0s						
BW06	Boulder Array	64.93	4	P	P	10 18 39.7	-0.2
	baz=184,SNR=16						
PD31	Pinedale Array	64.93	4	P	P	10 18 39.7	-0.2
PD31				IAmb	IAmb	10 18 43.6	
	comp=Z,68nm,1.9s						
PDAR	Pinedale Array	64.93	4	P	P	10 18 39.4	-0.6
	comp=Z,7.0nm,0.7s,baz=171,slow=6.3,SNR=80						
PDAR				LR	LR	10 42 10.7	
	comp=Z,1µm,21.4s,baz=186,slow=32						
PDAR	Pinedale Array	64.93	4	P	P	10 18 39.7	-0.2
K04D	Chiloquin, OR	65.05	354	P	P	10 18 43.4	+2.9
	baz=172						
K22A	Casper	65.05	6	IAmb	IAmb	10 18 42.5	
	comp=Z,51nm,1.2s						
K22A	Casper	65.05	6	P	P	10 18 40.7	+0.1
	baz=188,SNR=12						
BGNE	Belgrade	65.13	13	P	P	10 18 41.9	+0.9
	baz=196						
HUMO	Hull Mountain	65.17	353	P	P	10 18 42.6	+1.4
HUMO				IAmb	IAmb	10 18 44.2	
	comp=Z,43nm,1.1s						
HUMO				IAms_20	IAms_20	10 40 02.5	
	comp=Z,2µm,21.0s						
K02D	Willamette Mer	65.34	352	P	P	10 18 43.5	+1.2
	baz=170						
OLIL	Olney	65.45	22	IAmb	IAmb	10 18 57.0	
	comp=Z,39nm,1.1s						
REDW	Red Top Meadow	65.46	3	IAmb	IAmb	10 19 09.8	
	comp=Z,45nm,1.4s						
MFID	Camas Ranch	65.47	359	IAmb	IAmb	10 18 45.9	
	comp=Z,32nm,1.2s						
SNOW	Snow King Moun	65.56	3	IAmb	IAmb	10 18 47.3	
	comp=Z,61nm,1.6s						
HLID	Hailey	65.59	360	IAmb	IAmb	10 18 47.0	
	comp=Z,57nm,1.4s						
HLID	Hailey	65.59	360	P	P	10 18 45.1	+1.0
	baz=180,SNR=28						
WCI	Wyandotte Cave	65.65	24	IAms_20	IAms_20	10 45 23.7	
	comp=Z,2µm,18.0s						
WCI	Wyandotte Cave	65.65	24	P	P	10 18 43.6	-0.8
	baz=208						
J05D	Fort Rock, OR	65.65	354	P	P	10 18 45.8	+1.2
	baz=173,SNR=8.3						
DBO	Dodson Butte	65.70	353	P	P	10 18 45.8	+1.0
LOHW	Long Hollow	65.72	3	IAmb	IAmb	10 18 59.3	
	comp=Z,44nm,1.6s						
LOHW				IAms_20	IAms_20	10 41 58.9	
	comp=Z,2µm,22.0s						
MOOW	Moose Ponds	65.85	3	IAms_20	IAms_20	10 42 02.3	
	comp=Z,1µm,21.0s						
MDP	Montagnes des	65.89	73	LR	LR	10 44 04.7	
	comp=Z,986nm,21.8s,baz=242,slow=33						
L34A	Svendsen Farm,	66.05	14	IAmb	IAmb	10 19 00.3	
	comp=Z,38nm,0.9s						
R49A	Shelbyville	66.13	25	P	P	10 18 47.0	-0.5
PINE	Pine Mountain	66.13	355	P	P	10 18 47.3	-0.3
PINE				IAmb	IAmb	10 18 50.8	
	comp=Z,34nm,1.1s						
FLWY	Flagg Ranch	66.18	3	IAmb	IAmb	10 18 50.1	
	comp=Z,31nm,1.1s						
FLWY				IAms_20	IAms_20	10 43 45.2	
	comp=Z,1µm,19.0s						
BLO	Bloomington	66.39	23	IAmb	IAmb	10 18 52.7	
	comp=Z,61nm,1.5s						
H17A	Grant Village	66.50	3	P	P	10 18 53.3	+3.2
	baz=183						
LKWY	Lake	66.68	3	IAms_20	IAms_20	10 44 30.3	
	comp=Z,2µm,18.0s						
HDIL	Hopedale	66.69	20	P	P	10 18 50.7	-0.3
	baz=205						
I05D	Terrebonne, OR	66.71	354	P	P	10 18 52.5	+1.4
	baz=173,SNR=7.5						
YMR	Madison River	66.76	2	IAmb	IAmb	10 18 56.6	
	comp=Z,80nm,1.8s						
SCIA	State Center	66.78	17	IAmb	IAmb	10 18 53.3	
	comp=Z,31nm,0.9s						
SCIA	State Center	66.78	17	P	P	10 18 51.9	+0.3
	baz=201						
RSSD	Black Hills	66.78	8	P	P	10 18 51.9	+0.1
RSSD				pmax	pmax		
	comp=Z,20nm,1.0s						
RSSD	Black Hills	66.78	8	P	P	10 18 51.9	+0.1
RSSD	Black Hills	66.78	8	P	P	10 18 52.2	+0.4
	baz=190						
YNR	Norris Junctio	66.82	3	P	P	10 18 52.7	+0.7
BMO	Blue Mountains	66.95	357	IAms_20	IAms_20	10 42 25.7	
	comp=Z,1µm,21.0s						
VNDA	Vanda	67.06	194	P	P	10 18 52.3	-0.7
	comp=Z,2.5nm,0.9s,baz=50,slow=6.1,SNR=2.4						
VNDA				LR	LR	10 41 43.7	
	comp=Z,1µm,19.7s,baz=105,slow=30						
H04A	Detroit Lake	67.13	354	P	P	10 18 54.4	+0.6
H04A				IAmb	IAmb	10 18 56.1	
	comp=Z,37nm,1.3s						
PLID	Pearl Lake	67.14	358	P	P	10 18 54.3

ECSD	EROS Data Cent	67.68	14	IAMs_20	IAMs_20	10 44 38.6		
	comp=Z,1µm,19.0s							
ECSD	EROS Data Cent	67.68	14	P	P	10 18 57.1	-0.2	
	baz=197							
HOOD	Mount Hood Mea	67.71	354	P	P	10 18 58.3	+0.7	
HOOD				IAmb	IAmb	10 19 00.2		
	comp=Z,45nm,1.3s							
QSPA	South Pole Qui	67.79	180	LR	LR	10 44 20.0		
	comp=Z,2µm,19.1s,baz=103,slow=32							
QSPA	South Pole Qui	67.79	180	P	P	10 18 58.7	+0.8	
QSPA				IAmb	IAmb	10 19 15.9		
	comp=Z,53nm,1.1s							
QSPA	South Pole Qui	67.79	180	IAMs_20	IAMs_20	10 43 59.0		
	comp=Z,2µm,19.0s							
F10A	Beach Ranch, E	68.07	358	IAmb	IAmb	10 19 04.4		
	comp=Z,70nm,1.8s							
HAWA	Hanford	68.61	356	IAmb	IAmb	10 19 06.1		
	comp=Z,48nm,1.6s							
E09A	Wood Farm, Sta	68.65	357	P	P	10 19 03.8	+0.5	
E09A				IAmb	IAmb	10 19 48.3		
	comp=Z,57nm,1.9s							
E07A	Sunnyside	68.79	356	P	P	10 19 05.2	+1.0	
MSO	Missoula	68.86	0	P	P	10 19 05.1	+0.4	
	baz=180,SNR=10							
E04D	Cinebar	69.03	354	P	P	10 19 08.2	+2.6	
	baz=172							
LAO	LASA Array	69.08	6	P	P	10 19 06.0	0.0	
	baz=188							
D08A	Wollman Farm,	69.23	356	IAmb	IAmb	10 19 09.6		
	comp=Z,54nm,1.7s							
I40A	Norwalk	69.33	18	IAmb	IAmb	10 19 11.7		
	comp=Z,76nm,1.6s							
LTY	Liberty	69.55	355	IAmb	IAmb	10 19 11.3		
	comp=Z,51nm,1.8s							
F33A	5 Mile Ranch,	69.76	13	IAmb	IAmb	10 19 11.6		
	comp=Z,28nm,1.2s							
C09A	Chrisman Ranch	69.94	357	IAmb	IAmb	10 19 14.0		
	comp=Z,26nm,0.9s							
SPMN	Marine on St.	69.98	16	IAmb	IAmb	10 19 15.7		
	comp=Z,64nm,1.6s							
SPMN	Marine on St.	69.98	16	P	P	10 19 12.6	+1.1	
	baz=201							
EGMT	Eagleton	70.16	3	IAMs_20	IAMs_20	10 44 43.4		
	comp=Z,1µm,22.0s							
EGMT	Eagleton	70.16	3	P	P	10 19 13.6	+0.9	
	baz=184,SNR=11							
C06D	Leavenworth	70.23	355	P	P	10 19 13.8	+0.8	
	baz=173							
NEW	Newport	70.35	358	LR	LR	10 44 53.7		
	comp=Z,2µm,19.3s,baz=184,slow=32							
NEW	Newport	70.35	358	IAmb	IAmb	10 19 18.6		
	comp=Z,64nm,1.6s							
NEW	Newport	70.35	358	P	P	10 19 14.3	+0.5	
	baz=177,SNR=10.0							
F36A	Milaca	70.40	15	IAmb	IAmb	10 19 16.1		
	comp=Z,37nm,0.9s							
N54A	Moraine State	70.48	27	P	P	10 19 15.2	+0.4	
	baz=213							
B05A	Bryant	70.67	354	P	P	10 19 16.3	+0.7	
	baz=172							
DGMT	Dagmar	71.05	7	IAmb	IAmb	10 19 20.2		
	comp=Z,44nm,1.1s							
DGMT	Dagmar	71.05	7	P	P	10 19 18.5	+0.5	
	baz=190							
M54A	Oil Creek Stat	71.07	27	IAMs_20	IAMs_20	10 49 31.2		
	comp=Z,2µm,18.0s							
M54A	Oil Creek Stat	71.07	27	P	P	10 19 18.7	+0.3	
	baz=213							
COWI	Conover	71.78	18	IAmb	IAmb	10 19 24.8		
	comp=Z,50nm,1.1s							
COWI				IAMs_20	IAMs_20	10 47 42.1		
	comp=Z,2µm,20.0s							
AGMN	Agassiz Nation	72.19	13	IAmb	IAmb	10 19 26.9		
	comp=Z,48nm,1.6s							
AGMN	Agassiz Nation	72.19	13	P	P	10 19 25.1	+0.2	
	baz=198							
B35A	Bob, Littlefor	72.70	14	IAmb	IAmb	10 19 29.7		
	comp=Z,32nm,1.1s							
DZM	Mont Dzumac	72.72	253	*e*LR	LR	10 41 05.0		
	comp=Z,1µm,23.6s							
EYMN	Ely	72.84	16	IAMs_20	IAMs_20	10 48 43.2		
	comp=Z,2µm,18.0s							
EYMN	Ely	72.84	16	P	P	10 19 29.0	+0.2	
	baz=202							
BINY	Binghamton	73.22	29	IAmb	IAmb	10 19 33.1		
	comp=Z,50nm,1.1s							
BINY	Binghamton	73.22	29	P	P	10 19 30.9	-0.2	
	baz=216							
VNA3	Neumayer Olymp	73.52	161	P	P	10 19 32.3	-0.3	
VNA3	Neumayer Olymp	73.52	161	pP	pP	10 19 34.2	-0.7	
SADO	Sadowa	74.00	25	LR	LR	10 50 33.9		
	comp=Z,2µm,18.3s,baz=201,slow=34							
ULM	Lac du Bonnet	74.05	12	P	P	10 19 33.9	-2.0	
	comp=Z,4.7nm,0.6s,baz=162,slow=4.9,SNR=4.9							
ULM				LR	LR	10 48 04.8		
	comp=Z,606nm,21.3s,baz=180,slow=32							
VNA1	Neumayer--Stat	74.17	161	P	P	10 19 36.2	-0.2	
VNA1	Neumayer--Stat	74.17	161	pP	pP	10 19 38.2	-0.5	
VNA2	Neumayer--Watz	74.33	161	P	P	10 19 37.1	-0.3	
	baz=241,slow=6.0							
VNA2	Neumayer--Watz	74.33	161	pP	pP	10 19 38.9	-0.7	
	baz=231,slow=5.4							
M65A	Busby, Falmout	75.22	32	IAMs_20	IAMs_20	10 44 46.0		
	comp=Z,1µm,19.0s							
BBB	Bella Bella	75.24	351	LR	LR	10 45 44.8		
	comp=Z,432nm,21.0s,baz=174,slow=30							
BBB	Bella Bella	75.24	351	P	P	10 19 43.6	+0.9	
EDM	Edmonton	75.26	0	P	P	10 19 43.1	+0.2	
EDM				pmax	pmax			
	comp=Z,68nm,1.3s							
EDM	Edmonton	75.26	0	P	P	10 19 43.1	+0.2	
EDM				IAmb	IAmb	10 19 44.6		
	comp=Z,68nm,1.3s							
SNAA	Sanae	75.34	162	P	P	10 19 43.0	-0.3	
SNAA	Sanae	75.34	162	pP	pP	10 19 44.9	-0.6	
SNAA	Sanae	75.34	162	LR	LR	10 48 40.2		
	comp=Z,426nm,18.0s,baz=262,slow=32							
SNAA	Sanae	75.34	162	*ce*P	P	10 19 43.4	+0.1	
SNAA				pmax	pmax			
	comp=Z,2µm,1.3s							
SNAA	Sanae	75.34	162	P	P	10 19 43.2	-0.1	
SNAA				IAmb	IAmb	10 19 49.6		
	comp=Z,62nm,1.5s							
NCB	Newcomb	75.41	29	P	P	10 19 44.3	+0.4	
NCB				IAmb	IAmb	10 19 46.9		
	comp=Z,91nm,1.6s							
RCBR	Riachuelo	76.82	91	IAMs_20	IAMs_20	10 50 48.3		
	comp=Z,1µm,20.0s							
TRQ	Mont Tremblant	77.05	27	IAmb	IAmb	10 19 57.2		
	comp=Z,50nm,1.4s							
NVL	N'lazarevskaya	79.79	164⇑	*i*P	P	10 20 13.0	+4.9	
NVL				pmax	pmax			
	comp=Z,59nm,1.7s							
DLBC	Dease Lake	81.58	352	LR	LR	10 50 01.3		
	comp=Z,460nm,19.8s,baz=140,slow=31							
DLBC	Dease Lake	81.58	352	IAmb	IAmb	10 20 20.3		
	comp=Z,35nm,1.1s							
FCC	Fort Churchill	82.49	10	IAmb	IAmb	10 20 26.3		
	comp=Z,70nm,1.4s							
HNR	Honiara	82.84	263	LR	LR	10 49 29.6		
	comp=Z,908nm,21.0s,baz=118,slow=30							
P33M	Teslin, Yukon	83.69	351	IAmb	IAmb	10 20 30.8		
	comp=Z,28nm,1.0s							
P33M				IAMs_20	IAMs_20	10 49 25.3		
	comp=Z,1µm,19.0s							
P33M	Teslin, Yukon	83.69	351	P	P	10 20 29.2	+0.5	
	baz=162							
WHY	Whitehorse	84.44	350	P	P	10 20 32.4	-0.1	
	baz=161							
YKA	Yellowknife Ar	84.56	360	P	P	10 20 32.5	-0.4	
	comp=Z,9.3nm,1.0s,baz=177,slow=5.6,SNR=91							
YKA				PKKP	PKKPdf	10 38 37.9	-1.5	
	comp=Z,0.1nm,0.9s,baz=359,slow=3.1,SNR=1.2							
WRGLY	Wrigley	85.62	356	P	P	10 20 38.1	-0.1	
	baz=171							
FARO	Faro, Yukon	85.70	351	P	P	10 20 38.5	-0.3	
	baz=162							
M31M	Drury Creek, Y	85.83	351	IAMs_20	IAMs_20	10 51 44.7		
	comp=Z,872nm,19.0s							
KDAK	Kodiak Island	86.08	340	LR	LR	10 52 20.2		
	comp=Z,461nm,18.1s,baz=171,slow=31							
YUK3	Moose Creek	86.49	348	P	P	10 20 44.5	+1.6	
	baz=156							
M30M	Minto, Yukon	86.56	350	IAmb	IAmb	10 20 46.9		
	comp=Z,41nm,1.7s							
M30M	Minto, Yukon	86.56	350	P	P	10 20 42.5	-0.5	
	baz=159							
SCHQ	Schefferville	86.81	25	P	P	10 20 43.5	-0.9	
	comp=Z,3.6nm,0.7s,baz=254,slow=2.8,SNR=6.5							
SCHQ				LR	LR	10 57 53.5		
	comp=Z,1µm,19.4s,baz=238,slow=34							
SCHQ	Schefferville	86.81	25	IAmb	IAmb	10 21 00.2		
	comp=Z,28nm,1.4s							
SYO	Syowa Base	86.90	171⇑	*e*PcP	P	10 20 45.2	+0.5	
BVCY	Beaver Creek	87.15	348	P	P	10 20 45.6	-0.2	
	baz=155							
H11S2	WAKE ISLAND Hy	87.47	291	T	T	11 57 27.8		
	baz=115,slow=75,SNR=230							
H11S1	WAKE ISLAND Hy	87.48	291	T	T	11 57 36.3		
	baz=115,slow=75,SNR=228							
H11S3	WAKE ISLAND Hy	87.49	291	T	T	11 57 33.0		
	baz=115,slow=75,SNR=161							
M26K	Nabesna, AK	87.57	347	P	P	10 20 47.3	-0.5	
	baz=153							
H11N3	WAKE ISLAND Hy	87.80	292	T	T	11 57 55.1		
	baz=116,slow=75,SNR=33							
H11N1	WAKE ISLAND Hy	87.82	292	T	T	11 58 03.7		
	baz=116,slow=75,SNR=13							
H11N2	WAKE ISLAND Hy	87.82	292	T	T	11 57 54.4		
	baz=116,slow=75,SNR=110							
L27K	Beaver Creek,	87.93	348	P	P	10 20 48.6	-1.0	
	baz=154							
KNK	Knik Glacier	87.96	344	P	P	10 20 49.2	-0.6	
	baz=148							
HARP	HAARP	88.03	346	P	P	10 20 49.9	-0.2	
	baz=151							
MENT	Mentasta	88.20	347	IAmb	IAmb	10 20 51.9		
	comp=Z,14nm,0.9s							
SML	Sawmill	88.27	344	P	P	10 20 51.1	-0.1	
	baz=148							
PMR	Palmer	88.28	344	IAmb	IAmb	10 20 52.4		
	comp=Z,24nm,1.0s							
PMR	Palmer	88.28	344	P	P	10 20 50.4	-0.8	
	baz=148							
GHO	Glory Hole Cre	88.39	344	P	P	10 20 51.9	+0.1	
GHO				IAmb	IAmb	10 20 53.0		
	comp=Z,30nm,0.9s							
DAWY	Dawson	88.39	349	P	P	10 20 51.7	-0.1	
DAWY	Dawson	88.39	349	P	P	10 20 50.9	-0.9	
	baz=157							
O18K	Koktuh Hills	88.56	341	P	P	10 20 51.9	-0.8	
	baz=142							
SUA	Susitna One	88.60	343	IAmb	IAmb	10 20 54.0		
	comp=Z,33nm,1.1s							
SUA	Susitna One	88.60	343	P	P	10 20 52.5	-0.3	
	baz=146							
M22K	Willow	88.67	344	IAmb	IAmb	10 20 54.2		
	comp=Z,36nm,1.0s							
N19K	Bonanza Creek	89.11	341	IAmb	IAmb	10 21 12.3		
	comp=Z,29nm,1.3s							
N19K	Bonanza Creek	89.11	341	P	P	10 20 54.4	-0.9	
	baz=143							
SCRK	Sand Creek	89.18	347	IAMs_20	IAMs_20	10 54 05.5		
	comp=Z,689nm,18.0s							
CUT	Chulitna	89.26	344	P	P	10 20 55.9	+0.1	
	baz=147							
STKA	Stephens Creek	89.83	235	P	P	10 20 58.7	-0.7	
	comp=Z,3.8nm,1.0s,baz=89,slow=7.8,SNR=5.5							
STKA				LR	LR	10 57 28.1		
	comp=Z,690nm,18.1s,baz=117,slow=33							
STKA	Stephens Creek	89.83	235	P	P	10 21 00.0	+0.6	
STKA				pmax	pmax			
	comp=Z,4.0nm,1.4s							
STKA	Stephens Creek	89.83	235	P	P	10 21 00.0	+0.6	
M19K	Big River Lodg	89.96	342	IAmb	IAmb	10 21 02.3		
	comp=Z,48nm,1.8s							
MCK	McKinley	90.06	345	IAmb	IAmb	10 21 00.6		
	comp=Z,18nm,1.0s							
MCK	McKinley	90.06	345	P	P	10 20 59.0	-0.5	
	baz=148							
TRF	Thorofare Moun	90.14	345	P	P	10 20 59.4	-0.8	
	baz=147							
MAW	Mawson	90.28	179	LR	LR	10 57 45.8		
	comp=Z,1µm,19.1s,baz=187,slow=33							
ILAR	Eielson Array	90.49	347	LR	LR	10 54 35.4		
	comp=Z,275nm,18.1s,baz=153,slow=31							
COLA	College	90.79	346	*i* P	P	10 21 01.6	-1.2	
COLA				pmax	pmax			
	comp=Z,22nm,1.8s							
CTA	Charters Tower	91.03	248	LR	LR	10 55 30.2		
	comp=Z,286nm,20.7s,baz=104,slow=31							
CTAO	Charters Tower	91.03	248	P	P	10 21 05.3	+0.1	
CTAO				pmax	pmax			
	comp=Z,14nm,1.2s							
CTAO	Charters Tower	91.03	248	P	P	10 21 05.3	+0.1	
I23K	Minto, Yukon-K	91.36	346	P	P	10 21 05.0	-0.5	
	baz=148							
INK	Inuvik	91.53	353	LR	LR	10 55 19.4		
	comp=Z,581nm,20.4s,baz=154,slow=31							
INK	Inuvik	91.53	353	P	P	10 21 05.3	-0.9	
	baz=162							
C36M	Paulatuk	91.73	356	IAmb	IAmb	10 21 10.9		
	comp=Z,57nm,1.9s							
FRB	Frobisher Bay	92.87	19	LR	LR	11 00 03.0		
	comp=Z,1µm,21.4s,baz=222,slow=34							
A36M	Sachs Harbour	94.41	357	IAMs_20	IAMs_20	10 58 28.4		
	comp=Z,740nm,20.0s							
A36M	Sachs Harbour	94.41	357	P	P	10 21 18.1	-1.3	
	baz=170							
PMG	Port Moresby	94.52	258	LR	LR	10 59 07.5		
	comp=Z,421nm,18.5s,baz=124,slow=32							
PMG	Port Moresby	94.52	258	*ce*P	P	10 21 23.4	+2.0	
PMG				pmax	pmax			
	comp=Z,9.0nm,1.0s							
SHEM	Shemya Is, Ala	97.19	324	LR	LR	10 56 32.6		
	comp=Z,165nm,21.0s,baz=129,slow=30							
RES	Resolute Bay	97.59	5	LR	LR	11 02 21.0		
	comp=Z,1µm,21.2s,baz=216,slow=33							
ASAR	Alice Springs	99.68	240	P	Pdif	10 21 41.6	-3.0	
	comp=Z,0.5nm,1.0s,baz=106,slow=4.7,SNR=3.1							
ASAR				PKiKP	PKiKP	10 26 12.1	-1.5	
	comp=Z,0.5nm,1.0s,baz=123,slow=1.3,SNR=5.2							
ASAR				PKKPbc	PKKPbc	10 38 04.1	-1.4	
	comp=Z,0.5nm,0.8s,baz=308,slow=2.3,SNR=7.6							
ASAR				LR	LR	11 01 31.6		
	comp=Z,660nm,20.3s,baz=134,slow=32							
WRAB	Tennant Creek	101.13	243	IAMs_20	IAMs_20	11 04 45.6		
	comp=Z,835nm,20.0s							
WRA	Warramunga Arr	101.13	243	P	Pdif	10 21 49.6	-1.5	
	comp=Z,0.5nm,1.0s,baz=115,slow=3.9,SNR=3.1							
WRA				PKiKP	PKiKP	10 26 15.2	-1.0	
	comp=Z,0.6nm,0.9s,baz=137,slow=1.3,SNR=3.7							
WRA				PKKPbc	PKKPbc	10 38 00.1	-1.2	
	comp=Z,0.3nm,0.6s,baz=314,slow=2.3,SNR=6.7							
NWAO	Narrogin (SRO)	106.43	223	IAMs_20	IAMs_20	10 59 49.9		
	comp=Z,918nm,21.0s							
TSUM	Tsumeb	117.20	127	IAMs_20	IAMs_20	11 07 55.9		
	comp=Z,751nm,21.0s							
KBS	Kingsbay	118.43	10	IAMs_20	IAMs_20	11 16 23.6		
	comp=Z,659nm,19.0s							
TORD	Torodi Ar. Bea	118.46	87	PKP	PKPdf	10 26 47.1	-1.8	
	comp=Z,1.8nm,0.8s,baz=305,slow=2.4,SNR=11							
TORD				PP	PP	10 28 04.5	-1.2	
	comp=Z,2.2nm,1.0s,baz=264,slow=5.7,SNR=5.9							
TORD	Torodi Ar. Bea	118.46	87		PKPdf	10 26 47.0	-1.8	
ESDC	Sonseca Array	119.04	56	PKP	PKPdf	10 26 48.2	-1.1	
	comp=Z,1.9nm,1.0s,baz=313,slow=1.1,SNR=9.8							
TIXI	Tiksi	119.50	341	PKP	PKPdf	10 26 48.3	-0.8	
	comp=Z,1.8nm,0.3s,baz=306,slow=2.1,SNR=5.3							
TIXI	Tiksi	119.50	341	*i* PKIKP	PKiKP	10 26 51.8	+2.6	
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.3s							
TIXI				MLR	MLR			
	comp=Z,292nm,19.0s							
YAK	Yakutsk	121.80	330	*i* PKIKP	PKiKP	10 26 55.0	+1.1	
YAK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
USRK	Ussuriysk Ar.	122.25	309	PKP	PKPdf	10 26 55.1	-0.1	
	comp=Z,1.1nm,0.7s,baz=88,slow=3.3,SNR=2.5							
KLR	Kul'dur	122.33	315	*c i* PKIKP	PKiKP	10 26 55.8	+0.4	
KLR				pmax	pmax			
	comp=Z,3.0nm,1.1s							
MSHR	Mys Shultsa	122.83	307	*i* PKIKP	PKiKP	10 26 57.0	+0.4	
MSHR				pmax	pmax			
	comp=Z,46nm,1.3s							
KSRS	Korea Array	125.14	301	PKP	PKPdf	10 26 59.9	-1.1	
	comp=Z,1.8nm,0.8s,baz=77,slow=1.3,SNR=5.3							
ARCES	ARCESS Array B	126.99	17	PKP	PKPdf	10 27 01.8	-1.8	
	comp=Z,1.8nm,0.7s,baz=354,slow=2.8,SNR=3.7							
LSZ	Lusaka	127.36	132	IAMs_20	IAMs_20	11 19 04.6		
	comp=Z,541nm,18.0s							
TUE	Stuetta	128.69	48		PKPdf	10 27 08.2	+0.5	
DAVA	Damuels	128.94	47	*i* P	PKiKP	10 27 10.1	+1.3	
	comp=Z,7.5nm,1.2s							
KKM	Kota Kinabalu	128.94	259	IAMs_20	IAMs_20	11 14 53.5		
	comp=Z,657nm,22.0s							
GRF	Grafenberg Arr	129.38	43	*e*PKPdf	PKiKP	10 27 10.4	+1.0	
	baz=278,slow=1.9							
GRF				*e*L	L	11 23 21.6		
	comp=Z,496nm,19.0s							
MOX	Moxa	129.42	42	*e*L	L	11 22 37.2		
	comp=Z,492nm,21.0s							
RETA	Reutte	129.49	46	*e*P	PKiKP	10 27 10.6	+0.8	
	comp=Z,9.4nm,1.6s							
FETA	Feichten	129.55	47	*e*P	PKiKP	10 27 11.4	+1.3	
	comp=Z,11nm,1.2s							
MOTA	Moosalm	129.75	46	*e*P	PKiKP	10 27 11.2	+0.8	
	comp=Z,10nm,1.0s							
SQTA	Sankt Quirin	129.84	46	*e*P	PKiKP	10 27 11.1	+0.5	
	comp=Z,14nm,1.2s							
MANZ	Manzenberg	129.87	43	*e*PKPdf	PKiKP	10 27 11.1	+0.6	
	baz=278,slow=1.9							
WERN	Wernitzgruen	129.97	42	*e*PKPdf	PKiKP	10 27 11.7	+1.1	
	baz=278,slow=1.9							
TANN	Tannenbergstha	130.00	42	*e*PKPdf	PKiKP	10 27 11.7	+1.0	
	baz=278,slow=1.9							
WATA	Walderalm	130.06	46	*i* P	PKiKP	10 27 12.0	+0.9	
	comp=Z,17nm,1.6s							
CLL	Collm	130.11	41	*e*SS	SS	10 46 48.0	-0.5	
CLL				LmV		11 24 00.0		
	comp=Z,300nm,18.9s							
HIA	Hailar	130.12	316	IAMs_20	IAMs_20	11 18 14.8		
	comp=Z,666nm,19.0s							
WTTA	Wattenberg	130.12	46	*e*P	PKiKP	10 27 12.4	+1.2	
	comp=Z,16nm,1.6s							
CTI	Castel Tesino	130.34	48	PKIKP	PKPdf	10 27 11.5	+0.7	
CTI	Castel Tesino	130.34	48		PKPdf	10 27 11.5	+0.7	
FBE	Freiberg	130.42	41	*e*PKPdf	PKiKP	10 27 12.5	+1.1	
	baz=278,slow=1.9							
WET	Wettzell	130.55	44	*e*PKPdf	PKiKP	10 27 12.6	+0.7	
	baz=278,slow=1.9							
BRG	Berggiesshubel	130.79	41	*e*PKP	PKiKP	10 27 13.1	+0.9	
BRG				Amp		10 27 14.0		
	comp=Z,7.2nm,1.0s							
BRG	Berggiesshubel	130.79	41	*e*PKIKP	PKiKP	10 27 13.1	+0.9	
BRG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ABTA	Abfaltersbach	130.80	47	*e*P	PKiKP	10 27 12.4	-0.1	
	comp=Z,7.7nm,1.8s							
KHC	Kasperske Hory	131.00	44	*e*PKIKP	PKiKP	10 27 13.6	+0.8	
KHC	Kasperske Hory	131.00	44	*e*PKPDF	PKiKP	10 27 13.6	+0.8	
KHC	Kasperske Hory	131.00	44		PKPdf	10 27 12.5	+0.6	
GERES	GERESS Array B	131.15	44	PKP	PKPdf	10 27 11.0	-1.2	
	comp=Z,0.5nm,0.6s,baz=126,slow=1.3,SNR=4.7							
NRIK	Noril'sk	131.23	350	PKP	PKPdf	10 27 11.1	-0.5	
	comp=Z,0.8nm,0.4s,baz=336,slow=0.8,SNR=4.5							
NRIK	Noril'sk	131.23	350	*c i* PKIKP	PKPdf	10 27 10.9	-0.7	
NRIK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
MOA	Molln	131.74	45	*e*P	PKiKP	10 27 14.8	+0.5	
	comp=Z,4.3nm,1.0s							
AQU	L'Aquila	132.12	53	IAMs_20	IAMs_20	11 26 14.1		
	comp=Z,693nm,20.0s							
OSTC	Ostas	132.27	41	*e*PKPDF	PKPdf	10 27 14.2	0.0	
FINES	FINESS Array B	132.29	25	PKP	PKPdf	10 27 13.1	-0.7	
	comp=Z,3.2nm,0.9s,baz=129,slow=1.2,SNR=6.4							
NJ2	Nanjing	132.40	294	*e*PKP	PKiKP	10 27 16.3	+0.3	
ARSA	Arzberg	132.71	46	*e*P	PKPdf	10 27 15.9	+0.8	
	comp=Z,7.8nm,1.2s							
CONA	Conrad Observa	132.77	45	*e*P	PKiKP	10 27 16.3	-0.2	
	comp=Z,11nm,1.6s							
VRAC	Vranov	132.87	43	PKP	PKPdf	10 27 14.8	-0.5	
	comp=Z,1.1nm,0.4s,baz=290,slow=3.3,SNR=5.1							
MORC	Moravsky Berou	133.32	42	PKIKP	PKPdf	10 27 16.9	+0.7	
MORC	Moravsky Berou	133.32	42	PKPdf	PKPdf	10 27 16.9	+0.7	
MODS	Modra-Piesok	133.56	44	*e*PKIKP	PKiKP	10 27 19.3	+1.4	
MODS	Modra-Piesok	133.56	44	*e*PKP	PKiKP	10 27 19.3	+1.4	
VSU	Vasula	134.31	28	*i* PKIKP	PKPdf	10 27 17.4	-0.3	
VYHS	Vyhne	134.52	43	*e*PKIKP	PKiKP	10 27 20.1	+0.2	
VYHS	Vyhne	134.52	43	*e*PKP	PKiKP	10 27 20.1	+0.2	
PMBI	Palembang	134.55	241	IAMs_20	IAMs_20	11 18 40.2		
	comp=Z,646nm,20.0s							
TIP	Timpagrande	135.06	56	IAMs_20	IAMs_20	11 31 24.9		
	comp=Z,563nm,18.0s							
HNS	HongShan	135.66	301	⇓PKP	PKiKP	10 27 23.5	+1.0	
HNS				PP	PP	10 30 00.3	+1.4	
HNS				AMB	AMB			
	comp=Z,9.0nm,2.7s							
HNS				LR	LR			
	comp=Z,460nm,22.8s							
HNS				LR	LR			
	comp=Z,780nm,21.7s							
HNS				LR	LR			
	comp=Z,740nm,20.6s							
CRVS	Cervenica-Dubn	136.03	42	*e*PKIKP	PKiKP	10 27 24.4	+1.5	
CRVS	Cervenica-Dubn	136.03	42	*e*PKP	PKiKP	10 27 24.4	+1.5	
DIVS	Divibare	136.52	49		PKPdf	10 27 23.0	+0.5	
MNK	Minsk	137.06	32	*i* PKHKP	PKPpre	10 27 14.2		
MNK				*i*		10 34 29.6		
MNK				*i* SS	SS	10 48 05.2	-6.8	
MNK				pmax	pmax			
	comp=E,2.0nm,0.7s							
MNK				pmax

OBN e 10 30 30.7
OBN pmax pmax
comp=Z,10.0nm,1.1s
XAN Xi'an 140.68 297 PKP **PKPdf 10 27 31.3 +1.0**
XAN LR LR
comp=Z,720nm,13.1s
XAN LR LR
comp=Z,630nm,17.2s
IPM Ipoh 141.72 248 IAMs_20 IAMs_20 11 25 57.1
comp=Z,471nm,20.0s
GYA Guiyang 142.84 285 ⇓PKP **PKPdf 10 27 35.8 +1.3**
GYA PP **PP 10 30 49.0 +5.1**
GYA SKS **SKSdf 10 34 37.3 -7.5**
GYA AMB AMB
comp=Z,140nm,5.5s
GYA LR LR
comp=Z,320nm,3.8s
GYA LR LR
comp=Z,400nm,3.8s
KIBK Kibwezi 143.30 128 IAMs_20 IAMs_20 11 28 32.8
comp=Z,608nm,20.0s
LPSR Galich'ya Gora 143.37 28 *e*PKHKP PKPpre 10 27 29.2
LPSR pmax pmax
comp=Z,20nm,1.8s
KMBO Kilima Mbogo 143.53 126 PKP PKPbc 10 27 35.0 +1.5
comp=Z,1.0nm,0.3s,baz=195,slow=2.8,SNR=5.8
KMBO Kilima Mbogo 143.53 126 PKIKP PKPbc 10 27 35.0 +1.5
KMBO Kilima Mbogo 143.53 126 PKPdf PKPbc 10 27 35.0 +1.5
KMBO Kilima Mbogo 143.53 126 IAMs_20 IAMs_20 11 24 36.6
comp=Z,516nm,21.0s
VSR Storozhevoye 144.45 29 *e*PKIKP **PKPab 10 27 33.3 -1.3**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LZH Lanzhou 144.47 301 *e*PKP **PKPab 10 27 33.9 -1.6**
LZH pPKP PKiKP 10 27 44.1 +3.3
LZH SKKS 10 37 45.3
LZH LR LR
comp=Z,530nm,17.9s
LZH LR LR
comp=Z,720nm,16.8s
LZH LR LR
comp=Z,700nm,16.8s
LODK Lodwar 144.84 118 PKPdf **PKPdf 10 27 38.5 +0.2**
SLVN Son La 144.85 276 PKPdf **PKPdf 10 27 38.0 -0.1**
BORA Eskisehir 145.21 52 **PKPdf 10 27 39.2 +1.0**
CD2 Chengdu 145.31 292 PKPbc **PKPab 10 27 38.5 -0.1**
CD2 PP **PP 10 30 58.8 +0.4**
CD2 AMB AMB
comp=Z,300nm,8.3s
CD2 LR LR
comp=Z,390nm,13.2s
CD2 LR LR
comp=Z,350nm,16.2s
SVE Sverdlovsk 145.35 5 *e*PKP2 **PKPbc 10 27 36.3 -1.3**
SVE pmax pmax
comp=Z,65nm,2.2s
ZAA0 Zalesovo Array 145.38 340 **PKPbc 10 27 36.7 -1.1**
ZALV Zalesovo Beam 145.38 340 PKPbc **PKPbc 10 27 36.5 -1.3**
comp=Z,29nm,1.0s,baz=41,slow=3.3,SNR=57
ARU Arti 145.53 7 PKPbc **PKPdf 10 27 37.1 -1.0**
comp=Z,9.0nm,0.7s,baz=339,slow=2.3,SNR=40
ARU Arti 145.53 7 *i* PKIKP **PKPdf 10 27 37.1 -1.0**
ARU 10 31 06.3
ARU MLR MLR
comp=Z,643nm,22.0s
MDUB Mudurnu 145.54 50 **PKPdf 10 27 38.5 -0.3**
VRH Novokhopyorsk 145.58 27 *e*PKIKP **PKPdf 10 27 38.0 -0.3**
VRH pmax pmax
comp=Z,150nm,1.4s
KMI Kunming 146.31 282 ⇑PKPbc **PKPbc 10 27 41.8 -0.1**
KMI pPKP pPKPab 10 27 44.9 -0.1
GTA Gaotai 146.61 308 ⇑PKPbc **PKPbc 10 27 42.0 -0.2**
GTA SKKS 10 38 00.0
GTA AMB AMB
comp=Z,280nm,5.5s
GTA LR LR
comp=Z,320nm,24.4s
GTA LR LR
comp=Z,480nm,24.4s
GTA LR LR
comp=Z,730nm,23.3s
ANTO Ankara 146.89 50 PKP2 **PKPdf 10 27 42.3 +1.2**
ANTO Ankara 146.89 50 **PKPdf 10 27 42.3 +1.2**
ILGA Ilgaz 147.07 48 **PKPdf 10 27 42.7 +1.2**
PZH PanZhiHua 147.25 285 PKPbc **PKPbc 10 27 44.3 -0.1**
PZH pPKP **sPKPbc 10 27 47.9 +0.4**
PZH PP **PP 10 31 14.8 +4.6**
PZH SKS **SKSdf 10 34 46.3 -5.0**
PZH AMB AMB
comp=Z,200nm,6.9s
PZH LR LR
comp=Z,620nm,17.6s
PZH LR LR
comp=Z,820nm,18.2s
PZH LR LR
comp=Z,770nm,18.1s
BR131 Keskin Array S 147.55 50 PKP2 **PKPdf 10 27 43.3 +1.0**
BR131 Keskin Array S 147.55 50 PKPdf **PKPdf 10 27 43.2 +1.0**
BRTR Keskin Array B 147.55 50 PKPbc **PKPdf 10 27 43.9 +1.6**
comp=Z,17nm,0.9s,baz=243,slow=2.2,SNR=36
BRTR Keskin Array B 147.55 50 PKIKP **PKPdf 10 27 42.6 +0.3**
BRTR Keskin Array B 147.55 50 PKPdf **PKPdf 10 27 42.6 +0.3**
DGZ Jazzator, Alta 147.90 333 *i* PKIKP **PKPdf 10 27 42.7 +0.2**
CSS Mathiatis 148.85 59 PKPbc **PKPbc 10 27 48.9 +0.5**
CMAR Chiang Mai Arr 148.91 269 PKP **PKPdf 10 27 44.5 -0.4**
comp=Z,5.6nm,0.8s,baz=257,slow=0.2,SNR=11
CMAR PKPbc **PKPbc 10 27 49.1 +0.2**
comp=Z,13nm,1.0s,baz=81,slow=1.1,SNR=12
CMAR Chiang Mai Arr 148.91 269 PKPdf **PKPdf 10 27 44.8 -0.1**
CMAR PKPbc **PKiKP 10 27 49.9 -0.4**
CHTO Chiang Mai 148.99 270 PKIKP **PKPdf 10 27 44.9 -0.1**
CHTO 10 27 49.3
CHTO Chiang Mai 148.99 270 PKPdf **PKPdf 10 27 44.9 -0.1**
CHTO **PKPbc 10 27 49.3 +0.2**
BRVK Borovoye 149.17 355 *c* PKIKP **PKPdf 10 27 45.8 +1.5**
BRVK pmax pmax
comp=Z,52nm,1.7s
BRVK Borovoye 149.17 355 **PKPdf 10 27 44.2 -0.1**
BRVK PKPbc **PKiKP 10 27 49.4 -0.3**
BRVK Borovoye 149.17 355 IAMs_20 IAMs_20 11 36 20.0
comp=Z,497nm,19.0s
BVAR Borovoye Array 149.20 355 PKPbc **PKPbc 10 27 47.9 -0.7**
comp=Z,10.0nm,0.7s,baz=56,slow=3.7,SNR=50
BNN Bunyan 149.47 51 **PKPbc 10 27 50.1 +0.2**
SOC Sochi 149.66 40 *i* PKP2 **PKPbc 10 27 49.3 -0.7**
SOC *e* 10 31 20.2
SOC *e*PPP PPP 10 34 41.9
SOC *e*SS SS 10 50 36.7 -1.0
SOC *e*SSS SSS 10 56 20.6
SOC pmax pmax
comp=Z,24nm,0.7s
SOC MLR MLR
comp=Z,473nm,17.0s
KURK Kurchatov 150.02 344 PKHKP PKPpre 10 27 45.2
KURK Kurchatov 150.02 344 **PKPdf 10 27 45.2 -0.5**
KURK Kurchatov 150.02 344 IAMs_20 IAMs_20 11 38 43.9
comp=Z,504nm,21.0s
KURBB Kurchatov Arra 150.13 344 PKP **PKPdf 10 27 45.3 -0.6**
comp=Z,9.4nm,0.8s,baz=26,slow=2.1,SNR=31
KURBB PKPbc **sPKPdf 10 27 49.3 +0.3**
comp=Z,10nm,0.8s,baz=19,slow=1.9,SNR=44
FURI Furi 150.56 113 IAMs_20 IAMs_20 11 30 29.4
comp=Z,472nm,21.0s
GOF Gofitskoye 150.57 34⇑ *e*PKIKP **PKPbc 10 27 52.8 +0.6**
KIV Kislovodsk 151.12 36 *e*PKIKP **PKPdf 10 27 46.1 -1.7**
KIV pmax pmax
comp=Z,18nm,1.1s
GAZ Gaziantep 151.12 53 PKPdf **PKPdf 10 27 48.1 +0.2**
GAZ **PKPbc 10 27 52.9 -0.9**
AKTO Aktyubinsk 151.29 11 PKP **PKPdf 10 27 47.2 -0.5**
comp=Z,1.3nm,0.7s,baz=295,slow=5.8,SNR=3.4
AKTO PKPbc **sPKPdf 10 27 52.0 +1.2**
comp=Z,8.8nm,0.8s,baz=167,slow=2.3,SNR=5.0
KBZ Khabaz 151.38 36 PKPbc **PKPbc 10 27 54.1 +0.1**
comp=Z,15nm,0.9s,baz=286,slow=2.1,SNR=17
KBZ Khabaz 151.38 36 *c* *i* PKIKP **PKiKP 10 27 54.9 +0.4**
GOMU GeErMu 151.45 305 PKPbc **PKPdf 10 27 48.6 -0.3**
GOMU SKKS 10 38 24.8
GOMU AMB AMB
comp=Z,260nm,6.6s
GOMU LR LR
comp=Z,190nm,21.8s
GOMU LR LR
comp=Z,200nm,19.6s
GOMU LR LR
comp=Z,210nm,21.2s
GHAJ Ghor Haditha 151.50 65 IAMs_20 IAMs_20 11 36 08.9
comp=Z,376nm,20.0s
WMQ Urumqi 152.07 325 *e*PKPbc **PKPdf 10 27 50.0 +0.8**
MK31 Makanchi Array 152.28 336 PKIKP **PKPbc 10 27 55.2 -0.9**
MK31 Makanchi Array 152.28 336 **PKPdf 10 27 48.7 -0.6**
MK31 PKPbc **PKPbc 10 27 55.2 -0.9**
MKAR Makanchi Array 152.28 336 PKP **PKPdf 10 27 48.1 -1.2**
comp=Z,2.0nm,0.8s,baz=58,slow=1.9,SNR=15
MKAR PKPbc **PKPbc 10 27 55.0 -1.1**
comp=Z,11nm,0.7s,baz=40,slow=2.2,SNR=70
MKAR Makanchi Array 152.28 336 **PKPdf 10 27 48.7 -0.6**
MKAR PKPbc **PKPbc 10 27 55.2 -0.9**
MAKZ Makanchi 152.39 336 PKIKP **PKPbc 10 27 55.3 -1.0**
MAKZ Makanchi 152.39 336 PKPdf **PKPdf 10 27 48.9 -0.6**
MAKZ **PKPbc 10 27 55.3 -1.0**
MAKZ IAMs_20 IAMs_20 11 35 49.2
comp=Z,495nm,20.0s
AB31 Akbulak array 152.73 9 *i* PKIKP **PKPdf 10 27 49.3 -0.6**
ABKAR Akbulak array 152.73 9 PKPdf **PKPdf 10 27 49.6 -0.2**
ABKAR PKPbc **PKiKP 10 27 57.4 +0.3**
ABKAR Akbulak array 152.73 9 PKPdf **PKPdf 10 27 48.5 -1.3**
ABKAR PKPbc **PKPbc 10 27 57.3 +0.3**
ABKAR PKPab **PKPab 10 28 08.4 +0.7**
GURO Guroymak-BITLI 153.90 46 **PKPdf 10 27 51.7 -0.4**
GNI Garni 154.72 41 *c* *i* PKP2 PKPab 10 28 24.7 +8.0
GNI pmax pmax
comp=Z,38nm,2.5s
GNI Garni 154.72 41 IAMs_20 IAMs_20 11 50 48.9
comp=Z,447nm,21.0s
ATD Arta Tunnel 155.42 112 IAMs_20 IAMs_20 11 35 58.2
comp=Z,334nm,21.0s
BOOM Boomskoye usch 158.27 340 PKIKP **PKPdf 10 27 56.7 -1.1**
BOOM Boomskoye usch 158.27 340 PKPdf **PKPdf 10 27 56.7 -1.1**
TARG Taragay, Kyrgy 158.28 336 PKPdf **PKPdf 10 27 58.2 +0.1**
TARG **PKPab 10 28 33.2 +1.1**
AAK Ala-Archa 158.57 343 PKIKP **PKPdf 10 27 57.9 -0.2**
AAK Ala-Archa 158.57 343 PKPdf **PKPdf 10 27 57.9 -0.2**
KKAR Karatay Array 158.97 351 PKP2 **PKPab 10 28 33.5 -1.1**
KKAR 11 27 59.2
KKAR Karatay Array 158.97 351 PKPdf **PKPdf 10 27 59.2 +0.8**
KKAR PKPab **PKPab 10 28 33.5 -1.1**
KSH Kashi 160.90 336 PKP **PKPdf 10 28 02.0 +1.2**
KSH LR LR
comp=Z,450nm,16.1s
KSH LR LR
comp=Z,310nm,18.2s
KSH LR LR
comp=Z,490nm,20.3s
RAYN Ar Rayn 161.09 83 PKIKP **PKPdf 10 28 00.2 -1.2**
RAYN Ar Rayn 161.09 83 **PKPdf 10 28 00.1 -1.2**
GEYT Alibeck 163.06 22 PKP **PKPdf 10 28 02.6 -0.4**
comp=Z,5.7nm,0.8s,baz=256,slow=3.7,SNR=5.4
CHGR Chuyangaron 163.53 351 **PKPdf 10 28 03.3 -0.2**

*IDC **23** 10:32:15.0±1.7, 31°.52S×178°.43W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/29, mbtmp4.2/4, ML3.6/1, MS4.4/6, Ms1 4.5/6, ms1mx3.6/60, Error ellipse: s-maj=43.9km s-min=32.2km az=54.0*

ISC 23 10:32:22.5±0.9, 31°.69S×0°.09×178°.7W±0°.2, h61km, n35, σ2°49/37, mb4.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.52**	**16**	P	**Pn**	**10 32 59.6**	**-1.4**
GLKZ				S	**Sn**	**10 33 28.4**	**-2.1**
WMGZ	**Waiomatatini S**	**6.55**	**200**	P	**Pn**	**10 33 55.9**	**-0.3**
WMGZ				S	**Sn**	**10 35 11.4**	**+1.9**
PKGZ	**Pakihiroa**	**6.72**	**202**	P	**Pn**	**10 33 57.7**	**-0.8**
PKGZ				S	**Sn**	**10 35 14.8**	**+1.1**
PUZ	**Puketiti**	**6.83**	**201**	P	**Pn**	**10 33 58.7**	**-1.3**
PUZ				S	**Sn**	**10 35 13.7**	**-2.8**
RUGZ	**Raukumara Rang**	**6.93**	**204**	P	**Pn**	**10 34 00.5**	**-0.9**
RUGZ				S	**Sn**	**10 35 21.9**	**+3.0**
WCZ	**Waipu Caves**	**7.17**	**232**	P	Pn	10 34 15.4	+11
MWZ	**Matawai**	**7.31**	**204**	P	**Pn**	**10 34 05.2**	**-1.4**
MWZ				S	**Sn**	**10 35 28.7**	**+0.5**
OUZ	**Omahuta**	**7.33**	**239**	P	Pn	10 34 16.6	+10
URZ	**Urewera**	**7.39**	**207**	Pn	**Pn**	**10 34 06.7**	**-1.0**
	1.0nm,0.3s,baz=255,slow=4.3,SNR=12						
URZ				Sn	**Sn**	**10 35 26.8**	**-3.3**
	1.4nm,0.3s,baz=348,slow=5.2,SNR=1.8						
URZ	**Urewera**	**7.39**	**207**	P	**Pn**	**10 34 06.5**	**-1.3**
URZ				S	**Sn**	**10 35 32.1**	**+1.9**
NMHZ	**Naumai**	**8.24**	**205**	P	**Pn**	**10 34 18.1**	**-1.3**
NMHZ				S	**Sn**	**10 35 52.8**	**+1.7**
ARHZ	**Aropaoanui**	**8.33**	**204**	P	**Pn**	**10 34 18.5**	**-1.9**
ARHZ				S	**Sn**	**10 35 51.8**	**-1.1**
MCHZ	**McNeill Hill**	**8.59**	**205**	P	**Pn**	**10 34 27.2**	**+3.1**
MCHZ				S	**Sn**	**10 35 58.4**	**-1.1**
KWHZ	**Kaweka Forest**	**8.67**	**206**	P	**Pn**	**10 34 24.0**	**-1.3**
KWHZ				P	**Sn**	**10 36 00.9**	**-0.7**
PNHZ	**Pukenui**	**9.19**	**205**	P	**Pn**	**10 34 30.4**	**-1.9**
PNHZ				S	**Sn**	**10 36 09.2**	**-4.9**
WPHZ	**Waipukurau**	**9.23**	**204**	P	**Pn**	**10 34 31.0**	**-1.9**
WPHZ				S	**Sn**	**10 36 12.2**	**-3.0**
TSZ	**Takapari Road**	**9.40**	**206**	P	**Pn**	**10 34 31.5**	**-3.7**
TSZ				S	**Sn**	**10 36 12.7**	**-6.6**
ANWZ	**Angora Road**	**9.58**	**203**	P	**Pn**	**10 34 38.1**	**+0.6**
ANWZ				S	**Sn**	**10 36 18.8**	**-4.7**
ASAR	**Alice Springs**	**42.46**	**269**	P	**P**	**10 40 13.9**	**+2.3**
	2.0nm,0.5s,baz=106,slow=7.4,SNR=71						
WRA	**Warramunga Arr**	**43.56**	**274**	P	**P**	**10 40 22.7**	**+2.1**
	3.1nm,0.5s,baz=114,slow=7.6,SNR=60						
QSPA	**South Pole Qui**	**58.42**	**180**	P	**P**	**10 42 14.0**	**+2.4**
	0.9nm,0.5s,baz=66,slow=10.0,SNR=3.6						
RPN	**Rapa Nui**	**59.68**	**105**	LR	LR	11 05 04.2	
	comp=Z,77nm,18.6s,baz=277,slow=33						
DAV	**Davao City (W)**	**65.63**	**296**	LR	LR	11 14 00.6	
	comp=Z,370nm,18.1s,baz=122,slow=38						
LEM	**Lembang**	**72.57**	**273**	LR	LR	11 17 29.7	
	comp=Z,485nm,19.9s,baz=164,slow=37						
TGY	**Tagaytay City**	**73.59**	**298**	LR	LR	11 13 36.2	
	comp=Z,402nm,20.5s,baz=100,slow=34						
H03S2	**Juan Fernandez**	**80.25**	**124**	T	T	12 13 11.0	
	baz=236						
H03S1	**Juan Fernandez**	**80.27**	**124**	T	T	12 13 20.6	
	baz=236						
H03S3	**Juan Fernandez**	**80.27**	**124**	T	T	12 13 19.7	
	baz=236						
H03N3	**Juan Fernandez**	**80.45**	**123**	T	T	12 13 21.6	
	baz=241,slow=72,SNR=16						
H03N2	**Juan Fernandez**	**80.46**	**123**	T	T	12 13 17.0	
	baz=241,slow=72,SNR=12						
H03N1	**Juan Fernandez**	**80.47**	**123**	T	T	12 13 23.4	
	baz=241,slow=72,SNR=47						
PSI	**Prapat**	**84.97**	**276**	LR	LR	11 24 26.7	
	comp=Z,279nm,21.2s,baz=133,slow=37						
CMAR	**Chiang Mai Arr**	**93.26**	**290**	LR	LR	11 30 01.3	
	comp=Z,155nm,19.3s,baz=275,slow=37						
FINES	**FINESS Array B**	**146.14**	**339**	PKPbc	**PKPbc**	**10 51 55.1**	**+0.1**
	1.0nm,0.4s,baz=49,slow=2.9,SNR=16						
TORD	**Torodi Ar. Bea**	**161.54**	**181**	PKPab	**PKPab**	**10 53 03.0**	**+1.4**
	1.1nm,0.6s,baz=203,slow=2.4,SNR=7.0						

*IDC **23** 11:13:00.7±2.0, 8°.64S×128°.41E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.1/41, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=34.6km s-min=26.3km az=61.0*

ISC 23 11:13:02.5±1.5, 8°.6S±0°.1×128°.3E±0°.1, h10km, n4, σ1°13/7, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.85**	**251**	Pn	**Pn**	**11 14 15.1**	**-0.5**
	3.8nm,0.3s,baz=215,slow=3.1,SNR=7.4						
BATI				Sn	**Sn**	**11 15 12.7**	**+0.7**
	3.8nm,0.3s,baz=161,slow=23,SNR=5.9						
WRA	**Warramunga Arr**	**12.65**	**153**	Pn	**Pn**	**11 16 02.0**	**-0.7**
	0.1nm,0.3s,baz=336,slow=13,SNR=12						
WRA				Sn	**Sn**	**11 18 25.4**	**+1.6**
	0.5nm,0.3s,baz=330,slow=23,SNR=10						
ASAR	**Alice Springs**	**15.87**	**161**	Pn	**Pn**	**11 16 45.2**	**-0.9**
	0.1nm,0.3s,baz=342,slow=11,SNR=26						
ASAR				Sn	**Sn**	**11 19 41.9**	**-0.4**
	0.1nm,0.3s,baz=345,slow=24,SNR=1.8						
SONM	**Songino Array**	**59.49**	**343**	P	**P**	**11 23 06.3**	**+0.4**
	0.5nm,0.7s,baz=141,slow=6.1,SNR=1.9						

*IDC **23** 11:15:33.2±1.2, 22°.66N×144°.26E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.4/48, mbtmp3.7/8, Error ellipse: s-maj=50.2km s-min=19.8km az=82.0*

ISC 23 11:15:38.4±1.1, 22°.7N±0°.1×144°.2E±0°.3, h35km, n11, σ0°23/8, mb3.8/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.37**	**320**	P	**P**	**11 20 11.8**	**-0.2**
	1.3nm,0.9s,baz=150,slow=10,SNR=2.0						
H11N1	**WAKE ISLAND Hy**	**21.34**	**94**	T	T	11 42 31.6	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**21.34**	**94**	T	T	11 42 25.4	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**21.35**	**94**	T	T	11 42 20.7	
	baz=282						
WRA	**Warramunga Arr**	**43.42**	**194**	P	**P**	**11 23 37.9**	**0.0**
	0.5nm,0.4s,baz=18,slow=9.0,SNR=9.7						
ASAR	**Alice Springs**	**47.12**	**193**	P	**P**	**11 24 07.2**	**-0.1**
	0.2nm,0.4s,baz=9.2,slow=8.1,SNR=7.0						
ZALV	**Zalesovo Beam**	**54.07**	**321**	P	**P**	**11 24 59.3**	**-0.1**
	0.9nm,0.5s,baz=108,slow=9.3,SNR=4.4						
STKA	**Stephens Creek**	**54.28**	**183**	P	**P**	**11 25 01.1**	**0.0**
	1.1nm,0.7s,baz=0.0,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**54.77**	**312**	P	**P**	**11 25 05.1**	**+0.4**
	0.4nm,0.4s,baz=84,slow=9.3,SNR=4.5						
ILAR	**Eielson Array**	**60.76**	**27**	P	**P**	**11 25 46.5**	**+0.1**
	0.5nm,1.0s,baz=266,slow=6.6,SNR=2.8						
FINES	**FINESS Array B**	**82.74**	**335**	P	**P**	**11 27 58.3**	**-0.1**
	1.6nm,0.9s,baz=64,slow=6.3,SNR=1.9						

NNC 23 11:22:31.5±8.4, 37°.15N×70°.39E, h0km, mb3.6, mpv3.3, 4C-2D, Error ellipse: s-maj=65.1km s-min=56.4km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**5.94**	**1**	⇑P	Pn	11 24 02.0	+1.2
	0.9nm,0.3s,baz=186,slow=13						
KK02				⇑S	Sn	11 25 11.5	+1.9
	2.3nm,0.6s,baz=185,slow=23						
AAK	**Ala-Archa**	**6.32**	**29**	⇓P	Pn	11 24 06.3	+0.2
	1.9nm,0.7s						
AAK				⇑S	Sn	11 25 21.0	+1.9
	5.3nm,0.9s						
TKM2	**Tokmak 2**	**7.01**	**33**	⇑P	Pn	11 24 14.8	-0.8
	1.2nm,0.8s						
TKM2				⇓S	Sn	11 25 34.4	-1.6
	2.0nm,0.8s						

IDC 23 11:24:37.9±4.2, 16°.48S×178°.07W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/24, mbtmp3.9/4, Error ellipse: s-maj=182.3km s-min=35.2km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.62**	**240**	P	P	11 32 11.4	-0.1
	0.8nm,0.5s,baz=82,slow=7.1,SNR=3.8						
WRA	**Warramunga Arr**	**45.23**	**258**	P	P	11 32 57.4	0.0
	0.7nm,0.4s,baz=93,slow=7.2,SNR=36						
ASAR	**Alice Springs**	**45.51**	**253**	P	P	11 32 59.2	-0.4
	3.5nm,0.5s,baz=86,slow=8.6,SNR=97						
ILAR	**Eielson Array**	**84.43**	**13**	P	P	11 37 12.0	0.0
	0.1nm,0.4s,baz=225,slow=5.5,SNR=4.3						

*IDC **23** 11:41:47.8±4.2, 37°.70N×78°.26E, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.3/39, mbtmp3.4/4, ML2.7/2, Error ellipse: s-maj=90.1km s-min=43.2km az=129.0*
*NNC **23** 11:41:56.8±2.1, 37°.95N×78°.10E, h23km±12km, mb3.8, mpv3.4, Error ellipse: s-maj=20.2km s-min=13.7km az=82.0*

ISC 23 11:41:51.1±2.2, 37°.9N±0°.1×78°.0E±0°.1, h10km, n19, σ1°77/22, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.21**	**4**	Pg	**Pg**	**11 43 30.9**	**+0.1**
	6.0nm,0.6s						
SATY				Lg	Lg	11 44 41.0	
	25nm,1.1s						
TNSS	**Tian-Shan**	**5.24**	**352**	Pg	**Pg**	**11 43 31.4**	**0.0**
	4.0nm,0.4s						
TNSS				Lg	Lg	11 44 41.7	
	5.8nm,0.9s						
UZB	**Uzynbulak**	**5.35**	**8**	Pg	**Pg**	**11 43 31.3**	**-2.2**
	4.6nm,0.6s						
UZB				Lg	Lg	11 44 41.3	
	6.5nm,1.0s						
MDOK	**Medeo**	**5.35**	**353**	Pg	**Pg**	**11 43 35.6**	**+2.1**
	4.3nm,0.7s						
MDOK				Lg	Lg	11 44 46.0	
	14nm,0.6s						
MDOK	**Medeo**	**5.35**	**353**	Pg	**Pg**	**11 43 33.1**	**-0.5**
	4.4nm,0.8s						
MDOK				Lg	Lg	11 44 44.8	
	6.3nm,0.5s						
TKM2	**Tokmak 2**	**5.38**	**341**	⇑Pg	**Pg**	**11 43 33.8**	**-0.2**
	3.1nm,0.8s						
TKM2				⇓Lg	Lg	11 44 49.9	
	7.2nm,0.8s						
KST	**Kastek**	**5.40**	**344**	Pg	**Pg**	**11 43 34.6**	**+0.1**
	4.0nm,1.0s						
KST				Lg	Lg	11 44 47.3	
	7.0nm,1.2s						
AAK	**Ala-Archa**	**5.47**	**332**	⇓Pg	**Pg**	**11 43 34.8**	**-0.9**
	4.5nm,0.8s						
AAK				⇑Lg	Lg	11 44 50.9	
	11nm,0.7s						
PDGK	**Podgornoye**	**5.59**	**12**	⇑Pg	**Pg**	**11 43 35.9**	**-2.3**
	3.1nm,0.6s						
PDGK				⇑Lg	Lg	11 44 52.0	
	19nm,0.8s						
DGS	**Degeres**	**5.64**	**343**	Pg	**Pg**	**11 43 36.1**	**-2.9**
	3.0nm,0.4s						
DGS				Lg	Lg	11 44 49.6	
	7.9nm,0.9s						
KTBS	**Karatobe**	**5.93**	**351**	Pg	**Pg**	**11 43 42.3**	**-2.4**
	1.5nm,0.5s						
KTBS				Lg	Lg	11 45 00.5	
	8.4nm,0.7s						
KRBS	**Karabastau**	**6.09**	**344**	Pg	**Pg**	**11 43 46.4**	**-1.3**
	1.6nm,0.7s						
KRBS				Lg	Lg	11 45 07.3	
	2.5nm,0.7s						
KUU	**Kurty**	**6.16**	**349**	Pg	**Pg**	**11 43 47.4**	**-1.5**
	1.3nm,0.7s						
KUU				Lg	Lg	11 45 09.3	
	7.0nm,0.6s						
MAKZ	**Makanchi**	**9.43**	**17**	⇓Pn	**Pn**	**11 44 10.0**	**+3.1**
	2.2nm,0.7s						
MAKZ				⇑Sn	**Sn**	**11 45 54.1**	**+1.1**
	1.2nm,0.9s						
MK31	**Makanchi Array**	**9.49**	**18**	Pn	**Pn**	**11 44 10.8**	**+3.0**
	0.1nm,0.3s,baz=200,slow=14,SNR=4.4						
MK31				⇓Sn	**Sn**	**11 45 54.8**	**+0.3**
	1.4nm,0.7s,baz=192,slow=23,SNR=4.9						
MKAR	**Makanchi Array**	**9.49**	**18**	Pn	**Pn**	**11 44 09.0**	**+1.2**
	0.1nm,0.3s,baz=202,slow=13,SNR=4.5						
MKAR				Sn	**Sn**	**11 45 53.5**	**-1.0**
	0.1nm,0.3s,baz=196,slow=26,SNR=2.9						
ZALV	**Zalesovo Beam**	**16.78**	**14**	Pn	**Pn**	**11 45 44.4**	**-1.6**
	0.1nm,0.3s,baz=203,slow=14,SNR=1.5						
FINES	**FINESS Array B**	**39.59**	**324**	P	**P**	**11 49 22.4**	**+0.2**
	2.5nm,0.9s,baz=122,slow=9.3,SNR=3.7						
YKA	**Yellowknife Ar**	**79.49**	**6**	P	**P**	**11 53 56.6**	**-0.8**
	0.2nm,0.8s,baz=343,slow=5.1,SNR=3.3						

*NNC **23** 12:01:41.1±4.2, 36°.92N×70°.86E, h164km±80km, mb2.9, mpv3.7, Error ellipse: s-maj=37.7km s-min=21.9km az=16.0*

ISC 23 12:01:39.6±3.5, 36°.8N±0°.2×70°.8E±0°.1, h100km, n10, σ1°32/14, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.75**	**22**	P	**Pn**	**12 03 03.1**	**+0.2**
	SNR=12						
UCH	**Uchtor**	**6.12**	**27**	P	**Pn**	**12 03 07.8**	**0.0**
	SNR=7.9						
KK02	**Karatay Array**	**6.26**	**358**	P	**Pn**	**12 03 10.5**	**+1.1**
	1.9nm,0.3s,baz=181,slow=13						
KK02				⇓S	**Sn**	**12 04 21.4**	**+1.9**
	4.5nm,0.7s,baz=178,slow=29						
EKS2	**Erkin-Say**	**6.26**	**21**	P	**Pn**	**12 03 11.8**	**+2.3**

SNR=11
AAK Ala-Archa 6.47 25 P **Pn 12 03 12.9 +0.5**
SNR=8.1
AAK Ala-Archa 6.47 25 P **Pn 12 03 12.6 +0.2**
3.8nm,0.5s
AAK ⇓S **Sn 12 04 24.7 0.0**
11nm,0.6s
CHMS Chumysh 6.88 25 P **Pn 12 03 18.1 +0.4**
SNR=6.8
TKM2 Tokmak 2 7.12 30 P **Pn 12 03 21.1 -0.2**
SNR=6.2
TKM2 Tokmak 2 7.12 30 P **Pn 12 03 20.7 -0.7**
2.7nm,0.5s
TKM2 ⇑S **Sn 12 04 40.6 -0.2**
2.1nm,0.6s
AB31 Akbulak array 14.70 331 ⇑P **Pn 12 05 02.4 +0.1**
0.7nm,0.4s,baz=189,slow=8.3,SNR=36
AB31 ⇓S **Sn 12 07 41.3 -2.9**
0.9nm,0.8s,baz=153,slow=24,SNR=2.7

IDC 23 12:20:03.5±2.3,3˚73N×126˚91E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/38,mbtmp3.4/3,MS2.4/1,Ms1 2.4/1, ms1mx2.2/37,Error ellipse: s-maj=169.5km s-min=29.8km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.25**	**220**	LR	LR	12 27 19.2	
	comp=Z,22nm,20.7s,baz=324,slow=39						
WRA	**Warramunga Arr**	**24.63**	**163**	P	P	12 25 25.2	-0.7
	1.0nm,0.8s,baz=343,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**28.07**	**166**	P	P	12 25 57.9	+1.0
	0.1nm,0.3s,baz=340,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	12 29 55.5	-0.2
	0.2nm,0.6s,baz=117,slow=8.5,SNR=2.1						

*IDC **23** 12:28:55.9±4.2,3˚29N×126˚68E,h0km,mb3.8/12, mb1 3.9/12,mb1mx3.8/44,mbtmp3.8/12,Error ellipse: s-maj=99.6km s-min=40.3km az=169.0*
*NEIC **23** 12:28:58.6±1.7,3˚32N±0˚03×126˚71E±0˚09,h22km±6km, mb4.5/19,Error ellipse: s-maj=13.4km s-min=2.8km az=75.0*

ISC 23 12:29:03.0±0.5,3˚10N±0˚06×126˚6E±0˚1,h63km,n50, σ1º23/50,mb4.1/20,2C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.45**	**161**		**Pn**	**12 29 38.3**	**-2.3**
TNTI						12 29 44.8	
GSPH	**General Santos**	**3.38**	**331**	⇑ *i* P	**Pn**	**12 29 50.3**	**-3.1**
DAV	**Davao City (W)**	**4.06**	**346**		Pn	12 29 56.2	-6.5
KCP	**Kidapawan**	**4.15**	**339**	⇑ *e* P	**Pn**	**12 30 01.2**	**-2.8**
KCP				*i* S	**Sn**	**12 30 52.6**	**+1.3**
BUKP	**Musuan**	**4.98**	**342**	⇓ *i* P	**Pn**	**12 30 16.6**	**+1.3**
LUWI	**Luwuk**	**5.61**	**223**	Pn	**Pn**	**12 30 23.6**	**-0.2**
TOLI2	**Tolitoli**	**6.12**	**251**	Pn	**Pn**	**12 30 29.6**	**-1.3**
TBP	**Tagbilaran**	**7.08**	**338**	*e* P	**Pn**	**12 30 46.2**	**+2.3**
FAKI	**Fak Fak**	**8.24**	**136**	Pn	**Pn**	**12 30 58.3**	**-1.6**
MYLDM	**Lahad Datu**	**8.31**	**285**	Pn	**Pn**	**12 30 58.7**	**-2.2**
MTN	**Manton Dam**	**16.48**	**164**	P	**Pn**	**12 32 50.0**	**-0.2**
KNRA	**Kununurra**	**18.79**	**173**	P	**P**	**12 33 17.8**	**+0.5**
AS31	**Alice Springs**	**27.55**	**165**	P	**P**	**12 34 44.5**	**+0.4**
ASAR	**Alice Springs**	**27.55**	**165**	P	**P**	**12 34 44.7**	**+0.6**
GIRL	**Giralia**	**28.29**	**205**	P	**P**	**12 34 51.0**	**+0.4**
CM31	**Chiang Mai Arr**	**31.06**	**301**	P	**P**	**12 35 15.5**	**+0.2**
CM31				IAmb	IAmb	12 35 32.6	
	comp=Z,7.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**31.06**	**301**	P	**P**	**12 35 16.5**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=123,slow=6.6,SNR=1.6						
CMAR	**Chiang Mai Arr**	**31.06**	**301**	P	**P**	**12 35 14.2**	**-1.1**
FORT	**Forrest**	**33.72**	**178**	P	**P**	**12 35 40.1**	**+1.7**
FORT				IAmb	IAmb	12 35 51.9	
	comp=Z,9.9nm,0.8s						
BBOO	**Buckleboo**	**36.83**	**167**	P	**P**	**12 36 06.4**	**+1.3**
BBOO				IAmb	IAmb	12 36 10.8	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**37.60**	**159**	P	**P**	**12 36 13.1**	**+1.4**
KLR	**Kul'dur**	**46.17**	**5**	P	**P**	**12 37 20.4**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=228,slow=7.5,SNR=4.0						
SONM	**Songino Array**	**47.84**	**342**	P	**P**	**12 37 34.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=155,slow=9.7,SNR=4.8						
SONM	**Songino Array**	**47.84**	**342**	P	**P**	**12 37 33.4**	**-1.1**
SONM				IAmb	IAmb	12 37 54.3	
	comp=Z,3.8nm,1.2s						
PEA0B	**Petropavlovsk-**	**56.06**	**22**	P	**P**	**12 38 34.5**	**-0.9**
PETK	**Petropavlovsk-**	**56.06**	**22**	P	**P**	**12 38 35.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=224,slow=4.0,SNR=1.4						
PETK	**Petropavlovsk-**	**56.06**	**22**	P	**P**	**12 38 34.7**	**-0.7**
MK31	**Makanchi Array**	**57.98**	**326**	P	**P**	**12 38 47.5**	**-1.6**
MK31				IAmb	IAmb	12 39 14.7	
	comp=Z,3.6nm,1.0s						
MKAR	**Makanchi Array**	**57.98**	**326**	P	**P**	**12 38 49.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=125,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**57.98**	**326**	P	**P**	**12 38 48.8**	**-0.3**
ZALV	**Zalesovo Beam**	**61.07**	**333**	P	**P**	**12 39 10.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=134,slow=8.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**62.18**	**328**	P	**P**	**12 39 18.4**	**+0.6**
	comp=Z,1.5nm,0.2s,baz=123,slow=6.2,SNR=6.6						
KURK	**Kurchatov**	**62.18**	**328**	P	**P**	**12 39 18.1**	**+0.3**
KURK				IAmb	IAmb	12 39 43.3	
	comp=Z,5.4nm,0.7s						
KKAR	**Karatay Array**	**63.58**	**317**	P	**P**	**12 39 27.6**	**+0.3**
BVAR	**Borovoye Array**	**67.76**	**327**	P	**P**	**12 39 54.9**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=101,slow=14,SNR=5.3						
BRVK	**Borovoye**	**67.83**	**327**	P	**P**	**12 39 54.1**	**-0.2**
BRVK				IAmb	IAmb	12 40 22.4	
	comp=Z,5.2nm,0.9s						
TIXI	**Tiksi**	**68.47**	**1**	P	**P**	**12 39 57.1**	**-0.9**
TIXI				IAmb	IAmb	12 40 21.3	
	comp=Z,2.4nm,0.8s						
CASY	**Casey**	**70.18**	**187**	P	**P**	**12 40 10.2**	**+1.6**
ABKAR	**Akbulak array**	**72.54**	**321**	P	**P**	**12 40 23.8**	**+0.5**
AKTO	**Aktyubinsk**	**74.05**	**322**	P	**P**	**12 40 33.6**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=120,slow=8.1,SNR=1.8						
ARU	**Arti**	**75.38**	**328**	P	**P**	**12 40 40.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=284,slow=7.8,SNR=3.2						
ARU	**Arti**	**75.38**	**328**	P	**P**	**12 40 40.3**	**+0.6**
ARU				IAmb	IAmb	12 41 02.6	
	comp=Z,6.0nm,1.0s						
VNDA	**Vanda**	**82.83**	**173**	P	**P**	**12 41 21.3**	**+1.3**
IMAR	**Indian Mountai**	**82.97**	**24**	P	**P**	**12 41 20.3**	**-0.7**
ILAR	**Eielson Array**	**85.73**	**25**	P	**P**	**12 41 36.0**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=265,slow=7.9,SNR=1.7						
BMAR	**Burnt Mountain**	**86.71**	**23**	P	**P**	**12 41 38.8**	**-1.0**
ARCES	**ARCESS Array B**	**90.98**	**340**	P	**P**	**12 41 59.7**	**-0.1**
AKASG	**Malin Array Be**	**92.28**	**321**	P	**P**	**12 42 06.8**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=65,slow=3.7,SNR=1.9						
AKASG	**Malin Array Be**	**92.28**	**321**	P	**P**	**12 42 05.0**	**-1.2**
AKASG				IAmb	IAmb	12 42 28.1	
	comp=Z,3.1nm,1.3s						
QSPA	**South Pole Qui**	**93.01**	**180**	P	**P**	**12 42 08.9**	**-0.5**
QSPA				IAmb	IAmb	12 42 33.5	
	comp=Z,3.1nm,1.4s						

*IDC **23** 12:29:09.4±0.6,2˚39N×126˚86E,h0km,mb4.1/20, mb1 4.2/22,mb1mx4.1/42,mbtmp4.1/22,ML3.5/1,Error ellipse: s-maj=33.8km s-min=13.6km az=66.0*
*DJA **23** 12:29:23.5±1.3,3˚N±12˚×12˚8E±˚,h69km±14km,M4.1/7, mb4.3/7,mB4.5/2,MLv4.0/6,Mw(mB)3.6/2*

ISC 23 12:29:10.5±0.5,2˚41N±0˚05×126˚82E±0˚07,h10km,n38, σ2º06/31,mb4.2/21,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.71**	**161**	P	**Sn**	**12 30 00.5**	**-2.0**
LBMI	**Labuha**	**3.10**	**167**	P	Pg	12 30 17.3	+7.3
KMSI	**Cibinong**	**3.37**	**237**	P	**Sn**	**12 30 37.5**	**-5.9**
GTOI	**Gorontalo**	**4.19**	**245**	P	Pg	12 30 40.3	+9.4
	0.1nm274nm20nm,0.7s						
DAV	**Davao City (W)**	**4.79**	**345**	Pn	**Pn**	**12 30 21.7**	**-1.1**
	baz=50,slow=13,SNR=1.1						
DAV				Sn	**Sn**	**12 31 13.0**	**-5.5**
	37nm,0.3s,baz=23,slow=13,SNR=4.4						
MRSI	**Marisa**	**5.24**	**249**	P	Pb	12 30 35.9	-6.4
LUWI	**Luwuk**	**5.30**	**230**	P	Pg	12 31 03.0	+11
SIJI	**Sorong**	**5.51**	**126**	Pn	**Pn**	**12 30 33.1**	**+0.3**
	1.5nm,0.3s,baz=341,slow=16,SNR=4.8						
APSI	**Ampana**	**6.13**	**238**	P	**Pb**	**12 30 58.4**	**+0.9**
	0.3nm627nm71nm,0.8s						
MPSI	**Mapaga**	**7.22**	**254**	P	Pg	12 31 36.7	+7.9
JAY	**Jayapura**	**14.72**	**109**	Pn	**P**	**12 32 41.9**	**-3.3**
	0.2nm,0.3s,baz=122,slow=9.3,SNR=1.6						
WRA	**Warramunga Arr**	**23.41**	**162**	P	**P**	**12 34 19.9**	**+0.1**
	7.5nm,0.8s,baz=343,slow=11,SNR=35						
ASAR	**Alice Springs**	**26.82**	**165**	P	**P**	**12 34 52.0**	**+0.7**
	0.8nm,0.7s,baz=335,slow=10,SNR=7.7						
CMAR	**Chiang Mai Arr**	**31.63**	**302**	P	**P**	**12 35 35.0**	**+0.9**
	0.5nm,0.4s,baz=105,slow=6.9,SNR=5.5						
KSRS	**Korea Array**	**34.89**	**2**	P	**P**	**12 36 03.7**	**+1.5**
	1.1nm,0.8s,baz=180,slow=10,SNR=2.4						
STKA	**Stephens Creek**	**36.87**	**159**	P	**P**	**12 36 17.8**	**-1.6**
	2.7nm,0.8s,baz=343,slow=11,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**42.19**	**65**	T	T	13 22 28.1	
	baz=250						
H11S2	**WAKE ISLAND Hy**	**42.21**	**65**	T	T	13 22 28.4	
	baz=250						
H11S1	**WAKE ISLAND Hy**	**42.21**	**65**	T	T	13 22 30.1	
	baz=250						
KLR	**Kul'dur**	**46.84**	**4**	P	**P**	**12 37 37.7**	**-2.9**
	1.4nm,0.5s,baz=192,slow=9.3,SNR=6.1						
SONM	**Songino Array**	**48.57**	**342**	P	**P**	**12 37 53.4**	**-0.9**
	1.1nm,0.5s,baz=161,slow=8.0,SNR=7.6						
PETK	**Petropavlovsk-**	**56.62**	**22**	P	**P**	**12 38 52.9**	**-0.7**
	1.2nm,0.7s,baz=205,slow=5.9,SNR=1.9						
MKAR	**Makanchi Array**	**58.69**	**326**	P	**P**	**12 39 08.3**	**-0.1**
	2.0nm,0.5s,baz=116,slow=8.2,SNR=8.1						
ZALV	**Zalesovo Beam**	**61.80**	**333**	P	**P**	**12 39 30.8**	**+1.3**
	1.1nm,0.6s,baz=110,slow=8.1,SNR=5.7						
KURBB	**Kurchatov Arra**	**62.89**	**328**	P	**P**	**12 39 37.2**	**+0.3**
	2.1nm,0.4s,baz=127,slow=6.5,SNR=7.5						
BVAR	**Borovoye Array**	**68.47**	**327**	P	**P**	**12 40 13.9**	**+1.0**
	1.8nm,0.8s,baz=123,slow=10,SNR=5.6						
TIXI	**Tiksi**	**69.15**	**1**	P	**P**	**12 40 17.7**	**+0.9**
	1.1nm,0.3s,baz=188,slow=3.0,SNR=1.9						
NRIK	**Noril'sk**	**71.73**	**346**	P	**P**	**12 40 33.9**	**+1.4**
	2.3nm,0.6s,baz=114,slow=9.2,SNR=2.5						
AKTO	**Aktyubinsk**	**74.75**	**322**	P	**P**	**12 40 52.3**	**+1.5**
	1.5nm,0.5s,baz=94,slow=14,SNR=3.5						
ARU	**Arti**	**76.09**	**328**	P	**P**	**12 40 59.1**	**+0.8**
	0.6nm,0.3s,baz=2.0,slow=5.6,SNR=5.7						
ILAR	**Eielson Array**	**86.25**	**25**	P	**P**	**12 41 53.7**	**+1.4**
	0.5nm,1.0s,baz=261,slow=5.5,SNR=2.3						
KLMR	**Klimovskoe**	**86.59**	**331**	*e* P	**P**	**12 41 55.6**	**+1.7**
KLMR				AMP		12 42 04.6	
BRTR	**Keskin Array B**	**90.93**	**310**	P	**P**	**12 42 16.1**	**+0.9**
	1.2nm,0.9s,baz=63,slow=6.4,SNR=4.1						
ARCES	**ARCESS Array B**	**91.71**	**340**	P	**P**	**12 42 18.1**	**+0.1**
	1.4nm,0.6s,baz=59,slow=4.7,SNR=8.0						
AKASG	**Malin Array Be**	**92.97**	**321**	P	**P**	**12 42 25.5**	**+1.4**
	0.9nm,0.6s,baz=69,slow=4.5,SNR=6.1						
FINES	**FINESS Array B**	**93.03**	**332**	P	**P**	**12 42 26.1**	**+1.9**
	1.0nm,0.8s,baz=28,slow=6.3,SNR=1.4						
YKA	**Yellowknife Ar**	**100.66**	**25**	P	**Pdif**	**12 42 59.4**	**+0.7**
	0.1nm,0.6s,baz=294,slow=4.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**123.40**	**287**	PKP	**PKiKP**	**12 48 10.2**	**+0.9**
	0.4nm,0.6s,baz=90,slow=0.6,SNR=1.9						

*IDC **23** 13:02:15.7±0.6,71˚62N×2˚57W,h0km,mb3.9/18, mb1 4.1/23,mb1mx4.0/46,mbtmp4.0/23,ML3.6/5,MS3.8/61, Ms1 3.8/61,ms1mx3.6/94,Error ellipse: s-maj=17.8km s-min=10.9km az=46.0*
*NAO **23** 13:02:16.9±3.4,71˚66N×1˚96W,ML4.3*
*NEIC **23** 13:02:17.1±2.5,71˚67N±0˚07×2˚5W±0˚1,h10km±1km, mb4.5/41,Error ellipse: s-maj=12.6km s-min=3.3km az=155.0*
*BER **23** 13:02:21.5±2.5,71˚76N×1˚81W,h10km,ML2.6,MW2.5, ML4.3(NAO),Confirmed Earthquake*

ISC 23 13:02:17.1±0.4,71˚64N±0˚05×2˚40W±0˚05,h10km,n242, σ2º23/208,mb4.4/60,MS3.7/59,1D,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.07**	**255**	LR	LR	13 02 57.5	
	comp=Z,132nm,18.9s,baz=262,slow=21						
SCO	**Scoresbysund**	**6.46**	**269**	*i* P	**Pn**	**13 03 50.0**	**-2.0**
SCO				IAML		13 03 55.8	
	comp=Z,4.3nm,0.5s						
SCO	**Scoresbysund**	**6.46**	**269**	Pn	**Pn**	**13 03 50.4**	**-1.7**
LOF	**Lofoten**	**6.51**	**115**	*e* P	**Pn**	**13 03 53.5**	**+0.6**
LOF				IAML		13 06 17.2	
	comp=Z,11nm,0.8s						
DAG	**Danmarks Havn**	**6.77**	**327**	*i* P	Pn	13 03 51.5	-4.8
DAG	**Danmarks Havn**	**6.77**	**327**	*e*	**Pn**	**13 03 52.6**	**-3.7**
BJO1	**Bjornoya**	**6.85**	**55**	Pn	**Pn**	**13 03 56.8**	**-0.6**
BJO1	**Bjornoya**	**6.85**	**55**	*e* P	**Pn**	**13 03 57.1**	**-0.3**
BJO1				IAML		13 06 21.8	
	comp=Z,16nm,0.9s						
STEI	**Steigen**	**7.14**	**113**	*e* P	**Pn**	**13 04 01.1**	**-0.3**
STEI				*e* S	**Sn**	**13 05 16.1**	**-6.2**
STEI				IAML		13 05 21.2	
	comp=Z,12nm,0.6s						
HSPB	**Hornsund (broa**	**7.21**	**34**	Pn	**Pn**	**13 04 01.3**	**-1.1**
HSPB	**Hornsund (broa**	**7.21**	**34**	*e* P	**Pn**	**13 04 00.8**	**-1.6**
HSPB				IAML		13 06 04.8	
	comp=Z,5.5nm,0.9s						
NBB30	**Finnes**	**7.37**	**122**	*e* P	**Pn**	**13 04 03.3**	**-1.2**
NBB30				IAML		13 06 22.3	
	comp=Z,4.8nm,0.6s						
FAUS	**Fauske**	**7.51**	**116**	*e* P	**Pn**	**13 04 06.2**	**-0.3**
FAUS				*e* S	**Sn**	**13 05 24.0**	**-7.5**
FAUS				IAML		13 05 29.5	
	comp=Z,8.2nm,0.4s						
KONS	**Konsvik**	**7.56**	**125**	*e* P	**Pn**	**13 04 06.7**	**-0.5**
KONS				*e* S	**Sn**	**13 05 25.4**	**-7.4**
KONS				IAML		13 05 31.4	
	comp=Z,13nm,0.7s						
KONS				IAML		13 05 31.5	
	comp=Z,14nm,0.7s						
STOK	**Stokkvaagen**	**7.66**	**126**	*e* P	**Pn**	**13 04 09.2**	**+0.6**
STOK				*e* S	**Sn**	**13 05 28.2**	**-7.0**
BRBA	**Barentsburg A**	**7.74**	**26**	Pn	**Pn**	**13 04 09.6**	**+0.1**
BRBA	**Barentsburg A**	**7.74**	**26**	*e* P	**Pn**	**13 04 08.8**	**-0.7**
BRBA				IAML		13 06 28.5	
	comp=Z,3.4nm,0.4s						
BRBB	**Barentsburg B**	**7.76**	**26**	Pn	**Pn**	**13 04 09.4**	**-0.4**
BRBB	**Barentsburg B**	**7.76**	**26**	*e* P	**Pn**	**13 04 08.9**	**-1.0**
JETT	**Jettan, Norway**	**7.85**	**94**	Pn	**Pn**	**13 04 10.2**	**-1.0**
SPB2	**Spitsbergen Ar**	**8.13**	**28**	Pn	**Pn**	**13 04 15.1**	**+0.1**
SPA0	**Spitsbergen Ar**	**8.13**	**28**	Pn	**Pn**	**13 04 15.1**	**0.0**
	baz=203,slow=14						
SPA0	**Spitsbergen Ar**	**8.13**	**28**	Pn	**Pn**	**13 04 15.1**	**0.0**
	baz=203,slow=14						
SPITS	**Spitsbergen Ar**	**8.13**	**28**	Pn	**Pn**	**13 04 14.0**	**-1.0**
	baz=203,slow=14,SNR=79						
KBS	**Kingsbay**	**8.14**	**20**	Pn	**Pn**	**13 04 13.6**	**-1.5**
KBS	**Kingsbay**	**8.14**	**20**	*e* P	**Pn**	**13 04 11.9**	**-3.2**
KBS				IAML		13 07 05.0	
	comp=Z,5.5nm,0.8s						
KBS	**Kingsbay**	**8.14**	**20**	Pn	**Pn**	**13 04 13.9**	**-1.2**
MOR8	**Moi Rana**	**8.16**	**124**	*e* P	**Pn**	**13 04 15.9**	**+0.5**
MOR8				*e* S	**Sn**	**13 05 41.6**	**-5.9**
MOR8				IAML		13 05 44.4	
	comp=Z,8.1nm,0.5s						
KIF	**Kilpisjarvi**	**8.23**	**97**	Pn	**Pn**	**13 04 15.8**	**-0.5**
KIF	**Kilpisjarvi**	**8.23**	**97**	*e* P	**Pn**	**13 04 15.4**	**-0.9**
SALU	**Saltoluokta**	**8.45**	**110**	*e* P	**Pn**	**13 04 19.5**	**+0.1**
HAMF	**Hammerfest**	**8.47**	**84**	*e* P	**Pn**	**13 04 17.4**	**-2.2**
NSS	**Namsos**	**8.90**	**136**	*e* P	**Pn**	**13 04 26.1**	**+0.5**
NSS				*e* S	**Sn**	**13 05 59.1**	**-6.6**
NSS				IAML		13 06 05.2	
	comp=Z,11nm,0.6s						
KTK1	**Kautokeino**	**9.00**	**95**	*e* P	**Pn**	**13 04 26.3**	**-0.5**
HEF	**Hetta**	**9.44**	**97**	*e* P	**Pn**	**13 04 31.8**	**-1.0**
ARA0	**ARCESS Array S**	**9.47**	**89**	Pn	**Pn**	**13 04 32.3**	**-1.1**
	baz=293,slow=12						
ARA0	**ARCESS Array S**	**9.47**	**89**	*e* P	**Pn**	**13 04 31.2**	**-2.2**
ARA0				Pn	Pn	13 04 32.3	-1.1
	baz=293,slow=12						
ARCES	**ARCESS Array B**	**9.47**	**89**	Pn	**Pn**	**13 04 32.1**	**-1.3**
	baz=290,slow=12,SNR=35						
ARCES				LR	LR	13 07 49.6	
	comp=Z,367nm,19.8s,baz=282,slow=35						
ARCES	**ARCESS Array B**	**9.47**	**89**	Pn	**Pn**	**13 04 32.7**	**-0.7**
TBLU	**Trondheim**	**9.69**	**144**	*e* P	**Pn**	**13 04 35.8**	**-0.6**
BORG	**Borgarnes**	**9.82**	**235**	LR	LR	13 07 30.1	
	comp=Z,164nm,20.2s,baz=343,slow=32						
KEV	**Kevo**	**9.86**	**87**	*e* P	**Pn**	**13 04 36.3**	**-2.2**
AKN	**Aaknes**	**10.17**	**154**	Pn	**Pn**	**13 04 44.0**	**+1.0**
AKN				Sn	**Sn**	**13 06 31.1**	**-5.9**
AKN	**Aaknes**	**10.17**	**154**	*e* P	**Pn**	**13 04 43.5**	**+0.5**
AKN				Pn	Pn	13 04 44.0	+1.0
AKN				Sn	**Sn**	**13 06 31.1**	**-5.9**
NOD	**Norderasen**	**10.49**	**133**	*e* P	**Pn**	**13 04 48.1**	**+0.8**
FOO	**Floro**	**10.49**	**160**	*e* P	**Pn**	**13 04 48.4**	**+1.1**
DOMB	**Dombas**	**10.61**	**149**	*e* P	**Pn**	**13 04 49.0**	**0.0**
SUMG	**Summit**	**11.02**	**292**	*i* P	**Pn**	**13 04 54.4**	**-0.4**
SUMG				IAML		13 05 00.7	
	comp=Z,13nm,0.8s						
SUMG	**Summit**	**11.02**	**292**	Pn	**Pn**	**13 04 54.8**	**0.0**
HYA	**Hoyanger**	**11.05**	**158**	*e* P	**Pn**	**13 04 56.1**	**+1.3**
ASK	**Askoy**	**11.60**	**161**	*e* P	**Pn**	**13 05 02.5**	**0.0**
SKAR	**Skarslia**	**11.79**	**153**	*e* P	**Pn**	**13 05 04.8**	**-0.4**
NBO00	**NORSAR Array S**	**11.85**	**147**	*e* P	**Pn**	**13 05 04.5**	**-1.3**
NB2	**NORSAR Subarra**	**11.91**	**146**	Pn	**Pn**	**13 05 07.5**	**+0.7**
	baz=337,slow=14						
NB2	**NORSAR Subarra**	**11.91**	**146**	Pn	**Pn**	**13 05 07.5**	**+0.7**
	baz=337,slow=14						
NOA	**NORSAR Array B**	**11.91**	**146**	Pn	**Pn**	**13 05 06.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=7.7						
NOA				LR	LR	13 09 31.6	
	comp=Z,627nm,20.0s,baz=335,slow=36						
NRA0	**NORESS Array S**	**12.26**	**146**	Pn	**Pn**	**13 05 11.4**	**-0.1**
	baz=342,slow=14						
NRA0	**NORESS Array S**	**12.26**	**146**	Pn	**Pn**	**13 05 11.4**	**-0.1**
	baz=342,slow=14						
ODD1	**Odda**	**12.32**	**158**	*e* P	**Pn**	**13 05 13.0**	**+0.6**
BLS5	**Blasjo**	**12.78**	**159**	*e* P	**Pn**	**13 05 18.8**	**+0.2**
APA0	**Apatity Array**	**12.82**	**91**	Pn	**Pn**	**13 05 18.1**	**-1.1**
	baz=323,slow=11						
APA0	**Apatity Array**	**12.82**	**91**	Pn	**Pn**	**13 05 18.1**	**-1.1**
	baz=323,slow=11						
KONO	**Kongsberg**	**12.97**	**152**	*e* P	**Pn**	**13 05 20.8**	**-0.3**
HFS	**Hagfors**	**13.22**	**143**	Pn	**Pn**	**13 05 25.0**	**+0.5**
	comp=Z,2.4nm,0.3s,baz=345,slow=11,SNR=84						
HFS				LR	LR	13 10 12.0	
	comp=Z,557nm,21.8s,baz=320,slow=36						
HFS	**Hagfors**	**13.22**	**143**	Pn	**Pn**	**13 05 24.5**	**0.0**
	baz=334,slow=12						
HFS	**Hagfors**	**13.22**	**143**	Pn	**Pn**	**13 05 24.5**	**0.0**
	baz=334,slow=12						
FIA0	**FINESS Array S**	**15.06**	**118**	P	**Pn**	**13 05 49.6**	**-0.1**
	baz=331,slow=16						
FIA0	**FINESS Array S**	**15.06**	**118**	P	**Pn**	**13 05 49.6**	**-0.1**
	baz=331,slow=16						
FIA1	**FINESS Array S**	**15.06**	**118**	Pn	**Pn**	**13 05 49.6**	**-0.1**
FIA1				IAmb	IAmb	13 06 02.5	
	comp=Z,14nm,0.8s						
FINES	**FINESS Array B**	**15.06**	**118**	Pn	**Pn**	**13 05 48.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=330,slow=12,SNR=15						
FINES				LR	LR	13 11 04.0	
	comp=Z,707nm,18.8s,baz=345,slow=35						
FINES	**FINESS Array B**	**15.06**	**118**		**Pn**	**13 05 49.6**	**-0.1**
EKA	**Eskdalemuir Ar**	**16.37**	**182**	Pn	**Pn**	**13 06 05.6**	**-1.1**
	baz=358,slow=11,SNR=2.0						
EKA				LR	LR	13 11 04.9	
	comp=Z,338nm,20.5s,baz=3.5,slow=32						
MTSE	**Matsula**	**16.77**	**127**	*e* P	**P**	**13 06 16.2**	**+2.3**
SFJD	**Kangerlussuaq**	**17.23**	**278**	LR	LR	13 12 06.0	
	comp=Z,472nm,19.4s,baz=51,slow=34						
VSU	**Vasula**	**17.75**	**123**	*e* P	**P**	**13 06 24.9**	**+0.2**
PBUR	**Paburge**	**18.74**	**134**	*e* P	**Pn**	**13 06 38.3**	**+2.3**
KLMR	**Klimovskoe**	**19.53**	**102**	*e* Pn	**Pn**	**13 06 44.8**	**-0.7**
KLMR				AMP		13 06 53.1	
	comp=Z,41nm,1.2s						
PABE	**Paberze**	**19.69**	**131**	*e* P	**Pn**	**13 06 47.9**	**+0.5**
PABE	**Paberze**	**19.69**	**131**	P	**Pn**	**13 06 49.6**	**+2.2**
PABE				IAmb	IAmb	13 06 57.0	
	comp=Z,27nm,0.8s						
EUNU	**Eureka**	**19.99**	**330**	P	**P**	**13 06 49.4**	**+0.1**
IIGN	**Ignalina**	**20.38**	**128**	*e* P	Pn	13 06 56.0	+0.4
SUW	**Suwalki**	**20.87**	**134**	*e* P	Pn	13 07 01.8	+0.4
SUW	**Suwalki**	**20.87**	**134**	P	Pn	13 07 00.1	-1.2
NACGM	**Naroch**	**20.92**	**128**	*i* P	Pn	13 07 05.4	+3.5

GEC2 IAmb IAmb 13 07 43.6
comp=Z,16nm,1.4s
GERES GERESS Array B 24.05 153 P P 13 07 32.1 -0.1
comp=Z,1.1nm,0.6s,baz=335,slow=9.0,SNR=6.3
GERES LR LR 13 15 40.4
comp=Z,257nm,21.0s,baz=356,slow=33
GERES GERESS Array B 24.05 153 P P 13 07 32.3 +0.2
CKRC Cesky Krumlov 24.16 152 *eP* **P 13 07 35.5 +2.4**
KRUC Moravsky 24.25 149 *eP* **P 13 07 35.8 +1.9**
RES Resolute Bay 24.40 320 P P 13 07 34.1 -0.9
comp=Z,0.5nm,0.6s,baz=124,slow=7.3,SNR=1.8
RES LR LR 13 16 41.0
comp=Z,435nm,19.3s,baz=58,slow=36
KIRV Kirov 24.42 95 P P 13 07 35.7 +0.5
comp=Z,14nm,0.9s,baz=326,slow=10,SNR=8.1
FRB Frobisher Bay 24.98 286 LR LR 13 16 49.1
comp=Z,239nm,18.3s,baz=26,slow=35
RETA Reutte 25.00 159 *eP* **P 13 07 42.9 +2.1**
comp=Z,6.1nm,1.1s
MODS Modra-Piesok 25.07 148 *eP* **P 13 07 46.8 +5.5**
DAVA Damuels 25.10 160 *eP* **P 13 07 45.2 +3.5**
comp=Z,18nm,0.9s
MOA Molln 25.10 153 *eP* **P 13 07 44.4 +2.8**
comp=Z,14nm,1.6s
MOTA Moosalm 25.18 158 *i P* **P 13 07 43.8 +1.3**
comp=Z,19nm,1.2s
WATA Walderalm 25.25 157 *i P* **P 13 07 46.4 +3.3**
comp=Z,17nm,1.4s
CONA Conrad Observa 25.27 150 *eP* **P 13 07 44.8 +1.7**
comp=Z,25nm,1.8s
SQTA Sankt Quirin 25.32 158 *eP* **P 13 07 47.0 +3.4**
comp=Z,13nm,0.9s
WTTA Wattenberg 25.33 157 *eP* **P 13 07 47.3 +3.4**
comp=Z,14nm,1.1s
AKASG Malin Array Be 25.36 129 P P 13 07 43.8 -0.1
comp=Z,7.8nm,0.8s,baz=336,slow=10,SNR=20
AKASG LR LR 13 17 26.3
comp=Z,450nm,18.3s,baz=306,slow=36
AKASG Malin Array Be 25.36 129 P P 13 07 43.0 -0.9
AKBB Malin Array Si 25.36 129 P P 13 07 44.1 +0.2
AKBB IAmb IAmb 13 07 47.6
comp=Z,15nm,1.0s
FETA Feichten 25.46 159 *eP* **P 13 07 47.5 +2.4**
comp=Z,11nm,1.8s
DAVOX Davos/Dischmat 25.60 160 LR LR 13 17 56.5
comp=Z,131nm,18.2s,baz=84,slow=37
KBA Koelnbreinsper 25.73 155 *eP* **P 13 07 48.5 +1.0**
comp=Z,5.6nm,0.8s
SENIN Lac Senin/Sane 25.77 164 P P 13 07 49.0 +1.1
TUE Stuetta 25.85 161 P P 13 07 46.1 -2.5
ABTA Abfaltersbach 25.95 156 *eP* **P 13 07 48.5 -0.9**
comp=Z,4.2nm,1.3s
TRPA Tarpa 26.27 140 P P 13 07 53.9 +1.7
ARU Arti 29.06 89 P P 13 08 17.8 +0.7
comp=Z,1.8nm,0.9s,baz=315,slow=7.8,SNR=6.8
ARU LR LR 13 19 37.4
comp=Z,187nm,19.5s,baz=11,slow=36
ARU Arti 29.06 89 P P 13 08 16.1 -0.9
ARU IAmb IAmb 13 08 22.9
comp=Z,11nm,1.1s
MLR Muntele Rosu 29.50 137 LR LR 13 20 31.3
comp=Z,403nm,19.9s,baz=358,slow=37
SCHQ Schefferville 31.49 272 LR LR 13 20 07.5
comp=Z,204nm,21.9s,baz=52,slow=34
A36M Sachs Harbour 32.02 330 P P 13 08 43.5 +0.6
ESDC Sonseca Array 32.05 182 P P 13 08 43.7 +0.1
comp=Z,3.7nm,1.2s,baz=1.6,slow=8.4,SNR=7.9
ESDC LR LR 13 20 44.8
comp=Z,120nm,18.1s,baz=324,slow=35
FNA Florina 33.13 146 P P 13 08 53.4 +0.3
TIXI Tiksi 33.55 26 P P 13 08 57.2 +0.9
AKTO Aktyubinsk 33.98 96 LR LR 13 22 33.0
comp=Z,146nm,19.6s,baz=40,slow=36
VAE Valguarnera 35.31 157 LR LR 13 22 33.4
comp=Z,177nm,19.5s,baz=348,slow=34
KBZ Khabaz 35.42 117 P P 13 09 14.7 +1.9
comp=Z,3.5nm,0.9s,baz=358,slow=10.0,SNR=5.9
ABKAR Akbulak array 35.62 95 P P 13 09 13.6 -0.9
ABKAR Akbulak array 35.62 95 P P 13 09 12.5 -2.0
ABKAR IAmb IAmb 13 09 20.1
comp=Z,4.8nm,0.9s
KEST Kesra 36.50 164 LR LR 13 24 36.4
comp=Z,140nm,19.9s,baz=304,slow=37
INK Inuvik 36.59 332 LR LR 13 24 36.7
comp=Z,99nm,18.5s,baz=34,slow=37
BR131 Keskin Array S 36.74 131 P P 13 09 23.0 -1.3
BR131 IAmb IAmb 13 09 31.4
comp=Z,7.6nm,0.9s
BRTR Keskin Array B 36.74 131 P P 13 09 25.2 +0.9
comp=Z,4.0nm,0.8s,baz=345,slow=5.5,SNR=9.1
BRTR Keskin Array B 36.74 131 P P 13 09 23.6 -0.8
YKA Yellowknife Ar 38.33 316 P P 13 09 37.0 -0.4
comp=Z,1.6nm,0.8s,baz=27,slow=8.5,SNR=22
YKA PcP **PcP 13 11 50.4 -0.3**
comp=Z,0.6nm,0.7s,baz=18,slow=3.0,SNR=12
MDT Midelt 38.90 183 LR LR 13 24 49.4
comp=Z,59nm,18.9s,baz=14,slow=35
IDI Anoyia 39.12 144 LR LR 13 27 19.9
comp=Z,122nm,18.8s,baz=313,slow=38
GNI Garni 39.25 117 LR LR 13 26 36.4
comp=Z,103nm,18.2s,baz=348,slow=37
ZALV Zalesovo Beam 39.27 69 LR LR 13 29 12.7
comp=Z,56nm,20.1s,baz=324,slow=41
ZALV Zalesovo Beam 39.27 69 P P 13 09 44.0 -1.3
GAZ Gaziantep 40.03 128 P P 13 09 51.3 -0.7
KURK Kurchatov 40.22 77 P P 13 09 52.9 -0.3
KURBB Kurchatov Arra 40.27 77 LR LR 13 27 27.2
comp=Z,78nm,19.3s,baz=298,slow=38
PRP Porcupine Dome 40.84 338 P P 13 10 00.1 +1.7
PRP IAmb IAmb 13 10 02.5
comp=Z,6.8nm,0.8s
IL31 41.72 338 P P 13 10 06.0 +0.6
ILAR Eielson Array 41.72 338 P P 13 10 05.4 -0.1
comp=Z,2.2nm,0.8s,baz=9.1,slow=6.5,SNR=24
ILAR LR LR 13 27 38.3
comp=Z,63nm,21.7s,baz=9.5,slow=36
ILAR Eielson Array 41.72 338 P P 13 10 04.5 -1.0
SADO Sadowa 44.16 276 LR LR 13 26 39.3
comp=Z,102nm,20.0s,baz=12,slow=33
ULM Lac du Bonnet 44.37 294 LR LR 13 28 29.4
comp=Z,152nm,19.0s,baz=22,slow=36
KKAR Karatay Array 44.44 89 P P 13 10 28.8 +1.1
MK31 Makanchi Array 44.82 76 P P 13 10 29.9 -0.8
MKAR Makanchi Array 44.82 76 P P 13 10 30.7 -0.1
comp=Z,1.3nm,0.8s,baz=328,slow=5.7,SNR=7.7
MKAR PcP **PcP 13 12 12.1 -0.2**
comp=Z,1.0nm,0.9s,baz=308,slow=4.7,SNR=3.4
MKAR LR LR 13 31 34.8
comp=Z,44nm,20.1s,baz=1.5,slow=39
MKAR Makanchi Array 44.82 76 P P 13 10 31.2 +0.4
DLBC Dease Lake 45.18 324 LR LR 13 28 56.7
comp=Z,129nm,19.1s,baz=359,slow=36
GEYT Alibeck 45.26 104 LR LR 13 31 14.6
comp=Z,182nm,18.3s,baz=343,slow=38
AAK Ala-Archa 46.12 86 LR LR 13 30 10.4
comp=Z,74nm,19.5s,baz=337,slow=36
BOOM Boomskoye usch 46.71 84 P P 13 10 47.1 +1.2
BOOM IAmb IAmb 13 10 53.2
comp=Z,9.2nm,1.3s
BTK Batken 47.30 91 P P 13 10 49.7 -0.7
BTK IAmb IAmb 13 10 53.9
comp=Z,5.5nm,1.0s
CHGR Chuyangaron 48.05 93 P P 13 10 56.5 +0.3
DRK Karamyk 48.13 90 P P 13 10 57.8 +0.7
WMQ Urumqi 49.15 73 *eP* **P 13 11 06.6 +1.9**
WMQ pmax pmax
comp=Z,12nm,0.9s
KSH Kashi 49.42 86 P P 13 11 10.3 +3.5
KSH pP pwP 13 11 15.9 +3.9
KSH pmax pmax
comp=Z,6.0nm,1.6s
BBB Bella Bella 50.69 320 LR LR 13 33 12.8
comp=Z,124nm,20.8s,baz=36,slow=37
SONM Songino Array 50.80 55 P P 13 11 17.8 +0.6
comp=Z,1.6nm,0.9s,baz=325,slow=9.0,SNR=7.7
SONM LR LR 13 35 13.4
comp=Z,27nm,18.1s,baz=230,slow=39
SONM Songino Array 50.80 55 P P 13 11 16.7 -0.4
SONM IAmb IAmb 13 11 23.0
comp=Z,6.6nm,1.3s
NEW Newport 51.90 310 LR LR 13 33 52.4
comp=Z,206nm,18.1s,baz=7.5,slow=37
TKL Tuckaleechee C 53.90 275 LR LR 13 33 34.1
comp=Z,123nm,18.3s,baz=6.0,slow=35
PETK Petropavlovsk- 54.76 15 LR LR 13 34 44.4
comp=Z,35nm,18.9s,baz=33,slow=36

PDAR Pinedale Array 55.05 301 P P 13 11 48.6 -0.2
comp=Z,0.5nm,0.7s,baz=46,slow=7.0,SNR=5.7
PDAR LR LR 13 35 07.0
comp=Z,152nm,18.2s,baz=8.5,slow=36
PDAR Pinedale Array 55.05 301 P P 13 11 48.1 -0.7
KLR Kul'dur 55.14 35 LR LR 13 37 46.0
comp=Z,39nm,18.2s,baz=5.0,slow=39
GTA Gaotai 56.78 65 *eP* **P 13 12 02.3 +1.2**
GTA pP pwP 13 12 05.9 -0.3
GTA sP sP 13 12 08.3 +3.7
GTA pmax pmax
comp=Z,4.0nm,1.5s
RDMU Red Mountain 57.10 300 P P 13 12 03.7 +0.3
RDMU IAmb IAmb 13 12 28.7
comp=Z,8.7nm,1.5s
GOMU GeErMu 58.30 71 P P 13 12 13.8 +1.7
GOMU pP pwP 13 12 19.3 +2.1
GOMU sP sP 13 12 21.3 +5.7
GOMU PcP **PcP 13 12 59.8 -3.3**
GOMU pmax pmax
comp=Z,4.0nm,1.1s
GOMU pmax pmax
comp=Z,79nm,5.9s
ELK Elko 58.45 305 LR LR 13 37 25.9
comp=Z,148nm,18.4s,baz=7.5,slow=36
TORD Torodi Ar. Bea 58.51 175 P P 13 12 12.8 -0.4
comp=Z,2.1nm,0.9s,baz=354,slow=7.1,SNR=9.2
TORD Torodi Ar. Bea 58.51 175 P P 13 12 12.3 -0.9
TORD IAmb IAmb 13 12 22.0
comp=Z,3.3nm,0.7s
HHC Hu-ho-hao-te 58.65 54 *eP* **P 13 12 15.0 +0.9**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,110nm,6.1s
WSAR Wadi Sarin 59.12 110 LR LR 13 41 32.7
comp=Z,32nm,20.3s,baz=328,slow=40
YBH Yreka Blue Hor 59.39 311 LR LR 13 37 58.5
comp=Z,201nm,18.5s,baz=7.0,slow=36
R11A Troy Canyon, C 60.80 304 P P 13 12 28.5 -0.6
R11A IAmb IAmb 13 12 41.2
comp=Z,5.2nm,1.3s
NVAR Mina Array Bea 61.42 306 P P 13 12 34.7 +1.4
comp=Z,0.3nm,0.6s,baz=46,slow=7.7,SNR=2.4
NVAR LR LR 13 40 12.2
comp=Z,85nm,19.8s,baz=275,slow=37
NVAR Mina Array Bea 61.42 306 P P 13 12 32.7 -0.7
LCMT Little Creek M 61.43 302 P P 13 12 33.9 +0.6
LCMT IAmb IAmb 13 12 36.5
comp=Z,3.4nm,1.1s
ANMO Albuquerque 61.47 295 LR LR 13 39 45.4
comp=Z,156nm,18.4s,baz=26,slow=37
PRN Pahroc Range 61.54 303 P P 13 12 33.0 -1.1
PRN IAmb IAmb 13 12 37.7
comp=Z,5.7nm,1.2s
TPNV Topopah Spring 62.29 304 P P 13 12 39.5 +0.4
XAN Xi'an 64.36 59 P P 13 12 53.0 +0.3
XAN pP pwP 13 12 59.1 +1.2
XAN pmax pmax
comp=Z,6.0nm,1.3s
DBIC Dimbokro 64.92 183 LR LR 13 41 03.0
comp=Z,36nm,19.7s,baz=20,slow=36
PFO Pinyon Flats O 65.50 303 LR LR 13 42 04.1
comp=Z,35nm,21.1s,baz=6.0,slow=36
KSRS Korea Array 65.72 42 LR LR 13 43 54.4
comp=Z,40nm,18.4s,baz=345,slow=38
TXAR Lajitas Array 65.91 290 P P 13 13 02.7 -0.2
comp=Z,0.9nm,0.9s,baz=64,slow=6.1,SNR=4.8
TXAR LR LR 13 40 51.9
comp=Z,105nm,18.4s,baz=359,slow=35
TXAR Lajitas Array 65.91 290 P P 13 13 01.1 -1.8
NJ2 Nanjing 68.82 51 *eP* **P 13 13 20.5 -0.6**
NJ2 pmax pmax
comp=Z,24nm,1.0s
PZH PanZhiHua 69.42 68 P P 13 13 26.8 +1.7
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
KMI Kunming 71.01 68 ⇓*P* **P 13 13 39.0 +4.0**
KMI pmax pmax
comp=Z,7.0nm,1.2s
LPIG La Paz 72.78 294 LR LR 13 47 59.9
comp=Z,56nm,21.5s,baz=354,slow=38
CMIG Matias Romero 74.70 278 LR LR 13 48 41.2
comp=Z,15nm,18.7s,baz=22,slow=37
MBAR Mbarara 75.20 146 LR LR 13 51 23.2
comp=Z,39nm,18.2s,baz=340,slow=39
APG El Apazote 75.27 273 LR LR 13 47 13.9
comp=Z,96nm,19.5s,baz=80,slow=36
CMAR Chiang Mai Arr 76.15 73 P P 13 14 04.6 -0.4
comp=Z,0.7nm,0.3s,baz=335,slow=6.0,SNR=1.7
CMAR LR LR 13 51 36.0
comp=Z,18nm,19.9s,baz=315,slow=39
KMBO Kilima Mbogo 76.97 139 LR LR 13 51 19.1
comp=Z,26nm,18.0s,baz=94,slow=38
PALK Pallekele 80.96 94 LR LR 13 51 26.3
comp=Z,54nm,18.8s,baz=73,slow=36
LSZ Lusaka 89.14 151 LR LR 13 58 47.0
comp=Z,34nm,18.6s,baz=232,slow=38
PSI Prapat 90.92 78 LR LR 14 01 32.5
comp=Z,24nm,19.8s,baz=6.5,slow=39
TSUM Tsumeb 91.64 161 LR LR 13 58 34.7
comp=Z,25nm,18.2s,baz=328,slow=37
LBTB Lobatse 98.33 155 LR LR 14 02 17.4
comp=Z,32nm,18.9s,baz=280,slow=37
ASAR Alice Springs 126.06 52 PKP **PKPdf 13 21 18.0 -0.9**
comp=Z,0.6nm,0.9s,baz=356,slow=2.0,SNR=4.6

*IDC **23** 13:06:30.6±0.9, 71°.60N×2°.16W, h0km, mb3.5/7, mb1 3.7/12, mb1mx3.5/45, mbtmp3.6/12, ML2.5/4, Error ellipse: s-maj=25.3km s-min=15.9km az=51.0*
ISC 23 13:06:32.2±0.8, 71°.7N±0°.1×2°.1W±0°.1, h10km, n13, σ0§69/14, mb3.4/7, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**8.07**	**28**	Pn	**Pn**	**13 08 29.0**	**-0.2**
	baz=204,slow=14,SNR=18						
ARCES	**ARCESS Array B**	**9.38**	**90**	Pn	**Pn**	**13 08 46.4**	**-0.7**
	baz=288,slow=11,SNR=12						
NOA	**NORSAR Array B**	**11.87**	**147**	Pn	**Pn**	**13 09 20.5**	**-0.7**
	0.0nm,0.3s,baz=339,slow=13,SNR=2.0						
HFS	**Hagfors**	**13.17**	**143**	Pn	**Pn**	**13 09 39.2**	**+0.3**
	0.5nm,0.3s,baz=338,slow=10,SNR=8.1						
FINES	**FINESS Array B**	**14.98**	**119**	Pn	**Pn**	**13 10 03.2**	**-0.4**
	0.0nm,0.3s,baz=277,slow=15,SNR=3.9						
AKASG	**Malin Array Be**	**25.30**	**129**	P	**P**	**13 11 58.0**	**-0.4**
	1.7nm,0.8s,baz=338,slow=9.2,SNR=5.0						
BRTR	**Keskin Array B**	**36.67**	**131**	P	**P**	**13 13 39.7**	**+0.9**
	1.1nm,0.8s,baz=316,slow=6.0,SNR=3.6						
YKA	**Yellowknife Ar**	**38.39**	**316**	P	**P**	**13 13 52.5**	**-0.4**
	0.4nm,0.8s,baz=28,slow=9.0,SNR=5.6						
YKA				PcP	**PcP**	**13 16 05.8**	**-0.2**
	0.1nm,0.6s,baz=22,slow=2.4,SNR=4.3						
ILAR	**Eielson Array**	**41.75**	**338**	P	**P**	**13 14 21.4**	**+0.6**
	0.7nm,0.9s,baz=18,slow=6.5,SNR=6.4						
MKAR	**Makanchi Array**	**44.72**	**76**	P	**P**	**13 14 45.7**	**+0.7**
	0.2nm,0.5s,baz=350,slow=5.7,SNR=5.1						
SONM	**Songino Array**	**50.71**	**56**	P	**P**	**13 15 32.0**	**+0.5**
	0.1nm,0.3s,baz=335,slow=8.8,SNR=2.0						
TORD	**Torodi Ar. Bea**	**58.52**	**176**	P	**P**	**13 16 28.5**	**+0.2**
	1.1nm,1.0s,baz=355,slow=6.8,SNR=4.4						
ASAR	**Alice Springs**	**125.98**	**52**	PKP	**PKPdf**	**13 25 32.5**	**-1.3**
	0.4nm,0.8s,baz=54,slow=1.6,SNR=3.1						

*IDC **23** 13:11:57.5±1.9, 23°.97S×179°.82E, h506km±18km, mb3.2/7, mb1 3.5/10, mb1mx3.4/20, mbtmp4.1/10, Error ellipse: s-maj=28.1km s-min=15.1km az=145.0*
*NEIC **23** 13:11:58.6±1.6, 23°.9S±0°.1×179°.94E±0°.09, h530km±13km, mb4.4/20, Error ellipse: s-maj=20.9km s-min=11.9km az=168.0*
ISC 23 13:11:57.9±0.5, 23°.96S±0°.06×179°.93E±0°.08, h526km, n97, σ1§86/117, mb4.2/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.44**	**344**	P	**P**	**13 13 39.1**	**-0.7**
	12nm,0.3s,baz=213,slow=13,SNR=89						
MSVF				S	**S**	**13 15 01.5**	**-1.4**
	baz=281,slow=23,SNR=1.3						
MSVF	**Nonsavu**	**6.44**	**344**	P	**P**	**13 13 39.3**	**-0.5**
MARNC	**Mare, Loyalty**	**11.25**	**280**	P	**P**	**13 14 28.1**	**-0.5**
PINNC	**Pines Island,**	**11.55**	**274**	P	**P**	**13 14 33.0**	**+1.3**
OUZ	**Omahuta**	**12.50**	**205**	P	**P**	**13 14 43.4**	**+1.9**
OUZ	**Omahuta**	**12.50**	**205**	P	**P**	**13 14 44.2**	**+2.7**
DZM	**Mont Dzumac**	**12.56**	**276**	P	**P**	**13 14 43.0**	**+0.5**
	0.3nm,0.3s,baz=110,slow=17,SNR=2.4						
AFI	**Afiamalu**	**12.70**	**40**	P	**P**	**13 14 40.3**	**-3.7**
	2.7nm,0.3s,baz=121,slow=5.1,SNR=5.5						
AFI				S	S	13 16 49.2	-12
	0.8nm,0.3s,baz=49,slow=20,SNR=1.5						
KUZ	**Kuaotunu**	**13.25**	**195**	P	**P**	**13 14 52.7**	**+3.4**
HAZ	**Te Kaha**	**13.88**	**187**	P	**P**	**13 14 55.4**	**-0.4**
HAZ				S	**S**	**13 17 19.6**	**-2.9**
WMGZ	**Waiomatatini S**	**13.88**	**185**	P	**P**	**13 14 57.3**	**+1.5**
WMGZ				S	**S**	**13 17 21.1**	**-1.4**
PKGZ	**Pakihiroa**	**13.98**	**186**	P	**P**	**13 14 57.8**	**+0.9**
PKGZ				S	**S**	**13 17 24.8**	**+0.3**
RUGZ	**Raukumara Rang**	**14.10**	**187**	P	**P**	**13 14 58.6**	**+0.3**
RUGZ				S	**S**	**13 17 25.6**	**-1.4**
PUZ	**Puketiti**	**14.14**	**185**	P	**P**	**13 14 58.2**	**-0.4**
PUZ				S	**S**	**13 17 22.6**	**-5.1**
TOZ	**Tahuroa Road**	**14.24**	**194**	P	**P**	**13 15 01.6**	**+1.9**
KMRZ	**Kaimai**	**14.26**	**193**	P	**P**	**13 15 03.4**	**+3.5**
TWGZ	**Tauwhareparae**	**14.27**	**186**	P	**P**	**13 14 59.6**	**-0.5**
TWGZ				S	**S**	**13 17 30.9**	**+0.7**
KARZ	**Kaharoa**	**14.37**	**192**	P	**P**	**13 15 01.0**	**0.0**
URZ	**Urewera**	**14.46**	**189**	P	**P**	**13 15 00.6**	**-1.3**
	7.6nm,0.3s,baz=344,slow=1.8,SNR=53						
URZ				S	**S**	**13 17 29.9**	**-3.7**
	1.2nm,0.3s,baz=50,slow=22,SNR=14						
URZ	**Urewera**	**14.46**	**189**	P	**P**	**13 15 00.5**	**-1.3**
URZ				S	**S**	**13 17 27.8**	**-5.9**
MWZ	**Matawai**	**14.48**	**188**	P	**P**	**13 15 01.5**	**-0.7**
MWZ				S	**S**	**13 17 31.2**	**-3.0**
CNGZ	**Carnagh Statio**	**14.56**	**185**	P	**P**	**13 15 03.3**	**+0.3**
CNGZ				S	**S**	**13 17 35.1**	**-0.4**
SANVU	**Saraoutou**	**14.66**	**303**	P	**P**	**13 15 01.1**	**-3.2**
MUGZ	**Murupara**	**14.72**	**190**	P	**P**	**13 15 04.2**	**-0.5**
MUGZ				S	**S**	**13 17 33.9**	**-4.9**
RIGZ	**Rimuhau**	**14.82**	**187**	P	**P**	**13 15 06.1**	**+0.4**
RTZ	**Ruatahuna**	**14.83**	**189**	P	**P**	**13 15 04.7**	**-1.2**
RTZ				S	**S**	**13 17 36.5**	**-4.3**
KUTZ	**Kaahu Road**	**14.90**	**193**	P	**P**	**13 15 09.4**	**+2.9**
SNGZ	**Shannon Statio**	**14.94**	**188**	P	**P**	**13 15 07.0**	**0.0**
SNGZ				S	**S**	**13 17 37.2**	**-5.7**
PRGZ	**Paritu Road**	**15.02**	**186**	P	**P**	**13 15 09.0**	**+1.2**
MTHZ	**Maungataniwha**	**15.08**	**189**	P	**P**	**13 15 08.0**	**-0.4**
MTHZ				S	**S**	**13 17 40.9**	**-4.6**
RAHZ	**Arahi**	**15.11**	**189**	P	**P**	**13 15 08.1**	**-0.6**
RAHZ				S	**S**	**13 17 44.3**	**-1.7**
WATZ	**Wairara**	**15.13**	**193**	P	**P**	**13 15 10.9**	**+1.9**
HIZ	**Hauiti**	**15.14**	**195**	P	**P**	**13 15 10.9**	**+1.9**
KNZ	**Kokohu**	**15.14**	**187**	P	**P**	**13 15 09.1**	**+0.1**
RATZ	**Rangitukua**	**15.28**	**192**	P	**P**	**13 15 11.0**	**+0.4**
NMHZ	**Naumai**	**15.32**	**189**	P	**P**	**13 15 11.5**	**+0.4**
KATZ	**Kakaramea**	**15.40**	**193**	P	**P**	**13 15 13.4**	**+1.6**
BKZ	**Black Stump Fm**	**15.44**	**190**	P	**P**	**13 15 10.8**	**-1.4**
BKZ	**Black Stump Fm**	**15.44**	**190**	P	**P**	**13 15 10.5**	**-1.7**
ARHZ	**Aropaoanui**	**15.46**	**189**	P	**P**	**13 15 08.4**	**-3.9**
NTVZ	**North Tongarir**	**15.52**	**192**	P	**P**	**13 15 14.2**	**+1.0**
TMVZ	**Te Maari**	**15.53**	**192**	P	**P**	**13 15 13.5**	**+0.2**
ETVZ	**East Tongariro**	**15.55**	**192**	P	**P**	**13 15 13.0**	**-0.4**
WTVZ	**West Tongariro**	**15.55**	**193**	P	**P**	**13 15 14.8**	**+1.3**
NNVZ	**North Ngauruho**	**15.56**	**193**	P	**P**	**13 15 14.9**	**+1.3**
OTVZ	**Oturere**	**15.59**	**192**	P	**P**	**13 15 13.5**	**-0.3**
NGZ	**Ngauruhoe**	**15.61**	**193**	P	**P**	**13 15 15.5**	**+1.5**
SNVZ	**South Ngauruho**	**15.61**	**192**	P	**P**	**13 15 14.0**	**-0.1**
MCHZ	**McNeill Hill**	**15.68**	**189**	P	**P**	**13 15 13.8**	**-0.8**
TUVZ	**Tukino**	**15.69**	**192**	P	**P**	**13 15 14.7**	**-0.2**
VRZ	**Vera Road**	**15.74**	**195**	P	**P**	**13 15 17.3**	**+2.0**
WNVZ	**Wahianoa**	**15.76**	**192**	P	**P**	**13 15 14.9**	**-0.7**
BHHZ	**Black Hill Sta**	**15.83**	**191**	P	**P**	**13 15 14.5**	**-1.7**
KRHZ	**Kereru**	**15.93**	**190**	P	**P**	**13 15 16.7**	**-0.4**
KAHZ	**Kahuranaki**	**16.00**	**189**	P	**P**	**13 15 18.1**	**+0.1**
NEZ	**North Egmont**	**16.05**	**197**	P	**P**	**13 15 20.6**	**+2.2**
PNHZ	**Pukenui**	**16.22**	**190**	P	**P**	**13 15 18.7**	**-1.3**
PXZ	**Pawanui**	**16.23**	**188**	P	**P**	**13 15 19.5**	**-0.7**
WAZ	**Wanganui**	**16.30**	**194**	P	**P**	**13 15 21.6**	**+0.8**
WPHZ	**Waipukurau**	**16.33**	**190**	P	**P**	**13 15 20.4**	**-0.7**
TSZ	**Takapari Road**	**16.40**	**191**	P	**P**	**13 15 20.6**	**-1.3**
DVHZ	**Dannevirke**	**16.60**	**190**	P	**P**	**13 15 23.0**	**-0.8**
ANWZ	**Angora Road**	**16.71**	**189**	P	**P**	**13 15 24.4**	**-0.4**
HNR	**Honiara**	**23.93**	**304**	P	**P**	**13 16 29.8**	**-0.8**
	31nm,0.6s,baz=221,slow=11,SNR=4.3						
ARMA	**Armidale**	**25.94**	**249**	P	**P**	**13 16 48.0**	**-0.4**
ARMA				IAmb	IAmb	13 17 12.3	
	comp=Z,47nm,1.8s						
CAN	**Canberra**	**29.05**	**240**	P	**P**	**13 17 15.8**	**+0.3**
CAN				IAmb	IAmb	13 17 47.7	
	comp=Z,43nm,1.6s						
CTAO	**Charters Tower**	**31.41**	**270**	P	**P**	**13 17 37.6**	**+1.6**
CTAO				IAmb	IAmb	13 17 38.2	
	comp=Z,13nm,0.8s						
TOO	**Toolangi**	**32.36**	**237**	P	**P**	**13 17 45.4**	**+1.4**
TAU	**Tasmania Unive**	**32.85**	**227**	P	**P**	**13 17 48.6**	**+0.7**
PMG	**Port Moresby**	**34.45**	**289**	P	**P**	**13 18 01.9**	**+0.1**
STKA	**Stephens Creek**	**34.64**	**248**	P	**P**	**13 18 03.4**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=92,slow=11,SNR=6.8						
STKA	**Stephens Creek**	**34.64**	**248**	P	**P**	**13 18 02.5**	**-0.7**
COEN	**Coen**	**36.06**	**279**	P	**P**	**13 18 15.1**	**-0.1**
COEN				IAmb	IAmb	13 18 53.7	
	comp=Z,11nm,1.4s						
BBOO	**Buckleboo**	**39.36**	**247**	P	**P**	**13 18 41.4**	**-0.5**
AS31	**Alice Springs**	**41.96**	**261**	P	**P**	**13 19 03.2**	**+0.3**
ASAR	**Alice Springs**	**41.96**	**261**	P	**P**	**13 19 03.2**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=91,slow=7.3,SNR=24						
ASAR				S	**S**	**13 24 42.4**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=94,slow=15,SNR=4.6						
ASAR	**Alice Springs**	**41.96**	**261**	P	**P**	**13 19 03.4**	**+0.5**
WB2	**Warramunga Arr**	**42.33**	**266**	P	**P**	**13 19 05.7**	**-0.1**
WRAB	**Tennant Creek**	**42.33**	**266**	P	**P**	**13 19 05.4**	**-0.4**
WRAB				IAmb	IAmb	13 19 05.9	
	comp=Z,17nm,1.9s						
WB0	**Warramunga Arr**	**42.33**	**266**	P	**P**	**13 19 05.6**	**-0.2**
WRA	**Warramunga Arr**	**42.34**	**266**	P	**P**	**13 19 05.6**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=96,slow=8.3,SNR=110						
WRA				ScP	**ScP**	**13 23 52.2**	**+4.2**
	comp=Z,0.1nm,0.5s,baz=99,slow=3.6,SNR=4.8						
WRA				S	**S**	**13 24 45.8**	**-3.2**
	comp=Z,0.9nm,1.1s,baz=90,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**42.34**	**266**	P	**P**	**13 19 05.8**	**-0.1**
FORT	**Forrest**	**46.23**	**250**	P	**P**	**13 19 35.2**	**-0.6**
FORT				IAmb	IAmb	13 19 36.5	
	comp=Z,14nm,0.7s						
MTN	**Manton Dam**	**47.39**	**274**	P	**P**	**13 19 44.4**	**-0.3**
MTN				IAmb	IAmb	13 21 29.1	
	comp=Z,7.6nm,1.1s						
KNRA	**Kununurra**	**48.62**	**270**	P	**P**	**13 19 54.2**	**+0.3**
KNRA				IAmb	IAmb	13 21 29.6	
	comp=Z,35nm,1.9s						
MORW	**Morawa**	**56.79**	**250**	P	**P**	**13 20 52.1**	**-0.1**
MORW				IAmb	IAmb	13 22 43.0	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**66.13**	**180**	P	**P**	**13 21 54.5**	**+1.7**
QSPA				IAmb	IAmb	13 23 33.9	
	comp=Z,12nm,1.6s						
NVAR	**Mina Array Bea**	**84.84**	**44**	P	**P**	**13 23 39.0**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=248,slow=6.7,SNR=4.5						
TXAR	**Lajitas Array**	**90.52**	**58**	P	**P**	**13 24 06.5**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=217,slow=6.7,SNR=16						
TXAR	**Lajitas Array**	**90.52**	**58**	P	**P**	**13 24 03.6**	**-0.4**
ILAR	**Eielson Array**	**92.10**	**14**	P	**P**	**13 24 10.9**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=240,slow=5

s-maj=184.0km s-min=27.2km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.34**	**289**	‖ *iP*	Pg	13 18 01.1	+3.7
WRA	**Warramunga Arr**	**26.92**	**165**	P	P	13 22 56.6	+0.9
0.2nm,0.5s,baz=346,slow=10,SNR=5.5							
ASAR	**Alice Springs**	**30.42**	**168**	P	P	13 23 25.6	-1.1
0.1nm,0.6s,baz=345,slow=6.9,SNR=1.2							
MKAR	**Makanchi Array**	**55.86**	**324**	P	P	13 26 51.9	-0.1
0.3nm,0.5s,baz=117,slow=7.2,SNR=6.9							

*SFS **23** 13:18:27.0, 35.°62N×3.°80W, ML2.8, ALBORAN SUR*
*CNRM **23** 13:18:28.1, 35.°67N×3.°63W, h21km, ml3.0*
*INMG **23** 13:18:28.1±1.8, 35.°63N×3.°83W, h0km±5km, ML2.5, Error ellipse: s-maj=6.2km s-min=3.3km az=4.0*

ISC 23 13:18:27.3±1.3, 35.°66N±0.°03×3.°71W±0.°03, h15km±11km, n33, σ1§72/52, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.48**	**203**	P	**Pb**	**13 18 37.7**	**+0.3**
PALE				S	**Sb**	**13 18 45.3**	**+1.1**
GOG	**Mont Gurugu**	**0.73**	**126**	P	**Pg**	**13 18 41.4**	**-0.1**
GOG				S	**Sg**	**13 18 51.1**	**0.0**
CHAS	**Isla Isabel II**	**1.15**	**114**	P	**Pn**	**13 18 47.4**	**-1.3**
CHAS				S	**Sb**	**13 19 04.5**	**+1.0**
EMAL	**Malaga-Limoner**	**1.25**	**332**	P	**Pn**	**13 18 49.8**	**-0.3**
EMAL				S	**Sb**	**13 19 06.0**	**-0.3**
TAF	**Taforalt**	**1.35**	**128**	P	**Pn**	**13 18 51.2**	**-0.4**
TAF				S	**Sb**	**13 19 08.5**	**-1.1**
CEU	**Ceuta**	**1.37**	**281**	P	**Pn**	**13 18 49.9**	**-2.0**
CEU				S	**Sb**	**13 19 05.8**	**-4.2**
CHEFC	**Chefchaouen**	**1.44**	**248**	P	**Pb**	**13 18 53.8**	**0.0**
JBK	**JBK**	**1.62**	**144**	P	**Pn**	**13 18 56.0**	**+0.5**
JBK				S	**Sn**	**13 19 14.3**	**-1.8**
LCRM	**LCR**	**2.18**	**206**	P	**Pg**	**13 19 08.3**	**-0.9**
IFR	**Ifrane**	**2.43**	**209**	P	**Pn**	**13 19 07.8**	**+1.1**
IFR				S	**Sn**	**13 19 37.3**	**+1.1**
MD31	**MD31**	**2.92**	**198**	P	**Pn**	**13 19 14.8**	**+1.6**
MDT	**Midelt**	**2.93**	**195**	P	**Pn**	**13 19 15.9**	**+2.5**
TDRA	**Tendrara**	**2.96**	**151**	P	**Pn**	**13 19 14.6**	**+0.7**
ZHG	**ZHG**	**3.27**	**228**	P	**Pn**	**13 19 18.7**	**+0.6**
PVAQ	**Vaqueiros**	**3.67**	**300**	*e*Pn	**Pn**	**13 19 25.6**	**+2.2**
PVAQ				*e*Sn	**Sn**	**13 20 06.1**	**-0.3**
PVAQ				A	A	13 20 09.9	
7.0nm,0.6s							
PVAQ	**Vaqueiros**	**3.67**	**300**	P	**Pn**	**13 19 24.4**	**+1.0**
PCVE	**Castro Verde**	**4.00**	**301**	*e*Pn	**Pn**	**13 19 30.0**	**+2.0**
PCVE				*e*Sn	**Sn**	**13 20 14.6**	**0.0**
PCVE				A	A	13 20 16.6	
4.5nm,0.3s							
MESJ	**Messejana**	**4.23**	**302**	*e*Pn	**Pn**	**13 19 33.9**	**+2.8**
PESTR	**Estremoz**	**4.45**	**317**	*e*Pn	**Pn**	**13 19 36.7**	**+2.4**
PESTR				*e*Sn	**Sn**	**13 20 25.5**	**-0.3**
PESTR				A	A	13 20 47.3	
3.2nm,0.4s							
PESTR	**Estremoz**	**4.45**	**317**	P	**Pn**	**13 19 34.1**	**-0.1**
EVO	**Evora**	**4.48**	**311**	P	**Pn**	**13 19 31.4**	**-3.2**
EVO				S	**Sn**	**13 20 25.2**	**-1.1**
EVO	**Evora**	**4.48**	**311**	*e*Sn	**Sn**	**13 20 25.5**	**-0.9**
PNCL	**Nicolau / Gran**	**4.57**	**304**	*e*Pn	**Pn**	**13 19 37.9**	**+2.0**
PNCL				*e*Sn	**Sn**	**13 20 28.4**	**-0.3**
PMRV	**Marv??o**	**4.77**	**323**	*e*Pn	**Pn**	**13 19 41.0**	**+2.4**
PMRV				*e*Sn	**Sn**	**13 20 33.1**	**-0.4**
PMRV				A	A	13 20 41.5	
3.1nm,0.6s							
PMTG	**Montargil**	**4.95**	**315**	*e*Pn	**Pn**	**13 19 42.8**	**+1.7**
PMTG				*e*Sn	**Sn**	**13 20 37.5**	**-0.6**
PMTG				A	A	13 20 43.0	
3.5nm,0.6s							
PCBR	**Castelo Branco**	**5.13**	**326**	*e*Pn	**Pn**	**13 19 46.2**	**+2.6**
PCBR				*e*Sn	**Sn**	**13 20 42.2**	**-0.3**
PCBR				A	A	13 20 43.4	
3.5nm,0.5s							
PSBE	**So Bento**	**5.58**	**315**	*e*Pn	**Pn**	**13 19 52.4**	**+2.7**
MTE	**Manteigas**	**5.62**	**329**	*e*Sn	**Sn**	**13 20 54.4**	**-0.2**
MTE				A	A	13 21 30.5	
6.3nm,0.7s							
PVIS	**Viseu**	**6.03**	**328**	*e*Pn	**Pn**	**13 19 58.4**	**+2.5**
MVO	**Moncorvo**	**6.08**	**336**	*e*Pn	**Pn**	**13 19 58.8**	**+2.1**
MVO				*e*Sn	**Sn**	**13 21 05.1**	**-0.9**
MVO				A	A	13 21 49.3	
4.8nm,0.5s							
PVRL	**Vila Real**	**6.43**	**332**	*e*Sn	**Sn**	**13 21 13.0**	**-1.5**
POLO	**Lamas de Olo**	**6.54**	**332**	*e*Pn	**Pn**	**13 20 06.2**	**+3.2**
POLO				*e*Sn	**Sn**	**13 21 15.6**	**-1.8**
POLO				A	A	13 21 19.8	
1.9nm,0.6s							
PBRG	**Braganca**	**6.58**	**340**	*e*Pn	**Pn**	**13 20 06.2**	**+2.7**
PBRG				*e*Sn	**Sn**	**13 21 18.4**	**+0.2**
PBRG				A	A	13 21 21.5	
2.6nm,0.7s							

IDC 23 13:53:43.2±2.6, 7.°29S×119.°78E, h296km±21km, mb2.6/2, mb1 2.6/3, mb1mx2.5/36, mbtmp3.2/3, Error ellipse: s-maj=111.2km s-min=15.3km az=50.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.81**	**127**	P	Pn	13 55 00.1	+1.7
7.1nm,0.3s,baz=15,slow=1.6,SNR=9.9							
BATI				S	S	13 55 57.0	-1.8
4.6nm,0.3s,baz=197,slow=11,SNR=2.2							
WRA	**Warramunga Arr**	**18.91**	**133**	P	P	13 57 44.2	+1.2
0.1nm,0.3s,baz=304,slow=12,SNR=12							
WRA				S	S	14 01 02.1	+0.2
0.1nm,0.3s,baz=306,slow=22,SNR=2.3							
ASAR	**Alice Springs**	**21.19**	**142**	P	P	13 58 06.5	+0.3
0.2nm,0.3s,baz=313,slow=9.2,SNR=7.1							
MKAR	**Makanchi Array**	**63.31**	**332**	P	P	14 03 40.6	-0.5
0.4nm,0.5s,baz=152,slow=6.5,SNR=7.0							

*NEIC **23** 14:10:20.7±1.4, 18.°97N±0.°06×145.°0E±0.°2, h180km±13km, mb4.1/13, Error ellipse: s-maj=27.7km s-min=7.5km az=80.0*
*IDC **23** 14:10:22.0±7.4, 18.°88N×145.°09E, h203km±62km, mb3.1/3, mb1 3.4/4, mb1mx2.6/46, mbtmp3.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=198.9km s-min=27.6km az=112.0*

ISC 23 14:10:20.9±0.8, 18.°96N±0.°08×144.°9E±0.°2, h200km, n21, σ1§16/21, mb3.9/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.34**	**180**	P	**Pn**	**14 11 41.6**	**+1.8**
3.5nm,0.3s,baz=162,slow=20,SNR=1.4							
GUMO				S	**Sn**	**14 12 40.6**	**-1.4**
4.8nm,0.3s,baz=143,slow=20,SNR=1.7							
GUMO	**Guam**	**5.34**	**180**		**Pn**	**14 11 39.1**	**-0.7**
JMZ	**Minamidaito 2**	**14.38**	**301**		**P**	**14 13 36.7**	**-0.2**
JHJ2	**Mitsune**	**14.81**	**343**		**P**	**14 13 41.2**	**-0.5**
JSG	**Sagara**	**16.75**	**340**	P	**P**	**14 14 02.7**	**-0.3**
PATS	**Pohnpei**	**17.75**	**131**	P	**P**	**14 14 13.1**	**-1.2**
JNU	**Nakatsue**	**18.89**	**321**	LR	LR	14 20 33.8	
comp=Z,63nm,22.0s,baz=326,slow=32							
HNR	**Honiara**	**31.87**	**151**	P	**P**	**14 16 28.4**	**+0.9**
COEN	**Coen**	**32.75**	**183**	P	**P**	**14 16 33.8**	**-1.4**
COEN				IAmb	IAmb	14 16 48.8	
comp=Z,3.7nm,1.0s							
QIZ	**Qiongzhong**	**33.12**	**276**	P	**P**	**14 16 38.1**	**-0.3**
QIZ				IAmb	IAmb	14 16 57.0	
comp=Z,16nm,1.2s							
MTN	**Manton Dam**	**34.40**	**204**	P	**P**	**14 16 50.4**	**+1.0**
MTN				IAmb	IAmb	14 16 52.5	
comp=Z,4.4nm,1.0s							
KNRA	**Kununurra**	**37.91**	**206**	P	**P**	**14 17 21.2**	**+2.1**
KNRA				IAmb	IAmb	14 17 22.2	
comp=Z,9.2nm,1.1s							
WB0	**Warramunga Arr**	**39.84**	**196**	P	**P**	**14 17 36.3**	**+1.1**
WB0				IAmb	IAmb	14 17 36.8	
comp=Z,5.0nm,1.1s							
WR0	**Warramunga Arr**	**39.99**	**195**	P	**P**	**14 17 37.2**	**+0.8**
WRAB	**Tennant Creek**	**40.02**	**196**	P	**P**	**14 17 37.9**	**+1.3**
WRAB				IAmb	IAmb	14 17 38.1	
comp=Z,3.0nm,0.8s							
WB2	**Warramunga Arr**	**40.02**	**196**	P	**P**	**14 17 37.7**	**+1.1**
WB2				IAmb	IAmb	14 17 38.7	
comp=Z,3.6nm,0.8s							
WRA	**Warramunga Arr**	**40.03**	**196**	P	**P**	**14 17 37.3**	**+0.6**
comp=Z,1.4nm,0.5s,baz=17,slow=8.0,SNR=31							
WRA	**Warramunga Arr**	**40.03**	**196**	P	**P**	**14 17 38.0**	**+1.4**
AS31	**Alice Springs**	**43.71**	**195**	P	**P**	**14 18 07.5**	**+1.1**
ASAR	**Alice Springs**	**43.71**	**195**	P	**P**	**14 18 06.7**	**+0.2**
comp=Z,0.2nm,0.3s,baz=9.9,slow=8.1,SNR=8.9							
YKA	**Yellowknife Ar**	**78.11**	**28**	P	**P**	**14 21 58.0**	**+0.5**
comp=Z,0.1nm,0.5s,baz=291,slow=5.9,SNR=2.6							

*PRE **23** 14:20:42.4±0.8, 26.°90S×26.°78E, h2km, ML2.6*
*BUL **23** 14:20:44.1±2.1, 26.°89S×26.°77E, h0km±12km, MD4.8*
*EAF **23** 14:20:44.1±2.1, 26.°89S×26.°78E, h0km±11km, MD4.3*

ISC 23 14:20:42.1±1.3, 26.°87S±0.°04×26.°79E±0.°03, h1km±11km, n26, σ2§31/44, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.51**	**96**	*e*P	**Pg**	**14 20 53.1**	**+1.2**
PRYS				*e*S	**Sg**	**14 20 59.6**	**+1.0**
PRYS				IAML		14 21 04.8	
comp=Z,179nm,1.0s							
KSR	**Koster**	**1.02**	**6**	*e*P	**Pb**	**14 21 03.3**	**+0.7**
KSR				*e*S	**Sb**	**14 21 17.3**	**+0.8**
KSR				IAML		14 21 21.8	
comp=Z,702nm,0.5s							
HRAO	**HartRAO**	**1.27**	**40**	*e*P	**Pn**	**14 21 07.7**	**+0.7**
HRAO				*e*S	**Sb**	**14 21 24.8**	**+1.2**
HRAO				IAML		14 21 32.1	
comp=Z,72nm,0.5s							
SWZ	**Schweizer**	**1.34**	**256**	*e*P	**Pg**	**14 21 07.7**	**+0.1**
SWZ				*e*S	**Sb**	**14 21 25.8**	**+0.2**
SWZ				IAML		14 21 29.1	
comp=Z,229nm,0.2s							
SLR	**Silverton**	**1.75**	**50**	*e*P	**Pn**	**14 21 14.9**	**+1.3**
SLR				*e*S	**Sb**	**14 21 38.5**	**+0.9**
SLR				IAML		14 21 41.4	
comp=Z,260nm,0.3s							
LBTB	**Lobatse**	**2.14**	**330**	*e*P	**Pn**	**14 21 20.6**	**+1.7**
LBTB				*e*S	**Sn**	**14 21 47.9**	**+1.8**
LBTB				IAML		14 21 51.5	
comp=Z,65nm,0.3s							
LBTB	**Lobatse**	**2.14**	**330**	*i* P	**Pb**	**14 21 20.9**	**-0.6**
LBTB				*i* Sg	**Sb**	**14 21 49.8**	**+1.2**
LBTB	**Lobatse**	**2.14**	**330**	*i* P	**Pb**	**14 21 20.9**	**-0.6**
LBTB				*i* Sg	**Sb**	**14 21 49.8**	**+1.2**
BOSA	**Boshof**	**2.21**	**218**	*i* P	**Pn**	**14 21 20.6**	**+0.7**
BOSA	**Boshof**	**2.21**	**218**	*i* P	**Pn**	**14 21 20.6**	**+0.7**
NWCL	**Newcastle**	**2.89**	**108**	*e*P	**Pn**	**14 21 30.6**	**+1.2**
NWCL				*e*S	**Sn**	**14 22 05.8**	**+0.9**
NWCL				IAML		14 22 13.0	
comp=Z,33nm,0.4s							
POGA	**Pongola**	**4.41**	**97**	*e*P	**Pn**	**14 21 51.2**	**+1.0**
POGA				*e*S	**Sn**	**14 22 41.4**	**-0.7**
POGA				IAML		14 23 07.6	
comp=Z,15nm,0.5s							
CNG	**Changalane**	**4.87**	**84**	*i* P	**Pn**	**14 21 58.5**	**+2.1**
CNG				*i* Sg	**Sg**	**14 23 13.7**	**-4.9**
CNG	**Changalane**	**4.87**	**84**	*i* P	**Pn**	**14 21 58.5**	**+2.1**
CNG				*i* Sg	**Sg**	**14 23 13.7**	**-4.9**
UPI	**Upington**	**5.13**	**252**	*e*P	**Pn**	**14 22 01.4**	**+1.3**
UPI				*e*S	**Sn**	**14 22 58.0**	**-2.0**
UPI				IAML		14 23 26.1	
comp=Z,5.2nm,2.2s							
MOPA	**Mopani**	**5.34**	**52**	*e*P	**Pn**	**14 22 04.5**	**+1.5**
MOPA				*e*S	**Sn**	**14 23 04.0**	**-1.3**
MOPA				IAML		14 23 18.5	
comp=Z,4.3nm,0.4s							
MOPA	**Mopani**	**5.34**	**52**	*i* P	**Pn**	**14 22 06.3**	**+3.4**
MOPA				*i* S	**Sn**	**14 23 03.5**	**-1.7**
MOPA	**Mopani**	**5.34**	**52**	*i* P	**Pn**	**14 22 06.3**	**+3.4**
MOPA				*i* S	**Sn**	**14 23 03.5**	**-1.7**
MSNA	**Messina**	**5.38**	**34**	*i* P	**Pn**	**14 22 06.4**	**+2.9**
MSNA	**Messina**	**5.38**	**34**	*i* P	**Pn**	**14 22 06.4**	**+2.9**
MATP	**Matopo**	**6.60**	**14**	*i* P	**Pn**	**14 22 22.8**	**+2.4**
MATP				*i* S	**Sn**	**14 23 32.7**	**-3.7**
MATP	**Matopo**	**6.60**	**14**	*i* P	**Pn**	**14 22 22.8**	**+2.4**
MATP				*i* S	**Sn**	**14 23 32.7**	**-3.7**
BLWY	**Bulawayo**	**6.90**	**14**	*i* P	**Pn**	**14 22 26.7**	**+2.1**
BLWY				*i* S	**Sn**	**14 23 39.9**	**-3.9**
BLWY	**Bulawayo**	**6.90**	**14**	*i* P	**Pn**	**14 22 26.7**	**+2.1**
BLWY				*i* S	**Sn**	**14 23 39.9**	**-3.9**
KRI	**Karoi**	**10.33**	**15**	*i* P	Pn	14 23 05.2	-6.3
KRI				*i* S	Sn	14 24 48.5	-20
KRI	**Karoi**	**10.33**	**15**	*i* P	Pn	14 23 05.2	-6.3
KRI				*i* S	Sn	14 24 48.5	-20

*IDC **23** 14:20:58.9±1.2, 3.°66N×126.°83E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.4/47, mbtmp3.7/7, ML3.4/1, MS2.8/4, Ms1 2.8/4, ms1mx2.5/78, Error ellipse: s-maj=75.8km s-min=17.9km az=60.0*

ISC 23 14:21:05.4±0.8, 3.°7N±0.°2×127.°1E±0.°3, h48km, n11, σ1§88/9, mb3.7/6, MS2.8/3, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.88**	**328**	‖ *e*P	**Pn**	**14 22 04.4**	**+1.7**
SIJI	**Sorong**	**6.12**	**137**	Pn	**Pn**	**14 22 35.0**	**+1.6**
0.9nm,0.3s,baz=304,slow=18,SNR=2.0							
SIJI				Sn	**Sn**	**14 23 39.5**	**-2.7**
0.4nm,0.3s,baz=330,slow=20,SNR=1.8							
KAPI	**Kappang**	**11.36**	**221**	LR	LR	14 28 20.8	
comp=Z,22nm,21.2s,baz=119,slow=40							
GUMO	**Guam**	**20.09**	**60**	LR	LR	14 31 25.6	
comp=Z,45nm,21.9s,baz=155,slow=31							
LEM	**Lembang**	**22.10**	**242**	LR	LR	14 33 56.6	
comp=Z,33nm,21.9s,baz=188,slow=36							
WRA	**Warramunga Arr**	**24.52**	**163**	P	**P**	**14 26 19.6**	**-1.0**
2.5nm,0.7s,baz=344,slow=10,SNR=23							
ASAR	**Alice Springs**	**27.97**	**167**	P	**P**	**14 26 52.7**	**+1.0**
0.2nm,0.3s,baz=345,slow=8.7,SNR=2.3							
ASAR				LR	LR	14 37 24.2	
comp=Z,31nm,21.2s,baz=85,slow=35							
CMAR	**Chiang Mai Arr**	**31.24**	**300**	P	**P**	**14 27 19.4**	**-1.4**
0.4nm,0.3s,baz=116,slow=8.1,SNR=4.0							
STKA	**Stephens Creek**	**37.94**	**160**	P	**P**	**14 28 19.6**	**+1.1**
1.4nm,0.7s,baz=315,slow=8.4,SNR=3.8							
SONM	**Songino Array**	**47.47**	**341**	P	**P**	**14 29 35.4**	**-0.2**
0.4nm,0.7s,baz=157,slow=5.8,SNR=2.3							
MKAR	**Makanchi Array**	**57.83**	**325**	P	**P**	**14 30 50.3**	**-1.8**
0.5nm,0.5s,baz=127,slow=8.1,SNR=8.7							

*JMA **23** 14:47:37.8±0.6, 25.°95N×125.°51E, h0km±5km, M3.3*
*IDC **23** 14:48:28.2±12.0, 25.°60N×124.°27E, h535km±163km, mb2.4/5, mb1 2.6/5, mb1mx2.4/39, mbtmp3.3/5, Error ellipse: s-maj=92.9km s-min=19.2km az=73.0*

ISC 23 14:47:38.0±0.8, 25.°94N±0.°06×125.°56E±0.°07, h10km, n16, σ1§53/21, mb3.3/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.05**	**195**	P	**Pn**	**14 47 58.4**	**-0.4**
JIKM				*e*S	**Sb**	**14 48 12.0**	**-0.1**
JIRB	**Irabujima**	**1.16**	**197**	P	**Pb**	**14 47 59.5**	**-0.7**
JIRB				*e*S	**Sn**	**14 48 15.8**	**-0.4**
JKE	**Kume jima 2**	**1.17**	**71**	P	**Pg**	**14 48 00.9**	**+0.3**
JKE				*e*S	**Sn**	**14 48 17.0**	**+0.5**
JOGS	**Gusukube**	**1.18**	**187**	P	**Pb**	**14 48 00.3**	**-0.3**
JOGS				*e*S	**Sn**	**14 48 17.5**	**+0.7**
JMJ2	**Miyako jima3**	**1.21**	**190**	P	**Pg**	**14 48 01.5**	**+0.2**
JMJ2				*e*S	**Sn**	**14 48 18.0**	**+0.5**
JTJ	**Tarama**	**1.51**	**211**	S	**Sb**	**14 48 24.9**	**-0.3**
JISG	**Ishigakijimahi**	**1.76**	**220**	P	**Pb**	**14 48 10.1**	**-0.2**
JJT3	**Tamagusuku3**	**2.02**	**84**	P	**Pb**	**14 48 15.1**	**+0.3**
JIJ	**Ishigaki jima**	**2.02**	**219**	P	**Pb**	**14 48 14.4**	**-0.5**
JNTH	**Nagotoyohara**	**2.29**	**75**	P	**Pb**	**14 48 18.8**	**-0.7**
JIH	**Iheya**	**2.42**	**63**	P	**Pb**	**14 48 20.2**	**-1.5**
SONM	**Songino Array**	**26.55**	**330**	P	**P**	**14 53 21.6**	**+5.5**
0.4nm,0.5s,baz=139,slow=7.4,SNR=2.1							
MKAR	**Makanchi Array**	**39.95**	**313**	P	**P**	**14 55 10.6**	**-2.0**
0.3nm,0.6s,baz=102,slow=9.7,SNR=4.4							
WRA	**Warramunga Arr**	**46.40**	**169**	P	**P**	**14 56 05.1**	**+0.2**
0.2nm,0.9s,baz=352,slow=8.0,SNR=2.2							
ASAR	**Alice Springs**	**49.97**	**170**	P	**P**	**14 56 33.2**	**+0.7**
0.3nm,0.9s,baz=355,slow=7.0,SNR=1.6							
YKA	**Yellowknife Ar**	**79.79**	**24**	P	**P**	**14 59 44.5**	**-1.6**
0.4nm,0.9s,baz=304,slow=5.7,SNR=7.4							

*IDC **23** 14:50:05.4±2.1, 0.°71S×133.°37E, h0km, mb3.1/2, mb1 3.3/4, mb1mx3.2/33, mbtmp3.1/4, ML3.1/2, Error ellipse: s-maj=39.8km s-min=26.1km az=49.0*
*DJA **23** 14:50:10.9±1.5, 1.°S±7.°×13.°3E±.°, h10km, M3.1/3, MLv3.1/3*

ISC 23 14:50:09.3±1.8, 0.°7S±0.°1×133.°4E±0.°1, h28km, n6, σ0§53/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.12**	**264**	Pn	**Pn**	**14 50 43.3**	**+0.4**
8.6nm,0.3s,baz=206,slow=24,SNR=47							
SIJI				Sn	**Sn**	**14 51 08.5**	**+0.1**
10nm,0.3s,baz=260,slow=22,SNR=5.0							
SWI	**Sorong**	**2.13**	**264**	P	**Pn**	**14 50 43.0**	**0.0**
SWI				S	**Sn**	**14 51 08.0**	**-0.5**
FAKI	**Fak Fak**	**2.51**	**207**	P	**Pn**	**14 50 48.9**	**+0.6**
FAKI				S	**Sn**	**14 51 18.1**	**0.0**
WRA	**Warramunga Arr**	**19.19**	**177**	P	**P**	**14 54 30.3**	**-0.7**
0.1nm,0.3s,baz=354,slow=11,SNR=6.2							
ASAR	**Alice Springs**	**22.88**	**179**	P	**P**	**14 55 10.2**	**-0.6**
0.4nm,0.5s,baz=359,slow=12,SNR=9.9							
MKAR	**Makanchi Array**	**64.96**	**324**	P	**P**	**15 00 46.9**	**+0.3**
0.1nm,0.5s,baz=102,slow=6.1,SNR=1.6							

*IDC **23** 15:33:37.5±3.5, 8.°31S×159.°32E, h78km±38km, mb3.4/7, mb1 3.5/7, mb1mx3.4/30, mbtmp3.7/7, Error ellipse: s-maj=43.9km s-min=22.6km az=136.0*

ISC 23 15:33:39.7±0.8, 8.°5S±0.°1×159.°5E±0.°2, h103km, n15, σ1§20/11, mb3.5/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.05**	**156**	P	**Pn**	**15 33 59.0**	**-1.9**
325nm,0.3s,baz=188,slow=9.3,SNR=112							
HNR				S	**Sn**	**15 34 16.7**	**-0.1**
494nm,0.3s,baz=20,slow=21,SNR=15							
DZM	**Mont Dzumac**	**15.08**	**155**	P	**P**	**15 37 12.6**	**+2.3**
0.1nm,0.3s,baz=330,slow=20,SNR=0.9							
WRA	**Warramunga Arr**	**26.89**	**242**	P	**P**	**15 39 10.5**	**-0.7**
0.8nm,0.8s,baz=64,slow=8.6,SNR=10							
H11S3	**WAKE ISLAND Hy**	**27.71**	**15**	T	T	16 07 56.0	
baz=195,slow=76							
H11S2	**WAKE ISLAND Hy**	**27.71**	**15**	T	T	16 07 55.6	
baz=195,slow=76							
H11S1	**WAKE ISLAND Hy**	**27.73**	**15**	T	T	16 07 58.8	
baz=195,slow=76							
STKA	**Stephens Creek**	**28.63**	**213**	P	**P**	**15 39 27.6**	**+1.0**
0.6nm,0.5s,baz=51,slow=14,SNR=3.0							
ASAR	**Alice Springs**	**28.80**	**235**	P	**P**	**15 39 27.5**	**-0.7**
0.2nm,0.4s,baz=61,slow=10.0,SNR=14							
ASAR				PcP	**PcP**	**15 42 36.2**	**+0.4**
0.3nm,0.9s,baz=83,slow=2.7,SNR=2.3							
H11N1	**WAKE ISLAND Hy**	**28.93**	**14**	T	T	16 09 25.8	
baz=196,slow=76							
H11N3	**WAKE ISLAND Hy**	**28.94**	**15**	T	T	16 09 28.6	
baz=196,slow=76							
H11N2	**WAKE ISLAND Hy**	**28.95**	**14**	T	T	16 09 27.7	
baz=196,slow=76							
SONM	**Songino Array**	**73.03**	**326**	P	**P**	**15 44 58.8**	**+0.3**
0.7nm,0.8s,baz=130,slow=5.8,SNR=5.0							
ILAR	**Eielson Array**	**83.14**	**20**	P	**P**	**15 45 53.7**	**-0.2**
0.2nm,0.5s,baz=249,slow=4.9,SNR=1.2							
MKAR	**Makanchi Array**	**87.47**	**318**	P	**P**	**15 46 15.3**	**-0.5**
0.3nm,0.7s,baz=106,slow=4.1,SNR=3.8							
YKA	**Yellowknife Ar**	**95.55**	**28**	P	**P**	**15 46 53.1**	**+0.3**
0.3nm,0.7s,baz=263,slow=5.2,SNR=6.0							

*IDC **23** 15:35:05.0±1.0, 36.°34N×10.°04W, h0km, mb3.5/6, mb1 3.9/7, mb1mx3.6/42, mbtmp3.6/7, ML4.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/78, Error ellipse: s-maj=23.4km s-min=22.4km az=90.0*
*SFS **23** 15:35:11.0, 36.°30N×10.°00W, ML4.2, SW. CABO DE SAN VICENTE*
*CNRM **23** 15:35:11.4, 36.°27N×9.°77W, h53km, ml4.5*
*INMG **23** 15:35:12.7±2.3, 36.°39N×9.°98W, h31km±4km, MD3.4, ML3.9, Error ellipse: s-maj=3.3km s-min=2.4km az=116.0*
*LDG **23** 15:35:12.8±0.3, 36.°50N×9.°82W, h10km, Ml3.9/16, Error ellipse: s-maj=5.7km s-min=3.9km az=46.0*
*IGIL **23** 15:35:13.9, 36.°39N×9.°95W, h31km, ML4.0*

ISC 23 15:35:11.1±1.1, 36.°31N±0.°03×9.°91W±0.°05, h37km±1km, n109, σ2§69/173, mb3.3/6, 5C-8D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSVI	**Cabo S. Vicent**	**1.03**	**46**	‖ *iP*	**Pn**	**15 35 29.9**	**+1.0**
PSVI				*e*S	**Sn**	**15 35 42.2**	**+0.2**
PSVI				A	A	15 35 43.9	
2μm,0.4s							
PFVI	**Vila Bisbo**	**1.20**	**46**	↑ *e*P	**Pn**	**15 35 31.8**	**+0.5**
PFVI				*e*S	**Sn**	**15 35 45.6**	**-0.7**
PFVI				A	A	15 35 46.4	
798nm,0.2s							
PFVI	**Vila Bisbo**	**1.20**	**46**	P	**Pn**	**15 35 31.5**	**+0.2**
PFVI				S	**Sn**	**15 35 45.5**	**-0.8**
PLAGO	**Lagos**	**1.26**	**51**	*e*P	**Pn**	**15 35 32.8**	**+0.7**
P

PMAFR				*e*Sn	**Sn**	**15 36 20.6**	**-2.5**
PMAFR				A	A	15 36 23.7	
comp=E,1μm,0.2s							
PBAR	**Barrancos**	**2.96**	**50**	*e*Pn	**Pn**	**15 35 55.9**	**+0.5**
PBAR				*e*Sn	**Sn**	**15 36 28.1**	**-1.5**
PBAR				A	A	15 36 29.4	
comp=E,136nm,0.4s							
SFS	**San Fernando**	**3.00**	**86**	S	**Sn**	**15 36 31.2**	**+0.6**
PMTG	**Montargil**	**3.06**	**25**	*e*Pn	**Pn**	**15 35 57.1**	**+0.2**
PMTG				*e*Sn	**Sn**	**15 36 29.6**	**-2.7**
PMTG				A	A	15 36 31.6	
comp=E,306nm,0.3s							
PESTR	**Estremoz**	**3.15**	**35**	⇓*e*Pn	**Pn**	**15 35 57.9**	**-0.2**
PESTR				*e*Sn	**Sn**	**15 36 32.0**	**-2.5**
PESTR				A	A	15 36 34.0	
comp=E,216nm,0.6s							
PESTR	**Estremoz**	**3.15**	**35**	P	**Pn**	**15 35 57.6**	**-0.6**
PESTR				S	**Sn**	**15 36 32.1**	**-2.4**
PSBE	**So Bento**	**3.32**	**15**	⇓*e*Pn	**Pn**	**15 36 00.4**	**-0.1**
PSBE				*e*Sn	**Sn**	**15 36 35.4**	**-3.3**
PSBE				A	A	15 36 39.5	
comp=E,185nm,0.2s							
AVE	**Averroes**	**3.64**	**145**	P	**Pn**	**15 36 06.0**	**+1.1**
AVE				S	**Sn**	**15 36 45.5**	**-1.0**
AVE	**Averroes**	**3.64**	**145**	S	**Sn**	**15 36 42.6**	**-3.9**
PMRV	**Marv??o**	**3.70**	**32**	*e*Pn	**Pn**	**15 36 05.7**	**0.0**
PMRV				*e*Sn	**Sn**	**15 36 44.6**	**-3.4**
CEU	**Ceuta**	**3.70**	**95**	P	**Pn**	**15 36 05.5**	**-0.1**
CEU				S	**Sn**	**15 36 42.6**	**-5.3**
PCAS	**Casmilo, Conde**	**3.90**	**16**	⇓*e*Pn	**Pn**	**15 36 07.4**	**-1.0**
PCAS				*e*Sn	**Sn**	**15 36 48.6**	**-4.4**
CHEFC	**Chefchaouen**	**3.91**	**107**	P	**Pn**	**15 36 09.4**	**+0.7**
CHEFC				S	**Sn**	**15 36 50.4**	**-2.9**
ZHG	**ZHG**	**3.92**	**136**	P	**Pn**	**15 36 09.1**	**+0.3**
PCBR	**Castelo Branco**	**4.02**	**28**	*e*Pn	**Pn**	**15 36 10.2**	**+0.2**
PCBR				*e*Sn	**Sn**	**15 36 51.9**	**-3.9**
PCBR				A	A	15 36 55.6	
comp=E,122nm,0.8s							
COI	**Coimbra**	**4.07**	**16**	*e*Pn	**Pn**	**15 36 10.7**	**0.0**
COI				*e*Sn	**Sn**	**15 36 53.4**	**-3.6**
COI				A	A	15 36 58.2	
comp=E,160nm,0.1s							
SICH	**Sidi Chahed**	**4.36**	**119**	P	Pn	15 36 17.2	+2.5
SICH				S	**Sn**	**15 37 02.1**	**-2.1**
EMAL	**Malaga-Limoner**	**4.44**	**83**	P	**Pn**	**15 36 17.1**	**+1.3**
EMAL				S	**Sn**	**15 37 04.6**	**-1.6**
MTE	**Manteigas**	**4.49**	**24**	*e*Pn	**Pn**	**15 36 16.3**	**-0.3**
MTE				*e*Sn	**Sn**	**15 37 02.8**	**-4.7**
EAH	**EAH**	**4.66**	**177**	P	**Pn**	**15 36 19.2**	**+0.3**
EAH				S	**Sn**	**15 37 08.0**	**-3.6**
PVIS	**Viseu**	**4.68**	**19**	⇓*e*Pn	**Pn**	**15 36 18.6**	**-0.5**
PVIS				*e*Sn	**Sn**	**15 37 08.3**	**-3.8**
PVIS				A	A	15 37 11.0	
comp=E,146nm,0.3s							
IFR	**Ifrane**	**4.82**	**124**	P	**Pn**	**15 36 20.9**	**-0.3**
IFR				S	**Sn**	**15 37 11.9**	**-3.9**
PTO	**Porto**	**4.93**	**12**	*e*Pn	**Pn**	**15 36 22.0**	**-0.5**
PTO				*e*Sn	**Sn**	**15 37 13.4**	**-4.9**
PALE	**Palemas**	**4.98**	**101**	P	**Pn**	**15 36 23.7**	**+0.4**
PALE				S	**Sn**	**15 37 16.1**	**-3.5**
PVRL	**Vila Real**	**5.25**	**18**	⇑*i*Pn	**Pn**	**15 36 26.5**	**-0.5**
PVRL				*e*Sn	**Sn**	**15 37 20.5**	**-5.7**
PVRL				A	A	15 37 25.3	
comp=E,200nm,0.3s							
POLO	**Lamas de Olo**	**5.32**	**17**	*e*Pn	**Pn**	**15 36 27.2**	**-0.8**
POLO				*e*Sn	**Sn**	**15 37 22.8**	**-5.3**
POLO				A	A	15 37 27.9	
comp=E,35nm,0.2s							
MVO	**Moncorvo**	**5.35**	**24**	*e*Pn	**Pn**	**15 36 27.7**	**-0.7**
MVO				*e*Sn	**Sn**	**15 37 23.8**	**-4.9**
OUK	**Oukaimeden**	**5.37**	**161**	P	**Pn**	**15 36 29.6**	**+0.7**
OUK				S	**Sn**	**15 37 25.0**	**-4.6**
PAB	**San Pablo**	**5.46**	**52**	P	**Pn**	**15 36 29.4**	**-0.5**
MD31	**MD31**	**5.46**	**127**	P	**Pn**	**15 36 29.6**	**-0.4**
MD31				S	**Sn**	**15 37 26.9**	**-4.7**
PCAB	**Cabril**	**5.59**	**15**	*e*Pn	**Pn**	**15 36 30.8**	**-0.9**
PCAB				*e*Sn	**Sn**	**15 37 28.9**	**-5.7**
PCAB				A	A	15 37 33.2	
comp=E,74nm,0.1s							
MDT	**Midelt**	**5.60**	**127**	Pn	**Pn**	**15 36 31.6**	**-0.2**
comp=E,16nm,0.3s,baz=358,slow=1.1,SNR=142							
MDT				Sn	**Sn**	**15 37 30.1**	**-4.9**
comp=E,66nm,0.3s,baz=247,slow=17,SNR=24							
MDT	**Midelt**	**5.60**	**127**	P	**Pn**	**15 36 31.9**	**+0.1**
MDT				S	**Sn**	**15 37 30.6**	**-4.3**
GOG	**Mont Gurugu**	**5.73**	**99**	P	**Pn**	**15 36 32.2**	**-1.4**
GOG				S	**Sn**	**15 37 31.5**	**-6.7**
ESDC	**Sonseca Array**	**5.78**	**53**	Pn	**Pn**	**15 36 33.6**	**-0.7**
comp=E,15nm,0.3s,baz=237,slow=13,SNR=273							
ESDC				Sn	**Sn**	**15 37 35.4**	**-3.8**
comp=E,6.8nm,0.3s,baz=239,slow=24,SNR=28							
ESDC				Lg	Lg	15 38 08.8	
comp=E,2.1nm,0.3s,baz=228,slow=29,SNR=5.1							
PGAV	**Gavieira, Arco**	**5.79**	**12**	*e*Pn	**Pn**	**15 36 33.8**	**-0.7**
PGAV				*e*Sn	**Sn**	**15 37 33.5**	**-6.2**
PGAV				A	A	15 37 36.5	
comp=E,82nm,0.5s							
PBRG	**Braganca**	**6.02**	**23**	*e*Pn	**Pn**	**15 36 36.7**	**-0.8**
PBRG				*e*Sn	**Sn**	**15 37 39.6**	**-5.6**
PBRG				A	A	15 37 44.3	
comp=E,56nm,0.3s							
GOLM	**Goulmima**	**6.17**	**137**	P	**Pn**	**15 36 40.7**	**+0.9**
GOLM				S	Sn	15 37 57.5	+8.5
CHAS	**Isla Isabel II**	**6.19**	**98**	P	Pn	15 36 43.6	+3.8
CHAS				S	**Sn**	**15 37 43.5**	**-5.8**
PMPST	**Porto Santo, M**	**6.19**	**241**	*e*Pn	**Pn**	**15 36 39.4**	**-0.5**
PMPST				*e*Sn	**Sn**	**15 37 45.3**	**-4.1**
PMPST				A	A	15 37 54.3	
comp=E,72nm,0.3s							
PMPS	**Porto Santo**	**6.20**	**240**	*e*Pn	**Pn**	**15 36 39.4**	**-0.6**
PMPS				*e*Sn	**Sn**	**15 37 43.4**	**-6.3**
PMPS				A	A	15 37 56.4	
comp=E,27nm,0.2s							
TAF	**Taforalt**	**6.29**	**102**	P	**Pn**	**15 36 38.7**	**-2.7**
TAF				S	**Sn**	**15 37 50.4**	**-1.6**
JBK	**JBK**	**6.32**	**106**	P	**Pn**	**15 36 41.3**	**-0.5**
UCM	**Universidad Co**	**6.59**	**51**	P	**Pn**	**15 36 46.4**	**+1.0**
UCM				S	**Sn**	**15 37 55.8**	**-3.5**
TZRR	**Tazzarine**	**6.59**	**145**	P	**Pn**	**15 36 45.2**	**-0.3**
TZRR				S	**Sn**	**15 37 59.5**	**0.0**
PMAR	**Madeira**	**6.79**	**240**	*e*Pn	**Pn**	**15 36 47.4**	**-0.9**
PMAR				*e*Sn	Sn	15 37 55.9	-8.6
PMAR				A	A	15 38 05.2	
comp=E,64nm,0.2s							
PMAR	**Madeira**	**6.79**	**240**	P	**Pn**	**15 36 47.2**	**-1.2**
PMAR				S	**Sn**	**15 38 06.6**	**+2.1**
FUL	**Funchal**	**6.82**	**240**	*e*Pn	**Pn**	**15 36 47.1**	**-1.4**
PMOZ	**Porto Moniz, M**	**6.94**	**242**	*e*Pn	**Pn**	**15 36 50.0**	**-0.3**
PMOZ				*e*Sn	**Sn**	**15 38 03.2**	**-4.8**
PMOZ				A	A	15 38 12.6	
comp=E,118nm,0.5s							
ZGR	**Zagora**	**7.14**	**149**	P	**Pn**	**15 36 52.4**	**-0.7**
ZGR				S	**Sn**	**15 38 16.4**	**+3.4**
CART	**Cartagena**	**7.25**	**77**	P	**Pn**	**15 36 53.6**	**-0.8**
CART				S	**Sn**	**15 38 09.4**	**-6.1**
CART	**Cartagena**	**7.25**	**77**	P	**Pn**	**15 36 53.0**	**-1.4**
CART				S	**Sn**	**15 38 14.5**	**-1.0**
TDRA	**Tendrara**	**7.27**	**114**	P	**Pn**	**15 36 54.3**	**-0.5**
TDRA				S	**Sn**	**15 38 08.6**	**-7.6**
FIGM	**Figuig**	**8.29**	**118**	P	**Pn**	**15 37 08.7**	**-0.1**
FIGM				S	**Sn**	**15 38 35.3**	**-5.8**
SJPF	**Ste Jean**	**9.54**	**42**	*e*Pn	**Pn**	**15 37 26.4**	**+0.7**
SJPF				*e*Sn	**Sn**	**15 39 04.4**	**-7.2**
comp=E,6.0nm,0.2s							
ETSF	**Etsaut**	**9.76**	**45**	*e*Pn	**Pn**	**15 37 29.0**	**+0.1**
ETSF				*e*Sn	**Sn**	**15 39 09.1**	**-8.2**
comp=E,8.8nm,0.3s							
EPF	**Esparros**	**10.37**	**47**	*e*Pn	**Pn**	**15 37 37.1**	**0.0**
EPF				*e*Sn	**Sn**	**15 39 24.0**	**-8.0**
comp=E,14nm,0.3s							
MTLF	**Montolieu**	**11.67**	**49**	*e*Pn	**Pn**	**15 37 55.8**	**+0.9**
MTLF				*e*Sn	Sn	15 39 51.1	-13
comp=E,2.0nm,0.3s							
LFF	**La Frestale**	**11.82**	**40**	*e*Pn	**Pn**	**15 37 56.5**	**-0.4**
LFF				*e*Sn	Sn	15 39 57.8	-10
comp=E,4.4nm,0.3s							
RJF	**Les Rejaudoux**	**12.47**	**40**	*e*Pn	**Pn**	**15 38 04.0**	**-1.8**
RJF				*e*Sn	Sn	15 40 13.0	-10
comp=E,3.9nm,0.2s							
CAF	**Calviac**	**12.52**	**43**	*e*Pn	**Pn**	**15 38 03.3**	**-3.2**
CAF				*e*Sn	Sn	15 40 14.7	-10
comp=E,3.4nm,0.4s							
MFF	**Saint Martin d**	**12.62**	**32**	*e*Pn	**Pn**	**15 38 10.0**	**+2.2**
MFF				*e*Sn	Sn	15 40 13.6	-13
comp=E,1.1nm,0.3s							
QUIF	**Quistinic**	**12.63**	**21**	*e*Pn	**Pn**	**15 38 06.2**	**-1.8**
QUIF				*e*Sn	Sn	15 40 15.6	-12
comp=E,1.9nm,0.3s							
LASF	**Ste Croix**	**13.07**	**49**	*e*Pn	**Pn**	**15 38 13.9**	**-0.1**
LASF				*e*Sn	Sn	15 40 25.4	-13
comp=E,0.9nm,0.2s							
SGMF	**Saint Gilles**	**13.11**	**22**	*e*Pn	**Pn**	**15 38 12.7**	**-1.9**
SGMF				*e*Sn	Sn	15 40 26.9	-12
comp=E,1.0nm,0.2s							
TCF	**Toulx Ste Croi**	**13.49**	**39**	*e*Pn	**Pn**	**15 38 17.2**	**-2.6**
TCF				*e*Sn	Sn	15 40 35.2	-13
comp=E,2.3nm,0.3s							
GRR	**Gorron**	**13.79**	**26**	*e*Pn	**Pn**	**15 38 19.9**	**-3.9**
VIVF	**Saint-Julien-l**	**13.98**	**48**	*e*Pn	**Pn**	**15 38 22.5**	**-3.9**
VIVF				*e*Sn	Sn	15 40 42.3	-18
BGF	**Bois d'Agland**	**14.00**	**39**	*e*Sn	Sn	15 40 46.9	-14
comp=E,16nm,0.6s							
LDF	**La Druitiere**	**14.23**	**27**	*e*Pn	**Pn**	**15 38 27.2**	**-2.6**
LDF				*e*Sn	Sn	15 40 54.0	-12
comp=E,0.7nm,0.3s							
FLN	**La Foliniere**	**14.24**	**26**	*e*Pn	**Pn**	**15 38 28.2**	**-1.8**
baz=205							
FLN				*e*Sn	Sn	15 40 52.3	-14
comp=E,0.8nm,0.2s							
AVF	**Avril sur Loir**	**14.41**	**39**	*e*Pn	**Pn**	**15 38 30.9**	**-1.4**
LMR	**La Mourre**	**14.43**	**56**	*e*Pn	Pn	15 38 28.0	-4.6
SSF	**Saint Saulge**	**14.67**	**39**	*e*Pn	**Pn**	**15 38 33.0**	**-2.8**
ORIF	**Oris-en-Rattie**	**14.74**	**49**	*e*Pn	**Pn**	**15 38 37.9**	**+1.0**
LOR	**Lormes**	**14.99**	**39**	*e*Pn	**Pn**	**15 38 40.2**	**+0.1**
baz=215							
LOR				*e*Sn	Sn	15 41 10.2	-15
comp=E,0.3nm,0.2s							
BAIF	**Baives**	**17.13**	**32**	*e*Pn	**Pn**	**15 39 06.3**	**-1.1**
GERES	**GERESS Array B**	**21.33**	**47**	P	**P**	**15 39 55.1**	**+0.3**
comp=E,1.2nm,0.8s,baz=240,slow=11,SNR=9.7							
TORD	**Torodi Ar. Bea**	**25.31**	**153**	P	**P**	**15 40 34.3**	**0.0**
comp=E,2.1nm,1.1s,baz=331,slow=9.8,SNR=9.2							
FINES	**FINESS Array B**	**33.79**	**31**	P	**P**	**15 41 48.4**	**-0.7**
comp=E,2.6nm,1.1s,baz=240,slow=11,SNR=1.9							
PTGA	**Pitinga**	**59.26**	**243**	LR	LR	16 09 15.3	
comp=E,34nm,18.6s,baz=138,slow=35							
YKA	**Yellowknife Ar**	**64.72**	**330**	P	**P**	**15 45 44.3**	**-0.7**
comp=E,0.1nm,0.5s,baz=66,slow=6.5,SNR=2.5							
PDAR	**Pinedale Array**	**72.59**	**310**	P	**P**	**15 46 33.6**	**-1.2**
comp=E,0.2nm,0.5s,baz=67,slow=6.9,SNR=2.5							
ILAR	**Eielson Array**	**73.76**	**342**	P	**P**	**15 46 41.0**	**0.0**
comp=E,0.2nm,0.6s,baz=40,slow=4.2,SNR=1.6							
WRA	**Warramunga Arr**	**144.75**	**72**	PKP	**PKPab**	**15 54 42.1**	**-1.0**
comp=E,0.2nm,0.5s,baz=326,slow=2.6,SNR=10							
ASAR	**Alice Springs**	**146.42**	**78**	PKPbc	**PKPdf**	**15 54 47.6**	**+0.6**
comp=E,0.4nm,0.7s,baz=314,slow=2.6,SNR=7.5							

NNC 23 15:40:38.7±3.9, 37°.47N×71°.01E, $h0^{km}$, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=30.2km s-min=24.6km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**5.64**	**356**	⇑P	Pn	15 42 04.1	+0.3
1.4nm,0.4s,baz=180,slow=13							
KK02				⇑S	Sn	15 43 10.5	+1.2
3.8nm,0.7s,baz=176,slow=22							
AAK	**Ala-Archa**	**5.81**	**26**	⇓P	Pn	15 42 06.3	0.0
1.6nm,0.7s							
AAK				⇑S	Sn	15 43 15.7	+1.9
2.4nm,0.7s							
TKM2	**Tokmak 2**	**6.48**	**31**	⇑P	Pn	15 42 15.3	-0.2
1.5nm,0.6s							
TKM2				⇓S	Sn	15 43 30.2	0.0
1.8nm,0.8s							

*BJI **23** 15:56:55.3±0.0, 43°.06N×146°.13E, $h99^{km}$, mb4.5/38, mB5.0/20*
*MOS **23** 15:56:58.9±0.9, 43°.28N×145°.75E, $h106^{km}$, mb4.8/35, Error ellipse: s-maj=7.5km s-min=4.5km az=109.7*
MOS Felt (II) at Goryachiy Plyazh, Malokuril'skoye, Yuzhno-Kuril'sk.
*SKHL **23** 15:57:00.3±0.5, 43°.30N×145°.80E, $h108^{km}$±6^{km}, mb5.4/9, msha6.1/8*
*IDC **23** 15:57:00.7±1.8, 43°.32N×145°.72E, $h107^{km}$±15^{km}, mb4.3/26, mb1 4.4/28, mb1mx4.3/45, mbtmp4.6/28, MS3.2/11, Ms1 3.2/11, ms1mx2.8/91, Error ellipse: s-maj=13.7km s-min=11.4km az=121.0*
*JMA **23** 15:57:00.6±0.1, 43°.26N×145°.77E, $h94^{km}$±1^{km}, M4.4*
JMA Felt III J1.
*NIED **23** 15:57:00.6, 43°.26N×145°.77E, $h94^{km}$, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.19; $M_{\theta\theta}$0.79; $M_{\phi\phi}$-0.97; $M_{r\theta}$2.87; $M_{\theta\phi}$-1.23; $M_{\phi r}$1.76; Fault plane solution: $M_0$3.67000×10^{15} NP1:ϕ_s62.00000°, δ87.00000°, λ113.00000°. NP2:ϕ_s159.00000°, δ23.00000°, λ7.00000°.*
*NEIC **23** 15:57:00.1±1.7, 43°.25N±0°.04×145°.7E±0°.1, $h101^{km}$±7^{km}, mb4.8/90 Error ellipse: s-maj=14.6km s-min=5.3km az=107.0*

ISC 23 15:56:59.6±0.5, 43°.28N±0°.04×145°.77E±0°.04, $h101^{km}$±3^{km}, $h101^{km}$:pP-pP, n489, σ1°31/549, mb4.7/128, 71C-22D, Fault plane solution: NP1:ϕ_s143.96993°, δ41.41591°, λ16.09820°. NP2:ϕ_s41.75777°, δ79.43044°, λ130.28203°. Principal axes: T Plg41.2986°, Azm349.2414°; N Plg39.4631°, Azm212.9213°; P Plg23.6141°, Azm101.8265°; **Fault plane solution: NP1:**ϕ_s78.68307°, δ79.55004°, λ102.44841°. **NP2:**ϕ_s208.09088°, δ16.19991°, λ40.55064°. **Principal axes:** T Plg53.8313°, Azm3.6508°; N Plg12.2387°, Azm256.3902°; P Plg33.4204°, Azm158.1607°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.09**	**349**	P	**Pn**	**15 57 13.8**	**+0.1**
NEM2				*e*S	**Sn**	**15 57 23.5**	**-0.7**
NMR	**Nemuro--Hokkai**	**0.10**	**343**	⇓*i*PN	**Pn**	**15 57 13.8**	**+0.1**
NMR				*i*S	**Sn**	**15 57 23.5**	**-0.7**
NMR	**Nemuro--Hokkai**	**0.10**	**343**	*i*P	**Pn**	**15 57 13.8**	**+0.1**
NMR				*i*S	**Sn**	**15 57 24.0**	**-0.2**
JKHN	**Kushirohamanak**	**0.48**	**246**	P	**Pn**	**15 57 15.7**	**+0.3**
JKHN				*e*S	**Sn**	**15 57 27.0**	**-0.2**
GLVR	**Golovnino**	**0.49**	**339**	*d*PN	**Pn**	**15 57 15.7**	**+0.3**
GLVR				*i*S	**Sn**	**15 57 28.1**	**+0.7**
GLVR				pmax	pmax		
comp=Z,24μm,0.3s							
GLVR				pmax	pmax		
comp=N,1μm,0.2s							
GLVR				pmax	pmax		
comp=E,2μm,0.3s							
GLVR				smax	smax		
comp=N,72μm,0.3s							
GLVR				smax	smax		
comp=E,67μm,0.3s							
GLVR	**Golovnino**	**0.49**	**339**	*i*P	**Pn**	**15 57 16.0**	**+0.6**
GLVR				AMB	AMB	15 57 16.4	
comp=E,24μm,0.3s							
GLVR				*i*S	**Sn**	**15 57 28.0**	**+0.7**
GLVR				A	A	15 57 28.5	
comp=E,72μm,0.4s							
GLVR				A	A	15 57 28.5	
comp=E,67μm,0.4s							
GRPR	**Tuman**	**0.71**	**0**	*d*PN	**Pn**	**15 57 17.5**	**+0.3**
GRPR				*e*S	**Sn**	**15 57 29.9**	**-0.6**
GRPR				pmax	pmax		
comp=Z,26μm,0.2s							
GRPR				pmax	pmax		
comp=N,2μm,0.3s							
GRPR				pmax	pmax		
comp=E,4μm,0.2s							
GRPR				smax	smax		
comp=N,45μm,0.4s							
GRPR				smax	smax		
comp=E,52μm,0.2s							
GRPR	**Tuman**	**0.71**	**0**	*i*P	**Pn**	**15 57 17.6**	**+0.3**
GRPR				AMB	AMB	15 57 17.9	
comp=E,26μm,0.4s							
GRPR				*e*S	**Sn**	**15 57 30.5**	**0.0**
GRPR				A	A	15 57 31.3	
comp=E,45μm,0.4s							
GRPR				A	A	15 57 31.3	
comp=E,52μm,0.4s							
AKK	**Akkeshi**	**0.72**	**249**	*e*P	**Pn**	**15 57 17.6**	**+0.3**
AKK				*e*S	**Sn**	**15 57 31.0**	**+0.4**
JNSB	**Nemuroshibetsu**	**0.74**	**312**	P	**Pn**	**15 57 17.9**	**+0.4**
JNSB				*e*S	**Sn**	**15 57 31.1**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.76**	**5**	⇓*i*PN	**Pn**	**15 57 17.8**	**+0.2**
YUK				*i*S	**Sn**	**15 57 30.9**	**-0.3**
YUK				pmax	pmax		
comp=Z,14μm,0.4s							
YUK				pmax	pmax		
comp=N,2μm,0.1s							
YUK				pmax	pmax		
comp=E,5μm,0.1s							
YUK				smax	smax		
comp=E,10μm,0.1s							
YUK	**Yuzh-Kuril'sk**	**0.76**	**5**	*i*P	**Pn**	**15 57 18.0**	**+0.4**
YUK				AMB	AMB	15 57 18.5	
comp=E,14μm,0.3s							
YUK				*e*S	**Sn**	**15 57 30.9**	**-0.3**
YUK				A	A	15 57 32.2	
comp=E,28μm,0.4s							
YUK				A	A	15 57 32.2	
comp=E,20μm,0.4s							
JRA	**Rausu**	**0.81**	**325**	P	**Pn**	**15 57 18.7**	**+0.6**
JRA				*e*S	**Sn**	**15 57 32.6**	**+0.6**
JNK	**Nakash**	**0.82**	**292**	P	**Pn**	**15 57 18.4**	**+0.1**
JNK				*e*S	**Sn**	**15 57 31.5**	**-0.8**
JAK	**Akkeshi**	**0.83**	**251**	P	**Pn**	**15 57 18.7**	**+0.4**
JAK				*e*S	**Sn**	**15 57 32.3**	**-0.1**
RUSJ	**Misakicho**	**0.91**	**336**	⇓*i*PN	**Pn**	**15 57 19.8**	**+0.7**
RUSJ				*e*S	**Sn**	**15 57 34.5**	**+0.7**
SHO	**Shikotan**	**0.97**	**52**	*d*PN	**Pn**	**15 57 19.7**	**-0.1**
SHO				*i*S	**Sn**	**15 57 34.0**	**-1.0**
SHO				pmax	pmax		
comp=N,127nm,0.2s							
SHO				pmax	pmax		
comp=E,216nm,0.2s							
SHO				pmax	pmax		
comp=Z,363nm,0.2s							
SHO				smax	smax		
comp=N,8040μm,0.2s							
SHO				smax	smax		
comp=E,14μm,0.2s							
SHO	**Shikotan**	**0.97**	**52**	*i*P	**Pn**	**15 57 19.9**	**+0.1**
SHO				AMB	AMB	15 57 20.2	
comp=E,350nm,0.5s							
SHO				*i*S	**Sn**	**15 57 34.2**	**-0.8**
SHO				A	A	15 57 35.2	
comp=E,9μm,0.5s							
SHO				A	A	15 57 35.2	
comp=E,11μm,0.5s							
JAR	**Ashorobuto**	**1.46**	**271**	P	**Pn**	**15 57 26.3**	**+0.9**
JAR				*e*S	**Sn**	**15 57 45.2**	**+0.3**
JOB	**Onbets**	**1.46**	**256**	P	**Pn**	**15 57 26.3**	**+0.9**
JOB				*e*S	**Sn**	**15 57 45.1**	**+0.1**
JTKR	**Abashiri--Toko**	**1.52**	**298**	P	**Pn**	**15 57 27.0**	**+0.9**
JTKR				*e*S	**Sn**	**15 57 46.9**	**+0.7**
JCH	**Churui**	**1.89**	**250**	P	**Pn**	**15 57 31.3**	**+0.6**
JCH				*e*S	**Sn**	**15 57 53.8**	**-0.7**
JMP	**Maruseppu**	**1.89**	**293**	P	**Pn**	**15 57 31.9**	**+1.1**
ERM	**Erimo**	**2.30**	**238**	*c*PN	**Pn**	**15 57 38.0**	**+1.9**
ERM				pmax	pmax		
comp=Z,580nm,1.0s							
ERM	**Erimo**	**2.30**	**238**	Pn	**Pn**	**15 57 36.9**	**+0.8**
JEM	**Erimo**	**2.30**	**238**		**Pn**	**15 57 37.1**	**+1.0**
JKA	**Kamikawa-asahi**	**2.44**	**291**	Pn	**Pn**	**15 57 39.9**	**+1.9**
JKA	**Kamikawa-asahi**	**2.44**	**291**	*e*P	**Pn**	**15 57 39.9**	**+1.9**
ASAJ	**Asahikawa**	**2.45**	**291**	P	**Pn**	**15 57 39.9**	**+1.9**
comp=Z,584nm,0.3s,baz=109,slow=10,SNR=2304							
ASAJ				S	Sn	15 58 16.9	+9.4
comp=Z,108nm,0.3s,baz=76,slow=32,SNR=2.5							
ASAJ				LR	LR	15 58 26.7	
comp=Z,281nm,19.5s,baz=100,slow=36							
KUR	**Kuril'sk**	**2.47**	**37**	*c*PN	**Pn**	**15 57 39.6**	**+1.3**
KUR				*i*S	**Sn**	**15 58 09.1**	**+1.2**
KUR				pmax	pmax		
comp=Z,897nm,0.4s							
KUR				pmax	pmax		
comp=E,180nm,0.5s							
KUR				pmax	pmax		
comp=N,146nm,0.6s							
KUR				smax	smax		
comp=E,2μm,0.5s							
KUR				smax	smax		
comp=N,1μm,0.2s							
KUR				smax	smax		
comp=Z,3μm,5.0s							
KUR	**Kuril'sk**	**2.47**	**37**	*i*P	**Pn**	**15 57 39.5**	**+1.3**
KUR				AMB	AMB	15 57 40.2	
comp=Z,1μm,0.4s							
KUR				*i*S	**Sn**	**15 58 09.4**	**+1.5**
KUR				A	A	15 58 11.1	
comp=Z,1μm,0.3s							
KUR				A	A	15 58 11.1	
comp=Z,2μm,0.3s							
JEW	**Eniwo**	**3.19**	**264**	Pn	**Pn**	**15 57 49.4**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.25**	**331**	*e*PN	**Pn**	**15 58 03.6**	**+1.5**
YSS				*e*S	**Sn**	**15 58 51.1**	**+0.6**
YSS				pmax	pmax		
comp=Z,130nm,0.5s							
YSS				pmax	pmax		
comp=Z,300nm,3.8s							
YSS				smax	smax		
comp=E,400nm,1.7s							
YSS				smax	smax		
comp=N,270nm,1.0s							
YSS				MLR	MLR		
comp=Z,700nm,17.0s							
YSS	**Yuzh-Sakhalins**	**4.25**	**331**	Pn	**Pn**	**15 58 03.1**	**+1.0**
YSS	**Yuzh-Sakhalins**	**4.25**	**331**	*e*P	**Pn**	**15 58 03.0**	**+1.0**
YSS				AMB	AMB	15 58 07.4	
comp=Z,110nm,0.5s							
YSS				*e*S	**

GRNR MLR MLR
comp=N,60nm,13.0s
GRNR MLR MLR
comp=Z,140nm,14.0s
GRNR Gornyy 9.83 323 AMB AMB 15 00 25.0
comp=Z,10.0nm,0.7s
GRNR *e*P **Pn 15 59 22.1 +4.2**
USRK Ussuriysk Ar. 10.02 280 P **Pn 15 59 19.6 -0.8**
baz=71,slow=13,SNR=1.5
USRK LR LR 16 03 07.7
comp=Z,51nm,19.6s,baz=65,slow=37
SKR Severo-Kuril's 10.23 40 *e*P **Pn 15 59 23.2 -0.1**
NKL Nikolayevsk 10.44 343 *e*P **Pn 15 59 26.3 +0.2**
PAU Pauzhetka 11.09 39 *e*P **Pn 15 59 34.4 -0.5**
KLR Kul'dur 11.38 306 P **Pn 15 59 40.4 +1.6**
comp=Z,0.4nm,0.3s,baz=111,slow=17,SNR=6.9
KLR LR LR 16 04 40.9
comp=Z,25nm,18.2s,baz=52,slow=41
KLR Kul'dur 11.38 306 *i* PN **Pn 15 59 38.6 -0.2**
KLR pmax pmax
comp=Z,23nm,1.0s
KLR Kul'dur 11.38 306 *e*P **Pn 15 59 38.6 -0.2**
PETK Petropavlovsk- 12.63 35 P **Pn 15 59 53.5 -1.9**
comp=Z,0.6nm,0.3s,baz=177,slow=10,SNR=17
BNX BinXian 13.34 287 ⇑P **Pn 16 00 04.5 -0.2**
BNX pmax pmax
comp=Z,16nm,0.9s
BNX pmax pmax
comp=Z,510nm,4.0s
KSRS Korea Array 14.79 253 P **Pn 16 00 23.1 -0.3**
comp=Z,0.0nm,0.3s,baz=341,slow=19,SNR=1.2
ZEA Zeya 16.07 317 *e*P **Pn 16 00 39.8 +0.3**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA Zeya 16.07 317 *e*P **Pn 16 00 39.8 +0.3**
ZEA AMB AMB 16 00 42.2
comp=Z,10.0nm,0.8s
MA2 Magadan 16.61 9 *ce*P **Pn 16 00 44.0 -2.0**
MA2 pmax pmax
comp=Z,6.0nm,0.7s
MA2 Magadan 16.61 9 P **Pn 16 00 43.6 -2.4**
MA2 Magadan 16.61 9 *e*P **Pn 16 00 44.0 -2.0**
DL2 Dalian 18.69 265 P **P 16 01 03.8 -6.0**
DL2 pmax pmax
comp=Z,72nm,1.6s
SEY Seymchan 20.06 9 P **P 16 01 21.9 -2.6**
comp=Z,7.7nm,0.6s,baz=188,slow=9.2,SNR=56
YAK Yakutsk 21.05 339 P **P 16 01 31.5 -3.5**
comp=Z,9.7nm,0.3s,baz=330,slow=2.9,SNR=14
YAK LR LR 16 09 03.7
comp=Z,50nm,19.0s,baz=270,slow=34
YAK Yakutsk 21.05 339 *e*P **P 16 01 31.2 -3.9**
YAK *e*S **S 16 05 21.4 -2.1**
YAK *e* 16 05 33.5
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax smax
comp=N,101nm,3.8s
YAK smax smax
comp=E,91nm,4.1s
YAK Yakutsk 21.05 339 P **P 16 01 29.9 -5.1**
YAK IAmb IAmb 16 01 33.3
comp=Z,28nm,0.8s
XLT XiLinHaoTe 21.46 282 *e*P **P 16 01 39.3 -0.5**
XLT pP pP 16 01 58.8 -0.5
XLT pmax pmax
comp=Z,15nm,0.9s
NJ2 Nanjing 23.97 251 *e*P **P 16 02 04.6 +0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
HNS HongShan 24.30 267 ⇓P **P 16 02 09.6 +2.1**
HHC Hu-ho-hao-te 25.41 276 *e*P **P 16 02 17.4 -0.2**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,220nm,5.4s
BILL Bilibino 27.10 17 *e*P **P 16 02 31.2 -1.2**
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL Bilibino 27.10 17 P **P 16 02 30.4 -2.0**
BILL Bilibino 27.10 17 *e*P **P 16 02 31.2 -1.2**
ULN Ulaanbaatar 27.28 293 *ce*P **P 16 02 34.7 +0.2**
ULN pmax pmax
comp=Z,14nm,0.8s
ULN Ulaanbaatar 27.28 293 P **P 16 02 33.7 -0.8**
ULN Ulaanbaatar 27.28 293 *e*P **P 16 02 34.7 +0.2**
SONM Songino Array 27.73 293 P **P 16 02 39.3 +0.9**
comp=Z,21nm,0.8s,baz=83,slow=8.3,SNR=114
SONM LR LR 16 14 53.8
comp=Z,26nm,21.6s,baz=120,slow=39
SONM Songino Array 27.73 293 P **P 16 02 39.6 +1.1**
SONM pmax pmax
comp=Z,21nm,0.8s
SONM Songino Array 27.73 293 P **P 16 02 39.6 +1.1**
SONM IAmb IAmb 16 02 40.5
comp=Z,20nm,0.8s
H11N2 WAKE ISLAND Hy 29.43 136 T T 16 33 59.2
baz=328,slow=75
H11N1 WAKE ISLAND Hy 29.44 136 T T 16 34 00.8
baz=328,slow=75
H11N3 WAKE ISLAND Hy 29.45 136 T T 16 34 00.6
baz=328,slow=75
ZAK Zakamensk 29.59 299 *e*P **P 16 02 55.6 +0.7**
ZAK pmax pmax
comp=Z,16nm,1.0s
ZAK Zakamensk 29.59 299 *e*P **P 16 02 55.6 +0.7**
TIXI Tiksi 29.63 349 *i* P **P 16 02 54.6 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.5s
TIXI Tiksi 29.63 349 *e*P **P 16 02 54.6 -0.2**
XAN Xi'an 30.01 265 P **P 16 02 55.8 -2.9**
XAN pmax pmax
comp=Z,8.0nm,1.6s
H11S1 WAKE ISLAND Hy 30.37 138 T T 16 35 13.7
baz=329,slow=76
H11S3 WAKE ISLAND Hy 30.37 138 T T 16 35 11.9
baz=329,slow=76
H11S2 WAKE ISLAND Hy 30.38 138 T T 16 35 09.9
baz=329,slow=76
MOY Mondy 30.98 302 *e*P **P 16 03 07.9 +0.7**
MOY Mondy 30.98 302 *e*P **P 16 03 07.9 +0.7**
TNA Tin City 33.79 33 P **P 16 03 32.2 +0.8**
TNA IAmb IAmb 16 03 33.5
comp=Z,15nm,1.0s
TNA Tin City 33.79 33 P **P 16 03 32.4 +1.1**
baz=252,SNR=9.8
GTA Gaotai 34.38 280 *e*P **P 16 03 38.1 +1.1**
GTA pP pP 16 04 00.8 +1.0
GTA sP sP 16 04 12.8 +1.3
GTA pmax pmax
comp=Z,3.0nm,1.2s
ANM Nome 34.55 35 P **P 16 03 38.8 +0.8**
ANM pmax pmax
comp=Z,10.0nm,1.1s
ANM Nome 34.55 35 P **P 16 03 38.8 +0.8**
ANM Nome 34.55 35 P **P 16 03 39.5 +1.5**
baz=256,SNR=6.2
CD2 Chengdu 35.35 264 *e*P **P 16 03 43.6 -1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
RDOG Red Dog Mine 36.43 30 P P 16 04 05.8 +12
baz=254
GCSA Galena City Sc 38.18 36 P **P 16 04 09.4 +0.6**
baz=264,SNR=11
TTA Tatalina 38.43 39 P **P 16 04 12.5 +1.5**
TTA pmax pmax
comp=Z,5.0nm,0.7s
TTA Tatalina 38.43 39 P **P 16 04 12.5 +1.5**
TTA Tatalina 38.43 39 P **P 16 04 12.1 +1.0**
baz=267,SNR=6.0
L19K White Mountain 38.94 40 P **P 16 04 17.0 +1.8**
baz=269
NRIK Noril'sk 39.18 331 P **P 16 04 15.2 -1.8**
comp=Z,2.5nm,0.4s,baz=113,slow=5.3,SNR=5.9
NRIK Noril'sk 39.18 331 *i* P **P 16 04 15.0 -2.0**
NRIK pmax pmax
comp=Z,2.0nm,0.7s
NRIK Noril'sk 39.18 331 P **P 16 04 15.1 -2.0**
GOMU GeErMu 39.30 277 P **P 16 04 20.3 +1.3**
GOMU pmax pmax
comp=Z,11nm,0.8s
GOMU pmax pmax
comp=Z,87nm,7.5s
PZH PanZhiHua 39.31 259 P **P 16 04 18.8 0.0**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.2s
J20K Nowinta River 39.32 37 P **P 16 04 20.1 +1.7**
J20K Nowinta River 39.32 37 P **P 16 04 20.0 +1.7**
baz=268
K20K Telida 39.33 38 P **P 16 04 19.5 +1.1**
K20K IAmb IAmb 16 04 21.3
comp=Z,8.7nm,0.8s
K20K Telida 39.33 38 P **P 16 04 20.3 +1.9**
baz=269
L20K Farewell, AK 39.40 39 P **P 16 04 20.9 +1.9**
baz=270
A21K Barrow 39.40 25 P **P 16 04 18.8 -0.1**
A21K Barrow 39.40 25 P **P 16 04 19.1 +0.2**
baz=256,SNR=19
IMAR Indian Mountai 39.60 34 P **P 16 04 21.2 +0.6**
DGZ Jazzator, Alta 39.78 300 *i* P **P 16 04 23.3 +0.7**
DGZ pmax pmax
comp=Z,5.0nm,1.1s
H21K Melozitna Rive 39.97 35 P **P 16 04 25.1 +1.4**
H21K IAmb IAmb 16 04 26.1
comp=Z,21nm,1.1s
H21K Melozitna Rive 39.97 35 P **P 16 04 25.1 +1.4**
baz=267
CHUM Lake Minchumin 40.12 37 P **P 16 04 26.9 +1.9**
baz=270,SNR=9.3
PPLA Purkeypile 40.18 39 P **P 16 04 27.6 +2.0**
PPLA IAmb IAmb 16 04 34.2
comp=Z,18nm,1.1s
PPLA Purkeypile 40.18 39 P **P 16 04 28.0 +2.4**
baz=271
CAST Castle Rocks 40.22 38 P **P 16 04 27.0 +1.2**
CAST IAmb IAmb 16 04 29.3
comp=Z,15nm,0.6s
CAST Castle Rocks 40.22 38 P **P 16 04 27.8 +1.9**
baz=270,SNR=11
I21K Tanana 40.29 35 P **P 16 04 27.3 +1.0**
I21K IAmb IAmb 16 04 30.2
comp=Z,7.6nm,0.7s
I21K Tanana 40.29 35 P **P 16 04 28.1 +1.8**
baz=268
ZAA0 Zalesovo Array 40.48 307 P **P 16 04 26.8 -1.3**
ZALV Zalesovo Beam 40.48 307 P **P 16 04 28.1 +0.1**
comp=Z,3.0nm,0.4s,baz=92,slow=9.0,SNR=25
ZALV PcP **PcP 16 06 29.6 +0.9**
comp=Z,2.8nm,0.5s,baz=92,slow=3.2,SNR=8.3
ZALV Zalesovo Beam 40.48 307 P **P 16 04 26.9 -1.2**
KTH Kantishna Hill 40.74 38 P **P 16 04 29.8 -0.4**
KTH IAmb IAmb 16 04 33.3
comp=Z,17nm,0.7s
SUA Susitna One 40.91 41 P **P 16 04 32.6 +1.0**
SUA Susitna One 40.91 41 P **P 16 04 32.7 +1.1**
baz=274
TRF Thorofare Moun 41.03 38 P **P 16 04 32.7 +0.1**
TRF IAmb IAmb 16 04 36.5
comp=Z,12nm,0.9s
TRF Thorofare Moun 41.03 38 P **P 16 04 34.3 +1.7**
baz=272,SNR=5.3
COLD Coldfoot 41.09 32 P **P 16 04 33.5 +0.7**
COLD Coldfoot 41.09 32 P **P 16 04 34.3 +1.4**
baz=268,SNR=7.7
WMQ Urumqi 41.33 292 *e*P **P 16 04 36.4 +1.1**
WMQ pP pP 16 04 56.3 -2.4
WMQ sP sP 16 05 09.5 -0.8
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,22nm,3.8s
WMQ LR LR
comp=Z,120nm,19.9s
WMQ LR LR
comp=Z,310nm,27.5s
WMQ LR LR
comp=Z,56nm,23.7s
BWN Browne 41.37 37 P **P 16 04 37.6 +2.3**
I23K Minto, Yukon-K 41.40 35 P **P 16 04 36.6 +1.2**
I23K IAmb IAmb 16 04 38.4
comp=Z,14nm,0.7s
I23K Minto, Yukon-K 41.40 35 P **P 16 04 37.2 +1.8**
baz=271,SNR=14
RC01 Rabbit Creek A 41.42 42 P **P 16 04 36.1 +0.4**
RC01 IAmb IAmb 16 04 38.4
comp=Z,8.0nm,0.6s
RC01 Rabbit Creek A 41.42 42 P **P 16 04 37.0 +1.3**
baz=275
O22K Cooper Landing 41.49 42 P **P 16 04 38.1 +1.9**
baz=276
NEA2 Nenana 41.53 36 P **P 16 04 38.0 +1.4**
NEA2 Nenana 41.53 36 P **P 16 04 38.2 +1.6**
baz=272,SNR=19
MCK McKinley 41.62 37 P **P 16 04 37.6 +0.3**
MCK pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 41.62 37 P **P 16 04 37.6 +0.3**
MCK McKinley 41.62 37 P **P 16 04 38.4 +1.1**
baz=273,SNR=7.5
RND Reindeer 41.67 38 P **P 16 04 38.5 +0.7**
RND pmax pmax
comp=Z,11nm,0.8s
RND Reindeer 41.67 38 P **P 16 04 38.5 +0.7**
RND IAmb IAmb 16 04 41.5
comp=Z,11nm,0.8s
GHO Glory Hole Cre 41.76 40 P **P 16 04 39.4 +0.9**
GHO IAmb IAmb 16 04 44.7
comp=Z,12nm,1.0s
MDM Murphy Dome 41.88 36 P **P 16 04 40.3 +0.9**
MDM IAmb IAmb 16 04 42.7
comp=Z,18nm,0.8s
WRH Wood River Hil 41.96 36 P **P 16 04 41.5 +1.5**
H24K Noodor Dome 42.00 34 P **P 16 04 42.7 +2.2**
H24K IAmb IAmb 16 04 42.9
comp=Z,12nm,0.7s
H24K Noodor Dome 42.00 34 P **P 16 04 42.4 +1.9**
baz=271
KNK Knik Glacier 42.01 41 P **P 16 04 42.2 +1.7**
KNK IAmb IAmb 16 04 43.7
comp=Z,12nm,0.6s
KNK Knik Glacier 42.01 41 P **P 16 04 41.8 +1.3**
baz=276
SML Sawmill 42.03 40 P **P 16 04 41.9 +1.1**
SML IAmb IAmb 16 04 43.8
comp=Z,28nm,1.1s
SML Sawmill 42.03 40 P **P 16 04 41.8 +1.1**
baz=275
ZSN Zaisan 42.03 298 *e*P **P 16 04 41.5 +0.6**
ZSN Zaisan 42.03 298 *e*P **P 16 04 41.6 +0.6**
baz=298
TCOL CIGO, IUAF Yank 42.04 36 P **P 16 04 43.3 +2.7**
baz=272,SNR=5.3
COLA College 42.04 36 *i* P **P 16 04 41.2 +0.5**
COLA pmax pmax
comp=Z,24nm,0.8s
CCB Clear Creek Bu 42.07 36 P **P 16 04 42.2 +1.3**
PWL Port Wells 42.13 42 P **P 16 04 43.5 +2.0**
baz=276
POKR Poker Plat Res 42.21 35 P **P 16 04 43.8 +1.7**
POKR IAmb IAmb 16 04 45.8
comp=Z,15nm,0.7s
POKR Poker Plat Res 42.21 35 P **P 16 04 44.2 +2.1**
baz=272,SNR=21
HDA Harding Lake 42.46 36 P **P 16 04 44.0 0.0**
HDA Harding Lake 42.46 36 P **P 16 04 44.6 +0.6**
baz=274,SNR=16
IL31 42.46 36 P **P 16 04 45.0 +1.0**
IL31 IAmb IAmb 16 04 47.6
comp=Z,12nm,0.6s
ILAR Eielson Array 42.46 36 P **P 16 04 44.9 +0.8**
comp=Z,5.1nm,0.4s,baz=243,slow=4.6,SNR=109
ILAR ScP **ScP 16 10 15.3 -1.0**
comp=Z,0.3nm,0.8s,baz=269,slow=3.7,SNR=1.9
ILAR Eielson Array 42.46 36 P **P 16 04 45.3 +1.2**
SCM Sheep Creek Mo 42.50 40 P **P 16 04 45.9 +1.3**
SCM pmax pmax
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 42.50 40 P **P 16 04 45.9 +1.3**
SCM IAmb IAmb 16 04 51.0
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 42.50 40 P **P 16 04 46.6 +2.0**
baz=276
PRP Porcupine Dome 42.99 35 P **P 16 04 50.4 +1.9**
PRP Porcupine Dome 42.99 35 P **P 16 04 50.7 +2.2**
baz=274,SNR=17
M24K Tolsona, Glenn 43.01 40 P **P 16 04 50.7 +2.0**
baz=277
FYU Fort Yukon 43.05 33 P **P 16 04 50.1 +1.3**
KLU Klutina 43.21 41 P **P 16 04 51.3 +1.0**
KLU IAmb IAmb 16 04 55.5
comp=Z,10nm,0.8s
KLU Klutina 43.21 41 P **P 16 04 51.8 +1.5**
baz=278
BMAR Burnt Mountain 43.27 32 P **P 16 04 52.2 +1.6**
RIDG Independent Ri 43.43 37 P **P 16 04 53.1 +1.1**
RIDG IAmb IAmb 16 04 56.5
comp=Z,10nm,0.7s
RIDG Independent Ri 43.43 37 P **P 16 04 53.3 +1.3**
baz=276
HARP HAARP 43.45 39 P **P 16 04 54.2 +2.0**
baz=277
SCRK Sand Creek 43.79 37 P **P 16 04 55.7 +0.8**
SCRK IAmb IAmb 16 04 57.2
comp=Z,13nm,0.6s
SCRK Sand Creek 43.79 37 P **P 16 04 55.7 +0.8**
baz=277,SNR=14
DOT Dot Lake 43.79 37 P **P 16 04 55.0 +0.2**
DOT IAmb IAmb 16 04 57.8
comp=Z,6.5nm,0.6s
J26L Joseph Creek 43.91 36 P **P 16 04 56.0 +0.1**
J26L Joseph Creek 43.91 36 P **P 16 04 56.5 +0.6**
baz=276
MK31 Makanchi Array 43.91 298 P **P 16 04 57.0 +1.0**
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 43.91 298 P **P 16 04 57.0 +1.0**
MK31 IAmb IAmb 16 04 57.6
comp=Z,9.5nm,0.7s
MKAR Makanchi Array 43.91 298 P **P 16 04 56.6 +0.6**
comp=Z,7.8nm,0.5s,baz=81,slow=9.4,SNR=157
MKAR PcP **PcP 16 06 41.1 +0.8**
comp=Z,1.1nm,0.8s,baz=38,slow=2.7,SNR=1.8
MKAR Makanchi Array 43.91 298 P **P 16 04 56.5 +0.5**
MENT Mentasta 44.04 38 P **P 16 04 58.7 +1.9**
MENT IAmb IAmb 16 05 01.3
comp=Z,9.3nm,0.5s
MAKZ Makanchi 44.11 298 P **P 16 04 58.2 +0.6**
MAKZ pmax pmax
comp=Z,13nm,1.0s
MAKZ Makanchi 44.11 298 P **P 16 04 58.2 +0.6**
MAKZ IAmb IAmb 16 04 59.2
comp=Z,13nm,1.0s
L26K Log Cabin Wild 44.19 38 P **P 16 05 00.4 +2.3**
L26K IAmb IAmb 16 05 00.8
comp=Z,11nm,0.7s
L26K Log Cabin Wild 44.19 38 P **P 16 05 00.4 +2.3**
baz=278,SNR=5.1
M26K Nabesna, AK 44.45 39 P **P 16 05 02.1 +2.0**
M26K IAmb IAmb 16 05 05.4
comp=Z,11nm,0.8s
M26K Nabesna, AK 44.45 39 P **P 16 05 02.5 +2.3**
baz=279
L27K Beaver Creek, 44.87 38 P **P 16 05 05.3 +1.9**
L27K Beaver Creek, 44.87 38 P **P 16 05 05.6 +2.2**
baz=279
BCAR Beaver Creek A 44.89 38 P **P 16 05 05.1 +1.5**
EGAK Eagle 44.90 36 P **P 16 05 04.6 +1.0**
EGAK IAmb IAmb 16 05 06.1
comp=Z,12nm,0.6s
EGAK Eagle 44.90 36 P **P 16 05 04.6 +1.0**
baz=278,SNR=12
KURK Kurchatov 44.96 304 *i* P **P 16 05 04.7 +0.5**
KURK pmax pmax
comp=Z,13nm,0.5s
KURK Kurchatov 44.96 304 P **P 16 05 04.8 +0.6**
KURK IAmb IAmb 16 05 05.7
comp=Z,20nm,0.9s
KURK Kurchatov 44.96 304 *e*P **P 16 05 04.7 +0.5**
M27K Edge Creek, AK 44.97 39 P **P 16 05 06.2 +1.8**
M27K IAmb IAmb 16 05 10.0
comp=Z,16nm,0.9s
M27K Edge Creek, AK 44.97 39 P **P 16 05 06.6 +2.2**
baz=280
KURBB Kurchatov Arra 45.04 304 P **P 16 05 05.2 +0.3**
BVCY Beaver Creek 45.42 39 P **P 16 05 09.7 +1.8**
baz=281
YUK3 Moose Creek 45.73 40 P **P 16 05 11.4 +0.9**
baz=282
DAWY Dawson 45.77 36 P **P 16 05 11.7 +1.1**
DAWY Dawson 45.77 36 P **P 16 05 11.7 +1.1**
baz=280
I29M Ogilvie Camp, 46.00 34 P **P 16 05 13.8 +1.5**
I29M Ogilvie Camp, 46.00 34 P **P 16 05 14.1 +1.8**
baz=280,SNR=30
TDK Taldyqorghan 47.09 297 *e*P **P 16 05 21.8 +0.7**
TDK pmax pmax
comp=Z,14nm,0.6s
TDK Taldyqorghan 47.09 297 *e*P **P 16 05 21.9 +0.7**
comp=Z,14nm,0.6s,baz=297
M30M Minto, Yukon 47.23 38 P **P 16 05 24.2 +2.2**
M30M Minto, Yukon 47.23 38 P **P 16 05 24.3 +2.3**
baz=284
INK Inuvik 47.31 30 P **P 16 05 23.4 +0.9**
comp=Z,6.8nm,0.4s,baz=295,slow=6.8,SNR=79
INK Inuvik 47.31 30 P **P 16 05 23.6 +1.2**
INK pmax pmax
comp=Z,8.0nm,0.6s
INK Inuvik 47.31 30 P **P 16 05 23.6 +1.2**
INK IAmb IAmb 16 05 24.0
comp=Z,8.2nm,0.6s
INK Inuvik 47.31 30 P **P 16 05 23.6 +1.2**
baz=281,SNR=13
ZHN Zhinishke 47.81 294 *e*P **P 16 05 27.5 +0.7**
ZHN Zhinishke 47.81 294 *e*P **P 16 05 27.6 +0.7**
baz=294
SATY Saty 47.87 294 *e*P **P 16 05 27.9 +0.6**
SATY Saty 47.87 294 *e*P **P 16 05 27.9 +0.6**
baz=294
N31M Braeburn, Yuko 47.97 39 P **P 16 05 30.2 +2.5**
baz=286
M31M Drury Creek, Y 48.41 38 P **P 16 05 33.0 +1.9**
baz=286
CHKK Chushkaly 48.48 296 *e*P **P 16 05 32.2 +0.3**
baz=296
WHY Whitehorse 48.63 40 P **P 16 05 34.8 +2.0**
baz=287
MDOK Medeo 48.73 295 *e*P **P 16 05 34.4 +0.5**
MDOK Medeo 48.73 295 *e*P **P 16 05 34.5 +0.5**
baz=295
MDOK *i* pP **pP 16 06 00.3 +2.3**
baz=295
BRZS Berezniki 48.79 305 *e*P **P 16 05 34.4 +0.3**
BRZS pmax pmax
comp=Z,13nm,0.6s
BRZS Berezniki 48.79 305 *e*P **P 16 05 34.5 +0.3**
comp=Z,14nm,0.6s,baz=305
FARO Faro, Yukon 48.87 38 P **P 16 05 36.6 +2.0**
baz=287
KUU Kurty 48.89 296 *e*P **P 16 05 34.7 -0.3**
KUU pmax pmax
comp=Z,7.0nm,0.7s
KUU Kurty 48.89 296 *e*P **P 16 05 34.7 -0.3**
comp=Z,7.0nm,0.7s,baz=296
BRVK Borovoye 49.07 309 *ce*P **P 16 05 35.9 -0.3**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 49.07 309 P **P 16 05 36.3 +0.1**
BRVK IAmb IAmb 16 05 37.9
comp=Z,11nm,1.1s
BRVK Borovoye 49.07 309 *e*P **P 16 05 35.9 -0.3**
A36M Sachs Harbour 49.22 24 P **P 16 05 37.9 +0.9**
A36M IAmb IAmb 16 05 39.5
comp=Z,16nm,0.9s
A36M Sachs Harbour 49.22 24 P **P 16 05 37.9 +0.9**
baz=285,SNR=13
OTUK Ortayu 49.66 303 P **P 16 05 41.3 +0.5**
P33M Teslin, Yukon 49.74 40 P **P 16 05 43.0 +1.7**
P33M Teslin, Yukon 49.74 40 P **P 16 05 43.2 +1.9**
baz=289
BOOM Boomskoye usch 49.76 295 P **P 16 05 42.5 +0.7**
BOOM pmax pmax
comp=Z,12nm,0.8s
BOOM Boomskoye usch 49.76 295 P **P 16 05 42.5 +0.7**
BOOM IAmb IAmb 16 05 44.0
comp=Z,12nm,0.8s
TKM2 Tokmak 2 49.80 295 P **P 16 05 43.4 +1.2**
SNR=17
TKM2 Tokmak 2 49.80 295 P **P 16 05 43.0 +0.9**
BTLS Baital 49.90 298 *e*P **P 16 05 42.5 -0.1**

BTLS	Baital	49.90 298	*e*P	P	16 05 42.5	-0.1
	baz=298					
GUN	Gumba	50.03 273	*e*P	P	16 05 45.0	+0.7
	comp=Z,29nm,0.6s					
SGDS	Sogindy	50.20 296	*e*P	P	16 05 45.4	+0.4
	baz=296					
SGDS			*e*pP	pP	16 06 08.8	-0.3
	baz=296					
KBK	Karagaybulak	50.34 295	P	P	16 05 47.5	+1.2
	SNR=9.3					
C36M	Paulatuk	50.36 27	P	P	16 05 46.5	+0.8
C36M			IAmb	IAmb	16 05 47.7	
	comp=Z,12nm,0.7s					
C36M	Paulatuk	50.36 27	P	P	16 05 46.5	+0.8
	baz=289,SNR=12					
USP	Ospenovka	50.37 296	P	P	16 05 47.3	+1.1
	SNR=9.1					
KKN	Kakani	50.54 273	*e*P	P	16 05 48.8	+0.9
	comp=Z,3.3nm,0.3s					
PKI	Pulchoki	50.57 273	*e*P	P	16 05 48.4	+0.1
	comp=Z,5.6nm,0.6s					
PKIN	Phulchoki	50.57 273	*e*P	P	16 05 48.4	+0.1
	comp=Z,4.3nm,0.5s					
AAK	Ala-Archa	50.65 295	P	P	16 05 49.4	+0.9
	SNR=5.8					
AAK	Ala-Archa	50.65 295	*ce*P	P	16 05 49.4	+0.9
AAK			pmax	pmax		
	comp=Z,6.0nm,2.5s					
AAK	Ala-Archa	50.65 295	P	P	16 05 48.5	0.0
AAK			IAmb	IAmb	16 05 49.7	
	comp=Z,3.9nm,0.5s					
AAK	Ala-Archa	50.65 295	*e*P	P	16 05 49.4	+0.9
DMN	Daman	50.77 273	*e*P	P	16 05 50.3	+0.6
GKN	Gorkha	50.89 274	*e*P	P	16 05 51.0	+0.5
	comp=Z,9.7nm,0.4s					
KSH	Kashi	51.09 291	P	P	16 05 56.0	+4.2
KSH			pmax	pmax		
	comp=Z,4.0nm,0.8s					
EKS2	Erkin-Say	51.11 296	P	P	16 05 53.0	+1.0
	SNR=10.0					
DANN	Dangsing	51.33 275	*e*P	P	16 05 55.1	+1.2
	comp=Z,58nm,0.7s					
AML	Almayashu	51.41 295	P	P	16 05 55.6	+1.2
	SNR=7.2					
KOLN	Koldanda	51.77 274	*e*P	P	16 05 57.9	+0.8
	comp=Z,4.6nm,0.4s					
PYUN	Piuthan	52.03 275	*e*P	P	16 05 59.7	+0.6
	comp=Z,6.0nm,0.3s					
DZA	Taraz	52.61 297	*e*P	P	16 06 03.3	+0.4
DZA	Taraz	52.61 297	*e*P	P	16 06 03.4	+0.4
	baz=297					
SVE	Sverdlovsk	52.79 317	*e*P	P	16 06 04.2	+0.2
SVE			pmax	pmax		
	comp=Z,28nm,1.1s					
SVE	Sverdlovsk	52.79 317	*e*P	P	16 06 04.2	+0.2
KKAR	Karatay Array	53.04 298	P	P	16 06 06.5	+0.4
KKAR	Karatay Array	53.04 298	P	P	16 06 06.5	+0.4
EUNU	Eureka	53.50 10	P	P	16 06 08.9	-0.1
IUG	Iuzhnay	53.81 297	*e*P	P	16 06 12.2	+0.4
IUG			*e**PP	pP	16 06 35.9	-0.3
IUG	Iuzhnay	53.81 297	*e*P	P	16 06 12.2	+0.4
	baz=297					
IUG			*e*pP	pP	16 06 36.0	-0.3
	baz=297					
ARU	Arti	54.00 317	*c i*P	P	16 06 12.8	0.0
ARU			*PP	pP	16 06 37.8	+0.5
ARU			S	S	16 13 42.7	+2.0
ARU			SS	SS	16 17 21.4	-1.2
ARU			pmax	pmax		
	comp=Z,40nm,1.3s					
ARU	Arti	54.00 317	P	P	16 06 12.8	0.0
ARU	Arti	54.00 317	*e*P	P	16 06 13.1	+0.3
SPA0	Spitsbergen Ar	55.05 349	*e*P	P	16 06 19.7	-0.5
SPITS	Spitsbergen Ar	55.05 349	P	P	16 06 19.0	-1.1
	comp=Z,3.0nm,0.6s,baz=66,slow=8.6,SNR=16					
RES	Resolute Bay	55.70 16	P	P	16 06 25.4	+0.6
	comp=Z,57nm,0.4s,baz=345,slow=6.8,SNR=280					
RES	Resolute Bay	55.70 16	P	P	16 06 25.2	+0.4
RES			pmax	pmax		
	comp=Z,61nm,0.5s					
RES	Resolute Bay	55.70 16	P	P	16 06 25.1	+0.4
AB31	Akbulak array	56.57 308	*i*P	P	16 06 31.7	+0.3
ABKAR	Akbulak array	56.57 308	P	P	16 06 32.1	+0.7
ABKAR	Akbulak array	56.57 308	P	P	16 06 32.4	+1.0
ABKAR			IAmb	IAmb	16 06 32.9	
	comp=Z,22nm,0.5s					
YKA	Yellowknife Ar	56.75 33	P	P	16 06 33.1	+0.7
	comp=Z,11nm,0.8s,baz=303,slow=6.8,SNR=65					
YKA	Yellowknife Ar	56.75 33	P	P	16 06 33.2	+0.8
COEN	Coen	57.00 183	P	P	16 06 34.4	-0.3
COEN			IAmb	IAmb	16 06 37.3	
	comp=Z,10nm,1.1s					
AKTO	Aktyubinsk	57.08 310	P	P	16 06 34.9	-0.1
BJO1	Bjornoya	57.29 345	*e*P	P	16 06 34.9	-1.2
KIRV	Kirov	57.34 322	*ce*P	P	16 06 37.0	+0.4
PRGR	Permogore	57.40 326	*e*P	P	16 06 32.3	-4.7
PRGR			pmax	pmax		
	comp=Z,111nm,1.4s					
LVZ	Lovozero	57.81 335	*i*P	P	16 06 40.8	+0.9
LVZ			pmax	pmax		
	comp=Z,15nm,0.7s					
HAMF	Hammerfest	59.02 341	*e*P	P	16 06 48.1	-0.1
ARA0	ARCESS Array S	59.33 339	*e*P	P	16 06 51.4	+1.0
ARCES	ARCESS Array B	59.33 339	P	P	16 06 50.5	+0.1
	comp=Z,5.5nm,0.5s,baz=37,slow=7.6,SNR=57					
ARCES	ARCESS Array B	59.33 339	P	P	16 06 50.5	+0.1
ARCES			pmax	pmax		
	comp=Z,9.0nm,0.7s					
ARCES	ARCESS Array B	59.33 339	P	P	16 06 50.5	+0.1
ARCES			IAmb	IAmb	16 06 52.0	
	comp=Z,9.0nm,0.7s					
DAG	Danmarks Havn	59.82 356	*i*P	P	16 06 52.5	-1.1
DAG			IAmb	IAmb	16 06 53.6	
	comp=Z,7.3nm,0.6s					
KTK1	Kautokeino	60.28 340	*e*P	P	16 06 57.1	+0.3
KLMR	Klimovskoe	60.29 327	*e*P	P	16 06 54.3	-2.7
KLMR			pmax	pmax		
	comp=Z,24nm,1.2s					
KLMR	Klimovskoe	60.29 327	*e*P	P	16 06 54.4	-2.6
KLMR			AMP		16 06 59.0	
	comp=Z,24nm,1.2s					
JETT	Jettan, Norway	60.59 341	*e*P	P	16 07 00.5	+1.5
STEI	Steigen	63.06 341	*e*P	P	16 07 15.5	+0.1
LOF	Lofoten	63.29 342	*e*P	P	16 07 16.8	-0.2
FAUS	Fauske	63.48 341	*e*P	P	16 07 18.6	+0.4
WB0	Warramunga Arr	63.60 192	P	P	16 07 19.6	0.0
WRAB	Tennant Creek	63.77 192	*ce*P	P	16 07 20.6	-0.1
WRAB			pmax	pmax		
	comp=Z,8.0nm,1.7s					
GEYT	Alibeck	63.78 298	LR	LR	16 35 37.3	
	comp=Z,54nm,18.3s,baz=148,slow=36					
WRA	Warramunga Arr	63.78 192	P	P	16 07 20.9	+0.2
	comp=Z,2.2nm,0.8s,baz=10,slow=6.9,SNR=20					
WRA	Warramunga Arr	63.78 192	*i*P	P	16 07 21.3	+0.5
WRA			pmax	pmax		
	comp=Z,2.0nm,0.8s					
WRA	Warramunga Arr	63.78 192	P	P	16 07 21.0	+0.2
SUMG	Summit	64.41 1	P	P	16 07 24.9	+0.1
SUMG			pmax	pmax		
	comp=Z,34nm,1.0s					
SUMG	Summit	64.41 1	*i*P	P	16 07 24.6	-0.2
SUMG			IAmb	IAmb	16 07 26.2	
	comp=Z,20nm,1.2s					
SUMG	Summit	64.41 1	P	P	16 07 24.9	+0.1
MOR8	Moi Rana	64.64 340	*e*P	P	16 07 25.2	-0.8
KONS	Konsvik	64.70 341	*e*P	P	16 07 27.1	+0.9
FIA1	FINESS Array S	64.83 333	P	P	16 07 27.5	+0.3
FINES	FINESS Array B	64.83 333	P	P	16 07 27.4	+0.3
	comp=Z,35nm,0.5s,baz=44,slow=7.8,SNR=357					
FINES	FINESS Array B	64.83 333	P	P	16 07 27.2	0.0
STOK	Stokkvaagen	64.86 341	*e*P	P	16 07 28.5	+1.2
OBN	Obninsk	65.09 323	*ce*P	P	16 07 29.1	+0.1
OBN			*e*		16 09 52.7	
OBN			pmax	pmax		
	comp=Z,12nm,0.7s					
OBN	Obninsk	65.09 323	*e*P	P	16 07 29.1	+0.1
VRH	Novokhopyorsk	65.20 318	*e*P	P	16 07 29.7	0.0
VRH			pmax	pmax		
	comp=Z,20nm,0.7s					
LPSR	Galich'ya Gora	65.65 320	*e*P	P	16 07 32.7	+0.1
LPSR			pmax	pmax		
	comp=Z,20nm,0.6s					
SCO	Scoresbysund	66.20 356	*i*P	P	16 07 36.0	+0.1
SCO			IAmb	IAmb	16 07 37.1	
	comp=Z,5.0nm,1.1s					
VSR	Storozhevoye	66.43 319	*e*P	P	16 07 38.0	+0.4
VSR			pmax	pmax		
	comp=Z,20nm,0.5s					
NSS	Namsos	66.59 340	*e*P	P	16 07 38.8	+0.4
VSU	Vasula	66.74 330	*i*P	P	16 07 40.5	+1.0
VSU			pmax	pmax		
	comp=Z,71nm,0.8s					
VSU	Vasula	66.74 330	*e*P	P	16 07 40.3	+0.8
FCC	Fort Churchill	66.93 29	P	P	16 07 41.0	+0.3
FCC			pmax	pmax		
	comp=Z,7.0nm,0.6s					
FCC	Fort Churchill	66.93 29	P	P	16 07 41.0	+0.3
FCC			IAmb	IAmb	16 07 45.1	
	comp=Z,7.2nm,0.6s					
ASAR	Alice Springs	67.50 192	P	P	16 07 45.8	+1.1
	comp=Z,1.7nm,0.7s,baz=9.4,slow=5.3,SNR=30					
ASAR	Alice Springs	67.50 192	P	P	16 07 44.1	-0.6
MTSE	Matsula	67.60 331	*e*P	P	16 07 45.9	+1.0
AAL	Aland	67.77 334	*e*P	P	16 07 46.1	+0.1
BOZ	Bozeman (W)	68.00 48	P	P	16 07 49.4	+1.5
BOZ			pmax	pmax		
	comp=Z,2.0nm,0.7s					
BOZ	Bozeman (W)	68.00 48	P	P	16 07 49.4	+1.5
TBLU	Trondheim	68.07 340	*e*P	P	16 07 47.5	-0.3
NVAR	Mina Array Bea	68.68 57	P	P	16 07 53.5	+1.2
	comp=Z,0.8nm,0.6s,baz=296,slow=6.8,SNR=7.9					
NVAR	Mina Array Bea	68.68 57	P	P	16 07 52.1	-0.2
UPP	Uppsala	68.77 335	*e*P	P	16 07 52.5	+0.3
SLIT	Slitere, Latvi	68.95 331	*e*P	P	16 07 52.0	-1.3
IDID	Didziasalis	69.03 328	*e*P	P	16 07 55.2	+1.3
MNK	Minsk	69.17 327	*i*P	P	16 07 55.2	+0.5
MNK			*i* *PP	pP	16 08 23.7	+3.5
MNK			*i*		16 10 30.1	
MNK			*i* PPP	PPP	16 12 11.8	
MNK			*i* S	S	16 16 51.1	-1.0
MNK			*i* *SS	SKSac	16 17 41.3	-3.7
MNK			*i* SS	SS	16 21 22.8	+3.6
MNK			pmax	pmax		
	comp=E,2.0nm,0.8s					
MNK			pmax	pmax		
	comp=Z,38nm,1.1s					
MNK			pmax	pmax		
	comp=N,22nm,0.9s					
MNK			MLR	MLR		
	comp=N,215nm,22.0s					
MNK			MLR	MLR		
	comp=Z,46nm,14.0s					
MNK			MLR	MLR		
	comp=E,5.0nm,15.0s					
MNK	Minsk	69.17 327	*i*P	P	16 07 55.2	+0.5
	comp=E,2.0nm,0.8s					
MNK			*i*P	P	16 07 55.2	+0.5
	comp=N,22nm,0.9s					
MNK			*i*P	P	16 07 55.2	+0.5
	comp=Z,38nm,1.1s,baz=224					
MNK			*i* pP	pP	16 08 23.7	+3.5
MNK			*i* PP	PP	16 10 30.1	+2.0
MNK			*i* PPP	PPP	16 12 11.8	
MNK			*i* S	S	16 16 51.2	-1.0
MNK			*i* sS	SKSac	16 17 41.4	-3.6
MNK			*i* SS	SS	16 21 22.8	+3.6
MNK			*i* SSS	SSS	16 24 40.7	
MNK			*i* LRM	MLR	16 41 11.4	
	comp=N,215nm,22.1s					
MNK			*i* LRM	MLR	16 41 13.9	
	comp=Z,46nm,14.4s					
MNK			*i* LRM	MLR	16 41 18.1	
	comp=E,5.0nm,15.2s					
IIGN	Ignalina	69.20 328	*e*P	P	16 07 56.2	+1.3
NACGM	Naroch	69.31 327	*i*P	P	16 07 56.2	+0.6
MOL	Molde	69.31 341	*e*P	P	16 07 56.5	+1.0
KIV	Kislovodsk	69.32 311	*e*P	P	16 07 57.0	+1.0
KIV			pmax	pmax		
	comp=Z,15nm,1.1s					
KIV	Kislovodsk	69.32 311	*e*P	P	16 07 57.0	+1.0
SFJD	Kangerlussuaq	69.34 7	P	P	16 07 55.9	+0.3
	comp=Z,14nm,0.9s,baz=322,slow=1.0,SNR=5.2					
SFJD	Kangerlussuaq	69.34 7	*i*P	P	16 07 55.3	-0.3
SFJD			IAmb	IAmb	16 07 56.6	
	comp=Z,5.8nm,0.8s					
KBZ	Khabaz	69.35 311	P	P	16 07 57.3	+1.2
	comp=Z,6.7nm,0.7s,baz=120,slow=2.7,SNR=17					
KBZ			LR	LR	16 42 36.8	
	comp=Z,34nm,18.1s,baz=64,slow=40					
KBZ	Khabaz	69.35 311	*ce*P	P	16 07 56.3	+0.2
KBZ			pmax	pmax		
	comp=Z,8.0nm,0.9s					
KBZ	Khabaz	69.35 311	*e*P	P	16 07 56.3	+0.2
DOMB	Dombas	69.39 340	*e*P	P	16 07 56.7	+0.6
NC303	NORSAR Array S	69.48 338	P	P	16 07 57.1	+0.5
NC303			IAmb	IAmb	16 07 58.9	
	comp=Z,17nm,0.8s					
NC405	NORSAR Array S	69.48 338	P	P	16 07 56.2	-0.4
SHA1	Shidzhatmaz	69.48 311	*i*P	P	16 07 57.7	+0.5
NC204	NORSAR Array S	69.60 339	P	P	16 07 57.9	+0.6
NB201	NORSAR Array S	69.64 338	P	P	16 07 58.2	+0.5
NB2	NORSAR Subarra	69.67 338	P	P	16 07 58.1	+0.3
	comp=Z,12nm,0.5s,baz=32,slow=6.9					
NB2	NORSAR Subarra	69.67 338	P	P	16 07 58.1	+0.3
	baz=32,slow=6.9					
NOA	NORSAR Array B	69.67 338	P	P	16 07 58.2	+0.4
	comp=Z,3.3nm,0.4s,baz=38,slow=5.1,SNR=136					
NOA			LR	LR	16 41 46.2	
	comp=Z,22nm,18.2s,baz=295,slow=39					
HFS	Hagfors	69.73 337	P	P	16 07 58.3	+0.2
	comp=Z,22nm,0.4s,baz=52,slow=7.7,SNR=162					
AKN	Aaknes	69.78 341	*e*P	P	16 07 58.7	+0.3
NBO00	NORSAR Array S	69.80 338	P	P	16 07 58.1	-0.4
NC602	NORSAR Array S	69.84 338	*e*P	P	16 07 59.0	+0.2
NC602	NORSAR Array S	69.84 338	P	P	16 07 59.0	+0.2
FRB	Frobisher Bay	69.91 15	P	P	16 07 59.0	-0.1
	comp=Z,5.6nm,0.4s,baz=334,slow=6.3,SNR=15					
FRB	Frobisher Bay	69.91 15	P	P	16 07 59.0	-0.1
NA001	NORSAR Array S	69.92 338	P	P	16 07 59.9	+0.5
PABE	Paberze	69.95 329	*e*P	P	16 08 00.4	+0.9
PABE	Paberze	69.95 329	P	P	16 08 00.2	+0.7
PBUR	Paburge	70.31 330	*e*P	P	16 08 03.3	+1.6
SKAR	Skarslia	70.74 339	*e*P	P	16 08 05.4	+1.0
FOO	Floro	70.75 341	*e*P	P	16 08 05.4	+1.1
HYA	Hoyanger	70.86 341	*e*P	P	16 08 06.0	+1.1
PDAR	Pinedale Array	70.98 49	P	P	16 08 06.8	+0.4
	comp=Z,0.9nm,0.6s,baz=277,slow=1.4,SNR=9.3					
PDAR	Pinedale Array	70.98 49	P	P	16 08 07.0	+0.6
KONO	Kongsberg	71.28 338	*e*P	P	16 08 09.5	+1.9
SUE	Sulen	71.29 341	*e*P	P	16 08 06.7	-0.8
AKASG	Malin Array Be	71.36 323	P	P	16 08 08.4	+0.2
	comp=Z,9.4nm,0.5s,baz=39,slow=6.1,SNR=53					
AKASG	Malin Array Be	71.36 323	*i*P	P	16 08 08.3	+0.1
AKASG			pmax	pmax		
	comp=Z,9.0nm,0.5s					
AKASG	Malin Array Be	71.36 323	P	P	16 08 08.4	+0.2
AKASG			IAmb	IAmb	16 08 10.8	
	comp=Z,10nm,0.6s					
AKBB	Malin Array Si	71.36 323	*ce*P	P	16 08 07.3	-0.9
AKBB	Malin Array Si	71.36 323	P	P	16 08 08.1	0.0
AKBB			IAmb	IAmb	16 08 09.3	
	comp=Z,11nm,0.8s					
ISOG	Isortoq, Green	71.45 2	*i*P	P	16 08 08.1	-0.3
ISOG			IAmb	IAmb	16 08 09.6	
	comp=Z,9.8nm,0.8s					
ASK	Askoy	71.69 341	*e*P	P	16 08 11.1	+1.1
BER	Bergen	71.75 341	*e*P	P	16 08 11.5	+1.2
ODD1	Odda	71.83 340	*e*P	P	16 08 12.3	+1.4
BLS5	Blasjo	72.30 340	*e*P	P	16 08 15.1	+1.4
SNART	Snartemo	73.05 339	*e*P	P	16 08 19.1	+1.0
BSD	Bornholm Skovb	73.46 333	*e*P	P	16 08 19.3	-1.3
SORM	Soroca	73.62 322	⇑P	P	16 08 21.9	+0.3
SORM	Soroca	73.62 322	⇑P	P	16 08 21.9	+0.3
IVI	Ivigtut	75.25 7	*i*P	P	16 08 32.2	+1.3
IVI			IAmb	IAmb	16 08 33.0	
	comp=Z,14nm,0.5s					
GIRR	Girov	75.34 322	P	P	16 08 32.7	+1.0
BUR08	Bucovina Ar. S	75.40 323	P	P	16 08 33.2	+1.2
BURAR	Bucovina Array	75.41 323	⇑P	P	16 08 33.0	+0.8
BURAR	Bucovina Array	75.41 323	⇑P	P	16 08 33.0	+0.8
BURAR	Bucovina Array	75.41 323	P	P	16 08 33.0	+0.8
BURAR			IAmb	IAmb	16 08 34.3	
	comp=Z,7.1nm,0.7s					
TESR	Tescani	75.61 321	⇓P	P	16 08 34.2	+1.0
CFR	Carcaliu	75.92 320	⇑P	P	16 08 34.8	-0.1
CFR	Carcaliu	75.92 320	⇑P	P	16 08 34.8	-0.1
CRVS	Cervenica-Dubn	76.01 326	*e*P	P	16 08 38.0	+2.5
CRVS	Cervenica-Dubn	76.01 326	*e*P	P	16 08 38.0	+2.5
VRI	Vrincioaia	76.06 321	⇓P	P	16 08 37.9	+2.1
VRI	Vrincioaia	76.06 321	⇓P	P	16 08 37.9	+2.1
PLOR	Plostina	76.10 321	⇓P	P	16 08 37.1	+1.1
PLOR	Plostina	76.10 321	⇓P	P	16 08 37.1	+1.1
TRPA	Tarpa	76.17 325	⇑P	P	16 08 37.7	+1.4
OZUR		76.31 322	⇑P	P	16 08 38.7	+1.5
HARR	Harsova	76.38 320	⇓P	P	16 08 37.2	-0.3
HARR	Harsova	76.38 320	⇓P	P	16 08 37.2	-0.3
DOPR	Dopca	76.59 322	⇑P	P	16 08 38.1	-0.7
OSTC	Ostas	76.73 330	*e*P	P	16 08 43.0	+3.5
CHVC	Chvalec	76.77 330	*e*P	P	16 08 40.9	+1.2
DPC	Dobruska-Polom	76.86 329	*e*P	P	16 08 41.7	+1.4
DPC	Dobruska-Polom	76.86 329	*e*P	P	16 08 41.7	+1.4
MORC	Moravsky Berou	76.87 328	⇑P	P	16 08 41.9	+1.6
MORC	Moravsky Berou	76.87 328	⇑P	P	16 08 41.9	+1.6
MORC	Moravsky Berou	76.87 328	*e*P	P	16 08 41.9	+1.6
MORC			*ep*P	pP	16 09 06.9	+0.6
KRLC	Kraliky	76.92 329	*e*P	P	16 08 41.6	+1.0
KRLC			*e**PP	pP	16 09 07.0	+0.5
KRLC	Kraliky	76.92 329	*e*P	P	16 08 41.6	+1.0
KRLC			*ep*P	pP	16 09 07.0	+0.5
BRTR	Keskin Array B	77.13 313	P	P	16 08 42.9	+0.8
	comp=Z,1.4nm,0.7s,baz=76,slow=4.4,SNR=6.6					
BRTR	Keskin Array B	77.13 313	*i*P	P	16 08 43.2	+1.1
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
VOIR		77.15 322	⇑P	P	16 08 43.9	+1.9
VOIR		77.15 322	⇑P	P	16 08 43.9	+1.9
CLL	Collm	77.26 332	*i*P	P	16 08 42.6	+0.2
CLL			*i* *PP	pP	16 09 07.3	-1.1
CLL			pmax	pmax		
	comp=Z,7.0nm,0.7s					
CLL	Collm	77.26 332	*i*P	P	16 08 42.6	+0.2
	comp=Z,7.0nm,0.7s					
CLL			*i* pP	pP	16 09 07.3	-1.1
CLL			*ex*	x	16 09 16.0	
VYHS	Vyhne	77.40 327	*e*P	P	16 08 46.0	+2.7
VYHS	Vyhne	77.40 327	*e*P	P	16 08 46.0	+2.7
ANTO	Ankara	77.48 313	⇑P	P	16 08 41.0	-2.9
ANTO	Ankara	77.48 313	⇑P	P	16 08 41.0	-2.9
JAVC	Velka Javorina	77.56 328	*e*P	P	16 08 46.0	+1.8
JAVC			*ep*P	pP	16 09 11.8	+1.6
VRAC	Vranov	77.61 329	LR	LR	16 48 40.4	
	comp=Z,80nm,18.4s,baz=332,slow=40					
VRAC	Vranov	77.61 329	*e*P	P	16 08 45.5	+1.1
VRAC			*ep*P	pP	16 09 11.2	+0.8
PRU	Pruhonice	77.81 330	*e*P	P	16 08 45.1	-0.4
PRU			*e**PP	pP	16 09 11.6	+0.1
PRU	Pruhonice	77.81 330	*e*P	P	16 08 45.1	-0.4
PRU			*ep*P	pP	16 09 11.6	+0.1
KRUC	Moravsky	77.89 329	*e*P	P	16 08 46.4	+0.5
KRUC			*ep*P	pP	16 09 12.5	+0.6
MODS	Modra-Piesok	78.11 328	*e*P	P	16 08 50.4	+3.2
MODS	Modra-Piesok	78.11 328	*e*P	P	16 08 50.4	+3.2
EKA	Eskdalemuir Ar	78.28 342	P	P	16 08 48.2	+0.3
	comp=Z,4.4nm,0.5s,baz=25,slow=5.2,SNR=21					
SCHQ	Schefferville	78.39 19	P	P	16 08 48.3	-0.3
	comp=Z,3.0nm,0.5s,baz=349,slow=5.7,SNR=8.7					
KHC	Kasperske Hory	78.88 330	*e*P	P	16 08 52.4	+1.0
KHC			*e**PP	pP	16 09 17.1	-0.4
KHC	Kasperske Hory	78.88 330	*e*P	P	16 08 52.4	+1.0
KHC			*ep*P	pP	16 09 17.1	-0.4
CONA	Conrad Observa	79.02 328	*e*P	P	16 08 51.2	-1.1
	comp=Z,3.8nm,0.8s					
CONA			*e*P	pP	16 09 19.4	+1.1
	comp=Z,5.3nm,0.9s					
GERES	GERESS Array B	79.07 330	P	P	16 08 52.3	-0.3
	comp=Z,0.7nm,0.6s,baz=342,slow=8.4,SNR=5.5					
MORH	Mrgy, Hungar	79.31 326	⇑P	P	16 08 54.5	+0.7
ZAPS	Zavoj	79.92 322	*e*P	P	16 08 57.7	+0.5
VTS	Vitosha	80.16 321	⇑P	P	16 09 00.2	+1.5
VTS	Vitosha	80.16 321	⇑P	P	16 09 00.2	+1.5
VTS	Vitosha	80.16 321	*e*P	P	16 08 59.8	+1.2
GRUS	Gruza	80.29 323	*e*P	P	16 08 59.6	+0.5
SOKA	Soboth	80.37 328	*e*P	P	16 08 59.5	-0.1
	comp=Z,3.5nm,0.9s					
SOKA			*e*P	pP	16 09 26.3	+0.5
	comp=Z,4.9nm,0.9s					
DIVS	Divibare	80.44 324	*e*P	P	16 09 00.3	+0.3
BOSS	Bosilegrad	80.60 321	*e*P	P	16 09 01.9	+1.1
SELS	Selova	80.64 322	*e*P	P	16 09 00.0	-1.1
KBA	Koelnbreinsper	80.68 329	*e*P	P	16 09 00.9	-0.5
	comp=Z,6.0nm,0.6s					
KBA			*e*P	pP	16 09 28.4	+0.8
	comp=Z,6.9nm,0.8s					
OBKA	Obir	80.70 328	*e*P	P	16 09 01.7	+0.3
	comp=Z,3.1nm,0.8s					
OBKA			*e*P	pP	16 09 27.7	+0.2
	comp=Z,3.0nm,0.9s					
IVAS	Ivanjica	80.78 323	*e*P	P	16 09 01.4	-0.5
BBLS	Lazići	80.88 324	*e*P	P	16 09 03.0	+0.6
WATA	Walderalm	81.11 330	*e*P	P	16 09 03.5	-0.2
	comp=Z,2.0nm,0.6s					
WATA			*i*P	pP	16 09 29.4	-0.5
	comp=Z,4.3nm,0.8s					
WTTA	Wattenberg	81.15 330	*e*P	P	16 09 02.7	-1.2
	comp=Z,3.0nm,0.6s					
WTTA			*i*P	pP	16 09 30.0	0.0
	comp=Z,5.8nm,0.9s					
MOTA	Moosalm	81.27 331	*e*P	P	16 09 04.4	-0.1
	comp=Z,3.6nm,0.8s					
MOTA			*e*P	pP	16 09 31.1	+0.4
	comp=Z,9.2nm,1.1s					
SQTA	Sankt Quirin	81.34 331	*e*P	pP	16 09 31.5	+0.5
	comp=Z,7.4nm,1.2s					
PDG	Podgorica	82.10 323	⇓P	P	16 09 09.2	+0.5
TXAR	Lajitas Array	83.75 55	P	P	16 09 18.4	+0.8
	comp=Z,0.6nm,0.6s,baz=293,slow=2.5,SNR=8.8					
IDI	Anoyia	85.05 315	LR	LR	16 50 22.7	
	comp=Z,24nm,19.5s,baz=320,slow=38					
ESDC	Sonseca Array	93.00 337	P	P	16 10 01.7	0.0
	comp=Z,0.4nm,0.6s,baz=20,slow=4.0,SNR=4.3					

AEIC ***23*** *16:52:45±3.9, 51°.56N±0°.04×174°.15W±0°.07, h2km±7km, ML2.9/12 Error ellipse: s-maj=7.0km s-min=4.5km az=120.0*

NEIC ***23*** *16:52:46.3±1.1, 51°.52N±0°.06×173°.9W±0°.1, h36km±65km, Error ellipse: s-maj=14.6km

baz=20,slow=76,SNR=3.1
PDAR Pinedale Array 43.33 75 P P 17 00 50.2 +5.2
0.1nm,0.4s,baz=308,slow=4.4,SNR=1.8
TXAR Lajitas Array 55.60 85 P **P 17 02 21.9 +3.3**
0.3nm,0.8s,baz=342,slow=5.7,SNR=2.9
MKAR Makanchi Array 62.26 311 P **P 17 03 02.5 -1.8**
0.2nm,0.3s,baz=49,slow=6.1,SNR=6.5
FINES FINESS Array B 66.21 350 P **P 17 03 28.9 -1.1**
0.5nm,0.4s,baz=17,slow=6.6,SNR=3.7
AKASG Malin Array Be 76.23 345 P **P 17 04 29.5 -1.2**
0.4nm,0.4s,baz=18,slow=6.2,SNR=4.2

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*TUL **23** 16:54:34±0.4,36°.83N±0°.01×97°.98W±0°.05, h4km±6km, ML2.5, ML2.4/36(NEIC), Error ellipse: s-maj=5.5km s-min=2.1km az=88.0*

NEIC 23 16:54:34.5±0.7, 36°.81N±0°.02×97°.96W±0°.05, h5km±6km, Error ellipse: s-maj=5.8km s-min=2.2km az=83.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.14**	**358**	Pg	Pg	16 54 37.2	-0.2
KAN14				Sg	Sg	16 54 39.4	0.0
KAN14				IAML		16 54 39.5	
	comp=E,2μm,0.2s						
KAN14				IAML		16 54 39.5	
	comp=N,3μm,0.2s						
KAN17	**Caldwell West**	**0.28**	**34**	Pg	Pg	16 54 39.9	0.0
KAN17				IAML		16 54 45.9	
	comp=E,447nm,0.3s						
KAN17				IAML		16 54 46.5	
	comp=N,360nm,0.2s						
KAN05	**Bluff City Nor**	**0.30**	**13**		Pg	16 54 40.1	-0.2
KAN05				IAML		16 54 44.7	
	comp=N,516nm,0.3s						
KAN05				IAML		16 54 46.6	
	comp=E,322nm,0.2s						
CROK	**Carrier**	**0.31**	**184**	Pg	Pg	16 54 40.6	+0.2
CROK				Sg	Sg	16 54 45.2	+0.7
CROK				IAML		16 54 51.7	
	comp=N,708nm,0.3s						
KAN01	**Argonia South**	**0.38**	**25**		Pg	16 54 41.6	-0.2
KAN08	**Anthony NE Sta**	**0.41**	**359**		Pg	16 54 42.1	-0.3
KAN08				IAML		16 54 48.0	
	comp=E,260nm,0.3s						
KAN16	**Harper SW Stat**	**0.42**	**348**	Pg	Pg	16 54 42.2	-0.4
KAN16				IAML		16 54 50.0	
	comp=E,234nm,0.4s						
KAN13	**South Haven SW**	**0.43**	**62**	Pg	Pg	16 54 43.0	+0.2
KAN13				IAML		16 54 51.2	
	comp=E,464nm,0.3s						
KAN06	**Argonia West S**	**0.44**	**10**		Pg	16 54 42.7	-0.3
KAN06				IAML		16 54 49.0	
	comp=N,247nm,0.4s						
KAN12	**Harper NE Stat**	**0.48**	**356**	Pg	Pg	16 54 43.5	-0.4
BLOK	**Blackwell**	**0.60**	**95**	Pg	Pg	16 54 46.1	+0.1
BLOK				IAML		16 54 56.4	
	comp=E,173nm,0.2s						
BLOK				IAML		16 55 01.6	
	comp=N,172nm,0.2s						
T35A	**Sooner Cattle**	**1.16**	**84**	Pg	Pg	16 54 56.3	-0.5
T35A				IAML		16 55 17.6	
	comp=E,50nm,0.2s						
T35A				IAML		16 55 17.6	
	comp=N,73nm,0.4s						
QUOK	**Quay**	**1.19**	**122**	Pg	Pg	16 54 57.1	-0.2
OK031	**S. Brethren Rd**	**1.25**	**133**	Pn	Pn	16 54 58.7	+0.2
OK031				IAML		16 55 16.0	
	comp=N,91nm,0.2s						
OK031				IAML		16 55 16.6	
	comp=N,85nm,0.5s						
OK034	**N. Norfolk Rd.**	**1.28**	**128**		Pn	16 54 58.6	-0.4
OK034				IAML		16 55 17.1	
	comp=N,98nm,0.2s						
OK030	**Cody Creek RV**	**1.29**	**133**	Pn	Pn	16 54 59.0	-0.1
OK025	**Westminster Rd**	**1.33**	**158**	Pn	Pn	16 54 58.2	-1.4
R32A	**Long Quarter,**	**1.71**	**340**	Pn	Pn	16 55 05.0	-0.1
W35A	**Tecumseh**	**1.88**	**152**	Pn	Pn	16 55 08.0	+0.8
TUL1	**Leonard**	**1.97**	**117**		Pb	16 55 09.8	-1.0
WMOK	**Wichita Mounta**	**2.17**	**198**	Pn	Pn	16 55 11.8	+0.4

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*IDC **23** 17:06:51.1±2.0,53°.10N×162°.99W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.3/59, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=61.1km s-min=26.8km az=177.0*
*AEIC **23** 17:06:53±3.3,52°.95N±0°.04×163°.02W±0°.06, h32km±7km, Error ellipse: s-maj=6.2km s-min=5.0km az=212.0*
*NEIC **23** 17:06:53.5±1.2,53°.02N±0°.05×162°.87W±0°.06, h19km±10km, mb3.5/2, ML3.1/6, ML3.0/24(AEIC), Error ellipse: s-maj=8.2km s-min=4.5km az=159.0*

ISC 23 17:06:52.5±3.5, 53°.03N±0°.08×162°.81W±0°.05, h16km±23km, n40, σ1°29/48, mb3.6/3, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.71**	**341**		**Pb**	**17 07 23.0**	**-0.6**
ISLZ	**Isanotski Laza**	**1.78**	**343**		**Pn**	**17 07 23.4**	**+0.7**
ISLZ					**Sb**	**17 07 47.3**	**+0.3**
WESE	**West Dahl East**	**1.79**	**325**		**Pn**	**17 07 23.4**	**+0.5**
SSLS	**Shishaldin Sou**	**1.83**	**338**		**Pn**	**17 07 24.4**	**+1.0**
SSLS					**Sb**	**17 07 48.6**	**+0.4**
WESP	**Westdahl Peak**	**1.85**	**323**		**Pn**	**17 07 24.2**	**+0.4**
WESP					**Sn**	**17 07 47.6**	**+0.7**
FALS	**False Pass**	**1.86**	**349**		**Pn**	**17 07 24.8**	**+1.0**
FALS					**Sb**	**17 07 49.6**	**+0.4**
WECS	**Westdahl Cape**	**1.91**	**323**		**Pn**	**17 07 25.0**	**+0.6**
WECS					**Sn**	**17 07 47.9**	**-0.2**
SSLN	**Shishaldin Nor**	**1.92**	**339**		**Pb**	**17 07 26.2**	**-1.0**
SSLN					**Sb**	**17 07 50.9**	**0.0**
AKSA	**Akutan Strait**	**2.05**	**304**		**Pn**	**17 07 26.2**	**-0.1**
AKSA					**Sn**	**17 07 50.1**	**-1.5**
AKUT	**Akutan**	**2.09**	**303**	IAML		17 07 52.8	
	comp=E,142nm,0.4s						
AKUT	**Akutan**	**2.09**	**303**		**Pn**	**17 07 26.9**	**+0.1**
AKUT					**Sn**	**17 07 52.0**	**-0.4**
AKBBA	**Akutan Broad B**	**2.15**	**301**		**Pn**	**17 07 27.9**	**+0.1**
MSW	**Makushin Switc**	**2.54**	**292**		**Pn**	**17 07 32.7**	**-0.4**
MSW					**Sn**	**17 08 01.9**	**-1.7**
MAPS	**Pakushin South**	**2.59**	**289**		**Pn**	**17 07 33.2**	**-0.7**
CNBA	**Chernabura Isl**	**2.62**	**45**	Pn	**Pn**	**17 07 36.1**	**+2.0**
CNBA				IAML		17 08 23.8	
	comp=N,73nm,3.9s						
CNBA				IAML		17 09 14.2	
	comp=E,61nm,1.9s						
SDPT	**Sand Point**	**2.70**	**30**		**Pn**	**17 07 37.1**	**+1.9**
SDPT	**Sand Point**	**2.70**	**30**	IAML		17 08 27.2	
	comp=E,103nm,2.1s						
NIKH	**Nikolski High**	**3.66**	**272**		**Pn**	**17 07 46.8**	**-1.6**
OHAK	**Old Harbor**	**6.88**	**49**	Pn	**Pn**	**17 08 32.1**	**-0.7**
KDAK	**Kodiak Island**	**7.52**	**47**	Pn	**Pn**	**17 08 41.6**	**+0.3**
	comp=E,0.3nm,0.3s,baz=219,slow=4.7,SNR=6.5						
KDAK				Sn	**Sn**	**17 10 01.0**	**-5.1**
	comp=E,0.2nm,0.3s,baz=7.1,slow=23,SNR=7.2						
KIWB	**Kanaga Island**	**8.84**	**268**	Pn	**Pn**	**17 08 59.4**	**-0.2**
CNPM	**China Poot**	**9.14**	**40**	Pn	**Pn**	**17 09 04.3**	**+0.6**
SCM	**Sheep Creek Mo**	**12.11**	**37**	Pn	**Pn**	**17 09 45.3**	**+1.0**
KLU	**Klutina**	**12.43**	**40**	Pn	**Pn**	**17 09 49.6**	**+0.9**
M24K	**Tolsona, Glenn**	**12.70**	**38**	Pn	**Pn**	**17 09 54.0**	**+1.6**
GRNC	**Granite Creek**	**13.80**	**48**	Pn	**Pn**	**17 10 08.6**	**+1.0**
M26K	**Nabesna, AK**	**14.09**	**40**	Pn	**Pn**	**17 10 11.8**	**+0.5**
CTGM	**Chitina Glacie**	**14.09**	**47**	Pn	**Pn**	**17 10 12.4**	**+1.1**
LOGN	**Logan Glacier**	**14.18**	**48**	Pn	**Pn**	**17 10 11.0**	**-1.6**
PCA	**Pinnacle**	**14.25**	**51**	Pn	**Pn**	**17 10 12.0**	**-1.5**
J25K	**Salcha River,**	**14.64**	**31**	Pn	**Pn**	**17 10 19.8**	**+1.0**
SCRK	**Sand Creek**	**14.66**	**34**	Pn	**Pn**	**17 10 19.3**	**+0.1**
H24K	**Noodor Dome**	**14.86**	**24**	Pn	**Pn**	**17 10 21.0**	**-0.8**
L27K	**Beaver Creek,**	**14.90**	**39**	Pn	**Pn**	**17 10 23.8**	**+1.5**
BCAR	**Beaver Creek A**	**14.92**	**39**	Pn	**Pn**	**17 10 23.8**	**+1.2**
J26L	**Joseph Creek**	**15.14**	**33**	Pn	**Pn**	**17 10 24.9**	**-0.7**
J26L				IAmb	IAmb	17 10 27.9	
	comp=Z,2.8nm,1.4s						
EGAK	**Eagle**	**16.12**	**35**	Pn	**Pn**	**17 10 38.6**	**+0.4**
EGAK				IAmb	IAmb	17 10 42.6	
	comp=Z,8.2nm,1.4s						
PETK	**Petropavlovsk-**	**23.53**	**286**	P	**P**	**17 12 01.3**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=90,slow=11,SNR=6.5						
YKA	**Yellowknife Ar**	**26.77**	**50**	P	**P**	**17 12 33.0**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=269,slow=9.0,SNR=7.9						
TXAR	**Lajitas Array**	**48.78**	**95**	P	**P**	**17 15 38.5**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=302,slow=4.2,SNR=7.2						

IDC 23 17:18:14.5±5.3, 29°.64S×177°.54W, h57km±40km, mb2.9/2, mb1 3.2/2, mb1mx3.1/21, mbtmp3.2/2, Error ellipse: s-maj=109.6km s-min=62.5km az=3.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.51**	**319**	P	Pn	17 18 27.3	+1.0
	189nm,0.3s,baz=70,slow=22,SNR=1.8						
RAO				S	Sn	17 18 37.2	+2.3
	424nm,0.3s,baz=21,slow=22,SNR=9.9						
ASAR	**Alice Springs**	**43.56**	**266**	P	P	17 26 12.6	-0.3
	0.2nm,0.8s,baz=108,slow=7.9,SNR=1.9						
WRA	**Warramunga Arr**	**44.48**	**271**	P	P	17 26 20.3	0.0
	0.2nm,0.4s,baz=111,slow=7.7,SNR=6.2						
FINES	**FINESS Array B**	**144.57**	**341**	PKP	PKPbc	17 37 43.1	+0.6
	2.2nm,1.0s,baz=27,slow=3.4,SNR=3.5						

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*NNC **23** 17:35:33.5±0.8, 48°.47N×81°.29E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=13.8km s-min=4.7km az=62.0*
*SOME **23** 17:35:38.5, 48°.30N×80°.95E, h5km*

ISC 23 17:35:38.6±0.9, 48°.25N±0°.03×80°.95E±0°.07, h10km, n8, σ1°70/14, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.60**	**154**	⇓P	**Pn**	**17 36 04.2**	**-2.8**
	1.3nm,0.6s						
MAKZ				⇑S	**Sn**	**17 36 27.7**	**-0.1**
	5.4nm,0.8s						
MK31	**Makanchi Array**	**1.72**	**148**	⇓P	**Pn**	**17 36 07.0**	**-1.6**
	0.7nm,0.3s,baz=340,slow=15,SNR=31						
MK31				⇑S	**Sn**	**17 36 29.8**	**-0.8**
	1.8nm,0.3s,baz=339,slow=27,SNR=23						
SEM	**Semipalatinsk**	**2.21**	**348**	*e*P	**Pg**	**17 36 19.3**	**-1.6**
	2.1nm,0.1s						
SEM				*e*S	**Sg**	**17 36 47.9**	**-1.5**
	22nm,0.1s						
ZSN	**Zaisan**	**2.76**	**105**	*e*P	**Pn**	**17 36 24.6**	**+1.7**
	1.4nm,0.3s						
ZSN				*e*S	**Sn**	**17 36 57.5**	**+1.2**
	6.8nm,0.2s						
KURBB	**Kurchatov Arra**	**2.85**	**327**	⇑Pg	**Pn**	**17 36 24.8**	**+0.8**
	1.3nm,0.4s						
KURBB				⇑Lg	Lg	17 37 02.2	
	10nm,0.6s						
KURK	**Kurchatov**	**2.89**	**329**	⇑Pg	**Pn**	**17 36 24.7**	**0.0**
	1.2nm,0.8s						
KURK				⇑Lg	Lg	17 37 03.2	
	2.9nm,0.4s						
KAPS	**Kapalarasan**	**3.16**	**201**	*e*P	**Pb**	**17 36 37.6**	**+2.7**
	0.4nm,0.5s						
KAPS				*e*S	**Sg**	**17 37 19.4**	**-0.7**
	2.2nm,0.0s						
ARXS	**Arharly**	**4.58**	**209**	*e*P	**Pg**	**17 37 05.0**	**-1.3**
	0.7nm,0.1s						
ARXS				*e*S	**Sg**	**17 38 06.9**	**+1.2**
	3.1nm,0.5s						

DJA 23 17:37:53.0±1.0, 9°S±4°×11°5E±°, h28km±11km, M3.9/12, mb4.5/2, MLv3.6/12, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.81**	**41**	P	Pn	17 38 08.5	0.0
IGBI				S	Sn	17 38 19.6	0.0
DNP	**Denpasar**	**0.95**	**38**	P	Pb	17 38 11.0	0.0
DNP				S	Sn	17 38 24.4	+1.2
SRBI	**Singaraja**	**1.46**	**24**	P	Pn	17 38 16.9	-0.7
GMJI	**Gumukmas**	**1.63**	**315**	P	Pn	17 38 19.6	-0.2
GMJI				S	Sn	17 38 39.3	-0.6
BLJI	**Banyuglugur**	**1.95**	**329**	P	Pn	17 38 25.2	+0.9
KMMI	**Kalianget**	**2.45**	**345**	P	Pn	17 38 31.4	+0.3
PCJI	**Pacitan**	**3.61**	**290**	P	Pn	17 38 47.0	-0.1
UGM	**Wanagama**	**4.31**	**290**	P	Pn	17 38 57.5	+0.7
CNJI	**Cibinong**	**7.70**	**285**	P	Pn	17 39 42.8	-0.5

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*ISN **23** 17:45:58.0±0.9, 33°.73N×45°.51E, h16km±5km, ML3.0*
*TEH **23** 17:46:00.6, 33°.78N×45°.61E, h22km, ML3.1*

ISC 23 17:45:58.6±0.9, 33°.73N±0°.04×45°.49E±0°.04, h10km, n16, σ0°99/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.72**	**149**	*e*Pg	**Pg**	**17 46 12.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**17 46 21.0**	**-0.8**
BHD	**Baghdad**	**1.03**	**244**	*e*Pg	**Pb**	**17 46 18.0**	**-0.5**
BHD				*e*Sg	**Sb**	**17 46 31.2**	**-0.9**
BHD				AML	AML	17 46 42.8	
	comp=E,520nm,0.9s						
IGHG	**Ghaleghazi**	**1.08**	**56**	*e*Pg	**Pb**	**17 46 19.8**	**+0.2**
IDHR	**Dehrash**	**1.23**	**37**	*e*Pg	**Pg**	**17 46 20.6**	**-1.6**
KCHF	**Cheshme Sefid,**	**1.40**	**67**	*e*Pg	**Pn**	**17 46 24.7**	**+0.3**
KCHF				*e*		17 46 46.0	
	comp=Z,4μm,0.6s						
KER	**Kermanshah**	**1.52**	**64**	*e*Pg	**Pn**	**17 46 26.4**	**+0.5**
DHL1	**Dehloran**	**1.83**	**124**	*e*Pn	**Pn**	**17 46 31.5**	**+1.4**
IKRK	**Kirkuk**	**1.92**	**331**	*e*Pn	**Pn**	**17 46 32.0**	**+0.6**
IKRK				*e*Sn	**Sn**	**17 46 57.0**	**+1.4**
IKRK				AML	AML	17 47 04.9	
	comp=E,145nm,0.4s						
IKRK				AML	AML	17 47 08.4	
	comp=N,162nm,0.6s						
IKFM	**Kafar-mosalman**	**1.98**	**95**	*e*Pn	**Pn**	**17 46 33.3**	**+1.1**
IKFM				*e*		17 47 02.4	
	comp=Z,2μm,0.6s						
RAFI	**Al-Rafai**	**2.07**	**165**	*e*Pn	**Pn**	**17 46 34.0**	**+0.6**
RAFI				*e*Sn	**Sn**	**17 47 00.5**	**+1.3**
IBZA	**Bozab**	**2.10**	**69**	*e*Pn	**Pn**	**17 46 34.6**	**+0.4**
IBZA				*e*		17 47 06.3	
	comp=Z,1μm,0.3s						
IDOB	**Doab**	**2.24**	**88**	*e*Pn	**Pn**	**17 46 36.3**	**+0.3**
IDOB				*e*		17 47 13.8	
	comp=Z,559nm,0.4s						
MAHB	**Mahabad**	**3.04**	**3**	*e*Pn	**Pn**	**17 46 48.7**	**+1.8**
MAHB				*e*		17 47 41.3	
	comp=Z,951nm,0.6s						
IRAZ	**Razeghan**	**4.03**	**64**	*e*Pn	**Pn**	**17 47 01.0**	**+0.4**
IKLH	**Kolahrood**	**5.11**	**93**	*e*Pn	**Pn**	**17 47 16.1**	**+0.7**
KRSH	**Karshahi**	**5.54**	**86**	*e*Pn	**Pn**	**17 47 21.4**	**+0.1**

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*SNET **23** 17:47:36.7±0.9, 12°.62N×88°.48W, h34km±16km, ML3.5*
*UCR **23** 17:47:36.9±1.0, 12°.62N×88°.49W, h35km±17km, ML3.4*

ISC 23 17:47:35.4±4.2, 12°.5N±0°.2×88°.48W±0°.06, h29km±21km, n38, σ0°49/50, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.78**	**354**	*e*P	**Pn**	**17 47 50.2**	**-0.3**
ALJI				*e*S	**Sb**	**17 48 00.8**	**0.0**
ALJI				IAML		17 48 03.9	
	comp=Z,2μm,0.2s						
ALJI	**Alcalda de J**	**0.78**	**354**	*e*P	**Pn**	**17 47 50.2**	**-0.3**
ALJI				*e*S	**Sb**	**17 48 00.8**	**0.0**
ALJI				IAML		17 48 03.9	
	comp=Z,2μm,0.2s						
LCY	**Lacayo**	**0.89**	**12**	*e*P	**Pn**	**17 47 52.2**	**0.0**
LCY	**Lacayo**	**0.89**	**12**	*e*P	**Pn**	**17 47 52.2**	**0.0**
PACA	**Pacayal**	**0.93**	**10**	*e*P	**Pn**	**17 47 52.9**	**+0.2**
PACA	**Pacayal**	**0.93**	**10**	*e*P	**Pn**	**17 47 52.9**	**+0.2**
COEB	**Comit de Eme**	**0.95**	**357**	*e*P	**Pn**	**17 47 52.8**	**-0.1**
COEB				*e*S	**Sb**	**17 48 05.5**	**-0.1**
COEB				IAML		17 48 08.6	
	comp=Z,1μm,0.3s						
COEB	**Comit de Eme**	**0.95**	**357**	*e*P	**Pn**	**17 47 52.8**	**-0.1**
COEB				*e*S	**Sb**	**17 48 05.5**	**-0.1**
COEB				IAML		17 48 08.6	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**0.95**	**37**	*e*P	**Pn**	**17 47 52.5**	**-0.3**
LCND				*e*S	**Sb**	**17 48 05.8**	**+0.2**
LCND	**La Caada**	**0.95**	**37**	*e*P	**Pn**	**17 47 52.5**	**-0.3**
LCND				*e*S	**Sb**	**17 48 05.8**	**+0.2**
CNCH	**Conchagua**	**0.96**	**41**	*e*P	**Pn**	**17 47 53.3**	**+0.2**
CNCH	**Conchagua**	**0.96**	**41**	*e*P	**Pn**	**17 47 53.3**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.18**	**348**	*e*P	**Pn**	**17 47 56.3**	**+0.4**
SCLA				*e*S	**Sb**	**17 48 11.5**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.18**	**348**	*e*P	**Pn**	**17 47 56.3**	**+0.4**
SCLA				*e*S	**Sb**	**17 48 11.5**	**-0.5**
SJTE	**Alcalda de S**	**1.18**	**334**	*e*P	**Pn**	**17 47 56.1**	**+0.1**
SJTE				IAML		17 48 15.4	
	comp=Z,525nm,0.2s						
SJTE	**Alcalda de S**	**1.18**	**334**	*e*P	**Pn**	**17 47 56.1**	**+0.1**
SJTE				IAML		17 48 15.4	
	comp=Z,525nm,0.2s						
LFRS	**El Faro**	**1.21**	**332**	*e*P	**Pn**	**17 47 56.1**	**-0.4**
LFRS	**El Faro**	**1.21**	**332**	*e*P	**Pn**	**17 47 56.1**	**-0.4**
PAVA	**Las Pavas**	**1.24**	**339**	*e*P	**Pn**	**17 47 57.0**	**+0.1**
PAVA				IAML		17 48 18.9	
	comp=Z,874nm,0.3s						
PAVA	**Las Pavas**	**1.24**	**339**	*e*P	**Pn**	**17 47 57.0**	**+0.1**
PAVA				IAML		17 48 18.9	
	comp=Z,874nm,0.3s						
LALI	**Alcalda de L**	**1.24**	**319**	*e*P	**Pn**	**17 47 56.6**	**-0.2**
LALI				*e*S	**Sn**	**17 48 12.8**	**+0.2**
LALI	**Alcalda de L**	**1.24**	**319**	*e*P	**Pn**	**17 47 56.6**	**-0.2**
LALI				*e*S	**Sn**	**17 48 12.8**	**+0.2**
LFU	**La Fuente**	**1.35**	**333**	*e*P	**Pn**	**17 47 58.9**	**+0.6**
LFU	**La Fuente**	**1.35**	**333**	*e*P	**Pn**	**17 47 58.9**	**+0.6**
BOQS	**Boqueron**	**1.42**	**327**	*e*P	**Pn**	**17 48 00.5**	**+1.1**
BOQS				IAML		17 48 21.7	
	comp=Z,448nm,0.2s						
BOQS	**Boqueron**	**1.42**	**327**	*e*P	**Pn**	**17 48 00.5**	**+1.1**
BOQS				IAML		17 48 21.7	
	comp=Z,448nm,0.2s						
JAYA	**Jayaque - finc**	**1.45**	**320**	*e*P	**Pn**	**17 47 59.7**	**-0.1**
JAYA				*e*S	**Sn**	**17 48 17.3**	**-0.7**
JAYA				IAML		17 48 23.1	
	comp=Z,2μm,0.2s						
JAYA	**Jayaque - finc**	**1.45**	**320**	*e*P	**Pn**	**17 47 59.7**	**-0.1**
JAYA				*e*S	**Sn**	**17 48 17.3**	**-0.7**
JAYA				IAML		17 48 23.1	
	comp=Z,2μm,0.2s						
TACO	**Tacachico**	**1.65**	**329**	*e*P	**Pn**	**17 48 02.8**	**+0.3**
TACO	**Tacachico**	**1.65**	**329**	*e*P	**Pn**	**17 48 02.8**	**+0.3**
SBLS	**San Blas**	**1.70**	**319**	*e*P	**Pn**	**17 48 03.3**	**0.0**
SBLS	**San Blas**	**1.70**	**319**	*e*P	**Pn**	**17 48 03.3**	**0.0**
RTR	**El Retiro**	**1.76**	**320**	*e*P	**Pn**	**17 48 04.8**	**+0.8**
RTR	**El Retiro**	**1.76**	**320**	*e*P	**Pn**	**17 48 04.8**	**+0.8**
NUBE	**Las Nubes**	**1.85**	**317**	*e*P	**Pn**	**17 48 05.2**	**-0.1**
NUBE				IAML		17 48 33.6	
	comp=Z,412nm,0.2s						
NUBE	**Las Nubes**	**1.85**	**317**	*e*P	**Pn**	**17 48 05.2**	**-0.1**
NUBE				IAML		17 48 33.6	
	comp=Z,412nm,0.2s						
MTO3	**Montecristo**	**2.03**	**335**	*e*P	**Pn**	**17 48 09.3**	**+1.4**
MTO3	**Montecristo**	**2.03**	**335**	*e*P	**Pn**	**17 48 09.3**	**+1.4**

KRSC 23 17:59:27.6±0.8, 51°.58N×158°.73E, h51km±11km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.47**	**300**	*e*P	Pn	17 59 39.6	+1.1
KDTR				*e*S	Sn	17 59 46.9	+0.5
RUS	**Russkaya**	**0.87**	**351**	*e*P	Pn	17 59 44.6	+1.1
RUS				*e*S	Sn	17 59 55.6	+0.4
MTVR	**Mutnovka**	**0.97**	**340**	*e*P	Pn	17 59 46.4	+1.4
MTVR				*e*S	Sn	17 59 59.1	+1.2
GRL	**Gorelyy**	**1.05**	**338**	*e*P	Pn	17 59 48.1	+1.9
GRL				*e*S	Sn	18 00 02.4	+2.4
PAU	**Pauzhetka**	**1.21**	**265**	*e*P	Pn	17 59 49.4	+1.3
KRMR	**Karymshinskiy**	**1.31**	**344**	*e*P	Pn	17 59 51.5	+2.0
KRMR				*e*S	Sn	18 00 08.0	+2.2
PET	**Petropavlovsk**	**1.45**	**358**	*e*P	Pn	17 59 53.0	+1.6
PET				*e*S	Sn	18 00 11.0	+1.8
DALK	**Dalny**	**1.45**	**1**	*e*P	Pn	17 59 53.1	+1.6
DALK				*e*S	Sn	18 00 11.1	+1.7
UGLR	**Uglovaya**	**1.63**	**2**	*e*P	Pn	17 59 56.0	+2.0
NLC	**Nalytchevo**	**1.64**	**13**	*e*P	Pn	17 59 54.6	+0.6
APC	**Apacha**	**1.66**	**325**	*e*P	Pn	17 59 56.9	+2.6
SMAR	**Somma**	**1.69**	**1**	*e*P	Pn	17 59 57.6	+2.7
AVH	**Avacha**	**1.69**	**0**	*e*P	Pn	17 59 56.9	+2.1
SDLR	**Sedlovina**	**1.70**	**3**	*e*P	Pn	17 59 56.4	+1.4
SPN	**Mys Shipunski**	**1.71**	**27**	*e*P	Pn	17 59 57.5	+2.5
SPN				*e*S	Sn	18 00 18.9	+3.1
KOK	**Koryaka**	**1.72**	**358**	*e*P	Pn	17 59 57.6	+2.4
KRER	**Koryakskii**	**1.73**	**0**	*e*P	Pn	17 59 57.6	+2.2
SKR	**Severo-Kuril's**	**1.88**	**242**	*e*P	Pn	17 59 59.7	+2.5
SKR				*e*S	Sn	18 00 21.3	+1.6
GNL	**Ganaly**	**2.17**	**348**	*e*P	Pn	18 00 04.3	+2.9
KBTR	**Krutoberegovo**	**5.23**	**26**	*e*P	Pn	18 00 46.2	+3.1

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*IDC **23** 18:05:38.5±1.3, 43°.34N×126°.29W, h0km, mb3.6/8, mb1 3.9/14, mb1mx3.7/55, mbtmp3.7/14, ML3.6/6, MS4.0/60, Ms1 4.0/60, ms1mx3.9/74, Error ellipse: s-maj=23.6km s-min=10.1km az=50.0*
*ANF **23** 18:05:38.1±1.2, 43°.12N×126°.45W, h3km±17km, ML4.3/19, Error ellipse: s-maj=18.4km s-min=5.4km az=74.0*
*NEIC **23** 18:05:39.6±2.9, 43°.14N±0°.03×126°.32W±0°.10, h20km±4km, mb4.6/99, ML3.7/88, Mwr4.7/193, Mww4.9, Error ellipse: s-maj=10.3km s-min=4.4km az=90.0*
*GCMT **23** 18:05:39.7±0.2, 43°.11N±0°.01×126°.80W±0°.02, h15km±1km, MW4.9/104, Moment Tensor Solution. s28, c37; s104, c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.53±.10; $M_{\theta\theta}$-2.09±.09; $M_{\phi\phi}$2.62±.10; $M_{r\theta}$-0.33±.19; $M_{\theta\phi}$-1.84±.09; $M_{r\phi}$0.05±.16; Best double couple: $M_0$3

comp=N,268nm,1.8s
KRPM Rodgers 2.63 136 Pn Pn 18 06 20.5 +0.5
KRPM IAML 18 06 56.2
comp=N,393nm,2.0s
COR Corvallis 2.72 55 Pn 18 06 21.6 +0.4
COR IAML 18 06 59.3
comp=N,279nm,0.7s
COR IAML 18 07 38.3
comp=N,270nm,1.9s
BUCK Buck Mountain 2.74 65 Pn 18 06 22.4 +0.8
BUCK IAML 18 07 22.1
comp=N,307nm,2.0s
BUCK IAML 18 07 35.5
comp=E,298nm,2.2s
JCC Jacoby Creek, 2.89 141 Pn Pn 18 06 25.2 +1.8
KHMM Horse Mountain 2.99 137 Pn Pn 18 06 25.4 +0.3
KHMM IAML 18 07 40.6
comp=N,189nm,2.0s
KHMM IAML 18 08 07.3
comp=E,186nm,2.3s
I04A Tendick Farm, 3.02 75 P Pn 18 06 26.7 +1.4
baz=258
I04A S Sb 18 07 06.1 -2.1
baz=258
H04D Lebanon 3.04 60 Pn 18 06 26.3 +0.7
H04D IAML 18 07 17.0
comp=E,254nm,0.8s
H04D IAML 18 07 19.1
comp=N,193nm,1.0s
H04D Lebanon 3.04 60 P Pn 18 06 26.7 +1.1
baz=243,SNR=40
YBH Yreka Blue Hor 3.07 115 Pn Pn 18 06 28.3 +2.2
comp=N,4.5nm,0.3s,baz=307,slow=12,SNR=54
YBH Sn Sb 18 07 06.5 -3.3
comp=N,5.4nm,0.3s,baz=238,slow=15,SNR=11
YBH LR LR 18 07 17.0
comp=N,518nm,18.7s,baz=298,slow=32
YBH Yreka Blue Hor 3.07 115 Pn Pn 18 06 28.4 +2.2
YBH IAML 18 07 09.7
comp=E,188nm,2.2s
G03D McMinnville, O 3.12 46 Pn 18 06 27.0 +0.3
G03D IAML 18 07 09.5
comp=E,269nm,0.8s
G03D McMinnville, O 3.12 46 P Pn 18 06 27.0 +0.3
baz=228,SNR=57
G03D S Sn 18 07 05.9 +2.1
baz=228
M02C Callahan 3.15 121 Pn 18 06 28.7 +1.5
M02C Callahan 3.15 121 P Pn 18 06 28.9 +1.6
baz=305,SNR=17
M02C S Sn 18 07 06.5 +1.8
baz=305
L04D Klamath Falls 3.17 104 Pn 18 06 29.9 +2.3
L04D IAML 18 07 18.1
comp=N,316nm,1.1s
L04D Klamath Falls 3.17 104 P Pn 18 06 30.0 +2.5
baz=289,SNR=162
L04D S Sb 18 07 08.8 -3.9
baz=289
J04D Umpqua Nationa 3.17 86 Pn 18 06 29.7 +2.1
J04D Umpqua Nationa 3.17 86 P Pn 18 06 30.2 +2.6
baz=270,SNR=118
KMPM Mount Pierce 3.18 146 Pn Pn 18 06 31.4 +3.8
KMPM IAML 18 07 57.8
comp=E,144nm,2.2s
KMPM IAML 18 08 28.4
comp=N,152nm,5.0s
H04A Detroit Lake 3.47 61 Pn 18 06 32.6 +1.1
K04D Chiloquin, OR 3.48 96 P Pn 18 06 33.7 +2.0
baz=280,SNR=10
N02D Trinity Center 3.49 126 Pn Pn 18 06 33.6 +1.8
N02D IAML 18 07 45.9
comp=E,124nm,1.8s
KMRM Mail Ridge 3.52 143 Pn Pn 18 06 34.9 +2.7
KMRM IAML 18 08 08.8
comp=N,122nm,2.6s
KMRM IAML 18 08 12.3
comp=E,126nm,3.7s
M04C Macdoel 3.64 109 Pn Pn 18 06 35.8 +1.8
M04C Macdoel 3.64 109 P Pn 18 06 37.0 +3.0
baz=294,SNR=15
M04C S Sn 18 07 20.9 +4.0
baz=294
J05D Fort Rock, OR 3.81 85 P Pn 18 06 38.0 +1.7
baz=270,SNR=28
WDC Whiskeytown Da 3.84 129 Pn 18 06 38.8 +2.3
WDC IAML 18 07 30.8
comp=N,91nm,2.0s
F04D Rainier, OR 3.87 38 P Pn 18 06 38.0 +1.0
baz=220,SNR=8.2
F04D S Sn 18 07 24.6 +2.4
baz=220
I05D Terrebonne, OR 3.90 70 P Pn 18 06 39.0 +1.4
baz=253,SNR=70
KCPM Cahto Peak 4.02 147 Pn Pn 18 06 42.4 +3.3
KCPM IAML 18 07 29.2
comp=N,128nm,2.9s
E03A Lebam 4.02 30 Pn Pn 18 06 38.1 -1.0
E03A IAML 18 07 28.3
comp=E,104nm,0.6s
E03A IAML 18 07 30.6
comp=N,104nm,0.8s
F04A Amboy 4.05 44 Pn 18 06 40.2 +0.8
F04A IAML 18 07 36.4
comp=N,160nm,0.7s
PINE Pine Mountain 4.07 78 Pn 18 06 39.5 -0.4
PINE IAML 18 08 02.5
comp=E,108nm,2.2s
PINE IAML 18 08 25.9
comp=N,108nm,2.9s
K05A Summer Lake 4.09 93 Pn 18 06 40.8 +0.6
K05A IAML 18 08 01.5
comp=E,127nm,2.3s
HOOD Mount Hood Mea 4.11 55 Pn 18 06 40.4 +0.1
HOOD IAML 18 07 39.4
comp=N,149nm,1.5s
G05D Wamic, OR 4.27 58 P Pn 18 06 44.0 +1.5
baz=242
E04D Cinebar 4.43 37 Pn Pn 18 06 45.0 +0.3
E04D IAML 18 07 52.0
comp=N,80nm,0.9s
E04D IAML 18 09 36.6
comp=E,58nm,4.8s
E04D Cinebar 4.43 37 P Pn 18 06 45.1 +0.4
baz=219,SNR=12
E04D S Sn 18 07 38.2 +2.1
baz=219
O03E Paynes Creek 4.45 127 Pn Pn 18 06 45.6 +0.6
O03E IAML 18 08 29.6
comp=E,99nm,2.1s
O03E IAML 18 08 55.0
comp=N,97nm,3.4s
WISH Wishkah 4.45 24 Pn Pn 18 06 45.1 +0.1
WISH IAML 18 08 23.9
comp=N,104nm,4.5s
WISH IAML 18 09 07.0
comp=E,89nm,3.8s
F05D White Salmon 4.53 50 Pn 18 06 46.3 +0.2
F05D White Salmon 4.53 50 P Pn 18 06 47.7 +1.6
baz=234,SNR=42
F05D S Sn 18 07 42.7 +4.1
baz=234
NLWA Neilton Lookou 4.67 22 Pn Pn 18 06 48.6 +0.5
MOD Modoc Plateau 4.69 102 Pn Pn 18 06 49.6 +1.2
MOD IAML 18 08 02.9
comp=N,50nm,1.8s
MOD IAML 18 08 19.6
comp=E,56nm,2.4s
HOPS Hopland Field 4.81 147 Pn Pn 18 06 53.3 +3.4
D04E Lakebay 4.85 31 P Pn 18 06 52.0 +1.6
baz=213
D04E S Sn 18 07 50.6 +4.3
baz=213
C03A Quillayute Air 5.04 14 Pn Pn 18 06 52.2 -0.8
ORV Oroville 5.12 132 Pn 18 06 53.1 -1.1
I07A Izee 5.14 76 Pn 18 06 56.2 +1.7
I07A IAML 18 08 51.0
comp=E,45nm,2.3s
I07A IAML 18 08 51.2
comp=N,60nm,3.0s
B04A Port Angeles 5.38 21 Pn Pn 18 06 58.2 +0.4
B04A IAML 18 08 01.9
comp=N,46nm,0.4s
F07A Phinny Hill Vi 5.44 57 Pn 18 06 58.1 -0.5
F07A IAML 18 07 47.6
comp=E,37nm,0.8s

WVOR Wild Horse Val 5.78 94 Pn 18 07 04.2 +0.8
G08A Pilot Rock 5.81 65 Pn 18 07 05.0 +1.2
J08A Circle Bar Ran 5.83 85 Pn Pn 18 07 04.9 +0.9
E07A Sunnyside 5.83 51 Pn Pn 18 07 05.2 +1.3
LTY Liberty 5.83 42 Pn 18 07 05.4 +1.3
HAWA Hanford 5.93 54 Pn Pn 18 07 06.1 +0.9
PGC Sidney 5.95 19 Pn 18 07 05.1 -0.3
PGC Sn 18 08 10.2 -3.1
C06D Leavenworth 6.21 37 S Sn 18 08 21.9 +1.9
baz=220
RUBR Rubicon Trail 6.23 128 Pn Pn 18 07 11.5 +1.9
E08A Dider Farm, El 6.26 54 Pn Pn 18 07 09.1 -0.7
EMB Emerald Bay 6.31 128 Pn Pn 18 07 12.8 +2.1
VCNR Virginia City 6.37 124 Pn Pn 18 07 12.6 +1.1
PNTR Pine Nut 6.53 125 Pn Pn 18 07 16.7 +3.0
D08A Wollman Farm, 6.64 51 Pn Pn 18 07 14.3 -0.7
YERR Yerington 6.81 125 Pn 18 07 20.3 +2.7
BMO Blue Mountains 6.82 72 Pn Pn 18 07 17.0 -0.7
E09A Wood Farm, Sta 6.82 57 Pn 18 07 16.2 -1.4
CMB Columbia Colle 6.83 136 Pn Pn 18 07 21.3 +3.6
CBB Campbell River 6.99 6 Pn Pn 18 07 22.1 +2.3
F10A Beach Ranch, E 7.19 63 Pn Pn 18 07 22.3 -0.3
B08A Colville Reser 7.25 41 Pn Pn 18 07 22.6 -0.8
BMN Battle Mountai 7.38 108 Pn Pn 18 07 25.1 -0.3
C09A Chrisman Ranch 7.43 48 Pn Pn 18 07 25.8 0.0
RYN Ryan 7.47 124 Pn Pn 18 07 28.0 +1.4
TLCB Telegraph Cove 7.47 358 Pn Pn 18 07 28.0 +1.6
KVN Kaiserville 7.48 120 Pn Pn 18 07 28.1 +1.4
HOLB Holberg 7.65 352 Pn Pn 18 07 29.8 +0.9
BBGB Big Mountain B 7.71 146 Pn Pn 18 07 31.8 +1.9
LHV Little Huntoon 7.72 126 Pn Pn 18 07 32.3 +2.4
NVAR Mina Array Bea 7.73 124 Pn Pn 18 07 35.6 +5.4
comp=E,0.3nm,0.3s,baz=304,slow=13,SNR=12
NVAR LR LR 18 10 39.7
comp=E,783nm,18.5s,baz=304,slow=38
NVAR Mina Array Bea 7.73 124 Pn Pn 18 07 31.3 +1.1
MFID Camas Ranch 7.75 84 Pn Pn 18 07 27.8 -2.6
PLID Pearl Lake 7.78 71 Pn Pn 18 07 29.8 -1.1
NV11 Mina Array Sit 7.82 124 Pn Pn 18 07 33.4 +2.1
LLLB Lillooet 8.15 21 Pn Pn 18 07 35.0 -0.8
Q09A Carvers 8.19 118 Pn Pn 18 07 37.3 +0.8
NEW Newport 8.33 48 Pn Pn 18 07 38.8 +0.6
comp=E,0.4nm,0.3s,baz=219,slow=10,SNR=9.7
NEW LR LR 18 11 07.3
comp=E,2µm,18.2s,baz=238,slow=41
NEW Newport 8.33 48 Pn Pn 18 07 37.4 -0.8
NEW Newport 8.33 48 P Pn 18 07 39.7 +1.4
baz=235
TPH Tonopah 8.61 122 Pn Pn 18 07 43.0 +0.7
ELK Elko 8.67 102 Pn Pn 18 07 47.5 +4.4
comp=E,0.2nm,0.3s,baz=280,slow=15,SNR=10.0
ELK LR LR 18 11 15.2
comp=E,521nm,21.3s,baz=282,slow=39
ELK Elko 8.67 102 Pn Pn 18 07 43.1 0.0
PAGB Antelope Grade 8.76 145 Pn Pn 18 07 45.5 +1.3
HLID Hailey 8.78 83 Pn Pn 18 07 45.0 +0.5
LCH Last Change Ra 8.91 128 Pn Pn 18 07 46.4 0.0
BBB Bella Bella 9.18 354 LR LR 18 10 41.6
comp=E,1µm,20.8s,baz=181,slow=34
BBB Bella Bella 9.18 354 Pn Pn 18 07 50.4 +0.6
R11A Troy Canyon, C 9.50 116 Pn Pn 18 07 55.3 +0.9
BCYI Bear Canyon 9.52 78 Pn 18 07 54.0 -0.8
MSO Missoula 9.62 63 Pn Pn 18 07 56.2 +0.2
MSO Missoula 9.62 63 P Pn 18 07 57.6 +1.6
baz=252
ISA Isabella, Lake 9.64 138 Pn Pn 18 07 58.1 +1.8
JTMT Jette 9.73 57 Pn 18 07 55.6 -2.0
HG4B Hoaspring 9.76 342 Pn Pn 18 07 58.7 +1.0
S11A Rachel 9.80 120 Pn Pn 18 07 58.0 -0.5
TPNV Topopah Spring 9.93 125 Pn Pn 18 07 58.1 -2.1
MCMT McKenzie Canyo 9.96 75 Pn 18 07 58.9 -1.9
SPR3 Spring Creek 3 10.01 110 Pn Pn 18 08 01.0 -0.7
HVU Hansel Valley 10.19 93 Pn Pn 18 08 01.7 -2.1
DLMT Dillon 10.20 72 Pn Pn 18 08 02.2 -1.7
GWY Greenwater Val 10.20 129 Pn Pn 18 08 04.8 +0.8
QSM Queen of Sheba 10.25 131 Pn Pn 18 08 06.4 +1.8
LRM Limekiln Ridge 10.37 70 Pn Pn 18 08 05.4 -1.0
OSI Osito Audit: C 10.37 142 Pn Pn 18 08 07.5 +1.2
PRN Pahroc Range 10.38 119 Pn 18 08 06.7 +0.2
WALA Waterton Lakes 10.55 51 Pn Pn 18 08 10.1 +1.3
PSUT Pine Spring 10.56 111 Pn Pn 18 08 10.1 +1.1
DUG Dugway, Tooele 10.60 101 Pn Pn 18 08 10.9 +1.4
GSC Goldstone, Bar 10.78 133 Pn Pn 18 08 12.9 +1.0
SHPR Sheep Range 10.88 123 Pn Pn 18 08 14.5 +1.2
DIB Dawson Inlet, 10.89 340 Pn Pn 18 08 14.2 +1.0
BOZ Bozeman (W) 10.90 72 Pn 18 08 13.3 -0.3
QLMT Earthquake Lak 10.96 76 Pn 18 08 14.8 +0.3
HRY Holter Researc 10.98 66 Pn 18 08 13.8 -0.8
PASC Pasadena Art C 10.99 141 Pn Pn 18 08 16.5 +1.8
MWC Mount Wilson 11.00 141 Pn Pn 18 08 16.4 +1.3
GRNB Grenville Isla 11.02 349 Pn Pn 18 08 14.7 -0.3
ECR Eagle Creek 11.03 85 Pn 18 08 17.5 +2.1
CTU Camp Tracy 11.21 97 Pn Pn 18 08 18.4 +0.6
NLU North Lily Min 11.21 101 Pn 18 08 16.6 -1.4
FXWY Fox Creek 11.24 82 Pn Pn 18 08 17.4 -0.8
AHID Auburn Hatcher 11.26 86 Pn 18 08 17.4 -1.1
YMR Madison River 11.29 77 Pn 18 08 16.9 -2.0
YHH Holmes Hill 11.37 76 Pn Pn 18 08 17.6 -2.5
REDW Red Top Meadow 11.38 83 Pn 18 08 18.9 -1.4
CCUT Cedar City 11.40 115 Pn Pn 18 08 19.4 -1.2
MOOW Moose Ponds 11.44 81 Pn Pn 18 08 18.5 -2.5
JLU Jordanelle 11.45 97 Pn Pn 18 08 20.6 -0.6
FLWY Flagg Ranch 11.46 80 Pn 18 08 18.6 -2.7
YNR Norris Junctio 11.49 76 Pn Pn 18 08 20.7 -1.1
TCRU Three Creeks R 11.50 108 Pn Pn 18 08 23.1 +1.2
RUBB Prince Rupert 11.53 349 Pn Pn 18 08 21.8 -0.1
LOHW Long Hollow 11.55 82 Pn 18 08 21.9 -0.5
H17A Grant Village 11.55 78 Pn 18 08 21.0 -1.6
SZCU Shurtz Canyon 11.56 114 Pn Pn 18 08 23.1 +0.3
YUF Upper Falls 11.61 76 Pn Pn 18 08 23.0 -0.4
LKWY Lake 11.68 77 Pn Pn 18 08 23.5 -0.9
MSU Marysvale 11.73 108 Pn 18 08 23.3 -1.7
LCMT Little Creek M 11.79 117 Pn Pn 18 08 27.2 +1.5
YMP Mirror Lake Pl 11.86 76 Pn 18 08 24.6 -2.3
KNB Kanab 12.06 116 Pn Pn 18 08 27.9 -1.6
TMUT Trail Mountain 12.08 103 Pn Pn 18 08 28.2 -1.7
PKCU Pink Cliffs 12.17 113 Pn 18 08 30.1 -1.0
Q16A Castle Valley 12.26 105 Pn 18 08 32.4 +0.2
PFO Pinyon Flats O 12.27 137 LR LR 18 13 19.2
comp=E,1µm,19.0s,baz=314,slow=37
PFO Pinyon Flats O 12.27 137 Pn Pn 18 08 30.5 -1.8
GCMT Greycliff 12.29 72 Pn Pn 18 08 31.0 -1.6
P17A Butcher Ranch, 12.35 102 Pn 18 08 33.1 -0.3
BW06 Boulder Array 12.38 86 Pn Pn 18 08 32.2 -1.8
BW06 Boulder Array 12.38 86 P Pn 18 08 38.6 +4.7
baz=278
PD31 Pinedale Array 12.38 86 Pn Pn 18 08 31.6 -2.3
PDAR Pinedale Array 12.38 86 Pn Pn 18 08 38.1 +4.2
comp=E,0.1nm,0.3s,baz=274,slow=11,SNR=22
PDAR LR LR 18 13 51.9
comp=E,2µm,18.6s,baz=280,slow=40
PDAR Pinedale Array 12.38 86 Pn Pn 18 08 31.9 -2.0
RLMT Red Lodge 12.51 75 Pn Pn 18 08 35.2 -0.5
RLMT Red Lodge 12.51 75 P Pn 18 08 39.5 +3.8
baz=267
109C Camp Elliot, M 12.55 141 Pn Pn 18 08 36.0 0.0
W13A Hualapai Mount 12.59 125 Pn Pn 18 08 37.4 +0.6
SRU San Rafael Swe 12.64 103 Pn Pn 18 08 37.0 -0.4
P18A Preston Nutter 12.65 100 Pn Pn 18 08 35.7 -1.9
EGMT Eagleton 12.69 61 Pn Pn 18 08 36.5 -1.5
U15A North Rim 12.75 117 Pn 18 08 38.0 -0.9
RDMU Red Mountain 12.83 96 Pn Pn 18 08 39.3 -0.8
CBX Cerro Bola 13.23 141 Pn Pn 18 08 44.4 -1.1
EDM Edmonton 13.37 36 Pn Pn 18 08 45.9 -1.2
WUAZ Wupatki 13.89 118 Pn Pn 18 08 53.4 -1.0
Y14A Wickenburg 13.91 127 Pn Pn 18 08 53.6 -1.1
O20A White River Ci 13.93 96 Pn Pn 18 08 52.9 -2.2
PV21 Cone Mtn., Par 13.97 103 Pn Pn 18 08 53.5 -2.2
PV23 Carpenter Ridg 13.99 103 Pn Pn 18 08 52.3 -3.6
PV10 Paradox Valley 14.00 104 Pn Pn 18 08 55.6 -0.4
PV14 Lion Creek, Pa 14.02 104 Pn Pn 18 08 55.6 -0.6
PV20 West Nyswonger 14.07 104 Pn Pn 18 08 57.1 +0.2
PV19 Morning Glory 14.07 104 Pn Pn 18 08 57.0 0.0
PV05 Paradox Valley 14.09 105 Pn Pn 18 08 57.3 +0.1
PV04 Paradox Valley 14.09 103 Pn Pn 18 08 56.4 -0.9
PV17 East Wray Mesa 14.10 104 Pn Pn 18 08 59.2 +1.8
PV16 Nyswonger Mesa 14.12 104 Pn Pn 18 08 58.9 +1.3
PV18 Skein Mesa, Pa 14.15 104 Pn Pn 18 08 59.2 +1.1
PV11 David Mesa, Pa 14.15 104 Pn Pn 18 08 57.2 -0.9
PV13 Radium Mtn., P 14.25 104 Pn 18 08 57.5 -2.0
PV07 Paradox Valley 14.26 103 Pn Pn 18 08 56.1 -3.5

PV02 Paradox Valley 14.29 104 Pn Pn 18 08 57.3 -2.7
113A Mohawk Valley, 14.34 132 Pn 18 08 58.5 -1.9
PV15 Paradox Valley 14.41 103 Pn Pn 18 08 58.0 -3.8
PV01 Paradox Valley 14.44 104 Pn Pn 18 08 58.4 -3.6
X16A Lo Mia Camp, P 14.54 122 P Pn 18 09 01.2 -2.1
K22A Casper 14.61 85 Pn Pn 18 09 01.1 -3.3
LAO LASA Array 14.77 69 Pn Pn 18 09 04.3 -2.1
MVCO Mesa Verde 14.91 107 Pn Pn 18 09 07.1 -1.4
SMCO Snowmass 15.17 98 Pn Pn 18 09 11.0 -1.2
W18A Petrified Fore 15.20 116 Pn Pn 18 09 12.7 +0.4
W18A IAmb IAmb 18 09 21.1
comp=Z,63nm,1.6s
X18A Snowflake 15.41 118 Pn 18 09 13.4 -1.7
X18A IAmb IAmb 18 09 24.4
comp=Z,71nm,1.9s
214A Organ Pipe Nat 15.48 131 Pn Pn 18 09 13.9 -1.9
214A IAmb IAmb 18 09 33.1
comp=Z,67nm,2.0s
DLBC Dease Lake 15.54 353 Pn P 18 09 20.1 -0.7
comp=Z,0.1nm,0.3s,baz=188,slow=10,SNR=6.0
DLBC LR LR 18 14 31.8
comp=Z,573nm,19.1s,baz=129,slow=35
DLBC Dease Lake 15.54 353 P 18 09 19.8 -1.0
PHWY Pilot Hill 15.65 89 Pn Pn 18 09 17.8 -0.5
ISCO Idaho Springs 15.95 95 Pn Pn 18 09 21.1 -1.1
ISCO Idaho Springs 15.95 95 P P 18 09 25.2 -0.6
baz=289
JIS Juneau Island 16.00 345 Pn Pn 18 09 23.4 +1.0
JIS IAmb IAmb 18 09 30.5
comp=Z,66nm,1.6s
RSSD Black Hills 16.26 79 Pn Pn 18 09 25.0 -1.0
TUC Tucson 16.38 126 Pn Pn 18 09 28.2 +0.8
BESE Bessie Mountai 16.38 344 Pn Pn 18 09 26.6 -0.7
DGMT Dagmar 16.40 63 Pn Pn 18 09 27.6 0.0
DGMT IAmb IAmb 18 09 35.7
comp=Z,108nm,1.6s
SDCO Great Sand Dun 16.80 101 Pn Pn 18 09 32.9 -0.1
SDCO Great Sand Dun 16.80 101 P P 18 09 36.9 +1.7
baz=295
ANMO Albuquerque 17.50 111 Pn P 18 09 43.7 +0.9
comp=Z,0.1nm,0.3s,baz=306,slow=11,SNR=10
ANMO LR LR 18 17 00.5
comp=Z,629nm,18.1s,baz=300,slow=39
ANMO Albuquerque 17.50 111 Pn Pn 18 09 39.6 -2.0
LENM Lemitar 17.59 114 Pn 18 09 42.7 -0.1
BNM Barren Site 17.83 113 P Pn 18 09 46.0 +0.2
319A Douglas 17.94 125 P Pn 18 09 48.1 +1.0
121A Cookes Peak, D 18.08 119 P Pn 18 09 49.3 +0.5
121A IAmb IAmb 18 09 58.3
comp=Z,66nm,1.8s
OGNE Ogallala 18.25 88 P Pn 18 09 50.4 -0.4
OGNE IAmb IAmb 18 09 58.9
comp=Z,87nm,1.6s
YKU2 Yakutat 18.35 338 P Pn 18 09 52.6 +0.9
KSCO Kaye Shedlock' 18.40 95 P Pn 18 09 52.2 -0.5
KSCO IAmb IAmb 18 09 58.7
comp=Z,42nm,1.4s
PCA Pinnacle 19.01 338 P P 18 09 57.2 -1.9
PCA IAmb IAmb 18 10 37.1
comp=Z,46nm,1.1s
N31M Braeburn, Yuko 19.26 346 P P 18 09 59.6 -2.2
N31M IAmb IAmb 18 10 35.7
comp=Z,57nm,1.9s
MDND Maddock 19.37 66 P P 18 10 00.3 -2.7
MDND IAmb IAmb 18 10 09.7
comp=Z,40nm,1.1s
TABL Table Mountain 19.54 338 P P 18 10 04.0 -1.0
SNH Sunshine Point 19.82 335 P P 18 10 06.9 -1.0
ISLE Juniper Island 20.01 337 P P 18 10 08.2 -1.8
ISLE IAmb IAmb 18 10 48.5
comp=Z,67nm,1.5s
MNTX Cornudas Mount 20.17 117 P P 18 10 10.7 -1.2
MSTX Muleshoe 20.58 108 P P 18 10 15.0 -1.4
YKA Yellowknife Ar 20.65 16 P P 18 10 18.0 +1.2
comp=Z,6nm,0.9s,baz=204,slow=11,SNR=17
YKA LR LR 18 18 01.3
comp=Z,243nm,18.6s,baz=244,slow=36
YKA Yellowknife Ar 20.65 16 P P 18 10 16.4 -0.4
AMTX Amarillo 20.86 105 P P 18 10 18.0 -1.5
AMTX IAmb IAmb 18 10 38.8
comp=Z,34nm,1.2s
M27K Edge Creek, AK 21.34 340 P P 18 10 24.7 +0.2
M27K IAmb IAmb 18 11 02.3
comp=Z,40nm,1.6s
R32A Long Quarter, 21.47 93 P P 18 10 25.1 -0.9
R32A IAmb IAmb 18 10 30.9
comp=Z,28nm,0.9s
ECSD EROS Data Cent 21.63 78 P P 18 10 27.4 -0.2
ECSD EROS Data Cent 21.63 78 P P 18 10 30.0 +2.4
baz=279
F33A 5 Mile Ranch, 21.63 72 P P 18 10 25.8 -1.8
F33A IAmb IAmb 18 10 38.6
comp=Z,86nm,1.9s
N33A J Bar K, Exete 21.66 86 P P 18 10 26.6 -1.3
M26K Nabesna, AK 21.67 339 P P 18 10 28.2 +0.3
M26K IAmb IAmb 18 11 11.1
comp=Z,28nm,1.6s
AGMN Agassiz Nation 21.90 66 P P 18 10 30.5 0.0
AGMN IAmb IAmb 18 10 38.9
comp=Z,21nm,1.1s
BCAR Beaver Creek A 21.92 341 P P 18 10 29.5 -1.1
L27K Beaver Creek, 21.93 341 P P 18 10 30.7 0.0
L27K Beaver Creek, 21.93 341 P P 18 10 31.0 +0.3
baz=148
KDAK Kodiak Island 22.02 321 LR LR 18 17 00.0
comp=Z,335nm,20.2s,baz=149,slow=31
ULM Lac du Bonnet 22.05 60 P P 18 10 32.8 +0.7
comp=Z,4.5nm,0.7s,baz=276,slow=11,SNR=3.9
ULM LR LR 18 19 45.9
comp=Z,831nm,18.2s,baz=268,slow=39
ULM Lac du Bonnet 22.05 60 P P 18 10 31.9 -0.2
ULM IAmb IAmb 18 10 39.7
comp=Z,16nm,0.9s
L34A Svendsen Farm, 22.13 83 P P 18 10 33.4 +0.4
L34A IAmb IAmb 18 10 36.4
comp=Z,21nm,0.8s
OK035 E0210 Rd and N 22.15 97 P P 18 10 33.2 0.0
OK035 IAmb IAmb 18 10 40.3
comp=Z,43nm,1.1s
L26K Log Cabin Wild 22.27 340 P P 18 10 34.7 +0.4
MENT Mentasta 22.30 339 P P 18 10 37.3 +2.6
MENT IAmb IAmb 18 10 52.0
comp=Z,29nm,1.7s
KAN16 Harper SW Stat 22.40 96 P P 18 10 37.5 +1.5
KAN10 Anthony SW Sta 22.42 96 P P 18 10 36.0 -0.2
KAN12 Harper NE Stat 22.42 95 P P 18 10 36.0 -0.2
KAN08 Anthony NE Sta 22.47 95 P P 18 10 34.7 -2.0
KAN08 IAmb IAmb 18 10 44.3
comp=Z,53nm,1.3s
KAN14 Manchester OK 22.59 96 P P 18 10 37.2 -0.7
KAN05 Bluff City Nor 22.59 96 P P 18 10 35.0 -3.0
KAN17 Caldwell West 22.70 96 P P 18 10 39.0 0.0
KAN17 IAmb IAmb 18 10 45.9
comp=Z,25nm,0.7s
CROK Carrier 22.76 97 P P 18 10 40.2 +0.4
KSU1 Kansas State U 22.77 90 P P 18 10 40.2 +0.3
KSU1 IAmb IAmb 18 10 47.5
comp=Z,19nm,1.0s
PAX Paxson 22.80 337 P P 18 10 39.8 -0.2
PAX IAmb IAmb 18 11 23.3
comp=Z,31nm,1.9s
TX31 Lajitas Ar. Si 22.84 119 P P 18 10 38.9 -1.8
TX32 Lajitas Array 22.84 119 P P 18 10 38.7 -2.0
TX32 IAmb IAmb 18 11 14.1
comp=Z,32nm,1.9s
TXAR Lajitas Array 22.84 119 P P 18 10 45.0 +4.3
comp=Z,1.0nm,0.8s,baz=296,slow=8.4,SNR=10.0
TXAR Lajitas Array 22.84 119 P P 18 10 38.8 -2.0
N35A Tabor 22.94 85 P P 18 10 40.5 -1.1
WMOK Wichita Mounta 23.00 102 P P 18 10 41.4 -0.9
WMOK IAmb IAmb 18 10 47.9
comp=Z,23nm,1.0s
WMOK Wichita Mounta 23.00 102 P P 18 10 46.3 +4.0
baz=300
BLOK Blackwell 23.21 96 P P 18 10 42.4 -2.0
BLOK IAmb IAmb 18 10 49.3
comp=Z,59nm,1.6s
I29M Ogilvie Camp, 23.29 347 P P 18 10 44.6 -0.4
B35A Bob, Littlefor 23.33 66 P P 18 10 43.7 -1.8
B35A IAmb IAmb 18 10 56.8
comp=Z,33nm,1.4s
HPIG 23.34 127 P P 18 10 45.4 -0.6
HPIG IAmb IAmb 18 11 02.7
comp=Z,29nm,1.5s

BCOK	Bluff Creek, N	23.41	99	P	P	18 10 45.5	-0.9
OK029	Liberty Lake	23.46	98	P	P	18 10 45.2	-1.7
OK029				IAmb	IAmb	18 10 53.5	
	comp=Z,20nm,0.6s						
ABTX	Abilene, Hawle	23.50	107	P	P	18 10 45.6	-1.7
ABTX				IAmb	IAmb	18 10 54.8	
	comp=Z,51nm,1.8s						
F36A	Milaca	23.56	72	P	P	18 10 46.0	-1.8
F36A				IAmb	IAmb	18 10 55.8	
	comp=Z,34nm,1.5s						
J26L	Joseph Creek	23.56	341	P	P	18 10 46.8	-1.0
OKCFA	Oklahoma City	23.64	99	P	P	18 10 47.2	-1.4
OK025	Westminster Rd	23.64	99	P	P	18 10 47.3	-1.4
T35A	Sooner Cattle	23.66	95	P	P	18 10 47.4	-1.5
OK033	Mehan	23.72	97	P	P	18 10 47.1	-2.3
OK033				IAmb	IAmb	18 11 21.3	
	comp=Z,12nm,0.8s						
FNO	Franklin	23.75	99	P	P	18 10 46.4	-3.3
X34A	Smith Ranch, M	23.75	101	P	P	18 10 46.5	-3.3
QUOK	Quay	23.84	97	P	P	18 10 49.0	-1.5
QUOK				IAmb	IAmb	18 10 56.7	
	comp=Z,46nm,1.5s						
OK031	S. Brethren Rd	23.84	97	P	P	18 10 48.6	-1.9
I37A	Lemond, Waseca	23.88	76	P	P	18 10 47.6	-3.3
OK030	Cody Creek RV	23.89	97	P	P	18 10 48.8	-2.2
SPMN	Marine on St.	24.13	73	P	P	18 10 52.5	-0.8
SPMN				IAmb	IAmb	18 10 58.9	
	comp=Z,11nm,0.6s						
CHGN	Chignik	24.29	314	P	P	18 10 53.5	-1.1
IL31		24.61	339	P	P	18 10 55.2	-2.2
ILAR	Eielson Array	24.61	339	P	P	18 10 57.9	+0.5
	comp=Z,1.6nm,0.9s,baz=146,slow=8.3,SNR=11						
ILAR				LR	LR	18 19 07.6	
	comp=Z,280nm,20.6s,baz=148,slow=33						
ILAR	Eielson Array	24.61	339	P	P	18 10 55.3	-2.2
JCT	Junction City	24.65	112	P	P	18 10 56.7	-1.4
N38A	Joes South For	24.72	84	P	P	18 10 55.4	-3.3
N38A				IAmb	IAmb	18 11 05.9	
	comp=Z,36nm,1.4s						
Z35A	Perchaven, San	24.81	103	P	P	18 10 59.3	-0.2
Z35A				IAmb	IAmb	18 11 07.6	
	comp=Z,19nm,1.1s						
E38A	The Farm, Brul	24.86	70	P	P	18 10 58.9	-0.9
E38A				IAmb	IAmb	18 11 41.0	
	comp=Z,18nm,1.1s						
NEA2	Nenana	25.08	337	P	P	18 11 01.1	-0.5
NEA2				IAmb	IAmb	18 11 12.0	
	comp=Z,16nm,1.4s						
MDM	Murphy Dome	25.12	338	P	P	18 11 01.2	-0.8
MDM				IAmb	IAmb	18 11 41.4	
	comp=Z,17nm,1.7s						
FCC	Fort Churchill	25.39	41	P	P	18 11 05.6	+1.1
FCC				IAmb	IAmb	18 11 15.1	
	comp=Z,17nm,1.1s						
WHTX	Lake Whitney,	25.39	106	P	P	18 11 04.3	-0.4
WHTX				IAmb	IAmb	18 11 25.2	
	comp=Z,43nm,1.7s						
L19K	White Mountain	25.40	329	P	P	18 11 05.5	+0.9
U38A	Gravette	25.41	94	P	P	18 11 06.2	+1.2
U38A				IAmb	IAmb	18 11 10.9	
	comp=Z,13nm,0.8s						
X37A	Clayton	25.53	99	P	P	18 11 05.5	-0.5
X37A				IAmb	IAmb	18 11 15.1	
	comp=Z,43nm,1.6s						
INK	Inuvik	25.56	354	P	P	18 11 05.5	-0.4
	comp=Z,1.1nm,0.8s,baz=158,slow=5.4,SNR=2.4						
INK				LR	LR	18 20 56.7	
	comp=Z,762nm,18.1s,baz=206,slow=36						
INK	Inuvik	25.56	354	P	P	18 11 07.1	+1.2
I23K	Minto, Yukon-K	25.57	338	P	P	18 11 05.8	-0.3
L40A	Anamosa	25.84	80	P	P	18 11 08.5	-0.3
L40A				IAmb	IAmb	18 11 17.1	
	comp=Z,15nm,0.7s						
I21K	Tanana	26.36	336	P	P	18 11 14.1	+0.8
I21K				IAmb	IAmb	18 11 30.7	
	comp=Z,11nm,1.1s						
A36M	Sachs Harbour	28.99	1	P	P	18 11 36.2	-0.5
G45A	Suttons Bay	29.16	72	P	P	18 11 36.6	-1.9
TKL	Tuckaleechee C	33.52	88	LR	LR	18 26 40.7	
	comp=Z,637nm,19.9s,baz=294,slow=38						
SADO	Sadowa	33.73	70	LR	LR	18 26 24.3	
	comp=Z,420nm,19.8s,baz=318,slow=37						
RES	Resolute Bay	34.71	14	P	P	18 12 27.4	+0.6
	comp=Z,0.8nm,0.8s,baz=72,slow=17,SNR=2.3						
RES				LR	LR	18 25 49.7	
	comp=Z,147nm,19.4s,baz=270,slow=35						
CMIG	Matias Romero	37.26	124	LR	LR	18 29 13.5	
	comp=Z,183nm,20.6s,baz=264,slow=38						
FRB	Frobisher Bay	38.48	37	LR	LR	18 28 23.5	
	comp=Z,192nm,20.6s,baz=256,slow=36						
SCHQ	Schefferville	39.68	51	LR	LR	18 29 45.1	
	comp=Z,579nm,18.1s,baz=263,slow=37						
SHEM	Shemya Is, Ala	39.94	305	LR	LR	18 26 32.7	
	comp=Z,170nm,18.9s,baz=78,slow=31						
SFJD	Kangerlussuaq	45.86	32	LR	LR	18 34 29.8	
	comp=Z,175nm,18.2s,baz=280,slow=38						
JTS	Las Juntas de	48.63	120	LR	LR	18 36 16.8	
	comp=Z,88nm,19.6s,slow=38						
SEY	Seymchan	48.96	323	LR	LR	18 33 35.7	
	comp=Z,164nm,19.9s,baz=33,slow=34						
PETK	Petropavlovsk-	49.39	310	LR	LR	18 31 52.5	
	comp=Z,75nm,21.9s,baz=76,slow=32						
TIXI	Tiksi	54.08	338	LR	LR	18 38 43.8	
	comp=Z,172nm,19.1s,baz=49,slow=37						
SPITS	Spitsbergen Ar	56.93	9	LR	LR	18 39 46.8	
	comp=Z,105nm,19.2s,baz=338,slow=36						
BORG	Borgarnes	57.80	29	LR	LR	18 42 12.6	
	comp=Z,120nm,20.3s,baz=299,slow=38						
JMIC	Jan Mayen	57.96	20	LR	LR	18 42 50.3	
	comp=Z,95nm,19.2s,baz=22,slow=39						
YAK	Yakutsk	58.84	328	LR	LR	18 38 54.3	
	comp=Z,97nm,20.5s,baz=80,slow=34						
SDV	Santo Domingo	59.25	108	LR	LR	18 43 27.8	
	comp=Z,120nm,21.1s,baz=298,slow=38						
ROSC	El Rosal	59.65	114	LR	LR	18 44 28.4	
	comp=Z,53nm,21.9s,baz=1.5,slow=39						
H11N3	WAKE ISLAND Hy	59.88	269	T	T	19 20 55.8	
	baz=51,slow=75,SNR=177						
H11N2	WAKE ISLAND Hy	59.88	269	T	T	19 20 55.2	
	baz=51,slow=75,SNR=131						
H11N1	WAKE ISLAND Hy	59.90	269	T	T	19 20 54.7	
	baz=51,slow=75,SNR=127						
H11S1	WAKE ISLAND Hy	60.79	269	T	T	19 21 42.9	
	baz=50,slow=75,SNR=387						
H11S2	WAKE ISLAND Hy	60.80	268	T	T	19 21 44.6	
	baz=50,slow=75,SNR=227						
H11S3	WAKE ISLAND Hy	60.81	269	T	T	19 21 38.4	
	baz=50,slow=75,SNR=240						
NRIK	Noril'sk	65.12	347	LR	LR	18 46 17.4	
	comp=Z,43nm,19.5s,baz=38,slow=38						
KLR	Kul'dur	65.44	315	LR	LR	18 43 48.3	
	comp=Z,31nm,18.7s,baz=49,slow=35						
ARCES	ARCESS Array B	65.81	10	LR	LR	18 45 33.9	
	comp=Z,174nm,18.7s,baz=330,slow=37						
USRK	Ussuriysk Ar.	68.46	311	LR	LR	18 43 44.8	
	comp=Z,61nm,21.9s,baz=57,slow=33						
AFI	Afiamalu	70.28	227	LR	LR	18 40 03.1	
	comp=Z,104nm,19.9s,baz=53,slow=29						
NOA	NORSAR Array B	70.67	20	LR	LR	18 46 05.1	
	comp=Z,81nm,21.3s,baz=310,slow=34						
EKA	Eskdalemuir Ar	70.80	30	LR	LR	18 47 19.6	
	comp=Z,130nm,18.3s,baz=340,slow=36						
NNA	Nana	71.08	128	LR	LR	18 45 40.0	
	comp=Z,45nm,18.8s,baz=281,slow=34						
RPN	Rapa Nui	71.61	164	LR	LR	18 41 16.6	
	comp=Z,71nm,18.7s,baz=51,slow=30						
HFS	Hagfors	72.08	20	LR	LR	18 47 08.7	
	comp=Z,130nm,19.4s,baz=325,slow=35						
FINES	FINESS Array B	73.47	13	LR	LR	18 50 11.6	
	comp=Z,145nm,19.9s,baz=334,slow=36						
PTGA	Pitinga	73.51	107	LR	LR	18 51 47.0	
	comp=Z,135nm,21.3s,baz=306,slow=38						
MDP	Montagnes des	74.71	97	LR	LR	18 53 30.1	
	comp=Z,137nm,18.4s,baz=342,slow=38						
SONM	Songino Array	78.19	327	P	P	18 17 38.5	+1.7
	comp=Z,0.1nm,0.3s,baz=42,slow=4.5,SNR=2.1						
SONM				LR	LR	18 49 52.2	
	comp=Z,108nm,21.6s,baz=112,slow=34						
SONM	Songino Array	78.19	327	IAmb	IAmb	18 17 59.2	
	comp=Z,8.9nm,1.8s						
KIRV	Kirov	78.64	2	LR	LR	18 57 09.0	
	comp=Z,49nm,18.5s,baz=338,slow=39						
MSVF	Nonsavu	79.08	233	LR	LR	18 46 43.8	
	comp=Z,112nm,18.2s,baz=359,slow=31						
ZALV	Zalesovo Beam	79.70	342	LR	LR	18 55 32.0	
	comp=Z,76nm,18.9s,baz=24,slow=38						
GUMO	Guam	79.91	279	LR	LR	18 47 13.3	
	comp=Z,36nm,19.0s,baz=54,slow=31						
ARU	Arti	80.77	357	LR	LR	18 56 32.0	
	comp=Z,71nm,18.8s,baz=54,slow=38						
OBN	Obninsk	81.11	10	LR	LR	18 55 41.6	
	comp=Z,12nm,18.1s,baz=356,slow=37						
HHC	Hu-ho-hao-te	81.43	319	*eP*	P	18 17 53.8	-0.7
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,230nm,6.8s						
GERES	GERESS Array B	81.98	25	LR	LR	18 57 28.0	
	comp=Z,78nm,20.5s,baz=334,slow=38						
VRAC	Vranov	82.45	23	LR	LR	18 55 25.0	
	comp=Z,57nm,19.2s,baz=326,slow=36						
DAVOX	Davos/Dischmat	82.51	29	LR	LR	18 54 28.2	
	comp=Z,113nm,19.7s,baz=304,slow=36						
ESDC	Sonseca Array	82.58	41	LR	LR	18 50 40.2	
	comp=Z,102nm,20.9s,baz=304,slow=33						
SIV	San Ignacio	83.84	118	LR	LR	18 59 51.0	
	comp=Z,76nm,18.2s,baz=312,slow=39						
KURBB	Kurchatov Arra	84.17	344	LR	LR	18 59 54.0	
	comp=Z,68nm,18.0s,baz=347,slow=39						
AKASG	Malin Array Be	84.22	15	P	P	18 18 10.3	+1.7
	comp=Z,0.1nm,0.3s,baz=348,slow=3.9,SNR=1.9						
AKASG				LR	LR	18 56 44.4	
	comp=Z,73nm,18.2s,baz=340,slow=36						
NJ2	Nanjing	84.30	309	*eP*	P	18 18 08.8	-0.6
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HNR	Honiara	84.66	252	LR	LR	18 48 27.7	
	comp=Z,108nm,20.2s,baz=54,slow=30						
WMQ	Urumqi	88.24	336	*eP*	P	18 18 30.3	+1.6
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CD2	Chengdu	93.17	319	*eP*	P	18 18 50.0	-1.8
PZH	PanZhiHua	97.80	318	P	P	18 19 12.4	-0.7
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						

*IDC **23** 18:08:18.0±1.0,29°.16S×66°.54W,h0km,mb3.9/5,*
mb1 3.9/8,mb1mx3.8/30,mbtmp3.7/8,ML3.8/3,MS3.7/3,
Ms1 3.6/3,ms1mx2.9/51,Error ellipse: s-maj=36.4km
s-min=27.8km az=31.0
*NEIC **23** 18:08:22.1±2.9,28°.96S±0°.06×66°.61W±0°.02,h18km±5km,*
Md3.6(SJA),Error ellipse: s-maj=8.8km s-min=2.6km
az=184.0

ISC 23 18:08:23.4±0.7,28°.99S±0°.07×66°.57W±0°.07,h39km,n48,
σ1°36/46,mb3.7/4,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC02	Maricunga	3.12	313		Pn	18 09 11.2	+0.6
ZON	Zonda	3.13	215		Pn	18 09 10.5	+0.2
ZON				Sn	Sn	18 09 48.5	+2.0
GO03	Copiap	3.52	292		Pn	18 09 16.2	+0.6
GO03				Sn	Sn	18 09 56.3	+0.3
LCO	Las Campanas	3.62	269		Pn	18 09 18.5	+1.3
GO04	Tololo Observa	3.87	251		Pn	18 09 21.4	+0.9
CO03	El Pedregal	4.02	242		Pn	18 09 23.8	+1.3
AC04	Llanos de Chal	4.03	280		Pn	18 09 22.2	-0.5
CO05	La Serena	4.17	256		Pn	18 09 23.3	-1.2
CO06	Fray Jorge	4.71	248		Pn	18 09 30.7	-1.2
VA03	San Esteban	5.08	221		Pn	18 09 37.5	+0.3
PEL	Peldehue	5.44	219		Pn	18 09 40.9	-1.1
PB14	IPOC Station P	5.53	321	Pn	Pn	18 09 40.8	-2.8
MT05	Renca	5.66	218	Pn	Pn	18 09 42.8	-2.2
MT02	Curacav	5.78	221		Pn	18 09 46.0	-0.7
VA01	Torpederas	5.93	226	Pn	Pn	18 09 48.8	+0.2
MT09	Talagante	6.08	217	Pn	Pn	18 09 50.3	-0.6
MT01	Popeta	6.29	218	Pn	Pn	18 09 52.2	-1.5
PB15	IPOC Station P	6.32	335	Pn	Pn	18 09 56.0	+1.7
PB10	IPOC Station P	6.52	326	Pn	Pn	18 09 57.0	+0.1
BO01	Tunca	6.62	214		Pn	18 09 56.4	-1.7
LVC	Limon Verde	6.69	341	Pn	Pn	18 10 02.1	+2.6
	0.9nm,0.3s,baz=181,slow=11,SNR=3.8						
LVC	Limon Verde	6.69	341	Pn	Pn	18 10 00.8	+1.3
BO02	Sierra Bellavi	6.80	211	Pn	Pn	18 10 00.5	-0.3
PB06	IPOC Station P	6.81	336	Pn	Pn	18 09 57.8	-3.3
PB04	IPOC Station P	7.37	333	Pn	Pn	18 10 07.5	-1.1
GO05	Huala	7.53	216	Pn	Pn	18 10 08.0	-2.7
PB09	IPOC Station P	7.56	341	Pn	Pn	18 10 07.0	-4.2
PB07	IPOC Station P	7.83	337	Pn	Pn	18 10 13.6	-1.4
ML02	Panimavida	7.90	210	Pn	Pn	18 10 13.9	-1.8
PB01	IPOC Station P	8.34	341	Pn	Pn	18 10 21.8	-0.1
CPUP	Villa Florida	8.61	74	Pn	Pn	18 10 25.9	+0.3
	1.0nm,0.3s,baz=237,slow=7.2,SNR=6.0						
CPUP				Lg	Lg	18 12 48.0	
	0.7nm,0.3s,baz=169,slow=16,SNR=2.0						
CPUP	Villa Florida	8.61	74	Pn	Pn	18 10 26.0	+0.4
ITQB	Itaqui	8.71	97	Pn	Pn	18 10 28.2	+1.3
PB12	IPOC Station P	10.88	341	Pn	Pn	18 10 54.2	-2.5
PLTB	Pedras Altas	11.54	107	Pn	Pn	18 11 04.8	-0.8
PLCA	Paso Flores	12.16	194	Lg	Lg	18 14 39.6	
	0.2nm,0.3s,baz=36,slow=8.1,SNR=3.3						
PLCA				LR	LR	18 16 22.1	
	comp=Z,109nm,18.6s,baz=102,slow=40						
LPAZ	La Paz	12.72	353	Pn	Pn	18 11 22.3	-0.1
	0.1nm,0.3s,baz=153,slow=6.8,SNR=1.4						
TXAR	Lajitas Array	67.96	325	P	P	18 19 19.5	+0.9
	0.4nm,0.6s,baz=139,slow=6.4,SNR=6.3						
DBIC	Dimbokro	69.10	69	P	P	18 19 25.3	-0.6
	1.2nm,0.5s,baz=180,slow=9.5,SNR=4.0						
MAW	Mawson	76.58	162	LR	LR	18 53 57.6	
	comp=Z,55nm,18.0s,baz=250,slow=36						
TORD	Torodi Ar. Bea	78.05	68	P	P	18 20 18.3	-0.1
	0.7nm,0.7s,baz=246,slow=4.3,SNR=2.9						
PDAR	Pinedale Array	81.62	330	P	P	18 20 38.4	+0.9
	0.3nm,0.4s,baz=140,slow=9.3,SNR=4.7						
MDT	Midelt	85.03	48	LR	LR	18 56 40.0	
	comp=Z,86nm,19.8s,baz=342,slow=34						
YKA	Yellowknife Ar	98.92	340	P	Pdif	18 21 59.8	+0.8
	0.1nm,0.4s,baz=134,slow=4.7,SNR=1.8						
ASAR	Alice Springs	124.06	203	PKP	PKiKP	18 27 18.4	-0.1
	0.2nm,0.6s,baz=126,slow=1.5,SNR=6.9						
WRA	Warramunga Arr	127.33	205	PKP	PKiKP	18 27 25.1	0.0
	0.6nm,0.6s,baz=165,slow=1.7,SNR=10						
ZALV	Zalesovo Beam	147.52	32	PKPbc	PKiKP	18 28 05.0	0.0
	1.3nm,0.3s,baz=312,slow=3.3,SNR=8.6						
MKAR	Makanchi Array	149.95	45	PKPbc	PKiKP	18 28 10.6	+0.3
	0.7nm,0.5s,baz=292,slow=2.6,SNR=12						

*IDC **23** 18:49:00.7±1.1,37°.74N×22°.01E,h0km,mb3.5/8,*
mb1 3.6/10,mb1mx3.3/53,mbtmp3.5/10,ML2.6/2,Error
ellipse: s-maj=23.3km s-min=21.9km az=172.0
*ATH **23** 18:49:01.9,37°.51N×21°.98E,h9km±1km,ML3.3/22,Error*
ellipse: s-maj=1.9km s-min=0.8km az=22.0
*THE **23** 18:49:02.1,37°.50N×21°.99E,h0km±2km,ML3.3/4,Error*
ellipse: s-maj=2.3km s-min=0.7km az=204.0

ISC 23 18:49:01.9±1.0,37°.51N±0°.02×21°.99E±0°.02,h9km±7km,
n86,σ1°13/104,mb3.6/7,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.33	189	P	Pg	18 49 08.3	-0.3
ITM				S	Sg	18 49 13.5	+0.5
	6μm,0.1s						
ITM	Ithomi	0.33	189	P	Pg	18 49 08.2	-0.3
ITM				S	Sg	18 49 13.0	0.0
ITM				AML	AML	18 49 14.2	
	comp=E,13849μm,0.2s						
ITM				AML	AML	18 49 14.4	
	comp=N,10052μm,0.3s						
DRO	Drossia	0.49	333	P	Pg	18 49 11.4	-0.2
DRO				S	Sb	18 49 19.9	-0.3
	comp=N,7μm,0.2s						
DRO	Drossia	0.49	333	P	Pg	18 49 11.4	-0.2
DRO				S	Sg	18 49 17.8	-0.3
DRO				AML	AML	18 49 21.2	
	comp=E,14448μm,0.2s						
DRO				AML	AML	18 49 23.6	
	comp=N,13944μm,0.4s						
KLV	Kalavryta, Ach	0.55	13	P	Pg	18 49 12.2	-0.4
KLV				S	Sb	18 49 21.8	0.0
	comp=N,2μm,0.5s						
KLV	Kalavryta, Ach	0.55	13	P	Pg	18 49 12.1	-0.5
KLV				S	Sg	18 49 19.9	0.0
KLV				AML	AML	18 49 23.9	
	comp=E,4293μm,0.4s						
KLV				AML	AML	18 49 25.3	
	comp=N,5024μm,0.6s						
PYL	PYLOS	0.64	198	P	Pg	18 49 13.4	-1.0
PYL	PYLOS	0.64	198	P	Pg	18 49 13.4	-1.0
RLS	Riolos of Patr	0.69	323	P	Pg	18 49 14.6	-0.6
RLS				S	Sg	18 49 25.1	+0.9
RLS	Riolos of Patr	0.69	323	P	Pg	18 49 14.5	-0.6
RLS				S	Sg	18 49 24.6	+0.4
RLS				AML	AML	18 49 30.6	
	comp=E,2147μm,0.4s						
RLS				AML	AML	18 49 31.3	
	comp=N,5535μm,0.4s						
LAKA	Lakka	0.73	359	P	Pg	18 49 15.4	-0.7
LAKA				S	Sb	18 49 27.1	+0.1
LAKA	Lakka	0.73	359	P	Pg	18 49 15.3	-0.7
LAKA				S	Sg	18 49 25.1	-0.5
LAKA				AML	AML	18 49 28.5	
	comp=N,29111μm,0.5s						
LAKA				AML	AML	18 49 29.4	
	comp=E,27961μm,0.3s						
THAL	Thalero	0.75	45	P	Pg	18 49 16.3	-0.1
THAL	Thalero	0.75	45	P	Pg	18 49 16.1	-0.3
THAL				S	Sg	18 49 26.3	+0.1
THAL				AML	AML	18 49 37.7	
	comp=N,11808μm,0.3s						
THAL				AML	AML	18 49 37.9	
	comp=E,14498μm,0.3s						
ALIK	Aliki, Aigiali	0.76	7	P	Pg	18 49 16.2	-0.3
VTN	Vitineika	0.76	303	P	Pg	18 49 16.9	+0.4
VTN	Vitineika	0.76	303	P	Pg	18 49 16.7	+0.2
UPR	University Cam	0.79	348	P	Pg	18 49 17.0	-0.2
EPID	Epidavros	0.90	83	P	Pg	18 49 19.2	-0.1
EPID	Epidavros	0.90	83	P	Pg	18 49 19.5	+0.2
SERG	Sergoula	0.90	3	P	Pg	18 49 18.4	-0.9
SERG				S	Sb	18 49 33.6	+1.6
SERG	Sergoula	0.90	3	P	Pg	18 49 18.4	-0.9
SERG				AML	AML	18 49 35.3	
	comp=N,6786μm,0.3s						
SERG				AML	AML	18 49 35.8	
	comp=E,5337μm,0.4s						
EFP	Efpalio	0.92	356	P	Pg	18 49 19.0	-0.6
EFP	Efpalio	0.92	356	P	Pg	18 49 19.0	-0.6
EFP				AML	AML	18 49 36.8	
	comp=N,4398μm,0.3s						
EFP				AML	AML	18 49 38.2	
	comp=E,3251μm,0.4s						
LTK	Loutraki	0.93	56	P	Pg	18 49 19.5	-0.3
LTK				S	Sb	18 49 33.0	+0.4
LTK	Loutraki	0.93	56	P	Pg	18 49 19.3	-0.5
LTK				AML	AML	18 49 39.2	
	comp=N,3749μm,0.4s						
LTK				AML	AML	18 49 39.2	
	comp=E,2477μm,0.4s						
KRND	KRANIDI	0.93	97	P	Pg	18 49 20.0	+0.2
KRND	KRANIDI	0.93	97	P	Pg	18 49 20.0	+0.2
KRND				AML	AML	18 49 37.0	
	comp=E,3441μm,0.3s						
KRND				AML	AML	18 49 39.5	
	comp=N,3550μm,0.5s						
DLFA	Delphi	1.05	22	P	Pg	18 49 21.4	-0.6
ANX	Ano Chora	1.08	357	P	Pg	18 49 21.9	-0.9
ANX				S	Sn	18 49 39.7	+1.1
	comp=N,3μm,0.5s						
ANX	Ano Chora	1.08	357	P	Pg	18 49 21.7	-1.0
ANX				AML	AML	18 49 40.9	
	comp=N,5886μm,0.5s						
ANX				AML	AML	18 49 42.4	
	comp=E,5392μm,0.4s						
VLI	Veliai	1.09	136	P	Pb	18 49 23.4	+0.4
VLI	Veliai	1.09	136	P	Pg	18 49 22.4	-0.5
VLI				AML	AML	18 49 45.0	
	comp=N,1765μm,0.6s						
VLI				AML	AML	18 49 45.2	
	comp=E,1644μm,0.5s						
MNVA	Monemvasia	1.17	134	P	Pg	18 49 22.9	-1.5
VIL2	Platees	1.23	55	P	Pg	18 49 25.0	-0.6
VIL2				AML	AML	18 49 49.3	
	comp=E,2830μm,0.4s						
VIL2				AML	AML	18 49 49.8	
	comp=N,2281μm,0.7s						
VILL	Villia	1.23	58	P	Pg	18 49 25.6	0.0
VILL				S	Sb	18 49 43.2	+1.7
PSDA	Pessada-Kefalo	1.27	299	P	Pg	18 49 25.8	-0.5
VLS	Valsamata	1.29	301	P	Pg	18 49 26.5	-0.3
VLS				S	Sn	18 49 46.2	+2.6
VLS	Valsamata	1.29	301	P	Pg	18 49 26.0	-0.8
VLS				AML	AML	18 49 51.7	
	comp=E,871μm,0.3s						
VLS				AML	AML	18 49 55.2	
	comp=N,1597μm,0.6s						
ARGA	Argostoli. Kep	1.37	300	P	Pg	18 49 27.3	-1.0
LKR	Lokris	1.39	35	P	Pg	18 49 27.1	-1.5
LKR				AML	AML	18 49 52.9	
	comp=N,2239μm,0.3s						
LKR				AML	AML	18 49 54.0	
	comp=E,1676μm,0.4s						
EVR	Evrytania	1.41	354	P	Pn	18 49 27.5	-0.4
EVR	Evrytania	1.41	354	P	Pn	18 49 27.7	-0.2
EVR				AML	AML	18 49 53.7	
	comp=N,1870μm,0.6s						
EVR				AML	AML	18 49 56.7	
	comp=E,1486μm,0.5s						
ATAL	Atalanti	1.43	34	P	Pn	18 49 28.8	+0.7
ATAL	Atalanti	1.43	34	P	Pn	18 49 28.3	+0.2
ATAL				AML	AML	18 49 52.2	
	comp=N,977μm,0.4s						
ATAL				AML	AML	18 49 53.7	
	comp=E,915μm,0.4s						
ATH	Athens Observa	1.44	71	P	Pn	18 49 28.7	+0.5
ATH				AML	AML	18 49 51.4	
	comp=E,1721μm,0.4s						
ATH				AML	AML	18 49 52.8	
	comp=N,1596μm,0.3s						
KEF4	Livadi, Kephal	1.45	302	P	Pn	18 49 28.5	+0.2
VLY	Voula,Athens	1.47	76	P	Pn	18 49 29.0	+0.4
VLY				S	S

BRTR	Keskin Array B	9.38	73	Pn		Pn	18 51 17.4	0.0
	comp=E,0.0nm,0.3s,baz=261,slow=13,SNR=2.3							
ESDC	Sonseca Array	20.38	284	P		P	18 53 36.8	-2.2
	comp=E,0.3nm,0.7s,baz=89,slow=10,SNR=2.5							
FINES	FINESS Array B	24.09	5	P		P	18 54 15.5	-2.0
	comp=E,1.6nm,0.9s,baz=182,slow=9.5,SNR=4.8							
NOA	NORSAR Array B	24.51	347	P		P	18 54 19.6	-1.8
	comp=E,0.5nm,0.9s,baz=160,slow=9.3,SNR=1.7							
EKA	Eskdalemuir Ar	24.65	324	P		P	18 54 21.4	-1.2
	comp=E,1.1nm,0.6s,baz=122,slow=9.3,SNR=4.9							
TORD	Torodi Ar. Bea	30.28	222	P		P	18 55 15.7	+2.3
	comp=E,0.4nm,0.5s,baz=36,slow=9.2,SNR=4.9							
ARCES	ARCESS Array B	32.14	2	P		P	18 55 28.4	-1.0
	comp=E,2.9nm,1.0s,baz=186,slow=9.8,SNR=5.7							
MKAR	Makanchi Array	44.66	58	P		P	18 57 13.6	-1.3
	comp=E,0.3nm,0.5s,baz=273,slow=6.5,SNR=4.7							
ZALV	Zalesovo Beam	45.27	48	P		P	18 57 18.1	-1.5
	comp=E,0.9nm,0.7s,baz=280,slow=8.9,SNR=4.5							

*BJI **23** 19:00:33.9±0.0, 39°.55N×70°.58E, h10km, mb4.0/4, ML3.9/2, Ms3.5/1*
*IDC **23** 19:00:39.9±0.9, 39°.59N×71°.27E, h0km, mb3.5/14, mb1 3.8/22, mb1mx3.7/59, mbtmp3.6/22, ML3.3/7, Error ellipse: s-maj=14.7km s-min=9.4km az=150.0*
*MOS **23** 19:00:40.2±1.1, 39°.57N×71°.15E, h15km, mb4.1/8, Error ellipse: s-maj=9.1km s-min=4.9km az=74.4*
*SOME **23** 19:00:40.2, 39°.57N×71°.45E, h15km*
*KRNET **23** 19:00:40.1±0.1, 39°.56N×71°.32E, h12km, mb4.4*
*ISU **23** 19:00:41, 39°.57N×71°.41E, h5km*
*NNC **23** 19:00:44.8±1.7, 39°.73N×71°.33E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=14.1km s-min=8.2km az=9.0*
ISC 23 19:00:40.0±1.1, 39°.56N±0°.03×71°.35E±0°.02, h3km±7km, n161, σ2°33/219, mb3.7/22, 46C-31D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.36	102	⇑iP	Pg	19 00 47.7	+0.8
	baz=2.0						
DRK				⇑iS	Sg	19 00 53.1	+1.5
	baz=2.0						
BTK	Batken	0.65	321	⇑iP	Pg	19 00 52.5	+0.1
	baz=22						
BTK				⇑iS	Sg	19 01 01.3	+0.5
	baz=22						
FRG	Fergana	0.88	22	iP	Pb	19 00 58.0	0.0
FRG				iS	Sb	19 01 10.0	-0.2
ANR	Andizhan	1.43	33	eP	Pg	19 01 09.0	+1.7
ANR				eS	Sn	19 01 29.0	+2.8
OHH	Osh	1.47	48	eP	Pb	19 01 08.0	+0.1
OHH				eS	Sg	19 01 27.0	-0.1
OHH	Osh	1.47	48	⇓iP	Pb	19 01 08.1	+0.1
	baz=49						
OHH				⇓iS	Sg	19 01 28.4	+1.3
	baz=49						
SFK	Sufi-Kurgan	1.72	74	⇑eP	Pb	19 01 12.7	+0.3
	baz=74						
SFK				⇑eS	Sg	19 01 36.5	+1.2
	baz=74						
CHGR	Chuyangaron	1.93	243	⇓iP	Pb	19 01 15.8	0.0
	baz=42						
CHGR				⇓iS	Sb	19 01 41.7	+1.4
	baz=42						
TRKS	Terek-Say	1.98	355	⇑iP	Pn	19 01 15.6	+1.0
	baz=57						
TRKS				⇑iS	Sb	19 01 41.4	-0.5
	baz=57						
YBZ	Yangibazar	2.20	323	eP	Pg	19 01 23.0	+0.8
YBZ				eS	Sg	19 01 53.0	+2.2
CHMG	Chimgan	2.24	333	eP	Pg	19 01 23.0	+0.1
CHMG				eS	Sg	19 01 54.0	+2.1
ARK	Arkit	2.29	12	⇑iP	Pb	19 01 21.3	-0.7
	baz=12						
ARK				⇑iS	Sb	19 01 51.3	+0.5
	baz=12						
SALK	Salom-Alik	2.31	54	eP	Pb	19 01 21.8	-0.6
	baz=55						
SALK				eS	Sb	19 01 52.2	+0.8
	baz=55						
CHRV	Charvak	2.34	333	eP	Pb	19 01 24.0	+1.1
CHRV				eS	Sg	19 01 56.0	+0.9
TAS	Tashkent	2.36	319	⇓iP	Pb	19 01 22.1	-1.1
	baz=19						
TAS				⇓iS	Sb	19 01 52.7	-0.1
	baz=19						
IUG	Iuzhnay	2.77	339	⇑iPN	Pn	19 01 26.7	+1.2
IUG	Iuzhnay	2.77	339	eP	Pg	19 01 32.3	-0.9
	4μm,0.6s						
IUG				eS	Sg	19 02 08.8	-0.3
	860nm,0.2s						
IUG	Iuzhnay	2.77	339	Pg	Pg	19 01 35.6	+2.4
	3μm,0.4s						
IUG				Lg	Lg	19 02 08.8	
	860nm,1.0s						
MNAS	Manas	3.06	16	⇑iP	Pn	19 01 32.0	+2.6
	baz=17						
MNAS				⇑iS	Sb	19 02 09.9	-3.0
	baz=17						
CHM	Chimkent	3.06	335	eP	Pg	19 01 37.6	-1.0
	1.8nm,0.0s						
CHM				eS	Sg	19 02 18.9	+0.5
	2μm,0.4s						
AML	Almayashu	3.13	34	P	Pn	19 01 33.3	+2.7
	SNR=113						
ARLS	Aral	3.23	44	⇓iP	Pn	19 01 34.5	+2.8
	baz=44						
ARLS				⇓iS	Sb	19 02 14.1	-3.7
	baz=44						
DZA	Taraz	3.33	360	ePN	Pn	19 01 34.3	+1.3
DZA				eS	Sn	19 02 14.3	+1.1
DZA	Taraz	3.33	360	eP	Pb	19 01 41.7	+1.9
	276nm,0.1s						
DZA				eS	Sg	19 02 25.9	-1.2
	512nm,0.3s						
DZA	Taraz	3.33	360	eP	Pn	19 01 34.4	+1.3
	baz=2.4						
DZA				eS	Sn	19 02 14.3	+1.1
	baz=2.4						
DZA	Taraz	3.33	360	Pg	Pg	19 01 43.8	0.0
	280nm,0.6s						
DZA				Lg	Lg	19 02 23.3	
	1μm,0.6s						
MRKS	Merke	3.49	23	eP	Pg	19 01 46.7	-0.1
	135nm,0.2s						
MRKS				eS	Sg	19 02 33.3	+1.3
	142nm,0.4s						
MRKS	Merke	3.49	23	Pg	Pg	19 01 47.9	+1.1
	136nm,0.4s						
MRKS				Lg	Lg	19 02 30.4	
	92nm,0.3s						
KSH	Kashi	3.58	89	Pn	Pn	19 01 36.1	-0.4
KSH				Sn	Sb	19 02 25.0	-2.8
KSH				smax	smax		
	comp=N,370nm,0.8s						
KSH				smax	smax		
	comp=E,290nm,0.8s						
UCH	Uchtor	3.59	41	P	Pn	19 01 40.0	+3.1
	SNR=101						
UCH	Uchtor	3.59	41	⇑iP	Pn	19 01 39.5	+2.5
	baz=41						
UCH				⇑iS	Sn	19 02 22.8	+2.7
	baz=41						
KK02	Karatay Array	3.60	350	⇓Pn	Pn	19 01 39.2	+2.5
	21nm,0.3s						
KK02				⇓Lg	Lg	19 02 34.3	
	289nm,0.7s						
EKS2	Erkin-Say	3.60	30	P	Pn	19 01 40.1	+3.2
	SNR=58						
EKS2	Erkin-Say	3.60	30	⇓iP	Pn	19 01 39.7	+2.8
	baz=30						
EKS2				⇓iS	Sn	19 02 23.1	+3.1
	baz=30						
BRLS	Borolday	3.65	342	ePN	Pn	19 01 36.6	-0.9
BRLS	Borolday	3.65	342	eP	Pb	19 01 43.6	-1.6
	27nm,0.1s						
BRLS				eS	Sb	19 02 29.1	-0.8
	249nm,0.0s						
BRLS	Borolday	3.65	342	Pg	Pb	19 01 47.3	+2.1
	28nm,0.4s						
BRLS				Lg	Lg	19 02 29.1	
	246nm,0.3s						
AAK	Ala-Archa	3.89	37	Pn	Pn	19 01 44.1	+3.3
	26nm,0.3s,baz=199,slow=5.4,SNR=175						
AAK				Pg	Pg	19 01 52.9	-1.6
	20nm,0.3s,baz=189,slow=6.2,SNR=11						
AAK				Lg	Lg	19 02 42.0	
	23nm,0.3s,baz=343,slow=19,SNR=9.6						
AAK	Ala-Archa	3.89	37	P	Pn	19 01 44.0	+3.2
	SNR=60						
AAK	Ala-Archa	3.89	37	⇓Pn	Pn	19 01 44.4	+3.6
	86nm,0.7s						
AAK				⇑Lg	Lg	19 02 43.4	
	137nm,0.5s						
AAK	Ala-Archa	3.89	37	⇑iP	Pn	19 01 43.7	+2.9
	baz=37						
AAK				⇑iS	Sn	19 02 30.0	+2.9
	baz=37						
FRU1	Bishkek	4.08	36	⇓iP	Pn	19 01 46.6	+3.1
	baz=36						
FRU1				⇓iS	Sn	19 02 35.0	+3.2
	baz=36						
KBK	Karagaybulak	4.12	40	P	Pn	19 01 48.0	+4.0
	SNR=138						
KBK	Karagaybulak	4.12	40	⇑iP	Pn	19 01 46.9	+2.9
	baz=40						
KBK				⇑iS	Sn	19 02 35.6	+2.8
	baz=40						
CHMS	Chumysh	4.29	36	P	Pn	19 01 49.5	+3.3
	SNR=97						
CHMS	Chumysh	4.29	36	⇑iP	Pn	19 01 49.2	+3.0
	baz=36						
CHMS				⇑iS	Sn	19 02 39.6	+2.8
	baz=36						
USP	Ospenovka	4.40	32	P	Pn	19 01 50.6	+2.9
	SNR=116						
USP	Ospenovka	4.40	32	⇑iP	Pn	19 01 50.7	+2.9
	baz=32						
USP				⇑iS	Sn	19 02 42.3	+2.8
	baz=32						
BOOM	Boomskoye usch	4.54	48	⇓eP	Pn	19 01 52.8	+3.0
	baz=49						
BOOM				⇓iS	Sn	19 02 45.9	+2.6
	baz=49						
ULHL	Ulahol	4.58	52	P	Pn	19 01 53.2	+2.9
	SNR=12						
ULHL	Ulahol	4.58	52	⇑iP	Pn	19 01 53.3	+2.9
	baz=53						
ULHL				⇑iS	Sn	19 02 46.7	+2.5
	baz=53						
SGDS	Sogindy	4.61	31	ePN	Pn	19 01 53.3	+2.7
SGDS	Sogindy	4.61	31	eP	Pb	19 02 04.5	+3.0
	15nm,0.4s						
SGDS				eS	Sg	19 03 05.1	-2.8
	28nm,0.1s						
SGDS	Sogindy	4.61	31	⇑iP	Pn	19 01 53.4	+2.7
	baz=33						
SGDS	Sogindy	4.61	31	Pg	Pg	19 02 08.4	+0.2
	30nm,0.4s						
SGDS				Lg	Lg	19 03 05.1	
	55nm,0.4s						
TKM2	Tokmak 2	4.64	42	P	Pn	19 01 54.5	+3.3
	SNR=88						
TKM2	Tokmak 2	4.64	42	PN	Pn	19 01 54.1	+2.9
TKM2	Tokmak 2	4.64	42	⇓Pn	Pn	19 01 54.1	+2.9
	26nm,0.5s						
TKM2				⇑Lg	Lg	19 03 06.7	
	41nm,0.5s						
TKM2	Tokmak 2	4.64	42	⇓eP	Pn	19 01 54.1	+2.9
	baz=42						
TKM2				⇓iS	Sn	19 02 48.1	+2.4
	baz=42						
KST	Kastek	4.92	43	eP	Pb	19 02 10.5	+3.6
	20nm,0.4s						
KST				eS	Sg	19 03 15.4	-2.6
	71nm,0.3s						
KST	Kastek	4.92	43	Pg	Pg	19 02 14.1	-0.1
	44nm,0.9s						
KST				Lg	Lg	19 03 15.4	
	71nm,0.6s						
DGS	Degeres	4.96	41	eP	Pb	19 02 11.1	+3.6
	31nm,1.5s						
DGS				eS	Sg	19 03 17.3	-2.0
	72nm,0.5s						
DGS	Degeres	4.96	41	Pg	Pg	19 02 15.4	+0.4
	31nm,0.5s						
DGS				Lg	Lg	19 03 17.3	
	72nm,0.5s						
KDJ	Kajisay	5.11	58	⇑iP	Pn	19 02 00.9	+3.2
	baz=58						
KDJ				⇑iS	Sn	19 02 59.7	+2.3
	baz=58						
MTBS	Maitube	5.23	45	eP	Pb	19 02 15.8	+3.6
	12nm,0.4s						
MTBS				eS	Sg	19 03 24.4	-3.6
	42nm,0.0s						
MTBS	Maitube	5.23	45	Pg	Pg	19 02 20.7	+0.5
	10nm,0.3s						
MTBS				Lg	Lg	19 03 26.3	
	30nm,0.6s						
KRBS	Karabastau	5.25	37	eP	Pg	19 02 16.9	-3.7
	18nm,0.4s						
KRBS				eS	Sg	19 03 26.3	-2.4
	87nm,0.1s						
KRBS	Karabastau	5.25	37	Pg	Pg	19 02 20.8	+0.2
	18nm,0.5s						
KRBS				Lg	Lg	19 03 26.3	
	87nm,0.4s						
BUXR	Bukhara	5.41	274	eP	Pn	19 02 04.0	+2.4
BUXR				eS	Sg	19 03 37.0	+3.3
TNSS	Tian-Shan	5.46	49	eP	Pb	19 02 20.3	+4.0
	8.6nm,0.5s						
TNSS				eS	Sg	19 03 32.7	-2.8
	27nm,0.2s						
TNSS	Tian-Shan	5.46	49	Pg	Pg	19 02 24.4	-0.3
	22nm,0.4s						
TNSS				Lg	Lg	19 03 32.7	
	35nm,0.6s						
KNDC	Almaty	5.59	47	PN	Pg	19 02 24.9	-2.1
KNDC	Almaty	5.59	47	⇑Pn	Pn	19 02 07.3	+3.3
	25nm,0.8s						
KNDC				⇑Pg	Pg	19 02 24.9	-2.1
	40nm,0.6s						
KNDC				⇓Lg	Lg	19 03 37.0	
	229nm,0.8s						
MDOK	Medeo	5.60	48	ePN	Pn	19 02 07.1	+2.8
MDOK	Medeo	5.60	48	eP	Pb	19 02 22.6	+4.2
	14nm,0.6s						
MDOK				eS	Sg	19 03 37.0	-2.9
	83nm,0.3s						
MDOK	Medeo	5.60	48	eP	Pn	19 02 07.1	+2.8
	baz=49						
MDOK	Medeo	5.60	48	Pn	Pn	19 02 07.6	+3.2
	9.0nm,0.9s						
MDOK				⇓Pg	Pg	19 02 23.3	-4.0
	21nm,0.6s						
MDOK				⇓Lg	Lg	19 03 36.9	
	94nm,0.7s						
MDOK	Medeo	5.60	48	Pg	Pg	19 02 26.8	-0.5
	15nm,0.6s						
MDOK				Lg	Lg	19 03 37.0	
	83nm,0.7s						
KUU	Kurty	5.72	39	⇑iPN	Pn	19 02 06.8	+1.0
KUU	Kurty	5.72	39	eP	Pb	19 02 24.1	+3.7
	5.9nm,0.8s						
KUU				eS	Sg	19 03 39.8	-3.8
	74nm,0.1s						
KUU	Kurty	5.72	39	Pg	Pg	19 02 28.5	-1.1
	11nm,0.5s						
KUU				Lg	Lg	19 03 39.8	
	74nm,0.6s						
KTBS	Karatobe	5.76	42	eP	Pb	19 02 25.8	+4.7
	17nm,0.7s						
KTBS				eS	Sg	19 03 41.7	-3.2
	71nm,0.2s						
KTBS	Karatobe	5.76	42	Pg	Pg	19 02 29.5	-0.8
	12nm,0.4s						
KTBS				Lg	Lg	19 03 41.7	
	72nm,0.6s						
BTLS	Baital	5.83	19	ePN	Pn	19 02 08.8	+1.4
BTLS	Baital	5.83	19	eP	Pg	19 02 29.4	-2.4
	80nm,0.3s						
BTLS				eS	Sg	19 03 47.2	-0.1
	17nm,0.1s						
BTLS	Baital	5.83	19	eP	Pn	19 02 08.9	+1.4
	baz=21						
BTLS	Baital	5.83	19	Pg	Pg	19 02 30.9	-0.8
	80nm,0.8s						
BTLS				Lg	Lg	19 03 44.3	
	16nm,0.4s						
CHKK	Chushkaly	6.02	43	eP	Pn	19 02 11.7	+1.7
	baz=44						
SATY	Saty	6.36	54	ePN	Pn	19 02 17.7	+2.9
SATY	Saty	6.36	54	eP	Pg	19 02 37.3	-4.5
	6.4nm,0.1s						
SATY				eS	Sg	19 04 01.2	-3.0
	26nm,0.3s						
SATY	Saty	6.36	54	eP	Pn	19 02 17.7	+2.9
	baz=55						
SATY	Saty	6.36	54	Pg	Pg	19 02 41.1	-0.8
	12nm,0.7s						
SATY				Lg	Lg	19 04 01.2	
	27nm,0.6s						
ZHN	Zhinishke	6.44	54	ePN	Pn	19 02 18.1	+2.4
ZHN	Zhinishke	6.44	54	eP	Pg	19 02 38.2	-5.0
	5.3nm,0.0s						
ZHN				eS	Sg	19 04 01.8	-4.9
	25nm,0.1s						
ZHN	Zhinishke	6.44	54	eP	Pn	19 02 18.2	+2.4
	baz=55						
ZHN	Zhinishke	6.44	54	Pg	Pg	19 02 41.4	-1.8
	12nm,0.3s						
ZHN				Lg	Lg	19 04 01.7	
	25nm,0.7s						
KURS	Kuram	6.45	50	eP	Pg	19 02 40.0	-3.5
	6.4nm,0.3s						
KURS				eS	Sg	19 04 06.0	-1.1
	21nm,0.3s						
KURS	Kuram	6.45	50	Pg	Pg	19 02 44.0	+0.4
	6.4nm,0.3s						
KURS				Lg	Lg	19 04 05.9	
	34nm,0.9s						
ARXS	Arharly	6.71	44	eP	Pb	19 02 41.3	+4.0
	10nm,0.2s						
ARXS				eS	Sg	19 04 08.6	-6.7
	36nm,0.2s						
ARXS	Arharly	6.71	44	Pg	Pg	19 02 45.2	-3.3
	10nm,0.5s						
ARXS				Lg	Lg	19 04 08.6	
	27nm,0.3s						
PDGK	Podgornoye	7.18	56	⇓Pn	Pn	19 02 28.1	+2.0
	2.4nm,0.7s						
PDGK				⇑Pg	Pg	19 02 54.4	-3.1
	9.3nm,0.9s						
PDGK				⇓Lg	Lg	19 04 29.2	
	14nm,0.6s						
TDK	Taldyqorghan	7.55	42	eP	Pn	19 02 33.1	+2.2
TDK	Taldyqorghan	7.55	42	eP	Pn	19 02 33.2	+2.2
	baz=42						
OTUK	Ortayu	8.71	4	⇑Pn	Pn	19 02 47.7	+0.8
	1.6nm,0.5s						
OTUK				⇓Pg	Pg	19 03 20.7	-6.1
	7.6nm,0.8s						
OTUK				⇓Lg	Lg	19 05 14.2	
	9.2nm,0.6s						
GEYT	Alibeck	10.46	265	Pn	Pn	19 03 09.4	-1.5
	0.9nm,0.3s,baz=106,slow=10.0,SNR=6.8						
GEYT				Sn	Sn	19 05 06.9	-1.9
	1.4nm,0.3s,baz=78,slow=23,SNR=7.7						
BRZS	Berezniki	10.47	5	eP	Pn	19 03 11.3	+0.4
BRZS	Berezniki	10.47	5	eP	Pn	19 03 11.3	+0.4
	baz=5.5						
MAKZ	Makanchi	10.61	43	⇑Pn	Pn	19 03 16.2	+3.3
	2.0nm,0.7s						
MAKZ				⇑Lg	Lg	19 06 17.0	
	12nm,1.4s						
MK31	Makanchi Array	10.77	44	eP	Pn	19 03 16.3	+1.2
MK31	Makanchi Array	10.77	44	Pn	Pn	19 03 16.4	+1.2
	2.2nm,0.7s,baz=227,slow=13,SNR=10						
MK31				⇑Lg	Lg	19 06 26.3	
	6.8nm,0.9s,baz=238,slow=25,SNR=4.3						
MKAR	Makanchi Array	10.77	44	Pn	Pn	19 03 17.0	+1.9
	0.2nm,0.3s,baz=230,slow=14,SNR=11						
MKAR				Lg	Lg	19 06 15.4	
	0.2nm,0.3s,baz=237,slow=24,SNR=3.1						
KURBB	Kurchatov Arra	12.16	22	Pn	Pn	19 03 32.5	-1.6
	0.1nm,0.3s,baz=217,slow=13,SNR=25						
KURBB				Sn	Sn	19 05 45.2	-5.0
	0.0nm,0.3s,baz=210,slow=28,SNR=1.9						
KURBB				Lg	Lg	19 07 03.0	
	0.1nm,0.3s,baz=206,slow=32,SNR=2.3						
KURBB	Kurchatov Arra	12.16	22	⇓Pn	Pn	19 03 34.9	+0.8
	2.8nm,0.7s						
KURBB				⇑Lg	Lg	19 07 08.1	
	16nm,0.7s						
KURK	Kurchatov	12.27	22	ceP	Pn	19 03 33.8	-1.8
KURK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KURK	Kurchatov	12.27	22	⇑Pn	Pn	19 03 36.7	+1.1
	comp=Z,1.8nm,0.9s						
KURK				⇓Lg	Lg	19 07 08.7	
	comp=Z,12nm,0.8s						
ZSN	Zaisan	12.58	47	eP	Pn	19 03 44.4	+4.6
AB31	Akbulak array	12.66	324	eP	Pn	19 03 38.7	-2.1
AB31	Akbulak array	12.66	324	Pn	Pn	19 03 38.7	-2.1
	comp=Z,1.4nm,0.4s,baz=133,slow=13,SNR=65						
AB31				⇓Sn	Sn	19 05 57.8	-4.4
	comp=Z,4.9nm,0.5s,baz=129,slow=24,SNR=12						
BVAR	Borovoye Array	13.49	358	Pn	Pn	19 03 51.1	-1.1
	comp=Z,1.0nm,0.3s,baz=134,slow=11,SNR=21						
BVAR				Lg	Lg	19 07 43.3	
	comp=Z,0.1nm,0.3s,baz=186,slow=24,SNR=3.8						
BRVK	Borovoye	13.53	357	iP	Pn	19 03 53.9	+1.2
AKTO	Aktyubinsk	14.37	324	Pn	Pn	19 04 02.9	-1.4
	comp=Z,0.4nm,0.3s,baz=145,slow=15,SNR=5.8						
AKTO				Sn	Sn	19 06 32.9	-11
	comp=Z,0.3nm,0.3s,baz=118,slow=16,SNR=2.4						
AKTO	Aktyubinsk	14.37	324	⇑Pn	Pn	19 04 02.6	-1.7
	comp=Z,1.7nm,0.7s						
AKTO				⇑Sn	Sn	19 06 40.6	-3.5
	comp=Z,4.5nm,0.5s						
PYUN	Piuthan	14.95	136	eP	Pn	19 04 08.6	-3.9
	comp=Z,4.0nm,0.3s						
DANN	Dangsing	15.18	134	eP	Pn	19 04 12.3	-3.3
	comp=Z,9.5nm,0.5s						
DGZ	Jazzator, Alta	15.26	43	iP	Pn	19 04 17.8	+1.3
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KOLN	Koldanda	15.54	135	eP	Pn	19 04 17.2	-3.1
	comp=Z,1.7nm,0.3s						
GKN	Gorkha	15.94	132	eP	Pn	19 04 22.8	-2.7
	comp=Z,1.0nm,0.2s						
KKN	Kakani	16.47	131	eP	Pn	19 04 29.5	-2.9
	comp=Z,0.9nm,0.2s						
PKIN	Phulchoki	16.70	131	eP	Pn	19 04 32.7	-2.6
	comp=Z,1.4nm,0.3s						
PKI	Pulchoki	16.71	131	eP	Pn	19 04 32.7	-2.8
	comp=Z,1.9nm,0.3s						
GUN	Gumba	16.74	130	eP	Pn	19 04 34.1	-1.7
	comp=Z,1.6nm,0.3s						
ZALV	Zalesovo Beam	17.05	28	Pn	Pn	19 04 39.1	-0.2
	comp=Z,0.5nm,0.3s,baz=229,slow=12,SNR=11						
ZALV	Zalesovo Beam	17.05	28	iP	P	19 04 41.2	0.0
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOMU	GeErMu	18.81	93	P	Pn	19 05 03.9	+2.4
GOMU				pP	sP	19 05 08.6	+4.7
GOMU				sP	pP	19 05 11.3	+8.3
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	Arti	18.87	338	P	P	19 05 00.0	-1.2
	comp=Z,0.0nm,0.3s,baz=108,slow=2.9,SNR=6.5						
ARU	Arti	18.87	338	diP	Pn	19 05 02.7	+1.0
ARU				S	S	19 08 36.3	+0.1
ARU				pmax	pmax		
	comp=Z,11nm,1.6s						
GNI	Garni	20.42	280	iP	P	19 05 17.6	-0.8
GNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KBZ	Khabaz	21.62	290	P	P	19 05 30.6	-0.5
	comp=Z,2.2nm,1.0s,baz=166,slow=12,SNR=2.3						
KBZ	Khabaz	21.62	290	ceP	P	19 05 28.5	-2.6
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KVAR	Kislovodsk Arr	21.77	291	P	P	19 05 32.7	-0.2
	comp=Z,2.3nm,0.7s,baz=90,slow=20,SNR=2.0						
KIV	Kislovodsk	21.78	291	eP	P	19 05 33.8	+0.8
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA	Gaotai	21.94	81	eP	P	19 05 38.3	+3.5
GTA				pP	sP	19 05 41.9	+4.4
GTA				sP	pP	19 05 44.3	+7.6
ZAK	Zakamensk	24.86	54	eP	P	19 06 04.2	+0.4
ZAK				pmax	pmax

NRIK pmax pmax
comp=Z,2.0nm,1.1s
AKASG Malin Array Be 31.34 305 P P 19 07 00.8 -0.7
comp=Z,0.1nm,0.3s,baz=76,slow=7.8,SNR=2.1
CMAR Chiang Mai Arr 31.79 123 P P 19 07 07.9 +2.1
comp=Z,0.1nm,0.5s,baz=296,slow=8.0,SNR=1.6
FINES FINESS Array B 35.15 324 P P 19 07 34.2 -0.4
comp=Z,0.6nm,0.5s,baz=116,slow=8.7,SNR=7.7
ARCES ARCESS Array B 38.45 336 P P 19 08 02.8 +0.2
comp=Z,2.5nm,1.0s,baz=104,slow=5.1,SNR=4.6
YAK Yakutsk 41.35 37 *ce* **P 19 08 28.0 +1.2**
YAK pmax pmax
comp=Z,11nm,2.5s
GERES GERESS Array B 41.45 303 P P 19 08 28.1 +0.1
comp=Z,0.1nm,0.4s,baz=71,slow=9.5,SNR=1.3
NOA NORSAR Array B 42.14 321 P P 19 08 33.5 +0.1
comp=Z,0.7nm,0.8s,baz=82,slow=9.0,SNR=1.9
TIXI Tiksi 42.85 23 *ce* **P 19 08 39.8 +0.9**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
KLR Kul'dur 43.17 56 *i P* **P 19 08 41.6 -0.2**
KLR pmax pmax
comp=Z,11nm,2.5s
YSS Yuzh-Sakhalins 50.88 57 *e* **P P 19 09 42.8 +0.7**
YSS pmax pmax
comp=Z,10.0nm,1.0s
ESDC Sonseca Array 56.32 296 P P 19 10 21.5 -0.7
comp=Z,0.3nm,0.7s,baz=54,slow=7.8,SNR=2.0
TORD Torodi Ar. Bea 66.10 267 P P 19 11 28.1 -0.6
comp=Z,0.5nm,0.5s,baz=56,slow=5.5,SNR=6.8
ILAR Eielson Array 71.77 16 P P 19 12 03.2 0.0
comp=Z,0.6nm,0.9s,baz=311,slow=3.1,SNR=5.5
YKA Yellowknife Ar 78.18 3 P P 19 12 40.7 +0.4
comp=Z,0.3nm,0.5s,baz=351,slow=5.8,SNR=6.9
ASAR Alice Springs 85.78 125 P P 19 13 21.6 +0.7
comp=Z,0.4nm,1.0s,baz=325,slow=4.7,SNR=2.1

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*IDC **23** 19:22:15.6±4.4, 14°.13S×167°.10E, h176km±47km, mb3.3/8, mb1 3.5/10, mb1mx3.3/34, mbtmp3.8/10, Error ellipse: s-maj=45.6km s-min=18.2km az=154.0*
ISC 23 19:22:13.4±0.7, 14°.11S±0°.09×167°.0E±0°.1, h150km, n13, σ1ŝ70/14, mb3.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.94**	**184**	P	**Pn**	19 24 07.8	**+1.8**
	0.3nm,0.3s,baz=309,slow=22,SNR=16						
DZM				S	**Sn**	19 25 31.1	**-3.5**
	0.1nm,0.3s,baz=39,slow=15,SNR=1.4						
MSVF	**Nonsavu**	**11.20**	**110**	P	**Pn**	19 24 50.6	**+1.3**
	0.2nm,0.3s,baz=288,slow=20,SNR=2.6						
CTA	**Charters Tower**	**20.72**	**250**	P	**P**	19 26 43.6	**+1.4**
	1.8nm,0.8s,baz=80,slow=6.1,SNR=1.4						
STKA	**Stephens Creek**	**29.22**	**228**	P	**P**	19 28 02.0	**+0.9**
	2.0nm,0.4s,baz=51,slow=9.3,SNR=16						
WRA	**Warramunga Arr**	**31.75**	**255**	P	**P**	19 28 23.1	**-0.4**
	0.3nm,0.3s,baz=85,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**32.68**	**248**	P	**P**	19 28 30.8	**-0.8**
	0.3nm,0.3s,baz=75,slow=10.0,SNR=8.7						
PETK	**Petropavlovsk-**	**67.42**	**354**	P	**P**	19 32 52.2	**-0.2**
	1.9nm,0.9s,baz=181,slow=5.8,SNR=1.9						
CMAR	**Chiang Mai Arr**	**74.48**	**294**	P	**P**	19 33 37.2	**+1.4**
	0.3nm,0.6s,baz=133,slow=6.3,SNR=1.9						
ILAR	**Eielson Array**	**86.01**	**18**	P	**P**	19 34 34.7	**-1.8**
	0.5nm,0.8s,baz=261,slow=4.7,SNR=5.0						
MKAR	**Makanchi Array**	**96.59**	**316**	P	**P**	19 35 26.4	**+0.1**
	0.3nm,0.7s,baz=100,slow=6.3,SNR=4.4						
ARCES	**ARCESS Array B**	**119.59**	**345**	PKP	**PKPdf**	19 40 43.3	**-1.5**
	3.5nm,0.9s,baz=64,slow=2.8,SNR=5.0						
FINES	**FINESS Array B**	**125.06**	**338**	PKP	**PKPdf**	19 40 53.6	**-1.8**
	2.0nm,0.9s,baz=327,slow=10.0,SNR=3.4						
KEST	**Kesra**	**150.58**	**321**	PKPbc	**PKPbc**	19 41 47.8	**-0.3**
	0.7nm,0.5s,baz=107,slow=19,SNR=0.9						

IDC 23 19:27:14.1±1.5, 13°.07N×142°.81E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/39, mbtmp3.2/4, ML2.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/22, Error ellipse: s-maj=38.5km s-min=30.7km az=117.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.06**	**75**	Pn	Pn	19 27 50.1	+0.1
	2.4nm,0.3s,baz=344,slow=21,SNR=1.6						
GUMO				Sn	Sn	19 28 10.0	-6.5
	15nm,0.3s,baz=316,slow=23,SNR=10.0						
SIJI	**Sorong**	**17.97**	**220**	LR	LR	19 38 18.1	
	comp=Z,49nm,18.6s,baz=86,slow=37						
WRA	**Warramunga Arr**	**33.85**	**194**	P	P	19 33 58.3	-0.2
	0.3nm,0.7s,baz=18,slow=9.6,SNR=2.8						
ASAR	**Alice Springs**	**37.54**	**193**	P	P	19 34 30.1	0.0
	0.2nm,0.6s,baz=19,slow=13,SNR=6.6						
MKAR	**Makanchi Array**	**60.48**	**317**	P	P	19 37 25.8	-0.1
	0.1nm,0.4s,baz=91,slow=7.4,SNR=1.8						

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*IDC **23** 19:52:46.8±1.0, 19°.86N×75°.74W, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/41, mbtmp3.7/8, ML3.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/73, Error ellipse: s-maj=34.6km s-min=26.7km az=53.0*
*SSNC **23** 19:52:50.3±1.6, 19°.73N×76°.00W, h5km±7km, MD3.4, ML3.8, MW4.1*
*JSN **23** 19:52:51.6±0.5, 19°.57N×76°.13W, h0km±74km, MD3.9*
ISC 23 19:52:48.6±1.5, 19°.75N±0°.04×76°.05W±0°.04, h11km±10km, n26, σ1ŝ34/35, mb3.5/7, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.41**	**53**	*eP*	**Pb**	**19 52 58.3**	**+0.4**
RCC				*eS*	**Sb**	**19 53 03.2**	**-1.0**
RCC				IAML		19 53 04.7	
	comp=E,7μm,0.4s						
RCC				IAML		19 53 04.8	
	comp=N,3μm,0.4s						
GTMO	**Guantanamo**	**0.92**	**69**	*i P*	**Pn**	**19 53 08.1**	**+0.7**
GTMO				*eS*	**Sn**	**19 53 21.3**	**+0.7**
LMGC	**Las Mercedes**	**0.95**	**290**	*eP*	**Pg**	**19 53 07.5**	**+0.4**
HLGC	**Holguin**	**1.14**	**359**	*eP*	**Pn**	**19 53 11.4**	**+0.9**
HLGC				*eS*	**Sn**	**19 53 28.2**	**+2.1**
HLGC				IAML		19 53 30.8	
	comp=E,11μm,0.5s						
HLGC				IAML		19 53 31.1	
	comp=N,6μm,0.6s						
MOAC	**Moa**	**1.37**	**48**	*eP*	**Pn**	**19 53 13.2**	**-0.5**
MOAC				*eS*	**Sg**	**19 53 31.1**	**-1.6**
MOAC				IAML		19 53 37.9	
	comp=N,2μm,0.7s						
MOAC				IAML		19 53 39.5	
	comp=E,2μm,0.5s						
CMJ	**Castle Mountai**	**1.63**	**191**	*i P*	**Pn**	**19 53 17.4**	**+0.2**
MASC	**Masc**	**1.76**	**76**	*eP*	**Pn**	**19 53 18.7**	**-0.3**
MASC				*eS*	**Sn**	**19 53 40.1**	**-1.4**
MASC				IAML		19 53 50.4	
	comp=N,796nm,0.5s						
MASC				IAML		19 53 52.0	
	comp=E,1μm,0.5s						
BBJ	**Bamboo Saint A**	**1.78**	**221**	*i P*	**Pn**	**19 53 19.3**	**-0.1**
GWJ	**Greenwich**	**1.78**	**201**	*i P*	**Pn**	**19 53 19.4**	**-0.1**
STH	**Stony Hill**	**1.81**	**204**	*i P*	**Pn**	**19 53 19.7**	**0.0**
HOJ	**Hope**	**1.85**	**201**	*i P*	**Pn**	**19 53 20.5**	**+0.1**
CCCC	**Cccc**	**2.17**	**312**	*eP*	**Pn**	**19 53 22.6**	**-2.0**
CCCC				*eS*	**Sn**	**19 53 46.9**	**-4.5**
CCCC				IAML		19 53 51.5	
	comp=E,739nm,0.6s						
CCCC				IAML		19 53 52.8	
	comp=N,429nm,0.5s						
MCJ	**Malvern**	**2.38**	**221**	*i P*	**Pn**	**19 53 28.4**	**+0.8**
MCJ				*i S*	**Sn**	**19 53 55.6**	**-1.4**
MGV	**Manicaragua**	**4.36**	**303**	*eP*	**Pn**	**19 53 56.7**	**+1.9**
MGV				*eS*	**Sn**	**19 54 45.0**	**-0.7**
MGV				IAML		19 54 50.6	
	comp=N,36nm,0.5s						
MGV				IAML		19 54 51.0	
	comp=E,22nm,0.7s						
SDV	**Santo Domingo**	**12.00**	**153**	Pn	**Pn**	**19 55 39.5**	**-0.3**
	comp=E,1.2nm,0.3s,baz=0.9,slow=10.0,SNR=4.9						
SDV				Sn	Sn	19 57 44.6	-9.3
	comp=E,0.7nm,0.3s,baz=305,slow=7.6,SNR=1.5						
TXAR	**Lajitas Array**	**26.82**	**296**	P	**P**	**19 58 31.5**	**+2.3**
	comp=E,1.0nm,1.0s,baz=110,slow=11,SNR=6.0						
PDAR	**Pinedale Array**	**36.34**	**317**	P	**P**	**19 59 53.5**	**+0.6**
	comp=E,0.2nm,0.2s,baz=107,slow=12,SNR=3.6						
NVAR	**Mina Array Bea**	**40.94**	**306**	P	**P**	**20 00 33.5**	**+2.0**
	comp=E,0.5nm,0.7s,baz=90,slow=10,SNR=3.8						
YBH	**Yreka Blue Hor**	**45.05**	**310**	LR	LR	20 23 29.2	
	comp=E,39nm,18.2s,baz=334,slow=41						
YKA	**Yellowknife Ar**	**50.25**	**338**	P	**P**	**20 01 44.0**	**-0.5**
	comp=E,0.3nm,0.7s,baz=128,slow=8.6,SNR=4.0						
ILAR	**Eielson Array**	**64.16**	**333**	P	**P**	**20 03 22.2**	**-0.6**
	comp=E,0.4nm,0.8s,baz=97,slow=4.6,SNR=1.8						
ARCES	**ARCESS Array B**	**75.64**	**21**	P	**P**	**20 04 32.8**	**-0.6**
	comp=E,2.5nm,0.8s,baz=276,slow=5.9,SNR=4.5						
FINES	**FINESS Array B**	**78.50**	**29**	P	**P**	**20 04 48.5**	**-1.1**
	comp=E,1.4nm,0.8s,baz=253,slow=2.0,SNR=7.3						
STKA	**Stephens Creek**	**144.20**	**243**	PKP	**PKPdf**	**20 12 24.9**	**-0.1**
	comp=E,1.2nm,0.8s,baz=96,slow=9.2,SNR=3.2						
WRA	**Warramunga Arr**	**151.43**	**264**	PKP	**PKPdf**	**20 12 37.4**	**+0.1**
	comp=E,0.7nm,1.1s,baz=78,slow=2.5,SNR=3.3						
WRA				PKPbc	**PKPbc**	**20 12 43.1**	**-0.3**
	comp=E,0.3nm,0.4s,baz=82,slow=2.9,SNR=11						
ASAR	**Alice Springs**	**151.93**	**257**	PKP	**PKPdf**	**20 12 38.6**	**+0.6**
	comp=E,0.3nm,0.9s,baz=88,slow=2.1,SNR=2.2						
ASAR				PKPbc	**PKPbc**	**20 12 45.0**	**+0.6**
	comp=E,0.9nm,0.8s,baz=78,slow=1.8,SNR=9.8						

UCR 23 20:19:15.1±1.5, 9°.77N×83°.81W, h1km±4km, MW3.5, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.20**	**262**	*eP*	Pg	20 19 20.0	+1.0
LCR2				*eS*	Sg	20 19 23.1	+1.6
HDC	**Heredia**	**0.38**	**307**	*eP*	Pg	20 19 23.1	+0.6
EDDO	**Dominical**	**0.52**	**186**	*eP*	Pb	20 19 26.5	-0.4
JACO	**JACO, Garabito**	**0.85**	**263**	*eP*	Pg	20 19 31.4	0.0
LAFE	**Finca La Fe, P**	**1.09**	**272**	*eP*	Pb	20 19 36.4	-0.4
COVE	**Coope Vega, Sa**	**1.11**	**328**	*eP*	Pg	20 19 35.4	-1.0
ARE1	**Arenal 1**	**1.13**	**307**	*eP*	Pg	20 19 36.7	-0.1
JTS	**Las Juntas de**	**1.24**	**295**	*eP*	Pg	20 19 38.0	-1.0
COLC	**Colonia**	**1.64**	**303**	*i P*	Pn	20 19 44.8	-0.4
COLC				*i S*	Sg	20 20 08.0	+0.2
INDI	**Punta indio, G**	**1.67**	**273**	*eP*	Pn	20 19 45.5	-0.1
GUAI	**GUAI**	**1.75**	**287**	*i P*	Pn	20 19 46.5	-0.2
GUAI				*i S*	Sn	20 20 09.3	-0.3
GPS2	**Hotel Rincn d**	**1.81**	**303**	*i P*	Pn	20 19 48.0	+0.5
BUEV	**Buena Vista**	**1.88**	**303**	*i P*	Pn	20 19 49.2	+0.7
LAPC	**Finca la Perla**	**1.88**	**302**	*i P*	Pn	20 19 48.3	-0.2
HZTE	**Horizontes, Gu**	**2.00**	**298**	*eP*	Pn	20 19 50.8	+0.7

ZUR 23 20:23:12.6, 46°.44N×8°.33E, h2km±2km, MLh0.4/14, 2C-2D, Error ellipse: s-maj=4.8km s-min=1.1km az=330.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRIMS	**Grimsel Gerste**	**0.14**	**357**	Pg	Pg	20 23 15.7	+0.3
GRIMS				Pg	Pg	20 23 15.7	+0.3
	0.1nm,SNR=1.1						
GRIMS				Sg	Sg	20 23 17.8	+0.4
FIESA	**Fiescheralp**	**0.15**	**270**	⇓Pg	Pg	20 23 15.9	+0.4
	0.1nm,SNR=1.6						
FIESA				⇓Pg	Pg	20 23 15.9	+0.4
FIESA				Sg	Sg	20 23 18.2	+0.5
FUSIO	**Fusio**	**0.23**	**85**	Sg	Sg	20 23 20.6	+0.6
HASLI	**Hasliberg/Brie**	**0.34**	**339**	⇑Pg	Pg	20 23 19.5	+0.2
	0.1nm,SNR=1.6						
HASLI				⇑Pg	Pg	20 23 19.5	+0.2

ROM 23 20:24:33.4±0.0, 43°.231N±0°.002×12°.611E±0°.004, h9km, ML1.3/15, 4C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=248.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATCC	**AVT- Casa Cast**	**0.05**	**155**	P	Pg	20 24 35.6	+0.3
ATCC				S	Sg	20 24 37.1	+0.5
ATCC				AML	AML		
	comp=E,874μm,0.2s						
ATCC				AML	AML		
	comp=N,1460μm,0.3s						
ATCC				AML	AML		
	comp=E,875μm,0.2s						
MURB	**Monte Urbino**	**0.07**	**297**	P	Pg	20 24 35.9	+0.3
MURB				S	Sg	20 24 37.6	+0.5
MURB				AML	AML		
	comp=E,1125μm,0.2s						
MURB				AML	AML		
	comp=N,1170μm,0.2s						
MURB				AML	AML		
	comp=E,1210μm,0.2s						
MURB				AML	AML		
	comp=N,1180μm,0.2s						
MURB				AML	AML		
	comp=N,1172μm,0.2s						
MURB				AML	AML		
	comp=E,1128μm,0.2s						
FOSV	**Fossato di Vic**	**0.13**	**60**	⇑P	Pg	20 24 36.9	+0.5
FOSV				S	Sg	20 24 39.4	+1.0
ATFO	**Monte Foce - G**	**0.14**	**348**	P	Pg	20 24 37.2	+0.6
ATFO				S	Sg	20 24 39.8	+1.0
ATFO				AML	AML		
	comp=N,159μm,0.6s						
ATFO				AML	AML		
	comp=E,159μm,0.3s						
ASSB	**Assisi San Ben**	**0.19**	**170**	⇑P	Pg	20 24 38.0	+0.6
ASSB				S	Sg	20 24 41.4	+1.3
ASSB				AML	AML		
	comp=E,226μm,0.3s						
ASSB				AML	AML		
	comp=N,300μm,0.9s						
ATTE	**AVT- Monte Tez**	**0.19**	**260**	P	Pg	20 24 38.0	+0.5
ATTE				S	Sg	20 24 41.4	+1.2
ATTE				AML	AML		
	comp=E,61μm,1.2s						
ATTE				AML	AML		
	comp=N,82μm,0.6s						
ATVO	**AVT- Monte Val**	**0.21**	**315**	P	Pg	20 24 38.3	+0.5
ATVO				S	Sg	20 24 42.0	+1.2
ATVO				AML	AML		
	comp=N,90μm,0.3s						
ATVO				AML	AML		
	comp=E,123μm,0.3s						
SSFR	**Montelago di S**	**0.24**	**31**	⇑P	Pg	20 24 39.0	+0.7
SSFR				S	Sg	20 24 43.0	+1.4
SSFR				AML	AML		
	comp=E,477μm,0.2s						
SSFR				AML	AML		
	comp=N,358μm,0.6s						
SSFR				AML	AML		
	comp=E,451μm,0.2s						
SSFR				AML	AML		
	comp=N,348μm,0.1s						
ATPI	**Pietralunga -**	**0.27**	**325**	⇓P	Pg	20 24 39.5	+0.6
ATPI				S	Sb	20 24 43.9	-1.3
FRON	**Frontone**	**0.30**	**16**	P	Pg	20 24 39.9	+0.5
FRON				S	Sb	20 24 44.8	-1.3
FRON				AML	AML		
	comp=E,79μm,0.4s						
FRON				AML	AML		
	comp=N,90μm,1.6s						
PIEI	**Pieia**	**0.31**	**350**	P	Pg	20 24 40.1	+0.5
PIEI				S	Sb	20 24 45.5	-0.9
PIEI				AML	AML		
	comp=E,114μm,0.1s						
PIEI				AML	AML		
	comp=N,49μm,0.8s						
ARVD	**Arcevia**	**0.36**	**42**	P	Pg	20 24 41.2	+0.7
ARVD				S	Sb	20 24 47.0	-0.8
ARVD				AML	AML		
	comp=E,35μm,0.4s						
ARVD				AML	AML		
	comp=N,39μm,0.7s						
EL6	**Elcito**	**0.37**	**74**	P	Pg	20 24 41.4	+0.6
EL6				S	Sb	20 24 47.5	-0.7
BADI	**Badiali**	**0.39**	**316**	P	Pg	20 24 41.7	+0.7
BADI				S	Sb	20 24 48.3	-0.3
BADI				AML	AML		
	comp=E,40μm,0.6s						
BADI				AML	AML		
	comp=N,31μm,1.2s						
FDMO	**Fiordimonte**	**0.40**	**119**	P	Pg	20 24 41.7	+0.5
FDMO				S	Sb	20 24 48.3	-0.6
FDMO				AML	AML		
	comp=E,29μm,1.5s						
FDMO				AML	AML		
	comp=N,26μm,1.5s						
FDMO				AML	AML		
	comp=N,26μm,1.5s						
FDMO				AML	AML		
	comp=E,29μm,1.5s						
MOMA	**Monte Martano**	**0.43**	**184**	P	Pg	20 24 42.4	+0.6
MOMA				S	Sb	20 24 49.0	-0.8
FSSB	**Fossombrone**	**0.48**	**15**	P	Pg	20 24 43.3	+0.6
FSSB				S	Sb	20 24 51.2	0.0
FSSB				AML	AML		
	comp=E,82μm,1.0s						
FSSB				AML	AML		
	comp=N,76μm,0.5s						
FSSB				AML	AML		
	comp=N,76μm,0.5s						
CAFI	**Castiglion Fio**	**0.48**	**282**	⇑P	Pg	20 24 43.4	+0.6
CAFI				S	Sb	20 24 50.9	-0.4
CAFI				AML	AML		
	comp=E,26μm,0.2s						
CAFI				AML	AML		
	comp=E,27μm,0.2s						
CAFI				AML	AML		
	comp=N,22μm,0.6s						
MGAB	**Montegabbione**	**0.48**	**229**	P	Pg	20 24 43.5	+0.6
MGAB				AML	AML		
	comp=N,49μm,0.3s						
MGAB				AML	AML		
	comp=E,30μm,0.8s						
SENI	**Senigallia**	**0.66**	**43**	P	Pn	20 24 48.2	-0.7

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*NEIC **23** 20:29:11.2±1.7, 24°.9S±0°.1×176°.2W±0°.1, h35km±2km, mb4.5/17, Error ellipse: s-maj=21.8km s-min=16.0km az=178.0*
*IDC **23** 20:29:23.8±4.2, 24°.40S×176°.97W, h133km±33km, mb3.6/5, mb1 3.8/8, mb1mx3.6/27, mbtmp4.1/8, MS3.1/1, Ms1 3.1/1, ms1mx2.5/57, Error ellipse: s-maj=32.2km s-min=21.2km az=118.0*
ISC 23 20:29:12.7±0.6, 24°.72S±0°.07×176°.47W±0°.09, h43km, n38, σ1ŝ76/41, mb4.5/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.27**	**49**	Pn	**Pn**	**20 31 07.6**	**-2.6**
MSVF	**Nonsavu**	**8.63**	**323**	P	**Pn**	**20 31 17.8**	**+2.7**
	1.1nm,0.3s,baz=260,slow=23,SNR=13						
MSVF				S	**Sn**	**20 32 50.7**	**-0.5**
	0.3nm,0.3s,baz=229,slow=23,SNR=1.2						
MSVF	**Nonsavu**	**8.63**	**323**		**Pn**	**20 31 17.1**	**+2.0**
URZ	**Urewera**	**14.56**	**200**	P	**P**	**20 32 44.4**	**+2.9**
	0.6nm,0.3s,baz=328,slow=3.7,SNR=6.7						
URZ				S	**Sn**	**20 35 12.3**	**-3.6**
	0.3nm,0.3s,baz=337,slow=20,SNR=1.9						
URZ	**Urewera**	**14.56**	**200**	P	**P**	**20 32 41.2**	**-0.4**
LIFNC	**LIFOU**	**15.53**	**281**	Pn	**P**	**20 32 50.4**	**-2.1**
DZM	**Mont Dzumac**	**15.90**	**276**	P	**P**	**20 32 56.4**	**-0.4**
	0.4nm,0.3s,baz=97,slow=18,SNR=3.4						
DZM	**Mont Dzumac**	**15.90**	**276**		**P**	**20 32 55.6**	**-1.2**
DZM				IAmb	IAmb	20 33 23.3	
	comp=Z,15nm,1.1s						
SANVU	**Saraoutou**	**17.88**	**298**		**P**	**20 33 20.6**	**+2.0**
SANVU				IAmb	IAmb	20 33 23.7	
	comp=Z,24nm,1.0s						
KHZ	**Kahutara**	**19.48**	**203**	P	**P**	**20 33 36.5**	**+0.6**
PPT	**Papeete**	**26.04**	**79**	LR	LR	20 44 46.3	
	comp=Z,39nm,18.1s,baz=347,slow=35						
ARMA	**Armidale**	**28.78**	**251**	P	**P**	**20 35 07.7**	**+0.9**
ARMA				IAmb	IAmb	20 35 30.1	
	comp=Z,16nm,1.2s						
EIDS	**Eidsvold**	**29.37**	**262**	P	**P**	**20 35 13.6**	**+1.8**
EIDS				IAmb	IAmb	20 35 21.3	
	comp=Z,16nm,1.4s						
CTAO	**Charters Tower**	**34.70**	**270**	P	**P**	**20 35 58.6**	**-0.1**
CTAO				IAmb	IAmb	20 36 20.4	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**37.42**	**249**	P	**P**	**20 36 21.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=355,slow=4.6,SNR=4.9						
STKA	**Stephens Creek**	**37.42**	**249**	P	**P**	**20 36 22.4**	**+0.5**
COEN	**Coen**	**39.42**	**278**	P	**P**	**20 36 39.1**	**+0.3**
COEN				IAmb	IAmb	20 36 59.4	
	comp=Z,13nm,1.5s						
BBOO	**Buckleboo**	**42.10**	**248**	P	**P**	**20 37 00.9**	**+0.2**
BBOO				IAmb	IAmb	20 37 12.7	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**45.08**	**261**	P	**P**	**20 37 24.8**	**0.0**
ASAR	**Alice Springs**	**45.08**	**261**	P	**P**	**20 37 23.9**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=102,slow=8.3,SNR=33						
ASAR				PcP	**PcP**	**20 39 04.3**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=104,slow=3.9,SNR=1.9						
ASAR	**Alice Springs**	**45.08**	**261**	P	**P**	**20 37 24.8**	**-0.1**
WB0	**Warramunga Arr**	**45.56**	**266**	P	**P**	**20 37 27.1**	**-1.6**
WB0				IAmb	IAmb	20 37 30.5	
	comp=Z,4.8nm,0.8s						
WRA	**Warramunga Arr**	**45.56**	**266**	P	**P**	**20 37 26.6**	**-2.0**
	comp=Z,3.4nm,0.8s,baz=103,slow=8.0,SNR=17						
WRA				PcP	**PcP**	**20 39 04.7**	**-2.2**
	comp=Z,0.7nm,0.9s,baz=101,slow=3.9,SNR=3.0						
WRA	**Warramunga Arr**	**45.56**	**266**	P	**P**	**20 37 27.0**	**-1.7**
FORT	**Forrest**	**49.05**	**250**	P	**P**	**20 37 55.2**	**-0.5**
KNRA	**Kununurra**	**51.90**	**269**	P	**P**	**20 38 16.4**	**-1.0**
MORW	**Morawa**	**59.61**	**250**	P	**P**	**20 39 11.9**	**-0.7**
TOLI2	**Tolitoli**	**65.90**	**283**	P	**P**	**20 39 54.0**	**-0.6**
TOLI2				IAmb	IAmb	20 39 55.0	
	comp=Z,7.1nm,1.2s						
PETK	**Petropavlovsk-**	**80.70**	**345**	P	**P**	**20 41 18.9**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=139,slow=6.8,SNR=2.3						
NVAR	**Mina Array Bea**	**83.15**	**42**	P	**P**	**20 41 35.9**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=224,slow=7.5,SNR=2.0						
VNA3	**Neumayer Olymp**	**83.85**	**176**	P	**P**	**20 41 40.1**	**+2.7**
VNA2	**Neumayer--Watz**	**84.31**	**176**	P	**P**	**20 41 42.6**	**+2.9**
	baz=178,slow=5.5						
VNA1	**Neumayer--Stat**	**84.53**	**176**	P	**P**	**20 41 44.6**	**+3.9**
AKASG	**Malin Array Be**	**147.36**	**329**	PKPbc	**PKPdf**	**20 48 49.3**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=42,slow=4.1,SNR=14						
AKASG	**Malin Array Be**	**147.36**	**329**		**PKPdf**	**20 48 49.0**	**0.0**
BRTR	**Keskin Array B**	**150.63**	**309**	PKPbc	**PKPbc**	**20 48 58.9**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=112,slow=3.9,SNR=4.1						
GERES	**GERESS Array B**	**154.63**	**344**	PKPbc	**PKPbc**	**20 49 08.5**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=54,slow=5.0,SNR=2.0						
TORD	**Torodi Ar. Bea**	**168.36**	**171**	PKPab	**PKPab**	**20 50 26.6**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=161,slow=4.4,SNR=4.0						

SSNC 23 20:49:59.5±1.5, 19°.69N×76°.03W, h5km±10km, MD2.2, ML1.6, MW2.5, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.44**	**46**	*eP*	Pg	20 50 08.6	+0.6
RCC				IAML		20 50 16.1	
	comp=E,5.9nm,0.3s						
RCC				IAML		20

0.1nm,0.3s,baz=345,slow=12,SNR=14
WRA S S 21 03 19.7 -8.4
0.0nm,0.3s,baz=341,slow=20,SNR=2.2
ASAR Alice Springs 19.55 167 P P 21 01 09.9 +0.3
0.1nm,0.3s,baz=345,slow=11,SNR=11
MKAR Makanchi Array 65.69 327 P P 21 07 17.4 -0.2
0.1nm,0.3s,baz=123,slow=7.1,SNR=2.2

*BJI **23** 21:33:30.8±0.0, 35°.91N×140°.93E, h12km, mb4.4/38, mB4.9/16, Ms4.4/9, Ms7 4.0/7*
*MOS **23** 21:33:32.2±0.9, 35°.77N×140°.75E, h16km, mb4.6/18, Error ellipse: s-maj=9.5km s-min=6.0km az=116.3*
*NIED **23** 21:33:33.5, 35°.88N×140°.90E, h17km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.25; Mθθ-2.39; Mφφ3.64; Mrθ0.79; Mθφ-1.43; Mφr1.04; Fault plane solution: M0 3.67000×10^15 NP1: φs208.00000°, δ78.00000°, λ-27.00000°. NP2: φs305.00000°, δ64.00000°, λ-166.00000°.*
*JMA **23** 21:33:33.4±0.1, 35°.88N×140°.90E, h17km±1km, M4.6*
JMA Felt III J1.
*NEIC **23** 21:33:35.2±1.5, 36°.01N±0°.04×140°.80E±0°.04, h15km±3km, mb4.6/70, Error ellipse: s-maj=6.5km s-min=4.7km az=210.0*
*IDC **23** 21:33:39.6±1.6, 35°.78N×140°.55E, h55km±15km, mb3.9/24, mb1 4.0/29, mb1mx3.9/44, mbtmp4.2/29, ML2.9/4, MS3.5/28, Ms1 3.5/28, ms1mx3.3/93, Error ellipse: s-maj=14.5km s-min=8.5km az=72.0*
ISC 23 21:33:35.0±0.6, 35°.90N±0°.03×140°.82E±0°.04, h18km±3km, n246, σ1§30/236, mb4.5/77, MS3.6/27, 15C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.20 172**	⇓P	**Pg**	**21 33 37.8**	**-2.1**
CHOJ			S	**Sg**	**21 33 41.0**	**-2.3**
JIHU	**Itakohorinouch**	**0.25 285**	⇑P	**Pb**	**21 33 40.7**	**-0.1**
JIHU			*e*S	**Sb**	**21 33 45.0**	**+0.3**
JSMT	**Sammumatsuo**	**0.40 230**	⇑P	**Pg**	**21 33 42.8**	**-0.4**
JHYU	**Hitachinakayam**	**0.48 336**	⇓P	**Pb**	**21 33 44.0**	**-0.8**
JHYU			S	**Sb**	**21 33 51.0**	**-0.5**
JYT	**Yasato**	**0.60 303**	⇑P	**Pg**	**21 33 45.9**	**-1.1**
JYT			S	**Sb**	**21 33 55.3**	**+0.2**
JYT	**Yasato**	**0.60 303**		**Pg**	**21 33 45.8**	**-1.1**
JYT			Sg	**Sb**	**21 33 54.6**	**-0.5**
JHO	**Hitachi**	**0.73 344**	P	**Pb**	**21 33 47.9**	**-1.4**
JHO			S	**Sn**	**21 33 58.4**	**-2.8**
BSO4	**Boso 4**	**0.99 204**	P	**Pb**	**21 33 52.8**	**-0.8**
JMM	**Marumori**	**1.96 359**		**Pn**	**21 34 05.5**	**-1.8**
JMM			Sn	**Sn**	**21 34 29.9**	**-1.5**
MJAR	**Matsushiro Arr**	**2.21 288**	P	**Pn**	**21 34 10.2**	**-0.5**
	16nm,0.3s,baz=96,slow=9.6,SNR=936					
MJAR			S	**Sn**	**21 34 35.7**	**-1.9**
	15nm,0.3s,baz=111,slow=24,SNR=4.1					
MJAR	**Matsushiro Arr**	**2.21 288**		**Pn**	**21 34 09.9**	**-0.8**
MAJO	**Matsushiro**	**2.21 288**	P	**Pn**	**21 34 10.4**	**-0.4**
MAJO	**Matsushiro**	**2.21 288**		**Pn**	**21 34 10.4**	**-0.4**
MAT	**Matsushiro**	**2.21 288**	P	**Pn**	**21 34 09.1**	**-1.7**
MAT			*e*S	**Sn**	**21 34 37.5**	**-0.1**
MJB9	**Matsu-Tunnel**	**2.21 288**		**Pn**	**21 34 09.4**	**-1.4**
JSG	**Sagara**	**2.48 241**		**Pn**	**21 34 16.1**	**+1.6**
JGF	**Kuroka**	**2.83 265**		**Pn**	**21 34 20.2**	**+0.8**
JHJ2	**Mitsune**	**2.91 197**	Pn	**Pn**	**21 34 22.4**	**+2.0**
JHJ	**Hachijo jima 2**	**2.91 197**	P	**Pn**	**21 34 22.4**	**+2.1**
	131nm,0.3s,baz=97,slow=20,SNR=6.1					
JHJ			S	**Sn**	**21 34 53.1**	**-1.7**
	83nm,0.3s,baz=53,slow=20,SNR=2.0					
JSD	**Sado**	**2.96 317**		**Pn**	**21 34 21.0**	**0.0**
INU	**Inuyama**	**3.15 261**	Pn	**Pn**	**21 34 23.9**	**+0.2**
JTM	**Tenmabayashi**	**4.88 2**	Pn	**Pn**	**21 34 46.9**	**-0.5**
JMN	**Monobe**	**6.11 251**	Pn	**Pn**	**21 35 05.4**	**+1.0**
JHS	**Saijyo**	**6.35 264**	Pn	**Pn**	**21 35 08.4**	**+0.6**
ERM	**Erimo**	**6.37 16**	*ce*P	**Pn**	**21 35 06.6**	**-1.2**
ERM			pmax	pmax		
	comp=Z,76nm,1.3s					
ERM	**Erimo**	**6.37 16**	Pn	**Pn**	**21 35 06.3**	**-1.5**
ASAJ	**Asahikawa**	**8.31 9**	P	**Pn**	**21 35 32.9**	**-1.7**
	comp=Z,2.4nm,0.3s,baz=214,slow=13,SNR=18					
ASAJ			LR	LR	21 39 08.7	
	comp=Z,220nm,19.8s,baz=327,slow=39					
ASAJ	**Asahikawa**	**8.31 9**	P	**Pn**	**21 35 33.3**	**-1.3**
JKA	**Kamikawa-asahi**	**8.31 9**	Pn	**Pn**	**21 35 33.3**	**-1.2**
JNU	**Nakatsue**	**8.66 254**	P	**Pn**	**21 35 38.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=16,slow=19,SNR=2.4					
JNU			LR	LR	21 38 49.2	
	comp=Z,190nm,20.4s,baz=82,slow=37					
JNU	**Nakatsue**	**8.66 254**	Pn	**Pn**	**21 35 39.7**	**+0.3**
SHO	**Shikotan**	**9.20 28**	*e*P	**Pn**	**21 35 47.8**	**+1.2**
KSRS	**Korea Array**	**10.48 282**	P	**Pn**	**21 36 07.9**	**+3.7**
	comp=Z,0.3nm,0.3s,baz=95,slow=14,SNR=4.5					
KSRS			LR	LR	21 40 08.8	
	comp=Z,161nm,19.9s,baz=85,slow=38					
KSAR	**Wonju Array Be**	**10.51 282**	P	**Pn**	**21 36 03.9**	**-0.7**
KSAR	**Wonju Array Be**	**10.51 282**	Pn	**Pn**	**21 36 03.9**	**-0.7**
KS19	**Wonju Array Si**	**10.53 283**	Pn	**Pn**	**21 36 05.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**10.69 323**	P	**Pn**	**21 36 10.8**	**+3.6**
	baz=139,slow=13,SNR=2.7					
USRK			LR	LR	21 39 59.6	
	comp=Z,261nm,19.3s,baz=136,slow=36					
YSS	**Yuzh-Sakhalins**	**11.13 7**	*e*P	**Pn**	**21 36 12.2**	**-1.0**
YSS			pmax	pmax		
	comp=Z,20nm,0.6s					
YSS			MLR	MLR		
	comp=Z,500nm,18.0s					
YSS	**Yuzh-Sakhalins**	**11.13 7**	Pn	**Pn**	**21 36 12.5**	**-0.7**
KLR	**Kul'dur**	**14.88 336**	P	**P**	**21 37 07.3**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=152,slow=15,SNR=2.0					
KLR			LR	LR	21 42 50.5	
	comp=Z,205nm,18.2s,baz=135,slow=37					
KLR	**Kul'dur**	**14.88 336**	*i* P	**Pn**	**21 37 06.3**	**+1.9**
KLR			pmax	pmax		
	comp=Z,2.0nm,1.0s					
TYV	**Tymovskoe**	**15.01 4**	*e*P	**Pn**	**21 37 06.4**	**+0.3**
TYV			pmax	pmax		
	comp=Z,300nm,3.8s					
TYV			pmax	pmax		
	comp=Z,8.0nm,1.1s					
NJ2	**Nanjing**	**18.61 264**	*e*P	**P**	**21 37 51.9**	**+0.5**
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.5s					
BJT	**Baijiatuau**	**19.85 289**	P	**P**	**21 38 03.9**	**-1.0**
BJT			pmax	pmax		
	comp=Z,6.0nm,0.7s					
BJT	**Baijiatuau**	**19.85 289**	P	**P**	**21 38 03.9**	**-1.0**
ZEA	**Zeya**	**20.20 336**	*e*P	Pn	21 38 11.5	+1.0
ZEA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
XLT	**XiLinHaoTe**	**20.54 300**	*e*P	**P**	**21 38 09.9**	**-2.6**
XLT			pP	Pn	21 38 15.1	+0.4
XLT			sP	sP	21 38 18.8	-1.1
XLT			S	**S**	**21 41 57.9**	**-3.6**
XLT			SS	**SnSn**	**21 42 25.4**	**+5.0**
XLT			pmax	pmax		
	comp=Z,9.0nm,1.0s					
XLT			pmax	pmax		
	comp=Z,190nm,5.9s					
XLT			LR	LR		
	comp=Z,510nm,13.3s					
XLT			LR	LR		
	comp=Z,480nm,11.7s					
XLT			LR	LR		
	comp=Z,440nm,15.7s					
PETK	**Petropavlovsk-**	**20.90 29**	P	Pn	21 38 19.4	+0.6
	comp=Z,5.6nm,0.9s,baz=199,slow=12,SNR=5.3					
PETK	**Petropavlovsk-**	**20.90 29**	P	Pn	21 38 18.3	-0.4
HNS	**HongShan**	**20.99 282**	⇑P	**P**	**21 38 15.3**	**-1.9**
HNS			pmax	pmax		
	comp=Z,9.0nm,1.0s					
SSLB	**Suanglung**	**21.00 240**	P	**P**	**21 38 18.0**	**+0.5**
SSLB			IAmb	IAmb	21 38 27.3	
	comp=Z,57nm,1.5s					
PET	**Petropavlovsk**	**21.23 31**	P	**P**	**21 38 20.9**	**+1.2**
PET			IAmb	IAmb	21 38 31.9	
	comp=Z,41nm,1.3s					
TPUB	**Ta-pu**	**21.54 240**	P	**P**	**21 38 22.0**	**-1.3**
GUMO	**Guam**	**22.52 170**	LR	LR	21 47 12.9	
	comp=Z,84nm,18.2s,baz=5.5,slow=36					
WHN	**Wuhan**	**22.75 264**	⇑P	**P**	**21 38 39.3**	**+3.1**
HHC	**Hu-ho-hao-te**	**23.41 291**	*e*P	**P**	**21 38 40.9**	**-2.1**
HHC			pmax	pmax		
	comp=Z,16nm,1.1s					
HHC			pmax	pmax		
	comp=Z,140nm,4.9s					
MA2	**Magadan**	**24.56 12**	*ce*P	**P**	**21 38 52.9**	**-0.6**
MA2			pmax	pmax		
	comp=Z,7.0nm,0.7s					
MA2	**Magadan**	**24.56 12**	P	**P**	**21 38 52.8**	**-0.6**
MA2			IAmb	IAmb	21 39 02.6	
	comp=Z,6.5nm,0.7s					
XAN	**Xi'an**	**26.15 275**	P	**P**	**21 39 07.5**	**-0.7**
XAN			pP	sP	21 39 16.8	+0.8
XAN			sP	pP	21 39 21.6	+7.9
XAN			pmax	pmax		
	comp=Z,8.0nm,1.0s					
ENH	**Enshi**	**26.78 267**	P	**P**	**21 39 12.2**	**-1.7**
YAK	**Yakutsk**	**27.07 348**	P	**P**	**21 39 17.2**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=122,slow=2.1,SNR=7.7					
YAK			LR	LR	21 49 28.8	
	comp=Z,96nm,21.2s,baz=110,slow=35					
YAK	**Yakutsk**	**27.07 348**	*e*P	**P**	**21 39 19.7**	**+3.5**
YAK			*e**PP	**sP**	**21 39 27.7**	**+3.8**
YAK			*e*		21 40 01.3	
YAK			*e*		21 42 37.6	
YAK			*e*S	**S**	**21 43 56.5**	**+3.5**
YAK			*e*		21 50 11.2	
YAK			pmax	pmax		
	comp=N,6.0nm,1.0s					
YAK			pmax	pmax		
	comp=Z,18nm,1.0s					
YAK			pmax	pmax		
	comp=E,2.0nm,1.0s					
YAK			pmax	pmax		
	comp=Z,104nm,4.0s					
YAK			smax	smax		
	comp=E,127nm,5.0s					
YAK			smax	smax		
	comp=N,115nm,4.2s					
YAK	**Yakutsk**	**27.07 348**	P	**P**	**21 39 14.9**	**-1.2**
YAK			IAmb	IAmb	21 39 21.5	
	comp=Z,22nm,1.1s					
ULN	**Ulaanbaatar**	**27.61 306**	*ce*P	**P**	**21 39 21.1**	**-0.3**
ULN			pmax	pmax		
	comp=Z,4.0nm,1.0s					
ULN	**Ulaanbaatar**	**27.61 306**	P	**P**	**21 39 19.8**	**-1.7**
H11N2	**WAKE ISLAND Hy**	**28.01 118**	T	T	22 08 21.7	
	baz=311,slow=75,SNR=1039					
H11N1	**WAKE ISLAND Hy**	**28.02 118**	T	T	22 08 29.3	
	baz=311,slow=75,SNR=1118					
H11N3	**WAKE ISLAND Hy**	**28.03 118**	T	T	22 08 30.2	
	baz=311,slow=75,SNR=1100					
SONM	**Songino Array**	**28.04 306**	P	**P**	**21 39 24.3**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=103,slow=9.8,SNR=9.3					
SONM			LR	LR	21 50 08.6	
	comp=Z,68nm,19.8s,baz=102,slow=35					
SONM	**Songino Array**	**28.04 306**	P	**P**	**21 39 24.0**	**-1.2**
H11S1	**WAKE ISLAND Hy**	**28.67 120**	T	T	22 09 18.8	
	baz=312,slow=75,SNR=779					
H11S3	**WAKE ISLAND Hy**	**28.67 120**	T	T	22 09 13.7	
	baz=312,slow=75,SNR=619					
H11S2	**WAKE ISLAND Hy**	**28.69 120**	T	T	22 09 15.5	
	baz=312,slow=75,SNR=407					
DAV	**Davao City (W)**	**31.92 210**	LR	LR	21 53 03.1	
	comp=Z,50nm,19.8s,baz=127,slow=37					
GTA	**Gaotai**	**32.46 289**	*e*P	**P**	**21 40 04.4**	**+0.1**
GTA			pP	pP	21 40 10.1	+0.2
GTA			sP	sP	21 40 12.8	+0.7
GTA			pmax	pmax		
	comp=Z,2.0nm,1.1s					
GTA			pmax	pmax		
	comp=Z,110nm,5.2s					
GTA			LR	LR		
	comp=Z,140nm,15.1s					
GTA			LR	LR		
	comp=Z,92nm,14.5s					
GTA			LR	LR		
	comp=Z,120nm,13.4s					
PZH	**PanZhiHua**	**34.52 265**	P	**P**	**21 40 23.6**	**+1.1**
PZH			pmax	pmax		
	comp=Z,6.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,100nm,4.2s					
BILL	**Bilibino**	**35.24 16**	⇓*e*P	**P**	**21 40 28.5**	**+0.5**
BILL			pmax	pmax		
	comp=Z,4.0nm,1.1s					
TIXI	**Tiksi**	**36.35 354**	P	**P**	**21 40 37.3**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=133,slow=9.6,SNR=2.5					
TIXI			LR	LR	21 56 27.4	
	comp=Z,92nm,19.5s,baz=221,slow=38					
TIXI	**Tiksi**	**36.35 354**	*ce*P	**P**	**21 40 39.1**	**+1.6**
TIXI			pmax	pmax		
	comp=Z,3.0nm,0.8s					
TIXI	**Tiksi**	**36.35 354**	P	**P**	**21 40 36.8**	**-0.7**
GOMU	**GeErMu**	**36.93 284**	P	**P**	**21 40 42.3**	**-1.0**
GOMU			pP	pP	21 40 47.4	-1.4
GOMU			sP	sP	21 40 51.9	+0.8
GOMU			pmax	pmax		
	comp=Z,2.0nm,1.0s					
GOMU			pmax	pmax		
	comp=Z,92nm,5.3s					
UBPT	**Khong Chiam**	**37.63 246**	P	**P**	**21 40 50.4**	**+1.5**
UBPT			IAmb	IAmb	21 41 12.0	
	comp=Z,17nm,1.2s					
SIJI	**Sorong**	**37.65 196**	LR	LR	21 54 01.6	
	comp=Z,72nm,19.6s,baz=20,slow=33					
JAY	**Jayapura**	**38.22 180**	LR	LR	21 54 34.3	
	comp=Z,76nm,19.8s,baz=262,slow=33					
FAKI	**Fak Fak**	**39.45 194**	P	**P**	**21 41 05.6**	**+1.5**
CHTO	**Chiang Mai**	**40.56 257**	P	**P**	**21 41 13.4**	**-0.1**
CHTO			pmax	pmax		
	comp=Z,8.0nm,1.5s					
CHTO	**Chiang Mai**	**40.56 257**	P	**P**	**21 41 13.4**	**-0.1**
DGZ	**Jazzator, Alta**	**40.68 307**	*e*P	**P**	**21 41 14.6**	**+0.3**
DGZ			pmax	pmax		
	comp=Z,7.0nm,1.1s					
CMAR	**Chiang Mai Arr**	**40.76 256**	P	**P**	**21 41 14.2**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=46,slow=7.7,SNR=2.3					
CMAR			LR	LR	21 59 24.1	
	comp=Z,32nm,19.2s,baz=90,slow=38					
WMQ	**Urumqi**	**40.94 298**	*e*P	**P**	**21 41 19.5**	**+3.1**
WMQ			pP	sP	21 41 24.5	+0.3
WMQ			pmax	pmax		
	comp=Z,7.0nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,120nm,3.8s					
WMQ			LR	LR		
	comp=Z,410nm,12.9s					
TNA	**Tin City**	**42.07 29**	P	**P**	**21 41 26.7**	**+1.4**
ZAA0	**Zalesovo Array**	**42.33 313**	P	**P**	**21 41 26.2**	**-1.4**
ZAA0			IAmb	IAmb	21 41 33.6	
	comp=Z,8.2nm,1.1s					
ZALV	**Zalesovo Beam**	**42.33 313**	P	**P**	**21 41 27.2**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=102,slow=6.1,SNR=14					
ZALV			PcP	**PcP**	**21 43 20.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=108,slow=4.7,SNR=2.0					
ZALV	**Zalesovo Beam**	**42.33 313**	P	**P**	**21 41 26.4**	**-1.2**
ANM	**Nome**	**42.81 31**	P	**P**	**21 41 33.1**	**+1.8**
ANM			pmax	pmax		
	comp=Z,4.0nm,1.0s					
ANM	**Nome**	**42.81 31**	P	**P**	**21 41 33.1**	**+1.8**
NRIK	**Noril'sk**	**44.10 336**	P	**P**	**21 41 43.1**	**+1.5**
	comp=Z,1.8nm,0.5s,baz=126,slow=8.7,SNR=2.2					
NRIK	**Noril'sk**	**44.10 336**	*ce*P	**P**	**21 41 44.5**	**+2.9**
NRIK			pmax	pmax		
	comp=Z,3.0nm,1.0s					
NRIK	**Noril'sk**	**44.10 336**	P	**P**	**21 41 41.5**	**-0.2**
MK31	**Makanchi Array**	**44.32 303**	P	**P**	**21 41 43.1**	**-0.8**
MK31			pmax	pmax		
	comp=Z,3.0nm,0.8s					
MK31	**Makanchi Array**	**44.32 303**	P	**P**	**21 41 43.0**	**-0.8**
MK31			IAmb	IAmb	21 41 48.4	
	comp=Z,3.4nm,0.8s					
MKAR	**Makanchi Array**	**44.32 303**	P	**P**	**21 41 43.2**	**-0.6**
	comp=Z,2.8nm,0.6s,baz=90,slow=10.0,SNR=38					
MKAR	**Makanchi Array**	**44.32 303**	P	**P**	**21 41 43.4**	**-0.4**
MKAR	**Makanchi Array**	**44.32 303**	P	**P**	**21 41 43.4**	**-0.4**
KAPI	**Kappang**	**45.25 210**	LR	LR	22 00 24.9	
	comp=Z,19nm,21.9s,baz=45,slow=36					
KURK	**Kurchatov**	**46.26 309**	*ce*P	**P**	**21 41 58.2**	**-0.9**
KURK			pmax	pmax		
	comp=Z,13nm,1.0s					
KURK	**Kurchatov**	**46.26 309**	P	**P**	**21 41 58.5**	**-0.5**
KURBB	**Kurchatov Arra**	**46.33 309**	P	**P**	**21 41 58.9**	**-0.7**
	comp=Z,6.3nm,0.8s,baz=84,slow=8.2,SNR=55					
GUN	**Gumba**	**46.80 276**	*e*P	**P**	**21 42 05.0**	**+0.9**
PKI	**Pulchoki**	**47.32 276**	*e*P	**P**	**21 42 08.9**	**+0.8**
	comp=Z,12nm,0.8s					
PKIN	**Phulchoki**	**47.33 276**	*e*P	**P**	**21 42 08.4**	**+0.3**
	comp=Z,11nm,0.7s					
KKN	**Kakani**	**47.33 277**	*e*P	**P**	**21 42 08.6**	**+0.5**
DMN	**Daman**	**47.55 276**	*e*P	**P**	**21 42 10.4**	**+0.6**
J20K	**Nowinta River**	**47.55 33**	P	**P**	**21 42 10.4**	**+1.5**
J20K			IAmb	IAmb	21 42 15.2	
	comp=Z,11nm,1.4s					
GKN	**Gorkha**	**47.76 277**	*e*P	**P**	**21 42 11.5**	**+0.2**
PRZ	**Przheval'sk**	**47.86 298**	P	**P**	**21 42 12.0**	**0.0**
PRZ			pmax	pmax		
	comp=Z,12nm,0.9s					
PRZ	**Przheval'sk**	**47.86 298**	P	**P**	**21 42 12.0**	**0.0**
IMAR	**Indian Mountai**	**47.87 30**	P	**P**	**21 42 12.6**	**+1.2**
IPM	**Ipoh**	**48.15 239**	P	**P**	**21 42 14.1**	**-0.1**
DANN	**Dangsing**	**48.33 278**	*e*P	**P**	**21 42 15.9**	**0.0**
	comp=Z,37nm,0.7s					
PPLA	**Purkeypile**	**48.37 34**	P	**P**	**21 42 15.9**	**+0.4**
TARG	**Taragay, Kyrgy**	**48.48 297**	P	**P**	**21 42 16.5**	**-0.6**
TARG			IAmb	IAmb	21 42 35.8	
	comp=Z,6.0nm,0.9s					
KOLN	**Koldanda**	**48.70 277**	*e*P	**P**	**21 42 18.4**	**-0.2**
KDJ	**Kajisay**	**48.83 298**	P	**P**	**21 42 19.1**	**-0.3**
KDJ			pmax	pmax		
	comp=Z,5.0nm,0.7s					
KDJ	**Kajisay**	**48.83 298**	P	**P**	**21 42 19.1**	**-0.3**
KDJ			IAmb	IAmb	21 42 31.8	
	comp=Z,4.8nm,0.7s					
BRLK	**Bradley Lake**	**49.04 39**	P	**P**	**21 42 19.7**	**-0.9**
PYUN	**Piuthan**	**49.05 278**	*e*P	**P**	**21 42 21.8**	**+0.5**
BOOM	**Boomskoye usch**	**49.62 298**	P	**P**	**21 42 24.7**	**-0.8**
BOOM			pmax	pmax		
	comp=Z,9.0nm,1.3s					
BOOM	**Boomskoye usch**	**49.62 298**	P	**P**	**21 42 24.7**	**-0.8**
BOOM			IAmb	IAmb	21 42 31.4	
	comp=Z,8.9nm,1.3s					
COEN	**Coen**	**49.64 177**	P	**P**	**21 42 25.4**	**-0.1**
COEN			IAmb	IAmb	21 42 37.3	
	comp=Z,4.7nm,0.9s					
RND	**Reindeer**	**49.88 34**	P	**P**	**21 42 27.6**	**+0.6**
RND			pmax	pmax		
	comp=Z,14nm,1.5s					
RND	**Reindeer**	**49.88 34**	P	**P**	**21 42 27.6**	**+0.6**
RND			IAmb	IAmb	21 42 51.9	
	comp=Z,14nm,1.5s					
MDM	**Murphy Dome**	**50.12 32**	P	**P**	**21 42 29.3**	**+0.5**
MDM			IAmb	IAmb	21 42 33.3	
	comp=Z,5.6nm,0.9s					
WRH	**Wood River Hil**	**50.19 32**	P	**P**	**21 42 31.1**	**+1.9**
WRH			IAmb	IAmb	21 42 41.9	
	comp=Z,7.5nm,1.4s					
CCB	**Clear Creek Bu**	**50.31 32**	P	**P**	**21 42 30.9**	**+0.8**
KSH	**Kashi**	**50.44 295**	P	**P**	**21 42 35.5**	**+3.9**
KSH			pP	sP	21 42 41.3	+1.7
KSH			pmax	pmax		
	comp=Z,2.0nm,0.9s					
POKR	**Poker Plat Res**	**50.46 31**	P	**P**	**21 42 32.1**	**+0.9**
POKR			IAmb	IAmb	21 42 47.1	
	comp=Z,7.6nm,0.8s					
FRU1	**Bishkek**	**50.47 299**	P	**P**	**21 42 31.0**	**-0.8**
FRU1			pmax	pmax		
	comp=Z,7.0nm,0.9s					
FRU1	**Bishkek**	**50.47 299**	P	**P**	**21 42 31.0**	**-0.8**
FRU1			IAmb	IAmb	21 42 35.9	
	comp=Z,7.1nm,0.9s					
AAK	**Ala-Archa**	**50.61 299**	LR	LR	22 05 15.3	
	comp=Z,92nm,18.6s,baz=79,slow=38					
AAK	**Ala-Archa**	**50.61 299**	*i* P	**P**	**21 42 32.1**	**-0.9**
AAK			pmax	pmax		
	comp=Z,3.0nm,1.0s					
AAK	**Ala-Archa**	**50.61 299**	P	**P**	**21 42 32.2**	**-0.7**
AAK			IAmb	IAmb	21 42 45.4	
	comp=Z,3.2nm,0.9s					
HDA	**Harding Lake**	**50.69 32**	P	**P**	**21 42 33.4**	**+0.4**
HDA			IAmb	IAmb	21 42 41.0	
	comp=Z,9.3nm,1.2s					
IL31		**50.70 32**	P	**P**	**21 42 34.1**	**+1.1**
IL31			IAmb	IAmb	21 42 41.2	
	comp=Z,5.4nm,0.9s					
ILAR	**Eielson Array**	**50.70 32**	P	**P**	**21 42 34.5**	**+1.4**
	comp=Z,2.5nm,0.8s,baz=270,slow=6.4,SNR=22					
ILAR	**Eielson Array**	**50.70 32**	P	**P**	**21 42 34.1**	**+1.0**
ILAR	**Eielson Array**	**50.70 32**	P	**P**	**21 42 34.1**	**+1.0**
BRVK	**Borovoye**	**51.04 313**	*ce*P	**P**	**21 42 35.8**	**0.0**
BRVK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
BRVK	**Borovoye**	**51.04 313**	P	**P**	**21 42 35.2**	**-0.6**
J25K	**Salcha River,**	**51.36 32**	P	**P**	**21 42 38.3**	**+0.1**
BMAR	**Burnt Mountain**	**51.55 28**	P	**P**	**21 42 40.6**	**+1.1**
SCRK	**Sand Creek**	**52.01 33**	P	**P**	**21 42 43.3**	**+0.2**
SCRK			IAmb	IAmb	21 42 58.0	
	comp=Z,4.2nm,0.9s					
BMRM	**Bremner River**	**52.05 37**	P	**P**	**21 42 43.8**	**+0.5**
KNRA	**Kununurra**	**52.55 195**	P	**P**	**21 42 47.3**	**-0.1**
GSI	**Gunungsitoli**	**52.81 239**	P	**P**	**21 42 49.8**	**+0.3**
EGAK	**Eagle**	**53.15 32**	P	**P**	**21 42 52.1**	**+0.7**
EGAK			IAmb	IAmb	21 43 12.9	
	comp=Z,5.1nm,1.3s					
KKAR	**Karatay Array**	**53.28 301**	P	**P**	**21 42 52.1**	**-0.6**
KKAR	**Karatay Array**	**53.28 301**	P	**P**	**21 42 52.1**	**-0.6**
NIL	**Nilore**	**54.52 289**	P	**P**	**21 43 00.7**	**-1.2**
NIL			pmax	pmax		
	comp=Z,4.0nm,0.8s					
NIL	**Nilore**	**54.52 289**	P	**P**	**21 43 00.7**	**-1.2**
NIL			IAmb	IAmb	21 43 06.1	
	comp=Z,3.6nm,0.8s					
INK	**Inuvik**	**55.61 27**	P	**P**	**21 43 10.8**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=305,slow=5.8,SNR=6.7					
SVE	**Sverdlovsk**	**55.68 319**	*e*P	**P**	**21 43 10.2**	**+0.3**
SVE			pmax	pmax		
	comp=Z,10.0nm,0.9s					
WB0	**Warramunga Arr**	**55.70 187**	P	**P**	**21 43 09.2**	**-1.1**
WB0			IAmb	IAmb	21 43 14.1	
	comp=Z,11nm,1.1s					
CHGR	**Chuyangaron**	**55.73 296**	P	**P**	**21 43 10.3**	**-0.3**
WRAB	**Tennant Creek**	**55.87 187**	*ce*P	**P**	**21 43 10.7**	**-0.8**
WRAB			pmax	pmax		
	comp=Z,9.0nm,1.0s					
WRA	**Warramunga Arr**	**55.88 187**	P	**P**	**21 43 10.2**	**-1.4**
	comp=Z,4.2nm,0.8s,baz=1.8,slow=7.3,SNR=31					
WRA			LR	LR	22 06 18.5	
	comp=Z,27nm,18.1s,baz=234,slow=35					
WRA	**Warramunga Arr**	**55.88 187**	P	**P**	**21 43 10.2**	**-1.4**
WRA			pmax	pmax		
	comp=Z,1.0nm,1.1s					
WRA	**Warramunga Arr**	**55.88 187**	P	**P**	**21 43 10.2**

ARCES	ARCESS Array B	64.89	339	P		P	21 44 12.6 -0.1
	comp=Z,4.6nm,1.1s,baz=33,slow=7.3,SNR=4.0						
ARCES				LR		LR	22 15 43.8
	comp=Z,40nm,18.2s,baz=98,slow=39						
YKA	Yellowknife Ar	65.02	30	P		P	21 44 14.9 +1.3
	comp=Z,1.6nm,0.9s,baz=298,slow=6.1,SNR=10						
AFI	Afiamalu	66.79	129	LR		LR	22 10 43.6
	comp=Z,31nm,18.4s,baz=350,slow=33						
FORT	Forrest	67.41	192	P		P	21 44 28.4 -0.7
STKA	Stephens Creek	67.43	179	P		P	21 44 28.2 -1.1
	comp=Z,1.4nm,0.4s,baz=301,slow=7.2,SNR=4.0						
STKA	Stephens Creek	67.43	179	P		P	21 44 28.7 -0.6
STKA				pmax		pmax	
	comp=Z,1.0nm,1.1s						
STKA	Stephens Creek	67.43	179	P		P	21 44 28.7 -0.6
BBOO	Buckleboo	68.50	184	P		P	21 44 36.3 +0.3
FIA1	FINESS Array S	69.59	332	P		P	21 44 42.3 -0.3
FINES	FINESS Array B	69.59	332	P		P	21 44 42.1 -0.5
	comp=Z,3.3nm,0.9s,baz=56,slow=7.1,SNR=8.1						
FINES	FINESS Array B	69.59	332	*i* P		P	21 44 41.2 -1.4
FINES				pmax		pmax	
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	69.59	332	P		P	21 44 41.8 -0.8
KBZ	Khabaz	71.28	311	*i* P		P	21 44 53.5 +0.3
KBZ				pmax		pmax	
	comp=Z,5.0nm,1.1s						
KIV	Kislovodsk	71.29	311	*e*P		P	21 44 53.4 0.0
KIV				pmax		pmax	
	comp=Z,11nm,1.1s						
KIV				MLR		MLR	
	comp=Z,58nm,18.0s						
KIV	Kislovodsk	71.29	311	P		P	21 44 52.6 -0.8
KIV				IAmb		IAmb	21 44 55.0
	comp=Z,7.4nm,0.9s						
GURO	Guroymak-BITLI	74.63	307	P		P	21 45 13.4 +0.1
GURO				IAmb		IAmb	21 45 19.7
	comp=Z,6.0nm,1.4s						
AKASG	Malin Array Be	74.90	322	P		P	21 45 14.0 -0.4
	comp=Z,1.2nm,0.5s,baz=47,slow=6.2,SNR=9.2						
AKASG	Malin Array Be	74.90	322	*i* P		P	21 45 13.3 -1.2
AKASG				pmax		pmax	
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	74.90	322	P		P	21 45 14.6 +0.1
AKBB	Malin Array Si	74.90	322	P		P	21 45 13.5 -1.0
AKBB				pmax		pmax	
	comp=Z,4.0nm,0.8s						
AKBB	Malin Array Si	74.90	322	P		P	21 45 13.4 -1.0
AKBB				IAmb		IAmb	21 45 21.2
	comp=Z,3.6nm,0.8s						
HFS	Hagfors	74.92	336	LR		LR	22 20 48.7
	comp=Z,57nm,18.4s,baz=24,slow=38						
NB2	NORSAR Subarra	75.04	337	P		P	21 45 14.8 -0.4
	comp=Z,18nm,1.4s,baz=40,slow=5.9						
NOA	NORSAR Array B	75.04	337	P		P	21 45 15.1 -0.1
	comp=Z,1.6nm,0.8s,baz=38,slow=5.8,SNR=3.8						
NOA				LR		LR	22 21 22.9
	comp=Z,75nm,18.2s,baz=290,slow=38						
FCC	Fort Churchill	75.22	26	P		P	21 45 16.3 +0.1
FCC				pmax		pmax	
	comp=Z,5.0nm,1.1s						
FCC	Fort Churchill	75.22	26	P		P	21 45 16.3 +0.1
FCC				IAmb		IAmb	21 45 19.5
	comp=Z,5.1nm,1.1s						
LRM	Limekiln Ridge	75.29	44	P		P	21 45 17.5 +0.3
NVAR	Mina Array Bea	76.05	53	P		P	21 45 23.5 +1.8
	comp=Z,0.9nm,0.8s,baz=273,slow=3.9,SNR=5.3						
NVAR	Mina Array Bea	76.05	53	P		P	21 45 21.6 0.0
PDAR	Pinedale Array	78.80	45	P		P	21 45 37.8 +0.9
	comp=Z,0.5nm,0.5s,baz=318,slow=1.1,SNR=5.1						
PDAR	Pinedale Array	78.80	45	P		P	21 45 36.9 0.0
BUR08	Bucovina Ar. S	78.89	322	P		P	21 45 37.6 +0.4
BUR08				IAmb		IAmb	21 45 54.5
	comp=Z,3.9nm,1.2s						
BURAR	Bucovina Array	78.90	322	P		P	21 45 37.1 -0.2
BRTR	Keskin Array B	79.24	311	P		P	21 45 38.7 -0.6
	comp=Z,1.9nm,1.0s,baz=42,slow=10.0,SNR=3.8						
BRTR	Keskin Array B	79.24	311	P		P	21 45 40.8 +1.5
MLR	Muntele Rosu	79.94	320	LR		LR	22 23 44.9
	comp=Z,67nm,18.5s,baz=92,slow=38						
PFO	Pinyon Flats O	80.06	56	LR		LR	22 15 22.6
	comp=Z,38nm,19.9s,baz=200,slow=31						
RAYN	Ar Rayn	80.64	292	P		P	21 45 46.7 -0.3
RAYN				pmax		pmax	
	comp=Z,8.0nm,1.5s						
RAYN	Ar Rayn	80.64	292	P		P	21 45 46.7 -0.3
RAYN				IAmb		IAmb	21 46 02.4
	comp=Z,8.2nm,1.5s						
CLL	Collm	81.84	330	*e*P		P	21 45 53.0 +0.2
CLL	Collm	81.84	330	*e*P		P	21 45 53.0 +0.2
CLL				*e*PcP		pP	21 45 58.0 -0.8
SMOL	Smolenice	82.01	326	*e*P		P	21 45 54.4 +0.6
SMOL	Smolenice	82.01	326	*e*P		P	21 45 54.4 +0.6
MODS	Modra-Piesok	82.18	326	*e*P		P	21 45 55.9 +1.1
MODS	Modra-Piesok	82.18	326	*e*P		P	21 45 55.9 +1.1
KHC	Kasperske Hory	83.25	328	*e*P		P	21 46 00.0 -0.3
KHC	Kasperske Hory	83.25	328	*e*P		P	21 46 00.0 -0.3
GERES	GERESS Array B	83.42	328	P		P	21 46 00.9 -0.3
	comp=Z,0.4nm,0.5s,baz=47,slow=5.9,SNR=5.3						
GERES	GERESS Array B	83.42	328	P		P	21 46 01.2 0.0
DAVOX	Davos/Dischmat	86.65	329	LR		LR	22 31 44.0
	comp=Z,67nm,18.4s,baz=1.5,slow=40						
TXAR	Lajitas Array	91.19	52	P		P	21 46 40.1 +0.8
	comp=Z,0.4nm,0.6s,baz=313,slow=3.6,SNR=5.6						
TXAR	Lajitas Array	91.19	52	P		P	21 46 38.9 -0.4
TXAR	Lajitas Array	91.19	52	P		P	21 46 38.9 -0.4
ESDC	Sonseca Array	98.09	333	LR		LR	22 39 19.4
	comp=Z,37nm,18.3s,baz=36,slow=40						
TORD	Torodi Ar. Bea	117.78	314	PKP		PKPdf	21 52 20.2 -0.5
	comp=Z,0.2nm,0.5s,baz=39,slow=3.4,SNR=1.7						
H03N2	Juan Fernandez	147.37	97	T		T	00 37 46.9
	baz=290,slow=76,SNR=53						
H03N3	Juan Fernandez	147.38	97	T		T	00 37 52.7
	baz=290,slow=76,SNR=124						
H03N1	Juan Fernandez	147.38	97	T		T	00 37 51.8
	baz=290,slow=76,SNR=78						
LPAZ	La Paz	147.67	60	PKPbc		PKPbc	21 53 19.4 -0.2
	comp=Z,2.2nm,0.7s,baz=259,slow=2.8,SNR=7.7						
LPAZ	La Paz	147.67	60			PKPbc	21 53 19.3 -0.3

*MOS **23** 21:36:17.8±0.9, 49.°18N×153.°88E, h204km, mb4.2/1, Error ellipse: s-maj=49.9km s-min=6.0km az=63.0*
*KRSC **23** 21:36:19.8±1.8, 49.°38N×154.°23E, h229km±23km, ML4.1*
*NEIC **23** 21:36:20.3±1.0, 49.°8N±0.°2×153.°0E±0.°3, h225km±8km, mb4.1/5, Error ellipse: s-maj=35.7km s-min=10.4km az=131.0*
*IDC **23** 21:36:20.7±2.0, 49.°79N×153.°13E, h224km±21km, mb3.3/4, mb1 3.4/7, mb1mx3.0/38, mbtmp3.9/7, Error ellipse: s-maj=42.9km s-min=15.0km az=127.0*
ISC 23 21:36:17.9±0.7, 49.°3N±0.°1×153.°8E±0.°2, h200km, n59, σ1§90/68, mb4.0/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.03	47	PN	Pn	21 36 58.9	+2.3
SKR	Severo-Kuril's	2.03	47	*e*P	Pn	21 36 58.9	+2.3
PAU	Pauzhetka	2.89	41	*e*S	Sn	21 37 46.6	+2.6
KDTR	Khodutka, Kamc	3.70	46	PN	Pn	21 37 16.8	+1.0
KDTR				S	Sn	21 37 59.8	-1.6
KDTR	Khodutka, Kamc	3.70	46	*e*P	Pn	21 37 16.8	+1.0
KDTR				*e*S	Sn	21 37 59.8	-1.6
APC	Apacha	4.19	29	PN	Pn	21 37 22.2	+0.3
APC	Apacha	4.19	29	*e*P	Pn	21 37 22.2	+0.3
MTVR	Mutnovka	4.22	40	PN	Pn	21 37 24.1	+1.7
MTVR				S	Sn	21 38 12.3	-0.9
MTVR	Mutnovka	4.22	40	*e*P	Pn	21 37 24.1	+1.7
MTVR				*e*S	Sn	21 38 12.3	-0.9
GRL	Gorelyy	4.22	38	PN	Pn	21 37 24.3	+1.8
GRL	Gorelyy	4.22	38	*e*P	Pn	21 37 24.3	+1.8
RUS	Russkaya	4.32	42	PN	Pn	21 37 24.5	+1.0
RUS				S	Sn	21 38 12.7	-2.6
RUS	Russkaya	4.32	42	*e*P	Pn	21 37 24.5	+1.0
RUS				*e*S	Sn	21 38 12.7	-2.6
KRMR	Karymshinskiy	4.46	36	PN	Pn	21 37 26.5	+1.3
KRMR	Karymshinskiy	4.46	36	*e*P	Pn	21 37 26.5	+1.3
PEA0B	Petropavlovsk-	4.52	31	PN	Pn	21 37 27.8	+1.7
PEA0B	Petropavlovsk-	4.52	31	Pn	Pn	21 37 27.8	+1.7
PETK	Petropavlovsk-	4.52	31	P	Pn	21 37 27.3	+1.2
	0.8nm,0.3s,baz=204,slow=14,SNR=22						
PETK	Petropavlovsk-	4.52	31	Pn	Pn	21 37 27.0	+0.9
PET	Petropavlovsk	4.81	38	Pn	Pn	21 37 32.0	+2.3
DALK	Dalny	4.86	38	PN	Pn	21 37 31.8	+1.5
DALK				S	Sn	21 38 25.1	-2.3
DALK	Dalny	4.86	38	*e*P	Pn	21 37 31.8	+1.5
DALK				*e*S	Sn	21 38 25.1	-2.3
KOK	Koryaka	5.01	36	PN	Pn	21 37 36.0	+3.6
KOK	Koryaka	5.01	36	*e*P	Pn	21 37 36.0	+3.6
UGLR	Uglovaya	5.02	37	PN	Pn	21 37 34.2	+1.7
UGLR				S	Sn	21 38 29.7	-1.7
UGLR	Uglovaya	5.02	37	*e*P	Pn	21 37 34.2	+1.7
UGLR				*e*S	Sn	21 38 29.7	-1.7
AVH	Avacha	5.03	36	PN	Pn	21 37 34.7	+2.1
AVH	Avacha	5.03	36	*e*P	Pn	21 37 34.7	+2.1
SMAR	Somma	5.05	37	PN	Pn	21 37 34.9	+1.9
SMAR	Somma	5.05	37	*e*P	Pn	21 37 34.9	+1.9
KRER	Koryakskii	5.06	36	PN	Pn	21 37 35.9	+2.8
KRER	Koryakskii	5.06	36	*e*P	Pn	21 37 35.9	+2.8
SDLR	Sedlovina	5.09	37	PN	Pn	21 37 35.2	+1.7
SDLR	Sedlovina	5.09	37	*e*P	Pn	21 37 35.2	+1.7
NLC	Nalytchevo	5.20	40	*e*S	Sn	21 38 31.8	-3.6
TUMR	Tumrok	7.13	31	PN	Pn	21 38 01.0	+1.2
TUMR	Tumrok	7.13	31	*e*P	Pn	21 38 01.0	+1.2
SHO	Shikotan	7.25	224	*e*PN	Pn	21 37 58.9	-2.5
SHO				*e*S	Sn	21 39 19.4	-4.1
JKA	Kamikawa-asahi	9.28	240		Pn	21 38 30.4	+2.8
ASAJ	Asahikawa	9.28	240	P	Pn	21 38 29.4	+1.7
	0.7nm,0.3s,baz=72,slow=13,SNR=1.2						
ASAJ	Asahikawa	9.28	240	PN	Pn	21 38 30.5	+2.8
ERM	Erimo	10.42	230	PN	Pn	21 38 42.7	+0.3
ERM	Erimo	10.42	230	Pn	Pn	21 38 42.7	+0.3
SEY	Seymchan	13.67	357	P	Pn	21 39 23.3	-0.1
	0.2nm,0.3s,baz=156,slow=9.9,SNR=5.5						
MJAR	Matsushiro Arr	17.08	227	P	Pn	21 40 05.4	+0.4
	0.1nm,0.3s,baz=18,slow=13,SNR=6.6						
MAJO	Matsushiro	17.08	227	P	Pn	21 40 03.8	-1.2
MAJO				pmax	pmax		
	comp=Z,14nm,1.3s						
MAJO	Matsushiro	17.08	227	P	Pn	21 40 03.8	-1.2
MAJO				IAmb	IAmb	21 40 04.5	
	comp=Z,14nm,1.3s						
INU	Inuyama	18.61	228	P	P	21 40 20.3	+0.1
ILAR	Eielson Array	34.28	41	P	P	21 42 44.9	+0.3
	comp=Z,2.0nm,0.7s,baz=268,slow=6.2,SNR=11						
A36M	Sachs Harbour	41.36	28	P	P	21 43 43.3	-0.3
A36M				IAmb	IAmb	21 43 43.5	
	comp=Z,4.9nm,0.7s						
MKAR	Makanchi Array	46.20	295	P	P	21 44 16.7	-5.9
FCC	Fort Churchill	58.88	34	P	P	21 45 54.3	-0.9
FCC	Fort Churchill	58.88	34	P	P	21 45 54.3	-0.9
FINES	FINESS Array B	61.91	334	P	P	21 46 11.5	-4.2
	comp=Z,6.3nm,1.2s,baz=25,slow=4.6,SNR=2.4						
WRAB	Tennant Creek	71.08	199	P	P	21 47 14.5	+0.3
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.3s						
WRAB	Tennant Creek	71.08	199	P	P	21 47 14.4	+0.3
WRAB				IAmb	IAmb	21 47 32.9	
	comp=Z,5.1nm,1.2s						
WRA	Warramunga Arr	71.09	199	P	P	21 47 15.9	+1.6
	comp=Z,0.2nm,0.5s,baz=18,slow=6.7,SNR=2.5						
ASAR	Alice Springs	74.79	199	P	P	21 47 37.9	+2.0
	comp=Z,0.3nm,0.5s,baz=9.3,slow=5.5,SNR=6.7						
ASAR	Alice Springs	74.79	199	P	P	21 47 37.6	+1.7

*JSN **23** 21:42:23.9±1.8, 19.°90N×76.°20W, h0km±337km, MD3.8*
*SSNC **23** 21:42:27.8±1.4, 19.°80N×76.°02W, h5km±7km, MD3.0, ML3.5, MW3.5*
ISC 23 21:42:23.5±2.3, 19.°75N±0.°04×76.°08W±0.°03, h3km±17km, n15, σ1§37/24, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.44	57	*e*P	Pn	21 42 35.0	-1.7
RCC				*e*S	Sb	21 42 40.2	-0.6
RCC				IAML		21 42 41.1	
	comp=E,2μm,0.6s						
RCC				IAML		21 42 41.2	
	comp=N,1μm,0.5s						
LMGC	Las Mercedes	0.92	290	*e*P	Pn	21 42 44.3	+0.9
LMGC				*e*S	Sn	21 42 57.2	+0.2
LMGC				IAML		21 43 00.5	
	comp=E,696nm,0.2s						
LMGC				IAML		21 43 00.7	
	comp=N,1μm,0.1s						
GTBY	Guantanamo Bay	0.93	79	*e*P	Pn	21 42 43.8	+0.3
GTBY				*e*S	Sn	21 42 56.3	-1.0
GTMO	Guantanamo	0.95	70	*e*P	Pn	21 42 44.9	+1.2
GTMO				*e*S	Sn	21 42 58.4	+0.7
GTMO				IAML		21 43 00.5	
	comp=N,63μm,0.4s						
GTMO				IAML		21 43 01.8	
	comp=E,62μm,0.5s						
HLGC	Holguin	1.13	1	*e*P	Pn	21 42 48.2	+1.9
HLGC				*e*S	Sn	21 43 04.7	+2.4
HLGC				IAML		21 43 07.3	
	comp=E,3μm,0.5s						
HLGC				IAML		21 43 07.6	
	comp=N,2μm,0.6s						
MOAC	Moa	1.39	49	*e*P	Pb	21 42 49.8	-0.3
MOAC				*e*S	Sg	21 43 08.0	-0.2
MOAC				IAML		21 43 14.6	
	comp=N,607nm,0.4s						
MOAC				IAML		21 43 15.9	
	comp=E,492nm,0.3s						
CMJ	Castle Mountai	1.63	190	*i* P	Pb	21 42 54.5	+0.2
BBJ	Bamboo Saint A	1.76	220	*i* P	Pn	21 42 53.9	-1.1
GWJ	Greenwich	1.78	200	*i* P	Pn	21 42 55.2	0.0
MASC	Masc	1.79	76	*e*P	Pn	21 42 55.4	0.0
MASC				*e*S	Sn	21 43 17.1	-1.4
MASC				IAML		21 43 26.9	
	comp=N,334nm,0.6s						
MASC				IAML		21 43 28.5	
	comp=E,298nm,0.5s						
STH	Stony Hill	1.80	203	*i* P	Pb	21 42 56.7	-0.5
HOJ	Hope	1.85	200	*i* P	Pn	21 42 57.0	+0.8
CCCC	Cccc	2.13	313	*e*P	Pn	21 42 59.7	-0.4
CCCC				*e*S	Sn	21 43 24.1	-3.0
CCCC				IAML		21 43 27.4	
	comp=E,227nm,0.3s						
CCCC				IAML		21 43 30.4	
	comp=N,155nm,0.6s						
MCJ	Malvern	2.37	220	*i* P	Pn	21 43 04.7	+1.3
MCJ				*i* S	Sn	21 43 33.3	+0.4
SDDR	Presa de Saban	4.59	99	*e*P	Pn	21 43 36.2	+2.3

*MAN **23** 22:08:14.3, 4.°98N×125.°82E, h136km, mb4.9, ML3.8, MS3.7*
*IDC **23** 22:08:15.9±0.9, 5.°05N×125.°66E, h166km±8km, mb3.6/10, mb1 3.7/13, mb1mx3.3/48, mbtmp4.1/13, Error ellipse: s-maj=31.8km s-min=9.5km az=76.0*
*NEIC **23** 22:08:15.9±1.7, 5.°01N±0.°07×125.°76E±0.°03, h157km±8km, mb4.3/24, Error ellipse: s-maj=9.9km s-min=3.6km az=196.0*
*DJA **23** 22:08:18.1±0.6, 5.°1N±5.°×12.°6E±.°, h150km±6km, M4.2/12, mb4.2/6, mB4.9/3, MLv4.3/12, Mw(mB)4.2/3*
ISC 23 22:08:14.9±0.7, 5.°04N±0.°04×125.°72E±0.°06, h156km±6km, n87, σ1§17/97, mb4.2/19, 6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.06	360	‖*e*P	Pn	22 08 40.1	-0.7
GSPH	General Santos	1.29	324	‖*i*P	Pn	22 08 41.7	-1.3
GSPH				*i* S	Sn	22 09 02.2	-2.4
SGSI	Sangihe	1.36	188	P	Pn	22 08 42.9	-0.6
MATI	Mati	1.97	16	‖*e*P	Pn	22 08 49.2	-0.9
DAV	Davao City (W)	2.02	356	P	Pn	22 08 53.0	+2.2
	11nm,0.3s,baz=252,slow=9.6,SNR=3.6						
DAV				S	Sn	22 09 20.6	+2.3
	134nm,0.3s,baz=264,slow=22,SNR=9.2						
DAV	Davao City (W)	2.02	356		Pn	22 08 52.0	+1.2
DAV				Sn	Sn	22 09 20.4	+2.0
KCP	Kidapawan	2.06	342	‖*i*P	Pn	22 08 51.4	+0.3
KCP				*i* S	Sn	22 09 19.7	+0.6
CTBH	Cotabato--PC H	2.62	326	‖*i*P	Pn	22 08 58.0	+0.2
CTBH				*i* S	Sn	22 09 29.8	-1.1
PAGZ	Pagadian	3.63	320	‖*e*P	Pn	22 09 10.5	-0.1
TNTI	Ternate	4.55	159	P	Pn	22 09 21.5	-1.0
TNTI	Ternate	4.55	159	Pn	Pn	22 09 21.4	-1.2
TNTI	Ternate	4.55	159	P	Pn	22 09 21.3	-1.2
GTOI	Gorontalo	5.14	212	P	Pn	22 09 29.9	-0.5
MRSI	Marisa	5.89	220	P	Pn	22 09 39.4	-0.9
	0.1nm25nm,0.6s						
LBMI	Labuha	5.91	162	P	Pn	22 09 39.8	-0.8
	0.3nm688nm23nm,0.9s						
TOLI2	Tolitoli	6.28	232	Pn	Pn	22 09 45.6	0.0
SANI	Sanana	7.05	178	P	Pn	22 09 52.6	-3.1
	0.3nm1μm22nm,0.7s						
SANI	Sanana	7.05	178	P	Pn	22 09 52.9	-2.8
MYLDM	Lahad Datu	7.19	271	Pn	Pn	22 09 59.5	+1.9
SWI	Sorong	8.06	136	P	Pn	22 10 09.1	-0.1
	0.1nm27nm,0.5s						
SIJI	Sorong	8.07	136	P	Pn	22 10 09.4	+0.1
	5.2nm,0.3s,baz=329,slow=15,SNR=16						
SIJI				S	Sn	22 11 37.9	-1.6
	0.5nm,0.3s,baz=211,slow=19,SNR=1.6						
FAKI	Fak Fak	10.25	140	Pn	Pn	22 10 38.6	+0.3
FAKI	Fak Fak	10.25	140	P	Pn	22 10 39.3	+1.0
KAPI	Kappang	11.63	211	P	Pn	22 10 57.3	+1.0
	0.6nm,0.3s,baz=69,slow=14,SNR=2.6						
KAPI	Kappang	11.63	211	Pn	Pn	22 10 57.1	+0.8
BATI	Baumata	15.28	188	P	P	22 11 45.7	+1.7
	6.3nm,0.3s,baz=305,slow=2.8,SNR=7.5						
KSM	Kuching	15.78	258		P	22 11 51.3	+1.7
KSM				IAmb	IAmb	22 11 53.6	
	comp=Z,44nm,1.4s						
JAY	Jayapura	16.75	116	P	Pn	22 12 03.2	+2.5
	comp=Z,0.9nm,0.3s,baz=274,slow=16,SNR=2.3						
DRS	Darwin Rock St	18.10	164	P	Pn	22 12 16.4	-0.3
MTN	Manton Dam	18.56	163	P	P	22 12 18.1	-1.9
MTN				IAmb	IAmb	22 12 30.2	
	comp=Z,13nm,1.1s						
MTN	Manton Dam	18.56	163	P	P	22 12 20.6	+0.6
KDU	Kakadu	18.85	159	P	Pn	22 12 24.3	-1.1
KNRA	Kununurra	20.80	172	P	P	22 12 44.0	-0.1
KNRA	Kununurra	20.80	172	P	P	22 12 44.4	+0.3
MYKOM	Kota Tinggi	22.06	262	P	P	22 12 58.0	+0.4
MYKOM				IAmb	IAmb	22 13 02.9	
	comp=Z,19nm,1.0s						
UBPT	Khong Chiam	22.35	299	P	P	22 13 00.2	-0.1
UBPT				IAmb	IAmb	22 13 02.2	
	comp=Z,35nm,1.4s						
FITZ	Fitzroy Crossi	22.99	180	P	P	22 13 06.5	+0.3
	comp=Z,5.2nm,0.5s,baz=8.6,slow=8.8,SNR=26						
IPM	Ipoh	24.61	270	P	P	22 13 21.4	+0.4
COEN	Coen	25.62	138	P	P	22 13 30.0	-0.2
COEN				IAmb	IAmb	22 13 34.9	
	comp=Z,12nm,1.4s						
WB0	Warramunga Arr	26.09	161	P	P	22 13 33.4	-1.0
WRAB	Tennant Creek	26.23	161	P	P	22 13 36.8	+1.2
WRA	Warramunga Arr	26.23	161	P	P	22 13 35.6	-0.1
	comp=Z,0.9nm,0.3s,baz=337,slow=10,SNR=23						
WRA				PcP	PcP	22 16 58.0	-0.3
	comp=Z,0.2nm,0.6s,baz=307,slow=2.5,SNR=1.4						
WRA	Warramunga Arr	26.23	161	P	P	22 13 34.6	-1.0
JNU	Nakatsue	28.35	9	P	P	22 13 51.1	-3.3
AS31	Alice Springs	29.63	165	P	P	22 14 05.5	-0.3
ASAR	Alice Springs	29.63	165	P	P	22 14 06.2	+0.4
	comp=Z,1.9nm,0.4s,baz=342,slow=7.0,SNR=61						
ASAR				PcP	PcP	22 17 07.0	+0.3
	comp=Z,0.5nm,0.5s,baz=341,slow=2.5,SNR=5.0						
ASAR				ScP	ScP	22 20 33.6	-0.6
	comp=Z,0.4nm,0.7s,baz=332,slow=2.7,SNR=5.3						
ASAR	Alice Springs	29.63	165	P	P	22 14 05.8	0.0
WRKA	Warakurna	30.00	175	P	P	22 14 10.0	+0.9
MEEK	Meekatharra	32.23	192	P	P	22 14 28.1	-0.5
MAJO	Matsushiro	33.39	18	P	P	22 14 37.1	-1.5
MAJO	Matsushiro	33.39	18	P	P	22 14 37.1	-1.5
MJAR	Matsushiro Arr	33.39	18	P	P	22 14 36.9	-1.7
MJAR				IAmb	IAmb	22 15 02.2	
	comp=Z,8.4nm,1.4s						
OOD	Oodnadatta	34.03	164	P	P	22 14 45.0	+0.8
MORW	Morawa	35.16	195	P	P	22 14 53.3	-0.7
MORW				IAmb	IAmb	22 15 20.3	
	comp=Z,16nm,1.3s						
FORT	Forrest	35.69	177	P	P	22 14 57.9	-0.4
FORT	Forrest	35.69	177	P	P	22 14 58.6	+0.2
MULG	Mulgathing	36.02	168	P	P	22 15 01.9	+0.7
BLDU	Ballidu	36.48	193	P	P	22 15 04.6	-0.6
KLBR	Kellerberrin	37.21	191	P	P	22 15 11.0	-0.3
LCRK	Leigh Creek	37.26	162	P	P	22 15 12.1	+0.4
NWAO	Narrogin (SRO)	38.61	191	P	P	22 15 22.8	-0.1
NWAO	Narrogin (SRO)	38.61	191	P	P	22 15 23.1	+0.1
BBOO	Buckleboo	38.90	166	P	P	22 15 26.0	+0.6
BBOO	Buckleboo	38.90	166	P	P	22 15 26.3	+0.9
STKA	Stephens Creek	39.70	159	P	P	22 15 32.2	+0.1
	comp=Z,2.1nm,0.5s,baz=324,slow=8.3,SNR=4.3						
HTT	Hallett	40.25	163	P	P	22 15 38.3	+1.6
ARPS	Mount Arapiles	44.24	161	P	P	22 16 10.3	+1.5
MK31	Makanchi Array	55.91	325	P	P	22 17 36.0	-0.7
MKAR	Makanchi Array	55.91	325	P	P	22 17 36.0	-0.7
	comp=Z,0.5nm,0.6s,baz=121,slow=6.7,SNR=10						
MKAR				PcP	PcP	22 18 33.4	0.0
	comp=Z,0.5nm,0.6s,baz=116,slow=4.7,SNR=4.7						
MKAR	Makanchi Array	55.91	325	P	P	22 17 35.6	-1.1
KURBB	Kurchatov Arra	60.10	327	P	P	22 18 04.8	-0.9
	comp=Z,0.4nm,0.6s,baz=121,slow=7.

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JOW  Kunigami          2.77  71   P        Pn      22 32 34.5 +2.4
     11nm,0.3s,baz=117,slow=18,SNR=2.0
JOW                                 S        Sn      22 33 07.5 +2.6
     11nm,0.3s,baz=316,slow=26,SNR=4.0
JOW  Kunigami          2.77  71              Pn      22 32 32.8 +0.6
YHNB Yeheng            3.81 251   Pn         Pn      22 32 47.3 +0.8
YULB Yu-li             4.48 236   Pn         Pn      22 32 57.2 +1.5
SSLB Suanglung         4.54 242              Pn      22 32 58.6 +2.2
TPUB Ta-pu             5.04 239   Pn         Pn      22 33 05.5 +2.1
JNU  Nakatsue          8.60  33   P          Pn      22 33 55.9 +3.6
     0.3nm,0.3s,baz=187,slow=5.6,SNR=5.6
JNU  Nakatsue          8.60  33              Pn      22 33 54.6 +2.3
KSRS Korea Array      11.65  10   P          Pn      22 34 40.3 +6.3
     0.1nm,0.3s,baz=183,slow=12,SNR=4.3
KSRS                                LR       LR      22 39 47.5
     comp=Z,94nm,18.1s,baz=220,slow=41
DAV  Davao City (W)   18.80 179   LR         LR      22 42 51.5
     comp=Z,33nm,20.6s,baz=328,slow=35
USRK Ussuriysk Ar.    18.97  15   P          P       22 36 09.4 +0.6
     baz=180,slow=6.9,SNR=3.1
USRK                                LR       LR      22 42 17.7
     comp=Z,80nm,21.1s,baz=181,slow=33
USRK Ussuriysk Ar.    18.97  15   P          P       22 36 09.2 +0.4
GUMO Guam             22.09 120   LR         LR      22 45 53.2
     comp=Z,42nm,18.0s,baz=349,slow=38
ASAJ Asahikawa        22.88  33   LR         LR      22 44 44.6
     comp=Z,50nm,21.4s,baz=176,slow=34
KLR  Kul'dur          23.75  10   P          P       22 36 59.9 +0.3
     3.3nm,0.8s,baz=229,slow=7.1,SNR=11
KLR                                 LR       LR      22 46 34.9
     comp=Z,34nm,18.2s,baz=184,slow=37
CMAR Chiang Mai Arr   25.52 258   P          P       22 37 17.6 +1.5
     0.6nm,0.3s,baz=58,slow=6.6,SNR=4.5
CMAR                                LR       LR      22 47 48.0
     comp=Z,28nm,19.0s,baz=70,slow=37
ULN  Ulaanbaatar      26.16 331   P          P       22 37 19.5 -2.3
SONM Songino Array    26.42 331   P          P       22 37 24.3 +0.1
     3.3nm,0.9s,baz=148,slow=9.1,SNR=15
SONM                                PcP      PcP     22 40 48.8 -0.3
     0.5nm,0.6s,baz=155,slow=4.0,SNR=5.6
SONM                                LR       LR      22 49 18.6
     comp=Z,107nm,20.2s,baz=114,slow=40
SONM Songino Array    26.42 331   P          P       22 37 23.2 -0.9
SBUM Sibu             26.57 210   P          P       22 37 26.9 +1.3
SBUM                                IAmb     IAmb    22 37 35.1
     comp=Z,17nm,1.5s
SIJI Sorong           27.30 167   LR         LR      22 46 11.0
     comp=Z,69nm,22.0s,baz=213,slow=31
PETK Petropavlovsk-   36.30  33   LR         LR      22 54 26.0
     comp=Z,40nm,18.1s,baz=129,slow=37
MTN  Manton Dam       39.00 171   P          P       22 39 13.7 -0.2
MK31 Makanchi Array   39.78 313   P          P       22 39 19.7 -0.6
MK31                                IAmb     IAmb    22 39 21.9
     comp=Z,9.6nm,1.4s
MKAR Makanchi Array   39.78 313   P          P       22 39 20.2 -0.1
     comp=Z,2.2nm,0.6s,baz=98,slow=10,SNR=29
MKAR                                PcP      PcP     22 41 25.9 -0.3
     comp=Z,0.3nm,0.6s,baz=67,slow=3.3,SNR=2.6
MKAR                                LR       LR      22 56 48.6
     comp=Z,54nm,18.0s,baz=44,slow=38
MKAR Makanchi Array   39.78 313   P          P       22 39 19.7 -0.5
MAKZ Makanchi         39.99 313   P          P       22 39 20.2 -1.8
MAKZ                                IAmb     IAmb    22 39 23.9
     comp=Z,13nm,1.3s
ZAA0 Zalesovo Array   40.90 324   P          P       22 39 28.1 -1.3
ZALV Zalesovo Beam    40.90 324   P          P       22 39 28.9 -0.5
     comp=Z,2.4nm,0.6s,baz=112,slow=8.4,SNR=13
ZALV                                LR       LR      22 57 16.7
     comp=Z,43nm,18.6s,baz=130,slow=37
ZALV Zalesovo Beam    40.90 324   P          P       22 39 27.8 -1.5
SEY  Seymchan         41.05  18   LR         LR      22 57 20.8
     comp=Z,47nm,18.6s,baz=354,slow=37
PMG  Port Moresby     41.08 146   LR         LR      22 55 39.7
     comp=Z,41nm,18.2s,baz=201,slow=35
KNRA Kununurra        41.54 175   P          P       22 39 34.8 -0.2
TARG Taragay, Kyrgy   41.94 304   P          P       22 39 37.3 -1.3
TARG                                IAmb     IAmb    22 39 42.1
     comp=Z,7.6nm,1.3s
KURK Kurchatov        43.23 317   P          P       22 39 47.6 -0.8
KURK                                IAmb     IAmb    22 39 49.2
     comp=Z,8.3nm,1.1s
KURBB Kurchatov Arra  43.26 317   P          P       22 39 48.5 -0.2
     comp=Z,4.9nm,0.8s,baz=107,slow=8.1,SNR=29
COEN Coen             43.33 154   P          P       22 39 50.5 +0.9
COEN                                IAmb     IAmb    22 39 52.2
     comp=Z,8.6nm,1.0s
FITZ Fitzroy Crossi   43.81 180   LR         LR      23 01 18.1
     comp=Z,20nm,18.0s,baz=338,slow=40
AAK  Ala-Archa        44.48 305   P          P       22 39 58.9 +0.1
     comp=Z,1.1nm,0.8s,baz=82,slow=3.8,SNR=4.9
AAK                                 LR       LR      23 01 27.6
     comp=Z,83nm,18.4s,baz=73,slow=40
TIXI Tiksi            45.75   2   LR         LR      22 58 57.1
     comp=Z,58nm,20.0s,baz=244,slow=36
WB0  Warramunga Arr   46.31 168   P          P       22 40 13.1 -0.2
WRA  Warramunga Arr   46.48 168   P          P       22 40 15.0 +0.4
     comp=Z,1.9nm,0.7s,baz=351,slow=8.6,SNR=14
WRA                                 LR       LR      22 59 15.3
     comp=Z,41nm,18.7s,baz=114,slow=35
KKAR Karatay Array    47.44 306   P          P       22 40 21.7 -0.3
NRIK Noril'sk         48.72 343   LR         LR      23 02 25.4
     comp=Z,64nm,18.8s,baz=46,slow=38
BRVK Borovoye         48.81 319   P          P       22 40 31.7 -0.7
KBL  Kabul            48.83 294   P          P       22 40 33.1  0.0
KBL                                 IAmb     IAmb    22 40 35.1
     comp=Z,6.3nm,1.1s
AS31 Alice Springs    50.04 170   P          P       22 40 42.7 +0.6
ASAR Alice Springs    50.04 170   P          P       22 40 43.1 +1.0
     comp=Z,1.1nm,0.7s,baz=353,slow=9.4,SNR=19
ASAR Alice Springs    50.04 170   P          P       22 40 42.8 +0.7
ABKAR Akbulak array   54.92 313   P          P       22 41 17.9 -0.1
ABKAR                               IAmb     IAmb    22 41 19.1
     comp=Z,2.7nm,0.6s
ABKAR Akbulak array   54.92 313   P          P       22 41 17.7 -0.3
ARU  Arti             55.98 322   LR         LR      23 07 55.9
     comp=Z,82nm,18.0s,baz=109,slow=39
ARU  Arti             55.98 322   P          P       22 41 25.1 -0.4
ARU                                 IAmb     IAmb    22 41 26.0
     comp=Z,8.2nm,1.3s
AKTO Aktyubinsk       56.16 315   LR         LR      23 07 33.9
     comp=Z,41nm,20.1s,baz=24,slow=38
GEYT Alibeck          57.16 300   LR         LR      23 08 16.5
     comp=Z,38nm,21.7s,baz=44,slow=38
DZM  Mont Dzumac      62.20 136   LR         LR      23 06 06.9
     comp=Z,45nm,19.4s,baz=192,slow=33
RND  Reindeer         65.25  30   P          P       22 42 27.9 -0.8
RND                                 IAmb     IAmb    22 42 39.4
     comp=Z,7.5nm,1.3s
MDM  Murphy Dome      65.29  28   P          P       22 42 28.6 -0.3
MDM                                 IAmb     IAmb    22 42 30.9
     comp=Z,7.6nm,1.2s
ILAR Eielson Array    65.89  28   LR         LR      23 12 15.1
     comp=Z,20nm,19.5s,baz=295,slow=37
BMAR Burnt Mountain   66.34  25   P          P       22 42 36.0 +0.4
GNI  Garni            66.89 305   LR         LR      23 16 25.8
     comp=Z,31nm,19.1s,baz=8.5,slow=40
KBZ  Khabaz           67.30 309   P          P       22 42 42.4 +0.3
     comp=Z,2.4nm,0.8s,baz=152,slow=4.2,SNR=5.2
KIV  Kislovodsk       67.39 309   P          P       22 42 42.8  0.0
KIV                                 IAmb     IAmb    22 42 44.6
     comp=Z,5.0nm,0.8s
M26K Nabesna, AK      68.08  30   P          P       22 42 47.1 +0.3
BCAR Beaver Creek A   68.45  29   P          P       22 42 49.4 +0.3
ARCES ARCESS Array B  69.28 338   LR         LR      23 17 54.8
     comp=Z,36nm,18.6s,baz=274,slow=40
FINES FINESS Array B  71.79 330   P          P       22 43 09.0 -0.4
     comp=Z,2.4nm,1.0s,baz=60,slow=9.1,SNR=4.4
FINES                               LR       LR      23 18 53.5
     comp=Z,74nm,18.4s,baz=200,slow=39
AKASG Malin Array Be  74.02 319   P          P       22 43 22.3 -0.6
     comp=Z,0.6nm,0.6s,baz=59,slow=6.9,SNR=4.4
BURAR Bucovina Array  77.66 317   P          P       22 43 43.4 -0.5
HFS  Hagfors          77.82 332   LR         LR      23 23 59.4
     comp=Z,113nm,18.7s,baz=344,slow=40
NOA  NORSAR Array B   78.37 333   LR         LR      23 22 13.7
     comp=Z,40nm,18.3s,baz=285,slow=39
YKA  Yellowknife Ar   79.83  24   P          P       22 43 54.8 -0.6
     comp=Z,1.8nm,0.7s,baz=303,slow=5.4,SNR=32
YKA  Yellowknife Ar   79.83  24   P          P       22 43 54.4 -1.0
VRAC Vranov           81.95 321   LR         LR      23 22 14.0
     comp=Z,109nm,18.6s,baz=13,slow=37
FRB  Frobisher Bay    89.91   6   LR         LR      23 26 12.8
     comp=Z,16nm,21.1s,baz=220,slow=36
NVAR Mina Array Bea   92.54  45   P          P       22 44 59.3 +0.3
     comp=Z,0.3nm,0.6s,baz=296,slow=4.9,SNR=2.3
NVAR Mina Array Bea   92.54  45   P          P       22 44 58.9 -0.2
```

*NEIC **23** 23:00:29.2±1.7, 14°.6S×0°.1×166°.17E±0°.06, h10km±2km, mb4.2/7, Error ellipse: s-maj=18.8km s-min=9.5km az=3.0*
*IDC **23** 23:00:32.0±13.0, 14°.95S×165°.68E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/31, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=236.9km s-min=36.8km az=55.0*
*NOU **23** 23:00:32.3, 14°.64S×167°.48E, h136km, MLv4.6/9, Vanuatu Islands*
ISC 23 23:00:32.6±1.4, 14°.7S±0°.1×166°.14E±0°.09, h35km, n21, σ0°68/21, mb4.0/6, Vanuatu Islands

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Code Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
SANVU Saraoutou       1.29 127   Pn    Pn   23 00 53.8 -0.4
SANVU                            Sn    Sn   23 01 09.8 -0.4
SANVU Saraoutou       1.29 127   P     Pn   23 00 54.6 +0.4
DVP  Devils Point     3.62 147   P     Pn   23 01 20.9 -5.4
KOUNC Koumac, New Ca  6.11 197   P     Pn   23 02 07.4 +6.9
     25nm,1.0s
DZM  Mont Dzumac      7.37 178   Pn    Pn   23 02 17.7 -0.2
     0.9nm,0.3s,baz=22,slow=19,SNR=22
DZM                              Sn    Sn   23 03 39.8 -0.6
     0.6nm,0.3s,baz=172,slow=15,SNR=2.0
DZM  Mont Dzumac      7.37 178              Pn   23 02 17.1 -0.8
DZM  Mont Dzumac      7.37 178   P     Pn   23 02 18.2 +0.3
NOUC Port Laguerre    7.40 179   P     Pn   23 02 19.0 +0.9
OUENC Ouen Island, N  7.74 175   Pn    Pn   23 02 23.1 +0.2
EIDS Eidsvold        17.69 231   P     P    23 04 38.3 +1.3
EIDS                             IAmb  IAmb 23 04 42.8
     comp=Z,7.3nm,0.8s
CAN  Canberra        25.70 214   P     P    23 06 00.2 +0.6
CAN                              IAmb  IAmb 23 06 05.5
     comp=Z,23nm,1.5s
STKA Stephens Creek  28.21 228   P     P    23 06 21.9 -0.2
     comp=Z,1.8nm,0.4s,baz=39,slow=10,SNR=6.1
STKA Stephens Creek  28.21 228   P     P    23 06 21.7 -0.5
STKA                             IAmb  IAmb 23 06 22.2
     comp=Z,0.6nm,0.5s
WB0  Warramunga Arr  30.71 256   P     P    23 06 44.1 -0.5
WB0                              IAmb  IAmb 23 07 12.0
     comp=Z,3.0nm,1.1s
WRA  Warramunga Arr  30.78 256   P     P    23 06 45.3 +0.1
     comp=Z,0.6nm,0.9s,baz=85,slow=8.7,SNR=4.3
AS31 Alice Springs   31.67 249   P     P    23 06 52.4 -0.7
ASAR Alice Springs   31.67 249   P     P    23 06 52.8 -0.2
     comp=Z,0.9nm,0.4s,baz=77,slow=9.0,SNR=30
ASAR Alice Springs   31.67 249   P     P    23 06 52.0 -1.0
BBOO Buckleboo       32.76 231   P     P    23 07 01.5 -0.9
BBOO                             IAmb  IAmb 23 07 07.0
     comp=Z,18nm,1.4s
KNRA Kununurra       36.06 263   P     P    23 07 30.5 -0.6
QSPA South Pole Qui  75.36 180   P     P    23 12 13.2 +0.7
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*THE **23** 23:12:54.9, 41°.48N×19°.74E, h0km±4km, ML2.5/2, Error ellipse: s-maj=6.5km s-min=1.7km az=290.0*
*TIR **23** 23:12:55.9, 41°.39N×19°.92E, h20km±1km, Md2.5, Ml2.9*
*ATH **23** 23:12:56.0, 41°.46N×19°.86E, h9km±2km, ML2.7/2, Error ellipse: s-maj=6.5km s-min=1.6km az=135.0*
*SKO **23** 23:12:56.8, 41°.32N×19°.76E, h2km*
*BEO **23** 23:12:57.0±0.7, 41°.27N×19°.79E, h3km±2km, ML2.1/9*
ISC 23 23:12:56.9±0.8, 41°.38N±0°.02×19°.81E±0°.03, h9km±4km, n42, σ1°50/69, Albania

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Code Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
TIR  Tirane           0.06 127   P     Pg   23 12 58.6 -0.2
TIR                              S     Sg   23 13 00.4 +0.2
     5μm,0.2s
TIR  Tirane           0.06 127   P     Pg   23 12 58.6 -0.2
TIR                              S     Sg   23 13 00.4 +0.2
TIR                              AML   AML  23 13 00.5
     comp=E,23770μm,0.2s
TIR                              AML   AML  23 13 00.6
     comp=N,31681μm,0.2s
TIR  Tirane           0.06 127   i Pg  Pg   23 12 58.5 -0.2
TIR  Tirane           0.06 127   P     Pg   23 12 58.5 -0.4
     baz=225
TIR                              S     Sg   23 12 59.7 -0.5
     baz=225
TIR                              AMP
     comp=N,26nm,0.2s,baz=225
TIR  Tirane           0.06 127   ePg   Pg   23 12 58.5 -0.2
TIR                              eSg   Sg   23 13 00.3 +0.1
PHP  Peshkopia        0.56  57   P     Pg   23 13 06.1 -1.7
PHP                              S     Sg   23 13 13.7 -1.6
PHP  Peshkopia        0.56  57   P     Pg   23 13 06.1 -1.7
     baz=52
PHP                              S     Sg   23 13 13.5 -1.8
     baz=52
PHP                              AMP
     comp=N,1.5nm,0.6s,baz=52
ULC  Ulcinj           0.72 324   i Pg  Pb   23 13 11.2 -0.5
OHR  Ohrid            0.80 109   i Pg  Pg   23 13 10.8 -1.4
OHR                              i Sg  Sg   23 13 22.9 +0.3
OHR                              eLg   Lg   23 13 26.6
     comp=E,130nm,1.0s
OHR  Ohrid            0.80 109   ePg   Pg   23 13 10.6 -1.6
OHR                              eSg   Sg   23 13 22.8 +0.2
BCI  Bajram Curri     1.00  11   P     Pg   23 13 14.9 -1.3
     baz=6.0
BCI                              S     Sb   23 13 29.8 -0.1
     baz=6.0
KBN  Korca            1.06 135   P     Pg   23 13 16.2 -1.1
PDG  Podgorica        1.13 339   i Pg  Pn   23 13 21.2 +2.4
PDG  Podgorica        1.13 339   ePg   Pn   23 13 19.9 +1.0
PDG                              eSg   Sn   23 13 36.6 +2.1
FNA  Florina          1.33 116   P     Pn   23 13 20.4 -1.3
FNA                              S     Sn   23 13 42.1 +2.5
     comp=E,95nm,0.5s
FNA  Florina          1.33 116   P     Pn   23 13 19.9 -1.8
FNA                              AML   AML  23 13 43.7
     comp=N,163μm,0.4s
FNA                              AML   AML  23 13 47.3
     comp=E,216μm,0.5s
FNA  Florina          1.33 116   i Pg  Pn   23 13 21.3 -0.4
FNA                              i Sg  Sb   23 13 39.3 +0.1
FNA  Florina          1.33 116   P     Pn   23 13 19.6 -2.1
     baz=118
FNA                              S     Sg   23 13 37.9 -1.7
     baz=118
NEST Nestorio         1.35 135   P     Pb   23 13 22.3 -0.1
NEST Nestorio         1.35 135   P     Pn   23 13 21.6 -0.4
SKO  Skopje           1.36  64   i Pg  Pb   23 13 24.2 +1.7
SKO                              i Sg  Sg   23 13 39.5 -1.1
SKO                              eLg   Lg   23 13 39.7
     comp=N,3.2nm,0.5s
LSK  Leskovik         1.37 154   P     Pn   23 13 21.2 -1.1
BEY  Berane           1.49   2   i Pn  Pg   23 13 24.9 -0.6
SRN  Sarande          1.51 174   P     Pb   23 13 24.6 -0.4
     baz=177
SRN                              S     Sg   23 13 45.4 +0.1
     baz=177
PENT Pentalofos       1.56 139   P     Pn   23 13 25.0 +0.1
KEK  Kerkira          1.67 180   P     Pb   23 13 27.6 -0.2
STIP Stip             1.81  79   i Pn  Pg   23 13 32.3 +0.6
STIP                             i Sn  Sg   23 14 01.9 +6.7
STIP                             eLg   Lg   23 14 02.6
     comp=N,1.9nm,0.4s
KPRO Kipourio         1.85 140   P     Pb   23 13 29.9 -1.0
SJES Sjenica          1.88   4   ePn   Pb   23 13 31.0 -0.5
SJES                             eSn   Sg   23 13 56.9 -0.5
IGT  Igoumenitsa      1.89 168   P     Pb   23 13 30.7 -0.9
PRVS Prvonek          2.03  56   ePn   Pb   23 13 32.7 -1.3
PRVS                             eSn   Sb   23 14 00.3 +0.8
BARS Barje            2.07  46   ePn   Pb   23 13 34.1 -0.6
BARS                             eSn   Sb   23 14 01.3 +0.7
SELS Selova           2.08  27   ePn   Pb   23 13 33.5 -1.3
SELS                             eSn   Sg   23 14 02.0 -1.7
STON Ston             2.16 314   ePn   Pb   23 13 35.1 -1.0
STON                             Sn    Sb   23 14 02.6 -0.5
IVAS Ivanjica         2.21   7   ePn   Pb   23 13 35.6 -1.5
IVAS                             eSn   Sb   23 14 04.7 +0.2
BOSS Bosilegrad       2.29  60   ePn   Pn   23 13 35.5 +0.7
KNT  Kendrikon        2.34  94   P     Pn   23 13 37.0 +1.4
LSTV Lastovo          2.57 304   ePn   Pb   23 13 39.6 +0.8
LSTV                             Sn    Sn   23 14 10.4 +0.2
DIVS Divibare         2.72   3   ePn   Pb   23 13 43.9 -1.9
DIVS                             eSn   Sb   23 14 17.3 -1.9
RICI Ricice           2.89 318   ePn   Pn   23 13 44.6 +1.4
RICI                             Sn    Sb   23 14 21.8 -2.4
KIJV Kijevo           3.63 317   ePn   Pn   23 13 54.7 +1.4
KIJV                             Sn    Sn   23 14 38.8 +2.6
DUGI Dugi Otok        4.37 308   ePn   Pn   23 14 04.7 +1.3
DUGI                             Sn    Sn   23 14 55.9 +1.5
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HEL 23 23:15:09.5±0.0, 67°.19N×20°.66E, h0km, ML1.0, ML0.8(UPP), Explosion, Sweden

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Code Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
DUNU Dundret          0.08 206   i P   Pg   23 15 10.7 -0.2
DUNU                             i S   Sg   23 15 12.0 -0.0
MASU Masugnsbyn       0.58  62   i P   Pg   23 15 19.9 -0.7
KUA  Kurravaara       0.78 351   i P   Pg   23 15 23.3 -1.1
ERTU Ertsjaerv        0.88 136   eP    Pg   23 15 24.8 -1.6
NIKU Nikkaluokta      0.92 318   eP    Pg   23 15 26.2 -0.9
PAJU Pajala           0.97  99   eP    Pg   23 15 26.8 -1.4
LANU Lannavaara       1.00  30   ePB   Pg   23 15 27.9 -0.8
KOVU Salmi            1.05 350   eP    Pg   23 15 28.4 -1.2
HEF  Hetta            1.67  42   ePG   Pn   23 15 39.3 -0.7
     baz=219
HEF                              MSG      23 15 60.0
     comp=Z,0.6nm,0.2s
HEF                              eSN   Sg   23 16 03.5 +0.4
KALU Kalix            1.72 140   eP    Pn   23 15 40.3 -0.3
SJUU Sjulsmark        1.73 167   eP    Pn   23 15 40.1 -0.8
KIF  Kilpisjarvi      1.82   2   ePn   Pn   23 15 42.5 +0.5
KIF                              MSG      23 16 04.9
     comp=Z,0.6nm,0.2s
KIF                              eSG   Sg   23 16 08.6 +0.7
TOF  Tornio           1.84 126   ePN   Pn   23 15 42.3  0.0
     baz=307
TOF                              MSG      23 16 03.9
     comp=Z,1.2nm,0.2s
TOF                              eSN   Sn   23 16 06.1 -0.1
LILU Lilltraesk       1.94 190   eP    Pn   23 15 43.6  0.0
RNF  Rovaniemi        2.19 103   eSG   Sb   23 16 16.9 -0.7
SGF  Sodankyl         2.29  81   eSG   Sb   23 16 20.1 -0.2
ARA0 ARCESS Array S   2.96  35   eP    Pn   23 15 58.3 +0.6
     baz=218
ARA0                             eS    Sn   23 16 35.0 +1.1
OUL  Oulu             3.00 132   eP    Pn   23 15 57.6 -0.6
KU6  Riekki           3.86 103   eSB   Sb   23 17 01.9 -3.8
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UPP 23 23:16:08.0±0.1, 67°.18N×20°.69E, h0km, ML1.9, Explosion, Sweden

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Code Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
DUNU Dundret          0.07 220   P     Pg   23 16 09.8 +0.4
DUNU                             S     Sg   23 16 10.7 +0.3
MASU Masugnsbyn       0.58  61   P     Pg   23 16 19.1 +0.1
KUA  Kurravaara       0.79 350   P     Pg   23 16 22.6 -0.5
ERTU Ertsjaerv        0.86 136   P     Pg   23 16 23.9 -0.6
SALU Saltoluokta      0.87 284   P     Pg   23 16 24.4 -0.3
PAJU Pajala           0.96  98   P     Pg   23 16 25.9 -0.4
KOVU Salmi            1.07 349   P     Pg   23 16 28.6 +0.2
KALU Kalix            1.70 140   P     Pn   23 16 38.9 +0.1
SJUU Sjulsmark        1.72 167   P     Pn   23 16 39.0  0.0
```

*IDC **23** 23:21:03.8±1.6, 53°.66N×165°.28W, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.3/41, mbtmp3.6/8, ML3.1/1, Error ellipse: s-maj=42.1km s-min=20.7km az=5.0*
*NEIC **23** 23:21:07.8±1.8, 53°.50N±0°.04×165°.14W±0°.07, h40km±10km, mb3.9/6, ML3.5/6, ML3.5(AEIC), Error ellipse: s-maj=7.4km s-min=4.5km az=218.0*
*AEIC **23** 23:21:07±1.9, 53°.54N±0°.06×165°.16W±0°.08, h52km±6km, Error ellipse: s-maj=8.2km s-min=6.5km az=175.0*
ISC 23 23:21:06.9±0.8, 53°.48N±0°.09×165°.09W±0°.05, h27km, n69, σ1°27/66, mb3.6/8, Fox Islands

```
Code Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
AKSA Akutan Strait    0.75 332              Pb   23 21 21.1 -0.2
AKSA Akutan Strait    0.75 332              Pb   23 21 21.0 -0.2
AKUT Akutan           0.77 329              Pb   23 21 21.6 -0.1
AKUT                             Sn    Sn   23 21 32.3 -0.3
AKUT                             IAML     23 21 33.0
     comp=E,2μm,0.4s
AKUT                             IAML     23 21 33.3
     comp=N,2μm,0.5s
AKBBA Akutan Broad B  0.80 321              Pb   23 21 22.0 -0.1
HSB  Akutan Spr's B   0.86 326              Pb   23 21 22.9 -0.3
AKGG Akutan Green G   0.90 324              Pn   23 21 23.5 -0.2
WESP Westdahl Peak    1.04  12              Pn   23 21 25.5 -0.2
MTBL Makushin Table   1.06 298              Pn   23 21 25.8 -0.3
WECS Westdahl Cape    1.07  10              Pn   23 21 26.1  0.0
MSW  Makushin Switc   1.10 294              Pn   23 21 26.0 -0.4
WEBT Westdahl Beart   1.13  10              Pn   23 21 27.1 +0.2
MAPS Pakushin South   1.15 287              Pn   23 21 26.4 -0.7
SSLN Shishaldin Nor   1.48  25              Pn   23 21 31.8  0.0
ISNN Isanotski Nort   1.56  29              Pn   23 21 33.0 +0.2
OKFG Magazine Ridge   1.69 269              Pn   23 21 35.6 +1.0
FALS False Pass       1.69  35              Pn   23 21 34.3 -0.3
OKSP Okmok Steeple    1.93 265              Pn   23 21 38.5 +0.5
NIKH Nikolski High    2.32 259              Pn   23 21 43.2  0.0
SDPT Sand Point       3.28  53              Pn   23 21 57.3 +0.9
SDPT                             Sn    Sn   23 22 34.7 +0.1
SDPT                             IAML     23 22 57.0
     comp=N,118nm,2.1s
CNBA Chernabura Isl   3.50  65              Pn   23 21 59.4 -0.1
CNBA                             IAML     23 22 56.9
     comp=N,86nm,4.2s
SPIA Saint Paul Isl   4.73 324   Pn        Pn   23 22 18.1 +1.8
KDAK Kodiak Island    8.28  54   Pn        Pn   23 23 05.6 +0.5
     comp=N,0.2nm,0.3s,baz=227,slow=4.8,SNR=7.7
KDAK                             Sn        Sn   23 24 33.4 -4.2
     comp=N,0.2nm,0.3s,baz=341,slow=18,SNR=1.4
KDAK Kodiak Island    8.28  54              Pn   23 23 05.0  0.0
Q19K Cape Douglas,    8.39  45   Pn        Pn   23 23 07.8 +1.2
N19K Bonanza Creek    9.33  34   Pn        Pn   23 23 21.4 +1.9
CNPM China Poot       9.75  46   Pn        Pn   23 23 25.1 -0.1
L19K White Mountain  10.28  28   Pn        Pn   23 23 32.8 +0.4
GAMB Gambell         10.88 344   Pn        Pn   23 23 42.3 +1.8
O22K Cooper Landing  10.91  44   Pn        Pn   23 23 40.1 -0.9
K20K Telida          11.44  26   Pn        Pn   23 23 50.0 +1.6
PPLA Purkeypile      11.61  31   Pn        Pn   23 23 53.4 +2.7
PWL  Port Wells      11.69  44   Pn        Pn   23 23 52.2 +0.5
CAST Castle Rocks    12.04  29   Pn        Pn   23 23 58.2 +1.8
J20K Nowinta River   12.11  23   Pn        Pn   23 23 59.5 +2.2
TNA  Tin City        12.20 354   Pn        Pn   23 24 00.8 +2.2
FID  Port Fidalgo    12.43  47   Pn        Pn   23 23 59.7 -2.0
SCM  Sheep Creek Mo  12.63  41   Pn        Pn   23 24 04.0 -0.6
KLU  Klutina         13.02  44   Pn        Pn   23 24 08.7 -1.2
M24K Tolsona, Glenn  13.23  42   Pn        Pn   23 24 12.4 -0.4
N25K Chitina, Valde  13.63  45   Pn        Pn   23 24 16.9 -1.3
H21K Melozitna Rive  13.67  22   Pn        Pn   23 24 19.0 +0.4
WAX  Waxell Ridge    13.94  51   Pn        Pn   23 24 21.6 -0.9
VRDI Verde Repeater  13.96  48   Pn        Pn   23 24 20.9 -2.0
MENT Mentasta        14.64  41   Pn        Pn   23 24 34.9 +2.9
M26K Nabesna, AK     14.67  44   Pn        Pn   23 24 31.2 -1.2
M27K Edge Creek, AK  15.12  45   Pn        Pn   23 24 38.7 +0.3
M27K                             IAmb     IAmb 23 24 43.7
     comp=Z,8.8nm,1.5s
L27K Beaver Creek,   15.46  42   Pn        Pn   23 24 41.9 -0.9
L27K                             IAmb     IAmb 23 24 55.3
     comp=Z,6.6nm,1.5s
BCAR Beaver Creek A  15.47  42   Pn        Pn   23 24 42.0 -1.1
J26L Joseph Creek    15.55  36   Pn        Pn   23 24 44.8 +0.8
INK  Inuvik          21.00  33   P         P    23 25 48.3 +0.6
     comp=Z,0.6nm,0.6s,baz=226,slow=9.4,SNR=1.8
PETK Petropavlovsk-  22.09 284   P         P    23 25 59.5 -0.1
     comp=Z,1.6nm,0.9s,baz=92,slow=13,SNR=5.5
A36M Sachs Harbour   25.21  28   P         P    23 26 28.6 -1.2
A36M                             IAmb     IAmb 23 26 37.3
     comp=Z,5.1nm,1.4s
YKA  Yellowknife Ar  27.55  51   P         P    23 26 52.3 +1.4
     comp=Z,0.1nm,0.3s,baz=276,slow=7.6,SNR=4.1
YKA  Yellowknife Ar  27.55  51   P         P    23 26 51.3 +0.4
K05A Summer Lake     30.93  92   P         P    23 27 22.2 +0.8
K05A                             IAmb     IAmb 23 27 25.9
     comp=Z,13nm,1.4s
NVAR Mina Array Bea  35.15  96   P         P    23 28 00.9 +2.7
     comp=Z,0.3nm,0.5s,baz=312,slow=9.2,SNR=3.8
H11N2 WAKE ISLAND Hy 39.99 224   T         T    00 11 22.2
     baz=25,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 40.00 223   T         T    00 11 18.8
     baz=25,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 40.01 224   T         T    00 11 24.9
     baz=25,slow=76,SNR=14
```

H11S1	**WAKE ISLAND Hy**	**41.17 223**	T	T	00 12 53.0
	baz=25,slow=76,SNR=32				
H11S2	**WAKE ISLAND Hy**	**41.18 223**	T	T	00 12 50.6
	baz=25,slow=76,SNR=11				
H11S3	**WAKE ISLAND Hy**	**41.19 223**	T	T	00 12 50.7
	baz=25,slow=76,SNR=8.8				
TXAR	**Lajitas Array**	**50.18 93**	P	**P**	**23 30 01.3 +1.2**
	comp=Z,0.5nm,0.6s,baz=302,slow=6.3,SNR=6.8				
SONM	**Songino Array**	**52.92 302**	P	**P**	**23 30 19.8 -0.6**
	comp=Z,0.1nm,0.4s,baz=46,slow=6.2,SNR=2.1				
MKAR	**Makanchi Array**	**64.88 316**	P	**P**	**23 31 41.7 -1.6**
FIA1	**FINESS Array S**	**65.08 354**	P	**P**	**23 31 43.0 -1.3**
FINES	**FINESS Array B**	**65.08 354**	P	**P**	**23 31 43.5 -0.7**
	comp=Z,4.5nm,1.0s,baz=15,slow=7.9,SNR=8.5				
FINES	**FINESS Array B**	**65.08 354**	P	**P**	**23 31 42.9 -1.3**
KKAR	**Karatay Array**	**72.63 321**	P	**P**	**23 32 31.4 -0.2**

*KRNET **23** 23:49:31.7±0.1, 42°.79N×79°.02E, h20km, mb2.6*
*SOME **23** 23:49:31.3, 42°.77N×78°.95E, h5km*
*NNC **23** 23:49:32.2±0.7, 42°.82N×79°.00E, h0km, mb3.2, mpv2.9,*
Error ellipse: s-maj=5.4km s-min=1.7km az=157.0
ISC 23 23:49:31.8±1.2, 42°.78N±0°.03×79°.03E±0°.03, h7km±9km, n56, σ0.9/60/101, 18C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.37**	**359**	*eP*	**Pg**	**23 49 39.3**	**+0.2**
	22nm,0.1s						
UZB				*eS*	**Sg**	**23 49 44.5**	**+0.5**
	74nm,0.0s						
UZB	**Uzynbulak**	**0.37**	**359**	P	**Pg**	**23 49 39.3**	**+0.2**
	26nm,0.2s						
UZB				S	**Sg**	**23 49 44.5**	**+0.5**
	36nm,0.1s						
UZB	**Uzynbulak**	**0.37**	**359**	*eP*	**Pg**	**23 49 39.3**	**+0.2**
	baz=0.0						
UZB				*eS*	**Sg**	**23 49 44.6**	**+0.5**
	baz=0.0						
SATY	**Saty**	**0.54**	**302**	*eP*	**Pg**	**23 49 42.0**	**-0.2**
	4.5nm,0.2s						
SATY				*eS*	**Sg**	**23 49 49.5**	**+0.1**
	61nm,0.1s						
SATY	**Saty**	**0.54**	**302**	P	**Pg**	**23 49 42.0**	**-0.2**
	4.0nm,0.2s						
SATY				S	**Sg**	**23 49 49.4**	**+0.1**
	61nm,0.1s						
SATY	**Saty**	**0.54**	**302**	*eP*	**Pg**	**23 49 42.0**	**-0.2**
	baz=1.0						
SATY				*eS*	**Sg**	**23 49 49.4**	**+0.1**
	baz=1.0						
PRZ	**Przheval'sk**	**0.55**	**238**	⇑*iP*	**Pg**	**23 49 42.4**	**0.0**
	baz=38						
PRZ				⇑*iS*	**Sg**	**23 49 50.3**	**+0.7**
	baz=38						
ZHN	**Zhinishke**	**0.59**	**312**	*eP*	**Pg**	**23 49 42.8**	**-0.3**
	19nm,0.2s						
ZHN				*eS*	**Sg**	**23 49 50.9**	**0.0**
	155nm,0.0s						
ZHN	**Zhinishke**	**0.59**	**312**	P	**Pg**	**23 49 42.8**	**-0.3**
	19nm,0.2s						
ZHN				S	**Sg**	**23 49 50.9**	**0.0**
	155nm,0.1s						
ZHN	**Zhinishke**	**0.59**	**312**	*eP*	**Pg**	**23 49 42.8**	**-0.3**
	baz=11						
ZHN				*eS*	**Sg**	**23 49 50.8**	**0.0**
	baz=11						
PDGK	**Podgornoye**	**0.65**	**31**	⇑P	**Pg**	**23 49 44.1**	**-0.2**
	2.1nm,0.5s						
PDGK				⇓S	**Sg**	**23 49 53.1**	**+0.3**
	11nm,0.3s						
KURS	**Kuram**	**0.95**	**319**	*eP*	**Pg**	**23 49 49.6**	**-0.5**
	0.9nm,0.2s						
KURS				*eS*	**Sg**	**23 50 02.1**	**-0.2**
	5.5nm,0.1s						
KURS	**Kuram**	**0.95**	**319**	P	**Pg**	**23 49 49.6**	**-0.5**
	0.9nm,0.2s						
KURS				S	**Sg**	**23 50 02.1**	**-0.2**
	6.2nm,0.4s						
KURS	**Kuram**	**0.95**	**319**	*eP*	**Pg**	**23 49 49.6**	**-0.5**
	baz=18						
KURS				*eS*	**Sg**	**23 50 02.2**	**-0.2**
	baz=18						
ANVS	**Anan'yevo**	**1.00**	**271**	⇑*eP*	**Pg**	**23 49 50.3**	**-0.8**
	baz=70						
ANVS				⇑*iS*	**Sg**	**23 50 04.0**	**-0.1**
	baz=70						
BLB	**Baldybastay**	**1.38**	**343**	*eP*	**Pn**	**23 49 57.6**	**0.0**
	12nm,0.4s						
BLB				*eS*	**Sg**	**23 50 15.6**	**-0.6**
	31nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.39**	**221**	⇑*eP*	**Pn**	**23 49 57.1**	**-0.8**
	baz=21						
TARG				⇑*iS*	**Sg**	**23 50 16.0**	**-0.4**
	baz=21						
KOTS	**Kotyrbulak**	**1.48**	**289**	*eP*	**Pn**	**23 49 59.2**	**+0.3**
	2.4nm,0.1s						
KOTS				*eS*	**Sb**	**23 50 18.4**	**-0.3**
	44nm,0.1s						
MDOK	**Medeo**	**1.50**	**286**	*eP*	**Pn**	**23 49 59.3**	**0.0**
	2.2nm,0.2s						
MDOK				*eS*	**Sn**	**23 50 18.8**	**-0.4**
	18nm,0.4s						
MDOK	**Medeo**	**1.50**	**286**	P	**Pg**	**23 50 01.2**	**+0.6**
	1.4nm,0.4s						
MDOK				S	**Sn**	**23 50 18.5**	**-0.7**
	10nm,0.4s						
MDOK	**Medeo**	**1.50**	**286**	Pg	**Pn**	**23 49 59.3**	**0.0**
	2.2nm,0.2s						
MDOK				Lg	Lg	23 50 18.8	
	18nm,0.4s						
MDOK	**Medeo**	**1.50**	**286**	*eP*	**Pn**	**23 49 59.3**	**0.0**
	baz=85						
MDOK				*eS*	**Sn**	**23 50 18.8**	**-0.4**
	baz=85						
KDJ	**Kajisay**	**1.51**	**245**	⇑*eP*	**Pn**	**23 49 59.1**	**-0.3**
	baz=44						
KDJ				⇑*iS*	**Sn**	**23 50 19.2**	**-0.3**
	baz=44						
TNSS	**Tian-Shan**	**1.55**	**280**	*eP*	**Pn**	**23 50 00.2**	**0.0**
	1.3nm,0.1s						
TNSS				*eS*	**Sn**	**23 50 20.5**	**-0.2**
	4.5nm,0.1s						
TNSS	**Tian-Shan**	**1.55**	**280**	P	**Pn**	**23 50 00.2**	**0.0**
	1.3nm,0.1s						
TNSS				S	**Sn**	**23 50 20.5**	**-0.2**
	4.4nm,0.3s						
TNSS	**Tian-Shan**	**1.55**	**280**	*eP*	**Pn**	**23 50 00.2**	**0.0**
	baz=80						
TNSS				*eS*	**Sn**	**23 50 20.5**	**-0.2**
	baz=80						
KNOS	**Konyrlen**	**1.59**	**4**	*eP*	**Pg**	**23 50 01.5**	**-0.7**
	2.3nm,0.1s						
KNOS				*eS*	**Sg**	**23 50 22.5**	**-0.3**
	51nm,0.0s						
DJR	**Jarkent**	**1.65**	**19**	*eP*	**Pg**	**23 50 02.6**	**-0.8**
	4.5nm,0.1s						
DJR				*eS*	**Sg**	**23 50 24.6**	**-0.3**
	32nm,0.1s						
DJR	**Jarkent**	**1.65**	**19**	P	**Pg**	**23 50 02.7**	**-0.8**
	4.5nm,0.1s						
DJR				S	**Sg**	**23 50 24.6**	**-0.3**
	34nm,0.3s						
ARXS	**Arharly**	**1.68**	**329**	*eP*	**Pb**	**23 50 02.9**	**-0.2**
	3.7nm,0.2s						
ARXS				*eS*	**Sg**	**23 50 25.1**	**-0.7**
	29nm,0.2s						
ARXS	**Arharly**	**1.68**	**329**	P	**Pb**	**23 50 02.9**	**-0.2**
	3.7nm,0.2s						
ARXS				S	**Sg**	**23 50 25.1**	**-0.7**
	29nm,0.2s						
CHKK	**Chushkaly**	**1.84**	**307**	*eP*	**Pb**	**23 50 05.5**	**-0.3**
	3.0nm,0.6s						
CHKK				*eS*	**Sb**	**23 50 29.4**	**+0.4**
	36nm,0.2s						
CHKK	**Chushkaly**	**1.84**	**307**	P	**Pb**	**23 50 05.5**	**-0.3**
	3.0nm,0.3s						
CHKK				S	**Sb**	**23 50 29.4**	**+0.4**
	36nm,0.2s						
MTBS	**Maitube**	**1.94**	**281**	*eP*	**Pb**	**23 50 07.3**	**-0.2**
	12nm,0.3s						
MTBS				*eS*	**Sb**	**23 50 32.5**	**+0.6**
	9.5nm,0.5s						
MTBS	**Maitube**	**1.94**	**281**	P	**Pb**	**23 50 07.4**	**-0.2**
	12nm,0.3s						
MTBS				S	**Sb**	**23 50 32.5**	**+0.6**
	13nm,0.4s						
KTBS	**Karatobe**	**1.95**	**299**	*eP*	**Pb**	**23 50 07.7**	**0.0**
	3.2nm,0.2s						
KTBS				*eS*	**Sb**	**23 50 33.2**	**+0.9**
	53nm,0.2s						
KTBS	**Karatobe**	**1.95**	**299**	Pg	**Pb**	**23 50 07.7**	**0.0**
	3.2nm,0.2s						
KTBS				Lg	Lg	23 50 33.2	
	50nm,0.2s						
ULHL	**Ulahol**	**2.13**	**257**	⇑*eP*	**Pn**	**23 50 08.3**	**+0.4**
	baz=56						
ULHL				⇑*iS*	**Sn**	**23 50 35.1**	**+0.4**
	baz=56						
KUU	**Kurty**	**2.26**	**301**	*eP*	**Pb**	**23 50 12.6**	**-0.3**
	1.2nm,0.2s						
KUU				*eS*	**Sb**	**23 50 42.0**	**+1.0**
	26nm,0.3s						
KUU	**Kurty**	**2.26**	**301**	Pg	**Pb**	**23 50 12.6**	**-0.3**
	1.2nm,0.2s						
KUU				Lg	Lg	23 50 42.0	
	26nm,0.3s						
KST	**Kastek**	**2.27**	**278**	*eP*	**Pb**	**23 50 13.1**	**0.0**
	16nm,0.5s						
KST				*eS*	**Sb**	**23 50 43.0**	**+1.6**
	14nm,0.2s						
KST	**Kastek**	**2.27**	**278**	Pg	**Pb**	**23 50 13.1**	**0.0**
	16nm,0.5s						
KST				Lg	Lg	23 50 43.0	
	14nm,0.6s						
TDK	**Taldyqorghan**	**2.27**	**349**	*eP*	**Pb**	**23 50 13.1**	**+0.1**
	9.2nm,0.0s						
TDK				*eS*	**Sg**	**23 50 42.9**	**-1.8**
	38nm,0.2s						
TDK	**Taldyqorghan**	**2.27**	**349**	Pg	**Pb**	**23 50 13.1**	**+0.1**
	9.5nm,0.3s						
TDK				Lg	Lg	23 50 42.9	
	38nm,0.2s						
BOOM	**Boomskoye usch**	**2.30**	**264**	⇓*iP*	**Pn**	**23 50 10.6**	**+0.4**
	baz=64						
BOOM				⇓*iS*	**Sn**	**23 50 39.1**	**+0.3**
	baz=64						
DGS	**Degeres**	**2.43**	**282**	*eP*	**Pb**	**23 50 16.1**	**+0.2**
	5.5nm,0.6s						
DGS				*eS*	**Sb**	**23 50 48.0**	**+1.8**
	19nm,0.3s						
DGS	**Degeres**	**2.43**	**282**	Pg	**Pb**	**23 50 16.1**	**+0.2**
	5.5nm,0.6s						
DGS				Lg	Lg	23 50 48.0	
	19nm,0.8s						
KAPS	**Kapalarasan**	**2.52**	**5**	*eP*	**Pb**	**23 50 18.0**	**+0.6**
	1.0nm,0.1s						
KAPS				*eS*	**Sg**	**23 50 50.9**	**-1.8**
	27nm,0.2s						
KAPS	**Kapalarasan**	**2.52**	**5**	Pg	**Pb**	**23 50 18.0**	**+0.6**
	1.0nm,0.2s						
KAPS				Lg	Lg	23 50 50.9	
	27nm,0.4s						
TKM2	**Tokmak 2**	**2.53**	**274**	⇓Pn	**Pb**	**23 50 16.6**	**-1.0**
	2.9nm,0.5s						
TKM2				⇓Lg	Lg	23 50 50.7	
	5.1nm,0.5s						
TKM2	**Tokmak 2**	**2.53**	**274**	⇓*eP*	**Pn**	**23 50 13.7**	**+0.3**
	baz=74						
TKM2				⇓*eS*	**Sn**	**23 50 44.6**	**0.0**
	baz=74						
KRBS	**Karabastau**	**2.62**	**292**	*eP*	**Pb**	**23 50 18.9**	**-0.2**
	0.7nm,0.1s						
KRBS				*eS*	**Sb**	**23 50 52.3**	**+0.9**
	19nm,0.0s						
KRBS	**Karabastau**	**2.62**	**292**	Pg	**Pb**	**23 50 18.5**	**-0.5**
	0.8nm,0.2s						
KRBS				Lg	Lg	23 50 52.3	
	19nm,0.4s						
AAK	**Ala-Archa**	**3.34**	**269**	⇑Pg	**Pb**	**23 50 30.9**	**-0.6**
	0.4nm,0.5s						
AAK				⇑Lg	Lg	23 51 16.9	
	3.2nm,0.6s						
MAKZ	**Makanchi**	**4.54**	**26**	⇑Pn	**Pn**	**23 50 41.2**	**+0.3**
	1.1nm,0.5s						
MAKZ				⇑Lg	Lg	23 51 55.1	
	0.9nm,0.6s						
MK31	**Makanchi Array**	**4.64**	**29**	⇑Pn	**Pn**	**23 50 40.8**	**-1.4**
	baz=203,slow=12,SNR=5.0						
MK31				⇑Sn	**Sn**	**23 51 38.4**	**+2.1**
	0.3nm,0.4s,baz=211,slow=24,SNR=4.3						
MK31				⇑Lg	Lg	23 51 56.0	
	0.4nm,0.5s,baz=207,slow=27,SNR=4.9						

*IDC **24** 00:10:44.5±0.6, 15°.09S×173°.66W, h0km, mb4.2/13,*
mb1 4.5/14, mb1mx4.4/27, mbtmp4.2/14, ML4.8/1, MS3.9/24,
Ms1 3.9/24, ms1mx3.6/67, Error ellipse: s-maj=31.0km
s-min=14.2km az=139.0
*NOU **24** 00:10:50.6, 15°.12S×173°.01W, h16km, MLv5.1/14, Tonga Islands*
*NEIC **24** 00:10:50.9±1.9, 15°.21S±0°.07×173°.38W±0°.08, h35km±1km,*
mb4.6/53, Error ellipse: s-maj=12.9km s-min=12.0km
az=244.0
ISC 24 00:10:49.3±0.4, 15°.16S±0°.06×173°.38W±0°.06, h30km,
n152, σ1.5/51/120, mb4.6/39, MS4.0/24, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.99**	**51**	Pn	**Pn**	**00 11 19.9**	**-1.1**
	303nm,0.3s,baz=140,slow=0.6,SNR=360						
AFI				Sn	**Sn**	**00 11 39.3**	**-5.6**
	721nm,0.3s,baz=231,slow=23,SNR=15						
AFI				LR	LR	00 12 03.1	
	comp=Z,1μm,18.1s,baz=256,slow=36						
NIUE	**Niue**	**5.10**	**140**		**Pn**	**00 12 03.7**	**0.0**
NIUE	**Niue**	**5.10**	**140**	P	**Pn**	**00 12 04.0**	**+0.3**
LKBA	**Tubou, Lakemba**	**6.04**	**239**	P	Pn	00 12 23.2	+6.7
TAVE	**Taveuni**	**6.46**	**255**	P	Pn	00 12 30.2	+7.8
DGTI	**Dogotuki**	**6.72**	**259**	P	Pn	00 12 33.5	+7.5
MSVF	**Nonsavu**	**8.61**	**252**	LR	LR	00 15 51.3	
	comp=Z,813nm,19.8s,baz=95,slow=37						
MSVF	**Nonsavu**	**8.61**	**252**	P	Pn	00 13 00.4	+8.4
FUNA	**Funafuti**	**9.81**	**311**	Pn	**Pn**	**00 13 09.0**	**+0.6**
RAR	**Rarotonga**	**14.26**	**117**	Pn	**Pn**	**00 14 10.0**	**+0.8**
MARNC	**Mare, Loyalty**	**18.73**	**248**	P	**Pn**	**00 15 06.0**	**-0.1**
SANVU	**Saraoutou**	**18.73**	**267**	P	**Pn**	**00 15 07.5**	**+1.2**
OUENC	**Ouen Island, N**	**20.05**	**246**	P	**Pn**	**00 15 22.1**	**0.0**
OUENC				IAmb	IAmb	00 15 26.5	
	comp=Z,32nm,1.1s						
OUENC	**Ouen Island, N**	**20.05**	**246**	P	**Pn**	**00 15 27.1**	**+5.0**
DZM	**Mont Dzumac**	**20.30**	**247**	P	**P**	**00 15 21.5**	**-1.5**
	comp=Z,5.3nm,0.9s,baz=136,slow=13,SNR=2.7						
DZM				LR	LR	00 22 05.7	
	comp=Z,285nm,19.4s,baz=40,slow=34						
DZM	**Mont Dzumac**	**20.30**	**247**	*eP*	Pn	00 15 27.3	+2.2
	comp=Z,72nm,1.4s						
DZM				*e*LR	LR	00 20 06.7	
	comp=Z,611nm,26.2s						
DZM	**Mont Dzumac**	**20.30**	**247**	P	**P**	**00 15 23.3**	**+0.3**
DZM				IAmb	IAmb	00 15 29.6	
	comp=Z,26nm,1.0s						
DZM	**Mont Dzumac**	**20.30**	**247**	P	Pn	00 15 29.0	+3.9
ONTNC	**Ouen Toro**	**20.36**	**247**	P	**P**	**00 15 22.5**	**-1.0**
ONTNC				IAmb	IAmb	00 15 30.0	
	comp=Z,37nm,0.9s						
NOUC	**Port Laguerre**	**20.44**	**247**	P	Pn	00 15 31.7	+5.1
PAE	**Paea**	**22.96**	**100**	*e*T	T	00 39 28.4	
	comp=Z,2.3nm,0.2s						
PPT2	**Papeete2**	**22.96**	**99**	*e*LR	LR	00 21 10.6	
	comp=Z,91nm,24.2s						
PPT2	**Papeete2**	**22.96**	**99**	*e*T	T	00 39 29.3	
	comp=Z,5.0nm,0.4s						
OUZ	**Omahuta**	**23.14**	**208**	P	**P**	**00 15 52.5**	**-0.6**
OUZ				IAmb	IAmb	00 16 10.5	
	comp=Z,35nm,1.4s						
URZ	**Urewera**	**24.49**	**198**	P	**P**	**00 16 04.3**	**-1.6**
	comp=Z,7.2nm,0.7s,baz=335,slow=6.2,SNR=3.0						
URZ				LR	LR	00 24 25.2	
	comp=Z,325nm,18.5s,baz=36,slow=34						
BKZ	**Black Stump Fm**	**25.51**	**199**	P	**P**	**00 16 14.6**	**-0.6**
HNR	**Honiara**	**26.66**	**279**	LR	LR	00 25 04.5	
	comp=Z,183nm,19.2s,baz=154,slow=33						
BFZ	**Birch Farm**	**26.98**	**198**	P	**P**	**00 16 27.8**	**-0.6**
BFZ				IAmb	IAmb	00 16 47.6	
	comp=Z,34nm,1.4s						
TAOE	**Nuku Hiva Isla**	**33.08**	**83**	*e*LR	LR	00 26 04.9	
	comp=Z,142nm,25.6s						
TAOE	**Nuku Hiva Isla**	**33.08**	**83**	*e*T	T	00 52 01.5	
	comp=Z,29nm,0.2s						
WHZ	**Wether Hill Ro**	**34.42**	**203**	P	**P**	**00 17 33.7**	**-0.3**
ARMA	**Armidale**	**35.48**	**239**	P	**P**	**00 17 41.5**	**-1.9**
ARMA				IAmb	IAmb	00 17 54.6	
	comp=Z,13nm,1.2s						
CAN	**Canberra**	**39.19**	**232**	P	**P**	**00 18 12.3**	**-2.5**
CAN				IAmb	IAmb	00 18 34.5	
	comp=Z,16nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**39.72**	**330**	T	T	01 00 24.9	
	baz=150,slow=76,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**39.72**	**330**	T	T	01 00 37.1	
	baz=150,slow=76,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**39.73**	**330**	T	T	01 00 48.0	
	baz=150,slow=76,SNR=5.1						
COEN	**Coen**	**42.02**	**266**	P	**P**	**00 18 37.7**	**-0.6**
TOO	**Toolangi**	**42.63**	**231**	P	**P**	**00 18 41.3**	**-1.8**
TOO				IAmb	IAmb	00 19 00.3	
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**44.17**	**240**	P	**P**	**00 18 54.1**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=103,slow=11,SNR=6.5						
STKA	**Stephens Creek**	**44.17**	**240**	P	**P**	**00 18 54.5**	**-1.1**
BBOO	**Buckleboo**	**48.95**	**240**	P	**P**	**00 19 31.5**	**-1.6**
WRA	**Warramunga Arr**	**49.92**	**257**	P	**P**	**00 19 37.7**	**-2.9**
	comp=Z,1.5nm,0.7s,baz=91,slow=7.0,SNR=20						
WRA				PcP	**PcP**	**00 20 58.7**	**-2.0**
	comp=Z,0.7nm,0.9s,baz=102,slow=3.7,SNR=1.5						
WRA	**Warramunga Arr**	**49.92**	**257**	P	**P**	**00 19 38.3**	**-2.4**
AS31	**Alice Springs**	**50.20**	**252**	P	**P**	**00 19 40.5**	**-2.3**
ASAR	**Alice Springs**	**50.20**	**252**	P	**P**	**00 19 40.4**	**-2.4**
	comp=Z,8.7nm,0.6s,baz=86,slow=8.1,SNR=189						
FORT	**Forrest**	**55.54**	**243**	P	**P**	**00 20 19.1**	**-2.9**
SBA	**Scott Base**	**63.49**	**185**	P	**P**	**00 21 16.7**	**+0.7**
VNDA	**Vanda**	**63.61**	**186**	P	**P**	**00 21 17.8**	**+0.9**
	comp=Z,4.0nm,0.8s,baz=22,slow=7.9,SNR=5.0						
VNDA	**Vanda**	**63.61**	**186**	P	**P**	**00 21 17.6**	**+0.7**
VNDA				IAmb	IAmb	00 21 18.8	
	comp=Z,7.5nm,1.0s						
SHEM	**Shemya Is, Ala**	**68.47**	**352**	LR	LR	00 44 59.2	
	comp=Z,140nm,19.6s,baz=30,slow=30						
MJAR	**Matsushiro Arr**	**68.77**	**320**	LR	LR	00 46 12.2	
	comp=Z,64nm,22.0s,baz=142,slow=31						
PEA0B	**Petropavlovsk-**	**72.41**	**342**	P	**P**	**00 22 12.7**	**+0.3**
PETK	**Petropavlovsk-**	**72.41**	**342**	P	**P**	**00 22 12.1**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=163,slow=12,SNR=5.3						
PFO	**Pinyon Flats O**	**72.75**	**47**	LR	LR	00 46 26.4	
	comp=Z,136nm,20.5s,baz=246,slow=29						
LPIG	**La Paz**	**72.90**	**58**	LR	LR	00 45 56.9	
	comp=Z,64nm,18.9s,baz=220,slow=29						
M02C	**Callahan**	**73.10**	**37**	P	**P**	**00 22 18.5**	**+1.6**
YBH	**Yreka Blue Hor**	**73.40**	**37**	LR	LR	00 46 51.3	
	comp=Z,128nm,19.9s,baz=202,slow=30						
YBH	**Yreka Blue Hor**	**73.40**	**37**	P	**P**	**00 22 20.1**	**+1.5**
YBH				IAmb	IAmb	00 22 21.1	
	comp=Z,12nm,1.1s						
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**00 22 24.4**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=229,slow=11,SNR=17						
NVAR				LR	LR	00 47 19.5	
	comp=Z,135nm,20.3s,baz=227,slow=30						
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**00 22 24.0**	**+0.8**
PAHR	**Pah Rah Range**	**74.19**	**40**	P	**P**	**00 22 23.6**	**+0.2**
PAHR				IAmb	IAmb	00 22 29.4	
	comp=Z,8.6nm,1.0s						
NV11	**Mina Array Sit**	**74.24**	**42**	P	**P**	**00 22 24.8**	**+1.0**
NV11				IAmb	IAmb	00 22 26.1	
	comp=Z,8.3nm,1.1s						
113A	**Mohawk Valley,**	**74.25**	**49**	P	**P**	**00 22 24.8**	**+1.1**
214A	**Organ Pipe Nat**	**74.55**	**50**	P	**P**	**00 22 26.4**	**+0.9**
KVN	**Kaiserville**	**74.62**	**42**	P	**P**	**00 22 26.6**	**+0.6**
KVN				IAmb	IAmb	00 22 28.0	
	comp=Z,9.7nm,1.2s						
KDAK	**Kodiak Island**	**74.69**	**11**	LR	LR	00 46 47.4	
	comp=Z,110nm,20.8s,baz=220,slow=29						
QSPA	**South Pole Qui**	**74.88**	**180**	P	**P**	**00 22 27.4**	**+0.4**
MOD	**Modoc Plateau**	**74.92**	**38**	P	**P**	**00 22 28.9**	**+1.3**
PINE	**Pine Mountain**	**75.70**	**36**	P	**P**	**00 22 33.6**	**+1.5**
BMN	**Battle Mountai**	**75.96**	**41**	P	**P**	**00 22 34.5**	**+0.9**
BMN				IAmb	IAmb	00 22 37.0	
	comp=Z,7.7nm,1.2s						
KSRS	**Korea Array**	**76.00**	**316**	LR	LR	00 49 42.4	
	comp=Z,29nm,22.0s,baz=110,slow=31						
TUC	**Tucson**	**76.23**	**51**	P	**P**	**00 22 36.5**	**+1.3**
TUC				IAmb	IAmb	00 22 39.0	
	comp=Z,6.4nm,1.1s						
X16A	**Lo Mia Camp, P**	**76.75**	**49**	P	**P**	**00 22 39.9**	**+1.6**
X16A				IAmb	IAmb	00 22 42.5	
	comp=Z,4.5nm,1.0s						
J08A	**Circle Bar Ran**	**76.87**	**38**	P	**P**	**00 22 40.3**	**+1.6**
KNB	**Kanab**	**77.05**	**46**	P	**P**	**00 22 41.4**	**+1.5**
KNB				IAmb	IAmb	00 22 57.7	
	comp=Z,6.5nm,1.2s						
U15A	**North Rim**	**77.12**	**46**	P	**P**	**00 22 41.4**	**+0.9**
U15A				IAmb	IAmb	00 22 44.0	
	comp=Z,7.3nm,1.3s						
USRK	**Ussuriysk Ar.**	**77.21**	**323**	LR	LR	00 49 36.3	
	comp=Z,55nm,21.7s,baz=151,slow=30						
WUAZ	**Wupatki**	**77.33**	**48**	P	**P**	**00 22 43.3**	**+1.8**
WUAZ				IAmb	IAmb	00 22 45.3	
	comp=Z,8.9nm,1.2s						
ELK	**Elko**	**77.39**	**41**	LR	LR	00 49 27.8	
	comp=Z,73nm,19.5s,baz=241,slow=30						
ELK	**Elko**	**77.39**	**41**	P	**P**	**00 22 42.6**	**+0.8**
ELK				IAmb	IAmb	00 22 44.9	
	comp=Z,7.8nm,1.3s						
BBB	**Bella Bella**	**77.67**	**27**	LR	LR	00 50 39.2	
	comp=Z,70nm,18.3s,baz=252,slow=31						
MSU	**Marysvale**	**78.25**	**45**	P	**P**	**00 22 47.8**	**+1.2**
DUG	**Dugway, Tooele**	**78.68**	**43**	P	**P**	**00 22 49.8**	**+0.9**
DUG				IAmb	IAmb	00 22 52.5	
	comp=Z,7.0nm,1.1s						
TTA	**Tatalina**	**79.02**	**8**	P	**P**	**00 22 51.1**	**+1.0**
SCM	**Sheep Creek Mo**	**79.47**	**12**	P	**P**	**00 22 52.9**	**+0.3**
NJ2	**Nanjing**	**80.04**	**307**	*eP*	**P**	**00 22 57.8**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TX31	**Lajitas Ar. Si**	**80.47**	**56**	P	**P**	**00 22 59.9**	**+1.1**
TXAR	**Lajitas Array**	**80.47**	**56**	P	**P**	**00 23 00.6**	**+1.8**
	comp=Z,3.4nm,1.1s,baz=226,slow=4.9,SN

PLCA Paso Flores 89.65 132 LR LR 00 55 08.9
comp=Z,63nm,19.8s,baz=228,slow=30
YKA Yellowknife Ar 89.88 23 P **P 00 23 45.0 +0.1**
comp=Z,0.5nm,0.8s,baz=238,slow=4.4,SNR=9.1
YKA LR LR 00 59 38.4
comp=Z,85nm,18.0s,baz=292,slow=33
PZH PanZhiHua 92.19 297 P **P 00 23 57.6 +0.9**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,9.0nm,5.1s
VNA3 Neumayer Olymp 93.09 175 P **P 00 24 00.4 +0.5**
SNAA Sanae 93.14 177 P **P 00 24 00.8 +0.6**
VNA2 Neumayer--Watz 93.58 175 P **P 00 24 03.0 +0.8**
baz=171,slow=2.5
ULM Lac du Bonnet 93.74 39 LR LR 00 59 18.5
comp=Z,112nm,18.9s,baz=254,slow=31
VNA1 Neumayer--Stat 93.78 175 P **P 00 24 04.0 +1.0**
SONM Songino Array 94.68 318 P **P 00 24 06.4 -1.3**
comp=Z,0.1nm,0.5s,baz=130,slow=6.2,SNR=1.4
SONM LR LR 01 00 51.3
comp=Z,38nm,20.1s,baz=31,slow=32
FINES FINESS Array B 131.72 348 PKP **PKPdf 00 29 58.3 -0.7**
comp=Z,1.1nm,0.7s,baz=323,slow=2.1,SNR=1.8
NACGM Naroch 137.37 343 *i* PKP **PKiKP 00 30 18.9 +7.3**
AKASG Malin Array Be 140.13 338 PKP **PKPdf 00 30 14.5 -0.4**
comp=Z,0.1nm,0.3s,baz=60,slow=1.8,SNR=2.5
DPC Dobruska-Polom 144.03 349 *e*PKP PKPbc 00 30 20.4 +0.5
DPC *e*pPKP *e*pPKPdf 00 30 32.7 +1.5
LANS Liptovska Anna 144.51 345 *e*PKP PKPbc 00 30 22.3 +0.9
PRU Pruhonice 144.68 351 *e*PKP **PKPab 00 30 20.1 -1.6**
VRAC Vranov 144.98 349 *e*PKP **PKPdf 00 30 23.7 +0.1**
KRUC Moravsky 145.26 349 *e*PKP **PKPbc 00 30 23.9 +0.2**
VYHS Vyhne 145.27 346 *e*PKP **PKPdf 00 30 25.1 +1.0**
KOLL Kolacno 145.29 346 *e*PKP **PKPdf 00 30 24.6 +0.5**
GRF Grafenberg Arr 145.36 355 *e*PKPbc **PKPab 00 30 24.9 +0.7**
baz=8.1,slow=2.8
SMOL Smolenice 145.57 347 *e*PKP **PKPab 00 30 26.4 +1.4**
KHC Kasperske Hory 145.65 352 *e*PKP **PKPdf 00 30 24.5 -0.3**
KHC *e*pPKP pPKPab 00 30 35.7 +1.4
KMBO Kilima Mbogo 145.65 245 PKPbc **PKPdf 00 30 23.8 -2.3**
comp=Z,1.3nm,0.8s,baz=71,slow=13,SNR=2.5
CKRC Cesky Krumlov 145.85 351 *e*PKP **PKPdf 00 30 24.7 -0.4**
CKRC *ex* x 00 30 38.6
GERES GERESS Array B 145.91 352 PKPbc **PKPdf 00 30 25.0 -0.3**
comp=Z,1.4nm,0.8s,baz=54,slow=2.3,SNR=8.9
GERES GERESS Array B 145.91 352 PKPbc 00 30 26.2 +0.3
BRTR Keskin Array B 145.99 321 PKPbc **PKPdf 00 30 25.7 -0.1**
comp=Z,4.9nm,0.9s,baz=104,slow=2.8,SNR=15
BRTR Keskin Array B 145.99 321 PKPbc 00 30 26.8 +0.3
CONA Conrad Observa 146.45 349 *e*P **PKPab 00 30 28.6 +0.2**
comp=Z,3.2nm,0.9s
MOA Molln 146.80 351 *e*P **PKPbc 00 30 29.2 +0.7**
comp=Z,4.9nm,1.1s
RETA Reutte 147.59 355 *e*P **PKPbc 00 30 31.3 +0.5**
comp=Z,3.4nm,1.1s
MOTA Moosalm 147.70 354 *e*P **PKPbc 00 30 31.4 +0.1**
comp=Z,4.0nm,1.0s
WTTA Wattenberg 147.72 354 *e*P **PKPbc 00 30 31.4 0.0**
comp=Z,3.5nm,0.7s
SOKA Soboth 147.80 349 *e*P **PKPbc 00 30 31.1 -0.3**
comp=Z,3.9nm,1.0s
SQTA Sankt Quirin 147.81 354 *e*P **PKPbc 00 30 31.6 +0.2**
comp=Z,3.3nm,1.2s
DAVA Damuels 147.86 356 *i* P **PKPbc 00 30 32.3 +0.7**
comp=Z,5.8nm,1.0s
FETA Feichten 148.05 355 *e*P **PKPbc 00 30 32.9 +0.7**
comp=Z,3.3nm,1.1s
OBKA Obir 148.05 350 *e*P **PKPbc 00 30 32.7 +0.6**
comp=Z,2.7nm,0.8s
ABTA Abfaltersbach 148.13 352 *e*P **PKPbc 00 30 31.9 -0.4**
comp=Z,4.3nm,0.9s
ESDC Sonseca Array 153.88 19 PKPab **PKPab 00 30 57.9 -1.2**
comp=Z,0.2nm,0.7s,baz=339,slow=5.0,SNR=2.7

NEIC ***24*** *00:31:55.7±1.7,21°.69S±0°.05×68°.44W±0°.07,h122km±6km, Error ellipse: s-maj=9.6km s-min=6.6km az=84.0*
VAO ***24*** *00:31:55.0±0.5,21°.64S×68°.54W,h128km,mb4.5*
IDC ***24*** *00:31:55.3±0.7,21°.71S×68°.31W,h119km±9km,mb3.6/11, mb1 3.8/13,mb1mx3.7/32,mbtmp4.0/13, Error ellipse: s-maj=19.0km s-min=16.1km az=112.0*
GUC ***24*** *00:31:56.5±0.9,21°.72S×68°.47W,h120km±7km,ML4.2*
ISC 24 00:31:55.4±0.6,21°.65S±0°.04×68°.40W±0°.05,h123km±6km, n112,σ1$13/132,mb4.0/13,8C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.80**	**259**	⇑*i*P	**Pn**	**00 32 16.6**	**+0.5**
PB09				*e*S	**Sn**	**00 32 31.5**	**-0.2**
PB09	**IPOC Station P**	**0.80**	**259**		**Pn**	**00 32 16.6**	**+0.5**
PB09				Sn	**Sn**	**00 32 32.2**	**+0.5**
LVC	**Limon Verde**	**1.07**	**206**	P	**Pn**	**00 32 19.0**	**+0.2**
LVC	110nm,0.3s,baz=26,slow=7.1,SNR=989			S	**Sn**	**00 32 35.5**	**-1.0**
	190nm,0.3s,baz=99,slow=23,SNR=97						
LVC	**Limon Verde**	**1.07**	**206**	*e*P	**Pn**	**00 32 18.3**	**-0.6**
LVC				*e*S	**Sn**	**00 32 35.3**	**-1.3**
LVC	**Limon Verde**	**1.07**	**206**	*e*P	**Pn**	**00 32 19.0**	**+0.2**
PB01	**IPOC Station P**	**1.18**	**300**	⇑*i*P	**Pn**	**00 32 19.6**	**0.0**
PB01				*e*S	**Sn**	**00 32 37.5**	**-0.4**
PB01				IAML		00 32 39.5	
	comp=E,6μm,0.3s						
PB01	**IPOC Station P**	**1.18**	**300**	Pn	**Pn**	**00 32 19.8**	**+0.2**
PB01				Sn	**Sn**	**00 32 37.8**	**-0.2**
PB03	**IPOC Station P**	**1.32**	**252**	⇑*i*P	**Pn**	**00 32 21.1**	**-0.2**
PB03				*e*S	**Sn**	**00 32 39.1**	**-1.7**
PB03				IAML		00 32 41.0	
	comp=E,5μm,0.2s						
PB07	**IPOC Station P**	**1.39**	**266**	⇑*i*P	**Pn**	**00 32 21.7**	**-0.3**
PB07				*e*S	**Sn**	**00 32 40.9**	**-1.2**
PB07				IAML		00 32 41.9	
	comp=N,8μm,0.2s						
PB07	**IPOC Station P**	**1.39**	**266**		**Pn**	**00 32 21.5**	**-0.4**
PB07				Sn	**Sn**	**00 32 41.2**	**-0.8**
PB02	**IPOC Station P**	**1.43**	**283**	⇑*i*P	**Pn**	**00 32 22.2**	**-0.2**
PB02				*e*S	**Sn**	**00 32 41.6**	**-1.2**
PB02				IAML		00 32 44.1	
	comp=E,9μm,0.3s						
PB06	**IPOC Station P**	**1.52**	**226**	⇑*i*P	**Pn**	**00 32 23.3**	**-0.1**
PB06				*e*S	**Sn**	**00 32 43.5**	**-1.2**
PB06				IAML		00 32 45.0	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.52**	**226**		**Pn**	**00 32 23.2**	**-0.2**
PB06				Sn	**Sn**	**00 32 43.8**	**-0.9**
PB08	**IPOC Station P**	**1.65**	**335**	⇑*i*P	**Pn**	**00 32 26.7**	**+1.4**
PB08				*e*S	**Sn**	**00 32 48.7**	**+0.8**
PB08				IAML		00 32 51.0	
	comp=E,2μm,0.2s						
PB08	**IPOC Station P**	**1.65**	**335**		**Pn**	**00 32 26.7**	**+1.4**
PB04	**IPOC Station P**	**1.76**	**247**	⇑*i*P	**Pn**	**00 32 25.6**	**-0.7**
PB04				*e*S	**Sn**	**00 32 47.5**	**-2.4**
PB04				IAML		00 32 49.8	
	comp=N,2μm,0.2s						
PB04	**IPOC Station P**	**1.76**	**247**		**Pn**	**00 32 25.7**	**-0.7**
PB15	**IPOC Station P**	**1.84**	**212**	*e*P	**Pn**	**00 32 27.1**	**-0.2**
PB15				*e*S	**Sn**	**00 32 50.2**	**-1.6**
PB15	**IPOC Station P**	**1.84**	**212**		**Pn**	**00 32 27.4**	**+0.1**
TA01	**Diego Aracena**	**1.98**	**303**	*i* P	**Pn**	**00 32 28.1**	**-0.7**
TA01				*e*S	**Sn**	**00 32 52.2**	**-2.1**
TA01	**Diego Aracena**	**1.98**	**303**		**Pn**	**00 32 28.3**	**-0.5**
GO01	**Chusmiza**	**2.10**	**339**	*e*P	**Pn**	**00 32 31.6**	**+0.8**
GO01				*e*S	**Sn**	**00 32 57.8**	**0.0**
GO01				IAML		00 33 02.7	
	comp=E,1μm,0.2s						
GO01	**Chusmiza**	**2.10**	**339**		**Pn**	**00 32 32.0**	**+1.1**
TA02	**Huaiquique**	**2.12**	**310**	*e*P	**Pn**	**00 32 29.7**	**-0.8**
TA02				*e*S	**Sn**	**00 32 55.6**	**-1.8**
TA02	**Huaiquique**	**2.12**	**310**	Pn	**Pn**	**00 32 30.0**	**-0.5**
PB11	**IPOC Station P**	**2.21**	**328**		**Pn**	**00 32 32.2**	**+0.3**
PB10	**IPOC Station P**	**2.73**	**227**	*e*P	**Pn**	**00 32 36.6**	**-1.6**
PB10	**IPOC Station P**	**2.73**	**227**	Pn	**Pn**	**00 32 36.9**	**-1.4**
PB16	**IPOC Station P**	**3.45**	**342**	*e*P	**Pn**	**00 32 49.6**	**+1.3**
PB16	**IPOC Station P**	**3.45**	**342**		**Pn**	**00 32 49.4**	**+1.0**
PB14	**IPOC Station P**	**3.49**	**211**		**Pn**	**00 32 47.7**	**-0.9**
PB12	**IPOC Station P**	**3.52**	**329**	*e*P	**Pn**	**00 32 47.2**	**-1.6**
PB12	**IPOC Station P**	**3.52**	**329**	Pn	**Pn**	**00 32 47.5**	**-1.2**
AC02	**Maricunga**	**5.21**	**187**	Pn	**Pn**	**00 33 11.0**	**-0.6**
LPAZ	**La Paz**	**5.33**	**3**	P	**Pn**	**00 33 15.8**	**+2.2**
	comp=E,1.2nm,0.3s,baz=191,slow=4.9,SNR=28						
LPAZ				S	**Sn**	**00 34 11.5**	**-2.7**
	comp=E,0.4nm,0.3s,baz=182,slow=13,SNR=3.7						
LPAZ	**La Paz**	**5.33**	**3**	Pn	**Pn**	**00 33 15.5**	**+1.9**
GO03	**Copiap**	**6.15**	**195**		**Pn**	**00 33 21.2**	**-2.8**
SIV	**San Ignacio**	**8.93**	**52**	P	**Pn**	**00 33 59.6**	**-1.9**
	comp=E,4.4nm,0.3s,baz=239,slow=11,SNR=60						
SIV				S	**Sn**	**00 35 34.0**	**-6.4**
	comp=E,0.3nm,0.3s,baz=305,slow=21,SNR=1.5						
CO03	**El Pedregal**	**9.38**	**192**	Pn	**Pn**	**00 34 05.0**	**-2.6**
PTLB	**Pontes e Lacer**	**10.73**	**56**	Pn	**Pn**	**00 34 25.0**	**-0.7**
VILB	**Vilhena**	**11.66**	**43**	*e*P	**Pn**	**00 34 37.9**	**-0.2**
VILB	**Vilhena**	**11.66**	**43**	Pn	**Pn**	**00 34 37.9**	**-0.2**
AQDB	**Aquidauana**	**11.91**	**87**	Pn	**Pn**	**00 34 40.7**	**-0.8**
ETMB	**Extrema**	**11.95**	**10**	*e*P	**Pn**	**00 34 42.5**	**+0.5**
ETMB	**Extrema**	**11.95**	**10**	Pn	**Pn**	**00 34 41.6**	**-0.3**
ITQB	**Itaqui**	**13.28**	**129**	*e*P	**Pn**	**00 34 59.3**	**+0.1**
SALV	**Santo Antonio**	**13.32**	**67**	*e*P	**Pn**	**00 35 02.0**	**+2.3**
ITAB	**Concordia**	**15.82**	**114**	*e*P	**P**	**00 35 32.9**	**+0.3**
ITAB	**Concordia**	**15.82**	**114**	P	**Pn**	**00 35 32.4**	**+1.1**
ITAB				IAmb	IAmb	00 35 34.0	
	comp=Z,23nm,0.8s						
PCMB	**Pacaembu**	**15.94**	**93**	*e*P	**P**	**00 35 35.2**	**+1.2**
CPSB	**Cacapava Do Su**	**16.02**	**126**	*e*P	**P**	**00 35 35.1**	**+0.3**
PLTB	**Pedras Altas**	**16.61**	**130**	*e*P	**Pn**	**00 35 41.2**	**+0.2**
PLTB	**Pedras Altas**	**16.61**	**130**	P	**Pn**	**00 35 40.7**	**-0.3**
ARAG	**Araguaiana, MT**	**16.78**	**72**	*e*P	**Pn**	**00 35 44.3**	**+1.1**
ITRB	**Iturama**	**16.99**	**87**	*e*P	**Pn**	**00 35 46.8**	**+1.0**
FRTB	**Fartura**	**17.49**	**99**	*e*P	**Pn**	**00 35 52.3**	**+0.6**
BB19B	**Bebedouro**	**18.52**	**92**	*e*P	**P**	**00 36 03.7**	**+1.2**
TER01	**Tubaro-SC**	**18.74**	**115**	*e*P	**P**	**00 36 04.5**	**-0.3**
SNDB	**Serra Nova Dou**	**18.97**	**62**	*e*P	**P**	**00 36 07.4**	**0.0**
NPGB	**Novo Progresso**	**19.22**	**43**	*e*P	**P**	**00 36 09.3**	**-0.8**
IPMB	**Ipameri, GO**	**19.34**	**83**	*e*P	**P**	**00 36 11.4**	**0.0**
RCLB	**Rio Claro- Sao**	**19.36**	**96**	*e*P	**P**	**00 36 11.7**	**0.0**
PET01	**Itanhaem-SP**	**19.63**	**102**	*e*P	**P**	**00 36 14.8**	**+0.3**
MACA	**Manacapuru-AM**	**19.84**	**23**	*e*P	**P**	**00 36 16.1**	**-0.7**
MACA	**Manacapuru-AM**	**19.84**	**23**	P	**P**	**00 36 15.9**	**-0.9**
MACA				IAmb	IAmb	00 36 19.8	
	comp=Z,29nm,0.8s						
VAO	**Valinhos**	**19.88**	**98**	*e*P	**P**	**00 36 17.1**	**-0.1**
BDFB	**Brasilia**	**20.21**	**76**	P	**P**	**00 36 20.3**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=252,slow=12,SNR=5.5						
BDFB	**Brasilia**	**20.21**	**76**	P	**P**	**00 36 20.5**	**-0.4**
BDFB				IAmb	IAmb	00 36 33.5	
	comp=Z,19nm,1.4s						
PARB	**Paraibuna**	**21.11**	**99**	*e*P	**P**	**00 36 30.6**	**+0.1**
ITTB	**Itaituba**	**21.12**	**37**	*e*P	**P**	**00 36 29.9**	**-0.6**
BSCB	**Bom Sucesso**	**22.02**	**93**	*e*P	**P**	**00 36 40.4**	**+0.3**
PTGA	**Pitinga**	**22.36**	**23**	P	**P**	**00 36 42.8**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=162,slow=19,SNR=4.9						
DIAM	**Diamantina, MG**	**23.47**	**86**	*e*P	**P**	**00 36 53.8**	**-0.5**
PRPB	**Paraua pebas**	**23.66**	**52**	*e*P	**P**	**00 36 55.5**	**-0.3**
SMTB	**Santa Maria do**	**23.72**	**61**	*e*P	**P**	**00 36 56.7**	**+0.3**
JANB	**Januaria**	**23.77**	**78**	*e*P	**P**	**00 36 56.2**	**-0.7**
MALB	**Monte Alegre**	**24.01**	**37**	*e*P	**P**	**00 36 58.8**	**-0.2**
SDBA	**SAO DESIDERIO**	**24.24**	**72**	*e*P	**P**	**00 37 01.4**	**+0.3**
BOAV	**Boa Vista**	**25.10**	**19**	P	**P**	**00 37 09.4**	**+0.5**
SJMB	**Sao Joao De Ma**	**25.70**	**88**	*e*P	**P**	**00 37 14.6**	**+0.3**
RIB01	**Linhares ES**	**26.32**	**90**	*e*P	**P**	**00 37 20.0**	**+0.1**
MCPB	**Macapa, AP**	**26.49**	**39**	*e*P	**P**	**00 37 22.4**	**+1.0**
GUA01	**Guaratinga, BA**	**27.46**	**84**	*e*P	**P**	**00 37 30.4**	**+0.2**
GDU01	**Guandu, BA**	**28.53**	**79**	*e*P	**P**	**00 37 39.3**	**-0.4**
NBPN	**Ponto Novo - B**	**29.07**	**73**	*e*P	**P**	**00 37 45.0**	**+0.5**
NBLA	**Lagarto - SE**	**31.17**	**75**	*e*P	**P**	**00 38 02.2**	**-0.8**
NBPS	**Pedro II - PI**	**31.27**	**61**	*e*P	**P**	**00 38 04.8**	**+0.9**
NBMA	**Muriti-CE**	**31.92**	**68**	*e*P	**P**	**00 38 09.6**	**-0.1**
NBPB	**Pedra_Branca-C**	**32.16**	**64**	*e*P	**P**	**00 38 12.5**	**+0.8**
NBAN	**Anadia - AL**	**33.07**	**74**	*e*P	**P**	**00 38 19.6**	**0.0**
RCBR	**Riachuelo**	**35.15**	**68**	P	**P**	**00 38 37.5**	**-0.1**
PMSA	**Palmer Station**	**43.21**	**177**	*e*P	**P**	**00 39 42.2**	**-1.6**
U49A	**Red Boiling Sp**	**60.13**	**344**	P	**P**	**00 41 49.8**	**-0.1**
WVT	**Waverly**	**60.33**	**342**	P	**P**	**00 41 50.9**	**-0.4**
S54A	**Dingess, Beckl**	**60.36**	**348**	P	**P**	**00 41 52.3**	**+0.8**
MIAR	**Mount Ida**	**60.79**	**336**	P	**P**	**00 41 54.6**	**+0.2**
MIAR				IAmb	IAmb	00 42 06.0	
	comp=Z,11nm,1.5s						
TXAR	**Lajitas Array**	**61.02**	**325**	P	**P**	**00 41 56.0**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=150,slow=10,SNR=4.7						
TXAR	**Lajitas Array**	**61.02**	**325**	P	**P**	**00 41 56.2**	**0.0**
SNAA	**Sanae**	**61.99**	**161**	P	**P**	**00 42 00.9**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=318,slow=8.5,SNR=4.2						
SNAA	**Sanae**	**61.99**	**161**	P	**P**	**00 42 02.5**	**+0.4**
SNAA				IAmb	IAmb	00 42 04.0	
	comp=Z,3.6nm,1.1s						
DBIC	**Dimbokro**	**68.32**	**73**	P	**P**	**00 42 43.7**	**-0.1**
	comp=Z,5.0nm,0.7s,baz=258,slow=5.6,SNR=7.7						
DBIC	**Dimbokro**	**68.32**	**73**	P	**P**	**00 42 44.3**	**+0.4**
QSPA	**South Pole Qui**	**68.55**	**180**	P	**P**	**00 42 46.0**	**+1.4**
QSPA				IAmb	IAmb	00 42 47.2	
	comp=Z,12nm,1.5s						
SDCO	**Great Sand Dun**	**68.61**	**329**	P	**P**	**00 42 46.5**	**+1.0**
SDCO				IAmb	IAmb	00 42 48.0	
	comp=Z,1.8nm,0.8s						
PDAR	**Pinedale Array**	**74.47**	**330**	P	**P**	**00 43 21.5**	**+1.0**
	comp=Z,0.1nm,0.6s,baz=128,slow=9.6,SNR=4.5						
NVAR	**Mina Array Bea**	**75.90**	**322**	P	**P**	**00 43 30.6**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=172,slow=7.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.96**	**70**	P	**P**	**00 43 35.0**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=253,slow=5.1,SNR=27						
BOSA	**Boshof**	**82.96**	**118**	P	**P**	**00 44 08.1**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=300,slow=5.4,SNR=1.9						
BOSA	**Boshof**	**82.96**	**118**	P	**P**	**00 44 07.3**	**0.0**
BOSA				IAmb	IAmb	00 44 16.7	
	comp=Z,4.5nm,1.3s						
ESDC	**Sonseca Array**	**85.60**	**44**	P	**P**	**00 44 21.0**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=290,slow=4.4,SNR=4.6						
YKA	**Yellowknife Ar**	**91.48**	**340**	P	**P**	**00 44 47.8**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=134,slow=4.6,SNR=23						
MKAR	**Makanchi Array**	**145.47**	**36**	PKPbc	**PKPab**	**00 51 20.1**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=333,slow=4.0,SNR=6.4						

IDC ***24*** *00:33:59.6±0.5,22°.90S×171°.59E,h0km,mb4.6/21, mb1 4.7/24,mb1mx4.5/37,mbtmp4.6/24,ML4.6/3,MS3.9/49, Ms1 3.9/49,ms1mx3.8/60,Error ellipse: s-maj=17.0km s-min=15.3km az=4.0*
NEIC ***24*** *00:34:02.9±1.6,22°.90S±0°.07×171°.50E±0°.08,h12km±2km, mb5.1/67,Error ellipse: s-maj=10.8km s-min=10.2km az=201.0*
BJI ***24*** *00:34:02.0±0.0,22°.90S×171°.50E,h20km,mb4.9/38, mB5.4/24,Ms5.2/4,Ms7 4.8/4*
BGR ***24*** *00:34:03.9±0.0,23°.08S×172°.34E,h33km*
NOU ***24*** *00:34:07.3,23°.08S×171°.25E,h19km,mb5.0/48, Southeast of Loyalty Islands*
ISC 24 00:34:06.9±0.3,22°.99S±0°.05×171°.48E±0°.05,h49km,n439, σ1$20/409,mb5.0/70,MS3.9/47,38C-20D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.53**	**294**	Pn	**Pn**	**00 34 55.5**	**-3.7**
MARNC	**Mare, Loyalty**	**3.53**	**294**	P	**Pn**	**00 34 58.9**	**-0.3**
PINNC	**Pines Island,**	**3.74**	**275**	Pn	**Pn**	**00 34 59.7**	**-2.4**
OUENC	**Ouen Island, N**	**4.32**	**277**	Pn	**Pn**	**00 35 07.9**	**-2.1**
OUENC	**Ouen Island, N**	**4.32**	**277**	P	**Pn**	**00 35 08.3**	**-1.7**
LIFNC	**LIFOU**	**4.51**	**298**	Pn	**Pn**	**00 35 10.1**	**-2.5**
LIFNC	**LIFOU**	**4.51**	**298**	P	**Pn**	**00 35 12.8**	**+0.2**
ONTNC	**Ouen Toro**	**4.69**	**277**	Pn	**Pn**	**00 35 13.3**	**-1.8**
ONTNC	**Ouen Toro**	**4.69**	**277**	P	**Pn**	**00 35 15.3**	**+0.2**
DZM	**Mont Dzumac**	**4.74**	**280**	Pn	**Pn**	**00 35 13.8**	**-2.1**
	15nm,0.3s,baz=122,slow=15,SNR=145						
DZM				Sn	**Sn**	**00 36 05.8**	**-3.9**
	8.5nm,0.3s,baz=138,slow=18,SNR=3.9						
DZM	**Mont Dzumac**	**4.74**	**280**	*e*Pn	**Pn**	**00 35 13.7**	**-2.3**
	80nm,0.3s						
DZM				*e*Sn	**Sn**	**00 36 05.6**	**-4.1**
	55nm,0.2s						
DZM				*e*LR	LR	00 36 15.2	
	comp=Z,494nm,21.9s						
DZM	**Mont Dzumac**	**4.74**	**280**		**Pn**	**00 35 13.6**	**-2.3**
DZM	**Mont Dzumac**	**4.74**	**280**	P	**Pn**	**00 35 14.2**	**-1.7**
NOUC	**Port Laguerre**	**4.86**	**279**	P	**Pn**	**00 35 15.6**	**-1.9**
RTV	**Rentapao**	**5.91**	**330**	P	**Pn**	**00 35 33.1**	**+1.2**
DVP	**Devils Point**	**6.08**	**329**	P	**Pn**	**00 35 35.7**	**+1.5**
NFK	**Norfolk Island**	**6.82**	**207**	P	**Pn**	**00 35 42.1**	**-2.3**
	baz=6.8,SNR=22						
NFK	**Norfolk Island**	**6.82**	**207**	P	**Pn**	**00 35 42.0**	**-2.4**
KOUNC	**Koumac, New Ca**	**7.11**	**289**	P	**Pn**	**00 35 48.8**	**+0.5**
MSVF	**Nonsavu**	**8.08**	**51**	Pn	**Pn**	**00 36 02.1**	**+0.3**
	0.8nm,0.3s,baz=214,slow=12,SNR=22						
MSVF				LR	LR	00 38 22.5	
	comp=Z,1μm,18.6s,baz=228,slow=33						
MSVF	**Nonsavu**	**8.08**	**51**	Pn	**Pn**	**00 36 01.5**	**-0.3**
SANVU	**Saraoutou**	**8.52**	**331**	Pn	**Pn**	**00 36 06.2**	**-1.4**
SANVU	**Saraoutou**	**8.52**	**331**	P	**Pn**	**00 36 10.7**	**+3.1**
DGTI	**Dogotuki**	**10.23**	**51**	P	**Pn**	**00 36 35.5**	**+4.3**
RAO	**Raoul Island**	**11.39**	**125**	Pn	**Pn**	**00 36 42.3**	**-4.6**
	573nm,0.3s,baz=37,slow=20,SNR=8.0						
RAO	**Raoul Island**	**11.39**	**125**		**Pn**	**00 36 43.1**	**-3.8**
OUZ	**Omahuta**	**12.33**	**172**	P	**Pn**	**00 37 00.3**	**+0.6**
HIZ	**Hauiti**	**15.75**	**170**		**Pn**	**00 37 45.3**	**-0.1**
HIZ				IAmb	IAmb	00 37 57.5	
	comp=Z,126nm,1.2s						
URZ	**Urewera**	**15.97**	**164**	Pn	**Pn**	**00 37 49.4**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=350,slow=4.6,SNR=22						
URZ				LR	LR	00 42 27.2	
	comp=Z,931nm,20.9s,baz=340,slow=32						
URZ	**Urewera**	**15.97**	**164**		**Pn**	**00 37 48.6**	**+0.3**
URZ	**Urewera**	**15.97**	**164**	P	**P**	**00 37 51.5**	**+0.4**
BKZ	**Black Stump Fm**	**16.69**	**166**		**Pn**	**00 37 57.8**	**+0.5**
BKZ	**Black Stump Fm**	**16.69**	**166**	P	**P**	**00 38 01.8**	**+2.8**
HNR	**Honiara**	**17.42**	**319**	P	**Pn**	**00 38 05.8**	**-0.8**
	comp=Z,9.4nm,0.3s,baz=207,slow=11,SNR=5.1						
HNR				LR	LR	00 43 33.3	
	comp=Z,280nm,19.6s,baz=148,slow=33						
HNR	**Honiara**	**17.42**	**319**		**P**	**00 38 07.0**	**-0.3**
HNR				IAmb	IAmb	00 38 10.1	
	comp=Z,162nm,0.9s						
QRZ	**Quartz Range**	**17.81**	**177**	P	**P**	**00 38 13.9**	**+2.5**
BFZ	**Birch Farm**	**18.10**	**168**	P	**Pn**	**00 38 14.8**	**+0.2**
BFZ	**Birch Farm**	**18.10**	**168**	P	**Pn**	**00 38 16.9**	**+2.2**
AFI	**Afiamalu**	**18.26**	**63**	P	**P**	**00 38 12.8**	**-3.7**
	comp=Z,0.9nm,0.3s,baz=332,slow=18,SNR=2.0						
AFI				LR	LR	00 43 53.5	
	comp=Z,203nm,19.9s,baz=216,slow=33						
SNZO	**South Karori**	**18.47**	**172**	P	**Pn**	**00 38 21.3**	**+2.1**
	comp=Z,103nm,1.2s						
EIDS	**Eidsvold**	**18.76**	**259**	P	**Pn**	**00 38 23.2**	**+0.4**
	baz=19,SNR=3.3						
EIDS	**Eidsvold**	**18.76**	**259**		**P**	**00 38 22.2**	**+0.3**
PLWZ	**Palliser**	**18.80**	**171**	P	**P**	**00 38 22.1**	**-0.3**
ARMA	**Armidale**	**19.20**	**243**	P	**Pn**	**00 38 27.8**	**-0.3**
	baz=19,SNR=5.0						
ARMA	**Armidale**	**19.20**	**243**	P	**P**	**00 38 26.2**	**-0.7**
ARMA	**Armidale**	**19.20**	**243**	P	**Pn**	**00 38 29.3**	**+1.1**
KHZ	**Kahutara**	**19.45**	**175**	P	**P**	**00 38 29.1**	**-0.3**
KHZ	**Kahutara**	**19.45**	**175**	P	**Pn**	**00 38 32.0**	**+1.1**
MGCD	**Mangrove Creek**	**20.62**	**236**	P	**P**	**00 38 43.1**	**+0.9**
	baz=20,SNR=6.2						
MGCD	**Mangrove Creek**	**20.62**	**236**	P	Pn	00 38 43.9	-1.0
RMQ	**Roma**	**20.92**	**256**	P	**P**	**00 38 46.6**	**+1.1**
	baz=21,SNR=29						
RMQ	**Roma**	**20.92**	**256**	P	Pn	00 38 48.0	-0.5
ODZ	**Otahua Downs**	**22.02**	**182**	P	**P**	**00 38 58.0**	**+1.0**
CNB	**Canberra Magne**	**22.83**	**233**	P	**P**	**00 39 08.0**	**+2.1**
	baz=23,SNR=11						
CNB	**Canberra Magne**	**22.83**	**233**	P	**P**	**00 39 07.7**	**+1.8**
	comp=Z,45nm,1.2s						
CAN	**Canberra**	**23.10**	**233**	P	**P**	**00 39 10.3**	**+1.7**
CTA	**Charters Tower**	**23.63**	**272**	P	**P**	**00 39 14.1**	**+0.3**
	comp=Z,6.6nm,0.7s,baz=112,slow=12,SNR=6.3						
CTA				LR	LR	00 47 51.3	
	comp=Z,180nm,19.5s,baz=93,slow=35

FAKI	**Fak Fak**	42.90 292	P	P		00 42 03.0 +2.0
	comp=Z,48nm,1.5s					
FITZ	**Fitzroy Crossi**	43.07 268	LR	LR		00 58 46.9
	comp=Z,120nm,20.5s,baz=107,slow=34					
FITZ	**Fitzroy Crossi**	43.07 268	P	P		00 42 03.3 +1.0
	baz=43,SNR=7.8					
GUMO	**Guam**	44.72 322	LR	LR		00 58 25.4
	comp=Z,132nm,18.8s,baz=136,slow=33					
SIJI	**Sorong**	44.80 294	LR	LR		01 00 45.1
	comp=Z,235nm,18.4s,baz=101,slow=36					
MEEK	**Meekatharra**	47.85 254	P	P		00 42 40.2 +0.1
	baz=48,SNR=4.8					
MEEK	**Meekatharra**	47.85 254	P	P		00 42 40.4 +0.3
KLBR	**Kellerberrin**	48.11 248	P	P		00 42 42.6 +0.6
	baz=48,SNR=7.2					
KLBR	**Kellerberrin**	48.11 248	P	P		00 42 43.6 +1.6
TAOE	**Nuku Hiva Isla**	48.37 81	eLR	LR		00 56 29.6
	comp=Z,109nm,23.2s					
NWAO	**Narrogin (SRO)**	48.47 246	P	P		00 42 44.9 0.0
NWAO	**Narrogin (SRO)**	48.47 246	P	P		00 42 46.0 +1.2
	comp=Z,38nm,0.9s					
SANI	**Sanana**	48.74 289	P	P		00 42 47.6 +0.5
	comp=Z,45nm,0.8s					
MORW	**Morawa**	49.81 251	P	P		00 42 54.4 -0.7
MORW			IAmb	IAmb		00 43 30.4
	comp=Z,42nm,1.7s					
LUWI	**Luwuk**	52.04 288	P	P		00 43 12.2 +0.1
GTOI	**Gorontalo**	52.65 290	P	P		00 43 19.9 +3.4
	comp=Z,13nm,0.7s					
KAPI	**Kappang**	52.96 282	LR	LR		01 06 24.0
	comp=Z,90nm,19.2s,baz=148,slow=37					
VNDA	**Vanda**	54.79 183	LR	LR		01 03 14.8
	comp=Z,109nm,18.7s,baz=334,slow=32					
TOLI2	**Tolitoli**	54.82 289	P	P		00 43 31.6 -0.8
TOLI2			IAmb	IAmb		00 43 43.6
	comp=Z,16nm,0.9s					
SBA	**Scott Base**	54.97 181	P	P		00 43 34.4 +1.8
JAGI	**Jajag, Banyuwa**	56.70 275	P	P		00 43 45.5 -0.5
JAGI			IAmb	IAmb		00 44 05.0
	comp=Z,36nm,1.3s					
KKM	**Kota Kinabalu**	61.21 291	P	P		00 44 17.8 +0.5
TNG	**Tangerang**	64.46 274	P	P		00 44 39.9 +1.1
	comp=Z,46µmcomp=Z,740nm,0.5s					
TNG			P	P		00 44 37.7 -1.1
	comp=Z,29µmcomp=Z,1µm,0.5s					
MJAR	**Matsushiro Arr**	67.02 331	P	P		00 44 53.4 -1.5
	comp=Z,2.3nm,0.6s,baz=172,slow=7.7,SNR=5.8					
MJAR			LR	LR		01 13 26.6
	comp=Z,34nm,19.6s,baz=156,slow=35					
MJAR	**Matsushiro Arr**	67.02 331	P	P		00 44 54.0 -0.8
MJAR			IAmb	IAmb		00 46 15.0
	comp=Z,18nm,1.5s					
MAT	**Matsushiro**	67.03 331	P	P		00 44 53.4 -1.5
MJB9	**Matsu-Tunnel**	67.03 331	P	P		00 44 54.4 -0.5
QSPA	**South Pole Qui**	67.09 180	P	P		00 44 55.6 +0.5
	comp=Z,18nm,1.1s,baz=6.4,slow=4.4,SNR=22					
QSPA			LR	LR		01 12 26.5
	comp=Z,75nm,18.0s,baz=56,slow=34					
QSPA	**South Pole Qui**	67.09 180	P	P		00 44 55.8 +0.7
YULB	**Yu-li**	67.11 310	P	P		00 44 54.5 -1.2
SSLB	**Suanglung**	67.61 310	P	P		00 44 57.2 -1.6
JTM	**Tenmabayashi**	69.46 336	P	P		00 45 11.9 +2.0
ASAJ	**Asahikawa**	71.83 339	P	P		00 45 24.8 +0.4
	comp=Z,11nm,0.9s,baz=180,slow=8.1,SNR=2.9					
ASAJ			LR	LR		01 13 06.5
	comp=Z,57nm,20.8s,baz=156,slow=33					
KSRS	**Korea Array**	72.76 325	P	P		00 45 30.1 +0.1
	comp=Z,6.4nm,0.8s,baz=144,slow=5.8,SNR=15					
KSRS			LR	LR		01 15 48.8
	comp=Z,51nm,19.7s,baz=145,slow=34					
KSAR	**Wonju Array Be**	72.77 325	P	P		00 45 29.8 -0.3
IPM	**Ipoh**	73.90 282	P	P		00 45 37.7 +0.4
IPM			IAmb	IAmb		00 45 42.9
	comp=Z,16nm,0.6s					
NJ2	**Nanjing**	74.34 316	eP	P		00 45 42.1 +2.7
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.5s					
KULM	**Kulim**	74.58 283	P	P		00 45 41.6 +0.3
KULM			IAmb	IAmb		00 45 47.2
	comp=Z,16nm,1.1s					
PSI	**Prapat**	75.10 280	LR	LR		01 18 17.6
	comp=Z,45nm,21.6s,baz=136,slow=35					
ADK	**Adak**	75.27 8	P	P		00 45 45.3 +1.0
GSI	**Gunungsitoli**	75.72 278	P	P		00 45 49.0 +1.1
GSI			IAmb	IAmb		00 45 54.6
	comp=Z,19nm,0.7s					
MAW	**Mawson**	75.76 202	LR	LR		01 17 45.5
	comp=Z,70nm,18.2s,baz=218,slow=35					
USRK	**Ussuriysk Ar.**	76.01 332	P	P		00 45 46.6 -2.1
	comp=Z,2.6nm,0.6s,baz=89,slow=6.3,SNR=2.8					
USRK			LR	LR		01 15 21.3
	comp=Z,43nm,21.3s,baz=143,slow=33					
PEA0B	**Petropavlovsk-**	76.71 352	P	P		00 45 51.7 -0.9
PEA0B			IAmb	IAmb		00 46 18.4
	comp=Z,30nm,1.2s					
PETK	**Petropavlovsk-**	76.71 352	P	P		00 45 51.0 -1.5
	comp=Z,2.2nm,0.8s,baz=200,slow=7.7,SNR=5.6					
PETK			LR	LR		01 14 38.3
	comp=Z,145nm,19.4s,baz=146,slow=32					
PETK	**Petropavlovsk-**	76.71 352	P	P		00 45 51.5 -1.0
NIKH	**Nikolski High**	77.55 12	P	P		00 45 55.9 -1.3
NIKH	**Nikolski High**	77.55 12	P	P		00 45 55.9 -1.3
	baz=198					
TIA	**Tai'an**	78.11 318	P	P		00 46 00.4 -0.4
TIA			pmax	pmax		
	comp=Z,20nm,0.6s					
CN2	**Changchun**	78.73 328	eP	P		00 46 02.4 -1.6
CN2			pP	PcP		00 46 12.8 +0.1
CN2			S	S		00 55 57.6 -0.1
CN2			pmax	pmax		
	comp=Z,20nm,0.9s					
BNX	**BinXian**	79.25 330	⇓P	P		00 46 05.6 -1.2
BNX			pmax	pmax		
	comp=Z,25nm,1.0s					
BNX			pmax	pmax		
	comp=Z,530nm,5.2s					
ENH	**Enshi**	79.65 309	P	P		00 46 08.8 -0.6
ENH			IAmb	IAmb		00 46 10.0
	comp=Z,19nm,0.9s					
GYA	**Guiyang**	79.66 304	⇓P	P		00 46 12.1 +2.4
GYA			pmax	pmax		
	comp=Z,9.0nm,1.3s					
LYN	**LuoYang**	80.07 314	⇑iP	P		00 46 11.8 +0.3
KLR	**Kul'dur**	80.13 335	P	P		00 46 11.7 +0.2
	comp=Z,1.9nm,0.8s,baz=126,slow=4.4,SNR=4.7					
KLR			LR	LR		01 21 22.9
	comp=Z,37nm,18.5s,baz=162,slow=36					
HNS	**HongShan**	80.36 317	⇓P	P		00 46 13.3 +0.3
HNS			pmax	pmax		
	comp=Z,10.0nm,0.9s					
SYO	**Syowa Base**	81.92 196	⇓eX	P		00 46 18.4 -2.5
CMAR	**Chiang Mai Arr**	81.93 294	P	P		00 46 23.8 +2.0
	comp=Z,12nm,0.7s,baz=137,slow=4.0,SNR=48					
CMAR			LR	LR		01 24 22.4
	comp=Z,20nm,20.7s,baz=175,slow=37					
CMAR	**Chiang Mai Arr**	81.93 294	P	P		00 46 22.6 +0.8
KMI	**Kunming**	82.01 301	⇑P	P		00 46 23.5 +1.1
KMI			pmax	pmax		
	comp=Z,11nm,0.9s					
CHTO	**Chiang Mai**	82.09 294	P	P		00 46 23.1 +0.5
CHTO			IAmb	IAmb		00 46 25.4
	comp=Z,20nm,0.8s					
XAN	**Xi'an**	82.16 312	⇑P	P		00 46 22.8 +0.1
XAN			pP	pP		00 46 33.5 -2.2
XAN			sP	sP		00 46 37.4 -3.2
XAN			pmax	pmax		
	comp=Z,14nm,1.1s					
PZH	**PanZhiHua**	83.47 302	PKP	PKiKP		00 51 46.3 -0.8
PZH	**PanZhiHua**	83.47 302	P	P		00 46 31.8 +2.0
PZH			pmax	pmax		
	comp=Z,8.0nm,0.9s					
PZH			pmax	pmax		
	comp=Z,100nm,4.3s					
XLT	**XiLinHaoTe**	83.68 323	eP	P		00 46 30.0 -0.4
XLT			pP	PcP		00 46 38.0 +3.5
XLT			sP	pP		00 46 41.1 -2.2
XLT			pmax	pmax		
	comp=Z,18nm,1.0s					
XLT			pmax	pmax		
	comp=Z,160nm,4.1s					
HHC	**Hu-ho-hao-te**	84.41 319	eP	P		00 46 34.6 +0.4
HHC			pmax	pmax		
	comp=Z,13nm,0.9s					
HHC			pmax	pmax		
	comp=Z,180nm,6.7s					
SNAA	**Sanae**	85.52 182	P	P		00 46 38.9 -0.5
SNAA	**Sanae**	85.52 182	P	P		00 46 38.2 -1.1
	comp=Z,3.2nm,0.8s,baz=217,slow=4.9,SNR=10					
SNAA			LR	LR		01 22 27.6
	comp=Z,169nm,18.9s,baz=184,slow=34					
SNAA	**Sanae**	85.52 182	P	P		00 46 38.6 -0.7
SNAA			IAmb	IAmb		00 46 49.5
	comp=Z,20nm,1.6s					
KDAK	**Kodiak Island**	85.88 18	LR	LR		01 20 57.2
	comp=Z,86nm,18.5s,baz=223,slow=33					
VNA3	**Neumayer Olymp**	86.02 180	P	P		00 46 41.1 -0.7
VNA2	**Neumayer--Watz**	86.34 180	P	P		00 46 43.0 -0.3
	baz=154,slow=5.0					
LZH	**Lanzhou**	86.77 311	eP	P		00 46 47.3 +1.1
LZH			pP	PcP		00 46 50.3 +1.9
LZH			pmax	pmax		
	comp=Z,19nm,1.1s					
SEY	**Seymchan**	86.96 351	P	P		00 46 44.7 -1.5
	comp=Z,2.5nm,0.5s,baz=172,slow=5.4,SNR=6.4					
SEY			LR	LR		01 21 23.6
	comp=Z,192nm,20.2s,baz=217,slow=33					
ORV	**Oroville**	88.18 45	P	P		00 46 52.8 +0.1
ORV			IAmb	IAmb		00 46 55.6
	comp=Z,4.3nm,0.9s					
EDW2	**Edwards Air Fo**	88.20 51	P	P		00 46 53.3 +0.4
	baz=240					
ISA	**Isabella, Lake**	88.24 50	P	P		00 46 53.2 +0.1
ISA			IAmb	IAmb		00 46 54.6
	comp=Z,6.6nm,0.7s					
ISA	**Isabella, Lake**	88.24 50	P	P		00 46 53.6 +0.4
	baz=240					
M02C	**Callahan**	88.29 43	P	P		00 46 53.9 +0.7
M02C	**Callahan**	88.29 43	P	P		00 46 54.5 +1.3
	baz=237					
MONP2	**Monument Peak**	88.37 53	P	P		00 46 54.7 +0.7
	baz=241					
O03E	**Paynes Creek**	88.37 45	P	P		00 46 53.8 +0.2
	baz=238					
YBH	**Yreka Blue Hor**	88.56 43	LR	LR		01 22 06.6
	comp=Z,28nm,18.1s,baz=193,slow=33					
PFO	**Pinyon Flats O**	88.69 53	LR	LR		01 18 53.3
	comp=Z,51nm,20.2s,baz=241,slow=30					
L19K	**White Mountain**	89.03 15	P	P		00 46 57.4 +1.2
TIN	**Tinemaha, Big**	89.10 49	P	P		00 46 58.5 +1.3
	baz=240					
M04C	**Macdoel**	89.14 43	P	P		00 46 57.9 +0.6
	baz=238					
LPIG	**La Paz**	89.18 63	LR	LR		01 22 00.9
	comp=Z,47nm,18.0s,baz=165,slow=32					
HEC	**Hector,Ludlow**	89.36 52	P	P		00 46 58.7 +0.2
	baz=241					
LHV	**Little Huntoon**	89.51 48	P	P		00 46 59.7 +0.8
LHV			IAmb	IAmb		00 47 00.4
	comp=Z,7.3nm,0.8s					
NVAR	**Mina Array Bea**	89.74 48	P	P		00 47 00.7 +0.4
	comp=Z,6.9nm,0.7s,baz=226,slow=8.2,SNR=52					
NVAR			LR	LR		01 19 35.9
	comp=Z,70nm,18.6s,baz=247,slow=30					
NVAR	**Mina Array Bea**	89.74 48	P	P		00 47 00.5 +0.2
J04D	**Umpqua Nationa**	89.75 42	P	P		00 47 00.9 +0.7
	baz=238					
NV11	**Mina Array Sit**	89.84 48	P	P		00 47 00.6 -0.1
NV11			IAmb	IAmb		00 47 01.4
	comp=Z,6.9nm,0.7s					
I04A	**Tendick Farm,**	89.86 41	P	P		00 47 00.7 +0.2
	baz=237					
IRM	**Iron Mountain**	89.91 53	P	P		00 47 01.8 +0.9
	baz=242					
KVN	**Kaiserville**	90.18 47	P	P		00 47 02.5 +0.2
KVN			IAmb	IAmb		00 47 03.2
	comp=Z,10nm,0.7s					
J05D	**Fort Rock, OR**	90.31 42	P	P		00 47 03.3 +0.6
	baz=238					
TPNV	**Topopah Spring**	90.44 50	P	P		00 47 03.5 0.0
TPNV	**Topopah Spring**	90.44 50	P	P		00 47 04.0 +0.5
	baz=241					
PDMCI	**Parker Dam,Lak**	90.71 53	P	P		00 47 05.5 +0.9
	baz=242					
PINE	**Pine Mountain**	90.76 42	P	P		00 47 05.3 +0.4
I05D	**Terrebonne, OR**	90.80 41	P	P		00 47 05.3 +0.4
	baz=238					
YAK	**Yakutsk**	91.06 342	LR	LR		01 22 33.5
	comp=Z,59nm,21.3s,baz=92,slow=32					
ULN	**Ulaanbaatar**	91.10 323	P	P		00 47 05.8 -0.5
ULN			IAmb	IAmb		00 47 07.3
	comp=Z,12nm,1.1s					
GTA	**Gaotai**	91.20 313	eP	P		00 47 07.1 +0.2
GTA			pP	PcP		00 47 12.1 +4.2
GTA			sP	pP		00 47 15.8 -4.3
GTA			pmax	pmax		
	comp=Z,3.0nm,1.2s					
BMN	**Battle Mountai**	91.45 46	P	P		00 47 08.1 0.0
BMN			IAmb	IAmb		00 47 09.2
	comp=Z,6.4nm,0.9s					
SONM	**Songino Array**	91.45 322	P	P		00 47 07.5 -0.4
	comp=Z,5.5nm,0.8s,baz=153,slow=4.1,SNR=38					
SONM			LR	LR		01 26 34.0
	comp=Z,27nm,19.3s,baz=60,slow=34					
SONM	**Songino Array**	91.45 322	P	P		00 47 07.4 -0.5
SONM			IAmb	IAmb		00 47 08.7
	comp=Z,9.0nm,1.0s					
BBB	**Bella Bella**	91.48 32	LR	LR		01 25 41.8
	comp=Z,48nm,18.1s,baz=264,slow=34					
WVOR	**Wild Horse Val**	91.51 44	P	P		00 47 08.1 -0.2
WVOR			IAmb	IAmb		00 47 20.7
	comp=Z,4.8nm,0.9s					
R11A	**Troy Canyon, C**	91.57 49	P	P		00 47 08.7 -0.1
R11A	**Troy Canyon, C**	91.57 49	P	P		00 47 08.8 +0.1
	baz=242					
I07A	**Izee**	91.80 42	P	P		00 47 09.6 0.0
I07A			IAmb	IAmb		00 47 10.5
	comp=Z,6.6nm,0.9s					
LCMT	**Little Creek M**	92.60 51	P	P		00 47 13.5 0.0
LCMT			IAmb	IAmb		00 47 14.6
	comp=Z,4.4nm,0.8s					
G08A	**Pilot Rock**	92.75 41	P	P		00 47 13.9 0.0
G08A			IAmb	IAmb		00 47 14.5
	comp=Z,5.3nm,0.7s					
X16A	**Lo Mia Camp, P**	92.76 54	P	P		00 47 14.7 +0.3
X16A			IAmb	IAmb		00 47 16.2
	comp=Z,3.3nm,0.9s					
KNB	**Kanab**	92.90 51	P	P		00 47 15.1 +0.1
ELK	**Elko**	92.93 47	LR	LR		01 23 56.1
	comp=Z,94nm,18.3s,baz=249,slow=32					
ELK	**Elko**	92.93 47	P	P		00 47 15.0 -0.1
ELK			IAmb	IAmb		00 47 36.6
	comp=Z,16nm,2.0s					
HAWA	**Hanford**	92.96 40	P	P		00 47 14.4 -0.3
HAWA			IAmb	IAmb		00 47 15.4
	comp=Z,6.6nm,0.8s					
U15A	**North Rim**	93.02 52	P	P		00 47 16.2 +0.6
ILAR	**Eielson Array**	93.19 17	P	P		00 47 13.0 -2.4
	comp=Z,1.1nm,0.7s,baz=233,slow=4.3,SNR=11					
ILAR			LR	LR		01 25 48.5
	comp=Z,97nm,18.3s,baz=227,slow=33					
ILAR	**Eielson Array**	93.19 17	P	P		00 47 13.1 -2.3
PALK	**Pallekele**	93.51 276	LR	LR		01 32 10.2
	comp=Z,51nm,18.4s,baz=246,slow=37					
PLCA	**Paso Flores**	94.36 138	LR	LR		01 19 39.1
	comp=Z,56nm,21.9s,baz=226,slow=29					
DLBC	**Dease Lake**	94.41 27	LR	LR		01 22 06.6
	comp=Z,60nm,21.2s,baz=311,slow=31					
HLID	**Hailey**	94.77 45	P	P		00 47 23.6 +0.2
HLID	**Hailey**	94.77 45	P	P		00 47 23.6 +0.2
	baz=243					
NEW	**Newport**	95.31 39	LR	LR		01 24 20.1
	comp=Z,43nm,18.2s,baz=236,slow=32					
ANMO	**Albuquerque**	96.71 55	LR	LR		01 24 14.5
	comp=Z,51nm,18.2s,baz=241,slow=31					
TXAR	**Lajitas Array**	96.73 61	P	P		00 47 33.2 +0.7
	comp=Z,0.3nm,0.8s,baz=190,slow=5.1,SNR=3.7					
TXAR			LR	LR		01 24 21.8
	comp=Z,63nm,18.3s,baz=230,slow=31					
PDAR	**Pinedale Array**	97.63 47	P	P		00 47 35.6 -0.9
	comp=Z,0.4nm,0.7s,baz=233,slow=2.2,SNR=3.9					
PDAR			LR	LR		01 26 58.6
	comp=Z,49nm,18.0s,baz=314,slow=33					
TIXI	**Tiksi**	98.83 347	LR	LR		01 28 03.2
	comp=Z,54nm,20.4s,baz=253,slow=33					
INK	**Inuvik**	99.43 18	LR	LR		01 26 10.7
	comp=Z,82nm,20.4s,baz=198,slow=32					
CMIG	**Matias Romero**	99.75 76	LR	LR		01 27 01.8
	comp=Z,30nm,18.3s,baz=208,slow=32					
WMQ	**Urumqi**	101.28 313	eP	Pdif		00 47 54.3 +1.8
WMQ			pP	pPdif		00 48 02.5 -3.2
WMQ			pmax	pmax		
	comp=Z,11nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,130nm,4.1s					
YKA	**Yellowknife Ar**	103.03 27	P	Pdif		00 47 60.0 +0.2
	comp=Z,0.2nm,0.7s,baz=245,slow=4.7,SNR=4.4					
MKAR	**Makanchi Array**	105.85 314	Pdiff	Pdif		00 48 13.2 +0.5
	comp=Z,0.7nm,0.7s,baz=93,slow=6.8,SNR=4.6					
MKAR	**Makanchi Array**	105.85 314		Pdif		00 48 14.0 +1.2
ZALV	**Zalesovo Beam**	106.34 322	Pdiff	Pdif		00 48 13.5 -1.2
	comp=Z,0.8nm,0.7s,baz=108,slow=4.8,SNR=4.7					
BOSA	**Boshof**	119.24 214	PKP	PKiKP		00 52 52.8 +1.3
	comp=Z,0.7nm,0.5s,baz=209,slow=9.6,SNR=1.8					
BOSA	**Boshof**	119.24 214		PKiKP		00 52 52.6 +1.2
ABKAR	**Akbulak array**	120.99 315	PKPdf	PKPdf		00 52 53.6 -0.2
ARU	**Arti**	121.48 323	PKPdf	PKPdf		00 52 54.1 -0.4
GEYT	**Alibeck**	121.78 301	PKP	PKiKP		00 52 56.4 +0.5
	comp=Z,3.7nm,0.7s,baz=193,slow=6.1,SNR=5.2					
GEYT	**Alibeck**	121.78 301		PKPdf		00 52 55.5 -0.2
ARCES	**ARCESS Array B**	129.20 345	PKP	PKPdf		00 53 08.0 -0.9
	comp=Z,5.0nm,0.9s,baz=10,slow=1.0,SNR=5.7					
KLMR	**Klimovskoe**	129.81 332	ePKPdf	PKPdf		00 53 08.6 -1.7
KLMR			AMP			00 53 11.0
	comp=Z,10.0nm,1.0s					
GURO	**Guroymak-BITLI**	134.43 302	PKPdf	PKiKP		00 53 20.9 -0.4
FINES	**FINESS Array B**	134.83 337	PKhKP	PKPpre		00 53 12.1
	comp=Z,1.4nm,0.7s,baz=86,slow=3.7,SNR=5.2					
AKASG	**Malin Array Be**	139.73 323	PKhKP	PKPpre		00 53 22.9
	comp=Z,0.6nm,0.5s,baz=60,slow=2.6,SNR=5.3					
AKASG	**Malin Array Be**	139.73 323		PKPdf		00 53 27.8 -1.3
BRTR	**Keskin Array B**	140.71 305	PKP	PKiKP		00 53 33.1 -1.0
	comp=Z,1.0nm,0.7s,baz=150,slow=3.2,SNR=5.1					
BRTR	**Keskin Array B**	140.71 305		PKPdf		00 53 32.1 +0.7
VRI	**Vrincioaia**	143.48 317	⇑P	PKPbc		00 53 34.2 +0.8
PLOR	**Plostina**	143.53 317	⇑P	PKPbc		00 53 34.1 +0.5
BURAR	**Bucovina Array**	143.55 321	⇑P	PKPdf		00 53 35.6 -0.6
BISRR	**Bisoca**	143.63 317	⇓P	PKPbc		00 53 34.8 +0.8
PGOR	**Pogoanele**	143.73 316	⇓P	PKPbc		00 53 34.6 +0.5
COVR	**Voineasa-Covas**	143.81 318	⇑P	PKPbc		00 53 34.6 +0.2
NEHR	**Nehoiu**	143.94 317	⇑P	PKPbc		00 53 35.7 +0.9
OZUR		143.95 318	⇑P	PKPbc		00 53 34.8 0.0
MLR	**Muntele Rosu**	144.13 317	⇓P	PKPbc		00 53 35.8 +0.3
MLR	**Muntele Rosu**	144.13 317	PKPdf	PKPbc		00 53 35.9 +0.3
DOPR	**Dopca**	144.26 318	⇓P	PKPdf		00 53 36.8 -0.7
SECR		144.26 316	⇓P	PKPdf		00 53 36.9 -0.5
SULR		144.30 316	⇓P	PKPdf		00 53 36.8 -0.7
ARCR	**ARCALIA**	144.33 320	⇓P	PKPdf		00 53 37.1 -0.4
TGMR	**Targu Mures**	144.51 320	⇓P	PKPdf		00 53 38.1 +0.3
BMR	**Baia Mare**	144.51 322	⇑P	PKPdf		00 53 37.4 -0.4
VOIR		144.72 318	⇓P	PKPbc		00 53 37.4 +0.1
MDB	**Medias**	144.79 319	⇑P	PKPdf		00 53 38.8 +0.5
TRPA	**Tarpa**	144.79 323	⇑P	PKPbc		00 53 37.7 +0.3
TRPA	**Tarpa**	144.79 323	PKPpB			00 53 37.4
MTUR	**Matau**	144.81 317	⇑P	PKPbc		00 53 37.8 +0.2
CRVS	**Cervenica-Dubn**	144.93 325	ePKP	PKPdf		00 53 38.5 0.0
OJC	**Ojcow**	144.95 328	ePKP	PKPab		00 53 37.5 -0.3
OJC	**Ojcow**	144.95 328	PKPdf	PKPab		00 53 37.8 0.0
CBBR	**Cluj-Babes-Bol**	144.96 321	⇓P	PKPdf		00 53 38.8 +0.2
CJR	**Cluj-Napoca**	144.96 320	⇑P	PKPdf		00 53 38.7 0.0
ARR	**Arges**	145.01 318	⇑P	PKPdf		00 53 39.2 +0.4
CEI	**Carei**	145.09 323	⇑P	PKPdf		00 53 39.7 +1.0
MESR	**Meseseni**	145.11 321	⇓P	PKPdf		00 53 39.4 +0.5
HUMR	**Humele**	145.18 316	⇓P	PKPbc		00 53 38.7 0.0
NIE	**Niedzica**	145.22 327	ePKP	PKPdf		00 53 39.9 +0.9
DRGR		145.44 321	⇑P	PKPab		00 53 39.8 0.0
LOT	**Lotru**	145.50 318	⇓P	PKPab		00 53 40.1 -0.1
KECS	**Kecovo**	145.70 325	ePKP	PKPab		00 53 41.1 +0.5
BORR	**Bors**	145.80 322	⇑P	PKPab		00 53 42.2 +1.1
LANS	**Liptovska Anna**	145.81 327	ePKP	PKPab		00 53 41.8 +0.8
RUE	**Ruedersdorf**	145.96 336	ePKPbc	PKPbc		00 53 40.6 -0.2
	baz=34,slow=2.6					
BSEG	**Bad Segeberg**	145.98 340	ePKPbc	PKPbc		00 53 40.6 -0.3
	baz=34,slow=2.6					
OKC	**Ostrava-Krasne**	146.01 329	ePKP	PKPab		00 53 41.6 -0.1
KSP	**Ksiaz**	146.16 331	ePKP	PKPbc		00 53 41.7 +0.1
MORC	**Moravsky Berou**	146.34 329	⇑P	PKPbc		00 53 42.3 +0.1
MORC	**Moravsky Berou**	146.34 329	ePKP	PKPbc		00 53 42.2 0.0
MORC	**Moravsky Berou**	146.34 329		PKPbc		00 53 42.3 +0.1
PSZ	**Piszkesteto**	146.36 325	⇑P	PKPdf		00 53 41.6 +0.5
PSZ	**Piszkesteto**	146.36 325		PKPbc		00 53 41.9 -0.4
PSZ	**Piszkesteto**	146.36 325	PKPDF	PKPbc		00 53 42.2 -0.2
PSZ	**Piszkesteto**	146.36 325	⇑PKPB			00 53 42.8
OSTC	**Ostas**	146.40 331	ePKP	PKPbc		00 53 42.0 -0.3
CHVC	**Chvalec**	146.45 331	ePKP	PKPbc		00 53 42.4 0.0
BAIL	**Bailesti**	146.46 316	⇓P	PKPab		00 53 43.8 +0.2
KRLC	**Kraliky**	146.48 330	ePKP	PKPbc		00 53 42.4 -0.2
DPC	**Dobruska-Polom**	146.50 331	ePKP	PKPbc		00 53 42.5 -0.1
UPC	**Upice**	146.52 331	ePKP	PKPbc		00 53 42.6 0.0
BSZH	**Besenyszg**	146.53 324	⇓P	PKPab		00 53 43.8 0.0
BSZH	**Besenyszg**	146.53 324	PKPDF	PKPbc		00 53 42.6 -0.1
VYHS	**Vyhne**	146.55 326	ePKP	PKPbc		00 53 43.1 +0.3
JAVC	**Velka Javorina**	146.89 328	ePKP	PKPab		00 53 45.2 -0.1
FLTG	**Flechtingen**	147.01 338	ePKPbc	PKPbc		00 53 43.4 -0.5
	baz=34,slow=2.6					
BUD	**Budapest**	147.09 325	PKPDF	PKPbc		00 53 43.8 -0.5
MDVR	**Moldovita**	147.09 319	⇓P	PKPbc		00 53 44.7 +0.2
VRAC	**Vranov**	147.11 329	⇑P	PKPbc		00 53 44.7 +0.3
VRAC	**Vranov**	147.11 329	ePKP	PKPbc		00 53 44.5 +0.1
PVCC	**Panska Ves**	147.13 333	ePKP	PKPbc		00 53 43.4 -1.0
BR

WERN *e*PKPab **PKPab 00 53 51.0 +0.5**
baz=40,slow=4.0
NKC Novy Kostel 148.24 334 *e*PKP **PKPbc 00 53 47.6 +0.2**
MOX Moxa 148.24 335 *e*PKPbc **PKPbc 00 53 46.9 -0.5**
baz=34,slow=2.6
SELS Selova 148.26 317 *e*P **PKPbc 00 53 47.2 -0.5**
STIP Stip 148.28 313 *i* P **PKPbc 00 53 47.0 -0.8**
CONA Conrad Observa 148.41 328 *i* P **PKPbc 00 53 48.1 +0.1**
comp=Z,14nm,0.7s,SNR=9.0
KOVH Kovagotottos 148.45 323 ⇑PKPB 00 53 47.8
KOVH PKPDF **PKPbc 00 53 48.0 -0.1**
DIVS Divibare 148.50 319 ⇑*i*P **PKPbc 00 53 48.4 0.0**
DIVS Divibare 148.50 319 PKPbc 00 53 48.4 0.0
DIVS Divibare 148.50 319 *e*P **PKPbc 00 53 48.2 -0.2**
CKRC Cesky Krumlov 148.51 331 *e*PKP **PKPdf 00 53 44.7 +0.2**
CKRC *ex* x 00 53 48.0
MANZ Manzenberg 148.57 334 *e*PKPbc **PKPbc 00 53 48.2 -0.1**
baz=34,slow=2.6
KHC Kasperske Hory 148.60 332 *e*PKP **PKPbc 00 53 48.2 -0.2**
KHC *ex* x 00 54 02.0
KHC Kasperske Hory 148.60 332 PKPbc 00 53 48.4 0.0
SKO Skopje 148.66 314 *i* P **PKPbc 00 53 48.9 +0.2**
IVAS Ivanjica 148.68 318 *e*P **PKPbc 00 53 48.2 -0.6**
ROTZ Rotzenmuhle 148.70 334 *e*PKPab **PKPab 00 53 52.9 +0.5**
baz=40,slow=4.0
GEC2 GERESS Array S 148.76 331 *e*PKPbc **PKPbc 00 53 48.8 -0.2**
baz=34,slow=2.6
GEC2 GERESS Array S 148.76 331 PKPbc 00 53 49.1 +0.2
GERES GERESS Array B 148.76 331 PKPbc **PKPbc 00 53 49.0 +0.1**
comp=Z,9.0nm,0.7s,baz=58,slow=3.3,SNR=64
GERES GERESS Array B 148.76 331 PKPbc 00 53 48.7 -0.2
WET Wettzell 148.90 332 *e*PKPbc **PKPbc 00 53 48.9 -0.2**
baz=34,slow=2.6
WET *e*PKPab **PKPab 00 53 53.4 +0.2**
baz=40,slow=4.0
SJES Sjenica 148.96 317 *e*P **PKPbc 00 53 49.3 -0.3**
BBLS Lazići 148.99 319 ⇑*i*P **PKPbc 00 53 49.6 0.0**
BBLS Lazići 148.99 319 *e*P **PKPbc 00 53 50.1 +0.5**
ARSA Arzberg 149.04 327 *i* P **PKPbc 00 53 49.3 -0.3**
comp=Z,1.5nm,0.5s
RUDO Rudo 149.14 319 ⇑*i*P **PKPbc 00 53 49.5 -0.4**
GRF Grafenberg Arr 149.15 335 *e*PKPbc **PKPbc 00 53 49.6 -0.2**
baz=34,slow=2.6
MOA Molln 149.23 329 *i* P **PKPbc 00 53 49.8 -0.3**
comp=Z,5.4nm,0.5s
OHR Ohrid 149.48 313 *i* P **PKPdf 00 53 47.4 +1.0**
SOKA Soboth 149.68 327 *i* P **PKPbc 00 53 50.6 -0.7**
comp=Z,11nm,0.7s,SNR=7.1
MRAK Mrakovica 149.78 323 ⇑*i*P **PKPbc 00 53 51.4 -0.1**
BLY Banja Luka 149.78 322 ⇑*i*P **PKPbc 00 53 51.6 +0.2**
PDG Podgorica 149.84 317 ⇑⇑P **PKPbc 00 53 50.9 -0.7**
PDG Podgorica 149.84 317 ⇑*i*P **PKPbc 00 53 51.3 -0.3**
PDG Podgorica 149.84 317 PKPbc 00 53 51.0 -0.7
DRME Dracevica, Mon 150.01 316 ⇑*i*P **PKPbc 00 53 51.9 -0.2**
CRES Cresnjev 150.03 325 ⇑*i*P **PKPbc 00 53 51.9 -0.1**
MGRS Mrkonjic Grad 150.03 322 *e*P **PKPbc 00 53 52.1 0.0**
OBKA Obir 150.04 327 *i* P **PKPbc 00 53 51.4 -0.8**
comp=Z,6.1nm,0.8s
BRY Bratogost 150.04 318 *e*P **PKPbc 00 53 51.7 -0.6**
KBA Koelnbreinsper 150.22 329 *i* P **PKPbc 00 53 51.7 -1.0**
comp=Z,10nm,0.8s,SNR=9.1
HCY Herceg Novi 150.31 317 *e*P **PKPbc 00 53 52.2 -0.6**
FUR Furstenfeldbru 150.33 333 *e*PKPbc **PKPbc 00 53 52.8 +0.1**
baz=34,slow=2.6
FUR *e*PKPab **PKPab 00 53 59.7 +0.6**
baz=40,slow=4.0
LJU Ljubljana 150.37 327 ⇑*i*P **PKPbc 00 53 52.5 -0.3**
LJU Ljubljana 150.37 327 *i* PKPbc **PKPbc 00 53 52.8 0.0**
MYKA Terra Mystica 150.40 328 *i* P **PKPbc 00 53 52.0 -0.9**
comp=Z,14nm,0.7s,SNR=7.2
CRNS Crni Vrh 150.48 327 *i* PKPbc **PKPbc 00 53 52.7 -0.5**
CEY Cerknica 150.63 326 ⇑*i*P **PKPbc 00 53 53.1 -0.4**
STU Stuttgart 150.68 336 *e*PKPbc **PKPbc 00 53 53.4 -0.1**
baz=34,slow=2.6
STU Stuttgart 150.68 336 PKPbc 00 53 53.0 -0.5
WATA Walderalm 150.84 331 *i* P **PKPbc 00 53 53.6 -0.5**
comp=Z,11nm,0.6s,SNR=8.1
ABTA Abfaltersbach 150.85 330 *e*P **PKPbc 00 53 53.1 -1.0**
comp=Z,17nm,0.7s,SNR=12
WTTA Wattenberg 150.87 331 *e*P **PKPbc 00 53 53.8 -0.4**
comp=Z,18nm,0.7s,SNR=8.5
SKDS Skadanscina 150.97 326 *i* PKPbc **PKPbc 00 53 53.8 -0.5**
WLF Walferdange 150.97 340 *e*PKPbc **PKPbc 00 53 54.3 +0.2**
baz=34,slow=2.6
MOTA Moosalm 151.04 332 *i* P **PKPbc 00 53 53.8 -0.8**
comp=Z,15nm,0.7s,SNR=12
RETA Reutte 151.08 332 *i* P **PKPbc 00 53 54.1 -0.4**
comp=Z,6.9nm,0.7s
SQTA Sankt Quirin 151.09 332 *i* P **PKPbc 00 53 54.2 -0.5**
comp=Z,17nm,0.6s,SNR=9.4
STAL STALIGIAL 151.11 329 PKPbc 00 53 53.8 -0.8
UBR Ueberruh 151.20 333 *e*PKPbc **PKPbc 00 53 54.3 -0.6**
baz=34,slow=2.6
UBR *e*PKPab **PKPab 00 54 02.7 0.0**
baz=40,slow=4.0
BFO Black Forest 151.37 336 PKPbc 00 53 55.2 +0.1
FETA Feichten 151.45 332 *i* P **PKPbc 00 53 55.2 -0.4**
comp=Z,11nm,0.7s,SNR=6.7
CTI Castel Tesino 151.77 329 PKPbc 00 53 55.7 -0.5
TEOL Teolo 152.27 328 PKPbc 00 53 56.7 -0.6
TUE Stuetta 152.47 333 PKPbc 00 53 57.9 -0.1
ZCCA Zocca 153.34 328 PKiKP 00 54 00.5 +0.6
ESDC Sonseca Array 162.92 348 PKPab **PKPab 00 54 52.0 -1.2**
comp=Z,0.5nm,0.7s,baz=18,slow=3.0,SNR=5.7
ESDC Sonseca Array 162.92 348 PKPab 00 54 52.3 -0.9
TORD Torodi Ar. Bea 166.22 227 PKP PKPdf 00 54 06.6 -0.9
comp=Z,1.5nm,0.9s,baz=140,slow=0.3,SNR=8.1
TORD PKPab **PKPab 00 55 08.1 -0.4**
comp=Z,2.1nm,1.0s,baz=134,slow=2.7,SNR=4.6

IDC 24 00:55:18.9±1.1, 3°.84N×124°.51E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/40, mbtmp3.6/6, MS3.6/3, Ms1 3.6/3, ms1mx2.8/62, Error ellipse: s-maj=61.9km s-min=19.5km az=75.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.38**	**18**	LR	LR	00 58 09.8	
	comp=Z,247nm,18.2s,baz=8.0,slow=50						
FITZ	**Fitzroy Crossi**	**21.82**	**177**	P	P	01 00 14.9	+1.9
	0.5nm,0.4s,baz=359,slow=13,SNR=1.6						
WRA	**Warramunga Arr**	**25.53**	**158**	P	P	01 00 49.2	-0.3
	0.9nm,0.4s,baz=335,slow=10,SNR=20						
ASAR	**Alice Springs**	**28.83**	**162**	P	P	01 01 18.6	-0.5
	0.2nm,0.4s,baz=29,slow=8.5,SNR=1.5						
MJAR	**Matsushiro Arr**	**34.91**	**19**	P	P	01 02 12.7	+0.3
	2.5nm,0.8s,baz=212,slow=11,SNR=2.5						
STKA	**Stephens Creek**	**39.06**	**157**	P	P	01 02 47.1	-0.6
	0.7nm,0.5s,baz=336,slow=18,SNR=2.0						
MKAR	**Makanchi Array**	**56.22**	**326**	P	P	01 05 00.8	-0.2
	0.4nm,0.3s,baz=123,slow=7.3,SNR=15						
ZALV	**Zalesovo Beam**	**59.50**	**334**	LR	LR	01 32 56.1	
	comp=Z,60nm,18.5s,baz=124,slow=38						
FINES	**FINESS Array B**	**90.69**	**332**	LR	LR	01 51 14.4	
	comp=Z,86nm,18.7s,baz=20,slow=37						

DJA 24 01:13:03.7±0.9, 0°S±2°×12°4E±°, h15km±7km, M4.1/12, mb4.4/1, MLv4.0/12, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.82**	**331**	P	Pg	01 13 20.2	+0.5
KMSI				S	Sb	01 13 31.0	+0.4
LUWI	**Luwuk**	**1.84**	**241**	P	Pn	01 13 35.8	+1.1
LUWI				S	Sb	01 13 59.3	-0.5
SANI	**Sanana**	**2.48**	**140**	P	Pn	01 13 41.9	-1.7
MRSI	**Marisa**	**2.52**	**284**	P	Pn	01 13 41.4	-2.7
APSI	**Ampana**	**2.83**	**255**	P	Pn	01 13 49.9	+1.5
LBMI	**Labuha**	**3.16**	**99**	P	Pn	01 13 52.9	0.0
LBMI				S	Sn	01 14 30.6	+0.2
MPSI	**Mapaga**	**4.51**	**276**	P	Pn	01 14 10.9	-0.6
TTSI	**Tana Toraja**	**5.39**	**238**	P	Pn	01 14 24.9	+1.3

IDC 24 01:13:26.1±1.6, 3°.05S×129°.83E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.4/32, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=45.9km s-min=21.6km az=99.0
DJA 24 01:13:30.6±0.6, 3°S±19°×13°0E±°, h10km, M3.0/5, MLv3.0/5
ISC 24 01:13:29.6±0.9, 3°.09S±0°.08×129°.84E±0°.06, h25km, n8, σ1§89/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.94**	**254**	P	Pn	01 13 48.7	+1.5
MSAI				S	Sb	01 13 59.4	+0.1
AAI	**Ambon**	**1.74**	**250**	P	Pn	01 13 59.3	+1.1
AAI				S	Sb	01 14 22.1	-0.2
FAKI	**Fak Fak**	**2.42**	**86**	P	Pn	01 14 10.4	+2.8
SIJI	**Sorong**	**2.63**	**33**	Pn	Pn	01 14 10.2	-0.4
	8.5nm,0.3s,baz=200,slow=18,SNR=13						
SIJI				Sn	Sn	01 14 40.9	-0.8
	7.4nm,0.3s,baz=182,slow=23,SNR=6.2						
FITZ	**Fitzroy Crossi**	**15.47**	**195**	Pn	Pn	01 17 06.1	-0.2
	0.0nm,0.3s,baz=7.7,slow=16,SNR=1.7						
WRA	**Warramunga Arr**	**17.32**	**166**	P	Pn	01 17 29.0	-0.8
	0.1nm,0.3s,baz=349,slow=13,SNR=10						
WRA				S	Sn	01 20 37.6	-4.3
	0.0nm,0.3s,baz=354,slow=18,SNR=1.3						
ASAR	**Alice Springs**	**20.83**	**169**	P	P	01 18 10.4	+0.9
	2.3nm,0.8s,baz=348,slow=10,SNR=26						
MKAR	**Makanchi Array**	**64.90**	**326**	P	P	01 24 07.1	+0.1
	0.2nm,0.5s,baz=123,slow=6.2,SNR=1.8						

UPA 24 01:20:23.1±0.6, 8°.86N×84°.11W, h5km±2km, MW4.5
UCR 24 01:20:26.1±1.9, 9°.00N×83°.93W, h5km, MW4.3
ISC 24 01:20:24.3±1.6, 8°.91N±0°.05×84°.03W±0°.05, h7km±10km, n25, σ0§84/39, 7C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.38**	**26**	*e*P	Pg	01 20 32.4	+0.7
PEZE	**Perez Zeledon,**	**0.59**	**37**	*e*P	Pg	01 20 35.9	+0.3
SRBA	**San Rafael, Bu**	**0.74**	**64**	*e*P	Pg	01 20 38.5	0.0
PTJ1	**Puerto Jimnez**	**0.81**	**117**	⇓*i*P	Pg	01 20 40.6	+0.6
PTJ1				*e*S	Sb	01 20 53.1	+1.2
LCR2	**La Lucha 2**	**0.82**	**2**	*e*P	Pg	01 20 39.8	-0.4
PIRO	**Carate, Puerto**	**0.85**	**126**	*e*P	Pg	01 20 40.4	-0.4
PIRO	**Carate, Puerto**	**0.85**	**126**	⇑*e*P	Pg	01 20 40.8	+0.1
PIRO				*e*S	Sb	01 20 54.2	+1.1
RIMA	**Rio Macho**	**0.87**	**11**	*e*P	Pg	01 20 40.4	-0.6
HDC	**Heredia**	**1.09**	**356**	*e*P	Pg	01 20 44.6	-0.6
HDC	**Heredia**	**1.09**	**356**	⇓*e*P	Pg	01 20 44.8	-0.4
HDC				*e*S	Sn	01 21 01.4	0.0
CDITO	**Canoas**	**1.20**	**106**	⇑*i*P	Pg	01 20 46.3	-1.0
CDITO				*e*S	Sn	01 21 04.1	+0.2
LESP3	**La Esperanza,**	**1.33**	**112**	*e*S	Sg	01 21 07.1	0.0
BRU2	**Volcan**	**1.33**	**95**	⇑*i*P	Pn	01 20 48.9	-0.6
BRU2				*e*S	Sn	01 21 08.3	+0.8
PTPM	**Petroterminale**	**1.34**	**122**	*e*P	Pn	01 20 48.2	-1.2
PTPM				*e*S	Sb	01 21 06.9	-0.3
BC3P	**Paso Ancho**	**1.41**	**94**	⇑*e*P	Pn	01 20 49.8	-0.8
BC3P				*e*S	Sn	01 21 10.6	+1.1
BCO2	**Palmira**	**1.50**	**97**	⇑*e*P	Pn	01 20 51.4	-0.3
BCO2				*e*S	Sg	01 21 12.6	0.0
LNBQ3	**Los Naranjos,**	**1.58**	**94**	⇑*i*P	Pn	01 20 52.0	-0.8
LNBQ3				*e*S	Sb	01 21 14.6	+0.5
CNI2	**El Empalme, Bo**	**1.62**	**72**	*e*P	Pn	01 20 52.0	-1.3
CNI2				*e*S	Sn	01 21 13.5	-1.0
DVD	**David**	**1.64**	**107**	⇓*i*P	Pn	01 20 53.1	-0.3
DVD				*e*S	Sn	01 21 15.5	+0.8
JTS	**Las Juntas de**	**1.64**	**327**	*e*P	Pn	01 20 52.0	-1.7
JTS				*e*S	Sn	01 21 13.7	-1.3
ARE1	**Arenal 1**	**1.68**	**336**	*e*P	Pn	01 20 54.8	+0.7
LOMA3	**Las Lomas, Chi**	**1.69**	**106**	*e*P	Pn	01 20 53.0	-1.2
LOMA3				*e*S	Sn	01 21 16.6	+0.4
COVE	**Coope Vega, Sa**	**1.83**	**349**	*e*P	Pn	01 20 56.7	+0.5
CHGR2	**Aguacate**	**1.87**	**89**	⇑*e*P	Pn	01 20 56.2	-0.5
CHGR2				*e*S	Sn	01 21 21.3	+0.8
LAPC	**Finca la Perla**	**2.30**	**323**	*i* P	Pn	01 21 04.5	+1.8

IDC 24 01:29:52.8±5.9, 20°.53S×178°.23W, h574km±61km, mb2.8/5, mb1 3.1/6, mb1mx2.9/37, mbtmp3.7/6, Error ellipse: s-maj=118.3km s-min=29.8km az=154.0
ISC 24 01:29:48.7±1.9, 20°.65±0°.7×178°.0W±0°.3, h534km, n9, σ1§48/10, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.56**	**261**	P	P	01 32 55.4	+1.3
	0.3nm,0.3s,baz=102,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**44.48**	**257**	P	P	01 37 12.8	-0.1
	0.8nm,0.6s,baz=96,slow=7.6,SNR=19						
ASAR				PcP	PcP	01 38 44.2	-0.6
	0.1nm,0.3s,baz=110,slow=5.0,SNR=1.5						
WRA	**Warramunga Arr**	**44.57**	**262**	P	P	01 37 13.0	-0.6
	0.3nm,0.4s,baz=97,slow=7.5,SNR=11						
TXAR	**Lajitas Array**	**87.12**	**57**	P	P	01 41 39.3	+0.9
	0.1nm,0.4s,baz=213,slow=6.0,SNR=3.5						
ILAR	**Eielson Array**	**88.42**	**13**	P	P	01 41 43.2	-0.2
	0.4nm,0.9s,baz=218,slow=6.3,SNR=2.9						
PDAR	**Pinedale Array**	**89.04**	**43**	P	P	01 41 48.2	+1.1
	0.2nm,0.5s,baz=222,slow=4.0,SNR=2.8						
AKASG	**Malin Array Be**	**143.09**	**331**	PKP	PKPdf	01 48 18.4	-3.3
	0.7nm,0.5s,baz=40,slow=4.2,SNR=6.7						
BRTR	**Keskin Array B**	**146.90**	**312**	PKPbc	PKPbc	01 48 31.3	-0.4
	0.6nm,0.8s,baz=6.2,slow=15,SNR=1.8						
GERES	**GERESS Array B**	**150.29**	**344**	PKPbc	PKPbc	01 48 39.7	0.0
	0.1nm,0.3s,baz=46,slow=2.8,SNR=2.3						

IDC 24 01:40:55.6±3.2, 4°.97S×133°.48E, h0km, mb3.3/1, mb1 3.6/5, mb1mx3.3/30, mbtmp3.4/5, ML3.2/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/28, Error ellipse: s-maj=125.6km s-min=26.1km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.64**	**331**	Pn	Pn	01 42 07.3	+0.3
	1.2nm,0.3s,baz=161,slow=17,SNR=20						
SIJI				Sn	Sn	01 42 57.6	-4.1
	1.6nm,0.3s,baz=212,slow=22,SNR=2.0						
WRA	**Warramunga Arr**	**14.90**	**177**	Pn	Pn	01 44 25.6	-2.2
	0.1nm,0.3s,baz=354,slow=13,SNR=1.4						
WRA				Sn	Sn	01 47 01.1	-13
	0.1nm,0.3s,baz=358,slow=24,SNR=1.4						
FITZ	**Fitzroy Crossi**	**15.13**	**210**	Pn	Pn	01 44 30.9	+0.1
	0.2nm,0.3s,baz=29,slow=13,SNR=2.3						
FITZ				Sn	Sn	01 47 12.2	-7.1
	0.1nm,0.3s,baz=12,slow=19,SNR=2.1						
ASAR	**Alice Springs**	**18.59**	**179**	P	Pn	01 45 15.4	+0.6
	0.2nm,0.3s,baz=5.0,slow=11,SNR=22						
ASAR				S	Sn	01 48 34.7	-8.6
	0.0nm,0.3s,baz=0.6,slow=27,SNR=1.2						
GUMO	**Guam**	**21.63**	**31**	LR	LR	01 53 50.0	
	comp=Z,26nm,21.7s,baz=81,slow=36						
MKAR	**Makanchi Array**	**68.50**	**325**	P	P	01 51 59.8	-0.1
	0.1nm,0.4s,baz=116,slow=7.7,SNR=2.0						

IDC 24 02:23:46.4±17.0, 24°.41S×179°.27E, h552km±124km, mb2.9/2, mb1 3.2/3, mb1mx2.9/29, mbtmp4.0/3, Error ellipse: s-maj=262.2km s-min=61.6km az=138.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.02**	**279**	P	P	02 26 26.4	+1.1
	0.2nm,0.3s,baz=89,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**41.30**	**261**	P	P	02 30 44.0	-0.4
	0.3nm,0.3s,baz=90,slow=7.1,SNR=12						
WRA	**Warramunga Arr**	**41.71**	**267**	P	P	02 30 47.4	-0.3
	1.6nm,0.5s,baz=103,slow=7.6,SNR=27						
AKASG	**Malin Array Be**	**145.03**	**326**	PKPbc	PKPdf	02 42 21.0	+0.1
	0.5nm,0.5s,baz=48,slow=3.5,SNR=5.0						
BRTR	**Keskin Array B**	**147.34**	**306**	PKPbc	PKPbc	02 42 28.3	-0.3
	0.3nm,0.6s,baz=129,slow=2.9,SNR=1.5						

ISK 24 02:29:01.1, 39°.51N×25°.96E, h5km, ML3.1/24
DDA 24 02:29:01.8±0.0, 39°.51N×26°.06E, h15km, ML2.9
THE 24 02:29:01.8, 39°.51N×25°.97E, h1km±2km, ML3.0/2, Error ellipse: s-maj=2.0km s-min=0.6km az=90.0
ATH 24 02:29:02.0, 39°.50N×25°.94E, h15km±3km, ML2.7/7, Error ellipse: s-maj=3.7km s-min=1.2km az=214.0
ISC 24 02:29:01.5±0.8, 39°.50N±0°.02×26°.01E±0°.02, h14km±5km, n63, σ0§48/91, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.10**	**90**	P	Pg	02 29 04.8	0.0
KOCA				*i* AML	AML	02 29 07.0	
	comp=N,2μm,0.2s						
KOCA				*i* AML	AML	02 29 07.0	
	comp=E,8μm,0.6s						
KOCA				S	S	02 29 07.0	+0.1
SIGR	**SIGRI**	**0.31**	**202**	P	Pg	02 29 08.0	0.0
SIGR				S	Sg	02 29 12.3	-0.1
	3μm,0.3s						
SIGR	**SIGRI**	**0.31**	**202**	P	Pg	02 29 07.9	0.0
SIGR				S	Sg	02 29 12.5	0.0
SIGR				AML	AML	02 29 12.6	
	comp=E,3427μm,0.4s						
SIGR				AML	AML	02 29 13.1	
	comp=N,10023μm,0.3s						
SIGR	**SIGRI**	**0.31**	**202**	PG	Pg	02 29 07.9	0.0
SIGR				SG	Sg	02 29 12.4	0.0
PRK	**Paraskevi**	**0.33**	**141**	P	Pb	02 29 09.6	+0.5
PRK				S	Sb	02 29 14.6	+0.4
	comp=N,4μm,0.3s						
PRK	**Paraskevi**	**0.33**	**141**	P	Pb	02 29 09.6	+0.5
PRK				S	Sb	02 29 14.6	+0.4
PRK				AML	AML	02 29 14.8	
	comp=N,8923μm,0.3s						
PRK				AML	AML	02 29 16.4	
	comp=E,9083μm,0.7s						
BOZC	**Bozcaada**	**0.34**	**6**	PG	Pg	02 29 08.6	0.0
BOZC				SG	Sg	02 29 13.8	+0.5
BOZC	**Bozcaada**	**0.34**	**6**	P	Pg	02 29 08.5	0.0
BOZC				P	Pg	02 29 08.6	0.0
BOZC				S	Sg	02 29 13.2	-0.1
BOZC				*i* AML	AML	02 29 14.0	
	comp=E,1μm,0.3s						
BOZC				*i* AML	AML	02 29 14.0	
	comp=E,1μm,0.3s						
EZN	**Ezine**	**0.41**	**37**	P	Pg	02 29 09.8	+0.1
EZN	**Ezine**	**0.41**	**37**	PG	Pg	02 29 09.8	+0.1
EZN				SG	Sg	02 29 15.6	+0.4
BAYC	**CANAKKALE_Bayr**	**0.48**	**60**	P	Pg	02 29 10.9	-0.1
BAYC				S	Sg	02 29 17.3	-0.3
BAYC				*i* AML	AML	02 29 18.0	
	comp=E,589nm,0.2s						
BAYC				*i* AML	AML	02 29 18.0	
	comp=E,558nm,0.4s						
ECEA	**Canakkale, Ece**	**0.56**	**13**	P	Pg	02 29 12.7	+0.3
ECEA				S	Sb	02 29 20.7	-0.1
ECEA				*i* AML	AML	02 29 21.0	
	comp=E,1μm,0.4s						
ECEA				*i* AML	AML	02 29 21.0	
	comp=E,950nm,0.7s						
AYVA	**Ayvalik**	**0.56**	**110**	P	Pg	02 29 12.8	+0.2
GOKA	**anakkale-Gk**	**0.69**	**354**	P	Pg	02 29 14.8	-0.2
GADA	**Gvkgeada**	**0.69**	**353**	P	Pg	02 29 14.6	-0.4
GADA				S	Sb	02 29 24.7	0.0
GADA	**Gvkgeada**	**0.69**	**353**	PG	Pg	02 29 14.7	-0.3
GADA				SG	Sb	02 29 24.6	-0.1
LIA	**Limnos Island**	**0.75**	**302**	P	Pb	02 29 16.1	-0.2
LIA				S	Sb	02 29 26.7	+0.4
LIA	**Limnos Island**	**0.75**	**302**	P	Pg	02 29 16.0	-0.1
LIA				S	Sg	02 29 25.3	-0.6
LIA				AML	AML	02 29 27.9	
	comp=E,922μm,0.5s						
LIA				AML	AML	02 29 28.9	
	comp=N,1055μm,0.6s						
DKL	**Dikili**	**0.82**	**121**	PG	Pn	02 29 18.3	-0.3
DKL				SG	Sn	02 29 30.5	0.0
BUHA	**Balikesir, Bur**	**0.83**	**90**	P	Pg	02 29 17.7	+0.1
BUHA				S	Sg	02 29 27.6	-0.9
BUHA				*i* AML	AML	02 29 33.0	
	comp=N,387nm,0.5s						
GELI	**Tayfur-Gelibol**	**0.96**	**22**	PG	Pb	02 29 19.9	-0.1
GELI				SG	Sg	02 29 33.3	+0.5
ZEDA	**zmir-Bergama**	**0.99**	**122**	P	Pg	02 29 20.8	+0.2
ZEDA				S	Sb	02 29 33.6	+0.3
ZEDA				*i* AML	AML	02 29 36.0	
	comp=N,207nm,0.2s						
PSRA	**Psara**	**1.02**	**200**	P	Pn	02 29 21.3	0.0
SMTH	**Samothraki Isl**	**1.03**	**339**	P	Pb	02 29 21.1	-0.1
SMTH				S	Sn	02 29 35.8	0.0
SMTH	**Samothraki Isl**	**1.03**	**339**	P	Pb	02 29 20.8	-0.3
SMTH				AML	AML	02 29 36.1	
	comp=N,399μm,0.5s						
SMTH				AML	AML	02 29 36.6	
	comp=E,537μm,0.5s						
LPK	**Lapseki**	**1.04**	**33**	PG	Pn	02 29 21.8	+0.1
CHOS	**Chios island**	**1.11**	**178**	P	Pb	02 29 22.4	-0.2
CHOS	**Chios island**	**1.11**	**178**	P	Pb	02 29 22.1	-0.5
CHOS				AML	AML	02 29 41.1	
	comp=E,1631μm,0.3s						
CHOS				AML	AML	02 29 43.8	
	comp=N,1379μm,0.5s						
CHOS	**Chios island**	**1.11**	**178**	PN	Pg	02 29 23.3	+0.3
CHOS				SN	Sn	02 29 38.9	+1.0
CAVK	**Edirne/Enez-Ca**	**1.19**	**6**	P	Pn	02 29 23.6	-0.2
ERIK	**Erikli-Kesan**	**1.23**	**18**	PN	Pn	02 29 24.2	0.0
URLA	**Izmir**	**1.23**	**158**	PN	Pg	02 29 25.1	-0.1
URLA	**Izmir**	**1.23**	**158**	P	Pn	02 29 23.9	-0.3
URLA				S	Sb	02 29 40.0	-0.2
URLA				*i* AML	AML	02 29 43.0	
	comp=N,255nm,0.4s						
URLA				*i* AML	AML	02 29 46.0	
	comp=N,225nm,0.3s						
ENEZ	**Enez**	**1.24**	**5**	PN	Pb	02 29 24.8	+0.2
BALY	**Balya**	**1.27**	**79**	P	Pg	02 29 26.3	+0.4
BALY				S	Sb	02 29 41.1	-0.3
BALY				*i* AML	AML	02 29 44.0	
	comp=N,204nm,0.6s						
BALY				*i* AML	AML	02 29 44.0	
	comp=N,181nm,0.6s						
ZEYE	**Izmir, Urla-Ze**	**1.32**	**163**	P	Pb	02 29 26.3	+0.3
ZEYE				S	Sb	02 29 41.2	-1.6
ZEYE				*i* AML	AML	02 29 49.0	
	comp=N,261nm,0.6s						
ZEYE				*i* AML	AML	02 29 49.0	
	comp=N,238nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.33**	**95**	P	Pg	02 29 27.7	+0.5
STEP				S	Sn	02 29 43.7	+0.5
STEP				*i* AML	AML	02 29 48.0	
	comp=N,177nm,0.3s						
KRBG	**Karabiga

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.70**	**196**	‖ *i* P	**Pb**	**02 41 24.5**	**-0.4**
PCDR	**Punta Cana, DR**	**0.70**	**196**	*e* S	**Sb**	**02 41 33.8**	**-0.3**
PCDR	**Punta Cana, DR**	**0.70**	**196**		**Pb**	**02 41 24.5**	**-0.4**
PCDR					**Sb**	**02 41 33.8**	**-0.3**
DR12	**Loma Pena Alta**	**1.21**	**251**		**Pb**	**02 41 34.5**	**+0.9**
AGPR	**Aguadilla, PR**	**1.24**	**126** ⇑ *e* P		**Pn**	**02 41 33.8**	**+0.3**
AGPR	**Aguadilla, PR**	**1.24**	**126** *e* S		**Sn**	**02 41 49.7**	**0.0**
AGPR	**Aguadilla, PR**	**1.24**	**126**		**Pn**	**02 41 33.8**	**+0.3**
AGPR					**Sn**	**02 41 49.7**	**0.0**
PRSN	**Puerto Rico Se**	**1.38**	**135** ⇑ *e* P		**Pn**	**02 41 35.5**	**+0.1**
PRSN	**Puerto Rico Se**	**1.38**	**135** *e* S		**Sn**	**02 41 53.6**	**+0.6**
PRSN	**Puerto Rico Se**	**1.38**	**135**		**Pn**	**02 41 35.5**	**+0.1**
PRSN					**Sn**	**02 41 53.6**	**+0.6**
LSP	**Las Mesas**	**1.45**	**134** ‖ *e* P		**Pn**	**02 41 36.1**	**-0.3**
LSP	**Las Mesas**	**1.45**	**134** *e* S		**Sn**	**02 41 54.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.56**	**139** ⇑ *e* P		**Pn**	**02 41 37.8**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.56**	**139** *e* S		**Sn**	**02 41 57.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.56**	**139**		**Pn**	**02 41 37.8**	**-0.1**
CRPR					**Sn**	**02 41 57.1**	**-0.3**
AOPR	**Arecibo Observ**	**1.59**	**122** ⇑ *e* P		**Pn**	**02 41 37.6**	**-0.8**
AOPR	**Arecibo Observ**	**1.59**	**122** *e* S		**Sn**	**02 41 58.1**	**-0.2**
AOPR	**Arecibo Observ**	**1.59**	**122**		**Pn**	**02 41 37.6**	**-0.8**
AOPR					**Sn**	**02 41 58.1**	**-0.2**
MLPR	**Magueyes Islan**	**1.62**	**138** ⇑ *e* P		**Pn**	**02 41 38.7**	**-0.1**
MLPR	**Magueyes Islan**	**1.62**	**138** *e* S		**Sn**	**02 41 59.0**	**0.0**
MLPR	**Magueyes Islan**	**1.62**	**138**		**Pn**	**02 41 38.7**	**-0.1**
MLPR					**Sn**	**02 41 59.0**	**0.0**
UUPR	**Utuado, UPR, P**	**1.67**	**124** ⇑ *e* P		**Pn**	**02 41 39.5**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.67**	**124** *e* S		**Sn**	**02 41 59.9**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.67**	**124**		**Pn**	**02 41 39.5**	**+0.1**
UUPR					**Sn**	**02 41 59.9**	**-0.3**
EMPR	**Esperanza - Ma**	**1.71**	**114** ⇑ *e* P		**Pn**	**02 41 40.5**	**+0.5**
EMPR	**Esperanza - Ma**	**1.71**	**114** *e* S		**Sn**	**02 42 01.3**	**0.0**
EMPR	**Esperanza - Ma**	**1.71**	**114**		**Pn**	**02 41 40.5**	**+0.5**
EMPR					**Sn**	**02 42 01.3**	**0.0**
GBPR	**Guanica, Bosqu**	**1.73**	**134** ⇑ *e* P		**Pn**	**02 41 41.7**	**+1.5**
GBPR	**Guanica, Bosqu**	**1.73**	**134** *e* S		**Sn**	**02 42 02.8**	**+1.1**
OBIP	**Obispado Ponce**	**1.88**	**127** ⇑ *e* P		**Pn**	**02 41 42.8**	**+0.6**
OBIP	**Obispado Ponce**	**1.88**	**127** *e* S		**Sn**	**02 42 05.9**	**+0.5**
OBIP	**Obispado Ponce**	**1.88**	**127**		**Pn**	**02 41 42.8**	**+0.6**
OBIP					**Sn**	**02 42 05.9**	**+0.5**
CELP	**Cerrillos**	**1.88**	**126** ⇑ *e* P		**Pn**	**02 41 42.2**	**0.0**
CELP	**Cerrillos**	**1.88**	**126** *e* S		**Sn**	**02 42 05.2**	**-0.3**
CELP	**Cerrillos**	**1.88**	**126**		**Pn**	**02 41 42.2**	**0.0**
CELP					**Sn**	**02 42 05.2**	**-0.3**
GCPR	**Guaynabo City**	**2.17**	**114** ⇑ *e* P		**Pn**	**02 41 46.9**	**+0.7**
GCPR	**Guaynabo City**	**2.17**	**114** *e* S		**Sn**	**02 42 12.7**	**+0.1**
GCPR	**Guaynabo City**	**2.17**	**114**		**Pn**	**02 41 46.9**	**+0.7**
GCPR					**Sn**	**02 42 12.7**	**+0.1**
SJG	**San Juan**	**2.20**	**119** Pn		**Pn**	**02 41 47.9**	**+1.1**
SJG			IAML			02 42 22.9	
	162nm,0.3s						
BANI	**BANI**	**2.22**	**249** Pn		**Pn**	**02 41 47.2**	**+0.2**
IGPR	**InterUniversit**	**2.31**	**122** ‖ *e* P		**Pn**	**02 41 48.5**	**+0.3**
IGPR	**InterUniversit**	**2.31**	**122** *e* S		**Sn**	**02 42 16.4**	**+0.3**
IGPR	**InterUniversit**	**2.31**	**122**		**Sn**	**02 42 16.4**	**+0.3**
CBYP	**Canovanas**	**2.38**	**112** ⇑ *e* P		**Pn**	**02 41 49.8**	**+0.5**
CBYP	**Canovanas**	**2.38**	**112** *e* S		**Sn**	**02 42 18.1**	**+0.2**
CBYP	**Canovanas**	**2.38**	**112**		**Pn**	**02 41 49.8**	**+0.5**
CBYP					**Sn**	**02 42 18.1**	**+0.2**
SC01	**Santiago de lo**	**2.42**	**276** Pn		**Pn**	**02 41 49.9**	**+0.1**
SC01			IAML			02 42 46.3	
	comp=N,190nm,0.5s						
HUMP	**Col San Antoni**	**2.44**	**115** ‖ *e* P		**Pn**	**02 41 49.9**	**-0.1**
HUMP	**Col San Antoni**	**2.44**	**115** *e* S		**Sn**	**02 42 19.4**	**+0.1**
HUMP	**Col San Antoni**	**2.44**	**115**		**Pn**	**02 41 49.9**	**-0.1**
HUMP					**Sn**	**02 42 19.4**	**+0.1**
MTP	**Monte Pirata**	**2.71**	**113** ⇑ *e* P		**Pn**	**02 41 55.2**	**+1.4**
MTP	**Monte Pirata**	**2.71**	**113** *e* S		**Sn**	**02 42 26.3**	**+0.3**
MTP	**Monte Pirata**	**2.71**	**113**		**Pn**	**02 41 55.2**	**+1.4**
MTP					**Sn**	**02 42 26.3**	**+0.3**
CUPR	**Culebra, Puert**	**2.88**	**107** ⇑ *e* P		**Pn**	**02 41 55.2**	**-0.8**
CUPR	**Culebra, Puert**	**2.88**	**107**		**Pn**	**02 41 55.2**	**-0.8**
SDDR	**Presa de Saban**	**2.95**	**266** Pn		**Pn**	**02 41 56.4**	**-0.7**
SDDR			IAML			02 42 51.9	
	comp=N,146nm,1.1s						
SDDR			IAML			02 42 52.1	
	comp=N,123nm,0.7s						
STVI	**Saint Thomas**	**3.16**	**105** *e* S		**Sn**	**02 42 35.5**	**-1.6**
STVI	**Saint Thomas**	**3.16**	**105**		**Sn**	**02 42 35.5**	**-1.6**

*IDC **24** 02:44:00.8±1.2,21°.36S×68°.52W,h104km±13km,mb3.4/2, mb1 3.4/5,mb1mx3.2/42,mbtmp3.7/5,Error ellipse: s-maj=41.8km s-min=16.9km az=109.0*
*GUC **24** 02:44:00.8±0.8,21°.34S×68°.83W,h104km±4km,ML3.6*
ISC 24 02:44:00.3±0.9,**21°.32S**±0°.04×**68°.85W**±0°.08,**h106**km±8km, **n23**,σ0°90/35,**4C-1D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.60**	**218**	‖ *i* P	**Pn**	**02 44 17.6**	**-0.1**
PB09				*i* S	**Sn**	**02 44 31.0**	**+0.3**
PB09				IAML		02 44 32.9	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**0.66**	**295**	*e* P	**Pn**	**02 44 17.7**	**-0.3**
PB01				*i* S	**Sn**	**02 44 31.2**	**-0.1**
PB01				IAML		02 44 32.4	
	comp=E,4μm,0.3s						
PB02	**IPOC Station P**	**0.97**	**270**	⇑ *i* P	**Pn**	**02 44 21.0**	**0.0**
PB02				*i* S	**Sn**	**02 44 37.1**	**+0.4**
PB07	**IPOC Station P**	**1.04**	**247**	⇑ *i* P	**Pn**	**02 44 21.8**	**-0.1**
PB07				*i* S	**Sn**	**02 44 38.3**	**+0.2**
PB07				IAML		02 44 39.7	
	comp=E,2μm,0.4s						
PB03	**IPOC Station P**	**1.11**	**229**	*i* P	**Pn**	**02 44 22.4**	**-0.1**
PB03				*i* S	**Sn**	**02 44 39.3**	**0.0**
PB03				IAML		02 44 40.7	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**1.21**	**346**	‖ *i* P	**Pn**	**02 44 24.4**	**+0.4**
PB08				*i* S	**Sn**	**02 44 42.3**	**+0.7**
PB08				IAML		02 44 44.0	
	comp=E,1μm,0.3s						
LVC	**Limon Verde**	**1.28**	**182**	P	**Pn**	**02 44 24.9**	**+0.2**
	comp=E,21nm,0.3s,baz=31,slow=7.4,SNR=139						
LVC				S	**Sn**	**02 44 43.4**	**+0.3**
	comp=E,62nm,0.3s,baz=90,slow=20,SNR=97						
LVC	**Limon Verde**	**1.28**	**182**	*e* P	**Pn**	**02 44 24.9**	**+0.2**
LVC				*e* S	**Sn**	**02 44 43.6**	**+0.5**
TA01	**Diego Aracena**	**1.45**	**301**	*e* P	**Pn**	**02 44 26.5**	**+0.2**
TA01				*i* S	**Sn**	**02 44 46.4**	**+0.3**
TA01				IAML		02 44 47.8	
	comp=E,787nm,0.2s						
PB06	**IPOC Station P**	**1.53**	**206**	⇑ *i* P	**Pn**	**02 44 27.4**	**0.0**
PB06				*i* S	**Sn**	**02 44 48.3**	**+0.2**
PB06				IAML		02 44 49.6	
	comp=E,837nm,0.5s						
PB04	**IPOC Station P**	**1.57**	**230**	*e* P	**Pn**	**02 44 27.2**	**-0.8**
PB04				*i* S	**Sn**	**02 44 48.2**	**-0.8**
PB04				IAML		02 44 56.2	
	comp=N,589nm,0.3s						
TA02	**Huaiquique**	**1.59**	**311**	*e* P	**Pn**	**02 44 27.9**	**-0.1**
TA02				*i* S	**Sn**	**02 44 49.0**	**-0.1**
TA02				IAML		02 44 51.1	
	comp=N,1μm,0.2s						
GO01	**Chusmiza**	**1.68**	**349**	*e* P	**Pn**	**02 44 30.3**	**+0.7**
GO01				*i* S	**Sn**	**02 44 52.7**	**+1.0**
GO01				IAML		02 44 55.9	
PB11	**IPOC Station P**	**1.73**	**334**	*e* P	**Pn**	**02 44 30.0**	**+0.1**
PB11				*i* S	**Sn**	**02 44 52.4**	**+0.1**
PB11				IAML		02 44 54.8	
	comp=E,946nm,0.2s						
PB15	**IPOC Station P**	**1.96**	**197**	*e* P	**Pn**	**02 44 33.2**	**+0.3**
LPAZ	**La Paz**	**5.05**	**8**	P	**Pn**	**02 45 16.4**	**+1.9**
	comp=E,0.5nm,0.3s,baz=216,slow=12,SNR=12						
SIV	**San Ignacio**	**9.08**	**56**	P	**Pn**	**02 46 04.7**	**-3.9**
	comp=E,0.6nm,0.3s,baz=246,slow=12,SNR=30						
PLCA	**Paso Flores**	**19.41**	**184**	P	**P**	**02 48 19.1**	**+1.0**
	comp=E,0.1nm,0.3s,baz=12,slow=20,SNR=1.7						
VNA1	**Neumayer--Stat**	**60.43**	**160**	P	P	02 54 10.9	+13
VNA2	**Neumayer--Watz**	**60.80**	**161**	P	P	02 54 16.2	+15
	baz=318,slow=13						
TORD	**Torodi Ar. Bea**	**77.24**	**70**	P	**P**	**02 55 42.7**	**-0.8**
	comp=E,0.5nm,0.7s,baz=242,slow=5.7,SNR=4.5						
YKA	**Yellowknife Ar**	**91.04**	**341**	P	**P**	**02 56 52.3**	**0.0**
	comp=E,0.3nm,0.8s,baz=135,slow=4.5,SNR=9.5						
MKAR	**Makanchi Array**	**145.46**	**36**	PKPbc	**PKPdf**	**03 03 26.5**	**+0.5**
	comp=E,0.4nm,0.7s,baz=309,slow=3.9,SNR=5.3						

*IDC **24** 02:49:09.5±1.4,80°.72S×152°.38E,h0km,mb3.4/2, mb1 3.8/4,mb1mx3.6/30,mbtmp3.6/4,ML3.0/2,Error ellipse: s-maj=44.3km s-min=26.6km az=102.0*
ISC 24 02:49:10.6±1.1,**80°.75S**±0°.09×**154°.0E**±0°.2,**h10**km,**n6**, σ1°33/9,**Antarctica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**3.57**	**29**	Pn	**Pn**	**02 50 07.1**	**+1.2**
	2.3nm,0.3s,baz=206,slow=10,SNR=49						
VNDA				Pg	**Pg**	**02 50 17.4**	**-1.5**
	5.3nm,0.3s,baz=204,slow=17,SNR=12						
VNDA				Sn	**Sn**	**02 50 48.9**	**+0.8**
	8.6nm,0.3s,baz=192,slow=20,SNR=5.2						
VNDA				Lg	Lg	02 51 01.6	
	31nm,0.3s,baz=128,slow=19,SNR=13						
QSPA	**South Pole Qui**	**9.24**	**180**	Pn	**Pn**	**02 51 25.4**	**+1.5**
	0.6nm,0.3s,baz=15,slow=20,SNR=44						
QSPA				Sn	**Sn**	**02 53 05.9**	**-1.9**
	0.3nm,0.3s,baz=73,slow=19,SNR=2.2						
QSPA				Lg	Lg	02 53 58.9	
	0.2nm,0.3s,baz=12,slow=20,SNR=1.9						
ASAR	**Alice Springs**	**57.77**	**338**	P	**P**	**02 59 01.4**	**-0.1**
	0.3nm,0.7s,baz=173,slow=6.2,SNR=4.0						
WRA	**Warramunga Arr**	**61.45**	**339**	P	**P**	**02 59 26.3**	**-0.5**
	0.3nm,0.5s,baz=181,slow=6.0,SNR=5.2						
ILAR	**Eielson Array**	**148.87**	**45**	PKPbc	**PKiKP**	**03 08 57.5**	**-0.2**
	0.4nm,0.8s,baz=213,slow=3.4,SNR=5.7						
YKA	**Yellowknife Ar**	**151.15**	**74**	PKPbc	**PKPbc**	**03 09 01.7**	**-0.1**
	0.2nm,0.7s,baz=208,slow=1.5,SNR=2.4						

*IDC **24** 03:02:31.7±1.6,34°.34S×178°.95W,h0km,mb4.2/5, mb1 4.3/6,mb1mx3.9/41,mbtmp4.2/6,ML3.9/1,Error ellipse: s-maj=36.9km s-min=30.0km az=71.0*
*NEIC **24** 03:02:33.0±0.8,34°.6S±0°.1×178°.8W±0°.2,h10km±1km, mb4.5/9,Error ellipse: s-maj=28.4km s-min=17.2km az=119.0*
ISC 24 03:02:36.5±1.5,**34°.5S**±0°.1×**178°.9W**±0°.2,**h35**km,**n19**, σ0°99/21,**mb4.3/9,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.82**	**215**	Pn	**Pn**	**03 03 30.9**	**-2.0**
URZ	**Urewera**	**4.96**	**219**	Pn	**Pn**	**03 03 48.0**	**-0.5**
	4.8nm,0.3s,baz=120,slow=18,SNR=28						
URZ				Sn	**Sn**	**03 04 46.0**	**+1.4**
	5.1nm,0.3s,baz=90,slow=20,SNR=6.7						
URZ	**Urewera**	**4.96**	**219**		**Pn**	**03 03 47.2**	**-1.3**
BKZ	**Black Stump Fm**	**5.96**	**217**		**Pn**	**03 04 00.9**	**-1.4**
CTA	**Charters Tower**	**33.92**	**286**	P	**P**	**03 09 17.2**	**+0.8**
	2.1nm,0.7s,baz=120,slow=8.1,SNR=2.2						
CTAO	**Charters Tower**	**33.92**	**286**	P	**P**	**03 09 17.6**	**+1.2**
CTAO				IAmb	IAmb	03 09 30.5	
	comp=Z,13nm,1.3s						
COEN	**Coen**	**39.83**	**291**	P	**P**	**03 10 06.8**	**+0.1**
COEN				IAmb	IAmb	03 10 29.3	
	comp=Z,9.0nm,1.3s						
AS31	**Alice Springs**	**42.28**	**272**	P	**P**	**03 10 26.3**	**-0.6**
ASAR	**Alice Springs**	**42.28**	**272**	P	**P**	**03 10 26.8**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=114,slow=6.7,SNR=29						
ASAR				PcP	**PcP**	**03 12 19.5**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=110,slow=3.9,SNR=1.9						
WB2	**Warramunga Arr**	**43.63**	**277**	P	**P**	**03 10 37.5**	**-0.3**
WB2				IAmb	IAmb	03 10 38.4	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**43.64**	**277**	P	**P**	**03 10 37.7**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=118,slow=7.5,SNR=32						
WRA	**Warramunga Arr**	**43.64**	**277**	P	**P**	**03 10 37.7**	**-0.2**
WB0	**Warramunga Arr**	**43.68**	**277**	P	**P**	**03 10 37.6**	**-0.6**
WB0				IAmb	IAmb	03 10 38.8	
	comp=Z,5.9nm,1.1s						
FORT	**Forrest**	**44.39**	**259**	P	**P**	**03 10 43.6**	**-0.1**
FORT				IAmb	IAmb	03 10 51.6	
	comp=Z,17nm,1.4s						
KNRA	**Kununurra**	**50.37**	**278**	P	**P**	**03 11 30.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.70**	**274**	P	**P**	**03 11 40.6**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=146,slow=6.7,SNR=4.9						
QSPA	**South Pole Qui**	**55.66**	**180**	P	**P**	**03 12 11.0**	**+2.0**
	comp=Z,3.6nm,1.0s,baz=33,slow=1.8,SNR=5.8						
QSPA	**South Pole Qui**	**55.66**	**180**	P	**P**	**03 12 09.1**	**+0.2**
FINES	**FINESS Array B**	**148.63**	**337**	PKPbc	**PKPbc**	**03 22 18.5**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=46,slow=4.0,SNR=9.8						

*IDC **24** 03:30:59.1±19.0,21°.68N×143°.11E,h291km±195km, mb3.0/8,mb1 3.3/8,mb1mx2.7/47,mbtmp3.6/8,Error ellipse: s-maj=37.8km s-min=28.3km az=67.0*
ISC 24 03:31:01.1±0.9,**21°.7N**±0°.2×**143°.1E**±0°.3,**h311**km,**n8**, σ0°72/8,**mb3.2**/8,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.21**	**192**	P	**P**	**03 38 24.4**	**0.0**
	0.9nm,0.6s,baz=14,slow=8.3,SNR=14						
ASAR	**Alice Springs**	**45.92**	**192**	P	**P**	**03 38 53.5**	**-0.2**
	0.4nm,0.9s,baz=7.3,slow=9.4,SNR=6.5						
KURBB	**Kurchatov Arra**	**57.48**	**317**	P	**P**	**03 40 18.5**	**+0.3**
	0.4nm,0.6s,baz=93,slow=7.3,SNR=6.0						
ILAR	**Eielson Array**	**62.13**	**27**	P	**P**	**03 40 48.5**	**-0.9**
	0.1nm,0.3s,baz=261,slow=4.7,SNR=2.1						
YKA	**Yellowknife Ar**	**76.55**	**28**	P	**P**	**03 42 17.1**	**0.0**
	0.3nm,0.6s,baz=292,slow=5.8,SNR=9.4						
ARCES	**ARCESS Array B**	**78.93**	**341**	P	**P**	**03 42 30.8**	**+0.6**
	1.2nm,0.6s,baz=63,slow=8.2,SNR=4.8						
FINES	**FINESS Array B**	**83.17**	**334**	P	**P**	**03 42 51.7**	**-0.8**
	0.6nm,0.4s,baz=56,slow=2.5,SNR=11						
NVAR	**Mina Array Bea**	**83.26**	**51**	P	**P**	**03 42 54.6**	**+0.8**
	0.1nm,0.3s,baz=271,slow=5.0,SNR=1.7						

*IDC **24** 03:45:07.9±3.0,26°.03N×125°.23E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.4/27,mbtmp3.4/5,MS3.3/1,Ms1 3.3/1, ms1mx2.4/54,Error ellipse: s-maj=207.3km s-min=22.5km az=65.0*
*JMA **24** 03:45:09.8±0.2,26°.06N×125°.38E,h22km*
ISC 24 03:45:08.4±3.1,**26°.04N**±0°.06×**125°.4E**±0°.1,**h7**km±23km, **n13**,σ0°59/17,**mb3.4/5,Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.12**	**188**	P	**Pb**	**03 45 30.4**	**+0.2**
JIKM				*e* S	**Sb**	**03 45 45.3**	**+0.3**
JIRB	**Irabujima**	**1.23**	**190**	P	**Pn**	**03 45 31.8**	**-0.2**
JIRB				*e* S	**Sn**	**03 45 48.5**	**-0.3**
JKE	**Kume jima 2**	**1.27**	**77**	P	**Pg**	**03 45 32.7**	**0.0**
JKE				*e* S	**Sg**	**03 45 48.9**	**-0.2**
JOGS	**Gusukube**	**1.28**	**180**	P	**Pb**	**03 45 32.8**	**0.0**
JOGS				*e* S	**Sb**	**03 45 49.1**	**-0.3**
JMJ2	**Miyako jima3**	**1.30**	**183**	P	**Pn**	**03 45 32.7**	**-0.2**
JMJ2				*e* S	**Sb**	**03 45 49.8**	**-0.2**
JTJ	**Tarama**	**1.54**	**205**	*e* S	**Sn**	**03 45 55.6**	**-0.8**
JISG	**Ishigakijimahi**	**1.76**	**215**	S	**Sn**	**03 46 02.2**	**+0.3**
SONM	**Songino Array**	**26.40**	**330**	P	**P**	**03 50 46.2**	**+0.7**
	0.5nm,0.8s,baz=152,slow=7.7,SNR=3.8						
LEM	**Lembang**	**36.96**	**210**	LR		04 07 34.5	
	comp=Z,40nm,19.0s,baz=211,slow=36						
MKAR	**Makanchi Array**	**39.79**	**313**	P	**P**	**03 52 42.1**	**0.0**
	0.3nm,0.5s,baz=98,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**40.89**	**324**	P	**P**	**03 52 49.6**	**-1.3**
	0.6nm,0.6s,baz=98,slow=8.9,SNR=2.2						
WRA	**Warramunga Arr**	**46.53**	**168**	P	**P**	**03 53 37.1**	**+0.5**
	0.6nm,0.9s,baz=348,slow=7.9,SNR=3.8						
ASAR	**Alice Springs**	**50.10**	**170**	P	**P**	**03 54 05.1**	**+0.9**
	0.4nm,0.8s,baz=354,slow=7.9,SNR=2.9						

IDC 24 05:24:45.6±26.0,**8°.29S**×**74°.17W**,**h226**km±233km, **mb3.0**/3,**mb1 3.3**/3,**mb1mx3.0**/28,**mbtmp3.5**/3,**Error ellipse: s-maj=162.4km s-min=44.3km az=25.0, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**46.97**	**324**	P	P	05 32 54.2	-0.1
	0.4nm,0.6s,baz=148,slow=8.3,SNR=5.4						
YKA	**Yellowknife Ar**	**77.12**	**342**	P	P	05 36 13.8	0.0
	0.2nm,0.5s,baz=140,slow=5.7,SNR=7.2						
TORD	**Torodi Ar. Bea**	**78.28**	**75**	P	P	05 36 21.2	0.0
	0.2nm,0.3s,baz=265,slow=5.4,SNR=4.3						
WRA	**Warramunga Arr**	**140.32**	**225**	PKP	PKPdf	05 43 48.6	0.0
	0.2nm,0.3s,baz=128,slow=2.3,SNR=5.4						

*TUL **24** 05:43:39.9±1.2,36°.83N±0°.01×97°.78W±0°.01,h6km±6km, ML2.5,mb_Lg2.3/6(NEIC),Error ellipse: s-maj=1.7km s-min=1.6km az=99.0*
NEIC 24 05:43:40.1±0.7,**36°.81N**±0°.01×**97°.76W**±0°.01,**h4**km±1km, **Error ellipse: s-maj=1.7km s-min=1.5km az=102.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.09**	**299**	Pg	Pg	05 43 41.9	-0.1
KAN14	**Manchester OK**	**0.22**	**313**	Pg	Pg	05 43 44.3	-0.1
KAN14				Sg	Sg	05 43 47.4	0.0
KAN17	**Caldwell West**	**0.24**	**359**	Pg	Pg	05 43 44.8	0.0
KAN17				Sg	Sg	05 43 48.4	+0.5
KAN13	**South Haven SW**	**0.30**	**47**	Pg	Pg	05 43 46.1	+0.2
KAN13				Sg	Sg	05 43 50.7	+0.7
KAN05	**Bluff City Nor**	**0.32**	**343**		Pg	05 43 46.1	-0.1
KAN05				Sg	Sg	05 43 50.5	+0.2
KAN01	**Argonia South**	**0.35**	**360**		Pg	05 43 46.8	0.0
CROK	**Carrier**	**0.35**	**211**		Pg	05 43 47.1	+0.2
CROK				Sg	Sg	05 43 52.4	+0.9
KAN10	**Anthony SW Sta**	**0.42**	**320**	Pg	Pg	05 43 48.0	-0.2
KAN10				Sg	Sg	05 43 53.5	-0.1
BLOK	**Blackwell**	**0.44**	**96**		Pg	05 43 48.8	+0.3
KAN06	**Argonia West S**	**0.45**	**350**		Pg	05 43 48.6	-0.1
KAN08	**Anthony NE Sta**	**0.45**	**338**	Pg	Pg	05 43 48.7	-0.1
KAN08				Sg	Sg	05 43 55.1	+0.4
KAN16	**Harper SW Stat**	**0.49**	**330**		Pg	05 43 49.3	-0.2
KAN12	**Harper NE Stat**	**0.53**	**339**	Pg	Pg	05 43 50.0	-0.2
KAN12				Sg	Sg	05 43 57.4	+0.3
T35A	**Sooner Cattle**	**1.00**	**83**		Pg	05 43 59.1	-0.3
T35A				Sg	Sg	05 44 12.6	+0.2
OK029	**Liberty Lake**	**1.04**	**166**	Pg	Pg	05 43 59.8	-0.1
QUOK	**Quay**	**1.06**	**127**		Pg	05 44 00.1	-0.2
QUOK				Sg	Sg	05 44 14.3	+0.2
U32A	**Winter Ranch,**	**1.09**	**247**	Pg	Pg	05 43 59.9	-1.1
U32A				Sg	Sg	05 44 15.2	+0.1
OK031	**S. Brethren Rd**	**1.13**	**139**	Pg	Pg	05 44 01.5	-0.2
OK031				IAmb_Lg		05 44 15.9	
	comp=Z,20nm,0.9s						
BCOK	**Bluff Creek, N**	**1.15**	**174**	Pg	Pg	05 44 01.9	-0.3
OK034	**N. Norfolk Rd.**	**1.16**	**133**	Pg	Pg	05 44 02.1	-0.2
OK034				Sg	Sg	05 44 17.5	+0.2
OK025	**Westminster Rd**	**1.27**	**164**		Pg	05 44 04.1	-0.3
OKCFA	**Oklahoma City**	**1.41**	**170**		Pn	05 44 06.4	-0.1
OKCSW	**OKLAHOMA CITY**	**1.42**	**169**	Pn	Pn	05 44 06.7	-0.1
FNO	**Franklin**	**1.57**	**169**		Pn	05 44 08.8	-0.1
R32A	**Long Quarter,**	**1.78**	**335**		Pn	05 44 12.2	+0.5
W35A	**Tecumseh**	**1.80**	**156**		Pn	05 44 12.4	+0.5
W35A				IAmb_Lg		05 44 39.7	
	comp=Z,16nm,1.1s						
TUL1	**Leonard**	**1.82**	**119**		Pn	05 44 12.9	+0.7
KSU1	**Kansas State U**	**2.46**	**21**	IAmb_Lg		05 45 03.7	
	comp=Z,15nm,0.8s						
X37A	**Clayton**	**2.94**	**138**	Pn	Pn	05 44 27.9	+0.3
HHAR	**Hobbs**	**3.12**	**99**		Pn	05 44 30.3	+0.2
S39A	**Bolivar**	**3.65**	**75**	Pn	Pn	05 44 36.9	-0.5
U40A	**Yellville**	**3.97**	**95**	Pn	Pn	05 44 41.1	-0.7
P38A	**Dawn**	**4.36**	**48**	Pn	Pn	05 44 46.2	-0.9
MGMO	**Mountain Grove**	**4.41**	**84**	Pn	Pn	05 44 47.2	-0.7
X40A	**Basin Creek Fa**	**4.63**	**119**	Pn	Pn	05 44 50.9	+0.1

*AUST **24** 05:45:37.0±2.0,29°.19S×116°

SEDI	Konya, Seydise	1.11	13	P	Pb	05 47 21.9	-0.7
SEDI				S	Sb	05 47 37.6	+0.8
SUTC	Sutluce-Ispart	1.16	342	PN	Pb	05 47 22.5	-1.0
SUTC				SN	Sb	05 47 37.2	-1.1
BUCA	Burdur, Bucak-	1.19	324	P	Pn	05 47 20.6	-2.0
BUCA				S	Sb	05 47 37.9	-1.2
BUCA				*i* AML	AML	05 47 42.0	
	comp=E,166nm,0.3s						
BUCA				*i* AML	AML	05 47 42.0	
	comp=N,112nm,0.3s						
BCK	Bucak	1.29	328	PN	Pn	05 47 23.9	0.0
BCK				SN	Sb	05 47 40.2	-1.6
ELL	Elmali	1.29	287	PN	Pn	05 47 24.8	+0.8
ELL	Elmali	1.29	287	P	Pb	05 47 25.6	-0.2
ELL				S	Sb	05 47 45.4	+3.3
TEKE	Tekeli-Mersin	1.37	99	PN	Pb	05 47 27.1	+0.2
TEKE				SN	Sb	05 47 45.3	+1.3
BERE	Bereket-Mersin	1.44	90	PN	Pb	05 47 28.5	+0.3
KKBE	Karaman, Kazim	1.47	54	P	Pn	05 47 27.4	+1.0
KKBE				S	Sb	05 47 45.8	-1.2
KKBE				*i* AML	AML	05 47 49.0	
	comp=N,122nm,0.4s						
KKBE				*i* AML	AML	05 47 49.0	
	comp=E,100nm,0.5s						
AKAS	Kas	1.49	265	PN	Pn	05 47 26.9	+0.1
AKAS	Kas	1.49	265	P	Pn	05 47 25.2	-1.6
AKMS	Akamas	1.53	151	P	Pn	05 47 26.4	-0.8
AKMS				S	Sn	05 47 45.0	-1.0
AKMS				AML	AML	05 47 45.9	
	1.4nm,0.2s						
AKMS				AML	AML	05 47 45.9	
	1.4nm,0.2s						
AKMS				AML	AML	05 47 53.9	
	1.6nm,0.4s						
AKMS				AML	AML	05 47 53.9	
	1.6nm,0.4s						
ALFC	Alefka	1.53	142	P	Pn	05 47 26.0	-1.2
ALFC				S	Sn	05 47 44.2	-1.9
ALFC				AML	AML	05 47 44.5	
	1.5nm,0.1s						
ALFC				AML	AML	05 47 44.5	
	1.5nm,0.1s						
ALFC				AML	AML	05 47 45.5	
	1.5nm,0.1s						
ALFC				AML	AML	05 47 45.5	
	1.5nm,0.1s						
ISP	Isparta	1.63	333	PN	Pn	05 47 28.4	-0.2
OREN	Orenkoy-Mersin	1.64	95	PN	Pn	05 47 30.5	+1.9
BAGO	Egridir - ISPA	1.70	342	P	Pb	05 47 29.6	0.0
GULN	MERSIN_Gulnar	1.71	96	P	Pn	05 47 31.4	+1.9
GULN				S	Sn	05 47 50.6	+0.2
GULN				*i* AML	AML	05 47 56.0	
	comp=N,93nm,0.6s						
GULN				*i* AML	AML	05 47 58.0	
	comp=E,97nm,0.5s						
AKK1	Akkuyu-Mersin	1.71	97	PN	Pb	05 47 32.1	-0.6
AKKU	Akkuyu-Mersin	1.71	96	PN	Pn	05 47 32.0	+2.3
AKK2	Akkuyu-Mersin	1.72	97	PN	Pn	05 47 31.8	+2.1
BRDR	BURDUR-Merkez	1.73	321	P	Pn	05 47 29.2	-0.7
KONT	Konya--Tatoy	1.73	25	PN	Pb	05 47 31.1	-2.1
KONT	Konya--Tatoy	1.73	25	P	Pn	05 47 30.2	+0.2
DOGA	KONYA_Doganhis	1.74	6	P	Pn	05 47 30.4	+0.1
GOLH	Golhisar	1.74	300	P	Pn	05 47 31.2	+1.0
GOLH				S	Sn	05 47 52.8	+1.4
GOLH				*i* AML	AML	05 48 02.0	
	comp=E,147nm,0.4s						
GOLH				*i* AML	AML	05 48 02.0	
	comp=N,65nm,0.4s						
CAME	Cameli-Denizli	1.81	289	PN	Pn	05 47 31.7	+0.5
TISA	Tisan-Mersin	1.82	96	PN	Pn	05 47 33.2	+2.1
KARG	Kargicak-Mersi	1.84	95	PN	Pb	05 47 34.1	-0.8
CAEL	Denizli, Camel	1.86	294	P	Pb	05 47 36.0	+0.5
YVAC	Isparta, Yalva	1.91	355	P	Pn	05 47 32.4	0.0
YVAC				S	Sn	05 47 54.4	-1.0
YVAC				*i* AML	AML	05 47 56.0	
	comp=E,62nm,0.5s						
BASM	Basmaki-Afyon	1.91	325	PN	Pn	05 47 33.4	+1.0
LADK	Ladik-KONYA	1.97	22	PN	Pn	05 47 33.6	+0.3
SILI	Silifke-Mersin	2.00	89	PN	Pb	05 47 36.4	-1.3
CSS	Mathiatis	2.08	132	P	Pn	05 47 33.5	-1.3
CSS				S	Sn	05 47 58.1	-1.5
KZIL	AFYON_Kizioren	2.15	332	P	Pn	05 47 34.6	-1.2
ASGA	Asgata	2.16	137	P	Pn	05 47 35.4	-0.4
ASGA				AML	AML	05 48 11.1	
	0.7nm,0.6s						
ASGA				AML	AML	05 48 15.3	
	0.5nm,0.4s						
KIZK	Mersin	2.18	86	P	Pn	05 47 38.5	+2.4
KDHN	Kadinhani	2.21	14	P	Pn	05 47 37.2	+0.6
KDHN				S	Sn	05 48 01.0	-2.0
KDHN				*i* AML	AML	05 48 03.0	
	comp=N,25nm,0.5s						
MVOU	Mavrovouni	2.23	127	P	Pn	05 47 35.4	-1.5
MVOU				S	Sn	05 48 01.4	-2.0
MVOU				AML	AML	05 48 03.4	
	0.4nm,0.3s						
MVOU				AML	AML	05 48 03.4	
	0.4nm,0.3s						
MVOU				AML	AML	05 48 06.2	
	0.5nm,0.6s						
MVOU				AML	AML	05 48 06.2	
	0.5nm,0.6s						
ALIN	Konya, Altinte	2.24	30	P	Pn	05 47 37.9	+0.9
ALIN				S	Sn	05 48 02.2	-1.5
DALY	Dalyan (Mula)	2.29	282	PN	Pn	05 47 38.2	+0.6
SHUT	Suhut-Afyon	2.29	342	PN	Pn	05 47 38.6	+0.8
YESY	Yesilyurt	2.32	52	PN	Pn	05 47 39.6	+1.5
KERG	Konya-Eregli	2.39	63	P	Pn	05 47 39.5	+0.4
KERG				S	Sn	05 48 08.9	+1.5
KERG				*i* AML	AML	05 48 17.0	
	comp=E,34nm,0.6s						
TURN	Turunc	2.61	280	PN	Pn	05 47 43.7	+1.8
YER	Yerkesik	2.65	288	PN	Pn	05 47 43.9	+1.3
OSC1	CSNet OBS 1	2.87	183	P	Pn	05 47 45.0	-0.5
OSC1				S	Sn	05 48 18.4	-0.5
CIFT	Cifteler, Eski	3.00	354	PN	Pn	05 47 48.2	+0.7
AUSIV	SIVRIHISAR	3.07	1	PN	Pn	05 47 48.6	+0.2
SVRH	Sivrihisar-ESK	3.07	1	PN	Pn	05 47 48.4	-0.1
KULA	Kula-Manisa	3.08	315	PN	Pn	05 47 48.7	+0.1
MLSB	Milas	3.08	289	PN	Pn	05 47 49.9	+1.3
DAT	Datca	3.13	278	PN	Pn	05 47 50.9	+1.6
SIMA	Simav-Kutahya	3.34	325	PN	Pn	05 47 52.7	+0.6
OSC2	CSNet OBS 4	3.36	168	S	Sn	05 48 29.0	-2.1
BODT	Bodrum	3.39	283	PN	Pn	05 47 53.9	+1.1

*IDC **24** 05:50:09.4±1.1, 3°77S×127°10E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.5/42, mbtmp4.0/5, ML4.0/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/71, Error ellipse: s-maj=45.5km s-min=26.4km az=65.0*

*DJA **24** 05:50:12.1±0.6, 4°S±6°×12°7E±°, h10km, M3.8/8, mb4.2/3, mB4.8/1, MLv3.5/8, Mw(mB)4.1/1*

ISC 24 05:50:13.5±1.0, 4°0S±0°1×127°35E±0°06, h34km, n14, σ1°11/15, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.90	69	P	Pn	05 50 29.1	-0.7
AAI				S	Sn	05 50 41.4	-0.2
MSAI	Masohi	1.71	67	P	Pn	05 50 41.9	+1.0
SANI	Sanana	2.38	325	P	Pn	05 50 49.4	-0.7
SIJI	Sorong	5.01	51	Pn	Pn	05 51 26.9	+0.6
	5.4nm,0.3s,baz=221,slow=19,SNR=9.9						
SIJI				Sn	Sn	05 52 23.3	+0.3
	4.6nm,0.3s,baz=118,slow=24,SNR=8.2						
FAKI	Fak Fak	5.01	78	P	Pn	05 51 27.7	+1.4
	0.1nm22nm,1.1s						
GTOI	Gorontalo	6.34	317	P	Pn	05 51 47.2	+2.6
APSI	Ampana	6.48	298	P	Pn	05 51 46.4	-0.1
	0.1nm762nm42nm,0.7s						
KAPI	Kappang	7.64	262	LR	LR	05 55 14.1	
	comp=Z,17nm,22.0s,baz=115,slow=41						
WRA	Warramunga Arr	17.24	157	P	Pn	05 54 11.3	-0.5
	0.1nm,0.3s,baz=339,slow=12,SNR=7.7						
ASAR	Alice Springs	20.54	163	P	Pn	05 54 53.4	+1.8
	17nm,0.9s,baz=344,slow=10,SNR=60						
ASAR				PcP	PcP	05 59 00.8	+0.8
	0.3nm,0.7s,baz=359,slow=2.0,SNR=2.2						
MKAR	Makanchi Array	64.30	327	P	P	06 00 45.0	-0.6
	0.9nm,0.8s,baz=126,slow=7.3,SNR=7.7						
MKAR				PcP	PcP	06 01 19.9	-0.2
	0.5nm,0.7s,baz=133,slow=3.9,SNR=4.3						
ZALV	Zalesovo Beam	67.76	334	P	P	06 01 06.7	-1.0
	0.2nm,0.3s,baz=129,slow=5.5,SNR=3.7						
KURBB	Kurchatov Arra	68.61	329	P	P	06 01 11.9	-1.1
	1.1nm,0.9s,baz=128,slow=5.7,SNR=9.2						
SNAA	Sanae	97.92	194	LR	LR	06 46 50.4	
	comp=Z,52nm,19.0s,baz=332,slow=35						

*DSN **24** 06:05:25.5±1.6, 28°70N×55°31E, h10km, ML3.5/8, Error ellipse: s-maj=35.7km s-min=12.5km az=65.0*

*IDC **24** 06:05:27.8±1.8, 28°24N×55°29E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/48, mbtmp3.8/10, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/85, Error ellipse: s-maj=50.1km s-min=21.0km az=71.0*

*TEH **24** 06:05:31.1, 28°27N×55°37E, h15km, ML3.8*

*OMAN **24** 06:05:33.5±0.8, 28°15N×55°28E, h11km, mb5.8/1, ml3.6/5, Error ellipse: s-maj=14.3km s-min=4.8km az=9.0*

ISC 24 06:05:31.6±0.6, 28°30N±0°03×55°40E±0°03, h22km, n94, σ2°00/101, mb3.7/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	1.10	235	*e*Pg	Pb	06 05 51.6	-0.4
LAR1				*e*		06 06 18.4	
	comp=Z,28μm,0.4s						
GENO	Geno	1.13	142	*e*Pg	Pb	06 05 52.4	-0.2
GENO				*e*		06 06 15.6	
	comp=Z,19μm,0.3s						
JHRM	Jahrom	1.61	278	*e*Pg	Pb	06 06 00.7	-0.1
NGRK	Negar Kerman	1.78	41	*e*Pn	Pn	06 06 02.0	+0.7
NGRK				*e*		06 06 33.0	
	comp=Z,7μm,0.3s						
KRBR	Kerman	2.06	35	*e*Pn	Pb	06 06 07.1	-1.3
TVBK	TV Kerman	2.06	35	*e*		06 06 42.1	
	comp=Z,11μm,0.4s						
TVBK				*e*Pn	Pb	06 06 07.3	-1.2
KHNJ	Kahnooj	2.07	99	*e*Pn	Pn	06 06 06.2	+1.1
QIR1	Qir	2.08	275	*e*		06 06 48.4	
	comp=Z,12μm,0.4s						
QIR1				*e*Pn	Pb	06 06 08.0	-0.6
GHIR	Ghir-Karzin	2.12	270	*e*Pn	Pb	06 06 07.5	-2.0
LMD1	Lamerd	2.20	245	*e*Pn	Pb	06 06 08.5	-2.1
LMD1				*e*		06 07 03.8	
	comp=Z,6μm,0.5s						
KHGB	Koh Gabri	2.27	24	*e*Pn	Pb	06 06 11.1	-0.9
KHGB				*e*		06 06 52.4	
	comp=Z,3μm,0.6s						
SHME	Shamm	2.34	163	*e*Pn	Pn	06 06 10.7	+1.9
SHME	Shamm	2.34	163	P	Pn	06 06 10.6	+1.9
SHME	Shamm	2.34	163	P	Pn	06 06 10.7	+1.9
SHME				S	Sb	06 06 44.0	+2.4
CHMN	Cheshme madani	2.44	50	*e*Pn	Pb	06 06 13.2	-1.7
CHMN				*e*		06 06 21.1	
	comp=Z,3μm,0.3s						
BANOM	Banah	2.50	161	*e*Pn	Pn	06 06 12.5	+1.4
BANOM	Banah	2.50	161	P	Pn	06 06 12.5	+1.4
	SNR=9.0						
BANOM				S	Sn	06 06 43.0	+2.1
BANOM	Banah	2.50	161	P	Pn	06 06 10.8	-0.2
KBAM	BAM	2.81	72	*e*Pn	Pb	06 06 18.6	-2.5
KBAM				*e*		06 06 28.0	
	comp=Z,2μm,0.4s						
ZRDN	Zarand Kerman	2.83	20	*e*Pn	Pn	06 06 18.3	+2.5
SHI	Shiraz	2.85	299	*e*Pn	Pb	06 06 18.8	-3.2
MASF	Masafi	3.00	167	P	Pn	06 06 20.0	+2.1
	SNR=9.0						
MASF				S	Sb	06 06 56.8	-3.8
MSFE	Esma-Masafi	3.01	167	*e*Pn	Pn	06 06 19.3	+1.3
MSFE	Esma-Masafi	3.01	167	*i* P	Pn	06 06 19.1	+1.1
	SNR=10						
IMEH	Mehriz	3.15	348	*e*Pn	Pn	06 06 22.7	+2.6
NAZ	Nazwa, Dubai	3.31	176	*e*Pn	Pn	06 06 24.0	+1.9
UOSS	Minazif	3.42	168	*e*Pn	Pn	06 06 24.4	+0.8
UOSS	Minazif	3.42	168	P	Pn	06 06 25.5	+1.8
UOSS				S	Sn	06 07 07.6	+4.1
UOSS	Minazif	3.42	168	*i* P	Pn	06 06 24.4	+0.8
	SNR=10						
HATD	Hatta, Dubai	3.53	169	*e*Pn	Pn	06 06 27.4	+2.3
HATD	Hatta, Dubai	3.53	169	P	Pn	06 06 27.5	+2.5
HATD				S	Sn	06 07 08.4	+2.3
HATD	Hatta, Dubai	3.53	169	P	Pn	06 06 26.6	+1.5
FAQ	Al Faqa, Dubai	3.55	177	*e*Pn	Pn	06 06 26.9	+1.5
FAQ	Al Faqa, Dubai	3.55	177	P	Pn	06 06 26.5	+1.1
ASHO	Ashiyiah	3.65	170	*e*Pn	Pn	06 06 28.2	+1.3
ASHO	Ashiyiah	3.65	170	*i* P	Pn	06 06 28.2	+1.3
	SNR=9.5						
ASUD	Al Ashush, Dub	3.66	181	*e*Pn	Pn	06 06 29.0	+2.1
ASUD	Al Ashush, Dub	3.66	181	*i* P	Pn	06 06 28.3	+1.4
	SNR=7.4						
AJN	Ajban	3.74	186	*e*Pn	Pn	06 06 29.8	+1.8
ISAD	Sadrabad	3.89	338	*e*Pn	Pn	06 06 33.7	+3.4
ICHK	Chekchek	4.02	348	*e*Pn	Pn	06 06 34.9	+2.8
YZKH	Yazd	4.13	351	*e*Pn	Pn	06 06 35.8	+2.3
ALNE	Al Ain	4.24	176	*e*Pn	Pn	06 06 35.8	+0.9
KLNJ	Kolanjah	4.27	310	*e*Pn	Pn	06 06 36.8	+1.2
IRAM	Ramesheh	4.36	324	*e*Pn	Pn	06 06 38.8	+2.0
SHMA	Al-Shehemyia	4.64	239	P	Pn	06 06 41.5	+1.1
SHMA				S	Sn	06 07 34.2	+0.6
MZWR	Madinat Zayed	4.72	197	*e*Pn	Pn	06 06 42.2	+0.7
TPRV	Parvadeh(Tabas	4.84	13	*e*Pn	Pn	06 06 46.0	+2.8
ZHDN	Zahedan	4.87	76	*e*Pn	Pn	06 06 46.2	+2.5
BSRN	Basiran	4.87	41	*e*Pn	Pn	06 06 45.7	+2.0
ZHSF	Zahedan	4.89	73	*e*Pn	Pn	06 06 48.1	+4.1
NASN	Na'in	5.00	334	*e*Pn	Pn	06 06 47.1	+1.4
IGAR	Gharneh	5.01	325	*e*Pn	Pn	06 06 47.3	+1.6
ARQ	Araqi	5.05	168	P	Pn	06 06 49.0	+3.0
	SNR=6.2						
IBRJ	Brojen	5.07	316	*e*Pn	Pn	06 06 49.0	+2.4
ANAR	Anarak	5.08	344	*e*Pn	Pn	06 06 48.5	+2.0
NHDN	Nehbandan	5.08	52	*e*Pn	Pn	06 06 49.5	+2.9
CHBR	Chabahar	5.28	120	*e*Pn	Pn	06 06 51.3	+2.1
IZEF	Zefreh	5.29	331	*e*Pn	Pn	06 06 52.0	+2.5
TKDS	Koohdasht(Taba	5.50	15	*e*Pn	Pn	06 06 53.3	+1.0
TABS	Tabas	5.53	15	*e*Pn	Pn	06 06 54.7	+2.0
UMZA	Um Al Zommool	5.57	182	*e*Pn	Pn	06 06 53.7	+0.5
UMZA	Um Al Zommool	5.57	182	P	Pn	06 06 53.8	+0.7
UMZA				S	Sn	06 07 57.0	+0.5
WSAR	Wadi Sarin	5.83	149	Pn	Pn	06 06 56.6	-0.1
	comp=Z,3.3nm,0.3s,baz=352,slow=12,SNR=12						
WSAR				Sn	Sn	06 07 59.0	-3.9
	baz=33,slow=4.3,SNR=1.1						
NGCH	Negor - Chabah	5.91	118	*e*Pn	Pn	06 07 00.1	+2.3
AFRZ	Afriz	5.98	30	*e*Pn	Pn	06 07 02.0	+3.1
IKLH	Kolahrood	5.98	328	*e*Pn	Pn	06 07 00.2	+1.2
IMON	Monand	6.10	36	*e*Pn	Pn	06 07 03.3	+2.6
SRVN	Saravan	6.26	97	*e*Pn	Pn	06 07 05.7	+2.9
KRSH	Karshahi	6.30	334	*e*Pn	Pn	06 07 05.2	+1.9
ISFB	Sefidab	6.61	337	*e*Pn	Pn	06 07 09.1	+1.7
SHRT	Shahrakht	6.78	37	*e*Pn	Pn	06 07 12.9	+3.0
KHMZ	Khomeyn	7.15	321	*e*Pn	Pn	06 07 17.2	+2.2
IANJ	Anjilo	7.25	350	*e*Pn	Pn	06 07 18.8	+2.3
SHRO	Shahrood	7.68	4	*e*Pn	Pn	06 07 24.8	+2.5
ASAO	Ashtian	7.73	325	*e*Pn	Pn	06 07 25.3	+2.2
DAMV	Damavand	7.86	339	*e*Pn	Pn	06 07 27.5	+2.6
GNI	Garni	14.72	326	LR	LR	06 14 49.5	
	comp=Z,40nm,19.4s,baz=68,slow=38						
KBZ	Khabaz	18.38	330	P	Pn	06 09 45.2	+0.3
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=2.1						
BRTR	Keskin Array B	21.27	308	P	P	06 10 17.6	+0.9
	comp=Z,1.9nm,0.6s,baz=133,slow=13,SNR=8.6						
AKASG	Malin Array Be	29.86	326	P	P	06 11 35.6	-1.6
	comp=Z,0.3nm,0.4s,baz=135,slow=8.3,SNR=3.4						
CRVS	Cervenica-Dubn	33.16	318	*e*P	P	06 12 09.0	+2.7
MODS	Modra-Piesok	35.50	315	*e*P	P	06 12 29.1	+2.5
GERES	GERESS Array B	37.90	314	P	P	06 12 46.0	-1.2
	comp=Z,0.2nm,0.3s,baz=107,slow=6.6,SNR=2.5						
KHC	Kasperske Hory	38.06	315	*e*P	P	06 12 46.5	-2.0
SQTA	Sankt Quirin	39.09	311	*i* P	P	06 12 56.7	-0.6
	comp=Z,0.5nm,0.2s						
MOTA	Moosalm	39.19	311	*e*P	P	06 12 58.4	+0.4
	comp=Z,0.4nm,0.3s						
FETA	Feichten	39.37	311	*e*P	P	06 12 59.0	-0.6
	comp=Z,0.8nm,0.5s						
DAVA	Damuels	39.99	311	*e*P	P	06 13 04.3	-0.5
	comp=Z,2.0nm,0.5s						
NOA	NORSAR Array B	43.96	331	P	P	06 13 35.7	-1.2
	comp=Z,0.8nm,0.7s,baz=130,slow=7.7,SNR=4.1						
ESDC	Sonseca Array	49.70	299	P	P	06 14 22.8	+0.7
	comp=Z,0.5nm,0.9s,baz=72,slow=7.4,SNR=2.5						
TORD	Torodi Ar. Bea	52.04	265	P	P	06 14 38.1	-1.8
	comp=Z,1.2nm,0.4s,baz=62,slow=8.0,SNR=17						
DBIC	Dimbokro	60.72	261	P	P	06 15 40.6	-1.2
	comp=Z,2.5nm,0.8s,baz=66,slow=4.3,SNR=6.2						
BOSA	Boshof	63.53	210	P	P	06 15 59.5	-0.9
	comp=Z,1.2nm,0.4s,baz=17,slow=6.1,SNR=10						

*BJI **24** 06:05:54.8±0.0, 36°56N×70°57E, h200km, mb4.4/25, mB4.7/14*

*MOS **24** 06:05:55.8±1.1, 36°50N×70°75E, h204km, mb4.2/12, Error ellipse: s-maj=9.1km s-min=4.0km az=75.9*

*IDC **24** 06:05:55.8±0.9, 36°36N×70°66E, h193km±8km, mb3.6/19, mb1 3.7/23, mb1mx3.5/53, mbtmp4.2/23, Error ellipse: s-maj=11.3km s-min=10.7km az=16.0*

*NEIC **24** 06:05:57.0±2.2, 36°45N±0°06×70°60E±0°08, h205km±6km, mb4.4/21, Error ellipse: s-maj=9.4km s-min=8.8km az=95.0*

*NNC **24** 06:05:57.3±1.7, 36°74N×70°41E, h179km±16km, mb4.2, mpv5.5, Error ellipse: s-maj=16.1km s-min=9.2km az=162.0*

*DSN **24** 06:05:57.4±0.4, 36°51N×70°82E, h210km, mb5.2/7, Error ellipse: s-maj=9.2km s-min=5.7km az=134.0*

ISC 24 06:05:55.6±0.4, 36°47N±0°03×70°67E±0°04, h191km±5km, h191km:pP-P, n234, σ1°50/265, mb4.1/36, 27C-11D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.34	215	PN	Pn	06 06 39.2	+1.8
KBL	Kabul	2.34	215	P	Pn	06 06 39.4	+1.9
KBL				S	Sn	06 07 10.7	+0.9
KBL	Kabul	2.34	215	Pn	Pn	06 06 39.2	+1.8
CHGR	Chuyangaron	2.49	332	PN	Pn	06 06 40.6	+1.7
CHGR	Chuyangaron	2.49	332	Pn	Pn	06 06 40.6	+1.7
DRK	Karamyk	3.13	16		Pn	06 06 49.1	+2.4
CHCP	Chirah Chowk	3.52	142	P	Pn	06 06 53.4	+2.2
NIL	Nilore	3.52	142	PN	Pn	06 06 53.4	+2.1
NIL	Nilore	3.52	142		Pn	06 06 53.4	+2.1
BTK	Batken	3.58	2	PN	Pn	06 06 54.7	+2.8
BTK	Batken	3.58	2		Pn	06 06 54.7	+2.8
THW	Thamme Wali	3.77	166	P	Pn	06 06 55.9	+1.5
SARP	Sargodha	4.83	159	P	Pn	06 07 08.5	+0.8
TAS	Tashkent	4.96	348	PN	Pn	06 07 11.3	+1.9
TAS	Tashkent	4.96	348	Pn	Pn	06 07 11.2	+1.9
JMU	Jammu	5.12	136	*e*P	Pn	06 07 12.3	+0.9
JMU				*e*S	Sn	06 08 06.6	-4.4
KSH	Kashi	5.18	52	P	Pn	06 07 09.3	-2.9
KSH				S	Sn	06 08 00.1	-12
KSH				smax	smax		
	comp=N,870nm,0.7s						
KSH				smax	smax		
	comp=E,570nm,0.8s						
THN	Thein Dam	5.80	133	*e*P	Pn	06 07 20.9	+0.8
THN				*e*S	Sn	06 08 25.0	-1.8
AML	Almayashu	6.12	22	P	Pn	06 07 25.4	+0.7
	SNR=1057						
AML	Almayashu	6.12	22	*i* P	Pn	06 07 25.7	+1.0
	SNR=1062						
DHRM	DHARAMSHALA	6.28	130	⇑*i* P	Pn	06 07 27.1	+0.4
DHRM				*e*S	Sn	06 08 36.3	-2.2
DHRM				IAML		06 08 38.5	
	comp=N,1μm,0.7s						
DHRM				IAML		06 08 40.2	
	comp=E,2μm,0.7s						
DZA	Taraz	6.43	4	*e*PN	Pn	06 07 28.7	+0.3
DZA	Taraz	6.43	4	*e*P	Pn	06 07 28.7	+0.3
	baz=3.9						
DZA				*e*S	Sn	06 08 38.8	-2.9
	baz=3.9						
UCH	Uchtor	6.47	26	P	Pn	06 07 30.3	+1.0
	SNR=467						
BRLS	Borolday	6.58	355	*e*PN	Pn	06 07 27.5	-2.8
BRLS	Borolday	6.58	355	*e*P	Pn	06 07 27.6	-2.8
	baz=353						
KK02	Karatay Array	6.63	359	⇓P	Pn	06 07 31.4	+0.6
	comp=E,55nm,0.6s						
KK02				⇑S	Sn	06 08 41.2	-5.1
	comp=E,494nm,0.7s						
KKAR	Karatay Array	6.63	359	PN	Pn	06 07 31.7	+0.8
KKAR	Karatay Array	6.63	359		Pn	06 07 31.7	+0.8
EKS2	Erkin-Say	6.63	20	P	Pn	06 07 32.2	+1.1
	SNR=260						
AAK	Ala-Archa	6.83	24	P	Pn	06 07 34.6	+0.9
	comp=E,54nm,0.3s,baz=197,slow=5.0,SNR=366						
AAK				S	Sn	06 08 49.4	-1.9
	comp=E,30nm,0.3s,baz=142,slow=23,SNR=19						
AAK	Ala-Archa	6.83	24	P	Pn	06 07 34.8	+1.1
	SNR=181						
AAK	Ala-Archa	6.83	24	⇑P	Pn	06 07 34.5	+0.9
	comp=E,106nm,0.4s						
AAK				⇑S	Sn	06 08 50.1	-1.2
	comp=E,192nm,0.7s						
AAK	Ala-Archa	6.83	24	Pn	Pn	06 07 34.8	+1.1
AAK	Ala-Archa	6.83	24	*i* P	Pn	06 07 35.0	+1.3
	SNR=276						
BHK	Bhakra	6.94	135	⇑*i* P	Pn	06 07 35.2	+0.1
KBK	Karagaybulak	7.01	27	P	Pn	06 07 37.4	+1.4
	SNR=31						
FRU1	Bishkek	7.03	25	PN	Pn	06 07 37.7	+1.5
FRU1	Bishkek	7.03	25		Pn	06 07 37.7	+1.5
HRA	Herat	7.18	256	Pn	P

KHET *i* x x 06 08 09.4
NDI New Delhi 9.53 143 *e*P **Pn 06 08 08.2 -0.7**
PDGK Podgornoye 9.63 42 P **Pn 06 08 09.0 -1.3**
PDGK S **Sn 06 09 55.0 -2.8**
PDGK Podgornoye 9.63 42 ⇑P **Pn 06 08 09.6 -0.7**
comp=Z,26nm,0.7s
PDGK ⇑S **Sn 06 09 58.9 +1.1**
comp=Z,17nm,0.8s
KUDL Kundal 9.65 148 *e*P **Pn 06 08 09.2 -1.3**
AYAN Aya Nagar 9.65 144 *e*P **Pn 06 08 09.8 -0.7**
GEYT Alibeck 10.12 282 P **Pn 06 08 15.5 -1.0**
comp=Z,3.6nm,0.3s,baz=122,slow=14,SNR=22
GEYT S **Sn 06 10 07.3 -2.1**
comp=Z,4.1nm,0.3s,baz=85,slow=22,SNR=2.8
GEYT Alibeck 10.12 282 Pn **Pn 06 08 15.8 -0.8**
GYA0B ALIBECK ARRAY 10.12 282 ⇑P **Pn 06 08 15.5 -1.1**
GYA0B ⇓S **Sn 06 10 02.5 -6.9**
GYA0B ALIBECK ARRAY 10.12 282 **Pn 06 08 15.8 -0.8**
TDK Taldyqorghan 10.34 32 *e*P **Pn 06 08 18.8 -0.5**
TDK Taldyqorghan 10.34 32 *e*P **Pn 06 08 18.9 -0.5**
baz=32
AJM Ajmer 10.52 160 *e*P **Pn 06 08 21.3 -0.5**
OTUK Ortayu 11.83 5 ⇓P **Pn 06 08 38.4 -0.1**
comp=Z,12nm,0.7s
JHNI Jhansi 12.87 146 *e*P **Pn 06 08 51.2 -0.7**
JHNI *i* x **P 06 08 57.3 +1.7**
MAKZ Makanchi 13.33 36 P **Pn 06 08 57.7 +0.2**
MAKZ Makanchi 13.33 36 ⇓P **Pn 06 08 57.3 -0.2**
comp=Z,63nm,0.7s
MAKZ Makanchi 13.33 36 **Pn 06 08 57.7 +0.2**
PYUN Piuthan 13.34 125 *e*P **Pn 06 08 56.1 -1.9**
comp=Z,129nm,0.4s
PYUN *e*S Sn 06 11 14.9 -12
PYUN Piuthan 13.34 125 *e*P **Pn 06 08 56.1 -1.9**
comp=Z,153nm,0.5s
MK31 Makanchi Array 13.47 36 P **Pn 06 08 59.4 +0.2**
MK31 Makanchi Array 13.47 36 ⇓P **Pn 06 08 58.6 -0.6**
comp=Z,31nm,0.8s,baz=224,slow=5.1,SNR=233
MK31 Makanchi Array 13.47 36 **Pn 06 08 59.4 +0.2**
MKAR Makanchi Array 13.47 36 P **Pn 06 08 58.6 -0.6**
comp=Z,3.0nm,0.3s,baz=218,slow=13,SNR=119
MKAR Makanchi Array 13.47 36 **Pn 06 08 59.7 +0.5**
BRZS Berezniki 13.58 6 *e*P **Pn 06 08 59.6 -0.9**
BRZS Berezniki 13.58 6 *e*P **Pn 06 08 59.7 -0.9**
baz=5.4
DANN Dangsing 13.70 123 *e*P **Pn 06 09 01.0 -1.5**
comp=Z,177nm,0.6s
DANN *e*S Sn 06 11 25.0 -10
DANN Dangsing 13.70 123 *e*P **Pn 06 09 01.0 -1.5**
comp=Z,34nm,0.3s
KOLN Koldanda 13.96 125 *e*P **Pn 06 09 04.3 -1.4**
comp=Z,74nm,0.4s
KOLN Koldanda 13.96 125 *e*P **Pn 06 09 04.3 -1.4**
comp=Z,58nm,0.4s
BHPL Bhopal 14.42 154 *e*P **P 06 09 12.7 0.0**
BHPL *i* x **P 06 09 14.9 +2.1**
GKN Gorkha 14.52 122 *e*P **Pn 06 09 11.5 -0.9**
comp=Z,231nm,0.7s
GKN Gorkha 14.52 122 *e*P **Pn 06 09 11.6 -0.9**
comp=Z,30nm,0.3s
ALBI Allahabad 14.66 136 *e*P **Pn 06 09 13.4 -0.7**
WMQ Urumqi 14.93 55 *e*P **P 06 09 18.3 0.0**
WMQ S **S 06 12 01.6 -2.5**
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,110nm,3.7s
AB31 Akbulak array 14.98 332 P **Pn 06 09 17.6 -0.2**
comp=Z,16nm,0.5s,baz=144,slow=11,SNR=392
AB31 ⇓S **S 06 11 58.0 -6.9**
comp=Z,5.6nm,0.6s,baz=156,slow=23,SNR=6.4
ABKAR Akbulak array 14.98 332 P **Pn 06 09 17.8 0.0**
ABKAR Akbulak array 14.98 332 P **Pn 06 09 17.7 -0.1**
DMN Daman 15.09 122 *e*P **Pn 06 09 19.0 -0.5**
comp=Z,140nm,0.5s
DMN Daman 15.09 122 *e*P **Pn 06 09 19.1 -0.5**
comp=Z,139nm,0.5s
KKN Kakani 15.09 121 *e*P **Pn 06 09 18.9 -0.7**
comp=Z,140nm,0.5s
KKN Kakani 15.09 121 *e*P **Pn 06 09 18.8 -0.8**
comp=Z,129nm,0.6s
ZSN Zaisan 15.20 39 *e*P **Pn 06 09 19.1 -1.4**
ZSN Zaisan 15.20 39 *e*P **Pn 06 09 19.2 -1.4**
baz=39
KURBB Kurchatov Arra 15.24 19 P **Pn 06 09 19.9 -1.1**
comp=Z,1.0nm,0.3s,baz=208,slow=10,SNR=49
KURBB S **Sn 06 12 14.0 +2.7**
baz=207,slow=26,SNR=1.0
KURBB Kurchatov Arra 15.24 19 ⇑P **Pn 06 09 19.8 -1.1**
comp=Z,14nm,0.6s
PKIN Phulchoki 15.30 121 *e*P **Pn 06 09 21.7 -0.6**
comp=Z,151nm,0.4s
PKIN Phulchoki 15.30 121 *e*P **Pn 06 09 21.4 -0.9**
comp=Z,26nm,0.4s
PKI Pulchoki 15.32 121 *e*P **Pn 06 09 21.7 -0.8**
comp=Z,188nm,0.5s
PKI Pulchoki 15.32 121 *e*P **Pn 06 09 21.7 -0.8**
comp=Z,259nm,0.7s
KURK Kurchatov 15.35 19 *ce*P **Pn 06 09 21.5 -0.7**
KURK pmax pmax
comp=Z,26nm,1.3s
KURK Kurchatov 15.35 19 P **Pn 06 09 21.7 -0.5**
KURK Kurchatov 15.35 19 ⇑P **Pn 06 09 20.0 -2.2**
comp=Z,19nm,0.9s
KURK Kurchatov 15.35 19 **Pn 06 09 21.3 -1.0**
KURK IAmb IAmb 06 09 25.5
comp=Z,18nm,1.0s
GUN Gumba 15.44 119 *e*P **Pn 06 09 23.2 -0.7**
comp=Z,161nm,0.8s
GUN Gumba 15.44 119 *e*P **Pn 06 09 23.1 -0.8**
comp=Z,29nm,0.4s
SEM Semipalatinsk 15.55 23 *e*P **Pn 06 09 23.6 -1.4**
SEM Semipalatinsk 15.55 23 *e*P **Pn 06 09 23.7 -1.3**
baz=23
BANOM Banah 16.16 233 P **Pn 06 09 32.6 +0.3**
SNR=14
BANOM Banah 16.16 233 *i* P **Pn 06 09 33.1 +0.7**
SNR=14
SHME Shamm 16.17 234 P **Pn 06 09 33.8 +1.3**
SNR=8.1
SHME Shamm 16.17 234 *i* P **Pn 06 09 33.4 +1.0**
SNR=8.1
BVA1 Borovoye Array 16.55 359 ⇑P **Pn 06 09 37.2 +0.4**
comp=Z,5.7nm,0.4s
BVA1 ⇑S **S 06 12 36.5 -2.5**
comp=Z,4.9nm,0.6s
BVAR Borovoye Array 16.55 359 P **Pn 06 09 37.0 +0.2**
comp=Z,3.5nm,0.3s,baz=128,slow=10,SNR=29
BVAR S **S 06 12 38.2 -0.8**
comp=Z,1.5nm,0.3s,baz=156,slow=22,SNR=4.0
BRVK Borovoye 16.59 359 *ce*P **Pn 06 09 37.7 +0.5**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 16.59 359 ⇑P **Pn 06 09 37.1 -0.1**
comp=Z,9.2nm,0.9s
BRVK ⇑S **S 06 12 38.6 -1.0**
comp=Z,11nm,1.0s
BRVK Borovoye 16.59 359 P **Pn 06 09 37.2 0.0**
MASF Masafi 16.63 232 P **Pn 06 09 38.9 +0.9**
SNR=8.4
MSFE Esma-Masafi 16.64 232 P **Pn 06 09 38.7 +0.5**
AKTO Aktyubinsk 16.67 331 P **Pn 06 09 39.1 +0.8**
comp=Z,4.0nm,0.3s,baz=140,slow=9.8,SNR=79
AKTO S **S 06 12 37.5 -4.0**
comp=Z,0.2nm,0.3s,baz=258,slow=19,SNR=2.5
AKTO Aktyubinsk 16.67 331 ⇑P **Pn 06 09 39.1 +0.8**
comp=Z,59nm,1.1s
AKTO ⇓S **S 06 12 37.9 -3.6**
comp=Z,9.7nm,0.7s
WSAR Wadi Sarin 16.80 222 P **Pn 06 09 40.7 +0.7**
comp=Z,2.1nm,0.3s,baz=79,slow=8.9,SNR=5.8
UOSS Minazif 16.91 231 P **Pn 06 09 41.5 +0.2**
UOSS Minazif 16.91 231 P **P 06 09 39.9 -0.3**
UOSS Minazif 16.91 231 *i* P **Pn 06 09 41.2 -0.1**
SNR=10.0
HATD Hatta, Dubai 17.04 231 P **Pn 06 09 43.5 +0.6**
WBK Wadi Bani Khal 17.14 219 P **Pn 06 09 44.7 +0.7**
ASHO Ashiyiah 17.19 231 P **Pn 06 09 44.9 +0.2**
SNR=6.7
ASHO Ashiyiah 17.19 231 *i* P **Pn 06 09 45.0 +0.3**
SNR=6.6
BLSP Bilaspur 17.42 142 *e*P **Pn 06 09 47.2 -0.1**
FAQ Al Faqa, Dubai 17.44 232 P **Pn 06 09 49.4 +1.8**
ASUD Al Ashush, Dub 17.69 232 P **Pn 06 09 50.4 -0.1**
SNR=7.9
ASUD Al Ashush, Dub 17.69 232 *i* P **Pn 06 09 50.3 -0.3**
SNR=7.9
DGZ Jazzator, Alta 17.97 37 *d i* P **Pn 06 09 53.3 -0.4**
DGZ pmax pmax
comp=Z,34nm,0.8s
BOK Bokaro 18.21 130 *e*P **Pn 06 09 56.5 -0.2**
BOK IAmb IAmb 06 09 58.2
comp=Z,39nm,0.7s
LSA Lhasa 18.43 106 P **Pn 06 09 59.6 0.0**
LSA pmax pmax
comp=Z,60nm,0.9s
SRSP Sriramsagar 18.74 157 *e*P **P 06 10 00.8 +0.7**
KLRI Killari 19.06 162 *e*P **P 06 10 04.3 +0.6**
JRN Qarnain Island 19.12 238 P **P 06 10 03.9 -0.3**
RPR Rampur 19.12 154 *e*P **P 06 10 04.6 +0.4**
GOMU GeErMu 19.45 84 P **Pn 06 10 11.3 -0.2**
GOMU pP P 06 10 16.1 +8.0
GOMU pmax pmax
comp=Z,2.0nm,0.8s
GOMU pmax pmax
comp=Z,170nm,5.5s
ZAA0 Zalesovo Array 20.05 25 ⇓P **P 06 10 14.3 +0.4**
comp=Z,5.7nm,0.7s
ZAA0 Zalesovo Array 20.05 25 P **P 06 10 14.5 +0.5**
ZALV Zalesovo Beam 20.05 25 P **P 06 10 14.6 +0.6**
comp=Z,16nm,0.3s,baz=217,slow=11,SNR=126
HYBB Hyderabad (bro 20.22 158 *e*P **P 06 10 16.2 +0.1**
HYBB *ep*P **pP 06 10 50.2 +1.8**
HYBB *e*S **S 06 13 53.0 +0.5**
HYB Hyderabad 20.22 158 IAmb IAmb 06 10 20.2
comp=Z,22nm,1.2s
CUPL Choutuppal 20.45 157 *e*P **P 06 10 18.4 -0.1**
GNI Garni 20.65 288 *i* P **P 06 10 20.5 -0.1**
GNI pmax pmax
comp=Z,12nm,1.2s
GNI Garni 20.65 288 P **P 06 10 17.9 -2.7**
GNI IAmb IAmb 06 10 45.4
comp=Z,12nm,0.8s
SHL Shillong 21.14 115 *e*P **P 06 10 26.0 0.0**
SHL IAmb IAmb 06 10 33.6
comp=Z,27nm,0.7s
NJS Nagarjunasagar 21.27 157 *e*P **P 06 10 28.2 +1.0**
CHLP Challavanipeta 21.44 143 *e*P **P 06 10 29.4 +0.5**
MYLAV Mylavaram 21.54 153 *e*P **P 06 10 29.5 -0.5**
SRLM Srisailam 21.57 158 *e*P **P 06 10 30.9 +0.6**
ARU Arti 21.57 342 P **P 06 10 31.2 +1.2**
comp=Z,1.3nm,0.5s,baz=158,slow=10,SNR=6.5
ARU Arti 21.57 342 *c i* P **P 06 10 31.2 +1.2**
ARU *PP **pP 06 11 04.3 +1.1**
ARU S **S 06 14 17.5 +1.4**
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 21.57 342 P **P 06 10 29.5 -0.5**
ARU IAmb IAmb 06 10 33.7
comp=Z,18nm,1.5s
ADKI Addanki 22.15 156 *e*P **P 06 10 36.8 +0.8**
RCLA Racherla 22.19 158 *e*P **P 06 10 36.2 -0.3**
URV Uravakonda 22.23 163 *e*P **P 06 10 36.1 -0.8**
KBZ Khabaz 22.38 297 P **P 06 10 39.2 +1.3**
comp=Z,1.9nm,0.7s,baz=135,slow=10.0,SNR=2.0
KIV Kislovodsk 22.57 298 *e*P **P 06 10 40.4 +0.6**
KIV *e*S **S 06 14 32.9 +0.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
RAYN Ar Rayn 25.24 246 P **P 06 11 04.8 +0.6**
RAYN pmax pmax
comp=Z,16nm,1.2s
RAYN Ar Rayn 25.24 246 P **P 06 11 04.8 +0.6**
RAYN IAmb IAmb 06 11 06.2
comp=Z,16nm,1.1s
KIRV Kirov 26.15 334 *ce*P **P 06 11 13.3 +1.4**
PZH PanZhiHua 28.20 102 P **P 06 11 32.8 +2.2**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,9.0nm,4.0s
SONM Songino Array 28.57 55 P **P 06 11 35.2 +1.5**
comp=Z,1.4nm,0.8s,baz=259,slow=10,SNR=11
SONM Songino Array 28.57 55 IAmb IAmb 06 11 39.4
comp=Z,1.1nm,1.2s
ULN Ulaanbaatar 29.01 55 *i* P **P 06 11 36.2 -1.5**
ULN pmax pmax
comp=Z,6.0nm,2.1s
BRTR Keskin Array B 29.19 288 pP pP 06 12 17.9 -0.7
comp=Z,1.5nm,1.0s,baz=102,slow=9.4,SNR=2.8
OBN Obninsk 29.79 320 *i* P **P 06 11 44.1 -0.1**
OBN *i* *PP **pP 06 12 29.5 +6.0**
OBN *i* 06 12 50.9
OBN pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 30.68 118 P **P 06 11 53.7 +1.2**
comp=Z,3.4nm,0.8s,baz=301,slow=8.4,SNR=15
CMAR Chiang Mai Arr 30.68 118 *i* P **P 06 11 54.4 +1.9**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
XAN Xi'an 31.20 83 P **P 06 11 57.8 +0.8**
XAN pmax pmax
comp=Z,8.0nm,1.7s
HHC Hu-ho-hao-te 32.02 69 *e*P **P 06 12 05.4 +1.2**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,250nm,5.5s
AKASG Malin Array Be 32.76 309 P **P 06 12 11.3 +1.1**
comp=Z,0.6nm,0.4s,baz=81,slow=6.9,SNR=5.1
NRIK Noril'sk 34.20 11 P **P 06 12 23.7 +1.1**
comp=Z,3.1nm,0.6s,baz=203,slow=7.0,SNR=6.2
NRIK Noril'sk 34.20 11 *ce*P **P 06 12 23.5 +1.0**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
NRIK Noril'sk 34.20 11 P **P 06 12 22.1 -0.4**
NRIK IAmb IAmb 06 12 25.1
comp=Z,7.5nm,1.1s
XLT XiLinHaoTe 35.12 64 *e*P **P 06 12 31.9 +1.1**
XLT pmax pmax
comp=Z,4.0nm,0.8s
XLT pmax pmax
comp=Z,360nm,5.0s
KAAM Kaadhehdhoo 35.86 176 P **P 06 12 34.2 -3.0**
FIA1 FINESS Array S 37.36 326 P **P 06 12 50.6 +1.2**
FIA1 IAmb IAmb 06 12 51.2
comp=Z,8.1nm,0.9s
FINES FINESS Array B 37.36 326 P **P 06 12 50.5 +1.1**
comp=Z,3.9nm,0.6s,baz=113,slow=11,SNR=34
FINES pP **pP 06 13 30.8 +1.0**
comp=Z,1.8nm,0.6s,baz=120,slow=10,SNR=2.2
FINES FINESS Array B 37.36 326 P **P 06 12 50.6 +1.2**
LHMI Lhok Sumawe 39.34 136 P **P 06 13 06.4 -0.1**
KEV Kevo 40.73 338 P **P 06 13 18.4 +1.1**
KEV pmax pmax
comp=Z,18nm,1.1s
KEV Kevo 40.73 338 P **P 06 13 18.4 +1.1**
KEV IAmb IAmb 06 13 47.3
comp=Z,18nm,1.1s
ARCES ARCESS Array B 41.07 338 P **P 06 13 21.3 +1.2**
comp=Z,4.0nm,0.6s,baz=110,slow=7.3,SNR=31
ARCES ARCESS Array B 41.07 338 P **P 06 13 21.5 +1.5**
ARCES pmax pmax
comp=Z,20nm,1.5s
ARCES ARCESS Array B 41.07 338 P **P 06 13 21.5 +1.5**
ARCES IAmb IAmb 06 13 45.4
comp=Z,20nm,1.5s
GSI Gunungsitoli 42.95 138 P **P 06 13 36.6 +0.8**
GSI IAmb IAmb 06 13 37.8
comp=Z,13nm,0.7s
YAK Yakutsk 44.15 35 *ce*P **P 06 13 44.7 -0.1**
YAK pmax pmax
comp=Z,8.0nm,0.6s
NOA NORSAR Array B 44.24 323 P **P 06 13 46.0 +0.3**
comp=Z,0.5nm,0.7s,baz=104,slow=7.4,SNR=5.1
KLR Kul'dur 45.38 54 P **P 06 13 55.7 +0.9**
comp=Z,0.5nm,0.4s,baz=276,slow=10,SNR=2.0
TIXI Tiksi 45.90 22 *ce*P **P 06 13 59.5 +1.0**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 45.90 22 P **P 06 13 59.4 +0.8**
KMBO Kilima Mbogo 48.61 227 P **P 06 14 21.5 +1.0**
comp=Z,1.6nm,0.6s,baz=352,slow=5.0,SNR=4.7
KMBO Kilima Mbogo 48.61 227 *i* P **P 06 14 20.6 +0.1**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
ESDC Sonseca Array 57.23 298 P **P 06 15 23.7 +0.6**
comp=Z,0.3nm,0.5s,baz=62,slow=7.7,SNR=1.6
ESDC pP **pP 06 16 06.6 -0.2**
comp=Z,0.7nm,0.7s,baz=63,slow=8.5,SNR=2.4
TORD Torodi Ar. Bea 65.45 268 P **P 06 16 16.9 -1.4**
comp=Z,3.2nm,0.4s,baz=50,slow=6.0,SNR=34
TORD pP **pP 06 17 03.5 0.0**
comp=Z,1.1nm,0.8s,baz=50,slow=5.7,SNR=2.3
GIRL Giralia 71.76 138 P **P 06 16 55.0 -2.1**
C36M Paulatuk 73.93 5 P **P 06 17 09.8 +0.5**
INK Inuvik 73.98 9 P **P 06 17 11.0 +1.5**
INK pmax pmax
comp=Z,5.0nm,1.5s
INK Inuvik 73.98 9 P **P 06 17 11.0 +1.5**
ILAR Eielson Array 74.88 16 P **P 06 17 15.0 +0.2**
comp=Z,0.3nm,0.6s,baz=305,slow=5.4,SNR=4.8
KNRA Kununurra 75.44 122 P **P 06 17 18.3 -0.3**
KNRA IAmb IAmb 06 17 19.0
comp=Z,5.4nm,0.7s
SPU Mount Spurr 76.66 20 P **P 06 17 26.0 +1.0**
BOSA Boshof 77.55 220 P **P 06 17 30.5 +0.1**
comp=Z,1.7nm,0.6s,baz=38,slow=4.6,SNR=8.0
YKA Yellowknife Ar 81.29 2 P **P 06 17 50.5 +0.4**
comp=Z,0.4nm,0.4s,baz=350,slow=5.4,SNR=18
WRA Warramunga Arr 82.20 122 P **P 06 17 54.0 -1.5**
comp=Z,1.5nm,0.5s,baz=323,slow=5.2,SNR=29
WRAB Tennant Creek 82.20 122 *ce*P **P 06 17 55.2 -0.3**
WRAB pmax pmax
comp=Z,8.0nm,2.5s
WB2 Warramunga Arr 82.21 122 P **P 06 17 54.1 -1.4**
WB2 IAmb IAmb 06 17 54.8
comp=Z,5.5nm,1.0s
ASAR Alice Springs 84.46 125 P **P 06 18 05.5 -1.5**
comp=Z,1.2nm,0.6s,baz=311,slow=4.9,SNR=33

SSNC 24 06:09:52.4±1.8, 19°.84N×76°.06W, h3km±9km, MD2.2, ML1.2, MW2.0, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.38**	**65**	*e*P	Pg	06 09 59.0	-0.7
RCC				*e*S	Sg	06 10 05.0	+0.4
RCC				IAML		06 10 06.2	
comp=E,4.9nm,0.2s							
RCC				IAML		06 10 07.4	
comp=N,6.4nm,0.2s							
RCC	**Rio Carpintero**	**0.38**	**65**	*e*P	Pg	06 09 59.0	-0.7
RCC				*e*S	Sg	06 10 05.0	+0.4
RCC				IAML		06 10 06.2	
comp=E,5.1nm,0.2s							
RCC				IAML		06 10 07.5	
comp=N,167nm,0.1s							
GTBY	**Guantanamo Bay**	**0.90**	**84**	*e*P	Pg	06 10 08.1	-1.5
GTBY				*e*S	Sg	06 10 20.9	-0.3
GTBY	**Guantanamo Bay**	**0.90**	**84**	*e*P	Pg	06 10 08.1	-1.5
GTBY				*e*S	Sg	06 10 21.2	0.0
GTMO	**Guantanamo**	**0.90**	**74**	*e*P	Pg	06 10 09.1	-0.5
GTMO				*e*S	Sb	06 10 23.0	0.0
GTMO				IAML		06 10 25.8	
comp=N,227nm,0.3s							
GTMO				IAML		06 10 26.4	
comp=E,277nm,0.3s							
GTMO	**Guantanamo**	**0.90**	**74**	*e*S	Sb	06 10 22.6	-0.4
MASC	**Masc**	**1.75**	**79**	*e*P	Pn	06 10 21.3	-2.4
MASC				*e*S	Sn	06 10 43.8	-2.7
MASC				IAML		06 10 44.7	
comp=E,1.7nm,0.7s							
MASC				IAML		06 10 45.0	
comp=N,2.3nm,0.9s							

*TUL **24** 06:16:20±0.8, 36°.45N±0°.02×98°.37W±0°.02, h6km±7km, ML3.0, mb_Lg2.7/6(NEIC), Error ellipse: s-maj=2.2km s-min=1.9km az=196.0*

NEIC 24 06:16:19.9±0.7, 36°.44N±0°.01×98°.36W±0°.02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=211.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.31**	**77**	Pg	Pg	06 16 26.6	+0.6
CROK				Sg	Sg	06 16 31.3	+1.2
OK035	**E0210 Rd and N**	**0.39**	**314**	Pg	Pg	06 16 27.5	0.0
OK035				Sg	Sg	06 16 33.4	+0.7
U32A	**Winter Ranch,**	**0.52**	**264**	Pg	Pg	06 16 30.1	+0.1
U32A				Sg	Sg	06 16 37.5	+0.8
GC02	**Grant County #**	**0.58**	**44**	Pg	Pg	06 16 31.3	+0.3
KAN14	**Manchester OK**	**0.61**	**32**	Pg	Pg	06 16 31.8	+0.2
KAN10	**Anthony SW Sta**	**0.72**	**17**	Pg	Pg	06 16 33.8	+0.1
KAN17	**Caldwell West**	**0.77**	**38**		Pg	06 16 34.7	0.0
KAN05	**Bluff City Nor**	**0.78**	**30**	Pg	Pg	06 16 34.8	0.0
KAN16	**Harper SW Stat**	**0.82**	**17**		Pg	06 16 35.6	-0.1
KAN08	**Anthony NE Sta**	**0.85**	**22**	Pg	Pg	06 16 36.1	-0.1
KAN01	**Argonia South**	**0.86**	**34**	Pg	Pg	06 16 36.5	0.0
KAN06	**Argonia West S**	**0.90**	**26**		Pg	06 16 37.1	-0.1
KAN12	**Harper NE Stat**	**0.91**	**19**	Pg	Pg	06 16 37.1	-0.2
KAN13	**South Haven SW**	**0.91**	**51**		Pg	06 16 37.4	-0.1
OK029	**Liberty Lake**	**0.97**	**131**		Pg	06 16 38.3	-0.2
BLOK	**Blackwell**	**0.98**	**70**	Pg	Pg	06 16 38.6	-0.1
BCOK	**Bluff Creek, N**	**0.99**	**142**	Pg	Pg	06 16 38.9	0.0
OK025	**Westminster Rd**	**1.19**	**136**		Pg	06 16 42.5	-0.2
OK033	**Mehan**	**1.22**	**108**		Pg	06 16 43.0	-0.3
OKCFA	**Oklahoma City**	**1.26**	**144**	Pn	Pg	06 16 43.6	-0.5
OKCSW	**OKLAHOMA CITY**	**1.27**	**144**	Pn	Pg	06 16 43.8	-0.5
OK031	**S. Brethren Rd**	**1.32**	**111**		Pn	06 16 44.7	-0.4
QUOK	**Quay**	**1.36**	**101**		Pn	06 16 45.4	-0.2
OK030	**Cody Creek RV**	**1.37**	**111**		Pn	06 16 45.5	-0.2
OK034	**N. Norfolk Rd.**	**1.40**	**107**		Pn	06 16 45.9	-0.2
FNO	**Franklin**	**1.41**	**146**	Pn	Pn	06 16 46.1	-0.2
T35A	**Sooner Cattle**	**1.56**	**72**	Pn	Pn	06 16 48.6	+0.3
WMOK	**Wichita Mounta**	**1.73**	**192**	Pn	Pn	06 16 50.9	+0.2
W35A	**Tecumseh**	**1.76**	**136**	Pn	Pn	06 16 50.9	-0.2
X34A	**Smith Ranch, M**	**1.88**	**167**	Pn	Pn	06 16 52.6	-0.2
R32A	**Long Quarter,**	**2.00**	**352**		Pn	06 16 54.2	-0.3
TUL1	**Leonard**	**2.14**	**103**		Pn	06 16 56.2	-0.1
TUL1				IAmb_Lg		06 17 31.4	
comp=Z,30nm,1.0s							
LOOK	**Love County**	**2.62**	**158**		Pn	06 17 03.4	+0.4
KSU1	**Kansas State U**	**3.00**	**27**		Pn	06 17 08.7	+0.6
X37A	**Clayton**	**3.06**	**126**	Pn	Pn	06 17 08.8	-0.1
X37A				IAmb_Lg		06 18 02.2	
comp=Z,20nm,1.1s							
U38A	**Gravette**	**3.21**	**89**		Pn	06 17 11.3	+0.4
Z35A	**Perchaven, San**	**3.23**	**163**	Pn	Pn	06 17 10.5	-0.8
HHAR	**Hobbs**	**3.57**	**91**		Pn	06 17 15.9	-0.1
S39A	**Bolivar**	**4.22**	**71**		Pn	06 17 24.6	-0.3
MIAR	**Mount Ida**	**4.33**	**114**	Pn	Pn	06 17 26.6	+0.1
U40A	**Yellville**	**4.44**	**89**	IAmb_Lg		06 18 39.9	
comp=Z,17nm,1.0s							
WHTX	**Lake Whitney,**	**4.50**	**170**	Pn	Pn	06 17 29.0	+0.3
BGNE	**Belgrade**	**4.97**	**2**	Pn	Pn	06 17 35.3	+0.1
BGNE				IAmb_Lg		06 19 04.7	
comp=Z,17nm,0.8s							
FCAR	**Ozark Folk Cen**	**5.08**	**94**	Pn	Pn	06 17 36.9	+0.3
W41B	**Gary Mavity, V**	**5.12**	**102**	Pn	Pn	06 17 37.2	-0.1
R40A	**Maddies Statio**	**5.19**	**67**	Pn	Pn	06 17 37.9	-0.4

*IDC **24** 06:24:46.6±2.0, 24°.33S×179°.79E, h504km±18km, mb3.3/4, mb1 3.4/7, mb1mx3.2/41, mbtmp4.1/7, Error ellipse: s-maj=32.9km s-min=22.5km az=147.0*

*NEIC **24** 06:24:49.1±0.9, 24°.4S±0°.1×179°.7E±0°.1, h526km±9km, mb4.1/14, Error ellipse: s-maj=23.0km s-min=15.8km az=141.0*

ISC 24 06:24:47.7±1.0, 24°.31S±0°.10×179°.8E±0°.1, h517km, n25, σ0°86/28, mb4.0/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.74**	**346**	P	**P**	**06 26 31.0**	**-1.2**
0.7nm,0.3s,baz=130,slow=18,SNR=2.3							
DZM	**Mont Dzumac**	**12.47**	**278**	P	**P**	**06 27 31.9**	**+0.5**
0.4nm,0.3s,baz=100,slow=9.4,SNR=6.6							
DZM	**Mont Dzumac**	**12.47**	**278**	P	**P**	**06 27 32.8**	**+1.4**
URZ	**Urewera**	**14.09**	**189**	P	**P**	**06 27 47.3**	**-0.6**
0.6nm,0.3s,baz=49,slow=17,SNR=1.6							
URZ				S	**S**	**06 30 15.2**	**-1.4**
baz=322,slow=23,SNR=1.4							
URZ	**Urewera**	**14.09**	**189**	P	**P**	**06 27 48.5**	**+0.6**
EIDS	**Eidsvold**	**26.05**	**262**	P	**P**	**06 29 40.1**	**+0.5**
EIDS				IAmb	IAmb	06 29 40.5	
comp=Z,4.0nm,0.7s							
CTAO	**Charters Tower**	**31.29**	**271**	P	**P**	**06 30 25.8**	**+0.5**
STKA	**Stephens Creek**	**34.39**	**249**	P	**P**	**06 30 51.8**	**+0.3**
comp=Z,1.3nm,0.5s,baz=90,slow=9.1,SNR=4.2							
STKA	**Stephens Creek**	**34.39**	**249**	P	**P**	**06 30 50.9**	**-0.5**
COEN	**Coen**	**35.99**	**280**	P	**P**	**06 31 05.0**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN				IAmb	IAmb	06 31 26.0	
	comp=Z,4.5nm,1.1s						
BBOO	**Buckleboo**	**39.10**	**247**	P	**P**	**06 31 30.0**	**-0.3**
AS31	**Alice Springs**	**41.78**	**261**	P	**P**	**06 31 51.7**	**-0.2**
AS31				IAmb	IAmb	06 31 53.5	
	comp=Z,1.6nm,0.3s						
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**06 31 51.4**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=94,slow=7.5,SNR=54						
ASAR				ScP	**ScP**	**06 36 38.5**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=102,slow=3.2,SNR=4.4						
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**06 31 51.3**	**-0.6**
WR0	**Warramunga Arr**	**42.00**	**267**	P	**P**	**06 31 52.7**	**-0.9**
WR0				IAmb	IAmb	06 32 15.1	
	comp=Z,6.3nm,1.4s						
WB2	**Warramunga Arr**	**42.18**	**267**	P	**P**	**06 31 54.2**	**-0.8**
WB2				IAmb	IAmb	06 31 54.3	
	comp=Z,5.6nm,0.5s						
WB0	**Warramunga Arr**	**42.18**	**267**	P	**P**	**06 31 54.1**	**-0.9**
WB0				IAmb	IAmb	06 31 54.6	
	comp=Z,6.6nm,0.7s						
WRA	**Warramunga Arr**	**42.19**	**267**	P	**P**	**06 31 54.0**	**-1.1**
	comp=Z,4.0nm,0.5s,baz=105,slow=8.4,SNR=62						
WRA				ScP	**ScP**	**06 36 40.3**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=94,slow=3.7,SNR=5.2						
WRA	**Warramunga Arr**	**42.19**	**267**	P	**P**	**06 31 54.3**	**-0.8**
FORT	**Forrest**	**45.99**	**250**	P	**P**	**06 32 23.7**	**-0.6**
KNRA	**Kununurra**	**48.49**	**270**	P	**P**	**06 32 43.2**	**-0.2**
KNRA				IAmb	IAmb	06 32 59.3	
	comp=Z,14nm,1.4s						
MORW	**Morawa**	**56.55**	**250**	P	**P**	**06 33 40.5**	**-0.5**
MORW				IAmb	IAmb	06 34 05.1	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**65.77**	**180**	P	**P**	**06 34 42.1**	**+1.1**
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**06 36 55.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=203,slow=6.6,SNR=7.7						
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**06 36 56.4**	**+0.4**

*IDC **24** 06:47:05.1±5.1, 27.°26N×141.°81E, h63km±46km, mb3.6/6, mb1 3.7/7, mb1mx3.3/53, mbtmp3.8/7, ML2.7/1, Error ellipse: s-maj=65.7km s-min=19.2km az=91.0*
*JMA **24** 06:47:05.0, 27.°28N×142.°37E, h48km±2km, M4.3*
JMA Felt I J1.

ISC 24 06:47:04.1±0.8, 27.°30N±0.°09×142.°1E±0.°3, h55km±9km, n17, σ0§78/13, mb3.9/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.23**	**154**	P	**Pn**	**06 47 13.4**	**+0.2**
CBIJ				S	**Sn**	**06 47 19.3**	**-0.3**
JHH2	**Haha-jima-NKT2**	**0.68**	**172**	P	**Pn**	**06 47 18.1**	**+0.4**
JHH2				S	**Sn**	**06 47 27.8**	**+0.2**
JRY	**Ryogami san**	**9.10**	**344**	P	**Pn**	**06 49 13.0**	**+0.3**
JHO	**Hitachi**	**9.37**	**353**	P	**Pn**	**06 49 15.0**	**-1.4**
MJAR	**Matsushiro Arr**	**9.78**	**341**	P	**Pn**	**06 49 22.8**	**+0.8**
	0.1nm,0.3s,baz=157,slow=12,SNR=2.2						
KLR	**Kul'dur**	**23.30**	**343**	P	**P**	**06 52 06.6**	**-0.4**
	1.0nm,0.6s,baz=162,slow=6.4,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**23.95**	**103**	T	T	07 17 09.1	
	baz=293,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**23.95**	**103**	T	T	07 17 08.6	
	baz=293,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**23.97**	**103**	T	T	07 17 08.5	
	baz=293,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**24.28**	**106**	T	T	07 17 37.0	
	baz=297,slow=74,SNR=31						
H11S1	**WAKE ISLAND Hy**	**24.28**	**106**	T	T	07 17 37.8	
	baz=297,slow=74,SNR=28						
H11S2	**WAKE ISLAND Hy**	**24.30**	**106**	T	T	07 17 39.0	
	baz=297,slow=74,SNR=19						
WRA	**Warramunga Arr**	**47.56**	**190**	P	**P**	**06 55 33.8**	**-0.5**
	2.5nm,0.5s,baz=11,slow=8.5,SNR=34						
ASAR	**Alice Springs**	**51.28**	**190**	P	**P**	**06 56 01.9**	**-0.8**
	0.2nm,0.3s,baz=16,slow=10,SNR=5.1						
YKA	**Yellowknife Ar**	**72.01**	**28**	P	**P**	**06 58 23.0**	**+1.2**
	0.2nm,0.6s,baz=296,slow=6.3,SNR=5.9						
FINES	**FINESS Array B**	**77.72**	**334**	P	**P**	**06 58 54.7**	**-0.1**
	1.9nm,0.8s,baz=60,slow=5.5,SNR=8.9						
HFS	**Hagfors**	**83.19**	**337**	P	**P**	**06 59 23.9**	**-0.3**
	3.6nm,1.0s,baz=64,slow=5.2,SNR=2.5						

*ISK **24** 06:47:32.9, 35.°81N×30.°99E, h10km, ML3.4/17*
*NIC **24** 06:47:34.0±0.0, 35.°57N×30.°74E, h25km±3km, Ml3.7/3*
*DDA **24** 06:47:34.4±0.0, 35.°90N×31.°01E, h31km±1km, ML3.3*
*IDC **24** 06:47:36.5±1.8, 35.°84N×30.°90E, h62km±18km, mb3.5/8, mb1 3.6/13, mb1mx3.4/53, mbtmp3.7/13, MS2.4/1, Ms1 2.4/1, ms1mx2.1/56, Error ellipse: s-maj=18.5km s-min=16.5km az=121.0*

ISC 24 06:47:35.8±0.9, 35.°77N±0.°03×30.°92E±0.°03, h53km±10km, n67, σ1§49/99, mb3.5/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.72**	**320**	P	**Pn**	**06 47 48.0**	**-2.0**
AKUM				S	**Sn**	**06 47 59.6**	**-0.6**
AKUM				*i* AML	AML	06 48 02.0	
	comp=E,2μm,0.6s						
AKUM				*i* AML	AML	06 48 06.0	
	comp=N,1μm,0.5s						
ANTB	**Antalya**	**1.15**	**349**	PN	**Pn**	**06 47 54.9**	**-0.6**
ANTB				SN	**Sn**	**06 48 10.9**	**+0.7**
AKAS	**Kas**	**1.16**	**294**	PN	**Pn**	**06 47 56.4**	**+0.5**
AKAS				SN	**Sn**	**06 48 13.6**	**+2.8**
AKAS	**Kas**	**1.16**	**294**	P	**Pn**	**06 47 55.9**	**0.0**
AKAS				S	**Sn**	**06 48 15.9**	**+5.1**
AKAS				*i* AML	AML	06 48 21.0	
	comp=E,588nm,0.7s						
AKAS				*i* AML	AML	06 48 21.0	
	comp=N,707nm,0.5s						
GAZI	**Gazipasa**	**1.22**	**67**	PN	**Pn**	**06 47 55.9**	**-0.7**
GAZI				SN	**Sn**	**06 48 11.0**	**-1.1**
GAZI	**Gazipasa**	**1.22**	**67**	P	**Pn**	**06 47 55.3**	**-1.3**
GAZI				S	**Sn**	**06 48 10.7**	**-1.4**
GAZI				*i* AML	AML	06 48 11.0	
	comp=N,1μm,0.6s						
GAZI				*i* AML	AML	06 48 13.0	
	comp=E,503nm,0.3s						
KEPZ	**Antalya-Kepez**	**1.25**	**26**	P	**Pn**	**06 47 55.3**	**-1.7**
KEPZ				S	**Sn**	**06 48 10.5**	**-2.4**
ELL	**Elmali**	**1.27**	**320**	PN	**Pn**	**06 47 57.6**	**+0.2**
ELL				SN	**Sn**	**06 48 15.7**	**+2.2**
ELL	**Elmali**	**1.27**	**320**	P	**Pn**	**06 47 56.7**	**-0.6**
ELL				S	**Sn**	**06 48 15.6**	**+2.1**
KORT	**Korkueli**	**1.31**	**340**	PN	**Pn**	**06 47 57.7**	**-0.2**
KORT				SN	**Sn**	**06 48 15.8**	**+1.4**
KORT	**Korkueli**	**1.31**	**340**	P	**Pn**	**06 47 57.0**	**-0.9**
KORT				S	**Sn**	**06 48 14.3**	**-0.1**
AKMS	**Akamas**	**1.38**	**123**	P	**Pn**	**06 47 58.3**	**-0.5**
AKMS				S	**Sn**	**06 48 16.1**	**+0.2**
AKMS				AML	AML	06 48 24.5	
	2.2nm,0.5s						
AKMS				AML	AML	06 48 24.5	
	2.2nm,0.5s						
AKMS				AML	AML	06 48 27.8	
	3.2nm,0.5s						
AKMS				AML	AML	06 48 27.8	
	3.2nm,0.5s						
ALFC	**Alefka**	**1.50**	**114**	P	**Pn**	**06 48 00.7**	**+0.3**
ALFC				S	**Sn**	**06 48 21.1**	**+2.2**
ALFC				AML	AML	06 48 28.6	
	2.0nm,0.5s						
ALFC				AML	AML	06 48 28.6	
	2.0nm,0.5s						
ALFC				AML	AML	06 48 31.2	
	3.1nm,0.3s						
ALFC				AML	AML	06 48 31.2	
	3.1nm,0.3s						
BUCA	**Burdur, Bucak-**	**1.58**	**349**	P	**Pn**	**06 47 59.9**	**-1.6**
NATA	**Nata**	**1.67**	**126**	S	**Sn**	**06 48 23.6**	**+0.5**
NATA				AML	AML	06 48 38.5	
	2.7nm,0.6s						
NATA				AML	AML	06 48 39.0	
	4.6nm,0.7s						
SUTC	**Sutluce-Ispart**	**1.70**	**2**	PN	**Pn**	**06 48 02.9**	**-0.3**
SUTC				SN	**Sn**	**06 48 25.1**	**+1.2**
BCK	**Bucak**	**1.71**	**351**	PN	**Pn**	**06 48 02.9**	**-0.3**
HDMB	**Hadim**	**1.73**	**46**	PN	**Pn**	**06 48 03.1**	**-0.6**
CAME	**Cameli-Denizli**	**1.75**	**312**	PN	**Pn**	**06 48 04.6**	**+0.7**
SEDI	**Konya, Seydise**	**1.80**	**22**	P	**Pn**	**06 48 04.2**	**-0.4**
SEDI				S	**Sn**	**06 48 26.7**	**+0.2**
SEDI				*i* AML	AML	06 48 33.0	
	comp=E,260nm,0.4s						
TEKE	**Tekeli-Mersin**	**1.82**	**78**	PN	**Pn**	**06 48 05.0**	**+0.3**
GOLH	**Golhisar**	**1.83**	**324**	P	**Pn**	**06 48 05.4**	**+0.5**
GOLH				*i* AML	AML	06 48 45.0	
	comp=E,297nm,1.2s						
BERE	**Bereket-Mersin**	**1.95**	**72**	PN	**Pn**	**06 48 05.9**	**-0.7**
BRDR	**BURDUR-Merkez**	**2.04**	**340**	P	**Pn**	**06 48 08.3**	**+0.5**
ISP	**Isparta**	**2.07**	**351**	PN	**Pn**	**06 48 08.2**	**0.0**
DALY	**Dalyan (Mula)**	**2.11**	**300**	PN	**Pn**	**06 48 09.4**	**+0.8**
CSS	**Mathiatis**	**2.13**	**112**	P	**Pn**	**06 48 08.7**	**-0.2**
GULN	**MERSIN_Gulnar**	**2.17**	**78**	P	**Pn**	**06 48 10.2**	**+0.8**
GULN				S	**Sn**	**06 48 35.7**	**+0.6**
KKBE	**Karaman, Kazim**	**2.17**	**48**	P	**Pn**	**06 48 10.6**	**+0.9**
KKBE				S	**Sn**	**06 48 38.3**	**+2.8**
KKBE				*i* AML	AML	06 48 42.0	
	comp=N,180nm,0.4s						
KKBE				*i* AML	AML	06 48 43.0	
	comp=E,207nm,0.5s						
BAGO	**Egridir - ISPA**	**2.21**	**357**	P	**Pn**	**06 48 10.4**	**+0.2**
BASM	**Basmaki-Afyon**	**2.25**	**342**	PN	**Pn**	**06 48 10.9**	**+0.2**
KMER	**Konya-Meram**	**2.31**	**30**	P	**Pn**	**06 48 12.5**	**+1.0**
KMER				S	**Sn**	**06 48 39.0**	**+0.3**
ARG	**Arkhangelos**	**2.31**	**282**	PN	**Pn**	**06 48 12.4**	**+1.0**
ARG	**Arkhangelos**	**2.31**	**282**	P	**Pn**	**06 48 09.6**	**-1.8**
ARG				S	**Sn**	**06 48 36.4**	**-2.3**
TAVA	**DENIZLI_Tavas**	**2.34**	**317**	P	**Pn**	**06 48 11.8**	**-0.1**
MVOU	**Mavrovouni**	**2.34**	**108**	P	**Pn**	**06 48 11.7**	**-0.1**
TURN	**Turunc**	**2.38**	**296**	PN	**Pn**	**06 48 13.5**	**+1.1**
DOGA	**KONYA_Doganhis**	**2.40**	**14**	P	**Pn**	**06 48 13.4**	**+0.5**
DOGA				S	**Sn**	**06 48 42.1**	**+0.9**
DOGA				*i* AML	AML	06 48 46.0	
	comp=N,262nm,0.6s						
DOGA				*i* AML	AML	06 48 47.0	
	comp=E,165nm,0.9s						
KONT	**Konya--Tatoy**	**2.46**	**28**	PN	**Pn**	**06 48 13.5**	**+0.1**
KONT	**Konya--Tatoy**	**2.46**	**28**	P	**Pn**	**06 48 14.2**	**+0.8**
YVAC	**Isparta, Yalva**	**2.50**	**6**	P	**Pn**	**06 48 14.5**	**+0.3**
YVAC				S	**Sn**	**06 48 43.1**	**-0.5**
YER	**Yerkesik**	**2.52**	**303**	PN	**Pn**	**06 48 15.2**	**+0.8**
KZIL	**AFYON_Kizioren**	**2.56**	**346**	P	**Pn**	**06 48 15.2**	**+0.3**
KZIL				S	**Sn**	**06 48 47.4**	**+2.5**
LADK	**Ladik-KONYA**	**2.68**	**25**	PN	**Pn**	**06 48 16.6**	**0.0**
KIZK	**Mersin**	**2.70**	**74**	P	**Pn**	**06 48 19.1**	**+2.3**
KIZK				S	**Sn**	**06 48 51.0**	**+2.8**
SHUT	**Suhut-Afyon**	**2.79**	**354**	PN	**Pn**	**06 48 18.4**	**+0.3**
PASA	**Karahalli, USA**	**2.81**	**336**	P	**Pn**	**06 48 17.7**	**-0.7**
PASA				S	**Sn**	**06 48 49.8**	**-1.4**
KDHN	**Kadinhani**	**2.90**	**19**	P	**Pn**	**06 48 19.4**	**-0.3**
KDHN				S	**Sn**	**06 48 52.2**	**-1.2**
OSC2	**CSNet OBS 4**	**2.91**	**157**	S	**Sn**	**06 48 51.2**	**-2.3**
ALIN	**Konya, Altinte**	**2.97**	**31**	P	**Pn**	**06 48 20.2**	**-0.3**
ALIN				S	**Sn**	**06 48 53.6**	**-1.3**
AFYO	**Afyonkarahisar**	**3.05**	**351**	P	**Pn**	**06 48 22.0**	**+0.3**
AFYO				S	**Sn**	**06 48 58.0**	**+1.0**
AFYO				*i* AML	AML	06 49 06.0	
	comp=E,112nm,1.3s						
KERG	**Konya-Eregli**	**3.05**	**57**	P	**Pn**	**06 48 22.0**	**+0.2**
KERG				S	**Sn**	**06 49 00.3**	**+3.1**
KERG				*i* AML	AML	06 49 05.0	
	comp=E,94nm,0.4s						
KERG				*i* AML	AML	06 49 05.0	
	comp=N,110nm,0.8s						
BRTR	**Keskin Array B**	**4.49**	**28**	P	**Pn**	**06 48 41.0**	**-0.4**
	1.4nm,0.3s,baz=221,slow=15,SNR=54						
BRTR				S	**Sn**	**06 49 32.7**	**+0.2**
	1.2nm,0.3s,baz=205,slow=24,SNR=7.1						
BRTR				LR	LR	06 51 15.0	
	comp=Z,44nm,19.6s,baz=216,slow=49						
MMAI	**Mount Meron Ar**	**4.62**	**125**	P	**Pn**	**06 48 43.7**	**+0.6**
	3.6nm,0.3s,baz=305,slow=12,SNR=8.6						
MMAI				S	**Sn**	**06 49 35.0**	**-0.4**
	5.9nm,0.3s,baz=319,slow=20,SNR=4.6						
IDI	**Anoyia**	**4.94**	**266**	P	**Pn**	**06 48 47.9**	**+0.3**
	3.4nm,0.3s,baz=100,slow=11,SNR=25						
IDI				S	**Sn**	**06 49 37.5**	**-6.0**
	7.2nm,0.3s,baz=6.7,slow=17,SNR=10						
ASF	**Jabal al Asfar**	**6.13**	**124**	P	Pn	06 49 08.5	+4.6
	0.4nm,0.3s,baz=17,slow=14,SNR=5.7						
ASF				S	**Sn**	**06 50 16.0**	**+3.3**
	0.2nm,0.3s,baz=30,slow=20,SNR=1.2						
EIL	**Elat**	**6.97**	**150**	P	**Pn**	**06 49 17.0**	**+1.7**
	1.0nm,0.3s,baz=328,slow=9.5,SNR=4.8						
EIL				S	**Sn**	**06 50 32.5**	**-0.7**
	0.6nm,0.3s,baz=44,slow=17,SNR=2.4						
AKASG	**Malin Array Be**	**14.97**	**356**	P	**Pn**	**06 51 06.2**	**+2.2**
	0.5nm,0.3s,baz=178,slow=10,SNR=6.6						
DAVOX	**Davos/Dischmat**	**19.20**	**311**	P	**P**	**06 51 56.7**	**+1.3**
	0.2nm,0.3s,baz=121,slow=7.4,SNR=7.9						
AKTO	**Aktyubinsk**	**24.44**	**45**	P	**P**	**06 52 49.3**	**-0.1**
	0.7nm,0.5s,baz=263,slow=7.7,SNR=4.7						
FINES	**FINESS Array B**	**25.87**	**355**	P	**P**	**06 53 00.8**	**-1.5**
	1.0nm,0.4s,baz=164,slow=11,SNR=17						
HFS	**Hagfors**	**26.80**	**341**	P	**P**	**06 53 10.0**	**-0.7**
	3.6nm,0.9s,baz=159,slow=13,SNR=7.4						
ARCES	**ARCESS Array B**	**33.95**	**357**	P	**P**	**06 54 11.9**	**-1.7**
	2.0nm,0.8s,baz=167,slow=8.3,SNR=5.7						
MKAR	**Makanchi Array**	**39.49**	**58**	P	**P**	**06 55 01.4**	**+0.3**
	0.4nm,0.6s,baz=281,slow=7.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**41.18**	**46**	P	**P**	**06 55 13.4**	**-1.5**
	0.6nm,0.5s,baz=282,slow=7.1,SNR=2.7						
SONM	**Songino Array**	**55.42**	**52**	P	**P**	**06 57 05.0**	**+0.1**
	0.2nm,0.5s,baz=302,slow=7.9,SNR=2.6						
YKA	**Yellowknife Ar**	**78.22**	**344**	P	**P**	**06 59 28.3**	**-1.1**
	0.3nm,0.7s,baz=28,slow=5.1,SNR=5.5						

*DJA **24** 06:53:17.9±0.5, 11.°5S±6.°×11.°8E±.°, h10km, M4.5/13, mb4.8/7, mB5.2/3, MLv4.4/13, Mw(mB)4.6/3*
*IDC **24** 06:53:23.7±9.3, 11.°17S×118.°50E, h71km±89km, mb3.4/3, mb1 3.6/5, mb1mx3.3/37, mbtmp3.8/5, ML4.2/2, Error ellipse: s-maj=66.7km s-min=35.6km az=74.0*

ISC 24 06:53:17.6±1.1, 11.°31S±0.°09×118.°32E±0.°07, h26km, n20, σ1§72/23, mb3.8/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.96**	**33**	P	**Pb**	**06 53 51.1**	**-1.6**
WBSI				S	**Sn**	**06 54 13.5**	**+0.4**
BASI	**Baing, Sumba**	**2.47**	**64**	P	**Pb**	**06 53 57.7**	**-3.6**
BASI				S	**Sn**	**06 54 26.9**	**+1.4**
IGBI	**Denpasar**	**3.98**	**308**	P	**Pn**	**06 54 17.6**	**+0.6**
SRBI	**Singaraja**	**4.43**	**316**	P	**Pn**	**06 54 25.3**	**+2.2**
JAGI	**Jajag, Banyuwa**	**4.98**	**304**	P	**Pn**	**06 54 29.4**	**-1.3**
ABJI	**Asem Bagus**	**5.33**	**311**	P	**Pn**	**06 54 36.5**	**+1.0**
	0.3nm43nm,1.2s						
BATI	**Baumata**	**5.37**	**79**	P	**Pn**	**06 54 38.4**	**+2.3**
	12nm,0.3s,baz=252,slow=19,SNR=7.7						
BATI				S	**Sn**	**06 55 37.4**	**+0.3**
	8.9nm,0.3s,baz=21,slow=21,SNR=2.6						
BATI	**Baumata**	**5.37**	**79**	P	**Pn**	**06 54 38.1**	**+2.0**
	0.2nm24nm,0.5s						
GMJI	**Gumukmas**	**5.67**	**302**	P	**Pn**	**06 54 40.2**	**0.0**
	0.3nm2μm54nm,0.5s						
BLJI	**Banyuglugur**	**5.85**	**307**	P	**Pn**	**06 54 43.2**	**+0.6**
	0.3nm2μm36nm,0.5s						
KMMI	**Kalianget**	**6.03**	**314**	P	**Pn**	**06 54 46.7**	**+1.6**
	0.7nm116nm,1.8s						
BKSI	**Bulukumba**	**6.21**	**17**	P	**Pn**	**06 54 51.2**	**+3.6**
	0.2nm17nm,0.6s						
KAPI	**Kappang**	**6.41**	**13**	S	**Sn**	**06 56 00.7**	**-2.1**
	4.4nm,0.3s,baz=45,slow=20,SNR=9.7						
PCJI	**Pacitan**	**7.69**	**293**	P	**Pn**	**06 55 07.8**	**-0.1**
	0.5nm2μm110nm,0.5s						
UGM	**Wanagama**	**8.39**	**293**	P	**Pn**	**06 55 18.0**	**+0.4**
WRA	**Warramunga Arr**	**17.65**	**121**	P	**Pn**	**06 57 20.2**	**-1.6**
	0.2nm,0.3s,baz=289,slow=14,SNR=6.5						
WRA				S	Sn	07 00 21.2	-17
	0.1nm,0.3s,baz=295,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**19.27**	**132**	P	**Pn**	**06 57 42.2**	**+0.7**
	0.4nm,0.3s,baz=309,slow=11,SNR=22						
ASAR				S	Sn	07 01 03.9	-13
	0.1nm,0.3s,baz=298,slow=22,SNR=6.3						
SONM	**Songino Array**	**59.83**	**351**	P	**P**	**07 03 21.2**	**+0.3**
	0.3nm,0.6s,baz=167,slow=7.0,SNR=2.1						
MKAR	**Makanchi Array**	**66.20**	**334**	P	**P**	**07 04 03.9**	**+0.7**
	0.5nm,0.6s,baz=145,slow=6.6,SNR=8.6						
ZALV	**Zalesovo Beam**	**70.95**	**340**	P	**P**	**07 04 32.5**	**-0.1**
	0.7nm,0.5s,baz=149,slow=5.6,SNR=4.4						

NNC 24 07:08:40.3±0.6, 50.°03N×78.°73E, h0km, mb3.5, mpv3.2, 9C-2D, Error ellipse: s-maj=5.3km s-min=2.8km az=68.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.61**	**348**	⇑P	Pg	07 08 52.2	+0.3
	34nm,0.5s						
KURBB				⇓S	Sg	07 09 01.3	+1.4
	103nm,0.5s						
KURK	**Kurchatov**	**0.69**	**354**	⇑P	Pg	07 08 53.4	-0.1
	10nm,0.4s						
KURK				⇑S	Sg	07 09 03.0	+0.5
	34nm,0.6s						
SEM	**Semipalatinsk**	**1.05**	**68**	P	Pg	07 09 00.3	0.0
	5.4nm,0.1s						
SEM				S	Sb	07 09 15.6	-0.1
	32nm,0.3s						
BRZS	**Berezniki**	**3.91**	**272**	Pg	Pb	07 09 51.7	+1.7
	4.8nm,0.3s						
BRZS				Lg	Lg	07 10 43.7	
	4.6nm,0.4s						
MK31	**Makanchi Array**	**4.01**	**142**	⇑Pn	Pn	07 09 44.3	+1.3
	0.4nm,0.4s,baz=325,slow=10.0,SNR=17						
MK31				⇓Pg	Pb	07 09 52.1	+0.3
	1.4nm,0.5s,baz=322,slow=14,SNR=10						
MK31				⇑Lg	Lg	07 10 45.2	
	14nm,0.6s,baz=330,slow=25,SNR=31						
OTUK	**Ortayu**	**4.56**	**249**	⇑Pn	Pn	07 09 51.5	+0.9
	1.7nm,0.5s						
OTUK				⇑Lg	Lg	07 11 02.6	
	5.9nm,0.7s						
ZAA0	**Zalesovo Array**	**5.43**	**41**	⇑Pn	Pn	07 10 03.3	+0.9
	0.3nm,0.6s						
ZAA0				⇑Lg	Lg	07 11 33.5	
	0.7nm,0.7s						
CHKK	**Chushkaly**	**6.29**	**192**	Pg	Pb	07 10 35.0	+4.4
	1.1nm,0.1s						
CHKK				Lg	Lg	07 11 58.0	
	6.8nm,0.4s						
KUU	**Kurty**	**6.35**	**196**	Pg	Pg	07 10 37.6	-4.4
	1.3nm,0.3s						
KUU				Lg	Lg	07 12 01.8	
	12nm,0.6s						
UZB	**Uzynbulak**	**6.89**	**178**	Pg	Pg	07 10 47.5	-4.7
	3.7nm,0.3s						
UZB				Lg	Lg	07 12 19.2	

*IDC **24** 07:13:19.2±2.5, 19.°48N×64.°66W, h0km, mb3.4/5, mb1 3.9/7, mb1mx3.6/32, mbtmp3.5/7, ML3.0/2, MS3.4/2, Ms1 3.5/2, ms1mx2.6/43, Error ellipse: s-maj=70.6km s-min=28.8km az=87.0*
*NEIC **24** 07:13:22.8±1.3, 19.°3N±0.°1×64.°85W±0.°08, h27km±20km, Error ellipse: s-maj=18.1km s-min=8.5km az=203.0*
*RSPR **24** 07:13:23.0, 19.°27N×64.°73W, h51km±10km, MD3.8/16*

ISC 24 07:13:22.7±0.8, 19.°25N±0.°05×64.°82W±0.°04, h25km, n77, σ1§17/83, mb3.5/5, 14C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.85**	**167**	⇑*e*P	**Pb**	**07 13 38.6**	**-0.2**
TBVI	**Tortola**	**0.85**	**167**	*e*S	**Sb**	**07 13 49.8**	**0.0**
STVI	**Saint Thomas**	**0.90**	**188**	⇓*e*P	**Pb**	**07 13 39.2**	**-0.5**
STVI	**Saint Thomas**	**0.90**	**188**	*e*S	**Sn**	**07 13 51.6**	**-0.3**
STVI	**Saint Thomas**	**0.90**	**188**	Pn	**Pb**	**07 13 39.0**	**-0.7**
STVI				Sn	**Sn**	**07 13 51.8**	**-0.2**
CUPR	**Culebra, Puert**	**1.03**	**205**	⇓*e*P	**Pn**	**07 13 40.9**	**-0.7**
CUPR	**Culebra, Puert**	**1.03**	**205**	*e*S	**Sb**	**07 13 54.6**	**-0.5**
CUPR	**Culebra, Puert**	**1.03**	**205**	Pn	**Pn**	**07 13 40.9**	**-0.7**
CUPR				IAML		07 13 58.2	
	comp=E,1μm,0.6s						
CUPR				IAML		07 13 60.0	
	comp=N,1μm,0.5s						
MTP	**Monte Pirata**	**1.34**	**211**	⇓*e*P	**Pn**	**07 13 45.5**	**-0.3**
MTP	**Monte Pirata**	**1.34**	**211**	*e*S	**Sn**	**07 14 02.5**	**-0.4**
MTP	**Monte Pirata**	**1.34**	**211**	Pn	**Pn**	**07 13 45.3**	**-0.5**
CBYP	**Canovanas**	**1.38**	**225**	⇑*e*P	**Pn**	**07 13 46.0**	**-0.4**
CBYP	**Canovanas**	**1.38**	**225**	*e*S	**Sn**	**07 14 03.6**	**-0.3**
CBYP	**Canovanas**	**1.38**	**225**		**Pn**	**07 13 45.6**	**-0.8**
HUMP	**Col San Antoni**	**1.47**	**222**	⇓*e*P	**Pn**	**07 13 46.9**	**-0.7**
HUMP	**Col San Antoni**	**1.47**	**222**	*e*S	**Sn**	**07 14 04.5**	**-1.6**
HUMP	**Col San Antoni**	**1.47**	**222**		**Pn**	**07 13 46.9**	**-0.7**
GCPR	**Guaynabo City**	**1.52**	**232**	⇑*e*P	**Pn**	**07 13 47.1**	**-1.2**
GCPR	**Guaynabo City**	**1.52**	**232**	*e*S	**Sn**	**07 14 06.6**	**-0.7**
GCPR	**Guaynabo City**	**1.52**	**232**		**Pn**	**07 13 47.2**	**-1.0**
PDPR	**Patillas Dam,**	**1.67**	**223**		**Pn**	**07 13 49.9**	**-0.5**
**SJ

NVAR			LR	LR	07 45 44.0	
	comp=N,40nm,19.1s,baz=170,slow=39					
YKA	**Yellowknife Ar**	**55.01 334**	P	**P**	**07 22 50.0**	**-1.7**
	comp=N,0.4nm,0.9s,baz=106,slow=7.2,SNR=4.1					
DLBC	**Dease Lake**	**60.85 327**	LR	LR	07 50 35.8	
	comp=N,30nm,19.1s,baz=322,slow=37					
ILAR	**Eielson Array**	**69.39 333**	P	**P**	**07 24 28.5**	**+0.4**
	comp=N,0.4nm,0.9s,baz=96,slow=5.5,SNR=3.5					

*SFS **24** 07:29:08.0, 35°.60N×3°.70W, ML2.5, ALBORAN SUR*
*INMG **24** 07:29:09.3±1.8, 35°.70N×3°.79W, h0km±5km, ML2.3, Error ellipse: s-maj=4.9km s-min=3.2km az=3.0*
*CNRM **24** 07:29:10.0, 35°.62N×3°.69W, h24km, ml2.8*
ISC 24 07:29:09.3±1.4, 35°.66N±0°.03×3°.67W±0°.04, h23km±14km, n30, σ1§56/54, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.49**	**206**	P	**Pb**	**07 29 18.5**	**-0.8**
PALE				S	**Sb**	**07 29 26.5**	**+0.3**
GOG	**Mont Gurugu**	**0.70**	**128**	P	**Pn**	**07 29 23.0**	**-0.8**
GOG				S	**Sb**	**07 29 32.8**	**+0.6**
CHAS	**Isla Isabel II**	**1.12**	**115**	P	**Pn**	**07 29 28.5**	**-1.0**
CHAS				S	**Sn**	**07 29 44.4**	**+0.3**
EMAL	**Malaga-Limoner**	**1.26**	**331**	P	**Pn**	**07 29 30.5**	**-0.9**
EMAL				S	**Sn**	**07 29 45.7**	**-1.9**
CEU	**Ceuta**	**1.40**	**280**	P	**Pn**	**07 29 31.6**	**-1.8**
CEU				S	**Sn**	**07 29 46.5**	**-4.7**
CHEFC	**Chefchaouen**	**1.47**	**248**	P	**Pn**	**07 29 35.3**	**+0.9**
CHEFC				S	**Sn**	**07 29 53.8**	**+0.8**
JBK	**JBK**	**1.60**	**145**	P	**Pn**	**07 29 36.3**	**0.0**
JBK				S	**Sn**	**07 29 55.3**	**-1.1**
IFR	**Ifrane**	**2.45**	**210**	P	**Pn**	**07 29 48.3**	**+0.3**
IFR				S	**Sn**	**07 30 16.0**	**-1.3**
MD31	**MD31**	**2.93**	**198**	P	**Pn**	**07 29 55.6**	**+1.1**
MD31				S	**Sn**	**07 30 27.4**	**-1.5**
MDT	**Midelt**	**2.94**	**196**	P	**Pn**	**07 29 56.3**	**+1.6**
MDT				S	**Sn**	**07 30 30.1**	**+0.8**
TDRA	**Tendrara**	**2.94**	**152**	P	**Pn**	**07 29 55.8**	**+1.0**
TDRA				S	**Sn**	**07 30 31.9**	**+2.4**
PVAQ	**Vaqueiros**	**3.69**	**299**	*e*Pn	**Pn**	**07 30 06.0**	**+1.1**
PVAQ				*e*Sn	**Sn**	**07 30 47.0**	**-0.7**
PVAQ				A	A	07 30 50.3	
	6.4nm,0.6s						
PVAQ	**Vaqueiros**	**3.69**	**299**	P	**Pn**	**07 30 05.8**	**+0.9**
PVAQ				S	**Sn**	**07 30 46.7**	**-1.1**
PBDV	**Barranco-do-Ve**	**3.78**	**296**	*e*Pn	**Pn**	**07 30 06.9**	**+0.8**
PBDV				*e*Sn	**Sn**	**07 30 49.6**	**-0.3**
PBDV				A	A	07 31 08.7	
	5.8nm,0.6s						
PCVE	**Castro Verde**	**4.03**	**301**	*e*Pn	**Pn**	**07 30 11.9**	**+2.4**
PCVE				*e*Sn	**Sn**	**07 30 55.8**	**-0.1**
PCVE				A	A	07 31 03.1	
	4.6nm,0.4s						
PESTR	**Estremoz**	**4.47**	**317**	*e*Pn	**Pn**	**07 30 17.2**	**+1.6**
PESTR				*e*Sn	**Sn**	**07 31 05.4**	**-1.6**
PESTR				A	A	07 31 22.8	
	3.1nm,0.6s						
PESTR	**Estremoz**	**4.47**	**317**	P	**Pn**	**07 30 17.9**	**+2.2**
PESTR				S	**Sn**	**07 31 09.2**	**+2.2**
PTEO	**Sao Teotonio**	**4.48**	**296**	*e*Sn	**Sn**	**07 31 07.0**	**-0.1**
EVO	**Evora**	**4.50**	**311**	*e*Pn	**Pn**	**07 30 17.1**	**+1.1**
EVO				*e*S	**Sn**	**07 31 06.1**	**-1.5**
EVO				A	A	07 31 20.6	
	2.8nm,0.3s						
PNCL	**Nicolau / Gran**	**4.60**	**304**	*e*Pn	**Pn**	**07 30 18.6**	**+1.3**
PNCL				*e*Sn	**Sn**	**07 31 09.2**	**-0.8**
PNCL				A	A	07 31 10.6	
	3.2nm,0.5s						
PMRV	**Marv??o**	**4.79**	**323**	*e*Pn	**Pn**	**07 30 21.6**	**+1.7**
PMRV				*e*Sn	**Sn**	**07 31 14.3**	**-0.3**
PMRV				A	A	07 31 32.8	
	2.8nm,0.6s						
PMTG	**Montargil**	**4.97**	**315**	*e*Pn	**Pn**	**07 30 23.6**	**+1.1**
PMTG				*e*Sn	**Sn**	**07 31 17.3**	**-1.9**
PCBR	**Castelo Branco**	**5.15**	**325**	*e*Pn	**Pn**	**07 30 26.5**	**+1.6**
PCBR				*e*Sn	**Sn**	**07 31 21.9**	**-1.7**
PCBR				A	A	07 31 30.3	
	2.0nm,0.6s						
PSBE	**So Bento**	**5.60**	**315**	*e*Pn	**Pn**	**07 30 32.8**	**+1.7**
PSBE				*e*Sn	**Sn**	**07 31 33.1**	**-1.6**
MTE	**Manteigas**	**5.63**	**328**	*e*Pn	**Pn**	**07 30 33.6**	**+2.0**
PVIS	**Viseu**	**6.04**	**328**	*e*Pn	**Pn**	**07 30 39.2**	**+1.9**
MVO	**Moncorvo**	**6.10**	**335**	*e*Pn	**Pn**	**07 30 39.7**	**+1.7**
PVRL	**Vila Real**	**6.44**	**332**	*e*Pn	**Pn**	**07 30 44.7**	**+2.0**
PVRL				*e*Sn	**Sn**	**07 31 55.1**	**-0.4**
PVRL				A	A	07 31 55.7	
	4.1nm,0.6s						
PBRG	**Braganca**	**6.59**	**340**	*e*Pn	**Pn**	**07 30 46.3**	**+1.6**
PGAV	**Gavieira, Arco**	**7.25**	**332**	*e*Pn	**Pn**	**07 30 55.8**	**+2.0**

*IDC **24** 07:39:51.8±4.2, 7°.37S×147°.68E, h80km±37km, mb3.4/3, mb1 3.7/4, mb1mx3.3/29, mbtmp3.8/4, Error ellipse: s-maj=69.2km s-min=31.5km az=122.0*
ISC 24 07:39:54.5±1.5, 7°.66S±0°.10×147°.8E±0°.2, h100km, n11, σ2§12/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.85**	**200**	P	**Pn**	**07 40 26.5**	**+1.3**
	318nm,0.3s,baz=25,slow=8.6,SNR=495						
PMG				S	**Sn**	**07 40 43.5**	**-5.0**
	152nm,0.3s,baz=30,slow=12,SNR=5.6						
PMG	**Port Moresby**	**1.85**	**200**	P	**Pn**	**07 40 26.8**	**+1.6**
RABL	**Rabaul**	**5.54**	**52**	P	Pn	07 41 22.1	+7.5
COEN	**Coen**	**7.74**	**216**	P	**Pn**	**07 41 45.5**	**+1.0**
GENI	**Genyem**	**9.12**	**303**	P	**Pn**	**07 42 03.2**	**-0.2**
MTSU	**Mount Surprise**	**10.95**	**198**	P	**Pn**	**07 42 30.0**	**+1.8**
WRAB	**Tennant Creek**	**17.86**	**226**	P	**Pn**	**07 43 56.8**	**+0.1**
	5.5nm,1.0s						
WRA	**Warramunga Arr**	**17.87**	**226**	P	**Pn**	**07 43 56.8**	**-0.1**
	1.0nm,0.3s,baz=51,slow=11,SNR=40						
ASAR	**Alice Springs**	**20.77**	**218**	P	**P**	**07 44 28.4**	**+0.8**
	1.2nm,0.3s,baz=49,slow=9.7,SNR=35						
STKA	**Stephens Creek**	**24.78**	**193**	P	**P**	**07 45 07.1**	**0.0**
	1.6nm,0.7s,baz=6.5,slow=9.8,SNR=5.6						
ILAR	**Eielson Array**	**86.69**	**23**	P	**P**	**07 52 25.4**	**-1.4**
	0.2nm,0.4s,baz=258,slow=4.3,SNR=5.5						

*IDC **24** 07:49:40.8±1.4, 1°.60N×125°.06E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/32, mbtmp3.9/4, Error ellipse: s-maj=184.9km s-min=23.1km az=64.0*
*NEIC **24** 07:49:43.2±1.9, 2°.32N±0°.05×125°.66E±0°.07, h66km±12km, mb4.2/16, Error ellipse: s-maj=10.3km s-min=7.5km az=92.0*
*DJA **24** 07:49:46.2±0.7, 2°.N±4°×12°.5E±°, h19km±5km, M3.9/8, MLv3.9/8*
ISC 24 07:49:42.3±1.0, 1°.9N±0°.1×125°.55E±0°.06, h10km, n38, σ2§90/26, mb4.2/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.01**	**231**	P	**Pn**	**07 50 17.7**	**+1.4**
TNTI	**Ternate**	**2.11**	**120**	P	**Pn**	**07 50 21.2**	**+3.6**
TNTI	**Ternate**	**2.11**	**120**	Pn	**Pn**	**07 50 18.9**	**+1.3**
GTOI	**Gorontalo**	**2.81**	**245**	P	**Pn**	**07 50 29.2**	**+2.0**
GTOI				S	**Sn**	**07 51 02.7**	**+1.5**
SANI	**Sanana**	**3.89**	**173**	P	**Pn**	**07 50 42.1**	**-0.1**
LUWI	**Luwuk**	**3.99**	**224**	Pn	**Pn**	**07 50 46.7**	**+3.2**
APSI	**Ampana**	**4.76**	**235**	P	Pn	07 50 59.8	+5.6
TOLI2	**Tolitoli**	**4.82**	**261**		**Pn**	**07 50 56.6**	**+1.7**
TOLI2				Sn	**Sn**	**07 51 49.2**	**-1.7**
FAKI	**Fak Fak**	**8.20**	**125**	Pn	Pn	07 51 40.6	-0.9
KKM	**Kota Kinabalu**	**10.20**	**294**	Pn	Pn	07 52 05.2	-3.7
MTN	**Manton Dam**	**15.61**	**159**	Pn	**Pn**	**07 53 24.4**	**+1.8**
KNRA	**Kununurra**	**17.70**	**170**	P	**Pn**	**07 53 49.7**	**+0.7**
KNRA				IAmb	IAmb	07 53 50.2	
	comp=Z,7.8nm,0.9s						
WB0	**Warramunga Arr**	**23.17**	**158**	P	**P**	**07 54 48.0**	**-1.2**
WB0				IAmb	IAmb	07 54 49.8	
	comp=Z,6.8nm,0.5s						
WRAB	**Tennant Creek**	**23.30**	**159**	P	**P**	**07 54 48.7**	**-1.9**
WRAB				IAmb	IAmb	07 54 52.8	
	comp=Z,5.5nm,0.8s						
WRA	**Warramunga Arr**	**23.31**	**159**	P	**P**	**07 54 48.8**	**-1.8**
	comp=Z,3.6nm,0.4s,baz=336,slow=10,SNR=39						
WRA	**Warramunga Arr**	**23.31**	**159**	P	**P**	**07 54 47.9**	**-2.8**
WB2	**Warramunga Arr**	**23.31**	**159**	P	**P**	**07 54 48.6**	**-2.1**
WB2				IAmb	IAmb	07 54 52.9	
	comp=Z,6.8nm,0.8s						
WR0	**Warramunga Arr**	**23.40**	**158**	P	**P**	**07 54 49.8**	**-1.7**
WR0				IAmb	IAmb	07 54 52.3	
	comp=Z,7.7nm,1.1s						
COEN	**Coen**	**23.49**	**132**	P	P	07 54 49.0	-3.5
COEN				IAmb	IAmb	07 55 05.3	
	comp=Z,6.3nm,1.1s						
MBWA	**Marble Bar**	**23.56**	**194**	P	**P**	**07 54 51.6**	**-1.5**
JMZ	**Minamidaito 2**	**24.45**	**12**	P	P	07 54 50.5	-11
IPM	**Ipoh**	**24.62**	**277**	P	P	07 54 56.6	-6.6
IPM				IAmb	IAmb	07 54 57.6	
	comp=Z,25nm,1.3s						
AS31	**Alice Springs**	**26.63**	**163**	P	**P**	**07 55 18.4**	**-2.9**
ASAR	**Alice Springs**	**26.63**	**163**	P	**P**	**07 55 20.6**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=342,slow=11,SNR=34						
ASAR				PcP	**PcP**	**07 58 45.7**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=348,slow=2.2,SNR=11						
ASAR	**Alice Springs**	**26.63**	**163**	P	**P**	**07 55 19.7**	**-1.6**
FORT	**Forrest**	**32.53**	**176**	P	**P**	**07 56 11.9**	**-1.6**
FORT				IAmb	IAmb	07 56 14.8	
	comp=Z,7.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.47**	**192**	P	P	07 56 35.8	-3.3
BBOO	**Buckleboo**	**35.87**	**165**	P	P	07 56 38.7	-3.9
STKA	**Stephens Creek**	**36.83**	**157**	P	**P**	**07 56 51.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=325,slow=8.6,SNR=4.7						
STKA	**Stephens Creek**	**36.83**	**157**	P	P	07 56 46.4	-4.3
H11S3	**WAKE ISLAND Hy**	**43.58**	**65**	T	T	08 44 50.8	
	baz=252,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**43.60**	**65**	T	T	08 45 01.9	
	baz=252,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**43.60**	**65**	T	T	08 44 51.4	
	baz=252,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**44.14**	**63**	T	T	08 45 45.8	
	baz=252						
H11N2	**WAKE ISLAND Hy**	**44.15**	**63**	T	T	08 45 43.7	
	baz=252						
H11N3	**WAKE ISLAND Hy**	**44.16**	**63**	T	T	08 45 44.2	
	baz=252						
MKAR	**Makanchi Array**	**58.44**	**326**	P	**P**	**07 59 38.2**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=136,slow=6.8,SNR=1.7						
MKAR				PcP	**PcP**	**08 00 28.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=138,slow=4.6,SNR=3.0						
KKAR	**Karatay Array**	**63.81**	**318**	P	P	08 00 06.2	-8.7

*IDC **24** 08:02:15.6±6.1, 13°.93N×92°.80W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.5/39, mbtmp3.3/6, ML3.2/3, Error ellipse: s-maj=112.0km s-min=26.5km az=4.0*
*MEX **24** 08:02:16.6±0.7, 13°.84N×92°.89W, h2km±72km, MD3.8*
ISC 24 08:02:17.8±2.5, 14°.14N±0°.09×92°.82W±0°.05, h3km±12km, n15, σ1§01/26, mb3.3/3, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.93**	**35**	*e*P	**Pn**	**08 02 36.9**	**-0.9**
THIG				*e*S	**Sn**	**08 02 51.5**	**-0.1**
PATR	**El Naranjo**	**1.12**	**31**	*e*P	**Pn**	**08 02 39.9**	**-0.7**
PATR				*e*S	**Sn**	**08 02 58.7**	**+2.0**
CHUJ	**Union Juarez**	**1.17**	**36**	*e*P	**Pg**	**08 02 40.4**	**+0.2**
CHUJ				*e*S	**Sn**	**08 02 58.7**	**+0.8**
PAVE	**Pavencul**	**1.22**	**31**	*e*P	**Pg**	**08 02 41.2**	**+0.1**
PAVE				*e*S	**Sn**	**08 03 00.1**	**+1.1**
PCIG		**1.60**	**346**	*e*P	**Pn**	**08 02 46.1**	**-0.8**
PCIG				*e*S	**Sb**	**08 03 08.4**	**-0.2**
CCIG	**Comitan**	**2.23**	**17**	*e*P	**Pb**	**08 02 58.4**	**-0.3**
CCIG				*e*S	**Sg**	**08 03 30.1**	**+0.7**
APG	**El Apazote**	**2.44**	**69**	Pn	**Pn**	**08 02 58.2**	**-0.5**
	3.9nm,0.3s,baz=304,slow=13,SNR=21						
APG				Sn	**Sn**	**08 03 29.6**	**+0.4**
	3.8nm,0.3s,baz=222,slow=14,SNR=4.4						
TGIG		**2.63**	**354**	*e*P	**Pn**	**08 03 02.3**	**+1.0**
TGIG				*e*S	**Sb**	**08 03 35.5**	**-3.0**
UXUV	**UXUV**	**3.40**	**338**	*e*P	**Pn**	**08 03 12.3**	**+0.6**
UXUV				*e*S	**Sn**	**08 03 53.3**	**+0.7**
CMIG	**Matias Romero**	**3.54**	**326**	Pn	**Pn**	**08 03 13.9**	**+0.3**
	1.1nm,0.3s,baz=152,slow=12,SNR=12						
CMIG				Sn	**Sn**	**08 03 55.8**	**-0.3**
	1.8nm,0.3s,baz=88,slow=16,SNR=1.9						
CMIG	**Matias Romero**	**3.54**	**326**	*e*P	**Pn**	**08 03 13.1**	**-0.6**
CMIG				*e*S	**Sn**	**08 03 56.0**	**0.0**
TXAR	**Lajitas Array**	**18.14**	**328**	P	**P**	**08 06 32.2**	**+0.9**
	0.0nm,0.3s,baz=150,slow=17,SNR=1.9						
PDAR	**Pinedale Array**	**31.96**	**336**	P	**P**	**08 08 46.2**	**+0.9**
	0.3nm,0.8s,baz=122,slow=4.7,SNR=1.7						
NVAR	**Mina Array Bea**	**33.06**	**322**	P	**P**	**08 08 55.0**	**+0.1**
	0.2nm,0.5s,baz=137,slow=7.1,SNR=3.8						
YKA	**Yellowknife Ar**	**50.70**	**347**	P	**P**	**08 11 17.8**	**-0.6**
	1.3nm,0.8s,baz=148,slow=7.5,SNR=26						

*IDC **24** 08:08:48.7±2.9, 33°.74S×178°.77W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/41, mbtmp3.9/3, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/57, Error ellipse: s-maj=68.3km s-min=35.3km az=120.0*
*WEL **24** 08:09:56.6, 38°S±28°×17°8E±1°6, h15km±19km, M2.2/8, ML2.1/8, MLv2.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=172.4*
ISC 24 08:08:49.4±2.3, 33°.7S±0°.2×178°.8W±0°.3, h10km, n24, σ1§28/23, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.75**	**208**	P	**Pn**	**08 10 01.2**	**+0.1**
PKGZ	**Pakihiroa**	**4.95**	**211**	P	**Pn**	**08 10 00.6**	**-3.3**
HAZ	**Te Kaha**	**4.97**	**214**	P	**Pn**	**08 10 05.0**	**+0.9**
PUZ	**Puketiti**	**5.03**	**208**	P	**Pn**	**08 10 06.5**	**+1.5**
RUGZ	**Raukumara Rang**	**5.19**	**213**	P	**Pn**	**08 10 07.5**	**+0.3**
TWGZ	**Tauwhareparae**	**5.24**	**210**	P	**Pn**	**08 10 09.7**	**+1.9**
CNGZ	**Carnagh Statio**	**5.41**	**206**	P	**Pn**	**08 10 09.6**	**-0.6**
MWZ	**Matawai**	**5.56**	**212**	P	**Pn**	**08 10 13.1**	**+0.9**
URZ	**Urewera**	**5.69**	**215**	Pn	**Pn**	**08 10 14.1**	**+0.1**
	3.3nm,0.3s,baz=284,slow=4.3,SNR=30						
URZ				Sn	**Sn**	**08 11 18.2**	**-1.1**
	7.0nm,0.3s,baz=188,slow=21,SNR=11						
URZ	**Urewera**	**5.69**	**215**	P	**Pn**	**08 10 14.5**	**+0.5**
RIGZ	**Rimuhau**	**5.78**	**208**	P	**Pn**	**08 10 15.9**	**+0.7**
MUGZ	**Murupara**	**6.03**	**216**	P	**Pn**	**08 10 20.0**	**+1.3**
MHGZ	**Mahia Peninsul**	**6.11**	**205**	P	**Pn**	**08 10 22.1**	**+2.3**
RAHZ	**Arahi**	**6.24**	**211**	P	**Pn**	**08 10 22.7**	**+1.1**
NMHZ	**Naumai**	**6.51**	**212**	P	**Pn**	**08 10 25.6**	**+0.3**
BKZ	**Black Stump Fm**	**6.71**	**214**	P	**Pn**	**08 10 28.2**	**+0.2**
KWHZ	**Kaweka Forest**	**6.95**	**213**	P	**Pn**	**08 10 31.0**	**-0.3**
ETVZ	**East Tongariro**	**7.06**	**218**	P	**Pn**	**08 10 33.4**	**+0.4**
OTVZ	**Oturere**	**7.11**	**218**	P	**Pn**	**08 10 34.5**	**+0.9**
MSVF	**Nonsavu**	**16.11**	**349**	LR	LR	08 17 55.9	
	comp=Z,63nm,18.6s,baz=206,slow=34						
STKA	**Stephens Creek**	**33.26**	**262**	LR	LR	08 27 35.1	
	comp=Z,60nm,19.2s,baz=33,slow=34						
ASAR	**Alice Springs**	**42.41**	**271**	P	**P**	**08 16 45.0**	**+0.6**
	0.7nm,0.6s,baz=112,slow=7.5,SNR=19						
WRA	**Warramunga Arr**	**43.69**	**276**	P	**P**	**08 16 55.2**	**+0.4**
	1.0nm,0.5s,baz=119,slow=7.3,SNR=13						
FINES	**FINESS Array B**	**147.94**	**338**	PKPbc	**PKiKP**	**08 28 34.6**	**-1.4**
	2.9nm,0.8s,baz=20,slow=4.4,SNR=9.7						

IDC 24 08:12:20.8±1.6, 12°.87N×141°.65E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/42, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=40.3km s-min=31.3km az=101.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.21**	**77**	Pn	Pn	08 13 12.6	+0.1
	5.2nm,0.3s,baz=37,slow=18,SNR=1.8						
GUMO				Sn	Sn	08 13 37.9	-14
	30nm,0.3s,baz=158,slow=23,SNR=16						
WRA	**Warramunga Arr**	**33.39**	**193**	P	P	08 19 01.5	+0.3
	0.7nm,0.6s,baz=16,slow=9.6,SNR=8.5						
ASAR	**Alice Springs**	**37.09**	**192**	P	P	08 19 32.6	-0.5
	0.2nm,0.6s,baz=13,slow=9.3,SNR=5.7						
MKAR	**Makanchi Array**	**59.85**	**317**	P	P	08 22 28.2	-0.1
	0.3nm,0.9s,baz=101,slow=7.5,SNR=2.3						

*JMA **24** 08:25:35.7±0.2, 33°.79N×140°.99E, h33km, M3.2*
*IDC **24** 08:25:36.5±3.9, 33°.69N×141°.03E, h63km±30km, mb3.2/4, mb1 3.4/5, mb1mx2.9/33, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=42.6km s-min=11.1km az=86.0*
ISC 24 08:25:34.9±1.3, 33°.70N±0°.05×141°.2E±0°.1, h48km, n18, σ0§74/24, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.96**	**351**	P	**Pn**	**08 25 51.5**	**-0.1**
BSO3	**Boso 3**	**1.22**	**334**	P	**Pn**	**08 25 55.7**	**+0.4**
JHJ2	**Mitsune**	**1.27**	**243**	P	**Pn**	**08 25 56.6**	**+0.4**
JHJ2				*e*S	**Sn**	**08 26 12.3**	**+0.3**
JHJ	**Hachijo jima 2**	**1.29**	**244**	P	**Pn**	**08 25 56.8**	**+0.3**
	122nm,0.3s,baz=357,slow=21,SNR=15						
JHJ				S	**Sn**	**08 26 12.1**	**-0.5**
	176nm,0.3s,baz=69,slow=23,SNR=16						
JHCJ	**Hachijojimakas**	**1.30**	**242**	P	**Pn**	**08 25 57.1**	**+0.5**
JHCJ				*e*S	**Sn**	**08 26 13.1**	**+0.2**
BSO4	**Boso 4**	**1.46**	**332**	P	**Pn**	**08 25 59.4**	**+0.7**
KTR	**Katsuura**	**1.60**	**334**	S	**Sn**	**08 26 20.2**	**-0.1**
JIM2	**Oshima 3**	**1.76**	**306**	P	**Pn**	**08 26 02.5**	**-0.4**
KTJ3	**Kamata3**	**2.12**	**306**	P	**Pn**	**08 26 07.5**	**-0.4**
KTJ3				S	**Sn**	**08 26 31.5**	**-1.5**
JIZS	**Izushimoda**	**2.15**	**299**	P	**Pn**	**08 26 08.7**	**+0.5**
JOD2	**Odawara 2**	**2.31**	**313**	P	**Pn**	**08 26 10.5**	**0.0**
JFNN	**Fujinakano**	**2.53**	**307**	P	**Pn**	**08 26 14.0**	**+0.5**
MJAR	**Matsushiro Arr**	**3.73**	**320**	P	**Pn**	**08 26 31.1**	**+1.2**
	0.7nm,0.3s,baz=147,slow=11,SNR=28						
MJAR				S	**Sn**	**08 27 11.8**	**-0.7**
	0.4nm,0.3s,baz=217,slow=13,SNR=7.1						
MAT	**Matsushiro**	**3.73**	**320**	P	**Pn**	**08 26 31.4**	**+1.5**
MAT				S	**Sn**	**08 27 12.9**	**+0.3**
SONM	**Songino Array**	**29.60**	**309**	P	**P**	**08 31 36.5**	**+1.1**
	0.3nm,0.4s,baz=108,slow=9.3,SNR=1.9						
MKAR	**Makanchi Array**	**45.78**	**305**	P	**P**	**08 33 51.1**	**-0.5**
	0.2nm,0.6s,baz=88,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**53.74**	**188**	P	**P**	**08 34 51.3**	**-1.0**
	0.9nm,0.7s,baz=3.8,slow=7.6,SNR=9.7						
ASAR	**Alice Springs**	**57.47**	**188**	P	**P**	**08 35 18.6**	**-0.4**
	0.2nm,0.4s,baz=4.2,slow=6.9,SNR=7.3						

WEL 24 08:32:09.8, 38°S±2°×17°7E±°, h10km±2km, M3.3/99, ML3.7/30, MLv3.3/99, Error ellipse: s-maj=0.0km s-min=0.0km az=128.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.06**	**38**	P	**Pg**	08 32 12.3	+0.4
MARZ	**Manawahe**	**0.21**	**248**	P	**Pg**	08 32 15.3	+1.1
MARZ				S	**Sg**	08 32 19.1	+1.9
EDRZ	**Edgecumbe**	**0.25**	**216**	P	**Pg**	08 32 16.1	+1.2
OPRZ	**Ohinepanea**	**0.30**	**282**	P	**Pb**	08 32 16.5	-0.7
OPRZ				S	**Sg**	08 32 21.0	+1.2
URZ	**Urewera**	**0.38**	**158**	P	**Pb**	08 32 18.1	-0.6
URZ				S	**Sb**	08 32 23.8	-0.8
MKRZ	**Makatiti**	**0.43**	**237**	P	**Pb**	08 32 19.8	+0.3
WIZ	**White Island**	**0.43**	**29**	P	**Pb**	08 32 19.2	-0.3
WSRZ	**White Island S**	**0.44**	**27**	P	**Pb**	08 32 20.1	+0.5
LIRZ	**Lichensteins R**	**0.44**	**257**	P	**Pb**	08 32 19.7	+0.1
TARZ	**Mount Tarawera**	**0.47**	**225**	P	**Pb**	08 32 20.6	+0.4
OMRZ	**Omania**	**0.48**	**245**	P	**Pb**	08 32 20.4	0.0
RRRZ	**Republican Roa**	**0.54**	**217**	P	**Pb**	08 32 21.4	0.0
KARZ	**Kaharoa**	**0.55**	**258**	P	**Pb**	08 32 21.7	+0.1
TGRZ	**Tauranga**	**0.56**	**288**	P	**Pb**	08 32 21.4	-0.2
HLRZ	**Highlands Stat**	**0.57**	**232**	P	**Pb**	08 32 22.5	+0.6
MUGZ	**Murupara**	**0.58**	**192**	P	**Pg**	08 32 21.6	+0.5
RUGZ	**Raukumara Rang**	**0.60**	**96**	P	**Pb**	08 32 21.9	-0.5
RUGZ				S	**Sb**	08 32 30.2	-0.8
NGRZ	**Ngongotaha**	**0.61**	**251**	P	**Pb**	08 32 23.3	+0.6
UTU	**Utuhina**	**0.64**	**245**	P	**Pn**	08 32 24.4	-0.5
MWZ	**Matawai**	**0.64**	**132**	P	**Pb**	08 32 22.9	-0.1
HSRZ	**Hossack Road**	**0.67**	**233**	P	**Pb**	08 32 24.4	+0.7
HAZ	**Te Kaha**	**0.69**	**78**	P	**Pb**	08 32 23.7	-0.3
HRRZ	**Handcock Road**	**0.70**	**226**	P	**Pb**	08 32 24.7	+0.6
RAGZ	**Rawiri**	**0.70**	**147**	P	**Pb**	08 32 24.4	+0.2
RAGZ				S	**Sb**	08 32 34.5	+0.5
RTZ	**Ruatahuna**	**0.71**	**177**	P	**Pb**	08 32 24.4	+0.1
RTZ				S	**Sb**	08 32 34.7	+0.5
PRRZ	**Plateau Road**	**0.73**	**215**	P	**Pb**	08 32 24.7	+0.1
GRRZ	**Galatos

IDC 24 08:41:46.6±48.0, 17°50S×178°07W, h590km±54km, mb2.9/3, mb1 3.0/4, mb1mx2.8/34, mbtmp3.8/4, Error ellipse: s-maj=898.3km s-min=130.2km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.71**	**266**	P	P	08 43 09.5	0.0
	0.7nm,0.3s,baz=119,slow=6.6,SNR=4.2						
STKA	**Stephens Creek**	**39.11**	**241**	P	P	08 48 24.6	-0.1
	0.8nm,0.5s,baz=76,slow=8.6,SNR=4.2						
WRA	**Warramunga Arr**	**45.03**	**259**	P	P	08 49 10.8	-0.4
	0.3nm,0.5s,baz=95,slow=6.9,SNR=7.0						
ASAR	**Alice Springs**	**45.22**	**254**	P	P	08 49 12.6	0.0
	3.6nm,0.6s,baz=88,slow=8.4,SNR=85						

WEL 24 08:46:55.6, 38°S±2°×17°7E±°, h7km±2km, M3.4/25, ML3.6/25, MLv3.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=121.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.06**	**30**	P	Pg	08 46 57.8	+0.5
WHRZ				S	Sg	08 46 58.4	-0.1
MARZ	**Manawahe**	**0.22**	**250**	P	Pg	08 47 01.0	+1.0
MARZ				S	Sg	08 47 04.8	+1.8
EDRZ	**Edgecumbe**	**0.25**	**218**	P	Pb	08 47 01.8	-0.7
EDRZ				S	Sb	08 47 05.9	-1.3
OPRZ	**Ohinepanea**	**0.31**	**282**	P	Pg	08 47 02.2	+0.6
OPRZ				S	Sg	08 47 06.3	+0.6
URZ	**Urewera**	**0.38**	**159**	P	Pg	08 47 03.7	+0.8
URZ				S	Sb	08 47 09.6	-1.0
WIZ	**White Island**	**0.43**	**28**	P	Pb	08 47 05.1	-0.4
WSRZ	**White Island S**	**0.43**	**26**	P	Pb	08 47 05.7	+0.1
MKRZ	**Makatiti**	**0.44**	**238**	P	Pb	08 47 05.6	-0.1
LIRZ	**Lichensteins R**	**0.45**	**258**	P	Pb	08 47 05.3	-0.5
LIRZ				S	Sb	08 47 12.1	-0.6
TARZ	**Mount Tarawera**	**0.47**	**226**	P	Pb	08 47 06.4	+0.1
OMRZ	**Omania**	**0.49**	**246**	P	Pb	08 47 06.1	-0.4
RRRZ	**Republican Roa**	**0.54**	**218**	P	Pb	08 47 07.1	-0.4
KARZ	**Kaharoa**	**0.56**	**258**	P	Pb	08 47 07.4	-0.3
TGRZ	**Tauranga**	**0.56**	**288**	P	Pb	08 47 07.1	-0.6
HLRZ	**Highlands Stat**	**0.57**	**235**	P	Pb	08 47 08.1	+0.2
MUGZ	**Murupara**	**0.58**	**193**	P	Pg	08 47 07.3	+0.4
MUGZ				S	Sb	08 47 16.0	-0.6
RUGZ	**Raukumara Rang**	**0.59**	**96**	P	Pg	08 47 07.5	+0.6
RUGZ				S	Sb	08 47 15.9	-0.9
NGRZ	**Ngongotaha**	**0.62**	**252**	P	Pb	08 47 09.0	+0.2
MWZ	**Matawai**	**0.63**	**133**	P	Pb	08 47 08.5	-0.4
MWZ				S	Sb	08 47 17.5	-0.5
UTU	**Utuhina**	**0.65**	**245**	P	Pb	08 47 09.8	+0.7
HSRZ	**Hossack Road**	**0.68**	**233**	P	Pb	08 47 10.5	+0.8
HAZ	**Te Kaha**	**0.69**	**77**	P	Pb	08 47 09.3	-0.5
RAGZ	**Rawiri**	**0.70**	**147**	P	Pb	08 47 10.0	-0.1
RAGZ				S	Sb	08 47 20.2	+0.3
HRRZ	**Handcock Road**	**0.70**	**227**	P	Pb	08 47 10.7	+0.5
RTZ	**Ruatahuna**	**0.71**	**177**	P	Pb	08 47 09.9	-0.4
RTZ				S	Sb	08 47 20.3	+0.1
GRRZ	**Galatos Road**	**0.79**	**236**	P	Pb	08 47 12.0	+0.4
KMRZ	**Kaimai**	**0.79**	**274**	P	Pb	08 47 11.3	-0.3
ALRZ	**Allen Road**	**0.80**	**315**	P	Pb	08 47 11.8	-0.1
MYRZ	**Mayor Island**	**0.84**	**318**	P	Pg	08 47 11.9	+0.2
WPRZ	**Whakapapatarin**	**0.86**	**225**	P	Pb	08 47 13.2	+0.4
TWGZ	**Tauwhareparae**	**0.87**	**108**	P	Pn	08 47 13.7	-0.5
PKGZ	**Pakihiroa**	**0.90**	**89**	P	Pb	08 47 13.8	+0.2
SNGZ	**Shannon Statio**	**0.93**	**160**	P	Pb	08 47 14.5	+0.5
SNGZ				S	Sn	08 47 28.2	-0.4
MTHZ	**Maungataniwha**	**0.95**	**185**	P	Pg	08 47 09.2	-4.6
MRHZ	**Matea Rd**	**1.01**	**204**	P	Pb	08 47 15.2	-0.2
RAHZ	**Arahi**	**1.01**	**173**	P	Pn	08 47 15.9	-0.3
RAHZ				S	Sn	08 47 30.5	-0.2
RIGZ	**Rimuhau**	**1.03**	**141**	P	Pn	08 47 17.3	+0.9
KUTZ	**Kaahu Road**	**1.05**	**236**	P	Pg	08 47 15.8	0.0
PUZ	**Puketiti**	**1.06**	**99**	P	Pn	08 47 17.1	+0.3
WHTZ	**Whakaora**	**1.08**	**225**	P	Pn	08 47 17.9	+0.7
MXZ	**Matakaoa Point**	**1.14**	**73**	P	Pn	08 47 19.2	+1.3
TOZ	**Tahuroa Road**	**1.15**	**278**	P	Pg	08 47 17.4	-0.2
CNGZ	**Carnagh Statio**	**1.15**	**120**	P	Pn	08 47 20.2	+2.1
WMGZ	**Waiomatatini S**	**1.17**	**86**	P	Pn	08 47 19.7	+1.4
TLZ	**Tolley Road**	**1.18**	**249**	P	Pg	08 47 17.0	-1.2
WHHZ	**Waihua**	**1.19**	**169**	P	Pn	08 47 25.1	+6.5
NMHZ	**Naumai**	**1.19**	**185**	P	Pn	08 47 18.9	+0.2
KNZ	**Kokohu**	**1.25**	**153**	P	Pg	08 47 20.4	+0.8
PRGZ	**Paritu Road**	**1.26**	**144**	P	Pg	08 47 21.0	+1.3
BKZ	**Black Stump Fm**	**1.30**	**195**	P	Pn	08 47 19.5	-0.8
RATZ	**Rangitukua**	**1.32**	**223**	P	Pg	08 47 21.0	0.0
ARHZ	**Aropaoanui**	**1.35**	**178**	P	Pg	08 47 21.8	+0.3
ARHZ				S	Sg	08 47 42.0	+2.9
RITZ	**Rihia Road**	**1.36**	**218**	P	Pg	08 47 22.5	+0.8
KATZ	**Kakaramea**	**1.44**	**222**	P	Pg	08 47 28.3	+5.0
MHGZ	**Mahia Peninsul**	**1.46**	**149**	P	Pg	08 47 23.3	-0.2
KUZ	**Kuaotunu**	**1.51**	**320**	P	Pn	08 47 22.4	-0.7
MCHZ	**McNeill Hill**	**1.54**	**187**	P	Pg	08 47 25.1	-0.1
NTVZ	**North Tongarir**	**1.55**	**219**	P	Pb	08 47 24.4	-0.2
TMVZ	**Te Maari**	**1.55**	**218**	P	Pg	08 47 25.0	-0.2
ETVZ	**East Tongariro**	**1.56**	**218**	P	Pn	08 47 24.3	+0.5
KRVZ	**Karewarewa**	**1.56**	**220**	P	Pg	08 47 26.3	+0.8
KWHZ	**Kaweka Forest**	**1.57**	**195**	P	Pn	08 47 23.8	0.0
NNVZ	**North Ngauruho**	**1.60**	**220**	P	Pb	08 47 25.4	-0.2
OTVZ	**Oturere**	**1.60**	**218**	P	Pn	08 47 24.7	+0.2
WTVZ	**West Tongariro**	**1.60**	**221**	P	Pg	08 47 26.2	-0.1
SNVZ	**South Ngauruho**	**1.63**	**218**	P	Pn	08 47 25.4	+0.5
NGZ	**Ngauruhoe**	**1.64**	**219**	P	Pg	08 47 27.4	+0.3
TUVZ	**Tukino**	**1.69**	**216**	P	Pg	08 47 27.5	-0.5
BHHZ	**Black Hill Sta**	**1.72**	**203**	P	Pn	08 47 25.6	-0.4
FWVZ	**Far West T-bar**	**1.73**	**218**	P	Pg	08 47 28.5	-0.2
HIZ	**Hauiti**	**1.75**	**249**	P	Pn	08 47 25.6	-0.7
MOVZ	**Moawhango**	**1.76**	**211**	P	Pn	08 47 27.3	+0.8
WNVZ	**Wahianoa**	**1.76**	**216**	P	Pb	08 47 28.8	+0.4
TRVZ	**Turoa**	**1.76**	**218**	P	Pb	08 47 28.9	+0.5
KRHZ	**Kereru**	**1.79**	**194**	P	Pn	08 47 27.4	+0.5
WIAZ	**Waiheke Island**	**1.82**	**307**	P	Pb	08 47 28.5	-0.6
ETAZ	**East Tamaki Re**	**1.86**	**300**	P	Pb	08 47 30.3	+0.4
KAHZ	**Kahuranaki**	**1.88**	**181**	P	Pn	08 47 29.2	+1.0
MBAZ	**Motutapu North**	**1.98**	**304**	P	Pb	08 47 32.1	+0.1
AWAZ	**Awhitu Peninsu**	**2.01**	**294**	P	Pb	08 47 32.6	+0.2
GRZ	**Great Barrier**	**2.03**	**324**	P	Pb	08 47 31.8	-1.0
PNHZ	**Pukenui**	**2.08**	**196**	P	Pn	08 47 31.8	+0.8
WTAZ	**Waiatarua**	**2.12**	**297**	P	Pg	08 47 36.2	0.0
PXZ	**Pawanui**	**2.12**	**182**	P	Pn	08 47 31.3	0.0
PXZ				S	Sn	08 47 59.4	+1.4
WPHZ	**Waipukurau**	**2.19**	**190**	P	Pn	08 47 32.7	+0.3
RVAZ	**Riverhead Bore**	**2.20**	**300**	P	Pg	08 47 37.2	-0.4
TSZ	**Takapari Road**	**2.28**	**199**	P	Pn	08 47 34.4	+0.8
PRHZ	**Porangahau**	**2.37**	**186**	P	Pn	08 47 34.8	0.0
WAZ	**Wanganui**	**2.39**	**219**	P	Pb	08 47 37.5	-1.4
DVHZ	**Dannevirke**	**2.46**	**194**	P	Pn	08 47 36.1	0.0
ANWZ	**Angora Road**	**2.57**	**188**	P	Pn	08 47 37.5	-0.1
NEZ	**North Egmont**	**2.61**	**238**	P	Pb	08 47 44.0	+1.4
BFZ	**Birch Farm**	**2.82**	**191**	P	Pn	08 47 40.2	-0.8
HOWZ	**Holdsworth Sta**	**3.18**	**200**	P	Pb	08 47 51.8	-0.6
DUWZ	**D'Urville Isla**	**3.72**	**218**	P	Pb	08 47 59.4	-2.1
OUZ	**Omahuta**	**3.80**	**314**	P	Pn	08 47 53.6	-0.8
MRNZ	**Matariki Terra**	**4.75**	**221**	P	Pn	08 48 11.9	+4.4
PYZ	**Puysegur Point**	**11.23**	**219**	P	Pn	08 49 37.1	+0.7

IDC 24 09:15:01.4±3.2, 0°92S×136°77E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.2/34, mbtmp3.7/3, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/58, Error ellipse: s-maj=130.0km s-min=29.6km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.05**	**187**	P	P	09 19 25.1	-0.2
	0.3nm,0.3s,baz=8.9,slow=11,SNR=19						
WRA				LR	LR	09 27 38.7	
	comp=Z,49nm,18.3s,baz=100,slow=40						
ASAR	**Alice Springs**	**22.78**	**187**	P	P	09 20 05.8	+0.1
	2.1nm,0.5s,baz=19,slow=11,SNR=44						
MKAR	**Makanchi Array**	**67.20**	**323**	P	P	09 25 57.5	+0.1
	0.2nm,0.5s,baz=110,slow=8.3,SNR=3.1						

IDC 24 09:19:57.9±2.4, 20°47S×178°60E, h570km±70km, mb2.8/4, mb1 2.9/5, mb1mx2.5/34, mbtmp3.7/5, Error ellipse: s-maj=138.4km s-min=36.1km az=32.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.77**	**349**	P	P	09 21 13.5	0.0
	1.5nm,0.3s,baz=168,slow=2.2,SNR=9.3						
STKA	**Stephens Creek**	**34.94**	**243**	P	P	09 26 02.7	-0.3
	1.0nm,0.8s,baz=79,slow=16,SNR=2.1						
ASAR	**Alice Springs**	**41.41**	**257**	P	P	09 26 55.5	-0.2
	0.8nm,0.5s,baz=94,slow=8.0,SNR=22						
WRA	**Warramunga Arr**	**41.44**	**263**	P	P	09 26 55.8	-0.1
	0.4nm,0.3s,baz=96,slow=7.8,SNR=9.2						
VNDA	**Vanda**	**57.68**	**184**	P	P	09 28 53.8	-0.1
	1.1nm,0.8s,baz=45,slow=8.6,SNR=1.2						

*IDC **24** 09:28:52.9±0.6, 6°81N×73°00W, h158km±6km, mb3.7/14, mb1 3.9/19, mb1mx3.7/36, mbtmp4.2/19, Error ellipse: s-maj=12.7km s-min=7.2km az=131.0*
*VAO **24** 09:28:52.9±0.4, 6°77N×73°05W, h149km, mb4.1*
*NEIC **24** 09:28:53.5±1.6, 6°82N±0°06×73°07W±0°06, h149km±5km, mb4.4/53, Error ellipse: s-maj=9.1km s-min=8.0km az=187.0*
*RSNC **24** 09:28:53.5±1.1, 6°84N×73°16W, h152km±4km, ML4.2, Mw4.3, Fault plane solution: NP1:φs116.00000°, δ81.00000°, λ-143.00000°.*
*UPA **24** 09:28:56.9±1.1, 7°06N×73°57W, h4km±10km, MW4.8*
ISC 24 09:28:52.3±0.6, 6°86N±0°03×73°10W±0°03, h151km±5km, n198, σ1§90/258, mb4.3/40, 13C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**197**	⇓*iP*	**Pn**	**09 29 14.2**	**+0.9**
BARC				*eS*	**Sn**	**09 29 28.9**	**-0.3**
BARC				*i*		09 29 30.0	
	comp=Z,6μm,0.3s						
PAMC	**Pamplona, Colo**	**0.62**	**40**	⇑*iP*	**Pn**	**09 29 17.0**	**+1.9**
PAMC				*eS*	**Sn**	**09 29 34.2**	**+1.8**
PAMC				*i*		09 29 37.5	
	comp=Z,2μm,0.4s						
RUSC	**La Rusia**	**0.96**	**179**	⇓*iP*	**Pn**	**09 29 18.1**	**+0.6**
RUSC				*eS*	**Sn**	**09 29 36.9**	**+0.2**
RUSC				*i*		09 29 38.2	
	comp=Z,2μm,0.5s						
TAMC	**Tame, Arauca**	**1.37**	**108**	⇑*iP*	**Pn**	**09 29 22.6**	**+1.9**
TAMC				*eS*	**Sn**	**09 29 44.1**	**+1.7**
TAMC				*i*		09 29 51.0	
	comp=Z,784nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	⇑*iP*	**Pn**	**09 29 20.6**	**-0.2**
PTBC				*eS*	**Sn**	**09 29 41.6**	**-1.0**
PTBC				*i*		09 29 47.0	
	comp=Z,2μm,0.6s						
OCAC	**Ocana**	**1.39**	**351**	⇑*iP*	**Pn**	**09 29 22.3**	**+1.2**
OCAC				*eS*	**Sn**	**09 29 45.0**	**+1.9**
OCAC				*i*		09 29 53.1	
	comp=Z,3μm,0.3s						
OCAC	**Ocana**	**1.39**	**351**		**Pn**	**09 29 22.2**	**+1.2**
SPBC	**San Pablo de B**	**1.54**	**219**	⇑*iP*	**Pn**	**09 29 22.9**	**+0.4**
SPBC				*eS*	**Sn**	**09 29 45.0**	**-0.7**
SPBC				*i*		09 29 50.0	
	comp=Z,3μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*eP*	**Pn**	**09 29 26.4**	**+0.6**
ZARC				*eS*	**Sn**	**09 29 51.4**	**-0.2**
ZARC				*i*		09 29 58.2	
	comp=Z,2μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**290**		**Pn**	**09 29 26.5**	**+0.6**
SMLC	**San Martn de**	**2.15**	**334**	⇓*eP*	**Pn**	**09 29 30.2**	**+0.9**
SMLC				*eS*	**Sn**	**09 30 00.5**	**+2.6**
SMLC				*i*		09 30 02.5	
	comp=Z,2μm,0.2s						
NORC	**Norcasia**	**2.18**	**234**	⇑*eP*	**Pn**	**09 29 29.8**	**0.0**
NORC				*eS*	**Sn**	**09 29 58.1**	**-0.3**
NORC				*i*		09 30 03.3	
	comp=Z,1μm,0.2s						
CHIC	**Chingaza**	**2.30**	**196**	⇓*iP*	**Pn**	**09 29 32.0**	**+0.4**
CHIC				*eS*	**Sn**	**09 30 01.7**	**-0.1**
CHIC				*i*		09 30 06.3	
	comp=Z,2μm,0.4s						
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**09 29 34.0**	**+1.9**
	comp=Z,254nm,0.3s,baz=122,slow=20,SNR=845						
ROSC				S	**Sn**	**09 30 04.2**	**+1.6**
	comp=Z,2μm,0.3s,baz=73,slow=20,SNR=31						
ROSC	**El Rosal**	**2.35**	**211**	⇓*iP*	**Pn**	**09 29 34.0**	**+1.9**
ROSC				*eS*	**Sn**	**09 30 04.3**	**+1.7**
ROSC	**El Rosal**	**2.35**	**211**		**Pn**	**09 29 34.0**	**+1.9**
HELC	**Santa Helena**	**2.50**	**255**	*eP*	**Pn**	**09 29 34.5**	**+0.6**
HELC				*eS*	**Sn**	**09 30 06.3**	**+0.4**
HELC				*i*		09 30 12.2	
	comp=Z,1μm,0.3s						
HELC	**Santa Helena**	**2.50**	**255**	*eP*	**Pn**	**09 29 33.9**	**0.0**
HELC				*eS*	**Sn**	**09 30 01.3**	**-4.6**
UREC	**San Jos de Ur**	**2.57**	**290**	*eP*	**Pn**	**09 29 34.0**	**-0.3**
UREC				*eS*	**Sn**	**09 30 04.5**	**-2.3**
UREC				*i*		09 30 19.1	
	comp=Z,2μm,0.3s						
UREC	**San Jos de Ur**	**2.57**	**290**	*eP*	**Pn**	**09 29 33.9**	**-0.5**
UREC				*eS*	**Sn**	**09 29 58.2**	**-8.6**
SOCV	**Socops**	**2.64**	**57**	⇑*iP*	**Pn**	**09 29 36.1**	**+0.8**
SOCV				*eS*	**Sn**	**09 30 08.3**	**-0.1**
LL1C	**La Loma 1 Cana**	**2.70**	**350**	*eP*	**Pn**	**09 29 39.4**	**+3.3**
LL1C				*eS*	**Sn**	**09 30 14.6**	**+4.8**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	*eP*	**Pn**	**09 29 38.2**	**+0.8**
GUY2C				*eS*	**Sn**	**09 30 14.6**	**+2.4**
GUY2C				*i*		09 30 20.3	
	comp=Z,1μm,0.6s						
VILC	**Villavicencio,**	**2.79**	**192**	⇓*iP*	**Pn**	**09 29 37.4**	**+0.1**
VILC				*eS*	**Sn**	**09 30 11.8**	**-0.3**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	⇑*iP*	**Pn**	**09 29 41.4**	**+0.7**
CBOC				*eS*	**Sn**	**09 30 17.2**	**-0.8**
CBOC				*i*		09 30 23.8	
	comp=Z,326nm,0.3s						
DBBC	**Dabeiba**	**3.09**	**273**	⇑*iP*	**Pn**	**09 29 41.6**	**+0.6**
DBBC				*eS*	**Sn**	**09 30 17.9**	**-0.7**
MONA	**Monteria**	**3.17**	**307**	*eP*	**Pn**	**09 29 41.4**	**-0.5**
MONA				*eS*	**Sn**	**09 30 14.0**	**-6.3**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**09 29 43.7**	**+1.6**
	comp=Z,212nm,0.3s,baz=186,slow=3.2,SNR=442						
SDV				S	**Sn**	**09 30 20.7**	**+0.1**
	comp=Z,103nm,0.3s,baz=79,slow=19,SNR=9.2						
SDV	**Santo Domingo**	**3.17**	**50**	⇑*iP*	**Pn**	**09 29 43.7**	**+1.6**
SDV				*eS*	**Sn**	**09 30 21.7**	**+1.2**
SDV				*i*		09 30 24.1	
	comp=Z,269nm,0.3s						
SDV	**Santo Domingo**	**3.17**	**50**	*eP*	**Pn**	**09 29 43.6**	**+1.6**
SDV	**Santo Domingo**	**3.17**	**50**	Pn	**Pn**	**09 29 43.5**	**+1.4**
MOTC	**Monteria, Cord**	**3.17**	**307**	*eP*	**Pn**	**09 29 41.3**	**-0.7**
MOTC				*eS*	**Sn**	**09 30 19.5**	**-0.9**
MOTC				*i*		09 30 22.2	
	comp=Z,370nm,0.4s						
MOTC	**Monteria, Cord**	**3.17**	**307**	Pn	**Pn**	**09 29 41.2**	**-0.7**
ANIL	**Santa Ana**	**3.29**	**224**	*eP*	**Pn**	**09 29 44.4**	**+0.7**
ANIL				*eS*	**Sn**	**09 30 25.2**	**+1.8**
PRAC	**Prado**	**3.60**	**210**	*eP*	**Pn**	**09 29 47.4**	**0.0**
PRAC				*eS*	**Sn**	**09 30 30.1**	**-0.2**
PRAC				*i*		09 30 34.2	
	comp=Z,1μm,0.3s						
ORTC	**Ortega, Tolima**	**3.63**	**216**	*eP*	**Pn**	**09 29 48.5**	**+0.6**
ORTC				*eS*	**Sn**	**09 30 31.8**	**+0.8**
ORTC				*i*		09 30 37.8	
	comp=Z,701nm,0.3s						
SJCC	**San Jacinto, C**	**3.65**	**326**	⇓*iP*	**Pn**	**09 29 47.8**	**-0.3**
SJCC				*eS*	**Sn**	**09 30 28.9**	**-2.6**
SJCC				*i*		09 30 43.5	
	comp=Z,371nm,0.7s						
SJCC	**San Jacinto, C**	**3.65**	**326**		**Pn**	**09 29 48.0**	**-0.1**
SJCC	**San Jacinto, C**	**3.65**	**326**	*eP*	**Pn**	**09 29 47.9**	**-0.3**
SJCC				*eS*	**Sn**	**09 30 27.2**	**-4.3**
PLMC	**San Jos del P**	**3.71**	**239**	*eP*	**Pn**	**09 29 49.0**	**0.0**
PLMC				*eS*	**Sn**	**09 30 31.8**	**-1.1**
PLMC				*i*		09 30 37.7	
	comp=Z,247nm,0.7s						
LCBC	**Los crdobas,**	**3.79**	**302**	*eP*	**Pn**	**09 29 50.2**	**+0.3**
LCBC				*eS*	**Sn**	**09 30 33.5**	**-1.2**
LCBC				*i*		09 30 39.6	
	comp=Z,464nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	*eP*	**Pn**	**09 29 54.5**	**0.0**
CRJC				*eS*	**Sn**	**09 30 41.7**	**-1.3**
CRJC				*i*		09 30 46.6	
	comp=Z,318nm,0.4s						
YOTC	**Yotoco, Valle**	**4.31**	**229**	⇑*eP*	**Pn**	**09 29 56.4**	**-0.5**
YOTC				*eS*	**Sn**	**09 30 48.1**	**+1.0**
GUVC	**San Jose del G**	**4.31**	**174**	*eP*	**Pn**	**09 29 56.1**	**-0.7**
GUVC				*eS*	**Sn**	**09 30 45.0**	**-2.0**
GUVC				*i*		09 30 49.6	
	comp=Z,503nm,0.3s						
SOLC	**Bahia Solano**	**4.33**	**262**	*eP*	**Pn**	**09 29 57.7**	**+0.8**
SOLC				*eS*	**Sn**	**09 30 47.1**	**-0.1**
SOLC				*i*		09 30 51.4	
	comp=Z,110nm,0.4s						
SMRC	**Santa Marta, M**	**4.42**	**346**	*eP*	**Pn**	**09 29 58.9**	**+0.8**
SMRC				*eS*	**Sn**	**09 30 46.9**	**-2.4**
SMRC				*i*		09 30 51.4	
	comp=Z,166nm,0.4s						
CAP2	**Capurgana**	**4.58**	**293**	*eP*	**Pn**	**09 30 00.1**	**-0.1**
CAP2				*eS*	**Sn**	**09 30 47.5**	**-5.6**
PTAC	**Punta Ardita,**	**4.68**	**274**	*eP*	**Pn**	**09 30 00.9**	**-0.6**
PTAC				*eS*	**Sn**	**09 30 50.9**	**-4.7**
PTAC	**Punta Ardita,**	**4.68**	**274**	*eP*	**Pn**	**09 30 00.9**	**-0.6**
PTAC				*eS*	**Sn**	**09 30 50.4**	**-5.1**
DABV	**Dabajuro**	**4.71**	**31**	*eP*	**Pn**	**09 30 03.1**	**+1.1**
DABV				*eS*	**Sn**	**09 30 54.7**	**-1.7**
MACC	**Macarena, Meta**	**4.74**	**189**	⇓*iP*	**Pn**	**09 30 01.0**	**-1.5**
MACC				*eS*	**Sn**	**09 30 52.1**	**-5.0**
MACC				*i*		09 30 58.1	
	comp=Z,226nm,0.7s						
BETC	**Betania**	**4.76**	**209**	*eP*	**Pn**	**09 30 02.3**	**-0.4**
BETC				*eS*	**Sn**	**09 30 50.4**	**-7.3**
BETC				*i*		09 31 06.1	
	comp=Z,176nm,0.5s						
MARP	**Paez Belalcaza**	**4.90**	**216**	*eP*	**Pn**	**09 30 04.8**	**0.0**
MARP				*eS*	**Sn**	**09 30 59.5**	**-1.7**
URIC	**Uribia, Colomb**	**4.93**	**13**	⇑*eP*	**Pn**	**09 30 04.5**	**-0.3**
URIC				*eS*	**Sn**	**09 30 59.1**	**-2.5**
URIC				*i*		09 31 07.1	
	comp=Z,92nm,0.5s						
URIC	**Uribia, Colomb**	**4.93**	**13**		**Pn**	**09 30 04.6**	**-0.3**
UPD2	**Meteti**	**5.15**	**289**	*eP*	**Pn**	**09 30 07.0**	**-0.8**
UPD2				*eS*	**Sn**	**09 31 00.9**	**-5.8**
GARC	**Garzon, Huila**	**5.22**	**207**	*eP*	**Pn**	**09 30 08.2**	**-0.7**
GARC				*eS*	**Sn**	**09 31 03.3**	**-5.5**
GARC				*i*		09 31 09.9	
	comp=Z,294nm,0.2s						
BAUV	**El Baul**	**5.42**	**67**	Pn	**Pn**	**09 30 10.4**	**-1.0**
PCON	**Cinco Dias**	**5.57**	**216**	*eP*	**Pn**	**09 30 14.7**	**+0.7**
PCON				*eS*	**Sn**	**09 31 17.6**	**0.0**
PCON				*i*		09 31 42.9	
	comp=Z,78nm,0.4s						
POPC	**Popayan, Colom**	**5.58**	**220**	⇑*iP*	**Pn**	**09 30 13.6**	**-0.1**
POPC				*eS*	**Sn**	**09 31 17.5**	**+0.3**
FLOC	**Florencia**	**5.83**	**206**	*eP*	**Pn**	**09 30 16.5**	**-0.3**
FLOC				*eS*	**Sn**	**09 31 22.8**	**-0.2**
FLOC				*i*		09 31 26.9	
	comp=Z,80nm,0.5s						
SOTA	**Rioblanco**	**5.85**	**217**	*eP*	**Pn**	**09 30 19.1**	**+1.5**
AUA1	**Aruba**	**6.38**	**28**	Pn	**Pn**	**09 30 25.8**	**+1.6**
HATO	**Hato, Curacao**	**6.68**	**37**	Pn	**Pn**	**09 30 28.9**	**+0.7**
BCIP	**Isla Barro Col**	**7.05**	**289**	Pn	**Pn**	**09 30 33.7**	**+0.6**
BCIP	**Isla Barro Col**	**7.05**	**289**	*eP*	**Pn**	**09 30 32.8**	**-0.4**
BCIP				*eS*	**Sn**	**09 31 46.9**	**-5.3**
AZU	**Azuero**	**7.17**	**278**	*eP*	**Pn**	**09 30 35.4**	**+0.6**
AZU				⇓*eS*	**Sn**	**09 31 50.0**	**-5.1**
BIRV	**Birongo**	**7.65**	**62**		**Pn**	**09 30 40.1**	**-1.1**
TULM	**Tulcn-Chalpat**	**7.69**	**218**	*eP*	**Pn**	**09 30 43.2**	**+1.1**
OTAV	**Otavalo**	**8.47**	**219**	*eP*	**Pn**	**09 30 52.2**	**-0.3**
OTAV	**Otavalo**	**8.47**	**219**	Pn	**Pn**	**09 30 52.4**	**-0.1**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P	**Pn**	**09 30 58.4**	**-0.8**
	comp=Z,3.7nm,0.3s,baz=220,slow=7.6,SNR=17						
PCRV				S	**Sn**	**09 32 34.1**	**-5.0**
	baz=192,slow=22,SNR=1.1						
SRBA	**San Rafael, Bu**	**10.43**	**284**	Pn	**Pn**	**09 31 20.1**	**+2.0**
RIMA	**Rio Macho**	**11.03**	**286**	Pn	**Pn**	**09

SADO IAmb IAmb 09 36 18.1
comp=Z,14nm,1.4s
G65A Princeton 38.49 6 P P 09 36 01.2 +1.6
MNTX Cornudas Mount 38.96 314 P P 09 36 05.2 +1.4
MNTX IAmb IAmb 09 36 06.4
comp=Z,4.3nm,0.8s
GDU01 Guandu, BA 39.06 122 *eP* **P 09 36 04.2 -0.7**
NBAN Anadia - AL 40.20 114 *eP* **P 09 36 13.5 -0.8**
RIB01 Linhares ES 41.41 130 *eP* **P 09 36 23.4 -0.7**
ECSD EROS Data Cent 42.12 334 P **P 09 36 30.4 +0.8**
K31A O'Neill 42.21 332 P **P 09 36 31.6 +1.2**
SDCO Great Sand Dun 42.53 321 P **P 09 36 34.9 +1.5**
ISCO Idaho Springs 43.88 323 P **P 09 36 45.3 +1.1**
PV15 Paradox Valley 44.77 320 P **P 09 36 53.1 +1.9**
PV15 IAmb IAmb 09 36 54.5
comp=Z,7.1nm,0.8s
AGMN Agassiz Nation 45.59 339 P **P 09 36 58.0 +0.7**
AGMN IAmb IAmb 09 36 58.4
comp=Z,5.1nm,0.6s
Y14A Wickenburg 45.64 312 P **P 09 36 59.6 +1.8**
Y14A IAmb IAmb 09 37 00.0
comp=Z,4.1nm,0.8s
SRU San Rafael Swe 46.52 319 P **P 09 37 06.8 +1.9**
MDND Maddock 46.66 336 P **P 09 37 06.7 +1.0**
ULM Lac du Bonnet 47.25 340 P **P 09 37 10.1 0.0**
comp=Z,6.9nm,0.5s,baz=148,slow=7.5,SNR=7.2
ULM Lac du Bonnet 47.25 340 P **P 09 37 10.6 +0.5**
ULM IAmb IAmb 09 37 11.1
comp=Z,7.4nm,0.5s
SZCU Shurtz Canyon 47.44 316 P **P 09 37 13.6 +1.5**
PD31 Pinedale Array 48.06 324 P **P 09 37 17.6 +0.9**
PDAR Pinedale Array 48.06 324 P **P 09 37 17.6 +0.9**
comp=Z,0.9nm,0.4s,baz=125,slow=9.6,SNR=15
PDAR Pinedale Array 48.06 324 P **P 09 37 17.4 +0.7**
SCHQ Schefferville 48.10 5 P **P 09 37 17.5 +0.9**
comp=Z,4.8nm,0.6s,baz=191,slow=6.9,SNR=25
SCHQ Schefferville 48.10 5 P **P 09 37 17.8 +1.2**
SCHQ IAmb IAmb 09 37 18.6
comp=Z,4.1nm,0.6s
DGMT Dagmar 49.12 333 P **P 09 37 26.3 +1.8**
REDW Red Top Meadow 49.17 324 P **P 09 37 26.6 +1.3**
REDW IAmb IAmb 09 37 27.1
comp=Z,5.6nm,0.7s
LOHW Long Hollow 49.18 324 P **P 09 37 27.0 +1.7**
LOHW IAmb IAmb 09 37 27.2
comp=Z,3.2nm,0.6s
MOOW Moose Ponds 49.34 324 P **P 09 37 27.4 +0.9**
MCMT McKenzie Canyo 51.20 324 P **P 09 37 41.8 +1.3**
NVAR Mina Array Bea 51.47 315 P **P 09 37 43.1 +0.5**
comp=Z,0.8nm,0.6s,baz=125,slow=7.7,SNR=8.9
MFID Camas Ranch 52.21 321 P **P 09 37 49.2 +1.3**
MFID IAmb IAmb 09 37 51.0
comp=Z,5.1nm,1.0s
PLID Pearl Lake 53.20 323 P **P 09 37 55.9 +0.6**
G08A Pilot Rock 55.10 322 P **P 09 38 10.1 +1.3**
G08A IAmb IAmb 09 38 10.5
comp=Z,3.7nm,0.6s
YKA Yellowknife Ar 63.23 340 P **P 09 39 04.6 +0.3**
comp=Z,4.2nm,0.5s,baz=133,slow=6.6,SNR=187
YKA Yellowknife Ar 63.23 340 P **P 09 39 04.9 +0.6**
DLBC Dease Lake 67.30 331 P **P 09 39 31.8 +1.1**
DLBC IAmb IAmb 09 39 49.7
comp=Z,15nm,1.5s
TIC Toumodi 67.55 86 *eP* **P 09 39 31.6 -1.5**
LIC Lamto 67.58 86 *eP* **P 09 39 32.0 -1.2**
comp=Z,61nm,1.9s
DBIC Dimbokro 67.71 86 P **P 09 39 32.8 -1.3**
comp=Z,1.0nm,0.2s,baz=287,slow=6.9,SNR=1.4
KIC Kosan Boka 67.85 86 *eP* **P 09 39 33.9 -1.0**
comp=Z,7.0nm,0.7s
SUMG Summit 68.94 11 *i P* **P 09 39 41.0 -0.1**
SUMG Summit 68.94 11 P **P 09 39 41.9 +0.7**
SUMG IAmb IAmb 09 39 42.5
comp=Z,2.9nm,0.6s
INK Inuvik 73.00 340 P **P 09 40 05.2 +0.1**
comp=Z,1.1nm,0.5s,baz=106,slow=4.9,SNR=12
INK Inuvik 73.00 340 P **P 09 40 06.2 +1.1**
TORD Torodi Ar. Bea 73.71 78 P **P 09 40 08.8 -1.5**
comp=Z,0.3nm,0.4s,baz=285,slow=6.1,SNR=5.4
BCAR Beaver Creek A 74.33 334 P **P 09 40 14.7 +1.6**
BMAR Burnt Mountain 76.63 338 P **P 09 40 27.3 +1.2**
ILAR Eielson Array 76.94 335 P **P 09 40 28.1 +0.3**
comp=Z,0.5nm,0.7s,baz=104,slow=4.8,SNR=6.2
ILAR Eielson Array 76.94 335 P **P 09 40 28.6 +0.8**
IMAR Indian Mountai 79.96 336 P **P 09 40 45.2 +0.8**
L19K White Mountain 80.12 332 P **P 09 40 45.4 +0.1**
L19K IAmb IAmb 09 40 53.2
comp=Z,7.3nm,1.2s
NOA NORSAR Array B 81.28 29 P **P 09 40 51.5 -0.1**
comp=Z,0.5nm,0.6s,baz=272,slow=5.0,SNR=1.6
ARCES ARCESS Array B 86.63 20 P **P 09 41 17.9 -0.5**
comp=Z,2.3nm,0.8s,baz=326,slow=2.4,SNR=7.9
SNAA Sanae 90.37 163 P **P 09 41 36.9 +0.9**
SNAA IAmb IAmb 09 41 47.5
comp=Z,3.1nm,1.1s
ZALV Zalesovo Beam 116.62 14 PKP **PKPdf 09 47 17.4 -1.0**
comp=Z,0.5nm,0.4s,baz=326,slow=1.4,SNR=3.0
MKAR Makanchi Array 122.28 20 PKP **PKPdf 09 47 28.8 -0.8**
comp=Z,0.4nm,0.4s,baz=293,slow=2.3,SNR=12
MKAR Makanchi Array 122.28 20 PKPdf 09 47 29.4 -0.2
SONM Songino Array 125.54 0 PKP **PKPdf 09 47 35.9 -0.1**
comp=Z,0.3nm,0.5s,baz=315,slow=2.8,SNR=2.2
PZH PanZhiHua 146.46 8 PKPbc **PKPdf 09 48 14.3 -0.8**
ASAR Alice Springs 149.15 234 PKPbc **PKPbc 09 48 22.8 -1.0**
comp=Z,0.5nm,0.5s,baz=119,slow=3.2,SNR=14
ASAR Alice Springs 149.15 234 PKPdf 09 48 20.2 +0.7
WRA Warramunga Arr 150.37 241 PKPbc **PKPbc 09 48 26.0 -0.8**
comp=Z,0.6nm,0.4s,baz=107,slow=2.9,SNR=17
WRA Warramunga Arr 150.37 241 PKPdf **PKPdf 09 48 20.6 -0.8**
WRA **PKPbc 09 48 25.8 -1.1**
WRA PKPab **PKPab 09 48 34.1 +0.4**

*ANF **24** 10:01:40.7±0.3, 36°.91N×97°.67W, h0km, ML4.7/12, Error ellipse: s-maj=4.3km s-min=3.0km az=51.0*
*NEIC **24** 10:01:40.8, 36°.91N×97°.64W, h2km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.53; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$0.95; $M_{r\theta}$-0.47; $M_{\theta\phi}$-1.11; $M_{\phi r}$-1.39; Fault plane solution: $M_0$2.02000×10^{14} NP1:ϕ_s112.00000°, δ41.00000°, λ-165.00000°. NP2:ϕ_s10.00000°, δ80.00000°, λ-50.00000°. Principal axes: T 2.0172, Plg24.0000°, Azm70.0000°; N -0.0002, Plg39.0000°, Azm182.0000°; P -2.0170, Plg41.0000°, Azm317.0000°;*
*TUL **24** 10:01:40.8±1.2, 36°.93N±0°.02×97°.65W±0°.02, h4km±6km, ML3.9, mb_Lg3.9/121(NEIC), Mwr3.5/14(SLM) Error ellipse: s-maj=2.3km s-min=1.6km az=211.0*
*NEIC **24** 10:01:41.1±1.0, 36°.92N±0°.01×97°.64W±0°.02, h3km±7km, Error ellipse: s-maj=2.8km s-min=0.5km az=45.0*
*IDC **24** 10:01:41.2±1.5, 37°.04N×97°.83W, h0km, mb3.5/2, mb1 3.8/6, mb1mx3.5/60, mbtmp3.5/6, ML2.7/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/56, Error ellipse: s-maj=22.9km s-min=11.0km az=106.0*
ISC 24 10:01:41.2±1.0, 36°.92N±0°.02×97°.65W±0°.02, h6km±8km, n155, σ0s76/159, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.16**	**323**	Pg	**Pg**	**10 01 44.2**	**-0.2**
KAN17				Sg	**Sg**	**10 01 46.7**	**+0.2**
KAN13	**South Haven SW**	**0.17**	**55**	Pg	**Pg**	**10 01 44.3**	**-0.2**
KAN13				Sg	**Sg**	**10 01 46.9**	**+0.1**
GC02	**Grant County #**	**0.18**	**249**	Pg	**Pg**	**10 01 44.9**	**0.0**
GC02				Sg	**Sg**	**10 01 47.6**	**+0.3**
KAN01	**Argonia South**	**0.25**	**339**		**Pg**	**10 01 45.9**	**-0.2**
KAN01				Sg	**Sg**	**10 01 49.6**	**+0.1**
KAN14	**Manchester OK**	**0.26**	**279**	Pg	**Pg**	**10 01 46.2**	**0.0**
KAN14				Sg	**Sg**	**10 01 49.8**	**+0.2**
KAN05	**Bluff City Nor**	**0.26**	**317**		**Pg**	**10 01 46.2**	**-0.1**
KAN05				Sg	**Sg**	**10 01 49.9**	**+0.1**
KAN06	**Argonia West S**	**0.37**	**333**		**Pg**	**10 01 48.2**	**-0.2**
KAN06				Sg	**Sg**	**10 01 53.2**	**0.0**
BLOK	**Blackwell**	**0.38**	**114**	Pg	**Pg**	**10 01 48.5**	**0.0**
BLOK				Sg	**Sg**	**10 01 53.9**	**+0.3**
KAN08	**Anthony NE Sta**	**0.40**	**320**	Pg	**Pg**	**10 01 48.9**	**-0.1**
KAN08				Sg	**Sg**	**10 01 54.6**	**+0.3**
KAN10	**Anthony SW Sta**	**0.41**	**300**	Pg	**Pg**	**10 01 49.1**	**0.0**
KAN10				Sg	**Sg**	**10 01 54.9**	**+0.3**
KAN16	**Harper SW Stat**	**0.45**	**313**		**Pg**	**10 01 49.8**	**-0.1**
KAN16				Sg	**Sg**	**10 01 56.0**	**+0.1**
KAN12	**Harper NE Stat**	**0.47**	**324**	Pg	**Pg**	**10 01 50.1**	**-0.2**
KAN12				Sg	**Sg**	**10 01 56.3**	**-0.2**
CROK	**Carrier**	**0.49**	**213**	Pg	**Pg**	**10 01 50.8**	**+0.1**
CROK				Sg	**Sg**	**10 01 57.7**	**+0.6**
OK035	**E0210 Rd and N**	**0.88**	**257**		**Pg**	**10 01 57.6**	**-0.4**
OK035				Sg	**Sg**	**10 02 09.8**	**+0.4**
T35A	**Sooner Cattle**	**0.91**	**90**	Pg	**Pg**	**10 01 58.0**	**-0.6**
T35A				Sg	**Sg**	**10 02 10.0**	**-0.4**
OK033	**Mehan**	**1.04**	**147**		**Pg**	**10 02 00.7**	**-0.4**
OK033				Sg	**Sg**	**10 02 14.7**	**0.0**
QUOK	**Quay**	**1.06**	**134**		**Pg**	**10 02 00.9**	**-0.6**
QUOK				Sg	**Sg**	**10 02 15.6**	**+0.3**
OK029	**Liberty Lake**	**1.13**	**172**	Pg	**Pg**	**10 02 02.4**	**-0.5**
OK029				Sg	**Sg**	**10 02 17.4**	**-0.1**
OK031	**S. Brethren Rd**	**1.16**	**146**		**Pg**	**10 02 02.8**	**-0.6**
OK031					**Sg**	**10 02 18.7**	**+0.2**
OK034	**N. Norfolk Rd.**	**1.18**	**140**	Pg	**Pg**	**10 02 03.1**	**-0.6**
OK034				Sg	**Sg**	**10 02 19.0**	**0.0**
OK030	**Cody Creek RV**	**1.21**	**145**		**Pg**	**10 02 03.6**	**-0.7**
OK030				Sg	**Sg**	**10 02 19.6**	**-0.4**
U32A	**Winter Ranch,**	**1.22**	**244**		**Pg**	**10 02 03.5**	**-0.9**
U32A				Sg	**Sg**	**10 02 20.5**	**+0.3**
BCOK	**Bluff Creek, N**	**1.26**	**179**		**Pg**	**10 02 04.9**	**-0.4**
BCOK				Sg	**Sg**	**10 02 21.9**	**+0.2**
OK005	**Luther M Schoo**	**1.31**	**164**	Pn	**Pg**	**10 02 05.9**	**-0.4**
OK009	**Oakdale Elemen**	**1.35**	**172**		**Pn**	**10 02 06.1**	**-0.4**
OK025	**Westminster Rd**	**1.36**	**169**		**Pn**	**10 02 06.4**	**-0.3**
OK001	**Jones High Sch**	**1.39**	**168**	Pn	**Pn**	**10 02 07.5**	**+0.5**
OKCFA	**Oklahoma City**	**1.51**	**174**		**Pn**	**10 02 08.9**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**1.52**	**174**		**Pn**	**10 02 09.2**	**+0.3**
FNO	**Franklin**	**1.67**	**173**		**Pn**	**10 02 11.2**	**+0.3**
R32A	**Long Quarter,**	**1.72**	**331**		**Pn**	**10 02 12.3**	**+0.6**
TUL1	**Leonard**	**1.80**	**123**	Pn	**Pn**	**10 02 13.1**	**+0.3**
TUL1				IAmb_Lg		10 02 42.3	
comp=Z,414nm,0.8s
TUL1 Leonard 1.80 123 P **Pn 10 02 13.2 +0.3**
baz=305
TUL1 S **Sb 10 02 37.7 +0.3**
baz=305
W35A Tecumseh 1.87 160 Pn 10 02 14.0 +0.3
X34A Smith Ranch, M 2.32 184 Pn 10 02 20.8 +0.9
KSU1 Kansas State U 2.33 20 Pn **Pn 10 02 20.9 +0.8**
KSU1 Kansas State U 2.33 20 P **Pn 10 02 20.7 +0.6**
baz=201
KSU1 S **Sb 10 02 52.4 -0.2**
baz=201
WMOK Wichita Mounta 2.36 203 Pn 10 02 20.6 0.0
WMOK Wichita Mounta 2.36 203 P **Pn 10 02 20.9 +0.4**
baz=22
CBKS Cedar Bluff 2.51 319 Pn **Pn 10 02 23.8 +1.2**
CBKS Cedar Bluff 2.51 319 Sb **Sb 10 02 58.6 +0.6**
baz=138
U38A Gravette 2.67 99 Pn **Pn 10 02 25.2 +0.6**
U38A IAmb_Lg 10 03 08.4
comp=Z,399nm,0.8s
LOOK Love County 2.94 172 Pn **Pn 10 02 28.0 -0.5**
X37A Clayton 2.97 141 Pn 10 02 29.2 +0.3
X37A IAmb_Lg 10 03 22.8
comp=Z,328nm,0.9s
HHAR Hobbs 3.05 101 Pn **Pn 10 02 30.9 +0.9**
HHAR IAmb_Lg 10 03 25.6
comp=Z,403nm,0.8s
S39A Bolivar 3.53 76 Pn **Pn 10 02 37.6 +1.0**
S39A IAmb_Lg 10 03 36.9
comp=Z,570nm,1.1s
W39A Magazine 3.57 118 Pn 10 02 36.9 -0.2
W39A Magazine 3.57 118 P **Pn 10 02 37.2 +0.1**
baz=300
W39A Sb **Sg 10 03 34.3 -1.5**
baz=300
Z35A Perchaven, San 3.59 175 Pn **Pn 10 02 38.2 +0.8**
N33A J Bar K, Exete 3.82 2 Pn 10 02 40.4 -0.1
N33A IAmb_Lg 10 03 49.1
comp=Z,213nm,0.7s
AMTX Amarillo 3.85 239 Pn 10 02 41.5 +0.4
AMTX IAmb_Lg 10 03 52.7
comp=Z,177nm,0.9s
U40A Yellville 3.90 97 Pn **Pn 10 02 42.0 +0.4**
U40A IAmb_Lg 10 03 49.8
comp=Z,307nm,0.7s
U40A Yellville 3.90 97 P **Pn 10 02 41.9 +0.3**
baz=280
MIAR Mount Ida 4.07 124 Pn **Pn 10 02 44.2 +0.2**
MIAR IAmb_Lg 10 03 55.7
comp=Z,285nm,0.8s
MIAR Mount Ida 4.07 124 P **Pn 10 02 44.2 +0.2**
baz=307
P38A Dawn 4.22 49 Pn 10 02 46.5 +0.5
P38A IAmb_Lg 10 04 04.4
comp=Z,272nm,0.7s
N35A Tabor 4.24 21 Pn 10 02 46.6 +0.4
Z38A Mt. Pleasant 4.25 148 Pn 10 02 46.9 +0.4
Z38A IAmb_Lg 10 04 03.5
comp=Z,240nm,0.8s
MGMO Mountain Grove 4.31 85 Pn 10 02 48.0 +0.7
MGMO IAmb_Lg 10 03 58.2
comp=Z,448nm,0.8s
KSCO Kaye Shedlock' 4.46 299 Pn **Pn 10 02 50.0 +0.6**
KSCO IAmb_Lg 10 04 06.3
comp=Z,207nm,0.8s
R40A Maddies Statio 4.49 71 Pn 10 02 49.8 +0.1
R40A IAmb_Lg 10 04 07.9
comp=Z,266nm,0.9s
BGNE Belgrade 4.50 355 Pn 10 02 49.6 -0.3
BGNE IAmb_Lg 10 04 12.4
comp=Z,440nm,0.9s
BGNE Belgrade 4.50 355 P **Pn 10 02 50.4 +0.5**
baz=175
FCAR Ozark Folk Cen 4.57 101 Pn 10 02 51.0 +0.1
ABTX Abilene, Hawle 4.59 202 Pn 10 02 50.9 -0.2
X40A Basin Creek Fa 4.61 120 Pn 10 02 52.2 +0.9
X40A IAmb_Lg 10 04 11.3
comp=Z,282nm,0.8s
X40A Basin Creek Fa 4.61 120 Sb **Sb 10 04 00.7 +2.5**
baz=303
WHAR Wooly Hollow 4.63 109 Pn **Pn 10 02 52.2 +0.5**
W41B Gary Mavity, V 4.71 110 Pn 10 02 54.0 +1.3
W41B Gary Mavity, V 4.71 110 Sb **Sb 10 04 06.8 +5.8**
baz=294
WLAR White Oak Lake 4.91 130 Pn **Pn 10 02 56.6 +1.1**
WLAR IAmb_Lg 10 04 27.7
comp=Z,163nm,0.8s
WHTX Lake Whitney, 4.92 178 Pn **Pn 10 02 55.6 0.0**
WHTX Lake Whitney, 4.92 178 P **Pn 10 02 56.0 +0.4**
baz=358
MSTX Muleshoe 5.11 236 Pn 10 02 57.8 -0.7
P40A Paris 5.12 58 Pn 10 02 58.5 +0.1
P40A IAmb_Lg 10 04 27.8
comp=Z,249nm,0.8s
237A Washetta, Mont 5.13 162 Pn 10 02 58.0 -0.7
N38A Joes South For 5.18 40 Pn 10 02 59.3 +0.1
N38A IAmb_Lg 10 04 29.4
comp=Z,367nm,0.8s
CCM Cathedral Cave 5.22 76 Pn **Pn 10 02 59.9 +0.1**
CCM IAmb_Lg 10 04 31.9
comp=Z,336nm,1.0s
T42A Van Buren 5.25 87 Pn **Pn 10 03 00.1 -0.1**
T42A IAmb_Lg 10 04 37.7
comp=Z,178nm,0.9s
OGNE Ogallala 5.28 321 Pn **Pn 10 03 01.4 +0.7**
OGNE IAmb_Lg 10 04 33.4
comp=Z,165nm,0.8s
LCAR Lake Charles 5.30 97 Pn **Pn 10 03 01.4 +0.5**
LCAR IAmb_Lg 10 04 33.4
comp=Z,178nm,1.0s
Z41A Richland Creek 5.39 131 Pn 10 03 01.8 -0.4
T25A Trinidad 5.42 274 Pn 10 03 02.2 -0.5
T25A IAmb_Lg 10 04 41.4
comp=Z,210nm,0.8s
T25A Trinidad 5.42 274 P **Pn 10 03 02.6 0.0**
baz=90
CCAR Cane Creek 5.66 120 Pn **Pn 10 03 05.8 0.0**
CCAR IAmb_Lg 10 04 50.1
comp=Z,264nm,0.8s
NATX Nacogdoches 5.71 153 Pn 10 03 05.8 -0.7
K31A O'Neill 5.76 352 Pn 10 03 07.4 +0.1
PBMO Poplar Bluff 5.79 89 Pn **Pn 10 03 07.7 +0.1**
PBMO IAmb_Lg 10 04 42.7
comp=Z,284nm,0.8s
FVM French Village 5.84 77 Pn 10 03 08.4 0.0
FVM IAmb_Lg 10 04 48.0
comp=Z,284nm,0.8s
SCIA State Center 6.05 33 Pn 10 03 11.7 +0.6
SCIA IAmb_Lg 10 04 57.0
comp=Z,307nm,0.8s
SLM Saint Louis 6.12 71 IAmb_Lg 10 04 54.2
comp=Z,182nm,0.7s
Q24A Divide 6.27 291 Pn 10 03 14.3 -0.2
Q24A IAmb_Lg 10 05 04.8
comp=Z,145nm,0.8s
SDCO Great Sand Dun 6.31 280 Pn **Pn 10 03 15.7 +0.6**
N41A Harden Midland 6.51 52 Pn 10 03 18.7 +1.2
N41A IAmb_Lg 10 05 08.3
comp=Z,166nm,0.8s
143A Socs Landing, 6.64 127 IAmb_Lg 10 05 21.6
comp=Z,120nm,0.8s
JCT Junction City 6.67 196 Pn **Pn 10 03 19.2 -0.5**
JCT IAmb_Lg 10 05 29.3
comp=Z,104nm,0.8s
S44A Carbondale 6.73 81 Pn 10 03 21.5 +0.9
HALT Halls 6.77 96 IAmb_Lg 10 05 18.7
comp=Z,254nm,0.7s
K38A Parkersburg 6.84 32 Pn 10 03 22.8 +0.8
ECSD EROS Data Cent 6.85 6 Pn 10 03 21.7 -0.5
ECSD IAmb_Lg 10 05 20.8
comp=Z,120nm,1.0s
ISCO Idaho Springs 6.89 297 Pn 10 03 22.4 -0.6
P43A Skaggs, Pawnee 6.95 64 Pn 10 03 24.0 +0.5
W45A Hickory Valley 7.08 102 IAmb_Lg 10 05 32.9
comp=Z,257nm,0.9s
Q44A Meyer Farm, Va 7.11 71 Pn **Pn 10 03 26.4 +0.7**
HKT Hockley 7.11 167 Pn 10 03 25.1 -0.6
OXF Oxford 7.12 107 Pn 10 03 25.6 -0.2
L40A Anamosa 7.14 42 Pn 10 03 25.9 -0.3
L40A IAmb_Lg 10 05 35.5
comp=Z,230nm,0.8s
Y45A Yeager Farm, C 7.29 112 IAmb_Lg 10 05 38.0
comp=Z,207nm,0.9s
ANMO Albuquerque 7.41 257 Pn **Pn 10 03 30.5 +0.4**
comp=Z,0.1nm,0.3s,baz=54,slow=14,SNR=1.7
ANMO Pg Pb 10 03 55.8 +5.5
comp=Z,0.9nm,0.3s,baz=75,slow=18,SNR=11
ANMO Lg Lg 10 05 32.4
comp=Z,2.0nm,0.3s,baz=141,slow=22,SNR=11
ANMO LR LR 10 06 37.2
comp=Z,104nm,18.8s,baz=66,slow=40
ANMO Albuquerque 7.41 257 Pn 10 03 29.8 -0.3
HDIL Hopedale 7.47 58 Pn 10 03 30.3 -0.3
PHWY Pilot Hill 7.48 308 Pn **Pn 10 03 31.9 +0.7**
PHWY IAmb_Lg 10 05 37.3
comp=Z,98nm,0.8s
VBMS Vicksburg 7.52 126 IAmb_Lg 10 05 55.1
comp=Z,92nm,1.2s
SUSD Miller 7.58 353 IAmb_Lg 10 05 47.0
comp=Z,156nm,0.7s
N23A Red Feather La 7.59 304 Pn 10 03 33.5 +1.0
N23A IAmb_Lg 10 05 54.9
comp=Z,210nm,0.8s
SMCO Snowmass 7.70 290 Pn 10 03 33.7 -0.5
O44A Mansfield 7.88 63 IAmb_Lg 10 05 49.4
comp=Z,195nm,0.7s
WVT Waverly 7.94 93 IAmb_Lg 10 05 51.8
comp=Z,93nm,0.9s
L42A Oliver, Polo 7.99 48 Pn 10 03 38.4 +0.6
L42A IAmb_Lg 10 05 59.9
comp=Z,213nm,0.8s
PLAL Pickwick Lake 8.00 101 IAmb_Lg 10 06 02.7
comp=Z,93nm,0.8s
Y22D IRIS PASSCAL I 8.08 252 IAmb_Lg 10 06 13.1
comp=Z,149nm,0.9s
MNTX Cornudas Mount 8.25 233 Pn **Pn 10 03 41.2 -0.2**
146A Union 8.26 119 IAmb_Lg 10 06 23.6
comp=Z,68nm,0.8s
JFWS Jewell Farm 8.26 41 Pn 10 03 41.3 -0.1
T47A Sharon Grove 8.44 86 Pn 10 03 44.3 +0.3
P46A Rosedale 8.64 69 Pn **Pn 10 03 46.8 +0.1**
RSSD Black Hills 8.68 328 Pn 10 03 47.7 +0.2
RSSD IAmb_Lg 10 06 33.2
comp=Z,75nm,1.1s
Z47A Carrollton 8.68 112 IAmb_Lg 10 06 24.4
comp=Z,97nm,1.0s
I40A Norwalk 8.79 35 Pn **Pn 10 03 49.1 +0.4**
I40A IAmb_Lg 10 06 22.9
comp=Z,105nm,1.0s
RWWY Rawlins 8.81 306 IAmb_Lg 10 06 40.9
comp=Z,101nm,1.0s
K22A Casper 8.91 313 Pn 10 03 51.5 +0.9
K22A IAmb_Lg 10 06 33.3
comp=Z,113nm,1.1s
PV13 Radium Mtn., P 8.96 281 Pn 10 03 51.2 -0.2
F33A 5 Mile Ranch, 8.97 6 Pn **Pn 10 03 50.9 -0.4**
F33A IAmb_Lg 10 06 24.4
comp=Z,112nm,1.1s
HQIL Hanson Quary C 9.01 54 IAmb_Lg 10 06 29.9
comp=Z,151nm,1.0s
BLO Bloomington 9.06 72 Pn **Pn 10 03 52.1 -0.4**
SPMN Marine on St. 9.07 22 Pn 10 03 53.8 +1.2
SPMN IAmb_Lg 10 06 31.9
comp=Z,61nm,0.7s
TX31 Lajitas Ar. Si 9.09 215 Pn 10 03 52.9 -0.2
TX32 Lajitas Array 9.09 215 Pn 10 03 52.3 -0.7
TXAR Lajitas Array 9.09 215 Pn **Pn 10 03 51.9 -1.1**
comp=Z,0.2nm,0.3s,baz=42,slow=11,SNR=14
TXAR Lg Lg 10 06 23.5
comp=Z,0.7nm,0.3s,baz=37,slow=28,SNR=8.1
TXAR Lajitas Array 9.09 215 Pn 10 03 51.5 -1.5
L44A Lake County Fo 9.17 52 IAmb_Lg 10 06 39.1
comp=Z,148nm,0.8s
K43A Burlington 9.20 48 IAmb_Lg 10 06 33.0
comp=Z,178nm,0.9s
I42A Draeger Farm, 9.63 41 IAmb_Lg 10 06 46.2
comp=Z,77nm,0.7s
E28A Huff 9.91 348 IAmb_Lg 10 07 19.8
comp=Z,77nm,0.8s
BW06 Boulder Array 10.86 306 Pn 10 04 16.3 -1.1
PD31 Pinedale Array 10.86 306 Pn 10 04 16.6 -0.7
PDAR Pinedale Array 10.86 306 Pn **Pn 10 04 15.6 -1.8**
comp=Z,0.2nm,0.3s,baz=114,slow=12,SNR=19
PDAR Lg Lg 10 07 16.6
comp=Z,0.9nm,0.3s,baz=124,slow=33,SNR=5.9
PDAR Pinedale Array 10.86 306 Pn 10 04 16.0 -1.3
S51A Beattyville 11.22 82 Pn 10 04 22.5 +0.4
DGMT Dagmar 12.50 339 Pn 10 04 38.5 -1.1
ULM Lac du Bonnet 13.39 5 Pn Pn 10 04 45.0 -6.6
comp=Z,0.2nm,0.3s,baz=193,slow=2.0,SNR=1.4
ULM Sn Sn 10 07 07.0 -14
comp=Z,0.6nm,0.3s,baz=75,slow=15,SNR=1.8
ULM Lg Lg 10 08 29.8
comp=Z,0.5nm,0.3s,baz=276,slow=22,SNR=1.6
SADO Sadowa 16.03 55 Lg Lg 10 09 59.6
comp=Z,0.4nm,0.3s,baz=228,slow=12,SNR=2.4
LPIG La Paz 16.78 224 LR LR 10 12 19.4
comp=Z,53nm,18.1s,baz=128,slow=38
YKA Yellowknife Ar 27.67 343 P **P 10 07 29.2 -0.4**
comp=Z,0.3nm,0.9s,baz=150,slow=8.6,SNR=3.8
ILAR Eielson Array 40.13 330 P **P 10 09 18.6 +1.2**
comp=Z,1.4nm,0.9s,baz=109,slow=7.1,SNR=11

*NNC **24** 10:28:58.6±1.0, 43°.02N×80°.44E, h0km±4km, mb3.9, mpv3.7, Error ellipse: s-maj=6.8km s-min=4.4km az=151.0*
*KRNET **24** 10:28:58.2±0.1, 43°.10N×80°.48E, h14km, mb3.6*
*SOME **24** 10:28:58.5, 43°.02N×80°.40E, h15km*
ISC 24 10:28:58.7±1.4, 43°.01N±0°.04×80°.38E±0°.04, h8km±10km, n62, σ1s72/103, 23C-7D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.72**	**297**	⇑P	**Pn**	**10 29 14.1**	**-1.4**
PDGK 17nm,0.3s ⇑S **Sn 10 29 24.6 -2.2**
148nm,0.4s
UZB Uzynbulak 1.00 278 *eP* **Pn 10 29 18.6 -0.7**
UZB 38nm,0.2s *eS* **Sn 10 29 32.9 -0.8**
181nm,0.2s
UZB Uzynbulak 1.00 278 P **Pn 10 29 18.5 -0.7**
UZB 38nm,0.2s S **Sn 10 29 32.9 -0.8**
181nm,0.2s
UZB Uzynbulak 1.00 278 *eP* **Pn 10 29 18.6 -0.7**
UZB baz=73 *eS* **Sn 10 29 32.9 -0.8**
baz=73
DJR Jarkent 1.39 342 *eP* **Pg 10 29 25.3 0.0**
DJR 31nm,0.1s *eS* **Sg 10 29 44.8 +1.4**
391nm,0.3s
DJR Jarkent 1.39 342 P **Pg 10 29 25.3 0.0**
DJR 31nm,0.1s S **Sg 10 29 44.8 +1.4**

	391nm,0.3s						
ZHN	**Zhinishke**	**1.43 277**	*e*P		**Pg**	**10 29 26.2**	**0.0**
	144nm,0.3s						
ZHN			*e*S		**Sg**	**10 29 46.1**	**+1.4**
	557nm,0.2s						
ZHN	**Zhinishke**	**1.43 277**	P		**Pg**	**10 29 26.2**	**0.0**
	144nm,0.3s						
ZHN			S		**Sg**	**10 29 46.1**	**+1.4**
	873nm,0.3s						
ZHN	**Zhinishke**	**1.43 277**	*e*P		**Pg**	**10 29 26.2**	**0.0**
	baz=73						
ZHN			*e*S		**Sg**	**10 29 46.1**	**+1.4**
	baz=73						
SATY	**Saty**	**1.45 273**	*e*P		**Pg**	**10 29 26.8**	**+0.3**
	91nm,0.1s						
SATY			*e*S		**Sg**	**10 29 46.8**	**+1.6**
	416nm,0.1s						
SATY	**Saty**	**1.45 273**	P		**Pg**	**10 29 26.3**	**-0.1**
	91nm,0.1s						
SATY			S		**Sg**	**10 29 46.8**	**+1.6**
	416nm,0.1s						
SATY	**Saty**	**1.45 273**	*e*P		**Pg**	**10 29 26.8**	**+0.3**
	baz=69						
SATY			*e*S		**Sg**	**10 29 46.8**	**+1.6**
	baz=69						
PRZ	**Przheval'sk**	**1.55 251**	⇑*i*P		**Pg**	**10 29 28.4**	**0.0**
	baz=50						
PRZ			⇑*i*S		**Sg**	**10 29 50.7**	**+2.2**
	baz=50						
KURS	**Kuram**	**1.68 287**	*e*P		**Pg**	**10 29 30.4**	**-0.5**
	60nm,0.5s						
KURS			*e*S		**Sg**	**10 29 53.8**	**+1.1**
	221nm,0.4s						
KURS	**Kuram**	**1.68 287**	P		**Pg**	**10 29 30.4**	**-0.5**
	60nm,0.5s						
KURS			S		**Sg**	**10 29 53.8**	**+1.1**
	221nm,0.4s						
KURS	**Kuram**	**1.68 287**	*e*P		**Pg**	**10 29 30.4**	**-0.5**
	baz=84						
KURS			*e*S		**Sg**	**10 29 53.8**	**+1.1**
	baz=84						
BLB	**Baldybastay**	**1.76 309**	*e*P		**Pb**	**10 29 31.4**	**+0.1**
	138nm,0.2s						
BLB			*e*S		**Sg**	**10 29 55.5**	**+0.3**
	424nm,0.3s						
BLB	**Baldybastay**	**1.76 309**	P		**Pb**	**10 29 31.4**	**+0.1**
	138nm,0.2s						
BLB			S		**Sg**	**10 29 55.5**	**+0.3**
	424nm,0.3s						
ANVS	**Anan'yevo**	**2.00 264**	⇑*i*P		**Pb**	**10 29 35.3**	**-0.2**
	baz=62						
ANVS			⇑*i*S		**Sg**	**10 30 03.0**	**-0.1**
	baz=62						
ARXS	**Arharly**	**2.21 304**	*e*P		**Pb**	**10 29 38.0**	**-1.0**
	7.8nm,0.1s						
ARXS			*e*S		**Sb**	**10 30 06.4**	**-0.1**
	250nm,0.7s						
ARXS	**Arharly**	**2.21 304**	Pg		**Pb**	**10 29 38.0**	**-1.0**
	7.8nm,0.1s						
ARXS			Lg		Lg	10 30 06.4	
	250nm,0.7s						
TARG	**Taragay, Kyrgy**	**2.29 237**	⇑*i*P		**Pb**	**10 29 40.1**	**-0.5**
	baz=36						
TARG			⇑*i*S		**Sg**	**10 30 11.0**	**-1.5**
	baz=36						
KAPS	**Kapalarasan**	**2.39 342**	*e*P		**Pb**	**10 29 41.0**	**-1.1**
	16nm,0.2s						
KAPS			*e*S		**Sb**	**10 30 11.8**	**0.0**
	164nm,0.5s						
KAPS	**Kapalarasan**	**2.39 342**	Pg		**Pb**	**10 29 41.0**	**-1.1**
	16nm,0.2s						
KAPS			Lg		Lg	10 30 11.8	
	164nm,0.5s						
KOTS	**Kotyrbulak**	**2.40 276**	*e*P		**Pb**	**10 29 42.7**	**+0.4**
	19nm,0.3s						
KOTS			*e*S		**Sg**	**10 30 15.0**	**-0.8**
	221nm,0.4s						
KOTS	**Kotyrbulak**	**2.40 276**	Pg		**Pb**	**10 29 42.7**	**+0.4**
	19nm,0.3s						
KOTS			Lg		Lg	10 30 15.0	
	221nm,0.4s						
MDOK	**Medeo**	**2.44 275**	*e*P		**Pb**	**10 29 43.2**	**+0.2**
	6.9nm,0.2s						
MDOK			*e*S		**Sg**	**10 30 15.4**	**-1.8**
	50nm,0.4s						
MDOK	**Medeo**	**2.44 275**	⇑Pn		**Pb**	**10 29 40.7**	**-2.3**
	12nm,0.7s						
MDOK			⇓Lg		Lg	10 30 15.4	
	50nm,0.7s						
MDOK	**Medeo**	**2.44 275**	Pg		**Pb**	**10 29 43.2**	**+0.2**
	6.9nm,0.2s						
MDOK			Lg		Lg	10 30 15.4	
	50nm,0.4s						
TDK	**Taldyqorghan**	**2.45 325**	*e*P		**Pb**	**10 29 41.4**	**-1.7**
	17nm,0.3s						
TDK			*e*S		**Sb**	**10 30 12.3**	**-1.0**
	250nm,0.4s						
TDK	**Taldyqorghan**	**2.45 325**	Pg		**Pb**	**10 29 41.4**	**-1.7**
	17nm,0.3s						
TDK			Lg		Lg	10 30 12.3	
	250nm,0.4s						
TNSS	**Tian-Shan**	**2.51 272**	*e*P		**Pb**	**10 29 44.8**	**+0.4**
	8.5nm,0.2s						
TNSS			*e*S		**Sg**	**10 30 17.9**	**-1.6**
	30nm,0.2s						
TNSS	**Tian-Shan**	**2.51 272**	Pg		**Pb**	**10 29 44.8**	**+0.4**
	8.5nm,0.2s						
TNSS			Lg		Lg	10 30 17.9	
	30nm,0.2s						
KDJ	**Kajisay**	**2.52 251**	⇑*e*P		**Pb**	**10 29 42.8**	**-1.5**
	baz=49						
KDJ			⇑*i*S		**Sb**	**10 30 15.8**	**+0.2**
	baz=49						
CHKK	**Chushkaly**	**2.61 290**	*e*P		**Pb**	**10 29 46.0**	**+0.2**
	2.6nm,0.1s						
CHKK			*e*S		**Sg**	**10 30 20.1**	**-2.4**
	80nm,0.3s						
CHKK	**Chushkaly**	**2.61 290**	Pg		**Pb**	**10 29 46.0**	**+0.2**
	2.6nm,0.1s						
CHKK			Lg		Lg	10 30 20.1	
	80nm,0.3s						
KTBS	**Karatobe**	**2.78 286**	*e*P		**Pb**	**10 29 49.6**	**+0.9**
	13nm,0.3s						
KTBS			*e*S		**Sg**	**10 30 26.3**	**-1.8**
	77nm,0.4s						
KTBS	**Karatobe**	**2.78 286**	Pg		**Pb**	**10 29 49.6**	**+0.9**
	13nm,0.3s						
KTBS			Lg		Lg	10 30 26.3	
	77nm,0.4s						
MTBS	**Maitube**	**2.89 274**	*e*P		**Pb**	**10 29 51.6**	**+0.9**
	4.7nm,0.3s						
MTBS			*e*S		**Sg**	**10 30 30.0**	**-1.7**
	43nm,0.4s						
MTBS	**Maitube**	**2.89 274**	Pg		**Pb**	**10 29 51.6**	**+0.9**
	4.7nm,0.3s						
MTBS			Lg		Lg	10 30 30.0	
	43nm,0.4s						
KUU	**Kurty**	**3.07 288**	*e*P		**Pb**	**10 29 54.0**	**+0.4**
	7.2nm,0.2s						
KUU			*e*S		**Sb**	**10 30 34.0**	**+2.7**
	39nm,0.5s						
KUU	**Kurty**	**3.07 288**	Pg		**Pb**	**10 29 54.0**	**+0.4**
	7.2nm,0.2s						
KUU			Lg		Lg	10 30 34.0	
	39nm,0.5s						
ULHL	**Ulahol**	**3.14 257**	⇑*i*P		**Pb**	**10 29 51.6**	**-3.4**
	baz=56						
ULHL			⇑*i*S		**Sb**	**10 30 30.5**	**-3.1**
	baz=56						
KST	**Kastek**	**3.23 272**	*e*P		**Pb**	**10 29 58.2**	**+1.7**
	7.5nm,0.2s						
KST			*e*S		**Sg**	**10 30 41.3**	**-1.3**
	35nm,0.4s						
KST	**Kastek**	**3.23 272**	Pg		**Pb**	**10 29 58.2**	**+1.7**
	7.5nm,0.2s						
KST			Lg		Lg	10 30 41.3	
	35nm,0.4s						
BOOM	**Boomskoye usch**	**3.31 262**	⇓*e*P		**Pn**	**10 29 53.6**	**+2.6**
	baz=61						
BOOM			⇓*i*S		**Sb**	**10 30 34.3**	**-4.0**
	baz=61						
DGS	**Degeres**	**3.38 276**	*e*P		**Pb**	**10 29 58.9**	**0.0**
	5.7nm,0.5s						
DGS			*e*S		**Sb**	**10 30 41.6**	**+1.3**
	44nm,0.4s						
DGS	**Degeres**	**3.38 276**	Pg		**Pb**	**10 29 59.5**	**+0.6**
	5.7nm,0.5s						
DGS			Lg		Lg	10 30 43.2	
	44nm,0.4s						
KRBS	**Karabastau**	**3.50 283**	*e*P		**Pb**	**10 30 01.1**	**+0.2**
	6.6nm,0.3s						
KRBS			*e*S		**Sb**	**10 30 46.8**	**+3.2**
	23nm,0.4s						
KRBS	**Karabastau**	**3.50 283**	Pg		**Pb**	**10 30 01.9**	**+1.0**
	6.6nm,0.3s						
KRBS			Lg		Lg	10 30 47.4	
	23nm,0.4s						
TKM2	**Tokmak 2**	**3.51 270**	⇑Pn		**Pn**	**10 29 56.0**	**+2.2**
	1.2nm,0.6s						
TKM2			⇓Pg		**Pg**	**10 30 04.1**	**-1.9**
	4.7nm,0.5s						
TKM2			⇓Lg		Lg	10 30 50.2	
	11nm,0.5s						
TKM2	**Tokmak 2**	**3.51 270**	⇑*e*P		**Pn**	**10 29 56.3**	**+2.5**
	baz=69						
TKM2			⇑*i*S		**Sb**	**10 30 39.0**	**-5.1**
	baz=69						
MAKZ	**Makanchi**	**3.96 16**	⇑Pn		**Pn**	**10 30 01.3**	**+1.4**
	4.1nm,0.7s						
MAKZ			⇑Sn		**Sn**	**10 30 47.5**	**+0.9**
	2.4nm,0.5s						
MAKZ			⇑Lg		Lg	10 31 01.6	
	6.1nm,0.5s						
MK31	**Makanchi Array**	**4.02 19**	Pn		**Pn**	**10 30 01.9**	**+1.3**
	0.7nm,0.3s,baz=200,slow=14,SNR=53						
MK31			Sn		**Sn**	**10 30 47.9**	**-0.1**
	1.7nm,0.3s,baz=197,slow=29,SNR=5.5						
MK31			⇓Lg		Lg	10 31 04.4	
	9.3nm,0.5s,baz=196,slow=27,SNR=7.5						
SGDS	**Sogindy**	**4.22 278**	*e*P		**Pb**	**10 30 15.4**	**+2.1**
	1.9nm,0.2s						
SGDS			*e*S		**Sg**	**10 31 10.4**	**-3.8**
	17nm,0.5s						
SGDS	**Sogindy**	**4.22 278**	Pg		**Pb**	**10 30 16.0**	**+2.7**
	1.9nm,0.2s						
SGDS			Lg		Lg	10 31 11.7	
	17nm,0.5s						
AAK	**Ala-Archa**	**4.34 267**	⇑Pg		**Pb**	**10 30 16.5**	**+1.1**
	3.0nm,0.7s						
AAK			Lg		Lg	10 31 13.4	
	13nm,0.7s						
ARLS	**Aral**	**4.62 258**	⇑*i*P		**Pn**	**10 30 12.0**	**+2.9**
	baz=57						
ARLS			⇑*i*S		**Sn**	**10 31 05.8**	**+2.7**
	baz=57						
ZSN	**Zaisan**	**5.46 34**	*e*P		**Pb**	**10 30 36.5**	**+2.3**
	1.5nm,0.1s						
ZSN			*e*S		**Sg**	**10 31 47.4**	**-6.5**
	13nm,0.6s						
ZSN	**Zaisan**	**5.46 34**	Pg		**Pb**	**10 30 36.5**	**+2.3**
	1.5nm,0.1s						
ZSN			Lg		Lg	10 31 47.4	
	13nm,0.6s						
KURBB	**Kurchatov Arra**	**7.72 351**	⇑Lg		Lg	10 33 01.7	
	15nm,0.7s						
KURK	**Kurchatov**	**7.80 352**	⇓Lg		Lg	10 33 07.2	
	6.5nm,0.8s						

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*BJI **24** 10:30:26.5±0.0,59°.71N×153°.51W,h120km,mb6.4/80, mB7.0/75*

*BGR **24** 10:30:28.0±0.0,59°.41N×154°.08W,h139km±4km,mb6.4, mB_BB7.2*

*IDC **24** 10:30:27.5±0.6,59°.71N×153°.59W,h108km±5km,mb5.8/59, mb1 5.8/64,mb1mx5.7/67,mbtmp6.1/64,MS6.2/71, Ms1 6.2/71,ms1mx6.1/97,Error ellipse: s-maj=6.0km s-min=5.8km az=76.0*

*MOS **24** 10:30:28.1±0.9,59°.76N×153°.52W,h124km,mb6.5/69, MS6.4/22,Error ellipse: s-maj=7.1km s-min=3.5km az=95.8*

*AEIC **24** 10:30:29.6±4.2,59°.62N±0°.04×153°.34W±0°.07, h126km±2km,Error ellipse: s-maj=6.0km s-min=5.2km az=214.0*

*NEIC **24** 10:30:29,59°.61N×153°.34W,h122km,Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}2.43; $M_{\theta\theta}$-4.36; $M_{\phi\phi}$1.93; $M_{r\theta}$0.74; $M_{\theta\phi}$0.56; $M_{\phi r}$2.98; Fault plane solution: $M_0$4.91000×10^{19} NP1:ϕ_s60.19000°, δ62.79000°,λ40.73000°. NP2:ϕ_s308.70000°,δ54.53000°, λ145.84000°. Principal axes: T 5.2607, Plg47.0000°, Azm278.0000°; N -0.8085, Plg42.0000°, Azm88.0000°; P -4.4521, Plg5.0000°, Azm183.0000°;*

*NEIC **24** 10:30:30.2±4.3,59°.64N±0°.05×153°.41W±0°.09, h129km±1km,mb6.6/336,ML7.1/59,Mwb7.1/93,Mww7.1, ML7.1(AEIC) Error ellipse: s-maj=7.9km s-min=7.2km az=186.0*

*NEIC **24** 10:30:36,59°.56N×153°.25W,h110km,Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^{19}Nm; M_{rr}2.45; $M_{\theta\theta}$-5.91; $M_{\phi\phi}$3.46; $M_{r\theta}$0.72; $M_{\theta\phi}$0.93; $M_{\phi r}$2.86; Fault plane solution: $M_0$6.00000×10^{19} NP1: ϕ_s313.00000°,δ60.00000°,λ152.00000°. NP2: ϕ_s58.00000°,δ66.00000°,λ33.00000°. Principal axes: T 5.9794, Plg40.0000°, Azm277.0000°; N 0.0500, Plg50.0000°, Azm91.0000°; P -6.0294, Plg3.0000°, Azm185.0000°;*

*GCMT **24** 10:30:37.2±0.1,59°.75N×153°.27W,h111km,MW7.1/170, Moment Tensor Solution. s170,c467; s166,c815; Duration: 8s8 Moment tensor: Scale 10^{19}Nm; M_{rr}2.39±.02; $M_{\theta\theta}$-5.66±.02; $M_{\phi\phi}$3.27±.02; $M_{r\theta}$0.83±.02; $M_{\theta\phi}$0.96±.01; $M_{\phi r}$3.05±.02; Best double couple: $M_0$5.92500×10^{19} NP1:ϕ_s313.00000°,δ59.00000°, λ152.00000°. NP2:ϕ_s59.00000°,δ66.00000°,λ34.00000°. Principal axes: T 6.0500, Plg41.0000°, Azm278.0000°; N -0.2520, Plg49.0000°, Azm90.0000°; P -5.7990, Plg4.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 24 10:30:29.8±0.2,59°.69N±0°.02×153°.58W±0°.02, h127km±1km,h126km:pP-P,n2473,σ1s89/3189,mb6.4/475, 681C-294D,Fault plane solution: NP1:ϕ_s69.74519°, δ74.39659°,λ67.54316°. **NP2:**ϕ_s306.69095°,δ27.11308°, λ143.82964°. **Principal axes:** T Plg55.0445°, Azm311.6175°; N Plg21.5868°, Azm76.0891°; P Plg26.0533°, Azm177.2422°; **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.62**	**50**	P	**Pn**	**10 30 47.9**	**-1.4**
	baz=217,SNR=1000						
O19K	**Port Alsworth**	**0.63**	**324**	Pn	**Pn**	**10 30 49.3**	**0.0**
O19K	**Port Alsworth**	**0.63**	**324**	P	**Pn**	**10 30 48.8**	**-0.5**
	baz=140,SNR=1000						
Q19K	**Cape Douglas,**	**0.76**	**182**		**Pn**	**10 30 49.2**	**-1.2**
Q19K	**Cape Douglas,**	**0.76**	**182**	P	**Pn**	**10 30 49.1**	**-1.3**
	baz=13,SNR=1000						
O18K	**Koktuh Hills**	**0.84**	**282**		**Pn**	**10 30 50.9**	**-0.1**
O18K	**Koktuh Hills**	**0.84**	**282**	P	**Pn**	**10 30 51.0**	**+0.1**
	baz=104,SNR=1000						
O18K				S	**Sn**	**10 31 07.8**	**+0.8**
	baz=104						
P18K	**Big Mountain,**	**0.89**	**251**		**Pn**	**10 30 51.2**	**-0.3**
P18K	**Big Mountain,**	**0.89**	**251**	P	**Pn**	**10 30 51.2**	**-0.3**
	baz=77,SNR=1000						
P18K				S	**Sn**	**10 31 08.5**	**+0.7**
	baz=77						
HOM	**Homer**	**0.98**	**91**		**Pn**	**10 30 50.8**	**-1.4**
HOM	**Homer**	**0.98**	**91**	P	**Pn**	**10 30 50.2**	**-2.0**
	baz=267,SNR=1000						
CNPM	**China Poot**	**1.20**	**97**		**Pn**	**10 30 52.5**	**-2.0**
CNPM	**China Poot**	**1.20**	**97**		**Sn**	**10 31 10.5**	**-2.7**
N19K	**Bonanza Creek**	**1.22**	**339**		**Pn**	**10 30 54.4**	**-0.3**
N19K	**Bonanza Creek**	**1.22**	**339**	P	**Pn**	**10 30 54.5**	**-0.2**
	baz=154						
N19K				S	**Sn**	**10 31 16.2**	**+2.6**
	baz=154						
BRLK	**Bradley Lake**	**1.37**	**86**		**Pn**	**10 30 53.7**	**-2.5**
BRLK	**Bradley Lake**	**1.37**	**86**		**Sn**	**10 31 13.5**	**-2.8**
BRSE	**Bradley Lake S**	**1.44**	**87**		**Pn**	**10 30 54.2**	**-2.8**
BRSE					**Sn**	**10 31 15.3**	**-2.3**
BRSE	**Bradley Lake S**	**1.44**	**87**	P	**Pn**	**10 30 54.2**	**-2.8**
	baz=265,SNR=1000						
BRSE				S	**Sn**	**10 31 15.4**	**-2.3**
	baz=265						
CAPN	**Captain Cook N**	**1.63**	**47**		**Pn**	**10 30 59.4**	**+0.3**
CAPN	**Captain Cook N**	**1.63**	**47**	P	**Pn**	**10 30 59.1**	**+0.1**
	baz=224,SNR=1000						
SPCR	**Spurr Chakacha**	**1.67**	**24**	P	**Pn**	**10 30 58.7**	**-0.9**
	baz=200,SNR=1000						
SPU	**Mount Spurr**	**1.68**	**26**		**Pn**	**10 30 58.4**	**-1.4**
SVW2	**Sparrevohn**	**1.73**	**326**		**Pn**	**10 31 00.8**	**+0.5**
SLKM	**Skilak Lake**	**1.88**	**62**		**Pn**	**10 30 59.5**	**-2.6**
SLKM					**Sn**	**10 31 24.2**	**-2.6**
KDAK	**Kodiak Island**	**1.98**	**164**	P	**Pn**	**10 31 00.3**	**-3.0**
	3μm,0.3s,baz=18,slow=9.1,SNR=4041						
KDAK				LR	LR	10 31 25.0	
	comp=Z,585μm,18.3s,baz=120,slow=29						
KDAK				S	**Sn**	**10 31 25.1**	**-3.7**
	54μm,0.3s,baz=100,slow=22,SNR=16						
KDAK	**Kodiak Island**	**1.98**	**164**	P	**Pn**	**10 31 00.3**	**-3.0**
KDAK				S	**Sn**	**10 31 25.1**	**-3.7**
KDAK	**Kodiak Island**	**1.98**	**164**	⇑P	**Pn**	**10 31 00.3**	**-3.0**
KDAK	**Kodiak Island**	**1.98**	**164**	Pn	**Pn**	**10 31 00.5**	**-2.7**
KDAK	**Kodiak Island**	**1.98**	**164**	P	**Pn**	**10 31 00.3**	**-3.0**
	baz=348						
KDAK				S	**Sn**	**10 31 25.3**	**-3.5**
	baz=348						
KDAK	**Kodiak Island**	**1.98**	**164**	P	**Pn**	**10 31 00.4**	**-3.0**
O22K	**Cooper Landing**	**2.09**	**66**		**Pn**	**10 31 02.7**	**-1.9**
O22K	**Cooper Landing**	**2.09**	**66**	P	**Pn**	**10 31 02.6**	**-2.1**
	baz=246,SNR=1000						
SEW	**Seward**	**2.12**	**77**		**Pn**	**10 31 02.5**	**-2.5**
SEW	**Seward**	**2.12**	**77**	P	**Pn**	**10 31 02.2**	**-2.9**
	baz=257,SNR=1000						
FIS	**Fire Island**	**2.22**	**47**	Pn	**Pn**	**10 31 06.7**	**+0.5**
RC01	**Rabbit Creek A**	**2.37**	**52**		**Pn**	**10 31 07.5**	**-0.7**
RC01	**Rabbit Creek A**	**2.37**	**52**	P	**Pn**	**10 31 06.3**	**-1.9**
	baz=232,SNR=1000						
OHAK	**Old Harbor**	**2.48**	**176**	Pn	**Pn**	**10 31 06.8**	**-2.7**
OHAK				IAML		10 31 48.1	
	comp=E,274μm,1.0s						
OHAK	**Old Harbor**	**2.48**	**176**	P	**Pn**	**10 31 06.6**	**-2.9**
	baz=359,SNR=1000						
OHAK				S	**Sn**	**10 31 36.1**	**-3.9**
	baz=359						
L19K	**White Mountain**	**2.58**	**347**	Pn	**Pn**	**10 31 11.1**	**+0.3**
L19K	**White Mountain**	**2.58**	**347**	P	**Pn**	**10 31 10.9**	**0.0**
	baz=163,SNR=1000						
M22K	**Willow**	**2.68**	**38**		**Pn**	**10 31 11.1**	**-1.0**
M22K	**Willow**	**2.68**	**38**	P	**Pn**	**10 31 10.7**	**-1.4**
	baz=218,SNR=1000						
L20K	**Farewell, AK**	**2.81**	**357**	P	**Pn**	**10 31 13.9**	**+0.2**
	baz=175,SNR=1000						
PWL	**Port Wells**	**2.87**	**63**	Pn	**Pn**	**10 31 13.1**	**-1.5**
PWL	**Port Wells**	**2.87**	**63**		**Sn**	**10 31 45.2**	**-3.8**
PWL	**Port Wells**	**2.87**	**63**	P	**Pn**	**10 31 11.6**	**-2.9**
	baz=245,SNR=1000						
PWL				S	**Sn**	**10 31 45.4**	**-3.6**
	baz=245						
PMR	**Palmer**	**2.91**	**47**	P	**Pn**	**10 31 12.7**	**-2.3**
PMR	**Palmer**	**2.91**	**47**		**Pn**	**10 31 12.7**	**-2.3**
PMR	**Palmer**	**2.91**	**47**	P	**Pn**	**10 31 12.4**	**-2.7**
	baz=228,SNR=1000						
PMR				S	**Sn**	**10 31 47.1**	**-2.8**
	baz=228						
KNK	**Knik Glacier**	**3.07**	**53**		**Pn**	**10 31 15.4**	**-1.7**
KNK	**Knik Glacier**	**3.07**	**53**		**Sn**	**10 31 49.7**	**-3.9**
KNK	**Knik Glacier**	**3.07**	**53**	P	**Pn**	**10 31 14.4**	**-2.7**
	baz=235,SNR=1000						
KNK				S	**Sn**	**10 31 50.8**	**-2.9**
	baz=235						
GHO	**Glory Hole Cre**	**3.10**	**46**		**Pn**	**10 31 14.3**	**-3.3**
SII	**Sitkinak Islan**	**3.15**	**186**		**Pn**	**10 31 15.8**	**-2.4**
SII				IAML		10 32 05.5	
	comp=E,399μm,0.8s						
SII				IAML		10 32 06.8	
	comp=N,464μm,1.1s						
SII	**Sitkinak Islan**	**3.15**	**186**		**Sn**	**10 31 51.0**	**-4.6**
SII	**Sitkinak Islan**	**3.15**	**186**	P	**Pn**	**10 31 15.7**	**-2.5**
	baz=8.0,SNR=914						
SII				S	**Sn**	**10 31 51.9**	**-3.8**
	baz=8.0						
SII	**Sitkinak Islan**	**3.15**	**186**	P	**Pn**	**10 31 16.7**	**-1.6**
CUT	**Chulitna**	**3.17**	**29**	Pn	**Pn**	**10 31 18.0**	**-0.4**
CUT	**Chulitna**	**3.17**	**29**	P	**Pn**	**10 31 16.9**	**-1.5**
	baz=209,SNR=1000						
CUT				S	**Sn**	**10 31 57.1**	**+1.2**
	baz=209						
PPLA	**Purkeypile**	**3.29**	**11**	Pn	**Pn**	**10 31 20.5**	**+0.3**
PPLA	**Purkeypile**	**3.29**	**11**	P	**Pn**	**10 31 20.3**	**+0.2**
	baz=190,SNR=1000						
PPLA				S	**Sn**	**10 32 02.4**	**+3.3**
	baz=190						
SML	**Sawmill**	**3.34**	**48**	Pn	**Pn**	**10 31 18.6**	**-2.2**
SML	**Sawmill**	**3.34**	**48**	P	**Pn**	**10 31 18.0**	**-2.8**
	baz=230,SNR=1000						
SML				S	**Sn**	**10 31 58.3**	**-1.8**
	baz=230						
GLI	**Glacier Island**	**3.44**	**67**	Pn	**Pn**	**10 31 19.0**	**-3.1**
GLI	**Glacier Island**	**3.44**	**67**	P	**Pn**	**10 31 18.3**	**-3.7**
	baz=250,SNR=944						
GLI				S	**Sn**	**10 31 57.9**	**-4.5**
	baz=250						
TTA	**Tatalina**	**3.46**	**341**	P	**Pn**	**10 31 22.2**	**-0.1**
TTA	**Tatalina**	**3.46**	**341**	⇑P	**Pn**	**10 31 22.2**	**-0.1**
TTA	**Tatalina**	**3.46**	**341**	Pn	**Pn**	**10 31 22.2**	**-0.1**
TTA	**Tatalina**	**3.46**	**341**	P	**Pn**	**10 31 22.4**	**+0.1**
	baz=158,SNR=1000						
TTA				S	**Sn**	**10 32 05.0**	**+2.0**
	baz=158						
Q23K	**Middleton Isla**	**3.69**	**91**	Pn	**Pn**	**10 31 22.0**	**-3.2**
Q23K				IAML		10 32 10.3	
	comp=E,338μm,1.0s						
Q23K				IAML		10 32 11.2	
	comp=N,318μm,1.2s						
Q23K	**Middleton Isla**	**3.69**	**91**	P	**Pn**	**10 31 22.1**	**-3.2**
	baz=276,SNR=295						
Q23K				S	**Sn**	**10 32 05.7**	**-2.5**
	baz=276						
K20K	**Telida**	**3.69**	**357**		**Pn**	**10 31 24.7**	**-0.6**
K20K				IAML		10 33 17.2	
	comp=E,154μm,2.2s						
K20K	**Telida**	**3.69**	**357**	P	**Pn**	**10 31 25.2**	**-0.1**
	baz=174						
K20K				S	**Sn**	**10 32 03.0**	**-5.3**
	baz=174						
MID	**Middleton Isla**	**3.69**	**91**	P	**Pn**	**10 31 22.4**	**-2.9**
MID	**Middleton Isla**	**3.69**	**91**	Pn	**Pn**	**10 31 22.4**	**-2.9**
MID				IAML		10 32 09.8	
	comp=E,346μm,1.1s						
MID				IAML		10 32 51.2	
	comp=N,309μm,1.1s						
FID	**Port Fidalgo**	**3.70**	**70**		**Pn**	**10 31 22.0**	**-3.4**
SCM	**Sheep Creek Mo**	**3.75**	**52**	P	**Pn**	**10 31 25.4**	**-0.7**
SCM	**Sheep Creek Mo**	**3.75**	**52**	Pn	**Pn**	**10 31 25.4**	**-0.7**
SCM	**Sheep Creek Mo**	**3.75**	**52**	P	**Pn**	**10 31 23.5**	**-2.7**
	baz=236,SNR=1000						
SCM				S	**Sn**	**10 32 07.3**	**-2.4**
	baz=236						
CAST	**Castle Rocks**	**3.81**	**10**	Pn	**Pn**	**10 31 26.9**	**0.0**
CAST				IAML		10 32 38.0	
	comp=E,163μm,2.2s						
CAST				IAML		10 33 12.1	
	comp=N,119μm,1.7s						
CAST	**Castle Rocks**	**3.81**	**10**	P	**Pn**	**10 31 26.4**	**-0.5**
	baz=190,SNR=1000						
EYAK	**Cordova Ski Ar**	**4.01**	**74**		**Pn**	**10 31 27.1**	**-2.5**
EYAK	**Cordova

CHGN	**Chignik**	**4.26**	**219**	Pn	**Pn**	**10 31 32.9**	**+0.1**
CHGN	comp=N,77µm,1.4s			IAML		10 32 21.7	
CHGN	comp=E,61µm,1.0s			IAML		10 32 22.9	
CHGN	**Chignik**	**4.26**	**219**	P	**Pn**	**10 31 32.2**	**-0.6**
CHGN	baz=37,SNR=1000			S	**Sn**	**10 32 19.0**	**-2.7**
M24K	**Tolsona, Glenn**	**4.36**	**53**	Pn	**Pn**	**10 31 32.2**	**-1.9**
M24K	**Tolsona, Glenn**	**4.36**	**53**	P	**Pn**	**10 31 32.1**	**-2.1**
M24K	baz=238,SNR=1000			S	**Sn**	**10 32 24.4**	**+0.2**
J20K	**Nowinta River**	**4.52**	**357**	Pn	**Pn**	**10 31 35.7**	**-0.6**
J20K	comp=N,79µm,1.2s			IAML		10 33 31.1	
J20K	comp=E,92µm,2.4s			IAML		10 33 37.9	
J20K	**Nowinta River**	**4.52**	**357**	P	**Pn**	**10 31 36.3**	**+0.1**
GOAT	**Goat Mountain**	**4.52**	**75**		**Pn**	**10 31 33.4**	**-2.9**
BPAW	**Bear Paw Mtn.**	**4.60**	**14**		**Pn**	**10 31 36.2**	**-1.2**
BPAW	comp=E,114µm,2.0s			IAML		10 33 15.4	
BPAW	comp=N,112µm,1.2s			IAML		10 33 22.8	
BPAW	**Bear Paw Mtn.**	**4.60**	**14**	P	**Pn**	**10 31 35.3**	**-2.1**
BPAW	baz=195,SNR=1000			S	**Sn**	**10 32 27.2**	**-2.6**
MCK	**McKinley**	**4.62**	**27**	P	**Pn**	**10 31 37.1**	**-0.6**
MCK	**McKinley**	**4.62**	**27**		**Pn**	**10 31 37.1**	**-0.6**
MCK	comp=N,335µm,1.4s			IAML		10 32 56.7	
MCK	comp=E,233µm,1.6s			IAML		10 33 12.7	
MCK	**McKinley**	**4.62**	**27**	P	**Pn**	**10 31 35.5**	**-2.2**
MCK	baz=209,SNR=1000			S	**Sn**	**10 32 30.3**	**-0.2**
KAIM	**Kayak Island**	**4.63**	**83**	Pn	**Pn**	**10 31 35.5**	**-2.3**
KAIM	comp=N,447µm,1.9s			IAML		10 32 35.1	
KAIM	comp=E,411µm,1.8s			IAML		10 33 05.7	
KAIM	**Kayak Island**	**4.63**	**83**	P	**Pn**	**10 31 35.4**	**-2.5**
KAIM	baz=270,SNR=821			S	**Sn**	**10 32 29.3**	**-1.4**
BMRM	**Bremner River**	**4.64**	**70**	Pn	**Pn**	**10 31 35.5**	**-2.5**
BMRM	**Bremner River**	**4.64**	**70**	P	**Pn**	**10 31 35.1**	**-2.9**
BMRM	baz=256,SNR=1000			S	**Sn**	**10 32 28.6**	**-2.4**
HMT	**Hamilton**	**4.72**	**78**	Pn	**Pn**	**10 31 36.6**	**-2.4**
N25K	**Chitina, Valde**	**4.82**	**63**		**Pn**	**10 31 39.1**	**-1.4**
N25K	comp=E,394µm,1.1s			IAML		10 32 38.5	
N25K	**Chitina, Valde**	**4.82**	**63**	P	**Pn**	**10 31 37.9**	**-2.6**
N25K	baz=249,SNR=1000			S	**Sn**	**10 32 31.5**	**-3.9**
NICHA	**Nichawak Mount**	**4.86**	**79**		**Pn**	**10 31 38.0**	**-2.9**
BWN	**Browne**	**4.90**	**22**		**Pn**	**10 31 40.5**	**-0.9**
HARP	**HAARP**	**4.92**	**53**	P	**Pn**	**10 31 39.4**	**-2.2**
HARP	baz=238,SNR=1000			S	**Sn**	**10 32 36.7**	**-0.8**
SUCK	**Suckling Hills**	**4.96**	**81**		**Pn**	**10 31 39.3**	**-2.8**
SUCK	comp=N,259µm,0.7s			IAML		10 32 41.3	
SUCK	comp=E,201µm,1.9s			IAML		10 32 45.7	
BERG	**Berg Lake**	**5.00**	**78**		**Pn**	**10 31 39.4**	**-3.4**
PAX	**Paxson**	**5.11**	**46**	P	**Pn**	**10 31 43.9**	**-0.4**
PAX	**Paxson**	**5.11**	**46**		**Pn**	**10 31 43.9**	**-0.4**
PAX	**Paxson**	**5.11**	**46**	P	**Pn**	**10 31 42.0**	**-2.3**
PAX	baz=232,SNR=1000			S	**Sn**	**10 32 40.8**	**-1.5**
GLB	**Gilahina Butte**	**5.13**	**66**		**Pn**	**10 31 42.9**	**-1.6**
GRIN	**Grindle Hills**	**5.19**	**79**		**Pn**	**10 31 42.6**	**-2.7**
BGLC	**Bering Glacier**	**5.20**	**81**		**Pn**	**10 31 43.3**	**-2.1**
BGLC	**Bering Glacier**	**5.20**	**81**	P	**Pn**	**10 31 43.1**	**-2.3**
BGLC	baz=268,SNR=112			S	**Sn**	**10 32 43.3**	**-1.0**
KHIT	**Khitrov Hills**	**5.23**	**77**		**Pn**	**10 31 43.0**	**-2.9**
VRDI	**Verde Repeater**	**5.25**	**69**		**Pn**	**10 31 43.8**	**-2.5**
VRDI	comp=E,335µm,0.8s			IAML		10 32 45.9	
GCSA	**Galena City Sc**	**5.31**	**345**		**Pn**	**10 31 46.8**	**0.0**
GCSA	**Galena City Sc**	**5.31**	**345**	P	**Pn**	**10 31 47.0**	**+0.2**
NEA2	**Nenana**	**5.36**	**21**		**Pn**	**10 31 45.8**	**-1.7**
NEA2	comp=N,99µm,3.3s			IAML		10 33 23.5	
NEA2	comp=E,140µm,1.6s			IAML		10 33 35.3	
NEA2	**Nenana**	**5.36**	**21**	P	**Pn**	**10 31 44.4**	**-3.1**
SNH	**Sunshine Point**	**5.43**	**80**		**Pn**	**10 31 47.2**	**-1.3**
SNH	comp=N,267µm,1.3s			IAML		10 32 53.6	
WAX	**Waxell Ridge**	**5.43**	**77**		**Pn**	**10 31 46.0**	**-2.6**
WRH	**Wood River Hil**	**5.45**	**26**		**Pn**	**10 31 46.5**	**-2.3**
I21K	**Tanana**	**5.56**	**7**		**Pn**	**10 31 48.8**	**-1.5**
I21K	**Tanana**	**5.56**	**7**	P	**Pn**	**10 31 49.0**	**-1.2**
CYK	**Cape Yakataga**	**5.60**	**81**		**Pn**	**10 31 48.3**	**-2.5**
CCB	**Clear Creek Bu**	**5.67**	**26**		**Pn**	**10 31 49.5**	**-2.1**
HDA	**Harding Lake**	**5.67**	**31**		**Pn**	**10 31 49.5**	**-2.3**
HDA	**Harding Lake**	**5.67**	**31**	P	**Pn**	**10 31 49.2**	**-2.6**
HDA	baz=215,SNR=1000			S	**Sn**	**10 32 53.0**	**-2.7**
HDA	baz=215			S	**Sn**	**10 32 53.0**	**-2.7**
ISLE	**Juniper Island**	**5.69**	**76**		**Pn**	**10 31 49.2**	**-3.0**
PTPK	**Patty Peak**	**5.71**	**70**		**Pn**	**10 31 50.0**	**-2.4**
KIAG	**Kiagna River**	**5.72**	**73**		**Pn**	**10 31 49.6**	**-3.0**
SDPT	**Sand Point**	**5.72**	**223**		**Pn**	**10 31 51.8**	**-0.6**
SDPT	**Sand Point**	**5.72**	**223**	P	**Pn**	**10 31 51.3**	**-1.1**
SDPT	baz=39,SNR=281			S	**Sn**	**10 32 53.1**	**-3.6**
BALM	**Baldy**	**5.74**	**72**		**Pn**	**10 31 50.3**	**-2.5**
MENT	**Mentasta**	**5.76**	**51**		**Pn**	**10 31 52.0**	**-1.0**
BAGL	**Bagley Icefiel**	**5.81**	**77**		**Pn**	**10 31 51.2**	**-2.3**
RIDG	**Independent Ri**	**5.81**	**42**		**Pn**	**10 31 52.1**	**-1.5**
RIDG	**Independent Ri**	**5.81**	**42**	P	**Pn**	**10 31 51.9**	**-1.8**
RIDG	baz=228,SNR=1000			S	**Sn**	**10 32 57.4**	**-1.7**
M26K	**Nabesna, AK**	**5.82**	**58**		**Pn**	**10 31 51.3**	**-2.5**
M26K	**Nabesna, AK**	**5.82**	**58**	P	**Pn**	**10 31 51.9**	**-1.9**
M26K	baz=245,SNR=1000			S	**Sn**	**10 32 57.0**	**-2.2**
I23K	**Minto, Yukon-K**	**5.82**	**18**		**Pn**	**10 31 52.1**	**-1.6**
I23K	**Minto, Yukon-K**	**5.82**	**18**	P	**Pn**	**10 31 51.4**	**-2.3**
MDM	**Murphy Dome**	**5.85**	**23**		**Pn**	**10 31 52.4**	**-1.8**
TCOL	**CIGO, UAF Yank**	**5.85**	**25**		**Pn**	**10 31 52.3**	**-1.8**
TCOL	**CIGO, UAF Yank**	**5.85**	**25**	P	**Pn**	**10 31 51.7**	**-2.4**
I53US	**FAIRBANKS INFR**	**5.85**	**25**	P	**Pn**	**10 31 53.7**	**-0.4**
I53US	baz=198,slow=22,SNR=2.8			*i*		10 52 20.0	
COLA	**College**	**5.85**	**25**	*i* P	**Pn**	**10 31 51.8**	**-2.3**
COLA	**College**	**5.85**	**25**	⇓P	**Pn**	**10 31 51.3**	**-2.8**
COLA	**College**	**5.85**	**25**		**Pn**	**10 31 52.3**	**-1.8**
COLA	**College**	**5.85**	**25**	P	**Pn**	**10 31 52.0**	**-2.1**
CHNA	**Chernabura Isl**	**5.86**	**216**	P	**Pn**	**10 31 51.8**	**-2.4**
CNBA	**Chernabura Isl**	**5.87**	**216**		**Pn**	**10 31 51.6**	**-2.8**
MESA	**MESA**	**5.87**	**80**		**Pn**	**10 31 52.3**	**-2.3**
MESA	**MESA**	**5.87**	**80**	P	**Pn**	**10 31 52.0**	**-2.6**
MESA	baz=269,SNR=1000			S	**Sn**	**10 32 58.1**	**-2.6**
L26K	**Log Cabin Wild**	**5.95**	**51**		**Pn**	**10 31 55.0**	**-0.5**
L26K	**Log Cabin Wild**	**5.95**	**51**	P	**Pn**	**10 31 53.6**	**-2.0**

YAH	**Yahtse**	**5.97**	**78**		**Pn**	**10 31 53.7**	**-2.3**
IL31		**5.98**	**29**		**Pn**	**10 31 53.4**	**-2.5**
ILAR	**Eielson Array**	**5.98**	**29**	P	**Pn**	**10 31 53.2**	**-2.7**
	comp=N,774nm,0.3s,baz=216,slow=13,SNR=7630						
ILAR				S	**Sn**	**10 32 59.6**	**-3.6**
	comp=N,2µm,0.3s,baz=196,slow=13,SNR=2.0						
ILAR				ScP	**ScP**	**10 42 04.9**	**+0.4**
	comp=N,1.3nm,0.3s,baz=258,slow=2.7,SNR=2.2						
H21K	**Melozitna Rive**	**6.00**	**3**		**Pn**	**10 31 55.8**	**-0.4**
H21K	**Melozitna Rive**	**6.00**	**3**	P	**Pn**	**10 31 55.4**	**-0.8**
	baz=183						
DOT	**Dot Lake**	**6.03**	**45**		**Pn**	**10 31 54.8**	**-1.7**
BARN	**Barnard Glacie**	**6.07**	**72**		**Pn**	**10 31 55.5**	**-1.9**
POKR	**Poker Plat Res**	**6.15**	**25**		**Pn**	**10 31 56.0**	**-2.2**
POKR	**Poker Plat Res**	**6.15**	**25**	P	**Pn**	**10 31 55.7**	**-2.5**
	baz=209,SNR=1000						
POKR				S	**Sn**	**10 33 07.4**	**+0.2**
	baz=209						
CTG	**Chitna Glacier**	**6.21**	**73**	P	**Pn**	**10 31 56.7**	**-2.5**
	baz=262,SNR=1000						
CTG				S	**Sn**	**10 33 06.3**	**-2.6**
	baz=262						
CTGM	**Chitina Glacie**	**6.22**	**73**		**Pn**	**10 31 56.9**	**-2.3**
SCRK	**Sand Creek**	**6.26**	**42**		**Pn**	**10 31 56.8**	**-2.9**
SCRK	**Sand Creek**	**6.26**	**42**	P	**Pn**	**10 31 56.9**	**-2.9**
	baz=230,SNR=1000						
TABL	**Table Mountain**	**6.28**	**78**		**Pn**	**10 31 58.0**	**-2.0**
M27K	**Edge Creek, AK**	**6.29**	**60**		**Pn**	**10 31 59.1**	**-1.1**
M27K	**Edge Creek, AK**	**6.29**	**60**	P	**Pn**	**10 31 58.9**	**-1.3**
	baz=249,SNR=1000						
M27K				S	**Sn**	**10 33 08.6**	**-2.1**
	baz=249						
IMAR	**Indian Mountai**	**6.32**	**359**		**Pn**	**10 32 00.5**	**0.0**
LOGN	**Logan Glacier**	**6.37**	**74**		**Pn**	**10 31 59.7**	**-1.6**
SAMH	**Samovar Hills**	**6.46**	**81**		**Pn**	**10 32 00.5**	**-1.9**
L27K	**Beaver Creek,**	**6.58**	**54**		**Pn**	**10 32 02.4**	**-1.7**
L27K	**Beaver Creek,**	**6.58**	**54**	P	**Pn**	**10 32 02.3**	**-1.7**
	baz=243						
L27K				S	**Sn**	**10 33 16.2**	**-1.4**
	baz=243						
BCAR	**Beaver Creek A**	**6.60**	**54**		**Pn**	**10 32 02.9**	**-1.4**
H24K	**Noodor Dome**	**6.70**	**21**		**Pn**	**10 32 03.0**	**-2.7**
H24K	**Noodor Dome**	**6.70**	**21**	P	**Pn**	**10 32 03.2**	**-2.4**
	baz=204,SNR=1000						
PCA	**Pinnacle**	**6.72**	**81**		**Pn**	**10 32 03.8**	**-2.1**
PINM	**Pinnacle**	**6.72**	**81**	P	**Pn**	**10 32 03.4**	**-2.6**
	baz=271,SNR=1000						
PINM				S	**Sn**	**10 33 18.9**	**-2.2**
	baz=271						
J26L	**Joseph Creek**	**6.74**	**40**		**Pn**	**10 32 04.1**	**-2.0**
J26L	**Joseph Creek**	**6.74**	**40**	P	**Pn**	**10 32 03.5**	**-2.6**
	baz=228						
J26L				S	**Sn**	**10 33 17.8**	**-3.6**
	baz=228						
BVCY	**Beaver Creek**	**6.75**	**61**	P	**Pn**	**10 32 04.9**	**-1.5**
	baz=251,SNR=1000						
BVCY				S	**Sn**	**10 33 20.4**	**-1.3**
	baz=251						
YUK3	**Moose Creek**	**6.77**	**66**	P	**Pn**	**10 32 04.9**	**-1.8**
	baz=257,SNR=1000						
YUK3				S	**Sn**	**10 33 18.2**	**-4.1**
	baz=257						
PRP	**Porcupine Dome**	**6.93**	**29**		**Pn**	**10 32 07.5**	**-1.2**
PRP	**Porcupine Dome**	**6.93**	**29**	P	**Pn**	**10 32 06.3**	**-2.5**
	baz=215,SNR=1000						
PRP				S	**Sn**	**10 33 24.2**	**-1.9**
	baz=215						
BCPM	**Bancas Point**	**7.04**	**82**		**Pn**	**10 32 07.6**	**-2.5**
PNL	**Peninsula**	**7.18**	**84**		**Pn**	**10 32 09.2**	**-2.9**
PNL	**Peninsula**	**7.18**	**84**	P	**Pn**	**10 32 09.2**	**-2.9**
	baz=276,SNR=1000						
PNL				S	**Sn**	**10 33 33.0**	**+0.9**
	baz=276						
FALS	**False Pass**	**7.20**	**232**		**Pn**	**10 32 12.1**	**-0.2**
FALS	**False Pass**	**7.20**	**232**	P	**Pn**	**10 32 12.1**	**-0.2**
	baz=45,SNR=309						
FALS				S	**Sn**	**10 33 34.5**	**+2.0**
	baz=45						
FALS	**False Pass**	**7.20**	**232**	P	**Pn**	**10 32 13.3**	**+1.0**
ANM	**Nome**	**7.38**	**317**	P	**Pn**	**10 32 16.3**	**+1.7**
ANM	**Nome**	**7.38**	**317**		**Pn**	**10 32 16.3**	**+1.7**
ANM	**Nome**	**7.38**	**317**	P	**Pn**	**10 32 16.8**	**+2.1**
	baz=126						
ANM				S	**Sn**	**10 33 38.4**	**+1.7**
	baz=126						
COLD	**Coldfoot**	**7.72**	**10**		**Pn**	**10 32 17.2**	**-2.1**
COLD	**Coldfoot**	**7.72**	**10**	P	**Pn**	**10 32 17.2**	**-2.1**
	baz=192,SNR=1000						
EGAK	**Eagle**	**7.72**	**43**		**Pn**	**10 32 17.0**	**-2.3**
EGAK	**Eagle**	**7.72**	**43**	P	**Pn**	**10 32 16.6**	**-2.7**
	baz=233						
FYU	**Fort Yukon**	**7.87**	**25**		**Pn**	**10 32 19.1**	**-2.1**
DAWY	**Dawson**	**8.01**	**51**		**Pn**	**10 32 21.8**	**-1.5**
DAWY	**Dawson**	**8.01**	**51**	P	**Pn**	**10 32 21.2**	**-2.0**
	baz=242,SNR=1000						
M30M	**Minto, Yukon**	**8.62**	**63**		**Pn**	**10 32 29.7**	**-1.8**
M30M	**Minto, Yukon**	**8.62**	**63**	P	**Pn**	**10 32 29.3**	**-2.2**
	baz=257,SNR=1000						
J29M	**Klondike Camp**	**8.64**	**50**		**Pn**	**10 32 30.4**	**-1.4**
J29M	**Klondike Camp**	**8.64**	**50**	P	**Pn**	**10 32 30.1**	**-1.7**
	baz=242,SNR=1000						
AKUT	**Akutan**	**8.68**	**235**	⇑P	**Pn**	**10 32 32.8**	**+0.6**
AKUT	**Akutan**	**8.68**	**235**		**Pn**	**10 32 32.0**	**-0.2**
BMAR	**Burnt Mountain**	**8.74**	**23**		**Pn**	**10 32 30.3**	**-2.7**
TNA	**Tin City**	**8.84**	**318**	⇑P	**Pn**	**10 32 35.5**	**+1.2**
TNA	**Tin City**	**8.84**	**318**		**Pn**	**10 32 35.3**	**+1.0**
TNA	**Tin City**	**8.84**	**318**	P	**Pn**	**10 32 35.8**	**+1.5**
	baz=125,SNR=1000						
TNA				S	**Sn**	**10 34 17.9**	**+6.0**
	baz=125						
N31M	**Braeburn, Yuko**	**8.94**	**71**		**Pn**	**10 32 34.7**	**-1.1**
N31M	**Braeburn, Yuko**	**8.94**	**71**	P	**Pn**	**10 32 33.1**	**-2.7**
	baz=266,SNR=1000						
N31M				S	**Sn**	**10 34 08.9**	**-5.8**
	baz=266						
I29M	**Ogilvie Camp,**	**9.05**	**45**		**Pn**	**10 32 35.0**	**-2.3**
I29M	**Ogilvie Camp,**	**9.05**	**45**	P	**Pn**	**10 32 34.9**	**-2.3**
	baz=237,SNR=1000						
I29M				S	**Sn**	**10 34 14.4**	**-2.8**
	baz=237						
SPIA	**Saint Paul Isl**	**9.09**	**261**		**Pn**	**10 32 39.5**	**+1.7**
SPIA	**Saint Paul Isl**	**9.09**	**261**	P	**Pn**	**10 32 39.4**	**+1.6**
	baz=68,SNR=65						
SPIA				S	**Sn**	**10 34 19.7**	**+1.4**
	baz=68						
SKAG	**Skagway**	**9.26**	**84**	⇑P	**Pn**	**10 32 37.3**	**-2.8**
SKAG	**Skagway**	**9.26**	**84**		**Pn**	**10 32 38.1**	**-1.9**
SKAG	**Skagway**	**9.26**	**84**	P	**Pn**	**10 32 37.2**	**-2.8**
	baz=279,SNR=1000						
SKAG				S	**Sn**	**10 34 21.2**	**-1.1**
	baz=279						
MAYO	**Mayo, Yukon**	**9.27**	**57**	P	**Pn**	**10 32 39.5**	**-0.8**
	baz=252,SNR=1000						
RDOG	**Red Dog Mine**	**9.34**	**338**	P	Pn	10 32 53.4	+12
	baz=149,SNR=457						
RDOG				S	Sn	10 34 41.7	+18
	baz=149						
WHY	**Whitehorse**	**9.37**	**76**	⇑P	**Pn**	**10 32 38.7**	**-2.9**
WHY	**Whitehorse**	**9.37**	**76**		**Pn**	**10 32 38.6**	**-2.9**
WHY	**Whitehorse**	**9.37**	**76**	P	**Pn**	**10 32 38.8**	**-2.8**
	baz=272,SNR=1000						
WHY				S	**Sn**	**10 34 22.2**	**-2.9**
	baz=272						
GAMB	**Gambell**	**9.51**	**303**		**Pn**	**10 32 45.3**	**+2.0**
GAMB	**Gambell**	**9.51**	**303**	P	**Pn**	**10 32 45.8**	**+2.5**
	baz=107,SNR=1000						
GAMB				S	Sn	10 34 37.3	+9.1
	baz=107						
M31M	**Drury Creek, Y**	**9.66**	**67**		**Pn**	**10 32 43.5**	**-2.0**
M31M	**Drury Creek, Y**	**9.66**	**67**	P	**Pn**	**10 32 43.9**	**-1.6**
	baz=263,SNR=1000						
M31M				S	**Sn**	**10 34 27.2**	**-4.8**
	baz=263						
BESE	**Bessie Mountai**	**9.69**	**88**		**Pn**	**10 32 42.5**	**-3.4**
SIT	**Sitka**	**9.94**	**97**	P	**Pn**	**10 32 46.6**	**-2.6**
SIT	**Sitka**	**9.94**	**97**		**Pn**	**10 32 46.6**	**-2.6**
SIT	**Sitka**	**9.94**	**97**	P	**Pn**	**10 32 46.1**	**-3.0**
	baz=293,SNR=156						
SIT				S	**Sn**	**10 34 34.0**	**-4.7**
	baz=293						
JIS	**Juneau Island**	**10.01**	**90**		**Pn**	**10 32 48.2**	**-1.8**
EPYK	**Eagle Plains**	**10.15**	**42**		**Pn**	**10 32 49.6**	**-2.4**
EPYK	**Eagle Plains**	**10.15**	**42**	P	**Pn**	**10 32 50.2**	**-1.8**
	baz=236						
FARO	**Faro, Yukon**	**10.15**	**67**	P	**Pn**	**10 32 50.3**	**-1.7**
	baz=264,SNR=1000						

FARO				S	**Sn**	**10 34 39.2**	**-4.8**
	baz=264						
P33M	**Teslin, Yukon**	**10.42**	**78**		**Pn**	**10 32 54.0**	**-1.7**
P33M	**Teslin, Yukon**	**10.42**	**78**	P	**Pn**	**10 32 52.4**	**-3.3**
	baz=276,SNR=1000						
NIKH	**Nikolski High**	**10.80**	**238**		**Pn**	**10 32 59.3**	**-1.5**
NIKH	**Nikolski High**	**10.80**	**238**	P	**Pn**	**10 32 59.8**	**-1.0**
	baz=46,SNR=151						
CLES	**Cleveland East**	**11.36**	**240**		**Pn**	**10 33 07.6**	**-0.6**
WRAK	**Wrangell Islan**	**11.70**	**97**		**Pn**	**10 33 10.3**	**-2.3**
WRAK	**Wrangell Islan**	**11.70**	**97**	P	**Pn**	**10 33 10.4**	**-2.2**
	baz=295,SNR=250						
CRAG	**Craig**	**11.75**	**102**		**Pn**	**10 33 09.8**	**-3.5**
CRAG	**Craig**	**11.75**	**102**	P	**Pn**	**10 33 10.5**	**-2.7**
	baz=299,SNR=92						
CRAG				S	**Sn**	**10 35 20.7**	**-1.7**
	baz=299						
A21K	**Barrow**	**11.75**	**355**		**Pn**	**10 33 10.8**	**-2.4**
A21K	**Barrow**	**11.75**	**355**	P	**Pn**	**10 33 10.5**	**-2.7**
	baz=172,SNR=97						
DLBC	**Dease Lake**	**12.17**	**86**	P	**Pn**	**10 33 16.8**	**-2.1**
	comp=N,10.0nm,0.3s,baz=284,slow=13,SNR=124						
DLBC				S	**Sn**	**10 35 30.2**	**-2.5**
	comp=N,164nm,0.3s,baz=192,slow=24,SNR=1.7						
DLBC				LR	LR	10 38 12.1	
	comp=N,175µm,21.9s,baz=288,slow=38						
DLBC	**Dease Lake**	**12.17**	**86**		**Pn**	**10 33 16.4**	**-2.5**
INK	**Inuvik**	**12.27**	**37**	P	**Pn**	**10 33 17.5**	**-2.5**
	comp=N,9.8nm,0.3s,baz=223,slow=15,SNR=323						
INK				S	**Sn**	**10 35 33.2**	**-1.5**
	comp=N,33nm,0.3s,baz=234,slow=5.1,SNR=2.1						
INK				LR	LR	10 38 58.7	
	comp=N,130µm,18.0s,baz=222,slow=42						
INK	**Inuvik**	**12.27**	**37**	⇑P	**Pn**	**10 33 16.5**	**-3.4**
INK	**Inuvik**	**12.27**	**37**		**Pn**	**10 33 17.8**	**-2.1**
INK	**Inuvik**	**12.27**	**37**	P	**Pn**	**10 33 16.7**	**-3.3**
	baz=234,SNR=1000						
INK				S	**Sn**	**10 35 36.2**	**+1.4**
	baz=234						
WTLY	**Watson Lake, Y**	**12.43**	**77**	P	**Pn**	**10 33 21.6**	**-0.5**
	baz=278,SNR=88						
WTLY				S	**Sn**	**10 35 43.6**	**+4.7**
	baz=278						
H02S1	**DAWSON INLET T**	**13.32**	**110**	P	**Pn**	**10 33 33.9**	**+0.2**
ATKA	**Atka Island**	**13.72**	**246**	⇑P	**Pn**	**10 33 38.6**	**-0.3**
ATKA	**Atka Island**	**13.72**	**246**	P	**Pn**	**10 33 39.5**	**+0.6**
RUBB	**Prince Rupert**	**13.76**	**103**	P	**Pn**	**10 33 39.7**	**+0.4**
GRNB	**Grenville Isla**	**14.16**	**104**	P	**Pn**	**10 33 42.3**	**-2.3**
HG4B	**Hotspring**	**14.49**	**111**	P	**Pn**	**10 33 47.4**	**-1.3**
WRGLY	**Wrigley**	**14.75**	**63**	P	**Pn**	**10 33 51.3**	**-0.5**
	baz=269,SNR=882						
WRGLY				S	**Sn**	**10 36 32.9**	**-1.8**
	baz=269						
ADK	**Adak**	**15.10**	**249**	P	**P**	**10 33 58.0**	**-0.5**
ADK	comp=Z,7µm,0.9s			pmax	pmax		
ADK	**Adak**	**15.10**	**249**	⇑P	**Pn**	**10 33 56.3**	**0.0**
ADK	**Adak**	**15.10**	**249**	P	**P**	**10 33 58.0**	**-0.5**
ADK	**Adak**	**15.10**	**249**	P	**P**	**10 33 58.8**	**+0.3**
ADK	**Adak**	**15.10**	**249**	P	**Pn**	**10 33 56.9**	**+0.6**
KIWB	**Kanaga Island**	**15.34**	**250**	P	**Pn**	**10 33 59.8**	**+0.5**
C36M	**Paulatuk**	**15.77**	**40**	P	**Pn**	**10 34 00.8**	**-3.7**
C36M	**Paulatuk**	**15.77**	**40**	P	**Pn**	**10 34 00.8**	**-3.7**
	baz=246,SNR=1000						
C36M				S	**Sn**	**10 36 53.5**	**-5.7**
	baz=246						
BBB	**Bella Bella**	**16.04**	**107**	P	**Pn**	**10 34 08.1**	**+0.1**
	comp=Z,5.6nm,0.3s,baz=301,slow=13,SNR=51						
BBB				S	**Sn**	**10 37 04.3**	**-1.7**
	comp=Z,35nm,0.3s,baz=88,slow=16,SNR=8.2						
BBB	**Bella Bella**	**16.04**	**107**	P	**Pn**	**10 34 08.0**	**+0.1**
BBB	comp=Z,5µm,1.4s			IAmb	IAmb	10 34 45.5	
A36M	**Sachs Harbour**	**16.68**	**31**	P	**Pn**	**10 34 13.6**	**-1.9**
A36M	**Sachs Harbour**	**16.68**	**31**	P	**Pn**	**10 34 12.9**	**-2.7**
	baz=236,SNR=1000						
A36M				S	**Sn**	**10 37 14.4**	**-6.5**
	baz=236						
HOLB	**Holberg**	**17.03**	**111**	P	**Pn**	**10 34 20.8**	**+0.7**
TLCB	**Telegraph Cove**	**17.71**	**109**	P	**Pn**	**10 34 28.3**	**+0.1**
CBB	**Campbell River**	**18.75**	**108**	P	**P**	**10 34 39.1**	**+0.4**
YKA	**Yellowknife Ar**	**18.85**	**65**	P	**P**	**10 34 38.8**	**-0.9**
	comp=Z,20nm,0.3s,baz=277,slow=10,SNR=360						
YKA				S	**S**	**10 38 08.8**	**+1.8**
	comp=Z,8.1nm,0.3s,baz=279,slow=17,SNR=3.3						
YKA				PcP	**PcP**	**10 39 01.3**	**+1.0**
	comp=Z,17nm,0.3s,baz=284,slow=1.8,SNR=7.3						
YKA				LR	LR	10 42 04.8	
	comp=Z,270µm,19.3s,baz=275,slow=37						
YKA				ScP	**ScP**	**10 42 22.7**	**-1.2**
	comp=Z,4.7nm,0.3s,baz=292,slow=2.1,SNR=7.0						
YKA				P3KPbc		11 08 56.8	
	comp=Z,0.1nm,0.3s,baz=96,slow=4.1,SNR=8.9						
YKA	**Yellowknife Ar**	**18.85**	**65**	P	**P**	**10 34 39.6**	**0.0**
SHEM	**Shemya Is, Ala**	**19.12**	**263**	P	**P**	**10 34 42.3**	**-0.4**
	comp=Z,227nm,0.3s,baz=18,slow=5.4,SNR=136						
SMY	**Shemya**	**19.12**	**263**	P	**P**	**10 34 43.2**	**+0.6**
SMY	comp=Z,7µm,0.9s			pmax	pmax		
SMY	**Shemya**	**19.12**	**263**	⇑P	**P**	**10 34 43.2**	**+0.6**
SMY	**Shemya**	**19.12**	**263**	P	**P**	**10 34 43.2**	**+0.6**
BILL	**Bilibino**	**19.20**	**313**	P	**P**	**10 34 43.4**	**0.0**
BILL	comp=Z,6µm,1.4s			IAmb	IAmb	10 34 52.5	
BILL	**Bilibino**	**19.20**	**313**	P	**Pn**	**10 34 44.7**	**-1.0**
LLLB	**Lillooet**	**20.08**	**103**	P	**P**	**10 34 54.1**	**+1.0**

F05D IAmb IAmb 10 36 18.8
comp=Z,5μm,1.6s
F05D White Salmon 23.54 112 P P 10 35 29.3 +0.9
baz=318,SNR=146
F05D S S 10 39 45.4 +13
baz=318
COR Corvallis 23.66 116 P P 10 35 30.2 +0.8
COR pmax pmax
comp=Z,8μm,1.8s
COR Corvallis 23.66 116 ⇑P P 10 35 31.9 +2.5
COR Corvallis 23.66 116 P P 10 35 30.2 +0.8
COR Corvallis 23.66 116 P P 10 35 31.9 +2.5
C09A Chrisman Ranch 23.71 104 P P 10 35 30.4 +0.5
I02E Swisshome, OR 23.79 118 P P 10 35 32.0 +1.4
I02E Swisshome, OR 23.79 118 P P 10 35 33.0 +2.5
baz=322,SNR=31
E07A Sunnyside 23.81 108 P P 10 35 31.5 +0.6
E07A IAmb IAmb 10 36 22.0
comp=Z,3μm,1.2s
HOOD Mount Hood Mea 23.87 113 P P 10 35 33.0 +1.5
HOOD IAmb IAmb 10 36 08.2
comp=Z,3μm,1.1s
D08A Wollman Farm, 23.91 106 P P 10 35 32.2 +0.5
NEW Newport 23.97 102 P P 10 35 32.3 +0.1
comp=Z,241nm,0.9s,baz=314,slow=8.2,SNR=187
NEW LR LR 10 44 06.6
comp=Z,183μm,20.2s,baz=302,slow=34
NEW P3KPbc 11 08 46.5
comp=Z,2.6nm,0.9s,baz=131,slow=12,SNR=2.6
NEW Newport 23.97 102 P P 10 35 32.7 +0.5
NEW pmax pmax
comp=Z,7μm,1.7s
NEW Newport 23.97 102 P P 10 35 32.7 +0.5
NEW Newport 23.97 102 P P 10 35 33.7 +1.5
baz=312,SNR=279
NEW S S 10 39 49.2 +10
baz=312
H04D Lebanon 23.97 115 P P 10 35 32.9 +0.7
H04D Lebanon 23.97 115 P P 10 35 33.9 +1.6
baz=320,SNR=92
G05D Wamic, OR 24.08 112 P P 10 35 34.6 +1.3
baz=319,SNR=51
HAWA Hanford 24.09 108 ⇑P P 10 35 33.9 +0.6
HAWA Hanford 24.09 108 P P 10 35 33.8 +0.5
HAWA IAmb IAmb 10 36 24.2
comp=Z,4μm,1.7s
H04A Detroit Lake 24.10 114 P P 10 35 34.7 +1.3
H04A IAmb IAmb 10 35 43.6
comp=Z,3μm,1.1s
BUCK Buck Mountain 24.11 116 P P 10 35 35.6 +2.1
BUCK IAmb IAmb 10 35 43.5
comp=Z,2μm,1.1s
E08A Dider Farm, El 24.25 108 P P 10 35 36.1 +1.5
E08A IAmb IAmb 10 36 12.1
comp=Z,2μm,1.2s
F07A Phinny Hill Vi 24.26 110 P P 10 35 36.4 +1.6
F07A IAmb IAmb 10 36 17.3
comp=Z,1μm,0.8s
I03D Drain, OR 24.33 118 P P 10 35 37.2 +1.7
baz=322,SNR=44
I03D S S 10 40 04.1 +19
baz=322
KEBM Edson Butte 24.55 120 P P 10 35 39.5 +1.9
E09A Wood Farm, Sta 24.67 106 P P 10 35 39.6 +1.0
E09A IAmb IAmb 10 36 17.8
comp=Z,2μm,1.4s
I04A Tendick Farm, 24.68 116 P P 10 35 40.1 +1.3
baz=321,SNR=120
I04A S S 10 40 06.7 +16
baz=321
I05D Terrebonne, OR 24.76 114 P P 10 35 40.8 +1.4
baz=320,SNR=260
I05D S S 10 40 12.7 +20
baz=320
DBO Dodson Butte 24.84 118 P P 10 35 41.4 +1.2
DBO IAmb IAmb 10 35 50.2
comp=Z,2μm,1.1s
K02D Willamette Mer 24.99 119 P P 10 35 43.5 +1.9
baz=323,SNR=161
K02D S S 10 40 15.9 +20
baz=323
WALA Waterton Lakes 25.05 97 ⇑P P 10 35 42.3 +0.1
WALA Waterton Lakes 25.05 97 P P 10 35 42.6 +0.4
WALA IAmb IAmb 10 36 24.2
comp=Z,3μm,1.4s
KBO Bosley Butte 25.13 121 P P 10 35 43.9 +1.0
KBO IAmb IAmb 10 36 23.6
comp=Z,2μm,1.4s
G08A Pilot Rock 25.16 109 P P 10 35 43.3 +0.1
G08A IAmb IAmb 10 36 36.1
comp=Z,4μm,1.9s
J04D Umpqua Nationa 25.25 117 P P 10 35 44.3 +0.2
J04D IAmb IAmb 10 35 53.7
comp=Z,3μm,1.1s
J04D Umpqua Nationa 25.25 117 P P 10 35 45.8 +1.7
baz=322,SNR=195
J04D S S 10 40 19.4 +19
baz=322
PINE Pine Mountain 25.36 114 P P 10 35 45.7 +0.6
PINE IAmb IAmb 10 36 36.0
comp=Z,3μm,1.4s
HUMO Hull Mountain 25.37 119 ⇑P P 10 35 46.8 +1.8
HUMO Hull Mountain 25.37 119 P P 10 35 46.6 +1.6
L02E Cave Junction 25.45 120 P P 10 35 47.6 +1.9
L02E Cave Junction 25.45 120 P P 10 35 47.4 +1.8
baz=324,SNR=29
L02E S S 10 40 23.9 +21
baz=324
SEY Seymchan 25.50 301 P P 10 35 46.2 +0.3
comp=Z,275nm,0.7s,baz=86,slow=9.1,SNR=381
SEY PKiKP **PKiKP 10 46 52.5 -0.8**
comp=Z,30nm,1.0s,baz=45,slow=2.9,SNR=4.1
SEY LR LR 10 47 16.0
comp=Z,65μm,19.1s,baz=74,slow=40
SEY P3KPbc 11 08 38.9
comp=Z,2.5nm,0.8s,baz=251,slow=7.1,SNR=4.8
F10A Beach Ranch, E 25.50 106 ⇓P P 10 35 45.8 -0.4
F10A Beach Ranch, E 25.50 106 P P 10 35 47.2 +1.0
KSXB Camp Six Broad 25.59 121 P P 10 35 47.8 +0.8
KSXB IAmb IAmb 10 35 56.9
comp=Z,1μm,1.1s
J05D Fort Rock, OR 25.62 115 P P 10 35 49.0 +1.6
baz=321,SNR=294
J05D S S 10 40 25.3 +19
baz=321
RES Resolute Bay 25.73 32 P P 10 35 47.4 -0.4
comp=Z,213nm,0.9s,baz=254,slow=12,SNR=118
RES P3KPbc 11 08 38.0
comp=Z,15nm,0.9s,baz=87,slow=5.6,SNR=10
RES Resolute Bay 25.73 32 P P 10 35 47.2 -0.6
RES pmax pmax
comp=Z,1μm,0.9s
RES Resolute Bay 25.73 32 ⇑P P 10 35 47.4 -0.4
RES Resolute Bay 25.73 32 P P 10 35 47.2 -0.6
I07A Izee 25.81 112 P P 10 35 49.8 +0.7
I07A IAmb IAmb 10 36 38.4
comp=Z,2μm,1.5s
K04D Chiloquin, OR 25.90 117 P P 10 35 51.5 +1.6
baz=322,SNR=76
L04D Klamath Falls 25.97 118 P P 10 35 51.6 +1.1
L04D IAmb IAmb 10 36 25.2
comp=Z,2μm,1.1s
L04D Klamath Falls 25.97 118 P P 10 35 52.0 +1.5
baz=323,SNR=133
KRPM Rodgers 26.08 122 P P 10 35 53.3 +1.9
KRPM IAmb IAmb 10 36 26.8
comp=Z,3μm,1.2s
YBH Yreka Blue Hor 26.18 119 P P 10 35 54.3 +2.0
comp=Z,307nm,0.8s,baz=341,slow=4.7,SNR=486
YBH LR LR 10 44 56.6
comp=Z,97μm,19.8s,baz=316,slow=33
YBH PKiKP **PKiKP 10 46 54.8 +0.3**
comp=Z,16nm,1.2s,baz=326,slow=7.3,SNR=2.3
YBH P3KPbc 11 08 37.1
comp=Z,4.5nm,1.0s,baz=119,slow=4.5,SNR=6.7
YBH Yreka Blue Hor 26.18 119 P P 10 35 53.1 +0.7
YBH pmax pmax
comp=Z,1μm,1.1s
YBH Yreka Blue Hor 26.18 119 P P 10 35 53.1 +0.7
K05A Summer Lake 26.21 116 P P 10 35 54.2 +1.5
BMO Blue Mountains 26.28 108 P P 10 35 53.4 +0.1
BMO pmax pmax
comp=Z,3μm,1.6s
BMO Blue Mountains 26.28 108 P P 10 35 53.4 +0.1
BMO IAmb IAmb 10 36 42.1
comp=Z,3μm,1.6s

JCC Jacoby Creek, 26.36 123 P P 10 35 56.2 +2.5
M02C Callahan 26.39 120 P P 10 35 56.1 +1.8
M02C Callahan 26.39 120 P P 10 35 56.4 +2.1
baz=324,SNR=83
M02C S **S 10 40 22.5 +4.3**
baz=324
KHMM Horse Mountain 26.44 122 P P 10 35 56.3 +1.5
KHMM IAmb IAmb 10 36 30.2
comp=Z,2μm,1.4s
MSO Missoula 26.52 101 P P 10 35 54.7 -0.7
MSO Missoula 26.52 101 P P 10 35 55.9 +0.5
baz=314,SNR=106
MSO S **S 10 40 27.4 +7.2**
baz=314
M04C Macdoel 26.53 118 P P 10 35 56.2 +0.7
M04C IAmb IAmb 10 36 38.6
comp=Z,3μm,1.2s
M04C Macdoel 26.53 118 P P 10 35 57.4 +1.8
baz=323,SNR=126
KMPM Mount Pierce 26.65 123 P P 10 35 58.4 +1.9
KMPM IAmb IAmb 10 36 06.4
comp=Z,1μm,0.9s
PLID Pearl Lake 26.74 106 P P 10 35 57.5 0.0
PET Petropavlovsk 26.78 277 *α i* P **P 10 35 57.7 +0.3**
PET *e**PP **pP 10 36 24.6 0.0**
PET *e**SP **sP 10 36 39.5 +0.2**
PET *e* 10 39 22.3
PET *e*S **S 10 40 22.1 -1.7**
PET *e* 10 46 33.2
PET pmax pmax
comp=Z,43μm,13.0s
PET pmax pmax
comp=Z,3μm,1.4s
PET pmax pmax
comp=Z,24μm,14.6s
PET MLR MLR
comp=Z,44μm,21.0s
PET Petropavlovsk 26.78 277 ⇑P P 10 35 57.8 +0.3
PET Petropavlovsk 26.78 277 P P 10 35 58.3 +0.8
PET Petropavlovsk 26.78 277 P P 10 35 59.6 +2.1
PET Petropavlovsk 26.78 277 P P 10 35 58.6 +1.1
N02D Trinity Center 26.80 120 P P 10 35 59.5 +1.6
N02D IAmb IAmb 10 36 50.9
comp=Z,2μm,1.3s
N02D Trinity Center 26.80 120 P P 10 36 00.2 +2.3
baz=325,SNR=216
N02D S **S 10 40 29.1 +4.6**
baz=325
J08A Circle Bar Ran 26.84 112 P P 10 35 59.3 +1.0
KMRM Mail Ridge 26.99 123 P P 10 36 01.3 +1.8
KMRM IAmb IAmb 10 36 37.0
comp=Z,1μm,1.0s
MOD Modoc Plateau 27.13 116 P P 10 36 01.8 +0.9
MOD IAmb IAmb 10 36 34.1
comp=Z,3μm,1.7s
WDC Whiskeytown Da 27.19 121 P P 10 36 02.2 +0.9
WDC pmax pmax
comp=Z,1μm,1.1s
WDC Whiskeytown Da 27.19 121 ⇓P P 10 36 02.9 +1.6
WDC Whiskeytown Da 27.19 121 P P 10 36 02.2 +0.9
PEA0B Petropavlovsk- 27.21 278 P P 10 36 02.0 +0.6
PEA0B pmax pmax
comp=Z,3μm,1.2s
PEA0B Petropavlovsk- 27.21 278 P P 10 36 02.0 +0.6
PEA0B IAmb IAmb 10 36 12.7
comp=Z,3μm,1.2s
PETK Petropavlovsk- 27.21 278 P P 10 36 01.8 +0.4
comp=Z,844nm,0.8s,baz=82,slow=10,SNR=604
PETK ScP **ScP 10 42 47.3 +1.1**
comp=Z,15nm,0.6s,baz=57,slow=6.7,SNR=4.9
PETK LR LR 10 46 30.1
comp=Z,15μm,21.7s,baz=48,slow=35
PETK PKiKP **PKiKP 10 46 53.1 -1.5**
comp=Z,20nm,0.9s,baz=74,slow=4.1,SNR=13
PETK Petropavlovsk- 27.21 278 P P 10 36 01.4 0.0
MA2 Magadan 27.44 294 *c i* P **P 10 36 04.6 +1.3**
MA2 pmax pmax
comp=Z,3μm,1.1s
MA2 Magadan 27.44 294 ⇑P P 10 36 04.4 +1.1
MA2 Magadan 27.44 294 P P 10 36 04.4 +1.1
MA2 IAmb IAmb 10 36 07.3
comp=Z,3μm,1.2s
MA2 Magadan 27.44 294 P P 10 36 05.1 +1.8
MA2 Magadan 27.44 294 P P 10 36 04.4 +1.1
WVOR Wild Horse Val 27.48 113 P P 10 36 04.3 +0.3
WVOR pmax pmax
comp=Z,4μm,1.9s
WVOR Wild Horse Val 27.48 113 P P 10 36 04.3 +0.3
WVOR IAmb IAmb 10 36 58.3
comp=Z,4μm,1.9s
KCPM Cahto Peak 27.48 123 P P 10 36 05.0 +0.9
KCPM IAmb IAmb 10 36 13.6
comp=Z,2μm,0.9s
HRY Holter Researc 27.66 99 P P 10 36 06.1 +0.6
O03E Paynes Creek 27.75 120 P P 10 36 06.5 +0.1
O03E IAmb IAmb 10 36 15.7
comp=Z,2μm,1.1s
O03E Paynes Creek 27.75 120 P P 10 36 07.3 +0.9
baz=325,SNR=286
O03E S **S 10 40 43.6 +4.1**
baz=325
EGMT Eagleton 27.82 95 P P 10 36 07.4 +0.4
EGMT Eagleton 27.82 95 P P 10 36 07.4 +0.4
baz=311,SNR=120
LRM Limekiln Ridge 27.97 101 P P 10 36 09.1 +0.6
EUNU Eureka 28.01 20 P P 10 36 08.4 +0.1
MFID Camas Ranch 28.06 108 P P 10 36 09.3 +0.1
DLMT Dillon 28.22 102 P P 10 36 09.8 -0.8
HOPS Hopland Field 28.28 123 P P 10 36 11.2 +0.2
HOPS IAmb IAmb 10 36 45.9
comp=Z,3μm,1.9s
MCMT McKenzie Canyo 28.48 103 P P 10 36 13.0 0.0
ORV Oroville 28.49 121 P P 10 36 12.9 0.0
ORV pmax pmax
comp=Z,387nm,1.1s
ORV Oroville 28.49 121 P P 10 36 12.9 0.0
BOZ Bozeman (W) 28.53 101 P P 10 36 12.9 -0.5
BOZ pmax pmax
comp=Z,1μm,1.4s
BOZ Bozeman (W) 28.53 101 P P 10 36 12.9 -0.5
BOZ IAmb IAmb 10 36 54.4
comp=Z,1μm,1.4s
BOZ Bozeman (W) 28.53 101 P P 10 36 13.7 +0.3
baz=315,SNR=110
GDXM Geysers 28.55 123 P P 10 36 14.7 +1.2
BCYI Bear Canyon 28.58 104 P P 10 36 13.4 -0.4
BCYI pP **pP 10 36 41.5 +0.4**
HLID Hailey 28.64 107 P P 10 36 13.9 -0.4
HLID Hailey 28.64 107 P P 10 36 16.2 +1.9
baz=318,SNR=70
MCCM Marconi Confer 29.08 124 ⇑P P 10 36 19.4 +1.4
MCCM Marconi Confer 29.08 124 P P 10 36 19.4 +1.4
MCCM IAmb IAmb 10 36 26.7
comp=Z,909nm,0.9s
PAHR Pah Rah Range 29.30 118 P P 10 36 20.5 +0.2
PAHR IAmb IAmb 10 36 29.2
comp=Z,1μm,1.0s
MPK Martis Peak 29.35 119 P P 10 36 21.8 +1.0
MPK IAmb IAmb 10 36 30.0
comp=Z,3μm,1.2s
GCMT Greycliff 29.38 98 P P 10 36 21.6 +0.8
SKR Severo-Kuril's 29.42 275 *e* P **P 10 36 20.9 0.0**
SKR *e**PP **pP 10 36 52.8 +4.6**
SKR pmax pmax
comp=Z,12μm,7.0s
SKR pmax pmax
comp=Z,2μm,0.9s
SKR MLR MLR
comp=Z,12μm,16.0s
SKR MLR MLR
comp=Z,12μm,15.0s
RUBR Rubicon Trail 29.50 119 P P 10 36 23.5 +1.5
RUBR IAmb IAmb 10 36 34.8
comp=Z,1μm,0.9s
VCNR Virginia City 29.52 118 P P 10 36 23.1 +0.8
VCNR IAmb IAmb 10 36 31.4
comp=Z,2μm,1.0s
YMR Madison River 29.52 101 P P 10 36 22.9 +0.7
YMR IAmb IAmb 10 37 22.7
comp=Z,3μm,1.4s
FCC Fort Churchill 29.58 65 P P 10 36 22.3 +0.1
FCC pmax pmax
comp=Z,2μm,1.2s
FCC Fort Churchill 29.58 65 P P 10 36 22.3 +0.1
FCC IAmb IAmb 10 37 18.4

comp=Z,2μm,1.1s
EMB Emerald Bay 29.58 119 P P 10 36 24.0 +1.2
EMB IAmb IAmb 10 36 31.8
comp=Z,2μm,1.3s
YNR Norris Junctio 29.63 101 P P 10 36 24.3 +1.0
BMN Battle Mountai 29.71 114 P P 10 36 24.5 +0.7
BMN pmax pmax
comp=Z,421nm,1.0s
BMN Battle Mountai 29.71 114 P P 10 36 24.5 +0.7
PNTR Pine Nut 29.71 119 P P 10 36 24.9 +1.0
PNTR IAmb IAmb 10 36 38.6
comp=Z,1μm,0.8s
YUF Upper Falls 29.72 101 P P 10 36 26.0 +2.0
YUF IAmb IAmb 10 37 29.4
comp=Z,1μm,1.2s
YMP Mirror Lake Pl 29.88 100 P P 10 36 26.0 +0.6
YMP IAmb IAmb 10 37 26.7
comp=Z,2μm,1.3s
LKWY Lake 29.88 101 P P 10 36 26.9 +1.5
LKWY pmax pmax
comp=Z,720nm,1.1s
LKWY Lake 29.88 101 P P 10 36 26.9 +1.5
H17A Grant Village 29.91 101 P P 10 36 27.4 +1.7
H17A Grant Village 29.91 101 P P 10 36 28.0 +2.3
baz=316,SNR=110
H17A S **S 10 41 19.4 +5.7**
baz=316
YERR Yerington 29.96 118 P P 10 36 26.9 +0.9
YERR IAmb IAmb 10 36 35.1
comp=Z,1μm,1.1s
RLMT Red Lodge 30.05 99 P P 10 36 27.1 +0.2
RLMT IAmb IAmb 10 37 28.5
comp=Z,2μm,1.1s
RLMT Red Lodge 30.05 99 P P 10 36 28.0 +1.2
baz=315,SNR=132
RLMT S **S 10 41 21.0 +5.2**
baz=315
FLWY Flagg Ranch 30.08 102 P P 10 36 28.4 +1.3
FLWY IAmb IAmb 10 37 17.1
comp=Z,2μm,1.4s
CMB Columbia Colle 30.24 121 P P 10 36 29.1 +0.7
CMB pmax pmax
comp=Z,2μm,1.8s
CMB Columbia Colle 30.24 121 P P 10 36 29.1 +0.7
CMB IAmb IAmb 10 36 37.5
comp=Z,2μm,1.8s
MOOW Moose Ponds 30.30 102 P P 10 36 29.8 +0.7
DGMT Dagmar 30.35 89 P P 10 36 30.7 +1.5
DGMT IAmb IAmb 10 37 04.4
comp=Z,3μm,1.6s
DGMT Dagmar 30.35 89 P P 10 36 31.2 +2.0
baz=310,SNR=37
ELK Elko 30.39 111 LR LR 10 47 45.8
comp=Z,92μm,21.2s,baz=325,slow=34
ELK P3KPbc 11 08 16.4
comp=Z,1.0nm,0.6s,baz=144,slow=8.7,SNR=3.0
KVN Kaiserville 30.42 117 P P 10 36 30.8 +0.7
KVN pmax pmax
comp=Z,891nm,1.1s
KVN Kaiserville 30.42 117 P P 10 36 30.8 +0.7
LAO LASA Array 30.50 94 P P 10 36 32.1 +1.4
baz=313,SNR=229
ECR Eagle Creek 30.50 104 P P 10 36 32.0 +1.1
ECR pP **pP 10 36 59.9 +1.7**
HVU Hansel Valley 30.77 107 P P 10 36 34.1 +0.9
HVU pmax pmax
comp=Z,1μm,1.3s
HVU Hansel Valley 30.77 107 P P 10 36 34.1 +0.9
HVU IAmb IAmb 10 37 11.9
comp=Z,1μm,1.3s
NVAR Mina Array Bea 30.83 118 P P 10 36 35.2 +1.4
comp=Z,383nm,0.9s,baz=310,slow=8.0,SNR=845
NVAR PcP **PcP 10 39 29.1 +1.5**
comp=Z,33nm,0.7s,baz=310,slow=3.4,SNR=1.3
NVAR ScP **ScP 10 42 59.0 +0.8**
comp=Z,61nm,0.7s,baz=306,slow=2.4,SNR=7.6
NVAR PKiKP **PKiKP 10 46 58.2 +0.5**
comp=Z,3.2nm,0.7s,baz=336,slow=2.0,SNR=1.9
NVAR LR LR 10 47 08.7
comp=Z,79μm,21.5s,baz=319,slow=32
NVAR P3KPbc 11 08 16.1
comp=Z,3.7nm,0.9s,baz=138,slow=5.6,SNR=8.8
NVAR Mina Array Bea 30.83 118 P P 10 36 35.7 +1.9
AHID Auburn Hatcher 30.85 104 P P 10 36 35.0 +1.1
SAO San Andreas Ge 30.85 124 ⇑P P 10 36 35.2 +1.5
LHV Little Huntoon 30.89 118 P P 10 36 35.1 +1.1
LHV IAmb IAmb 10 36 43.6
comp=Z,1μm,1.2s
NV11 Mina Array Sit 30.89 118 P P 10 36 35.0 +0.7
NV11 IAmb IAmb 10 36 43.2
comp=Z,930nm,1.0s
BBGB Big Mountain B 31.18 123 P P 10 36 38.6 +1.8
BBGB IAmb IAmb 10 36 51.4
comp=Z,2μm,0.9s
MLAC Mammoth, Mammo 31.25 119 P P 10 36 39.9 +2.4
baz=326,SNR=162
BGU Big Grassy Mou 31.30 109 P P 10 36 38.7 +0.9
ALE Alert 31.47 15 P P 10 36 38.4 -0.4
TIXI Tiksi 31.57 324 PKiKP **PKiKP 10 46 55.0 -1.9**
comp=Z,37nm,1.0s,baz=27,slow=2.1,SNR=6.8
TIXI P3KPbc 11 08 12.5
comp=Z,3.3nm,0.4s,baz=309,slow=4.2,SNR=12
TIXI Tiksi 31.57 324 *c i* P **P 10 36 39.7 +0.1**
TIXI pmax pmax
comp=Z,529nm,1.0s
TIXI MLR MLR
comp=Z,39μm,14.0s
TIXI Tiksi 31.57 324 ⇑P P 10 36 39.6 -0.1
TIXI Tiksi 31.57 324 P P 10 36 38.5 -1.1
TIXI Tiksi 31.57 324 P P 10 36 39.5 -0.1
BW06 Boulder Array 31.61 102 P P 10 36 40.6 0.0
BW06 Boulder Array 31.61 102 P P 10 36 41.0 +0.4
baz=318,SNR=137
BW06 S **S 10 41 47.7 +7.5**
baz=318
PD31 Pinedale Array 31.61 102 ⇓P P 10 36 41.0 +0.3
PD31 Pinedale Array 31.61 102 P P 10 36 41.1 +0.5
PDAR Pinedale Array 31.61 102 P P 10 36 40.5 -0.2
comp=Z,59nm,0.9s,baz=329,slow=3.6,SNR=145
PDAR ScP **ScP 10 43 00.9 +0.1**
comp=Z,90nm,1.1s,baz=260,slow=0.9,SNR=4.9
PDAR LR LR 10 51 01.1
comp=Z,70μm,18.4s,baz=332,slow=39
PDAR P3KPbc 11 08 13.4
comp=Z,1.9nm,0.5s,baz=121,slow=6.5,SNR=14
PDAR Pinedale Array 31.61 102 P **P 10 36 40.2 -0.4**
PDAR pP **pP 10 37 08.8 +0.8**
TULEG Thule 31.93 26 P **P 10 36 41.7 -1.1**
DUG Dugway, Tooele 31.97 109 P P 10 36 44.0 +0.3
DUG pmax pmax
comp=Z,430nm,1.0s
DUG Dugway, Tooele 31.97 109 P P 10 36 44.0 +0.3
DUG Dugway, Tooele 31.97 109 P P 10 36 44.5 +0.8
baz=321,SNR=125
TIN Tinemaha, Big 32.00 119 P P 10 36 46.0 +2.0
baz=326,SNR=288
TIN S **S 10 41 49.0 +2.9**
baz=326
CTU Camp Tracy 32.10 107 P P 10 36 45.5 +0.7
VOG Valley Oaks Go 32.11 121 P P 10 36 46.1 +1.4
baz=328,SNR=31
R11A Troy Canyon, C 32.13 114 P P 10 36 45.0 -0.2
R11A IAmb IAmb 10 37 20.0
comp=Z,1μm,1.5s
R11A Troy Canyon, C 32.13 114 P P 10 36 46.2 +1.0
baz=324,SNR=762
GRAC Grapevine Rang 32.43 118 P P 10 36 49.6 +2.0
baz=326,SNR=277
GRAC S **S 10 41 58.1 +5.4**
baz=326
CWC Cottonwood Cre 32.58 120 P P 10 36 50.7 +1.7
baz=327
CWC S **S 10 42 00.6 +5.4**
baz=327
VES Vestal, Richgr 32.64 121 P P 10 36 50.5 +1.1
baz=328,SNR=178
SMMC Simmler 32.70 123 P P 10 36 51.8 +1.9
baz=329,SNR=112
SMMC S **S 10 42 01.1 +4.3**
baz=329
TPNV Topopah Spring 32.97 117 ⇓P P 10 36 53.6 +1.1
TPNV Topopah Spring 32.97 117 P P 10 36 53.7 +1.3
baz=326,SNR=415
TPNV S **S 10 42 04.6 +3.3**
baz=326
ISA Isabella, Lake 33.06 121 P P 10 36 54.0 +0.9

baz=328,SNR=279
ISA S **S** **10 42 04.9 +2.4**
baz=328
MDND Maddock 33.08 86 P **P** **10 36 54.2 +1.0**
baz=311,SNR=83
FURC Furnace Creek, 33.09 118 P **P** **10 36 54.9 +1.6**
baz=326,SNR=395
PKM Mcpherson Peak 33.14 123 P **P** **10 36 55.8 +1.8**
baz=329,SNR=216
PKM S **S** **10 42 07.0 +3.0**
baz=329
PRN Pahroc Range 33.15 115 ⇑P **P** **10 36 54.9 +0.9**
MPMC Manual Prospec 33.16 119 P **P** **10 36 55.5 +1.4**
baz=327,SNR=415
MPMC S **S** **10 42 08.8 +4.6**
baz=327
K22A Casper 33.20 100 P **P** **10 36 55.8 +1.4**
baz=317,SNR=99
RDMU Red Mountain 33.26 105 P **P** **10 36 55.0 0.0**
RDMU IAmb IAmb 10 37 35.0
comp=Z,2μm,1.3s
ARVC Arvin 33.35 122 P **P** **10 36 56.2 +0.6**
baz=328,SNR=95
ARVC S **S** **10 42 14.1 +7.2**
baz=328
RSSD Black Hills 33.39 95 P **P** **10 36 56.0 -0.1**
RSSD pmax pmax
comp=Z,5μm,1.8s
RSSD Black Hills 33.39 95 ⇓P **P** **10 36 56.5 +0.4**
RSSD Black Hills 33.39 95 P **P** **10 36 56.0 -0.1**
RSSD Black Hills 33.39 95 P **P** **10 36 56.8 +0.6**
baz=315
RSSD S **S** **10 42 13.9 +6.1**
baz=315
RSSD Black Hills 33.39 95 P **P** **10 36 56.1 -0.1**
RSSD pP **pP** **10 37 25.4 +1.7**
TCRU Three Creeks R 33.40 111 P **P** **10 36 57.0 +0.8**
ULM Lac du Bonnet 33.41 80 P **P** **10 36 56.7 +0.7**
comp=Z,100nm,0.7s,baz=309,slow=8.8,SNR=41
ULM LR LR 10 51 04.7
comp=Z,163μm,21.3s,baz=309,slow=37
ULM P3KPbc 11 08 09.3
comp=Z,13nm,1.0s,baz=121,slow=3.5,SNR=4.6
ULM Lac du Bonnet 33.41 80 P **P** **10 36 56.2 +0.2**
ULM pmax pmax
comp=Z,2μm,1.1s
ULM Lac du Bonnet 33.41 80 ⇑P **P** **10 36 56.0 0.0**
ULM Lac du Bonnet 33.41 80 P **P** **10 36 56.2 +0.2**
ULM IAmb IAmb 10 37 31.8
comp=Z,2μm,1.1s
GWY Greenwater Val 33.42 118 P **P** **10 36 57.0 +0.7**
GWY IAmb IAmb 10 37 32.4
comp=Z,2μm,1.4s
TMUT Trail Mountain 33.45 108 P **P** **10 36 57.5 +0.7**
TMUT IAmb IAmb 10 37 30.3
comp=Z,1μm,1.3s
LRMC Laurel Mtn Rad 33.56 120 P **P** **10 36 58.7 +1.1**
baz=328,SNR=237
LRMC S **S** **10 42 13.9 +3.6**
baz=328
SBC Santa Barbara 33.56 124 P **P** **10 36 59.0 +1.6**
baz=329,SNR=14
SBC S S 10 42 19.7 +10
baz=329
RWWY Rawlins 33.58 101 P **P** **10 36 57.2 -0.6**
RWWY IAmb IAmb 10 37 38.9
comp=Z,3μm,1.6s
SHOC Shoshone, Teco 33.83 118 P **P** **10 37 01.2 +1.4**
baz=327,SNR=30
SHOC S **S** **10 42 17.9 +3.6**
baz=327
OSI Osito Audit: C 33.84 122 P **P** **10 37 00.9 +1.1**
OSI IAmb IAmb 10 37 09.0
comp=Z,1μm,1.1s
OSI Osito Audit: C 33.84 122 P **P** **10 37 01.3 +1.4**
baz=329,SNR=70
OSI S **S** **10 42 17.8 +3.3**
baz=329
EDW2 Edwards Air Fo 33.93 121 P **P** **10 37 01.4 +0.7**
baz=328,SNR=78
EDW2 S **S** **10 42 18.6 +2.7**
baz=328
GSC Goldstone, Bar 34.09 119 P **P** **10 37 03.6 +1.5**
baz=327,SNR=284
GSC S **S** **10 42 22.4 +4.0**
baz=327
O20A White River Ci 34.24 104 P **P** **10 37 04.0 +0.5**
baz=320,SNR=182
DECC Green Verdugo 34.31 122 P **P** **10 37 05.1 +1.1**
baz=329,SNR=121
DECC S **S** **10 42 24.4 +2.6**
baz=329
RRX Edison Barstow 34.37 120 P **P** **10 37 05.9 +1.5**
baz=328,SNR=22
RRX S **S** **10 42 25.9 +3.4**
baz=328
TUQ Turquoise Moun 34.37 118 P **P** **10 37 06.0 +1.4**
baz=327,SNR=326
TUQ S **S** **10 42 27.3 +4.4**
baz=327
PASC Pasadena Art C 34.45 122 P **P** **10 37 05.8 +0.7**
PASC IAmb IAmb 10 37 13.9
comp=Z,1μm,1.0s
BFSC Mount Baldy Ra 34.62 121 P **P** **10 37 08.1 +1.4**
baz=328,SNR=266
BFSC S **S** **10 42 28.9 +2.3**
baz=328
SNCC San Nicolas Is 34.67 124 P **P** **10 37 08.6 +1.6**
SNCC IAmb IAmb 10 37 16.1
comp=Z,1μm,1.0s
SNCC San Nicolas Is 34.67 124 P **P** **10 37 08.7 +1.7**
baz=330,SNR=7.2
SNCC S **S** **10 42 30.6 +3.4**
baz=330
AGMN Agassiz Nation 34.67 83 P **P** **10 37 08.3 +1.4**
baz=311,SNR=69
AGMN S **S** **10 42 33.3 +6.3**
baz=311
HEC Hector,Ludlow 34.70 119 P **P** **10 37 08.7 +1.4**
baz=328,SNR=140
HEC S **S** **10 42 31.8 +4.0**
baz=328
FMP Fort Macarthur 34.79 122 P **P** **10 37 09.2 +1.2**
baz=329
FMP S **S** **10 42 31.6 +2.6**
baz=329
N23A Red Feather La 34.80 101 P **P** **10 37 10.2 +1.8**
baz=319,SNR=71
BBRC Big Bear Solar 34.92 120 P **P** **10 37 10.7 +1.3**
baz=328,SNR=45
BBRC S **S** **10 42 36.0 +4.6**
baz=328
CIS Catalina Islan 35.01 123 P **P** **10 37 11.0 +1.1**
baz=330,SNR=22
CIS S **S** **10 42 35.4 +3.0**
baz=330
GMRC Granite Mounta 35.04 118 P **P** **10 37 11.5 +1.2**
baz=327,SNR=111
GMRC S **S** **10 42 37.9 +4.9**
baz=327
PV10 Paradox Valley 35.22 107 P **P** **10 37 13.4 +1.5**
PV10 IAmb IAmb 10 38 28.0
comp=Z,1μm,1.1s
SCI2 San Clemente I 35.31 123 P **P** **10 37 14.0 +1.5**
baz=330,SNR=21
SCI2 S **S** **10 42 41.8 +4.7**
baz=330
MURC Murrieta 35.36 121 P **P** **10 37 13.9 +0.9**
baz=329,SNR=58
MURC S **S** **10 42 40.1 +2.3**
baz=329
MIDW Midway 35.42 218 ⇓P **P** **10 37 14.2 +0.9**
MIDW Midway 35.42 218 P **P** **10 37 13.7 +0.3**
MIDW IAmb IAmb 10 37 23.4
comp=Z,1μm,1.3s
MIDW Midway 35.42 218 P **P** **10 37 15.0 +1.6**
YAK Yakutsk 35.43 308 LR LR 10 52 38.6
comp=Z,66μm,21.0s,baz=56,slow=38
YAK Yakutsk 35.43 308 *e*P **P** **10 37 13.2 +0.1**
YAK *e**PP **pP** **10 37 39.9 -1.0**
YAK *e* 10 38 37.6
YAK *e* 10 39 39.1
YAK *e*S **S** **10 42 39.8 +1.6**
YAK pmax pmax
comp=Z,3μm,1.0s
YAK pmax pmax
comp=N,815nm,1.4s
YAK pmax pmax
comp=E,869nm,1.5s
YAK pmax pmax
comp=Z,19μm,4.3s
YAK pmax pmax
comp=N,8μm,4.7s
YAK pmax pmax
comp=E,7μm,3.8s
YAK smax smax
comp=E,4μm,3.3s
YAK smax smax
comp=N,3μm,2.7s
YAK Yakutsk 35.43 308 ⇑P **P** **10 37 13.2 +0.1**
YAK Yakutsk 35.43 308 P **P** **10 37 13.4 +0.3**
YAK Yakutsk 35.43 308 P **P** **10 37 12.9 -0.2**
YAK pP **sP** **10 37 54.7 -0.8**
PV15 Paradox Valley 35.52 106 P **P** **10 37 15.6 +1.1**
PV15 IAmb IAmb 10 37 51.5
comp=Z,1μm,1.0s
NEE2 Needles Airpor 35.52 117 P **P** **10 37 15.7 +1.4**
baz=327
NEE2 S **S** **10 42 45.0 +4.9**
baz=327
BELC Belle Mtn. Jos 35.55 119 P **P** **10 37 15.7 +1.1**
baz=328,SNR=73
BELC S **S** **10 42 44.3 +3.4**
baz=328
NKL Nikolayevsk 35.56 289 *e*P **P** **10 37 14.7 +0.3**
NKL *e*S **S** **10 42 42.8 +2.4**
NKL pmax pmax
comp=N,601nm,0.7s
NKL pmax pmax
comp=E,2.0nm,0.7s
NKL pmax pmax
comp=Z,2μm,1.4s
NKL smax smax
comp=E,2.0nm,0.7s
NKL smax smax
comp=N,3μm,0.9s
NKL MLR MLR
comp=N,35μm,14.0s
NKL MLR MLR
comp=Z,21μm,16.0s
W13A Hualapai Mount 35.58 116 P **P** **10 37 15.6 +0.6**
W13A IAmb IAmb 10 37 24.2
comp=Z,897nm,1.2s
SMCO Snowmass 35.60 104 ⇓P **P** **10 37 16.7 +1.3**
SMCO Snowmass 35.60 104 P **P** **10 37 15.8 +0.4**
SMCO IAmb IAmb 10 37 53.3
comp=Z,2μm,1.9s
PFO Pinyon Flats O 35.67 120 LR LR 10 50 35.9
comp=Z,89μm,18.1s,baz=310,slow=34
PFO P3KPbc 11 07 57.0
comp=Z,6.9nm,0.8s,baz=130,slow=4.5,SNR=7.4
PFO Pinyon Flats O 35.67 120 P **P** **10 37 16.6 +0.9**
PFO pmax pmax
comp=Z,1μm,1.2s
PFO Pinyon Flats O 35.67 120 P **P** **10 37 16.6 +0.9**
PFO IAmb IAmb 10 37 24.3
comp=Z,1μm,1.1s
PFO Pinyon Flats O 35.67 120 P **P** **10 37 16.6 +0.9**
baz=328,SNR=122
PFO S **S** **10 42 43.9 +1.1**
baz=328
PFO Pinyon Flats O 35.67 120 P **P** **10 37 16.6 +0.9**
TPFO Pinon Flats 35.68 120 P **P** **10 37 16.7 +0.9**
baz=328,SNR=166
B35A Bob, Littlefor 35.70 81 P **P** **10 37 15.9 +0.2**
SUSD Miller 35.74 90 P **P** **10 37 16.6 +0.6**
SUSD IAmb IAmb 10 38 31.8
comp=Z,800nm,0.9s
SUSD Miller 35.74 90 P **P** **10 37 17.7 +1.6**
baz=315,SNR=25
IRM Iron Mountain 35.79 118 P **P** **10 37 18.3 +1.6**
baz=328,SNR=386
IRM S **S** **10 42 47.4 +3.0**
baz=328
ISCO Idaho Springs 35.80 102 P **P** **10 37 17.3 +0.3**
ISCO pmax pmax
comp=Z,268nm,1.1s
ISCO Idaho Springs 35.80 102 P **P** **10 37 17.3 +0.3**
ISCO Idaho Springs 35.80 102 P **P** **10 37 19.5 +2.5**
baz=320,SNR=69
ISCO S **S** **10 42 47.9 +3.0**
baz=320
109C Camp Elliot, M 36.01 122 P **P** **10 37 19.6 +1.2**
109C Camp Elliot, M 36.01 122 P **P** **10 37 19.9 +1.5**
baz=329,SNR=84
109C S **S** **10 42 51.9 +4.2**
baz=329
TYV Tymovskoe 36.02 285 *e*P **P** **10 37 20.0 +1.6**
TYV *e*S **S** **10 42 52.2 +4.6**
TYV pmax pmax
comp=Z,2μm,1.1s
TYV pmax pmax
comp=Z,24μm,6.7s
TYV smax smax
comp=N,78nm,2.0s
TYV smax smax
comp=E,87nm,2.0s
BC3 Big Chuckawall 36.08 119 P **P** **10 37 19.9 +0.7**
baz=328,SNR=71
BC3 S **S** **10 42 52.9 +4.0**
baz=328
PDMCI Parker Dam,Lak 36.12 117 P **P** **10 37 20.3 +0.9**
baz=327,SNR=176
PDMCI S **S** **10 42 52.2 +2.9**
baz=327
MONP2 Monument Peak 36.30 121 P **P** **10 37 22.6 +1.4**
baz=329,SNR=158
MONP2 S **S** **10 42 57.4 +4.9**
baz=329
WUAZ Wupatki 36.40 113 ⇓P **P** **10 37 23.1 +1.2**
WUAZ Wupatki 36.40 113 P **P** **10 37 23.1 +1.2**
baz=325,SNR=344
WUAZ S **S** **10 42 59.6 +5.7**
baz=325
MVCO Mesa Verde 36.40 108 P **P** **10 37 22.2 +0.2**
baz=323,SNR=98
MVCO S **S** **10 42 57.5 +3.4**
baz=323
TKX Tecate 36.50 121 P **P** **10 37 23.3 +0.7**
SWSC Sam W. Stewart 36.53 120 P **P** **10 37 23.8 +1.0**
baz=329,SNR=180
IKP In-Ko-Pah, Jac 36.64 121 P **P** **10 37 25.2 +1.3**
baz=329,SNR=73
IKP S **S** **10 43 01.9 +4.4**
baz=329
Q24A Divide 36.67 102 P **P** **10 37 25.1 +0.7**
baz=321,SNR=115
Q24A S **S** **10 43 01.7 +3.5**
baz=321
OGNE Ogallala 36.72 97 P **P** **10 37 25.4 +0.9**
baz=318,SNR=24
S22A 4UR Ranch, Cre 36.79 105 P **P** **10 37 27.4 +2.0**
baz=322
S22A S **S** **10 43 05.3 +5.3**
baz=322
GLA Glamis 36.87 119 P **P** **10 37 27.0 +1.3**
baz=328,SNR=174
GLA S **S** **10 43 04.8 +3.9**
baz=328
EYMN Ely 37.10 80 P **P** **10 37 28.9 +1.4**
baz=312
EYMN S **S** **10 43 05.0 +1.0**
baz=312
KUR Kuril'sk 37.17 274*c* *i*P **P** **10 37 28.6 +0.5**
KUR *e* 10 38 54.2
KUR *e*S **S** **10 43 06.0 +0.9**
KUR pmax pmax
comp=Z,9μm,1.4s
KUR pmax pmax
comp=E,3μm,1.3s
KUR pmax pmax
comp=N,843nm,1.6s
KUR pmax pmax
comp=Z,34μm,4.6s
KUR MLR MLR
comp=Z,22μm,22.0s
KUR MLR MLR
comp=N,16μm,23.0s
KUR MLR MLR
comp=E,14μm,21.0s
ECSD EROS Data Cent 37.43 89 P **P** **10 37 30.2 -0.2**
ECSD IAmb IAmb 10 38 05.2
comp=Z,953nm,1.2s
ECSD EROS Data Cent 37.43 89 P **P** **10 37 30.9 +0.5**
baz=316,SNR=69
ECSD S **S** **10 43 08.4 -0.7**
baz=316
SDCO Great Sand Dun 37.44 104 P **P** **10 37 31.9 +1.0**
baz=322,SNR=218
SDCO S **S** **10 43 14.9 +5.0**
baz=322
UGL Uglegorsk 37.47 283 *e*P **P** **10 37 31.6 +1.0**
UGL *e* 10 39 09.6
UGL *e*S **S** **10 43 05.3 -4.2**
UGL *e*SS **SS** **10 45 57.3 -1.3**
UGL pmax pmax
comp=Z,2μm,1.0s
UGL pmax pmax
comp=Z,30μm,6.6s
UGL smax smax
comp=E,18μm,9.1s
UGL smax smax
comp=N,18μm,8.3s
UGL MLR MLR
comp=E,30μm,16.0s
UGL MLR MLR
comp=Z,17μm,18.0s
W18A Petrified Fore 37.49 111 P **P** **10 37 32.5 +1.3**
baz=325,SNR=64
W18A S **S** **10 43 16.0 +5.5**
baz=325
FRB Frobisher Bay 37.68 46 LR LR 10 54 05.6
comp=Z,72μm,18.7s,baz=304,slow=38
FRB P3KPbc 11 07 46.3
comp=Z,6.8nm,0.9s,baz=91,slow=3,2,SNR=5.8
FRB Frobisher Bay 37.68 46 ⇑P **P** **10 37 31.9 -0.3**
KSCO Kaye Shedlock' 37.89 100 P **P** **10 37 35.1 +0.7**
baz=320,SNR=141
KEKH Kekaha 37.92 189 P **P** **10 37 35.0 +0.4**
KEKH IAmb IAmb 10 38 21.2
comp=Z,1μm,1.3s
NUUG Nuugaatsiaq 38.02 31 *i*P **P** **10 37 34.0 -1.0**
NUUG IAmb IAmb 10 37 44.6
comp=Z,218nm,1.0s
OPA Opana 38.09 187 P **P** **10 37 36.9 +0.8**
OPA pmax pmax
comp=Z,873nm,1.0s
OPA Opana 38.09 187 P **P** **10 37 36.9 +0.8**
OPA IAmb IAmb 10 37 40.1
comp=Z,873nm,1.0s
SPMN Marine on St. 38.30 84 P **P** **10 37 39.4 +1.7**
baz=314,SNR=185
SPMN S **S** **10 43 27.0 +4.7**
baz=314
BGNE Belgrade 38.34 93 P **P** **10 37 38.4 +0.3**
baz=318,SNR=154
KIP Kipapa 38.35 187 P **P** **10 37 39.3 +1.0**
KIP pmax pmax
comp=Z,884nm,0.9s
KIP Kipapa 38.35 187 P **P** **10 37 39.3 +1.0**
KIP IAmb IAmb 10 37 42.3
comp=Z,884nm,0.8s
KIP Kipapa 38.35 187 P **P** **10 37 39.9 +1.6**
KIP Kipapa 38.35 187 P **P** **10 37 39.8 +1.6**
WMR Waimanalo Ridg 38.44 186 P **P** **10 37 39.6 +0.6**
HON Honolulu 38.45 187 P **P** **10 37 40.5 +1.4**
HON pmax pmax
comp=Z,2μm,1.0s
HON Honolulu 38.45 187 P **P** **10 37 40.5 +1.4**
HON IAmb IAmb 10 37 43.2
comp=Z,2μm,1.0s
T25A Trinidad 38.45 104 P **P** **10 37 40.0 +0.7**
T25A IAmb IAmb 10 38 17.4
comp=Z,3μm,1.8s
T25A Trinidad 38.45 104 P **P** **10 37 40.5 +1.2**
baz=322,SNR=88
T25A S **S** **10 43 29.6 +4.5**
baz=322
DHH Diamond Head 38.50 186 P **P** **10 37 40.6 +1.1**
DHH Diamond Head 38.50 186 P **P** **10 37 40.6 +1.1**
YSS Yuzh-Sakhalins 38.56 280α *i*P **P** **10 37 41.0 +1.2**
YSS *e**SP **sP** **10 38 21.4 -0.9**
YSS *e* 10 39 12.2
YSS *e*S **S** **10 43 24.3 -1.6**
YSS *e**SS **sS** **10 44 12.1 -2.8**
YSS *e* 10 47 35.0
YSS pmax pmax
comp=Z,32μm,6.5s
YSS pmax pmax
comp=E,12μm,6.3s
YSS pmax pmax
comp=Z,1μm,1.0s
YSS pmax pmax
comp=E,510nm,1.1s
YSS pmax pmax
comp=Z,18μm,5.4s
YSS pmax pmax
comp=N,4μm,5.7s
YSS smax smax
comp=N,16μm,7.5s
YSS MLR MLR
comp=Z,23μm,17.0s
YSS Yuzh-Sakhalins 38.56 280 ⇑P **P** **10 37 40.6 +0.8**
YSS Yuzh-Sakhalins 38.56 280 P **P** **10 37 40.0 +0.2**
YSS Yuzh-Sakhalins 38.56 280 P **P** **10 37 41.2 +1.4**
YSS Yuzh-Sakhalins 38.56 280 P **P** **10 37 40.7 +0.9**
YSS pP **sP** **10 38 21.7 -0.6**
214A Organ Pipe Nat 38.70 117 P **P** **10 37 42.2 +1.0**
baz=328,SNR=314
214A S **S** **10 43 33.9 +5.5**
baz=328
KHLH Kahului Airpor 38.80 184 P **P** **10 37 43.3 +1.3**
L34A Svendsen Farm, 38.83 91 P **P** **10 37 42.3 +0.1**
L34A IAmb IAmb 10 38 19.1
comp=Z,985nm,0.9s
I37A Lemond, Waseca 38.86 86 P **P** **10 37 43.2 +0.8**
HLK Haleakala 38.93 184 P **P** **10 37 44.6 +1.2**
HLK IAmb IAmb 10 37 52.4
comp=Z,774nm,1.0s
YUK Yuzh-Kuril'sk 39.03 274*d* *i*P **P** **10 37 43.6 -0.1**
YUK *i* 10 39 16.7
YUK *i* S **S** **10 43 34.9 +1.8**
YUK *i* *SS **sS** **10 44 25.0 +2.9**
YUK pmax pmax
comp=Z,10μm,1.2s
YUK pmax pmax
comp=N,4μm,1.0s
GRNR Gornyy 39.11 289 ⇓*i*P **P** **10 37 45.5 +1.1**
GRNR *e*S **S** **10 43 38.4 +4.2**
GRNR pmax pmax
comp=N,390nm,0.8s
GRNR pmax pmax
comp=E,410nm,0.8s
GRNR pmax pmax
comp=Z,1μm,0.8s
GRNR smax smax
comp=N,20nm,0.8s
ANMO Albuquerque 39.20 108 LR LR 10 53 01.3
comp=N,49μm,21.0s,baz=330,slow=34
ANMO Albuquerque 39.20 108 *i*P **P** **10 37 46.0 +0.5**
ANMO pmax pmax
comp=Z,136nm,1.2s
ANMO Albuquerque 39.20 108 ⇓P **P** **10 37 45.7 +0.2**
ANMO Albuquerque 39.20 108 P **P** **10 37 45.4 -0.1**
ANMO Albuquerque 39.20 108 P **P** **10 37 46.4 +0.9**
baz=324
ANMO S **S** **10 43 36.9 +0.6**
baz=324
ANMO Albuquerque 39.20 108 P **P** **10 37 48.1 +2.6**
ANMO pP **pP** **10 38 14.7 +1.1**
TUC Tucson 39.32 115 P **P** **10 37 47.2 +0.8**
TUC pmax pmax
comp=Z,555nm,1.1s
TUC Tucson 39.32 115 ⇑P **P** **10 37 47.5 +1.1**
TUC Tucson 39.32 115 P **P** **10 37 47.2 +0.8**
TUC Tucson 39.32 115 P **P** **10 37 47.9 +1.5**
baz=327
TUC S **S** **10 43 43.7 +5.8**
baz=327
TUC Tucson 39.32 115 P **P** **10 37 49.1 +2.7**
TUC pP **pP** **10 38 16.9 +2.4**
CBKS Cedar Bluff 39.49 97 P **P** **10 37 47.7 0.0**
CBKS pmax pmax
comp=Z,4μm,1.5s
CBKS Cedar Bluff 39.49 97 ⇓P **P** **10 37 48.0 +0.3**
CBKS Cedar Bluff 39.49 97 P **P** **10 37 47.7 0.0**
CBKS Cedar Bluff 39.49 97 P **P** **10 37 48.2 +0.6**
baz=320,SNR=176
CBKS S **S** **10 43 42.1 +2.0**

baz=320
G40A Rib Lake 39.59 82 P **P 10 37 48.3 -0.1**
Y22D IRIS PASSCAL I 39.68 109 P **P 10 37 51.2 +1.7**
baz=325,SNR=53
POHA Pohakuloa 39.91 183 ⇓P **P 10 37 52.2 +0.7**
POHA Pohakuloa 39.91 183 P **P 10 37 52.6 +1.1**
POHA IAmb IAmb 10 37 55.7
comp=Z,1μm,1.0s
POHA Pohakuloa 39.91 183 P **P 10 37 52.9 +1.4**
POHA Pohakuloa 39.91 183 P **P 10 37 52.5 +1.0**
HUH Hualalai 39.99 183 P **P 10 37 52.3 +0.1**
HUH IAmb IAmb 10 38 07.0
comp=Z,2μm,1.1s
ILULI Ilulissat 40.02 33 P **P 10 37 52.1 +0.6**
ILULI pmax pmax
comp=Z,875nm,1.4s
ILULI Ilulissat 40.02 33 *i* P **P 10 37 50.8 -0.8**
ILULI IAmb IAmb 10 38 01.3
comp=Z,78nm,0.7s
ILULI Ilulissat 40.02 33 P **P 10 37 52.1 +0.6**
N35A Tabor 40.02 91 P **P 10 37 52.1 +0.1**
KHLU Kahalu`u 40.08 183 P **P 10 37 53.7 +0.9**
KHLU IAmb IAmb 10 38 01.7
comp=Z,2μm,1.0s
MLOA Mauna Loa Obse 40.13 183 P **P 10 37 54.3 +0.7**
MLOA IAmb IAmb 10 37 58.1
comp=Z,2μm,0.9s
K38A Parkersburg 40.16 87 P **P 10 37 54.0 +0.8**
MLH Mauna Loa 40.16 183 P **P 10 37 54.8 +1.2**
MLH IAmb IAmb 10 37 58.1
comp=Z,2μm,0.9s
MWH Moku'aweowe 40.18 183 P **P 10 37 54.7 +0.6**
MWH IAmb IAmb 10 38 02.9
comp=Z,1μm,1.1s
SCIA State Center 40.48 88 P **P 10 37 56.2 +0.5**
SCIA State Center 40.48 88 P **P 10 37 56.4 +0.7**
baz=317,SNR=60
SCIA S **S 10 43 54.8 0.0**
baz=317
KAPO Kapuskasing 40.51 72 ⇑P **P 10 37 55.9 0.0**
121A Cookes Peak, D 40.54 111 P **P 10 37 58.1 +1.6**
baz=326,SNR=205
121A S **S 10 44 01.9 +5.7**
baz=326
JKA Kamikawa-asahi 40.62 277 P **P 10 37 56.8 -0.1**
JKA IAmb IAmb 10 38 01.1
comp=Z,1μm,0.7s
ASAJ Asahikawa 40.62 277 P **P 10 37 57.1 +0.2**
comp=Z,921nm,0.7s,baz=12,slow=4.6,SNR=240
ASAJ PKiKP **PKiKP 10 47 03.8 -1.0**
comp=Z,14nm,0.8s,baz=267,slow=5.1,SNR=6.6
ASAJ LR LR 10 56 45.5
comp=Z,12μm,18.3s,baz=62,slow=39
ASAJ Asahikawa 40.62 277 P **P 10 37 56.8 -0.1**
ASAJ pmax pmax
comp=Z,1μm,0.7s
SUMG Summit 40.81 25 P **P 10 37 58.4 -0.2**
SUMG pmax pmax
comp=Z,4μm,1.5s
SUMG Summit 40.81 25 *i* P **P 10 37 59.0 +0.4**
SUMG IAmb IAmb 10 38 33.6
comp=Z,422nm,0.8s
SUMG Summit 40.81 25 ⇑P **P 10 37 57.6 -0.9**
SUMG Summit 40.81 25 P **P 10 37 58.4 -0.2**
KSU1 Kansas State U 40.85 94 ⇓P **P 10 37 58.4 -0.4**
KSU1 Kansas State U 40.85 94 P **P 10 37 58.7 -0.1**
baz=319,SNR=217
KSU1 S **S 10 44 03.5 +3.2**
baz=319
DAG Danmarks Havn 40.88 14 *i* P **P 10 37 57.0 -1.6**
DAG IAmb IAmb 10 38 17.4
comp=Z,340nm,0.8s
DAG Danmarks Havn 40.88 14 ⇑P **P 10 37 56.6 -1.9**
JFWS Jewell Farm 41.24 85 P **P 10 38 01.6 -0.4**
baz=316,SNR=84
JFWS S **S 10 44 07.1 +1.0**
baz=316
KBS Kingsbay 41.36 4 P **P 10 38 03.7 +1.2**
KBS pmax pmax
comp=Z,421nm,0.8s
KBS Kingsbay 41.36 4 *e*P **P 10 38 04.5 +2.0**
KBS IVmB_BB 10 38 05.3
comp=Z,6μm,5.0s
KBS *e*S **S 10 44 09.0 +2.0**
KBS Kingsbay 41.36 4 ⇑P **P 10 38 03.2 +0.7**
KBS Kingsbay 41.36 4 P **P 10 38 03.7 +1.2**
KBS Kingsbay 41.36 4 P **P 10 38 03.3 +0.7**
KBS pP **sP 10 38 45.0 -0.6**
ZEA Zeya 41.42 298 *de*P **P 10 38 03.4 +0.1**
ZEA *e**SP **sP 10 38 46.3 +0.1**
ZEA *e* 10 39 44.9
ZEA *e*S **S 10 44 04.4 -4.1**
ZEA *e*SS **ScS 10 47 46.9 -6.0**
ZEA pmax pmax
comp=E,350nm,0.8s
ZEA pmax pmax
comp=N,230nm,0.7s
ZEA pmax pmax
comp=Z,940nm,0.9s
ZEA pmax pmax
comp=Z,6μm,10.0s
ZEA pmax pmax
comp=Z,8μm,16.2s
ZEA MLR MLR
comp=N,23μm,10.0s
ZEA MLR MLR
comp=Z,48μm,14.0s
AMTX Amarillo 41.59 103 P **P 10 38 05.4 +0.4**
AMTX IAmb IAmb 10 38 43.1
comp=Z,2μm,1.2s
AMTX Amarillo 41.59 103 P **P 10 38 05.5 +0.5**
baz=323
AMTX S **S 10 44 15.4 +3.9**
baz=323
SFJD Kangerlussuaq 41.61 35 ScP **ScP 10 43 38.0 +1.0**
comp=Z,170nm,1.0s,baz=341,slow=4.1,SNR=6.8
SFJD Kangerlussuaq 41.61 35 P **P 10 38 04.8 +0.2**
SFJD pmax pmax
comp=Z,2μm,1.4s
SFJD Kangerlussuaq 41.61 35 *i* P **P 10 38 06.0 +1.4**
SFJD IAmb IAmb 10 38 11.7
comp=Z,264nm,0.6s
SFJD Kangerlussuaq 41.61 35 ⇑P **P 10 38 04.4 -0.3**
SFJD Kangerlussuaq 41.61 35 P **P 10 38 04.8 +0.2**
SFJD IAmb IAmb 10 39 02.0
comp=Z,2μm,1.4s
SFJD Kangerlussuaq 41.61 35 P **P 10 38 05.0 +0.4**
SFJD pP **sP 10 38 44.1 -3.3**
U32A Winter Ranch, 41.74 99 **P 10 38 06.7 +0.5**
MSTX Muleshoe 41.78 105 P **P 10 38 07.0 +0.4**
baz=324,SNR=198
MSTX S **S 10 44 19.1 +4.6**
baz=324
ERM Erimo 41.86 274 *c i* P **P 10 38 08.1 +1.1**
ERM pmax pmax
comp=Z,2μm,1.0s
ERM Erimo 41.86 274 ⇑P **P 10 38 07.5 +0.5**
ERM Erimo 41.86 274 P **P 10 38 08.2 +1.1**
ERM Erimo 41.86 274 P **P 10 38 08.6 +1.6**
ERM Erimo 41.86 274 P **P 10 38 08.2 +1.1**
P38A Dawn 42.01 91 P **P 10 38 08.4 +0.2**
P38A IAmb IAmb 10 38 43.7
comp=Z,2μm,1.4s
G45A Suttons Bay 42.02 79 P **P 10 38 08.8 +0.5**
JEW Eniwo 42.12 276 ⇑P **P 10 38 09.5 +0.4**
JEW Eniwo 42.12 276 P **P 10 38 09.9 +0.8**
SPA0 Spitsbergen Ar 42.25 3 *e*P **P 10 38 09.0 -0.8**
SPITS Spitsbergen Ar 42.25 3 LR LR 10 54 48.6
comp=Z,53μm,20.4s,baz=326,slow=35
SPITS Spitsbergen Ar 42.25 3 P **P 10 38 09.2 -0.6**
SPITS pmax pmax
comp=Z,2μm,1.2s
SPB2 Spitsbergen Ar 42.25 3 P **P 10 38 09.7 -0.1**
SPB2 IAmb IAmb 10 39 34.5
comp=Z,1μm,1.2s
MNTX Cornudas Mount 42.37 109 P **P 10 38 12.3 +1.0**
baz=326,SNR=239
MNTX S **S 10 44 28.0 +5.1**
baz=326
KLR Kul'dur 42.38 290 P **P 10 38 10.8 -0.3**
comp=Z,811nm,0.8s,baz=44,slow=7.5,SNR=1103
KLR PKiKP **PKiKP 10 47 05.3 -0.9**
comp=Z,9.9nm,0.9s,baz=110,slow=3.9,SNR=5.1
KLR LR LR 10 56 37.1
comp=Z,17μm,20.2s,baz=48,slow=37

KLR Kul'dur 42.38 290 *c i* P **P 10 38 11.9 +0.8**
KLR pmax pmax
comp=Z,3μm,1.5s
GLMI Grayling 42.69 78 P **P 10 38 14.6 +0.8**
GLMI Grayling 42.69 78 P **P 10 38 14.8 +1.1**
baz=316,SNR=48
GLMI S **S 10 44 30.8 +3.5**
baz=316
SRIG Santa Rosalia 42.92 120 P **P 10 38 15.9 +0.1**
SRIG IAmb IAmb 10 38 24.6
comp=Z,1μm,0.9s
L44A Lake County Fo 42.96 84 P **P 10 38 16.9 +1.0**
baz=317,SNR=28
L44A S **S 10 44 33.3 +2.0**
baz=317
TEY Ternei 42.96 282 ⇑*e*P **P 10 38 16.6 +0.7**
TEY *e* 10 39 54.5
TEY *e*S **S 10 44 28.2 -3.0**
TEY pmax pmax
comp=N,130nm,0.8s
TEY pmax pmax
comp=E,200nm,0.8s
TEY pmax pmax
comp=Z,330nm,0.8s
TEY pmax pmax
comp=N,2μm,6.7s
TEY pmax pmax
comp=E,3μm,6.7s
TEY pmax pmax
comp=Z,8μm,6.7s
TEY MLR MLR
comp=E,10μm,18.0s
TEY MLR MLR
comp=N,7μm,15.0s
TEY MLR MLR
comp=Z,14μm,16.0s
WMOK Wichita Mounta 43.14 100 ⇓P **P 10 38 17.6 +0.1**
WMOK Wichita Mounta 43.14 100 P **P 10 38 17.8 +0.2**
baz=323,SNR=256
WMOK S **S 10 44 36.4 +2.2**
baz=323
HQIL Hanson Quary C 43.27 84 P **P 10 38 19.0 +0.6**
HQIL IAmb IAmb 10 38 56.0
comp=Z,3μm,1.3s
HSPB Hornsund (broa 43.39 4 *e*P **P 10 38 19.5 +0.5**
HSPB *es*P **sP 10 39 01.5 -0.7**
HSPB *e*S **S 10 44 34.1 -2.7**
HSPB *e*L L 10 49 12.7
comp=Z,114μm,23.0s
HSPB Hornsund (broa 43.39 4 *e*P **P 10 38 20.2 +1.2**
HSPB *e*S **S 10 44 33.2 -3.6**
HDIL Hopedale 43.46 86 P **P 10 38 19.5 -0.4**
baz=318,SNR=97
TUL1 Leonard 43.72 96 P **P 10 38 21.8 -0.3**
baz=322,SNR=90
TUL1 S **S 10 44 37.7 -4.8**
baz=322
JTM Tenmabayashi 43.83 275 ⇑P **P 10 38 23.1 +0.2**
VLDQ Val d'Or 43.85 70 P **P 10 38 21.1 -1.9**
VLDQ IAmb IAmb 10 38 59.3
comp=Z,2μm,1.4s
SCHQ Schefferville 43.98 56 P **P 10 38 24.3 +0.3**
comp=Z,148nm,0.6s,baz=318,slow=7.6,SNR=343
SCHQ LR LR 10 57 13.6
comp=Z,157μm,18.0s,baz=312,slow=36
SCHQ Schefferville 43.98 56 ⇑P **P 10 38 23.3 -0.7**
SCHQ Schefferville 43.98 56 P **P 10 38 23.6 -0.3**
SCHQ IAmb IAmb 10 39 01.4
comp=Z,1μm,1.1s
NRIK Noril'sk 44.05 333 P **P 10 38 24.4 +0.1**
comp=Z,2μm,1.0s,baz=51,slow=6.9,SNR=307
NRIK LR LR 11 00 37.3
comp=Z,81μm,19.1s,baz=41,slow=41
NRIK Noril'sk 44.05 333 *c i* P **P 10 38 24.5 +0.2**
NRIK pmax pmax
comp=Z,2μm,0.9s
NRIK Noril'sk 44.05 333 P **P 10 38 24.9 +0.6**
HOPEN Hopen 44.06 0 *e*P **P 10 38 24.9 +0.6**
HOPEN *e*S **S 10 44 49.3 +2.9**
BOD Bodaibo 44.23 310 *e*P **P 10 38 25.4 -0.5**
BOD pmax pmax
comp=Z,2μm,1.1s
CCM Cathedral Cave 44.36 90 P **P 10 38 26.4 -0.8**
CCM pmax pmax
comp=Z,811nm,1.1s
CCM Cathedral Cave 44.36 90 ⇑P **P 10 38 26.4 -0.8**
CCM Cathedral Cave 44.36 90 P **P 10 38 26.4 -0.8**
CCM Cathedral Cave 44.36 90 P **P 10 38 27.3 +0.1**
baz=320
CCM S **S 10 44 48.4 -3.4**
baz=320
CCM Cathedral Cave 44.36 90 P **P 10 38 28.7 +1.5**
CCM pP **pP 10 38 55.6 -0.3**
HHAR Hobbs 44.37 94 P **P 10 38 25.7 -1.6**
HHAR IAmb IAmb 10 39 02.2
comp=Z,1μm,1.0s
ABTX Abilene, Hawle 44.41 103 P **P 10 38 26.8 -0.8**
ABTX IAmb IAmb 10 39 05.2
comp=Z,3μm,1.6s
ABTX Abilene, Hawle 44.41 103 P **P 10 38 27.5 -0.1**
baz=324,SNR=65
ABTX S **S 10 44 55.2 +2.6**
baz=324
SLM Saint Louis 44.43 89 P **P 10 38 27.5 -0.2**
SLM pmax pmax
comp=Z,2μm,1.4s
SLM Saint Louis 44.43 89 P **P 10 38 27.5 -0.2**
SLM IAmb IAmb 10 39 05.2
comp=Z,2μm,1.4s
JOHN Johnston Islan 44.44 202 ⇓P **P 10 38 29.2 +1.3**
JOHN Johnston Islan 44.44 202 P **P 10 38 28.7 +0.7**
JOHN IAmb IAmb 10 38 38.6
comp=Z,1μm,0.9s
JOHN Johnston Islan 44.44 202 P **P 10 38 28.5 +0.6**
JOHN pP **sP 10 39 11.3 +0.3**
MGMO Mountain Grove 44.54 92 P **P 10 38 27.7 -0.9**
MGMO IAmb IAmb 10 39 03.3
comp=Z,1μm,0.9s
SFIN Lafayette 44.70 85 P **P 10 38 29.2 -0.6**
SFIN Lafayette 44.70 85 P **P 10 38 30.7 +0.8**
baz=319,SNR=84
SFIN S **S 10 44 57.0 +0.3**
baz=319
FVM French Village 44.83 90 P **P 10 38 29.8 -1.1**
FVM pmax pmax
comp=Z,2μm,1.3s
FVM French Village 44.83 90 P **P 10 38 29.8 -1.1**
FVM IAmb IAmb 10 39 06.3
comp=Z,2μm,1.2s
U40A Yellville 44.86 93 P **P 10 38 30.7 -0.4**
baz=321,SNR=23
U40A S **S 10 45 00.6 +1.6**
baz=321
AAM Ann Arbor 45.01 80 P **P 10 38 32.6 +0.4**
baz=318,SNR=45
AAM S **S 10 45 07.3 +6.4**
baz=318
TX31 Lajitas Ar. Si 45.15 110 ⇓P **P 10 38 34.0 +0.4**
TX32 Lajitas Array 45.15 110 P **P 10 38 33.9 +0.2**
TX32 IAmb IAmb 10 39 07.9
comp=Z,2μm,1.7s
TXAR Lajitas Array 45.15 110 P **P 10 38 33.4 -0.2**
comp=Z,154nm,1.1s,baz=329,slow=4.7,SNR=315
TXAR ScP **ScP 10 43 52.8 +0.6**
comp=Z,41nm,0.8s,baz=298,slow=2.7,SNR=4.1
TXAR PKiKP **PKiKP 10 47 09.2 -0.3**
comp=Z,7.5nm,0.8s,baz=199,slow=1.3,SNR=4.9
TXAR LR LR 10 56 41.8
comp=Z,67μm,20.6s,baz=310,slow=35
TXAR Lajitas Array 45.15 110 P **P 10 38 34.1 +0.4**
TXAR pP **pP 10 39 03.7 +1.3**
W39A Magazine 45.29 95 P **P 10 38 34.5 -0.1**
baz=322,SNR=53
W39A S **S 10 45 05.0 -0.2**
baz=322
SADO Sadowa 45.43 74 LR LR 10 58 22.6
comp=Z,169μm,18.1s,baz=350,slow=37
SADO Sadowa 45.43 74 ⇑P **P 10 38 34.9 -0.7**
SADO Sadowa 45.43 74 P **P 10 38 35.4 -0.2**
SADO IAmb IAmb 10 39 12.1
comp=Z,2μm,1.2s
FCAR Ozark Folk Cen 45.59 93 P **P 10 38 36.1 -0.8**
SCO Scoresbysund 45.70 21 P **P 10 38 36.8 -0.5**
SCO pmax pmax
comp=Z,2μm,1.7s
SCO Scoresbysund 45.70 21 *i* P **P 10 38 38.0 +0.7**

SCO IAmb IAmb 10 38 48.5
comp=Z,56nm,1.3s
SCO Scoresbysund 45.70 21 ⇑P **P 10 38 37.0 -0.3**
SCO Scoresbysund 45.70 21 P **P 10 38 36.8 -0.5**
SCO IAmb IAmb 10 39 53.9
comp=Z,2μm,1.7s
O48B Farmland 45.78 83 P **P 10 38 38.5 +0.2**
baz=319
O48B S **S 10 45 15.8 +3.7**
baz=319
USA0B Ussuriysk Arra 45.84 285 P **P 10 38 38.3 -0.5**
USA0B pmax pmax
comp=Z,431nm,0.8s
USA0B Ussuriysk Arra 45.84 285 P **P 10 38 38.3 -0.5**
USRK Ussuriysk Ar. 45.84 285 P **P 10 38 38.2 -0.6**
comp=Z,381nm,0.7s,baz=52,slow=7.7,SNR=561
USRK PcP **PcP 10 40 14.7 +0.9**
comp=Z,120nm,0.9s,baz=42,slow=2.7,SNR=1.6
USRK ScP **ScP 10 43 55.4 +0.7**
comp=Z,14nm,0.8s,baz=18,slow=3.5,SNR=1.9
USRK PKiKP **PKiKP 10 47 08.7 -1.0**
comp=Z,1.9nm,0.4s,baz=14,slow=1.4,SNR=6.4
USRK LR LR 10 59 38.4
comp=Z,18μm,19.9s,baz=28,slow=38
USRK Ussuriysk Ar. 45.84 285 P **P 10 38 38.7 0.0**
MIAR Mount Ida 45.91 96 P **P 10 38 39.0 -0.4**
MIAR pmax pmax
comp=Z,1μm,1.0s
MIAR Mount Ida 45.91 96 ⇑P **P 10 38 39.0 -0.4**
MIAR Mount Ida 45.91 96 P **P 10 38 39.0 -0.4**
MIAR IAmb IAmb 10 39 15.4
comp=Z,1μm,1.0s
MIAR Mount Ida 45.91 96 P **P 10 38 40.3 +0.8**
baz=322,SNR=75
MIAR S **S 10 45 14.6 +0.5**
baz=322
ISOG Isortoq, Green 45.92 32 *i* P **P 10 38 38.2 -0.9**
ISOG IAmb IAmb 10 38 53.3
comp=Z,260nm,0.8s
ISOG Isortoq, Green 45.92 32 ⇓P **P 10 38 37.9 -1.2**
LCAR Lake Charles 45.94 92 P **P 10 38 38.2 -1.4**
LCAR IAmb IAmb 10 39 14.3
comp=Z,2μm,1.6s
BJO1 Bjornoya 45.99 3 *e*P **P 10 38 42.4 +2.8**
BJO1 *e*S **S 10 45 15.8 +1.5**
WHTX Lake Whitney, 46.00 101 P **P 10 38 40.3 +0.1**
baz=324,SNR=85
WHTX S **S 10 45 16.9 +1.4**
baz=324
JCT Junction City 46.08 105 P **P 10 38 40.7 -0.1**
JCT pmax pmax
comp=Z,3μm,0.9s
JCT Junction City 46.08 105 ⇓P **P 10 38 41.1 +0.3**
JCT Junction City 46.08 105 P **P 10 38 40.7 -0.1**
JCT Junction City 46.08 105 P **P 10 38 41.2 +0.3**
baz=325,SNR=641
JCT S **S 10 45 19.1 +2.5**
baz=325
W41B Gary Mavity, V 46.09 94 P **P 10 38 40.4 -0.4**
baz=322,SNR=20
W41B S **S 10 45 15.3 -1.3**
baz=322
JMM Marumori 46.18 272 ⇑P **P 10 38 41.7 +0.2**
PARMO Parma 46.19 90 P **P 10 38 42.1 +0.5**
ANGG Ammassalik, Gr 46.22 31 *i* P **P 10 38 40.7 -0.7**
ANGG IAmb IAmb 10 38 51.1
comp=Z,265nm,0.7s
ANGG Ammassalik, Gr 46.22 31 ⇑P **P 10 38 40.3 -1.1**
X40A Basin Creek Fa 46.33 95 P **P 10 38 43.4 +0.6**
baz=322,SNR=44
X40A S **S 10 45 19.5 -0.7**
baz=322
P49A Miami Univ. Ec 46.54 84 P **P 10 38 44.0 -0.4**
baz=319,SNR=22
P49A S **S 10 45 26.2 +3.2**
baz=319
LPIG La Paz 46.57 120 LR LR 10 56 18.6
comp=Z,43μm,18.8s,baz=325,slow=33
TRQ Mont Tremblant 46.59 70 P **P 10 38 44.1 -0.6**
MDJ Mudanjiang 46.70 287 P **P 10 38 45.7 +0.2**
MDJ pP pP 10 39 13.3 -1.2
MDJ PP **PP 10 40 38.1 +1.5**
MDJ S **S 10 45 26.7 +1.5**
MDJ pmax pmax
comp=Z,860nm,0.9s
MDJ pmax pmax
comp=Z,20μm,5.9s
MDJ LR LR
comp=Z,40μm,24.5s
MDJ LR LR
comp=Z,36μm,24.5s
MDJ LR LR
comp=Z,150μm,24.1s
MDJ Mudanjiang 46.70 287 P **P 10 38 45.2 -0.3**
MDJ IAmb IAmb 10 38 56.1
comp=Z,810nm,0.9s
MDJ sP **sP 10 39 29.0 +0.2**
MDJ Mudanjiang 46.70 287 P **P 10 38 46.1 +0.6**
MDJ Mudanjiang 46.70 287 P **P 10 38 46.0 +0.4**
MDJ pP **sP 10 39 28.9 +0.2**
WCI Wyandotte Cave 46.74 86 P **P 10 38 45.7 -0.2**
WCI pmax pmax
comp=Z,3μm,1.3s
WCI Wyandotte Cave 46.74 86 ⇓P **P 10 38 44.8 -1.1**
WCI Wyandotte Cave 46.74 86 P **P 10 38 45.7 -0.2**
WCI Wyandotte Cave 46.74 86 P **P 10 38 45.3 -0.5**
baz=320
WCI Wyandotte Cave 46.74 86 P **P 10 38 46.7 +0.8**
LNXT Lenox 46.76 91 P **P 10 38 45.8 -0.2**
J54A Appleton 46.77 75 P **P 10 38 46.6 +0.6**
237A Washetta, Mont 46.82 100 P **P 10 38 47.5 +1.0**
237A IAmb IAmb 10 39 23.3
comp=Z,3μm,1.9s
WLAR White Oak Lake 46.82 96 P **P 10 38 47.6 +1.0**
WLAR IAmb IAmb 10 39 23.9
comp=Z,2μm,1.3s
ACSO Alum Creek Sta 46.89 82 P **P 10 38 47.8 +0.8**
baz=319,SNR=45
ACSO S **S 10 45 27.2 -0.8**
baz=319
BNX BinXian 46.93 290 ⇑P **P 10 38 47.5 +0.2**
BNX pP **pP 10 39 16.9 +0.5**
BNX sP **sP 10 39 29.1 -1.5**
BNX PP **PP 10 40 40.3 +1.7**
BNX S **S 10 45 23.2 -5.2**
BNX pmax pmax
comp=Z,3μm,0.9s
BNX pmax pmax
comp=Z,44μm,5.7s
BNX LR LR
comp=Z,47μm,10.4s
BNX LR LR
comp=Z,44μm,12.8s
BNX LR LR
comp=Z,221μm,34.4s
ERPA Erie 46.97 78 P **P 10 38 48.9 +1.3**
baz=318,SNR=53
ERPA S **S 10 45 33.0 +4.0**
baz=318
PECO Prince Edward 47.09 74 P **P 10 38 48.7 +0.2**
SLBS Sierra La Lagu 47.09 120 ⇓P **P 10 38 49.7 +0.8**
SLBS Sierra La Lagu 47.09 120 P **P 10 38 49.6 +0.7**
SLBS IAmb IAmb 10 39 27.4
comp=Z,1μm,1.2s
SLBS Sierra La Lagu 47.09 120 P **P 10 38 50.5 +1.6**
SLBS pP **pP 10 39 17.8 0.0**
M53A WI Miller and 47.13 79 P **P 10 38 48.5 -0.4**
M53A WI Miller and 47.13 79 P **P 10 38 49.0 +0.1**
baz=319,SNR=90
M53A S **S 10 45 37.4 +6.0**
baz=319
J55A Hilton 47.18 75 P **P 10 38 49.6 +0.4**
CCAR Cane Creek 47.32 94 P **P 10 38 51.3 +0.9**
Z41A Richland Creek 47.32 96 P **P 10 38 51.9 +1.5**
baz=323,SNR=48
Z41A S **S 10 45 37.3 +3.1**
baz=323
JMIC Jan Mayen 47.32 15 LR LR 10 57 50.6
comp=Z,15μm,20.7s,baz=332,slow=35
JMIC Jan Mayen 47.32 15 *e*P **P 10 38 52.3 +2.4**
JMIC *e*S **S 10 45 35.4 +2.0**
JSD Sado 47.33 275 ⇑P **P 10 38 51.1 +0.7**
NRS Narsarsuaq 47.39 39 *i* P **P 10 38 50.0 -0.6**
NRS IAmb IAmb 10 38 58.4
comp=Z,245nm,0.6s

NRS	**Narsarsuaq**	**47.39**	**39**	⇑P	**P**	**10 38 50.7**	**+0.1**
ICQ	**Pointe Anglais**	**47.55**	**62**	⇑P	**P**	**10 38 51.2**	**-0.7**
MNTQ	**Montreal, Queb**	**47.56**	**70**	⇓P	**P**	**10 38 51.3**	**-0.8**
WVT	**Waverly**	**47.58**	**89**	P	**P**	**10 38 51.7**	**-0.7**
WVT				pmax	pmax		
	comp=Z,2μm,1.3s						
WVT	**Waverly**	**47.58**	**89**	⇑P	**P**	**10 38 52.0**	**-0.4**
WVT	**Waverly**	**47.58**	**89**	P	**P**	**10 38 51.7**	**-0.7**
WVT				IAmb	IAmb	10 39 28.6	
	comp=Z,2μm,1.3s						
WVT	**Waverly**	**47.58**	**89**	P	**P**	**10 38 53.1**	**+0.7**
	baz=321						
WVT				S	**S**	**10 45 41.6**	**+3.8**
	baz=321						
WVT	**Waverly**	**47.58**	**89**	P	**P**	**10 38 53.0**	**+0.6**
WVT				pP	**pP**	**10 39 21.6**	**+0.1**
M54A	**Oil Creek Stat**	**47.58**	**78**	P	**P**	**10 38 52.9**	**+0.5**
M54A	**Oil Creek Stat**	**47.58**	**78**	P	**P**	**10 38 53.5**	**+1.1**
	baz=319,SNR=91						
M54A				S	**S**	**10 45 44.4**	**+6.6**
	baz=319						
NATX	**Nacogdoches**	**47.59**	**99**	P	**P**	**10 38 52.0**	**-0.5**
NATX	**Nacogdoches**	**47.59**	**99**	P	**P**	**10 38 52.7**	**+0.2**
	baz=324,SNR=104						
NATX				S	**S**	**10 45 39.6**	**+1.6**
	baz=324						
LMQ	**La Malbaie**	**47.60**	**66**	P	**P**	**10 38 51.8**	**-0.6**
LMQ				IAmb	IAmb	10 39 50.2	
	comp=Z,3μm,1.5s						
Q51A	**Peebles**	**47.62**	**83**	P	**P**	**10 38 52.3**	**-0.4**
JYT	**Yasato**	**47.74**	**271**	⇑P	**P**	**10 38 54.0**	**+0.4**
LONY	**Lake Ozonia**	**47.75**	**71**	P	**P**	**10 38 53.6**	**-0.1**
	baz=318,SNR=24						
LONY				S	**S**	**10 45 45.4**	**+5.3**
	baz=318						
O53A	**New Philadelph**	**47.76**	**80**	P	**P**	**10 38 54.2**	**+0.4**
	baz=319,SNR=31						
O53A				S	**S**	**10 45 42.5**	**+2.2**
	baz=319						
P52A	**Corning**	**47.77**	**81**	P	**P**	**10 38 53.1**	**-0.8**
	baz=320,SNR=50						
P52A				S	**S**	**10 45 45.7**	**+5.3**
	baz=320						
N54A	**Moraine State**	**47.83**	**79**	P	**P**	**10 38 55.1**	**+0.8**
	baz=319,SNR=66						
N54A				S	**S**	**10 45 47.4**	**+6.1**
	baz=319						
HIA	**Hailar**	**47.90**	**298**	P	**P**	**10 38 55.2**	**+0.5**
HIA				IAmb	IAmb	10 38 57.8	
	comp=Z,797nm,1.0s						
HIA				sP	**sP**	**10 39 37.5**	**-0.6**
HIA	**Hailar**	**47.90**	**298**	P	**P**	**10 38 55.0**	**+0.3**
HIA				pP	**sP**	**10 39 37.8**	**-0.3**
OXF	**Oxford**	**48.05**	**92**	P	**P**	**10 38 55.7**	**-0.3**
	baz=322						
833A	**Chaparral WMA,**	**48.05**	**106**	P	**P**	**10 38 57.0**	**+0.8**
	baz=326,SNR=104						
833A				S	**S**	**10 45 47.5**	**+2.9**
	baz=326						
NCB	**Newcomb**	**48.40**	**72**	P	**P**	**10 38 58.7**	**+0.1**
NCB				IAmb	IAmb	10 39 35.8	
	comp=Z,2μm,1.4s						
143A	**Socs Landing,**	**48.47**	**95**	P	**P**	**10 38 59.6**	**+0.4**
HKT	**Hockley**	**48.47**	**101**	P	**P**	**10 39 00.1**	**+0.9**
HKT				pmax	pmax		
	comp=Z,3μm,1.4s						
HKT	**Hockley**	**48.47**	**101**	⇑P	**P**	**10 39 00.2**	**+1.0**
HKT	**Hockley**	**48.47**	**101**	P	**P**	**10 39 00.1**	**+0.9**
HKT	**Hockley**	**48.47**	**101**	P	**P**	**10 39 00.6**	**+1.4**
Y45A	**Yeager Farm, C**	**48.49**	**92**	P	**P**	**10 38 59.1**	**-0.3**
MJAR	**Matsushiro Arr**	**48.51**	**273**	P	**P**	**10 38 59.7**	**+0.1**
	comp=Z,242nm,0.8s,baz=355,slow=8.7,SNR=274						
MJAR				ScP	**ScP**	**10 44 06.9**	**+0.8**
	comp=Z,26nm,0.9s,baz=21,slow=3.6,SNR=3.0						
MJAR	**Matsushiro Arr**	**48.51**	**273**	P	**P**	**10 38 58.9**	**-0.7**
MJAR				pmax	pmax		
	comp=Z,1μm,1.2s						
MJAR	**Matsushiro Arr**	**48.51**	**273**	P	**P**	**10 38 58.9**	**-0.7**
MJAR				IAmb	IAmb	10 39 14.1	
	comp=Z,1μm,1.1s						
MJB9	**Matsu-Tunnel**	**48.51**	**273**	P	**P**	**10 38 59.7**	**+0.2**
MAJO	**Matsushiro**	**48.51**	**273**	P	**P**	**10 39 00.0**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,2μm,1.1s						
MAJO	**Matsushiro**	**48.51**	**273**	⇑P	**P**	**10 39 00.0**	**+0.4**
MAJO	**Matsushiro**	**48.51**	**273**	P	**P**	**10 38 60.0**	**+0.4**
MAJO	**Matsushiro**	**48.51**	**273**	P	**P**	**10 39 01.0**	**+1.4**
MAJO	**Matsushiro**	**48.51**	**273**	P	**P**	**10 39 00.1**	**+0.5**
MAJO				pP	**sP**	**10 39 43.5**	**+0.6**
MAT	**Matsushiro**	**48.51**	**273**	P	**P**	**10 38 59.9**	**+0.3**
MAT				S	**S**	**10 45 52.2**	**+1.3**
D62A	**Allapoint, All**	**48.53**	**65**	P	**P**	**10 38 59.6**	**+0.1**
D62A				IAmb	IAmb	10 39 57.6	
	comp=Z,1μm,1.1s						
CIT	**Chita**	**48.56**	**305**	*e*P	**P**	**10 39 01.0**	**+1.2**
CIT				*e*		10 39 34.6	
CIT				*e*		10 39 46.2	
CIT				*e*		10 45 57.2	
CIT				pmax	pmax		
	comp=Z,6μm,2.5s						
S51A	**Beattyville**	**48.56**	**84**	P	**P**	**10 38 59.8**	**-0.1**
J59A	**Piesco**	**48.65**	**72**	P	**P**	**10 38 59.8**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**48.87**	**233**	P	**P**	**10 39 02.8**	**+0.6**
	baz=316,slow=2.4,SNR=39						
H11N3	**WAKE ISLAND Hy**	**48.87**	**233**	P	**P**	**10 39 02.8**	**+0.5**
	baz=316,slow=2.4,SNR=75						
BINY	**Binghamton**	**48.88**	**74**	P	**P**	**10 39 02.5**	**+0.2**
	baz=319,SNR=49						
BINY				S	**S**	**10 46 02.8**	**+6.9**
	baz=319						
H11N1	**WAKE ISLAND Hy**	**48.88**	**233**	P	**P**	**10 39 02.8**	**+0.5**
	baz=316,slow=2.4,SNR=50						
MCWV	**Mont Chateau**	**48.89**	**80**	P	**P**	**10 39 01.9**	**-0.6**
MCWV	**Mont Chateau**	**48.89**	**80**	P	**P**	**10 39 02.2**	**-0.3**
	baz=320						
MCWV				S	**S**	**10 45 58.7**	**+2.5**
	baz=320						
O56A	**Blue Knob Stat**	**49.06**	**78**	P	**P**	**10 39 04.5**	**+0.7**
	baz=320,SNR=55						
O56A				S	**S**	**10 46 04.6**	**+5.9**
	baz=320						
ACCN	**Adirondack Com**	**49.11**	**72**	P	**P**	**10 39 04.2**	**+0.1**
ACCN				IAmb	IAmb	10 39 41.4	
	comp=Z,2μm,1.5s						
SSPA	**Standing Stone**	**49.12**	**77**	⇑P	**P**	**10 39 03.9**	**-0.3**
SSPA	**Standing Stone**	**49.12**	**77**	P	**P**	**10 39 03.6**	**-0.6**
SSPA	**Standing Stone**	**49.12**	**77**	P	**P**	**10 39 04.2**	**+0.1**
	baz=319						
SSPA				S	**S**	**10 46 06.0**	**+6.6**
	baz=319						
SSPA	**Standing Stone**	**49.12**	**77**	P	pP	10 39 34.5	+1.2
G62A	**West of Eustis**	**49.23**	**68**	P	**P**	**10 39 04.5**	**-0.5**
G62A				IAmb	IAmb	10 39 42.7	
	comp=Z,2μm,1.4s						
SWET	**Sewanee**	**49.26**	**88**	P	**P**	**10 39 04.8**	**-0.5**
LBNH	**Lisbon**	**49.30**	**70**	P	**P**	**10 39 05.2**	**-0.3**
LBNH				pmax	pmax		
	comp=Z,650nm,1.0s						
LBNH	**Lisbon**	**49.30**	**70**	P	**P**	**10 39 05.2**	**-0.3**
LBNH	**Lisbon**	**49.30**	**70**	P	**P**	**10 39 06.0**	**+0.5**
	baz=318						
LBNH				S	**S**	**10 46 07.5**	**+5.7**
	baz=318						
CN2	**Changchun**	**49.30**	**289**	*e*P	**P**	**10 39 05.0**	**-0.5**
CN2				*e*sP	sP	10 39 48.8	-0.2
CN2				*e*PP	**PP**	**10 41 01.3**	**+1.1**
CN2				*e*S	**S**	**10 46 00.0**	**-1.9**
CN2				*e*sS	sS	10 46 50.9	-1.6
CN2				*e*SS	**SS**	**10 49 29.2**	**-5.2**
CN2				pmax	pmax		
	comp=Z,20μm,3.5s						
CN2				LR	LR		
	comp=Z,21μm,22.0s						
CN2				LR	LR		
	comp=Z,29μm,22.0s						
CN2				LR	LR		
	comp=Z,66μm,23.0s						
VBMS	**Vicksburg**	**49.30**	**95**	P	**P**	**10 39 06.0**	**+0.4**
	baz=323,SNR=74						
VBMS				S	**S**	**10 46 04.1**	**+2.0**
	baz=323						
WAKE	**Wake Island**	**49.37**	**233**	⇑P	**P**	**10 39 06.6**	**+0.4**
WAKE	**Wake Island**	**49.37**	**233**	P	**P**	**10 39 05.8**	**-0.4**
WAKE	**Wake Island**	**49.37**	**233**	P	**P**	**10 39 06.7**	**+0.4**
WAKE	**Wake Island**	**49.37**	**233**	P	**P**	**10 39 06.7**	**+0.4**
WAKE				pP	**sP**	**10 39 57.0**	**+7.4**
TZTN	**Tazewell**	**49.43**	**85**	P	**P**	**10 39 07.6**	**+1.1**
	baz=321,SNR=61						
TZTN				S	**S**	**10 46 08.7**	**+4.9**
	baz=321						
KVTX	**Kingsville**	**49.43**	**105**	⇑P	**P**	**10 39 09.2**	**+2.6**
HNH	**Hanover**	**49.53**	**70**	P	**P**	**10 39 07.0**	**-0.2**
HNH				IAmb	IAmb	10 39 44.9	
	comp=Z,952nm,1.1s						
F63A	**Nahmakanta, Br**	**49.53**	**66**	P	**P**	**10 39 07.0**	**-0.2**
F63A				IAmb	IAmb	10 39 44.5	
	comp=Z,603nm,0.9s						
N58A	**Sunbury**	**49.55**	**76**	P	**P**	**10 39 08.1**	**+0.8**
W50A	**Signal Mountai**	**49.58**	**88**	P	**P**	**10 39 07.3**	**-0.5**
JGF	**Kuroka**	**49.67**	**273**	⇑P	**P**	**10 39 09.1**	**+0.6**
PKME	**Peaks-Kenny Pk**	**49.78**	**67**	P	**P**	**10 39 09.6**	**+0.6**
	baz=319,SNR=23						
PKME				S	**S**	**10 46 12.2**	**+3.9**
	baz=319						
CPCT	**Cooper Cave**	**49.79**	**87**	P	**P**	**10 39 09.2**	**-0.1**
CPCT				IAmb	IAmb	10 39 45.4	
	comp=Z,1μm,1.0s						
HAMF	**Hammerfest**	**49.95**	**1**	*e*P	**P**	**10 39 07.2**	**-2.8**
HAMF				*e*S	**S**	**10 46 06.2**	**-3.9**
N59A	**State Game Lan**	**49.95**	**75**	P	**P**	**10 39 11.0**	**+0.5**
	baz=320,SNR=38						
N59A				S	**S**	**10 46 17.9**	**+6.9**
	baz=320						
JSG	**Sagara**	**49.98**	**272**	⇑P	**P**	**10 39 12.2**	**+1.5**
TKL	**Tuckaleechee C**	**50.00**	**86**	LR	LR	11 02 11.4	
	comp=Z,76μm,18.4s,baz=332,slow=38						
INU	**Inuyama**	**50.04**	**273**	⇑P	**P**	**10 39 11.1**	**-0.1**
INU	**Inuyama**	**50.04**	**273**	P	**P**	**10 39 12.0**	**+0.9**
INU	**Inuyama**	**50.04**	**273**	P	**P**	**10 39 12.1**	**+0.9**
H11S1	**WAKE ISLAND Hy**	**50.05**	**232**	P	**P**	**10 39 11.7**	**+0.5**
	baz=293,slow=2.5,SNR=118						
H11S2	**WAKE ISLAND Hy**	**50.06**	**232**	P	**P**	**10 39 11.8**	**+0.5**
	baz=293,slow=2.5,SNR=81						
H11S3	**WAKE ISLAND Hy**	**50.06**	**232**	P	**P**	**10 39 11.7**	**+0.4**
	baz=293,slow=2.5,SNR=69						
L61B	**Northampton**	**50.29**	**72**	P	**P**	**10 39 13.1**	**+0.1**
	baz=319,SNR=16						
L61B				S	**S**	**10 46 19.6**	**+4.0**
	baz=319						
JHJ2	**Mitsune**	**50.38**	**269**	P	**P**	**10 39 15.0**	**+1.2**
JHJ	**Hachijo jima 2**	**50.40**	**269**	LR	LR	10 59 22.9	
	comp=Z,3μm,21.1s,baz=46,slow=34						
BLA	**Blacksburg**	**50.49**	**82**	P	**P**	**10 39 15.3**	**+0.7**
	baz=321,SNR=34						
BLA				S	**S**	**10 46 22.9**	**+4.4**
	baz=321						
HRV	**Adam Dziewonsk**	**50.79**	**71**	P	**P**	**10 39 16.2**	**-0.5**
HRV				pmax	pmax		
	comp=Z,836nm,1.3s						
HRV	**Adam Dziewonsk**	**50.79**	**71**	⇑P	**P**	**10 39 17.1**	**+0.4**
HRV	**Adam Dziewonsk**	**50.79**	**71**	P	**P**	**10 39 16.2**	**-0.5**
HRV				IAmb	IAmb	10 39 54.6	
	comp=Z,836nm,1.2s						
HRV	**Adam Dziewonsk**	**50.79**	**71**	P	**P**	**10 39 16.5**	**-0.2**
	baz=320						
HRV				S	**S**	**10 46 28.7**	**+6.3**
	baz=320						
HRV	**Adam Dziewonsk**	**50.79**	**71**	P	pP	10 39 46.0	-0.1
BORG	**Borgarnes**	**50.79**	**24**	LR	LR	11 02 17.1	
	comp=Z,26μm,20.7s,baz=340,slow=38						
BORG	**Borgarnes**	**50.79**	**24**	P	**P**	**10 39 17.1**	**+0.7**
BORG				pmax	pmax		
	comp=Z,1μm,1.2s						
BORG	**Borgarnes**	**50.79**	**24**	⇑P	**P**	**10 39 17.4**	**+1.0**
BORG	**Borgarnes**	**50.79**	**24**	P	**P**	**10 39 17.1**	**+0.7**
BORG				IAmb	IAmb	10 40 29.2	
	comp=Z,1μm,1.1s						
PAL	**Palisades**	**50.80**	**74**	P	**P**	**10 39 16.7**	**-0.1**
PAL				pmax	pmax		
	comp=Z,2μm,1.0s						
PAL	**Palisades**	**50.80**	**74**	P	**P**	**10 39 16.7**	**-0.1**
PAL	**Palisades**	**50.80**	**74**	P	**P**	**10 39 17.2**	**+0.4**
	baz=320,SNR=26						
PAL				S	**S**	**10 46 28.4**	**+5.9**
	baz=320						
S57A	**Dark Hollow, R**	**50.80**	**80**	P	**P**	**10 39 16.5**	**-0.4**
KEV	**Kevo**	**50.85**	**360**	P	**P**	**10 39 16.8**	**0.0**
KEV				pmax	pmax		
	comp=Z,494nm,1.1s						
KEV	**Kevo**	**50.85**	**360**	⇑P	**P**	**10 39 15.9**	**-0.9**
KEV	**Kevo**	**50.85**	**360**	P	**P**	**10 39 16.8**	**0.0**
KEV	**Kevo**	**50.85**	**360**	P	**P**	**10 39 16.5**	**-0.3**
P60A	**Greenville**	**50.86**	**76**	P	**P**	**10 39 18.1**	**+0.8**
	baz=320,SNR=22						
P60A				S	**S**	**10 46 28.6**	**+5.0**
	baz=320						
WSPT	**Westport, CT**	**50.95**	**73**	P	**P**	**10 39 17.7**	**-0.3**
WSPT				IAmb	IAmb	10 39 53.1	
	comp=Z,1μm,1.0s						
BG3	**Lake Jocassee**	**50.95**	**86**	P	**P**	**10 39 18.5**	**+0.4**
JETT	**Jettan, Norway**	**50.98**	**3**	*e*P	**P**	**10 39 18.8**	**+0.9**
JETT				IVmB_BB		10 39 25.3	
	comp=Z,6μm,4.2s						
JETT				*e*S	**S**	**10 46 24.7**	**+0.2**
WES	**Weston**	**50.99**	**71**	P	**P**	**10 39 18.2**	**0.0**
WES				pmax	pmax		
	comp=Z,1μm,1.1s						
WES	**Weston**	**50.99**	**71**	P	**P**	**10 39 18.2**	**0.0**
WES				IAmb	IAmb	10 39 55.9	
	comp=Z,1μm,1.1s						
UCCT	**U. Connecticut**	**51.01**	**72**	P	**P**	**10 39 18.8**	**+0.4**
UCCT				IAmb	IAmb	10 39 56.3	
	comp=Z,2μm,1.5s						
ARA0	**ARCESS Array S**	**51.07**	**0**	*e*P	**P**	**10 39 17.8**	**-0.7**
ARCES	**ARCESS Array B**	**51.07**	**0**	P	**P**	**10 39 17.2**	**-1.3**
	comp=Z,78nm,0.8s,baz=5.5,slow=6.8,SNR=69						
ARCES				ScP	**ScP**	**10 44 16.7**	**+0.2**
	comp=Z,44nm,1.0s,baz=339,slow=4.8,SNR=2.9						
ARCES				PKiKP	**PKiKP**	**10 47 13.3**	**-1.0**
	comp=Z,17nm,0.9s,baz=270,slow=1.8,SNR=2.5						
ARCES				PKPPKP	**P'P'df**	**11 09 58.1**	**-3.7**
	comp=Z,4.4nm,0.8s,baz=186,slow=3.5,SNR=3.7						
ARCES				PKP2ab		11 10 45.4	
	comp=Z,13nm,0.9s,baz=132,slow=1.3,SNR=4.1						
ARCES	**ARCESS Array B**	**51.07**	**0**	P	**P**	**10 39 17.1**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,562nm,1.3s						
ARCES	**ARCESS Array B**	**51.07**	**0**	P	**P**	**10 39 17.1**	**-1.4**
HHU	**Hamhung**	**51.24**	**285**	P	**P**	**10 39 20.7**	**+0.6**
HHU				sP	**sP**	**10 40 04.5**	**+0.9**
HHU				S	**S**	**10 46 30.5**	**+1.9**
HHU				AmB			
	comp=Z,11μm,2.2s						
HHU				AMS	AMS		
	comp=N,91μm,16.0s						
HHU				AMS	AMS		
	comp=E,72μm,12.7s						
HHU				AMS	AMS		
	comp=Z,161μm,28.3s						
CBN	**Corbin Frederi**	**51.24**	**79**	P	**P**	**10 39 20.9**	**+0.7**
	baz=321,SNR=9.8						
CBN				S	**S**	**10 46 33.5**	**+4.8**
	baz=321						
KTK1	**Kautokeino**	**51.58**	**1**	*e*P	**P**	**10 39 21.2**	**-1.0**
KTK1				*e*S	**S**	**10 46 28.6**	**-4.1**
KMSC	**Kings Mountain**	**51.64**	**84**	P	**P**	**10 39 23.7**	**+0.5**
	baz=322,SNR=30						
KMSC				S	**S**	**10 46 37.9**	**+3.5**
	baz=322						
SNY	**Shenyang**	**51.70**	**289**	⇑P	**P**	**10 39 24.3**	**+0.8**
SNY				sP	**sP**	**10 40 07.2**	**+0.2**
SNY				PP	**PP**	**10 41 24.6**	**+2.7**
SNY				pmax	pmax		
	comp=Z,2μm,1.8s						
SNY				pmax	pmax		
	comp=Z,27μm,5.3s						
SNY				LR	LR		
	comp=Z,17μm,23.2s						
SNY				LR	LR		
	comp=Z,49μm,13.7s						
SNY				LR	LR		
	comp=Z,88μm,48.3s						
BRAL	**Brewton**	**51.90**	**92**	⇑P	**P**	**10 39 25.9**	**+0.8**
BRAL	**Brewton**	**51.90**	**92**	P	**P**	**10 39 25.0**	**-0.1**
BRAL	**Brewton**	**51.90**	**92**	P	**P**	**10 39 26.3**	**+1.2**
	baz=324,SNR=17						
BRAL				S	**S**	**10 46 38.4**	**+0.4**
	baz=324						
GOGA	**Godfrey**	**51.93**	**88**	P	**P**	**10 39 25.4**	**+0.1**
	baz=323,SNR=18						
GOGA				S	**S**	**10 46 40.6**	**+2.3**
	baz=323						
M65A	**Busby, Falmout**	**51.95**	**71**	P	**P**	**10 39 25.7**	**+0.3**
	baz=320						
DRLN	**Deer Lake**	**51.99**	**56**	⇑P	**P**	**10 39 24.7**	**-0.8**
IRK	**Irkutsk**	**52.12**	**310**	*e*P	**P**	**10 39 26.7**	**+0.2**
IRK				*e*		10 40 13.8	
IRK				pmax	pmax		
	comp=Z,8μm,2.1s						
LOF	**Lofoten**	**52.14**	**6**	⇑*i*P	**P**	**10 39 25.6**	**-0.8**
LOF				*e*S	**S**	**10 46 40.4**	**+0.1**
JHS	**Saijyo**	**52.29**	**276**	⇑P	**P**	**10 39 28.9**	**+0.8**
STEI	**Steigen**	**52.42**	**5**	*e*P	**P**	**10 39 28.1**	**-0.4**
STEI				IVmB_BB		10 39 30.3	
	comp=Z,5μm,4.5s						
STEI				*e*S	**S**	**10 46 43.6**	**-0.6**
LVZ	**Lovozero**	**52.58**	**356**	*c i*P	**P**	**10 39 29.2**	**-0.5**
LVZ				pmax	pmax		
	comp=Z,408nm,0.9s						
LVZ	**Lovozero**	**52.58**	**356**	P	**P**	**10 39 28.9**	**-0.8**
LVZ				IAmb	IAmb	10 40 33.1	
	comp=Z,990nm,1.2s						
LVZ	**Lovozero**	**52.58**	**356**	P	**P**	**10 39 29.6**	**0.0**
SUJ	**Sinuiju**	**52.58**	**287**	P	**P**	**10 39 31.3**	**+1.3**
SUJ				sP	**sP**	**10 40 13.7**	**0.0**
SUJ				S	**S**	**10 46 49.6**	**+2.5**
SUJ				AmB			
	comp=Z,5μm,1.9s						
SUJ				AMS	AMS		
	comp=N,190μm,27.1s						
SUJ				AMS	AMS		
	comp=E,149μm,21.3s						
SUJ				AMS	AMS		
	comp=Z,243μm,34.7s						
154A	**Montrose**	**52.75**	**88**	P	**P**	**10 39 30.1**	**-1.3**
PYAG	**Pyongyang**	**52.78**	**285**	P	**P**	**10 39 32.9**	**+1.4**
PYAG				sP	**sP**	**10 40 16.7**	**+1.6**
PYAG				S	**S**	**10 46 52.4**	**+2.6**
PYAG				AmB			
	comp=Z,8μm,1.7s						
PYAG				AMS	AMS		
	comp=N,167μm,33.3s						
PYAG				AMS	AMS		
	comp=E,15μm,3.0s						
PYAG				AMS	AMS		
	comp=Z,165μm,32.8s						
HAL	**Halifax**	**52.88**	**64**	P	**P**	**10 39 31.4**	**-0.8**
HAL				pmax	pmax		
	comp=Z,562nm,0.9s						
HAL	**Halifax**	**52.88**	**64**	P	**P**	**10 39 31.4**	**-0.8**
HAL				IAmb	IAmb	10 40 20.3	
	comp=Z,562nm,0.9s						
JMN	**Monobe**	**52.91**	**275**	⇑P	**P**	**10 39 34.0**	**+1.5**
APA	**Apatity**	**52.95**	**357**	⇓*i*P	**P**	**10 39 30.8**	**-1.5**
APA				*i* *PP	**sP**	**10 40 14.0**	**-2.4**
APA				*i*		10 40 43.0	
APA				pmax	pmax		
	comp=Z,143nm,0.8s						
KS19	**Wonju Array Si**	**52.95**	**282**	P	**P**	**10 39 33.8**	**+1.0**
KSRS	**Korea Array**	**52.96**	**282**	P	**P**	**10 39 34.0**	**+1.2**
	comp=Z,533nm,0.6s,baz=37,slow=6.9,SNR=543						
KSRS				ScP	**ScP**	**10 44 26.8**	**+1.6**
	comp=Z,43nm,0.9s,baz=45,slow=3.9,SNR=5.4						
KSRS				PKiKP	**PKiKP**	**10 47 17.5**	**+0.2**
	comp=Z,6.5nm,1.1s,baz=48,slow=1.8,SNR=1.8						
KSRS				LR	LR	11 03 00.7	
	comp=Z,7μm,18.6s,baz=45,slow=37						
KSRS				P4KPbc		11 16 56.4	
	comp=Z,3.0nm,0.9s,baz=38,slow=6.3,SNR=4.8						
FAUS	**Fauske**	**52.97**	**5**	*e*P	**P**	**10 39 32.1**	**-0.4**
FAUS				*e*S	**S**	**10 46 49.8**	**-1.9**
KSAR	**Wonju Array Be**	**52.99**	**282**	P	**P**	**10 39 34.3**	**+1.2**
KSAR				*PP	**pP**	**10 40 04.4**	**+1.7**
KSAR	**Wonju Array Be**	**52.99**	**282**	P	**P**	**10 39 34.3**	**+1.2**
KSAR				pP	**pP**	**10 40 04.4**	**+1.7**
GBN	**Guysborough**	**53.22**	**62**	P	**P**	**10 39 34.7**	**+0.1**
GBN				IAmb	IAmb	10 39 42.4	
	comp=Z,1μm,1.1s						
CNNC	**Cliffs of the**	**53.30**	**82**	⇑P	**P**	**10 39 36.3**	**+1.0**
CNNC	**Cliffs of the**	**53.30**	**82**	P	**P**	**10 39 36.4**	**+1.0**
	baz=322,SNR=22						
CNNC				S	**S**	**10 47 02.3**	**+5.5**
	baz=322						
TIGA	**Tifton**	**53.44**	**89**	P	**P**	**10 39 36.3**	**-0.2**
	baz=324,SNR=9.6						
INCN	**Inchon**	**53.58**	**283**	P	**P**	**10 39 37.3**	**-0.1**
INCN				pmax	pmax		
	comp=Z,2μm,1.0s						
INCN	**Inchon**	**53.58**	**283**	P	**P**	**10 39 38.3**	**+0.9**
INCN				P	**P**	**10 39 38.3**	**+0.9**
INCN	**Inchon**	**53.58**	**283**	⇑P	**P**	**10 39 38.2**	**+0.8**
INCN	**Inchon**	**53.58**	**283**	P	**P**	**10 39 37.3**	**-0.1**
INCN	**Inchon**	**53.58**	**283**	P	**P**	**10 39 38.7**	**+1.3**
INCN	**Inchon**	**53.58**	**283**	P	**P**	**10 39 38.1**	**+0.7**
HJU	**Haeju**	**53.59**	**284**	P	**P**	**10 39 38.5**	**+1.1**
HJU				sP	**pP**	**10 40 11.3**	**+4.2**
HJU				S	**S**	**10 47 02.8**	**+2.1**
HJU				AmB			
	comp=Z,14μm,2.3s						
HJU				AMS	AMS		
	comp=N,80μm,13.9s						
HJU				AMS	AMS		
	comp=E,21μm,3.6s						
HJU				AMS	AMS		
	comp=Z,165μm,28.3s						
XLT	**XiLinHaoTe**	**53.61**	**296**	⇑*i*P	**P**	**10 39 38.3**	**+0.6**
XLT				pP	pP	10 40 06.6	-0.7
XLT				sP	sP	10 40 23.7	+2.3
XLT				PcP	**PcP**	**10 40 43.2**	**+0.7**
XLT				S	**S**	**10 47 04.8**	**+3.7**
XLT				sS	sS	10 47 49.9	-2.4
XLT				pmax	pmax		
	comp=Z,2μm,0.9s						
XLT				LR	LR		
	comp=Z,38μm,12.2s						
XLT				LR	LR		
	comp=Z,78μm,11.8s						
XLT				LR	LR		
	comp=Z,47μm,15.6s						
KONS	**Konsvik**	**53.74**	**7**	*e*P	**P**	**10 39 38.8**	**+0.7**
KONS				*e*S	**S**	**10 47 03.9**	**+2.0**
Y59A	**Loris**	**53.79**	**83**	P	**P**	**10 39 38.6**	**-0.4**
MOY	**Mondy**	**53.83**	**312**	*e*P	**P**	**10 39 40.3**	**+1.1**
MOY				pmax	pmax		
	comp=Z,3μm,2.8s						
NHSC	**New Hope**	**53.84**	**85**	P	**P**	**10 39 39.5**	**+0.2**
**

DL2				sP	**sP**	**10 40 28.5**	**-2.3**
DL2				S	**S**	**10 47 17.9**	**-0.4**
DL2				sS	**sS**	**10 48 11.0**	**+1.2**
DL2				pmax	pmax		
	comp=Z,580nm,1.1s						
DL2				pmax	pmax		
	comp=Z,9μm,6.3s						
DL2				LR	LR		
	comp=Z,35μm,22.2s						
DL2				LR	LR		
	comp=Z,30μm,22.9s						
DL2				LR	LR		
	comp=Z,44μm,27.0s						
JNU	**Nakatsue**	**54.90**	**277**	P	**P**	**10 39 47.5**	**+0.5**
	comp=Z,190nm,0.7s,baz=46,slow=4.2,SNR=51						
JNU				LR	LR	11 05 03.2	
	comp=Z,6μm,19.4s,baz=45,slow=38						
JNU	**Nakatsue**	**54.90**	**277**	⇓P	**P**	**10 39 47.6**	**+0.6**
JNU				⇑P	**P**	**10 39 48.0**	**+0.9**
JNU	**Nakatsue**	**54.90**	**277**	P	**P**	**10 39 47.7**	**+0.6**
NSS	**Namsos**	**55.62**	**8**	*e*P	**P**	**10 39 52.1**	**+0.4**
NSS				IVmB_BB		10 39 54.0	
	comp=Z,4μm,3.5s						
NSS				*e*S	**S**	**10 47 26.2**	**-1.0**
656A	**Willston**	**55.65**	**90**	P	**P**	**10 39 52.4**	**0.0**
UNM	**Universidad Na**	**55.78**	**112**	P	**P**	**10 39 54.7**	**+0.9**
UNM				pP	**pP**	**10 40 24.3**	**+0.7**
JSU	**Suzuyama**	**56.41**	**276**	⇑P	**P**	**10 39 58.5**	**+0.6**
JSU				⇑P	**P**	**10 39 58.5**	**+0.6**
JSU	**Suzuyama**	**56.41**	**276**	P	**P**	**10 39 57.9**	**+0.1**
JSU				IAmb	IAmb	10 40 11.9	
	comp=Z,898nm,1.1s						
BJI	**Beijing**	**56.59**	**293**	P	**P**	**10 39 59.2**	**+0.2**
BJI				S	**S**	**10 47 42.2**	**+1.5**
BJI				pmax	pmax		
	comp=Z,970nm,0.9s						
BJI				pmax	pmax		
	comp=Z,14μm,5.4s						
BJI				LR	LR		
	comp=Z,22μm,19.0s						
BJI				LR	LR		
	comp=Z,16μm,17.5s						
BJI				LR	LR		
	comp=Z,30μm,21.4s						
BJT	**Baijiatuau**	**56.62**	**293**	P	**P**	**10 39 59.2**	**0.0**
BJT				pmax	pmax		
	comp=Z,1μm,1.1s						
BJT	**Baijiatuau**	**56.62**	**293**	P	**P**	**10 39 59.1**	**0.0**
BJT				IAmb	IAmb	10 40 13.1	
	comp=Z,1μm,1.1s						
BJT	**Baijiatuau**	**56.62**	**293**	P	**P**	**10 39 59.6**	**+0.4**
TBLU	**Trondheim**	**56.77**	**9**	*e*P	**P**	**10 39 58.4**	**-1.5**
TBLU				IVmBBB		10 39 59.9	
	comp=Z,4μm,5.2s						
TBLU				*e*S	**S**	**10 47 42.1**	**-0.3**
MOL	**Molde**	**57.21**	**10**	*e*P	**P**	**10 40 02.4**	**-0.7**
MOL				*e*S	**S**	**10 47 48.0**	**-0.3**
DWPF	**Disney Wildern**	**57.23**	**90**	⇑P	**P**	**10 40 04.1**	**+0.5**
DWPF				⇓p	**pP**	**10 40 32.1**	**-1.5**
DWPF				⇑s	**pP**	**10 40 34.4**	**+0.8**
DWPF				⇑s	**pP**	**10 40 39.2**	**+5.6**
DWPF	**Disney Wildern**	**57.23**	**90**	P	pP	10 40 33.5	-0.1
ZAA0	**Zalesovo Array**	**57.45**	**323**	P	**P**	**10 40 05.4**	**+0.6**
ZALV	**Zalesovo Beam**	**57.45**	**323**	P	**P**	**10 40 04.7**	**-0.1**
	comp=Z,407nm,0.5s,baz=32,slow=6.9,SNR=399						
ZALV				PKiKP	**PKiKP**	**10 47 22.7**	**+0.7**
	comp=Z,20nm,1.0s,baz=70,slow=1.7,SNR=2.2						
ZALV				LR	LR	11 06 55.5	
	comp=Z,27μm,19.7s,baz=17,slow=38						
ZALV				PKPPKP	**P'P'df**	**11 09 52.8**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=263,slow=7.1,SNR=3.8						
ZALV				P4KPbc		11 17 17.1	
	comp=Z,0.8nm,0.8s,baz=31,slow=5.9,SNR=2.1						
ZALV	**Zalesovo Beam**	**57.45**	**323**	*i* P	**P**	**10 40 04.6**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,407nm,0.5s						
ZALV	**Zalesovo Beam**	**57.45**	**323**	P	**P**	**10 40 05.8**	**+1.0**
AKN	**Aaknes**	**57.55**	**11**	*e*P	**P**	**10 40 06.9**	**+1.5**
AKN				IVmB_BB		10 40 11.5	
	comp=Z,6μm,4.3s						
AKN				*e*S	**S**	**10 47 53.0**	**+0.3**
XMAS	**Kiritimati**	**57.56**	**185**	⇓P	**P**	**10 40 08.1**	**+2.1**
XMAS				⇑p	**pP**	**10 40 38.5**	**+2.5**
XMAS	**Kiritimati**	**57.56**	**185**	P	**P**	**10 40 06.6**	**+0.6**
XMAS				IAmb	IAmb	10 40 14.0	
	comp=Z,927nm,1.1s						
DOMB	**Dombas**	**57.87**	**10**	*e*P	**P**	**10 40 08.2**	**+0.5**
DOMB				IVmB_BB		10 40 08.7	
	comp=Z,4μm,4.4s						
DOMB				*e*S	**S**	**10 47 56.7**	**-0.2**
FOO	**Floro**	**57.92**	**12**	⇑*i*P	**P**	**10 40 05.2**	**-2.8**
FOO				*e*S	**S**	**10 47 57.1**	**-0.4**
HHC	**Hu-ho-hao-te**	**58.07**	**297**	*e*P	**P**	**10 40 10.3**	**+0.8**
HHC				pP	pP	10 40 42.2	+2.6
HHC				sP	sP	10 40 54.2	+0.7
HHC				PP	**PP**	**10 42 19.2**	**+0.2**
HHC				S	**S**	**10 47 59.4**	**-0.9**
HHC				ScS	**ScS**	**10 49 47.6**	**+1.2**
HHC				SS	**SS**	**10 51 51.6**	**-1.1**
HHC				pmax	pmax		
	comp=Z,2μm,1.1s						
HHC				pmax	pmax		
	comp=Z,21μm,5.8s						
HHC				LR	LR		
	comp=Z,49μm,20.3s						
HHC				LR	LR		
	comp=Z,50μm,20.9s						
HHC				LR	LR		
	comp=Z,92μm,19.7s						
PRGR	**Permogore**	**58.10**	**349**	*e*P	**P**	**10 40 08.5**	**-0.7**
PRGR				*e*S	**S**	**10 48 00.6**	**+0.8**
PRGR				*e*		10 49 44.2	
PRGR				pmax	pmax		
	comp=Z,1μm,1.0s						
SUE	**Sulen**	**58.42**	**12**	*e*P	**P**	**10 40 08.0**	**-3.5**
SUE				IVmB_BB		10 40 15.4	
	comp=Z,5μm,5.2s						
SUE				*e*S	**S**	**10 48 05.2**	**+1.2**
HYA	**Hoyanger**	**58.47**	**11**	*e*P	**P**	**10 40 12.2**	**+0.4**
HYA				*e*S	**S**	**10 48 07.6**	**+3.1**
KWAJ	**Kwajalein Atol**	**58.55**	**227**	P	**P**	**10 40 13.5**	**+0.6**
KWAJ				pmax	pmax		
	comp=Z,1μm,0.9s						
KWAJ	**Kwajalein Atol**	**58.55**	**227**	P	**P**	**10 40 13.5**	**+0.6**
KWAJ	**Kwajalein Atol**	**58.55**	**227**	P	**P**	**10 40 14.4**	**+1.5**
KWAJ	**Kwajalein Atol**	**58.55**	**227**	P	**P**	**10 40 13.9**	**+1.0**
LRW	**Lerwick**	**58.59**	**16**	*e*P	**P**	**10 40 13.2**	**+0.5**
LRW				IAmb	IAmb	10 40 23.4	
	comp=Z,154nm,0.7s						
060A	**Indiantown**	**58.65**	**90**	P	**P**	**10 40 13.7**	**+0.2**
NC204	**NORSAR Array S**	**58.76**	**9**	P	**P**	**10 40 12.5**	**-1.4**
BTO	**Baotou**	**58.96**	**298**	*e*P	**P**	**10 40 14.9**	**-0.7**
BTO				S	**S**	**10 48 10.4**	**-1.4**
NB2	**NORSAR Subarra**	**59.03**	**9**	P	**P**	**10 40 14.9**	**-0.9**
	comp=Z,5μm,5.0s,baz=350,slow=6.9						
NB2	**NORSAR Subarra**	**59.03**	**9**	P	**P**	**10 40 14.9**	**-0.9**
	baz=350,slow=6.9						
NOA	**NORSAR Array B**	**59.03**	**9**	P	**P**	**10 40 14.1**	**-1.7**
	comp=Z,11nm,0.6s,baz=352,slow=6.8,SNR=35						
NOA				LR	LR	11 07 31.3	
	comp=Z,13μm,18.4s,baz=355,slow=38						
NOA				PKPPKP		11 09 47.1	
	comp=Z,6.8nm,0.9s,baz=126,slow=3.4,SNR=10.0						
ASK	**Askoy**	**59.03**	**12**	*e*P	**P**	**10 40 16.1**	**+0.4**
ASK				*e*S	**S**	**10 48 18.7**	**+6.8**
SKAR	**Skarslia**	**59.14**	**10**	*e*P	**P**	**10 40 16.4**	**-0.2**
SKAR				*e*S	**S**	**10 48 13.0**	**-0.5**
BER	**Bergen**	**59.15**	**12**	*e*P	**P**	**10 40 18.3**	**+1.9**
BER				*e*S	**S**	**10 48 15.1**	**+1.8**
FIA1	**FINESS Array S**	**59.20**	**0**	P	**P**	**10 40 15.2**	**-1.6**
FIA1				IAmb	IAmb	10 41 20.2	
	comp=Z,2μm,1.6s						
FINES	**FINESS Array B**	**59.20**	**0**	P	**P**	**10 40 15.8**	**-1.0**
	comp=Z,63nm,0.7s,baz=7.3,slow=6.3,SNR=124						
FINES				ScP	**ScP**	**10 44 51.6**	**-0.6**
	comp=Z,47nm,0.8s,baz=5.2,slow=6.1,SNR=2.8						
FINES				LR	LR	11 07 35.9	
	comp=Z,19μm,20.6s,baz=17,slow=38						
FINES				PKPPKP		11 09 46.7	
	comp=Z,6.2nm,0.8s,baz=151,slow=3.2,SNR=7.4						
FINES				P4KPbc		11 17 20.6	
	comp=Z,1.1nm,0.7s,baz=343,slow=4.4,SNR=1.5						
TIA	**Tai'an**	**59.21**	**290**	⇑P	**P**	**10 40 18.4**	**+1.1**
TIA				PP	**PP**	**10 42 30.8**	**+1.7**
TIA				S	**S**	**10 48 16.3**	**+1.4**
TIA				pmax	pmax		
	comp=Z,180nm,1.1s						
TIA				pmax	pmax		
	comp=Z,4μm,4.2s						
TIA				LR	LR		
	comp=Z,14μm,16.4s						
TIA				LR	LR		
	comp=Z,26μm,22.1s						
TIA				LR	LR		
	comp=Z,43μm,22.1s						
NC602	**NORSAR Array S**	**59.36**	**8**	*e*P	**P**	**10 40 17.6**	**-0.4**
NC602				IVmB_BB		10 40 19.0	
	comp=Z,5μm,5.2s						
NC602				*e*S	**S**	**10 48 13.2**	**-2.9**
NC602	**NORSAR Array S**	**59.36**	**8**	P	**P**	**10 40 17.9**	**0.0**
KLMR	**Klimovskoe**	**59.36**	**353**	*e*P	**P**	**10 40 15.3**	**-2.7**
KLMR				*e**SP	**sP**	**10 41 01.2**	**-1.2**
KLMR				*e*		10 42 25.7	
KLMR				*e*S	**S**	**10 48 13.3**	**-2.9**
KLMR				pmax	pmax		
	comp=Z,991nm,1.3s						
KLMR	**Klimovskoe**	**59.36**	**353**	*e*P	**P**	**10 40 15.4**	**-2.6**
KLMR				AMP		10 40 27.4	
	comp=Z,991nm,1.3s						
KLMR				*e*sP	**sP**	**10 41 01.3**	**-1.2**
KLMR				*e*PP	**PP**	**10 42 25.8**	**-4.0**
KLMR				*e*PcS	PcS	10 44 49.9	-16
KLMR				*e*PcS	PcS	10 44 49.9	-16
KLMR				*e*S	**S**	**10 48 13.4**	**-2.8**
KLMR				*e*S	**S**	**10 48 13.4**	**-2.8**
HNS	**HongShan**	**59.39**	**292**	⇑P	**P**	**10 40 19.2**	**+0.7**
HNS				pP	**pP**	**10 40 51.6**	**+2.8**
HNS				sP	**sP**	**10 41 03.3**	**+0.6**
HNS				PP	**PP**	**10 42 33.2**	**+2.5**
HNS				S	**S**	**10 48 21.6**	**+4.4**
HNS				pmax	pmax		
	comp=Z,990nm,1.3s						
HNS				LR	LR		
	comp=Z,26μm,21.7s						
HNS				LR	LR		
	comp=Z,35μm,21.7s						
HNS				LR	LR		
	comp=Z,38μm,22.6s						
LEWI	**Lewis, Hebride**	**59.62**	**20**	*e*P	**P**	**10 40 19.1**	**-0.7**
LEWI				IAmb	IAmb	10 40 28.1	
	comp=Z,256nm,0.9s						
ODD1	**Odda**	**59.74**	**11**	*e*P	**P**	**10 40 20.7**	**+0.1**
ODD1				*e*S	S	10 48 31.0	+10
BIGH	**Upper Bighouse**	**59.77**	**18**	*e*P	**P**	**10 40 21.2**	**+0.4**
BIGH				IAmb	IAmb	10 40 31.3	
	comp=Z,209nm,0.8s						
MLA1	**Latheron**	**60.04**	**18**	*e*P	**P**	**10 40 23.3**	**+0.7**
OSL	**Oslo**	**60.09**	**9**	*e*P	**P**	**10 40 22.8**	**-0.1**
OSL				IVmB_BB		10 40 24.8	
	comp=Z,5μm,4.2s						
OSL				*e*S	**S**	**10 48 26.3**	**+0.9**
HFS	**Hagfors**	**60.10**	**7**	PKPPKP	**P'P'df**	**11 09 43.2**	**-5.3**
	comp=Z,6.0nm,0.9s,baz=157,slow=4.1,SNR=3.5						
TIY	**Taiyuan**	**60.20**	**294**	⇑P	**P**	**10 40 24.7**	**+0.5**
TIY				pP	**pP**	**10 40 57.8**	**+3.3**
TIY				sP	**PcP**	**10 41 10.0**	**+1.6**
TIY				S	**S**	**10 48 28.7**	**+1.0**
TIY				sS	**sS**	**10 49 23.4**	**+3.4**
TIY				pmax	pmax		
	comp=Z,410nm,1.8s						
TIY				pmax	pmax		
	comp=Z,13μm,4.9s						
TIY				LR	LR		
	comp=Z,44μm,13.1s						
TIY				LR	LR		
	comp=Z,39μm,15.8s						
TIY				LR	LR		
	comp=Z,24μm,22.7s						
BLS5	**Blasjo**	**60.20**	**12**	*e*P	**P**	**10 40 24.2**	**+0.5**
BLS5				IVmB_BB		10 40 26.1	
	comp=Z,3μm,3.2s						
BLS5				*e*S	**S**	**10 48 26.6**	**-0.5**
KONO	**Kongsberg**	**60.28**	**10**	P	**P**	**10 40 23.6**	**-0.7**
KONO				pmax	pmax		
	comp=Z,1μm,1.6s						
KONO	**Kongsberg**	**60.28**	**10**	*e*P	**P**	**10 40 23.5**	**-0.7**
KONO				IVmB_BB		10 40 27.1	
	comp=Z,4μm,3.0s						
KONO				*e*S	**S**	**10 48 28.6**	**+0.6**
KONO	**Kongsberg**	**60.28**	**10**	⇑P	**P**	**10 40 24.0**	**-0.2**
KONO				⇑P	**P**	**10 40 24.8**	**+0.5**
KONO	**Kongsberg**	**60.28**	**10**	P	**P**	**10 40 23.6**	**-0.7**
KONO				IAmb	IAmb	10 41 39.6	
	comp=Z,1μm,1.6s						
KONO	**Kongsberg**	**60.28**	**10**	P	**P**	**10 40 24.3**	**0.0**
DGZ	**Jazzator, Alta**	**60.28**	**319**	*c i* P	**P**	**10 40 25.3**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,2μm,1.8s						
DGZ				MLR	MLR		
	comp=Z,33μm,17.0s						
KMY	**Karmoy**	**60.28**	**12**	*e*P	**P**	**10 40 24.4**	**+0.1**
KMY				*e*S	**S**	**10 48 27.0**	**-1.0**
AAL	**Aland**	**60.37**	**4**	*e*P	**P**	**10 40 23.8**	**-1.0**
KPL	**Plockton**	**60.59**	**19**	*e*P	**P**	**10 40 25.4**	**-1.0**
KPL				IAmb	IAmb	10 40 32.5	
	comp=Z,732nm,1.5s						
UPP	**Uppsala**	**60.59**	**5**	*e*P	**P**	**10 40 25.0**	**-1.3**
KIRV	**Kirov**	**60.69**	**346**	PKPPKP	**P'P'df**	**11 09 42.9**	**-4.5**
	comp=Z,7.8nm,0.7s,baz=279,slow=2.7,SNR=5.2						
KIRV	**Kirov**	**60.69**	**346**	*c i* P	**P**	**10 40 26.6**	**-0.4**
SVE	**Sverdlovsk**	**60.71**	**339**	*de*P	**P**	**10 40 26.1**	**-1.1**
SVE				*e*S	**S**	**10 48 32.3**	**-1.2**
SVE				*e*		10 55 15.1	
SVE				pmax	pmax		
	comp=Z,734nm,1.0s						
SVE				pmax	pmax		
	comp=Z,5μm,11.6s						
MDO	**Dochfour**	**60.71**	**18**	*e*P	**P**	**10 40 27.6**	**+0.4**
MCD	**Coleburn Disti**	**60.75**	**18**	*e*P	**P**	**10 40 27.4**	**-0.1**
PUL	**Pulkovo**	**60.84**	**358**	*e*P	**P**	**10 40 29.9**	**+1.9**
PUL	**Pulkovo**	**60.84**	**358**	⇑P	**P**	**10 40 27.6**	**-0.5**
JOW	**Kunigami**	**61.31**	**275**	P	**P**	**10 40 31.5**	**-0.3**
	comp=Z,824nm,0.7s,baz=27,slow=4.3,SNR=25						
JOW				LR	LR	11 07 04.4	
	comp=Z,7μm,22.0s,baz=70,slow=36						
JOW	**Kunigami**	**61.31**	**275**	P	**P**	**10 40 32.9**	**+1.2**
SNART	**Snartemo**	**61.35**	**11**	*e*P	**P**	**10 40 32.6**	**+1.1**
SNART				*e*S	**S**	**10 48 50.2**	**+8.7**
SSE	**Sheshan**	**61.38**	**283**	P	**P**	**10 40 32.0**	**-0.1**
SSE				sP	**PcP**	**10 41 14.6**	**+1.5**
SSE				PP	**PP**	**10 42 48.7**	**+0.4**
SSE				S	**S**	**10 48 44.9**	**+2.3**
SSE				sS	**sS**	**10 49 35.4**	**+0.3**
SSE				pmax	pmax		
	comp=Z,230nm,1.9s						
SSE				pmax	pmax		
	comp=Z,9μm,5.2s						
SSE				LR	LR		
	comp=Z,8μm,11.9s						
SSE				LR	LR		
	comp=Z,9μm,14.4s						
SSE				LR	LR		
	comp=Z,11μm,14.3s						
SSE	**Sheshan**	**61.38**	**283**	P	**P**	**10 40 33.2**	**+1.1**
ARU	**Arti**	**61.45**	**340**	LR	LR	11 08 30.4	
	comp=Z,37μm,21.6s,baz=14,slow=37						
ARU	**Arti**	**61.45**	**340**	*c i* P	**P**	**10 40 30.9**	**-1.3**
ARU				*PP	**pP**	**10 41 02.9**	**+0.1**
ARU						10 41 12.4	
ARU						10 42 45.4	
ARU				PPP	PPP	10 44 18.9	
ARU				S	**S**	**10 48 42.2**	**-0.7**
ARU						10 50 08.5	
ARU				SS	**SS**	**10 52 48.4**	**+3.7**
ARU				SSS	SSS	10 55 34.4	
ARU				pmax	pmax		
	comp=Z,786nm,1.2s						
ARU	**Arti**	**61.45**	**340**	P	**P**	**10 40 31.3**	**-0.9**
ARU				IAmb	IAmb	10 40 40.0	
	comp=Z,2μm,1.5s						
ARU	**Arti**	**61.45**	**340**	P	**P**	**10 40 31.7**	**-0.5**
ARU				pP	**PcP**	**10 41 14.4**	**+1.4**
DRUM	**Mains of Drumt**	**61.51**	**18**	*e*P	**P**	**10 40 31.8**	**-0.8**
DRUM				IAmb	IAmb	10 40 41.0	
	comp=Z,572nm,0.7s						
HOMB	**Homborsund**	**61.54**	**11**	*e*P	**P**	**10 40 31.1**	**-1.6**
HOMB				*e*		10 40 47.4	
HOMB				*e*S	**S**	**10 48 44.4**	**+0.4**
INVG	**Invergeldie, C**	**61.73**	**19**	*e*P	**P**	**10 40 33.3**	**-0.8**
INVG				IAmb	IAmb	10 40 42.4	
	comp=Z,135nm,0.7s						
NJ2	**Nanjing**	**61.74**	**286**	⇑P	**P**	**10 40 34.6**	**+0.1**
NJ2				sP	**sP**	**10 41 17.3**	**-1.5**
NJ2				PP	**PP**	**10 42 52.8**	**+1.3**
NJ2				S	**S**	**10 48 48.7**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,740nm,1.4s						
NJ2				pmax	pmax		
	comp=Z,10μm,3.7s						
NJ2				LR	LR		
	comp=Z,24μm,23.0s						
NJ2				LR	LR		
	comp=Z,33μm,23.4s						
NJ2				LR	LR		
	comp=Z,115μm,24.8s						
SEM	**Semipalatinsk**	**61.92**	**324**	*c i* P	**P**	**10 40 34.5**	**-1.2**
SEM				*e*S	**S**	**10 48 47.9**	**-1.6**
SEM	**Semipalatinsk**	**61.92**	**324**	⇑*i* P	**P**	**10 40 34.6**	**-1.2**
	baz=324						
SEM				*e*S	**S**	**10 48 47.9**	**-1.6**
	baz=324						
MTSE	**Matsula**	**61.92**	**2**	*e*P	**P**	**10 40 35.7**	**+0.4**
MTSE	**Matsula**	**61.92**	**2**	*e*P	**P'P'df**	**11 09 40.9**	**-4.6**
KURK	**Kurchatov**	**62.12**	**325**	*c i* P	**P**	**10 40 37.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,612nm,0.8s						
KURK	**Kurchatov**	**62.12**	**325**	P	**P**	**10 40 35.4**	**-1.4**
KURK				P	**P**	**10 40 35.4**	**-1.4**
KURK	**Kurchatov**	**62.12**	**325**	P	**P**	**10 40 36.5**	**-0.3**
KURK	**Kurchatov**	**62.12**	**325**	P	**P**	**10 40 36.7**	**-0.1**
KURK				pP	**pP**	**10 41 10.4**	**+3.1**
BBSR	**BB Station**	**62.12**	**73**	⇑P	**P**	**10 40 36.8**	**-0.3**
BBSR	**BB Station**	**62.12**	**73**	P	**P**	**10 40 35.9**	**-1.1**
BBSR				IAmb	IAmb	10 41 12.6	
	comp=Z,824nm,1.1s						
BBSR	**BB Station**	**62.12**	**73**	P	pP	10 41 07.4	-0.1
VSU	**Vasula**	**62.19**	**360**	*c i* P	**P**	**10 40 36.9**	**-0.2**
VSU				pmax	pmax		
	comp=Z,919nm,0.7s						
VSU	**Vasula**	**62.19**	**360**	*e*P	**P**	**10 40 38.2**	**+1.1**
VSU	**Vasula**	**62.19**	**360**	*e*P	**P'P'df**	**11 09 37.4**	**-7.6**
VSU	**Vasula**	**62.19**	**360**	⇑P	**P**	**10 40 36.1**	**-1.0**
VSU				⇑P	**P**	**10 40 37.0**	**-0.1**
BRVK	**Borovoye**	**62.20**	**332**	*c i* P	**P**	**10 40 36.3**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2μm,1.8s						
BRVK	**Borovoye**	**62.20**	**332**	P	**P**	**10 40 36.8**	**-0.5**
BRVK				P	**P**	**10 40 36.8**	**-0.5**
BRVK	**Borovoye**	**62.20**	**332**	P	**P**	**10 40 37.2**	**-0.1**
BRVK	**Borovoye**	**62.20**	**332**	P	**P**	**10 40 36.8**	**-0.5**
BRVK				pP	**sP**	**10 41 22.1**	**+0.3**
KURBB	**Kurchatov Arra**	**62.23**	**325**	P	**P**	**10 40 36.6**	**-0.9**
	comp=Z,355nm,0.9s,baz=26,slow=5.9,SNR=387						
KURBB				LR	LR	11 09 18.2	
	comp=Z,30μm,21.9s,baz=5.1,slow=38						
KURBB	**Kurchatov Arra**	**62.23**	**325**	P	**P**	**10 40 38.2**	**+0.7**
PGBU	**Glenifferbraes**	**62.25**	**19**	*e*P	**P**	**10 40 37.2**	**-0.4**
PGBU				IAmb	IAmb	10 40 48.0	
	comp=Z,374nm,1.0s						
EDI	**Edinburgh**	**62.35**	**18**	*e*P	**P**	**10 40 37.7**	**-0.5**
EDI				IAmb	IAmb	10 40 51.5	
	comp=Z,188nm,0.9s						
ESY	**Stoneypath**	**62.45**	**18**	*e*P	**P**	**10 40 37.5**	**-1.4**
EBL	**Broad Law**	**62.52**	**18**	*e*P	**P**	**10 40 39.2**	**-0.1**
OVD	**Ostervraa, Den**	**62.64**	**10**	*i* P	**P**	**10 40 39.7**	**-0.3**
OVD				IAmb	IAmb	10 40 57.2	
	comp=Z,202nm,0.6s						
LYN	**LuoYang**	**62.76**	**292**	⇑*i* P	**P**	**10 40 41.9**	**+0.6**
LYN				PP	**PP**	**10 43 02.7**	**+2.3**
LYN				S	**S**	**10 48 58.7**	**-1.3**
LYN				sS	sS	10 49 51.3	-1.4
LYN				SS	**SS**	**10 53 07.4**	**+1.2**
LYN				pmax	pmax		
	comp=Z,930nm,1.3s						
LYN				pmax	pmax		
	comp=Z,10μm,6.0s						
LYN				LR	LR		
	comp=Z,23μm,14.2s						
LYN				LR	LR		
	comp=Z,24μm,26.5s						
GOET	**G??ttrup**	**62.83**	**10**	*i* P	**P**	**10 40 41.6**	**+0.2**
GOET				IAmb	IAmb	10 40 56.5	
	comp=Z,116nm,0.8s						
EKA	**Eskdalemuir Ar**	**62.92**	**18**	P	**P**	**10 40 41.4**	**-0.7**
	comp=Z,100nm,0.7s,baz=329,slow=4.8,SNR=120						
EKA				LR	LR	11 09 24.4	
	comp=Z,25μm,20.0s,baz=23,slow=37						
EKA				PKPPKP		11 09 43.2	
	comp=Z,34nm,0.9s,baz=140,slow=2.1,SNR=20						
ESK	**Eskdalemuir**	**62.93**	**18**	*e*P	**P**	**10 40 41.7**	**-0.5**
ESK				IAmb	IAmb	10 40 52.2	
	comp=Z,311nm,1.0s						
ESK	**Eskdalemuir**	**62.93**	**18**	P	**P**	**10 40 41.2**	**-0.9**
ESK				pmax	pmax		
	comp=Z,589nm,1.0s						
ESK	**Eskdalemuir**	**62.93**	**18**	P	**P**	**10 40 41.2**	**-0.9**
ESK				IAmb	IAmb	10 42 04.9	
	comp=Z,589nm,1.0s						
ESK	**Eskdalemuir**	**62.93**	**18**	P	**P**	**10 40 42.0**	**-0.1**
ESK				pP	**sP**	**10 41 24.8**	**-2.0**
NEWG	**New Galloway**	**62.96**	**19**	*e*P	**P**	**10 40 41.4**	**-0.9**
NEWG				IAmb	IAmb	10 40 48.2	
	comp=Z,630nm,1.6s						
SLIT	**Slitere, Latvi**	**62.98**	**2**	*e*P	**P**	**10 40 42.5**	**+0.1**
SLIT	**Slitere, Latvi**	**62.98**	**2**	⇑P	**P**	**10 40 41.5**	**-0.9**
SLIT				⇓P	**P**	**10 40 42.1**	**-0.2**
ZSN	**Zaisan**	**63.08**	**320**	*c i* P	**P**	**10 40 43.3**	**+0.1**
ZSN				*e*S	**S**	**10 49 03.9**	**+0.3**
ZSN	**Zaisan**	**63.08**	**320**	⇑*i* P	**P**	**10 40 43.3**	**+0.1**
	baz=320						
ZSN				*e*S	**S**	**10 49 04.0**	**+0.3**
	baz=320						
GAL1	**Galloway**	**63.12**	**20**	*e*P	**P**	**10 40 42.5**	**-0.8**
GAL1				IAmb	IAmb	10 40 51.7	
	comp=Z,314nm,0.6s						
MUD	**Monsted U'grnd**	**63.40**	**11**	*i* P	**P**	**10 40 45.0**	**-0.1**
MUD				IAmb	IAmb	10 41 02.6	
	comp=Z,98nm,0.8s						
IGLA	**Glengowla, Co**	**63.63**	**23**	*e*P	**P**	**10 40 46.6**	**-0.1**
KESW	**Keswick, Cumbr**	**63.65**	**19**	*e*P	**P**	**10 40 46.2**	**-0.6**
KESW				IAmb	IAmb	10 40 56.9	
	comp=Z,518nm,1.0s						
APG	**El Apazote**	**63.68**	**106

MK31 Makanchi Array 64.49 321 P **P** **10 40 51.9 -0.7**
MK31 pmax pmax
comp=Z,356nm,1.3s
MK31 Makanchi Array 64.49 321 P **P** **10 40 51.9 -0.7**
MKAR Makanchi Array 64.49 321 P **P** **10 40 52.5 -0.1**
comp=Z,165nm,0.8s,baz=37,slow=6.9,SNR=343
MKAR PP **PP** **10 43 13.2 -2.1**
comp=Z,158nm,0.8s,baz=38,slow=6.1,SNR=3.6
MKAR LR LR 11 09 25.4
comp=Z,34μm,19.4s,baz=9.0,slow=36
MKAR PKPPKP 11 09 40.8
comp=Z,27nm,1.1s,baz=238,slow=1.4,SNR=14
MKAR Makanchi Array 64.49 321 P **P** **10 40 51.6 -0.9**
WPS Cemaes, Angles 64.56 20 *e*P **P** **10 40 52.1 -0.6**
WPS IAmb IAmb 10 41 02.6
comp=Z,191nm,1.0s
MOS Moscow 64.58 353 *e*P **P** **10 40 51.4 -1.5**
MOS *e**PP **pP** **10 41 23.0 -0.8**
MOS *e* 10 43 12.8
MOS *e*PPP PPP 10 44 46.5
MOS *e*S **S** **10 49 16.9 -4.9**
MOS *e*SS **SS** **10 53 32.4 -0.9**
MOS *e*SSS SSS 10 56 33.0
MOS pmax pmax
comp=Z,6μm,4.1s
MOS pmax pmax
comp=N,4μm,4.6s
MOS pmax pmax
comp=Z,626nm,1.8s
MOS MLR MLR
comp=Z,29μm,19.0s
MAKZ Makanchi 64.58 321 P **P** **10 40 52.6 -0.5**
MAKZ pmax pmax
comp=Z,699nm,1.3s
MAKZ Makanchi 64.58 321 P **P** **10 40 52.6 -0.5**
MAKZ IAmb IAmb 10 41 00.5
comp=Z,699nm,1.2s
MAKZ Makanchi 64.58 321 P **P** **10 40 51.9 -1.2**
MAKZ pP **sP** **10 41 36.7 -1.1**
PBUR Paburge 64.58 3 *e*P **P** **10 40 54.1 +1.2**
WME Myndd Eilian 64.59 20 *e*P **P** **10 40 52.4 -0.6**
YRC Rhoscolyn 64.69 20 *e*P **P** **10 40 55.2 +1.6**
XAN Xi'an 64.84 295 ⇑P **P** **10 40 54.4 -0.6**
XAN pP pP 10 41 22.4 -3.3
XAN PcP **PcP** **10 41 30.6 +3.3**
XAN sP sP 10 41 37.6 -1.9
XAN PP **PP** **10 43 21.5 +2.8**
XAN ScP 10 45 14.7
XAN S **S** **10 49 24.6 -1.2**
XAN sS sS 10 50 18.2 -0.5
XAN ScS **SKSac** **10 50 31.3 -6.0**
XAN SS **SS** **10 53 36.0 -2.6**
XAN pmax pmax
comp=Z,710nm,1.5s
XAN pmax pmax
comp=Z,18μm,7.5s
XAN LR LR
comp=Z,17μm,15.8s
XAN LR LR
comp=Z,66μm,17.2s
XAN LR LR
comp=Z,41μm,14.7s
XAN Xi'an 64.84 295 P **P** **10 40 54.9 -0.1**
YLL Llanberis 64.86 20 *e*P **P** **10 40 53.1 -1.6**
LBWR Ladybower, Pea 65.02 18 *e*P **P** **10 40 55.2 -0.6**
LBWR IAmb IAmb 10 41 06.0
comp=Z,437nm,0.9s
PABE Paberze 65.14 2 *e*P **P** **10 40 56.9 +0.4**
PABE Paberze 65.14 2 *e*P P'P'df 11 09 30.2 -10
PABE Paberze 65.14 2 P **P** **10 40 55.4 -1.1**
WHN Wuhan 65.17 288 ⇑P **P** **10 40 57.0 -0.1**
WHN sP **sP** **10 41 40.1 -1.5**
WHN S **S** **10 49 32.8 +3.1**
WHN sS **sS** **10 50 24.8 +2.1**
WHN pmax pmax
comp=Z,1μm,0.8s
WHN pmax pmax
comp=Z,24μm,6.6s
WHN LR LR
comp=Z,30μm,13.8s
WHN LR LR
comp=Z,28μm,12.1s
LMK Market Rasen 65.18 17 *e*P **P** **10 40 57.1 +0.3**
LMK IAmb IAmb 10 41 07.7
comp=Z,886nm,1.1s
BSD Bornholm Skovb 65.18 7 *i* P **P** **10 40 56.3 -0.4**
BSD IAmb IAmb 10 41 17.4
comp=Z,100nm,0.8s
BSD Bornholm Skovb 65.18 7 *e*P **P** **10 40 56.9 +0.1**
BSD Bornholm Skovb 65.18 7 *e*P **P'P'df** **11 09 35.0 -5.2**
OBN Obninsk 65.26 354 ⇑P **P** **10 40 56.8 -0.4**
OBN Obninsk 65.26 354 LR LR 11 14 35.7
comp=Z,3μm,19.6s,baz=358,slow=41
OBN Obninsk 65.26 354*c i*P **P** **10 40 55.9 -1.4**
OBN *i* 10 41 28.6
OBN *i* S **S** **10 49 23.5 -6.7**
OBN *i* SS **SS** **10 53 52.7 +8.7**
OBN pmax pmax
comp=Z,615nm,1.4s
OBN MLR MLR
comp=Z,32μm,21.0s
OBN Obninsk 65.26 354 P **P** **10 40 56.0 -1.3**
OBN Obninsk 65.26 354 P **P** **10 40 56.9 -0.4**
WMQ Urumqi 65.28 316 P **P** **10 40 58.7 +1.0**
WMQ pP PcP 10 41 29.8 +0.8
WMQ sP sP 10 41 40.2 -2.1
WMQ PP **PP** **10 43 26.3 +4.0**
WMQ S **S** **10 49 34.4 +3.4**
WMQ pmax pmax
comp=Z,2μm,1.1s
WMQ pmax pmax
comp=Z,20μm,6.1s
WMQ LR LR
comp=Z,49μm,18.5s
WMQ LR LR
comp=Z,32μm,21.9s
WMQ LR LR
comp=Z,23μm,18.5s
WMQ Urumqi 65.28 316 P **P** **10 40 58.5 +0.8**
IIGN Ignalina 65.31 0 *e*P **P** **10 40 58.1 +0.5**
IIGN Ignalina 65.31 0 *e*P **P'P'df** **11 09 35.9 -4.0**
IDID Didziasalis 65.35 360 *e*P **P** **10 40 57.8 -0.1**
IDID Didziasalis 65.35 360 *e*P **P'P'df** **11 09 34.9 -5.0**
LZH Lanzhou 65.42 300 ⇑P **P** **10 40 59.0 +0.1**
LZH pP PcP 10 41 32.7 +2.9
LZH sP sP 10 41 45.1 +1.6
LZH PP **PP** **10 43 26.6 +2.7**
LZH S **S** **10 49 24.9 -8.2**
LZH sS sS 10 50 25.4 -0.8
LZH pmax pmax
comp=Z,2μm,1.4s
LZH pmax pmax
comp=Z,16μm,7.1s
LZH LR LR
comp=Z,46μm,19.0s
LZH LR LR
comp=Z,56μm,19.7s
LZH LR LR
comp=Z,50μm,19.8s
HLG Helgoland 65.51 12 *e*P **P** **10 40 58.0 -0.9**
comp=Z,836nm,1.4s,baz=352,slow=6.2
HLG *e*PxPxbc 11 10 12.5
baz=174,slow=3.0
RGN Rugen 65.63 8 *e*P **P** **10 41 01.1 +1.5**
RGN Rugen 65.63 8 *e*P **P** **10 40 58.2 -1.5**
comp=Z,1μm,1.5s,baz=352,slow=6.2
RGN *e*pP **pP** **10 41 31.5 +0.7**
baz=353,slow=6.3
RGN *e*pPxPxbc 11 10 12.6
baz=174,slow=3.0
HLM1 Long Mynd 65.68 19 *e*P **P** **10 40 59.6 -0.5**
HLM1 IAmb IAmb 10 41 06.4
comp=Z,1μm,1.9s
CWF Charnwood Fore 65.72 18 *e*P **P** **10 40 59.9 -0.4**
CWF IAmb IAmb 10 41 06.7
comp=Z,550nm,1.5s
NACGM Naroch 65.76 360 *i* P **P** **10 41 00.2 -0.3**
RSBS Rosebush, Pemb 65.90 21 *e*P **P** **10 41 00.9 -0.6**
RSBS IAmb IAmb 10 41 07.7
comp=Z,725nm,1.4s
KLNR Kaliningrad 65.95 4*c i*P **P** **10 41 00.6 -1.1**
KLNR pmax pmax
comp=Z,991nm,1.2s
BSEG Bad Segeberg 66.00 10 *e*P **P** **10 41 01.1 -0.9**
comp=Z,523nm,1.3s,baz=352,slow=6.2
BSEG *e*pP **pP** **10 41 35.0 +2.0**
baz=353,slow=6.3
BSEG *e*pPxPxbc 11 10 10.6
baz=174,slow=3.0
WACR West Acre 66.03 17 *e*P **P** **10 41 02.1 -0.1**
WACR IAmb IAmb 10 41 12.9
comp=Z,982nm,0.8s
OTUK Ortayu 66.10 328 P **P** **10 41 02.4 -0.5**
MNK Minsk 66.16 359 *i* P **P** **10 41 02.8 -0.2**
MNK *i* 10 41 32.1
MNK *i* *PP **pP** **10 41 34.4 +0.2**
MNK *i* *SP **sP** **10 41 48.8 +0.7**
MNK *i* 10 43 29.7
MNK *i* PPP PPP 10 45 05.8
MNK *i* S **S** **10 49 41.1 0.0**
MNK *i* SS **SS** **10 54 00.0 +2.1**
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,403nm,0.9s
MNK pmax pmax
comp=N,146nm,0.9s
MNK Minsk 66.16 359 *i* P **P** **10 41 02.9 -0.2**
comp=E,7.0nm,0.9s
MNK *i* P **P** **10 41 02.9 -0.2**
comp=N,146nm,0.9s
MNK *i* P **P** **10 41 02.9 -0.2**
comp=Z,403nm,0.9s,baz=0.8
MNK *i* PcP **PcP** **10 41 32.1 -0.2**
MNK *i* pP **pP** **10 41 34.4 +0.3**
MNK *i* sP **sP** **10 41 48.8 +0.8**
MNK *i* PP **PP** **10 43 29.7 +0.2**
MNK *i* PPP PPP 10 45 05.9
MNK *i* S **S** **10 49 41.2 +0.1**
MNK *i* sS **sS** **10 50 36.2 +1.3**
MNK *i* SS **SS** **10 54 00.1 +2.2**
MNK *i* SSS SSS 10 57 38.0
MCH1 Michaelchurch 66.16 19 *e*P **P** **10 41 03.1 0.0**
MCH1 IAmb IAmb 10 41 10.3
comp=Z,635nm,1.3s
TATO Taipei 66.26 279 P **P** **10 41 03.2 -0.9**
TATO Taipei 66.26 279 P **P** **10 41 04.3 +0.1**
STRD Stroud 66.52 19 *e*P **P** **10 41 04.4 -1.0**
STRD IAmb IAmb 10 41 12.6
comp=Z,3μm,1.9s
YHNB Yeheng 66.57 279 P **P** **10 41 06.7 +0.4**
SUW Suwalki 66.62 2 *e*P **P** **10 41 05.4 -0.6**
SUW *e*pP **PcP** **10 41 35.6 +1.4**
SUW *e*S **S** **10 49 48.2 +1.5**
SUW *e*L L 11 06 39.5
comp=Z,67μm,25.9s
SUW Suwalki 66.62 2 *e*P **P** **10 41 05.4 -0.6**
SUW Suwalki 66.62 2 *e*P P'P'df 11 09 29.0 -8.8
ELMS Elmsett, Ipswi 66.70 17 *e*P **P** **10 41 07.1 +0.5**
ELMS IAmb IAmb 10 41 16.6
comp=Z,373nm,0.5s
SWN1 Swindon 66.83 19 *e*P **P** **10 41 07.8 +0.5**
SWN1 IAmb IAmb 10 41 15.0
comp=Z,1μm,1.3s
HTL Hartland 66.87 21 *e*P **P** **10 41 07.5 -0.2**
HTL IAmb IAmb 10 41 14.0
comp=Z,842nm,1.6s
NACB Ninganchiao 66.88 278 P **P** **10 41 07.1 -1.0**
RETH Rethem/Aller, 67.09 11 *e*P **P** **10 41 08.2 -0.8**
comp=Z,349nm,1.4s,baz=352,slow=6.2
RETH *e*pP **pP** **10 41 41.9 +1.7**
baz=353,slow=6.3
RETH *e*pPxPxbc 11 10 07.8
baz=174,slow=3.0
GKP Gorka Klasztor 67.16 6 *e*P **P** **10 41 09.9 +0.5**
GKP *e*sP **sP** **10 41 54.5 +0.1**
GKP *e*S **S** **10 49 53.1 0.0**
GKP *e*SKSac **SKSac** **10 50 52.4 -1.8**
GKP *e*L L 11 04 46.4
comp=Z,91μm,33.0s
GKP Gorka Klasztor 67.16 6 *e*P **P** **10 41 11.9 +2.5**
GKP Gorka Klasztor 67.16 6 *e*P **P'P'df** **11 09 31.0 -5.9**
TDK Taldyqorghan 67.31 323 *i* P **P** **10 41 10.1 -0.5**
TDK *e*S **S** **10 49 55.4 +0.1**
TDK Taldyqorghan 67.31 323 *i* P **P** **10 41 10.1 -0.5**
baz=323
TDK *e*S **S** **10 49 55.5 +0.1**
baz=323
IBBN Ibbenburen 67.35 12 *e*P **P** **10 41 09.8 -0.9**
comp=Z,557nm,1.4s,baz=352,slow=6.2
IBBN *e*S **S** **10 49 55.4 0.0**
baz=352,slow=12
IBBN *e*pPxPxbc 11 10 07.4
baz=174,slow=3.0
NRDL Niedersach Rie 67.40 11 *e*P **P** **10 41 10.1 -0.8**
comp=Z,590nm,1.4s,baz=352,slow=6.2
NRDL *e*pP **pP** **10 41 43.6 +1.5**
baz=353,slow=6.3
NRDL *e*S **S** **10 49 55.9 -0.1**
baz=352,slow=12
NRDL *e*pPxPxbc 11 10 07.0
baz=174,slow=3.0
BBJ Bamboo Saint A 67.41 92⇓ *i*P **P** **10 41 12.8 +1.2**
CCA1 Carnmenellis 67.51 21 *e*P **P** **10 41 10.6 -1.0**
CCA1 IAmb IAmb 10 41 18.0
comp=Z,683nm,1.4s
SSLB Suanglung 67.52 279 P **P** **10 41 12.3 +0.1**
MCJ Malvern 67.58 93⇓ *i*P **P** **10 41 13.6 +0.9**
MCJ *i* S **pP** **10 41 44.3 +0.8**
LPSR Galich'ya Gora 67.61 352 *e*P **P** **10 41 12.0 -0.3**
LPSR *e*S **S** **10 49 55.6 -3.0**
LPSR pmax pmax
comp=Z,380nm,1.2s
LPSR pmax pmax
comp=Z,410nm,1.1s
LPSR smax smax
comp=N,17μm,19.7s
FLTG Flechtingen 67.67 10 *e*P **P** **10 41 11.2 -1.4**
comp=N,367nm,1.4s,baz=352,slow=6.2
FLTG *e*pP **pP** **10 41 44.9 +1.0**
baz=353,slow=6.3
FLTG *e*S **S** **10 49 58.8 -0.5**
baz=352,slow=12
FLTG *e*PxPxbc 11 09 33.1
baz=176,slow=3.3
FLTG *e*pPxPxbc 11 10 07.1
baz=174,slow=3.0
ENH Enshi 67.71 292 P **P** **10 41 12.4 -1.0**
ENH Enshi 67.71 292 P **P** **10 41 13.1 -0.2**
ENH pP **sP** **10 41 55.6 -2.4**
RUE Ruedersdorf 67.72 8 *e*P **P** **10 41 14.0 +1.0**
RUE Ruedersdorf 67.72 8 *e*P **P'P'df** **11 09 35.9 0.0**
RUE Ruedersdorf 67.72 8 *e*P **P** **10 41 12.3 -0.6**
comp=N,833nm,1.5s,baz=352,slow=6.2
RUE *e*pP **pP** **10 41 45.9 +1.7**
baz=353,slow=6.3
RUE *e*S **S** **10 50 00.8 +0.9**
baz=352,slow=12
RUE *e*pPxPxbc 11 10 06.0
baz=174,slow=3.0
QZH Quanzhou 67.73 281⇑ *i*P **P** **10 41 14.0 +0.5**
QZH sP **sP** **10 41 58.2 +0.1**
QZH PP **PP** **10 43 46.0 +2.0**
QZH S **S** **10 50 04.4 +3.6**
QZH sS **SKiKP** **10 50 57.9 +0.8**
QZH pmax pmax
comp=N,350nm,1.0s
QZH pmax pmax
comp=N,12μm,5.0s
QZH LR LR
comp=N,10μm,18.6s
QZH LR LR
comp=N,9μm,14.4s
QZH LR LR
comp=N,14μm,19.2s
CNSH ChangSha 67.81 288 ⇑P **P** **10 41 13.3 -0.6**
CNSH S **S** **10 49 58.0 -3.7**
CNSH SS **SS** **10 54 23.7 -1.2**
CNSH pmax pmax
comp=N,14μm,6.1s
CNSH LR LR
comp=N,20μm,23.3s
CNSH LR LR
comp=N,18μm,18.5s
CNSH LR LR
comp=N,30μm,26.7s
ASSE Asse, Remlinge 67.81 10 *e*P **P** **10 41 12.6 -0.9**
comp=N,315nm,1.3s,baz=352,slow=6.2
ASSE *e*pP **pP** **10 41 46.3 +1.6**
baz=353,slow=6.3
ASSE *e*PxPxbc 11 10 05.6
baz=174,slow=3.0
STH Stony Hill 67.90 92⇑ *i*P **P** **10 41 15.2 +0.6**
HOJ Hope 67.99 92⇑ *i*P **P** **10 41 17.3 +2.1**
AB31 Akbulak array 68.04 337 *i* P **P** **10 41 14.4 -0.6**
ABKAR Akbulak array 68.04 337 P **P** **10 41 14.3 -0.7**
CLZ Clausthal 68.07 11 *e*P **P** **10 41 14.7 -0.5**
comp=N,801nm,1.5s,baz=352,slow=6.2
CLZ *e*pP **pP** **10 41 48.3 +1.8**
baz=353,slow=6.3
CLZ *e*S **S** **10 50 04.6 +0.4**
baz=352,slow=12
CLZ *e*PxPxbc 11 10 05.4
baz=174,slow=3.0
CMJ Castle Mountai 68.07 92⇑ *i*P **P** **10 41 16.8 +1.1**
TPUB Ta-pu 68.09 279 P **P** **10 41 16.3 +0.6**
BUG Bochum--Univer 68.15 13 *e*P **P** **10 41 14.3 -1.3**
comp=N,590nm,1.3s,baz=352,slow=6.2
BUG *e*S **S** **10 50 05.3 +0.3**
baz=352,slow=12
BUG *e*PxPxbc 11 09 31.4
baz=176,slow=3.3
BUG *e*pPxPxbc 11 10 05.0
baz=174,slow=3.0
ARXS Arharly 68.20 323 *e*P **P** **10 41 16.7 +0.4**
GTTG Gottingen 68.33 11 *e*P **P** **10 41 16.2 -0.6**
comp=N,809nm,1.2s,baz=352,slow=6.2
GTTG *e*pP **pP** **10 41 49.8 +1.8**
baz=353,slow=6.3
GTTG *e*S **S** **10 50 07.7 +0.5**
baz=352,slow=12
GTTG *e*pPxPxbc 11 10 04.5
baz=174,slow=3.0
UCC Uccle 68.43 15 P **P** **10 41 17.2 -0.2**
PDGK Podgornoye 68.48 321 P **P** **10 41 19.0 +0.9**
VORR Voronezh 68.52 351 *e*P **P** **10 41 17.3 -0.6**
VORR pmax pmax
comp=Z,405nm,1.1s
BTLS Baital 68.57 326*c i*P **P** **10 41 17.5 -0.9**
BTLS *e*S **S** **10 50 09.1 -1.1**
BTLS Baital 68.57 326⇑ *i*P **P** **10 41 17.6 -0.9**
baz=326
BTLS *e*S **S** **10 50 09.2 -1.1**
baz=326
BEBN Eben Emael 68.60 14 P **P** **10 41 18.5 +0.1**
BEBN S **S** **10 50 10.6 +0.2**
SNF Seneffe 68.70 15 P **P** **10 41 18.1 -1.1**
SNF S **S** **10 50 11.2 -0.4**
BEL Belsk 68.74 4 *e*P **P** **10 41 19.9 +0.6**
BEL *e*pP **pP** **10 41 51.8 +1.2**
BEL *e*sP **sP** **10 42 05.4 +0.9**
BEL *e*S **S** **10 50 12.4 +0.4**
BEL *e*SKSac **ScS** **10 51 12.3 +5.2**
BEL *e*L L 11 05 15.0
comp=Z,90μm,30.8s
VRH Novokhopyorsk 68.77 350 *e*P **P** **10 41 18.4 -1.1**
VRH *e*S **S** **10 50 05.1 -7.3**
VRH pmax pmax
comp=Z,280nm,0.9s
VRH pmax pmax
comp=Z,1μm,1.4s
VRH smax smax
comp=N,42μm,17.4s
CHKK Chushkaly 68.78 323 *e*P **P** **10 41 19.3 -0.5**
baz=323
BSTI Sart Tilman 68.79 14 P **P** **10 41 19.4 -0.3**
UZB Uzynbulak 68.79 321*c i*P **P** **10 41 19.3 -0.7**
UZB *e*S **S** **10 50 13.1 -0.1**
UZB Uzynbulak 68.79 321⇑ *i*P **P** **10 41 19.4 -0.7**
baz=322
UZB *e*S **S** **10 50 13.2 -0.1**
baz=322
MEM Membach 68.82 14 P **P** **10 41 19.4 -0.4**
MEM S **S** **10 50 14.3 +1.2**
NEUB Neuenburg 68.83 10 *e*P **P** **10 41 19.1 -0.8**
comp=N,777nm,1.6s,baz=352,slow=6.2
NEUB *e*pP **pP** **10 41 52.7 +1.5**
baz=353,slow=6.3
NEUB *e*S **S** **10 50 13.3 +0.2**
baz=352,slow=12
NEUB *e*pPxPxbc 11 10 03.4
baz=174,slow=3.0
CLL Collm 68.83 9 *e*P **P** **10 41 20.0 +0.1**
CLL *i* *PP **pP** **10 41 52.4 +1.2**
CLL *e**SP **sP** **10 42 06.0 +1.0**
CLL *e*S **S** **10 50 18.0 +4.9**
CLL pmax pmax
comp=Z,325nm,1.4s
CLL Collm 68.83 9 *e*P **P** **10 41 20.0 +0.1**
comp=Z,325nm,1.4s
CLL *e*Pmax 10 41 30.0
CLL *i* pP **pP** **10 41 52.4 +1.2**
comp=Z,753nm,1.6s
CLL *i* x x 10 42 00.7
CLL *e*sP **sP** **10 42 06.0 +1.0**
CLL *e*sPP 10 44 36.0
CLL *e*PPPP 10 46 24.0
CLL *e*S **S** **10 50 18.0 +4.9**
comp=N,25μm,44.2s
CLL *e*S **S** **10 50 18.0 +4.9**
comp=Z,24μm,23.8s
CLL *e*sS **ScS** **10 51 09.0 +1.2**
CLL *e*pSKSac **pSKSac** **10 51 49.0 -1.8**
CLL *e*x x 10 52 21.0
CLL *e*SS **SS** **10 54 42.0 +2.7**
CLL *e*sSS 10 55 48.0
CLL *e*SSS SSS 10 57 54.0
CLL *e*SSSS 10 59 06.0
CLL *e*sSSSS 11 00 12.0
CLL Lmax 11 04 00.0
CLL *e*PKPPKP P'P'df 11 09 25.0 -9.1
CLL *e*PKPPKPdf 11 09 32.0
comp=Z,170nm,1.6s
CLL *e*pPKPPKP 11 10 01.0
comp=Z,746nm,1.9s
CLL *e*SKPPKPdf 11 12 54.0
comp=Z,59nm,1.4s
CLL *e*x x 11 13 59.0
CLL *e*x x 11 38 06.0
CLL Collm 68.83 9 *e*P **P** **10 41 18.8 -1.1**
comp=Z,325nm,1.4s,baz=352,slow=6.2
CLL *e*pP **pP** **10 41 52.5 +1.2**
baz=353,slow=6.3
CLL *e*S **S** **10 50 12.7 -0.4**
baz=352,slow=12
CLL *e*pPxPxbc 11 10 03.7
baz=174,slow=3.0
BTNL Ternell 68.86 14 P **S** **10 50 13.4 -0.2**
BCLA Clavier 68.92 14 P **P** **10 41 19.9 -0.6**
BCLA S **S** **10 50 15.7 +1.5**
BGES Gesves 68.93 14 P **P** **10 41 20.0 -0.6**
BGES S **S** **10 50 17.9 +3.6**
KUU Kurty 68.94 324*c i*P **P** **10 41 19.5 -1.3**
KUU *e*S **S** **10 50 13.8 -1.0**
KUU Kurty 68.94 324⇑ *i*P **P** **10 41 19.5 -1.3**
baz=324
KUU *e*S **S** **10 50 13.8 -1.0**
baz=324
ZHN Zhinishke 68.96 322 *e*P **P** **10 41 20.2 -0.8**
ZHN *e*S **S** **10 50 15.1 0.0**
ZHN Zhinishke 68.96 322 *e*P **P** **10 41 20.2 -0.8**
baz=322
ZHN *e*S **S** **10 50 15.2 0.0**
baz=322
BMRD Maredsous 68.97 15 P **P** **10 41 20.3 -0.4**
BMRD S **S** **10 50 16.4 +1.6**
VSR Storozhevoye 68.97 351 *e*P **P** **10 41 19.2 -1.6**
VSR *e*S **S** **10 50 10.8 -4.0**
VSR pmax pmax
comp=Z,990nm,2.0s
VSR pmax pmax
comp=Z,430nm,1.2s
VSR smax smax
comp=N,16μm,11.0s
AHRW Bad Neuenahr-A 69.01 13 *e*P **P** **10 41 20.3 -0.8**
comp=N,323nm,1.4s,baz=352,slow=6.2
AHRW *e*PxPxbc 11 09 28.9
baz=176,slow=3.3
AHRW *e*pPxPxbc 11 10 02.5
baz=174,slow=3.0
JSA Saint Aubin 69.01 20 *e*P **P** **10 41 20.9 -0.2**
JSA IAmb IAmb 10 41 28.1
comp=Z,431nm,1.3s
JQE Queens East 69.03 20 *e*P **P** **10 41 21.1 -0.1**

UBBA	**Unterbreizbach**	**69.05**	**11**	*e*P	**P**	**10 41 20.4**	**-0.8**
	comp=Z,334nm,1.4s,baz=352,slow=6.2						
UBBA				*e*pP	**pP**	**10 41 54.0**	**+1.5**
	baz=353,slow=6.3						
UBBA				*e*S	**S**	**10 50 16.6**	**+1.1**
	baz=352,slow=12						
UBBA				*e*pPxPxbc		11 10 03.0	
	baz=174,slow=3.0						
SATY	**Saty**	**69.06**	**322**	*c i*P	**P**	**10 41 21.3**	**-0.4**
SATY				*e*S	**S**	**10 50 16.1**	**-0.3**
SATY	**Saty**	**69.06**	**322**	⇑ *i*P	**P**	**10 41 21.3**	**-0.4**
	baz=322						
SATY				*e*S	**S**	**10 50 16.2**	**-0.3**
	baz=322						
BHOU	**Houvegnez**	**69.07**	**14**	P	**P**	**10 41 21.1**	**-0.3**
BHOU				S	**S**	**10 50 16.4**	**+0.3**
DOU	**Dourbes**	**69.15**	**15**	P	**P**	**10 41 20.1**	**-1.7**
DOU				S	**S**	**10 50 18.5**	**+1.6**
TAOE	**Nuku Hiva Isla**	**69.16**	**166**	*e*P	**P**	**10 41 23.5**	**+1.1**
	comp=Z,488nm,1.0s						
TAOE				*e*S	**S**	**10 50 19.3**	**+1.4**
	comp=Z,54μm,28.3s						
TAOE	**Nuku Hiva Isla**	**69.16**	**166**	*e*LR	LR	11 02 39.2	
	comp=Z,107μm,30.9s						
TAOE	**Nuku Hiva Isla**	**69.16**	**166**	*e*T	T	11 53 22.5	
	comp=Z,148nm,0.3s						
TAOE	**Nuku Hiva Isla**	**69.16**	**166**	P	**P**	**10 41 22.2**	**-0.2**
GOMU	**GeErMu**	**69.17**	**306**	P	**P**	**10 41 23.1**	**+0.4**
GOMU				PcP	**PcP**	**10 41 46.0**	**+0.2**
GOMU				pP	pP	10 41 52.2	-1.7
GOMU				sP	sP	10 42 04.8	-2.8
GOMU				PP	**PP**	**10 44 01.8**	**+5.3**
GOMU				S	**S**	**10 50 17.7**	**-0.6**
GOMU				SS	**SS**	**10 54 43.0**	**-3.0**
GOMU				pmax	pmax		
	comp=Z,240nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,6μm,6.0s						
GOMU				LR	LR		
	comp=Z,39μm,19.8s						
GOMU				LR	LR		
	comp=Z,20μm,21.0s						
GOMU				LR	LR		
	comp=Z,32μm,21.2s						
RCHB	**Rochefort**	**69.17**	**14**	P	**P**	**10 41 20.9**	**-1.1**
RCHB				S	**S**	**10 50 18.8**	**+1.7**
VORD	**Divnogorie**	**69.21**	**351**	*e*P	**P**	**10 41 20.9**	**-1.3**
VORD				*e*S	**S**	**10 50 11.7**	**-5.9**
VORD				pmax	pmax		
	comp=Z,350nm,0.7s						
VORD				pmax	pmax		
	comp=Z,120nm,0.8s						
VORD				smax	smax		
	comp=N,17μm,12.3s						
FBE	**Freiberg**	**69.24**	**9**	*e*P	**P**	**10 41 21.9**	**-0.6**
	comp=N,555nm,1.6s,baz=352,slow=6.2						
FBE				*e*pP	**pP**	**10 41 55.5**	**+1.7**
	baz=353,slow=6.3						
FBE				*e*S	**S**	**10 50 18.4**	**+0.4**
	baz=352,slow=12						
FBE				*e*pPxPxbc		11 10 02.5	
	baz=174,slow=3.0						
BRG	**Berggiesshubel**	**69.33**	**8**	⇓ *i*P	**P**	**10 41 22.2**	**-0.8**
BRG				Amp		10 41 28.1	
	comp=Z,209nm,1.3s						
BRG				*e*x	x	10 41 30.0	
BRG				Amp		10 41 32.0	
	comp=Z,342nm,1.6s						
BRG				*e*x	x	10 41 45.2	
BRG				Amp		10 41 46.5	
	comp=Z,166nm,1.0s						
BRG				pP	**pP**	**10 41 55.7**	**+1.3**
BRG				Amp		10 41 58.4	
	comp=Z,350nm,1.3s						
BRG				sP	**sP**	**10 42 13.7**	**+5.4**
BRG				Amp		10 42 15.5	
	comp=Z,387nm,1.3s						
BRG				*e*x	x	10 42 24.8	
BRG				Amp		10 42 27.5	
	comp=Z,548nm,1.3s						
BRG				*e*x	x	10 42 34.5	
BRG				Amp		10 42 40.4	
	comp=Z,880nm,1.3s						
BRG	**Berggiesshubel**	**69.33**	**8**	SS	SS	10 54 46.0	-1.0
BRG				Amp		11 04 32.0	
	comp=N,124nm,43.7s						
BRG				Amp		11 04 40.0	
	comp=E,37nm,43.8s						
BRG				Amp		11 04 56.0	
	comp=Z,132nm,43.1s						
BRG				PKPPKP		11 09 15.9	
BRG				Amp		11 09 22.9	
	comp=Z,25nm,1.6s						
BRG				*e*x	x	11 09 28.8	
BRG				Amp		11 09 32.0	
	comp=Z,63nm,1.3s						
BRG				*e*x	x	11 10 02.4	
BRG				Amp		11 10 07.0	
	comp=Z,940nm,2.2s						
BRG				*e*x	x	11 12 09.7	
BRG				Amp		11 12 11.9	
	comp=Z,34nm,1.6s						
BRG				*e*x	x	11 12 53.1	
BRG				Amp		11 13 05.8	
	comp=Z,23nm,1.3s						
BRG				PKP'PKP'		11 19 32.1	
BRG				Amp		11 19 33.7	
	comp=Z,6.3nm,1.1s						
BRG	**Berggiesshubel**	**69.33**	**8**	⇓ *i*P	**P**	**10 41 22.2**	**-0.8**
BRG						10 41 55.7	
BRG				*e*S	**S**	**10 50 24.0**	**+4.9**
BRG				pmax	pmax		
	comp=Z,209nm,1.3s						
BRG	**Berggiesshubel**	**69.33**	**8**	*e*P	**P**	**10 41 22.3**	**-0.7**
	comp=Z,412nm,1.6s,baz=352,slow=6.2						
BRG				*e*pP	**pP**	**10 41 55.9**	**+1.4**
	baz=353,slow=6.3						
BRG				*e*S	**S**	**10 50 19.8**	**+0.7**
	baz=352,slow=12						
BRG				*e*pPxPxbc		11 10 02.1	
	baz=174,slow=3.0						
KNDC	**Almaty**	**69.37**	**323**	P	**P**	**10 41 23.4**	**-0.1**
MOX	**Moxa**	**69.37**	**10**	*e*P	**P**	**10 41 22.5**	**-0.8**
	comp=Z,477nm,1.4s,baz=352,slow=6.2						
MOX				*e*pP	**pP**	**10 41 56.1**	**+1.5**
	baz=353,slow=6.3						
MOX				*e*S	**S**	**10 50 20.0**	**+0.4**
	baz=352,slow=12						
MOX				*e*pPxPxbc		11 10 01.7	
	baz=174,slow=3.0						
MDOK	**Medeo**	**69.39**	**323**	*i* P	**P**	**10 41 22.9**	**-0.8**
MDOK				*e*S	**S**	**10 50 19.5**	**-0.8**
MDOK	**Medeo**	**69.39**	**323**	*i* P	**P**	**10 41 22.9**	**-0.8**
	baz=323						
MDOK				*e*S	**S**	**10 50 19.5**	**-0.8**
	baz=323						
TNS	**Taunus Mts**	**69.48**	**12**	*e*P	**P**	**10 41 23.1**	**-0.9**
	comp=Z,505nm,1.5s,baz=352,slow=6.2						
TNS				*e*pP	**pP**	**10 41 56.8**	**+1.4**
	baz=353,slow=6.3						
TNS				*e*S	**S**	**10 50 23.0**	**+2.1**
	baz=352,slow=12						
TNS				*e*pPxPxbc		11 10 00.6	
	baz=174,slow=3.0						
KSP	**Ksiaz**	**69.52**	**7**	*e*P	**P**	**10 41 23.6**	**-0.6**
KSP				*e*S	**S**	**10 50 22.1**	**+0.8**
KSP				*e*SKSac	**ScS**	**10 51 15.2**	**+1.8**
KSP				*e*L	L	11 05 55.8	
	comp=Z,71μm,29.7s						
TNSS	**Tian-Shan**	**69.54**	**323**	*e*P	**P**	**10 41 24.2**	**-0.8**
	baz=323						
PLN	**Plauen**	**69.58**	**10**	*e*P	**P**	**10 41 23.8**	**-0.8**
	comp=Z,291nm,1.4s,baz=352,slow=6.2						
PLN				*e*pP	**pP**	**10 41 57.4**	**+1.5**
	baz=353,slow=6.3						
PLN				*e*S	**S**	**10 50 22.6**	**+0.6**
	baz=352,slow=12						
PLN				*e*PxPxbc		11 09 27.4	
	baz=176,slow=3.3						
PLN				*e*pPxPxbc		11 10 01.1	
	baz=174,slow=3.0						
WERD	**Werda**	**69.63**	**10**	*e*P	**P**	**10 41 24.2**	**-0.7**
	comp=Z,342nm,1.6s,baz=352,slow=6.2						
WERD				*e*pP	**pP**	**10 41 57.8**	**+1.6**
	baz=353,slow=6.3						
WERD				*e*S	**S**	**10 50 23.2**	**+0.6**
	baz=352,slow=12						
WERD				*e*pPxPxbc		11 10 00.9	
	baz=174,slow=3.0						
ROSF	**Rostrenen**	**69.64**	**21**	*e*P	**P**	**10 41 24.7**	**-0.2**
TANN	**Tannenbergstha**	**69.67**	**9**	*e*P	**P**	**10 41 24.6**	**-0.6**
	comp=Z,359nm,1.5s,baz=352,slow=6.2						
TANN				*e*pP	**pP**	**10 41 58.3**	**+1.7**
	baz=353,slow=6.3						
TANN				*e*S	**S**	**10 50 24.0**	**+0.9**
	baz=352,slow=12						
TANN				*e*PxPxbc		11 09 27.5	
	baz=176,slow=3.3						
TANN				*e*pPxPxbc		11 10 01.0	
	baz=174,slow=3.0						
GUNZ	**Gunzen**	**69.71**	**10**	*e*P	**P**	**10 41 24.8**	**-0.7**
	comp=Z,546nm,1.9s,baz=352,slow=6.2						
GUNZ				*e*pP	**pP**	**10 41 58.4**	**+1.6**
	baz=353,slow=6.3						
GUNZ				*e*S	**S**	**10 50 24.3**	**+0.7**
	baz=352,slow=12						
GUNZ				*e*PxPxbc		11 09 27.5	
	baz=176,slow=3.3						
GUNZ				*e*pPxPxbc		11 10 00.8	
	baz=174,slow=3.0						
PVCC	**Panska Ves**	**69.72**	**8**	*e*S	**S**	**10 50 22.5**	**-1.1**
PVCC				AMS	AMS	11 04 00.0	
	comp=Z,126μm,46.6s						
PVCC				*e*PKPPKP		11 09 27.3	
HZTE	**Horizontes, Gu**	**69.75**	**104**	*e*P	**P**	**10 41 24.2**	**-1.9**
CHVC	**Chvalec**	**69.76**	**7**	*e*P	**P**	**10 41 25.6**	**-0.1**
CHVC				*e*S	**S**	**10 50 23.5**	**-0.7**
CHVC				AMS	AMS	11 03 50.0	
	comp=Z,99μm,40.2s						
WLF	**Walferdange**	**69.77**	**14**	*e*P	**P**	**10 41 25.1**	**-0.6**
	comp=Z,515nm,1.4s,baz=352,slow=6.2						
WLF				*e*pP	**pP**	**10 41 59.7**	**+2.7**
	baz=353,slow=6.3						
WLF				*e*pPxPxbc		11 10 00.1	
	baz=174,slow=3.0						
WLF	**Walferdange**	**69.77**	**14**	P	**P**	**10 41 25.6**	**-0.1**
WERN	**Wernitzgruen**	**69.79**	**10**	*e*P	**P**	**10 41 25.4**	**-0.5**
	comp=Z,443nm,1.5s,baz=352,slow=6.2						
WERN				*e*pP	**pP**	**10 41 59.0**	**+1.7**
	baz=353,slow=6.3						
WERN				*e*S	**S**	**10 50 25.6**	**+1.0**
	baz=352,slow=12						
WERN				*e*PxPxbc		11 09 27.1	
	baz=176,slow=3.3						
WERN				*e*pPxPxbc		11 10 00.6	
	baz=174,slow=3.0						
OSTC	**Ostas**	**69.80**	**7**	*e*P	**P**	**10 41 25.3**	**-0.7**
OSTC				*e*S	**S**	**10 50 26.0**	**+1.4**
OSTC				AMS	AMS	11 05 40.0	
	comp=Z,70μm,30.0s						
BBP	**Basco**	**69.81**	**276**	⇑ *e*P	**P**	**10 41 26.3**	**-0.1**
CD2	**Chengdu**	**69.82**	**297**	⇑ *i*P	**P**	**10 41 26.1**	**-0.3**
CD2				pP	pP	10 41 56.4	-1.2
CD2				sP	sP	10 42 11.3	0.0
CD2				PP	**PP**	**10 44 02.5**	**+0.6**
CD2				S	**S**	**10 50 23.2**	**-2.3**
CD2				SKS	**SKSac**	**10 51 14.7**	**-0.5**
CD2				pmax	pmax		
	comp=Z,860nm,0.7s						
CD2				pmax	pmax		
	comp=Z,14μm,5.5s						
CD2				LR	LR		
	comp=Z,62μm,39.0s						
CD2				LR	LR		
	comp=Z,53μm,27.5s						
UPC	**Upice**	**69.84**	**7**	*e*P	**P**	**10 41 25.8**	**-0.4**
UPC				*e*S	**S**	**10 50 18.1**	**-6.9**
UPC	**Upice**	**69.84**	**7**	*e*P	**P**	**10 41 25.8**	**-0.4**
UPC				*e*S	**S**	**10 50 18.1**	**-6.9**
UPC				AMS	AMS	11 04 00.0	
	comp=Z,104μm,38.8s						
UPC				*e*PKPPKP	**P'P'df**	**11 09 29.2**	**-3.2**
NKC	**Novy Kostel**	**69.85**	**10**	*e*P	**P**	**10 41 26.1**	**-0.2**
NKC				*e*S	**S**	**10 50 20.4**	**-4.8**
NKC	**Novy Kostel**	**69.85**	**10**	*e*P	**P**	**10 41 26.1**	**-0.2**
NKC				*e*S	**S**	**10 50 20.4**	**-4.8**
NKC				AMS	AMS	11 04 40.0	
	comp=Z,143μm,50.5s						
NKC				*e*PKPPKP	**P'P'df**	**11 09 27.5**	**-4.9**
SGDS	**Sogindy**	**69.85**	**325**	*e*P	**P**	**10 41 26.1**	**-0.4**
SGDS				pmax	pmax		
	comp=Z,530nm,2.1s						
SGDS	**Sogindy**	**69.85**	**325**	⇑ *i*P	**P**	**10 41 25.4**	**-1.1**
	baz=325						
SGDS				*e*S	**S**	**10 50 24.5**	**-1.0**
	baz=325						
AKASG	**Malin Array Be**	**69.95**	**358**	P	**P**	**10 41 24.8**	**-2.0**
	comp=Z,32nm,0.4s,baz=3.9,slow=5.9,SNR=113						
AKASG				PKiKP	**PKiKP**	**10 47 37.3**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=5.4,slow=2.0,SNR=4.1						
AKASG				PKPPKP	**P'P'df**	**11 09 32.0**	**-0.2**
	comp=Z,11nm,1.0s,baz=182,slow=2.5,SNR=8.6						
AKASG				LR	LR	11 10 20.8	
	comp=Z,20μm,21.3s,baz=360,slow=34						
AKASG	**Malin Array Be**	**69.95**	**358**	P	**P**	**10 41 25.2**	**-1.5**
AKBB	**Malin Array Si**	**69.95**	**358**	P	**P**	**10 41 25.7**	**-1.1**
AKBB				pmax	pmax		
	comp=Z,672nm,1.1s						
AKBB	**Malin Array Si**	**69.95**	**358**	P	**P**	**10 41 25.6**	**-1.1**
DPC	**Dobruska-Polom**	**70.02**	**7**	*e*P	**P**	**10 41 26.6**	**-0.7**
DPC				*e*S	**S**	**10 50 22.5**	**-4.7**
DPC	**Dobruska-Polom**	**70.02**	**7**	*e*P	**P**	**10 41 26.6**	**-0.7**
DPC				*e*S	**S**	**10 50 22.5**	**-4.7**
DPC				AMS	AMS	11 04 00.0	
	comp=Z,104μm,43.2s						
DPC				*e*x	x	11 09 16.7	
TKM2	**Tokmak 2**	**70.05**	**324**	P	**P**	**10 41 28.6**	**+0.8**
	SNR=235						
TKM2	**Tokmak 2**	**70.05**	**324**	P	**P**	**10 41 29.0**	**+1.1**
USP	**Ospenovka**	**70.06**	**325**	P	**P**	**10 41 28.4**	**+0.7**
	SNR=240						
MANZ	**Manzenberg**	**70.07**	**10**	*e*P	**P**	**10 41 26.8**	**-0.8**
	comp=Z,57nm,1.4s,baz=352,slow=6.2						
MANZ				*e*pP	**pP**	**10 42 00.5**	**+1.5**
	baz=353,slow=6.3						
MANZ				*e*S	**S**	**10 50 28.6**	**+0.9**
	baz=352,slow=12						
MANZ				*e*pPxPxbc		11 09 59.0	
	baz=174,slow=3.0						
CHMS	**Chumysh**	**70.23**	**324**	P	**P**	**10 41 28.5**	**-0.2**
	SNR=218						
PRU	**Pruhonice**	**70.26**	**8**	*e*P	**P**	**10 41 28.5**	**-0.2**
PRU				*e*S	**S**	**10 50 28.7**	**-1.2**
PRU	**Pruhonice**	**70.26**	**8**	*e*P	**P**	**10 41 28.5**	**-0.2**
PRU				*e*S	**S**	**10 50 28.7**	**-1.2**
PRU				AMS	AMS	11 04 20.0	
	comp=Z,119μm,41.7s						
PRU				*e*x	x	11 09 19.5	
GRA1	**Grafenberg Arr**	**70.28**	**10**	P	**P**	**10 41 28.4**	**-0.5**
GRF	**Grafenberg Arr**	**70.28**	**10**	P	**P**	**10 41 28.4**	**-0.5**
GRF				pmax	pmax		
	comp=Z,798nm,1.3s						
GRF	**Grafenberg Arr**	**70.28**	**10**	*e*P	**P**	**10 41 28.4**	**-0.5**
	comp=Z,552nm,1.6s,baz=352,slow=6.2						
GRF				*e*pP	**pP**	**10 42 02.1**	**+1.8**
	baz=353,slow=6.3						
GRF				*e*S	**S**	**10 50 32.0**	**+1.8**
	baz=352,slow=12						
GRF				*e*PxPxbc		11 09 24.8	
	baz=176,slow=3.3						
GRF				*e*pPxPxbc		11 09 58.3	
	baz=174,slow=3.0						
GRFO	**Grafenberg**	**70.28**	**10**	P	**P**	**10 41 29.2**	**+0.4**
GRFO				pP	**sP**	**10 42 13.7**	**-0.4**
KDJ	**Kajisay**	**70.29**	**322**	P	**P**	**10 41 29.3**	**0.0**
KDJ				pmax	pmax		
	comp=Z,442nm,1.1s						
KDJ	**Kajisay**	**70.29**	**322**	P	**P**	**10 41 29.3**	**0.0**
ROTZ	**Rotzenmuhle**	**70.29**	**10**	*e*P	**P**	**10 41 28.5**	**-0.5**
	comp=Z,91nm,1.5s,baz=352,slow=6.2						
ROTZ				*e*pP	**pP**	**10 42 02.1**	**+1.7**
	baz=353,slow=6.3						
ROTZ				*e*S	**S**	**10 50 31.9**	**+1.5**
	baz=352,slow=12						
ROTZ				*e*PxPxbc		11 09 24.8	
	baz=176,slow=3.3						
ROTZ				*e*pPxPxbc		11 09 58.2	
	baz=174,slow=3.0						
KRLC	**Kraliky**	**70.32**	**7**	*e*P	**P**	**10 41 28.6**	**-0.5**
KRLC				*e*S	**S**	**10 50 22.6**	**-8.1**
KRLC	**Kraliky**	**70.32**	**7**	*e*P	**P**	**10 41 28.6**	**-0.5**
KRLC				*e*S	**S**	**10 50 22.6**	**-8.1**
KRLC				AMS	AMS	11 06 10.0	
	comp=Z,40μm,31.1s						
KRLC				*e*PKPPKP	**P'P'df**	**11 09 25.9**	**-5.7**
OJC	**Ojcow**	**70.32**	**5**	*e*P	**P**	**10 41 29.2**	**+0.1**
OJC				*e*pP	**pP**	**10 42 00.4**	**-0.1**
OJC				*e*S	**S**	**10 50 30.8**	**+0.1**
OJC				*e*SKSac	**ScS**	**10 51 27.7**	**+8.0**
OJC				*e*L	L	11 06 16.4	
	comp=Z,82μm,33.6s						
COVE	**Coope Vega, Sa**	**70.34**	**103**	*e*P	**P**	**10 41 28.5**	**-1.1**
BOOM	**Boomskoye usch**	**70.34**	**323**	P	**P**	**10 41 30.3**	**+0.7**
BOOM				pmax	pmax		
	comp=Z,311nm,1.0s						
BOOM	**Boomskoye usch**	**70.34**	**323**	P	**P**	**10 41 30.3**	**+0.7**
RAC	**Raciborz**	**70.38**	**6**	*e*P	**P**	**10 41 28.0**	**-1.5**
RAC				*e*S	**S**	**10 50 29.5**	**-1.8**
RAC				LMZ	LR	11 10 34.8	
	comp=Z,50nm,23.5s						
RAC	**Raciborz**	**70.38**	**6**	*e*P	**P**	**10 41 28.0**	**-1.5**
RAC				*e*S	**S**	**10 50 29.5**	**-1.8**
GRZA	**Playa Garza**	**70.42**	**104**	*e*P	**P**	**10 41 29.2**	**-0.9**
JTS	**Las Juntas de**	**70.44**	**103**	P	**P**	**10 41 26.7**	**-3.6**
JTS				pmax	pmax		
	comp=Z,142nm,1.3s						
JTS	**Las Juntas de**	**70.44**	**103**	P	**P**	**10 41 26.7**	**-3.6**
TARG	**Taragay, Kyrgy**	**70.46**	**322**	P	**P**	**10 41 31.4**	**+0.9**
ULHL	**Ulahol**	**70.47**	**323**	P	**P**	**10 41 31.3**	**+0.9**
	SNR=173						
H07S1	**FLORES T-PHASE**	**70.49**	**44**	*e*P	**P**	**10 41 31.7**	**+1.4**
KBK	**Karagaybulak**	**70.49**	**324**	P	**P**	**10 41 31.4**	**+0.9**
	SNR=195						
PBCC	**Pribram**	**70.52**	**9**	*e*P	**P**	**10 41 29.6**	**-0.7**
PBCC				*e*S	**S**	**10 50 33.5**	**+0.5**
PBCC				*e*x	x	11 09 23.8	
INDI	**Punta indio, G**	**70.53**	**104**	*e*P	**P**	**10 41 29.6**	**-1.2**
OKC	**Ostrava-Krasne**	**70.63**	**6**	*e*P	**P**	**10 41 30.7**	**-0.2**
OKC				*e*S	**S**	**10 50 37.9**	**+3.7**
OKC	**Ostrava-Krasne**	**70.63**	**6**	*e*P	**P**	**10 41 30.7**	**-0.2**
OKC				*e*S	**S**	**10 50 37.9**	**+3.7**
OKC				AMS	AMS	11 06 10.0	
	comp=Z,44μm,29.8s						
AAK	**Ala-Archa**	**70.64**	**324**	P	**P**	**10 41 31.1**	**-0.3**
	comp=Z,172nm,1.0s,baz=79,slow=2.4,SNR=188						
AAK				LR	LR	11 17 38.9	
	comp=Z,18μm,18.2s,baz=19,slow=40						
AAK	**Ala-Archa**	**70.64**	**324**	P	**P**	**10 41 32.1**	**+0.7**
	SNR=158						
AAK	**Ala-Archa**	**70.64**	**324**	*c i*P	**P**	**10 41 30.9**	**-0.5**
AAK				pmax	pmax		
	comp=Z,802nm,1.6s						
AAK	**Ala-Archa**	**70.64**	**324**	P	**P**	**10 41 30.8**	**-0.5**
AAK				P	**P**	**10 41 30.8**	**-0.5**
AAK	**Ala-Archa**	**70.64**	**324**	P	**P**	**10 41 31.6**	**+0.2**
AAK	**Ala-Archa**	**70.64**	**324**	P	**P**	**10 41 31.3**	**-0.1**
AAK	**Ala-Archa**	**70.64**	**324**	*i* P	**P**	**10 41 30.2**	**-1.2**
	SNR=123						
MORC	**Moravsky Berou**	**70.66**	**6**	⇓ P	**P**	**10 41 30.4**	**-0.8**
MORC	**Moravsky Berou**	**70.66**	**6**	P	**P**	**10 41 30.1**	**-1.1**
MORC				pmax	pmax		
	comp=Z,477nm,1.2s						
MORC	**Moravsky Berou**	**70.66**	**6**	⇑ *i*P	**P**	**10 41 30.2**	**-1.0**
MORC				*e*pP	**pP**	**10 42 02.8**	**+0.1**
MORC				*e*S	**S**	**10 50 35.7**	**+1.1**
MORC				*e*		11 06 59.5	
MORC				*e*		11 07 33.3	
MORC				*e*		11 09 18.0	
MORC	**Moravsky Berou**	**70.66**	**6**	P	**P**	**10 41 30.1**	**-1.1**
EKS2	**Erkin-Say**	**70.83**	**325**	P	**P**	**10 41 32.3**	**-0.2**
	SNR=317						
LVV	**L'vov**	**70.84**	**2**	*e*P	**P**	**10 41 31.8**	**-0.4**
LVV				*e*		10 42 04.0	
LVV				*e*		10 46 02.3	
LVV				*e*S	**S**	**10 50 31.5**	**-5.1**
LVV				*e*		10 51 06.6	
LVV				*e*		10 51 22.8	
LVV				pmax	pmax		
	comp=Z,320nm,1.2s						
CLF	**Chambon-Foret**	**70.85**	**17**	P	**P**	**10 41 32.3**	**0.0**
CLF				pP	**sP**	**10 42 16.4**	**-1.0**
WET	**Wettzell**	**70.97**	**9**	*e*P	**P**	**10 41 32.8**	**-0.3**
	comp=Z,493nm,1.6s,baz=352,slow=6.2						
WET				*e*pP	**pP**	**10 42 06.4**	**+1.9**
	baz=353,slow=6.3						
WET				*e*S	**S**	**10 50 41.0**	**+2.8**
	baz=352,slow=12						
WET				*e*PxPxbc		11 09 22.7	
	baz=176,slow=3.3						
WET				*e*pPxPxbc		11 09 55.9	
	baz=174,slow=3.0						
STU	**Stuttgart**	**70.99**	**12**	*e*P	**P**	**10 41 32.4**	**-0.8**
	comp=Z,635nm,1.3s,baz=352,slow=6.2						
STU				*e*pP	**pP**	**10 42 06.0**	**+1.3**
	baz=353,slow=6.3						
STU				*e*S	**S**	**10 50 40.1**	**+1.6**
	baz=352,slow=12						
STU				*e*pPxPxbc		11 09 55.8	
	baz=174,slow=3.0						
KWP	**Kalwaria Pacla**	**71.00**	**3**	*e*P	**P**	**10 41 33.4**	**+0.1**
KWP				*e*S	**S**	**10 50 37.4**	**-1.1**
KWP				*e*S	SKiKP	10 50 48.1	-13
KWP				*e*SKSac	**ScS**	**10 51 34.5**	**+9.4**
KWP				*e*SKSac	SKKSac	10 51 35.5	+12
KWP				*e*L	L	11 09 29.2	
	comp=Z,58μm,26.0s						
UCH	**Uchtor**	**71.01**	**324**	P	**P**	**10 41 34.8**	**+0.8**
	SNR=61						
TREC	**Trest**	**71.01**	**8**	*e*P	**P**	**10 41 32.9**	**-0.4**
TREC				*e*S	**S**	**10 50 35.8**	**-2.9**
TREC	**Trest**	**71.01**	**8**	*e*P	**P**	**10 41 32.9**	**-0.4**
TREC				*e*S	**S**	**10 50 35.8**	**-2.9**
TREC				AMS	AMS	11 05 00.0	
	comp=Z,147μm,50.5s						
KHC	**Kasperske Hory**	**71.04**	**9**	*e*P	**P**	**10 41 33.0**	**-0.5**
KHC				*e*		10 42 06.0	
KHC				*e*S	**S**	**10 50 41.0**	**+1.9**
KHC	**Kasperske Hory**	**71.04**	**9**	*e*P	**P**	**10 41 33.0**	**-0.5**
KHC				*e*pP	**pP**	**10 42 06.0**	**+1.0**
KHC				*e*x	x	10 42 33.5	
KHC				*e*S	**S**	**10 50 41.0**	**+1.9**
KHC				AMS	AMS	11 04 30.0	
	comp=Z,147μm,46.6s						
KHC				*e*x	x	11 09 15.2	
KHC				*e*PKPPKP	**P'P'df**	**11 09 31.2**	**+0.9**
VRAC	**Vranov**	**71.07**	**7**	⇓ P	**P**	**10 41 33.2**	**-0.5**
VRAC	**Vranov**	**71.07**	**7**	P	**P**	**10 41 33.0**	**-0.6**
	comp=Z,41nm,0.6s,baz=352,slow=6.4,SNR=56						
VRAC	**Vranov**	**71.07**	**7**	⇑ *i*P	**P**	**10 41 32.8**	**-0.9**
VRAC				*e*pP	**pP**	**10 42 05.5**	**+0.3**
VRAC				*e*S	**S**	**10 50 40.9**	**+1.5**
VRAC				*e*		11 06 56.6	
VRAC				*e*		11 07 31.1	
VRAC				*e*		11 09 14.2	
HDC	**Heredia**	**71.10**	**103**	P	pP	10 42 03.4	-2.1
NIE	**Niedzica**	**71.14**	**4**	*e*P	**P**	**10 41 35.2**	**+1.1**
NIE				*e*S	**S**	**10 50 43.0**	**+2.8**
NIE				*e*SKSac	ScS	10 51

GEC2 pP **pP** **10 42 08.6 +1.7**
GERES GERESS Array B 71.33 9 P **P** **10 41 35.0 -0.4**
comp=Z,35nm,0.7s,baz=0.1,slow=4.9,SNR=102
GERES PKPPKP **P'P'df** **11 09 30.9 +1.0**
comp=Z,17nm,1.0s,baz=169,slow=1.4,SNR=14
GERES GERESS Array B 71.33 9 P **P** **10 41 35.0 -0.4**
GERES GERESS Array B 71.33 9 P **P** **10 41 34.5 -0.8**
BFO Black Forest 71.33 13 P **P** **10 41 35.1 -0.2**
BFO pmax pmax
comp=Z,447nm,1.2s
BFO Black Forest 71.33 13 *e*P **P** **10 41 34.4 -0.9**
comp=Z,278nm,1.5s,baz=352,slow=6.2
BFO *ep*P **pP** **10 42 08.0 +1.2**
baz=353,slow=6.3
BFO *e*S **S** **10 50 43.2 +0.8**
baz=352,slow=12
BFO *ep*PxPxbc 11 09 54.1
baz=174,slow=3.0
BFO Black Forest 71.33 13 P **P** **10 41 35.1 -0.2**
BFO Black Forest 71.33 13 P **P** **10 41 35.5 +0.2**
BFO pP **sP** **10 42 19.2 -1.4**
AML Almayashu 71.34 325 P **P** **10 41 36.5 +0.6**
SNR=203
AML Almayashu 71.34 325 P **P** **10 41 36.2 +0.3**
AML Almayashu 71.34 325 *i* P **P** **10 41 35.2 -0.7**
SNR=218
KKAR Karatay Array 71.34 327 P **P** **10 41 35.3 -0.1**
KKAR Karatay Array 71.34 327 P **P** **10 41 35.2 -0.1**
LANS Liptovska Anna 71.38 5 *e*P **P** **10 41 35.9 +0.4**
LANS pmax pmax
comp=Z,77nm,0.8s
LANS Liptovska Anna 71.38 5 *e*P **P** **10 41 35.9 +0.4**
LANS *ep*P **pP** **10 42 10.4 +3.3**
LANS *e* 11 09 27.6
FUNA Funafuti 71.38 209 P **P** **10 41 36.1 +0.3**
FUNA lAmb lAmb 10 42 26.3
comp=Z,2μm,1.4s
CKRC Cesky Krumlov 71.40 8 *e*P **P** **10 41 35.1 -0.6**
CKRC *e*S **S** **10 50 45.6 +2.4**
JAVC Velka Javorina 71.58 6⇑*i*P **P** **10 41 36.8 0.0**
JAVC *ep*P **pP** **10 42 10.5 +2.2**
JAVC *e*S **S** **10 50 48.5 +3.2**
JAVC *e* 11 06 57.6
JAVC *e* 11 07 30.9
JAVC *e* 11 09 16.6
BRLS Borolday 71.59 328 *i* P **P** **10 41 37.4 +0.5**
BRLS Borolday 71.59 328 *i* P **P** **10 41 37.5 +0.5**
baz=328
SGCP Gonzaga 71.61 275⇑*e*P **P** **10 41 36.6 -0.7**
CRVS Cervenica-Dubn 71.69 3 *e*P **P** **10 41 37.5 +0.1**
CRVS pmax pmax
comp=Z,489nm,1.6s
CRVS Cervenica-Dubn 71.69 3 *e*P **P** **10 41 37.5 +0.1**
CRVS *ep*P **pP** **10 42 10.8 +1.8**
CRVS *e*S **S** **10 50 45.0 -1.6**
CRVS *e*L L 11 06 59.5
CRVS *e* 11 09 16.5
CRVS *e* 11 09 28.2
FUR Furstenfeldbru 71.80 11 *e*P **P** **10 41 37.4 -0.7**
comp=Z,756nm,1.7s,baz=352,slow=6.2
FUR *ep*P **pP** **10 42 11.0 +1.4**
baz=353,slow=6.3
FUR *e*S **S** **10 50 49.3 +1.5**
baz=352,slow=12
FUR *e*PxPxbc 11 09 19.5
baz=176,slow=3.3
FUR *ep*PxPxbc 11 09 53.1
baz=174,slow=3.0
GZH Guangzhou 71.88 285 P **P** **10 41 36.5 -2.4**
GZH PP **PP** **10 44 17.2 -2.5**
GZH S **S** **10 50 43.2 -6.1**
GZH pmax pmax
comp=Z,10μm,5.9s
GZH LR LR
comp=Z,21μm,20.6s
GZH LR LR
comp=Z,19μm,17.5s
KOLL Kolacno 71.90 6 *e*P **P** **10 41 38.9 +0.3**
SMOL Smolenice 71.91 6 *e*P **P** **10 41 38.4 -0.3**
SMOL pmax pmax
comp=Z,177nm,1.6s
SMOL Smolenice 71.91 6 *e*P **P** **10 41 38.4 -0.3**
SMOL *ep*P **pP** **10 42 12.4 +2.1**
IZAB Izabela 71.97 5 *e*P **P** **10 41 41.1 +2.1**
IZAB *e* 10 42 13.0
UZH Uzhgorod 71.99 3*c i*P **P** **10 41 38.6 -0.5**
UZH *i* 10 42 01.6
UZH *i* *PP **pP** **10 42 12.5 +1.8**
UZH *i* S **S** **10 50 46.8 -3.1**
UZH *e* 10 51 28.0
UZH *i* SS **SS** **10 55 26.0 -1.7**
VYHS Vyhne 72.00 5 *e*P **P** **10 41 38.8 -0.5**
VYHS pmax pmax
comp=Z,219nm,1.3s
VYHS Vyhne 72.00 5 *e*P **P** **10 41 38.8 -0.5**
VYHS *ep*P **pP** **10 42 12.3 +1.5**
VYHS *e*S **S** **10 50 48.4 -1.7**
VYHS *e*L L 11 07 22.4
VYHS *e* 11 07 27.4
VYHS *e* 11 09 15.0
VYHS *e* 11 09 30.1
MODS Modra-Piesok 72.04 6 *e*P **P** **10 41 40.7 +1.2**
MODS pmax pmax
comp=Z,2μm,2.7s
MODS Modra-Piesok 72.04 6 *e*P **P** **10 41 40.6 +1.1**
MODS *e*S **S** **10 50 50.9 +0.3**
MODS *e*L L 11 06 02.5
MODS *e* 11 09 27.3
CALA Caldeira 72.07 43 *e*P **P** **10 41 42.2 +2.3**
comp=Z,994nm,1.1s
KECS Kecovo 72.08 4 *e*P **P** **10 41 40.9 +1.2**
KECS pmax pmax
comp=Z,60nm,0.9s
KECS Kecovo 72.08 4 *e*P **P** **10 41 40.9 +1.2**
KECS *ep*P **pP** **10 42 13.6 +2.3**
ROSA Rosais 72.10 42 *e*P **P** **10 41 41.5 +1.5**
comp=Z,544nm,1.3s
UBR Ueberruh 72.17 11 *e*P **P** **10 41 39.7 -0.6**
comp=Z,628nm,1.8s,baz=352,slow=6.2
UBR *ep*P **pP** **10 42 13.3 +1.4**
baz=353,slow=6.3
UBR *e*S **S** **10 50 54.5 +2.5**
baz=352,slow=12
UBR *ep*PxPxbc 11 09 53.2
baz=174,slow=3.0
ZST Bratislava 72.21 7 *e*P **P** **10 41 41.3 +0.8**
ZST pmax pmax
comp=Z,2μm,1.7s
ZST Bratislava 72.21 7 *e*P **P** **10 41 41.3 +0.8**
ZST *ep*P **pP** **10 42 13.5 +1.4**
ZST *e*S **S** **10 50 54.7 +2.3**
PMAN Manadas 72.23 42 *e*P **P** **10 41 43.3 +2.5**
comp=Z,683nm,1.2s
PICO Pico 72.24 42 *e*P **P** **10 41 42.0 +1.1**
comp=Z,1μm,1.3s
GYA Guiyang 72.25 292⇓P **P** **10 41 41.6 +0.4**
GYA PcP **PcP** **10 41 58.6 -0.1**
GYA pP pP 10 42 15.5 +3.0
GYA S **S** **10 50 53.3 -0.5**
GYA pmax pmax
comp=Z,370nm,0.8s
GYA pmax pmax
comp=Z,14μm,5.3s
GYA LR LR
comp=Z,16μm,23.9s
GYA LR LR
comp=Z,11μm,24.0s
GYA LR LR
comp=Z,34μm,28.9s
PPNO Prainha do Nor 72.32 42 *e*P **P** **10 41 42.4 +1.0**
comp=Z,869nm,1.0s
APYP Conner 72.34 275⇑*e*P **P** **10 41 40.8 -0.8**
RJOB Jochberg 72.36 10 *e*P **P** **10 41 40.8 -0.7**
comp=Z,240nm,0.9s,baz=352,slow=6.2
RJOB *ep*P **pP** **10 42 14.4 +1.4**
baz=353,slow=6.3
RJOB *e*S **S** **10 50 56.6 +2.3**
baz=352,slow=12
RJOB *ep*PxPxbc 11 09 51.9
baz=174,slow=3.0
IUG Iuzhnay 72.36 327*c i*P **P** **10 41 40.7 -0.9**
IUG *e*S **S** **10 50 53.6 -1.0**
IUG Iuzhnay 72.36 327⇑*i*P **P** **10 41 40.8 -0.9**
baz=328
IUG *e*S **S** **10 50 53.6 -1.0**
baz=328
MOA Molln 72.36 9 *e*P **P** **10 41 40.7 -0.7**
comp=Z,93nm,0.8s,SNR=52
MOA S **S** **10 50 56.6 +2.3**
comp=Z,23nm,1.4s
MOA *e*P P'P'df 11 09 17.8 -10
comp=Z,21nm,1.5s
MOA Molln 72.36 9 *e*P **P** **10 41 40.4 -1.0**
baz=352,slow=6.2
PID Ribeirinha 72.39 42 *e*P **P** **10 41 43.3 +1.5**
comp=Z,937nm,1.0s
CONA Conrad Observa 72.40 7 *i* P **P** **10 41 41.1 -0.6**
comp=Z,225nm,1.4s,SNR=69
CONA S **S** **10 50 57.5 +2.7**
comp=Z,17nm,1.3s
PAGU Agualva, Azore 72.42 41 *e*P **P** **10 41 42.6 +0.7**
comp=Z,610nm,1.2s
RETA Reutte 72.42 11 *i* P **P** **10 41 41.5 -0.4**
comp=Z,111nm,1.3s,SNR=30
RETA S **S** **10 50 58.1 +3.0**
comp=Z,24nm,1.5s
RETA *e*P P'P'df 11 09 18.8 -9.2
comp=Z,15nm,1.2s
TRPA Tarpa 72.50 3⇓P **P** **10 41 41.9 -0.2**
TRPA Tarpa 72.50 3⇑P P'P'df 11 09 11.7 -16
TRPA Tarpa 72.50 3 P **P** **10 41 41.6 -0.6**
ADH Angra Heroismo 72.50 41 *e*P **P** **10 41 42.1 -0.2**
comp=Z,1μm,1.4s
SORM Soroca 72.53 359⇑P **P** **10 41 41.3 -1.1**
DAVA Damuels 72.53 12 *e*P **P** **10 41 42.7 +0.1**
comp=Z,98nm,0.9s,SNR=23
DAVA S **SKiKP** **10 51 00.2 -3.7**
comp=Z,29nm,1.3s
DAVA *e*P P'P'df 11 09 19.4 -8.5
comp=Z,29nm,1.3s
DAVA Damuels 72.53 12 *e*P **P** **10 41 42.7 +0.1**
baz=352,slow=6.2
MOTA Moosalm 72.59 11 *e*P **P** **10 41 42.1 -0.8**
comp=Z,198nm,1.2s,SNR=67
MOTA S **S** **10 50 59.3 +2.1**
comp=Z,29nm,1.4s
MOTA *e*P **P'P'df** **11 09 24.5 -3.2**
comp=Z,11nm,1.2s
PSZ Piszkesteto 72.62 5⇓P **P** **10 41 43.2 +0.2**
PSZ Piszkesteto 72.62 5 P **P** **10 41 43.2 +0.2**
WATA Walderalm 72.65 11 *e*P **P** **10 41 42.6 -0.7**
comp=Z,266nm,1.2s,SNR=93
WATA S **S** **10 51 00.5 +2.7**
comp=Z,45nm,1.5s
WATA *e*P P'P'df 11 09 17.4 -10
comp=Z,15nm,1.3s
SRO Srobarova 72.66 6 *e*P **P** **10 41 43.8 +0.7**
SRO *e* 10 42 17.3
SRO Srobarova 72.66 6 *e*P **P** **10 41 43.8 +0.7**
SRO *ep*P **pP** **10 42 17.3 +2.6**
EDSV San Vito 72.68 102 *e*P **P** **10 41 45.9 +2.1**
SOP Sopron 72.69 7 P **P** **10 41 45.2 +1.9**
WTTA Wattenberg 72.73 10 *i* P **P** **10 41 43.2 -0.6**
comp=Z,173nm,0.8s,SNR=113
WTTA S **S** **10 51 01.3 +2.6**
comp=Z,27nm,1.5s
WTTA *e*P P'P'df 11 09 17.5 -10
comp=Z,15nm,1.3s
WTTA Wattenberg 72.73 10 *e*P **P** **10 41 43.3 -0.4**
baz=352,slow=6.2
SQTA Sankt Quirin 72.73 11 *e*P **P** **10 41 43.1 -0.6**
comp=Z,268nm,1.1s,SNR=89
SQTA S **S** **10 50 59.3 +0.6**
comp=Z,41nm,1.6s
SQTA *e*P **P'P'df** **11 09 24.4 -3.1**
comp=Z,19nm,1.6s
AOPR Arecibo Observ 72.77 83 *e*P P 10 41 39.3 -4.9
BRU2 Volcan 72.84 102 *e*P **P** **10 41 45.4 +0.6**
PIRO Carate, Puerto 72.86 103 *e*P **P** **10 41 44.5 -0.2**
FETA Feichten 72.88 11 *e*P **P** **10 41 44.3 -0.4**
comp=Z,108nm,0.8s,SNR=78
FETA S **SKiKP** **10 51 03.4 -0.9**
comp=Z,11nm,1.0s
BMR Baia Mare 72.97 2⇑P **P** **10 41 44.5 -0.5**
EGYH Egyhazaskeszo 73.00 6 P **P** **10 41 47.1 +2.0**
BUD Budapest 73.02 5 P **P** **10 41 47.4 +2.2**
BUR08 Bucovina Ar. S 73.03 1 P **P** **10 41 44.5 -1.0**
DAVOX Davos/Dischmat 73.03 12 P **P** **10 41 45.3 -0.4**
comp=Z,63nm,0.8s,baz=342,slow=7.1,SNR=90
DAVOX LR LR 11 18 53.1
comp=Z,13μm,18.1s,baz=352,slow=40
CCOL Caracol de Cor 73.03 103 *e*P **P** **10 41 46.7 +0.9**
KSH Kashi 73.05 322 P **P** **10 41 48.3 +2.6**
KSH PcP **PcP** **10 42 02.8 +0.9**
KSH pP pP 10 42 17.8 +0.6
KSH sP sP 10 42 29.1 -1.8
KSH PP **PP** **10 44 30.3 +1.0**
KSH S **SKiKP** **10 51 05.2 +0.4**
KSH sS sS 10 52 02.6 +6.0
KSH SS SS 10 55 57.8 +13
KSH pmax pmax
comp=Z,370nm,1.1s
KSH pmax pmax
comp=Z,13μm,7.2s
KSH LR LR
comp=Z,41μm,14.8s
KSH LR LR
comp=Z,36μm,15.5s
KSH LR LR
comp=Z,50μm,16.5s
ARSA Arzberg 73.05 8 *i* P **P** **10 41 45.0 -0.5**
comp=Z,66nm,0.9s,SNR=41
ARSA S **SKiKP** **10 51 05.6 +1.2**
comp=Z,18nm,1.8s
ARSA Arzberg 73.05 8 *e*P **P** **10 41 44.9 -0.5**
baz=352,slow=6.2
BURAR Bucovina Array 73.06 1⇓P **P** **10 41 44.8 -0.9**
BURAR Bucovina Array 73.06 1⇑P P'P'df 11 09 09.7 -17
BURAR Bucovina Array 73.06 1 P **P** **10 41 44.9 -0.7**
KBA Koelnbreinsper 73.06 9 *e*P **P** **10 41 45.4 -0.4**
comp=Z,297nm,0.9s,SNR=164
KBA S **SKiKP** **10 51 04.9 +0.3**
comp=Z,34nm,1.3s
KBA *e*P P'P'df 11 09 19.0 -8.0
comp=Z,8.9nm,1.2s
KBA Koelnbreinsper 73.06 9 *e*P **P** **10 41 45.4 -0.4**
baz=352,slow=6.2
CSKK Cskako 73.10 6 P **P** **10 41 47.3 +1.6**
SENIN Lac Senin/Sane 73.16 14 P **P** **10 41 45.7 -0.6**
SAMP Sagada Mountai 73.17 275⇑*i*P **P** **10 41 46.2 -0.4**
LTVH Ltavrtes, Hu 73.22 3⇓P **P** **10 41 46.9 +0.5**
LTVH Ltavrtes, Hu 73.22 3 P **P** **10 41 48.7 +2.3**
BSZH Besenyszg 73.26 4⇑P **P** **10 41 48.2 +1.5**
BSZH Besenyszg 73.26 4 P **P** **10 41 49.6 +3.0**
MPLH Magyarpolny 73.26 6 P **P** **10 41 46.7 +0.1**
SJG San Juan 73.27 83 *e*P **P** **10 41 45.9 -1.2**
SJG San Juan 73.27 83 P **P** **10 41 46.4 -0.7**
SJG pP **pP** **10 42 17.1 -1.3**
PRAR RASCA 73.31 0⇓P **P** **10 41 47.6 +0.6**
PRAR RASCA 73.31 0⇑P P'P'df 11 09 16.0 -10
ABTA Abfaltersbach 73.32 10 *i* P **P** **10 41 46.3 -0.9**
comp=Z,113nm,1.1s,SNR=60
ABTA S **S** **10 51 06.1 +0.9**
comp=Z,19nm,1.0s
ABTA *e*P **P'P'df** **11 09 25.4 -1.1**
comp=Z,6.4nm,1.2s
IAS Iasi 73.48 359⇑P **P** **10 41 47.2 -0.8**
MESR Meseseni 73.49 2⇑P **P** **10 41 48.3 +0.3**
MYKA Terra Mystica 73.53 9 *e*P **P** **10 41 47.4 -1.0**
comp=Z,42nm,0.6s,SNR=32
MYKA S **S** **10 51 09.1 +1.5**
comp=Z,39nm,1.6s
MYKA *e*P **P'P'df** **11 09 26.2 +0.2**
comp=Z,10nm,1.2s
TIH Tihany 73.55 6 P **P** **10 41 48.7 +0.4**
ARCR ARCALIA 73.58 1⇓P **P** **10 41 48.8 +0.2**
ARCR ARCALIA 73.58 1⇑P **P'P'df** **11 09 20.2 -5.7**
SOKA Soboth 73.59 8 *e*P **P** **10 41 47.7 -1.0**
comp=Z,126nm,1.2s,SNR=93
SOKA S **S** **10 51 10.0 +1.8**
comp=Z,13nm,1.7s
SOKA *e*P **P'P'df** **11 09 20.5 -5.5**
comp=Z,17nm,1.0s
KIS Kishinev 73.66 358⇑*i*P **P** **10 41 47.0 -2.0**
comp=Z,2μm,8.8s
KIS Kishinev 73.66 358 *e*PP PP 10 44 34.0 -0.1
KIS Kishinev 73.66 358*c i*P **P** **10 41 47.0 -2.0**
KIS *e* 10 42 22.0
KIS *e* 10 44 34.0
KIS *i* S **SKiKP** **10 51 05.0 -0.3**
KIS pmax pmax
comp=Z,2μm,8.8s
KIS pmax pmax
comp=E,16μm,16.8s
OBKA Obir 73.72 9 *i* P **P** **10 41 48.6 -0.9**
comp=E,129nm,0.5s,SNR=108
OBKA S **S** **10 51 11.5 +1.7**
comp=E,17nm,1.1s
OBKA *e*P **P'P'df** **11 09 22.8 -2.9**
comp=E,12nm,1.6s
OBKA Obir 73.72 9 *e*P **P** **10 41 48.6 -0.9**
baz=352,slow=6.2
MILM Milestii Mici 73.74 358⇓P **P** **10 41 47.7 -1.8**
MILM Milestii Mici 73.74 358⇑*i*P **P** **10 41 48.0 -1.5**
comp=E,4μm,4.8s
MILM Milestii Mici 73.74 358*c i*P **P** **10 41 48.0 -1.5**
MILM *i* S **SKiKP** **10 51 05.0 -0.4**
MILM *i* PS 10 52 07.0
MILM pmax pmax
comp=Z,6μm,8.4s
PSET Sete Cidades 73.76 41 *e*P **P** **10 41 51.2 +1.4**
comp=Z,2μm,1.3s
GROS Grobnik 73.83 8 *e*P **P** **10 41 49.3 -0.9**
GROS *e*S **S** **10 51 11.1 0.0**
DRGR 73.84 3⇑P **P** **10 41 49.8 -0.4**
DRGR 73.84 3⇑P **P'P'df** **11 09 20.2 -5.3**
DRGR 73.84 3 P **P** **10 41 51.3 +1.1**
PDA Ponta Delgada 73.85 41 *e*P **P** **10 41 51.7 +1.5**
comp=Z,818nm,0.8s
SSB Saint Sauveur 73.86 16 P **P** **10 41 50.6 +0.3**
SSB pP **sP** **10 42 34.4 -1.2**
GRON Grota Negra 73.87 41 *e*P **P** **10 41 55.0 +4.5**
comp=Z,1μm,1.3s
CMLA Cha da Macela 73.88 41 *e*P **P** **10 41 53.1 +2.6**
comp=Z,2μm,1.5s
CBBR Cluj-Babes-Bol 73.88 2⇓P **P** **10 41 51.6 +1.3**
BEHE Becsehely 73.91 7⇑*i*P **P** **10 41 50.0 -0.5**
BEHE Becsehely 73.91 7 P **P** **10 41 51.2 +0.7**
CADS Cadrg 73.94 9 *e*S **S** **10 51 10.5 -1.6**
CADS *es*S sS 10 52 06.6 -0.1
CJR Cluj-Napoca 73.94 2⇓P **P** **10 41 50.5 -0.3**
CJR Cluj-Napoca 73.94 2⇑P **P'P'df** **11 09 25.8 +0.5**
BCIP Isla Barro Col 73.94 99 *e*P **P** **10 41 50.4 -0.7**
BCIP *e*S **SKiKP** **10 51 04.4 -2.0**
BALP Baler 73.96 274⇓*e*P **P** **10 41 50.7 -0.5**
VASR Vaslui 74.03 359⇑P **P** **10 41 50.4 -0.8**
SMPP San Manuel, Pa 74.07 275⇓*i*P **P** **10 41 51.0 -0.8**
PURM Purcari 74.11 358⇓P **P** **10 41 50.3 -1.3**
CRNS Crni Vrh 74.12 9 *e*P **P** **10 41 51.0 -0.9**
CRNS *e*S **S** **10 51 11.5 -2.7**
CRNS *es*S **sS** **10 52 09.1 +0.3**
CRNS *i* 11 05 49.4
TGMR Targu Mures 74.14 1⇓P **P** **10 41 51.2 -0.6**
VOJS Vojsko 74.14 9 *e*P **P** **10 41 50.8 -1.2**
VOJS *ep*P **pP** **10 42 24.5 +0.7**
TESR Tescani 74.16 360⇓P **P** **10 41 51.2 -0.7**
LJU Ljubljana 74.18 9⇑*i*P **P** **10 41 50.6 -1.5**
LJU Ljubljana 74.18 9 *e*P **P** **10 41 50.9 -1.2**
LJU *ep*P **pP** **10 42 24.9 +1.0**
LEOM Leova 74.19 359⇑P **P** **10 41 52.3 +0.2**
AMBH Ambrzfalva 74.22 4⇑P **P** **10 41 52.2 -0.1**
AMBH Ambrzfalva 74.22 4 P **P** **10 41 55.1 +2.8**
UPA Univ. de Panam 74.25 99 *e*P **P** **10 41 51.9 -1.0**
UPA *e*S **S** **10 51 18.1 +1.8**
BOLP Bolinao 74.26 275⇓*e*P **P** **10 41 53.2 +0.3**
MORH Mrgy, Hungar 74.27 6⇑*i*P **P** **10 41 51.2 -1.4**
MORH Mrgy, Hungar 74.27 6 P **P** **10 41 52.0 -0.6**
SIRR Siria 74.33 3⇓P **P** **10 41 52.6 -0.4**
SIRR Siria 74.33 3⇑P **P'P'df** **11 09 19.7 -4.9**
PCPH Palayan 74.36 274⇑*e*P **P** **10 41 53.4 -0.1**
KOVH Kovagotottos 74.37 6 P **P** **10 41 52.8 -0.4**
BIR Birlad 74.40 359⇑P **P** **10 41 53.8 +0.4**
CRES Cresnjev 74.46 8⇑*i*P **P** **10 41 51.8 -2.0**
CEY Cerknica 74.48 9⇑*i*P **P** **10 41 52.1 -1.7**
MDB Medias 74.52 1⇑P **P** **10 41 54.5 +0.5**
PMOR Pomariorio Ree 74.57 174 *e*P **P** **10 41 55.6 +1.1**
comp=Z,673nm,1.2s
PMOR Pomariorio Ree 74.57 174 *e*T T 11 59 20.6
comp=Z,388nm,0.3s
OZUR 74.58 0⇑P **P** **10 41 53.7 -0.7**
GHRR 74.61 359⇓P **P** **10 41 55.9 +1.3**
GHRR 74.61 359⇑P P'P'df 11 09 12.8 -11
JCNP Jose Panganiba 74.62 272⇑*i*P **P** **10 41 55.2 +0.1**
DOPR Dopca 74.70 1⇑P **P** **10 41 54.6 -0.5**
PSMA Santa Maria 74.70 41 *e*P **P** **10 41 55.6 +0.4**
comp=Z,545nm,0.8s
PSMN Pico do Norte, 74.72 40 *e*P **P** **10 41 56.1 +0.7**
comp=Z,984nm,1.4s
GOF Gofitskoye 74.73 348⇑*e*P **P** **10 41 54.1 -1.2**
GOF *e*S **S** **10 51 20.1 -0.7**
GOF pmax pmax
comp=Z,339nm,0.6s
GOF smax smax
comp=N,650nm,2.1s
GOF smax smax
comp=E,437nm,1.5s
PGAV Gavieira, Arco 74.75 26 *e*P **P** **10 41 55.8 +0.2**
comp=E,915nm,1.5s
PGAV *ep*P **pP** **10 42 30.0 +2.7**
PGAV *e*S **S** **10 51 23.4 +2.0**
PGAV *es*SS **SS** **10 56 12.5 +2.2**
DEV Deva 74.75 3⇓P **P** **10 41 55.8 +0.4**
VARL Varlezi 74.77 359⇓P **P** **10 41 56.0 +0.5**
SCZP Santa Cruz 74.78 275⇑*e*P **P** **10 41 55.7 -0.2**
AFI Afiamalu 74.81 198 P **P** **10 41 55.7 -0.3**
comp=E,267nm,1.0s,baz=340,slow=3.8,SNR=16
AFI LR LR 11 08 03.2
comp=E,15μm,21.8s,baz=5.5,slow=30
VRI Vrincioaia 74.81 360⇓P **P** **10 41 55.9 +0.1**
VAH Vaihoa 74.81 174 *e*P **P** **10 41 56.9 +1.0**
comp=E,775nm,1.1s
VAH Vaihoa 74.81 174 *e*T T 12 00 04.0
comp=E,38nm,0.4s
VLDR Vladesti 74.82 359⇑P **P** **10 41 55.3 -0.5**
PLOR Plostina 74.82 360⇓P **P** **10 41 56.0 +0.1**
PLOR Plostina 74.82 360⇑P **P'P'df** **11 09 18.7 -5.0**
COVR Voineasa-Covas 74.83 0⇑P **P** **10 41 56.3 +0.4**
COVR Voineasa-Covas 74.83 0⇑P **P'P'df** **11 09 19.2 -4.5**
TIM Timisoara 74.85 4⇓P **P** **10 41 57.1 +1.2**
SMRT St. Maarten 74.86 80 *e*P P 10 41 50.0 -6.4
AZU Azuero 74.90 101 *e*P **P** **10 41 55.2 -1.5**
AZU Azuero 74.90 101 *e*P **P** **10 41 56.0 -0.7**
AZU *e*S **S** **10 51 23.2 -0.3**
ODBI Odobesti 74.91 360⇓P **P** **10 41 56.5 +0.2**
ODBI Odobesti 74.91 360⇓P **P'P'df** **11 09 17.1 -6.3**
BZS Buzias 74.98 3⇑P **P** **10 41 55.4 -1.4**
SCTR Scanteiesti 74.99 359⇓P **P** **10 41 55.9 -0.9**
PCAB Cabril 75.05 26 *e*P **P** **10 41 57.4 +0.2**
comp=E,917nm,1.7s
SMRC Santa Marta, M 75.06 93 *e*P **P** **10 41 57.4 -0.2**
TATR Tatarca 75.07 359⇑P **P** **10 41 57.0 -0.2**
SLCR Slobozia Conac 75.08 359⇑P **P** **10 41 57.4 +0.2**
IZVR Izvoarele 75.13 359⇓P **P** **10 41 56.8 -0.7**
BISRR Bisoca 75.13 360⇓P **P** **10 41 58.5 +0.8**
BISRR Bisoca 75.13 360⇑P **P'P'df** **11 09 26.6 +3.4**
SCHL Schela 75.17 359⇓P **P** **10 41 57.2 -0.5**
GIUM Giurgiulesti 75.18 359⇑P **P** **10 41 57.1 -0.8**
MLR Muntele Rosu 75.18 0⇓P **P** **10 41 58.7 +0.6**
MLR Muntele Rosu 75.18 0⇑P **P'P'df** **11 09 16.9 -6.3**
MLR Muntele Rosu 75.18 0 P **P** **10 41 57.3 -0.8**
comp=E,48nm,1.0s,baz=326,slow=9.1,SNR=25
QVP Quezon City--P 75.20 274⇓*e*P **P** **10 41 58.9 +0.5**
BANR Banloc 75.20 4⇑P **P** **10 41 57.1 -0.9**
LOT Lotru 75.20 2⇓P **P** **10 41 57.5 -0.7**
KMI Kunming 75.22 294⇑P **P** **10 41 57.8 -0.9**
KMI PcP **PcP** **10 42 11.4 -0.1**
KMI pP pP 10 42 30.6 +0.4
KMI sP sP 10 42 42.9 -0.9
KMI PP **PP** **10 44 48.0 -0.2**
KMI S **S** **10 51 23.1 -4.2**
KMI sS sS 10 52 20.8 -0.8
KMI pmax pmax
comp=E,140nm,1.7s
KMI pmax pmax
comp=E,10μm,6.6s
KMI LR LR
comp=E,27μm,22.7s
KMI LR LR
comp=E,22μm,20.1s
KMI Kunming 75.22 294 P **P** **10 41 58.0 -0.6**
VOIR 75.23 1⇓P **P** **10 41 57.6 -0.6**

PBRG Braganca 75.24 25 *eP* **P 10 41 57.5 -0.8**
comp=E,470nm,1.9s
PBRG *ep*P **pP** 10 42 35.4 +5.3
PBRG Braganca 75.24 25 *e*PP PP 10 44 49.8 +2.2
GZR Gura Zlata 75.24 3 ⇑P **P** 10 41 57.3 -0.9
NEHR Nehoiu 75.25 0 ⇑P **P** 10 41 58.2 -0.1
GRER 75.29 360 ⇑P **P** 10 41 58.3 -0.2
ARR Arges 75.30 1 ⇑P **P** 10 41 58.6 0.0
ARR Arges 75.30 1 ⇑P **P'P'df** 11 09 20.2 -2.7
MRAK Mrakovica 75.37 7 ⇑*i*P **P** 10 41 58.1 -0.9
FRGS Fruska Gora 75.38 5 ⇓P **P** 10 41 57.4 -1.6
FRGS Fruska Gora 75.38 5 ⇑P **P'P'df** 11 09 18.0 -4.7
FRGS Fruska Gora 75.38 5 ⇑*i*P **P** 10 41 57.9 -1.1
FRGS Fruska Gora 75.38 5 *e*P **P** 10 41 57.1 -1.9
SEUS St. Eustatius 75.38 80 *e*P **P** 10 42 00.8 +1.4
UPD2 Meteti 75.39 98 *e*P **P** 10 41 59.9 +0.4
POLO Lamas de Olo 75.42 26 *e*P **P** 10 41 59.8 +0.4
comp=E,373nm,1.6s
POLO *ep*P **pP** 10 42 34.2 +3.0
POLO Lamas de Olo 75.42 26 *e*PP PP 10 44 52.1 +2.9
MTUR Matau 75.44 1 ⇑P **P** 10 42 00.6 +1.1
TLCR 75.47 358 ⇓P **P** 10 41 59.3 -0.2
CFR Carcaliu 75.49 359 ⇓P **P** 10 41 58.4 -1.2
CFR Carcaliu 75.49 359 ⇑P **P'P'df** 11 09 19.7 -2.7
BESP Borongan 75.52 268⇑*e*P **P** 10 42 00.2 0.0
PVRL Vila Real 75.53 26 *e*P **P** 10 42 00.3 +0.3
comp=E,939nm,1.5s
SIM Simferopol' 75.53 354*c i*P **P** 10 41 58.5 -1.4
SIM *e*S **S** 10 51 22.0 -7.8
SIM *e*PS **PnS** 10 52 26.0 +3.4
SIM *e*SSS SSS 10 59 43.0
SIM pmax pmax
comp=Z,296nm,1.7s
ISR Istrita 75.56 360 ⇓P **P** 10 42 00.8 +0.7
CAP2 Capurgana 75.63 98 *e*P **P** 10 42 00.1 -0.7
SECR 75.64 0 ⇓P **P** 10 42 00.1 -0.5
BLY Banja Luka 75.65 7 ⇑*i*P **P** 10 42 00.0 -0.5
MACP Maragondon, Ca 75.65 274 ⇓*i*P **P** 10 42 00.8 -0.1
SJCC San Jacinto, C 75.66 95 *e*P **P** 10 41 57.4 -3.7
URIC Uribia, Colomb 75.74 91 *e*P **P** 10 42 00.2 -1.2
HERR Herculane 75.74 3 ⇑P **P** 10 42 00.4 -0.6
BOAC Boac 75.76 272 ⇓*i*P **P** 10 42 02.4 +0.8
PGOR Pogoanele 75.77 360 ⇑P **P** 10 42 02.1 +1.0
MVO Moncorvo 75.79 25 *e*P **P** 10 42 01.5 0.0
comp=Z,738nm,1.5s
MVO *ep*P **pP** 10 42 34.2 +0.9
MVO *e*S **S** 10 51 33.4 +0.6
MVO *e*SS **SS** 10 56 27.0 +1.1
STFAR Stefanesti-Arg 75.81 1 ⇑P **P** 10 42 02.3 +0.9
TPGR Topolog 75.81 359 ⇑P **P** 10 42 02.0 +0.5
MDVR Moldovita 75.82 3 ⇓P **P** 10 42 01.0 -0.6
ANWB Willy Bob 75.83 79 *e*P P 10 41 55.7 -6.2
CRJC Cerrejon, Guaj 75.87 92 *e*P **P** 10 42 01.3 -1.0
JURR Jurilovca 75.89 358 ⇑P **P** 10 42 02.1 +0.3
DJES Djerdap 75.96 3 ⇑P **P** 10 42 02.6 +0.3
DJES Djerdap 75.96 3 *e*P **P** 10 42 04.8 +2.5
MGRS Mrkonjic Grad 75.97 7 ⇑*i*P **P** 10 42 02.6 +0.2
HARR Harsova 75.98 359 ⇓P **P** 10 42 01.5 -0.9
HARR Harsova 75.98 359 ⇑P **P'P'df** 11 09 23.1 +1.5
SRE Strehaia 75.98 2 ⇑P **P** 10 42 03.1 +0.7
SULR 76.00 0 ⇓P **P** 10 42 01.5 -1.0
PVIS Viseu 76.03 26 *e*P **P** 10 42 03.2 +0.4
comp=Z,913nm,1.5s
KBZ Khabaz 76.06 348 P **P** 10 42 02.2 -0.6
comp=Z,185nm,0.9s,baz=7.8,slow=6.1,SNR=63
KBZ LR LR 11 18 31.8
comp=Z,16μm,20.7s,baz=7.0,slow=38
KBZ Khabaz 76.06 348*c i*P **P** 10 42 02.1 -0.7
KBZ pmax pmax
comp=Z,465nm,1.1s
AMRR Amara 76.06 359 ⇑P **P** 10 42 03.2 +0.4
SHA1 Shidzhatmaz 76.07 348*c i*P **P** 10 42 02.5 -0.8
TLBR Topalu 76.12 359 ⇓P **P** 10 42 02.3 -0.9
HUMR Humele 76.14 1 ⇑P **P** 10 42 02.3 -1.0
PGP Puerto Galera 76.18 273⇑*e*P **P** 10 42 03.9 0.0
KUBS Kucevo 76.19 3 *e*P **P** 10 42 01.7 -1.9
LEHL Lehliu 76.20 360 ⇑P **P** 10 42 03.3 -0.3
TIRR Tirgusor 76.20 359 ⇓P **P** 10 42 01.9 -1.8
NCK Nalchik 76.21 347*c i*P **P** 10 42 04.5 +0.7
NCK pmax pmax
comp=Z,1μm,1.2s
GROC Groznyy 76.23 346 *e*P **P** 10 42 03.2 -0.7
GROC *e* 10 42 16.0
GROC *e**PP **pP** 10 42 32.8 -2.9
GROC *e**SP **sP** 10 42 47.2 -2.2
GROC *e* 10 44 58.2
GROC *e*S **S** 10 51 39.8 +2.3
GROC *e**SS **sS** 10 52 32.2 +0.1
GROC pmax pmax
comp=Z,82nm,0.8s
MAK Makhachkala 76.25 344*d i*P **P** 10 42 03.7 -0.2
MAK *e**PP **pP** 10 42 31.2 -4.6
MAK *e**SP **sP** 10 42 47.6 -1.8
MAK *e* 10 44 53.0
MAK *e*PPP PPP 10 46 41.5
MAK *e*S **S** 10 51 35.8 -1.8
MAK *e**SS **sS** 10 52 29.7 -2.4
MAK *e**SS pS 10 52 30.6 +14
MAK *e*SS **SS** 10 56 30.8 -1.7
MAK *e*SSS SSS 10 59 57.2
MAK pmax pmax
comp=Z,965nm,1.2s
MAK MLR MLR
comp=Z,17μm,15.0s
SVIS Svilajnac 76.32 4 *e*P P 10 42 12.8 +8.5
LSA Lhasa 76.33 306 P **P** 10 42 06.2 +1.0
LSA pmax pmax
comp=Z,870nm,0.9s
LSA LR LR
comp=Z,144μm,30.6s
LSA LR LR
comp=Z,168μm,25.6s
TRUS Trudelj 76.33 4 *e*P **P** 10 42 03.4 -1.0
LUBP Lubang 76.34 274⇑*e*P **P** 10 42 03.5 -1.3
PUNG Punghina 76.36 3 ⇑P **P** 10 42 05.2 +0.6
ANBD Bethesda, Anti 76.37 80 *e*P **P** 10 42 03.1 -1.8
MOTC Monteria, Cord 76.37 96 *e*P **P** 10 42 02.0 -3.1
MONA Monteria 76.38 96 *e*P **P** 10 42 05.5 +0.3
MONA *e*S S 10 51 29.1 -11
COI Coimbra 76.39 27 *e*P **P** 10 42 05.6 +0.8
comp=Z,114nm,0.9s
COI *ep*P **pP** 10 42 41.8 +5.1
COI Coimbra 76.39 27 *e*PP PP 10 45 00.1 +2.8
MTE Manteigas 76.41 26 *e*P **P** 10 42 04.9 -0.1
comp=Z,926nm,1.6s
MTE *ep*P **pP** 10 42 40.2 +3.3
MTE Manteigas 76.41 26 *e*PP PP 10 45 02.0 +4.5
MTE *e*S **S** 10 51 41.3 +1.7
MTE *e*SS **SS** 10 56 36.3 +1.0
DIVS Divibare 76.44 5 ⇑*i*P **P** 10 42 03.9 -1.3
DIVS Divibare 76.44 5 *e*P **P** 10 42 03.5 -1.7
SGRR Singureni 76.45 0 ⇑P **P** 10 42 04.8 -0.2
MFTR Murfatlar 76.48 359 ⇓P **P** 10 42 04.6 -0.6
TSCT Constanta Port 76.50 358 ⇑P **P** 10 42 04.9 -0.4
SOC Sochi 76.51 350 *i* P **P** 10 42 04.5 -0.9
SOC *e**PP **pP** 10 42 35.7 -1.6
SOC *e**SP **sP** 10 42 48.8 -2.2
SOC *e*PPP PPP 10 46 47.5
SOC *i* S **S** 10 51 40.8 +0.3
SOC *e**SS **sS** 10 52 33.9 -1.1
SOC *e*SS **SS** 10 56 37.0 +0.5
SOC pmax pmax
comp=Z,3μm,4.8s
SOC pmax pmax
comp=Z,114nm,0.9s
PCAS Casmilo, Conde 76.52 27 *e*P **P** 10 42 04.7 -0.9
comp=Z,1μm,1.9s
PCAS *ep*P **pP** 10 42 40.5 +3.1
LL5C La Loma 5 El P 76.53 94 *e*P P 10 41 58.8 -7.1
RABL Rabaul 76.53 236 P **P** 10 42 04.9 -0.9
RABL IAmb IAmb 10 42 14.9
comp=Z,806nm,0.7s
RABL Rabaul 76.53 236 P **P** 10 42 05.7 -0.2
COPA Copaceanca 76.54 1 ⇓P **P** 10 42 06.0 +0.5
NEY Neytrino 76.55 348*d i*P **P** 10 42 07.3 +1.4
NEY pmax pmax
comp=Z,326nm,2.6s
ICOR Ion Corvin 76.55 359 ⇓P **P** 10 42 06.2 +0.6
EFOR EFORIE 76.58 358 ⇑P **P** 10 42 06.0 +0.2
BAIL Bailesti 76.62 2 ⇑P **P** 10 42 05.5 -0.5
BBLS Lazići 76.65 5 ⇑*i*P **P** 10 42 05.8 -0.5
BBLS Lazići 76.65 5 *e*P **P** 10 42 05.3 -1.0

VLAD Vladila 76.66 1 ⇓P **P** 10 42 07.2 +0.9
GRUS Gruza 76.68 4 *e*P **P** 10 42 05.0 -1.4
PTAC Punta Ardita, 76.69 99 *e*P **P** 10 42 05.1 -1.7
MANU Manus Island 76.69 242 P **P** 10 42 06.4 -0.4
DIBR DIBRUGARH 76.69 302 *e*P **P** 10 42 07.2 +0.5
LL6C La Loma 6 Bece 76.77 93 *e*P P 10 42 00.9 -6.3
ZAGS Zajecar 76.80 3 *e*P **P** 10 42 04.9 -2.2
MANR Mangalia 76.84 358 ⇑P **P** 10 42 06.0 -1.2
ZEI Tsey 76.87 347 *e*P **P** 10 42 08.4 +0.6
RUDO Rudo 76.89 5 ⇑*i*P **P** 10 42 07.1 -0.5
RCP Roxas 76.92 270⇑*e*P **P** 10 42 08.2 +0.1
PCBR Castelo Branco 76.95 26 *e*P **P** 10 42 07.5 -0.5
comp=Z,719nm,1.6s
BOVS Bovan 76.97 4 ⇓P **P** 10 42 06.5 -1.5
BOVS Bovan 76.97 4 *e*P **P** 10 42 06.1 -1.9
PSBE So Bento 76.97 27 *e*P **P** 10 42 08.7 +0.6
comp=Z,1μm,1.4s
PSBE *ep*P **pP** 10 42 42.5 +2.5
IVAS Ivanjica 76.97 5 *e*P **P** 10 42 07.2 -0.9
SJMP San Jose 76.98 272⇑*e*P **P** 10 42 08.4 0.0
ABD La Joyeuse, An 76.99 80 *e*P **P** 10 42 07.6 -0.9
ZIMR 77.01 1 ⇓P **P** 10 42 08.7 +0.5
QIZ Qiongzhong 77.03 285 P **P** 10 42 08.4 -0.3
QIZ sP **sP** 10 42 51.7 -2.2
QIZ PP **PP** 10 45 05.7 +2.3
QIZ S **S** 10 51 53.1 +6.2
QIZ pmax pmax
comp=Z,200nm,1.8s
QIZ pmax pmax
comp=Z,8μm,6.7s
QIZ LR LR
comp=Z,20μm,24.0s
QIZ Qiongzhong 77.03 285 P **P** 10 42 09.4 +0.8
QIZ Qiongzhong 77.03 285 P **P** 10 42 08.7 0.0
QIZ Qiongzhong 77.03 285 P **P** 10 42 09.5 +0.8
TIAR Tiarei 77.04 176 *e*P **P** 10 42 09.3 +0.7
comp=Z,4.6nm,1.0s
TIAR Tiarei 77.04 176 *e*T T 12 02 37.2
comp=Z,20nm,0.2s
PPT Papeete 77.05 176 P **P** 10 42 10.1 +1.5
comp=Z,126nm,1.1s,baz=323,slow=3.9,SNR=5.9
PPT LR LR 11 13 27.7
comp=Z,12μm,18.0s,baz=352,slow=34
MSLP Maasin 77.06 268⇑*e*P **P** 10 42 08.4 -0.4
MSLP Maasin 77.06 268⇓*e*P **P** 10 42 08.5 -0.4
PPT2 Papeete2 77.07 176 *e*P **P** 10 42 09.7 +0.9
comp=Z,377nm,1.4s
PPT2 *e*S **S** 10 51 46.8 -0.2
comp=Z,61μm,30.2s
PPT2 Papeete2 77.07 176 *e*LR LR 11 05 53.3
comp=Z,114μm,34.8s
PPT2 Papeete2 77.07 176 *e*T T 12 03 03.8
comp=Z,17nm,0.3s
DABV Dabajuro 77.09 90 *e*P **P** 10 42 09.6 +0.5
RAZG Razgrad 77.11 360 ⇓P **P** 10 42 08.8 0.0
SHAB Shabla 77.12 358 ⇓P **P'P'df** 11 09 19.2 -0.3
PAE Paea 77.14 176 *e*P **P** 10 42 09.9 +0.9
comp=Z,122nm,1.3s
PAE Paea 77.14 176 *e*T T 12 02 45.5
comp=Z,4.5nm,0.3s
SMLC San Martn de 77.16 95 *e*P **P** 10 42 09.0 -0.4
KALB Balgarevo 77.25 359 ⇓P **P** 10 42 10.4 +0.8
TVO Taravao 77.27 176 *e*T T 12 02 38.1
CBE Ff, Capester 77.28 80 *e*P **P** 10 42 07.6 -2.5
SJES Sjenica 77.28 5 *e*P **P** 10 42 07.8 -2.1
UREC San Jos de Ur 77.32 96 *e*P P 10 42 15.4 +5.0
UREC San Jos de Ur 77.32 96 *e*P **P** 10 42 09.5 -0.8
UREC *e*S **S** 10 51 44.5 -5.5
ZAPS Zavoj 77.35 3 *e*P **P** 10 42 09.5 -0.7
LLP Lapu-Lapu 77.36 269⇑*e*P **P** 10 42 09.2 -1.3
LLP *e*S **S** 10 51 45.4 -5.0
SELS Selova 77.36 4 *e*P **P** 10 42 08.8 -1.5
PMRV Marv??o 77.37 26 *e*P **P** 10 42 08.2 -2.1
comp=Z,774nm,1.6s
PMRV *ep*P **pP** 10 42 45.6 +3.3
PMRV Marv??o 77.37 26 *e*PP PP 10 45 09.6 +4.1
PMRV *e*S **S** 10 51 51.3 +1.3
PMRV *e*SS **SS** 10 56 50.9 +1.2
PMAFR Mafra 77.38 28 *e*P **P** 10 42 10.5 +0.1
comp=Z,2μm,1.7s
PMAFR *ep*P **pP** 10 42 46.8 +4.5
PMAFR Mafra 77.38 28 *e*PP PP 10 45 06.5 +0.8
UCM Universidad Co 77.40 23 P **P** 10 42 09.8 -0.7
UCM S **S** 10 51 50.5 +0.2
SZH Strazhica 77.41 0 P **P** 10 42 08.0 -2.5
MEH Mehetia 77.41 175 *e*P **P** 10 42 11.0 +0.4
comp=Z,71nm,1.1s
MEH Mehetia 77.41 175 *e*T T 12 03 35.9
comp=Z,19nm,0.3s
PAYG Puerto Ayora 77.42 114 P **P** 10 42 12.3 +1.5
PAYG pP **pP** 10 42 43.4 +0.9
TDBA Terre de Bas, 77.45 80 *e*P **P** 10 42 10.2 -0.8
PRD Provadia 77.47 359 P **P** 10 42 10.0 -0.8
ITAN ITANAGAR 77.49 303 *e*P **P** 10 42 11.4 +0.2
PMTG Montargil 77.52 27 *e*P **P** 10 42 10.5 -0.7
comp=Z,486nm,2.5s
PMTG *ep*P **pP** 10 42 46.5 +3.4
PMTG Montargil 77.52 27 *e*PP PP 10 45 09.8 +3.0
MAGL Barre de l'ile 77.54 80 *e*P **P** 10 42 11.7 +0.2
BRY Bratogost 77.57 6 ⇑*i*P **P** 10 42 12.0 +0.5
BRY Bratogost 77.57 6 *e*P **P** 10 42 10.8 -0.7
PMST Lisbon--Monsan 77.61 28 *e*P **P** 10 42 12.3 +0.6
comp=Z,2μm,1.7s
PMST Lisbon--Monsan 77.61 28 *e*PP PP 10 45 09.7 +2.1
LIS Lisbon 77.64 28 *e*P **P** 10 42 11.7 -0.1
LIS *e*S **S** 10 51 53.0 +0.1
LIS IAMs_20 IAMs_20 11 03 33.0
comp=Z,48μm,11.7s
LIS Lisbon 77.64 28 *e*P **P** 10 42 11.9 +0.1
comp=Z,1μm,2.0s
LIS Lisbon 77.64 28 *e*P **P** 10 42 11.7 -0.1
LIS *e*S **S** 10 51 52.9 +0.1
IVA Berane 77.66 5 *e*P **P** 10 42 11.6 -0.4
BUTP Butuan 77.67 267⇑*e*P **P** 10 42 12.7 +0.5
KOME Kolasin 77.67 5 *e*P **P** 10 42 10.7 -1.3
SOLC Bahia Solano 77.68 99 *e*P **P** 10 42 10.3 -2.1
NKME Niksic 77.72 6 *e*P **P** 10 42 11.3 -1.0
AQU L'Aquila 77.75 10 ⇑*i*P **P** 10 42 11.5 -1.0
BARS Barje 77.79 3 *e*P P 10 42 03.1 -10
PESTR Estremoz 77.86 27 *e*P **P** 10 42 12.8 -0.3
comp=Z,670nm,1.5s
PESTR *ep*P **pP** 10 42 47.9 +2.9
PESTR Estremoz 77.86 27 *e*PP PP 10 45 15.7 +6.1
PESTR Estremoz 77.86 27 P **P** 10 42 12.9 -0.2
ESDC Sonseca Array 77.86 24 P **P** 10 42 12.8 -0.3
comp=Z,66nm,0.8s,baz=343,slow=5.3,SNR=212
ESDC PKKPbc **PKKPbc** 11 01 09.5 -0.4
comp=Z,6.4nm,1.1s,baz=180,slow=1.2,SNR=7.5
ESDC PKPPKP 11 09 11.8
comp=Z,6.5nm,1.0s,baz=189,slow=0.9,SNR=11
ESDC LR LR 11 19 59.9
comp=Z,11μm,18.9s,baz=334,slow=38
ESDC Sonseca Array 77.86 24 P **P** 10 42 13.2 +0.1
MOKO MOKOCHONG 77.86 302 *e*P **P** 10 42 14.5 +1.0
ZARC Zaragoza, Cauc 77.88 96 *e*P P 10 42 08.5 -5.0
DSLB Salisbury 77.91 80 *e*P **P** 10 42 10.4 -3.2
PAB San Pablo 77.91 24 P **P** 10 42 13.5 +0.1
PAB San Pablo 77.91 24 P **P** 10 42 13.9 +0.5
DDFL Dedoflistskaro 77.92 345 P **P** 10 42 15.8 +2.3
CEME Cevo 77.94 6 *e*P **P** 10 42 12.0 -1.5
TBP Tagbilaran 77.94 269⇑*i*P **P** 10 42 11.9 -1.9
SEKA Sheki 78.01 344 P **P** 10 42 13.7 -0.2
JAP San Jose, Anti 78.01 271⇑*e*P **P** 10 42 15.0 +0.9
HCY Herceg Novi 78.02 6 ⇑*i*P **P** 10 42 12.7 -1.1
HCY Herceg Novi 78.02 6 *e*P **P** 10 42 12.8 -1.1
OCAC Ocana 78.02 94 *e*P **P** 10 42 13.6 -0.9
MDN Morne-Daniel 78.02 80 *e*P **P** 10 42 13.4 -0.8
VTS Vitosha 78.02 2 ⇓P **P** 10 42 12.9 -1.1
VTS Vitosha 78.02 2 *e*P **P** 10 42 13.1 -1.0
VTS Vitosha 78.02 2 P **P** 10 42 12.0 -2.1
PDG Podgorica 78.07 5 ⇓P **P** 10 42 13.2 -1.0
PDG Podgorica 78.07 5 ⇑*i*P **P** 10 42 13.2 -1.0
PDG Podgorica 78.07 5 *e*P **P** 10 42 12.6 -1.5
TTG Podgorica 78.07 5 *e*P **P** 10 42 12.8 -1.3
EVO Evora 78.08 27 P **P** 10 42 12.7 -1.6
EVO S **S** 10 51 57.5 -0.1
EVO Evora 78.08 27 *e*P **P** 10 42 14.0 -0.3
comp=Z,759nm,1.5s
EVO Evora 78.08 27 *e*PP PP 10 45 17.2 +5.7
PRVS Prvonek 78.10 3 *e*P **P** 10 42 12.8 -1.6
BOSS Bosilegrad 78.13 3 *e*P **P** 10 42 13.2 -1.3
BCI Bajram Curri 78.17 5 *i* P **P** 10 42 17.2 +2.4

BUM Brajici-Budva 78.18 6 *e*P **P** 10 42 13.2 -1.7
HNR Honiara 78.20 227 P **P** 10 42 14.6 -0.5
comp=Z,377nm,0.9s,baz=169,slow=3.0,SNR=35
HNR LR LR 11 11 42.0
comp=Z,7μm,21.7s,baz=18,slow=32
HNR Honiara 78.20 227 P **P** 10 42 15.8 +0.7
HNR Honiara 78.20 227 P **P** 10 42 15.0 -0.1
JMB Yambol 78.21 360 P **P** 10 42 13.0 -1.9
AKH Akhalkalaki 78.28 347 ⇑P **P** 10 42 14.8 -0.8
DRME Dracevica, Mon 78.31 5 ⇑*i*P **P** 10 42 14.0 -1.5
DRME Dracevica, Mon 78.31 5 *e*P **P** 10 42 14.2 -1.3
PNCL Nicolau / Gran 78.36 27 *e*P **P** 10 42 16.0 +0.2
comp=Z,1μm,1.7s
PNCL *ep*P **pP** 10 42 50.9 +3.1
PNCL Nicolau / Gran 78.36 27 *e*PP PP 10 45 19.3 +5.5
CUYO Cuyo Island 78.40 272⇑*e*P **P** 10 42 16.1 -0.2
CNOP Candoni, Negro 78.44 270⇑*e*P **P** 10 42 15.3 -1.3
CNOP Candoni, Negro 78.44 270 ⇑*i*P **P** 10 42 16.4 -0.1
MNGR Mingechevir, A 78.45 344 P **P** 10 42 18.1 +1.8
SGRT San Giovanni R 78.53 8 *i* P **P** 10 42 16.1 -0.7
ULC Ulcinj 78.54 5 *e*P **P** 10 42 15.2 -1.6
SNPH Sibulan 78.56 269⇑*e*P **P** 10 42 16.9 -0.4
PLD Plovdiv 78.56 1 P **P** 10 42 16.0 -0.8
KOHI KOHIMA 78.57 302 *e*P **P** 10 42 17.1 -0.2
PBEJ Beja 78.60 27 *e*P **P** 10 42 17.7 +0.6
comp=Z,501nm,2.0s
SKO Skopje 78.62 4 *i* Pn **P** 10 42 17.2 +0.1
FDF Fort de France 78.64 80 *e*P **P** 10 42 18.8 +1.1
FDF Fort de France 78.64 80 P **P** 10 42 18.7 +1.0
FDF pP **pP** 10 42 48.2 -1.2
HELC Santa Helena 78.65 97 *e*P **P** 10 42 17.8 -0.3
HELC Santa Helena 78.65 97 *e*P **P** 10 42 18.3 +0.2
HELC *e*S **SKiKP** 10 51 16.4 +2.2
GANJ Ganja 78.68 345 P **P** 10 42 17.2 -0.4
CBOC Ciudad Bolivar 78.69 98 *e*P P 10 42 23.4 +5.3
MESJ Messejana 78.70 27 *e*P **P** 10 42 17.6 0.0
MESJ *e*S **S** 10 52 04.4 +0.2
MESJ IAMs_20 IAMs_20 11 03 56.5
comp=Z,38μm,23.5s
MESJ Messejana 78.70 27 *e*P **P** 10 42 18.4 +0.7
comp=Z,562nm,1.9s
MESJ Messejana 78.70 27 *e*PP PP 10 45 21.8 +5.2
MESJ Messejana 78.70 27 *e*P **P** 10 42 17.6 0.0
MESJ *e*S **S** 10 52 04.4 +0.2
ILAM Ilet Lapin Mar 78.74 80 *e*P **P** 10 42 16.4 -1.7
DGTI Dogotuki 78.76 206 P **P** 10 42 19.8 +1.7
PIZC Pizarro, Choco 78.79 99 *e*P **P** 10 42 20.9 +2.5
EDRB Edirne 78.83 360 P **P** 10 42 16.3 -2.0
SDV Santo Domingo 78.83 92 P **P** 10 42 18.8 -0.1
comp=Z,106nm,0.7s,baz=324,slow=4.9,SNR=2.8
SDV Santo Domingo 78.83 92 *e*P **P** 10 42 15.4 -3.5
SDV Santo Domingo 78.83 92 *e*P **P** 10 42 18.9 -0.1
SDV Santo Domingo 78.83 92 P **P** 10 42 18.8 -0.1
SDV pP **pP** 10 42 50.1 -0.6
PTEO Sao Teotonio 78.86 28 *e*P **P** 10 42 18.9 +0.4
comp=Z,870nm,1.4s
BIM Bigot 78.86 80 *e*P **P** 10 42 18.0 -0.9
PHP Peshkopia 78.87 5 P **P** 10 42 17.6 -1.0
PHP Peshkopia 78.87 5 *i* P **P** 10 42 20.0 +1.4
BUKP Musuan 78.88 267⇓*e*P **P** 10 42 18.9 -0.1
PTBC PUERTO BERRIO, 78.90 96 *e*P **P** 10 42 15.4 -3.7
STIP Stip 78.92 3 *i* Pn **P** 10 42 17.7 -1.2
PCVE Castro Verde 78.94 27 *e*P **P** 10 42 17.7 -1.3
comp=Z,451nm,1.8s
PCVE *ep*P **pP** 10 42 54.9 +3.9
RZN Rozhen 78.98 1 P **P** 10 42 18.0 -1.4
KDZ Kurdzhali 79.02 1 P **P** 10 42 17.0 -2.4
MPOM Morne Pois Mar 79.03 80 *e*P **P** 10 42 17.9 -1.9
MATI Mati 79.07 265⇓*e*P **P** 10 42 19.9 -0.1
TAVE Taveuni 79.08 206 P **P** 10 42 22.0 +2.2
KTUT Trabzon 79.08 350 ⇓P **P** 10 42 18.4 -1.3
PAMC Pamplona, Colo 79.10 94 *e*P **P** 10 42 19.9 -0.9
MAHO Mahon 79.10 17 P **P** 10 42 18.9 -0.9
MAHO S **S** 10 52 07.3 -1.1
MORF Marmelete 79.10 28 *e*P **P** 10 42 19.9 -0.1
MORF *e*S **S** 10 52 08.8 +0.1
MORF IAMs_20 IAMs_20 11 04 14.2
comp=Z,80μm,52.9s
MORF Marmelete 79.10 28 *e*P **P** 10 42 20.1 +0.1
comp=Z,751nm,1.9s
MORF *ep*P **pP** 10 42 54.9 +2.9
MORF Marmelete 79.10 28 *e*P **P** 10 42 19.8 -0.1
MORF *e*S **S** 10 52 08.7 +0.1
TIR Tirane 79.18 5 ⇓P **P** 10 42 19.7 -0.5
TIR Tirane 79.18 5 *i* P **P** 10 42 19.0 -1.3
PFVI Vila Bisbo 79.23 28 *e*P **P** 10 42 20.6 0.0
comp=Z,828nm,1.6s
PFVI *ep*P **pP** 10 42 54.6 +2.0
PFVI Vila Bisbo 79.23 28 *e*PP PP 10 45 32.0 +11
PFVI Vila Bisbo 79.23 28 P **P** 10 42 20.8 +0.2
SOCV Socops 79.23 92 *e*P **P** 10 42 18.0 -2.9
PVAQ Vaqueiros 79.23 27 *e*P **P** 10 42 20.9 +0.3
comp=Z,872nm,1.7s
PVAQ *ep*P **pP** 10 42 55.8 +3.2
PVAQ *e*S S 10 52 12.8 +2.9
PVAQ *e*SS **SS** 10 57 19.0 +1.4
PVAQ Vaqueiros 79.23 27 P **P** 10 42 20.9 +0.3
GEYT Alibeck 79.27 335 P **P** 10 42 20.4 -0.4
comp=Z,121nm,1.0s,baz=343,slow=3.5,SNR=41
GEYT LR LR 11 20 57.2
comp=Z,26μm,21.9s,baz=31,slow=38
GEYT Alibeck 79.27 335 P **P** 10 42 20.6 -0.2
KDZE Karadeniz Ereo 79.27 356 ⇑P **P** 10 42 22.1 +1.3
NIL Nilore 79.29 322 P **P** 10 42 20.2 -0.8
NIL pmax pmax
comp=Z,2μm,1.6s
NIL Nilore 79.29 322 P **P** 10 42 20.9 -0.2
NIL Nilore 79.29 322 P **P** 10 42 20.2 -0.8
NIL IAmb IAmb 10 42 38.8
comp=Z,2μm,1.6s
NIL Nilore 79.29 322 P **P** 10 42 20.5 -0.5
NVR Nevrokopi 79.30 2 P **P** 10 42 20.1 -0.9
VAY Valandovo 79.30 3 *i* Pn **P** 10 42 20.9 +0.1
VAY Valandovo 79.30 3 *e*P **P** 10 42 19.9 -1.0
DAV Davao City (W) 79.31 266 P **P** 10 42 20.8 -0.4
comp=Z,135nm,0.5s,baz=56,slow=5.3,SNR=9.3
DAV Davao City (W) 79.31 266 P **P** 10 42 21.2 -0.1
DAV Davao City (W) 79.31 266 P **P** 10 42 21.6 +0.3
SLBI Saint Lucia, B 79.33 81 *e*P **P** 10 42 19.1 -2.3
GNI Garni 79.38 346*c i*P **P** 10 42 22.7 +1.2
GNI pmax pmax
comp=Z,263nm,0.9s
GNI Garni 79.38 346 P **P** 10 42 21.4 -0.1
GNI Garni 79.38 346 P **P** 10 42 21.9 +0.3
GNI Garni 79.38 346 P **P** 10 42 20.5 -1.1
PLMC San Jos del P 79.38 99 *e*P **P** 10 42 20.9 -0.8
IMP Imphal 79.41 301 *e*P **P** 10 42 21.7 -0.2
OHR Ohrid 79.45 4 *i* Pn **P** 10 42 21.5 -0.3
GTK Tadong 79.47 307 *e*P **P** 10 42 23.6 +1.4
KNT Kendrikon 79.47 3 P **P** 10 42 21.4 -0.4
BARC Barichara 79.49 95 *e*P **P** 10 42 21.4 -1.2
RDO Rodhopi 79.52 1 P **P** 10 42 20.5 -1.6
SRS Serrai 79.53 2 P **P** 10 42 21.4 -0.8
GUY2C Guyana, Caldas 79.56 98 *e*P **P** 10 42 22.6 -0.7
ISK Istanbul-Kandi 79.58 358 P **P** 10 42 21.1 -1.3
NOCI Noci 79.59 7 *i* P **P** 10 42 21.3 -1.2
DHRM DHARAMSHALA 79.59 319 *e*P **P** 10 42 23.2 +0.3
KCP Kidapawan 79.61 266⇑*i*P **P** 10 42 23.0 0.0
MCLT Moule a Chique 79.62 81 *e*P **P** 10 42 21.5 -1.5
SHL Shillong 79.65 303 *e*P **P** 10 42 22.4 -0.9
SHL IAmb IAmb 10 42 25.8
comp=Z,117nm,0.7s
SHL *i* x x 10 45 25.5
GRG Griva 79.66 3 P **P** 10 42 22.6 -0.3
KAVA Kavala 79.66 1 P **P** 10 42 22.4 -0.5
MATE Matera 79.70 7 ⇑P **P** 10 42 21.7 -1.3
KBL Kabul 79.73 325 P **P** 10 42 21.9 -1.7
SNR=100
KBL Kabul 79.73 325 P **P** 10 42 22.3 -1.3
ARNO Arenosillo 79.75 26 P **P** 10 42 24.0 +0.7
ARNO S **S** 10 52 17.5 +2.3
PAGZ Pagadian 79.76 268⇓*i*P **P** 10 42 22.7 -1.0
ALN Alexandroupoli 79.78 0 P **P** 10 42 22.6 -0.9
FNA Florina 79.80 4 P **P** 10 42 22.2 -1.5
FNA Florina 79.80 4 *i* P **P** 10 42 22.3 -1.5
SOH Sokhos 79.82 2 P **P** 10 42 23.1 -0.7
SVB Belmont 79.83 81 *e*P **P** 10 42 23.3 -0.8
KOKK Kokkinochori, 79.83 2 P **P** 10 42 22.8 -1.0
SPBC San Pablo de B 79.85 96 *e*P **P** 10 42 22.2 -2.1
CTBH Cotabato--PC H 79.85 267⇑*i*P **P** 10 42 27.6 +3.4
ENEZ Enez 79.94 0 P **P** 10 42 22.8 -1.5

KBN Korca 79.94 4 *i* P P 10 42 28.6 +4.2
GUN Gumba 80.03 309 *eP* P 10 42 25.8 +0.3
comp=Z,2µm,1.0s
HORT Hortiatis 80.04 3 P P 10 42 23.9 -1.1
DHUB DHUBRI 80.04 305 *eP* P 10 42 24.9 -0.2
THAS Thassos island 80.06 1 P P 10 42 24.1 -0.9
DDMP Don Marcelino, 80.07 265 ⇓ *i* P P 10 42 25.5 +0.1
BAUV El Baul 80.09 89 *eP* P 10 42 21.9 -3.6
YOTC Yotoco, Valle 80.14 99 *eP* P 10 42 23.6 -2.3
RUSC La Rusia 80.14 95 *eP* P 10 42 23.1 -3.3
NEST Nestorio 80.16 4 P P 10 42 25.2 -0.5
JAY Jayapura 80.16 248 P P 10 42 25.1 -0.8
comp=Z,487nm,0.9s,baz=1.3,slow=1.9,SNR=60
JAY LR LR 11 16 21.4
comp=Z,6µm,19.7s,baz=16,slow=34
ANIL Santa Ana 80.17 98 *eP* P 10 42 25.4 -1.0
ANIL *eP* PcP 10 42 26.4 -6.8
SMTH Samothraki Isl 80.20 1 P P 10 42 24.8 -1.0
LKRN Lenkeran, Azer 80.23 342 P P 10 42 26.5 +0.6
NAX Nakhchivan 80.24 345 P P 10 42 26.4 +0.3
PLG Polygyros 80.27 2 P P 10 42 25.4 -0.8
KZN Kozani 80.29 4 P P 10 42 25.6 -0.8
OUR Ouranopolis 80.32 2 P P 10 42 24.8 -1.6
SMLA Simla 80.32 318 ⇑ *i* P P 10 42 26.1 -0.4
TAMC Tame, Arauca 80.33 94 *eP* P 10 42 25.0 -1.9
KKN Kakani 80.37 310 *eP* P 10 42 27.5 +0.3
comp=Z,242nm,0.5s
PENT Pentalofos 80.38 4 P P 10 42 25.6 -1.3
SCTE Santa Cesarea 80.38 6 *i* P P 10 42 23.6 -3.2
LSK Leskovik 80.41 5 P P 10 42 26.9 -0.1
LSK Leskovik 80.41 5 *i* P P 10 42 27.2 +0.2
GCMP Grenada, Carri 80.42 82 *eP* P 10 42 26.4 -0.8
ROSC El Rosal 80.42 97 P P 10 42 28.1 +0.3
comp=Z,53nm,0.5s,baz=344,slow=10,SNR=31
ROSC PKKPbc PKKPbc 11 01 07.6 +2.5
comp=Z,49nm,1.2s,baz=138,slow=19,SNR=2.8
ROSC LR LR 11 22 41.1
comp=Z,18µm,18.5s,baz=6.5,slow=39
ROSC El Rosal 80.42 97 *eP* P 10 42 29.5 +1.8
GKN Gorkha 80.43 310 *eP* P 10 42 27.6 +0.2
comp=Z,884nm,0.8s
DANN Dangsing 80.45 311 *eP* P 10 42 28.0 +0.3
comp=Z,3µm,0.9s
CART Cartagena 80.46 22 P P 10 42 25.9 -1.3
CART S S 10 52 23.6 +0.8
CART Cartagena 80.46 22 P P 10 42 26.8 -0.4
GSPH General Santos 80.47 266 ⇑ *eP* P 10 42 21.1 -6.6
SFS San Fernando 80.47 26 P P 10 42 27.2 0.0
SFS S S 10 52 27.6 +4.8
GENI Genyem 80.48 248 P P 10 42 28.5 +1.0
PKIN Phulchoki 80.52 310 *eP* P 10 42 28.0 0.0
comp=Z,681nm,0.9s
PKI Pulchoki 80.52 310 *eP* P 10 42 28.1 0.0
comp=Z,802nm,0.9s
LIT Litokhoron 80.52 3 P P 10 42 26.0 -1.5
MSVF Nonsavu 80.53 207 PKKPbc PKKPbc 11 01 07.1 +1.2
comp=Z,6.5nm,0.7s,baz=178,slow=12,SNR=5.1
MSVF LR LR 11 10 38.6
comp=Z,13µm,21.7s,baz=354,slow=30
MSVF Nonsavu 80.53 207 P P 10 42 29.3 +1.6
MSVF pmax pmax
comp=Z,971nm,1.1s
MSVF Nonsavu 80.53 207 P P 10 42 29.3 +1.6
MSVF IAmb IAmb 10 42 31.5
comp=Z,971nm,1.1s
MSVF Nonsavu 80.53 207 P P 10 42 30.1 +2.4
MSVF Nonsavu 80.53 207 P P 10 42 30.2 +2.4
EMAL Malaga-Limoner 80.57 25 P P 10 42 27.5 -0.3
EMAL S S 10 52 26.0 +2.1
DMN Daman 80.60 310 *eP* P 10 42 28.9 +0.5
comp=Z,472nm,0.7s
GRGR Grenville 80.60 82 *eP* P 10 42 25.5 -2.7
KPRO Kipourio 80.63 4 P P 10 42 26.9 -1.3
SRN Sarande 80.65 5 P P 10 42 26.7 -1.4
SRN Sarande 80.65 5 *i* P P 10 42 28.7 +0.6
BR231 Keskin MP Arra 80.69 355 P P 10 42 27.9 -0.6
BR231 IAmb IAmb 10 43 49.3
comp=Z,1µm,1.5s
ORTC Ortega, Tolima 80.75 98 *eP* P 10 42 23.0 -6.1
DDI Dehra Dun 80.75 317 *eP* P 10 42 29.1 +0.1
BR131 Keskin Array S 80.77 354 P P 10 42 27.5 -1.5
BR131 pmax pmax
comp=Z,533nm,1.1s
BR131 Keskin Array S 80.77 354 P P 10 42 27.5 -1.5
PCRV Puerto La Cruz 80.77 86 P P 10 42 28.4 -0.8
comp=Z,49nm,0.7s,baz=289,slow=3.5,SNR=2.4
PCRV PKKPbc PKKPbc 11 01 04.2 +0.5
comp=Z,4.8nm,0.5s,baz=32,slow=23,SNR=1.9
PCRV LR LR 11 21 16.1
comp=Z,21µm,19.2s,slow=38
BRTR Keskin Array B 80.77 354 P P 10 42 28.2 -0.8
comp=Z,91nm,0.9s,baz=18,slow=2.5,SNR=67
BRTR PKKPbc PKKPbc 11 01 04.8 +1.1
comp=Z,7.4nm,0.7s,baz=168,slow=4.8,SNR=11
BRTR PKPPKP P'P'df 11 09 07.2 -6.0
comp=Z,5.6nm,0.9s,baz=167,slow=4.9,SNR=8.0
BRTR LR LR 11 25 03.9
comp=Z,13µm,18.7s,baz=6.5,slow=41
BRTR Keskin Array B 80.77 354 P P 10 42 27.7 -1.3
BRTR Keskin Array B 80.77 354 P P 10 42 27.7 -1.3
LIA Limnos Island 80.77 1 P P 10 42 27.5 -1.3
KEK Kerkira 80.81 5 P P 10 42 28.8 -0.2
EZN Ezine 80.85 0 P P 10 42 27.9 -1.3
CHIC Chingaza 80.90 96 *eP* P 10 42 29.4 -0.9
TYRN Tyrnavos 80.90 3 P P 10 42 28.4 -1.1
JAN Janina 80.91 4 P P 10 42 27.9 -1.7
PYUN Piuthan 80.97 312 *eP* P 10 42 30.5 +0.1
comp=Z,2µm,0.8s
IGT Igoumenitsa 81.01 5 P P 10 42 29.2 -0.9
IGT Igoumenitsa 81.01 5 *i* P P 10 42 28.8 -1.3
KOLN Koldanda 81.04 311 *eP* P 10 42 30.9 +0.2
comp=Z,614nm,0.7s
THL Klokotos Trika 81.04 3 P P 10 42 28.6 -1.6
PMOZ Porto Moniz, M 81.04 36 *eP* P 10 42 31.3 +0.8
comp=Z,617nm,1.6s
PMOZ *ep*P pP 10 43 03.3 +0.5
PMOZ Porto Moniz, M 81.04 36 *eP*P PP 10 45 45.7 +9.4
PMOZ *eS* S 10 52 31.3 +2.1
PMPST Porto Santo, M 81.06 35 *eP* P 10 42 30.4 -0.1
comp=Z,935nm,1.7s
PMPST Porto Santo, M 81.06 35 *eP*P PP 10 45 42.8 +6.5
PMPS Porto Santo 81.08 35 *eP* P 10 42 31.1 +0.5
comp=Z,947nm,1.6s
PRAC Prado 81.10 98 *eP* P 10 42 22.0 -9.0
TIP Timpagrande 81.17 8 ⇑ P P 10 42 29.5 -1.5
CEU Ceuta 81.20 26 P P 10 42 32.1 +0.9
CEU S S 10 52 31.3 +0.9
POPC Popayan, Colom 81.21 100 *eP* P 10 42 25.1 -6.7
PMAR Madeira 81.22 36 *eP* P 10 42 32.4 +0.8
comp=Z,1µm,1.3s
XOR Xorichti 81.27 3 P P 10 42 30.7 -0.8
FUL Funchal 81.30 36 *eP* P 10 42 32.4 +0.7
comp=Z,981nm,1.6s
SANVU Saraoutou 81.32 218 P P 10 42 31.7 -0.1
SANVU Saraoutou 81.32 218 P P 10 42 30.6 -1.2
NEO Neokhori 81.33 3 P P 10 42 29.9 -1.9
SIGR SIGRI 81.46 0 P P 10 42 31.4 -1.0
PCON Cinco Dias 81.53 100 *eP* P 10 42 33.5 -0.3
AGG Agios Georgios 81.59 3 P P 10 42 30.9 -2.3
MAKR Makrakomi, Fth 81.59 3 P P 10 42 32.2 -1.0
SOTA Rioblanco 81.60 100 *eP* P 10 42 31.9 -2.2
EVR Evrytania 81.68 4 P P 10 42 33.2 -0.6
BETC Betania 81.71 99 *eP* P 10 42 30.3 -3.8
BETC *eP* P 10 42 32.3 -1.9
LKD2 Lefkada island 81.77 5 P P 10 42 33.7 -0.4
LKD2 Lefkada island 81.77 5 *i* P P 10 42 33.3 -0.8
BATP Bataraza 81.78 273 ⇑ *eP* P 10 42 35.3 +0.8
TOSP Speyside 81.88 82 *eP* P 10 42 35.3 +0.4
BELO BELONIA 81.88 303 *eP* P 10 42 35.4 +0.5
BELO *i* x x 10 45 43.7
EVGI Lefkada island 81.93 5 P P 10 42 34.4 -0.6
ABA Alger-Bouzarea 81.93 19 P P 10 42 34.6 -0.4
ATAL Atalanti 81.94 3 P P 10 42 33.7 -1.3
CHEFC Chefchaouen 81.97 26 P P 10 42 36.1 +0.8
LKR Lokris 81.98 3 P P 10 42 32.7 -2.5
TRN Trinidad (W) 82.00 83 *eP* P 10 42 33.7 -1.9
ANX Ano Chora 82.01 4 P P 10 42 34.1 -1.4
GCUF Volcan Galeras 82.01 101 *eP* P 10 42 33.2 -3.1
ABMS Boumerdes 82.06 18 P P 10 42 35.5 -0.1
PTGC Puerto Gaitan, 82.07 95 *eP* P 10 42 36.0 -0.1
FSK Fiskardo 82.09 5 P P 10 42 35.6 -0.2
GARC Garzon, Huila 82.11 99 *eP* P 10 42 33.2 -3.3
KULA Kula-Manisa 82.14 358 P P 10 42 34.8 -1.4

PALE Palemas 82.16 25 P P 10 42 36.0 -0.3
EFP Efpalio 82.17 4 P P 10 42 36.5 +0.3
EBNR Beni Rached 82.18 20 P P 10 42 37.1 +0.7
SERG Sergoula 82.19 3 P P 10 42 35.8 -0.6
TULM Tulcn-Chalpat 82.23 102 *eP* P 10 42 36.0 -1.4
TPP Pointe-a-Pierr 82.25 83 *eP* P 10 42 35.9 -1.0
OKGL Djebel Kef Gue 82.27 21 P P 10 42 39.6 +2.8
CUSE Cuicocha Este 82.28 103 *eP* P 10 42 35.5 -2.1
ECHA Ech Chlef 82.29 20 P P 10 42 36.7 -0.1
TBH Brigand Hill 82.31 83 *eP* P 10 42 37.0 -0.2
OTAV Otavalo 82.31 103 P P 10 42 37.0 -0.8
OTAV pmax pmax
comp=Z,2µm,2.0s
OTAV Otavalo 82.31 103 *eP* P 10 42 36.7 -1.1
OTAV Otavalo 82.31 103 *eP* P 10 42 38.2 +0.4
OTAV Otavalo 82.31 103 P P 10 42 37.0 -0.8
OTAV IAmb IAmb 10 43 12.2
comp=Z,2µm,1.9s
OTAV Otavalo 82.31 103 P P 10 42 38.4 +0.6
OTAV *p*P pP 10 43 09.0 -0.8
USTO Oran 82.34 22 P P 10 42 38.6 +1.5
GOG Mont Gurugu 82.36 24 P P 10 42 37.0 -0.4
LAKA Lakka 82.36 4 P P 10 42 36.2 -1.1
VLS Valsamata 82.37 5 P P 10 42 36.9 -0.4
CHTO Chiang Mai 82.42 294 P P 10 42 36.2 -1.6
CHTO Chiang Mai 82.42 294 P P 10 42 37.0 -0.8
CHTO Chiang Mai 82.42 294 P P 10 42 37.2 -0.6
EANR 'Ain N'Sour 82.44 20 P P 10 42 37.5 -0.2
PSDA Pessada-Kefalo 82.44 5 P P 10 42 35.5 -2.1
VILL Villia 82.47 2 P P 10 42 36.7 -1.2
EMHD Djebel Mahouad 82.51 19 P P 10 42 38.4 +0.2
CHAS Isla Isabel II 82.51 23 P P 10 42 36.6 -1.4
CHAS S S 10 52 44.1 +0.2
RLS Riolos of Patr 82.53 4 P P 10 42 38.5 +0.5
CAEH 'Ain El Ouahch 82.53 16 P P 10 42 41.8 +3.7
FLOC Florencia 82.55 100 *eP* P 10 42 34.4 -4.1
KLV Kalavryta, Ach 82.56 3 P P 10 42 38.1 -0.2
DION Dionisos Attik 82.57 2 P P 10 42 37.1 -1.2
THAL Thalero 82.58 3 P P 10 42 37.3 -1.0
PTL Penteli 82.60 2 P P 10 42 36.7 -1.8
LTK Loutraki 82.60 3 P P 10 42 37.1 -1.4
DFRA Djebel Bou Aff 82.62 17 P P 10 42 39.2 +0.4
ADJB Djebel Djouab 82.63 19 P P 10 42 38.7 -0.1
DRO Drossia 82.64 4 P P 10 42 38.7 0.0
OLHC Oulhaca 82.64 23 P P 10 42 39.6 +0.8
OJBR Djebel Berber 82.66 21 P P 10 42 38.0 -0.9
ATHU Athens Univers 82.68 2 P P 10 42 37.6 -1.3
VAE Valguarnera 82.68 10 P P 10 42 39.9 +0.9
comp=Z,17nm,0.9s,baz=330,slow=8.1,SNR=5.0
CM31 Chiang Mai Arr 82.73 294 P P 10 42 38.9 -0.5
CMAR Chiang Mai Arr 82.73 294 P P 10 42 38.7 -0.7
comp=Z,222nm,0.8s,baz=16,slow=5.5,SNR=408
CMAR PKKPbc PKKPbc 11 01 01.6 +2.4
comp=Z,6.7nm,0.9s,baz=235,slow=3.7,SNR=7.3
CMAR PKPPKP P'P'df 11 09 00.9 -8.2
comp=Z,1.6nm,0.7s,baz=230,slow=4.2,SNR=5.6
CMAR Chiang Mai Arr 82.73 294 P P 10 42 38.4 -1.0
CMAR *p*P pP 10 43 09.9 -1.6
OTSS Djebel Tessala 82.74 22 P P 10 42 41.4 +2.1
CMAH Djebel Manchou 82.76 15 P P 10 42 39.9 +0.5
OJGS Djebel Guires 82.81 21 P P 10 42 39.7 0.0
AKET Djebel Ketaf 82.81 18 P P 10 42 39.6 -0.2
ODJA Bouhanifia 82.81 22 P P 10 42 40.1 +0.4
LTHK Lithakia 82.85 4 P P 10 42 38.1 -1.6
TAF Taforalt 82.87 24 P P 10 42 40.0 0.0
SET Setif 82.89 17 P P 10 42 43.0 +2.9
MACC Macarena, Meta 82.97 98 *eP* P 10 42 38.8 -1.9
ATAF Djebel Tarf 83.04 18 P P 10 42 40.8 -0.1
CKHR Kef el Ahmar 83.09 17 P P 10 42 41.8 +0.6
ABSA Djebel Ababsia 83.11 15 P P 10 42 41.4 +0.1
DVP Devils Point 83.17 216 P P 10 42 41.8 +0.4
CTEI Djebel Teioual 83.17 16 P P 10 42 42.2 +0.6
AVE Averroes 83.22 28 P P 10 42 40.9 -0.9
AVE S S 10 52 50.4 -0.9
AVE Averroes 83.22 28 P P 10 42 42.1 +0.3
KRND KRANIDI 83.25 3 P P 10 42 38.2 -3.6
ZHG ZHG 83.26 27 P P 10 42 43.0 +0.9
SIJI Sorong 83.28 257 P P 10 42 41.6 -0.6
comp=Z,137nm,0.6s,baz=17,slow=5.6,SNR=85
SIJI PKPPKP P'P'df 11 09 03.8 -3.3
comp=Z,2.3nm,0.4s,baz=174,slow=22,SNR=1.6
JBK JBK 83.30 24 P P 10 42 42.0 -0.4
PMG Port Moresby 83.34 239 P P 10 42 41.5 -0.9
comp=Z,507nm,1.1s,baz=26,slow=5.3,SNR=198
PMG PKKPbc PKKPbc 11 00 59.9 +1.3
comp=Z,8.2nm,0.5s,baz=213,slow=6.6,SNR=3.1
PMG PKPPKP P'P'df 11 09 08.0 +1.8
comp=Z,10nm,0.9s,baz=90,slow=4.6,SNR=3.1
PMG LR LR 11 15 01.0
comp=Z,4µm,19.4s,baz=28,slow=32
PMG Port Moresby 83.34 239 P P 10 42 42.6 +0.1
PMG Port Moresby 83.34 239 P P 10 42 42.5 +0.1
PMG Port Moresby 83.34 239 P P 10 42 42.0 -0.4
ITM Ithomi 83.42 4 P P 10 42 41.4 -1.3
LCRM LCR 83.44 26 P P 10 42 44.0 +0.9
YER Yerkesik 83.52 359 P P 10 42 42.6 -0.7
IFR Ifrane 83.54 26 P P 10 42 42.5 -1.1
IFR S S 10 52 55.9 +1.0
PYL PYLOS 83.69 4 P P 10 42 42.5 -1.6
BOK Bokaro 83.70 307 *eP* P 10 42 44.5 +0.2
BOK *i* x x 10 45 57.2
DLV T Lat 83.76 283 P P 10 42 45.8 +0.9
KEST Kesra 83.89 14 P P 10 42 44.3 -0.9
comp=Z,303nm,1.0s,baz=286,slow=3.4,SNR=46
KEST PKKPbc PKKPbc 11 00 58.4 +1.8
comp=Z,7.6nm,0.8s,baz=136,slow=2.2,SNR=4.3
KEST PKPPKP P'P'df 11 09 05.6 -1.8
comp=Z,14nm,1.0s,baz=112,slow=5.9,SNR=5.9
SRHM Skhour des Reh 83.90 29 P P 10 42 46.0 +0.7
VLI Velial 83.91 3 P P 10 42 43.7 -1.5
EAH EAH 84.26 30 P P 10 42 48.0 +0.9
MDT Midelt 84.33 26 P P 10 42 47.6 +0.2
comp=Z,362nm,1.0s,baz=9.6,slow=1.7,SNR=298
MDT Midelt 84.33 26 P P 10 42 47.8 +0.2
KTHR Kythira 84.36 3 P P 10 42 46.8 -0.7
FAKI Fak Fak 84.57 255 P P 10 42 47.8 -1.0
FAKI Fak Fak 84.57 255 P P 10 42 48.6 -0.2
TDRA Tendrara 84.66 24 P P 10 42 50.0 +0.7
ANKY Antikythira Is 84.76 3 P P 10 42 48.8 -0.7
KKM Kota Kinabalu 84.93 273 P P 10 42 51.6 +0.9
OUK Oukaimeden 85.11 29 P P 10 42 52.0 +0.2
CGR Cap Guir 85.15 31 P P 10 42 52.2 +0.7
GOLM Goulmima 85.32 26 P P 10 42 54.0 +1.4
IDI Anoyia 85.37 1 P P 10 42 50.0 -2.6
comp=Z,21nm,0.5s,baz=24,slow=12,SNR=19
IDI LR LR 11 21 31.0
comp=Z,14µm,21.9s,baz=354,slow=36
LEF Lefka 85.39 355 ⇓ P P 10 42 51.7 -0.9
MACI Morro de la Ar 85.52 37 P P 10 42 54.7 +1.0
OUZM OUZ 85.67 28 P P 10 42 55.0 +0.7
FIGM Figuig 85.70 23 P P 10 42 54.2 -0.2
GVDS Gavdos 85.80 2 P P 10 42 53.9 -0.8
GVD Gavdhos 85.80 2 P P 10 42 54.1 -0.6
SPMM Sapulut 85.95 272 P P 10 42 57.0 +1.3
TZRR Tazzarine 86.06 27 P P 10 42 57.0 +0.8
SFNM Sidi Ifni 86.31 31 P P 10 42 58.0 +0.7
JBP Jabalpur 86.57 312 *eP* P 10 42 56.7 -1.9
JBP IAmb IAmb 10 43 05.7
comp=Z,582nm,1.1s
JBP *eS* SKSac 10 53 12.0 -1.3
ZGR Zagora 86.69 27 P P 10 42 60.0 +0.7
MARNC Mare, Loyalty 86.76 215 P P 10 42 58.8 -0.5
TOLI2 Tolitoli 86.84 267 P P 10 42 59.2 -0.8
TANT Tantan 86.90 33 P P 10 43 02.0 +1.8
SANI Sanana 86.92 261 P P 10 42 59.3 -1.1
KOUNC Koumac, New Ca 87.03 219 P P 10 43 02.1 +1.5
BNDI Bandanaira 87.11 256 P P 10 43 01.4 +0.2
BHPL Bhopal 87.45 314 *eP* P 10 43 01.9 -1.0
BHPL *i* x x 10 46 28.2
DZM Mont Dzumac 87.79 217 P P 10 43 05.1 +0.8
comp=Z,105nm,0.9s,baz=64,slow=9.1,SNR=54
DZM Mont Dzumac 87.79 217 *eP* P 10 43 04.5 +0.2
comp=Z,418nm,1.2s
DZM Mont Dzumac 87.79 217 P P 10 43 05.6 +1.3
DZM Mont Dzumac 87.79 217 P P 10 43 05.7 +1.4
DZM *p*P pP 10 43 38.1 +1.3
NOUC Port Laguerre 87.86 217 P P 10 43 05.5 +1.0
NOUC Port Laguerre 87.86 217 P P 10 43 05.7 +1.1
NOUC *p*P pP 10 43 39.3 +2.3
OUENC Ouen Island, N 87.99 216 P P 10 43 06.9 +1.7
ONTNC Ouen Toro 88.00 217 P P 10 43 06.5 +1.3

ASF Jabal al Asfar 88.07 351 LR LR 11 24 09.5
comp=Z,5µm,21.3s,baz=355,slow=37
ATAH Atahualpa 88.72 106 P P 10 43 10.7 +1.3
comp=Z,143nm,1.0s,baz=338,slow=3.7,SNR=71
ATAH LR LR 11 25 24.6
comp=Z,11µm,19.4s,baz=344,slow=37
COEN Coen 89.13 240 P P 10 43 09.5 -1.2
COEN IAmb IAmb 10 43 11.8
comp=Z,588nm,0.8s
COEN Coen 89.13 240 P P 10 43 10.2 -0.5
CHLP Challavanipeta 89.19 307 *eP* P 10 43 11.0 0.0
CHLP *ep*P pP 10 43 44.5 +0.8
CHLP *es*P sP 10 43 57.0 0.0
BOAV Boa Vista 89.50 86 *eP* P 10 43 12.3 -0.3
SBUM Sibu 90.03 275 P P 10 43 16.0 +0.9
BHUJ Bhuj 90.09 321 *eP* P 10 43 15.2 -0.1
BHUJ *i* PP PP 10 46 48.0 -1.5
DGPR DIGLIPUR 90.10 297 *eP* P 10 43 16.1 +0.8
VIS Vishakhapatnam 90.19 307 *eP* P 10 43 12.5 -3.2
VIS IAmb IAmb 10 43 18.9
comp=Z,180nm,1.0s
TBTG Tabatinga, AM 90.39 98 *eP* P 10 43 15.0 -1.7
EIL Elat 90.70 353 LR LR 11 29 08.8
comp=Z,6µm,21.4s,baz=7.5,slow=39
RPR Rampur 90.75 311 *eP* P 10 43 18.1 -0.3
RPR *ep*P pP 10 43 51.8 +0.6
RPR *eP*P PP 10 46 56.4 +1.6
RPR *e*SKSac SKSac 10 53 36.8 -1.5
SRSP Sriramsagar 91.05 312 *eP* P 10 43 18.7 -1.1
SRSP *ep*P pP 10 43 52.6 +0.1
SRSP *es*P sP 10 44 05.1 -0.8
MDP Montagnes des 91.13 78 P P 10 43 19.4 -0.9
comp=Z,52nm,0.8s,baz=330,slow=4.0,SNR=17
MDP PKKPbc PKKPbc 11 00 39.9 +0.7
comp=Z,17nm,0.7s,baz=199,slow=2.7,SNR=9.8
MDP LR LR 11 23 02.2
comp=Z,20µm,21.9s,baz=326,slow=35
SHME Shamm 91.14 334 P P 10 43 19.7 -0.4
SNR=38
SHME Shamm 91.14 334 *i* P P 10 43 18.1 -2.0
SNR=45
BANOM Banah 91.23 333 P P 10 43 21.0 +0.4
SNR=42
BANOM Banah 91.23 333 *i* P P 10 43 18.1 -2.5
SNR=56
PBA Port Blair 91.52 296 *eP* P 10 43 22.1 +0.1
UMQ Umm Al-Quwin 91.75 334 P P 10 43 31.8 +8.9
SNR=5.2
UMQ Umm Al-Quwin 91.75 334 *i* P P 10 43 22.4 -0.6
SNR=11
MASF Masafi 91.79 333 P P 10 43 23.4 +0.2
SNR=21
MSFE Esma-Masafi 91.80 333 *i* P P 10 43 21.7 -1.5
SNR=24
KSM Kuching 91.83 276 P P 10 43 24.0 +0.5
KSM Kuching 91.83 276 P P 10 43 23.9 +0.5
CZSB Cruzeiro do Su 92.03 102 *eP* P 10 43 23.6 -0.7
MYLAV Mylavaram 92.14 309 *eP* P 10 43 25.0 +0.2
MYLAV *es*P sP 10 44 11.2 +0.4
MYLAV *e*SKSac SKSac 10 53 46.7 +0.5
UOSS Minazif 92.19 333 P 10 43 22.4 -2.6
UOSS Minazif 92.19 333 P P 10 43 23.4 -1.6
UOSS Minazif 92.19 333 *i* P P 10 43 22.6 -2.4
SNR=8.8
NAZ Nazwa, Dubai 92.27 334 P P 10 43 25.0 -0.4
SNR=37
NAZ Nazwa, Dubai 92.27 334 *i* P P 10 43 23.9 -1.5
SNR=28
CUPL Choutuppal 92.31 311 *eP* P 10 43 25.2 -0.5
CUPL *ep*P pP 10 43 58.7 +0.2
CUPL *eP*P PP 10 47 09.2 +1.9
CUPL *e*SKSac SKSac 10 53 47.5 +0.3
HATD Hatta, Dubai 92.32 333 P P 10 43 26.0 +0.3
SNR=27
HATD Hatta, Dubai 92.32 333 *i* P P 10 43 23.6 -2.1
SNR=24
HYBB Hyderabad (bro 92.34 311 *eP* P 10 43 25.3 -0.5
HYBB *ep*P pP 10 43 59.3 +0.8
HYBB *es*P sP 10 44 12.1 +0.1
HYBB *eP*P PP 10 47 08.3 +0.8
HYBB *e*SKSac SKSac 10 53 46.9 -0.5
HYBB *e*ScS ScS 10 54 22.1 +1.7
HYBB *e*PKKPbc PKKPbc 11 00 38.0 +1.9
MTSU Mount Surprise 92.34 237 P P 10 43 26.2 +0.6
HYB Hyderabad 92.34 311 *eP* P 10 43 25.0 -0.8
HYB IAmb IAmb 10 43 33.0
comp=Z,91nm,0.9s
HYB *i* x x 10 47 03.7
PTGA Pitinga 92.46 87 P P 10 43 25.6 -0.7
comp=Z,144nm,0.8s,baz=324,slow=6.2,SNR=228
PTGA PKKPbc PKKPbc 11 00 37.7 +1.7
comp=Z,13nm,0.8s,baz=151,slow=3.2,SNR=9.7
PTGA LR LR 11 27 14.7
comp=Z,14µm,20.7s,baz=324,slow=37
ASHO Ashiyiah 92.47 333 P P 10 43 26.0 -0.4
SNR=48
ASHO Ashiyiah 92.47 333 *i* P P 10 43 24.8 -1.5
SNR=39
KLRI Killari 92.48 313 *eP* P 10 43 25.9 -0.6
KLRI *es*P sP 10 44 12.1 -0.6
FAQ Al Faqa, Dubai 92.52 334 P P 10 43 26.0 -0.5
SNR=29
FAQ Al Faqa, Dubai 92.52 334 *i* P P 10 43 24.1 -2.4
SNR=26
KAPI Kappang 92.60 265 P P 10 43 26.4 -0.5
comp=Z,14nm,0.6s,baz=62,slow=5.6,SNR=11
KAPI LR LR 11 24 21.1
comp=Z,2µm,19.3s,baz=53,slow=35
KAPI Kappang 92.60 265 P P 10 43 26.1 -0.8
KAPI pmax pmax
comp=Z,395nm,1.6s
KAPI Kappang 92.60 265 P P 10 43 25.6 -1.3
KAPI Kappang 92.60 265 P P 10 43 26.1 -0.8
KAPI IAmb IAmb 10 44 38.6
comp=Z,395nm,1.6s
KAPI Kappang 92.60 265 P P 10 43 27.3 +0.4
KAPI Kappang 92.60 265 P P 10 43 26.1 -0.8
ASUD Al Ashush, Dub 92.69 334 P P 10 43 28.0 +0.7
SNR=42
ASUD Al Ashush, Dub 92.69 334 *i* P P 10 43 26.0 -1.3
SNR=36
AJN Ajban 92.83 334 P P 10 43 28.8 +0.9
SNR=13
AJN Ajban 92.83 334 *i* P P 10 43 26.3 -1.7
SNR=20
NJS Nagarjunasagar 92.84 310 *eP* P 10 43 27.9 -0.2
NJS *es*P sP 10 44 14.1 -0.2
NJS *e*SKSac SKSac 10 53 48.3 -1.7
SOHO SOHO 92.89 333 *i* P P 10 43 25.7 -2.5
SNR=22
POO Poona 93.06 316 *eP* P 10 43 28.0 -1.1
POO IAmb IAmb 10 43 33.0
comp=Z,85nm,1.0s
BIDO Bidbid 93.10 331 P P 10 43 30.0 +0.8
SNR=20
ALNE Al Ain 93.15 333 P P 10 43 30.1 +0.6
SNR=26
ALNE Al Ain 93.15 333 *i* P P 10 43 27.4 -2.1
SNR=22
ADKI Addanki 93.22 309 *eP* P 10 43 30.0 +0.2
ADKI *ep*P pP 10 44 03.2 +0.7
ADKI *es*P sP 10 44 15.9 0.0
HOQ Hoqain 93.24 332 P P 10 43 32.0 +2.1
SNR=24
WSAR Wadi Sarin 93.25 331 LR LR 11 33 05.0
comp=Z,15µm,18.9s,baz=33,slow=40
CTA Charters Tower 93.27 235 P P 10 43 29.9 +0.1
comp=Z,418nm,0.8s,baz=23,slow=5.7,SNR=392
CTA PKKPbc PKKPbc 11 00 34.5 -0.1
baz=177,slow=5.1
CTA LR LR 11 20 32.9
comp=Z,5µm,21.0s,baz=20,slow=32
CTA Charters Tower 93.27 235 P P 10 43 30.5 +0.7
CTAO Charters Tower 93.27 235 P P 10 43 29.5 -0.3
CTAO pmax pmax
comp=Z,501nm,0.9s
CTAO Charters Tower 93.27 235 P P 10 43 29.5 -0.3
CTAO Charters Tower 93.27 235 P P 10 43 30.5 +0.7
CTAO Charters Tower 93.27 235 P P 10 43 29.9 +0.1
KULM Kulim 93.34 286 P P 10 43 31.0 +0.6
SRLM Srisailam 93.41 310 *eP* P 10 43 30.0 -0.8
SRLM *es*P sP 10 44 16.6 -0.4
DRS Darwin Rock St 93.46 251 P P 10 43 30.7 -0.1
SMDO Samad 93.57 331 P P 10 43 32.0 +0.5
SNR=30

ARQ Araqi 93.67 332 P **P 10 43 32.0 +0.1**
SNR=45
NNA Nana 93.67 107 P **P 10 43 31.6 -0.2**
comp=Z,26nm,0.9s,baz=320,slow=8.0,SNR=8.6
NNA LR LR 11 26 07.5
comp=Z,5μm,19.3s,baz=337,slow=36
NNA Nana 93.67 107 P pP 10 44 03.1 -1.2
MTN Manton Dam 93.71 251 P **P 10 43 31.4 -0.5**
MTN IAmb IAmb 10 43 41.6
comp=Z,540nm,1.2s
MTN Manton Dam 93.71 251 P **P 10 43 31.9 0.0**
WBK Wadi Bani Khal 93.77 330 P **P 10 43 33.0 +0.7**
SNR=37
RPN Rapa Nui 93.84 141 LR LR 11 17 58.0
comp=Z,13μm,19.6s,baz=341,slow=30
RPN Rapa Nui 93.84 141 pP pP 10 44 02.8 -1.9
IPM Ipoh 93.86 286 P **P 10 43 33.0 +0.2**
IPM Ipoh 93.86 286 P **P 10 43 32.3 -0.5**
RCLA Racherla 93.97 310 *e*P **P 10 43 32.7 -0.6**
RCLA *es*P **sP 10 44 19.5 0.0**
RCLA *e*SKSac **SKSac 10 53 56.4 +0.1**
JLN Jalan Bani Buh 94.09 330 P **P 10 43 34.0 +0.2**
SNR=42
MACA Manacapuru-AM 94.18 89 *e*P **P 10 43 33.6 -0.6**
JMDO Jabal Madar 94.21 331 P **P 10 43 34.0 -0.4**
SNR=38
RK1H Rockhampton Ha 94.53 230 P **P 10 43 36.8 +1.3**
UMZA Um Al Zommool 94.58 334 P **P 10 43 34.1 -1.9**
BATI Baumata 95.09 259 P **P 10 43 36.5 -1.9**
comp=Z,56nm,0.7s,baz=81,slow=2.4,SNR=6.4
BATI PP **PP 10 47 25.8 -3.8**
comp=Z,62nm,0.8s,baz=20,slow=9.6,SNR=4.6
BATI LR LR 11 23 07.6
comp=Z,5μm,21.2s,baz=31,slow=33
URV Uravakonda 95.09 311 *e*P **P 10 43 37.5 -1.0**
URV *ep*P **pP 10 44 11.2 0.0**
URV *es*P **sP 10 44 24.5 -0.2**
SKHT Srikalahasti 95.24 309 *e*P **P 10 43 38.9 -0.2**
SKHT *es*P **sP 10 44 25.1 0.0**
SKHT *e*PP **PP 10 47 31.6 +1.6**
SKHT *e*SKSac **SKSac 10 54 03.8 +0.8**
SACV Santiago Islan 95.38 48 P **P 10 43 38.8 -1.0**
RAYN Ar Rayn 95.62 342 P **P 10 43 39.8 -1.1**
RAYN pmax pmax
comp=Z,865nm,1.9s
RAYN Ar Rayn 95.62 342 P **P 10 43 40.0 -0.9**
RAYN Ar Rayn 95.62 342 **P 10 43 39.8 -1.1**
RAYN Ar Rayn 95.62 342 P **P 10 43 40.3 -0.6**
RAYN Ar Rayn 95.62 342 *i* P **P 10 43 40.5 -0.3**
SNR=74
GOA Goa 95.87 314 *e*P **P 10 43 40.3 -1.7**
GOA *i* x x 10 47 28.4
EIDS Eidsvold 96.10 228 P **P 10 43 43.0 +0.3**
MCPB Macapa, AP 96.13 80 *e*P **P 10 43 42.1 -1.0**
MALB Monte Alegre 96.30 83 *e*P **P 10 43 43.1 -0.8**
PSI Prapat 96.34 287 P **P 10 43 43.2 -1.0**
comp=Z,122nm,0.9s,baz=30,slow=4.9,SNR=39
PSI PP **PP 10 47 36.2 -2.9**
comp=Z,17nm,0.8s,baz=355,slow=4.0,SNR=2.6
QIS Mount Isa 96.53 240 P **P 10 43 43.7 -1.0**
DQM DQM 96.69 331 P **P 10 43 48.0 +2.3**
SNR=9.4
ETMB Extrema 97.07 97 *e*P **P 10 43 45.0 -2.3**
KNRA Kununurra 97.29 252 P **P 10 43 46.9 -1.3**
KNRA IAmb IAmb 10 47 46.0
comp=Z,231nm,1.2s
KNRA Kununurra 97.29 252 P **P 10 43 47.7 -0.5**
ITTB Itaituba 97.72 85 *e*P **P 10 43 49.1 -1.2**
RMQ Roma 97.99 230 P Pdif 10 43 52.6 +1.4
WB0 Warramunga Arr 98.18 245 P **P 10 43 50.0 -2.2**
WR0 Warramunga Arr 98.28 245 P **P 10 43 51.3 -1.4**
GSI Gunungsitoli 98.30 287 P **P 10 43 52.7 -0.2**
WRAB Tennant Creek 98.34 245 P **P 10 43 50.9 -2.0**
WRAB pmax pmax
comp=Z,80nm,1.0s
WRAB Tennant Creek 98.34 245 P **P 10 43 50.9 -2.0**
WRAB Tennant Creek 98.34 245 P **P 10 43 52.0 -0.9**
WRAB Tennant Creek 98.34 245 P **P 10 43 52.1 -0.8**
WB2 Warramunga Arr 98.35 245 P **P 10 43 51.1 -1.8**
WRA Warramunga Arr 98.36 245 P **P 10 43 51.5 -1.5**
comp=Z,40nm,0.8s,baz=36,slow=5.4,SNR=164
WRA PP **PP 10 47 50.1 -4.7**
comp=Z,28nm,0.9s,baz=37,slow=7.8,SNR=4.7
WRA PKiKP **PKiKP 10 48 24.0 -0.6**
comp=Z,5.8nm,0.5s,baz=11,slow=1.7,SNR=13
WRA PKKPbc **PKKPbc 11 00 19.1 -1.8**
comp=Z,1.7nm,0.5s,baz=220,slow=2.4,SNR=9.5
WRA PKPPKP **P'P'df 11 08 36.7 -1.8**
comp=Z,5.6nm,1.0s,baz=211,slow=2.4,SNR=8.4
WRA LR LR 11 23 56.6
comp=Z,3μm,20.2s,baz=6.0,slow=33
WRA Warramunga Arr 98.36 245 P **P 10 43 52.3 -0.7**
WRA *PP **pP 10 44 25.6 0.0**
WRA pmax pmax
comp=Z,8.0nm,1.0s
WRA Warramunga Arr 98.36 245 P **P 10 43 52.3 -0.7**
WRA pP **pP 10 44 25.6 0.0**
OUZ Omahuta 98.38 207 P Pdif 10 43 54.0 +1.4
DOK Doka 98.77 334 P Pdif 10 43 58.0 +3.0
SNR=12
SHAO Shalim 98.99 332 P **P 10 43 56.7 +0.7**
SNR=6.0
SHAO Shalim 98.99 332 *i* Pdiff Pdif 10 43 54.8 -1.2
SNR=7.6
WHFO Wadi Hawf 99.52 334 P **Pdif 10 44 03.2 +4.8**
SNR=7.7
UGM Wanagama 99.76 271 P **Pdif 10 43 59.3 -0.1**
RBK Rabkut 99.83 333 P **Pdif 10 44 05.0 +5.2**
SNR=5.7
TMAB Tom-Au,PA,Br 99.83 78 *e*P **Pdif 10 43 60.0 +0.2**
QLP Quilpie 99.88 234 P **Pdif 10 44 01.1 +1.5**
ABTO Aybut 100.17 334 P **Pdif 10 44 00.1 -1.2**
SNR=5.5
NPGB Novo Progresso 100.20 86 *e*P **Pdif 10 44 00.1 -1.2**
ARMA Armidale 100.46 226 P **Pdif 10 44 04.2 +2.0**
URZ Urewera 100.56 203 P **Pdif 10 44 02.4 +0.2**
comp=Z,12nm,0.9s,baz=18,slow=3.2,SNR=4.2
URZ PKiKP **PKiKP 10 48 27.1 -0.8**
comp=Z,13nm,0.9s,baz=346,slow=3.3,SNR=5.7
PALK Pallekele 100.69 305 P **Pdif 10 44 04.2 +0.6**
comp=Z,12nm,0.8s,baz=117,slow=7.1,SNR=4.0
PALK Pallekele 100.69 305 Pdif **Pdif 10 44 03.9 +0.3**
PALK Pallekele 100.69 305 P **Pdif 10 44 03.9 +0.3**
FITZ Fitzroy Crossi 100.88 253 PKKPbc PKKPbc 11 00 11.6 -2.0
comp=Z,1.8nm,0.7s,baz=196,slow=9.0,SNR=1.0
TRD Trivandrum 101.08 309 *e*P **Pdif 10 44 06.4 +1.1**
TRD *i* x x 10 48 04.1
BKZ Black Stump Fm 101.55 203 P **Pdif 10 44 09.0 +2.2**
LPAZ La Paz 101.63 102 P **Pdif 10 44 06.3 -2.0**
comp=Z,6.3nm,0.7s,baz=336,slow=1.7,SNR=11
LPAZ La Paz 101.63 102 *e*P **Pdif 10 44 06.7 -1.6**
ASAR Alice Springs 101.78 243 P **Pdif 10 44 07.0 -1.2**
comp=Z,13nm,0.8s,baz=35,slow=3.7,SNR=76
ASAR PKiKP **PKiKP 10 48 30.6 0.0**
comp=Z,21nm,0.9s,baz=26,slow=1.5,SNR=8.3
ASAR PKKPbc **PKKPbc 11 00 11.6 +0.4**
comp=Z,4.9nm,0.6s,baz=203,slow=2.5,SNR=12
ASAR PKPPKP **P'P'df 11 08 25.7 -6.2**
comp=Z,2.2nm,1.0s,baz=194,slow=1.8,SNR=4.3
ASAR Alice Springs 101.78 243 Pdif **Pdif 10 44 07.7 -0.5**
ROSB Rosrio 102.24 74 *e*P **Pdif 10 44 10.7 +0.2**
PRPB Paraiapebas 102.24 81 *e*P **Pdif 10 44 09.5 -1.0**
INKA Innaminka 102.35 236 P **Pdif 10 44 11.8 +1.3**
VILB Vilhena 102.77 94 *e*P **Pdif 10 44 12.6 -0.2**
CLDB Colider 103.24 89 *e*P **Pdif 10 44 14.6 -0.2**
PDRB Porto dos Gac 103.39 90 *e*P **Pdif 10 44 15.6 +0.1**
CMSA Cobar Meteorol 103.70 230 P **Pdif 10 44 17.2 +0.8**
QRZ Quartz Range 103.98 206 P **Pdif 10 44 19.6 +2.2**
OOD Oodnadatta 104.56 240 P **Pdif 10 44 19.7 -0.6**
TORD Torodi Ar. Bea 104.72 25 Pdiff **Pdif 10 44 20.0 -1.5**
comp=Z,2.6nm,0.5s,baz=342,slow=3.5,SNR=8.8
TORD PKiKP **PKiKP 10 48 35.6 -0.7**
comp=Z,4.2nm,0.4s,baz=337,slow=2.8,SNR=14
TORD PKKPbc **PKKPbc 11 00 03.5 +1.6**
comp=Z,37nm,0.9s,baz=171,slow=2.1,SNR=22
TORD Torodi Ar. Bea 104.72 25 Pdif **Pdif 10 44 20.3 -1.2**
NBPS Pedro II - PI 104.84 73 *e*P **Pdif 10 44 22.5 +0.4**
SIV San Ignacio 104.91 96 Pdif **Pdif 10 44 21.3 -0.9**
comp=Z,4.2nm,0.7s,baz=329,slow=2.7,SNR=12
SIV PKiKP **PKiKP 10 48 36.7 +0.1**
comp=Z,12nm,0.9s,baz=339,slow=10,SNR=2.2
SIV PKKPbc **PKKPbc 11 00 03.7 +2.0**
comp=Z,14nm,0.9s,baz=168,slow=2.8,SNR=8.6
JAWL J.Aulia 105.18 354 *i* P PKiKP 10 48 27.5 -10
JAWL *i* 10 48 29.6
baz=349,slow=16
PTLB Pontes e Lacer 105.43 94 *e*P **Pdif 10 44 25.2 +0.7**
WRKA Warakurna 105.55 247 P **Pdif 10 44 24.8 -0.1**
STKA Stephens Creek 105.62 233 Pdiff **Pdif 10 44 25.4 +0.5**
comp=Z,8.0nm,0.8s,baz=352,slow=7.3,SNR=16
STKA PKiKP **PKiKP 10 48 37.0 -0.4**
comp=Z,17nm,0.9s,baz=110,slow=6.9,SNR=7.8
STKA PKKPbc **PKKPbc 11 00 02.0 +2.0**
comp=Z,2.4nm,0.5s,baz=65,slow=0.4,SNR=3.4
STKA Stephens Creek 105.62 233 P **Pdif 10 44 26.3 +1.3**
LCRK Leigh Creek 105.78 236 P **Pdif 10 44 26.7 +1.0**
NBCL Cascavel-CE 106.21 70 *e*P **Pdif 10 44 28.7 +0.6**
LVC Limon Verde 106.61 106 Pdiff **Pdif 10 44 30.8 +0.7**
comp=Z,2.9nm,0.6s,baz=43,slow=4.1,SNR=2.6
LVC PKiKP **PKiKP 10 48 40.3 +0.3**
comp=Z,8.6nm,1.0s,baz=215,slow=7.4,SNR=2.3
LVC PKKPbc **PKKPbc 10 59 59.5 +2.5**
comp=Z,6.8nm,0.8s,baz=155,slow=2.5,SNR=6.5
LVC Limon Verde 106.61 106 *e*P **Pdif 10 44 31.2 +1.1**
LVC Limon Verde 106.61 106 P Pdif 10 45 00.1 +30
NBPB Pedra_Branca-C 106.74 72 *e*P **Pdif 10 44 31.3 +0.8**
RCBR Riachuelo 108.75 68 P Pdif 10 45 11.9 +32
TIC Toumodi 109.32 33 *e*PKiKP **PKiKP 10 48 44.4 -0.5**
DBIC Dimbokro 109.34 33 Pdiff **Pdif 10 44 43.8 +1.7**
comp=Z,1.4nm,0.7s,baz=0.4,slow=12,SNR=1.5
DBIC PKiKP **PKiKP 10 48 44.5 -0.4**
comp=Z,26nm,1.0s,baz=1.3,slow=2.2,SNR=12
DBIC PKKPbc **PKKPbc 10 59 48.7 +1.0**
comp=Z,13nm,0.8s,baz=182,slow=4.4,SNR=5.4
DBIC PKKP **PKKPdf 11 00 02.9 +0.6**
comp=Z,57nm,0.8s,baz=158,slow=3.9,SNR=18
KIC Kosan Boka 109.67 33 *e*PKiKP **PKiKP 10 48 44.8 -0.8**
comp=Z,50nm,0.9s
LIC Lamto 109.72 33 *e*PKiKP **PKiKP 10 48 44.8 -0.9**
comp=Z,106nm,1.1s
FURI Furi 110.94 347 P PKiKP 10 49 12.5 +24
BDFB Brasilia 111.23 85 Pdiff **Pdif 10 44 56.6 +6.2**
comp=Z,1.3nm,0.4s,baz=356,slow=15,SNR=1.9
BDFB PKiKP **PKiKP 10 48 47.6 -0.9**
comp=Z,23nm,1.2s,baz=188,slow=5.9,SNR=4.5
BDFB PKKPab **PKKPab 10 59 53.3 -0.6**
comp=Z,5.9nm,0.7s,baz=58,slow=12,SNR=4.2
AQDB Aquidauana 111.40 94 *e*P **Pdif 10 44 50.9 0.0**
MEEK Meekatharra 111.53 254 P **Pdif 10 44 52.3 +0.9**
CORO Coronation Par 111.93 224 P **Pdif 10 44 54.1 +1.4**
JANB Januaria 112.60 81 *e*P **Pdif 10 44 55.9 -0.5**
DILA Dilla 113.42 347 *e*P PKiKP 10 48 44.0 -8.9
DILA *es*S PKKPbc 10 59 26.8 -7.9
DILA IAMs_20 IAMs_20 11 08 53.7
comp=N,273μm,96.3s
GDU01 Guandu, BA 113.81 76 *e*P **Pdif 10 45 00.9 -0.9**
CPUP Villa Florida 115.45 99 PKiKP **PKPdf 10 48 55.0 -1.1**
comp=N,7.3nm,0.5s,baz=352,slow=4.4,SNR=4.9
CPUP PKKPab **PKKPbc 10 59 30.8 +3.0**
comp=N,5.8nm,0.6s,baz=30,slow=2.0,SNR=5.9
CPUP Villa Florida 115.45 99 PKIKP **PKPdf 10 48 55.3 -0.8**
CPUP Villa Florida 115.45 99 **PKPdf 10 48 55.3 -0.8**
BO02 Sierra Bellavi 115.92 115 **PKPdf 10 48 56.2 -0.7**
LODK Lodwar 116.69 350 PKPdf **PKPdf 10 48 58.8 -0.3**
NWAO Narrogin (SRO) 117.40 251 PKIKP **PKPdf 10 48 58.4 -1.3**
NWAO Narrogin (SRO) 117.40 251 **PKPdf 10 48 58.4 -1.3**
NWAO Narrogin (SRO) 117.40 251 P **PKPdf 10 48 57.8 -1.9**
LC01 Cunco 118.81 118 PKPdf **PKPdf 10 49 01.7 -0.5**
ITAB Concordia 118.81 95 PKPdf **PKPdf 10 49 02.4 -0.2**
LL04 Puerto Octay 120.21 120 **PKPdf 10 49 04.4 -0.4**
CPSB Cacapava Do Su 120.74 98 *e*P **PKiKP 10 49 06.5 +0.2**
PLCA Paso Flores 120.89 118 PKP **PKPdf 10 49 06.3 0.0**
comp=N,22nm,0.9s,baz=321,slow=2.9,SNR=22
PLCA SKP 10 52 30.8
comp=N,58nm,1.1s,baz=316,slow=3.1,SNR=4.1
PLCA PKKPab **PKKPab 10 59 10.1 +0.6**
comp=N,12nm,0.7s,baz=138,slow=2.8,SNR=13
PLCA Paso Flores 120.89 118 *e*P **PKiKP 10 49 07.0 +0.7**
PLCA Paso Flores 120.89 118 PKPdf **PKiKP 10 49 06.8 +0.4**
MBAR Mbarara 120.98 355 PKIKP **PKPdf 10 49 06.8 -0.7**
MBAR Mbarara 120.98 355 PKPdf **PKPdf 10 49 06.8 -0.7**
MBAR Mbarara 120.98 355 P **PKPdf 10 49 07.4 -0.1**
MBAR Mbarara 120.98 355 *e*P **PKiKP 10 49 13.2 +5.6**
MBAR *es*S PKKPdf 10 59 58.1 +17
MBAR IAMs_20 IAMs_20 11 08 03.8
comp=N,43μm,29.1s
KMBO Kilima Mbogo 121.00 347 PKP **PKiKP 10 49 07.9 +0.2**
comp=N,31nm,0.7s,baz=15,slow=3.4,SNR=58
KMBO SKP 10 52 32.7
comp=N,23nm,0.9s,baz=6.5,slow=5.6,SNR=2.5
KMBO Kilima Mbogo 121.00 347 *e*P **PKPdf 10 49 06.1 -1.5**
KMBO Kilima Mbogo 121.00 347 PKPdf **PKPdf 10 49 06.8 -0.7**
KMBO Kilima Mbogo 121.00 347 P **PKiKP 10 49 07.9 +0.2**
KMBO Kilima Mbogo 121.00 347 *i* P **PKPdf 10 49 07.1 -0.5**
KMBO Kilima Mbogo 121.00 347 *e*P **PKiKP 10 49 13.9 +6.2**
KMBO *es*S PKKPdf 10 59 52.6 +12
KMBO IAMs_20 IAMs_20 11 08 01.4
comp=N,40μm,41.4s
KMBO Kilima Mbogo 121.00 347 *i* PKiKP **PKPdf 10 49 07.4 -0.1**
SNR=33
TER01 Tubaro-SC 121.39 93 *e*P **PKPdf 10 49 07.3 -0.2**
GO07 Milladeo Hill, 121.46 122 **PKPdf 10 49 06.8 -0.3**
PLTB Pedras Altas 121.76 99 *e*P **PKPdf 10 49 07.7 -0.4**
PLTB Pedras Altas 121.76 99 PKPdf **PKPdf 10 49 08.1 -0.1**
KIBK Kibwezi 122.10 346 PKPdf **PKPdf 10 49 09.2 -0.3**
DODT Dodoma, Tanzan 126.16 348 *i* P **PKPdf 10 49 15.2 -2.0**
SBV Sambava 130.68 329 PKP **PKiKP 10 49 26.4 -0.1**
USHA Ushuaia 132.69 128 PKP **PKiKP 10 49 30.0 +0.7**
comp=N,26nm,0.6s,baz=321,slow=4.7,SNR=4.2
USHA SKPbc **SKPab 10 52 44.9 -0.2**
comp=N,87nm,1.0s,baz=224,slow=3.0,SNR=4.4
EFI East Falkland 134.81 119 PKIKP **PKiKP 10 49 33.5 -0.2**
EFI East Falkland 134.81 119 PKPdf **PKiKP 10 49 33.5 -0.2**
EFI East Falkland 134.81 119 P **PKPdf 10 49 32.4 +0.2**
LSZ Lusaka 135.64 358 *e*P **PKPdf 10 49 28.6 -6.5**
LSZ Lusaka 135.64 358 *i* P **PKPdf 10 49 31.1 -4.0**
LSZ Lusaka 135.64 358 *i* P **PKPdf 10 49 31.1 -4.0**
LSZ Lusaka 135.64 358 P PKPpre 10 49 24.6
LSZ Lusaka 135.64 358 *i* P PKPpre 10 49 22.6
TETE Tete 136.21 350 *i* P **PKPdf 10 49 30.4 -5.5**
TETE Tete 136.21 350 *i* P **PKPdf 10 49 30.4 -5.5**
TETE Tete 136.21 350 *i* P PKPdf 10 49 27.1 -8.9
OPO Ambohidratompo 136.28 331 PKP **PKPdf 10 49 34.4 -1.9**
comp=N,34nm,0.8s,baz=36,slow=0.6,SNR=19
ABPO Ambohimpanom 136.70 331 PKIKP **PKPdf 10 49 36.0 -1.0**
ABPO Ambohimpanom 136.70 331 PKPdf **PKPdf 10 49 36.0 -1.0**
ABPO Ambohimpanom 136.70 331 ‖ *i* P **PKPdf 10 49 30.4 -6.7**
NEPA Kaukuwa 137.74 11 ‖ *i* P **PKPdf 10 49 31.4 -7.5**
TSUM Tsumeb 139.07 13 PKhKP PKPpre 10 49 31.3
comp=N,22nm,0.9s,baz=357,slow=4.8,SNR=19
TSUM SKPbc **SKPbc 10 53 04.7 +0.2**
comp=N,51nm,0.9s,baz=331,slow=3.0,SNR=3.6
TSUM Tsumeb 139.07 13 *e*P **PKPdf 10 49 34.4 -7.0**
TSUM Tsumeb 139.07 13 **PKPdf 10 49 41.3 0.0**
TSUM Tsumeb 139.07 13 P PKPdf 10 49 33.1 -8.3
TSUM Tsumeb 139.07 13 *i* P **PKPdf 10 49 33.5 -7.8**
VOI Vohitsoka 139.58 330 **PKPdf 10 49 42.2 0.0**
VOI Vohitsoka 139.58 330 PKP **PKPdf 10 49 37.7 -4.5**
VNDA Vanda 139.69 194 PKhKP PKPpre 10 49 30.7
comp=N,9.7nm,0.9s,baz=1.9,slow=4.9,SNR=10
VNDA Vanda 139.69 194 PKIKP **PKPdf 10 49 41.6 +1.1**
VNDA Vanda 139.69 194 **PKPdf 10 49 41.6 +1.1**
BLWY Bulawayo 140.47 357 *i* P **PKPdf 10 49 41.1 -2.8**
BLWY Bulawayo 140.47 357 *i* P **PKPdf 10 49 41.1 -2.8**
MATP Matopo 140.75 357 *i* P **PKPdf 10 49 41.1 -3.3**
MATP Matopo 140.75 357 *i* P **PKPdf 10 49 41.1 -3.3**
PMSA Palmer Station 140.97 137 PKhKP PKPpre 10 49 36.6
comp=N,46nm,0.9s,baz=89,slow=2.3,SNR=10
SMAI San Martin Ant 141.94 143 **PKPdf 10 49 46.1 +1.4**
WIN Windhoek 142.33 14 *e*P **PKPdf 10 49 41.3 -5.9**
WIN Windhoek 142.33 14 PKIKP **PKPdf 10 49 44.4 -2.8**
WIN Windhoek 142.33 14 PKPdf **PKPdf 10 49 44.4 -2.8**
WIN Windhoek 142.33 14 *i* P PKPdf 10 49 38.5 -8.7
MSNA Messina 142.60 354 *e*P **PKPdf 10 49 41.9 -5.6**
MSNA Messina 142.60 354 *i* P **PKPdf 10 49 44.6 -2.9**
MSNA Messina 142.60 354 *i* P **PKPdf 10 49 44.6 -2.9**
MOPA Mopani 143.69 352 *e*P PKPbc 10 49 47.1 -0.2
MOPA Mopani 143.69 352 *i* P PKPbc 10 49 47.4 +0.2
MOPA Mopani 143.69 352 *i* P PKPbc 10 49 47.4 +0.2
CASY Casey 144.01 223 P **PKPab 10 49 45.3 -1.0**
LESE Lesego, Limpop 144.68 355 *i* P **PKPdf 10 49 51.7 +0.6**
CCD Concordia, Ant 144.76 206 P **PKPab 10 49 48.6 -0.9**
LBTB Lobatse 145.34 1 *e*P **PKPab 10 49 52.6 -0.2**
LBTB Lobatse 145.34 1 PKIKP **PKPab 10 49 52.5 -0.2**
LBTB Lobatse 145.34 1 *i* P **PKPdf 10 49 51.0 -1.3**
LBTB Lobatse 145.34 1 *i* P **PKPdf 10 49 51.0 -1.3**
LBTB Lobatse 145.34 1 **PKPab 10 49 52.5 -0.2**
LBTB Lobatse 145.34 1 *i* P **PKPdf 10 49 50.7 -1.6**
SLR Silverton 146.04 357 *e*P **PKPdf 10 49 53.8 +0.3**
KSR Koster 146.18 359 *e*P **PKPbc 10 49 54.5 -0.5**
HRAO HartRAO 146.21 358 *e*P **PKPdf 10 49 54.3 +0.5**
ORCD Orcadas 146.21 123 PKPdf **PKPdf 10 49 53.0 +0.5**
CRLN Carolina, Mapu 146.23 354 *e*P **PKPbc 10 49 55.0 -0.2**
AUSN Aus 146.26 17 *e*P **PKPdf 10 49 53.7 -0.2**
CNG Changalane 146.38 351 *i* P **PKPdf 10 49 49.3 -4.6**
CNG Changalane 146.38 351 *i* P **PKPdf 10 49 49.3 -4.6**
HOPE Hope Point 146.47 109 PKP2 **PKPbc 10 49 54.5 -0.2**
HOPE Hope Point 146.47 109 **PKPbc 10 49 54.5 -0.2**
PRYS Parys 147.25 358 *e*P **PKPdf 10 49 54.5 -1.0**
POGA Pongola 147.47 351 *e*P **PKPdf 10 49 55.2 -0.5**
POGA Pongola 147.47 351 ‖ *i* P **PKPbc 10 49 57.8 -0.6**
SWZ Schweizer 147.50 2 *e*P **PKPdf 10 49 55.8 -0.1**
NWCL Newcastle 147.97 354 *e*P **PKPdf 10 49 57.0 +0.3**
ARMS Ukamas 148.03 11 *e*P **PKPdf 10 49 56.5 -0.2**
UPI Upington 148.48 9 *e*P **PKPdf 10 49 58.7 +1.3**
BOSA Boshof 148.93 2 PKP **PKPdf 10 49 57.3 -0.9**
comp=N,430nm,0.9s,baz=12,slow=2.1,SNR=43
BOSA PKPbc **PKPbc 10 50 01.4 -0.9**
comp=N,361nm,0.8s,baz=16,slow=1.6,SNR=75
BOSA Boshof 148.93 2 *e*P **PKPbc 10 50 00.5 -1.9**
BOSA Boshof 148.93 2 *i* P **PKPdf 10 49 59.1 +0.9**
BOSA Boshof 148.93 2 *i* P **PKPdf 10 49 59.1 +0.9**
BOSA Boshof 148.93 2 PKPdf **PKPdf 10 49 56.8 -1.4**
BOSA Boshof 148.93 2 *i* P **PKPdf 10 49 56.1 -2.1**
QSPA South Pole Qui 149.48 180 PKP **PKPdf 10 49 55.0 -2.7**
comp=N,142nm,1.0s,baz=334,slow=1.3,SNR=72
QSPA PKPbc **PKiKP 10 50 03.1 -0.4**
comp=N,846nm,1.0s,baz=68,slow=0.5,SNR=53
QSPA South Pole Qui 149.48 180 PKPdf **PKPdf 10 49 55.2 -2.5**
QSPA South Pole Qui 149.48 180 P **PKPdf 10 49 55.1 -2.7**
KOMG Komaggas 149.50 15 *e*P **PKPdf 10 50 01.1 +2.2**
CVNA Calvinia 151.44 12 *e*P **PKPdf 10 50 00.7 -1.3**
SUR Sutherland 152.43 10 P **PKPdf 10 50 02.1 -1.5**
SUR Sutherland 152.43 10 PKPdf **PKPdf 10 50 03.4 -0.2**
SUR Sutherland 152.43 10 P **PKPdf 10 50 03.9 +0.3**
SUR Sutherland 152.43 10 *i* P **PKPdf 10 50 03.7 +0.1**
GRAN Grantham 152.46 8 *e*P **PKPdf 10 50 03.4 -0.1**
SOE Somerset East 153.01 2 *e*P **PKPdf 10 50 00.6 -3.6**
MATJ Matjiesfontein 153.29 11 *e*P **PKPdf 10 50 05.9 +1.2**
ROSN Rosenhof 154.38 4 *e*P **PKPdf 10 50 06.2 +0.1**
CRZF Crozet Islands 159.92 300 PKPdf **PKPdf 10 50 11.6 -1.0**
CRZF **PKPab 10 50 53.3 +0.5**
VNA3 Neumayer Olymp 161.45 143 PKPdf **PKPdf 10 50 08.7 -4.9**
VNA3 Neumayer Olymp 161.45 143 pPKPdf pPKPdf 10 50 42.5 -5.2
VNA3 Neumayer Olymp 161.45 143 PP PP 10 54 54.2 +11
VNA1 Neumayer--Stat 162.09 142 PKPdf **PKPdf 10 50 09.4 -4.7**
VNA1 Neumayer--Stat 162.09 142 PP PP 10 54 57.5 +11
MAW Mawson 162.24 228 PKP **PKPdf 10 50 13.6 -0.8**
comp=N,79nm,1.0s,baz=91,slow=9.6,SNR=13
MAW PKPab **PKPab 10 51 02.8 +0.4**
comp=N,584nm,1.0s,baz=117,slow=6.0,SNR=6.5
MAW Mawson 162.24 228 PKP2 **PKPab 10 51 03.7 +1.3**
MAW 11 50 12.7
MAW Mawson 162.24 228 **PKPdf 10 50 12.7 -1.7**
MAW PKPab **PKPab 10 51 03.7 +1.3**
VNA2 Neumayer--Watz 162.26 143 PKPdf **PKPdf 10 50 09.5 -4.8**
baz=275,slow=1.6
VNA2 Neumayer--Watz 162.26 143 pPKPdf pPKPdf 10 50 43.6 -5.0
baz=284,slow=0.3
VNA2 Neumayer--Watz 162.26 143 PP PP 10 54 57.8 +10
baz=197,slow=2.7
SNAA Sanae 163.24 148 PKPdf **PKPdf 10 50 10.4 -5.0**
SNAA Sanae 163.24 148 pPKPdf pPKPdf 10 50 44.2 -5.4
SNAA Sanae 163.24 148 PP PP 10 54 56.7 +3.7
SNAA Sanae 163.24 148 PKP **PKPdf 10 50 10.8 -4.6**
comp=N,8.8nm,0.9s,baz=263,slow=1.5,SNR=19
SNAA PKPab **PKPab 10 51 08.7 +1.9**
comp=N,34nm,0.7s,baz=241,slow=1.4,SNR=12
SNAA Sanae 163.24 148 PKP2 **PKPab 10 51 06.8 -0.1**
SNAA Sanae 163.24 148 **PKPdf 10 50 10.7 -4.8**
SNAA **PKPab 10 51 06.8 -0.1**
NVL N'lazarevskaya 167.36 158 *e*PKIKP **PKPdf 10 50 20.6 +1.9**
NVL *e* 10 50 52.8
NVL *es*S PP 10 55 23.5 +9.3
NVL pmax pmax
comp=Z,140nm,1.5s
SYO Syowa Base 169.07 206 ⇑ *i* X **PKPdf 10 50 17.6 -2.3**
SYO Syowa Base 169.07 206 ⇑ *es*PKPdf sPKPdf 10 51 08.0 +0.9

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*NEIC **24** 10:37:19.5±0.9, 59°.68N±0°.04×153°.30W±0°.07,*
h115km±4km Error ellipse: s-maj=6.0km s-min=4.7km
az=123.0
*AEIC **24** 10:37:20.7±1.0, 59°.70N±0°.03×153°.31W±0°.08,*
h110km±4km, ML4.3/84, ML5.1/92(NEIC), Error ellipse:
s-maj=6.0km s-min=4.9km az=107.0
ISC 24 10:37:19.5±1.4, 59°.67N±0°.03×153°.32W±0°.04,
h113km±7km, n150, σ0°61/138, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.05**	**113**		**Pn**	**10 37 35.2**	**+0.1**
OPT	**Oil Point**	**0.05**	**113**	P	**Pn**	**10 37 35.2**	**+0.1**
baz=319							
AUL	**Augustine Lava**	**0.30**	**192**		**Pn**	**10 37 36.0**	**+0.4**
AUL					**Sn**	**10 37 48.1**	**+0.4**
AU22	**Augustine Moun**	**0.30**	**184**		**Pn**	**10 37 35.8**	**+0.2**
AU22					**Sn**	**10 37 47.9**	**+0.2**
AUW	**Augustine West**	**0.31**	**194**		**Pn**	**10 37 36.1**	**+0.4**
AGU	**Augustine-Summ**	**0.32**	**190**		**Pn**	**10 37 36.2**	**+0.3**
AGU					**Sn**	**10 37 48.0**	**-0.1**
AUQ	**Augustine Qik'**	**0.32**	**189**		**Pn**	**10 37 36.1**	**+0.3**
O20K	**Slope Mountain**	**0.54**	**40**		**Pn**	**10 37 37.1**	**+0.1**
O20K					**Sn**	**10 37 50.1**	**-0.1**
O20K	**Slope Mountain**	**0.54**	**40**	P	**Pn**	**10 37 37.1**	**+0.1**
baz=222							
O20K				S	**Sn**	**10 37 50.1**	**-0.1**
baz=222							
O19K	**Port Alsworth**	**0.73**	**317**		**Pn**	**10 37 38.2**	**-0.1**
O19K					**Sn**	**10 37 51.9**	**-0.7**
O19K	**Port Alsworth**	**0.73**	**317**	P	**Pn**	**10 37 38.2**	**-0.1**
baz=134							
O19K				S	**Sn**	**10 37 51.9**	**-0.7**
baz=134							
Q19K	**Cape Douglas,**	**0.76**	**193**		**Pn**	**10 37 38.9**	**+0.2**
Q19K	**Cape Douglas,**	**0.76**	**193**		**Sn**	**10 37 53.5**	**+0.3**
Q19K	**Cape Douglas,**	**0.76**	**193**	IAML		10 37 40.7	
comp=E,16μm,2.4s							
Q19K	**Cape Douglas,**	**0.76**	**193**	P	**Pn**	**10 37 38.9**	**+0.2**
baz=12							
Q19K				S	**Sn**	**10 37 53.5**	**+0.3**
baz=12							
RED	**Redoubt Volcan**	**0.80**	**20**		**Pn**	**10 37 39.0**	**-0.2**
RED					**Sn**	**10 37 53.2**	**-0.7**
RSO	**Redoubt South**	**0.84**	**19**	Pn	**Pn**	**10 37 39.9**	**+0.2**
HOM	**Homer**	**0.85**	**90**		**Pn**	**10 37 39.5**	**0.0**
HOM	**Homer**	**0.85**	**90**	IAML		10 37 40.2	
comp=E,44μm,3.3s

CAPN	Captain Cook N	1.54	44	P	Pn	10 37 48.0	+1.1
	baz=226						
SPCR	Spurr Chakacha	1.63	19		Pn	10 37 48.2	+0.1
SPCR	Spurr Chakacha	1.63	19	P	Pn	10 37 48.2	+0.1
	baz=200						
SPU	Mount Spurr	1.64	22	Pn	Pn	10 37 49.5	+1.3
KCG	Knife Ck. Glac	1.65	215		Pn	10 37 49.0	+0.6
KCG					Sn	10 38 10.3	0.0
SPBG	Spurr Blockage	1.66	16		Pn	10 37 48.8	+0.3
SPCG	Spurr Capps Gl	1.75	21		Pn	10 37 49.8	+0.2
KELA	Mount Kelaz	1.76	226		Pn	10 37 50.1	+0.5
SLKM	Skilak Lake	1.77	60		Pn	10 37 49.9	+0.2
ACHA	Angle Creek He	1.80	216		Pn	10 37 50.7	+0.6
SVW2	Sparrevohn	1.82	323		Pn	10 37 50.0	-0.3
SVW2	Sparrevohn	1.82	323	IAML		10 38 01.5	
	comp=N,11μm,3.1s						
O22K	Cooper Landing	1.98	64		Pn	10 37 52.4	+0.2
O22K	Cooper Landing	1.98	64	P	Pn	10 37 52.4	+0.2
	baz=248						
SEW	Seward	2.00	76		Pn	10 37 52.4	-0.1
SEW	Seward	2.00	76	P	Pn	10 37 52.4	-0.1
	baz=260						
KJL	Kejulik	2.00	217		Pn	10 37 52.9	+0.2
FIS	Fire Island	2.13	45		Pn	10 37 55.1	+0.9
RC01	Rabbit Creek A	2.28	50		Pn	10 37 56.2	+0.1
RC01	Rabbit Creek A	2.28	50	P	Pn	10 37 56.2	+0.1
	baz=233						
OHAK	Old Harbor	2.46	180		Pn	10 37 57.6	-0.8
OHAK	Old Harbor	2.46	180	P	Pn	10 37 57.6	-0.8
	baz=360						
PLK3	Peulik 3	2.52	219		Pn	10 38 00.2	+1.1
L19K	White Mountain	2.63	344		Pn	10 38 00.6	0.0
L19K	White Mountain	2.63	344	IAML		10 38 31.5	
	comp=N,5μm,4.8s						
L19K				IAML		10 38 49.2	
	comp=E,5μm,4.2s						
L19K	White Mountain	2.63	344	P	Pn	10 38 00.6	0.0
	baz=162						
PWL	Port Wells	2.75	62		Pn	10 38 01.5	-0.8
PWL	Port Wells	2.75	62	IAML		10 38 28.0	
	comp=E,4μm,3.6s						
PWL	Port Wells	2.75	62	P	Pn	10 38 01.5	-0.8
	baz=247						
PMR	Palmer	2.82	45		Pn	10 38 02.7	-0.4
PMR	Palmer	2.82	45	IAML		10 38 54.1	
	comp=E,4μm,3.3s						
PMR	Palmer	2.82	45	P	Pn	10 38 02.7	-0.4
	baz=229						
L20K	Farewell, AK	2.83	355		Pn	10 38 03.6	+0.3
L20K	Farewell, AK	2.83	355	P	Pn	10 38 03.6	+0.3
	baz=174						
KNK	Knik Glacier	2.97	52		Pn	10 38 04.7	-0.4
KNK	Knik Glacier	2.97	52	IAML		10 38 26.7	
	comp=E,4μm,3.5s						
KNK	Knik Glacier	2.97	52	P	Pn	10 38 04.7	-0.4
	baz=236						
GHO	Glory Hole Cre	3.02	44		Pn	10 38 05.5	-0.3
GHO	Glory Hole Cre	3.02	44	IAML		10 38 28.8	
	comp=N,4μm,3.5s						
GHO				IAML		10 38 59.6	
	comp=E,4μm,3.4s						
CUT	Chulitna	3.12	27	Pn	Pn	10 38 08.4	+1.4
SII	Sitkinak Islan	3.15	189		Pn	10 38 07.0	-0.6
SII	Sitkinak Islan	3.15	189	IAML		10 38 32.9	
	comp=E,6μm,4.9s						
SII				IAML		10 39 07.2	
	comp=N,6μm,4.9s						
SII	Sitkinak Islan	3.15	189	P	Pn	10 38 07.0	-0.6
	baz=8.0						
SML	Sawmill	3.25	47	Pn	Pn	10 38 11.5	+2.6
SML				IAML		10 38 36.6	
	comp=N,5μm,3.7s						
SML				IAML		10 38 37.4	
	comp=E,4μm,4.4s						
PPLA	Purkeypile	3.28	9	Pn	Pn	10 38 10.5	+1.2
GLI	Glacier Island	3.33	66	Pn	Pn	10 38 09.3	-0.5
GLI				IAML		10 38 36.8	
	comp=E,3μm,4.4s						
GLI				IAML		10 38 56.5	
	comp=N,3μm,2.9s						
TT01	Tatalina	3.50	339		Pn	10 38 11.8	-0.3
TTA	Tatalina	3.52	340	Pn	Pn	10 38 11.4	-1.1
Q23K	Middleton Isla	3.56	91		Pn	10 38 12.6	-0.2
Q23K	Middleton Isla	3.56	91	IAML		10 39 34.5	
	comp=N,6μm,3.8s						
Q23K	Middleton Isla	3.56	91	P	Pn	10 38 12.6	-0.2
	baz=277						
MID	Middleton Isla	3.56	91		Pn	10 38 12.6	-0.3
MID	Middleton Isla	3.56	91	IAML		10 39 11.4	
	comp=E,6μm,4.8s						
FID	Port Fidalgo	3.58	69		Pn	10 38 11.6	-1.6
FID	Port Fidalgo	3.58	69	IAML		10 38 58.2	
	comp=N,4μm,4.2s						
FID				IAML		10 39 05.5	
	comp=E,3μm,4.6s						
JPK	Jack Peak	3.62	65		Pn	10 38 13.7	-0.1
SCM	Sheep Creek Mo	3.65	51		Pn	10 38 13.8	-0.4
SCM	Sheep Creek Mo	3.65	51	IAML		10 38 46.9	
	comp=E,4μm,3.8s						
SCM				IAML		10 39 38.2	
	comp=N,5μm,4.4s						
SCM	Sheep Creek Mo	3.65	51	P	Pn	10 38 13.8	-0.4
	baz=236						
K20K	Telida	3.72	355	Pn	Pn	10 38 15.7	+0.7
K20K				IAML		10 38 47.5	
	comp=E,3μm,4.2s						
K20K				IAML		10 39 44.1	
	comp=N,2μm,3.4s						
VMT	TAPS Tl Valdez	3.73	65		Pn	10 38 15.3	+0.2
CAST	Castle Rocks	3.81	8	Pn	Pn	10 38 16.9	+0.7
CAST				IAML		10 38 51.7	
	comp=N,3μm,3.8s						
CAST				IAML		10 40 16.9	
	comp=E,2μm,4.8s						
EYAK	Cordova Ski Ar	3.89	74		Pn	10 38 17.1	-0.2
EYAK	Cordova Ski Ar	3.89	74	P	Pn	10 38 17.1	-0.2
	baz=261						
DIV	Divide	4.02	65		Pn	10 38 19.2	0.0
CHIR	Chirikof Islan	4.05	199		Pn	10 38 18.8	-0.8
CHIR	Chirikof Islan	4.05	199	IAML		10 39 13.8	
	comp=N,6μm,4.5s						
CHIR				IAML		10 39 37.1	
	comp=E,5μm,5.0s						
CHIR	Chirikof Islan	4.05	199	P	Pn	10 38 18.8	-0.8
	baz=17						
KTH	Kantishna Hill	4.06	15	Pn	Pn	10 38 20.3	+0.6
KTH				IAML		10 38 57.0	
	comp=N,4μm,4.1s						
KTH				IAML		10 39 04.8	
	comp=E,4μm,4.9s						
TRF	Thorofare Moun	4.06	20	Pn	Pn	10 38 20.1	+0.3
TRF				IAML		10 38 53.7	
	comp=N,4μm,4.3s						
KLU	Klutina	4.08	60		Pn	10 38 18.9	-1.0
KLU	Klutina	4.08	60	IAML		10 39 05.4	
	comp=E,2μm,3.8s						
KLU				IAML		10 39 13.4	
	comp=N,2μm,4.6s						
KLU	Klutina	4.08	60	P	Pn	10 38 18.9	-1.0
	baz=247						
M24K	Tolsona, Glenn	4.26	52		Pn	10 38 22.4	+0.1
M24K	Tolsona, Glenn	4.26	52	P	Pn	10 38 22.4	+0.1
	baz=238						
RND	Reindeer	4.31	28		Pn	10 38 22.9	-0.1
RND	Reindeer	4.31	28	IAML		10 39 50.3	
	comp=N,4μm,4.7s						
RND				IAML		10 40 25.1	
	comp=E,2μm,4.2s						
CHGN	Chignik	4.33	221		Pn	10 38 23.9	+0.7
CHGN	Chignik	4.33	221	IAML		10 39 25.5	
	comp=E,1μm,3.3s						
CHGN	Chignik	4.33	221	P	Pn	10 38 23.9	+0.7
	baz=36						
GOAT	Goat Mountain	4.39	74		Pn	10 38 24.2	+0.1
PS12	TAPS Pump St12	4.42	62		Pn	10 38 24.2	-0.3
BMRM	Bremner River	4.52	70		Pn	10 38 25.6	-0.3
BMRM	Bremner River	4.52	70	IAML		10 39 28.1	
	comp=E,2μm,4.0s						
BMRM				IAML		10 40 03.8	
	comp=N,3μm,4.7s						
BMRM	Bremner River	4.52	70	P	Pn	10 38 25.6	-0.3
	baz=257						
J20K	Nowinta River	4.54	355	Pn	Pn	10 38 26.9	+0.9
J20K				IAML		10 40 07.9	
	comp=N,2μm,4.7s						
MCK	McKinley	4.58	25	Pn	Pn	10 38 28.1	+1.5
BPAW	Bear Paw Mtn.	4.58	13	Pn	Pn	10 38 27.5	+0.9
BPAW				IAML		10 39 16.0	
	comp=E,2μm,3.6s						
BPAW				IAML		10 39 43.9	
	comp=N,3μm,4.8s						
HMT	Hamilton	4.60	78	Pn	Pn	10 38 26.4	-0.4
N25K	Chitina, Valde	4.71	62		Pn	10 38 28.8	+0.4
N25K	Chitina, Valde	4.71	62	IAML		10 39 12.2	
	comp=N,2μm,4.5s						
N25K				IAML		10 39 20.9	
	comp=E,2μm,4.6s						
N25K	Chitina, Valde	4.71	62	P	Pn	10 38 28.8	+0.4
	baz=250						
GLB	Gilahina Butte	5.02	65		Pn	10 38 32.4	-0.1
GLB	Gilahina Butte	5.02	65	IAML		10 39 28.7	
	comp=N,2μm,2.8s						
GLB				IAML		10 40 27.8	
	comp=E,2μm,3.8s						
PAX	Paxson	5.02	45	Pn	Pn	10 38 32.7	+0.1
VRDI	Verde Repeater	5.13	68		Pn	10 38 33.9	-0.2
VRDI	Verde Repeater	5.13	68	IAML		10 39 16.2	
	comp=E,2μm,4.9s						
WAX	Waxell Ridge	5.30	77		Pn	10 38 36.0	-0.4
NEA2	Nenana	5.33	20	Pn	Pn	10 38 36.7	+0.1
NEA2				IAML		10 39 46.7	
	comp=E,2μm,3.3s						
ISLE	Juniper Island	5.57	76	Pn	Pn	10 38 39.5	-0.5
KIAG	Kiagna River	5.59	72		Pn	10 38 40.2	-0.2
HDA	Harding Lake	5.62	29	Pn	Pn	10 38 40.5	-0.1
M26K	Nabesna, AK	5.71	57	Pn	Pn	10 38 43.4	+1.4
MESA	MESA	5.74	80	Pn	Pn	10 38 43.9	+1.4
TCOL	CIGO, UAF Yank	5.81	24		Pn	10 38 42.5	-0.6
TCOL	CIGO, UAF Yank	5.81	24	P	Pn	10 38 42.5	-0.6
	baz=208						
COLA	College	5.81	24	Pn	Pn	10 38 43.5	+0.4
COLA	College	5.81	24	P	Pn	10 38 42.6	-0.5
	baz=208						
YAH	Yahtse	5.85	78		Pn	10 38 44.1	+0.2
IL31		5.93	28		Pn	10 38 44.5	-0.3
CTGM	Chitina Glacie	6.10	73	Pn	Pn	10 38 47.7	+0.5
TABL	Table Mountain	6.15	78	Pn	Pn	10 38 48.5	+0.5
LOGN	Logan Glacier	6.24	74	Pn	Pn	10 38 50.8	+1.6
PCA	Pinnacle	6.59	81	Pn	Pn	10 38 54.8	+1.0

*NEIC **24** 10:38:24.9±0.7, 55°.1N±0°.1×158°.9W±0°.1, h65km±14km, Error ellipse: s-maj=17.6km s-min=7.2km az=159.0*

AEIC 24 10:38:25±0.4, 55°.0N±0°.1×158°.8W±0°.1, h71km±7km, ML3.8, ML3.9/6(NEIC), Error ellipse: s-maj=17.2km s-min=8.3km az=150.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	Chernabura Isl	0.47	248		Pn	10 38 37.0	-0.6
CNBA	Chernabura Isl	0.47	248	IAML		10 38 39.7	
	comp=N,2μm,3.9s						
CNBA				IAML		10 38 40.0	
	comp=E,2μm,3.0s						
SDPT	Sand Point	1.01	291		Pn	10 38 43.0	-0.6
SDPT	Sand Point	1.01	291	IAML		10 39 13.7	
	comp=N,3μm,4.9s						
SDPT				IAML		10 39 18.8	
	comp=E,3μm,4.9s						
PS4A	Pavlof South-4	1.77	283		Pn	10 38 52.8	-0.8
ANPB	Aniakchak Plen	1.84	9		Pn	10 38 53.1	-1.4
DT1	Dutton Round H	1.99	275		Pn	10 38 55.7	-0.8
ANNW	Aniakchak Nort	2.01	10		Pn	10 38 55.9	-0.8
CHIR	Chirikof Islan	2.01	64		Pn	10 38 56.3	-0.4
FALS	False Pass	2.65	269		Pn	10 39 04.5	-0.8
ISLZ	Isanotski Laza	2.83	267		Pn	10 39 07.6	-0.3
BRPK	Brown Peak	2.86	265		Pn	10 39 08.3	0.0
SSLN	Shishaldin Nor	2.99	269		Pn	10 39 09.4	-0.6
SSLS	Shishaldin Sou	3.00	267		Pn	10 39 09.3	-0.9

*NEIC **24** 10:39:23.4±0.8, 59°.70N±0°.05×153°.22W±0°.08, h113km±6km, Error ellipse: s-maj=7.6km s-min=5.6km az=158.0*

*AEIC **24** 10:39:24±0.9, 59°.70N±0°.04×153°.18W±0°.10, h107km±4km, ML3.5, ML4.3/40(NEIC), Error ellipse: s-maj=7.5km s-min=5.1km az=119.0*

ISC 24 10:39:23.2±1.6, 59°.70N±0°.04×153°.21W±0°.04, h112km±9km, n69, σ0=59/61, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.05	195		Pn	10 39 38.8	+0.2
OPT	Oil Point	0.05	195	P	Pn	10 39 38.8	+0.2
	baz=20						
AUL	Augustine Lava	0.34	200		Pn	10 39 40.0	+0.6
AUH	Augustine H	0.35	200		Pn	10 39 40.1	+0.6
AUQ	Augustine Qik'	0.36	197		Pn	10 39 39.8	+0.3
O20K	Slope Mountain	0.49	37		Pn	10 39 40.4	+0.1
O20K	Slope Mountain	0.49	37	P	Pn	10 39 40.4	+0.1
	baz=217						
O20K				S	Sn	10 39 52.6	-0.5
	baz=217						
O19K	Port Alsworth	0.75	312		Pn	10 39 42.3	+0.1
O19K	Port Alsworth	0.75	312	P	Pn	10 39 42.3	+0.1
	baz=131						
O19K				S	Sn	10 39 56.1	-0.3
	baz=131						
RED	Redoubt Volcan	0.76	17		Pn	10 39 42.3	-0.1
HOM	Homer	0.80	92		Pn	10 39 43.2	+0.7
HOM	Homer	0.80	92	IAML		10 39 52.3	
	comp=N,10μm,3.7s						
HOM				IAML		10 39 53.3	
	comp=E,14μm,4.4s						
HOM	Homer	0.80	92	P	Pn	10 39 43.2	+0.7
	baz=274						
HOM				S	Sn	10 39 57.6	+0.4
	baz=274						
RSO	Redoubt South	0.80	16	Pn	Pn	10 39 42.6	-0.2
Q19K	Cape Douglas,	0.80	196		Pn	10 39 43.3	+0.6
Q19K	Cape Douglas,	0.80	196	IAML		10 39 50.5	
	comp=E,5μm,2.9s						
Q19K				IAML		10 40 05.2	
	comp=N,4μm,4.4s						
Q19K	Cape Douglas,	0.80	196	P	Pn	10 39 43.3	+0.6
	baz=16						
NCT	North Crescent	0.88	9		Pn	10 39 43.5	+0.1
DFR	Drift River	0.94	16		Pn	10 39 44.0	0.0
CNPM	China Poot	1.02	99		Pn	10 39 44.8	0.0
O18K	Koktuh Hills	1.02	280		Pn	10 39 44.9	+0.1
O18K	Koktuh Hills	1.02	280	IAML		10 39 51.8	
	comp=E,2μm,3.9s						
O18K				IAML		10 39 59.4	
	comp=N,2μm,3.6s						
O18K	Koktuh Hills	1.02	280	P	Pn	10 39 44.9	+0.1
	baz=98						
P18K	Big Mountain,	1.07	254		Pn	10 39 45.2	-0.1
P18K	Big Mountain,	1.07	254	P	Pn	10 39 45.2	-0.1
	baz=72						
BRLK	Bradley Lake	1.18	86	Pn	Pn	10 39 47.0	+0.5
BRLK				IAML		10 39 56.2	
	comp=N,3μm,4.7s						
BRLK				IAML		10 39 57.8	
	comp=E,3μm,3.8s						
BRSE	Bradley Lake S	1.25	87	S	Sn	10 40 04.5	-1.0
	baz=269						
N19K	Bonanza Creek	1.29	331		Pn	10 39 47.8	+0.1
N19K	Bonanza Creek	1.29	331	IAML		10 40 20.7	
	comp=N,2μm,4.6s						
N19K	Bonanza Creek	1.29	331	P	Pn	10 39 47.8	+0.1
	baz=150						
N19K				S	Sn	10 40 06.0	-0.4
	baz=150						
CAPN	Captain Cook N	1.49	43		Pn	10 39 51.6	+1.7
CAPN	Captain Cook N	1.49	43	IAML		10 39 58.3	
	comp=N,20μm,4.4s						
CAPN				IAML		10 40 04.2	
	comp=E,25μm,3.8s						
CAPN	Captain Cook N	1.49	43	P	Pn	10 39 51.6	+1.7
	baz=224						
SPCR	Spurr Chakacha	1.59	18		Pn	10 39 51.3	+0.1
SPCR	Spurr Chakacha	1.59	18	P	Pn	10 39 51.3	+0.1
	baz=198						
SPU	Mount Spurr	1.60	21	Pn	Pn	10 39 51.6	+0.3
SPBG	Spurr Blockage	1.62	14		Pn	10 39 52.0	+0.4
SLKM	Skilak Lake	1.70	60		Pn	10 39 53.0	+0.4
SPCG	Spurr Capps Gl	1.71	20		Pn	10 39 52.9	+0.2
KCG	Knife Ck. Glac	1.71	216		Pn	10 39 53.5	+0.8
KELA	Mount Kelaz	1.82	227		Pn	10 39 54.7	+0.6
O22K	Cooper Landing	1.92	64		Pn	10 39 55.5	+0.3
O22K	Cooper Landing	1.92	64	IAML		10 40 09.1	
	comp=E,3μm,2.4s						
O22K				IAML		10 40 26.3	
	comp=N,3μm,1.9s						
O22K	Cooper Landing	1.92	64	P	Pn	10 39 55.5	+0.3
	baz=247						
STLK	Strandline Lak	1.93	20		Pn	10 39 56.0	+0.6
SEW	Seward	1.94	76		Pn	10 39 55.4	0.0
SEW	Seward	1.94	76	P	Pn	10 39 55.4	0.0
	baz=260						
KDAK	Kodiak Island	1.95	170		Pn	10 39 55.1	-0.5
KDAK	Kodiak Island	1.95	170	IAML		10 41 04.8	
	comp=N,2μm,4.7s						
KDAK				IAML		10 41 05.5	
	comp=N,2μm,4.5s						
KDAK	Kodiak Island	1.95	170	P	Pn	10 39 55.1	-0.5
	baz=351						
FIS	Fire Island	2.08	44	Pn	Pn	10 39 57.0	-0.2
RC01	Rabbit Creek A	2.22	49		Pn	10 39 59.2	+0.1
RC01	Rabbit Creek A	2.22	49	IAML		10 40 16.6	
	comp=E,2μm,3.9s						
RC01				IAML		10 40 31.9	
	comp=N,2μm,4.1s						
RC01	Rabbit Creek A	2.22	49	P	Pn	10 39 59.2	+0.1
	baz=232						
OHAK	Old Harbor	2.48	181		Pn	10 40 01.9	-0.5
OHAK	Old Harbor	2.48	181	IAML		10 40 51.8	
	comp=E,1μm,4.3s						
OHAK				IAML		10 40 52.5	
	comp=N,2μm,4.9s						
OHAK	Old Harbor	2.48	181	P	Pn	10 40 01.9	-0.5
	baz=1.1						
PLK3	Peulik 3	2.57	220		Pn	10 40 04.8	+1.2
PWL	Port Wells	2.69	62		Pn	10 40 04.9	-0.3
PWL	Port Wells	2.69	62	IAML		10 40 27.9	
	comp=E,1μm,2.8s						
PWL				IAML		10 40 58.0	
	comp=N,2μm,4.8s						
PWL	Port Wells	2.69	62	P	Pn	10 40 04.9	-0.3
	baz=246						
PMR	Palmer	2.77	45		Pn	10 40 06.0	-0.1
PMR	Palmer	2.77	45	IAML		10 40 32.0	
	comp=E,1μm,3.0s						
PMR	Palmer	2.77	45	P	Pn	10 40 06.0	-0.1
	baz=228						
KNK	Knik Glacier	2.91	52	Pn	Pn	10 40 09.8	+1.8
KNK				IAML		10 40 42.0	
	comp=E,1μm,3.6s						
KNK				IAML		10 40 59.1	
	comp=N,2μm,4.5s						
GHO	Glory Hole Cre	2.96	43		Pn	10 40 08.2	-0.6
GHO	Glory Hole Cre	2.96	43	IAML		10 41 00.7	
	comp=N,2μm,3.9s						
SML	Sawmill	3.20	46	Pn	Pn	10 40 11.7	-0.2
KLU	Klutina	4.02	60	Pn	Pn	10 40 23.9	+1.1

*NEIC **24** 10:42:35.3±0.8, 56°.97N±0°.04×153°.35W±0°.10, h32km±10km, Error ellipse: s-maj=9.2km s-min=3.9km az=125.0*

AEIC 24 10:42:36.4±1.2, 56°.99N±0°.05×153°.42W±0°.08, h29km±7km, ML3.6/23, ML4.1/20(NEIC), Error ellipse: s-maj=8.7km s-min=3.9km az=143.0, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.25	17		Pb	10 42 42.4	-0.7
OHAK					Sb	10 42 47.5	-0.1
OHAK	Old Harbor	0.25	17	IAML		10 42 47.8	
	comp=E,23μm,0.3s						
SII	Sitkinak Islan	0.60	225		Pb	10 42 47.5	-0.9
SII					Sb	10 42 56.9	+0.3
SII	Sitkinak Islan	0.60	225	IAML		10 43 01.6	
	comp=N,12μm,0.5s						
SII				IAML		10 43 03.5	
	comp=E,11μm,0.7s						
KDAK	Kodiak Island	0.92	29		Pn	10 42 52.4	-1.0
KDAK					Sb	10 43 04.0	-1.6
CAHL	Cahill	1.47	317		Pn	10 42 60.0	-1.1
KABU	Katmai Buttres	1.63	323		Pn	10 43 02.7	-0.5
CHIR	Chirikof Islan	1.69	227		Pn	10 43 02.5	-1.5
CHIR	Chirikof Islan	1.69	227	IAML		10 44 00.9	
	comp=E,2μm,5.0s						
PLK3	Peulik 3	1.70	296		Pn	10 43 03.0	-1.1
PLK3					Sn	10 43 24.5	-0.4
PLK1	Peulik 1	1.91	297		Pn	10 43 05.7	-1.2
Q19K	Cape Douglas,	1.95	357		Pn	10 43 06.2	-1.4
Q19K	Cape Douglas,	1.95	357	IAML		10 43 41.9	
	comp=N,2μm,1.4s						
Q19K				IAML		10 43 42.3	
	comp=E,2μm,1.1s						
ANNE	Aniakchak Nort	2.54	270		Pn	10 43 14.9	-0.8
P18K	Big Mountain,	2.60	339		Pn	10 43 15.8	-0.7
P18K	Big Mountain,	2.60	339	IAML		10 44 05.5	
	comp=N,556nm,4.1s						
ANPB	Aniakchak Plen	2.67	268		Pn	10 43 16.6	-0.9
CHGN	Chignik	2.84	258		Pn	10 43 18.4	-1.4
CHGN	Chignik	2.84	258	IAML		10 43 58.1	
	comp=E,1μm,5.0s						
CHGN				IAML		10 44 07.6	
	comp=N,454nm,2.6s						
CNBA	Chernabura Isl	4.09	241		Pn	10 43 35.2	-1.8
CNBA	Chernabura Isl	4.09	241	IAML		10 45 47.3	
	comp=E,398nm,2.6s						
SDPT	Sand Point	4.27	250		Pn	10 43 38.0	-1.4
SVW2	Sparrevohn	4.27	346	Pn	Pn	10 43 40.2	+0.7
PS4A	Pavlof South-4	4.99	254		Pn	10 43 48.0	-1.4
HAG	Hague Volcano	5.03	254		Pn	10 43 48.8	-1.0
DT1	Dutton Round H	5.31	253		Pn	10 43 52.7	-1.0
EYAK	Cordova Ski Ar	5.36	45	Pn	Pn	10 43 52.7	-1.6
CUT	Chulitna	5.67	15	Pn	Pn	10 43 56.8	-1.8
FALS	False Pass	6.01	253		Pn	10 44 02.5	-0.8
M24K	Tolsona, Glenn	6.32	33	Pn	Pn	10 44 08.7	+1.1

*NEIC **24** 10:45:09.5±1.1, 59°.83N±0°.03×153°.1W±0°.1, h92km±8km, Error ellipse: s-maj=7.9km s-min=4.0km az=72.0*

AEIC 24 10:45:08±0.4, 59°.78N±0°.04×153°.1W±0°.1, h106km±3km, ML3.3, ML3.8/30(NEIC), Error ellipse: s-maj=7.6km s-min=5.8km az=115.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.14	204		Pn	10 45 22.9	+0.2
O20K	Slope Mountain	0.39	39		Pn	10 45 24.0	+0.3
AUL	Augustine Lava	0.43	202		Pn	10 45 24.3	+0.4
RED	Redoubt Volcan	0.66	15		Pn	10 45 25.8	+0.1
RSO	Redoubt South	0.71	15		Pn	10 45 26.5	+0.3
O19K	Port Alsworth	0.73	305		Pn	10 45 26.3	+0.1
HOM	Homer	0.76	99		Pn	10 45 26.8	+0.4
HOM	Homer	0.76	99	IAML		10 45 44.6	
	comp=E,3μm,1.6s						
HOM				IAML		10 45 44.7	
	comp=N,2μm,1.6s						
NCT	North Crescent	0.79	7		Pn	10 45 27.1	+0.2
DFR	Drift River	0.84	15		Pn	10 45 27.5	+0.2
Q19K	Cape Douglas,	0.90	198	Pn	Pn	10 45 28.2	+0.4
Q19K				IAML		10 45 44.4	
	comp=N,2μm,1.7s						
Q19K				IAML		10 45 46.1	
	comp=E,4μm,1.4s						
CN

PMR	Palmer	2.67	45		Pn	10 45 49.7	+0.3
PMR				IAML		10 46 40.0	
	comp=N,527nm,3.3s						
PMR				IAML		10 47 00.8	
	comp=E,445nm,3.4s						
TT01	Tatalina	3.43	337		Pn	10 45 59.7	+0.1
TTA	Tatalina	3.45	337	Pn	Pn	10 46 00.8	+0.9
TTA				IAML		10 46 36.3	
	comp=N,382nm,4.3s						
TTA				IAML		10 46 46.2	
	comp=E,386nm,4.8s						

*IDC **24** 10:45:36.5±2.7, 59.°70N×153.°69W, h60km±38km, mb4.0/2, mb1 4.4/7, mb1mx3.6/60, mbtmp4.4/7, ML3.9/5, Error ellipse: s-maj=36.7km s-min=14.8km az=100.0*
*NEIC **24** 10:45:38.1±1.2, 59.°66N±0.°05×153.°36W±0.°09, h107km±7km, Error ellipse: s-maj=7.2km s-min=6.4km az=130.0*
*AEIC **24** 10:45:39±1.1, 59.°68N±0.°04×153.°36W±0.°09, h109km±6km, ML3.8, ML4.2/102(NEIC), Error ellipse: s-maj=6.6km s-min=6.3km az=67.0*

ISC 24 10:45:38.9±0.9, 59.°68N±0.°04×153.°26W±0.°05, h110km±6km, n208, σ1°04/196, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.03	150		Pn	10 45 53.6	-0.4
OPT	Oil Point	0.03	150	P	Pn	10 45 53.6	-0.4
	baz=293						
AUL	Augustine Lava	0.31	197		Pn	10 45 54.4	-0.3
AU22	Augustine Moun	0.31	189		Pn	10 45 54.3	-0.4
AUW	Augustine West	0.33	199		Pn	10 45 54.6	-0.1
AUQ	Augustine Qik'	0.33	194		Pn	10 45 54.5	-0.3
O20K	Slope Mountain	0.52	38		Pn	10 45 55.4	-0.5
O20K	Slope Mountain	0.52	38	P	Pn	10 45 55.4	-0.5
	baz=223						
O20K				S	Sn	10 46 08.6	0.0
	baz=223						
O19K	Port Alsworth	0.74	315		Pn	10 45 56.7	-0.8
O19K	Port Alsworth	0.74	315	P	Pn	10 45 56.7	-0.8
	baz=137						
O19K				S	Sn	10 46 10.6	-1.0
	baz=137						
Q19K	Cape Douglas,	0.78	195		Pn	10 45 57.3	-0.7
Q19K	Cape Douglas,	0.78	195	P	Pn	10 45 57.3	-0.7
	baz=11						
Q19K				S	Sn	10 46 11.5	-0.7
	baz=11						
RED	Redoubt Volcan	0.78	18		Pn	10 45 57.7	-0.4
HOM	Homer	0.82	91		Pn	10 45 58.2	0.0
HOM	Homer	0.82	91	P	Pn	10 45 58.2	0.0
	baz=272						
HOM				S	Sn	10 46 13.5	+0.7
	baz=272						
RSO	Redoubt South	0.83	18	Pn	Pn	10 45 59.5	+0.9
NCT	North Crescent	0.90	10		Pn	10 45 58.7	-0.4
DFR	Drift River	0.96	17		Pn	10 45 59.3	-0.4
RDT	Redoubt	0.99	25		Pn	10 45 59.7	-0.4
O18K	Koktuh Hills	1.00	281		Pn	10 45 58.9	-1.2
O18K	Koktuh Hills	1.00	281	P	Pn	10 45 58.9	-1.2
	baz=100						
CNPM	China Poot	1.04	98		Pn	10 46 00.1	-0.4
P18K	Big Mountain,	1.04	255		Pn	10 45 59.1	-1.4
P18K	Big Mountain,	1.04	255	P	Pn	10 45 59.1	-1.4
	baz=72						
BRLK	Bradley Lake	1.21	85		Pn	10 46 01.6	-0.7
BRSE	Bradley Lake S	1.28	86		Pn	10 46 02.7	-0.3
BRSE	Bradley Lake S	1.28	86	P	Pn	10 46 02.7	-0.3
	baz=268						
N19K	Bonanza Creek	1.29	332		Pn	10 46 02.3	-1.0
N19K	Bonanza Creek	1.29	332	P	Pn	10 46 02.3	-1.0
	baz=153						
N19K				S	Sn	10 46 20.3	-1.5
	baz=153						
CAPN	Captain Cook N	1.52	43		Pn	10 46 06.5	+0.7
CAPN	Captain Cook N	1.52	43	IAML		10 46 27.4	
	comp=E,4μm,4.5s						
CAPN				IAML		10 46 29.4	
	comp=N,4μm,4.5s						
CAPN	Captain Cook N	1.52	43	P	Pn	10 46 06.5	+0.7
	baz=226						
SPU	Mount Spurr	1.62	21		Pn	10 46 06.9	-0.3
SPBG	Spurr Blockage	1.65	15		Pn	10 46 07.5	-0.1
KCG	Knife Ck. Glac	1.68	216		Pn	10 46 07.0	-0.9
SPCG	Spurr Capps Gl	1.73	20		Pn	10 46 08.8	+0.2
SLKM	Skilak Lake	1.74	60		Pn	10 46 08.4	-0.2
KABU	Katmai Buttres	1.76	217		Pn	10 46 08.3	-0.6
KELA	Mount Kelaz	1.78	227		Pn	10 46 08.3	-0.9
SVW2	Sparrevohn	1.83	322		Pn	10 46 08.4	-1.3
SVW2	Sparrevohn	1.83	322	IAML		10 47 13.0	
	comp=N,4μm,0.5s						
ANCK	Angle Creek	1.88	219		Pn	10 46 09.8	-0.6
KDAK	Kodiak Island	1.93	169	P	Pn	10 46 08.8	-2.2
	comp=N,28nm,0.3s,baz=0.0,slow=12,SNR=8.1						
KDAK				S	Sn	10 46 32.4	-3.0
	comp=N,59nm,0.3s,baz=133,slow=22,SNR=13						
KDAK	Kodiak Island	1.93	169	Pn	Pn	10 46 09.9	-1.1
KDAK	Kodiak Island	1.93	169	P	Pn	10 46 09.9	-1.1
	baz=348						
O22K	Cooper Landing	1.95	64		Pn	10 46 10.7	-0.4
O22K	Cooper Landing	1.95	64	IAML		10 46 37.4	
	comp=E,2μm,1.5s						
O22K				IAML		10 46 41.6	
	comp=N,1μm,1.5s						
O22K	Cooper Landing	1.95	64	P	Pn	10 46 10.7	-0.4
	baz=248						
STLK	Strandline Lak	1.96	20		Pn	10 46 11.6	+0.2
SEW	Seward	1.97	76		Pn	10 46 10.9	-0.5
SEW	Seward	1.97	76	P	Pn	10 46 10.9	-0.5
	baz=260						
FIS	Fire Island	2.11	44	Pn	Pn	10 46 13.7	+0.5
FIS				IAML		10 46 43.8	
	comp=E,3μm,4.5s						
FIS				IAML		10 46 45.4	
	comp=N,2μm,3.4s						
RC01	Rabbit Creek A	2.25	50		Pn	10 46 14.9	-0.1
RC01	Rabbit Creek A	2.25	50	P	Pn	10 46 14.9	-0.1
	baz=233						
OHAK	Old Harbor	2.46	180		Pn	10 46 15.8	-2.0
OHAK	Old Harbor	2.46	180	P	Pn	10 46 15.8	-2.0
	baz=359						
PLK3	Peulik 3	2.54	219		Pn	10 46 18.3	-0.5
L19K	White Mountain	2.63	343		Pn	10 46 19.0	-1.0
L19K	White Mountain	2.63	343	P	Pn	10 46 19.0	-1.0
	baz=163						
PWL	Port Wells	2.73	62	Pn	Pn	10 46 19.1	-2.1
PWL				IAML		10 46 52.6	
	comp=E,588nm,0.3s						
PWL				IAML		10 46 53.2	
	comp=N,671nm,0.3s						
PMR	Palmer	2.80	45	Pn	Pn	10 46 21.4	-0.7
L20K	Farewell, AK	2.83	354		Pn	10 46 22.1	-0.4
L20K	Farewell, AK	2.83	354	P	Pn	10 46 22.1	-0.4
	baz=175						
KNK	Knik Glacier	2.94	52	Pn	Pn	10 46 23.1	-0.9
KNK				IAML		10 46 58.8	
	comp=N,811nm,0.5s						
KNK				IAML		10 47 06.2	
	comp=E,579nm,4.9s						
GHO	Glory Hole Cre	2.99	44		Pn	10 46 24.6	-0.1
GHO	Glory Hole Cre	2.99	44	IAML		10 47 05.2	
	comp=E,526nm,2.4s						
GHO				IAML		10 47 06.3	
	comp=N,430nm,3.1s						
CUT	Chulitna	3.10	27		Pn	10 46 26.2	+0.2
CUT	Chulitna	3.10	27	P	Pn	10 46 26.2	+0.2
	baz=210						
SII	Sitkinak Islan	3.17	189	Pn	Pn	10 46 26.2	-0.9
SII				IAML		10 46 51.1	
	comp=N,581nm,3.5s						
SII				IAML		10 47 16.0	
	comp=E,504nm,3.3s						
SML	Sawmill	3.23	46	Pn	Pn	10 46 28.2	+0.3
SML				IAML		10 46 54.5	
	comp=N,654nm,3.4s						
SML				IAML		10 46 59.3	
	comp=E,595nm,4.5s						
PPLA	Purkeypile	3.27	9	Pn	Pn	10 46 29.0	+0.4
GLI	Glacier Island	3.30	66	Pn	Pn	10 46 28.8	+0.1
GLI				IAML		10 47 02.6	
	comp=E,395nm,4.2s						
GLI				IAML		10 47 16.6	
	comp=N,336nm,4.1s						
TT01	Tatalina	3.50	339		Pn	10 46 30.4	-1.1
TTA	Tatalina	3.52	339		Pn	10 46 30.4	-1.4
TTA	Tatalina	3.52	339	IAML		10 47 23.9	
	comp=N,315nm,4.4s						
TTA	Tatalina	3.52	339	P	Pn	10 46 30.5	-1.4
	baz=158						
Q23K	Middleton Isla	3.53	91		Pn	10 46 31.1	-0.7
Q23K	Middleton Isla	3.53	91	P	Pn	10 46 31.1	-0.7
	baz=277						
MID	Middleton Isla	3.53	91		Pn	10 46 31.1	-0.7
MID	Middleton Isla	3.53	91	IAML		10 47 19.3	
	comp=E,809nm,4.4s						
MID				IAML		10 48 03.0	
	comp=N,604nm,2.8s						
FID	Port Fidalgo	3.55	69		Pn	10 46 31.0	-1.1
FID	Port Fidalgo	3.55	69	IAML		10 47 11.0	
	comp=E,395nm,0.2s						
FID				IAML		10 47 11.2	
	comp=N,562nm,3.2s						
JPK	Jack Peak	3.59	64		Pn	10 46 32.5	-0.1
SCM	Sheep Creek Mo	3.63	51		Pn	10 46 32.6	-0.6
SCM	Sheep Creek Mo	3.63	51	IAML		10 47 18.9	
	comp=E,518nm,3.3s						
SCM				IAML		10 48 18.1	
	comp=N,608nm,4.5s						
SCM	Sheep Creek Mo	3.63	51	P	Pn	10 46 32.6	-0.6
	baz=236						
VMT	TAPS Tl Valdez	3.70	65		Pn	10 46 34.3	+0.2
K20K	Telida	3.71	354		Pn	10 46 33.6	-0.7
K20K	Telida	3.71	354	IAML		10 47 20.2	
	comp=N,254nm,4.3s						
K20K				IAML		10 47 51.9	
	comp=E,296nm,4.4s						
K20K	Telida	3.71	354	P	Pn	10 46 33.6	-0.7
	baz=174						
CAST	Castle Rocks	3.80	8		Pn	10 46 35.1	-0.3
CAST	Castle Rocks	3.80	8	IAML		10 47 08.1	
	comp=N,375nm,4.2s						
CAST				IAML		10 48 12.5	
	comp=E,298nm,5.0s						
CAST	Castle Rocks	3.80	8	P	Pn	10 46 35.1	-0.3
	baz=190						
EYAK	Cordova Ski Ar	3.86	74		Pn	10 46 35.4	-0.9
EYAK	Cordova Ski Ar	3.86	74	P	Pn	10 46 35.4	-0.9
	baz=260						
DIV	Divide	3.99	65		Pn	10 46 37.5	-0.5
TRF	Thorofare Moun	4.04	19		Pn	10 46 38.2	-0.7
TRF	Thorofare Moun	4.04	19	IAML		10 48 06.5	
	comp=E,537nm,4.5s						
TRF	Thorofare Moun	4.04	19	P	Pn	10 46 38.2	-0.7
	baz=203						
KTH	Kantishna Hill	4.05	15	Pn	Pn	10 46 38.8	0.0
KTH				IAML		10 47 14.3	
	comp=E,342nm,2.6s						
KTH				IAML		10 47 25.4	
	comp=N,560nm,4.6s						
KLU	Klutina	4.05	60		Pn	10 46 38.0	-0.9
KLU	Klutina	4.05	60	IAML		10 47 31.7	
	comp=N,428nm,4.4s						
KLU				IAML		10 47 33.2	
	comp=E,343nm,4.9s						
KLU	Klutina	4.05	60	P	Pn	10 46 38.0	-0.9
	baz=247						
CHIR	Chirikof Islan	4.07	199		Pn	10 46 36.8	-2.3
CHIR	Chirikof Islan	4.07	199	IAML		10 48 48.5	
	comp=E,484nm,3.9s						
CHIR	Chirikof Islan	4.07	199	P	Pn	10 46 36.8	-2.3
	baz=16						
M24K	Tolsona, Glenn	4.23	52	Pn	Pn	10 46 42.5	+1.2
CHUM	Lake Minchumin	4.24	6		Pn	10 46 41.0	-0.3
CHUM	Lake Minchumin	4.24	6	P	Pn	10 46 41.0	-0.3
	baz=187						
RND	Reindeer	4.29	28		Pn	10 46 41.2	-0.9
RND	Reindeer	4.29	28	IAML		10 47 20.8	
	comp=N,435nm,4.6s						
RND				IAML		10 48 51.1	
	comp=E,377nm,5.0s						
CHGN	Chignik	4.36	221	Pn	Pn	10 46 41.5	-1.4
CHGN				IAML		10 47 15.6	
	comp=N,286nm,4.4s						
CHGN				IAML		10 48 05.8	
	comp=E,232nm,3.4s						
GOAT	Goat Mountain	4.36	74		Pn	10 46 42.8	-0.3
PS12	TAPS Pump St12	4.39	62		Pn	10 46 43.4	0.0
BMRM	Bremner River	4.49	70		Pn	10 46 44.4	-0.4
BMRM	Bremner River	4.49	70	IAML		10 47 48.1	
	comp=N,333nm,4.3s						
BMRM				IAML		10 47 55.8	
	comp=E,254nm,5.0s						
BMRM	Bremner River	4.49	70	P	Pn	10 46 44.4	-0.4
	baz=257						
J20K	Nowinta River	4.53	355		Pn	10 46 44.4	-0.9
J20K	Nowinta River	4.53	355	IAML		10 47 36.0	
	comp=E,292nm,5.0s						
J20K				IAML		10 48 16.3	
	comp=N,227nm,4.6s						
J20K	Nowinta River	4.53	355	P	Pn	10 46 44.4	-0.9
	baz=175						
MCK	McKinley	4.56	25		Pn	10 46 45.1	-0.6
MCK	McKinley	4.56	25	P	Pn	10 46 45.1	-0.6
	baz=209						
BPAW	Bear Paw Mtn.	4.57	13	Pn	Pn	10 46 45.4	-0.4
BPAW				IAML		10 47 34.6	
	comp=E,305nm,4.9s						
HMT	Hamilton	4.57	78	Pn	Pn	10 46 45.5	-0.3
N25K	Chitina, Valde	4.68	62		Pn	10 46 47.3	-0.1
N25K	Chitina, Valde	4.68	62	IAML		10 47 24.0	
	comp=N,295nm,4.4s						
N25K				IAML		10 47 56.2	
	comp=E,165nm,4.6s						
N25K	Chitina, Valde	4.68	62	P	Pn	10 46 47.3	-0.1
	baz=250						
SUCK	Suckling Hills	4.80	81	Pn	Pn	10 46 52.0	+3.2
BWN	Browne	4.85	20	Pn	Pn	10 46 51.0	+1.4
GLB	Gilahina Butte	4.99	65		Pn	10 46 50.8	-0.7
GLB	Gilahina Butte	4.99	65	IAML		10 47 34.4	
	comp=N,218nm,4.1s						
GLB				IAML		10 48 06.3	
	comp=E,212nm,3.8s						
PAX	Paxson	5.00	45	Pn	Pn	10 46 51.1	-0.5
GRIN	Grindle Hills	5.03	79		Pn	10 46 51.6	-0.5
VRDI	Verde Repeater	5.10	68		Pn	10 46 52.6	-0.5
VRDI	Verde Repeater	5.10	68	IAML		10 48 18.4	
	comp=E,192nm,4.5s						
SNH	Sunshine Point	5.27	80		Pn	10 46 55.3	0.0
WAX	Waxell Ridge	5.27	77		Pn	10 46 54.8	-0.5
NEA2	Nenana	5.31	20		Pn	10 46 54.6	-1.1
NEA2	Nenana	5.31	20	P	Pn	10 46 54.6	-1.1
	baz=204						
GCSA	Galena City Sc	5.36	343		Pn	10 46 55.2	-1.2
GCSA	Galena City Sc	5.36	343	P	Pn	10 46 55.2	-1.2
	baz=160						
WRH	Wood River Hil	5.39	25		Pn	10 46 55.5	-1.4
ISLE	Juniper Island	5.54	76		Pn	10 46 58.5	-0.4
I21K	Tanana	5.55	6		Pn	10 46 58.5	-0.6
I21K	Tanana	5.55	6	P	Pn	10 46 58.5	-0.6
	baz=187						
PTPK	Patty Peak	5.56	70		Pn	10 46 59.3	0.0
KIAG	Kiagna River	5.56	72		Pn	10 46 59.2	-0.2
BALM	Baldy	5.59	71		Pn	10 46 59.3	-0.4
HDA	Harding Lake	5.60	29		Pn	10 46 58.6	-1.0
HDA	Harding Lake	5.60	29	P	Pn	10 46 58.6	-1.0
	baz=215						
CCB	Clear Creek Bu	5.60	25		Pn	10 46 58.1	-1.6
M26K	Nabesna, AK	5.69	57		Pn	10 47 01.4	+0.5
M26K	Nabesna, AK	5.69	57	P	Pn	10 47 01.4	+0.5
	baz=246						
RIDG	Independent Ri	5.71	41	Pn	Pn	10 47 01.6	+0.3
MESA	MESA	5.71	80		Pn	10 47 01.1	-0.3
MESA	MESA	5.71	80	P	Pn	10 47 01.1	-0.3
	baz=270						
PS08	TAPS Pump Stn8	5.74	29		Pn	10 47 00.7	-0.9
I23K	Minto, Yukon-K	5.78	17		Pn	10 47 01.3	-0.8
I23K	Minto, Yukon-K	5.78	17	P	Pn	10 47 01.3	-0.8
	baz=200						
TCOL	CIGO, UAF Yank	5.79	23		Pn	10 47 01.2	-1.0
TCOL	CIGO, UAF Yank	5.79	23	P	Pn	10 47 01.2	-1.0
	baz=209						
COLA	College	5.79	24		Pn	10 47 01.1	-1.1
MDM	Murphy Dome	5.79	22		Pn	10 47 01.1	-1.2
YAH	Yahtse	5.82	78		Pn	10 47 02.7	-0.2
IL31		5.91	28		Pn	10 47 02.6	-1.2
ILAR	Eielson Array	5.91	28	P	Pn	10 47 01.6	-2.3
	comp=E,3.8nm,0.3s,baz=216,slow=14,SNR=13						
ILAR				S	Sn	10 48 04.8	-5.5
	comp=E,2.1nm,0.3s,baz=219,slow=22,SNR=1.7						
ILAR	Eielson Array	5.91	28		Pn	10 47 02.9	-1.0
DOT	Dot Lake	5.92	44	Pn	Pn	10 47 04.6	+0.6
BARN	Barnard Glacie	5.92	71	Pn	Pn	10 47 04.0	-0.2
H21K	Melozitna Rive	6.01	2	Pn	Pn	10 47 04.0	-1.1
CTG	Chitna Glacier	6.06	73	P	Pn	10 47 05.8	-0.3
	baz=263						
CTGM	Chitina Glacie	6.07	73		Pn	10 47 05.8	-0.3
POKR	Poker Plat Res	6.09	24		Pn	10 47 05.4	-0.9
POKR	Poker Plat Res	6.09	24	P	Pn	10 47 05.4	-0.9
	baz=210						
TABL	Table Mountain	6.12	78		Pn	10 47 06.8	-0.2
M27K	Edge Creek, AK	6.15	59		Pn	10 47 07.4	+0.1
M27K	Edge Creek, AK	6.15	59	P	Pn	10 47 07.4	+0.1
	baz=249						
SCRK	Sand Creek	6.15	42	Pn	Pn	10 47 07.3	+0.1
LOGN	Logan Glacier	6.21	74		Pn	10 47 07.9	-0.2
SAMH	Samovar Hills	6.30	81		Pn	10 47 08.9	-0.3
IM03		6.33	358		Pn	10 47 08.6	-0.9
YUK2	White River	6.45	66		Pn	10 47 10.7	-0.6
BC03		6.47	53		Pn	10 47 11.7	+0.2
PCA	Pinnacle	6.56	81		Pn	10 47 12.6	-0.2
PINM	Pinnacle	6.56	81	P	Pn	10 47 12.6	-0.2
	baz=272						
BVCY	Beaver Creek	6.62	60		Pn	10 47 13.6	+0.2
BVCY	Beaver Creek	6.62	60	P	Pn	10 47 13.6	+0.2
	baz=251						
YUK3	Moose Creek	6.62	66		Pn	10 47 13.5	-0.2
YUK3	Moose Creek	6.62	66	P	Pn	10 47 13.5	-0.2
	baz=257						
J26L	Joseph Creek	6.64	39		Pn	10 47 12.9	-0.9
J26L	Joseph Creek	6.64	39	P	Pn	10 47 12.9	-0.9
	baz=228						
H24K	Noodor Dome	6.66	19	Pn	Pn	10 47 12.7	-1.3
PRP	Porcupine Dome	6.86	28		Pn	10 47 15.7	-1.1
PRP	Porcupine Dome	6.86	28	P	Pn	10 47 15.7	-1.1
	baz=215						
BCPM	Bancas Point	6.88	82	Pn	Pn	10 47 18.3	+1.3
PNL	Peninsula	7.02	84		Pn	10 47 18.1	-0.9
PNL	Peninsula	7.02	84	P	Pn	10 47 18.1	-0.9
	baz=276						
BM03	Burnt Mountain	8.67	23		Pn	10 47 40.0	-1.3
N31M	Braeburn, Yuko	8.79	71		Pn	10 47 41.3	-1.6
N31M	Braeburn, Yuko	8.79	71	P	Pn	10 47 41.3	-1.6
	baz=266						
WHY	Whitehorse	9.21	76	Pn	Pn	10 47 50.0	+1.3
P33M	Teslin, Yukon	10.26	78	Pn	Pn	10 48 02.6	-0.3
DLBC	Dease Lake	12.01	86	P	Pn	10 48 27.7	+1.4
	comp=E,0.8nm,0.3s,baz=274,slow=10,SNR=11						
DLBC	Dease Lake	12.01	86		Pn	10 48 28.9	+2.6
INK	Inuvik	12.18	37	P	Pn	10 48 29.1	+0.8
	comp=E,0.5nm,0.3s,baz=233,slow=20,SNR=1.2						
YKA	Yellowknife Ar	18.71	65	P	Pn	10 49 51.2	+1.1
	comp=E,0.1nm,0.3s,baz=278,slow=9.9,SNR=5.3						
SONM	Songino Array	54.87	306	P	P	10 54 57.1	-0.6
	comp=E,5.1nm,1.2s,baz=38,slow=7.0,SNR=1.9						
ZALV	Zalesovo Beam	57.55	324	P	P	10 55 19.6	+3.2
	comp=E,1.5nm,0.4s,baz=29,slow=7.5,SNR=5.0						

*NEIC **24** 10:51:57.6±1.0, 59.°77N±0.°05×153.°21W±0.°09, h109km±7km, Error ellipse: s-maj=6.9km s-min=6.5km az=141.0*
*AEIC **24** 10:51:58±1.0, 59.°77N±0.°02×153.°16W±0.°10, h104km±6km, ML3.3, ML3.6/90(NEIC), Error ellipse: s-maj=7.1km s-min=3.1km az=85.0*

ISC 24 10:51:57.7±1.5, 59.°77N±0.°04×153.°17W±0.°04, h108km±8km, n147, σ0°64/138, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.12	197		Pn	10 52 12.8	+0.1
OPT	Oil Point	0.12	197	P	Pn	10 52 12.8	+0.1
	baz=18						
OPT	Oil Point	0.12	197	S	Sn	10 52 24.2	+0.3
	baz=18						
AUL	Augustine Lava	0.41	200		Pn	10 52 14.3	+0.5
O20K	Slope Mountain	0.42	40		Pn	10 52 13.9	+0.1
O20K	Slope Mountain	0.42	40	P	Pn	10 52 14.0	+0.1
	baz=221						
O20K	Slope Mountain	0.42	40	S	Sn	10 52 26.1	0.0
	baz=221						
AUQ	Augustine Qik'	0.43	197		Pn	10 52 14.5	+0.6
RED	Redoubt Volcan	0.69	17		Pn	10 52 15.7	-0.1
O19K	Port Alsworth	0.72	307		Pn	10 52 13.0	-3.0
O19K	Port Alsworth	0.72	307	P	Pn	10 52 16.2	+0.2
	baz=126						
O19K				S	Sn	10 52 29.8	0.0
	baz=126						
RSO	Redoubt South	0.73	16	Pn	Pn	10 52 17.8	+1.4
HOM	Homer	0.78	97		Pn	10 52 16.7	+0.2
HOM	Homer	0.78	97	P	Pn	10 52 16.7	+0.2
	baz=279						
HOM				S	Sn	10 52 30.8	+0.1
	baz=279						
NCT	North Crescent	0.81	8		Pn	10 52 16.9	-0.1
DFR	Drift River	0.86	16		Pn	10 52 17.3	-0.1
Q19K	Cape Douglas,	0.87	197		Pn	10 52 18.0	+0.5
Q19K	Cape Douglas,	0.87	197	P	Pn	10 52 18.0	+0.5
	baz=16						
CNPM	China Poot	1.01	103		Pn	10 52 18.9	+0.1
O18K	Koktuh Hills	1.04	276		Pn	10 52 19.4	+0.3
O18K	Koktuh Hills	1.04	276	P	Pn	10 52 19.4	+0.3
	baz=94						
O18K				S	Sn	10 52 34.0	-1.2
	baz=94						
P18K	Big Mountain,	1.11	251		Pn	10 52 20.0	0.0
P18K	Big Mountain,	1.11	251	P	Pn	10 52 20.0	0.0
	baz=69						
BRLK	Bradley Lake	1.15	89	Pn	Pn	10 52 19.4	-0.9
BRSE	Bradley Lake S	1.23	90		Pn	10 52 20.9	-0.3
BRSE	Bradley Lake S	1.23	90	P	Pn	10 52 20.9	-0.3
	baz=272						
BRSE				S	Sn	10 52 38.0	-1.0
	baz=272						
N19K	Bonanza Creek	1.24	329		Pn	10 52 21.6	+0.3
N19K	Bonanza Creek	1.24	329	P	Pn	10 52 21.7	+0.3
	baz=147						
CAPN	Captain Cook N	1.42	44	Pn	Pn	10 52 23.5	+0.1
CAPN				IAML		10 52 49.5	
	comp=N,960nm,3.7s						
CAPN				IAML		10 53 09.2	
	comp=E,843nm,4.6s						
SPBG	Spurr Blockage	1.55	14		Pn	10 52 25.3	+0.3
SLKM	Skilak Lake	1.65	62		Pn	10 52 26.4	+0.2
KCG	Knife Ck. Glac	1.77	215		Pn	10 52 27.4	-0.3
SVW2	Sparrevohn	1.79	319		Pn	10 52 28.1	+0.1
KABU	Katmai Buttres	1.86	217		Pn	10 52 28.8	0.0
O22K	Cooper Landing	1.87	66		Pn	10 52 28.7	-0.1
O22K	Cooper Landing	1.87	66	IAML		10 52 53.2	
	comp=E,219nm,

PMR					IAML			10 53 13.8
	comp=E,132nm,4.6s							
PMR	**Palmer**	**2.70**	**46**	P		**Pn**	**10 52 39.1**	**-0.4**
	baz=229							
L20K	**Farewell, AK**	**2.75**	**353**			**Pn**	**10 52 39.8**	**-0.4**
L20K	**Farewell, AK**	**2.75**	**353**	P		**Pn**	**10 52 39.8**	**-0.4**
	baz=172							
KNK	**Knik Glacier**	**2.85**	**53**			**Pn**	**10 52 41.3**	**-0.3**
KNK	**Knik Glacier**	**2.85**	**53**	IAML			10 53 15.0	
	comp=N,137nm,0.4s							
KNK				IAML			10 53 17.1	
	comp=E,138nm,3.4s							
KNK	**Knik Glacier**	**2.85**	**53**	P		**Pn**	**10 52 41.3**	**-0.3**
	baz=237							
GHO	**Glory Hole Cre**	**2.90**	**44**			**Pn**	**10 52 42.1**	**-0.2**
GHO	**Glory Hole Cre**	**2.90**	**44**	IAML			10 53 09.7	
	comp=N,138nm,4.9s							
GHO				IAML			10 53 29.3	
	comp=E,102nm,4.2s							
CUT	**Chulitna**	**3.00**	**27**	Pn		**Pn**	**10 52 45.5**	**+2.0**
CUT				IAML			10 53 21.1	
	comp=E,262nm,3.1s							
CUT				IAML			10 53 28.0	
	comp=N,182nm,3.8s							
SML	**Sawmill**	**3.13**	**47**	Pn		**Pn**	**10 52 44.9**	**-0.4**
SML				IAML			10 53 27.6	
	comp=N,158nm,4.3s							
SML				IAML			10 53 28.8	
	comp=E,151nm,4.4s							
PPLA	**Purkeypile**	**3.18**	**8**			**Pn**	**10 52 46.7**	**+0.6**
PPLA	**Purkeypile**	**3.18**	**8**	P		**Pn**	**10 52 46.7**	**+0.6**
	baz=189							
GLI	**Glacier Island**	**3.22**	**67**	Pn		**Pn**	**10 52 44.3**	**-2.2**
GLI				IAML			10 53 42.2	
	comp=E,101nm,4.0s							
GLI				IAML			10 54 02.0	
	comp=N,120nm,5.0s							
SII	**Sitkinak Islan**	**3.26**	**190**	Pn		**Pn**	**10 52 46.8**	**-0.2**
SII				IAML			10 53 42.0	
	comp=N,276nm,5.0s							
TT01	**Tatalina**	**3.44**	**338**			**Pn**	**10 52 49.5**	**+0.1**
TTA	**Tatalina**	**3.46**	**338**	Pn		**Pn**	**10 52 49.4**	**-0.4**
TTA				IAML			10 53 24.6	
	comp=N,106nm,4.8s							
FID	**Port Fidalgo**	**3.48**	**71**	Pn		**Pn**	**10 52 48.9**	**-0.9**
FID				IAML			10 54 18.2	
	comp=E,111nm,4.6s							
FID				IAML			10 54 27.2	
	comp=N,102nm,4.6s							
Q23K	**Middleton Isla**	**3.48**	**93**	Pn		**Pn**	**10 52 52.2**	**+2.3**
MID	**Middleton Isla**	**3.49**	**93**	Pn		**Pn**	**10 52 51.7**	**+1.8**
SCM	**Sheep Creek Mo**	**3.53**	**52**			**Pn**	**10 52 50.0**	**-0.7**
SCM	**Sheep Creek Mo**	**3.53**	**52**	IAML			10 53 35.8	
	comp=N,122nm,4.2s							
SCM				IAML			10 53 44.1	
	comp=E,169nm,4.4s							
SCM	**Sheep Creek Mo**	**3.53**	**52**	P		**Pn**	**10 52 50.0**	**-0.7**
	baz=237							
K20K	**Telida**	**3.63**	**354**			**Pn**	**10 52 52.1**	**+0.1**
K20K	**Telida**	**3.63**	**354**	IAML			10 53 36.0	
	comp=N,83nm,4.0s							
K20K				IAML			10 54 37.2	
	comp=E,89nm,4.8s							
K20K	**Telida**	**3.63**	**354**	P		**Pn**	**10 52 52.1**	**+0.1**
	baz=173							
CAST	**Castle Rocks**	**3.70**	**8**			**Pn**	**10 52 53.3**	**+0.3**
CAST	**Castle Rocks**	**3.70**	**8**	IAML			10 54 35.9	
	comp=N,70nm,4.5s							
CAST				IAML			10 55 05.0	
	comp=E,62nm,4.3s							
CAST	**Castle Rocks**	**3.70**	**8**	P		**Pn**	**10 52 53.3**	**+0.3**
	baz=188							
EYAK	**Cordova Ski Ar**	**3.79**	**75**			**Pn**	**10 52 53.7**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.79**	**75**	P		**Pn**	**10 52 53.7**	**-0.4**
	baz=261							
DIV	**Divide**	**3.91**	**66**			**Pn**	**10 52 55.8**	**+0.1**
TRF	**Thorofare Moun**	**3.94**	**19**			**Pn**	**10 52 56.7**	**+0.4**
TRF	**Thorofare Moun**	**3.94**	**19**	P		**Pn**	**10 52 56.7**	**+0.4**
	baz=202							
KTH	**Kantishna Hill**	**3.95**	**15**	Pn		**Pn**	**10 52 56.1**	**-0.1**
KTH				IAML			10 53 27.1	
	comp=N,98nm,4.1s							
KTH				IAML			10 54 51.2	
	comp=E,86nm,4.3s							
KLU	**Klutina**	**3.97**	**61**			**Pn**	**10 52 56.8**	**+0.3**
KLU	**Klutina**	**3.97**	**61**	IAML			10 55 29.2	
	comp=N,106nm,0.3s							
KLU				IAML			10 55 30.4	
	comp=E,83nm,2.5s							
KLU	**Klutina**	**3.97**	**61**	P		**Pn**	**10 52 56.8**	**+0.3**
	baz=247							
M24K	**Tolsona, Glenn**	**4.14**	**52**	Pn		**Pn**	**10 52 58.8**	**0.0**
RND	**Reindeer**	**4.19**	**28**	Pn		**Pn**	**10 52 59.5**	**0.0**
RND				IAML			10 53 49.0	
	comp=N,80nm,4.0s							
RND				IAML			10 54 51.2	
	comp=E,56nm,4.9s							
GOAT	**Goat Mountain**	**4.29**	**75**			**Pn**	**10 53 00.8**	**-0.1**
PS12	**TAPS Pump St12**	**4.31**	**63**			**Pn**	**10 53 01.4**	**+0.3**
BMRM	**Bremner River**	**4.42**	**70**			**Pn**	**10 53 02.2**	**-0.4**
BMRM	**Bremner River**	**4.42**	**70**	P		**Pn**	**10 53 02.2**	**-0.4**
	baz=258							
J20K	**Nowinta River**	**4.45**	**354**			**Pn**	**10 53 03.0**	**0.0**
J20K	**Nowinta River**	**4.45**	**354**	IAML			10 55 48.1	
	comp=N,88nm,4.5s							
J20K				IAML			10 55 52.0	
	comp=E,66nm,4.0s							
J20K	**Nowinta River**	**4.45**	**354**	P		**Pn**	**10 53 03.0**	**0.0**
	baz=174							
MCK	**McKinley**	**4.46**	**25**	Pn		**Pn**	**10 53 03.9**	**+0.8**
MCK				IAML			10 53 41.3	
	comp=E,82nm,4.8s							
MCK				IAML			10 54 15.6	
	comp=N,110nm,5.0s							
BPAW	**Bear Paw Mtn.**	**4.47**	**12**	Pn		**Pn**	**10 53 04.2**	**+1.0**
BPAW				IAML			10 55 39.6	
	comp=N,95nm,4.9s							
BPAW				IAML			10 55 41.6	
	comp=E,80nm,4.3s							
N25K	**Chitina, Valde**	**4.60**	**63**			**Pn**	**10 53 05.4**	**+0.4**
N25K	**Chitina, Valde**	**4.60**	**63**	IAML			10 55 37.1	
	comp=E,97nm,0.5s							
N25K				IAML			10 55 40.4	
	comp=N,82nm,3.5s							
N25K	**Chitina, Valde**	**4.60**	**63**	P		**Pn**	**10 53 05.4**	**+0.4**
	baz=250							
PAX	**Paxson**	**4.90**	**46**	Pn		**Pn**	**10 53 10.8**	**+1.7**
GLB	**Gilahina Butte**	**4.91**	**66**			**Pn**	**10 53 09.2**	**0.0**
GLB	**Gilahina Butte**	**4.91**	**66**	IAML			10 55 41.5	
	comp=N,77nm,0.3s							
VRDI	**Verde Repeater**	**5.02**	**69**			**Pn**	**10 53 10.5**	**-0.3**
WAX	**Waxell Ridge**	**5.21**	**78**			**Pn**	**10 53 13.3**	**+0.1**
NEA2	**Nenana**	**5.21**	**20**	Pn		**Pn**	**10 53 12.9**	**-0.3**
WRH	**Wood River Hil**	**5.29**	**25**			**Pn**	**10 53 14.4**	**+0.2**
I21K	**Tanana**	**5.46**	**5**	Pn		**Pn**	**10 53 17.3**	**+0.7**
ISLE	**Juniper Island**	**5.47**	**77**			**Pn**	**10 53 16.6**	**-0.2**
HDA	**Harding Lake**	**5.50**	**29**	Pn		**Pn**	**10 53 17.5**	**+0.4**
CCB	**Clear Creek Bu**	**5.50**	**25**	Pn		**Pn**	**10 53 16.6**	**-0.5**
BALM	**Baldy**	**5.51**	**72**			**Pn**	**10 53 17.2**	**-0.2**
M26K	**Nabesna, AK**	**5.60**	**57**			**Pn**	**10 53 19.0**	**+0.5**
M26K	**Nabesna, AK**	**5.60**	**57**	P		**Pn**	**10 53 19.0**	**+0.5**
	baz=246							
RIDG	**Independent Ri**	**5.61**	**41**	Pn		**Pn**	**10 53 18.4**	**-0.3**
PS08	**TAPS Pump Stn8**	**5.64**	**29**			**Pn**	**10 53 18.9**	**0.0**
MESA	**MESA**	**5.65**	**81**			**Pn**	**10 53 19.2**	**-0.1**
MESA	**MESA**	**5.65**	**81**	P		**Pn**	**10 53 19.2**	**-0.1**
	baz=271							
I23K	**Minto, Yukon-K**	**5.68**	**16**	Pn		**Pn**	**10 53 20.0**	**+0.5**
YAH	**Yahtse**	**5.75**	**79**			**Pn**	**10 53 20.5**	**-0.2**
IL31		**5.81**	**28**			**Pn**	**10 53 21.4**	**+0.2**
ILAR	**Eielson Array**	**5.81**	**28**	Pn		**Pn**	**10 53 20.9**	**-0.5**
BARN	**Barnard Glacie**	**5.85**	**72**			**Pn**	**10 53 21.9**	**-0.1**
H21K	**Melozitna Rive**	**5.92**	**1**	Pn		**Pn**	**10 53 23.4**	**+0.7**
CTG	**Chitna Glacier**	**5.99**	**73**	P		**Pn**	**10 53 24.5**	**+0.6**
	baz=264							
POKR	**Poker Plat Res**	**5.99**	**24**			**Pn**	**10 53 23.1**	**-0.7**
POKR	**Poker Plat Res**	**5.99**	**24**	P		**Pn**	**10 53 23.1**	**-0.7**
	baz=209							
CTGM	**Chitina Glacie**	**5.99**	**73**			**Pn**	**10 53 24.5**	**+0.6**
TABL	**Table Mountain**	**6.05**	**78**			**Pn**	**10 53 24.8**	**0.0**
M27K	**Edge Creek, AK**	**6.06**	**60**			**Pn**	**10 53 25.4**	**+0.6**
M27K	**Edge Creek, AK**	**6.06**	**60**	P		**Pn**	**10 53 25.4**	**+0.6**
	baz=250							
LOGN	**Logan Glacier**	**6.14**	**75**			**Pn**	**10 53 26.0**	**+0.1**
SAMH	**Samovar Hills**	**6.24**	**81**			**Pn**	**10 53 27.6**	**+0.5**
IM03		**6.25**	**358**			**Pn**	**10 53 27.2**	**0.0**
IMAR	**Indian Mountai**	**6.25**	**358**	Pn		**Pn**	**10 53 27.4**	**+0.2**
YUK2	**White River**	**6.37**	**66**			**Pn**	**10 53 29.2**	**+0.2**
BC03		**6.38**	**54**			**Pn**	**10 53 29.2**	**+0.2**
BCAR	**Beaver Creek A**	**6.38**	**54**	Pn		**Pn**	**10 53 30.4**	**+1.3**
PCA	**Pinnacle**	**6.50**	**81**	Pn		**Pn**	**10 53 30.8**	**+0.1**
J26L	**Joseph Creek**	**6.54**	**39**	Pn		**Pn**	**10 53 32.2**	**+1.0**
H24K	**Noodor Dome**	**6.56**	**19**	Pn		**Pn**	**10 53 31.1**	**-0.4**
PRP	**Porcupine Dome**	**6.76**	**28**	Pn		**Pn**	**10 53 34.8**	**+0.6**
WHY	**Whitehorse**	**9.14**	**76**	Pn		**Pn**	**10 54 07.0**	**+0.4**

*IDC **24** 10:54:27.8±1.6, 59°.89N×153°.10W, h74km±25km, mb3.8/6, mb1 4.1/12, mb1mx3.5/61, mbtmp4.2/12, Error ellipse: s-maj=24.6km s-min=9.7km az=113.0*
*NEIC **24** 10:54:29.4±1.4, 59°.81N±0°.03×153°.08W±0°.07, h107km±5km, Error ellipse: s-maj=4.8km s-min=4.7km az=105.0*
*AEIC **24** 10:54:30±1.2, 59°.80N±0°.03×153°.06W±0°.06, h99km±4km, ML3.8, ML4.1/104(NEIC), Error ellipse: s-maj=4.6km s-min=4.5km az=106.0*
ISC 24 10:54:29.4±0.7, 59°.81N±0°.04×152°.98W±0°.04, h104km±6km, n266, σ0°93/268, mb4.1/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.20**	**220**		**Pn**	**10 54 44.1**	**0.0**
OPT	**Oil Point**	**0.20**	**220**	P	**Pn**	**10 54 44.1**	**0.0**
	baz=30						
O20K	**Slope Mountain**	**0.33**	**33**		**Pn**	**10 54 45.0**	**+0.3**
O20K					**Sn**	**10 54 56.5**	**+0.3**
O20K	**Slope Mountain**	**0.33**	**33**	P	**Pn**	**10 54 45.0**	**+0.3**
	baz=218						
O20K				S	**Sn**	**10 54 56.5**	**+0.3**
	baz=218						
AUL	**Augustine Lava**	**0.48**	**209**		**Pn**	**10 54 45.6**	**0.0**
AUL					**Sn**	**10 54 57.3**	**-0.3**
AUQ	**Augustine Qik'**	**0.50**	**206**		**Pn**	**10 54 45.7**	**0.0**
AUQ					**Sn**	**10 54 57.9**	**0.0**
AUW	**Augustine West**	**0.50**	**210**		**Pn**	**10 54 45.7**	**+0.1**
RED	**Redoubt Volcan**	**0.62**	**10**		**Pn**	**10 54 46.7**	**0.0**
RED					**Sn**	**10 54 59.3**	**-0.4**
RSO	**Redoubt South**	**0.67**	**10**		**Pn**	**10 54 47.3**	**+0.2**
HOM	**Homer**	**0.69**	**102**		**Pn**	**10 54 47.8**	**+0.7**
HOM					**Sn**	**10 55 01.7**	**+1.3**
HOM	**Homer**	**0.69**	**102**	IAML		10 55 03.0	
	comp=E,8μm,0.8s						
HOM	**Homer**	**0.69**	**102**	P	**Pn**	**10 54 47.8**	**+0.7**
	baz=282						
HOM				S	**Sn**	**10 55 01.7**	**+1.3**
	baz=282						
NCT	**North Crescent**	**0.76**	**2**		**Pn**	**10 54 47.8**	**0.0**
NCT					**Sn**	**10 55 01.3**	**-0.4**
O19K	**Port Alsworth**	**0.78**	**301**		**Pn**	**10 54 47.3**	**-0.5**
O19K					**Sn**	**10 55 00.8**	**-0.9**
O19K	**Port Alsworth**	**0.78**	**301**	IAML		10 55 01.4	
	comp=E,9μm,0.5s						
O19K	**Port Alsworth**	**0.78**	**301**	P	**Pn**	**10 54 47.3**	**-0.5**
	baz=122						
O19K				S	**Sn**	**10 55 00.8**	**-0.9**
	baz=122						
DFR	**Drift River**	**0.80**	**10**		**Pn**	**10 54 48.4**	**+0.1**
DFR					**Sn**	**10 55 02.4**	**0.0**
CNPM	**China Poot**	**0.93**	**107**		**Pn**	**10 54 49.8**	**+0.4**
CNPM					**Sn**	**10 55 04.8**	**+0.3**
CNPM	**China Poot**	**0.93**	**107**	IAML		10 55 06.3	
	comp=N,4μm,0.7s						
Q19K	**Cape Douglas,**	**0.94**	**201**		**Pn**	**10 54 49.2**	**-0.4**
Q19K	**Cape Douglas,**	**0.94**	**201**	P	**Pn**	**10 54 49.2**	**-0.4**
	baz=19						
BRLK	**Bradley Lake**	**1.06**	**91**		**Pn**	**10 54 51.0**	**+0.3**
BRLK	**Bradley Lake**	**1.06**	**91**	IAML		10 55 08.1	
	comp=N,3μm,0.4s						
O18K	**Koktuh Hills**	**1.13**	**273**		**Pn**	**10 54 50.9**	**-0.6**
O18K	**Koktuh Hills**	**1.13**	**273**	P	**Pn**	**10 54 50.9**	**-0.6**
	baz=92						
BRSE	**Bradley Lake S**	**1.13**	**92**		**Pn**	**10 54 51.9**	**+0.3**
BRSE					**Sn**	**10 55 08.6**	**+0.2**
BRSE	**Bradley Lake S**	**1.13**	**92**	P	**Pn**	**10 54 51.8**	**+0.3**
	baz=274						
BRSE				S	**Sn**	**10 55 08.6**	**+0.2**
	baz=274						
P18K	**Big Mountain,**	**1.22**	**251**		**Pn**	**10 54 51.7**	**-0.9**
P18K					**Sn**	**10 55 08.1**	**-1.9**
P18K	**Big Mountain,**	**1.22**	**251**	P	**Pn**	**10 54 51.7**	**-0.9**
	baz=69						
P18K				S	**Sn**	**10 55 08.1**	**-1.9**
	baz=69						
N19K	**Bonanza Creek**	**1.26**	**324**		**Pn**	**10 54 52.9**	**-0.2**
N19K	**Bonanza Creek**	**1.26**	**324**	P	**Pn**	**10 54 52.9**	**-0.2**
	baz=145						
CAPN	**Captain Cook N**	**1.33**	**43**		**Pn**	**10 54 55.8**	**+2.1**
CAPN				IAML		10 55 17.6	
	comp=E,3μm,0.8s						
CAPN				IAML		10 55 29.7	
	comp=N,3μm,0.6s						
CAPN	**Captain Cook N**	**1.33**	**43**	P	**Pn**	**10 54 55.8**	**+2.1**
	baz=225						
SPCR	**Spurr Chakacha**	**1.45**	**15**		**Pn**	**10 54 55.6**	**+0.3**
SPCR	**Spurr Chakacha**	**1.45**	**15**	P	**Pn**	**10 54 55.6**	**+0.3**
	baz=197						
SPU	**Mount Spurr**	**1.46**	**18**		**Pn**	**10 54 55.7**	**+0.4**
SPBG	**Spurr Blockage**	**1.49**	**11**		**Pn**	**10 54 56.4**	**+0.6**
SLKM	**Skilak Lake**	**1.55**	**62**		**Pn**	**10 54 57.0**	**+0.6**
SPCG	**Spurr Capps Gl**	**1.56**	**17**		**Pn**	**10 54 57.2**	**+0.5**
O22K	**Cooper Landing**	**1.76**	**66**		**Pn**	**10 54 59.8**	**+0.7**
O22K	**Cooper Landing**	**1.76**	**66**	P	**Pn**	**10 54 59.8**	**+0.7**
	baz=249						
SEW	**Seward**	**1.80**	**79**		**Pn**	**10 54 59.8**	**+0.3**
SEW	**Seward**	**1.80**	**79**	P	**Pn**	**10 54 59.8**	**+0.3**
	baz=262						
SVW2	**Sparrevohn**	**1.83**	**316**		**Pn**	**10 54 59.5**	**-0.4**
KCG	**Knife Ck. Glac**	**1.86**	**217**		**Pn**	**10 55 00.1**	**-0.3**
FIS	**Fire Island**	**1.92**	**44**		**Pn**	**10 55 02.9**	**+1.9**
FIS	**Fire Island**	**1.92**	**44**	IAML		10 55 32.2	
	comp=E,2μm,0.8s						
FIS				IAML		10 55 32.7	
	comp=N,2μm,0.7s						
KABU	**Katmai Buttres**	**1.95**	**219**		**Pn**	**10 55 01.6**	**+0.1**
KDAK	**Kodiak Island**	**2.04**	**174**	P	**Pn**	**10 55 02.2**	**-0.4**
	comp=N,120nm,0.3s,baz=19,slow=13,SNR=155						
KDAK				S	**Sn**	**10 55 27.1**	**-0.8**
	comp=N,101nm,0.3s,baz=48,slow=7.8,SNR=25						
KDAK	**Kodiak Island**	**2.04**	**174**		**Pn**	**10 55 01.8**	**-0.7**
KDAK				IAML		10 55 29.0	
	comp=N,1μm,0.4s						
KDAK				IAML		10 55 29.0	
	comp=N,1μm,0.5s						
RC01	**Rabbit Creek A**	**2.06**	**50**		**Pn**	**10 55 03.5**	**+0.7**
RC01	**Rabbit Creek A**	**2.06**	**50**	P	**Pn**	**10 55 03.5**	**+0.7**
	baz=233						
CAHL	**Cahill**	**2.13**	**215**		**Pn**	**10 55 04.1**	**+0.3**
PWL	**Port Wells**	**2.54**	**63**		**Pn**	**10 55 08.5**	**-0.6**
PWL	**Port Wells**	**2.54**	**63**	P	**Pn**	**10 55 08.8**	**-0.3**
	baz=248						
L19K	**White Mountain**	**2.55**	**340**		**Pn**	**10 55 09.1**	**-0.2**
L19K	**White Mountain**	**2.55**	**340**	P	**Pn**	**10 55 09.1**	**-0.2**
	baz=159						
OHAK	**Old Harbor**	**2.60**	**184**		**Pn**	**10 55 08.6**	**-1.3**
OHAK	**Old Harbor**	**2.60**	**184**	P	**Pn**	**10 55 08.8**	**-1.0**
	baz=2.5						
PMR	**Palmer**	**2.61**	**45**		**Pn**	**10 55 09.7**	**-0.2**
PMR	**Palmer**	**2.61**	**45**	IAML		10 55 41.6	
	comp=E,801nm,0.3s						
PMR				IAML		10 55 42.0	
	comp=N,570nm,0.3s						
PMR	**Palmer**	**2.61**	**45**	P	**Pn**	**10 55 09.7**	**-0.2**
	baz=229						
L20K	**Farewell, AK**	**2.72**	**351**		**Pn**	**10 55 12.0**	**+0.6**
L20K	**Farewell, AK**	**2.72**	**351**	P	**Pn**	**10 55 12.0**	**+0.6**
	baz=171						
PLK3	**Peulik 3**	**2.73**	**220**		**Pn**	**10 55 12.0**	**+0.4**
KNK	**Knik Glacier**	**2.75**	**52**		**Pn**	**10 55 11.7**	**-0.2**
KNK	**Knik Glacier**	**2.75**	**52**	P	**Pn**	**10 55 11.7**	**-0.2**
	baz=236						
GHO	**Glory Hole Cre**	**2.80**	**43**		**Pn**	**10 55 12.6**	**0.0**
GHO	**Glory Hole Cre**	**2.80**	**43**	IAML		10 55 49.4	
	comp=N,864nm,0.6s						
CUT	**Chulitna**	**2.92**	**26**		**Pn**	**10 55 14.7**	**+0.6**
CUT	**Chulitna**	**2.92**	**26**	IAML		10 55 50.7	
	comp=N,750nm,0.4s						
CUT				IAML		10 55 54.1	
	comp=E,786nm,0.7s						
CUT	**Chulitna**	**2.92**	**26**	P	**Pn**	**10 55 14.7**	**+0.6**
	baz=209						
SML	**Sawmill**	**3.04**	**47**		**Pn**	**10 55 15.5**	**-0.2**
SML	**Sawmill**	**3.04**	**47**	IAML		10 55 52.8	
	comp=N,537nm,0.6s						
SML				IAML		10 56 02.1	
	comp=E,520nm,1.1s						
SML	**Sawmill**	**3.04**	**47**	P	**Pn**	**10 55 15.5**	**-0.2**
	baz=231						
GLI	**Glacier Island**	**3.12**	**67**		**Pn**	**10 55 17.5**	**+0.8**
GLI				IAML		10 55 52.3	
	comp=N,497nm,0.7s						
GLI				IAML		10 55 53.1	
	comp=E,663nm,0.4s						
GLI	**Glacier Island**	**3.12**	**67**	P	**Pn**	**10 55 15.5**	**-1.2**
	baz=252						
PPLA	**Purkeypile**	**3.12**	**7**		**Pn**	**10 55 18.3**	**+1.4**
PPLA	**Purkeypile**	**3.12**	**7**	P	**Pn**	**10 55 18.6**	**+1.6**
	baz=188						
SII	**Sitkinak Islan**	**3.32**	**192**	Pn	**Pn**	**10 55 17.9**	**-1.6**
SII				IAML		10 56 08.0	
	comp=N,467nm,2.6s						
SII				IAML		10 56 11.5	
	comp=E,515nm,1.9s						
SII	**Sitkinak Islan**	**3.32**	**192**	P	**Pn**	**10 55 18.5**	**-0.9**
	baz=9.9						
FID	**Port Fidalgo**	**3.37**	**71**		**Pn**	**10 55 19.4**	**-0.7**
FID				IAML		10 55 59.1	
	comp=E,568nm,0.4s						
FID				IAML		10 55 59.9	
	comp=N,459nm,0.5s						
Q23K	**Middleton Isla**	**3.39**	**94**	Pn	**Pn**	**10 55 20.8**	**+0.5**
Q23K				IAML		10 56 41.0	
	comp=N,503nm,2.8s						
Q23K	**Middleton Isla**	**3.39**	**94**	P	**Pn**	**10 55 20.6**	**+0.3**
	baz=279						
MID	**Middleton Isla**	**3.40**	**94**	Pn	**Pn**	**10 55 20.8**	**+0.4**
MID				IAML		10 56 40.6	
	comp=N,504nm,4.7s						
JPK	**Jack Peak**	**3.40**	**66**		**Pn**	**10 55 20.1**	**-0.4**
SCM	**Sheep Creek Mo**	**3.44**	**51**		**Pn**	**10 55 21.1**	**+0.1**
SCM	**Sheep Creek Mo**	**3.44**	**51**	IAML		10 56 03.3	
	comp=E,503nm,0.6s						
SCM				IAML		10 56 07.6	
	comp=N,356nm,0.7s						
SCM	**Sheep Creek Mo**	**3.44**	**51**	P	**Pn**	**10 55 21.1**	**+0.1**
	baz=236						
TT01	**Tatalina**	**3.44**	**336**		**Pn**	**10 55 20.7**	**-0.3**
TTA	**Tatalina**	**3.46**	**336**		**Pn**	**10 55 20.6**	**-0.7**
TTA	**Tatalina**	**3.46**	**336**	P	**Pn**	**10 55 20.9**	**-0.4**
	baz=154						
K20K	**Telida**	**3.60**	**352**		**Pn**	**10 55 23.2**	**+0.1**
K20K	**Telida**	**3.60**	**352**	P	**Pn**	**10 55 23.2**	**+0.1**
	baz=172						
CAST	**Castle Rocks**	**3.65**	**6**		**Pn**	**10 55 24.5**	**+0.6**
CAST	**Castle Rocks**	**3.65**	**6**	P	**Pn**	**10 55 24.5**	**+0.6**
	baz=188						
EYAK	**Cordova Ski Ar**	**3.69**	**75**		**Pn**	**10 55 24.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.69**	**75**	P	**Pn**	**10 55 24.5**	**+0.2**
	baz=262						
DIV	**Divide**	**3.81**	**66**		**Pn**	**10 55 27.2**	**+1.2**
KLU	**Klutina**	**3.86**	**61**		**Pn**	**10 55 26.5**	**-0.3**
KLU	**Klutina**	**3.86**	**61**	IAML		10 56 11.6	
	comp=E,313nm,0.7s						
KLU	**Klutina**	**3.86**	**61**	P	**Pn**	**10 55 26.5**	**-0.3**
	baz=247						
TRF	**Thorofare Moun**	**3.88**	**18**		**Pn**	**10 55 27.7**	**+0.7**
TRF	**Thorofare Moun**	**3.88**	**18**	IAML		10 56 14.9	
	comp=N,268nm,1.1s						
TRF				IAML		10 56 15.5	
	comp=E,230nm,3.6s						
TRF	**Thorofare Moun**	**3.88**	**18**	P	**Pn**	**10 55 27.7**	**+0.7**
	baz=201						
KTH	**Kantishna Hill**	**3.89**	**14**		**Pn**	**10 55 27.6**	**+0.5**
M24K	**Tolsona, Glenn**	**4.04**	**52**		**Pn**	**10 55 29.6**	**+0.5**
M24K	**Tolsona, Glenn**	**4.04**	**52**	P	**Pn**	**10 55 29.6**	**+0.5**
	baz=238						
CHUM	**Lake Minchumin**	**4.10**	**4**		**Pn**	**10 55 30.7**	**+0.8**
CHUM	**Lake Minchumin**	**4.10**	**4**	P	**Pn**	**10 55 30.7**	**+0.8**
	baz=185						
RND	**Reindeer**	**4.12**	**27**		**Pn**	**10 55 30.6**	**+0.4**
RND	**Reindeer**	**4.12**	**27**	IAML		10 56 37.9	
	comp=E,148nm,1.0s						
RND				IAML		10 56 38.3	
	comp=N,147nm,3.8s						
GOAT	**Goat Mountain**	**4.19**	**76**		**Pn**	**10 55 32.0**	**+0.8**
PS12	**TAPS Pump St12**	**4.21**	**63**		**Pn**	**10 55 32.5**	**+1.1**
CHIR	**Chirikof Islan**	**4.24**	**201**	Pn	**Pn**	**10 55 30.8**	**-1.0**
CHIR				IAML		10 56 22.2	
	comp=E,245nm,2.4s						
CHIR	**Chirikof Islan**	**4.24**	**201**	P	**Pn**	**10 55 30.3**	**-1.5**
	baz=18						
PS11	**TAPS Pump St11**	**4.31**	**55**		**Pn**	**10 55 33.0**	**+0.2**
BMRM	**Bremner River**	**4.32**	**71**		**Pn**	**10 55 32.6**	**-0.3**
BMRM	**Bremner River**	**4.32**	**71**	IAML		10 56 25.9	
	comp=E,155nm,2.2s						
BMRM				IAML		10 56

GCSA	Galena City Sc	5.28	342		Pn	10 55 45.7	-0.1
GCSA	Galena City Sc	5.28	342	P	Pn	10 55 45.7	-0.1
	baz=159						
ISLE	Juniper Island	5.37	77		Pn	10 55 47.9	+0.7
PTPK	Patty Peak	5.38	71		Pn	10 55 48.5	+1.2
KIAG	Kiagna River	5.39	73		Pn	10 55 48.5	+1.1
BALM	Baldy	5.41	72		Pn	10 55 48.5	+0.8
I21K	Tanana	5.41	4		Pn	10 55 47.6	0.0
HDA	Harding Lake	5.42	29		Pn	10 55 48.6	+1.0
HDA	Harding Lake	5.42	29	P	Pn	10 55 48.6	+1.0
	baz=215						
CCB	Clear Creek Bu	5.43	24		Pn	10 55 47.6	-0.1
BAGL	Bagley Icefiel	5.49	78		Pn	10 55 49.8	+1.3
M26K	Nabesna, AK	5.50	57		Pn	10 55 50.8	+2.0
RIDG	Independent Ri	5.52	41	Pn	Pn	10 55 50.4	+1.3
RIDG	Independent Ri	5.52	41	P	Pn	10 55 50.6	+1.5
	baz=228						
MESA	MESA	5.55	81		Pn	10 55 50.5	+0.9
MESA	MESA	5.55	81	P	Pn	10 55 50.5	+0.9
	baz=271						
PS08	TAPS Pump Stn8	5.56	29		Pn	10 55 49.7	+0.1
TCOL	CIGO, UAF Yank	5.62	23		Pn	10 55 50.7	+0.4
TCOL	CIGO, UAF Yank	5.62	23	P	Pn	10 55 50.7	+0.4
	baz=208						
COLA	College	5.62	23		Pn	10 55 50.7	+0.4
I23K	Minto, Yukon-K	5.62	16		Pn	10 55 51.1	+0.8
I23K	Minto, Yukon-K	5.62	16	P	Pn	10 55 51.1	+0.8
	baz=199						
MDM	Murphy Dome	5.62	21		Pn	10 55 50.5	+0.1
L26K	Log Cabin Wild	5.64	51	Pn	Pn	10 55 50.4	-0.3
YAH	Yahtse	5.65	79		Pn	10 55 52.2	+1.2
DOT	Dot Lake	5.73	44	Pn	Pn	10 55 53.0	+1.1
IL31		5.74	27		Pn	10 55 51.8	-0.1
ILAR	Eielson Array	5.74	27	P	Pn	10 55 51.3	-0.6
	comp=E,9.4nm,0.3s,baz=218,slow=14,SNR=65						
ILAR				S	Sn	10 56 51.7	-4.6
	comp=E,2.1nm,0.3s,baz=199,slow=16,SNR=4.2						
ILAR	Eielson Array	5.74	27	Pn	Pn	10 55 51.9	0.0
BARN	Barnard Glacie	5.75	72		Pn	10 55 53.5	+1.2
H21K	Melozitna Rive	5.87	1		Pn	10 55 54.0	+0.2
CTG	Chitna Glacier	5.89	74	P	Pn	10 55 55.5	+1.4
	baz=264						
CTGM	Chitina Glacie	5.89	74		Pn	10 55 55.5	+1.3
POKR	Poker Plat Res	5.92	23		Pn	10 55 54.8	+0.4
POKR	Poker Plat Res	5.92	23	P	Pn	10 55 54.8	+0.4
	baz=209						
TABL	Table Mountain	5.95	79		Pn	10 55 55.9	+0.8
SCRK	Sand Creek	5.96	42	Pn	Pn	10 55 56.0	+0.8
SCRK	Sand Creek	5.96	42	P	Pn	10 55 55.2	+0.1
	baz=230						
M27K	Edge Creek, AK	5.96	60		Pn	10 55 57.1	+1.9
CHX	Chaix Hills	5.97	82		Pn	10 55 56.8	+1.5
SDPT	Sand Point	6.02	225	Pn	Pn	10 55 56.5	+0.8
LOGN	Logan Glacier	6.04	75		Pn	10 55 57.5	+1.2
SAMH	Samovar Hills	6.14	82		Pn	10 55 59.1	+1.6
CNBA	Chernabura Isl	6.15	218	Pn	Pn	10 55 56.8	-0.8
IM03		6.21	357		Pn	10 55 59.2	+0.9
IMAR	Indian Mountai	6.21	357	Pn	Pn	10 55 59.0	+0.6
PS06	TAPS Pump Stn6	6.25	12		Pn	10 55 59.7	+0.8
YUK2	White River	6.26	66		Pn	10 56 00.7	+1.4
L27K	Beaver Creek,	6.27	54	Pn	Pn	10 56 00.4	+1.2
L27K	Beaver Creek,	6.27	54	P	Pn	10 55 59.3	+0.1
	baz=244						
BC03		6.29	54		Pn	10 55 59.5	+0.2
BCAR	Beaver Creek A	6.29	54	Pn	Pn	10 56 01.1	+1.7
PCA	Pinnacle	6.40	82		Pn	10 56 01.9	+0.9
PINM	Pinnacle	6.40	82	P	Pn	10 56 01.9	+0.9
	baz=273						
BVCY	Beaver Creek	6.43	61		Pn	10 56 03.1	+1.8
BVCY	Beaver Creek	6.43	61	P	Pn	10 56 03.1	+1.8
	baz=252						
YUK3	Moose Creek	6.44	67		Pn	10 56 03.1	+1.4
YUK3	Moose Creek	6.44	67	P	Pn	10 56 03.1	+1.4
	baz=258						
J26L	Joseph Creek	6.45	39		Pn	10 56 01.8	+0.1
J26L	Joseph Creek	6.45	39	P	Pn	10 56 01.8	+0.1
	baz=228						
H24K	Noodor Dome	6.49	19		Pn	10 56 02.2	+0.1
H24K	Noodor Dome	6.49	19	P	Pn	10 56 02.1	0.0
	baz=204						
PRP	Porcupine Dome	6.68	28		Pn	10 56 05.6	+0.8
PRP	Porcupine Dome	6.68	28	P	Pn	10 56 05.6	+0.8
	baz=215						
BCPM	Bancas Point	6.72	83	Pn	Pn	10 56 06.5	+1.1
PNL	Peninsula	6.87	85		Pn	10 56 07.8	+0.4
PNL	Peninsula	6.87	85	P	Pn	10 56 07.8	+0.4
	baz=277						
EGAK	Eagle	7.42	43		Pn	10 56 14.7	-0.1
EGAK	Eagle	7.42	43	P	Pn	10 56 14.7	-0.1
	baz=233						
ANM	Nome	7.50	315	Pn	Pn	10 56 15.8	0.0
COLD	Coldfoot	7.55	8		Pn	10 56 16.3	-0.3
COLD	Coldfoot	7.55	8	P	Pn	10 56 16.3	-0.3
	baz=191						
FYU	Fort Yukon	7.63	24	Pn	Pn	10 56 18.3	+0.7
DAWY	Dawson	7.70	50	Pn	Pn	10 56 19.0	+0.4
DAWY	Dawson	7.70	50	P	Pn	10 56 18.8	+0.2
	baz=243						
M30M	Minto, Yukon	8.29	64	Pn	Pn	10 56 27.2	+0.5
M30M	Minto, Yukon	8.29	64	P	Pn	10 56 27.2	+0.5
	baz=258						
J29M	Klondike Camp	8.33	50	Pn	Pn	10 56 28.3	+1.1
J29M	Klondike Camp	8.33	50	P	Pn	10 56 27.6	+0.4
	baz=243						
BM03	Burnt Mountain	8.49	22		Pn	10 56 28.3	-1.1
BMAR	Burnt Mountain	8.51	22	Pn	Pn	10 56 29.4	-0.2
BM01	Burnt Mountain	8.54	22		Pn	10 56 28.8	-1.1
N31M	Braeburn, Yuko	8.61	71		Pn	10 56 32.2	+1.2
N31M	Braeburn, Yuko	8.61	71	P	Pn	10 56 31.1	0.0
	baz=266						
I29M	Ogilvie Camp,	8.75	44	Pn	Pn	10 56 34.4	+1.5
SKAG	Skagway	8.95	85	Pn	Pn	10 56 37.5	+1.9
SKAG	Skagway	8.95	85	P	Pn	10 56 36.1	+0.6
	baz=280						
TNA	Tin City	8.96	316	P	Pn	10 56 35.5	-0.1
	baz=123						
WHY	Whitehorse	9.04	77		Pn	10 56 38.1	+1.2
WHY	Whitehorse	9.04	77	P	Pn	10 56 37.4	+0.4
	baz=272						
M31M	Drury Creek, Y	9.34	67	Pn	Pn	10 56 41.6	+0.9
M31M	Drury Creek, Y	9.34	67	P	Pn	10 56 41.7	+0.9
	baz=263						
BESE	Bessie Mountai	9.38	90	Pn	Pn	10 56 43.1	+1.6
SIT	Sitka	9.66	99	Pn	Pn	10 56 44.3	-0.9
SIT	Sitka	9.66	99	P	Pn	10 56 44.6	-0.5
	baz=294						
JIS	Juneau Island	9.70	91	Pn	Pn	10 56 47.5	+1.7
EPYK	Eagle Plains	9.86	41	Pn	Pn	10 56 49.8	+2.0
P33M	Teslin, Yukon	10.10	79	Pn	Pn	10 56 52.9	+1.7
P33M	Teslin, Yukon	10.10	79	P	Pn	10 56 52.4	+1.1
	baz=276						
CRAG	Craig	11.48	104	Pn	Pn	10 57 09.6	-0.2
CRAG	Craig	11.48	104	P	Pn	10 57 09.4	-0.3
	baz=300						
DLBC	Dease Lake	11.86	87	P	Pn	10 57 16.2	+1.3
	comp=E,6.4nm,0.3s,baz=266,slow=9.1,SNR=81						
DLBC				S	Sn	10 59 24.7	-0.4
	comp=E,0.5nm,0.3s,baz=166,slow=22,SNR=2.5						
DLBC	Dease Lake	11.86	87	Pn	Pn	10 57 17.3	+2.4
INK	Inuvik	11.99	37	P	Pn	10 57 16.4	0.0
	comp=E,0.3nm,0.3s,baz=249,slow=11,SNR=6.0						
INK				S	Sn	10 59 24.2	-3.7
	comp=E,0.1nm,0.3s,baz=314,slow=13,SNR=1.4						
INK	Inuvik	11.99	37	Pn	Pn	10 57 17.5	+1.1
BBB	Bella Bella	15.79	108	P	P	10 58 06.9	-0.3
	comp=E,0.2nm,0.3s,baz=287,slow=17,SNR=1.3						
BBB				S	Sn	11 00 57.0	-3.0
	comp=E,0.1nm,0.3s,baz=123,slow=10.0,SNR=1.2						
A36M	Sachs Harbour	16.42	31	Pn	Pn	10 58 12.8	-0.3
YKA	Yellowknife Ar	18.52	65	P	Pn	10 58 38.8	+0.1
	comp=E,0.6nm,0.3s,baz=277,slow=9.8,SNR=61						
SEY	Seymchan	25.70	301	P	P	10 59 51.5	+2.3
	comp=E,2.1nm,1.0s,baz=42,slow=15,SNR=2.2						
PETK	Petropavlovsk-	27.50	278	P	P	11 00 05.0	-0.5
	comp=E,0.7nm,0.4s,baz=69,slow=12,SNR=2.0						
NRIK	Noril'sk	44.07	334	P	P	11 02 26.6	+0.3
	comp=E,5.1nm,0.7s,baz=35,slow=5.9,SNR=6.1						
KSRS	Korea Array	53.23	283	P	P	11 03 37.5	+0.8
	comp=E,1.9nm,0.4s,baz=37,slow=7.1,SNR=11						
SONM	Songino Array	54.91	306	P	P	11 03 50.0	+1.0
	comp=E,1.6nm,0.8s,baz=33,slow=5.7,SNR=5.7						
ZALV	Zalesovo Beam	57.54	324	P	P	11 04 07.5	+0.1
	comp=E,0.8nm,0.4s,baz=39,slow=6.8,SNR=3.0						

*NEIC **24** 10:59:08.2±0.6, 59°.77N±0°.03×153°.2W±0°.1, h106km±1km, Error ellipse: s-maj=7.6km s-min=4.6km az=106.0*

AEIC 24 10:59:09±1.3, **59°.75N**±0°.05×**153°.16W**±0°.08, **h95**km±5km, **ML2.8, ML3.3**/46(NEIC), **Error ellipse: s-maj=7.3km s-min=5.1km az=144.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.10	200		Pn	10 59 22.9	+0.5
AUL	Augustine Lava	0.39	201		Pn	10 59 24.1	+0.5
AUL					Sn	10 59 36.1	+1.7
AUW	Augustine West	0.41	203		Pn	10 59 24.3	+0.7
O20K	Slope Mountain	0.43	39		Pn	10 59 24.3	+0.4
RED	Redoubt Volcan	0.70	16		Pn	10 59 25.9	-0.2
RED					Sn	10 59 39.2	+0.3
O19K	Port Alsworth	0.74	308		Pn	10 59 26.3	0.0
O19K	Port Alsworth	0.74	308	IAML		10 59 44.5	
	comp=E,759nm,0.5s						
O19K				IAML		10 59 45.3	
	comp=N,563nm,0.4s						
RSO	Redoubt South	0.75	16	Pn	Pn	10 59 26.6	0.0
HOM	Homer	0.78	96	Pn	Pn	10 59 26.9	+0.2
HOM				IAML		10 59 42.5	
	comp=N,529nm,1.1s						
NCT	North Crescent	0.83	8		Pn	10 59 27.2	-0.1
NCT					Sn	10 59 41.8	+0.8
Q19K	Cape Douglas,	0.86	197	Pn	Pn	10 59 27.7	+0.2
DFR	Drift River	0.88	15		Pn	10 59 27.8	-0.1
CNPM	China Poot	1.00	102	Pn	Pn	10 59 28.9	-0.2
CNPM				IAML		11 00 02.1	
	comp=E,505nm,0.6s						
O18K	Koktuh Hills	1.04	277	Pn	Pn	10 59 29.6	+0.1
P18K	Big Mountain,	1.11	252		Pn	10 59 29.8	-0.5
BRLK	Bradley Lake	1.15	88		Pn	10 59 30.0	-0.8
N19K	Bonanza Creek	1.26	329	Pn	Pn	10 59 31.5	-0.6
SPCR	Spurr Chakacha	1.53	18		Pn	10 59 35.0	-0.4
SPU	Mount Spurr	1.54	20	Pn	Pn	10 59 35.1	-0.4
SPBG	Spurr Blockage	1.57	14		Pn	10 59 35.8	-0.1
SPCG	Spurr Capps Gl	1.65	20		Pn	10 59 36.6	-0.4
SLKM	Skilak Lake	1.66	61		Pn	10 59 36.8	-0.2
KCG	Knife Ck. Glac	1.76	216		Pn	10 59 38.1	-0.2
KABU	Katmai Buttres	1.84	217		Pn	10 59 39.5	0.0
KELA	Mount Kelaz	1.87	227		Pn	10 59 39.4	-0.3
O22K	Cooper Landing	1.87	65		Pn	10 59 39.2	-0.4
L19K	White Mountain	2.58	342	Pn	Pn	10 59 49.0	0.0
PWL	Port Wells	2.65	63	Pn	Pn	10 59 49.6	-0.3
PMR	Palmer	2.71	45	Pn	Pn	10 59 49.9	-0.8
PMR				IAML		11 00 44.1	
	comp=E,59nm,4.3s						
PMR				IAML		11 00 52.5	
	comp=N,65nm,4.5s						
KNK	Knik Glacier	2.86	52		Pn	10 59 51.8	-0.9
GHO	Glory Hole Cre	2.91	44	Pn	Pn	10 59 52.4	-1.0
GHO				IAML		11 00 42.8	
	comp=N,73nm,0.4s						
GHO				IAML		11 00 44.6	
	comp=E,120nm,2.9s						
CUT	Chulitna	3.02	27	Pn	Pn	10 59 55.1	+0.4
CUT				IAML		11 00 30.6	
	comp=E,97nm,4.5s						
CUT				IAML		11 00 45.7	
	comp=N,163nm,4.4s						
PPLA	Purkeypile	3.19	8	Pn	Pn	10 59 57.8	+0.5
CAST	Castle Rocks	3.72	7	Pn	Pn	11 00 03.0	-1.3
CAST				IAML		11 00 44.2	
	comp=E,28nm,4.4s						
CAST				IAML		11 02 21.8	
	comp=N,37nm,4.7s						
DIV	Divide	3.92	66	Pn	Pn	11 00 06.7	-0.2
TRF	Thorofare Moun	3.96	19	Pn	Pn	11 00 07.0	-0.7
TRF				IAML		11 02 08.9	
	comp=N,68nm,4.6s						
KLU	Klutina	3.97	61	Pn	Pn	11 00 06.2	-1.5
N25K	Chitina, Valde	4.61	62	Pn	Pn	11 00 15.8	-0.5
SUCK	Suckling Hills	4.74	82	Pn	Pn	11 00 17.1	-0.8
GLB	Gilahina Butte	4.91	66	Pn	Pn	11 00 19.4	-1.0
WRH	Wood River Hil	5.30	24	Pn	Pn	11 00 23.8	-1.9
RIDG	Independent Ri	5.62	41	Pn	Pn	11 00 29.2	-0.9
YAH	Yahtse	5.75	79	Pn	Pn	11 00 31.7	-0.3
IL31		5.83	27	Pn	Pn	11 00 32.0	-0.7
PCA	Pinnacle	6.50	81	Pn	Pn	11 00 41.6	-0.4
PRP	Porcupine Dome	6.77	28	Pn	Pn	11 00 44.7	-1.0

*NEIC **24** 11:01:33.2±0.9, 59°.76N±0°.03×153°.08W±0°.06, h110km±4km, Error ellipse: s-maj=5.3km s-min=3.0km az=219.0*

*AEIC **24** 11:01:34±1.1, 59°.75N±0°.03×153°.07W±0°.07, h108km±3km, ML3.3, ML3.6/102(NEIC), Error ellipse: s-maj=5.2km s-min=3.9km az=75.0*

ISC 24 11:01:32.8±1.4, **59°.76N**±0°.04×**153°.08W**±0°.05, **h114**km±8km, **n213**, σ0°.52/212, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.13	216		Pn	11 01 48.6	0.0
OPT	Oil Point	0.13	216	P	Pn	11 01 48.6	0.0
	baz=42						
O20K	Slope Mountain	0.40	35		Pn	11 01 49.6	+0.1
O20K					Sn	11 02 02.1	-0.1
O20K	Slope Mountain	0.40	35	P	Pn	11 01 49.6	+0.1
	baz=214						
O20K				S	Sn	11 02 02.1	-0.1
	baz=214						
AUL	Augustine Lava	0.42	206		Pn	11 01 49.9	+0.3
AUL					Sn	11 02 02.2	0.0
AUW	Augustine West	0.44	207		Pn	11 01 49.8	+0.1
AUQ	Augustine Qik'	0.44	203		Pn	11 01 50.1	+0.3
AUQ					Sn	11 02 02.4	0.0
RED	Redoubt Volcan	0.68	13		Pn	11 01 51.5	0.0
RED					Sn	11 02 04.9	-0.7
RSO	Redoubt South	0.72	13		Pn	11 01 52.2	+0.2
HOM	Homer	0.74	97		Pn	11 01 52.0	+0.2
HOM					Sn	11 02 06.2	+0.1
HOM	Homer	0.74	97	IAML		11 02 07.5	
	comp=N,3μm,0.4s						
HOM	Homer	0.74	97	P	Pn	11 01 52.0	+0.2
	baz=278						
HOM				S	Sn	11 02 06.2	+0.1
	baz=278						
O19K	Port Alsworth	0.76	306		Pn	11 01 52.0	+0.1
O19K					Sn	11 02 06.2	-0.2
O19K	Port Alsworth	0.76	306	IAML		11 02 06.9	
	comp=E,3μm,0.4s						
O19K	Port Alsworth	0.76	306	P	Pn	11 01 52.0	+0.1
	baz=125						
O19K				S	Sn	11 02 06.2	-0.2
	baz=125						
NCT	North Crescent	0.81	5		Pn	11 01 52.6	+0.1
NCT					Sn	11 02 07.0	-0.5
DFR	Drift River	0.86	13		Pn	11 01 52.9	-0.1
DFR					Sn	11 02 07.8	-0.5
Q19K	Cape Douglas,	0.88	199		Pn	11 01 53.3	+0.1
Q19K	Cape Douglas,	0.88	199	P	Pn	11 01 53.3	+0.1
	baz=20						
CNPM	China Poot	0.97	103		Pn	11 01 53.7	-0.3
CNPM					Sn	11 02 09.0	-0.9
CNPM	China Poot	0.97	103	IAML		11 02 09.6	
	comp=E,1μm,0.5s						
O18K	Koktuh Hills	1.08	276		Pn	11 01 55.0	-0.1
O18K	Koktuh Hills	1.08	276	P	Pn	11 01 55.1	0.0
	baz=95						
BRLK	Bradley Lake	1.11	89		Pn	11 01 55.1	-0.3
BRLK	Bradley Lake	1.11	89	IAML		11 02 11.7	
	comp=N,1μm,0.5s						
BRLK				IAML		11 02 13.3	
	comp=E,908nm,0.1s						
P18K	Big Mountain,	1.15	252	Pn	Pn	11 01 55.3	-0.6
P18K	Big Mountain,	1.15	252	P	Pn	11 01 55.8	-0.1
	baz=71						
BRSE	Bradley Lake S	1.19	90		Pn	11 01 56.0	-0.3
BRSE	Bradley Lake S	1.19	90	P	Pn	11 01 56.0	-0.3
	baz=271						
N19K	Bonanza Creek	1.27	327		Pn	11 01 57.4	+0.2
N19K	Bonanza Creek	1.27	327	P	Pn	11 01 57.4	+0.2
	baz=146						
CAPN	Captain Cook N	1.40	43		Pn	11 02 00.2	+1.7
CAPN	Captain Cook N	1.40	43	P	Pn	11 02 00.5	+2.0
	baz=224						
SPCR	Spurr Chakacha	1.51	16		Pn	11 02 00.2	+0.2
SPCR	Spurr Chakacha	1.51	16	P	Pn	11 02 00.2	+0.2
	baz=197						

SPU	Mount Spurr	1.52	19		Pn	11 02 00.4	+0.4
SPBG	Spurr Blockage	1.55	13		Pn	11 02 01.0	+0.5
SPBG					Sn	11 02 21.8	+0.3
SLKM	Skilak Lake	1.62	61		Pn	11 02 01.1	-0.2
SPCG	Spurr Capps Gl	1.63	18		Pn	11 02 01.7	+0.3
KCG	Knife Ck. Glac	1.79	217		Pn	11 02 03.5	+0.1
SVW2	Sparrevohn	1.83	318		Pn	11 02 03.6	-0.2
O22K	Cooper Landing	1.83	65		Pn	11 02 04.0	+0.2
O22K	Cooper Landing	1.83	65	IAML		11 02 41.0	
	comp=E,593nm,0.7s						
O22K				IAML		11 02 41.7	
	comp=N,692nm,0.7s						
O22K	Cooper Landing	1.83	65	P	Pn	11 02 04.0	+0.2
	baz=248						
STLK	Strandline Lak	1.85	19		Pn	11 02 04.8	+0.7
SEW	Seward	1.86	78		Pn	11 02 03.8	-0.3
SEW	Seward	1.86	78	P	Pn	11 02 03.8	-0.3
	baz=260						
KABU	Katmai Buttres	1.88	218		Pn	11 02 04.8	+0.3
FIS	Fire Island	1.99	44		Pn	11 02 06.4	+0.7
FIS				IAML		11 02 37.1	
	comp=E,390nm,0.5s						
FIS				IAML		11 02 53.9	
	comp=N,471nm,1.8s						
KDAK	Kodiak Island	2.00	172		Pn	11 02 05.2	-0.7
KDAK	Kodiak Island	2.00	172	IAML		11 02 31.4	
	comp=N,510nm,0.3s						
KDAK				IAML		11 02 31.5	
	comp=N,538nm,0.4s						
CAHL	Cahill	2.06	215		Pn	11 02 07.3	+0.6
RC01	Rabbit Creek A	2.13	50		Pn	11 02 07.7	+0.1
RC01	Rabbit Creek A	2.13	50	IAML		11 02 34.3	
	comp=N,388nm,0.6s						
RC01				IAML		11 02 34.7	
	comp=E,674nm,0.4s						
RC01	Rabbit Creek A	2.13	50	P	Pn	11 02 07.7	+0.1
	baz=232						
OHAK	Old Harbor	2.55	183	Pn	Pn	11 02 12.6	-0.3
OHAK	Old Harbor	2.55	183	P	Pn	11 02 11.9	-1.0
	baz=2.5						
L19K	White Mountain	2.58	341		Pn	11 02 13.3	-0.1
L19K	White Mountain	2.58	341	P	Pn	11 02 13.5	+0.1
	baz=160						
PWL	Port Wells	2.61	63		Pn	11 02 13.4	-0.3
PWL	Port Wells	2.61	63	IAML		11 02 43.7	
	comp=N,317nm,0.4s						
PWL				IAML		11 02 44.4	
	comp=E,274nm,0.3s						
PWL	Port Wells	2.61	63	P	Pn	11 02 13.4	-0.3
	baz=247						
PLK3	Peulik 3	2.66	220		Pn	11 02 15.2	+0.8
PMR	Palmer	2.68	45		Pn	11 02 14.6	0.0
PMR	Palmer	2.68	45	P	Pn	11 02 14.9	+0.3
	baz=228						
L20K	Farewell, AK	2.76	352		Pn	11 02 16.1	+0.4
L20K	Farewell, AK	2.76	352	P	Pn	11 02 16.1	+0.4
	baz=172						
KNK	Knik Glacier	2.82	52		Pn	11 02 17.2	+0.6
KNK				IAML		11 02 49.3	
	comp=E,337nm,0.7s						
KNK				IAML		11 02 49.7	
	comp=N,215nm,0.3s						
KNK	Knik Glacier	2.82	52	P	Pn	11 02 16.8	+0.3
	baz=236						
GHO	Glory Hole Cre	2.87	43		Pn	11 02 17.2	0.0
GHO	Glory Hole Cre	2.87	43	IAML		11 02 51.2	
	comp=E,262nm,0.4s						
GHO				IAML		11 02 52.1	
	comp=N,256nm,0.4s						
CUT	Chulitna	2.99	26	Pn	Pn	11 02 19.5	+0.9
CUT				IAML		11 02 59.7	
	comp=N,261nm,0.3s						
CUT	Chulitna	2.99	26	P	Pn	11 02 18.9	+0.3
	baz=208						
SML	Sawmill	3.11	47	Pn	Pn	11 02 20.3	0.0
SML				IAML		11 03 02.8	
	comp=N,111nm,0.6s						
SML				IAML		11 03 04.8	
	comp=E,112nm,1.4s						
PPLA	Purkeypile	3.18	7		Pn	11 02 22.1	+0.8
PPLA	Purkeypile	3.18	7	P	Pn	11 02 22.6	+1.2
	baz=188						
GLI	Glacier Island	3.18	67		Pn	11 02 20.4	-0.9
GLI				IAML		11 02 57.5	
	comp=N,121nm,0.9s						
GLI				IAML		11 02 58.4	
	comp=E,172nm,0.4s						
GLI	Glacier Island	3.18	67	P	Pn	11 02 20.5	-0.8
	baz=252						
SII	Sitkinak Islan	3.26	191	Pn	Pn	11 02 21.3	-1.0
SII				IAML		11 03 28.3	
	comp=N,234nm,3.4s						
SII	Sitkinak Islan	3.26	191	P	Pn	11 02 22.4	+0.1
	baz=10.0						
FID	Port Fidalgo	3.44	70		Pn	11 02 23.5	-1.2
FID				IAML		11 03 03.3	
	comp=E,174nm,0.5s						
FID				IAML		11 03 03.9	
	comp=N,194nm,0.3s						
Q23K	Middleton Isla	3.44	93	Pn	Pn	11 02 26.4	+1.8
Q23K	Middleton Isla	3.44	93	P	Pn	11 02 24.5	-0.1
	baz=278						
MID	Middleton Isla	3.44	93	Pn	Pn	11 02 26.0	+1.4
TT01	Tatalina	3.46	337		Pn	11 02 24.9	0.0
JPK	Jack Peak	3.47	65		Pn	11 02 24.9	-0.2
TTA	Tatalina	3.48	337	Pn	Pn	11 02 25.1	-0.2
TTA	Tatalina	3.48	337	P	Pn	11 02 25.1	-0.2
	baz=155						
SCM	Sheep Creek Mo	3.50	51		Pn	11 02 25.5	-0.1
SCM				IAML		11 03 07.5	
	comp=E,125nm,1.0s						
SCM				IAML		11 03 08.8	
	comp=N,116nm,0.9s						
SCM	Sheep Creek M

J20K	**Nowinta River**	**4.46**	**354**		**Pn**	**11 02 38.6**	**+0.3**
J20K	**Nowinta River**	**4.46**	**354**	IAML		11 03 44.0	
	comp=N,41nm,4.2s						
J20K	**Nowinta River**	**4.46**	**354**	P	**Pn**	**11 02 38.6**	**+0.3**
	baz=173						
BPAW	**Bear Paw Mtn.**	**4.47**	**12**	Pn	**Pn**	**11 02 38.7**	**+0.3**
BPAW				IAML		11 04 18.8	
	comp=E,37nm,4.4s						
BPAW				IAML		11 04 36.1	
	comp=N,39nm,4.1s						
BPAW	**Bear Paw Mtn.**	**4.47**	**12**	P	**Pn**	**11 02 38.8**	**+0.3**
	baz=194						
CHGN	**Chignik**	**4.48**	**222**	Pn	**Pn**	**11 02 39.5**	**+1.0**
CHGN				IAML		11 03 31.2	
	comp=N,77nm,2.1s						
CHGN				IAML		11 03 35.7	
	comp=E,81nm,3.2s						
CHGN	**Chignik**	**4.48**	**222**	P	**Pn**	**11 02 39.1**	**+0.6**
	baz=37						
N25K	**Chitina, Valde**	**4.56**	**62**		**Pn**	**11 02 40.5**	**+0.7**
N25K	**Chitina, Valde**	**4.56**	**62**	IAML		11 03 33.1	
	comp=E,46nm,4.0s						
N25K	**Chitina, Valde**	**4.56**	**62**	P	**Pn**	**11 02 40.5**	**+0.7**
	baz=250						
BWN	**Browne**	**4.75**	**20**	Pn	**Pn**	**11 02 42.0**	**-0.2**
GLB	**Gilahina Butte**	**4.87**	**66**		**Pn**	**11 02 44.0**	**+0.1**
GLB				IAML		11 03 50.9	
	comp=E,43nm,3.2s						
PAX	**Paxson**	**4.88**	**45**		**Pn**	**11 02 43.4**	**-0.6**
VRDI	**Verde Repeater**	**4.98**	**69**	Pn	**Pn**	**11 02 45.4**	**-0.2**
VRDI				IAML		11 04 09.7	
	comp=N,65nm,4.9s						
VRDI				IAML		11 04 43.7	
	comp=E,46nm,4.6s						
PS10	**TAPS Pump St10**	**5.07**	**40**		**Pn**	**11 02 47.1**	**+0.6**
SNH	**Sunshine Point**	**5.17**	**81**	Pn	**Pn**	**11 02 48.4**	**+0.6**
WAX	**Waxell Ridge**	**5.17**	**78**	Pn	**Pn**	**11 02 48.1**	**+0.3**
NEA2	**Nenana**	**5.20**	**19**		**Pn**	**11 02 47.8**	**-0.5**
NEA2	**Nenana**	**5.20**	**19**	IAML		11 04 58.6	
	comp=N,47nm,4.7s						
NEA2				IAML		11 05 11.4	
	comp=E,46nm,4.8s						
NEA2	**Nenana**	**5.20**	**19**	P	**Pn**	**11 02 47.8**	**-0.5**
	baz=203						
WRH	**Wood River Hil**	**5.28**	**24**		**Pn**	**11 02 48.8**	**-0.5**
WRH	**Wood River Hil**	**5.28**	**24**	IAML		11 05 40.6	
	comp=N,49nm,5.0s						
GCSA	**Galena City Sc**	**5.31**	**342**		**Pn**	**11 02 50.0**	**+0.3**
GCSA	**Galena City Sc**	**5.31**	**342**	P	**Pn**	**11 02 50.0**	**+0.3**
	baz=159						
ISLE	**Juniper Island**	**5.43**	**76**	Pn	**Pn**	**11 02 52.1**	**+0.6**
PTPK	**Patty Peak**	**5.44**	**70**		**Pn**	**11 02 52.2**	**+0.5**
KIAG	**Kiagna River**	**5.45**	**73**		**Pn**	**11 02 52.1**	**+0.3**
I21K	**Tanana**	**5.47**	**5**	Pn	**Pn**	**11 02 51.9**	**+0.1**
BALM	**Baldy**	**5.48**	**72**		**Pn**	**11 02 52.1**	**+0.1**
HDA	**Harding Lake**	**5.48**	**29**	Pn	**Pn**	**11 02 52.1**	**0.0**
HDA	**Harding Lake**	**5.48**	**29**	P	**Pn**	**11 02 51.6**	**-0.5**
	baz=214						
CCB	**Clear Creek Bu**	**5.49**	**24**	Pn	**Pn**	**11 02 51.8**	**-0.4**
MENT	**Mentasta**	**5.52**	**51**	Pn	**Pn**	**11 02 53.2**	**+0.6**
M26K	**Nabesna, AK**	**5.57**	**57**		**Pn**	**11 02 54.3**	**+1.1**
M26K	**Nabesna, AK**	**5.57**	**57**	P	**Pn**	**11 02 54.3**	**+1.1**
	baz=246						
RIDG	**Independent Ri**	**5.59**	**41**	Pn	**Pn**	**11 02 53.7**	**+0.1**
RIDG	**Independent Ri**	**5.59**	**41**	P	**Pn**	**11 02 53.4**	**-0.2**
	baz=228						
MESA	**MESA**	**5.61**	**81**	Pn	**Pn**	**11 02 54.9**	**+1.0**
MESA	**MESA**	**5.61**	**81**	P	**Pn**	**11 02 54.1**	**+0.1**
	baz=270						
PS08	**TAPS Pump Stn8**	**5.62**	**29**		**Pn**	**11 02 53.4**	**-0.5**
I23K	**Minto, Yukon-K**	**5.68**	**16**		**Pn**	**11 02 54.8**	**+0.1**
I23K	**Minto, Yukon-K**	**5.68**	**16**	P	**Pn**	**11 02 54.8**	**+0.1**
	baz=199						
TCOL	**CIGO, UAF Yank**	**5.68**	**23**		**Pn**	**11 02 54.5**	**-0.2**
TCOL	**CIGO, UAF Yank**	**5.68**	**23**	P	**Pn**	**11 02 54.5**	**-0.2**
	baz=208						
COLA	**College**	**5.68**	**23**	Pn	**Pn**	**11 02 54.7**	**0.0**
MDM	**Murphy Dome**	**5.69**	**21**	Pn	**Pn**	**11 02 54.7**	**-0.1**
L26K	**Log Cabin Wild**	**5.71**	**51**	Pn	**Pn**	**11 02 56.0**	**+0.9**
YAH	**Yahtse**	**5.71**	**79**		**Pn**	**11 02 55.6**	**+0.2**
DOT	**Dot Lake**	**5.80**	**44**	Pn	**Pn**	**11 02 57.3**	**+0.9**
IL31		**5.80**	**27**		**Pn**	**11 02 55.7**	**-0.6**
ILAR	**Eielson Array**	**5.80**	**27**	Pn	**Pn**	**11 02 56.1**	**-0.2**
BARN	**Barnard Glacie**	**5.81**	**72**	Pn	**Pn**	**11 02 56.8**	**+0.1**
H21K	**Melozitna Rive**	**5.92**	**1**		**Pn**	**11 02 58.2**	**+0.2**
H21K	**Melozitna Rive**	**5.92**	**1**	P	**Pn**	**11 02 58.2**	**+0.2**
	baz=181						
CTG	**Chitna Glacier**	**5.95**	**73**	P	**Pn**	**11 02 58.9**	**+0.4**
	baz=263						
CTGM	**Chitina Glacie**	**5.96**	**73**		**Pn**	**11 02 58.9**	**+0.3**
POKR	**Poker Plat Res**	**5.98**	**24**	Pn	**Pn**	**11 02 59.0**	**+0.2**
POKR	**Poker Plat Res**	**5.98**	**24**	P	**Pn**	**11 02 58.6**	**-0.2**
	baz=208						
TABL	**Table Mountain**	**6.01**	**78**	Pn	**Pn**	**11 02 60.0**	**+0.6**
M27K	**Edge Creek, AK**	**6.03**	**60**	Pn	**Pn**	**11 03 00.2**	**+0.5**
M27K	**Edge Creek, AK**	**6.03**	**60**	P	**Pn**	**11 02 59.9**	**+0.3**
	baz=249						
SCRK	**Sand Creek**	**6.03**	**42**	Pn	**Pn**	**11 02 59.7**	**+0.1**
LOGN	**Logan Glacier**	**6.10**	**75**	Pn	**Pn**	**11 03 01.1**	**+0.5**
IM03		**6.26**	**357**		**Pn**	**11 03 02.5**	**+0.1**
IMAR	**Indian Mountai**	**6.26**	**357**	Pn	**Pn**	**11 03 03.5**	**+1.0**
PS06	**TAPS Pump Stn6**	**6.31**	**13**		**Pn**	**11 03 03.5**	**+0.3**
YUK2	**White River**	**6.33**	**66**		**Pn**	**11 03 04.1**	**+0.5**
L27K	**Beaver Creek,**	**6.33**	**54**	Pn	**Pn**	**11 03 04.3**	**+0.6**
L27K	**Beaver Creek,**	**6.33**	**54**	P	**Pn**	**11 03 03.7**	**+0.1**
	baz=243						
BC03		**6.35**	**54**		**Pn**	**11 03 04.3**	**+0.5**
BCAR	**Beaver Creek A**	**6.35**	**54**	Pn	**Pn**	**11 03 04.7**	**+0.8**
PCA	**Pinnacle**	**6.46**	**81**	Pn	**Pn**	**11 03 05.8**	**+0.5**
PINM	**Pinnacle**	**6.46**	**81**	P	**Pn**	**11 03 05.5**	**+0.2**
	baz=272						
BVCY	**Beaver Creek**	**6.50**	**61**		**Pn**	**11 03 06.4**	**+0.6**
BVCY	**Beaver Creek**	**6.50**	**61**	P	**Pn**	**11 03 06.4**	**+0.6**
	baz=251						
YUK3	**Moose Creek**	**6.51**	**66**		**Pn**	**11 03 06.3**	**+0.2**
YUK3	**Moose Creek**	**6.51**	**66**	P	**Pn**	**11 03 06.3**	**+0.2**
	baz=257						
J26L	**Joseph Creek**	**6.52**	**39**		**Pn**	**11 03 06.0**	**-0.1**
J26L	**Joseph Creek**	**6.52**	**39**	P	**Pn**	**11 03 06.0**	**-0.1**
	baz=227						
H24K	**Noodor Dome**	**6.55**	**19**	Pn	**Pn**	**11 03 06.5**	**0.0**
PRP	**Porcupine Dome**	**6.74**	**28**	Pn	**Pn**	**11 03 09.1**	**-0.2**
PRP	**Porcupine Dome**	**6.74**	**28**	P	**Pn**	**11 03 09.0**	**-0.2**
	baz=214						
PNL	**Peninsula**	**6.92**	**85**		**Pn**	**11 03 11.1**	**-0.5**
PNL	**Peninsula**	**6.92**	**85**	P	**Pn**	**11 03 11.1**	**-0.5**
	baz=277						
EGAK	**Eagle**	**7.50**	**43**		**Pn**	**11 03 18.5**	**-0.8**
EGAK	**Eagle**	**7.50**	**43**	P	**Pn**	**11 03 18.5**	**-0.8**
	baz=233						
ANM	**Nome**	**7.50**	**315**	Pn	**Pn**	**11 03 20.2**	**+0.9**
COLD	**Coldfoot**	**7.61**	**8**	Pn	**Pn**	**11 03 21.2**	**+0.5**
COLD	**Coldfoot**	**7.61**	**8**	P	**Pn**	**11 03 20.5**	**-0.2**
	baz=191						
ISLZ	**Isanotski Laza**	**7.66**	**233**		**Pn**	**11 03 21.7**	**+0.2**
FYU	**Fort Yukon**	**7.69**	**24**	Pn	**Pn**	**11 03 21.9**	**0.0**
M30M	**Minto, Yukon**	**8.36**	**63**	Pn	**Pn**	**11 03 32.1**	**+1.1**
BM03	**Burnt Mountain**	**8.56**	**22**		**Pn**	**11 03 32.9**	**-0.8**
BMAR	**Burnt Mountain**	**8.57**	**23**	Pn	**Pn**	**11 03 32.9**	**-0.9**
M31M	**Drury Creek, Y**	**9.40**	**67**	Pn	**Pn**	**11 03 45.9**	**+0.8**
JIS	**Juneau Island**	**9.75**	**91**	Pn	**Pn**	**11 03 50.0**	**+0.2**
P33M	**Teslin, Yukon**	**10.16**	**79**	Pn	**Pn**	**11 03 55.8**	**+0.5**

*NEIC **24** 11:05:08.3±1.0, 59°.74N±0°.05×153°.1W±0°.1, h108km±3km, Error ellipse: s-maj=8.4km s-min=7.0km az=143.0*

AEIC 24 11:05:09±0.9, **59°.73N**±0°.06×**153°.11W**±0°.09, **h98**km±6km, **ML3.2, ML2.7**/18(NEIC), **Error ellipse: s-maj=8.7km s-min=5.6km az=153.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.10**	**219**		Pn	11 05 23.6	+0.8
AUL	**Augustine Lava**	**0.38**	**206**		Pn	11 05 24.8	+0.9
O20K	**Slope Mountain**	**0.43**	**34**		Pn	11 05 24.4	+0.2
RED	**Redoubt Volcan**	**0.71**	**14**		Pn	11 05 26.5	0.0
HOM	**Homer**	**0.75**	**95**		Pn	11 05 26.9	+0.3
HOM	**Homer**	**0.75**	**95**	IAML		11 05 33.0	
	comp=E,305nm,2.6s						
HOM				IAML		11 05 38.9	
	comp=N,360nm,2.5s						
RSO	**Redoubt South**	**0.76**	**13**	Pn	Pn	11 05 26.3	-0.8
O19K	**Port Alsworth**	**0.77**	**308**		Pn	11 05 26.7	-0.2
NCT	**North Crescent**	**0.84**	**6**		Pn	11 05 27.9	+0.1
Q19K	**Cape Douglas,**	**0.85**	**199**		Pn	11 05 28.1	+0.3
Q19K	**Cape Douglas,**	**0.85**	**199**	IAML		11 05 34.5	
	comp=E,328nm,1.6s						
DFR	**Drift River**	**0.89**	**14**		Pn	11 05 28.2	-0.1
RDT	**Redoubt**	**0.92**	**22**		Pn	11 05 28.4	-0.1
CNPM	**China Poot**	**0.97**	**101**		Pn	11 05 28.9	-0.2
CNPM	**China Poot**	**0.97**	**101**	IAML		11 05 57.3	
	comp=E,238nm,0.5s						
CNPM				IAML		11 05 57.9	
	comp=N,172nm,0.4s						
BRLK	**Bradley Lake**	**1.13**	**87**		Pn	11 05 30.2	-0.6
BRLK	**Bradley Lake**	**1.13**	**87**	IAML		11 05 47.7	
	comp=N,164nm,0.5s						
BRLK				IAML		11 06 07.9	
	comp=E,103nm,1.3s						
P18K	**Big Mountain,**	**1.13**	**254**	Pn	Pn	11 05 30.3	-0.4
BRSE	**Bradley Lake S**	**1.20**	**88**		Pn	11 05 31.1	-0.5
N19K	**Bonanza Creek**	**1.29**	**328**		Pn	11 05 32.5	-0.1
N19K	**Bonanza Creek**	**1.29**	**328**	IAML		11 06 17.3	
	comp=E,124nm,0.7s						
CAPN	**Captain Cook N**	**1.43**	**42**		Pn	11 05 35.4	+1.2
KCG	**Knife Ck. Glac**	**1.76**	**217**		Pn	11 05 38.5	+0.1
KELA	**Mount Kelaz**	**1.87**	**228**		Pn	11 05 40.0	+0.1
CAHL	**Cahill**	**2.03**	**215**		Pn	11 05 42.2	+0.3
GLI	**Glacier Island**	**3.21**	**66**	Pn	Pn	11 05 56.2	-1.2

*NEIC **24** 11:05:33.5±1.3, 59°.68N±0°.03×153°.33W±0°.07, h118km±5km, Error ellipse: s-maj=5.3km s-min=3.4km az=118.0*

*AEIC **24** 11:05:35±1.6, 59°.67N±0°.03×153°.34W±0°.03, h108km±4km, ML3.3, ML3.6/92(NEIC), Error ellipse: s-maj=4.9km s-min=1.6km az=205.0*

ISC 24 11:05:33.3±1.4, **59°.66N**±0°.03×**153°.31W**±0°.03, **h118**km±7km, **n157**, σ0°.64/162, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.04**	**95**		**Pn**	**11 05 49.7**	**+0.3**
OPT	**Oil Point**	**0.04**	**95**	P	**Pn**	**11 05 49.7**	**+0.3**
	baz=285						
AUL	**Augustine Lava**	**0.28**	**193**		**Pn**	**11 05 50.4**	**+0.5**
AUL					**Sn**	**11 06 02.8**	**+0.4**
AU22	**Augustine Moun**	**0.29**	**184**		**Pn**	**11 05 50.2**	**+0.3**
AUW	**Augustine West**	**0.30**	**196**		**Pn**	**11 05 50.6**	**+0.7**
AGU	**Augustine-Summ**	**0.30**	**191**		**Pn**	**11 05 50.6**	**+0.4**
AUQ	**Augustine Qik'**	**0.31**	**190**		**Pn**	**11 05 50.5**	**+0.5**
O20K	**Slope Mountain**	**0.55**	**39**		**Pn**	**11 05 51.6**	**+0.2**
O20K					**Sn**	**11 06 04.8**	**-0.2**
O20K	**Slope Mountain**	**0.55**	**39**	P	**Pn**	**11 05 51.6**	**+0.2**
	baz=221						
O20K				S	**Sn**	**11 06 04.8**	**-0.2**
	baz=221						
O19K	**Port Alsworth**	**0.74**	**317**		**Pn**	**11 05 52.5**	**-0.2**
O19K				IAML		11 06 07.7	
	comp=N,3μm,0.5s						
O19K				IAML		11 06 08.7	
	comp=E,3μm,0.5s						
O19K	**Port Alsworth**	**0.74**	**317**		**Sn**	**11 06 06.9**	**-0.5**
O19K	**Port Alsworth**	**0.74**	**317**	P	**Pn**	**11 05 52.9**	**+0.2**
	baz=137						
O19K				S	**Sn**	**11 06 06.9**	**-0.5**
	baz=137						
Q19K	**Cape Douglas,**	**0.75**	**193**		**Pn**	**11 05 52.9**	**0.0**
Q19K				IAML		11 06 13.3	
	comp=N,2μm,0.8s						
Q19K	**Cape Douglas,**	**0.75**	**193**		**Sn**	**11 06 07.7**	**+0.1**
Q19K	**Cape Douglas,**	**0.75**	**193**	P	**Pn**	**11 05 53.2**	**+0.3**
	baz=12						
Q19K				S	**Sn**	**11 06 07.7**	**+0.1**
	baz=12						
RED	**Redoubt Volcan**	**0.81**	**19**		**Pn**	**11 05 53.5**	**+0.1**
RED					**Sn**	**11 06 07.9**	**-0.8**
HOM	**Homer**	**0.85**	**89**		**Pn**	**11 05 53.9**	**+0.3**
HOM				IAML		11 06 10.2	
	comp=E,1μm,0.6s						
HOM				IAML		11 06 12.3	
	comp=N,2μm,1.1s						
HOM	**Homer**	**0.85**	**89**		**Sn**	**11 06 09.4**	**+0.4**
HOM	**Homer**	**0.85**	**89**	P	**Pn**	**11 05 54.0**	**+0.3**
	baz=271						
HOM				S	**Sn**	**11 06 09.4**	**+0.4**
	baz=271						
NCT	**North Crescent**	**0.93**	**12**		**Pn**	**11 05 54.6**	**+0.1**
NCT					**Sn**	**11 06 10.0**	**-0.6**
O18K	**Koktuh Hills**	**0.98**	**283**		**Pn**	**11 05 54.6**	**-0.3**
O18K	**Koktuh Hills**	**0.98**	**283**		**Sn**	**11 06 10.8**	**-0.5**
O18K	**Koktuh Hills**	**0.98**	**283**	P	**Pn**	**11 05 55.1**	**+0.2**
	baz=100						
O18K				S	**Sn**	**11 06 10.8**	**-0.5**
	baz=100						
DFR	**Drift River**	**0.99**	**18**		**Pn**	**11 05 55.2**	**+0.1**
DFR					**Sn**	**11 06 11.3**	**-0.3**
P18K	**Big Mountain,**	**1.01**	**256**		**Pn**	**11 05 55.0**	**-0.3**
P18K	**Big Mountain,**	**1.01**	**256**	P	**Pn**	**11 05 55.3**	**+0.1**
	baz=73						
P18K				S	**Sn**	**11 06 11.2**	**-0.6**
	baz=73						
CNPM	**China Poot**	**1.06**	**96**		**Pn**	**11 05 56.1**	**+0.3**
CNPM					**Sn**	**11 06 12.3**	**-0.5**
BRLK	**Bradley Lake**	**1.24**	**84**		**Pn**	**11 05 58.2**	**+0.6**
N19K	**Bonanza Creek**	**1.30**	**334**		**Pn**	**11 05 58.6**	**+0.3**
N19K	**Bonanza Creek**	**1.30**	**334**	IAML		11 06 03.7	
	comp=N,91nm,0.6s						
N19K	**Bonanza Creek**	**1.30**	**334**	P	**Pn**	**11 05 58.6**	**+0.3**
	baz=153						
BRSE	**Bradley Lake S**	**1.31**	**85**		**Sn**	**11 06 16.5**	**-0.9**
BRSE	**Bradley Lake S**	**1.31**	**85**	S	**Sn**	**11 06 16.5**	**-0.9**
	baz=268						
CAPN	**Captain Cook N**	**1.55**	**43**		**Pn**	**11 06 02.9**	**+1.8**
CAPN				IAML		11 06 27.3	
	comp=E,1μm,0.6s						
CAPN	**Captain Cook N**	**1.55**	**43**	P	**Pn**	**11 06 03.1**	**+2.0**
	baz=226						
KCG	**Knife Ck. Glac**	**1.64**	**215**		**Pn**	**11 06 03.2**	**+0.9**
SPCR	**Spurr Chakacha**	**1.64**	**19**		**Pn**	**11 06 02.6**	**+0.3**
SPCR	**Spurr Chakacha**	**1.64**	**19**	P	**Pn**	**11 06 02.6**	**+0.3**
	baz=200						
SPU	**Mount Spurr**	**1.65**	**22**		**Pn**	**11 06 02.7**	**+0.3**
SPBG	**Spurr Blockage**	**1.68**	**16**		**Pn**	**11 06 03.3**	**+0.6**
KABU	**Katmai Buttres**	**1.72**	**217**		**Pn**	**11 06 04.3**	**+1.0**
SPCG	**Spurr Capps Gl**	**1.76**	**21**		**Pn**	**11 06 04.2**	**+0.4**
SLKM	**Skilak Lake**	**1.77**	**60**		**Pn**	**11 06 04.6**	**+0.8**
SVW2	**Sparrevohn**	**1.83**	**323**	Pn	**Pn**	**11 06 04.8**	**+0.3**
ANCK	**Angle Creek**	**1.85**	**219**		**Pn**	**11 06 05.7**	**+0.9**
KDAK	**Kodiak Island**	**1.92**	**168**		**Pn**	**11 06 05.2**	**-0.4**
KDAK	**Kodiak Island**	**1.92**	**168**	IAML		11 06 30.5	
	comp=E,410nm,0.5s						
KDAK				IAML		11 06 30.8	
	comp=E,419nm,0.4s						
O22K	**Cooper Landing**	**1.98**	**64**	Pn	**Pn**	**11 06 04.8**	**-1.6**
O22K				IAML		11 06 41.0	
	comp=E,698nm,0.3s						
STLK	**Strandline Lak**	**1.99**	**21**		**Pn**	**11 06 07.3**	**+0.8**
SEW	**Seward**	**2.00**	**75**		**Pn**	**11 06 05.5**	**-1.0**
FIS	**Fire Island**	**2.14**	**44**		**Pn**	**11 06 09.8**	**+1.5**
FIS	**Fire Island**	**2.14**	**44**	IAML		11 06 44.4	
	comp=E,348nm,2.4s						
FIS				IAML		11 07 09.4	
	comp=N,345nm,3.6s						
RC01	**Rabbit Creek A**	**2.29**	**49**		**Pn**	**11 06 10.7**	**+0.5**
RC01	**Rabbit Creek A**	**2.29**	**49**	IAML		11 06 38.7	
	comp=E,352nm,0.5s						
RC01				IAML		11 06 38.8	
	comp=N,412nm,0.4s						
RC01	**Rabbit Creek A**	**2.29**	**49**	P	**Pn**	**11 06 10.7**	**+0.5**
	baz=233						
OHAK	**Old Harbor**	**2.44**	**180**	Pn	**Pn**	**11 06 11.2**	**-1.0**
OHAK				IAML		11 06 40.8	
	comp=N,214nm,0.2s						
OHAK	**Old Harbor**	**2.44**	**180**	P	**Pn**	**11 06 11.5**	**-0.7**
	baz=359						
PLK3	**Peulik 3**	**2.50**	**219**		**Pn**	**11 06 14.4**	**+1.4**
L19K	**White Mountain**	**2.64**	**344**		**Pn**	**11 06 14.9**	**+0.1**
L19K	**White Mountain**	**2.64**	**344**	P	**Pn**	**11 06 14.9**	**+0.1**
	baz=163						
PWL	**Port Wells**	**2.76**	**62**	Pn	**Pn**	**11 06 17.1**	**+0.8**
PWL	**Port Wells**	**2.76**	**62**	P	**Pn**	**11 06 15.8**	**-0.5**
	baz=246						
PMR	**Palmer**	**2.83**	**45**		**Pn**	**11 06 16.6**	**-0.6**
PMR	**Palmer**	**2.83**	**45**	P	**Pn**	**11 06 16.8**	**-0.4**
	baz=229						
L20K	**Farewell, AK**	**2.85**	**355**		**Pn**	**11 06 18.0**	**+0.6**
L20K	**Farewell, AK**	**2.85**	**355**	P	**Pn**	**11 06 18.0**	**+0.6**
	baz=174						
KNK	**Knik Glacier**	**2.98**	**52**		**Pn**	**11 06 19.0**	**-0.2**
KNK	**Knik Glacier**	**2.98**	**52**	IAML		11 06 54.5	
	comp=N,288nm,0.5s						
KNK	**Knik Glacier**	**2.98**	**52**	P	**Pn**	**11 06 19.0**	**-0.2**
	baz=236						
GHO	**Glory Hole Cre**	**3.03**	**44**		**Pn**	**11 06 19.6**	**-0.3**
GHO	**Glory Hole Cre**	**3.03**	**44**	IAML		11 06 56.4	
	comp=N,149nm,0.4s						
GHO				IAML		11 06 56.5	
	comp=E,171nm,0.5s						
CUT	**Chulitna**	**3.13**	**27**		**Pn**	**11 06 22.1**	**+1.0**
CUT				IAML		11 06 54.8	
	comp=N,148nm,4.8s						
CUT				IAML		11 06 59.1	
	comp=E,125nm,0.4s						
CUT	**Chulitna**	**3.13**	**27**	P	**Pn**	**11 06 21.9**	**+0.8**
	baz=210						
SII	**Sitkinak Islan**	**3.14**	**189**		**Pn**	**11 06 20.8**	**-0.6**
SII	**Sitkinak Islan**	**3.14**	**189**	P	**Pn**	**11 06 20.8**	**-0.6**
	baz=7.8						
SML	**Sawmill**	**3.26**	**46**	Pn	**Pn**	**11 06 22.9**	**0.0**
SML				IAML		11 07 10.2	
	comp=N,89nm,1.2s						
SML				IAML		11 07 11.4	
	comp=E,87nm,0.9s						
SML	**Sawmill**	**3.26**	**46**	P	**Pn**	**11 06 22.1**	**-0.8**
	baz=231						
PPLA	**Purkeypile**	**3.30**	**9**	Pn	**Pn**	**11 06 25.0**	**+1.5**
PPLA	**Purkeypile**	**3.30**	**9**	P	**Pn**	**11 06 24.8**	**+1.3**
	baz=190						
GLI	**Glacier Island**	**3.33**	**66**	Pn	**Pn**	**11 06 24.6**	**+0.8**
GLI				IAML		11 07 00.5	
	comp=N,137nm,0.8s						
GLI				IAML		11 07 02.7	
	comp=E,156nm,0.4s						
GLI	**Glacier Island**	**3.33**	**66**	P	**Pn**	**11 06 23.5**	**-0.3**
	baz=251						
TT01	**Tatalina**	**3.51**	**339**		**Pn**	**11 06 26.3**	**+0.1**
TTA	**Tatalina**	**3.53**	**340**		**Pn**	**11 06 26.4**	**-0.1**
TTA	**Tatalina**	**3.53**	**340**	P	**Pn**	**11 06 26.4**	**-0.1**
	baz=157						
FID	**Port Fidalgo**	**3.58**	**69**		**Pn**	**11 06 26.4**	**-0.7**
FID				IAML		11 07 07.6	
	comp=N,152nm,0.5s						
JPK	**Jack Peak**	**3.62**	**64**		**Pn**	**11 06 27.6**	**-0.1**
SCM	**Sheep Creek Mo**	**3.66**	**51**	Pn	**Pn**	**11 06 27.8**	**-0.5**
SCM				IAML		11 07 10.2	
	comp=N,102nm,2.1s						
SCM				IAML		11 07 11.7	
	comp=E,102nm,0.6s						
SCM	**Sheep Creek Mo**	**3.66**	**51**	P	**Pn**	**11 06 28.0**	**-0.3**
	baz=236						
K20K	**Telida**	**3.73**	**355**		**Pn**	**11 06 29.1**	**0.0**
K20K	**Telida**	**3.73**	**355**	P	**Pn**	**11 06 29.1**	**0.0**
	baz=174						
CAST	**Castle Rocks**	**3.82**	**8**		**Pn**	**11 06 30.8**	**+0.5**
CAST	**Castle Rocks**	**3.82**	**8**	P	**Pn**	**11 06 30.8**	**+0.5**
	baz=190						
EYAK	**Cordova Ski Ar**	**3.89**	**73**		**Pn**	**11 06 31.2**	**0.0**
EYAK	**Cordova Ski Ar**	**3.89**	**73**	P	**Pn**	**11 06 31.2**	**0.0**
	baz=260						
DIV	**Divide**	**4.02**	**65**		**Pn**	**11 06 32.9**	**-0.2**
CHIR	**Chirikof Islan**	**4.04**	**199**	Pn	**Pn**	**11 06 33.0**	**-0.2**
CHIR	**Chirikof Islan**	**4.04**	**199**	P	**Pn**	**11 06 32.5**	**-0.7**
	baz=17						
TRF	**Thorofare Moun**	**4.07**	**20**	Pn	**Pn**	**11 06 34.9**	**+1.1**
TRF				IAML		11 07 25.9	
	comp=N,56nm,2.4s						
TRF				IAML		11 08 22.8	
	comp=E,63nm,3.7s						
TRF	**Thorofare Moun**	**4.07**	**20**	P	**Pn**	**11 06 34.0**	**+0.2**
	baz=202						
KTH	**Kantishna Hill**	**4.07**	**15**	Pn	**Pn**	**11 06 34.5**	**+0.7**
KTH				IAML		11 07 24.5	
	comp=N,47nm,4.4s						
KTH				IAML		11 08 15.4	
	comp=E,40nm,3.7s						
KLU	**Klutina**	**4.08**	**60**	Pn	**Pn**	**11 06 33.8**	**-0.1**
KLU				IAML		11 07 20.4	
	comp=E,122nm,0.3s						
KLU	**Klutina**	**4.08**	**60**	P	**Pn**	**11 06 33.5**	**-0.4**
	baz=247						
M24K	**Tolsona, Glenn**	**4.27**	**52**	Pn	**Pn**	**11 06 36.7**	**+0.4**
M24K	**Tolsona, Glenn**	**4.27**	**52**	P	**Pn**	**11 06 36.6**	**+0.3**
	baz=238						
CHUM	**Lake Minchumin**	**4.27**	**6**		**Pn**	**11 06 36.8**	**+0.6

DOT	Dot Lake	5.95	44	Pn	Pn	11 06 58.8	-0.2
CTGM	Chitina Glacie	6.10	72		Pn	11 07 01.6	+0.6
POKR	Poker Plat Res	6.12	24	Pn	Pn	11 07 01.2	0.0
TABL	Table Mountain	6.15	77	Pn	Pn	11 07 03.2	+1.4
SCRK	Sand Creek	6.19	42	Pn	Pn	11 07 01.6	-0.6
LOGN	Logan Glacier	6.24	74	Pn	Pn	11 07 03.2	+0.2
IM03		6.36	358		Pn	11 07 05.1	+0.8
IMAR	Indian Mountai	6.36	358		Pn	11 07 05.2	+0.8
BCAR	Beaver Creek A	6.51	53	Pn	Pn	11 07 07.6	+1.1
PCA	Pinnacle	6.59	81	Pn	Pn	11 07 08.5	+0.9
PRP	Porcupine Dome	6.89	28		Pn	11 07 12.0	+0.4
PRP	Porcupine Dome	6.89	28	P	Pn	11 07 12.0	+0.4
	baz=215						

*NEIC **24** 11:12:58.3±0.9, 59°.98N±0°.03×152°.22W±0°.06, h72km±8km, Error ellipse: s-maj=4.9km s-min=4.1km az=55.0*
AEIC 24 11:12:59±1.4, 59°.98N±0°.03×152°.24W±0°.07, h66km±6km, ML2.6, ML3.1/70(NEIC), Error ellipse: s-maj=5.7km s-min=3.9km az=46.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	Slope Mountain	0.22	298		Pn	11 13 09.4	+0.1
O20K					Sn	11 13 18.4	+1.6
HOM	Homer	0.44	137		Pn	11 13 11.0	+0.2
RED	Redoubt Volcan	0.51	329		Pn	11 13 11.3	-0.3
RED					Sn	11 13 21.4	+0.5
RSO	Redoubt South	0.55	332	Pn	Pn	11 13 11.4	-0.7
OPT	Oil Point	0.60	237		Pn	11 13 12.6	+0.1
DFR	Drift River	0.65	340		Pn	11 13 12.9	-0.3
DFR					Sn	11 13 23.8	+0.3
NCT	North Crescent	0.68	330		Pn	11 13 13.1	-0.3
NCT					Sn	11 13 24.4	+0.3
CNPM	China Poot	0.68	132		Pn	11 13 12.8	-0.6
CNPM					Sn	11 13 24.1	+0.1
CNPM	China Poot	0.68	132	IAML		11 13 25.1	
	comp=N,544nm,0.2s						
BRLK	Bradley Lake	0.72	107		Pn	11 13 13.1	-0.7
BRLK	Bradley Lake	0.72	107	IAML		11 13 25.6	
	comp=E,560nm,0.1s						
BRLK				IAML		11 13 25.8	
	comp=N,791nm,0.1s						
BRSE	Bradley Lake S	0.79	107		Pn	11 13 14.2	-0.5
AUL	Augustine Lava	0.85	226		Sn	11 13 28.7	+1.1
AUQ	Augustine Qik'	0.87	224		Sn	11 13 29.1	+1.2
AUH	Augustine H	0.87	225		Pn	11 13 15.8	+0.1
CAPN	Captain Cook N	0.96	34	Pn	Pn	11 13 16.0	-0.7
CAPN				IAML		11 13 37.4	
	comp=E,657nm,2.3s						
CAPN				IAML		11 13 38.6	
	comp=N,494nm,2.0s						
O19K	Port Alsworth	1.07	283		Pn	11 13 17.6	-0.5
O19K					Sn	11 13 32.8	+0.5
O19K	Port Alsworth	1.07	283	IAML		11 13 33.0	
	comp=E,293nm,0.4s						
SLKM	Skilak Lake	1.14	61		Pn	11 13 18.5	-0.6
SPU	Mount Spurr	1.21	4	Pn	Pn	11 13 19.2	-0.8
SPCR	Spurr Chakacha	1.22	1		Pn	11 13 20.0	-0.3
SPCR					Sn	11 13 36.5	+0.4
Q19K	Cape Douglas,	1.28	215	Pn	Pn	11 13 20.3	-0.5
Q19K				IAML		11 13 38.5	
	comp=E,341nm,1.2s						
Q19K	Cape Douglas,	1.28	215		Sn	11 13 38.4	+1.2
SPBG	Spurr Blockage	1.28	357		Pn	11 13 21.3	+0.3
SPCG	Spurr Capps Gl	1.32	5		Pn	11 13 21.6	0.0
O22K	Cooper Landing	1.35	67		Pn	11 13 21.0	-0.8
O22K				IAML		11 13 43.3	
	comp=E,453nm,0.7s						
N19K	Bonanza Creek	1.39	308		Pn	11 13 22.0	-0.5
SEW	Seward	1.40	84		Pn	11 13 21.9	-0.6
O18K	Koktuh Hills	1.50	266	Pn	Pn	11 13 23.0	-0.8
O18K	Koktuh Hills	1.50	266		Sn	11 13 42.2	-0.3
STLK	Strandline Lak	1.54	7		Pn	11 13 24.8	+0.5
P18K	Big Mountain,	1.63	250	Pn	Pn	11 13 24.7	-0.9
P18K	Big Mountain,	1.63	250		Sn	11 13 44.7	-0.9
RC01	Rabbit Creek A	1.66	47		Pn	11 13 25.2	-0.8
PWL	Port Wells	2.13	64		Pn	11 13 31.9	-0.4
PWL				IAML		11 13 56.6	
	comp=E,159nm,0.4s						
KDAK	Kodiak Island	2.21	185		Pn	11 13 32.3	-1.1
KDAK	Kodiak Island	2.21	185	IAML		11 14 09.4	
	comp=E,105nm,4.0s						
KDAK				IAML		11 14 51.5	
	comp=E,95nm,4.1s						
PMR	Palmer	2.22	42		Pn	11 13 33.2	-0.3
KCG	Knife Ck. Glac	2.24	223		Pn	11 13 34.1	+0.3
KNK	Knik Glacier	2.35	51	Pn	Pn	11 13 36.6	+1.4
KNK				IAML		11 14 02.9	
	comp=E,94nm,0.5s						
KNK				IAML		11 14 04.1	
	comp=N,74nm,0.8s						
GHO	Glory Hole Cre	2.42	41		Pn	11 13 35.9	-0.4
GHO	Glory Hole Cre	2.42	41	IAML		11 14 06.7	
	comp=E,66nm,3.3s						
L19K	White Mountain	2.55	331	Pn	Pn	11 13 37.4	-0.6
L19K				IAML		11 14 20.2	
	comp=E,32nm,3.8s						
L19K	White Mountain	2.55	331		Sn	11 14 07.4	-0.5
CUT	Chulitna	2.61	21	Pn	Pn	11 13 38.8	0.0
CUT				IAML		11 14 14.8	
	comp=N,88nm,3.6s						
CUT				IAML		11 14 50.8	
	comp=E,86nm,4.8s						
L20K	Farewell, AK	2.63	343		Pn	11 13 38.6	-0.5
SML	Sawmill	2.65	44	Pn	Pn	11 13 40.0	+0.7
SML				IAML		11 14 21.6	
	comp=N,78nm,4.9s						
SML				IAML		11 14 42.5	
	comp=E,63nm,4.4s						
GLI	Glacier Island	2.70	68	Pn	Pn	11 13 40.1	0.0
GLI				IAML		11 14 11.7	
	comp=N,79nm,2.6s						
GLI				IAML		11 15 19.1	
	comp=E,68nm,3.4s						
OHAK	Old Harbor	2.82	192		Pn	11 13 40.2	-1.4
OHAK	Old Harbor	2.82	192	IAML		11 14 20.1	
	comp=E,97nm,3.3s						
OHAK				IAML		11 14 28.3	
	comp=N,91nm,3.0s						
PPLA	Purkeypile	2.93	0	Pn	Pn	11 13 44.3	+1.1
SCM	Sheep Creek Mo	3.03	50	Pn	Pn	11 13 44.9	+0.2
SCM				IAML		11 14 43.0	
	comp=N,66nm,4.7s						
DIV	Divide	3.40	67		Sn	11 14 26.5	-2.1
CAST	Castle Rocks	3.45	1	Pn	Pn	11 13 49.5	-0.7
CAST				IAML		11 14 43.0	
	comp=E,27nm,4.6s						
CAST				IAML		11 14 48.5	
	comp=N,32nm,5.0s						
KLU	Klutina	3.45	61		Pn	11 13 48.4	-1.9
KLU				IAML		11 14 29.3	
	comp=E,44nm,1.3s						
TT01	Tatalina	3.45	330		Pn	11 13 49.8	-0.5
TTA	Tatalina	3.47	330	Pn	Pn	11 13 51.0	+0.5
TTA				IAML		11 15 35.3	
	comp=E,26nm,4.5s						
K20K	Telida	3.50	346		Pn	11 13 50.9	0.0
K20K	Telida	3.50	346	IAML		11 15 40.1	
	comp=N,23nm,4.1s						
M24K	Tolsona, Glenn	3.64	52	Pn	Pn	11 13 51.8	-1.0
KTH	Kantishna Hill	3.64	9	Pn	Pn	11 13 54.0	+1.2
KTH				IAML		11 14 44.4	
	comp=E,46nm,4.4s						
KTH				IAML		11 14 46.6	
	comp=N,42nm,4.8s						
BPAW	Bear Paw Mtn.	4.18	8	Pn	Pn	11 14 00.5	+0.4
BPAW				IAML		11 15 14.2	
	comp=N,36nm,4.5s						
BPAW				IAML		11 15 17.0	
	comp=E,32nm,4.2s						
WRH	Wood River Hil	4.91	21	Pn	Pn	11 14 09.6	-0.5
HDA	Harding Lake	5.09	27	Pn	Pn	11 14 11.7	-0.9
CCB	Clear Creek Bu	5.12	22	Pn	Pn	11 14 11.4	-1.5
RIDG	Independent Ri	5.14	40	Pn	Pn	11 14 14.3	+1.0
YAH	Yahtse	5.25	81	Pn	Pn	11 14 13.5	-1.5
MDM	Murphy Dome	5.33	19	Pn	Pn	11 14 15.7	-0.3
IL31		5.41	25	Pn	Pn	11 14 17.4	+0.4
ILAR	Eielson Array	5.41	25	Pn	Pn	11 14 16.6	-0.5
SCRK	Sand Creek	5.58	41	Pn	Pn	11 14 18.0	-1.5
LOGN	Logan Glacier	5.63	77	Pn	Pn	11 14 20.1	-0.1
L27K	Beaver Creek,	5.86	54	Pn	Pn	11 14 22.0	-1.2

*IDC **24** 11:17:44.7±2.2, 59°.71N×153°.52W, h87km±34km, mb3.1/1, mb1 3.5/5, mb1mx2.9/67, mbtmp3.6/5, Error ellipse: s-maj=34.2km s-min=17.1km az=108.0*
*AEIC **24** 11:17:46±1.0, 59°.73N±0°.04×153°.26W±0°.08, h110km±2km, ML2.9, ML3.3/88(NEIC), Error ellipse: s-maj=5.8km s-min=4.9km az=114.0*
*NEIC **24** 11:17:46.0±1.1, 59°.74N±0°.03×153°.26W±0°.07, h108km±3km, Error ellipse: s-maj=5.7km s-min=4.4km az=115.0*
ISC 24 11:17:45.9±1.0, 59°.73N±0°.04×153°.19W±0°.05, h112km±7km, n119, σ0°.91/121, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.08	197		Pn	11 18 01.1	-0.2
AUL	Augustine Lava	0.37	200		Pn	11 18 02.2	0.0
AUL					Sn	11 18 14.2	-0.1
AUW	Augustine West	0.39	202		Pn	11 18 02.3	0.0
AUQ	Augustine Qik'	0.39	197		Pn	11 18 02.3	-0.1
O20K	Slope Mountain	0.46	38		Pn	11 18 02.8	0.0
O20K					Sn	11 18 15.3	-0.1
RED	Redoubt Volcan	0.72	16		Pn	11 18 04.5	-0.2
RED					Sn	11 18 18.3	-0.6
O19K	Port Alsworth	0.74	310		Pn	11 18 04.1	-0.6
O19K					Sn	11 18 17.9	-0.9
O19K	Port Alsworth	0.74	310	IAML		11 18 18.4	
	comp=E,828nm,0.5s						
RSO	Redoubt South	0.77	16		Pn	11 18 05.1	-0.1
HOM	Homer	0.79	94	Pn	Pn	11 18 05.0	-0.2
HOM				IAML		11 18 21.7	
	comp=E,957nm,0.4s						
Q19K	Cape Douglas,	0.83	197		Pn	11 18 05.3	-0.3
Q19K	Cape Douglas,	0.83	197		Sn	11 18 19.9	-0.6
Q19K	Cape Douglas,	0.83	197	IAML		11 18 06.2	
	comp=E,318nm,1.3s						
NCT	North Crescent	0.85	9		Pn	11 18 05.7	-0.1
DFR	Drift River	0.90	16		Pn	11 18 06.2	-0.1
DFR					Sn	11 18 21.4	-0.4
CNPM	China Poot	1.01	101		Pn	11 18 07.1	-0.2
O18K	Koktuh Hills	1.03	278	Pn	Pn	11 18 06.3	-1.2
O18K	Koktuh Hills	1.03	278		Sn	11 18 22.7	-1.2
P18K	Big Mountain,	1.09	253	Pn	Pn	11 18 06.9	-1.3
BRLK	Bradley Lake	1.17	87		Pn	11 18 08.6	-0.4
BRSE	Bradley Lake S	1.24	88		Pn	11 18 09.6	-0.2
N19K	Bonanza Creek	1.27	330	Pn	Pn	11 18 09.8	-0.4
CAPN	Captain Cook N	1.46	43	Pn	Pn	11 18 12.8	+0.6
CAPN				IAML		11 18 37.0	
	comp=E,680nm,1.6s						
SPCR	Spurr Chakacha	1.56	18		Pn	11 18 13.6	+0.1
SPU	Mount Spurr	1.56	21	Pn	Pn	11 18 13.9	+0.3
SPU					Sn	11 18 34.3	-0.3
SPBG	Spurr Blockage	1.59	14		Pn	11 18 14.3	+0.4
SPCG	Spurr Capps Gl	1.67	20		Pn	11 18 15.2	+0.3
SLKM	Skilak Lake	1.68	61		Pn	11 18 15.3	+0.4
KELA	Mount Kelaz	1.84	227		Pn	11 18 16.8	-0.2
O22K	Cooper Landing	1.89	65	Pn	Pn	11 18 17.9	+0.4
O22K				IAML		11 18 45.5	
	comp=E,236nm,0.6s						
O22K				IAML		11 18 52.1	
	comp=N,306nm,0.9s						
SEW	Seward	1.92	77	Pn	Pn	11 18 18.2	+0.3
KDAK	Kodiak Island	1.98	171	P	Pn	11 18 17.3	-1.3
	comp=N,14nm,0.3s,baz=28,slow=9.4,SNR=24						
KDAK				S	Sn	11 18 41.4	-2.1
	comp=N,11nm,0.3s,baz=148,slow=23,SNR=19						
KDAK	Kodiak Island	1.98	171	Pn	Pn	11 18 17.4	-1.1
CAHL	Cahill	2.01	214		Pn	11 18 19.3	+0.2
RC01	Rabbit Creek A	2.19	50		Pn	11 18 21.9	+0.6
RC01				IAML		11 18 48.9	
	comp=N,284nm,0.4s						
RC01				IAML		11 18 49.8	
	comp=E,327nm,0.2s						
OHAK	Old Harbor	2.51	181	Pn	Pn	11 18 24.6	-0.9
OHAK				IAML		11 18 58.6	
	comp=E,87nm,3.4s						
OHAK				IAML		11 19 01.7	
	comp=N,118nm,2.9s						
L19K	White Mountain	2.59	342		Pn	11 18 26.3	-0.2
PWL	Port Wells	2.67	63		Pn	11 18 27.2	-0.4
PWL				IAML		11 18 58.2	
	comp=E,154nm,0.5s						
PMR	Palmer	2.74	45		Pn	11 18 28.7	+0.3
PMR				IAML		11 19 00.6	
	comp=N,89nm,0.2s						
PMR				IAML		11 19 01.7	
	comp=E,72nm,0.2s						
L20K	Farewell, AK	2.78	353		Pn	11 18 29.0	0.0
KNK	Knik Glacier	2.88	52	Pn	Pn	11 18 30.6	+0.3
KNK				IAML		11 19 04.9	
	comp=N,125nm,0.4s						
KNK				IAML		11 19 06.0	
	comp=E,114nm,0.3s						
GHO	Glory Hole Cre	2.93	44		Sn	11 19 03.8	-2.0
GHO				IAML		11 19 04.6	
	comp=E,100nm,0.3s						
GHO				IAML		11 19 05.8	
	comp=N,107nm,0.3s						
GHO	Glory Hole Cre	2.93	44		Pn	11 18 30.9	-0.1
CUT	Chulitna	3.04	27	Pn	Pn	11 18 33.4	+1.0
CUT				IAML		11 19 12.4	
	comp=E,134nm,0.8s						
CUT				IAML		11 20 04.2	
	comp=N,106nm,3.2s						
SML	Sawmill	3.17	47	Pn	Pn	11 18 34.2	+0.1
SML				IAML		11 19 11.0	
	comp=E,60nm,0.6s						
SML				IAML		11 19 11.6	
	comp=N,59nm,0.3s						
PPLA	Purkeypile	3.22	8	Pn	Pn	11 18 36.5	+1.6
SII	Sitkinak Islan	3.22	190	Pn	Pn	11 18 34.4	-0.5
GLI	Glacier Island	3.24	67	Pn	Pn	11 18 35.9	+0.8
GLI				IAML		11 19 11.0	
	comp=E,72nm,0.3s						
GLI				IAML		11 19 43.1	
	comp=N,69nm,5.0s						
TT01	Tatalina	3.47	338		Pn	11 18 37.6	-0.5
TTA	Tatalina	3.49	338	Pn	Pn	11 18 37.8	-0.6
FID	Port Fidalgo	3.50	70	Pn	Pn	11 18 37.6	-0.9
FID				IAML		11 19 18.8	
	comp=E,85nm,0.2s						
SCM	Sheep Creek Mo	3.57	51		Pn	11 18 39.4	-0.1
SCM				IAML		11 19 25.1	
	comp=N,70nm,1.5s						
SCM				IAML		11 20 25.4	
	comp=E,60nm,4.7s						
K20K	Telida	3.67	354		Pn	11 18 40.9	+0.1
K20K	Telida	3.67	354	IAML		11 20 52.3	
	comp=N,34nm,4.4s						
CAST	Castle Rocks	3.74	8		Pn	11 18 42.1	+0.3
CAST	Castle Rocks	3.74	8	IAML		11 19 30.3	
	comp=N,27nm,3.9s						
EYAK	Cordova Ski Ar	3.81	74	Pn	Pn	11 18 42.6	0.0
DIV	Divide	3.94	66	Pn	Pn	11 18 44.7	+0.4
TRF	Thorofare Moun	3.98	19	Pn	Pn	11 18 45.4	+0.2
TRF				IAML		11 20 50.1	
	comp=N,54nm,4.8s						
TRF				IAML		11 20 58.6	
	comp=E,48nm,4.1s						
KTH	Kantishna Hill	3.99	15	Pn	Pn	11 18 45.0	-0.1
KTH				IAML		11 20 24.7	
	comp=N,45nm,4.6s						
KTH				IAML		11 20 27.2	
	comp=E,28nm,3.7s						
KLU	Klutina	3.99	61		Pn	11 18 44.7	-0.5
KLU				IAML		11 19 31.0	
	comp=E,38nm,0.8s						
M24K	Tolsona, Glenn	4.17	52	Pn	Pn	11 18 47.5	0.0
CHUM	Lake Minchumin	4.19	5		Pn	11 18 48.1	+0.4
RND	Reindeer	4.23	27		Pn	11 18 48.4	0.0
RND	Reindeer	4.23	27	IAML		11 19 52.2	
	comp=N,42nm,4.5s						
RND				IAML		11 21 22.2	
	comp=E,31nm,4.7s						
GOAT	Goat Mountain	4.31	75		Pn	11 18 48.8	-0.7
BMRM	Bremner River	4.44	70	Pn	Pn	11 18 51.2	0.0
BMRM				IAML		11 21 48.8	
	comp=N,50nm,4.6s						
J20K	Nowinta River	4.49	355	Pn	Pn	11 18 51.8	+0.1
J20K				IAML		11 19 38.5	
	comp=N,24nm,5.0s						
J20K				IAML		11 20 46.7	
	comp=E,18nm,4.8s						
MCK	McKinley	4.50	25	Pn	Pn	11 18 52.7	+0.9
MCK				IAML		11 20 01.0	
	comp=N,35nm,4.4s						
MCK				IAML		11 20 48.2	
	comp=E,36nm,3.4s						
BPAW	Bear Paw Mtn.	4.51	12	Pn	Pn	11 18 51.8	-0.3
BPAW				IAML		11 20 26.8	
	comp=E,34nm,4.3s						
BPAW				IAML		11 21 15.4	
	comp=N,32nm,5.0s						
N25K	Chitina, Valde	4.63	62		Pn	11 18 53.7	0.0
N25K				IAML		11 19 34.5	
	comp=N,42nm,4.5s						
N25K				IAML		11 20 42.6	
	comp=E,35nm,4.8s						
BWN	Browne	4.79	20	Pn	Pn	11 18 56.3	+0.5
GLB	Gilahina Butte	4.93	66		Pn	11 18 57.6	-0.2
VRDI	Verde Repeater	5.05	68	Pn	Pn	11 18 59.5	+0.1
SNH	Sunshine Point	5.22	81	Pn	Pn	11 19 01.5	-0.2
WAX	Waxell Ridge	5.22	78	Pn	Pn	11 19 02.2	+0.4
NEA2	Nenana	5.25	20		Pn	11 19 01.5	-0.5
NEA2	Nenana	5.25	20	IAML		11 21 15.3	
	comp=N,26nm,3.4s						
WRH	Wood River Hil	5.33	24	Pn	Pn	11 19 02.3	-0.7
ISLE	Juniper Island	5.49	76	Pn	Pn	11 19 06.0	+0.6
I21K	Tanana	5.50	5	Pn	Pn	11 19 05.8	+0.5
KIAG	Kiagna River	5.51	73		Pn	11 19 05.3	-0.4
BALM	Baldy	5.54	72		Pn	11 19 06.5	+0.5
HDA	Harding Lake	5.54	29	Pn	Pn	11 19 05.1	-0.7
CCB	Clear Creek Bu	5.54	25		Pn	11 19 05.2	-0.7
MENT	Mentasta	5.58	51	Pn	Pn	11 19 08.1	+1.6
M26K	Nabesna, AK	5.63	57	Pn	Pn	11 19 07.9	+0.8
RIDG	Independent Ri	5.65	41	Pn	Pn	11 19 07.9	+0.5
MESA	MESA	5.67	81	Pn	Pn	11 19 09.2	+1.4
I23K	Minto, Yukon-K	5.72	16	Pn	Pn	11 19 08.0	-0.3
TCOL	CIGO, UAF Yank	5.73	23		Pn	11 19 08.2	-0.2
COLA	College	5.73	23		Pn	11 19 08.2	-0.2
MDM	Murphy Dome	5.74	22	Pn	Pn	11 19 07.8	-0.7
L26K	Log Cabin Wild	5.77	51	Pn	Pn	11 19 09.0	-0.1
YAH	Yahtse	5.77	79	Pn	Pn	11 19 09.3	+0.1
IL31		5.85	27		Pn	11 19 09.6	-0.5
ILAR	Eielson Array	5.85	27	P	Pn	11 19 09.4	-0.7
	comp=N,1.4nm,0.3s,baz=218,slow=14,SNR=26						
ILAR				S	Sn	11 20 09.8	-6.1
	comp=N,0.7nm,0.3s,baz=217,slow=25,SNR=5.6						
DOT	Dot Lake	5.86	44	Pn	Pn	11 19 10.5	+0.3
BARN	Barnard Glacie	5.87	72	Pn	Pn	11 19 11.1	+0.6
CTGM	Chitina Glacie	6.01	73	Pn	Pn	11 19 13.3	+0.8
POKR	Poker Plat Res	6.03	24	Pn	Pn	11 19 12.7	+0.1
TABL	Table Mountain	6.07	78	Pn	Pn	11 19 14.3	+1.0
SCRK	Sand Creek	6.09	42	Pn	Pn	11 19 14.4	+0.9
M27K	Edge Creek, AK	6.09	59	Pn	Pn	11 19 14.2	+0.7
LOGN	Logan Glacier	6.16	74	Pn	Pn	11 19 15.1	+0.6
IMAR	Indian Mountai	6.29	358	Pn	Pn	11 19 16.4	+0.5
L27K	Beaver Creek,	6.40	54	Pn	Pn	11 19 18.1	+0.6
BCAR	Beaver Creek A	6.42	54	Pn	Pn	11 19 18.4	+0.6
PCA	Pinnacle	6.51	81	Pn	Pn	11 19 19.7	+0.5
H24K	Noodor Dome	6.60	19	Pn	Pn	11 19 19.7	-0.5
PRP	Porcupine Dome	6.80	28	Pn	Pn	11 19 23.1	+0.1
COLD	Coldfoot	7.65	9	Pn	Pn	11 19 33.7	-0.7
BMAR	Burnt Mountain	8.62	23	Pn	Pn	11 19 47.5	-0.1
N31M	Braeburn, Yuko	8.74	71	Pn	Pn	11 19 50.2	+1.0
P33M	Teslin, Yukon	10.22	78	Pn	Pn	11 20 10.7	+1.4
DLBC	Dease Lake	11.97	86	P	Pn	11 20 35.6	+2.9
	comp=N,0.3nm,0.3s,baz=258,slow=8.3,SNR=8.5						
INK	Inuvik	12.11	37	P	Pn	11 20 35.6	+1.2
	comp=N,0.1nm,0.3s,baz=220,slow=17,SNR=2.0						
YKA	Yellowknife Ar	18.65	65	P	P	11 21 55.9	+1.3
	comp=N,0.1nm,0.3s,baz=277,slow=9.9,SNR=13						
SONM	Songino Array	54.88	306	P	P	11 27 05.1	+0.7
	comp=N,0.4nm,0.7s,baz=53,slow=5.6,SNR=2.0						

IDC 24 11:18:00.7±1.7, 4°.24N×126°.99E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.0/55, mbtmp3.3/4, Error ellipse: s-maj=171.2km s-min=24.4km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.09	164	P	P	11 23 26.5	-0.7
	0.4nm,0.6s,baz=342,slow=9.7,SNR=3.1						
ASAR	Alice Springs	28.54	167	P	P	11 23 59.0	+0.6
	0.3nm,0.9s,baz=346,slow=7.0,SNR=4.5						
SONM	Songino Array	46.90	341	P	P	11 26 32.6	-0.4
	0.3nm,0.7s,baz=140,slow=8.5,SNR=1.7						
MKAR	Makanchi Array	57.29	325	P	P	11 27 50.5	+0.2
	0.2nm,0.5s,baz=114,slow=6.8,SNR=2.4						

*IDC **24** 11:38:13.6±1.6, 39°.87N×20°.66E, h0km, mb3.7/4, mb1 3.6/5, mb1mx3.1/50, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=31.0km s-min=27.0km az=92.0*
*TIR **24** 11:38:15.0, 39°.70N×20°.47E, h19km, Md3.0, Ml2.9*
*ATH **24** 11:38:15.5, 39°.71N×20°.48E, h9km±3km, ML2.8/11, Error ellipse: s-maj=3.1km s-min=1.0km az=195.0*
*THE **24** 11:38:15.9, 39°.71N×20°.51E, h6km±3km, ML3.0/3, Error ellipse: s-maj=3.3km s-min=0.8km az=253.0*
ISC 24 11:38:15.4±0.8, 39°.71N±0°.02×20°.47E±0°.02, h16km±5km, n80, σ1°.50/112, mb3.6/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.21	211	P	Pg	11 38 19.7	-0.6
IGT				S	Sg	11 38 24.5	+0.9
	8μm,0.3s						
IGT	Igoumenitsa	0.21	211	P	Pg	11 38 19.5	-0.8
IGT				S	Sg	11 38 23.5	-0.1
IGT				AML	AML	11 38 25.8	
	comp=N,19454μm,0.4s						
IGT				AML	AML	11 38 25.8	
	comp=E,12902μm,0.2s						
IGT	Igoumenitsa	0.21	211	P	Pg	11 38 19.8	-0.6
	baz=212						
IGT				S	Sg	11 38 24.4	+0.8
	baz=212						
JAN	Janina	0.30	101	P	Pg	11 38 20.3	-1.4
JAN				S	Sg	11 38 25.2	-0.8
	comp=E,6μm,0.4s						
JAN	Janina	0.30	101	P	Pg	11 38 20.4	-1.4
JAN				S	Sg	11 38 25.4	-0.7
JAN				AML	AML	11 38 25.4	
	comp=N,14306μm,0.4s						
JAN				AML	AML	11 38 28.4	
	comp=E,9068μm

comp=E,1490μm,0.3s
TSLK Tsoukalades, L 0.90 171 P Pg 11 38 32.2 -0.6
TSLK Tsoukalades, L 0.90 171 P Pg 11 38 32.0 -0.9
LKD2 Lefkada island 0.93 171 P Pg 11 38 32.8 -0.7
LKD2 S Sn 11 38 47.8 +0.8
comp=E,958nm,0.3s
LKD2 Lefkada island 0.93 171 P Pg 11 38 32.7 -0.8
LKD2 AML AML 11 38 50.5
comp=N,2257μm,0.3s
LKD2 AML AML 11 38 50.6
comp=E,1527μm,0.3s
LKD2 Lefkada island 0.93 171 P Pg 11 38 32.9 -0.7
baz=170
KBN Korca 0.94 15 P Pg 11 38 33.4 -0.3
KBN Korca 0.94 15 P Pg 11 38 33.4 -0.3
baz=14
KBN S **Sb 11 38 47.1 +1.3**
baz=14
KBN AMP
comp=N,1.3nm,0.5s,baz=14
NYDR Nydri-Lefkada 1.01 170 P Pg 11 38 34.0 -1.0
NYDR S Sn 11 38 50.4 +1.6
NYDR Nydri-Lefkada 1.01 170 P Pg 11 38 33.7 -1.2
DRAG Dragano-Lefkad 1.03 176 P Pg 11 38 34.6 -0.7
EVGI Lefkada island 1.10 173 P Pb 11 38 36.7 +0.6
KZN Kozani 1.16 59 P Pb 11 38 37.4 +0.3
KZN Kozani 1.16 59 P Pb 11 38 37.4 +0.3
THL Klokotos Trika 1.20 97 P Pb 11 38 37.3 -0.5
THL AML AML 11 39 00.4
comp=E,336μm,0.6s
THL AML AML 11 39 02.9
comp=N,358μm,0.6s
FSK Fiskardo 1.25 177 P Pg 11 38 39.6 0.0
FSK Fiskardo 1.25 177 P Pn 11 38 37.8 -0.4
FNA Florina 1.27 33 P Pn 11 38 39.0 +0.3
FNA Florina 1.27 33 P Pn 11 38 38.9 +0.2
FNA Florina 1.27 33 P Pn 11 38 38.8 +0.2
baz=32
FNA S **Sn 11 38 57.9 +2.4**
baz=32
EVR Evrytania 1.30 127 P Pb 11 38 39.8 +0.2
EVR AML AML 11 39 03.2
comp=E,634μm,0.5s
EVR AML AML 11 39 03.5
comp=N,608μm,0.5s
OHR Ohrid 1.42 10 *i* Pn **Pg 11 38 43.1 +0.3**
OHR *i* Sn **Sg 11 39 04.9 +3.7**
MAKR Makrakomi, Fth 1.46 118 P Pg 11 38 42.8 -0.7
MAKR AML AML 11 39 08.6
comp=N,557μm,1.5s
MAKR AML AML 11 39 12.1
comp=E,476μm,0.4s
SCTE Santa Cesarea 1.58 284 P Pn 11 38 43.8 +1.0
SCTE Santa Cesarea 1.58 284 P Pn 11 38 43.9 +1.0
baz=285
TIR Tirane 1.70 344 P Pb 11 38 46.9 +0.6
baz=345
TIR S **Sg 11 39 10.8 +0.6**
baz=345
TIR AMP
comp=E,0.6nm,0.5s,baz=345
PHP Peshkopia 1.97 359 P Pb 11 38 51.3 +0.3
baz=0.0
PHP AMP
comp=N,baz=0.0
VAY Valandovo 2.27 44 *i* Pn **Pb 11 38 54.9 -1.0**
VAY *i* Sn **Sb 11 39 24.4 +0.6**
VAY Valandovo 2.27 44 *e*Pn **Pb 11 38 54.8 -1.2**
STIP Stip 2.37 33 *i* Pn **Pb 11 38 58.4 +0.7**
SKO Skopje 2.37 18 *i* Pn **Pb 11 38 58.4 +0.6**
SKO *i* Sn **Sb 11 39 27.5 +0.7**
PRVS Prvonek 3.04 23 *e*Pn **Pn 11 39 04.7 +1.7**
BOSS Bosilegrad 3.17 28 *e*Pn **Pn 11 39 06.8 +2.2**
SELS Selova 3.54 8 *e*Pn **Pn 11 39 10.5 +0.8**
SJES Sjenica 3.57 354 *e*Pn **Pn 11 39 12.0 +1.8**
VTS Vitosha 3.57 35 *e*Pn **Pn 11 39 12.4 +2.0**
STON Ston 3.79 327 *e*Pn **Pn 11 39 12.6 -0.5**
STON Sn **Sn 11 39 54.1 -3.2**
IVAS Ivanjica 3.87 357 *e*Pn **Pn 11 39 15.3 +1.0**
ZAPS Zavoj 3.91 24 *e*Pn **Pn 11 39 17.6 +2.7**
BOVS Bovan 4.03 13 *e*Pn **Pn 11 39 17.6 +1.2**
LSTV Lastovo 4.08 320 *e*Pn **Pn 11 39 16.9 -0.2**
LSTV Sn **Sn 11 40 01.5 -3.0**
GRUS Gruza 4.18 2 *e*Pn **Pn 11 39 19.3 +0.8**
ZAGS Zajecar 4.30 17 *e*Pn **Pn 11 39 20.4 +0.2**
DIVS Divibare 4.40 355 *e*Pn **Pn 11 39 22.2 +0.6**
MAKA Makarska 4.42 325 *e*Pn **Pn 11 39 21.8 0.0**
MAKA Sn **Sn 11 40 09.8 -3.0**
RICI Ricice 4.53 328 *e*Pn **Pn 11 39 23.3 -0.1**
RICI Sn **Sn 11 40 13.2 -2.6**
HVAR Hvar 4.60 320 *e*Pn **Pn 11 39 24.3 0.0**
HVAR Sn **Sn 11 40 14.0 -3.3**
KIJV Kijevo 5.26 326 *e*Pn **Pn 11 39 33.5 +0.1**
KIJV Sn **Sn 11 40 30.4 -3.2**
ZIRJ Zirje 5.35 319 *e*Pn **Pn 11 39 34.1 -0.5**
ZIRJ Sn **Sn 11 40 31.9 -3.9**
MORI Morici 5.47 321 *e*Pn **Pn 11 39 36.6 +0.4**
MORI Sn **Sn 11 40 36.2 -2.6**
DUGI Dugi Otok 5.88 318 *e*Pn **Pn 11 39 42.3 +0.4**
DUGI Sn **Sn 11 40 45.3 -3.8**
UDBI Udbina 5.95 325 *e*Pn **Pn 11 39 43.9 +1.0**
UDBI Sn **Sn 11 40 48.5 -2.3**
PLIT Plitvice 6.29 327 *e*Pn **Pn 11 39 48.2 +0.7**
PLIT Sn **Sn 11 40 56.9 -2.2**
NVLJ Novalja 6.39 321 *e*Pn **Pn 11 39 48.9 0.0**
NVLJ Sn **Sn 11 40 57.7 -3.8**
RABC Rab 6.57 322 *e*Pn **Pn 11 39 52.1 +0.7**
RABC Sn **Sn 11 41 02.3 -3.6**
BRJN Brijuni 7.19 318 *e*Pn **Pn 11 40 00.0 +0.2**
BRJN Sn **Sn 11 41 18.0 -3.2**
OBKA Obir 8.06 329 *i* Pn **Pn 11 40 13.7 +1.8**
comp=N,0.6nm,0.2s
ARSA Arzberg 8.35 336 *i* Pn **Pn 11 40 17.4 +1.7**
comp=N,0.8nm,0.2s
MOA Molln 9.29 333 *i* Pn **Pn 11 40 30.4 +1.8**
comp=N,0.4nm,0.2s
WTTA Wattenberg 9.90 323 *i* Pn **Pn 11 40 38.8 +1.5**
comp=N,0.5nm,0.2s
GERES GERESS Array B 10.34 334 Pn **Pn 11 40 42.7 -0.4**
comp=N,0.1nm,0.3s,baz=143,slow=15,SNR=1.6
FINES FINESS Array B 22.03 7 P **P 11 43 08.4 -0.5**
comp=N,1.9nm,0.8s,baz=188,slow=10,SNR=5.2
TORD Torodi Ar. Bea 31.21 217 P **P 11 44 36.7 +2.6**
comp=N,4.5nm,1.0s,baz=41,slow=8.9,SNR=2.9
MKAR Makanchi Array 44.55 60 P **P 11 46 25.5 -0.9**
comp=N,0.4nm,0.6s,baz=280,slow=7.0,SNR=4.9
ZALV Zalesovo Beam 44.71 49 P **P 11 46 25.7 -1.8**
comp=N,0.3nm,0.3s,baz=289,slow=9.0,SNR=2.0

*IDC **24** 11:40:12.0±1.6, 59°.82N×152°.88W, h93km±27km, mb3.7/1, mb1 3.3/5, mb1mx2.7/56, mbtmp3.5/5, Error ellipse: s-maj=40.8km s-min=11.4km az=107.0*
*NEIC **24** 11:40:12.9±1.0, 59°.80N±0°.03×153°.06W±0°.08, h108km±1km, Error ellipse: s-maj=6.0km s-min=4.7km az=101.0*
*AEIC **24** 11:40:13±1.4, 59°.77N±0°.04×153°.07W±0°.08, h105km±5km, ML2.9, ML3.3/90(NEIC), Error ellipse: s-maj=6.9km s-min=5.2km az=138.0*
ISC 24 11:40:12.9±1.0, 59°.80N±0°.04×153°.02W±0°.06, h109km±7km, n133, σ0°.74/130, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.18**	**216**		**Pn**	**11 40 28.0**	**-0.2**
O20K	**Slope Mountain**	**0.35**	**35**		**Pn**	**11 40 29.0**	**+0.1**
O20K					**Sn**	**11 40 40.9**	**0.0**
AUL	**Augustine Lava**	**0.47**	**207**		**Pn**	**11 40 29.4**	**0.0**
AUL					**Sn**	**11 40 41.5**	**-0.3**
AUH	**Augustine H**	**0.49**	**206**		**Pn**	**11 40 29.8**	**+0.1**
AUQ	**Augustine Qik'**	**0.49**	**204**		**Pn**	**11 40 29.3**	**-0.3**
RED	**Redoubt Volcan**	**0.63**	**11**		**Pn**	**11 40 30.5**	**-0.2**
RED					**Sn**	**11 40 43.6**	**-0.5**
RSO	**Redoubt South**	**0.68**	**11**		**Pn**	**11 40 30.6**	**-0.6**
HOM	**Homer**	**0.71**	**101**		**Pn**	**11 40 31.6**	**+0.4**
HOM				IAML		11 40 46.6	
comp=E,1μm,0.6s							
HOM				IAML		11 40 47.6	
comp=N,2μm,0.4s							
O19K	**Port Alsworth**	**0.76**	**302**		**Pn**	**11 40 31.5**	**-0.2**
O19K					**Sn**	**11 40 45.1**	**-0.7**
O19K	**Port Alsworth**	**0.76**	**302**	IAML		11 40 45.9	
comp=E,887nm,0.4s							
NCT	**North Crescent**	**0.77**	**3**		**Pn**	**11 40 31.8**	**0.0**
DFR	**Drift River**	**0.81**	**12**		**Pn**	**11 40 32.2**	**-0.1**
DFR					**Sn**	**11 40 46.8**	**-0.1**
Q19K	**Cape Douglas,**	**0.93**	**200**	Pn	**Pn**	**11 40 32.7**	**-0.6**
CNPM	**China Poot**	**0.95**	**106**		**Pn**	**11 40 33.3**	**-0.2**
CNPM	**China Poot**	**0.95**	**106**	IAML		11 40 49.7	
comp=N,933nm,0.3s							
CNPM				IAML		11 40 50.0	
comp=E,685nm,0.2s							
BRLK	**Bradley Lake**	**1.08**	**91**		**Pn**	**11 40 34.5**	**-0.3**
BRLK	**Bradley Lake**	**1.08**	**91**	IAML		11 40 52.5	
comp=E,841nm,0.2s							
O18K	**Koktuh Hills**	**1.11**	**274**		**Pn**	**11 40 34.7**	**-0.4**
BRSE	**Bradley Lake S**	**1.16**	**92**		**Pn**	**11 40 35.6**	**-0.1**
P18K	**Big Mountain,**	**1.20**	**251**		**Pn**	**11 40 35.9**	**-0.2**
N19K	**Bonanza Creek**	**1.25**	**325**		**Pn**	**11 40 36.6**	**-0.2**
CAPN	**Captain Cook N**	**1.34**	**43**	Pn	**Pn**	**11 40 39.8**	**+2.0**
CAPN				IAML		11 41 01.0	
comp=N,634nm,0.6s							
CAPN				IAML		11 41 02.7	
comp=E,543nm,0.9s							
SPCR	**Spurr Chakacha**	**1.46**	**16**		**Pn**	**11 40 39.4**	**+0.2**
SPU	**Mount Spurr**	**1.47**	**19**		**Pn**	**11 40 39.5**	**+0.3**
SPBG	**Spurr Blockage**	**1.50**	**12**		**Pn**	**11 40 40.2**	**+0.5**
SLKM	**Skilak Lake**	**1.57**	**62**		**Pn**	**11 40 40.9**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.58**	**18**		**Pn**	**11 40 41.0**	**+0.3**
O22K	**Cooper Landing**	**1.79**	**66**		**Pn**	**11 40 43.5**	**+0.5**
SVW2	**Sparrevohn**	**1.82**	**317**		**Pn**	**11 40 43.3**	**-0.2**
SEW	**Seward**	**1.82**	**79**		**Pn**	**11 40 43.6**	**+0.1**
KABU	**Katmai Buttres**	**1.93**	**218**		**Pn**	**11 40 45.2**	**+0.2**
FIS	**Fire Island**	**1.94**	**45**		**Pn**	**11 40 46.0**	**+1.1**
FIS	**Fire Island**	**1.94**	**45**	IAML		11 41 20.1	
comp=N,248nm,2.0s							
FIS				IAML		11 41 20.1	
comp=E,197nm,1.8s							
KDAK	**Kodiak Island**	**2.04**	**173**	P	**Pn**	**11 40 45.4**	**-0.8**
comp=E,12nm,0.3s,baz=21,slow=13,SNR=20							
KDAK				S	**Sn**	**11 41 10.4**	**-1.3**
comp=E,16nm,0.3s,baz=318,slow=22,SNR=26							
KDAK	**Kodiak Island**	**2.04**	**173**		**Pn**	**11 40 45.7**	**-0.6**
KDAK				IAML		11 41 11.3	
comp=E,166nm,0.7s							
KDAK				IAML		11 41 12.1	
comp=E,192nm,0.4s							
RC01	**Rabbit Creek A**	**2.08**	**50**		**Pn**	**11 40 46.9**	**+0.1**
RC01	**Rabbit Creek A**	**2.08**	**50**	IAML		11 41 14.3	
comp=E,163nm,0.3s							
RC01				IAML		11 41 15.3	
comp=N,142nm,0.3s							
L19K	**White Mountain**	**2.55**	**340**	Pn	**Pn**	**11 40 52.7**	**-0.2**
PWL	**Port Wells**	**2.56**	**63**		**Pn**	**11 40 52.8**	**-0.2**
OHAK	**Old Harbor**	**2.59**	**183**	Pn	**Pn**	**11 40 53.0**	**-0.4**
OHAK				IAML		11 41 23.2	
comp=E,129nm,0.3s							
OHAK				IAML		11 41 23.4	
comp=N,104nm,0.2s							
PMR	**Palmer**	**2.62**	**45**		**Pn**	**11 40 53.2**	**-0.6**
L20K	**Farewell, AK**	**2.72**	**352**		**Pn**	**11 40 55.6**	**+0.5**
KNK	**Knik Glacier**	**2.77**	**52**		**Pn**	**11 40 55.2**	**-0.6**
KNK	**Knik Glacier**	**2.77**	**52**	IAML		11 41 29.0	
comp=E,111nm,0.4s							
KNK				IAML		11 41 33.2	
comp=N,80nm,0.3s							
GHO	**Glory Hole Cre**	**2.82**	**44**		**Pn**	**11 40 56.0**	**-0.5**
CUT	**Chulitna**	**2.94**	**26**	Pn	**Pn**	**11 40 58.1**	**+0.2**
CUT				IAML		11 41 38.3	
comp=E,80nm,0.5s							
CUT				IAML		11 41 38.9	
comp=N,91nm,1.1s							
SML	**Sawmill**	**3.06**	**47**		**Pn**	**11 40 59.0**	**-0.6**
SML	**Sawmill**	**3.06**	**47**	IAML		11 41 29.6	
comp=E,42nm,4.4s							
SML				IAML		11 41 33.1	
comp=N,53nm,4.1s							
PPLA	**Purkeypile**	**3.13**	**7**	Pn	**Pn**	**11 41 01.5**	**+0.9**
GLI	**Glacier Island**	**3.14**	**67**		**Pn**	**11 40 59.6**	**-1.0**
GLI				IAML		11 41 36.2	
comp=N,107nm,0.6s							
GLI				IAML		11 41 36.4	
comp=E,120nm,0.5s							
SII	**Sitkinak Islan**	**3.31**	**191**	Pn	**Pn**	**11 41 02.7**	**-0.2**
FID	**Port Fidalgo**	**3.40**	**71**	Pn	**Pn**	**11 41 03.2**	**-0.8**
JPK	**Jack Peak**	**3.42**	**66**		**Pn**	**11 41 04.1**	**-0.3**
TT01	**Tatalina**	**3.44**	**336**		**Pn**	**11 41 04.4**	**-0.1**
SCM	**Sheep Creek Mo**	**3.46**	**51**	Pn	**Pn**	**11 41 04.8**	**-0.1**
SCM				IAML		11 41 54.5	
comp=N,49nm,2.8s							
SCM				IAML		11 42 09.6	
comp=E,42nm,2.4s							
TTA	**Tatalina**	**3.46**	**337**		**Pn**	**11 41 04.6**	**-0.3**
CAST	**Castle Rocks**	**3.66**	**7**		**Pn**	**11 41 07.9**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.71**	**75**	Pn	**Pn**	**11 41 07.8**	**-0.4**
DIV	**Divide**	**3.83**	**66**		**Pn**	**11 41 09.2**	**-0.6**
KLU	**Klutina**	**3.88**	**61**		**Pn**	**11 41 09.9**	**-0.7**
KLU	**Klutina**	**3.88**	**61**	IAML		11 41 57.8	
comp=E,60nm,0.5s							
TRF	**Thorofare Moun**	**3.89**	**18**		**Pn**	**11 41 11.9**	**+1.1**
TRF				IAML		11 41 48.7	
comp=E,36nm,3.7s							
TRF				IAML		11 41 59.7	
comp=N,32nm,3.9s							
KTH	**Kantishna Hill**	**3.90**	**14**	Pn	**Pn**	**11 41 11.4**	**+0.6**
KTH				IAML		11 42 10.0	
comp=E,22nm,4.5s							
M24K	**Tolsona, Glenn**	**4.06**	**52**		**Pn**	**11 41 13.1**	**+0.1**
CHUM	**Lake Minchumin**	**4.11**	**4**		**Pn**	**11 41 14.4**	**+0.8**
RND	**Reindeer**	**4.13**	**27**		**Pn**	**11 41 14.2**	**+0.2**
RND	**Reindeer**	**4.13**	**27**	IAML		11 42 21.2	
comp=N,22nm,4.8s							
BMRM	**Bremner River**	**4.34**	**71**	Pn	**Pn**	**11 41 16.9**	**+0.2**
BMRM				IAML		11 42 06.1	
comp=N,42nm,2.3s							
BMRM				IAML		11 42 32.5	
comp=E,41nm,3.0s							
MCK	**McKinley**	**4.40**	**24**		**Pn**	**11 41 17.9**	**+0.4**
MCK				IAML		11 41 58.2	
comp=N,22nm,4.3s							
MCK				IAML		11 42 21.8	
comp=E,26nm,4.9s							
BPAW	**Bear Paw Mtn.**	**4.42**	**12**	Pn	**Pn**	**11 41 17.5**	**-0.3**
J20K	**Nowinta River**	**4.42**	**354**		**Pn**	**11 41 17.9**	**+0.1**
J20K	**Nowinta River**	**4.42**	**354**	IAML		11 42 10.1	
comp=N,16nm,4.1s							
J20K				IAML		11 43 17.3	
comp=E,16nm,4.5s							
N25K	**Chitina, Valde**	**4.52**	**63**		**Pn**	**11 41 18.7**	**-0.5**
N25K				IAML		11 42 11.0	
comp=E,25nm,0.7s							
N25K				IAML		11 42 12.6	
comp=N,33nm,2.2s							
CHGN	**Chignik**	**4.53**	**222**	Pn	**Pn**	**11 41 19.4**	**+0.2**
HARP	**HAARP**	**4.62**	**52**		**Pn**	**11 41 19.9**	**-0.5**
BWN	**Browne**	**4.70**	**19**	Pn	**Pn**	**11 41 22.0**	**+0.6**
PAX	**Paxson**	**4.83**	**46**	Pn	**Pn**	**11 41 24.2**	**+0.9**
GLB	**Gilahina Butte**	**4.83**	**66**		**Pn**	**11 41 23.2**	**0.0**
GLB				IAML		11 42 19.2	
comp=E,29nm,0.6s							
VRDI	**Verde Repeater**	**4.94**	**69**	Pn	**Pn**	**11 41 25.3**	**+0.4**
VRDI				IAML		11 42 53.7	
comp=E,28nm,4.4s							
WAX	**Waxell Ridge**	**5.13**	**78**	Pn	**Pn**	**11 41 28.1**	**+0.8**
NEA2	**Nenana**	**5.15**	**19**	Pn	**Pn**	**11 41 27.4**	**-0.2**
NEA2				IAML		11 42 26.8	
comp=E,13nm,4.2s							
NEA2				IAML		11 43 54.2	
comp=N,15nm,3.9s							
WRH	**Wood River Hil**	**5.23**	**24**	Pn	**Pn**	**11 41 28.3**	**-0.3**
WRH				IAML		11 42 38.0	
comp=N,13nm,5.0s							
WRH				IAML		11 42 46.4	
comp=E,16nm,4.0s							
ISLE	**Juniper Island**	**5.39**	**77**	Pn	**Pn**	**11 41 31.8**	**+0.8**
PTPK	**Patty Peak**	**5.40**	**71**		**Pn**	**11 41 31.6**	**+0.5**
KIAG	**Kiagna River**	**5.41**	**73**		**Pn**	**11 41 31.2**	**-0.1**
HDA	**Harding Lake**	**5.43**	**29**	Pn	**Pn**	**11 41 31.1**	**-0.2**
BALM	**Baldy**	**5.43**	**72**		**Pn**	**11 41 31.8**	**+0.2**
CCB	**Clear Creek Bu**	**5.44**	**24**	Pn	**Pn**	**11 41 31.3**	**-0.1**
MENT	**Mentasta**	**5.47**	**51**	Pn	**Pn**	**11 41 33.8**	**+1.9**
M26K	**Nabesna, AK**	**5.52**	**57**		**Pn**	**11 41 33.8**	**+1.2**
RIDG	**Independent Ri**	**5.54**	**41**		**Pn**	**11 41 32.5**	**-0.3**
MESA	**MESA**	**5.57**	**81**	Pn	**Pn**	**11 41 34.2**	**+0.7**
I23K	**Minto, Yukon-K**	**5.63**	**16**	Pn	**Pn**	**11 41 34.1**	**+0.1**
TCOL	**CIGO, UAF Yank**	**5.63**	**23**		**Pn**	**11 41 34.0**	**-0.1**
COLA	**College**	**5.63**	**23**		**Pn**	**11 41 33.7**	**-0.4**
MDM	**Murphy Dome**	**5.64**	**21**	Pn	**Pn**	**11 41 33.8**	**-0.4**
L26K	**Log Cabin Wild**	**5.66**	**51**	Pn	**Pn**	**11 41 34.2**	**-0.3**
YAH	**Yahtse**	**5.67**	**79**		**Pn**	**11 41 36.8**	**+1.9**
DOT	**Dot Lake**	**5.75**	**44**	Pn	**Pn**	**11 41 38.0**	**+2.4**
IL31		**5.75**	**27**		**Pn**	**11 41 35.5**	**-0.2**
ILAR	**Eielson Array**	**5.75**	**27**	P	**Pn**	**11 41 34.9**	**-0.8**
comp=E,1.0nm,0.3s,baz=208,slow=14,SNR=24							
ILAR				S	**Sn**	**11 42 36.8**	**-3.4**
comp=E,0.7nm,0.3s,baz=210,slow=21,SNR=7.6							
ILAR	**Eielson Array**	**5.75**	**27**	Pn	**Pn**	**11 41 35.2**	**-0.5**
BARN	**Barnard Glacie**	**5.77**	**72**	Pn	**Pn**	**11 41 37.0**	**+0.9**
CTGM	**Chitina Glacie**	**5.91**	**74**	Pn	**Pn**	**11 41 39.4**	**+1.3**
POKR	**Poker Plat Res**	**5.93**	**23**	Pn	**Pn**	**11 41 38.5**	**+0.4**
TABL	**Table Mountain**	**5.97**	**79**	Pn	**Pn**	**11 41 39.6**	**+0.7**
SCRK	**Sand Creek**	**5.98**	**42**		**Pn**	**11 41 38.8**	**-0.1**
M27K	**Edge Creek, AK**	**5.98**	**60**	Pn	**Pn**	**11 41 40.0**	**+1.0**
LOGN	**Logan Glacier**	**6.06**	**75**	Pn	**Pn**	**11 41 40.8**	**+0.7**
IMAR	**Indian Mountai**	**6.22**	**357**	Pn	**Pn**	**11 41 43.0**	**+1.0**
L27K	**Beaver Creek,**	**6.29**	**54**	Pn	**Pn**	**11 41 44.0**	**+1.1**
YUK2	**White River**	**6.29**	**66**		**Pn**	**11 41 42.8**	**-0.3**
BC03		**6.30**	**54**		**Pn**	**11 41 41.6**	**-1.6**
BCAR	**Beaver Creek A**	**6.30**	**54**	Pn	**Pn**	**11 41 44.2**	**+0.9**
PCA	**Pinnacle**	**6.42**	**82**	Pn	**Pn**	**11 41 45.9**	**+1.0**
BVCY	**Beaver Creek**	**6.45**	**61**		**Pn**	**11 41 45.4**	**+0.2**
YUK3	**Moose Creek**	**6.46**	**67**		**Pn**	**11 41 45.8**	**+0.2**
H24K	**Noodor Dome**	**6.50**	**19**	Pn	**Pn**	**11 41 46.2**	**+0.4**
PRP	**Porcupine Dome**	**6.69**	**28**	Pn	**Pn**	**11 41 48.9**	**+0.3**
COLD	**Coldfoot**	**7.56**	**8**	Pn	**Pn**	**11 41 60.0**	**-0.2**
FYU	**Fort Yukon**	**7.64**	**24**	Pn	**Pn**	**11 42 01.2**	**-0.1**
DAWY	**Dawson**	**7.71**	**51**	Pn	**Pn**	**11 42 02.4**	**+0.1**
M30M	**Minto, Yukon**	**8.31**	**63**	Pn	**Pn**	**11 42 11.4**	**+1.0**
BM03	**Burnt Mountain**	**8.51**	**22**		**Pn**	**11 42 11.6**	**-1.4**
BMAR	**Burnt Mountain**	**8.52**	**22**	Pn	**Pn**	**11 42 13.4**	**+0.1**
BM01	**Burnt Mountain**	**8.55**	**23**		**Pn**	**11 42 12.4**	**-1.1**
N31M	**Braeburn, Yuko**	**8.64**	**71**	Pn	**Pn**	**11 42 15.7**	**+0.9**
WHY	**Whitehorse**	**9.06**	**77**	Pn	**Pn**	**11 42 21.3**	**+0.6**
M31M	**Drury Creek, Y**	**9.36**	**67**	Pn	**Pn**	**11 42 24.8**	**+0.3**
P33M	**Teslin, Yukon**	**10.12**	**79**	Pn	**Pn**	**11 42 35.0**	**0.0**
INK	**Inuvik**	**12.00**	**37**	P	**Pn**	**11 43 00.1**	**0.0**
comp=E,0.0nm,0.3s,baz=241,slow=13,SNR=1.8							
YKA	**Yellowknife Ar**	**18.55**	**65**	P	**P**	**11 44 21.7**	**+1.1**
comp=E,0.1nm,0.3s,baz=275,slow=9.9,SNR=11							
ZALV	**Zalesovo Beam**	**57.53**	**324**	P	**P**	**11 49 50.5**	**+0.3**
comp=E,0.8nm,0.4s,baz=35,slow=6.8,SNR=3.7							

*IDC **24** 11:46:59.5±1.7, 59°.79N×153°.34W, h90km±26km, mb3.1/3, mb1 3.3/8, mb1mx2.9/56, mbtmp3.4/8, Error ellipse: s-maj=32.0km s-min=11.5km az=108.0*
*NEIC **24** 11:47:00.7±1.3, 59°.73N±0°.03×153°.08W±0°.07, h118km±6km, Error ellipse: s-maj=5.6km s-min=3.9km az=73.0*
*AEIC **24** 11:47:02±1.6, 59°.72N±0°.03×153°.07W±0°.07, h110km±5km, ML2.9, ML3.3/88(NEIC), Error ellipse: s-maj=5.4km s-min=3.8km az=65.0*
ISC 24 11:47:00.9±0.9, 59°.74N±0°.04×153°.05W±0°.04, h116km±6km, n128, σ0°.75/131, mb3.4/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.13**	**227**		**Pn**	**11 47 17.0**	**0.0**
O20K	**Slope Mountain**	**0.41**	**32**		**Pn**	**11 47 18.2**	**+0.2**
O20K					**Sn**	**11 47 31.1**	**+0.3**
AUL	**Augustine Lava**	**0.41**	**209**		**Pn**	**11 47 18.1**	**+0.2**
AUL					**Sn**	**11 47 30.6**	**-0.1**
RED	**Redoubt Volcan**	**0.70**	**11**		**Pn**	**11 47 19.9**	**0.0**
RED					**Sn**	**11 47 33.6**	**-0.7**
HOM	**Homer**	**0.72**	**96**		**Pn**	**11 47 20.1**	**+0.2**
HOM					**Sn**	**11 47 34.7**	**+0.4**
HOM	**Homer**	**0.72**	**96**	IAML		11 47 36.4	
comp=N,852nm,0.3s							
RSO	**Redoubt South**	**0.74**	**11**		**Pn**	**11 47 20.6**	**+0.1**
O19K	**Port Alsworth**	**0.79**	**306**		**Pn**	**11 47 20.4**	**-0.1**
O19K					**Sn**	**11 47 35.2**	**-0.2**
O19K	**Port Alsworth**	**0.79**	**306**	IAML		11 47 35.6	
comp=N,677nm,0.4s							
NCT	**North Crescent**	**0.83**	**4**		**Pn**	**11 47 21.1**	**0.0**
NCT					**Sn**	**11 47 36.0**	**-0.3**
Q19K	**Cape Douglas,**	**0.87**	**201**		**Pn**	**11 47 21.4**	**0.0**
Q19K				IAML		11 47 37.2	
comp=E,713nm,0.6s							
Q19K				IAML		11 47 42.2	
comp=N,735nm,0.8s							
DFR	**Drift River**	**0.88**	**12**		**Pn**	**11 47 21.5**	**0.0**
DFR					**Sn**	**11 47 36.5**	**-0.5**
CNPM	**China Poot**	**0.95**	**102**		**Pn**	**11 47 21.9**	**-0.1**
CNPM					**Sn**	**11 47 37.3**	**-0.8**
CNPM	**China Poot**	**0.95**	**102**	IAML		11 47 39.0	
comp=E,821nm,0.5s							
BRLK	**Bradley Lake**	**1.10**	**88**		**Pn**	**11 47 23.5**	**-0.1**
BRLK					**Sn**	**11 47 39.9**	**-0.8**
BRLK	**Bradley Lake**	**1.10**	**88**	IAML		11 47 41.6	
comp=N,1μm,0.1s							
BRLK				IAML		11 47 41.9	
comp=E,734nm,0.1s							
O18K	**Koktuh Hills**	**1.10**	**277**	Pn	**Pn**	**11 47 23.4**	**-0.2**
P18K	**Big Mountain,**	**1.16**	**254**	Pn	**Pn**	**11 47 23.5**	**-0.8**
BRSE	**Bradley Lake S**	**1.17**	**89**		**Pn**	**11 47 24.2**	**-0.2**
BRSE					**Sn**	**11 47 41.3**	**-0.8**
N19K	**Bonanza Creek**	**1.29**	**327**		**Pn**	**11 47 25.7**	**-0.1**
CAPN	**Captain Cook N**	**1.40**	**42**		**Pn**	**11 47 28.6**	**+1.8**
SPCR	**Spurr Chakacha**	**1.52**	**16**		**Pn**	**11 47 28.6**	**+0.2**
SPU	**Mount Spurr**	**1.53**	**18**		**Pn**	**11 47 28.6**	**+0.2**
SPBG	**Spurr Blockage**	**1.56**	**12**		**Pn**	**11 47 29.3**	**+0.4**
SLKM	**Skilak Lake**	**1.61**	**60**		**Pn**	**11 47 29.6**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.64**	**18**		**Pn**	**11 47 30.1**	**+0.3**
KCG	**Knife Ck. Glac**	**1.79**	**217**		**Pn**	**11 47 31.8**	**+0.2**
O22K	**Cooper Landing**	**1.82**	**64**		**Pn

SCM	**Sheep Creek Mo**	**3.50**	**51**		**Pn**	**11 47 53.3**	**-0.5**
SCM				IAML		11 48 34.5	
	comp=E,73nm,1.3s						
SCM				IAML		11 48 37.3	
	comp=N,59nm,1.5s						
TTA	**Tatalina**	**3.51**	**337**		**Pn**	**11 47 53.4**	**-0.4**
CAST	**Castle Rocks**	**3.72**	**7**		**Pn**	**11 47 56.5**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.74**	**74**	Pn	**Pn**	**11 47 57.1**	**+0.3**
DIV	**Divide**	**3.87**	**66**		**Pn**	**11 47 58.6**	**0.0**
KLU	**Klutina**	**3.93**	**60**	Pn	**Pn**	**11 47 59.1**	**-0.3**
TRF	**Thorofare Moun**	**3.95**	**18**	Pn	**Pn**	**11 48 00.5**	**+0.7**
TRF				IAML		11 48 36.9	
	comp=E,33nm,3.2s						
TRF				IAML		11 49 49.8	
	comp=N,26nm,4.9s						
KTH	**Kantishna Hill**	**3.96**	**14**		**Pn**	**11 47 59.0**	**-0.8**
M24K	**Tolsona, Glenn**	**4.11**	**52**		**Pn**	**11 48 01.9**	**+0.1**
CHIR	**Chirikof Islan**	**4.16**	**200**	Pn	**Pn**	**11 48 00.6**	**-1.9**
CHUM	**Lake Minchumin**	**4.17**	**4**		**Pn**	**11 48 02.1**	**-0.4**
RND	**Reindeer**	**4.19**	**27**		**Pn**	**11 48 02.6**	**-0.3**
RND	**Reindeer**	**4.19**	**27**	IAML		11 50 08.4	
	comp=N,20nm,4.1s						
BMRM	**Bremner River**	**4.37**	**70**		**Pn**	**11 48 05.0**	**-0.3**
BMRM				IAML		11 48 54.4	
	comp=E,52nm,0.4s						
HMT	**Hamilton**	**4.45**	**78**	Pn	**Pn**	**11 48 07.8**	**+1.4**
MCK	**McKinley**	**4.46**	**24**	Pn	**Pn**	**11 48 06.2**	**-0.3**
MCK				IAML		11 48 52.5	
	comp=E,27nm,4.7s						
MCK				IAML		11 49 02.4	
	comp=N,24nm,3.4s						
CHGN	**Chignik**	**4.47**	**222**	Pn	**Pn**	**11 48 06.7**	**0.0**
CHGN				IAML		11 48 52.2	
	comp=N,46nm,3.2s						
BPAW	**Bear Paw Mtn.**	**4.48**	**12**	Pn	**Pn**	**11 48 07.0**	**+0.2**
J20K	**Nowinta River**	**4.48**	**354**		**Pn**	**11 48 06.8**	**0.0**
N25K	**Chitina, Valde**	**4.56**	**62**		**Pn**	**11 48 08.8**	**+0.9**
N25K				IAML		11 49 00.2	
	comp=N,28nm,0.4s						
N25K				IAML		11 50 34.5	
	comp=E,28nm,3.4s						
HARP	**HAARP**	**4.67**	**52**		**Pn**	**11 48 10.1**	**+0.8**
BWN	**Browne**	**4.76**	**19**	Pn	**Pn**	**11 48 11.2**	**+0.8**
GLB	**Gilahina Butte**	**4.87**	**65**	Pn	**Pn**	**11 48 12.0**	**+0.1**
GLB				IAML		11 49 23.9	
	comp=N,32nm,3.7s						
GLB				IAML		11 49 44.2	
	comp=E,24nm,4.5s						
PAX	**Paxson**	**4.88**	**45**	Pn	**Pn**	**11 48 12.6**	**+0.5**
VRDI	**Verde Repeater**	**4.98**	**68**	Pn	**Pn**	**11 48 15.0**	**+1.4**
VRDI				IAML		11 49 08.4	
	comp=N,33nm,0.3s						
VRDI				IAML		11 51 35.2	
	comp=E,25nm,4.0s						
WAX	**Waxell Ridge**	**5.16**	**78**	Pn	**Pn**	**11 48 16.9**	**+1.0**
NEA2	**Nenana**	**5.22**	**19**		**Pn**	**11 48 15.9**	**-0.7**
NEA2	**Nenana**	**5.22**	**19**	IAML		11 50 00.4	
	comp=N,15nm,4.6s						
NEA2				IAML		11 50 34.5	
	comp=E,16nm,4.2s						
WRH	**Wood River Hil**	**5.29**	**24**		**Pn**	**11 48 17.0**	**-0.6**
WRH	**Wood River Hil**	**5.29**	**24**	IAML		11 50 06.7	
	comp=N,19nm,4.6s						
WRH				IAML		11 50 40.2	
	comp=E,24nm,4.8s						
ISLE	**Juniper Island**	**5.42**	**76**	Pn	**Pn**	**11 48 19.9**	**+0.5**
PTPK	**Patty Peak**	**5.44**	**70**		**Pn**	**11 48 19.4**	**-0.4**
BALM	**Baldy**	**5.47**	**72**		**Pn**	**11 48 20.4**	**+0.2**
I21K	**Tanana**	**5.48**	**5**	Pn	**Pn**	**11 48 20.7**	**+0.5**
HDA	**Harding Lake**	**5.49**	**29**		**Pn**	**11 48 19.8**	**-0.5**
CCB	**Clear Creek Bu**	**5.50**	**24**		**Pn**	**11 48 19.5**	**-0.9**
MENT	**Mentasta**	**5.52**	**50**	Pn	**Pn**	**11 48 21.8**	**+1.1**
M26K	**Nabesna, AK**	**5.56**	**57**	Pn	**Pn**	**11 48 22.7**	**+1.4**
RIDG	**Independent Ri**	**5.59**	**41**	Pn	**Pn**	**11 48 22.6**	**+0.9**
PS08	**TAPS Pump Stn8**	**5.63**	**29**		**Pn**	**11 48 21.6**	**-0.6**
TCOL	**CIGO, UAF Yank**	**5.69**	**23**		**Pn**	**11 48 22.6**	**-0.3**
I23K	**Minto, Yukon-K**	**5.69**	**16**	Pn	**Pn**	**11 48 23.7**	**+0.7**
COLA	**College**	**5.69**	**23**		**Pn**	**11 48 22.4**	**-0.6**
MDM	**Murphy Dome**	**5.70**	**21**	Pn	**Pn**	**11 48 22.1**	**-1.0**
YAH	**Yahtse**	**5.70**	**79**	Pn	**Pn**	**11 48 24.2**	**+0.9**
L26K	**Log Cabin Wild**	**5.71**	**51**		**Pn**	**11 48 24.2**	**+0.9**
BARN	**Barnard Glacie**	**5.80**	**72**	Pn	**Pn**	**11 48 24.4**	**-0.2**
IL31		**5.81**	**27**		**Pn**	**11 48 23.9**	**-0.7**
ILAR	**Eielson Array**	**5.81**	**27**	P	**Pn**	**11 48 23.7**	**-0.9**
	comp=E,1.3nm,0.3s,baz=219,slow=14,SNR=37						
ILAR				S	**Sn**	**11 49 28.4**	**-1.4**
	comp=E,0.4nm,0.3s,baz=195,slow=17,SNR=4.9						
ILAR	**Eielson Array**	**5.81**	**27**	Pn	**Pn**	**11 48 24.3**	**-0.3**
CTGM	**Chitina Glacie**	**5.95**	**73**		**Pn**	**11 48 27.4**	**+0.8**
POKR	**Poker Plat Res**	**5.99**	**23**	Pn	**Pn**	**11 48 26.8**	**-0.3**
TABL	**Table Mountain**	**6.00**	**78**	Pn	**Pn**	**11 48 28.4**	**+0.9**
M27K	**Edge Creek, AK**	**6.03**	**59**	Pn	**Pn**	**11 48 28.8**	**+1.1**
SCRK	**Sand Creek**	**6.04**	**41**	Pn	**Pn**	**11 48 27.1**	**-0.7**
LOGN	**Logan Glacier**	**6.09**	**75**	Pn	**Pn**	**11 48 30.2**	**+1.6**
IM03		**6.28**	**357**		**Pn**	**11 48 31.2**	**+0.3**
IMAR	**Indian Mountai**	**6.28**	**357**	Pn	**Pn**	**11 48 31.5**	**+0.6**
L27K	**Beaver Creek,**	**6.33**	**53**	Pn	**Pn**	**11 48 32.5**	**+0.8**
BC03		**6.35**	**54**		**Pn**	**11 48 31.8**	**-0.1**
BCAR	**Beaver Creek A**	**6.35**	**54**	Pn	**Pn**	**11 48 32.9**	**+0.9**
PCA	**Pinnacle**	**6.45**	**81**	Pn	**Pn**	**11 48 35.1**	**+1.8**
BVCY	**Beaver Creek**	**6.49**	**60**		**Pn**	**11 48 34.5**	**+0.6**
J26L	**Joseph Creek**	**6.53**	**39**		**Pn**	**11 48 34.6**	**+0.2**
H24K	**Noodor Dome**	**6.56**	**19**	Pn	**Pn**	**11 48 34.1**	**-0.7**
PRP	**Porcupine Dome**	**6.75**	**28**	Pn	**Pn**	**11 48 37.0**	**-0.5**
COLD	**Coldfoot**	**7.62**	**8**	Pn	**Pn**	**11 48 48.7**	**-0.4**
FYU	**Fort Yukon**	**7.71**	**24**	Pn	**Pn**	**11 48 49.8**	**-0.4**
DAWY	**Dawson**	**7.76**	**50**	Pn	**Pn**	**11 48 51.9**	**+0.8**
M30M	**Minto, Yukon**	**8.35**	**63**	Pn	**Pn**	**11 48 59.7**	**+0.7**
BMAR	**Burnt Mountain**	**8.58**	**22**	Pn	**Pn**	**11 49 01.7**	**-0.4**
N31M	**Braeburn, Yuko**	**8.67**	**71**	Pn	**Pn**	**11 49 02.9**	**-0.4**
DLBC	**Dease Lake**	**11.90**	**86**	P	**Pn**	**11 49 49.5**	**+2.8**
	comp=E,0.3nm,0.3s,baz=281,slow=10,SNR=11						
INK	**Inuvik**	**12.06**	**36**	P	**Pn**	**11 49 48.9**	**+0.2**
	comp=E,0.0nm,0.3s,baz=225,slow=9.6,SNR=1.8						
YKA	**Yellowknife Ar**	**18.58**	**65**	P	**Pn**	**11 51 09.8**	**-0.4**
	comp=E,0.1nm,0.3s,baz=276,slow=9.9,SNR=15						
SONM	**Songino Array**	**54.92**	**306**	P	**P**	**11 56 20.2**	**+0.8**
	comp=E,0.4nm,0.9s,baz=57,slow=6.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**57.57**	**324**	P	**P**	**11 56 38.0**	**+0.2**
	comp=E,0.3nm,0.3s,baz=46,slow=6.2,SNR=2.0						
MKAR	**Makanchi Array**	**64.62**	**321**	P	**P**	**11 57 25.3**	**-0.3**
	comp=E,0.1nm,0.5s,baz=45,slow=7.8,SNR=2.4						

*AEIC **24** 11:53:55±1.1, 59˚.68N±0˚.04×152˚.87W±0˚.07, h100km±5km, ML3.2, ML3.5/98(NEIC), Error ellipse: s-maj=7.0km s-min=4.7km az=149.0*

*NEIC **24** 11:53:55.3±1.0, 59˚.70N±0˚.04×152˚.85W±0˚.08, h98km±6km, Error ellipse: s-maj=7.1km s-min=4.7km az=145.0*

*IDC **24** 11:53:58.1±8.2, 59˚.89N×152˚.47W, h110km±68km, mb3.0/3, mb1 3.0/5, mb1mx2.9/43, mbtmp3.3/5, Error ellipse: s-maj=63.6km s-min=38.6km az=20.0*

ISC 24 11:53:55.6±0.9, 59˚.70N±0˚.04×152˚.76W±0˚.04, h98km±6km, n202, σ0=86/200, mb3.4/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.24**	**258**		**Pn**	**11 54 09.3**	**-0.4**
OPT	**Oil Point**	**0.24**	**258**	P	**Pn**	**11 54 09.3**	**-0.4**
	baz=83						
O20K	**Slope Mountain**	**0.39**	**10**		**Pn**	**11 54 10.3**	**-0.1**
O20K					**Sn**	**11 54 20.8**	**-0.7**
O20K	**Slope Mountain**	**0.39**	**10**	P	**Pn**	**11 54 10.3**	**-0.1**
	baz=197						
O20K				S	**Sn**	**11 54 20.8**	**-0.7**
	baz=197						
AU22	**Augustine Moun**	**0.45**	**222**		**Sn**	**11 54 21.6**	**-0.5**
AUL	**Augustine Lava**	**0.47**	**227**		**Pn**	**11 54 10.7**	**-0.2**
AUL					**Sn**	**11 54 21.8**	**-0.5**
AUQ	**Augustine Qik'**	**0.48**	**224**		**Pn**	**11 54 10.8**	**-0.2**
AUH	**Augustine H**	**0.49**	**226**		**Pn**	**11 54 11.0**	**-0.1**
HOM	**Homer**	**0.57**	**94**		**Pn**	**11 54 11.4**	**-0.3**
HOM					**Sn**	**11 54 23.5**	**-0.2**
HOM	**Homer**	**0.57**	**94**	IAML		11 54 24.6	
	comp=N,2μm,0.4s						
HOM				IAML		11 54 25.9	
	comp=E,1μm,0.4s						
HOM	**Homer**	**0.57**	**94**	P	**Pn**	**11 54 11.4**	**-0.3**
	baz=272						
HOM				S	**Sn**	**11 54 23.5**	**-0.2**
	baz=272						
RED	**Redoubt Volcan**	**0.72**	**360**		**Pn**	**11 54 12.5**	**-0.5**
RSO	**Redoubt South**	**0.76**	**0**		**Pn**	**11 54 13.2**	**-0.3**
CNPM	**China Poot**	**0.80**	**102**		**Pn**	**11 54 13.2**	**-0.5**
CNPM					**Sn**	**11 54 26.2**	**-1.1**
CNPM	**China Poot**	**0.80**	**102**	IAML		11 54 26.7	
	comp=N,1μm,0.5s						
NCT	**North Crescent**	**0.86**	**355**		**Pn**	**11 54 14.1**	**-0.4**
NCT					**Sn**	**11 54 28.0**	**-0.7**
DFR	**Drift River**	**0.89**	**2**		**Pn**	**11 54 14.5**	**-0.2**
DFR					**Sn**	**11 54 28.6**	**-0.5**
Q19K	**Cape Douglas,**	**0.90**	**211**		**Pn**	**11 54 14.2**	**-0.6**
Q19K					**Sn**	**11 54 28.2**	**-1.0**
Q19K	**Cape Douglas,**	**0.90**	**211**	P	**Pn**	**11 54 14.2**	**-0.6**
	baz=28						
Q19K				S	**Sn**	**11 54 28.2**	**-1.0**
	baz=28						
O19K	**Port Alsworth**	**0.93**	**303**		**Pn**	**11 54 13.4**	**-1.5**
O19K	**Port Alsworth**	**0.93**	**303**	IAML		11 54 29.4	
	comp=E,2μm,0.5s						
O19K				IAML		11 54 29.5	
	comp=N,1μm,0.4s						
O19K	**Port Alsworth**	**0.93**	**303**	P	**Pn**	**11 54 13.4**	**-1.5**
	baz=125						
BRLK	**Bradley Lake**	**0.95**	**86**		**Pn**	**11 54 14.6**	**-0.7**
BRLK					**Sn**	**11 54 29.2**	**-1.0**
BRLK	**Bradley Lake**	**0.95**	**86**	IAML		11 54 30.8	
	comp=E,852nm,0.1s						
BRLK				IAML		11 54 30.9	
	comp=N,950nm,0.1s						
BRSE	**Bradley Lake S**	**1.02**	**87**		**Pn**	**11 54 15.5**	**-0.6**
BRSE	**Bradley Lake S**	**1.02**	**87**	P	**Pn**	**11 54 15.5**	**-0.6**
	baz=267						
O18K	**Koktuh Hills**	**1.25**	**278**		**Pn**	**11 54 16.6**	**-2.1**
O18K	**Koktuh Hills**	**1.25**	**278**	P	**Pn**	**11 54 16.6**	**-2.1**
	baz=98						
P18K	**Big Mountain,**	**1.29**	**257**		**Pn**	**11 54 18.1**	**-1.1**
P18K	**Big Mountain,**	**1.29**	**257**	P	**Pn**	**11 54 17.2**	**-2.0**
	baz=76						
P18K				S	**Sn**	**11 54 35.8**	**-1.3**
	baz=76						
CAPN	**Captain Cook N**	**1.34**	**36**	Pn	**Pn**	**11 54 20.8**	**+1.1**
CAPN	**Captain Cook N**	**1.34**	**36**	P	**Pn**	**11 54 21.2**	**+1.6**
	baz=219						
N19K	**Bonanza Creek**	**1.41**	**323**	Pn	**Pn**	**11 54 19.0**	**-1.6**
N19K	**Bonanza Creek**	**1.41**	**323**	P	**Pn**	**11 54 19.0**	**-1.6**
	baz=144						
SLKM	**Skilak Lake**	**1.51**	**57**		**Pn**	**11 54 21.8**	**0.0**
SPU	**Mount Spurr**	**1.52**	**13**		**Pn**	**11 54 22.1**	**+0.1**
SPCR	**Spurr Chakacha**	**1.53**	**10**		**Pn**	**11 54 21.9**	**-0.2**
SPCR	**Spurr Chakacha**	**1.53**	**10**	P	**Pn**	**11 54 21.9**	**-0.2**
	baz=192						
SPBG	**Spurr Blockage**	**1.57**	**7**		**Pn**	**11 54 22.6**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.64**	**13**		**Pn**	**11 54 23.5**	**0.0**
O22K	**Cooper Landing**	**1.71**	**62**		**Pn**	**11 54 24.3**	**0.0**
O22K	**Cooper Landing**	**1.71**	**62**	IAML		11 54 51.5	
	comp=N,783nm,0.8s						
O22K				IAML		11 54 54.5	
	comp=E,712nm,0.8s						
O22K	**Cooper Landing**	**1.71**	**62**	P	**Pn**	**11 54 24.3**	**0.0**
	baz=244						
SEW	**Seward**	**1.72**	**75**		**Pn**	**11 54 23.8**	**-0.5**
SEW	**Seward**	**1.72**	**75**	P	**Pn**	**11 54 23.8**	**-0.5**
	baz=257						
STLK	**Strandline Lak**	**1.86**	**14**		**Pn**	**11 54 26.5**	**+0.2**
FIS	**Fire Island**	**1.92**	**40**	Pn	**Pn**	**11 54 27.6**	**+0.7**
FIS				IAML		11 54 58.2	
	comp=N,340nm,0.3s						
FIS				IAML		11 55 00.3	
	comp=E,340nm,0.8s						
KDAK	**Kodiak Island**	**1.93**	**177**		**Pn**	**11 54 26.2**	**-0.9**
KELA	**Mount Kelaz**	**1.99**	**232**		**Pn**	**11 54 26.5**	**-1.5**
RC01	**Rabbit Creek A**	**2.05**	**46**	Pn	**Pn**	**11 54 28.5**	**-0.1**
RC01	**Rabbit Creek A**	**2.05**	**46**	IAML		11 54 54.5	
	comp=N,416nm,0.4s						
RC01				IAML		11 54 55.3	
	comp=E,514nm,0.3s						
RC01	**Rabbit Creek A**	**2.05**	**46**	P	**Pn**	**11 54 28.5**	**-0.1**
	baz=229						
PWL	**Port Wells**	**2.49**	**60**		**Pn**	**11 54 33.8**	**-0.7**
PWL	**Port Wells**	**2.49**	**60**	P	**Pn**	**11 54 33.7**	**-0.7**
	baz=244						
OHAK	**Old Harbor**	**2.50**	**187**		**Pn**	**11 54 33.5**	**-1.1**
OHAK	**Old Harbor**	**2.50**	**187**	IAML		11 55 02.8	
	comp=N,105nm,3.1s						
OHAK	**Old Harbor**	**2.50**	**187**	P	**Pn**	**11 54 33.5**	**-1.1**
	baz=5.0						
PMR	**Palmer**	**2.61**	**42**		**Pn**	**11 54 35.9**	**-0.1**
PMR				IAML		11 55 06.0	
	comp=N,156nm,0.2s						
PMR				IAML		11 55 07.8	
	comp=E,151nm,0.2s						
PMR	**Palmer**	**2.61**	**42**	P	**Pn**	**11 54 35.8**	**-0.1**
	baz=225						
L19K	**White Mountain**	**2.69**	**339**		**Pn**	**11 54 35.8**	**-1.2**
L19K	**White Mountain**	**2.69**	**339**	P	**Pn**	**11 54 35.8**	**-1.2**
	baz=158						
KNK	**Knik Glacier**	**2.73**	**49**		**Pn**	**11 54 37.4**	**-0.3**
KNK				IAML		11 55 09.9	
	comp=E,252nm,0.5s						
KNK				IAML		11 55 30.1	
	comp=N,236nm,0.5s						
KNK	**Knik Glacier**	**2.73**	**49**	P	**Pn**	**11 54 37.2**	**-0.4**
	baz=233						
GHO	**Glory Hole Cre**	**2.80**	**41**		**Pn**	**11 54 38.6**	**-0.1**
L20K	**Farewell, AK**	**2.84**	**349**		**Pn**	**11 54 38.0**	**-1.1**
L20K	**Farewell, AK**	**2.84**	**349**	P	**Pn**	**11 54 38.0**	**-1.1**
	baz=170						
CUT	**Chulitna**	**2.97**	**23**		**Pn**	**11 54 41.0**	**+0.3**
CUT	**Chulitna**	**2.97**	**23**	IAML		11 55 20.8	
	comp=E,162nm,0.3s						
CUT				IAML		11 55 23.7	
	comp=N,185nm,0.4s						
CUT	**Chulitna**	**2.97**	**23**	P	**Pn**	**11 54 41.0**	**+0.3**
	baz=206						
SML	**Sawmill**	**3.03**	**44**	Pn	**Pn**	**11 54 40.9**	**-0.7**
SML				IAML		11 55 15.8	
	comp=E,168nm,0.3s						
SML				IAML		11 55 17.2	
	comp=N,147nm,0.3s						
SML	**Sawmill**	**3.03**	**44**	P	**Pn**	**11 54 41.4**	**-0.2**
	baz=228						
GLI	**Glacier Island**	**3.06**	**65**	Pn	**Pn**	**11 54 40.4**	**-1.6**
GLI				IAML		11 55 15.5	
	comp=N,183nm,0.6s						
GLI	**Glacier Island**	**3.06**	**65**	P	**Pn**	**11 54 40.8**	**-1.2**
	baz=250						
PPLA	**Purkeypile**	**3.22**	**5**	Pn	**Pn**	**11 54 45.2**	**+1.0**
PPLA	**Purkeypile**	**3.22**	**5**	P	**Pn**	**11 54 45.1**	**+1.0**
	baz=186						
SII	**Sitkinak Islan**	**3.24**	**194**	Pn	**Pn**	**11 54 44.0**	**-0.5**
SII	**Sitkinak Islan**	**3.24**	**194**	P	**Pn**	**11 54 43.2**	**-1.3**
	baz=12						
FID	**Port Fidalgo**	**3.31**	**69**		**Pn**	**11 54 43.8**	**-1.5**
JPK	**Jack Peak**	**3.35**	**63**		**Pn**	**11 54 45.1**	**-0.8**
SCM	**Sheep Creek Mo**	**3.42**	**49**		**Pn**	**11 54 47.2**	**+0.4**
SCM				IAML		11 55 28.1	
	comp=N,96nm,0.6s						
SCM				IAML		11 55 28.8	
	comp=E,114nm,0.3s						
SCM	**Sheep Creek Mo**	**3.42**	**49**	P	**Pn**	**11 54 46.8**	**0.0**
	baz=234						
TT01	**Tatalina**	**3.58**	**335**		**Pn**	**11 54 46.7**	**-2.2**
TTA	**Tatalina**	**3.60**	**336**		**Pn**	**11 54 46.8**	**-2.5**
TTA	**Tatalina**	**3.60**	**336**	P	**Pn**	**11 54 46.8**	**-2.5**
	baz=154						
EYAK	**Cordova Ski Ar**	**3.61**	**73**	Pn	**Pn**	**11 54 49.4**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.61**	**73**	P	**Pn**	**11 54 48.1**	**-1.2**
	baz=259						
K20K	**Telida**	**3.72**	**351**		**Pn**	**11 54 49.8**	**-1.0**
K20K	**Telida**	**3.72**	**351**	P	**Pn**	**11 54 49.8**	**-1.0**
	baz=171						
CAST	**Castle Rocks**	**3.74**	**5**		**Pn**	**11 54 51.5**	**+0.3**
DIV	**Divide**	**3.75**	**65**		**Pn**	**11 54 51.7**	**+0.3**
KLU	**Klutina**	**3.82**	**59**		**Pn**	**11 54 51.7**	**-0.6**
KLU	**Klutina**	**3.82**	**59**	IAML		11 55 37.3	
	comp=E,106nm,0.2s						
KLU	**Klutina**	**3.82**	**59**	P	**Pn**	**11 54 51.7**	**-0.6**
	baz=245						
TRF	**Thorofare Moun**	**3.94**	**16**		**Pn**	**11 54 54.3**	**+0.3**
TRF	**Thorofare Moun**	**3.94**	**16**	IAML		11 56 04.1	
	comp=E,35nm,4.2s						
TRF				IAML		11 56 30.5	
	comp=N,35nm,3.5s						
TRF	**Thorofare Moun**	**3.94**	**16**	P	**Pn**	**11 54 54.3**	**+0.3**
	baz=199						
KTH	**Kantishna Hill**	**3.96**	**12**		**Pn**	**11 54 54.3**	**+0.1**
M24K	**Tolsona, Glenn**	**4.02**	**50**		**Pn**	**11 54 54.9**	**-0.1**
M24K	**Tolsona, Glenn**	**4.02**	**50**	IAML		11 55 53.3	
	comp=N,90nm,2.8s						
M24K	**Tolsona, Glenn**	**4.02**	**50**	P	**Pn**	**11 54 54.9**	**-0.1**
	baz=236						
GOAT	**Goat Mountain**	**4.11**	**74**		**Pn**	**11 54 55.4**	**-0.9**
RND	**Reindeer**	**4.16**	**25**	Pn	**Pn**	**11 54 56.8**	**-0.1**
RND				IAML		11 55 43.5	
	comp=N,35nm,4.0s						
RND				IAML		11 55 46.5	
	comp=E,32nm,0.3s						
CHUM	**Lake Minchumin**	**4.20**	**3**		**Pn**	**11 54 56.9**	**-0.4**
CHUM	**Lake Minchumin**	**4.20**	**3**	P	**Pn**	**11 54 56.9**	**-0.4**
	baz=184						
BMRM	**Bremner River**	**4.25**	**69**	Pn	**Pn**	**11 54 58.0**	**0.0**
BMRM				IAML		11 56 05.0	
	comp=N,44nm,3.1s						
BMRM				IAML		11 56 21.3	
	comp=E,60nm,3.2s						
BMRM	**Bremner River**	**4.25**	**69**	P	**Pn**	**11 54 57.3**	**-0.7**
	baz=256						
PS11	**TAPS Pump St11**	**4.29**	**53**		**Pn**	**11 54 58.0**	**-0.5**
HMT	**Hamilton**	**4.31**	**78**	Pn	**Pn**	**11 54 59.0**	**+0.1**
MCK	**McKinley**	**4.43**	**23**		**Pn**	**11 55 00.6**	**+0.1**
MCK	**McKinley**	**4.43**	**23**	IAML		11 55 52.8	
	comp=N,28nm,0.3s						
MCK				IAML		11 56 35.3	
	comp=E,24nm,5.0s						
MCK	**McKinley**	**4.43**	**23**	P	**Pn**	**11 55 00.6**	**+0.1**
	baz=206						
N25K	**Chitina, Valde**	**4.45**	**61**		**Pn**	**11 55 00.3**	**-0.5**
N25K	**Chitina, Valde**	**4.45**	**61**	IAML		11 55 50.7	
	comp=N,37nm,0.5s						
N25K				IAML		11 57 11.9	
	comp=E,26nm,4.9s						
N25K	**Chitina, Valde**	**4.45**	**61**	P	**Pn**	**11 55 00.3**	**-0.5**
	baz=248						
BPAW	**Bear Paw Mtn.**	**4.49**	**10**		**Pn**	**11 55 01.5**	**+0.2**
BPAW	**Bear Paw Mtn.**	**4.49**	**10**	IAML		11 56 34.5	
	comp=E,21nm,4.2s						
BPAW	**Bear Paw Mtn.**	**4.49**	**10**	P	**Pn**	**11 55 01.5**	**+0.2**
	baz=192						
J20K	**Nowinta River**	**4.54**	**352**		**Pn**	**11 55 00.6**	**-1.3**
J20K	**Nowinta River**	**4.54**	**352**	P	**Pn**	**11 55 00.6**	**-1.3**
	baz=172						
CHGN	**Chignik**	**4.55**	**224**	Pn	**Pn**	**11 55 01.5**	**-0.5**
CHGN				IAML		11 55 53.8	
	comp=E,64nm,0.1s						
CHGN				IAML		11 57 24.9	
	comp=N,53nm,3.2s						
BERG	**Berg Lake**	**4.60**	**77**	Pn	**Pn**	**11 55 03.5**	**+0.8**
BWN	**Browne**	**4.75**	**18**		**Pn**	**11 55 05.5**	**+0.8**
BWN	**Browne**	**4.75**	**18**	IAML		11 56 42.0	
	comp=E,48nm,3.3s						
GLB	**Gilahina Butte**	**4.75**	**65**	Pn	**Pn**	**11 55 04.3**	**-0.5**
GLB				IAML		11 55 41.6	
	comp=N,28nm,3.3s						
GLB				IAML		11 56 28.6	
	comp=E,32nm,4.2s						
PAX	**Paxson**	**4.80**	**44**		**Pn**	**11 55 05.8**	**+0.3**
PAX	**Paxson**	**4.80**	**44**	P	**Pn**	**11 55 05.8**	**+0.3**
	baz=230						
VRDI	**Verde Repeater**	**4.86**	**68**	Pn	**Pn**	**11 55 06.5**	**+0.1**
VRDI				IAML		11 55 54.2	
	comp=N,35nm,4.1s						
VRDI				IAML		11 57 38.7	
	comp=E,26nm,4.9s						
SNH	**Sunshine Point**	**5.01**	**80**	Pn	**Pn**	**11 55 08.9**	**+0.5**
WAX	**Waxell Ridge**	**5.02**	**77**	Pn	**Pn**	**11 55 08.8**	**+0.3**
NEA2	**Nenana**	**5.20**	**18**		**Pn**	**11 55 10.4**	**-0.5**
NEA2				IAML		11 56 37.8	
	comp=N,19nm,4.3s						
NEA2				IAML		11 57 13.2	
	comp=E,21nm,4.8s						
NEA2	**Nenana**	**5.20**	**18**	P	**Pn**	**11 55 10.6**	**-0.3**
	baz=202						
WRH	**Wood River Hil**	**5.26**	**23**		**Pn**	**11 55 11.1**	**-0.6**
WRH				IAML		11 58 12.7	
	comp=N,21nm,4.7s						
WRH				IAML		11 58 18.4	
	comp=E,26nm,5.0s						
ISLE	**Juniper Island**	**5.29**	**76**	Pn	**Pn**	**11 55 11.5**	**-0.7**
BALM	**Baldy**	**5.34**	**71**		**Pn**	**11 55 12.2**	**-0.7**
MENT	**Mentasta**	**5.43**	**49**	Pn	**Pn**	**11 55 16.1**	**+2.0**
HDA	**Harding Lake**	**5.46**	**28**		**Pn**	**11 55 14.3**	**0.0**
HDA	**Harding Lake**	**5.46**	**28**	P	**Pn**	**11 55 14.3**	**0.0**
	baz=213		

comp=E,0.1nm,0.3s,baz=278,slow=9.9,SNR=8.9
SONM Songino Array 55.06 306 P **P 12 03 18.4 +1.5**
comp=E,0.2nm,0.5s,baz=46,slow=6.2,SNR=2.2
ZALV Zalesovo Beam 57.69 324 P **P 12 03 36.0 +0.7**
comp=E,0.4nm,0.3s,baz=35,slow=6.5,SNR=1.8
MKAR Makanchi Array 64.74 321 P **P 12 04 23.2 +0.1**
comp=E,0.1nm,0.4s,baz=45,slow=8.2,SNR=1.4

IDC 24 11:58:08.7±1.6, 4°.07N×124°.70E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/42, mbtmp3.7/5, Error ellipse: s-maj=114.3km s-min=23.1km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.04**	**178**	P	P	12 03 06.0	+0.9
	0.9nm,0.3s,baz=22,slow=12,SNR=13						
WRA	**Warramunga Arr**	**25.67**	**159**	P	P	12 03 40.5	0.0
	0.7nm,0.3s,baz=335,slow=10,SNR=18						
ASAR	**Alice Springs**	**28.99**	**162**	P	P	12 04 09.9	-0.5
	0.4nm,0.5s,baz=338,slow=7.2,SNR=11						
STKA	**Stephens Creek**	**39.20**	**157**	P	P	12 05 38.4	-0.3
	0.6nm,0.4s,baz=348,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**56.13**	**326**	P	P	12 07 50.1	0.0
	0.4nm,0.5s,baz=118,slow=7.8,SNR=7.1						

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*IDC **24** 12:06:37.4±2.1, 59°.77N×153°.14W, h92km±35km, mb3.3/4, mb1 3.4/8, mb1mx3.0/55, mbtmp3.6/8, Error ellipse: s-maj=34.4km s-min=17.3km az=123.0*
*NEIC **24** 12:06:38.1±1.2, 59°.83N±0°.03×153°.02W±0°.06, h109km±4km, Error ellipse: s-maj=5.1km s-min=3.6km az=127.0*
*AEIC **24** 12:06:39±1.2, 59°.81N±0°.04×153°.00W±0°.06, h101km±5km, ML3.0, ML3.3/90(NEIC), Error ellipse: s-maj=5.1km s-min=4.5km az=159.0*

ISC 24 12:06:38.3±0.8, 59°.82N±0°.04×153°.00W±0°.03, h107km±5km, n166, σ0°.73/175, mb3.6/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.21**	**215**		**Pn**	**12 06 53.2**	**-0.2**
OPT	**Oil Point**	**0.21**	**215**	P	**Pn**	**12 06 53.2**	**-0.2**
	baz=38						
O20K	**Slope Mountain**	**0.32**	**36**		**Pn**	**12 06 53.7**	**-0.1**
O20K					**Sn**	**12 07 05.3**	**-0.3**
O20K	**Slope Mountain**	**0.32**	**36**	P	**Pn**	**12 06 53.7**	**-0.1**
	baz=214						
O20K				S	**Sn**	**12 07 05.3**	**-0.3**
	baz=214						
AUL	**Augustine Lava**	**0.49**	**207**		**Pn**	**12 06 54.6**	**-0.2**
AUL					**Sn**	**12 07 07.1**	**0.0**
AUQ	**Augustine Qik'**	**0.51**	**205**		**Pn**	**12 06 55.0**	**0.0**
RED	**Redoubt Volcan**	**0.61**	**11**		**Pn**	**12 06 55.3**	**-0.4**
RED					**Sn**	**12 07 07.7**	**-1.1**
RSO	**Redoubt South**	**0.65**	**11**		**Pn**	**12 06 55.9**	**-0.3**
HOM	**Homer**	**0.70**	**103**		**Pn**	**12 06 56.5**	**+0.1**
HOM					**Sn**	**12 07 10.4**	**+0.4**
HOM	**Homer**	**0.70**	**103**	IAML		12 07 11.2	
	comp=E,2μm,0.5s						
HOM				IAML		12 07 11.3	
	comp=N,1μm,0.4s						
HOM	**Homer**	**0.70**	**103**	P	**Pn**	**12 06 56.5**	**+0.1**
	baz=283						
HOM				S	**Sn**	**12 07 10.4**	**+0.4**
	baz=283						
NCT	**North Crescent**	**0.74**	**3**		**Pn**	**12 06 56.5**	**-0.3**
O19K	**Port Alsworth**	**0.76**	**300**	Pn	**Pn**	**12 06 56.6**	**-0.2**
O19K				IAML		12 07 11.0	
	comp=N,1μm,0.4s						
O19K	**Port Alsworth**	**0.76**	**300**		**Sn**	**12 07 10.2**	**-0.7**
O19K	**Port Alsworth**	**0.76**	**300**	P	**Pn**	**12 06 56.7**	**-0.1**
	baz=120						
O19K				S	**Sn**	**12 07 10.2**	**-0.7**
	baz=120						
DFR	**Drift River**	**0.79**	**11**		**Pn**	**12 06 56.9**	**-0.4**
DFR					**Sn**	**12 07 10.5**	**-1.0**
CNPM	**China Poot**	**0.94**	**108**		**Pn**	**12 06 58.5**	**-0.2**
CNPM	**China Poot**	**0.94**	**108**		**Sn**	**12 07 13.3**	**-0.7**
Q19K	**Cape Douglas,**	**0.95**	**201**		**Pn**	**12 06 58.2**	**-0.6**
Q19K	**Cape Douglas,**	**0.95**	**201**	P	**Pn**	**12 06 58.7**	**-0.1**
	baz=20						
BRLK	**Bradley Lake**	**1.07**	**92**		**Pn**	**12 06 59.6**	**-0.4**
BRLK					**Sn**	**12 07 15.7**	**-0.7**
BRLK	**Bradley Lake**	**1.07**	**92**	IAML		12 07 16.5	
	comp=N,550nm,0.4s						
O18K	**Koktuh Hills**	**1.12**	**273**		**Pn**	**12 07 00.2**	**-0.2**
O18K					**Sn**	**12 07 16.5**	**-0.7**
O18K	**Koktuh Hills**	**1.12**	**273**	P	**Pn**	**12 07 00.2**	**-0.2**
	baz=92						
O18K				S	**Sn**	**12 07 16.5**	**-0.7**
	baz=92						
BRSE	**Bradley Lake S**	**1.14**	**93**		**Pn**	**12 07 00.5**	**-0.3**
BRSE					**Sn**	**12 07 17.2**	**-0.6**
BRSE	**Bradley Lake S**	**1.14**	**93**	P	**Pn**	**12 07 00.5**	**-0.3**
	baz=274						
BRSE				S	**Sn**	**12 07 17.2**	**-0.6**
	baz=274						
P18K	**Big Mountain,**	**1.21**	**250**	Pn	**Pn**	**12 07 00.2**	**-1.4**
P18K	**Big Mountain,**	**1.21**	**250**		**Sn**	**12 07 18.2**	**-1.0**
P18K	**Big Mountain,**	**1.21**	**250**	P	**Pn**	**12 07 01.1**	**-0.5**
	baz=69						
P18K				S	**Sn**	**12 07 18.2**	**-1.0**
	baz=69						
N19K	**Bonanza Creek**	**1.24**	**324**		**Pn**	**12 07 01.7**	**-0.2**
N19K					**Sn**	**12 07 18.9**	**-0.9**
N19K	**Bonanza Creek**	**1.24**	**324**	P	**Pn**	**12 07 01.7**	**-0.2**
	baz=143						
N19K				S	**Sn**	**12 07 18.9**	**-0.9**
	baz=143						
CAPN	**Captain Cook N**	**1.32**	**43**	Pn	**Pn**	**12 07 03.8**	**+1.1**
CAPN	**Captain Cook N**	**1.32**	**43**	P	**Pn**	**12 07 04.3**	**+1.6**
	baz=224						
SPCR	**Spurr Chakacha**	**1.44**	**15**		**Pn**	**12 07 04.1**	**-0.1**
SPCR	**Spurr Chakacha**	**1.44**	**15**	P	**Pn**	**12 07 04.1**	**-0.1**
	baz=196						
SPU	**Mount Spurr**	**1.44**	**18**		**Pn**	**12 07 02.8**	**-1.4**
SPBG	**Spurr Blockage**	**1.48**	**12**		**Pn**	**12 07 04.8**	**+0.1**
SLKM	**Skilak Lake**	**1.55**	**62**		**Pn**	**12 07 05.6**	**0.0**
SPCG	**Spurr Capps Gl**	**1.55**	**18**		**Pn**	**12 07 05.7**	**0.0**
O22K	**Cooper Landing**	**1.77**	**67**		**Pn**	**12 07 07.4**	**-0.7**
O22K	**Cooper Landing**	**1.77**	**67**	P	**Pn**	**12 07 08.1**	**0.0**
	baz=249						
O22K				S	**Sn**	**12 07 29.5**	**-1.3**
	baz=249						
SEW	**Seward**	**1.81**	**79**	Pn	**Pn**	**12 07 08.3**	**-0.3**
SEW	**Seward**	**1.81**	**79**	P	**Pn**	**12 07 08.5**	**-0.1**
	baz=262						
FIS	**Fire Island**	**1.91**	**45**	Pn	**Pn**	**12 07 10.3**	**+0.4**
FIS				IAML		12 07 38.9	
	comp=E,276nm,1.0s						
FIS				IAML		12 07 40.1	
	comp=N,350nm,0.8s						
KDAK	**Kodiak Island**	**2.06**	**174**	P	**Pn**	**12 07 11.1**	**-0.7**
	comp=N,10.0nm,0.3s,baz=35,slow=8.9,SNR=3.8						
KDAK				S	**Sn**	**12 07 34.7**	**-2.7**
	comp=N,16nm,0.3s,baz=178,slow=21,SNR=9.2						
KDAK	**Kodiak Island**	**2.06**	**174**		**Pn**	**12 07 11.3**	**-0.5**
KDAK	**Kodiak Island**	**2.06**	**174**	IAML		12 07 38.1	
	comp=N,180nm,0.5s						
RC01	**Rabbit Creek A**	**2.06**	**50**		**Pn**	**12 07 11.9**	**+0.1**
RC01	**Rabbit Creek A**	**2.06**	**50**	IAML		12 07 38.0	
	comp=N,417nm,0.5s						
RC01	**Rabbit Creek A**	**2.06**	**50**	P	**Pn**	**12 07 11.9**	**+0.1**
	baz=233						
L19K	**White Mountain**	**2.54**	**340**		**Pn**	**12 07 17.9**	**-0.2**
L19K	**White Mountain**	**2.54**	**340**	P	**Pn**	**12 07 17.9**	**-0.2**
	baz=158						
PWL	**Port Wells**	**2.54**	**64**	Pn	**Pn**	**12 07 17.5**	**-0.6**
PWL	**Port Wells**	**2.54**	**64**	P	**Pn**	**12 07 17.6**	**-0.6**
	baz=248						
OHAK	**Old Harbor**	**2.61**	**183**		**Pn**	**12 07 18.3**	**-0.8**
OHAK				IAML		12 07 50.5	
	comp=N,109nm,0.3s						
OHAK				IAML		12 08 37.9	
	comp=E,99nm,2.9s						
OHAK	**Old Harbor**	**2.61**	**183**	P	**Pn**	**12 07 18.1**	**-0.9**
	baz=3.3						
KNK	**Knik Glacier**	**2.75**	**53**		**Pn**	**12 07 21.6**	**+0.7**
KNK	**Knik Glacier**	**2.75**	**53**	P	**Pn**	**12 07 20.0**	**-0.8**
	baz=236						
GHO	**Glory Hole Cre**	**2.80**	**44**		**Pn**	**12 07 20.2**	**-1.3**
GHO				IAML		12 07 55.5	
	comp=E,169nm,0.3s						
GHO				IAML		12 07 57.1	
	comp=N,133nm,0.5s						
CUT	**Chulitna**	**2.91**	**26**		**Pn**	**12 07 23.9**	**+0.9**
CUT	**Chulitna**	**2.91**	**26**	IAML		12 08 01.4	
	comp=E,116nm,0.8s						
CUT				IAML		12 08 24.8	
	comp=N,102nm,1.2s						
CUT	**Chulitna**	**2.91**	**26**	P	**Pn**	**12 07 23.9**	**+0.9**
	baz=208						
SML	**Sawmill**	**3.03**	**47**	Pn	**Pn**	**12 07 24.0**	**-0.6**
SML				IAML		12 08 00.5	
	comp=N,90nm,0.6s						
SML				IAML		12 08 00.5	
	comp=E,79nm,0.7s						
SML	**Sawmill**	**3.03**	**47**	P	**Pn**	**12 07 23.7**	**-0.9**
	baz=231						
PPLA	**Purkeypile**	**3.11**	**7**		**Pn**	**12 07 26.5**	**+0.8**
PPLA	**Purkeypile**	**3.11**	**7**	P	**Pn**	**12 07 26.5**	**+0.8**
	baz=188						
GLI	**Glacier Island**	**3.12**	**68**		**Pn**	**12 07 25.0**	**-0.7**
GLI				IAML		12 08 01.6	
	comp=N,154nm,0.4s						
GLI	**Glacier Island**	**3.12**	**68**	P	**Pn**	**12 07 25.0**	**-0.7**
	baz=252						
SII	**Sitkinak Islan**	**3.33**	**191**	Pn	**Pn**	**12 07 27.4**	**-1.2**
FID	**Port Fidalgo**	**3.38**	**71**		**Pn**	**12 07 28.4**	**-0.7**
FID				IAML		12 08 06.8	
	comp=E,150nm,0.3s						
TT01	**Tatalina**	**3.42**	**336**		**Pn**	**12 07 29.4**	**-0.3**
SCM	**Sheep Creek Mo**	**3.43**	**52**	Pn	**Pn**	**12 07 29.4**	**-0.6**
SCM				IAML		12 08 08.9	
	comp=E,69nm,0.4s						
SCM				IAML		12 08 09.5	
	comp=N,83nm,2.2s						
SCM	**Sheep Creek Mo**	**3.43**	**52**	P	**Pn**	**12 07 29.7**	**-0.3**
	baz=236						
TTA	**Tatalina**	**3.44**	**336**		**Pn**	**12 07 29.6**	**-0.5**
TTA	**Tatalina**	**3.44**	**336**	P	**Pn**	**12 07 29.6**	**-0.5**
	baz=154						
K20K	**Telida**	**3.58**	**352**		**Pn**	**12 07 32.1**	**+0.2**
CAST	**Castle Rocks**	**3.64**	**6**		**Pn**	**12 07 33.5**	**+0.9**
EYAK	**Cordova Ski Ar**	**3.69**	**75**	Pn	**Pn**	**12 07 33.1**	**-0.3**
DIV	**Divide**	**3.81**	**67**		**Pn**	**12 07 35.3**	**+0.3**
KLU	**Klutina**	**3.86**	**61**		**Pn**	**12 07 34.4**	**-1.4**
KLU				IAML		12 08 19.6	
	comp=E,79nm,0.3s						
KLU	**Klutina**	**3.86**	**61**	P	**Pn**	**12 07 34.7**	**-1.0**
	baz=247						
TRF	**Thorofare Moun**	**3.86**	**18**		**Pn**	**12 07 36.3**	**+0.4**
TRF	**Thorofare Moun**	**3.86**	**18**	IAML		12 08 41.1	
	comp=E,38nm,3.2s						
TRF				IAML		12 08 46.6	
	comp=N,32nm,3.9s						
TRF	**Thorofare Moun**	**3.86**	**18**	P	**Pn**	**12 07 36.3**	**+0.4**
	baz=201						
KTH	**Kantishna Hill**	**3.87**	**14**		**Pn**	**12 07 36.5**	**+0.6**
M24K	**Tolsona, Glenn**	**4.04**	**52**	Pn	**Pn**	**12 07 38.4**	**+0.4**
CHUM	**Lake Minchumin**	**4.09**	**4**		**Pn**	**12 07 39.3**	**+0.6**
CHUM	**Lake Minchumin**	**4.09**	**4**	P	**Pn**	**12 07 39.3**	**+0.6**
	baz=185						
RND	**Reindeer**	**4.11**	**27**		**Pn**	**12 07 39.0**	**+0.1**
RND	**Reindeer**	**4.11**	**27**	IAML		12 08 45.7	
	comp=N,24nm,2.2s						
RND				IAML		12 09 16.0	
	comp=E,20nm,4.8s						
BMRM	**Bremner River**	**4.32**	**71**		**Pn**	**12 07 41.8**	**-0.1**
BMRM				IAML		12 08 37.9	
	comp=N,50nm,1.3s						
BMRM				IAML		12 08 44.5	
	comp=E,40nm,1.9s						
MCK	**McKinley**	**4.37**	**24**		**Pn**	**12 07 42.9**	**+0.3**
MCK	**McKinley**	**4.37**	**24**	IAML		12 09 01.0	
	comp=E,32nm,4.8s						
MCK				IAML		12 09 09.4	
	comp=N,30nm,3.3s						
MCK	**McKinley**	**4.37**	**24**	P	**Pn**	**12 07 42.9**	**+0.3**
	baz=208						
BPAW	**Bear Paw Mtn.**	**4.40**	**12**		**Pn**	**12 07 42.3**	**-0.6**
BPAW	**Bear Paw Mtn.**	**4.40**	**12**	IAML		12 08 16.3	
	comp=E,19nm,3.6s						
BPAW				IAML		12 09 20.3	
	comp=N,23nm,5.0s						
BPAW	**Bear Paw Mtn.**	**4.40**	**12**	P	**Pn**	**12 07 42.3**	**-0.6**
	baz=193						
J20K	**Nowinta River**	**4.41**	**353**	Pn	**Pn**	**12 07 43.2**	**+0.3**
J20K				IAML		12 10 14.7	
	comp=E,19nm,4.6s						
N25K	**Chitina, Valde**	**4.50**	**63**		**Pn**	**12 07 44.8**	**+0.6**
N25K				IAML		12 08 35.7	
	comp=N,43nm,0.5s						
N25K				IAML		12 08 35.7	
	comp=E,45nm,0.5s						
BWN	**Browne**	**4.67**	**19**	Pn	**Pn**	**12 07 46.9**	**+0.4**
BWN				IAML		12 09 21.2	
	comp=E,44nm,3.8s						
BWN				IAML		12 09 39.5	
	comp=N,53nm,3.1s						
PAX	**Paxson**	**4.80**	**46**		**Pn**	**12 07 48.6**	**+0.2**
PAX	**Paxson**	**4.80**	**46**	P	**Pn**	**12 07 48.6**	**+0.2**
	baz=232						
GLB	**Gilahina Butte**	**4.81**	**66**		**Pn**	**12 07 48.4**	**0.0**
GLB				IAML		12 08 42.7	
	comp=N,46nm,0.7s						
GLB				IAML		12 08 43.0	
	comp=E,29nm,0.9s						
VRDI	**Verde Repeater**	**4.92**	**69**	Pn	**Pn**	**12 07 50.4**	**+0.3**
VRDI				IAML		12 08 54.6	
	comp=E,27nm,3.1s						
VRDI				IAML		12 11 02.8	
	comp=N,35nm,3.5s						
PS10	**TAPS Pump St10**	**4.99**	**41**		**Pn**	**12 07 51.3**	**+0.4**
WAX	**Waxell Ridge**	**5.11**	**79**	Pn	**Pn**	**12 07 52.7**	**+0.1**
SNH	**Sunshine Point**	**5.11**	**82**	Pn	**Pn**	**12 07 52.7**	**+0.2**
NEA2	**Nenana**	**5.13**	**19**	Pn	**Pn**	**12 07 52.3**	**-0.4**
NEA2				IAML		12 08 36.2	
	comp=E,17nm,4.9s						
NEA2				IAML		12 09 45.8	
	comp=N,14nm,4.7s						
WRH	**Wood River Hil**	**5.20**	**24**		**Pn**	**12 07 53.1**	**-0.5**
WRH	**Wood River Hil**	**5.20**	**24**	IAML		12 10 11.7	
	comp=E,18nm,4.1s						
WRH				IAML		12 10 33.2	
	comp=N,17nm,5.0s						
ISLE	**Juniper Island**	**5.37**	**77**	Pn	**Pn**	**12 07 55.8**	**-0.3**
PTPK	**Patty Peak**	**5.38**	**71**		**Pn**	**12 07 56.3**	**-0.1**
KIAG	**Kiagna River**	**5.39**	**74**		**Pn**	**12 07 56.6**	**+0.1**
I21K	**Tanana**	**5.40**	**5**	Pn	**Pn**	**12 07 57.2**	**+0.9**
HDA	**Harding Lake**	**5.41**	**29**		**Pn**	**12 07 56.1**	**-0.4**
HDA	**Harding Lake**	**5.41**	**29**	P	**Pn**	**12 07 56.1**	**-0.4**
	baz=214						
CCB	**Clear Creek Bu**	**5.42**	**24**		**Pn**	**12 07 55.9**	**-0.7**
BALM	**Baldy**	**5.42**	**72**		**Pn**	**12 07 56.5**	**-0.2**
MENT	**Mentasta**	**5.45**	**51**	Pn	**Pn**	**12 07 57.3**	**+0.3**
M26K	**Nabesna, AK**	**5.50**	**58**	Pn	**Pn**	**12 07 58.4**	**+0.7**
RIDG	**Independent Ri**	**5.51**	**41**		**Pn**	**12 07 58.8**	**+0.9**
RIDG	**Independent Ri**	**5.51**	**41**	P	**Pn**	**12 07 57.9**	**-0.1**
	baz=228						
MESA	**MESA**	**5.56**	**82**	Pn	**Pn**	**12 07 59.4**	**+0.7**
TCOL	**CIGO, UAF Yank**	**5.60**	**23**		**Pn**	**12 07 59.3**	**+0.2**
TCOL	**CIGO, UAF Yank**	**5.60**	**23**	P	**Pn**	**12 07 59.3**	**+0.2**
	baz=208						
I23K	**Minto, Yukon-K**	**5.61**	**16**		**Pn**	**12 07 58.9**	**-0.2**
COLA	**College**	**5.61**	**23**		**Pn**	**12 07 58.7**	**-0.5**
MDM	**Murphy Dome**	**5.61**	**21**		**Pn**	**12 07 58.5**	**-0.7**
L26K	**Log Cabin Wild**	**5.64**	**51**	Pn	**Pn**	**12 07 59.7**	**+0.1**
YAH	**Yahtse**	**5.66**	**80**		**Pn**	**12 08 00.7**	**+0.6**
DOT	**Dot Lake**	**5.72**	**44**	Pn	**Pn**	**12 08 01.4**	**+0.7**
IL31		**5.72**	**27**		**Pn**	**12 08 00.0**	**-0.7**
ILAR	**Eielson Array**	**5.72**	**27**	P	**Pn**	**12 08 00.1**	**-0.7**
	comp=N,1.6nm,0.3s,baz=213,slow=14,SNR=65						
ILAR				S	**Sn**	**12 09 00.5**	**-4.5**
	comp=N,1.1nm,0.3s,baz=199,slow=17,SNR=8.2						
ILAR	**Eielson Array**	**5.72**	**27**	Pn	**Pn**	**12 08 00.4**	**-0.4**
BARN	**Barnard Glacie**	**5.75**	**73**		**Pn**	**12 08 02.7**	**+1.4**
CTGM	**Chitina Glacie**	**5.90**	**74**		**Pn**	**12 08 04.2**	**+0.9**
POKR	**Poker Plat Res**	**5.91**	**23**	Pn	**Pn**	**12 08 02.9**	**-0.4**
SCRK	**Sand Creek**	**5.96**	**42**		**Pn**	**12 08 04.0**	**0.0**
SCRK	**Sand Creek**	**5.96**	**42**	P	**Pn**	**12 08 04.0**	**0.0**
	baz=230						
TABL	**Table Mountain**	**5.96**	**79**	Pn	**Pn**	**12 08 04.8**	**+0.7**
M27K	**Edge Creek, AK**	**5.96**	**60**	Pn	**Pn**	**12 08 05.0**	**+0.8**
LOGN	**Logan Glacier**	**6.04**	**75**	Pn	**Pn**	**12 08 05.6**	**+0.3**
IM03		**6.20**	**357**		**Pn**	**12 08 07.0**	**0.0**
IMAR	**Indian Mountai**	**6.20**	**357**		**Pn**	**12 08 07.5**	**+0.4**
L27K	**Beaver Creek,**	**6.26**	**54**	Pn	**Pn**	**12 08 07.9**	**-0.2**
YUK2	**White River**	**6.27**	**66**		**Pn**	**12 08 08.6**	**+0.4**
BCAR	**Beaver Creek A**	**6.28**	**54**	Pn	**Pn**	**12 08 07.8**	**-0.6**
PCA	**Pinnacle**	**6.41**	**82**	Pn	**Pn**	**12 08 10.8**	**+0.6**
PINM	**Pinnacle**	**6.41**	**82**	P	**Pn**	**12 08 10.7**	**+0.6**
	baz=273						
J26L	**Joseph Creek**	**6.44**	**39**		**Pn**	**12 08 10.3**	**-0.3**
H24K	**Noodor Dome**	**6.47**	**19**	Pn	**Pn**	**12 08 10.6**	**-0.4**
PRP	**Porcupine Dome**	**6.67**	**28**		**Pn**	**12 08 13.9**	**+0.2**
COLD	**Coldfoot**	**7.54**	**8**	Pn	**Pn**	**12 08 25.0**	**-0.3**
FYU	**Fort Yukon**	**7.62**	**24**		**Pn**	**12 08 26.3**	**-0.1**
DAWY	**Dawson**	**7.69**	**51**	Pn	**Pn**	**12 08 27.0**	**-0.5**
BMAR	**Burnt Mountain**	**8.50**	**22**	Pn	**Pn**	**12 08 37.7**	**-0.7**
N31M	**Braeburn, Yukon**	**8.62**	**71**	Pn	**Pn**	**12 08 39.8**	**-0.2**
WHY	**Whitehorse**	**9.05**	**77**	Pn	**Pn**	**12 08 46.3**	**+0.3**
JIS	**Juneau Island**	**9.71**	**91**	Pn	**Pn**	**12 08 54.4**	**-0.4**
P33M	**Teslin, Yukon**	**10.10**	**79**	Pn	**Pn**	**12 09 00.6**	**+0.4**
DLBC	**Dease Lake**	**11.87**	**87**	P	**Pn**	**12 09 26.0**	**+2.1**
	baz=258,slow=9.3						
YKA	**Yellowknife Ar**	**18.52**	**65**	P	**P**	**12 10 46.9**	**+0.9**
	comp=N,0.1nm,0.3s,baz=278,slow=9.8,SNR=6.8						
PETK	**Petropavlovsk-**	**27.49**	**278**	P	**P**	**12 12 14.6**	**+0.4**
	comp=N,2.2nm,1.0s,baz=72,slow=13,SNR=8.7						
SONM	**Songino Array**	**54.90**	**306**	P	**P**	**12 15 58.5**	**+1.0**
	comp=N,0.3nm,0.7s,baz=45,slow=8.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**57.52**	**324**	P	**P**	**12 16 16.2**	**+0.3**
	comp=N,0.9nm,0.5s,baz=42,slow=6.8,SNR=3.8						
MKAR	**Makanchi Array**	**64.57**	**321**	P	**P**	**12 17 03.1**	**-0.6**
	comp=N,0.1nm,0.3s,baz=35,slow=7.9,SNR=2.0						

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*NEIC **24** 12:15:52.1±2.0, 24°.23S±0°.07×67°.4W±0°.2, h176km±9km, mb4.1/2, Md3.5(SJA), ML4.2(GUC), Error ellipse: s-maj=25.3km s-min=10.8km az=93.0*
*GUC **24** 12:15:52.2±0.5, 24°.06S×67°.54W, h222km±7km, ML4.2*
*IDC **24** 12:15:53.8±1.2, 23°.81S×67°.25W, h198km±13km, mb3.1/1, mb1 3.4/6, mb1mx3.2/31, mbtmp3.9/6, Error ellipse: s-maj=21.1km s-min=19.9km az=160.0*

ISC 24 12:15:52.5±0.8, 24°.06S±0°.06×67°.41W±0°.09, h199km±9km, n44, σ1°.33/56, 9C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.00**	**316**	P	**Pn**	**12 16 31.6**	**+0.2**
	15nm,0.3s,baz=144,slow=6.0,SNR=105						
LVC				S	**Sn**	**12 17 01.5**	**+0.1**
	46nm,0.3s,baz=359,slow=20,SNR=78						
LVC	**Limon Verde**	**2.00**	**316**	⇑*i*P	**Pn**	**12 16 31.4**	**+0.1**
LVC				*i* S	**Sn**	**12 17 01.4**	**-0.1**
LVC	**Limon Verde**	**2.00**	**316**	Pn	**Pn**	**12 16 31.7**	**+0.3**
PB15	**IPOC Station P**	**2.07**	**294**	⇑*i*P	**Pn**	**12 16 32.0**	**+0.1**
PB15				*i* S	**Sn**	**12 17 02.9**	**+0.3**
PB15	**IPOC Station P**	**2.07**	**294**	Pn	**Pn**	**12 16 32.1**	**+0.1**
PB06	**IPOC Station P**	**2.40**	**304**	⇑*i*P	**Pn**	**12 16 35.7**	**+0.3**
PB06				*i* S	**Sn**	**12 17 08.5**	**-0.3**
PB06				IAML		12 17 10.5	
	comp=N,600nm,0.3s						
PB06	**IPOC Station P**	**2.40**	**304**	Pn	**Pn**	**12 16 35.5**	**+0.1**
PB14	**IPOC Station P**	**2.79**	**258**	Pn	**Pn**	**12 16 38.4**	**-1.6**
PB09	**IPOC Station P**	**2.81**	**323**	⇑*i*P	**Pn**	**12 16 41.1**	**+1.0**
PB09				*i* S	**Sn**	**12 17 18.0**	**+0.6**
PB09	**IPOC Station P**	**2.81**	**323**	Pn	**Pn**	**12 16 41.3**	**+1.1**
PB10	**IPOC Station P**	**2.93**	**280**	⇑*i*P	**Pn**	**12 16 41.0**	**-0.2**
PB10				*i* S	**Sn**	**12 17 18.0**	**-1.4**
PB10				IAML		12 17 21.4	
	comp=N,221nm,0.6s						
PB10	**IPOC Station P**	**2.93**	**280**	Pn	**Pn**	**12 16 41.1**	**-0.2**
PB03	**IPOC Station P**	**2.94**	**312**	⇑*i*P	**Pn**	**12 16 41.8**	**+0.2**
PB03				*i* S	**Sn**	**12 17 19.3**	**-0.7**
PB03				IAML		12 17 23.5	
	comp=E,320nm,0.3s						
PB04	**IPOC Station P**	**3.05**	**304**	⇑*i*P	**Pn**	**12 16 42.9**	**0.0**
PB04				*i* S	**Sn**	**12 17 21.3**	**-0.9**
PB04				IAML		12 17 25.5	
	comp=N,368nm,0.7s						
PB04	**IPOC Station P**	**3.05**	**304**	Pn	**Pn**	**12 16 43.1**	**+0.2**
AC02	**Maricunga**	**3.17**	**209**	Pn	**Pn**	**12 16 41.6**	**-3.1**
PB07	**IPOC Station P**	**3.26**	**315**	⇑*i*P	**Pn**	**12 16 45.6**	**+0.2**
PB07				*i* S	**Sn**	**12 17 25.8**	**-0.9**
PB07	**IPOC Station P**	**3.26**	**315**	Pn	**Pn**	**12 16 45.6**	**+0.2**
PB01	**IPOC Station P**	**3.56**	**327**	*e*P	**Pn**	**12 16 48.9**	**-0.1**
PB01				*e*S	**Sn**	**12 17 32.6**	**-0.7**
PB01	**IPOC Station P**	**3.56**	**327**	Pn	**Pn**	**12 16 49.0**	**0.0**
PB02	**IPOC Station P**	**3.56**	**319**	⇑*i*P	**Pn**	**12 16 49.0**	**-0.1**
PB02				*i* S	**Sn**	**12 17 32.0**	**-1.3**
PB08	**IPOC Station P**	**4.22**	**337**	*e*P	**Pn**	**12 16 58.3**	**+0.8**
PB08				*e*S	**Sn**	**12 17 48.6**	**+0.2**
PB08	**IPOC

ADK	**Adak**	3.79	265	IAML		12 24 03.2
	comp=E,336nm,1.3s					
ADK				IAML		12 24 08.0
	comp=E,356nm,1.1s					
KIWB	**Kanaga Island**	4.08	265	Pn	Pn	12 23 10.5 +1.1
KIKV	**Kanaga Island**	4.09	266		Pn	12 23 08.6 -0.9
KIMD	**Kanaga Island**	4.15	264		Pn	12 23 10.2 -0.2
TAFP	**Tanaga Falls P**	4.58	267		Pn	12 23 15.5 -0.8
ISLZ	**Isanotski Laza**	4.73	57		Pn	12 23 17.9 -0.5
SPIA	**Saint Paul Isl**	4.83	2	Pn	Pn	12 23 21.7 +2.1
FALS	**False Pass**	4.94	57	Pn	Pn	12 23 21.2 0.0
SDPT	**Sand Point**	6.69	59	Pn	Pn	12 23 47.1 +2.1
CNBA	**Chernabura Isl**	6.99	65	Pn	Pn	12 23 48.1 -1.1
ANM	**Nome**	12.53	10	Pn	Pn	12 25 06.0 +1.1
ILAR	**Eielson Array**	17.38	35	P	Pn	12 26 07.1 -0.9
	baz=216,slow=10,SNR=2.1					
PETK	**Petropavlovsk-**	19.15	285	P	P	12 26 27.0 -1.0
	comp=E,0.5nm,0.3s,baz=244,slow=14,SNR=62					
PETK	**Petropavlovsk-**	19.15	285	P	P	12 26 28.1 0.0
EGAK	**Eagle**	19.51	39	P	P	12 26 32.7 +0.7
BMAR	**Burnt Mountain**	19.71	30	P	P	12 26 34.4 +0.3
SEY	**Seymchan**	22.13	313	P	P	12 26 59.1 -1.1
	comp=E,1.3nm,0.7s,baz=104,slow=9.1,SNR=9.1					
DLBC	**Dease Lake**	23.53	59	P	P	12 27 14.6 +0.1
	comp=E,1.2nm,0.9s,baz=179,slow=19,SNR=1.2					
INK	**Inuvik**	23.76	34	P	P	12 27 15.5 -1.0
	comp=E,2.1nm,0.7s,baz=196,slow=9.6,SNR=8.5					
INK				PcP	PcP	12 30 59.4 +1.0
	comp=E,0.9nm,0.7s,baz=276,slow=1.2,SNR=3.9					
YKA	**Yellowknife Ar**	30.81	49	P	P	12 28 19.4 -0.2
	comp=E,0.6nm,0.8s,baz=270,slow=8.5,SNR=9.3					
YKA				PcP	PcP	12 31 15.8 +0.4
	comp=E,0.6nm,0.8s,baz=292,slow=2.9,SNR=7.9					
NEW	**Newport**	33.73	75	P	P	12 28 45.9 +0.4
	comp=E,4.2nm,0.8s,baz=303,slow=6.8,SNR=13					
H11N2	**WAKE ISLAND Hy**	36.99	217	T	T	13 08 25.3
	baz=18,slow=76					
H11N3	**WAKE ISLAND Hy**	37.00	217	T	T	13 08 28.5
	baz=18,slow=76					
H11N1	**WAKE ISLAND Hy**	37.01	217	T	T	13 08 33.2
	baz=18,slow=76					
H11S1	**WAKE ISLAND Hy**	38.19	216	T	T	13 10 15.6
	baz=22,slow=76,SNR=149					
H11S2	**WAKE ISLAND Hy**	38.20	216	T	T	13 10 16.8
	baz=22,slow=76,SNR=150					
H11S3	**WAKE ISLAND Hy**	38.20	216	T	T	13 10 01.7
	baz=22,slow=76,SNR=107					
NVAR	**Mina Array Bea**	38.41	90	P	P	12 29 27.0 +1.3
	comp=E,0.9nm,0.8s,baz=303,slow=8.4,SNR=6.2					
ELK	**Elko**	38.87	85	P	P	12 29 29.7 +0.1
	comp=E,0.7nm,0.7s,baz=274,slow=9.8,SNR=4.2					
PDAR	**Pinedale Array**	41.13	78	P	P	12 29 48.9 +0.5
	comp=E,2.8nm,0.8s,baz=309,slow=4.1,SNR=28					
SPITS	**Spitsbergen Ar**	49.66	358	P	P	12 30 54.3 -0.7
	comp=E,11nm,1.0s,baz=11,slow=16,SNR=1.5					
SPITS				PcP	PcP	12 32 15.9 +0.4
	comp=E,8.0nm,0.9s,baz=349,slow=5.9,SNR=5.1					
DAG	**Danmarks Havn**	49.91	8	*i* P	P	12 30 56.1 -0.7
SONM	**Songino Array**	50.66	300	P	P	12 31 03.5 +0.3
	comp=E,0.5nm,0.3s,baz=49,slow=5.9,SNR=12					
SONM				PcP	PcP	12 32 19.8 0.0
	comp=E,1.5nm,0.9s,baz=356,slow=1.8,SNR=7.7					
TXAR	**Lajitas Array**	53.49	88	P	P	12 31 24.6 +0.2
	comp=E,2.1nm,0.9s,baz=295,slow=5.4,SNR=24					
SCHQ	**Schefferville**	55.95	43	P	P	12 31 42.2 +0.5
	comp=E,4.5nm,0.7s,baz=322,slow=8.6,SNR=7.0					
ZALV	**Zalesovo Beam**	56.92	317	PcP	PcP	12 32 43.5 +0.2
	comp=E,1.5nm,0.7s,baz=33,slow=5.5,SNR=5.5					
ARCES	**ARCESS Array B**	57.85	353	P	P	12 31 52.8 -2.1
	comp=E,4.2nm,0.9s,baz=34,slow=6.9,SNR=2.2					
KURBB	**Kurchatov Arra**	61.39	318	P	P	12 32 23.0 -0.5
	comp=E,1.3nm,0.2s,baz=45,slow=6.8,SNR=5.7					
MKAR	**Makanchi Array**	63.27	313	P	P	12 32 31.4 -0.8
	comp=E,0.4nm,0.4s,baz=54,slow=6.8,SNR=8.5					
BVAR	**Borovoye Array**	63.27	324	P	P	12 32 31.9 -0.1
	comp=E,1.8nm,0.7s,baz=61,slow=10,SNR=11					
BVAR				PcP	PcP	12 33 09.1 +0.2
	comp=E,1.1nm,0.6s,baz=52,slow=9.6,SNR=4.8					
ARU	**Arti**	64.28	332	P	P	12 32 38.7 0.0
	comp=E,0.6nm,0.4s,baz=310,slow=7.8,SNR=4.1					
FINES	**FINESS Array B**	65.77	351	P	P	12 32 47.4 -0.8
	comp=E,2.3nm,0.8s,baz=8.5,slow=7.3,SNR=6.5					
NB2	**NORSAR Subarra**	66.94	359	P	P	12 32 55.7 0.0
	comp=Z,1.0nm,0.9s,baz=359,slow=6.2					
AKTO	**Aktyubinsk**	69.64	329	P	P	12 33 11.2 -1.5
	comp=Z,1.8nm,0.8s,baz=57,slow=9.4,SNR=2.1					
AAK	**Ala-Archa**	69.98	315	P	P	12 33 15.3 +0.1
	comp=Z,1.3nm,0.6s,baz=210,slow=2.1,SNR=5.1					
CMAR	**Chiang Mai Arr**	75.89	282	P	P	12 33 50.7 +0.5
	comp=Z,4.4nm,0.9s,baz=24,slow=7.1,SNR=21					
DZM	**Mont Dzumac**	76.78	202	P	P	12 33 55.6 +0.5
	comp=Z,2.4nm,0.7s,baz=99,slow=19,SNR=1.5					
OSTC	**Ostas**	77.30	356	*eP*	P	12 33 59.0 +1.3
DPC	**Dobruska-Polom**	77.50	355	*eP*	P	12 33 59.6 +0.7
KRLC	**Kraliky**	77.75	355	*eP*	P	12 34 00.9 +0.6
PRU	**Pruhonice**	77.93	357	*eP*	P	12 34 02.0 +0.7
KHC	**Kasperske Hory**	78.82	357	*eP*	P	12 34 06.9 +0.7
GERES	**GERESS Array B**	79.11	357	P	P	12 34 08.2 +0.3
	comp=Z,1.1nm,0.7s,baz=1,9,slow=4.0,SNR=9.8					
CKRC	**Cesky Krumlov**	79.11	357	*eP*	P	12 34 08.7 +0.9
CONA	**Conrad Observa**	79.94	356	*eP*	P	12 34 13.9 +1.5
	comp=Z,3.1nm,0.8s					
ARSA	**Arzberg**	80.63	356	*eP*	P	12 34 16.9 +0.8
	comp=Z,3.3nm,0.9s					
MOTA	**Moosalm**	80.66	359	*eP*	P	12 34 17.1 +0.7
	comp=Z,1.7nm,0.6s					
WTTA	**Wattenberg**	80.74	358	*eP*	P	12 34 17.8 +1.0
	comp=Z,1.6nm,0.6s					
SQTA	**Sankt Quirin**	80.78	359	*eP*	P	12 34 18.5 +1.5
	comp=Z,2.8nm,0.7s					
KBA	**Koelnbreinsper**	80.88	357	*eP*	P	12 34 19.5 +1.9
	comp=Z,6.0nm,0.7s					
FETA	**Feichten**	80.99	359	*eP*	P	12 34 19.8 +1.7
	comp=Z,2.9nm,0.9s					
SOKA	**Soboth**	81.22	356	*eP*	P	12 34 20.5 +1.2
	comp=Z,4.6nm,1.1s					
ABTA	**Abfaltersbach**	81.23	358	*eP*	P	12 34 22.8 +3.5
	comp=Z,2.6nm,0.9s					
OBKA	**Obir**	81.41	356	*eP*	P	12 34 21.5 +1.2
	comp=Z,5.0nm,1.0s					
WRA	**Warramunga Arr**	86.42	231	P	P	12 34 44.8 -1.2
	comp=Z,0.5nm,0.8s,baz=36,slow=6.1,SNR=5.2					
ESDC	**Sonseca Array**	87.60	10	P	P	12 34 51.5 -0.1
	comp=Z,1.3nm,0.8s,baz=355,slow=4.1,SNR=8.5					
ASAR	**Alice Springs**	89.82	229	P	P	12 35 02.1 0.0
	comp=Z,1.6nm,0.9s,baz=28,slow=4.8,SNR=11					
H03N2	**Juan Fernandez**	116.61	111	T	T	14 48 06.7
	baz=318,slow=77,SNR=13					
H03N1	**Juan Fernandez**	116.63	111	T	T	14 48 19.8
	baz=318,slow=77,SNR=40					
H03N3	**Juan Fernandez**	116.63	111	T	T	14 48 05.0
	baz=318,slow=77,SNR=17					

*IDC **24** 12:27:08.3±1.1,4°.15S×129°.40E,h0km,mb4.0/7, mb1 4.0/11,mb1mx3.6/50,mbtmp3.9/11,ML3.3/4,Error ellipse: s-maj=37.8km s-min=21.7km az=80.0*
*DJA **24** 12:27:12.0±1.5,4°.5±7°×12°.9E±°,h19km±11km,M3.6/7, MLv3.6/7*
*NEIC **24** 12:27:15.2±1.5,4°.10S±0°.09×129°.6E±0°.1,h53km±9km, mb3.6/12,Error ellipse: s-maj=20.6km s-min=12.7km az=83.0*
ISC 24 12:27:13.2±0.6,4°.10S±0°.06×129°.44E±0°.05,h36km,n34, σ1°.03/37,mb4.1/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	0.91	325	P	Pn	12 27 28.3	-1.1
MSAI				S	Sn	12 27 39.9	-1.4
AAI	**Ambon**	1.31	288	P	Pn	12 27 34.3	-0.7
AAI				S	Sn	12 27 50.9	-0.3
FAKI	**Fak Fak**	3.04	67	P	Pn	12 27 58.6	-0.1
FAKI	**Fak Fak**	3.04	67		Pn	12 27 58.2	-0.5
SIJI	**Sorong**	3.69	30	Pn	Pn	12 28 07.7	0.0
	4.3nm,0.3s,baz=187,slow=22,SNR=58						
SIJI				Sn	Sn	12 28 48.2	-1.7
	12nm,0.3s,baz=346,slow=24,SNR=10						
SWI	**Sorong**	3.69	29	P	Pn	12 28 07.8	+0.1
SANI	**Sanana**	4.01	300	P	Pn	12 28 12.4	+0.4
MTN	**Manton Dam**	8.85	169	Pn	Pn	12 29 20.4	+1.9
KNRA	**Kununurra**	11.53	183	Pn	Pn	12 29 55.2	-0.1
FITZ	**Fitzroy Crossi**	14.40	195	Pn	Pn	12 30 32.9	-1.7
	0.0nm,0.3s,baz=17,slow=17,SNR=1.3						
WB0	**Warramunga Arr**	16.30	163	Pn	Pn	12 30 57.6	-2.0
WB0				IAmb	IAmb	12 31 26.2	
	comp=Z,3.0nm,0.9s						
WRAB	**Tennant Creek**	16.45	163	Pn	Pn	12 31 00.3	-1.1
WRAB				IAmb	IAmb	12 31 03.1	
	comp=Z,2.3nm,0.9s						
WRA	**Warramunga Arr**	16.46	164	Pn	Pn	12 30 58.6	-2.9
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	16.46	164	Pn	Pn	12 31 01.2	-0.3
WB2	**Warramunga Arr**	16.46	163	Pn	Pn	12 31 00.1	-1.3
WR0	**Warramunga Arr**	16.53	163	Pn	Pn	12 31 01.3	-1.0
WR0				IAmb	IAmb	12 31 21.3	
	comp=Z,3.7nm,1.1s						
COEN	**Coen**	16.72	127		Pn	12 31 04.6	-0.1
COEN				IAmb	IAmb	12 31 05.0	
	comp=Z,9.0nm,1.2s						
AS31	**Alice Springs**	19.92	168	P	P	12 31 42.4	+0.4
ASAR	**Alice Springs**	19.93	168	P	P	12 31 42.3	+0.2
	comp=Z,0.2nm,0.3s,baz=351,slow=11,SNR=20						
ASAR	**Alice Springs**	19.93	168	P	P	12 31 42.0	-0.1
CTAO	**Charters Tower**	22.82	136	P	P	12 32 13.2	-0.1
TOO	**Toolangi**	36.41	158	P	P	12 34 13.5	-0.8
CMAR	**Chiang Mai Arr**	37.49	308	P	P	12 34 24.2	+0.4
	comp=Z,1.0nm,0.7s,baz=133,slow=6.7,SNR=5.4						
MK31	**Makanchi Array**	65.51	326	P	P	12 37 53.6	+0.7
MK31				IAmb	IAmb	12 37 54.7	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array**	65.51	326	P	P	12 37 53.8	+0.8
	comp=Z,1.3nm,0.4s,baz=113,slow=7.7,SNR=34						
MKAR	**Makanchi Array**	65.51	326	P	P	12 37 53.4	+0.5
MAKZ	**Makanchi**	65.70	326	P	P	12 37 54.4	+0.3
MAKZ				IAmb	IAmb	12 38 04.7	
	comp=Z,1.2nm,0.8s						
ZALV	**Zalesovo Beam**	68.75	334	P	P	12 38 13.6	+0.3
	comp=Z,0.4nm,0.4s,baz=123,slow=5.3,SNR=2.0						
SEY	**Seymchan**	69.08	11	P	P	12 38 16.4	+1.2
	comp=Z,0.8nm,0.3s,baz=226,slow=6.9,SNR=6.1						
KURBB	**Kurchatov Arra**	69.77	328	P	P	12 38 20.4	+0.8
	comp=Z,2.5nm,0.7s,baz=130,slow=5.7,SNR=25						
KURK	**Kurchatov**	69.77	328	P	P	12 38 20.0	+0.3
BVAR	**Borovoye Array**	75.33	328	P	P	12 38 53.6	+0.9
	comp=Z,1.2nm,0.9s,baz=108,slow=3.2,SNR=3.8						
ABKAR	**Akbulak array**	79.91	321	P	P	12 39 18.9	+0.6
AKTO	**Aktyubinsk**	81.45	322	P	P	12 39 27.0	+0.4
	comp=Z,1.2nm,0.7s,baz=79,slow=5.2,SNR=3.6						

LSZ 24 12:30:55.4±0.3,12°.12S×30°.80E,h10km,MD3.3,ML3.7, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMZ	**Kasama**	1.99	12	*i* P	Pn	12 31 29.2	-0.1
KSMZ				*i*		12 31 29.2	
	baz=192,slow=14						
KSMZ				AMP		12 31 29.4	
	comp=Z,730nm,0.1s						
KSMZ				*i* S	Sn	12 31 53.8	-0.5
KSMZ	**Kasama**	1.99	12	*i* P	Pn	12 31 29.2	-0.1
KSMZ				*i*		12 31 29.2	
	baz=192,slow=14						
KSMZ				AMP		12 31 29.4	
	comp=Z,730nm,0.1s						
KSMZ				*i* S	Sn	12 31 53.8	-0.5
KRI	**Karoi**	4.82	194	*i* P	Pg	12 32 32.4	+4.6
KRI	**Karoi**	4.82	194	*i* P	Pg	12 32 32.4	+4.6
BLWY	**Bulawayo**	8.24	194	*i* P	Pb	12 33 12.4	-6.0
BLWY				*i* S	Sg	12 35 42.5	+22
BLWY	**Bulawayo**	8.24	194	*i* P	Pb	12 33 12.4	-6.0
BLWY				*i* S	Sg	12 35 42.5	+22

*IDC **24** 12:37:39.6±0.9,59°.73N×153°.23W,h97km±10km,mb4.2/16, mb1 4.2/20,mb1mx3.9/54,mbtmp4.5/20,Error ellipse: s-maj=10.6km s-min=9.7km az=107.0*
*NEIC **24** 12:37:41±1.1,59°.73N±0°.03×153°.17W±0°.05,h110km±4km, Error ellipse: s-maj=4.8km s-min=3.9km az=179.0*
*AEIC **24** 12:37:42±1.2,59°.72N±0°.03×153°.17W±0°.06,h107km±4km, ML4.4,mb4.6/15(NEIC),ML4.5/106(NEIC),Error ellipse: s-maj=4.6km s-min=3.7km az=68.0*
ISC 24 12:37:40.8±0.5,59°.72N±0°.03×153°.11W±0°.03, h111km±5km,n322,σ0°.91/336,mb4.5/35,36C-60D,Fault plane solution: NP1:ϕ±50.21512°,δ45.91679°, λ8.81289°. NP2:ϕ±314.05896°,δ83.68157°,λ135.57668°. Principal axes: T Plg34.7332°, Azm261.9748°; N Plg45.2227°, Azm127.6519°; P Plg24.4637°, Azm10.3609°; **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	0.09	222		Pn	12 37 56.4	+0.2
OPT	**Oil Point**	0.09	222	P	Pn	12 37 56.4	+0.2
	baz=27						
AU22	**Augustine Moun**	0.37	200		Pn	12 37 57.3	+0.3
AU22					Sn	12 38 09.3	+0.1
AUL	**Augustine Lava**	0.38	206		Pn	12 37 57.4	+0.4
AUL					Sn	12 38 09.5	+0.3
AUH	**Augustine H**	0.40	205		Pn	12 37 57.6	+0.4
AGU	**Augustine-Summ**	0.40	204		Pn	12 37 57.6	+0.3
AUQ	**Augustine Qik'**	0.40	203		Pn	12 37 57.6	+0.4
O20K	**Slope Mountain**	0.44	34		Pn	12 37 57.8	+0.3
O20K					Sn	12 38 10.4	+0.4
O20K	**Slope Mountain**	0.44	34	P	Pn	12 37 57.8	+0.3
	baz=217						
O20K				S	Sn	12 38 10.4	+0.4
	baz=217						
RED	**Redoubt Volcan**	0.72	14		Pn	12 37 59.7	+0.2
RED					Sn	12 38 13.3	-0.4
HOM	**Homer**	0.75	94		Pn	12 37 59.9	+0.3
HOM				IAML		12 38 16.0	
	comp=E,20μm,0.4s						
HOM				IAML		12 38 16.8	
	comp=N,19μm,0.4s						
HOM	**Homer**	0.75	94		Sn	12 38 15.1	+1.3
HOM	**Homer**	0.75	94	P	Pn	12 38 00.3	+0.7
	baz=275						
HOM				S	Sn	12 38 15.1	+1.3
	baz=275						
RSO	**Redoubt South**	0.77	13		Pn	12 38 00.3	+0.2
O19K	**Port Alsworth**	0.77	309		Pn	12 37 59.8	0.0
O19K				IAML		12 38 14.3	
	comp=N,25μm,0.5s						
O19K				IAML		12 38 15.1	
	comp=E,24μm,0.5s						
O19K	**Port Alsworth**	0.77	309		Sn	12 38 13.5	-0.6
O19K	**Port Alsworth**	0.77	309	P	Pn	12 37 59.7	-0.1
	baz=129						
O19K				S	Sn	12 38 13.5	-0.6
	baz=129						
Q19K	**Cape Douglas,**	0.84	199	Pn	Pn	12 38 00.8	+0.3
Q19K				IAML		12 38 19.4	
	comp=E,9μm,0.8s						
Q19K				IAML		12 38 21.1	
	comp=N,13μm,0.9s						
Q19K	**Cape Douglas,**	0.84	199		Sn	12 38 15.6	+0.2
Q19K	**Cape Douglas,**	0.84	199	P	Pn	12 38 00.6	+0.1
	baz=17						
Q19K				S	Sn	12 38 15.6	+0.2
	baz=17						
NCT	**North Crescent**	0.85	6		Pn	12 38 00.9	+0.2
NCT					Sn	12 38 15.3	-0.3
DFR	**Drift River**	0.90	13		Pn	12 38 01.4	+0.3
DFR					Sn	12 38 16.5	-0.1
CNPM	**China Poot**	0.97	101		Pn	12 38 01.8	0.0
CNPM				IAML		12 38 18.7	
	comp=N,12μm,0.4s						
CNPM				IAML		12 38 18.8	
	comp=E,6μm,0.6s						
CNPM	**China Poot**	0.97	101		Sn	12 38 17.7	0.0
O18K	**Koktuh Hills**	1.07	278	Pn	Pn	12 38 02.2	-0.6
O18K	**Koktuh Hills**	1.07	278		Sn	12 38 18.7	-0.7
O18K	**Koktuh Hills**	1.07	278	P	Pn	12 38 02.6	-0.2
	baz=97						
O18K				S	Sn	12 38 18.7	-0.7
	baz=97						
BRLK	**Bradley Lake**	1.13	87		Pn	12 38 03.3	-0.2
P18K	**Big Mountain,**	1.13	254		Pn	12 38 02.8	-0.6
P18K	**Big Mountain,**	1.13	254		Sn	12 38 19.4	-1.2
P18K	**Big Mountain,**	1.13	254	P	Pn	12 38 03.1	-0.4
	baz=72						
P18K				S	Sn	12 38 19.4	-1.2
	baz=72						
BRSE	**Bradley Lake S**	1.20	88		Pn	12 38 04.3	+0.1
BRSE	**Bradley Lake S**	1.20	88	P	Pn	12 38 04.3	+0.1
	baz=270						
N19K	**Bonanza Creek**	1.29	329		Pn	12 38 05.4	+0.1
N19K					Sn	12 38 23.1	-0.8
N19K	**Bonanza Creek**	1.29	329	P	Pn	12 38 05.4	+0.1
	baz=149						
N19K				S	Sn	12 38 23.1	-0.8
	baz=149						
CAPN	**Captain Cook N**	1.43	42		Pn	12 38 07.6	+0.8
CAPN	**Captain Cook N**	1.43	42	P	Pn	12 38 08.8	+2.0
	baz=224						
SPCR	**Spurr Chakacha**	1.55	16		Pn	12 38 08.7	+0.4
SPCR	**Spurr Chakacha**	1.55	16	P	Pn	12 38 08.7	+0.4
	baz=198						
SPU	**Mount Spurr**	1.56	19		Pn	12 38 08.6	+0.3
SPBG	**Spurr Blockage**	1.59	13		Pn	12 38 09.5	+0.7
SLKM	**Skilak Lake**	1.65	60		Pn	12 38 09.7	+0.2
SPCG	**Spurr Capps Gl**	1.67	18		Pn	12 38 10.3	+0.5
KCG	**Knife Ck. Glac**	1.75	217		Pn	12 38 11.2	+0.4
KABU	**Katmai Buttres**	1.84	219		Pn	12 38 12.5	+0.7
SVW2	**Sparrevohn**	1.85	319		Pn	12 38 11.3	-0.5
SVW2				IAML		12 39 00.4	
	comp=N,4μm,1.0s						
O22K	**Cooper Landing**	1.86	64		Pn	12 38 12.5	+0.5
O22K				IAML		12 38 38.4	
	comp=E,8μm,0.4s						
O22K	**Cooper Landing**	1.86	64	P	Pn	12 38 12.5	+0.5
	baz=248						
SEW	**Seward**	1.88	77	Pn	Pn	12 38 12.5	+0.3
SEW	**Seward**	1.88	77	P	Pn	12 38 12.5	+0.3
	baz=260						
STLK	**Strandline Lak**	1.89	19		Pn	12 38 13.2	+0.8
KDAK	**Kodiak Island**	1.96	172	P	Pn	12 38 12.7	-0.6
	comp=E,166nm,0.3s,baz=38,slow=7.2,SNR=462						
KDAK				S	Sn	12 38 36.3	-1.9
	comp=E,172nm,0.3s,baz=302,slow=21,SNR=6.7						
KDAK	**Kodiak Island**	1.96	172	Pn	Pn	12 38 12.4	-0.9
FIS	**Fire Island**	2.02	44		Pn	12 38 15.9	+1.9
FIS				IAML		12 38 45.9	
	comp=N,5μm,0.7s						
FIS				IAML		12 38 50.7	
	comp=E,5μm,0.9s						
RC01	**Rabbit Creek A**	2.17	49		Pn	12 38 16.4	+0.5
RC01				IAML		12 38 44.6	
	comp=E,7μm,0.3s						
RC01	**Rabbit Creek A**	2.17	49	P	Pn	12 38 16.3	+0.5
	baz=232						
OHAK	**Old Harbor**	2.51	182	Pn	Pn	12 38 19.5	-0.8
OHAK	**Old Harbor**	2.51	182	P	Pn	12 38 19.5	-0.8
	baz=1.4						
L19K	**White Mountain**	2.61	342		Pn	12 38 21.8	+0.1
L19K	**White Mountain**	2.61	342	P	Pn	12 38 21.7	+0.1
	baz=161						
PWL	**Port Wells**	2.64	62		Pn	12 38 21.8	-0.3
PWL	**Port Wells**	2.64	62	P	Pn	12 38 21.7	-0.3
	baz=247						
PLK1	**Peulik 1**	2.65	225		Pn	12 38 23.0	+0.8
L20K	**Farewell, AK**	2.79	353		Pn	12 38 24.6	+0.5
L20K	**Farewell, AK**	2.79	353	P	Pn	12 38 24.6	+0.5
	baz=173						
KNK	**Knik Glacier**	2.86	52		Pn	12 38 24.6	-0.3
KNK	**Knik Glacier**	2.86	52	P	Pn	12 38 24.6	-0.3
	baz=236						
GHO	**Glory Hole Cre**	2.91	43		Pn	12 38 25.6	0.0
GHO	**Glory Hole Cre**	2.91	43	IAML		12 39 01.3	
	comp=N,3μm,0.4s						
CUT	**Chulitna**	3.03	26		Pn	12 38 27.7	+0.6
CUT				IAML		12 39 07.3	
	comp=E,2μm,0.5s						
CUT				IAML		12 39 07.8	
	comp=N,3μm,0.4s						
CUT	**Chulitna**	3.03	26	P	Pn	12 38 27.4	+0.3
	baz=209						
SML	**Sawmill**	3.14	46		Pn	12 38 28.4	-0.3
SML				IAML		12 39 06.7	
	comp=N,2μm,0.7s						
SML				IAML		12 39 13.0	
	comp=E,2μm,0.7s						
SML	**Sawmill**	3.14	46	P	Pn	12 38 28.3	-0.4
	baz=231						
GLI	**Glacier Island**	3.21	66		Pn	12 38 28.5	-1.1
GLI	**Glacier Island**	3.21	66	IAML		12 39 06.4	
	comp=N,2μm,0.5s						
GLI	**Glacier Island**	3.21	66	P	Pn	12 38 28.5	-1.1
	baz=252						
PPLA	**Purkeypile**	3.22	8		Pn	12 38 30.9	+1.2
PPLA	**Purkeypile**	3.22	8	P	Pn	12 38 30.9	+1.2
	baz=189						
SII	**Sitkinak Islan**	3.22	191		Pn	12 38 28.8	-0.9
SII				IAML		12 39 08.2	
	comp=E,996nm,0.6s						
SII				IAML		12 39 09.8	
	comp=N,702nm,0.7s						
SII	**Sitkinak Islan**	3.22	191	P	Pn	12 38 28.8	-0.9
	baz=9.2						
Q23K	**Middleton Isla**	3.45	92		Pn	12 38 33.2	+0.5
Q23K	**Middleton Isla**	3.45	92	IAML		12 39 19.6	
	comp=N,777nm,0.5s						
Q23K				IAML		12 39 20.1	
	comp=E,610nm,1.0s						
Q23K	**Middleton Isla**	3.45	92	P	Pn	12 38 33.2	+0.5
	baz=278						
MID	**Middleton Isla**	3.46	92	Pn	Pn	12 38 33.2	+0.4
MID				IAML		12 39 19.5	
	comp=E,672nm,0.5s						
MID				IAML		12 39 19.9	
	comp=N,667nm,0.7s						
FID	**Port

BMRM Bremner River 4.41 70 Pn Pn 12 38 46.0 +0.4
BMRM IAML 12 39 36.0
comp=E,913nm,0.3s
BMRM IAML 12 39 56.5
comp=N,655nm,0.6s
BMRM Bremner River 4.41 70 P Pn 12 38 44.7 -0.8
baz=257
PS11 TAPS Pump St11 4.42 54 Pn 12 38 46.0 +0.4
CHGN Chignik 4.44 222 Pn 12 38 45.8 -0.2
CHGN Chignik 4.44 222 IAML 12 39 36.4
comp=N,214nm,0.3s
CHGN IAML 12 39 37.6
comp=E,265nm,0.3s
CHGN Chignik 4.44 222 P Pn 12 38 45.7 -0.2
baz=37
HMT Hamilton 4.48 78 Pn 12 38 47.3 +0.8
MCK McKinley 4.49 24 Pn 12 38 47.0 +0.3
MCK McKinley 4.49 24 IAML 12 39 41.3
comp=N,316nm,0.9s
MCK IAML 12 39 41.7
comp=E,322nm,0.4s
MCK McKinley 4.49 24 P Pn 12 38 46.9 +0.3
baz=208
J20K Nowinta River 4.50 354 Pn Pn 12 38 47.3 +0.6
J20K Nowinta River 4.50 354 P Pn 12 38 46.9 +0.2
baz=174
BPAW Bear Paw Mtn. 4.51 12 Pn 12 38 47.1 +0.2
BPAW Bear Paw Mtn. 4.51 12 P Pn 12 38 46.6 -0.3
baz=194
N25K Chitina, Valde 4.59 62 Pn 12 38 48.8 +0.6
N25K IAML 12 39 41.3
comp=N,544nm,0.3s
N25K Chitina, Valde 4.59 62 P Pn 12 38 48.0 -0.2
baz=250
NICHA Nichawak Mount 4.62 80 Pn 12 38 48.5 +0.1
HARP HAARP 4.71 52 Pn 12 38 49.8 +0.2
HARP HAARP 4.71 52 P Pn 12 38 49.8 +0.2
baz=239
SUCK Suckling Hills 4.71 82 Pn 12 38 51.2 +1.5
SUCK IAML 12 39 45.1
comp=N,508nm,0.7s
SUCK IAML 12 39 49.5
comp=E,355nm,0.9s
BERG Berg Lake 4.76 78 Pn 12 38 50.7 +0.3
BWN Browne 4.79 20 Pn 12 38 51.5 +0.9
BWN Browne 4.79 20 IAML 12 40 20.7
comp=E,345nm,0.9s
BWN IAML 12 40 25.2
comp=N,439nm,1.0s
GLB Gilahina Butte 4.90 65 Pn Pn 12 38 52.7 +0.4
GLB IAML 12 39 48.7
comp=N,689nm,0.9s
GLB IAML 12 39 49.1
comp=E,455nm,0.4s
PAX Paxson 4.91 45 Pn 12 38 52.5 +0.1
PAX Paxson 4.91 45 P Pn 12 38 52.5 +0.1
baz=232
GRIN Grindle Hills 4.95 79 Pn 12 38 53.6 +0.7
KHIT Khitrov Hills 4.99 77 Pn 12 38 53.2 -0.3
VRDI Verde Repeater 5.01 68 Pn Pn 12 38 53.9 +0.1
VRDI IAML 12 39 51.4
comp=N,585nm,0.5s
VRDI IAML 12 39 51.9
comp=E,304nm,0.4s
PS10 TAPS Pump St10 5.11 40 Pn 12 38 55.7 +0.7
SNH Sunshine Point 5.18 80 Pn 12 38 57.1 +1.0
SNH IAML 12 39 56.3
comp=N,388nm,0.6s
SNH IAML 12 39 57.6
comp=E,387nm,0.5s
WAX Waxell Ridge 5.19 77 Pn 12 38 56.5 +0.4
WAX IAML 12 39 58.5
comp=E,590nm,0.6s
NEA2 Nenana 5.24 19 Pn 12 38 56.9 +0.1
NEA2 Nenana 5.24 19 P Pn 12 38 56.6 -0.2
baz=203
WRH Wood River Hil 5.32 24 Pn 12 38 57.4 -0.3
WRH IAML 12 39 57.0
comp=E,144nm,0.5s
WRH IAML 12 40 00.2
comp=N,120nm,1.0s
GCSA Galena City Sc 5.34 342 Pn 12 38 58.1 0.0
GCSA Galena City Sc 5.34 342 P Pn 12 38 58.1 0.0
baz=159
ISLE Juniper Island 5.45 76 Pn 12 39 00.5 +0.7
KIAG Kiagna River 5.48 73 Pn 12 39 01.0 +0.9
BALM Baldy 5.50 72 Pn 12 39 00.5 +0.1
I21K Tanana 5.50 5 Pn 12 39 00.3 0.0
HDA Harding Lake 5.52 29 Pn 12 39 00.9 +0.3
HDA Harding Lake 5.52 29 P Pn 12 39 00.2 -0.4
baz=215
CCB Clear Creek Bu 5.53 24 Pn 12 39 00.1 -0.5
MENT Mentasta 5.55 50 Pn 12 39 01.7 +0.7
BAGL Bagley Icefiel 5.57 77 Pn 12 39 02.2 +1.0
M26K Nabesna, AK 5.60 57 Pn 12 39 02.8 +1.2
M26K Nabesna, AK 5.60 57 P Pn 12 39 02.8 +1.2
baz=246
RIDG Independent Ri 5.63 41 Pn 12 39 03.8 +1.8
RIDG Independent Ri 5.63 41 P Pn 12 39 02.2 +0.2
baz=228
MESA MESA 5.63 81 Pn 12 39 03.5 +1.4
MESA MESA 5.63 81 P Pn 12 39 03.1 +0.9
baz=270
PS08 TAPS Pump Stn8 5.67 29 Pn 12 39 02.1 -0.4
I23K Minto, Yukon-K 5.72 16 Pn 12 39 03.7 +0.6
I23K Minto, Yukon-K 5.72 16 P Pn 12 39 02.9 -0.2
baz=200
TCOL CIGO, UAF Yank 5.72 23 Pn 12 39 03.3 +0.1
TCOL CIGO, UAF Yank 5.72 23 P Pn 12 39 02.9 -0.3
baz=208
COLA College 5.72 23 Pn 12 39 03.3 +0.1
MDM Murphy Dome 5.73 21 Pn 12 39 03.4 +0.1
YAH Yahtse 5.73 79 Pn 12 39 04.8 +1.2
L26K Log Cabin Wild 5.74 51 Pn 12 39 04.3 +0.7
L26K Log Cabin Wild 5.74 51 P Pn 12 39 04.3 +0.7
baz=239
BARN Barnard Glacie 5.83 72 Pn 12 39 06.1 +1.1
DOT Dot Lake 5.83 44 Pn 12 39 05.0 +0.2
IL31 5.84 27 Pn 12 39 05.0 +0.2
ILAR Eielson Array 5.84 27 P Pn 12 39 04.2 -0.6
comp=N,46nm,0.3s,baz=214,slow=13,SNR=987
ILAR S **Sn 12 40 08.7 -1.7**
comp=N,34nm,0.3s,baz=138,slow=17,SNR=2.7
ILAR Eielson Array 5.84 27 Pn Pn 12 39 04.8 -0.1
SDPT Sand Point 5.91 225 Pn Pn 12 39 05.0 -0.8
H21K Melozitna Rive 5.96 1 Pn 12 39 06.6 +0.1
CTGM Chitina Glacie 5.98 73 Pn 12 39 08.1 +1.2
POKR Poker Plat Res 6.02 24 Pn 12 39 07.0 -0.3
POKR Poker Plat Res 6.02 24 P Pn 12 39 07.0 -0.3
baz=209
TABL Table Mountain 6.04 78 Pn 12 39 08.5 +0.8
PS07 TAPS Pump Stn7 6.04 20 Pn 12 39 07.5 +0.1
CNBA Chernabura Isl 6.04 218 Pn Pn 12 39 08.0 +0.4
CHX Chaix Hills 6.05 82 Pn 12 39 08.7 +0.9
M27K Edge Creek, AK 6.06 59 Pn 12 39 08.9 +0.9
M27K Edge Creek, AK 6.06 59 P Pn 12 39 08.9 +0.9
baz=249
SCRK Sand Creek 6.07 41 Pn 12 39 07.3 -0.7
SCRK Sand Creek 6.07 41 P Pn 12 39 07.3 -0.7
baz=230
SAMH Samovar Hills 6.21 81 Pn 12 39 11.6 +1.6
IM03 6.29 358 Pn 12 39 11.2 +0.2
IMAR Indian Mountai 6.29 358 Pn Pn 12 39 11.6 +0.7
PS06 TAPS Pump Stn6 6.35 13 Pn 12 39 12.2 +0.5
YUK2 White River 6.36 66 Pn 12 39 12.8 +0.8
L27K Beaver Creek, 6.37 53 Pn 12 39 12.2 +0.2
BC03 6.39 53 Pn 12 39 13.2 +1.0
BCAR Beaver Creek A 6.39 53 Pn Pn 12 39 13.2 +0.9
PS4A Pavlof South-4 6.43 231 Pn 12 39 13.5 +0.6
PCA Pinnacle 6.48 81 Pn 12 39 14.5 +0.9
PINM Pinnacle 6.48 81 P Pn 12 39 14.5 +0.9
baz=272
BVCY Beaver Creek 6.53 60 Pn 12 39 14.8 +0.6
BVCY Beaver Creek 6.53 60 P Pn 12 39 14.8 +0.6
baz=251
YUK3 Moose Creek 6.53 66 Pn 12 39 15.2 +0.8
YUK3 Moose Creek 6.53 66 P Pn 12 39 15.2 +0.8
baz=257
J26L Joseph Creek 6.56 39 Pn 12 39 13.7 -1.0
H24K Noodor Dome 6.59 19 Pn Pn 12 39 14.7 -0.3
H24K Noodor Dome 6.59 19 P Pn 12 39 14.4 -0.6
baz=204
DT1 Dutton Round H 6.77 231 Pn 12 39 18.2 +0.7
PRP Porcupine Dome 6.78 28 Pn 12 39 17.5 -0.2

PRP Porcupine Dome 6.78 28 P Pn 12 39 17.5 -0.2
baz=215
BCPM Bancas Point 6.80 82 Pn 12 39 18.4 +0.6
YKU2 Yakutat 6.82 86 Pn Pn 12 39 20.4 +2.2
PNL Peninsula 6.94 85 Pn 12 39 20.2 +0.4
PNL Peninsula 6.94 85 P Pn 12 39 20.2 +0.4
baz=276
PS05 TAPS Pump Stn5 7.20 8 Pn 12 39 23.9 +0.6
FALS False Pass 7.41 233 Pn Pn 12 39 23.7 -2.4
FALS False Pass 7.41 233 P Pn 12 39 26.5 +0.4
baz=44
ANM Nome 7.51 315 Pn 12 39 28.2 +0.7
ANM Nome 7.51 315 P Pn 12 39 28.2 +0.7
baz=125
EGAK Eagle 7.53 43 Pn 12 39 26.9 -0.8
ISLZ Isanotski Laza 7.62 234 Pn 12 39 28.9 -0.2
COLD Coldfoot 7.65 9 Pn Pn 12 39 29.4 +0.1
COLD Coldfoot 7.65 9 P Pn 12 39 28.6 -0.6
baz=191
FYU Fort Yukon 7.73 24 Pn 12 39 30.5 +0.1
DAWY Dawson 7.80 50 Pn Pn 12 39 31.8 +0.4
DAWY Dawson 7.80 50 P Pn 12 39 31.3 -0.1
baz=242
M30M Minto, Yukon 8.39 63 Pn 12 39 39.7 +0.3
M30M Minto, Yukon 8.39 63 P Pn 12 39 39.7 +0.3
baz=257
J29M Klondike Camp 8.44 49 Pn 12 39 40.0 0.0
J29M Klondike Camp 8.44 49 P Pn 12 39 40.0 0.0
baz=243
BM03 Burnt Mountain 8.60 22 Pn 12 39 40.4 -1.8
BMAR Burnt Mountain 8.61 22 Pn Pn 12 39 41.3 -1.1
BM01 Burnt Mountain 8.64 23 Pn 12 39 41.2 -1.5
N31M Braeburn, Yuko 8.70 71 Pn 12 39 44.5 +0.8
N31M Braeburn, Yuko 8.70 71 P Pn 12 39 44.4 +0.7
baz=266
TNA Tin City 8.97 317 Pn 12 39 47.8 +0.6
TNA Tin City 8.97 317 P Pn 12 39 47.8 +0.6
baz=124
SKAG Skagway 9.02 84 Pn 12 39 48.6 +0.7
SKAG Skagway 9.02 84 P Pn 12 39 48.6 +0.7
baz=279
WHY Whitehorse 9.13 76 Pn 12 39 49.6 +0.1
WHY Whitehorse 9.13 76 P Pn 12 39 49.6 +0.1
baz=272
M31M Drury Creek, Y 9.43 67 Pn 12 39 54.1 +0.6
M31M Drury Creek, Y 9.43 67 P Pn 12 39 54.1 +0.6
baz=263
BESE Bessie Mountai 9.45 89 Pn 12 39 55.4 +1.7
SIT Sitka 9.71 98 Pn Pn 12 39 57.4 +0.1
JIS Juneau Island 9.77 90 Pn 12 39 58.9 +0.9
EPYK Eagle Plains 9.96 41 Pn 12 40 01.2 +0.5
P33M Teslin, Yukon 10.18 78 Pn Pn 12 40 05.0 +1.3
WRAK Wrangell Islan 11.47 98 Pn Pn 12 40 21.2 +0.3
CRAG Craig 11.52 103 Pn Pn 12 40 23.2 +1.6
DLBC Dease Lake 11.93 86 P Pn 12 40 28.4 +1.3
comp=N,9.5nm,0.3s,baz=228,slow=12,SNR=89
DLBC S **Sn 12 42 38.0 -0.2**
comp=N,1.3nm,0.3s,baz=144,slow=24,SNR=5.8
DLBC Dease Lake 11.93 86 Pn 12 40 29.8 +2.7
INK Inuvik 12.10 36 P Pn 12 40 25.5 -3.6
comp=N,1.1nm,0.3s,baz=233,slow=16,SNR=39
INK S **Sn 12 42 38.8 -3.1**
comp=N,0.4nm,0.3s,baz=169,slow=29,SNR=1.3
INK Inuvik 12.10 36 Pn 12 40 26.1 -3.1
DIB Dawson Inlet, 13.11 111 Pn P 12 40 45.7 -2.8
GRNB Grenville Isla 13.94 105 Pn Pn 12 40 53.5 +0.2
ADK Adak 15.33 250 P P 12 41 12.9 -0.2
ADK IAmb IAmb 12 41 36.1
comp=Z,62nm,1.3s
C36M Paulatuk 15.59 40 Pn 12 41 11.9 -2.1
C36M IAmb IAmb 12 41 25.8
comp=Z,24nm,0.4s
BBB Bella Bella 15.83 107 P Pn 12 41 17.2 +0.1
comp=Z,0.1nm,0.3s,baz=61,slow=23,SNR=1.2
BBB S **Sn 12 44 10.6 -1.5**
comp=Z,0.3nm,0.3s,baz=92,slow=16,SNR=5.8
A36M Sachs Harbour 16.53 31 Pn Pn 12 41 25.3 -0.2
A36M IAmb IAmb 12 41 28.4
comp=Z,40nm,0.8s
YKA Yellowknife Ar 18.62 65 P Pn 12 41 50.8 0.0
comp=Z,1.6nm,0.3s,baz=277,slow=9.8,SNR=233
YKA PcP **PcP 12 46 13.6 +0.8**
comp=Z,0.1nm,0.3s,baz=282,slow=1.5,SNR=10
YKA ScP **ScP 12 49 39.0 +1.2**
comp=Z,0.1nm,0.3s,baz=286,slow=2.4,SNR=21
BILL Bilibino 19.36 312 P P 12 41 57.2 0.0
RES Resolute Bay 25.57 32 P P 12 42 58.5 -0.3
comp=Z,1.4nm,0.8s,baz=232,slow=8.4,SNR=4.8
RES Resolute Bay 25.57 32 P P 12 42 59.0 +0.2
SEY Seymchan 25.68 301 P P 12 42 59.3 -0.7
comp=Z,1.8nm,0.5s,baz=71,slow=7.5,SNR=8.4
PETK Petropavlovsk- 27.44 278 P P 12 43 15.3 -0.5
comp=Z,5.8nm,0.8s,baz=73,slow=13,SNR=33
NVAR Mina Array Bea 30.64 118 P P 12 43 45.5 +1.0
comp=Z,0.2nm,0.6s,baz=312,slow=11,SNR=2.1
NVAR PcP **PcP 12 46 40.3 +0.3**
comp=Z,0.4nm,0.6s,baz=304,slow=1.8,SNR=4.2
ASAJ Asahikawa 40.85 277 P P 12 45 11.4 +0.1
comp=Z,6.3nm,0.7s,baz=57,slow=12,SNR=6.4
SPITS Spitsbergen Ar 42.20 3 P P 12 45 22.4 +0.5
comp=Z,5.9nm,0.9s,baz=26,slow=4.1,SNR=7.1
KLR Kul'dur 42.59 291 P P 12 45 25.1 -0.2
comp=Z,1.2nm,0.3s,baz=29,slow=9.0,SNR=6.5
SCHQ Schefferville 43.76 57 P P 12 45 35.5 +0.8
comp=Z,1.8nm,0.4s,baz=324,slow=7.3,SNR=14
NRIK Noril'sk 44.12 334 P P 12 45 37.4 0.0
comp=Z,5.0nm,0.5s,baz=70,slow=5.6,SNR=10.0
NRIK Noril'sk 44.12 334 P P 12 45 37.9 +0.5
NRIK IAmb IAmb 12 45 38.4
comp=Z,6.0nm,0.6s
TXAR Lajitas Array 44.94 110 P P 12 45 44.6 +0.1
comp=Z,0.1nm,0.5s,baz=348,slow=8.3,SNR=2.2
TXAR ScP **ScP 12 51 07.2 +1.5**
comp=Z,0.3nm,0.7s,baz=276,slow=2.4,SNR=3.7
BNX BinXian 47.14 290 ⇑P P 12 46 02.3 +0.8
BNX pmax pmax
comp=Z,45nm,1.2s
BNX pmax pmax
comp=Z,620nm,3.6s
MJAR Matsushiro Arr 48.74 274 P P 12 46 13.4 -0.6
comp=Z,4.5nm,0.9s,baz=16,slow=7.9,SNR=6.0
CN2 Changchun 49.52 290 eP P 12 46 19.0 -0.7
CN2 pmax pmax
comp=Z,50nm,0.6s
KSRS Korea Array 53.19 283 P P 12 46 47.4 +0.3
comp=Z,6.7nm,0.6s,baz=40,slow=7.0,SNR=22
XLT XiLinHaoTe 53.81 296 eP P 12 46 52.1 +0.4
XLT pP pP 12 47 18.6 +0.2
XLT sP sP 12 47 31.9 +1.1
XLT PcP **PcP 12 47 56.4 +0.4**
XLT PcS **PcS 12 51 49.3 -6.1**
XLT sS sS 12 55 09.1 +6.0
XLT pmax pmax
comp=Z,14nm,0.7s
XLT pmax pmax
comp=Z,430nm,6.4s
XLT LR LR
comp=N,2μm,21.1s
XLT LR LR
comp=E,1μm,16.8s
XLT LR LR
comp=Z,2μm,22.7s
ULN Ulaanbaatar 54.61 306 P P 12 46 58.3 +0.8
SONM Songino Array 54.91 306 P P 12 47 00.1 +0.4
comp=Z,13nm,0.7s,baz=44,slow=6.6,SNR=93
SONM Songino Array 54.91 306 P P 12 47 00.7 +1.0
ZAA0 Zalesovo Array 57.57 324 P P 12 47 18.3 0.0
ZALV Zalesovo Beam 57.57 324 P P 12 47 18.8 +0.5
comp=Z,17nm,0.5s,baz=33,slow=6.9,SNR=74
ZALV Zalesovo Beam 57.57 324 P P 12 47 18.2 -0.1
HHC Hu-ho-hao-te 58.26 297 eP P 12 47 24.0 +0.5
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,400nm,8.3s
FINES FINESS Array B 59.16 0 P P 12 47 29.0 -0.2
comp=Z,2.1nm,0.9s,baz=345,slow=10,SNR=1.8
HNS HongShan 59.60 293 ⇑P P 12 47 32.8 +0.2
HNS pmax pmax
comp=Z,13nm,0.8s
NJ2 Nanjing 61.96 286 eP P 12 47 49.1 +0.5
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KURK Kurchatov 62.23 326 P P 12 47 50.2 0.0
KURK IAmb IAmb 12 47 50.8
comp=Z,5.4nm,0.6s
BRVK Borovoye 62.28 332 P P 12 47 50.8 +0.3
BRVK IAmb IAmb 12 47 51.1
comp=Z,5.5nm,0.7s
GTA Gaotai 64.54 305 ⇓P P 12 48 06.3 +0.5
GTA pP pP 12 48 29.9 -3.4
GTA sP sP 12 48 44.6 -0.9
GTA pmax pmax
comp=Z,11nm,1.0s
MK31 Makanchi Array 64.61 321 P P 12 48 05.8 -0.1
MKAR Makanchi Array 64.61 321 P P 12 48 05.0 -1.0
comp=Z,2.1nm,0.5s,baz=170,slow=0.7,SNR=4.0
MKAR Makanchi Array 64.61 321 P P 12 48 05.6 -0.4
MAKZ Makanchi 64.70 321 P P 12 48 05.8 -0.7
MAKZ IAmb IAmb 12 48 07.0
comp=Z,3.9nm,1.0s
XAN Xi'an 65.04 295 P P 12 48 08.8 -0.1
XAN pP pP 12 48 38.4 +1.9
XAN pmax pmax
comp=Z,12nm,0.8s
WMQ Urumqi 65.42 316 eP P 12 48 15.3 +4.0
LZH Lanzhou 65.61 300 eP P 12 48 13.3 +0.5
LZH pmax pmax
comp=Z,41nm,0.9s
ABKAR Akbulak array 68.10 337 P P 12 48 28.1 0.0
ABKAR Akbulak array 68.10 337 P P 12 48 28.1 0.0
ABKAR IAmb IAmb 12 48 28.8
comp=Z,2.5nm,0.7s
GOMU GeErMu 69.34 307 P P 12 48 37.8 +1.3
GOMU S S 12 57 24.0 -10
GOMU GeErMu 69.34 307 SS SS 13 02 09.3 +7.0
GOMU pmax pmax
comp=Z,2.0nm,0.8s
GOMU LR LR
comp=N,520nm,18.0s
GOMU LR LR
comp=E,230nm,18.2s
GOMU LR LR
comp=Z,750nm,19.4s
CRVS Cervenica-Dubn 71.64 4 eP P 12 48 49.2 -0.6
KSH Kashi 73.16 322 P P 12 49 03.3 +4.2
KSH pmax pmax
comp=Z,3.0nm,0.8s
PZH PanZhiHua 74.69 296 P P 12 49 10.3 +2.1
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
SLVN Son La 78.13 292 P P 12 49 27.7 +0.1
SLVN IAmb IAmb 12 49 29.0
comp=Z,10nm,0.6s
CMAR Chiang Mai Arr 82.93 295 P P 12 49 52.0 -1.2
comp=Z,2.5nm,0.5s,baz=16,slow=6.0,SNR=9.8
CMAR Chiang Mai Arr 82.93 295 P P 12 49 53.1 -0.1
CTA Charters Tower 93.49 235 P P 12 50 43.8 +0.2
comp=Z,2.4nm,0.8s,baz=18,slow=3.7,SNR=7.0
BOSA Boshof 148.88 3 PKPbc PKPbc 12 57 14.5 -0.5
comp=Z,1.7nm,0.4s,baz=356,slow=3.5,SNR=18
BOSA Boshof 148.88 3 PKPbc 12 57 15.2 +0.1

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*IDC **24** 12:43:14.4±1.9, 59°.77N×153°.26W, h97km±32km, mb3.7/5, mb1 3.6/10, mb1mx3.2/45, mbtmp3.9/10 Error ellipse: s-maj=34.0km s-min=15.2km az=121.0*
*AEIC **24** 12:43:15±1.0, 59°.77N±0°.04×153°.07W±0°.06, h105km±4km, ML3.3, ML3.6/92(NEIC), Error ellipse: s-maj=5.1km s-min=4.6km az=173.0*
*NEIC **24** 12:43:15.3±0.9, 59°.80N±0°.03×153°.08W±0°.06, h105km±5km, Error ellipse: s-maj=4.8km s-min=4.7km az=193.0*

ISC 24 12:43:14.9±0.8, **59°.78N**±0°.04×**153°.04W**±0°.04, **h109**km±5km, **n183**, σ0°.83/190, **mb3.9**/5, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.16**	**217**		**Pn**	**12 43 30.0**	**-0.2**
OPT	**Oil Point**	**0.16**	**217**	P	**Pn**	**12 43 30.0**	**-0.2**
baz=34							
O20K	**Slope Mountain**	**0.36**	**35**		**Pn**	**12 43 30.9**	**-0.1**
O20K					**Sn**	**12 43 42.9**	**-0.1**
O20K	**Slope Mountain**	**0.36**	**35**	P	**Pn**	**12 43 30.9**	**-0.1**
baz=216							
O20K				S	**Sn**	**12 43 42.9**	**-0.1**
baz=216							
AU22	**Augustine Moun**	**0.45**	**202**		**Pn**	**12 43 31.5**	**+0.2**
AUL	**Augustine Lava**	**0.45**	**207**		**Pn**	**12 43 31.4**	**+0.1**
AUL					**Sn**	**12 43 43.5**	**-0.2**
AUQ	**Augustine Qik'**	**0.47**	**204**		**Pn**	**12 43 31.5**	**0.0**
RED	**Redoubt Volcan**	**0.65**	**12**		**Pn**	**12 43 32.7**	**-0.2**
RED					**Sn**	**12 43 45.5**	**-0.9**
RSO	**Redoubt South**	**0.70**	**12**		**Pn**	**12 43 33.3**	**-0.1**
HOM	**Homer**	**0.72**	**99**		**Pn**	**12 43 33.6**	**+0.3**
HOM					**Sn**	**12 43 47.5**	**+0.4**
HOM	**Homer**	**0.72**	**99**	IAML		12 43 49.3	
comp=E,2μm,0.7s							
HOM				IAML		12 43 49.4	
comp=N,2μm,1.1s							
HOM	**Homer**	**0.72**	**99**	P	**Pn**	**12 43 33.6**	**+0.3**
baz=279							
HOM				S	**Sn**	**12 43 47.5**	**+0.4**
baz=279							
O19K	**Port Alsworth**	**0.77**	**303**	Pn	**Pn**	**12 43 33.4**	**-0.3**
O19K				IAML		12 43 47.6	
comp=N,4μm,0.4s							
O19K				IAML		12 43 48.8	
comp=E,3μm,0.5s							
O19K	**Port Alsworth**	**0.77**	**303**		**Sn**	**12 43 47.0**	**-0.9**
O19K	**Port Alsworth**	**0.77**	**303**	P	**Pn**	**12 43 33.4**	**-0.3**
baz=124							
O19K				S	**Sn**	**12 43 47.0**	**-0.9**
baz=124							
NCT	**North Crescent**	**0.78**	**4**		**Pn**	**12 43 33.7**	**-0.3**
NCT					**Sn**	**12 43 47.6**	**-0.8**
DFR	**Drift River**	**0.83**	**12**		**Pn**	**12 43 34.3**	**-0.1**
DFR					**Sn**	**12 43 48.6**	**-0.6**
Q19K	**Cape Douglas,**	**0.91**	**200**	Pn	**Pn**	**12 43 35.2**	**0.0**
CNPM	**China Poot**	**0.95**	**105**		**Pn**	**12 43 35.5**	**0.0**
CNPM					**Sn**	**12 43 50.8**	**-0.3**
CNPM	**China Poot**	**0.95**	**105**	IAML		12 43 52.1	
comp=N,915nm,0.4s							
CNPM				IAML		12 43 52.1	
comp=E,1μm,0.2s							
BRLK	**Bradley Lake**	**1.09**	**90**		**Pn**	**12 43 36.8**	**-0.1**
BRLK	**Bradley Lake**	**1.09**	**90**	IAML		12 43 54.4	
comp=E,1μm,0.2s							
BRLK				IAML		12 43 55.0	
comp=N,1μm,0.1s							
O18K	**Koktuh Hills**	**1.10**	**275**		**Pn**	**12 43 36.7**	**-0.3**
O18K					**Sn**	**12 43 52.8**	**-1.1**
O18K	**Koktuh Hills**	**1.10**	**275**	P	**Pn**	**12 43 36.7**	**-0.3**
baz=94							
O18K				S	**Sn**	**12 43 52.8**	**-1.1**
baz=94							
BRSE	**Bradley Lake S**	**1.16**	**91**		**Pn**	**12 43 37.6**	**-0.1**
BRSE					**Sn**	**12 43 54.5**	**-0.5**
BRSE	**Bradley Lake S**	**1.16**	**91**	P	**Pn**	**12 43 37.6**	**-0.1**
baz=272							
BRSE				S	**Sn**	**12 43 54.5**	**-0.5**
baz=272							
P18K	**Big Mountain,**	**1.18**	**252**		**Pn**	**12 43 37.3**	**-0.7**
P18K	**Big Mountain,**	**1.18**	**252**	P	**Pn**	**12 43 37.5**	**-0.5**
baz=70							
P18K				S	**Sn**	**12 43 54.2**	**-1.3**
baz=70							
N19K	**Bonanza Creek**	**1.26**	**326**		**Pn**	**12 43 38.8**	**-0.2**
N19K	**Bonanza Creek**	**1.26**	**326**	IAML		12 43 44.0	
comp=N,98nm,0.6s							
N19K				IAML		12 43 44.4	
comp=E,135nm,0.4s							
N19K	**Bonanza Creek**	**1.26**	**326**	P	**Pn**	**12 43 38.7**	**-0.2**
baz=146							
CAPN	**Captain Cook N**	**1.36**	**43**		**Pn**	**12 43 42.1**	**+2.2**
CAPN	**Captain Cook N**	**1.36**	**43**	P	**Pn**	**12 43 41.7**	**+1.8**
baz=224							
SPCR	**Spurr Chakacha**	**1.48**	**16**		**Pn**	**12 43 41.5**	**+0.1**
SPCR	**Spurr Chakacha**	**1.48**	**16**	P	**Pn**	**12 43 41.5**	**+0.1**
baz=197							
SPU	**Mount Spurr**	**1.49**	**19**		**Pn**	**12 43 41.5**	**+0.1**
SPBG	**Spurr Blockage**	**1.52**	**12**		**Pn**	**12 43 42.3**	**+0.4**
SLKM	**Skilak Lake**	**1.58**	**61**		**Pn**	**12 43 43.1**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.59**	**18**		**Pn**	**12 43 43.2**	**+0.3**
O22K	**Cooper Landing**	**1.80**	**66**		**Pn**	**12 43 45.5**	**+0.3**
O22K	**Cooper Landing**	**1.80**	**66**	P	**Pn**	**12 43 45.5**	**+0.3**
baz=248							

STLK Strandline Lak 1.82 18 Pn 12 43 46.2 +0.6
SVW2 Sparrevohn 1.82 317 Pn 12 43 45.2 -0.4
KCG Knife Ck. Glac 1.83 217 Pn 12 43 45.9 +0.2
SEW Seward 1.83 78 Pn 12 43 45.5 -0.1
SEW Seward 1.83 78 P **Pn 12 43 45.5 -0.1**
baz=261
FIS Fire Island 1.95 44 Pn 12 43 49.1 +2.0
FIS IAML 12 44 17.6
comp=E,507nm,1.1s
FIS IAML 12 44 23.8
comp=N,479nm,0.6s
KDAK Kodiak Island 2.02 173 P **Pn 12 43 47.6 -0.4**
comp=N,22nm,0.3s,baz=34,slow=7.0,SNR=24
KDAK S **Sn 12 44 12.4 -1.0**
comp=N,52nm,0.3s,baz=176,slow=23,SNR=12
KDAK Kodiak Island 2.02 173 IAML 12 44 14.5
comp=N,587nm,0.4s
RC01 Rabbit Creek A 2.10 50 Pn 12 43 49.3 +0.3
RC01 Rabbit Creek A 2.10 50 IAML 12 44 15.6
comp=N,564nm,0.2s
RC01 Rabbit Creek A 2.10 50 P **Pn 12 43 49.3 +0.3**
baz=233
L19K White Mountain 2.56 341 Pn 12 43 55.0 -0.1
L19K White Mountain 2.56 341 P **Pn 12 43 55.0 -0.1**
baz=160
OHAK Old Harbor 2.57 183 Pn 12 43 54.2 -0.9
OHAK Old Harbor 2.57 183 IAML 12 44 25.5
comp=N,201nm,0.3s
OHAK IAML 12 44 34.9
comp=E,154nm,0.4s
OHAK Old Harbor 2.57 183 P **Pn 12 43 54.2 -0.9**
baz=2.4
PWL Port Wells 2.58 63 Pn **Pn 12 43 55.0 -0.3**
PWL Port Wells 2.58 63 P **Pn 12 43 54.6 -0.6**
baz=247
KNK Knik Glacier 2.79 52 Pn **Pn 12 43 58.6 +0.6**
KNK Knik Glacier 2.79 52 P **Pn 12 43 57.5 -0.5**
baz=236
GHO Glory Hole Cre 2.84 44 Pn 12 43 58.4 -0.3
GHO IAML 12 44 32.4
comp=N,295nm,0.4s
GHO IAML 12 44 33.9
comp=E,258nm,0.4s
CUT Chulitna 2.95 26 Pn 12 44 01.5 +1.3
CUT IAML 12 44 40.0
comp=E,258nm,0.7s
SML Sawmill 3.07 47 Pn **Pn 12 44 01.3 -0.5**
SML IAML 12 44 38.7
comp=N,180nm,0.6s
SML IAML 12 44 45.0
comp=E,156nm,0.6s
SML Sawmill 3.07 47 P **Pn 12 44 01.6 -0.2**
baz=231
PPLA Purkeypile 3.15 7 Pn 12 44 04.0 +1.1
PPLA Purkeypile 3.15 7 P **Pn 12 44 04.0 +1.1**
baz=188
GLI Glacier Island 3.15 67 Pn **Pn 12 44 02.5 -0.3**
GLI IAML 12 44 38.2
comp=N,221nm,0.6s
GLI Glacier Island 3.15 67 P **Pn 12 44 02.5 -0.3**
baz=252
SII Sitkinak Islan 3.29 191 Pn **Pn 12 44 04.8 +0.1**
SII IAML 12 45 14.2
comp=E,203nm,3.2s
FID Port Fidalgo 3.41 71 Pn 12 44 05.1 -1.1
FID IAML 12 44 44.0
comp=E,209nm,0.2s
JPK Jack Peak 3.44 65 Pn 12 44 06.5 -0.2
TT01 Tatalina 3.45 337 Pn 12 44 06.5 -0.2
TTA Tatalina 3.47 337 Pn 12 44 06.7 -0.4
TTA Tatalina 3.47 337 P **Pn 12 44 06.7 -0.4**
baz=155
SCM Sheep Creek Mo 3.47 51 Pn 12 44 07.5 +0.4
SCM IAML 12 44 47.2
comp=E,154nm,0.4s
SCM IAML 12 44 51.0
comp=N,147nm,0.8s
SCM Sheep Creek Mo 3.47 51 P **Pn 12 44 06.8 -0.3**
baz=236
K20K Telida 3.62 353 Pn 12 44 09.2 +0.1
CAST Castle Rocks 3.68 7 Pn 12 44 10.8 +1.0
EYAK Cordova Ski Ar 3.72 75 Pn **Pn 12 44 10.1 -0.3**
EYAK Cordova Ski Ar 3.72 75 P **Pn 12 44 10.5 +0.1**
baz=261
DIV Divide 3.84 66 Pn **Pn 12 44 12.4 +0.3**
KLU Klutina 3.90 61 Pn 12 44 12.2 -0.6
KLU Klutina 3.90 61 P **Pn 12 44 12.2 -0.6**
baz=247
TRF Thorofare Moun 3.91 18 Pn 12 44 13.1 +0.1
TRF Thorofare Moun 3.91 18 IAML 12 45 00.5
comp=N,52nm,0.5s
TRF IAML 12 46 44.9
comp=E,48nm,4.6s
TRF Thorofare Moun 3.91 18 P **Pn 12 44 13.1 +0.1**
baz=201
KTH Kantishna Hill 3.92 14 Pn **Pn 12 44 13.6 +0.5**
M24K Tolsona, Glenn 4.08 52 Pn 12 44 15.4 +0.2
M24K Tolsona, Glenn 4.08 52 IAML 12 45 18.6
comp=E,114nm,1.3s
M24K Tolsona, Glenn 4.08 52 P **Pn 12 44 15.4 +0.2**
baz=238
CHUM Lake Minchumin 4.13 4 Pn 12 44 16.6 +0.8
CHUM Lake Minchumin 4.13 4 P **Pn 12 44 16.6 +0.8**
baz=185
RND Reindeer 4.15 27 Pn **Pn 12 44 16.9 +0.8**
RND IAML 12 45 23.8
comp=E,37nm,1.0s
BMRM Bremner River 4.35 71 Pn 12 44 19.4 +0.5
BMRM Bremner River 4.35 71 IAML 12 45 07.8
comp=E,78nm,0.3s
BMRM IAML 12 45 08.4
comp=N,59nm,0.4s
BMRM Bremner River 4.35 71 P **Pn 12 44 19.4 +0.5**
baz=258
MCK McKinley 4.42 24 Pn **Pn 12 44 20.3 +0.6**
MCK IAML 12 45 12.6
comp=E,30nm,0.4s
MCK IAML 12 45 13.1
comp=N,30nm,0.9s
MCK McKinley 4.42 24 P **Pn 12 44 20.3 +0.6**
baz=208
BPAW Bear Paw Mtn. 4.44 12 Pn **Pn 12 44 20.8 +0.8**
BPAW Bear Paw Mtn. 4.44 12 P **Pn 12 44 20.2 +0.2**
baz=194
J20K Nowinta River 4.44 354 Pn **Pn 12 44 20.4 +0.4**
CHGN Chignik 4.51 222 Pn **Pn 12 44 20.8 -0.2**
CHGN IAML 12 46 09.6
comp=N,50nm,2.9s
CHGN IAML 12 47 13.3
comp=E,51nm,2.8s
N25K Chitina, Valde 4.53 63 Pn 12 44 22.1 +0.8
N25K IAML 12 45 13.6
comp=E,80nm,0.6s
N25K IAML 12 45 13.8
comp=N,58nm,0.5s
N25K Chitina, Valde 4.53 63 P **Pn 12 44 22.0 +0.6**
baz=250
BWN Browne 4.71 19 Pn **Pn 12 44 25.4 +1.7**
BWN IAML 12 45 18.6
comp=N,57nm,2.7s
BWN IAML 12 45 24.1
comp=E,42nm,3.6s
GLB Gilahina Butte 4.84 66 Pn 12 44 26.1 +0.6
GLB Gilahina Butte 4.84 66 IAML 12 45 23.1
comp=N,31nm,0.8s
GLB IAML 12 45 47.0
comp=E,35nm,3.7s
PAX Paxson 4.84 45 Pn 12 44 26.6 +1.0
PAX Paxson 4.84 45 P **Pn 12 44 25.7 +0.1**
baz=232
KHIT Khitrov Hills 4.94 78 Pn 12 44 26.6 -0.3
VRDI Verde Repeater 4.95 69 Pn **Pn 12 44 27.5 +0.4**
VRDI IAML 12 47 22.8
comp=N,40nm,3.6s
VRDI IAML 12 47 31.4
comp=E,26nm,4.1s
PS10 TAPS Pump St10 5.04 40 Pn 12 44 28.5 +0.4
SNH Sunshine Point 5.14 81 Pn **Pn 12 44 30.1 +0.6**
WAX Waxell Ridge 5.14 78 Pn **Pn 12 44 30.4 +0.9**
NEA2 Nenana 5.17 19 Pn **Pn 12 44 30.3 +0.4**
NEA2 IAML 12 45 15.8
comp=N,24nm,4.9s
NEA2 IAML 12 48 04.9
comp=E,16nm,0.4s
WRH Wood River Hil 5.25 24 Pn **Pn 12 44 30.9 0.0**
WRH IAML 12 45 24.0
comp=N,20nm,4.9s
WRH IAML 12 46 30.2
comp=E,19nm,4.8s
ISLE Juniper Island 5.40 77 Pn **Pn 12 44 33.3 +0.2**
KIAG Kiagna River 5.42 73 Pn 12 44 33.9 +0.4
I21K Tanana 5.44 5 Pn **Pn 12 44 33.8 +0.3**
BALM Baldy 5.45 72 Pn 12 44 33.7 -0.1
HDA Harding Lake 5.45 29 Pn 12 44 34.2 +0.6
HDA Harding Lake 5.45 29 P **Pn 12 44 34.2 +0.6**
baz=214
CCB Clear Creek Bu 5.46 24 Pn 12 44 33.5 -0.2
MENT Mentasta 5.49 51 Pn **Pn 12 44 34.4 +0.2**
M26K Nabesna, AK 5.53 57 Pn 12 44 35.8 +0.9
M26K Nabesna, AK 5.53 57 P **Pn 12 44 35.8 +0.9**
baz=246
RIDG Independent Ri 5.55 41 Pn 12 44 35.7 +0.5
RIDG Independent Ri 5.55 41 P **Pn 12 44 35.7 +0.5**
baz=228
MESA MESA 5.58 81 Pn 12 44 35.5 -0.1
MESA MESA 5.58 81 P **Pn 12 44 35.5 -0.1**
baz=271
PS08 TAPS Pump Stn8 5.59 29 Pn 12 44 36.3 +0.7
I23K Minto, Yukon-K 5.65 16 Pn **Pn 12 44 36.5 +0.2**
I23K Minto, Yukon-K 5.65 16 P **Pn 12 44 36.5 +0.2**
baz=199
TCOL CIGO, UAF Yank 5.65 23 Pn 12 44 36.8 +0.5
TCOL CIGO, UAF Yank 5.65 23 P **Pn 12 44 36.3 0.0**
baz=208
COLA College 5.65 23 Pn 12 44 36.4 +0.1
MDM Murphy Dome 5.65 21 Pn **Pn 12 44 36.4 0.0**
L26K Log Cabin Wild 5.68 51 Pn **Pn 12 44 37.2 +0.4**
L26K Log Cabin Wild 5.68 51 P **Pn 12 44 35.9 -0.8**
baz=239
YAH Yahtse 5.69 79 Pn 12 44 38.0 +0.9
DOT Dot Lake 5.76 44 Pn **Pn 12 44 38.5 +0.6**
IL31 5.77 27 Pn 12 44 37.2 -0.7
ILAR Eielson Array 5.77 27 P **Pn 12 44 37.6 -0.3**
comp=E,2.2nm,0.3s,baz=210,slow=13,SNR=8.4
ILAR S **Sn 12 45 38.1 -4.6**
comp=E,2.6nm,0.3s,baz=276,slow=4.3,SNR=9.3
BARN Barnard Glacie 5.78 72 Pn 12 44 39.2 +0.9
CTGM Chitina Glacie 5.93 73 Pn 12 44 41.8 +1.6
POKR Poker Plat Res 5.95 23 Pn **Pn 12 44 40.6 +0.2**
TABL Table Mountain 5.99 79 Pn 12 44 42.2 +1.2
SCRK Sand Creek 6.00 42 Pn **Pn 12 44 42.0 +0.8**
SCRK Sand Creek 6.00 42 P **Pn 12 44 41.4 +0.3**
baz=230
IM03 6.23 357 Pn 12 44 44.9 +0.7
IMAR Indian Mountai 6.23 357 Pn **Pn 12 44 45.0 +0.8**
YUK2 White River 6.30 66 Pn 12 44 45.6 +0.3
PCA Pinnacle 6.43 82 Pn **Pn 12 44 48.1 +1.1**
PINM Pinnacle 6.43 82 P **Pn 12 44 48.2 +1.2**
baz=273
BVCY Beaver Creek 6.46 61 Pn 12 44 48.3 +0.9
BVCY Beaver Creek 6.46 61 P **Pn 12 44 48.3 +0.9**
baz=251
YUK3 Moose Creek 6.47 67 Pn 12 44 48.1 +0.3
YUK3 Moose Creek 6.47 67 P **Pn 12 44 48.1 +0.3**
baz=256
H24K Noodor Dome 6.52 19 Pn **Pn 12 44 48.3 +0.2**
H24K Noodor Dome 6.52 19 P **Pn 12 44 48.6 +0.5**
baz=204
PRP Porcupine Dome 6.71 28 Pn 12 44 51.0 +0.2
PRP Porcupine Dome 6.71 28 P **Pn 12 44 51.0 +0.2**
baz=214
PNL Peninsula 6.90 85 Pn 12 44 53.4 +0.1
PNL Peninsula 6.90 85 P **Pn 12 44 53.4 +0.1**
baz=277
COLD Coldfoot 7.58 8 Pn 12 45 03.7 +1.3
FYU Fort Yukon 7.66 24 Pn **Pn 12 45 03.6 +0.1**
DAWY Dawson 7.73 50 Pn **Pn 12 45 05.0 +0.5**
BMAR Burnt Mountain 8.54 22 Pn **Pn 12 45 14.9 -0.6**
N31M Braeburn, Yuko 8.65 71 Pn **Pn 12 45 17.8 +0.8**
WHY Whitehorse 9.08 77 Pn **Pn 12 45 24.0 +1.2**
M31M Drury Creek, Y 9.37 67 Pn **Pn 12 45 27.2 +0.5**
JIS Juneau Island 9.73 91 Pn **Pn 12 45 34.0 +2.4**
P33M Teslin, Yukon 10.13 79 Pn **Pn 12 45 38.5 +1.4**
DLBC Dease Lake 11.89 87 P **Pn 12 46 02.8 +2.1**
comp=E,1.8nm,0.3s,baz=314,slow=6.0,SNR=42
DLBC S **Sn 12 48 09.2 -2.0**
comp=E,0.2nm,0.3s,baz=321,slow=25,SNR=2.0
DLBC Dease Lake 11.89 87 Pn **Pn 12 46 04.7 +4.0**
INK Inuvik 12.02 37 P **Pn 12 46 03.9 +1.6**
comp=E,0.1nm,0.3s,baz=229,slow=9.3,SNR=1.8
YKA Yellowknife Ar 18.56 65 P **Pn 12 47 24.6 +0.3**
comp=E,0.1nm,0.3s,baz=276,slow=9.9,SNR=3.2
PETK Petropavlovsk- 27.47 278 P **P 12 48 50.1 -0.2**
comp=E,1.3nm,0.8s,baz=72,slow=13,SNR=26
KSRS Korea Array 53.21 283 P **P 12 52 22.1 +0.6**
comp=E,1.7nm,0.5s,baz=39,slow=7.0,SNR=7.6
SONM Songino Array 54.90 306 P **P 12 52 35.1 +1.2**
comp=E,0.8nm,0.6s,baz=52,slow=6.5,SNR=6.4
ZALV Zalesovo Beam 57.54 324 P **P 12 52 52.5 +0.1**
comp=E,3.0nm,0.4s,baz=32,slow=6.7,SNR=13
MKAR Makanchi Array 64.59 321 P **P 12 53 39.3 -0.8**
comp=E,0.3nm,0.6s,baz=43,slow=7.6,SNR=5.4

IDC 24 12:43:55.8±2.9, 8°62S×115°05E, h0km, mb3.0/3, mb1 3.3/3, mb1mx2.6/36, mbtmp3.1/3, Error ellipse: s-maj=174.1km s-min=29.0km az=49.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.80**	**123**	P	P	12 48 49.1	-0.5
	0.3nm,0.8s,baz=297,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**23.45**	**132**	P	P	12 49 07.4	+0.3
	0.3nm,0.5s,baz=312,slow=8.6,SNR=8.5						
MKAR	**Makanchi Array**	**62.41**	**335**	P	P	12 54 20.6	0.0
	0.1nm,0.4s,baz=144,slow=7.7,SNR=1.8						

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*NEIC **24** 12:46:49.4±1.2, 59°78N±0°03×153°09W±0°03, h108km±6km, Error ellipse: s-maj=5.0km s-min=2.3km az=189.0*
*AEIC **24** 12:46:50±1.4, 59°76N±0°03×153°08W±0°05, h104km±5km, ML3.0, ML3.3/92(NEIC), Error ellipse: s-maj=4.9km s-min=3.9km az=192.0*
*IDC **24** 12:46:51.1±2.9, 59°73N×152°46W, h69km±33km, mb3.1/1, mb1 3.5/4, mb1mx2.8/41, mbtmp3.4/4, ML3.3/2, MS4.0/1, Ms1 4.0/1, ms1mx3.6/20, Error ellipse: s-maj=58.3km s-min=16.1km az=102.0*
ISC 24 12:46:49.9±1.0, 59°80N±0°04×153°04W±0°04, h105km±7km, n123, σ0°85/123, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.17**	**213**		**Pn**	**12 47 04.5**	**-0.3**
O20K	**Slope Mountain**	**0.35**	**36**		**Pn**	**12 47 05.4**	**-0.1**
O20K					**Sn**	**12 47 17.5**	**+0.3**
AUL	**Augustine Lava**	**0.46**	**206**		**Pn**	**12 47 05.9**	**-0.1**
AUL					**Sn**	**12 47 18.1**	**0.0**
AUQ	**Augustine Qik'**	**0.48**	**203**		**Pn**	**12 47 06.1**	**-0.1**
RED	**Redoubt Volcan**	**0.64**	**12**		**Pn**	**12 47 07.1**	**-0.3**
RED					**Sn**	**12 47 20.2**	**-0.4**
RSO	**Redoubt South**	**0.68**	**12**		**Pn**	**12 47 07.8**	**-0.1**
HOM	**Homer**	**0.72**	**101**		**Pn**	**12 47 08.1**	**+0.1**
O19K	**Port Alsworth**	**0.76**	**302**		**Pn**	**12 47 08.0**	**-0.2**
O19K	**Port Alsworth**	**0.76**	**302**		**Sn**	**12 47 21.6**	**-0.5**
O19K	**Port Alsworth**	**0.76**	**302**	IAML		12 47 09.7	
	comp=N,614nm,0.4s						
NCT	**North Crescent**	**0.77**	**4**		**Pn**	**12 47 08.4**	**-0.2**
NCT					**Sn**	**12 47 22.3**	**-0.3**
DFR	**Drift River**	**0.82**	**12**		**Pn**	**12 47 08.8**	**-0.2**
DFR					**Sn**	**12 47 23.6**	**+0.2**
Q19K	**Cape Douglas,**	**0.93**	**200**	Pn	**Pn**	**12 47 09.3**	**-0.7**
CNPM	**China Poot**	**0.96**	**106**		**Pn**	**12 47 10.0**	**-0.4**
CNPM					**Sn**	**12 47 25.3**	**-0.4**
BRLK	**Bradley Lake**	**1.09**	**91**		**Pn**	**12 47 11.1**	**-0.6**
BRLK				IAML		12 47 30.0	
	comp=N,537nm,0.1s						
BRLK				IAML		12 47 30.1	
	comp=E,458nm,0.1s						
O18K	**Koktuh Hills**	**1.09**	**274**		**Pn**	**12 47 11.1**	**-0.7**
O18K					**Sn**	**12 47 27.2**	**-1.1**
BRSE	**Bradley Lake S**	**1.17**	**92**		**Pn**	**12 47 12.3**	**-0.3**
P18K	**Big Mountain,**	**1.18**	**251**		**Pn**	**12 47 11.9**	**-0.9**
N19K	**Bonanza Creek**	**1.25**	**325**		**Pn**	**12 47 13.3**	**-0.3**
N19K					**Sn**	**12 47 30.5**	**-0.9**
CAPN	**Captain Cook N**	**1.35**	**43**	Pn	**Pn**	**12 47 15.8**	**+1.1**
SPCR	**Spurr Chakacha**	**1.47**	**16**		**Pn**	**12 47 16.0**	**-0.1**
SPBG	**Spurr Blockage**	**1.50**	**12**		**Pn**	**12 47 16.8**	**+0.2**
SLKM	**Skilak Lake**	**1.58**	**62**		**Pn**	**12 47 17.6**	**+0.1**
SPCG	**Spurr Capps Gl**	**1.58**	**18**		**Pn**	**12 47 17.6**	**0.0**
O22K	**Cooper Landing**	**1.80**	**66**		**Pn**	**12 47 20.8**	**+0.7**
O22K				IAML		12 47 43.9	
	comp=N,408nm,0.2s						
O22K				IAML		12 47 51.9	
	comp=E,371nm,0.8s						
STLK	**Strandline Lak**	**1.81**	**19**		**Pn**	**12 47 20.6**	**+0.3**
SVW2	**Sparrevohn**	**1.81**	**317**	Pn	**Pn**	**12 47 19.8**	**-0.5**
SEW	**Seward**	**1.83**	**79**		**Pn**	**12 47 20.8**	**+0.3**
KCG	**Knife Ck. Glac**	**1.84**	**216**		**Pn**	**12 47 20.2**	**-0.5**
KELA	**Mount Kelaz**	**1.95**	**227**		**Pn**	**12 47 21.6**	**-0.4**
KDAK	**Kodiak Island**	**2.04**	**173**	P	**Pn**	**12 47 21.9**	**-1.2**
	comp=E,25nm,0.3s,baz=23,slow=12,SNR=19						
KDAK				S	**Sn**	**12 47 46.1**	**-2.3**
	comp=E,14nm,0.3s,baz=153,slow=23,SNR=19						
KDAK	**Kodiak Island**	**2.04**	**173**	IAML		12 47 48.4	
	comp=E,155nm,0.4s						
KDAK				IAML		12 47 48.7	
	comp=E,191nm,0.4s						
RC01	**Rabbit Creek A**	**2.09**	**50**		**Pn**	**12 47 23.5**	**-0.3**
RC01				IAML		12 47 50.6	
	comp=N,210nm,0.4s						
CAHL	**Cahill**	**2.11**	**215**		**Pn**	**12 47 23.8**	**-0.3**
L19K	**White Mountain**	**2.55**	**341**		**Pn**	**12 47 29.4**	**-0.4**
PWL	**Port Wells**	**2.57**	**64**		**Pn**	**12 47 29.4**	**-0.7**
PWL				IAML		12 48 00.4	
	comp=E,189nm,0.4s						
OHAK	**Old Harbor**	**2.59**	**183**	Pn	**Pn**	**12 47 28.6**	**-1.7**
OHAK				IAML		12 47 50.0	
	comp=E,72nm,3.4s						
OHAK				IAML		12 48 04.3	
	comp=N,93nm,3.5s						
PMR	**Palmer**	**2.63**	**45**		**Pn**	**12 47 30.0**	**-0.9**
PMR	**Palmer**	**2.63**	**45**	IAML		12 48 01.9	
	comp=N,64nm,0.3s						
L20K	**Farewell, AK**	**2.72**	**352**		**Pn**	**12 47 32.3**	**+0.2**
KNK	**Knik Glacier**	**2.78**	**52**		**Pn**	**12 47 32.3**	**-0.6**
KNK				IAML		12 48 05.5	
	comp=E,179nm,0.6s						
KNK				IAML		12 48 06.2	
	comp=N,132nm,0.4s						
GHO	**Glory Hole Cre**	**2.83**	**44**		**Pn**	**12 47 32.7**	**-0.9**
GHO	**Glory Hole Cre**	**2.83**	**44**	IAML		12 48 09.7	
	comp=N,83nm,0.6s						
GHO				IAML		12 48 10.3	
	comp=E,78nm,0.9s						
CUT	**Chulitna**	**2.94**	**26**		**Pn**	**12 47 35.7**	**+0.8**
CUT				IAML		12 48 11.8	
	comp=E,112nm,2.2s						
CUT				IAML		12 48 14.8	
	comp=N,68nm,1.3s						
SML	**Sawmill**	**3.06**	**47**	Pn	**Pn**	**12 47 35.9**	**-0.7**
SML				IAML		12 48 19.4	
	comp=E,52nm,0.8s						
SML				IAML		12 48 48.7	
	comp=N,54nm,3.3s						
PPLA	**Purkeypile**	**3.14**	**7**		**Pn**	**12 47 38.5**	**+0.8**
GLI	**Glacier Island**	**3.15**	**67**		**Pn**	**12 47 36.9**	**-0.8**
GLI				IAML		12 48 12.7	
	comp=N,108nm,0.7s						
GLI				IAML		12 48 24.5	
	comp=E,101nm,2.9s						
SII	**Sitkinak Islan**	**3.30**	**191**	Pn	**Pn**	**12 47 39.4**	**-0.4**
FID	**Port Fidalgo**	**3.41**	**71**	Pn	**Pn**	**12 47 40.9**	**-0.2**
TT01	**Tatalina**	**3.43**	**337**		**Pn**	**12 47 41.0**	**-0.5**
TTA	**Tatalina**	**3.45**	**337**	Pn	**Pn**	**12 47 41.2**	**-0.6**
SCM	**Sheep Creek Mo**	**3.46**	**51**		**Pn**	**12 47 41.3**	**-0.7**
SCM				IAML		12 48 21.7	
	comp=E,57nm,0.6s						
SCM				IAML		12 48 33.1	
	comp=N,62nm,2.2s						
CAST	**Castle Rocks**	**3.66**	**7**		**Pn**	**12 47 45.1**	**+0.5**
DIV	**Divide**	**3.84**	**67**		**Pn**	**12 47 47.0**	**-0.1**
TRF	**Thorofare Moun**	**3.89**	**19**		**Pn**	**12 47 48.5**	**+0.7**
TRF				IAML		12 48 33.6	
	comp=E,36nm,4.5s						
TRF				IAML		12 49 49.8	
	comp=N,28nm,4.1s						
KLU	**Klutina**	**3.90**	**61**		**Pn**	**12 47 46.7**	**-1.1**
KLU	**Klutina**	**3.90**	**61**	IAML		12 48 34.3	
	comp=E,59nm,0.5s						
KTH	**Kantishna Hill**	**3.90**	**14**		**Pn**	**12 47 48.2**	**+0.3**
KTH				IAML		12 49 34.6	
	comp=N,24nm,4.8s						
M24K	**Tolsona, Glenn**	**4.07**	**52**	Pn	**Pn**	**12 47 49.7**	**-0.4**
CHUM	**Lake Minchumin**	**4.12**	**4**		**Pn**	**12 47 50.7**	**+0.1**
RND	**Reindeer**	**4.14**	**27**		**Pn**	**12 47 50.6**	**-0.4**
RND	**Reindeer**	**4.14**	**27**	IAML		12 48 59.0	
	comp=N,27nm,4.4s						
RND				IAML		12 49 21.5	
	comp=E,20nm,4.3s						
CHIR	**Chirikof Islan**	**4.22**	**200**	Pn	**Pn**	**12 47 49.5**	**-2.6**
BMRM	**Bremner River**	**4.35**	**71**		**Pn**	**12 47 54.5**	**+0.6**
BMRM				IAML		12 48 44.8	
	comp=E,47nm,0.8s						
BMRM				IAML		12 50 45.7	
	comp=N,49nm,4.9s						
MCK	**McKinley**	**4.40**	**25**		**Pn**	**12 47 54.7**	**+0.1**
MCK	**McKinley**	**4.40**	**25**	IAML		12 48 47.3	
	comp=E,20nm,1.9s						
MCK				IAML		12 50 26.1	
	comp=N,20nm,4.6s						
BPAW	**Bear Paw Mtn.**	**4.42**	**12**	Pn	**Pn**	**12 47 55.0**	**+0.2**
BPAW				IAML		12 49 19.3	
	comp=N,17nm,4.7s						
BPAW				IAML		12 49 29.4	
	comp=E,20nm,4.8s						
J20K	**Nowinta River**	**4.43**	**354**	Pn	**Pn**	**12 47 55.0**	**+0.2**
J20K				IAML		12 49 04.9	
	comp=N,23nm,4.5s						
CHGN	**Chignik**	**4.52**	**221**	Pn	**Pn**	**12 47 55.4**	**-0.7**
N25K	**Chitina, Valde**	**4.53**	**63**	Pn	**Pn**	**12 47 56.9**	**+0.6**
N25K				IAML		12 48 49.4	
	comp=N,28nm,0.5s						
N25K				IAML		12 48 50.4	
	comp=E,29nm,0.5s						
BWN	**Browne**	**4.70**	**19**	Pn	**Pn**	**12 47 58.3**	**-0.2**
BWN				IAML		12 50 21.8	
	comp=N,40nm,2.8s						
PAX	**Paxson**	**4.83**	**46**		**Pn**	**12 48 00.8**	**+0.4**
GLB	**Gilahina Butte**	**4.84**	**66**		**Pn**	**12 48 00.4**	**0.0**
GLB				IAML		12 48 56.0	
	comp=E,37nm,0.8s						
VRDI	**Verde Repeater**	**4.95**	**69**		**Pn**	**12 48 02.4**	**+0.3**
VRDI				IAML		12 49 16.3	
	comp=E,35nm,3.9s						
VRDI				IAML		12 50 15.2	
	comp=N,33nm,4.9s						
PS10	**TAPS Pump St10**	**5.03**	**41**		**Pn**	**12 48 04.2**	**+1.2**
SNH	**Sunshine Point**	**5.14**	**81**	Pn	**Pn**	**12 48 03.8**	**-0.7**
WAX	**Waxell Ridge**	**5.14**	**78**	Pn	**Pn**	**12 48 05.1**	**+0.6**
NEA2	**Nenana**	**5.16**	**19**		**Pn**	**12 48 04.1**	**-0.6**
NEA2	**Nenana**	**5.16**	**19**	IAML		12 50 04.9	
	comp=N,16nm,4.2s						
NEA2				IAML		12 50 54.3	
	comp=E,14nm,4.1s						
WRH	**Wood River Hil**	**5.23**	**24**		**Pn**	**12 48 04.9**	**-0.8**
WRH	**Wood River Hil**	**5.23**	**24**	IAML		12 49 26.3	
	comp=N,16nm,4.5s						
WRH				IAML		12 50 55.9	
	comp=E,22nm,4.8s						
KIAG	**Kiagna River**	**5.42**	**73**		**Pn**	**12 48 08.4**	**-0.1**
I21K	**Tanana**	**5.42**	**5**	Pn	**Pn**	**12 48 08.5**	**+0.2**
HDA	**Harding Lake**	**5.44**	**29**		**Pn**	**12 48 08.2**	**-0.3**
BALM	**Baldy**	**5.45**	**72**		**Pn**	**12 48 07.7**	**-1.0**
CCB	**Clear Creek Bu**	**5.45**	**24**		**Pn**	**12 48 07.7**	**-0.9**
MENT	**Mentasta**	**5.48**	**51**	Pn	**Pn**	**12 48 09.8**	**+0.7**
M26K	**Nabesna, AK**	**5.53**	**58**		**Pn**	**12 48 10.8**	**+1.0**
RIDG	**Independent Ri**	**5.55**	**41**		**Pn**	**12 48 09.6**	**-0.4**
PS08	**TAPS Pump Stn8**	**5.58**	**29**		**Pn**	**12 48 09.7**	**-0.8**
MESA	**MESA**	**5.58**	**81**	Pn	**Pn**	**12 48 10.5**	**-0.2**
I23K	**Minto, Yukon-K**	**5.63**	**16**		**Pn**	**12 48 10.9**	**-0.2**
TCOL	**CIGO, UAF Yank**	**5.64**	**23**		**Pn**	**12 48 10.7**	**-0.4**
COLA	**College**	**5.64**	**23**		**Pn**	**12 48 10.8**	**-0.4**
MDM	**Murphy Dome**	**5.64**	**21**	Pn	**Pn**	**12 48 10.2**	**-1.0**
L26K	**Log Cabin Wild**	**5.67**	**51**	Pn	**Pn**	**12 48 11.1**	**-0.6**
YAH	**Yahtse**	**5.69**	**79**		**Pn**	**12 48 11.4**	**-0.7**
DOT	**Dot Lake**	**5.75**	**44**	Pn	**Pn**	**12 48 12.4**	**-0.4**
IL31	**5.76**	**27**			**Pn**	**12 48 11.8**	**-1.0**
ILAR	**Eielson Array**	**5.76**	**27**	P	**Pn**	**12 48 11.9**	**-0.9**
	comp=E,2.1nm,0.3s,baz=211,slow=13,SNR=17						
ILAR				S	**Sn**	**12 49 12.9**	**-4.6**
	comp=E,0.7nm,0.3s,baz=200,slow=24,SNR=2.3						
ILAR	**Eielson Array**	**5.76**	**27**	Pn	**Pn**	**12 48 11.6**	**-1.2**

BARN	Barnard Glacie	5.78	72		Pn	12 48 13.6	+0.3
CTGM	Chitina Glacie	5.92	74	Pn	Pn	12 48 15.8	+0.5
POKR	Poker Plat Res	5.94	24	Pn	Pn	12 48 15.3	0.0
TABL	Table Mountain	5.99	79	Pn	Pn	12 48 16.8	+0.7
SCRK	Sand Creek	5.99	42	Pn	Pn	12 48 15.2	-0.9
M27K	Edge Creek, AK	5.99	60	Pn	Pn	12 48 16.1	0.0
IM03		6.22	357		Pn	12 48 19.1	+0.1
IMAR	Indian Mountai	6.22	357	Pn	Pn	12 48 19.2	+0.1
L27K	Beaver Creek,	6.30	54	Pn	Pn	12 48 19.8	-0.4
BCAR	Beaver Creek A	6.32	54	Pn	Pn	12 48 21.3	+0.9
PCA	Pinnacle	6.43	82	Pn	Pn	12 48 22.5	+0.4
H24K	Noodor Dome	6.50	19		Pn	12 48 22.5	-0.5
PRP	Porcupine Dome	6.70	28		Pn	12 48 25.5	-0.2
COLD	Coldfoot	7.57	8	Pn	Pn	12 48 37.1	-0.2
FYU	Fort Yukon	7.65	24		Pn	12 48 37.7	-0.8
DAWY	Dawson	7.72	51	Pn	Pn	12 48 38.4	-1.2
BMAR	Burnt Mountain	8.53	23	Pn	Pn	12 48 48.6	-1.8
N31M	Braeburn, Yuko	8.65	71	Pn	Pn	12 48 51.5	-0.6
DLBC	Dease Lake	11.89	87	P	Pn	12 49 34.3	-1.6
	baz=271,slow=25,SNR=0.8						
YKA	Yellowknife Ar	18.56	65	P	P	12 50 58.5	+0.4
	comp=E,0.1nm,0.3s,baz=278,slow=9.8,SNR=5.3						
SHEM	Shemya Is, Ala	19.41	263	LR	LR	12 58 17.5	
	comp=E,453nm,18.4s,baz=186,slow=35						
NVAR	Mina Array Bea	30.64	119	P	P	12 52 56.6	+2.3
	comp=E,0.1nm,0.3s,baz=311,slow=8.9,SNR=1.9						

*IDC **24** 12:52:05.0±0.8,23°.12S×66°.56W,h200km±7km,mb4.1/12, mb1 4.3/19,mb1mx4.3/25,mbtmp4.7/19,Error ellipse: s-maj=11.7km s-min=10.5km az=23.0*
*SJA **24** 12:52:04.4±0.6,23°.12S×66°.75W,h243km±3km,ML4.7, MW4.4*
*NEIC **24** 12:52:05.6±2.0,23°.20S±0°.06×66°.61W±0°.08,h198km±5km, mb4.7/58,Md4.4(SJA),ML5.3(GUC),Error ellipse: s-maj=10.8km s-min=8.0km az=62.0*
*VAO **24** 12:52:06.4±0.3,23°.10S×66°.58W,h212km,mb4.8*
*GUC **24** 12:52:07.5±0.7,23°.05S×67°.19W,h239km±8km,ML5.3*

ISC 24 12:52:06.1±0.5,**23°.14S**±0°.03×**66°.70W**±0°.04,**h212**km±4km, **n309**,σ1$**33**/358,**mb4.6**/37,**12C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.19	93	eP	Pn	12 52 40.6	+1.7
HJA				IAML		12 53 18.6	
	comp=Z,381nm,0.6s						
YJA	Yavi	1.46	49	eP	Pn	12 52 42.8	+1.8
YJA				IAML		12 53 14.1	
	comp=Z,333nm,0.6s						
SLA	San Lorenzo	1.92	145	eP	Pn	12 52 41.3	-3.5
SLA				eP	Pn	12 52 46.7	+1.8
SLA				eS	S	12 53 17.5	+2.6
SLA				IAML		12 53 20.0	
	comp=Z,1μm,0.8s						
LVC	Limon Verde	2.10	284	P	Pn	12 52 47.6	+0.7
	comp=Z,382nm,0.3s,baz=94,slow=6.3,SNR=2370						
LVC				S	S	12 53 17.8	-0.6
	comp=Z,86nm,0.3s,baz=308,slow=20,SNR=18						
LVC	Limon Verde	2.10	284	⇑iP	Pn	12 52 47.7	+0.7
LVC				i S	S	12 53 17.8	-0.6
LVC	Limon Verde	2.10	284	eP	Pn	12 52 47.7	+0.7
LVC	Limon Verde	2.10	284		Pn	12 52 47.6	+0.7
LVC				Sn	S	12 53 18.4	0.0
LVC	Limon Verde	2.10	284	eP	Pn	12 52 47.6	+0.7
LVC				eS	S	12 53 20.1	+1.7
LVC				IAML		12 53 28.6	
	comp=Z,471nm,0.3s						
PB15	IPOC Station P	2.55	268	⇑iP	Pn	12 52 52.0	+0.5
PB15				i S	S	12 53 26.1	-0.5
PB15	IPOC Station P	2.55	268		Pn	12 52 52.0	+0.5
PB15				Sn	S	12 53 25.9	-0.6
PB15	IPOC Station P	2.55	268	eP	Pn	12 52 52.0	+0.5
PB15				eS	S	12 53 26.9	+0.3
PB15				eS	S	12 53 27.1	+0.6
PB15				IAML		12 53 33.1	
	comp=Z,9μm,0.3s						
PB06	IPOC Station P	2.68	279	i P	Pn	12 52 53.2	+0.3
PB06				i S	S	12 53 28.1	-1.0
PB06				IAML		12 53 29.6	
	comp=E,4μm,0.1s						
PB06	IPOC Station P	2.68	279		Pn	12 52 53.2	+0.3
PB06	IPOC Station P	2.68	279	eP	Pn	12 52 53.0	0.0
PB06				eP	Pn	12 52 53.2	+0.3
PB06				eS	S	12 53 29.0	-0.1
PB06				IAML		12 53 30.8	
	comp=Z,2μm,0.7s						
PB09	IPOC Station P	2.70	299	⇑iP	Pn	12 52 54.2	+1.0
PB09				i S	S	12 53 29.2	-0.4
PB09				IAML		12 53 32.4	
	comp=E,3μm,0.6s						
PB09	IPOC Station P	2.70	299		Pn	12 52 54.2	+1.0
PB09	IPOC Station P	2.70	299	eP	Pn	12 52 54.0	+0.8
PB09				eS	S	12 53 29.7	+0.1
PB09				IAML		12 53 31.3	
	comp=Z,2μm,0.5s						
PB03	IPOC Station P	3.02	290	⇑iP	Pn	12 52 56.9	+0.1
PB03				i S	S	12 53 34.2	-1.8
PB03				IAML		12 53 36.4	
	comp=E,7μm,0.4s						
PB03	IPOC Station P	3.02	290	eP	Pn	12 52 56.7	-0.1
PB03				eS	S	12 53 34.8	-1.3
PB03				IAML		12 53 38.0	
	comp=Z,4μm,0.2s						
FSA	Cafayete	3.03	168	eP	Pn	12 52 57.9	+1.0
FSA				eS	S	12 53 37.7	+1.3
PB07	IPOC Station P	3.27	295	⇑iP	Pn	12 52 59.7	0.0
PB07				i S	S	12 53 39.2	-2.0
PB07				IAML		12 53 41.5	
	comp=E,8μm,0.5s						
PB07	IPOC Station P	3.27	295		Pn	12 52 59.5	-0.1
PB07	IPOC Station P	3.27	295	eP	Pn	12 52 59.4	-0.2
PB07				eS	S	12 53 40.3	-0.9
PB07				IAML		12 53 44.2	
	comp=Z,2μm,0.2s						
PB04	IPOC Station P	3.28	283	⇑iP	Pn	12 52 59.8	-0.1
PB04				i S	S	12 53 39.6	-2.0
PB04				IAML		12 53 42.9	
	comp=N,5μm,0.4s						
PB04	IPOC Station P	3.28	283		Pn	12 52 59.7	-0.1
PB04	IPOC Station P	3.28	283	eP	Pn	12 52 59.7	-0.1
PB04				eS	S	12 53 40.3	-1.3
PB04				eS	S	12 53 40.5	-1.0
PB04				IAML		12 53 45.8	
	comp=Z,3μm,0.4s						
PB01	IPOC Station P	3.32	308	⇑iP	Pn	12 53 00.3	0.0
PB01				i S	S	12 53 41.1	-1.2
PB01				IAML		12 53 43.2	
	comp=E,5μm,0.2s						
PB01	IPOC Station P	3.32	308		Pn	12 53 00.4	+0.2
PB01	IPOC Station P	3.32	308	eP	Pn	12 53 00.2	0.0
PB01				eS	S	12 53 41.3	-1.0
PB01				IAML		12 53 43.2	
	comp=Z,3μm,0.2s						
PB02	IPOC Station P	3.47	301	⇑iP	Pn	12 53 01.8	-0.3
PB02				i S	S	12 53 43.0	-2.5
PB02				IAML		12 53 48.0	
	comp=E,6μm,0.4s						
PB02	IPOC Station P	3.47	301	eP	Pn	12 53 01.7	-0.3
PB02				eS	S	12 53 44.0	-1.5
PB02				IAML		12 53 46.4	
	comp=Z,5μm,0.4s						
PB10	IPOC Station P	3.56	263	⇑iP	Pn	12 53 02.8	-0.2
PB10				i S	S	12 53 44.5	-2.7
PB10				IAML		12 53 48.3	
	comp=E,1μm,0.6s						
PB10	IPOC Station P	3.56	263		Pn	12 53 02.7	-0.3
PB10	IPOC Station P	3.56	263	eP	Pn	12 53 02.8	-0.2
PB10				eS	S	12 53 45.7	-1.5
PB10				IAML		12 53 50.6	
	comp=Z,1μm,0.5s						
PB14	IPOC Station P	3.70	246	⇑iP	Pn	12 53 04.5	-0.4
PB14				i S	S	12 53 48.4	-2.4
PB14	IPOC Station P	3.70	246		Pn	12 53 04.5	-0.4
PB14	IPOC Station P	3.70	246	eP	Pn	12 53 04.6	-0.4
PB14				eS	S	12 53 48.9	-1.8
PB14				IAML		12 53 55.6	
	comp=Z,1μm,0.5s						
PB08	IPOC Station P	3.76	322	⇑iP	Pn	12 53 06.7	+0.9
PB08				i S	S	12 53 52.4	+0.1
PB08	IPOC Station P	3.76	322		Pn	12 53 06.6	+0.9
PB08	IPOC Station P	3.76	322	eP	Pn	12 53 06.6	+0.9
PB08				eP	Pn	12 53 06.8	+0.9
PB08				eS	S	12 53 52.4	+0.1
PB08				eS	S	12 53 53.2	+1.0
PB08				IAML		12 53 56.1	
	comp=Z,949nm,0.7s						
AHML	Horco Molle	3.83	161	eP	Pn	12 53 01.3	-5.0
AHML				eP	Pn	12 53 06.8	+0.5
AHML				eS	S	12 53 48.3	-5.1
AHML				eS	S	12 53 53.2	-0.2
AHML				IAML		12 53 56.0	
	comp=Z,59nm,1.7s						
TA01	Diego Aracena	4.12	308		Pn	12 53 08.7	-1.2
TA01	Diego Aracena	4.12	308	eP	Pn	12 53 08.7	-1.2
TA01				eS	S	12 53 57.2	-2.5
TA01				IAML		12 54 00.2	
	comp=Z,979nm,0.4s						
GO01	Chusmiza	4.16	326		Pn	12 53 11.1	+0.3
GO01	Chusmiza	4.16	326	eP	Pn	12 53 11.4	+0.5
GO01				eS	S	12 54 01.3	-0.1
TA02	Huaiquique	4.28	311		Pn	12 53 12.0	+0.2
AC02	Maricunga	4.29	210		Pn	12 53 12.5	+0.1
AC02	Maricunga	4.29	210	eP	Pn	12 53 12.3	0.0
AC02				eS	S	12 54 04.8	+0.6
AC02				IAML		12 54 09.8	
	comp=Z,267nm,0.5s						
PB11	IPOC Station P	4.34	320		Pn	12 53 12.1	-0.7
PB11	IPOC Station P	4.34	320	eP	Pn	12 53 12.0	-0.8
PB11				eS	S	12 54 02.5	-2.5
PB11				IAML		12 54 04.2	
	comp=Z,1μm,0.4s						
MNMC	Minye Minye	4.82	325		Pn	12 53 18.4	-0.4
MNMCX	Minye Minye	4.82	325	eP	Pn	12 53 18.4	-0.5
MNMCX				eP	P	12 53 18.5	-0.3
MNMCX				eP	P	12 53 18.5	-0.3
MNMCX				IAML		12 54 18.6	
	comp=Z,3μm,0.6s						
GO03	Copiap	5.46	215		Pn	12 53 24.4	-2.3
GO03	Copiap	5.46	215	eP	Pn	12 53 24.8	-1.9
PB12	IPOC Station P	5.64	322		Pn	12 53 27.1	-1.9
VCA	Vinchina	5.73	193	eP	Pn	12 53 31.0	+0.8
VCA				IAML		12 54 54.9	
	comp=Z,86nm,0.9s						
ACLC	CERRO LA CRUZ	6.26	182	eP	Pn	12 53 36.3	-0.7
ACLC				IAML		12 54 48.6	
	comp=Z,61nm,0.5s						
AC04	Llanos de Chal	6.40	217		Pn	12 53 35.7	-3.0
LCO	Las Campanas	6.86	211		Pn	12 53 43.5	-1.4
LPAZ	La Paz	6.95	349	P	Pn	12 53 47.1	+0.7
	comp=Z,17nm,0.3s,baz=153,slow=5.9,SNR=402						
LPAZ				S	S	12 55 02.5	-3.5
	comp=Z,1.4nm,0.3s,baz=237,slow=11,SNR=2.7						
LPAZ	La Paz	6.95	349	eP	Pn	12 53 46.8	+0.4
CO05	La Serena	7.88	210		Pn	12 53 56.0	-1.7
GO04	Tololo Observa	7.90	207		Pn	12 53 55.2	-3.1
SIV	San Ignacio	8.87	38	P	Pn	12 54 09.2	-1.5
	comp=Z,18nm,0.3s,baz=218,slow=13,SNR=270						
SIV				S	S	12 55 35.6	-15
	baz=204,slow=12,SNR=1.5						
CPUP	Villa Florida	9.09	112	P	Pn	12 54 11.7	-1.7
	comp=Z,0.3nm,0.3s,baz=292,slow=12,SNR=8.4						
CPUP	Villa Florida	9.09	112	eP	Pn	12 54 12.1	-1.3
PTLB	Pontes e Lacer	10.46	44	eP	Pn	12 54 30.1	-1.1
PTLB	Pontes e Lacer	10.46	44	Pn	Pn	12 54 09.7	-1.5
AQDB	Aquidauana	10.56	78	eP	Pn	12 54 31.7	-0.7
AQDB	Aquidauana	10.56	78	Pn	Pn	12 54 31.9	-0.5
PEL	Peldehue	10.57	199	Pn	Pn	12 54 32.4	0.0
MT02	Curacav	10.81	200		Pn	12 54 32.6	-2.9
MT05	Renca	10.81	198	Pn	Pn	12 54 34.6	-1.0
ITQB	Itaqui	11.13	128	eP	Pn	12 54 38.2	-1.4
MT09	Talagante	11.24	199		Pn	12 54 39.7	-1.4
BO01	Tunca	11.85	198		Pn	12 54 46.2	-2.5
VILB	Vilhena	11.87	32	eP	Pn	12 54 48.4	-0.7
VILB	Vilhena	11.87	32	Pn	Pn	12 54 48.8	-0.3
PP1B	Ponte de Pedra	12.38	66	eP	Pn	12 54 54.1	-1.4
SALV	Santo Antonio	12.63	57	eP	Pn	12 54 57.7	-0.9
ML02	Panimavida	13.23	197	Pn	Pn	12 55 04.9	-1.0
ETMB	Extrema	13.26	2	eP	Pn	12 55 04.8	-1.7
ETMB	Extrema	13.26	2	Pn	Pn	12 55 05.7	-0.8
PTGB	Pitanga	13.48	100	eP	Pn	12 55 08.2	-1.0
ITAB	Concordia	13.81	110	eP	Pn	12 55 12.9	-0.3
ITAB	Concordia	13.81	110		Pn	12 55 12.3	-0.9
CPSB	Cacapava Do Su	13.87	124	eP	Pn	12 55 12.9	-1.1
LPA	La Plata	14.00	149	eP	Pn	12 55 07.6	-7.9
LPA				S	S	12 57 31.8	-19
LPA				PCP	PcP	13 00 23.3	+3.5
LPA				SCS	ScS	13 07 13.3	+2.8
LPA				PKIKP	PKiKP	13 08 12.2	-3.6
LPA				SKIKP		13 11 31.4	
LPA				PKIKS		13 11 41.0	
LPA				SKIKS		13 14 54.6	
PCMB	Pacaembu	14.37	87	eP	Pn	12 55 19.2	-1.0
PLTB	Pedras Altas	14.45	129	eP	Pn	12 55 19.4	-1.6
PLTB	Pedras Altas	14.45	129	P	Pn	12 55 20.1	-0.9
NNA	Nana	14.70	317	P	Pn	12 55 23.7	-0.6
	comp=Z,1.2nm,0.3s,baz=157,slow=9.2,SNR=12						
PDRB	Porto dos Gac	14.89	41	eP	Pn	12 55 25.9	-0.7
ITRB	Iturama	15.60	80	eP	P	12 55 34.5	-0.4
FRTB	Fartura	15.76	94	eP	Pn	12 55 36.8	-0.2
ARAG	Araguaiana, MT	15.86	65	eP	P	12 55 37.8	0.0
CLDB	Colider	16.04	42	eP	P	12 55 39.3	-0.5
TIJ01	Guaruva-PR	16.29	101	eP	P	12 55 42.8	+0.3
LC01	Cunco	16.32	195	P	P	12 55 42.0	-0.6
LC01				IAmb	IAmb	12 55 46.8	
	comp=Z,16nm,0.9s						
CZSB	Cruzeiro do Su	16.37	338	eP	Pn	12 55 45.0	+0.6
TER01	Tubaro-SC	16.70	112	eP	P	12 55 46.3	-0.7
RCLB	Rio Claro- Sao	17.70	91	eP	P	12 55 57.4	-0.5
PET01	Itanhaem-SP	17.83	98	eP	P	12 55 59.4	+0.1
PLCA	Paso Flores	17.84	190	P	P	12 55 59.5	+0.2
	comp=Z,1.2nm,0.3s,baz=5.3,slow=12,SNR=63						
PLCA				PcP	PcP	13 00 26.7	+1.2
	comp=Z,0.2nm,0.3s,baz=267,slow=1.5,SNR=5.9						
PLCA	Paso Flores	17.84	190	eP	P	12 56 00.1	+0.8
PLCA	Paso Flores	17.84	190	P	P	12 55 59.7	+0.4
PLCA				IAmb	IAmb	12 56 01.0	
	comp=Z,22nm,0.8s						
IPMB	Ipameri, GO	18.05	77	eP	P	12 56 01.8	-0.1
VAO	Valinhos	18.16	93	eP	P	12 56 02.8	-0.3
LL04	Puerto Octay	18.36	194	P	P	12 56 04.7	-0.2
SNDB	Serra Nova Dou	18.39	55	eP	P	12 56 04.7	-0.8
TBTG	Tabatinga, AM	19.10	350	eP	P	12 56 14.2	+1.1
TBTG	Tabatinga, AM	19.10	350	P	P	12 56 13.1	+0.1
BDFB	Brasília	19.13	70	P	P	12 56 13.0	-0.6
	comp=Z,3.9nm,0.3s,baz=247,slow=12,SNR=176						
BDFB	Brasília	19.13	70	P	P	12 56 13.3	-0.2
NPGB	Novo Progresso	19.37	36	eP	P	12 56 14.2	-1.8
PARB	Paraibuna	19.37	95	eP	P	12 56 15.6	-0.5
ATAH	Atahualpa	19.49	323	P	Pn	12 56 20.1	-1.5
	comp=Z,0.4nm,0.3s,baz=184,slow=5.0,SNR=10						
BSCB	Bom Sucesso	20.43	88	eP	P	12 56 27.2	-0.2
PEXB	Peixe	20.66	61	eP	P	12 56 28.9	-0.9
MACA	Manacapuru-AM	20.70	17	eP	P	12 56 28.4	-1.7
MACA	Manacapuru-AM	20.70	17	P	P	12 56 28.5	-1.7
GO07	Milladeo Hill,	20.74	195	P	P	12 56 28.7	-1.6
MAN01	Angra dos Reis	20.93	94	eP	P	12 56 31.8	-0.8
ITTB	Itaituba	21.46	31	eP	P	12 56 36.2	-2.0
DIAM	Diamantina, MG	22.06	82	eP	P	12 56 43.2	-1.0
JANB	Januaria	22.61	73	eP	P	12 56 47.8	-1.3
COYC	Coyhaique	22.80	190	P	P	12 56 49.7	-0.7
COYC				IAmb	IAmb	12 57 08.5	
	comp=Z,28nm,0.9s						
CAM01	Campos-RJ	23.17	92	eP	P	12 56 53.9	-0.1
SMTB	Santa Maria do	23.18	55	eP	P	12 56 53.9	-0.3
PTGA	Pitinga	23.22	17	P	P	12 56 53.4	-1.0
	comp=Z,50nm,0.9s,baz=200,slow=11,SNR=58						
SDBA	SAO DESIDERIO	23.31	66	eP	P	12 56 54.6	-0.8
PRPB	Parauapebas	23.44	47	eP	P	12 56 55.6	-0.9
ALF01	Guarapari-ES	24.23	89	eP	P	12 57 03.3	-0.3
SJMB	Sao Joao De Ma	24.23	84	eP	P	12 57 03.3	-0.4
MALB	Monte Alegre	24.36	31	eP	P	12 57 03.7	-1.2
BSFB	Barra de Sao F	24.50	85	eP	P	12 57 05.1	-1.0
RIB01	Linhares ES	24.80	86	eP	P	12 57 07.6	-1.3
OTAV	Otavalo	25.90	332	eP	P	12 57 20.9	+1.7
BOAV	Boa Vista	26.09	14	eP	P	12 57 20.0	-0.4
BOAV	Boa Vista	26.09	14	P	P	12 57 20.0	-0.4
BOAV				IAmb	IAmb	12 57 22.4	
	comp=Z,30nm,1.2s						
GUA01	Guaratinga, BA	26.10	80	eP	P	12 57 19.6	-1.0
MCPB	Macapa, AP	26.75	34	eP	P	12 57 25.7	-0.6
CMC01	Camacan, BA	26.77	78	eP	P	12 57 25.5	-1.1
NBIT	Itapeh - BA	27.00	77	eP	P	12 57 28.3	-0.4
GDU01	Guandu, BA	27.34	75	eP	P	12 57 30.1	-1.6
TMAB	Tom-Au,PA,Br	27.41	44	eP	P	12 57 31.8	-0.5
NBPN	Ponto Novo - B	28.08	69	eP	P	12 57 36.8	-1.5
EFI	East Falkland	29.26	169	P	P	12 57 48.0	-0.2
ROSB	Rosrio	29.72	51	eP	P	12 57 51.0	-1.6
NBLA	Lagarto - SE	30.09	71	eP	P	12 57 54.2	-1.8
NBPS	Pedro II - PI	30.70	56	eP	P	12 58 00.0	-1.4
NBMA	Muriti-CE	31.09	64	eP	P	12 58 03.6	-1.2
NBPB	Pedra_Branca-C	31.46	60	eP	P	12 58 07.3	-0.7
USHA	Ushuaia	31.68	182	P	P	12 58 10.4	+1.0
	comp=Z,44nm,0.7s,baz=54,slow=1.4,SNR=4.4						
BAUV	El Baul	31.91	357	P	P	12 58 14.6	+2.7
BAUV				IAmb	IAmb	12 58 15.9	
	comp=Z,25nm,0.9s						
NBAN	Anadia - AL	32.03	70	eP	P	12 58 11.7	-1.3
NBMO	Morrinhos-CE	32.47	57	eP	P	12 58 15.6	-1.2
NBCL	Cascavel-CE	33.27	60	eP	P	12 58 23.0	-0.8
BIRV	Birongo	33.41	1	P	P	12 58 27.2	+2.3
BIRV				IAmb	IAmb	12 58 28.1	
	comp=Z,40nm,1.3s						
NBRF	Rio Formoso -	33.49	70	eP	P	12 58 24.2	-1.5
RCBR	Riachuelo	34.31	65	eP	P	12 58 32.7	0.0
RCBR	Riachuelo	34.31	65	P	P	12 58 32.8	+0.1
TOSP	Speyside	34.76	11	P	P	12 58 36.2	-0.2
FDF	Fort de France	38.03	9	P	P	12 59 04.6	+0.5
SVN	Savane Anatole	38.13	9	P	P	12 59 04.6	-0.4
MTO3	Montecristo	43.40	327	P	P	12 59 49.9	+1.6
MTO3				IAmb	IAmb	12 59 50.0	
	comp=Z,14nm,0.6s						
ZAIG	Zacatecas	57.44	320	P	P	13 01 35.5	+2.2
ZAIG				IAmb	IAmb	13 01 36.1	
	comp=Z,9.9nm,0.9s						
VNA3	Neumayer Olymp	57.87	161	P	P	13 01 36.4	+1.1
VNA2	Neumayer--Watz	58.43	161	P	P	13 01 40.2	+1.0
	baz=280,slow=7.8						
SNAA	Sanae	60.07	161	P	P	13 01 51.2	+0.7
SNAA	Sanae	60.07	161	P	P	13 01 51.2	+0.7
833A	Chaparral WMA,	60.10	327	P	P	13 01 51.9	+0.8
833A	Chaparral WMA,	60.10	327	P	P	13 01 52.2	+1.1
	baz=145,SNR=14						
V55A	Taylorsville	60.26	346	P	P	13 01 52.9	+0.9
V55A				IAmb	IAmb	13 01 53.5	
	comp=Z,16nm,0.8s						
NATX	Nacogdoches	60.80	333	P	P	13 01 57.3	+1.5
	baz=150						
SWET	Sewanee	60.84	342	P	P	13 01 56.0	0.0
SWET				IAmb	IAmb	13 01 56.5	
	comp=Z,9.9nm,0.7s						
JCT	Junction City	62.06	328	P	P	13 02 05.1	+0.8
	baz=145,SNR=7.3						
WVT	Waverly	62.24	341	P	P	13 02 04.8	-0.5
WVT				IAmb	IAmb	13 02 05.3	
	comp=Z,14nm,0.9s						
WVT	Waverly	62.24	341	P	P	13 02 04.7	-0.7
	baz=158						
MIAR	Mount Ida	62.80	335	P	P	13 02 08.9	-0.2
	baz=152						
TXAR	Lajitas Array	63.14	324	P	P	13 02 12.1	+0.5
	comp=Z,1.5nm,0.7s,baz=152,slow=8.4,SNR=22						
TX31	Lajitas Ar. Si	63.15	324	P	P	13 02 12.1	+0.5
TX31				IAmb	IAmb	13 02 12.6	
	comp=Z,6.8nm,0.8s						
TX32	Lajitas Array	63.15	324	P	P	13 02 12.2	+0.6
W39A	Magazine	63.45	335	P	P	13 02 14.2	+0.9
	baz=152						
WCI	Wyandotte Cave	63.76	343	P	P	13 02 14.5	-0.7
	baz=160						
TUL1	Leonard	64.86	334	P	P	13 02 23.9	+1.4
	baz=150						
CCM	Cathedral Cave	65.09	339	P	P	13 02 23.8	-0.1
CCM				IAmb	IAmb	13 02 24.3	
	comp=Z,14nm,0.7s						
CCM	Cathedral Cave	65.09	339	P	P	13 02 23.8	-0.1
	baz=155						
S39A	Bolivar	65.49	337	P	P	13 02 26.5	0.0
S39A				IAmb	IAmb	13 02 27.2	
	comp=Z,16nm,0.8s						
R40A	Maddies Statio	65.65	338	P	P	13 02 27.8	+0.3
R40A				IAmb	IAmb	13 02 27.9	
	comp=Z,7.0nm,0.7s						
MNTX	Cornudas Mount	65.91	324	P	P	13 02 29.1	-0.2
MNTX	Cornudas Mount	65.91	324	P	P	13 02 29.3	-0.1
	baz=141,SNR=9.4						
MSTX	Muleshoe	66.36	328	P	P	13 02 32.0	-0.3
MSTX	Muleshoe	66.36	328	P	P	13 02 32.6	+0.3
	baz=144,SNR=11						
QSPA	South Pole Qui	67.06	180	P	P	13 02 37.9	+1.6
QSPA				IAmb	IAmb	13 02 38.5	
	comp=Z,17nm,0.8s						
DBIC	Dimbokro	67.27	72	P	P	13 02 37.1	-1.2
	comp=Z,11nm,0.8s,baz=230,slow=6.3,SNR=12						
DBIC	Dimbokro	67.27	72	P	P	13 02 36.9	-1.4
DBIC				IAmb	IAmb	13 02 40.4	
	comp=Z,14nm,0.9s						
P38A	Dawn	67.28	338	P	P	13 02 38.0	+0.2
319A	Douglas	67.83	321	P	P	13 02 43.1	+1.5
319A				IAmb	IAmb	13 02 44.0	
	comp=Z,13nm,0.8s						
121A	Cookes Peak, D

K22A	**Casper**	**75.06 331**	P	**P**	**13 03 26.2 +1.6**
	baz=142				
RSSD	**Black Hills**	**75.17 333**	P	**P**	**13 03 26.0 +0.7**
RSSD	**Black Hills**	**75.17 333**	P	**P**	**13 03 26.5 +1.2**
	baz=145				
VNDA	**Vanda**	**75.59 190**	P	**P**	**13 03 28.8 +1.8**
	comp=Z,3.6nm,0.9s,baz=136,slow=4.6,SNR=4.0				
LRMC	**Laurel Mtn Rad**	**75.69 319**	P	**P**	**13 03 29.9 +1.6**
	baz=132				
TPNV	**Topopah Spring**	**75.84 321**	P	**P**	**13 03 30.7 +1.5**
TPNV	**Topopah Spring**	**75.84 321**	P	**P**	**13 03 31.1 +1.9**
	baz=134,SNR=7.6				
FURC	**Furnace Creek,**	**75.87 320**	P	**P**	**13 03 31.1 +2.0**
	baz=133				
MPMC	**Manual Prospec**	**75.96 320**	P	**P**	**13 03 31.3 +1.4**
	baz=133				
TORD	**Torodi Ar. Bea**	**76.01 69**	P	**P**	**13 03 29.3 -1.1**
	comp=Z,6.9nm,0.6s,baz=258,slow=5.6,SNR=31				
TORD			pP	**pP**	**13 04 23.5 +1.4**
	comp=Z,3.8nm,0.7s,baz=254,slow=5.0,SNR=6.0				
TORD	**Torodi Ar. Bea**	**76.01 69**	P	**P**	**13 03 29.5 -0.9**
TORD			IAmb	IAmb	13 03 32.9
	comp=Z,12nm,1.1s				
DUG	**Dugway, Tooele**	**76.25 325**	P	**P**	**13 03 33.3 +1.9**
	baz=137,SNR=6.3				
ISA	**Isabella, Lake**	**76.29 319**	P	**P**	**13 03 33.5 +1.9**
	baz=132				
R11A	**Troy Canyon, C**	**76.44 322**	P	**P**	**13 03 34.7 +2.2**
	baz=135,SNR=9.0				
GRAC	**Grapevine Rang**	**76.53 320**	P	**P**	**13 03 34.6 +1.8**
	baz=133				
BW06	**Boulder Array**	**76.55 329**	P	**P**	**13 03 34.2 +1.1**
BW06	**Boulder Array**	**76.55 329**	P	**P**	**13 03 34.0 +0.8**
	baz=140				
PD31	**Pinedale Array**	**76.55 329**	P	**P**	**13 03 34.2 +1.1**
PDAR	**Pinedale Array**	**76.55 329**	P	**P**	**13 03 33.8 +0.7**
	comp=Z,2.3nm,0.6s,baz=129,slow=7.6,SNR=23				
PDAR	**Pinedale Array**	**76.55 329**	P	**P**	**13 03 34.0 +0.9**
CWC	**Cottonwood Cre**	**76.57 320**	P	**P**	**13 03 35.3 +2.0**
	baz=132				
MDND	**Maddock**	**76.60 338**	P	**P**	**13 03 33.7 +0.8**
	baz=149,SNR=5.0				
PKM	**Mcpherson Peak**	**76.60 317**	P	**P**	**13 03 35.0 +1.5**
	baz=131				
VES	**Vestal, Richgr**	**76.78 319**	P	**P**	**13 03 35.8 +1.6**
	baz=132				
BGU	**Big Grassy Mou**	**76.90 326**	P	**P**	**13 03 36.0 +0.9**
SMMC	**Simmler**	**76.99 318**	P	**P**	**13 03 38.2 +2.7**
	baz=131				
REDW	**Red Top Meadow**	**77.62 329**	P	**P**	**13 03 40.3 +1.2**
REDW			IAmb	IAmb	13 03 41.3
	comp=Z,9.4nm,0.8s				
SCHQ	**Schefferville**	**77.65 360**	P	**P**	**13 03 38.2 -0.4**
	comp=Z,4.0nm,0.7s,baz=175,slow=5.3,SNR=8.8				
SCHQ	**Schefferville**	**77.65 360**	P	**P**	**13 03 39.1 +0.4**
NVAR	**Mina Array Bea**	**78.04 321**	P	**P**	**13 03 42.6 +1.1**
	comp=Z,2.2nm,0.9s,baz=146,slow=6.0,SNR=14				
FLWY	**Flagg Ranch**	**78.09 329**	P	**P**	**13 03 43.5 +1.8**
FLWY			IAmb	IAmb	13 03 43.9
	comp=Z,9.8nm,0.7s				
LAO	**LASA Array**	**78.15 333**	P	**P**	**13 03 42.7 +1.0**
	baz=143				
RLMT	**Red Lodge**	**78.23 331**	P	**P**	**13 03 43.7 +1.4**
	baz=141,SNR=15				
H17A	**Grant Village**	**78.27 330**	P	**P**	**13 03 44.6 +2.0**
	baz=139				
DGMT	**Dagmar**	**78.79 336**	P	**P**	**13 03 46.5 +1.4**
	baz=145,SNR=6.5				
GCMT	**Greycliff**	**78.92 331**	P	**P**	**13 03 47.4 +1.4**
HLID	**Hailey**	**79.52 327**	P	**P**	**13 03 51.3 +2.0**
HLID			IAmb	IAmb	13 03 52.2
	comp=Z,14nm,0.8s				
HLID	**Hailey**	**79.52 327**	P	**P**	**13 03 51.4 +2.0**
	baz=136,SNR=25				
BCYI	**Bear Canyon**	**79.56 328**	P	**P**	**13 03 51.4 +1.8**
BOZ	**Bozeman (W)**	**79.67 330**	P	**P**	**13 03 51.0 +0.9**
	baz=139				
MCMT	**McKenzie Canyo**	**79.67 329**	P	**P**	**13 03 52.0 +1.8**
EGMT	**Eagleton**	**80.68 332**	P	**P**	**13 03 55.9 +0.6**
EGMT			IAmb	IAmb	13 03 56.9
	comp=Z,11nm,0.8s				
EGMT	**Eagleton**	**80.68 332**	P	**P**	**13 03 55.9 +0.6**
	baz=140,SNR=6.3				
BOSA	**Boshof**	**80.88 117**	P	**P**	**13 03 55.7 -1.4**
	comp=Z,2.5nm,0.6s,baz=253,slow=5.1,SNR=8.2				
BOSA	**Boshof**	**80.88 117**	P	**P**	**13 03 56.1 -0.9**
O03E	**Paynes Creek**	**81.31 321**	P	**P**	**13 03 59.0 +0.2**
	baz=130				
MSO	**Missoula**	**81.66 329**	P	**P**	**13 04 02.0 +1.4**
	baz=137				
BMO	**Blue Mountains**	**81.90 326**	P	**P**	**13 04 03.3 +1.4**
J05D	**Fort Rock, OR**	**82.93 323**	P	**P**	**13 04 08.5 +1.3**
	baz=131				
I05D	**Terrebonne, OR**	**83.68 324**	P	**P**	**13 04 12.5 +1.6**
	baz=131				
ESDC	**Sonseca Array**	**85.59 43**	P	**P**	**13 04 20.6 0.0**
	comp=Z,2.5nm,1.0s,baz=234,slow=6.3,SNR=9.7				
B05A	**Bryant**	**86.64 327**	P	**P**	**13 04 25.6 +0.2**
	baz=131				
YKA	**Yellowknife Ar**	**93.42 340**	P	**P**	**13 04 56.9 +0.2**
	comp=Z,2.0nm,0.6s,baz=132,slow=4.5,SNR=56				
YKA			pP	**pP**	**13 05 51.5 +0.9**
	comp=Z,0.2nm,0.6s,baz=127,slow=4.6,SNR=1.4				
CTA	**Charters Tower**	**126.34 219**	PKP	**PKiKP**	**13 10 44.7 -0.1**
	comp=Z,2.9nm,0.8s,baz=75,slow=2.1,SNR=5.6				
ASAR	**Alice Springs**	**129.35 205**	PKhKP	PKPpre	13 10 34.0
	comp=Z,0.2nm,0.8s,baz=135,slow=1.6,SNR=2.0				
ASAR			PKP	**PKPdf**	**13 10 49.9 -0.1**
	comp=Z,2.8nm,0.8s,baz=135,slow=1.8,SNR=25				
AS31	**Alice Springs**	**129.35 205**	PKPdf	**PKiKP**	**13 10 50.7 0.0**
WRA	**Warramunga Arr**	**132.51 207**	PKhKP	PKPpre	13 10 42.8
	comp=Z,0.6nm,0.8s,baz=141,slow=2.7,SNR=5.1				
WRA			PKP	**PKPdf**	**13 10 56.2 +0.2**
	comp=Z,1.1nm,0.5s,baz=164,slow=1.5,SNR=24				
PETK	**Petropavlovsk-**	**135.09 323**	PKhKP	PKPpre	13 10 51.7
	comp=Z,1.1nm,0.6s,baz=69,slow=4.8,SNR=6.2				
PETK			SKPbc	**SKPbc**	**13 14 10.2 -0.2**
	comp=Z,2.7nm,0.9s,baz=81,slow=11,SNR=3.7				
PETK	**Petropavlovsk-**	**135.09 323**	PKPdf	**PKiKP**	**13 11 01.3 0.0**
FITZ	**Fitzroy Crossi**	**137.28 197**	PKP	**PKiKP**	**13 11 06.0 -0.8**
	comp=Z,2.1nm,0.7s,baz=225,slow=2.9,SNR=3.9				
ZAA0	**Zalesovo Array**	**142.51 28**	PKPdf	**PKiKP**	**13 11 14.9 -1.5**
ZALV	**Zalesovo Beam**	**142.51 28**	PKhKP	PKPpre	13 11 10.1
	comp=Z,1.8nm,0.6s,baz=292,slow=3.7,SNR=10				
ZALV			SKP		13 14 28.0
	comp=Z,1.2nm,0.7s,baz=285,slow=2.8,SNR=2.9				
ZALV	**Zalesovo Beam**	**142.51 28**	PKPdf	**PKPdf**	**13 11 14.3 +1.0**
KSH	**Kashi**	**144.47 54**	PKP	**PKPab**	**13 11 16.3 0.0**
KSH			pPKP	pPKPdf	13 12 14.0 +0.2
MAKZ	**Makanchi**	**145.50 39**		**PKPab**	**13 11 20.1 +0.3**
MKAR	**Makanchi Array**	**145.69 39**	PKPbc	**PKPbc**	**13 11 20.0 +0.1**
	comp=Z,8.6nm,0.7s,baz=310,slow=3.3,SNR=79				
MKAR			SKPbc	**SKPbc**	**13 14 38.2 -0.5**
	comp=Z,1.6nm,0.9s,baz=328,slow=2.4,SNR=4.8				
SIJI	**Sorong**	**150.41 219**	PKPbc	**PKPbc**	**13 11 33.4 +0.1**
	comp=Z,28nm,0.7s,baz=32,slow=4.6,SNR=23				
WMQ	**Urumqi**	**150.51 39**	*e*P	**PKPdf**	**13 11 27.5 +0.4**
SONM	**Songino Array**	**154.75 11**	PKP	**PKPdf**	**13 11 32.1 -1.2**
	comp=Z,0.8nm,0.9s,baz=302,slow=0.6,SNR=6.3				
SONM			PKPbc	**PKPbc**	**13 11 41.9 -0.2**
	comp=Z,0.7nm,0.5s,baz=296,slow=0.8,SNR=9.6				
SONM	**Songino Array**	**154.75 11**		**PKPdf**	**13 11 32.8 -0.4**
SONM			PKPbc	**PKiKP**	**13 11 42.3 +0.2**
SONM			PKPab	**PKPab**	**13 11 58.5 +0.7**
XLT	**XiLinHaoTe**	**159.17 354**	*e*P	**PKPdf**	**13 11 32.3 -6.6**
XLT			pmax	pmax	
	comp=Z,7.0nm,1.4s				
XLT			pmax	pmax	
	comp=Z,570nm,4.6s				
GTA	**Gaotai**	**160.14 32**	*e*PKPbc	**PKPdf**	**13 11 40.6 +0.3**
GTA			pPKP	pPKPdf	13 12 40.9 +4.1
GTA			sPKP		13 12 59.6
HHC	**Hu-ho-hao-te**	**162.28 4**	*e*P	**PKPdf**	**13 11 39.4 -3.0**
CMAR	**Chiang Mai Arr**	**165.79 106**	PKP	**PKPdf**	**13 11 46.4 +0.3**
	comp=Z,0.7nm,0.3s,baz=270,slow=2.7,SNR=4.3				
CMAR			PKPab	**PKPab**	**13 12 47.0 +0.2**
	comp=Z,0.8nm,0.3s,baz=252,slow=5.9,SNR=6.0				
NJ2	**Nanjing**	**169.85 332**	*e*P	**PKPdf**	**13 11 48.4 -0.1**
NJ2			pmax	pmax	
	comp=Z,5.0nm,0.5s				

*DDA **24** 13:02:00.1±0.0, 39°.04N×26°.23E, h7km±2km, ML2.5*
*ISK **24** 13:02:00.3, 39°.05N×26°.25E, h13km, ML2.4/12*
*ATH **24** 13:02:01.5, 39°.03N×26°.20E, h15km±4km, ML2.5/4, Error ellipse: s-maj=4.3km s-min=1.6km az=1.0*
*THE **24** 13:02:01.5, 39°.05N×26°.19E, h15km±1km, ML2.3/3, Error ellipse: s-maj=1.4km s-min=0.7km az=275.0*

ISC 24 13:02:00.8±0.8, 39°.05N±0°.02×26°.25E±0°.02, h12km, n40, σ0s62/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.20**	**6**	P	**Pb**	**13 02 06.3**	**-0.1**
PRK				S	**Sg**	**13 02 10.0**	**+1.8**
	2μm,0.3s						
PRK	**Paraskevi**	**0.20**	**6**	P	**Pb**	**13 02 06.3**	**-0.1**
PRK				S	**Sg**	**13 02 10.2**	**+2.0**
PRK				AML	AML	13 02 10.4	
	comp=E,3304μm,0.3s						
PRK				AML	AML	13 02 10.4	
	comp=N,4124μm,0.3s						
SIGR	**SIGRI**	**0.34**	**299**	P	**Pg**	**13 02 07.7**	**-0.1**
SIGR				S	**Sg**	**13 02 12.7**	**+0.3**
	comp=N,310nm,0.4s						
SIGR	**SIGRI**	**0.34**	**299**	P	**Pg**	**13 02 07.9**	**+0.1**
SIGR				S	**Sg**	**13 02 12.8**	**+0.4**
SIGR				AML	AML	13 02 13.6	
	comp=E,658μm,0.5s						
SIGR				AML	AML	13 02 17.3	
	comp=N,616μm,0.2s						
SIGR	**SIGRI**	**0.34**	**299**	PG	**Pg**	**13 02 07.9**	**+0.1**
SIGR				SG	**Sg**	**13 02 12.7**	**+0.3**
AYVA	**Ayvalik**	**0.43**	**53**	P	**Pg**	**13 02 09.4**	**0.0**
AYVA				S	**Sg**	**13 02 15.5**	**+0.3**
AYVA				*i* AML	AML	13 02 16.0	
	comp=N,364nm,0.2s						
AYVA				*i* AML	AML	13 02 16.0	
	comp=N,632nm,0.3s						
KOCA	**Canakkale, Ayv**	**0.46**	**350**	P	**Pg**	**13 02 09.6**	**-0.4**
KOCA				S	**Sb**	**13 02 18.4**	**+0.6**
FOCM	**Foa**	**0.51**	**131**	PG	**Pg**	**13 02 10.7**	**0.0**
FOCM				SG	**Sg**	**13 02 18.3**	**+0.9**
DKL	**Dikili**	**0.52**	**87**	PG	**Pg**	**13 02 10.8**	**-0.1**
DKL				SG	**Sg**	**13 02 18.5**	**+0.7**
ZEDA	**zmir-Bergama**	**0.65**	**97**	P	**Pg**	**13 02 13.0**	**-0.5**
CHOS	**Chios island**	**0.68**	**193**	P	**Pg**	**13 02 14.1**	**+0.1**
CHOS				S	**Sb**	**13 02 24.2**	**+0.3**
	comp=N,588nm,0.2s						
CHOS	**Chios island**	**0.68**	**193**	P	**Pg**	**13 02 13.1**	**-0.9**
CHOS				AML	AML	13 02 25.2	
	comp=E,1640μm,0.2s						
CHOS				AML	AML	13 02 25.8	
	comp=N,837μm,0.2s						
CHOS	**Chios island**	**0.68**	**193**	PG	**Pg**	**13 02 14.5**	**+0.5**
CHOS				SG	**Sb**	**13 02 24.1**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.73**	**19**	P	**Pg**	**13 02 14.2**	**-0.8**
BAYC				S	**Sb**	**13 02 26.3**	**+0.8**
PSRA	**Psara**	**0.73**	**227**	P	**Pb**	**13 02 15.5**	**0.0**
PSRA				AML	AML	13 02 27.2	
	comp=E,3149μm,0.3s						
PSRA				AML	AML	13 02 27.9	
	comp=N,1834μm,0.2s						
URLA	**Izmir**	**0.74**	**158**	PG	**Pg**	**13 02 14.8**	**-0.3**
URLA				SG	**Sg**	**13 02 25.7**	**+0.9**
URLA	**Izmir**	**0.74**	**158**	P	**Pg**	**13 02 14.5**	**-0.6**
URLA				S	**Sg**	**13 02 25.2**	**+0.4**
URLA				*i* AML	AML	13 02 27.0	
	comp=N,176nm,0.4s						
URLA				*i* AML	AML	13 02 28.0	
	comp=N,148nm,0.4s						
EZN	**Ezine**	**0.78**	**5**	P	**Pg**	**13 02 15.6**	**-0.4**
EZN				S	**Sb**	**13 02 28.0**	**+1.1**
EZN	**Ezine**	**0.78**	**5**	PG	**Pg**	**13 02 15.6**	**-0.4**
EZN				SG	**Sg**	**13 02 27.0**	**+0.8**
BUHA	**Balikesir, Bur**	**0.79**	**55**	P	**Pg**	**13 02 15.8**	**-0.4**
BUHA				S	**Sg**	**13 02 27.0**	**+0.6**
BUHA				*i* AML	AML	13 02 29.0	
	comp=N,162nm,0.3s						
BUHA				*i* AML	AML	13 02 30.0	
	comp=N,134nm,0.4s						
BOZC	**Bozcaada**	**0.81**	**349**	PG	**Pg**	**13 02 16.2**	**-0.3**
BOZC				SG	**Sb**	**13 02 27.9**	**+0.2**
BOZC	**Bozcaada**	**0.81**	**349**	P	**Pg**	**13 02 15.8**	**-0.7**
BOZC				S	**Sg**	**13 02 27.5**	**+0.5**
BOZC				*i* AML	AML	13 02 28.0	
	comp=N,189nm,0.2s						
BOZC				*i* AML	AML	13 02 29.0	
	comp=N,268nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.83**	**166**	P	**Pg**	**13 02 15.8**	**-1.1**
ZEYE				*i* AML	AML	13 02 29.0	
	comp=N,266nm,0.3s						
ECEA	**Canakkale, Ece**	**1.00**	**357**	P	**Pb**	**13 02 19.7**	**-0.4**
ECEA				S	**Sb**	**13 02 33.5**	**+0.4**
ECEA				*i* AML	AML	13 02 37.0	
	comp=N,129nm,0.4s						
GADA	**Gvkgeada**	**1.17**	**347**	P	**Pb**	**13 02 22.0**	**-1.1**
GADA				S	**Sb**	**13 02 38.0**	**-0.2**
GADA	**Gvkgeada**	**1.17**	**347**	PN	**Pb**	**13 02 22.5**	**-0.6**
LIA	**Limnos Island**	**1.18**	**316**	P	**Pb**	**13 02 22.8**	**-0.4**
LIA	**Limnos Island**	**1.18**	**316**	P	**Pb**	**13 02 22.6**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.19**	**73**	P	**Pn**	**13 02 22.7**	**-0.6**
STEP				S	**Sb**	**13 02 38.8**	**0.0**
STEP				*i* AML	AML	13 02 42.0	
	comp=N,70nm,0.3s						
BALY	**Balya**	**1.27**	**57**	P	**Pn**	**13 02 24.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.36**	**7**	PN	**Pn**	**13 02 25.2**	**-0.5**
LPK	**Lapseki**	**1.38**	**17**	PN	**Pb**	**13 02 25.4**	**-0.6**
SMG	**Samos**	**1.41**	**161**	P	**Pb**	**13 02 27.3**	**+0.2**
GONE	**Gonen-Balikesi**	**1.50**	**48**	PN	**Pn**	**13 02 27.2**	**-0.3**
SMTH	**Samothraki Isl**	**1.53**	**339**	P	**Pn**	**13 02 27.4**	**-0.5**
KRBG	**Karabiga-Canak**	**1.57**	**31**	PN	**Pn**	**13 02 28.2**	**-0.3**
ERIK	**Erikli-Kesan**	**1.64**	**7**	PN	**Pn**	**13 02 29.2**	**-0.2**
ENEZ	**Enez**	**1.69**	**358**	PN	**Pn**	**13 02 29.9**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.79**	**23**	PN	**Pn**	**13 02 31.3**	**-0.3**
ALN	**Alexandroupoli**	**1.85**	**355**	PN	**Pn**	**13 02 32.5**	**+0.1**

*IDC **24** 13:08:10.5±1.0, 19°.85N×75°.88W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/31, mbtmp3.7/6, ML2.9/1, Error ellipse: s-maj=40.2km s-min=27.1km az=77.0*
*JSN **24** 13:08:12.2±0.6, 19°.82N×75°.52W, h0km±206km, MD4.2*
*NEIC **24** 13:08:14.8±2.6, 19°.72N±0°.07×75°.30W±0°.06, h20km±6km, mb4.2/5, Error ellipse: s-maj=9.8km s-min=7.9km az=181.0*
*SSNC **24** 13:08:14.6±1.3, 19°.79N×75°.42W, h23km±7km, MD3.4, ML3.5, MW3.7*

ISC 24 13:08:14.1±0.8, 19°.82N±0°.04×75°.40W±0°.03, h25km±6km, n46, σ1s64/57, mb4.0/7, 2C-4D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.29**	**68**	Pg	**Pb**	**13 08 20.8**	**-0.2**
GTBY				Sg	**Sb**	**13 08 26.1**	**+0.4**
GTBY	**Guantanamo Bay**	**0.29**	**68**	*e*P	**Pb**	**13 08 21.2**	**+0.2**
GTBY				*e*S	**Sb**	**13 08 26.1**	**+0.4**
RCC	**Rio Carpintero**	**0.33**	**302**	*i* P	**Pb**	**13 08 21.2**	**-0.4**
RCC				*e*S	**Sb**	**13 08 26.2**	**-0.5**
GTMO	**Guantanamo**	**0.35**	**43**	*e*S	**Sb**	**13 08 28.4**	**+1.1**
MOAC	**Moa**	**0.93**	**26**	*i* P	**Pb**	**13 08 30.3**	**-1.3**
MOAC				*e*S	**Sb**	**13 08 43.1**	**-0.5**
MOAC				IAML		13 08 45.7	
	comp=N,891nm,0.3s						
MOAC				IAML		13 08 45.9	
	comp=E,988nm,0.3s						
MASC	**Masc**	**1.15**	**72**	*e*P	**Pn**	**13 08 32.9**	**-1.8**
MASC				*e*S	**Sb**	**13 08 47.3**	**-2.7**
MASC				IAML		13 08 51.8	
	comp=N,993nm,0.2s						
MASC				IAML		13 08 51.9	
	comp=E,1μm,0.2s						
HLGC	**Holguin**	**1.23**	**330**	*e*P	**Pb**	**13 08 36.8**	**0.0**
HLGC				*e*S	**Sb**	**13 08 55.8**	**+3.5**
HLGC				IAML		13 08 59.1	
	comp=N,992nm,0.4s						
HLGC				IAML		13 09 00.5	
	comp=E,630nm,0.5s						
CMJ	**Castle Mountai**	**1.91**	**209**	*i* P	**Pn**	**13 08 44.0**	**-1.1**
STH	**Stony Hill**	**2.19**	**218**	⇓*i* P	**Pn**	**13 08 47.3**	**-1.7**
HOJ	**Hope**	**2.21**	**216**	⇓*i* P	**Pn**	**13 08 48.0**	**-1.3**
BBJ	**Bamboo Saint A**	**2.27**	**231**	⇓*i* P	**Pn**	**13 08 48.5**	**-1.6**
CVJ	**Coleyville**	**2.57**	**232**	*i* P	**Pn**	**13 08 52.7**	**-1.6**
MTDJ	**Mount Denham**	**2.57**	**232**	Pn	**Pn**	**13 08 52.4**	**-1.9**
MTDJ	**Mount Denham**	**2.57**	**232**	*e*P	**Pn**	**13 08 52.4**	**-1.9**
CCCC	**Cccc**	**2.61**	**302**	⇓*e*P	**Pn**	**13 08 52.2**	**-2.5**
CCCC				*e*S	**Sn**	**13 09 21.7**	**-4.0**
CCCC				IAML		13 09 26.2	
	comp=E,108nm,0.5s						
CCCC				IAML		13 09 27.7	
	comp=N,112nm,0.5s						
MCJ	**Malvern**	**2.87**	**229**	⇑*i* P	**Pn**	**13 08 57.6**	**-0.8**
MCJ				⇑*i* S	**Sn**	**13 09 30.9**	**-1.4**
LGNH	**Logne**	**2.94**	**116**	Pn	**Pn**	**13 08 57.0**	**-2.3**
JAKH	**Jacmel**	**3.15**	**120**	Pn	**Pn**	**13 09 00.4**	**-1.7**
SDDR	**Presa de Saban**	**3.97**	**101**	Pn	**Pn**	**13 09 13.0**	**-0.5**
SDDR	**Presa de Saban**	**3.97**	**101**	*e*P	**Pn**	**13 09 13.5**	**+0.1**
GRTK	**Grand Turk**	**4.33**	**66**	Pn	**Pn**	**13 09 18.8**	**+0.4**
MGV	**Manicaragua**	**4.85**	**299**	*e*P	**Pn**	**13 09 26.5**	**+1.0**
MGV				*e*S	**Sn**	**13 10 19.2**	**-1.7**
MGV				IAML		13 10 23.2	
	comp=E,11nm,1.0s						
MGV				IAML		13 10 23.5	
	comp=N,16nm,0.7s						
BANI	**BANI**	**4.97**	**106**	Pn	**Pn**	**13 09 27.6**	**+0.3**
DR12	**Loma Pena Alta**	**5.77**	**99**	Pn	**Pn**	**13 09 39.1**	**+0.8**
CRPR	**Cabo Rojo, PR**	**8.05**	**102**	Pn	**Pn**	**13 10 10.7**	**+1.2**
CELP	**Cerrillos**	**8.52**	**100**	Pn	**Pn**	**13 10 15.9**	**-0.1**
HUMP	**Col San Antoni**	**9.19**	**99**	Pn	**Pn**	**13 10 22.9**	**-2.3**
SDV	**Santo Domingo**	**11.81**	**156**	Pn	**Pn**	**13 11 04.2**	**+3.0**
	comp=N,0.7nm,0.3s,baz=217,slow=11,SNR=1.7						
BIRV	**Birongo**	**12.80**	**135**	Pn	**Pn**	**13 11 13.5**	**-1.1**
RIMA	**Rio Macho**	**12.91**	**220**	Pn	**Pn**	**13 11 17.8**	**+1.4**
BAUV	**El Baul**	**12.94**	**146**	Pn	**Pn**	**13 11 16.9**	**+0.3**
WVT	**Waverly**	**19.58**	**329**	P	**Pn**	**13 12 42.1**	**+0.4**
N47A	**Urbana**	**22.76**	**339**	P	**P**	**13 13 17.4**	**+2.8**
SCHQ	**Schefferville**	**35.56**	**9**	P	**P**	**13 15 09.7**	**+0.6**
	comp=N,1.2nm,0.6s,baz=221,slow=10,SNR=6.2						
SCHQ	**Schefferville**	**35.56**	**9**	P	**P**	**13 15 10.5**	**+1.3**
SCHQ				IAmb	IAmb	13 15 36.7	
	comp=Z,6.9nm,1.2s						
PDAR	**Pinedale Array**	**36.70**	**316**	P	**P**	**13 15 16.1**	**-3.4**
	comp=Z,0.3nm,0.6s,baz=121,slow=16,SNR=4.5						
PDAR	**Pinedale Array**	**36.70**	**316**	P	**P**	**13 15 21.8**	**+2.3**
MOOW	**Moose Ponds**	**37.93**	**317**	P	**P**	**13 15 31.6**	**+1.8**
MOOW				IAmb	IAmb	13 15 39.7	
	comp=Z,3.2nm,1.2s						
FCC	**Fort Churchill**	**41.20**	**345**	P	**P**	**13 15 56.8**	**+0.3**
NVAR	**Mina Array Bea**	**41.39**	**306**	P	**P**	**13 15 56.1**	**-2.6**
	comp=Z,0.2nm,0.5s,baz=88,slow=9.3,SNR=1.7						
YKA	**Yellowknife Ar**	**50.41**	**338**	P	**P**	**13 17 08.4**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=127,slow=9.1,SNR=6.2						
A36M	**Sachs Harbour**	**59.39**	**344**	P	**P**	**13 18 13.9**	**-0.1**
A36M				IAmb	IAmb	13 18 15.4	
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**78.14**	**29**	P	**P**	**13 20 12.1**	**+1.2**
	comp=Z,3.1nm,1.1s,baz=264,slow=3.5,SNR=4.9						
STKA	**Stephens Creek**	**144.78**	**243**	PKP	**PKPab**	**13 27 47.7**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=74,slow=4.9,SNR=8.4						
WRA	**Warramunga Arr**	**152.05**	**265**	PKP	**PKPdf**	**13 28 01.7**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=77,slow=1.7,SNR=5.8						
WRA				PKPbc	**PKPbc**	**13 28 07.1**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=85,slow=3.0,SNR=9.2						
ASAR	**Alice Springs**	**152.54**	**257**	PKP	**PKPdf**	**13 28 01.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=124,slow=2.1,SNR=6.7						
ASAR				PKPbc	**pPKPdf**	**13 28 08.3**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=84,slow=2.0,SNR=19						

IDC 24 13:08:23.6±4.1, 3°.86S×143°.38E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.6/29, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=134.3km s-min=27.0km az=100.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.26**	**208**	P	P	13 12 39.0	+0.2
	0.5nm,0.3s,baz=28,slow=12,SNR=24						
ASAR	**Alice Springs**	**21.72**	**204**	P	P	13 13 16.3	-0.2
	0.4nm,0.6s,baz=34,slow=7.3,SNR=25						
FITZ	**Fitzroy Crossi**	**22.41**	**229**	P	P	13 13 23.9	-0.1
	1.7nm,0.9s,baz=56,slow=12,SNR=1.2						
MKAR	**Makanchi Array**	**73.57**	**321**	P	P	13 19 58.6	0.0
	0.2nm,0.6s,baz=105,slow=7.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**75.30**	**329**	P	P	13 20 08.6	+0.1
	0.7nm,0.7s,baz=104,slow=6.1,SNR=1.8						

*NEIC **24** 13:12:42.1±1.0, 59°.78N±0°.03×153°.06W±0°.07, h114km±4km, Error ellipse: s-maj=5.0km s-min=4.2km az=85.0*
*AEIC **24** 13:12:43±1.1, 59°.77N±0°.03×153°.07W±0°.07, h107km±2km, ML3.0, ML3.4/100(NEIC), Error ellipse: s-maj=5.0km s-min=4.8km az=133.0*
*IDC **24** 13:12:45.6±8.5, 60°.19N×153°.10W, h125km±69km, mb3.2/2, mb1 2.9/4, mb1mx2.8/44, mbtmp3.2/4, Error ellip

OHAK				IAML		13 14 00.0	
	comp=N,109nm,2.6s						
PMR	**Palmer**	**2.62**	**45**		**Pn**	**13 13 22.8**	**-0.6**
PMR	**Palmer**	**2.62**	**45**	IAML		13 13 55.7	
	comp=N,74nm,0.1s						
L20K	**Farewell, AK**	**2.71**	**351**		**Pn**	**13 13 25.4**	**+0.7**
KNK	**Knik Glacier**	**2.76**	**52**		**Pn**	**13 13 24.9**	**-0.5**
KNK	**Knik Glacier**	**2.76**	**52**	IAML		13 13 58.6	
	comp=E,126nm,0.6s						
KNK				IAML		13 13 59.1	
	comp=N,158nm,0.5s						
GHO	**Glory Hole Cre**	**2.81**	**44**		**Pn**	**13 13 25.7**	**-0.3**
GHO	**Glory Hole Cre**	**2.81**	**44**	IAML		13 14 07.0	
	comp=E,88nm,0.4s						
GHO				IAML		13 14 07.2	
	comp=N,84nm,0.3s						
CUT	**Chulitna**	**2.92**	**26**		**Pn**	**13 13 28.1**	**+0.7**
CUT	**Chulitna**	**2.92**	**26**	IAML		13 14 08.5	
	comp=N,126nm,1.0s						
CUT				IAML		13 14 09.1	
	comp=E,120nm,0.5s						
SML	**Sawmill**	**3.05**	**47**		**Pn**	**13 13 28.7**	**-0.5**
SML	**Sawmill**	**3.05**	**47**	IAML		13 14 12.2	
	comp=E,60nm,0.8s						
PPLA	**Purkeypile**	**3.12**	**7**		**Pn**	**13 13 31.2**	**+1.0**
GLI	**Glacier Island**	**3.13**	**67**		**Pn**	**13 13 29.1**	**-1.1**
GLI	**Glacier Island**	**3.13**	**67**	IAML		13 14 06.1	
	comp=E,125nm,0.5s						
GLI				IAML		13 14 07.8	
	comp=N,97nm,0.4s						
SII	**Sitkinak Islan**	**3.32**	**191**	Pn	**Pn**	**13 13 31.3**	**-1.5**
FID	**Port Fidalgo**	**3.39**	**71**		**Pn**	**13 13 31.9**	**-1.7**
FID	**Port Fidalgo**	**3.39**	**71**	IAML		13 14 12.7	
	comp=N,136nm,0.3s						
Q23K	**Middleton Isla**	**3.41**	**94**	Pn	**Pn**	**13 13 34.0**	**+0.2**
MID	**Middleton Isla**	**3.41**	**94**	Pn	**Pn**	**13 13 34.0**	**+0.1**
JPK	**Jack Peak**	**3.42**	**66**		**Pn**	**13 13 33.4**	**-0.7**
TT01	**Tatalina**	**3.43**	**336**		**Pn**	**13 13 34.0**	**-0.1**
SCM	**Sheep Creek Mo**	**3.45**	**51**		**Pn**	**13 13 34.2**	**-0.2**
SCM	**Sheep Creek Mo**	**3.45**	**51**	IAML		13 14 18.4	
	comp=E,50nm,0.5s						
SCM				IAML		13 14 36.5	
	comp=N,50nm,3.7s						
TTA	**Tatalina**	**3.45**	**337**		**Pn**	**13 13 34.2**	**-0.2**
K20K	**Telida**	**3.60**	**352**		**Pn**	**13 13 36.5**	**+0.1**
CAST	**Castle Rocks**	**3.65**	**7**		**Pn**	**13 13 37.7**	**+0.6**
EYAK	**Cordova Ski Ar**	**3.70**	**75**		**Pn**	**13 13 36.8**	**-1.0**
DIV	**Divide**	**3.82**	**67**		**Pn**	**13 13 39.0**	**-0.4**
KLU	**Klutina**	**3.88**	**61**		**Pn**	**13 13 39.6**	**-0.6**
KLU	**Klutina**	**3.88**	**61**	IAML		13 14 26.6	
	comp=E,56nm,0.5s						
KLU				IAML		13 14 26.6	
	comp=N,96nm,0.6s						
TRF	**Thorofare Moun**	**3.88**	**18**		**Pn**	**13 13 40.5**	**+0.2**
TRF				IAML		13 14 24.7	
	comp=E,29nm,3.7s						
TRF				IAML		13 14 47.1	
	comp=N,31nm,4.5s						
KTH	**Kantishna Hill**	**3.89**	**14**		**Pn**	**13 13 40.5**	**+0.2**
M24K	**Tolsona, Glenn**	**4.05**	**52**		**Pn**	**13 13 42.7**	**+0.1**
M24K	**Tolsona, Glenn**	**4.05**	**52**	IAML		13 15 04.1	
	comp=N,66nm,2.4s						
CHUM	**Lake Minchumin**	**4.10**	**4**		**Pn**	**13 13 43.9**	**+0.8**
RND	**Reindeer**	**4.12**	**27**		**Pn**	**13 13 43.6**	**+0.2**
RND	**Reindeer**	**4.12**	**27**	IAML		13 14 37.3	
	comp=N,28nm,4.2s						
GOAT	**Goat Mountain**	**4.21**	**76**		**Pn**	**13 13 44.1**	**-0.6**
PS11	**TAPS Pump St11**	**4.33**	**55**		**Pn**	**13 13 46.5**	**+0.4**
BMRM	**Bremner River**	**4.33**	**71**		**Pn**	**13 13 45.9**	**-0.4**
BMRM	**Bremner River**	**4.33**	**71**	IAML		13 14 46.9	
	comp=N,50nm,3.6s						
BMRM				IAML		13 16 06.6	
	comp=E,40nm,3.5s						
MCK	**McKinley**	**4.39**	**24**		**Pn**	**13 13 47.7**	**+0.7**
MCK	**McKinley**	**4.39**	**24**	IAML		13 14 42.3	
	comp=N,28nm,3.3s						
MCK				IAML		13 14 42.4	
	comp=E,21nm,3.0s						
BPAW	**Bear Paw Mtn.**	**4.41**	**12**		**Pn**	**13 13 48.3**	**+1.0**
BPAW	**Bear Paw Mtn.**	**4.41**	**12**	IAML		13 15 19.0	
	comp=E,21nm,3.9s						
J20K	**Nowinta River**	**4.42**	**354**		**Pn**	**13 13 47.8**	**+0.5**
HMT	**Hamilton**	**4.42**	**79**	Pn	**Pn**	**13 13 48.1**	**+0.6**
N25K	**Chitina, Valde**	**4.51**	**63**		**Pn**	**13 13 48.3**	**-0.4**
N25K	**Chitina, Valde**	**4.51**	**63**	IAML		13 14 52.1	
	comp=N,36nm,4.0s						
N25K				IAML		13 15 26.9	
	comp=E,24nm,3.4s						
CHGN	**Chignik**	**4.54**	**222**	Pn	**Pn**	**13 13 48.9**	**-0.1**
CHGN				IAML		13 15 24.4	
	comp=N,59nm,3.0s						
CHGN				IAML		13 15 32.0	
	comp=E,48nm,2.8s						
HARP	**HAARP**	**4.61**	**52**		**Pn**	**13 13 50.0**	**0.0**
BWN	**Browne**	**4.69**	**19**	Pn	**Pn**	**13 13 51.4**	**+0.4**
BWN				IAML		13 15 30.0	
	comp=E,39nm,3.3s						
PAX	**Paxson**	**4.82**	**46**		**Pn**	**13 13 53.1**	**+0.2**
GLB	**Gilahina Butte**	**4.82**	**66**		**Pn**	**13 13 52.6**	**-0.3**
GLB	**Gilahina Butte**	**4.82**	**66**	IAML		13 14 48.7	
	comp=N,37nm,0.7s						
GLB				IAML		13 15 34.2	
	comp=E,28nm,3.2s						
VRDI	**Verde Repeater**	**4.93**	**69**		**Pn**	**13 13 53.7**	**-0.8**
VRDI				IAML		13 15 51.8	
	comp=E,20nm,3.3s						
VRDI				IAML		13 16 43.4	
	comp=N,34nm,4.5s						
WAX	**Waxell Ridge**	**5.12**	**78**		**Pn**	**13 13 56.7**	**-0.3**
SNH	**Sunshine Point**	**5.12**	**81**	Pn	**Pn**	**13 13 57.6**	**+0.6**
NEA2	**Nenana**	**5.14**	**19**		**Pn**	**13 13 57.0**	**-0.1**
NEA2	**Nenana**	**5.14**	**19**	IAML		13 16 40.8	
	comp=N,16nm,4.8s						
NEA2				IAML		13 17 04.4	
	comp=E,16nm,4.8s						
WRH	**Wood River Hil**	**5.22**	**24**		**Pn**	**13 13 58.0**	**-0.1**
WRH	**Wood River Hil**	**5.22**	**24**	IAML		13 15 60.0	
	comp=N,19nm,4.9s						
WRH				IAML		13 16 10.0	
	comp=E,18nm,4.4s						
GCSA	**Galena City Sc**	**5.27**	**342**		**Pn**	**13 13 59.0**	**+0.1**
ISLE	**Juniper Island**	**5.38**	**77**	Pn	**Pn**	**13 14 01.2**	**+0.6**
PTPK	**Patty Peak**	**5.39**	**71**		**Pn**	**13 14 01.2**	**+0.5**
KIAG	**Kiagna River**	**5.41**	**73**		**Pn**	**13 14 01.1**	**+0.2**
I21K	**Tanana**	**5.41**	**5**	Pn	**Pn**	**13 14 01.8**	**+1.0**
HDA	**Harding Lake**	**5.42**	**29**		**Pn**	**13 14 00.7**	**-0.2**
BALM	**Baldy**	**5.43**	**72**		**Pn**	**13 14 00.7**	**-0.5**
CCB	**Clear Creek Bu**	**5.43**	**24**		**Pn**	**13 14 00.7**	**-0.3**
MENT	**Mentasta**	**5.46**	**51**	Pn	**Pn**	**13 14 01.5**	**+0.1**
M26K	**Nabesna, AK**	**5.51**	**58**	Pn	**Pn**	**13 14 02.3**	**+0.1**
RIDG	**Independent Ri**	**5.53**	**41**	Pn	**Pn**	**13 14 02.4**	**0.0**
MESA	**MESA**	**5.57**	**81**		**Pn**	**13 14 02.6**	**-0.5**
I23K	**Minto, Yukon-K**	**5.62**	**16**	Pn	**Pn**	**13 14 03.9**	**+0.4**
TCOL	**CIGO, UAF Yank**	**5.62**	**23**	Pn	**Pn**	**13 14 03.5**	**0.0**
COLA	**College**	**5.62**	**23**		**Pn**	**13 14 03.5**	**-0.1**
MDM	**Murphy Dome**	**5.62**	**21**	Pn	**Pn**	**13 14 03.5**	**-0.2**
L26K	**Log Cabin Wild**	**5.65**	**51**	Pn	**Pn**	**13 14 04.1**	**0.0**
YAH	**Yahtse**	**5.67**	**80**		**Pn**	**13 14 05.1**	**+0.6**
DOT	**Dot Lake**	**5.74**	**44**	Pn	**Pn**	**13 14 05.8**	**+0.6**
IL31		**5.74**	**27**		**Pn**	**13 14 05.0**	**-0.2**
ILAR	**Eielson Array**	**5.74**	**27**	P	**Pn**	**13 14 04.8**	**-0.4**
	comp=E,0.6nm,0.3s,baz=218,slow=13,SNR=28						
ILAR				S	**Sn**	**13 15 05.0**	**-4.7**
	comp=E,0.6nm,0.3s,baz=240,slow=16,SNR=4.3						
BARN	**Barnard Glacie**	**5.76**	**73**		**Pn**	**13 14 06.4**	**+0.7**
H21K	**Melozitna Rive**	**5.87**	**1**	Pn	**Pn**	**13 14 07.4**	**+0.4**
CTGM	**Chitina Glacie**	**5.91**	**74**		**Pn**	**13 14 08.0**	**+0.3**
POKR	**Poker Plat Res**	**5.92**	**24**	Pn	**Pn**	**13 14 07.8**	**+0.2**
TABL	**Table Mountain**	**5.97**	**79**		**Pn**	**13 14 08.8**	**+0.3**
SCRK	**Sand Creek**	**5.97**	**42**	Pn	**Pn**	**13 14 08.4**	**0.0**
M27K	**Edge Creek, AK**	**5.98**	**60**	Pn	**Pn**	**13 14 09.1**	**+0.5**
SDPT	**Sand Point**	**6.01**	**225**	Pn	**Pn**	**13 14 07.7**	**-1.2**
IM03		**6.21**	**357**		**Pn**	**13 14 11.7**	**+0.3**
IMAR	**Indian Mountai**	**6.21**	**357**	Pn	**Pn**	**13 14 12.1**	**+0.6**
L27K	**Beaver Creek,**	**6.28**	**54**	Pn	**Pn**	**13 14 12.5**	**-0.1**
BC03		**6.30**	**54**		**Pn**	**13 14 11.9**	**-0.8**
BCAR	**Beaver Creek A**	**6.30**	**54**	Pn	**Pn**	**13 14 12.3**	**-0.5**
PCA	**Pinnacle**	**6.42**	**82**	Pn	**Pn**	**13 14 15.3**	**+0.8**
J26L	**Joseph Creek**	**6.46**	**39**	Pn	**Pn**	**13 14 15.4**	**+0.4**
H24K	**Noodor Dome**	**6.49**	**19**	Pn	**Pn**	**13 14 15.4**	**0.0**
PRP	**Porcupine Dome**	**6.68**	**28**	Pn	**Pn**	**13 14 18.6**	**+0.5**
EGAK	**Eagle**	**7.43**	**43**	Pn	**Pn**	**13 14 28.3**	**+0.1**
ANM	**Nome**	**7.49**	**315**	Pn	**Pn**	**13 14 29.4**	**+0.5**
COLD	**Coldfoot**	**7.55**	**8**	Pn	**Pn**	**13 14 30.0**	**+0.3**
FYU	**Fort Yukon**	**7.63**	**24**	Pn	**Pn**	**13 14 30.9**	**+0.1**
DAWY	**Dawson**	**7.71**	**51**	Pn	**Pn**	**13 14 31.7**	**-0.2**
M30M	**Minto, Yukon**	**8.31**	**64**	Pn	**Pn**	**13 14 39.9**	**-0.1**
BM03	**Burnt Mountain**	**8.50**	**22**		**Pn**	**13 14 41.0**	**-1.5**
BMAR	**Burnt Mountain**	**8.51**	**22**	Pn	**Pn**	**13 14 42.8**	**+0.1**
N31M	**Braeburn, Yuko**	**8.63**	**71**	Pn	**Pn**	**13 14 44.6**	**+0.2**
WHY	**Whitehorse**	**9.06**	**77**	Pn	**Pn**	**13 14 50.7**	**+0.4**
M31M	**Drury Creek, Y**	**9.35**	**67**	Pn	**Pn**	**13 14 54.6**	**+0.5**
P33M	**Teslin, Yukon**	**10.12**	**79**	Pn	**Pn**	**13 15 04.2**	**-0.4**
DLBC	**Dease Lake**	**11.87**	**87**	Pn	**Pn**	**13 15 31.8**	**+3.7**
A36M	**Sachs Harbour**	**16.42**	**31**		**P**	**13 16 27.1**	**+0.3**
YKA	**Yellowknife Ar**	**18.54**	**65**	P	**P**	**13 16 51.2**	**+1.1**
	comp=E,0.0nm,0.3s,baz=278,slow=9.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**57.52**	**324**	P	**P**	**13 22 19.4**	**-0.3**
	comp=E,0.9nm,0.6s,baz=22,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**64.58**	**321**	P	**P**	**13 23 06.2**	**-1.4**
	comp=E,0.2nm,0.7s,baz=47,slow=6.9,SNR=1.8						

*IDC **24** 13:32:50.8±0.9, 17°.68S×167°.51E, h0km, mb4.2/14, mb1 4.4/16, mb1mx4.1/39, mbtmp4.3/16, ML4.1/2, Error ellipse: s-maj=23.7km s-min=18.1km az=127.0*
*NEIC **24** 13:32:52.3±1.9, 17°.62S±0°.03×167°.53E±0°.09, h10km±1km, mb4.5/17, Error ellipse: s-maj=15.1km s-min=4.9km az=81.0*

ISC 24 13:32:53.7±0.5, **17°.73S**±0°.05×**167°.46E**±0°.08, **h19**km, **n61**, σ**1934**/60, **mb4.5**/25, **1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.29**	**354**	Pn	**Pn**	**13 33 28.4**	**-2.1**
LIFNC	**LIFOU**	**3.03**	**184**		**Pn**	**13 33 41.1**	**+0.4**
MARNC	**Mare, Loyalty**	**3.77**	**172**		**Pn**	**13 33 47.0**	**-3.7**
DZM	**Mont Dzumac**	**4.42**	**192**	Pn	**Pn**	**13 33 58.9**	**-0.9**
	4.5nm,0.3s,baz=46,slow=7.4,SNR=54						
DZM				Sn	**Sn**	**13 34 46.5**	**-4.4**
	4.3nm,0.3s,baz=112,slow=21,SNR=4.2						
DZM	**Mont Dzumac**	**4.42**	**192**	Pn	**Pn**	**13 33 58.0**	**-1.9**
ONTNC	**Ouen Toro**	**4.65**	**192**	Pn	**Pn**	**13 34 02.8**	**-0.1**
OUENC	**Ouen Island, N**	**4.70**	**187**		**Pn**	**13 34 03.8**	**+0.2**
PINNC	**Pines Island,**	**4.85**	**180**	Pn	**Pn**	**13 34 05.2**	**-0.5**
MSVF	**Nonsavu**	**10.09**	**92**	Pn	**Pn**	**13 35 19.8**	**+2.0**
	0.2nm,0.3s,baz=194,slow=6.1,SNR=7.4						
MSVF	**Nonsavu**	**10.09**	**92**	Pn	**Pn**	**13 35 19.4**	**+1.7**
HNR	**Honiara**	**11.02**	**318**	Pn	**Pn**	**13 35 28.7**	**-1.6**
	2.7nm,0.3s,baz=162,slow=6.6,SNR=2.1						
EIDS	**Eidsvold**	**17.01**	**241**	P	**P**	**13 36 54.3**	**+1.9**
ARMA	**Armidale**	**19.16**	**226**	P	**Pn**	**13 37 17.5**	**+0.3**
CTA	**Charters Tower**	**20.20**	**260**	P	**P**	**13 37 28.3**	**+0.8**
	6.5nm,0.7s,baz=93,slow=11,SNR=11						
CTAO	**Charters Tower**	**20.20**	**260**	Pn	Pn	13 37 30.3	+0.9
CTAO				IAmb	IAmb	13 37 41.2	
	comp=Z,15nm,0.8s						
PMG	**Port Moresby**	**21.38**	**290**	P	**P**	**13 37 40.6**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=299,slow=19,SNR=2.2						
URZ	**Urewera**	**22.13**	**159**	P	**P**	**13 37 49.0**	**+0.9**
	comp=Z,9.3nm,0.8s,baz=50,slow=3.3,SNR=4.1						
URZ	**Urewera**	**22.13**	**159**	P	**P**	**13 37 48.8**	**+0.7**
URZ				IAmb	IAmb	13 37 58.0	
	comp=Z,38nm,1.3s						
BKZ	**Black Stump Fm**	**22.76**	**162**	P	**P**	**13 37 54.6**	**-0.3**
BKZ				IAmb	IAmb	13 38 13.6	
	comp=Z,19nm,1.2s						
STKA	**Stephens Creek**	**27.29**	**234**	P	**P**	**13 38 37.6**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=77,slow=8.3,SNR=7.5						
STKA	**Stephens Creek**	**27.29**	**234**	P	**P**	**13 38 37.6**	**+0.5**
WR0	**Warramunga Arr**	**31.21**	**261**	P	**P**	**13 39 11.6**	**-0.5**
WR0				IAmb	IAmb	13 39 23.5	
	comp=Z,6.4nm,1.0s						
WB0	**Warramunga Arr**	**31.35**	**261**	P	**P**	**13 39 12.8**	**-0.5**
WB0				IAmb	IAmb	13 39 24.7	
	comp=Z,8.5nm,0.9s						
WB2	**Warramunga Arr**	**31.38**	**261**	P	**P**	**13 39 12.8**	**-0.9**
WB2				IAmb	IAmb	13 39 27.2	
	comp=Z,7.0nm,0.9s						
WRAB	**Tennant Creek**	**31.39**	**261**	P	**P**	**13 39 13.4**	**-0.2**
WRAB				IAmb	IAmb	13 39 23.3	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**31.40**	**261**	P	**P**	**13 39 13.3**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=92,slow=8.7,SNR=18						
WRA	**Warramunga Arr**	**31.40**	**261**	P	**P**	**13 39 12.4**	**-1.4**
AS31	**Alice Springs**	**31.89**	**254**	P	**P**	**13 39 18.1**	**0.0**
AS31				IAmb	IAmb	13 39 32.5	
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**31.89**	**254**	P	**P**	**13 39 18.2**	**+0.1**
	comp=Z,4.4nm,0.5s,baz=78,slow=8.8,SNR=115						
KNRA	**Kununurra**	**37.08**	**267**	P	**P**	**13 40 01.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**39.73**	**263**	P	**P**	**13 40 26.2**	**+0.9**
	comp=Z,7.2nm,0.9s,baz=100,slow=6.9,SNR=13						
NWAO	**Narrogin (SRO)**	**47.42**	**241**	P	**P**	**13 41 26.7**	**-0.5**
NJ2	**Nanjing**	**67.96**	**317**	*eP*	**P**	**13 43 52.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PEA0B	**Petropavlovsk-**	**71.05**	**354**	P	**P**	**13 44 10.0**	**-0.2**
PETK	**Petropavlovsk-**	**71.05**	**354**	P	**P**	**13 44 09.4**	**-0.8**
	comp=Z,4.9nm,0.9s,baz=152,slow=9.6,SNR=6.6						
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	**13 44 18.0**	**+0.1**
KMI	**Kunming**	**76.05**	**302**	||P	**P**	**13 44 41.8**	**+1.3**
KMI				sP	PcP	13 44 52.8	0.0
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**76.35**	**295**	P	**P**	**13 44 42.6**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=143,slow=5.5,SNR=6.1						
XLT	**XiLinHaoTe**	**77.24**	**325**	*eP*	**P**	**13 44 47.5**	**+0.8**
XLT				pP	sP	13 44 52.4	-0.3
XLT				sP	PcP	13 44 55.0	-2.3
XLT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,500nm,5.9s						
PZH	**PanZhiHua**	**77.48**	**303**	P	**P**	**13 44 50.8**	**+2.4**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						
HHC	**Hu-ho-hao-te**	**77.99**	**320**	*eP*	**P**	**13 44 52.9**	**+1.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,7.0s						
LZH	**Lanzhou**	**80.47**	**313**	*eP*	**P**	**13 45 03.1**	**-1.6**
LZH				pP	pP	13 45 08.8	-0.5
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
SEY	**Seymchan**	**81.27**	**353**	P	**P**	**13 45 08.2**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=160,slow=7.4,SNR=15						
GTA	**Gaotai**	**84.87**	**314**	*eP*	**P**	**13 45 29.8**	**+2.3**
GTA				pP	sP	13 45 34.8	+1.2
GTA				sP	pwP	13 45 38.6	-0.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.6s						
SONM	**Songino Array**	**85.01**	**324**	P	**P**	**13 45 28.3**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=144,slow=5.6,SNR=8.4						
SONM	**Songino Array**	**85.01**	**324**	IAmb	IAmb	13 45 31.7	
	comp=Z,5.8nm,1.4s						
NVAR	**Mina Array Bea**	**89.09**	**49**	P	**P**	**13 45 46.7**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=222,slow=9.3,SNR=3.0						
ILAR	**Eielson Array**	**89.31**	**18**	P	**P**	**13 45 45.2**	**-3.0**
	comp=Z,0.5nm,0.7s,baz=240,slow=5.4,SNR=3.5						
WMQ	**Urumqi**	**94.95**	**314**	*eP*	**P**	**13 46 15.8**	**+0.8**
MKAR	**Makanchi Array**	**99.49**	**316**	P	**Pdif**	**13 46 37.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=86,slow=5.9,SNR=1.7						
ZALV	**Zalesovo Beam**	**99.91**	**323**	P	**Pdif**	**13 46 37.4**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=111,slow=6.3,SNR=1.9						
YKA	**Yellowknife Ar**	**100.12**	**27**	P	**Pdif**	**13 46 37.3**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=260,slow=4.7,SNR=2.7						
ARCES	**ARCESS Array B**	**123.19**	**345**	PKP	**PKiKP**	**13 51 49.6**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=72,slow=0.3,SNR=1.8						
GERES	**GERESS Array B**	**142.37**	**331**	PKP	**PKPdf**	**13 52 25.7**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=57,slow=3.6,SNR=2.2						
ABTA	**Abfaltersbach**	**144.44**	**330**	*eP*	**PKPdf**	**13 52 29.1**	**+0.2**
	comp=Z,2.8nm,0.7s						
MOTA	**Moosalm**	**144.66**	**332**	*eP*	**PKPdf**	**13 52 29.1**	**-0.2**
	comp=Z,6.3nm,1.2s						
RETA	**Reutte**	**144.70**	**332**	*eP*	**PKPdf**	**13 52 28.8**	**-0.6**
	comp=Z,3.9nm,1.1s						
SQTA	**Sankt Quirin**	**144.70**	**332**	*eP*	**PKPdf**	**13 52 29.4**	**0.0**
	comp=Z,5.3nm,1.0s						
FETA	**Feichten**	**145.07**	**332**	*eP*	**PKPdf**	**13 52 30.0**	**-0.1**
	comp=Z,5.7nm,0.9s						
DAVA	**Damuels**	**145.24**	**333**	*eP*	**PKPdf**	**13 52 30.6**	**+0.2**
	comp=Z,5.8nm,0.8s						
ESDC	**Sonseca Array**	**156.90**	**343**	PKPab	**PKPab**	**13 53 18.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=36,slow=3.8,SNR=2.0						

*NEIC **24** 13:33:54.3±1.0, 59°.75N±0°.04×153°.17W±0°.09, h111km±5km, Error ellipse: s-maj=6.3km s-min=5.7km az=100.0*

AEIC 24 13:33:55±1.5, **59°.70N**±0°.04×**153°.16W**±0°.08, **h100**km±5km, **ML2.6, ML3.1**/74(NEIC), **Error ellipse: s-maj=5.8km s-min=5.5km az=63.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.06**	**217**		Pn	13 34 09.7	+0.7
AUL	**Augustine Lava**	**0.35**	**204**		Pn	13 34 10.7	+0.8
AUL					Sn	13 34 22.7	+1.7
O20K	**Slope Mountain**	**0.47**	**35**		Pn	13 34 10.8	+0.2
O20K					Sn	13 34 23.5	+1.1
RED	**Redoubt Volcan**	**0.74**	**15**		Pn	13 34 12.9	-0.1
O19K	**Port Alsworth**	**0.77**	**311**	Pn	Pn	13 34 13.0	0.0
HOM	**Homer**	**0.77**	**93**		Pn	13 34 13.4	+0.3
HOM					Sn	13 34 28.2	+1.6
HOM	**Homer**	**0.77**	**93**	IAML		13 34 35.7	
	comp=E,342nm,2.1s						
RSO	**Redoubt South**	**0.79**	**15**	Pn	Pn	13 34 13.4	-0.1
RSO					Sn	13 34 27.6	+0.2
Q19K	**Cape Douglas,**	**0.81**	**198**		Pn	13 34 14.1	+0.6
Q19K	**Cape Douglas,**	**0.81**	**198**	IAML		13 34 21.6	
	comp=E,399nm,1.6s						
Q19K				IAML		13 34 31.2	
	comp=N,220nm,1.3s						
DFR	**Drift River**	**0.92**	**15**		Sn	13 34 29.6	0.0
RDT	**Redoubt**	**0.95**	**23**		Pn	13 34 14.6	-0.4
CNPM	**China Poot**	**0.99**	**99**		Pn	13 34 15.5	+0.1
CNPM	**China Poot**	**0.99**	**99**	IAML		13 34 23.1	
	comp=N,66nm,3.2s						
CNPM				IAML		13 34 30.5	
	comp=E,127nm,2.8s						
O18K	**Koktuh Hills**	**1.05**	**279**		Pn	13 34 15.6	-0.4
P18K	**Big Mountain,**	**1.10**	**254**		Pn	13 34 15.8	-0.8
BRLK	**Bradley Lake**	**1.15**	**86**		Pn	13 34 16.9	-0.2
BRLK					Sn	13 34 34.5	+0.7
BRSE	**Bradley Lake S**	**1.23**	**87**		Pn	13 34 17.7	-0.2
N19K	**Bonanza Creek**	**1.30**	**330**		Pn	13 34 18.4	-0.5
SPCR	**Spurr Chakacha**	**1.57**	**17**		Pn	13 34 21.7	-0.6
SPU	**Mount Spurr**	**1.58**	**20**	Pn	Pn	13 34 21.6	-0.7
SLKM	**Skilak Lake**	**1.68**	**60**		Sn	13 34 44.5	-0.7
SPCG	**Spurr Capps Gl**	**1.69**	**19**		Pn	13 34 24.0	+0.3
CGLM	**Capps Glacier**	**1.71**	**19**		Pn	13 34 23.6	-0.4
KCG	**Knife Ck. Glac**	**1.73**	**217**		Pn	13 34 24.3	+0.2
KELA	**Mount Kelaz**	**1.84**	**228**		Pn	13 34 25.8	+0.2
O22K	**Cooper Landing**	**1.89**	**64**		Pn	13 34 25.7	-0.4
SEW	**Seward**	**1.91**	**76**		Pn	13 34 26.0	-0.3
STLK	**Strandline Lak**	**1.92**	**19**		Pn	13 34 26.4	-0.1
KDAK	**Kodiak Island**	**1.95**	**171**		Pn	13 34 26.4	-0.5
KDAK					Sn	13 34 51.6	+0.4
RC01	**Rabbit Creek A**	**2.20**	**49**		Pn	13 34 29.8	-0.2
OHAK	**Old Harbor**	**2.49**	**182**		Pn	13 34 32.9	-1.0
L19K	**White Mountain**	**2.62**	**342**		Pn	13 34 34.7	-1.0
PWL	**Port Wells**	**2.67**	**62**		Pn	13 34 35.9	-0.4
PMR	**Palmer**	**2.74**	**45**	Pn	Pn	13 34 36.4	-0.9
PMR			

az=92.0
*NEIC **24** 13:36:55.2±0.6, 30.14S±0.05×177.5W±0.2, h16km±11km, mb4.4/5, Error ellipse: s-maj=23.0km s-min=7.4km az=88.0*
ISC 24 13:36:57.9±1.7, 30.15S±0.09×177.5W±0.3, h35km, n13, σ0.34/12, mb4.2/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**337**	**Pn**	**Pn**	**13 37 14.9**	**-0.1**
	656nm,0.3s,baz=100,slow=21,SNR=3.8						
RAO				Sn	**Sn**	**13 37 27.7**	**0.0**
	366nm,0.3s,baz=11,slow=23,SNR=6.4						
HIZ	**Hauiti**	**10.48**	**215**	Pn	**Pn**	**13 39 25.2**	**-0.4**
MSVF	**Nonsavu**	**13.02**	**341**	LR	LR	13 44 05.7	
	comp=Z,438nm,20.0s,baz=283,slow=33						
TUWZ	**Tuamarina**	**13.23**	**209**	Pn	**Pn**	**13 40 03.0**	**-0.2**
ASAR	**Alice Springs**	**43.58**	**266**	P	**P**	**13 44 59.2**	**+0.3**
	0.1nm,0.3s,baz=103,slow=7.5,SNR=6.5						
WR0	**Warramunga Arr**	**44.36**	**272**	P	**P**	**13 45 05.5**	**+0.3**
WR0				IAmb	IAmb	13 45 29.1	
	comp=Z,7.6nm,1.4s						
WB2	**Warramunga Arr**	**44.53**	**272**	P	**P**	**13 45 06.7**	**+0.2**
WB2				IAmb	IAmb	13 45 19.3	
	comp=Z,9.3nm,1.5s						
WRAB	**Tennant Creek**	**44.54**	**272**	P	**P**	**13 45 07.0**	**+0.5**
WRAB				IAmb	IAmb	13 45 17.2	
	comp=Z,5.5nm,1.4s						
WRA	**Warramunga Arr**	**44.54**	**272**	P	**P**	**13 45 06.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=110,slow=8.1,SNR=14						
WRA	**Warramunga Arr**	**44.54**	**272**	IAmb	IAmb	13 45 12.5	
	comp=Z,0.2nm,1.4s						
VNDA	**Vanda**	**48.39**	**186**	P	**P**	**13 45 36.2**	**+0.2**
MAW	**Mawson**	**72.70**	**200**	P	**P**	**13 48 21.9**	**+0.1**
FINES	**FINESS Array B**	**145.06**	**340**	PKPbc	**PKPab**	**13 56 29.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=44,slow=4.2,SNR=1.4						

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*NEIC **24** 14:16:22.7±0.9, 59.76N±0.04×153.16W±0.02, h109km±5km, Error ellipse: s-maj=5.2km s-min=1.3km az=172.0*
*IDC **24** 14:16:22.5±2.0, 59.74N×153.32W, h94km±33km, mb3.4/4, mb1 3.5/8, mb1mx3.0/53, mbtmp3.7/8, Error ellipse: s-maj=33.0km s-min=15.0km az=120.0*
*AEIC **24** 14:16:23±1.1, 59.73N±0.04×153.15W±0.05, h106km±4km, ML3.2, ML3.5/104(NEIC), Error ellipse: s-maj=5.3km s-min=3.6km az=161.0*
ISC 24 14:16:22.8±0.7, 59.76N±0.04×153.09W±0.04, h109km±6km, n220, σ0.74/212, mb3.8/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.13**	**214**		**Pn**	**14 16 37.9**	**0.0**
OPT	**Oil Point**	**0.13**	**214**	P	**Pn**	**14 16 37.9**	**0.0**
	baz=28						
O20K	**Slope Mountain**	**0.40**	**36**		**Pn**	**14 16 39.2**	**+0.2**
O20K					**Sn**	**14 16 51.8**	**+0.6**
O20K	**Slope Mountain**	**0.40**	**36**	P	**Pn**	**14 16 39.2**	**+0.2**
	baz=217						
O20K				S	**Sn**	**14 16 51.8**	**+0.6**
	baz=217						
AUL	**Augustine Lava**	**0.42**	**205**		**Pn**	**14 16 39.2**	**+0.1**
AUL					**Sn**	**14 16 51.2**	**+0.1**
AUQ	**Augustine Qik'**	**0.44**	**202**		**Pn**	**14 16 39.2**	**0.0**
RED	**Redoubt Volcan**	**0.68**	**13**		**Pn**	**14 16 41.0**	**0.0**
RED					**Sn**	**14 16 54.4**	**-0.3**
RSO	**Redoubt South**	**0.72**	**13**		**Pn**	**14 16 41.5**	**0.0**
HOM	**Homer**	**0.74**	**97**		**Pn**	**14 16 41.8**	**+0.5**
HOM	**Homer**	**0.74**	**97**	IAML		14 16 57.1	
	comp=E,2μm,0.5s						
HOM				IAML		14 16 57.8	
	comp=N,2μm,0.4s						
HOM	**Homer**	**0.74**	**97**	P	**Pn**	**14 16 41.8**	**+0.5**
	baz=276						
O19K	**Port Alsworth**	**0.76**	**306**		**Pn**	**14 16 41.3**	**-0.2**
O19K					**Sn**	**14 16 54.7**	**-0.9**
O19K	**Port Alsworth**	**0.76**	**306**	IAML		14 16 55.4	
	comp=N,2μm,0.5s						
O19K				IAML		14 16 56.2	
	comp=E,1μm,0.4s						
O19K	**Port Alsworth**	**0.76**	**306**	P	**Pn**	**14 16 41.3**	**-0.2**
	baz=128						
O19K				S	**Sn**	**14 16 54.7**	**-0.9**
	baz=128						
NCT	**North Crescent**	**0.81**	**6**		**Pn**	**14 16 42.2**	**+0.1**
NCT					**Sn**	**14 16 56.3**	**-0.4**
DFR	**Drift River**	**0.86**	**13**		**Pn**	**14 16 42.8**	**+0.2**
DFR					**Sn**	**14 16 57.6**	**+0.1**
Q19K	**Cape Douglas,**	**0.88**	**199**		**Pn**	**14 16 42.6**	**-0.1**
Q19K	**Cape Douglas,**	**0.88**	**199**	P	**Pn**	**14 16 42.6**	**-0.1**
	baz=17						
CNPM	**China Poot**	**0.97**	**103**		**Pn**	**14 16 43.7**	**+0.1**
CNPM					**Sn**	**14 16 58.9**	**-0.4**
CNPM	**China Poot**	**0.97**	**103**	IAML		14 16 59.3	
	comp=N,1μm,0.5s						
CNPM				IAML		14 16 59.5	
	comp=E,686nm,0.5s						
O18K	**Koktuh Hills**	**1.07**	**276**		**Pn**	**14 16 44.1**	**-0.5**
O18K					**Sn**	**14 17 00.2**	**-1.1**
O18K	**Koktuh Hills**	**1.07**	**276**	P	**Pn**	**14 16 44.1**	**-0.5**
	baz=96						
O18K				S	**Sn**	**14 17 00.2**	**-1.1**
	baz=96						
BRLK	**Bradley Lake**	**1.11**	**89**		**Pn**	**14 16 45.1**	**0.0**
BRLK	**Bradley Lake**	**1.11**	**89**	IAML		14 17 03.2	
	comp=N,550nm,0.1s						
P18K	**Big Mountain,**	**1.15**	**252**		**Pn**	**14 16 44.8**	**-0.7**
P18K	**Big Mountain,**	**1.15**	**252**		**Sn**	**14 17 01.5**	**-1.2**
P18K	**Big Mountain,**	**1.15**	**252**	P	**Pn**	**14 16 44.8**	**-0.7**
	baz=71						
P18K				S	**Sn**	**14 17 01.5**	**-1.2**
	baz=71						
BRSE	**Bradley Lake S**	**1.19**	**90**		**Pn**	**14 16 46.0**	**0.0**
BRSE					**Sn**	**14 17 03.6**	**+0.2**
BRSE	**Bradley Lake S**	**1.19**	**90**	P	**Pn**	**14 16 46.0**	**0.0**
	baz=271						
BRSE				S	**Sn**	**14 17 03.6**	**+0.2**
	baz=271						
N19K	**Bonanza Creek**	**1.27**	**327**		**Pn**	**14 16 46.7**	**-0.1**
N19K	**Bonanza Creek**	**1.27**	**327**	P	**Pn**	**14 16 46.7**	**-0.1**
	baz=148						
CAPN	**Captain Cook N**	**1.40**	**43**		**Pn**	**14 16 50.3**	**+2.0**
CAPN	**Captain Cook N**	**1.40**	**43**	IAML		14 17 12.3	
	comp=N,1μm,0.8s						
CAPN				IAML		14 17 19.5	
	comp=E,942nm,1.1s						
CAPN	**Captain Cook N**	**1.40**	**43**	P	**Pn**	**14 16 50.3**	**+2.0**
	baz=225						
SPCR	**Spurr Chakacha**	**1.51**	**16**		**Pn**	**14 16 50.1**	**+0.4**
SPCR	**Spurr Chakacha**	**1.51**	**16**	P	**Pn**	**14 16 50.1**	**+0.4**
	baz=198						
SPU	**Mount Spurr**	**1.52**	**19**		**Pn**	**14 16 49.9**	**+0.1**
SPBG	**Spurr Blockage**	**1.55**	**13**		**Pn**	**14 16 50.8**	**+0.6**
SLKM	**Skilak Lake**	**1.62**	**61**		**Pn**	**14 16 51.8**	**+0.8**
SPCG	**Spurr Capps Gl**	**1.63**	**18**		**Pn**	**14 16 51.6**	**+0.5**
KCG	**Knife Ck. Glac**	**1.79**	**217**		**Pn**	**14 16 53.2**	**0.0**
SVW2	**Sparrevohn**	**1.82**	**318**	Pn	**Pn**	**14 16 53.0**	**-0.5**
O22K	**Cooper Landing**	**1.83**	**65**		**Pn**	**14 16 54.1**	**+0.5**
O22K	**Cooper Landing**	**1.83**	**65**	IAML		14 17 24.8	
	comp=E,690nm,0.5s						
O22K	**Cooper Landing**	**1.83**	**65**	P	**Pn**	**14 16 54.1**	**+0.5**
	baz=248						
SEW	**Seward**	**1.86**	**78**		**Pn**	**14 16 54.1**	**+0.2**
SEW	**Seward**	**1.86**	**78**	P	**Pn**	**14 16 54.1**	**+0.2**
	baz=260						
FIS	**Fire Island**	**1.99**	**44**	Pn	**Pn**	**14 16 56.8**	**+1.3**
FIS				IAML		14 17 26.1	
	comp=N,344nm,0.6s						
FIS				IAML		14 17 29.1	
	comp=E,409nm,0.5s						
ANCK	**Angle Creek**	**2.00**	**220**		**Pn**	**14 16 56.0**	**+0.2**
KDAK	**Kodiak Island**	**2.00**	**172**	P	**Pn**	**14 16 55.0**	**-0.7**
	comp=E,63nm,0.3s,baz=33,slow=8.2,SNR=52						
KDAK				S	**Sn**	**14 17 19.6**	**-1.1**
	comp=E,22nm,0.3s,baz=126,slow=23,SNR=16						
KDAK	**Kodiak Island**	**2.00**	**172**		**Pn**	**14 16 55.1**	**-0.7**
KDAK	**Kodiak Island**	**2.00**	**172**	IAML		14 17 22.3	
	comp=E,214nm,0.3s						
RC01	**Rabbit Creek A**	**2.13**	**50**		**Pn**	**14 16 57.9**	**+0.6**
RC01	**Rabbit Creek A**	**2.13**	**50**	IAML		14 17 26.7	
	comp=N,525nm,0.3s						
RC01	**Rabbit Creek A**	**2.13**	**50**	P	**Pn**	**14 16 57.9**	**+0.6**
	baz=233						
OHAK	**Old Harbor**	**2.55**	**182**		**Pn**	**14 17 01.6**	**-1.2**
OHAK	**Old Harbor**	**2.55**	**182**	P	**Pn**	**14 17 01.6**	**-1.2**
	baz=1.6						
L19K	**White Mountain**	**2.58**	**341**		**Pn**	**14 17 03.0**	**-0.1**
L19K	**White Mountain**	**2.58**	**341**	P	**Pn**	**14 17 03.1**	**-0.1**
	baz=161						
PWL	**Port Wells**	**2.61**	**63**		**Pn**	**14 17 03.5**	**-0.1**
PWL	**Port Wells**	**2.61**	**63**	P	**Pn**	**14 17 03.5**	**-0.1**
	baz=247						
PLK3	**Peulik 3**	**2.66**	**220**		**Pn**	**14 17 05.1**	**+0.9**
PMR	**Palmer**	**2.68**	**45**		**Pn**	**14 17 04.3**	**-0.1**
PMR	**Palmer**	**2.68**	**45**	IAML		14 17 36.7	
	comp=N,264nm,0.2s						
PMR				IAML		14 17 37.5	
	comp=E,145nm,0.3s						
PMR	**Palmer**	**2.68**	**45**	P	**Pn**	**14 17 04.3**	**-0.1**
	baz=228						
L20K	**Farewell, AK**	**2.76**	**352**		**Pn**	**14 17 06.0**	**+0.5**
L20K	**Farewell, AK**	**2.76**	**352**	P	**Pn**	**14 17 06.0**	**+0.5**
	baz=172						
KNK	**Knik Glacier**	**2.82**	**52**		**Pn**	**14 17 06.0**	**-0.4**
KNK	**Knik Glacier**	**2.82**	**52**	P	**Pn**	**14 17 06.0**	**-0.4**
	baz=236						
GHO	**Glory Hole Cre**	**2.87**	**44**		**Pn**	**14 17 07.2**	**+0.1**
GHO	**Glory Hole Cre**	**2.87**	**44**	IAML		14 17 41.9	
	comp=N,280nm,0.3s						
GHO				IAML		14 17 43.0	
	comp=E,263nm,0.4s						
CUT	**Chulitna**	**2.99**	**26**		**Pn**	**14 17 09.3**	**+0.8**
CUT	**Chulitna**	**2.99**	**26**	IAML		14 17 47.5	
	comp=E,197nm,0.3s						
CUT				IAML		14 17 49.0	
	comp=N,249nm,0.3s						
CUT	**Chulitna**	**2.99**	**26**	P	**Pn**	**14 17 09.3**	**+0.8**
	baz=209						
SML	**Sawmill**	**3.11**	**47**		**Pn**	**14 17 09.9**	**-0.3**
SML	**Sawmill**	**3.11**	**47**	IAML		14 17 48.1	
	comp=N,148nm,0.6s						
SML				IAML		14 17 50.3	
	comp=E,104nm,0.7s						
SML	**Sawmill**	**3.11**	**47**	P	**Pn**	**14 17 09.9**	**-0.3**
	baz=231						
PPLA	**Purkeypile**	**3.18**	**7**		**Pn**	**14 17 12.2**	**+1.0**
PPLA	**Purkeypile**	**3.18**	**7**	P	**Pn**	**14 17 12.2**	**+1.0**
	baz=189						
GLI	**Glacier Island**	**3.19**	**67**		**Pn**	**14 17 10.6**	**-0.6**
GLI	**Glacier Island**	**3.19**	**67**	IAML		14 17 46.8	
	comp=E,216nm,0.3s						
GLI				IAML		14 17 47.2	
	comp=N,123nm,0.6s						
GLI	**Glacier Island**	**3.19**	**67**	P	**Pn**	**14 17 10.6**	**-0.6**
	baz=252						
SII	**Sitkinak Islan**	**3.26**	**191**		**Pn**	**14 17 10.6**	**-1.6**
SII				IAML		14 18 28.9	
	comp=N,190nm,1.8s						
SII	**Sitkinak Islan**	**3.26**	**191**	P	**Pn**	**14 17 11.8**	**-0.4**
	baz=9.3						
FID	**Port Fidalgo**	**3.44**	**70**		**Pn**	**14 17 13.1**	**-1.5**
FID	**Port Fidalgo**	**3.44**	**70**	IAML		14 17 52.6	
	comp=E,133nm,0.2s						
FID				IAML		14 17 53.8	
	comp=N,177nm,0.3s						
Q23K	**Middleton Isla**	**3.44**	**93**		**Pn**	**14 17 15.1**	**+0.5**
Q23K	**Middleton Isla**	**3.44**	**93**	P	**Pn**	**14 17 15.1**	**+0.5**
	baz=278						
MID	**Middleton Isla**	**3.45**	**93**		**Pn**	**14 17 14.8**	**+0.2**
TT01	**Tatalina**	**3.46**	**337**		**Pn**	**14 17 14.6**	**-0.2**
JPK	**Jack Peak**	**3.47**	**65**		**Pn**	**14 17 14.8**	**-0.3**
TTA	**Tatalina**	**3.48**	**337**		**Pn**	**14 17 14.7**	**-0.4**
TTA	**Tatalina**	**3.48**	**337**	P	**Pn**	**14 17 14.7**	**-0.4**
	baz=156						
SCM	**Sheep Creek Mo**	**3.51**	**51**		**Pn**	**14 17 15.5**	**0.0**
SCM	**Sheep Creek Mo**	**3.51**	**51**	IAML		14 17 58.2	
	comp=E,114nm,0.7s						
SCM				IAML		14 18 00.4	
	comp=N,105nm,0.5s						
SCM	**Sheep Creek Mo**	**3.51**	**51**	P	**Pn**	**14 17 15.5**	**0.0**
	baz=236						
K20K	**Telida**	**3.64**	**353**		**Pn**	**14 17 17.6**	**+0.4**
K20K	**Telida**	**3.64**	**353**	P	**Pn**	**14 17 17.6**	**+0.4**
	baz=173						
CAST	**Castle Rocks**	**3.70**	**7**		**Pn**	**14 17 18.8**	**+0.7**
CAST	**Castle Rocks**	**3.70**	**7**	P	**Pn**	**14 17 18.8**	**+0.7**
	baz=188						
EYAK	**Cordova Ski Ar**	**3.75**	**75**		**Pn**	**14 17 19.0**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.75**	**75**	P	**Pn**	**14 17 19.0**	**+0.3**
	baz=261						
DIV	**Divide**	**3.88**	**66**		**Pn**	**14 17 20.5**	**+0.1**
KLU	**Klutina**	**3.94**	**61**		**Pn**	**14 17 20.8**	**-0.5**
KLU	**Klutina**	**3.94**	**61**	IAML		14 18 08.2	
	comp=E,85nm,0.3s						
KLU	**Klutina**	**3.94**	**61**	P	**Pn**	**14 17 20.8**	**-0.5**
	baz=247						
TRF	**Thorofare Moun**	**3.94**	**19**		**Pn**	**14 17 21.8**	**+0.4**
TRF	**Thorofare Moun**	**3.94**	**19**	IAML		14 18 09.4	
	comp=N,47nm,0.6s						
TRF				IAML		14 18 14.2	
	comp=E,41nm,3.1s						
TRF	**Thorofare Moun**	**3.94**	**19**	P	**Pn**	**14 17 21.7**	**+0.4**
	baz=201						
KTH	**Kantishna Hill**	**3.94**	**14**		**Pn**	**14 17 21.5**	**+0.2**
KTH	**Kantishna Hill**	**3.94**	**14**	IAML		14 18 34.7	
	comp=N,36nm,4.7s						
M24K	**Tolsona, Glenn**	**4.11**	**52**		**Pn**	**14 17 23.9**	**+0.3**
M24K	**Tolsona, Glenn**	**4.11**	**52**	IAML		14 18 38.1	
	comp=N,102nm,3.1s						
M24K	**Tolsona, Glenn**	**4.11**	**52**	P	**Pn**	**14 17 23.9**	**+0.3**
	baz=238						
CHUM	**Lake Minchumin**	**4.16**	**5**		**Pn**	**14 17 24.8**	**+0.8**
CHUM	**Lake Minchumin**	**4.16**	**5**	P	**Pn**	**14 17 24.8**	**+0.8**
	baz=186						
CHIR	**Chirikof Islan**	**4.17**	**200**	Pn	**Pn**	**14 17 22.9**	**-1.5**
RND	**Reindeer**	**4.18**	**27**		**Pn**	**14 17 24.9**	**+0.3**
RND	**Reindeer**	**4.18**	**27**	IAML		14 18 25.1	
	comp=E,37nm,4.4s						
GOAT	**Goat Mountain**	**4.26**	**75**		**Pn**	**14 17 25.1**	**-0.5**
PS12	**TAPS Pump St12**	**4.28**	**63**		**Pn**	**14 17 25.8**	**+0.1**
BMRM	**Bremner River**	**4.38**	**70**		**Pn**	**14 17 27.4**	**+0.2**
BMRM	**Bremner River**	**4.38**	**70**	IAML		14 18 24.2	
	comp=E,52nm,2.4s						
BMRM				IAML		14 18 28.2	
	comp=N,59nm,3.4s						
BMRM	**Bremner River**	**4.38**	**70**	P	**Pn**	**14 17 27.4**	**+0.2**
	baz=258						
MCK	**McKinley**	**4.45**	**25**		**Pn**	**14 17 28.7**	**+0.6**
MCK	**McKinley**	**4.45**	**25**	IAML		14 18 21.8	
	comp=E,25nm,0.5s						
MCK				IAML		14 18 41.4	
	comp=N,24nm,2.0s						
MCK	**McKinley**	**4.45**	**25**	P	**Pn**	**14 17 28.7**	**+0.6**
	baz=208						
J20K	**Nowinta River**	**4.46**	**354**		**Pn**	**14 17 28.3**	**+0.1**
J20K	**Nowinta River**	**4.46**	**354**	P	**Pn**	**14 17 28.3**	**+0.1**
	baz=174						
HMT	**Hamilton**	**4.46**	**79**	Pn	**Pn**	**14 17 28.1**	**-0.1**
BPAW	**Bear Paw Mtn.**	**4.47**	**12**	Pn	**Pn**	**14 17 28.4**	**+0.1**
CHGN	**Chignik**	**4.48**	**222**	Pn	**Pn**	**14 17 27.7**	**-0.8**
CHGN				IAML		14 18 17.9	
	comp=E,61nm,0.1s						
CHGN				IAML		14 18 36.6	
	comp=N,50nm,3.0s						
N25K	**Chitina, Valde**	**4.57**	**62**		**Pn**	**14 17 29.6**	**-0.1**
N25K				IAML		14 18 22.6	
	comp=E,58nm,0.5s						
N25K				IAML		14 18 23.1	
	comp=N,49nm,0.9s						
N25K	**Chitina, Valde**	**4.57**	**62**	P	**Pn**	**14 17 30.1**	**+0.4**
	baz=250						
BERG	**Berg Lake**	**4.75**	**78**	Pn	**Pn**	**14 17 31.7**	**-0.4**
BWN	**Browne**	**4.75**	**20**		**Pn**	**14 17 32.8**	**+0.8**
BWN	**Browne**	**4.75**	**20**	IAML		14 19 00.9	
	comp=E,46nm,2.7s						
GLB	**Gilahina Butte**	**4.87**	**66**		**Pn**	**14 17 34.5**	**+0.6**
GLB	**Gilahina Butte**	**4.87**	**66**	IAML		14 18 28.7	
	comp=E,39nm,1.9s						
GLB				IAML		14 18 30.8	
	comp=N,35nm,0.6s						
PAX	**Paxson**	**4.88**	**45**		**Pn**	**14 17 34.4**	**+0.5**
PAX	**Paxson**	**4.88**	**45**	P	**Pn**	**14 17 34.4**	**+0.5**
	baz=232						
KHIT	**Khitrov Hills**	**4.97**	**78**		**Pn**	**14 17 35.5**	**+0.3**
VRDI	**Verde Repeater**	**4.99**	**69**		**Pn**	**14 17 36.0**	**+0.6**
VRDI	**Verde Repeater**	**4.99**	**69**	IAML		14 19 32.0	
	comp=E,25nm,4.2s						
VRDI				IAML		14 20 32.7	
	comp=N,36nm,4.4s						
PS10	**TAPS Pump St10**	**5.07**	**40**		**Pn**	**14 17 36.9**	**+0.4**
SNH	**Sunshine Point**	**5.17**	**81**	Pn	**Pn**	**14 17 38.2**	**+0.4**
WAX	**Waxell Ridge**	**5.17**	**78**	Pn	**Pn**	**14 17 38.1**	**+0.2**
NEA2	**Nenana**	**5.20**	**19**		**Pn**	**14 17 37.8**	**-0.4**
NEA2				IAML		14 18 23.5	
	comp=N,16nm,4.4s						
NEA2				IAML		14 18 31.2	
	comp=E,15nm,4.4s						
NEA2	**Nenana**	**5.20**	**19**	P	**Pn**	**14 17 38.4**	**+0.2**
	baz=203						
WRH	**Wood River Hil**	**5.28**	**24**		**Pn**	**14 17 39.0**	**-0.3**
WRH	**Wood River Hil**	**5.28**	**24**	IAML		14 18 57.8	
	comp=E,18nm,4.4s						
WRH				IAML		14 20 22.7	
	comp=N,18nm,4.8s						
ISLE	**Juniper Island**	**5.43**	**76**	Pn	**Pn**	**14 17 41.7**	**+0.2**
KIAG	**Kiagna River**	**5.46**	**73**		**Pn**	**14 17 42.2**	**+0.4**
I21K	**Tanana**	**5.46**	**5**		**Pn**	**14 17 41.9**	**+0.2**
BALM	**Baldy**	**5.48**	**72**		**Pn**	**14 17 42.5**	**+0.5**
HDA	**Harding Lake**	**5.48**	**29**		**Pn**	**14 17 41.7**	**-0.3**
HDA	**Harding Lake**	**5.48**	**29**	P	**Pn**	**14 17 42.8**	**+0.8**
	baz=215						
CCB	**Clear Creek Bu**	**5.49**	**24**		**Pn**	**14 17 41.8**	**-0.3**
MENT	**Mentasta**	**5.52**	**51**	Pn	**Pn**	**14 17 43.0**	**+0.5**
BAGL	**Bagley Icefiel**	**5.55**	**78**		**Pn**	**14 17 43.3**	**+0.4**
M26K	**Nabesna, AK**	**5.57**	**57**		**Pn**	**14 17 43.6**	**+0.4**
RIDG	**Independent Ri**	**5.59**	**41**	Pn	**Pn**	**14 17 43.7**	**+0.2**
MESA	**MESA**	**5.61**	**81**		**Pn**	**14 17 44.1**	**+0.2**
MESA	**MESA**	**5.61**	**81**	P	**Pn**	**14 17 44.1**	**+0.2**
	baz=270						
PS08	**TAPS Pump Stn8**	**5.63**	**29**		**Pn**	**14 17 44.5**	**+0.6**
I23K	**Minto, Yukon-K**	**5.68**	**16**		**Pn**	**14 17 45.1**	**+0.5**
I23K	**Minto, Yukon-K**	**5.68**	**16**	P	**Pn**	**14 17 45.1**	**+0.5**
	baz=200						
TCOL	**CIGO, UAF Yank**	**5.68**	**23**		**Pn**	**14 17 44.8**	**+0.1**
TCOL	**CIGO, UAF Yank**	**5.68**	**23**	P	**Pn**	**14 17 44.8**	**+0.1**
	baz=208						
COLA	**College**	**5.68**	**23**		**Pn**	**14 17 44.5**	**-0.1**
MDM	**Murphy Dome**	**5.69**	**21**		**Pn**	**14 17 44.7**	**-0.1**
L26K	**Log Cabin Wild**	**5.71**	**51**	Pn	**Pn**	**14 17 46.4**	**+1.3**
YAH	**Yahtse**	**5.71**	**79**		**Pn**	**14 17 46.0**	**+0.7**
DOT	**Dot Lake**	**5.80**	**44**	Pn	**Pn**	**14 17 47.0**	**+0.6**
IL31		**5.80**	**27**		**Pn**	**14 17 46.0**	**-0.3**
ILAR	**Eielson Array**	**5.80**	**27**	P	**Pn**	**14 17 46.0**	**-0.3**
	comp=N,2.7nm,0.3s,baz=216,slow=13,SNR=28						
ILAR				S	**Sn**	**14 18 47.9**	**-3.6**
	comp=N,2.3nm,0.3s,baz=335,slow=26,SNR=9.7						
ILAR	**Eielson Array**	**5.80**	**27**	Pn	**Pn**	**14 17 46.0**	**-0.3**
BARN	**Barnard Glacie**	**5.81**	**72**		**Pn**	**14 17 47.6**	**+1.0**
H21K	**Melozitna Rive**	**5.92**	**1**		**Pn**	**14 17 48.1**	**+0.2**
SDPT	**Sand Point**	**5.95**	**225**	Pn	**Pn**	**14 17 47.4**	**-0.8**
POKR	**Poker Plat Res**	**5.98**	**24**		**Pn**	**14 17 48.9**	**+0.1**
POKR	**Poker Plat Res**	**5.98**	**24**	P	**Pn**	**14 17 48.9**	**+0.1**
	baz=209						
TABL	**Table Mountain**	**6.02**	**78**		**Pn**	**14 17 50.5**	**+1.1**
M27K	**Edge Creek, AK**	**6.03**	**60**		**Pn**	**14 17 50.6**	**+1.0**
SCRK	**Sand Creek**	**6.03**	**42**		**Pn**	**14 17 49.5**	**-0.1**
SCRK	**Sand Creek**	**6.03**	**42**	P	**Pn**	**14 17 50.0**	**+0.4**
	baz=230						
IM03		**6.26**	**358**		**Pn**	**14 17 53.2**	**+0.9**
IMAR	**Indian Mountai**	**6.26**	**358**	Pn	**Pn**	**14 17 53.0**	**+0.6**
YUK2	**White River**	**6.33**	**66**		**Pn**	**14 17 54.2**	**+0.6**
L27K	**Beaver Creek,**	**6.34**	**54**	Pn	**Pn**	**14 17 54.0**	**+0.3**
BC03		**6.36**	**54**		**Pn**	**14 17 55.4**	**+1.6**
BCAR	**Beaver Creek A**	**6.36**	**54**	Pn	**Pn**	**14 17 54.6**	**+0.8**
PCA	**Pinnacle**	**6.46**	**81**		**Pn**	**14 17 56.5**	**+1.2**
PINM	**Pinnacle**	**6.46**	**81**	P	**Pn**	**14 17 56.5**	**+1.1**
	baz=272						
YUK3	**Moose Creek**	**6.51**	**66**		**Pn**	**14 17 56.6**	**+0.5**
YUK3	**Moose Creek**	**6.51**	**66**	P	**Pn**	**14 17 56.6**	**+0.5**
	baz=257						
J26L	**Joseph Creek**	**6.52**	**39**	Pn	**Pn**	**14 17 56.1**	**0.0**
H24K	**Noodor Dome**	**6.55**	**19**		**Pn**	**14 17 56.3**	**-0.2**
PRP	**Porcupine Dome**	**6.74**	**28**		**Pn**	**14 17 59.1**	**-0.1**
PNL	**Peninsula**	**6.93**	**85**		**Pn**	**14 18 01.8**	**+0.2**
PNL	**Peninsula**	**6.93**	**85**	P	**Pn**	**14 18 01.8**	**+0.2**
	baz=276						
EGAK	**Eagle**	**7.50**	**43**	Pn	**Pn**	**14 18 09.2**	**-0.1**
COLD	**Coldfoot**	**7.61**	**9**	Pn	**Pn**	**14 18 10.5**	**-0.2**
FYU	**Fort Yukon**	**7.70**	**24**		**Pn**	**14 18 11.4**	**-0.5**
N31M	**Braeburn, Yuko**	**8.68**	**71**	P	**Pn**	**14 18 25.3**	**-0.1**
	baz=266						
WHY	**Whitehorse**	**9.11**	**76**		**Pn**	**14 18 31.0**	**-0.2**
WHY	**Whitehorse**	**9.11**	**76**	P	**Pn**	**14 18 31.0**	**-0.2**
	baz=272						
M31M	**Drury Creek, Y**	**9.40**	**67**	Pn	**Pn**	**14 18 35.9**	**+0.8**
SIT	**Sitka**	**9.70**	**98**	Pn	**Pn**	**14 18 39.8**	**+0.6**
JIS	**Juneau Island**	**9.76**

HOM	Homer	0.76	98			Pn	14 29 46.5	+0.4
HOM				IAML			14 30 02.5	
	comp=E,44µm,0.6s							
HOM	Homer	0.76	98	P		Pn	14 29 46.4	+0.4
	baz=276							
NCT	North Crescent	0.80	7			Pn	14 29 47.0	+0.4
NCT						Sn	14 30 01.3	+0.2
DFR	Drift River	0.85	14			Pn	14 29 47.5	+0.4
DFR						Sn	14 30 02.3	+0.3
Q19K	Cape Douglas,	0.89	198			Pn	14 29 47.1	-0.2
Q19K				IAML			14 30 06.0	
	comp=E,20µm,0.8s							
Q19K				IAML			14 30 07.7	
	comp=N,26µm,0.9s							
Q19K	Cape Douglas,	0.89	198	P		Pn	14 29 47.1	-0.2
	baz=17							
CNPM	China Poot	0.99	104	Pn		Pn	14 29 48.3	0.0
CNPM				IAML			14 30 04.2	
	comp=E,19µm,0.4s							
CNPM				IAML			14 30 04.4	
	comp=N,32µm,0.6s							
CNPM	China Poot	0.99	104			Sn	14 30 03.8	-0.3
O18K	Koktuh Hills	1.06	275	Pn		Pn	14 29 48.9	-0.1
O18K	Koktuh Hills	1.06	275			Sn	14 30 05.0	-0.6
O18K	Koktuh Hills	1.06	275	IAML			14 30 05.6	
	comp=E,7µm,0.8s							
O18K				IAML			14 30 05.7	
	comp=N,7µm,0.7s							
O18K	Koktuh Hills	1.06	275	P		Pn	14 29 49.0	-0.1
	baz=96							
O18K				S		Sn	14 30 05.0	-0.6
	baz=96							
BRLK	Bradley Lake	1.13	89			Pn	14 29 49.5	-0.3
P18K	Big Mountain,	1.14	251	Pn		Pn	14 29 49.4	-0.6
P18K	Big Mountain,	1.14	251			Sn	14 30 05.9	-1.2
P18K	Big Mountain,	1.14	251	IAML			14 30 06.4	
	comp=N,2µm,1.8s							
P18K				IAML			14 30 06.4	
	comp=E,3µm,0.9s							
P18K	Big Mountain,	1.14	251	P		Pn	14 29 49.6	-0.4
	baz=71							
P18K				S		Sn	14 30 05.9	-1.2
	baz=71							
BRSE	Bradley Lake S	1.20	90			Pn	14 29 50.5	-0.1
BRSE	Bradley Lake S	1.20	90	P		Pn	14 29 50.5	-0.1
	baz=271							
N19K	Bonanza Creek	1.25	328	Pn		Pn	14 29 51.4	+0.2
N19K	Bonanza Creek	1.25	328	P		Pn	14 29 51.4	+0.2
	baz=148							
CAPN	Captain Cook N	1.40	43			Pn	14 29 54.6	+1.8
CAPN	Captain Cook N	1.40	43	P		Pn	14 29 55.1	+2.3
	baz=225							
SPCR	Spurr Chakacha	1.50	17			Pn	14 29 54.8	+0.6
SPCR	Spurr Chakacha	1.50	17	P		Pn	14 29 54.8	+0.6
	baz=198							
SPU	Mount Spurr	1.51	20			Pn	14 29 54.4	+0.2
SPCG	Spurr Capps Gl	1.62	19			Pn	14 29 56.3	+0.7
SLKM	Skilak Lake	1.63	62			Pn	14 29 56.1	+0.5
SVW2	Sparrevohn	1.81	319			Pn	14 29 57.8	0.0
O22K	Cooper Landing	1.84	66			Pn	14 29 58.5	+0.3
O22K	Cooper Landing	1.84	66	P		Pn	14 29 58.6	+0.4
	baz=248							
SEW	Seward	1.87	78			Pn	14 29 58.2	-0.4
SEW	Seward	1.87	78	P		Pn	14 29 58.5	-0.1
	baz=260							
KABU	Katmai Buttres	1.88	218			Pn	14 29 59.0	+0.3
FIS	Fire Island	1.99	45			Pn	14 30 01.1	+1.1
FIS				IAML			14 30 30.5	
	comp=N,11µm,0.8s							
FIS				IAML			14 30 30.9	
	comp=E,11µm,0.8s							
KDAK	Kodiak Island	2.01	172	P		Pn	14 29 59.8	-0.6
	comp=E,1µm,0.3s,baz=37,slow=8.4,SNR=1527							
KDAK				S		Sn	14 30 24.2	-1.5
	comp=E,977nm,0.3s,baz=324,slow=22,SNR=31							
KDAK	Kodiak Island	2.01	172	Pn		Pn	14 29 58.3	-2.1
KDAK	Kodiak Island	2.01	172	IAML			14 30 26.4	
	comp=E,9µm,0.4s							
KDAK				IAML			14 30 34.8	
	comp=E,6µm,0.6s							
RC01	Rabbit Creek A	2.13	50			Pn	14 30 02.3	+0.4
RC01				IAML			14 30 29.6	
	comp=N,12µm,0.3s							
RC01	Rabbit Creek A	2.13	50	P		Pn	14 30 02.4	+0.4
	baz=233							
OHAK	Old Harbor	2.56	182	Pn		Pn	14 30 06.0	-1.4
OHAK	Old Harbor	2.56	182	P		Pn	14 30 06.1	-1.3
	baz=1.6							
L19K	White Mountain	2.56	341			Pn	14 30 07.8	+0.3
L19K	White Mountain	2.56	341	P		Pn	14 30 07.8	+0.3
	baz=161							
PWL	Port Wells	2.62	63	Pn		Pn	14 30 07.6	-0.6
PWL	Port Wells	2.62	63	P		Pn	14 30 07.8	-0.4
	baz=247							
PLK3	Peulik 3	2.66	220			Pn	14 30 09.2	+0.5
PMR	Palmer	2.68	45	P		Pn	14 30 08.3	-0.7
PMR				pmax		pmax		
	comp=Z,3µm,0.9s							
PMR	Palmer	2.68	45			Pn	14 30 08.3	-0.7
PMR				IAML			14 30 41.3	
	comp=N,3µm,0.4s							
PMR				IAML			14 30 46.7	
	comp=E,3µm,0.9s							
PMR	Palmer	2.68	45	P		Pn	14 30 08.7	-0.3
	baz=228							
L20K	Farewell, AK	2.74	353			Pn	14 30 10.4	+0.5
L20K	Farewell, AK	2.74	353	P		Pn	14 30 10.4	+0.5
	baz=172							
KNK	Knik Glacier	2.83	52			Pn	14 30 10.6	-0.3
KNK	Knik Glacier	2.83	52	P		Pn	14 30 10.7	-0.3
	baz=236							
GHO	Glory Hole Cre	2.88	44			Pn	14 30 11.8	+0.2
GHO	Glory Hole Cre	2.88	44	IAML			14 30 46.3	
	comp=N,6µm,0.5s							
CUT	Chulitna	2.98	26			Pn	14 30 13.1	+0.1
CUT				IAML			14 30 53.2	
	comp=E,5µm,0.5s							
CUT				IAML			14 31 19.2	
	comp=N,5µm,0.9s							
CUT	Chulitna	2.98	26	P		Pn	14 30 13.4	+0.5
	baz=209							
SML	Sawmill	3.11	47			Pn	14 30 14.5	-0.3
SML				IAML			14 30 52.6	
	comp=N,4µm,0.9s							
SML				IAML			14 30 58.9	
	comp=E,4µm,0.7s							
SML	Sawmill	3.11	47	P		Pn	14 30 14.5	-0.3
	baz=231							
PPLA	Purkeypile	3.17	8	Pn		Pn	14 30 16.2	+0.6
PPLA	Purkeypile	3.17	8	P		Pn	14 30 17.0	+1.4
	baz=189							
GLI	Glacier Island	3.19	67			Pn	14 30 14.6	-1.2
GLI				IAML			14 30 51.6	
	comp=E,4µm,0.6s							
GLI	Glacier Island	3.19	67	P		Pn	14 30 15.2	-0.6
	baz=252							
SII	Sitkinak Islan	3.27	190	Pn		Pn	14 30 15.1	-1.8
SII				IAML			14 30 54.6	
	comp=N,2µm,0.4s							
SII				IAML			14 31 04.8	
	comp=E,3µm,0.6s							
SII	Sitkinak Islan	3.27	190	P		Pn	14 30 15.3	-1.5
	baz=9.3							
SII	Sitkinak Islan	3.27	190	P		Pn	14 30 15.6	-1.3
TT01	Tatalina	3.44	337			Pn	14 30 19.4	+0.3
FID	Port Fidalgo	3.45	71			Pn	14 30 17.5	-1.7
FID				IAML			14 30 59.6	
	comp=E,3µm,0.4s							
Q23K	Middleton Isla	3.46	93	Pn		Pn	14 30 19.1	-0.2
Q23K				IAML			14 31 02.7	
	comp=E,1µm,1.0s							
Q23K	Middleton Isla	3.46	93	P		Pn	14 30 19.3	+0.1
	baz=278							
MID	Middleton Isla	3.46	93	P		Pn	14 30 19.1	-0.2
MID				pmax		pmax		
	comp=Z,1µm,0.8s							
MID	Middleton Isla	3.46	93	Pn		Pn	14 30 19.1	-0.2
MID				IAML			14 31 00.8	
	comp=N,1µm,0.4s							
MID				IAML			14 31 02.7	
	comp=E,1µm,0.8s							
TTA	Tatalina	3.46	338	P		Pn	14 30 19.1	-0.3
TTA				pmax		pmax		
	comp=Z,360nm,1.3s							
TTA	Tatalina	3.46	338	Pn		Pn	14 30 19.1	-0.3
TTA	Tatalina	3.46	338	P		Pn	14 30 19.5	+0.1
	baz=156							
JPK	Jack Peak	3.48	65			Pn	14 30 18.8	-0.9
SCM	Sheep Creek Mo	3.51	51	P		Pn	14 30 19.8	-0.2
SCM				pmax		pmax		
	comp=Z,5µm,0.8s							
SCM	Sheep Creek Mo	3.51	51			Pn	14 30 19.8	-0.2
SCM	Sheep Creek Mo	3.51	51	P		Pn	14 30 19.9	-0.2
	baz=236							
VMT	TAPS Tl Valdez	3.60	66			Pn	14 30 20.8	-0.3
K20K	Telida	3.63	353			Pn	14 30 22.0	+0.4
K20K	Telida	3.63	353	P		Pn	14 30 22.0	+0.4
	baz=173							
CAST	Castle Rocks	3.69	7			Pn	14 30 22.9	+0.5
CAST	Castle Rocks	3.69	7	P		Pn	14 30 23.1	+0.6
	baz=188							
EYAK	Cordova Ski Ar	3.76	75			Pn	14 30 22.4	-0.9
EYAK	Cordova Ski Ar	3.76	75	P		Pn	14 30 22.5	-0.9
	baz=261							
ANNE	Aniakchak Nort	3.87	224			Pn	14 30 24.9	0.0
DIV	Divide	3.88	66	Pn		Pn	14 30 24.1	-1.0
TRF	Thorofare Moun	3.93	19			Pn	14 30 25.1	-0.6
TRF				IAML			14 31 14.2	
	comp=N,1µm,0.6s							
TRF				IAML			14 31 36.5	
	comp=E,976nm,0.8s							
TRF	Thorofare Moun	3.93	19	P		Pn	14 30 25.7	-0.1
	baz=201							
KTH	Kantishna Hill	3.94	14			Pn	14 30 25.6	-0.1
KTH				IAML			14 31 36.5	
	comp=N,835nm,0.8s							
KTH				IAML			14 31 38.1	
	comp=E,949nm,0.9s							
KLU	Klutina	3.94	61			Pn	14 30 25.2	-0.7
KLU	Klutina	3.94	61	P		Pn	14 30 25.5	-0.4
	baz=247							
M24K	Tolsona, Glenn	4.12	52			Pn	14 30 28.2	0.0
M24K	Tolsona, Glenn	4.12	52	P		Pn	14 30 28.5	+0.3
	baz=238							
CHUM	Lake Minchumin	4.14	5			Pn	14 30 29.1	+0.7
CHUM	Lake Minchumin	4.14	5	P		Pn	14 30 29.1	+0.7
	baz=186							
RND	Reindeer	4.18	27	P		Pn	14 30 28.7	-0.3
RND				pmax		pmax		
	comp=Z,850nm,1.0s							
RND	Reindeer	4.18	27	Pn		Pn	14 30 28.7	-0.3
RND				IAML			14 31 18.5	
	comp=N,688nm,0.8s							
RND				IAML			14 31 37.2	
	comp=E,850nm,1.0s							
CHIR	Chirikof Islan	4.18	200			Pn	14 30 27.2	-1.8
CHIR				IAML			14 31 14.1	
	comp=E,1µm,0.6s							
CHIR				IAML			14 31 14.6	
	comp=N,1µm,0.5s							
CHIR	Chirikof Islan	4.18	200	P		Pn	14 30 27.5	-1.5
	baz=18							
PS12	TAPS Pump St12	4.28	63			Pn	14 30 30.6	+0.2
KAIM	Kayak Island	4.39	84	Pn		Pn	14 30 31.7	-0.1
KAIM				IAML			14 31 25.1	
	comp=N,2µm,1.1s							
KAIM				IAML			14 31 25.7	
	comp=E,2µm,0.9s							
KAIM	Kayak Island	4.39	84	P		Pn	14 30 32.5	+0.7
	baz=271							
PS11	TAPS Pump St11	4.39	55			Pn	14 30 32.1	+0.3
BMRM	Bremner River	4.39	70	Pn		Pn	14 30 31.0	-0.9
BMRM				IAML			14 31 21.6	
	comp=E,2µm,0.4s							
BMRM				IAML			14 31 30.1	
	comp=N,1µm,0.5s							
BMRM	Bremner River	4.39	70	P		Pn	14 30 31.2	-0.7
	baz=258							
MCK	McKinley	4.44	25	P		Pn	14 30 32.9	+0.4
MCK				pmax		pmax		
	comp=Z,668nm,0.8s							
MCK	McKinley	4.44	25	Pn		Pn	14 30 32.9	+0.4
MCK				IAML			14 31 26.6	
	comp=E,579nm,0.5s							
MCK				IAML			14 31 46.7	
	comp=N,668nm,0.8s							
MCK	McKinley	4.44	25	P		Pn	14 30 33.0	+0.5
	baz=208							
J20K	Nowinta River	4.45	354			Pn	14 30 33.0	+0.4
J20K	Nowinta River	4.45	354	P		Pn	14 30 33.0	+0.4
	baz=174							
BPAW	Bear Paw Mtn.	4.46	12			Pn	14 30 32.4	-0.3
BPAW	Bear Paw Mtn.	4.46	12	P		Pn	14 30 32.5	-0.3
	baz=194							
CHGN	Chignik	4.47	221			Pn	14 30 32.4	-0.5
CHGN				IAML			14 31 23.3	
	comp=N,732nm,0.4s							
CHGN				IAML			14 31 24.1	
	comp=E,954nm,0.3s							
CHGN	Chignik	4.47	221	P		Pn	14 30 32.6	-0.3
	baz=37							
HMT	Hamilton	4.47	79			Pn	14 30 32.3	-0.7
N25K	Chitina, Valde	4.57	63			Pn	14 30 33.7	-0.6
N25K				IAML			14 31 28.0	
	comp=N,1µm,0.7s							
N25K	Chitina, Valde	4.57	63	P		Pn	14 30 34.0	-0.4
	baz=250							
NICHA	Nichawak Mount	4.62	80			Pn	14 30 35.0	+0.1
HARP	HAARP	4.68	52			Pn	14 30 36.0	+0.3
HARP	HAARP	4.68	52	P		Pn	14 30 36.0	+0.3
	baz=239							
SUCK	Suckling Hills	4.71	82			Pn	14 30 36.2	+0.1
SUCK				IAML			14 31 31.1	
	comp=N,732nm,0.7s							
SUCK				IAML			14 31 34.8	
	comp=E,497nm,0.7s							
BWN	Browne	4.74	20			Pn	14 30 36.4	-0.1
BWN				IAML			14 32 09.8	
	comp=E,836nm,1.1s							
BWN				IAML			14 32 11.2	
	comp=N,1µm,1.0s							
BERG	Berg Lake	4.76	78			Pn	14 30 36.9	+0.2
BERG	Berg Lake	4.76	78	IAML			14 31 29.3	
	comp=N,1µm,0.4s							
PAX	Paxson	4.88	46	P		Pn	14 30 38.2	-0.3
PAX	Paxson	4.88	46			Pn	14 30 38.2	-0.3
PAX	Paxson	4.88	46	P		Pn	14 30 38.6	+0.1
	baz=232							
GLB	Gilahina Butte	4.88	66			Pn	14 30 38.0	-0.5
GLB	Gilahina Butte	4.88	66	IAML			14 31 35.0	
	comp=E,1µm,0.7s							
GRIN	Grindle Hills	4.94	80			Pn	14 30 39.7	+0.4
KHIT	Khitrov Hills	4.98	78			Pn	14 30 39.5	-0.4
VRDI	Verde Repeater	5.00	69			Pn	14 30 39.5	-0.7
VRDI	Verde Repeater	5.00	69	IAML			14 31 37.3	
	comp=N,1µm,0.6s							
VRDI				IAML			14 31 37.6	
	comp=E,499nm,0.5s							
PS10	TAPS Pump St10	5.07	41			Pn	14 30 41.9	+0.9
SNH	Sunshine Point	5.18	81			Pn	14 30 42.9	+0.4
SNH	Sunshine Point	5.18	81	IAML			14 31 43.2	
	comp=N,798nm,1.2s							
SNH				IAML			14 31 44.8	
	comp=E,630nm,0.7s							
WAX	Waxell Ridge	5.18	78			Pn	14 30 42.2	-0.3
NEA2	Nenana	5.20	20			Pn	14 30 42.4	-0.3
NEA2	Nenana	5.20	20	P		Pn	14 30 42.4	-0.3
	baz=203							
WRH	Wood River Hil	5.27	24			Pn	14 30 42.8	-0.9
WRH	Wood River Hil	5.27	24	IAML			14 31 42.9	
	comp=E,322nm,0.5s							
GCSA	Galena City Sc	5.29	342			Pn	14 30 44.2	+0.3
GCSA	Galena City Sc	5.29	342	P		Pn	14 30 44.2	+0.3
	baz=159							
CYK	Cape Yakataga	5.36	82			Pn	14 30 44.9	+0.1
ISLE	Juniper Island	5.44	77			Pn	14 30 46.5	+0.4
I21K	Tanana	5.46	5			Pn	14 30 46.1	-0.1
KIAG	Kiagna River	5.47	73			Pn	14 30 46.5	0.0
HDA	Harding Lake	5.48	29			Pn	14 30 46.2	-0.3
CCB	Clear Creek Bu	5.49	25			Pn	14 30 45.8	-0.7
BALM	Baldy	5.49	72			Pn	14 30 46.5	-0.2
MENT	Mentasta	5.52	51			Pn	14 30 46.8	-0.4
BAGL	Bagley Icefiel	5.56	78			Pn	14 30 48.3	+0.7
M26K	Nabesna, AK	5.57	57			Pn	14 30 48.2	+0.4
RIDG	Independent Ri	5.59	41			Pn	14 30 48.3	+0.2
RIDG	Independent Ri	5.59	41	P		Pn	14 30 48.3	+0.2
	baz=228							
PS08	TAPS Pump Stn8	5.62	29			Pn	14 30 48.1	-0.3
MESA	MESA	5.62	81			Pn	14 30 49.0	+0.3
MESA	MESA	5.62	81	P		Pn	14 30 49.0	+0.3
	baz=270							
I23K	Minto, Yukon-K	5.67	16			Pn	14 30 49.1	+0.1
I23K	Minto, Yukon-K	5.67	16	P		Pn	14 30 49.1	+0.1
	baz=200							
TCOL	CIGO, UAF Yank	5.67	23			Pn	14 30 48.8	-0.3
TCOL	CIGO, UAF Yank	5.67	23	P		Pn	14 30 48.8	-0.3
	baz=208							
COLA	College	5.68	23	*d*	*P*	Pn	14 30 48.6	-0.5
COLA	College	5.68	23			Pn	14 30 48.7	-0.4
MDM	Murphy Dome	5.68	21			Pn	14 30 48.4	-0.8
L26K	Log Cabin Wild	5.71	51			Pn	14 30 49.5	-0.2
L26K	Log Cabin Wild	5.71	51	P		Pn	14 30 50.0	+0.4
	baz=239							
YAH	Yahtse	5.73	79			Pn	14 30 50.5	+0.4
IL31		5.80	27			Pn	14 30 50.2	-0.5
ILAR	Eielson Array	5.80	27	P		Pn	14 30 50.0	-0.8
	comp=E,95nm,0.3s,baz=214,slow=13,SNR=1555							
ILAR				S		Sn	14 31 51.0	-4.8
	comp=E,59nm,0.3s,baz=196,slow=25,SNR=8.7							
ILAR				ScP		ScP	14 41 05.5	-0.2
	comp=E,0.1nm,0.3s,baz=281,slow=2.3,SNR=4.7							
DOT	Dot Lake	5.80	44			Pn	14 30 50.9	0.0
BARN	Barnard Glacie	5.82	72			Pn	14 30 52.1	+0.8
H21K	Melozitna Rive	5.91	1			Pn	14 30 52.3	0.0
SDPT	Sand Point	5.94	225			Pn	14 30 51.5	-1.2
SDPT	Sand Point	5.94	225	P		Pn	14 30 51.8	-0.9
	baz=39							
POKR	Poker Plat Res	5.98	24			Pn	14 30 52.3	-0.9
POKR	Poker Plat Res	5.98	24	P		Pn	14 30 53.0	-0.2
	baz=209							
PS07	TAPS Pump Stn7	5.99	20			Pn	14 30 53.6	+0.2
TABL	Table Mountain	6.03	78			Pn	14 30 54.4	+0.3
SCRK	Sand Creek	6.04	42			Pn	14 30 53.4	-0.7
SCRK	Sand Creek	6.04	42	P		Pn	14 30 53.4	-0.7
	baz=230							
M27K	Edge Creek, AK	6.04	60			Pn	14 30 54.8	+0.6
CHX	Chaix Hills	6.04	82			Pn	14 30 54.7	+0.5
CHNA	Chernabura Isl	6.07	218	P		Pn	14 30 53.5	-1.0
	baz=33							
CNBA	Chernabura Isl	6.08	218			Pn	14 30 52.6	-2.0
SAMH	Samovar Hills	6.21	81			Pn	14 30 57.5	+1.1
IM03		6.24	358			Pn	14 30 57.3	+0.5
IMAR	Indian Mountai	6.24	358	Pn		Pn	14 30 57.3	+0.5
PS06	TAPS Pump Stn6	6.30	13			Pn	14 30 58.2	+0.7
L27K	Beaver Creek,	6.34	54			Pn	14 30 58.0	-0.2
YUK2	White River	6.34	66			Pn	14 30 58.9	+0.7
BC03		6.36	54			Pn	14 30 58.4	0.0
BCAR	Beaver Creek A	6.36	54	Pn		Pn	14 30 58.6	+0.1
PS4A	Pavlof South-4	6.46	230			Pn	14 30 59.9	+0.1
PCA	Pinnacle	6.47	82			Pn	14 31 00.5	+0.5
PINM	Pinnacle	6.47	82	P		Pn	14 31 00.5	+0.4
	baz=272							
BVCY	Beaver Creek	6.51	61			Pn	14 31 01.9	+1.5
BVCY	Beaver Creek	6.51	61	P		Pn	14 31 01.9	+1.5
	baz=251							
YUK3	Moose Creek	6.52	67			Pn	14 31 01.7	+0.9
YUK3	Moose Creek	6.52	67	P		Pn	14 31 01.7	+0.9
	baz=257							
J26L	Joseph Creek	6.52	39			Pn	14 30 59.9	-0.7
H24K	Noodor Dome	6.54	19	Pn		Pn	14 31 00.2	-0.7
PRP	Porcupine Dome	6.74	28			Pn	14 31 03.2	-0.5
PRP	Porcupine Dome	6.74	28	P		Pn	14 31 03.5	-0.2
	baz=215							
BCPM	Bancas Point	6.79	83			Pn	14 31 04.7	+0.4
DT1	Dutton Round H	6.80	231			Pn	14 31 04.8	+0.3
YKU2	Yakutat	6.82	86	Pn		Pn	14 31 05.0	+0.4
PNL	Peninsula	6.94	85			Pn	14 31 06.4	+0.1
PNL	Peninsula	6.94	85	P		Pn	14 31 06.4	+0.1
	baz=276							
PS05	TAPS Pump Stn5	7.15	8			Pn	14 31 09.5	+0.4
FALS	False Pass	7.44	233			Pn	14 31 13.2	+0.2
FALS	False Pass	7.44	233	P		Pn	14 31 13.2	+0.2
	baz=44							
FALS	False Pass	7.44	233	P		Pn	14 31 13.6	+0.6
ANM	Nome	7.48	315	P		Pn	14 31 14.3	+0.8
ANM	Nome	7.48	315			Pn	14 31 14.3	+0.8
EGAK	Eagle	7.50	43			Pn	14 31 13.1	-0.7
COLD	Coldfoot	7.60	9			Pn	14 31 14.7	-0.4
COLD	Coldfoot	7.60	9	P		Pn	14 31 14.7	-0.4
	baz=191							
ISLZ	Isanotski Laza	7.65	233			Pn	14 31 16.3	+0.3
FYU	Fort Yukon	7.69	24			Pn	14 31 15.7	-0.6
DAWY	Dawson	7.77	51			Pn	14 31 17.8	+0.2
DAWY	Dawson	7.77	51	P		Pn	14 31 17.8	+0.2
	baz=242							
SSLS	Shishaldin Sou	7.78	234			Pn	14 31 16.6	-1.1
M30M	Minto, Yukon	8.37	63			Pn	14 31 25.4	-0.3
M30M	Minto, Yukon	8.37	63	P		Pn	14 31 26.3	+0.6
	baz=258							
J29M	Klondike Camp	8.40	50			Pn	14 31 26.6	+0.4
BM03	Burnt Mountain	8.55	23			Pn	14 31 26.3	-1.8
BMAR	Burnt Mountain	8.57	23	Pn		Pn	14 31 26.7	-1.6
BM01	Burnt Mountain	8.60	23			Pn	14 31 26.9	-1.8
N31M	Braeburn, Yuko	8.69	71			Pn	14 31 30.1	+0.1
N31M	Braeburn, Yuko	8.69	71	P		Pn	14 31 30.1	+0.1
	baz=266							
I29M	Ogilvie Camp,	8.83	44			Pn	14 31 31.6	-0.2
AKUT	Akutan	8.92	236	Pn		Pn	14 31 33.1	0.0
TNA	Tin City	8.93	317	Pn		Pn	14 31 34.1	+0.9
HSB	Akutan Spr's B	8.94	237			Pn	14 31 33.2	-0.2
AKGG	Akutan Green G	8.97	237			Pn	14 31 33.6	-0.1
SKAG	Skagway	9.02	84			Pn	14 31 34.9	+0.5
SKAG	Skagway	9.02	84	P		Pn	14 31 34.9	+0.5
	baz=279							
WHY	Whitehorse	9.12	77			Pn	14 31 36.0	+0.1
WHY	Whitehorse	9.12	77	P		Pn	14 31 36.0	+0.1
	baz=272							
M31M	Drury Creek, Y	9.41	67			Pn	14 31 40.4	+0.6
M31M	Drury Creek, Y	9.41	67	P		Pn	14 31 40.4	+0.6
	baz=263							
MTBL	Makushin Table	9.42	238			Pn	14 31 39.5	-0.5
BESE	Bessie Mountai	9.45	89			Pn	14 31 40.3	-0.1
MSW	Makushin Switc	9.50	238			Pn	14 31 40.3	-0.8
GAMB	Gambell	9.

BBB S **Sn** **14 35 55.4 -3.8**
comp=Z,1.0nm,0.3s,baz=95,slow=16,SNR=9.6
BBB Bella Bella 15.84 108 IAmb IAmb 14 33 08.5
comp=Z,47nm,1.4s
A36M Sachs Harbour 16.48 31 Pn **Pn** **14 33 10.7 -0.9**
A36M IAmb IAmb 14 33 14.5
comp=Z,113nm,0.8s
YKA Yellowknife Ar 18.60 65 P **Pn** **14 33 36.9 -0.3**
comp=Z,3.9nm,0.3s,baz=276,slow=10.0,SNR=421
YKA PcP **PcP** **14 38 00.2 +0.7**
comp=Z,0.1nm,0.3s,baz=286,slow=1.3,SNR=5.9
YKA ScP **ScP** **14 41 25.4 +0.7**
comp=Z,0.5nm,0.3s,baz=283,slow=2.5,SNR=43
YKA Yellowknife Ar 18.60 65 P **Pn** **14 33 36.6 -0.6**
YKA Yellowknife Ar 18.60 65 **Pn** **14 33 36.6 -0.6**
BILL Bilibino 19.32 312 P **P** **14 33 43.9 +0.4**
B08A Colville Reser 22.61 105 P **P** **14 34 19.2 +0.6**
EDM Edmonton 22.62 89 P **P** **14 34 18.8 0.0**
EDM pmax pmax
comp=Z,41nm,0.9s
EDM Edmonton 22.62 89 P **P** **14 34 18.8 0.0**
EDM IAmb IAmb 14 34 46.3
comp=Z,41nm,0.9s
NEW Newport 23.76 103 P **P** **14 34 32.3 +2.8**
comp=Z,1.0nm,0.4s,baz=319,slow=9.3,SNR=3.1
WALA Waterton Lakes 24.83 98 P **P** **14 34 39.9 +0.7**
RES Resolute Bay 25.53 32 P **P** **14 34 45.5 +0.3**
comp=Z,4.1nm,0.6s,baz=256,slow=11,SNR=17
RES ScP **ScP** **14 41 41.3 -0.8**
comp=Z,1.4nm,0.6s,baz=309,slow=6.4,SNR=5.1
RES Resolute Bay 25.53 32 P **P** **14 34 45.3 +0.2**
SEY Seymchan 25.66 301 P **P** **14 34 45.8 -0.6**
comp=Z,4.8nm,0.5s,baz=78,slow=5.9,SNR=14
SEY ScP **ScP** **14 41 41.1 -1.6**
comp=Z,0.7nm,0.5s,baz=97,slow=3.7,SNR=5.4
YBH Yreka Blue Hor 26.02 120 P **P** **14 34 52.5 +2.4**
comp=Z,1.9nm,0.9s,baz=231,slow=3.6,SNR=2.2
PET Petropavlovsk 27.00 277 P **P** **14 34 58.9 +0.3**
PET IAmb IAmb 14 35 15.1
comp=Z,58nm,1.4s
PET Petropavlovsk 27.00 277 P **P** **14 34 59.3 +0.7**
WVOR Wild Horse Val 27.30 114 P **P** **14 35 01.6 +0.1**
WVOR pmax pmax
comp=Z,1.0nm,0.5s
WVOR Wild Horse Val 27.30 114 P **P** **14 35 01.6 +0.1**
PEA0B Petropavlovsk- 27.43 278 P **P** **14 35 02.6 +0.1**
PEA0B pmax pmax
comp=Z,21nm,0.9s
PEA0B Petropavlovsk- 27.43 278 P **P** **14 35 02.6 +0.1**
PEA0B IAmb IAmb 14 35 03.5
comp=Z,21nm,0.8s
PETK Petropavlovsk- 27.43 278 P **P** **14 35 01.6 -0.8**
comp=Z,8.6nm,0.5s,baz=72,slow=13,SNR=185
PETK Petropavlovsk- 27.43 278 P **P** **14 35 02.0 -0.5**
PETK Petropavlovsk- 27.43 278 P **P** **14 35 01.9 -0.5**
HRY Holter Researc 27.44 100 P **P** **14 35 03.6 +0.8**
MA2 Magadan 27.62 294 *ce*P **P** **14 35 03.9 -0.2**
MA2 pmax pmax
comp=Z,6.0nm,0.4s
MA2 Magadan 27.62 294 P **P** **14 35 04.2 +0.1**
MA2 Magadan 27.62 294 P **P** **14 35 04.4 +0.3**
EUNU Eureka 27.85 20 P **P** **14 35 05.7 -0.3**
FCC Fort Churchill 29.33 66 P **P** **14 35 20.5 +1.4**
FCC pmax pmax
comp=Z,9.0nm,1.3s
FCC Fort Churchill 29.33 66 P **P** **14 35 20.5 +1.4**
SKR Severo-Kuril's 29.65 275 *ce*P **P** **14 35 21.0 -1.1**
ELK Elko 30.20 112 P **P** **14 35 28.7 +1.3**
comp=Z,0.3nm,0.4s,baz=304,slow=9.8,SNR=1.4
ELK Elko 30.20 112 P **P** **14 35 28.7 +1.3**
ELK pmax pmax
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 30.66 118 P **P** **14 35 34.6 +3.2**
comp=Z,1.1nm,0.8s,baz=312,slow=8.6,SNR=8.8
NVAR PcP **PcP** **14 38 28.0 +1.2**
comp=Z,0.4nm,0.6s,baz=296,slow=2.4,SNR=3.6
NVAR ScP **ScP** **14 41 59.6 +0.7**
comp=Z,0.9nm,0.8s,baz=292,slow=2.7,SNR=6.3
NVAR Mina Array Bea 30.66 118 P **P** **14 35 33.0 +1.6**
NV11 Mina Array Sit 30.73 118 P **P** **14 35 33.6 +1.6**
PDAR Pinedale Array 31.40 103 P **P** **14 35 40.9 +3.0**
comp=Z,0.3nm,0.5s,baz=320,slow=3.0,SNR=6.1
PDAR ScP **ScP** **14 42 00.2 -1.1**
comp=Z,0.5nm,0.9s,baz=347,slow=3.7,SNR=3.6
TIXI Tiksi 31.64 324 P **P** **14 35 39.4 0.0**
comp=Z,0.9nm,0.3s,baz=101,slow=11,SNR=5.4
TIXI PcP **PcP** **14 38 27.1 -1.4**
comp=Z,0.9nm,0.3s,baz=4.7,slow=2.8,SNR=3.6
TIXI ScP **ScP** **14 41 58.9 -2.4**
comp=Z,2.9nm,0.6s,baz=21,slow=2.7,SNR=12
TIXI Tiksi 31.64 324 P **P** **14 35 39.4 0.0**
TIXI pmax pmax
comp=Z,2.0nm,0.5s
YAK Yakutsk 35.56 308 *e*P **P** **14 36 13.7 +0.3**
YAK pmax pmax
comp=Z,9.0nm,0.8s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK Yakutsk 35.56 308 P **P** **14 36 13.6 +0.1**
YAK IAmb IAmb 14 36 14.2
comp=Z,12nm,0.7s
EYMN Ely 36.85 81 P **P** **14 36 26.3 +1.7**
EYMN IAmb IAmb 14 36 51.9
comp=Z,22nm,0.7s
ECSD EROS Data Cent 37.19 90 P **P** **14 36 28.7 +1.2**
SDCO Great Sand Dun 37.23 105 P **P** **14 36 28.7 +0.4**
F36A Milaca 37.25 85 P **P** **14 36 29.6 +1.5**
FRB Frobisher Bay 37.45 47 P **P** **14 36 30.2 +0.8**
comp=Z,17nm,0.6s,baz=307,slow=9.4,SNR=59
YSS Yuzh-Sakhalins 38.77 280 *e*P **P** **14 36 40.9 +0.1**
YSS pmax pmax
comp=Z,20nm,0.7s
ANMO Albuquerque 39.00 108 ScP **ScP** **14 42 29.8 +0.8**
comp=Z,1.4nm,0.7s,baz=332,slow=5.8,SNR=5.9
SUMG Summit 40.64 25 P **P** **14 36 57.4 +1.0**
SUMG pmax pmax
comp=Z,17nm,1.3s
SUMG Summit 40.64 25 *i* P **P** **14 36 56.0 -0.4**
SUMG Summit 40.64 25 P **P** **14 36 57.4 +1.0**
SUMG IAmb IAmb 14 37 21.7
comp=Z,17nm,1.3s
DAG Danmarks Havn 40.73 15 *i* P **P** **14 36 55.0 -1.6**
JKA Kamikawa-asahi 40.84 277 P **P** **14 36 58.1 +0.1**
JKA IAmb IAmb 14 37 00.2
comp=Z,16nm,0.7s
ASAJ Asahikawa 40.85 277 P **P** **14 36 57.9 0.0**
comp=Z,16nm,0.6s,baz=25,slow=2.5,SNR=21
ASAJ Asahikawa 40.85 277 P **P** **14 36 58.1 +0.2**
ASAJ pmax pmax
comp=Z,17nm,0.7s
JFWS Jewell Farm 41.00 85 P **P** **14 36 59.6 +0.4**
JFWS pmax pmax
comp=Z,13nm,0.9s
JFWS Jewell Farm 41.00 85 P **P** **14 36 59.6 +0.4**
JFWS IAmb IAmb 14 37 25.7
comp=Z,13nm,0.8s
SFJD Kangerlussuaq 41.40 35 P **P** **14 37 02.6 +0.5**
comp=Z,6.6nm,0.6s,baz=307,slow=6.9,SNR=5.5
SFJD Kangerlussuaq 41.40 35 P **P** **14 37 02.7 +0.5**
SFJD pmax pmax
comp=Z,15nm,1.2s
SFJD Kangerlussuaq 41.40 35 P **P** **14 37 02.7 +0.5**
SFJD IAmb IAmb 14 37 14.4
comp=Z,15nm,1.1s
ZEA Zeya 41.59 298 *e*P **P** **14 37 03.4 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ERM Erimo 42.09 275 *ce*P **P** **14 37 08.9 +0.8**
ERM pmax pmax
comp=Z,99nm,2.5s
ERM Erimo 42.09 275 P **P** **14 37 09.0 +0.8**
ERM IAmb IAmb 14 37 09.8
comp=Z,28nm,0.8s
ERM Erimo 42.09 275 P **P** **14 37 08.8 +0.7**
SPITS Spitsbergen Ar 42.15 3 P **P** **14 37 07.0 -1.2**
comp=Z,1.3nm,0.3s,baz=20,slow=5.3,SNR=29
SPITS Spitsbergen Ar 42.15 3 P **P** **14 37 07.0 -1.2**
SPITS pmax pmax
comp=Z,58nm,1.3s
SPB2 Spitsbergen Ar 42.15 3 P **P** **14 37 08.5 +0.3**
SPB2 IAmb IAmb 14 37 26.2
comp=Z,42nm,1.1s
JEW Eniwo 42.35 277 P **P** **14 37 10.3 +0.1**

KLR Kul'dur 42.57 291 P **P** **14 37 11.3 -0.7**
comp=Z,3.3nm,0.3s,baz=44,slow=8.0,SNR=19
KLR Kul'dur 42.57 291 *ce*P **P** **14 37 11.2 -0.7**
KLR pmax pmax
comp=Z,26nm,1.6s
VLDQ Val d'Or 43.60 70 P **P** **14 37 19.7 -0.5**
VLDQ IAmb IAmb 14 37 36.3
comp=Z,12nm,1.5s
SCHQ Schefferville 43.74 57 P **P** **14 37 22.1 +0.8**
comp=Z,8.8nm,0.4s,baz=310,slow=7.3,SNR=75
SCHQ Schefferville 43.74 57 P **P** **14 37 21.7 +0.5**
SCHQ IAmb IAmb 14 37 22.5
comp=Z,12nm,0.5s
JTM Tenmabayashi 44.05 275 P **P** **14 37 23.9 0.0**
NRIK Noril'sk 44.08 334 P **P** **14 37 24.4 +0.6**
comp=Z,6.5nm,0.5s,baz=50,slow=7.2,SNR=9.9
NRIK Noril'sk 44.08 334 P **P** **14 37 24.0 +0.2**
NRIK pmax pmax
comp=Z,7.0nm,0.5s
NRIK Noril'sk 44.08 334 P **P** **14 37 23.9 +0.2**
NRIK IAmb IAmb 14 37 24.7
comp=Z,7.3nm,0.5s
SLM Saint Louis 44.19 89 P **P** **14 37 24.8 -0.3**
SLM pmax pmax
comp=Z,12nm,0.7s
SLM Saint Louis 44.19 89 P **P** **14 37 24.8 -0.3**
SLM IAmb IAmb 14 37 29.0
comp=Z,12nm,0.7s
BOD Bodaibo 44.35 310 *e*P **P** **14 37 25.9 -0.2**
BOD pmax pmax
comp=Z,23nm,0.7s
TXAR Lajitas Array 44.96 110 P **P** **14 37 33.8 +2.4**
comp=Z,0.1nm,0.4s,baz=308,slow=5.9,SNR=4.4
TXAR ScP **ScP** **14 42 53.8 +1.0**
comp=Z,0.8nm,0.7s,baz=278,slow=2.9,SNR=8.1
SADO Sadowa 45.18 75 P **P** **14 37 33.6 +0.7**
SADO IAmb IAmb 14 37 49.4
comp=Z,31nm,1.4s
ANGG Ammassalik, Gr 46.03 31 P **P** **14 37 38.1 -1.1**
ANGG IAmb IAmb 14 38 05.5
comp=Z,22nm,1.1s
USA0B Ussuriysk Arra 46.05 285 P **P** **14 37 38.4 -1.2**
USA0B pmax pmax
comp=Z,17nm,1.0s
USA0B Ussuriysk Arra 46.05 285 P **P** **14 37 38.4 -1.2**
USA0B IAmb IAmb 14 38 00.3
comp=Z,16nm,0.9s
USRK Ussuriysk Ar. 46.05 285 P **P** **14 37 38.8 -0.9**
comp=Z,4.7nm,0.6s,baz=43,slow=9.2,SNR=12
USRK Ussuriysk Ar. 46.05 285 P **P** **14 37 38.5 -1.1**
USRK Ussuriysk Ar. 46.05 285 P **P** **14 37 38.5 -1.1**
DELO Deloro Mine 46.11 74 P **P** **14 37 41.1 +1.0**
DELO IAmb IAmb 14 38 03.5
comp=Z,20nm,1.4s
TRQ Mont Tremblant 46.34 70 P **P** **14 37 42.6 +0.6**
JMM Marumori 46.41 273 P **P** **14 37 42.4 -0.1**
PECO Prince Edward 46.84 74 P **P** **14 37 47.0 +1.1**
PECO IAmb IAmb 14 38 07.0
comp=Z,14nm,1.0s
M53A WI Miller and 46.88 79 P **P** **14 37 47.8 +1.6**
MDJ Mudanjiang 46.90 287 P **P** **14 37 46.0 -0.3**
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,380nm,4.3s
BNX BinXian 47.12 290 ⇓P **P** **14 37 48.3 +0.3**
BNX pmax pmax
comp=Z,41nm,0.8s
BNX pmax pmax
comp=Z,540nm,3.8s
NRS Narsarsuaq 47.17 39 P **P** **14 37 48.4 +0.2**
NRS pmax pmax
comp=Z,55nm,1.3s
NRS Narsarsuaq 47.17 39 P **P** **14 37 48.4 +0.2**
O52A Adamsville 47.30 81 P **P** **14 37 49.9 +0.4**
O52A IAmb IAmb 14 38 16.5
comp=Z,16nm,0.9s
LMQ La Malbaie 47.35 66 P **P** **14 37 50.5 +0.8**
LONY Lake Ozonia 47.50 72 P **P** **14 37 51.2 +0.2**
LONY IAmb IAmb 14 38 01.3
comp=Z,17nm,1.4s
MSHR Mys Shultsa 47.65 284 *ce*P **P** **14 37 51.4 -0.7**
MSHR pmax pmax
comp=Z,50nm,1.7s
M55A Ridgway 47.81 78 P **P** **14 37 54.0 +0.6**
FRNY Flat Rock 47.81 71 P **P** **14 37 53.5 +0.1**
L56A Greenwood 47.90 76 P **P** **14 37 53.9 -0.2**
L56A IAmb IAmb 14 38 22.4
comp=Z,26nm,0.9s
P53A Whipple 48.01 81 P **P** **14 37 56.1 +1.2**
P53A IAmb IAmb 14 38 22.3
comp=Z,26nm,0.8s
HIA Hailar 48.07 298 P **P** **14 37 55.3 0.0**
HIA pmax pmax
comp=Z,12nm,0.6s
HIA Hailar 48.07 298 P **P** **14 37 55.3 0.0**
HIA IAmb IAmb 14 37 55.9
comp=Z,12nm,0.6s
J58A Remsen 48.09 73 P **P** **14 37 56.0 +0.4**
J58A IAmb IAmb 14 38 01.0
comp=Z,18nm,1.2s
NCB Newcomb 48.15 72 P **P** **14 37 56.5 +0.5**
NCB IAmb IAmb 14 38 01.8
comp=Z,22nm,1.2s
D62A Allapoint, All 48.28 66 P **P** **14 37 57.9 +1.0**
D62A IAmb IAmb 14 38 07.4
comp=Z,13nm,1.1s
E62A Clayton Lake 48.41 66 P **P** **14 37 58.3 +0.4**
E62A IAmb IAmb 14 38 07.7
comp=Z,42nm,1.4s
BINY Binghamton 48.62 75 P **P** **14 38 01.0 +1.3**
M57A Sunshine Farm, 48.72 76 P **P** **14 38 01.5 +1.2**
M57A IAmb IAmb 14 38 30.7
comp=Z,18nm,1.1s
MJAR Matsushiro Arr 48.74 274 P **P** **14 38 00.9 +0.3**
comp=Z,5.0nm,0.5s,baz=52,slow=6.7,SNR=21
MJAR Matsushiro Arr 48.74 274 P **P** **14 38 00.7 +0.1**
MJAR pmax pmax
comp=Z,7.0nm,0.8s
MJAR Matsushiro Arr 48.74 274 P **P** **14 38 00.7 +0.1**
MJAR IAmb IAmb 14 38 01.5
comp=Z,7.1nm,0.8s
MJB9 Matsu-Tunnel 48.74 274 P **P** **14 38 01.1 +0.5**
MJB9 IAmb IAmb 14 38 01.9
comp=Z,22nm,0.8s
MAJO Matsushiro 48.74 274 P **P** **14 38 01.1 +0.5**
MAJO pmax pmax
comp=Z,23nm,0.9s
MAJO Matsushiro 48.74 274 P **P** **14 38 01.1 +0.5**
MAJO IAmb IAmb 14 38 01.9
comp=Z,23nm,0.8s
MAJO Matsushiro 48.74 274 P **P** **14 38 01.4 +0.8**
MAT Matsushiro 48.74 274 P **P** **14 38 00.7 +0.1**
SSPA Standing Stone 48.87 78 P **P** **14 38 03.1 +1.5**
SSPA IAmb IAmb 14 38 30.1
comp=Z,29nm,1.2s
G62A West of Eustis 48.98 68 P **P** **14 38 03.2 +0.9**
L59A Walton 49.09 74 P **P** **14 38 04.5 +1.2**
L59A IAmb IAmb 14 38 28.4
comp=Z,18nm,1.5s
CN2 Changchun 49.50 290 *e*P **P** **14 38 05.4 -0.9**
CN2 pP pP 14 38 28.5 -3.7
CN2 S S **14 45 02.3 -2.9**
BATG Bathurst New B 49.51 63 P **P** **14 38 06.9 +0.6**
BATG IAmb IAmb 14 38 07.5
comp=Z,35nm,1.2s
F64A Sherman 49.51 66 P **P** **14 38 06.6 +0.3**
F64A IAmb IAmb 14 38 29.3
comp=Z,23nm,1.2s
WAKE Wake Island 49.61 233 P **P** **14 38 07.2 -0.1**
P57A Homestead Farm 49.69 79 P **P** **14 38 09.2 +1.4**
Y49A Blount Mountai 49.85 90 P **P** **14 38 09.6 +0.6**
Y49A IAmb IAmb 14 38 36.4
comp=Z,23nm,0.9s
JGF Kuroka 49.90 274 P **P** **14 38 09.3 -0.2**
LUPA Lehigh Univers 50.14 76 P **P** **14 38 12.3 +1.1**
LUPA IAmb IAmb 14 38 40.0
comp=Z,27nm,1.0s
ODNJ Ogdensburg 50.15 75 P **P** **14 38 12.3 +1.1**
INU Inuyama 50.27 274 P **P** **14 38 11.7 -0.5**
INU Inuyama 50.27 274 P **P** **14 38 12.2 0.0**
KEV Kevo 50.77 360 P **P** **14 38 16.4 +1.0**
KEV pmax pmax
comp=Z,36nm,1.3s
KEV Kevo 50.77 360 P **P** **14 38 16.4 +1.0**

ARCES ARCESS Array B 50.98 1 P **P** **14 38 17.8 +0.6**
comp=Z,1.6nm,0.6s,baz=345,slow=4.9,SNR=9.7
ARCES ARCESS Array B 50.98 1 P **P** **14 38 17.8 +0.6**
ARCES pmax pmax
comp=Z,15nm,1.2s
ARCES ARCESS Array B 50.98 1 IAmb IAmb 14 38 42.6
comp=Z,15nm,1.2s
DRLN Deer Lake 51.74 56 P **P** **14 38 23.4 +0.3**
DRLN IAmb IAmb 14 38 47.2
comp=Z,22nm,1.2s
JHS Saijyo 52.51 277 P **P** **14 38 28.8 -0.2**
JMN Monobe 53.13 275 P **P** **14 38 33.6 0.0**
KS19 Wonju Array Si 53.16 283 P **P** **14 38 34.7 +1.0**
KSRS Korea Array 53.17 283 P **P** **14 38 34.5 +0.8**
comp=Z,23nm,0.5s,baz=37,slow=7.1,SNR=160
KSAR Wonju Array Be 53.20 283 P **P** **14 38 34.1 +0.1**
KSAR Wonju Array Be 53.20 283 P **P** **14 38 34.1 +0.1**
XLT XiLinHaoTe 53.78 296 *e*P **P** **14 38 38.5 +0.3**
XLT pP pP 14 39 04.0 -0.5
XLT sP sP 14 39 17.1 +0.4
XLT pmax pmax
comp=Z,34nm,0.6s
XLT pmax pmax
comp=Z,280nm,4.9s
INCN Inchon 53.78 284 P **P** **14 38 38.3 0.0**
INCN pmax pmax
comp=Z,117nm,1.5s
INCN Inchon 53.78 284 P **P** **14 38 38.3 0.0**
MOY Mondy 53.95 312 *e*P **P** **14 38 40.8 +1.4**
ZAK Zakamensk 54.10 310 *e*P **P** **14 38 39.6 -0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
TJN Taejon 54.30 282 P **P** **14 38 42.2 +0.3**
TJN pmax pmax
comp=Z,136nm,0.5s
TJN Taejon 54.30 282 P **P** **14 38 42.2 +0.3**
TJN Taejon 54.30 282 P **P** **14 38 42.5 +0.6**
ULN Ulaanbaatar 54.58 306 *ce*P **P** **14 38 44.3 +0.2**
ULN pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 54.58 306 P **P** **14 38 44.6 +0.6**
ULN IAmb IAmb 14 38 45.4
comp=Z,17nm,0.7s
SONM Songino Array 54.88 306 P **P** **14 38 47.3 +1.1**
comp=Z,26nm,0.6s,baz=44,slow=6.7,SNR=187
SONM Songino Array 54.88 306 P **P** **14 38 47.1 +1.0**
JNU Nakatsue 55.13 277 P **P** **14 38 47.9 -0.1**
comp=Z,4.8nm,0.4s,baz=357,slow=9.5,SNR=14
JNU Nakatsue 55.13 277 P **P** **14 38 47.9 -0.1**
JNU IAmb IAmb 14 39 14.0
comp=Z,20nm,1.1s
JNU Nakatsue 55.13 277 P **P** **14 38 48.1 +0.1**
BJI Beijing 56.78 293 P **P** **14 38 59.8 +0.2**
BJI pmax pmax
comp=Z,34nm,0.8s
BJT Baijiatuau 56.80 293 P **P** **14 39 00.0 +0.2**
BJT pmax pmax
comp=Z,26nm,0.6s
BJT Baijiatuau 56.80 293 P **P** **14 38 60.0 +0.2**
ZAA0 Zalesovo Array 57.52 324 P **P** **14 39 04.5 -0.2**
ZALV Zalesovo Beam 57.52 324 P **P** **14 39 05.0 +0.3**
comp=Z,26nm,0.4s,baz=29,slow=7.3,SNR=130
ZALV Zalesovo Beam 57.52 324 P **P** **14 39 04.7 0.0**
ZALV Zalesovo Beam 57.52 324 P **P** **14 39 04.7 0.0**
PRGR Permogore 58.06 350 *e*P **P** **14 39 07.4 -0.9**
PRGR pmax pmax
comp=Z,20nm,1.3s
HHC Hu-ho-hao-te 58.24 297 *e*P **P** **14 39 10.4 +0.4**
HHC pmax pmax
comp=Z,39nm,0.6s
HHC pmax pmax
comp=Z,200nm,5.8s
NOA NORSAR Array B 58.91 9 P **P** **14 39 13.0 -1.3**
comp=Z,1.1nm,1.0s,baz=107,slow=6.0,SNR=2.3
FIA1 FINESS Array S 59.11 0 P **P** **14 39 16.7 +1.1**
FIA1 IAmb IAmb 14 39 35.9
comp=Z,15nm,1.4s
FINES FINESS Array B 59.11 0 P **P** **14 39 16.1 +0.5**
comp=Z,0.9nm,0.5s,baz=34,slow=7.4,SNR=13
FINES FINESS Array B 59.11 0 *i* P **P** **14 39 16.6 +1.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
KLMR Klimovskoe 59.31 353 *e*P **P** **14 39 12.3 -4.6**
KLMR pmax pmax
comp=Z,17nm,1.4s
KLMR Klimovskoe 59.31 353 *e*P **P** **14 39 12.3 -4.6**
KLMR AMP 14 39 25.4
comp=Z,17nm,1.4s
HNS HongShan 59.58 293 ⇓P **P** **14 39 19.8 +0.6**
HNS pmax pmax
comp=Z,38nm,0.7s
DGZ Jazzator, Alta 60.37 319 ⇑*i*P **P** **14 39 25.1 +0.5**
DGZ pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 61.45 341 *d i*P **P** **14 39 31.3 -0.3**
ARU S **S** **14 47 46.3 +2.6**
ARU SS **SS** **14 51 48.0 +2.9**
ARU pmax pmax
comp=Z,2.0nm,0.4s
ARU Arti 61.45 341 P **P** **14 39 31.7 +0.2**
KURK Kurchatov 62.19 326 *ce*P **P** **14 39 36.9 +0.3**
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 62.19 326 P **P** **14 39 36.6 0.0**
KURK IAmb IAmb 14 39 37.2
comp=Z,9.4nm,0.8s
BRVK Borovoye 62.24 332 *ce*P **P** **14 39 37.0 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 62.24 332 P **P** **14 39 36.8 -0.1**
BRVK IAmb IAmb 14 39 37.5
comp=Z,7.9nm,0.7s
LYN LuoYang 62.95 292 ⇓*i*P **P** **14 39 42.6 +0.7**
LYN pmax pmax
comp=Z,50nm,0.6s
GTA Gaotai 64.51 305 ⇓P **P** **14 39 52.8 +0.5**
GTA pP pP 14 40 14.4 -5.0
GTA sP PcP 14 40 25.6 +0.1
GTA pmax pmax
comp=Z,23nm,0.9s
MK31 Makanchi Array 64.58 321 P **P** **14 39 52.1 -0.3**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 64.58 321 P **P** **14 39 52.1 -0.3**
MKAR Makanchi Array 64.58 321 P **P** **14 39 52.2 -0.2**
comp=Z,4.0nm,0.5s,baz=42,slow=6.6,SNR=55
MKAR Makanchi Array 64.58 321 P **P** **14 39 51.9 -0.5**
MKAR Makanchi Array 64.58 321 P **P** **14 39 51.9 -0.5**
XAN Xi'an 65.02 295 P **P** **14 39 55.3 -0.2**
XAN pP pP 14 40 19.8 -2.9
XAN sP PcP 14 40 30.5 +2.9
XAN pmax pmax
comp=Z,34nm,0.8s
WHN Wuhan 65.36 289 ⇓P **P** **14 39 57.8 +0.1**
WHN pmax pmax
comp=Z,66nm,0.6s
WMQ Urumqi 65.39 316 *e*P **P** **14 39 59.5 +1.7**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,79nm,4.9s
LZH Lanzhou 65.58 300 *e*P **P** **14 39 59.3 0.0**
LZH pmax pmax
comp=Z,120nm,1.2s
SSLB Suanglung 67.74 279 P **P** **14 40 12.6 -0.3**
SSLB Suanglung 67.74 279 P **P** **14 40 13.1 +0.1**
YULB Yu-li 67.90 279 P **P** **14 40 13.1 -0.8**
ENH Enshi 67.90 292 P **P** **14 40 13.2 -0.7**
ENH IAmb IAmb 14 40 14.3
comp=Z,12nm,0.7s
ABKAR Akbulak array 68.05 337 P **P** **14 40 13.4 -1.1**
ABKAR Akbulak array 68.05 337 P **P** **14 40 14.3 -0.2**
ABKAR IAmb IAmb 14 40 16.0
comp=Z,3.6nm,0.7s
TPUB Ta-pu 68.31 279 P **P** **14 40 15.3 -1.2**
TPUB Ta-pu 68.31 279 P **P** **14 40 15.4 -1.2**
GOMU GeErMu 69.31 307 P **P** **14 40 23.8 +0.8**
GOMU pmax pmax
comp=Z,9.0nm,0.8s
GOMU pmax pmax
comp=Z,150nm,6.9s
AKASG Malin Array Be 69.87 358 P **P** **14 40 25.5 -0.3**
comp=Z,0.9nm,0.4s,baz=4.5,slow=6.3,SNR=5.1
AKASG Malin Array Be 69.87 358 *i* P **P** **14 40 28.5 +2.8**

AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 69.87 358 P **P 14 40 25.4 -0.3**
AKBB pmax pmax
comp=Z,5.0nm,1.2s
AKBB Malin Array Si 69.87 358 P **P 14 40 25.4 -0.3**
TKM2 Tokmak 2 70.12 324 P **P 14 40 28.4 +0.7**
SNR=5.2
KDJ Kajisay 70.36 323 P **P 14 40 29.0 -0.2**
KDJ pmax pmax
comp=Z,4.0nm,0.8s
KDJ Kajisay 70.36 323 P **P 14 40 29.0 -0.2**
BOOM Boomskoye usch 70.41 324 P **P 14 40 29.9 +0.4**
BOOM pmax pmax
comp=Z,4.0nm,0.7s
BOOM Boomskoye usch 70.41 324 P **P 14 40 29.9 +0.4**
KBK Karagaybulak 70.56 324 P **P 14 40 30.9 +0.6**
SNR=5.5
AAK Ala-Archa 70.71 325 *ce*P **P 14 40 31.9 +0.6**
SNR=5.3
AAK Ala-Archa 70.71 325 *ce*P **P 14 40 31.4 +0.2**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 70.71 325 P **P 14 40 31.7 +0.5**
EKS2 Erkin-Say 70.89 325 P **P 14 40 33.1 +0.8**
SNR=6.6
GERES GERESS Array B 71.21 9 P **P 14 40 33.5 -0.6**
comp=Z,0.4nm,0.5s,baz=12,slow=5.3,SNR=2.2
GERES GERESS Array B 71.21 9 P **P 14 40 35.1 +1.0**
GERES GERESS Array B 71.21 9 P **P 14 40 35.1 +1.0**
KKAR Karatay Array 71.40 328 P **P 14 40 34.9 -0.3**
KKAR Karatay Array 71.40 328 P **P 14 40 34.9 -0.3**
AML Almayashu 71.41 325 P **P 14 40 36.8 +1.1**
SNR=6.0
GYA Guiyang 72.44 292 ⇑P **P 14 40 42.3 +0.6**
GYA pmax pmax
comp=Z,23nm,0.6s
KSH Kashi 73.12 322 P **P 14 40 48.3 +2.7**
KSH pmax pmax
comp=Z,5.0nm,0.7s
PZH PanZhiHua 74.67 296 P **P 14 40 56.3 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.2s
KMI Kunming 75.40 295 ⇑P **P 14 40 58.8 -0.3**
KMI pmax pmax
comp=Z,6.0nm,0.6s
CHGR Chuyangaron 75.91 327 P **P 14 41 01.8 +0.1**
CHGR pmax pmax
comp=Z,13nm,0.8s
CHGR Chuyangaron 75.91 327 P **P 14 41 01.8 +0.1**
CHGR IAmb IAmb 14 41 02.8
comp=Z,13nm,0.8s
KBZ Khabaz 76.02 348 P **P 14 41 03.9 +1.8**
comp=Z,1.4nm,0.7s,baz=348,slow=8.2,SNR=2.0
ESDC Sonseca Array 77.69 24 P **P 14 41 11.9 +0.3**
comp=Z,1.1nm,0.9s,baz=333,slow=5.1,SNR=6.4
SLVN Son La 78.11 292 P **P 14 41 13.7 -0.5**
GUN Gumba 80.16 310 *eP* **P 14 41 25.9 +0.2**
comp=Z,12nm,0.4s
KKN Kakani 80.50 310 *eP* **P 14 41 27.9 +0.6**
comp=Z,11nm,0.5s
GKN Gorkha 80.55 311 *eP* **P 14 41 27.6 +0.1**
comp=Z,11nm,0.5s
DANN Dangsing 80.58 312 *eP* **P 14 41 28.2 +0.4**
comp=Z,63nm,0.6s
PKI Pulchoki 80.64 310 *eP* **P 14 41 28.3 +0.1**
comp=Z,6.5nm,0.5s
PKIN Phulchoki 80.64 310 *eP* **P 14 41 28.4 +0.2**
comp=Z,9.8nm,0.6s
MSVF Nonsavu 80.72 208 P **P 14 41 29.6 +1.4**
comp=Z,5.9nm,1.0s,baz=347,slow=1.3,SNR=4.9
DMN Daman 80.73 310 *eP* **P 14 41 28.9 +0.3**
comp=Z,21nm,0.6s
PYUN Piuthan 81.09 312 *eP* **P 14 41 30.9 +0.4**
comp=Z,21nm,0.5s
KOLN Koldanda 81.16 311 *eP* **P 14 41 31.3 +0.5**
comp=Z,12nm,0.5s
CHTO Chiang Mai 82.60 295 P **P 14 41 37.2 -1.0**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 82.60 295 P **P 14 41 37.2 -1.0**
CM31 Chiang Mai Arr 82.91 294 P **P 14 41 39.8 0.0**
CM31 IAmb IAmb 14 41 40.4
comp=Z,9.9nm,0.6s
CMAR Chiang Mai Arr 82.91 294 P **P 14 41 39.7 -0.1**
comp=Z,5.7nm,0.6s,baz=12,slow=5.8,SNR=35
CMAR Chiang Mai Arr 82.91 294 P **P 14 41 38.9 -0.9**
CMAR Chiang Mai Arr 82.91 294 P **P 14 41 38.9 -0.9**
CTA Charters Tower 93.51 235 P **P 14 42 30.6 +0.1**
CTAO Charters Tower 93.51 235 P **P 14 42 30.8 +0.3**
WRA Warramunga Arr 98.61 245 P **P 14 42 52.2 -1.4**
comp=Z,0.3nm,0.6s,baz=32,slow=4.9,SNR=3.6
WRA PKiKP **PKiKP 14 47 23.1 -1.6**
comp=Z,0.3nm,0.6s,baz=4.4,slow=1.5,SNR=1.8
ASAR Alice Springs 102.03 244 P **Pdif 14 43 08.2 -0.6**
comp=Z,0.2nm,0.5s,baz=26,slow=5.0,SNR=6.0
ASAR PKiKP **PKiKP 14 47 29.5 -1.2**
comp=Z,0.4nm,0.8s,baz=42,slow=1.0,SNR=5.7
NWAO Narrogin (SRO) 117.65 252 P **PKPdf 14 47 58.6 -1.2**
BOSA Boshof 148.83 3 PKPbc **PKPbc 14 49 01.2 -0.4**
comp=Z,5.3nm,0.7s,baz=353,slow=2.6,SNR=19
BOSA Boshof 148.83 3 PKP2 **PKPbc 14 49 00.9 -0.8**
BOSA Boshof 148.83 3 **PKPbc 14 49 00.9 -0.8**

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*NEIC **24** 14:31:46.8±0.8, 59°.78N±0°.03×153°.07W±0°.07, h110km±4km Error ellipse: s-maj=5.2km s-min=3.6km az=117.0*
*AEIC **24** 14:31:47±0.8, 59°.78N±0°.02×153°.04W±0°.07, h106km±4km, ML3.1, ML3.5/70(NEIC), Error ellipse: s-maj=5.1km s-min=3.0km az=115.0*
ISC 24 14:31:46.4±1.4, 59°.77N±0°.04×153°.06W±0°.03, h112km±7km, n85, σ0=43/92, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.15**	**217**		**Pn**	**14 32 02.0**	**+0.1**
OPT	**Oil Point**	**0.15**	**217**	P	**Pn**	**14 32 02.0**	**+0.1**
baz=37							
O20K	**Slope Mountain**	**0.38**	**35**		**Pn**	**14 32 03.2**	**+0.3**
O20K					**Sn**	**14 32 14.8**	**-0.4**
O20K	**Slope Mountain**	**0.38**	**35**	P	**Pn**	**14 32 03.2**	**+0.3**
baz=215							
O20K				S	**Sn**	**14 32 14.8**	**-0.4**
baz=215							
AU22	**Augustine Moun**	**0.43**	**201**		**Pn**	**14 32 03.3**	**+0.3**
AU22					**Sn**	**14 32 15.5**	**+0.1**
AUL	**Augustine Lava**	**0.43**	**206**		**Pn**	**14 32 03.5**	**+0.4**
AUL					**Sn**	**14 32 15.7**	**+0.1**
AUQ	**Augustine Qik'**	**0.45**	**204**		**Pn**	**14 32 03.5**	**+0.3**
RED	**Redoubt Volcan**	**0.67**	**12**		**Pn**	**14 32 04.5**	**-0.2**
RSO	**Redoubt South**	**0.71**	**12**	Pn	**Pn**	**14 32 05.1**	**-0.1**
HOM	**Homer**	**0.73**	**98**		**Pn**	**14 32 05.3**	**+0.2**
HOM					**Sn**	**14 32 19.8**	**+0.6**
HOM	**Homer**	**0.73**	**98**	IAML		14 32 20.6	
comp=E,2μm,0.6s							
HOM	**Homer**	**0.73**	**98**	P	**Pn**	**14 32 05.3**	**+0.2**
baz=281							
HOM				S	**Sn**	**14 32 19.8**	**+0.6**
baz=281							
O19K	**Port Alsworth**	**0.76**	**305**		**Pn**	**14 32 05.6**	**+0.2**
O19K	**Port Alsworth**	**0.76**	**305**	IAML		14 32 06.9	
comp=N,2μm,0.4s							
O19K	**Port Alsworth**	**0.76**	**305**		**Sn**	**14 32 19.2**	**-0.6**
O19K	**Port Alsworth**	**0.76**	**305**	P	**Pn**	**14 32 05.6**	**+0.2**
baz=122							
O19K				S	**Sn**	**14 32 19.2**	**-0.6**
baz=122							
NCT	**North Crescent**	**0.80**	**5**		**Pn**	**14 32 05.7**	**-0.1**
DFR	**Drift River**	**0.85**	**13**		**Pn**	**14 32 06.3**	**0.0**
DFR					**Sn**	**14 32 21.0**	**-0.3**
Q19K	**Cape Douglas,**	**0.90**	**200**		**Pn**	**14 32 07.1**	**+0.4**
Q19K	**Cape Douglas,**	**0.90**	**200**	IAML		14 32 11.3	
comp=N,651nm,0.8s							
Q19K				IAML		14 32 24.1	
comp=E,989nm,1.2s							
Q19K	**Cape Douglas,**	**0.90**	**200**	P	**Pn**	**14 32 07.1**	**+0.4**
baz=20							
CNPM	**China Poot**	**0.96**	**104**		**Pn**	**14 32 07.5**	**+0.2**
CNPM					**Sn**	**14 32 22.6**	**-0.5**
CNPM	**China Poot**	**0.96**	**104**	IAML		14 32 23.4	
comp=E,1μm,0.3s							
CNPM				IAML		14 32 23.7	
comp=N,1μm,0.3s							
O18K	**Koktuh Hills**	**1.09**	**275**		**Pn**	**14 32 08.8**	**+0.1**
O18K	**Koktuh Hills**	**1.09**	**275**	P	**Pn**	**14 32 08.8**	**+0.1**
baz=93							
BRLK	**Bradley Lake**	**1.10**	**89**		**Pn**	**14 32 08.7**	**0.0**
BRLK					**Sn**	**14 32 25.1**	**-0.6**
BRLK	**Bradley Lake**	**1.10**	**89**	IAML		14 32 25.6	
comp=N,954nm,0.2s							
BRLK				IAML		14 32 28.6	
comp=E,875nm,0.2s							
P18K	**Big Mountain,**	**1.17**	**252**		**Pn**	**14 32 09.7**	**+0.2**
P18K					**Sn**	**14 32 26.6**	**-0.4**
P18K	**Big Mountain,**	**1.17**	**252**	P	**Pn**	**14 32 09.7**	**+0.2**
baz=70							
P18K				S	**Sn**	**14 32 26.6**	**-0.4**
baz=70							
BRSE	**Bradley Lake S**	**1.17**	**90**		**Pn**	**14 32 09.6**	**0.0**
BRSE					**Sn**	**14 32 26.5**	**-0.6**
BRSE	**Bradley Lake S**	**1.17**	**90**	P	**Pn**	**14 32 09.6**	**0.0**
baz=273							
BRSE				S	**Sn**	**14 32 26.5**	**-0.6**
baz=273							
N19K	**Bonanza Creek**	**1.26**	**327**		**Pn**	**14 32 10.8**	**+0.2**
N19K	**Bonanza Creek**	**1.26**	**327**	P	**Pn**	**14 32 10.8**	**+0.2**
baz=144							
SPCR	**Spurr Chakacha**	**1.50**	**16**		**Pn**	**14 32 13.5**	**+0.2**
SPCR	**Spurr Chakacha**	**1.50**	**16**	P	**Pn**	**14 32 13.5**	**+0.2**
baz=196							
SPU	**Mount Spurr**	**1.50**	**19**	Pn	**Pn**	**14 32 13.4**	**0.0**
SLKM	**Skilak Lake**	**1.60**	**61**		**Sn**	**14 32 36.1**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.61**	**18**		**Pn**	**14 32 15.2**	**+0.5**
KCG	**Knife Ck. Glac**	**1.81**	**217**		**Pn**	**14 32 17.9**	**+0.8**
O22K	**Cooper Landing**	**1.82**	**65**	Pn	**Pn**	**14 32 17.4**	**+0.3**
SVW2	**Sparrevohn**	**1.83**	**318**		**Pn**	**14 32 17.1**	**-0.1**
SEW	**Seward**	**1.85**	**78**	Pn	**Pn**	**14 32 17.4**	**0.0**
KDAK	**Kodiak Island**	**2.01**	**173**		**Pn**	**14 32 19.5**	**0.0**
KDAK	**Kodiak Island**	**2.01**	**173**	P	**Pn**	**14 32 19.5**	**0.0**
baz=354							
RC01	**Rabbit Creek A**	**2.11**	**50**		**Pn**	**14 32 21.5**	**+0.6**
RC01	**Rabbit Creek A**	**2.11**	**50**	IAML		14 33 08.6	
comp=N,245nm,0.4s							
RC01				IAML		14 33 08.9	
comp=E,234nm,0.5s							
RC01	**Rabbit Creek A**	**2.11**	**50**	P	**Pn**	**14 32 21.5**	**+0.6**
baz=233							
OHAK	**Old Harbor**	**2.56**	**183**		**Pn**	**14 32 26.2**	**-0.3**
OHAK				IAML		14 32 57.5	
comp=N,148nm,0.2s							
OHAK	**Old Harbor**	**2.56**	**183**	P	**Pn**	**14 32 26.8**	**+0.3**
baz=2.8							
L19K	**White Mountain**	**2.57**	**341**	Pn	**Pn**	**14 32 27.0**	**+0.2**
PWL	**Port Wells**	**2.59**	**63**		**Pn**	**14 32 27.2**	**+0.2**
PWL	**Port Wells**	**2.59**	**63**	IAML		14 32 58.7	
comp=E,181nm,0.4s							
PWL	**Port Wells**	**2.59**	**63**	P	**Pn**	**14 32 27.2**	**+0.2**
baz=247							
PMR	**Palmer**	**2.66**	**45**	Pn	**Pn**	**14 32 28.6**	**+0.8**
KNK	**Knik Glacier**	**2.81**	**52**	Pn	**Pn**	**14 32 29.8**	**0.0**
KNK				IAML		14 32 50.4	
comp=E,125nm,0.7s							
KNK				IAML		14 33 22.2	
comp=N,165nm,0.5s							
GHO	**Glory Hole Cre**	**2.86**	**44**	Pn	**Pn**	**14 32 30.5**	**0.0**
GHO				IAML		14 33 25.2	
comp=N,131nm,0.8s							
GHO				IAML		14 33 26.2	
comp=E,147nm,1.3s							
GLI	**Glacier Island**	**3.17**	**67**	Pn	**Pn**	**14 32 34.2**	**-0.4**
GLI				IAML		14 33 05.0	
comp=E,110nm,0.9s							
GLI				IAML		14 33 12.5	
comp=N,124nm,0.7s							
SII	**Sitkinak Islan**	**3.27**	**191**	Pn	**Pn**	**14 32 35.7**	**-0.3**
FID	**Port Fidalgo**	**3.42**	**70**	Pn	**Pn**	**14 32 36.7**	**-1.3**
FID				IAML		14 33 17.9	
comp=E,151nm,0.4s							
Q23K	**Middleton Isla**	**3.43**	**93**	Pn	**Pn**	**14 32 37.5**	**-0.5**
MID	**Middleton Isla**	**3.43**	**93**	Pn	**Pn**	**14 32 37.6**	**-0.5**
TT01	**Tatalina**	**3.46**	**337**		**Pn**	**14 32 38.4**	**0.0**
SCM	**Sheep Creek Mo**	**3.49**	**51**	Pn	**Pn**	**14 32 39.1**	**+0.2**
SCM				IAML		14 33 04.2	
comp=N,128nm,1.0s							
CAST	**Castle Rocks**	**3.69**	**7**	Pn	**Pn**	**14 32 41.9**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.74**	**75**	Pn	**Pn**	**14 32 42.1**	**0.0**
DIV	**Divide**	**3.86**	**66**	Pn	**Pn**	**14 32 44.5**	**+0.7**
KLU	**Klutina**	**3.92**	**61**	Pn	**Pn**	**14 32 45.2**	**+0.5**
KLU				IAML		14 33 31.0	
comp=N,93nm,0.5s							
KLU				IAML		14 33 50.0	
comp=E,56nm,0.7s							
TRF	**Thorofare Moun**	**3.92**	**19**	Pn	**Pn**	**14 32 45.5**	**+0.8**
KTH	**Kantishna Hill**	**3.93**	**14**	Pn	**Pn**	**14 32 45.5**	**+0.7**
KTH				IAML		14 33 14.4	
comp=E,78nm,1.3s							
KTH				IAML		14 33 17.5	
comp=N,71nm,1.1s							
RND	**Reindeer**	**4.17**	**27**	Pn	**Pn**	**14 32 48.2**	**+0.3**
RND				IAML		14 33 20.4	
comp=N,54nm,0.9s							
RND				IAML		14 33 21.2	
comp=E,49nm,1.0s							
MCK	**McKinley**	**4.43**	**24**	Pn	**Pn**	**14 32 52.1**	**+0.7**
MCK				IAML		14 33 29.3	
comp=N,61nm,1.8s							
MCK				IAML		14 33 57.0	
comp=E,54nm,1.7s							
BPAW	**Bear Paw Mtn.**	**4.46**	**12**	Pn	**Pn**	**14 32 52.7**	**+0.9**
BPAW				IAML		14 33 35.0	
comp=E,39nm,1.6s							
BPAW				IAML		14 33 48.9	
comp=N,64nm,1.5s							
CHGN	**Chignik**	**4.49**	**222**	Pn	**Pn**	**14 32 53.1**	**+0.9**
CHGN				IAML		14 33 28.9	
comp=E,62nm,2.2s							
CHGN				IAML		14 33 33.4	
comp=N,57nm,1.9s							
GLB	**Gilahina Butte**	**4.86**	**66**	Pn	**Pn**	**14 32 57.9**	**+0.6**
GLB				IAML		14 33 35.4	
comp=E,30nm,2.0s							
GLB				IAML		14 33 52.8	
comp=N,44nm,0.9s							
PAX	**Paxson**	**4.86**	**45**	Pn	**Pn**	**14 32 58.1**	**+0.8**
VRDI	**Verde Repeater**	**4.97**	**69**	Pn	**Pn**	**14 32 59.3**	**+0.4**
VRDI				IAML		14 33 37.9	
comp=N,40nm,3.9s							
VRDI				IAML		14 34 04.2	
comp=E,31nm,3.3s							
NEA2	**Nenana**	**5.19**	**19**	Pn	**Pn**	**14 33 01.4**	**-0.2**
NEA2				IAML		14 33 46.7	
comp=E,29nm,2.6s							
NEA2				IAML		14 33 51.2	
comp=N,38nm,2.9s							
ISLE	**Juniper Island**	**5.42**	**77**	Pn	**Pn**	**14 33 05.5**	**+0.6**
HDA	**Harding Lake**	**5.47**	**29**	Pn	**Pn**	**14 33 05.3**	**-0.1**
CCB	**Clear Creek Bu**	**5.48**	**24**	Pn	**Pn**	**14 33 05.1**	**-0.4**
MESA	**MESA**	**5.60**	**81**	Pn	**Pn**	**14 33 08.1**	**+0.7**
I23K	**Minto, Yukon-K**	**5.66**	**16**	Pn	**Pn**	**14 33 08.3**	**+0.3**
TCOL	**CIGO, UAF Yank**	**5.67**	**23**	Pn	**Pn**	**14 33 08.0**	**-0.1**
COLA	**College**	**5.67**	**23**	Pn	**Pn**	**14 33 07.9**	**-0.2**
MDM	**Murphy Dome**	**5.67**	**21**	Pn	**Pn**	**14 33 08.1**	**-0.1**

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*NOU **24** 14:51:46.2, 30°.58S×178°.85W, h309km, mb4.9/38, Kermadec Islands, New Zealand*
*IDC **24** 14:51:47.9±0.6, 30°.14S×179°.40W, h299km±5km, mb4.2/16, mb1 4.4/17, mb1mx4.0/36, mbtmp4.8/17, Error ellipse: s-maj=14.8km s-min=11.8km az=123.0*
*NEIC **24** 14:51:49.2±1.3, 30°.2S±0°.1×179°.4W±0°.1, h306km±4km, mb4.8/77, Error ellipse: s-maj=15.9km s-min=13.8km az=189.0*
ISC 24 14:51:46.9±0.3, 30°.45S±0°.04×179°.14W±0°.06, h300km, n546, σ1=83/567, mb4.8/56, 8C-5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.59**	**42**	P	**Pn**	**14 52 33.1**	**+2.4**
GLKZ				S	**S**	**14 52 58.0**	**-7.5**
RIZ	**Raoul Island**	**1.59**	**42**	P	**Pn**	**14 52 33.4**	**+2.6**
RIZ				S	**S**	**14 52 59.7**	**-6.0**
RAO	**Raoul Island**	**1.60**	**42**	P	**Pn**	**14 52 33.0**	**+2.2**
786nm,0.3s,baz=84,slow=10,SNR=12							
RAO				S	**S**	**14 53 05.2**	**-0.5**
828nm,0.3s,baz=102,slow=23,SNR=9.3							
RAO	**Raoul Island**	**1.60**	**42**	Pn	**Pn**	**14 52 33.2**	**+2.4**
MXZ	**Matakaoa Point**	**7.41**	**196**	P	**Pn**	**14 53 35.3**	**+2.2**
MXZ				S	**S**	**14 54 55.5**	**-3.6**
MXZ	**Matakaoa Point**	**7.41**	**196**	Pn	**Pn**	**14 53 30.7**	**-2.4**
KUZ	**Kuaotunu**	**7.60**	**213**	P	**Pn**	**14 53 39.2**	**+3.6**
WMGZ	**Waiomatatini S**	**7.63**	**195**	P	**Pn**	**14 53 35.0**	**-0.8**
WMGZ				S	**S**	**14 55 00.9**	**-3.1**
HAZ	**Te Kaha**	**7.72**	**198**	P	**Pn**	**14 53 35.6**	**-1.4**
HAZ				S	**S**	**14 55 05.0**	**-1.2**
OUZ	**Omahuta**	**7.75**	**230**	P	**Pn**	**14 53 41.3**	**+4.0**
PKGZ	**Pakihiroa**	**7.77**	**197**	P	**Pn**	**14 53 36.5**	**-1.2**
PUZ	**Puketiti**	**7.90**	**195**	P	**Pn**	**14 53 37.4**	**-1.8**
PUZ				S	**S**	**14 55 07.1**	**-3.2**
RUGZ	**Raukumara Rang**	**7.95**	**199**	P	**Pn**	**14 53 38.3**	**-1.6**
RUGZ				S	**S**	**14 55 07.8**	**-3.6**
TWGZ	**Tauwhareparae**	**8.07**	**196**	P	**Pn**	**14 53 39.9**	**-1.3**
TWGZ				S	**S**	**14 55 10.5**	**-3.5**
MARZ	**Manawahe**	**8.28**	**204**	P	**Pn**	**14 53 45.3**	**+1.5**
CNGZ	**Carnagh Statio**	**8.31**	**195**	P	**Pn**	**14 53 43.1**	**-1.1**
MWZ	**Matawai**	**8.33**	**198**	P	**Pn**	**14 53 42.6**	**-1.9**
MWZ				S	**S**	**14 55 17.1**	**-2.9**
TKGZ	**Te Karaka**	**8.35**	**197**	P	**Pn**	**14 53 42.5**	**-2.1**
TKGZ				S	**S**	**14 55 17.9**	**-2.4**
EDRZ	**Edgecumbe**	**8.36**	**203**	P	**Pn**	**14 53 48.3**	**+3.3**
URZ	**Urewera**	**8.38**	**201**	P	**Pn**	**14 53 42.6**	**-2.5**
26nm,0.3s,baz=201,slow=1.6,SNR=36							
URZ				S	**S**	**14 55 16.3**	**-4.7**
108nm,0.3s,baz=220,slow=21,SNR=18							
URZ	**Urewera**	**8.38**	**201**	P	**Pn**	**14 53 42.9**	**-2.1**
URZ				S	**S**	**14 55 18.5**	**-2.5**
URZ	**Urewera**	**8.38**	**201**	Pn	**Pn**	**14 53 42.3**	**-2.8**
URZ	**Urewera**	**8.38**	**201**	P	**Pn**	**14 53 44.8**	**-0.3**
KARZ	**Kaharoa**	**8.46**	**206**	P	**Pn**	**14 53 49.1**	**+3.0**
MKRZ	**Makatiti**	**8.49**	**204**	P	Pn	14 53 51.4	+4.9
OMRZ	**Omania**	**8.49**	**205**	P	**Pn**	**14 53 50.6**	**+4.2**
RAGZ	**Rawiri**	**8.52**	**199**	P	**Pn**	**14 53 45.1**	**-1.7**
RAGZ				S	**S**	**14 55 19.8**	**-4.3**
NGRZ	**Ngongotaha**	**8.56**	**206**	P	**P**	**14 53 52.1**	**-0.4**
TARZ	**Mount Tarawera**	**8.56**	**204**	P	**P**	**14 53 51.2**	**-1.4**
UTU	**Utuhina**	**8.62**	**205**	P	**P**	**14 53 52.9**	**-0.3**
RIGZ	**Rimuhau**	**8.62**	**196**	P	**Pn**	**14 53 45.7**	**-2.4**
RIGZ				S	**S**	**14 55 23.1**	**-3.4**
HLRZ	**Highlands Stat**	**8.63**	**204**	P	**P**	**14 53 51.7**	**-1.6**
RRRZ	**Republican Roa**	**8.65**	**203**	P	**Pn**	**14 53 50.8**	**+2.4**
MUGZ	**Murupara**	**8.69**	**202**	P	**Pn**	**14 53 46.9**	**-1.9**
RTZ	**Ruatahuna**	**8.75**	**200**	P	**Pn**	**14 53 47.0**	**-2.7**
RTZ				S	**S**	**14 55 24.7**	**-4.8**
HRRZ	**Handcock Road**	**8.78**	**204**	P	**Pn**	**14 53 52.4**	**+2.5**
PRGZ	**Paritu Road**	**8.80**	**195**	P	**Pn**	**14 53 47.9**	**-2.3**
GRRZ	**Galatos Road**	**8.80**	**205**	P	**P**	**14 53 53.0**	**-2.2**
PRRZ	**Plateau Road**	**8.84**	**203**	P	**Pn**	**14 53 49.4**	**-1.3**
ALRZ	**Allen Road**	**8.91**	**204**	P	**Pn**	**14 53 52.2**	**+0.7**
WPRZ	**Whakapapatarin**	**8.93**	**204**	P	**Pn**	**14 53 53.5**	**+1.7**
KNZ	**Kokohu**	**8.95**	**196**	P	**Pn**	**14 53 48.9**	**-3.0**
RAHZ	**Arahi**	**9.00**	**199**	P	**Pn**	**14 53 50.2**	**-2.5**
MTHZ	**Maungataniwha**	**9.01**	**200**	P	**Pn**	**14 53 50.7**	**-2.2**
MHGZ	**Mahia Peninsul**	**9.02**	**195**	P	**Pn**	**14 53 50.7**	**-2.2**
KUTZ	**Kaahu Road**	**9.03**	**206**	P	**P**	**14 53 56.1**	**-1.7**
WHHZ	**Waihua**	**9.11**	**198**	P	**P**	**14 53 57.0**	**-1.6**
MRHZ	**Matea Rd**	**9.13**	**202**	P	**Pn**	**14 53 53.0**	**-1.4**
WHTZ	**Whakaora**	**9.14**	**205**	P	**P**	**14 53 57.8**	**-1.3**
NMHZ	**Naumai**	**9.25**	**200**	P	**Pn**	**14 53 53.5**	**-2.3**
WATZ	**Wairara**	**9.26**	**206**	P	**Pn**	**14 53 58.0**	**+2.2**
HATZ	**Hinemaiaia**	**9.29**	**204**	P	**Pn**	**14 53 58.0**	**+1.7**
ARHZ	**Aropaoanui**	**9.35**	**199**	P	**Pn**	**14 53 54.2**	**-2.8**
RATZ	**Rangitukua**	**9.38**	**205**	P	**Pn**	**14 53 58.6**	**+1.2**
BKZ	**Black Stump Fm**	**9.41**	**201**	P	**Pn**	**14 53 54.8**	**-2.9**
BKZ	**Black Stump Fm**	**9.41**	**201**	Pn	**Pn**	**14 53 54.8**	**-2.9**
BKZ	**Black Stump Fm**	**9.41**	**201**	P	**Pn**	**14 53 55.2**	**-2.5**
HIZ	**Hauiti**	**9.45**	**210**	P	**Pn**	**14 53 59.6**	**+1.5**
RITZ	**Rihia Road**	**9.45**	**204**	P	**Pn**	**14 53 59.9**	**+1.7**
KATZ	**Kakaramea**	**9.51**	**205**	P	**Pn**	**14 54 00.6**	**+1.6**
MCHZ	**McNeill Hill**	**9.60**	**200**	P	**Pn**	**14 53 57.0**	**-3.1**
NTVZ	**North Tongarir**	**9.62**	**205**	P	**Pn**	**14 54 00.2**	**-0.2**
TMVZ	**Te Maari**	**9.63**	**205**	P	**Pn**	**14 53 59.1**	**-1.4**
KRVZ	**Karewarewa**	**9.63**	**205**	P	**Pn**	**14 54 02.1**	**+1.5**
ETVZ	**East Tongariro**	**9.64**	**205**	P	**Pn**	**14 53 59.0**	**-1.7**
KWHZ	**Kaweka Forest**	**9.66**	**201**	P	**Pn**	**14 53 57.5**	**-3.3**
WTVZ	**West Tongariro**	**9.67**	**205**	P	**Pn**	**14 54 01.2**	**+0.2**
NNVZ	**North Ngauruho**	**9.67**	**205**	P	**Pn**	**14 54 02.1**	**+1.0**
OTVZ	**Oturere**	**9.68**	**205**	P	**Pn**	**14 53 58.7**	**-2.5**
TWVZ	**Taurewa**	**9.69**	**206**	P	**Pn**	**14 54 01.1**	**-0.1**
SNVZ	**South Ngauruho**	**9.71**	**205**	P	**Pn**	**14 53 59.2**	**-2.4**
NGZ	**Ngauruhoe**	**9.72**	**205**	P	**Pn**	**14 54 02.8**	**+1.2**
TUVZ	**Tukino**	**9.78**	**205**	P	**Pn**	**14 54 02.5**	**+0.1**
FWVZ	**Far West T-bar**	**9.80**	**205**	P	**Pn**	**14 54 01.5**	**-1.3**
WHVZ	**Whangaehu Hut**	**9.82**	**205**	P	**Pn**	**14 54 03.7**	**+0.8**
DRZ	**Dome Shelter**	**9.82**	**205**	P	**Pn**	**14 54 04.7**	**+1.6**
BHHZ	**Black Hill Sta**	**9.84**	**202**	P	**Pn**	**14 54 00.3**	**-2.7**
TRVZ	**Turoa**	**9.85**	**205**	P	**Pn**	**14 54 03.2**	**-0.1**
WNVZ	**Wahianoa**	**9.85**	**205**	P	**Pn**	**14 54 00.7**	**-2.6**
MOVZ	**Moawhango**	**9.87**	**204**	P	**Pn**	**14 54 01.4**	**-2.0**
KAHZ	**Kahuranaki**	**9.88**	**198**	P	**Pn**	**14 54 00.2**	**-3.3**
KRHZ	**Kereru**	**9.88**	**201**	P	**Pn**	**14 53 59.5**	**-4.0**
PKVZ	**Pokaka**	**9.91**	**206**	P	**Pn**	**14 54 03.1**	**-0.8**
MTVZ	**Mangateitei**	**9.95**	**205**	P	**Pn**	**14 54 04.9**	**+0.5**
PXZ	**Pawanui**	**10.10**	**198**	P	**Pn**	**14 54 02.2**	**-3.9**
MHEZ	**Mangahewa**	**10.14**	**210**	P	**P**	**14 54 11.3**	**+1.2**
PNHZ	**Pukenui**	**10.18**	**201**	P	**Pn**	**14 54 03.1**	**-4.1**
WPHZ	**Waipukurau**	**10.25**	**199**	P	**Pn**	**14 54 08.1**	**+0.1**
DREZ	**Durham Road**	**10.29**	**210**	P	**P**	**14 54 12.2**	**+0.5**
**PRH

OUENC **Ouen Island, N** 14.88 299 P **Pn** **14 55 04.6 +0.6**
ONTNC **Ouen Toro** 15.24 299 P **P** **14 55 05.4 -1.3**
ONTNC **Ouen Toro** 15.24 299 P **Pn** **14 55 09.1 +0.9**
RPZ **Rata Peaks** 15.36 208 **P** **14 55 06.3 -1.5**
RPZ IAmb IAmb 14 55 09.4
comp=Z,40nm,1.3s
RPZ **Rata Peaks** 15.36 208 P **P** **14 55 06.8 -1.1**
DZM **Mont Dzumac** 15.38 299 P **P** **14 55 09.0 +0.6**
comp=Z,4.6nm,0.3s,baz=101,slow=13,SNR=69
DZM **Mont Dzumac** 15.38 299 *e*P **P** **14 55 09.0 +0.6**
comp=Z,588nm,1.1s
DZM **Mont Dzumac** 15.38 299 Pn **P** **14 55 09.0 +0.6**
DZM **Mont Dzumac** 15.38 299 P **Pn** **14 55 09.9 -0.1**
NOUC **Port Laguerre** 15.47 299 P **Pn** **14 55 10.6 -0.3**
LIFNC **LIFOU** 15.60 305 P **P** **14 55 10.4 -0.2**
ODZ **Otahua Downs** 16.64 206 P **P** **14 55 21.4 -0.3**
DVP **Devils Point** 17.14 315 P **P** **14 55 28.0 +0.6**
HHSZ **Highcliff Hill** 17.37 205 P **Pn** **14 55 37.0 +4.2**
AFI **Afiamalu** 17.81 24 P **P** **14 55 35.1 +0.4**
comp=Z,8.7nm,0.3s,baz=192,slow=5.4,SNR=17
AFI S **S** **14 58 36.2 -7.6**
comp=Z,3.9nm,0.3s,baz=55,slow=18,SNR=5.3
KOUNC **Koumac, New Ca** 17.90 300 P **P** **14 55 36.4 +0.8**
FUNA **Funafuti** 21.87 356 P **P** **14 56 13.7 -2.1**
ARMA **Armidale** 25.18 263 P **P** **14 56 48.5 +2.7**
RK1H **Rockhampton Ha** 27.92 277 P **P** **14 57 11.0 +0.9**
HNR **Honiara** 28.60 313 P **P** **14 57 18.7 +2.5**
TOO **Toolangi** 30.04 247 P **P** **14 57 28.4 -0.3**
CMSA **Cobar Meteorol** 30.09 259 P **P** **14 57 31.4 +2.2**
CTA **Charters Tower** 32.84 280 ScP **ScP** **15 03 44.7 -0.7**
comp=Z,7.8nm,0.8s,baz=162,slow=4.0,SNR=7.2
STKA **Stephens Creek** 33.51 257 P **P** **14 57 59.8 +0.9**
comp=Z,4.3nm,0.6s,baz=89,slow=10,SNR=13
STKA ScP **ScP** **15 03 47.3 -0.3**
comp=Z,4.5nm,0.8s,baz=108,slow=6.9,SNR=7.4
STKA **Stephens Creek** 33.51 257 P **P** **14 57 59.4 +0.5**
STKA ScP **ScP** **15 03 47.0 -0.6**
STKA **Stephens Creek** 33.51 257 P **P** **14 57 59.9 +1.0**
INKA **Innaminka** 35.03 264 P **P** **14 58 12.4 +0.5**
HTT **Hallett** 35.54 254 P **P** **14 58 16.8 +0.5**
LCRK **Leigh Creek** 36.60 259 P **P** **14 58 25.4 +0.2**
PMG **Port Moresby** 37.74 297 ScP **S** **15 04 02.0 -0.7**
comp=Z,21nm,1.0s,baz=114,slow=3.7,SNR=8.4
BBOO **Buckleboo** 38.01 255 P **P** **14 58 36.5 -0.4**
OOD **Oodnadatta** 39.36 262 P **P** **14 58 48.3 +0.2**
ASAR **Alice Springs** 42.12 268 ScP **ScP** **15 04 19.1 -1.4**
comp=Z,10nm,0.9s,baz=116,slow=4.0,SNR=26
ASAR S **S** **15 05 05.6 -1.9**
comp=Z,1.6nm,0.9s,baz=117,slow=15,SNR=4.5
ASAR ScS **ScS** **15 08 35.9 -3.6**
comp=Z,0.4nm,0.6s,baz=112,slow=6.4,SNR=4.6
ASAR **Alice Springs** 42.12 268 ScP **ScP** **15 04 18.8 -1.7**
WRA **Warramunga Arr** 43.12 273 P **P** **14 59 17.4 -1.2**
comp=Z,8.6nm,0.6s,baz=112,slow=7.5,SNR=16
WRA ScP **ScP** **15 04 23.4 -1.1**
comp=Z,13nm,1.1s,baz=113,slow=4.1,SNR=12
WRA S **S** **15 05 16.9 -5.0**
comp=Z,3.9nm,0.8s,baz=109,slow=14,SNR=7.0
WRA **Warramunga Arr** 43.12 273 IAmb IAmb 14 59 19.6
comp=Z,0.6nm,0.8s
WRA ScP **ScP** **15 04 23.3 -1.1**
FORT **Forrest** 45.08 255 P **P** **14 59 32.4 -1.5**
VNDA **Vanda** 47.95 185 P **P** **14 59 59.3 +3.9**
comp=Z,1.1nm,0.8s,baz=45,slow=4.3,SNR=1.5
VNDA ScP **ScP** **15 04 44.5 +1.0**
comp=Z,2.9nm,0.6s,baz=340,slow=5.7,SNR=9.8
FITZ **Fitzroy Crossi** 51.38 271 ScP **ScP** **15 04 58.4 -0.9**
comp=Z,3.7nm,0.8s,baz=35,slow=4.9,SNR=3.9
KKO **Keanakako'i** 54.62 28 P **P** **15 00 45.9 +0.5**
MLH **Mauna Loa** 54.66 28 P **P** **15 00 47.0 +1.2**
HMH **Humu'ula Sheep** 54.72 28 P **P** **15 00 47.1 +0.8**
HPAH **Hawaii Prepara** 55.02 27 P **P** **15 00 49.0 +0.8**
DHH **Diamond Head** 55.36 24 P **P** **15 00 51.3 +0.9**
QSPA **South Pole Qui** 59.66 180 P **P** **15 01 23.3 +3.4**
comp=Z,9.1nm,0.7s,baz=21,slow=1.4,SNR=34
QSPA **South Pole Qui** 59.66 180 P **P** **15 01 23.0 +3.1**
SYO **Syowa Base** 76.84 193⇑ *e*P **P** **15 03 07.4 +1.8**
MJAR **Matsushiro Arr** 77.73 326 P **P** **15 03 08.3 -2.6**
comp=Z,9.4nm,1.2s,baz=160,slow=7.6,SNR=4.6
SNAA **Sanae** 78.13 179 P **P** **15 03 14.9 +2.1**
VNA3 **Neumayer Olymp** 78.32 177 P **P** **15 03 15.9 +2.1**
VNA2 **Neumayer--Wätz** 78.74 177 P **P** **15 03 18.4 +2.4**
baz=170,slow=4.4
VNA1 **Neumayer--Stat** 78.98 177 P **P** **15 03 19.5 +2.3**
H03N3 **Juan Fernandez** 81.45 124 T T 16 33 13.5
baz=241,slow=72,SNR=9.6
H03N2 **Juan Fernandez** 81.45 124 T T 16 33 16.6
baz=241,slow=72,SNR=6.9
H03N1 **Juan Fernandez** 81.47 124 T T 16 33 12.5
baz=241,slow=72,SNR=17
PLCA **Paso Flores** 83.19 133 P **P** **15 03 43.6 +3.6**
comp=Z,4.0nm,0.8s,baz=233,slow=4.7,SNR=8.9
PLCA **Paso Flores** 83.19 133 IAmb IAmb 15 03 43.8
comp=Z,12nm,1.4s
LC01 **Cunco** 83.38 131 P **P** **15 03 43.8 +2.8**
KSRS **Korea Array** 83.75 320 P **P** **15 03 43.2 +0.6**
comp=Z,1.7nm,1.0s,baz=128,slow=4.7,SNR=2.4
YSS **Yuzh-Sakhalins** 84.37 335 P **P** **15 03 46.2 +0.8**
NJ2 **Nanjing** 85.53 311 *e*P **P** **15 03 53.0 +1.4**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
PEA0B **Petropavlovsk-** 85.62 346 P **P** **15 03 51.7 +0.2**
PETK **Petropavlovsk-** 85.62 346 P **P** **15 03 51.1 -0.4**
comp=Z,22nm,0.7s,baz=138,slow=6.7,SNR=49
PETK **Petropavlovsk-** 85.62 346 P **P** **15 03 50.8 -0.7**
OSI **Osito Audit: C** 86.19 46 P **P** **15 03 55.3 +0.5**
OSI **Osito Audit: C** 86.19 46 P **P** **15 03 57.8 +3.0**
baz=229
ARVC **Arvin** 86.46 46 P **P** **15 03 58.4 +2.4**
baz=229
MURC **Murrieta** 86.49 48 P **P** **15 03 58.9 +2.7**
baz=230
MONP2 **Monument Peak** 86.53 49 P **P** **15 03 59.6 +2.9**
baz=230,SNR=6.3
BFSC **Mount Baldy Ra** 86.61 47 P **P** **15 03 58.9 +2.0**
baz=230,SNR=6.7
MT01 **Popeta** 86.62 128 P **P** **15 03 58.4 +1.3**
MT01 IAmb IAmb 15 04 00.8
comp=Z,10.0nm,0.8s
USRK **Ussuriysk Ar.** 86.66 327 P **P** **15 03 57.2 +0.5**
comp=Z,8.5nm,0.9s,baz=146,slow=3.9,SNR=6.0
VES **Vestal, Richgr** 86.77 45 P **P** **15 03 59.7 +2.2**
baz=229,SNR=11
EDW2 **Edwards Air Fo** 86.81 46 P **P** **15 04 00.3 +2.5**
baz=229,SNR=10
SDPT **Sand Point** 86.94 11 P **P** **15 03 58.8 +1.0**
baz=196
PFO **Pinyon Flats O** 86.97 48 P **P** **15 04 00.9 +2.3**
comp=Z,9.7nm,0.8s,baz=241,slow=4.8,SNR=9.8
PFO **Pinyon Flats O** 86.97 48 IAmb IAmb 15 04 02.0
comp=Z,12nm,0.9s
PFO **Pinyon Flats O** 86.97 48 P **P** **15 04 01.4 +2.8**
baz=230
TPFO **Pinon Flats** 86.97 48 P **P** **15 04 01.4 +2.7**
baz=230
ISA **Isabella, Lake** 87.03 45 P **P** **15 04 00.7 +1.8**
ISA **Isabella, Lake** 87.03 45 P **P** **15 04 01.6 +2.7**
baz=229,SNR=16
LRMC **Laurel Mtn Rad** 87.40 46 P **P** **15 04 03.3 +2.7**
baz=230
CMB **Columbia Colle** 87.46 43 P **P** **15 04 02.0 +1.2**
CMB IAmb IAmb 15 04 03.4
comp=Z,12nm,0.8s
BELC **Belle Mtn. Jos** 87.51 48 P **P** **15 04 04.1 +2.9**
baz=231,SNR=8.8
BC3 **Big Chuckawall** 87.64 48 P **P** **15 04 05.1 +3.3**
baz=231,SNR=6.4
GLA **Glamis** 87.67 49 P **P** **15 04 04.1 +2.2**
GLA **Glamis** 87.67 49 P **P** **15 04 05.4 +3.5**
baz=231,SNR=6.6
CWC **Cottonwood Cre** 87.78 45 P **P** **15 04 04.7 +2.2**
baz=229
HEC **Hector,Ludlow** 87.82 47 P **P** **15 04 05.0 +2.3**
baz=230,SNR=8.1
GSC **Goldstone, Bar** 87.83 46 P **P** **15 04 03.6 +1.0**
GSC IAmb IAmb 15 04 05.9
comp=Z,15nm,0.9s
GSC **Goldstone, Bar** 87.83 46 P **P** **15 04 05.0 +2.3**
baz=230,SNR=8.0
ORV **Oroville** 87.85 41 P **P** **15 04 03.7 +1.2**
MPMC **Manual Prospec** 87.89 46 P **P** **15 04 05.4 +2.3**
baz=230,SNR=8.7
WDC **Whiskeytown Da** 87.97 40 P **P** **15 04 04.5 +1.4**
WDC IAmb IAmb 15 04 06.1
comp=Z,12nm,1.0s

IRM **Iron Mountain** 88.16 48 P **P** **15 04 07.5 +3.3**
baz=231
O03E **Paynes Creek** 88.19 40 P **P** **15 04 05.3 +1.1**
O03E IAmb IAmb 15 04 06.8
comp=Z,23nm,1.2s
113A **Mohawk Valley,** 88.19 50 P **P** **15 04 06.3 +2.1**
113A IAmb IAmb 15 04 08.0
comp=Z,19nm,1.1s
QSM **Queen of Sheba** 88.22 46 P **P** **15 04 04.1 -0.2**
QSM IAmb IAmb 15 04 07.5
comp=Z,23nm,1.4s
GMRC **Granite Mounta** 88.22 47 P **P** **15 04 07.0 +2.4**
baz=231,SNR=6.9
214A **Organ Pipe Nat** 88.33 51 P **P** **15 04 07.9 +2.9**
baz=232
M02C **Callahan** 88.37 39 P **P** **15 04 07.8 +2.8**
baz=226
FURC **Furnace Creek,** 88.54 46 P **P** **15 04 08.2 +2.4**
baz=230
SHOC **Shoshone, Teco** 88.54 46 P **P** **15 04 08.3 +2.4**
baz=230,SNR=5.1
LCH **Last Change Ra** 88.56 45 P **P** **15 04 07.3 +1.2**
GRAC **Grapevine Rang** 88.58 45 P **P** **15 04 08.6 +2.6**
baz=230,SNR=9.5
PNTR **Pine Nut** 88.62 42 P **P** **15 04 07.4 +0.9**
YBH **Yreka Blue Hor** 88.68 39 P **P** **15 04 08.0 +1.5**
comp=Z,8.5nm,1.0s,baz=254,slow=3.0,SNR=9.6
YBH **Yreka Blue Hor** 88.68 39 P **P** **15 04 08.0 +1.5**
YBH IAmb IAmb 15 04 09.1
comp=Z,16nm,1.2s
LHV **Little Huntoon** 88.71 43 P **P** **15 04 08.2 +1.7**
LHV IAmb IAmb 15 04 09.8
comp=Z,16nm,1.0s
CO03 **El Pedregal** 88.73 125 P **P** **15 04 09.5 +2.3**
CO03 IAmb IAmb 15 04 10.9
comp=Z,9.7nm,0.9s
YERR **Yerington** 88.76 42 P **P** **15 04 07.9 +0.8**
YERR IAmb IAmb 15 04 10.3
comp=Z,14nm,1.2s
NEE2 **Needles Airpor** 88.88 48 P **P** **15 04 10.5 +3.0**
baz=231
PDMCI **Parker Dam,Lak** 88.90 49 P **P** **15 04 10.5 +3.0**
baz=232,SNR=6.7
NVAR **Mina Array Bea** 88.95 43 P **P** **15 04 10.0 +2.0**
comp=Z,11nm,0.9s,baz=220,slow=7.9,SNR=38
NV11 **Mina Array Sit** 89.03 43 P **P** **15 04 08.6 +0.3**
NV11 IAmb IAmb 15 04 10.9
comp=Z,10nm,1.1s
HUMO **Hull Mountain** 89.16 38 P **P** **15 04 10.2 +1.6**
HUMO IAmb IAmb 15 04 12.8
comp=Z,25nm,1.3s
PAHR **Pah Rah Range** 89.16 42 P **P** **15 04 09.6 +0.8**
PAHR IAmb IAmb 15 04 11.5
comp=Z,15nm,1.3s
TPNV **Topopah Spring** 89.23 45 P **P** **15 04 10.3 +1.1**
TPNV **Topopah Spring** 89.23 45 P **P** **15 04 11.4 +2.1**
baz=230,SNR=8.3
L04D **Klamath Falls** 89.23 38 P **P** **15 04 09.7 +0.6**
L04D **Klamath Falls** 89.23 38 P **P** **15 04 11.2 +2.1**
baz=226
TPH **Tonopah** 89.36 44 P **P** **15 04 10.9 +1.1**
Y14A **Wickenburg** 89.41 49 P **P** **15 04 11.5 +1.4**
Y14A IAmb IAmb 15 04 13.5
comp=Z,14nm,0.8s
KVN **Kaiserville** 89.47 43 P **P** **15 04 11.4 +1.1**
KVN IAmb IAmb 15 04 13.1
comp=Z,16nm,1.4s
W13A **Hualapai Mount** 89.55 48 P **P** **15 04 11.7 +0.8**
W13A IAmb IAmb 15 04 14.3
comp=Z,8.3nm,1.0s
CN2 **Changchun** 89.59 323 *e*P **P** **15 04 09.5 -1.0**
CN2 *e*PP **PP** **15 07 49.1 +1.7**
CN2 **Changchun** 89.59 323 *e*S **S** **15 14 31.5 -3.6**
CN2 **Changchun** 89.59 323 *e*SS SS 15 20 40.8 +0.9
CN2 pmax pmax
comp=Z,30nm,1.0s
SHPR **Sheep Range** 89.62 46 P **P** **15 04 12.7 +1.6**
TUC **Tucson** 89.91 52 P **P** **15 04 14.4 +1.9**
TUC IAmb IAmb 15 04 16.6
comp=Z,16nm,0.8s
TUC **Tucson** 89.91 52 P **P** **15 04 16.1 +3.6**
baz=234
S11A **Rachel** 89.98 45 P **P** **15 04 14.1 +1.3**
S11A IAmb IAmb 15 04 16.3
comp=Z,11nm,1.1s
BNX **BinXian** 89.99 326 ⇑P **P** **15 04 12.1 -0.2**
BNX pmax pmax
comp=Z,49nm,1.0s
BNX pmax pmax
comp=Z,640nm,4.9s
J04D **Umpqua Nationa** 90.04 38 P **P** **15 04 15.3 +2.4**
baz=227,SNR=7.3
MOD **Modoc Plateau** 90.11 40 P **P** **15 04 14.1 +0.8**
MOD IAmb IAmb 15 04 15.9
comp=Z,12nm,0.9s
I04A **Tendick Farm,** 90.27 37 P **P** **15 04 15.7 +1.9**
baz=226
K05A **Summer Lake** 90.34 39 P **P** **15 04 15.6 +1.2**
319A **Douglas** 90.40 53 P **P** **15 04 16.0 +1.2**
319A IAmb IAmb 15 04 18.7
comp=Z,16nm,1.0s
R11A **Troy Canyon, C** 90.53 45 P **P** **15 04 15.6 +0.3**
R11A **Troy Canyon, C** 90.53 45 P **P** **15 04 17.1 +1.8**
baz=231
J05D **Fort Rock, OR** 90.54 38 P **P** **15 04 17.5 +2.3**
baz=227,SNR=8.9
H04D **Lebanon** 90.60 37 P **P** **15 04 17.7 +2.4**
baz=226
GYA **Guiyang** 90.72 300 ⇓P **P** **15 04 17.8 +1.4**
GYA pmax pmax
comp=Z,11nm,1.4s
X16A **Lo Mia Camp, P** 90.73 50 P **P** **15 04 17.9 +1.5**
X16A IAmb IAmb 15 04 20.2
comp=Z,8.6nm,0.9s
BMN **Battle Mountai** 90.89 42 P **P** **15 04 18.0 +1.1**
BMN IAmb IAmb 15 04 19.5
comp=Z,9.3nm,1.0s
PINE **Pine Mountain** 91.04 38 P **P** **15 04 18.8 +1.2**
LCMT **Little Creek M** 91.14 47 P **P** **15 04 19.6 +1.5**
I05D **Terrebonne, OR** 91.20 37 P **P** **15 04 20.2 +2.1**
baz=227,SNR=6.9
WVOR **Wild Horse Val** 91.39 40 P **P** **15 04 20.3 +1.2**
WVOR IAmb IAmb 15 04 21.9
comp=Z,11nm,1.1s
U15A **North Rim** 91.39 48 P **P** **15 04 20.6 +1.1**
U15A IAmb IAmb 15 04 23.0
comp=Z,13nm,0.8s
CCUT **Cedar City** 91.40 46 P **P** **15 04 20.8 +1.4**
KNB **Kanab** 91.41 47 P **P** **15 04 21.1 +1.7**
KNB IAmb IAmb 15 04 22.8
comp=Z,15nm,1.2s
WUAZ **Wupatki** 91.44 49 P **P** **15 04 21.5 +1.9**
WUAZ IAmb IAmb 15 04 23.0
comp=Z,9.4nm,0.9s
WUAZ **Wupatki** 91.44 49 P **P** **15 04 22.4 +2.9**
baz=233
SPR3 **Spring Creek 3** 91.70 45 P **P** **15 04 21.8 +0.9**
X18A **Snowflake** 91.79 51 P **P** **15 04 22.9 +1.7**
I07A **Izee** 92.00 38 P **P** **15 04 23.5 +1.6**
I07A IAmb IAmb 15 04 24.2
comp=Z,12nm,0.9s
J08A **Circle Bar Ran** 92.08 40 P **P** **15 04 23.5 +1.2**
J08A IAmb IAmb 15 04 24.9
comp=Z,15nm,1.2s
ELK **Elko** 92.25 43 P **P** **15 04 23.6 +0.3**
MTPU **Mount Pierson** 92.44 47 P **P** **15 04 25.3 +0.9**
G08A **Pilot Rock** 93.10 38 P **P** **15 04 27.9 +1.1**
G08A IAmb IAmb 15 04 29.5
comp=Z,14nm,1.2s
TXAR **Lajitas Array** 93.25 58 P **P** **15 04 29.5 +1.6**
comp=Z,1.0nm,0.8s,baz=208,slow=8.0,SNR=11
MNTX **Cornudas Mount** 93.31 55 P **P** **15 04 30.1 +2.0**
baz=236
XAN **Xi'an** 93.36 308 P P 15 04 34.0 +5.7
XAN pP PcP 15 04 44.3 +16
XAN pmax pmax
comp=Z,6.0nm,2.0s
XAN pmax pmax
comp=Z,6.0nm,1.9s
MFID **Camas Ranch** 93.59 41 P **P** **15 04 30.0 +0.8**
MFID IAmb IAmb 15 04 31.7
comp=Z,8.2nm,0.8s
NLU **North Lily Min** 93.66 45 P **P** **15 04 30.4 +0.6**
TMUT **Trail Mountain** 93.80 46 P **P** **15 04 31.2 +0.6**
TMUT IAmb IAmb 15 04 33.6

comp=Z,5.6nm,0.7s
D08A **Wollman Farm,** 94.28 37 P **P** **15 04 33.1 +1.0**
D08A IAmb IAmb 15 04 35.0
comp=Z,8.9nm,0.8s
HVU **Hansel Valley** 94.34 43 P **P** **15 04 33.2 +0.4**
HVU IAmb IAmb 15 04 35.4
comp=Z,9.9nm,0.8s
PZH **PanZhiHua** 94.46 298 P **P** **15 04 35.4 +1.8**
F10A **Beach Ranch, E** 94.46 38 P **P** **15 04 33.2 +0.1**
F10A IAmb IAmb 15 04 34.2
comp=Z,4.6nm,0.8s
HLID **Hailey** 94.49 41 P **P** **15 04 35.5 +2.1**
baz=232
HHC **Hu-ho-hao-te** 95.56 315 *e*P **P** **15 04 39.4 +1.1**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.7s
SEY **Seymchan** 95.81 347 P **P** **15 04 38.4 -0.2**
comp=Z,7.5nm,0.8s,baz=151,slow=4.9,SNR=26
TNA **Tin City** 96.09 5 P **P** **15 04 39.9 0.0**
TNA IAmb IAmb 15 04 41.3
comp=Z,8.1nm,1.0s
TNA **Tin City** 96.09 5 P **P** **15 04 40.5 +0.6**
baz=190
PD31 **Pinedale Array** 96.85 44 P **P** **15 04 44.5 +0.3**
PDAR **Pinedale Array** 96.85 44 P **P** **15 04 45.0 +0.8**
comp=Z,1.2nm,0.8s,baz=210,slow=3.3,SNR=13
BOZ **Bozeman (W)** 97.30 41 P Pdif 15 04 48.0 +1.9
baz=234
ILAR **Eielson Array** 98.20 13 P Pdif 15 04 49.2 -0.1
comp=Z,1.2nm,0.9s,baz=220,slow=5.4,SNR=5.3
ILAR PKiKP **PKiKP** **15 09 20.2 0.0**
comp=Z,0.4nm,0.6s,baz=289,slow=3.2,SNR=5.9
LPAZ **La Paz** 99.02 115 P **Pdif** **15 04 59.2 +4.1**
comp=Z,0.5nm,0.6s,baz=225,slow=5.7,SNR=2.4
YKA **Yellowknife Ar** 105.91 26 Pdiff **Pdif** **15 05 23.8 +0.1**
comp=Z,0.8nm,1.1s,baz=230,slow=5.4,SNR=3.7
YKA PKiKP **PKiKP** **15 09 34.5 +0.2**
comp=Z,0.3nm,0.5s,baz=253,slow=1.6,SNR=11
YKA PKKPbc **PKKPbc** **15 20 57.4 -2.5**
comp=Z,0.2nm,0.6s,baz=41,slow=3.5,SNR=4.3
WMQ **Urumqi** 112.48 309 *e*P **PKiKP** **15 09 48.1 +0.7**
WMQ pmax pmax
comp=Z,170nm,5.1s
BOSA **Boshof** 116.82 204 PKP **PKiKP** **15 09 57.2 +0.8**
comp=Z,1.4nm,0.6s,baz=199,slow=1.5,SNR=7.8
MK31 **Makanchi Array** 117.05 310 **PKPdf** **15 09 55.0 -1.0**
MKAR **Makanchi Array** 117.05 310 PKP **PKPdf** **15 09 55.0 -1.0**
comp=Z,2.2nm,0.6s,baz=194,slow=0.9,SNR=29
MKAR SKP 15 13 00.3
comp=Z,0.7nm,0.6s,baz=350,slow=0.3,SNR=5.7
MKAR PKKPbc **PKKPbc** **15 20 22.7 +0.1**
comp=Z,0.3nm,0.5s,baz=282,slow=3.4,SNR=4.9
MKAR **Makanchi Array** 117.05 310 **PKPdf** **15 09 54.8 -1.3**
ZALV **Zalesovo Beam** 117.42 319 PKP **PKPdf** **15 09 55.5 -1.0**
comp=Z,1.6nm,0.5s,baz=107,slow=1.7,SNR=8.3
NRIK **Noril'sk** 119.28 336 PKP **PKPdf** **15 09 59.2 -0.4**
comp=Z,2.8nm,0.5s,baz=85,slow=2.9,SNR=7.0
NRIK **Noril'sk** 119.28 336 **PKPdf** **15 09 58.9 -0.7**
KSH **Kashi** 119.42 301 PKP **PKiKP** **15 10 01.9 +0.9**
KSH SKKS 15 17 52.8
BOOM **Boomskoye usch** 120.25 304 **PKPdf** **15 10 01.8 -0.8**
KURK **Kurchatov** 120.37 314 **PKPdf** **15 10 01.4 -0.8**
TKM2 **Tokmak 2** 120.61 305 P **PKPdf** **15 10 02.8 -0.4**
SNR=8.3
KBK **Karagaybulak** 121.00 304 P **PKiKP** **15 10 04.2 +0.1**
SNR=5.2
UCH **Uchtor** 121.21 304 P **PKiKP** **15 10 05.4 +0.5**
SNR=11
CHMS **Chumysh** 121.23 304 P **PKPdf** **15 10 04.1 -0.1**
SNR=8.0
AAK **Ala-Archa** 121.32 304 P **PKiKP** **15 10 04.8 +0.1**
SNR=5.2
AAK **Ala-Archa** 121.32 304 **PKPdf** **15 10 04.0 -0.6**
USP **Ospenovka** 121.47 305 P **PKPdf** **15 10 04.5 -0.2**
SNR=8.7
AML **Almayashu** 121.78 303 P **PKiKP** **15 10 06.0 +0.1**
SNR=16
EKS2 **Erkin-Say** 121.84 304 P **PKiKP** **15 10 05.7 0.0**
SNR=8.5
KBL **Kabul** 123.34 293 **PKPdf** **15 10 08.5 -0.3**
BTK **Batken** 123.39 300 **PKPdf** **15 10 08.2 -0.3**
KKAR **Karatay Array** 124.28 304 **PKPdf** **15 10 09.6 -0.4**
CHGR **Chuyangaron** 124.31 298 **PKPdf** **15 10 10.2 -0.1**
BRVK **Borovoye** 125.82 316 **PKPdf** **15 10 12.3 -0.3**
SCHQ **Schefferville** 126.94 42 PKP **PKiKP** **15 10 15.1 -0.2**
comp=Z,3.9nm,0.9s,baz=301,slow=7.3,SNR=4.0
ABKAR **Akbulak array** 132.19 311 **PKPdf** **15 10 24.2 -0.6**
ARU **Arti** 132.50 320 **PKPdf** **15 10 25.0 -0.2**
GEYT **Alibeck** 132.69 295 SKPbc **SKPbc** **15 13 23.4 -1.4**
comp=Z,15nm,0.9s,baz=222,slow=22,SNR=14
GEYT **Alibeck** 132.69 295 SKPbc **SKPbc** **15 13 23.1 -1.7**
KMBO **Kilima Mbogo** 133.25 235 SKPbc **SKPbc** **15 13 28.0 +0.3**
comp=Z,5.3nm,0.9s,baz=78,slow=2.2,SNR=14
KMBO **Kilima Mbogo** 133.25 235 SKPbc **SKPbc** **15 13 26.7 -1.1**
ARCES **ARCESS Array B** 138.42 347 PKhKP PKPpre 15 10 27.4
comp=Z,1.3nm,0.5s,baz=15,slow=2.8,SNR=17
ARCES PKP **PKPdf** **15 10 35.0 -0.9**
comp=Z,4.5nm,0.6s,baz=22,slow=0.7,SNR=12
ARCES SKPbc **SKPbc** **15 13 40.3 -1.1**
comp=Z,6.3nm,0.6s,baz=50,slow=1.8,SNR=17
KLMR **Klimovskoe** 140.34 331 *e*PKPdf **PKPdf** **15 10 36.2 -3.3**
KLMR AMP 15 10 41.5
comp=Z,16nm,1.2s
ONI **Oni** 144.05 302 PKPbc 15 10 46.1 +0.4
KBZ **Khabaz** 144.32 304 PKP PKPbc 15 10 46.5 +0.2
comp=Z,9.2nm,0.8s,baz=330,slow=3.3,SNR=12
KARS **Kars** 144.47 298 **PKPab** **15 10 47.0 -0.1**
OBN **Obninsk** 144.65 325 PKPbc 15 10 46.1 -0.8
FIA1 **FINESS Array S** 144.85 339 PKPbc 15 10 46.5 -0.8
FINES **FINESS Array B** 144.85 339 PKP PKPbc 15 10 46.9 -0.5
comp=Z,110nm,0.7s,baz=59,slow=3.3,SNR=573
FINES SKPbc **SKPbc** **15 13 57.0 -0.9**
comp=Z,5.0nm,0.7s,baz=151,slow=4.4,SNR=4.7
FINES **FINESS Array B** 144.85 339 PKPbc 15 10 46.6 -0.8
NSS **Namsos** 145.19 352 *e*PKPdf **PKPdf** **15 10 48.0 0.0**
GURO **Guroymak-BITLI** 145.35 295 **PKPdf** **15 10 48.5 -0.8**
TBLU **Trondheim** 146.63 352 *e*PKPbc **PKPbc** **15 10 52.2 -0.4**
VSU **Vasula** 146.86 335 *e*P **PKPbc** **15 10 53.4 0.0**
MOL **Molde** 147.58 354 *e*PKPbc **PKPbc** **15 10 55.6 +0.4**
AAL **Aland** 147.62 342 *e*P **PKPbc** **15 10 54.7 -0.6**
MTSE **Matsula** 147.68 338 *e*P **PKPbc** **15 10 55.6 +0.1**
DOMB **Dombas** 147.95 353 *e*PKPbc **PKPbc** **15 10 56.1 -0.1**
AKN **Aaknes** 148.01 355 *e*PKPbc **PKPbc** **15 10 56.7 +0.3**
NC303 **NORSAR Array S** 148.44 350 **PKPbc** **15 10 57.0 -0.5**
NC204 **NORSAR Array S** 148.48 351 **PKPbc** **15 10 57.3 -0.3**
UPP **Uppsala** 148.50 344 *e*P **PKPab** **15 11 01.4 -0.6**
NC405 **NORSAR Array S** 148.50 350 PKPdf **PKPbc** **15 10 55.7 -2.0**
NB201 **NORSAR Array S** 148.62 350 **PKPbc** **15 10 57.9 -0.1**
NB2 **NORSAR Subarra** 148.64 350 PKP **PKPbc** **15 10 57.5 -0.6**
comp=Z,18nm,0.7s,baz=17,slow=2.6
NOA **NORSAR Array B** 148.64 350 PKPbc **PKPbc** **15 10 57.8 -0.3**
comp=Z,16nm,0.7s,baz=15,slow=4.2,SNR=58
NBO00 **NORSAR Array S** 148.71 351 **PKPbc** **15 10 57.2 -1.0**
FOO **Floro** 148.72 356 *e*PKPbc **PKPbc** **15 10 58.5 +0.3**
NAO01 **NORSAR Array S** 148.88 351 **PKPbc** **15 10 58.3 -0.3**
NAO01 PKPab **PKPab** **15 11 03.0 -0.6**
NC602 **NORSAR Array S** 148.88 350 *e*PKPbc **PKPbc** **15 10 58.4 -0.2**
NC602 **NORSAR Array S** 148.88 350 **PKPbc** **15 10 57.6 -1.0**
IDID **Didziasalis** 149.08 331 *e*P **PKPbc** **15 10 59.7 +0.5**
MNK **Minsk** 149.12 329 *i* PKP **PKPbc** **15 10 58.5 -0.9**
comp=E,3.0nm,0.9s
MNK *i* PKP **PKPbc** **15 10 58.5 -0.9**
comp=N,19nm,0.9s
MNK *i* PKP **PKPbc** **15 10 58.5 -0.9**
comp=Z,46nm,0.9s,baz=50
MNK *i* pPKP **pPKPbc** **15 12 14.0 +0.7**
MNK *i* SKP 15 13 24.6
MNK *i* PKS PKSdf 15 13 55.1 -34
MNK *i* PP **PP** **15 14 31.8 -1.9**
MNK *i* SKS **SKSdf** **15 17 24.8 -8.9**
MNK *i* PPP PPP 15 17 25.1
MNK *i* SKKS SKKSac 15 20 37.8 -16
MNK *i* SS **SS** **15 33 16.0 -4.1**
MNK *i* SSS SSS 15 40 07.4
GAZ **Gaziantep** 149.20 292 **PKPbc** **15 10 59.4 -0.8**
IIGN **Ignalina** 149.27 331 *e*P **PKiKP** **15 11 00.2 -0.5**
SUE **Sulen** 149.28 356 *e*PKPbc **PKiKP** **15 11 00.2 -0.3**
NACGM **Naroch** 149.34 330 *i* PKP **PKiKP** **15 11 00.5 -0.3**
SKAR **Skarslia** 149.36 353 *e*PKPbc **PKiKP** **15 11 00.4 -0.4**
OSL **Oslo** 149.77 350 *e*PKPbc **PKPbc** **15 11 01.1 +0.4**
ASK **Askoy** 149.82 356 *e*PKPbc **PKiKP** **15 11 01.4 -0.2**
BER **Bergen** 149.91 356 *e*PKPbc **PKiKP** **15 11 01.6 -0.3**

PABE	Paberze	150.06 333	*e*P	PKPbc	15 11 01.8	+0.2
PABE	Paberze	150.06 333		PKPbc	15 11 01.3	-0.3
KONO	Kongsberg	150.21 351	*e*PKPbc	PKPbc	15 11 02.0	+0.2
KONO	Kongsberg	150.21 351		PKPbc	15 11 01.8	-0.1
ODD1	Odda	150.28 354	*e*PKPbc	PKiKP	15 11 02.6	-0.1
PBUR	Paburge	150.42 336	*e*P	PKPbc	15 11 02.4	0.0
STRU	Stroemstad	150.56 349	*i* P	PKPbc	15 11 02.1	-0.5
AKASG	Malin Array Be	150.74 322	PKPbc	PKPbc	15 11 03.1	-0.3
	comp=Z,35nm,0.7s,baz=51,slow=2.7,SNR=37					
AKASG	Malin Array Be	150.74 322	PKPdf	PKPdf	15 10 57.1	-0.4
AKASG			PKPbc	PKPbc	15 11 02.9	-0.5
BLS5	Blasjo	150.78 354	*e*PKPbc	PKPbc	15 11 03.4	+0.2
TJOU	Tjoern	151.44 348	*i* P	PKPbc	15 11 03.8	-0.9
SUW	Suwalki	151.47 332	*e*PKP	PKPbc	15 11 04.8	-0.1
SUW	Suwalki	151.47 332	*e*P	PKPbc	15 11 04.5	-0.4
SUW	Suwalki	151.47 332		PKPbc	15 11 04.3	-0.6
BORU	Boraas	151.59 347	*i* P	PKPbc	15 11 03.8	-1.3
HOMB	Homborsund	151.69 351	*i* P	PKPbc	15 11 05.0	-0.3
HOMB	Homborsund	151.69 351	*e*PKPbc	PKiKP	15 11 05.7	+0.1
BR131	Keskin Array S	151.76 298		PKPbc	15 11 05.2	-1.1
BRTR	Keskin Array B	151.76 298	PKPbc	PKPbc	15 11 06.0	-0.3
	comp=Z,5.1nm,0.6s,baz=141,slow=4.8,SNR=37					
BRTR	Keskin Array B	151.76 298		PKPbc	15 11 05.3	-0.9
SNART	Snartemo	151.77 353	*i* P	PKPbc	15 11 05.4	0.0
SNART	Snartemo	151.77 353	*e*PKPbc	PKiKP	15 11 06.2	+0.4
ONAU	Onsala	151.98 347	*i* P	PKPbc	15 11 04.8	-1.2
BLEU	Blekinge	152.09 342	*i* P	PKPbc	15 11 05.1	-1.1
FABU	Falkenberg	152.19 346	*i* P	PKPbc	15 11 05.4	-1.0
OVD	Ostervraa, Den	152.36 349	*i* P	PKiKP	15 11 06.9	-0.1
ANTO	Ankara	152.38 299		PKPbc	15 11 07.0	-0.6
DEL	Delary	152.43 344	*i* P	PKPbc	15 11 06.0	-1.0
SORM	Soroca	152.57 318	⇓P	PKPbc	15 11 07.1	-0.4
BSD	Bornholm Skovb	153.38 342	*i* P	PKPbc	15 11 07.6	-1.5
BSD	Bornholm Skovb	153.38 342	*e*P	PKiKP	15 11 09.2	0.0
BUR08	Bucovina Ar. S	154.63 319		PKiKP	15 11 12.3	+0.1
BURAR	Bucovina Array	154.63 319	⇑P	PKPab	15 11 28.9	+0.6
BURAR	Bucovina Array	154.63 319		PKPab	15 11 28.3	0.0
LIC	Lamto	155.27 166	*e*PKIKP	PKPdf	15 11 06.6	+1.4
	comp=Z,13nm,0.6s					
KIC	Kosan Boka	155.47 166	*e*PKIKP	PKPdf	15 11 06.8	+1.3
	comp=Z,5.7nm,0.5s					
BSEG	Bad Segeberg	155.55 346	*e*PKPab	PKPab	15 11 31.8	-0.1
	baz=23,slow=4.4					
TIC	Toumodi	155.68 166	*e*PKIKP	PKPdf	15 11 07.2	+1.4
DBIC	Dimbokro	155.74 166	PKP	PKPdf	15 11 07.1	+1.3
	comp=Z,1.9nm,0.6s,baz=152,slow=1.0,SNR=6.4					
DBIC			PKPab	PKPab	15 11 34.9	+1.3
	comp=Z,3.0nm,0.6s,baz=191,slow=5.6,SNR=3.7					
TRPA	Tarpa	155.78 323	⇓P	PKPab	15 11 32.8	-0.3
CRVS	Cervenica-Dubn	155.82 325	*e*PKP	PKPab	15 11 33.6	+0.3
NIE	Niedzica	156.02 328	*e*PKP	PKPab	15 11 35.4	+1.3
RUE	Ruedersdorf	156.03 340	*e*PKPab	PKPab	15 11 33.9	0.0
	baz=23,slow=4.4					
LANS	Liptovska Anna	156.59 328	*e*PKP	PKPab	15 11 37.3	+0.7
KSP	Ksiaz	156.59 335	*e*PKP	PKPab	15 11 36.8	+0.3
FLTG	Flechtingen	156.84 344	*e*PKPab	PKPab	15 11 36.9	-0.6
	baz=23,slow=4.4					
OSTC	Ostas	156.85 335	*e*PKPAB	PKPab	15 11 37.4	-0.3
RETH	Rethem/Aller,	156.87 347	*e*PKPab	PKPab	15 11 37.2	-0.4
	baz=23,slow=4.4					
CHVC	Chvalec	156.89 335	*e*PKPAB	PKPab	15 11 37.0	-0.8
NRDL	Niedersach Rie	156.95 345	*e*PKPab	PKPab	15 11 37.6	-0.2
	baz=23,slow=4.4					
MORC	Moravsky Berou	156.96 332	⇑P	PKPab	15 11 38.1	-0.1
MORC	Moravsky Berou	156.96 332	*e*PKP	PKPab	15 11 37.9	-0.3
MORC	Moravsky Berou	156.96 332		PKPab	15 11 37.6	-0.6
UPC	Upice	156.97 335	*e*PKPAB	PKPab	15 11 38.1	-0.1
DPC	Dobruska-Polom	156.98 334	*e*PKPAB	PKPab	15 11 38.5	+0.2
KRLC	Kraliky	157.03 333	*e*PKPAB	PKPab	15 11 38.1	-0.4
ASSE	Asse, Remlinge	157.16 344	*e*PKPab	PKPab	15 11 38.4	-0.3
	baz=23,slow=4.4					
PSZ	Piszkesteto	157.26 325	⇓P	PKPab	15 11 38.7	-0.9
PSZ	Piszkesteto	157.26 325		PKPab	15 11 38.8	-0.8
CLL	Collm	157.29 340	*e*PKPdif	PKPdf	15 11 18.0	+11
CLL			⇑*i*PKPab	PKPab	15 11 39.4	-0.1
	comp=Z,27nm,0.8s					
CLL	Collm	157.29 340		PKPab	15 11 38.7	-0.8
VYHS	Vyhne	157.35 328	*e*PKP	PKPab	15 11 40.2	+0.3
BRG	Berggiesshubel	157.38 338	⇑*i*PKP	PKPab	15 11 40.0	+0.1
BRG			Amp		15 11 41.1	
	comp=Z,20nm,0.8s					
BRG	Berggiesshubel	157.38 338	*e*PKPab	PKPab	15 11 39.9	+0.1
	baz=23,slow=4.4					
SIRR	Siria	157.40 320	⇑P	PKPdf	15 11 17.2	+10
PVCC	Panska Ves	157.47 337	*e*PKPAB	PKPab	15 11 40.6	+0.3
CLZ	Clausthal	157.50 344	*e*PKPab	PKPab	15 11 40.4	0.0
	baz=23,slow=4.4					
FBE	Freiberg	157.52 339	*e*PKPab	PKPab	15 11 40.7	+0.3
	baz=23,slow=4.4					
IBBN	Ibbenburen	157.58 349	*e*PKPab	PKPab	15 11 40.6	0.0
	baz=23,slow=4.4					
JAVC	Velka Javorina	157.60 330	*e*PKP	PKPab	15 11 42.1	+1.1
VRAC	Vranov	157.71 332	⇑P	PKPab	15 11 41.5	+0.1
VRAC	Vranov	157.71 332	*e*PKP	PKPab	15 11 41.4	0.0
NEUB	Neuenburg	157.72 342	*e*PKPab	PKPab	15 11 41.3	0.0
	baz=23,slow=4.4					
GTTG	Gottingen	157.87 345	*e*PKPab	PKPab	15 11 41.9	0.0
	baz=23,slow=4.4					
PRU	Pruhonice	157.93 336	*e*PKPAB	PKPab	15 11 42.2	-0.1
SMOL	Smolenice	157.97 330	*e*PKP	PKPab	15 11 43.1	+0.5
KRUC	Moravsky	157.98 332	*e*PKP	PKPab	15 11 42.5	-0.1
SRO	Srobarova	158.09 327	*e*PKP	PKPab	15 11 44.0	+0.9
MODS	Modra-Piesok	158.14 330	*e*PKP	PKPab	15 11 45.0	+1.7
TANN	Tannenbergstha	158.24 340	*e*PKPab	PKPab	15 11 43.7	0.0
	baz=23,slow=4.4					
WERD	Werda	158.26 340	*e*PKPab	PKPab	15 11 43.8	0.0
	baz=23,slow=4.4					
PLN	Plauen	158.27 340	*e*PKPab	PKPab	15 11 43.7	0.0
	baz=23,slow=4.4					
MOX	Moxa	158.28 341	*e*PKPab	PKPab	15 11 43.7	-0.1
	baz=23,slow=4.4					
GUNZ	Gunzen	158.32 340	*e*PKPab	PKPab	15 11 44.2	+0.2
	baz=23,slow=4.4					
ZST	Bratislava	158.35 330	*e*PKP	PKPab	15 11 44.7	+0.5
PBCC	Pribram	158.38 336	*e*PKPAB	PKPab	15 11 44.1	-0.2
WERN	Wernitzgruen	158.38 340	*e*PKPab	PKPab	15 11 44.5	+0.2
	baz=23,slow=4.4					
NKC	Novy Kostel	158.40 339	*e*PKPAB	PKPab	15 11 44.5	+0.1
BUG	Bochum--Univer	158.49 349	*e*PKPab	PKPab	15 11 44.5	-0.1
	baz=23,slow=4.4					
UBBA	Unterbreizbach	158.53 344	*e*PKPab	PKPab	15 11 44.9	+0.2
	baz=23,slow=4.4					
MANZ	Manzenberg	158.72 340	*e*PKPab	PKPab	15 11 45.9	+0.1
	baz=23,slow=4.4					
ROTZ	Rotzenmuhle	158.89 339	*e*PKPab	PKPab	15 11 46.9	+0.5
	baz=23,slow=4.4					
CKRC	Cesky Krumlov	158.99 335	*e*PKPAB	PKPab	15 11 47.0	0.0
KHC	Kasperske Hory	158.99 336	*e*PKPAB	PKPab	15 11 46.9	-0.1
KHC	Kasperske Hory	158.99 336		PKPab	15 11 47.0	0.0
MORH	Mrgy, Hungar	159.04 324	⇓P	PKPab	15 11 46.0	-1.2
CONA	Conrad Observa	159.09 331	*e*P	PKPab	15 11 47.8	+0.2
	comp=Z,7.6nm,0.6s,SNR=6.7					
GEC2	GERESS Array S	159.19 336	*e*PKPab	PKPab	15 11 47.6	-0.4
	baz=23,slow=4.4					
GERES	GERESS Array B	159.19 336	PKP	PKPdf	15 11 09.1	0.0
	comp=Z,0.5nm,0.8s,baz=127,slow=3.5,SNR=4.4					
GERES			PKPab	PKPab	15 11 47.8	-0.2
	comp=Z,3.9nm,0.7s,baz=35,slow=4.9,SNR=22					
GERES	GERESS Array B	159.19 336		PKPab	15 11 47.1	-0.8
WET	Wettzell	159.22 337	*e*PKPab	PKPab	15 11 48.3	+0.3
	baz=23,slow=4.4					
GRA1	Grafenberg Arr	159.25 341		PKPab	15 11 47.9	-0.2
GRF	Grafenberg Arr	159.25 341	*e*PKPab	PKPab	15 11 48.5	+0.4
	baz=23,slow=4.4					
TNS	Taunus Mts	159.44 346	*e*PKPab	PKPab	15 11 48.6	-0.3
	baz=23,slow=4.4					
MEM	Membach	159.50 351	PKP	PKPab	15 11 48.6	-0.5
BTNL	Ternell	159.50 350	PKP	PKPab	15 11 49.4	+0.3
BSTI	Sart Tilman	159.58 351	PKP	PKPab	15 11 49.2	-0.2
BHOU	Houvegnez	159.75 350	PKP	PKPab	15 11 49.9	-0.3
ARSA	Arzberg	159.76 330	*e*P	PKPab	15 11 50.5	+0.1
	comp=Z,1.8nm,0.6s					
BCLA	Clavier	159.77 352	PKP	PKPab	15 11 49.7	-0.5
SNF	Seneffe	159.80 354	PKP	PKPab	15 11 50.1	-0.2
MOA	Molln	159.80 333	*i* P	PKPab	15 11 50.7	+0.1
	comp=Z,4.3nm,1.1s					
BGES	Gesves	159.83 352	PKP	PKPab	15 11 50.0	-0.6
BMRD	Maredsous	159.95 353	PKP	PKPab	15 11 50.4	-0.6
RCHB	Rochefort	160.04 352	PKP	PKPab	15 11 51.2	-0.2
WLF	Walferdange	160.39 350	*e*PKPab	PKPab	15 11 53.2	+0.2
	baz=23,slow=4.4					
WLF	Walferdange	160.39 350	PKP	PKPab	15 11 53.0	+0.1
SOKA	Soboth	160.42 330	*i* P	PKPab	15 11 53.0	-0.4
	comp=Z,7.7nm,1.1s					
RJOB	Jochberg	160.45 335	*e*PKPab	PKPab	15 11 53.7	+0.2
	baz=23,slow=4.4					
FUR	Furstenfeldbru	160.59 339	*e*PKPab	PKPab	15 11 54.3	+0.3
	baz=23,slow=4.4					
STU	Stuttgart	160.63 343	*e*PKPab	PKPab	15 11 53.9	-0.2
	baz=23,slow=4.4					
OBKA	Obir	160.76 330	*e*P	PKPab	15 11 54.1	-0.8
	comp=Z,4.3nm,0.9s					
MYKA	Terra Mystica	161.04 332	*e*P	PKPab	15 11 55.2	-0.9
	comp=Z,4.8nm,0.5s					
WATA	Walderalm	161.22 337	*e*P	PKPab	15 11 57.0	+0.1
	comp=Z,5.8nm,0.6s					
BFO	Black Forest	161.25 344	*e*PKPab	PKPab	15 11 56.6	-0.3
	baz=23,slow=4.4					
BFO	Black Forest	161.25 344		PKPab	15 11 56.1	-0.8
WTTA	Wattenberg	161.26 337	*e*P	PKPab	15 11 57.2	+0.1
	comp=Z,7.9nm,0.7s					
RETA	Reutte	161.35 339	*e*P	PKPab	15 11 57.7	+0.3
	comp=Z,10nm,0.7s,SNR=6.5					
MOTA	Moosalm	161.37 338	*e*P	PKPab	15 11 57.7	+0.1
	comp=Z,10nm,0.8s,SNR=6.4					
UBR	Ueberruh	161.38 340	*e*PKPab	PKPab	15 11 57.9	+0.4
	baz=23,slow=4.4					
ABTA	Abfaltersbach	161.39 334	*e*P	PKPab	15 11 56.7	-0.9
	comp=Z,8.5nm,0.8s,SNR=5.7					
SQTA	Sankt Quirin	161.44 337	*e*P	PKPab	15 11 58.0	+0.2
	comp=Z,12nm,0.7s,SNR=6.4					
STAL	STALIGIAL	161.72 333		PKPab	15 11 57.1	-1.9
FETA	Feichten	161.78 338	*e*P	PKPab	15 11 59.6	+0.3
	comp=Z,11nm,0.9s,SNR=5.3					
DAVA	Damuels	161.80 340	*e*P	PKPab	15 11 59.7	+0.3
	comp=Z,11nm,0.6s,SNR=6.3					
CTI	Castel Tesino	162.30 335		PKPab	15 11 59.3	-2.4
TUE	Stuetta	162.69 340		PKPab	15 12 03.1	-0.3
TORD	Torodi Ar. Bea	162.76 183	PKP	PKPdf	15 11 14.5	+0.7
	comp=Z,2.8nm,0.9s,baz=302,slow=1.4,SNR=14					
TORD			PKPab	PKPab	15 12 05.8	+1.6
	comp=Z,5.1nm,0.8s,baz=173,slow=3.6,SNR=15					
TORD	Torodi Ar. Bea	162.76 183		PKPab	15 12 05.2	+1.0
TEOL	Teolo	162.87 333		PKPab	15 12 03.3	-0.8
SENIN	Lac Senin/Sane	163.34 344		PKPab	15 12 06.0	-0.3
OSSC	Osservatorio P	164.55 331		PKPab	15 12 10.2	-1.4
BNI	Bardonecchia	164.72 344		PKPab	15 12 12.4	+0.1
SSB	Saint Sauveur	164.91 350		PKPab	15 12 12.2	-0.8
ESDC	Sonseca Array	169.99 22	PKP	PKPdf	15 11 19.2	+0.5
	comp=Z,2.0nm,0.9s,baz=348,slow=1.0,SNR=10					
ESDC			PKPab	PKPab	15 12 35.4	-0.3
	comp=Z,1.5nm,1.0s,baz=328,slow=4.5,SNR=6.2					
ESDC	Sonseca Array	169.99 22		PKPdf	15 11 19.8	+1.0
ESDC			PKPab	PKPab	15 12 36.2	+0.6

DJA ***24*** *14:53:37.3±0.9,3°S±7°×15°4E±°, h21*^{km}*±6*^{km}*, M4.5/26, mB4.6/5, mb4.6/26, MLv4.9/1, Mw(mB)3.8/5*
NEIC ***24*** *14:53:42.4±1.4,3°90S±0°09×153°7E±0°1, h210*^{km}*±7*^{km}*, mb4.6/36, Error ellipse: s-maj=16.1km s-min=11.1km az=117.0*
IDC ***24*** *14:53:45.4±1.4,3°97S×153°53E, h232*^{km}*±13*^{km}*, mb3.9/23, mb1 4.0/27, mb1mx3.9/46, mbtmp4.5/27, Error ellipse: s-maj=11.6km s-min=8.2km az=103.0*
ISC 24 14:53:42.1±0.4,3°88S±0°06×153°60E±0°07, h207^{km}**, n113,** σ**1$40/121, mb4.5/43, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.46	258	Pn	Pn	14 54 17.5	+1.3
RABL	Rabaul	1.46	258	P	Pn	14 54 17.7	+1.6
MANU	Manus Island	6.49	286	Pn	Pn	14 55 16.6	+0.8
PMG	Port Moresby	8.43	229	P	Pn	14 55 44.2	+3.3
	4.2nm,0.3s,baz=29,slow=8.0,SNR=21						
PMG				S	S	14 57 16.2	+0.3
	8.3nm,0.3s,baz=135,slow=22,SNR=12						
PMG	Port Moresby	8.43	229	Pn	Pn	14 55 43.5	+2.6
PMG	Port Moresby	8.43	229	P	Pn	14 55 44.2	+3.3
JAY	Jayapura	12.95	276	P	P	14 56 42.2	+0.2
	1.2nm,0.3s,baz=121,slow=12,SNR=2.2						
COEN	Coen	14.35	225		P	14 56 58.9	+1.4
COEN	Coen	14.35	225	P	P	14 56 59.8	+2.3
SMPI	Sarmi	14.99	277	P	P	14 57 04.3	-0.2
	23nm,0.7s						
MTSU	Mount Surprise	16.83	212	P	Pn	14 57 27.5	+1.4
CTA	Charters Tower	17.63	203	P	Pn	14 57 35.9	+0.4
	1.0nm,0.3s,baz=26,slow=12,SNR=29						
CTA	Charters Tower	17.63	203	P	Pn	14 57 36.0	+0.6
CTAO	Charters Tower	17.63	203	P	Pn	14 57 33.9	-1.6
CTAO	Charters Tower	17.63	203	P	Pn	14 57 36.1	+0.6
GUMO	Guam	19.40	334	P	Pn	14 57 53.9	-2.6
	6.5nm,0.3s,baz=154,slow=12,SNR=3.5						
RK1H	Rockhampton Ha	19.62	189	P	Pn	14 57 57.0	-2.0
FAKI	Fak Fak	21.33	272	P	P	14 58 11.5	-1.8
	15nm,0.7s						
FAKI	Fak Fak	21.33	272	P	P	14 58 13.6	+0.3
FAKI				IAmb	IAmb	14 58 14.8	
	comp=Z,15nm,0.8s						
QIS	Mount Isa	21.45	218	P	P	14 58 15.0	+0.5
EIDS	Eidsvold	21.50	186	P	P	14 58 15.4	+0.5
EIDS				IAmb	IAmb	14 58 15.9	
	comp=Z,20nm,1.0s						
EIDS	Eidsvold	21.50	186	P	P	14 58 15.6	+0.7
DZM	Mont Dzumac	21.96	147	P	P	14 58 19.2	-0.4
	comp=Z,2.5nm,0.5s,baz=28,slow=17,SNR=1.6						
DZM	Mont Dzumac	21.96	147	P	P	14 58 17.8	-1.7
SIJI	Sorong	22.51	277	P	P	14 58 24.8	+0.1
	comp=Z,10nm,0.6s,baz=72,slow=6.2,SNR=7.7						
SWI	Sorong	22.52	277	P	P	14 58 21.3	-3.4
	comp=Z,15nm,0.6s						
KDU	Kakadu	22.64	246	P	P	14 58 25.6	-0.2
RMQ	Roma	22.95	191	P	P	14 58 29.2	+0.7
MTN	Manton Dam	23.92	247	P	P	14 58 36.9	-0.5
QLP	Quilpie	24.29	201	P	P	14 58 41.6	+1.0
WB0	Warramunga Arr	24.50	228	P	P	14 58 42.7	+0.1
WB0				IAmb	IAmb	14 58 44.0	
	comp=Z,23nm,0.9s						
WR0	Warramunga Arr	24.50	228	P	P	14 58 42.8	+0.1
WR0				IAmb	IAmb	14 58 46.5	
	comp=Z,20nm,0.8s						
MSAI	Masohi	24.63	270	P	P	14 58 41.4	-2.5
	comp=Z,167nmcomp=Z,4.2nm,0.5s						
WRAB	Tennant Creek	24.63	228	P	P	14 58 43.5	-0.4
WRAB				IAmb	IAmb	14 58 47.2	
	comp=Z,21nm,0.8s						
WRAB	Tennant Creek	24.63	228	P	P	14 58 44.1	+0.3
WB2	Warramunga Arr	24.64	228	P	P	14 58 43.7	-0.2
WRA	Warramunga Arr	24.64	228	P	P	14 58 44.3	+0.3
	comp=Z,15nm,0.8s,baz=52,slow=9.8,SNR=63						
WRA				PcP	PcP	15 02 16.2	+0.4
	comp=Z,3.1nm,0.7s,baz=50,slow=2.0,SNR=5.1						
WRA				S	S	15 02 48.0	-2.1
	comp=Z,0.5nm,0.5s,baz=19,slow=39,SNR=1.4						
WRA				ScP	ScP	15 05 33.5	-1.6
	comp=Z,0.3nm,0.5s,baz=44,slow=3.3,SNR=4.7						
WRA	Warramunga Arr	24.64	228	P	P	14 58 43.2	-0.8
AAI	Ambon	25.35	270	P	P	14 58 44.6	-5.8
ARMA	Armidale	26.46	184	P	P	14 59 00.9	+0.6
ARMA				IAmb	IAmb	14 59 02.7	
	comp=Z,14nm,0.9s						
INKA	Innaminka	26.70	206	P	P	14 59 04.0	+1.6
KNRA	Kununurra	27.09	243	P	P	14 59 05.5	-0.4
AS31	Alice Springs	27.36	222	P	P	14 59 07.6	-0.7
ASAR	Alice Springs	27.36	222	P	P	14 59 08.2	-0.1
	comp=Z,8.3nm,0.7s,baz=55,slow=9.1,SNR=156						
ASAR				PcP	PcP	15 02 22.5	+0.3
	comp=Z,1.2nm,0.6s,baz=44,slow=1.9,SNR=3.7						
ASAR				S	S	15 03 29.8	-3.2
	comp=Z,0.6nm,0.6s,baz=43,slow=16,SNR=3.5						
ASAR				ScP	ScP	15 05 41.7	-1.4
	comp=Z,0.5nm,0.8s,baz=48,slow=2.7,SNR=1.7						
ASAR	Alice Springs	27.36	222	P	P	14 59 07.8	-0.5
CMSA	Cobar Meteorol	28.50	194	P	P	14 59 18.7	+0.5
OOD	Oodnadatta	29.28	214	P	P	14 59 26.2	+1.0
STKA	Stephens Creek	30.04	201	P	P	14 59 31.1	-0.8
	comp=Z,6.0nm,0.6s,baz=62,slow=14,SNR=5.9						
STKA	Stephens Creek	30.04	201	P	P	14 59 30.8	-1.1
LCRK	Leigh Creek	30.15	207	P	P	14 59 32.9	0.0
BATI	Baumata	30.35	256	P	P	14 59 35.6	+0.7
	comp=Z,14nm,0.6s,baz=95,slow=12,SNR=1.9						
GTOI	Gorontalo	30.89	278	P	P	14 59 37.7	-1.9
	comp=Z,6.0nm,0.7s						
CAN	Canberra	31.57	187	P	P	14 59 45.4	+0.1
CAN				IAmb	IAmb	14 59 48.0	
	comp=Z,14nm,1.0s						
MULG	Mulgathing	32.10	213	P	P	14 59 49.5	-0.5
HTT	Hallett	32.43	203	P	P	14 59 53.4	+0.5
	comp=Z,45nm,1.1s						
BBOO	Buckleboo	33.13	208	P	P	14 59 58.3	-0.6
BBOO				IAmb	IAmb	14 59 59.5	
	comp=Z,13nm,0.9s						
TOLI2	Tolitoli	33.17	278	P	P	14 59 57.9	-1.6
KAPI	Kappang	33.76	267	P	P	15 00 04.8	+0.2
	comp=Z,5.0nm,0.4s,baz=107,slow=14,SNR=2.1						
MPSI	Mapaga	33.94	276	P	P	15 00 03.0	-3.1
	comp=Z,7.5nm,0.6s						
ARPS	Mount Arapiles	34.47	197	P	P	15 00 11.0	+0.7
FORT	Forrest	36.00	219	P	P	15 00 22.9	-0.5
FORT	Forrest	36.00	219	P	P	15 00 23.5	0.0
MYLDM	Lahad Datu	36.20	284	P	P	15 00 23.1	-2.2
MYLDM				IAmb	IAmb	15 00 28.9	
	comp=Z,36nm,1.4s						
URZ	Urewera	40.38	151	P	P	15 01 00.6	+0.7
	comp=Z,9.1nm,0.9s,baz=329,slow=5.9,SNR=1.9						
MEEK	Meekatharra	40.39	232	P	P	15 00 59.9	-0.3
TUWZ	Tuamarina	41.60	157	P	P	15 01 09.1	-0.7
BSWZ	Blackbirch Sta	41.82	157	P	P	15 01 10.3	-1.2
BFZ	Birch Farm	41.93	154	P	P	15 01 11.4	-1.1
BFZ				IAmb	IAmb	15 01 21.8	
	comp=Z,29nm,1.2s						
CMWZ	Cape Campbell	41.98	157	P	P	15 01 11.1	-1.7
MSWZ	Moikau Station	42.11	156	P	P	15 01 12.5	-1.5
KHZ	Kahutara	42.29	158	P	P	15 01 13.9	-1.4
KHZ				IAmb	IAmb	15 01 27.8	
	comp=Z,14nm,1.2s						
GIRL	Giralia	42.41	240	P	P	15 01 16.0	-0.7
JNU	Nakatsue	42.63	331	P	P	15 01 19.2	+0.9
	comp=Z,10nm,0.8s,baz=350,slow=5.8,SNR=5.3						
MJAR	Matsushiro Arr	42.71	342	P	P	15 01 18.4	-0.5
	comp=Z,3.7nm,0.8s,baz=179,slow=10,SNR=7.7						
UGM	Wanagama	43.02	263	P	P	15 01 21.3	-0.4
MQZ	McQueen's Vall	43.09	160	P	P	15 01 21.4	-0.4
MQZ				IAmb	IAmb	15 01 45.3	
	comp=Z,26nm,1.2s						
MORW	Morawa	43.54	231	P	P	15 01 24.6	-1.1
MORW				IAmb	IAmb	15 01 25.7	
	comp=Z,24nm,0.7s						
NWAO	Narrogin (SRO)	44.59	225	P	P	15 01 32.7	-1.2
NWAO				IAmb	IAmb	15 01 57.8	
	comp=Z,25nm,1.2s						
KSRS	Korea Array	47.56	332	P	P	15 01 58.6	+1.7
	comp=Z,2.3nm,0.7s,baz=153,slow=7.1,SNR=7.1						
PETK	Petropavlovsk-	56.89	3	P	P	15 03 07.7	+2.5
	comp=Z,0.8nm,0.6s,baz=187,slow=7.3,SNR=6.7						
PPT	Papeete	57.25	108	P	P	15 03 10.5	+2.0
	comp=Z,11nm,0.7s,baz=217,slow=12,SNR=1.1						
CMAR	Chiang Mai Arr	58.22	294	P	P	15 03 17.1	+1.9
	comp=Z,0.9nm,0.7s,baz=114,slow=5.4,SNR=8.4						
CMAR				PcP	PcP	15 04 03.5	-0.8
	comp=Z,1.0nm,0.9s,baz=114,slow=4.5,SNR=4.2						
KIWB	Kanaga Island	60.85	20	P	P	15 03 33.4	+0.9
ADK	Adak	61.03	21	P	P	15 03 32.9	-0.8
SONM	Songino Array	65.98	327	P	P	15 04 08.2	+1.8
	comp=Z,0.9nm,0.5s,baz=148,slow=5.3,SNR=10						
SONM	Songino Array	65.98	327	P	P	15 04 07.8	+1.4
CASY	Casey	69.12	197	P	P	15 04 25.3	-0.2
CASY				IAmb	IAmb	15 04 26.0	
	comp=Z,11nm,0.9s						
VNDA	Vanda	73.71	178	P	P	15 04 52.8	0.0
	comp=Z,2.6nm,0.6s,baz=11,slow=4.4,SNR=3.7						
IMAR	Indian Mountai	79.26	19	P	P	15 05 25.6	+1.5
MKAR	Makanchi Array	80.17	319	P	P	15 05 30.2	+0.8
	comp=Z,0.9nm,0.7s,baz=

MAT S **Sn** **15 13 58.9 +4.2**
MJB9 Matsu-Tunnel 2.19 296 Pn 15 13 31.4 +2.6
JSG Sagara 2.23 246 Pn 15 13 32.2 +3.0
JMM Marumori 2.26 3 Pn 15 13 31.8 +2.1
JHJ Hachijo jima 2 2.58 196 P **Pn** **15 13 36.5 +2.4**
175nm,0.3s,baz=76,slow=21,SNR=14
JHJ S **Sn** **15 14 05.8 +1.6**
421nm,0.3s,baz=73,slow=21,SNR=9.4
JHJ2 Mitsune 2.58 196 Pn **Pn** **15 13 35.6 +1.5**
JGF Kuroka 2.69 271 Pn **Pn** **15 13 38.7 +3.1**
INU Inuyama 2.98 266 Pn **Pn** **15 13 41.7 +2.1**
JSD Sado 3.09 322 Pn **Pn** **15 13 43.2 +2.0**
JTM Tenmabayashi 5.18 3 Pn **Pn** **15 14 11.1 +1.3**
JMN Monobe 5.89 253 Pn **Pn** **15 14 20.8 +1.2**
JHS Saijyo 6.19 267 Pn **Pn** **15 14 27.0 +3.3**
ERM Erimo 6.69 16 Pn **Pn** **15 14 30.2 -0.3**
JEW Eniwo 7.25 5 Pn **Pn** **15 14 38.0 -0.3**
JNU Nakatsue 8.45 256 P **Pn** **15 14 57.8 +3.0**
0.8nm,0.3s,baz=85,slow=7.8,SNR=8.1
JNU LR LR 15 18 35.8
comp=Z,2μm,19.9s,baz=110,slow=41
JNU Nakatsue 8.45 256 Pn **Pn** **15 14 57.6 +2.8**
ASAJ Asahikawa 8.63 9 P **Pn** **15 14 56.6 -0.5**
2.0nm,0.3s,baz=221,slow=13,SNR=24
ASAJ S **Sn** **15 16 30.5 -2.7**
2.1nm,0.3s,baz=90,slow=34,SNR=1.9
JKA Kamikawa-asahi 8.63 9 Pn **Pn** **15 14 55.5 -1.7**
KSRS Korea Array 10.41 284 P Pn 15 15 26.8 +5.3
0.7nm,0.3s,baz=93,slow=14,SNR=16
KSRS LR LR 15 19 18.5
comp=Z,944nm,21.7s,baz=95,slow=37
KSAR Wonju Array Be 10.44 284 Pn **Pn** **15 15 22.4 +0.4**
KS19 Wonju Array Si 10.46 284 Pn **Pn** **15 15 22.9 +0.6**
USA0B Ussuriysk Arra 10.85 325 Pn **Pn** **15 15 28.5 +0.9**
USRK Ussuriysk Ar. 10.85 325 P **Pn** **15 15 31.1 +3.5**
baz=132,slow=11,SNR=8.4
USRK LR LR 15 19 32.8
comp=Z,425nm,19.6s,baz=137,slow=36
USRK Ussuriysk Ar. 10.85 325 Pn **Pn** **15 15 27.9 +0.3**
YSS Yuzh-Sakhalins 11.45 7 Pn **Pn** **15 15 35.6 -0.1**
MDJ Mudanjiang 12.35 320 P **P** **15 15 59.9 +0.3**
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,550nm,5.0s
JOW Kunigami 13.72 234 LR LR 15 21 13.2
comp=Z,390nm,20.7s,baz=68,slow=36
JOW Kunigami 13.72 234 Pn **Pn** **15 16 06.3 -0.7**
BNX BinXian 14.25 319 ⇑P **Pn** **15 16 16.8 +2.8**
BNX pmax pmax
comp=Z,19nm,1.1s
CN2 Changchun 14.27 310 *e*P **P** **15 16 19.8 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 15.10 337 P **Pn** **15 16 24.0 -1.4**
comp=Z,0.2nm,0.3s,baz=134,slow=11,SNR=8.9
KLR LR LR 15 22 07.1
comp=Z,292nm,20.6s,baz=154,slow=36
NJ2 Nanjing 18.45 265 *e*P **P** **15 17 06.4 -1.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
BJI Beijing 19.82 290 P **P** **15 17 22.3 0.0**
BJI pmax pmax
comp=Z,18nm,1.0s
BJT Baijiatuau 19.82 290 **P** **15 17 19.8 -2.5**
YHNB Yeheng 19.88 242 P **P** **15 17 21.7 -1.5**
YHNB IAmb IAmb 15 17 28.4
comp=Z,40nm,1.1s
NACB Ninganchiao 20.03 241 P **P** **15 17 24.0 -0.8**
NACB IAmb IAmb 15 17 32.1
comp=Z,35nm,1.1s
XLT XiLinHaoTe 20.57 301 *e*P **P** **15 17 28.3 -2.3**
XLT pP pP 15 17 37.3 -2.8
XLT sP sP 15 17 46.0 +1.4
XLT pmax pmax
comp=Z,21nm,0.9s
XLT pmax pmax
comp=Z,300nm,4.2s
SSLB Suanglung 20.73 241 P **P** **15 17 31.7 -0.7**
HNS HongShan 20.92 283 ⇑P **P** **15 17 31.9 -2.3**
HNS pmax pmax
comp=Z,37nm,0.9s
PEA0B Petropavlovsk- 21.23 29 P **P** **15 17 39.6 +2.1**
PETK Petropavlovsk- 21.23 29 P **P** **15 17 39.8 +2.3**
comp=Z,6.9nm,0.9s,baz=206,slow=6.4,SNR=9.4
PETK LR LR 15 25 32.4
comp=Z,96nm,19.7s,baz=210,slow=35
TPUB Ta-pu 21.27 240 P **P** **15 17 35.5 -2.6**
WHN Wuhan 22.58 265 ⇑P **P** **15 17 51.4 -0.8**
WHN pmax pmax
comp=Z,48nm,0.8s
HHC Hu-ho-hao-te 23.39 292 *e*P **P** **15 17 59.5 -0.9**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.5s
MA2 Magadan 24.88 12 P **P** **15 18 13.7 -0.2**
MA2 IAmb IAmb 15 18 29.9
comp=Z,22nm,0.8s
XAN Xi'an 26.04 276 P **P** **15 18 23.8 -1.0**
XAN pmax pmax
comp=Z,32nm,0.6s
XAN LR LR
comp=Z,470nm,12.4s
XAN LR LR
comp=Z,430nm,12.4s
XAN LR LR
comp=Z,530nm,16.5s
ENH Enshi 26.63 267 P **P** **15 18 28.4 -1.7**
YAK Yakutsk 27.34 349 P **P** **15 18 36.0 -0.1**
comp=Z,9.7nm,0.6s,baz=120,slow=1.1,SNR=9.7
YAK Yakutsk 27.34 349 P **P** **15 18 35.1 -1.0**
YAK IAmb IAmb 15 18 41.0
comp=Z,18nm,0.7s
ULN Ulaanbaatar 27.68 307 P **P** **15 18 37.9 -1.6**
H11N2 WAKE ISLAND Hy 27.99 117 T T 15 47 52.2
baz=310,slow=75,SNR=96
H11N1 WAKE ISLAND Hy 28.00 117 T T 15 47 44.4
baz=310,slow=75,SNR=72
H11N3 WAKE ISLAND Hy 28.01 117 T T 15 47 53.7
baz=310,slow=75,SNR=73
SONM Songino Array 28.10 306 P **P** **15 18 43.1 -0.2**
comp=Z,5.6nm,0.7s,baz=106,slow=9.0,SNR=23
SONM Songino Array 28.10 306 P **P** **15 18 42.8 -0.5**
SEY Seymchan 28.31 11 P **P** **15 18 46.6 +1.8**
comp=Z,5.1nm,0.7s,baz=204,slow=6.4,SNR=9.3
SEY LR LR 15 30 49.4
comp=Z,221nm,20.1s,baz=324,slow=38
H11S1 WAKE ISLAND Hy 28.64 120 T T 15 48 41.0
baz=312,slow=75,SNR=132
H11S3 WAKE ISLAND Hy 28.64 120 T T 15 48 36.7
baz=312,slow=75,SNR=108
H11S2 WAKE ISLAND Hy 28.66 120 T T 15 48 49.3
baz=312,slow=75,SNR=112
LZH Lanzhou 29.73 282 *e*P **P** **15 18 56.3 -1.6**
LZH pP pP 15 19 05.3 -2.9
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,230nm,7.0s
LZH LR LR
comp=Z,340nm,17.0s
LZH LR LR
comp=Z,580nm,16.0s
LZH LR LR
comp=Z,430nm,18.3s
GYA Guiyang 30.39 262 ⇓P **P** **15 19 02.6 -1.2**
GYA pmax pmax
comp=Z,29nm,0.8s
CD2 Chengdu 31.09 272 P **P** **15 19 08.5 -1.3**
CD2 pmax pmax
comp=Z,20nm,0.6s
DAV Davao City (W) 31.59 210 LR LR 15 29 35.1
comp=Z,104nm,20.1s,baz=0.5,slow=32
GTA Gaotai 32.42 289 ⇑P **P** **15 19 20.8 -0.8**
GTA pP pP 15 19 30.4 -1.5
GTA sP sP 15 19 35.1 -1.1
GTA PcP **PcP** **15 22 09.1 +0.8**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,6.8s
GTA LR LR
comp=Z,250nm,15.3s
GTA LR LR
comp=Z,300nm,15.3s
GTA LR LR
comp=Z,260nm,16.7s
KMI Kunming 34.16 263 ⇓P **P** **15 19 35.9 -1.0**
KMI pP pP 15 19 48.1 +0.8
KMI pmax pmax
comp=Z,10.0nm,0.8s
KMI LR LR
comp=Z,400nm,29.9s
PZH PanZhiHua 34.36 266 P **P** **15 19 39.8 +1.2**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,6.3s
TIXI Tiksi 36.64 354 P P 15 19 52.9 -4.5
comp=Z,1.6nm,0.5s,baz=258,slow=9.5,SNR=3.9
TIXI Tiksi 36.64 354 P **P** **15 19 53.9 -3.4**
TIXI IAmb IAmb 15 19 58.5
comp=Z,13nm,0.9s
GOMU GeErMu 36.87 285 P **P** **15 19 59.9 -0.4**
GOMU S **S** **15 25 39.0 -3.8**
GOMU pmax pmax
comp=Z,9.0nm,0.7s
GOMU pmax pmax
comp=Z,79nm,4.8s
GOMU LR LR
comp=Z,140nm,8.0s
GOMU LR LR
comp=Z,150nm,8.9s
SWI Sorong 37.33 196 P **P** **15 20 02.0 -1.8**
comp=Z,19nm,0.6s
SIJI Sorong 37.33 196 P **P** **15 20 03.4 -0.5**
comp=Z,19nm,0.6s,baz=14,slow=12,SNR=20
UBPT Khong Chiam 37.38 246 P **P** **15 20 03.7 -0.7**
FAKI Fak Fak 39.12 193 P **P** **15 20 18.4 -0.6**
FAKI IAmb IAmb 15 20 19.6
comp=Z,18nm,0.6s
SANI Sanana 39.89 203 P **P** **15 20 22.1 -3.3**
comp=Z,22nm,0.6s
GAMB Gambell 40.25 31 P **P** **15 20 27.6 -0.3**
CHTO Chiang Mai 40.36 257 P **P** **15 20 28.0 -1.3**
CMAR Chiang Mai Arr 40.55 256 P **P** **15 20 29.1 -1.8**
comp=Z,2.5nm,0.8s,baz=54,slow=6.5,SNR=14
CMAR PcP **PcP** **15 22 34.2 +1.4**
comp=Z,1.2nm,0.8s,baz=28,slow=2.2,SNR=5.6
CMAR LR LR 15 37 46.8
comp=Z,162nm,20.7s,baz=60,slow=37
WMQ Urumqi 40.95 298 *e*P **P** **15 20 35.4 +1.4**
WMQ pP sP 15 20 47.3 -1.6
WMQ sP pP 15 20 52.3 +7.8
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,170nm,5.3s
LSA Lhasa 41.74 276 P **P** **15 20 42.6 +1.5**
LSA pmax pmax
comp=Z,50nm,0.7s
SBUM Sibu 42.22 225 P **P** **15 20 44.9 +0.4**
ZAA0 Zalesovo Array 42.44 314 P **P** **15 20 45.8 -0.1**
ZAA0 IAmb IAmb 15 20 47.1
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 42.44 314 P **P** **15 20 46.4 +0.4**
comp=Z,9.2nm,0.8s,baz=90,slow=6.5,SNR=40
ZALV PcP **PcP** **15 22 37.6 -0.8**
comp=Z,1.7nm,0.7s,baz=94,slow=4.3,SNR=2.9
ZALV LR LR 15 38 54.4
comp=Z,90nm,20.0s,baz=136,slow=37
ZALV Zalesovo Beam 42.44 314 P **P** **15 20 45.5 -0.5**
ANM Nome 43.13 31 P **P** **15 20 53.5 +2.1**
NRIK Noril'sk 44.31 336 P **P** **15 21 01.1 +0.2**
comp=Z,10.0nm,0.8s,baz=101,slow=11,SNR=16
NRIK LR LR 15 39 51.3
comp=Z,157nm,19.8s,baz=96,slow=36
NRIK Noril'sk 44.31 336 P **P** **15 21 00.6 -0.3**
NRIK IAmb IAmb 15 21 03.2
comp=Z,16nm,1.1s
MK31 Makanchi Array 44.37 303 P **P** **15 21 01.6 -0.1**
MK31 IAmb IAmb 15 21 03.1
comp=Z,9.1nm,0.9s
MKAR Makanchi Array 44.37 303 P **P** **15 21 02.2 +0.5**
comp=Z,8.8nm,0.8s,baz=91,slow=10.0,SNR=81
MKAR PcP **PcP** **15 22 45.1 0.0**
comp=Z,1.6nm,0.8s,baz=83,slow=6.0,SNR=2.5
MKAR LR LR 15 39 59.6
comp=Z,150nm,21.2s,baz=94,slow=37
MKAR Makanchi Array 44.37 303 P **P** **15 21 01.7 0.0**
MAKZ Makanchi 44.58 303 P **P** **15 21 02.8 -0.5**
MAKZ IAmb IAmb 15 21 04.9
comp=Z,16nm,0.9s
PMG Port Moresby 45.19 171 P **P** **15 21 08.5 +0.2**
comp=Z,3.0nm,0.6s,baz=40,slow=7.9,SNR=2.4
PMG Port Moresby 45.19 171 IAmb IAmb 15 21 10.7
comp=Z,12nm,1.2s
KURK Kurchatov 46.34 309 P **P** **15 21 16.9 -0.3**
KURBB Kurchatov Arra 46.41 309 P **P** **15 21 17.9 +0.2**
comp=Z,22nm,1.0s,baz=83,slow=8.3,SNR=5.4
KURBB LR LR 15 40 44.1
comp=Z,138nm,19.0s,baz=94,slow=36
GUN Gumba 46.70 277 *e*P **P** **15 21 20.8 +0.1**
comp=Z,8.3nm,0.3s
PKI Pulchoki 47.22 276 *e*P **P** **15 21 23.9 -0.8**
comp=Z,18nm,0.8s
PKIN Phulchoki 47.22 276 *e*P **P** **15 21 24.0 -0.7**
comp=Z,15nm,0.6s
KKN Kakani 47.23 277 *e*P **P** **15 21 24.9 +0.2**
DMN Daman 47.45 277 *e*P **P** **15 21 26.4 0.0**
KULM Kulim 47.57 240 P **P** **15 21 27.9 +0.7**
KULM IAmb IAmb 15 21 35.7
comp=Z,16nm,1.1s
GKN Gorkha 47.66 277 *e*P **P** **15 21 28.0 0.0**
IPM Ipoh 47.88 239 P **P** **15 21 28.5 -1.1**
IPM IAmb IAmb 15 21 31.8
comp=Z,9.4nm,1.0s
DANN Dangsing 48.23 278 *e*P **P** **15 21 33.1 +0.5**
comp=Z,58nm,0.6s
BATI Baumata 48.31 203 P **P** **15 21 32.8 0.0**
comp=Z,63nm,0.6s,baz=204,slow=0.2,SNR=15
BATI Baumata 48.31 203 P **P** **15 21 30.3 -2.5**
comp=Z,51nm,0.7s
KOLN Koldanda 48.60 278 *e*P **P** **15 21 35.4 +0.1**
PPLA Purkeypile 48.69 34 P **P** **15 21 37.0 +1.5**
PPLA IAmb IAmb 15 21 56.6
comp=Z,20nm,1.3s
KDJ Kajisay 48.84 298 P **P** **15 21 37.1 +0.1**
KDJ IAmb IAmb 15 21 56.9
comp=Z,7.5nm,1.0s
PYUN Piuthan 48.95 278 *e*P **P** **15 21 38.2 +0.2**
comp=Z,92nm,0.9s
MTN Manton Dam 49.02 192 P **P** **15 21 38.0 -0.2**
COEN Coen 49.35 177 P **P** **15 21 41.3 +0.6**
COEN IAmb IAmb 15 21 42.5
comp=Z,9.9nm,0.8s
BOOM Boomskoye usch 49.64 299 P **P** **15 21 43.8 +0.7**
BOOM IAmb IAmb 15 22 02.8
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 49.78 299 P **P** **15 21 45.3 +1.2**
SNR=21
SEW Seward 50.06 38 P **P** **15 21 46.9 +1.2**
NEA2 Nenana 50.09 32 P **P** **15 21 47.6 +1.6**
NEA2 IAmb IAmb 15 21 49.5
comp=Z,8.2nm,0.9s
RND Reindeer 50.20 34 P **P** **15 21 47.9 +1.1**
RND IAmb IAmb 15 22 13.0
comp=Z,13nm,1.4s
KBK Karagaybulak 50.31 299 P **P** **15 21 49.1 +1.0**
SNR=22
MDM Murphy Dome 50.45 31 P **P** **15 21 50.4 +1.7**
MDM IAmb IAmb 15 21 52.2
comp=Z,12nm,0.9s
USP Ospenovka 50.47 300 P **P** **15 21 49.5 +0.4**
SNR=8.7
SML Sawmill 50.51 36 P **P** **15 21 50.3 +1.2**
H24K Noodor Dome 50.59 30 P **P** **15 21 51.8 +2.0**
AAK Ala-Archa 50.64 299 P **P** **15 21 50.5 -0.1**
comp=Z,4.0nm,0.6s,baz=119,slow=4.5,SNR=6.9
AAK Ala-Archa 50.64 299 P **P** **15 21 50.7 +0.1**
AAK IAmb IAmb 15 21 54.0
comp=Z,8.7nm,1.1s
UCH Uchtor 50.73 299 P **P** **15 21 53.1 +1.5**
SNR=6.6
POKR Poker Plat Res 50.79 31 P **P** **15 21 53.6 +2.5**
POKR IAmb IAmb 15 21 54.9
comp=Z,13nm,0.9s
IL31 51.03 32 P **P** **15 21 54.2 +1.3**
ILAR Eielson Array 51.03 32 P **P** **15 21 54.2 +1.2**
comp=Z,4.0nm,0.8s,baz=269,slow=6.3,SNR=40
ILAR Eielson Array 51.03 32 P **P** **15 21 54.0 +1.0**
BRVK Borovoye 51.14 313 P **P** **15 21 54.2 +0.2**
BRVK IAmb IAmb 15 21 56.5
comp=Z,8.0nm,0.8s
AML Almayashu 51.34 299 P **P** **15 21 57.5 +1.3**
SNR=38
UGM Wanagama 51.76 219 P **P** **15 21 58.3 -0.8**
BMAR Burnt Mountain 51.88 28 P **P** **15 22 01.8 +2.4**
KNRA Kununurra 52.23 195 P **P** **15 22 02.7 +0.3**
SCRK Sand Creek 52.34 33 P **P** **15 22 04.4 +1.5**
LEM Lembang 52.41 223 P **P** **15 22 03.4 -0.7**
comp=Z,27nm,0.7s,baz=2.7,slow=10,SNR=8.1
GSI Gunungsitoli 52.54 239 P **P** **15 22 00.9 -4.0**
comp=Z,26nm,0.5s
GSI Gunungsitoli 52.54 239 P **P** **15 22 04.1 -0.8**
KKAR Karatay Array 53.32 301 P **P** **15 22 10.3 -0.1**
L27K Beaver Creek, 53.40 34 P **P** **15 22 12.7 +2.0**
L27K IAmb IAmb 15 22 27.0
comp=Z,6.4nm,1.0s
BCAR Beaver Creek A 53.42 34 P **P** **15 22 12.9 +2.1**
M27K Edge Creek, AK 53.48 35 P **P** **15 22 13.0 +1.6**
ISLE Juniper Island 53.52 37 P **P** **15 22 12.3 +0.6**
BTK Batken 54.04 297 P **P** **15 22 17.0 +1.2**
DAWY Dawson 54.33 32 P **P** **15 22 18.3 +0.8**
NIL Nilore 54.49 289 P **P** **15 22 19.2 +0.2**
EPYK Eagle Plains 55.07 29 P **P** **15 22 23.9 +1.2**
EPYK IAmb IAmb 15 22 26.4
comp=Z,13nm,0.9s
FITZ Fitzroy Crossi 55.27 197 P **P** **15 22 24.9 +0.2**
comp=Z,13nm,0.8s,baz=19,slow=7.2,SNR=21
WB0 Warramunga Arr 55.39 187 P **P** **15 22 24.6 -0.8**
WRAB Tennant Creek 55.56 187 P **P** **15 22 25.7 -1.0**
WRAB IAmb IAmb 15 22 27.2
comp=Z,14nm,0.9s
WR0 Warramunga Arr 55.56 187 P **P** **15 22 25.8 -1.0**
WB2 Warramunga Arr 55.56 187 P **P** **15 22 25.9 -0.9**
WB2 IAmb IAmb 15 22 27.3
comp=Z,17nm,1.0s
WRA Warramunga Arr 55.57 187 P **P** **15 22 26.2 -0.5**
comp=Z,14nm,1.0s,baz=3.0,slow=7.5,SNR=39
WRA Warramunga Arr 55.57 187 P **P** **15 22 25.8 -1.0**
CTAO Charters Tower 55.64 174 P **P** **15 22 27.5 +0.2**
CTAO IAmb IAmb 15 22 39.0
comp=Z,5.8nm,0.9s
CHGR Chuyangaron 55.73 296 P **P** **15 22 26.7 -1.3**
INK Inuvik 55.94 27 P **P** **15 22 30.3 +1.5**
comp=Z,3.5nm,0.8s,baz=264,slow=5.6,SNR=12
INK Inuvik 55.94 27 P **P** **15 22 30.1 +1.2**
INK IAmb IAmb 15 22 43.0
comp=Z,13nm,1.5s
MYLAV Mylavaram 56.21 267 *e*P **P** **15 22 32.5 +1.0**
RPR Rampur 56.21 270 *e*P **P** **15 22 32.1 +0.5**
M31M Drury Creek, Y 56.94 34 P **P** **15 22 37.6 +1.4**
M31M IAmb IAmb 15 22 39.8
comp=Z,7.7nm,1.2s
SRSP Sriramsagar 56.95 271 *e*P **P** **15 22 37.0 +0.2**
ARU Arti 57.03 319 P **P** **15 22 36.9 +0.1**
ADKI Addanki 57.23 266 *e*P **P** **15 22 40.1 +1.3**
ADKI *e*S **S** **15 30 32.6 +0.3**
KBL Kabul 57.36 292 P **P** **15 22 38.9 -0.9**
KBL IAmb IAmb 15 22 58.9
comp=Z,4.5nm,0.8s
NJS Nagarjunasagar 57.39 268 *e*P **P** **15 22 40.5 +0.5**
HYBB Hyderabad (bro 57.55 269 *e*P **P** **15 22 40.9 -0.2**
HYBB *e*sP **sP** **15 22 57.7 +1.4**
A36M Sachs Harbour 57.81 22 P **P** **15 22 43.5 +1.4**
SRLM Srisailam 57.97 267 *e*P **P** **15 22 44.6 +0.5**
RCLA Racherla 58.26 267 *e*P **P** **15 22 45.8 -0.3**
ABKAR Akbulak array 58.40 311 P **P** **15 22 46.0 -0.5**
ABKAR IAmb IAmb 15 23 05.1
comp=Z,12nm,1.1s
SKHT Srikalahasti 58.57 265 *e*P **P** **15 22 48.8 +0.5**
KLRI Killari 58.81 271 *e*P **P** **15 22 50.0 0.0**
C36M Paulatuk 58.98 24 P **P** **15 22 51.1 +0.8**
C36M IAmb IAmb 15 22 52.8
comp=Z,5.9nm,0.8s
AS31 Alice Springs 59.29 187 P **P** **15 22 52.5 -0.5**
ASAR Alice Springs 59.29 187 P **P** **15 22 53.0 -0.1**
comp=Z,4.2nm,0.9s,baz=14,slow=10,SNR=43
ASAR Alice Springs 59.29 187 P **P** **15 22 52.4 -0.6**
URV Uravakonda 59.91 267 *e*P **P** **15 22 57.9 +0.3**
EUNU Eureka 61.69 8 P **P** **15 23 09.0 +0.2**
EUNU IAmb IAmb 15 23 25.2
comp=Z,6.1nm,1.1s
DZM Mont Dzumac 62.35 153 LR LR 15 51 30.0
comp=Z,44nm,18.9s,baz=249,slow=37
GIRL Giralia 63.11 207 P **P** **15 23 19.9 +1.2**
GEYT Alibeck 63.99 299 P **P** **15 23 24.3 -0.5**
comp=Z,2.4nm,0.6s,baz=87,slow=12,SNR=4.8
GEYT LR LR 15 53 07.2
comp=Z,78nm,18.3s,baz=96,slow=38
GEYT Alibeck 63.99 299 IAmb IAmb 15 23 48.9
comp=Z,4.0nm,0.7s
RES Resolute Bay 64.13 14 P **P** **15 23 25.8 +0.9**
RES IAmb IAmb 15 23 27.2
comp=Z,9.8nm,0.9s
KLMR Klimovskoe 64.64 328 *e*P **P** **15 23 26.2 -2.3**
KLMR AMP 15 23 29.4
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 65.11 339 P **P** **15 23 32.1 +0.6**
comp=Z,6.4nm,0.8s,baz=45,slow=11,SNR=5.8
ARCES ARCESS Array B 65.11 339 P **P** **15 23 31.9 +0.4**
YKA Yellowknife Ar 65.35 30 P **P** **15 23 33.9 +0.8**
comp=Z,2.0nm,0.8s,baz=299,slow=6.6,SNR=28
YKA Yellowknife Ar 65.35 30 P **P** **15 23 33.7 +0.7**
AFI Afiamalu 66.71 129 LR LR 15 50 39.0
comp=Z,45nm,18.4s,baz=327,slow=34
FORT Forrest 67.09 192 P **P** **15 23 44.4 -0.1**
STKA Stephens Creek 67.13 179 P **P** **15 23 44.9 +0.1**
comp=Z,2.1nm,0.7s,baz=333,slow=13,SNR=5.2
STKA Stephens Creek 67.13 179 P **P** **15 23 44.9 +0.1**
DAG Danmarks Havn 67.14 355 *i* P **P** **15 23 44.0 -0.3**
MORW Morawa 68.38 203 P **P** **15 23 52.4 -0.3**
MORW IAmb IAmb 15 23 53.3
comp=Z,9.6nm,1.0s
FIA1 FINESS Array S 69.79 332 P **P** **15 24 01.1 0.0**
FIA1 IAmb IAmb 15 24 04.3
comp=Z,18nm,1.1s
FINES FINESS Array B 69.79 332 P **P** **15 24 01.4 +0.3**
comp=Z,7.0nm,0.9s,baz=57,slow=5.0,SNR=17
FINES LR LR 15 55 51.6
comp=Z,97nm,18.1s,baz=44,slow=37
FINES FINESS Array B 69.79 332 P **P** **15 24 01.2 +0.1**
WSAR Wadi Sarin 70.64 285 LR LR 15 57 22.0
comp=Z,48nm,21.9s,baz=70,slow=38
KBZ Khabaz 71.36 311 P **P** **15 24 12.1 +1.1**
comp=Z,8.6nm,0.8s,baz=53,slow=3.9,SNR=13
NWAO Narrogin (SRO) 71.62 201 P **P** **15 24 12.1 -0.4**
NWAO IAmb IAmb 15 24 21.7
comp=Z,24nm,1.2s
UOSS Minazif 71.66 288 P **P** **15 24 13.5 +0.3**
UOSS IAmb IAmb 15 24 15.7
comp=Z,8.8nm,1.1s
PINE Pine Mountain 71.73 49 P **P** **15 24 15.1 +1.6**
PINE IAmb IAmb 15 24 38.3
comp=Z,8.3nm,0.9s
GNI Garni 72.06 307 LR LR 15 58 00.3
comp=Z,99nm,19.7s,baz=71,slow=38
SUMG Summit 72.11 360 *i* P **P** **15 24 16.0 +0.5**
SUMG Summit 72.11 360 P **P** **15 24 16.1 +0.5**
SUMG IAmb IAmb 15 24 17.4
comp=Z,7.2nm,1.0s
SCO Scoresbysund 73.47 354 P **P** **15 24 22.5 -0.6**
SCO IAmb IAmb 15 24 51.4
comp=Z,13nm,1.2s
GURO Guroymak-BITLI 74.69 307 P **P** **15 24 31.5 +0.4**
GURO IAmb IAmb 15 24 33.3
comp=Z,8.9nm,0.8s
SIRT Sirnak 75.00 305 P **P** **15 24 33.3 +0.6**
AKASG Malin Array Be 75.05 322 P **P** **15 24 32.5 -0.1**
comp=Z,6.5nm,0.7s,baz=48,slow=6.1,SNR=46
AKASG LR LR 16 00 12.8
comp=Z,167nm,19.7s,baz=44,slow=38
AKASG Malin Array Be 75.05 322 P **P** **15 24 32.2 -0.4**
AKBB Malin Array Si 75.05 322 P **P** **15 24 32.2 -0.5**
AKBB IAmb IAmb 15 24 33.5
comp=Z,11nm,0.8s
NC405 NORSAR Array S 75.05 337 P **P** **15 24 31.5 -1.0**
NC303 NORSAR Array S 75.07 337 P **P** **15 24 31.7 -0.9**
NC303 IAmb IAmb 15 24 57.7
comp=Z,19nm,1.4s
HFS Hagfors 75.13 336 LR LR 15 59 19.9
comp=Z,167nm,18.3s,baz=62,slow=37
NC204 NORSAR Array S 75.22 337 P **P** **15 24 33.9 +0.4**

NB201 NORSAR Array S 75.23 337 P **P** **15 24 33.4 -0.2**
NB2 NORSAR Subarra 75.26 337 P **P** **15 24 34.3 +0.6**
comp=Z,4.1nm,0.9s,baz=40,slow=6.2
NOA NORSAR Array B 75.26 337 P **P** **15 24 34.4 +0.6**
comp=Z,6.7nm,0.9s,baz=39,slow=5.7,SNR=21
NOA LR LR 16 00 20.3
comp=Z,101nm,20.7s,baz=35,slow=38
NC602 NORSAR Array S 75.39 337 P **P** **15 24 34.3 -0.1**
NB000 NORSAR Array S 75.41 337 P **P** **15 24 33.4 -1.2**
HRY Holter Researc 75.42 43 P **P** **15 24 36.7 +1.7**
NAO01 NORSAR Array S 75.52 337 P **P** **15 24 35.3 +0.1**
FCC Fort Churchill 75.55 26 P **P** **15 24 35.6 +0.3**
FCC IAmb IAmb 15 24 37.4
comp=Z,17nm,1.4s
LRM Limekiln Ridge 75.60 44 P **P** **15 24 36.8 +0.6**
EGMT Eagleton 75.75 41 P **P** **15 24 37.5 +0.6**
DLMT Dillon 75.79 44 P **P** **15 24 38.4 +1.1**
DLMT IAmb IAmb 15 24 44.9
comp=Z,6.4nm,1.0s
KVN Kaiserville 76.12 52 P **P** **15 24 40.0 +0.7**
BOZ Bozeman (W) 76.19 44 P **P** **15 24 41.4 +1.8**
MARD Mardin 76.20 306 P **P** **15 24 40.3 +0.6**
MARD IAmb IAmb 15 24 41.6
comp=Z,12nm,0.7s
NVAR Mina Array Bea 76.34 52 P **P** **15 24 42.6 +2.0**
comp=Z,1.5nm,0.7s,baz=284,slow=5.4,SNR=13
NVAR Mina Array Bea 76.34 52 P **P** **15 24 41.1 +0.6**
SORM Soroca 77.10 321 ⇑P **P** **15 24 44.1 -0.2**
SFJD Kangerlussuaq 77.36 5 LR LR 16 00 09.7
comp=Z,45nm,21.7s,baz=338,slow=37
MOOW Moose Ponds 77.82 45 P **P** **15 24 51.1 +2.3**
TESR Tescani 79.03 320 ⇓P **P** **15 24 55.1 0.0**
BUR08 Bucovina Ar. S 79.04 322 P **P** **15 24 55.6 +0.3**
BURAR Bucovina Array 79.05 322 ⇓P **P** **15 24 55.8 +0.4**
BURAR Bucovina Array 79.05 322 P **P** **15 24 55.6 +0.3**
SW06 Boulder Array 79.11 45 P **P** **15 24 56.7 +0.7**
PD31 Pinedale Array 79.11 45 P **P** **15 24 57.2 +1.3**
PDAR Pinedale Array 79.11 45 P **P** **15 24 57.2 +1.3**
comp=Z,1.1nm,0.7s,baz=261,slow=2.1,SNR=14
PDAR Pinedale Array 79.11 45 P **P** **15 24 56.7 +0.7**
TPGR Topolog 79.16 318 ⇑P **P** **15 24 54.7 -1.2**
BR131 Keskin Array S 79.33 311 P **P** **15 24 57.0 -0.1**
BR131 IAmb IAmb 15 25 01.6
comp=Z,6.9nm,0.8s
BRTR Keskin Array B 79.33 311 P **P** **15 24 57.7 +0.6**
comp=Z,3.8nm,0.8s,baz=112,slow=4.9,SNR=13
BRTR Keskin Array B 79.33 311 P **P** **15 24 56.6 -0.5**
VRI Vrincioaia 79.41 319 ⇑P P 15 25 03.7 +6.4
RAR Rarotonga 79.83 125 LR LR 15 51 22.0
comp=Z,84nm,21.9s,baz=284,slow=29
OJC Ojcow 79.88 326 P **P** **15 24 59.9 +0.2**
OJC IAmb IAmb 15 25 02.0
comp=Z,9.0nm,1.0s
CRVS Cervenica-Dubn 80.02 324 *e*P **P** **15 25 02.9 +2.4**
TRPA Tarpa 80.03 323 ⇓P **P** **15 25 01.3 +0.8**
DOPR Dopca 80.05 320 ⇓P **P** **15 25 02.0 +1.3**
MLR Muntele Rosu 80.07 320 LR LR 16 02 43.0
comp=Z,104nm,18.8s,baz=50,slow=37
P17A Butcher Ranch, 80.46 48 P **P** **15 25 04.3 +1.1**
CJR Cluj-Napoca 80.47 322 ⇑P **P** **15 25 04.7 +1.7**
RAYN Ar Rayn 80.62 292 P **P** **15 25 04.1 -0.1**
RAYN IAmb IAmb 15 25 05.6
comp=Z,11nm,0.8s
LANS Liptovska Anna 80.79 325 *e*P **P** **15 25 06.5 +1.9**
SRU San Rafael Swe 80.82 48 P **P** **15 25 05.7 +0.5**
ARR Arges 80.84 320 ⇑P **P** **15 25 06.4 +1.4**
MORC Moravsky Berou 81.22 327 ⇓P **P** **15 25 07.3 +0.4**
MORC Moravsky Berou 81.22 327 *e*P **P** **15 25 07.4 +0.5**
MORC Moravsky Berou 81.22 327 P **P** **15 25 07.1 +0.1**
DPC Dobruska-Polom 81.34 328 *e*P **P** **15 25 08.2 +0.6**
KRLC Kraliky 81.34 327 *e*P **P** **15 25 07.9 +0.3**
PSZ Piszkesteto 81.46 324 ⇓P **P** **15 25 09.3 +1.0**
GZR Gura Zlata 81.79 321 ⇓P **P** **15 25 10.7 +0.6**
JAVC Velka Javorina 81.82 326 *e*P **P** **15 25 11.5 +1.3**
FLTG Flechtingen 81.94 331 *e*P **P** **15 25 10.3 -0.4**
comp=Z,8.1nm,0.9s,baz=39,slow=5.2
BRG Berggiesshubel 81.96 329 *e*P **P** **15 25 10.9 +0.1**
BRG Amp 15 25 11.8
comp=Z,4.8nm,1.0s
BRG Berggiesshubel 81.96 329 *e*P **P** **15 25 11.1 +0.4**
comp=Z,4.8nm,1.0s,baz=39,slow=5.2
VRAC Vranov 81.98 327 ⇑P **P** **15 25 09.1 -1.9**
VRAC Vranov 81.98 327 *e*P **P** **15 25 10.9 0.0**
CLL Collm 82.02 330 *i* P **P** **15 25 11.5 +0.4**
comp=Z,10.0nm,0.9s
CLL Collm 82.02 330 *e*P **P** **15 25 11.4 +0.4**
comp=Z,9.8nm,0.9s,baz=39,slow=5.2
CLL Collm 82.02 330 P **P** **15 25 10.7 -0.4**
CLL IAmb IAmb 15 25 12.7
comp=Z,9.4nm,0.9s
RETH Rethem/Aller, 82.35 333 *e*P **P** **15 25 13.1 +0.4**
comp=Z,12nm,1.1s,baz=39,slow=5.2
MODS Modra-Piesok 82.35 326 *e*P **P** **15 25 14.0 +1.1**
PRU Pruhonice 82.37 328 *e*P **P** **15 25 14.0 +1.1**
NEUB Neuenburg 82.60 330 *e*P **P** **15 25 14.6 +0.5**
comp=Z,7.4nm,0.7s,baz=39,slow=5.2
CLZ Clausthal 82.66 331 *e*P **P** **15 25 14.8 +0.3**
comp=Z,7.7nm,0.9s,baz=39,slow=5.2
PLN Plauen 83.00 330 *e*P **P** **15 25 17.0 +0.8**
comp=Z,4.4nm,1.2s,baz=39,slow=5.2
MOX Moxa 83.10 330 *e*P **P** **15 25 16.8 +0.1**
comp=Z,3.7nm,0.9s,baz=39,slow=5.2
MORH Mrgy, Hungar 83.27 324 ⇓P **P** **15 25 15.3 -2.4**
IBBN Ibbenburen 83.28 333 *e*P **P** **15 25 17.4 -0.2**
comp=Z,7.7nm,0.6s,baz=39,slow=5.2
CONA Conrad Observa 83.33 326 *e*P **P** **15 25 19.1 +1.0**
comp=Z,6.2nm,1.3s
CKRC Cesky Krumlov 83.35 328 *e*P **P** **15 25 18.7 +0.6**
KHC Kasperske Hory 83.43 328 *e*P **P** **15 25 18.7 +0.2**
KHC Kasperske Hory 83.43 328 P **P** **15 25 18.1 -0.4**
KHC IAmb IAmb 15 25 20.7
comp=Z,7.0nm,1.2s
VTS Vitosha 83.45 319 ⇓P **P** **15 25 19.5 +0.6**
VTS Vitosha 83.45 319 P **P** **15 25 19.5 +0.6**
VTS IAmb IAmb 15 25 21.0
comp=Z,8.1nm,1.0s
ROTZ Rotzenmuhle 83.53 329 *e*P **P** **15 25 19.4 +0.5**
comp=Z,0.7nm,1.0s,baz=39,slow=5.2
BOVS Bovan 83.56 320 ⇑P **P** **15 25 18.3 -0.9**
GERES GERESS Array B 83.60 328 P **P** **15 25 19.7 +0.3**
comp=Z,0.9nm,0.6s,baz=52,slow=5.2,SNR=9.7
GERES LR LR 16 06 39.6
comp=Z,71nm,18.1s,baz=78,slow=38
WET Wettzell 83.72 329 *e*P **P** **15 25 20.7 +0.7**
comp=Z,3.9nm,1.1s,baz=39,slow=5.2
ARSA Arzberg 83.98 326 *e*P **P** **15 25 22.0 +0.7**
comp=Z,2.8nm,1.0s
GRF Grafenberg Arr 83.99 330 *e*P **P** **15 25 22.1 +0.7**
comp=Z,10nm,1.0s,baz=39,slow=5.2
MOA Molln 84.10 327 *e*P **P** **15 25 23.1 +1.2**
comp=Z,7.3nm,1.7s
Q24A Divide 84.11 46 P **P** **15 25 21.9 -0.6**
Q24A IAmb IAmb 15 25 26.2
comp=Z,6.4nm,0.9s
DIVS Divibare 84.11 321 P **P** **15 25 22.1 -0.1**
DIVS IAmb IAmb 15 25 23.6
comp=Z,5.4nm,1.0s
PPT Papeete 84.55 116 LR LR 15 56 30.8
comp=Z,65nm,20.9s,baz=276,slow=31
PERS Pernice 84.62 326 *i* P **P** **15 25 25.0 +0.4**
SOKA Soboth 84.63 326 *e*P **P** **15 25 25.2 +0.5**
comp=Z,3.8nm,0.7s
RJOB Jochberg 84.83 328 *e*P **P** **15 25 26.4 +0.7**
comp=Z,3.1nm,0.8s,baz=39,slow=5.2
GOLS Golise 84.86 325 *e*P **P** **15 25 25.9 +0.1**
OBKA Obir 84.98 326 *e*P **P** **15 25 27.0 +0.5**
comp=Z,1.2nm,0.6s
FUR Furstenfeldbru 85.16 329 *e*P **P** **15 25 28.3 +1.0**
comp=Z,11nm,0.6s,baz=39,slow=5.2
STU Stuttgart 85.54 330 *e*P **P** **15 25 29.5 +0.4**
comp=Z,34nm,0.9s,baz=39,slow=5.2
GBRS Gornja Briga 85.59 325 *i* P **P** **15 25 29.5 0.0**
ABTA Abfaltersbach 85.71 327 *e*P **P** **15 25 30.0 -0.1**
comp=Z,1.4nm,0.6s
RETA Reutte 85.90 329 *e*P **P** **15 25 31.3 +0.3**
comp=Z,2.7nm,0.9s
ANMO Albuquerque 85.98 49 P **P** **15 25 32.9 +1.1**
comp=Z,3.4nm,1.2s,baz=245,slow=1.4,SNR=4.9
ANMO Albuquerque 85.98 49 P **P** **15 25 32.6 +0.8**
ANMO IAmb IAmb 15 25 36.3
comp=Z,4.8nm,1.3s
STAL STALIGIAL 86.00 327 P **P** **15 25 29.7 -1.8**
STAL IAmb IAmb 15 25 31.2
comp=Z,4.8nm,0.7s
BFO Black Forest 86.24 330 *e*P **P** **15 25 33.0 +0.3**
comp=Z,8.8nm,0.9s,baz=39,slow=5.2
BFO Black Forest 86.24 330 P **P** **15 25 32.6 -0.1**
BFO IAmb IAmb 15 25 33.8
comp=Z,8.3nm,0.9s
DAVA Damuels 86.43 329 *e*P **P** **15 25 34.1 +0.3**
comp=Z,9.1nm,1.1s
ECH Echery 86.80 331 P **P** **15 25 34.9 -0.5**
ECH IAmb IAmb 15 25 36.3
comp=Z,4.9nm,0.8s
SCHQ Schefferville 86.88 16 P **P** **15 25 36.6 +1.0**
comp=Z,3.1nm,0.8s,baz=12,slow=6.8,SNR=5.5
NRCA Norcia 88.43 324 P **P** **15 25 43.4 0.0**
NRCA IAmb IAmb 15 26 01.7
comp=Z,7.1nm,0.9s
LPIG La Paz 90.43 60 LR LR 16 06 20.2
comp=Z,21nm,18.6s,baz=198,slow=35
TXAR Lajitas Array 91.48 52 P **P** **15 25 59.4 +1.5**
comp=Z,0.9nm,0.7s,baz=303,slow=2.8,SNR=13
TORD Torodi Ar. Bea 117.89 314 PKP **PKPdf** **15 31 37.2 -0.9**
comp=Z,0.9nm,0.8s,baz=0.8,slow=3.1,SNR=3.5
H03N2 Juan Fernandez 147.46 98 T T 18 17 21.4
baz=290,slow=76,SNR=30
H03N3 Juan Fernandez 147.47 98 T T 18 17 14.9
baz=290,slow=76,SNR=46
H03N1 Juan Fernandez 147.48 98 T T 18 17 19.3
baz=290,slow=76,SNR=42
LPAZ La Paz 147.94 61 PKPbc **PKPbc** **15 32 36.4 -1.2**
comp=Z,4.3nm,0.9s,baz=331,slow=2.6,SNR=16
LPAZ La Paz 147.94 61 PKPbc **PKPbc** **15 32 36.2 -1.3**

*JMA **24** 15:18:34.5±0.4, 26°.02N×125°.41E, h5km±4km, M3.3*
*NEIC **24** 15:18:39.7±1.6, 26°.1N±0°.1×125°.27E±0°.08, h38km±9km, mb4.0/10, Error ellipse: s-maj=18.2km s-min=3.6km az=149.0*
*IDC **24** 15:18:55.8±4.4, 26°.01N×125°.13E, h199km±44km, mb3.3/9, mb1 3.4/10, mb1mx3.0/56, mbtmp3.8/10, MS3.4/1, Ms1 3.4/1, ms1mx2.7/36, Error ellipse: s-maj=27.6km s-min=14.8km az=68.0*
ISC 24 15:18:37.4±2.5, 25°.99N±0°.05×125°.42E±0°.06, h27km±19km, n39, σ1s 03/42, mb3.9/14, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.08**	**188**	P	**Pn**	**15 18 55.3**	**-1.4**
JIKM				S	**Sb**	**15 19 10.3**	**-0.7**
JIRB	**Irabujima**	**1.18**	**191**	P	**Pn**	**15 18 57.3**	**-0.8**
JIRB				*e*S	**Sn**	**15 19 13.8**	**+0.5**
JOGS	**Gusukube**	**1.23**	**181**	P	**Pn**	**15 18 58.0**	**-0.8**
JOGS				S	**Sn**	**15 19 14.7**	**+0.3**
JMJ2	**Miyako jima3**	**1.25**	**184**	P	**Pn**	**15 18 58.5**	**-0.6**
JMJ2				S	**Sn**	**15 19 15.5**	**+0.5**
JKE	**Kume jima 2**	**1.27**	**75**	P	**Pn**	**15 18 58.3**	**-1.0**
JKE				S	**Sn**	**15 19 14.6**	**-0.9**
JTJ	**Tarama**	**1.50**	**206**	P	**Pn**	**15 19 02.1**	**-0.3**
JTJ				S	**Sn**	**15 19 20.4**	**-0.7**
JISG	**Ishigakijimahi**	**1.72**	**216**	P	**Pn**	**15 19 06.1**	**+0.5**
JIJ	**Ishigaki jima**	**1.99**	**216**	P	**Pn**	**15 19 09.8**	**+0.5**
JJT3	**Tamagusuku3**	**2.13**	**85**	P	**Pn**	**15 19 13.0**	**+1.8**
JKRS	**Kuro-shima**	**2.17**	**217**	P	**Pn**	**15 19 12.2**	**+0.5**
JIH	**Iheya**	**2.50**	**65**	P	**Pn**	**15 19 17.4**	**+1.1**
YHNB	**Yeheng**	**3.89**	**251**	Pn	**Pn**	**15 19 34.6**	**-0.9**
YULB	**Yu-li**	**4.56**	**236**	Pn	**Pn**	**15 19 45.3**	**+0.7**
SSLB	**Suanglung**	**4.61**	**243**	Pn	**Pn**	**15 19 44.8**	**-0.6**
TPUB	**Ta-pu**	**5.12**	**239**	Pn	**Pn**	**15 19 54.7**	**+2.4**
JNU	**Nakatsue**	**8.54**	**32**	Pn	**Pn**	**15 20 40.4**	**+1.1**
KSRS	**Korea Array**	**11.62**	**10**	P	Pn	15 21 37.0	+16
0.2nm,0.3s,baz=186,slow=11,SNR=7.3							
KLR	**Kul'dur**	**23.71**	**10**	P	**P**	**15 23 48.5**	**+1.5**
1.5nm,0.8s,baz=221,slow=8.5,SNR=3.8							
ULN	**Ulaanbaatar**	**26.18**	**331**	P	**P**	**15 24 09.4**	**-0.4**
ULN				IAmb	IAmb	15 24 19.5	
comp=Z,4.1nm,1.2s							
SONM	**Songino Array**	**26.45**	**330**	P	**P**	**15 24 12.4**	**+0.3**
comp=Z,2.0nm,0.9s,baz=147,slow=9.4,SNR=7.1							
SONM	**Songino Array**	**26.45**	**330**	IAmb	IAmb	15 24 15.4	
comp=Z,2.9nm,1.1s							
MK31	**Makanchi Array**	**39.83**	**313**	P	**P**	**15 26 07.8**	**-0.5**
MK31				IAmb	IAmb	15 26 09.6	
comp=Z,4.1nm,1.3s							
MKAR	**Makanchi Array**	**39.83**	**313**	P	**P**	**15 26 08.3**	**-0.1**
comp=Z,1.2nm,0.6s,baz=96,slow=11,SNR=7.9							
MKAR	**Makanchi Array**	**39.83**	**313**	P	**P**	**15 26 07.7**	**-0.7**
ZAA0	**Zalesovo Array**	**40.93**	**324**	P	**P**	**15 26 16.3**	**-1.0**
ZAA0				IAmb	IAmb	15 26 17.9	
comp=Z,6.7nm,1.5s							
ZALV	**Zalesovo Beam**	**40.93**	**324**	P	**P**	**15 26 16.9**	**-0.5**
comp=Z,0.9nm,0.5s,baz=114,slow=7.0,SNR=5.3							
ZALV	**Zasovo Beam**	**40.93**	**324**	P	**P**	**15 26 16.0**	**-1.3**
KURK	**Kurchatov**	**43.27**	**317**	P	**P**	**15 26 35.7**	**-0.7**
KURK				IAmb	IAmb	15 26 36.8	
comp=Z,6.9nm,1.1s							
KURBB	**Kurchatov Arra**	**43.30**	**317**	P	**P**	**15 26 36.4**	**-0.3**
comp=Z,2.5nm,0.8s,baz=106,slow=8.1,SNR=8.4							
WRA	**Warramunga Arr**	**46.48**	**168**	P	**P**	**15 27 03.1**	**+0.8**
comp=Z,0.9nm,0.8s,baz=353,slow=8.7,SNR=4.8							
WRA	**Warramunga Arr**	**46.48**	**168**	IAmb	IAmb	15 27 09.5	
comp=Z,0.2nm,1.0s							
WR0	**Warramunga Arr**	**46.53**	**168**	P	**P**	**15 27 03.3**	**+0.6**
BVAR	**Borovoye Array**	**48.78**	**319**	P	**P**	**15 27 18.8**	**-1.1**
comp=Z,1.0nm,0.8s,baz=81,slow=9.5,SNR=4.6							
AS31	**Alice Springs**	**50.04**	**170**	P	**P**	**15 27 30.9**	**+1.2**
ASAR	**Alice Springs**	**50.05**	**170**	P	**P**	**15 27 31.1**	**+1.3**
comp=Z,0.8nm,0.8s,baz=354,slow=7.8,SNR=6.4							
ASAR				LR	LR	15 50 41.0	
comp=Z,41nm,20.4s,baz=276,slow=38							
ABKAR	**Akbulak array**	**54.97**	**313**	P	**P**	**15 28 05.3**	**-0.7**
ABKAR				IAmb	IAmb	15 28 18.3	
comp=Z,1.0nm,0.8s							
BCAR	**Beaver Creek A**	**68.40**	**29**	P	**P**	**15 29 37.7**	**+1.3**
ARCES	**ARCESS Array B**	**69.30**	**338**	P	**P**	**15 29 39.7**	**-2.2**
YKA	**Yellowknife Ar**	**79.79**	**24**	P	**P**	**15 30 42.5**	**-0.4**
comp=Z,0.8nm,0.7s,baz=304,slow=5.3,SNR=15							

MAN 24 15:22:10.9, 13°.70N×120°.66E, h171km, mb4.0, ML2.8, MS2.4, Mindoro

*IDC **24** 15:24:19.4±8.7, 13°.41N×88°.58W, h62km±53km, mb3.5/4, mb1 3.7/6, mb1mx3.3/46, mbtmp3.7/6, ML3.0/2, Error ellipse: s-maj=92.3km s-min=65.4km az=162.0*
*UCR **24** 15:24:19.9±1.1, 13°.06N×89°.23W, h58km±13km, ML3.7*
*SNET **24** 15:24:19.8±1.0, 13°.05N×89°.23W, h56km±12km, ML3.7*
ISC 24 15:24:18.6±1.8, 13°.0N±0°.1×89°.23W±0°.06, h68km±10km, n48, σ0s 73/68, mb4.0/4, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.63**	**15**	*e*P	**Pn**	**15 24 32.6**	**-0.2**
LFRS	**El Faro**	**0.63**	**15**	*e*P	**Pn**	**15 24 32.6**	**-0.2**
SJTE	**Alcalda de S**	**0.64**	**20**	⇑*i*P	**Pn**	**15 24 32.7**	**-0.2**
SJTE				*e*S	**Sn**	**15 24 42.7**	**-0.5**
SJTE	**Alcalda de S**	**0.64**	**20**	⇑*i*P	**Pn**	**15 24 32.7**	**-0.2**
SJTE				*e*S	**Sn**	**15 24 42.7**	**-0.5**
SNET	**Serv Nac Est T**	**0.67**	**360**	*i* P	**Pn**	**15 24 33.2**	**0.0**
SNET				*e*S	**Sn**	**15 24 43.9**	**-0.1**
SNET	**Serv Nac Est T**	**0.67**	**360**	*i* P	**Pn**	**15 24 33.2**	**0.0**
SNET				*e*S	**Sn**	**15 24 43.9**	**-0.1**
JAYA	**Jayaque - finc**	**0.67**	**341**	*i* P	**Pn**	**15 24 33.5**	**+0.1**
JAYA				*e*S	**Sn**	**15 24 43.8**	**-0.3**
JAYA	**Jayaque - finc**	**0.67**	**341**	*i* P	**Pn**	**15 24 33.5**	**+0.1**
JAYA				*e*S	**Sn**	**15 24 43.8**	**-0.3**
TECO	**Alcaldia de Te**	**0.68**	**40**	*e*S	**Sn**	**15 24 43.4**	**-0.5**
TECO	**Alcaldia de Te**	**0.68**	**40**	*e*S	**Sn**	**15 24 43.4**	**-0.5**
OPAM	**Oficina de Pla**	**0.69**	**2**	*e*P	**Pn**	**15 24 33.9**	**+0.4**
OPAM				*e*S	**Sn**	**15 24 44.7**	**+0.3**
OPAM				IAML		15 24 47.2	
comp=Z,2μm,0.3s							
OPAM	**Oficina de Pla**	**0.69**	**2**	*e*P	**Pn**	**15 24 33.9**	**+0.4**
OPAM				*e*S	**Sn**	**15 24 44.7**	**+0.3**
OPAM				IAML		15 24 47.2	
comp=Z,2μm,0.3s							
BOQS	**Boqueron**	**0.72**	**356**	*i* P	**Pn**	**15 24 34.5**	**+0.5**
BOQS				*e*S	**Sn**	**15 24 45.5**	**+0.4**
BOQS	**Boqueron**	**0.72**	**356**	*i* P	**Pn**	**15 24 34.5**	**+0.5**
BOQS				*e*S	**Sn**	**15 24 45.5**	**+0.4**
LFU	**La Fuente**	**0.74**	**8**	*e*P	**Pn**	**15 24 34.4**	**+0.4**
LFU	**La Fuente**	**0.74**	**8**	*e*P	**Pn**	**15 24 34.4**	**+0.4**
PAVA	**Las Pavas**	**0.75**	**22**	*e*P	**Pn**	**15 24 34.4**	**+0.2**
PAVA				*e*P	**Pn**	**15 24 34.4**	**+0.2**
PAVA				*e*S	**Sn**	**15 24 45.6**	**0.0**
PAVA	**Las Pavas**	**0.75**	**22**	*e*P	**Pn**	**15 24 34.4**	**+0.2**
PAVA				*e*P	**Pn**	**15 24 34.4**	**+0.2**
PAVA				*e*S	**Sn**	**15 24 45.6**	**0.0**
CEDA	**San Andres**	**0.80**	**348**	*e*S	**Sn**	**15 24 47.2**	**+0.6**
CEDA				IAML		15 24 51.7	
comp=Z,2μm,0.3s							
CEDA	**San Andres**	**0.80**	**348**	*e*S	**Sn**	**15 24 47.2**	**+0.6**
CEDA				IAML		15 24 51.7	
comp=Z,2μm,0.3s							
COEB	**Comit de Eme**	**0.83**	**54**	*e*P	**Pn**	**15 24 35.4**	**+0.3**
COEB				*e*S	**Sn**	**15 24 47.9**	**+0.6**
COEB				IAML		15 24 51.1	
comp=Z,2μm,0.2s							
COEB	**Comit de Eme**	**0.83**	**54**	*e*P	**Pn**	**15 24 35.4**	**+0.3**
COEB				*e*S	**Sn**	**15 24 47.9**	**+0.6**
COEB				IAML		15 24 51.1	
comp=Z,2μm,0.2s							
SCLA	**Alcaldia de Sa**	**0.84**	**35**	*e*P	**Pn**	**15 24 35.7**	**+0.6**
SCLA				*e*S	**Sn**	**15 24 47.9**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.84**	**35**	*e*P	**Pn**	**15 24 35.7**	**+0.6**
SCLA				*e*S	**Sn**	**15 24 47.9**	**+0.5**
CEVE	**Cerro Verde**	**0.90**	**334**	*i* P	**Pn**	**15 24 36.7**	**+0.7**
CEVE				*e*S	**Sn**	**15 24 49.8**	**+0.8**
CEVE				IAML		15 24 52.1	
comp=Z,4μm,0.5s							
CEVE	**Cerro Verde**	**0.90**	**334**	*i* P	**Pn**	**15 24 36.7**	**+0.7**
CEVE				*e*S	**Sn**	**15 24 49.8**	**+0.8**
CEVE				IAML		15 24 52.1	
comp=Z,4μm,0.5s							
SBLS	**San Blas**	**0.91**	**335**	*e*P	**Pn**	**15 24 36.8**	**+0.6**
SBLS	**San Blas**	**0.91**	**335**	*e*P	**Pn**	**15 24 36.8**	**+0.6**
TACO	**Tacachico**	**0.96**	**353**	*e*S	**Sn**	**15 24 50.5**	**+0.5**
TACO	**Tacachico**	**0.96**	**353**	*e*S	**Sn**	**15 24 50.5**	**+0.5**
RTR	**El Retiro**	**0.97**	**335**	*e*P	**Pn**	**15 24 37.4**	**+0.5**
RTR	**El Retiro**	**0.97**	**335**	*e*P	**Pn**	**15 24 37.4**	**+0.5**
PACA	**Pacayal**	**0.99**	**63**	*e*P	**Pn**	**15 24 38.4**	**+1.3**
PACA	**Pacayal**	**0.99**	**63**	*e*P	**Pn**	**15 24 38.4**	**+1.3**
NUBE	**Las Nubes**	**1.03**	**329**	*e*S	**Sn**	**15 24 51.3**	**-0.6**
NUBE	**Las Nubes**	**1.03**	**329**	*e*S	**Sn**	**15 24 51.3**	**-0.6**
LCND	**La Caada**	**1.33**	**77**	*e*P	**Pn**	**15 24 42.2**	**+0.8**
LCND	**La Caada**	**1.33**	**77**	*e*P	**Pn**	**15 24 42.2**	**+0.8**
MTO3	**Montecristo**	**1.38**	**355**	*i* P	**Pn**	**15 24 42.9**	**+0.6**
MTO3	**Montecristo**	**1.38**	**355**	*i* P	**Pn**	**15 24 42.9**	**+0.6**
ESQI	**Esquipulas**	**1.54**	**356**	*e*P	**Pn**	**15 24 45.2**	**+1.0**
APG	**El Apazote**	**2.32**	**329**	P	**Pn**	**15 24 56.4**	**+1.6**
comp=Z,2.3nm,0.3s,baz=138,slow=8.9,SNR=8.8							
CMIG	**Matias Romero**	**6.80**	**307**	P	Pn	15 26 01.4	+5.5
comp=Z,0.4nm,0.3s,baz=117,slow=14,SNR=1.8							
CMIG				S	**Sn**	**15 27 11.3**	**-0.7**
comp=Z,0.3nm,0.3s,baz=20,slow=15,SNR=1.5							
TXAR	**Lajitas Array**	**21.06**	**323**	P	**P**	**15 28 59.8**	**+2.5**
comp=Z,0.7nm,0.5s,baz=142,slow=11,SNR=17							
SCHQ	**Schefferville**	**45.26**	**18**	P	**P**	**15 32 26.5**	**-2.7**
comp=Z,2.6nm,0.9s,baz=236,slow=6.5,SNR=3.6							
YKA	**Yellowknife Ar**	**52.63**	**345**	P	**P**	**15 33 24.9**	**-0.5**
comp=Z,0.8nm,0.3s,baz=143,slow=7.7,SNR=33							
INK	**Inuvik**	**62.16**	**343**	P	**P**	**15 34 32.5**	**+0.1**
comp=Z,0.7nm,0.6s,baz=119,slow=7.1,SNR=4.2							
CMAR	**Chiang Mai Arr**	**147.71**	**345**	PKPbc	**PKPbc**	**15 43 56.6**	**+0.2**
comp=Z,0.3nm,0.4s,baz=339,slow=4.0,SNR=5.5							

*NEIC **24** 15:32:15.8±1.7, 34°.71N±0°.02×116°.23W±0°.04, h1km±5km, Error ellipse: s-maj=5.1km s-min=2.6km az=102.0*
*IDC **24** 15:32:15.4±0.5, 34°.65N×116°.18W, h0km, mb3.9/6, mb1 3.9/13, mb1mx3.8/45, mbtmp3.7/13, ML3.3/4, MS2.9/2, Ms1 2.9/2, ms1mx2.7/75, Error ellipse: s-maj=10.9km s-min=5.6km az=86.0*
*ANF **24** 15:32:15.7±0.1, 34°.70N×116°.23W, h13km±1km, ML4.7/44, Error ellipse: s-maj=1.0km s-min=0.8km az=20.0*
*NEIC **24** 15:32:16.4, 34°.70N×116°.24W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.78; $M_{\theta\theta}$0.23; $M_{\phi\phi}$1.54; $M_{r\theta}$-0.28; $M_{\theta\phi}$0.64; $M_{\phi r}$0.33; Fault plane solution: $M_0$1.84000×10^{15} NP1:ϕ_s34.00000°, δ43.00000°, λ-72.00000°. NP2:ϕ_s190.00000°, δ49.00000°, λ-106.00000°. Principal axes: T 1.8172, Plg3.0000°, Azm292.0000°; N 0.0520, Plg12.0000°, Azm201.0000°; P -1.8693, Plg78.0000°, Azm37.0000°;*
*PAS **24** 15:32:16.4±1.5, 34°.70N±0°.04×116°.24W±0°.02, h3km±4km, Mwr4.1/6, mb4.2/6(NEIC), ML4.2/113(NEIC) Error ellipse: s-maj=5.5km s-min=2.2km az=177.0*
ISC 24 15:32:15.6±1.1, 34°.67N±0°.02×116°.19W±0°.02, h3km±7km, n163, σ1s 24/204, mb4.2/8, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEC	**Hector,Ludlow**	**0.20**	**324**	P	**Pg**	**15 32 19.3**	**-0.2**
baz=149,SNR=1000							
HEC				S	**Sg**	**15 32 22.3**	**+0.1**
baz=149							
GMRC	**Granite Mounta**	**0.45**	**75**	P	**Pg**	**15 32 25.6**	**+1.2**
baz=260,SNR=1000							
GMRC				S	**Sg**	**15 32 32.2**	**+1.9**
baz=260							
BELC	**Belle Mtn. Jos**	**0.68**	**166**	P	**Pb**	**15 32 30.0**	**-0.2**
baz=344,SNR=1000							
BELC				S	**Sb**	**15 32 40.0**	**-0.2**
baz=344							
RRX	**Edison Barstow**	**0.69**	**288**	P	**Pg**	**15 32 28.8**	**-0.2**
baz=106,SNR=273							
RRX				S	**Sg**	**15 32 37.9**	**0.0**
baz=106							
BBRC	**Big Bear Solar**	**0.72**	**236**	P	**Pg**	**15 32 29.8**	**+0.3**
baz=52,SNR=637							
BBRC				S	**Sg**	**15 32 39.9**	**+1.0**
baz=52							
TUQ	**Turquoise Moun**	**0.80**	**16**	P	**Pg**	**15 32 31.1**	**+0.1**
baz=199,SNR=605							
TUQ			

LRMC			Pg	Pb	15 32 43.0	-0.7
	baz=123					
LRMC			Sg	Sb	15 33 02.7	-0.1
	baz=123					
EDW2	Edwards Air Fo	1.50 279	Pn	Pn	15 32 41.5	-2.0
	baz=97,SNR=727					
EDW2			Pb	Pb	15 32 43.2	-0.9
	baz=97					
GWY	Greenwater Val	1.56 346	Pn	Pn	15 32 42.8	-1.7
MWC	Mount Wilson	1.60 255		Pn	15 32 43.8	-1.2
MWC			IAML		15 33 09.7	
	comp=E,4μm,0.4s					
MWC			IAML		15 33 12.7	
	comp=N,4μm,0.4s					
PASC	Pasadena Art C	1.72 254		Pn	15 32 45.5	-0.9
PASC			IAML		15 33 12.6	
	comp=N,4μm,0.6s					
PASC			IAML		15 33 15.5	
	comp=E,2μm,0.5s					
PDMCI	Parker Dam,Lak	1.73 101	Pn	Pn	15 32 45.8	-0.9
	baz=283,SNR=532					
PDMCI			Pb	Pg	15 32 48.8	0.0
	baz=283					
PDMCI			S	Sn	15 33 08.4	-0.9
	baz=283					
MPMC	Manual Prospec	1.75 323	Pn	Pn	15 32 45.4	-1.6
	baz=143,SNR=1000					
MPMC			Pb	Pb	15 32 47.4	-1.0
	baz=143					
MPMC			Sb	Sb	15 33 10.3	-0.6
	baz=143					
SWSC	Sam W. Stewart	1.75 169	P	Pn	15 32 45.7	-1.2
	baz=348,SNR=43					
MONP2	Monument Peak	1.78 186	Pn	Pn	15 32 47.0	-0.5
	baz=4.8,SNR=82					
MONP2			Pg	Pg	15 32 50.7	+1.0
	baz=4.8					
DECC	Green Verdugo	1.82 257	Pn	Pn	15 32 47.0	-0.9
	baz=75,SNR=421					
DECC			Pb	Pb	15 32 49.4	-0.2
	baz=75					
FURC	Furnace Creek,	1.88 343	Pg	Pb	15 32 50.5	0.0
	baz=164,SNR=180					
109C	Camp Elliot, M	1.93 203		Pn	15 32 48.8	-0.5
109C			IAML		15 33 21.0	
	comp=E,2μm,0.5s					
109C	Camp Elliot, M	1.93 203	Pn	Pn	15 32 49.1	-0.3
	baz=22,SNR=35					
109C			Pb	Pb	15 32 51.3	-0.2
	baz=22					
109C			Sb	Sb	15 33 16.2	+0.3
	baz=22					
W13A	Hualapai Mount	1.94 77	Pn	Pn	15 32 49.4	-0.4
W13A			IAML		15 33 20.9	
	comp=N,2μm,0.5s					
W13A			IAML		15 33 27.8	
	comp=E,1μm,1.0s					
GLA	Glamis	1.97 144		Pn	15 32 49.3	-0.7
GLA	Glamis	1.97 144	Pn	Pn	15 32 49.1	-0.9
	baz=325,SNR=393					
GLA			Pg	Pg	15 32 53.9	+0.5
	baz=325					
GLA			Sb	Sg	15 33 20.3	+1.4
	baz=325					
FMP	Fort Macarthur	1.98 242	Pb	Pb	15 32 51.9	-0.5
	baz=59,SNR=13					
IKP	In-Ko-Pah, Jac	2.01 178	P	Pn	15 32 50.0	-0.6
	baz=357,SNR=16					
IKP			Sb	Sg	15 33 20.4	+0.1
	baz=357					
SHPR	Sheep Range	2.02 24	Pn	Pn	15 32 49.7	-1.0
BAR	Barrett	2.02 192		Pn	15 32 50.1	-0.5
BAR			IAML		15 33 23.9	
	comp=E,1μm,0.9s					
RMX	La Rumorosa	2.06 177		Pn	15 32 51.4	+0.1
OSI	Osito Audit: C	2.09 269		Pn	15 32 49.9	-1.7
OSI	Osito Audit: C	2.09 269	Pn	Pn	15 32 50.0	-1.6
	baz=87,SNR=347					
OSI			Pb	Pb	15 32 53.7	-0.5
	baz=87					
OSI			Sb	Sb	15 33 20.5	0.0
	baz=87					
ISA	Isabella, Lake	2.12 299	Pn	Pn	15 32 50.3	-1.7
ISA			IAML		15 33 24.4	
	comp=N,2μm,0.7s					
ISA			IAML		15 33 29.1	
	comp=E,1μm,1.0s					
ISA	Isabella, Lake	2.12 299	Pn	Pn	15 32 50.4	-1.6
	baz=117,SNR=1000					
ISA			Pg	Pb	15 32 54.7	+0.1
	baz=117					
ISA			Sb	Sb	15 33 21.6	+0.2
	baz=117					
TKX	Tecate	2.12 190	Pn	Pn	15 32 52.2	+0.2
TKX			IAML		15 33 26.8	
	comp=E,2μm,0.4s					
UABX	UABC, Campus M	2.12 163	Pn	Pb	15 32 53.6	-1.1
UABX			IAML		15 34 06.3	
	comp=N,3μm,1.0s					
ARVC	Arvin	2.22 283	P	Pn	15 32 52.7	-0.6
	baz=101,SNR=88					
CIS	Catalina Islan	2.23 236	Pb	Pb	15 32 56.3	-0.3
	baz=54,SNR=36					
CIS			Sb	Sb	15 33 25.5	+0.7
	baz=54					
TJIG	Tijuana	2.26 190		Pn	15 32 53.2	-0.7
TJX	Tijuana	2.27 199	Pn	Pn	15 32 54.0	0.0
TPNV	Topopah Spring	2.28 359	Pn	Pn	15 32 53.5	-0.8
TPNV	Topopah Spring	2.28 359	P	Pn	15 32 53.5	-0.8
	baz=180,SNR=104					
CWC	Cottonwood Cre	2.34 320	Pn	Pn	15 32 54.1	-1.1
	baz=139					
CWC			Pg	Pb	15 32 59.0	+0.3
	baz=139					
CBX	Cerro Bola	2.38 190	Pn	Pn	15 32 55.8	+0.2
CBX			IAML		15 33 35.6	
	comp=N,849nm,0.7s					
CBX			IAML		15 33 39.9	
	comp=E,1μm,0.8s					
GRAC	Grapevine Rang	2.51 338	P	Pn	15 32 57.0	-0.5
	baz=158,SNR=68					
GRAC			Sb	Sg	15 33 35.2	-1.1
	baz=158					
GUVIX	Guadalupe Vict	2.54 158	Pn	Pn	15 32 58.4	+0.7
VES	Vestal, Richgr	2.64 297	Pn	Pn	15 32 58.0	-1.1
	baz=115,SNR=41					
VES			Pg	Pb	15 33 04.7	+1.1
	baz=115					
Y14A	Wickenburg	2.74 104		Pn	15 32 59.7	-0.8
Y14A			IAML		15 33 47.5	
	comp=E,1μm,0.5s					
113A	Mohawk Valley,	2.77 132	Pn	Pn	15 32 59.6	-1.3
113A			IAML		15 33 47.2	
	comp=E,575nm,0.5s					
113A			IAML		15 33 47.7	
	comp=N,949nm,0.7s					
CCX	Cicese	2.82 188		Pn	15 33 02.3	+0.7
CCX			IAML		15 33 52.3	
	comp=E,759nm,0.9s					
LCH	Last Change Ra	2.82 336		Pn	15 33 00.9	-0.8
LCH			IAML		15 33 48.9	
	comp=E,646nm,0.4s					
PRN	Pahroc Range	2.89 18	Pn	Pn	15 33 02.5	-0.1
PRN			IAML		15 34 00.3	
	comp=E,1μm,0.9s					
PRN			IAML		15 34 14.5	
	comp=N,989nm,0.8s					
SBC	Santa Barbara	2.91 267	Pb	Pb	15 33 07.6	-0.6
	baz=84,SNR=18					
PKM	Mcpherson Peak	2.99 275	Pn	Pn	15 33 03.3	-0.8
	baz=93,SNR=17					
S11A	Rachel	2.99 7		Pn	15 33 04.0	-0.2
S11A			IAML		15 34 02.4	
	comp=E,1μm,0.6s					
VOG	Valley Oaks Go	3.08 303	Pn	Pn	15 33 04.7	-0.5
	baz=122,SNR=14					
VOG			Sb	Sb	15 33 51.1	+2.1
	baz=122					
SNCC	San Nicolas Is	3.11 244	Pn	Pn	15 33 05.0	-0.6
SNCC			IAML		15 34 02.7	
	comp=N,513nm,0.8s					
SNCC			IAML		15 34 03.0	
	comp=E,632nm,0.8s					
SMMC	Simmler	3.19 283	Pn	Pn	15 33 05.3	-1.5
	baz=100,SNR=6.4					
SMMC			Pb	Pb	15 33 12.1	-0.8
	baz=100					
LCMT	Little Creek M	3.35 45		Pn	15 33 09.1	+0.1
LCMT			IAML		15 34 07.3	
	comp=E,376nm,0.7s					
PAGB	Antelope Grade	3.49 289		Pn	15 33 09.9	-0.9
PAGB			IAML		15 34 21.8	
	comp=N,448nm,1.2s					
PAGB			IAML		15 34 26.2	
	comp=E,419nm,1.0s					
TPH	Tonopah	3.50 347		Pn	15 33 11.0	-0.2
KNB	Kanab	3.60 48	Pn	Pn	15 33 12.9	+0.3
KNB			IAML		15 34 17.6	
	comp=E,602nm,0.9s					
KNB			IAML		15 34 18.9	
	comp=N,716nm,0.8s					
U15A	North Rim	3.63 60		Pn	15 33 13.4	+0.4
U15A			IAML		15 34 22.7	
	comp=N,818nm,0.7s					
U15A			IAML		15 34 23.9	
	comp=E,654nm,1.0s					
MLAC	Mammoth, Mammo	3.65 325	Pg	Pg	15 33 23.9	-1.6
	baz=144					
CCUT	Cedar City	3.68 38	Pn	Pn	15 33 13.8	+0.2
R11A	Troy Canyon, C	3.71 7		Pn	15 33 14.0	+0.1
R11A	Troy Canyon, C	3.71 7	Pn	Pn	15 33 13.7	-0.3
	baz=188					
R11A			Pg	Pg	15 33 25.7	-1.0
	baz=188,SNR=24					
R11A			Sb	Sb	15 34 11.1	+3.8
	baz=188					
SZCU	Shurtz Canyon	3.85 40		Pn	15 33 16.1	0.0
214A	Organ Pipe Nat	3.91 133	Pn	Pn	15 33 15.7	-0.9
214A			IAML		15 34 29.6	
	comp=N,419nm,0.8s					
214A			IAML		15 34 30.8	
	comp=E,356nm,1.0s					
214A	Organ Pipe Nat	3.91 133	P	Pn	15 33 15.6	-1.1
	baz=315,SNR=17					
214A			S	Sn	15 34 00.4	-2.8
	baz=315					
X16A	Lo Mia Camp, P	3.93 92	Pn	Pn	15 33 17.3	+0.3
X16A			IAML		15 34 29.1	
	comp=N,375nm,1.1s					
X16A			IAML		15 34 33.3	
	comp=E,368nm,1.1s					
LHV	Little Huntoon	4.03 333		Pn	15 33 18.7	+0.5
LHV			IAML		15 34 27.4	
	comp=E,380nm,1.5s					
LHV			IAML		15 34 29.1	
	comp=N,452nm,1.6s					
WUAZ	Wupatki	4.04 77	Pn	Pn	15 33 19.5	+0.9
WUAZ			IAML		15 34 25.0	
	comp=N,575nm,0.5s					
WUAZ	Wupatki	4.04 77	P	Pn	15 33 20.0	+1.5
	baz=260,SNR=17					
PMPB	Monarch Peak	4.07 294	Pn	Pn	15 33 18.3	-0.5
PMPB			IAML		15 34 28.7	
	comp=E,563nm,0.8s					
NV11	Mina Array Sit	4.08 338		Pn	15 33 18.5	-0.5
NVAR	Mina Array Bea	4.12 336	Pn	Pn	15 33 19.6	-0.1
	comp=E,3.6nm,0.3s,baz=165,slow=15,SNR=36					
NVAR			Pg	Pb	15 33 30.4	+1.5
	comp=E,16nm,0.3s,baz=158,slow=16,SNR=56					
NVAR			LR	LR	15 34 24.9	
	comp=E,105nm,20.7s,baz=168,slow=32					
NVAR			Lg	Lg	15 34 26.6	
	comp=E,29nm,0.3s,baz=155,slow=29,SNR=6.3					
NVAR	Mina Array Bea	4.12 336	Pn	Pn	15 33 19.6	-0.1
PKCU	Pink Cliffs	4.19 47		Pn	15 33 21.9	+1.1
PSUT	Pine Spring	4.29 25		Pn	15 33 22.2	+0.1
PSUT			IAML		15 34 41.8	
	comp=N,272nm,0.7s					
PSUT			IAML		15 34 45.9	
	comp=E,260nm,1.1s					
RYN	Ryan	4.38 335		Pn	15 33 22.9	-0.2
BBGB	Big Mountain B	4.38 297		Pn	15 33 22.4	-0.8
SPR3	Spring Creek 3	4.57 19	Pn	Pn	15 33 24.7	-1.3
SPR3			IAML		15 34 48.4	
	comp=E,157nm,1.1s					
SPR3			IAML		15 34 55.6	
	comp=N,165nm,1.0s					
KVN	Kaiserville	4.63 341	Pn	Pn	15 33 26.4	-0.3
MTPU	Mount Pierson	4.67 43		Pn	15 33 28.3	+0.9
MTPU			IAML		15 34 51.1	
	comp=N,142nm,1.3s					
SAO	San Andreas Ge	4.76 298	Pn	Pn	15 33 26.9	-1.4
CMB	Columbia Colle	4.77 316	Pn	Pn	15 33 28.7	+0.3
CMB			IAML		15 34 52.0	
	comp=E,152nm,0.7s					
CMB			IAML		15 34 52.9	
	comp=N,158nm,1.4s					
YERR	Yerington	4.96 331		Pn	15 33 31.1	0.0
YERR			IAML		15 35 32.7	
	comp=E,114nm,0.7s					
MSU	Marysvale	5.02 39	Pn	Pn	15 33 32.9	+0.9
TUC	Tucson	5.09 116	Pn	Pn	15 33 32.3	-0.6
TUC			IAML		15 35 04.2	
	comp=E,159nm,1.3s					
TUC			IAML		15 35 14.1	
	comp=E,131nm,1.1s					
TUC	Tucson	5.09 116	P	Pn	15 33 32.3	-0.6
	baz=299					
TUC			S	Sn	15 34 30.8	-1.5
	baz=299					
X18A	Snowflake	5.15 90		Pn	15 33 34.4	+0.5
PNTR	Pine Nut	5.19 329		Pn	15 33 34.8	+0.4
PNTR			IAML		15 35 24.9	
	comp=N,179nm,1.1s					
PNTR			IAML		15 35 27.0	
	comp=E,185nm,1.6s					
EMB	Emerald Bay	5.32 325	Pn	Pn	15 33 35.1	-1.1
EMB			IAML		15 35 18.3	
	comp=N,184nm,1.2s					
EMB			IAML		15 35 20.3	
	comp=E,165nm,1.6s					
W18A	Petrified Fore	5.33 83	Pn	Pn	15 33 37.2	+1.0
W18A	Petrified Fore	5.33 83	Pg	Pg	15 33 55.0	-2.6
	baz=267					
W18A			Sb	Sg	15 35 02.2	-4.5
	baz=267					
MPK	Martis Peak	5.55 328	Pn	Pn	15 33 39.8	+0.4
PAHR	Pah Rah Range	5.64 334		Pn	15 33 40.8	+0.3
BMN	Battle Mountai	5.81 352		Pn	15 33 43.6	+0.7
ELK	Elko	6.12 7	Pn	Pn	15 33 47.5	+0.5
	comp=E,0.5nm,0.3s,baz=172,slow=8.8,SNR=9.8					
ELK			Lg	Lg	15 35 29.4	
	comp=E,3.8nm,0.3s,baz=306,slow=14,SNR=4.2					
ELK	Elko	6.12 7	Pn	Pn	15 33 46.8	-0.3
MCCM	Marconi Confer	6.41 305	Pn	Pn	15 33 49.8	-1.2
P17A	Butcher Ranch,	6.48 41		Pn	15 33 52.3	+0.2
319A	Douglas	6.67 118	Pn	Pn	15 33 54.8	+0.2
GDXM	Geysers	6.72 310		Pn	15 33 54.8	-0.4
BGU	Big Grassy Mou	6.73 21		Pn	15 33 55.6	+0.1
MVCO	Mesa Verde	6.74 66	P	Pn	15 33 60.0	+4.3
	baz=250					
PV10	Paradox Valley	6.85 55		Pn	15 33 57.0	-0.1
PV11	David Mesa, Pa	6.92 56		Pn	15 33 59.1	+1.0
PV07	Paradox Valley	7.14 56	Pn	Pn	15 34 02.1	+0.9
121A	Cookes Peak, D	7.33 105	Pn	Pn	15 34 04.1	+0.4
121A	Cookes Peak, D	7.33 105	P	Pn	15 34 04.8	+1.1
	baz=289,SNR=13					
121A			S	Sn	15 35 26.3	-1.2
	baz=289					
HVU	Hansel Valley	7.59 20	Pn	Pn	15 34 07.4	+0.1
BNM	Barren Site	7.92 91	Pn	Pn	15 34 12.8	+0.9
ANMO	Albuquerque	8.01 85	Pn	Pn	15 34 14.7	+1.6
	comp=E,0.1nm,0.3s,baz=274,slow=13,SNR=4.4					
ANMO			Pg	Pb	15 34 41.9	+6.7
	comp=E,0.8nm,0.3s,baz=272,slow=14,SNR=28					
ANMO			Lg	Lg	15 36 26.0	
	comp=E,0.6nm,0.3s,baz=83,slow=23,SNR=5.5					
ANMO	Albuquerque	8.01 85		Pn	15 34 14.5	+1.4
ANMO	Albuquerque	8.01 85	Pb	Pg	15 34 43.2	-5.9
	baz=271					
ANMO			Sb	Sg	15 36 25.4	-7.5
	baz=271					
SMCO	Snowmass	8.64 56		Pn	15 34 20.8	-1.2
YBH	Yreka Blue Hor	8.72 326	Pn	Pn	15 34 24.2	+1.5
	baz=235,slow=7.7,SNR=1.4					
YBH			Lg	Lg	15 36 49.8	
	comp=E,0.1nm,0.3s,baz=266,slow=8.0,SNR=2.6					
YBH			LR	LR	15 38 15.7	
	comp=E,116nm,21.8s,baz=122,slow=41					
MNTX	Cornudas Mount	9.53 105	Pn	Pn	15 34 34.8	+1.0
MNTX	Cornudas Mount	9.53 105	P	Pn	15 34 34.8	+1.0
	baz=291,SNR=11					
PDAR	Pinedale Array	9.60 31	Pn	Pn	15 34 36.3	+1.4
	baz=213,slow=11,SNR=3.4					
PDAR			Lg	Lg	15 37 20.1	
	comp=E,0.1nm,0.3s,baz=210,slow=36,SNR=2.5					
TX31	Lajitas Ar. Si	11.88 113		Pn	15 35 07.4	+1.3
TX32	Lajitas Array	11.88 113		Pn	15 35 07.4	+1.3
TXAR	Lajitas Array	11.88 113	Pn	Pn	15 35 08.2	+2.1
	comp=E,1.2nm,0.3s,baz=292,slow=13,SNR=76					
TXAR			Lg	Lg	15 38 31.0	
	comp=E,0.3nm,0.3s,baz=285,slow=30,SNR=8.2					
TXAR	Lajitas Array	11.88 113	Pn	Pn	15 35 07.7	+1.6
NEW	Newport	13.60 357	Pn	Pn	15 35 32.2	+2.7
	comp=E,0.1nm,0.3s,baz=177,slow=13,SNR=2.7					
AGMN	Agassiz Nation	20.35 42		Pn	15 36 55.2	+0.2
AGMN			IAmb	IAmb	15 36 56.0	
	comp=Z,6.8nm,1.1s					
F36A	Milaca	20.52 50	Pn	Pn	15 36 57.5	+0.3
ULM	Lac du Bonnet	21.51 37	P	P	15 37 05.9	+0.4
	comp=Z,8.4nm,0.9s,baz=241,slow=8.8,SNR=5.5					
ULM	Lac du Bonnet	21.51 37	P	P	15 37 05.9	+0.4
ULM			IAmb	IAmb	15 37 09.9	
	comp=Z,14nm,1.1s					
DLBC	Dease Lake	25.51 343	P	P	15 37 42.2	-2.9
	comp=Z,1.8nm,0.6s,baz=326,slow=23,SNR=11					
DLBC	Dease Lake	25.51 343	P	P	15 37 42.2	-2.9
DLBC	Dease Lake	25.51 343	IAmb	IAmb	15 37 51.0	
	comp=Z,9.9nm,1.2s					
YKA	Yellowknife Ar	27.87 2	P	P	15 38 06.3	+0.1
	comp=Z,0.5nm,0.8s,baz=180,slow=8.5,SNR=12					
YKA			PcP	PcP	15 41 22.1	+0.2
	comp=Z,0.1nm,0.4s,baz=168,slow=2.0,SNR=4.3					
YKA	Yellowknife Ar	27.87 2		PcP	15 41 22.1	+0.2
ILAR	Eielson Array	35.38 338	P	P	15 39 14.3	+2.1
	comp=Z,1.1nm,0.8s,baz=154,slow=7.6,SNR=8.0					
ILAR	Eielson Array	35.38 338	P	P	15 39 13.5	+1.3
IMAR	Indian Mountai	38.37 336	P	P	15 39 39.0	+1.4
PETK	Petropavlovsk-	60.96 317	P	P	15 42 30.3	+0.4
	comp=Z,1.5nm,0.7s,baz=71,slow=9.6,SNR=5.2					
LPAZ	La Paz	68.21 130	P	P	15 43 18.4	0.0
	comp=Z,1.0nm,0.9s,baz=298,slow=1.9,SNR=4.2					
LPAZ	La Paz	68.21 130	P	P	15 43 18.4	0.0
LPAZ	La Paz	68.21 130	IAmb	IAmb	15 43 32.2	
	comp=Z,3.2nm,1.5s					
YAK	Yakutsk	70.09 333	P	P	15 43 30.5	+1.8
FINES	FINESS Array B	79.44 17	P	P	15 44 23.4	+0.4
	comp=Z,1.0nm,0.7s,baz=318,slow=2.6,SNR=4.1					
FINES	FINESS Array B	79.44 17	P	P	15 44 23.6	+0.7
HHC	Hu-ho-hao-te	92.95 326	*e*P	P	15 45 28.1	-2.3
HHC			pmax	pmax		
	comp=Z,10.0nm,0.8s					
HHC			pmax	pmax		
	comp=Z,170nm,6.5s					
WMQ	Urumqi	98.91 343	*e*P	Pdif	15 45 59.0	+1.6
WRA	Warramunga Arr	116.77 263	PKP	PKiKP	15 51 01.5	-0.5
	comp=Z,0.4nm,0.7s,baz=52,slow=2.2,SNR=3.0					
ASAR	Alice Springs	118.90 260	PKP	PKPdf	15 51 05.3	-0.7
	comp=Z,0.3nm,0.5s,baz=76,slow=2.0,SNR=7.7					
ASAR	Alice Springs	118.90 260		PKPdf	15 51 05.3	-0.7

*IDC **24** 15:42:22.9±2.1, 59°.66N×153°.38W, h110km±32km, mb2.8/1, mb1 3.2/4, mb1mx2.9/44, mbtmp3.3/4, Error ellipse: s-maj=37.6km s-min=21.0km az=111.0*

*NEIC **24** 15:42:24±1.1, 59°.72N±0°.03×153°.23W±0°.07, h117km±5km, Error ellipse: s-maj=5.4km s-min=4.5km az=124.0*

*AEIC **24** 15:42:25±1.3, 59°.70N±0°.03×153°.23W±0°.07, h109km±4km, ML2.7, ML3.2/90(NEIC), Error ellipse: s-maj=5.1km s-min=4.8km az=135.0*

ISC 24 15:42:23.6±0.9, 59°.71N±0°.04×153°.20W±0°.04, h119km±6km, n137, σ0.80/129, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OPT	Oil Point	0.06	199			Pn	15 42 39.8	0.0
AUL	Augustine Lava	0.35	201			Pn	15 42 40.8	+0.2
AUL						Sn	15 42 52.9	-0.4
AUH	Augustine H	0.37	200			Pn	15 42 41.0	+0.3
AUQ	Augustine Qik'	0.37	198			Pn	15 42 41.0	+0.3
O20K	Slope Mountain	0.47	37			Pn	15 42 41.4	+0.1
O20K						Sn	15 42 54.4	-0.3
RED	Redoubt Volcan	0.75	16			Pn	15 42 43.3	+0.1
RED						Sn	15 42 57.2	-0.9
O19K	Port Alsworth	0.75	311			Pn	15 42 43.1	0.0
O19K						Sn	15 42 56.8	-1.1
O19K	Port Alsworth	0.75	311	IAML			15 42 57.5	
	comp=E,533nm,0.5s							
HOM	Homer	0.79	93			Pn	15 42 43.8	+0.3
HOM						Sn	15 42 59.0	+0.5
HOM	Homer	0.79	93	IAML			15 42 59.7	
	comp=N,424nm,1.1s							
HOM				IAML			15 42 59.8	
	comp=E,441nm,0.8s							
RSO	Redoubt South	0.79	16			Pn	15 42 43.7	0.0
Q19K	Cape Douglas,	0.81	197			Pn	15 42 43.9	+0.1
Q19K						Sn	15 42 58.8	-0.2
NCT	North Crescent	0.87	9			Pn	15 42 44.5	+0.2
NCT						Sn	15 42 59.4	-0.6
DFR	Drift River	0.93	16			Pn	15 42 45.0	+0.2
DFR						Sn	15 43 00.7	-0.3
RDT	Redoubt	0.96	24			Pn	15 42 45.3	+0.2
CNPM	China Poot	1.01	99			Pn	15 42 45.5	-0.1
O18K	Koktuh Hills	1.03	279			Sn	15 43 01.8	-0.7
O18K	Koktuh Hills	1.03	279			Pn	15 42 45.9	+0.1
O18K	Koktuh Hills	1.03	279	IAML			15 42 59.8	
	comp=N,38nm,4.0s							
P18K	Big Mountain,	1.08	254			Pn	15 42 46.1	-0.2
P18K	Big Mountain,	1.08	254	IAML			15 42 51.2	
	comp=E,35nm,4.0s							
P18K				IAML			15 43 19.8	
	comp=N,43nm,3.3s							
BRLK	Bradley Lake	1.17	86			Sn	15 43 04.4	-0.8
BRLK	Bradley Lake	1.17	86			Pn	15 42 46.8	-0.5
BRLK	Bradley Lake	1.17	86	IAML			15 43 05.6	
	comp=E,240nm,0.1s							
BRLK				IAML			15 43 05.6	
	comp=N,270nm,0.1s							
BRSE	Bradley Lake S	1.24	87			Pn	15 42 48.8	+0.8
N19K	Bonanza Creek	1.28	331			Pn	15 42 48.7	+0.2
N19K						Sn	15 43 06.5	-1.0
CAPN	Captain Cook N	1.47	43	Pn		Pn	15 42 52.5	+2.0
SPU	Mount Spurr	1.58	20			Pn	15 42 52.3	+0.4
SLKM	Skilak Lake	1.69	60			Pn	15 42 53.9	+0.7
SPCG	Spurr Capps Gl	1.69	20			Pn	15 42 54.0	+0.7
KCG	Knife Ck. Glac	1.72	216			Pn	15 42 54.1	+0.6
KELA	Mount Kelaz	1.83	227			Pn	15 42 55.5	+0.6
O22K	Cooper Landing	1.91	64			Pn	15 42 56.5	+0.8
O22K	Cooper Landing	1.91	64	IAML			15 43 26.6	
	comp=E,258nm,0.5s							
O22K				IAML			15 43 26.8	
	comp=N,224nm,0.7s							
STLK	Strandline Lak	1.92	20			Pn	15 42 57.0	+1.0
ANCK	Angle Creek	1.92	219			Pn	15 42 57.0	+0.9
SEW	Seward	1.93	76			Pn	15 42 56.4	+0.4
KDAK	Kodiak Island	1.96	170	P		Pn	15 42 56.0	-0.3
	comp=N,2.9nm,0.3s,baz=350,slow=14,SNR=27							
KDAK				S		Sn	15 43 19.6	-1.7
	comp=N,8.1nm,0.3s,baz=145,slow=22,SNR=22							
KDAK	Kodiak Island	1.96	170			Pn	15 42 56.1	-0.2
CAHL	Cahill	1.99	214			Pn	15 42 57.9	+1.1
RC01	Rabbit Creek A	2.21	50			Pn	15 43 00.4	+0.9
RC01	Rabbit Creek A	2.21	50	IAML			15 43 28.8	
	comp=N,124nm,0.3s							
RC01				IAML			15 43 28.9	
	comp=E,191nm,0.2s							
OHAK	Old Harbor	2.49	181			Pn	15 43 02.6	-0.6
OHAK	Old Harbor	2.49	181	IAML			15 43 49.7	
	comp=N,80nm,3.2s							
OHAK				IAML			15 43 52.5	
	comp=E,98nm,3.5s							
PLK1	Peulik 1	2.61	224			Pn	15 43 05.9	+1.2
L19K	White Mountain	2.61

CUT	Chulitna	3.06	26		Pn	15 43 10.9	+0.4
CUT				IAML		15 45 08.0	
comp=N,64nm,2.8s							
CUT				IAML		15 45 08.7	
comp=E,67nm,2.4s							
SML	Sawmill	3.18	46		Pn	15 43 12.0	-0.2
SML	Sawmill	3.18	46	IAML		15 43 44.0	
comp=N,36nm,3.7s							
SML				IAML		15 43 49.5	
comp=E,55nm,3.6s							
SII	Sitkinak Islan	3.20	190	Pn	Pn	15 43 12.6	+0.2
PPLA	Purkeypile	3.24	8		Pn	15 43 14.6	+1.6
GLI	Glacier Island	3.26	66	Pn	Pn	15 43 13.6	+0.4
GLI				IAML		15 43 49.6	
comp=N,78nm,2.0s							
GLI				IAML		15 43 51.8	
comp=E,74nm,0.4s							
TT01	Tatalina	3.49	338		Pn	15 43 16.5	+0.3
TTA	Tatalina	3.51	338		Pn	15 43 16.6	+0.1
FID	Port Fidalgo	3.51	70	Pn	Pn	15 43 15.5	-1.0
FID				IAML		15 43 56.8	
comp=N,82nm,0.3s							
SCM	Sheep Creek Mo	3.58	51		Pn	15 43 17.7	+0.2
SCM	Sheep Creek Mo	3.58	51	IAML		15 44 05.0	
comp=N,48nm,1.5s							
SCM				IAML		15 44 26.7	
comp=E,42nm,3.3s							
K20K	Telida	3.69	354		Pn	15 43 19.4	+0.6
CAST	Castle Rocks	3.76	8		Pn	15 43 20.6	+0.8
EYAK	Cordova Ski Ar	3.82	74	Pn	Pn	15 43 20.6	+0.1
DIV	Divide	3.95	66		Pn	15 43 23.0	+0.7
TRF	Thorofare Moun	4.01	19	Pn	Pn	15 43 23.6	+0.4
TRF				IAML		15 44 19.3	
comp=E,36nm,4.1s							
TRF				IAML		15 44 41.6	
comp=N,27nm,4.5s							
KLU	Klutina	4.01	60		Pn	15 43 23.0	-0.1
KLU				IAML		15 44 11.2	
comp=E,40nm,0.4s							
KTH	Kantishna Hill	4.01	15		Pn	15 43 23.7	+0.5
KTH	Kantishna Hill	4.01	15	IAML		15 44 10.9	
comp=E,16nm,3.7s							
KTH				IAML		15 46 05.8	
comp=N,19nm,3.8s							
M24K	Tolsona, Glenn	4.19	52		Pn	15 43 26.3	+0.8
CHUM	Lake Minchumin	4.21	5		Pn	15 43 26.4	+0.6
RND	Reindeer	4.25	27		Pn	15 43 26.9	+0.5
RND	Reindeer	4.25	27	IAML		15 44 00.7	
comp=N,17nm,4.8s							
RND				IAML		15 44 39.2	
comp=E,21nm,4.7s							
GOAT	Goat Mountain	4.32	75		Pn	15 43 28.1	+0.8
CHGN	Chignik	4.40	221	Pn	Pn	15 43 29.2	+0.9
BMRM	Bremner River	4.45	70		Pn	15 43 29.0	-0.1
BMRM	Bremner River	4.45	70	IAML		15 45 32.0	
comp=E,35nm,3.2s							
J20K	Nowinta River	4.51	355		Pn	15 43 30.3	+0.6
J20K	Nowinta River	4.51	355	IAML		15 44 12.9	
comp=N,14nm,4.8s							
J20K				IAML		15 44 39.1	
comp=E,13nm,5.0s							
MCK	McKinley	4.52	25		Pn	15 43 30.3	+0.4
MCK	McKinley	4.52	25	IAML		15 44 49.4	
comp=E,21nm,4.8s							
MCK				IAML		15 45 55.9	
comp=N,26nm,4.4s							
BPAW	Bear Paw Mtn.	4.53	12	Pn	Pn	15 43 30.5	+0.4
BPAW				IAML		15 45 39.2	
comp=E,21nm,4.9s							
BPAW				IAML		15 46 25.0	
comp=N,18nm,4.6s							
N25K	Chitina, Valde	4.64	62		Pn	15 43 31.9	+0.3
N25K	Chitina, Valde	4.64	62	IAML		15 44 42.2	
comp=N,26nm,3.5s							
N25K				IAML		15 46 04.7	
comp=E,27nm,3.8s							
HARP	HAARP	4.75	52		Pn	15 43 33.9	+0.9
BWN	Browne	4.81	20	Pn	Pn	15 43 34.5	+0.6
GLB	Gilahina Butte	4.95	65	Pn	Pn	15 43 35.7	0.0
GLB				IAML		15 46 34.1	
comp=E,25nm,3.7s							
PAX	Paxson	4.96	45		Pn	15 43 36.1	+0.2
VRDI	Verde Repeater	5.06	68	Pn	Pn	15 43 38.0	+0.7
VRDI				IAML		15 44 35.5	
comp=E,24nm,2.8s							
SNH	Sunshine Point	5.23	80	Pn	Pn	15 43 40.9	+1.4
WAX	Waxell Ridge	5.23	77	Pn	Pn	15 43 40.4	+0.8
NEA2	Nenana	5.27	20		Pn	15 43 39.8	-0.2
NEA2				IAML		15 44 39.8	
comp=E,14nm,4.4s							
NEA2				IAML		15 44 41.2	
comp=N,16nm,5.0s							
WRH	Wood River Hil	5.35	24		Pn	15 43 41.0	-0.1
WRH				IAML		15 45 51.7	
comp=E,20nm,4.5s							
WRH				IAML		15 47 10.8	
comp=N,17nm,4.7s							
ISLE	Juniper Island	5.50	76	Pn	Pn	15 43 44.1	+0.9
I21K	Tanana	5.52	5	Pn	Pn	15 43 44.0	+0.6
KIAG	Kiagna River	5.52	73		Pn	15 43 44.5	+0.9
HDA	Harding Lake	5.56	29		Pn	15 43 43.7	-0.2
CCB	Clear Creek Bu	5.56	25		Pn	15 43 43.6	-0.2
MENT	Mentasta	5.60	51	Pn	Pn	15 43 45.8	+1.4
RIDG	Independent Ri	5.67	41	Pn	Pn	15 43 46.3	+0.9
MESA	MESA	5.67	80	Pn	Pn	15 43 46.6	+1.0
I23K	Minto, Yukon-K	5.74	16		Pn	15 43 46.9	+0.5
TCOL	CIGO, UAF Yank	5.75	23		Pn	15 43 46.5	+0.1
COLA	College	5.75	23	Pn	Pn	15 43 46.4	0.0
MDM	Murphy Dome	5.76	22		Pn	15 43 46.6	+0.1
YAH	Yahtse	5.78	79	Pn	Pn	15 43 48.0	+0.9
L26K	Log Cabin Wild	5.79	51	Pn	Pn	15 43 48.2	+1.2
IL31		5.87	27		Pn	15 43 47.8	-0.2
ILAR	Eielson Array	5.87	27	P	Pn	15 43 48.0	-0.1
comp=N,0.9nm,0.3s,baz=214,slow=14,SNR=71							
ILAR				S	Sn	15 44 50.4	-3.7
comp=N,0.4nm,0.3s,baz=195,slow=19,SNR=5.1							
ILAR	Eielson Array	5.87	27		Pn	15 43 47.6	-0.5
DOT	Dot Lake	5.88	44	Pn	Pn	15 43 49.8	+1.6
BARN	Barnard Glacie	5.88	72	Pn	Pn	15 43 49.7	+1.3
H21K	Melozitna Rive	5.98	2	Pn	Pn	15 43 50.0	+0.5
POKR	Poker Plat Res	6.05	24	Pn	Pn	15 43 50.9	+0.4
TABL	Table Mountain	6.08	78	Pn	Pn	15 43 52.0	+0.9
M27K	Edge Creek, AK	6.11	59	Pn	Pn	15 43 53.2	+1.7
SCRK	Sand Creek	6.11	42	Pn	Pn	15 43 51.5	+0.1
IMAR	Indian Mountai	6.31	358	Pn	Pn	15 43 54.8	+0.9
L27K	Beaver Creek,	6.41	53	Pn	Pn	15 43 57.0	+1.6
BCAR	Beaver Creek A	6.43	54	Pn	Pn	15 43 57.1	+1.4
PCA	Pinnacle	6.52	81	Pn	Pn	15 43 58.3	+1.3
J26L	Joseph Creek	6.60	39	Pn	Pn	15 43 58.0	0.0
H24K	Noodor Dome	6.62	19	Pn	Pn	15 43 58.5	+0.3
EGAK	Eagle	7.57	43	Pn	Pn	15 44 11.0	0.0
COLD	Coldfoot	7.67	9	Pn	Pn	15 44 12.9	+0.6
FYU	Fort Yukon	7.77	24	Pn	Pn	15 44 13.9	+0.3
DAWY	Dawson	7.84	50	Pn	Pn	15 44 15.0	+0.2
BMAR	Burnt Mountain	8.64	23	Pn	Pn	15 44 25.1	-0.4
N31M	Braeburn, Yuko	8.75	71	Pn	Pn	15 44 28.7	+1.7
DLBC	Dease Lake	11.97	86	P	Pn	15 45 09.8	-0.4
comp=N,0.1nm,0.3s,baz=317,slow=18,SNR=1.8							
A36M	Sachs Harbour	16.56	31		P	15 46 09.7	+0.9
YKA	Yellowknife Ar	18.66	65	P	Pn	15 46 34.0	+0.4
comp=N,0.1nm,0.3s,baz=276,slow=9.8,SNR=6.8							
MKAR	Makanchi Array	64.60	321	P	P	15 52 47.6	-0.2
comp=N,0.1nm,0.3s,baz=35,slow=5.3,SNR=1.5							

*IDC **24** 15:49:20.1±2.1, 59°.82N×153°.31W, h96km±32km, mb3.4/2, mb1 3.4/6, mb1mx3.0/61, mbtmp3.6/6, Error ellipse: s-maj=34.5km s-min=18.9km az=113.0*
*NEIC **24** 15:49:20.9±1.2, 59°.82N±0°.03×153°.01W±0°.05, h109km±5km, Error ellipse: s-maj=5.2km s-min=2.8km az=150.0*
*AEIC **24** 15:49:22±1.2, 59°.80N±0°.03×153°.01W±0°.05, h103km±4km, ML2.8, ML3.2/94(NEIC), Error ellipse: s-maj=4.9km s-min=1.7km az=219.0*

ISC 24 15:49:21.1±0.9, 59°.83N±0°.04×152°.98W±0°.04, h108km±6km, n132, σ0°76/125, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.22	215		Pn	15 49 36.2	-0.1
O20K	Slope Mountain	0.31	36		Pn	15 49 36.6	0.0
O20K					Sn	15 49 48.4	0.0
AU22	Augustine Moun	0.50	203		Pn	15 49 37.7	0.0
AUL	Augustine Lava	0.51	207		Pn	15 49 37.6	-0.1
AUL					Sn	15 49 50.1	-0.1
AUQ	Augustine Qik'	0.53	205		Pn	15 49 37.9	0.0
RED	Redoubt Volcan	0.60	10		Pn	15 49 38.4	-0.1
RED					Sn	15 49 50.8	-0.8
RSO	Redoubt South	0.64	10		Pn	15 49 38.8	-0.2
HOM	Homer	0.70	104		Pn	15 49 39.5	+0.3
HOM					Sn	15 49 53.3	+0.5
HOM	Homer	0.70	104	IAML		15 49 54.2	
comp=E,1μm,0.6s							
HOM				IAML		15 49 55.0	
comp=N,1μm,0.4s							
NCT	North Crescent	0.73	2		Pn	15 49 39.6	0.0
NCT					Sn	15 49 53.0	-0.6
O19K	Port Alsworth	0.77	299		Pn	15 49 39.4	-0.3
O19K	Port Alsworth	0.77	299	IAML		15 49 53.9	
comp=E,681nm,0.4s							
O19K				IAML		15 49 54.3	
comp=N,621nm,0.4s							
DFR	Drift River	0.78	11		Pn	15 49 40.0	0.0
DFR					Sn	15 49 54.0	-0.2
CNPM	China Poot	0.94	108		Pn	15 49 41.3	-0.1
CNPM					Sn	15 49 56.2	-0.6
CNPM	China Poot	0.94	108	IAML		15 49 56.6	
comp=E,458nm,0.6s							
Q19K	Cape Douglas,	0.97	201		Pn	15 49 41.5	-0.3
Q19K	Cape Douglas,	0.97	201	IAML		15 49 59.6	
comp=N,552nm,0.7s							
Q19K				IAML		15 50 03.3	
comp=E,470nm,0.9s							
BRLK	Bradley Lake	1.06	93		Pn	15 49 42.5	-0.2
BRLK					Sn	15 49 58.7	-0.4
O18K	Koktuh Hills	1.12	272		Pn	15 49 43.4	-0.1
O18K	Koktuh Hills	1.12	272	IAML		15 49 49.4	
comp=E,59nm,2.4s							
O18K				IAML		15 50 11.2	
comp=N,41nm,3.0s							
BRSE	Bradley Lake S	1.14	94		Pn	15 49 43.5	-0.1
BRSE					Sn	15 50 00.1	-0.4
P18K	Big Mountain,	1.23	250		Pn	15 49 44.1	-0.4
N19K	Bonanza Creek	1.24	323		Pn	15 49 44.9	+0.1
N19K					Sn	15 50 02.2	-0.4
CAPN	Captain Cook N	1.31	43	Pn	Pn	15 49 47.5	+2.1
CAPN				IAML		15 50 35.3	
comp=N,526nm,2.1s							
SPU	Mount Spurr	1.43	18		Pn	15 49 47.6	+0.6
SPCP	Crater Peak Br	1.50	16		Pn	15 49 48.8	+1.0
SLKM	Skilak Lake	1.54	63		Pn	15 49 48.6	+0.4
SPCG	Spurr Capps Gl	1.54	18		Pn	15 49 49.3	+0.9
STLK	Strandline Lak	1.77	18		Pn	15 49 51.7	+0.7
SEW	Seward	1.80	80		Pn	15 49 51.5	+0.2
SVW2	Sparrevohn	1.81	316	Pn	Pn	15 49 51.3	-0.2
KCG	Knife Ck. Glac	1.88	217		Pn	15 49 52.8	+0.3
RC01	Rabbit Creek A	2.04	50		Pn	15 49 54.8	+0.3
RC01	Rabbit Creek A	2.04	50	IAML		15 50 20.8	
comp=N,180nm,0.4s							
RC01				IAML		15 50 21.4	
comp=E,123nm,0.4s							
KDAK	Kodiak Island	2.07	174	P	Pn	15 49 54.0	-0.8
comp=E,19nm,0.3s,baz=38,slow=8.5,SNR=49							
KDAK				S	Sn	15 50 19.5	-1.0
comp=E,18nm,0.3s,baz=153,slow=22,SNR=31							
KDAK	Kodiak Island	2.07	174		Pn	15 49 53.8	-0.9
KDAK	Kodiak Island	2.07	174	IAML		15 50 20.8	
comp=E,213nm,0.4s							
KDAK				IAML		15 50 21.0	
comp=E,163nm,0.3s							
L19K	White Mountain	2.53	340	Pn	Pn	15 50 00.9	+0.1
PWL	Port Wells	2.53	64		Pn	15 50 00.5	-0.2
PWL	Port Wells	2.53	64	IAML		15 50 32.4	
comp=E,131nm,0.5s							
PMR	Palmer	2.59	45		Pn	15 50 00.7	-0.8
OHAK	Old Harbor	2.62	184		Pn	15 50 00.7	-1.2
OHAK	Old Harbor	2.62	184	IAML		15 50 42.7	
comp=E,87nm,3.9s							
OHAK				IAML		15 50 43.7	
comp=N,88nm,2.6s							
L20K	Farewell, AK	2.69	351		Pn	15 50 03.5	+0.6
KNK	Knik Glacier	2.74	53		Pn	15 50 03.0	-0.5
KNK	Knik Glacier	2.74	53	IAML		15 50 36.1	
comp=E,74nm,0.6s							
KNK				IAML		15 50 36.6	
comp=N,76nm,0.5s							
GHO	Glory Hole Cre	2.78	44		Pn	15 50 03.9	-0.3
GHO	Glory Hole Cre	2.78	44	IAML		15 50 37.9	
comp=E,60nm,0.9s							
CUT	Chulitna	2.90	26		Pn	15 50 05.8	+0.2
CUT	Chulitna	2.90	26	IAML		15 50 44.7	
comp=N,99nm,2.0s							
CUT				IAML		15 50 44.8	
comp=E,74nm,1.0s							
SML	Sawmill	3.02	47		Pn	15 50 06.8	-0.4
SML	Sawmill	3.02	47	IAML		15 51 17.5	
comp=N,50nm,4.2s							
PPLA	Purkeypile	3.10	7		Pn	15 50 09.6	+1.2
GLI	Glacier Island	3.11	68	Pn	Pn	15 50 07.9	-0.5
GLI				IAML		15 50 43.7	
comp=E,92nm,0.6s							
GLI				IAML		15 51 44.8	
comp=N,66nm,1.8s							
SII	Sitkinak Islan	3.34	191	Pn	Pn	15 50 10.3	-1.3
FID	Port Fidalgo	3.37	71	Pn	Pn	15 50 10.5	-1.3
FID				IAML		15 50 50.5	
comp=N,87nm,0.6s							
TT01	Tatalina	3.42	336		Pn	15 50 12.5	+0.1
SCM	Sheep Creek Mo	3.42	52		Pn	15 50 12.6	0.0
SCM	Sheep Creek Mo	3.42	52	IAML		15 50 54.5	
comp=E,56nm,2.5s							
SCM				IAML		15 52 01.9	
comp=N,54nm,3.8s							
TTA	Tatalina	3.43	336		Pn	15 50 12.6	-0.1
K20K	Telida	3.58	352		Pn	15 50 14.8	+0.2
CAST	Castle Rocks	3.63	6		Pn	15 50 16.0	+0.7
EYAK	Cordova Ski Ar	3.68	76		Pn	15 50 15.9	-0.1
DIV	Divide	3.80	67		Pn	15 50 18.2	+0.5
KLU	Klutina	3.85	61		Pn	15 50 17.7	-0.7
KLU	Klutina	3.85	61	IAML		15 51 02.2	
comp=N,50nm,0.4s							
KLU				IAML		15 51 03.7	
comp=E,28nm,0.4s							
TRF	Thorofare Moun	3.85	18	Pn	Pn	15 50 19.5	+1.0
TRF				IAML		15 51 26.2	
comp=N,30nm,4.2s							
TRF				IAML		15 52 17.9	
comp=E,42nm,3.3s							
KTH	Kantishna Hill	3.86	14		Pn	15 50 19.1	+0.6
KTH	Kantishna Hill	3.86	14	IAML		15 52 49.1	
comp=N,30nm,3.9s							
M24K	Tolsona, Glenn	4.03	53		Pn	15 50 20.7	0.0
RND	Reindeer	4.09	27		Pn	15 50 21.9	+0.4
RND	Reindeer	4.09	27	IAML		15 51 00.7	
comp=E,20nm,4.2s							
RND				IAML		15 51 36.1	
comp=N,21nm,4.9s							
GOAT	Goat Mountain	4.19	76		Pn	15 50 22.9	0.0
PS12	TAPS Pump St12	4.20	63		Pn	15 50 23.6	+0.6
BMRM	Bremner River	4.31	71		Pn	15 50 24.6	+0.1
BMRM	Bremner River	4.31	71	IAML		15 51 41.4	
comp=E,35nm,3.7s							
MCK	McKinley	4.36	24		Pn	15 50 25.9	+0.8
MCK	McKinley	4.36	24	IAML		15 51 23.3	
comp=N,22nm,3.9s							
MCK				IAML		15 52 06.7	
comp=E,23nm,4.4s							
BPAW	Bear Paw Mtn.	4.39	12	Pn	Pn	15 50 26.3	+0.8
BPAW				IAML		15 52 06.6	
comp=N,20nm,4.8s							
BPAW				IAML		15 53 08.3	
comp=E,19nm,5.0s							
J20K	Nowinta River	4.40	353		Pn	15 50 26.1	+0.5
N25K	Chitina, Valde	4.49	63		Pn	15 50 27.6	+0.7
N25K	Chitina, Valde	4.49	63	IAML		15 51 20.2	
comp=E,30nm,4.5s							
N25K				IAML		15 52 39.3	
comp=N,26nm,3.7s							
CHGN	Chignik	4.57	222	Pn	Pn	15 50 28.3	+0.4
HARP	HAARP	4.58	52		Pn	15 50 28.2	0.0
BWN	Browne	4.66	19		Pn	15 50 29.8	+0.6
BERG	Berg Lake	4.68	79	Pn	Pn	15 50 29.8	+0.4
PAX	Paxson	4.79	46	Pn	Pn	15 50 31.8	+0.8
GLB	Gilahina Butte	4.79	66	Pn	Pn	15 50 31.3	+0.3
GLB				IAML		15 51 26.3	
comp=N,29nm,1.1s							
GLB				IAML		15 51 38.2	
comp=E,22nm,4.1s							
VRDI	Verde Repeater	4.91	69	Pn	Pn	15 50 32.9	+0.1
VRDI				IAML		15 52 02.4	
comp=E,23nm,4.0s							
WAX	Waxell Ridge	5.10	79	Pn	Pn	15 50 35.0	-0.2
SNH	Sunshine Point	5.10	82	Pn	Pn	15 50 35.4	+0.2
NEA2	Nenana	5.12	19	Pn	Pn	15 50 35.2	-0.1
NEA2				IAML		15 53 33.1	
comp=E,13nm,4.4s							
NEA2				IAML		15 53 59.5	
comp=N,16nm,4.9s							
WRH	Wood River Hil	5.19	24		Pn	15 50 36.0	-0.3
WRH				IAML		15 52 28.3	
comp=E,18nm,4.3s							
WRH				IAML		15 53 06.8	
comp=N,19nm,4.3s							
ISLE	Juniper Island	5.36	77	Pn	Pn	15 50 38.9	+0.1
KIAG	Kiagna River	5.38	74		Pn	15 50 39.9	+0.8
HDA	Harding Lake	5.39	29	Pn	Pn	15 50 39.0	-0.1
CCB	Clear Creek Bu	5.40	24		Pn	15 50 38.8	-0.4
BALM	Baldy	5.41	73		Pn	15 50 39.9	+0.5
M26K	Nabesna, AK	5.48	58		Pn	15 50 40.9	+0.5
TCOL	CIGO, UAF Yank	5.59	23	Pn	Pn	15 50 41.7	0.0
I23K	Minto, Yukon-K	5.59	16	Pn	Pn	15 50 41.7	0.0
COLA	College	5.59	23	Pn	Pn	15 50 41.5	-0.3
MDM	Murphy Dome	5.60	21	Pn	Pn	15 50 41.7	-0.2
YAH	Yahtse	5.65	80	Pn	Pn	15 50 43.3	+0.6
IL31		5.71	27		Pn	15 50 43.0	-0.3
ILAR	Eielson Array	5.71	27	P	Pn	15 50 43.3	-0.1
comp=N,0.4nm,0.3s,baz=217,slow=14,SNR=18							
ILAR				S	Sn	15 51 42.4	-5.1
comp=N,1.0nm,0.3s,baz=198,slow=18,SNR=13							
BARN	Barnard Glacie	5.74	73	Pn	Pn	15 50 44.4	+0.5
H21K	Melozitna Rive	5.85	1	Pn	Pn	15 50 45.7	+0.5
POKR	Poker Plat Res	5.89	23	Pn	Pn	15 50 46.1	+0.3
SCRK	Sand Creek	5.94	42	Pn	Pn	15 50 47.3	+0.7
TABL	Table Mountain	5.95	79	Pn	Pn	15 50 47.6	+0.8
M27K	Edge Creek, AK	5.95	60	Pn	Pn	15 50 47.9	+1.2
IM03		6.19	357		Pn	15 50 50.6	+0.9
IMAR	Indian Mountai	6.19	357	Pn	Pn	15 50 50.5	+0.7
L27K	Beaver Creek,	6.25	54	Pn	Pn	15 50 50.4	-0.3
BCAR	Beaver Creek A	6.27	54	Pn	Pn	15 50 50.1	-0.9
PCA	Pinnacle	6.40	82	Pn	Pn	15 50 53.5	+0.8
J26L	Joseph Creek	6.43	39	Pn	Pn	15 50 53.0	-0.2
YUK3	Moose Creek	6.43	67		Pn	15 50 54.4	+1.0
H24K	Noodor Dome	6.46	19	Pn	Pn	15 50 53.2	-0.3
ANM	Nome	7.48	315	Pn	Pn	15 51 08.2	+0.9
COLD	Coldfoot	7.53	8	Pn	Pn	15 51 08.1	+0.2
FYU	Fort Yukon	7.61	24	Pn	Pn	15 51 09.0	0.0
DAWY	Dawson	7.68	51	Pn	Pn	15 51 09.8	-0.2
M30M	Minto, Yukon	8.28	64	Pn	Pn	15 51 18.5	+0.3
BMAR	Burnt Mountain	8.48	22	Pn	Pn	15 51 21.1	+0.1
N31M	Braeburn, Yuko	8.61	71	Pn	Pn	15 51 22.9	+0.2
P33M	Teslin, Yukon	10.09	79	Pn	Pn	15 51 44.3	+1.4
DLBC	Dease Lake	11.86	87	P	Pn	15 52 08.1	+1.5
comp=N,0.2nm,0.3s,baz=218,slow=8.9,SNR=1.4							
DLBC				S	Sn	15 54 16.3	-0.4
comp=N,0.0nm,0.3s,baz=192,slow=26,SNR=1.0							
YKA	Yellowknife Ar	18.51	65	P	P	15 53 29.7	+1.1
comp=N,0.2nm,0.3s,baz=277,slow=9.9,SNR=24							
ZALV	Zalesovo Beam	57.52	324	P	P	15 58 58.8	+0.2
comp=N,0.9nm,0.4s,baz=37,slow=5.8,SNR=4.5							
MKAR	Makanchi Array	64.57	321	P	P	15 59 45.4	-0.9
comp=N,0.2nm,0.5s,baz=39,slow=6.8,SNR=2.0							

*NEIC **24** 15:54:56.5±0.6, 4°.5S±0°.1×153°.7E±0°.1, h93km±10km, mb4.0/6, Error ellipse: s-maj=24.1km s-min=11.5km az=217.0*
*IDC **24** 15:54:57.4±9.5, 4°.62S×153°.72E, h113km±65km, mb3.4/3, mb1 3.7/4, mb1mx3.0/36, mbtmp3.9/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=101.0km s-min=41.4km az=106.0*

ISC 24 15:54:55.9±1.8, 4°.5S±0°.2×153°.7E±0°.2, h100km, n13, σ0°46/13, mb3.9/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.59	281	Pn	Pn	15 55 23.2	-0.2
PMG	Port Moresby	8.14	233	P	Pn	15 56 51.9	+0.5
2.2nm,0.3s,baz=38,slow=12,SNR=40							
PMG				S	Sn	15 58 21.8	0.0
2.5nm,0.3s,baz=341,slow=20,SNR=7.3							
PMG	Port Moresby	8.14	233		Pn	15 56 51.5	+0.1
JAY	Jayapura	13.15	278	LR	LR	16 02 56.7	
comp=Z,77nm,20.9s,baz=318,slow=36							
WB0	Warramunga Arr	24.19	230	P	P	16 00 03.3	0.0
WB0				IAmb	IAmb	16 00 31.5	
comp=Z,11nm,1.4s							
WR0	Warramunga Arr	24.20	229	P	P	16 00 03.3	0.0
WR0				IAmb	IAmb	16 00 04.4	
comp=Z,3.4nm,0.8s							
WRAB	Tennant Creek	24.32	229	P	P	16 00 04.4	-0.1
WRAB				IAmb	IAmb	16 00 05.9	
comp=Z,4.1nm,0.7s							
WB2	Warramunga Arr	24.33	229	P	P	16 00 04.8	+0.2
WB2				IAmb	IAmb	16 00 32.6	
comp=Z,8.9nm,1.4s							
WRA	Warramunga Arr	24.34	229	P	P	16 00 04.4	-0.2
comp=Z,3.3nm,0.7s,baz=54,slow=10.0,SNR=25							
ASAR	Alice Springs	27.00	223	P	P	16 00 27.9	-0.7
comp=Z,0.6nm,0.9s,baz=56,slow=8.7,SNR=6.6							
FORT	Forrest	35.61	220	P	P	16 01 43.5	-0.6
MKAR	Makanchi Array	80.71	319	P	P	16 06 58.9	+0.7
comp=Z,0.3nm,0.7s,baz=122,slow=4.4,SNR=3.8							
TORD	Torodi Ar. Bea	151.09	289	PKPbc	PKPbc	16 14 38.0	-0.5
comp=Z,0.8nm,0.8s,baz=66,slow=3.0,SNR=3.9							

*EAF **24** 16:00:26.8±1.6, 26°.05S×29°.18E, h0km±17km, MD4.4*
*B

*NEIC **24** 16:02:01.3±1.1,59.°80N±0.°02×153.°04W±0.°08, h107km±5km, Error ellipse: s-maj=5.7km s-min=3.3km az=86.0*

AEIC 24 16:02:02±1.0,59.°79N±0.°03×153.°04W±0.°07,h101km±4km, ML2.9,ML3.3/90(NEIC),Error ellipse: s-maj=5.1km s-min=3.7km az=63.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.17	215		Pn	16 02 16.1	-0.2
O20K	Slope Mountain	0.36	36		Pn	16 02 16.9	-0.2
O20K					Sn	16 02 28.6	+0.3
AU22	Augustine Moun	0.45	201		Sn	16 02 29.3	+0.3
AUL	Augustine Lava	0.45	206		Pn	16 02 17.6	+0.1
AUL					Sn	16 02 29.6	+0.4
AUQ	Augustine Qik'	0.47	204		Pn	16 02 17.7	-0.1
RED	Redoubt Volcan	0.65	12		Pn	16 02 18.5	-0.6
RED					Sn	16 02 31.3	-0.7
RSO	Redoubt South	0.69	12		Pn	16 02 19.2	-0.4
HOM	Homer	0.72	100		Pn	16 02 19.7	+0.1
HOM	Homer	0.72	100	IAML		16 02 34.6	
	comp=N,646nm,0.5s						
Q19K	Port Alsworth	0.76	303		Pn	16 02 19.5	-0.5
Q19K					Sn	16 02 33.0	-0.4
NCT	North Crescent	0.78	4		Pn	16 02 19.8	-0.5
NCT					Sn	16 02 33.2	-0.9
DFR	Drift River	0.83	12		Pn	16 02 20.3	-0.5
DFR					Sn	16 02 34.5	-0.4
Q19K	Cape Douglas,	0.92	200		Pn	16 02 21.2	-0.4
Q19K	Cape Douglas,	0.92	200	IAML		16 02 22.9	
	comp=E,289nm,1.9s						
Q19K				IAML		16 02 23.9	
	comp=N,177nm,1.5s						
CNPM	China Poot	0.95	105	Pn	Pn	16 02 21.5	-0.4
BRLK	Bradley Lake	1.09	90		Pn	16 02 22.9	-0.6
O18K	Koktuh Hills	1.09	274		Pn	16 02 22.9	-0.6
BRSE	Bradley Lake S	1.17	91		Pn	16 02 23.8	-0.5
P18K	Big Mountain,	1.18	251		Pn	16 02 23.8	-0.7
N19K	Bonanza Creek	1.25	326		Pn	16 02 24.9	-0.6
CAPN	Captain Cook N	1.36	43	Pn	Pn	16 02 28.0	+1.4
CAPN				IAML		16 02 49.4	
	comp=N,455nm,0.8s						
CAPN				IAML		16 03 04.4	
	comp=E,430nm,2.7s						
SPU	Mount Spurr	1.48	19		Pn	16 02 27.4	-0.7
SLKM	Skilak Lake	1.59	62		Pn	16 02 29.2	-0.2
SPCG	Spurr Capps Gl	1.59	18		Pn	16 02 29.2	-0.3
O22K	Cooper Landing	1.80	66		Pn	16 02 31.6	-0.3
O22K					Sn	16 02 53.3	-1.5
STLK	Strandline Lak	1.82	19		Pn	16 02 32.2	-0.1
SVW2	Sparrevohn	1.82	317	Pn	Pn	16 02 31.3	-0.9
SEW	Seward	1.83	78		Pn	16 02 31.9	-0.5
KABU	Katmai Buttres	1.91	218		Pn	16 02 33.6	+0.1
KDAK	Kodiak Island	2.03	173	Pn	Pn	16 02 33.9	-0.9
RC01	Rabbit Creek A	2.10	50		Pn	16 02 35.4	-0.4
L19K	White Mountain	2.56	341		Pn	16 02 41.2	-0.6
OHAK	Old Harbor	2.58	183		Pn	16 02 40.6	-1.4
OHAK	Old Harbor	2.58	183	IAML		16 03 18.4	
	comp=E,72nm,2.4s						
PWL	Port Wells	2.58	63		Pn	16 02 40.7	-1.4
PWL	Port Wells	2.58	63	IAML		16 03 47.2	
	comp=E,205nm,0.3s						
PMR	Palmer	2.64	45		Pn	16 02 41.8	-1.1
PMR	Palmer	2.64	45	IAML		16 03 48.7	
	comp=E,122nm,0.2s						
PMR				IAML		16 03 49.7	
	comp=N,108nm,0.3s						
L20K	Farewell, AK	2.73	352		Pn	16 02 43.7	-0.4
KNK	Knik Glacier	2.79	52		Pn	16 02 43.7	-1.2
KNK	Knik Glacier	2.79	52	IAML		16 03 53.3	
	comp=E,172nm,0.3s						
GHO	Glory Hole Cre	2.84	44		Pn	16 02 44.4	-1.1
GHO	Glory Hole Cre	2.84	44	IAML		16 03 54.2	
	comp=N,160nm,0.3s						
SML	Sawmill	3.07	47		Pn	16 02 47.4	-1.3
SML	Sawmill	3.07	47	IAML		16 04 06.1	
	comp=N,84nm,0.7s						
SML				IAML		16 04 09.4	
	comp=E,99nm,1.3s						
PPLA	Purkeypile	3.15	7	Pn	Pn	16 02 50.2	+0.4
GLI	Glacier Island	3.15	67	Pn	Pn	16 02 48.9	-0.9
SII	Sitkinak Islan	3.29	191		Pn	16 02 50.9	-0.8
FID	Port Fidalgo	3.41	71		Pn	16 02 51.9	-1.2
JPK	Jack Peak	3.44	66		Pn	16 02 53.4	-0.2
TT01	Tatalina	3.44	337		Pn	16 02 52.6	-0.9
TTA	Tatalina	3.46	337	Pn	Pn	16 02 52.8	-1.2
SCM	Sheep Creek Mo	3.47	51		Pn	16 02 52.8	-1.3
K20K	Telida	3.62	353		Pn	16 02 54.9	-1.0
CAST	Castle Rocks	3.67	7		Pn	16 02 56.1	-0.6
CAST	Castle Rocks	3.67	7	IAML		16 03 24.7	
	comp=E,18nm,4.7s						
EYAK	Cordova Ski Ar	3.72	75	Pn	Pn	16 02 55.6	-1.7
DIV	Divide	3.84	66		Pn	16 02 58.3	-0.8
KLU	Klutina	3.90	61		Pn	16 02 58.3	-1.5
TRF	Thorofare Moun	3.90	18	Pn	Pn	16 02 59.8	-0.1
KTH	Kantishna Hill	3.91	14		Pn	16 02 59.6	-0.3
KTH	Kantishna Hill	3.91	14	IAML		16 04 27.8	
	comp=E,20nm,1.2s						
M24K	Tolsona, Glenn	4.08	52	Pn	Pn	16 03 01.2	-0.9
CHUM	Lake Minchumin	4.12	4		Pn	16 03 02.6	-0.1
RND	Reindeer	4.15	27		Pn	16 03 02.6	-0.5
RND	Reindeer	4.15	27	IAML		16 03 59.8	
	comp=N,21nm,4.3s						
RND				IAML		16 04 45.3	
	comp=E,24nm,0.9s						
BMRM	Bremner River	4.35	71	Pn	Pn	16 03 05.2	-0.7
BMRM				IAML		16 04 43.9	
	comp=E,48nm,3.4s						
BMRM				IAML		16 05 04.2	
	comp=N,48nm,3.3s						
MCK	McKinley	4.41	24		Pn	16 03 06.1	-0.6
BPAW	Bear Paw Mtn.	4.43	12	Pn	Pn	16 03 06.5	-0.5
BPAW				IAML		16 04 02.3	
	comp=N,19nm,4.5s						
J20K	Nowinta River	4.44	354	Pn	Pn	16 03 06.4	-0.5
J20K				IAML		16 04 50.6	
	comp=E,15nm,4.9s						
CHGN	Chignik	4.51	222	Pn	Pn	16 03 07.5	-0.4
N25K	Chitina, Valde	4.53	63	Pn	Pn	16 03 08.3	0.0
N25K				IAML		16 04 35.3	
	comp=E,26nm,0.6s						
N25K				IAML		16 04 35.7	
	comp=N,38nm,2.2s						
BWN	Browne	4.71	19	Pn	Pn	16 03 10.6	-0.1
GLB	Gilahina Butte	4.84	66	Pn	Pn	16 03 12.2	-0.3
GLB				IAML		16 04 39.6	
	comp=E,27nm,4.1s						
GLB				IAML		16 04 42.6	
	comp=N,33nm,0.8s						
PAX	Paxson	4.84	46		Pn	16 03 11.8	-0.8
VRDI	Verde Repeater	4.96	69	Pn	Pn	16 03 13.5	-0.7
VRDI				IAML		16 04 09.3	
	comp=N,32nm,4.0s						
VRDI				IAML		16 06 14.4	
	comp=E,27nm,4.0s						
SNH	Sunshine Point	5.14	81	Pn	Pn	16 03 16.5	0.0
WAX	Waxell Ridge	5.14	78	Pn	Pn	16 03 15.8	-0.8
NEA2	Nenana	5.17	19	Pn	Pn	16 03 16.0	-0.9
WRH	Wood River Hil	5.24	24		Pn	16 03 16.8	-1.1
WRH	Wood River Hil	5.24	24	IAML		16 04 28.6	
	comp=E,16nm,4.3s						
ISLE	Juniper Island	5.40	77	Pn	Pn	16 03 20.1	-0.1
I21K	Tanana	5.43	5	Pn	Pn	16 03 19.7	-0.8
HDA	Harding Lake	5.45	29	Pn	Pn	16 03 19.3	-1.4
BALM	Baldy	5.45	72		Pn	16 03 19.7	-1.1
CCB	Clear Creek Bu	5.46	24		Pn	16 03 19.5	-1.2
M26K	Nabesna, AK	5.53	57	Pn	Pn	16 03 22.2	+0.4
RIDG	Independent Ri	5.55	41	Pn	Pn	16 03 22.6	+0.4
MESA	MESA	5.58	81	Pn	Pn	16 03 22.6	-0.1
I23K	Minto, Yukon-K	5.64	16	Pn	Pn	16 03 22.8	-0.5
TCOL	CIGO, UAF Yank	5.64	23	Pn	Pn	16 03 22.7	-0.6
COLA	College	5.65	23	Pn	Pn	16 03 22.8	-0.5
MDM	Murphy Dome	5.65	21	Pn	Pn	16 03 22.3	-1.1
YAH	Yahtse	5.69	79	Pn	Pn	16 03 23.8	-0.3
DOT	Dot Lake	5.76	44	Pn	Pn	16 03 24.6	-0.4
IL31		5.77	27		Pn	16 03 23.6	-1.3
ILAR	Eielson Array	5.77	27	Pn	Pn	16 03 23.6	-1.4
BARN	Barnard Glacie	5.78	72	Pn	Pn	16 03 25.2	-0.1
H21K	Melozitna Rive	5.89	1	Pn	Pn	16 03 25.8	-0.8
POKR	Poker Plat Res	5.95	24	Pn	Pn	16 03 26.6	-0.8
TABL	Table Mountain	5.99	79		Pn	16 03 27.9	-0.3
SCRK	Sand Creek	6.00	42	Pn	Pn	16 03 27.0	-1.2
M27K	Edge Creek, AK	6.00	60	Pn	Pn	16 03 28.5	+0.2
IM03		6.23	357		Pn	16 03 30.2	-0.9
IMAR	Indian Mountai	6.23	357	Pn	Pn	16 03 31.0	-0.2
L27K	Beaver Creek,	6.30	54	Pn	Pn	16 03 32.6	+0.3
BCAR	Beaver Creek A	6.32	54	Pn	Pn	16 03 31.8	-0.7
PCA	Pinnacle	6.43	82	Pn	Pn	16 03 34.0	-0.1
H24K	Noodor Dome	6.51	19	Pn	Pn	16 03 33.9	-1.3
PRP	Porcupine Dome	6.71	28	Pn	Pn	16 03 37.7	-0.2
EGAK	Eagle	7.46	43	Pn	Pn	16 03 47.1	-0.8
FYU	Fort Yukon	7.66	24	Pn	Pn	16 03 49.8	-0.8
DAWY	Dawson	7.73	50	Pn	Pn	16 03 51.5	-0.2
BMAR	Burnt Mountain	8.54	23	Pn	Pn	16 04 01.3	-1.3
N31M	Braeburn, Yuko	8.65	71	Pn	Pn	16 04 03.8	-0.4
WHY	Whitehorse	9.08	77	Pn	Pn	16 04 10.1	0.0
JIS	Juneau Island	9.73	91	Pn	Pn	16 04 20.0	+1.2
P33M	Teslin, Yukon	10.13	79	Pn	Pn	16 04 23.4	-1.0

*IDC **24** 16:13:44.9±0.8,2.°01N×96.°51E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.0/37, mbtmp4.3/13, ML3.8/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/85, Error ellipse: s-maj=25.6km s-min=15.9km az=43.0*

*BJI **24** 16:13:46.8±0.0, 1.°95N×96.°58E, h28km, mb4.6/45, mB5.1/20, Ms4.6/5, Ms7 4.3/5*

*NEIC **24** 16:13:47.5±1.2,2.°08N±0.°06×96.°66E±0.°08, h10km±1km, mb4.7/47, Error ellipse: s-maj=16.2km s-min=4.7km az=236.0*

*DJA **24** 16:13:47.0±0.6,2.°N±2.°×9.°6E±.°, h57km±7km, M4.6/13, mb4.6/6, MLv4.6/13*

ISC 24 16:13:48.6±1.6,2.°02N±0.°04×96.°61E±0.°06,h25km±12km, n113,σ1§14/112,mb4.6/42,2C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.48	324	P	Pn	16 14 00.6	+0.7
SNSI				S	Sn	16 14 07.9	+0.3
GSI	Gunungsitoli	1.20	126	P	Pb	16 14 11.1	+0.5
GSI				S	Sb	16 14 26.5	+0.8
GSI	Gunungsitoli	1.20	126	Pn	Pb	16 14 10.8	+0.2
KCSI	Kotacane, Aceh	1.89	38	P	Pn	16 14 19.5	+0.1
KCSI				S	Sn	16 14 43.2	+0.8
RPSI	Rantau Prapat	2.41	74		Pn	16 14 27.6	+1.2
PSI	Prapat	2.44	71	Pn	Pn	16 14 27.6	+0.6
	2.5nm,0.3s,baz=266,slow=5.6,SNR=26						
PSI				Sn	Sb	16 15 01.0	-0.6
	9.0nm,0.3s,baz=232,slow=17,SNR=4.5						
PSI				LR	LR	16 15 06.6	
	comp=Z,266nm,21.0s,baz=308,slow=33						
TSI	Tuntungan	2.45	53	P	Pn	16 14 28.5	+1.6
TSI				S	Sn	16 14 55.9	-0.2
MNSI	Mandailing Nat	3.21	112	P	Pn	16 14 37.5	+0.1
LHMI	Lhok Sumawe	3.21	6	P	Pn	16 14 35.2	-2.3
LHMI				S	Sn	16 15 11.8	-3.1
LHMI	Lhok Sumawe	3.21	6	Pn	Pn	16 14 38.0	+0.5
SISI	Saibi	4.14	143	P	Pn	16 14 47.1	-3.2
SISI				S	Sn	16 15 38.1	+0.1
BKNI	Bangkinang	4.74	111	P	Pn	16 14 59.9	+1.5
IPM	Ipoh	5.04	61	Pn	Pn	16 15 03.2	+0.5
KULM	Kulim	5.18	51	Pn	Pn	16 15 04.6	+0.1
KRJI	Kerinci	6.34	130	P	Pn	16 15 21.3	+0.7
	0.7nm119nm,0.7s						
MYKOM	Kota Tinggi	7.24	92	Pn	Pn	16 15 32.9	0.0
MASI	Maura Aman, Be	7.61	132	P	Pn	16 15 33.0	-5.0
	0.3nm62nm,1.2s						
TPRI	Tanjung Pinang	7.99	98	P	Pb	16 15 54.7	-12
MNAI	Manna	8.96	135	Pn	Pn	16 15 58.8	+2.2
MDSI	Maura Dua	9.94	131	P	Pn	16 16 08.0	-2.0
UBPT	Khong Chiam	15.81	33	P	P	16 17 32.2	-1.1
UBPT				IAmb	IAmb	16 17 56.7	
	comp=Z,43nm,1.3s						
CM31	Chiang Mai Arr	16.50	8	Pn	Pn	16 17 38.0	-0.5
CMAR	Chiang Mai Arr	16.50	8	Pn	Pn	16 17 37.7	-0.8
	comp=Z,0.5nm,0.3s,baz=197,slow=12,SNR=73						
CMAR				LR	LR	16 24 10.9	
	comp=Z,85nm,20.9s,baz=185,slow=38						
CMAR	Chiang Mai Arr	16.50	8	Pn	Pn	16 17 37.5	-1.0
CHTO	Chiang Mai	16.85	8	Pn	Pn	16 17 42.4	-0.6
UGM	Wanagama	17.02	126	Pn	Pn	16 17 43.4	-1.8
UGM				IAmb	IAmb	16 18 09.9	
	comp=Z,105nm,1.4s						
KKM	Kota Kinabalu	19.96	78	P	P	16 18 18.0	-1.2
KKM				IAmb	IAmb	16 18 34.5	
	comp=Z,23nm,1.0s						
SLVN	Son La	20.48	20	P	P	16 18 24.5	-0.2
QIZ	Qiongzhong	21.30	37	P	P	16 18 32.5	-1.1
QIZ				IAmb	IAmb	16 18 35.1	
	comp=Z,88nm,1.5s						
RAGD	RAYAGADA	21.43	324	ex	P	16 18 38.5	+3.5
IMP	Imphal	22.83	354	ex	P	16 18 50.3	+0.3
KOHI	KOHIMA	23.69	354	ex	P	16 18 58.3	-0.4
KMI	Kunming	23.72	14	⇑P	P	16 18 57.0	-2.1
KMI				pP	sP	16 19 07.8	-1.6
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
SHL	Shillong	23.85	349	ex	P	16 18 58.0	-2.3
BOK	Bokaro	24.01	335	ex	P	16 19 03.8	+2.2
TOLI2	Tolitoli	24.18	92	P	P	16 19 02.5	-0.8
TOLI2				IAmb	IAmb	16 19 11.5	
	comp=Z,26nm,1.5s						
PZH	PanZhiHua	24.84	11	P	P	16 19 11.5	+2.2
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
H08S2	Diego Garcia H	25.90	248	T	T	16 46 09.3	
	baz=69,slow=76						
H08S3	Diego Garcia H	25.91	248	T	T	16 46 04.9	
	baz=69,slow=76						
H08S1	Diego Garcia H	25.92	248	T	T	16 46 12.1	
	baz=69,slow=76						
GYA	Guiyang	26.15	21	⇓P	P	16 19 22.6	+1.4
GYA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LSA	Lhasa	28.02	350	P	P	16 19 38.8	+0.5
LSA				pmax	pmax		
	comp=Z,40nm,0.8s						
CD2	Chengdu	29.52	13	eP	P	16 19 52.5	+1.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LGTI	Lohaghat	31.41	332	ex	P	16 20 08.4	+0.6
PTH	Pithoragarh	31.51	332	ex	P	16 20 09.0	0.0
XAN	Xi'an	33.87	19	P	P	16 20 28.6	-0.8
XAN				pP	sP	16 20 40.3	+0.4
XAN				sP	pP	16 20 46.8	+10
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GOMU	GeErMu	34.05	357	P	P	16 20 30.5	-0.8
GOMU				pP	pP	16 20 36.1	-2.7
GOMU				sP	sP	16 20 41.3	-0.6
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,58nm,8.2s						
MORW	Morawa	36.08	150	P	P	16 20 48.3	-0.1
MORW				IAmb	IAmb	16 21 06.9	
	comp=Z,15nm,1.2s						
NJ2	Nanjing	36.49	33	eP	P	16 20 52.9	+1.0
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
GTA	Gaotai	37.34	4	⇓P	P	16 20 59.3	+0.1
GTA				pP	pP	16 21 06.8	+0.1
GTA				sP	sP	16 21 09.8	+0.1
GTA				pmax	pmax		
	comp=Z,17nm,0.9s						
NIL	Nilore	38.32	328	P	P	16 21 07.8	+0.4
NIL				IAmb	IAmb	16 21 11.1	
	comp=Z,12nm,0.7s						
H01W3	Cape Leeuwin H	40.22	157	T	T	17 04 17.5	
	baz=333,slow=76						
H01W2	Cape Leeuwin H	40.23	157	T	T	17 04 11.3	
	baz=333,slow=76						
H01W1	Cape Leeuwin H	40.23	157	T	T	17 04 12.3	
	baz=333,slow=76						
HHC	Hu-ho-hao-te	40.95	17	eP	P	16 21 31.3	+1.9
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,270nm,4.3s						
WMQ	Urumqi	42.38	350	eP	P	16 21 43.4	+2.5
WB0	Warramunga Arr	42.93	122	P	P	16 21 45.8	0.0
WRA	Warramunga Arr	42.97	122	P	P	16 21 46.6	+0.5
	comp=Z,4.1nm,0.7s,baz=300,slow=9.3,SNR=23						
WRA				PcP	PcP	16 23 36.4	0.0
	comp=Z,0.8nm,0.9s,baz=318,slow=2.1,SNR=3.5						
WRA	Warramunga Arr	42.97	122	P	P	16 21 45.8	-0.2
WR0	Warramunga Arr	43.14	122	P	P	16 21 47.6	+0.1
WR0				IAmb	IAmb	16 21 49.2	
	comp=Z,9.5nm,0.8s						
KDJ	Kajisay	43.58	339	P	P	16 21 51.9	+1.1
KDJ				IAmb	IAmb	16 21 54.4	
	comp=Z,14nm,1.2s						
DRK	Karamyk	43.60	332	P	P	16 21 52.2	+1.0
CHGR	Chuyangaron	44.27	329	P	P	16 21 56.3	0.0
CHGR				IAmb	IAmb	16 21 57.8	
	comp=Z,15nm,0.9s						
ASAR	Alice Springs	44.35	127	P	P	16 21 58.1	+0.9
	comp=Z,2.3nm,0.9s,baz=302,slow=8.2,SNR=30						
ASAR				PcP	PcP	16 23 41.8	+0.7
	comp=Z,0.6nm,0.9s,baz=303,slow=1.9,SNR=4.1						
ASAR	Alice Springs	44.35	127	P	P	16 21 57.1	-0.1
AS31	Alice Springs	44.35	127	P	P	16 21 57.5	+0.3
TJN	Taejon	44.46	36	P	P	16 21 57.6	-0.2
BTK	Batken	44.52	332	P	P	16 21 59.7	+1.4
BTK				IAmb	IAmb	16 22 03.5	
	comp=Z,16nm,1.4s						
AAK	Ala-Archa	45.03	337	P	P	16 22 04.2	+1.8
XLT	XiLinHaoTe	45.15	20	eP	P	16 22 07.4	+4.1
XLT				pP	sP	16 22 13.6	-0.3
XLT				sP	pP	16 22 16.9	+6.0
XLT				pmax	pmax		
	comp=Z,400nm,5.3s						
KSRS	Korea Array	45.52	35	P	P	16 22 05.5	-0.6
	comp=Z,2.9nm,0.7s,baz=234,slow=7.4,SNR=8.2						
TAS	Tashkent	46.23	331	P	P	16 22 11.8	0.0
MK31	Makanchi Array	46.31	346	P	P	16 22 12.4	+0.1
MK31				IAmb	IAmb	16 22 14.5	
	comp=Z,8.2nm,0.8s						
MKAR	Makanchi Array	46.31	346	P	P	16 22 12.9	+0.5
	comp=Z,12nm,0.7s,baz=161,slow=8.0,SNR=131						
MKAR	Makanchi Array	46.31	346	P	P	16 22 12.4	+0.1
MAKZ	Makanchi	46.40	346	P	P	16 22 13.2	+0.1
MAKZ				IAmb	IAmb	16 22 14.6	
	comp=Z,8.9nm,0.7s						
SONM	Songino Array	46.42	9	P	P	16 22 13.5	+0.2
	comp=Z,5.4nm,0.8s,baz=188,slow=8.7,SNR=39						
SONM	Songino Array	46.42	9	P	P	16 22 13.1	-0.2
SONM				IAmb	IAmb	16 22 15.1	
	comp=Z,4.5nm,0.8s						
ULN	Ulaanbaatar	46.56	10	P	P	16 22 13.9	-0.5
ULN				IAmb	IAmb	16 22 15.5	
	comp=Z,4.0nm,0.9s						
JMN	Monobe	46.99	44	P	P	16 22 18.4	+0.5
KKAR	Karatay Array	47.07	334	P	P	16 22 18.9	+0.5
JHS	Saijyo	47.20	42	P	P	16 22 19.2	-0.3
KURK	Kurchatov	50.86	345	P	P	16 22 47.5	+0.3
KURK				IAmb	IAmb	16 22 48.8	
	comp=Z,7.7nm,0.9s						
HIA	Hailar	51.07	19	P	P	16 22 48.4	-0.4
HIA				IAmb	IAmb	16 22 49.8	
	comp=Z,5.5nm,0.8s						
BNX	BinXian	51.23	27	⇑P	P	16 22 50.0	-0.1
BNX				pmax	pmax		
	comp=Z,16nm,0.8s						
MJB9	Matsu-Tunnel	51.49	43	P	P	16 22 52.6	+0.3
MJB9				IAmb	IAmb	16 22 53.8	
	comp=Z,18nm,1.2s						
MAJO	Matsushiro	51.49	43	P	P	16 22 52.3	0.0
MJAR	Matsushiro Arr	51.49	43	P	P	16 22 52.6	+0.3
PMG	Port Moresby	51.62	104	P	P	16 22 53.2	-0.3
PMG				IAmb	IAmb	16 22 54.9	
	comp=Z,10nm,0.8s						
USA0B	Ussuriysk Arra	52.38	32	P	P	16 22 57.9	-0.8
USA0B				IAmb	IAmb	16 23 20.8	
	comp=Z,20nm,1.3s						
USRK	Ussuriysk Ar.	52.38	32	P	P	16 22 58.6	-0.1
	comp=Z,1.8nm,0.6s,baz=234,slow=7.1,SNR=7.1						
USRK	Ussuriysk Ar.	52.38	32	P	P	16 22 58.3	-0.5
ZAA0	Zalesovo Array	52.67	351	P	P	16 23 00.6	0.0
ZALV	Zalesovo Beam	52.67	351	P	P	16 23 01.1	+0.5
	comp=Z,13nm,0.6s,baz=178,slow=7.2,SNR=71						
ZALV	Zalesovo Beam	52.67	351	P	P	16 23 00.8	+0.1
BRVK	Borovoye	55.35	341	P	P	16 23 19.8	-0.5
ABKAR	Akbulak array	56.52	332	P	P	16 23 29.2	+0.5
ABKAR	Akbulak array	56.52	332	P	P	16 23 29.3	+0.5
ABKAR				IAmb	IAmb	16 23 34.4	
	comp=Z,4.3nm,0.9s						
YAK	Yakutsk	64.81	17	P	P	16 24 24.2	-0.8
BRTR	Keskin Array B	68.13	312	P	P	16 24 46.4	-0.5
	comp=Z,0.8nm,0.9s,baz=138,slow=7.4,SNR=2.4						
BRTR	Keskin Array B	68.13	312	P	P	16 24 46.9	-0.1
TIXI	Tiksi	72.49	10	LR	LR	17 01 47.2	
	comp=Z,45nm,19.7s,baz=232,slow=40						
TIXI	Tiksi	72.49	10	P	P	16 25 11.6	-1.1
TIXI				IAmb	IAmb	16 25 13.0	
	comp=Z,3.5nm,0.8s						
LBTB	Lobatse	73.72	243	LR	LR	16 52 35.3	
	comp=Z,52nm,20.2s,baz=84,slow=32						
AKASG	Malin Array Be	74.26	322	P	P	16 25 22.2	-1.3
	comp=Z,0.4nm,0.4s,baz=86,slow=4.7,SNR=4.7						
BURAR	Bucovina Array	76.03	319	P	P	16 25 35.0	+1.0
BUR08	Bucovina Ar. S	76.04	319	P	P	16 25 35.4	+1.3
BUR08				IAmb	IAmb	16 25 48.4	
	comp=Z,5.2nm,1.2s						
KBN	Korca	77.94	311	P	P	16 25 45.2	+0.4
FIA1	FINESS Array S	79.01	333	P	P	16 25 50.8	+0.7
FINES	FINESS Array B	79.01	333	P	P	16 25 50.6	+0.4
	comp=Z,2.4nm,0.7s,baz=98,slow=5.0,SNR=12						
ARCES	ARCESS Array B	81.57	340	P	P	16 26 04.7	+0.8
	comp=Z

U38A	**Gravette**	3.52	89	Pn	Pn	16 22 50.8	-0.4
HHAR	**Hobbs**	3.88	91	IAmb_Lg		16 24 01.1	
	comp=Z,14nm,0.9s						
KSCO	**Kaye Shedlock'**	3.99	311	IAmb_Lg		16 24 13.6	
	comp=Z,20nm,0.9s						
BGNE	**Belgrade**	4.95	5	Pn	Pn	16 23 11.4	+0.5
P38A	**Dawn**	5.18	51	Pn	Pn	16 23 14.3	+0.2
X40A	**Basin Creek Fa**	5.21	111	Pn	Pn	16 23 14.2	-0.3
MGMO	**Mountain Grove**	5.24	81	IAmb_Lg		16 24 42.0	
	comp=Z,15nm,1.1s						

*MAN **24** 16:30:33.6,5°.86N×127°.13E,h7km,mb4.6,ML3.5,MS3.3*
*NEIC **24** 16:30:35.5±0.8,5°.84N±0°.09×126°.9E±0°.2,h136km±8km,mb4.5/15,Error ellipse: s-maj=22.9km s-min=9.3km az=66.0*
*IDC **24** 16:30:35.7±1.3,5°.81N×126°.89E,h144km±14km,mb3.6/8,mb1 3.6/10,mb1mx3.2/53,mbtmp4.0/10,Error ellipse: s-maj=33.4km s-min=10.9km az=73.0*
ISC 24 16:30:34.4±0.8,5°.80N±0°.05×126°.88E±0°.08,h130km±8km,n36,σ1°14/43,mb4.1/17,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	1.20	285	⇑ i P		**Pn**	**16 30 59.0**	**-0.1**
DDMP				e S		**Sn**	**16 31 19.6**	**+1.5**
MATI	**Mati**	1.29	332	⇑ i P		**Pn**	**16 30 59.0**	**-1.3**
MATI				e S		**Sn**	**16 31 17.9**	**-2.0**
DAV	**Davao City (W)**	1.80	314	P		**Pn**	**16 31 07.2**	**+1.3**
	38nm,0.3s,baz=102,slow=23,SNR=2.3						
DAV				S		**Sn**	**16 31 33.5**	**+3.4**
	38nm,0.3s,baz=107,slow=24,SNR=8.6						
GSPH	**General Santos**	1.94	279	⇑ i P		**Pn**	**16 31 06.6**	**-1.1**
GSPH				i S		**Sn**	**16 31 32.0**	**-1.2**
KCP	**Kidapawan**	2.14	304	⇓ i P		**Pn**	**16 31 10.2**	**0.0**
KCP				i S		**Sn**	**16 31 38.9**	**+1.3**
BIPH	**Bislig**	2.42	348	⇓ e P		**Pn**	**16 31 16.7**	**+3.1**
BIPH				e S		**Sn**	**16 31 42.1**	**-1.7**
TNTI	**Ternate**	5.02	174	Pn		**Pn**	**16 31 48.6**	**+0.9**
TOLI2	**Tolitoli**	7.66	233	Pn		**Pn**	**16 32 23.8**	**+0.6**
SIJI	**Sorong**	7.95	146	P		**Pn**	**16 32 28.2**	**+1.0**
	1.5nm,0.3s,baz=340,slow=21,SNR=8.2						
SIJI				S		**Sn**	**16 33 53.6**	**-1.9**
	0.3nm,0.3s,baz=297,slow=22,SNR=1.8						
BATI	**Baumata**	16.22	191	P		**P**	**16 34 17.1**	**+1.4**
	1.1nm,0.3s,baz=131,slow=20,SNR=1.8						
MTN	**Manton Dam**	19.00	167	P		**P**	**16 34 46.9**	**+0.8**
MTN				IAmb		IAmb	16 34 52.1	
	comp=Z,40nm,1.6s						
KNRA	**Kununurra**	21.42	175	P		**P**	**16 35 13.0**	**+0.9**
KNRA				IAmb		IAmb	16 35 14.3	
	comp=Z,15nm,0.7s						
FITZ	**Fitzroy Crossi**	23.78	183	P		**P**	**16 35 34.9**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=360,slow=13,SNR=2.4						
WB0	**Warramunga Arr**	26.46	164	P		**P**	**16 35 59.5**	**0.0**
WB0				IAmb		IAmb	16 36 00.5	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	26.61	164	P		**P**	**16 36 00.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=342,slow=11,SNR=11						
WB2	**Warramunga Arr**	26.62	164	P		**P**	**16 36 00.8**	**-0.1**
WB2				IAmb		IAmb	16 37 02.4	
	comp=Z,11nm,1.5s						
WR0	**Warramunga Arr**	26.69	164	P		**P**	**16 36 01.4**	**-0.1**
WR0				IAmb		IAmb	16 36 33.1	
	comp=Z,8.6nm,1.4s						
AS31	**Alice Springs**	30.08	167	P		**P**	**16 36 31.9**	**+0.3**
ASAR	**Alice Springs**	30.08	167	P		**P**	**16 36 31.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=341,slow=7.1,SNR=23						
XAN	**Xi'an**	32.66	332	P		**P**	**16 36 53.3**	**-0.9**
XAN				sP		pP	16 37 08.3	-13
XAN				pmax		pmax		
	comp=Z,5.0nm,1.3s						
FORT	**Forrest**	36.39	178	P		**P**	**16 37 25.8**	**-0.5**
FORT				IAmb		IAmb	16 37 31.6	
	comp=Z,26nm,1.2s						
HHC	**Hu-ho-hao-te**	37.50	341	eP		**P**	**16 37 36.0**	**+0.3**
HHC				pmax		pmax		
	comp=Z,12nm,0.8s						
HHC				pmax		pmax		
	comp=Z,180nm,6.2s						
USRK	**Ussuriysk Ar.**	38.51	6	P		**P**	**16 37 43.9**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=181,slow=8.7,SNR=4.5						
USA0B	**Ussuriysk Arra**	38.51	6	P		**P**	**16 37 43.8**	**-0.2**
BBOO	**Buckleboo**	39.38	168	P		**P**	**16 37 51.7**	**+0.4**
NWAO	**Narrogin (SRO)**	39.59	193	P		**P**	**16 37 53.8**	**+0.7**
NWAO				IAmb		IAmb	16 38 58.3	
	comp=Z,29nm,1.3s						
STKA	**Stephens Creek**	40.01	160	P		**P**	**16 37 56.6**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=343,slow=9.6,SNR=8.5						
ASAJ	**Asahikawa**	40.58	17	P		**P**	**16 38 01.2**	**+0.1**
	comp=Z,7.2nm,1.0s,baz=255,slow=16,SNR=1.6						
KLR	**Kul'dur**	43.47	5	P		**P**	**16 38 23.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=210,slow=8.1,SNR=2.3						
MK31	**Makanchi Array**	55.96	324	P		**P**	**16 39 58.6**	**-0.5**
MK31				IAmb		IAmb	16 40 28.3	
	comp=Z,2.7nm,0.6s						
MKAR	**Makanchi Array**	55.96	324	P		**P**	**16 39 59.0**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=116,slow=7.2,SNR=23						
MKAR	**Makanchi Array**	55.96	324	P		**P**	**16 39 58.7**	**-0.5**
KURK	**Kurchatov**	60.09	327	P		**P**	**16 40 27.5**	**-0.3**
KKAR	**Karatay Array**	61.84	316	P		**P**	**16 40 39.1**	**-0.7**
NNZ	**Nelson**	63.21	142	P		**P**	**16 40 49.1**	**+0.2**
ABKAR	**Akbulak array**	70.65	320	P		**P**	**16 41 35.5**	**-0.4**

*NEIC **24** 16:30:39.8±1.1,59°.74N±0°.03×153°.19W±0°.07,h113km±5km,Error ellipse: s-maj=5.1km s-min=4.7km az=155.0*
*AEIC **24** 16:30:41±1.5,59°.71N±0°.03×153°.14W±0°.07,h105km±4km,ML3.3,ML3.6/100(NEIC),Error ellipse: s-maj=5.1km s-min=4.7km az=106.0*
ISC 24 16:30:39.8±1.1,59°.73N±0°.04×153°.13W±0°.04,h112km±7km,n161,σ0°70/167,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	0.10	214		**Pn**	**16 30 55.3**	**0.0**
OPT	**Oil Point**	0.10	214	P	**Pn**	**16 30 55.3**	**0.0**
	baz=40						
AU22	**Augustine Moun**	0.38	198		Pn	16 31 08.0	+12
AUL	**Augustine Lava**	0.38	204		**Pn**	**16 30 56.6**	**+0.4**
AUL					**Sn**	**16 31 08.4**	**0.0**
AUH	**Augustine H**	0.40	204		**Pn**	**16 30 57.0**	**+0.6**
AUQ	**Augustine Qik'**	0.40	201		**Pn**	**16 30 56.7**	**+0.3**
O20K	**Slope Mountain**	0.43	36		**Pn**	**16 30 56.6**	**+0.1**
O20K					**Sn**	**16 31 09.1**	**0.0**
O20K	**Slope Mountain**	0.43	36	P	**Pn**	**16 30 56.6**	**+0.1**
	baz=215						
O20K				S	**Sn**	**16 31 09.1**	**0.0**
	baz=215						
RED	**Redoubt Volcan**	0.71	14		**Pn**	**16 30 58.6**	**0.0**
RED					**Sn**	**16 31 12.0**	**-0.6**
HOM	**Homer**	0.76	95		**Pn**	**16 30 59.0**	**+0.2**
HOM					**Sn**	**16 31 13.8**	**+0.8**
HOM	**Homer**	0.76	95	P	**Pn**	**16 30 59.0**	**+0.2**
	baz=275						
HOM				S	**Sn**	**16 31 13.8**	**+0.8**
	baz=275						
RSO	**Redoubt South**	0.76	14		**Pn**	**16 30 58.9**	**-0.2**
O19K	**Port Alsworth**	0.76	308		**Pn**	**16 30 58.6**	**-0.2**
O19K					**Sn**	**16 31 12.5**	**-0.6**
O19K	**Port Alsworth**	0.76	308	P	**Pn**	**16 30 58.6**	**-0.2**
	baz=129						
O19K				S	**Sn**	**16 31 12.5**	**-0.6**
	baz=129						
NCT	**North Crescent**	0.84	7		**Pn**	**16 30 59.8**	**+0.1**
Q19K	**Cape Douglas,**	0.85	198		**Pn**	**16 30 59.7**	**0.0**
Q19K					**Sn**	**16 31 14.4**	**-0.2**
Q19K	**Cape Douglas,**	0.85	198	P	**Pn**	**16 30 59.7**	**0.0**
	baz=18						
Q19K				S	**Sn**	**16 31 14.4**	**-0.2**
	baz=18						
DFR	**Drift River**	0.89	14		**Pn**	**16 31 00.3**	**+0.1**
DFR					**Sn**	**16 31 15.1**	**-0.4**
CNPM	**China Poot**	0.98	101		**Pn**	**16 31 00.6**	**-0.4**
O18K	**Koktuh Hills**	1.06	278		**Pn**	**16 31 01.8**	**+0.1**
O18K	**Koktuh Hills**	1.06	278	P	**Pn**	**16 31 01.8**	**+0.1**
	baz=97						
P18K	**Big Mountain,**	1.12	253		**Pn**	**16 31 02.1**	**-0.4**
P18K	**Big Mountain,**	1.12	253	P	**Pn**	**16 31 02.1**	**-0.4**
	baz=72						
BRLK	**Bradley Lake**	1.14	87		**Pn**	**16 31 02.1**	**-0.5**
BRSE	**Bradley Lake S**	1.21	88		**Pn**	**16 31 03.5**	**+0.1**
BRSE	**Bradley Lake S**	1.21	88	P	**Pn**	**16 31 03.5**	**+0.1**
	baz=270						
N19K	**Bonanza Creek**	1.28	329		**Pn**	**16 31 04.2**	**0.0**
N19K	**Bonanza Creek**	1.28	329	P	**Pn**	**16 31 04.2**	**0.0**
	baz=148						
CAPN	**Captain Cook N**	1.43	43		**Pn**	**16 31 08.1**	**+2.3**
CAPN	**Captain Cook N**	1.43	43	IAML		16 31 30.0	
	comp=N,764nm,0.7s						
CAPN				IAML		16 31 31.2	
	comp=E,545nm,0.8s						
CAPN	**Captain Cook N**	1.43	43	P	**Pn**	**16 31 08.1**	**+2.3**
	baz=224						
SPU	**Mount Spurr**	1.55	20		**Pn**	**16 31 07.6**	**+0.3**
SLKM	**Skilak Lake**	1.65	61		**Pn**	**16 31 09.1**	**+0.6**
SPCG	**Spurr Capps Gl**	1.66	19		**Pn**	**16 31 09.8**	**+1.1**
KCG	**Knife Ck. Glac**	1.76	217		**Pn**	**16 31 10.2**	**+0.3**
KABU	**Katmai Buttres**	1.84	218		**Pn**	**16 31 11.5**	**+0.6**
O22K	**Cooper Landing**	1.86	65		**Pn**	**16 31 11.6**	**+0.5**
O22K					**Sn**	**16 31 34.5**	**-0.5**
O22K	**Cooper Landing**	1.86	65	IAML		16 31 41.5	
	comp=E,244nm,0.5s						
O22K				IAML		16 31 44.4	
	comp=N,334nm,0.3s						
O22K	**Cooper Landing**	1.86	65	P	**Pn**	**16 31 11.6**	**+0.5**
	baz=247						
O22K				S	**Sn**	**16 31 34.5**	**-0.5**
	baz=247						
STLK	**Strandline Lak**	1.89	19		**Pn**	**16 31 12.5**	**+1.0**
SEW	**Seward**	1.89	77		**Pn**	**16 31 11.5**	**+0.1**
SEW	**Seward**	1.89	77	P	**Pn**	**16 31 11.5**	**+0.1**
	baz=260						
ANCK	**Angle Creek**	1.97	220		**Pn**	**16 31 12.9**	**+0.4**
KDAK	**Kodiak Island**	1.97	172		**Pn**	**16 31 11.9**	**-0.6**
KDAK	**Kodiak Island**	1.97	172	P	**Pn**	**16 31 11.9**	**-0.6**
	baz=352						
FIS	**Fire Island**	2.02	44	Pn	**Pn**	**16 31 13.6**	**+0.5**
FIS				IAML		16 31 46.6	
	comp=N,226nm,1.8s						
FIS				IAML		16 31 55.5	
	comp=E,191nm,3.9s						
CAHL	**Cahill**	2.03	215		**Pn**	**16 31 13.9**	**+0.7**
RC01	**Rabbit Creek A**	2.17	50		**Pn**	**16 31 15.6**	**+0.7**
RC01	**Rabbit Creek A**	2.17	50	IAML		16 31 42.4	
	comp=N,207nm,0.2s						
RC01				IAML		16 31 43.2	
	comp=E,227nm,0.2s						
RC01	**Rabbit Creek A**	2.17	50	P	**Pn**	**16 31 15.6**	**+0.7**
	baz=232						
OHAK	**Old Harbor**	2.52	182		**Pn**	**16 31 18.5**	**-0.9**
OHAK	**Old Harbor**	2.52	182	P	**Pn**	**16 31 18.5**	**-0.9**
	baz=1.7						
L19K	**White Mountain**	2.60	342		**Pn**	**16 31 20.7**	**+0.2**
L19K	**White Mountain**	2.60	342	IAML		16 32 49.3	
	comp=N,149nm,0.6s						
L19K	**White Mountain**	2.60	342	P	**Pn**	**16 31 20.7**	**+0.2**
	baz=161						
PWL	**Port Wells**	2.64	63		**Pn**	**16 31 21.1**	**0.0**
PWL					**Sn**	**16 31 51.1**	**-1.7**
PWL	**Port Wells**	2.64	63	IAML		16 32 49.4	
	comp=N,239nm,0.4s						
PWL				IAML		16 32 51.0	
	comp=E,369nm,0.4s						
PWL	**Port Wells**	2.64	63	P	**Pn**	**16 31 21.1**	**0.0**
	baz=246						
PWL				S	**Sn**	**16 31 51.1**	**-1.7**
	baz=246						
PMR	**Palmer**	2.71	45		**Pn**	**16 31 21.7**	**-0.2**
PMR					**Sn**	**16 31 52.7**	**-1.7**
PMR	**Palmer**	2.71	45	P	**Pn**	**16 31 21.7**	**-0.2**
	baz=228						
PMR				S	**Sn**	**16 31 52.7**	**-1.7**
	baz=228						
L20K	**Farewell, AK**	2.78	353		**Pn**	**16 31 23.6**	**+0.7**
L20K	**Farewell, AK**	2.78	353	P	**Pn**	**16 31 23.6**	**+0.7**
	baz=172						
KNK	**Knik Glacier**	2.86	52		**Pn**	**16 31 24.4**	**+0.5**
KNK	**Knik Glacier**	2.86	52	IAML		16 31 56.5	
	comp=N,149nm,0.4s						
KNK				IAML		16 31 57.4	
	comp=E,165nm,0.4s						
KNK	**Knik Glacier**	2.86	52	P	**Pn**	**16 31 24.3**	**+0.5**
	baz=236						
GHO	**Glory Hole Cre**	2.91	43		**Pn**	**16 31 24.4**	**-0.2**
GHO	**Glory Hole Cre**	2.91	43	IAML		16 33 11.9	
	comp=E,105nm,0.6s						
GHO				IAML		16 33 14.1	
	comp=N,104nm,0.7s						
CUT	**Chulitna**	3.02	26		**Pn**	**16 31 25.8**	**-0.2**
CUT				IAML		16 33 21.4	
	comp=E,110nm,0.6s						
CUT				IAML		16 33 25.0	
	comp=N,120nm,0.6s						
SML	**Sawmill**	3.14	46		**Pn**	**16 31 27.7**	**0.0**
SML	**Sawmill**	3.14	46	P	**Pn**	**16 31 27.7**	**0.0**
	baz=230						
PPLA	**Purkeypile**	3.21	8		**Pn**	**16 31 29.9**	**+1.3**
PPLA	**Purkeypile**	3.21	8	P	**Pn**	**16 31 30.5**	**+1.8**
	baz=189						
GLI	**Glacier Island**	3.21	66	Pn	**Pn**	**16 31 27.4**	**-1.2**
GLI				IAML		16 33 31.7	
	comp=E,326nm,0.5s						
GLI				IAML		16 33 37.6	
	comp=N,276nm,0.9s						
SII	**Sitkinak Islan**	3.23	190	Pn	**Pn**	**16 31 27.7**	**-1.1**
SII				IAML		16 33 35.3	
	comp=N,390nm,0.7s						
Q23K	**Middleton Isla**	3.46	92	Pn	**Pn**	**16 31 32.1**	**+0.3**
MID	**Middleton Isla**	3.47	92	Pn	**Pn**	**16 31 32.1**	**+0.2**
FID	**Port Fidalgo**	3.47	70	Pn	**Pn**	**16 31 30.7**	**-1.3**
TT01	**Tatalina**	3.48	338		**Pn**	**16 31 32.0**	**-0.1**
TTA	**Tatalina**	3.50	338		**Pn**	**16 31 32.2**	**-0.2**
TTA	**Tatalina**	3.50	338	IAML		16 32 59.8	
	comp=E,90nm,0.6s						
TTA	**Tatalina**	3.50	338	P	**Pn**	**16 31 32.2**	**-0.2**
	baz=156						
JPK	**Jack Peak**	3.50	65		**Pn**	**16 31 32.9**	**+0.4**
SCM	**Sheep Creek Mo**	3.54	51		**Pn**	**16 31 33.1**	**+0.1**
SCM	**Sheep Creek Mo**	3.54	51	P	**Pn**	**16 31 33.1**	**+0.1**
	baz=236						
K20K	**Telida**	3.67	353		**Pn**	**16 31 35.0**	**+0.3**
K20K				IAML		16 33 02.5	
	comp=N,51nm,1.2s						
K20K	**Telida**	3.67	353	P	**Pn**	**16 31 35.4**	**+0.7**
	baz=173						
CAST	**Castle Rocks**	3.73	7		**Pn**	**16 31 36.1**	**+0.6**
CAST	**Castle Rocks**	3.73	7	IAML		16 33 04.3	
	comp=N,46nm,0.6s						
CAST	**Castle Rocks**	3.73	7	P	**Pn**	**16 31 36.1**	**+0.6**
	baz=188						
EYAK	**Cordova Ski Ar**	3.78	74	Pn	**Pn**	**16 31 35.4**	**-0.7**
DIV	**Divide**	3.91	66		**Pn**	**16 31 37.5**	**-0.4**
KLU	**Klutina**	3.97	60		**Pn**	**16 31 38.8**	**+0.1**
KLU	**Klutina**	3.97	60	P	**Pn**	**16 31 38.8**	**+0.1**
	baz=246						
TRF	**Thorofare Moun**	3.97	19	Pn	**Pn**	**16 31 39.4**	**+0.5**
KTH	**Kantishna Hill**	3.98	14		**Pn**	**16 31 38.9**	**+0.1**
M24K	**Tolsona, Glenn**	4.15	52	Pn	**Pn**	**16 31 41.4**	**+0.3**
CHUM	**Lake Minchumin**	4.18	5		**Pn**	**16 31 42.5**	**+1.0**
CHUM	**Lake Minchumin**	4.18	5	P	**Pn**	**16 31 42.5**	**+1.0**
	baz=186						
RND	**Reindeer**	4.22	27		**Pn**	**16 31 42.2**	**+0.2**
BMRM	**Bremner River**	4.41	70		**Pn**	**16 31 45.0**	**+0.3**
BMRM				IAML		16 33 14.9	
	comp=E,126nm,0.7s						
BMRM	**Bremner River**	4.41	70	P	**Pn**	**16 31 45.5**	**+0.9**
	baz=257						
CHGN	**Chignik**	4.44	222	Pn	**Pn**	**16 31 45.5**	**+0.6**
MCK	**McKinley**	4.48	25		**Pn**	**16 31 46.0**	**+0.5**
MCK	**McKinley**	4.48	25	IAML		16 34 09.0	
	comp=E,53nm,0.5s						
MCK	**McKinley**	4.48	25	P	**Pn**	**16 31 46.0**	**+0.5**
	baz=208						
J20K	**Nowinta River**	4.49	354	Pn	**Pn**	**16 31 45.9**	**+0.3**
J20K				IAML		16 33 14.2	
	comp=N,43nm,0.6s						
J20K				IAML		16 33 15.4	
	comp=E,36nm,0.6s						
BPAW	**Bear Paw Mtn.**	4.50	12	Pn	**Pn**	**16 31 46.0**	**+0.2**
BPAW				IAML		16 34 03.1	
	comp=N,56nm,0.6s						
BPAW				IAML		16 34 09.5	
	comp=E,35nm,1.8s						
N25K	**Chitina, Valde**	4.60	62	Pn	**Pn**	**16 31 47.3**	**+0.2**
SUCK	**Suckling Hills**	4.72	82	Pn	**Pn**	**16 31 48.9**	**+0.1**
BERG	**Berg Lake**	4.77	78	Pn	**Pn**	**16 31 50.4**	**+1.0**
BWN	**Browne**	4.78	20		**Pn**	**16 31 50.1**	**+0.5**
GLB	**Gilahina Butte**	4.90	66	Pn	**Pn**	**16 31 51.2**	**-0.1**
GLB				IAML		16 33 19.3	
	comp=E,92nm,0.4s						
PAX	**Paxson**	4.91	45	Pn	**Pn**	**16 31 51.5**	**0.0**
VRDI	**Verde Repeater**	5.02	68	Pn	**Pn**	**16 31 53.0**	**+0.1**
SNH	**Sunshine Point**	5.19	81	Pn	**Pn**	**16 31 56.2**	**+1.1**
WAX	**Waxell Ridge**	5.19	78	Pn	**Pn**	**16 31 55.5**	**+0.3**
NEA2	**Nenana**	5.24	20		**Pn**	**16 31 55.1**	**-0.6**
NEA2				IAML		16 33 22.8	
	comp=N,28nm,0.8s						
NEA2				IAML		16 34 54.3	
	comp=E,23nm,2.7s						
WRH	**Wood River Hil**	5.31	24		**Pn**	**16 31 56.2**	**-0.5**
WRH				IAML		16 34 22.8	
	comp=N,35nm,1.2s						
ISLE	**Juniper Island**	5.46	76	Pn	**Pn**	**16 31 59.2**	**+0.3**
KIAG	**Kiagna River**	5.48	73		**Pn**	**16 32 00.6**	**+1.4**
I21K	**Tanana**	5.50	5	Pn	**Pn**	**16 31 59.8**	**+0.7**
BALM	**Baldy**	5.51	72		**Pn**	**16 32 00.6**	**+1.1**
HDA	**Harding Lake**	5.52	29		**Pn**	**16 31 59.3**	**-0.2**
HDA	**Harding Lake**	5.52	29	P	**Pn**	**16 31 59.3**	**-0.2**
	baz=214						
CCB	**Clear Creek Bu**	5.53	25		**Pn**	**16 31 59.0**	**-0.5**
M26K	**Nabesna, AK**	5.60	57	Pn	**Pn**	**16 32 01.8**	**+1.1**
RIDG	**Independent Ri**	5.62	41	Pn	**Pn**	**16 32 01.6**	**+0.6**
MESA	**MESA**	5.63	81	Pn	**Pn**	**16 32 01.7**	**+0.4**
PS08	**TAPS Pump Stn8**	5.66	29		**Pn**	**16 32 01.1**	**-0.2**
I23K	**Minto, Yukon-K**	5.71	16		**Pn**	**16 32 02.0**	**0.0**
TCOL	**CIGO, UAF Yank**	5.71	23		**Pn**	**16 32 02.1**	**0.0**
TCOL	**CIGO, UAF Yank**	5.71	23	P	**Pn**	**16 32 02.1**	**0.0**
	baz=208						
COLA	**College**	5.72	23		**Pn**	**16 32 01.8**	**-0.3**
MDM	**Murphy Dome**	5.72	21		**Pn**	**16 32 02.0**	**-0.2**
YAH	**Yahtse**	5.74	79	Pn	**Pn**	**16 32 03.3**	**+0.6**
IL31		5.84	27		**Pn**	**16 32 03.3**	**-0.4**
ILAR	**Eielson Array**	5.84	27	Pn	**Pn**	**16 32 03.2**	**-0.5**
BARN	**Barnard Glacie**	5.84	72	Pn	**Pn**	**16 32 05.1**	**+1.1**
H21K	**Melozitna Rive**	5.95	1		**Pn**	**16 32 05.4**	**+0.1**
POKR	**Poker Plat Res**	6.02	24	Pn	**Pn**	**16 32 06.0**	**-0.2**
TABL	**Table Mountain**	6.04	78	Pn	**Pn**	**16 32 07.6**	**+0.9**
M27K	**Edge Creek, AK**	6.07	59	Pn	**Pn**	**16 32 08.5**	**+1.5**
IM03		6.28	358		**Pn**	**16 32 10.5**	**+0.7**
IMAR	**Indian Mountai**	6.28	358	Pn	**Pn**	**16 32 10.6**	**+0.8**
L27K	**Beaver Creek,**	6.37	54	Pn	**Pn**	**16 32 12.2**	**+1.1**
BCAR	**Beaver Creek A**	6.39	54	Pn	**Pn**	**16 32 12.3**	**+1.0**
PCA	**Pinnacle**	6.48	81	Pn	**Pn**	**16 32 13.6**	**+1.0**
J26L	**Joseph Creek**	6.55	39	Pn	**Pn**	**16 32 13.3**	**-0.3**
H24K	**Noodor Dome**	6.58	19	Pn	**Pn**	**16 32 13.7**	**-0.3**
PRP	**Porcupine Dome**	6.78	28		**Pn**	**16 32 17.1**	**+0.4**
EGAK	**Eagle**	7.53	43	Pn	**Pn**	**16 32 26.9**	**+0.3**
COLD	**Coldfoot**	7.64	9	Pn	**Pn**	**16 32 28.5**	**+0.4**
FYU	**Fort Yukon**	7.73	24	Pn	**Pn**	**16 32 29.5**	**+0.1**
DAWY	**Dawson**	7.80	50	Pn	**Pn**	**16 32 30.8**	**+0.4**
BMAR	**Burnt Mountain**	8.61	23	Pn	**Pn**	**16 32 40.7**	**-0.6**
N31M	**Braeburn, Yuko**	8.71	71	Pn	**Pn**	**16 32 43.5**	**+0.7**
JIS	**Juneau Island**	9.78	90	Pn	**Pn**	**16 32 59.3**	**+2.3**
P33M	**Teslin, Yukon**	10.19	79	Pn	**Pn**	**16 33 03.8**	**+1.1**
A36M	**Sachs Harbour**	16.52	31	Pn	**P**	**16 34 25.1**	**+0.1**
HOLB	**Holberg**	16.83	112		**P**	**16 34 29.1**	**+0.5**
B04A	**Port Angeles**	20.80	111	P	**P**	**16 35 11.8**	**-0.1**

*NEIC **24** 16:31:27.1±1.4,21°.55N±0°.04×143°.2E±0°.1,h287km±6km,mb4.3/100,Error ellipse: s-maj=16.8km s-min=6.4km az=84.0*
*IDC **24** 16:31:30.7±2.1,21°.54N×143°.10E,h330km±21km,mb3.7/30,mb1 3.8/33,mb1mx3.6/70,mbtmp4.4/33,Error ellipse: s-maj=13.4km s-min=7.4km az=88.0*
ISC 24 16:31:28.4±0.4,21°.51N±0°.05×143°.17E±0°.08,h311km,n157,σ0°87/160,mb4.2/80,1C,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	5.63	351	Pn	**Pn**	**16 32 50.7**	**-3.0**
GUMO	**Guam**	8.04	168	P	**P**	**16 33 26.5**	**-1.1**
	6.9nm,0.3s,baz=188,slow=9.8,SNR=4.7						
GUMO	**Guam**	8.04	168	Pn	**Pn**	**16 33 20.1**	**-2.6**
INU	**Inuyama**	14.81	340	P	**P**	**16 34 41.6**	**-1.1**
MJAR	**Matsushiro Arr**	15.59	345	P	**P**	**16 34 51.0**	**-0.4**
	0.3nm,0.3s,baz=168,slow=9.7,SNR=22						
MJAR				S	**S**	**16 37 39.1**	**-0.6**
	0.1nm,0.3s,baz=55,slow=38,SNR=4.7						
MJAR	**Matsushiro Arr**	15.59	345	P	**P**	**16 34 49.7**	**-1.6**
MJAR				IAmb	IAmb	16 35 13.4	
	comp=Z,10nm,1.4s						
MAJO	**Matsushiro**	15.59	345	P	**P**	**16 34 50.1**	**-1.3**
MAT	**Matsushiro**	15.59	345	P	**P**	**16 34 51.2**	**-0.2**
MAT				eS	**S

CM31 IAmb IAmb 16 38 48.6
comp=Z,6.5nm,0.5s
CMAR Chiang Mai Arr 41.58 274 P **P 16 38 47.7 +0.9**
comp=Z,4.6nm,0.5s,baz=93,slow=6.1,SNR=48
CMAR Chiang Mai Arr 41.58 274 P **P 16 38 47.1 +0.2**
SEY Seymchan 41.87 6 P **P 16 38 49.7 +1.1**
comp=Z,2.2nm,0.8s,baz=185,slow=7.3,SNR=8.7
WB0 Warramunga Arr 41.91 192 P **P 16 38 49.9 +0.5**
WR0 Warramunga Arr 42.07 192 P **P 16 38 51.0 +0.3**
WRAB Tennant Creek 42.08 192 P **P 16 38 51.0 +0.2**
WRAB IAmb IAmb 16 38 52.0
comp=Z,4.2nm,0.5s
WB2 Warramunga Arr 42.09 192 P **P 16 38 51.2 +0.4**
WRA Warramunga Arr 42.09 192 P **P 16 38 51.5 +0.6**
comp=Z,2.0nm,0.4s,baz=16,slow=8.8,SNR=27
WRA Warramunga Arr 42.09 192 P **P 16 38 50.3 -0.6**
FITZ Fitzroy Crossi 42.95 205 P **P 16 38 58.1 +0.4**
comp=Z,0.6nm,0.3s,baz=2.8,slow=6.6,SNR=7.0
KULM Kulim 44.21 255 P **P 16 39 09.2 +1.3**
KULM IAmb IAmb 16 39 10.2
comp=Z,17nm,0.6s
IPM Ipoh 44.23 254 P **P 16 39 09.2 +1.2**
IPM IAmb IAmb 16 39 10.0
comp=Z,12nm,0.8s
GOMU GeErMu 44.37 300 P **P 16 39 11.1 +1.8**
GOMU pmax pmax
comp=Z,4.0nm,1.1s
GOMU pmax pmax
comp=Z,91nm,6.3s
AS31 Alice Springs 45.80 192 P **P 16 39 20.3 +0.2**
ASAR Alice Springs 45.80 192 P **P 16 39 20.2 +0.1**
comp=Z,0.6nm,0.4s,baz=10,slow=6.9,SNR=27
PSI Prapat 46.85 253 P **P 16 39 28.7 +0.2**
comp=Z,4.9nm,0.5s,baz=179,slow=2.2,SNR=6.7
RPSI Rantau Prapat 46.90 253 P **P 16 39 28.7 0.0**
GSI Gunungsitoli 48.73 252 P **P 16 39 43.0 +0.3**
GSI IAmb IAmb 16 39 43.8
comp=Z,16nm,0.6s
AKUT Akutan 50.27 37 P **P 16 39 54.7 +1.1**
WMQ Urumqi 50.69 310 *e*P **P 16 39 58.3 +1.2**
WMQ pP pP 16 41 01.3 -0.1
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,110nm,5.5s
TIXI Tiksi 50.84 354 P **P 16 39 57.4 -0.1**
comp=Z,1.3nm,0.3s,baz=139,slow=3.5,SNR=9.8
TIXI Tiksi 50.84 354 P **P 16 39 57.5 -0.1**
STKA Stephens Creek 53.10 182 P **P 16 40 15.1 +0.4**
comp=Z,2.7nm,0.4s,baz=355,slow=7.4,SNR=10
STKA Stephens Creek 53.10 182 P **P 16 40 15.0 +0.3**
SDPT Sand Point 53.56 36 P **P 16 40 18.4 +0.6**
ZAA0 Zalesovo Array 54.35 322 P **P 16 40 22.8 -0.7**
ZAA0 IAmb IAmb 16 40 24.2
comp=Z,5.8nm,0.7s
ZALV Zalesovo Beam 54.35 322 P **P 16 40 23.6 +0.1**
comp=Z,6.3nm,0.6s,baz=106,slow=8.2,SNR=21
ZALV PcP **PcP 16 41 22.8 -0.3**
comp=Z,1.7nm,0.4s,baz=115,slow=3.6,SNR=6.4
ZALV Zalesovo Beam 54.35 322 P **P 16 40 22.8 -0.7**
ANM Nome 54.59 24 P **P 16 40 26.6 +1.6**
MK31 Makanchi Array 54.82 313 P **P 16 40 27.1 +0.1**
MKAR Makanchi Array 54.82 313 P **P 16 40 27.4 +0.5**
comp=Z,3.3nm,0.5s,baz=91,slow=9.0,SNR=35
MKAR PcP **PcP 16 41 24.4 -0.7**
comp=Z,0.6nm,0.5s,baz=76,slow=4.1,SNR=4.4
MKAR Makanchi Array 54.82 313 P **P 16 40 27.1 +0.1**
CHGN Chignik 54.93 35 P **P 16 40 27.9 +0.3**
MAKZ Makanchi 55.03 313 P **P 16 40 29.0 +0.5**
MAKZ IAmb IAmb 16 40 30.4
comp=Z,6.7nm,0.6s
PRZ Przheval'sk 57.39 307 P **P 16 40 46.7 +1.3**
PRZ IAmb IAmb 16 40 48.0
comp=Z,7.9nm,0.8s
KURK Kurchatov 57.61 317 P **P 16 40 46.2 -0.2**
KURK IAmb IAmb 16 40 47.3
comp=Z,8.6nm,0.8s
TTA Tatalina 57.87 28 P **P 16 40 49.1 +1.0**
NRIK Noril'sk 58.17 340 P **P 16 40 50.2 +0.2**
comp=Z,2.9nm,0.5s,baz=116,slow=8.1,SNR=7.7
NRIK Noril'sk 58.17 340 P **P 16 40 49.5 -0.5**
NRIK IAmb IAmb 16 40 51.0
comp=Z,4.1nm,0.8s
J20K Nowinta River 59.01 27 P **P 16 40 57.8 +1.9**
J20K IAmb IAmb 16 41 06.5
comp=Z,9.4nm,1.4s
BOOM Boomskoye usch 59.21 307 P **P 16 40 57.9 +0.1**
BOOM IAmb IAmb 16 40 59.6
comp=Z,4.2nm,0.6s
KSH Kashi 59.33 304 P **P 16 41 01.8 +3.2**
KSH pmax pmax
comp=Z,4.0nm,0.7s
PPLA Purkeypile 59.55 29 P **P 16 41 00.8 +1.1**
PPLA IAmb IAmb 16 41 20.9
comp=Z,21nm,1.4s
BRLK Bradley Lake 59.57 32 P **P 16 40 59.8 0.0**
IMAR Indian Mountai 59.66 25 P **P 16 41 01.2 +1.0**
CAST Castle Rocks 59.72 28 P **P 16 41 01.8 +1.1**
CAST IAmb IAmb 16 41 02.9
comp=Z,4.6nm,0.8s
KTH Kantishna Hill 60.25 28 P **P 16 41 05.2 +0.8**
KTH IAmb IAmb 16 41 20.3
comp=Z,16nm,1.4s
O22K Cooper Landing 60.26 32 P **P 16 41 05.2 +0.9**
AAK Ala-Archa 60.27 308 P **P 16 41 05.7 +0.6**
RC01 Rabbit Creek A 60.35 31 P **P 16 41 05.6 +0.7**
RC01 IAmb IAmb 16 41 06.6
comp=Z,13nm,1.1s
A21K Barrow 60.39 19 P **P 16 41 06.2 +1.1**
PMR Palmer 60.72 30 P **P 16 41 07.8 +0.4**
PMR IAmb IAmb 16 41 27.5
comp=Z,14nm,1.3s
PWL Port Wells 60.99 31 P **P 16 41 09.4 +0.1**
KNK Knik Glacier 61.01 31 P **P 16 41 09.9 +0.4**
KNK IAmb IAmb 16 41 35.2
comp=Z,23nm,1.4s
SML Sawmill 61.12 30 P **P 16 41 10.7 +0.5**
RND Reindeer 61.14 28 P **P 16 41 11.1 +0.7**
MCK McKinley 61.16 28 P **P 16 41 10.9 +0.5**
MCK IAmb IAmb 16 41 27.3
comp=Z,7.3nm,1.5s
I23K Minto, Yukon-K 61.24 26 P **P 16 41 11.1 +0.3**
I23K IAmb IAmb 16 41 13.8
comp=Z,3.6nm,0.7s
SCM Sheep Creek Mo 61.60 30 P **P 16 41 14.2 +0.8**
SCM IAmb IAmb 16 41 15.1
comp=Z,17nm,1.1s
MDM Murphy Dome 61.67 27 P **P 16 41 14.1 +0.3**
CCB Clear Creek Bu 61.80 27 P **P 16 41 14.7 +0.1**
H24K Noodor Dome 61.97 26 P **P 16 41 17.0 +1.3**
NIL Nilore 62.12 298 P **P 16 41 17.0 -0.3**
NIL IAmb IAmb 16 41 19.1
comp=Z,16nm,1.4s
HDA Harding Lake 62.13 27 P **P 16 41 17.0 +0.2**
HDA IAmb IAmb 16 41 30.9
comp=Z,11nm,1.5s
M24K Tolsona, Glenn 62.17 30 P **P 16 41 18.0 +0.8**
IL31 62.21 27 P **P 16 41 16.9 -0.3**
ILAR Eielson Array 62.21 27 P **P 16 41 17.1 -0.3**
comp=Z,2.2nm,0.6s,baz=259,slow=5.6,SNR=33
ILAR Eielson Array 62.21 27 P **P 16 41 16.2 -1.1**
KLU Klutina 62.23 31 P **P 16 41 17.9 +0.3**
KLU IAmb IAmb 16 41 27.4
comp=Z,15nm,1.4s
PAX Paxson 62.60 29 P **P 16 41 20.8 +0.8**
PAX IAmb IAmb 16 41 31.2
comp=Z,14nm,1.5s
BMRM Bremner River 62.81 31 P **P 16 41 22.8 +1.4**
BMRM IAmb IAmb 16 41 39.5
comp=Z,26nm,1.4s
BRVK Borovoye 62.87 320 P **P 16 41 22.2 +0.4**
FYU Fort Yukon 63.15 25 P **P 16 41 24.3 +0.9**
FYU IAmb IAmb 16 41 26.1
comp=Z,4.1nm,0.8s
KKAR Karatay Array 63.16 308 P **P 16 41 24.5 +0.5**
SCRK Sand Creek 63.36 28 P **P 16 41 25.7 +0.6**
SCRK IAmb IAmb 16 41 29.8
comp=Z,4.2nm,1.2s
BMAR Burnt Mountain 63.52 24 P **P 16 41 27.9 +2.0**
L27K Beaver Creek, 64.26 29 P **P 16 41 31.6 +0.8**
L27K IAmb IAmb 16 41 35.0
comp=Z,5.5nm,1.4s
BCAR Beaver Creek A 64.28 29 P **P 16 41 31.8 +0.9**
CHGR Chuyangaron 64.69 304 P **P 16 41 34.4 +0.4**
CHGR IAmb IAmb 16 41 35.3
comp=Z,9.9nm,0.8s
DAWY Dawson 65.39 28 P **P 16 41 38.9 +0.9**
DAWY IAmb IAmb 16 42 03.4
comp=Z,6.4nm,1.4s
KBL Kabul 65.42 299 P **P 16 41 38.9 -0.1**
KBL IAmb IAmb 16 41 40.1
comp=Z,6.8nm,1.1s
EPYK Eagle Plains 66.54 26 P **P 16 41 46.4 +1.2**
EPYK IAmb IAmb 16 41 47.7
comp=Z,7.3nm,1.1s
M30M Minto, Yukon 66.56 30 P **P 16 41 45.3 -0.1**
M30M IAmb IAmb 16 41 47.9
comp=Z,5.2nm,1.2s
M31M Drury Creek, Y 67.70 30 P **P 16 41 53.7 +1.2**
INK Inuvik 67.74 24 P **P 16 41 52.8 +0.2**
comp=Z,1.8nm,0.6s,baz=318,slow=5.1,SNR=6.3
INK Inuvik 67.74 24 P **P 16 41 52.8 +0.2**
NNZ Nelson 68.42 156 P **P 16 41 57.1 +0.1**
ARU Arti 69.41 324 P **P 16 42 02.8 -0.3**
ABKAR Akbulak array 69.68 316 P **P 16 42 04.7 -0.1**
ABKAR Akbulak array 69.68 316 P **P 16 42 04.9 0.0**
ABKAR IAmb IAmb 16 42 05.7
comp=Z,8.0nm,0.7s
A36M Sachs Harbour 70.22 19 P **P 16 42 08.3 +0.7**
A36M IAmb IAmb 16 42 10.2
comp=Z,7.8nm,1.0s
C36M Paulatuk 71.04 22 P **P 16 42 12.9 +0.2**
EUNU Eureka 75.28 8 P **P 16 42 37.5 +0.2**
YKA Yellowknife Ar 76.62 28 P **P 16 42 45.6 +0.6**
comp=Z,4.6nm,0.6s,baz=291,slow=5.8,SNR=57
YKA Yellowknife Ar 76.62 28 P **P 16 42 44.9 -0.1**
RES Resolute Bay 77.26 13 P **P 16 42 48.7 +0.5**
comp=Z,2.0nm,0.7s,baz=320,slow=7.8,SNR=4.7
RES Resolute Bay 77.26 13 P **P 16 42 48.6 +0.4**
KEV Kevo 78.53 341 P **P 16 42 55.7 +0.4**
ARCES ARCESS Array B 79.10 342 P **P 16 42 59.4 +0.9**
comp=Z,3.2nm,0.4s,baz=76,slow=8.9,SNR=67
ARCES ARCESS Array B 79.10 342 P **P 16 42 58.8 +0.4**
PINE Pine Mountain 79.50 47 P **P 16 43 01.8 +0.5**
PINE IAmb IAmb 16 43 25.3
comp=Z,11nm,1.4s
NEW Newport 80.43 42 P **P 16 43 06.8 +0.8**
comp=Z,1.2nm,0.5s,baz=312,slow=22,SNR=3.7
KBZ Khabaz 82.49 314 P **P 16 43 17.1 +0.4**
comp=Z,3.5nm,0.8s,baz=126,slow=7.7,SNR=6.8
NVAR Mina Array Bea 83.27 51 P **P 16 43 22.3 +1.1**
comp=Z,0.7nm,0.7s,baz=287,slow=5.7,SNR=6.9
FINES FINESS Array B 83.35 334 P **P 16 43 20.1 -0.6**
comp=Z,6.9nm,0.6s,baz=65,slow=5.0,SNR=65
HRY Holter Researc 84.34 42 P **P 16 43 27.0 +0.8**
AKASG Malin Array Be 87.65 324 P **P 16 43 40.1 -1.9**
comp=Z,0.2nm,0.3s,baz=50,slow=5.2,SNR=6.0
HFS Hagfors 88.90 337 P **P 16 43 46.2 -1.4**
comp=Z,1.6nm,0.5s,baz=78,slow=3.4,SNR=2.4
NOA NORSAR Array B 89.12 339 P **P 16 43 47.5 -1.2**
comp=Z,0.4nm,0.7s,baz=45,slow=4.4,SNR=3.5
BRTR Keskin Array B 90.46 313 P **P 16 43 54.1 -1.5**
comp=Z,0.7nm,0.7s,baz=76,slow=4.3,SNR=2.8
LPAZ La Paz 149.96 85 PKPbc **PKiKP 16 50 44.8 +0.3**
comp=Z,1.1nm,0.5s,baz=211,slow=11,SNR=5.8

*IDC **24** 16:32:06.1±1.3, 59.°77N×153.°42W, h92km±15km, mb3.5/9, mb1 3.7/14, mb1mx3.4/62, mbtmp3.9/14, Error ellipse: s-maj=15.2km s-min=13.3km az=78.0*
*NEIC **24** 16:32:07.0±1.1, 59.°75N±0.°02×153.°11W±0.°07, h110km±4km, Error ellipse: s-maj=5.0km s-min=3.2km az=109.0*
*AEIC **24** 16:32:07±1.2, 59.°73N±0.°03×153.°13W±0.°06, h107km±4km, ML3.7, ML3.9/106(NEIC), Error ellipse: s-maj=5.0km s-min=4.6km az=153.0*
ISC 24 16:32:07.1±0.6, 59.°77N±0.°04×153.°08W±0.°03, h110km±5km, n244, σ0.°87/243, mb3.7/9, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.14**	**214**		**Pn**	**16 32 22.3**	**-0.1**
OPT	**Oil Point**	**0.14**	**214**	P	**Pn**	**16 32 22.3**	**-0.1**
baz=32							
O20K	**Slope Mountain**	**0.39**	**36**		**Pn**	**16 32 23.5**	**+0.1**
O20K					**Sn**	**16 32 35.9**	**+0.4**
O20K	**Slope Mountain**	**0.39**	**36**	P	**Pn**	**16 32 23.5**	**+0.1**
baz=216							
O20K				S	**Sn**	**16 32 35.9**	**+0.4**
baz=216							
AU22	**Augustine Moun**	**0.42**	**200**		**Pn**	**16 32 23.4**	**0.0**
AU22					**Sn**	**16 32 35.4**	**-0.3**
AUL	**Augustine Lava**	**0.43**	**205**		**Pn**	**16 32 23.5**	**0.0**
AUL					**Sn**	**16 32 35.6**	**-0.2**
AUQ	**Augustine Qik'**	**0.45**	**203**		**Pn**	**16 32 23.8**	**+0.1**
RED	**Redoubt Volcan**	**0.67**	**13**		**Pn**	**16 32 25.4**	**+0.1**
RED					**Sn**	**16 32 38.8**	**-0.2**
RSO	**Redoubt South**	**0.71**	**13**		**Pn**	**16 32 25.7**	**-0.1**
HOM	**Homer**	**0.73**	**98**		**Pn**	**16 32 26.2**	**+0.5**
HOM	**Homer**	**0.73**	**98**	IAML		16 32 41.9	
comp=N,8μm,0.8s							
HOM				IAML		16 32 43.6	
comp=E,6μm,0.5s							
HOM	**Homer**	**0.73**	**98**	P	**Pn**	**16 32 26.2**	**+0.5**
baz=277							
O19K	**Port Alsworth**	**0.76**	**305**		**Pn**	**16 32 25.5**	**-0.4**
O19K					**Sn**	**16 32 39.6**	**-0.4**
O19K	**Port Alsworth**	**0.76**	**305**	IAML		16 32 40.0	
comp=E,6μm,0.5s							
O19K				IAML		16 32 40.2	
comp=N,7μm,0.5s							
O19K	**Port Alsworth**	**0.76**	**305**	P	**Pn**	**16 32 25.5**	**-0.4**
baz=127							
O19K				S	**Sn**	**16 32 39.6**	**-0.4**
baz=127							
NCT	**North Crescent**	**0.80**	**5**		**Pn**	**16 32 26.7**	**+0.2**
NCT					**Sn**	**16 32 40.8**	**-0.2**
DFR	**Drift River**	**0.85**	**13**		**Pn**	**16 32 27.1**	**+0.2**
DFR					**Sn**	**16 32 41.9**	**+0.1**
Q19K	**Cape Douglas,**	**0.89**	**199**		**Pn**	**16 32 26.9**	**-0.3**
Q19K	**Cape Douglas,**	**0.89**	**199**	IAML		16 32 43.9	
comp=E,3μm,1.1s							
Q19K	**Cape Douglas,**	**0.89**	**199**	P	**Pn**	**16 32 26.9**	**-0.3**
baz=18							
CNPM	**China Poot**	**0.96**	**104**		**Pn**	**16 32 27.9**	**0.0**
CNPM					**Sn**	**16 32 43.4**	**-0.3**
CNPM	**China Poot**	**0.96**	**104**	IAML		16 32 44.0	
comp=N,5μm,0.5s							
CNPM				IAML		16 32 44.0	
comp=E,3μm,0.5s							
O18K	**Koktuh Hills**	**1.08**	**275**		**Pn**	**16 32 28.7**	**-0.4**
O18K					**Sn**	**16 32 44.7**	**-1.1**
O18K	**Koktuh Hills**	**1.08**	**275**	P	**Pn**	**16 32 28.7**	**-0.4**
baz=96							
O18K				S	**Sn**	**16 32 44.7**	**-1.1**
baz=96							
BRLK	**Bradley Lake**	**1.11**	**89**		**Pn**	**16 32 29.3**	**-0.1**
BRLK	**Bradley Lake**	**1.11**	**89**	IAML		16 32 46.5	
comp=N,2μm,0.5s							
P18K	**Big Mountain,**	**1.16**	**252**		**Pn**	**16 32 29.2**	**-0.8**
P18K					**Sn**	**16 32 45.6**	**-1.7**
P18K	**Big Mountain,**	**1.16**	**252**	P	**Pn**	**16 32 29.2**	**-0.8**
baz=71							
P18K				S	**Sn**	**16 32 45.6**	**-1.7**
baz=71							
BRSE	**Bradley Lake S**	**1.18**	**90**		**Pn**	**16 32 30.1**	**-0.1**
BRSE					**Sn**	**16 32 47.3**	**-0.4**
BRSE	**Bradley Lake S**	**1.18**	**90**	P	**Pn**	**16 32 30.1**	**-0.1**
baz=271							
BRSE				S	**Sn**	**16 32 47.3**	**-0.4**
baz=271							
N19K	**Bonanza Creek**	**1.26**	**327**		**Pn**	**16 32 31.3**	**+0.1**
N19K	**Bonanza Creek**	**1.26**	**327**	P	**Pn**	**16 32 31.3**	**+0.1**
baz=148							
CAPN	**Captain Cook N**	**1.39**	**43**		**Pn**	**16 32 34.6**	**+2.2**
CAPN	**Captain Cook N**	**1.39**	**43**	IAML		16 32 59.2	
comp=E,3μm,0.5s							
CAPN	**Captain Cook N**	**1.39**	**43**	P	**Pn**	**16 32 34.6**	**+2.2**
baz=224							
SPU	**Mount Spurr**	**1.50**	**19**		**Pn**	**16 32 34.1**	**+0.1**
SLKM	**Skilak Lake**	**1.61**	**61**		**Pn**	**16 32 35.7**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.61**	**18**		**Pn**	**16 32 36.0**	**+0.6**
KCG	**Knife Ck. Glac**	**1.80**	**217**		**Pn**	**16 32 37.5**	**-0.2**
SVW2	**Sparrevohn**	**1.82**	**318**		**Pn**	**16 32 37.6**	**-0.2**
O22K	**Cooper Landing**	**1.82**	**65**		**Pn**	**16 32 38.3**	**+0.5**
O22K	**Cooper Landing**	**1.82**	**65**	P	**Pn**	**16 32 38.3**	**+0.5**
baz=248							
SEW	**Seward**	**1.85**	**78**		**Pn**	**16 32 38.3**	**+0.1**
SEW	**Seward**	**1.85**	**78**	P	**Pn**	**16 32 38.3**	**+0.1**
baz=260							
KABU	**Katmai Buttres**	**1.89**	**218**		**Pn**	**16 32 38.8**	**+0.1**
FIS	**Fire Island**	**1.98**	**44**		**Pn**	**16 32 41.5**	**+1.8**
FIS	**Fire Island**	**1.98**	**44**	IAML		16 33 10.5	
comp=E,1μm,0.8s							
FIS				IAML		16 33 11.2	
comp=N,1μm,0.7s							
KDAK	**Kodiak Island**	**2.01**	**172**	P	**Pn**	**16 32 38.8**	**-1.4**
comp=N,85nm,0.3s,baz=33,slow=9.1,SNR=30							
KDAK				S	**Sn**	**16 33 04.0**	**-1.3**
comp=N,86nm,0.3s,baz=135,slow=23,SNR=23							
KDAK	**Kodiak Island**	**2.01**	**172**		**Pn**	**16 32 39.2**	**-0.9**
KDAK	**Kodiak Island**	**2.01**	**172**	IAML		16 33 06.0	
comp=N,704nm,0.5s							
KDAK				IAML		16 33 06.2	
comp=N,754nm,0.5s							
CAHL	**Cahill**	**2.07**	**215**		**Pn**	**16 32 41.3**	**+0.2**
RC01	**Rabbit Creek A**	**2.12**	**50**		**Pn**	**16 32 41.9**	**+0.4**
RC01	**Rabbit Creek A**	**2.12**	**50**	IAML		16 33 09.3	
comp=N,1μm,0.4s							
RC01				IAML		16 33 09.7	
comp=E,1μm,0.5s							
RC01	**Rabbit Creek A**	**2.12**	**50**	P	**Pn**	**16 32 41.9**	**+0.4**
baz=232							
OHAK	**Old Harbor**	**2.56**	**183**		**Pn**	**16 32 45.8**	**-1.4**
OHAK	**Old Harbor**	**2.56**	**183**	P	**Pn**	**16 32 45.8**	**-1.4**
baz=1.8							
L19K	**White Mountain**	**2.57**	**341**		**Pn**	**16 32 47.4**	**0.0**
L19K	**White Mountain**	**2.57**	**341**	P	**Pn**	**16 32 47.4**	**0.0**
baz=160							
PWL	**Port Wells**	**2.60**	**63**		**Pn**	**16 32 47.4**	**-0.4**
PWL	**Port Wells**	**2.60**	**63**	IAML		16 33 19.1	
comp=N,785nm,0.2s							
PWL	**Port Wells**	**2.60**	**63**	P	**Pn**	**16 32 47.4**	**-0.4**
baz=247							
PMR	**Palmer**	**2.67**	**45**		**Pn**	**16 32 48.3**	**-0.3**
PMR	**Palmer**	**2.67**	**45**	IAML		16 33 23.3	
comp=N,315nm,0.2s							
PMR				IAML		16 33 26.2	
comp=E,365nm,0.9s							
PMR	**Palmer**	**2.67**	**45**	P	**Pn**	**16 32 48.3**	**-0.3**
baz=228							
L20K	**Farewell, AK**	**2.75**	**352**		**Pn**	**16 32 50.2**	**+0.5**
L20K	**Farewell, AK**	**2.75**	**352**	P	**Pn**	**16 32 50.2**	**+0.5**
baz=172							
KNK	**Knik Glacier**	**2.81**	**52**		**Pn**	**16 32 50.3**	**-0.3**
KNK	**Knik Glacier**	**2.81**	**52**	P	**Pn**	**16 32 50.3**	**-0.3**
baz=236							
GHO	**Glory Hole Cre**	**2.86**	**44**		**Pn**	**16 32 51.1**	**-0.2**
GHO	**Glory Hole Cre**	**2.86**	**44**	IAML		16 33 28.1	
comp=N,588nm,0.7s							
GHO				IAML		16 33 31.6	
comp=E,617nm,0.7s							
CUT	**Chulitna**	**2.98**	**26**		**Pn**	**16 32 54.0**	**+1.3**
CUT	**Chulitna**	**2.98**	**26**	P	**Pn**	**16 32 54.0**	**+1.3**
baz=209							
SML	**Sawmill**	**3.10**	**47**		**Pn**	**16 32 54.1**	**-0.3**
SML	**Sawmill**	**3.10**	**47**	IAML		16 33 32.1	
comp=N,430nm,0.9s							
SML				IAML		16 33 38.4	
comp=E,424nm,0.7s							
SML	**Sawmill**	**3.10**	**47**	P	**Pn**	**16 32 54.1**	**-0.3**
baz=231							
PPLA	**Purkeypile**	**3.17**	**7**	Pn	**Pn**	**16 32 56.7**	**+1.4**
GLI	**Glacier Island**	**3.18**	**67**		**Pn**	**16 32 54.4**	**-1.0**
GLI	**Glacier Island**	**3.18**	**67**	P	**Pn**	**16 32 54.4**	**-1.0**
baz=252							
SII	**Sitkinak Islan**	**3.27**	**191**		**Pn**	**16 32 55.2**	**-1.5**
SII	**Sitkinak Islan**	**3.27**	**191**	IAML		16 33 44.4	
comp=E,517nm,0.7s							
SII	**Sitkinak Islan**	**3.27**	**191**	P	**Pn**	**16 32 55.2**	**-1.5**
baz=9.5							
FID	**Port Fidalgo**	**3.43**	**70**		**Pn**	**16 32 57.4**	**-1.4**
FID	**Port Fidalgo**	**3.43**	**70**	IAML		16 33 37.5	
comp=E,351nm,0.5s							
FID				IAML		16 33 40.2	
comp=N,439nm,0.6s							
Q23K	**Middleton Isla**	**3.44**	**93**		**Pn**	**16 32 58.7**	**-0.1**
Q23K	**Middleton Isla**	**3.44**	**93**	IAML		16 35 18.6	
comp=N,408nm,2.0s							
Q23K	**Middleton Isla**	**3.44**	**93**	P	**Pn**	**16 32 58.7**	**-0.1**
baz=278							
MID	**Middleton Isla**	**3.44**	**93**		**Pn**	**16 32 58.9**	**0.0**
MID	**Middleton Isla**	**3.44**	**93**	IAML		16 34 57.1	
comp=E,414nm,3.4s							
TT01	**Tatalina**	**3.45**	**337**		**Pn**	**16 32 59.0**	**0.0**
JPK	**Jack Peak**	**3.46**	**65**		**Pn**	**16 32 59.1**	**-0.1**
TTA	**Tatalina**	**3.47**	**337**		**Pn**	**16 32 59.1**	**-0.2**
TTA	**Tatalina**	**3.47**	**337**	P	**Pn**	**16 32 59.1**	**-0.2**
baz=155							
SCM	**Sheep Creek Mo**	**3.50**	**51**		**Pn**	**16 32 59.6**	**-0.1**
SCM	**Sheep Creek Mo**	**3.50**	**51**	IAML		16 33 42.3	
comp=E,420nm,0.8s							
SCM				IAML		16 33 44.3	
comp=N,421nm,0.9s							
SCM	**Sheep Creek Mo**	**3.50**	**51**	P	**Pn**	**16 32 59.6**	**-0.1**
baz=236							
K20K	**Telida**	**3.63**	**353**		**Pn**	**16 33 01.9**	**+0.4**
K20K	**Telida**	**3.63**	**353**	P	**Pn**	**16 33 01.9**	**+0.4**
baz=172							
CAST	**Castle Rocks**	**3.69**	**7**		**Pn**	**16 33 03.0**	**+0.7**
CAST	**Castle Rocks**	**3.69**	**7**	P	**Pn**	**16 33 02.9**	**+0.7**
baz=188							
EYAK	**Cordova Ski Ar**	**3.74**	**75**		**Pn**	**16 33 02.2**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.74**	**75**	P	**Pn**	**16 33 02.2**	**-0.7**
baz=261							
DIV	**Divide**	**3.87**	**66**		**Pn**	**16 33 04.5**	**-0.2**
KLU	**Klutina**	**3.92**	**61**		**Pn**	**16 33 04.8**	**-0.6**
KLU				IAML		16 33 52.8	
comp=E,221nm,0.5s							
KLU	**Klutina**	**3.92**	**61**	P	**Pn**	**16 33 05.0**	**-0.4**
baz=247							
TRF	**Thorofare Moun**	**3.93**	**19**		**Pn**	**16 33 05.6**	**+0.1**
TRF				IAML		16 33 53.8	
comp=N,151nm,0.6s							
TRF				IAML		16 34 16.6	
comp=E,109nm,0.7s							
TRF	**Thorofare Moun**	**3.93**	**19**	P	**Pn**	**16 33 06.2**	**+0.6**
baz=201							
KTH	**Kantishna Hill**	**3.93**	**14**		**Pn**	**16 33 05.5**	**0.0**
KTH				IAML		16 34 15.9	
comp=N,104nm,0.8s							
KTH				IAML		16 34 17.6	
comp=E,124nm,0.9s							
M24K	**Tolsona, Glenn**	**4.10**	**52**		**Pn**	**16 33 08.2**	**+0.4**
M24K	**Tolsona, Glenn**	**4.10**	**52**	P	**Pn**	**16 33 08.2**	**+0.4**
baz=238							
CHUM	**Lake Minchumin**	**4.14**	**5**		**Pn**	**16 33 09.2**	**+0.9**
CHUM	**Lake Minchumin**	**4.14**	**5**	P	**Pn**	**16 33 09.2**	**+0.9**
baz=186							
RND	**Reindeer**	**4.17**	**27**		**Pn**	**16 33 09.1**	**+0.4**
RND	**Reindeer**	**4.17**	**27**	IAML		16 33 58.0	
comp=N,77nm,0.5s							
RND				IAML		16 34 16.7	
comp=E,98nm,0.9s							
CHIR	**Chirikof Islan**	**4.19**	**200**		**Pn**	**16 33 07.3**	**-1.6**
CHIR	**Chirikof Islan**	**4.19**	**200**	IAML		16 33 53.4	
comp=E,204nm,1.0s							
CHIR				IAML		16 34 01.2	
comp=N,252nm,3.0s							
CHIR	**Chirikof Islan**	**4.19**	**200**	P	**Pn**	**16 33 07.3**	**-1.6**
baz=18							
KAIM	**Kayak Island**	**4.37**	**84**	Pn	**Pn**	**16 33 11.7**	**+0.4**
BMRM	**Bremner River**	**4.37**	**70**		**Pn**	**16 33 11.3**	**-0.1**
BMRM				IAML		16 34 03.8	
comp=E,121nm,0.4s							
BMRM				IAML		16 34 20.1	
comp=N,125nm,0.9s							
BMRM	**Bremner River**	**4.37**	**70**	P	**Pn**	**16 33 12.0**	**+0.6**
baz=257							
PS11	**TAPS Pump St11**	**4.37**	**55**		**Pn**	**16 33 12.3**	**+0.9**
MCK	**McKinley**	**4.44**	**25**		**Pn**	**16 33 12.9**	**+0.7**
MCK	**McKinley**	**4.44**	**25**	IAML		16 34 08.5	
comp=N,82nm,0.7s							
MCK	**McKinley**	**4.44**	**25**	P	**Pn**	**16 33 12.9**	**+0.7**
baz=208							
J20K	**Nowinta River**	**4.45**	**354**		**Pn**	**16

comp=E,106nm,0.3s
CHGN IAML 16 34 04.5
comp=N,78nm,0.5s
N25K Chitina, Valde 4.56 62 Pn 16 33 13.4 -0.5
N25K IAML 16 34 05.7
comp=N,82nm,0.6s
N25K IAML 16 34 06.7
comp=E,171nm,0.6s
N25K Chitina, Valde 4.56 62 P **Pn 16 33 14.5 +0.6**
baz=250
HARP HAARP 4.66 52 Pn 16 33 15.2 0.0
HARP HAARP 4.66 52 P **Pn 16 33 15.2 0.0**
baz=239
BWN Browne 4.74 20 Pn 16 33 16.7 +0.5
BWN IAML 16 34 44.0
comp=E,112nm,0.9s
BWN IAML 16 34 50.7
comp=N,137nm,1.0s
BERG Berg Lake 4.74 78 Pn 16 33 15.9 -0.3
BERG IAML 16 34 20.0
comp=N,140nm,1.2s
GLB Gilahina Butte 4.86 66 Pn 16 33 17.7 -0.3
GLB Gilahina Butte 4.86 66 IAML 16 34 14.6
comp=E,78nm,0.7s
PAX Paxson 4.87 45 Pn 16 33 18.3 +0.2
PAX Paxson 4.87 45 P **Pn 16 33 18.3 +0.2**
baz=232
GRIN Grindle Hills 4.92 80 Pn 16 33 18.5 -0.3
KHIT Khitrov Hills 4.96 78 Pn 16 33 19.5 +0.1
VRDI Verde Repeater 4.98 69 Pn 16 33 19.1 -0.6
VRDI IAML 16 34 16.8
comp=N,93nm,0.6s
VRDI IAML 16 34 17.5
comp=E,64nm,0.8s
PS10 TAPS Pump St10 5.06 40 Pn 16 33 21.4 +0.8
SNH Sunshine Point 5.16 81 Pn **Pn 16 33 22.6 +0.6**
WAX Waxell Ridge 5.16 78 Pn 16 33 22.0 0.0
NEA2 Nenana 5.19 19 Pn 16 33 22.2 -0.2
NEA2 Nenana 5.19 19 P **Pn 16 33 22.2 -0.2**
baz=203
WRH Wood River Hil 5.27 24 Pn 16 33 23.2 -0.2
WRH Wood River Hil 5.27 24 IAML 16 34 25.0
comp=E,41nm,0.7s
GCSA Galena City Sc 5.30 342 Pn 16 33 23.9 +0.1
GCSA Galena City Sc 5.30 342 P **Pn 16 33 23.9 +0.1**
baz=159
ISLE Juniper Island 5.42 77 Pn 16 33 25.5 -0.2
KIAG Kiagna River 5.45 73 Pn 16 33 26.2 +0.2
I21K Tanana 5.46 5 Pn 16 33 25.6 -0.3
BALM Baldy 5.47 72 Pn 16 33 26.2 0.0
HDA Harding Lake 5.47 29 Pn 16 33 25.8 -0.4
HDA Harding Lake 5.47 29 P **Pn 16 33 26.2 0.0**
baz=215
CCB Clear Creek Bu 5.48 24 Pn 16 33 26.0 -0.3
MENT Mentasta 5.51 51 Pn 16 33 26.9 +0.2
BAGL Bagley Icefiel 5.54 78 Pn 16 33 28.1 +1.0
M26K Nabesna, AK 5.56 57 Pn 16 33 27.7 +0.3
RIDG Independent Ri 5.58 41 Pn 16 33 28.4 +0.7
MESA MESA 5.60 81 Pn 16 33 28.7 +0.6
MESA MESA 5.60 81 P **Pn 16 33 28.7 +0.6**
baz=270
PS08 TAPS Pump Stn8 5.62 29 Pn 16 33 29.0 +0.9
I23K Minto, Yukon-K 5.67 16 Pn 16 33 28.9 +0.1
I23K Minto, Yukon-K 5.67 16 P **Pn 16 33 28.9 +0.1**
baz=200
TCOL CIGO, UAF Yank 5.67 23 Pn 16 33 29.0 +0.2
TCOL CIGO, UAF Yank 5.67 23 P **Pn 16 33 29.0 +0.2**
baz=208
COLA College 5.67 23 Pn 16 33 28.7 -0.2
MDM Murphy Dome 5.67 21 Pn 16 33 28.8 -0.1
L26K Log Cabin Wild 5.70 51 Pn 16 33 29.4 +0.1
L26K Log Cabin Wild 5.70 51 P **Pn 16 33 29.4 +0.1**
baz=239
YAH Yahtse 5.71 79 Pn 16 33 30.2 +0.6
DOT Dot Lake 5.79 44 Pn **Pn 16 33 31.2 +0.8**
IL31 5.79 27 Pn **Pn 16 33 29.9 -0.5**
ILAR Eielson Array 5.79 27 P **Pn 16 33 30.1 -0.3**
comp=E,4.0nm,0.3s,baz=215,slow=13,SNR=84
ILAR S **Sn 16 34 30.9 -4.6**
comp=E,3.5nm,0.3s,baz=223,slow=21,SNR=5.7
ILAR Eielson Array 5.79 27 Pn **Pn 16 33 29.7 -0.7**
BARN Barnard Glacie 5.80 72 Pn **Pn 16 33 31.6 +0.7**
H21K Melozitna Rive 5.91 1 Pn 16 33 32.0 -0.1
SDPT Sand Point 5.96 225 Pn **Pn 16 33 31.4 -1.3**
POKR Poker Plat Res 5.97 24 Pn 16 33 32.7 -0.2
POKR Poker Plat Res 5.97 24 P **Pn 16 33 33.2 +0.3**
baz=209
TABL Table Mountain 6.01 78 Pn 16 33 34.4 +0.8
SCRK Sand Creek 6.02 42 Pn **Pn 16 33 34.4 +0.7**
M27K Edge Creek, AK 6.02 60 Pn 16 33 34.6 +0.9
CNBA Chernabura Isl 6.09 218 Pn **Pn 16 33 32.9 -1.6**
IM03 6.25 357 Pn 16 33 37.4 +0.8
IMAR Indian Mountai 6.25 357 Pn **Pn 16 33 37.3 +0.6**
YUK2 White River 6.32 66 Pn 16 33 38.2 +0.4
L27K Beaver Creek, 6.33 54 Pn 16 33 39.0 +1.2
BCAR Beaver Creek A 6.34 54 Pn **Pn 16 33 38.0 0.0**
PCA Pinnacle 6.45 82 Pn 16 33 39.9 +0.3
PINM Pinnacle 6.46 82 P **Pn 16 33 39.9 +0.3**
baz=272
BVCY Beaver Creek 6.49 61 Pn 16 33 40.7 +0.8
BVCY Beaver Creek 6.49 61 P **Pn 16 33 40.7 +0.8**
baz=251
J26L Joseph Creek 6.51 39 Pn **Pn 16 33 40.9 +0.6**
H24K Noodor Dome 6.54 19 Pn 16 33 40.5 -0.1
PRP Porcupine Dome 6.73 28 Pn 16 33 43.6 +0.3
BCPM Bancas Point 6.77 83 Pn 16 33 44.1 +0.3
PNL Peninsula 6.92 85 Pn 16 33 45.9 +0.1
PNL Peninsula 6.92 85 P **Pn 16 33 45.9 +0.1**
baz=276
EGAK Eagle 7.49 43 Pn 16 33 54.0 +0.6
ANM Nome 7.49 315 Pn **Pn 16 33 53.8 +0.3**
COLD Coldfoot 7.60 8 Pn **Pn 16 33 55.1 +0.2**
FYU Fort Yukon 7.68 24 Pn 16 33 55.7 -0.3
DAWY Dawson 7.76 50 Pn 16 33 57.4 +0.3
DAWY Dawson 7.76 50 P **Pn 16 33 56.4 -0.7**
baz=242
M30M Minto, Yukon 8.35 63 Pn 16 34 05.1 -0.1
M30M Minto, Yukon 8.35 63 P **Pn 16 34 05.1 -0.1**
baz=258
BM03 Burnt Mountain 8.55 22 Pn 16 34 06.5 -1.3
BMAR Burnt Mountain 8.56 23 Pn **Pn 16 34 07.6 -0.4**
BM01 Burnt Mountain 8.59 23 Pn 16 34 07.0 -1.3
N31M Braeburn, Yuko 8.67 71 Pn 16 34 10.1 +0.5
I29M Ogilvie Camp, 8.81 44 Pn **Pn 16 34 12.3 +0.9**
TNA Tin City 8.95 317 Pn **Pn 16 34 12.9 -0.3**
SKAG Skagway 9.00 84 Pn **Pn 16 34 14.2 +0.3**
WHY Whitehorse 9.10 77 Pn **Pn 16 34 15.7 +0.3**
M31M Drury Creek, Y 9.39 67 Pn 16 34 20.1 +0.8
BESE Bessie Mountai 9.43 89 Pn **Pn 16 34 20.1 +0.3**
SIT Sitka 9.70 99 Pn **Pn 16 34 23.1 -0.3**
JIS Juneau Island 9.75 91 Pn 16 34 24.9 +0.8
EPYK Eagle Plains 9.91 41 Pn **Pn 16 34 27.0 +0.7**
P33M Teslin, Yukon 10.15 79 Pn **Pn 16 34 29.8 +0.2**
DLBC Dease Lake 11.91 86 P **Pn 16 34 54.5 +1.3**
comp=E,1.7nm,0.3s,baz=233,slow=12,SNR=31
DLBC S **Sn 16 37 02.3 -1.7**
comp=E,0.3nm,0.3s,baz=223,slow=19,SNR=2.1
DLBC Dease Lake 11.91 86 Pn 16 34 54.1 +0.9
INK Inuvik 12.05 37 P **Pn 16 34 54.4 -0.4**
comp=E,0.1nm,0.3s,baz=234,slow=13,SNR=4.4
INK S **Sn 16 37 04.8 -2.2**
comp=E,0.1nm,0.3s,baz=148,slow=13,SNR=1.9
INK Inuvik 12.05 37 Pn 16 34 55.1 +0.3
MOBC Moresby Island 13.38 110 P **Pn 16 35 15.4 +2.9**
ADK Adak 15.37 250 P **P 16 35 39.3 -0.6**
KIWB Kanaga Island 15.61 250 P **P 16 35 42.8 +0.2**
A36M Sachs Harbour 16.48 31 Pn Pn 16 35 51.0 -0.3
YKA Yellowknife Ar 18.58 65 P **Pn 16 36 16.9 +0.1**
comp=E,0.2nm,0.3s,baz=277,slow=9.9,SNR=25
YKA S **S 16 39 36.3 -4.8**
comp=E,0.1nm,0.3s,baz=30,slow=30,SNR=6.6
YKA ScP **ScP 16 44 05.1 +0.8**
comp=E,0.0nm,0.3s,baz=284,slow=2.5,SNR=5.2
YKA Yellowknife Ar 18.58 65 P **P 16 36 15.3 +0.1**
SEY Seymchan 25.68 301 P **P 16 37 26.4 +0.1**
comp=E,0.5nm,0.5s,baz=71,slow=24,SNR=4.6
PETK Petropavlovsk- 27.45 279 P **P 16 37 40.0 -2.4**
comp=E,3.6nm,0.8s,baz=74,slow=11,SNR=18
PETK Petropavlovsk- 27.45 278 P **P 16 37 40.0 +1.1**
NVAR Mina Array Bea 30.64 119 P **P 16 38 14.3 +3.2**
comp=E,0.4nm,0.6s,baz=312,slow=6.8,SNR=3.3
TXAR Lajitas Array 44.94 110 P **P 16 40 13.4 +2.5**
comp=E,0.1nm,0.4s,baz=303,slow=7.1,SNR=2.1
KSRS Korea Array 53.19 283 P **P 16 41 14.2 +0.5**
comp=E,2.7nm,0.5s,baz=38,slow=7.2,SNR=16
SONM Songino Array 54.90 306 P **P 16 41 27.1 +1.1**
comp=E,2.5nm,0.7s,baz=43,slow=7.1,SNR=17
ZALV Zalesovo Beam 57.54 324 P **P 16 41 44.5 0.0**
comp=E,2.1nm,0.4s,baz=32,slow=7.4,SNR=7.6
MKAR Makanchi Array 64.59 321 P **P 16 42 31.7 -0.6**
comp=E,0.3nm,0.5s,baz=41,slow=7.6,SNR=2.3
CMAR Chiang Mai Arr 82.93 295 P **P 16 44 19.0 -0.6**
comp=E,0.7nm,0.6s,baz=10,slow=5.5,SNR=7.8

*NEIC **24** 16:43:45.9±0.9, 59°.69N±0°.04×153°.36W±0°.08, h116km±4km, Error ellipse: s-maj=5.8km s-min=4.9km az=113.0*
AEIC 24 16:43:46±1.2, 59°.65N±0°.03×153°.31W±0°.08, h112km±4km, ML2.9, ML3.3/90(NEIC), Error ellipse: s-maj=5.8km s-min=4.7km az=110.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.04**	**91**		Pn	16 44 01.6	+0.2
AUL	**Augustine Lava**	**0.28**	**193**		Pn	16 44 02.5	+0.6
AUL					Sn	16 44 14.7	+0.8
AU22	**Augustine Moun**	**0.28**	**185**		Pn	16 44 02.3	+0.4
AUH	**Augustine H**	**0.30**	**193**		Pn	16 44 03.0	+0.9
AUQ	**Augustine Qik'**	**0.30**	**190**		Pn	16 44 02.5	+0.4
O20K	**Slope Mountain**	**0.55**	**39**		Pn	16 44 03.9	+0.4
O20K					Sn	16 44 17.1	+0.4
O19K	**Port Alsworth**	**0.74**	**317**		Pn	16 44 04.8	0.0
O19K					Sn	16 44 18.7	-0.5
Q19K	**Cape Douglas,**	**0.75**	**193**		Pn	16 44 05.5	+0.5
Q19K					Sn	16 44 19.8	+0.5
RED	**Redoubt Volcan**	**0.81**	**19**		Pn	16 44 05.7	0.0
RED					Sn	16 44 20.4	-0.1
HOM	**Homer**	**0.85**	**89**		Pn	16 44 06.5	+0.7
HOM					Sn	16 44 22.4	+1.6
RSO	**Redoubt South**	**0.86**	**19**	Pn	Pn	16 44 06.1	-0.1
NCT	**North Crescent**	**0.93**	**12**		Pn	16 44 06.8	0.0
NCT					Sn	16 44 22.4	0.0
O18K	**Koktuh Hills**	**0.98**	**283**		Pn	16 44 07.0	-0.2
DFR	**Drift River**	**0.99**	**18**		Pn	16 44 07.6	+0.2
P18K	**Big Mountain,**	**1.01**	**256**	Pn	Pn	16 44 07.5	0.0
CNPM	**China Poot**	**1.06**	**96**		Pn	16 44 08.2	+0.1
BRLK	**Bradley Lake**	**1.23**	**84**		Pn	16 44 09.8	-0.1
N19K	**Bonanza Creek**	**1.30**	**334**		Pn	16 44 10.5	-0.2
BRSE	**Bradley Lake S**	**1.31**	**85**		Pn	16 44 10.5	-0.1
KCG	**Knife Ck. Glac**	**1.64**	**215**		Pn	16 44 15.2	+0.6
SPU	**Mount Spurr**	**1.66**	**22**	Pn	Pn	16 44 14.8	0.0
KELA	**Mount Kelaz**	**1.75**	**227**		Pn	16 44 16.4	+0.5
SPCG	**Spurr Capps Gl**	**1.76**	**21**		Pn	16 44 17.3	+1.1
SLKM	**Skilak Lake**	**1.77**	**60**		Pn	16 44 16.4	+0.2
KDAK	**Kodiak Island**	**1.91**	**168**		Pn	16 44 17.6	-0.4
O22K	**Cooper Landing**	**1.98**	**64**		Pn	16 44 19.0	+0.2
STLK	**Strandline Lak**	**1.99**	**21**		Pn	16 44 19.5	+0.6
SEW	**Seward**	**2.00**	**75**		Pn	16 44 18.9	-0.1
RC01	**Rabbit Creek A**	**2.29**	**49**		Pn	16 44 22.6	0.0
RC01				IAML		16 44 50.9	
	comp=N,236nm,0.4s						
RC01				IAML		16 44 56.3	
	comp=E,206nm,0.3s						
OHAK	**Old Harbor**	**2.44**	**180**		Pn	16 44 23.8	-0.8
L19K	**White Mountain**	**2.65**	**344**		Pn	16 44 27.0	-0.4
PWL	**Port Wells**	**2.76**	**62**		Pn	16 44 28.1	-0.8
PWL	**Port Wells**	**2.76**	**62**	IAML		16 45 05.5	
	comp=E,154nm,0.5s						
PWL				IAML		16 45 09.1	
	comp=N,160nm,0.5s						
PMR	**Palmer**	**2.83**	**45**		Pn	16 44 29.5	-0.2
L20K	**Farewell, AK**	**2.85**	**355**		Pn	16 44 29.9	-0.1
KNK	**Knik Glacier**	**2.98**	**52**		Pn	16 44 31.5	-0.2
KNK	**Knik Glacier**	**2.98**	**52**	IAML		16 45 11.7	
	comp=E,144nm,0.5s						
GHO	**Glory Hole Cre**	**3.03**	**44**		Pn	16 44 31.9	-0.5
CUT	**Chulitna**	**3.13**	**27**		Pn	16 44 34.2	+0.5
SII	**Sitkinak Islan**	**3.14**	**189**	Pn	Pn	16 44 33.3	-0.6
SML	**Sawmill**	**3.26**	**46**	Pn	Pn	16 44 34.8	-0.7
SML				IAML		16 45 13.2	
	comp=N,44nm,0.5s						
SML				IAML		16 45 17.6	
	comp=E,54nm,0.8s						
PPLA	**Purkeypile**	**3.30**	**9**		Pn	16 44 36.9	+0.8
GLI	**Glacier Island**	**3.33**	**66**	Pn	Pn	16 44 35.2	-1.1
GLI				IAML		16 45 13.7	
	comp=E,85nm,0.4s						
GLI				IAML		16 45 16.5	
	comp=N,79nm,1.3s						
TT01	**Tatalina**	**3.52**	**339**		Pn	16 44 38.4	-0.4
TTA	**Tatalina**	**3.54**	**340**	Pn	Pn	16 44 38.4	-0.8
FID	**Port Fidalgo**	**3.58**	**69**		Pn	16 44 38.1	-1.7
FID	**Port Fidalgo**	**3.58**	**69**	IAML		16 45 26.6	
	comp=N,71nm,0.9s						
SCM	**Sheep Creek Mo**	**3.66**	**51**		Pn	16 44 40.5	-0.3
SCM	**Sheep Creek Mo**	**3.66**	**51**	IAML		16 45 21.8	
	comp=E,53nm,1.5s						
SCM				IAML		16 45 22.9	
	comp=N,54nm,2.2s						
K20K	**Telida**	**3.73**	**355**		Pn	16 44 41.6	-0.1
CAST	**Castle Rocks**	**3.83**	**8**		Pn	16 44 43.2	+0.3
EYAK	**Cordova Ski Ar**	**3.89**	**73**	Pn	Pn	16 44 43.6	-0.2
DIV	**Divide**	**4.02**	**65**		Pn	16 44 45.0	-0.7
TRF	**Thorofare Moun**	**4.08**	**19**	Pn	Pn	16 44 46.0	-0.4
TRF				IAML		16 46 13.2	
	comp=N,30nm,3.6s						
TRF				IAML		16 47 24.3	
	comp=E,37nm,3.6s						
KTH	**Kantishna Hill**	**4.08**	**15**		Pn	16 44 45.8	-0.5
KTH	**Kantishna Hill**	**4.08**	**15**	IAML		16 45 35.1	
	comp=N,19nm,2.4s						
KTH				IAML		16 45 57.6	
	comp=E,21nm,4.5s						
KLU	**Klutina**	**4.09**	**60**		Pn	16 44 45.6	-0.9
KLU	**Klutina**	**4.09**	**60**	IAML		16 45 39.5	
	comp=E,52nm,0.4s						
M24K	**Tolsona, Glenn**	**4.27**	**52**		Pn	16 44 49.0	+0.1
CHUM	**Lake Minchumin**	**4.27**	**6**		Pn	16 44 49.5	+0.7
CHGN	**Chignik**	**4.32**	**221**	Pn	Pn	16 44 49.9	+0.3
CHGN				IAML		16 45 27.0	
	comp=E,38nm,3.2s						
RND	**Reindeer**	**4.33**	**28**		Pn	16 44 49.5	-0.2
RND	**Reindeer**	**4.33**	**28**	IAML		16 46 46.1	
	comp=N,26nm,5.0s						
RND				IAML		16 47 06.9	
	comp=E,24nm,4.7s						
GOAT	**Goat Mountain**	**4.39**	**74**		Pn	16 44 50.6	0.0
BMRM	**Bremner River**	**4.53**	**69**		Pn	16 44 51.9	-0.5
J20K	**Nowinta River**	**4.56**	**355**		Pn	16 44 52.5	-0.2
J20K				IAML		16 46 16.6	
	comp=N,17nm,4.8s						
J20K				IAML		16 46 31.3	
	comp=E,14nm,4.6s						
MCK	**McKinley**	**4.59**	**25**		Pn	16 44 53.1	-0.2
MCK				IAML		16 45 49.8	
	comp=N,25nm,3.8s						
MCK				IAML		16 45 55.0	
	comp=E,26nm,3.8s						
BPAW	**Bear Paw Mtn.**	**4.60**	**13**	Pn	Pn	16 44 52.9	-0.4
BPAW				IAML		16 45 32.6	
	comp=N,21nm,4.5s						
BPAW				IAML		16 46 32.2	
	comp=E,18nm,3.5s						
HMT	**Hamilton**	**4.60**	**78**	Pn	Pn	16 44 53.0	-0.3
N25K	**Chitina, Valde**	**4.72**	**62**		Pn	16 44 55.2	+0.3
N25K	**Chitina, Valde**	**4.72**	**62**	IAML		16 45 41.1	
	comp=N,34nm,4.5s						
N25K				IAML		16 45 55.0	
	comp=E,28nm,0.6s						
NICHA	**Nichawak Mount**	**4.74**	**79**		Pn	16 44 55.2	0.0
BERG	**Berg Lake**	**4.88**	**77**	Pn	Pn	16 44 56.9	-0.2
BWN	**Browne**	**4.88**	**20**	Pn	Pn	16 44 57.2	+0.1
GLB	**Gilahina Butte**	**5.02**	**65**		Pn	16 44 58.3	-0.8
GLB				IAML		16 46 10.5	
	comp=E,32nm,4.1s						
PAX	**Paxson**	**5.03**	**45**	Pn	Pn	16 44 58.7	-0.5
VRDI	**Verde Repeater**	**5.13**	**68**		Pn	16 45 00.8	+0.2
VRDI	**Verde Repeater**	**5.13**	**68**	IAML		16 48 28.5	
	comp=E,27nm,4.4s						
SNH	**Sunshine Point**	**5.30**	**80**	Pn	Pn	16 45 03.0	+0.2
WAX	**Waxell Ridge**	**5.30**	**77**	Pn	Pn	16 45 02.9	0.0
NEA2	**Nenana**	**5.34**	**20**	Pn	Pn	16 45 02.5	-0.8
NEA2				IAML		16 48 12.9	
	comp=E,20nm,4.1s						
NEA2				IAML		16 48 23.9	
	comp=N,15nm,4.7s						
WRH	**Wood River Hil**	**5.42**	**25**		Pn	16 45 03.7	-0.7
ISLE	**Juniper Island**	**5.57**	**75**	Pn	Pn	16 45 06.3	-0.2
I21K	**Tanana**	**5.58**	**6**	Pn	Pn	16 45 06.7	+0.2
KIAG	**Kiagna River**	**5.60**	**72**		Pn	16 45 06.7	-0.3
BALM	**Baldy**	**5.62**	**71**		Pn	16 45 06.7	-0.5
HDA	**Harding Lake**	**5.63**	**29**		Pn	16 45 06.2	-1.0
CCB	**Clear Creek Bu**	**5.63**	**25**		Pn	16 45 06.2	-1.1
M26K	**Nabesna, AK**	**5.72**	**57**	Pn	Pn	16 45 08.7	+0.2
MESA	**MESA**	**5.74**	**80**	Pn	Pn	16 45 09.3	+0.4
RIDG	**Independent Ri**	**5.75**	**41**	Pn	Pn	16 45 09.2	+0.4
I23K	**Minto, Yukon-K**	**5.81**	**17**		Pn	16 45 09.6	-0.1
TCOL	**CIGO, UAF Yank**	**5.82**	**24**		Pn	16 45 09.1	-0.6
COLA	**College**	**5.83**	**24**		Pn	16 45 09.0	-0.7
MDM	**Murphy Dome**	**5.83**	**22**		Pn	16 45 09.0	-0.9
YAH	**Yahtse**	**5.85**	**78**	Pn	Pn	16 45 10.8	+0.5
IL31		**5.95**	**28**		Pn	16 45 10.7	-0.8
ILAR	**Eielson Array**	**5.95**	**28**	Pn	Pn	16 45 10.5	-1.0
BARN	**Barnard Glacie**	**5.95**	**71**		Pn	16 45 12.3	+0.5
H21K	**Melozitna Rive**	**6.03**	**2**		Pn	16 45 12.5	-0.1
POKR	**Poker Plat Res**	**6.12**	**24**	Pn	Pn	16 45 13.6	-0.3
TABL	**Table Mountain**	**6.15**	**77**	Pn	Pn	16 45 15.0	+0.5
M27K	**Edge Creek, AK**	**6.18**	**59**	Pn	Pn	16 45 15.7	+0.8
SCRK	**Sand Creek**	**6.19**	**42**	Pn	Pn	16 45 14.2	-0.7
IM03		**6.36**	**358**		Pn	16 45 17.4	+0.5
IMAR	**Indian Mountai**	**6.36**	**358**	Pn	Pn	16 45 17.0	0.0
YUK2	**White River**	**6.48**	**65**		Pn	16 45 19.2	+0.4
L27K	**Beaver Creek,**	**6.49**	**53**	Pn	Pn	16 45 19.7	+0.8
BCAR	**Beaver Creek A**	**6.51**	**53**	Pn	Pn	16 45 19.4	+0.3
PCA	**Pinnacle**	**6.59**	**81**	Pn	Pn	16 45 20.4	+0.2
BVCY	**Beaver Creek**	**6.65**	**60**		Pn	16 45 21.7	+0.7
YUK3	**Moose Creek**	**6.66**	**66**		Pn	16 45 21.6	+0.3
J26L	**Joseph Creek**	**6.67**	**39**	Pn	Pn	16 45 20.8	-0.6
H24K	**Noodor Dome**	**6.69**	**20**	Pn	Pn	16 45 20.9	-0.7
EGAK	**Eagle**	**7.65**	**43**	Pn	Pn	16 45 34.5	0.0
FYU	**Fort Yukon**	**7.84**	**24**	Pn	Pn	16 45 36.4	-0.7
DAWY	**Dawson**	**7.92**	**50**	Pn	Pn	16 45 38.0	-0.2
M30M	**Minto, Yukon**	**8.51**	**63**	Pn	Pn	16 45 46.2	0.0
BM03	**Burnt Mountain**	**8.70**	**23**		Pn	16 45 48.0	-0.7
BMAR	**Burnt Mountain**	**8.71**	**23**	Pn	Pn	16 45 47.3	-1.7
N31M	**Braeburn, Yuko**	**8.82**	**70**	Pn	Pn	16 45 50.7	+0.2
M31M	**Drury Creek, Y**	**9.55**	**66**	Pn	Pn	16 46 00.6	+0.3
P33M	**Teslin, Yukon**	**10.29**	**78**	Pn	Pn	16 46 11.2	+0.8
A36M	**Sachs Harbour**	**16.64**	**31**	P	P	16 47 32.4	-0.1

*KRSC **24** 16:45:24.3±2.8, 48°.28N×154°.14E, h175km±48km, ML4.1*
*MOS **24** 16:45:26.2±0.8, 48°.34N×153°.91E, h194km, mb3.7/1, Error ellipse: s-maj=17.2km s-min=5.7km az=62.8*
*SKHL **24** 16:45:27.7±0.7, 48°.40N×153°.70E, h148km±1km, mb4.8/6, msha5.2/4*
*IDC **24** 16:45:29.8±2.1, 48°.72N×153°.31E, h169km±20km, mb3.2/15, mb1 3.4/20, mb1mx3.2/60, mbtmp3.7/20, Error ellipse: s-maj=20.7km s-min=10.9km az=147.0*
ISC 24 16:45:26.6±0.7, 48°.4N±0°.1×153°.66E±0°.10, h150km, n78, σ2S21/96, mb3.5/15, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.76**	**35**	PN	**Pn**	**16 46 12.7**	**+1.8**
SKR				S	**Sn**	**16 46 45.8**	**+0.7**
SKR	**Severo-Kuril's**	**2.76**	**35**	*e*P	**Pn**	**16 46 12.6**	**+1.7**
SKR				*e*S	**Sn**	**16 46 45.9**	**+0.8**
SKR	**Severo-Kuril's**	**2.76**	**35**	*e*P	**Pn**	**16 46 12.7**	**+1.8**
SKR				AMB	AMB	16 46 12.9	
	20nm,0.3s						
SKR				*e*S	**Sn**	**16 46 45.7**	**+0.7**
SKR				A	A	16 46 50.6	
	70nm,0.4s						
SKR				A	A	16 46 50.6	
	60nm,0.4s						
PAU	**Pauzhetka**	**3.65**	**33**	PN	**Pn**	**16 46 23.3**	**+1.0**
PAU				S	**Sn**	**16 47 05.0**	**-0.5**
PAU	**Pauzhetka**	**3.65**	**33**	*e*P	**Pn**	**16 46 23.3**	**+1.0**
PAU				*e*S	**Sn**	**16 47 04.9**	**-0.5**
PAU	**Pauzhetka**	**3.65**	**33**	*e*P	**Pn**	**16 46 23.2**	**+1.0**
PAU				AMB	AMB	16 46 24.2	
	70nm,0.5s						
PAU				*e*S	**Sn**	**16 47 05.0**	**-0.5**
PAU				A	A	16 47 06.3	
	90nm,0.3s						
PAU				A	A	16 47 06.3	
	130nm,0.3s						
KDTR	**Khodutka, Kamc**	**4.41**	**38**	PN	**Pn**	**16 46 32.1**	**-0.1**
KDTR				S	**Sn**	**16 47 19.6**	**-3.6**
KDTR	**Khodutka, Kamc**	**4.41**	**38**	*e*P	**Pn**	**16 46 31.8**	**-0.4**
KDTR				*e*S	**Sn**	**16 47 19.2**	**-4.0**
MTVR	**Mutnovka**	**4.97**	**34**	PN	**Pn**	**16 46 41.4**	**+1.7**
MTVR				S	**Sn**	**16 47 34.7**	**-2.1**
MTVR	**Mutnovka**	**4.97**	**34**	*e*P	**Pn**	**16 46 40.8**	**+1.1**
MTVR				*e*S	**Sn**	**16 47 34.1**	**-2.7**
GRL	**Gorelyy**	**4.99**	**33**	PN	**Pn**	**16 46 41.3**	**+1.4**
GRL	**Gorelyy**	**4.99**	**33**	*e*P	**Pn**	**16 46 41.3**	**+1.4**
APC	**Apacha**	**5.01**	**25**	P	**Pn**	**16 46 41.6**	**+1.5**
RUS	**Russkaya**	**5.06**	**36**	PN	**Pn**	**16 46 40.6**	**-0.1**
RUS				S	**Sn**	**16 47 34.2**	**-4.3**
RUS	**Russkaya**	**5.06**	**36**	*e*P	**Pn**	**16 46 40.6**	**-0.1**
RUS				*e*S	**Sn**	**16 47 34.1**	**-4.4**
KUR	**Kuril'sk**	**5.11**	**233**	*e*P	**Pn**	**16 46 42.5**	**+1.1**
KUR				AMB	AMB	16 46 46.4	
	20nm,0.4s						
KUR				*e*S	**Sn**	**16 47 38.7**	**-1.0**
KUR				A	A	16 47 44.0	
	30nm,0.5s						
KUR				A	A	16 47 44.0	
	20nm,0.5s						
KRMR	**Karymshinskiy**	**5.24**	**31**	PN	**Pn**	**16 46 44.0**	**+0.9**
KRMR	**Karymshinskiy**	**5.24**	**31**	P	**Pn**	**16 46 43.9**	**+0.9**
PETK	**Petropavlovsk-**	**5.33**	**27**	P	**Pn**	**16 46 45.4**	**+1.0**
	0.5nm,0.3s,baz=209,slow=15,SNR=20						
PETK				S	**Sn**	**16 47 53.5**	**+8.4**
	0.1nm,0.3s,baz=238,slow=46,SNR=1.8						
PET	**Petropavlovsk**	**5.58**	**33**	*e*P	**Pn**	**16 46 48.7**	**+1.1**
PET				*e*S	**Sn**	**16 47 50.0**	**-0.9**
DALK	**Dalny**	**5.62**	**33**	PN	**Pn**	**16 46 47.6**	**-0.5**
DALK	**Dalny**	**5.62**	**33**	*e*P	**Pn**	**16 46 48.2**	**+0.1**
DALK				*e*S	**Sn**	**16 47 47.9**	**-4.0**
UGLR	**U

GRPR	Tuman	7.05	234	eP	Pn	16 47 09.6 +2.3
GRPR				AMB	AMB	16 47 09.9
	comp=Z,70nm,0.3s					
RUSJ	Misakicho	7.26	236	ePN	Pn	16 47 12.3 +2.2
GLVR	Golovnino	7.35	233	ePN	Pn	16 47 12.7 +1.4
GLVR				S	Sn	16 48 30.5 -3.0
GLVR	Golovnino	7.35	233	eP	Pn	16 47 12.7 +1.4
NMR	Nemuro--Hokkai	7.50	230	ePN	Pn	16 47 12.3 -1.0
NMR	Nemuro--Hokkai	7.50	230	eP	Pn	16 47 12.4 -0.9
NMR				eS	Sn	16 48 33.3 -3.7
TUMR	Tumrok	7.94	28	PN	Pn	16 47 20.5 +1.3
TUMD	Tumrok D	7.96	29	P	Pn	16 47 20.3 +1.0
TUMD				eS	Sn	16 48 44.7 -3.1
AKK	Akkeshi	8.21	232	eP	Pn	16 47 22.9 +0.2
AKK				eS	Sn	16 48 49.7 -4.4
JKA	Kamikawa-asahi	8.79	245	eP	Pn	16 47 33.1 +2.6
ASAJ	Asahikawa	8.79	245	P	Pn	16 47 33.0 +2.5
	comp=Z,1.0nm,0.3s,baz=101,slow=13,SNR=3.7					
KBTR	Krutoberegovo	9.58	32	P	Pn	16 47 40.3 -0.6
KLR	Kul'dur	14.45	281	P	Pn	16 48 44.1 +0.2
	comp=Z,0.1nm,0.3s,baz=86,slow=16,SNR=3.9					
USRK	Ussuriysk Ar.	15.55	262	P	Pn	16 48 58.5 +0.9
	baz=62,slow=8.6,SNR=8.2					
MJAR	Matsushiro Arr	16.43	229	P	Pn	16 49 09.3 +0.8
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=5.4					
KSRS	Korea Array	21.70	249	P	P	16 50 06.4 +0.8
	comp=Z,1.7nm,0.8s,baz=47,slow=9.7,SNR=2.5					
H11N2	WAKE ISLAND Hy	30.57	155	T	T	17 23 41.5
	baz=343,slow=74					
H11N1	WAKE ISLAND Hy	30.59	155	T	T	17 23 40.5
	baz=343,slow=74					
H11N3	WAKE ISLAND Hy	30.59	155	T	T	17 23 49.3
	baz=343					
SONM	Songino Array	31.16	287	P	P	16 51 28.8 -2.5
	comp=Z,0.2nm,0.5s,baz=87,slow=7.8,SNR=2.3					
H11S1	WAKE ISLAND Hy	31.68	156	T	T	17 25 13.6
	baz=344,slow=76					
H11S3	WAKE ISLAND Hy	31.69	156	T	T	17 25 13.6
	baz=344,slow=76					
H11S2	WAKE ISLAND Hy	31.70	156	T	T	17 25 11.0
	baz=344,slow=76					
ILAR	Eielson Array	35.01	40	P	P	16 52 04.7 +0.4
	comp=Z,0.3nm,0.4s,baz=257,slow=4.8,SNR=18					
INK	Inuvik	40.03	34	P	P	16 52 47.3 +0.9
	comp=Z,0.7nm,0.5s,baz=308,slow=5.5,SNR=6.1					
MKAR	Makanchi Array	46.51	296	P	P	16 53 37.6 -1.1
	comp=Z,0.5nm,0.6s,baz=66,slow=7.7,SNR=6.8					
YKA	Yellowknife Ar	49.35	38	P	P	16 54 01.4 +1.2
	comp=Z,0.6nm,0.5s,baz=298,slow=7.0,SNR=12					
CMAR	Chiang Mai Arr	53.14	256	P	P	16 54 30.2 +1.3
	comp=Z,0.4nm,0.7s,baz=31,slow=7.4,SNR=2.6					
NVAR	Mina Array Bea	61.34	63	P	P	16 55 28.6 +2.0
	comp=Z,0.4nm,0.7s,baz=291,slow=8.3,SNR=3.9					
FINES	FINESS Array B	62.67	335	P	P	16 55 33.0 -1.7
	comp=Z,2.2nm,1.0s,baz=46,slow=8.2,SNR=8.6					
PDAR	Pinedale Array	63.46	55	P	P	16 55 41.9 +1.3
	comp=Z,0.5nm,0.8s,baz=298,slow=1.9,SNR=3.3					
HFS	Hagfors	67.00	340	P	P	16 56 01.4 -1.4
	comp=Z,0.4nm,0.4s,baz=69,slow=7.9,SNR=7.0					
SCHQ	Schefferville	71.61	23	P	P	16 56 31.2 0.0
	comp=Z,0.7nm,0.4s,baz=335,slow=4.8,SNR=5.9					
ASAR	Alice Springs	73.93	199	P	P	16 56 47.0 +1.8
	comp=Z,0.3nm,0.5s,baz=6.8,slow=5.4,SNR=10					
ASAR	Alice Springs	73.93	199	P	P	16 56 47.0 +1.8
EKA	Eskdalemuir Ar	74.78	347	P	P	16 56 49.0 -0.8
	comp=Z,0.5nm,0.4s,baz=25,slow=5.6,SNR=4.5					
TXAR	Lajitas Array	76.35	61	P	P	16 57 00.7 +1.4
	comp=Z,0.3nm,0.4s,baz=298,slow=5.2,SNR=11					

*IDC **24** 17:07:14.7±1.3,59°.71N×153°.33W,h98km±17km,mb3.8/7, mb1 3.9/11,mb1mx3.4/58,mbtmp4.1/11,Error ellipse: s-maj=20.8km s-min=13.7km az=106.0*
*NEIC **24** 17:07:15.2±1.0,59°.73N±0°.04×153°.19W±0°.07, h113km±3km,Error ellipse: s-maj=5.4km s-min=4.7km az=135.0*
*AEIC **24** 17:07:16±1.2,59°.73N±0°.04×153°.19W±0°.07,h109km±4km, ML3.6,ML3.8/96(NEIC),Error ellipse: s-maj=5.3km s-min=4.8km az=141.0*
ISC 24 17:07:15.6±0.7,59°.74N±0°.04×153°.15W±0°.03, h111km±5km,n223,σ0°.73/222,mb4.0/7,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.10	205		Pn	17 07 30.8	-0.1
OPT	Oil Point	0.10	205	P	Pn	17 07 30.8	-0.1
	baz=15						
AU22	Augustine Moun	0.39	196		Pn	17 07 31.7	-0.1
AU22					Sn	17 07 43.5	-0.4
AUL	Augustine Lava	0.39	202		Pn	17 07 32.0	+0.2
AUL					Sn	17 07 43.8	-0.2
AUH	Augustine H	0.41	202		Pn	17 07 32.0	0.0
AUQ	Augustine Qik'	0.41	199		Pn	17 07 32.0	0.0
O20K	Slope Mountain	0.43	38		Pn	17 07 32.1	0.0
O20K					Sn	17 07 44.7	+0.2
O20K	Slope Mountain	0.43	38	P	Pn	17 07 32.1	0.0
	baz=219						
O20K				S	Sn	17 07 44.7	+0.2
	baz=219						
RED	Redoubt Volcan	0.70	15		Pn	17 07 34.0	-0.1
RED					Sn	17 07 47.5	-0.6
O19K	Port Alsworth	0.74	308		Pn	17 07 34.3	0.0
O19K					Sn	17 07 47.8	-0.6
O19K	Port Alsworth	0.74	308	IAML		17 07 48.5	
	comp=N,6μm,0.5s						
O19K				IAML		17 07 49.2	
	comp=E,6μm,0.4s						
O19K	Port Alsworth	0.74	308	P	Pn	17 07 34.3	0.0
	baz=129						
O19K				S	Sn	17 07 47.8	-0.6
	baz=129						
RSO	Redoubt South	0.75	15		Pn	17 07 34.6	0.0
HOM	Homer	0.77	96		Pn	17 07 34.8	+0.3
HOM					Sn	17 07 49.4	+0.6
HOM	Homer	0.77	96	IAML		17 07 50.4	
	comp=E,5μm,0.5s						
HOM				IAML		17 07 50.6	
	comp=N,5μm,0.6s						
HOM	Homer	0.77	96	P	Pn	17 07 34.8	+0.3
	baz=276						
HOM				S	Sn	17 07 49.4	+0.6
	baz=276						
NCT	North Crescent	0.83	7		Pn	17 07 35.3	+0.1
Q19K	Cape Douglas,	0.86	198		Pn	17 07 35.2	-0.2
Q19K	Cape Douglas,	0.86	198	IAML		17 07 53.8	
	comp=E,2μm,0.8s						
Q19K				IAML		17 07 55.0	
	comp=N,3μm,0.7s						
Q19K	Cape Douglas,	0.86	198	P	Pn	17 07 35.2	-0.2
	baz=16						
DFR	Drift River	0.88	15		Pn	17 07 35.8	+0.1
DFR					Sn	17 07 51.0	0.0
RDT	Redoubt	0.91	24		Pn	17 07 36.1	+0.1
CNPM	China Poot	0.99	102		Pn	17 07 36.6	-0.1
CNPM					Sn	17 07 52.2	-0.5
CNPM	China Poot	0.99	102	IAML		17 07 53.1	
	comp=N,3μm,0.4s						
CNPM				IAML		17 07 53.9	
	comp=E,1μm,0.5s						
O18K	Koktuh Hills	1.05	277		Pn	17 07 37.0	-0.3
O18K					Sn	17 07 52.9	-0.8
O18K	Koktuh Hills	1.05	277	P	Pn	17 07 37.0	-0.3
	baz=96						
O18K				S	Sn	17 07 52.9	-0.8
	baz=96						
P18K	Big Mountain,	1.12	253		Pn	17 07 37.5	-0.6
P18K					Sn	17 07 53.8	-1.2
P18K	Big Mountain,	1.12	253	P	Pn	17 07 37.5	-0.6
	baz=71						
P18K				S	Sn	17 07 53.8	-1.2
	baz=71						
BRLK	Bradley Lake	1.15	88		Pn	17 07 38.0	-0.3
BRSE	Bradley Lake S	1.22	89		Pn	17 07 39.0	-0.1
BRSE					Sn	17 07 56.6	-0.4
BRSE	Bradley Lake S	1.22	89	P	Pn	17 07 39.0	-0.1
	baz=270						
BRSE				S	Sn	17 07 56.6	-0.4
	baz=270						
N19K	Bonanza Creek	1.26	329		Pn	17 07 39.7	0.0
N19K					Sn	17 07 57.2	-0.8
N19K	Bonanza Creek	1.26	329	P	Pn	17 07 39.7	0.0
	baz=149						
N19K				S	Sn	17 07 57.2	-0.8
	baz=149						
CAPN	Captain Cook N	1.43	43		Pn	17 07 43.4	+1.9
CAPN	Captain Cook N	1.43	43	IAML		17 08 05.7	
	comp=E,2μm,0.5s						
CAPN	Captain Cook N	1.43	43	P	Pn	17 07 43.4	+1.9
	baz=225						
SPU	Mount Spurr	1.54	20		Pn	17 07 43.3	+0.4
SPCG	Spurr Capps Gl	1.65	19		Pn	17 07 44.7	+0.4
SLKM	Skilak Lake	1.65	61		Pn	17 07 44.6	+0.4
KCG	Knife Ck. Glac	1.76	216		Pn	17 07 45.7	+0.1
SVW2	Sparrevohn	1.82	319		Pn	17 07 46.0	-0.2
KABU	Katmai Buttres	1.84	218		Pn	17 07 46.7	+0.1
O22K	Cooper Landing	1.87	65		Pn	17 07 47.2	+0.4
O22K	Cooper Landing	1.87	65	IAML		17 08 21.0	
	comp=E,2μm,0.8s						
O22K	Cooper Landing	1.87	65	P	Pn	17 07 47.2	+0.4
	baz=248						
SEW	Seward	1.90	77		Pn	17 07 47.0	-0.2
SEW					Sn	17 08 10.2	-1.1
SEW	Seward	1.90	77	P	Pn	17 07 47.0	-0.2
	baz=260						
SEW				S	Sn	17 08 10.2	-1.1
	baz=260						
KDAK	Kodiak Island	1.99	171	P	Pn	17 07 47.0	-1.4
	comp=E,92nm,0.3s,baz=35,slow=8.6,SNR=238						
KDAK				S	Sn	17 08 11.6	-1.8
	comp=E,53nm,0.3s,baz=331,slow=23,SNR=25						
KDAK	Kodiak Island	1.99	171		Pn	17 07 47.6	-0.8
KDAK	Kodiak Island	1.99	171	IAML		17 08 14.4	
	comp=E,423nm,0.3s						
KDAK				IAML		17 08 21.1	
	comp=E,514nm,0.4s						
FIS	Fire Island	2.02	45		Pn	17 07 50.4	+1.6
FIS				IAML		17 08 20.6	
	comp=N,1μm,0.7s						
FIS				IAML		17 08 32.8	
	comp=E,867nm,0.9s						
RC01	Rabbit Creek A	2.17	50		Pn	17 07 50.7	+0.1
RC01	Rabbit Creek A	2.17	50	P	Pn	17 07 50.7	+0.1
	baz=233						
OHAK	Old Harbor	2.53	182		Pn	17 07 54.0	-1.3
OHAK	Old Harbor	2.53	182	P	Pn	17 07 54.0	-1.3
	baz=1.1						
L19K	White Mountain	2.58	342		Pn	17 07 56.0	-0.1
L19K	White Mountain	2.58	342	P	Pn	17 07 56.0	-0.1
	baz=161						
PWL	Port Wells	2.64	63		Pn	17 07 56.2	-0.6
PWL	Port Wells	2.64	63	P	Pn	17 07 56.2	-0.6
	baz=247						
PMR	Palmer	2.71	45		Pn	17 07 57.4	-0.2
PMR	Palmer	2.71	45	IAML		17 08 28.8	
	comp=E,334nm,0.2s						
PMR				IAML		17 08 29.8	
	comp=N,447nm,0.2s						
PMR	Palmer	2.71	45	P	Pn	17 07 57.4	-0.2
	baz=229						
L20K	Farewell, AK	2.77	353		Pn	17 07 59.0	+0.6
L20K	Farewell, AK	2.77	353	P	Pn	17 07 59.0	+0.6
	baz=173						
KNK	Knik Glacier	2.86	52		Pn	17 07 59.1	-0.5
KNK	Knik Glacier	2.86	52	P	Pn	17 07 59.1	-0.5
	baz=236						
GHO	Glory Hole Cre	2.91	44		Pn	17 08 00.4	+0.1
GHO				IAML		17 08 35.0	
	comp=N,581nm,0.4s						
GHO				IAML		17 08 40.6	
	comp=E,562nm,0.7s						
CUT	Chulitna	3.01	26		Pn	17 08 01.2	-0.5
CUT	Chulitna	3.01	26	IAML		17 08 40.8	
	comp=E,489nm,0.3s						
CUT				IAML		17 08 42.4	
	comp=N,480nm,0.3s						
CUT	Chulitna	3.01	26	P	Pn	17 08 01.2	-0.5
	baz=209						
SML	Sawmill	3.14	47		Pn	17 08 03.2	-0.2
SML	Sawmill	3.14	47	IAML		17 08 40.2	
	comp=N,343nm,0.7s						
SML				IAML		17 08 40.2	
	comp=E,326nm,0.7s						
SML	Sawmill	3.14	47	P	Pn	17 08 03.2	-0.2
	baz=231						
PPLA	Purkeypile	3.20	8		Pn	17 08 05.5	+1.2
PPLA	Purkeypile	3.20	8	P	Pn	17 08 05.5	+1.2
	baz=189						
GLI	Glacier Island	3.22	67		Pn	17 08 04.0	-0.4
GLI	Glacier Island	3.22	67	IAML		17 08 40.5	
	comp=N,384nm,0.5s						
GLI	Glacier Island	3.22	67	P	Pn	17 08 04.0	-0.4
	baz=252						
TT01	Tatalina	3.46	338		Pn	17 08 07.5	-0.1
Q23K	Middleton Isla	3.47	92		Pn	17 08 07.5	-0.2
Q23K	Middleton Isla	3.47	92	P	Pn	17 08 07.5	-0.2
	baz=278						
FID	Port Fidalgo	3.47	70		Pn	17 08 06.2	-1.6
FID	Port Fidalgo	3.47	70	IAML		17 08 46.3	
	comp=E,408nm,0.3s						
MID	Middleton Isla	3.48	92		Pn	17 08 07.3	-0.5
MID	Middleton Isla	3.48	92	IAML		17 09 50.0	
	comp=N,396nm,1.7s						
TTA	Tatalina	3.48	338		Pn	17 08 07.7	-0.2
TTA	Tatalina	3.48	338	P	Pn	17 08 07.7	-0.2
	baz=156						
JPK	Jack Peak	3.51	65		Pn	17 08 07.8	-0.4
SCM	Sheep Creek Mo	3.54	51		Pn	17 08 08.7	0.0
SCM	Sheep Creek Mo	3.54	51	IAML		17 08 52.7	
	comp=E,326nm,0.6s						
SCM	Sheep Creek Mo	3.54	51	P	Pn	17 08 08.7	0.0
	baz=236						
K20K	Telida	3.65	353		Pn	17 08 10.1	-0.1
K20K	Telida	3.65	353	P	Pn	17 08 10.1	-0.1
	baz=173						
CAST	Castle Rocks	3.72	7		Pn	17 08 11.7	+0.6
CAST	Castle Rocks	3.72	7	P	Pn	17 08 11.7	+0.6
	baz=189						
EYAK	Cordova Ski Ar	3.79	74		Pn	17 08 11.5	-0.4
EYAK	Cordova Ski Ar	3.79	74	P	Pn	17 08 11.5	-0.4
	baz=261						
DIV	Divide	3.91	66		Pn	17 08 13.4	-0.3
TRF	Thorofare Moun	3.96	19		Pn	17 08 14.2	-0.3
TRF	Thorofare Moun	3.96	19	IAML		17 09 01.6	
	comp=E,89nm,0.5s						
TRF				IAML		17 09 04.6	
	comp=N,117nm,0.4s						
TRF	Thorofare Moun	3.96	19	P	Pn	17 08 14.2	-0.3
	baz=202						
KTH	Kantishna Hill	3.97	15		Pn	17 08 14.5	+0.1
KTH	Kantishna Hill	3.97	15	IAML		17 09 24.9	
	comp=N,65nm,0.8s						
KTH				IAML		17 09 35.9	
	comp=E,68nm,0.8s						
KLU	Klutina	3.97	61		Pn	17 08 13.9	-0.6
KLU	Klutina	3.97	61	IAML		17 09 01.5	
	comp=E,251nm,0.3s						
KLU	Klutina	3.97	61	P	Pn	17 08 13.9	-0.6
	baz=247						
M24K	Tolsona, Glenn	4.15	52		Pn	17 08 17.0	+0.2
M24K	Tolsona, Glenn	4.15	52	P	Pn	17 08 17.0	+0.2
	baz=238						
CHUM	Lake Minchumin	4.17	5		Pn	17 08 17.7	+0.6
CHUM	Lake Minchumin	4.17	5	P	Pn	17 08 17.7	+0.6
	baz=186						
RND	Reindeer	4.21	27		Pn	17 08 17.6	0.0
RND	Reindeer	4.21	27	IAML		17 09 06.3	
	comp=E,84nm,0.4s						
RND				IAML		17 09 23.5	
	comp=N,55nm,0.7s						
GOAT	Goat Mountain	4.29	75		Pn	17 08 18.2	-0.6
BMRM	Bremner River	4.42	70		Pn	17 08 20.5	0.0
BMRM	Bremner River	4.42	70	IAML		17 09 10.1	
	comp=E,151nm,0.3s						
BMRM				IAML		17 09 11.9	
	comp=N,156nm,0.3s						
BMRM	Bremner River	4.42	70	P	Pn	17 08 20.5	0.0
	baz=258						
PS11	TAPS Pump St11	4.42	55		Pn	17 08 19.8	-0.6
CHGN	Chignik	4.44	221		Pn	17 08 20.9	+0.1
CHGN	Chignik	4.44	221	IAML		17 09 10.9	
	comp=N,72nm,0.6s						
CHGN				IAML		17 09 11.7	
	comp=E,72nm,0.2s						
CHGN	Chignik	4.44	221	P	Pn	17 08 20.9	+0.1
	baz=37						
J20K	Nowinta River	4.47	354	Pn	Pn	17 08 21.3	+0.2
MCK	McKinley	4.47	25		Pn	17 08 21.6	+0.4
MCK	McKinley	4.47	25	IAML		17 09 15.8	
	comp=E,58nm,0.4s						
MCK				IAML		17 09 17.4	
	comp=N,57nm,0.8s						
MCK	McKinley	4.47	25	P	Pn	17 08 21.6	+0.4
	baz=209						
BPAW	Bear Paw Mtn.	4.49	12		Pn	17 08 21.5	+0.1
BPAW	Bear Paw Mtn.	4.49	12	P	Pn	17 08 21.5	+0.1
	baz=194						
HMT	Hamilton	4.50	79		Pn	17 08 21.0	-0.5
N25K	Chitina, Valde	4.60	62		Pn	17 08 23.4	+0.5
N25K	Chitina, Valde	4.60	62	IAML		17 09 16.3	
	comp=N,101nm,0.5s						
N25K	Chitina, Valde	4.60	62	P	Pn	17 08 23.4	+0.5
	baz=250						
NICHA	Nichawak Mount	4.64	80		Pn	17 08 23.5	+0.1
HARP	HAARP	4.71	52		Pn	17 08 24.1	-0.2
HARP	HAARP	4.71	52	P	Pn	17 08 24.1	-0.2
	baz=239						
BWN	Browne	4.77	20		Pn	17 08 25.8	+0.6
BWN	Browne	4.77	20	IAML		17 09 55.1	
	comp=E,83nm,0.9s						
BWN				IAML		17 09 59.1	
	comp=N,86nm,0.8s						
GLB	Gilahina Butte	4.91	66		Pn	17 08 26.6	-0.5
GLB	Gilahina Butte	4.91	66	IAML		17 09 23.6	
	comp=E,76nm,0.4s						
GLB				IAML		17 09 23.8	
	comp=N,127nm,0.8s						
PAX	Paxson	4.91	45		Pn	17 08 27.2	+0.1
PAX	Paxson	4.91	45	P	Pn	17 08 27.2	+0.1
	baz=232						
GRIN	Grindle Hills	4.96	80		Pn	17 08 28.5	+0.7
KHIT	Khitrov Hills	5.00	78		Pn	17 08 28.5	+0.1
VRDI	Verde Repeater	5.02	69		Pn	17 08 29.0	+0.3
VRDI	Verde Repeater	5.02	69	IAML		17 09 25.5	
	comp=N,82nm,0.7s						
VRDI				IAML		17 09 26.4	
	comp=E,52nm,0.5s						
PS10	TAPS Pump St10	5.10	41		Pn	17 08 30.1	+0.4
WAX	Waxell Ridge	5.20	78		Pn	17 08 31.1	+0.1
NEA2	Nenana	5.23	20		Pn	17 08 31.0	-0.3
NEA2	Nenana	5.23	20	P	Pn	17 08 31.0	-0.3
	baz=203						
WRH	Wood River Hil	5.30	24		Pn	17 08 32.2	-0.2
WRH	Wood River Hil	5.30	24	IAML		17 09 31.4	
	comp=E,28nm,0.6s						
WRH				IAML		17 09 45.3	
	comp=N,28nm,3.9s						
GCSA	Galena City Sc	5.32	342		Pn	17 08 32.5	0.0
GCSA	Galena City Sc	5.32	342	P	Pn	17 08 32.5	0.0
	baz=160						
ISLE	Juniper Island	5.46	76		Pn	17 08 34.9	+0.2
I21K	Tanana	5.48	5		Pn	17 08 34.8	+0.1
KIAG	Kiagna River	5.49	73		Pn	17 08 35.5	+0.5
BALM	Baldy	5.51	72		Pn	17 08 35.8	+0.5
HDA	Harding Lake	5.51	29		Pn	17 08 34.9	-0.3
HDA	Harding Lake	5.51	29	P	Pn	17 08 34.9	-0.3
	baz=215						
CCB	Clear Creek Bu	5.52	25		Pn	17 08 34.6	-0.6
BAGL	Bagley Icefiel	5.58	78		Pn	17 08 37.1	+1.0
M26K	Nabesna, AK	5.60	57		Pn	17 08 37.0	+0.5
RIDG	Independent Ri	5.62	41		Pn	17 08 37.6	+0.9
RIDG	Independent Ri	5.62	41	P	Pn	17 08 37.6	+0.9
	baz=228						
MESA	MESA	5.64	81		Pn	17 08 37.7	+0.5
MESA	MESA	5.64	81	P	Pn	17 08 37.7	+0.5
	baz=270						
PS08	TAPS Pump Stn8	5.65	29		Pn	17 08 36.8	-0.2
I23K	Minto, Yukon-K	5.70	16		Pn	17 08 37.5	-0.2
I23K	Minto, Yukon-K	5.70	16	P	Pn	17 08 37.5	-0.2
	baz=200						
TCOL	CIGO, UAF Yank	5.71	23		Pn	17 08 37.8	0.0
TCOL	CIGO, UAF Yank	5.71	23	P	Pn	17 08 37.8	0.0
	baz=208						
COLA	College	5.71	23		Pn	17 08 37.5	-0.3
MDM	Murphy Dome	5.71	22		Pn	17 08 37.5	-0.4
YAH	Yahtse	5.75	79		Pn	17 08 39.4	+0.8
IL31		5.83	27		Pn	17 08 38.8	-0.6
ILAR	Eielson Array	5.83	27	P	Pn	17 08 38.7	-0.7
	comp=N,9.2nm,0.3s,baz=216,slow=13,SNR=394						
ILAR				S	Sn	17 09 40.2	-4.7
	comp=N,2.9nm,0.3s,baz=190,slow=17,SNR=5.5						
ILAR	Eielson Array	5.83	27	Pn	Pn	17 08 39.0	-0.4
BARN	Barnard Glacie	5.84	72		Pn	17 08 40.7	+0.9
H21K	Melozitna Rive	5.94	1		Pn	17 08 40.9	0.0
POKR	Poker Plat Res	6.01	24		Pn	17 08 42.0	+0.2
POKR	Poker Plat Res	6.01	24	P	Pn	17 08 42.0	+0.2
	baz=209						
TABL	Table Mountain	6.05	78		Pn	17 08 43.5	+0.9
SCRK	Sand Creek	6.07	42		Pn	17 08 42.0	-0.8
SCRK	Sand Creek	6.07	42	P	Pn	17 08 42.7	-0.1
	baz=230						
M27K	Edge Creek, AK	6.07	60		Pn	17 08 43.5	+0.7
SAMH	Samovar Hills	6.23	81		Pn	17 08 46.9	+1.9
IM03		6.27	358		Pn	17 08 46.0	+0.7
IMAR	Indian Mountai	6.27	358	Pn	Pn	17 08 46.2	+0.8
L27K	Beaver Creek,	6.37	54	Pn	Pn	17 08 47.2	+0.4
BC03		6.39	54		Pn	17 08 48.4	+1.4
PCA	Pinnacle	6.49	81		Pn	17 08 48.8	+0.3
PINM	Pinnacle	6.50	81	P	Pn	17 08 49.5	+0.9
	baz=272						
BVCY	Beaver Creek	6.53	61		Pn	17 08 50.1	+1.1
BVCY	Beaver Creek	6.53	61	P	Pn	17 08 50.1	+1.1
	baz=251						
YUK3	Moose Creek	6.54	66		Pn	17 08 50.4	+1.1
YUK3	Moose Creek	6.54	66	P	Pn	17 08 50.4	+1.1
	baz=257						
J26L	Joseph Creek	6.55	39		Pn	17 08 49.0	-0.3
H24K	Noodor Dome	6.57	19		Pn	17 08 49.1	-0.5
PRP	Porcupine Dome	6.77	28		Pn	17 08 52.5	+0.2
PRP	Porcupine Dome	6.77	28	P	Pn	17 08 52.5	+0.2
	baz=215						
PNL	Peninsula	6.96	85		Pn	17 08 54.7	-0.1
PNL	Peninsula	6.96	85	P	Pn	17 08 54.7	-0.1
	baz=276						
COLD	Coldfoot	7.63	9		Pn	17 09 04.2	+0.4
COLD	Coldfoot	7.63	9	P	Pn	17 09 04.2	+0.4
	baz=191						
FYU	Fort Yukon	7.72	24		Pn	17 09 04.3	-0.8
DAWY	Dawson	7.80	50	Pn	Pn	17 09 06.9	+0.8
M30M	Minto, Yukon	8.40	63		Pn	17 09 13.9	-0.4
BM03	Burnt Mountain	8.58	23		Pn	17 09 15.6	-1.2
BM01	Burnt Mountain	8.63	23		Pn	17 09 15.8	-1.6
N31M	Braeburn,

plane solution: $M_0$5.67000×10^{15} NP1:$\phi_0$178.73000°, δ60.45000°, λ99.24000°. NP2:$\phi_0$340.48000°, δ30.84000°, λ74.19000°. Principal axes: T 5.7926, Plg73.0000°, Azm111.0000°; N -0.2465, Plg8.0000°, Azm354.0000°; P -5.5462, Plg15.0000°, Azm262.0000°.

*NEIC **24** 17:12:00.1±2.2, 18.33S±0.08×71.5W±0.1, h21km±7km, mb4.5/14, Mwr4.4/35, ML4.2(GUC) Error ellipse: s-maj=15.8km s-min=9.7km az=120.0*

*GUC **24** 17:12:02.7±0.7, 18.44S×71.41W, h38km, ML4.5*

ISC 24 17:12:01.5±1.5, 18.37S±0.04×71.41W±0.06, h30km±11km, n129, σ1§43/124, mb4.4/11, MS3.9/10, 8C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.02**	**90**	⇑*iP*	**Pb**	**17 12 20.3**	**-0.2**
AP01				*i* S	**Sb**	**17 12 34.1**	**+0.5**
AP01	**Chacalluta**	**1.02**	**90**		**Pb**	**17 12 20.2**	**-0.3**
PB12	**IPOC Station P**	**1.06**	**104**	⇑*iP*	**Pb**	**17 12 20.6**	**-0.7**
PB12				*i* S	**Sb**	**17 12 34.2**	**-0.6**
PB12	**IPOC Station P**	**1.06**	**104**		**Pn**	**17 12 19.6**	**-0.8**
PB16	**IPOC Station P**	**1.81**	**89**		**Pn**	**17 12 32.8**	**-1.5**
PB18	**Visviri**	**1.99**	**68**	⇑*iP*	**Pb**	**17 12 37.6**	**+0.2**
PB18				*i* S	**Sb**	**17 13 05.6**	**+3.5**
PB11	**IPOC Station P**	**2.17**	**130**	Pn	**Pn**	**17 12 37.1**	**+1.4**
TA02	**Huaiquique**	**2.25**	**148**	⇑*eP*	**Pn**	**17 12 36.6**	**-0.1**
TA02				*e*S	**Sn**	**17 13 02.8**	**-0.7**
TA02				IAML		17 13 16.7	
	comp=N,2μm,0.5s						
TA02	**Huaiquique**	**2.25**	**148**		**Pn**	**17 12 37.9**	**+1.2**
GO01	**Chusmiza**	**2.47**	**122**	⇑*iP*	**Pn**	**17 12 42.1**	**+2.0**
GO01				IAML		17 13 23.2	
	comp=N,1μm,0.4s						
GO01	**Chusmiza**	**2.47**	**122**		**Pn**	**17 12 42.2**	**+2.0**
TA01	**Diego Aracena**	**2.48**	**152**	⇑*iP*	**Pn**	**17 12 40.6**	**+0.7**
TA01				*i* S	**Sn**	**17 13 07.7**	**-1.4**
TA01	**Diego Aracena**	**2.48**	**152**	Pn	**Pn**	**17 12 40.5**	**+0.7**
PB08	**IPOC Station P**	**2.77**	**130**	⇑*iP*	**Pn**	**17 12 45.8**	**+1.6**
PB08				IAML		17 13 31.0	
	comp=E,975nm,0.1s						
PB08	**IPOC Station P**	**2.77**	**130**		**Pn**	**17 12 45.9**	**+1.6**
PB01	**IPOC Station P**	**3.22**	**146**	*eP*	**Pn**	**17 12 50.7**	**+0.5**
PB01				*i* S	**Sn**	**17 13 26.8**	**-0.9**
PB01	**IPOC Station P**	**3.22**	**146**	Pn	**Pn**	**17 12 51.0**	**+0.8**
PB02	**IPOC Station P**	**3.27**	**154**	⇑*iP*	**Pn**	**17 12 51.6**	**+0.8**
PB02				IAML		17 13 33.1	
	comp=N,1μm,0.2s						
PB07	**IPOC Station P**	**3.64**	**157**	*eP*	**Pn**	**17 12 56.5**	**+0.5**
PB07				*e*S	**Sn**	**17 13 37.2**	**-0.8**
PB07				IAML		17 13 44.7	
	comp=N,472nm,0.4s						
PB07	**IPOC Station P**	**3.64**	**157**		**Pn**	**17 12 56.4**	**+0.3**
LPAZ	**La Paz**	**3.75**	**57**	Pn	**Pb**	**17 13 02.9**	**-4.6**
	comp=N,2.2nm,0.3s,baz=235,slow=8.4,SNR=56						
LPAZ				Sn	**Sn**	**17 13 36.4**	**-5.1**
	comp=N,5.7nm,0.3s,baz=232,slow=19,SNR=3.7						
LPAZ				Lg	Lg	17 13 58.5	
	comp=N,3.4nm,0.3s,baz=53,slow=20,SNR=1.3						
LPAZ	**La Paz**	**3.75**	**57**		**Pn**	**17 13 02.4**	**+4.4**
PB09	**IPOC Station P**	**3.98**	**150**		**Pn**	**17 13 02.3**	**+1.6**
PB03	**IPOC Station P**	**3.98**	**157**	*eP*	**Pn**	**17 13 00.6**	**-0.1**
PB03				*e*S	**Sn**	**17 13 45.3**	**-1.2**
PB03				IAML		17 13 52.0	
	comp=E,342nm,0.4s						
PB04	**IPOC Station P**	**4.12**	**164**	*eP*	**Pn**	**17 13 02.4**	**-0.3**
PB04				*e*S	**Sn**	**17 13 46.7**	**-3.2**
PB04				IAML		17 13 51.1	
	comp=N,506nm,0.3s						
PB04	**IPOC Station P**	**4.12**	**164**		**Pn**	**17 13 02.3**	**-0.3**
PB06	**IPOC Station P**	**4.65**	**159**	*eP*	**Pn**	**17 13 09.8**	**-0.2**
PB06				*e*S	**Sn**	**17 13 59.5**	**-3.5**
PB06				IAML		17 14 05.2	
	comp=N,227nm,0.2s						
PB06				IAML		17 14 08.1	
	comp=E,199nm,0.0s						
PB06	**IPOC Station P**	**4.65**	**159**		**Pn**	**17 13 09.7**	**-0.2**
LVC	**Limon Verde**	**4.83**	**151**	Pn	**Pn**	**17 13 14.2**	**+1.6**
	comp=E,29nm,0.3s,baz=340,slow=8.9,SNR=198						
LVC				Sn	**Sn**	**17 14 06.6**	**-1.1**
	comp=E,28nm,0.3s,baz=100,slow=21,SNR=11						
LVC				Lg	Lg	17 14 34.1	
	comp=E,23nm,0.3s,baz=181,slow=16,SNR=5.9						
LVC	**Limon Verde**	**4.83**	**151**	*eP*	**Pn**	**17 13 12.1**	**-0.5**
PB15	**IPOC Station P**	**5.15**	**160**		**Pn**	**17 13 16.3**	**-0.5**
PB10	**IPOC Station P**	**5.18**	**171**	Pn	**Pn**	**17 13 16.1**	**-1.0**
PB14	**IPOC Station P**	**6.30**	**172**	Pn	**Pn**	**17 13 30.9**	**-1.8**
NNA	**Nana**	**8.23**	**320**	Pn	**Pn**	**17 14 01.4**	**+2.5**
	comp=E,2.2nm,0.3s,baz=180,slow=16,SNR=2.7						
NNA				Sn	**Sn**	**17 15 28.4**	**-2.6**
	comp=E,2.7nm,0.3s,baz=216,slow=17,SNR=2.0						
NNA				LR	LR	17 17 07.4	
	comp=E,260nm,21.9s,baz=164,slow=38						
AC02	**Maricunga**	**8.69**	**166**	Pn	**Pn**	**17 14 03.2**	**-2.5**
SIV	**San Ignacio**	**10.16**	**78**	Pn	**Pn**	**17 14 27.7**	**+2.3**
	comp=E,5.2nm,0.3s,baz=271,slow=9.6,SNR=44						
SIV				LR	LR	17 18 53.0	
	comp=E,1μm,18.3s,baz=284,slow=42						
CZSB	**Cruzeiro do Su**	**10.65**	**353**	*eP*	**Pn**	**17 14 33.2**	**+1.1**
VILB	**Vilhena**	**12.06**	**65**	*eP*	**Pn**	**17 14 51.2**	**-0.3**
VILB	**Vilhena**	**12.06**	**65**	Pn	**Pn**	**17 14 53.5**	**+1.9**
PTLB	**Pontes e Lacer**	**12.10**	**78**	Pn	**Pn**	**17 14 54.4**	**+2.4**
AQDB	**Aquidauana**	**14.97**	**101**	*eP*	**Pn**	**17 15 31.6**	**+0.5**
CPUP	**Villa Florida**	**15.24**	**124**	Pn	**Pn**	**17 15 33.6**	**-1.1**
	comp=E,0.2nm,0.3s,baz=324,slow=14,SNR=1.4						
CPUP				LR	LR	17 22 34.7	
	comp=E,168nm,18.6s,baz=226,slow=42						
CPUP	**Villa Florida**	**15.24**	**124**	Pn	**Pn**	**17 15 33.2**	**-1.4**
PDRB	**Porto dos Gac**	**15.69**	**67**	*eP*	**Pn**	**17 15 40.0**	**-0.6**
PP1B	**Ponte de Pedra**	**15.75**	**90**	*eP*	**Pn**	**17 15 41.9**	**+0.6**
H03N1	**Juan Fernandez**	**16.45**	**203**	T	T	17 32 52.0	
	baz=27,slow=72						
H03N2	**Juan Fernandez**	**16.46**	**203**	T	T	17 32 51.7	
	baz=27,slow=72						
H03N3	**Juan Fernandez**	**16.47**	**203**	T	T	17 32 52.3	
	baz=27,slow=72						
CLDB	**Colider**	**16.84**	**66**	*eP*	**P**	**17 15 56.3**	**-0.8**
ITQB	**Itaqui**	**17.56**	**133**	*eP*	**Pn**	**17 16 04.0**	**-0.2**
ITQB	**Itaqui**	**17.56**	**133**	P	**Pn**	**17 16 03.7**	**-0.4**
MACA	**Manacapuru-AM**	**18.40**	**36**	*eP*	**P**	**17 16 14.2**	**-0.2**
MACA	**Manacapuru-AM**	**18.40**	**36**	P	**P**	**17 16 12.9**	**-1.5**
MACA				IAmb	IAmb	17 16 14.7	
	comp=Z,32nm,0.6s						
ARAG	**Araguaiana, MT**	**18.93**	**85**	*eP*	**Pn**	**17 16 20.4**	**-0.5**
PTGB	**Pitanga**	**19.07**	**113**	*eP*	**Pn**	**17 16 22.4**	**-0.3**
PCMB	**Pacaembu**	**19.21**	**103**	*eP*	**Pn**	**17 16 24.9**	**+0.6**
NPGB	**Novo Progresso**	**19.26**	**56**	*eP*	**P**	**17 16 23.8**	**0.0**
ITAB	**Concordia**	**19.83**	**120**	*eP*	**Pn**	**17 16 30.5**	**-1.1**
ITAB	**Concordia**	**19.83**	**120**	P	**P**	**17 16 30.1**	**+0.2**
ITAB				IAmb	IAmb	17 16 32.0	
	comp=Z,24nm,0.9s						
ITRB	**Iturama**	**19.95**	**97**	*eP*	**P**	**17 16 31.5**	**+0.1**
CPSB	**Cacapava Do Su**	**20.25**	**130**	*eP*	Pn	17 16 35.5	-1.1
SNDB	**Serra Nova Dou**	**20.42**	**75**	*eP*	**P**	**17 16 35.5**	**-1.0**
LC01	**Cunco**	**20.46**	**181**		**P**	**17 16 33.9**	**-2.8**
ITTB	**Itaituba**	**20.70**	**50**	*eP*	**P**	**17 16 38.4**	**-1.1**
PTGA	**Pitinga**	**20.82**	**34**	P	**P**	**17 16 39.4**	**-1.4**
	comp=Z,7.1nm,0.4s,baz=203,slow=12,SNR=36						
PLTB	**Pedras Altas**	**20.89**	**133**	*eP*	**P**	**17 16 42.0**	**+0.5**
PLTB	**Pedras Altas**	**20.89**	**133**	P	**P**	**17 16 41.7**	**+0.2**
PLTB				IAmb	IAmb	17 16 42.8	
	comp=Z,24nm,0.9s						
IPMB	**Ipameri, GO**	**22.05**	**93**	*eP*	**P**	**17 16 53.4**	**-0.6**
PLCA	**Paso Flores**	**22.30**	**178**	P	**P**	**17 16 58.2**	**+1.6**
	comp=Z,5.2nm,0.8s,baz=348,slow=10,SNR=12						
PLCA	**Paso Flores**	**22.30**	**178**	*eP*	**P**	**17 16 58.2**	**+1.6**
PLCA	**Paso Flores**	**22.30**	**178**	P	**P**	**17 16 58.3**	**+1.6**
PLCA				IAmb	IAmb	17 17 32.7	
	comp=Z,31nm,1.5s						
BDFB	**Brasilia**	**22.54**	**87**	P	**P**	**17 16 59.7**	**+0.4**
	comp=Z,12nm,0.5s,baz=260,slow=9.9,SNR=20						
BDFB	**Brasilia**	**22.54**	**87**	P	**P**	**17 17 00.1**	**+0.7**
BDFB				IAmb	IAmb	17 17 00.8	
	comp=Z,14nm,0.6s						
PEXB	**Peixe**	**23.14**	**78**	*eP*	**P**	**17 17 05.8**	**+0.3**
PET01	**Itanhaem-SP**	**23.23**	**109**	*eP*	**P**	**17 17 08.5**	**+2.2**
BOAV	**Boa Vista**	**23.25**	**29**	*eP*	**P**	**17 17 05.5**	**-1.1**
BOAV	**Boa Vista**	**23.25**	**29**	P	**P**	**17 17 05.3**	**-1.3**
BOAV				IAmb	IAmb	17 17 22.8	
	comp=Z,21nm,1.4s						
VAO	**Valinhos**	**23.32**	**106**	*eP*	**P**	**17 17 07.9**	**+0.5**
MALB	**Monte Alegre**	**23.50**	**48**	*eP*	**P**	**17 17 10.4**	**+1.4**
PARB	**Paraibuna**	**24.59**	**106**	*eP*	**P**	**17 17 19.6**	**+0.3**
SMTB	**Santa Maria do**	**24.98**	**71**	*eP*	**P**	**17 17 23.1**	**+0.2**
BSCB	**Bom Sucesso**	**25.21**	**100**	*eP*	**P**	**17 17 25.7**	**+0.8**
ZARC	**Zaragoza, Cauc**	**25.92**	**352**	P	**P**	**17 17 30.1**	**-1.2**
ZARC				IAmb	IAmb	17 17 42.2	
	comp=Z,7.1nm,0.7s						
MCPB	**Macapa, AP**	**26.11**	**49**	*eP*	**P**	**17 17 34.5**	**+1.5**
JANB	**Januaria**	**26.15**	**87**	*eP*	**P**	**17 17 33.1**	**-0.4**
DIAM	**Diamantina, MG**	**26.32**	**94**	*eP*	**P**	**17 17 35.2**	**0.0**
BAUV	**El Baul**	**27.34**	**7**	P	**P**	**17 17 43.2**	**-0.8**
BSFB	**Barra de Sao F**	**28.96**	**96**	*eP*	**P**	**17 17 58.1**	**-0.5**
MDP	**Montagnes des**	**29.77**	**40**	LR	LR	17 30 48.1	
	comp=Z,347nm,19.8s,baz=226,slow=38						
GUA01	**Guaratinga, BA**	**30.18**	**92**	*eP*	**P**	**17 18 09.5**	**0.0**
CMC01	**Camacan, BA**	**30.65**	**89**	*eP*	**P**	**17 18 13.5**	**-0.1**
ROSB	**Rosrio**	**30.83**	**63**	*eP*	**P**	**17 18 16.3**	**+1.1**
GDU01	**Guandu, BA**	**30.92**	**86**	*eP*	**P**	**17 18 15.2**	**-0.7**
NBPN	**Ponto Novo - B**	**31.08**	**80**	*eP*	**P**	**17 18 17.3**	**-0.1**
NBPS	**Pedro II - PI**	**32.41**	**68**	*eP*	**P**	**17 18 29.2**	**0.0**
NBLA	**Lagarto - SE**	**33.30**	**82**	*eP*	**P**	**17 18 35.9**	**-1.0**
NBPB	**Pedra_Branca-C**	**33.57**	**72**	*eP*	**P**	**17 18 39.3**	**+0.1**
NBMA	**Muriti-CE**	**33.59**	**75**	*eP*	**P**	**17 18 39.2**	**-0.3**
NBAN	**Anadia - AL**	**35.11**	**81**	*eP*	**P**	**17 18 52.1**	**-0.6**
RPN	**Rapa Nui**	**35.93**	**249**	LR	LR	17 29 50.1	
	comp=Z,317nm,18.3s,baz=54,slow=30						
RCBR	**Riachuelo**	**36.80**	**75**	*eP*	**P**	**17 19 07.8**	**+0.6**
CMIG	**Matias Romero**	**42.13**	**325**	LR	LR	17 34 33.7	
	comp=Z,94nm,21.5s,baz=196,slow=32						
TKL	**Tuakoechee C**	**54.99**	**348**	LR	LR	17 47 07.2	
	comp=Z,59nm,19.3s,baz=278,slow=38						
TXAR	**Lajitas Array**	**56.73**	**326**	P	**P**	**17 21 43.4**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=158,slow=9.2,SNR=5.8						
SNAA	**Sanae**	**65.99**	**161**	P	**P**	**17 22 45.0**	**+0.1**
DBIC	**Dimbokro**	**70.17**	**76**	P	**P**	**17 23 11.9**	**-0.1**
	comp=Z,5.4nm,0.7s,baz=216,slow=3.7,SNR=4.2						
DBIC				LR	LR	17 54 30.8	
	comp=Z,71nm,18.1s,baz=244,slow=36						
PDAR	**Pinedale Array**	**70.24**	**331**	P	**P**	**17 23 12.2**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=108,slow=12,SNR=2.4						
ELK	**Elko**	**71.52**	**326**	LR	LR	17 53 25.5	
	comp=Z,46nm,18.0s,baz=115,slow=35						
NVAR	**Mina Array Bea**	**71.59**	**323**	P	**P**	**17 23 22.4**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=142,slow=7.5,SNR=4.0						
NVAR				LR	LR	17 52 07.4	
	comp=Z,45nm,19.8s,baz=64,slow=34						
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**17 23 22.9**	**+1.7**
TORD	**Torodi Ar. Bea**	**78.58**	**72**	P	**P**	**17 24 00.1**	**-0.7**
	comp=Z,7.7nm,0.7s,baz=253,slow=5.4,SNR=16						
TORD	**Torodi Ar. Bea**	**78.58**	**72**	P	**P**	**17 23 58.5**	**-2.3**
TORD				IAmb	IAmb	17 24 12.3	
	comp=Z,3.8nm,0.9s						
SUR	**Sutherland**	**82.20**	**121**	LR	LR	18 00 16.8	
	comp=Z,37nm,18.9s,baz=179,slow=35						
TSUM	**Tsumeb**	**83.22**	**108**	LR	LR	17 59 47.0	
	comp=Z,114nm,18.8s,baz=352,slow=34						
ESDC	**Sonseca Array**	**85.30**	**46**	P	**P**	**17 24 35.5**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=273,slow=4.8,SNR=6.6						
YKA	**Yellowknife Ar**	**87.47**	**341**	P	**P**	**17 24 46.8**	**+1.0**
	comp=Z,3.7nm,0.8s,baz=137,slow=4.9,SNR=60						
LSZ	**Lusaka**	**94.06**	**107**	LR	LR	18 05 57.7	
	comp=Z,91nm,19.0s,baz=186,slow=34						
H11S2	**WAKE ISLAND Hy**	**25.08**	**280**	T	T	19 48 28.3	
	baz=99,slow=74,SNR=58						
H11N3	**WAKE ISLAND Hy**	**25.09**	**282**	T	T	19 48 24.0	
	baz=100,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**25.09**	**280**	T	T	19 48 26.1	
	baz=99,slow=74,SNR=49						
H11S3	**WAKE ISLAND Hy**	**25.10**	**280**	T	T	19 48 26.4	
	baz=99,slow=74,SNR=38						
H11N2	**WAKE ISLAND Hy**	**25.11**	**282**	T	T	19 48 36.1	
	baz=100,slow=74,SNR=21						
H11N1	**WAKE ISLAND Hy**	**25.11**	**282**	T	T	19 48 36.0	
	baz=100,slow=74,SNR=13						
ASAR	**Alice Springs**	**131.46**	**212**	PKP	**PKiKP**	**17 31 12.6**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=124,slow=1.8,SNR=9.2						
WRA	**Warramunga Arr**	**134.31**	**215**	PKP	**PKiKP**	**17 31 18.4**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=145,slow=2.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**140.03**	**22**	PKP	**PKPdf**	**17 31 27.9**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=272,slow=3.1,SNR=6.6						
MKAR	**Makanchi Array**	**144.34**	**31**	PKP	**PKPdf**	**17 31 34.0**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=327,slow=4.4,SNR=14						
KSH	**Kashi**	**144.81**	**46**	PKP	**PKPdf**	**17 31 37.1**	**+1.1**
KSH				pPKP	pPKPdf	17 31 45.4	0.0
SONM	**Songino Array**	**150.55**	**3**	PKPbc	**PKiKP**	**17 31 51.9**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=328,slow=1.7,SNR=12						

*IDC **24** 17:13:18.8±0.7, 37.20N×141.11E, h0km, mb3.8/15, mb1 4.0/18, mb1mx3.8/37, mbtmp3.8/18, ML3.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/87, Error ellipse: s-maj=18.4km s-min=15.0km az=122.0*

*JMA **24** 17:13:22.4±0.1, 37.13N×141.14E, h29km±1km, M4.2 Broadband fault plane solution: P waves. NP1: $\phi_0$222.00000°, δ49.00000°, λ-118.00000°. NP2: $\phi_0$82.00000°, δ49.00000°, λ-62.00000°. Principal axes: T Plg0.0000°, Azm152.0000°; N Plg21.0000°, Azm242.0000°; P Plg69.0000°, Azm62.0000°;*

JMA Felt IV J1.

*NIED **24** 17:13:22.4, 37.13N×141.14E, h29km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.39; $M_{\theta\theta}$3.64; $M_{\phi\phi}$-0.25; $M_{r\theta}$2.43; $M_{\theta\phi}$2.92; $M_{\phi r}$7.43; Fault plane solution: $M_0$9.03000×10^{14} NP1: $\phi_0$206.00000°, δ79.00000°, λ-113.00000°. NP2: $\phi_0$91.00000°, δ25.00000°, λ-27.00000°.*

*NEIC **24** 17:13:23.1±2.7, 37.15N±0.06×141.31E±0.02, h39km±9km, mb4.2/7 Error ellipse: s-maj=8.4km s-min=1.4km az=189.0*

ISC 24 17:13:21.9±1.2, 37.13N±0.04×141.19E±0.06, h24km±8km, n62, σ1§10/67, mb3.9/20, 6C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.31**	**265**	⇓*iP*	**Pb**	**17 13 29.3**	**+0.2**
ONAJ				*i* S	**Sb**	**17 13 33.9**	**-0.2**
JFK	**Kawauchi**	**0.35**	**314**	⇑*iP*	**Pb**	**17 13 29.8**	**+0.1**
JFK				S	**Sb**	**17 13 34.7**	**-0.2**
JFFD	**Fukushimafurud**	**0.50**	**266**	⇓*iP*	**Pb**	**17 13 32.1**	**-0.1**
JFFD				S	**Sb**	**17 13 38.5**	**-0.6**
JMST	**Minamisoumatoc**	**0.64**	**338**	⇑*iP*	**Pb**	**17 13 34.1**	**-0.4**
JMST				S	**Sb**	**17 13 42.5**	**-0.6**
JHO	**Hitachi**	**0.71**	**224**	⇓*iP*	**Pb**	**17 13 34.9**	**-0.9**
JHO				S	**Sb**	**17 13 43.8**	**-1.4**
JFT	**Otama**	**0.78**	**300**	⇑*iP*	**Pn**	**17 13 37.1**	**-0.4**
JFT				S	**Sn**	**17 13 47.1**	**-1.3**
JMM	**Marumori**	**0.80**	**337**	⇑*iP*	**Pb**	**17 13 36.6**	**-0.6**
JMM	**Marumori**	**0.80**	**337**		**Pb**	**17 13 36.3**	**-0.9**
JSB	**Shiboa**	**1.03**	**261**	P	**Pb**	**17 13 41.3**	**+0.2**
JSB				S	**Sb**	**17 13 54.6**	**+0.5**
JYT	**Yasato**	**1.20**	**222**	Pn	**Pn**	**17 13 42.4**	**-0.8**
JFY	**Yanaizu**	**1.22**	**284**	⇑*iP*	**Pb**	**17 13 43.7**	**-0.6**
JFY				S	**Sb**	**17 13 59.4**	**-0.2**
JOU	**Okura**	**1.30**	**342**	⇑*iP*	**Pb**	**17 13 45.0**	**-0.8**
JOU				S	**Sb**	**17 14 02.0**	**-0.1**
MJAR	**Matsushiro Arr**	**2.46**	**257**	Pn	**Pn**	**17 14 01.1**	**+0.6**
	1.9nm,0.3s,baz=81,slow=16,SNR=93						
MJAR				Sn	**Sn**	**17 14 31.2**	**+1.4**
	4.8nm,0.3s,baz=266,slow=30,SNR=6.0						
MJAR				LR	LR	17 15 10.4	
	comp=Z,320nm,18.6s,baz=24,slow=46						
MJAR	**Matsushiro Arr**	**2.46**	**257**	Pn	**Pn**	**17 14 02.3**	**+1.8**
MAJO	**Matsushiro**	**2.46**	**257**		**Pn**	**17 14 02.0**	**+1.4**
MAT	**Matsushiro**	**2.46**	**257**	P	**Pn**	**17 14 02.1**	**+1.5**
MAT				S	**Sb**	**17 14 33.5**	**-1.9**
MJB9	**Matsu-Tunnel**	**2.46**	**257**		**Pn**	**17 14 02.1**	**+1.5**
JSD	**Sado**	**2.50**	**292**		**Pn**	**17 14 00.9**	**-0.1**
JGF	**Kuroka**	**3.45**	**245**		**Pn**	**17 14 16.4**	**+2.3**
JTM	**Tenmabayashi**	**3.66**	**359**	Pn	**Pn**	**17 14 18.4**	**+1.5**
INU	**Inuyama**	**3.81**	**243**		**Pn**	**17 14 20.3**	**+1.3**
JHJ	**Hachijo jima 2**	**4.16**	**196**	Pn	**Pn**	**17 14 25.6**	**+1.7**
	21nm,0.3s,baz=22,slow=17,SNR=1.3						
JHJ				Sn	**Sn**	**17 15 11.4**	**-0.3**
	18nm,0.3s,baz=74,slow=20,SNR=1.1						
ERM	**Erimo**	**5.11**	**17**	Pn	**Pn**	**17 14 37.4**	**+0.4**
ASAJ	**Asahikawa**	**7.06**	**8**	Pn	**Pn**	**17 15 02.8**	**-1.0**
	0.8nm,0.3s,baz=208,slow=9.6,SNR=19						
ASAJ				Sn	**Sn**	**17 16 22.9**	**-0.3**
	0.9nm,0.3s,baz=73,slow=19,SNR=1.9						
JKA	**Kamikawa-asahi**	**7.06**	**8**		**Pn**	**17 15 03.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**9.93**	**318**	Pn	Pn	17 15 48.4	+5.3
	baz=130,slow=13,SNR=11						
USRK	**Ussuriysk Ar.**	**9.93**	**318**	Pn	**Pn**	**17 15 45.0**	**+1.9**
KSRS	**Korea Array**	**10.57**	**276**	Pn	**Pn**	**17 15 54.0**	**+2.1**
	0.2nm,0.3s,baz=87,slow=14,SNR=1.6						
SEY	**Seymchan**	**26.73**	**11**	P	**P**	**17 18 59.2**	**0.0**
	0.2nm,0.4s,baz=253,slow=19,SNR=1.6						
ULN	**Ulaanbaatar**	**27.15**	**304**	P	**P**	**17 19 01.1**	**-2.3**
ULN				IAmb	IAmb	17 19 12.8	
	comp=Z,1.4nm,0.7s						
SONM	**Songino Array**	**27.58**	**304**	P	**P**	**17 19 06.3**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=112,slow=6.9,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**28.35**	**121**	T	T	17 49 17.8	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	17 49 18.5	
	baz=314,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.37**	**121**	T	T	17 49 13.8	
	baz=314,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	17 50 14.7	
	baz=316,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	17 49 49.1	
	baz=316,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.08**	**123**	T	T	17 49 45.1	
	baz=316,slow=76						
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**17 21 08.5**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=86,slow=7.1,SNR=8.1						
MK31	**Makanchi Array**	**43.92**	**302**	P	**P**	**17 21 26.8**	**+0.2**
MK31				IAmb	IAmb	17 21 27.6	
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**43.92**	**302**	P	**P**	**17 21 26.5**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=89,slow=10.0,SNR=10						
MKAR	**Makanchi Array**	**43.92**	**302**	P	**P**	**17 21 25.8**	**-0.9**
KURK	**Kurchatov**	**45.73**	**308**	P	**P**	**17 21 40.7**	**-0.3**
KURK				IAmb	IAmb	17 21 42.1	
	comp=Z,5.2nm,0.9s						
KURBB	**Kurchatov Arra**	**45.80**	**308**	LR	LR	17 41 21.0	
	comp=Z,37nm,19.0s,baz=341,slow=37						
ILAR	**Eielson Array**	**49.51**	**32**	P	**P**	**17 22 10.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=271,slow=6.5,SNR=12						
ILAR	**Eielson Array**	**49.51**	**32**	P	**P**	**17 22 08.2**	**-1.9**
WB0	**Warramunga Arr**	**56.95**	**188**	P	**P**	**17 23 03.1**	**-2.1**
WB0				IAmb	IAmb	17 23 14.3	
	comp=Z,4.1nm,0.8s						
WB2	**Warramunga Arr**	**57.13**	**188**	P	**P**	**17 23 05.6**	**-0.9**
WB2				IAmb	IAmb	17 23 17.2	
	comp=Z,5.2nm,1.0s						
WRA	**Warramunga Arr**	**57.13**	**188**	P	**P**	**17 23 06.7**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=6.3,slow=7.1,SNR=7.8						
WRA	**Warramunga Arr**	**57.13**	**188**	P	**P**	**17 23 03.9**	**-2.7**
ASAR	**Alice Springs**	**60.86**	**188**	P	**P**	**17 23 32.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=6.4,slow=7.5,SNR=6.3						
ASAR	**Alice Springs**	**60.86**	**188**	P	**P**	**17 23 32.5**	**+0.1**
YKA	**Yellowknife Ar**	**63.82**	**30**	P	**P**	**17 23 52.0**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=305,slow=7.0,S

KABU Katmai Buttres 1.89 218 Pn 17 38 00.0 0.0
FIS Fire Island 1.97 45 Pn 17 38 02.0 +1.1
FIS IAML 17 38 31.8
comp=E,3µm,0.8s
FIS IAML 17 38 32.6
comp=N,3µm,0.7s
KDAK Kodiak Island 2.02 172 P **Pn 17 38 00.5 -1.0**
comp=N,303nm,0.3s,baz=34,slow=8.8,SNR=1124
KDAK S **Sn 17 38 25.1 -1.7**
comp=N,234nm,0.3s,baz=149,slow=23,SNR=22
KDAK Kodiak Island 2.02 172 IAML 17 38 33.4
comp=N,2µm,0.6s
KDAK IAML 17 38 33.9
comp=N,2µm,0.3s
RC01 Rabbit Creek A 2.12 50 Pn 17 38 03.2 +0.4
RC01 Rabbit Creek A 2.12 50 IAML 17 38 30.3
comp=N,3µm,0.6s
RC01 Rabbit Creek A 2.12 50 P **Pn 17 38 03.2 +0.4**
baz=233
OHAK Old Harbor 2.56 183 Pn 17 38 07.0 -1.5
OHAK Old Harbor 2.56 183 IAML 17 38 39.3
comp=N,791nm,0.5s
OHAK IAML 17 38 39.5
comp=E,784nm,0.4s
OHAK Old Harbor 2.56 183 P **Pn 17 38 07.0 -1.5**
baz=1.9
L19K White Mountain 2.56 341 Pn 17 38 08.8 +0.2
L19K White Mountain 2.56 341 P **Pn 17 38 08.8 +0.2**
baz=160
PWL Port Wells 2.60 63 Pn 17 38 08.6 -0.4
PWL Port Wells 2.60 63 P **Pn 17 38 08.6 -0.4**
baz=247
PMR Palmer 2.66 45 Pn 17 38 09.7 -0.2
PMR Palmer 2.66 45 IAML 17 38 47.5
comp=E,882nm,0.9s
PMR IAML 17 38 49.2
comp=N,994nm,1.1s
PMR Palmer 2.66 45 P **Pn 17 38 09.7 -0.2**
baz=228
L20K Farewell, AK 2.74 352 Pn 17 38 11.6 +0.7
L20K Farewell, AK 2.74 352 P **Pn 17 38 11.6 +0.7**
baz=172
KNK Knik Glacier 2.81 52 Pn 17 38 11.5 -0.3
KNK Knik Glacier 2.81 52 P **Pn 17 38 11.5 -0.3**
baz=236
GHO Glory Hole Cre 2.86 44 Pn 17 38 12.8 +0.3
GHO Glory Hole Cre 2.86 44 IAML 17 38 49.2
comp=N,1µm,0.7s
GHO IAML 17 38 52.9
comp=E,2µm,0.7s
CUT Chulitna 2.97 26 Pn 17 38 15.2 +1.3
CUT Chulitna 2.97 26 IAML 17 38 54.0
comp=E,1µm,0.5s
CUT IAML 17 39 20.1
comp=N,1µm,0.9s
CUT Chulitna 2.97 26 P **Pn 17 38 15.2 +1.3**
baz=209
SML Sawmill 3.09 47 Pn 17 38 15.3 -0.3
SML Sawmill 3.09 47 IAML 17 38 53.4
comp=N,1µm,0.8s
SML IAML 17 38 59.7
comp=E,1µm,0.7s
SML Sawmill 3.09 47 P **Pn 17 38 15.3 -0.3**
baz=231
PPLA Purkeypile 3.16 7 Pn 17 38 17.9 +1.3
PPLA Purkeypile 3.16 7 P **Pn 17 38 17.9 +1.3**
baz=188
GLI Glacier Island 3.17 67 Pn 17 38 16.6 0.0
GLI Glacier Island 3.17 67 IAML 17 38 52.5
comp=E,974nm,0.6s
GLI IAML 17 38 52.9
comp=N,1µm,0.7s
GLI Glacier Island 3.17 67 P **Pn 17 38 16.6 0.0**
baz=252
SII Sitkinak Islan 3.28 191 Pn 17 38 16.5 -1.6
SII Sitkinak Islan 3.28 191 IAML 17 38 55.2
comp=E,1µm,0.5s
SII IAML 17 38 55.5
comp=N,846nm,0.4s
SII Sitkinak Islan 3.28 191 P **Pn 17 38 16.5 -1.6**
baz=9.5
SII Sitkinak Islan 3.28 191 P **Pn 17 38 16.0 -2.1**
FID Port Fidalgo 3.43 71 Pn 17 38 18.6 -1.4
FID Port Fidalgo 3.43 71 IAML 17 39 00.1
comp=E,970nm,0.5s
Q23K Middleton Isla 3.44 93 Pn 17 38 20.2 +0.1
Q23K Middleton Isla 3.44 93 IAML 17 39 12.0
comp=N,488nm,2.0s
Q23K IAML 17 39 21.8
comp=E,489nm,2.3s
Q23K Middleton Isla 3.44 93 P **Pn 17 38 20.2 +0.1**
baz=278
MID Middleton Isla 3.44 93 Pn 17 38 20.2 0.0
MID Middleton Isla 3.44 93 IAML 17 39 00.4
comp=N,420nm,1.9s
MID IAML 17 39 21.8
comp=E,474nm,2.3s
TT01 Tatalina 3.45 337 Pn 17 38 20.2 0.0
JPK Jack Peak 3.46 65 Pn 17 38 19.7 -0.8
TTA Tatalina 3.47 337 Pn 17 38 20.4 -0.1
TTA Tatalina 3.47 337 P **Pn 17 38 20.4 -0.1**
baz=155
SCM Sheep Creek Mo 3.49 51 Pn 17 38 20.6 -0.3
SCM Sheep Creek Mo 3.49 51 P **Pn 17 38 20.6 -0.3**
baz=236
VMT TAPS Tl Valdez 3.58 66 Pn 17 38 23.1 +1.1
K20K Telida 3.62 353 Pn 17 38 22.9 +0.3
CAST Castle Rocks 3.69 7 Pn 17 38 24.0 +0.6
EYAK Cordova Ski Ar 3.74 75 Pn 17 38 23.6 -0.6
EYAK Cordova Ski Ar 3.74 75 P **Pn 17 38 23.6 -0.6**
baz=261
DIV Divide 3.87 66 Pn 17 38 25.7 -0.2
TRF Thorofare Moun 3.92 19 Pn 17 38 27.5 +0.8
TRF Thorofare Moun 3.92 19 IAML 17 39 15.0
comp=N,411nm,0.6s
TRF IAML 17 39 35.5
comp=E,272nm,1.2s
TRF Thorofare Moun 3.92 19 P **Pn 17 38 27.5 +0.8**
baz=201
KLU Klutina 3.92 61 Pn 17 38 26.3 -0.4
KLU Klutina 3.92 61 P **Pn 17 38 26.3 -0.4**
baz=247
KTH Kantishna Hill 3.93 14 Pn 17 38 26.7 0.0
KTH Kantishna Hill 3.93 14 IAML 17 39 37.3
comp=N,250nm,0.8s
KTH IAML 17 39 38.9
comp=E,308nm,0.9s
M24K Tolsona, Glenn 4.10 52 Pn 17 38 29.4 +0.4
M24K Tolsona, Glenn 4.10 52 P **Pn 17 38 29.4 +0.4**
baz=238
CHUM Lake Minchumin 4.14 5 Pn 17 38 30.1 +0.6
CHUM Lake Minchumin 4.14 5 P **Pn 17 38 30.1 +0.6**
baz=186
RND Reindeer 4.16 27 Pn 17 38 30.1 +0.2
RND Reindeer 4.16 27 IAML 17 39 19.2
comp=N,204nm,0.8s
RND IAML 17 39 38.0
comp=E,242nm,1.0s
KAIM Kayak Island 4.37 84 Pn **Pn 17 38 33.3 +0.7**
KAIM IAML 17 39 26.3
comp=N,477nm,1.1s
KAIM IAML 17 39 27.0
comp=E,429nm,0.9s
PS11 TAPS Pump St11 4.37 55 Pn 17 38 32.7 +0.1
BMRM Bremner River 4.37 70 Pn 17 38 31.9 -0.9
BMRM Bremner River 4.37 70 IAML 17 39 24.2
comp=E,386nm,0.4s
BMRM IAML 17 39 30.9
comp=N,375nm,0.5s
BMRM Bremner River 4.37 70 P **Pn 17 38 31.8 -0.9**
baz=258
MCK McKinley 4.43 25 Pn 17 38 34.0 +0.5
MCK McKinley 4.43 25 IAML 17 39 27.3
comp=N,194nm,1.0s
MCK McKinley 4.43 25 P **Pn 17 38 33.9 +0.5**
baz=208
J20K Nowinta River 4.45 354 Pn 17 38 33.9 +0.3
BPAW Bear Paw Mtn. 4.45 12 Pn 17 38 33.6 -0.2
BPAW Bear Paw Mtn. 4.45 12 P **Pn 17 38 33.6 -0.2**
baz=194
HMT Hamilton 4.46 79 Pn 17 38 33.7 -0.1
CHGN Chignik 4.49 221 Pn 17 38 33.9 -0.3
CHGN Chignik 4.49 221 IAML 17 39 24.0
comp=N,408nm,0.2s
CHGN Chignik 4.49 221 P **Pn 17 38 33.9 -0.3**
baz=37
N25K Chitina, Valde 4.55 63 Pn 17 38 34.8 -0.4
N25K Chitina, Valde 4.55 63 IAML 17 39 29.8
comp=N,392nm,0.5s
N25K Chitina, Valde 4.55 63 P **Pn 17 38 34.8 -0.4**
baz=250
NICHA Nichawak Mount 4.60 80 Pn 17 38 35.7 0.0
HARP HAARP 4.66 52 Pn 17 38 36.7 +0.2
HARP HAARP 4.66 52 P **Pn 17 38 36.7 +0.2**
baz=239
SUCK Suckling Hills 4.69 82 Pn 17 38 37.4 +0.5
SUCK IAML 17 39 29.6
comp=E,207nm,2.1s
SUCK IAML 17 39 40.4
comp=N,306nm,3.2s
BWN Browne 4.73 20 Pn 17 38 38.3 +0.9
BWN Browne 4.73 20 IAML 17 39 58.0
comp=E,229nm,1.0s
BWN IAML 17 40 12.0
comp=N,321nm,1.0s
BERG Berg Lake 4.74 78 Pn 17 38 37.7 +0.1
BERG IAML 17 39 33.2
comp=E,374nm,0.4s
BERG IAML 17 39 40.1
comp=N,314nm,0.4s
GLB Gilahina Butte 4.86 66 Pn 17 38 38.8 -0.5
GLB Gilahina Butte 4.86 66 IAML 17 39 35.8
comp=E,320nm,0.6s
PAX Paxson 4.86 46 Pn 17 38 39.7 +0.4
PAX Paxson 4.86 46 P **Pn 17 38 39.7 +0.4**
baz=232
GRIN Grindle Hills 4.92 80 Pn 17 38 40.6 +0.5
KHIT Khitrov Hills 4.96 78 Pn 17 38 40.6 -0.1
VRDI Verde Repeater 4.98 69 Pn 17 38 40.5 -0.4
VRDI Verde Repeater 4.98 69 IAML 17 39 38.1
comp=N,236nm,0.6s
PS10 TAPS Pump St10 5.05 41 Pn 17 38 43.5 +1.6
SNH Sunshine Point 5.16 81 Pn 17 38 43.5 +0.2
SNH Sunshine Point 5.16 81 IAML 17 39 43.4
comp=E,229nm,2.1s
SNH IAML 17 40 52.7
comp=N,204nm,2.7s
WAX Waxell Ridge 5.16 78 Pn 17 38 43.5 +0.1
NEA2 Nenana 5.18 19 Pn 17 38 43.5 -0.1
NEA2 Nenana 5.18 19 P **Pn 17 38 43.5 -0.1**
baz=203
WRH Wood River Hil 5.26 24 Pn 17 38 44.5 -0.1
GCSA Galena City Sc 5.29 342 Pn 17 38 45.1 +0.1
GCSA Galena City Sc 5.29 342 P **Pn 17 38 45.1 +0.1**
baz=159
ISLE Juniper Island 5.42 77 Pn 17 38 47.5 +0.5
KIAG Kiagna River 5.45 73 Pn 17 38 48.0 +0.7
I21K Tanana 5.45 5 Pn 17 38 47.3 +0.2
HDA Harding Lake 5.47 29 Pn 17 38 47.3 -0.1
HDA Harding Lake 5.47 29 P **Pn 17 38 47.3 -0.1**
baz=215
BALM Baldy 5.47 72 Pn 17 38 48.1 +0.5
CCB Clear Creek Bu 5.47 25 Pn 17 38 47.3 -0.2
MENT Mentasta 5.51 51 Pn 17 38 48.4 +0.4
BAGL Bagley Icefiel 5.54 78 Pn 17 38 49.1 +0.7
M26K Nabesna, AK 5.55 57 Pn 17 38 49.3 +0.6
RIDG Independent Ri 5.57 41 Pn 17 38 49.3 +0.4
RIDG Independent Ri 5.57 41 P **Pn 17 38 49.3 +0.4**
baz=228
MESA MESA 5.60 81 Pn 17 38 49.9 +0.4
MESA MESA 5.60 81 P **Pn 17 38 49.9 +0.4**
baz=270
PS08 TAPS Pump Stn8 5.61 29 Pn 17 38 49.2 -0.1
I23K Minto, Yukon-K 5.66 16 Pn 17 38 50.0 0.0
I23K Minto, Yukon-K 5.66 16 P **Pn 17 38 50.0 0.0**
baz=200
TCOL CIGO, UAF Yank 5.66 23 Pn 17 38 50.0 0.0
TCOL CIGO, UAF Yank 5.66 23 P **Pn 17 38 50.0 0.0**
baz=208
COLA College 5.67 23 Pn 17 38 49.6 -0.5
MDM Murphy Dome 5.67 21 Pn 17 38 50.0 -0.1
YAH Yahtse 5.71 79 Pn 17 38 51.5 +0.7
DOT Dot Lake 5.78 44 Pn 17 38 51.9 +0.1
IL31 5.79 27 Pn 17 38 51.0 -0.7
ILAR Eielson Array 5.79 27 P **Pn 17 38 51.1 -0.6**
comp=N,24nm,0.3s,baz=214,slow=13,SNR=666
ILAR S **Sn 17 39 52.2 -4.4**
comp=N,7.9nm,0.3s,baz=223,slow=1.7,SNR=5.2
BARN Barnard Glacie 5.80 72 Pn 17 38 52.9 +0.7
H21K Melozitna Rive 5.91 1 Pn 17 38 52.7 -0.7
SDPT Sand Point 5.96 225 Pn 17 38 53.3 -0.8
SDPT Sand Point 5.96 225 P **Pn 17 38 53.3 -0.8**
baz=39
POKR Poker Plat Res 5.96 24 Pn 17 38 54.1 -0.1
POKR Poker Plat Res 5.96 24 P **Pn 17 38 54.1 -0.1**
baz=209
PS07 TAPS Pump Stn7 5.98 20 Pn 17 38 54.5 +0.2
TABL Table Mountain 6.01 78 Pn 17 38 55.4 +0.4
SCRK Sand Creek 6.02 42 Pn 17 38 55.0 0.0
SCRK Sand Creek 6.02 42 P **Pn 17 38 55.0 0.0**
baz=230
M27K Edge Creek, AK 6.02 60 Pn 17 38 56.0 +0.9
J25K Salcha River, 6.04 33 Pn 17 38 55.1 -0.2
SAMH Samovar Hills 6.19 81 Pn 17 38 58.4 +1.1
IM03 6.24 357 Pn 17 38 58.6 +0.8
IMAR Indian Mountai 6.24 357 Pn **Pn 17 38 58.5 +0.6**
YUK2 White River 6.32 66 Pn 17 39 00.2 +1.1
L27K Beaver Creek, 6.32 54 Pn 17 39 00.1 +1.0
BC03 6.34 54 Pn 17 38 59.3 +0.1
BCAR Beaver Creek A 6.34 54 Pn **Pn 17 38 59.2 -0.1**
PCA Pinnacle 6.45 82 Pn 17 39 01.6 +0.7
PINM Pinnacle 6.46 82 P **Pn 17 39 01.6 +0.7**
baz=272
PS4A Pavlof South-4 6.48 231 Pn 17 39 00.8 -0.3
BVCY Beaver Creek 6.49 61 Pn 17 39 02.2 +0.9
BVCY Beaver Creek 6.49 61 P **Pn 17 39 02.2 +0.9**
baz=251
YUK3 Moose Creek 6.50 67 Pn 17 39 02.1 +0.5
YUK3 Moose Creek 6.50 67 P **Pn 17 39 02.1 +0.5**
baz=257
J26L Joseph Creek 6.50 39 Pn 17 39 01.3 -0.2
H24K Noodor Dome 6.53 19 Pn 17 39 01.8 -0.1
PRP Porcupine Dome 6.73 28 Pn 17 39 04.5 -0.1
PRP Porcupine Dome 6.73 28 P **Pn 17 39 04.5 -0.1**
baz=215
BCPM Bancas Point 6.77 83 Pn 17 39 05.4 +0.3
DT1 Dutton Round H 6.82 231 Pn 17 39 05.6 -0.2
PNL Peninsula 6.92 85 Pn 17 39 07.2 +0.1
PNL Peninsula 6.92 85 P **Pn 17 39 07.2 +0.1**
baz=277
PS05 TAPS Pump Stn5 7.15 8 Pn 17 39 10.8 +0.7
FALS False Pass 7.46 233 Pn 17 39 14.3 -0.1
FALS False Pass 7.46 233 P **Pn 17 39 14.0 -0.4**
baz=44
FALS False Pass 7.46 233 P **Pn 17 39 14.2 -0.1**
EGAK Eagle 7.48 43 Pn 17 39 14.9 +0.2
ANM Nome 7.49 315 Pn **Pn 17 39 15.2 +0.5**
COLD Coldfoot 7.59 9 Pn 17 39 16.4 +0.2
COLD Coldfoot 7.59 9 P **Pn 17 39 16.4 +0.2**
baz=191
ISLZ Isanotski Laza 7.67 233 Pn 17 39 17.0 -0.3
FYU Fort Yukon 7.68 24 Pn 17 39 16.9 -0.4
DAWY Dawson 7.75 50 Pn 17 39 18.3 -0.1
DAWY Dawson 7.75 50 P **Pn 17 39 18.3 -0.1**
baz=242
SSLS Shishaldin Sou 7.79 234 Pn 17 39 18.9 -0.2
M30M Minto, Yukon 8.35 63 Pn 17 39 26.7 +0.2
M30M Minto, Yukon 8.35 63 P **Pn 17 39 26.7 +0.2**
baz=258
BM03 Burnt Mountain 8.54 23 Pn 17 39 27.6 -1.5
BM01 Burnt Mountain 8.58 23 Pn 17 39 28.1 -1.6
N31M Braeburn, Yuko 8.67 71 Pn 17 39 30.8 -0.1
N31M Braeburn, Yuko 8.67 71 P **Pn 17 39 30.7 -0.1**
baz=266
TNA Tin City 8.94 317 Pn 17 39 35.2 +0.8
TNA Tin City 8.94 317 P **Pn 17 39 35.2 +0.8**
baz=124
SKAG Skagway 9.00 84 Pn 17 39 35.6 +0.4
SKAG Skagway 9.00 84 P **Pn 17 39 35.7 +0.4**
baz=280
WHY Whitehorse 9.10 77 Pn 17 39 35.8 -0.9
WHY Whitehorse 9.10 77 P **Pn 17 39 35.8 -0.9**
baz=272
M31M Drury Creek, Y 9.39 67 Pn 17 39 41.1 +0.5
M31M Drury Creek, Y 9.39 67 P **Pn 17 39 41.1 +0.5**
baz=263
BESE Bessie Mountai 9.43 89 Pn 17 39 41.9 +0.7
MSW Makushin Switc 9.52 238 Pn 17 39 40.7 -1.7
JIS Juneau Island 9.75 91 Pn 17 39 45.8 +0.4
EPYK Eagle Plains 9.91 41 Pn 17 39 48.7 +1.1
P33M Teslin, Yukon 10.15 79 Pn 17 39 51.6 +0.6
P33M Teslin, Yukon 10.15 79 P **Pn 17 39 50.8 -0.2**
baz=276
DLBC Dease Lake 11.91 86 P **Pn 17 40 15.7 +1.1**
comp=N,8.3nm,0.3s,baz=228,slow=12,SNR=69
DLBC S **Sn 17 42 24.3 -1.0**
comp=N,0.7nm,0.3s,baz=158,slow=25,SNR=2.1
DLBC Dease Lake 11.91 86 Pn 17 40 15.0 +0.4
INK Inuvik 12.04 37 P **Pn 17 40 15.5 -0.6**
comp=N,0.7nm,0.3s,baz=243,slow=21,SNR=24
INK S **Sn 17 42 24.9 -3.4**
comp=N,0.2nm,0.3s,baz=343,slow=9.0,SNR=1.9
INK Inuvik 12.04 37 Pn 17 40 15.0 -1.1
INK Inuvik 12.04 37 P **Pn 17 40 14.9 -1.2**
baz=234
ATKA Atka Island 13.99 246 P **Pn 17 40 43.3 +1.6**
ADK Adak 15.37 249 P **P 17 41 01.1 -0.3**
BBB Bella Bella 15.83 108 P **Pn 17 41 06.0 +1.1**
comp=N,0.2nm,0.3s,baz=344,slow=7.4,SNR=2.5
BBB S **Sn 17 43 58.6 -1.3**
comp=N,0.3nm,0.3s,baz=250,slow=7.6,SNR=1.4
BBB Bella Bella 15.83 108 IAmb IAmb 17 41 12.5
comp=Z,17nm,0.9s
A36M Sachs Harbour 16.47 31 Pn **Pn 17 41 11.3 -1.3**
YKA Yellowknife Ar 18.58 65 P **Pn 17 41 37.9 -0.3**
comp=Z,0.6nm,0.3s,baz=276,slow=9.9,SNR=97
YKA ScP **ScP 17 49 26.2 +0.3**
comp=Z,0.1nm,0.3s,baz=282,slow=2.3,SNR=16
RES Resolute Bay 25.52 32 P **P 17 42 46.7 +0.5**
comp=Z,0.9nm,0.5s,baz=258,slow=6.5,SNR=5.1
RES Resolute Bay 25.52 32 IAmb IAmb 17 42 49.6
comp=Z,1.6nm,1.0s
SEY Seymchan 25.67 301 P **P 17 42 46.7 -1.1**
comp=Z,1.3nm,0.6s,baz=72,slow=6.5,SNR=5.3
PETK Petropavlovsk- 27.45 278 P **P 17 43 02.7 -1.1**
comp=Z,2.1nm,0.4s,baz=72,slow=13,SNR=74
NVAR Mina Array Bea 30.65 119 P **P 17 43 35.4 +2.9**
comp=Z,0.4nm,0.7s,baz=316,slow=11,SNR=3.0
ULM Lac du Bonnet 33.15 81 LR LR 17 56 37.3
comp=Z,86nm,19.7s,baz=120,slow=35
SCHQ Schefferville 43.72 57 P **P 17 45 22.9 +0.6**
comp=Z,1.5nm,0.5s,baz=325,slow=6.6,SNR=11
SCHQ Schefferville 43.72 57 IAmb IAmb 17 45 23.4
comp=Z,0.9nm,0.3s
TXAR Lajitas Array 44.94 110 P **P 17 45 34.0 +1.6**
comp=Z,0.2nm,0.8s,baz=318,slow=5.2,SNR=2.1
USRK Ussuriysk Ar. 46.06 285 P **P 17 45 39.0 -2.0**
comp=Z,0.9nm,0.5s,baz=38,slow=14,SNR=1.6
KSRS Korea Array 53.19 283 P **P 17 46 35.5 +0.4**
comp=Z,6.3nm,0.5s,baz=38,slow=7.0,SNR=23
SONM Songino Array 54.89 306 P **P 17 46 48.1 +0.6**
comp=Z,4.3nm,0.5s,baz=42,slow=6.9,SNR=20
ZALV Zalesovo Beam 57.53 324 P **P 17 47 06.0 +0.1**
comp=Z,4.2nm,0.4s,baz=32,slow=7.0,SNR=23
FINES FINESS Array B 59.11 0 P **P 17 47 17.5 +0.8**
comp=Z,1.0nm,0.8s,baz=8.9,slow=9.8,SNR=1.4
CMIG Matias Romero 59.54 109 LR LR 18 13 09.4
comp=Z,208nm,18.9s,baz=188,slow=36
EKA Eskdalemuir Ar 62.76 19 P **P 17 47 40.6 -0.9**
comp=Z,0.6nm,0.4s,baz=327,slow=4.8,SNR=5.5
MKAR Makanchi Array 64.58 321 P **P 17 47 52.8 -0.9**
comp=Z,0.6nm,0.5s,baz=43,slow=7.1,SNR=9.1
AKASG Malin Array Be 69.86 358 P **P 17 48 27.7 +0.8**
comp=Z,0.2nm,0.4s,baz=3.6,slow=6.1,SNR=2.5
KBZ Khabaz 76.02 348 LR LR 18 24 53.3
comp=Z,26nm,18.2s,baz=108,slow=38
GNI Garni 79.35 346 LR LR 18 30 41.9
comp=Z,18nm,18.2s,baz=282,slow=40
CMAR Chiang Mai Arr 82.92 295 P **P 17 49 40.7 -0.4**
comp=Z,1.3nm,0.6s,baz=10,slow=5.4,SNR=12

*CNRM **24** 17:37:46.2,35.'70N×3.'68W,h22km,ml2.8*
*IGIL **24** 17:37:47.8,35.'09N×3.'71W,h58km,ML2.3*
*INMG **24** 17:37:47.6±1.7,35.'71N×3.'70W,h0km±5km,ML2.4,Error ellipse: s-maj=3.7km s-min=3.6km az=151.0*
*SFS **24** 17:37:47.0,35.'68N×3.'74W,ML2.5,ALBORAN SUR*
ISC 24 17:37:47.6±1.1,35.'65N±0.'03×3.'62W±0.'04,h29km±12km, n30,σ1.962/55,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**211**	P	**Pb**	**17 37 57.6**	**-0.5**
PALE				S	**Sb**	**17 38 06.4**	**+1.1**
GOG	**Mont Gurugu**	**0.67**	**130**	P	**Pb**	**17 38 00.7**	**-0.2**
GOG				S	**Sb**	**17 38 09.8**	**0.0**
CHAS	**Isla Isabel II**	**1.08**	**115**	P	**Pn**	**17 38 06.4**	**-0.4**
CHAS				S	**Sb**	**17 38 20.3**	**-1.1**
EMAL	**Malaga-Limoner**	**1.28**	**330**	P	**Pn**	**17 38 09.3**	**-0.3**
EMAL				S	**Sn**	**17 38 24.1**	**-1.7**
CEU	**Ceuta**	**1.45**	**280**	P	**Pn**	**17 38 09.7**	**-2.1**
CEU				S	**Sn**	**17 38 25.1**	**-4.7**
CHEFC	**Chefchaouen**	**1.51**	**249**	P	**Pn**	**17 38 13.3**	**+0.6**
CHEFC				S	**Sn**	**17 38 29.9**	**-1.6**
JBK	**JBK**	**1.57**	**146**	P	**Pn**	**17 38 14.2**	**+0.4**
JBK				S	**Sn**	**17 38 31.5**	**-1.8**
LCRM	**LCR**	**2.21**	**208**	P	**Pn**	**17 38 24.6**	**+2.1**
LCRM				S	**Sb**	**17 38 53.2**	**-0.9**
IFR	**Ifrane**	**2.47**	**211**	P	**Pb**	**17 38 30.1**	**-1.3**
IFR				S	**Sn**	**17 38 55.1**	**-0.2**
MD31	**MD31**	**2.94**	**199**	P	**Pn**	**17 38 34.3**	**+1.9**
MD31				S	**Sn**	**17 39 06.3**	**-0.5**
MDT	**Midelt**	**2.95**	**196**	P	**Pn**	**17 38 33.8**	**+1.2**
MDT				S	**Sn**	**17 39 09.9**	**+2.8**
ZHG	**ZHG**	**3.33**	**229**	P	**Pn**	**17 38 38.1**	**+0.3**
ZHG				S	**Sn**	**17 39 16.3**	**-0.1**
PVAQ	**Vaqueiros**	**3.73**	**299**	*e*Pn	**Pn**	**17 38 44.4**	**+1.1**
PVAQ				*e*Sn	**Sn**	**17 39 25.3**	**-1.0**
PVAQ				A	A	17 39 29.5	
	7.0nm,0.7s						
PVAQ	**Vaqueiros**	**3.73**	**299**	P	**Pn**	**17 38 43.9**	**+0.6**
PVAQ				S	**Sn**	**17 39 24.6**	**-1.6**
PBDV	**Barranco-do-Ve**	**3.82**	**296**	*e*Pn	**Pn**	**17 38 46.0**	**+1.5**
PBDV				*e*Sn	**Sn**	**17 39 28.7**	**+0.2**
PBDV				A	A	17 39 37.8	
	6.6nm,1.0s						
PCVE	**Castro Verde**	**4.06**	**300**	*e*Pn	**Pn**	**17 38 49.3**	**+1.5**
PCVE				*e*Sn	**Sn**	**17 39 35.0**	**+0.5**
PCVE				A	A	17 39 47.7	
	4.6nm,0.6s						
PBEJ	**Beja**	**4.15**	**306**	*e*Sn	**Sn**	**17 39 36.6**	**+0.1**
MESJ	**Messejana**	**4.29**	**302**	*e*P	**Pn**	**17 38 52.5**	**+1.6**
MESJ				*e*S	**Sn**	**17 39 39.9**	**-0.1**
MESJ				IAML		17 39 41.8	
	comp=N,5.0nm,0.4s						
MESJ	**Messejana**	**4.29**	**302**	*e*Pn	**Pn**	**17 38 52.6**	**+1.6**
MESJ				*e*Sn	**Sn**	**17 39 40.2**	**+0.2**
MESJ				A	A	17 39 47.8	
	comp=N,5.4nm,0.3s						
PESTR	**Estremoz**	**4.51**	**317**	*e*Pn	**Pn**	**17 38 56.7**	**+2.8**
PESTR				*e*Sn	**Sn**	**17 39 45.1**	**-0.3**
PESTR				A	A	17 40 16.6	
	comp=N,4.2nm,0.5s						
PESTR	**Estremoz**	**4.51**	**317**	P	**Pn**	**17 38 53.6**	**-0.3**
PESTR				S	**Sn**	**17 39 41.3**	**-4.1**
PTEO	**Sao Teotonio**	**4.52**	**296**	*e*Sn	**Sn**	**17 39 45.9**	**+0.3**
PTEO				A	A	17 39 53.7	
	comp=N,7.9nm,0.9s						
EVO	**Evora**	**4.54**	**311**	*e*Pn	**Pn**	**17 38 55.8**	**+1.5**
EVO				*e*Sn	**Sn**	**17 39 45.3**	**-0.8**
EVO				A	A	17 39 47.5	
	comp=N,5.0nm,0.4s						
PNCL	**Nicolau / Gran**	**4.63**	**303**	*e*Pn	**Pn**	**17 38 56.9**	**+1.2**
PNCL				*e*Sn	**Sn**	**17 39 48.4**	**-0.1**
PNCL				A	A	17 40 03.9	
	comp=N,3.9nm,0.5s						
PMRV	**Marv??o**	**4.81**	**323**	*e*Pn	**Pn**	**17 39 01.1**	**+2.9**
PMRV				*e*Sn	**Sn**	**17 39 54.0**	**+1.0**
PMRV				A	A	17 40 12.1	
	comp=N,3.8nm,0.8s						
PMTG	**Montargil**	**5.01**	**314**	*e*Pn	**Pn**	**17 39 02.9**	**+2.1**
PMTG				*e*Sn	**Sn**	**17 39 57.2**	**-0.5**
PMTG				A	A	17 40 36.6	
	comp=N,3.6nm,0.7s						
PCBR	**Castelo Branco**	**5.18**	**325**	*e*Pn	**Pn**	**17 39 05.6**	**+2.5**
PCBR				*e*Sn	**Sn**	**17 40 02.7**	**+0.8**
PSBE	**So Bento**	**5.63**	**315**	*e*Pn	**Pn**	**17 39 11.4**	**+2.0**
MTE	**Manteigas**	**5.66**	**328**	*e*Sn	**Sn**	**17 40 14.3**	**+0.4**
PCAS	**Casmilo, Conde**	**5.84**	**320**	*e*Pn	**Pn**	**17 39 14.7**	**+2.4**

*CNRM **24** 17:41:22.5,35.'67N×3.'66W,h29km,ml2.5*
*SFS **24** 17:41:22.0,35.'70N×3.'77W,ML2.1,ALBORAN SUR*

*INMG **24** 17:41:23.5±1.6, 35.72N×3.76W, h5km±5km, ML2.0, Error ellipse: s-maj=3.9km s-min=3.2km az=130.0*

ISC 24 17:41:22.7±1.3, 35.67N±0.03×3.63W±0.04, h24km±14km, n23, σ1s55/41, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**210**	P	**Pb**	**17 41 32.5**	**-0.7**
PALE				S	**Sb**	**17 41 40.7**	**+0.4**
GOG	**Mont Gurugu**	**0.68**	**131**	P	**Pb**	**17 41 35.9**	**-0.1**
GOG				S	**Sb**	**17 41 45.6**	**+0.6**
CHAS	**Isla Isabel II**	**1.09**	**116**	P	**Pn**	**17 41 41.9**	**-0.6**
CHAS				S	**Sb**	**17 41 55.6**	**-1.0**
EMAL	**Malaga-Limoner**	**1.27**	**329**	P	**Pn**	**17 41 44.8**	**-0.2**
EMAL				S	**Sn**	**17 42 00.7**	**-0.6**
CEU	**Ceuta**	**1.44**	**280**	P	**Pn**	**17 41 44.8**	**-2.5**
CEU				S	**Sn**	**17 42 00.7**	**-4.8**
CHEFC	**Chefchaouen**	**1.51**	**249**	P	**Pn**	**17 41 48.3**	**0.0**
CHEFC				S	**Sn**	**17 42 07.2**	**-0.1**
JBK	**JBK**	**1.59**	**147**	P	**Pn**	**17 41 49.3**	**-0.3**
JBK				S	**Sn**	**17 42 08.7**	**-0.7**
IFR	**Ifrane**	**2.48**	**210**	P	**Pn**	**17 42 04.6**	**+2.9**
IFR				S	**Sn**	**17 42 28.4**	**-2.9**
MD31	**MD31**	**2.95**	**199**	P	**Pn**	**17 42 09.4**	**+1.3**
MD31				S	**Sn**	**17 42 42.4**	**-0.4**
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**17 42 10.4**	**+2.1**
MDT				S	**Sn**	**17 42 43.8**	**+0.6**
ZHG	**ZHG**	**3.33**	**229**	P	**Pn**	**17 42 13.8**	**+0.3**
ZHG				S	**Sn**	**17 42 51.7**	**-0.6**
PVAQ	**Vaqueiros**	**3.72**	**299**	*e*Pn	**Pn**	**17 42 20.6**	**+1.9**
PVAQ				*e*Sn	**Sn**	**17 43 01.4**	**-0.4**
PVAQ				A	A	17 43 07.9	
	3.3nm,0.6s						
PVAQ	**Vaqueiros**	**3.72**	**299**	P	**Pn**	**17 42 18.2**	**-0.5**
PVAQ				S	**Sn**	**17 43 00.5**	**-1.4**
PBDV	**Barranco-do-Ve**	**3.81**	**296**	*e*Pn	**Pn**	**17 42 20.7**	**+0.7**
PBDV				*e*Sn	**Sn**	**17 43 04.6**	**+0.6**
PCVE	**Castro Verde**	**4.05**	**300**	*e*Sn	**Sn**	**17 43 11.5**	**+1.5**
MESJ	**Messejana**	**4.28**	**302**	*e*Pn	**Pn**	**17 42 27.4**	**+1.0**
MESJ				*e*Sn	**Sn**	**17 43 15.2**	**-0.3**
PESTR	**Estremoz**	**4.50**	**316**	*e*Sn	**Sn**	**17 43 20.5**	**-0.4**
PESTR	**Estremoz**	**4.50**	**316**	P	**Pn**	**17 42 28.1**	**-1.2**
PESTR				S	**Sn**	**17 43 19.5**	**-1.4**
EVO	**Evora**	**4.53**	**310**	*e*Pn	**Pn**	**17 42 31.2**	**+1.5**
EVO				*e*Sn	**Sn**	**17 43 21.6**	**0.0**
PNCL	**Nicolau / Gran**	**4.63**	**303**	*e*Pn	**Pn**	**17 42 33.2**	**+2.1**
PMRV	**Marv??o**	**4.80**	**323**	*e*Pn	**Pn**	**17 42 36.5**	**+2.9**
PMRV				*e*Sn	**Sn**	**17 43 28.5**	**+0.1**
PMTG	**Montargil**	**5.00**	**314**	*e*Sn	**Sn**	**17 43 33.4**	**+0.2**
PSBE	**So Bento**	**5.62**	**315**	*e*Pn	**Pn**	**17 42 47.1**	**+2.3**

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*SFS **24** 17:43:07.0, 35.60N×3.80W, ML2.4, ALBORAN SUR*
*CNRM **24** 17:43:08.1, 35.68N×3.73W, h29km, ml2.6*
*INMG **24** 17:43:08.6±1.9, 35.58N×3.75W, h17km±9km, ML2.0, Error ellipse: s-maj=7.2km s-min=5.3km az=40.0*

ISC 24 17:43:08.2±1.2, 35.65N±0.04×3.65W±0.04, h20km±7km, n21, σ2s02/35, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.50**	**209**	S	**Sb**	**17 43 26.0**	**+1.0**
GOG	**Mont Gurugu**	**0.68**	**129**	P	**Pb**	**17 43 21.8**	**+0.3**
GOG				S	**Sn**	**17 43 31.9**	**-0.9**
CHAS	**Isla Isabel II**	**1.10**	**115**	P	**Pn**	**17 43 27.8**	**-0.6**
CHAS				S	**Sb**	**17 43 41.9**	**-0.5**
EMAL	**Malaga-Limoner**	**1.27**	**330**	P	**Pn**	**17 43 30.3**	**-0.5**
EMAL				S	**Sn**	**17 43 46.7**	**-0.7**
CEU	**Ceuta**	**1.43**	**280**	S	**Sn**	**17 43 44.9**	**-6.1**
CHEFC	**Chefchaouen**	**1.49**	**249**	P	**Pn**	**17 43 33.9**	**0.0**
CHEFC				S	**Sn**	**17 43 50.3**	**-2.4**
JBK	**JBK**	**1.59**	**146**	P	**Pn**	**17 43 35.5**	**+0.2**
JBK				S	**Sb**	**17 43 55.6**	**-1.0**
IFR	**Ifrane**	**2.46**	**210**	P	**Pn**	**17 43 47.8**	**+0.5**
IFR				S	**Sn**	**17 44 16.0**	**-0.7**
MD31	**MD31**	**2.93**	**199**	P	**Pn**	**17 43 54.8**	**+1.1**
MD31				S	**Sn**	**17 44 28.0**	**-0.3**
MDT	**Midelt**	**2.94**	**196**	P	**Pn**	**17 43 56.3**	**+2.4**
MDT				S	**Sn**	**17 44 28.4**	**-0.2**
ZHG	**ZHG**	**3.31**	**229**	P	**Pn**	**17 43 59.3**	**+0.4**
ZHG				S	**Sn**	**17 44 36.3**	**-1.4**
PVAQ	**Vaqueiros**	**3.71**	**299**	*e*Pn	**Pn**	**17 44 05.9**	**+1.5**
PVAQ				*e*Sn	**Sn**	**17 44 47.3**	**-0.2**
PVAQ				A	A	17 44 56.7	
	3.4nm,0.5s						
PVAQ	**Vaqueiros**	**3.71**	**299**	P	**Pn**	**17 44 03.9**	**-0.5**
PVAQ				S	**Sn**	**17 44 45.7**	**-1.8**
PBDV	**Barranco-do-Ve**	**3.80**	**296**	*e*Pn	**Pn**	**17 44 07.0**	**+1.4**
PESTR	**Estremoz**	**4.49**	**317**	*e*Sn	**Sn**	**17 45 06.9**	**+0.1**
PESTR	**Estremoz**	**4.49**	**317**	P	**Pn**	**17 44 14.4**	**-0.7**
PESTR				S	**Sn**	**17 45 01.1**	**-5.6**
EVO	**Evora**	**4.52**	**311**	*e*Sn	**Sn**	**17 45 07.7**	**+0.3**
PNCL	**Nicolau / Gran**	**4.62**	**304**	*e*Pn	**Pn**	**17 44 18.5**	**+1.7**
PNCL				*e*Sn	**Sn**	**17 45 09.6**	**-0.2**
PMRV	**Marv??o**	**4.80**	**323**	*e*Pn	**Pn**	**17 44 22.6**	**+3.3**
PMTG	**Montargil**	**4.99**	**314**	*e*Pn	**Pn**	**17 44 24.8**	**+2.9**
PMTG				*e*Sn	**Sn**	**17 45 19.0**	**0.0**
PCBR	**Castelo Branco**	**5.17**	**325**	*e*Pn	**Pn**	**17 44 27.2**	**+2.9**

NEIC 24 17:49:38.3±0.3, 35.75N±0.01×96.64W±0.02, h5km±5km, ML2.1/26, Error ellipse: s-maj=2.1km s-min=1.5km az=57.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK030	**Cody Creek RV**	**0.21**	**326**	Pg	Pg	17 49 42.4	-0.2
OK030				Sg	Sg	17 49 45.5	+0.2
OK030				IAML		17 49 47.4	
	404nm,0.2s						
OK031	**S. Brethren Rd**	**0.26**	**321**	Pg	Pg	17 49 43.2	-0.2
OK031				Sg	Sg	17 49 47.1	+0.2
OK034	**N. Norfolk Rd.**	**0.27**	**346**	Pg	Pg	17 49 43.4	-0.2
OK034				Sg	Sg	17 49 47.1	+0.1
OK034				IAML		17 49 47.4	
	605nm,0.1s						
OK034				IAML		17 49 49.5	
	353nm,0.1s						
OK033	**Mehan**	**0.38**	**320**	Pg	Pg	17 49 45.5	-0.3
OK033				IAML		17 49 51.3	
	247nm,0.1s						
OK033				IAML		17 49 56.8	
	220nm,0.1s						
QUOK	**Quay**	**0.42**	**352**	Pg	Pg	17 49 46.3	-0.3
QUOK				Sg	Sg	17 49 52.2	+0.1
QUOK				IAML		17 49 53.6	
	comp=N,162nm,0.1s						
OK025	**Westminster Rd**	**0.60**	**254**	Pg	Pg	17 49 49.4	-0.5
OK025				Sg	Sg	17 49 57.6	0.0
W35A	**Tecumseh**	**0.63**	**198**	Pg	Pg	17 49 50.0	-0.5
W35A				Sg	Sg	17 49 58.7	+0.1
W35A				IAML		17 49 59.1	
	comp=E,104nm,1.6s						
TUL1	**Leonard**	**0.70**	**77**	Pg	Pg	17 49 51.3	-0.6
TUL1				Sg	Sg	17 50 00.7	-0.2
OKCSW	**OKLAHOMA CITY**	**0.74**	**242**		Pg	17 49 52.2	-0.3
OKCSW				Sg	Sg	17 50 01.9	-0.2
OKCFA	**Oklahoma City**	**0.74**	**244**	Pg	Pg	17 49 52.0	-0.6
OKCFA				Sg	Sg	17 50 02.2	-0.1
OKCFA				IAML		17 50 02.6	
	comp=E,64nm,0.4s						
OKCFA				IAML		17 50 02.7	
	comp=N,57nm,0.2s						
FNO	**Franklin**	**0.80**	**232**	Pg	Pg	17 49 52.7	-0.9
FNO				Sg	Sg	17 50 03.9	-0.1
FNO				IAML		17 50 04.2	
	comp=E,60nm,0.2s						
FNO				IAML		17 50 04.2	
	comp=N,89nm,0.1s						
BLOK	**Blackwell**	**1.11**	**335**	Pg	Pg	17 49 58.5	-1.1
T35A	**Sooner Cattle**	**1.17**	**5**	Pg	Pg	17 49 59.3	-1.5
T35A				IAML		17 50 16.4	
	comp=N,60nm,0.1s						
X37A	**Clayton**	**1.55**	**138**		Pn	17 50 06.1	-0.6
W39A	**Magazine**	**2.39**	**103**	Pn	Pn	17 50 18.9	+0.7
S39A	**Bolivar**	**3.29**	**53**	Pn	Pn	17 50 30.4	-0.2
WHAR	**Wooly Hollow**	**3.58**	**96**	Pn	Pn	17 50 34.4	-0.1
W41B	**Gary Mavity, V**	**3.63**	**98**	Pn	Pn	17 50 35.6	+0.4
FCAR	**Ozark Folk Cen**	**3.67**	**87**	Pn	Pn	17 50 34.5	-1.2

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*IDC **24** 18:08:13.5±1.0, 43.47N×105.16W, h0km, mb3.8/3, mb1 3.7/10, mb1mx3.5/54, mbtmp3.4/10, ML3.0/6, Error ellipse: s-maj=18.7km s-min=8.8km az=153.0*
*NEIC **24** 18:08:18.3±1.6, 44.02N±0.05×105.31W±0.02, h0km±2km, ML3.2/40, Error ellipse: s-maj=9.2km s-min=3.1km az=352.0*

ISC 24 18:08:17.4±0.9, 44.02N±0.06×105.35W±0.07, h0km, n41, σ1s38/39, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**83**	Pg	**Pg**	**18 08 36.0**	**+0.4**
K22A	**Casper**	**1.61**	**212**		**Pn**	**18 08 46.6**	**-0.6**
K22A				IAML		18 09 10.9	
	comp=N,388nm,0.6s						
K22A				IAML		18 09 13.2	
	comp=E,396nm,0.2s						
RWWY	**Rawlins**	**2.70**	**211**	Pn	**Pn**	**18 09 04.2**	**+1.9**
RWWY				IAML		18 09 49.4	
	comp=E,96nm,0.6s						
RWWY				IAML		18 10 24.5	
	comp=E,75nm,4.6s						
PHWY	**Pilot Hill**	**2.71**	**182**	Pn	**Pn**	**18 09 03.5**	**+1.0**
PHWY				IAML		18 09 43.6	
	comp=E,78nm,0.6s						
LAO	**LASA Array**	**2.74**	**347**		**Pn**	**18 09 03.1**	**+0.4**
LAO				IAML		18 09 48.9	
	comp=E,158nm,0.6s						
LAO				IAML		18 10 02.9	
	comp=E,138nm,0.9s						
RLMT	**Red Lodge**	**3.01**	**293**		**Pn**	**18 09 07.6**	**+1.2**
RLMT				IAML		18 10 03.3	
	comp=E,70nm,0.6s						
N23A	**Red Feather La**	**3.15**	**188**	Pn	**Pn**	**18 09 09.7**	**+1.2**
N23A				IAML		18 09 58.7	
	comp=N,61nm,0.4s						
N23A				IAML		18 10 13.4	
	comp=E,68nm,1.6s						
BW06	**Boulder Array**	**3.31**	**249**		**Pn**	**18 09 11.1**	**+0.4**
BW06				IAML		18 10 02.6	
	comp=E,43nm,0.4s						
BW06				IAML		18 10 03.4	
	comp=E,65nm,1.2s						
PD31	**Pinedale Array**	**3.31**	**249**	Pn	**Pn**	**18 09 11.5**	**+0.8**
PDAR	**Pinedale Array**	**3.31**	**249**	Pn	**Pn**	**18 09 10.5**	**-0.1**
	comp=E,4.3nm,0.3s,baz=67,slow=16,SNR=56						
PDAR				Lg	Lg	18 09 56.1	
	comp=E,15nm,0.3s,baz=70,slow=31,SNR=15						
PDAR	**Pinedale Array**	**3.31**	**249**	Pn	**Pn**	**18 09 11.8**	**+1.2**
YMP	**Mirror Lake Pl**	**3.52**	**284**		**Pn**	**18 09 14.4**	**+0.8**
YMP				IAML		18 10 10.4	
	comp=E,66nm,0.3s						
YMP				IAML		18 10 24.3	
	comp=N,59nm,0.7s						
GCMT	**Greycliff**	**3.54**	**302**	Pn	**Pn**	**18 09 14.5**	**+0.8**
H17A	**Grant Village**	**3.77**	**278**		**Pn**	**18 09 19.7**	**+2.7**
LOHW	**Long Hollow**	**3.82**	**266**		**Pn**	**18 09 19.9**	**+2.2**
LOHW				IAML		18 10 21.9	
	comp=N,30nm,0.9s						
MOOW	**Moose Ponds**	**3.91**	**268**	Pn	**Pn**	**18 09 20.5**	**+1.7**
OGNE	**Ogallala**	**3.93**	**140**		**Pn**	**18 09 20.0**	**+1.0**
REDW	**Red Top Meadow**	**4.04**	**263**	Pn	**Pn**	**18 09 22.4**	**+1.7**
REDW				IAML		18 10 33.9	
	comp=N,41nm,1.2s						
E28A	**Huff**	**4.17**	**50**		**Pn**	**18 09 23.2**	**+1.0**
ISCO	**Idaho Springs**	**4.22**	**183**	Pn	**Pn**	**18 09 24.6**	**+1.4**
ISCO				IAML		18 10 33.5	
	comp=N,29nm,0.9s						
ISCO				IAML		18 10 34.8	
	comp=N,22nm,4.2s						
O20A	**White River Ci**	**4.43**	**210**		**Pn**	**18 09 27.1**	**+1.1**
O20A				IAML		18 11 03.0	
	comp=E,41nm,2.3s						
DGMT	**Dagmar**	**4.53**	**10**	Pn	**Pn**	**18 09 28.8**	**+1.7**
BOZ	**Bozeman (W)**	**4.74**	**292**		**Pn**	**18 09 31.0**	**+0.8**
BOZ				IAML		18 10 44.9	
	comp=E,15nm,4.2s						
HRY	**Holter Researc**	**5.30**	**303**		**Pn**	**18 09 38.6**	**+0.7**
LRM	**Limekiln Ridge**	**5.35**	**292**	Pn	**Pn**	**18 09 39.0**	**+0.3**
KSCO	**Kaye Shedlock'**	**5.40**	**157**	Pn	**Pn**	**18 09 39.5**	**+0.2**
HVU	**Hansel Valley**	**5.89**	**250**	Pn	**Pn**	**18 09 46.3**	**+0.2**
P17A	**Butcher Ranch,**	**6.07**	**223**		**Pn**	**18 09 48.6**	**+0.1**
SRU	**San Rafael Swe**	**6.25**	**220**		**Pn**	**18 09 50.2**	**-0.8**
MSO	**Missoula**	**6.67**	**298**	Pn	**Pn**	**18 09 56.6**	**0.0**
DUG	**Dugway, Tooele**	**6.73**	**238**		**Pn**	**18 09 58.7**	**+1.1**
ELK	**Elko**	**8.01**	**249**	Pn	**Pn**	**18 10 13.1**	**-2.2**
	comp=E,0.1nm,0.3s,baz=56,slow=18,SNR=2.2						
I10CA	**LAC DU BONNET**	**8.87**	**42**	*i*		19 06 40.0	
	baz=221,slow=316,SNR=1.0						
ULM	**Lac du Bonnet**	**8.97**	**43**	Pn	**Pn**	**18 10 26.2**	**-2.0**
	comp=E,1.3nm,0.3s,baz=231,slow=11,SNR=8.6						
NEW	**Newport**	**9.21**	**302**	Pn	**Pn**	**18 10 31.9**	**+0.5**
	comp=E,0.3nm,0.3s,baz=117,slow=12,SNR=2.4						
NVAR	**Mina Array Bea**	**11.23**	**245**	Pn	**Pn**	**18 10 55.6**	**-3.7**
	comp=E,0.1nm,0.3s,baz=51,slow=12,SNR=2.0						
TXAR	**Lajitas Array**	**14.71**	**174**	Pn	Pn	18 11 36.6	-10
	comp=E,0.0nm,0.3s,baz=355,slow=14,SNR=3.9						
YKA	**Yellowknife Ar**	**19.28**	**347**	P	**Pn**	**18 12 44.9**	**+0.6**
	comp=E,0.1nm,0.3s,baz=160,slow=12,SNR=4.8						
DLBC	**Dease Lake**	**20.97**	**322**	P	**P**	**18 13 03.8**	**+1.8**
	comp=E,2.0nm,0.5s,baz=132,slow=17,SNR=6.1						
FRB	**Frobisher Bay**	**28.71**	**34**	P	**P**	**18 14 15.4**	**-0.4**
	comp=E,0.6nm,0.3s,baz=241,slow=18,SNR=5.6						
MKAR	**Makanchi Array**	**89.32**	**355**	P	**P**	**18 21 14.3**	**-1.2**
	comp=E,0.2nm,0.6s,baz=5.4,slow=3.9,SNR=4.3						

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*TUL **24** 18:19:40.8±0.9, 36.94N±0.02×97.85W±0.02, h5km±6km, ML3.0, mb_Lg2.5/17(NEIC), Error ellipse: s-maj=2.6km s-min=1.3km az=213.0*

NEIC 24 18:19:41.0±0.8, 36.91N±0.01×97.86W±0.02, h6km±2km, Error ellipse: s-maj=2.3km s-min=1.7km az=225.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.06**	**184**	Pg	Pg	18 19 43.1	+0.7
KAN14	**Manchester OK**	**0.10**	**299**	Pg	Pg	18 19 43.2	0.0
KAN17	**Caldwell West**	**0.15**	**28**	Pg	Pg	18 19 43.9	-0.2
KAN05	**Bluff City Nor**	**0.20**	**356**		Pg	18 19 44.7	-0.3
KAN01	**Argonia South**	**0.26**	**17**	Pg	Pg	18 19 45.7	-0.3
KAN10	**Anthony SW Sta**	**0.29**	**318**	Pg	Pg	18 19 46.5	-0.1
KAN10				Sg	Sg	18 19 50.2	-0.2
KAN13	**South Haven SW**	**0.32**	**71**	Pg	Pg	18 19 47.2	0.0
KAN13				Sg	Sg	18 19 51.0	-0.5
KAN08	**Anthony NE Sta**	**0.33**	**344**	Pg	Pg	18 19 47.1	-0.3
KAN06	**Argonia West S**	**0.34**	**360**		Pg	18 19 47.3	-0.3
KAN16	**Harper SW Stat**	**0.36**	**332**		Pg	18 19 47.6	-0.3
KAN16				Sg	Sg	18 19 51.4	-1.3
KAN12	**Harper NE Stat**	**0.40**	**344**	Pg	Pg	18 19 48.4	-0.4
CROK	**Carrier**	**0.42**	**194**		Pg	18 19 49.7	+0.7
BLOK	**Blackwell**	**0.53**	**106**	Pg	Pg	18 19 51.5	+0.2
OK035	**E0210 Rd and N**	**0.71**	**254**		Pg	18 19 54.7	0.0
U32A	**Winter Ranch,**	**1.06**	**241**	Pg	Pg	18 20 01.1	-0.3
T35A	**Sooner Cattle**	**1.08**	**89**		Pg	18 20 01.1	-0.5
OK033	**Mehan**	**1.14**	**139**		Pg	18 20 02.8	+0.1
OK029	**Liberty Lake**	**1.16**	**164**		Pg	18 20 03.1	-0.1
QUOK	**Quay**	**1.18**	**128**		Pg	18 20 03.4	-0.2
QUOK				IAmb_Lg		18 20 19.5	
	comp=Z,31nm,1.2s						
OK031	**S. Brethren Rd**	**1.26**	**139**	Pn	Pg	18 20 04.8	-0.3
BCOK	**Bluff Creek, N**	**1.27**	**171**	Pn	Pn	18 20 04.8	-0.4
OK034	**N. Norfolk Rd.**	**1.28**	**134**	Pn	Pn	18 20 04.7	-0.7
OK025	**Westminster Rd**	**1.39**	**162**		Pn	18 20 06.8	-0.2
OKCFA	**Oklahoma City**	**1.53**	**168**		Pb	18 20 09.3	-0.3
OKCFA				IAmb_Lg		18 20 32.4	
	comp=Z,20nm,0.9s						
OKCSW	**OKLAHOMA CITY**	**1.54**	**167**		Pb	18 20 09.5	-0.4
R32A	**Long Quarter,**	**1.66**	**336**		Pn	18 20 10.8	+0.2
FNO	**Franklin**	**1.69**	**167**	Pn	Pb	18 20 11.8	-0.7
W35A	**Tecumseh**	**1.92**	**155**	Pn	Pn	18 20 15.2	+0.9
TUL1	**Leonard**	**1.94**	**120**		Pb	18 20 15.9	-0.9
TUL1				IAmb_Lg		18 20 45.6	
	comp=Z,19nm,0.7s						
KSU1	**Kansas State U**	**2.40**	**24**	IAmb_Lg		18 20 54.1	
	comp=Z,15nm,0.9s						
CBKS	**Cedar Bluff**	**2.42**	**322**	IAmb_Lg		18 21 00.6	
	comp=Z,35nm,1.0s						
U38A	**Gravette**	**2.83**	**98**	Pn	Pn	18 20 26.7	0.0
U38A				IAmb_Lg		18 21 14.8	
	comp=Z,17nm,1.1s						
X37A	**Clayton**	**3.07**	**138**	IAmb_Lg		18 21 25.5	
	comp=Z,21nm,0.8s						
HHAR	**Hobbs**	**3.21**	**100**	Pn	Pn	18 20 32.8	+0.8
S39A	**Bolivar**	**3.70**	**76**	Pn	Pn	18 20 38.6	0.0
P38A	**Dawn**	**4.35**	**50**	Pn	Pn	18 20 48.2	+0.6
R40A	**Maddies Statio**	**4.65**	**71**	Pn	Pn	18 20 52.5	+0.8
X40A	**Basin Creek Fa**	**4.75**	**119**	IAmb_Lg		18 22 21.3	
	comp=Z,13nm,1.1s						
T25A	**Trinidad**	**5.25**	**274**	IAmb_Lg		18 22 36.4	

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*IDC **24** 18:34:28.6±0.9, 7.03N×38.27E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.7/48, mbtmp3.9/15, ML3.8/2, MS3.8/33, Ms1 3.8/33, ms1mx3.6/77, Error ellipse: s-maj=23.3km s-min=20.1km az=81.0*
*EAF **24** 18:34:29.6±2.3, 6.87N×38.71E, h10km, ML4.3*
*AAE **24** 18:34:31.4±9.2, 6.71N×38.74E, h10km, ML4.8*
*NEIC **24** 18:34:32.5±1.0, 7.09N±0.07×38.48E±0.09, h10km±2km, mb4.4/31, Error ellipse: s-maj=14.8km s-min=12.2km az=257.0*

ISC 24 18:34:29.7±1.9, 6.99N±0.04×38.43E±0.05, h4km±13km, n128, σ1s35/110, mb4.3/32, MS3.9/31, 5C-4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DILA	**Dilla**	**0.56**	**194**	⇓*i*Pg	**Pb**	**18 34 41.2**	**-1.1**
DILA				*e*S	**Sg**	**18 34 48.3**	**+0.3**
DILA				IAML		18 34 53.8	
	comp=E,53μm,0.6s						
DILA				IAML		18 34 55.8	
	comp=N,46μm,0.4s						
DILA	**Dilla**	**0.56**	**194**	*e*P	**Pb**	**18 34 41.2**	**-1.1**
DILA				*e*S	**Sg**	**18 34 48.1**	**+0.1**
DILA				IAML		18 34 55.8	
	comp=N,46μm,0.4s						
DILA	**Dilla**	**0.56**	**194**	⇓*i*Pg	**Pb**	**18 34 41.2**	**-1.1**
DILA				*e*S	**Sg**	**18 34 48.3**	**+0.3**
DILA				IAML		18 34 53.8	
	comp=E,53μm,0.6s						
DILA				IAML		18 34 55.8	
	comp=N,46μm,0.4s						
FURI	**Furi**	**1.92**	**7**	⇑*e*P	**Pn**	**18 35 01.9**	**-1.5**
FURI				*e*S	**Sn**	**18 35 27.9**	**-0.2**
FURI				IAML		18 35 40.0	
	comp=N,3μm,0.6s						
FURI				IAML		18 35 42.3	
	comp=N,3μm,0.7s						
FURI	**Furi**	**1.92**	**7**	Pn	**Pn**	**18 35 02.5**	**-0.8**
FURI				Sn	**Sn**	**18 35 27.2**	**-0.9**
FURI	**Furi**	**1.92**	**7**	⇑*i*P	**Pn**	**18 35 02.1**	**-1.3**
FURI				*i* S	**Sb**	**18 35 30.1**	**+0.3**
FURI	**Furi**	**1.92**	**7**	*e*P	**Pn**	**18 35 02.6**	**-0.8**
FURI				*e*S	**Sb**	**18 35 30.4**	**+0.6**
FURI				IAML		18 35 40.0	
	comp=N,3μm,0.6s						
FURI	**Furi**	**1.92**	**7**	⇑*e*P	**Pn**	**18 35 01.9**	**-1.5**
FURI				*e*S	**Sn**	**18 35 27.9**	**-0.2**
FURI				IAML		18 35 40.0	
	comp=N,3μm,0.6s						
FURI				IAML		18 35 42.3	
	comp=N,3μm,0.7s						
NGLE	**Hospital, Nege**	**2.00**	**145**	⇓*i*P	**Pn**	**18 35 03.9**	**-0.5**
AAE	**Adis Abeba**	**2.06**	**9**	⇓*e*P	**Pn**	**18 35 04.6**	**-0.8**
AAE				*e*S	**Sb**	**18 35 33.8**	**-0.2**
AAE				IAML		18 35 54.3	
	comp=N,4μm,0.6s						
AAE	**Adis Abeba**	**2.06**	**9**	*e*P	**Pn**	**18 35 04.3**	**-1.0**
AAE				*e*S	**Sb**	**18 35 33.8**	**-0.2**
AAE				IAML		18 35 54.3	
	comp=N,4μm,0.6s						
GINR	**Hospital, Gini**	**2.27**	**86**	⇑*i*P	**Pn**	**18 35 09.8**	**+1.5**
ANKE	**Ethiopia-Afar**	**2.90**	**26**	*e*P	**Pn**	**18 35 17.2**	**+0.3**
ANKE				*e*S	**Sb**	**18 35 59.3**	**+1.2**
GOREE	**District Admin**	**3.09**	**292**	⇑*i*P	**Pn**	**18 35 19.0**	**-0.6**
KIRE	**School, Kiremu**	**3.33**	**333**	*i* P	**Pn**	**18 35 22.6**	**-0.2**
HARO	**School, Haroo**	**3.53**	**324**	*i* P	**Pn**	**18 35 24.8**	**-0.8**
MERTO	**Secondary Scho**	**3.87**	**358**	*i* P	**Pb**	**18 35 35.8**	**-3.0**
GIDAE	**Health Center,**	**4.27**	**298**	*i* P	**Pn**	**18 35 35.0**	**-0.7**
MEND	**High School, M**	**4.30**	**311**	*i* P	**Pn**	**18 35 35.1**	**-1.0**
CHGE	**School, Chagni**	**4.38**	**335**	*i* P	**Pn**	**18 35 38.1**	**+0.9**
DEBR	**School, Debre**	**4.54**	**323**	*i* P	**Pn**	**18 35 40.2**	**+0.7**
BAHR	**High School, B**	**4.66**	**347**	*i* P	**Pn**	**18 35 43.1**	**+2.0**
LODK	**Lodwar**	**4.67**	**221**	*e*P	**Pn**	**18 35 41.3**	**+0.1**
LODK	**Lodwar**	**4.67**	**221**	Pn	**Pn**	**18 35 41.2**	**+0.1**
LODK	**Lodwar**	**4.67**	**221**	*e*P	**Pn**	**18 35 41.3**	**+0.1**
SHERE	**Police Station**	**5.08**	**315**	*i* P	**Pn**	**18 35 47.1**	**+0.4**
SHAW	**Medical Clinic**	**5.15**	**343**	*i* P	**Pn**	**18 35 48.6**	**+0.8**
HARA	**HARA**	**5.32**	**64**	*e*P	**Pn**	**18 35 47.3**	**-2.9**
HARA				*e*S	Sn	18 36 41.1	-11
HARA				IAML		18 36 52.8	
	comp=E,904nm,0.8s						
HARA				IA

comp=N,0.9nm,0.9s,baz=127,slow=12,SNR=2.4
GNI Garni 33.50 9 LR LR 18 54 43.6
comp=N,68nm,20.8s,baz=179,slow=36
KARS Kars 33.76 6 P **P 18 41 10.7 -2.0**
LBTB Lobatse 34.17 201 LR LR 18 55 28.4
comp=N,267nm,21.1s,baz=22,slow=37
HRA Herat 35.02 36 P **P 18 41 23.4 -0.4**
HRA IAmb IAmb 18 41 30.2
comp=Z,5.4nm,1.1s
GEYT Alibeck 35.61 27 LR LR 18 56 33.0
comp=Z,100nm,18.0s,baz=237,slow=37
TORD Torodi Ar. Bea 36.65 283 P **P 18 41 34.4 -3.4**
comp=Z,0.8nm,1.0s,baz=69,slow=3.4,SNR=3.2
KBZ Khabaz 36.81 5 P **P 18 41 37.8 -0.9**
comp=Z,1.7nm,0.9s,baz=136,slow=9.8,SNR=1.8
KBZ LR LR 18 55 47.9
comp=Z,90nm,21.5s,baz=193,slow=35
BOSA Boshof 37.60 199 LR LR 18 57 54.1
comp=Z,118nm,19.4s,baz=26,slow=37
VTS Vitosha 37.94 342 P **P 18 41 50.1 +1.6**
KBL Kabul 39.34 42 P **P 18 42 01.8 +1.3**
MLR Muntele Rosu 39.86 346 LR LR 19 01 11.8
comp=Z,90nm,18.6s,baz=224,slow=40
NIL Nilore 41.72 46 P **P 18 42 20.4 +0.4**
NIL IAmb IAmb 18 42 25.8
comp=Z,6.0nm,0.8s
PALK Pallekele 41.94 87 LR LR 18 57 56.3
comp=Z,140nm,19.2s,baz=21,slow=33
CHGR Chuyangaron 41.99 37 P **P 18 42 22.2 0.0**
BURAR Bucovina Array 42.03 347 P **P 18 42 22.9 +0.5**
BUR08 Bucovina Ar. S 42.06 347 P **P 18 42 23.8 +1.2**
SUR Sutherland 42.59 202 LR LR 18 59 51.3
comp=Z,143nm,19.6s,baz=14,slow=36
DBIC Dimbokro 42.97 272 LR LR 19 00 18.8
comp=Z,129nm,18.8s,baz=104,slow=36
PSZ Piszkesteto 43.74 342 P **P 18 42 36.6 +0.4**
PSZ IAmb IAmb 18 42 41.5
comp=Z,5.1nm,1.0s
BTK Batken 43.88 36 P **P 18 42 38.8 +1.2**
BTK IAmb IAmb 18 42 43.4
comp=Z,7.1nm,1.2s
AKASG Malin Array Be 44.24 352 P **P 18 42 39.4 -0.7**
comp=Z,1.9nm,0.9s,baz=171,slow=6.7,SNR=7.9
AKASG LR LR 19 01 28.1
comp=Z,56nm,18.4s,baz=196,slow=37
AKASG Malin Array Be 44.24 352 IAmb IAmb 18 42 40.4
comp=Z,1.2nm,1.1s
AKBB Malin Array Si 44.24 352 P **P 18 42 41.1 +1.0**
AKBB IAmb IAmb 18 42 44.5
comp=Z,5.0nm,1.1s
SOKA Soboth 44.36 337 *e*P **P 18 42 43.5 +2.2**
comp=Z,8.9nm,1.7s
OBKA Obir 44.41 336 *e*P **P 18 42 43.8 +2.1**
comp=Z,7.8nm,0.9s
ARSA Arzberg 44.65 338 *e*P P 18 42 48.5 +5.0
comp=Z,3.3nm,1.1s
CONA Conrad Observa 45.10 339 *e*P P 18 42 52.0 +4.9
comp=Z,1.9nm,1.0s
ABTA Abfaltersbach 45.44 335 *e*P P 18 42 54.6 +4.8
comp=Z,4.2nm,1.2s
KKAR Karatay Array 45.71 33 P **P 18 42 52.0 0.0**
ABKAR Akbulak array 45.87 20 P **P 18 42 53.4 +0.3**
ABKAR Akbulak array 45.87 20 P **P 18 42 52.9 -0.2**
ABKAR IAmb IAmb 18 43 00.8
comp=Z,2.5nm,1.1s
MORC Moravsky Berou 46.11 341 P **P 18 42 56.9 +1.8**
MORC IAmb IAmb 18 43 00.0
comp=Z,5.7nm,1.4s
KRLC Kraliky 46.62 341 *e*P **P 18 43 00.0 +1.0**
GEC2 GERESS Array S 46.66 338 P **P 18 42 59.7 +0.3**
GERES GERESS Array B 46.66 338 P **P 18 42 57.9 -1.5**
comp=Z,0.7nm,0.8s,baz=139,slow=6.3,SNR=4.8
GERES GERESS Array B 46.66 338 P **P 18 42 59.8 +0.3**
KHC Kasperske Hory 46.94 338 *e*P **P 18 43 04.1 +2.5**
KHC Kasperske Hory 46.94 338 P **P 18 43 01.4 -0.2**
KHC IAmb IAmb 18 43 06.7
comp=Z,6.6nm,1.4s
DPC Dobruska-Polom 47.00 341 *e*P **P 18 43 05.6 +3.5**
AAK Ala-Archa 47.65 36 LR LR 19 05 10.2
comp=Z,117nm,18.5s,baz=254,slow=39
AAK Ala-Archa 47.65 36 P **P 18 43 09.0 +1.6**
AAK IAmb IAmb 18 43 20.7
comp=Z,4.6nm,1.0s
KDJ Kajisay 48.96 38 P **P 18 43 17.8 +0.2**
KDJ IAmb IAmb 18 43 23.1
comp=Z,4.6nm,1.1s
TARG Taragay, Kyrgy 49.12 39 P **P 18 43 19.8 +0.8**
TARG IAmb IAmb 18 43 24.1
comp=Z,3.6nm,0.9s
PRZ Przheval'sk 49.91 38 P **P 18 43 24.8 0.0**
ESDC Sonseca Array 50.01 317 P **P 18 43 25.4 -0.1**
comp=Z,1.0nm,0.8s,baz=125,slow=7.7,SNR=6.9
ESDC LR LR 19 06 25.9
comp=Z,92nm,18.1s,baz=110,slow=38
ARU Arti 51.81 14 LR LR 19 07 24.9
comp=Z,64nm,18.8s,baz=239,slow=38
ARU Arti 51.81 14 P **P 18 43 39.1 +0.5**
ARU IAmb IAmb 18 43 52.2
comp=Z,4.4nm,1.1s
KLMR Klimovskoe 53.76 1 *e* **P 18 43 48.8 -4.1**
KLMR AMP 18 43 56.6
comp=Z,22nm,1.4s
MK31 Makanchi Array 54.58 36 P **P 18 44 00.1 +0.9**
MK31 IAmb IAmb 18 44 03.4
comp=Z,2.9nm,0.8s
MKAR Makanchi Array 54.58 36 P **P 18 43 58.6 -0.7**
comp=Z,3.2nm,0.8s,baz=234,slow=5.5,SNR=30
MKAR LR LR 19 10 50.0
comp=Z,107nm,18.1s,baz=244,slow=40
MKAR Makanchi Array 54.58 36 P **P 18 44 00.4 +1.2**
KURBB Kurchatov Arra 54.78 30 LR LR 19 10 39.1
comp=Z,178nm,18.6s,baz=204,slow=40
FINES FINESS Array B 55.12 353 P **P 18 44 02.2 -0.6**
comp=Z,2.0nm,0.9s,baz=161,slow=7.1,SNR=4.7
NB2 NORSAR Subarra 57.64 345 P **P 18 44 21.8 +0.9**
comp=Z,43nm,2.0s,baz=144,slow=6.9
NB2 NORSAR Subarra 57.64 345 P **P 18 44 21.8 +0.9**
baz=144,slow=6.9
NOA NORSAR Array B 57.64 345 P **P 18 44 20.3 -0.7**
comp=Z,2.6nm,0.9s,baz=141,slow=7.1,SNR=7.3
GOMU GeErMu 58.97 52 P **P 18 44 33.8 +2.7**
GOMU pP sP 18 44 40.4 +6.6
GOMU sP pP 18 44 45.8 +13
GOMU pmax pmax
comp=Z,3.0nm,1.2s
GOMU pmax pmax
comp=Z,130nm,6.2s
ZALV Zalesovo Beam 59.86 30 P **P 18 44 36.3 -0.1**
comp=Z,0.5nm,0.5s,baz=248,slow=7.6,SNR=1.5
ZALV LR LR 19 13 49.1
comp=Z,129nm,18.5s,baz=214,slow=39
ZALV Zalesovo Beam 59.86 30 P **P 18 44 36.4 +0.1**
CMAR Chiang Mai Arr 59.88 73 P **P 18 44 37.7 +0.4**
comp=Z,0.2nm,0.3s,baz=276,slow=4.4,SNR=2.7
CMAR LR LR 19 10 26.9
comp=Z,13nm,18.1s,baz=285,slow=36
PSI Prapat 60.39 91 LR LR 19 07 55.9
comp=Z,93nm,19.0s,baz=248,slow=33
NRIK Noril'sk 69.91 17 LR LR 19 20 15.5
comp=Z,82nm,18.5s,baz=208,slow=39
NRIK Noril'sk 69.91 17 P **P 18 45 42.3 +0.7**
NRIK IAmb IAmb 18 45 46.8
comp=Z,3.9nm,0.9s
SONM Songino Array 70.11 42 P **P 18 45 43.7 +0.2**
comp=Z,2.3nm,0.8s,baz=250,slow=6.1,SNR=13
SONM LR LR 19 20 52.8
comp=Z,81nm,19.4s,baz=262,slow=40
SONM Songino Array 70.11 42 P **P 18 45 44.2 +0.8**
SONM IAmb IAmb 18 45 49.0
comp=Z,4.0nm,1.2s
LEM Lembang 70.37 100 LR LR 19 10 33.3
comp=Z,102nm,20.1s,baz=305,slow=31
TIXI Tiksi 83.56 19 LR LR 19 28 39.9
comp=Z,71nm,19.5s,baz=270,slow=39
YAK Yakutsk 84.47 28 LR LR 19 30 19.2
comp=Z,51nm,18.1s,baz=92,slow=40
KLR Kul'dur 86.93 41 LR LR 19 31 16.3
comp=Z,63nm,19.3s,baz=282,slow=39
MDP Montagnes des 90.45 275 LR LR 19 26 29.7
comp=Z,51nm,18.2s,baz=220,slow=35
ASAJ Asahikawa 95.23 45 LR LR 19 36 08.5
comp=Z,43nm,18.9s,baz=81,slow=39
QSPA South Pole Qui 96.96 180 LR LR 19 29 28.3
comp=Z,74nm,19.3s,baz=77,slow=34
WRA Warramunga Arr 97.88 109 LR LR 19 29 19.3
comp=Z,33nm,18.3s,baz=225,slow=34

PDAR Pinedale Array 122.55 332 PKP **PKPdf 18 53 26.6 -0.6**
comp=Z,0.3nm,0.7s,baz=108,slow=2.9,SNR=2.2

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*IDC **24** 18:40:47.8±1.6, 59°.79N×152°.99W, h94km±21km, mb3.7/6, mb1 3.8/11, mb1mx3.4/55, mbtmp4.0/11, Error ellipse: s-maj=23.4km s-min=14.7km az=119.0*
*NEIC **24** 18:40:48.7±0.8, 59°.84N±0°.04×152°.89W±0°.07, h110km±5km, Error ellipse: s-maj=5.3km s-min=4.8km az=137.0*
*AEIC **24** 18:40:49±1.1, 59°.83N±0°.03×152°.90W±0°.06, h108km±5km, ML3.6, ML3.7/96(NEIC), Error ellipse: s-maj=5.3km s-min=3.5km az=136.0*
ISC 24 18:40:48.8±0.7, 59°.84N±0°.04×152°.84W±0°.03, h110km±5km, n220, σ0.80/215, mb4.0/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.27**	**24**			**Pn**	**18 41 04.3**	**-0.1**
O20K						**Sn**	**18 41 16.3**	**+0.1**
O20K	**Slope Mountain** baz=210	**0.27**	**24**	P		**Pn**	**18 41 04.3**	**-0.1**
O20K	baz=210			S		**Sn**	**18 41 16.3**	**+0.1**
OPT	**Oil Point**	**0.27**	**227**			**Pn**	**18 41 04.4**	**0.0**
OPT	**Oil Point** baz=42	**0.27**	**227**	P		**Pn**	**18 41 04.4**	**0.0**
AU22	**Augustine Moun**	**0.54**	**209**			**Pn**	**18 41 06.0**	**+0.2**
AU22						**Sn**	**18 41 18.4**	**-0.2**
AUL	**Augustine Lava**	**0.55**	**214**			**Pn**	**18 41 06.2**	**+0.3**
AUL						**Sn**	**18 41 18.7**	**-0.1**
AUQ	**Augustine Qik'**	**0.57**	**211**			**Pn**	**18 41 06.3**	**+0.2**
AUQ						**Sn**	**18 41 19.1**	**0.0**
AUW	**Augustine West**	**0.57**	**215**			**Pn**	**18 41 06.6**	**+0.5**
RED	**Redoubt Volcan**	**0.58**	**3**			**Pn**	**18 41 06.2**	**-0.1**
RED						**Sn**	**18 41 18.5**	**-0.9**
RSO	**Redoubt South**	**0.63**	**4**			**Pn**	**18 41 06.7**	**0.0**
HOM	**Homer**	**0.63**	**106**			**Pn**	**18 41 07.1**	**+0.6**
HOM						**Sn**	**18 41 20.7**	**+0.8**
HOM	**Homer** comp=N,5μm,0.4s	**0.63**	**106**	IAML			18 41 22.1	
HOM	comp=E,3μm,0.6s			IAML			18 41 22.6	
HOM	**Homer** baz=286	**0.63**	**106**	P		**Pn**	**18 41 07.1**	**+0.6**
HOM	baz=286			S		**Sn**	**18 41 20.7**	**+0.8**
NCT	**North Crescent**	**0.73**	**357**			**Pn**	**18 41 07.4**	**0.0**
NCT						**Sn**	**18 41 20.6**	**-0.9**
DFR	**Drift River**	**0.76**	**6**			**Pn**	**18 41 07.7**	**0.0**
DFR						**Sn**	**18 41 21.2**	**-0.7**
O19K	**Port Alsworth**	**0.82**	**296**			**Pn**	**18 41 08.0**	**-0.1**
O19K						**Sn**	**18 41 22.1**	**-0.6**
O19K	**Port Alsworth** comp=E,3μm,0.5s	**0.82**	**296**	IAML			18 41 22.5	
O19K	comp=N,4μm,0.4s			IAML			18 41 22.7	
O19K	**Port Alsworth** baz=117	**0.82**	**296**	P		**Pn**	**18 41 08.0**	**-0.1**
O19K	baz=117			S		**Sn**	**18 41 22.1**	**-0.6**
CNPM	**China Poot**	**0.87**	**110**			**Pn**	**18 41 08.9**	**+0.2**
CNPM	**China Poot** comp=N,4μm,0.4s	**0.87**	**110**	IAML			18 41 24.4	
BRLK	**Bradley Lake**	**0.99**	**94**			**Pn**	**18 41 09.9**	**+0.1**
BRLK	**Bradley Lake** comp=E,2μm,0.3s	**0.99**	**94**	IAML			18 41 26.3	
BRLK	comp=N,3μm,0.3s			IAML			18 41 26.5	
Q19K	**Cape Douglas,**	**1.00**	**205**			**Pn**	**18 41 09.8**	**-0.2**
Q19K	**Cape Douglas,** comp=N,1μm,0.7s	**1.00**	**205**	IAML			18 41 29.7	
Q19K	comp=E,1μm,0.7s			IAML			18 41 29.7	
Q19K	**Cape Douglas,** baz=22	**1.00**	**205**	P		**Pn**	**18 41 09.8**	**-0.2**
BRSE	**Bradley Lake S**	**1.07**	**94**			**Pn**	**18 41 10.8**	**+0.1**
BRSE						**Sn**	**18 41 27.4**	**+0.2**
BRSE	**Bradley Lake S** baz=276	**1.07**	**94**	P		**Pn**	**18 41 10.7**	**+0.1**
BRSE	baz=276			S		**Sn**	**18 41 27.4**	**+0.2**
O18K	**Koktuh Hills**	**1.20**	**272**			**Pn**	**18 41 12.0**	**0.0**
O18K	**Koktuh Hills** baz=90	**1.20**	**272**	P		**Pn**	**18 41 12.0**	**0.0**
CAPN	**Captain Cook N**	**1.25**	**41**			**Pn**	**18 41 14.8**	**+2.2**
CAPN	**Captain Cook N** baz=224	**1.25**	**41**	P		**Pn**	**18 41 14.8**	**+2.2**
N19K	**Bonanza Creek**	**1.27**	**321**			**Pn**	**18 41 13.0**	**0.0**
N19K	**Bonanza Creek** baz=141	**1.27**	**321**	P		**Pn**	**18 41 13.0**	**0.0**
P18K	**Big Mountain,**	**1.29**	**251**			**Pn**	**18 41 12.9**	**-0.3**
P18K						**Sn**	**18 41 30.5**	**-1.1**
P18K	**Big Mountain,** baz=68	**1.29**	**251**	P		**Pn**	**18 41 12.9**	**-0.3**
P18K	baz=68			S		**Sn**	**18 41 30.5**	**-1.1**
SPU	**Mount Spurr**	**1.40**	**16**			**Pn**	**18 41 14.8**	**+0.4**
SLKM	**Skilak Lake**	**1.47**	**62**			**Pn**	**18 41 15.7**	**+0.5**
SPCG	**Spurr Capps Gl**	**1.51**	**15**			**Pn**	**18 41 16.2**	**+0.4**
O22K	**Cooper Landing**	**1.69**	**66**			**Pn**	**18 41 18.3**	**+0.5**
O22K	**Cooper Landing** baz=249	**1.69**	**66**	P		**Pn**	**18 41 18.3**	**+0.5**
SEW	**Seward**	**1.72**	**80**			**Pn**	**18 41 18.3**	**+0.1**
SEW	**Seward** baz=262	**1.72**	**80**	P		**Pn**	**18 41 18.3**	**+0.1**
STLK	**Strandline Lak**	**1.74**	**16**			**Pn**	**18 41 18.9**	**+0.5**
SVW2	**Sparrevohn**	**1.85**	**314**			**Pn**	**18 41 19.6**	**-0.2**
KCG	**Knife Ck. Glac**	**1.93**	**218**			**Pn**	**18 41 21.3**	**+0.4**
RC01	**Rabbit Creek A**	**1.98**	**49**			**Pn**	**18 41 21.8**	**+0.3**
RC01						**Sn**	**18 41 45.9**	**-0.6**
RC01	**Rabbit Creek A** comp=N,1μm,0.3s	**1.98**	**49**	IAML			18 41 47.3	
RC01	comp=E,1μm,0.3s			IAML			18 41 48.8	
RC01	**Rabbit Creek A** baz=233	**1.98**	**49**	P		**Pn**	**18 41 21.8**	**+0.3**
RC01	baz=233			S		**Sn**	**18 41 45.9**	**-0.6**
KBM	**Katmai Bkd Mtn**	**1.99**	**219**			**Pn**	**18 41 21.4**	**-0.2**
KDAK	**Kodiak Island** comp=E,53nm,0.3s,baz=24,slow=10,SNR=256	**2.07**	**176**	P		**Pn**	**18 41 21.4**	**-1.1**
KDAK	comp=E,32nm,0.3s,baz=148,slow=18,SNR=4.4			S		**Sn**	**18 41 45.1**	**-3.2**
KDAK	**Kodiak Island**	**2.07**	**176**			**Pn**	**18 41 22.0**	**-0.6**
KDAK	**Kodiak Island** comp=E,341nm,0.8s	**2.07**	**176**	IAML			18 41 48.3	
KDAK	comp=E,429nm,0.3s			IAML			18 41 55.9	
PWL	**Port Wells**	**2.46**	**64**			**Pn**	**18 41 27.9**	**+0.3**
PWL	**Port Wells** baz=248	**2.46**	**64**	P		**Pn**	**18 41 27.9**	**+0.3**
L19K	**White Mountain**	**2.55**	**338**			**Pn**	**18 41 28.9**	**+0.1**
L19K	**White Mountain** baz=157	**2.55**	**338**	P		**Pn**	**18 41 28.9**	**+0.1**
OHAK	**Old Harbor**	**2.63**	**185**			**Pn**	**18 41 29.1**	**-0.8**
OHAK	**Old Harbor** comp=N,360nm,0.6s	**2.63**	**185**	IAML			18 42 00.5	
OHAK	comp=E,227nm,0.4s			IAML			18 42 00.5	
OHAK	**Old Harbor** baz=4,2	**2.63**	**185**	P		**Pn**	**18 41 29.1**	**-0.8**
KNK	**Knik Glacier**	**2.67**	**52**			**Pn**	**18 41 30.0**	**-0.5**
KNK	**Knik Glacier** comp=N,544nm,0.5s	**2.67**	**52**	IAML			18 42 03.1	
KNK	**Knik Glacier** baz=236	**2.67**	**52**	P		**Pn**	**18 41 30.0**	**-0.5**
L20K	**Farewell, AK**	**2.70**	**350**			**Pn**	**18 41 31.3**	**+0.6**
L20K	**Farewell, AK** baz=170	**2.70**	**350**	P		**Pn**	**18 41 31.3**	**+0.6**
GHO	**Glory Hole Cre**	**2.73**	**43**			**Pn**	**18 41 31.0**	**-0.2**
GHO	**Glory Hole Cre** comp=E,422nm,0.6s	**2.73**	**43**	IAML			18 42 05.1	
GHO	comp=N,356nm,0.4s			IAML			18 42 11.5	
PLK1	**Peulik 1**	**2.83**	**225**			**Pn**	**18 41 33.3**	**+0.8**
CUT	**Chulitna**	**2.86**	**25**			**Pn**	**18 41 33.0**	**+0.2**
CUT	**Chulitna** comp=E,432nm,0.4s	**2.86**	**25**	IAML			18 42 10.6	
CUT	comp=N,346nm,0.4s			IAML			18 42 14.2	
CUT	**Chulitna** baz=208	**2.86**	**25**	P		**Pn**	**18 41 33.0**	**+0.2**
SML	**Sawmill**	**2.96**	**46**			**Pn**	**18 41 33.9**	**-0.4**
SML	**Sawmill** comp=E,224nm,0.7s	**2.96**	**46**	IAML			18 42 09.1	
SML	comp=N,278nm,0.6s			IAML			18 42 16.9	
SML	**Sawmill** baz=230	**2.96**	**46**	P		**Pn**	**18 41 33.8**	**-0.4**
GLI	**Glacier Island**	**3.04**	**67**			**Pn**	**18 41 34.6**	**-0.5**
GLI	**Glacier Island** comp=N,431nm,0.5s	**3.04**	**67**	IAML			18 42 10.3	
GLI	**Glacier Island** baz=252	**3.04**	**67**	P		**Pn**	**18 41 34.6**	**-0.5**
PPLA	**Purkeypile**	**3.08**	**6**			**Pn**	**18 41 37.0**	**+1.1**
PPLA	**Purkeypile** baz=187	**3.08**	**6**	P		**Pn**	**18 41 37.0**	**+1.1**
FID	**Port Fidalgo**	**3.30**	**71**			**Pn**	**18 41 37.8**	**-0.9**
Q23K	**Middleton Isla**	**3.32**	**94**			**Pn**	**18 41 39.5**	**+0.6**
Q23K	**Middleton Isla** baz=280	**3.32**	**94**	P		**Pn**	**18 41 39.5**	**+0.6**
JPK	**Jack Peak**	**3.33**	**66**			**Pn**	**18 41 39.2**	**+0.1**
MID	**Middleton Isla**	**3.33**	**94**			**Pn**	**18 41 39.5**	**+0.5**
SCM	**Sheep Creek Mo**	**3.36**	**51**			**Pn**	**18 41 39.4**	**-0.1**
SCM	**Sheep Creek Mo** comp=E,252nm,1.0s	**3.36**	**51**	IAML			18 42 20.7	
SCM	comp=N,258nm,0.7s			IAML			18 42 21.0	
SCM	**Sheep Creek Mo** baz=236	**3.36**	**51**	P		**Pn**	**18 41 39.4**	**-0.1**
SII	**Sitkinak Islan**	**3.37**	**193**			**Pn**	**18 41 39.5**	**-0.1**
SII	**Sitkinak Islan** baz=11	**3.37**	**193**	P		**Pn**	**18 41 39.5**	**-0.1**
TT01	**Tatalina**	**3.44**	**335**			**Pn**	**18 41 40.4**	**-0.1**
TTA	**Tatalina**	**3.46**	**335**			**Pn**	**18 41 40.5**	**-0.3**
TTA	**Tatalina** baz=153	**3.46**	**335**	P		**Pn**	**18 41 40.5**	**-0.3**
K20K	**Telida**	**3.58**	**351**			**Pn**	**18 41 42.8**	**+0.4**
K20K	**Telida** baz=171	**3.58**	**351**	P		**Pn**	**18 41 42.8**	**+0.4**
CAST	**Castle Rocks**	**3.61**	**5**			**Pn**	**18 41 43.0**	**+0.2**
CAST	**Castle Rocks** baz=187	**3.61**	**5**	P		**Pn**	**18 41 43.0**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.61**	**76**			**Pn**	**18 41 42.6**	**-0.2**
EYAK	**Cordova Ski Ar** baz=262	**3.61**	**76**	P		**Pn**	**18 41 42.6**	**-0.2**
DIV	**Divide**	**3.73**	**67**			**Pn**	**18 41 44.5**	**+0.1**
KLU	**Klutina**	**3.79**	**61**			**Pn**	**18 41 44.8**	**-0.4**
KLU	**Klutina** comp=E,200nm,0.4s	**3.79**	**61**	IAML			18 42 29.6	
KLU	**Klutina** baz=247	**3.79**	**61**	P		**Pn**	**18 41 44.8**	**-0.4**
TRF	**Thorofare Moun**	**3.82**	**17**			**Pn**	**18 41 46.2**	**+0.4**
TRF	**Thorofare Moun** comp=N,75nm,0.6s	**3.82**	**17**	IAML			18 42 51.0	
TRF	comp=E,70nm,1.3s			IAML			18 42 57.0	
TRF	**Thorofare Moun** baz=200	**3.82**	**17**	P		**Pn**	**18 41 46.2**	**+0.4**
KTH	**Kantishna Hill**	**3.84**	**13**			**Pn**	**18 41 45.6**	**-0.3**
KTH	**Kantishna Hill** comp=E,60nm,1.0s	**3.84**	**13**	IAML			18 43 05.2	
M24K	**Tolsona, Glenn**	**3.96**	**52**			**Pn**	**18 41 47.9**	**+0.3**
M24K	**Tolsona, Glenn** comp=N,202nm,0.9s	**3.96**	**52**	IAML			18 42 35.0	
M24K	**Tolsona, Glenn** baz=238	**3.96**	**52**	P		**Pn**	**18 41 47.9**	**+0.3**
RND	**Reindeer**	**4.05**	**26**			**Pn**	**18 41 49.0**	**+0.2**
RND	**Reindeer** comp=N,60nm,0.8s	**4.05**	**26**	IAML			18 42 36.1	
CHUM	**Lake Minchumin**	**4.07**	**3**			**Pn**	**18 41 49.2**	**+0.3**
CHUM	**Lake Minchumin** baz=184	**4.07**	**3**	P		**Pn**	**18 41 49.2**	**+0.3**
BMRM	**Bremner River**	**4.24**	**71**			**Pn**	**18 41 51.5**	**+0.2**
BMRM	**Bremner River** comp=E,98nm,0.4s	**4.24**	**71**	IAML			18 42 39.5	
BMRM	comp=N,102nm,0.9s			IAML			18 42 43.6	
BMRM	**Bremner River** baz=258	**4.24**	**71**	P		**Pn**	**18 41 51.5**	**+0.2**
CHIR	**Chirikof Islan**	**4.29**	**201**			**Pn**	**18 41 51.2**	**-0.8**
CHIR	**Chirikof Islan** baz=19	**4.29**	**201**	P		**Pn**	**18 41 51.2**	**-0.8**
MCK	**McKinley**	**4.32**	**24**			**Pn**	**18 41 52.8**	**+0.4**
MCK	**McKinley** comp=N,40nm,3.7s	**4.32**	**24**	IAML			18 42 26.4	
MCK	comp=E,43nm,1.0s			IAML			18 43 05.6	
MCK	**McKinley** baz=208	**4.32**	**24**	P		**Pn**	**18 41 52.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**4.36**	**11**			**Pn**	**18 41 53.5**	**+0.6**
BPAW	**Bear Paw Mtn.** baz=193	**4.36**	**11**	P		**Pn**	**18 41 53.5**	**+0.6**
J20K	**Nowinta River**	**4.40**	**353**			**Pn**	**18 41 53.9**	**+0.6**
N25K	**Chitina, Valde**	**4.42**	**63**			**Pn**	**18 41 53.6**	**-0.1**
N25K	comp=N,70nm,0.7s			IAML			18 42 46.0	
N25K	comp=E,56nm,0.5s			IAML			18 42 47.4	
N25K	**Chitina, Valde** baz=250	**4.42**	**63**	P		**Pn**	**18 41 55.0**	**+1.3**
HARP	**HAARP**	**4.52**	**52**			**Pn**	**18 41 55.0**	**0.0**
HARP	**HAARP** baz=239	**4.52**	**52**	P		**Pn**	**18 41 55.0**	**0.0**
BWN	**Browne**	**4.63**	**19**			**Pn**	**18 41 57.2**	**+0.8**
BWN	**Browne** comp=N,89nm,0.9s	**4.63**	**19**	IAML			18 43 14.8	
BWN	comp=E,57nm,1.1s			IAML			18 43 36.6	
GLB	**Gilahina Butte**	**4.73**	**66**			**Pn**	**18 41 58.1**	**+0.3**
GLB	**Gilahina Butte** comp=N,113nm,0.7s	**4.73**	**66**	IAML			18 42 52.4	
GLB	comp=E,97nm,0.6s			IAML			18 42 52.5	
PAX	**Paxson**	**4.73**	**45**			**Pn**	**18 41 58.0**	**0.0**
PAX	**Paxson** baz=232	**4.73**	**45**	P		**Pn**	**18 41 57.9**	**0.0**
KHIT	**Khitrov Hills**	**4.83**	**79**			**Pn**	**18 41 59.5**	**+0.2**
VRDI	**Verde Repeater**	**4.84**	**69**			**Pn**	**18 41 59.5**	**0.0**
VRDI	**Verde Repeater** comp=N,45nm,0.6s	**4.84**	**69**	IAML			18 42 54.1	
PS10	**TAPS Pump St10**	**4.93**	**40**			**Pn**	**18 42 00.9**	**+0.3**
NEA2	**Nenana**	**5.09**	**19**			**Pn**	**18 42 02.5**	**-0.1**
NEA2	**Nenana** baz=202	**5.09**	**19**	P		**Pn**	**18 42 02.5**	**-0.1**
WRH	**Wood River Hil**	**5.15**	**24**			**Pn**	**18 42 02.9**	**-0.6**
WRH	**Wood River Hil** comp=N,22nm,1.7s	**5.15**	**24**	IAML			18 43 32.4	
WRH	comp=E,30nm,3.4s			IAML			18 43 57.2	
ISLE	**Juniper Island**	**5.29**	**77**			**Pn**	**18 42 05.7**	**+0.1**
KIAG	**Kiagna River**	**5.31**	**74**			**Pn**	**18 42 06.2**	**+0.3**
BALM	**Baldy**	**5.33**	**72**			**Pn**	**18 42 06.4**	**+0.3**
HDA	**Harding Lake**	**5.35**	**29**			**Pn**	**18 42 06.2**	**0.0**
HDA	**Harding Lake** comp=N,68nm,0.6s	**5.35**	**29**	IAML			18 43 05.8	
HDA	**Harding Lake** baz=214	**5.35**	**29**	P		**Pn**	**18 42 06.2**	**0.0**
CCB	**Clear Creek Bu**	**5.37**	**24**			**Pn**	**18 42 05.6**	**-0.8**
CCB	**Clear Creek Bu** comp=E,21nm,4.9s	**5.37**	**24**	IAML			18 45 10.0	
MENT	**Mentasta**	**5.37**	**51**	Pn		**Pn**	**18 42 06.5**	**-0.1**
I21K	**Tanana**	**5.38**	**4**			**Pn**	**18 42 06.5**	**0.0**
I21K	comp=E,26nm,3.5s			IAML			18 43 51.9	
I21K	comp=N,23nm,4.5s			IAML			18 43 54.2	
BAGL	**Bagley Icefiel**	**5.41**	**78**			**Pn**	**18 42 07.5**	**+0.5**
M26K	**Nabesna, AK**	**5.42**	**57**			**Pn**	**18 42 07.9**	**+0.8**
RIDG	**Independent Ri**	**5.45**	**41**			**Pn**	**18 42 07.7**	**+0.2**
RIDG	**Independent Ri** baz=228	**5.45**	**41**	P		**Pn**	**18 42 07.5**	**0.0**
MESA	**MESA**	**5.47**	**82**			**Pn**	**18 42 08.5**	**+0.4**
MESA	**MESA** baz=271	**5.47**	**82**	P		**Pn**	**18 42 08.7**	**+0.6**
TCOL	**CIGO, UAF Yank**	**5.56**	**22**			**Pn**	**18 42 08.8**	**-0.1**
TCOL	**CIGO, UAF Yank** baz=207	**5.56**	**22**	P		**Pn**	**18 42 09.0**	**+0.1**
COLA	**College**	**5.56**	**23**			**Pn**	**18 42 08.6**	**-0.4**
L26K	**Log Cabin Wild**	**5.56**	**51**			**Pn**	**18 42 09.4**	**+0.3**
L26K	**Log Cabin Wild** baz=239	**5.56**	**51**	P		**Pn**	**18 42 09.4**	**+0.3**
I23K	**Minto, Yukon-K**	**5.57**	**15**			**Pn**	**18 42 09.1**	**+0.1**
I23K	**Minto, Yukon-K** baz=199	**5.57**	**15**	P		**Pn**	**18 42 09.1**	**+0.1**
MDM	**Murphy Dome**	**5.57**	**21**			**Pn**	**18 42 09.1**	**0.0**
YAH	**Yahtse**	**5.58**	**80**			**Pn**	**18 42 10.1**	**+0.6**
DOT	**Dot

BARN	Barnard Glacie	5.67	73		Pn	18 42 11.3	+0.6
IL31		5.67	27		Pn	18 42 09.9	-0.6
ILAR	Eielson Array	5.67	27	P	Pn	18 42 09.9	-0.6
	comp=N,6.1nm,0.3s,baz=219,slow=14,SNR=200						
ILAR				S	Sn	18 43 10.0	-4.3
	comp=N,3.2nm,0.3s,baz=192,slow=17,SNR=6.3						
ILAR	Eielson Array	5.67	27	Pn	Pn	18 42 09.8	-0.7
H21K	Melozitna Rive	5.84	0		Pn	18 42 12.7	-0.1
POKR	Poker Plat Res	5.86	23		Pn	18 42 12.9	-0.1
POKR	Poker Plat Res	5.86	23	P	Pn	18 42 12.9	-0.1
	baz=208						
TABL	Table Mountain	5.88	79		Pn	18 42 13.7	+0.2
M27K	Edge Creek, AK	5.88	60		Pn	18 42 14.8	+1.2
SCRK	Sand Creek	5.89	41		Pn	18 42 13.0	-0.6
SCRK	Sand Creek	5.89	41	P	Pn	18 42 13.0	-0.6
	baz=229						
J25K	Salcha River,	5.92	33		Pn	18 42 13.6	-0.4
IM03		6.18	357		Pn	18 42 17.1	-0.3
IMAR	Indian Mountai	6.18	357	Pn	Pn	18 42 17.7	+0.3
YUK2	White River	6.19	66		Pn	18 42 18.3	+0.7
L27K	Beaver Creek,	6.19	54		Pn	18 42 17.6	0.0
BC03		6.21	54		Pn	18 42 17.7	0.0
PCA	Pinnacle	6.33	82		Pn	18 42 20.8	+1.3
PINM	Pinnacle	6.33	82	P	Pn	18 42 20.8	+1.3
	baz=273						
BVCY	Beaver Creek	6.35	61		Pn	18 42 20.5	+0.7
BVCY	Beaver Creek	6.35	61	P	Pn	18 42 20.5	+0.7
	baz=251						
YUK3	Moose Creek	6.36	67		Pn	18 42 20.8	+0.7
YUK3	Moose Creek	6.36	67	P	Pn	18 42 20.8	+0.7
	baz=258						
J26L	Joseph Creek	6.38	39		Pn	18 42 19.7	-0.4
H24K	Noodor Dome	6.43	19		Pn	18 42 20.1	-0.7
PRP	Porcupine Dome	6.62	27		Pn	18 42 23.5	+0.1
PRP	Porcupine Dome	6.62	27	P	Pn	18 42 23.5	+0.1
	baz=214						
PNL	Peninsula	6.80	86		Pn	18 42 26.4	+0.6
PNL	Peninsula	6.80	86	P	Pn	18 42 26.4	+0.6
	baz=277						
PS05	TAPS Pump Stn5	7.07	7		Pn	18 42 30.3	+0.9
EGAK	Eagle	7.35	43		Pn	18 42 32.8	-0.4
COLD	Coldfoot	7.51	8		Pn	18 42 35.7	+0.3
COLD	Coldfoot	7.51	8	P	Pn	18 42 35.7	+0.3
	baz=190						
FYU	Fort Yukon	7.57	24		Pn	18 42 35.4	-0.8
DAWY	Dawson	7.62	50		Pn	18 42 36.2	-0.7
DAWY	Dawson	7.62	50	P	Pn	18 42 36.2	-0.7
	baz=242						
BM03	Burnt Mountain	8.44	22		Pn	18 42 47.5	-0.5
BMAR	Burnt Mountain	8.45	22	Pn	Pn	18 42 46.9	-1.2
BM01	Burnt Mountain	8.48	22		Pn	18 42 48.0	-0.5
DLBC	Dease Lake	11.79	87	P	Pn	18 43 35.5	+2.3
	comp=N,1.4nm,0.3s,baz=278,slow=6.8,SNR=33						
DLBC				S	Sn	18 45 37.5	-5.2
	comp=N,1.0nm,0.3s,baz=274,slow=25,SNR=18						
DLBC	Dease Lake	11.79	87		Pn	18 43 35.7	+2.5
INK	Inuvik	11.92	37	P	Pn	18 43 34.3	-0.5
	comp=N,0.1nm,0.3s,baz=226,slow=14,SNR=5.9						
INK	Inuvik	11.92	37	Pn	Pn	18 43 32.6	-2.2
YKA	Yellowknife Ar	18.45	65	P	Pn	18 44 57.0	+0.2
	comp=N,0.4nm,0.3s,baz=277,slow=10.0,SNR=52						
YKA				PcP	PcP	18 49 21.4	+0.8
	comp=N,0.1nm,0.3s,baz=295,slow=1.6,SNR=5.3						
YKA	Yellowknife Ar	18.45	65	P	P	18 44 55.5	+0.1
PETK	Petropavlovsk-	27.56	278	P	P	18 46 24.9	-0.1
	comp=N,0.6nm,0.4s,baz=78,slow=13,SNR=12						
KSRS	Korea Array	53.29	283	P	P	18 49 57.3	+1.3
	comp=N,4.0nm,1.1s,baz=38,slow=7.4,SNR=4.8						
SONM	Songino Array	54.95	306	P	P	18 50 09.3	+1.2
	comp=N,1.4nm,0.6s,baz=46,slow=6.6,SNR=8.5						
ZALV	Zalesovo Beam	57.55	324	P	P	18 50 27.1	+0.8
	comp=N,2.0nm,0.5s,baz=30,slow=6.8,SNR=10						
MKAR	Makanchi Array	64.61	321	P	P	18 51 13.6	-0.5
	comp=N,0.8nm,0.6s,baz=39,slow=7.2,SNR=13						
CMAR	Chiang Mai Arr	83.00	295	P	P	18 53 02.2	+0.5
	comp=N,0.3nm,0.6s,baz=19,slow=5.5,SNR=4.1						
BOSA	Boshof	148.75	3	PKPbc	PKPbc	19 00 22.9	0.0
	comp=N,9.4nm,1.3s,baz=319,slow=6.4,SNR=3.5						

*IDC **24** 18:41:50.2±2.4, 7°.18S×156°.11E, h109km±26km, mb3.8/7, mb1 3.9/10, mb1mx3.6/34, mbtmp4.2/10, MS2.9/2, Ms1 2.9/2, ms1mx2.5/54, Error ellipse: s-maj=26.9km s-min=15.1km az=177.0*

ISC 24 18:41:46.1±0.9, 6°.8S±0°.1×156°.16E±0°.08, h62km, n13, σ2§13/13, mb4.2/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.58	125	P	Pn	18 42 53.5	+0.6
	4.5nm,0.3s,baz=352,slow=0.9,SNR=4.7						
HNR				S	Sn	18 43 46.6	+1.7
	5.9nm,0.3s,baz=323,slow=20,SNR=1.5						
HNR				LR	LR	18 44 55.4	
	comp=Z,136nm,21.3s,baz=40,slow=42						
PMG	Port Moresby	9.29	253	P	Pn	18 43 59.9	+2.5
	2.8nm,0.3s,baz=56,slow=9.0,SNR=16						
PMG				S	Sn	18 45 42.8	+2.4
	0.9nm,0.3s,baz=352,slow=15,SNR=4.9						
PMG				LR	LR	18 46 58.4	
	comp=Z,80nm,19.3s,baz=335,slow=34						
CTA	Charters Tower	16.35	215	P	Pn	18 45 29.9	-1.9
	0.2nm,0.3s,baz=12,slow=9.8,SNR=1.7						
WRA	Warramunga Arr	24.89	236	P	P	18 47 00.6	-2.9
	4.5nm,0.7s,baz=60,slow=9.8,SNR=32						
WRA				PcP	PcP	18 50 37.2	-0.9
	0.6nm,0.8s,baz=49,slow=2.0,SNR=3.5						
SIJI	Sorong	25.51	282	P	P	18 47 08.2	-0.9
	4.5nm,0.6s,baz=90,slow=8.1,SNR=4.0						
H11S3	WAKE ISLAND Hy 27.18	22		T	T	19 15 48.6	
	baz=202,slow=75,SNR=45						
H11S2	WAKE ISLAND Hy 27.18	22		T	T	19 15 52.5	
	baz=202,slow=75,SNR=51						
ASAR	Alice Springs	27.19	229	P	P	18 47 20.4	-3.8
	1.0nm,1.0s,baz=58,slow=10,SNR=11						
H11S1	WAKE ISLAND Hy 27.19	22		T	T	19 15 52.6	
	baz=202,slow=75,SNR=29						
CMAR	Chiang Mai Arr	61.74	295	P	P	18 51 58.3	-0.3
	2.0nm,1.0s,baz=113,slow=5.5,SNR=11						
SONM	Songino Array	69.78	327	P	P	18 52 51.4	+1.4
	2.7nm,0.8s,baz=135,slow=6.6,SNR=16						
MKAR	Makanchi Array	84.01	318	P	P	18 54 10.1	+0.1
	2.4nm,0.7s,baz=99,slow=6.0,SNR=26						
ZALV	Zalesovo Beam	84.65	326	P	P	18 54 12.2	-0.7
	0.9nm,0.5s,baz=108,slow=4.4,SNR=5.2						

IDC 24 19:02:55.7±35.0, 45°.42S×85°.45E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/48, mbtmp3.8/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/61, Error ellipse: s-maj=853.6km s-min=57.3km az=36.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	42.99	33	LR	LR	19 25 09.0	
	comp=Z,42nm,19.9s,baz=246,slow=31						
ASAR	Alice Springs	44.63	78	P	P	19 11 09.7	-0.3
	1.2nm,0.7s,baz=225,slow=7.3,SNR=21						
WRA	Warramunga Arr	47.44	74	P	P	19 11 32.2	+0.1
	2.5nm,1.1s,baz=224,slow=7.4,SNR=7.4						
KAPI	Kappang	50.12	47	LR	LR	19 29 05.5	
	comp=Z,25nm,21.8s,baz=134,slow=31						
PALK	Pallekele	52.63	354	LR	LR	19 31 05.8	
	comp=Z,27nm,20.1s,baz=267,slow=32						
CMAR	Chiang Mai Arr	64.75	14	P	P	19 13 35.9	0.0
	0.2nm,0.5s,baz=210,slow=5.2,SNR=2.7						

WEL 24 19:14:37.7±1.3, 36°S±17°×18°0E±1°9, h206km±14km, M3.8/17, mB4.4/1, ML4.2/26, MLv3.8/17, Mw(mB)3.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=129.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.31	208	P	Pn	19 15 19.4	-0.4
MXZ				S	S	19 15 51.4	-0.8
WMGZ	Waiomatatini S	2.50	203	P	Pn	19 15 22.4	+0.5
PKGZ	Pakihiroa	2.68	208	P	Pn	19 15 24.0	0.0
PKGZ				S	S	19 15 59.8	0.0
HAZ	Te Kaha	2.69	214	P	Pn	19 15 24.6	+0.6
HAZ				S	S	19 16 01.4	+1.6
PUZ	Puketiti	2.78	203	P	Pn	19 15 25.3	+0.2
PUZ				S	S	19 16 01.7	0.0
RUGZ	Raukumara Rang	2.91	213	P	Pn	19 15 26.3	-0.4
TWGZ	Tauwhareparae	2.97	206	P	Pn	19 15 28.1	+0.8
TWGZ				S	S	19 16 07.6	+1.9
MWZ	Matawai	3.29	211	P	Pn	19 15 31.1	+0.2
OPRZ	Ohinepanea	3.41	226	P	Pn	19 15 31.9	-0.4
URZ	Urewera	3.41	216	P	Pn	19 15 31.8	-0.6
URZ				S	S	19 16 16.3	+1.4
RIGZ	Rimuhau	3.52	205	P	Pn	19 15 34.1	+0.3
RIGZ				S	S	19 16 19.0	+1.6
PRGZ	Paritu Road	3.68	202	P	Pn	19 15 35.9	+0.2
MUGZ	Murupara	3.75	217	P	Pn	19 15 36.9	+0.3
RTZ	Ruatahuna	3.76	214	P	Pn	19 15 36.0	-0.7
RAHZ	Arahi	3.96	210	P	Pn	19 15 40.0	+0.8
MTHZ	Maungataniwha	4.01	213	P	Pn	19 15 40.4	+0.6
MRHZ	Matea Rd	4.20	217	P	Pn	19 15 37.1	-5.0
NMHZ	Naumai	4.23	212	P	Pn	19 15 43.4	+0.8
ARHZ	Aropaoanui	4.30	209	P	Pn	19 15 43.5	+0.3
BKZ	Black Stump Fm	4.43	214	P	Pn	19 15 44.9	0.0
TMVZ	Te Maari	4.78	220	P	Pn	19 15 49.3	-0.2
NTVZ	North Tongariro	4.78	220	P	Pn	19 15 49.5	0.0
ETVZ	East Tongariro	4.79	220	P	Pn	19 15 49.3	-0.3
KAHZ	Kahuranaki	4.80	207	P	Pn	19 15 50.1	+0.4
OTVZ	Oturere	4.83	220	P	Pn	19 15 49.9	-0.2
NNVZ	North Ngauruho	4.83	221	P	Pn	19 15 50.7	+0.4
WTVZ	West Tongariro	4.84	221	P	Pn	19 15 55.3	+5.1
SNVZ	South Ngauruho	4.86	220	P	Pn	19 15 50.5	-0.1
KRHZ	Kereru	4.87	211	P	Pn	19 15 49.8	-0.8
NGZ	Ngauruhoe	4.88	220	P	Pn	19 15 57.0	+6.3
BHHZ	Black Hill Sta	4.89	215	P	Pn	19 15 50.3	-0.5
TWVZ	Taurewa	4.89	222	P	Pn	19 15 55.9	+5.1
TUVZ	Tukino	4.92	219	P	Pn	19 15 54.5	+3.3
FWVZ	Far West T-bar	4.96	220	P	Pn	19 15 51.8	-0.1
MOVZ	Moawhango	4.97	218	P	Pn	19 15 51.4	-0.4
WNVZ	Wahianoa	4.99	219	P	Pn	19 15 51.7	-0.4
TRVZ	Turoa	4.99	220	P	Pn	19 15 52.1	-0.1
PKVZ	Pokaka	5.09	221	P	Pn	19 15 58.9	+5.5
PRHZ	Porangahau	5.31	206	P	Pn	19 15 55.3	-0.7
TSZ	Takapari Road	5.39	212	P	Pn	19 15 55.8	-1.4
BFZ	Birch Farm	5.81	207	P	Pn	19 16 01.6	-0.9

IDC 24 19:30:45.4±5.9, 55°.45S×130°.34W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/33, mbtmp4.0/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/48, Error ellipse: s-maj=518.1km s-min=64.1km az=146.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	41.30	80	T	T	20 23 11.2	
	baz=222						
H03S1	Juan Fernandez	41.31	80	T	T	20 23 10.1	
	baz=222						
H03S3	Juan Fernandez	41.32	80	T	T	20 23 09.2	
	baz=222						
H03N3	Juan Fernandez	41.58	80	T	T	20 23 31.8	
	baz=225,slow=72,SNR=57						
H03N2	Juan Fernandez	41.59	80	T	T	20 23 30.9	
	baz=225,slow=72,SNR=45						
H03N1	Juan Fernandez	41.60	80	T	T	20 23 31.1	
	baz=225,slow=72,SNR=66						
MSVF	Nonsavu	54.13	293	LR	LR	19 57 55.4	
	comp=Z,89nm,21.8s,baz=135,slow=30						
ASAR	Alice Springs	74.00	252	P	P	19 42 22.8	0.0
	1.0nm,0.7s,baz=148,slow=6.9,SNR=11						
WRA	Warramunga Arr	76.77	254	P	P	19 42 38.5	-0.2
	0.7nm,0.6s,baz=143,slow=5.4,SNR=11						
FITZ	Fitzroy Crossi	82.97	248	P	P	19 43 13.1	+0.8
	1.1nm,0.8s,baz=153,slow=6.8,SNR=1.7						
H11S2	WAKE ISLAND Hy 90.76	302		T	T	21 23 13.5	
	baz=148,slow=76,SNR=3.8						
H11S3	WAKE ISLAND Hy 90.77	302		T	T	21 23 11.2	
	baz=148,slow=76,SNR=4.9						
H11S1	WAKE ISLAND Hy 90.78	302		T	T	21 23 12.1	
	baz=148,slow=76,SNR=4.9						
H11N3	WAKE ISLAND Hy 91.71	303		T	T	21 24 16.8	
	baz=142						
H11N1	WAKE ISLAND Hy 91.72	303		T	T	21 24 22.6	
	baz=142						
H11N2	WAKE ISLAND Hy 91.73	303		T	T	21 24 18.9	
	baz=142						
ILAR	Eielson Array	120.56	352	PKP	PKPdf	19 49 37.1	-0.3
	0.5nm,0.9s,baz=191,slow=0.9,SNR=2.7						
SONM	Songino Array	144.87	282	PKP	PKPab	19 50 22.6	0.0
	1.5nm,0.9s,baz=125,slow=3.5,SNR=5.3						

*IDC **24** 19:55:54.5±1.1, 7°.59S×120°.93E, h602km±13km, mb2.9/6, mb1 3.1/12, mb1mx2.8/44, mbtmp4.0/12, Error ellipse: s-maj=39.9km s-min=10.4km az=60.0*

ISC 24 19:55:53.8±0.7, 7°.67S±0°.09×120°.9E±0°.1, h600km, n26, σ1§47/30, mb3.4/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.66	126	P	P	19 57 05.5	-1.3
KAPI	Kappang	2.86	337	P	P	19 57 12.9	+0.7
	5.0nm,0.3s,baz=124,slow=7.3,SNR=7.1						
BATI	Baumata	3.74	133	P	P	19 57 18.0	+0.5
	4.3nm,0.3s,baz=287,slow=5.3,SNR=27						
BATI				S	S	19 58 20.4	-5.3
	12nm,0.3s,baz=346,slow=5.5,SNR=4.2						
JAGI	Jajag, Banyuwa	6.70	263	P	P	19 57 39.2	-1.9
DRS	Darwin Rock St	10.95	116	P	P	19 58 22.9	+0.9
KNRA	Kununurra	11.09	137	P	P	19 58 24.0	+0.6
MTN	Manton Dam	11.33	118	P	P	19 58 26.3	+0.4
FITZ	Fitzroy Crossi	11.36	156	P	P	19 58 26.7	+0.6
	0.3nm,0.3s,baz=326,slow=7.3,SNR=16						
FAKI	Fak Fak	12.27	68	P	P	19 58 34.5	-0.8
SIJI	Sorong	12.37	57	P	P	19 58 35.5	-0.8
	0.6nm,0.3s,baz=229,slow=20,SNR=1.7						
KDU	Kakadu	12.46	115	P	P	19 58 37.0	-0.2
DAV	Davao City (W)	15.37	18	P	P	19 59 05.5	0.0
	31nm,0.3s,baz=238,slow=14,SNR=1.5						
WRA	Warramunga Arr	17.87	134	P	P	19 59 29.4	+1.1
	0.8nm,0.3s,baz=318,slow=8.8,SNR=36						
WRA				S	S	20 02 22.9	+0.3
	0.0nm,0.3s,baz=302,slow=13,SNR=2.7						
WRAB	Tennant Creek	17.87	134	P	P	19 59 29.9	+1.6
WRKA	Warakurna	18.67	159	P	P	19 59 37.3	+1.7
ASAR	Alice Springs	20.23	143	P	P	19 59 50.8	+1.1
	1.0nm,0.3s,baz=321,slow=8.5,SNR=60						
ASAR				S	S	20 03 01.4	+1.1
	0.2nm,0.8s,baz=307,slow=14,SNR=2.5						
ASAR				PcP	PcP	20 03 36.5	+0.6
	0.3nm,0.5s,baz=317,slow=1.1,SNR=5.7						
QIS	Mount Isa	22.20	127	P	P	20 00 08.7	+1.4
OOD	Oodnadatta	24.44	147	P	P	20 00 28.4	+1.3
MULG	Mulgathing	25.67	153	P	P	20 00 39.2	+1.3
LCRK	Leigh Creek	27.89	147	P	P	20 00 58.3	+1.0
BBOO	Buckleboo	28.72	153	P	P	20 01 05.5	+1.1
STKA	Stephens Creek	30.87	144	P	P	20 01 24.5	+1.6
	0.8nm,0.3s,baz=328,slow=7.4,SNR=6.0						
SONM	Songino Array	56.72	348	P	P	20 04 42.1	+0.3
	0.4nm,0.4s,baz=167,slow=7.1,SNR=1.9						
MKAR	Makanchi Array	64.15	332	P	P	20 05 30.8	+0.3
	0.5nm,0.5s,baz=147,slow=7.4,SNR=7.7						
PETK	Petropavlovsk-	68.12	23	P	P	20 05 55.5	+0.6
	0.8nm,0.7s,baz=185,slow=5.4,SNR=1.5						
ZALV	Zalesovo Beam	68.48	338	P	P	20 05 56.0	-1.0
	0.5nm,0.3s,baz=139,slow=6.5,SNR=3.4						

*IDC **24** 20:03:44.4±0.9, 3°.59S×101°.53E, h0km, mb4.1/21, mb1 4.2/22, mb1mx3.9/65, mbtmp4.1/22, ML3.2/1, MS3.2/4, Ms1 3.3/4, ms1mx2.7/80, Error ellipse: s-maj=35.3km s-min=12.4km az=52.0*

*NEIC **24** 20:03:54.0±2.2, 3°.67S±0°.04×101°.62E±0°.06, h69km±9km, mb4.4/16, Error ellipse: s-maj=9.7km s-min=3.9km az=119.0*

*DJA **24** 20:03:53.7±0.3, 4°S±2°×10°2E±°, h38km±7km, M4.5/25, mB5.1/4, mb4.5/16, MLv4.5/25, Mw(mB)4.4/4*

ISC 24 20:03:53.7±0.9, 3°.58S±0°.05×101°.65E±0°.04, h72km±7km, n113, σ1§29/117, mb4.3/37, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	0.73	54	P	Pn	20 04 07.9	-1.2
MASI				S	Sn	20 04 18.1	-2.3
KRJI	Kerinci	1.49	353	P	Pn	20 04 18.8	+0.2
KRJI				S	Sn	20 04 38.2	+0.8
MNAI	Manna	1.52	121	P	Pn	20 04 18.9	0.0
MNAI				S	Sn	20 04 38.3	+0.3
MNAI	Manna	1.52	121		Pn	20 04 18.4	-0.5
MNAI	Manna	1.52	121	P	Pn	20 04 19.0	0.0
PPSI	Pulau Pagai	1.83	296	P	Pn	20 04 23.7	+0.7
PPSI				S	Sn	20 04 45.3	-0.1
LHSI	Lahat	1.88	98	P	Pn	20 04 24.7	+0.9
MDSI	Maura Dua	2.68	110	P	Pn	20 04 35.6	+1.1
MDSI				S	Sn	20 05 07.4	+1.5
JMBI	JAMBI	2.77	46	P	Pn	20 04 36.0	+0.2
JMBI				S	Sn	20 05 06.0	-2.2
LWLI	Liwa	2.80	121	P	Pn	20 04 37.1	+0.9
LWLI				S	Sn	20 05 09.6	+0.6
PMBI	Palembang	3.18	78	P	Pn	20 04 41.2	-0.2
PMBI				S	Sn	20 05 16.2	-2.0
PMBI	Palembang	3.18	78		Pn	20 04 41.3	0.0
PMBI	Palembang	3.18	78	P	Pn	20 04 42.2	+0.8
KLSI		3.26	110	P	Pn	20 04 43.9	+1.4
KLSI				S	Sn	20 05 22.1	+1.9
RGRI	Rengat	3.27	12	P	Pn	20 04 43.8	+1.1
PPI	Padang Panjang	3.34	338	P	Pn	20 04 44.4	+0.8
PPI				S	Sn	20 05 22.5	+0.4
SISI	Saibi	3.40	311	P	Pn	20 04 44.7	+0.4
SISI				S	Sn	20 05 23.4	-0.1
KASI	Kota Agung	3.43	124	P	Pn	20 04 45.6	+0.8
KASI				S	Sn	20 05 23.6	-0.8
KLI	Kotabumi	3.44	112	P	Pn	20 04 46.6	+1.7
KLI				S	Sn	20 05 29.5	+4.9
BKNI	Bangkinang	3.92	351	P	Pn	20 04 48.7	-2.8
BKNI	Bangkinang	3.92	351		Pn	20 04 53.8	+2.3
BKNI	Bangkinang	3.92	351	P	Pn	20 04 54.8	+3.3
BLSI	Bandar Lampung	4.00	117	P	Pn	20 04 51.3	-1.3
DSRI	Dabo	4.24	44	P	Pn	20 04 57.0	+1.1
PPBI	Pangkal Pinang	4.69	73	P	Pn	20 05 02.7	+0.7
MNSI	Mandailing Nat	4.81	334	P	Pn	20 05 03.4	-0.2
CGJI	Cibinong	5.03	127	P	Pn	20 05 06.0	-0.6
	0.6nm1μm47nm,1.0s						
TPRI	Tanjung Pinang	5.31	33	P	Pn	20 05 10.7	+0.3
	0.4nm4μm76nm,0.5s						
MYKOM	Kota Tinggi	5.76	22		Pn	20 05 18.3	+1.6
SKJI	Sukabumi	5.96	125	P	Pn	20 05 18.7	-0.6
	0.5nm66nm,0.5s						
GSI	Gunungsitoli	6.33	320	P	Pn	20 05 24.2	-0.2
	0.4nm63nm,1.1s						
GSI	Gunungsitoli	6.33	320		Pn	20 05 23.9	-0.6
GSI	Gunungsitoli	6.33	320	P	Pn	20 05 24.1	-0.3
	73nm,1.2s						
CNJI	Cibinong	6.59	124	P	Pn	20 05 26.2	-1.8
	0.3nm30nm,1.0s						
LEM	Lembang	6.76	119	LR	LR	20 08 25.8	
	comp=Z,74nm,18.3s,baz=248,slow=41						
PSI	Prapat	6.89	337	Pn	Pn	20 05 26.7	-5.6
	0.5nm,0.3s,baz=147,slow=23,SNR=1.2						
PSI				LR	LR	20 08 29.0	
	comp=Z,141nm,18.1s,baz=145,slow=42						
XMI	Christmas Isla	7.92	150	P	Pn	20 05 40.7	-5.5
	58nm,2.2s						
XMIS	Christmas Isla	7.93	150	P	Pn	20 05 40.3	-6.0
	42nm,0.9s						
CMJI	Cimerak	7.95	122	P	Pn	20 05 45.2	-1.4
	0.1nm17nm,1.1s						
IPM	Ipoh	8.03	356		Pn	20 05 50.6	+3.0
IPM	Ipoh	8.03	356	P	Pn	20 05 51.0	+3.4
	19nm,0.6s						
KCSI	Kotacane, Aceh	8.04	331	P	Pn	20 05 47.3	-0.6
	12nm,1.1s						
KULM	Kulim	8.86	354	Pn	Pn	20 06 01.4	+2.4
UGM	Wanagama	9.82	116	P	Pn	20 06 11.1	-1.1
	50nm,1.7s						
UGM	Wanagama	9.82	116	Pn	Pn	20 06 10.6	-1.6
UGM	Wanagama	9.82	116	P	Pn	20 06 10.8	-1.4
	50nm,1.7s						
PCJI	Pacitan	10.53	116	P	Pn	20 06 20.3	-1.5
	19nm,0.9s						
GMJI	Gumukmas	12.62	112	P	Pn	20 06 50.7	+0.3
	13nm,2.3s						
BBKI	Banjar Baru	13.16	90	P	P	20 07 07.0	+1.8
ABJI	Asem Bagus	13.20	109	P	Pn	20 06 59.5	+1.3
	43nm,0.8s						
JAGI	Jajag, Banyuwa	13.35	112	P	Pn	20 06 57.2	-2.9
JAGI	Jajag, Banyuwa	13.35	112	Pn	Pn	20 06 58.2	-1.9
JAGI	Jajag, Banyuwa	13.35	112	P	Pn	20 06 59.7	-0.4
	18nm,0.8s						
TOLI2	Tolitoli	19.68	77	P	P	20 08 16.9	-0.3
TOLI2	Tolitoli	19.68	77	P	P	20 08 18.8	+1.6
	14nm,1.0s						
CMAR	Chiang Mai Arr	22.05	353	P	P	20 08 42.6	0.0
	0.8nm,0.5s,baz=185,slow=8.6,SNR=14						
CMAR				LR	LR	20 17 31.7	
	comp=Z,32nm,19.8s,baz=0.0,slow=38						
BATI	Baumata	22.81	108	P	P	20 08 50.7	-0.2
	22nm,0.9s,baz=18,slow=23,SNR=3.3						
FITZ	Fitzroy Crossi	27.57	123	P	P	20 09 33.5	-0.6
	1.3nm,0.7s,baz=311,slow=7.6,SNR=6.3						
KNRA	Kununurra	29.26	116	P	P	20 09 48.8	-0.5
KNRA				IAmb	IAmb	20 10 05.1	
	comp=Z,15nm,1.2s						
H08S2	Diego Garcia H	29.

comp=Z,2.1nm,0.4s,baz=156,slow=9.0,SNR=39
MKAR Makanchi Array 52.99 343 P **P 20 13 02.9 -0.1**
USRK Ussuriysk Ar. 54.79 26 P **P 20 13 16.2 0.0**
comp=Z,1.8nm,0.5s,baz=218,slow=7.3,SNR=7.1
USRK Ussuriysk Ar. 54.79 26 P **P 20 13 14.9 -1.3**
KURBB Kurchatov Arra 57.52 343 P **P 20 13 35.4 -0.1**
comp=Z,0.5nm,0.5s,baz=187,slow=6.2,SNR=8.6
ZAA0 Zalesovo Array 59.02 348 P **P 20 13 45.0 -0.9**
ZALV Zalesovo Beam 59.02 348 P **P 20 13 45.6 -0.3**
comp=Z,3.7nm,0.4s,baz=163,slow=7.2,SNR=21
ZALV Zalesovo Beam 59.02 348 P **P 20 13 45.0 -0.9**
BVAR Borovoye Array 62.23 339 P **P 20 14 07.1 -0.6**
comp=Z,1.1nm,0.4s,baz=123,slow=12,SNR=18
BRVK Borovoye 62.29 339 P **P 20 14 07.5 -0.7**
BRVK IAmb IAmb 20 14 34.5
comp=Z,3.8nm,1.1s
ABKAR Akbulak array 63.81 331 P **P 20 14 18.2 -0.1**
AKTO Aktyubinsk 65.52 331 P **P 20 14 30.1 +0.6**
comp=Z,0.8nm,0.4s,baz=62,slow=5.1,SNR=2.1
MATP Matopo 72.97 250 LR LR 20 41 29.1
comp=Z,330nm,20.6s,baz=239,slow=31
PETK Petropavlovsk- 73.34 31 P **P 20 15 16.9 -0.7**
comp=Z,1.2nm,0.8s,baz=242,slow=6.2,SNR=2.1
NRIK Noril'sk 73.40 355 P **P 20 15 16.7 -1.0**
comp=Z,1.6nm,0.3s,baz=177,slow=1.7,SNR=4.3
BRTR Keskin Array B 75.60 312 P **P 20 15 31.3 +0.1**
comp=Z,0.8nm,0.8s,baz=150,slow=5.1,SNR=2.5
SEY Seymchan 76.47 21 P **P 20 15 35.8 +0.3**
comp=Z,1.0nm,0.5s,baz=193,slow=8.1,SNR=5.6
AKASG Malin Array Be 81.73 320 P **P 20 16 04.4 0.0**
comp=Z,0.3nm,0.3s,baz=89,slow=5.6,SNR=4.3
FINES FINESS Array B 86.26 332 P **P 20 16 27.4 +0.2**
comp=Z,1.1nm,0.7s,baz=69,slow=10,SNR=7.2
ARCES ARCESS Array B 88.51 340 P **P 20 16 37.9 -0.1**
comp=Z,1.7nm,0.7s,baz=96,slow=5.5,SNR=5.1
ARCES LR LR 21 04 50.5
comp=Z,67nm,18.1s,baz=353,slow=41
TXAR Lajitas Array 144.88 40 PKP PKPbc 20 23 23.7 +1.1
comp=Z,1.7nm,0.5s,baz=257,slow=0.8,SNR=47

*IDC **24** 20:06:23.1±4.9, 29°.36N×140°.07E, h58km±46km, mb3.5/8, mb1 3.7/9, mb1mx3.2/52, mbtmp3.8/9, ML2.7/1, MS3.0/3, Ms1 3.0/3, ms1mx2.5/62, Error ellipse: s-maj=52.5km s-min=17.3km az=99.0*
ISC 24 20:06:20.5±0.9, 29°.3N±0°.1×140°.2E±0°.3, h35km, n18, σ1§19/11, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.45**	**347**	P	**Pn**	**20 08 08.2**	**+1.5**
	0.1nm,0.3s,baz=162,slow=11,SNR=3.2						
MJAR				LR	LR	20 11 07.2	
	comp=Z,147nm,19.6s,baz=138,slow=39						
KLR	**Kul'dur**	**20.96**	**344**	P	**P**	**20 11 00.6**	**+0.2**
	1.0nm,0.5s,baz=166,slow=9.9,SNR=7.1						
KLR				LR	LR	20 19 18.3	
	comp=Z,39nm,19.8s,baz=162,slow=37						
H11N2	**WAKE ISLAND Hy**	**26.00**	**105**	T	T	20 38 52.2	
	baz=297,slow=75,SNR=108						
H11N1	**WAKE ISLAND Hy**	**26.01**	**105**	T	T	20 38 52.4	
	baz=297,slow=75,SNR=90						
H11N3	**WAKE ISLAND Hy**	**26.02**	**105**	T	T	20 38 53.5	
	baz=297,slow=75,SNR=85						
H11S3	**WAKE ISLAND Hy**	**26.40**	**108**	T	T	20 39 28.7	
	baz=304,slow=74,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**26.41**	**108**	T	T	20 39 29.8	
	baz=304,slow=74,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**26.42**	**108**	T	T	20 39 27.6	
	baz=304,slow=74,SNR=10						
PETK	**Petropavlovsk-**	**27.05**	**23**	LR	LR	20 25 17.3	
	comp=Z,22nm,18.9s,baz=186,slow=42						
SEY	**Seymchan**	**34.58**	**10**	P	**P**	**20 13 04.3**	**-1.3**
	1.0nm,0.8s,baz=199,slow=8.2,SNR=4.8						
ZALV	**Zalesovo Beam**	**46.72**	**318**	PcP	**PcP**	**20 16 17.4**	**-1.5**
	0.5nm,0.6s,baz=124,slow=2.6,SNR=1.9						
WRA	**Warramunga Arr**	**49.26**	**187**	P	**P**	**20 15 06.8**	**+1.0**
	2.3nm,0.4s,baz=2.8,slow=7.7,SNR=38						
ASAR	**Alice Springs**	**52.99**	**187**	P	**P**	**20 15 33.4**	**-0.4**
	0.5nm,0.4s,baz=0.9,slow=5.6,SNR=12						
ILAR	**Eielson Array**	**56.65**	**29**	P	**P**	**20 15 59.1**	**-0.8**
	0.5nm,0.9s,baz=282,slow=10,SNR=4.4						
YKA	**Yellowknife Ar**	**71.05**	**28**	P	**P**	**20 17 34.3**	**-0.3**
	0.7nm,0.7s,baz=293,slow=6.7,SNR=3.5						
FINES	**FINESS Array B**	**75.24**	**333**	P	**P**	**20 17 58.7**	**-0.7**
	1.4nm,1.0s,baz=58,slow=4.7,SNR=5.2						
NVAR	**Mina Array Bea**	**80.52**	**51**	P	**P**	**20 18 31.0**	**+1.5**
	0.2nm,0.3s,baz=304,slow=6.1,SNR=2.4						
PLCA	**Paso Flores**	**152.45**	**123**	PKPbc	**PKiKP**	**20 26 14.1**	**+0.7**
	1.9nm,0.6s,baz=270,slow=1.9,SNR=6.9						

*NEIC **24** 20:08:50.6±1.1, 59°.80N±0°.03×153°.13W±0°.07, h105km±4km, Error ellipse: s-maj=5.2km s-min=4.0km az=90.0*
*AEIC **24** 20:08:51±1.7, 59°.77N±0°.03×153°.05W±0°.07, h98km±4km, ML2.9, ML3.2/58(NEIC), Error ellipse: s-maj=5.1km s-min=4.6km az=100.0*
*IDC **24** 20:08:54.8±8.8, 60°.17N×152°.87W, h127km±70km, mb3.3/2, mb1 3.0/4, mb1mx2.7/58, mbtmp3.3/4, Error ellipse: s-maj=70.9km s-min=42.2km az=23.0*
ISC 24 20:08:50.2±1.0, 59°.79N±0°.04×153°.13W±0°.04, h108km±6km, n89, σ0§95/83, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.15**	**201**		**Pn**	**20 09 05.4**	**+0.2**
O20K	**Slope Mountain**	**0.39**	**41**		**Pn**	**20 09 06.2**	**0.0**
O20K					**Sn**	**20 09 18.0**	**-0.1**
AU22	**Augustine Moun**	**0.44**	**196**		**Pn**	**20 09 06.5**	**+0.1**
AU22					**Sn**	**20 09 18.5**	**0.0**
AUL	**Augustine Lava**	**0.44**	**201**		**Pn**	**20 09 06.8**	**+0.4**
AUL					**Sn**	**20 09 18.6**	**+0.1**
AUH	**Augustine H**	**0.46**	**201**		**Pn**	**20 09 07.1**	**+0.5**
AUQ	**Augustine Qik'**	**0.46**	**199**		**Pn**	**20 09 07.0**	**+0.5**
RED	**Redoubt Volcan**	**0.66**	**16**		**Pn**	**20 09 08.0**	**0.0**
RED					**Sn**	**20 09 20.5**	**-1.0**
RSO	**Redoubt South**	**0.70**	**15**		**Pn**	**20 09 08.6**	**+0.1**
O19K	**Port Alsworth**	**0.72**	**305**		**Pn**	**20 09 08.8**	**+0.3**
O19K					**Sn**	**20 09 22.3**	**+0.1**
O19K	**Port Alsworth**	**0.72**	**305**	IAML		20 09 23.8	
	comp=E,1μm,0.4s						
HOM	**Homer**	**0.76**	**99**		**Pn**	**20 09 09.2**	**+0.4**
HOM					**Sn**	**20 09 23.2**	**+0.4**
HOM	**Homer**	**0.76**	**99**	IAML		20 09 24.8	
	comp=E,771nm,0.7s						
HOM				IAML		20 09 24.8	
	comp=N,788nm,0.8s						
NCT	**North Crescent**	**0.78**	**7**		**Pn**	**20 09 09.3**	**+0.1**
NCT					**Sn**	**20 09 22.8**	**-0.6**
DFR	**Drift River**	**0.83**	**15**		**Pn**	**20 09 09.7**	**+0.1**
DFR					**Sn**	**20 09 23.8**	**-0.5**
Q19K	**Cape Douglas,**	**0.90**	**197**		**Pn**	**20 09 10.6**	**+0.4**
Q19K					**Sn**	**20 09 25.3**	**0.0**
CNPM	**China Poot**	**1.00**	**105**		**Pn**	**20 09 11.0**	**-0.2**
CNPM					**Sn**	**20 09 26.0**	**-1.0**
O18K	**Koktuh Hills**	**1.05**	**274**		**Pn**	**20 09 08.1**	**-3.7**
BRLK	**Bradley Lake**	**1.14**	**90**		**Pn**	**20 09 12.3**	**-0.3**
BRLK					**Sn**	**20 09 29.1**	**-0.5**
BRLK	**Bradley Lake**	**1.14**	**90**	IAML		20 09 29.3	
	comp=N,545nm,0.1s						
BRSE	**Bradley Lake S**	**1.21**	**91**		**Pn**	**20 09 13.4**	**-0.1**
N19K	**Bonanza Creek**	**1.23**	**327**		**Pn**	**20 09 14.0**	**+0.3**
CAPN	**Captain Cook N**	**1.39**	**44**		**Pn**	**20 09 17.1**	**+1.7**
CAPN	**Captain Cook N**	**1.39**	**44**	IAML		20 09 38.6	
	comp=N,576nm,1.0s						
CAPN				IAML		20 09 54.0	
	comp=E,413nm,1.9s						
SPU	**Mount Spurr**	**1.49**	**20**		**Pn**	**20 09 16.2**	**-0.5**
SPCG	**Spurr Capps Gl**	**1.60**	**19**		**Pn**	**20 09 18.6**	**+0.5**
SLKM	**Skilak Lake**	**1.62**	**62**		**Pn**	**20 09 18.6**	**+0.2**
KCG	**Knife Ck. Glac**	**1.81**	**215**		**Pn**	**20 09 21.4**	**+0.7**
O22K	**Cooper Landing**	**1.84**	**66**		**Pn**	**20 09 21.2**	**+0.3**
SEW	**Seward**	**1.88**	**79**		**Pn**	**20 09 21.2**	**-0.2**
KDAK	**Kodiak Island**	**2.03**	**172**		**Pn**	**20 09 23.4**	**-0.1**
KDAK	**Kodiak Island**	**2.03**	**172**	IAML		20 09 49.9	
	comp=E,228nm,0.6s						
KDAK				IAML		20 09 50.1	
	comp=E,184nm,0.4s						
CAHL	**Cahill**	**2.08**	**214**		**Pn**	**20 09 25.7**	**+1.6**
RC01	**Rabbit Creek A**	**2.13**	**51**		**Pn**	**20 09 25.1**	**+0.5**
RC01	**Rabbit Creek A**	**2.13**	**51**	IAML		20 09 52.2	
	comp=N,242nm,0.2s						
OHAK	**Old Harbor**	**2.58**	**182**		**Pn**	**20 09 30.0**	**-0.5**
OHAK	**Old Harbor**	**2.58**	**182**	IAML		20 10 09.1	
	comp=N,82nm,3.7s						
PWL	**Port Wells**	**2.61**	**64**		**Pn**	**20 09 30.5**	**-0.5**
PMR	**Palmer**	**2.67**	**46**		**Pn**	**20 09 31.7**	**0.0**
PMR	**Palmer**	**2.67**	**46**	IAML		20 10 02.8	
	comp=E,113nm,0.3s						
PMR				IAML		20 10 03.7	
	comp=N,79nm,0.2s						
KNK	**Knik Glacier**	**2.82**	**53**		**Pn**	**20 09 33.1**	**-0.6**
GHO	**Glory Hole Cre**	**2.86**	**44**		**Pn**	**20 09 34.1**	**-0.2**
GHO	**Glory Hole Cre**	**2.86**	**44**	IAML		20 10 08.4	
	comp=E,119nm,0.5s						
CUT	**Chulitna**	**2.97**	**27**		**Pn**	**20 09 37.2**	**+1.6**
CUT	**Chulitna**	**2.97**	**27**	IAML		20 10 13.2	
	comp=N,89nm,2.4s						
CUT				IAML		20 10 14.1	
	comp=E,79nm,0.6s						
SML	**Sawmill**	**3.10**	**47**		**Pn**	**20 09 36.7**	**-0.7**
SML	**Sawmill**	**3.10**	**47**	IAML		20 10 13.2	
	comp=E,57nm,0.5s						
SML				IAML		20 10 14.5	
	comp=N,70nm,0.4s						
PPLA	**Purkeypile**	**3.15**	**8**		**Pn**	**20 09 40.0**	**+1.8**
GLI	**Glacier Island**	**3.19**	**67**		**Pn**	**20 09 38.0**	**-0.6**
GLI	**Glacier Island**	**3.19**	**67**	IAML		20 10 20.5	
	comp=N,94nm,1.5s						
TT01	**Tatalina**	**3.42**	**337**		**Pn**	**20 09 42.1**	**+0.5**
FID	**Port Fidalgo**	**3.45**	**71**		**Pn**	**20 09 40.6**	**-1.4**
SCM	**Sheep Creek Mo**	**3.50**	**52**		**Pn**	**20 09 42.7**	**-0.1**
SCM	**Sheep Creek Mo**	**3.50**	**52**	IAML		20 10 23.1	
	comp=N,44nm,0.6s						
SCM				IAML		20 10 24.6	
	comp=E,67nm,0.6s						
DIV	**Divide**	**3.88**	**67**		**Pn**	**20 09 48.5**	**+0.6**
TRF	**Thorofare Moun**	**3.92**	**19**		**Pn**	**20 09 50.2**	**+1.8**
TRF	**Thorofare Moun**	**3.92**	**19**	IAML		20 11 00.2	
	comp=N,28nm,3.1s						
TRF				IAML		20 11 25.6	
	comp=E,28nm,4.5s						
KTH	**Kantishna Hill**	**3.92**	**15**		**Pn**	**20 09 48.6**	**+0.2**
KLU	**Klutina**	**3.94**	**61**		**Pn**	**20 09 48.5**	**-0.1**
KLU	**Klutina**	**3.94**	**61**	IAML		20 10 33.2	
	comp=E,47nm,0.2s						
CHUM	**Lake Minchumin**	**4.12**	**5**		**Pn**	**20 09 52.3**	**+1.3**
RND	**Reindeer**	**4.16**	**28**		**Pn**	**20 09 52.1**	**+0.5**
MCK	**McKinley**	**4.43**	**25**		**Pn**	**20 09 56.3**	**+1.2**
MCK	**McKinley**	**4.43**	**25**	IAML		20 11 06.3	
	comp=N,22nm,4.0s						
MCK				IAML		20 12 47.6	
	comp=E,22nm,4.8s						
PAX	**Paxson**	**4.87**	**46**		**Pn**	**20 10 01.8**	**+0.6**
GLB	**Gilahina Butte**	**4.88**	**66**		**Pn**	**20 10 01.7**	**+0.4**
GLB	**Gilahina Butte**	**4.88**	**66**	IAML		20 11 40.5	
	comp=N,24nm,4.1s						
GLB				IAML		20 12 47.2	
	comp=E,20nm,5.0s						
NEA2	**Nenana**	**5.18**	**20**		**Pn**	**20 10 04.6**	**-0.7**
NEA2				IAML		20 10 46.8	
	comp=N,20nm,4.2s						
NEA2				IAML		20 10 49.4	
	comp=E,19nm,4.1s						
WRH	**Wood River Hil**	**5.26**	**25**		**Pn**	**20 10 06.3**	**0.0**
WRH	**Wood River Hil**	**5.26**	**25**	IAML		20 11 46.4	
	comp=N,16nm,4.4s						
KIAG	**Kiagna River**	**5.47**	**73**		**Pn**	**20 10 10.5**	**+1.2**
HDA	**Harding Lake**	**5.47**	**29**		**Pn**	**20 10 09.0**	**-0.2**
CCB	**Clear Creek Bu**	**5.47**	**25**		**Pn**	**20 10 08.9**	**-0.3**
BALM	**Baldy**	**5.49**	**72**		**Pn**	**20 10 10.5**	**+0.9**
I23K	**Minto, Yukon-K**	**5.65**	**16**		**Pn**	**20 10 12.3**	**+0.7**
MDM	**Murphy Dome**	**5.66**	**22**		**Pn**	**20 10 12.5**	**+0.6**
YAH	**Yahtse**	**5.73**	**79**		**Pn**	**20 10 13.8**	**+0.8**
IL31		**5.78**	**28**		**Pn**	**20 10 13.4**	**+0.1**
ILAR	**Eielson Array**	**5.78**	**28**	P	**Pn**	**20 10 13.2**	**-0.3**
	comp=N,1.1nm,0.3s,baz=215,slow=14,SNR=38						
ILAR				S	**Sn**	**20 11 13.7**	**-4.7**
	comp=N,0.9nm,0.3s,baz=201,slow=16,SNR=8.9						
POKR	**Poker Plat Res**	**5.96**	**24**		**Pn**	**20 10 16.7**	**+0.8**
SCRK	**Sand Creek**	**6.02**	**42**		**Pn**	**20 10 16.5**	**-0.3**
J25K	**Salcha River,**	**6.05**	**34**		**Pn**	**20 10 17.0**	**-0.1**
IMAR	**Indian Mountai**	**6.22**	**358**		**Pn**	**20 10 20.2**	**+0.8**
J26L	**Joseph Creek**	**6.51**	**39**		**Pn**	**20 10 22.9**	**-0.4**
PRP	**Porcupine Dome**	**6.73**	**28**		**Pn**	**20 10 26.0**	**-0.3**
BM03	**Burnt Mountain**	**8.54**	**23**		**Pn**	**20 10 50.5**	**-0.3**
BM01	**Burnt Mountain**	**8.58**	**23**		**Pn**	**20 10 51.0**	**-0.3**
YKA	**Yellowknife Ar**	**18.60**	**65**	P	**Pn**	**20 13 00.1**	**0.0**
	comp=N,0.0nm,0.3s,baz=277,slow=9.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**57.51**	**324**	P	**P**	**20 18 28.7**	**+1.1**
	comp=N,1.0nm,0.4s,baz=25,slow=6.9,SNR=4.7						
MKAR	**Makanchi Array**	**64.56**	**321**	P	**P**	**20 19 15.7**	**+0.3**
	comp=N,0.1nm,0.2s,baz=12,slow=7.5,SNR=1.5						

*DDA **24** 20:18:09.3±0.0, 41°.10N×43°.92E, h7km±3km, ML2.2*
*ISK **24** 20:18:09.9, 41°.09N×43°.84E, h9km, ML2.4/6*
*TIF **24** 20:18:09.7, 41°.08N×43°.86E, h12km±1km*
*NORS **24** 20:18:12.3±0.0, 41°.30N×43°.89E, h1km, MPVA3.2*
ISC 24 20:18:10.0±1.0, 41°.10N±0°.02×43°.88E±0°.02, h8km±10km, n33, σ0§98/62, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMNI	**Dmanisi**	**0.33**	**46**	P	**Pb**	**20 18 17.7**	**-0.5**
DMNI				S	**Sb**	**20 18 22.9**	**-0.8**
AKH	**Akhalkalaki**	**0.42**	**317**	P	**Pg**	**20 18 18.6**	**+0.2**
AKH				S	**Sg**	**20 18 24.7**	**+0.8**
AKH	**Akhalkalaki**	**0.42**	**317**	PG	**Pg**	**20 18 18.6**	**+0.2**
AKH				SG	**Sg**	**20 18 24.7**	**+0.8**
EAK	**Akyaka**	**0.46**	**206**	P	**Pg**	**20 18 18.9**	**-0.2**
EAK				S	**Sg**	**20 18 24.5**	**-0.6**
EAK				*i* AML	AML	20 18 25.0	
	comp=E,312nm,0.4s						
EAK				*i* AML	AML	20 18 26.0	
	comp=N,280nm,0.3s						
TRLG	**Trialeti**	**0.47**	**21**	P	**Pb**	**20 18 19.9**	**-0.7**
TRLG				S	**Sb**	**20 18 26.9**	**-0.9**
BRNG	**Burnasheti**	**0.52**	**356**	P	**Pb**	**20 18 21.0**	**-0.5**
BRNG				S	**Sb**	**20 18 29.2**	**-0.1**
KARS	**Kars**	**0.77**	**232**	PG	**Pg**	**20 18 24.4**	**-0.5**
KARS				SG	**Sg**	**20 18 35.1**	**+0.2**
DIGO	**Kars**	**0.79**	**209**	P	**Pg**	**20 18 24.9**	**-0.3**
DIGO				S	**Sg**	**20 18 35.4**	**-0.1**
BTNK	**Botanikuri**	**0.90**	**50**	P	**Pg**	**20 18 25.5**	**-2.0**
BTNK				S	**Sg**	**20 18 38.6**	**-0.6**
BTNK	**Botanikuri**	**0.90**	**50**	P	**Pg**	**20 18 25.4**	**-2.0**
BTNK				S	**Sg**	**20 18 38.5**	**-0.6**
EPOS	**Posof**	**0.95**	**295**	P	**Pg**	**20 18 28.4**	**0.0**
EPOS				S	**Sg**	**20 18 39.8**	**-1.0**
EPOS				*i* AML	AML	20 18 45.0	
	comp=E,38nm,0.3s						
EPOS				*i* AML	AML	20 18 45.0	
	comp=N,114nm,0.8s						
SEAG	**Tbilisi Sea**	**0.96**	**46**	P	**Pg**	**20 18 27.1**	**-1.4**
SEAG				S	**Sn**	**20 18 42.7**	**-1.0**
ABS	**Abastumani**	**1.03**	**310**	P	**Pg**	**20 18 29.7**	**-0.2**
ABS				S	**Sg**	**20 18 43.6**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.15**	**166**	PN	**Pg**	**20 18 31.7**	**-0.4**
TASB				SN	**Sn**	**20 18 48.5**	**+0.1**
GNI	**Garni**	**1.16**	**145**	PN	**Pn**	**20 18 32.6**	**0.0**
GNI				SN	**Sn**	**20 18 49.4**	**+0.7**
SENK	**Senkaya-Erzuru**	**1.28**	**245**	PN	**Pn**	**20 18 33.9**	**-0.5**
KOTA	**Agri, Merkez-K**	**1.40**	**202**	P	**Pg**	**20 18 37.7**	**+0.8**
TKB	**Tkibuli**	**1.41**	**332**	P	**Pb**	**20 18 36.7**	**+0.1**
TKB				S	**Sg**	**20 18 55.7**	**+0.2**
DAGI	**Agillar**	**1.48**	**270**	P	**Pn**	**20 18 37.3**	**+0.2**
DAGI				S	**Sg**	**20 18 57.8**	**0.0**
DAGI				*i* AML	AML	20 19 00.0	
	comp=E,16nm,0.3s						
DAGI				*i* AML	AML	20 19 01.0	
	comp=N,16nm,1.0s						
ONI	**Oni**	**1.52**	**348**	P	**Pb**	**20 18 38.6**	**+0.1**
ONI				S	**Sg**	**20 18 59.3**	**+0.4**
DDEM	**Demirkent**	**1.62**	**263**	P	**Pb**	**20 18 39.8**	**-0.5**
DDEM				*i* AML	AML	20 19 05.0	
	comp=N,49nm,0.3s						
DDEM				*i* AML	AML	20 19 06.0	
	comp=E,36nm,0.4s						
PNSH	**Pansheti**	**1.63**	**20**	P	**Pg**	**20 18 40.9**	**-0.4**
PNSH				S	**Sg**	**20 19 03.2**	**+0.8**
DBAD	**Bademkaya**	**1.65**	**268**	P	**Pn**	**20 18 40.0**	**+0.6**
DBAD				S	**Sb**	**20 19 02.0**	**+0.2**
DBAD				*i* AML	AML	20 19 05.0	
	comp=E,22nm,0.6s						
DBAD				*i* AML	AML	20 19 07.0	
	comp=N,19nm,0.6s						
AGRB	**Hanur-Agry**	**1.67**	**204**	PN	**Pn**	**20 18 40.1**	**+0.4**
DDFL	**Dedoflistskaro**	**1.72**	**78**	P	**Pg**	**20 18 45.1**	**+2.0**
DDFL				S	**Sg**	**20 19 08.0**	**+2.6**
LACR	**Lac**	**1.75**	**10**	*e*Pg	**Pg**	**20 18 43.2**	**-0.4**
LACR				*e*Sg	**Sg**	**20 19 07.4**	**+1.1**
DIGR	**Digorskoe uzhe**	**1.81**	**353**	*e*Pg	**Pg**	**20 18 44.9**	**+0.1**
DIGR				*e*Sg	**Sg**	**20 19 10.4**	**+2.2**
LGD	**Lagodekhi**	**1.92**	**67**	P	**Pb**	**20 18 45.7**	**+0.4**
LGD				S	**Sg**	**20 19 12.4**	**+0.6**
KORR	**Kora**	**1.99**	**4**	*e*Pg	**Pg**	**20 18 48.5**	**+0.3**
KORR				*e*Sg	**Sg**	**20 19 15.5**	**+1.6**
KMGR	**Komgaron**	**2.09**	**20**	*e*Pg	**Pg**	**20 18 50.3**	**+0.3**
KMGR				*e*Sg	**Sg**	**20 19 20.4**	**+3.2**
LSNR	**Lesken**	**2.17**	**359**	*e*Pg	**Pg**	**20 18 51.5**	**-0.2**
LSNR				*e*Sg	**Sg**	**20 19 21.4**	**+1.5**
NEY	**Neytrino**	**2.31**	**339**	*e*Pg	**Pg**	**20 18 53.2**	**-1.1**
NEY				*e*Sg	**Sg**	**20 19 24.0**	**-0.3**
DVE	**Vedeno**	**2.50**	**41**	*e*Pn	**Pg**	**20 18 56.9**	**-1.0**
DVE				*e*Sn	**Sg**	**20 19 30.1**	**-0.2**

*DJA **24** 20:50:34.7±0.8, 0°.N±2°×12°.7E±°, h19km±7km, M4.4/19, mb4.8/9, mB5.2/3, MLv4.2/19, Mw(mB)4.6/3*
*NEIC **24** 20:50:36.4±1.6, 0°.1N±0°.1×126°.73E±0°.08, h71km±13km, mb4.0/10, Error ellipse: s-maj=14.9km s-min=10.9km az=173.0*
*IDC **24** 20:50:40.3±4.9, 0°.02N×126°.94E, h104km±46km, mb3.9/6, mb1 4.1/7, mb1mx3.3/51, mbtmp4.2/7, MS3.4/1, Ms1 3.4/1, ms1mx2.5/65, Error ellipse: s-maj=43.3km s-min=18.7km az=78.0*
ISC 24 20:50:35.9±0.7, 0°.07N±0°.05×126°.69E±0°.05, h73km, n39, σ1§67/45, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.97**	**44**	P	**Pn**	**20 50 54.1**	**-0.2**
TNTI				S	**Sn**	**20 51 07.2**	**-0.7**
TNTI	**Ternate**	**0.97**	**44**		**Pn**	**20 50 53.8**	**-0.5**
LBMI	**Labuha**	**1.07**	**131**	P	**Pn**	**20 50 54.5**	**-1.0**
LBMI				S	**Sn**	**20 51 08.1**	**-2.0**
SANI	**Sanana**	**2.22**	**198**	P	**Pn**	**20 51 09.2**	**-1.4**
SANI				S	**Sn**	**20 51 33.0**	**-4.0**
KMSI	**Cibinong**	**2.75**	**281**	P	**Pn**	**20 51 18.2**	**+0.4**
AAI	**Ambon**	**4.02**	**158**	P	**Pn**	**20 51 35.2**	**+0.1**
AAI				S	**Sn**	**20 52 22.6**	**+1.6**
MSAI	**Masohi**	**4.06**	**147**	P	**Pn**	**20 51 37.7**	**+2.0**
MSAI				S	**Sn**	**20 52 28.6**	**+6.5**
LUWI	**Luwuk**	**4.07**	**254**	P	**Pn**	**20 51 35.9**	**+0.1**
LUWI	**Luwuk**	**4.07**	**254**		**Pn**	**20 51 35.9**	**+0.1**
SWI	**Sorong**	**4.66**	**101**	P	**Pn**	**20 51 40.9**	**-3.0**
SIJI	**Sorong**	**4.67**	**101**	P	**Pn**	**20 51 45.3**	**+1.3**
	4.7nm,0.3s,baz=243,slow=23,SNR=47						
SIJI				S	**Sn**	**20 52 36.3**	**-0.7**
	1.2nm,0.3s,baz=205,slow=23,SNR=1.4						
MRSI	**Marisa**	**4.76**	**275**	P	**Pn**	**20 51 43.2**	**-2.1**
APSI	**Ampana**	**5.13**	**259**	P	**Pn**	**20 51 49.4**	**-0.9**
	0.4nm2μm85nm,0.4s						
TOLI2	**Tolitoli**	**6.00**	**280**		**Pn**	**20 52 03.3**	**+1.1**
FAKI	**Fak Fak**	**6.30**	**118**	Pn	**Pn**	**20 52 07.0**	**+0.7**
MPSI	**Mapaga**	**6.79**	**272**	P	**Pn**	**20 52 13.6**	**+0.6**
	0.1nm19nm,0.7s						
TTSI	**Tana Toraja**	**7.53**	**246**	P	**Pn**	**20 52 22.7**	**-0.4**
	0.2nm1μm70nm,0.8s						
BNSI	**Bone**	**7.93**	**236**	P	**Pn**	**20 52 29.2**	**+0.6**
	0.2nm32nm,0.6s						
SPSI	**Sidrap Palu**	**7.99**	**240**	P	**Pn**	**20 52 30.6**	**+1.2**
	0.8nm2μm143nm,0.5s						
BKSI	**Bulukumba**	**8.46**	**231**	P	**Pn**	**20 52 37.0**	**+1.1**
	39nm,0.7s						
WB0	**Warramunga Arr**	**21.11**	**159**	P	**P**	**20 55 14.7**	**0.0**
WB0				IAmb	IAmb	20 55 18.1	
	comp=Z,8.3nm,0.4s						
WRAB	**Tennant Creek**	**21.25**	**160**	P	**P**	**20 55 16.1**	**-0.1**
WRAB				IAmb	IAmb	20 55 19.8	
	comp=Z,8.3nm,1.1s						
WRA	**Warramunga Arr**	**21.25**	**160**	P	**P**	**20 55 16.2**	**-0.1**
	comp=Z,3.6nm,0.5s,baz=338,slow=10,SNR=66						
WRA	**Warramunga Arr**	**21.25**	**160**	P	**P**	**20 55 15.9**	**-0.4**
WB2	**Warramunga Arr**	**21.26**	**160**	P	**P**	**20 55 16.5**	**+0.2**
WB2				IAmb	IAmb	20 55 19.8	
	comp=Z,4.6nm,0.7s						
WR0	**Warramunga Arr**	**21.34**	**

ISC 24 21:08:22.4±0.6, 13°.61N±0°.06×120°.67E±0°.07, h100km, n54, σ2°82/51, mb4.2/26, 4C-6D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.30**	**111**	‖ *eP*	**Pn**	**21 08 40.6**	**+3.6**
PGP				*i* S	**Sn**	**21 08 53.5**	**+5.6**
LUBP	**Lubang**	**0.43**	**287**	‖ *eP*	**Pn**	**21 08 42.2**	**+4.5**
LUBP				*i* S	**Sn**	**21 08 56.1**	**+7.0**
TGY	**Tagaytay City**	**0.56**	**28**	P	**Pn**	**21 08 43.2**	**+4.6**
	430nm,0.3s,baz=49,slow=1.6,SNR=14						
TGY				S	**Sn**	**21 08 58.4**	**+7.5**
	534nm,0.3s,baz=192,slow=6.6,SNR=30						
TGY	**Tagaytay City**	**0.56**	**28**	‖ *iP*	**Pn**	**21 08 43.3**	**+4.6**
TGY				*i* S	**Sn**	**21 08 56.5**	**+5.6**
QVP	**Quezon City--P**	**1.06**	**18**	‖ *eP*	**Pn**	**21 08 47.6**	**+4.1**
PCPH	**Palayan**	**1.99**	**12**	‖ *eP*	**Pn**	**21 08 57.4**	**+2.6**
JCNP	**Jose Panganiba**	**2.09**	**71**	‖ *eP*	**Pn**	**21 08 58.4**	**+2.4**
RCP	**Roxas**	**2.88**	**135**	‖ *eP*	**Pn**	**21 09 08.7**	**+2.2**
JAP	**San Jose, Anti**	**3.11**	**156**	‖ *eP*	**Pn**	**21 09 12.6**	**+3.0**
CNOP	**Candoni, Negro**	**4.23**	**153**	‖ *eP*	**Pn**	**21 09 27.3**	**+2.6**
GSPH	**General Santos**	**8.58**	**150**	‖ *iP*	**Pn**	**21 10 26.1**	**+2.1**
SBUM	**Sibu**	**13.88**	**218**		**P**	**21 11 41.8**	**+2.0**
CM31	**Chiang Mai Arr**	**21.42**	**286**	P	**P**	**21 13 04.0**	**+1.5**
CM31				IAmb	IAmb	21 13 05.2	
	comp=Z,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.42**	**286**	P	**P**	**21 13 03.8**	**+1.3**
	comp=Z,5.3nm,0.8s,baz=94,slow=7.7,SNR=48						
CMAR	**Chiang Mai Arr**	**21.42**	**286**	P	**P**	**21 13 04.0**	**+1.5**
CHTO	**Chiang Mai**	**21.48**	**287**	P	**P**	**21 13 03.5**	**+0.3**
BATI	**Baumata**	**23.85**	**173**	P	**P**	**21 13 24.6**	**-2.1**
	comp=Z,20nm,0.4s,baz=52,slow=1.5,SNR=7.2						
GUN	**Gumba**	**35.36**	**299**	*eP*	**P**	**21 15 08.3**	**-0.6**
	comp=Z,27nm,0.4s						
PKI	**Pulchoki**	**35.66**	**298**	*eP*	**P**	**21 15 10.3**	**-1.2**
	comp=Z,15nm,0.5s						
PKIN	**Phulchoki**	**35.68**	**299**	*eP*	**P**	**21 15 10.2**	**-1.3**
	comp=Z,17nm,0.5s						
WB0	**Warramunga Arr**	**35.81**	**158**	P	P	21 15 07.9	-4.4
WB0				IAmb	IAmb	21 15 20.0	
	comp=Z,3.7nm,1.1s						
KKN	**Kakani**	**35.84**	**299**	*eP*	**P**	**21 15 11.7**	**-1.1**
	comp=Z,14nm,0.6s						
DMN	**Daman**	**35.93**	**298**	*eP*	**P**	**21 15 12.5**	**-1.2**
	comp=Z,8.3nm,0.5s						
WRA	**Warramunga Arr**	**35.95**	**158**	P	P	21 15 09.1	-4.5
	comp=Z,0.7nm,0.7s,baz=323,slow=12,SNR=11						
WRA	**Warramunga Arr**	**35.95**	**158**	P	P	21 15 09.3	-4.3
WB2	**Warramunga Arr**	**35.96**	**158**	P	P	21 15 09.6	-4.0
WB2				IAmb	IAmb	21 15 11.3	
	comp=Z,2.7nm,0.9s						
ULN	**Ulaanbaatar**	**35.99**	**344**	P	**P**	**21 15 12.1**	**-1.7**
WR0	**Warramunga Arr**	**36.04**	**157**	P	P	21 15 10.4	-4.0
SONM	**Songino Array**	**36.13**	**344**	P	**P**	**21 15 13.2**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=161,slow=10,SNR=8.9						
SONM	**Songino Array**	**36.13**	**344**	P	**P**	**21 15 13.4**	**-1.6**
GKN	**Gorkha**	**36.44**	**299**	*eP*	**P**	**21 15 16.5**	**-1.4**
	comp=Z,4.1nm,0.3s						
KLR	**Kul'dur**	**36.67**	**12**	P	**P**	**21 15 17.7**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=238,slow=3.7,SNR=4.9						
KOLN	**Koldanda**	**37.27**	**298**	*eP*	**P**	**21 15 23.7**	**-1.3**
DANN	**Dangsing**	**37.28**	**299**	*eP*	**P**	**21 15 23.9**	**-1.3**
	comp=Z,21nm,0.6s						
PYUN	**Piuthan**	**37.87**	**298**	*eP*	**P**	**21 15 29.0**	**-1.1**
	comp=Z,28nm,0.8s						
ASAR	**Alice Springs**	**39.24**	**161**	P	P	21 15 37.7	-3.6
	comp=Z,0.4nm,0.5s,baz=340,slow=6.7,SNR=8.9						
MK31	**Makanchi Array**	**46.09**	**324**	P	**P**	**21 16 35.5**	**-0.9**
MKAR	**Makanchi Array**	**46.09**	**324**	P	**P**	**21 16 35.3**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=129,slow=8.7,SNR=20						
KDJ	**Kajisay**	**47.08**	**316**	P	**P**	**21 16 44.2**	**-0.2**
KDJ				IAmb	IAmb	21 16 44.6	
	comp=Z,3.8nm,0.8s						
AAK	**Ala-Archa**	**49.11**	**315**	P	**P**	**21 16 59.6**	**-0.4**
AAK				IAmb	IAmb	21 17 03.0	
	comp=Z,3.5nm,1.4s						
ZAA0	**Zalesovo Array**	**49.12**	**333**	P	**P**	**21 16 57.5**	**-2.2**
ZAA0				IAmb	IAmb	21 16 58.5	
	comp=Z,1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**49.12**	**333**	P	**P**	**21 16 57.2**	**-2.5**
	comp=Z,1.5nm,0.5s,baz=113,slow=5.3,SNR=6.9						
ZALV	**Zalesovo Beam**	**49.12**	**333**	P	**P**	**21 16 57.3**	**-2.4**
KURK	**Kurchatov**	**50.25**	**326**	P	**P**	**21 17 07.2**	**-1.1**
BTK	**Batken**	**50.87**	**311**	P	**P**	**21 17 11.7**	**-1.6**
BTK				IAmb	IAmb	21 17 22.8	
	comp=Z,4.6nm,1.4s						
KBL	**Kabul**	**50.93**	**304**	P	**P**	**21 17 12.9**	**-1.1**
CHGR	**Chuyangaron**	**51.74**	**309**	P	**P**	**21 17 19.1**	**-0.7**
KKAR	**Karatay Array**	**52.02**	**314**	P	**P**	**21 17 20.7**	**-1.0**
SEY	**Seymchan**	**54.11**	**17**	P	**P**	**21 17 35.1**	**-1.6**
	baz=180,slow=13						
BRVK	**Borovoye**	**55.90**	**326**	P	**P**	**21 17 48.5**	**-1.3**
BRVK				IAmb	IAmb	21 17 49.7	
	comp=Z,3.6nm,1.2s						
ABKAR	**Akbulak array**	**60.78**	**319**	P	**P**	**21 18 21.7**	**-2.1**
ABKAR	**Akbulak array**	**60.78**	**319**	P	**P**	**21 18 22.0**	**-1.8**
ABKAR				IAmb	IAmb	21 18 22.1	
	comp=Z,1.5nm,0.7s						
ARU	**Arti**	**63.44**	**327**	P	**P**	**21 18 38.5**	**-3.0**
YKA	**Yellowknife Ar**	**92.87**	**22**	P	P	21 21 20.4	-3.4
	comp=Z,0.3nm,0.7s,baz=305,slow=4.4,SNR=6.0						

IDC 24 21:12:24.9±2.4, 1°.41N×126°.98E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/25, mbtmp3.1/3, Error ellipse: s-maj=181.8km s-min=29.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.42**	**162**	P	P	21 17 25.2	-0.2
	0.4nm,0.4s,baz=340,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**25.82**	**165**	P	P	21 17 58.3	+0.1
	0.2nm,0.7s,baz=341,slow=11,SNR=1.0						
MKAR	**Makanchi Array**	**59.59**	**326**	P	P	21 22 30.6	0.0
	0.1nm,0.3s,baz=122,slow=8.6,SNR=1.8						

*IDC **24** 22:07:26.5±2.4, 59°.82N×153°.46W, h85km±37km, mb3.7/1, mb1 3.2/4, mb1mx2.7/45, mbtmp3.4/4, Error ellipse: s-maj=43.2km s-min=20.3km az=100.0*

*NEIC **24** 22:07:27.8±1.1, 59°.81N±0°.03×153°.10W±0°.06, h104km±3km, Error ellipse: s-maj=4.9km s-min=4.0km az=159.0*

*AEIC **24** 22:07:28±1.1, 59°.79N±0°.03×153°.08W±0°.06, h98km±4km, ML2.9, ML3.3/94(NEIC), Error ellipse: s-maj=4.8km s-min=4.1km az=163.0*

ISC 24 22:07:28.1±0.9, 59°.81N±0°.04×153°.05W±0°.04, h105km±6km, n136, σ0°82/139, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.18**	**210**		**Pn**	**22 07 42.4**	**-0.4**
O20K	**Slope Mountain**	**0.35**	**38**		**Pn**	**22 07 43.2**	**-0.3**
O20K					**Sn**	**22 07 55.0**	**-0.1**
AUL	**Augustine Lava**	**0.47**	**205**		**Pn**	**22 07 43.9**	**-0.2**
AUL					**Sn**	**22 07 56.0**	**-0.1**
RED	**Redoubt Volcan**	**0.63**	**13**		**Pn**	**22 07 45.1**	**-0.3**
RED					**Sn**	**22 07 57.8**	**-0.7**
RSO	**Redoubt South**	**0.67**	**13**		**Pn**	**22 07 45.5**	**-0.4**
HOM	**Homer**	**0.73**	**101**		**Pn**	**22 07 46.2**	**+0.1**
HOM				IAML		22 08 01.0	
	comp=E,753nm,1.0s						
HOM				IAML		22 08 01.1	
	comp=N,925nm,0.8s						
O19K	**Port Alsworth**	**0.75**	**302**		**Pn**	**22 07 45.8**	**-0.4**
O19K				IAML		22 07 59.9	
	comp=E,2μm,0.4s						
O19K				IAML		22 08 00.4	
	comp=N,2μm,0.4s						
O19K	**Port Alsworth**	**0.75**	**302**		**Sn**	**22 07 59.0**	**-0.9**
NCT	**North Crescent**	**0.76**	**5**		**Pn**	**22 07 46.3**	**-0.3**
NCT					**Sn**	**22 07 59.8**	**-0.7**
DFR	**Drift River**	**0.81**	**13**		**Pn**	**22 07 46.7**	**-0.3**
DFR					**Sn**	**22 08 00.7**	**-0.5**
Q19K	**Cape Douglas,**	**0.93**	**199**	Pn	**Pn**	**22 07 47.5**	**-0.7**
CNPM	**China Poot**	**0.96**	**106**	Pn	**Pn**	**22 07 48.1**	**-0.3**
CNPM	**China Poot**	**0.96**	**106**		**Sn**	**22 08 03.2**	**-0.6**
O18K	**Koktuh Hills**	**1.09**	**273**		**Pn**	**22 07 49.2**	**-0.6**
O18K					**Sn**	**22 08 05.2**	**-1.0**
BRLK	**Bradley Lake**	**1.10**	**91**		**Pn**	**22 07 49.5**	**-0.4**
BRLK	**Bradley Lake**	**1.10**	**91**	IAML		22 08 07.7	
	comp=N,349nm,0.6s						
BRSE	**Bradley Lake S**	**1.17**	**92**		**Pn**	**22 07 50.5**	**-0.2**
BRSE					**Sn**	**22 08 07.6**	**-0.2**
P18K	**Big Mountain,**	**1.18**	**250**		**Pn**	**22 07 50.0**	**-0.8**
P18K					**Sn**	**22 08 06.5**	**-1.5**
N19K	**Bonanza Creek**	**1.23**	**325**		**Pn**	**22 07 51.2**	**-0.3**
N19K					**Sn**	**22 08 08.5**	**-0.7**
CAPN	**Captain Cook N**	**1.35**	**44**	Pn	**Pn**	**22 07 52.2**	**-0.5**
CAPN					**Sn**	**22 08 11.1**	**-0.2**
CAPN				IAML		22 08 18.7	
	comp=E,500nm,1.3s						
CAPN				IAML		22 08 27.7	
	comp=N,563nm,0.8s						
SPU	**Mount Spurr**	**1.47**	**19**		**Pn**	**22 07 54.2**	**0.0**
SPCG	**Spurr Capps Gl**	**1.57**	**18**		**Pn**	**22 07 55.7**	**+0.1**
SLKM	**Skilak Lake**	**1.58**	**62**		**Pn**	**22 07 55.7**	**+0.1**
O22K	**Cooper Landing**	**1.80**	**66**		**Pn**	**22 07 58.3**	**+0.2**
SEW	**Seward**	**1.84**	**79**		**Pn**	**22 07 58.5**	**-0.1**
KCG	**Knife Ck. Glac**	**1.84**	**216**		**Pn**	**22 07 58.6**	**-0.2**
KDAK	**Kodiak Island**	**2.05**	**173**	P	**Pn**	**22 08 00.5**	**-0.8**
	comp=N,13nm,0.3s,baz=296,slow=13,SNR=114						
KDAK				S	**Sn**	**22 08 25.4**	**-1.3**
	comp=N,21nm,0.3s,baz=330,slow=20,SNR=37						
KDAK	**Kodiak Island**	**2.05**	**173**	IAML		22 08 27.1	
	comp=N,236nm,0.3s						
KDAK				IAML		22 08 27.2	
	comp=N,226nm,0.3s						
ANCK	**Angle Creek**	**2.05**	**219**		**Pn**	**22 08 01.6**	**+0.1**
RC01	**Rabbit Creek A**	**2.09**	**51**		**Pn**	**22 08 02.1**	**+0.2**
RC01	**Rabbit Creek A**	**2.09**	**51**	IAML		22 08 29.3	
	comp=N,360nm,0.3s						
L19K	**White Mountain**	**2.54**	**341**		**Pn**	**22 08 07.6**	**-0.1**
PWL	**Port Wells**	**2.57**	**64**	Pn	**Pn**	**22 08 07.7**	**-0.5**
PWL				IAML		22 08 40.0	
	comp=E,206nm,0.3s						
OHAK	**Old Harbor**	**2.60**	**183**		**Pn**	**22 08 07.2**	**-1.3**
OHAK	**Old Harbor**	**2.60**	**183**	IAML		22 08 55.5	
	comp=E,77nm,3.4s						
OHAK				IAML		22 09 41.8	
	comp=N,80nm,3.4s						
PMR	**Palmer**	**2.63**	**45**		**Pn**	**22 08 08.4**	**-0.6**
PMR				IAML		22 08 40.0	
	comp=E,108nm,0.3s						
PMR				IAML		22 08 40.8	
	comp=N,77nm,0.4s						
L20K	**Farewell, AK**	**2.71**	**352**		**Pn**	**22 08 10.2**	**+0.2**
KNK	**Knik Glacier**	**2.78**	**53**	Pn	**Pn**	**22 08 10.1**	**-0.9**
KNK				IAML		22 08 43.9	
	comp=E,154nm,0.4s						
GHO	**Glory Hole Cre**	**2.83**	**44**		**Pn**	**22 08 11.1**	**-0.5**
GHO				IAML		22 08 45.5	
	comp=N,118nm,0.3s						
GHO				IAML		22 08 45.6	
	comp=E,158nm,0.5s						
CUT	**Chulitna**	**2.94**	**26**		**Pn**	**22 08 13.9**	**+1.0**
CUT				IAML		22 08 52.9	
	comp=E,91nm,0.6s						
CUT				IAML		22 09 34.0	
	comp=N,75nm,2.7s						
SML	**Sawmill**	**3.06**	**47**	Pn	**Pn**	**22 08 14.2**	**-0.5**
SML				IAML		22 08 56.9	
	comp=N,63nm,0.7s						
SML				IAML		22 08 60.0	
	comp=E,64nm,1.4s						
PPLA	**Purkeypile**	**3.13**	**7**		**Pn**	**22 08 16.3**	**+0.7**
GLI	**Glacier Island**	**3.15**	**67**	Pn	**Pn**	**22 08 15.1**	**-0.7**
GLI				IAML		22 08 50.3	
	comp=E,100nm,0.5s						
GLI				IAML		22 08 51.3	
	comp=N,92nm,0.7s						
SII	**Sitkinak Islan**	**3.31**	**191**	Pn	**Pn**	**22 08 16.6**	**-1.5**
FID	**Port Fidalgo**	**3.41**	**71**	Pn	**Pn**	**22 08 17.5**	**-1.8**
FID				IAML		22 08 57.5	
	comp=E,98nm,0.4s						
TT01	**Tatalina**	**3.42**	**337**		**Pn**	**22 08 19.2**	**-0.2**
Q23K	**Middleton Isla**	**3.43**	**93**		**Pn**	**22 08 19.2**	**-0.2**
MID	**Middleton Isla**	**3.43**	**93**	Pn	**Pn**	**22 08 19.1**	**-0.5**
JPK	**Jack Peak**	**3.44**	**66**		**Pn**	**22 08 19.3**	**-0.4**
TTA	**Tatalina**	**3.44**	**337**		**Pn**	**22 08 19.3**	**-0.5**
SCM	**Sheep Creek Mo**	**3.46**	**52**	Pn	**Pn**	**22 08 19.9**	**-0.2**
SCM				IAML		22 09 00.7	
	comp=E,58nm,0.4s						
SCM				IAML		22 09 20.6	
	comp=N,53nm,1.9s						
K20K	**Telida**	**3.59**	**353**		**Pn**	**22 08 22.0**	**+0.2**
CAST	**Castle Rocks**	**3.65**	**7**		**Pn**	**22 08 23.1**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.72**	**75**	Pn	**Pn**	**22 08 23.1**	**-0.4**
DIV	**Divide**	**3.84**	**67**	Pn	**Pn**	**22 08 25.6**	**+0.5**
TRF	**Thorofare Moun**	**3.89**	**19**		**Pn**	**22 08 25.5**	**-0.3**
TRF	**Thorofare Moun**	**3.89**	**19**	IAML		22 09 18.4	
	comp=E,31nm,2.3s						
TRF				IAML		22 09 49.9	
	comp=N,34nm,4.4s						
KTH	**Kantishna Hill**	**3.89**	**14**		**Pn**	**22 08 26.3**	**+0.4**
KTH				IAML		22 10 05.4	
	comp=N,27nm,4.3s						
KLU	**Klutina**	**3.90**	**61**	Pn	**Pn**	**22 08 25.0**	**-0.9**
KLU				IAML		22 09 11.6	
	comp=E,46nm,0.4s						
M24K	**Tolsona, Glenn**	**4.07**	**53**	Pn	**Pn**	**22 08 28.3**	**+0.1**
CHUM	**Lake Minchumin**	**4.11**	**5**		**Pn**	**22 08 29.4**	**+0.8**
RND	**Reindeer**	**4.13**	**27**		**Pn**	**22 08 29.3**	**+0.3**
RND	**Reindeer**	**4.13**	**27**	IAML		22 09 38.8	
	comp=E,24nm,4.7s						
RND				IAML		22 10 47.5	
	comp=N,24nm,4.6s						
GOAT	**Goat Mountain**	**4.23**	**76**		**Pn**	**22 08 30.4**	**+0.1**
BMRM	**Bremner River**	**4.35**	**71**	Pn	**Pn**	**22 08 31.7**	**-0.3**
BMRM				IAML		22 09 19.4	
	comp=E,29nm,4.5s						
BMRM				IAML		22 09 42.3	
	comp=N,53nm,2.7s						
MCK	**McKinley**	**4.40**	**25**		**Pn**	**22 08 33.0**	**+0.4**
MCK	**McKinley**	**4.40**	**25**	IAML		22 10 00.2	
	comp=N,23nm,4.8s						
MCK				IAML		22 10 03.9	
	comp=E,22nm,4.2s						
J20K	**Nowinta River**	**4.42**	**354**		**Pn**	**22 08 32.9**	**+0.1**
BPAW	**Bear Paw Mtn.**	**4.42**	**12**		**Pn**	**22 08 32.9**	**0.0**
BPAW	**Bear Paw Mtn.**	**4.42**	**12**	IAML		22 09 49.1	
	comp=E,16nm,4.7s						
HMT	**Hamilton**	**4.44**	**79**	Pn	**Pn**	**22 08 32.9**	**-0.2**
CHGN	**Chignik**	**4.52**	**221**	Pn	**Pn**	**22 08 32.9**	**-1.3**
N25K	**Chitina, Valde**	**4.53**	**63**	Pn	**Pn**	**22 08 34.9**	**+0.5**
N25K				IAML		22 09 26.0	
	comp=E,26nm,0.6s						
N25K				IAML		22 10 44.6	
	comp=N,33nm,3.9s						
BERG	**Berg Lake**	**4.72**	**79**	Pn	**Pn**	**22 08 36.4**	**-0.5**
PAX	**Paxson**	**4.83**	**46**	Pn	**Pn**	**22 08 39.3**	**+0.8**
GLB	**Gilahina Butte**	**4.84**	**66**	Pn	**Pn**	**22 08 38.8**	**+0.3**
GLB				IAML		22 10 05.2	
	comp=N,34nm,3.7s						
GLB				IAML		22 11 11.8	
	comp=E,28nm,3.7s						
VRDI	**Verde Repeater**	**4.95**	**69**	Pn	**Pn**	**22 08 39.7**	**-0.6**
VRDI				IAML		22 11 28.6	
	comp=E,22nm,3.9s						
VRDI				IAML		22 11 52.0	
	comp=N,33nm,3.9s						
SNH	**Sunshine Point**	**5.14**	**81**	Pn	**Pn**	**22 08 42.2**	**-0.5**
NEA2	**Nenana**	**5.15**	**20**		**Pn**	**22 08 42.4**	**-0.3**
NEA2				IAML		22 11 14.6	
	comp=E,17nm,4.7s						
NEA2				IAML		22 11 51.5	
	comp=N,17nm,4.8s						
WRH	**Wood River Hil**	**5.23**	**24**		**Pn**	**22 08 43.5**	**-0.2**
WRH	**Wood River Hil**	**5.23**	**24**	IAML		22 09 34.0	
	comp=N,19nm,4.8s						
WRH				IAML		22 10 56.6	
	comp=E,21nm,4.5s						
ISLE	**Juniper Island**	**5.40**	**77**	Pn	**Pn**	**22 08 46.2**	**-0.1**
I21K	**Tanana**	**5.42**	**5**	Pn	**Pn**	**22 08 46.4**	**+0.2**
KIAG	**Kiagna River**	**5.43**	**73**		**Pn**	**22 08 46.5**	**-0.1**
HDA	**Harding Lake**	**5.43**	**29**		**Pn**	**22 08 46.1**	**-0.4**
CCB	**Clear Creek Bu**	**5.44**	**25**		**Pn**	**22 08 46.1**	**-0.5**
BALM	**Baldy**	**5.45**	**72**		**Pn**	**22 08 46.1**	**-0.7**
MENT	**Mentasta**	**5.48**	**51**	Pn	**Pn**	**22 08 49.0**	**+1.8**
M26K	**Nabesna, AK**	**5.53**	**58**		**Pn**	**22 08 48.3**	**+0.4**
RIDG	**Independent Ri**	**5.54**	**41**	Pn	**Pn**	**22 08 48.7**	**+0.6**
MESA	**MESA**	**5.59**	**81**	Pn	**Pn**	**22 08 48.6**	**-0.2**
I23K	**Minto, Yukon-K**	**5.63**	**16**		**Pn**	**22 08 49.1**	**0.0**
TCOL	**CIGO, UAF Yank**	**5.63**	**23**	Pn	**Pn**	**22 08 49.1**	**0.0**
COLA	**College**	**5.63**	**23**	Pn	**Pn**	**22 08 48.6**	**-0.6**
MDM	**Murphy Dome**	**5.63**	**21**		**Pn**	**22 08 49.0**	**-0.3**
L26K	**Log Cabin Wild**	**5.67**	**51**	Pn	**Pn**	**22 08 50.2**	**+0.5**
YAH	**Yahtse**	**5.69**	**80**	Pn	**Pn**	**22 08 50.4**	**+0.2**
IL31		**5.75**	**27**		**Pn**	**22 08 50.3**	**-0.5**
ILAR	**Eielson Array**	**5.75**	**27**	P	**Pn**	**22 08 50.3**	**-0.5**
	comp=E,1.4nm,0.3s,baz=220,slow=13,SNR=39						
ILAR				S	**Sn**	**22 09 50.2**	**-5.2**
	comp=E,0.9nm,0.3s,baz=200,slow=29,SNR=8.4						
ILAR	**Eielson Array**	**5.75**	**27**	Pn	**Pn**	**22 08 50.7**	**-0.2**
DOT	**Dot Lake**	**5.75**	**44**	Pn	**Pn**	**22 08 51.8**	**+0.9**
BARN	**Barnard Glacie**	**5.78**	**73**	Pn	**Pn**	**22 08 52.0**	**+0.6**
H21K	**Melozitna Rive**	**5.87**	**1**		**Pn**	**22 08 52.9**	**+0.4**
POKR	**Poker Plat Res**	**5.93**	**24**	Pn	**Pn**	**22 08 52.2**	**-1.1**
SCRK	**Sand Creek**	**5.99**	**42**	Pn	**Pn**	**22 08 53.9**	**-0.3**
TABL	**Table Mountain**	**5.99**	**79**	Pn	**Pn**	**22 08 54.8**	**+0.5**
M27K	**Edge Creek, AK**	**6.00**	**60**	Pn	**Pn**	**22 08 55.4**	**+1.1**
J25K	**Salcha River,**	**6.01**	**33**		**Pn**	**22 08 54.0**	**-0.4**
IM03		**6.21**	**357**		**Pn**	**22 08 57.4**	**+0.4**
IMAR	**Indian Mountai**	**6.21**	**357**	Pn	**Pn**	**22 08 57.6**	**+0.6**
L27K	**Beaver Creek,**	**6.29**	**54**	Pn	**Pn**	**22 08 59.0**	**+0.8**
YUK2	**White River**	**6.30**	**66**		**Pn**	**22 08 58.8**	**+0.4**
BCAR	**Beaver Creek A**	**6.31**	**54**	Pn	**Pn**	**22 08 59.2**	**+0.6**
PCA	**Pinnacle**	**6.44**	**82**	Pn	**Pn**	**22 09 00.5**	**+0.3**
YUK3	**Moose Creek**	**6.47**	**67**		**Pn**	**22 09 01.1**	**+0.2**
H24K	**Noodor Dome**	**6.50**	**19**	Pn	**Pn**	**22 09 00.9**	**-0.1**
PRP	**Porcupine Dome**	**6.69**	**28**		**Pn**	**22 09 04.1**	**+0.4**
COLD	**Coldfoot**	**7.56**	**8**	Pn	**Pn**	**22 09 15.4**	**+0.1**
FYU	**Fort Yukon**	**7.64**	**24**	Pn	**Pn**	**22 09 16.1**	**-0.3**
M30M	**Minto, Yukon**	**8.32**	**64**	Pn	**Pn**	**22 09 26.6**	**+0.8**
BM03	**Burnt Mountain**	**8.51**	**23**		**Pn**	**22 09 26.6**	**-1.6**
BMAR	**Burnt Mountain**	**8.52**	**23**	Pn	**Pn**	**22 09 27.5**	**-0.9**
BM01	**Burnt Mountain**	**8.55**	**23**		**Pn**	**22 09 27.0**	**-1.8**
N31M	**Braeburn, Yuko**	**8.65**	**71**	Pn	**Pn**	**22 09 30.8**	**+0.6**
I29M	**Ogilvie Camp,**	**8.78**	**44**	Pn	**Pn**	**22 09 32.3**	**+0.4**
WHY	**Whitehorse**	**9.08**	**77**	Pn	**Pn**	**22 09 36.9**	**+0.8**
M31M	**Drury Creek, Y**	**9.37**	**67**	Pn	**Pn**	**22 09 39.9**	**0.0**
BESE	**Bessie Mountai**	**9.42**	**90**	Pn	**Pn**	**22 09 41.9**	**+1.3**
JIS	**Juneau Island**	**9.74**	**91**	Pn	**Pn**	**22 09 46.7**	**+1.8**
P33M	**Teslin, Yukon**	**10.13**	**79**	Pn	**Pn**	**22 09 51.5**	**+1.1**
DLBC	**Dease Lake**	**11.89**	**87**	Pn	**Pn**	**22 10 16.3**	**+2.2**
HG4B	**Hotspring**	**14.29**	**112**	Pn	**Pn**	**22 10 46.8**	**+1.5**
YKA	**Yellowknife Ar**	**18.56**	**65**	P	**P**	**22 11 36.9**	**+0.7**
	comp=E,0.0nm,0.3s,baz=276,slow=10,SNR=2.3						
YKA	**Yellowknife Ar**	**18.56**	**65**	P	**P**	**22 11 36.1**	**-0.1**
ZALV	**Zalesovo Beam**	**57.51**	**324**	P	P	**22 17 05.6**	**-0.2**
	comp=E,0.8nm,0.4s,baz=16,slow=6.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**57.51**	**324**	P	**P**	**22 17 05.7**	**-0.1**

*CRAAG **24** 22:11:11.3, 34°.81N×1°.16W, Ml2.7*

*CNRM **24** 22:11:12.6, 34°.90N×1°.33W, h0km, ml2.3*

ISC 24 22:11:14.2±1.1, 34°.89N±0°.05×1°.29W±0°.05, h10km, n8, σ1°13/14, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLHC	**Oulhaca**	**0.37**	**344**	P	**Pb**	**22 11 23.4**	**+0.5**
OTSS	**Djebel Tessala**	**0.57**	**46**	P	**Pg**	**22 11 25.0**	**-0.2**
CHAS	**Isla Isabel II**	**0.98**	**288**	P	**Pg**	**22 11 33.2**	**+0.2**
CHAS				S	**Sg**	**22 11 46.5**	**+0.8**
JBK	**JBK**	**1.19**	**243**	P	**Pb**	**22 11 36.6**	**-0.2**
JBK				S	**Sb**	**22 11 51.9**	**-0.5**
GOG	**Mont Gurugu**	**1.44**	**284**	P	**Pn**	**22 11 39.9**	**-0.4**
GOG				S	**Sn**	**22 11 58.5**	**-0.8**
TDRA	**Tendrara**	**1.94**	**199**	P	**Pn**	**22 11 47.4**	**0.0**
TDRA				S	**Sb**	**22 12 14.1**	**0.0**
MDT	**Midelt**	**3.45**	**234**	P	**Pn**	**22 12 07.2**	**-0.8**
MDT				S	**Sb**	**22 12 55.7**	**-1.6**
MD31	**MD31**	**3.52**	**236**	P	**Pn**	**22 12 08.3**	**-0.7**
MD31				S	**Sn**	**22 12 53.6**	**+2.9**

**SCB 24 22:18:49.3±4.7

KAN16	Harper SW Stat	0.63	27		Pg	22 53 10.7	-0.6
KAN17	Caldwell West	0.65	54	Pg	Pg	22 53 11.2	-0.5
KAN08	Anthony NE Sta	0.67	32	Pg	Pg	22 53 11.5	-0.5
KAN12	Harper NE Stat	0.72	28	Pg	Pg	22 53 12.3	-0.7
KAN01	Argonia South	0.72	47		Pg	22 53 12.8	-0.2
KAN13	South Haven SW	0.83	65	Pg	Pg	22 53 14.9	-0.2
BLOK	Blackwell	0.97	84	Pg	Pb	22 53 17.1	-0.5
OK029	Liberty Lake	1.16	138		Pn	22 53 20.3	-0.5
BCOK	Bluff Creek, N	1.20	147		Pn	22 53 20.9	-0.4
OK033	Mehan	1.35	117		Pn	22 53 23.4	+0.1
OK025	Westminster Rd	1.39	141	Pn	Pn	22 53 23.7	-0.2
OK031	S. Brethren Rd	1.46	119	Pn	Pn	22 53 24.8	-0.1
QUOK	Quay	1.47	109	Pn	Pn	22 53 23.9	-1.1
OKCFA	Oklahoma City	1.47	147		Pn	22 53 25.4	+0.3
OKCSW	OKLAHOMA CITY	1.49	147	Pn	Pn	22 53 25.2	-0.1
OK030	Cody Creek RV	1.51	119	Pn	Pn	22 53 26.1	+0.5
OK034	N. Norfolk Rd.	1.52	115	Pn	Pn	22 53 25.9	+0.1
T35A	Sooner Cattle	1.55	80		Pn	22 53 26.5	+0.3
FNO	Franklin	1.63	149		Pn	22 53 27.2	0.0
R32A	Long Quarter,	1.77	353		Pn	22 53 29.1	-0.1
R32A				IAmb_Lg		22 53 55.3	
	comp=Z,121nm,1.1s						
WMOK	Wichita Mounta	1.94	189	Pn	Pn	22 53 31.2	-0.3
W35A	Tecumseh	1.96	140	Pn	Pn	22 53 31.7	-0.1
X34A	Smith Ranch, M	2.11	167		Pn	22 53 35.0	+1.1
X34A				IAmb_Lg		22 54 10.9	
	comp=Z,118nm,0.7s						
TUL1	Leonard	2.25	109		Pn	22 53 36.8	+1.0
TUL1				IAmb_Lg		22 54 15.1	
	comp=Z,83nm,0.9s						
CBKS	Cedar Bluff	2.39	334	Pn	Pn	22 53 37.9	+0.2
CBKS				IAmb_Lg		22 54 15.1	
	comp=Z,53nm,0.8s						
KSU1	Kansas State U	2.83	30		Pn	22 53 43.5	-0.2
LOOK	Love County	2.85	159		Pn	22 53 44.0	0.0
LOOK				IAmb_Lg		22 54 37.0	
	comp=Z,44nm,0.8s						
AMTX	Amarillo	3.19	237	Pn	Pn	22 53 47.8	-1.0
X37A	Clayton	3.23	129	Pn	Pn	22 53 49.8	+0.5
X37A				IAmb_Lg		22 54 50.2	
	comp=Z,69nm,0.7s						
U38A	Gravette	3.26	93	Pn	Pn	22 53 49.9	+0.3
Z35A	Perchaven, San	3.46	164	Pn	Pn	22 53 52.0	-0.4
HHAR	Hobbs	3.63	95	Pn	Pn	22 53 55.7	+0.9
W39A	Magazine	4.04	110	Pn	Pn	22 54 01.8	+1.5
W39A				IAmb_Lg		22 55 09.3	
	comp=Z,54nm,0.8s						
KSCO	Kaye Shedlock'	4.07	306	Pn	Pn	22 54 01.4	+0.4
KSCO				IAmb_Lg		22 55 08.8	
	comp=Z,49nm,0.8s						
N33A	J Bar K, Exete	4.14	10	Pn	Pn	22 54 01.8	0.0
N33A				IAmb_Lg		22 55 19.5	
	comp=Z,54nm,0.8s						
ABTX	Abilene, Hawle	4.15	194	Pn	Pn	22 54 01.2	-0.7
S39A	Bolivar	4.20	74	Pn	Pn	22 54 03.3	+0.8
Z38A	Mt. Pleasant	4.41	139	IAmb_Lg		22 55 26.6	
	comp=Z,39nm,0.8s						
MSTX	Muleshoe	4.46	234	IAmb_Lg		22 55 20.9	
	comp=Z,34nm,0.9s						
MIAR	Mount Ida	4.48	117	Pn	Pn	22 54 06.9	+0.5
N35A	Tabor	4.72	27	Pn	Pn	22 54 09.6	-0.2
BGNE	Belgrade	4.74	2	Pn	Pn	22 54 10.6	+0.5
T25A	Trinidad	4.83	277	Pn	Pn	22 54 09.9	-1.5
P38A	Dawn	4.86	51	Pn	Pn	22 54 12.0	+0.4
MGMO	Mountain Grove	4.95	82		Pn	22 54 13.4	+0.4
MGMO				IAmb_Lg		22 55 42.3	
	comp=Z,27nm,0.9s						
X40A	Basin Creek Fa	5.04	114	Pn	Pn	22 54 15.6	+1.5
X40A				IAmb_Lg		22 55 42.4	
	comp=Z,41nm,0.8s						
OGNE	Ogallala	5.12	328	Pn	Pn	22 54 16.4	+1.1
OGNE				IAmb_Lg		22 55 44.8	
	comp=Z,38nm,0.8s						
R40A	Maddies Statio	5.16	70	Pn	Pn	22 54 16.2	+0.6
R40A				IAmb_Lg		22 55 50.8	
	comp=Z,30nm,0.7s						
WHAR	Wooly Hollow	5.16	104	Pn	Pn	22 54 16.9	+1.2
WHAR				IAmb_Lg		22 55 50.7	
	comp=Z,30nm,0.8s						
W41B	Gary Mavity, V	5.22	105	Pn	Pn	22 54 18.0	+1.4
W41B				IAmb_Lg		22 55 47.2	
	comp=Z,28nm,0.8s						
L34A	Svendsen Farm,	5.53	16	Pn	Pn	22 54 21.2	+0.3
Z41A	Richland Creek	5.73	125	IAmb_Lg		22 56 10.8	
	comp=Z,23nm,0.8s						
N38A	Joes South For	5.78	43	Pn	Pn	22 54 24.6	+0.3
Q24A	Divide	5.80	295	IAmb_Lg		22 56 04.5	
	comp=Z,35nm,0.8s						
CCM	Cathedral Cave	5.88	74	IAmb_Lg		22 56 19.5	
	comp=Z,23nm,0.7s						
LCAR	Lake Charles	5.89	94	IAmb_Lg		22 56 07.9	
	comp=Z,21nm,0.9s						
K31A	O'Neill	5.96	358	IAmb_Lg		22 56 14.6	
	comp=Z,23nm,0.7s						
JCT	Junction City	6.27	191	Pn	Pn	22 54 30.7	-0.4
JCT				IAmb_Lg		22 56 30.9	
	comp=Z,23nm,0.8s						
PBMO	Poplar Bluff	6.42	87	IAmb_Lg		22 56 31.1	
	comp=Z,26nm,0.7s						
FVM	French Village	6.51	76	IAmb_Lg		22 56 28.6	
	comp=Z,28nm,0.7s						
N23A	Red Feather La	7.24	308	IAmb_Lg		22 56 55.0	
	comp=Z,27nm,0.7s						
S44A	Carbondale	7.39	79	IAmb_Lg		22 56 59.4	
	comp=Z,29nm,0.7s						
MNTX	Cornudas Mount	7.60	231	IAmb_Lg		22 56 58.2	
	comp=Z,20nm,1.1s						
L42A	Oliver, Polo	8.63	49	IAmb_Lg		22 57 33.5	
	comp=Z,23nm,0.7s						
K22A	Casper	8.65	316	IAmb_Lg		22 57 44.4	
	comp=Z,14nm,0.8s						

*IDC **24** 22:54:52.7±0.7,24°.80N×125°.19E,h0km,mb3.8/13, mb1 3.9/13,mb1mx3.6/49,mbtmp3.8/13,MS2.6/1, Ms1 2.6/1,ms1mx2.2/85,Error ellipse: s-maj=32.7km s-min=16.8km az=71.0*
*JMA **24** 22:54:58.9±0.1,24°.83N×125°.35E,h49km±1km,M3.6*
*NEIC **24** 22:54:59.0±1.1,24°.9N±0°.1×125°.3E±0°.1,h49km±9km, mb4.0/9,Error ellipse: s-maj=16.6km s-min=15.1km az=148.0*

ISC 24 22:54:58.9±0.7,24°.87N±0°.08×125°.34E±0°.06,h47km±5km, n42,σ1ŝ21/53,mb3.8/15,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	0.10	302	P	Pn	22 55 06.7	+0.3
JIKM				S	Sn	22 55 12.2	+0.5
JOGS	Gusukube	0.12	152	P	Pn	22 55 06.4	-0.1
JOGS				S	Sn	22 55 12.1	+0.3
JMJ2	Miyako jima3	0.13	186	P	Pn	22 55 06.4	-0.1
JMJ2				S	Sn	22 55 12.0	+0.1
JIRB	Irabujima	0.16	255	P	Pn	22 55 06.7	0.0
JIRB				S	Sn	22 55 12.3	+0.1
JTJ	Tarama	0.63	249	P	Pn	22 55 11.8	+0.2
JTJ				S	Sn	22 55 21.4	+0.7
JISG	Ishigakijimahi	0.98	254	P	Pn	22 55 16.2	-0.1
JISG				eS	Sn	22 55 29.1	0.0
JIJ	Ishigaki jima	1.20	246	P	Pn	22 55 19.5	+0.1
JIJ				S	Sn	22 55 35.5	+1.0
JKRS	Kuro-shima	1.37	243	P	Pn	22 55 22.5	+0.9
IRIF	Iriomote-Funau	1.56	250	P	Pn	22 55 25.3	+1.0
IRIF				eS	Sn	22 55 46.0	+2.7
HATJ	Hateruma jima	1.62	240	P	Pn	22 55 27.0	+2.0
HATJ				eS	Sn	22 55 48.2	+3.5
YOJ	Yonaguni jima	2.16	260	Pn	Pn	22 55 30.5	-2.0
NACB	Ninganchiao	3.48	259	Pn	Pn	22 55 51.0	+0.3
NACB				Sn	Sn	22 56 29.3	-1.4
YHNB	Yeheng	3.61	268	Pn	Pn	22 55 55.1	+2.6
YHNB				Sn	Sn	22 56 32.6	-1.3
YULB	Yu-li	3.98	249	Pn	Pn	22 55 56.4	-1.1
YULB				Sn	Sn	22 56 40.2	-2.6
SSLB	Suanglung	4.15	256	Pn	Pn	22 56 00.0	+0.2
TWG	Pinlang	4.41	243		Pn	22 56 01.5	-1.9
TPUB	Ta-pu	4.58	251	Pn	Pn	22 56 06.5	+0.7
KSRS	Korea Array	12.74	9	LR	LR	23 02 49.3	
	comp=Z,27nm,21.5s,baz=185,slow=37						
MYLDM	Lahad Datu	20.65	200	P	P	22 59 34.1	-0.7
SONM	Songino Array	27.39	332	P	P	23 00 39.7	-0.3
	0.6nm,0.5s,baz=153,slow=9.6,SNR=5.1						
SONM	Songino Array	27.39	332	P	P	23 00 38.6	-1.4
MK31	Makanchi Array	40.54	314	P	P	23 02 33.4	-0.3
MK31				IAmb	IAmb	23 02 46.8	
	comp=Z,2.3nm,1.4s						
MKAR	Makanchi Array	40.54	314	P	P	23 02 33.6	0.0
	comp=Z,0.7nm,0.4s,baz=102,slow=9.8,SNR=14						
MKAR	Makanchi Array	40.54	314	P	P	23 02 32.4	-1.2
ZALV	Zalesovo Beam	41.80	325	P	P	23 02 44.0	+0.2
	comp=Z,0.9nm,0.4s,baz=114,slow=8.2,SNR=5.6						
ZALV	Zalesovo Beam	41.80	325	P	P	23 02 43.0	-0.8
KURK	Kurchatov	44.05	318	P	P	23 03 01.4	-0.6
WB0	Warramunga Arr	45.23	168	P	P	23 03 11.1	-0.7
WB0				IAmb	IAmb	23 03 13.5	
	comp=Z,7.4nm,1.2s						
WRA	Warramunga Arr	45.39	168	P	P	23 03 12.7	-0.3
	comp=Z,2.3nm,1.1s,baz=350,slow=8.3,SNR=6.9						
WB2	Warramunga Arr	45.40	168	P	P	23 03 12.2	-0.9
ASAR	Alice Springs	48.96	170	P	P	23 03 41.0	+0.3
	comp=Z,0.5nm,0.5s,baz=355,slow=8.9,SNR=6.5						
STKA	Stephens Creek	58.53	164	P	P	23 04 50.4	-0.2
	comp=Z,1.9nm,0.8s,baz=299,slow=10,SNR=3.5						
ILAR	Eielson Array	66.86	28	P	P	23 05 48.4	+2.6
	comp=Z,0.2nm,0.5s,baz=300,slow=10.0,SNR=6.1						
INK	Inuvik	71.15	23	P	P	23 06 13.0	+0.8
	comp=Z,1.2nm,0.7s,baz=329,slow=6.0,SNR=4.6						
INK	Inuvik	71.15	23	P	P	23 06 12.2	-0.1
INK				IAmb	IAmb	23 06 16.7	
	comp=Z,1.2nm,0.8s						
FINES	FINESS Array B	72.75	330	P	P	23 06 22.9	+0.9
	comp=Z,1.5nm,0.8s,baz=33,slow=4.5,SNR=7.6						
AKASG	Malin Array Be	74.86	319	P	P	23 06 33.5	-1.0
	comp=Z,0.2nm,0.4s,baz=72,slow=5.3,SNR=2.7						
AKASG	Malin Array Be	74.86	319	P	P	23 06 33.3	-1.2
AKASG				IAmb	IAmb	23 06 39.0	
	comp=Z,3.9nm,1.4s						
BRTR	Keskin Array B	75.80	307	P	P	23 06 40.3	-0.1
	comp=Z,0.6nm,0.9s,baz=60,slow=12,SNR=2.0						
RES	Resolute Bay	77.35	10	P	P	23 06 48.7	+0.4
	comp=Z,1.0nm,0.4s,baz=126,slow=3.4,SNR=10						
RES	Resolute Bay	77.35	10	P	P	23 06 47.8	-0.5
RES				IAmb	IAmb	23 06 54.7	
	comp=Z,2.0nm,1.3s						
YKA	Yellowknife Ar	80.84	24	P	P	23 07 08.5	+0.9
	comp=Z,0.4nm,0.7s,baz=303,slow=5.1,SNR=6.7						

*IDC **24** 22:56:36.8±3.1,19°.21S×178°.43W,h554km±24km,mb3.0/7, mb1 3.3/8,mb1mx3.1/34,mbtmp3.8/8,Error ellipse: s-maj=93.3km s-min=19.6km az=153.0*

ISC 24 22:56:36.1±1.8,19°.3S±0°.5×178°.4W±0°.2,h550km,n9, σ0ŝ80/8,mb3.4/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.71	294	P	P	22 57 56.4	+0.4
	10nm,0.3s,baz=126,slow=7.8,SNR=16						
WRA	Warramunga Arr	44.41	261	P	P	23 03 58.8	+0.1
	1.2nm,0.6s,baz=97,slow=8.5,SNR=17						
ASAR	Alice Springs	44.45	256	P	P	23 03 59.2	+0.3
	3.7nm,0.8s,baz=94,slow=7.9,SNR=7.5						
NVAR	Mina Array Bea	80.40	44	P	P	23 07 51.8	+0.7
	0.1nm,0.3s,baz=214,slow=5.0,SNR=3.8						
TXAR	Lajitas Array	86.72	58	P	P	23 08 22.1	-0.3
	0.3nm,0.7s,baz=232,slow=7.8,SNR=4.7						
ILAR	Eielson Array	87.22	13	P	P	23 08 24.6	+0.8
	0.5nm,0.9s,baz=213,slow=5.4,SNR=4.4						
PDAR	Pinedale Array	88.34	43	P	P	23 08 29.4	-0.4
	0.3nm,0.6s,baz=260,slow=4.2,SNR=3.2						
SONM	Songino Array	94.60	319	P	P	23 08 57.1	-1.3
	0.4nm,0.9s,baz=123,slow=5.3,SNR=1.6						
AKASG	Malin Array Be	141.78	332	PKhKP	PKPpre	23 15 01.7	
	0.5nm,0.5s,baz=42,slow=4.1,SNR=5.0						

*GUC **24** 22:57:53.7±0.8,30°.74S×71°.47W,h46km±2km,ML4.1*
*IDC **24** 22:57:55.7±3.1,30°.91S×71°.31W,h66km±27km,mb3.2/2, mb1 3.6/6,mb1mx3.3/35,mbtmp3.6/6,ML3.5/4,MS2.8/1, Ms1 2.8/1,ms1mx2.6/15,Error ellipse: s-maj=46.4km s-min=22.6km az=95.0*

ISC 24 22:57:54.8±1.2,30°.75S±0°.04×71°.43W±0°.06,h33km±9km, n32,σ1ŝ42/33,10C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.19	294	⇑iP	Pn	22 58 01.0	+0.5
CO06				i S	Sb	22 58 05.8	0.0
CO06				IAML		22 58 07.0	
	comp=E,52μm,0.3s						
CO03	El Pedregal	0.64	98	⇓iP	Pn	22 58 07.2	-0.4
CO03				i S	Sn	22 58 16.8	+0.1
CO03				IAML		22 58 17.5	
	comp=E,11μm,0.2s						
GO04	Tololo Observa	0.79	43	⇑iP	Pn	22 58 09.3	-0.5
GO04				i S	Sn	22 58 20.7	+0.1
CO05	La Serena	0.85	11	⇑iP	Pn	22 58 09.6	-0.8
CO05				i S	Sn	22 58 21.6	0.0
CO05				IAML		22 58 26.3	
	comp=N,4μm,0.3s						
VA06	Catapilco	1.81	176	⇑iP	Pn	22 58 23.0	-0.6
VA06				i S	Sn	22 58 44.6	-0.7
VA06				IAML		22 58 57.9	
	comp=E,2μm,0.5s						
LCO	Las Campanas	1.85	20	⇑iP	Pn	22 58 24.2	-0.2
LCO				i S	Sn	22 58 47.9	+1.2
VA03	San Esteban	2.14	160	⇑iP	Pn	22 58 28.8	+0.6
VA03				i S	Sn	22 58 55.4	+1.6
VA03				IAML		22 59 02.5	
	comp=E,3μm,0.2s						
ROCH	El Roble	2.24	171	⇑iP	Pn	22 58 29.6	-0.2
ROCH				⇑iP	Pn	22 58 28.6	-1.1
ROCH				IAML		22 59 02.3	
	comp=E,1μm,0.5s						
ROCH				IAML		22 59 03.1	
	comp=N,3μm,0.8s						
PEL	Peldehue	2.47	165	eP	Pn	22 58 32.9	+0.2
PEL				i S	Sn	22 59 03.6	+1.9
PEL				IAML		22 59 07.8	
MT02	Curacav	2.51	174	eP	Pn	22 58 32.2	-1.0
MT02				IAML		22 59 16.3	
	comp=E,654nm,0.4s						
AC04	Llanos de Chal	2.56	7	eP	Pn	22 58 33.6	-0.3
AC04				IAML		22 59 20.2	
	comp=E,440nm,0.4s						
MT05	Renca	2.70	168	eP	Pn	22 58 36.1	+0.2
MT05				IAML		22 59 18.0	
	comp=E,2μm,0.5s						
VA05	Santo Domingo	2.90	183	eP	Pn	22 58 37.0	-1.6
VA05				IAML		22 59 24.1	
	comp=N,1μm,0.4s						
MT09	Talagante	3.04	173	⇑iP	Pn	22 58 40.5	-0.2
MT09				i S	Sn	22 59 16.8	+0.8
MT09				IAML		22 59 35.1	
	comp=N,752nm,0.1s						
MT01	Popeta	3.11	177	⇑iP	Pn	22 58 40.5	-1.0
MT01				IAML		22 59 31.4	
	comp=E,543nm,0.3s						
H03N1	Juan Fernandez	6.89	245	T	T	23 06 26.2	
	baz=72,slow=72,SNR=1251						
H03N3	Juan Fernandez	6.91	245	T	T	23 06 21.4	
	baz=72,slow=72,SNR=967						
H03N2	Juan Fernandez	6.91	245	T	T	23 06 26.2	
	baz=72,slow=72,SNR=1608						
H03S3	Juan Fernandez	7.03	242	T	T	23 06 42.8	
	baz=68						
H03S1	Juan Fernandez	7.04	242	T	T	23 06 44.8	
	baz=68						
H03S2	Juan Fernandez	7.05	242	T	T	23 06 44.8	
	baz=68						
LVC	Limon Verde	8.42	16	P	Pn	22 59 57.0	+2.3
	comp=E,0.3nm,0.3s,baz=187,slow=17,SNR=1.8						
LVC				S	Sn	23 01 33.2	+4.4
	comp=E,0.7nm,0.3s,baz=181,slow=8.0,SNR=3.5						
PLCA	Paso Flores	9.98	176	P	Pn	23 00 14.3	-1.6
	comp=E,0.2nm,0.3s,baz=348,slow=12,SNR=5.9						
CPUP	Villa Florida	13.15	74	LR	LR	23 05 26.5	
	comp=E,45nm,21.8s,baz=215,slow=34						
LPAZ	La Paz	14.71	13	P	Pn	23 01 21.8	+0.7
	comp=E,0.0nm,0.3s,baz=172,slow=6.4,SNR=4.3						
SIV	San Ignacio	17.48	35	P	Pn	23 01 54.7	-1.4
	comp=E,0.2nm,0.3s,baz=204,slow=5.7,SNR=4.9						
TXAR	Lajitas Array	67.18	330	P	P	23 08 44.3	-1.3
	comp=E,0.4nm,0.6s,baz=152,slow=7.1,SNR=5.5						
TORD	Torodi Ar. Bea	82.62	70	P	P	23 10 12.7	-2.3
	comp=E,0.2nm,0.5s,baz=253,slow=5.5,SNR=5.8						
H11S2	WAKE ISLAND Hyl	26.28	271	T	T	01 35 39.2	
	baz=115,slow=75,SNR=28						
H11S1	WAKE ISLAND Hyl	26.29	271	T	T	01 35 40.9	
	baz=115,slow=75,SNR=32						
H11S3	WAKE ISLAND Hyl	26.29	271	T	T	01 35 40.5	
	baz=115,slow=75,SNR=35						
ZALV	Zalesovo Beam	151.18	30	PKPbc	PKPdf	23 17 40.3	+2.1
	comp=E,1.5nm,0.6s,baz=316,slow=3.7,SNR=6.7						

JMA 24 23:09:42.5,36°.60N×140°.86E,h19km±1km,M3.6,3C-2D Broadband fault plane solution: P waves. NP1: ϕ_s=137.00000°,δ29.00000°,λ-136.00000°. NP2: ϕ_s=6.00000°,δ70.00000°,λ-68.00000°. Principal axes: T Plg22.0000°, Azm80.0000°; N Plg20.0000°, Azm179.0000°; P Plg59.0000°, Azm307.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.23	273	⇑P	Pb	23 09 47.8	0.0
JHO				S	Sb	23 09 51.5	+0.2
JHYU	Hitachinakayam	0.34	220	⇑P	Pg	23 09 49.7	-0.1
JHYU				S	Sb	23 09 54.9	-0.2
ONAJ	Iwakimizuishiy	0.50	354	P	Pg	23 09 52.4	-0.3
ONAJ				S	Sg	23 09 59.3	-0.3
JFFD	Fukushimafurud	0.55	334	⇓P	Pb	23 09 53.1	-0.3
JFFD				S	Sb	23 10 00.4	-0.4
JYT	Yasato	0.65	236	⇑P	Pb	23 09 54.9	-0.3
JYT				S	Sb	23 10 03.9	0.0
JFK	Kawauchi	0.77	1	⇓P	Pb	23 09 56.2	-1.0
JFK				S	Sb	23 10 06.3	-1.0
JSB	Shiboa	0.84	296	P	Pg	23 09 59.0	+0.1
JSB				eS	Sg	23 10 10.2	+0.1
MAT	Matsushiro	2.14	269	P	Pn	23 10 18.1	+0.9
MAT				S	Sb	23 10 47.0	+0.3

*IDC **24** 23:15:37.0±1.0,31°.32N×142°.90E,h0km,mb3.4/7, mb1 3.8/9,mb1mx3.4/35,mbtmp3.5/9,ML3.5/2 Error ellipse: s-maj=27.1km s-min=23.4km az=88.0*

ISC 24 23:15:44.1±0.9,31°.5N±0°.1×142°.7E±0°.1,h49km,n16, σ1ŝ87/11,mb3.4/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.91	304	Sn	Sn	23 16 58.2	-3.4
	22nm,0.3s,baz=308,slow=19,SNR=1.9						
MJAR	Matsushiro Arr	6.22	325	Pn	Pn	23 17 12.8	-0.5
	0.2nm,0.3s,baz=151,slow=17,SNR=4.0						
MJAR				Sn	Sn	23 18 22.4	-0.7
	0.1nm,0.3s,baz=134,slow=19,SNR=1.9						
JNU	Nakatsue	10.10	282	Pn	Pn	23 18 08.4	+1.9
	0.7nm,0.3s,baz=32,slow=8.5,SNR=9.2						
H11N2	WAKE ISLAND Hy	24.75	113	T	T	23 45 14.4	
	baz=309,slow=75						
H11N1	WAKE ISLAND Hy	24.75	113	T	T	23 45 16.6	
	baz=309,slow=75						
H11N3	WAKE ISLAND Hy	24.77	113	T	T	23 45 15.8	
	baz=309,slow=75						
H11S3	WAKE ISLAND Hy	25.28	115	T	T	23 46 03.3	
	baz=313,slow=76						
H11S1	WAKE ISLAND Hy	25.28	115	T	T	23 46 00.0	
	baz=313,slow=76						
H11S2	WAKE ISLAND Hy	25.30	115	T	T	23 46 01.9	
	baz=313,slow=76						
SONM	Songino Array	31.96	311	P	P	23 22 07.3	+1.8
	0.3nm,0.7s,baz=116,slow=13,SNR=3.5						
MKAR	Makanchi Array	48.07	307	P	P	23 24 19.7	+1.0
	0.4nm,0.7s,baz=97,slow=7.3,SNR=3.4						
WRA	Warramunga Arr	51.79	190	P	P	23 24 44.6	-2.5
	0.3nm,0.6s,baz=5.8,slow=7.6,SNR=5.2						
ILAR	Eielson Arrray	53.66	30	P	P	23 25 00.4	0.0
	0.3nm,0.8s,baz=1.1,slow=4.6,SNR=2.1						
ASAR	Alice Springs	55.52	190	P	P	23 25 13.2	-1.1
	0.3nm,0.8s,baz=1.1,slow=4.6,SNR=2.1						
YKA	Yellowknife Ar	68.07	29	P	P	23 26 38.7	+0.4
	0.3nm,0.7s,baz=291,slow=6.4,SNR=4.3						
NVAR	Mina Array Bea	77.48	53	P	P	23 27 35.0	+0.1
	0.5nm,0.5s,baz=282,slow=7.4,SNR=4.8						

TEH 24 23:20:35.3,28°.73N×58°.87E,h9km,ML3.8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	BAM	0.54	318	ePg	Pb	23 20 47.4	+0.3
KBAM				eSg	Sb	23 20 55.1	0.0
KBAM				e		23 20 56.1	
	comp=Z,100μm,0.2s						
KHNJ	Kahnooj	1.28	233	ePg	Pn	23 20 59.4	-0.1
CHMN	Cheshme madani	1.62	315	e		23 21 32.8	
	comp=Z,20μm,0.2s						
CHMN				ePn	Pg	23 21 06.5	+0.1
ZHDN	Zahedan	1.83	68	ePn	Pb	23 21 09.7	+0.7
ZHSF	Zahedan	1.89	62	ePn	Pg	23 21 11.3	-0.2
NGRK	Negar Kerman	2.08	297	ePn	Pb	23 21 14.3	+0.9
NGRK				e		23 21 42.8	
	comp=Z,8μm,0.4s						
KRBR	Kerman	2.22	305	ePn	Pb	23 21 16.1	+0.2
TVBK	TV Kerman	2.22	305	ePn	Pb	23 21 16.2	+0.3
IBND	Bandar-abas	2.42	239	ePn	Pb	23 21 19.1	+0.1
IBND				e		23 22 11.5	
	comp=Z,7μm,0.4s						
KHGB	Koh Gabri	2.65	309	ePn	Pb	23 21 21.6	-1.5
KHGB				e		23 22 01.4	
	comp=Z,3μm,0.5s						
GENO	Geno	2.72	242	ePn	Pb	23 21 23.7	-0.6
GENO				e		23 22 10.3	
	comp=Z,2μm,0.3s						
NHDN	Nehbandan	2.85	21	ePn	Pb	23 21 23.9	-2.5
BSRN	Basiran	3.23	4	ePn	Pn	23 21 28.3	+

NVAR Mina Array Bea 82.94 51 P **P 23 57 49.2 -0.4**
0.4nm,0.7s,baz=269,slow=6.5,SNR=4.3

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*IDC **24** 23:51:26.4±6.1,24°.50S×179°.51E,h531km±48km,mb3.2/3, mb1 3.5/4,mb1mx2.8/31,mbtmp4.0/4,Error ellipse: s-maj=112.3km s-min=24.4km az=150.0*

*NEIC **24** 23:51:29.8±2.0,25°.36S±0°.05×179°.6E±0°.2,h596km±15km, mb4.3/22,Error ellipse: s-maj=22.2km s-min=7.1km az=89.0*

ISC 24 23:51:22.8±1.0,25°.0S±0°.1×179°.7E±0°.2,h507km,n41, σ1§52/35,mb4.2/12,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.78 154**		P	P	23 52 57.0	+8.9
MSVF	**Nonsavu**	**7.35 348**		P	**P**	**23 53 12.9**	**0.0**
	0.9nm,0.3s,baz=140,slow=23,SNR=4.1						
MSVF	**Nonsavu**	**7.35 348**		P	P	23 53 25.6	+13
NIUE	**Niue**	**11.27 61**		P	P	23 54 02.9	+9.2
OUZ	**Omahuta**	**11.51 206**		P	**P**	**23 53 58.8**	**+2.8**
DZM	**Mont Dzumac**	**12.49 281**		P	P	23 54 13.5	+6.9
URZ	**Urewera**	**13.44 189**		P	**P**	**23 54 18.5**	**+2.1**
BKZ	**Black Stump Fm**	**14.42 190**		P	**P**	**23 54 27.7**	**+1.0**
BFZ	**Birch Farm**	**15.95 190**		P	**P**	**23 54 43.4**	**+0.9**
BHW	**Baring Head**	**16.89 193**		P	**P**	**23 54 50.9**	**-1.3**
QRZ	**Quartz Range**	**16.92 199**		P	**P**	**23 54 52.2**	**-0.4**
QRZ				IAmb	IAmb	23 54 57.4	
	comp=Z,17nm,1.2s						
PLWZ	**Palliser**	**16.97 191**		P	**P**	**23 54 49.9**	**-3.2**
NNZ	**Nelson**	**17.05 196**		P	**P**	**23 54 50.0**	**-3.8**
THZ	**Tophouse**	**17.68 197**		P	**P**	**23 54 58.2**	**-1.6**
THZ				IAmb	IAmb	23 55 02.7	
	comp=Z,7.9nm,1.0s						
MQZ	**McQueen's Vall**	**19.57 195**		P	**P**	**23 55 16.8**	**-0.1**
MQZ				IAmb	IAmb	23 55 30.6	
	comp=Z,13nm,1.2s						
FOZ	**Fox Glacier**	**20.22 201**		P	**P**	**23 55 21.5**	**-1.3**
LBZ	**Lake Benmore**	**20.87 199**		P	**P**	**23 55 27.2**	**-1.6**
ODZ	**Otahua Downs**	**21.34 198**		P	**P**	**23 55 31.5**	**-1.4**
MLZ	**Mavora Lakes**	**22.41 202**		P	**P**	**23 55 41.0**	**-1.6**
MLZ				IAmb	IAmb	23 55 48.1	
	comp=Z,9.2nm,1.0s						
CTAO	**Charters Tower**	**31.21 272**		P	**P**	**23 57 02.3**	**+1.9**
CTAO				IAmb	IAmb	23 57 02.9	
	comp=Z,6.6nm,0.8s						
TOO	**Toolangi**	**31.65 238**		P	**P**	**23 57 04.5**	**+0.6**
TOO				IAmb	IAmb	23 57 21.5	
	comp=Z,8.6nm,1.1s						
STKA	**Stephens Creek**	**34.08 250**		P	**P**	**23 57 25.3**	**+0.7**
COEN	**Coen**	**36.02 281**		P	**P**	**23 57 42.5**	**+1.5**
COEN				IAmb	IAmb	23 57 57.2	
	comp=Z,9.5nm,1.1s						
BBOO	**Buckleboo**	**38.78 248**		P	**P**	**23 58 01.3**	**-2.2**
BBOO				IAmb	IAmb	23 58 02.0	
	comp=Z,9.4nm,1.1s						
AS31	**Alice Springs**	**41.59 262**		P	**P**	**23 58 27.3**	**+1.2**
ASAR	**Alice Springs**	**41.59 262**		P	**P**	**23 58 26.8**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=94,slow=7.2,SNR=18						
ASAR	**Alice Springs**	**41.59 262**		P	**P**	**23 58 26.6**	**+0.5**
WB2	**Warramunga Arr**	**42.05 267**		P	**P**	**23 58 30.5**	**+0.7**
WB2				IAmb	IAmb	23 58 30.6	
	comp=Z,5.4nm,0.5s						
WB0	**Warramunga Arr**	**42.06 268**		P	**P**	**23 58 30.5**	**+0.6**
WB0				IAmb	IAmb	23 58 31.0	
	comp=Z,5.4nm,0.5s						
WRA	**Warramunga Arr**	**42.06 267**		P	**P**	**23 58 30.5**	**+0.6**
	comp=Z,2.6nm,0.3s,baz=104,slow=7.9,SNR=94						
WRA	**Warramunga Arr**	**42.06 267**		P	**P**	**23 58 30.1**	**+0.2**
FORT	**Forrest**	**45.69 251**		P	**P**	**23 58 57.5**	**-0.4**
FORT				IAmb	IAmb	23 59 10.1	
	comp=Z,8.4nm,0.8s						
KNRA	**Kununurra**	**48.41 271**		P	**P**	**23 59 19.5**	**+0.9**
MORW	**Morawa**	**56.25 251**		P	**P**	**00 00 13.5**	**-1.4**
TOLI2	**Tolitoli**	**62.58 285**		P	**P**	**00 00 56.1**	**-1.2**
TOLI2				IAmb	IAmb	00 01 04.7	
	comp=Z,10nm,1.0s						
TXAR	**Lajitas Array**	**91.23 58**		P	**P**	**00 03 34.8**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=218,slow=5.7,SNR=2.3						
BPAW	**Bear Paw Mtn.**	**91.68 12**			pP	00 05 43.8	+17
I21K	**Tanana**	**92.47 12**			pP	00 05 47.2	+16
AKASG	**Malin Array Be**	**145.69 326**		PKPbc	**PKPdf**	**00 10 02.9**	**0.0**
	comp=Z,0.2nm,0.4s,baz=45,slow=2.6,SNR=4.6						
MMAI	**Mount Meron Ar**	**147.86 293**		PKPbc	**PKiKP**	**00 10 11.8**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=71,slow=6.2,SNR=4.7						
BRTR	**Keskin Array B**	**147.97 306**		PKPbc	**PKPbc**	**00 10 10.1**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=85,slow=2.4,SNR=1.6						

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*IDC **25** 00:00:02.9±0.3,19°.41S×173°.49W,h0km,mb5.5/33, mb1 5.5/34,mb1mx5.4/38,mbtmp5.5/34,ML5.8/1,MS5.2/64, Ms1 5.2/64,ms1mx5.2/68,Error ellipse: s-maj=15.0km s-min=12.0km az=143.0*

*MOS **25** 00:00:07.3±1.0,19°.39S×173°.59W,h33km,mb6.0/46, MS5.4/21,Error ellipse: s-maj=9.2km s-min=8.1km az=123.5*

*BGR **25** 00:00:08.6±0.0,19°.77S×172°.23W,h38km±1km,Ms5.5*

*BJI **25** 00:00:08.4±0.0,19°.53S×173°.40W,h45km,mb5.6/68, mB6.0/59,Ms5.5/64,Ms7 5.3/67*

*NOU **25** 00:00:08.5,19°.48S×173°.13W,h50km,ML6.0/131,Tonga Islands*

*NEIC **25** 00:00:10,19°.57S×173°.39W,h46km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}6.31; $M_{\theta\theta}$-5.74; $M_{\phi\phi}$-0.57; $M_{r\theta}$-1.17; $M_{\phi\phi}$0.25; $M_{\phi r}$0.60; Fault plane solution: $M_0$6.19000×10^{17} NP1:ϕ_s88.54000°, δ39.57000°,λ83.23000°. NP2:ϕ_s277.30000°,δ50.76000°, λ95.57000°. Principal axes: T 6.4726, Plg83.0000°, Azm221.0000°; N -0.5997, Plg4.0000°, Azm94.0000°; P -5.8729, Plg6.0000°, Azm3.0000°;*

*NEIC **25** 00:00:11.1±2.8,19°.53S±0°.05×173°.38W±0°.06,h53km±1km, mb5.7/447,Mwb5.8/65,Mww5.7 Error ellipse: s-maj=10.7km s-min=8.3km az=290.0*

*GCMT **25** 00:00:12.1±0.1,19°.42S±0°.01×173°.17W±0°.01,h44km, MW5.7/154,Moment Tensor Solution. s152,c297; s154,c309; Duration: 1§7 Moment tensor: Scale 10^{17} Nm; M_{rr}4.28±.05; $M_{\theta\theta}$-3.49±.04; $M_{\phi\phi}$-0.78±.04; $M_{r\theta}$0.20±.04; $M_{\theta\phi}$1.21±.02; $M_{\phi r}$1.94±.03; Best double couple: $M_0$4.48300×10^{17} NP1:ϕ_s93.00000°,δ44.00000°, λ62.00000°. NP2:ϕ_s310.00000°,δ52.00000°,λ115.00000°. Principal axes: T 4.9780, Plg70.0000°, Azm282.0000°; N -0.9870, Plg19.0000°, Azm114.0000°; P -3.9870, Plg4.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **25** 00:00:13,19°.50S×173°.29W,h60km,Moment Tensor Solution. Duration: 7§6 Moment tensor: Scale 10^{17}Nm; M_{rr}3.82; $M_{\theta\theta}$-2.22; $M_{\phi\phi}$-1.60; $M_{r\theta}$-1.34; $M_{\theta\phi}$1.13; $M_{\phi r}$0.47; Fault plane solution: $M_0$3.78000×10^{17} NP1: ϕ_s131.00000°,δ34.00000°,λ98.00000°. NP2: ϕ_s301.00000°,δ56.00000°,λ84.00000°. Principal axes: T 4.1087, Plg78.0000°, Azm192.0000°; N -0.7726, Plg5.0000°, Azm305.0000°; P -3.3361, Plg11.0000°, Azm36.0000°;*

ISC 25 00:00:08.1±0.3,19°.51S±0°.03×173°.23W±0°.03,h35km, h34km:pP-P,n1551,σ1§65/1502,mb5.8/368,MS5.3/117, 101C-76D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.15 83**		P	**Pn**	**00 00 54.0**	**-1.2**
	baz=3.4						
NIUE	**Niue**	**3.15 83**		Pn	**Pn**	**00 00 54.2**	**-1.1**
NIUE				Sn	**Sn**	**00 01 27.1**	**-4.6**
NIUE	**Niue**	**3.15 83**		P	**Pn**	**00 00 53.2**	**-2.0**
LKBA	**Tubou, Lakemba**	**5.44 283**		P	**Pn**	**00 01 30.0**	**+3.3**
AFI	**Afiamalu**	**5.74 14**		Pn	Pn	00 01 25.7	-5.2
	94nm,0.3s,baz=258,slow=1.2,SNR=62						
AFI				Sn	Sn	00 02 26.1	-10
	750nm,0.3s,baz=40,slow=15,SNR=6.2						
AFI				LR	LR	00 02 44.4	
	comp=Z,3μm,21.4s,baz=149,slow=28						
TAVE	**Taveuni**	**6.93 293**		P	**Pn**	**00 01 51.2**	**+3.9**
	1μm,1.1s						
DGTI	**Dogotuki**	**7.42 294**		P	**Pn**	**00 01 57.2**	**+3.3**
	1μm,1.1s						
MSVF	**Nonsavu**	**8.45 281**		Pn	**Pn**	**00 02 11.2**	**+3.0**
	14nm,0.3s,baz=119,slow=10,SNR=103						
MSVF				LR	LR	00 04 59.7	
	comp=Z,37μm,20.9s,baz=93,slow=36						
MSVF	**Nonsavu**	**8.45 281**		P	**Pn**	**00 02 12.6**	**+4.4**
MSVF	**Nonsavu**	**8.45 281**		Pn	**Pn**	**00 02 12.6**	**+4.4**
MSVF	**Nonsavu**	**8.45 281**		P	**Pn**	**00 02 12.8**	**+4.6**
	950nm,1.2s						
MSVF	**Nonsavu**	**8.45 281**		P	**Pn**	**00 02 12.9**	**+4.6**
RAO	**Raoul Island**	**10.60 203**		Pn	Pn	00 02 32.4	-5.1
	234nm,0.3s,baz=60,slow=18,SNR=4.0						
RAO				Sn	**Sn**	**00 04 29.9**	**-5.1**
	385nm,0.3s,baz=84,slow=21,SNR=9.8						
RAO	**Raoul Island**	**10.60 203**		Pn	Pn	00 02 33.2	-4.3
RAO					**Sn**	**00 04 31.1**	**-3.8**
RAO	**Raoul Island**	**10.60 203**		P	**Pn**	**00 02 37.5**	**0.0**
	1μm,0.8s						
RAR	**Rarotonga**	**12.74 100**		Pn	**Pn**	**00 03 05.2**	**-1.6**
	56nm,0.3s,baz=277,slow=9.3,SNR=146						
RAR				Sn	**Sn**	**00 05 19.9**	**-7.5**
	29nm,0.3s,baz=321,slow=22,SNR=7.1						
RAR				LR	LR	00 06 59.6	
	comp=Z,7μm,20.8s,baz=260,slow=32						
RAR	**Rarotonga**	**12.74 100**		P	**Pn**	**00 03 05.7**	**-1.1**
RAR	**Rarotonga**	**12.74 100**		Pn	**Pn**	**00 03 05.7**	**-1.1**
RAR	**Rarotonga**	**12.74 100**		P	**Pn**	**00 03 06.8**	**0.0**
	1μm,1.0s						
RAR	**Rarotonga**	**12.74 100**		P	**Pn**	**00 03 03.1**	**-3.7**
FUNA	**Funafuti**	**13.15 325**		Pn	**Pn**	**00 03 12.9**	**+0.4**
KNTN	**Kanton**	**16.70 5**		P	**Pn**	**00 03 58.1**	**-1.3**
RTV	**Rentapao**	**17.47 273**		P	**Pn**	**00 04 09.8**	**+0.7**
	354μm,1.1s						
MARNC	**Mare, Loyalty**	**17.67 260**		P	**Pn**	**00 04 10.0**	**-1.5**
MARNC	**Mare, Loyalty**	**17.67 260**		P	**Pn**	**00 04 11.6**	**+0.1**
	32nm,0.8s						
DVP	**Devils Point**	**17.70 273**		P	**P**	**00 04 13.3**	**+0.7**
	206μm,1.0s						
PINNC	**Pines Island,**	**18.30 257**		P	**P**	**00 04 18.6**	**-0.5**
PINNC	**Pines Island,**	**18.30 257**		P	**P**	**00 04 19.4**	**+0.3**
	2μm,0.9s						
LIFNC	**LIFOU**	**18.38 263**		P	**P**	**00 04 17.8**	**-2.3**
LIFNC	**LIFOU**	**18.38 263**		P	**P**	**00 04 19.1**	**-1.0**
	1μm,0.9s						
OUENC	**Ouen Island, N**	**18.83 258**		P	**P**	**00 04 24.1**	**-1.0**
OUENC				IAmb	IAmb	00 04 26.3	
	comp=Z,578nm,1.0s						
OUENC	**Ouen Island, N**	**18.83 258**		P	**P**	**00 04 25.4**	**+0.3**
	comp=Z,733nm,1.4s						
SANVU	**Saraoutou**	**19.09 279**			**P**	**00 04 26.1**	**-1.9**
SANVU	**Saraoutou**	**19.09 279**		P	**Pn**	**00 04 28.9**	**-0.1**
	comp=Z,953nm,1.5s						
SANVU	**Saraoutou**	**19.09 279**		P	**P**	**00 04 25.2**	**-2.8**
DZM	**Mont Dzumac**	**19.17 259**		P	**P**	**00 04 27.3**	**-1.7**
	comp=Z,32nm,0.3s,baz=85,slow=15,SNR=334						
DZM				LR	LR	00 10 49.7	
	comp=Z,20μm,20.2s,baz=100,slow=34						
DZM	**Mont Dzumac**	**19.17 259**	*eP*		**P**	**00 04 28.2**	**-0.7**
	comp=Z,66nm,0.3s						
DZM	**Mont Dzumac**	**19.17 259**		P	**P**	**00 04 27.2**	**-1.7**
DZM	**Mont Dzumac**	**19.17 259**		P	**P**	**00 04 29.1**	**+0.2**
	comp=Z,2μm,0.9s						
DZM	**Mont Dzumac**	**19.17 259**		P	**P**	**00 04 27.8**	**-1.1**
DZM				pP	**sP**	**00 04 41.1**	**+1.9**
ONTNC	**Ouen Toro**	**19.18 258**		P	**P**	**00 04 27.6**	**-1.3**
ONTNC				IAmb	IAmb	00 04 43.0	
	comp=Z,604nm,0.9s						
ONTNC	**Ouen Toro**	**19.18 258**		P	**P**	**00 04 29.0**	**+0.1**
	comp=Z,716nm,0.9s						
NOUC	**Port Laguerre**	**19.31 259**		P	**P**	**00 04 30.4**	**+0.1**
	comp=Z,802nm,1.1s						
NOUC	**Port Laguerre**	**19.31 259**		P	**P**	**00 04 29.1**	**-1.1**
GRZ	**Great Barrier**	**19.42 208**		P	**Pn**	**00 04 33.8**	**+1.1**
MXZ	**Matakaoa Point**	**19.45 201**		P	**Pn**	**00 04 35.8**	**+2.8**
MXZ	**Matakaoa Point**	**19.45 201**		P	**P**	**00 04 32.0**	**+0.4**
OUZ	**Omahuta**	**19.51 214**		P	**Pn**	**00 04 34.5**	**+0.7**
OUZ	**Omahuta**	**19.51 214**			**Pn**	**00 04 34.1**	**+0.3**
OUZ				IAmb	IAmb	00 04 35.9	
	comp=Z,368nm,0.9s						
OUZ	**Omahuta**	**19.51 214**		P	**P**	**00 04 33.6**	**+1.3**
	comp=Z,584nm,0.9s						
NFK	**Norfolk Island**	**19.59 237**		P	**P**	**00 04 34.1**	**+0.7**
	baz=20,SNR=19						
NFK	**Norfolk Island**	**19.59 237**		P	**P**	**00 04 34.6**	**+1.2**
	comp=Z,1μm,1.0s						
WMGZ	**Waiomatatini S**	**19.64 200**		P	**P**	**00 04 33.2**	**-0.6**
KUZ	**Kuaotunu**	**19.72 207**		P	**Pn**	**00 04 37.1**	**+0.9**
HAZ	**Te Kaha**	**19.80 201**		P	**P**	**00 04 33.8**	**-1.6**
PKGZ	**Pakihiroa**	**19.82 201**		P	**Pn**	**00 04 37.8**	**+0.3**
PUZ	**Puketiti**	**19.93 200**		P	**Pn**	**00 04 39.1**	**+0.4**
URZ	**Urewera**	**20.48 202**		P	**P**	**00 04 43.0**	**+0.1**
	comp=Z,377nm,0.7s,baz=3.7,slow=5.0,SNR=130						
URZ				S	**S**	**00 08 24.3**	**-6.0**
	comp=Z,44nm,0.4s,baz=83,slow=22,SNR=6.4						
URZ	**Urewera**	**20.48 202**		P	**P**	**00 04 43.6**	**+0.7**
URZ				IAmb	IAmb	00 04 46.5	
	comp=Z,421nm,0.8s						
URZ	**Urewera**	**20.48 202**		P	**P**	**00 04 42.5**	**-0.4**
	comp=Z,2μm,0.8s						
KOUNC	**Koumac, New Ca**	**21.15 263**		P	**P**	**00 04 49.8**	**-0.5**
	comp=Z,545nm,0.8s						
BKZ	**Black Stump Fm**	**21.51 202**		P	**P**	**00 04 52.9**	**-1.2**
BKZ				IAmb	IAmb	00 05 02.3	
	comp=Z,173nm,0.6s						
BKZ	**Black Stump Fm**	**21.51 202**		P	**P**	**00 04 55.9**	**+1.8**
	comp=Z,976nm,0.8s						
PAE	**Paea**	**22.49 89**	*eT*		T	00 28 12.4	
	comp=Z,32nm,0.3s						
PPT2	**Papeete2**	**22.50 89**	*eS*		**S**	**00 09 01.0**	**-8.9**
	comp=Z,4μm,26.2s						
PPT2			*eLQ*		LQ	00 09 28.0	
	comp=Z,10μm,26.8s						
PPT2			*eLR*		LR	00 10 23.2	
	comp=Z,24μm,27.2s						
PPT2	**Papeete2**	**22.50 89**	*eT*		T	00 28 14.2	
	comp=Z,26nm,0.3s						
PPT	**Papeete**	**22.51 89**	P		**P**	**00 05 06.9**	**+2.0**
	comp=Z,92nm,0.7s,baz=181,slow=2.6,SNR=10						
PPT				LR	LR	00 12 33.0	
	comp=Z,4μm,18.1s,baz=262,slow=33						
PPTF	**Pamatai, Papee**	**22.51 89**	P		**P**	**00 05 07.8**	**+2.8**
PPTF				IAmb	IAmb	00 05 18.5	
	comp=Z,377nm,1.2s						
PPTF	**Pamatai, Papee**	**22.51 89**	P		**P**	**00 05 01.6**	**-3.5**
	comp=Z,322nm,1.4s						
DVHZ	**Dannevirke**	**22.63 201**	P		**P**	**00 05 06.2**	**+0.1**
DVHZ				S	**S**	**00 09 05.4**	**-6.3**
TIAR	**Tiarei**	**22.73 89**	*eT*		T	00 28 30.1	
	comp=Z,3.0nm,0.2s						
POWZ	**Post Office Ro**	**22.85 202**	P		**P**	**00 05 08.0**	**-0.3**
POWZ				S	**S**	**00 09 10.6**	**-5.0**
PRWZ	**Pori Road**	**22.93 201**	P		**P**	**00 05 11.5**	**+2.3**
PRWZ				S	**S**	**00 09 10.6**	**-6.2**
BFZ	**Birch Farm**	**22.95 201**	P		**P**	**00 05 11.1**	**+1.8**
BFZ				S	**S**	**00 09 13.1**	**-4.0**
BFZ	**Birch Farm**	**22.95 201**	P		**P**	**00 05 09.9**	**+0.6**
BFZ				IAmb	IAmb	00 05 13.6	
	comp=Z,244nm,0.8s						
BFZ	**Birch Farm**	**22.95 201**	P		**P**	**00 05 10.1**	**+0.8**
MRZ	**Mangatainoka R**	**23.16 202**	P		**P**	**00 05 10.3**	**-1.1**
MRZ				S	**S**	**00 09 15.7**	**-4.9**
CPWZ	**Castlepoint**	**23.17 201**	P		**P**	**00 05 15.5**	**+4.0**
CPWZ				S	**S**	**00 09 18.3**	**-2.4**
HOWZ	**Holdsworth Sta**	**23.39 202**	P		**P**	**00 05 14.1**	**+0.4**
HOWZ				S	**S**	**00 09 19.2**	**-5.3**
OGWZ	**Otaki Gorge**	**23.44 203**	P		**P**	**00 05 13.3**	**-0.9**
OGWZ				S	**S**	**00 09 21.8**	**-3.5**
TMWZ	**Te Maipa**	**23.45 201**	P		**P**	**00 05 14.7**	**+0.3**
TMWZ				S	**S**	**00 09 20.9**	**-4.5**
KIW	**Kapiti Island**	**23.58 203**	P		**P**	**00 05 16.0**	**+0.5**
KIW				S	**S**	**00 09 24.3**	**-3.1**
MTW	**Mount Morrison**	**23.63 202**	P		**P**	**00 05 16.0**	**-0.1**
MTW				S	**S**	**00 09 24.3**	**-3.9**
CAW	**Cannon Point**	**23.73 202**	P		**P**	**00 05 20.7**	**+3.6**
CAW				S	**S**	**00 09 26.1**	**-3.9**
TRWZ	**Traveller**	**23.78 201**	P		**P**	**00 05 16.4**	**-1.1**
TRWZ				S	**S**	**00 09 28.6**	**-2.0**
PAWZ	**Paruwai Farm**	**23.85 201**	P		**P**	**00 05 17.2**	**-0.9**
PAWZ				S	**S**	**00 09 29.5**	**-2.4**
MEH	**Mehetia**	**23.89 90**	*eT*		T	00 29 57.4	
	comp=Z,108nm,0.2s						
DUWZ	**D'Urville Isla**	**23.90 205**	P		**P**	**00 05 16.6**	**-2.1**
MSWZ	**Moikau Station**	**23.94 202**	P		**P**	**00 05 18.9**	**-0.1**
MSWZ				S	**S**	**00 09 32.1**	**-1.2**
SNZO	**South Karori**	**24.04 203**	P		**P**	**00 05 20.2**	**+0.3**
SNZO				IAmb	IAmb	00 05 32.1	
	comp=Z,271nm,0.8s						
SNZO	**South Karori**	**24.04 203**	P		**P**	**00 05 21.0**	**+1.1**
	comp=Z,375nm,0.8s						
BHW	**Baring Head**	**24.07 202**	P		**P**	**00 05 18.6**	**-1.5**
BHW				S	**S**	**00 09 35.5**	**+0.2**
BHW	**Baring Head**	**24.07 202**	P		**P**	**00 05 19.8**	**-0.3**
PLWZ	**Palliser**	**24.08 202**	P		**P**	**00 05 21.5**	**+1.2**
PLWZ				S	**S**	**00 09 34.7**	**-0.9**
PLWZ	**Palliser**	**24.08 202**	P		**P**	**00 05 20.8**	**+0.5**
TCW	**Tory Channel**	**24.12 204**	P		**P**	**00 05 17.2**	**-3.4**
TCW				S	**S**	**00 09 38.1**	**+2.1**
NNZ	**Nelson**	**24.47 205**	P		**P**	**00 05 21.3**	**-2.5**
NNZ	**Nelson**	**24.47 205**	IAmb		IAmb	00 05 29.8	
	comp=Z,117nm,0.7s						
QRZ	**Quartz Range**	**24.49 207**	P		**P**	**00 05 25.6**	**+1.6**
QRZ				S	**S**	**00 09 47.2**	**+5.1**
QRZ	**Quartz Range**	**24.49 207**	P		**P**	**00 05 24.6**	**+0.6**
	comp=Z,765nm,0.7s						
PMOR	**Pomariorio Ree**	**24.60 83**	*eT*		T	00 30 49.3	
	comp=Z,16nm,0.3s						
CMWZ	**Cape Campbell**	**24.61 203**	P		**P**	**00 05 25.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**24.70 204**	P		**P**	**00 05 25.8**	**-0.1**
VAH	**Vaihoa**	**24.79 84**	*eT*		T	00 31 04.4	
	comp=Z,9.4nm,0.2s						
THZ	**Tophouse**	**25.12 205**	P		**P**	**00 05 29.8**	**0.0**
THZ				S	**S**	**00 09 58.0**	**+5.7**
KHZ	**Kahutara**	**25.43 203**	IAmb		IAmb	00 05 42.8	
	comp=Z,245nm,1.0s						
KHZ	**Kahutara**	**25.43 203**	P		**P**	**00 05 33.2**	**+0.7**
	comp=Z,192nm,0.6s						
MQZ	**McQueen's Vall**	**26.88 203**	P		**P**	**00 05 45.8**	**+0.2**
RPZ	**Rata Peaks**	**27.50 205**	P		**P**	**00 05 50.5**	**-0.7**
LHI	**Lord Howe Isla**	**27.64 239**	P		**P**	**00 05 51.7**	**-0.8**
	baz=28,SNR=7.5						
LHI	**Lord Howe Isla**	**27.64 239**	IAmb		IAmb	00 05 53.1	
	comp=Z,322nm,1.1s						
LHI	**Lord Howe Isla**	**27.64 239**	P		**P**	**00 05 52.4**	**-0.1**
	comp=Z,356nm,1.3s						
HNR	**Honiara**	**27.80 287**	P		**P**	**00 05 51.4**	**-2.8**
	comp=Z,100nm,0.4s,baz=218,slow=6.1,SNR=6.3						
HNR				LR	LR	00 16 02.2	
	comp=Z,4μm,18.6s,baz=122,slow=35						
HNR	**Honiara**	**27.80 287**	P		**P**	**00 05 51.9**	**-2.2**
HNR				pmax	pmax		
	comp=Z,229nm,1.1s						
HNR	**Honiara**	**27.80 287**	P		**P**	**00 05 51.9**	**-2.2**
HNR				IAmb	IAmb	00 06 18.4	
	comp=Z,229nm,1.1s						
FOZ	**Fox Glacier**	**27.86 207**	P		**P**	**00 05 55.5**	**+1.0**
LBZ	**Lake Benmore**	**28.41 205**	P		**P**	**00 05 59.6**	**+0.3**
LBZ				IAmb	IAmb	00 06 21.8	
	comp=Z,112nm,0.9s						
ODZ	**Otahua Downs**	**28.77 204**	P		**P**	**00 06 03.4**	**+0.9**
WKZ	**Wanaka**	**29.25 206**	P		**P**	**00 06 07.3**	**+0.5**
WKZ				IAmb	IAmb	00 06 33.0	
	comp=Z,126nm,0.7s						
MLZ	**Mavora Lakes**	**30.06 207**	IAmb		IAmb	00 06 25.3	
	comp=Z,86nm,0.6s						
WHZ	**Wether Hill Ro**	**30.55 206**	P		**P**	**00 06 18.7**	**+0.4**
WHZ				IAmb	IAmb	00 06 27.6	
	comp=Z,97nm,0.6s						
DCZ	**Deep Cove**	**30.55 208**	P		**P**	**00 06 18.8**	**+0.5**
DCZ				IAmb	IAmb	00 06 30.3	
	comp=Z,85nm,0.8s						
EIDS	**Eidsvold**	**33.43 253**	P		**P**	**00 06 41.5**	**-2.3**
	baz=33,SNR=47						
EIDS	**Eidsvold**	**33.43 253**	IAmb		IAmb	00 06 43.2	
	comp=Z,84nm,0.8s						
EIDS	**Eidsvold**	**33.43 253**	P		**P**	**00 06 41.6**	**-2.3**
ARMA	**Armidale**	**33.53 244**	P		**P**	**00 06 43.2**	**-1.6**
	baz=33,SNR=64						
ARMA	**Armidale**	**33.53 244**	P		**P**	**00 06 43.4**	**-1.4**
ARMA				IAmb	IAmb	00 06 44.6	
	comp=Z,72nm,0.7s						
ARMA	**Armidale**	**33.53 244**	P		**P**	**00 06 43.1**	**-1.7**
	comp=Z,139nm,0.9s						
TAOE	**Nuku Hiva Isla**	**33.71 76**	*eS*		**S**	**00 12 02.1**	**-5.7**
	comp=Z,1μm,28.8s						
TAOE			*eLR*		LR	00 15 43.1	
	comp=Z,12μm,25.4s						
TAOE	**Nuku Hiva Isla**	**33.71 76**	*eT*		T	00 42 11.3	
	comp=Z,119nm,0.2s						
RK1H	**Rockhampton Ha**	**33.93 257**	P		**P**	**00 06 46.0**	**-2.2**
NTLS	**Newcastle Soft**	**33.97 240**	P		**P**	**00 06 48.6**	**+0.2**
	comp=Z,482nm,0.8s						
NTLH	**Newcastle Hard**	**34.01 240**	P		**P**	**00 06 48.4**	**-0.3**
	comp=Z,397nm,0.8s						
MGCD	**Mangrove Creek**	**34.56 239**	P		**P**	**00 06 52.6**	**-0.9**
	baz=34,SNR=61						
MGCD	**Mangrove Creek**	**34.56 239**	P		**P**	**00 06 52.3**	**-1.3**
	comp=Z,346nm,0.9s						
RIV	**Riverview**	**34.68 238**	P		**P**	**00 06 54.1**	**-0.5**
	baz=35,SNR=

STKA	Stephens Creek	42.25	244	P	P	00 07 56.7	-1.5
	baz=42,SNR=50						
STKA	Stephens Creek	42.25	244	P	P	00 07 56.5	-1.7
STKA				pmax	pmax		
	comp=Z,91nm,1.8s						
STKA	Stephens Creek	42.25	244	P	P	00 07 56.5	-1.7
STKA	Stephens Creek	42.25	244	P	P	00 07 57.1	-1.1
MANU	Manus Island	42.25	289	P	P	00 07 58.3	-0.1
INKA	Innaminka	42.76	250	P	P	00 08 01.5	-0.9
ARPS	Mount Arapiles	42.77	237	P	P	00 08 01.1	-1.3
	baz=43,SNR=16						
ARPS	Mount Arapiles	42.77	237	P	P	00 08 01.4	-1.0
WAKE	Wake Island	43.31	332	P	P	00 08 05.9	-0.9
KIP	Kipapa	43.32	21	P	P	00 08 05.3	-1.5
KIP	Kipapa	43.32	21	P	P	00 08 05.1	-1.7
QIS	Mount Isa	44.20	260	P	P	00 08 11.1	-3.0
	baz=44,SNR=30						
QIS	Mount Isa	44.20	260	P	P	00 08 11.7	-2.5
HTT	Hallett	44.65	242	P	P	00 08 15.8	-1.9
	baz=44,SNR=33						
HTT	Hallett	44.65	242	P	P	00 08 15.7	-1.9
	comp=Z,157nm,1.4s						
LCRK	Leigh Creek	45.04	246	P	P	00 08 18.7	-2.0
	comp=Z,209nm,1.2s						
TWOA	Tennyson Woods	45.11	240	P	P	00 08 21.3	+0.1
	comp=Z,47nm,0.8s						
NAPP	Napperby	45.27	242	P	P	00 08 21.1	-1.4
	comp=Z,103nm,0.9s						
WHYH	Whyalla	45.74	243	P	P	00 08 24.5	-1.7
	comp=Z,58nm,0.8s						
BBOO	Buckleboo	47.00	243	P	P	00 08 34.2	-1.9
	baz=47,SNR=33						
BBOO	Buckleboo	47.00	243	P	P	00 08 34.0	-2.1
	comp=Z,124nm,1.5s						
OOD	Oodnadatta	47.24	250	P	P	00 08 36.5	-1.5
	comp=Z,315nm,1.2s						
JAY	Jayapura	48.06	285	LR	LR	00 29 08.3	
	comp=Z,1μm,18.4s,baz=98,slow=36						
JAY	Jayapura	48.06	285	P	P	00 08 42.0	-2.6
	comp=Z,2μmcomp=Z,179nm,1.2s						
GENI	Genyem	48.52	284	P	P	00 08 44.5	-3.6
	comp=Z,8μmcomp=Z,328nm,0.8s						
GENI	Genyem	48.52	284	P	P	00 08 47.3	-0.8
MULG	Mulgathing	48.63	246	P	P	00 08 46.6	-2.2
	comp=Z,222nm,1.3s						
WR0	Warramunga Arr	48.99	260	P	P	00 08 48.8	-2.9
AS31	Alice Springs	49.11	255	IAmb	IAmb	00 08 51.9	
	comp=Z,111nm,0.9s						
ASAR	Alice Springs	49.11	255	P	P	00 08 49.6	-3.0
	comp=Z,350nm,0.8s,baz=87,slow=8.4,SNR=1207						
ASAR				PcP	PcP	00 10 16.4	+0.6
	comp=Z,32nm,0.7s,baz=104,slow=4.2,SNR=5.1						
ASAR				S	S	00 15 47.5	-8.2
	comp=Z,9.9nm,1.1s,baz=90,slow=15,SNR=10						
ASAR				LR	LR	00 28 46.7	
	comp=Z,5μm,19.6s,baz=102,slow=35						
ASAR	Alice Springs	49.11	255	P	P	00 08 49.6	-3.0
ASAR				pP	sP	00 09 02.7	-1.3
WB2	Warramunga Arr	49.17	260	P	P	00 08 49.6	-3.5
WB2					pP	00 09 02.3	+0.5
WRAB	Tennant Creek	49.17	260	*c iP*	P	00 08 50.1	-3.0
WRAB				pmax	pmax		
	comp=Z,330nm,1.6s						
WRAB	Tennant Creek	49.17	260	P	P	00 08 50.6	-2.5
WRAB	Tennant Creek	49.17	260	P	P	00 08 50.7	-2.4
	comp=Z,202nm,1.2s						
WRAB	Tennant Creek	49.17	260	P	P	00 08 49.7	-3.5
WRAB				pP	pP	00 09 01.6	-0.3
WRA	Warramunga Arr	49.18	260	P	P	00 08 50.0	-3.2
	comp=Z,81nm,0.7s,baz=96,slow=7.5,SNR=418						
WRA				PcP	PcP	00 10 16.8	+0.6
	comp=Z,32nm,0.9s,baz=95,slow=4.0,SNR=6.6						
WRA				S	S	00 15 48.9	-7.9
	comp=Z,6.4nm,0.8s,baz=98,slow=13,SNR=6.4						
WRA	Warramunga Arr	49.18	260	pP	pP	00 09 03.0	+1.1
SMPI	Sarmi	50.09	284	P	P	00 08 58.4	-1.7
	comp=Z,7μmcomp=Z,134nm,1.2s						
SRPI	Serui, Papua	52.41	283	P	P	00 09 13.4	-4.1
KDU	Kakadu	52.44	269	P	P	00 09 15.3	-2.5
	baz=52,SNR=59						
KDU	Kakadu	52.44	269	P	P	00 09 15.2	-2.5
	comp=Z,323nm,1.4s						
GUMO	Guam	52.76	305	LR	LR	00 30 26.2	
	comp=Z,986nm,19.9s,baz=128,slow=35						
GUMO	Guam	52.76	305	P	P	00 09 19.4	-0.6
GUMO				pmax	pmax		
	comp=Z,327nm,0.9s						
GUMO	Guam	52.76	305	P	P	00 09 19.4	-0.6
GUMO	Guam	52.76	305	P	P	00 09 19.4	-0.6
MTN	Manton Dam	53.66	268	P	P	00 09 23.9	-2.8
	baz=53,SNR=57						
MTN	Manton Dam	53.66	268	P	P	00 09 24.4	-2.3
FORT	Forrest	53.80	246	P	P	00 09 25.8	-1.8
	baz=54,SNR=17						
FORT	Forrest	53.80	246	P	P	00 09 24.8	-2.7
FORT				pP	pP	00 09 37.5	+1.2
FORT	Forrest	53.80	246	P	P	00 09 25.4	-2.1
	comp=Z,190nm,1.0s						
DRS	Darwin Rock St	53.98	269	P	P	00 09 26.6	-2.5
	comp=Z,194nm,1.0s						
WRKA	Warakurna	54.05	253	P	P	00 09 26.7	-2.8
	baz=54,SNR=496						
WRKA	Warakurna	54.05	253	P	P	00 09 27.0	-2.5
	comp=Z,449nm,1.4s						
SAUI	Saumlaki	54.87	274	P	P	00 09 32.3	-3.3
	comp=Z,11μmcomp=Z,765nm,1.2s						
SAUI	Saumlaki	54.87	274	P	P	00 09 33.8	-1.8
SAUI				pwP	pwP	00 09 51.6	+1.0
SAUI	Saumlaki	54.87	274	P	P	00 09 35.3	-0.3
KNRA	Kununurra	55.21	264	P	P	00 09 35.6	-2.4
	baz=55,SNR=65						
KNRA	Kununurra	55.21	264	P	P	00 09 35.7	-2.3
KNRA	Kununurra	55.21	264	P	P	00 09 35.9	-2.1
	comp=Z,344nm,1.5s						
FAKI	Fak Fak	55.70	280	P	P	00 09 37.4	-4.1
	comp=Z,2μmcomp=Z,148nm,1.3s						
FAKI	Fak Fak	55.70	280	P	P	00 09 40.5	-1.0
FAKI	Fak Fak	55.70	280	P	P	00 09 40.0	-1.5
DRV	Dumont d'Urvil	55.81	201	P	P	00 09 42.6	+1.1
DRV				pP	sP	00 09 53.2	-0.6
SIJI	Sorong	57.37	282	LR	LR	00 34 31.2	
	comp=Z,2μm,19.1s,baz=116,slow=36						
SWI	Sorong	57.38	282	P	P	00 09 50.9	-2.6
	comp=Z,2μmcomp=Z,6μmcomp=Z,666nm,1.0s						
FITZ	Fitzroy Crossi	57.61	261	LR	LR	00 31 13.0	
	comp=Z,6μm,21.0s,baz=187,slow=33						
MSAI	Masohi	58.63	278	P	P	00 10 00.3	-2.0
RPN	Rapa Nui	58.64	110	LR	LR	00 31 13.7	
	comp=Z,2μm,18.5s,baz=251,slow=32						
AAI	Ambon	59.20	278	P	P	00 10 03.4	-2.9
	comp=Z,3μmcomp=Z,182nm,1.0s						
VNDA	Vanda	59.33	186	P	P	00 10 07.1	+1.0
	comp=Z,27nm,1.1s,baz=4.3,slow=7.6,SNR=17						
VNDA				LR	LR	00 31 36.6	
	comp=Z,933nm,22.0s,baz=20,slow=32						
LBMI	Labuha	60.94	280	P	P	00 10 18.1	-0.1
	comp=Z,2μmcomp=Z,138nm,1.1s						
BATI	Baumata	61.41	269	LR	LR	00 38 31.8	
	comp=Z,3μm,18.0s,baz=126,slow=38						
BATI	Baumata	61.41	269	P	P	00 10 21.1	-0.3
	comp=Z,2μmcomp=Z,2μmcomp=Z,133nm,1.0s						
TNTI	Ternate	61.60	282	P	P	00 10 20.9	-1.7
	comp=Z,3μmcomp=Z,241nm,1.0s						
TNTI	Ternate	61.60	282	P	P	00 10 20.4	-2.2
TNTI	Ternate	61.60	282	P	P	00 10 21.8	-0.8
SANI	Sanana	61.84	278	P	P	00 10 20.8	-3.4
	comp=Z,3μmcomp=Z,194nm,1.3s						
SANI	Sanana	61.84	278	P	P	00 10 22.7	-1.5
MBWA	Marble Bar	62.45	256	P	P	00 10 26.8	-1.4
MBWA	Marble Bar	62.45	256	P	P	00 10 26.1	-2.2
MEEK	Meekatharra	62.47	250	P	P	00 10 26.4	-2.0
	baz=62,SNR=31						
KLBR	Kellerberrin	62.53	244	P	P	00 10 27.6	-1.1
	baz=62,SNR=45						
NWAO	Narrogin (SRO)	62.81	242	P	P	00 10 30.3	-0.2
NWAO				pmax	pmax		
	comp=Z,344nm,1.2s						
NWAO	Narrogin (SRO)	62.81	242	P	P	00 10 30.3	-0.2
NWAO					pP	00 10 30.4	-9.1
NWAO	Narrogin (SRO)	62.81	242	P	P	00 10 30.4	-0.2
RKGY	Rocky Gully	62.84	240	P	P	00 10 31.0	+0.3
	baz=63,SNR=4.6						
RKGY	Rocky Gully	62.84	240	P	P	00 10 30.7	0.0
	comp=Z,675nm,0.9s						
MMRI	Maumere	63.22	270	P	P	00 10 31.4	-2.1
	comp=Z,3μmcomp=Z,5μmcomp=Z,280nm,0.9s						
MMRI	Maumere	63.22	270	P	P	00 10 31.7	-1.8
MMRI	Maumere	63.22	270	P	P	00 10 31.9	-1.6
BLDU	Ballidu	63.54	245	P	P	00 10 34.3	-1.1
	baz=63,SNR=57						
MUN	Mundaring	63.78	243	P	P	00 10 36.5	-0.5
	baz=64,SNR=17						
MUN	Mundaring	63.78	243	P	P	00 10 36.2	-0.8
	comp=Z,344nm,1.8s						
BASI	Baing, Sumba	64.32	268	P	P	00 10 39.8	-0.9
	comp=Z,3μmcomp=Z,234nm,1.2s						
MORW	Morawa	64.34	246	P	P	00 10 39.4	-1.3
	baz=64,SNR=28						
CCD	Concordia, Ant	64.55	195	P	P	00 10 43.6	+1.9
KMSI	Cibinong	64.66	280	P	P	00 10 41.4	-1.5
	comp=Z,235nm,0.8s						
H01W1	Cape Leeuwin H	65.12	240	P	P	00 10 47.2	+1.9
	baz=102,slow=8.2,SNR=5.4						
H01W2	Cape Leeuwin H	65.14	240	P	P	00 10 47.4	+1.9
	baz=102,slow=8.2,SNR=7.0						
H01W3	Cape Leeuwin H	65.14	240	P	P	00 10 47.3	+1.9
	baz=102,slow=8.2,SNR=7.0						
LUWI	Luwuk	65.20	278	P	P	00 10 45.7	-0.8
	comp=Z,3μmcomp=Z,291nm,1.1s						
LUWI	Luwuk	65.20	278	P	P	00 10 46.3	-0.2
WBSI	Waikabubak, Su	65.61	268	P	P	00 10 47.5	-1.7
	comp=Z,2μmcomp=Z,159nm,1.0s						
DAV	Davao City (W)	65.76	287	LR	LR	00 36 39.1	
	comp=Z,880nm,21.4s,baz=120,slow=34						
BKSI	Bulukumba	66.24	273	P	P	00 10 50.8	-2.4
	comp=Z,1μmcomp=Z,51nm,0.9s						
APSI	Ampana	66.30	278	P	P	00 10 52.9	-0.6
	comp=Z,2μmcomp=Z,101nm,0.9s						
MRSI	Marisa	66.52	279	P	P	00 10 52.7	-2.3
	comp=Z,1μmcomp=Z,71nm,0.9s						
BNSI	Bone	66.55	274	P	P	00 10 53.3	-1.9
	comp=Z,2μmcomp=Z,101nm,1.1s						
KAPI	Kappang	66.69	273	LR	LR	00 40 34.1	
	comp=Z,482nm,19.4s,baz=150,slow=37						
KAPI	Kappang	66.69	273	P	P	00 10 55.0	-1.0
KAPI				pmax	pmax		
	comp=Z,47nm,1.0s						
KAPI	Kappang	66.69	273	P	P	00 10 55.0	-1.0
KAPI	Kappang	66.69	273	P	P	00 10 53.9	-2.2
CASY	Casey	66.77	205	P	P	00 10 56.8	+1.1
CASY				IAmb	IAmb	00 10 58.2	
	comp=Z,110nm,1.1s						
CASY	Casey	66.77	205	P	P	00 10 56.7	+1.1
SPSI	Sidrap Palu	67.02	274	P	P	00 10 55.8	-2.3
	comp=Z,1μmcomp=Z,74nm,1.0s						
GIRL	Giralia	67.13	253	P	P	00 10 58.8	+0.1
	baz=67,SNR=25						
GIRL	Giralia	67.13	253	P	P	00 10 58.3	-0.5
	comp=Z,538nm,1.5s						
MSLP	Maasin	67.71	290	‖ *eP*	P	00 11 01.3	-1.2
TOLI2	Tolitoli	67.83	280	P	P	00 11 02.1	-1.2
TOLI2				IAmb	IAmb	00 11 07.1	
	comp=Z,102nm,1.2s						
TOLI2	Tolitoli	67.83	280	P	P	00 11 02.3	-1.0
MPSI	Mapaga	68.37	278	P	P	00 11 05.0	-1.7
	comp=Z,2μmcomp=Z,143nm,1.3s						
TBP	Tagbilaran	68.41	289	‖ *iP*	P	00 11 04.9	-1.9
JHJ	Hachijo jima 2	68.93	319	LR	LR	00 42 15.2	
	comp=Z,667nm,18.1s,baz=104,slow=37						
DNP	Denpasar	69.83	268	P	P	00 11 14.9	-0.9
	comp=Z,562nm,0.5s						
IGBI	Denpasar	69.85	268	P	P	00 11 14.6	-1.3
	comp=Z,3μmcomp=Z,255nm,1.1s						
SRBI	Singaraja	70.01	268	P	P	00 11 15.0	-1.8
	comp=Z,3μmcomp=Z,218nm,0.9s						
QSPA	South Pole Qui	70.56	180	LR	LR	00 36 27.2	
	comp=Z,1μm,21.4s,baz=28,slow=31						
QSPA	South Pole Qui	70.56	180	P	P	00 11 21.2	+1.8
QSPA	South Pole Qui	70.56	180	P	P	00 11 21.3	+1.8
KBKI	Kotabaru	70.62	273	P	P	00 11 19.4	-1.2
	comp=Z,1μmcomp=Z,68nm,0.9s						
JAGI	Jajag, Banyuwa	70.89	268	P	P	00 11 20.0	-2.3
	comp=Z,3μmcomp=Z,251nm,0.8s						
JAGI	Jajag, Banyuwa	70.89	268	P	P	00 11 20.5	-1.8
ABJI	Asem Bagus	71.02	268	P	P	00 11 22.0	-1.0
	comp=Z,185nm,1.0s						
ADK	Adak	71.15	358	P	P	00 11 22.7	-0.2
ADK				pmax	pmax		
	comp=Z,228nm,1.5s						
ADK	Adak	71.15	358	P	P	00 11 22.7	-0.2
ADK				IAmb	IAmb	00 11 35.4	
	comp=Z,228nm,1.5s						
ADK	Adak	71.15	358	P	P	00 11 22.0	-0.9
ATKA	Atka Island	71.41	359	P	P	00 11 24.8	+0.4
KMMI	Kalianget	71.50	269	P	P	00 11 24.5	-1.4
	comp=Z,4μmcomp=Z,190nm,1.7s						
JMM	Marumori	71.58	323	P	P	00 11 26.1	+0.3
JMM				IAmb	IAmb	00 11 26.9	
	comp=Z,80nm,0.8s						
GMJI	Gumukmas	71.62	268	P	P	00 11 24.9	-1.7
	comp=Z,2μmcomp=Z,104nm,0.6s						
BLJI	Banyuglugur	71.64	268	P	P	00 11 25.3	-1.4
	comp=Z,6μmcomp=Z,162nm,0.9s						
BBKI	Banjar Baru	71.82	273	P	P	00 11 28.1	+0.2
	comp=Z,3μmcomp=Z,158nm,2.2s						
H06S1	SOCORRO T	71.94	62	T	T	01 31 00.5	
	SNR=4.4						
H06E1	SOCORRO T-PHAS	71.99	62	T	T	01 30 57.1	
	SNR=5.9						
INU	Inuyama	72.12	319	IAmb	IAmb	00 11 30.9	
	comp=Z,136nm,1.5s						
INU	Inuyama	72.12	319	P	P	00 11 29.6	+0.5
MJAR	Matsushiro Arr	72.18	321	P	P	00 11 27.8	-1.8
	comp=Z,47nm,0.7s,baz=158,slow=5.9,SNR=57						
MJAR				LR	LR	00 37 37.9	
	comp=Z,2μm,21.8s,baz=138,slow=31						
MJAR	Matsushiro Arr	72.18	321	P	P	00 11 28.9	-0.6
MJAR				pmax	pmax		
	comp=Z,82nm,0.9s						
MJAR	Matsushiro Arr	72.18	321	P	P	00 11 28.9	-0.6
MJAR				IAmb	IAmb	00 11 42.6	
	comp=Z,82nm,0.9s						
MAJO	Matsushiro	72.19	321	*i P*	P	00 11 29.2	-0.3
MAJO				pmax	pmax		
	comp=Z,43nm,0.9s						
MAJO	Matsushiro	72.19	321	P	P	00 11 29.1	-0.5
MAJO				IAmb	IAmb	00 11 42.7	
	comp=Z,99nm,0.8s						
MAJO	Matsushiro	72.19	321	P	P	00 11 29.0	-0.5
MAT	Matsushiro	72.19	321	P	P	00 11 28.4	-1.1
MAT				*eS*	S	00 20 47.4	-2.4
MJB9	Matsu-Tunnel	72.19	321	IAmb	IAmb	00 11 42.7	
	comp=Z,104nm,0.9s						
SHEM	Shemya Is, Ala	72.77	352	LR	LR	00 39 19.5	
	comp=Z,3μm,19.9s,baz=142,slow=32						
SMY	Shemya	72.77	352	P	P	00 11 32.2	-0.4
SMY				pmax	pmax		
	comp=Z,141nm,1.0s						
SMY	Shemya	72.77	352	P	P	00 11 32.2	-0.4
SMY				IAmb	IAmb	00 11 36.1	
	comp=Z,141nm,1.0s						
TGY	Tagaytay City	72.88	292	LR	LR	00 39 53.7	
	comp=Z,2μm,21.2s,baz=144,slow=33						
JOW	Kunigami	73.06	307	LR	LR	00 41 04.7	
	comp=Z,1μm,19.2s,baz=122,slow=34						
JMN	Monobe	73.09	316	P	P	00 11 35.4	+0.4
JMN				IAmb	IAmb	00 11 49.2	
	comp=Z,96nm,0.9s						
SNCC	San Nicolas Is	73.34	45	P	P	00 11 37.9	+1.5
	baz=232						
KUR	Kuril'sk	73.51	332	*eP*	P	00 11 37.4	+0.3
KUR						00 14 20.9	
KUR				PPP	PPP	00 16 05.6	
KUR				*e*		00 21 05.3	
PCJI	Pacitan	73.78	267	P	P	00 11 38.3	-1.2
	comp=Z,7μmcomp=Z,809nm,1.4s						
SCI2	San Clemente I	73.83	46	P	P	00 11 40.2	+0.9
	baz=233						
KKM	Kota Kinabalu	73.89	283	IAmb	IAmb	00 11 41.7	
	comp=Z,128nm,1.0s						
KKM	Kota Kinabalu	73.89	283	P	P	00 11 40.2	0.0
SBC	Santa Barbara	73.94	44	P	P	00 11 40.6	+0.7
	baz=232						
JSU	Suzuyama	74.08	312	IAmb	IAmb	00 11 42.2	
	comp=Z,213nm,1.5s						
PKM	Mcpherson Peak	74.15	43	P	P	00 11 42.8	+1.4
	baz=232						
CIS	Catalina Islan	74.17	45	P	P	00 11 42.3	+0.9
	baz=233						
SMMC	Simmler	74.29	43	P	P	00 11 43.4	+1.4
	baz=232						
JHS	Saijyo	74.37	317	IAmb	IAmb	00 11 56.2	
	comp=Z,125nm,1.0s						
PAGB	Antelope Grade	74.39	42	IAmb	IAmb	00 12 07.7	
	comp=Z,107nm,1.4s						
BBGB	Big Mountain B	74.42	41	P	P	00 11 45.7	+2.8
BBGB				IAmb	IAmb	00 12 21.6	
	comp=Z,98nm,1.1s						
UGM	Wanagama	74.48	267	P	P	00 11 42.9	-0.7
	comp=Z,3μmcomp=Z,4μmcomp=Z,396nm,1.2s						
UGM	Wanagama	74.48	267	P	P	00 11 43.3	-0.3
FALS	False Pass	74.54	6	P	P	00 11 44.8	+1.9
	baz=190						
UWJI	Ujung Watu	74.55	269	P	P	00 11 43.2	-0.8
	comp=Z,5μmcomp=Z,422nm,1.1s						
OSI	Osito Audit: C	74.69	44	P	P	00 11 45.6	+1.2
	baz=233						
YOGI	Yogyakarta	74.73	267	P	P	00 11 44.1	-0.9
	comp=Z,3μmcomp=Z,287nm,1.2s						
JNU	Nakatsue	74.73	314	P	P	00 11 43.5	-1.2
	comp=Z,37nm,0.7s,baz=118,slow=1.3,SNR=24						
JNU				LR	LR	00 40 48.9	
	comp=Z,1μm,19.5s,baz=122,slow=33						
JNU	Nakatsue	74.73	314	IAmb	IAmb	00 11 58.1	
	comp=Z,113nm,0.9s						
JNU	Nakatsue	74.73	314	P	P	00 11 44.9	+0.3
DECC	Green Verdugo	74.73	45	P	P	00 11 45.5	+0.8
	baz=233						
109C	Camp Elliot, M	74.75	46	P	P	00 11 45.8	+1.1
	baz=234						
SMRI	Semarang	74.83	268	P	P	00 11 45.3	-0.3
	comp=Z,6μmcomp=Z,440nm,1.1s						
SMRI	Semarang	74.83	268	P	P	00 11 45.7	+0.1
KCPM	Cahto Peak	74.92	38	P	P	00 11 47.9	+2.2
KCPM				IAmb	IAmb	00 12 13.0	
	comp=Z,112nm,1.4s						
SKR	Severo-Kuril's	74.92	340	*eP*	P	00 11 42.6	-2.6
SKR				*e*		00 12 02.0	
SKR				*eS*	S	00 21 17.2	-2.8
SKR				*eSS*	SS	00 26 04.2	-5.2
SKR				pmax	pmax		
	comp=Z,700nm,10.0s						
SKR				pmax	pmax		
	comp=Z,67nm,1.2s						
SKR				MLR	MLR		
	comp=Z,700nm,18.0s						
ARVC	Arvin	74.93	44	P	P	00 11 46.7	+1.0
	baz=233						
CHNA	Chernabura Isl	74.95	8	P	P	00 11 47.4	+2.1
	baz=193						
PBKI	Pangkalan Bun	75.06	272	P	P	00 11 47.1	+0.2
	comp=Z,7μmcomp=Z,684nm,1.1s						
LPIG	La Paz	75.07	57	LR	LR	00 36 41.2	
	comp=Z,3μm,21.8s,baz=225,slow=29						
JKA	Kamikawa-asahi	75.11	329	IAmb	IAmb	00 11 48.8	
	comp=Z,90nm,0.9s						
KMPM	Mount Pierce	75.11	37	P	P	00 11 49.1	+2.4
KMPM				IAmb	IAmb	00 11 50.6	
	comp=Z,80nm,1.0s						
ASAJ	Asahikawa	75.11	329	P	P	00 11 45.8	-0.7
	comp=Z,84nm,0.8s,baz=208,slow=4.5,SNR=22						
ASAJ				LR	LR	00 40 42.1	
	comp=Z,2μm,20.5s,baz=158,slow=33						
MURC	Murrieta	75.11	46	P	P	00 11 47.8	+1.0
	baz=234						
SLBS	Sierra La Lagu	75.16	58	P	P	00 11 49.4	+2.1
BFSC	Mount Baldy Ra	75.17	45	P	P	00 11 47.7	+0.4
	baz=234,SNR=6.0						
VES	Vestal, Richgr	75.20	43	P	P	00 11 47.6	+0.4
	baz=232,SNR=12						
KMRM	Mail Ridge	75.21	37	P	P	00 11 49.3	+2.0
KMRM				IAmb	IAmb	00 11 51.1	
	comp=Z,127nm,0.9s						
MONP2	Monument Peak	75.22	47	P	P	00 11 47.9	+0.2
	baz=235,SNR=5.2						
IKP	In-Ko-Pah, Jac	75.30	47	P	P	00 11 49.2	+1.2
	baz=235						
VOG	Valley Oaks Go	75.31	42	P	P	00 11 48.5	+0.6
	baz=232						
EDW2	Edwards Air Fo	75.33	44	P	P	00 11 49.0	+0.9
	baz=233,SNR=14						
ISA	Isabella, Lake	75.49	43	P	P	00 11 50.3	+1.3
ISA				pmax	pmax		
	comp=Z,137nm,1.7s						
ISA	Isabella, Lake	75.49	43	P	P	00 11 50.3	+1.3
ISA				IAmb	IAmb	00 12 13.0	
	comp=Z,137nm,1.7s						
ISA	Isabella, Lake	75.49	43	P	P	00 11 50.3	+1.3
	baz=233,SNR=13						
PFO	Pinyon Flats O	75.61	46	LR	LR	00 36 56.4	
	comp=Z,2μm,22.0s,baz=252,slow=29						
PFO	Pinyon Flats O	75.61	46	P	P	00 11 50.5	+0.6
	baz=234						
TPFO	Pinon Flats	75.61	46	P	P	00 11 50.7	+0.9
	baz=234						
KHMM	Horse Mountain	75.63	37	IAmb	IAmb	00 12 12.4	
	comp=Z,85nm,1.2s						
BBRC	Big Bear Solar	75.68	45	P	P	00 11 51.4	+1.1
	baz=234						
SWSC	Sam W. Stewart	75.68	47	P	P	00 11 51.1	+1.0
	baz=235						
LRMC	Laurel Mtn Rad	75.89	44	P	P	00 11 52.1	+0.7
	baz=233,SNR=22						
RRX	Edison Barstow	75.99	45	P	P	00 11 52.6	+0.8
	baz=234						
WDC	Whiskeytown Da	76.11	37	IAmb	IAmb	00 12 15.3	
	comp=Z,76nm,1.2s						
BELC	Belle Mtn. Jos	76.15	46	P	P	00 11 53.9	+1.0
	baz=235,SNR=12						
CWC	Cottonwood Cre	76.21	43	P	P	00 11 54.2	+0.9
	baz=233						
PET	Petropavlovsk	76.23	343	α *iP*	P	00 11 51.6	-1.1
PET				*e*PP*	sP	00 12 03.9	-0.8
PET				*i S*	S	00 21 32.6	-1.8
PET				*e*PS	PnS	00 22 04.9	-10
PET				*e*PPS	PPS	00 22 20.1	
PET				*e*SS	SS	00 26 26.0	-3.2
PET				*e*SSS	SSS	00 29 47.8	
PET				pmax	pmax

YBH	Yreka Blue Hor	76.78	36	LR	LR	00 37 48.0
	comp=Z,2μm,21.5s,baz=233,slow=30					
YULB	Yu-li	76.78	301	IAmb	IAmb	00 11 60.0
	comp=Z,64nm,0.7s					
IRM	Iron Mountain	76.82	46	P	P	00 11 57.9 +1.3
	baz=235,SNR=16					
GMRC	Granite Mounta	76.83	46	P	P	00 11 57.4 +0.7
	baz=235,SNR=9.5					
PNTR	Pine Nut	76.89	40	IAmb	IAmb	00 12 20.0
	comp=Z,90nm,1.2s					
K02D	Willamette Mer	76.89	35	P	P	00 11 58.1 +1.3
	baz=228					
LCH	Last Change Ra	76.97	43	IAmb	IAmb	00 12 21.3
	comp=Z,90nm,1.6s					
GWY	Greenwater Val	76.97	44	IAmb	IAmb	00 12 21.2
	comp=Z,90nm,1.5s					
VCNR	Virginia City	76.99	40	IAmb	IAmb	00 12 20.5
	comp=Z,122nm,1.5s					
GRAC	Grapevine Rang	77.00	43	P	P	00 11 58.8 +1.3
	baz=233,SNR=9.5					
FURC	Furnace Creek,	77.01	44	P	P	00 11 58.6 +1.1
	baz=234,SNR=8.0					
TUQ	Turquoise Moun	77.03	45	P	P	00 11 58.9 +1.0
	baz=234,SNR=10					
YERR	Yerington	77.04	40	IAmb	IAmb	00 12 20.7
	comp=Z,74nm,1.2s					
J01E	Myrtle Point	77.07	35	P	P	00 11 59.2 +1.5
	baz=227					
SHOC	Shoshone, Teco	77.07	44	P	P	00 11 58.8 +1.0
	baz=234,SNR=5.5					
YSS	Yuzh-Sakhalins	77.12	331	*i*P	P	00 11 58.6 +0.7
YSS				*e*		00 12 08.3
YSS				*e*S	S	00 21 45.9 +1.5
YSS				pmax	pmax	
	comp=Z,170nm,1.0s					
YSS				pmax	pmax	
	comp=Z,2μm,3.3s					
YSS				pmax	pmax	
	comp=N,400nm,3.5s					
YSS				pmax	pmax	
	comp=E,300nm,2.7s					
YSS				smax	smax	
	comp=N,600nm,6.4s					
YSS				smax	smax	
	comp=E,600nm,11.7s					
YSS				MLR	MLR	
	comp=Z,700nm,11.0s					
YSS				MLR	MLR	
	comp=N,500nm,15.0s					
YSS	Yuzh-Sakhalins	77.12	331	P	P	00 11 57.8 -0.1
YSS	Yuzh-Sakhalins	77.12	331	P	P	00 11 58.5 +0.7
YSS	Yuzh-Sakhalins	77.12	331	P	P	00 11 58.0 +0.1
YSS				pP	pwP	00 12 12.1 -1.4
214A	Organ Pipe Nat	77.23	49	P	P	00 12 00.2 +1.3
	baz=237					
SSLB	Suanglung	77.24	301	IAmb	IAmb	00 12 00.2
	comp=Z,74nm,0.7s					
SSLB	Suanglung	77.24	301	P	P	00 11 58.8 -0.3
RYN	Ryan	77.26	41	IAmb	IAmb	00 12 22.2
	comp=Z,130nm,1.7s					
NVAR	Mina Array Bea	77.28	41	P	P	00 12 00.2 +1.0
	comp=Z,30nm,0.8s,baz=225,slow=8.8,SNR=221					
NVAR				LR	LR	00 38 59.0
	comp=Z,2μm,21.2s,baz=246,slow=30					
NVAR				PKPPKP	P'P'df	00 39 13.7 +8.2
	comp=Z,0.2nm,0.6s,baz=127,slow=3.9,SNR=5.7					
NVAR	Mina Array Bea	77.28	41	P	P	00 11 59.8 +0.5
TPUB	Ta-pu	77.28	300	P	P	00 11 58.4 -0.9
M04C	Macdoel	77.30	37	IAmb	IAmb	00 12 22.1
	comp=Z,67nm,1.1s					
M04C	Macdoel	77.30	37	P	P	00 12 00.0 +0.8
	baz=229,SNR=12					
YHNB	Yeheng	77.32	302	P	P	00 11 59.4 -0.2
L04D	Klamath Falls	77.32	36	IAmb	IAmb	00 12 02.7
	comp=Z,78nm,1.1s					
L04D	Klamath Falls	77.32	36	P	P	00 11 59.9 +0.6
	baz=229,SNR=9.0					
NV11	Mina Array Sit	77.37	41	IAmb	IAmb	00 12 22.5
	comp=Z,91nm,1.2s					
PAHR	Pah Rah Range	77.40	40	IAmb	IAmb	00 12 22.8
	comp=Z,66nm,1.2s					
SII	Sitkinak Islan	77.45	11	P	P	00 12 01.3 +1.7
	baz=198					
NEE2	Needles Airpor	77.52	46	P	P	00 12 01.5 +1.0
	baz=236					
LEM	Lembang	77.56	267	LR	LR	00 49 08.9
	comp=Z,521nm,18.3s,baz=110,slow=38					
PDMCI	Parker Dam,Lak	77.59	47	P	P	00 12 02.0 +1.2
	baz=236,SNR=6.9					
TPNV	Topopah Spring	77.70	43	P	P	00 12 02.4 +0.9
	baz=234,SNR=30					
I03D	Drain, OR	77.74	35	P	P	00 12 02.1 +0.7
	baz=228					
KSM	Kuching	77.74	276	P	P	00 12 02.6 +0.4
I02E	Swisshome, OR	77.75	34	P	P	00 12 02.9 +1.4
	baz=227					
CNJI	Cibinong	77.86	266	P	P	00 12 01.2 -1.6
	comp=Z,6μmcomp=Z,520nm,1.1s					
K04D	Chiloquin, OR	77.90	36	P	P	00 12 03.3 +0.8
	baz=229					
SMAI	San Martin Ant	77.90	158	IAmb	IAmb	00 12 04.6
	comp=Z,64nm,0.9s					
J04D	Umpqua Nationa	78.11	36	IAmb	IAmb	00 12 07.2
	comp=Z,92nm,0.8s					
J04D	Umpqua Nationa	78.11	36	P	P	00 12 04.3 +0.5
	baz=229,SNR=13					
Q09A	Carvers	78.22	41	IAmb	IAmb	00 12 31.8
	comp=Z,143nm,1.3s					
OHAK	Old Harbor	78.24	11	P	P	00 12 03.9 +0.1
	baz=199					
XMI	Christmas Isla	78.25	263	P	P	00 12 05.1 +0.1
	comp=Z,458nm,1.1s					
MOD	Modoc Plateau	78.25	37	P	P	00 12 06.1 +1.5
XMIS	Christmas Isla	78.27	263	P	P	00 12 04.8 -0.3
	comp=Z,383nm,1.6s					
I04A	Tendick Farm,	78.31	35	P	P	00 12 05.3 +0.6
	baz=228					
CBJI	Citeko	78.41	267	P	P	00 12 04.4 -1.4
	comp=Z,5μmcomp=Z,584nm,1.5s					
K05A	Summer Lake	78.45	37	IAmb	IAmb	00 12 28.2
	comp=Z,113nm,1.1s					
DBJI	Dramaga	78.46	267	P	P	00 12 05.0 -1.2
	comp=Z,11μmcomp=Z,677nm,1.0s					
SKJI	Sukabumi	78.50	267	P	P	00 12 04.7 -1.7
	comp=Z,3μmcomp=Z,458nm,0.7s					
J05D	Fort Rock, OR	78.62	36	P	P	00 12 07.4 +0.9
	baz=229,SNR=33					
H04D	Lebanon	78.62	34	IAmb	IAmb	00 12 32.1
	comp=Z,107nm,1.4s					
H04D	Lebanon	78.62	34	P	P	00 12 07.2 +0.9
	baz=228					
G03D	McMinnville, O	78.81	33	P	P	00 12 07.6 +0.3
	baz=227					
TPI	Tanjungpandan	78.83	271	P	P	00 12 08.4 +0.2
TUC	Tucson	78.88	50	P	P	00 12 09.8 +1.7
TUC				pmax	pmax	
	comp=Z,34nm,1.1s					
TUC	Tucson	78.88	50	P	P	00 12 09.8 +1.7
TUC	Tucson	78.88	50	P	P	00 12 10.0 +1.8
	baz=238					
TUC	Tucson	78.88	50	P	P	00 12 09.7 +1.6
TUC				pP	pwP	00 12 24.3 -1.9
KDAK	Kodiak Island	78.90	11	P	P	00 12 07.7 +0.2
	comp=Z,33nm,0.9s,baz=257,slow=1.9,SNR=8.0					
KDAK				LR	LR	00 39 56.2
	comp=Z,4μm,21.8s,baz=235,slow=30					
KDAK	Kodiak Island	78.90	11	P	P	00 12 08.6 +1.1
KDAK				pmax	pmax	
	comp=Z,189nm,1.5s					
KDAK	Kodiak Island	78.90	11	P	P	00 12 08.6 +1.1
KDAK				IAmb	IAmb	00 12 21.7
	comp=Z,189nm,1.5s					
KDAK	Kodiak Island	78.90	11	P	P	00 12 07.7 +0.2
	baz=200					
R11A	Troy Canyon, C	78.94	43	P	P	00 12 09.4 +0.9
	baz=234,SNR=35					
PINE	Pine Mountain	79.11	36	IAmb	IAmb	00 12 31.7
	comp=Z,96nm,1.1s					
SBJI	Serang	79.18	267	P	P	00 12 09.0 -1.1
	comp=Z,8μmcomp=Z,513nm,1.4s					
KSRS	Korea Array	79.20	316	P	P	00 12 09.3 -0.3
	comp=Z,27nm,0.8s,baz=132,slow=5.9,SNR=51					
KSRS				LR	LR	00 43 27.1
	comp=Z,1μm,19.9s,baz=130,slow=33					
KSAR	Wonju Array Be	79.22	316	P	P	00 12 09.6 -0.2
KSAR	Wonju Array Be	79.22	316	P	P	00 12 09.6 -0.2
I05D	Terrebonne, OR	79.25	35	P	P	00 12 10.7 +0.9
	baz=229,SNR=9.0					
CGJI	Cibinong	79.44	267	P	P	00 12 09.8 -1.7
	comp=Z,4μmcomp=Z,432nm,0.9s					
F04D	Rainier, OR	79.53	33	P	P	00 12 10.1 -1.1
	baz=228					
E03A	Lebam	79.56	32	IAmb	IAmb	00 12 33.4
	comp=Z,79nm,1.1s					
QZH	Quanzhou	79.68	301	||*i*P	P	00 12 13.4 +0.9
QZH				S	S	00 22 11.8 -1.0
QZH				pmax	pmax	
	comp=Z,76nm,1.4s					
QZH				LR	LR	
	comp=Z,810nm,21.0s					
QZH				LR	LR	
	comp=Z,860nm,20.8s					
Q19K	Cape Douglas,	79.80	10	P	P	00 12 11.8 -0.6
	baz=199					
G05D	Wamic, OR	79.85	34	P	P	00 12 12.2 -0.9
	baz=229					
KNB	Kanab	79.99	45	IAmb	IAmb	00 12 35.1
	comp=Z,139nm,1.5s					
P18K	Big Mountain,	79.99	9	P	P	00 12 12.9 -0.5
	baz=197					
U15A	North Rim	80.02	46	IAmb	IAmb	00 12 38.4
	comp=Z,175nm,1.6s					
TYV	Tymovskoe	80.07	333	*e*P	P	00 12 14.6 +0.6
TYV				*e*S	S	00 22 17.0 +1.2
TYV				pmax	pmax	
	comp=Z,80nm,1.5s					
TYV				pmax	pmax	
	comp=Z,1μm,4.0s					
TYV				smax	smax	
	comp=N,800nm,7.2s					
TYV				smax	smax	
	comp=E,1μm,7.2s					
TYV				MLR	MLR	
	comp=Z,2μm,17.0s					
E04D	Cinebar	80.08	33	P	P	00 12 15.1 +0.9
	baz=228					
WUAZ	Wupatki	80.16	47	P	P	00 12 16.7 +1.6
	baz=238,SNR=6.9					
F05D	White Salmon	80.20	34	P	P	00 12 15.6 +0.7
	baz=229					
BLSI	Bandar Lampung	80.25	268	P	P	00 12 14.1 -1.9
	comp=Z,3μmcomp=Z,351nm,1.0s					
PMSA	Palmer Station	80.38	156	LR	LR	00 40 55.5
	comp=Z,1μm,20.7s,baz=230,slow=30					
D04E	Lakebay	80.39	32	P	P	00 12 17.1 +1.3
	baz=228					
O18K	Koktuh Hills	80.44	9	IAmb	IAmb	00 12 18.2
	comp=Z,113nm,1.0s					
O18K	Koktuh Hills	80.44	9	P	P	00 12 15.5 -0.3
	baz=197,SNR=8.2					
PPBI	Pangkal Pinang	80.45	271	P	P	00 12 16.6 -0.4
	comp=Z,15μmcomp=Z,256nm,1.5s					
D03D	Eldon	80.47	32	P	P	00 12 17.3 +1.0
	baz=227					
ELK	Elko	80.56	41	LR	LR	00 40 20.3
	comp=Z,1μm,21.3s,baz=240,slow=30					
PKCU	Pink Cliffs	80.56	45	IAmb	IAmb	00 12 35.6
	comp=Z,184nm,1.4s					
USRK	Ussuriysk Ar.	80.76	323	P	P	00 12 17.3 -0.6
	comp=Z,13nm,0.8s,baz=88,slow=3.7,SNR=17					
USRK				LR	LR	00 43 44.9
	comp=Z,4μm,20.1s,baz=121,slow=33					
CNPM	China Poot	80.78	11	IAmb	IAmb	00 12 48.3
	comp=Z,86nm,1.0s					
D05A	Enumclaw	80.79	33	IAmb	IAmb	00 12 45.9
	comp=Z,164nm,1.3s					
O19K	Port Alsworth	80.90	9	IAmb	IAmb	00 12 19.7
	comp=Z,125nm,1.0s					
O19K	Port Alsworth	80.90	9	P	P	00 12 17.6 -0.6
	baz=198,SNR=18					
KASI	Kota Agung	80.91	267	P	P	00 12 17.8 -1.6
	comp=Z,5μmcomp=Z,521nm,1.1s					
KLSI		80.96	268	P	P	00 12 17.3 -2.4
	comp=Z,1μmcomp=Z,54nm,1.9s					
MTPU	Mount Pierson	80.98	44	IAmb	IAmb	00 12 23.8
	comp=Z,107nm,1.5s					
O20K	Slope Mountain	81.06	10	P	P	00 12 19.0 -0.3
	baz=200					
BRLK	Bradley Lake	81.07	11	IAmb	IAmb	00 12 21.1
	comp=Z,94nm,0.9s					
BRSE	Bradley Lake S	81.08	11	P	P	00 12 19.5 +0.3
	baz=202,SNR=7.5					
W18A	Petrified Fore	81.08	48	P	P	00 12 18.2 -1.9
	baz=239					
G08A	Pilot Rock	81.16	35	IAmb	IAmb	00 12 42.2
	comp=Z,80nm,1.0s					
121A	Cookes Peak, D	81.17	51	IAmb	IAmb	00 12 53.6
	comp=Z,111nm,1.7s					
121A	Cookes Peak, D	81.17	51	P	P	00 12 22.0 +1.3
	baz=240,SNR=14					
B05A	Bryant	81.46	32	P	P	00 12 22.2 +0.7
	baz=228,SNR=12					
N19K	Bonanza Creek	81.46	9	IAmb	IAmb	00 12 22.6
	comp=Z,80nm,1.1s					
N19K	Bonanza Creek	81.46	9	P	P	00 12 20.8 -0.6
	baz=198					
A04D	Lummi Island	81.47	31	P	P	00 12 22.5 +0.9
	baz=227,SNR=8.5					
BBB	Bella Bella	81.47	26	P	P	00 12 21.9 +0.5
	comp=Z,26nm,0.8s,baz=280,slow=2.8,SNR=6.1					
BBB				LR	LR	00 41 26.2
	comp=Z,1μm,20.8s,baz=226,slow=30					
BBB	Bella Bella	81.47	26	IAmb	IAmb	00 12 51.6
	comp=Z,84nm,1.2s					
LWLI	Liwa	81.48	268	P	P	00 12 20.9 -1.8
	comp=Z,15μmcomp=Z,370nm,0.8s					
E07A	Sunnyside	81.49	34	IAmb	IAmb	00 12 24.5
	comp=Z,62nm,0.9s					
MDSI	Maura Dua	81.54	268	P	P	00 12 20.7 -2.1
	comp=Z,1μmcomp=Z,117nm,1.8s					
HAWA	Hanford	81.55	34	IAmb	IAmb	00 12 44.1
	comp=Z,68nm,1.1s					
SEW	Seward	81.66	12	IAmb	IAmb	00 12 24.4
	comp=Z,102nm,1.0s					
SEW	Seward	81.66	12	P	P	00 12 21.9 -0.4
	baz=203					
Q23K	Middleton Isla	81.68	14	P	P	00 12 22.6 +0.2
	baz=206					
DUG	Dugway, Tooele	81.76	42	P	P	00 12 24.1 +0.6
	baz=236,SNR=13					
C06D	Leavenworth	81.83	33	P	P	00 12 23.9 +0.3
	baz=229					
O22K	Cooper Landing	81.95	12	P	P	00 12 23.9 0.0
	baz=202					
CAPN	Captain Cook N	81.96	11	P	P	00 12 24.7 +0.9
	baz=201					
GRNB	Grenville Isla	81.98	24	IAmb	IAmb	00 12 26.8
	comp=Z,53nm,0.9s					
CRAG	Craig	82.07	22	P	P	00 12 25.8 +1.2
	baz=218					
Q16A	Castle Valley	82.12	44	IAmb	IAmb	00 12 52.8
	comp=Z,97nm,1.6s					
D08A	Wollman Farm,	82.30	34	IAmb	IAmb	00 12 28.6
	comp=Z,61nm,1.0s					
MDJ	Mudanjiang	82.37	323	P	P	00 12 26.4 0.0
MDJ				pmax	pmax	
	comp=Z,83nm,2.2s					
MDJ				pmax	pmax	
	comp=Z,2μm,6.8s					
MDJ	Mudanjiang	82.37	323	IAmb	IAmb	00 12 28.8
	comp=Z,127nm,1.2s					
MDJ	Mudanjiang	82.37	323	P	P	00 12 26.8 +0.3
E09A	Wood Farm, Sta	82.37	35	IAmb	IAmb	00 12 48.7
	comp=Z,86nm,1.4s					
LHSI	Lahat	82.38	269	P	P	00 12 25.1 -2.1
	comp=Z,3μmcomp=Z,166nm,1.2s					
DSRI	Dabo	82.48	272	P	P	00 12 25.9 -1.8
	comp=Z,2μmcomp=Z,2μmcomp=Z,128nm,1.5s					
RC01	Rabbit Creek A	82.52	11	IAmb	IAmb	00 12 28.5
	comp=Z,114nm,1.2s					
RC01	Rabbit Creek A	82.52	11	P	P	00 12 26.7 -0.1
	baz=202					
F10A	Beach Ranch, E	82.53	36	IAmb	IAmb	00 12 48.8
	comp=Z,84nm,1.2s					
MNTX	Cornudas Mount	82.55	53	P	P	00 12 29.3 +1.6
	baz=242,SNR=28					
Y22D	IRIS PASSCAL I	82.56	50	P	P	00 12 29.5 +1.6
	baz=241					
PWL	Port Wells	82.57	12	IAmb	IAmb	00 12 28.6
	comp=Z,101nm,1.0s					
PWL	Port Wells	82.57	12	P	P	00 12 26.8 -0.3
	baz=204,SNR=7.1					
SIT	Sitka	82.61	20	P	P	00 12 28.0 +0.7
	baz=216					
SRU	San Rafael Swe	82.65	44	IAmb	IAmb	00 12 32.3
	comp=Z,180nm,1.7s					
PLID	Pearl Lake	82.68	37	IAmb	IAmb	00 12 50.8
	comp=Z,75nm,1.4s					
HLID	Hailey	82.70	39	IAmb	IAmb	00 12 51.6
	comp=Z,63nm,1.1s					
HLID	Hailey	82.70	39	P	P	00 12 29.4 +1.0
	baz=234,SNR=39					
P17A	Butcher Ranch,	82.70	44	IAmb	IAmb	00 12 32.7
	comp=Z,174nm,1.7s					
L19K	White Mountain	82.72	9	P	P	00 12 27.6 -0.3
	baz=198,SNR=11					
MNAI	Manna	82.74	268	P	P	00 12 27.8 -1.3
	comp=Z,4μmcomp=Z,6μmcomp=Z,411nm,2.0s					
MNAI	Manna	82.74	268	P	P	00 12 28.9 -0.2
NJ2	Nanjing	82.77	308	||*i*P	P	00 12 29.9 +1.1
NJ2				pP	sP	00 12 42.0 +1.0
NJ2				sP	pwP	00 12 50.1 +5.2
NJ2				S	S	00 22 43.8 -0.8
NJ2				sS	ScS	00 23 04.6 +5.3
NJ2				pmax	pmax	
	comp=Z,43nm,1.1s					
NJ2				pmax	pmax	
	comp=Z,910nm,5.7s					
NJ2				LR	LR	
	comp=Z,830nm,20.8s					
NJ2				LR	LR	
	comp=Z,980nm,22.7s					
NJ2				LR	LR	
	comp=Z,2μm,22.2s					
TX31	Lajitas Ar. Si	82.77	56	IAmb	IAmb	00 12 31.6
	comp=Z,156nm,1.2s					
TXAR	Lajitas Array	82.77	56	P	P	00 12 29.7 +0.7
	comp=Z,13nm,0.9s,baz=218,slow=8.6,SNR=113					
TXAR				PKKPbc	PKKPbc	00 31 02.9 +9.2
	comp=Z,0.6nm,0.9s,baz=97,slow=3.0,SNR=3.6					
TXAR				PKPPKP	P'P'df	00 39 00.1 +3.2
	comp=Z,0.7nm,1.1s,baz=151,slow=2.9,SNR=3.5					
TXAR				LR	LR	00 41 03.2
	comp=Z,2μm,21.9s,baz=230,slow=30					
TXAR	Lajitas Array	82.77	56	P	P	00 12 30.3 +1.3
TXAR	Lajitas Array	82.77	56	P	P	00 12 30.3 +1.3
GRNR	Gornyy	82.77	330	||*i*P	P	00 12 29.8 +1.4
GRNR				pmax	pmax	
	comp=Z,20nm,1.0s					
GRNR				MLR	MLR	
	comp=E,360nm,17.0s					
GRNR				MLR	MLR	
	comp=N,270nm,18.0s					
GRNR				MLR	MLR	
	comp=Z,620nm,17.0s					
H03S2	Juan Fernandez	82.81	123	T	T	01 45 22.3
	SNR=946					
EYAK	Cordova Ski Ar	82.82	13	P	P	00 12 28.6 +0.2
	baz=206					
H03S1	Juan Fernandez	82.83	123	T	T	01 45 15.4
	SNR=196					
H03S3	Juan Fernandez	82.83	123	T	T	01 45 14.2
	SNR=145					
GLI	Glacier Island	82.84	13	IAmb	IAmb	00 12 30.0
	comp=Z,104nm,0.9s					
GLI	Glacier Island	82.84	13	P	P	00 12 27.7 -0.7
	baz=205					
H03N2	Juan Fernandez	82.94	123	T	T	01 45 20.1
	baz=257,slow=72,SNR=69					
H03N3	Juan Fernandez	82.94	123	T	T	01 45 20.0
	baz=257,slow=72,SNR=54					
H03N1	Juan Fernandez	82.95	123	T	T	01 45 29.7
	baz=257,slow=72,SNR=52					
JMBI	JAMBI	82.98	271	P	P	00 12 30.4 +0.1
	comp=Z,5μmcomp=Z,357nm,1.4s					
TPRI	Tanjung Pinang	82.99	273	P	P	00 12 30.2 -0.2
	comp=Z,225nm,1.2s					
MVCO	Mesa Verde	83.02	47	IAmb	IAmb	00 12 43.4
	comp=Z,70nm,1.4s					
MVCO	Mesa Verde	83.02	47	P	P	00 12 31.3 +1.1
	baz=239					
GAMB	Gambell	83.02	1	IAmb	IAmb	00 12 32.0
	comp=Z,183nm,1.7s					
GAMB	Gambell	83.02	1	P	P	00 12 30.2 +0.9
	baz=182,SNR=12					
KNK	Knik Glacier	83.06	12	IAmb	IAmb	00 12 31.3
	comp=Z,85nm,0.8s					
KNK	Knik Glacier	83.06	12	P	P	00 12 29.4 -0.3
	baz=204,SNR=16					
M22K	Willow	83.06	11	P	P	00 12 29.2 -0.4
	baz=202,SNR=14					
WRAK	Wrangell Islan	83.09	21	P	P	00 12 30.3 +0.5
	baz=218					
PMR	Palmer	83.09	11	IAmb	IAmb	00 12 42.8
	comp=Z,63nm,1.1s					
PMR	Palmer	83.09	11	P	P	00 12 29.6 -0.2
	baz=203,SNR=12					
C09A	Chrisman Ranch	83.11	34	IAmb	IAmb	00 12 52.6
	comp=Z,105nm,1.5s					
L20K	Farewell, AK	83.14	9	P	P	00 12 29.7 -0.3
	baz=198					
PV10	Paradox Valley	83.25	45	IAmb	IAmb	00 12 34.4
	comp=Z,70nm,0.9s					
TTA	Tatalina	83.28	8	P	P	00 12 31.9 +1.1
TTA				pmax	pmax	
	comp=Z,93nm,1.4s					
TTA	Tatalina	83.28	8	P	P	00 12 31.9 +1.1
TTA				IAmb	IAmb	00 12 44.5
	comp=Z,93nm,1.4s					
TTA	Tatalina	83.28	8	P	P	00 12 31.1 +0.3
	baz=196,SNR=18					
GHO	Glory Hole Cre	83.30	11	IAmb	IAmb	00 12 32.6
	comp=Z,101nm,0.8s					
PV23	Carpenter Ridg	83.31	45	IAmb	IAmb	00 12 35.1
	comp=Z,90nm,0.8s					
ANMO	Albuquerque	83.32	49	LR	LR	00 41 54.1
	comp=Z,1μm,21.3s,baz=236,slow=30					
ANMO	Albuquerque	83.32	49	*c*P	P	00 12 33.5 +1.6
ANMO				pmax	pmax	
	comp=Z,156nm,2.1s					
ANMO	Albuquerque	83.32	49	P	P	00 12 33.4 +1.5
ANMO				IAmb	IAmb	00 12 36.3
	comp=Z,49nm,0.9s					
ANMO	Albuquerque	83.32	49	P	P	00 12 33.3 +1.5
	baz=241					
ANMO	Albuquerque	83.32	49	P	P	00 12 33.3 +1.5
ANMO				pP	sP	00 12 42.6 -1.8
PV11	David Mesa, Pa	83.32	46	IAmb	IAmb	00 12 55.2
	comp=Z,150nm,1.4s					
DIV	Divide	83.34	13	IAmb	IAmb	00 12 32.9
	comp=Z,77nm,0.9s					
MESA	MESA	83.37	15	P	P	00 12 32.0 +0.5
	baz=210,SNR=6.1					
SML	Sawmill	83.44	12	P	P	00 12 31.4 -0.3
	baz=204					
BMRM	Bremner River	83.45	14	IAmb	IAmb	00 12 33.6
	comp=Z,88nm,1.0s					
BMRM	Bremner River	83.45	14	P	P	00 12 31.6 -0.1
	baz=207,SNR=10.0					
YAH	Yahtse	83.58	15	IAmb	IAmb	00 12 35.0
	comp=Z,91nm,0.8s					
PNL	Peninsula	83.59	17	P	P	00 12 32.5 +0.1
	baz=212					
GO07	Milladeo Hill,	83.61	133	IAmb	IAmb	00 12 36.0
	comp=Z,80nm,0.9s					
KLU	Klutina	83.64	13	P	P	00 12 32.4 -0.3
	baz=206,SNR=7.1					
CUT	Chulitna	83.64	11	P	P	00 12 32.2 -0.4
	baz=202,SNR=15					
ISLE	Juniper Island	83.65	15	IAmb	IAmb	00 12 34.8
	comp=Z,65nm,0.9s					
SCM	Sheep Creek Mo	83.66	12	P	P	00 12 32.7 -0.1
	baz=205,SNR=19					
PINM	Pinnacle	83.73	16	P	P	00 12 33.7 +0.5
	baz=211					
COYC	Coyhaique	83.79	136	P	P	00 12 36.2 +2.3
PPLA	Purkeypile	83.79	10	P	P	00 12 33.8 +0.3
	baz=200					
TABL	Table Mountain	83.80	15	IAmb	IAmb	00 12 35.8
	comp=Z,70nm,0.8s					
MASI	Maura Aman, Be	83.81	269	P	P	00 12 32.1 -2.6
	comp=Z,4μmcomp=Z,259nm,1.4s					
LL07	Hotel Espejo d	83.84	133	IAmb	IAmb	00 12 37.1
	comp=Z,95nm,0.9s					
VRDI	Verde Repeater	83.94	14	IAmb	IAmb	00 12 36.4
	comp=Z,103nm,1.2s					
K20K	Telida	83.95	9	IAmb	IAmb	00 12 36.9
	comp=Z,133nm,1.6s					
MAW	Mawson	83.97	199	P	P	00 12 34.8 +0.4
	comp=Z,36nm,1.0s,baz=108,slow=2.4,SNR

MAW				pmax	pmax		
	comp=Z,38nm,1.4s						
MAW	**Mawson**	**83.97**	**199**	P	**P**	**00 12 36.5**	**+2.1**
BESE	**Bessie Mountai**	**83.99**	**19**	IAmb	IAmb	00 12 57.2	
	comp=Z,181nm,1.7s						
NEW	**Newport**	**84.00**	**34**	P	**P**	**00 12 35.3**	**+0.5**
	comp=Z,9.9nm,0.8s,baz=233,slow=5.4,SNR=29						
NEW				LR	LR	00 42 24.3	
	comp=Z,2μm,21.9s,baz=218,slow=30						
NEW	**Newport**	**84.00**	**34**	P	**P**	**00 12 35.1**	**+0.2**
NEW				pmax	pmax		
	comp=Z,18nm,1.0s						
NEW	**Newport**	**84.00**	**34**	P	**P**	**00 12 35.0**	**+0.2**
NEW	**Newport**	**84.00**	**34**	P	**P**	**00 12 34.8**	**0.0**
	baz=232,SNR=12						
N25K	**Chitina, Valde**	**84.02**	**13**	IAmb	IAmb	00 12 36.7	
	comp=Z,75nm,1.0s						
N25K	**Chitina, Valde**	**84.02**	**13**	P	**P**	**00 12 34.7**	**0.0**
	baz=207,SNR=16						
ANM	**Nome**	**84.02**	**3**	P	**P**	**00 12 34.9**	**+0.4**
	baz=188,SNR=13						
KLR	**Kul'dur**	**84.04**	**327**	P	**P**	**00 12 34.1**	**-0.8**
	comp=Z,18nm,1.1s,baz=96,slow=4.0,SNR=30						
KLR				LR	LR	00 44 35.5	
	comp=Z,592nm,21.5s,baz=137,slow=32						
KLR	**Kul'dur**	**84.04**	**327**	*ce*P	**P**	**00 12 34.8**	**-0.1**
KLR				pmax	pmax		
	comp=Z,65nm,1.7s						
GLB	**Gilahina Butte**	**84.05**	**14**	IAmb	IAmb	00 12 36.7	
	comp=Z,67nm,1.1s						
MA2	**Magadan**	**84.11**	**342**	*ce*P	**P**	**00 12 34.8**	**-0.2**
MA2				pmax	pmax		
	comp=Z,25nm,0.7s						
MA2	**Magadan**	**84.11**	**342**	P	**P**	**00 12 34.9**	**-0.2**
MA2				IAmb	IAmb	00 12 36.4	
	comp=Z,149nm,1.3s						
MA2	**Magadan**	**84.11**	**342**	P	**P**	**00 12 35.0**	**0.0**
MA2	**Magadan**	**84.11**	**342**	P	**P**	**00 12 34.1**	**-1.0**
M24K	**Tolsona, Glenn**	**84.14**	**12**	P	**P**	**00 12 35.7**	**+0.5**
	baz=206,SNR=11						
DL2	**Dalian**	**84.16**	**315**	⇓*i*P	**P**	**00 12 37.0**	**+1.2**
DL2				S	**S**	**00 22 58.8**	**+0.4**
DL2				sS	**sS**	**00 23 13.6**	**+1.1**
DL2				pmax	pmax		
	comp=Z,55nm,1.0s						
DL2				pmax	pmax		
	comp=Z,850nm,5.8s						
DL2				LR	LR		
	comp=Z,950nm,18.5s						
DL2				LR	LR		
	comp=Z,950nm,18.5s						
DL2				LR	LR		
	comp=Z,1μm,23.3s						
BARN	**Barnard Glacie**	**84.21**	**15**	IAmb	IAmb	00 12 38.0	
	comp=Z,89nm,1.0s						
AHID	**Auburn Hatcher**	**84.25**	**41**	IAmb	IAmb	00 12 59.2	
	comp=Z,88nm,1.2s						
BNX	**BinXian**	**84.28**	**323**	⇓P	**P**	**00 12 36.3**	**+0.1**
BNX				pP	**sP**	**00 12 49.6**	**+1.2**
BNX				sP	**pwP**	**00 12 53.0**	**+0.8**
BNX				S	**S**	**00 22 55.6**	**-3.7**
BNX				sS	**sS**	**00 23 16.0**	**+2.7**
BNX				pmax	pmax		
	comp=Z,190nm,0.9s						
BNX				pmax	pmax		
	comp=Z,2μm,3.5s						
BNX				LR	LR		
	comp=Z,3μm,16.5s						
BNX				LR	LR		
	comp=Z,4μm,20.6s						
BNX				LR	LR		
	comp=Z,6μm,18.0s						
CAST	**Castle Rocks**	**84.30**	**9**	IAmb	IAmb	00 12 36.3	
	comp=Z,41nm,0.8s						
CAST	**Castle Rocks**	**84.30**	**9**	P	**P**	**00 12 34.5**	**-1.4**
	baz=200,SNR=33						
CN2	**Changchun**	**84.33**	**320**	*e*P	**P**	**00 12 35.8**	**-0.7**
CN2				pP	sP	00 12 49.1	+0.4
CN2				PP	**PP**	**00 15 52.9**	**+1.0**
CN2				S	**S**	**00 22 56.1**	**-3.8**
CN2				sS	sS	00 23 18.6	+4.7
CN2				SS	**SS**	**00 28 28.6**	**-2.2**
CN2				pmax	pmax		
	comp=Z,90nm,1.8s						
CN2				pmax	pmax		
	comp=Z,1μm,3.0s						
CN2				LR	LR		
	comp=Z,680nm,22.0s						
CN2				LR	LR		
	comp=Z,1μm,22.0s						
CN2				LR	LR		
	comp=Z,1μm,24.0s						
SNY	**Shenyang**	**84.41**	**318**	⇓P	**P**	**00 12 38.0**	**+1.0**
SNY				pmax	pmax		
	comp=Z,82nm,2.3s						
SNY				LR	LR		
	comp=Z,800nm,21.3s						
SNY				LR	LR		
	comp=Z,970nm,22.3s						
SNY				LR	LR		
	comp=Z,2μm,20.6s						
S22A	**4UR Ranch, Cre**	**84.43**	**47**	IAmb	IAmb	00 12 41.8	
	comp=Z,87nm,1.0s						
S22A	**4UR Ranch, Cre**	**84.43**	**47**	P	**P**	**00 12 39.3**	**+1.7**
	baz=240,SNR=121						
SKAG	**Skagway**	**84.57**	**18**	IAmb	IAmb	00 12 41.2	
	comp=Z,119nm,1.2s						
SKAG	**Skagway**	**84.57**	**18**	P	**P**	**00 12 38.4**	**+1.1**
	baz=216,SNR=7.8						
QIZ	**Qiongzhong**	**84.59**	**292**	P	**P**	**00 12 36.5**	**-1.9**
QIZ				S	**S**	**00 23 05.5**	**+2.0**
QIZ				pmax	pmax		
	comp=Z,80nm,2.5s						
QIZ				LR	LR		
	comp=Z,930nm,20.7s						
QIZ				LR	LR		
	comp=Z,1μm,21.6s						
KTH	**Kantishna Hill**	**84.61**	**10**	IAmb	IAmb	00 12 38.4	
	comp=Z,66nm,1.0s						
HARP	**HAARP**	**84.61**	**13**	P	**P**	**00 12 38.0**	**+0.5**
	baz=207,SNR=6.0						
TRF	**Thorofare Moun**	**84.62**	**10**	P	**P**	**00 12 37.1**	**-0.7**
	baz=202,SNR=52						
O20A	**White River Ci**	**84.69**	**44**	IAmb	IAmb	00 13 03.9	
	comp=Z,108nm,1.4s						
O20A	**White River Ci**	**84.69**	**44**	P	**P**	**00 12 38.7**	**0.0**
	baz=239,SNR=20						
CHUM	**Lake Minchumin**	**84.70**	**9**	P	**P**	**00 12 36.9**	**-1.0**
	baz=200,SNR=7.9						
J20K	**Nowinta River**	**84.72**	**8**	IAmb	IAmb	00 12 40.2	
	comp=Z,91nm,0.9s						
J20K	**Nowinta River**	**84.72**	**8**	P	**P**	**00 12 38.1**	**+0.1**
	baz=198						
REDW	**Red Top Meadow**	**84.73**	**40**	IAmb	IAmb	00 13 01.8	
	comp=Z,63nm,1.1s						
DLMT	**Dillon**	**84.80**	**38**	IAmb	IAmb	00 13 01.9	
	comp=Z,70nm,1.1s						
SNOW	**Snow King Moun**	**84.84**	**40**	IAmb	IAmb	00 13 01.8	
	comp=Z,77nm,1.2s						
MSO	**Missoula**	**84.87**	**36**	P	**P**	**00 12 39.2**	**-0.1**
	baz=234,SNR=14						
TNA	**Tin City**	**84.90**	**2**	IAmb	IAmb	00 12 41.3	
	comp=Z,79nm,1.1s						
TNA	**Tin City**	**84.90**	**2**	P	**P**	**00 12 39.4**	**+0.6**
	baz=185,SNR=26						
GCSA	**Galena City Sc**	**84.93**	**7**	P	**P**	**00 12 39.6**	**+0.6**
	baz=196,SNR=22						
SMCO	**Snowmass**	**85.05**	**46**	IAmb	IAmb	00 12 53.9	
	comp=Z,59nm,1.2s						
PAX	**Paxson**	**85.06**	**12**	IAmb	IAmb	00 12 41.4	
	comp=Z,45nm,1.0s						
PAX	**Paxson**	**85.06**	**12**	P	**P**	**00 12 39.7**	**-0.2**
	baz=206,SNR=18						
M26K	**Nabesna, AK**	**85.08**	**14**	IAmb	IAmb	00 12 42.2	
	comp=Z,76nm,1.1s						
M26K	**Nabesna, AK**	**85.08**	**14**	P	**P**	**00 12 40.1**	**+0.1**
	baz=209						
CMIG	**Matias Romero**	**85.11**	**70**	LR	LR	00 41 26.1	
	comp=Z,2μm,21.5s,baz=249,slow=29						
MCK	**McKinley**	**85.11**	**11**	P	**P**	**00 12 39.6**	**-0.4**
	baz=203,SNR=85						
BPAW	**Bear Paw Mtn.**	**85.11**	**10**	P	**P**	**00 12 38.9**	**-1.2**
	baz=201,SNR=14						
YUK3	**Moose Creek**	**85.12**	**15**	P	**P**	**00 12 40.7**	**+0.3**
	baz=211,SNR=28						
BW06	**Boulder Array**	**85.21**	**41**	P	**P**	**00 12 41.6**	**+0.3**
	baz=238,SNR=26						
PDAR	**Pinedale Array**	**85.21**	**41**	P	**P**	**00 12 41.5**	**+0.2**
	comp=Z,16nm,0.9s,baz=214,slow=3.2,SNR=78						
PDAR				PKKPbc	**PKKPbc**	**00 30 47.6**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=72,slow=3.4,SNR=5.4						
PDAR				LR	LR	00 44 01.9	
	comp=Z,701nm,20.3s,baz=256,slow=31						
PDAR	**Pinedale Array**	**85.21**	**41**	P	**P**	**00 12 41.0**	**-0.4**
LL04	**Puerto Octay**	**85.28**	**132**	IAmb	IAmb	00 12 45.4	
	comp=Z,137nm,1.8s						
M27K	**Edge Creek, AK**	**85.29**	**14**	P	**P**	**00 12 41.8**	**+0.7**
	baz=210						
SDCO	**Great Sand Dun**	**85.35**	**47**	P	**P**	**00 12 43.5**	**+1.3**
	baz=241,SNR=31						
YMR	**Madison River**	**85.37**	**39**	IAmb	IAmb	00 13 05.6	
	comp=Z,57nm,1.1s						
MENT	**Mentasta**	**85.40**	**13**	IAmb	IAmb	00 12 43.9	
	comp=Z,84nm,1.0s						
DLBC	**Dease Lake**	**85.45**	**21**	P	**P**	**00 12 42.2**	**+0.3**
	comp=Z,14nm,0.7s,baz=233,slow=4.6,SNR=26						
DLBC				LR	LR	00 43 45.4	
	comp=Z,1μm,21.4s,baz=212,slow=31						
H17A	**Grant Village**	**85.46**	**40**	P	**P**	**00 12 44.5**	**+1.9**
	baz=237,SNR=12						
BOZ	**Bozeman (W)**	**85.49**	**38**	IAmb	IAmb	00 13 05.4	
	comp=Z,60nm,1.2s						
BOZ	**Bozeman (W)**	**85.49**	**38**	P	**P**	**00 12 43.3**	**+0.8**
	baz=236,SNR=48						
WHN	**Wuhan**	**85.53**	**304**	⇓*i*P	**P**	**00 12 44.1**	**+1.2**
WHN				pP	**sP**	**00 12 56.3**	**+1.2**
WHN				S	**S**	**00 23 14.0**	**+1.7**
WHN				pmax	pmax		
	comp=Z,810nm,2.0s						
WHN				LR	LR		
	comp=Z,3μm,20.4s						
MSTX	**Muleshoe**	**85.55**	**52**	P	**P**	**00 12 44.2**	**+1.2**
	baz=243,SNR=65						
L26K	**Log Cabin Wild**	**85.55**	**13**	IAmb	IAmb	00 12 44.6	
	comp=Z,61nm,0.9s						
L26K	**Log Cabin Wild**	**85.55**	**13**	P	**P**	**00 12 42.5**	**+0.3**
	baz=208,SNR=32						
YNR	**Norris Junctio**	**85.57**	**39**	IAmb	IAmb	00 13 07.8	
	comp=Z,101nm,1.7s						
BVCY	**Beaver Creek**	**85.58**	**14**	P	**P**	**00 12 42.8**	**+0.4**
	baz=210,SNR=21						
WHY	**Whitehorse**	**85.67**	**18**	IAmb	IAmb	00 12 45.5	
	comp=Z,132nm,1.6s						
WHY	**Whitehorse**	**85.67**	**18**	P	**P**	**00 12 43.5**	**+0.4**
	baz=216,SNR=11						
833A	**Chaparral WMA,**	**85.71**	**58**	IAmb	IAmb	00 12 47.4	
	comp=Z,44nm,1.1s						
833A	**Chaparral WMA,**	**85.71**	**58**	P	**P**	**00 12 44.6**	**+0.7**
	baz=245						
T25A	**Trinidad**	**85.83**	**48**	P	**P**	**00 12 45.5**	**+1.0**
	baz=242,SNR=7.6						
RIDG	**Independent Ri**	**85.88**	**12**	IAmb	IAmb	00 12 45.9	
	comp=Z,83nm,1.0s						
RIDG	**Independent Ri**	**85.88**	**12**	P	**P**	**00 12 43.8**	**-0.1**
	baz=207,SNR=17						
NEA2	**Nenana**	**85.88**	**10**	IAmb	IAmb	00 12 46.4	
	comp=Z,68nm,1.0s						
NEA2	**Nenana**	**85.88**	**10**	P	**P**	**00 12 43.3**	**-0.6**
	baz=203,SNR=30						
YMP	**Mirror Lake Pl**	**85.90**	**40**	IAmb	IAmb	00 13 14.8	
	comp=Z,55nm,1.5s						
L27K	**Beaver Creek,**	**85.92**	**14**	IAmb	IAmb	00 12 46.4	
	comp=Z,45nm,0.9s						
L27K	**Beaver Creek,**	**85.92**	**14**	P	**P**	**00 12 44.4**	**+0.3**
	baz=210,SNR=20						
P33M	**Teslin, Yukon**	**85.93**	**19**	IAmb	IAmb	00 12 46.7	
	comp=Z,102nm,1.6s						
P33M	**Teslin, Yukon**	**85.93**	**19**	P	**P**	**00 12 44.9**	**+0.6**
	baz=218,SNR=9.3						
BCAR	**Beaver Creek A**	**85.93**	**14**	P	**P**	**00 12 44.5**	**+0.3**
I21K	**Tanana**	**85.98**	**9**	P	**P**	**00 12 44.3**	**0.0**
	baz=200,SNR=24						
TIA	**Tai'an**	**85.98**	**311**	⇑P	**P**	**00 12 44.8**	**-0.2**
TIA				pmax	pmax		
	comp=Z,77nm,1.2s						
TIA				pmax	pmax		
	comp=Z,1μm,5.1s						
TIA				LR	LR		
	comp=Z,950nm,19.4s						
TIA				LR	LR		
	comp=Z,1μm,17.8s						
TIA				LR	LR		
	comp=Z,1μm,19.2s						
BKNI	**Bangkinang**	**86.08**	**272**	P	**P**	**00 12 45.3**	**-0.7**
	comp=Z,2μmcomp=Z,4μmcomp=Z,184nm,1.8s						
BKNI	**Bangkinang**	**86.08**	**272**	P	**P**	**00 12 46.1**	**+0.1**
HDA	**Harding Lake**	**86.08**	**11**	P	**P**	**00 12 44.6**	**-0.2**
	baz=205,SNR=84						
N31M	**Braeburn, Yuko**	**86.10**	**17**	IAmb	IAmb	00 12 47.5	
	comp=Z,64nm,0.9s						
N31M	**Braeburn, Yuko**	**86.10**	**17**	P	**P**	**00 12 45.7**	**+0.7**
	baz=215,SNR=11						
RWWY	**Rawlins**	**86.15**	**43**	IAmb	IAmb	00 12 48.4	
	comp=Z,47nm,1.1s						
Q24A	**Divide**	**86.18**	**46**	P	**P**	**00 12 47.3**	**+0.9**
	baz=241,SNR=14						
WALA	**Waterton Lakes**	**86.18**	**35**	IAmb	IAmb	00 13 08.2	
	comp=Z,71nm,1.3s						
SCRK	**Sand Creek**	**86.27**	**12**	IAmb	IAmb	00 12 48.0	
	comp=Z,71nm,1.0s						
SCRK	**Sand Creek**	**86.27**	**12**	P	**P**	**00 12 46.2**	**+0.3**
	baz=208,SNR=48						
ISCO	**Idaho Springs**	**86.27**	**46**	P	**P**	**00 12 47.5**	**+0.7**
	baz=241,SNR=12						
JCT	**Junction City**	**86.29**	**56**	P	**P**	**00 12 47.0**	**+0.3**
	baz=245						
H21K	**Melozitna Rive**	**86.31**	**8**	IAmb	IAmb	00 12 48.4	
	comp=Z,64nm,1.1s						
H21K	**Melozitna Rive**	**86.31**	**8**	P	**P**	**00 12 46.5**	**+0.6**
	baz=199						
TCOL	**CIGO, UAF Yank**	**86.35**	**11**	P	**P**	**00 12 45.8**	**-0.3**
	baz=204,SNR=58						
COLA	**College**	**86.35**	**11**	P	**P**	**00 12 45.9**	**-0.2**
COLA				pmax	pmax		
	comp=Z,253nm,0.8s						
COLA	**College**	**86.35**	**11**	P	**P**	**00 12 45.9**	**-0.2**
COLA	**College**	**86.35**	**11**	P	**P**	**00 12 45.9**	**-0.2**
	baz=204						
COLA	**College**	**86.35**	**11**	P	**P**	**00 12 46.0**	**-0.2**
I23K	**Minto, Yukon-K**	**86.35**	**10**	IAmb	IAmb	00 12 48.3	
	comp=Z,58nm,0.9s						
I23K	**Minto, Yukon-K**	**86.35**	**10**	P	**P**	**00 12 45.8**	**-0.3**
	baz=203,SNR=24						
LC01	**Cunco**	**86.41**	**130**	P	**P**	**00 12 48.0**	**+0.7**
LC01				IAmb	IAmb	00 13 10.1	
	comp=Z,42nm,1.1s						
IL31		**86.42**	**11**	IAmb	IAmb	00 12 48.0	
	comp=Z,65nm,0.8s						
ILAR	**Eielson Array**	**86.42**	**11**	P	**P**	**00 12 46.0**	**-0.5**
	comp=Z,41nm,0.6s,baz=220,slow=5.4,SNR=494						
ILAR				LR	LR	00 45 53.1	
	comp=Z,758nm,20.5s,baz=218,slow=32						
ILAR	**Eielson Array**	**86.42**	**11**	P	**P**	**00 12 46.0**	**-0.5**
ILAR	**Eielson Array**	**86.42**	**11**	P	**P**	**00 12 45.7**	**-0.8**
IMAR	**Indian Mountai**	**86.50**	**8**	P	**P**	**00 12 47.0**	**+0.2**
SEY	**Seymchan**	**86.51**	**345**	P	**P**	**00 12 46.1**	**-0.8**
	comp=Z,95nm,0.9s,baz=144,slow=5.8,SNR=142						
SEY				LR	LR	00 48 13.6	
	comp=Z,1μm,19.6s,baz=144,slow=34						
J25K	**Salcha River,**	**86.56**	**12**	P	**P**	**00 12 47.5**	**+0.2**
	baz=206,SNR=53						
N23A	**Red Feather La**	**86.58**	**44**	P	**P**	**00 12 48.7**	**+0.5**
	baz=241,SNR=7.7						
RLMT	**Red Lodge**	**86.64**	**40**	P	**P**	**00 12 49.1**	**+0.8**
	baz=238,SNR=6.6						
POKR	**Poker Plat Res**	**86.64**	**11**	P	**P**	**00 12 47.4**	**-0.2**
	baz=204,SNR=66						
PLCA	**Paso Flores**	**86.65**	**132**	P	**P**	**00 12 50.2**	**+1.7**
	comp=Z,8.7nm,1.0s,baz=249,slow=5.0,SNR=10						
PLCA				PKKPbc	**PKKPbc**	**00 30 44.4**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=77,slow=8.4,SNR=3.4						
PLCA				LR	LR	00 46 37.7	
	comp=Z,968nm,18.1s,baz=242,slow=32						
PLCA	**Paso Flores**	**86.65**	**132**	*e*P	**P**	**00 12 50.5**	**+2.0**
PLCA	**Paso Flores**	**86.65**	**132**	IAmb	IAmb	00 12 52.0	
	comp=Z,100nm,1.6s						
M30M	**Minto, Yukon**	**86.72**	**16**	IAmb	IAmb	00 12 50.2	
	comp=Z,49nm,0.9s						
M30M	**Minto, Yukon**	**86.72**	**16**	P	**P**	**00 12 48.3**	**+0.3**
	baz=214,SNR=22						
AMTX	**Amarillo**	**86.77**	**51**	P	**P**	**00 12 49.7**	**+0.7**
	baz=244						
J26L	**Joseph Creek**	**86.82**	**12**	P	**P**	**00 12 49.2**	**+0.7**
	baz=208						
M31M	**Drury Creek, Y**	**87.06**	**17**	IAmb	IAmb	00 12 51.5	
	comp=Z,33nm,0.9s						
M31M	**Drury Creek, Y**	**87.06**	**17**	P	**P**	**00 12 49.8**	**+0.1**
	baz=216,SNR=14						
K22A	**Casper**	**87.07**	**43**	P	**P**	**00 12 50.7**	**+0.2**
	baz=240,SNR=5.6						
WTLY	**Watson Lake, Y**	**87.14**	**21**	P	**P**	**00 12 50.3**	**+0.2**
	baz=222						
H24K	**Noodor Dome**	**87.23**	**10**	P	**P**	**00 12 49.5**	**-1.0**
	baz=204						
ABTX	**Abilene, Hawle**	**87.32**	**54**	P	**P**	**00 12 52.4**	**+0.8**
	baz=245						
DAWY	**Dawson**	**87.34**	**14**	P	**P**	**00 12 51.5**	**+0.4**
	baz=212,SNR=80						
PRP	**Porcupine Dome**	**87.35**	**11**	P	**P**	**00 12 51.2**	**0.0**
	baz=206,SNR=17						
SISI	**Saibi**	**87.38**	**270**	P	**P**	**00 12 51.4**	**-0.9**
	comp=Z,1μmcomp=Z,61nm,1.7s						
FARO	**Faro, Yukon**	**87.38**	**17**	P	**P**	**00 12 51.6**	**+0.4**
	baz=217,SNR=9.0						
IPM	**Ipoh**	**87.48**	**276**	P	**P**	**00 12 53.3**	**+0.4**
MNSI	**Mandailing Nat**	**87.61**	**272**	P	**P**	**00 12 51.8**	**-1.7**
	comp=Z,2μmcomp=Z,73nm,2.0s						
RDOG	**Red Dog Mine**	**87.64**	**4**	P	P	00 13 04.5	+12
	baz=190,SNR=5.3						
MAYO	**Mayo, Yukon**	**87.80**	**16**	P	**P**	**00 12 53.9**	**+0.7**
	baz=215,SNR=9.9						
EGMT	**Eagleton**	**87.89**	**37**	IAmb	IAmb	00 13 16.7	
	comp=Z,64nm,1.7s						
EGMT	**Eagleton**	**87.89**	**37**	P	**P**	**00 12 54.5**	**+0.3**
	baz=238,SNR=7.0						
ML02	**Panimavida**	**87.93**	**127**	IAmb	IAmb	00 12 56.6	
	comp=Z,50nm,1.0s						
KSCO	**Kaye Shedlock'**	**87.94**	**47**	IAmb	IAmb	00 13 00.0	
	comp=Z,62nm,1.5s						
KSCO	**Kaye Shedlock'**	**87.94**	**47**	P	**P**	**00 12 55.4**	**+0.7**
	baz=243						
J29M	**Klondike Camp**	**87.94**	**14**	P	**P**	**00 12 55.0**	**+1.1**
	baz=213						
COLD	**Coldfoot**	**88.16**	**9**	P	**P**	**00 12 55.7**	**+0.9**
	baz=202,SNR=11						
HNS	**HongShan**	**88.25**	**311**	⇑P	**P**	**00 12 56.3**	**+0.4**
HNS				pP	**sP**	**00 13 09.4**	**+1.2**
HNS				S	**S**	**00 23 36.5**	**-1.8**
HNS				pmax	pmax		
	comp=Z,92nm,1.6s						
HNS				pmax	pmax		
	comp=Z,860nm,6.5s						
HNS				LR	LR		
	comp=Z,810nm,19.0s						
HNS				LR	LR		
	comp=Z,2μm,21.6s						
HNS				LR	LR		
	comp=Z,2μm,20.5s						
APG	**El Apazote**	**88.32**	**74**	LR	LR	00 44 59.3	
	comp=Z,844nm,19.6s,baz=250,slow=30						
BJT	**Baijiatuau**	**88.40**	**314**	P	**P**	**00 12 56.5**	**0.0**
BILL	**Bilibino**	**88.58**	**352**	*d i*P	**P**	**00 12 56.6**	**-0.2**
BILL				*e**PP	**pP**	**00 13 05.9**	**+0.3**
BILL				*e**SP	**sP**	**00 13 09.8**	**+0.9**
BILL				*i* S	**SKSac**	**00 23 23.3**	**+0.5**
BILL				*i*		00 23 38.8	
BILL				*e*PS	**PnS**	**00 24 37.5**	**-10**
BILL				*e*SS	**SS**	**00 29 35.7**	**+3.6**
BILL				*e*SSS	SSS	00 33 12.5	
BILL				pmax	pmax		
	comp=Z,90nm,1.4s						
BILL				MLR	MLR		
	comp=Z,444nm,19.0s						
BILL	**Bilibino**	**88.58**	**352**	P	**P**	**00 12 56.7**	**-0.1**
BILL				IAmb	IAmb	00 13 17.5	
	comp=Z,52nm,1.0s						
BILL	**Bilibino**	**88.58**	**352**	P	**P**	**00 12 56.9**	**+0.1**
BILL				pP	**pwP**	**00 13 10.8**	**-3.4**
SYO	**Syowa Base**	**88.62**	**191**	⇑*i*P	**P**	**00 12 57.4**	**+0.2**
SYO	**Syowa Base**	**88.62**	**191**	⇑*e*PcP	**PcP**	**00 12 58.9**	**+0.1**
LYN	**LuoYang**	**88.67**	**307**	⇑*i*P	**P**	**00 12 58.3**	**+0.3**
LYN				pP	sP	00 13 11.6	+1.3
LYN				sP	pwP	00 13 18.0	+3.9
LYN				PP	**PP**	**00 16 30.9**	**+3.7**
LYN				S	**S**	**00 23 46.3**	**+3.8**
LYN				sS	sS	00 24 04.8	+8.2
LYN				SS	**SS**	**00 29 34.3**	**-0.5**
LYN				pmax	pmax		
	comp=Z,60nm,1.9s						
LYN				pmax	pmax		
	comp=Z,590nm,6.1s						
LYN				LR	LR		
	comp=Z,680nm,15.5s						
LYN				LR	LR		
	comp=Z,1μm,24.3s						
I29M	**Ogilvie Camp,**	**88.69**	**14**	IAmb	IAmb	00 12 59.4	
	comp=Z,62nm,1.2s						
I29M	**Ogilvie Camp,**	**88.69**	**14**	P	**P**	**00 12 57.6**	**+0.2**
	baz=213,SNR=11						
BO01	**Tunca**	**88.71**	**126**	IAmb	IAmb	00 13 20.6	
	comp=Z,38nm,1.2s						
WHTX	**Lake Whitney,**	**88.74**	**55**	P	**P**	**00 12 58.9**	**+0.5**
	baz=246						
VNA3	**Neumayer Olymp**	**88.77**	**175**	P	**P**	**00 12 58.6**	**+0.6**
BO02	**Sierra Bellavi**	**88.78**	**127**	P	**P**	**00 13 00.7**	**+1.9**
BO02				IAmb	IAmb	00 13 21.9	
	comp=Z,62nm,1.6s						
MT01	**Popeta**	**88.78**	**125**	IAmb	IAmb	00 13 01.9	
	comp=Z,48nm,0.8s						
SNAA	**Sanae**	**88.82**	**177**	P	**P**	**00 12 58.7**	**+0.5**
SNAA	**Sanae**	**88.82**	**177**	LR	LR	00 46 56.7	
	comp=Z,2μm,22.0s,baz=206,slow=32						
SNAA	**Sanae**	**88.82**	**177**	*ce*P	**P**	**00 12 58.5**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,7μm,2.5s						
SNAA	**Sanae**	**88.82**	**177**	P	**P**	**00 12 58.4**	**+0.1**
WMOK	**Wichita Mounta**	**88.86**	**53**	P	**P**	**00 12 59.4**	**+0.5**
	baz=245,SNR=7.4						
ZEA	**Zeya**	**89.01**	**329**	*e*P	**P**	**00 12 59.2**	**+0.1**
ZEA				*e*		00 16 27.2	
ZEA				*e*S	**S**	**00 23 48.7**	**+3.8**
ZEA				*e*SS	**SS**	**00 29 36.2**	**-2.8**
ZEA				pmax	pmax		
	comp=E,30nm,0.9s						
ZEA				pmax	pmax		
	comp=N,60nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,120nm,1.1s						
ZEA				pmax	pmax		
	comp=E,100nm,3.6s						
ZEA				pmax	pmax		
	comp=N,200nm,3.4s						
ZEA				pmax	pmax		
	comp=Z,500nm,3.8s						
ZEA				pmax	pmax		
	comp=Z,200nm,7.4s						
ZEA				smax	smax		
	comp=E,300nm,10.1s						
MTO3	**Montecristo**	**89.11**	**74**	IAmb	IA

comp=Z,6μmcomp=Z,231nm,1.9s
GSI Gunungsitoli 89.67 271 P **P 00 13 04.0 +0.8**
CBKS Cedar Bluff 89.88 49 P **P 00 13 04.2 +0.5**
baz=245
EPYK Eagle Plains 89.90 14 P **P 00 13 03.3 +0.2**
baz=214,SNR=22
TIY Taiyuan 90.01 310 ⇑P **P 00 13 04.8 +0.5**
TIY S **S 00 23 56.4 +1.3**
TIY pmax pmax
comp=Z,60nm,1.5s
TIY pmax pmax
comp=Z,730nm,5.8s
TIY LR LR
comp=Z,2μm,25.4s
TIY LR LR
comp=Z,2μm,24.0s
TIY LR LR
comp=Z,2μm,27.5s
GYA Guiyang 90.10 298 ⇓*i*P **P 00 13 06.1 +1.0**
GYA pP pwP 00 13 19.1 -2.1
GYA S **S 00 23 56.3 -0.2**
GYA pmax pmax
comp=Z,57nm,1.8s
GYA pmax pmax
comp=Z,780nm,3.5s
GYA LR LR
comp=Z,880nm,20.6s
OKCFA Oklahoma City 90.13 52 IAmb IAmb 00 13 08.4
comp=Z,60nm,1.1s
KCSI Kotacane, Aceh 90.22 274 P **P 00 13 04.8 -1.0**
comp=Z,2μmcomp=Z,73nm,1.4s
XLT XiLinHaoTe 90.22 317 ⇑*i*P **P 00 13 04.8 -0.4**
XLT pP sP 00 13 18.0 +0.6
XLT sP pwP 00 13 24.9 +3.7
XLT S **S 00 23 59.0 +2.2**
XLT sS sS 00 24 12.4 +1.6
XLT SS **SS 00 29 57.8 +0.6**
XLT pmax pmax
comp=Z,50nm,2.3s
XLT pmax pmax
comp=Z,670nm,3.9s
XLT LR LR
comp=Z,840nm,16.2s
XLT LR LR
comp=Z,780nm,15.2s
XLT LR LR
comp=Z,1μm,19.4s
OK029 Liberty Lake 90.28 52 IAmb IAmb 00 13 08.0
comp=Z,92nm,1.6s
CO03 El Pedregal 90.39 123 IAmb IAmb 00 13 32.1
comp=Z,80nm,1.4s
HIA Hailar 90.55 323 IAmb IAmb 00 13 21.5
comp=Z,28nm,1.1s
GO04 Tololo Observa 90.56 122 IAmb IAmb 00 13 29.9
comp=Z,50nm,1.0s
OK033 Mehan 90.76 52 IAmb IAmb 00 13 11.0
comp=Z,60nm,1.3s
OK031 S. Brethren Rd 90.80 52 IAmb IAmb 00 13 11.2
comp=Z,44nm,1.0s
OK030 Cody Creek RV 90.83 52 IAmb IAmb 00 13 11.2
comp=Z,44nm,1.0s
NATX Nacogdoches 90.84 57 P **P 00 13 09.0 +0.8**
baz=248
QUOK Quay 90.98 52 IAmb IAmb 00 13 12.1
comp=Z,43nm,1.0s
WRGLY Wrigley 91.15 20 P **P 00 13 09.6 +0.7**
baz=226,SNR=14
XAN Xi'an 91.15 306 ⇑P **P 00 13 09.8 +0.1**
XAN pP pwP 00 13 23.5 -2.3
XAN sP sP 00 13 27.8 +5.8
XAN PP **PP 00 16 48.0 +0.9**
XAN S **SKKSac 00 23 56.9 +2.1**
XAN sS sS 00 24 28.5 +8.7
XAN pmax pmax
comp=Z,100nm,1.9s
XAN pmax pmax
comp=Z,750nm,3.7s
XAN LR LR
comp=Z,390nm,18.5s
XAN LR LR
comp=Z,870nm,19.2s
XAN LR LR
comp=Z,980nm,19.2s
XAN Xi'an 91.15 306 P **P 00 13 10.1 +0.4**
Z38A Mt. Pleasant 91.16 55 IAmb IAmb 00 13 35.8
comp=Z,35nm,1.0s
A21K Barrow 91.32 5 P **P 00 13 09.5 0.0**
baz=196
DGMT Dagmar 91.33 38 P **P 00 13 10.9 +0.7**
baz=242
X37A Clayton 91.37 54 IAmb IAmb 00 13 45.0
comp=Z,26nm,1.1s
T35A Sooner Cattle 91.42 51 IAmb IAmb 00 13 14.1
comp=Z,47nm,0.9s
TUL1 Leonard 91.56 52 IAmb IAmb 00 13 14.8
comp=Z,42nm,1.0s
TUL1 Leonard 91.56 52 P **P 00 13 12.1 +0.5**
baz=247
JTS Las Juntas de 91.78 80 LR LR 00 44 17.2
comp=Z,1μm,21.8s,slow=29
JTS Las Juntas de 91.78 80 ⇓*e*P **P 00 13 15.2 +2.2**
JTS pmax pmax
comp=Z,114nm,2.1s
JTS Las Juntas de 91.78 80 P **P 00 13 15.4 +2.4**
HHC Hu-ho-hao-te 91.92 313 *e*P **P 00 13 13.4 +0.2**
HHC pP sP 00 13 26.9 +1.5
HHC sP pwP 00 13 33.8 +4.5
HHC S **S 00 24 08.1 -4.4**
HHC pmax pmax
comp=Z,96nm,1.3s
HHC pmax pmax
comp=Z,410nm,6.0s
HHC LR LR
comp=Z,620nm,22.1s
HHC LR LR
comp=Z,880nm,21.0s
HHC LR LR
comp=Z,1μm,20.9s
NNA Nana 91.96 103 LR LR 00 47 14.8
comp=Z,677nm,19.4s,baz=248,slow=31
BGNE Belgrade 92.07 47 P **P 00 13 14.4 +0.7**
baz=246
ATAH Atahualpa 92.17 98 LR LR 00 47 25.8
comp=Z,2μm,18.3s,baz=262,slow=31
INK Inuvik 92.20 14 P **P 00 13 13.6 0.0**
comp=Z,29nm,0.8s,baz=212,slow=4.2,SNR=83
INK PKKPbc **PKKPbc 00 30 33.6 +1.5**
comp=Z,1.4nm,0.8s,baz=146,slow=5.2,SNR=5.2
INK LR LR 00 47 21.6
comp=Z,2μm,21.9s,baz=206,slow=31
INK Inuvik 92.20 14 IAmb IAmb 00 13 15.6
comp=Z,50nm,1.0s
INK Inuvik 92.20 14 P **P 00 13 13.8 +0.2**
baz=217
KSU1 Kansas State U 92.22 49 IAmb IAmb 00 13 17.3
comp=Z,36nm,0.8s
KSU1 Kansas State U 92.22 49 P **P 00 13 15.3 +0.9**
baz=247
MIAR Mount Ida 92.72 54 P **P 00 13 17.7 +0.8**
baz=248,SNR=7.3
WLAR White Oak Lake 92.77 55 IAmb IAmb 00 13 21.5
comp=Z,31nm,1.0s
SUSD Miller 92.78 44 IAmb IAmb 00 13 18.9
comp=Z,45nm,1.1s
SUSD Miller 92.78 44 P **P 00 13 17.0 +0.1**
baz=245
W39A Magazine 92.81 54 IAmb IAmb 00 13 20.7
comp=Z,27nm,1.1s
W39A Magazine 92.81 54 P **P 00 13 18.4 +1.1**
baz=248,SNR=8.1
U38A Gravette 92.82 52 IAmb IAmb 00 13 19.7
comp=Z,36nm,0.8s
Z41A Richland Creek 92.85 56 P **P 00 13 18.3 +0.8**
baz=249
BTO Baotou 92.90 312 *e*P **P 00 13 18.3 +0.6**
YAK Yakutsk 92.93 337 P **P 00 13 16.2 -0.9**
comp=Z,29nm,0.7s,baz=118,slow=1.2,SNR=14
YAK LR LR 00 51 47.9
comp=Z,658nm,20.0s,baz=91,slow=34
YAK Yakutsk 92.93 337 *e*P **P 00 13 16.2 -0.9**
YAK *e* 00 13 21.8
YAK *e**PP **sP 00 13 29.1 -0.2**
YAK *e*S **SKSac 00 23 40.1 -7.9**
YAK *e* 00 24 23.5
YAK pmax pmax
comp=Z,66nm,0.9s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK smax smax
comp=E,124nm,13.1s
YAK smax smax
comp=N,132nm,14.8s
YAK Yakutsk 92.93 337 P **P 00 13 16.9 -0.3**
KMI Kunming 92.94 295 ⇑P **P 00 13 19.0 +0.6**
KMI pP pwP 00 13 32.3 -2.2
KMI sP sP 00 13 37.9 +7.2
KMI S **S 00 24 15.4 -7.0**
KMI sS sS 00 24 38.3 +1.3
KMI SS **SS 00 30 33.9 -3.4**
KMI pmax pmax
comp=N,55nm,1.6s
KMI pmax pmax
comp=N,850nm,5.8s
KMI LR LR
comp=N,570nm,17.8s
KMI LR LR
comp=N,990nm,21.7s
KMI LR LR
comp=N,1μm,23.4s
HHAR Hobbs 93.09 53 IAmb IAmb 00 13 20.8
comp=Z,18nm,0.7s
AC02 Maricunga 93.23 120 P **P 00 13 23.1 +2.9**
X40A Basin Creek Fa 93.27 55 P **P 00 13 20.1 +0.7**
baz=249
YKA Yellowknife Ar 93.78 23 P **P 00 13 21.1 0.0**
comp=Z,11nm,0.7s,baz=237,slow=4.4,SNR=205
YKA PP PP 00 17 18.9 +12
comp=Z,1.1nm,1.0s,baz=230,slow=7.5,SNR=4.3
YKA PKKPbc **PKKPdf 00 30 24.4 -2.6**
comp=Z,0.2nm,0.5s,baz=38,slow=2.5,SNR=8.1
YKA LR LR 00 48 29.3
comp=Z,2μm,21.8s,baz=238,slow=31
MDND Maddock 93.80 40 P **P 00 13 21.6 +0.1**
baz=245
U40A Yellville 93.94 53 IAmb IAmb 00 13 25.4
comp=Z,27nm,0.8s
U40A Yellville 93.94 53 P **P 00 13 22.8 +0.3**
baz=249
W41B Gary Mavity, V 93.97 54 IAmb IAmb 00 13 50.4
comp=Z,36nm,1.6s
W41B Gary Mavity, V 93.97 54 P **P 00 13 23.9 +1.2**
baz=249
WHAR Wooly Hollow 93.98 54 IAmb IAmb 00 13 50.8
comp=Z,26nm,1.2s
ECSD EROS Data Cent 94.04 45 P **P 00 13 22.7 -0.1**
baz=247
CMAR Chiang Mai Arr 94.04 288 P **P 00 13 23.6 +0.2**
comp=Z,36nm,1.0s,baz=109,slow=2.8,SNR=94
CMAR PKP2bc 00 37 43.1
comp=Z,2.0nm,0.4s,baz=284,slow=11,SNR=4.1
CMAR LR LR 00 52 21.6
comp=Z,638nm,21.2s,baz=105,slow=34
CMAR Chiang Mai Arr 94.04 288 P **P 00 13 23.2 -0.1**
S39A Bolivar 94.07 52 IAmb IAmb 00 13 25.2
comp=Z,28nm,0.8s
CD2 Chengdu 94.07 301 P **P 00 13 24.3 +1.0**
CD2 Chengdu 94.07 301 S **S 00 24 35.5 +3.7**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,540nm,5.5s
CD2 LR LR
comp=N,70nm,18.6s
CD2 LR LR
comp=E,1μm,23.1s
CD2 LR LR
comp=Z,1μm,21.8s
CD2 Chengdu 94.07 301 P **P 00 13 23.3 0.0**
CD2 S **S 00 24 30.9 -0.9**
CD2 pmax pmax
comp=Z,30nm,1.3s
CD2 pmax pmax
comp=Z,530nm,7.6s
CD2 LR LR
comp=Z,1μm,22.4s
CD2 LR LR
comp=Z,1μm,21.1s
CHTO Chiang Mai 94.16 288 P **P 00 13 24.6 +0.7**
CHTO pmax pmax
comp=Z,55nm,1.2s
CHTO Chiang Mai 94.16 288 P **P 00 13 24.6 +0.7**
CHTO IAmb IAmb 00 13 25.9
comp=Z,55nm,1.1s
CHTO Chiang Mai 94.16 288 P **P 00 13 24.8 +0.9**
CHTO Chiang Mai 94.16 288 P **P 00 13 24.1 +0.3**
PZH PanZhiHua 94.25 296 P **P 00 13 25.4 +1.1**
PZH pP **sP 00 13 37.4 +0.8**
PZH sP **pwP 00 13 42.8 +2.4**
PZH PP **PP 00 17 09.4 -2.3**
PZH S **S 00 24 32.1 -1.6**
PZH sS **sS 00 24 49.8 +1.6**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,470nm,4.7s
PZH LR LR
comp=Z,1μm,21.6s
PZH LR LR
comp=Z,2μm,22.0s
PZH LR LR
comp=Z,3μm,25.0s
VBMS Vicksburg 94.28 57 P **P 00 13 24.6 +0.5**
baz=250
FCAR Ozark Folk Cen 94.32 54 IAmb IAmb 00 13 27.1
comp=Z,65nm,1.7s
PB06 IPOC Station P 94.49 116 IAmb IAmb 00 13 52.3
comp=Z,42nm,1.1s
P38A Dawn 94.62 50 IAmb IAmb 00 13 49.1
comp=Z,26nm,1.1s
F33A 5 Mile Ranch, 95.07 43 IAmb IAmb 00 13 30.0
comp=Z,46nm,1.1s
LVC Limon Verde 95.09 116 LR LR 00 46 18.1
comp=Z,1μm,21.8s,baz=244,slow=29
LVC Limon Verde 95.09 116 *e*P **P 00 13 31.7 +3.1**
PB01 IPOC Station P 95.21 114 P **P 00 13 31.6 +2.8**
PB01 IAmb IAmb 00 13 32.0
comp=Z,22nm,1.1s
C36M Paulatuk 95.25 16 IAmb IAmb 00 13 29.2
comp=Z,24nm,1.0s
C36M Paulatuk 95.25 16 P **P 00 13 27.6 0.0**
baz=226
PB11 IPOC Station P 95.56 113 IAmb IAmb 00 13 54.2
comp=Z,30nm,1.0s
P40A Paris 95.66 50 IAmb IAmb 00 13 53.9
comp=Z,35nm,1.4s
SCIA State Center 95.67 48 P **P 00 13 29.8 -0.4**
baz=249
CCM Cathedral Cave 95.74 52 P **P 00 13 30.8 +0.2**
CCM pmax pmax
comp=Z,15nm,0.9s
CCM Cathedral Cave 95.74 52 P **P 00 13 30.8 +0.2**
CCM IAmb IAmb 00 13 32.7
comp=Z,15nm,0.8s
CCM Cathedral Cave 95.74 52 P **P 00 13 30.4 -0.2**
baz=250
LZH Lanzhou 95.77 306 *e*P **P 00 13 32.0 +0.9**
LZH pP sP 00 13 44.8 +1.4
LZH sP pwP 00 13 49.8 +2.6
LZH sS sS 00 25 03.4 +2.7
LZH SS **SS 00 31 13.8 -3.4**
LZH pmax pmax
comp=Z,46nm,1.4s
LZH pmax pmax
comp=Z,380nm,6.3s
LZH LR LR
comp=Z,620nm,16.8s
LZH LR LR
comp=Z,840nm,17.2s
LZH LR LR
comp=Z,1μm,19.5s
MNMC Minye Minye 95.86 113 IAmb IAmb 00 13 55.4
comp=Z,23nm,0.9s
GO01 Chusmiza 96.00 113 IAmb IAmb 00 14 02.8
comp=Z,29nm,1.6s
AGMN Agassiz Nation 96.28 41 IAmb IAmb 00 13 34.8
comp=Z,31nm,1.1s
AGMN Agassiz Nation 96.28 41 P **P 00 13 32.5 -0.4**
baz=248
FVM French Village 96.32 52 IAmb IAmb 00 13 36.1
comp=Z,18nm,0.8s
A36M Sachs Harbour 96.84 13 P **P 00 13 35.0 +0.2**
baz=225
F36A Milaca 96.87 44 IAmb IAmb 00 13 38.6
comp=Z,35nm,0.9s
ULM Lac du Bonnet 97.00 39 P **P 00 13 36.0 -0.1**
comp=Z,12nm,0.8s,baz=264,slow=5.1,SNR=9.3
ULM LR LR 00 50 13.6
comp=Z,2μm,21.6s,baz=253,slow=31
ULM Lac du Bonnet 97.00 39 IAmb IAmb 00 13 37.3
comp=Z,24nm,1.0s
L40A Anamosa 97.12 48 IAmb IAmb 00 14 00.5
comp=Z,46nm,1.4s
SPMN Marine on St. 97.12 45 IAmb IAmb 00 13 39.5
comp=Z,35nm,1.1s
SPMN Marine on St. 97.12 45 P **P 00 13 37.1 +0.4**
baz=250
CZSB Cruzeiro do Su 97.26 101 *e*P Pdif 00 13 40.2 +1.9
BOD Bodaibo 97.52 329 *e*P **P 00 13 37.0 -1.2**
BOD pmax pmax
comp=Z,19nm,2.1s
ULN Ulaanbaatar 97.59 318 *ce*P **P 00 13 38.7 -0.3**
ULN pmax pmax
comp=Z,14nm,1.7s
ULN Ulaanbaatar 97.59 318 P **P 00 13 39.4 +0.3**
ULN Ulaanbaatar 97.59 318 P **P 00 13 35.5 -3.5**
B35A Bob, Littlefor 97.63 41 IAmb IAmb 00 14 00.7
comp=Z,60nm,1.5s
WVT Waverly 97.68 55 P **P 00 13 39.4 -0.1**
baz=252
SONM Songino Array 97.99 318 P **P 00 13 40.5 -0.3**
comp=Z,2.6nm,0.7s,baz=129,slow=4.1,SNR=16
SONM PP **PP 00 17 44.5 +4.3**
comp=Z,2.3nm,1.0s,baz=118,slow=6.7,SNR=4.3
SONM LR LR 00 53 22.3
comp=Z,930nm,21.8s,baz=112,slow=33
SONM Songino Array 97.99 318 P **P 00 13 40.5 -0.3**
SONM pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 97.99 318 P **P 00 13 40.5 -0.3**
HDIL Hopedale 97.99 50 P Pdif 00 13 42.0 +1.1
baz=251
JFWS Jewell Farm 98.08 47 IAmb IAmb 00 13 44.1
comp=Z,15nm,0.8s
JFWS Jewell Farm 98.08 47 P Pdif 00 13 42.3 +1.1
baz=251
I40A Norwalk 98.14 46 IAmb IAmb 00 13 44.1
comp=Z,26nm,1.0s
LPAZ La Paz 98.25 110 P Pdif 00 13 44.9 +1.5
comp=Z,2.0nm,0.7s,baz=238,slow=5.1,SNR=7.3
LPAZ LR LR 00 48 20.6
comp=Z,1μm,21.7s,baz=260,slow=29
LPAZ La Paz 98.25 110 P Pdif 00 13 46.8 +3.5
LPAZ pmax pmax
comp=Z,15nm,1.5s
LPAZ La Paz 98.25 110 *e*P Pdif 00 13 45.3 +2.0
LPAZ La Paz 98.25 110 P Pdif 00 13 46.8 +3.4
E38A The Farm, Brul 98.41 44 IAmb IAmb 00 14 14.8
comp=Z,25nm,1.3s
EYMN Ely 98.89 42 P Pdif 00 13 45.9 +1.2
baz=251
TIXI Tiksi 98.98 344 P **P 00 13 43.1 -1.4**
comp=Z,10nm,0.9s,baz=124,slow=6.1,SNR=18
TIXI LR LR 00 55 23.9
comp=Z,759nm,20.3s,baz=110,slow=34
TIXI Tiksi 98.98 344 *ce*P **P 00 13 44.2 -0.3**
TIXI pmax pmax
comp=Z,26nm,1.2s
TIXI Tiksi 98.98 344 **P 00 13 41.6 -2.9**
TIXI IAmb IAmb 00 13 45.8
comp=Z,22nm,1.1s
SFIN Lafayette 99.53 51 P **Pdif 00 13 49.3 +1.6**
baz=253
TIGA Tifton 99.63 60 P **Pdif 00 13 49.6 +1.3**
baz=253
GTA Gaotai 99.85 308 ⇓P **Pdif 00 13 49.6 +0.3**
GTA pP sP 00 14 02.3 +0.7
GTA sP pwP 00 14 07.4 +2.0
GTA sS sS 00 25 43.0 +7.8
GTA pmax pmax
comp=Z,11nm,2.2s
GTA pmax pmax
comp=Z,260nm,5.9s
GTA LR LR
comp=Z,380nm,20.0s
GTA LR LR
comp=Z,820nm,24.0s
GTA LR LR
comp=Z,1μm,24.4s
KOHI KOHIMA 100.53 294 *e*P **Pdif 00 13 57.5 +4.8**
KOHI *i* x **PP 00 18 02.8 +2.7**
ZAK Zakamensk 100.75 320 *e*P **Pdif 00 13 50.8 -2.2**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
ZAK pmax pmax
comp=Z,6.0nm,1.3s
GOMU GeErMu 102.78 304 P **Pdif 00 14 02.6 -0.1**
GOMU PP **PP 00 18 18.9 +1.8**
GOMU SS SS 00 32 48.5 -7.2
GOMU pmax pmax
comp=Z,140nm,4.6s
GOMU LR LR
comp=Z,270nm,21.5s
GOMU LR LR
comp=Z,200nm,18.7s
GOMU LR LR
comp=Z,260nm,20.6s
CPUP Villa Florida 102.91 124 Pdiff **Pdif 00 14 03.9 +0.8**
comp=Z,1.3nm,0.5s,baz=170,slow=4.6,SNR=3.7
RES Resolute Bay 105.62 16 Pdiff **Pdif 00 14 14.4 +0.5**
comp=Z,1.5nm,0.7s,baz=207,slow=10,SNR=7.1
PKIN Phulchoki 108.54 293 *e*P **PKiKP 00 18 33.1 -1.0**
comp=Z,25nm,0.9s
KKN Kakani 108.69 294 *e*P **PKiKP 00 18 33.3 -1.0**
DMN Daman 108.80 293 *e*P **PKiKP 00 18 34.6 +0.1**
GKN Gorkha 109.29 294 *e*P **PKiKP 00 18 34.1 -1.2**
DANN Dangsing 110.12 294 *e*P **PKiKP 00 18 35.7 -1.4**
comp=Z,32nm,0.8s
KOLN Koldanda 110.14 293 *e*P **PKiKP 00 18 35.6 -1.4**
comp=Z,21nm,0.8s
MYLAV Mylavaram 110.26 281 *e*PKiKP **PKiKP 00 18 36.4 -0.8**
SKHT Srikalahasti 110.32 278 *e*PKiKP **PKiKP 00 18 37.5 +0.1**
DGZ Jazzator, Alta 110.60 317 *i* PKIKP **PKiKP 00 18 37.5 +0.4**
ADKI Addanki 110.64 280 *e*PKiKP **PKiKP 00 18 36.5 -1.4**
PYUN Piuthan 110.73 293 *e*P **PKiKP 00 18 37.3 -0.8**
comp=Z,11nm,0.7s
NRIK Noril'sk 111.34 338 *i* PKIKP **PKiKP 00 18 37.6 -0.1**
NJS Nagarjunasagar 111.44 281 *e*PKiKP **PKiKP 00 18 38.9 -0.6**
RCLA Racherla 111.48 279 *e*PKiKP **PKiKP 00 18 38.1 -1.4**
SRLM Srisailam 111.71 280 *e*PKiKP **PKiKP 00 18 38.6 -1.4**
RPR Rampur 112.02 283 *e*PKiKP **PKiKP 00 18 38.9 -1.6**
ZSN Zaisan 112.08 314 *i* PKIKP **PKiKP 00 18 38.1 -1.7**
ZSN Zaisan 112.08 314 *e*PKiKP **PKiKP 00 18 38.1 -1.7**
baz=314
HYBB Hyderabad (bro 112.35 281 *e*PKiKP **PKiKP 00 18 41.0 -0.2**
ZALV Zalesovo Beam 112.53 321 PKiKP **PKiKP 00 18 39.7 -0.7**
comp=Z,8.0nm,0.6s,baz=159,slow=1.2,SNR=29
ZALV PP **PP 00 19 32.2 +4.8**
comp=Z,3.1nm,0.7s,baz=97,slow=7.6,SNR=4.0
SRSP Sriramsagar 112.91 283 *e*PKiKP **PKiKP 00 18 42.2 0.0**
URV Uravakonda 112.93 278 *e*PKiKP **PKiKP 00 18 41.6 -0.7**
MK31 Makanchi Array 113.78 313 *i* PKIKP **PKiKP 00 18 42.1 -1.0**
MKAR Makanchi Array 113.78 313 Pdiff **Pdif 00 14 50.9 -0.1**
comp=Z,0.5nm,0.6s,baz=84,slow=4.9,SNR=6.2
MKAR PKiKP **PKiKP 00 18 42.3 -0.8**
comp=Z,15nm,0.7s,baz=77,slow=0.6,SNR=92
MKAR PKKPbc **PKKPbc 00 29 27.2 +0.3**
comp=Z,0.5nm,0.7s,baz=261,slow=4.7,SNR=4.1
MAKZ Makanchi 114.00 313 PKIKP **PKiKP 00 18 42.1 -1.4**
KLRI Killari 114.32 282 *e*PKiPdf PKPdf 00 18 44.0 -0.9
BHPL Bhopal 114.69 287 *i x* PKPdf 00 18 44.9 -0.6
SEM Semipalatinsk 115.26 317 *e*PKIKP **PKiKP 00 18 43.4 -2.6**
SEM Semipalatinsk 115.26 317 *e*PKP **PKiKP 00 18 43.5 -2.6**
baz=317
PDGK Podgornoye 115.56 309 PKIKP **PKPdf 00 18 45.6 -1.2**
UZB Uzynbulak 115.89 309 *e*PKIKP **PKPdf 00 18 45.0 -2.4**
UZB Uzynbulak 115.89 309 *e*PKP **PKPdf 00 18 45.0 -2.4**
baz=309
KURK Kurchatov 116.30 318 *c i*PKIKP **PKPdf 00 18 46.5 -1.2**
KURK pmax pmax
comp=Z,31nm,1.3s
KURK Kurchatov 116.30 318 **PKPdf 00 18 47.2 -0.6**
SATY Saty 116.34 309 *e*PKIKP **PKPdf 00 18 45.8 -2.5**
SATY Saty 116.34 309 *e*PKP **PKPdf 00 18 45.8 -2.5**
baz=309
KURBB Kurchatov Arra 116.36 318 PKP **PKPdf 00 18 47.0 -0.9**
comp=Z,13nm,0.7s,baz=88,slow=1.8,SNR=108
KURBB PP **PP 00 19 52.2 -2.3**
comp=Z,4.5nm,1.0s,baz=95,slow=6.4,SNR=5.3

KURBB PKKPbc **PKKPbc** **00 29 18.0 -0.1**
comp=Z,0.7nm,0.7s,baz=266,slow=4.4,SNR=7.2
KURBB Kurchatov Arra 116.36 318 PKIKP **PKPdf** **00 18 46.6 -1.3**
TDK Taldyqorghan 116.41 311 *e*PKIKP **PKPdf** **00 18 46.6 -1.6**
TDK Taldyqorghan 116.41 311 *e*PKP **PKPdf** **00 18 46.6 -1.6**
baz=311
NOR Nord 117.10 4 *i* P **PKPdf** **00 18 47.8 -0.7**
DHRM DHARAMSHALA 117.12 297 *i* x **PKPdf** **00 18 49.3 -1.0**
MDOK Medeo 117.33 309 *e*PKIKP **PKPdf** **00 18 47.9 -2.3**
MDOK Medeo 117.33 309 *e*PKP **PKPdf** **00 18 47.9 -2.3**
baz=309
CHKK Chushkaly 117.40 310 *e*PKP **PKPdf** **00 18 48.0 -2.1**
baz=310
KUU Kurty 117.87 310 *e*PKIKP **PKPdf** **00 18 49.1 -1.9**
KUU Kurty 117.87 310 *e*PKP **PKPdf** **00 18 49.2 -1.9**
baz=310
ULHL Ulahol 117.90 308 P **PKPdf** **00 18 51.5 0.0**
SNR=8.2
KSH Kashi 118.00 305 PKP **PKiKP** **00 18 52.6 +1.0**
KSH sPKP 00 19 05.3
KSH SS SS 00 36 24.4 +5.5
KSH LR LR
comp=Z,380nm,20.3s
KSH LR LR
comp=Z,710nm,25.4s
KSH LR LR
comp=Z,820nm,21.0s
TKM2 Tokmak 2 118.39 309 P **PKPdf** **00 18 51.0 -1.3**
SNR=42
TKM2 Tokmak 2 118.39 309 PKIKP **PKPdf** **00 18 51.4 -0.9**
KBK Karagaybulak 118.87 309 P **PKPdf** **00 18 52.9 -0.3**
SNR=27
CHMS Chumysh 119.02 309 P **PKPdf** **00 18 52.5 -0.8**
SNR=19
SGDS Sogindy 119.10 309 *e*PKP **PKPdf** **00 18 51.8 -1.7**
baz=309
UCH Uchtor 119.19 308 P **PKPdf** **00 18 54.1 -0.2**
SNR=32
USP Ospenovka 119.20 309 P **PKPdf** **00 18 53.3 -0.4**
SNR=34
AAK Ala-Archa 119.20 309 PKP **PKPdf** **00 18 53.4 -0.4**
comp=Z,13nm,0.7s,baz=147,slow=4.0,SNR=56
AAK Ala-Archa 119.20 309 P **PKPdf** **00 18 53.1 -0.7**
SNR=19
AAK Ala-Archa 119.20 309*c i*PKIKP **PKPdf** **00 18 52.9 -0.9**
AAK pmax pmax
comp=Z,17nm,0.7s
AAK Ala-Archa 119.20 309 *i* PKPdf **PKPdf** **00 18 53.6 -0.3**
SNR=23
BTLS Baital 119.50 311 *e*PKIKP **PKPdf** **00 18 52.1 -2.0**
BTLS *e* 00 20 13.5
BTLS Baital 119.50 311 *e*PKP **PKPdf** **00 18 52.2 -2.0**
baz=311
BTLS *e*PP **PP** **00 20 13.6 -3.0**
baz=311
EKS2 Erkin-Say 119.73 309 P **PKPdf** **00 18 54.7 -0.1**
SNR=31
AML Almayashu 119.79 308 P **PKPdf** **00 18 55.3 0.0**
SNR=46
AML Almayashu 119.79 308 *i* PKPdf **PKPdf** **00 18 55.0 -0.4**
SNR=46
NIL Nilore 119.81 298 PKIKP **PKPdf** **00 18 54.3 -0.8**
NIL Nilore 119.81 298 PKPdf **PKPdf** **00 18 54.3 -0.8**
BRZS Berezniki 120.14 317 *e*PKIKP **PKPdf** **00 18 53.1 -2.1**
BRZS Berezniki 120.14 317 *e*PKP **PKPdf** **00 18 53.2 -2.1**
baz=317
OTUK Ortayu 120.51 315 PKIKP **PKPdf** **00 18 55.3 -0.7**
SPITS Spitsbergen Ar 121.11 358 PKP **PKPdf** **00 18 56.0 -0.3**
comp=Z,14nm,0.7s,baz=50,slow=4.5,SNR=9.8
SPITS Spitsbergen Ar 121.11 358 PKIKP **PKPdf** **00 18 56.0 -0.3**
SUMG Summit 121.11 14 PKIKP **PKPdf** **00 18 57.1 +0.2**
SUMG Summit 121.11 14 *i* P **PKiKP** **00 18 58.0 +0.9**
SUMG Summit 121.11 14 **PKPdf** **00 18 57.1 +0.2**
BVAR Borovoye Array 121.18 321 PKP **PKPdf** **00 18 56.3 -0.8**
comp=Z,28nm,0.6s,baz=69,slow=5.8,SNR=142
BRVK Borovoye 121.24 321*c i*PKIKP **PKPdf** **00 18 56.4 -0.8**
BRVK pmax pmax
comp=Z,59nm,1.3s
BRVK Borovoye 121.24 321 PKPdf **PKPdf** **00 18 56.9 -0.3**
DAG Danmarks Havn 121.28 7 *i* P **PKPdf** **00 18 55.0 -1.6**
DZA Taraz 121.53 309 *e*PKIKP **PKPdf** **00 18 56.5 -1.6**
DZA Taraz 121.53 309 *e*PKP **PKPdf** **00 18 56.5 -1.6**
baz=309
KKAR Karatay Array 122.12 309 PKPdf **PKPdf** **00 18 58.2 -1.1**
KKAR pPKPdf **sPKPdf** **00 19 11.5 -0.1**
IUG Iuzhnay 122.52 308 *e*PKIKP **PKPdf** **00 18 58.6 -1.6**
IUG Iuzhnay 122.52 308 *e*PKP **PKPdf** **00 18 58.6 -1.6**
baz=308
BRLS Borolday 122.62 309 *e*PKIKP **PKPdf** **00 18 59.1 -1.1**
BRLS Borolday 122.62 309 *e*PKP **PKPdf** **00 18 59.2 -1.1**
baz=309
VOI Vohitsoka 123.21 226 PKPdf **PKPdf** **00 19 02.3 +0.2**
VOI Vohitsoka 123.21 226 PKP **PKiKP** **00 19 04.1 +1.7**
DBG Daneborg 123.24 8 *i* P **PKPdf** **00 18 59.2 -1.2**
KBL Kabul 123.34 299 PKIKP **PKPdf** **00 19 02.2 +0.1**
KBL Kabul 123.34 299 PKPdf **PKPdf** **00 19 02.2 +0.1**
SVE Sverdlovsk 125.67 327 *i* PKIKP **PKPdf** **00 19 05.1 -0.5**
SVE pmax pmax
comp=Z,50nm,1.0s
SVE MLR MLR
comp=E,2μm,21.0s
SVE MLR MLR
comp=Z,2μm,21.0s
MSEY Mahe Island 126.41 249 PKiKP **PKPdf** **00 19 09.1 +0.7**
ARU Arti 126.88 327 PKP **PKPdf** **00 19 07.7 -0.2**
comp=Z,11nm,0.6s,baz=66,slow=0.3,SNR=51
ARU Arti 126.88 327 *i* PKIKP **PKPdf** **00 19 07.1 -0.8**
ARU 00 21 00.8
ARU 00 26 15.6
ARU SP SP 00 30 56.6 -8.6
ARU MLR MLR
comp=Z,2μm,20.0s
ARU Arti 126.88 327 **PKPdf** **00 19 07.2 -0.8**
AB31 Akbulak array 128.41 318 *i* PKIKP **PKPdf** **00 19 10.7 -0.3**
ABKAR Akbulak array 128.41 318 PKPdf **PKPdf** **00 19 10.9 -0.2**
ABKAR pPKPdf **sPKPdf** **00 19 23.8 +0.5**
LVZ Lovozero 128.52 347*c i*PKIKP **PKiKP** **00 19 13.5 +2.1**
LVZ pmax pmax
comp=Z,56nm,1.7s
ARCES ARCESS Array B 128.68 352 PKP **PKPdf** **00 19 10.1 -0.9**
comp=Z,18nm,0.9s,baz=21,slow=1.6,SNR=36
ARCES ARCESS Array B 128.68 352 PKIKP **PKPdf** **00 19 10.6 -0.4**
ARCES ARCESS Array B 128.68 352 PKPdf **PKPdf** **00 19 10.6 -0.4**
BOSA Boshof 128.93 201 PKP **PKPdf** **00 19 13.7 +0.7**
comp=Z,7.1nm,1.0s,baz=168,slow=4.3,SNR=9.6
AKTO Aktyubinsk 129.26 320 PKP **PKPdf** **00 19 12.1 -0.6**
comp=Z,12nm,0.8s,baz=67,slow=2.7,SNR=24
PRGR Permogore 129.97 337 *e*PKIKP **PKPdf** **00 19 12.5 -1.1**
PRGR *e* 00 19 26.4
PRGR pmax pmax
comp=Z,231nm,1.5s
KIRV Kirov 130.26 332 PKP **PKPdf** **00 19 13.8 -0.4**
comp=Z,40nm,0.7s,baz=33,slow=1.6,SNR=25
KIRV Kirov 130.26 332*c i*PKIKP **PKPdf** **00 19 14.5 +0.3**
WSAR Wadi Sarin 131.77 284 PKP **PKPdf** **00 19 17.9 -0.3**
comp=Z,7.9nm,1.0s,baz=77,slow=0.8,SNR=9.6
GEYT Alibeck 132.00 304 PKP **PKPdf** **00 19 17.6 -0.8**
comp=Z,18nm,0.8s,baz=101,slow=1.5,SNR=16
GEYT Alibeck 132.00 304 **PKPdf** **00 19 18.6 +0.3**
GEYT pPKPdf **sPKPdf** **00 19 31.2 +0.6**
KLMR Klimovskoe 132.68 339 *e*PKIKP **PKPdf** **00 19 11.9 -6.8**
KLMR pmax pmax
comp=Z,62nm,1.5s
KLMR Klimovskoe 132.68 339 *e*PKPdf **PKPdf** **00 19 12.0 -6.8**
KLMR AMP 00 19 21.7
comp=Z,62nm,1.5s
KLMR *e*SKKPbc SKKPbc 00 31 55.1 -14
KLMR LQ LQ 01 08 00.6
KLMR LQ LQ 01 08 00.6
KLMR LR LR 01 09 44.2
BANOM Banah 134.08 288 *i* PKPdf **PKPdf** **00 19 22.5 0.0**
SNR=5.6
UOSS Minazif 134.12 286 PKPdf **PKPdf** **00 19 21.5 -1.1**
UOSS Minazif 134.12 286 *i* PKPdf **PKPdf** **00 19 22.7 +0.1**
SNR=7.4
HATD Hatta, Dubai 134.17 286 *i* PKiKP **PKPdf** **00 19 23.4 +0.7**
SNR=14
MSFE Esma-Masafi 134.18 287 *i* PKiKP **PKPdf** **00 19 23.1 +0.3**
SNR=8.2
SHME Shamm 134.23 288 *i* PKPdf **PKPdf** **00 19 22.9 +0.1**
SNR=6.3
ASHO Ashiyiah 134.23 286 *i* PKiKP **PKPdf** **00 19 23.2 +0.3**
SNR=13
ALNE Al Ain 134.47 285 *i* PKPdf **PKPdf** **00 19 23.3 0.0**
SNR=6.3

NAZ Nazwa, Dubai 134.61 286 *i* PKiKP **PKPdf** **00 19 24.3 +0.8**
SNR=6.6
FAQ Al Faqa, Dubai 134.66 286 *i* PKPdf **PKPdf** **00 19 23.9 +0.3**
SNR=7.8
FINES FINESS Array B 135.96 347 PKhKP PKPpre 00 19 10.3
comp=Z,1.5nm,0.9s,baz=80,slow=4.3,SNR=5.7
FINES PKP **PKPdf** **00 19 24.8 -0.2**
comp=Z,11nm,0.8s,baz=98,slow=2.4,SNR=11
PUL Pulkovo 136.37 343*c i*PKIKP **PKPdf** **00 19 26.6 +0.9**
PUL pmax pmax
comp=Z,71nm,0.6s
WIN Windhoek 136.98 194 PKIKP **PKPdf** **00 19 28.7 +0.3**
WIN Windhoek 136.98 194 PKPdf **PKPdf** **00 19 28.7 +0.3**
MOS Moscow 137.03 335 *i* PKIKP **PKPdf** **00 19 25.2 -1.9**
MOS pmax pmax
comp=Z,58nm,1.1s
MOS MLR MLR
comp=Z,800nm,21.0s
OBN Obninsk 137.90 335 PKP **PKPdf** **00 19 29.0 +0.3**
comp=Z,5.8nm,0.8s,baz=55,slow=4.8,SNR=10.0
OBN Obninsk 137.90 335*de*PKIKP **PKPdf** **00 19 29.1 +0.4**
OBN *e* 00 19 39.0
OBN *e* 00 19 43.3
OBN *e* 00 22 16.0
OBN SS SS 00 40 20.0 -3.5
OBN *e*SSS SSS 00 45 31.7
OBN pmax pmax
comp=Z,45nm,1.4s
OBN pmax pmax
comp=Z,79nm,1.3s
OBN MLR MLR
comp=Z,774nm,20.0s
OBN Obninsk 137.90 335 PKPdf **PKPdf** **00 19 29.8 +1.1**
VRH Novokhopyorsk 138.11 327 *e*PKIKP **PKPdf** **00 19 28.3 -0.9**
VRH pmax pmax
comp=Z,50nm,1.2s
NB2 NORSAR Subarra138.39 357 PKPdf PKPdf 00 19 19.4 -10
comp=Z,71nm,2.0s,baz=31,slow=1.9
NB2 NORSAR Subarra138.39 357 PKPdf PKPdf 00 19 19.4 -10
baz=31,slow=1.9
NOA NORSAR Array B 138.39 357 PKP **PKPdf** **00 19 28.1 -1.5**
comp=Z,3.0nm,0.9s,baz=37,slow=2.0,SNR=11
VSU Vasula 138.45 344 *e*P **PKPdf** **00 19 24.5 -5.1**
MAK Makhachkala 138.60 314 *i* P **Pdif** **00 16 32.1 -9.2**
MAK *i* 00 19 27.7
MAK *e* 00 26 41.2
MAK *e*SS SS 00 40 33.0 -0.2
MAK *e*SSS SSS 00 45 41.9
MAK pmax pmax
comp=Z,285nm,1.6s
LPSR Galich'ya Gora 138.60 331 *e*PKIKP **PKPdf** **00 19 29.6 -0.5**
LPSR pmax pmax
comp=Z,50nm,1.1s
NAO01 NORSAR Array S 138.60 357 **PKPdf** **00 19 31.1 +1.2**
VORR Voronezh 139.07 329 *e*PKIKP **PKPdf** **00 19 30.8 -0.1**
VORR pmax pmax
comp=Z,96nm,1.3s
HFS Hagfors 139.12 355 PKhKP PKPpre 00 19 17.8
comp=Z,5.0nm,0.6s,baz=106,slow=3.2,SNR=16
HFS PKP **PKPdf** **00 19 29.9 -0.9**
comp=Z,8.1nm,0.7s,baz=116,slow=3.4,SNR=7.1
VSR Storozhevoye 139.38 329 *e*PKIKP **PKPdf** **00 19 30.7 -0.8**
VSR pmax pmax
comp=Z,50nm,1.2s
VORD Divnogorie 139.47 328 *e*PKIKP **PKPdf** **00 19 31.5 -0.2**
VORD pmax pmax
comp=Z,20nm,0.8s
LSZ Lusaka 139.52 213 PKIKP **PKPdf** **00 19 32.4 -0.6**
LSZ Lusaka 139.52 213 **PKPdf** **00 19 32.4 -0.6**
GROC Groznyy 139.67 315 *e*PKIKP **PKPdf** **00 19 31.9 -0.4**
GROC *e* 00 22 25.0
GROC pmax pmax
comp=Z,15nm,0.6s
STRU Stroemstad 140.39 356 *i* P PKPdf 00 19 25.4 -7.7
GOF Gofitskoye 140.64 319⇑ *e*PKHKP PKPpre 00 19 16.0
IDID Didziasalis 141.19 342 *e*P **PKPdf** **00 19 30.1 -4.6**
IIGN Ignalina 141.31 342 *e*P **PKPdf** **00 19 30.1 -4.8**
KBZ Khabaz 141.35 317 PKhKP PKPpre 00 19 31.4
comp=Z,5.7nm,0.9s,baz=197,slow=6.4,SNR=5.1
TJOU Tjoern 141.36 356 *i* P PKPdf 00 19 26.9 -8.0
NACGM Naroch 141.53 341 *i* PKP **PKPdf** **00 19 30.9 -4.4**
MNK Minsk 141.53 340 *i* PKIKP **PKPdf** **00 19 36.3 +1.0**
MNK *i* SS SS 00 41 08.3 +2.5
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,38nm,1.0s
MNK pmax pmax
comp=N,14nm,1.0s
MNK MLR MLR
comp=E,52nm,20.0s
MNK MLR MLR
comp=N,561nm,20.0s
MNK MLR MLR
comp=Z,885nm,20.0s
MNK Minsk 141.53 340 *i* PKP **PKPdf** **00 19 36.3 +1.0**
comp=E,1.0nm,1.0s
MNK *i* PKP **PKPdf** **00 19 36.3 +1.0**
comp=N,14nm,1.0s
MNK *i* PKP **PKPdf** **00 19 36.3 +1.0**
comp=Z,38nm,1.0s,baz=34
MNK *i* PP PP 00 22 23.4 -15
MNK *i* SKP 00 23 08.2
MNK *i* PKS PKSdf 00 23 32.0 +21
MNK *i* PPP PPP 00 25 35.0
MNK *i* SKS SKSdf 00 27 04.5 +22
MNK *i* SKKS SKKPab 00 31 02.4 -31
MNK *i* SS **SS** **00 41 08.3 +2.5**
MNK *i* SSS SSS 00 47 27.6
MNK *i* LR LR 01 14 47.0
MNK *i* LRM MLR 01 21 59.6
comp=E,52nm,20.0s
MNK *i* LRM MLR 01 23 29.5
comp=N,561nm,19.9s
MNK *i* LRM MLR 01 24 34.9
comp=Z,885nm,19.9s
GNI Garni 141.55 311 PKP **PKPdf** **00 19 35.9 -0.2**
comp=Z,15nm,1.1s,baz=78,slow=6.2,SNR=5.5
GNI Garni 141.55 311*c i*PKIKP **PKiKP** **00 19 38.4 -0.5**
GNI pmax pmax
comp=Z,36nm,1.7s
BORU Boraas 141.67 355 *i* P **PKPdf** **00 19 28.7 -6.8**
PABE Paberze 141.78 344 *e*P **PKPdf** **00 19 31.4 -4.3**
AKH Akhalkalaki 141.95 313 ⇓P **PKPdf** **00 19 31.6 -5.2**
ONAU Onsala 141.97 355 *i* P **PKPdf** **00 19 29.8 -6.2**
KIBK Kibwezi 142.38 238 PKPdf **PKPdf** **00 19 34.9 -3.4**
DEL Delary 142.71 353 *i* P **PKPdf** **00 19 32.0 -5.4**
MUD Monsted U'grnd 143.07 358 *i* P PKPab 00 19 34.7 +1.4
HARA HARA 143.28 259 *e*P **PKPdf** **00 19 40.3 +0.3**
SUW Suwalki 143.32 344 *e*PKP PKPab 00 19 35.4 +1.0
SUW *e*L L 01 21 53.6
comp=Z,2μm,21.8s
SUW Suwalki 143.32 344 *e*P PKPab 00 19 35.6 +1.1
SOC Sochi 143.44 318 *e*PKIKP PKPab 00 19 36.3 +1.0
SOC *e* 00 22 48.0
SOC *e*PPP PPP 00 26 00.6
SOC *e*SSS SSS 00 46 52.6
SOC pmax pmax
comp=Z,17nm,0.9s
SOC pmax pmax
comp=Z,41nm,1.2s
EKA Eskdalemuir Ar 143.45 10 PKhKP PKPpre 00 19 35.5
comp=Z,7.1nm,0.7s,baz=339,slow=2.1,SNR=13
LUNU Lund 143.58 354 *i* P PKPab 00 19 36.0 +0.6
KMBO Kilima Mbogo 143.73 239 PKP PKPab 00 19 38.0 +0.4
comp=Z,14nm,1.1s,baz=120,slow=3.5,SNR=36
KMBO Kilima Mbogo 143.73 239 PKPdf PKPbc 00 19 39.1 +0.8
KMBO Kilima Mbogo 143.73 239 *e*P PKPab 00 19 38.0 +0.3
KMBO Kilima Mbogo 143.73 239 *i* PKPdf PKPbc 00 19 39.0 +0.6
SNR=28
RAYN Ar Rayn 143.82 283 PKIKP PKPab 00 19 38.1 +0.7
RAYN Ar Rayn 143.82 283 PKPdf PKPab 00 19 38.1 +0.7
RAYN Ar Rayn 143.82 283 *i* PKPdf PKPab 00 19 38.3 +0.9
SNR=10
BSD Bornholm Skovb 143.92 352 *i* P PKPab 00 19 36.9 +0.2
AKASG Malin Array Be 144.15 335 PKP **PKPab** **00 19 37.9 +0.1**
comp=Z,26nm,0.6s,baz=38,slow=3.9,SNR=121
AKASG Malin Array Be 144.15 335 PKIKP **PKPab** **00 19 37.4 -0.4**
AKASG Malin Array Be 144.15 335 PKPdf **PKPab** **00 19 37.4 -0.4**
AKBB Malin Array Si 144.15 335 PKIKP **PKPab** **00 19 37.5 -0.2**
AKBB Malin Array Si 144.15 335 PKPdf **PKPab** **00 19 37.5 -0.2**
ATD Arta Tunnel 144.40 263 PKP **PKPab** **00 19 40.2 +0.4**
comp=Z,52nm,1.0s,baz=213,slow=1.5,SNR=13
HPK Haverah Park 145.01 9 *e*P **PKPbc** **00 19 40.6 -0.2**

WPS Cemaes, Angles 145.07 12 *e*P **PKPbc** **00 19 40.9 -0.1**
WME Myndd Eilian 145.11 12 *e*P **PKPbc** **00 19 40.6 -0.5**
WLF1 Llynfaes 145.19 12 *e*P **PKPab** **00 19 42.2 +0.7**
YRC Rhoscolyn 145.19 12 *e*P **PKPbc** **00 19 41.1 -0.3**
GKP Gorka Klasztor 145.34 349 *e*PKP **PKPbc** **00 19 41.8 -0.1**
GKP *e*L L 01 19 34.3
comp=Z,1μm,23.7s
GKP Gorka Klasztor 145.34 349 *e*P **PKPbc** **00 19 40.7 -1.2**
BSEG Bad Segeberg 145.53 356 *e*PKPbc **PKPdf** **00 19 42.7 +0.4**
baz=6.5,slow=2.6
LBWR Ladybower, Pea 145.54 9 *e*P **PKPdf** **00 19 42.7 +0.3**
LLW Llanuwychllyn 145.75 11 *e*P **PKPdf** **00 19 43.1 +0.3**
BEL Belsk 145.91 344 *e*PKP **PKPdf** **00 19 43.9 +0.9**
SIM Simferopol' 145.97 324 *e*PKP2 **PKPdf** **00 19 43.5 +0.1**
SIM pmax pmax
comp=Z,1.0nm,1.0s
HLM1 Long Mynd 146.21 11 *e*P **PKPdf** **00 19 43.6 0.0**
CWF Charnwood Fore 146.24 9 *e*P **PKPdf** **00 19 44.6 +1.0**
WACR West Acre 146.50 7 *e*P **PKPdf** **00 19 44.8 +0.8**
SORM Soroca 146.52 333 ⇓P **PKPbc** **00 19 45.7 0.0**
SORM Soroca 146.52 333 ⇓PKP2 **PKPbc** **00 19 45.7 0.0**
RUE Ruedersdorf 146.64 352 *e*P **PKPbc** **00 19 45.9 0.0**
RUE Ruedersdorf 146.64 352 *e*PKPbc **PKPbc** **00 19 46.2 +0.3**
baz=6.5,slow=2.6
ANKE Ethiopia-Afar 146.66 258 *e*P **PKPdf** **00 19 47.3 +1.3**
MCH1 Michaelchurch 146.69 11 *e*P **PKPdf** **00 19 45.8 +1.4**
DILA Dilla 146.73 251 *e*P **PKPdf** **00 19 46.3 +0.4**
LVV L'vov 146.76 339 *e*PKIKP **PKPdf** **00 19 43.0 -1.6**
LVV *e* 00 23 06.0
LVV *e*PPP PPP 00 26 25.0
LVV MLR MLR
comp=Z,780nm,21.0s
RETH Rethem/Aller, 146.77 357 *e*PKPdf **PKPdf** **00 19 44.4 -0.1**
baz=6.2,slow=1.6
RETH *e*PKPbc **PKPbc** **00 19 46.5 +0.3**
baz=6.5,slow=2.6
NRDL Niedersach Rie 146.98 356 *e*PKPbc **PKPbc** **00 19 47.2 +0.5**
baz=6.5,slow=2.6
STRD Stroud 147.04 10 *e*P **PKPbc** **00 19 47.0 0.0**
PURM Purcari 147.05 330 ⇓P **PKPbc** **00 19 48.0 +0.8**
FLTG Flechtingen 147.06 355 *e*PKPdf **PKPdf** **00 19 44.5 -0.5**
baz=6.2,slow=1.6
FLTG *e*PKPbc **PKPbc** **00 19 47.2 +0.2**
baz=6.5,slow=2.6
KIS Kishinev 147.19 332 ⇑P **PKPdf** **00 19 46.9 +1.6**
KIS Kishinev 147.19 332 *i* PKP **PKPdf** **00 19 47.0 +1.6**
comp=Z,1μm,3.0s
KIS *e*L L 00 54 38.0
KIS *e*LR LR 01 20 30.0
comp=Z,600nm,22.0s
KIS Kishinev 147.19 332 *e*PKP2 **PKPdf** **00 19 47.0 +1.6**
KIS pmax pmax
comp=Z,1μm,3.0s
MILM Milestii Mici 147.25 332 ⇑P **PKPbc** **00 19 48.3 +0.5**
MILM Milestii Mici 147.25 332 *e*PKHKP PKPdf 00 19 38.0 -7.5
MILM Milestii Mici 147.25 332 *i* PKiKP **PKPdf** **00 19 44.0 -1.5**
MILM Milestii Mici 147.25 332 PKPM 00 19 49.0
comp=Z,2μm,3.2s
MILM Milestii Mici 147.25 332 *e*PKHKP PKPdf 00 19 38.0 -7.5
MILM *i* 00 19 44.0
MILM *i* 00 19 47.0
MILM *e*PPP PPP 00 26 34.0
MILM pmax pmax
comp=Z,2μm,3.2s
MILM pmax pmax
comp=N,420nm,2.8s
MILM MLR MLR
comp=E,600nm,21.0s
MILM MLR MLR
comp=Z,1μm,21.0s
IBBN Ibbenburen 147.26 359 *e*PKPdf **PKPdf** **00 19 45.0 -0.3**
baz=6.2,slow=1.6
IBBN *e*PKPbc **PKPbc** **00 19 48.1 +0.4**
baz=6.5,slow=2.6
ASSE Asse, Remlinge 147.30 356 *e*PKPdf **PKPdf** **00 19 45.3 -0.1**
baz=6.2,slow=1.6
ASSE *e*PKPbc **PKPbc** **00 19 48.3 +0.6**
baz=6.5,slow=2.6
KWP Kalwaria Pacla 147.35 341 *e*PKP **PKPbc** **00 19 47.9 -0.1**
SWN1 Swindon 147.36 10 *e*P **PKPbc** **00 19 48.2 +0.2**
FURI Furi 147.38 256 *e*P **PKPdf** **00 19 48.4 +1.3**
IAS Iasi 147.59 333 ⇓P **PKPbc** **00 19 49.2 +0.5**
IAS Iasi 147.59 333 ⇓PKP2 **PKPbc** **00 19 49.2 +0.5**
CLZ Clausthal 147.61 356 *e*PKPdf **PKPdf** **00 19 45.8 -0.2**
baz=6.2,slow=1.6
CLZ *e*PKPbc **PKPbc** **00 19 49.2 +0.5**
baz=6.5,slow=2.6
OJC Ojcow 147.65 344 *e*PKP **PKPdf** **00 19 44.6 -1.5**
OJC *e*L L 01 26 12.2
comp=Z,2μm,20.9s
LODK Lodwar 147.83 244 **PKPdf** **00 19 47.9 +0.3**
KSP Ksiaz 147.84 349 *e*PKP **PKPbc** **00 19 48.7 -0.6**
KSP *e*L L 01 25 14.8
comp=Z,912nm,21.1s
LEOM Leova 147.84 332 ⇑P **PKPbc** **00 19 50.4 +1.0**
CLL Collm 147.89 353⇑ *e*PKIKP **PKPdf** **00 19 46.0 -0.4**
CLL *i* 00 19 49.6
CLL *i* 00 19 58.3
CLL pmax pmax
comp=Z,109nm,2.3s
CLL MLR MLR
comp=Z,800nm,20.4s
CLL Collm 147.89 353 *e*PKPdf **PKPdf** **00 19 46.0 -0.4**
comp=Z,58nm,1.7s
CLL ⇑*i*PKPbc **PKPbc** **00 19 49.6 +0.2**
comp=Z,102nm,1.0s
CLL *i* PKiKP **PKiKP** **00 19 51.0 -0.3**
comp=Z,262nm,1.1s
CLL *e*PKPlp 00 19 52.0
comp=Z,800nm,19.3s
CLL *i* x x 00 19 58.3
CLL *i* pPKPdf **sPKPbc** **00 20 01.8 +0.2**
CLL *i* sPKiKP **sPKPab** **00 20 14.3 +10**
CLL *e*PP **PP** **00 23 15.0 -1.0**
CLL *e*x x 00 24 08.0
CLL *e*PPP PPP 00 26 36.0
CLL *e*x x 00 29 25.0
CLL *e*SKKSac SKKSac 00 30 08.0 +2.4
CLL *e*PSKS 00 33 29.0
CLL *e*PPS PPS 00 36 04.0
CLL *e*(SS) 00 41 42.0
CLL *e*SSP SSP 00 43 00.0
CLL *e*PSPS 00 43 46.0
CLL *e*SSS SSS 00 47 42.0
CLL *e*SSSS 00 51 30.0
CLL *e*PSPSrev 00 56 06.0
CLL LmV 01 28 00.0
comp=Z,800nm,20.4s
CLL Collm 147.89 353 *e*PKPdf **PKPdf** **00 19 46.0 -0.4**
baz=6.2,slow=1.6
CLL *e*PKPbc **PKPbc** **00 19 49.7 +0.3**
baz=6.5,slow=2.6
CLL *e*pPKPbc **sPKPbc** **00 20 01.4 -0.2**
baz=354,slow=2.7
VASR Vaslui 147.91 332 ⇓P **PKPbc** **00 19 50.6 +1.0**
GTTG Gottingen 147.93 356 *e*PKPbc **PKPbc** **00 19 49.9 +0.4**
baz=6.5,slow=2.6
PRAR RASCA 148.01 335 ⇓P **PKPbc** **00 19 50.4 +0.5**
ELSH Elham, Standar 148.12 7 *e*P **PKPbc** **00 19 50.2 +0.2**
NEUB Neuenburg 148.12 354 *e*PKPdf **PKPdf** **00 19 46.6 -0.2**
baz=6.2,slow=1.6
NEUB *e*PKPbc **PKPbc** **00 19 50.5 +0.5**
baz=6.5,slow=2.6
CHVC Chvalec 148.12 349 *e*PKPDF **PKPdf** **00 19 48.0 +1.1**
CHVC ⇑*e*PKP **PKPbc** **00 19 51.1 +1.0**
CHVC AMS AMS 01 25 20.0
comp=Z,1μm,18.5s
OSTC Ostas 148.12 349 *e*PKPDF **PKPdf** **00 19 47.6 +0.7**
OSTC ⇑*e*PKP **PKPbc** **00 19 51.4 +1.3**
OSTC AMS AMS 01 23 40.0
comp=Z,900nm,18.6s
BUG Bochum--Univer 148.13 359 *e*PKPdf **PKPdf** **00 19 46.3 -0.5**
baz=6.2,slow=1.6
BUG *e*PKPbc **PKPbc** **00 19 50.3 +0.3**
baz=6.5,slow=2.6
GAZ Gaziantep 148.14 310 PKPdf **PKPdf** **00 19 47.4 0.0**
BRG Berggiesshubel 148.19 351 ⇓ *i*PKPf 00 19 47.6
BRG Amp 00 19 49.8
comp=Z,92nm,1.8s
BRG ⇑*i*PKP **PKPbc** **00 19 51.3 +1.0**
BRG Amp 00 19 52.7
comp=Z,204nm,1.1s
BRG *e*x x 00 20 04.8
BRG Amp 00 20 05.6

comp=Z,71nm,0.9s
BRG Berggiesshubel 148.19 351 *i* PKP2 **PKPbc 00 19 51.2 +1.0**
BRG pmax pmax
comp=Z,204nm,1.1s
BRG Berggiesshubel 148.19 351 *e*PKPdf **PKPdf 00 19 46.7 -0.3**
baz=6.2,slow=1.6
BRG *e*PKPbc **PKPbc 00 19 50.7 +0.5**
baz=6.5,slow=2.6
BUR01 Bucovina Ar. S 148.20 336 ⇑P **PKPbc 00 19 50.7 +0.2**
BURAR Bucovina Array 148.20 336 ⇓P **PKPbc 00 19 51.2 +0.7**
BURAR Bucovina Array 148.20 336 ⇓PKP2 **PKPbc 00 19 51.2 +0.7**
BURAR Bucovina Array 148.20 336 PKPdf 00 19 46.6 -0.6
UPC Upice 148.21 349 *e*PKP2 **PKPbc 00 19 51.4 +1.1**
UPC MLR MLR
comp=Z,900nm,19.4s
UPC Upice 148.21 349⇑*e*PKP **PKPbc 00 19 51.4 +1.1**
UPC AMS AMS 01 24 10.0
comp=Z,900nm,19.4s
FBE Freiberg 148.22 352 *e*PKPdf **PKPdf 00 19 47.3 +0.4**
baz=6.2,slow=1.6
FBE *e*PKPbc **PKPbc 00 19 51.1 +0.8**
baz=6.5,slow=2.6
NIE Niedzica 148.25 343 *e*PKP **PKPdf 00 19 47.6 +0.5**
BIR Birlad 148.28 332 ⇑P **PKPbc 00 19 52.1 +1.5**
BIR Birlad 148.28 332 ⇑PKP2 **PKPbc 00 19 52.1 +1.5**
DPC Dobruska-Polom 148.30 348 *e*PKIKP **PKPdf 00 19 48.0 +0.8**
DPC *e* 00 19 51.8
DPC MLR MLR
comp=Z,1μm,22.4s
DPC Dobruska-Polom 148.30 348 *e*PKPDF **PKPdf 00 19 48.0 +0.8**
DPC ⇑*e*PKP **PKPbc 00 19 51.8 +1.2**
DPC AMS AMS 01 21 50.0
comp=Z,1μm,22.4s
UZH Uzhgorod 148.36 340*c i*PKIKP **PKPdf 00 19 46.5 -0.8**
UZH *i* 00 19 51.4
UZH *i* 00 20 00.2
CRVS Cervenica-Dubn 148.38 341 *e*PKIKP **PKPdf 00 19 48.9 +1.6**
CRVS *e* 00 19 52.1
CRVS Cervenica-Dubn 148.38 341 *e*PKP **PKPdf 00 19 48.8 +1.5**
CRVS *e* 00 19 52.1
VLDR Vladesti 148.40 331 ⇓P **PKPbc 00 19 52.1 +1.2**
OKC Ostrava-Krasne 148.40 346 *e*PKP2 **PKPbc 00 19 52.1 +1.3**
OKC MLR MLR
comp=Z,1μm,21.2s
OKC Ostrava-Krasne 148.40 346⇑*e*PKP **PKPbc 00 19 52.1 +1.3**
OKC AMS AMS 01 21 00.0
comp=Z,1μm,21.2s
PVCC Panska Ves 148.43 350 *e*PKP2 **PKPbc 00 19 52.0 +1.1**
PVCC MLR MLR
comp=Z,1μm,23.6s
PVCC Panska Ves 148.43 350⇑*e*PKP **PKPbc 00 19 52.0 +1.1**
PVCC AMS AMS 01 25 00.0
comp=Z,1μm,23.6s
VARL Varlezi 148.46 331 ⇑P **PKiKP 00 19 52.6 0.0**
KRLC Kraliky 148.47 348 *e*PKIKP **PKPdf 00 19 48.1 +0.6**
KRLC *e* 00 19 52.1
KRLC MLR MLR
comp=Z,1μm,21.2s
KRLC Kraliky 148.47 348 *e*PKPDF **PKPdf 00 19 48.1 +0.6**
KRLC ⇑*e*PKP **PKPbc 00 19 52.1 +1.0**
KRLC AMS AMS 01 31 40.0
comp=Z,1μm,21.2s
TESR Tescani 148.51 333 ⇑P **PKPbc 00 19 51.3 +0.1**
GHRR 148.53 332 ⇑P **PKiKP 00 19 52.8 0.0**
TLCR 148.54 329 ⇑P **PKPbc 00 19 52.2 +0.9**
TLCR 148.54 329 ⇑PKP2 **PKPbc 00 19 52.2 +0.9**
SCTR Scanteiesti 148.56 331 ⇑P **PKPbc 00 19 52.5 +1.2**
MORC Moravsky Berou 148.59 347 ⇓P **PKPbc 00 19 52.4 +1.0**
MORC Moravsky Berou 148.59 347 *e*PKP **PKPdf 00 19 47.7 0.0**
TATR Tatarca 148.59 331 ⇑P **PKPbc 00 19 52.3 +0.9**
GIUM Giurgiulesti 148.61 330 ⇑P **PKPbc 00 19 50.9 -0.6**
UBBA Unterbreizbach 148.65 356 *e*PKPdf **PKPdf 00 19 47.3 -0.2**
baz=6.2,slow=1.6
UBBA *e*PKPbc **PKPbc 00 19 51.7 +0.4**
baz=6.5,slow=2.6
UBBA *e*PKPab **pPKPdf 00 19 56.0 -0.8**
baz=7.3,slow=4.3
MOX Moxa 148.69 354 *e*PKPdf **PKPdf 00 19 47.5 -0.3**
baz=6.2,slow=1.6
MOX *e*PKPbc **PKPbc 00 19 51.9 +0.3**
baz=6.5,slow=2.6
MOX *e*PKPab **PKPab 00 19 56.1 +0.9**
baz=7.3,slow=4.3
MOX *e*pPKPbc **sPKPbc 00 20 03.0 -0.8**
baz=354,slow=2.7
MOX *e*L L 01 29 00.3
comp=Z,768nm,20.8s
LANS Liptovska Anna 148.71 344 *e*PKP2 **PKiKP 00 19 53.2 0.0**
LANS Liptovska Anna 148.71 344 *e*PKP **PKiKP 00 19 53.2 0.0**
TRPA Tarpa 148.72 339 ⇑P **PKPbc 00 19 52.4 +0.8**
UCC Uccle 148.72 3 PKPdf **PKPdf 00 19 47.9 +0.1**
UCC PKP **PKPbc 00 19 51.9 +0.3**
SLCR Slobozia Conac 148.73 331 ⇓P **PKPbc 00 19 52.5 +0.8**
IZVR Izvoarele 148.77 331 ⇓P **PKPbc 00 19 52.5 +0.6**
BEBN Eben Emael 148.77 1 PKPbc **PKPbc 00 19 51.8 +0.1**
BEBN PKPab **PKPab 00 19 55.2 -0.3**
SCHL Schela 148.77 331 ⇓P **PKPbc 00 19 52.7 +0.8**
BMR Baia Mare 148.78 338 ⇓P **PKPbc 00 19 52.8 +1.0**
PLN Plauen 148.80 353 *e*PKPdf **PKPdf 00 19 47.8 -0.2**
baz=6.2,slow=1.6
PLN *e*PKPbc **PKPbc 00 19 52.2 +0.4**
baz=6.5,slow=2.6
HGN Heimansgroeve 148.81 1 *e*P **PKPbc 00 19 51.8 0.0**
WERD Werda 148.82 353 *e*PKPdf **PKPdf 00 19 48.0 0.0**
baz=6.2,slow=1.6
WERD *e*PKPbc **PKPbc 00 19 52.5 +0.5**
baz=6.5,slow=2.6
WERD *e*PKPab **pPKPdf 00 19 57.0 -0.3**
baz=7.3,slow=4.3
JURR Jurilovca 148.82 329 ⇓P **PKPbc 00 19 52.5 +0.5**
TANN Tannenbergstha 148.83 353 *e*PKPdf **PKPdf 00 19 48.0 -0.1**
baz=6.2,slow=1.6
TANN *e*PKPbc **PKPbc 00 19 52.6 +0.6**
baz=6.5,slow=2.6
TANN *e*PKPab **pPKPdf 00 19 57.1 -0.2**
baz=7.3,slow=4.3
CFR Carcaliu 148.87 330 ⇓P **PKPbc 00 19 52.8 +0.7**
CFR Carcaliu 148.87 330 ⇓PKP2 **PKPbc 00 19 52.8 +0.7**
GUNZ Gunzen 148.90 353 *e*PKPdf **PKPdf 00 19 48.1 0.0**
baz=6.2,slow=1.6
GUNZ *e*PKPbc **PKPbc 00 19 52.7 +0.6**
baz=6.5,slow=2.6
GUNZ *e*PKPab **pPKPdf 00 19 57.5 +0.1**
baz=7.3,slow=4.3
ODBI Odobesti 148.92 332 ⇑P **PKPbc 00 19 53.6 +1.3**
MEM Membach 148.96 1 PKPdf **PKPdf 00 19 48.3 +0.1**
PRU Pruhonice 148.96 350 *e*PKP2 **PKPbc 00 19 53.0 +0.7**
PRU MLR MLR
comp=Z,2μm,20.2s
PRU Pruhonice 148.96 350⇑*e*PKP **PKPbc 00 19 53.0 +0.7**
PRU AMS AMS 01 25 50.0
comp=Z,2μm,20.2s
ARCR ARCALIA 148.96 336 ⇓P **PKPbc 00 19 53.1 +0.7**
WERN Wernitzgruen 148.97 353 *e*PKPdf **PKPdf 00 19 48.4 +0.1**
baz=6.2,slow=1.6
WERN *e*PKPbc **PKPbc 00 19 52.9 +0.6**
baz=6.5,slow=2.6
WERN *e*PKPab **pPKPdf 00 19 58.0 +0.5**
baz=7.3,slow=4.3
WERN *e*pPKPbc **sPKPbc 00 20 04.0 -0.5**
baz=354,slow=2.7
TPGR Topolog 148.97 329 ⇓P **PKPbc 00 19 53.1 +0.7**
BSTI Sart Tilman 148.98 1 PKPbc **PKPbc 00 19 52.5 +0.3**
VRI Vrincioaia 148.98 332 ⇑P **PKPbc 00 19 52.4 -0.1**
VRI Vrincioaia 148.98 332 ⇑PKP2 **PKPbc 00 19 52.4 -0.1**
BTNL Ternell 148.99 1 PKPdf **PKPdf 00 19 48.9 +0.6**
BTNL PKP **PKPbc 00 19 52.7 +0.4**
SNF Seneffe 149.00 3 PKPdf **PKPdf 00 19 48.6 +0.3**
SNF PKiKP **PKPbc 00 19 52.8 +0.5**
NKC Novy Kostel 149.01 353 *e*PKP2 **PKPbc 00 19 53.3 +0.9**
NKC MLR MLR
comp=Z,900nm,21.1s
NKC Novy Kostel 149.01 353⇑*e*PKP **PKPbc 00 19 53.3 +0.9**
NKC AMS AMS 01 29 10.0
comp=Z,900nm,21.1s
PLOR Plostina 149.03 332 ⇑P **PKPbc 00 19 52.6 0.0**
PLOR Plostina 149.03 332 ⇑PKP2 **PKPbc 00 19 52.6 0.0**
AHRW Bad Neuenahr-A 149.03 360 *e*PKPdf **PKPdf 00 19 48.2 -0.1**
baz=6.2,slow=1.6
AHRW *e*PKPbc **PKPbc 00 19 52.9 +0.5**
baz=6.5,slow=2.6
CEI Carei 149.13 339 ⇑P **PKPbc 00 19 53.4 +0.6**
CEI Carei 149.13 339 ⇑PKP2 **PKPbc 00 19 53.4 +0.6**
BCLA Clavier 149.13 2 PKPbc **PKPbc 00 19 52.6 -0.1**

BCLA PKiKP **PKiKP 00 19 53.8 -0.2**
MBAR Mbarara 149.14 232 PKP **PKPdf 00 19 49.8 -0.1**
comp=Z,5.4nm,0.3s,baz=64,slow=6.0,SNR=11
MBAR PKPbc **PKPbc 00 19 54.6 +0.6**
comp=Z,18nm,0.8s,baz=80,slow=3.8,SNR=49
MBAR Mbarara 149.14 232 PKPdf 00 19 51.4 +1.6
MBAR Mbarara 149.14 232 *e*P **PKPdf 00 19 49.5 -0.4**
BGES Gesves 149.16 2 PKPdf **PKPdf 00 19 48.9 +0.4**
BGES PKPbc **PKPbc 00 19 52.3 -0.4**
BGES PKiKP **PKiKP 00 19 53.7 -0.3**
BGES PKPab **pPKPdf 00 19 56.7 -1.0**
IZAB Izabela 149.18 343 *e*PKP2 **PKPbc 00 19 54.1 +1.2**
OZUR 149.20 334 ⇑P **PKPbc 00 19 53.6 +0.5**
BHOU Houvegnez 149.22 1 PKP **PKPbc 00 19 53.6 +0.7**
BHOU PKPab **pPKPdf 00 19 57.2 -0.7**
BHOU x x 00 19 58.7
COVR Voineasa-Covas 149.22 333 ⇑P **PKPbc 00 19 52.9 -0.2**
BMRD Maredsous 149.23 3 PKPdf **PKPdf 00 19 49.0 +0.4**
BMRD PKPbc **PKPbc 00 19 53.3 +0.4**
BMRD PKiKP **PKiKP 00 19 54.6 +0.5**
BISRR Bisoca 149.24 332 ⇑P **PKPbc 00 19 54.2 +1.0**
VRAC Vranov 149.24 347 ⇑P **PKPbc 00 19 53.8 +0.8**
VRAC Vranov 149.24 347 PKP **PKPdf 00 19 48.7 0.0**
comp=Z,7.1nm,0.8s,baz=125,slow=0.5,SNR=12
VRAC PKPbc **PKPbc 00 19 53.6 +0.6**
comp=Z,53nm,1.0s,baz=27,slow=1.8,SNR=45
VRAC Vranov 149.24 347 ⇑PKP2 **PKPbc 00 19 53.8 +0.8**
VRAC Vranov 149.24 347 *e*PKP **PKPdf 00 19 48.9 +0.2**
GRER 149.25 332 ⇓P **PKiKP 00 19 56.5 +2.2**
TIRR Tirgusor 149.27 329 ⇑P **PKPbc 00 19 53.3 +0.1**
MANZ Manzenberg 149.29 353 *e*PKPdf **PKPdf 00 19 48.7 -0.1**
baz=6.2,slow=1.6
MANZ *e*PKPbc **PKPbc 00 19 53.7 +0.6**
baz=6.5,slow=2.6
TNS Taunus Mts 149.33 358 *e*PKPdf **PKPdf 00 19 48.7 -0.2**
baz=6.2,slow=1.6
TNS *e*PKPbc **PKPbc 00 19 53.6 +0.4**
baz=6.5,slow=2.6
TNS *e*PKPab **PKPab 00 19 59.4 +1.5**
baz=7.3,slow=4.3
HARR Harsova 149.33 330 ⇓P **PKPbc 00 19 54.4 +1.1**
HARR Harsova 149.33 330 ⇓PKP2 **PKPbc 00 19 54.4 +1.1**
PBCC Pribram 149.34 351⇑*e*PKP **PKPbc 00 19 54.1 +0.9**
BRTR Keskin Array B 149.35 317 PKP **PKPdf 00 19 48.9 -0.5**
comp=Z,61nm,0.7s,baz=96,slow=2.5,SNR=44
BRTR PKPbc **PKPbc 00 19 53.6 -0.1**
comp=Z,62nm,0.7s,baz=134,slow=3.8,SNR=114
BRTR Keskin Array B 149.35 317 PKPdf **PKPdf 00 19 48.0 -1.4**
TLBR Topalu 149.38 329 ⇓P **PKPbc 00 19 53.3 -0.2**
RCHB Rochefort 149.40 2 PKPdf **PKPdf 00 19 49.0 +0.1**
RCHB PKPbc **PKPbc 00 19 53.4 0.0**
MESR Meseseni 149.42 338 ⇑P **PKiKP 00 19 54.8 +0.2**
JAVC Velka Javorina 149.43 346 *e*PKP **PKPdf 00 19 49.8 +0.7**
DOU Dourbes 149.43 3 *e*P **PKPbc 00 19 54.0 +0.6**
DOU Dourbes 149.43 3 PKPbc **PKPbc 00 19 53.5 +0.1**
DOU PKPab **pPKPdf 00 19 57.5 -0.7**
TREC Trest 149.47 349 *e*PKHKP **PKPdf 00 19 50.5 +1.4**
TREC *e* 00 19 54.4
TREC MLR MLR
comp=Z,1μm,21.8s
TREC Trest 149.47 349 *e*PKPDF **PKPdf 00 19 50.5 +1.4**
TREC ⇑*e*PKP **PKPbc 00 19 54.4 +0.8**
TREC AMS AMS 01 24 20.0
comp=Z,1μm,21.8s
MFTR Murfatlar 149.47 328 ⇑P **PKPbc 00 19 54.5 +0.8**
DOPR Dopca 149.47 334 ⇓P **PKiKP 00 19 55.1 +0.3**
VYHS Vyhne 149.48 344 *e*PKP2 **PKPbc 00 19 54.2 +0.6**
VYHS Vyhne 149.48 344 *e*PKP **PKPbc 00 19 54.2 +0.6**
JVM Valle D.L. Mar 149.50 12 *e*P **PKPbc 00 19 53.7 +0.1**
ROTZ Rotzenmuhle 149.50 353 *e*PKPbc **PKPbc 00 19 54.2 +0.6**
baz=6.5,slow=2.6
KOLL Kolacno 149.51 345 *e*PKP **PKPdf 00 19 50.5 +1.3**
KOLL *e* 00 19 54.5
KRUC Moravsky 149.51 347 *e*PKP **PKPdf 00 19 49.0 -0.2**
NEHR Nehoiu 149.51 332 ⇓P **PKPbc 00 19 54.1 +0.2**
JSA Saint Aubin 149.53 12 *e*P **PKPbc 00 19 53.8 +0.1**
CBBR Cluj-Babes-Bol 149.53 337 ⇓P **PKPbc 00 19 54.7 +0.9**
CJR Cluj-Napoca 149.56 337 ⇓P **PKPbc 00 19 54.4 +0.4**
CJR Cluj-Napoca 149.56 337 ⇓PKP2 **PKPbc 00 19 54.4 +0.4**
LTVH Ltavrtes, Hu 149.58 339 ⇓P **PKiKP 00 19 55.2 +0.3**
PGOR Pogoanele 149.61 331 ⇑P **PKPbc 00 19 54.9 +0.9**
MLR Muntele Rosu 149.62 333 ⇑P **PKPbc 00 19 55.3 +1.1**
MLR ⇓P **PKPbc 00 19 55.3 +1.1**
MLR Muntele Rosu 149.62 333 PKP **PKPdf 00 19 49.0 -0.6**
comp=Z,6.4nm,1.0s,baz=340,slow=4.8,SNR=4.9
MLR PKPbc **PKPbc 00 19 53.3 -0.9**
comp=Z,27nm,1.1s,baz=8.2,slow=1.2,SNR=12
MLR Muntele Rosu 149.62 333 ⇑PKP2 **PKPbc 00 19 55.3 +1.1**
ISR Istrita 149.65 332 ⇑P **PKPbc 00 19 54.4 +0.2**
ISR Istrita 149.65 332 ⇑PKP2 **PKPbc 00 19 54.4 +0.2**
MANR Mangalia 149.65 328 ⇑P **PKPbc 00 19 54.3 +0.1**
AMRR Amara 149.67 330 ⇓P **PKiKP 00 19 55.4 +0.2**
AMRR Amara 149.67 330 ⇓PKP2 **PKiKP 00 19 55.4 +0.2**
GRF Grafenberg Arr 149.68 354 *e*PKPdf **PKPdf 00 19 49.3 -0.1**
baz=6.2,slow=1.6
GRF *e*PKPbc **PKPbc 00 19 54.7 +0.7**
baz=6.5,slow=2.6
GRF *e*PKPab **sPKPdf 00 20 01.0 -0.6**
baz=7.3,slow=4.3
GRF *e*L L 01 27 38.0
comp=Z,805nm,21.7s
PSZ Piszkesteto 149.72 342 ⇓P **PKPbc 00 19 55.2 +0.9**
PSZ Piszkesteto 149.72 342 ⇓PKP2 **PKPbc 00 19 55.2 +0.9**
MDB Medias 149.74 335 ⇑P **PKPbc 00 19 54.2 -0.1**
MDB Medias 149.74 335 ⇑PKP2 **PKPbc 00 19 54.2 -0.1**
ANTO Ankara 149.81 318 PKHKP **PKPdf 00 19 50.4 +0.4**
ANTO Ankara 149.81 318 PKPdf **PKPdf 00 19 50.4 +0.4**
SMOL Smolenice 149.81 346 *e*PKP2 **PKPbc 00 19 55.4 +1.0**
SMOL Smolenice 149.81 346 *e*PKP **PKPbc 00 19 55.3 +0.9**
DRGR 149.81 338 ⇓P **PKPbc 00 19 55.6 +1.0**
DRGR 149.81 338 ⇓PKP2 **PKPbc 00 19 55.6 +1.0**
ICOR Ion Corvin 149.82 329 ⇓P **PKPbc 00 19 55.7 +1.1**
BORR Bors 149.87 339 ⇑P **PKiKP 00 19 56.3 +0.8**
WLF Walferdange 149.91 1 *e*PKPdf **PKPdf 00 19 50.0 +0.2**
baz=6.2,slow=1.6
WLF *e*PKPbc **PKPbc 00 19 55.5 +0.9**
baz=6.5,slow=2.6
WLF *e*PKPab **pPKPbc 00 20 02.3 -1.4**
baz=7.3,slow=4.3
WLF Walferdange 149.91 1 PKPdf **PKPdf 00 19 50.7 +0.9**
WLF PKP **PKPbc 00 19 55.3 +0.7**
SECR 149.92 332 ⇓P **PKPbc 00 19 55.6 +0.7**
KHC Kasperske Hory 149.94 351 *e*PKHKP **PKPdf 00 19 50.3 +0.4**
KHC MLR MLR
comp=Z,1μm,19.9s
KHC Kasperske Hory 149.94 351 *e*PKPDF **PKPdf 00 19 50.3 +0.4**
KHC ⇑*e*PKP **PKPbc 00 19 55.6 +0.8**
KHC *e*pPKP **sPKPbc 00 20 06.0 -1.0**
KHC AMS AMS 01 26 30.0
comp=Z,1μm,19.9s
PSN Preselentsi 149.95 328 *e*P **PKPdf 00 19 50.0 0.0**
MODS Modra-Piesok 149.97 346 *e*PKHKP **PKPdf 00 19 51.8 +1.9**
MODS *e* 00 19 57.0
MODS Modra-Piesok 149.97 346 *e*PKP **PKPdf 00 19 51.8 +1.9**
MODS *e* 00 19 57.0
LEHL Lehliu 150.02 331 ⇑P **PKPbc 00 19 55.9 +0.9**
WET Wettzell 150.03 352 *e*PKPdf **PKPdf 00 19 49.7 -0.3**
baz=6.2,slow=1.6
WET *e*PKPbc **PKPbc 00 19 55.6 +0.6**
baz=6.5,slow=2.6
VOIR 150.04 334 ⇑P **PKiKP 00 19 56.5 +0.4**
VOIR 150.04 334 ⇑PKP2 **PKiKP 00 19 56.5 +0.4**
RASA Rasa 150.06 330 ⇑P **PKPbc 00 19 55.6 +0.5**
ROSF Rostrenen 150.11 14 *e*P **PKPbc 00 19 54.9 -0.3**
SULR 150.12 331 ⇓P **PKiKP 00 19 57.0 +0.9**
CKRC Cesky Krumlov 150.13 350 *e*PKPDF **PKPdf 00 19 50.5 +0.3**
CKRC ⇑*e*PKP **PKPbc 00 19 56.2 +1.0**
CKRC AMS AMS 01 28 10.0
comp=Z,1μm,18.0s
BSZH Besenyszg 150.17 341 ⇑P **PKPbc 00 19 56.3 +1.0**
ZST Bratislava 150.18 346 *e*PKHKP **PKPdf 00 19 50.9 +0.7**
ZST *e* 00 19 56.7
ZST Bratislava 150.18 346 *e*PKP **PKPdf 00 19 50.9 +0.7**
ZST *e* 00 19 56.7
GEC2 GERESS Array S 150.20 351 *e*PKPdf **PKPdf 00 19 50.0 -0.4**
baz=6.2,slow=1.6
GEC2 *e*PKPbc **PKPbc 00 19 55.7 +0.2**
baz=6.5,slow=2.6
GERES GERESS Array B 150.20 351 PKP **PKPdf 00 19 49.8 -0.6**
comp=Z,11nm,0.8s,baz=50,slow=2.1,SNR=8.3
GERES PKPbc **PKPbc 00 19 55.0 -0.5**
comp=Z,48nm,0.8s,baz=38,slow=2.4,SNR=99
ASF Jabal al Asfar 150.21 301 PKPbc **PKPbc 00 19 56.5 +0.5**

comp=Z,80nm,1.0s,baz=37,slow=1.7,SNR=21
SRO Srobarova 150.25 344 *e*PKIKP **PKPbc 00 19 56.4 +0.9**
SRO Srobarova 150.25 344 *e*PKP **PKPbc 00 19 56.4 +0.9**
ARR Arges 150.27 334 ⇓P **PKiKP 00 19 57.4 +0.8**
DEV Deva 150.52 337 ⇓P **PKPbc 00 19 56.8 +0.6**
DEV Deva 150.52 337 ⇓PKIKP **PKPbc 00 19 56.8 +0.6**
LOT Lotru 150.55 335 ⇑P **PKPbc 00 19 56.7 +0.2**
SGRR Singureni 150.60 331 ⇑P **PKPbc 00 19 56.2 -0.2**
SIRR Siria 150.63 339 ⇓P **PKPbc 00 19 57.4 +0.9**
PRD Provadia 150.69 328 *e*P **PKPdf 00 19 51.0 -0.2**
CONA Conrad Observa 150.70 347 *i* P **PKPdf 00 19 50.9 -0.3**
comp=Z,25nm,1.7s,SNR=22
CONA *e*P **PKiKP 00 19 57.8 +0.4**
comp=Z,254nm,1.4s
STU Stuttgart 150.74 357 *e*PKPdf **PKPdf 00 19 50.9 -0.2**
baz=6.2,slow=1.6
STU *e*PKPbc **PKPbc 00 19 57.0 +0.4**
baz=6.5,slow=2.6
STU *e*PKPab **pPKPbc 00 20 04.8 -1.0**
baz=7.3,slow=4.3
HUMR Humele 150.80 333 ⇓P **PKPbc 00 19 56.9 0.0**
RAZG Razgrad 150.85 330 ⇓P **PKPbc 00 19 57.7 +0.6**
AMBH Ambrzfalva 150.87 340 ⇓P **PKiKP 00 19 58.2 +0.6**
GZR Gura Zlata 150.98 336 ⇑P **PKPbc 00 19 57.4 0.0**
MOA Molln 151.08 350 *e*P **PKPdf 00 19 51.7 0.0**
comp=Z,17nm,1.9s
MOA *i* P **PKPbc 00 19 57.9 +0.4**
comp=Z,72nm,1.3s,SNR=11
MMAI Mount Meron Ar 151.12 304 PKPbc **PKPbc 00 19 57.9 -0.2**
comp=Z,124nm,0.9s,baz=79,slow=11,SNR=58
MMAI PKPab **PKPab 00 20 06.2 +0.3**
comp=Z,104nm,0.9s,baz=72,slow=5.4,SNR=14
FUR Furstenfeldbru 151.18 354 *e*PKPdf **PKPdf 00 19 51.5 -0.3**
baz=6.2,slow=1.6
FUR *e*PKPbc **PKPbc 00 19 57.8 +0.1**
baz=6.5,slow=2.6
BZS Buzias 151.21 338 ⇓P **PKPbc 00 19 58.3 +0.5**
BZS Buzias 151.21 338 ⇓PKIKP **PKPbc 00 19 58.3 +0.5**
BFO Black Forest 151.22 358 PKIKP **PKPdf 00 19 51.2 -0.7**
BFO Black Forest 151.22 358 *e*PKPdf **PKPdf 00 19 51.5 -0.4**
baz=6.2,slow=1.6
BFO *e*PKPbc **PKPbc 00 19 57.9 +0.1**
baz=6.5,slow=2.6
BFO *e*PKPab **pPKPbc 00 20 07.5 +0.5**
baz=7.3,slow=4.3
BFO Black Forest 151.22 358 PKPdf **PKPdf 00 19 51.2 -0.7**
ISK Istanbul-Kandi 151.31 323 P **PKPbc 00 19 57.9 -0.3**
ZIMR 151.31 331 ⇑P **PKPbc 00 19 58.9 +0.8**
ZIMR 151.31 331 ⇑PKIKP **PKPbc 00 19 58.9 +0.8**
SZH Strazhica 151.35 330 *e*P **PKPdf 00 19 50.0 -2.2**
RJOB Jochberg 151.42 351 *e*PKPdf **PKPdf 00 19 52.0 -0.3**
baz=6.2,slow=1.6
RJOB *e*PKPbc **PKPbc 00 19 58.2 -0.1**
baz=6.5,slow=2.6
RJOB *e*PKPab **pPKPbc 00 20 08.5 +1.0**
baz=7.3,slow=4.3
ARSA Arzberg 151.42 347 *i* P **PKPdf 00 19 52.1 -0.1**
comp=Z,18nm,1.8s,SNR=10
ARSA *e*P **PKPbc 00 19 58.5 +0.2**
comp=Z,50nm,1.1s
SRE Strehaia 151.43 335 ⇓P **PKPbc 00 19 59.2 +0.8**
SRE Strehaia 151.43 335 ⇓PKIKP **PKPbc 00 19 59.2 +0.8**
VLAD Vladila 151.47 333 ⇓P **PKiKP 00 19 59.5 +0.5**
HERR Herculane 151.55 336 ⇓P **PKPbc 00 19 59.2 +0.6**
MQOL MQOL 151.56 278 *i* P **PKPbc 00 19 58.0 -1.4**
BANR Banloc 151.58 338 ⇓P **PKiKP 00 20 00.4 +0.9**
MORH Mrgy, Hungar 151.63 343 *e*P **PKPbc 00 19 57.4 -1.4**
JMB Yambol 151.64 328 *e*P **PKPdf 00 19 52.0 -0.7**
PVL Pavlikeni 151.67 331 *e*P **PKPdf 00 19 53.0 +0.3**
DJES Djerdap 151.69 336 *e*P **PKiKP 00 20 00.2 +0.8**
UBR Ueberruh 151.77 355 *e*PKPdf **PKPdf 00 19 52.2 -0.6**
baz=6.2,slow=1.6
UBR *e*PKPbc **PKPbc 00 19 59.0 -0.1**
baz=6.5,slow=2.6
PUNG Punghina 151.85 335 ⇓P **PKPbc 00 19 59.4 0.0**
BEHE Becsehely 151.88 345 *e*P **PKPbc 00 19 59.0 -0.3**
MDVR Moldovita 151.90 337 ⇑P **PKPbc 00 19 59.5 0.0**
RETA Reutte 151.90 354 *e*P **PKPdf 00 19 54.0 +0.9**
comp=Z,15nm,2.0s
RETA *i* P **PKPbc 00 19 59.6 +0.1**
comp=Z,101nm,1.2s,SNR=20
WATA Walderalm 151.97 353 *i* P **PKPdf 00 19 53.3 +0.1**
comp=Z,9.8nm,1.1s,SNR=19
WATA *e*P **PKPbc 00 19 60.0 +0.3**
comp=Z,90nm,1.1s
KBA Koelnbreinsper 151.98 350 *i* P **PKPdf 00 19 52.7 -0.6**
comp=Z,15nm,2.0s,SNR=7.2
KBA *e*P **PKPbc 00 19 59.6 -0.2**
comp=Z,42nm,0.9s
EDRB Edirne 152.01 327 P **PKPdf 00 19 51.5 -1.7**
MOTA Moosalm 152.01 354 *i* P **PKPdf 00 19 53.8 +0.5**
comp=Z,17nm,1.3s,SNR=18
MOTA *e*P **PKPbc 00 20 00.1 +0.3**
comp=Z,161nm,1.2s
WTTA Wattenberg 152.03 353 *i* P **PKPdf 00 19 53.4 +0.1**
comp=Z,24nm,1.6s,SNR=13
WTTA *e*P **PKPbc 00 20 00.1 +0.2**
comp=Z,119nm,1.0s
SOKA Soboth 152.07 348 *i* P **PKPdf 00 19 52.9 -0.4**
comp=Z,15nm,1.6s,SNR=12
SOKA *e*P **PKPbc 00 19 59.7 -0.1**
comp=Z,99nm,1.1s
SQTA Sankt Quirin 152.12 354 *i* P **PKPdf 00 19 53.5 +0.1**
comp=Z,14nm,1.2s,SNR=10.0
SQTA *e*P **PKPbc 00 20 00.4 +0.4**
comp=Z,92nm,1.1s
DAVA Damuels 152.18 355 *e*P **PKPdf 00 19 54.4 +0.9**
comp=Z,21nm,1.9s
DAVA *i* P **PKPbc 00 20 00.4 +0.2**
comp=Z,136nm,1.2s,SNR=19
FRGS Fruska Gora 152.23 340 ⇓P **PKPbc 00 20 00.2 0.0**
FRGS Fruska Gora 152.23 340 *e*P **PKPbc 00 19 59.4 -0.8**
FRGS Fruska Gora 152.23 340⇑*i*P **PKPdf 00 19 52.0 -1.5**
KUBS Kucevo 152.23 337 *e*P **PKPbc 00 19 59.6 -0.6**
OBKA Obir 152.32 348 *e*P **PKPdf 00 19 52.8 -0.8**
comp=Z,10nm,1.7s
OBKA *i* P **PKPbc 00 20 00.0 -0.5**
comp=Z,32nm,0.9s,SNR=9.4
FETA Feichten 152.37 354 *i* P **PKPdf 00 19 53.0 -0.8**
comp=Z,13nm,1.1s,SNR=5.8
FETA *e*P **PKPbc 00 20 01.3 +0.7**
comp=Z,83nm,1.2s
MYKA Terra Mystica 152.37 350 *i* P **PKPdf 00 19 53.2 -0.5**
comp=Z,15nm,1.8s,SNR=8.0
MYKA *e*P **PKPbc 00 20 00.1 -0.5**
comp=Z,56nm,1.0s
ABTA Abfaltersbach 152.43 351 *i* P **PKPdf 00 19 53.1 -0.7**
comp=Z,19nm,1.4s,SNR=9.2
ABTA *e*P **PKPbc 00 20 00.6 -0.1**
comp=Z,131nm,1.2s
EIL Elat 152.51 297 PKPbc **PKPbc 00 20 01.4 +0.1**
comp=Z,65nm,0.9s,baz=74,slow=1.8,SNR=37
ZAGS Zajecar 152.52 335 *e*P **PKPbc 00 19 58.6 -2.3**
SVIS Svilajnac 152.52 337 *e*P **PKPdf 00 19 54.0 +0.1**
DAVOX Davos/Dischmat 152.68 355 PKP **PKPdf 00 19 55.0 +0.7**
comp=Z,3.7nm,1.0s,baz=78,slow=3.3,SNR=11
DAVOX PKPbc **PKPbc 00 20 01.3 -0.1**
comp=Z,37nm,0.8s,baz=352,slow=1.8,SNR=61
LJU Ljubljana 152.77 348 *e*P **PKPbc 00 20 01.0 -0.4**
LJU Ljubljana 152.77 348 *i* PKPdf **PKPdf 00 19 54.2 -0.1**
LJU *i* PKPbc **PKPbc 00 20 01.2 -0.1**
LJU *e*PKPab **PKPab 00 20 12.6 +0.4**
CRES Cresnjev 152.79 347 *e*P **PKPbc 00 20 01.3 -0.1**
ZAPS Zavoj 152.81 334 *e*P **PKPbc 00 20 01.9 +0.3**
KDZ Kurdzhali 152.82 328 *e*P **PKPdf 00 19 53.0 -1.5**
PLD Plovdiv 152.82 330 *e*P **PKPdf 00 19 53.0 -1.4**
TRUS Trudelj 152.85 338 *e*P **PKPdf 00 19 54.5 +0.1**
BOVS Bovan 152.88 336 ⇓P **PKPbc 00 20 01.0 -0.6**
BOVS Bovan 152.88 336⇑*i*P **PKPdf 00 19 53.3 -1.2**
GRUS Gruza 153.03 337⇑*i*P **PKPdf 00 19 54.0 -0.7**
ALN Alexandroupoli 153.06 326 P PKPdf 00 19 47.4 -7.4
CEY Cerknica 153.09 348 *e*P **PKPbc 00 20 01.7 -0.4**
VTS Vitosha 153.09 332 ⇓P **PKPbc 00 20 02.9 +0.5**
VTS Vitosha 153.09 332 ⇓PKIKP **PKPbc 00 20 02.9 +0.5**
VTS Vitosha 153.09 332⇑*i*P **PKPdf 00 19 53.7 -1.3**
VTS Vitosha 153.09 332 *e*P **PKPdf 00 19 53.0 -2.0**
DIVS Divibare 153.10 339 *e*P **PKPbc 00 20 02.1 -0.2**
DIVS Divibare 153.10 339 *e*P **PKPdf 00 19 54.3 -0.6**
ENEZ Enez 153.12 326 P **PKPdf 00 19 54.5 -0.4**
RZN Rozhen 153.14 329 *e*P **PKPdf 00 19 54.0 -1.2**
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MRAK	Mrakovica	153.21	344	*e*P	PKPbc	00 20 01.9	-0.6
BLY	Banja Luka	153.38	343	*e*P	PKPbc	00 20 02.5	-0.2
SELS	Selova	153.45	336	*e*P	PKPbc	00 20 02.5	-0.5
IVAS	Ivanjica	153.50	338	*e*P	PKPbc	00 20 02.3	-0.8
BBLS	Lazići	153.51	339	*e*P	PKPbc	00 20 03.3	+0.1
BBLS	Lazići	153.51	339	*e*P	PKPdf	00 19 55.0	-0.5
BOSS	Bosilegrad	153.51	333	*e*P	PKPdf	00 19 55.1	-0.4
BARS	Barje	153.52	335	*e*P	PKPdf	00 19 51.8	-3.6
SMTH	Samothraki Isl	153.64	326	P	PKPdf	00 19 54.1	-1.6
GADA	Gvkgeada	153.65	326	P	PKPdf	00 19 53.8	-1.9
PRVS	Prvonek	153.67	334	*e*P	PKPdf	00 19 52.2	-3.5
EZN	Ezine	153.68	324	P	PKPdf	00 19 53.6	-2.1
MMB	Musomiste	153.68	330	*e*P	PKPdf	00 19 54.0	-1.8
MGRS	Mrkonjic Grad	153.71	343	*e*P	PKPdf	00 19 58.7	+3.0
RUDO	Rudo	153.74	339	*e*P	PKPbc	00 20 01.5	-2.1
KAVA	Kavala	153.76	329	P	PKPbc	00 20 03.6	-0.1
NVR	Nevrokopi	153.81	330	P	PKPdf	00 19 53.6	-2.3
SJES	Sjenica	153.84	338	⇑*i*P	PKPdf	00 19 55.6	-0.4
SJES	Sjenica	153.84	338	*e*P	PKiKP	00 20 05.8	+1.8
SRS	Serrai	154.12	330	P	PKPdf	00 19 54.3	-2.0
PGAV	Gavieira, Arco	154.23	26	*e*PKPab	PKPab	00 20 18.1	-0.5
SKO	Skopje	154.38	334	*i* P	PKPdf	00 19 56.7	0.0
KNT	Kendrikon	154.40	331	P	PKPbc	00 20 03.9	-1.2
VAY	Valandovo	154.42	332	*i* P	PKPdf	00 19 52.3	-4.4
PCAB	Cabril	154.54	26	*e*PKPab	PKPab	00 20 20.4	+0.5
BRY	Bratogost	154.65	340	*e*P	PKPbc	00 20 05.2	-0.5
PLG	Polygyros	154.76	329	P	PKPdf	00 19 54.7	-2.6
PTO	Porto	154.76	28	*e*PKPab	PKPab	00 20 21.7	+0.9
GRG	Griva	154.79	331	P	PKPdf	00 19 55.8	-1.5
PDG	Podgorica	154.82	338	*e*P	PKPbc	00 20 05.5	-0.4
POLO	Lamas de Olo	154.92	27	*e*PKPab	PKPab	00 20 22.5	+0.9
PBRG	Braganca	154.98	24	*e*PKPab	PKPab	00 20 22.4	+0.6
PVRL	Vila Real	155.03	27	*e*PKPab	PKPab	00 20 23.1	+1.1
DRME	Dracevica, Mon	155.06	338	*e*P	PKPdf	00 20 07.3	+10
JAWL	J.Aulia	155.10	264	*i* P	PKPdf	00 19 57.1	-1.4
JAWL				*i*		00 20 08.2	
	baz=354,slow=22						
OHR	Ohrid	155.36	334	*i* P	PKPdf	00 19 57.1	-1.0
FNA	Florina	155.39	333	P	PKPdf	00 19 56.9	-1.3
MVO	Moncorvo	155.41	26	*e*PKPdf	PKPdf	00 19 58.6	+0.4
MVO	Moncorvo	155.41	26	*e*PKPab	PKPab	00 20 24.2	+0.5
PVIS	Viseu	155.42	28	*e*PKPab	PKPab	00 20 24.5	+0.8
PCAS	Casmilo, Conde	155.68	29	*e*PKPab	PKPab	00 20 24.8	0.0
MTE	Manteigas	155.83	27	*e*PKPdf	PKPdf	00 19 58.8	0.0
MTE	Manteigas	155.83	27	*e*PKPab	PKPab	00 20 26.2	+0.7
PSBE	So Bento	155.97	31	*e*PKPab	PKPab	00 20 27.0	+1.0
NRCA	Norcia	156.14	348	PKPab	PKPab	00 20 27.8	+1.1
DION	Dionisos Attik	156.23	325	P	PKPdf	00 19 57.9	-1.4
ATAL	Atalanti	156.26	327	P	PKPdf	00 19 58.1	-1.2
PCBR	Castelo Branco	156.32	28	*e*PKPab	PKPab	00 20 27.8	+0.3
AGG	Agios Georgios	156.35	329	P	PKPdf	00 20 06.1	+6.6
PMST	Lisbon--Monsan	156.38	32	*e*PKPab	PKPab	00 20 27.4	-0.4
LIS	Lisbon	156.41	32	*e*PKPdf	PKPdf	00 19 59.6	+0.1
LIS	Lisbon	156.41	32	*e*PKIKP	PKPdf	00 19 59.6	+0.1
ATH	Athens Observa	156.42	325	P	PKPdf	00 19 57.9	-1.6
AQU	L'Aquila	156.54	348	*e*P	PKPdf	00 19 58.8	-0.9
PMTG	Montargil	156.59	30	*e*PKPab	PKPab	00 20 29.1	+0.4
EVR	Evrytania	156.69	329	P	PKPdf	00 19 59.5	-0.5
PMRV	Marv??o	156.69	29	*e*PKPab	PKPab	00 20 29.8	+0.7
ANX	Ano Chora	156.89	329	P	PKPdf	00 19 58.1	-2.2
EPID	Epidavros	157.01	325	P	PKPdf	00 19 57.7	-2.7
EFP	Efpalio	157.02	328	P	PKPdf	00 20 00.2	-0.1
PESTR	Estremoz	157.05	30	*e*PKPab	PKPab	00 20 31.1	+0.4
PESTR	Estremoz	157.05	30	PKPab	PKPab	00 20 31.1	+0.4
EVO	Evora	157.11	31	*e*PKPab	PKPab	00 20 31.4	+0.4
MESJ	Messejana	157.55	32	*e*PKPdf	PKPdf	00 20 01.0	0.0
MESJ				IAMs_20	IAMs_20	01 24 39.1	
	comp=Z,1µm,24.9s						
MESJ	Messejana	157.55	32	*e*PKPdf	PKPdf	00 20 02.5	+1.5
MESJ	Messejana	157.55	32	*e*PKPab	PKPab	00 20 33.4	+0.6
MESJ	Messejana	157.55	32	*e*PKIKP	PKPdf	00 20 01.0	0.0
IDI	Anoyia	157.57	318	PKPab	PKPab	00 20 33.2	0.0
	comp=Z,15nm,0.7s,baz=294,slow=10,SNR=6.3						
MORF	Marmelete	157.73	34	*e*PKPdf	PKPdf	00 20 01.3	0.0
MORF				IAMs_20	IAMs_20	01 20 28.2	
	comp=Z,2µm,36.2s						
MORF	Marmelete	157.73	34	*e*PKPab	PKPab	00 20 35.1	+1.4
MORF	Marmelete	157.73	34	*e*PKIKP	PKPdf	00 20 01.3	0.0
PFVI	Vila Bisbo	157.77	35	*e*PKPab	PKPab	00 20 34.0	+0.2
PCVE	Castro Verde	157.80	32	*e*PKPab	PKPab	00 20 34.7	+0.7
ESDC	Sonseca Array	157.88	22	PKP	PKPdf	00 20 01.8	+0.4
	comp=Z,0.9nm,0.7s,baz=335,slow=3.1,SNR=7.9						
ESDC				PKPab	PKPab	00 20 35.0	+0.7
	comp=Z,5.8nm,0.8s,baz=328,slow=4.0,SNR=18						
ESDC	Sonseca Array	157.88	22	PKPdf	PKPdf	00 20 01.6	+0.1
PVAQ	Vaqueiros	158.14	32	*e*PKPab	PKPab	00 20 37.8	+2.4
CHEFC	Chefchaouen	161.13	32	P	PKPdf	00 20 08.0	+2.6
ZHG	ZHG	161.67	38	P	PKPdf	00 20 08.0	+2.0
OUK	Oukaimeden	162.40	46	P	PKPdf	00 20 09.0	+1.9
LCRM	LCR	162.49	34	P	PKPdf	00 20 10.0	+3.1
DBIC	Dimbokro	162.95	137	PKP	PKPdf	00 20 06.6	-1.1
	comp=Z,3.5nm,0.9s,baz=348,slow=3.0,SNR=6.9						
DBIC	Dimbokro	162.95	137	PKIKP	PKPdf	00 20 07.3	-0.4
DBIC	Dimbokro	162.95	137		PKPdf	00 20 07.3	-0.4
JBK	JBK	163.06	27	P	PKPdf	00 20 10.0	+2.5
MDT	Midelt	163.29	35	PKP	PKPdf	00 20 07.2	-0.4
	comp=Z,7.8nm,0.9s,baz=333,slow=1.0,SNR=14						
MDT				PKPab	PKPab	00 20 59.8	+1.6
	comp=Z,7.5nm,0.9s,baz=335,slow=4.5,SNR=6.1						
MDT	Midelt	163.29	35	P	PKPdf	00 20 09.5	+1.9
OUZM	OUZ	163.32	44	P	PKPdf	00 20 10.0	+2.2
KEST	Kesra	163.68	353	PKPab	PKPab	00 21 00.5	+0.9
	comp=Z,7.5nm,1.0s,baz=311,slow=3.8,SNR=5.6						
TZRR	Tazzarine	164.18	42	P	PKPdf	00 20 11.0	+2.5
TDRA	Tendrara	164.40	29	P	PKPdf	00 20 12.0	+3.2
ZGR	Zagora	164.58	44	P	PKPdf	00 20 11.0	+2.1
FIGM	Figuig	165.51	28	P	PKPdf	00 20 12.0	+2.3
TORD	Torodi Ar. Bea	172.02	142	PKP	PKPdf	00 20 12.7	-1.4
	comp=Z,6.9nm,0.9s,baz=319,slow=1.5,SNR=31						
TORD				PP	PP	00 25 29.5	+2.3
	comp=Z,1.1nm,0.9s,baz=283,slow=7.4,SNR=4.6						
TORD				SKKPbc		00 29 19.0	
	comp=Z,1.2nm,0.9s,baz=75,slow=1.6,SNR=3.5						
TORD	Torodi Ar. Bea	172.02	142	PKPdf	PKPdf	00 20 12.5	-1.6

WEL 25 00:29:50.4±0.8, 37°S±6°×17°7E±°, h133km±8km, M3.4/33, ML3.7/26, MLv3.4/33, Error ellipse: s-maj=0.0km s-min=0.0km az=36.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.75	155	P	Pn	00 30 11.7	+0.4
HAZ				S	Sn	00 30 29.1	+1.7
MXZ	Matakaoa Point	0.88	124	P	Pn	00 30 13.1	+0.7
RUGZ	Raukumara Rang	0.92	166	P	Pn	00 30 12.6	-0.3
RUGZ				S	Sn	00 30 29.7	-0.4
PKGZ	Pakihiroa	0.98	146	P	Pn	00 30 14.3	+0.9
OPRZ	Ohinepanea	1.01	221	P	Pn	00 30 13.5	-0.2
MARZ	Manawahe	1.07	212	P	Pn	00 30 14.3	+0.1
WMGZ	Waiomatatini S	1.10	133	P	Pn	00 30 15.5	+1.0
EDRZ	Edgecumbe	1.15	207	P	Pn	00 30 15.4	+0.4
TWGZ	Tauwhareparae	1.19	157	P	Pn	00 30 16.3	+0.9
TWGZ				S	Sn	00 30 36.4	+1.8
URZ	Urewera	1.20	191	P	Pn	00 30 15.3	-0.1
URZ				S	Sn	00 30 34.5	-0.1
PUZ	Puketiti	1.21	146	P	Pn	00 30 16.0	+0.4
MWZ	Matawai	1.26	175	P	Pn	00 30 16.0	-0.1
MWZ				S	Sn	00 30 36.6	+0.8
MKRZ	Makatiti	1.29	214	P	Pn	00 30 16.8	+0.4
OMRZ	Omania	1.31	218	P	Pn	00 30 16.7	+0.1
KARZ	Kaharoa	1.31	224	P	Pn	00 30 16.7	+0.1
TARZ	Mount Tarawera	1.35	211	P	Pn	00 30 17.8	+0.6
KUZ	Kuaotunu	1.38	283	P	Pn	00 30 17.0	-0.3
KMRZ	Kaimai	1.39	236	P	Pn	00 30 17.6	+0.2
NGRZ	Ngongotaha	1.40	223	P	Pn	00 30 17.8	+0.2
TKGZ	Te Karaka	1.41	165	P	Pn	00 30 17.4	-0.2
TKGZ				S	Sn	00 30 39.1	+0.6
RAGZ	Rawiri	1.42	179	P	Pn	00 30 17.7	-0.1
RAGZ				S	Sn	00 30 39.3	+0.5
HLRZ	Highlands Stat	1.43	215	P	Pn	00 30 18.2	+0.3
RRRZ	Republican Roa	1.44	209	P	Pn	00 30 18.3	+0.3
MUGZ	Murupara	1.48	199	P	Pn	00 30 18.3	-0.1
MUGZ				S	Sn	00 30 40.2	+0.3
HSRZ	Hossack Road	1.53	216	P	Pn	00 30 19.8	+0.8
CNGZ	Carnagh Statio	1.55	156	P	Pn	00 30 18.3	-0.9
RTZ	Ruatahuna	1.57	192	P	Pn	00 30 18.8	-0.7
HRRZ	Handcock Road	1.58	213	P	Pn	00 30 20.0	+0.4
PRRZ	Plateau Road	1.63	209	P	Pn	00 30 20.1	+0.1
GRRZ	Galatos Road	1.63	218	P	Pn	00 30 20.5	+0.4
TOZ	Tahuroa Road	1.64	246	P	Pn	00 30 20.5	+0.3

RIGZ	Rimuhau	1.65	170	P	Pn	00 30 20.0	-0.4
ALRZ	Allen Road	1.70	209	P	Pn	00 30 21.1	+0.2
WPRZ	Whakapapatarin	1.74	214	P	Pn	00 30 22.0	+0.6
GRZ	Great Barrier	1.76	297	P	Pn	00 30 21.5	-0.1
MTHZ	Maungataniwha	1.83	194	P	Pn	00 30 21.9	-0.5
MTHZ				S	Sn	00 30 47.5	+0.5
WIAZ	Waiheke Island	1.83	278	P	Pn	00 30 22.7	+0.3
RAHZ	Arahi	1.85	187	P	Pn	00 30 22.3	-0.4
KUTZ	Kaahu Road	1.88	221	P	Pn	00 30 23.3	+0.3
PRGZ	Paritu Road	1.88	168	P	Pn	00 30 22.8	-0.3
MRHZ	Matea Rd	1.92	203	P	Pn	00 30 22.9	-0.6
TLZ	Tolley Road	1.93	229	P	Pn	00 30 23.9	+0.2
WHTZ	Whakaora	1.95	215	P	Pn	00 30 25.1	+1.2
KNZ	Kokohu	1.96	174	P	Pn	00 30 23.2	-0.6
NMHZ	Naumai	2.07	193	P	Pn	00 30 25.2	-0.2
HATZ	Hinemaiaia	2.08	209	P	Pn	00 30 25.3	-0.1
WATZ	Wairara	2.09	218	P	Pn	00 30 26.0	+0.4
MHGZ	Mahia Peninsul	2.11	169	P	Pn	00 30 25.6	-0.2
RATZ	Rangitukua	2.20	215	P	Pn	00 30 27.3	+0.4
BKZ	Black Stump Fm	2.20	198	P	Pn	00 30 26.0	-0.9
ARHZ	Aropaoanui	2.21	188	P	Pn	00 30 26.1	-0.9
RITZ	Rihía Road	2.25	212	P	Pn	00 30 27.8	+0.2
KATZ	Kakaramea	2.32	215	P	Pn	00 30 29.3	+0.8
MCHZ	McNeill Hill	2.43	193	P	Pn	00 30 28.8	-0.9
NTVZ	North Tongarir	2.43	213	P	Pn	00 30 29.8	-0.1
TMVZ	Te Maari	2.43	213	P	Pn	00 30 29.7	-0.3
KRVZ	Karewarewa	2.44	214	P	Pn	00 30 28.5	-1.5
ETVZ	East Tongariro	2.45	212	P	Pn	00 30 29.7	-0.4
KWHZ	Kaweka Forest	2.46	198	P	Pn	00 30 29.0	-1.3
WTVZ	West Tongariro	2.48	214	P	Pn	00 30 30.2	-0.4
NNVZ	North Ngauruho	2.48	214	P	Pn	00 30 30.4	-0.2
OTVZ	Oturere	2.49	213	P	Pn	00 30 30.3	-0.3
TWVZ	Taurewa	2.52	217	P	Pn	00 30 30.9	-0.1
SNVZ	South Ngauruho	2.52	213	P	Pn	00 30 30.7	-0.4
NGZ	Ngauruhoe	2.53	213	P	Pn	00 30 31.0	-0.1
TUVZ	Tukino	2.58	212	P	Pn	00 30 31.3	-0.6
FWVZ	Far West T-bar	2.61	213	P	Pn	00 30 31.7	-0.6
WHVZ	Whangaehu Hut	2.62	212	P	Pn	00 30 31.9	-0.5
BHHZ	Black Hill Sta	2.63	203	P	Pn	00 30 30.7	-1.6
DRZ	Dome Shelter	2.63	213	P	Pn	00 30 32.4	-0.1
TRVZ	Turoa	2.65	213	P	Pn	00 30 32.2	-0.6
WNVZ	Wahianoa	2.65	212	P	Pn	00 30 31.8	-0.9
MOVZ	Moawhango	2.66	209	P	Pn	00 30 31.2	-1.5
KRHZ	Kereru	2.69	197	P	Pn	00 30 31.0	-2.0
PKVZ	Pokaka	2.73	215	P	Pn	00 30 33.5	-0.2
KAHZ	Kahuranaki	2.74	188	P	Pn	00 30 32.1	-1.7
MTVZ	Mangateitei	2.76	213	P	Pn	00 30 33.0	-0.9
VRZ	Vera Road	2.92	225	P	Pn	00 30 36.7	+0.8
PXZ	Pawanui	2.98	188	P	Pn	00 30 34.4	-2.3
PNHZ	Pukenui	2.98	198	P	Pn	00 30 34.4	-2.4
WPHZ	Waipukurau	3.08	194	P	Pn	00 30 35.7	-2.3
TSZ	Takapari Road	3.18	200	P	Pn	00 30 36.8	-2.6
PRHZ	Porangahau	3.24	190	P	Pn	00 30 37.6	-2.5
WAZ	Wanganui	3.27	215	P	Pn	00 30 39.6	-1.0
DVHZ	Dannevirke	3.36	196	P	Pn	00 30 38.7	-3.0
NEZ	North Egmont	3.40	229	P	Pn	00 30 44.1	+1.8
PKE	Pukeiti	3.42	231	P	Pn	00 30 43.7	+1.3
ANWZ	Angora Road	3.45	192	P	Pn	00 30 40.3	-2.6
KHEZ	Kahui Hut	3.46	229	P	Pn	00 30 44.0	+0.9
OHWZ	Ohakea	3.52	207	P	Pn	00 30 47.9	+4.1
POWZ	Post Office Ro	3.54	200	P	Pn	00 30 41.1	-3.0
PRWZ	Pori Road	3.65	197	P	Pn	00 30 42.9	-2.6
BFZ	Birch Farm	3.71	194	P	Pn	00 30 43.0	-3.3
MRZ	Mangatainoka R	3.85	201	P	Pn	00 30 44.5	-3.6
TIWZ	Tintock	3.88	197	P	Pn	00 30 45.7	-2.8
CPWZ	Castlepoint	3.94	193	P	Pn	00 30 46.5	-2.8
HOWZ	Holdsworth Sta	4.09	200	P	Pn	00 30 47.2	-4.0
OGWZ	Otaki Gorge	4.12	204	P	Pn	00 30 48.1	-3.6
TMWZ	Te Maipa	4.19	196	P	Pn	00 30 48.7	-3.9
KIW	Kapiti Island	4.25	206	P	Pn	00 30 49.3	-4.0
MTW	Mount Morrison	4.33	199	P	Pn	00 30 50.1	-4.4
CAW	Cannon Point	4.41	203	P	Pn	00 30 51.3	-4.2
TRWZ	Traveller	4.51	197	P	Pn	00 30 52.6	-4.3
PAWZ	Paruwai Farm	4.56	199	P	Pn	00 30 52.9	-4.7
DUWZ	O'Urville Isla	4.60	215	P	Pn	00 30 54.2	-3.8
WEL	Wellington	4.67	205	P	Pn	00 30 55.1	-3.9
BHW	Baring Head	4.75	204	P	Pn	00 30 55.5	-4.5
PLWZ	Palliser	4.78	200	P	Pn	00 30 55.5	-5.1
TCW	Tory Channel	4.79	209	P	Pn	00 30 55.9	-4.6
TUWZ	Tuamarina	5.11	211	P	Pn	00 31 00.1	-4.7
NNZ	Nelson	5.18	216	P	Pn	00 30 59.4	-6.4
TKNZ	Takaka Hill	5.24	220	P	Pn	00 31 02.1	-4.6
QRZ	Quartz Range	5.33	224	P	Pn	00 31 03.6	-4.2
BSWZ	Blackbirch Sta	5.37	209	P	Pn	00 31 04.4	-4.0
MRNZ	Matariki Terra	5.62	218	P	Pn	00 31 06.8	-4.9
THZ	Tophouse	5.83	215	P	Pn	00 31 09.6	-5.0
KHZ	Kahutara	6.10	208	P	Pn	00 31 12.6	-5.6
GVZ	Greta Valley S	6.77	208	P	Pn	00 31 21.8	-5.3
LTZ	Lake Taylor	6.92	213	P	Pn	00 31 23.7	-5.6
OKCZ	Okains Bay	7.42	205	P	Pn	00 31 29.8	-6.1
MQZ	McQueen's Vall	7.54	207	P	Pn	00 31 30.4	-7.1
AKCZ	Akaroa Harbour	7.60	205	P	Pn	00 31 32.0	-6.3
TMZ	Timaru	8.76	212	P	Pn	00 31 47.6	-6.3
ODZ	Otahua Downs	9.45	210	P	Pn	00 31 56.6	-6.5

IDC 25 00:56:24.0±4.5, 6.70°S×156.33°E, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.0/24, mbtmp4.4/4, Error ellipse: s-maj=140.6km s-min=13.2km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.08	236	P	P	01 01 50.3	-0.3
	2.1nm,0.9s,baz=62,slow=9.7,SNR=7.0						
ASAR	Alice Springs	27.37	230	P	P	01 02 11.8	+0.5
	0.2nm,0.4s,baz=59,slow=10.0,SNR=2.0						
MKAR	Makanchi Array	84.06	318	P	P	01 08 56.8	0.0
	2.0nm,0.7s,baz=102,slow=6.2,SNR=22						
ZALV	Zalesovo Beam	84.68	326	P	P	01 08 59.1	-0.6
	1.6nm,0.6s,baz=111,slow=6.1,SNR=6.1						

SOME 25 01:23:28.6, 40°.92N×76°.15E, h15km
NNC 25 01:23:29.6±0.7, 40°.96N×76°.11E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=5.2km s-min=3.3km az=173.0
KRNET 25 01:23:30.7±0.1, 41°.12N×76°.09E, h19km, mb3.3

ISC 25 01:23:29.4±1.4, 41°.05N±0°.04×76°.08E±0°.02, h10km±16km, n67, σ1°32/103, 25C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	1.20	6	P	Pg	01 23 52.8	+0.4
	SNR=29						
ULHL	Ulahol	1.20	6	⇑*i*P	Pb	01 23 52.1	-0.2
	baz=6.0						
ULHL				⇑*i*S	Sg	01 24 07.8	-0.2
	baz=6.0						
KDJ	Kajisay	1.35	37	⇑*i*P	Pb	01 23 55.0	0.0
	baz=39						
KDJ				⇑*i*S	Sg	01 24 13.0	0.0
	baz=39						
BOOM	Boomskoye usch	1.44	356	⇓*e*P	Pb	01 23 56.3	-0.1
	baz=55						
BOOM				⇓*i*S	Sg	01 24 15.3	-0.4
	baz=55						
TARG	Taragay, Kyrgy	1.46	62	⇑*i*P	Pb	01 23 57.2	+0.3
	baz=64						
TARG				⇑*i*S	Sg	01 24 16.7	+0.3
	baz=64						
ARLS	Aral	1.55	302	⇓*e*P	Pb	01 23 58.8	+0.6
	baz=0.0						
ARLS				⇓*i*S	Sg	01 24 19.2	0.0
	baz=0.0						
UCH	Uchtor	1.66	315	P	Pg	01 24 03.2	+1.9
	SNR=26						
UCH	Uchtor	1.66	315	⇑*i*P	Pb	01 24 00.8	+0.5
	baz=14						
UCH				⇑*i*S	Sg	01 24 22.7	-0.1
	baz=14						
KBK	Karagaybulak	1.81	332	P	Pg	01 24 04.1	0.0
	SNR=12						
KBK	Karagaybulak	1.81	332	⇓*i*P	Pb	01 24 03.3	+0.6
	baz=31						
KBK				⇓*i*S	Sg	01 24 26.7	-0.9
	baz=31						
TKM2	Tokmak 2	1.90	349	P	Pg	01 24 05.7	-0.2
	SNR=22						
TKM2	Tokmak 2	1.90	349	⇓Pn	Pg	01 24 05.6	-0.3
	7.3nm,0.4s						
TKM2				⇑Sn	Sg	01 24 32.0	+1.5
	9.9nm,0.3s						
TKM2	Tokmak 2	1.90	349	⇓*i*P	Pb	01 24 04.5	+0.2
	baz=49						
TKM2				⇓*i*S	Sg	01 24 29.3	-1.2
	baz=49						
AAK	Ala-Archa	1.98	324	P	Pg	01 24 07.1	-0.2
	SNR=12						
AAK	Ala-Archa	1.98	324	⇓Pn	Pb	01 24 06.3	+0.8
	14nm,0.4s						
AAK				⇑Sn	Sg	01 24 33.6	+0.6
	34nm,0.8s						
AAK	Ala-Archa	1.98	324	⇑*i*P	Pb	01 24 06.1	+0.5
	baz=22						
AAK				⇑*i*S	Sg	01 24 31.9	-1.1
	baz=22						
KST	Kastek	1.99	357	*e*P	Pg	01 24 07.4	-0.1
	16nm,0.2s						
KST				*e*S	Sg	01 24 35.4	+2.0
	25nm,0.5s						
KST	Kastek	1.99	357	Pg	Pg	01 24 07.4	-0.1
	16nm,0.2s						
KST				Lg	Lg	01 24 36.0	
	25nm,0.5s						
TNSS	Tian-Shan	2.08	18	*e*P	Pg	01 24 09.2	-0.2
	5.8nm,0.2s						
TNSS				*e*S	Sg	01 24 38.4	+2.0
	5.6nm,0.4s						
TNSS	Tian-Shan	2.08	18	Pg	Pg	01 24 09.2	-0.2
	9.2nm,0.4s						
TNSS				Lg	Lg	01 24 39.3	
	6.3nm,0.8s						
AML	Almayashu	2.09	302	P	Pg	01 24 09.3	-0.2
	SNR=32						
MTBS	Maitube	2.09	7	*e*P	Pg	01 24 10.0	+0.5
	4.9nm,0.3s						
MTBS				*e*S	Sg	01 24 40.0	+3.4
	14nm,0.2s						
MTBS	Maitube	2.09	7	Pg	Pg	01 24 09.0	-0.4
	4.9nm,0.3s						
MTBS				Lg	Lg	01 24 38.8	
	14nm,0.2s						
ANVS	Anan'yevo	2.09	34	⇑*i*P	Pb	01 24 07.6	0.0
	baz=35						
ANVS				⇑*i*S	Sg	01 24 34.7	-2.0
	baz=35						
CHMS	Chumysh	2.18	333	P	Pg	01 24 11.3	+0.1
	SNR=15						
CHMS	Chumysh	2.18	333	⇑*i*P	Pb	01 24 08.7	-0.3
	baz=32						
CHMS				⇑*i*S	Sb	01 24 36.8	+0.7
	baz=32						
DGS	Degeres	2.20	354	*e*P	Pg	01 24 11.2	-0.3
	19nm,0.6s						
DGS				*e*S	Sg	01 24 42.1	+2.1
	17nm,0.3s						
DGS	Degeres	2.20	354	Pg	Pg	01 24 12.1	+0.5
	19nm,0.6s						
DGS				Lg	Lg	01 24 44.3	
	17nm,0.3s						
SFK	Sufi-Kurgan	2.22	243	⇑*e*P	Pb	01 24 10.7	+0.9
	baz=42						
SFK				⇑*e*S	Sb	01 24 40.3	+2.8
	baz=42						
MDOK	Medeo	2.23	19	*e*P	Pg	01 24 11.5	-0.6
	9.5nm,0.3s						
MDOK				*e*S	Sg	01 24 42.7	+1.7
	14nm,0.5s						
MDOK	Medeo	2.23	19	Pn	Pb	01 24 10.5	+0.6
	6.2nm,0.4s						
MDOK				⇑Lg	Lg	01 24 43.2	
	30nm,1.2s						
MDOK	Medeo

MNAS ⇑*i*S **Sb** **01 24 57.9 -2.8**
baz=98
PDGK Podgornoye 3.40 47 ⇑Pg **Pb** **01 24 31.9 +2.0**
1.5nm,0.6s
PDGK ⇑Lg Lg 01 25 18.6
12nm,0.8s
ARXS Arharly 3.41 22 *e*P **Pb** **01 24 31.8 +1.9**
2.9nm,0.4s
ARXS *e*S **Sg** **01 25 17.0 -1.9**
6.0nm,0.5s
ARXS Arharly 3.41 22 Pg **Pb** **01 24 31.9 +2.0**
2.9nm,0.4s
ARXS Lg Lg 01 25 18.4
6.0nm,0.5s
BLB Baldybastay 3.52 29 *e*P **Pg** **01 24 34.3 -2.5**
15nm,0.3s
BLB *e*S **Sg** **01 25 21.8 -0.6**
9.3nm,0.2s
BLB Baldybastay 3.52 29 Pg **Pg** **01 24 34.9 -1.8**
15nm,0.3s
BLB Lg Lg 01 25 23.5
9.3nm,0.2s
BTLS Baital 4.25 340 *e*P **Pg** **01 24 49.8 -1.1**
2.2nm,0.4s
BTLS *e*S **Sg** **01 25 48.1 +2.2**
3.5nm,0.4s
BTLS Baital 4.25 340 Pg **Pg** **01 24 48.8 -2.1**
2.2nm,0.4s
BTLS Lg Lg 01 25 47.4
3.5nm,0.4s
DJR Jarkent 4.27 39 Pg **Pg** **01 24 49.0 -2.0**
2.5nm,0.2s
DJR Lg Lg 01 25 47.8
3.2nm,0.3s
IUG luzhnay 4.67 286 *e*P **Pg** **01 24 55.8 -3.0**
51nm,0.6s
IUG *e*S **Sg** **01 25 58.6 -0.6**
8.2nm,0.3s
IUG luzhnay 4.67 286 Pg **Pb** **01 24 53.6 +2.2**
51nm,0.6s
IUG Lg Lg 01 25 55.5
8.2nm,0.3s

*KRSC **25** 01:52:57.6±1.0, 51°.91N×158°.87E, h44km±13km, ML4.5*
*MOS **25** 01:52:58.5±0.8, 51°.91N×158°.76E, h52km, mb4.1/1, Error ellipse: s-maj=15.8km s-min=4.7km az=87.0*
*IDC **25** 01:53:02.0±2.8, 52°.02N×158°.51E, h74km±22km, mb3.3/8, mb1 3.6/8, mb1mx3.3/42, mbtmp3.6/8, MS3.1/1, Ms1 3.1/1, ms1mx2.6/66, Error ellipse: s-maj=31.9km s-min=19.8km az=156.0*
ISC 25 01:52:59.3±0.7, 51°.94N±0°.04×158°.82E±0°.05, h44km±5km, n70, σ1°.34/90, mb3.7/9, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.48**	**255**	PN	**Pn**	**01 53 10.6**	**+0.8**
KDTR				S	**Sn**	**01 53 18.3**	**+0.9**
KDTR	**Khodutka, Kamc**	**0.48**	**255**	*e*P	**Pn**	**01 53 10.6**	**+0.8**
KDTR				*e*S	**Sn**	**01 53 18.3**	**+0.9**
RUS	**Russkaya**	**0.53**	**339**	PN	**Pn**	**01 53 10.8**	**+0.2**
RUS				S	**Sn**	**01 53 18.7**	**+0.1**
RUS	**Russkaya**	**0.53**	**339**	*e*P	**Pn**	**01 53 10.8**	**+0.2**
RUS				*e*S	**Sn**	**01 53 18.7**	**+0.1**
MTVR	**Mutnovka**	**0.68**	**325**	PN	**Pn**	**01 53 12.8**	**+0.2**
MTVR				S	**Sn**	**01 53 22.6**	**+0.4**
MTVR	**Mutnovka**	**0.68**	**325**	*e*P	**Pn**	**01 53 12.8**	**+0.2**
MTVR				*e*S	**Sn**	**01 53 22.6**	**+0.4**
GRL	**Gorelyy**	**0.77**	**324**	PN	**Pn**	**01 53 14.3**	**+0.5**
GRL				S	**Sn**	**01 53 25.5**	**+1.1**
GRL	**Gorelyy**	**0.77**	**324**	*e*P	**Pn**	**01 53 14.3**	**+0.5**
GRL				*e*S	**Sn**	**01 53 25.5**	**+1.1**
KRMR	**Karymshinskiy**	**0.99**	**335**	PN	**Pn**	**01 53 17.0**	**+0.3**
KRMR				S	**Sn**	**01 53 29.9**	**+0.4**
KRMR	**Karymshinskiy**	**0.99**	**335**	*e*P	**Pn**	**01 53 17.0**	**+0.3**
KRMR				*e*S	**Sn**	**01 53 29.9**	**+0.4**
PET	**Petropavlovsk**	**1.10**	**355**	⇓*i*PN	**Pn**	**01 53 18.1**	**-0.1**
PET				*i* S	**Sn**	**01 53 31.4**	**-0.7**
PET				pmax	pmax		
	comp=Z,648nm,0.3s						
PET				smax	smax		
	comp=N,3μm,0.6s						
PET				smax	smax		
	comp=E,2μm,0.6s						
PET	**Petropavlovsk**	**1.10**	**355**	*e*P	**Pn**	**01 53 18.0**	**-0.1**
PET				*e*S	**Sn**	**01 53 31.6**	**-0.5**
DALK	**Dalny**	**1.10**	**358**	PN	**Pn**	**01 53 18.1**	**-0.1**
DALK				S	**Sn**	**01 53 31.9**	**-0.3**
DALK	**Dalny**	**1.10**	**358**	*e*P	**Pn**	**01 53 18.1**	**-0.1**
DALK				*e*S	**Sn**	**01 53 31.9**	**-0.3**
UGLR	**Uglovaya**	**1.28**	**0**	PN	**Pn**	**01 53 20.8**	**+0.1**
UGLR	**Uglovaya**	**1.28**	**0**	*e*P	**Pn**	**01 53 20.8**	**+0.1**
NLC	**Nalytchevo**	**1.28**	**14**	PN	**Pn**	**01 53 19.6**	**-1.0**
NLC				S	**Sn**	**01 53 34.2**	**-2.4**
NLC	**Nalytchevo**	**1.28**	**14**	*e*P	**Pn**	**01 53 19.6**	**-1.0**
NLC				*e*S	**Sn**	**01 53 34.2**	**-2.4**
SMAR	**Somma**	**1.33**	**359**	PN	**Pn**	**01 53 21.4**	**-0.2**
SMAR	**Somma**	**1.33**	**359**	*e*P	**Pn**	**01 53 21.4**	**-0.2**
AVH	**Avacha**	**1.33**	**358**	PN	**Pn**	**01 53 21.9**	**+0.4**
AVH	**Avacha**	**1.33**	**358**	*e*P	**Pn**	**01 53 21.9**	**+0.4**
PAU	**Pauzhetka**	**1.34**	**250**	PN	**Pn**	**01 53 22.1**	**+0.7**
PAU				S	**Sn**	**01 53 38.8**	**+0.8**
PAU	**Pauzhetka**	**1.34**	**250**	*e*P	**Pn**	**01 53 22.1**	**+0.7**
PAU				*e*S	**Sn**	**01 53 38.8**	**+0.8**
SDLR	**Sedlovina**	**1.35**	**2**	PN	**Pn**	**01 53 21.3**	**-0.4**
SDLR	**Sedlovina**	**1.35**	**2**	*e*P	**Pn**	**01 53 21.3**	**-0.4**
PETK	**Petropavlovsk-**	**1.36**	**330**	P	**Pn**	**01 53 21.1**	**-0.6**
	comp=E,43nm,0.3s,baz=122,slow=18,SNR=562						
PETK				S	**Sn**	**01 53 39.5**	**+0.8**
	comp=E,64nm,0.3s,baz=118,slow=12,SNR=7.3						
PETK				LR	LR	01 54 09.2	
	comp=E,184nm,20.7s,baz=110,slow=56						
KOK	**Koryaka**	**1.36**	**355**	PN	**Pn**	**01 53 22.5**	**+0.6**
KOK	**Koryaka**	**1.36**	**355**	*e*P	**Pn**	**01 53 22.5**	**+0.6**
KRER	**Koryakskii**	**1.37**	**358**	PN	**Pn**	**01 53 22.2**	**+0.1**
KRER	**Koryakskii**	**1.37**	**358**	*e*P	**Pn**	**01 53 22.2**	**+0.1**
SPN	**Mys Shipunski**	**1.38**	**32**	PN	**Pn**	**01 53 22.6**	**+0.6**
SPN				S	**Sn**	**01 53 39.6**	**+0.6**
SPN	**Mys Shipunski**	**1.38**	**32**	*e*P	**Pn**	**01 53 22.6**	**+0.6**
SPN				*e*S	**Sn**	**01 53 39.6**	**+0.6**
APC	**Apacha**	**1.42**	**315**	PN	**Pn**	**01 53 23.0**	**+0.4**
APC				S	**Sn**	**01 53 42.1**	**+2.0**
APC	**Apacha**	**1.42**	**315**	*e*P	**Pn**	**01 53 23.0**	**+0.4**
APC				*e*S	**Sn**	**01 53 42.1**	**+2.0**
GNL	**Ganaly**	**1.84**	**344**	PN	**Pn**	**01 53 28.8**	**+0.3**
GNL	**Ganaly**	**1.84**	**344**	*e*P	**Pn**	**01 53 28.8**	**+0.3**
SKR	**Severo-Kuril's**	**2.11**	**235**	PN	**Pn**	**01 53 32.3**	**+0.3**
SKR				S	**Sn**	**01 53 57.0**	**0.0**
SKR	**Severo-Kuril's**	**2.11**	**235**	*e*P	**Pn**	**01 53 32.3**	**+0.3**
SKR				*e*S	**Sn**	**01 53 57.0**	**0.0**
KII	**Karymskiy**	**2.14**	**10**	PN	**Pn**	**01 53 33.7**	**+1.2**
KII				S	**Sn**	**01 53 59.9**	**+2.1**
KII	**Karymskiy**	**2.14**	**10**	*e*P	**Pn**	**01 53 33.7**	**+1.2**
KII				*e*S	**Sn**	**01 53 59.9**	**+2.1**
TUMD	**Tumrok D**	**3.41**	**15**	*e*P	**Pn**	**01 53 51.3**	**+1.5**
TUMR	**Tumrok**	**3.45**	**13**	PN	**Pn**	**01 53 51.3**	**+0.8**
TUMR	**Tumrok**	**3.45**	**13**	*e*P	**Pn**	**01 53 53.4**	**+2.9**
KMNR	**Kamenistaya**	**3.92**	**12**	PN	**Pn**	**01 54 00.5**	**+3.6**
KMNR	**Kamenistaya**	**3.92**	**12**	*e*P	**Pn**	**01 54 00.5**	**+3.6**
ESO	**Esso**	**4.00**	**359**	PN	**Pn**	**01 54 01.0**	**+3.0**
ESO	**Esso**	**4.00**	**359**	*e*P	**Pn**	**01 54 01.0**	**+3.0**
KPT	**Kopyto**	**4.12**	**11**	PN	**Pn**	**01 54 02.0**	**+2.3**
KPT	**Kopyto**	**4.12**	**11**	*e*P	**Pn**	**01 54 02.0**	**+2.3**
ZLN	**Zelenaya**	**4.25**	**15**	PN	**Pn**	**01 54 04.9**	**+3.4**
ZLN	**Zelenaya**	**4.25**	**15**	*e*P	**Pn**	**01 54 04.9**	**+3.4**
KRSR	**Krestovskiy**	**4.41**	**13**	PN	Pn	01 54 08.2	+4.5
KRSR	**Krestovskiy**	**4.41**	**13**	*e*P	Pn	01 54 08.2	+4.5
SEY	**Seymchan**	**11.55**	**345**	LR	LR	02 00 35.7	
	comp=E,91nm,18.3s,baz=312,slow=40						
MJAR	**Matsushiro Arr**	**21.22**	**232**	P	**P**	**01 57 41.7**	**+0.6**
	comp=E,2.1nm,0.5s,baz=29,slow=8.6,SNR=4.3						
KDAK	**Kodiak Island**	**28.06**	**59**	P	**P**	**01 58 47.9**	**+1.8**
	comp=E,6.9nm,0.5s,baz=277,slow=8.1,SNR=12						
ILAR	**Eielson Array**	**30.19**	**44**	P	**P**	**01 59 04.7**	**-0.2**
	comp=E,0.2nm,0.6s,baz=273,slow=9.3,SNR=4.4						
H11N2	**WAKE ISLAND Hy 32.76 166**			T	T	02 34 31.9	
	baz=351,slow=76,SNR=92						
H11N3	**WAKE ISLAND Hy 32.77 166**			T	T	02 34 31.1	
	baz=351,slow=76,SNR=83						
H11N1	**WAKE ISLAND Hy 32.77 166**			T	T	02 34 31.2	
	baz=351,slow=76,SNR=89						
H11S1	**WAKE ISLAND Hy 33.93 167**			T	T	02 36 01.0	
	baz=351,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy 33.94 167**			T	T	02 36 00.4	
	baz=351,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy 33.95 167**			T	T	02 35 59.9	
	baz=351,slow=76,SNR=26						
INK	**Inuvik**	**35.26**	**37**	P	**P**	**01 59 49.1**	**0.0**
	comp=E,1.1nm,0.9s,baz=262,slow=2.9,SNR=3.2						
YKA	**Yellowknife Ar**	**44.55**	**41**	P	**P**	**02 01 05.5**	**-0.7**
	comp=E,0.1nm,0.4s,baz=298,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**47.96**	**296**	P	**P**	**02 01 29.9**	**-3.3**
	comp=E,0.3nm,0.5s,baz=61,slow=8.5,SNR=3.7						
PDAR	**Pinedale Array**	**58.77**	**59**	P	**P**	**02 02 53.6**	**+0.7**
	comp=E,0.4nm,0.7s,baz=341,slow=3.1,SNR=4.6						
PDAR				pP	**sP**	**02 03 09.1**	**-0.3**
	comp=E,0.4nm,0.6s,baz=335,slow=2.1,SNR=4.2						
FINES	**FINESS Array B**	**60.87**	**336**	P	**P**	**02 03 05.7**	**-1.0**
	comp=E,2.0nm,1.0s,baz=28,slow=8.6,SNR=4.5						
TXAR	**Lajitas Array**	**71.81**	**66**	P	**P**	**02 04 17.7**	**+0.3**
	comp=E,0.4nm,0.5s,baz=304,slow=5.0,SNR=9.6						
TXAR				pP	**sP**	**02 04 33.2**	**-0.9**
	comp=E,0.4nm,0.5s,baz=300,slow=5.2,SNR=6.7						

*BJI **25** 02:05:14.2±0.0, 7°.64N×135°.13E, h10km, mb4.9/60, mB5.1/31, Ms4.6/7, Ms7 4.2/7*
*IDC **25** 02:05:17.3±0.5, 7°.97N×134°.84E, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.6/34, mbtmp4.6/24, ML4.2/1, MS3.7/22, Ms1 3.7/22, ms1mx3.4/78, Error ellipse: s-maj=22.9km s-min=11.7km az=86.0*
*NEIC **25** 02:05:21.2±2.4, 8°.01N±0°.08×134°.72E±0°.10, h16km±4km, mb5.0/75, Error ellipse: s-maj=14.8km s-min=11.1km az=112.0*
*DSN **25** 02:05:21.1±2.0, 8°.29N×134°.95E, h15km, mb5.5/14, Error ellipse: s-maj=56.8km s-min=22.0km az=91.0*
*DJA **25** 02:05:26.0±1.1, 8°.N±8°×13°.5E±°, h68km±7km, M4.8/35, mB5.3/7, mb4.8/35, Mw(mB)4.8/7, MwMwp5.0/1, Mwp5.3/1*
ISC 25 02:05:20.3±1.7, 7°.98N±0°.05×134°.78E±0°.07, h16km±10km, n250, σ1°.25/243, mb5.0/92, MS3.7/18, 6C-2D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I39PW	**PALAU INFRASON**	**0.50**	**208**	Pg	**Pg**	**02 05 29.0**	**-1.2**
	baz=38,slow=30,SNR=1.4						
I39PW				*i*		02 06 20.0	
	baz=13,slow=314,SNR=0.8						
SWI	**Sorong**	**9.46**	**202**	P	**Pn**	**02 07 37.4**	**+1.4**
	35nm,0.5s						
SIJI	**Sorong**	**9.46**	**202**	Pn	**Pn**	**02 07 34.4**	**-1.7**
	2.4nm,0.3s,baz=217,slow=20,SNR=2.3						
SIJI				LR	LR	02 10 36.8	
	comp=Z,523nm,18.1s,baz=304,slow=34						
SRPI	**Serui, Papua**	**9.89**	**171**	P	**Pn**	**02 07 44.1**	**+2.2**
	133nm,0.5s						
TNTI	**Ternate**	**10.29**	**226**	P	**Pn**	**02 07 48.0**	**+0.6**
	40nm,0.8s						
SMPI	**Sarmi**	**10.65**	**158**	P	**Pn**	**02 07 52.4**	**+0.1**
	54nm,1.4s						
FAKI	**Fak Fak**	**11.11**	**193**	P	**Pn**	**02 08 01.8**	**+3.1**
	20nm,0.8s						
FAKI	**Fak Fak**	**11.11**	**193**	Pn	**Pn**	**02 08 02.6**	**+3.9**
LBMI	**Labuha**	**11.22**	**221**	P	**Pn**	**02 08 04.5**	**+4.3**
	41nm,1.0s						
GUMO	**Guam**	**11.37**	**60**	LR	LR	02 11 37.3	
	comp=Z,200nm,20.2s,baz=132,slow=34						
GUMO	**Guam**	**11.37**	**60**	Pn	**Pn**	**02 08 03.6**	**+1.5**
JAY	**Jayapura**	**11.98**	**150**	LR	LR	02 12 04.5	
	comp=Z,586nm,19.8s,baz=299,slow=34						
MSAI	**Masohi**	**12.67**	**208**	P	**Pn**	**02 08 23.9**	**+3.9**
	978nm8.9nm,0.8s						
AAI	**Ambon**	**13.32**	**210**	P	**Pn**	**02 08 28.2**	**-0.7**
	2μm83nm,0.7s						
GTOI	**Gorontalo**	**13.81**	**239**	P	**Pn**	**02 08 36.9**	**+1.3**
	3μm12nm,0.9s						
MRSI	**Marisa**	**14.81**	**240**	P	**Pn**	**02 08 51.7**	**+2.5**
	2μm321nm,0.9s						
LUWI	**Luwuk**	**14.96**	**234**	P	**Pn**	**02 08 54.2**	**+3.0**
	68nm,1.1s						
LUWI	**Luwuk**	**14.96**	**234**		**Pn**	**02 08 51.4**	**+0.1**
TOLI2	**Tolitoli**	**15.53**	**245**		**Pn**	**02 08 57.7**	**-1.1**
TOLI2				IAmb	IAmb	02 09 05.9	
	comp=Z,49nm,0.8s						
APSI	**Ampana**	**15.79**	**237**	P	**P**	**02 09 04.9**	**-1.1**
	comp=Z,60nm,0.9s						
MYLDM	**Lahad Datu**	**16.41**	**261**		**P**	**02 09 16.3**	**+3.4**
MPSI	**Mapaga**	**16.66**	**244**	P	**Pn**	**02 09 13.4**	**0.0**
	comp=Z,1μmcomp=Z,29nm,1.4s						
TTSI	**Tana Toraja**	**18.51**	**234**	P	**P**	**02 09 35.7**	**-0.4**
	comp=Z,972nmcomp=Z,24nm,0.7s						
SPSI	**Sidrap Palu**	**19.11**	**232**	P	**Pn**	**02 09 43.7**	**+0.2**
	comp=Z,32nm,0.6s						
BNSI	**Bone**	**19.12**	**230**	P	**Pn**	**02 09 44.3**	**+0.6**
	comp=Z,34nm,1.1s						
SMKI	**Samarinda**	**19.42**	**245**	P	**Pn**	**02 09 48.4**	**+1.1**
	comp=Z,6μmcomp=Z,145nm,0.5s						
BKSI	**Bulukumba**	**19.71**	**228**	P	**P**	**02 09 49.9**	**+0.7**
	comp=Z,25nm,1.1s						
JOW	**Kunigami**	**19.75**	**343**	LR	LR	02 16 03.8	
	comp=Z,174nm,20.7s,baz=274,slow=33						
TWG	**Pinlang**	**19.79**	**320**	P	**Pn**	**02 09 51.3**	**-0.3**
BSSI	**Bau Bau, Buton**	**20.00**	**226**	P	**P**	**02 09 53.0**	**+0.6**
	comp=Z,58nm,1.8s						
YULB	**Yu-li**	**20.06**	**321**	P	**Pn**	**02 09 54.5**	**-0.4**
NACB	**Ninganchiao**	**20.46**	**323**	P	**P**	**02 09 58.5**	**+1.0**
NACB				IAmb	IAmb	02 10 05.4	
	comp=Z,87nm,1.1s						
SSLB	**Suanglung**	**20.56**	**321**	P	Pn	02 10 00.4	-0.4
SSLB				IAmb	IAmb	02 10 05.8	
	comp=Z,77nm,0.8s						
YHNB	**Yeheng**	**20.97**	**324**	P	Pn	02 10 04.9	-0.7
YHNB				IAmb	IAmb	02 10 14.1	
	comp=Z,84nm,1.0s						
BATI	**Baumata**	**21.19**	**212**	P	**P**	**02 10 04.2**	**-1.1**
	comp=Z,42nm,0.5s,baz=97,slow=2.1,SNR=7.1						
BATI	**Baumata**	**21.19**	**212**	P	**P**	**02 10 05.2**	**-0.1**
	comp=Z,49nm,1.0s						
PMG	**Port Moresby**	**21.22**	**144**	P	**P**	**02 10 04.0**	**-1.6**
	comp=Z,13nm,0.9s,baz=229,slow=19,SNR=1.9						
PMG				LR	LR	02 18 36.6	
	comp=Z,118nm,18.5s,baz=241,slow=38						
PMG	**Port Moresby**	**21.22**	**144**	P	**P**	**02 10 06.1**	**+0.5**
SBUM	**Sibu**	**23.12**	**257**	P	**P**	**02 10 26.9**	**+0.9**
COEN	**Coen**	**23.33**	**159**	P	**P**	**02 10 26.8**	**-1.2**
KSM	**Kuching**	**25.22**	**256**	P	**P**	**02 10 46.9**	**+1.2**
KSM				IAmb	IAmb	02 10 48.7	
	comp=Z,34nm,0.8s						
JNU	**Nakatsue**	**25.28**	**352**	P	**P**	**02 10 44.7**	**-1.4**
	comp=Z,24nm,0.9s,baz=226,slow=2.0,SNR=7.5						
JNU				LR	LR	02 21 35.4	
	comp=Z,153nm,18.4s,baz=270,slow=39						
JNU	**Nakatsue**	**25.28**	**352**	P	**P**	**02 10 46.2**	**+0.1**
KMMI	**Kalianget**	**25.57**	**235**	P	**P**	**02 10 47.7**	**-1.1**
	comp=Z,87nm,0.9s						
ABJI	**Asem Bagus**	**25.79**	**233**	P	**P**	**02 10 49.1**	**-1.7**
	comp=Z,32nm,0.8s						
JAGI	**Jajag, Banyuwa**	**26.26**	**232**	P	**P**	**02 10 53.0**	**-2.1**
	comp=Z,31nm,1.2s						
BLJI	**Banyuglugur**	**26.27**	**234**	P	**P**	**02 10 54.8**	**-0.4**
	comp=Z,2μmcomp=Z,12nm,0.5s						
GMJI	**Gumukmas**	**26.70**	**233**	P	**P**	**02 10 58.4**	**-0.7**
	comp=Z,39nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.44**	**199**	P	**P**	**02 11 04.3**	**-1.3**
	comp=Z,3.1nm,0.6s,baz=35,slow=8.7,SNR=12						
WB0	**Warramunga Arr**	**27.57**	**181**	P	**P**	**02 11 07.0**	**+0.2**
WB2	**Warramunga Arr**	**27.75**	**181**	P	**P**	**02 11 05.2**	**-3.2**
WRA	**Warramunga Arr**	**27.75**	**181**	P	**P**	**02 11 09.6**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=2.6,slow=11,SNR=5.1						
WRA				LR	LR	02 22 37.4	
	comp=Z,119nm,18.3s,baz=36,slow=38						
WR0	**Warramunga Arr**	**27.76**	**180**	P	**P**	**02 11 06.8**	**-1.7**
NJ2	**Nanjing**	**28.17**	**330**	*e*P	**P**	**02 11 12.4**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.9s						
MJAR	**Matsushiro Arr**	**28.61**	**6**	LR	LR	02 20 26.5	
	comp=Z,191nm,20.8s,baz=236,slow=32						
KSRS	**Korea Array**	**30.00**	**349**	LR	LR	02 23 12.3	
	comp=Z,56nm,20.1s,baz=310,slow=36						
CTA	**Charters Tower**	**30.09**	**158**	LR	LR	02 24 51.4	
	comp=Z,91nm,18.1s,baz=272,slow=39						
HNR	**Honiara**	**30.45**	**124**	LR	LR	02 22 14.9	
	comp=Z,150nm,22.0s,baz=321,slow=34						
AS31	**Alice Springs**	**31.46**	**182**	P	**P**	**02 11 42.0**	**+0.7**
ASAR	**Alice Springs**	**31.46**	**182**	P	**P**	**02 11 41.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=7.9,slow=8.4,SNR=8.5						
ASAR				PcP	**PcP**	**02 14 34.5**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=2.3,slow=1.8,SNR=6.8						
ASAR				LR	LR	02 24 55.9	
	comp=Z,126nm,18.8s,baz=312,slow=38						
ASAR	**Alice Springs**	**31.46**	**182**	P	**P**	**02 11 42.2**	**+0.8**
GYA	**Guiyang**	**32.42**	**308**	⇓P	**P**	**02 11 51.6**	**+1.7**
GYA				sP	sP	02 12 00.1	+3.6
GYA				pmax	pmax		
	comp=Z,22nm,0.6s						
LYN	**LuoYang**	**33.48**	**325**	*e*P	**P**	**02 11 59.1**	**+0.2**
LYN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HNS	**HongShan**	**34.49**	**331**	⇑P	**P**	**02 12 07.8**	**+0.1**
HNS				pmax	pmax		
	comp=Z,19nm,1.2s						
KMI	**Kunming**	**34.99**	**303**	⇑P	**P**	**02 12 14.3**	**+1.8**
KMI				sP	sP	02 12 22.0	+2.9
KMI				pmax	pmax		
	comp=Z,16nm,0.7s						
XAN	**Xi'an**	**35.23**	**321**	⇑P	**P**	**02 12 14.3**	**+0.2**
XAN				PcP	**PcP**	**02 14 45.3**	**+0.3**
XAN				S	**S**	**02 17 48.5**	**+1.3**
XAN				pmax	pmax		
	comp=Z,39nm,0.8s						
BJI	**Beijing**	**36.01**	**335**	P	**P**	**02 12 20.8**	**+0.1**
BJI				pmax	pmax		
	comp=Z,13nm,1.2s						
USRK	**Ussuriysk Ar.**	**36.17**	**357**	P	**P**	**02 12 22.9**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=166,slow=8.8,SNR=7.0						
CM31	**Chiang Mai Arr**	**36.34**	**290**	P	**P**	**02 12 24.8**	**+0.9**
CM31				IAmb	IAmb	02 12 25.7	
	comp=Z,20nm,0.8s						
CMAR	**Chiang Mai Arr**	**36.34**	**290**	P	**P**	**02 12 25.1**	**+1.2**
	comp=Z,13nm,0.8s,baz=105,slow=6.5,SNR=37						
CMAR				PcP	**PcP**	**02 14 48.5**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=74,slow=1.7,SNR=5.6						
CMAR				LR	LR	02 28 43.8	
	comp=Z,56nm,18.2s,baz=105,slow=39						
CMAR	**Chiang Mai Arr**	**36.34**	**290**	P	**P**	**02 12 24.1**	**+0.2**
PZH	**PanZhiHua**	**36.37**	**305**	P	**P**	**02 12 24.8**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,270nm,5.5s						
CHTO	**Chiang Mai**	**36.41**	**291**	P	**P**	**02 12 24.4**	**-0.1**
CN2	**Changchun**	**36.61**	**349**	*e*P	**P**	**02 12 26.1**	**+0.3**
CN2				*e*sP	sP	02 12 35.0	+3.6
CN2				*e*S	**S**	**02 18 07.5**	**-0.6**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
EIDS	**Eidsvold**	**36.75**	**155**	P	**P**	**02 12 28.1**	**+1.0**
GSI	**Gunungsitoli**	**37.65**	**262**	P	**P**	**02 12 33.5**	**-1.6**
BNX	**BinXian**	**38.16**	**352**	⇓P	**P**	**02 12 39.9**	**+1.0**
BNX				pmax	pmax		
	comp=Z,70nm,0.8s						
BNX				pmax	pmax		
	comp=Z,290nm,3.9s						
HHC	**Hu-ho-hao-te**	**38.71**	**331**	*e*P	**P**	**02 12 44.8**	**+1.0**
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,250nm,5.2s						
FORT	**Forrest**	**39.07**	**189**	P	**P**	**02 12 45.8**	**-1.0**
FORT				IAmb	IAmb	02 13 03.4	
	comp=Z,29nm,0.7s						
LZH	**Lanzhou**	**39.74**	**319**	⇑P	**P**	**02 12 53.9**	**+1.4**
LZH				pP	sP	02 13 01.5	+2.2
LZH				sP	pP	02 13 04.4	+7.1
LZH				SS	SS	02 21 48.5	-3.5
LZH				pmax	pmax		
	comp=Z,92nm,1.3s						
LZH				pmax	pmax		
	comp=Z,160nm,5.4s						
STKA	**Stephens Creek**	**40.16**	**171**	P	**P**	**02 12 54.9**	**-0.9**
	comp=Z,6.0nm,0.9s,baz=325,slow=8.7,SNR=7.3						
STKA	**Stephens Creek**	**40.16**	**171**	P	**P**	**02 12 57.8**	**+2.0**
KLR	**Kul'dur**	**41.20**	**357**	LR	LR	02 27 16.1	
	comp=Z,121nm,20.7s,baz=322,slow=32						
DZM	**Mont Dzumac**	**43.07**	**135**	LR	LR	02 29 11.0	
	comp=Z,132nm,18.1s,baz=82,slow=33						
GTA	**Gaotai**	**44.28**	**321**	⇑P	**P**	**02 13 30.1**	**+0.6**
GTA				pP	pP	02 13 35.4	+1.0
GTA				sP	sP	02 13 40.0	+3.7
GTA				PcP	**PcP**	**02 15 14.1**	**+0.3**
GTA				pmax	pmax		
	comp=Z,26nm,1.0s						
GOMU	**GeErMu**	**45.97**	**314**	P	**P**	**02 13 44.3**	**+1.0**
GOMU				pP	pP	02 13 49.0	+0.8
GOMU				sP	sP	02 13 53.5	+3.4
GOMU				pmax	pmax		
	comp=Z,11nm,1.1s						
GOMU				pmax	pmax		
	comp=Z,38nm,3.6s						
ULN	**Ulaanbaatar**	**46.19**	**334**	P	**P**	**02 13 44.7**	**0.0**
ULN				IAmb	IAmb	02 13 46.5	
	comp=Z,21nm,1.3s						
LSA	**Lhasa**	**46.24**	**304**	P	**P**	**02 13 47.3**	**+1.6**
LSA				pmax	pmax		
	comp=Z,83nm,0.8s						
SONM	**Songino Array**	**46.45**	**334**	P	**P**	**02 13 47.3**	**+0.6**
	comp=Z,7.7n

KSH pmax pmax
comp=Z,33nm,0.9s
MDOK Medeo 61.26 315 *e*P **P** 02 15 35.4 +0.2
baz=315
CHKK Chushkaly 61.51 316 *e*P **P** 02 15 36.4 -0.2
baz=316
SEM Semipalatinsk 61.73 324 *i* P **P** 02 15 36.9 -1.3
baz=324
BOOM Boomskoye usch 61.85 314 P **P** 02 15 39.8 +0.6
BOOM IAmb IAmb 02 15 40.9
comp=Z,20nm,1.4s
KUU Kurty 61.97 316 *e*P **P** 02 15 39.6 -0.1
comp=Z,11nm,0.9s,baz=316
NIL Nilore 61.98 304 P **P** 02 15 39.9 -0.1
TKM2 Tokmak 2 62.21 315 P **P** 02 15 42.3 +0.7
SNR=6.8
KBK Karagaybulak 62.60 314 P **P** 02 15 45.0 +0.8
SNR=6.1
UCH Uchtor 62.80 314 P **P** 02 15 47.0 +1.2
SNR=22
KURK Kurchatov 62.81 324 P **P** 02 15 45.0 -0.2
CHMS Chumysh 62.83 314 P **P** 02 15 46.0 +0.4
SNR=6.9
FRU1 Bishkek 62.87 314 P **P** 02 15 46.4 +0.6
AAK Ala-Archa 62.92 314 LR LR 02 45 34.0
comp=Z,44nm,18.1s,baz=54,slow=38
AAK Ala-Archa 62.92 314 P **P** 02 15 45.6 -0.7
AAK Ala-Archa 62.92 314 P **P** 02 15 46.1 -0.2
SGDS Sogindy 63.03 315 *e*P **P** 02 15 46.5 -0.4
baz=315
USP Ospenovka 63.08 315 P **P** 02 15 47.7 +0.5
SNR=8.8
AML Almayashu 63.37 313 P **P** 02 15 50.7 +1.2
SNR=15
AML Almayashu 63.37 313 *i* P **P** 02 15 50.3 +0.8
SNR=15
EKS2 Erkin-Say 63.44 314 P **P** 02 15 50.6 +1.0
SNR=8.1
TIXI Tiksi 63.72 358 LR LR 02 43 08.9
comp=Z,96nm,18.5s,baz=302,slow=36
TIXI Tiksi 63.72 358 P **P** 02 15 49.5 -1.2
BTLS Baital 63.87 316 *e*P **P** 02 15 52.0 -0.3
comp=Z,4.9nm,1.1s,baz=316
DRK Karamyk 64.18 310 P **P** 02 15 55.2 +0.3
DRK IAmb IAmb 02 15 56.7
comp=Z,26nm,1.3s
BTK Batken 65.04 310 P **P** 02 16 00.1 0.0
BTK IAmb IAmb 02 16 01.8
comp=Z,28nm,1.2s
DZA Taraz 65.24 314 *e*P **P** 02 16 01.3 -0.1
comp=Z,3.5nm,0.6s,baz=314
KBL Kabul 65.56 304 P **P** 02 16 03.1 -0.7
KBL IAmb IAmb 02 16 04.6
comp=Z,14nm,0.8s
KKAR Karatay Array 65.87 314 P **P** 02 16 05.0 -0.5
IUG Iuzhnay 66.03 313 *e*P **P** 02 16 06.6 0.0
baz=313
CHGR Chuyangaron 66.06 309 P **P** 02 16 06.8 0.0
BRZS Berezniki 66.15 321 *e*P **P** 02 16 06.3 -0.7
comp=Z,5.6nm,0.9s,baz=321
BRLS Borolday 66.34 314 *e*P **P** 02 16 08.2 -0.3
baz=313
TAS Tashkent 66.41 312 P **P** 02 16 09.0 +0.1
NRIK Noril'sk 68.43 344 P **P** 02 16 20.8 -0.4
comp=Z,1.2nm,0.4s,baz=127,slow=8.7,SNR=4.3
BRVK Borovoye 68.45 324 P **P** 02 16 21.5 0.0
ANM Nome 70.17 23 P **P** 02 16 32.1 +0.1
ANM Nome 70.17 23 P **P** 02 16 33.2 +1.2
baz=246
HRA Herat 71.14 304 P **P** 02 16 37.9 -0.9
HRA IAmb IAmb 02 16 39.8
comp=Z,13nm,0.9s
GCSA Galena City Sc 73.66 25 P **P** 02 16 54.1 +1.2
baz=254
L19K White Mountain 73.87 27 P **P** 02 16 55.3 +1.1
L19K White Mountain 73.87 27 P **P** 02 16 55.7 +1.5
baz=256
ABKAR Akbulak array 74.11 319 P **P** 02 16 55.0 -0.8
GEYT Alibeck 74.63 307 P **P** 02 17 00.2 +0.9
comp=Z,5.7nm,0.8s,baz=205,slow=6.6,SNR=7.3
GYA0B ALIBECK ARRAY 74.63 307 P **P** 02 16 57.5 -1.7
GYA0B IAmb IAmb 02 17 01.1
comp=Z,41nm,1.7s
J20K Nowinta River 74.65 25 P **P** 02 16 59.8 +1.0
J20K IAmb IAmb 02 17 60.0
comp=Z,16nm,1.5s
J20K Nowinta River 74.65 25 P **P** 02 16 60.0 +1.2
baz=256
CAST Castle Rocks 75.38 26 P **P** 02 17 01.5 -1.5
CAST IAmb IAmb 02 17 11.7
comp=Z,18nm,1.6s
CAST Castle Rocks 75.38 26 P **P** 02 17 04.0 +1.0
baz=258
H21K Melozitna Rive 75.55 24 P **P** 02 17 05.4 +1.4
baz=257
ARU Arti 75.78 326 P **P** 02 17 03.7 -1.6
ARU IAmb IAmb 02 17 05.4
comp=Z,13nm,0.6s
I21K Tanana 75.78 25 P **P** 02 17 06.5 +1.2
baz=258
BPAW Bear Paw Mtn. 75.99 26 P **P** 02 17 07.2 +0.7
BPAW IAmb IAmb 02 17 08.6
comp=Z,22nm,1.6s
BANOM Banah 76.23 295 *i* P **P** 02 17 09.3 +0.6
SNR=12
UOSS Minazif 76.36 294 P **P** 02 17 08.7 -0.6
UOSS IAmb IAmb 02 17 10.1
comp=Z,8.9nm,0.8s
UOSS Minazif 76.36 294 P **P** 02 17 09.2 -0.1
SHME Shamm 76.37 295 *i* P **P** 02 17 09.7 +0.4
SNR=8.7
MSFE Esma-Masafi 76.38 294 *i* P **P** 02 17 10.5 +1.0
SNR=12
HATD Hatta, Dubai 76.43 294 *i* P **P** 02 17 10.1 +0.3
SNR=8.4
KNK Knik Glacier 76.70 29 P **P** 02 17 11.2 +0.7
baz=262
ALNE Al Ain 76.81 293 *i* P **P** 02 17 12.3 +0.4
SNR=6.7
MCK McKinley 76.82 26 P **P** 02 17 10.9 -0.3
MCK IAmb IAmb 02 17 25.1
comp=Z,48nm,1.9s
MCK McKinley 76.82 26 P **P** 02 17 11.8 +0.6
baz=261
NAZ Nazwa, Dubai 76.85 294 P **P** 02 17 12.3 +0.2
I23K Minto, Yukon-K 76.87 25 P **P** 02 17 12.5 +1.1
baz=260
COLD Coldfoot 76.90 23 P **P** 02 17 11.2 -0.4
COLD Coldfoot 76.90 23 P **P** 02 17 12.9 +1.4
baz=259
FAQ Al Faqa, Dubai 76.92 294 *i* P **P** 02 17 13.0 +0.4
SNR=6.7
ASUD Al Ashush, Dub 77.17 293 *i* P **P** 02 17 14.3 +0.4
SNR=6.0
SCM Sheep Creek Mo 77.29 28 P **P** 02 17 14.7 +0.7
CCB Clear Creek Bu 77.45 25 P **P** 02 17 14.6 -0.1
CCB IAmb IAmb 02 19 07.5
comp=Z,20nm,1.8s
AJN Ajban 77.48 293 P **P** 02 17 16.2 +0.6
H24K Noodor Dome 77.58 24 P **P** 02 17 15.5 0.0
HDA Harding Lake 77.78 26 P **P** 02 17 17.1 +0.6
HDA IAmb IAmb 02 18 22.9
comp=Z,30nm,1.8s
IL31 77.85 25 P **P** 02 17 15.6 -1.3
IL31 IAmb IAmb 02 17 27.0
comp=Z,33nm,1.9s
ILAR Eielson Array 77.85 25 P **P** 02 17 16.2 -0.7
comp=Z,1.4nm,0.7s,baz=238,slow=6.0,SNR=20
ILAR Eielson Array 77.85 25 P **P** 02 17 16.0 -0.9
J25K Salcha River, 78.48 26 P **P** 02 17 19.5 -1.0
J25K IAmb IAmb 02 19 16.4
comp=Z,21nm,1.9s
J26L Joseph Creek 79.25 26 P **P** 02 17 24.3 -0.5
J26L IAmb IAmb 02 19 06.5
comp=Z,22nm,1.9s
J26L Joseph Creek 79.25 26 P **P** 02 17 24.9 +0.1
baz=266
SOCY Socotra 79.41 281 P **P** 02 17 26.0 -0.6
SOCY IAmb IAmb 02 17 26.6
comp=Z,17nm,0.8s
KIRV Kirov 80.83 328 LR LR 02 55 28.7
comp=Z,112nm,20.1s,baz=82,slow=37
DAWY Dawson 81.05 26 P **P** 02 17 35.2 +0.8
DAWY IAmb IAmb 02 19 23.4
comp=Z,37nm,2.0s
DAWY Dawson 81.05 26 P **P** 02 17 35.7 +1.2
baz=270
I29M Ogilvie Camp, 81.52 25 P **P** 02 17 38.6 +1.7
I29M IAmb IAmb 02 18 14.7
comp=Z,14nm,0.7s
EPYK Eagle Plains 82.15 24 P **P** 02 17 40.7 +0.5
EPYK IAmb IAmb 02 17 42.3
comp=Z,38nm,1.6s
EPYK Eagle Plains 82.15 24 P **P** 02 17 41.6 +1.4
baz=272
N31M Braeburn, Yuko 82.78 29 P **P** 02 17 46.4 +2.8
baz=273
INK Inuvik 83.28 22 P **P** 02 17 46.0 +0.1
INK IAmb IAmb 02 17 47.2
comp=Z,15nm,1.1s
INK Inuvik 83.28 22 P **P** 02 17 46.3 +0.4
baz=275
WHY Whitehorse 83.28 30 P **P** 02 17 47.6 +1.3
WHY IAmb IAmb 02 20 19.0
comp=Z,24nm,1.6s
FARO Faro, Yukon 83.88 28 P **P** 02 17 51.2 +2.0
baz=275
A36M Sachs Harbour 85.55 18 P **P** 02 17 57.7 +0.4
A36M Sachs Harbour 85.55 18 P **P** 02 17 58.1 +0.7
baz=282
KLMR Klimovskoe 85.66 331 *e*P **P** 02 17 55.9 -2.2
KLMR AMP 02 17 57.3
comp=Z,11nm,0.9s
KBZ Khabaz 85.91 313 P **P** 02 17 59.5 -0.2
comp=Z,4.8nm,0.9s,baz=150,slow=5.5,SNR=9.1
RAYN Ar Rayn 86.21 293 P **P** 02 18 01.8 0.0
RAYN IAmb IAmb 02 18 02.4
comp=Z,9.1nm,0.8s
RAYN Ar Rayn 86.21 293 P **P** 02 18 02.1 +0.3
C36M Paulatuk 86.51 20 P **P** 02 18 01.5 -0.6
C36M IAmb IAmb 02 18 04.0
comp=Z,5.6nm,0.6s
C36M Paulatuk 86.51 20 P **P** 02 18 02.1 0.0
baz=283
SIRT Sirnak 87.06 307 P **P** 02 18 05.7 0.0
ARCES ARCESS Array B 89.20 341 P **P** 02 18 13.5 -1.5
comp=Z,12nm,0.7s,baz=78,slow=5.6,SNR=39
ARCES ARCESS Array B 89.20 341 P **P** 02 18 13.8 -1.3
FINES FINESS Array B 91.82 333 P **P** 02 18 25.6 -1.8
comp=Z,3.6nm,0.6s,baz=80,slow=5.2,SNR=20
YKA Yellowknife Ar 92.28 26 P **P** 02 18 28.8 -0.7
comp=Z,1.5nm,0.7s,baz=296,slow=4.7,SNR=22
YKA Yellowknife Ar 92.28 26 P **P** 02 18 28.1 -1.4
BRTR Keskin Array B 93.43 311 P **P** 02 18 33.5 -2.1
comp=Z,0.8nm,0.8s,baz=73,slow=4.4,SNR=3.8
AKASG Malin Array Be 93.59 322 P **P** 02 18 33.8 -2.0
comp=Z,1.4nm,0.8s,baz=64,slow=4.2,SNR=6.3
AKASG LR LR 03 04 34.2
comp=Z,40nm,18.1s,baz=18,slow=38
HFS Hagfors 97.85 334 LR LR 03 07 42.4
comp=Z,90nm,18.1s,baz=58,slow=38
NVAR Mina Array Bea 98.11 49 P **P** 02 18 56.8 -0.2
comp=Z,1.1nm,0.7s,baz=267,slow=5.9,SNR=9.1
NOA NORSAR Array B 98.40 336 LR LR 03 07 50.5
comp=Z,37nm,18.1s,baz=75,slow=38
SYO Syowa Base 99.26 201⇑ epPdiff **Pdif** 02 19 07.8 +6.8
GERES GERESS Array B 103.55 324 Pdiff **Pdif** 02 19 19.7 -1.1
comp=Z,0.2nm,0.4s,baz=9.5,slow=4.1,SNR=4.2
TORD Torodi Ar. Bea 128.90 294 PKP **PKPdf** 02 24 27.3 -1.0
comp=Z,2μm,0.4s,baz=49,slow=1.4,SNR=5.3
PLCA Paso Flores 140.34 149 PKP **PKPdf** 02 24 49.5 +0.4
comp=Z,1.1nm,0.7s,baz=2.6,slow=4.9,SNR=2.8
OTAV Otavalo 145.88 78 *i* P **PKPbc** 02 25 01.6 +0.9
CBOC Ciudad Bolivar 146.35 67 *i* P **PKPdf** 02 25 01.6 +1.1
PLMC San Jos del P 146.47 69 *i* P **PKPdf** 02 25 01.6 +1.0
ZARC Zaragoza, Cauc 146.69 63 **PKPdf** 02 24 58.5 -2.4
SMLC San Martn de 146.77 60 *i* P **PKPdf** 02 25 01.6 +0.6
POPC Popayan, Colom 146.93 73 *i* P **PKPdf** 02 25 01.6 0.0
SOTA Rioblanco 147.12 73 *i* P **PKPdf** 02 25 03.6 +1.3
GUY2C Guyana, Caldas 147.19 67 *i* P **PKPdf** 02 25 03.6 +1.2
PCON Cinco Dias 147.26 73 *i* P **PKPbc** 02 25 05.5 +0.6
ANIL Santa Ana 147.44 69 *i* P **PKPdf** 02 25 04.5 +2.0
PTBC PUERTO BERRIO 147.47 64 *i* P **PKPbc** 02 25 06.5 +1.7
SPBC San Pablo de B 148.19 66 *i* P **PKPdf** 02 25 03.6 0.0
PRAC Prado 148.21 70 *i* P **PKPdf** 02 25 05.5 +2.0
PAMC Pamplona, Colo 148.66 62 *i* P **PKPbc** 02 25 08.4 -0.1
CHIC Chingaza 148.92 67 *i* P **PKPdf** 02 25 06.5 +1.4
RUSC La Rusia 148.98 64 *i* P **PKPbc** 02 25 08.4 -0.9
SDV Santo Domingo 149.64 57 *i* P **PKPdf** 02 25 05.5 -0.5
MACC Macarena, Meta 149.72 72 *i* P **PKPbc** 02 25 09.4 -1.2
SOCV Socops 149.77 58 *i* P **PKPdf** 02 25 08.4 +2.4

MAN ***25*** *02:59:28.2, 13°.69N×120°.43E, h88km, mb4.6, ML3.5, MS3.3*
IDC ***25*** *02:59:28.6±0.8, 13°.82N×120°.83E, h115km±4km, mb3.6/14, mb1 3.8/14, mb1mx3.6/38, mbtmp4.0/14, MS2.4/1, Ms1 2.4/1, ms1mx2.2/85, Error ellipse: s-maj=28.5km s-min=15.5km az=68.0*
NEIC ***25*** *02:59:30.0±1.2, 13°.99N±0°.05×120°.7E±0°.2, h109km±8km, mb4.2/20, Error ellipse: s-maj=31.0km s-min=2.3km az=104.0*
ISC 25 02:59:28.5±0.6, 13°.73N±0°.05×120°.63E±0°.09, h111km±5km, n63, σ1ˢ17/73, mb4.1/24, 5C-5D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**270**⇑	*i* P	**Pn**	**02 59 44.1**	**-0.6**
LUBP				*i* S	**Sn**	**02 59 56.4**	**-0.5**
PGP	**Puerto Galera**	**0.39**	**126**⇑	*e* P	**Pn**	**02 59 44.3**	**-0.6**
PGP				*i* S	**Sn**	**02 59 55.8**	**-1.4**
TGY	**Tagaytay City**	**0.47**	**39**	P	**Pn**	**02 59 46.0**	**+0.6**
	319nm,0.3s,baz=190,slow=1.7,SNR=11						
TGY				S	**Sn**	**02 59 59.0**	**+0.9**
	3μm,0.3s,baz=337,slow=23,SNR=20						
TGY	**Tagaytay City**	**0.47**	**39**⇓	*e* P	**Pn**	**02 59 46.1**	**+0.7**
TGY				*i* S	**Sn**	**02 59 59.1**	**+1.0**
MACP	**Maragondon, Ca**	**0.54**	**9**⇓	*i* P	**Pn**	**02 59 45.2**	**-0.5**
MACP				*e* S	**Sn**	**02 59 57.7**	**-1.0**
QVP	**Quezon City--P**	**0.96**	**22**⇓	*e* P	**Pn**	**02 59 50.0**	**+0.7**
QVP				*e* S	**Sn**	**03 00 07.3**	**+2.2**
SJMP	**San Jose**	**1.35**	**159**⇓	*i* P	**Pn**	**02 59 53.9**	**+0.2**
SJMP				*e* S	**Sn**	**03 00 12.7**	**0.0**
PCPH	**Palayan**	**1.87**	**14**⇓	*e* P	**Pn**	**02 59 59.7**	**-0.3**
PCPH				*e* S	**Sn**	**03 00 23.7**	**-0.3**
BALP	**Baler**	**2.20**	**25**⇑	*e* P	**Pn**	**03 00 05.5**	**+1.5**
BALP				*i* S	**Sn**	**03 00 35.6**	**+4.3**
APYP	**Conner**	**4.15**	**8**⇑	*e* P	**Pn**	**03 00 32.3**	**+2.4**
MYLDM	**Lahad Datu**	**8.75**	**194**	Pn	**Pn**	**03 01 36.8**	**+4.5**
SBUM	**Sibu**	**13.96**	**217**	P	**P**	**03 02 48.9**	**+2.9**
CMAR	**Chiang Mai Arr**	**21.35**	**286**	P	**P**	**03 04 09.2**	**+2.1**
	1.7nm,0.3s,baz=95,slow=7.3,SNR=6.2						
XAN	**Xi'an**	**22.84**	**334**	⇑P	**P**	**03 04 21.8**	**-0.5**
XAN				pP	pP	03 04 37.6	-6.3
XAN				pmax	pmax		
comp=Z,11nm,1.0s							
KSRS	**Korea Array**	**24.50**	**14**	LR	LR	03 13 25.1	
comp=Z,9.0nm,20.5s,baz=315,slow=34							
GTA	**Gaotai**	**31.48**	**328**	*e* P	**P**	**03 05 40.3**	**+0.5**
GTA				pmax	pmax		
comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**36.01**	**344**	P	**P**	**03 06 19.0**	**0.0**
comp=Z,3.9nm,0.8s,baz=162,slow=9.7,SNR=26							
SONM	**Songino Array**	**36.01**	**344**	P	**P**	**03 06 18.9**	**0.0**
SONM				IAmb	IAmb	03 06 20.0	
comp=Z,2.5nm,0.8s							
WRA	**Warramunga Arr**	**36.08**	**158**	P	**P**	**03 06 18.8**	**-0.9**
comp=Z,0.2nm,0.6s,baz=330,slow=10,SNR=1.6							
WRA				pP	**pP**	**03 06 43.3**	**-1.4**
comp=Z,0.9nm,0.7s,baz=334,slow=9.8,SNR=4.9							
KLR	**Kul'dur**	**36.56**	**12**	P	**P**	**03 06 22.3**	**-1.2**
comp=Z,0.9nm,0.5s,baz=206,slow=8.5,SNR=5.0							
ASAR	**Alice Springs**	**39.37**	**161**	P	**P**	**03 06 47.4**	**0.0**
comp=Z,0.3nm,0.5s,baz=338,slow=6.4,SNR=4.3							
ASAR				pP	**pP**	**03 07 12.9**	**+0.2**
comp=Z,0.6nm,0.6s,baz=336,slow=7.1,SNR=7.7							
MK31	**Makanchi Array**	**45.97**	**324**	P	**P**	**03 07 40.1**	**-0.4**
MK31				IAmb	IAmb	03 07 41.9	
comp=Z,3.5nm,0.8s							
MKAR	**Makanchi Array**	**45.97**	**324**	P	**P**	**03 07 41.1**	**+0.6**
comp=Z,3.7nm,0.7s,baz=131,slow=8.9,SNR=36							
MKAR	**Makanchi Array**	**45.97**	**324**	P	**P**	**03 07 40.0**	**-0.5**
BOOM	**Boomskoye usch**	**47.95**	**316**	P	**P**	**03 07 56.7**	**+0.5**
BOOM				IAmb	IAmb	03 07 58.4	
comp=Z,4.3nm,1.1s							
ZAA0	**Zalesovo Array**	**49.00**	**333**	P	**P**	**03 08 03.3**	**-0.5**
ZALV	**Zalesovo Beam**	**49.00**	**333**	P	**P**	**03 08 03.2**	**-0.6**
comp=Z,2.7nm,0.3s,baz=123,slow=7.0,SNR=11							
ZALV	**Zalesovo Beam**	**49.00**	**333**	P	**P**	**03 08 03.3**	**-0.4**
KURK	**Kurchatov**	**50.12**	**326**	P	**P**	**03 08 13.0**	**+0.6**
KKAR	**Karatay Array**	**51.90**	**314**	P	**P**	**03 08 26.4**	**+0.6**
BRVK	**Borovoye**	**55.78**	**326**	P	**P**	**03 08 54.1**	**+0.2**
NRIK	**Noril'sk**	**59.37**	**347**	P	**P**	**03 09 17.9**	**-0.8**
comp=Z,2.4nm,0.4s,baz=139,slow=6.1,SNR=4.7							
ABKAR	**Akbulak array**	**60.66**	**319**	P	**P**	**03 09 27.8**	**-0.2**
ABKAR				IAmb	IAmb	03 09 28.5	
comp=Z,2.7nm,0.8s							
ARU	**Arti**	**63.32**	**327**	P	**P**	**03 09 44.9**	**-0.7**
TTA	**Tatalina**	**74.86**	**28**	P	**P**	**03 10 57.2**	**+0.3**
J20K	**Nowinta River**	**75.67**	**27**	P	**P**	**03 11 01.8**	**+0.4**
J20K				IAmb	IAmb	03 11 27.9	
comp=Z,2.8nm,1.1s							
IMAR	**Indian Mountai**	**75.78**	**25**	P	**P**	**03 11 02.2**	**+0.3**
H21K	**Melozitna Rive**	**76.18**	**25**	P	**P**	**03 11 05.1**	**+0.8**
CAST	**Castle Rocks**	**76.62**	**28**	P	**P**	**03 11 07.3**	**+0.5**
CAST				IAmb	IAmb	03 11 07.9	
comp=Z,4.2nm,1.2s							
BPAW	**Bear Paw Mtn.**	**77.06**	**27**	P	**P**	**03 11 09.6**	**+0.3**
MCK	**McKinley**	**78.00**	**27**	P	**P**	**03 11 14.2**	**-0.3**
MCK				IAmb	IAmb	03 11 17.9	
comp=Z,3.2nm,1.0s							
RND	**Reindeer**	**78.07**	**27**	P	**P**	**03 11 14.3**	**-0.7**
RND				IAmb	IAmb	03 11 14.3	
comp=Z,5.6nm,1.1s							
WRH	**Wood River Hil**	**78.28**	**26**	P	**P**	**03 11 15.3**	**-0.7**
CCB	**Clear Creek Bu**	**78.38**	**26**	P	**P**	**03 11 16.5**	**0.0**
ILAR	**Eielson Array**	**78.75**	**26**	P	**P**	**03 11 17.8**	**-0.8**
comp=Z,1.4nm,1.2s,baz=298,slow=3.9,SNR=2.9							
ARCES	**ARCESS Array B**	**79.03**	**339**	P	**P**	**03 11 19.0**	**-1.1**
comp=Z,2.9nm,0.9s,baz=348,slow=5.1,SNR=14							
ARCES	**ARCESS Array B**	**79.03**	**339**	P	**P**	**03 11 19.2**	**-0.9**
ARCES				IAmb	IAmb	03 11 42.9	
comp=Z,4.9nm,1.1s							
BRTR	**Keskin Array B**	**79.08**	**308**	P	**P**	**03 11 20.6**	**-0.4**
comp=Z,1.0nm,0.9s,baz=146,slow=4.5,SNR=4.2							
BRTR	**Keskin Array B**	**79.08**	**308**	P	**P**	**03 11 20.2**	**-0.9**
BMAR	**Burnt Mountain**	**79.26**	**23**	P	**P**	**03 11 21.9**	**+0.6**
FINES	**FINESS Array B**	**80.22**	**331**	P	**P**	**03 11 25.6**	**-0.9**
comp=Z,0.7nm,0.7s,baz=56,slow=7.1,SNR=5.1							
FINES	**FINESS Array B**	**80.22**	**331**	P	**P**	**03 11 25.4**	**-1.2**
BCAR	**Beaver Creek A**	**81.28**	**27**	P	**P**	**03 11 32.9**	**+0.6**
ELL	**Elmali**	**82.49**	**306**	P	**P**	**03 11 39.2**	**0.0**
EPYK	**Eagle Plains**	**82.53**	**23**	P	**P**	**03 11 38.5**	**-0.2**
BURAR	**Bucovina Array**	**83.59**	**317**	P	**P**	**03 11 44.9**	**+0.2**
BURAR				IAmb	IAmb	03 11 45.3	
comp=Z,1.2nm,0.6s							
BUR08	**Bucovina Ar. S**	**83.59**	**317**	P	**P**	**03 11 44.2**	**-0.5**
NB2	**NORSAR Subarra**	**87.20**	**333**	P	**P**	**03 12 00.6**	**-1.7**
comp=Z,4.6nm,1.7s,baz=69,slow=4.6							
NOA	**NORSAR Array B**	**87.20**	**333**	P	**P**	**03 12 00.9**	**-1.3**
comp=Z,0.6nm,0.6s,baz=38,slow=6.2,SNR=3.8							
YKA	**Yellowknife Ar**	**92.77**	**22**	P	**P**	**03 12 27.2**	**-1.0**
comp=Z,0.2nm,0.8s,baz=308,slow=4.4,SNR=5.0							
T35A	**Sooner Cattle**	**118.67**	**33**	PKPdf	**PKiKP**	**03 18 04.7**	**+0.7**
PLCA	**Paso Flores**	**151.38**	**162**	PKPbc	**PKPbc**	**03 19 09.9**	**+0.2**
comp=Z,1.0nm,0.6s,baz=322,slow=4.0,SNR=3.7							
PLCA	**Paso Flores**	**151.38**	**162**	PKPbc	**PKPbc**	**03 19 09.6**	**-0.1**

IDC ***25*** *03:42:13.1±0.6, 23°.21N×143°.71E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.6/26, mbtmp3.6/7, MS2.8/1, Ms1 2.8/1, ms1mx2.3/70, Error ellipse: s-maj=19.3km s-min=14.1km az=115.0*
ISC 25 03:42:19.8±1.0, 23°.2N±0°.2×143°.6E±0°.3, h48km, n8, σ0ˢ81/7, mb3.6/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**19.62**	**320**	LR	LR	03 53 58.6	
comp=Z,29nm,18.5s,baz=125,slow=36							
WRA	**Warramunga Arr**	**43.81**	**190**	P	**P**	**03 50 20.9**	**-0.3**
0.3nm,0.5s,baz=16,slow=8.7,SNR=3.1							
ASAR	**Alice Springs**	**47.52**	**192**	P	**P**	**03 50 50.5**	**+0.1**
0.2nm,0.5s,baz=20,slow=11,SNR=1.9							
MKAR	**Makanchi Array**	**54.02**	**312**	P	**P**	**03 51 40.0**	**+0.7**
0.6nm,0.7s,baz=90,slow=10,SNR=6.9							
ILAR	**Eielson Array**	**60.53**	**27**	P	**P**	**03 52 24.1**	**-0.7**
0.8nm,0.8s,baz=246,slow=5.8,SNR=7.9							
YKA	**Yellowknife Ar**	**74.95**	**28**	P	**P**	**03 53 55.9**	**+0.3**
0.3nm,0.5s,baz=293,slow=5.7,SNR=8.3							
NVAR	**Mina Array Bea**	**81.89**	**52**	P	**P**	**03 54 35.5**	**+0.8**
0.5nm,0.7s,baz=254,slow=4.6,SNR=5.4							
FINES	**FINESS Array B**	**82.03**	**335**	P	**P**	**03 54 33.7**	**-0.9**
0.3nm,0.4s,baz=54,slow=3.6,SNR=5.4							

TUL ***25*** *03:42:28±1.1, 36°.77N±0°.02×98°.49W±0°.02, h1km±7km, ML2.8, mb_Lg2.7/45(NEIC), Error ellipse: s-maj=2.5km s-min=1.7km az=132.0*
NEIC 25 03:42:28.8±1.2, 36°.76N±0°.01×98°.47W±0°.02, h7km±7km, Error ellipse: s-maj=2.8km s-min=0.4km az=125.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.20**	**255**	Pg	Pg	03 42 32.4	-0.5
OK035				Sg	Sg	03 42 35.5	-0.1
KAN14	**Manchester OK**	**0.45**	**64**	Pg	Pg	03 42 37.3	-0.1
KAN14				Sg	Sg	03 42 43.9	+0.6
CROK	**Carrier**	**0.47**	**123**	Pg	Pg	03 42 37.9	+0.1
CROK				Sg	Sg	03 42 44.7	+0.8
KAN10	**Anthony SW Sta**	**0.47**	**39**	Pg	Pg	03 42 37.5	-0.3
KAN10				Sg	Sg	03 42 44.3	+0.4
GC02	**Grant County #**	**0.50**	**79**	Pg	Pg	03 42 38.2	-0.1
GC02				Sg	Sg	03 42 45.4	+0.6
KAN16	**Harper SW Stat**	**0.56**	**35**	Pg	Pg	03 42 39.1	-0.6
KAN16				Sg	Sg	03 42 47.0	0.0
U32A	**Winter Ranch,**	**0.57**	**229**	Pg	Pg	03 42 39.4	-0.5
U32A				Sg	Sg	03 42 47.4	+0.1
KAN05	**Bluff City Nor**	**0.59**	**54**	Pg	Pg	03 42 39.9	-0.3
KAN05				Sg	Sg	03 42 48.3	+0.5
KAN08	**Anthony NE Sta**	**0.61**	**40**	Pg	Pg	03 42 40.1	-0.4
KAN17	**Caldwell West**	**0.63**	**63**	Pg	Pg	03 42 40.6	-0.3
KAN12	**Harper NE Stat**	**0.65**	**35**	Pg	Pg	03 42 40.9	-0.5
KAN06	**Argonia West S**	**0.69**	**45**	Pg	Pg	03 42 41.4	-0.6
KAN01	**Argonia South**	**0.69**	**55**	Pg	Pg	03 42 41.7	-0.4
KAN13	**South Haven SW**	**0.83**	**72**	Pg	Pg	03 42 44.2	-0.5
KAN13				Sg	Sg	03 42 55.0	-0.5
BLOK	**Blackwell**	**1.00**	**90**	Pg	Pg	03 42 47.3	-0.8
BCOK	**Bluff Creek, N**	**1.30**	**148**	Pg	Pn	03 42 53.4	-0.1
OK033	**Mehan**	**1.43**	**120**	Pn	Pn	03 42 54.9	-0.2
OK025	**Westminster Rd**	**1.49**	**142**	Pn	Pb	03 42 56.4	-0.4
QUOK	**Quay**	**1.54**	**112**	Pn	Pn	03 42 56.9	+0.3
OK031	**S. Brethren Rd**	**1.54**	**121**	Pn	Pn	03 42 56.3	-0.4
OKCFA	**Oklahoma City**	**1.58**	**148**	Pn	Pn	03 42 57.0	-0.2
T35A	**Sooner Cattle**	**1.58**	**84**	Pn	Pn	03 42 57.2	+0.1
OKCSW	**OKLAHOMA CITY**	**1.59**	**148**	Pn	Pn	03 42 57.6	+0.2
OK030	**Cody Creek RV**	**1.59**	**121**	Pn	Pn	03 42 56.8	-0.6
OK034	**N. Norfolk Rd.**	**1.60**	**117**	Pn	Pn	03 42 56.5	-1.0
R32A	**Long Quarter,**	**1.67**	**353**	Pn	Pn	03 42 58.1	-0.4
R32A				IAmb_Lg		03 43 21.9	
comp=Z,46nm,0.9s							
FNO	**Franklin**	**1.73**	**150**	Pn	Pn	03 42 59.4	+0.1
WMOK	**Wichita Mounta**	**2.04**	**187**	Pn	Pn	03 43 04.2	+0.7
WMOK				IAmb_Lg		03 43 36.7	
comp=Z,27nm,0.8s							
W35A	**Tecumseh**	**2.06**

S39A	**Bolivar**	**4.21 76**	Pn	Pn	03 43 32.7	-0.6
S39A			IAmb_Lg		03 44 42.0	
comp=Z,16nm,0.8s						
MSTX	**Muleshoe**	**4.49 233**	IAmb_Lg		03 44 58.6	
comp=Z,14nm,1.0s						
U40A	**Yellville**	**4.54 93**	Pn	Pn	03 43 37.6	-0.3
U40A			IAmb_Lg		03 44 52.0	
comp=Z,27nm,0.8s						
MIAR	**Mount Ida**	**4.55 118**	IAmb_Lg		03 44 55.9	
comp=Z,13nm,0.8s						
P38A	**Dawn**	**4.82 52**	Pn	Pn	03 43 41.8	0.0
P38A			IAmb_Lg		03 45 07.9	
comp=Z,16nm,0.8s						
WHTX	**Lake Whitney,**	**4.83 170**	Pn	Pn	03 43 41.5	-0.4
MGMO	**Mountain Grove**	**4.98 84**	IAmb_Lg		03 45 16.6	
comp=Z,18nm,0.8s						
X40A	**Basin Creek Fa**	**5.12 115**	Pn	Pn	03 43 44.7	-1.2
R40A	**Maddies Statio**	**5.16 71**	IAmb_Lg		03 45 19.6	
comp=Z,14nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.20 98**	IAmb_Lg		03 45 24.8	
comp=Z,13nm,0.9s						
WHAR	**Wooly Hollow**	**5.22 105**	IAmb_Lg		03 45 24.2	
comp=Z,21nm,1.0s						
SDCO	**Great Sand Dun**	**5.70 282**	Pn	Pn	03 43 54.4	+0.3
PBMO	**Poplar Bluff**	**6.45 87**	IAmb_Lg		03 46 02.5	
comp=Z,16nm,0.9s						
MNTX	**Cornudas Mount**	**7.63 231**	IAmb_Lg		03 46 45.2	
comp=Z,6.9nm,0.9s						
JFWS	**Jewell Farm**	**8.81 43**	IAmb_Lg		03 47 11.6	
comp=Z,6.7nm,0.7s						

*IDC **25** 04:00:06.8±4.1, 3°.93S×101°.71E, h0^{km}, mb3.8/4, mb1 3.9/4, mb1mx3.5/44, mbtmp3.8/4, Error ellipse: s-maj=183.8km s-min=29.4km az=56.0*
*DJA **25** 04:00:11.3±0.6, 4°.S±2°.×10°.2E±°, h28^{km}±5^{km}, M3.6/11, MLv3.6/11*
*NEIC **25** 04:00:14.3±1.8, 4°.0S±0°.2×102°.3E±0°.1, h58^{km}±12^{km}, mb4.4/7, Error ellipse: s-maj=32.8km s-min=9.0km az=217.0*

ISC 25 04:00:11.4±1.4, 4°.4S±0°.1×101°.94E±0°.07, h55^{km}±12^{km}, n27, σ0°.70/34, mb4.3/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.02**	**87**	P	**Pn**	**04 00 28.7**	**-0.9**
MNAI				S	**Sn**	**04 00 42.1**	**-0.9**
MNAI	**Manna**	**1.02**	**87**	Pn	**Pn**	**04 00 28.6**	**-1.0**
MNAI				Sn	**Sn**	**04 00 42.2**	**-0.8**
MASI	**Maura Aman, Be**	**1.30**	**13**	P	**Pn**	**04 00 33.2**	**-0.2**
LHSI	**Lahat**	**1.69**	**70**	P	**Pn**	**04 00 38.9**	**+0.3**
LWLI	**Liwa**	**2.20**	**106**	P	**Pn**	**04 00 46.3**	**+0.6**
MDSI	**Maura Dua**	**2.24**	**92**	P	**Pn**	**04 00 46.4**	**+0.3**
MDSI				S	**Sn**	**04 01 13.4**	**+0.8**
KRJI	**Kerinci**	**2.36**	**348**	P	**Pn**	**04 00 48.1**	**+0.3**
KRJI				S	**Sn**	**04 01 16.8**	**+1.2**
PPSI	**Pulau Pagai**	**2.53**	**310**	P	**Pn**	**04 00 50.6**	**+0.5**
PPSI				S	**Sn**	**04 01 19.6**	**-0.1**
KASI	**Kota Agung**	**2.78**	**113**	P	**Pn**	**04 00 53.4**	**-0.1**
KASI				S	**Sn**	**04 01 26.9**	**+1.0**
KLSI		**2.80**	**96**	P	**Pn**	**04 00 54.6**	**+0.8**
KLSI				S	**Sn**	**04 01 27.6**	**+1.2**
SISI	**Saibi**	**4.18**	**317**	P	**Pn**	**04 01 12.8**	**0.0**
SISI				S	**Sn**	**04 02 00.3**	**-0.1**
GSI	**Gunungsitoli**	**7.16**	**322**	Pn	**Pn**	**04 01 55.1**	**+1.5**
UGM	**Wanagama**	**9.22**	**113**	Pn	**Pn**	**04 02 22.6**	**+0.7**
MTN	**Manton Dam**	**30.03**	**108**	P	**P**	**04 06 15.7**	**+0.3**
WB0	**Warramunga Arr**	**35.11**	**119**	P	**P**	**04 07 00.0**	**+0.1**
WB0				IAmb	IAmb	04 07 22.9	
comp=Z,7.6nm,1.4s							
WRAB	**Tennant Creek**	**35.13**	**119**	P	**P**	**04 07 00.3**	**+0.2**
WRAB				IAmb	IAmb	04 07 04.0	
comp=Z,9.8nm,1.4s							
WB2	**Warramunga Arr**	**35.14**	**119**	P	**P**	**04 06 59.5**	**-0.7**
WB2				IAmb	IAmb	04 07 08.7	
comp=Z,5.7nm,1.3s							
ASAR	**Alice Springs**	**36.28**	**125**	P	P	04 07 17.0	+7.0
comp=Z,0.3nm,0.3s,baz=302,slow=8.1,SNR=3.4							
SONM	**Songino Array**	**52.18**	**4**	P	**P**	**04 09 16.3**	**-0.4**
comp=Z,0.5nm,0.5s,baz=189,slow=9.1,SNR=5.4							
SONM	**Songino Array**	**52.18**	**4**	P	**P**	**04 09 16.3**	**-0.4**
MK31	**Makanchi Array**	**53.87**	**343**	P	**P**	**04 09 29.0**	**0.0**
MK31				IAmb	IAmb	04 09 29.3	
comp=Z,1.8nm,1.2s							
MKAR	**Makanchi Array**	**53.87**	**343**	P	**P**	**04 09 28.4**	**-0.6**
comp=Z,0.8nm,0.6s,baz=150,slow=7.8,SNR=9.2							
ZAA0	**Zalesovo Array**	**59.90**	**348**	P	**P**	**04 10 11.0**	**-0.5**
ZAA0				IAmb	IAmb	04 10 11.6	
comp=Z,2.3nm,0.7s							
ZALV	**Zalesovo Beam**	**59.90**	**348**	P	**P**	**04 10 10.6**	**-0.9**
comp=Z,1.5nm,0.4s,baz=143,slow=5.2,SNR=6.7							
ZALV	**Zalesovo Beam**	**59.90**	**348**	P	**P**	**04 10 10.9**	**-0.6**
TXAR	**Lajitas Array**	**145.33**	**42**	PKPbc	**PKPab**	**04 19 44.2**	**+0.2**
comp=Z,1.4nm,0.5s,baz=306,slow=0.9,SNR=28							
TXAR	**Lajitas Array**	**145.33**	**42**		**PKPdf**	**04 19 43.9**	**-0.1**

KRSC 25 04:06:42.5±2.1, 49°.34N×157°.10E, h43^{km}±30^{km}, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.49**	**335**	*e*P	Pn	04 07 06.7	0.0
SKR				*e*S	Sn	04 07 24.8	-0.1
PAU	**Pauzhetka**	**2.14**	**355**	*e*P	Pn	04 07 18.2	+2.6
PAU				*e*S	Sn	04 07 44.6	+3.7
KDTR	**Khodutka, Kamc**	**2.55**	**14**	*e*P	Pn	04 07 24.7	+3.4
KDTR				*e*S	Sn	04 07 55.5	+4.5
MTVR	**Mutnovka**	**3.22**	**12**	*e*P	Pn	04 07 34.4	+3.8
MTVR				*e*S	Sn	04 08 13.1	+5.3
RUS	**Russkaya**	**3.23**	**16**	*e*P	Pn	04 07 33.9	+3.4
RUS				*e*S	Sn	04 08 12.5	+4.9
GRL	**Gorelyy**	**3.28**	**10**	*e*P	Pn	04 07 35.5	+4.1
KRMR	**Karymshinskiy**	**3.56**	**10**	*e*P	Pn	04 07 39.3	+4.2
KRMR				*e*S	Sn	04 08 21.6	+5.8
APC	**Apacha**	**3.59**	**1**	*e*P	Pn	04 07 39.7	+4.2
PET	**Petropavlovsk**	**3.82**	**14**	*e*S	Sn	04 08 28.4	+6.2
DALK	**Dalny**	**3.84**	**15**	*e*P	Pn	04 07 41.8	+2.8
UGLR	**Uglovaya**	**4.02**	**15**	*e*P	Pn	04 07 46.4	+4.8
AVH	**Avacha**	**4.06**	**14**	*e*P	Pn	04 07 47.0	+4.9
SMAR	**Somma**	**4.07**	**15**	*e*P	Pn	04 07 47.1	+4.7
KOK	**Koryaka**	**4.07**	**13**	*e*P	Pn	04 07 47.5	+5.2
SDLR	**Sedlovina**	**4.10**	**15**	*e*P	Pn	04 07 46.7	+4.0
SPN	**Mys Shipunski**	**4.19**	**25**	*e*P	Pn	04 07 48.2	+4.4
SPN				*e*S	Sn	04 08 36.7	+5.3
GNL	**Ganaly**	**4.39**	**7**	*e*P	Pn	04 07 51.3	+4.6
TUMD	**Tumrok D**	**6.21**	**18**	P	Pn	04 08 16.0	+4.5
TUMR	**Tumrok**	**6.24**	**16**	P	Pn	04 08 16.7	+4.7
KMNR	**Kamenistaya**	**6.71**	**15**	*e*P	Pn	04 08 24.1	+5.7
KBTR	**Krutoberegovo**	**7.70**	**25**	P	Pn	04 08 37.0	+5.1
BKI	**Bering**	**8.00**	**39**	S	Sn	04 10 06.1	+1.0

*NEIC **25** 04:12:32.6±0.6, 54°.79N±0°.04×134°.48W±0°.09, h14^{km}±5^{km}, Error ellipse: s-maj=7.4km s-min=4.8km az=104.0*
*PGC **25** 04:12:35.3±0.1, 54°.80N×134°.14W, h21^{km}, ML2.7/5, 155km Wnw of Masset, Bc Haida Gwaii Region*

ISC 25 04:12:34.7±2.6, 54°.72N±0°.07×134°.4W±0°.1, h25^{km}±16^{km}, n17, σ1°.06/29, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIB	**Langara Island**	**0.89**	**121**	P	**Pb**	**04 12 51.0**	**-0.4**
LIB				S	**Sb**	**04 13 01.8**	**-1.1**
CRAG	**Craig**	**1.03**	**43**	Pn	**Pb**	**04 12 54.2**	**+0.3**
NDB	**Naden**	**1.13**	**132**	P	**Pn**	**04 12 55.2**	**+0.2**
NDB				S	**Sn**	**04 13 09.8**	**+0.1**
DIB	**Dawson Inlet,**	**1.88**	**143**	Pn	**Pn**	**04 13 05.7**	**+0.4**
DIB				IAML		04 13 28.7	
comp=N,53nm,4.7s							
DIB				IAML		04 13 42.7	
comp=E,47nm,3.5s							
DIB	**Dawson Inlet,**	**1.88**	**143**	Pn	**Pn**	**04 13 05.5**	**+0.3**
DIB				Sn	**Sn**	**04 13 29.0**	**+0.8**
MOBC	**Moresby Island**	**2.12**	**137**	Pn	**Pn**	**04 13 08.8**	**+0.2**
MOBC				Sn	**Sn**	**04 13 33.5**	**-0.6**
MOBC				Sg	**Sb**	**04 13 38.7**	**+0.5**
MOBC	**Moresby Island**	**2.12**	**137**	Pn	**Pn**	**04 13 09.0**	**+0.4**
MOBC				IAML		04 13 29.0	
comp=N,70nm,3.4s							
MOBC				IAML		04 13 37.7	
comp=E,110nm,3.1s							
MOBC	**Moresby Island**	**2.12**	**137**	Pn	**Pn**	**04 13 08.8**	**+0.2**
MOBC				Sn	**Sn**	**04 13 33.5**	**-0.6**
MOBC				Sg	**Sb**	**04 13 38.7**	**+0.5**
RUBB	**Prince Rupert**	**2.43**	**98**	Pg	**Pb**	**04 13 17.0**	**-0.6**
RUBB				Sg	**Sb**	**04 13 47.0**	**0.0**
RUBB	**Prince Rupert**	**2.43**	**98**	Pn	**Pn**	**04 13 10.7**	**-2.0**
RUBB				IAML		04 14 06.1	
comp=N,30nm,4.5s							
RUBB				IAML		04 14 18.8	
comp=E,34nm,4.1s							
RUBB	**Prince Rupert**	**2.43**	**98**	Pg	**Pb**	**04 13 17.0**	**-0.6**
RUBB				Sg	**Sb**	**04 13 47.0**	**0.0**
BNAB	**Bonilla**	**2.51**	**118**	Sg	**Sb**	**04 13 51.8**	**+2.3**
BNAB	**Bonilla**	**2.51**	**118**	Sg	**Sb**	**04 13 51.8**	**+2.3**
BNB	**Barry Inlet**	**2.65**	**143**	Pn	**Pn**	**04 13 16.2**	**+0.3**
BNB				Sn	**Sb**	**04 13 51.1**	**-2.4**
GRNB	**Grenville Isla**	**2.72**	**107**	Pg	**Pb**	**04 13 22.6**	**-0.1**
GRNB				Sg	**Sb**	**04 13 56.7**	**+1.1**
GRNB	**Grenville Isla**	**2.72**	**107**	Pn	**Pn**	**04 13 17.0**	**+0.1**
GRNB				IAML		04 13 58.5	
comp=N,36nm,2.5s							
GRNB				IAML		04 14 00.1	
comp=E,47nm,4.2s							
GRNB	**Grenville Isla**	**2.72**	**107**	Pg	**Pb**	**04 13 22.6**	**-0.1**
GRNB				Sg	**Sb**	**04 13 56.7**	**+1.1**

*JMA **25** 04:15:47.8±0.1, 24°.01N×122°.42E, h30^{km}, M2.3*
*TAP **25** 04:15:48.3, 24°.03N×122°.47E, h39^{km}±1^{km}, ML2.8, D*

ISC 25 04:15:46.0±1.1, 23°.98N±0°.02×122°.51E±0°.02, h18^{km}±3^{km}, n77, σ0°.75/139, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.62**	**40**	P	**Pn**	**04 16 00.6**	**+0.7**
JYNG				S	**Sn**	**04 16 08.5**	**-0.8**
YOJ	**Yonaguni jima**	**0.67**	**44**	*e*P	**Pn**	**04 16 01.4**	**+0.9**
baz=57							
YOJ				*e*S	**Sn**	**04 16 10.9**	**+0.4**
baz=57							
EWUT	**Wuta**	**0.81**	**305**	*e*P	**Pn**	**04 16 02.1**	**-0.4**
baz=303							
EWUT				*e*S	**Sg**	**04 16 13.1**	**+0.5**
baz=303							
ETL	**Fush Village**	**0.83**	**283**	*e*P	**Pn**	**04 16 02.6**	**-0.1**
baz=267							
ETL				*e*S	**Sg**	**04 16 13.8**	**+0.7**
baz=267							
ENA	**Nanau**	**0.83**	**303**	*e*P	**Pn**	**04 16 02.5**	**-0.3**
baz=310							
ENA				*e*S	**Sg**	**04 16 13.5**	**+0.3**
baz=310							
TWD	**Chiawan**	**0.84**	**277**	*e*P	**Pn**	**04 16 03.2**	**+0.3**
baz=273							
TWD				*e*S	**Sb**	**04 16 13.2**	**+0.3**
baz=273							
NACB	**Ninganchiao**	**0.85**	**283**	*e*P	**Pg**	**04 16 02.9**	**+0.2**
baz=268							
NACB				*e*S	**Sg**	**04 16 14.1**	**+0.1**
baz=268							
TWC	**Suao**	**0.87**	**317**	P	**Pn**	**04 16 03.3**	**0.0**
baz=307							
TWC				*e*S	**Sg**	**04 16 14.5**	**+0.1**
baz=307							
ETLH	**Xiulin Townshi**	**0.96**	**284**	*e*P	**Pg**	**04 16 05.0**	**+0.2**
baz=270							
ETLH				*e*S	**Sb**	**04 16 17.2**	**+0.6**
baz=270							
NDS	**Dongshan**	**0.97**	**312**	P	**Pg**	**04 16 05.0**	**0.0**
baz=311							
NDS				*e*S	**Sg**	**04 16 17.2**	**-0.6**
baz=311							
EGS		**1.01**	**329**	*e*P	**Pg**	**04 16 06.0**	**+0.4**
baz=329							
EGFH	**Guangfu**	**1.03**	**253**	*e*P	**Pb**	**04 16 05.5**	**+0.2**
baz=249							
EGFH				*e*S	**Sb**	**04 16 18.4**	**-0.2**
baz=249							
ILA	**Ilan**	**1.04**	**319**	*e*P	**Pg**	**04 16 07.7**	**+1.3**
baz=309							
ILA				*e*S	**Sg**	**04 16 20.7**	**+0.6**
baz=309							
LATG	**Datong**	**1.05**	**302**	*e*P	**Pg**	**04 16 06.2**	**-0.2**
baz=300							
LATG				*e*S	**Sg**	**04 16 20.5**	**+0.2**
baz=300							
TWE	**Neicheng**	**1.06**	**314**	*e*P	**Pg**	**04 16 07.0**	**+0.4**
baz=313							
TWE				*e*S	**Sg**	**04 16 20.4**	**-0.3**
baz=313							
NTC	**Toucheng**	**1.07**	**325**	*e*P	**Pg**	**04 16 06.5**	**-0.2**
baz=324							
NTC				*e*S	**Sg**	**04 16 20.3**	**-0.5**
baz=324							
ENTT	**Nioudou**	**1.08**	**308**	*e*P	**Pg**	**04 16 06.8**	**-0.2**
baz=294							
NDT	**Datong Townshi**	**1.10**	**305**	*e*P	**Pg**	**04 16 07.5**	**+0.2**
baz=292							
NDT				*e*S	**Sg**	**04 16 21.3**	**-0.4**
baz=292							
HGSD	**Ruisui**	**1.10**	**244**	*e*P	**Pn**	**04 16 06.6**	**+0.1**
baz=240							
HGSD				*e*S	**Sb**	**04 16 20.0**	**-0.5**
baz=240							
NNSB	**Datong**	**1.12**	**294**	*e*P	**Pg**	**04 16 07.4**	**-0.4**
baz=282							
NNSB				*e*S	**Sb**	**04 16 21.3**	**+0.1**
baz=282							
NNS	**Nan Shan**	**1.13**	**294**	*e*P	**Pg**	**04 16 07.7**	**-0.2**
baz=283							
NNS				*e*S	**Sb**	**04 16 21.7**	**+0.2**
baz=283							
FUSB	**Fushanzhiwuyua**	**1.14**	**313**	*e*P	**Pg**	**04 16 08.0**	**-0.2**
baz=312							
FUSB				*e*S	**Sg**	**04 16 23.2**	**0.0**
baz=312							
WHF	**Hehuan Shan**	**1.15**	**279**	*e*P	**Pn**	**04 16 07.5**	**0.0**
baz=275							
WHF				*e*S	**Sb**	**04 16 21.6**	**-0.7**
baz=275							
TIPB	**Shuangxi**	**1.17**	**328**	P	**Pg**	**04 16 08.8**	**+0.1**
baz=328							
TIPB				S	**Sn**	**04 16 22.3**	**-0.6**
baz=328							
IRIF	**Iriomote-Funau**	**1.18**	**72**	P	**Pg**	**04 16 09.3**	**+0.5**
IRIF				*e*S	**Sg**	**04 16 26.0**	**+1.8**
EHY	**Hungye**	**1.18**	**247**	*e*P	**Pb**	**04 16 08.1**	**+0.2**
baz=256							
EHY				*e*S	**Sb**	**04 16 22.8**	**-0.1**
baz=256							
FUSS	**Fushou**	**1.18**	**283**	*e*P	**Pb**	**04 16 08.6**	**+0.5**
baz=280							
FUSS				*e*S	**Sb**	**04 16 23.0**	**-0.2**
baz=280							
HATJ	**Hateruma jima**	**1.19**	**86**	P	**Pg**	**04 16 10.0**	**+0.9**
HATJ				*e*S	**Sg**	**04 16 26.2**	**+1.5**
NWLT	**Wulai**	**1.21**	**311**	*e*P	**Pg**	**04 16 08.8**	**-0.7**
baz=310							
NWLT				*e*S	**Sb**	**04 16 23.3**	**-0.4**
baz=310							
CHGB	**Renai**	**1.22**	**274**	*e*P	**Pb**	**04 16 08.9**	**+0.2**
baz=271							
CHGB				*e*S	**Sb**	**04 16 23.4**	**-0.7**
baz=271							
YHNB	**Yeheng**	**1.24**	**304**	*e*P	**Pb**	**04 16 09.3**	**+0.4**
baz=302							
YHNB				*e*S	**Sb**	**04 16 23.9**	**-0.7**
baz=302							
TWT	**Tachien**	**1.25**	**283**	*e*P	**Pg**	**04 16 10.5**	**+0.4**
baz=269							
TWT				*e*S	**Sn**	**04 16 25.5**	**+0.5**
baz=269							
SXI1	**Grass Mountain**	**1.25**	**333**	*e*P	**Pg**	**04 16 09.2**	**-1.1**
baz=333							
SXI1				*e*S	**Sg**	**04 16 25.3**	**-1.3**
baz=333							
YULB	**Yu-li**	**1.25**	**242**	*e*P	**Pn**	**04 16 08.6**	**0.0**
baz=253							
YULB				*e*S	**Sn**	**04 16 24.2**	**-0.8**
baz=253							
EYUL	**Yuli**	**1.25**	**240**	*e*S	**Sn**	**04 16 24.4**	**-0.6**
baz=236							
NSK	**Sanguang**	**1.26**	**304**	*e*P	**Pb**	**04 16 09.4**	**+0.2**
baz=302							
NSK				*e*S	**Sn**	**04 16 25.3**	**+0.1**
baz=302							
VWDT	**VWDT**	**1.27**	**260**	*e*P	**Pb**	**04 16 10.0**	**+0.7**
baz=257							
VWDT				*e*S	**Sn**	**04 16 24.2**	**-1.1**
baz=257							
WUSB	**Renai**	**1.27**	**271**	*e*P	**Pb**	**04 16 10.1**	**+0.6**
baz=268							
WUSB				S	**Sn**	**04 16 25.7**	**+0.1**
baz=268							
NWF	**Wu-fen Shan**	**1.27**	**329**	*e*P	**Pg**	**04 16 09.8**	**-0.8**
baz=329							
NWF				*e*S	**Sg**	**04 16 26.0**	**-1.3**
baz=329							
TWA	**Mucha**	**1.30**	**320**	*e*P	**Pg**	**04 16 10.8**	**-0.4**
baz=335							
TWA				*e*S	**Sg**	**04 16 27.0**	**-1.3**
baz=335							
FULB	**Fuli**	**1.35**	**235**	*e*P	**Pn**	**04 16 10.3**	**+0.3**
baz=222							
FULB				*e*S	**Sn**	**04 16 26.6**	**-0.9**
baz=222							
JKRS	**Kuro-shima**	**1.40**	**79**	P	**Pg**	**04 16 13.5**	**+0.5**
JKRS				*e*S	**Sg**	**04 16 31.3**	**0.0**
NFF	**Wufeng Townshi**	**1.42**	**298**	*e*P	**Pb**	**04 16 12.3**	**+0.2**
baz=295							
NFF				*e*S	**Sb**	**04 16 30.1**	**+0.3**
baz=295							
SSLB	**Suanglung**	**1.43**	**263**	*e*P	**Pb**	**04 16 12.1**	**-0.1**
baz=259							
SSLB				*e*S	**Sn**	**04 16 28.9**	**-0.6**
baz=259							
YM01	**YM01**	**1.44**	**324**	*e*P	**Pb**	**04 16 12.4**	**+0.1**
baz=323							
WHP	**Taichung City**	**1.46**	**282**	*e*P	**Pb**	**04 16 13.0**	**+0.4**
baz=270							
WHP				*e*S	**Sn**	**04 16 30.5**	**+0.4**
baz=270							
WCS	**Beigang Elemen**	**1.46**	**273**	*e*P	**Pb**	**04 16 12.7**	**+0.1**
baz=265							
WCS				*e*S	**Sn**	**04 16 30.6**	**+0.5**
baz=265							
SMLT	**Sun Moon Lake**	**1.47**	**267**	*e*P	**Pb**	**04 16 13.4**	**+0.5**
baz=263							
SMLT				*e*S	**Sn**	**04 16 30.9**	**+0.4**
baz=263							
EDH	**Donghe**	**1.49**	**228**	*e*P	**Pn**	**04 16 12.0**	**+0.1**
baz=218							
EDH				*e*S	**Sn**	**04 16 28.7**	**-2.1**
baz=218							
TWS1	**Kuangyinshan**	**1.49**	**319**	*e*S	**Sb**	**04 16 31.8**	**0.0**
baz=332							
TYC	**Yuchr**	**1.51**	**268**	*e*P	**Pb**	**04 16 13.3**	**-0.2**
baz=264							
TYC				*e*S	**Sn**	**04 16 32.0**	**+0.7**
baz=264							
LIOB	**Emei**	**1.51**	**296**	*e*P	**Pb**	**04 16 14.0**	**+0.4**
baz=294							
LIOB				*e*S	**Sb**	**04 16 32.8**	**+0.4**
baz=294							
NSTT	**Nanjuang**	**1.52**	**296**	*e*P	**Pb**	**04 16 14.3**	**+0.7**
baz=294							
NSTT				*e*S	**Sb**	**04 16 32.8**	**+0.2**
baz=294							
JIJ	**Ishigaki jima**	**1.54**	**75**	P	**Pg**	**04 16 14.6**	**-1.2**
JIJ				S	**Sg**	**04 16 34.5**	**-1.4**
ALS	**Alishan**	**1.62**	**254**	*e*P	**Pb**	**04 16 15.7**	**+0.1**
baz=250							
ALS				*e*S	**Sn**	**04 16 35.0**	**+0.4**
baz=250							
WJS	**Zhushan**	**1.63**	**265**	*e*S	**Sb**	**04 16 37.2**	**+1.4**
baz=262							
LONT	**Longtian**	**1.65**	**230**	*e*P	**Pn**	**04 16 14.4**	**+0.3**
baz=239							
LONT				*e*S	**Sn**	**04 16 34.1**	**-0.8**
baz=239							
CHN5	**Tsauling**	**1.72**	**258**	*e*S	**Sn**	**04 16 37.4**	**+0.8**
baz=247							
TWGBT	**Beinan**	**1.75**	**229**	*e*P	**Pn**	**04 16 14.8**	**-0.6**
baz=237							
TWGBT				*e*S	**Sn**	**04 16 36.1**	**-1.1**
baz=237							
TWG	**Pinlang**	**1.75**	**229**	*e*P	**Pn**	**04 16 15.7**	**+0.2**
baz=237							
TWG				*e*S	**Sn**	**04 16 36.1**	**-1.1**
baz=237							
JISG	**Ishigakijimahi**	**1.76**	**69**	P	**Pb**	**04 16 17.7**	**0.0**
JISG				*e*S	**Sg**	**04 16 40.1**	**-2.6**
STYH	**Taoyuan**	**1.78**	**243**	*e*P	**Pb**	**04 16 17.7**	**-0.3**
baz=233							
STYH				*e*S	**Sn**	**04 16 38.4**	**+0.5**
baz=233							
WDLH	**Douliu**	**1.82**	**261**	*e*S	**Sb**	**04 16 41.1**	**-0.2**
baz=259							
TPUB	**Ta-pu**	**1.85**	**249**	*e*P	**Pb**	**04 16 19.1**	**-0.1**
baz=246							
TPUB				*e*S	**Sb**	**04 16 41.6**	**-0.4**
baz=246							
WTP	**Ta-pu**	**1.88**	**248**	*e*P	**Pb**	**04 16 19.9**	**+0.1**
baz=245							
WTP				*e*S	**Sn**	**04 16 42.2**	**+1.6**
baz=245							
WRL	**Guolierlin Hig**	**1.95**	**268**	*e*S	**Sn**	**04 16 43.1**	**+1.0**
baz=278							
WTK	**Tuku**	**1.96**	**262**	*e*S	**Sn**	**04 16 44.2**	**+1.8**
baz=259							
SLGT	**Liugui**	**1.97**	**241**	*e*P	**Pb**	**04 16 21.1**	**-0.2**
baz=230							
SLGT				*e*S	**Sn**	**04 16 44.3**	**+1.7**
baz=230							
SGST	**Jiashian**	**1.98**	**244**	*e*S	**Sb**	**04 16 45.7**	**-0.1**
baz=231							
CHN1	**Nanshi**	**1.98**	**247**	*e*P	**Pb**	**04 16 21.6**	**+0.1**
baz=244							
CHN1				*e*S	**Sn**	**04 16 45.0**	**+2.0**
baz=244							
ECL	**Taimali**	**1.98**	**226**	*e*S	**Sn**	**04 16 41.6**	**-1.4**
baz=234							
TWK	**Hsinying**	**1.98**	**249**	*e*P	**Pb**	**04 16 21.4**	**-0.1**
baz=246							
TWK				*e*S	**Sb**	**04 16 45.1**	**-0.8**
baz=246							
SNST	**Tainan City**	**1.99**	**248**	*e*P	**Pb**	**04 16 20.9**	**-0.8**
baz=245							
SNST				*e*S	**Sb**	**04 16 45.5**	**-0.6**
baz=245							
TSMG	**Majia**	**2.13**	**234**	*e*S	**Sn**	**04 16 47.4**	**+0.8**
baz=227							
LYUB	**Lan-yu**	**2.14**	**204**	*e*P	**Pn**	**04 16 20.1**	**-0.7**
baz=201							
MASBT	**Mashibuluo**	**2.19**	**232**	*e*P	**Pn**	**04 16 22.4**	**+0.9**
baz=225							
MASBT				*e*S	**Sn**	**04 16 49.5**	**+1.3**
baz=225							
SSPT	**Xinbi**

-0.2500, Plg73.0000°, Azm286.0000°; P -4.5600, Plg8.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC **25** *04:22:02.7±1.9, 35°.65N±0°.05×3°.68W±0°.07, h12km±1km, mb6.1/741, Ms_20 6.5/407, Mwb6.3/103, Mww6.3, mb_Lg5.9(MDD) Error ellipse: s-maj=9.8km s-min=8.2km az=297.0*

NEIC **25** *04:22:02.6, 35°.70N×3°.70W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.15; Mθθ-2.23; Mφφ2.08; Mrθ-0.40; Mrφ-1.95; Mθφ-1.57; Fault plane solution: M0 3.33000×10^18 NP1:φs204.82000°, δ85.82000°, λ28.71000°. NP2:φs112.53000°, δ61.38000°, λ175.23000°. Principal axes: T 3.3937, Plg23.0000°, Azm72.0000°; N -0.1286, Plg61.0000°, Azm212.0000°; P -3.2651, Plg17.0000°, Azm335.0000°;*

INMG **25** *04:22:02.3±2.4, 35°.62N×3°.74W, h12km±6km, MD4.3, ML5.6 Error ellipse: s-maj=3.2km s-min=3.0km az=8.0*

SFS **25** *04:22:02.6, 35°.63N×3°.81W, ML6.3, ALBORAN SUR*

DSN **25** *04:22:03.3±2.9, 35°.99N×3°.74W, h15km, mb6.3/20, Ms6.5/5, Error ellipse: s-maj=59.1km s-min=23.1km az=89.0*

GCMT **25** *04:22:05.7±0.0, 35°.59N×3°.60W, h12km, MW6.4/162, Moment Tensor Solution. s152, c351; s162, c672; Duration: 38s8 Moment tensor: Scale 10^18Nm; Mrr0.16±.02; Mθθ-3.95±.02; Mφφ3.78±.02; Mrθ0.27±.05; Mθφ-1.86±.02; Mφr-1.92±.04; Best double couple: M0 4.68000×10^18 NP1:φs120.00000°, δ73.00000°, λ166.00000°. NP2:φs214.00000°, δ76.00000°, λ17.00000°. Principal axes: T 4.9800, Plg22.0000°, Azm78.0000°; N -0.6080, Plg68.0000°, Azm251.0000°; P -4.3810, Plg2.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC **25** *04:22:11, 35°.74N×3°.72W, h12km, Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10^18Nm; Mrr-0.39; Mθθ-2.76; Mφφ3.15; Mrθ1.19; Mθφ-1.65; Mφr1.34; Fault plane solution: M0 3.84000×10^18 NP1: φs302.00000°, δ62.00000°, λ-172.00000°. NP2: φs209.00000°, δ84.00000°, λ-27.00000°. Principal axes: T 3.8318, Plg14.0000°, Azm259.0000°; N 0.0221, Plg62.0000°, Azm17.0000°; P -3.8539, Plg24.0000°, Azm162.0000°;*

ISC 25 04:22:02.2±0.3, 35°.69N±0°.02×3°.68W±0°.02, h11km±1km, h11km; pP-P, n2354, σ1991/2476, mb6.1/530, MS6.5/368, 486C-195D, Fault plane solution: NP1:φs238.72881°, δ50.43495°, λ22.29347°. **NP2:**φs134.09294°, δ72.99578°, λ138.23535°. **Principal axes:** T Plg41.0853°, Azm88.4997°; N Plg45.5024°, Azm295.9601°; P Plg14.0995°, Azm191.1499°; **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**204**	P	**Pg**	**04 22 11.3**	**-1.0**
PALE				S	**Sg**	**04 22 17.7**	**-1.3**
EALB	**Alboran**	**0.58**	**64**	⇑Pg	**Pb**	**04 22 14.2**	**-0.2**
	264μm,0.3s,SNR=18						
EALB				Lg	Lg	04 22 24.0	
	SNR=7.9						
EMEL	**Melilla**	**0.71**	**123**	⇑Pg	**Pg**	**04 22 15.1**	**-0.8**
	285μm,0.3s,SNR=18						
EMEL				Lg	Lg	04 22 24.7	
	SNR=7.9						
GOG	**Mont Gurugu**	**0.73**	**129**	P	**Pg**	**04 22 15.5**	**-0.8**
GOG				S	**Sg**	**04 22 24.6**	**-1.2**
CHAS	**Isla Isabel II**	**1.14**	**116**	P	**Pb**	**04 22 21.5**	**-2.4**
CHAS				S	**Sb**	**04 22 36.3**	**-2.4**
ELGU	**Los Guajares,**	**1.18**	**2**	⇓Pg	**Pb**	**04 22 22.8**	**-1.9**
	105μm,0.8s,SNR=18						
ELGU				Lg	Lg	04 22 41.7	
	418μm,0.8s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.23**	**331**	P	**Pn**	**04 22 23.3**	**-2.0**
EMAL				S	**Sb**	**04 22 40.5**	**-0.9**
EMIJ	**Mijas**	**1.24**	**315**	⇓Pg	**Pn**	**04 22 22.8**	**-2.7**
	8μm,0.3s,SNR=18						
EMIJ				Lg	Lg	04 22 38.5	
	201μm,0.5s,SNR=18						
EBER	**Berja**	**1.37**	**28**	⇓Pg	**Pn**	**04 22 25.9**	**-1.5**
	29μm,0.7s,SNR=18						
EBER				Lg	Lg	04 22 46.0	
	1265μm,1.7s,SNR=7.9						
CEU	**Ceuta**	**1.39**	**279**	P	**Pn**	**04 22 23.1**	**-4.5**
CEU				S	**Sn**	**04 22 39.4**	**-6.5**
ECEU	**Ceuta**	**1.39**	**279**	⇑Pg	**Pn**	**04 22 23.6**	**-4.0**
	3μm,0.3s,SNR=18						
ECEU				Lg	Lg	04 22 41.7	
	93μm,0.6s,SNR=30						
EGOR	**Sierra Gorda,**	**1.46**	**346**	⇓Pg	**Pn**	**04 22 27.6**	**-1.1**
	37μm,0.9s,SNR=18						
EGOR				Lg	Lg	04 22 48.2	
	707μm,1.4s,SNR=7.9						
CHEFC	**Chefchaouen**	**1.47**	**247**	P	**Pn**	**04 22 27.3**	**-1.5**
EQUE	**Quentar**	**1.53**	**7**	⇓Pg	**Pn**	**04 22 29.1**	**-0.5**
	39μm,0.9s,SNR=18						
EQUE				Lg	Lg	04 22 50.7	
	318μm,1.4s,SNR=12						
JBK	**JBK**	**1.63**	**145**	P	**Pn**	**04 22 28.9**	**-2.1**
JBK				S	**Sn**	**04 22 48.9**	**-3.1**
EJIF	**Jimena Fronter**	**1.64**	**298**	Pg	**Pn**	**04 22 28.8**	**-2.2**
	SNR=7.9						
ENIJ	**Nijar**	**1.75**	**42**	⇑Pn	**Pn**	**04 22 31.0**	**-1.6**
	41μm,1.0s,SNR=18						
ENIJ				Sn	**Sn**	**04 22 54.6**	**-0.2**
	66μm,0.4s,SNR=7.9						
ENIJ				Lg	Lg	04 23 01.1	
	535μm,1.1s,SNR=7.9						
OLHC	**Oulhaca**	**1.90**	**103**	P	**Pn**	**04 22 31.9**	**-2.7**
RSA	**Sarsar**	**1.92**	**246**	P	**Pn**	**04 22 35.1**	**+0.2**
RSA				S	**Sb**	**04 23 00.2**	**-1.2**
SICH	**Sidi Chahed**	**2.07**	**221**	P	**Pn**	**04 22 37.2**	**+0.2**
EQES	**Quesada**	**2.17**	**13**	⇓Pn	**Pn**	**04 22 39.9**	**+1.5**
	93μm,1.3s,SNR=18						
EQES				Sn	**Sb**	**04 23 09.9**	**+1.4**
	123μm,0.7s,SNR=4.7						
EQES				Lg	Lg	04 23 16.7	
	848μm,2.4s,SNR=4.8						
SFS	**San Fernando**	**2.19**	**292**	P	**Pb**	**04 22 40.5**	**-1.3**
SFS				S	**Sn**	**04 23 05.7**	**+0.2**
SFS	**San Fernando**	**2.19**	**292**	P	**Pn**	**04 22 38.3**	**-0.2**
SFS	**San Fernando**	**2.19**	**292**		**Pn**	**04 22 38.3**	**-0.2**
SFS	**San Fernando**	**2.19**	**292**	P	**Pn**	**04 22 39.9**	**+1.4**
LCRM	**LCR**	**2.22**	**206**	P	**Pn**	**04 22 37.7**	**-1.4**
LCRM				S	**Sn**	**04 23 06.0**	**-0.6**
OTSS	**Djebel Tessala**	**2.39**	**99**	P	**Pn**	**04 22 39.0**	**-2.4**
IFR	**Ifrane**	**2.47**	**209**	P	**Pn**	**04 22 40.4**	**-2.2**
IFR				S	**Sn**	**04 23 09.2**	**-3.6**
TLOR	**Lorca, Murcia**	**2.54**	**39**	⇑Pn	**Pn**	**04 22 43.0**	**-0.3**
	12μm,0.6s,SNR=18						
TLOR				Pg	**Pg**	**04 22 50.7**	**-0.2**
	SNR=7.9						
TLOR				Sn	**Sn**	**04 23 13.2**	**-1.0**
	336μm,1.3s,SNR=7.9						
TLOR				Lg	Lg	04 23 24.7	
	1489μm,1.9s,SNR=7.9						
USTO	**Oran**	**2.55**	**88**	P	**Pn**	**04 22 41.0**	**-2.5**
EADA	**Adamuz**	**2.58**	**344**	⇓Pn	**Pn**	**04 22 43.9**	**-0.1**
	29μm,0.7s,SNR=18						
EADA				Pg	**Pg**	**04 22 51.0**	**-0.6**
	8μm,0.4s,SNR=7.9						
EADA				Lg	Lg	04 23 21.2	
	532μm,2.5s,SNR=7.9						
EZAR	**Zarzadilla de**	**2.71**	**36**	⇑Pn	**Pn**	**04 22 45.5**	**-0.2**
	16μm,1.5s,SNR=18						
EZAR				Pg	**Pg**	**04 22 53.7**	**-0.4**
	SNR=7.9						
EZAR				Sn	**Sn**	**04 23 16.9**	**-1.7**
	217μm,1.2s,SNR=7.9						
EZAR				Lg	Lg	04 23 28.4	
	839μm,2.0s,SNR=7.9						
ECAB	**El Cabril**	**2.76**	**330**	⇓Pn	**Pn**	**04 22 45.9**	**-0.5**
	20μm,2.5s,SNR=18						
ECAB				Pg	**Pb**	**04 22 52.2**	**+0.6**
	SNR=7.9						
ECAB				Sn	**Sn**	**04 23 16.8**	**-3.0**
	3μm,0.4s,SNR=7.9						
ECAB				Lg	Lg	04 23 27.0	
	133μm,1.4s,SNR=7.9						
ARNO	**Arenosillo**	**2.84**	**301**	P	**Pn**	**04 22 47.3**	**-0.1**
ARNO				S	**Sn**	**04 23 21.1**	**-0.5**
CART	**Cartagena**	**2.87**	**48**	P	**Pn**	**04 22 45.9**	**-2.0**
CART				S	**Sn**	**04 23 18.1**	**-4.3**
CART	**Cartagena**	**2.87**	**48**	P	**Pn**	**04 22 45.8**	**-2.2**
CART	**Cartagena**	**2.87**	**48**	P	**Pn**	**04 22 45.7**	**-2.2**
CART				S	**Sn**	**04 23 18.4**	**-4.0**
ODJA	**Bouhanifia**	**2.90**	**96**	P	**Pn**	**04 22 45.0**	**-3.4**
EMUR	**La Murta**	**2.91**	**42**	⇑Pn	**Pn**	**04 22 47.4**	**-1.1**
	2μm,0.6s,SNR=18						
EMUR				Sn	**Sn**	**04 23 22.5**	**-1.0**
	31μm,0.5s,SNR=7.9						
EMUR				Lg	Lg	04 23 34.8	
	217μm,2.4s,SNR=7.9						
MD31	**MD31**	**2.95**	**198**	P	**Pn**	**04 22 48.1**	**-1.0**
MDT	**Midelt**	**2.96**	**195**	Pn	**Pn**	**04 22 47.4**	**-1.9**
	138nm,0.3s,baz=222,slow=3.8,SNR=643						
MDT				LR	LR	04 23 22.5	
	comp=Z,127μm,20.7s,baz=137,slow=28						
MDT				Sn	**Sn**	**04 23 23.4**	**-1.6**
	1μm,0.3s,baz=103,slow=18,SNR=7.3						
MDT	**Midelt**	**2.96**	**195**	P	**Pn**	**04 22 48.9**	**-0.4**
TDRA	**Tendrara**	**2.97**	**152**	P	**Pn**	**04 22 48.7**	**-0.8**
EMIN	**Mina Concepcio**	**3.18**	**312**	⇓Pn	**Pn**	**04 22 50.9**	**-1.2**
	7μm,1.1s,SNR=18						
EMIN				Sn	**Sn**	**04 23 26.3**	**-3.7**
	6μm,0.6s,SNR=6.5						
EMIN				Lg	Lg	04 23 39.4	
	157μm,2.3s,SNR=5.7						
OJBR	**Djebel Berber**	**3.28**	**91**	P	**Pn**	**04 22 50.0**	**-3.6**
ETOB	**Tobarra**	**3.41**	**29**	⇑Pn	**Pn**	**04 22 56.4**	**+1.0**
	2μm,0.3s,SNR=18						
ETOB				Pg	**Pg**	**04 23 05.8**	**-1.7**
	SNR=7.9						
ETOB				Sn	**Sn**	**04 23 34.2**	**-1.6**
	105μm,1.7s,SNR=4.8						
ETOB				Lg	Lg	04 23 46.7	
	379μm,2.4s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**3.53**	**83**	P	Pn	04 22 44.0	-13
EGRO	**El Granado**	**3.57**	**302**	⇓Pn	**Pn**	**04 22 56.3**	**-1.2**
	4μm,0.4s,SNR=18						
EGRO				Sn	**Sn**	**04 23 35.6**	**-4.1**
	201nm,1.0s,SNR=8.2						
EGRO				Lg	Lg	04 23 47.5	
	30μm,1.4s,SNR=5.3						
OJGS	**Djebel Guires**	**3.62**	**92**	P	Pn	04 22 45.0	-13
PBAR	**Barrancos**	**3.66**	**314**	⇓*e*Pn	**Pn**	**04 22 58.1**	**-0.7**
PBAR				*e*Sn	**Sn**	**04 23 39.6**	**-2.3**
PBAR				A	A	04 23 45.0	
	5μm,0.5s						
PFARO	**Faro**	**3.67**	**293**	*e*Pn	**Pn**	**04 22 58.8**	**-0.1**
PFARO				*e*Sn	**Sn**	**04 23 39.3**	**-2.9**
PFARO				A	A	04 23 46.1	
	8μm,0.4s						
PVAQ	**Vaqueiros**	**3.67**	**299**	⇓*e*Pn	**Pn**	**04 22 57.8**	**-1.1**
PVAQ				*e*Sn	**Sn**	**04 23 39.2**	**-3.0**
PVAQ				A	A	04 23 43.9	
	7μm,0.5s						
PVAQ	**Vaqueiros**	**3.67**	**299**	Pn	**Pn**	**04 22 57.5**	**-1.4**
PVAQ	**Vaqueiros**	**3.67**	**299**	P	**Pn**	**04 22 57.5**	**-1.4**
PBDV	**Barranco-do-Ve**	**3.76**	**296**	*e*Pn	**Pn**	**04 22 59.1**	**-1.1**
PBDV				*e*Sn	**Sn**	**04 23 41.5**	**-2.9**
PBDV				A	A	04 23 52.3	
	7μm,0.7s						
AFON	**Font Roja**	**3.89**	**39**	⇑Pn	**Pn**	**04 23 01.1**	**-0.9**
	3μm,1.1s,SNR=18						
AFON				Sn	**Sn**	**04 23 50.2**	**+2.5**
	49μm,1.6s,SNR=6.4						
AFON				Lg	Lg	04 24 05.5	
	79μm,1.6s,SNR=7.9						
PAB	**San Pablo**	**3.89**	**352**	P	**Pn**	**04 23 01.8**	**-0.2**
PAB	**San Pablo**	**3.89**	**352**	Pn	**Pn**	**04 23 01.8**	**-0.2**
PAB	**San Pablo**	**3.89**	**352**	⇓Pn	**Pn**	**04 23 01.8**	**-0.2**
	3μm,0.7s,SNR=18						
PAB				Sn	**Sn**	**04 23 47.8**	**+0.1**
	10μm,0.8s,SNR=7.9						
PAB				Lg	Lg	04 24 04.2	
	241μm,2.5s,SNR=7.9						
AVE	**Averroes**	**3.89**	**233**	P	**Pn**	**04 22 59.6**	**-2.4**
AVE				S	**Pg**	**04 23 17.8**	**+1.0**
AVE	**Averroes**	**3.89**	**233**	P	**Pn**	**04 22 59.9**	**-2.1**
EANR	**'Ain N'Sour**	**3.90**	**85**	P	**Pn**	**04 22 57.4**	**-4.7**
ESDC	**Sonseca Array**	**3.99**	**357**	Pn	**Pn**	**04 23 02.7**	**-0.6**
	106nm,0.3s,baz=177,slow=11,SNR=1090						
ESDC				LR	LR	04 25 04.0	
	comp=Z,717μm,18.6s,baz=194,slow=46						
ESDC	**Sonseca Array**	**3.99**	**357**	Pn	**Pn**	**04 23 02.9**	**-0.5**
ESDC	**Sonseca Array**	**3.99**	**357**	Pn	**Pn**	**04 23 02.8**	**-0.5**
	6μm,0.8s,baz=183,slow=12,SNR=7.9						
ESDC				Lg	Lg	04 24 04.2	
	79μm,1.2s,baz=182,slow=23,SNR=7.9						
ESBB	**Sonseca Array**	**3.99**	**357**		**Pn**	**04 23 02.9**	**-0.5**
PCVE	**Castro Verde**	**4.00**	**300**	⇓*e*Pn	**Pn**	**04 23 02.3**	**-1.2**
PCVE				*e*Sn	**Sn**	**04 23 47.1**	**-3.3**
PCVE				A	A	04 23 59.8	
	8μm,0.6s						
EBAD	**Badajoz**	**4.06**	**320**	⇓Pn	**Pn**	**04 23 03.2**	**-1.0**
	961nm,0.3s,SNR=18						
EBAD				Sn	**Sn**	**04 23 49.2**	**-2.5**
	39μm,1.3s,SNR=4.2						
EBAD				Lg	Lg	04 24 11.6	
	69μm,1.7s,SNR=7.9						
ETRT	**Tiaret**	**4.07**	**93**	P	**Pn**	**04 23 02.0**	**-2.6**
FIGM	**Figuig**	**4.08**	**150**	P	**Pn**	**04 23 04.5**	**-0.1**
PBEJ	**Beja**	**4.09**	**306**	⇓*e*Pn	**Pn**	**04 23 03.4**	**-1.3**
PBEJ				*e*Sn	**Sn**	**04 23 50.8**	**-1.7**
PBEJ				A	A	04 24 37.6	
	2μm,0.6s						
GOLM	**Goulmima**	**4.11**	**195**	P	**Pn**	**04 23 04.5**	**-0.6**
ECHA	**Ech Chlef**	**4.12**	**82**	P	**Pn**	**04 23 03.7**	**-1.4**
MESJ	**Messejana**	**4.23**	**302**	*e*P	**Pn**	**04 23 05.7**	**-0.9**
MESJ				*e*S	**Sn**	**04 23 51.6**	**-4.3**
MESJ				IAML		04 24 00.6	
	comp=N,7μm,0.8s						
MESJ	**Messejana**	**4.23**	**302**	⇓*e*Pn	**Pn**	**04 23 05.7**	**-0.9**
MESJ				*e*Sn	**Sn**	**04 23 53.4**	**-2.6**
MESJ				A	A	04 23 59.9	
	comp=N,6μm,0.8s						
MESJ	**Messejana**	**4.23**	**302**	*e*P	**Pn**	**04 23 05.7**	**-0.9**
MESJ				*e*S	**Sn**	**04 23 51.6**	**-4.3**
EBNR	**Beni Rached**	**4.27**	**80**	P	**Pn**	**04 23 07.5**	**+0.3**
PLAGO	**Lagos**	**4.28**	**291**	*e*Pn	**Pn**	**04 23 11.3**	**+4.1**
PLAGO				*e*Sn	**Sn**	**04 23 54.2**	**-2.9**
MORF	**Marmelete**	**4.32**	**293**	*e*P	**Pn**	**04 23 06.7**	**-1.2**
MORF				*e*S	**Sn**	**04 23 53.4**	**-4.8**
MORF				IAML		04 24 07.8	
	comp=N,8μm,0.7s						
MORF	**Marmelete**	**4.32**	**293**	*e*Pn	**Pn**	**04 23 06.4**	**-1.4**
MORF				*e*Sn	**Sn**	**04 23 55.1**	**-3.1**
MORF				A	A	04 24 10.3	
	comp=N,3μm,0.4s						
MORF	**Marmelete**	**4.32**	**293**	*e*P	**Pn**	**04 23 06.6**	**-1.2**
MORF				*e*S	**Sn**	**04 23 53.4**	**-4.8**
PFVI	**Vila Bisbo**	**4.39**	**291**	*e*Pn	**Pn**	**04 23 07.3**	**-1.5**
PFVI				*e*Sn	**Sn**	**04 23 57.2**	**-2.8**
PFVI				A	A	04 24 12.9	
	comp=N,7μm,0.6s						
PFVI	**Vila Bisbo**	**4.39**	**291**	Pn	**Pn**	**04 23 06.8**	**-2.0**
PFVI	**Vila Bisbo**	**4.39**	**291**	P	**Pn**	**04 23 07.3**	**-1.5**
PFVI	**Vila Bisbo**	**4.39**	**291**	⇓Pn	**Pn**	**04 23 07.2**	**-1.7**
	comp=N,10μm,1.1s,SNR=18						
PFVI				Sn	**Sn**	**04 23 56.9**	**-3.1**
	comp=N,67μm,1.6s,SNR=7.9						
PALJ	**Aljezur**	**4.43**	**293**	*e*Pn	**Pn**	**04 23 09.1**	**-0.2**
PALJ				*e*Sn	**Sn**	**04 23 59.5**	**-1.4**
PALJ				A	A	04 24 04.0	
	comp=N,11μm,0.5s						
PESTR	**Estremoz**	**4.45**	**317**	⇓*e*Pn	**Pn**	**04 23 08.8**	**-0.8**
PESTR				*e*Sn	**Sn**	**04 23 58.9**	**-2.5**
PESTR				A	A	04 24 35.2	
	comp=N,6μm,0.5s						
PESTR	**Estremoz**	**4.45**	**317**	Pn	**Pn**	**04 23 09.1**	**-0.6**
ECHE	**Chera**	**4.45**	**28**	⇓Pn	**Pn**	**04 23 09.2**	**-0.5**
	comp=N,2μm,0.9s,SNR=18						
ECHE				Lg	Lg	04 24 24.6	
	comp=N,154μm,1.7s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.46**	**296**	*e*Pn	**Pn**	**04 23 08.8**	**-0.9**
PTEO				*e*Sn	**Sn**	**04 23 58.8**	**-2.8**
PTEO				A	A	04 24 08.3	
	comp=N,5μm,0.8s						
EVO	**Evora**	**4.48**	**311**	P	**Pn**	**04 23 09.4**	**-0.6**
EVO				S	**Sn**	**04 24 00.8**	**-1.3**
EVO	**Evora**	**4.48**	**311**	⇓*e*Pn	**Pn**	**04 23 09.2**	**-0.8**
EVO				*e*Sn	**Sn**	**04 23 59.0**	**-3.1**
EVO				A	A	04 24 05.7	
	comp=N,9μm,0.5s						
PSVI	**Cabo S. Vicent**	**4.49**	**289**	*e*Pn	**Pn**	**04 23 09.0**	**-1.2**
PSVI				*e*Sn	**Sn**	**04 23 58.8**	**-3.6**
PSVI				A	A	04 24 18.9	
	comp=N,5μm,0.5s						
PNCL	**Nicolau / Gran**	**4.58**	**303**	⇓*e*Pn	**Pn**	**04 23 10.4**	**-1.0**
PNCL				*e*Sn	**Sn**	**04 24 02.6**	**-1.9**
PNCL				A	A	04 24 18.3	
	comp=N,4μm,0.6s						
UCM	**Universidad Co**	**4.63**	**4**	P	**Pn**	**04 23 12.6**	**+0.5**
UCM				S	**Sg**	**04 24 25.5**	**-5.3**
PMRV	**Marv??o**	**4.76**	**323**	⇓*e*Pn	**Pn**	**04 23 13.5**	**-0.4**
PMRV				*e*Sn	**Sn**	**04 24 06.2**	**-2.8**
PMRV				A	A	04 24 43.4	
	comp=N,6μm,0.6s						
EPLA	**Plasencia**	**4.76**	**337**	⇓Pn	**Pn**	**04 23 14.1**	**+0.1**
	comp=N,8μm,2.3s,SNR=18						
EPLA				Sn	**Sn**	**04 24 07.1**	**-2.1**
	comp=N,23μm,1.6s,SNR=7.9						
EPLA				Lg	Lg	04 24 31.6	
	comp=N,185μm,2.4s,SNR=7.9						
PMTG	**Montargil**	**4.95**	**314**	⇓*e*Pn	**Pn**	**04 23 15.6**	**-0.9**
PMTG				*e*Sn	**Sn**	**04 24 09.8**	**-3.9**
PMTG				A	A	04 24 44.9	
	comp=N,6μm,0.6s						
GUD	**Guadarrama**	**4.96**	**356**	⇓Pn	**Pn**	**04 23 16.9**	**+0.1**
	comp=N,2μm,0.8s,SNR=18						
GUD				Sn	**Sn**	**04 24 13.4**	**-0.9**
	comp=N,9μm,0.9s,SNR=6.4						
GUD				Lg	Lg	04 24 36.6	
	comp=N,463μm,4.3s,SNR=8.8						
PCBR	**Castelo Branco**	**5.12**	**325**	⇓*e*Pn	**Pn**	**04 23 18.7**	**-0.1**
PCBR				*e*Sn	**Sn**	**04 24 16.9**	**-1.0**
PCBR				A	A	04 24 20.9	
	comp=N,4μm,0.5s						
TZRR	**Tazzarine**	**5.14**	**198**	P	**Pn**	**04 23 18.0**	**-1.2**
EIBI	**Ibiza**	**5.21**	**49**	⇑Pn	**Pn**	**04 23 19.2**	**-0.9**
	comp=N,2μm,0.9s,SNR=18						
EIBI				Sn	**Sn**	**04 24 16.2**	**-3.9**
	comp=N,19μm,1.2s,SNR=8.9						
ETOR	**Torete**	**5.28**	**14**	⇓Pn	**Pn**	**04 23 21.8**	**+0.6**
	comp=N,6μm,1.7s,SNR=18						
ETOR				Sn	**Sn**	**04 24 21.4**	**-0.7**
	comp=N,21μm,1.6s,SNR=7.9						
ETOR				Lg	Lg	04 24 49.5	
	comp=N,66μm,2.1s,SNR=7.9						
LIS	**Lisbon**	**5.31**	**306**	*e*P	**Pn**	**04 23 20.4**	**-1.0**
LIS				*e*S	**Sn**	**04 24 17.0**	**-5.5**
LIS				IAML		04 24 26.9	
	comp=N,12μm,0.6s						
LIS	**Lisbon**	**5.31**	**306**	*e*Pn	**Pn**	**04 23 20.7**	**-0.7**
LIS				*e*Sn	**Sn**	**04 24 19.9**	**-2.6**
LIS				A	A	04 24 47.8	
	comp=N,4μm,0.7s						
LIS	**Lisbon**	**5.31**	**306**	*e*P	**Pn**	**04 23 20.4**	**-1.0**
LIS				*e*S	**Sn**	**04 24 17.0**	**-5.5**
EMOS	**Mosqueruela**	**5.31**	**28**	⇓Pn	**Pn**	**04 23 22.1**	**+0.5**
	comp=N,5μm,1.5s,SNR=18						
EMOS				Lg	Lg	04 24 50.1	
	comp=N,87μm,1.7s,SNR=7.9						
INMG	**Instituto de M**	**5.33**	**307**	*e*Pn	**Pn**	**04 23 21.4**	**-0.2**
INMG				*e*Sn	**Sn**	**04 24 20.1**	**-2.9**
INMG				A	A	04 24 44.3	
	comp=N,11μm,0.6s						
PMST	**Lisbon--Monsan**	**5.34**	**306**	*e*Pn	**Pn**	**04 23 21.2**	**-0.7**
PMST				*e*Sn	**Sn**	**04 24 23.5**	**+0.1**
PMST				A	A	04 24 59.3	
	comp=N,4μm,0.7s						
EMHD	**Djebel Mahouad**	**5.41**	**83**	P	**Pn**	**04 23 21.0**	**-1.9**
OUZM	**OUZ**	**5.42**	**209**	P	**Pn**	**04 23 22.4**	**-0.6**
PMAFR	**Mafra**	**5.53**	**308**	⇓*e*Pn	**Pn**	**04 23 23.6**	**-0.8**
PMAFR				*e*Sn	**Sn**	**04 24 25.0**	**-3.0**
PMAFR				A	A	04 24 39.4	
	comp=N,6μm,0.7s						
PMAFR	**Mafra**	**5.53**	**308**	⇓Pn	**Pn**	**04 23 23.4**	**-1.0**
	comp=N,5μm,0.6s,SNR=18						
PMAFR				Sn	**Sn**	**04 24 23.7**	**-4.3**
	comp=N,25μm,0.9s,SNR=7.9						
PMAFR				Lg	Lg	04 24 55.4	
	comp=N,195μm,2.2s,SNR=6.1						
PSBE	**So Bento**	**5.58**	**315**	⇓*e*Pn	**Pn**	**04 23 24.5**	**-0.6**
PSBE				*e*Sn	**Sn**	**04 24 25.5**	**-3.7**
PSBE				A	A	04 25 16.9	
	comp=N,6μm,0.7s						
MTE	**Manteigas**	**5.61**	**328**	⇓*i*Pn	**Pn**	**04 23 25.4**	**-0.2**
MTE				*e*Sn	**Sn**	**04 24 28.0**	**-2.0**
MTE				A	A	04 25 04.9	
	comp=N,12μm,0.6s						
MTE	**Manteigas**	**5.61**	**328**	Pn	**Pn**	**04 23 25.3**	**-0.2**
OUK	**Oukaimeden**	**5.67**	**219**	P	**Pn**	**04 23 24.8**	**-2.0**
ZGR	**Zagora**	**5.79**	**197**	P	**Pn**	**04 23 26.9**	**-1.2**
PCAS	**Casmilo, Conde**	**5.79**	**320**	⇓*e*Pn	**Pn**	**04 23 26.7**	**-1.3**
PCAS				*e*Sn	**Sn**	**04 24 29.4**	**-5.0**
PCAS				A	A	04 25 14.8	
	comp=N,5μm,0.6s						
ABMS	**Boumerdes**	**5.89**	**78**	P	**Pn**	**04 23 28.2**	**-1.2**
PVIS	**Viseu**	**6.02**	**328**	⇓*e*Pn	**Pn**	**04 23 30.8**	**-0.4**
PVIS				*e*Sn	**Sn**	**04 24 37.3**	**-2.8**
PVIS				A	A	04 25 20.2	
	comp=N,4μm,0.7s						
PVIS				A	A	04 25 20.5	
	comp=N,4μm,0.7s						
MVO	**Moncorvo**	**6.07**	**335**	⇓*e*Pn	**Pn**	**04 23 32.0**	**+0.1**
MVO				*e*Sn	**Sn**	**04

SET	**Setif**	**7.38**	**83**	P	**Pn**	**04 23 51.0**	**+1.0**
EORO	**Oroz-Betelu**	**7.43**	**14**	⇓Pn	**Pn**	**04 23 51.1**	**+0.6**
	comp=N,5μm,1.2s,SNR=18						
EORO				Sn	**Sn**	**04 25 11.2**	**-3.6**
	comp=N,10μm,1.0s,SNR=7.9						
EORO				Lg	Lg	04 25 57.9	
	comp=N,171μm,2.1s,SNR=5.0						
EMIR	**Miracle**	**7.43**	**32**	⇑Pn	**Pn**	**04 23 51.2**	**+0.6**
	comp=N,3μm,1.7s,SNR=18						
EMIR				Sn	**Sn**	**04 25 14.2**	**-0.6**
	comp=N,5μm,1.5s,SNR=5.7						
EMIR				Lg	Lg	04 25 51.2	
	comp=N,51μm,2.5s,SNR=5.0						
ELAN	**Lanestosa**	**7.54**	**1**	⇓Pn	**Pn**	**04 23 51.5**	**-0.6**
	comp=N,812nm,0.7s,SNR=18						
ELAN				Sn	**Sn**	**04 25 11.4**	**-6.1**
	comp=N,8μm,1.6s,SNR=4.6						
ELAN				Lg	Lg	04 25 46.2	
	comp=N,80μm,2.7s,SNR=6.2						
EZAM	**Zamans**	**7.54**	**330**	⇓Pn	**Pn**	**04 23 51.3**	**-0.8**
	comp=N,2μm,1.5s,SNR=18						
EZAM				Sn	**Sn**	**04 25 11.4**	**-6.2**
	comp=N,8μm,1.3s,SNR=7.9						
EZAM				Lg	Lg	04 25 55.6	
	comp=N,79μm,2.7s,SNR=7.9						
MAHO	**Mahon**	**7.57**	**54**	P	**Pn**	**04 23 52.1**	**-0.3**
MAHO				S	**Sn**	**04 25 12.4**	**-5.7**
ECHI	**Chisagues Biel**	**7.59**	**22**	Pn	**Pn**	**04 23 54.4**	**+1.5**
	comp=N,3μm,1.8s,SNR=7.9						
ECHI				Lg	Lg	04 26 01.9	
	comp=N,122μm,4.5s,SNR=7.9						
ETSF	**Etsaut**	**7.60**	**18**	*e*Pn	**Pn**	**04 23 54.7**	**+1.8**
ETSF				*e*Sn	**Sn**	**04 25 18.4**	**-0.6**
	comp=N,513nm,0.6s						
ETSF				*e*Sg	**Sg**	**04 26 03.9**	**-2.1**
	comp=N,178μm,2.7s						
SJPF	**Ste Jean**	**7.66**	**14**	*e*Pn	**Pn**	**04 23 54.7**	**+1.0**
SJPF				*e*Sn	**Sn**	**04 25 18.7**	**-1.7**
	comp=N,162nm,0.4s						
SJPF				*e*Sg	**Sg**	**04 26 06.0**	**-1.9**
	comp=N,104μm,2.3s						
CSOR	**Sort**	**7.66**	**28**	⇑Pn	**Pn**	**04 23 55.2**	**+1.5**
	comp=N,6μm,1.7s,SNR=18						
CSOR				Sn	**Sn**	**04 25 20.2**	**-0.4**
	comp=N,10μm,1.5s,SNR=7.9						
CSOR				Lg	Lg	04 26 07.6	
	comp=N,404μm,4.9s,SNR=7.9						
EARI	**Arriondas**	**7.70**	**352**	⇓Pn	**Pn**	**04 23 54.2**	**-0.1**
	comp=N,1μm,1.2s,SNR=18						
EARI				Sn	**Sn**	**04 25 17.9**	**-3.5**
	comp=N,4μm,1.2s,SNR=7.9						
EARI				Lg	Lg	04 26 03.3	
	comp=N,94μm,2.4s,SNR=6.8						
EALK	**Alkurruntz**	**7.71**	**12**	⇓Pn	**Pn**	**04 23 54.9**	**+0.4**
	comp=N,14μm,1.2s,SNR=18						
EALK				Sn	**Sn**	**04 25 19.5**	**-2.3**
	comp=N,16μm,1.0s,SNR=7.9						
EALK				Lg	Lg	04 26 07.5	
	comp=N,228μm,2.4s,SNR=6.3						
CFON	**Fontmartina**	**7.72**	**36**	⇑Pn	**Pn**	**04 23 54.2**	**-0.5**
	comp=N,1μm,1.2s,SNR=18						
CFON				Sn	**Sn**	**04 25 20.1**	**-2.1**
	comp=N,4μm,1.4s,SNR=7.9						
CFON				Lg	Lg	04 26 07.8	
	comp=N,26μm,3.8s,SNR=7.9						
ATE	**Arette**	**7.74**	**16**	⇓Pn	**Pn**	**04 23 55.7**	**+0.9**
	comp=N,2μm,1.0s,SNR=18						
DFRA	**Djebel Bou Aff**	**7.78**	**81**	P	**Pn**	**04 23 55.1**	**-0.4**
EAGO	**Agolada(Pontev**	**7.88**	**336**	⇓Pn	**Pn**	**04 23 56.2**	**-0.6**
	comp=N,4μm,2.1s,SNR=18						
EAGO				Sn	**Sn**	**04 25 21.9**	**-4.2**
	comp=N,5μm,1.2s,SNR=7.9						
EAGO				Lg	Lg	04 26 06.1	
	comp=N,39μm,1.7s,SNR=7.9						
EPF	**Esparros**	**7.97**	**22**	*e*Pn	**Pn**	**04 23 59.2**	**+1.2**
EPF				*e*Sg	**Sg**	**04 26 15.2**	**-2.7**
	comp=N,18μm,1.6s						
CLLI	**Llivia**	**8.08**	**31**	⇑Pn	**Pn**	**04 24 00.8**	**+1.2**
	comp=N,4μm,1.8s,SNR=18						
CLLI				Sn	**Sn**	**04 25 23.4**	**-7.6**
	comp=N,7μm,2.1s,SNR=7.9						
CLLI				Lg	Lg	04 26 16.3	
	comp=N,14μm,2.6s,SNR=6.5						
EPON	**Pontenova**	**8.09**	**342**	⇓Pn	**Pn**	**04 23 58.7**	**-0.8**
	comp=N,3μm,2.0s,SNR=18						
EPON				Sn	**Sn**	**04 25 25.2**	**-5.7**
	comp=N,10μm,1.5s,SNR=4.2						
EPON				Lg	Lg	04 26 17.0	
	comp=N,86μm,3.6s,SNR=7.2						
CASM	**Ain Smara**	**8.27**	**83**	P	**Pn**	**04 24 00.8**	**-1.3**
EMAZ	**Mazaricos**	**8.33**	**332**	⇓Pn	**Pn**	**04 24 02.3**	**-0.6**
	comp=N,2μm,2.9s,SNR=18						
EMAZ				Sn	**Sn**	**04 25 31.3**	**-5.6**
	comp=N,5μm,1.3s,SNR=7.9						
EMAZ				Lg	Lg	04 26 19.5	
	comp=N,78μm,3.2s,SNR=7.9						
SFNM	**Sidi Ifni**	**8.37**	**223**	P	**Pn**	**04 24 00.1**	**-3.4**
CKFL	**Kef-Lekhel**	**8.46**	**82**	P	**Pn**	**04 24 04.4**	**-0.4**
EJON	**La Jonquera**	**8.47**	**35**	Pn	**Pn**	**04 24 05.1**	**+0.3**
	comp=N,4μm,3.0s,SNR=33						
EJON				Sn	**Sn**	**04 25 38.5**	**-1.9**
	comp=N,3μm,1.6s,SNR=7.9						
EJON				Lg	Lg	04 26 24.2	
	comp=N,11μm,2.3s,SNR=4.2						
SJAF	**Saint Jean de**	**8.49**	**35**	Pn	**Pn**	**04 24 06.3**	**+1.2**
	comp=N,825nm,1.4s,SNR=7.9						
MTLF	**Montolieu**	**8.90**	**29**	*e*Pn	**Pn**	**04 24 12.7**	**+2.0**
MTLF				*e*Sn	**Sn**	**04 25 48.0**	**-2.9**
MTLF				*e*Sg	**Sg**	**04 26 45.7**	**-2.0**
	comp=N,60μm,2.4s						
CMAH	**Djebel Manchou**	**9.03**	**81**	P	**Pn**	**04 24 12.1**	**-0.5**
ABSA	**Djebel Ababsia**	**9.07**	**83**	P	**Pn**	**04 24 16.5**	**+3.4**
TANT	**Tantan**	**9.68**	**224**	P	**Pn**	**04 24 18.9**	**-2.5**
LFF	**La Frestale**	**9.84**	**19**	*e*Pn	**Pn**	**04 24 24.2**	**+0.7**
LFF				*e*Sn	**Sn**	**04 26 12.9**	**-1.0**
LFF				*e*Sg		04 27 12.2	
	comp=N,46μm,2.6s						
LASF	**Ste Croix**	**10.18**	**32**	*e*Pn	**Pn**	**04 24 29.5**	**+1.2**
LASF				*e*Sn	**Sn**	**04 26 20.1**	**-2.3**
	comp=N,173nm,0.7s						
LASF				*e*Sg		04 27 27.6	
	comp=N,4μm,1.3s						
CAF	**Calviac**	**10.22**	**24**	*e*Pn	**Pn**	**04 24 30.2**	**+1.4**
CAF				*e*Sg		04 27 25.6	
	comp=N,14μm,2.0s						
RJF	**Les Rejaudoux**	**10.39**	**21**	*e*Pn	**Pn**	**04 24 30.7**	**-0.4**
RJF				*e*Sn	**Sn**	**04 26 25.0**	**-2.5**
	comp=N,177nm,0.4s						
RJF				*e*Sg		04 27 30.6	
	comp=N,6μm,1.4s						
RJF				*e*R			
	comp=N,507μm,15.5s						
I48TN	**KESRA INFRASON**	**10.57**	**86**	*i*		05 20 00.0	
	baz=270,slow=304,SNR=0.5						
EFAM	**Famara**	**10.58**	**235**	Pn	**Pn**	**04 24 30.3**	**-3.5**
	comp=N,835nm,0.9s,SNR=7.9						
EFAM				Sn	Sn	04 26 19.2	-13
	comp=N,5μm,1.7s,SNR=7.9						
KEST	**Kesra**	**10.60**	**86**	Pn	**Pn**	**04 24 32.7**	**-1.3**
	comp=N,3.0nm,0.3s,baz=221,slow=5.5,SNR=68						
KEST				LR	LR	04 29 28.9	
	comp=N,362μm,18.1s,baz=248,slow=42						
KEST	**Kesra**	**10.60**	**86**	Pn	**Pn**	**04 24 34.1**	**+0.1**
PMPST	**Porto Santo, M**	**10.77**	**260**	*e*Pn	**Pn**	**04 24 32.3**	**-4.1**
PMPST	**Porto Santo, M**	**10.77**	**260**	*e*Pn	**Pn**	**04 24 33.3**	**-3.1**
PMPST				*e*Sn	Sn	04 26 21.1	-16
PMPST				*e*Sn	Sn	04 26 21.4	-16
PMPS	**Porto Santo**	**10.78**	**260**	*e*Pn	**Pn**	**04 24 32.6**	**-3.9**
PMPS				*e*Sn	Sn	04 26 21.9	-15
SMRF	**Simiane la Rot**	**10.91**	**38**	*e*Pn	**Pn**	**04 24 40.3**	**+2.0**
SMRF				*e*Sn	**Sn**	**04 26 37.6**	**-2.7**
	comp=N,13nm,0.5s						
SMRF				*e*Sg		04 27 50.2	
	comp=N,15μm,2.1s						
LMR	**La Mourre**	**10.96**	**43**	*e*Pn	**Pn**	**04 24 40.5**	**+1.6**
LMR	**La Mourre**	**10.96**	**43**	*e*P	Pn	04 24 45.4	+6.5
LMR				*e*Sn	**Sn**	**04 26 36.6**	**-4.9**
	comp=N,106nm,0.5s						
LMR				*e*Sg		04 27 51.5	
	comp=N,2μm,1.6s						
CLOB	**Isla de Lobos,**	**11.01**	**234**	Pn	**Pn**	**04 24 36.7**	**-2.9**
	SNR=7.9						
CLOB				Sn	Sn	04 26 28.8	-14
	SNR=7.9						
VSL	**Villasalto**	**11.04**	**66**	Pn	**Pn**	**04 24 39.9**	**-0.1**
VIVF	**Saint-Julien-l**	**11.16**	**32**	*e*Pn	**Pn**	**04 24 43.0**	**+1.4**
VIVF				*e*Sn	**Sn**	**04 26 43.6**	**-2.7**
	comp=N,15nm,0.3s						
VIVF				*e*Sg		04 27 57.0	
	comp=N,10μm,2.0s						
CFUE	**Fuerteventura**	**11.16**	**234**	Pn	**Pn**	**04 24 39.0**	**-2.8**
	comp=N,278nm,0.8s,SNR=7.9						
CFUE				Sn	Sn	04 26 33.2	-13
	comp=N,307nm,0.4s,SNR=7.9						
MFF	**Saint Martin d**	**11.23**	**13**	*e*Pn	**Pn**	**04 24 43.3**	**+0.8**
MFF				*e*Sn	**Sn**	**04 26 43.9**	**-4.0**
	comp=N,23nm,0.4s						
MFF				*e*Sg		04 27 53.6	
	comp=N,5μm,1.5s						
PMAR	**Madeira**	**11.35**	**259**	*e*Pn	**Pn**	**04 24 40.3**	**-4.1**
PMAR				*e*Sn	Sn	04 26 36.5	-15
PMAR	**Madeira**	**11.35**	**259**	P	**Pn**	**04 24 40.3**	**-4.1**
FUL	**Funchal**	**11.35**	**258**	*e*Pn	**Pn**	**04 24 40.8**	**-3.5**
FUL				*e*Sn	Sn	04 26 35.4	-16
CFTV	**Fuerteventura**	**11.41**	**233**	Pn	**Pn**	**04 24 41.9**	**-3.3**
	comp=N,52nm,0.3s,SNR=7.9						
CFTV				Sn	Sn	04 26 39.4	-13
	comp=N,779nm,1.0s,SNR=7.9						
SSB	**Saint Sauveur**	**11.44**	**31**	P	**Pn**	**04 24 46.8**	**+1.3**
SSB	**Saint Sauveur**	**11.44**	**31**	Pn	**Pn**	**04 24 46.8**	**+1.3**
TCF	**Toulx Ste Croi**	**11.48**	**21**	*e*Pn	**Pn**	**04 24 46.4**	**+0.3**
TCF				*e*Sn	**Sn**	**04 26 51.6**	**-2.8**
	comp=N,42nm,0.4s						
TCF				*e*Sg		04 28 07.2	
	comp=N,14μm,2.0s						
PMOZ	**Porto Moniz, M**	**11.54**	**260**	P	**Pn**	**04 24 43.3**	**-3.7**
PMOZ	**Porto Moniz, M**	**11.54**	**260**	Pn	**Pn**	**04 24 43.1**	**-3.9**
	comp=N,951nm,0.7s,SNR=7.9						
PMOZ				Sn	Sn	04 26 46.0	-10
	comp=N,7μm,1.0s,SNR=7.9						
CGIN	**Giniginamar, F**	**11.55**	**233**	Pn	**Pn**	**04 24 44.3**	**-2.8**
	comp=N,93nm,0.6s,SNR=7.9						
CGIN				Sn	Sn	04 26 41.6	-15
	comp=N,898nm,1.1s,SNR=7.9						
ORIF	**Oris-en-Rattie**	**11.75**	**35**	*e*P	**Pn**	**04 24 54.0**	**+4.2**
ORIF				*e*Sn	**Sn**	**04 26 57.4**	**-3.6**
	comp=N,2.1nm,0.2s						
ORIF				*e*Sg		04 28 15.8	
	comp=N,8μm,1.9s						
ORIF				*e*R			
	comp=N,214μm,21.0s						
SBF	**Sospel**	**11.82**	**43**	*e*Pn	**Pn**	**04 24 52.4**	**+1.7**
SBF	**Sospel**	**11.82**	**43**	*e*P	Pn	04 24 57.6	+6.9
SBF				*e*Sn	**Sn**	**04 26 58.5**	**-4.1**
	comp=N,20nm,0.5s						
SBF				*e*Sg		04 28 18.2	
	comp=N,10μm,2.6s						
BGF	**Bois d'Agland**	**11.92**	**22**	*e*Pn	**Pn**	**04 24 53.3**	**+1.3**
BGF				*e*Sn	**Sn**	**04 27 00.6**	**-4.3**
	comp=N,150nm,0.5s						
BGF				*e*Sg		04 28 20.0	
	comp=N,7μm,1.7s						
PGF	**Pioggiola**	**11.99**	**51**	*e*Pn	**Pn**	**04 24 54.3**	**+1.2**
PGF				*e*Sn	**Sn**	**04 27 02.7**	**-4.2**
	comp=N,19nm,0.3s						
MBDF	**Montbardon**	**12.05**	**38**	*e*Pn	**Pn**	**04 24 55.0**	**+1.1**
MBDF				*e*Sn	**Sn**	**04 27 05.2**	**-3.1**
	comp=N,56nm,0.6s						
MBDF				*e*Sg		04 28 27.7	
	comp=N,2μm,1.8s						
QUIF	**Quistinic**	**12.23**	**2**	*e*Pn	**Pn**	**04 24 56.6**	**+0.4**
QUIF				*e*Sn	**Sn**	**04 27 08.3**	**-4.1**
	comp=N,79nm,0.4s						
BNI	**Bardonecchia**	**12.23**	**37**	P	**Pn**	**04 24 59.3**	**+2.8**
BNI	**Bardonecchia**	**12.23**	**37**	Pn	**Pn**	**04 24 59.3**	**+2.8**
AVF	**Avril sur Loir**	**12.29**	**23**	*e*Pn	**Pn**	**04 24 58.8**	**+1.8**
AVF				*e*Sn	**Sn**	**04 27 09.9**	**-4.0**
AVF				*e*Sg		04 28 32.6	
	comp=N,6μm,1.6s						
SMF	**Signal de Mont**	**12.32**	**25**	*e*Pn	**Pn**	**04 24 58.8**	**+1.3**
SMF				*e*Sn	**Sn**	**04 27 12.8**	**-2.0**
SMF				*e*Sg		04 28 31.3	
	comp=N,18μm,2.4s						
HYF	**Humbligny**	**12.50**	**20**	*e*Pn	**Pn**	**04 25 00.9**	**+0.9**
HYF				*e*Sn	**Sn**	**04 27 14.8**	**-4.3**
	comp=N,118nm,0.4s						
HYF				*e*Sg		04 28 39.4	
SSF	**Saint Saulge**	**12.57**	**23**	*e*Pn	**Pn**	**04 25 02.3**	**+1.3**
SSF				*e*Sn	**Sn**	**04 27 16.4**	**-4.6**
	comp=N,41nm,0.5s						
SSF				*e*Sg		04 28 39.1	
	comp=N,12μm,2.1s						
SGMF	**Saint Gilles**	**12.59**	**3**	*e*Pn	**Pn**	**04 25 01.3**	**+0.2**
SGMF				*e*Sn	**Sn**	**04 27 15.1**	**-6.1**
	comp=N,37nm,0.4s						
LPG	**La Plagne**	**12.60**	**36**	*e*P	Pn	04 25 06.5	+5.0
LPG				*e*Sn	**Sn**	**04 27 18.4**	**-3.5**
	comp=N,48nm,0.8s						
LPG				*e*Sg		04 28 42.8	
	comp=N,3μm,2.0s						
LPL	**La Plagne**	**12.60**	**36**	*e*Pn	**Pn**	**04 25 03.1**	**+1.6**
LPL				*e*Sn	**Sn**	**04 27 19.0**	**-2.9**
	comp=N,9.6nm,0.7s						
LPL				*e*Sg		04 28 41.1	
	comp=N,8μm,2.4s						
EOSO	**Osorio**	**12.62**	**236**	Pn	**Pn**	**04 24 59.4**	**-2.3**
	comp=N,3μm,2.0s,SNR=19						
EOSO				Sn	Sn	04 27 08.0	-14
	comp=N,236nm,0.5s,SNR=7.9						
GGC	**Guia, Gran Can**	**12.64**	**237**	Pn	**Pn**	**04 24 57.5**	**-4.5**
	comp=N,3μm,2.2s,SNR=7.9						
GGC				Sn	Sn	04 27 08.3	-15
	comp=N,817nm,0.8s,SNR=7.9						
ROSF	**Rostrenen**	**12.64**	**1**	*e*Pn	**Pn**	**04 25 01.8**	**-0.1**
ROSF				*e*Sn	**Sn**	**04 27 16.8**	**-5.9**
	comp=N,270nm,0.6s						
GRR	**Gorron**	**12.86**	**8**	*e*Pn	**Pn**	**04 25 05.8**	**+0.9**
GRR				*e*Sn	**Sn**	**04 27 22.5**	**-5.5**
	comp=N,70nm,0.4s						
GRR				*e*Sg		04 28 51.4	
	comp=N,48μm,3.1s						
LOR	**Lormes**	**12.87**	**24**	*e*Pn	**Pn**	**04 25 06.3**	**+1.3**
	baz=205						
LOR				*e*Sn	**Sn**	**04 27 22.4**	**-5.8**
LOR				*e*Sg		04 28 49.7	
	comp=N,7μm,1.8s						
LOR				*e*R			
	comp=N,723μm,13.5s						
CGUI	**Guimar, Teneri**	**13.07**	**239**	Pn	Pn	04 25 02.8	-5.2
	comp=N,577nm,1.1s,SNR=7.9						
CGUI				Sn	Sn	04 27 18.5	-15
	comp=N,528nm,0.5s,SNR=7.9						
CLF	**Chambon-Foret**	**13.10**	**18**	Pn	**Pn**	**04 25 08.6**	**+0.5**
LDF	**La Druitiere**	**13.16**	**10**	*e*Pn	**Pn**	**04 25 09.3**	**+0.3**
LDF				*e*Sn	**Sn**	**04 27 33.6**	**-1.7**
LDF				*e*Sg	S	04 28 58.3	+58
	comp=N,4μm,1.7s						
MACI	**Morro de la Ar**	**13.16**	**239**	Pn	**Pn**	**04 25 06.0**	**-3.3**
MACI	**Morro de la Ar**	**13.16**	**239**	Pn	**Pn**	**04 25 05.5**	**-3.8**
	comp=N,339nm,1.3s,SNR=7.9						
MACI				Sn	Sn	04 27 22.2	-14
	comp=N,1μm,1.2s,SNR=7.9						
CRAJ	**Montana Rajada**	**13.22**	**240**	Pn	**Pn**	**04 25 05.9**	**-4.3**
	comp=N,377nm,1.0s,SNR=7.9						
CRAJ				Sn	Sn	04 27 24.3	-13
	comp=N,392nm,0.3s,SNR=7.9						
FLN	**La Foliniere**	**13.28**	**9**	*e*Pn	**Pn**	**04 25 10.7**	**+0.1**
	baz=190						
FLN				*e*Sn	**Sn**	**04 27 32.7**	**-5.4**
	comp=N,281nm,0.9s						
FLN				*e*Sg		04 29 03.3	
	comp=N,3μm,1.6s						
FLN				*e*R			
	comp=N,298μm,13.2s						
MSSA	**Maissana**	**13.28**	**46**	Pn	**Pn**	**04 25 10.9**	**+0.2**
CASP	**Castiglione de**	**13.31**	**53**	Pn	**Pn**	**04 25 10.0**	**-1.1**
SENIN	**Lac Senin/Sane**	**13.49**	**34**	Pn	**Pn**	**04 25 16.9**	**+3.1**
JSA	**Saint Aubin**	**13.54**	**4**	*e*P	**Pn**	**04 25 13.9**	**-0.2**
JVM	**Valle D.L. Mar**	**13.57**	**4**	*e*P	**Pn**	**04 25 14.5**	**0.0**
VLC	**Villacollemand**	**13.70**	**48**		**Pn**	**04 25 17.2**	**+0.8**
CLTB	**Caltabellotta**	**13.70**	**77**	Pn	**Pn**	**04 25 16.6**	**+0.1**
EGOM	**La Gomera**	**13.71**	**241**	Pn	Pn	04 25 10.6	-6.0
	comp=N,69nm,0.5s,SNR=7.4						
EGOM				Sn	Sn	04 27 34.7	-14
	comp=N,430nm,0.6s,SNR=7.9						
LATE	**Laterza**	**13.86**	**55**	Pn	**Pn**	**04 25 18.2**	**-0.3**
OSSC	**Osservatorio P**	**13.90**	**51**	Pn	**Pn**	**04 25 18.9**	**-0.3**
EHIG	**Higuera**	**13.91**	**243**	Pn	Pn	04 25 14.3	-5.1
	comp=N,2μm,1.4s,SNR=7.9						
EHIG				Sn	Sn	04 27 38.6	-15
	comp=N,2μm,1.5s,SNR=7.9						
TBT	**Taburiente**	**13.92**	**244**	Pn	Pn	04 25 13.9	-5.5
	comp=N,131nm,0.8s,SNR=7.9						
TBT				Sn	Sn	04 27 39.5	-15
	comp=N,192nm,0.6s,SNR=7.9						
PRMA	**PARMA**	**14.00**	**45**	Pn	**Pn**	**04 25 24.0**	**+3.5**
ZCCA	**Zocca**	**14.16**	**48**	Pn	**Pn**	**04 25 24.8**	**+2.1**
MEZF	**Maizieres J'vi**	**14.34**	**24**	*e*Pn	**Pn**	**04 25 26.4**	**+1.3**
	baz=207						
MEZF				*e*Sn	Sn	04 27 55.0	-9.0
MEZF				*e*Sg		04 29 34.3	
	comp=N,22μm,2.3s						
HAU	**Haudompre**	**14.38**	**28**	*e*Pn	**Pn**	**04 25 27.2**	**+1.5**
HAU				*e*Sg		04 29 34.4	
	comp=N,2μm,1.2s						
HAU				*e*R			
	comp=N,279μm,17.5s						
HINF	**Hinteralfeld**	**14.43**	**30**	*e*Pn	**Pn**	**04 25 28.3**	**+1.9**
HINF				*e*Sg		04 29 37.2	
	comp=N,4μm,1.9s						
CTIG	**El Hierro**	**14.44**	**241**	Pn	**Pn**	**04 25 21.9**	**-4.7**
	comp=N,2μm,1.9s,SNR=7.9						
CTIG				Sn	Sn	04 27 48.3	-18
	SNR=7.9						
SAVF	**Savonnieres en**	**14.46**	**24**	*e*Pn	**Pn**	**04 25 28.7**	**+1.9**
	baz=206						
SAVF				*e*Sn	**Sn**	**04 28 02.3**	**-4.7**
SAVF				*e*Sg		04 29 40.3	
	comp=N,32μm,3.0s						
CHIE	**El Hierro**	**14.50**	**241**	Pn	**Pn**	**04 25 27.6**	**+0.2**
	comp=N,63nm,1.7s,SNR=7.9						
CHIE				Sn	**Sn**	**04 27 59.6**	**-8.6**
	comp=N,6.6nm,0.9s,SNR=7.9						
TUE	**Stuetta**	**14.56**	**38**	Pn	**Pn**	**04 25 29.8**	**+1.4**
CRST	**La Restinga, E**	**14.57**	**241**	Pn	**Pn**	**04 25 30.5**	**+2.2**
	comp=N,434nm,0.9s,SNR=4.0						
CRST				Sn	Sn	04 27 48.8	-21
	comp=N,125nm,0.2s,SNR=4.0						
CTAD	**Las Tabladas,**	**14.58**	**241**	Pn	**P**	**04 25 37.3**	**+2.4**
	comp=N,2μm,2.2s,SNR=4.0						
CTAD				Sn	Sn	04 27 51.7	-18
	comp=N,135nm,0.5s,SNR=7.9						
CJUL	**El Julan, El H**	**14.59**	**241**	Pn	**P**	**04 25 37.8**	**+2.6**
	comp=N,75nm,1.4s,SNR=7.9						
CJUL				Sn	Sn	04 27 59.8	-11
	comp=N,23nm,0.5s,SNR=7.9						
MURB	**Monte Urbino**	**14.61**	**54**	Pn	**Pn**	**04 25 28.8**	**-0.1**
PAGF	**Fort de Pagny**	**14.62**	**25**	*e*Pn	**Pn**	**04 25 29.9**	**+1.0**
	baz=206						
PAGF				*e*Sn	**Sn**	**04 28 10.9**	**+0.1**
PAGF				*e*Sg		04 29 44.0	
	comp=N,22μm,2.2s						
SALO	**Salr**	**14.63**	**43**	Pn	**Pn**	**04 25 30.3**	**+1.2**
VAE	**Valguarnera**	**14.65**	**78**	Pn	**Pn**	**04 25 29.4**	**-0.1**
	comp=N,1.3nm,0.3s,baz=331,slow=2.2,SNR=18						
VAE				LR	LR	04 31 00.8	
	comp=N,360μm,18.6s,baz=316,slow=37						
NRCA	**Norcia**	**14.83**	**56**	Pn	**Pn**	**04 25 31.5**	**-0.4**
AQU	**L'Aquila**	**14.84**	**58**	⇑*i*P	**Pn**	**04 25 31.5**	**-0.5**
DAVOX	**Davos/Dischmat**	**15.04**	**38**	Pn	**Pn**	**04 25 33.3**	**-1.5**
	comp=N,0.1nm,0.3s,baz=256,slow=9.5,SNR=8.9						
DAVOX				LR	LR	04 31 17.1	
	comp=N,102μm,20.0s,baz=222,slow=37						
CDF	**Champ du Feu**	**15.08**	**29**	*e*Pn	**Pn**	**04 25 36.5**	**+1.3**
CDF				*e*Sn	**Sn**	**04 28 24.4**	**+2.3**
CDF				*e*Sg		04 30 01.9	
	comp=N,9μm,2.4s						
TEOL	**Teolo**	**15.13**	**46**	Pn	**Pn**	**04 25 35.8**	**-0.1**
PAOL	**Paolisi**	**15.27**	**64**	Pn	**Pn**	**04 25 37.3**	**-0.5**
HTL	**Hartland**	**15.31**	**358**	*e*P	**Pn**	**04 25 37.2**	**-1.0**
DAVA	**Damuels**	**15.39**	**37**	*i* Pn	**Pn**	**04 25 40.8**	**+1.5**
	comp=N,453nm,1.0s,SNR=86						
BFO	**Black Forest**	**15.45**	**31**	P	**Pn**	**04 25 40.6**	**+0.6**
BFO				pmax	pmax		
	comp=Z,1μm,2.0s						
BFO	**Black Forest**	**15.45**	**31**	*e*P	**Pn**	**04 25 41.3**	**+1.4**
	comp=Z,1μm,1.9s,baz=219,slow=12						
BFO	**Black Forest**	**15.45**	**31**	Pn	**Pn**	**04 25 40.6**	**+0.6**
HMNX	**Herstmonceux**	**15.45**	**10**	*e*P	**Pn**	**04 25 39.2**	**-0.8**
BAIF	**Baives**	**15.47**	**19**	*e*Pn	**Pn**	**04 25 41.6**	**+1.3**
BAIF				*e*Sn	**Sn**	**04 28 25.5**	**-6.0**
BAIF				*e*Sg		04 30 14.7	
	comp=Z,5μm,2.1s						
CTI	**Castel Tesino**	**15.52**	**43**	P	**Pn**	**04 25 41.4**	**+0.4**
CTI				pmax	pmax		
	comp=Z,2μm,1.6s						
CTI	**Castel Tesino**	**15.52**	**43**	Pn	**Pn**	**04 25 41.4**	**+0.4**
CTI				IAmb	IAmb	04 26 35.1	
	comp=Z,2μm,1.6s						
DOU	**Dourbes**	**15.61**	**20**	P	**Pn**	**04 25 41.6**	**-0.5**
	comp

BEBN	Eben Emael	16.55	21	P	P	04 25 55.6	-1.0
	comp=Z,372nm,1.0s						
DUGI	Dugi Otok	16.59	54	P	P	04 25 57.6	+0.4
TIP	Timpagrande	16.60	72	⇑P	Pn	04 25 56.3	+1.3
TIP	Timpagrande	16.60	72	IAmb	IAmb	04 26 05.3	
	comp=Z,2μm,1.6s						
SKDS	Skadanscina	16.63	48	*i* Pn	Pn	04 25 54.2	-1.0
SKDS				*e*Sn	Sn	04 28 57.5	-2.2
FUR	Furstenfeldbru	16.68	37	*e*P	Pn	04 25 56.1	+0.3
	comp=Z,3μm,1.6s,baz=219,slow=12						
NVLJ	Novalja	16.70	52	P	P	04 25 58.2	-0.2
RABC	Rab	16.73	52	P	Pn	04 25 56.4	0.0
ELMS	Elmsett, Ipswi	16.74	10	*e*P	P	04 25 58.0	-0.8
ELMS				IAmb	IAmb	04 26 05.4	
	comp=Z,3μm,1.3s						
AHRW	Bad Neuenahr-A	16.77	24	*e*P	P	04 25 58.3	-0.9
	comp=Z,4μm,2.2s,baz=219,slow=12						
MATE	Matera	16.77	67	⇑P	P	04 25 59.1	-0.1
CADS	Cadrg	16.82	46	*i* Pn	Pn	04 25 57.4	-0.2
CADS				*e*Sn	Sn	04 29 08.1	+3.8
IWEX	Carrickbyrne,	16.83	353	*e*P	Pn	04 25 57.5	-0.1
HLM1	Long Mynd	16.84	2	*e*P	Pn	04 25 58.4	+0.6
HLM1				IAmb	IAmb	04 26 03.7	
	comp=Z,2μm,1.8s						
ZIRJ	Zirje	16.85	56	P	Pn	04 25 58.5	+0.6
MORI	Morici	16.97	55	P	Pn	04 26 00.2	+0.7
CEY	Cerknica	16.97	48	⇑*i*P	Pn	04 25 59.0	-0.6
MYKA	Terra Mystica	16.98	45	*i* Pn	Pn	04 26 00.4	+0.7
	comp=Z,75nm,1.4s,SNR=37						
TNS	Taunus Mts	16.99	28	*e*P	P	04 26 01.8	+0.1
	comp=Z,3μm,1.9s,baz=219,slow=12						
NOCI	Noci	17.07	66	*i* P	Pn	04 25 59.5	-1.3
KBA	Koelnbreinsper	17.07	43	*i* Pn	P	04 26 02.0	-0.7
	comp=Z,238nm,1.4s,SNR=33						
CWF	Charnwood Fore	17.13	5	*e*P	Pn	04 26 01.6	+0.1
RJOB	Jochberg	17.17	40	*e*P	Pn	04 26 01.7	-0.4
	comp=Z,572nm,1.3s,baz=219,slow=12						
LJU	Ljubljana	17.19	47	⇑*i*P	Pn	04 26 02.7	+0.5
LJU	Ljubljana	17.19	47	*i* Pn	Pn	04 26 02.6	+0.3
LJU				*e*Sn	Sn	04 29 14.7	+1.4
UDBI	Udbina	17.27	53	P	Pn	04 26 03.5	+0.2
PSMN	Pico do Norte,	17.28	281	*e*P	P	04 26 05.8	+0.9
	comp=Z,653nm,1.7s						
WACR	West Acre	17.31	9	*e*P	Pn	04 26 03.5	-0.1
WACR				IAmb	IAmb	04 26 08.7	
	comp=Z,3μm,1.2s						
PLIT	Plitvice	17.32	52	P	Pn	04 26 02.3	-1.7
PSMA	Santa Maria	17.33	281	*e*P	P	04 26 06.2	+0.8
	comp=Z,639nm,1.7s						
LSTV	Lastovo	17.42	60	P	P	04 26 07.2	+0.8
OBKA	Obir	17.44	46	*i* Pn	Pn	04 26 05.2	-0.3
	comp=Z,118nm,1.0s,SNR=83						
YLL	Llanberis	17.45	359	*e*P	P	04 26 06.9	+0.2
KIJV	Kijevo	17.49	56	P	P	04 26 07.5	+0.3
OZLJ	Ozalj	17.55	50	P	P	04 26 07.9	+0.1
YRC	Rhoscolyn	17.57	358	⇑*e*P	P	04 26 08.2	+0.3
BUG	Bochum--Univer	17.60	23	*e*P	P	04 26 08.3	0.0
	comp=Z,4μm,1.7s,baz=219,slow=12						
PCALD	Caldeiras da R	17.60	283	*e*P	P	04 26 08.6	+0.2
	comp=Z,161nm,1.4s						
WLF1	Llynfaes	17.61	359	*e*P	Pn	04 26 07.4	0.0
WLF1				IAmb	IAmb	04 26 17.1	
	comp=Z,3μm,2.3s						
CMLA	Cha da Macela	17.63	283	*e*P	P	04 26 10.4	+1.6
	comp=Z,1μm,1.8s						
GRON	Grota Negra	17.64	283	*e*P	P	04 26 09.7	+0.8
	comp=Z,1μm,1.8s						
CRES	Cresnjev	17.65	49	⇑*i*P	Pn	04 26 08.0	+0.1
MAKA	Makarska	17.66	58	P	Pn	04 26 08.4	+0.3
WME	Myndd Eilian	17.71	359	*e*P	P	04 26 10.3	+0.8
WPS	Cemaes, Angles	17.72	358	*e*P	P	04 26 09.5	-0.1
WPS				IAmb	IAmb	04 26 15.4	
	comp=Z,12μm,3.4s						
GRFO	Grafenberg	17.73	33	P	P	04 26 10.4	+0.7
GRFO				pmax	pmax		
	comp=Z,3μm,1.5s						
GRFO	Grafenberg	17.73	33	P	P	04 26 10.4	+0.7
GRFO				IAmb	IAmb	04 26 31.0	
	comp=Z,3μm,1.5s						
GRA1	Grafenberg Arr	17.73	33	IAmb	IAmb	04 26 31.0	
	comp=Z,3μm,1.5s						
GRF	Grafenberg Arr	17.73	33	*e*P	P	04 26 10.1	+0.4
	comp=Z,3μm,1.5s,baz=219,slow=12						
GRF				*e*L	L	04 32 04.3	
	comp=Z,39μm,21.5s						
PDA	Ponta Delgada	17.74	283	*e*P	P	04 26 12.4	+2.5
	comp=Z,397nm,1.8s						
LBWR	Ladybower, Pea	17.77	4	*e*P	Pn	04 26 07.0	-2.3
PSET	Sete Cidades	17.79	283	*e*P	P	04 26 12.3	+1.8
	comp=Z,862nm,1.6s						
RICI	Ricice	17.81	58	P	Pn	04 26 08.4	-1.6
SOKA	Soboth	17.82	46	*i* Pn	P	04 26 10.7	-0.1
	comp=Z,433nm,1.3s,SNR=84						
PERS	Pernice	17.84	46	*i* Pn	P	04 26 11.2	+0.1
PERS				*e*		04 26 38.0	
LMK	Market Rasen	17.93	7	*e*P	Pn	04 26 10.5	-0.8
PTJ	Puntijarka	18.00	49	P	Pn	04 26 12.5	+0.1
SCTE	Santa Cesarea	18.01	69	IAmb	IAmb	04 26 28.6	
	comp=Z,4μm,1.6s						
SCTE	Santa Cesarea	18.01	69	*i* P	Pn	04 26 09.5	-3.0
STON	Ston	18.02	60	P	P	04 26 13.2	+0.2
MOA	Molln	18.03	42	*i* Pn	Pn	04 26 12.5	-0.2
	comp=Z,29nm,0.7s,SNR=29						
UBBA	Unterbreizbach	18.07	29	*e*P	P	04 26 14.2	+0.8
	comp=Z,933nm,2.0s,baz=219,slow=12						
PRIJ	Prijedor	18.07	53	*e*P	P	04 26 15.3	+1.8
MGRS	Mrkonjic Grad	18.10	55	*e*P	P	04 26 14.3	+0.4
WET	Wettzell	18.12	37	*e*P	Pn	04 26 13.3	-0.5
	baz=219,slow=12						
LOBO	Lobor	18.18	49	P	P	04 26 16.1	+1.4
MRAK	Mrakovica	18.20	53	⇑*i*P	Pn	04 26 14.9	0.0
ROTZ	Rotzenmuhle	18.23	35	*e*P	P	04 26 15.7	+0.4
	comp=Z,195nm,1.6s,baz=219,slow=12						
BLY	Banja Luka	18.29	54	⇑*i*P	Pn	04 26 15.9	+0.1
HPK	Haverah Park	18.33	4	*e*P	Pn	04 26 14.3	-1.9
MANZ	Manzenberg	18.34	34	*e*P	P	04 26 17.0	+0.5
	comp=Z,197nm,1.5s,baz=219,slow=12						
GEC2	GERESS Array S	18.34	39	*e*P	Pn	04 26 15.4	-1.2
	comp=Z,931nm,1.6s,baz=219,slow=12						
GERES	GERESS Array B	18.34	39	P	Pn	04 26 15.4	-1.2
	comp=Z,1.0nm,0.3s,baz=223,slow=11,SNR=97						
GERES				PcP	PcP	04 30 49.3	+1.6
	comp=Z,0.4nm,0.3s,baz=105,slow=1.6,SNR=4.3						
GERES				LR	LR	04 33 19.3	
	comp=Z,218μm,18.8s,baz=240,slow=37						
GERES				P3KP		05 01 37.4	
	baz=343,slow=4.2,SNR=3.5						
GERES	GERESS Array B	18.34	39		Pn	04 26 15.0	-1.6
MOSL	Moslavina	18.36	51	P	P	04 26 21.8	+5.1
ARSA	Arzberg	18.40	45	*i* Pn	Pn	04 26 17.4	+0.2
	comp=Z,74nm,0.9s,SNR=47						
KHC	Kasperske Hory	18.46	38	⇓*i*P	P	04 26 17.6	-0.3
KHC				*e*S	S	04 29 48.9	+0.5
KHC				MLR	MLR		
	comp=Z,372μm,11.0s						
KHC	Kasperske Hory	18.46	38	⇓*i*P	P	04 26 17.6	-0.3
KHC				x	x	04 26 25.0	
KHC				*e*S	S	04 29 48.9	+0.5
KHC				AMS	AMS	04 34 10.0	
	comp=Z,372μm,11.0s						
HCY	Herceg Novi	18.47	62	*e*P	P	04 26 17.6	-0.4
HCY	Herceg Novi	18.47	62	*e*P	P	04 26 17.7	-0.3
WIM	Isle of Man	18.47	358	⇑*e*P	Pn	04 26 20.6	+2.6
IBBN	Ibbenburen	18.50	23	*e*P	Pn	04 26 20.3	+2.0
	comp=Z,2μm,1.4s,baz=219,slow=12						
IOMK	Kirk Michael	18.59	358	*e*P	P	04 26 18.3	-0.8
IOMK				IAmb	IAmb	04 26 24.6	
	comp=Z,2μm,1.3s						
MOX	Moxa	18.60	32	*e*P	Pn	04 26 20.7	+1.1
	comp=Z,2μm,2.2s,baz=219,slow=12						
MOX				*e*L	L	04 33 32.2	
	comp=Z,92μm,20.1s						
BRY	Bratogost	18.62	61	*e*P	P	04 26 19.4	-0.3
BRY	Bratogost	18.62	61	*e*P	P	04 26 19.5	-0.3
GTTG	Gottingen	18.63	27	*e*P	Pn	04 26 21.1	+1.2
	comp=Z,855nm,1.3s,baz=219,slow=12						
CKRC	Cesky Krumlov	18.64	40	⇓*i*P	P	04 26 19.5	-0.3
CKRC				*e*S	S	04 29 51.2	-0.8
CKRC				AMS	AMS	04 33 00.0	
	comp=Z,164μm,14.9s						
NKC	Novy Kostel	18.67	34	*e*P	Pn	04 26 21.5	+1.1
NKC				*e*S	S	04 29 54.5	+1.9
NKC				MLR	MLR		
	comp=Z,479μm,10.5s						
NKC	Novy Kostel	18.67	34	⇓*e*P	Pn	04 26 21.5	+1.1
NKC				*e*S	S	04 29 54.5	+1.9
NKC				AMS	AMS	04 34 10.0	
	comp=Z,479μm,10.5s						
WERN	Wernitzgruen	18.67	34	*e*P	Pn	04 26 21.4	+0.9
	comp=Z,963nm,1.6s,baz=219,slow=12						
GUNZ	Gunzen	18.71	33	*e*P	Pn	04 26 21.8	+0.9
	comp=Z,654nm,1.4s,baz=219,slow=12						
PLN	Plauen	18.72	33	*e*P	Pn	04 26 21.5	+0.5
	comp=Z,654nm,1.5s,baz=219,slow=12						
BUM	Brajici-Budva	18.72	63	*e*P	P	04 26 20.7	-0.1
WERD	Werda	18.76	33	*e*P	Pn	04 26 22.3	+0.8
	comp=Z,896nm,1.8s,baz=219,slow=12						
BEHE	Becsehely	18.76	49	⇑*i*P	Pn	04 26 22.3	+0.8
BEHE	Becsehely	18.76	49	PN	Pn	04 26 23.4	+1.8
CEME	Cevo	18.80	62	*e*P	P	04 26 21.4	-0.3
TANN	Tannenbergstha	18.80	33	*e*P	Pn	04 26 23.0	+0.9
	comp=Z,918nm,1.4s,baz=219,slow=12						
GDLE	Glaisdale, N Y	18.84	5	*e*P	Pn	04 26 22.3	-0.2
NKME	Niksic	18.88	61	*e*P	P	04 26 21.8	-0.7
ULC	Ulcinj	18.91	64	*e*P	P	04 26 22.5	-0.3
KESW	Keswick, Cumbr	18.91	1	*e*P	P	04 26 22.6	-0.1
DRME	Dracevica, Mon	18.91	63	⇑*i*P	P	04 26 22.3	-0.5
DRME	Dracevica, Mon	18.91	63	*e*P	P	04 26 23.1	+0.3
PAGU	Agualva, Azore	18.96	286	*e*P	Pn	04 26 25.6	+1.6
	comp=Z,772nm,1.4s						
UPM	Unac-Piva	18.96	60	*e*P	P	04 26 23.7	+0.2
UPM	Unac-Piva	18.96	60	*e*P	P	04 26 23.4	-0.1
CONA	Conrad Observa	18.96	44	*i* Pn	P	04 26 22.9	-0.5
	comp=Z,15nm,0.9s,SNR=44						
ADH	Angra Heroismo	18.99	286	*e*P	Pn	04 26 27.3	+2.9
	comp=Z,1μm,1.7s						
KEK	Kerkira	19.00	71	P	P	04 26 22.6	-1.2
PDG	Podgorica	19.01	62	⇓P	P	04 26 24.3	+0.3
PDG	Podgorica	19.01	62	⇑*i*P	P	04 26 23.5	-0.4
TTG	Podgorica	19.01	62	*e*P	P	04 26 24.1	+0.2
CLZ	Clausthal	19.02	28	*e*P	Pn	04 26 25.7	+1.0
	comp=Z,559nm,1.4s,baz=219,slow=12						
PBCC	Pribram	19.03	37	⇓*e*P	Pn	04 26 24.9	+0.1
PBCC				*e*S	S	04 30 00.2	+0.3
PBCC				AMS	AMS	04 34 00.0	
	comp=Z,85μm,12.5s						
NEUB	Neuenburg	19.09	31	*e*P	Pn	04 26 26.5	+1.0
	comp=Z,589nm,1.1s,baz=219,slow=12						
SRN	Sarande	19.17	70	P	P	04 26 22.8	-2.8
SRN	Sarande	19.17	70	*i* P	Pn	04 26 26.6	+0.1
EDMD	Edmundbyers	19.18	3	*e*P	Pn	04 26 27.6	+1.0
EDMD				IAmb	IAmb	04 26 32.4	
	comp=Z,2μm,1.2s						
GAL1	Galloway	19.20	358	*e*P	Pn	04 26 27.5	+0.7
GAL1				IAmb	IAmb	04 26 35.0	
	comp=Z,4μm,2.4s						
SOP	Sopron	19.23	45	P	Pn	04 26 27.4	+0.3
TIR	Tirane	19.25	66	⇑P	P	04 26 26.9	+0.4
TIR	Tirane	19.25	66	P	P	04 26 25.6	-0.9
TIR	Tirane	19.25	66	IAmb	IAmb	04 27 10.6	
	comp=Z,2μm,1.4s						
TIR	Tirane	19.25	66	*i* P	P	04 26 26.1	-0.4
TIR	Tirane	19.25	66	*e*P	P	04 26 24.7	-1.8
KOME	Kolasin	19.30	61	*e*P	P	04 26 27.6	+0.4
PLE	Pljevlja	19.33	60	*e*P	P	04 26 27.4	-0.2
ASSE	Asse, Remlinge	19.36	27	*e*P	Pn	04 26 30.5	+1.8
	comp=Z,2μm,2.2s,baz=219,slow=12						
KEF3	Kipouria, Keph	19.36	75	P	P	04 26 26.2	-1.6
DMLN	Damoulianata-K	19.38	75	P	P	04 26 26.7	-1.3
RETH	Rethem/Aller,	19.39	24	*e*P	Pn	04 26 30.5	+1.4
	comp=Z,3μm,1.8s,baz=219,slow=12						
IGT	Igoumenitsa	19.39	71	P	P	04 26 27.3	-0.8
IGT	Igoumenitsa	19.39	71	*i* P	P	04 26 27.4	-0.8
RUDO	Rudo	19.40	59	*e*P	P	04 26 26.9	-1.2
KOVH	Kovagotottos	19.41	51	P	Pn	04 26 29.0	-0.4
NEWG	New Galloway	19.44	359	*e*P	P	04 26 29.0	+0.6
NRDL	Niedersach Rie	19.45	26	*e*P	Pn	04 26 31.5	+1.8
	comp=Z,1μm,1.9s,baz=219,slow=12						
BBLS	Lazići	19.49	58	⇑*i*P	P	04 26 28.9	-0.4
BBLS	Lazići	19.49	58	*e*P	P	04 26 28.6	-0.7
PRU	Pruhonice	19.49	37	*e*P	Pn	04 26 30.1	-0.3
PRU				*e*S	S	04 30 10.6	+1.4
PRU				MLR	MLR		
	comp=Z,229μm,12.3s						
PRU	Pruhonice	19.49	37	⇓*e*P	Pn	04 26 30.1	-0.3
PRU				*e*S	S	04 30 10.6	+1.4
PRU				AMS	AMS	04 34 30.0	
	comp=Z,229μm,12.3s						
FSK	Fiskardo	19.53	75	P	P	04 26 29.0	-0.6
TREC	Trest	19.54	40	*e*P	P	04 26 30.1	+0.4
TREC				*e*S	Sn	04 30 10.1	0.0
TREC				MLR	MLR		
	comp=Z,210μm,13.1s						
TREC	Trest	19.54	40	⇓*e*P	P	04 26 30.1	+0.4
TREC				*e*S	Sn	04 30 10.1	0.0
TREC				AMS	AMS	04 35 00.0	
	comp=Z,210μm,13.1s						
DRAG	Dragano-Lefkad	19.54	74	P	P	04 26 29.4	-0.4
MPLH	Magyarpolny	19.55	48	P	Pn	04 26 31.5	+0.4
VLS	Valsamata	19.55	75	P	P	04 26 27.9	-2.0
PVY	Plav	19.56	62	*e*P	P	04 26 30.4	+0.4
FBE	Freiberg	19.56	34	*e*P	Pn	04 26 31.6	+0.4
	comp=Z,1μm,1.2s,baz=219,slow=12						
IVA	Berane	19.57	61	*e*P	P	04 26 30.4	+0.2
BCI	Bajram Curri	19.59	63	*i* P	Pn	04 26 31.5	-0.1
PGRA	Graciosa	19.59	287	*e*P	Pn	04 26 33.2	+1.6
	comp=Z,579nm,1.7s						
EVGI	Lefkada island	19.61	74	P	P	04 26 29.5	-1.0
TSLK	Tsoukalades, L	19.61	74	P	P	04 26 29.8	-0.7
LKD2	Lefkada island	19.61	74	P	P	04 26 29.8	-0.8
ESK	Eskdalemuir	19.64	1	*e*P	Pn	04 26 31.4	-0.6
ESK	Eskdalemuir	19.64	1	P	Pn	04 26 31.7	-0.3
ESK				pmax	pmax		
	comp=Z,713nm,1.2s						
ESK	Eskdalemuir	19.64	1	P	Pn	04 26 31.7	-0.3
NYDR	Nydri-Lefkada	19.64	74	P	P	04 26 29.5	-1.3
LSK	Leskovik	19.65	70	P	P	04 26 30.9	-0.1
LSK	Leskovik	19.65	70	*i* P	Pn	04 26 44.9	+13
EKA	Eskdalemuir Ar	19.65	1	P	P	04 26 30.6	-0.2
	baz=180,slow=11,SNR=128						
EKA				LR	LR	04 34 16.4	
	comp=Z,106μm,21.9s,baz=187,slow=37						
PMAN	Manadas	19.66	286	*e*P	Pn	04 26 36.5	+4.0
	comp=Z,889nm,1.7s						
PID	Ribeirinha	19.68	285	*e*P	Pn	04 26 36.0	+3.3
	comp=Z,1μm,1.3s						
CLL	Collm	19.68	32	*i* P	Pn	04 26 33.1	+0.5
CLL				*e*S	Sn	04 30 16.0	+2.5
CLL				pmax	pmax		
	comp=Z,836nm,1.2s						
CLL	Collm	19.68	32	*i* P	Pn	04 26 33.1	+0.5
	comp=Z,836nm,1.2s						
CLL				*e*PP	PnPn	04 26 47.0	+0.8
CLL				*e*PPP	PPP	04 26 54.0	
CLL				*e*S	Sn	04 30 16.0	+2.5
	comp=N,77μm,23.8s						
CLL				*e*S	Sn	04 30 16.0	+2.5
	comp=E,77μm,22.4s						
CLL				*e*SS	SnSn	04 30 30.0	+2.3
CLL				*e*x	x	04 32 51.0	
CLL				*e*x	x	04 33 06.0	
CLL				Lmax		04 35 00.0	
CLL	Collm	19.68	32	*e*P	Pn	04 26 32.6	0.0
	comp=E,836nm,1.2s,baz=219,slow=12						
SJES	Sjenica	19.73	60	*e*P	P	04 26 31.3	-0.6
PHP	Peshkopia	19.73	65	P	P	04 26 30.9	-1.0
PHP	Peshkopia	19.73	65	*i* P	Pn	04 26 33.6	+0.2
FLTG	Flechtingen	19.73	28	*e*P	Pn	04 26 33.8	+0.6
	comp=E,594nm,1.4s,baz=219,slow=12						
LTHK	Lithakia	19.75	77	P	P	04 26 30.9	-1.2
ROSA	Rosais	19.78	286	*e*P	Pn	04 26 36.5	+2.6
	comp=E,858nm,2.3s						
PPNO	Prainha do Nor	19.80	285	*e*P	Pn	04 26 40.1	+6.0
	comp=E,686nm,1.6s						
BRG	Berggiesshubel	19.80	34	*i* P	Pn	04 26 33.9	-0.2
BRG				Amp		04 26 41.5	
	comp=Z,865nm,1.3s						
BRG				*e*x	x	04 26 56.1	
BRG				Amp		04 26 58.1	
	comp=Z,2μm,1.9s						
BRG	Berggiesshubel	19.80	34	S	Sn	04 30 20.0	+3.7
BRG				Amp		04 35 13.0	
	comp=N,299nm,9.8s						
BRG				Amp		04 35 15.0	
	comp=Z,327nm,10.5s						
BRG				Amp		04 35 17.0	
	comp=E,56nm,9.8s						
BRG	Berggiesshubel	19.80	34	*i* P	Pn	04 26 33.8	-0.2
BRG				*e*S	Sn	04 30 20.0	+3.7
BRG				pmax	pmax		
	comp=Z,865nm,1.3s						
BRG				MLR	MLR		
	comp=Z,299μm,9.8s						
BRG				MLR	MLR		
	comp=E,56μm,9.8s						
BRG	Berggiesshubel	19.80	34	*e*P	Pn	04 26 33.7	-0.3
	comp=E,866nm,1.3s,baz=219,slow=12						
JAN	Janina	19.80	71	P	P	04 26 30.6	-2.0
ZST	Bratislava	19.81	44	*e*P	Pn	04 26 34.1	0.0
ZST				pmax	pmax		
	comp=Z,6μm,2.4s						
ZST	Bratislava	19.81	44	*e*P	Pn	04 26 34.1	0.0
ZST				*e*S	Sn	04 30 22.6	+6.1
MORH	Mrgy, Hungar	19.81	51	⇑*i*P	Pn	04 26 33.5	-0.7
KBN	Korca	19.84	68	P	P	04 26 32.9	-0.2
KBN	Korca	19.84	68	IAmb	IAmb	04 26 58.0	
	comp=Z,1μm,1.3s						
KBN	Korca	19.84	68	*i* P	P	04 26 33.6	+0.6
PVCC	Panska Ves	19.86	36	*e*P	Pn	04 26 34.6	-0.1
PVCC				*e*S	S	04 30 16.7	+0.2
PVCC				MLR	MLR		
	comp=Z,200μm,10.7s						
PVCC	Panska Ves	19.86	36	⇓*e*P	Pn	04 26 34.6	-0.1
PVCC				*e*S	S	04 30 16.7	+0.2
PVCC				AMS	AMS	04 35 10.0	
	comp=Z,200μm,10.7s						
KRUC	Moravsky	19.89	42	⇑*i*P	P	04 26 33.4	0.0
KRUC				*e*S	S	04 30 14.5	-2.6
OHR	Ohrid	19.91	67	*i* P	Pn	04 26 35.1	-0.4
OHR	Ohrid	19.91	67	*e*P	P	04 26 33.0	-0.8
PICO	Pico	19.92	285	*e*P	Pn	04 26 39.3	+3.7
	comp=Z,767nm,1.5s						
IVAS	Ivanjica	19.93	59	*e*P	P	04 26 32.3	-1.8
DIVS	Divibare	19.96	58	⇑*i*P	P	04 26 34.2	-0.2
DIVS	Divibare	19.96	58	IAmb	IAmb	04 27 12.8	
	comp=Z,2μm,1.9s						
DIVS	Divibare	19.96	58	*e*P	P	04 26 33.8	-0.6
PCAN	Candelaria	19.97	285	*e*P	P	04 26 34.8	+0.4
	comp=Z,178nm,0.6s						
MODS	Modra-Piesok	20.00	44	*e*P	Pn	04 26 36.6	+0.2
MODS				pmax	pmax		
	comp=Z,2μm,1.6s						
MODS	Modra-Piesok	20.00	44	*e*P	Pn	04 26 36.6	+0.2
MODS				*e*S	Sn	04 30 21.8	+0.6
MODS				*e*L	L	04 34 00.7	
NEST	Nestorio	20.02	69	P	P	04 26 34.8	-0.2
PENT	Pentalofos	20.06	70	P	P	04 26 35.4	-0.2
EBL	Broad Law	20.09	1	*e*P	Pn	04 26 37.3	-0.1
VRAC	Vranov	20.14	41	⇑P	P	04 26 37.0	+0.9
VRAC	Vranov	20.14	41	P	P	04 26 36.3	+0.1
	comp=Z,143nm,0.9s,baz=235,slow=11,SNR=51						
VRAC				LR	LR	04 34 04.2	
	comp=Z,91μm,21.2s,baz=240,slow=36						
VRAC	Vranov	20.14	41	⇑*i*P	P	04 26 36.3	+0.1
VRAC				*e*S	S	04 30 21.0	-1.1
PGBU	Glenifferbraes	20.14	359	*e*P	P	04 26 36.1	0.0
CALA	Caldeira	20.14	286	*e*P	Pn	04 26 43.6	+5.4
	comp=Z,1μm,1.3s						
SMOL	Smolenice	20.16	44	*e*P	Pn	04 26 37.6	-0.7
SMOL				pmax	pmax		
	comp=Z,604nm,1.6s						
SMOL	Smolenice	20.16	44	*e*P	Pn	04 26 37.6	-0.7
SMOL				*e*S	Sn	04 30 25.9	+0.9
FRGS	Fruska Gora	20.17	55	⇓P	P	04 26 36.8	+0.2
FRGS	Fruska Gora	20.17	55	⇑*i*P	P	04 26 36.2	-0.4
FRGS	Fruska Gora	20.17	55	*e*P	P	04 26 35.6	-1.0
KPRO	Kipourio	20.22	70	P	P	04 26 36.5	-0.7
EDI	Edinburgh	20.24	1	*e*P	Pn	04 26 39.0	-0.2
RLS	Riolos of Patr	20.24	76	P	P	04 26 37.3	-0.1
ESY	Stoneypath	20.25	2	*e*P	Pn	04 26 39.5	+0.2
TRUS	Trudelj	20.29	58	*e*P	P	04 26 37.5	-0.3
FNA	Florina	20.30	68	P	P	04 26 37.3	-0.8
FNA	Florina	20.30	68	*i* P	P	04 26 38.0	-0.1
SRO	Srobarova	20.32	47	*e*P	Pn	04 26 39.9	-0.2
SRO				pmax	pmax		
	comp=Z,3μm,1.7s						
SRO	Srobarova	20.32	47	*e*P	Pn	04 26 39.9	-0.2
GRUS	Gruza	20.41	59	*e*P	P	04 26 37.8	-1.4
DRO	Drossia	20.44	76	P	P	04 26 40.1	+0.5
JAVC	Velka Javorina	20.48	43	⇑*i*P	P	04 26 41.0	+1.1
JAVC				*e*S	S	04 30 28.7	-0.2
EVR	Evrytania	20.51	73	P	P	04 26 39.6	-0.9
SKO	Skopje	20.52	65	*i* P	P

PRVS	**Prvonek**	**21.07**	**63**	*eP*	**P**	**04 26 45.4**	**-1.0**
LIT	**Litokhoron**	**21.09**	**70**	P	**P**	**04 26 45.1**	**-1.5**
LIT	**Litokhoron**	**21.09**	**70**	IAmb	IAmb	04 26 55.1	
comp=Z,1μm,1.3s							
GRG	**Griva**	**21.09**	**68**	P	**P**	**04 26 45.4**	**-1.3**
THAL	**Thalero**	**21.19**	**76**	P	**P**	**04 26 46.5**	**-1.1**
AMBH	**Ambrzfalva**	**21.19**	**52**	⇑P	**P**	**04 26 48.4**	**+0.8**
AMBH	**Ambrzfalva**	**21.19**	**52**	P	**P**	**04 26 51.6**	**+4.0**
KUBS	**Kucevo**	**21.21**	**58**	*eP*	**P**	**04 26 45.8**	**-2.1**
DRUM	**Mains of Drumt**	**21.25**	**2**	*eP*	**P**	**04 26 48.5**	**+0.4**
DRUM				IAmb	IAmb	04 26 53.1	
comp=Z,943nm,1.0s							
VAY	**Valandovo**	**21.26**	**67**	*i* P	**P**	**04 26 47.9**	**-0.5**
VAY	**Valandovo**	**21.26**	**67**	*eP*	**P**	**04 26 46.8**	**-1.6**
OKC	**Ostrava-Krasne**	**21.27**	**42**	*eP*	**P**	**04 26 49.5**	**+1.1**
OKC				*eS*	**S**	**04 30 46.5**	**+2.0**
OKC				MLR	MLR		
comp=Z,268μm,10.6s							
OKC	**Ostrava-Krasne**	**21.27**	**42**	⇓*eP*	**P**	**04 26 49.5**	**+1.1**
OKC				*eS*	**S**	**04 30 46.5**	**+2.0**
OKC				AMS	AMS	04 36 10.0	
comp=Z,268μm,10.6s							
BSZH	**Besenyszg**	**21.27**	**50**	⇑P	**P**	**04 26 50.0**	**+1.6**
BSZH	**Besenyszg**	**21.27**	**50**	P	**P**	**04 26 50.7**	**+2.3**
PSZ	**Piszkesteto**	**21.31**	**48**	⇑P	**P**	**04 26 50.0**	**+1.0**
PSZ	**Piszkesteto**	**21.31**	**48**	P	**P**	**04 26 48.5**	**-0.5**
PSZ				pmax	pmax		
comp=Z,3μm,2.0s							
PSZ				MLR	MLR		
comp=Z,157μm,19.0s							
PSZ	**Piszkesteto**	**21.31**	**48**	P	**P**	**04 26 48.5**	**-0.5**
PSZ				IAMs_20	IAMs_20	04 35 01.4	
comp=Z,157μm,19.0s							
PSZ	**Piszkesteto**	**21.31**	**48**	P	**P**	**04 26 49.7**	**+0.7**
MDVR	**Moldovita**	**21.34**	**57**	⇓P	**P**	**04 26 50.0**	**+0.7**
BOSS	**Bosilegrad**	**21.36**	**64**	*eP*	**P**	**04 26 48.7**	**-0.8**
LTK	**Loutraki**	**21.43**	**76**	P	**P**	**04 26 48.5**	**-1.8**
RAC	**Raciborz**	**21.43**	**41**	*eP*	**P**	**04 26 51.4**	**+1.3**
RAC				*eS*	**S**	**04 30 48.5**	**+0.8**
RAC				LMZ	LR	04 34 27.6	
comp=Z,128nm,21.1s							
RAC	**Raciborz**	**21.43**	**41**	*eP*	**P**	**04 26 51.4**	**+1.3**
RAC				*eS*	**S**	**04 30 48.5**	**+0.8**
RAC				MLR	MLR		
comp=Z,128μm,21.1s							
LKR	**Lokris**	**21.44**	**74**	P	**P**	**04 26 48.5**	**-1.9**
ZAGS	**Zajecar**	**21.45**	**60**	*eP*	**P**	**04 26 48.4**	**-2.0**
ATAL	**Atalanti**	**21.46**	**74**	P	**P**	**04 26 49.3**	**-1.3**
VLI	**Veliai**	**21.49**	**79**	P	**P**	**04 26 51.0**	**+0.1**
KNT	**Kendrikon**	**21.49**	**67**	P	**P**	**04 26 49.6**	**-1.3**
THE	**Thessaloniki**	**21.49**	**69**	P	**P**	**04 26 49.3**	**-1.5**
IZAB	**Izabela**	**21.50**	**46**	*eP*	**P**	**04 26 52.0**	**+1.1**
BZS	**Buzias**	**21.53**	**55**	⇓P	**P**	**04 26 51.8**	**+0.6**
EPID	**Epidavros**	**21.57**	**77**	P	**P**	**04 26 51.0**	**-0.7**
KTHR	**Kythira**	**21.59**	**81**	P	**P**	**04 26 51.5**	**-0.5**
HORT	**Hortiatis**	**21.59**	**69**	P	**P**	**04 26 49.9**	**-2.1**
XOR	**Xorichti**	**21.60**	**72**	P	**P**	**04 26 49.3**	**-2.8**
KRND	**KRANIDI**	**21.61**	**78**	P	**P**	**04 26 51.0**	**-1.1**
NEO	**Neokhori**	**21.62**	**72**	P	**P**	**04 26 51.3**	**-1.0**
ZAPS	**Zavoj**	**21.62**	**61**	*eP*	**P**	**04 26 51.5**	**-0.8**
KTHA	**Kythira Island**	**21.63**	**81**	P	**P**	**04 26 51.0**	**-1.5**
LANS	**Liptovska Anna**	**21.64**	**44**	*eP*	**P**	**04 26 53.4**	**+0.9**
LANS				pmax	pmax		
comp=Z,548nm,1.3s							
LANS	**Liptovska Anna**	**21.64**	**44**	*eP*	**P**	**04 26 53.4**	**+0.9**
VILL	**Villia**	**21.70**	**75**	P	**P**	**04 26 52.4**	**-0.8**
MDO	**Dochfour**	**21.77**	**359**	⇑*eP*	**P**	**04 26 54.7**	**+1.0**
SIRR	**Siria**	**21.77**	**53**	⇑P	**P**	**04 26 54.7**	**+0.9**
SOH	**Sokhos**	**21.80**	**68**	P	**P**	**04 26 52.4**	**-1.9**
PLG	**Polygyros**	**21.84**	**69**	P	**P**	**04 26 52.7**	**-1.9**
DJES	**Djerdap**	**21.86**	**58**	*eP*	**P**	**04 26 54.0**	**-0.8**
ANKY	**Antikythira Is**	**21.87**	**82**	P	**P**	**04 26 55.2**	**+0.2**
MCD	**Coleburn Disti**	**21.91**	**1**	*eP*	**P**	**04 26 54.5**	**-0.7**
KECS	**Kecovo**	**21.92**	**47**	*eP*	**P**	**04 26 56.6**	**+1.2**
KECS				pmax	pmax		
comp=Z,396nm,1.3s							
KECS	**Kecovo**	**21.92**	**47**	*eP*	**P**	**04 26 56.6**	**+1.2**
KECS				*eS*	**S**	**04 30 59.1**	**+1.8**
VTS	**Vitosha**	**21.93**	**63**	⇓P	**P**	**04 26 55.6**	**-0.2**
VTS	**Vitosha**	**21.93**	**63**	P	**P**	**04 26 54.8**	**-1.0**
VTS				pmax	pmax		
comp=Z,2μm,1.9s							
VTS	**Vitosha**	**21.93**	**63**	P	**P**	**04 26 54.8**	**-1.0**
VTS				IAmb	IAmb	04 27 11.5	
comp=Z,2μm,1.9s							
VTS	**Vitosha**	**21.93**	**63**	*eP*	**P**	**04 26 53.4**	**-2.4**
VTS	**Vitosha**	**21.93**	**63**	*eP*	**P**	**04 26 55.0**	**-0.8**
PAIG	**Paliouri**	**21.99**	**71**	P	**P**	**04 26 53.5**	**-2.8**
SRS	**Serrai**	**22.01**	**68**	P	**P**	**04 26 54.9**	**-1.5**
ATH	**Athens Observa**	**22.02**	**76**	P	**P**	**04 26 55.5**	**-1.1**
ATHU	**Athens Univers**	**22.08**	**76**	P	**P**	**04 26 55.5**	**-1.7**
VLY	**Voula,Athens**	**22.09**	**76**	P	**P**	**04 26 55.2**	**-2.1**
PTL	**Penteli**	**22.14**	**76**	P	**P**	**04 26 56.0**	**-1.9**
MMB	**Musomiste**	**22.16**	**66**	*eP*	**P**	**04 26 56.8**	**-1.3**
DION	**Dionisos Attik**	**22.19**	**76**	P	**P**	**04 26 56.0**	**-2.4**
NVR	**Nevrokopi**	**22.23**	**67**	P	**P**	**04 26 57.1**	**-1.8**
GZR	**Gura Zlata**	**22.24**	**56**	⇑P	**P**	**04 26 58.8**	**-0.2**
OUR	**Ouranopolis**	**22.24**	**70**	P	**P**	**04 26 56.6**	**-2.3**
NIE	**Niedzica**	**22.25**	**45**	*eP*	**P**	**04 27 00.5**	**+1.6**
NIE				*eS*	Sn	04 31 10.3	-4.9
KNDR	**Palaiochora Ch**	**22.27**	**83**	P	**P**	**04 26 58.2**	**-1.1**
RODP	**Rodopos**	**22.28**	**82**	P	**P**	**04 27 01.0**	**+1.6**
KOKK	**Kokkinochori,**	**22.29**	**68**	P	**P**	**04 26 57.1**	**-2.3**
KYMI	**Kymi, Euboea I**	**22.30**	**74**	P	**P**	**04 26 58.0**	**-1.6**
LTVH	**Ltavrtes, Hu**	**22.33**	**51**	⇑P	**P**	**04 27 00.9**	**+1.1**
LTVH	**Ltavrtes, Hu**	**22.33**	**51**	P	**P**	**04 27 01.0**	**+1.3**
SRE	**Strehaia**	**22.34**	**58**	⇑P	**P**	**04 27 01.6**	**+1.7**
OJC	**Ojcow**	**22.37**	**42**	*eP*	**P**	**04 27 00.2**	**-0.1**
OJC				*eS*	**S**	**04 31 04.2**	**-1.7**
OJC				*eL*	L	04 35 14.0	
comp=Z,103μm,20.6s							
OJC	**Ojcow**	**22.37**	**42**	IAmb	IAmb	04 27 16.2	
comp=Z,2μm,1.8s							
DEV	**Deva**	**22.47**	**55**	⇓P	**P**	**04 27 01.7**	**+0.4**
IMMV	**Iera Moni Meta**	**22.48**	**82**	P	**P**	**04 27 01.6**	**+0.1**
MUD	**Monsted U'grnd**	**22.53**	**19**	*i* P	**P**	**04 27 02.0**	**+0.1**
MUD				IAmb	IAmb	04 27 06.7	
comp=Z,100nm,0.8s							
LEWI	**Lewis, Hebride**	**22.57**	**356**	*eP*	**P**	**04 27 00.6**	**-1.6**
KARY	**Karystos**	**22.59**	**76**	P	**P**	**04 27 01.3**	**-1.4**
PGB	**Panagyurishte**	**22.61**	**64**	*eP*	**P**	**04 27 01.7**	**-1.2**
DRGR		**22.63**	**53**	⇑P	**P**	**04 27 04.1**	**+1.0**
MLA1	**Latheron**	**22.63**	**0**	⇑*eP*	**P**	**04 27 03.1**	**+0.2**
SKY	**Skiros Island**	**22.65**	**73**	P	**P**	**04 27 08.4**	**+5.1**
MHLO	**Agia Marina, M**	**22.66**	**79**	P	**P**	**04 27 02.1**	**-1.3**
VAM	**Vamos**	**22.66**	**83**	P	**P**	**04 27 04.1**	**+0.6**
GVD	**Gavdhos**	**22.67**	**84**	P	**P**	**04 27 02.7**	**+0.8**
GVDS	**Gavdos**	**22.67**	**84**	P	**P**	**04 27 03.3**	**-0.2**
CRVS	**Cervenica-Dubn**	**22.68**	**47**	*eP*	**P**	**04 27 04.1**	**+0.5**
CRVS				pmax	pmax		
comp=Z,4μm,1.7s							
CRVS	**Cervenica-Dubn**	**22.68**	**47**	*eP*	**P**	**04 27 04.1**	**+0.5**
CRVS				*eS*	**S**	**04 31 15.3**	**+3.6**
CRVS				*eL*	L	04 36 19.1	
KAVA	**Kavala**	**22.69**	**68**	P	**P**	**04 27 01.6**	**-2.1**
BIGH	**Upper Bighouse**	**22.82**	**360**	*eP*	**P**	**04 27 05.2**	**+0.3**
THAS	**Thassos island**	**22.82**	**69**	P	**P**	**04 27 03.0**	**-2.1**
RZN	**Rozhen**	**22.90**	**66**	*eP*	**P**	**04 27 05.1**	**-1.1**
PRNS	**Prines Rethymn**	**22.91**	**83**	P	**P**	**04 27 04.9**	**-1.2**
GKP	**Gorka Klasztor**	**22.92**	**33**	*eP*	**P**	**04 27 06.1**	**+0.1**
GKP				*eS*	**S**	**04 31 20.8**	**+5.2**
GKP	**Gorka Klasztor**	**22.92**	**33**	*eP*	**P**	**04 27 05.9**	**0.0**
LOT	**Lotru**	**22.92**	**56**	⇑P	**P**	**04 27 06.6**	**+0.3**
PLD	**Plovdiv**	**22.94**	**65**	*eP*	**P**	**04 27 05.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**22.96**	**166**	P	**P**	**04 27 05.3**	**-1.4**
comp=Z,197nm,0.8s,baz=350,slow=11,SNR=103							
TORD	**Torodi Ar. Bea**	**22.96**	**166**	IAmb	IAmb	04 27 16.6	
comp=Z,1μm,1.4s							
TRPA	**Tarpa**	**23.01**	**49**	⇓P	**P**	**04 27 07.4**	**+0.3**
TRPA	**Tarpa**	**23.01**	**49**	P	**P**	**04 27 06.5**	**-0.5**
VLAD	**Vladila**	**23.02**	**60**	⇓P	**P**	**04 27 08.0**	**+0.8**
GOET	**G??ttrup**	**23.06**	**18**	*i* P	**P**	**04 27 09.4**	**+2.0**
GOET				IAmb	IAmb	04 27 20.5	
comp=Z,104nm,0.9s							
UZH	**Uzhgorod**	**23.07**	**48**	*d i*P	**P**	**04 27 05.6**	**-1.9**
UZH				*i*		04 27 07.9	
UZH				*i*		04 27 12.3	
UZH				*eS*	**S**	**04 31 10.8**	**-7.5**
UZH				MLR	MLR		
comp=N,39μm,12.0s							
UZH				MLR	MLR		
comp=E,22μm,12.0s							
UZH				MLR	MLR		
comp=Z,14μm,12.0s							
LIA	**Limnos Island**	**23.15**	**71**	P	**P**	**04 27 06.0**	**-2.5**
TMBK	**Timbaki Herakl**	**23.17**	**83**	P	**P**	**04 27 08.6**	**-0.2**
IDI	**Anoyia**	**23.24**	**83**	P	**P**	**04 27 09.4**	**-0.1**
comp=Z,320nm,1.2s,baz=283,slow=17,SNR=37							
IDI	**Anoyia**	**23.24**	**83**	P	**P**	**04 27 09.7**	**+0.2**
BSD	**Bornholm Skovb**	**23.27**	**28**	*i* P	**P**	**04 27 11.0**	**+1.4**
BSD				IAmb	IAmb	04 27 16.5	
comp=Z,48nm,0.9s							
BSD	**Bornholm Skovb**	**23.27**	**28**	*eP*	**P**	**04 27 11.9**	**+2.3**
IACM	**Heraklion**	**23.38**	**82**	P	**P**	**04 27 12.4**	**+1.5**
KSTL	**Kastelli Herak**	**23.38**	**82**	P	**P**	**04 27 13.9**	**+3.0**
HRKL	**Herakleio**	**23.41**	**82**	P	**P**	**04 27 11.8**	**+0.7**
KDZ	**Kurdzhali**	**23.42**	**66**	*eP*	**P**	**04 27 09.2**	**-2.1**
SMTH	**Samothraki Isl**	**23.43**	**69**	P	**P**	**04 27 08.0**	**-3.4**
BMR	**Baia Mare**	**23.44**	**51**	⇓P	**P**	**04 27 11.9**	**+0.6**
RDO	**Rodhopi**	**23.47**	**68**	P	**P**	**04 27 09.9**	**-1.8**
CMBO	**Columbo, Santo**	**23.49**	**79**	P	**P**	**04 27 11.4**	**-0.5**
ARR	**Arges**	**23.49**	**57**	⇓P	**P**	**04 27 12.6**	**+0.7**
THT2	**Imerovigli**	**23.50**	**80**	P	**P**	**04 27 11.4**	**-0.7**
HUMR	**Humele**	**23.54**	**59**	⇑P	**P**	**04 27 13.3**	**+1.0**
SANT	**Santorini**	**23.54**	**80**	P	**P**	**04 27 12.0**	**-0.5**
PVL	**Pavlikeni**	**23.55**	**63**	*eP*	**P**	**04 27 09.2**	**-3.3**
OVD	**Ostervraa, Den**	**23.56**	**19**	*i* P	**P**	**04 27 13.9**	**+1.5**
OVD				IAmb	IAmb	04 27 23.5	
comp=Z,229nm,0.9s							
STFAR	**Stefanesti-Arg**	**23.60**	**58**	⇑P	**P**	**04 27 13.8**	**+0.8**
COPA	**Copaceanca**	**23.63**	**60**	⇓P	**P**	**04 27 13.2**	**0.0**
SIGR	**SIGRI**	**23.66**	**73**	P	**P**	**04 27 12.0**	**-1.6**
GADA	**Gvkgeada**	**23.70**	**70**	P	**P**	**04 27 11.6**	**-2.4**
KWP	**Kalwaria Pacla**	**23.74**	**46**	*eP*	**P**	**04 27 14.2**	**-0.1**
KWP				*eS*	**S**	**04 31 38.8**	**+10**
MTUR	**Matau**	**23.75**	**58**	⇑P	**P**	**04 27 15.8**	**+1.3**
BEL	**Belsk**	**23.77**	**40**	*eP*	**P**	**04 27 14.3**	**-0.2**
BEL				*eS*	**S**	**04 31 35.3**	**+5.7**
SNART	**Snartemo**	**23.79**	**14**	*eP*	**P**	**04 27 15.1**	**+0.4**
SNART				IVmBBB		04 27 20.1	
comp=Z,24μm,2.8s							
SNART				*eS*	**S**	**04 31 32.0**	**+2.2**
ARCR	**ARCALIA**	**23.79**	**53**	⇑P	**P**	**04 27 15.4**	**+0.6**
VOIR		**23.79**	**57**	⇑P	**P**	**04 27 16.1**	**+1.2**
NPS	**Neapolis**	**23.83**	**82**	P	**P**	**04 27 13.9**	**-1.4**
ALN	**Alexandroupoli**	**23.84**	**68**	P	**P**	**04 27 14.4**	**-1.0**
ALN	**Alexandroupoli**	**23.84**	**68**	P	**P**	**04 27 14.3**	**-1.0**
ALN				pmax	pmax		
comp=Z,942nm,1.5s							
ALN	**Alexandroupoli**	**23.84**	**68**	P	**P**	**04 27 14.3**	**-1.0**
ALN				IAmb	IAmb	04 27 48.1	
comp=Z,942nm,1.5s							
CHOS	**Chios island**	**23.84**	**75**	P	**P**	**04 27 15.5**	**0.0**
ENEZ	**Enez**	**23.92**	**69**	P	**P**	**04 27 15.0**	**-1.0**
DEL	**Delary**	**23.96**	**24**	*i* P	**P**	**04 27 17.0**	**+0.8**
FRMA	**Ierapetra Chan**	**23.97**	**83**	P	**P**	**04 27 17.7**	**+1.1**
PRK	**Paraskevi**	**23.99**	**73**	P	**P**	**04 27 16.8**	**+0.1**
SZH	**Strazhica**	**23.99**	**63**	*eP*	**P**	**04 27 16.2**	**-0.6**
HOMB	**Homborsund**	**24.00**	**16**	*eP*	**P**	**04 27 18.5**	**+1.9**
HOMB				*eS*	**S**	**04 31 36.2**	**+3.0**
EZN	**Ezine**	**24.02**	**71**	P	**P**	**04 27 15.0**	**-2.1**
DOPR	**Dopca**	**24.16**	**56**	⇑P	**P**	**04 27 18.6**	**+0.3**
KMY	**Karmoy**	**24.26**	**11**	*eP*	**P**	**04 27 20.3**	**+1.3**
KMY				*eS*	**S**	**04 31 35.9**	**-1.4**
MBO	**M'Bour**	**24.32**	**213**	P	**P**	**04 27 19.2**	**-0.7**
MBO				IAmb	IAmb	04 27 24.2	
comp=Z,1μm,1.5s							
ZKR	**Zakros**	**24.34**	**83**	P	**P**	**04 27 20.7**	**+0.6**
JMB	**Yambol**	**24.37**	**65**	*eP*	**P**	**04 27 19.5**	**-0.7**
MLR	**Muntele Rosu**	**24.42**	**57**	⇑P	**P**	**04 27 21.5**	**+0.7**
MLR	**Muntele Rosu**	**24.42**	**57**	P	**P**	**04 27 21.1**	**+0.3**
comp=Z,269nm,1.1s,baz=226,slow=4.0,SNR=73							
MLR				LR	LR	04 37 39.5	
comp=Z,175μm,18.3s,baz=256,slow=38							
MLR	**Muntele Rosu**	**24.42**	**57**	IAMs_20	IAMs_20	04 37 29.5	
comp=Z,179μm,18.0s							
EDRB	**Edirne**	**24.43**	**66**	P	**P**	**04 27 20.0**	**-0.8**
OZUR		**24.46**	**56**	⇑P	**P**	**04 27 21.7**	**+0.6**
SULR		**24.46**	**59**	⇑P	**P**	**04 27 21.7**	**+0.6**
SMG	**Samos**	**24.50**	**76**	P	**P**	**04 27 21.7**	**+0.2**
BURAR	**Bucovina Array**	**24.52**	**52**	⇓P	**P**	**04 27 22.2**	**+0.6**
LRW	**Lerwick**	**24.52**	**3**	*eP*	**P**	**04 27 21.5**	**+0.1**
LRW				IAmb	IAmb	04 27 29.4	
comp=Z,1μm,1.5s							
LVV	**L'vov**	**24.59**	**46**	*eP*	**P**	**04 27 21.6**	**-0.6**
LVV				*e*		04 28 12.2	
LVV				*eS*	**S**	**04 31 36.1**	**-6.9**
LVV				*e*		04 32 35.7	
LVV				pmax	pmax		
comp=Z,2μm,1.8s							
LVV				MLR	MLR		
comp=N,89μm,12.0s							
LVV				MLR	MLR		
comp=E,125μm,12.0s							
LVV				MLR	MLR		
comp=Z,121μm,14.0s							
BLS5	**Blasjo**	**24.66**	**12**	*eP*	**P**	**04 27 24.0**	**+1.3**
COVR	**Voineasa-Covas**	**24.68**	**57**	⇓P	**P**	**04 27 24.1**	**+1.0**
ISR	**Istrita**	**24.75**	**58**	⇑P	**P**	**04 27 24.0**	**+0.3**
NIS1	**Nisyros Isl.**	**24.89**	**79**	P	**P**	**04 27 25.4**	**+0.4**
BODT	**Bodrum**	**24.94**	**78**	P	**P**	**04 27 25.5**	**0.0**
BISRR	**Bisoca**	**24.95**	**57**	⇓P	**P**	**04 27 26.7**	**+1.1**
PLOR	**Plostina**	**24.98**	**57**	⇑P	**P**	**04 27 25.9**	**+0.1**
VRI	**Vrincioaia**	**25.04**	**57**	⇓P	**P**	**04 27 26.6**	**+0.3**
PRD	**Provadia**	**25.05**	**63**	*eP*	**P**	**04 27 26.6**	**+0.3**
KLNR	**Kaliningrad**	**25.12**	**34**	*i* P	**P**	**04 27 25.1**	**-1.8**
KLNR				pmax	pmax		
comp=Z,736nm,1.1s							
KLNR				MLR	MLR		
comp=Z,88μm,14.0s							
ODD1	**Odda**	**25.15**	**12**	*eP*	**P**	**04 27 28.5**	**+1.3**
DAT	**Datca**	**25.19**	**78**	P	**P**	**04 27 28.0**	**+0.1**
AMRR	**Amara**	**25.21**	**60**	⇑P	**P**	**04 27 27.6**	**-0.2**
ODBI	**Odobesti**	**25.24**	**57**	⇑P	**P**	**04 27 29.2**	**+1.1**
BER	**Bergen**	**25.39**	**10**	*eP*	**P**	**04 27 31.1**	**+1.9**
ICOR	**Ion Corvin**	**25.46**	**61**	⇓P	**P**	**04 27 30.1**	**+0.1**
ASK	**Askoy**	**25.47**	**10**	*eP*	**P**	**04 27 31.4**	**+1.5**
ASK				*eS*	**S**	**04 31 56.2**	**-0.5**
KONO	**Kongsberg**	**25.49**	**16**	P	**P**	**04 27 30.7**	**+0.5**
KONO				pmax	pmax		
comp=Z,548nm,1.6s							
KONO				MLR	MLR		
comp=Z,214μm,18.0s							
KONO	**Kongsberg**	**25.49**	**16**	*eP*	**P**	**04 27 31.2**	**+1.1**
KONO				*eS*	**S**	**04 32 01.9**	**+4.8**
KONO				IVMs_BB	IVMs_BB	04 39 43.2	
comp=Z,126μm,18.2s							
KONO	**Kongsberg**	**25.49**	**16**	P	**P**	**04 27 30.7**	**+0.5**
KONO				IAmb	IAmb	04 27 53.0	
comp=Z,548nm,1.6s							
PSN	**Preselentsi**	**25.67**	**62**	*eP*	**P**	**04 27 31.3**	**-0.7**
ARG	**Arkhangelos**	**25.70**	**79**	P	**P**	**04 27 32.1**	**-0.2**
YER	**Yerkesik**	**25.71**	**77**	P	**P**	**04 27 33.2**	**+0.7**
CFR	**Carcaliu**	**25.87**	**59**	⇑P	**P**	**04 27 33.2**	**-0.5**
KULA	**Kula-Manisa**	**25.88**	**74**	P	**P**	**04 27 34.2**	**+0.1**
VASR	**Vaslui**	**25.93**	**55**	⇑P	**P**	**04 27 34.0**	**-0.4**
TIRR	**Tirgusor**	**25.94**	**60**	⇑P	**P**	**04 27 34.3**	**-0.2**
TIRR	**Tirgusor**	**25.94**	**60**	IAMs_20	IAMs_20	04 37 55.8	
comp=Z,108μm,18.0s							
VLDR	**Vladesti**	**25.96**	**57**	⇑P	**P**	**04 27 33.9**	**-0.7**
SUE	**Sulen**	**25.96**	**9**	*eP*	**P**	**04 27 35.7**	**+1.3**
SUE				IVmB_BB		04 27 41.0	
comp=Z,11μm,2.6s							
SUE				*eS*	**S**	**04 32 06.1**	**+1.7**
SUE				IVMs_BB	IVMs_BB	04 41 26.1	
comp=Z,72μm,10.7s							
GIUM	**Giurgiulesti**	**25.97**	**58**	⇑P	**P**	**04 27 34.3**	**-0.4**
OSL	**Oslo**	**26.00**	**17**	*eP*	**P**	**04 27 37.0**	**+2.1**
OSL				IVmB_BB		04 27 39.9	
comp=Z,3μm,2.1s							
OSL				*eS*	**S**	**04 32 04.7**	**-0.5**
TPGR	**Topolog**	**26.01**	**60**	⇑P	**P**	**04 27 34.4**	**-0.8**
ISK	**Istanbul-Kandi**	**26.13**	**68**	P	**P**	**04 27 33.9**	**-2.3**
SKAR	**Skarslia**	**26.17**	**13**	*eP*	**P**	**04 27 37.6**	**+1.2**
SUW	**Suwalki**	**26.18**	**37**	*eP*	**P**	**04 27 36.8**	**+0.3**
SUW				*eS*	**S**	**04 32 05.5**	**-2.6**
SUW				*eL*	L	04 38 05.3	
comp=Z,94μm,17.2s							
SUW	**Suwalki**	**26.18**	**37**	P	**P**	**04 27 34.9**	**-1.6**
SUW				pmax	pmax		
comp=Z,2μm,1.2s							
SUW				MLR	MLR		
comp=Z,79μm,20.0s							
SUW	**Suwalki**	**26.18**	**37**	*eP*	**P**	**04 27 36.5**	**0.0**
SUW	**Suwalki**	**26.18**	**37**	P	**P**	**04 27 34.9**	**-1.6**
HYA	**Hoyanger**	**26.27**	**11**	*eP*	**P**	**04 27 38.6**	**+1.5**
HYA				*eS*	**S**	**04 32 11.6**	**+2.3**
FOO	**Floro**	**26.52**	**9**	*eP*	**P**	**04 27 40.5**	**+1.1**
FOO				IVmB_BB		04 27 47.6	
comp=Z,8μm,2.3s							
FOO				*eS*	**S**	**04 32 15.6**	**+2.4**
FOO				IVMs_BB	IVMs_BB	04 42 16.4	
comp=Z,68μm,11.8s							
MILM	**Milestii Mici**	**26.68**	**55**	⇑*i*P	**P**	**04 27 39.5**	**-1.6**
comp=Z,900nm,2.3s							
MILM	**Milestii Mici**	**26.68**	**55**	*c i*P	**P**	**04 27 39.5**	**-1.6**
MILM				*e*		04 28 37.0	
MILM				*eS*	**S**	**04 32 09.0**	**-7.2**
MILM				pmax	pmax		
comp=Z,900nm,2.3s							
MILM				MLR	MLR		
comp=E,91μm,15.0s							
MILM				MLR	MLR		
comp=Z,99μm,15.0s							
KIS	**Kishinev**	**26.70**	**55**	*eP*	**P**	**04 27 39.0**	**-2.3**
comp=Z,180nm,1.0s							
KIS	**Kishinev**	**26.70**	**55**	*eP*	**P**	**04 27 39.0**	**-2.3**
KIS				*e*		04 28 40.0	
KIS				*eS*	**S**	**04 32 06.0**	**-11**
KIS				pmax	pmax		
comp=Z,180nm,1.0s							
KIS				MLR	MLR		
comp=Z,35μm,16.5s							
KIS				MLR	MLR		
comp=E,49μm,16.0s							
KIS				MLR	MLR		
comp=N,38μm,14.0s							
PBUR	**Paburge**	**26.78**	**33**	*eP*	**P**	**04 27 45.7**	**+3.8**
AKAS	**Kas**	**26.88**	**79**	IAmb	IAmb	04 28 07.8	
comp=Z,978nm,1.4s							
NC602	**NORSAR Array S**	**26.90**	**17**	*eP*	**P**	**04 27 43.9**	**+0.9**
NC602				*eS*	**S**	**04 32 19.2**	**-0.2**
NC602				IVMs_BB	IVMs_BB	04 41 13.5	
comp=Z,145μm,10.8s							
NC602	**NORSAR Array S**	**26.90**	**17**	IAmb	IAmb	04 27 57.9	
comp=Z,791nm,1.1s							
HFS	**Hagfors**	**26.92**	**19**	P	**P**	**04 27 42.4**	**-0.8**
comp=Z,203nm,1.1s,baz=210,slow=8.9,SNR=73							
HFS				LR	LR	04 40 26.2	
comp=Z,97μm,18.4s,baz=210,slow=41							
NBO00	**NORSAR Array S**	**26.99**	**16**	IAmb	IAmb	04 28 01.2	
comp=Z,1μm,1.6s							
ELL	**Elmali**	**27.05**	**78**	P	**P**	**04 27 45.4**	**+0.7**
ELL				pmax	pmax		
comp=Z,2μm,1.2s							
ELL	**Elmali**	**27.05**	**78**	P	**P**	**04 27 45.4**	**+0.7**
NB2	**NORSAR Subarra**	**27.10**	**16**	P	**P**	**04 27 44.7**	**-0.1**
comp=Z,863nm,2.0s,baz=207,slow=9.3							
NB2	**NORSAR Subarra**	**27.10**	**16**	P	**P**	**04 27 44.7**	**-0.1**
baz=207,slow=9.3							
NOA	**NORSAR Array B**	**27.10**	**16**	P	**P**	**04 27 44.6**	**-0.2**
comp=Z,64nm,1.0s,baz=209,slow=9.0,SNR=40							
NOA				LR	LR	04 40 04.9	
comp=Z,166μm,18.1s,baz=205,slow=40							
NC204	**NORSAR Array S**	**27.21**	**15**	IAmb	IAmb	04 28 01.0	

SIM eSS SnSn 04 34 45.0 +4.0
SIM pmax pmax
comp=Z,383nm,1.8s
SIM MLR MLR
comp=N,12μm,13.0s
CSS Mathiatis 30.09 80 P P 04 28 12.4 +0.7
VSU Vasula 30.34 32 i P P 04 28 11.9 -1.6
VSU pmax pmax
comp=Z,434nm,1.0s
VSU MLR MLR
comp=Z,234μm,14.0s
VSU Vasula 30.34 32 eP P 04 28 11.5 -2.1
NSS Namsos 30.39 13 eP P 04 28 14.4 +0.5
NSS IVmB_BB 04 28 18.4
comp=Z,5μm,2.8s
NSS eS S 04 33 15.6 +1.5
BORG Borgarnes 30.98 345 LR LR 04 39 53.2
comp=Z,91μm,21.0s,baz=170,slow=35
BORG Borgarnes 30.98 345 IAMs_20 IAMs_20 04 39 32.2
comp=Z,96μm,21.0s
BNN Bunyan 31.45 72 P P 04 28 24.1 +0.3
BNN IAmb IAmb 04 29 20.4
comp=Z,393nm,1.4s
FINES FINESS Array B 31.91 27 P P 04 28 25.4 -1.9
comp=Z,12nm,0.6s,baz=226,slow=7.0,SNR=42
FINES PcP PcP 04 31 18.0 +0.5
comp=Z,12nm,0.6s,baz=270,slow=0.4,SNR=3.9
FINES LR LR 04 41 16.2
comp=Z,57μm,18.7s,baz=228,slow=36
FINES P3KPbc 05 00 00.1
comp=Z,2.2nm,0.9s,baz=115,slow=2.7,SNR=3.9
FINES FINESS Array B 31.91 27 P P 04 28 26.7 -0.7
STOK Stokkvaagen 32.21 13 eP P 04 28 31.3 +1.4
STOK eS S 04 33 48.4 +5.9
MOR8 Moi Rana 32.33 14 eP P 04 28 33.7 +2.6
MOR8 IVmB_BB 04 28 34.4
comp=Z,2μm,3.1s
MOR8 eS S 04 33 47.2 +2.7
KONS Konsvik 32.38 13 eP P 04 28 32.3 +0.9
PUL Pulkovo 32.61 32 i P P 04 28 34.2 +0.7
PUL pmax pmax
comp=Z,67nm,0.5s
PUL MLR MLR
comp=Z,94μm,15.0s
PUL Pulkovo 32.61 32 eP P 04 28 38.4 +4.9
GHAJ Ghor Haditha 32.87 86 P P 04 28 37.3 +1.1
EIL Elat 32.92 89 LR LR 04 44 56.7
comp=Z,63μm,18.1s,baz=287,slow=42
FAUS Fauske 33.56 13 eP P 04 28 42.2 +0.5
FAUS IVmB_BB 04 28 50.4
comp=Z,4μm,2.3s
FAUS eS S 04 34 04.2 +0.7
OBN Obninsk 33.66 42 LR LR 04 42 41.3
comp=Z,21μm,19.0s,baz=248,slow=37
OBN Obninsk 33.66 42c i P P 04 28 41.0 -1.8
OBN i *PP pP 04 28 43.8 -2.2
OBN i *SP sP 04 28 45.5 -1.8
OBN PPP PPP 04 30 02.0
OBN i 04 31 27.0
OBN i S S 04 34 01.4 -3.9
OBN i SS SnSn 04 36 03.1 -5.7
OBN SSS SSS 04 36 36.0
OBN pmax pmax
comp=Z,255nm,1.3s
OBN MLR MLR
comp=Z,77μm,16.0s
OBN Obninsk 33.66 42 P P 04 28 40.9 -1.9
OBN IAmb IAmb 04 28 59.4
comp=Z,216nm,1.1s
OBN IAMs_20 IAMs_20 04 42 20.1
comp=Z,81μm,21.0s
LOF Lofoten 33.92 11 eP P 04 28 46.4 +1.5
LOF IVmB_BB 04 28 50.5
comp=Z,5μm,2.7s
LOF eS S 04 34 10.0 +0.9
LOF IVMs_BB IVMs_BB 04 45 23.5
comp=Z,91μm,11.8s
SOC Sochi 34.02 63c i P P 04 28 45.3 -0.8
SOC e*PP pP 04 28 48.7 -0.6
SOC e*SP sP 04 28 50.5 -0.1
SOC e 04 29 57.4
SOC i S S 04 34 12.1 +0.8
SOC e*SS sS 04 34 17.7 +1.2
SOC eSS SnSn 04 36 21.4 +3.5
SOC pmax pmax
comp=Z,56nm,1.0s
SOC MLR MLR
comp=Z,14μm,14.0s
STEI Steigen 34.03 13 eP P 04 28 47.2 +1.3
VSR Storozhevoye 34.22 50 eP P 04 28 45.3 -2.4
VSR eS S 04 34 11.5 -2.6
VSR pmax pmax
comp=Z,40nm,0.9s
VSR smax smax
comp=N,9μm,11.9s
VSR MLR MLR
comp=Z,47μm,12.0s
VORD Divnogorie 34.26 50 eP P 04 28 46.4 -1.6
VORD eS S 04 34 12.4 -2.2
VORD pmax pmax
comp=Z,20nm,0.8s
VORD smax smax
comp=N,1μm,7.6s
VSLR Vesyoloye 34.26 63 i P P 04 28 48.7 +0.6
VORR Voronezh 34.33 49 eP P 04 28 48.1 -0.5
VORR pmax pmax
comp=Z,81nm,0.4s
LPSR Galich'ya Gora 34.34 47 eP P 04 28 47.5 -1.2
LPSR eS S 04 34 13.4 -2.6
LPSR pmax pmax
comp=Z,200nm,1.3s
LPSR smax smax
comp=N,10μm,13.6s
LPSR MLR MLR
comp=Z,50μm,12.0s
MOS Moscow 34.43 41 eP P 04 28 45.2 -4.2
MOS eS S 04 34 12.1 -5.1
MOS eSS SnSn 04 36 30.2 +2.8
MOS e 04 39 04.6
MOS pmax pmax
comp=Z,460nm,1.7s
MOS pmax pmax
comp=Z,800nm,2.0s
MOS smax smax
comp=N,11μm,16.0s
MOS MLR MLR
comp=N,65μm,11.0s
MOS MLR MLR
comp=E,67μm,11.0s
MOS MLR MLR
comp=Z,73μm,11.0s
JMIC Jan Mayen 35.46 357 LR LR 04 43 37.3
comp=Z,63μm,18.3s,baz=179,slow=37
JMIC Jan Mayen 35.46 357 eP P 04 29 00.2 +2.1
JMIC IVmB_BB 04 29 02.2
comp=Z,4μm,1.8s
JMIC eS S 04 34 41.9 +9.2
JMIC IVMs_BB IVMs_BB 04 43 15.6
comp=Z,23μm,15.5s
VRH Novokhopyorsk 35.80 50 eP P 04 29 00.7 -0.6
VRH eS S 04 34 38.1 -0.4
VRH pmax pmax
comp=Z,150nm,0.8s
VRH smax smax
comp=E,19μm,15.2s
VRH MLR MLR
comp=Z,57μm,15.0s
ANGG Ammassalik, Gr 36.03 337 i P P 04 29 08.8 +5.7
SHA1 Shidzhatmaz 36.15 63c i P P 04 29 05.0 +0.3
KVAR Kislovodsk Arr 36.17 62 LR LR 04 45 56.3
comp=Z,32μm,18.9s,baz=66,slow=40
SCO Scoresbysund 36.22 350 P P 04 29 06.0 +1.4
SCO pmax pmax
comp=Z,416nm,1.4s
SCO Scoresbysund 36.22 350 i P P 04 29 07.1 +2.4
SCO IAmb IAmb 04 29 16.1
comp=Z,36nm,0.7s
SCO Scoresbysund 36.22 350 P P 04 29 06.0 +1.4
SCO IAmb IAmb 04 29 32.9
comp=Z,416nm,1.4s
SCO IAMs_20 IAMs_20 04 42 23.8
comp=Z,68μm,21.0s
NEY Neytrino 36.23 64 i P P 04 29 04.8 -0.5
KBZ Khabaz 36.33 63 P P 04 29 05.5 -0.4
comp=Z,48nm,1.1s,baz=303,slow=4.5,SNR=25
KBZ LR LR 04 45 33.3
comp=Z,21μm,20.7s,baz=289,slow=39
KBZ Khabaz 36.33 63c i P P 04 29 06.7 +0.8
GOF Gofitskoye 36.37 60‖ eP P 04 29 06.2 -0.1
GOF eS S 04 34 50.3 +3.0
GOF pmax pmax
comp=Z,377nm,1.0s
GOF smax smax
comp=E,208nm,1.7s
GOF smax smax
comp=N,226nm,1.5s
JETT Jettan, Norway 36.41 14 eP P 04 29 08.0 +1.7
ISOG Isortoq, Green 36.43 336 i P P 04 29 08.9 +2.5
ISOG IAmb IAmb 04 29 16.6
comp=Z,40nm,0.9s
KTK1 Kautokeino 36.56 16 eP P 04 29 09.2 +1.6
NRS Narsarsuaq 36.63 327 P P 04 29 08.4 +0.1
NRS pmax pmax
comp=Z,407nm,1.5s
NRS Narsarsuaq 36.63 327 i P P 04 29 10.1 +1.8
NRS IAmb IAmb 04 29 20.4
comp=Z,58nm,0.7s
NRS Narsarsuaq 36.63 327 P P 04 29 08.4 +0.1
NRS IAmb IAmb 04 29 36.2
comp=Z,407nm,1.5s
NRS IAMs_20 IAMs_20 04 40 41.6
comp=Z,62μm,20.0s
NCK Nalchik 36.85 63 i P P 04 29 10.9 +0.5
NCK pmax pmax
comp=Z,470nm,1.6s
NCK MLR MLR
comp=Z,25μm,20.0s
KLMR Klimovskoe 37.16 34 eP P 04 29 09.7 -3.1
KLMR e 04 30 32.7
KLMR eS S 04 34 53.3 -5.7
KLMR pmax pmax
comp=Z,540nm,1.5s
KLMR Klimovskoe 37.16 34 eP P 04 29 09.8 -3.1
KLMR AMP 04 29 20.7
comp=Z,540nm,1.5s
KLMR ePP PP 04 30 32.7 -4.7
KLMR eS S 04 34 53.4 -5.6
KLMR eS S 04 34 53.4 -5.6
KLMR LQ LQ 04 40 23.0
KLMR LQ LQ 04 40 23.0
KLMR LR LR 04 42 29.6
ARA0 ARCESS Array S 37.48 16 eP P 04 29 17.1 +1.7
ARCES ARCESS Array B 37.48 16 P P 04 29 14.7 -0.7
comp=Z,24nm,0.6s,baz=206,slow=8.1,SNR=68
ARCES LR LR 04 46 26.2
comp=Z,125μm,18.3s,baz=220,slow=39
ARCES ARCESS Array B 37.48 16 IAmb IAmb 04 29 24.6
comp=Z,571nm,1.3s
IVI Ivigtut 37.88 326 i P P 04 29 20.8 +2.0
IVI IAmb IAmb 04 29 28.9
comp=Z,37nm,1.2s
IVI Ivigtut 37.88 326 P P 04 29 18.7 -0.1
IVI IAmb IAmb 04 29 46.5
comp=Z,454nm,1.5s
IVI IAMs_20 IAMs_20 04 40 54.5
comp=Z,67μm,20.0s
HAMF Hammerfest 37.95 14 eP P 04 29 19.3 -0.1
HAMF IVmB_BB 04 29 27.6
comp=Z,9μm,2.5s
HAMF eS S 04 35 10.5 -0.1
KEV Kevo 37.99 17 P P 04 29 20.3 +0.6
KEV pmax pmax
comp=Z,1μm,1.8s
KEV MLR MLR
comp=Z,153μm,18.0s
KEV Kevo 37.99 17 P P 04 29 20.3 +0.6
GNI Garni 38.09 68 LR LR 04 46 04.1
comp=Z,15μm,20.0s,baz=284,slow=38
GNI Garni 38.09 68ceP P 04 29 21.1 0.0
GNI pmax pmax
comp=Z,361nm,1.4s
GNI MLR MLR
comp=Z,15μm,19.0s
GNI Garni 38.09 68 P P 04 29 21.2 0.0
GNI P P 04 29 21.2 0.0
GNI P P 04 29 21.2 0.0
GNI Garni 38.09 68 P P 04 29 21.3 +0.2
GNI IAmb IAmb 04 30 06.1
comp=Z,756nm,1.6s
JAWL J.Aulia 38.19 113 i P P 04 29 23.1 +1.1
APA Apatity 38.23 22‖ i P P 04 29 26.2 +4.4
APA i 04 30 56.0
APA i S S 04 35 16.0 +0.9
APA i SS SnSn 04 37 58.0 -1.0
APA pmax pmax
comp=Z,178nm,0.9s
APA MLR MLR
comp=Z,143μm,13.0s
GROC Groznyy 38.47 63 eP P 04 29 21.2 -2.9
GROC e 04 30 50.4
GROC e 04 31 36.2
GROC pmax pmax
comp=Z,75nm,1.4s
MQOL MQOL 38.61 102 i P P 04 29 26.8 +1.3
MQOL i 04 29 38.9
baz=193,slow=14
LVZ Lovozero 38.81 22 i P P 04 29 26.9 +0.2
LVZ pmax pmax
comp=Z,934nm,1.6s
LVZ MLR MLR
comp=Z,103μm,16.0s
LVZ Lovozero 38.81 22 P P 04 29 27.4 +0.7
ICESG Greenland Ices 38.87 340 i P P 04 29 29.7 +2.2
ICESG IAmb IAmb 04 29 46.4
comp=Z,34nm,0.8s
DBG Daneborg 39.53 353 i P P 04 29 34.4 +1.8
DBG IAmb IAmb 04 29 46.7
comp=Z,16nm,0.7s
MAK Makhachkala 39.74 63 eP P 04 29 32.4 -2.3
MAK e 04 31 07.0
MAK eS S 04 35 35.4 -3.0
MAK pmax pmax
comp=Z,887nm,1.4s
MAK MLR MLR
comp=Z,44μm,14.0s
PRGR Permogore 40.21 34 eP P 04 29 37.3 -1.0
PRGR e 04 31 39.6
PRGR pmax pmax
comp=Z,34nm,1.1s
BJO1 Bjornoya 40.42 9 eP P 04 29 41.8 +1.8
BJO1 eS S 04 35 50.5 +2.8
BJO1 IVMs_BB IVMs_BB 04 51 41.0
comp=Z,23μm,13.8s
NUUK Nuuk 40.50 330 i P P 04 29 40.2 -0.5
NUUK IAmb IAmb 04 29 53.1
comp=Z,68nm,0.9s
SUMG Summit 40.95 345 P P 04 29 45.0 +0.1
SUMG pmax pmax
comp=Z,548nm,1.9s
SUMG Summit 40.95 345 i P P 04 29 45.6 +0.8
SUMG IAmb IAmb 04 29 56.2
comp=Z,21nm,0.8s
SUMG Summit 40.95 345 P P 04 29 45.0 +0.1
DRLN Deer Lake 41.10 306 P P 04 29 45.6 -0.3
SFJD Kangerlussuaq 41.20 334 LR LR 04 43 58.2
comp=Z,45μm,19.8s,baz=117,slow=32
SFJD Kangerlussuaq 41.20 334 P P 04 29 48.6 +2.2
SFJD pmax pmax
comp=Z,200nm,1.5s
SFJD Kangerlussuaq 41.20 334 P P 04 29 48.6 +2.2
KIRV Kirov 41.34 39 LR LR 04 46 17.9
comp=Z,21μm,20.6s,baz=259,slow=35
KIRV Kirov 41.34 39ceP P 04 29 46.4 -1.3
DAG Danmarks Havn 41.73 355 i P P 04 29 51.3 +0.6
DAG IAmb IAmb 04 30 03.0
comp=Z,31nm,0.8s
HSPB Hornsund (broa 42.30 6 eP P 04 29 56.3 +1.0
ILULI Ilulissat 42.34 337 P P 04 29 57.0 +1.2
ILULI pmax pmax
comp=Z,101nm,1.2s
ILULI Ilulissat 42.34 337 P P 04 29 57.0 +1.2
MELAE School, Dubaba 42.58 113 P P 04 29 59.3 +0.8
ABMD Abulta/Almeha 42.66 114 P P 04 29 60.0 +0.9
GUBA Police Station 42.81 115 P P 04 30 01.2 +0.8
SHERE Police Station 42.88 116 P P 04 30 03.0 +2.0
HOPEN Hopen 42.93 10 eP P 04 30 01.5 +1.0
HOPEN eS S 04 36 27.2 +2.3
HOPEN IVMs_BB IVMs_BB 04 48 29.5
comp=Z,22μm,19.9s
MUKA Police Camp, M 43.10 113 P P 04 29 55.3 -7.4
SPB2 Spitsbergen Ar 43.45 6 P P 04 30 05.8 +1.1
SPA0 Spitsbergen Ar 43.45 6 eP P 04 30 06.5 +1.7
SPA0 IVmB_BB 04 30 13.7
comp=Z,3μm,2.9s
SPA0 eS S 04 36 39.2 +6.6
SPA0 eScS ScS 04 40 02.7 -1.2
SPA0 IVMs_BB IVMs_BB 04 52 37.7
comp=Z,20μm,13.4s
SPITS Spitsbergen Ar 43.45 6 LR LR 04 49 42.7
comp=Z,29μm,18.7s,baz=118,slow=38
SPITS Spitsbergen Ar 43.45 6 P P 04 30 07.1 +2.4
SPITS pmax pmax
comp=Z,354nm,1.3s
DEBR School, Debre 43.50 115 P P 04 30 07.3 +1.1
SHAW Medical Clinic 43.56 113 P P 04 30 08.6 +1.9
GOND University, Go 43.59 111 P P 04 30 09.7 +2.8
MEND High School, M 43.66 117 P P 04 30 09.3 +1.9
KBS Kingsbay 43.83 4 P P 04 30 09.6 +1.9
KBS pmax pmax
comp=Z,284nm,1.1s
KBS MLR MLR
comp=Z,68μm,20.0s
KBS Kingsbay 43.83 4 eP P 04 30 09.3 +1.6
KBS IVmB_BB 04 30 14.6
comp=Z,4μm,1.9s
KBS eS S 04 36 40.4 +2.3
KBS IVMs_BB IVMs_BB 04 49 04.8
comp=Z,29μm,16.6s
KBS Kingsbay 43.83 4 P P 04 30 09.6 +1.9
KBS IAmb IAmb 04 30 18.9
comp=Z,284nm,1.1s
KBS Kingsbay 43.83 4 IAMs_20 IAMs_20 04 47 30.5
comp=Z,68μm,20.0s
GIDAE Health Center, 43.84 118 P P 04 30 11.0 +2.1
SILA Clinic, Silare 43.90 111 P P 04 30 10.7 +1.4
CHGE School, Chagni 43.92 114 P P 04 30 11.3 +1.9
RAYN Ar Rayn 44.04 92 P P 04 30 10.8 +0.6
RAYN pmax pmax
comp=Z,432nm,2.0s
RAYN MLR MLR
comp=Z,62μm,20.0s
RAYN Ar Rayn 44.04 92 P P 04 30 11.3 +1.1
RAYN Ar Rayn 44.04 92 P P 04 30 10.8 +0.6
RAYN Ar Rayn 44.04 92 IAMs_20 IAMs_20 04 50 55.9
comp=Z,62μm,20.0s
RAYN Ar Rayn 44.04 92 i P P 04 30 11.1 +0.9
SNR=24
GBN Guysborough 44.15 301 P P 04 30 10.6 -0.1
GBN IAmb IAmb 04 30 21.3
comp=Z,280nm,1.0s
BAHR High School, B 44.18 113 P P 04 30 12.8 +1.2
HARO School, Haroo 44.50 115 P P 04 30 15.2 +1.0
ASCN Ascension 44.54 195 IAMs_20 IAMs_20 04 47 54.8
comp=Z,48μm,20.0s
KIRE School, Kiremu 44.84 115 P P 04 30 17.7 +0.8
GOREE District Admin 45.07 118 P P 04 30 18.3 -0.4
MERTO Secondary Scho 45.28 112 P P 04 30 20.5 0.0
UPNV Upernavik 45.40 341 i P P 04 30 22.4 +2.1
UPNV IAmb IAmb 04 30 35.0
comp=Z,30nm,0.8s
ARU Arti 46.09 43 LR LR 04 49 56.3
comp=Z,80μm,18.4s,baz=266,slow=36
ARU Arti 46.09 43c i P P 04 30 25.5 -0.5
ARU 04 32 02.5
ARU 04 32 12.5
ARU PPP PPP 04 32 53.7
ARU S S 04 37 12.0 +0.7
ARU SS ScS 04 40 27.7 +6.4
ARU SSS SSS 04 41 29.3
ARU pmax pmax
comp=Z,151nm,1.3s
ARU pmax pmax
comp=Z,1μm,7.9s
ARU MLR MLR
comp=Z,72μm,13.0s
ARU Arti 46.09 43 P P 04 30 24.9 -1.1
AKTO Aktyubinsk 46.11 51 LR LR 04 51 38.3
comp=Z,55μm,18.2s,baz=284,slow=38
NOR Nord 46.28 357 i P P 04 30 29.1 +1.9
NOR IAmb IAmb 04 30 35.7
comp=Z,14nm,0.8s
LMN Caledonia Moun 46.36 302 IAmb IAmb 04 30 38.3
comp=Z,306nm,1.0s
NEEM North Greenlan 46.59 347 i P P 04 30 30.5 +0.5
NEEM IAmb IAmb 04 30 39.4
comp=Z,37nm,0.9s
SCHQ Schefferville 46.65 315 P P 04 30 30.1 -0.3
comp=Z,21nm,0.5s,baz=82,slow=5.8,SNR=100
SCHQ LR LR 04 46 42.4
comp=Z,20μm,20.6s,baz=90,slow=32
SCHQ Schefferville 46.65 315 IAmb IAmb 04 31 00.3
comp=Z,322nm,1.4s
FURI Furi 46.87 114 P P 04 30 35.6 +2.6
FURI Furi 46.87 114 P P 04 30 36.2 +3.1
FURI Furi 46.87 114 eP P 04 30 37.0 +4.0
BATG Bathurst New B 46.97 304 P P 04 30 32.4 -0.7
BATG IAmb IAmb 04 30 43.2
comp=Z,311nm,1.1s
SAKB Bahrain 47.04 86 P P 04 30 34.5 +0.6
ANKE Ethiopia-Afar 47.21 113 eP P 04 30 35.9 +0.2
SVE Sverdlovsk 47.23 42deP P 04 30 34.6 -0.3
SVE eS S 04 37 26.2 -1.4
SVE pmax pmax
comp=Z,377nm,1.6s
SVE MLR MLR
comp=E,76μm,13.0s
SVE MLR MLR
comp=Z,73μm,12.0s
SHMA Al-Shehemyia 47.44 86 P P 04 30 37.4 +0.4
AB31 Akbulak array 47.49 53 i P P 04 30 37.0 -0.1
ABKAR Akbulak array 47.49 53 P P 04 30 36.7 -0.4
ABKAR Akbulak array 47.49 53 IAmb IAmb 04 30 43.0
comp=Z,630nm,1.4s
FRB Frobisher Bay 47.63 327 LR LR 04 47 16.8
comp=Z,42μm,20.4s,baz=90,slow=32
GGN Saint George 47.91 302 IAmb IAmb 04 30 50.1
comp=Z,186nm,1.1s
KHOR Al-Khor Airpor 47.99 86 P P 04 30 41.7 +0.5
TRNA Turayna 48.14 87 P P 04 30 42.6 +0.2
DILA Dilla 48.23 117 eP P 04 30 48.4 +5.0
LODK Lodwar 48.27 123 P P 04 30 45.2 +1.7
SNR=72
LODK Lodwar 48.27 123 P P 04 30 44.6 +1.0
MBAR Mbarara 48.28 131 LR LR 04 50 22.7
comp=Z,58μm,19.0s,baz=313,slow=35
MBAR Mbarara 48.28 131ceP P 04 30 45.3 +1.5
MBAR pmax pmax
comp=Z,60nm,1.3s
MBAR Mbarara 48.28 131 P P 04 30 45.4 +1.7
MBAR P P 04 30 45.4 +1.7
MBAR Mbarara 48.28 131 P P 04 30 44.7 +0.9
MBAR Mbarara 48.28 131 IAMs_20 IAMs_20 04 48 34.4
comp=Z,63μm,20.0s
MBAR Mbarara 48.28 131 P P 04 30 45.1 +1.3
MBAR Mbarara 48.28 131 eP P 04 30 48.4 +4.6
ATD Arta Tunnel 48.38 108 LR LR 04 51 34.9
comp=Z,145μm,18.6s,baz=312,slow=37
GEYT Alibeck 48.72 68 P P 04 30 46.2 -0.6
comp=Z,21nm,0.8s,baz=270,slow=19,SNR=20
GEYT LR LR 04 54 17.0
comp=Z,7μm,18.6s,baz=312,slow=40
GEYT Alibeck 48.72 68 IAmb IAmb 04 31 29.6
comp=Z,296nm,1.6s
GYA0B ALIBECK ARRAY 48.72 68 IAmb IAmb 04 31 29.5
comp=Z,471nm,1.8s
F64A Sherman 48.79 303 IAmb IAmb 04 30 57.6
comp=Z,182nm,1.1s
SLWR Sila 48.83 88 P P 04 30 48.0 +0.3
SLWR P P 04 30 48.0 +0.3
SLWR P P 04 30 48.0 +0.3
F63A Nahmakanta, Br 49.34 303 P P 04 30 52.0 +0.7
JRN Qarnain Island 49.37 86 P P 04 30 51.8 -0.1
SNR=12
E62A Clayton Lake 49.43 304 IAmb IAmb 04 31 02.4
comp=Z,199nm,1.1s
GINR Hospital, Gini 49.55 114 P P 04 30 55.3 +1.7
PKME Peaks-Kenny Pk 49.56 302 IAmb IAmb 04 31 03.7
comp=Z,240nm,1.2s
PKME IAMs_20 IAMs_20 04 50 44.9
comp=Z,51μm,20.0s
PKME Peaks-Kenny Pk 49.56 302 P P 04 30 52.7 -0.4
baz=77
PKME S S 04 38 01.5 +0.6
baz=77

LMQ La Malbaie 49.77 305 IAmb IAmb 04 31 05.1
comp=Z,326nm,1.4s
GHWR Ruwais 49.84 87 P **P** **04 30 55.9 +0.5**
GHWR P **P** **04 30 55.9 +0.5**
TULEG Thule 49.85 344 *i* P **P** **04 30 56.3 +1.4**
TULEG IAmb IAmb 04 31 11.9
comp=Z,15nm,0.7s
NGLE Hospital, Nege 49.91 117 P **P** **04 30 54.2 -2.1**
WVL Waterville 49.98 302 IAms_20 IAms_20 04 51 07.9
comp=Z,38µm,19.0s
MZWR Madinat Zayed 50.75 87 P **P** **04 31 02.3 0.0**
MZWR P **P** **04 31 02.3 0.0**
I63A Otisfield 50.75 301 P **P** **04 31 01.8 -0.3**
I63A IAmb IAmb 04 31 12.9
comp=Z,210nm,1.1s
ALE Alert 50.85 352 IAms_20 IAms_20 04 50 53.4
comp=Z,41µm,20.0s
RCBR Riachuelo 51.20 223 P **P** **04 31 06.2 +0.4**
RCBR pmax pmax
comp=Z,254nm,1.7s
RCBR Riachuelo 51.20 223 *eP* **P** **04 31 06.8 +1.1**
RCBR Riachuelo 51.20 223 P **P** **04 31 06.2 +0.4**
NBCL Cascavel-CE 51.26 227 *eP* **P** **04 31 07.3 +1.0**
AJN Ajban 51.28 85 P **P** **04 31 06.6 +0.2**
AJN P **P** **04 31 06.6 +0.2**
SNR=25
AJN Ajban 51.28 85 *i* P **P** **04 31 06.2 -0.1**
SNR=34
SHEL Horse Pasture 51.40 183 IAms_20 IAms_20 04 51 35.6
comp=Z,38µm,20.0s
UMQ Umm Al-Quwin 51.40 84 P **P** **04 31 07.8 +0.6**
UMQ P **P** **04 31 07.8 +0.6**
SNR=20
UMQ Umm Al-Quwin 51.40 84 *i* P **P** **04 31 07.4 +0.2**
SNR=24
M65A Busby, Falmout 51.47 298 P **P** **04 31 07.7 +0.2**
baz=73
M65A S **S** **04 38 27.6 +0.1**
baz=73
ASUD Al Ashush, Dub 51.53 85 P **P** **04 31 08.7 +0.5**
SNR=32
ASUD P **P** **04 31 08.7 +0.5**
SNR=32
ASUD Al Ashush, Dub 51.53 85 *i* P **P** **04 31 08.4 +0.2**
SNR=20
SHME Shamm 51.55 83 P **P** **04 31 07.4 -1.0**
SHME P **P** **04 31 07.4 -1.0**
SNR=22
SHME Shamm 51.55 83 *i* P **P** **04 31 07.1 -1.3**
SNR=24
BCX Boston College 51.63 299 IAms_20 IAms_20 04 51 30.5
comp=Z,31µm,18.0s
LBNH Lisbon 51.64 302 IAms_20 IAms_20 04 51 57.7
comp=Z,40µm,20.0s
LBNH Lisbon 51.64 302 P **P** **04 31 07.5 -1.3**
baz=75
LBNH S **S** **04 38 28.4 -1.3**
baz=75
NAZ Nazwa, Dubai 51.64 85 P **P** **04 31 09.0 -0.1**
SNR=32
NAZ P **P** **04 31 09.0 -0.1**
SNR=32
NAZ P **P** **04 31 09.0 -0.1**
SNR=32
NAZ Nazwa, Dubai 51.64 85 *i* P **P** **04 31 08.7 -0.3**
SNR=45
FFD Franklin Falls 51.65 301 IAms_20 IAms_20 04 51 35.1
comp=Z,34µm,19.0s
FAQ Al Faqa, Dubai 51.69 85 P **P** **04 31 09.4 -0.1**
SNR=47
FAQ Al Faqa, Dubai 51.69 85 *i* P **P** **04 31 08.9 -0.5**
SNR=17
WES Weston 51.72 299 IAmb IAmb 04 31 20.3
comp=Z,273nm,1.1s
BANOM Banah 51.74 83 P **P** **04 31 09.7 -0.1**
SNR=32
BANOM Banah 51.74 83 *i* P **P** **04 31 08.8 -1.0**
SNR=38
HRV Adam Dziewonsk 51.85 299 P **P** **04 31 11.5 +1.1**
HRV pmax pmax
comp=Z,158nm,1.2s
HRV Adam Dziewonsk 51.85 299 P **P** **04 31 11.5 +1.1**
HRV Adam Dziewonsk 51.85 299 P **P** **04 31 09.6 -0.8**
baz=74
HRV S **S** **04 38 31.3 -1.4**
baz=74
MASF Masafi 51.87 84 P **P** **04 31 10.4 -0.4**
SNR=23
MASF P **P** **04 31 10.4 -0.4**
SNR=23
MSFE Esma-Masafi 51.87 84 *i* P **P** **04 31 09.9 -1.0**
SNR=21
BRYW Bryant College 52.01 299 IAms_20 IAms_20 04 51 52.6
comp=Z,35µm,19.0s
HATD Hatta, Dubai 52.09 85 P **P** **04 31 12.2 -0.3**
SNR=26
HATD Hatta, Dubai 52.09 85 *i* P **P** **04 31 11.7 -0.7**
SNR=48
ASHO Ashiyiah 52.09 85 P **P** **04 31 11.1 -1.4**
ASHO P **P** **04 31 11.1 -1.4**
ASHO Ashiyiah 52.09 85 *i* P **P** **04 31 12.1 -0.4**
SNR=37
UOSS Minazif 52.09 84 P **P** **04 31 11.9 -0.6**
UOSS P **P** **04 31 11.9 -0.6**
UOSS Minazif 52.09 84 P **P** **04 31 11.7 -0.7**
UOSS Minazif 52.09 84 *i* P **P** **04 31 11.4 -1.1**
SNR=57
ALNE Al Ain 52.13 86 P **P** **04 31 12.9 +0.2**
SNR=122
ALNE P **P** **04 31 12.9 +0.2**
SNR=122
ALNE Al Ain 52.13 86 *i* P **P** **04 31 12.6 -0.1**
SNR=13
VT1 Waterbury 52.18 302 IAms_20 IAms_20 04 52 25.2
comp=Z,48µm,19.0s
UMZA Um Al Zommool 52.27 87 P **P** **04 31 14.0 +0.2**
UMZA P **P** **04 31 14.0 +0.2**
K62A Royalston 52.29 300 IAmb IAmb 04 31 24.8
comp=Z,249nm,1.1s
MNTQ Montreal, Queb 52.47 304 P **P** **04 31 14.8 -0.1**
MNTQ IAmb IAmb 04 31 25.6
comp=Z,285nm,1.2s
L61B Northampton 52.66 300 P **P** **04 31 16.7 +0.2**
baz=73
L61B S **S** **04 38 43.2 -0.6**
baz=73
SOHO SOHO 52.73 85 P **P** **04 31 16.9 -0.3**
SOHO P **P** **04 31 16.9 -0.3**
SOHO SOHO 52.73 85 *i* P **P** **04 31 16.7 -0.5**
SNR=73
KMBO Kilima Mbogo 52.88 125 P **P** **04 31 18.5 -0.1**
comp=Z,32nm,1.0s,baz=314,slow=7.8,SNR=32
KMBO LR LR 04 53 06.0
comp=Z,36µm,19.1s,baz=316,slow=35
KMBO Kilima Mbogo 52.88 125 *eP* **P** **04 31 21.1 +2.5**
KMBO Kilima Mbogo 52.88 125 *eP* **P** **04 31 21.1 +2.5**
KMBO IAmb IAmb 04 31 32.2
comp=Z,1µm,2.0s
KMBO Kilima Mbogo 52.88 125 P **P** **04 31 20.7 +2.1**
KMBO pmax pmax
comp=Z,274nm,1.7s
KMBO Kilima Mbogo 52.88 125 P **P** **04 31 21.3 +2.7**
KMBO Kilima Mbogo 52.88 125 P **P** **04 31 20.7 +2.1**
KMBO Kilima Mbogo 52.88 125 P **P** **04 31 20.9 +2.3**
KMBO Kilima Mbogo 52.88 125 *eP* **P** **04 31 18.9 +0.4**
KMBO Kilima Mbogo 52.88 125 P **P** **04 31 21.3 +2.7**
HRA Herat 53.05 71 IAmb IAmb 04 31 28.3
comp=Z,456nm,1.8s
NBPB Pedra_Branca-C 53.08 227 *eP* **P** **04 31 20.0 +0.2**
ARQ Araqi 53.09 86 P **P** **04 31 20.3 +0.4**
SNR=113
ARQ P **P** **04 31 20.3 +0.4**
SNR=113
NBRF Rio Formoso - 53.16 220 *eP* **P** **04 31 20.5 +0.2**
YLE Yale 53.19 298 IAmb IAmb 04 31 31.8
comp=Z,283nm,1.1s
YLE IAms_20 IAms_20 04 52 37.8
comp=Z,32µm,19.0s
BRVK Borovoye 53.22 46 *i* P **P** **04 31 20.4 0.0**
BRVK pmax pmax
comp=Z,652nm,1.6s
BRVK MLR MLR
comp=Z,36µm,18.0s
BRVK Borovoye 53.22 46 P **P** **04 31 20.8 +0.5**
BRVK P **P** **04 31 20.8 +0.5**
BRVK Borovoye 53.22 46 P **P** **04 31 20.7 +0.3**
BRVK Borovoye 53.22 46 IAms_20 IAms_20 04 54 26.3
comp=Z,42µm,19.0s
TRY Troy 53.28 300 IAmb IAmb 04 31 39.7
comp=Z,356nm,1.6s
TRY IAms_20 IAms_20 04 52 44.1
comp=Z,29µm,19.0s
NCB Newcomb 53.30 302 IAmb IAmb 04 31 32.6
comp=Z,362nm,1.4s
NBPS Pedro II - PI 53.31 230 *eP* **P** **04 31 22.9 +1.3**
LONY Lake Ozonia 53.36 303 P **P** **04 31 20.2 -1.3**
baz=74
LONY S **S** **04 38 54.7 +1.4**
baz=74
ABTO Aybut 53.43 94 P **P** **04 31 22.7 +0.3**
SNR=61
DOK Doka 53.45 92 P **P** **04 31 22.1 -0.4**
SNR=71
DOK P **P** **04 31 22.1 -0.4**
SNR=71
KSCT Kent School, K 53.45 299 IAmb IAmb 04 31 33.2
comp=Z,246nm,1.3s
WSPT Westport, CT 53.52 298 IAms_20 IAms_20 04 52 56.4
comp=Z,33µm,20.0s
WHFO Wadi Hawf 53.52 93 P **P** **04 31 22.8 -0.3**
SNR=50
WHFO P **P** **04 31 22.8 -0.3**
SNR=50
HOQ Hoqain 53.62 85 P **P** **04 31 22.8 -0.9**
SNR=113
HOQ P **P** **04 31 22.8 -0.9**
SNR=113
EUNU Eureka 53.86 348 P **P** **04 31 24.9 +0.1**
EUNU IAmb IAmb 04 31 44.8
comp=Z,203nm,1.1s
ROSB Rosrio 53.87 233 *eP* **P** **04 31 25.4 -0.1**
BSY Bisya 53.92 86 P **P** **04 31 26.0 0.0**
BSY P **P** **04 31 26.0 0.0**
PAL Palisades 53.98 298 IAmb IAmb 04 31 36.8
comp=Z,184nm,1.2s
PAL IAms_20 IAms_20 04 53 19.8
comp=Z,30µm,20.0s
PAL Palisades 53.98 298 P **P** **04 31 25.5 -0.6**
baz=71
PAL S **S** **04 39 00.3 -1.4**
baz=71
NBMA Muriti-CE 54.07 225 *eP* **P** **04 31 28.0 +1.0**
RBK Rabkut 54.09 94 P **P** **04 31 27.0 -0.2**
SNR=57
RBK P **P** **04 31 27.0 -0.2**
SNR=57
CPNY Central Park 54.09 298 IAmb IAmb 04 31 37.7
comp=Z,346nm,1.2s
TRNY Table Rock, Ra 54.16 299 IAmb IAmb 04 31 38.4
comp=Z,330nm,1.3s
ANWB Willy Bob 54.17 267 *eP* **P** **04 31 25.3 -2.5**
ANWB Willy Bob 54.17 267 *e* **S** **04 39 06.1 +1.3**
MDP Montagnes des 54.29 248 LR LR 04 49 54.2
comp=Z,59µm,21.7s,baz=36,slow=31
VLDQ Val d'Or 54.30 308 IAmb IAmb 04 31 45.3
comp=Z,282nm,1.7s
KIBK Kibwezi 54.30 125 P **P** **04 31 31.1 +2.2**
SNR=38
KIBK Kibwezi 54.30 125 P **P** **04 31 29.8 +1.0**
KIBK IAmb IAmb 04 31 42.6
comp=Z,322nm,1.8s
BIDO Bidbid 54.30 85 P **P** **04 31 27.9 -0.9**
SNR=112
ODNJ Ogdensburg 54.46 299 IAmb IAmb 04 31 40.5
comp=Z,194nm,1.2s
SMDO Samad 54.46 86 P **P** **04 31 29.5 -0.5**
SNR=115
SMDO P **P** **04 31 29.5 -0.5**
SNR=115
ANBD Bethesda, Anti 54.48 266 *eP* **P** **04 31 33.0 +2.9**
ANBD Bethesda, Anti 54.48 266 *e* **S** **04 39 08.3 -0.7**
BRNJ Basking Ridge 54.56 298 P **P** **04 31 31.7 +1.3**
ABD La Joyeuse, An 54.56 265 *eP* **P** **04 31 31.0 +0.3**
ABD La Joyeuse, An 54.56 265 *e* **S** **04 39 11.6 +1.5**
DMTO DMTO 54.58 93 P **P** **04 31 30.1 -0.7**
SNR=24
DMTO P **P** **04 31 30.1 -0.7**
SNR=24
NBAN Anadia - AL 54.59 221 *eP* **P** **04 31 30.9 0.0**
MAGL Barre de l'ile 54.67 265 *eP* **P** **04 31 31.4 -0.1**
MAGL Barre de l'ile 54.67 265 *e* **S** **04 39 18.8 +7.2**
J57A Williamstown 54.70 302 IAmb IAmb 04 31 42.4
comp=Z,217nm,1.4s
KOND Kondoa 54.78 129 *i* P **P** **04 31 35.9 +3.5**
BBGH Gun Hill 54.82 261 *eP* P 04 31 23.7 -8.9
BBGH Gun Hill 54.82 261 *e* S 04 39 27.4 +14
JMDO Jabal Madar 54.83 86 P **P** **04 31 32.1 -0.5**
SNR=176
JMDO P **P** **04 31 32.1 -0.5**
SNR=176
WSAR Wadi Sarin 54.85 85 LR LR 04 58 17.4
comp=Z,29µm,20.9s,baz=308,slow=40
CBE Ff, Capester 54.87 265 *eP* **P** **04 31 30.6 -2.3**
MDVC Dominica, Viel 54.95 264 *eP* **P** **04 31 31.0 -2.5**
MDVC Dominica, Viel 54.95 264 *e* **S** **04 39 18.5 +3.1**
SHAO Shalim 54.97 92 P **P** **04 31 32.6 -1.1**
SNR=15
SHAO P **P** **04 31 32.6 -1.1**
SNR=15
SHAO Shalim 54.97 92 *i* P **P** **04 31 32.5 -1.1**
SNR=20
DLPL La Plaine 54.98 264 *eP* P 04 31 39.4 +5.7
DLPL La Plaine 54.98 264 *e* **S** **04 39 14.8 -1.0**
ILAM Ilet Lapin Mar 54.98 263 *eP* **P** **04 31 37.7 +4.0**
ILAM Ilet Lapin Mar 54.98 263 *e* S 04 39 28.5 +13
TDBA Terre de Bas, 55.02 265 *eP* **P** **04 31 32.0 -1.9**
TDBA Terre de Bas, 55.02 265 *e* **S** **04 39 14.3 -1.9**
SMRT St. Maarten 55.03 268 *eP* **P** **04 31 29.7 -4.3**
SMRT St. Maarten 55.03 268 *e* **S** **04 39 12.8 -3.5**
DSLB Salisbury 55.06 264 *eP* P 04 31 45.3 +11
DSLB Salisbury 55.06 264 *e* S 04 39 29.1 +12
BINY Binghamton 55.07 300 IAmb IAmb 04 31 46.1
comp=Z,165nm,1.1s
BINY IAms_20 IAms_20 04 53 57.7
comp=Z,30µm,20.0s
BINY Binghamton 55.07 300 P **P** **04 31 33.4 -0.7**
baz=71
BINY S **S** **04 39 17.6 +1.1**
baz=71
SKI Saint Kitts 55.12 267 *eP* **P** **04 31 37.3 +2.5**
SKI Saint Kitts 55.12 267 *e* **S** **04 39 16.1 -1.7**
KSPA Keystone Colle 55.13 299 IAmb IAmb 04 31 54.9
comp=Z,490nm,1.6s
MPOM Morne Pois Mar 55.15 263 *eP* P 04 31 23.7 -11
MPOM Morne Pois Mar 55.15 263 *e* **S** **04 39 22.0 +4.0**
LUPA Lehigh Univers 55.16 298 IAmb IAmb 04 31 55.9
comp=Z,230nm,1.3s
FDF Fort de France 55.23 263 *e* **S** **04 39 22.4 +3.2**
SEUS St. Eustatius 55.24 267 *eP* **P** **04 31 34.9 -0.7**
SEUS St. Eustatius 55.24 267 *e* **S** **04 39 22.1 +3.0**
K57A Scipio Center 55.27 301 IAmb IAmb 04 31 46.7
comp=Z,338nm,1.4s
BIM Bigot 55.28 263 *eP* P 04 31 30.6 -5.3
BIM Bigot 55.28 263 *e* **S** **04 39 20.7 +0.8**
N59A State Game Lan 55.34 299 IAmb IAmb 04 31 51.9
comp=Z,363nm,1.9s
N59A IAms_20 IAms_20 04 53 41.8
comp=Z,32µm,19.0s
N59A State Game Lan 55.34 299 P **P** **04 31 35.9 -0.2**
baz=70
N59A S **S** **04 39 21.3 +1.1**
baz=70
WBK Wadi Bani Khal 55.42 85 P **P** **04 31 36.9 0.0**
SNR=155
BRZS Berezniki 55.43 50 *eP* **P** **04 31 34.8 -1.7**
BRZS *eS* **S** **04 39 19.6 -1.4**
BRZS pmax pmax
comp=Z,578nm,1.6s
BRZS Berezniki 55.43 50 *eP* **P** **04 31 34.8 -1.7**
comp=Z,578nm,1.6s,baz=50
BRZS *eS* **S** **04 39 19.6 -1.4**
baz=50
SLBI Saint Lucia, B 55.47 262 *eP* P 04 31 30.4 -6.9
SLBI Saint Lucia, B 55.47 262 *e* **S** **04 39 24.3 +2.0**
WUPA West Chester U 55.56 298 P **P** **04 31 39.1 +1.5**
DQM DQM 55.56 89 P **P** **04 31 36.9 -1.0**
SNR=50
MCLT Moule a Chique 55.62 262 *eP* P 04 31 23.7 -15
P60A Greenville 55.62 297 P **P** **04 31 37.6 -0.5**
baz=70
P60A S **S** **04 39 23.1 -0.7**
baz=70
BRLS Borolday 55.65 58 *eP* **P** **04 31 36.6 -1.6**
BRLS Borolday 55.65 58 *eP* **P** **04 31 36.7 -1.6**
baz=59
OTUK Ortayu 55.71 52 P **P** **04 31 37.7 -0.9**
Q61A Milford 55.73 296 P **P** **04 31 38.5 -0.3**
baz=69
Q61A S **S** **04 39 25.7 +0.5**
baz=69
JLN Jalan Bani Buh 56.00 86 P **P** **04 31 40.8 -0.2**
SNR=143
JLN P **P** **04 31 40.8 -0.2**
SNR=143
N58A Sunbury 56.04 299 IAmb IAmb 04 31 58.7
comp=Z,265nm,1.2s
MVL Millersville 56.07 298 IAmb IAmb 04 32 02.8
comp=Z,320nm,1.3s
IUG Iuzhnay 56.08 59 *eP* **P** **04 31 39.9 -1.5**
IUG *eS* **S** **04 39 28.8 -1.3**
IUG pmax pmax
comp=Z,533nm,0.9s
IUG Iuzhnay 56.08 59 *eP* **P** **04 31 39.9 -1.5**
comp=Z,533nm,0.9s,baz=59
IUG *eS* **S** **04 39 28.8 -1.3**
baz=59
SVB Belmont 56.11 262 *eP* **P** **04 31 39.7 -2.1**
SVB Belmont 56.11 262 *e* **S** **04 39 33.7 +2.8**
SVB Belmont 56.11 262 IAmb IAmb 04 31 50.0
comp=Z,166nm,0.8s
TMAB Tom-Au,PA,Br 56.14 237 *eP* **P** **04 31 42.1 +0.1**
M57A Sunshine Farm, 56.17 300 P **P** **04 31 42.0 +0.1**
M57A IAmb IAmb 04 32 04.1
comp=Z,175nm,1.1s
L56A Greenwood 56.20 301 IAmb IAmb 04 32 03.5
comp=Z,267nm,1.4s
MMNY Mt. Morris Dam 56.24 301 IAmb IAmb 04 31 53.6
comp=Z,414nm,1.5s
PAGS Pennsylvania G 56.26 298 IAmb IAmb 04 32 00.0
comp=Z,324nm,1.4s
RES Resolute Bay 56.27 341 P **P** **04 31 42.5 +0.3**
comp=Z,21nm,0.7s,baz=152,slow=11,SNR=7.6
RES LR LR 04 52 44.4
comp=Z,18µm,21.2s,baz=74,slow=33
SADO Sadowa 56.41 304 LR LR 04 54 55.7
comp=Z,42µm,19.6s,baz=90,slow=35
SADO Sadowa 56.41 304 IAmb IAmb 04 31 54.4
comp=Z,453nm,1.8s
NBLA Lagarto - SE 56.51 221 *eP* **P** **04 31 44.0 -0.5**
TOSP Speyside 56.66 259 *eP* P 04 31 33.4 -12
CUPR Culebra, Puert 56.69 269 P **P** **04 31 45.9 -0.1**
GCMP Grenada, Carri 56.70 261 *eP* **P** **04 31 49.8 +3.8**
GCMP Grenada, Carri 56.70 261 *e* **S** **04 39 42.6 +4.0**
DZA Taraz 56.73 58 *eP* **P** **04 31 44.4 -1.6**
DZA Taraz 56.73 58 *eP* **P** **04 31 44.5 -1.6**
baz=58
SOCY Socotra 56.80 99 P **P** **04 31 45.7 -1.2**
SNR=8.1
SOCY Socotra 56.80 99 P **P** **04 31 45.1 -1.8**
SOCY IAmb IAmb 04 32 22.2
comp=Z,433nm,2.0s
WVNY West Valley, N 56.84 301 IAmb IAmb 04 32 18.3
comp=Z,195nm,1.2s
SSPA Standing Stone 56.95 299 P **P** **04 31 47.9 +0.3**
SSPA IAmb IAmb 04 32 09.6
comp=Z,289nm,1.2s
SSPA Standing Stone 56.95 299 IAms_20 IAms_20 04 54 31.3
comp=Z,33µm,20.0s
SSPA Standing Stone 56.95 299 P **P** **04 31 47.0 -0.5**
baz=69
SSPA S **S** **04 39 40.9 -0.6**
baz=69
MTP Monte Pirata 57.02 269 IAmb IAmb 04 32 07.8
comp=Z,252nm,1.6s
GRGR Grenville 57.08 261 *eP* **P** **04 31 45.3 -3.4**
GRGR Grenville 57.08 261 *e* **S** **04 39 49.3 +5.6**
HUMP Col San Antoni 57.24 270 P **P** **04 31 50.0 +0.2**
HUMP IAmb IAmb 04 32 47.8
comp=Z,329nm,1.5s
GCPR Guaynabo City 57.34 270 P **P** **04 31 50.3 -0.2**
GCPR IAmb IAmb 04 32 12.2
comp=Z,224nm,1.4s
T60A Surry 57.40 295 IAmb IAmb 04 32 02.1
comp=Z,204nm,1.1s
PDPR Patillas Dam, 57.44 270 IAmb IAmb 04 32 02.8
comp=Z,236nm,1.2s
CBN Corbin Frederi 57.47 296 P **P** **04 31 51.6 +0.4**
CBN Corbin Frederi 57.47 296 P **P** **04 31 51.4 +0.2**
baz=68
CBN S **S** **04 39 49.7 +1.4**
baz=68
SJG San Juan 57.50 270 P **P** **04 31 52.8 +1.2**
SJG pmax pmax
comp=Z,148nm,1.4s
SJG San Juan 57.50 270 *i* P **P** **04 31 52.9 +1.3**
SJG San Juan 57.50 270 P **P** **04 31 52.8 +1.2**
MCPB Macapa, AP 57.51 242 *eP* **P** **04 31 52.0 +0.3**
NRIK Noril'sk 57.54 25 P **P** **04 31 52.5 +1.3**
comp=Z,46nm,1.2s,baz=282,slow=5.8,SNR=25
NRIK LR LR 04 58 11.9
comp=Z,65µm,19.2s,baz=296,slow=38
NRIK Noril'sk 57.54 25 *cP* **P** **04 31 52.3 +1.1**
NRIK pmax pmax
comp=Z,307nm,1.5s
NRIK MLR MLR
comp=Z,56µm,17.0s
NRIK Noril'sk 57.54 25 P **P** **04 31 52.4 +1.1**
NRIK IAmb IAmb 04 31 58.9
comp=Z,353nm,1.4s
O56A Blue Knob Stat 57.56 299 IAmb IAmb 04 32 09.7
comp=Z,263nm,1.4s
O56A IAms_20 IAms_20 04 54 59.6
comp=Z,34µm,19.0s
O56A Blue Knob Stat 57.56 299 P **P** **04 31 51.4 -0.6**
baz=69,SNR=17
O56A S **S** **04 39 50.4 +0.7**
baz=69
EMPR Esperanza - Ma 57.62 270 IAmb IAmb 04 32 03.8
comp=Z,225nm,0.9s
NBPN Ponto Novo - B 57.71 224 *eP* **P** **04 31 52.9 -0.2**
TRN Trinidad (W) 57.73 259 *eP* **P** **04 31 53.7 +0.4**
TRN Trinidad (W) 57.73 259 *e* **S** **04 39 53.5 +1.3**
BTLS Baital 57.84 55 *eP* **P** **04 31 52.0 -1.8**
BTLS *eS* **S** **04 39 52.1 -1.0**
BTLS Baital 57.84 55 *eP* **P** **04 31 52.0 -1.8**
baz=55
BTLS *eS* **S** **04 39 52.1 -1.0**
baz=55
AOPR Arecibo Observ 57.87 270 *eP* **P** **04 31 52.1 -2.2**
AOPR Arecibo Observ 57.87 270 *e* **S** **04 39 57.2 +3.1**
M54A Oil Creek Stat 57.89 301 IAmb IAmb 04 32 12.7
comp=Z,290nm,1.4s
M54A IAms_20 IAms_20 04 55 35.2
comp=Z,30µm,20.0s
M54A Oil Creek Stat 57.89 301 P **P** **04 31 53.3 -0.9**
baz=69
M54A S **S** **04 39 53.5 -0.3**
baz=69
ERPA Erie 57.90 301 P **P** **04 31 54.7 +0.5**
ERPA IAmb IAmb 04 32 28.5
comp=Z,412nm,1.5s
ERPA IAms_20 IAms_20 04 55 33.4
comp=Z,28µm,19.0s
ERPA Erie 57.90 301 P **P** **04 31 54.5 +0.3**
baz=69
ERPA S **S** **04 39 55.4 +1.5**
baz=69
OBIP Obispado Ponce 57.90 270 IAmb IAmb 04 32 06.0
comp=Z,224nm,1.1s
T59A Double "B" Far 58.07 295 P **P** **04 31 56.8 +1.3**
KBL Kabul 58.17 68 P **P** **04 31 55.3 -1.2**
KBL pmax pmax
comp=Z,74nm,1.3s
KBL Kabul 58.17 68 P **P** **04 31 55.6 -0.9**
SNR=26
KBL Kabul 58.17 68 P **P** **04 31 55.3 -1.2**
ALLY Alegheny Colle 58.18 301 IAmb IAmb 04 32 30.6
comp=Z,395nm,1.6s
TSUM Tsumeb 58.19 156 LR LR 04 56 55.4
comp=Z,49µm,18.1s,baz=342,slow=36
TSUM Tsumeb 58.19 156 *eP* **P** **04 31 59.4 +2.8**
TSUM Tsumeb 58.19 156 *eP* **P** **04 31 56.5 0.0**
TSUM Tsumeb 58.19 156 P **P** **04 31 56.6 +0.1**
TSUM IAmb IAmb 04 32 02.9

comp=Z,173nm,1.2s
TSUM Tsumeb 58.19 156 P **P 04 31 56.9 +0.4**
MLPR Magueyes Islan 58.30 270 IAmb IAmb 04 32 32.3
comp=Z,271nm,1.2s
N54A Moraine State 58.32 300 IAmb IAmb 04 32 31.9
comp=Z,260nm,1.6s
N54A IAMs_20 IAMs_20 04 55 58.5
comp=Z,24µm,18.0s
N54A Moraine State 58.32 300 P **P 04 31 56.6 -0.6**
baz=68
N54A S **S 04 39 59.3 -0.1**
baz=68
Q56A Snyder Ridge, 58.47 298 P **P 04 31 59.0 +0.7**
EKS2 Erkin-Say 58.50 58 P **P 04 31 59.3 +0.7**
SNR=85
M53A WI Miller and 58.62 301 IAmb IAmb 04 32 33.7
comp=Z,389nm,1.6s
M53A IAMs_20 IAMs_20 04 56 06.6
comp=Z,31µm,20.0s
M53A WI Miller and 58.62 301 P **P 04 31 58.6 -0.7**
baz=68
M53A S **S 04 40 03.3 -0.1**
baz=68
AML Almayashu 58.63 58 P **P 04 32 00.1 +0.3**
SNR=33
AML Almayashu 58.63 58 *i* P **P 04 31 56.4 -3.4**
SNR=45
MCWV Mont Chateau 58.70 299 P **P 04 32 00.4 +0.5**
MCWV IAmb IAmb 04 32 26.5
comp=Z,249nm,1.3s
MCWV IAMs_20 IAMs_20 04 55 43.8
comp=Z,27µm,20.0s
MCWV Mont Chateau 58.70 299 P **P 04 31 59.4 -0.5**
baz=68,SNR=10
MCWV S **S 04 40 04.4 -0.1**
baz=68
USP Ospenovka 58.77 57 P **P 04 31 59.7 -0.6**
SNR=14
S57A Dark Hollow, R 58.79 296 IAmb IAmb 04 32 15.1
comp=Z,176nm,1.2s
SGDS Sogindy 58.80 56 *e*P **P 04 32 00.0 -0.5**
SGDS Sogindy 58.80 56 *e*P **P 04 31 58.2 -2.3**
baz=57
SGDS *e*S **S 04 40 03.8 -2.0**
baz=57
KURBB Kurchatov Arra 58.80 48 LR LR 04 58 28.7
comp=Z,33µm,18.4s,baz=277,slow=37
KURBB Kurchatov Arra 58.80 48 P **P 04 31 59.4 -1.0**
KURK Kurchatov 58.83 47 *c e*P **P 04 32 00.0 -0.5**
KURK pmax pmax
comp=Z,920nm,1.5s
KURK MLR MLR
comp=Z,31µm,20.0s
KURK Kurchatov 58.83 47 P **P 04 32 00.3 -0.2**
KURK P **P 04 32 00.3 -0.2**
KURK Kurchatov 58.83 47 P **P 04 32 00.2 -0.3**
KURK Kurchatov 58.83 47 IAMs_20 IAMs_20 04 58 06.7
comp=Z,35µm,21.0s
O54A Avella 58.88 299 IAmb IAmb 04 32 18.8
comp=Z,498nm,1.9s
N53A Lisbon 58.97 300 P **P 04 32 01.8 +0.1**
N53A IAmb IAmb 04 32 19.4
comp=Z,443nm,1.8s
LSZ Lusaka 58.99 144 LR LR 04 56 40.9
comp=Z,41µm,19.5s,baz=336,slow=35
LSZ Lusaka 58.99 144 *e*P **P 04 32 05.4 +3.3**
LSZ Lusaka 58.99 144 *e*P **P 04 32 02.4 +0.2**
LSZ IAmb IAmb 04 32 11.4
comp=Z,2µm,1.3s
LSZ Lusaka 58.99 144 P **P 04 32 03.9 +1.7**
LSZ Lusaka 58.99 144 P **P 04 32 03.5 +1.3**
AAK Ala-Archa 59.00 57 LR LR 05 00 16.9
comp=Z,55µm,18.9s,baz=316,slow=39
AAK Ala-Archa 59.00 57 P P 04 32 09.2 +7.1
SNR=6.5
AAK Ala-Archa 59.00 57 *c i*P **P 04 32 02.8 +0.7**
AAK pmax pmax
comp=Z,446nm,1.4s
AAK MLR MLR
comp=Z,51µm,18.0s
AAK Ala-Archa 59.00 57 P **P 04 32 02.4 +0.3**
AAK P **P 04 32 02.4 +0.3**
AAK Ala-Archa 59.00 57 P **P 04 32 02.1 +0.1**
AAK Ala-Archa 59.00 57 *i* P **P 04 32 02.2 +0.1**
SNR=116
CNNC Cliffs of the 59.01 293 P **P 04 32 01.8 -0.2**
baz=66
CNNC S **S 04 40 09.4 +1.0**
baz=66
CHMS Chumysh 59.04 57 P **P 04 32 02.5 +0.3**
SNR=52
UCH Uchtor 59.16 58 P **P 04 32 04.4 +0.8**
SNR=66
I49A Point Hope 59.18 304 P **P 04 32 04.1 +1.0**
E46A Sault Ste Mari 59.28 307 IAmb IAmb 04 32 25.0
comp=Z,384nm,1.5s
KBK Karagaybulak 59.30 57 P **P 04 32 04.6 +0.4**
SNR=18
T57A Hurt 59.31 296 P **P 04 32 04.3 +0.2**
T57A IAmb IAmb 04 32 15.8
comp=Z,180nm,1.1s
O53A New Philadelph 59.45 300 IAmb IAmb 04 32 38.9
comp=Z,233nm,1.4s
O53A IAMs_20 IAMs_20 04 56 00.5
comp=Z,28µm,20.0s
O53A New Philadelph 59.45 300 P **P 04 32 04.8 -0.2**
baz=67,SNR=10
O53A S **S 04 40 14.2 0.0**
baz=67
K50A Casco 59.47 303 IAmb IAmb 04 32 25.8
comp=Z,209nm,1.1s
TKM2 Tokmak 2 59.65 57 P **P 04 32 06.6 -0.1**
SNR=24
Q54A Coxs Mills 59.67 298 IAmb IAmb 04 32 45.2
comp=Z,310nm,1.6s
GDU01 Guandu, BA 59.73 221 *e*P **P 04 32 06.5 -0.6**
Y60A Bolivia 59.76 292 P **P 04 32 08.2 +1.0**
Y60A IAmb IAmb 04 32 32.0
comp=Z,341nm,1.5s
KUU Kurty 59.79 55 *e*P **P 04 32 05.5 -1.8**
KUU *e*S **S 04 40 16.8 -1.6**
KUU pmax pmax
comp=Z,888nm,1.9s
KUU Kurty 59.79 55 *e*P **P 04 32 05.5 -1.8**
comp=Z,888nm,1.9s,baz=56
KUU *e*S **S 04 40 16.9 -1.6**
baz=56
P53A Whipple 59.87 299 IAmb IAmb 04 32 30.1
comp=Z,320nm,1.4s
SEM Semipalatinsk 59.91 47 *e*P **P 04 32 06.4 -1.9**
SEM *e*S **S 04 40 18.6 -1.6**
SEM pmax pmax
comp=Z,313nm,1.7s
SEM Semipalatinsk 59.91 47 *e*P **P 04 32 06.5 -1.9**
comp=Z,313nm,1.7s,baz=47
SEM *e*S **S 04 40 18.6 -1.6**
baz=47
O52A Adamsville 59.94 300 IAmb IAmb 04 32 42.2
comp=Z,225nm,1.2s
BOOM Boomskoye usch 60.05 57 IAmb IAmb 04 32 19.5
comp=Z,241nm,1.4s
GLMI Grayling 60.05 306 IAmb IAmb 04 32 34.9
comp=Z,190nm,1.0s
GLMI IAMs_20 IAMs_20 04 56 49.1
comp=Z,43µm,19.0s
GLMI Grayling 60.05 306 P **P 04 32 08.8 -0.3**
baz=68
GLMI S **S 04 40 22.3 +0.6**
baz=68
PRPB Parauapebas 60.07 236 *e*P **P 04 32 09.6 0.0**
BLA Blacksburg 60.08 296 P **P 04 32 10.0 +0.5**
BLA pmax pmax
comp=Z,404nm,1.8s
BLA Blacksburg 60.08 296 P **P 04 32 10.0 +0.5**
BLA IAmb IAmb 04 32 24.0
comp=Z,404nm,1.8s
BLA Blacksburg 60.08 296 P **P 04 32 09.1 -0.4**
baz=66
BLA S **S 04 40 22.8 +0.4**
baz=66
MALB Monte Alegre 60.13 243 *e*P **P 04 32 10.2 +0.2**
CHKK Chushkaly 60.24 55 *e*P **P 04 32 09.0 -1.4**
baz=55
Y59A Loris 60.26 292 IAmb IAmb 04 32 29.6
comp=Z,192nm,0.9s
P52A Corning 60.34 299 IAMs_20 IAMs_20 04 56 37.1
comp=Z,34µm,20.0s
P52A Corning 60.34 299 P **P 04 32 09.8 -1.3**
baz=67,SNR=25
P52A S **S 04 40 25.0 -0.7**
baz=67
ULHL Ulahol 60.35 57 P P 04 32 16.6 +5.1
SNR=12
AAM Ann Arbor 60.36 303 IAMs_20 IAMs_20 04 57 15.5
comp=Z,43µm,19.0s
AAM Ann Arbor 60.36 303 P **P 04 32 10.8 -0.5**
baz=67
AAM S **S 04 40 25.9 +0.2**
baz=67
X58A Rowland 60.37 293 IAmb IAmb 04 32 23.1
comp=Z,386nm,1.7s
U56A King 60.40 295 IAmb IAmb 04 32 32.2
comp=Z,301nm,1.8s
FCC Fort Churchill 60.48 323 P **P 04 32 11.6 -0.2**
FCC pmax pmax
comp=Z,225nm,1.2s
FCC Fort Churchill 60.48 323 P **P 04 32 11.6 -0.2**
FCC IAmb IAmb 04 32 38.8
comp=Z,225nm,1.2s
S54A Dingess, Beckl 60.49 297 IAmb IAmb 04 32 50.6
comp=Z,199nm,1.4s
MDOK Medeo 60.54 56 *e*P **P 04 32 10.8 -1.8**
MDOK Medeo 60.54 56 *e*P **P 04 32 10.9 -1.8**
baz=56
PCRV Puerto La Cruz 60.59 261 LR LR 04 55 24.4
comp=Z,5µm,21.5s,slow=33
W57A Gilead 60.61 294 IAmb IAmb 04 32 33.4
comp=Z,244nm,1.6s
ARXS Arharly 60.66 55 *e*P **P 04 32 13.1 -0.3**
NBIT Itapeh - BA 60.66 220 *e*P **P 04 32 15.0 +1.5**
ACSO Alum Creek Sta 60.70 300 IAmb IAmb 04 32 47.1
comp=Z,219nm,1.0s
ACSO Alum Creek Sta 60.70 300 P **P 04 32 12.8 -0.9**
baz=66,SNR=26
ACSO S **S 04 40 29.7 -0.5**
baz=66
Q52A Bidwell 60.70 299 IAmb IAmb 04 32 47.1
comp=Z,230nm,1.1s
R53A Hurricane 60.73 298 P **P 04 32 13.9 +0.1**
TDK Taldyqorghan 60.74 54 *e*P **P 04 32 12.3 -1.5**
TDK *e*S **S 04 40 29.5 -1.1**
TDK pmax pmax
comp=Z,837nm,1.6s
TDK Taldyqorghan 60.74 54 *e*P **P 04 32 12.3 -1.5**
comp=Z,837nm,1.6s,baz=54
TDK *e*S **S 04 40 29.5 -1.1**
baz=54
J47A Sunmer 60.79 304 IAmb IAmb 04 32 34.7
comp=Z,216nm,1.0s
Y58A Scranton 60.89 293 P **P 04 32 14.6 -0.4**
Y58A IAmb IAmb 04 32 51.7
comp=Z,125nm,0.9s
KRI Karoi 61.02 143 ⇑ *i*P **P 04 32 17.0 +0.9**
L48A N Adams 61.03 303 IAmb IAmb 04 32 41.5
comp=Z,159nm,0.9s
P51A Williamsport 61.06 300 IAmb IAmb 04 32 49.3
comp=Z,230nm,1.0s
CMC01 Camacan, BA 61.06 220 *e*P **P 04 32 16.9 +0.7**
BIRD Birdtown, Kers 61.17 294 IAmb IAmb 04 33 10.8
comp=Z,190nm,1.6s
WIN Windhoek 61.19 158 *e*P **P 04 32 19.8 +2.6**
WIN Windhoek 61.19 158 *e*P **P 04 32 17.7 +0.5**
WIN IAmb IAmb 04 32 36.5
comp=Z,84nm,1.5s
WIN Windhoek 61.19 158 IAmb IAmb 04 32 24.0
comp=Z,357nm,1.7s
V55A Taylorsville 61.22 295 IAmb IAmb 04 32 37.7
comp=Z,212nm,1.4s
SDDR Presa de Saban 61.23 274 P **P 04 32 18.1 +0.5**
KSH Kashi 61.24 60 P **P 04 32 17.8 +0.3**
KSH sP sP 04 32 24.6 +2.5
KSH ScP **ScP 04 37 00.8 -0.7**
KSH S **S 04 40 35.6 -1.8**
KSH pmax pmax
comp=Z,570nm,1.7s
KSH pmax pmax
comp=Z,3µm,3.5s
KSH LR LR
comp=Z,42µm,15.8s
KSH LR LR
comp=Z,31µm,16.5s
ZALV Zalesovo Beam 61.25 42 P **P 04 32 16.7 -0.4**
comp=Z,24nm,0.6s,baz=292,slow=7.3,SNR=52
ZALV LR LR 04 59 54.4
comp=Z,55µm,18.7s,baz=292,slow=37
ZALV PKPPKP **P'P'df 05 01 40.8 +2.0**
comp=Z,1.0nm,0.7s,baz=110,slow=1.7,SNR=5.2
ZALV Zalesovo Beam 61.25 42 P **P 04 32 16.4 -0.7**
N49A Columbus Grove 61.27 302 IAmb IAmb 04 32 51.7
comp=Z,192nm,1.2s
U54A Nelsons Funny 61.39 296 IAmb IAmb 04 32 48.9
comp=Z,124nm,1.0s
Q51A Peebles 61.45 299 IAmb IAmb 04 32 52.1
comp=Z,219nm,0.9s
ZHN Zhinishke 61.47 56 *e*P **P 04 32 17.4 -1.5**
ZHN *e*S **S 04 40 38.9 -1.3**
ZHN Zhinishke 61.47 56 *e*P **P 04 32 17.5 -1.5**
baz=56
ZHN *e*S **S 04 40 38.9 -1.3**
baz=56
SATY Saty 61.50 56 *e*P **P 04 32 17.2 -1.9**
SATY *e*S **S 04 40 38.9 -1.6**
SATY pmax pmax
comp=Z,270nm,2.2s
SATY Saty 61.50 56 *e*P **P 04 32 17.2 -1.9**
comp=Z,270nm,2.2s,baz=56
SATY *e*S **S 04 40 38.9 -1.6**
baz=56
KMSC Kings Mountain 61.61 294 IAmb IAmb 04 33 03.5
comp=Z,415nm,1.9s
KMSC Kings Mountain 61.61 294 P **P 04 32 19.6 -0.3**
baz=65,SNR=12
KMSC S **S 04 40 42.6 +0.6**
baz=65
NHSC New Hope 61.62 292 P **P 04 32 20.4 +0.5**
baz=64,SNR=7.0
SDBA SAO DESIDERIO 61.69 227 *e*P **P 04 32 20.4 -0.2**
NIL Niiore 61.72 67 P **P 04 32 20.6 -0.1**
NIL pmax pmax
comp=Z,479nm,1.3s
NIL MLR MLR
comp=Z,10µm,20.0s
NIL Niiore 61.72 67 P **P 04 32 20.6 -0.1**
PRZ Przheval'sk 61.72 56 P **P 04 32 21.8 +1.1**
PRZ pmax pmax
comp=Z,703nm,1.4s
PRZ Przheval'sk 61.72 56 P **P 04 32 21.8 +1.1**
D41A Chassel 61.74 309 IAmb IAmb 04 32 31.3
comp=Z,237nm,1.1s
UZB Uzynbulak 61.88 55 *e*P **P 04 32 19.8 -1.9**
UZB pmax pmax
comp=Z,254nm,1.9s
UZB Uzynbulak 61.88 55 *e*P **P 04 32 19.8 -1.9**
comp=Z,254nm,1.9s,baz=56
JSC Jenkinsville 61.93 294 IAmb IAmb 04 33 05.8
comp=Z,290nm,1.6s
BOAV Boa Vista 62.03 251 *e*P **P 04 32 23.2 +0.3**
BOAV Boa Vista 62.03 251 IAmb IAmb 04 32 54.3
comp=Z,192nm,1.6s
PDGK Podgornoye 62.11 55 P **P 04 32 22.5 -0.8**
S51A Beattyville 62.20 298 IAmb IAmb 04 33 02.9
comp=Z,126nm,1.1s
P49A Miami Univ. Ec 62.20 300 IAmb IAmb 04 32 56.6
comp=Z,294nm,1.4s
P49A Miami Univ. Ec 62.20 300 P **P 04 32 23.1 -0.7**
baz=65
P49A S **S 04 40 46.9 -2.5**
baz=65
GUA01 Guaratinga, BA 62.24 220 *e*P **P 04 32 24.3 +0.2**
L46A Eue Claire 62.27 303 IAmb IAmb 04 32 49.6
comp=Z,217nm,1.1s
MAKZ Makanchi 62.33 51 P **P 04 32 24.4 -0.2**
MAKZ pmax pmax
comp=Z,2µm,2.0s
MAKZ MLR MLR
comp=Z,41µm,20.0s
MAKZ Makanchi 62.33 51 P **P 04 32 24.4 -0.2**
MAKZ IAMs_20 IAMs_20 04 59 27.4
comp=Z,41µm,20.0s
R50A Paris 62.45 299 IAmb IAmb 04 32 59.0
comp=Z,218nm,1.2s
TETE Tete 62.47 139 *e*P **P 04 32 26.8 +1.1**
TETE IAmb IAmb 04 32 35.2
comp=Z,281nm,1.2s
V53A Saluda 62.48 296 IAmb IAmb 04 33 08.5
comp=Z,171nm,1.4s
MK31 Makanchi Array 62.53 51 P **P 04 32 24.0 -1.9**
MK31 Makanchi Array 62.53 51 IAmb IAmb 04 32 32.3
comp=Z,214nm,1.1s
MKAR Makanchi Array 62.53 51 P **P 04 32 25.5 -0.4**
comp=Z,102nm,0.8s,baz=288,slow=5.7,SNR=408
MKAR S **S 04 40 56.2 +2.9**
comp=Z,4.2nm,1.1s,baz=283,slow=12,SNR=3.5
MKAR LR LR 05 00 29.4
comp=Z,49µm,19.3s,baz=302,slow=37
MKAR PKPPKP P'P'df 05 01 26.4 -10
comp=Z,1.3nm,1.1s,baz=90,slow=6.2,SNR=5.2
MKAR Makanchi Array 62.53 51 P **P 04 32 25.9 0.0**
MKAR Makanchi Array 62.53 51 P **P 04 32 25.9 0.0**
TZTN Tazewell 62.64 297 IAmb IAmb 04 33 20.5
comp=Z,336nm,1.6s
TZTN Tazewell 62.64 297 P **P 04 32 27.1 +0.3**
baz=64
TZTN S **S 04 40 54.5 -0.4**
baz=64
HODGE Hodges 62.69 294 P **P 04 32 27.6 +0.4**
HODGE IAmb IAmb 04 33 00.4
comp=Z,189nm,1.6s
P48A Milroy 62.73 300 IAmb IAmb 04 33 06.0
comp=Z,260nm,1.3s
BG3 Lake Jocassee 62.86 295 IAmb IAmb 04 33 11.9
comp=Z,325nm,1.9s
ITTB Itaituba 62.92 242 *e*P **P 04 32 28.8 0.0**
R49A Shelbyville 63.05 299 P **P 04 32 29.4 -0.1**
TKL Tuckaleechee C 63.18 296 LR LR 04 58 46.5
comp=Z,19µm,18.8s,baz=68,slow=35
I42A Draeger Farm, 63.25 306 IAmb IAmb 04 32 41.2
comp=Z,150nm,1.1s
L44A Lake County Fo 63.30 304 P **P 04 32 30.3 -0.7**
baz=65
L44A S **S 04 41 01.0 -1.9**
baz=65
T50A Nancy 63.36 298 P **P 04 32 32.0 +0.5**
BLWY Bulawayo 63.40 146 *e*P **P 04 32 31.6 -0.4**
BLWY IAmb IAmb 04 32 37.8
comp=Z,3µm,2.4s
HQIL Hanson Quary C 63.42 304 P **P 04 32 33.3 +1.5**
HQIL IAmb IAmb 04 33 03.6
comp=Z,358nm,1.6s
JANB Januaria 63.45 225 *e*P **P 04 32 32.3 0.0**
G40A Rib Lake 63.51 308 IAmb IAmb 04 32 42.9
comp=Z,178nm,1.1s
SFIN Lafayette 63.51 302 IAmb IAmb 04 32 44.0
comp=Z,171nm,1.4s
SFIN Lafayette 63.51 302 P **P 04 32 31.6 -0.9**
baz=65
SFIN S **S 04 41 05.7 +0.1**
baz=65
PEXB Peixe 63.53 230 *e*P **P 04 32 32.9 +0.1**
V51A Loudon 63.54 296 IAmb IAmb 04 33 06.7
comp=Z,145nm,1.1s
W52A Murphy 63.55 295 IAmb IAmb 04 33 17.1
comp=Z,242nm,1.5s
MATP Matopo 63.59 146 LR LR 04 59 18.4
comp=Z,21µm,19.4s,baz=336,slow=35
PTGA Pitinga 63.61 248 LR LR 04 56 12.0
comp=Z,32µm,21.1s,baz=54,slow=32
M44A Midewin, Midew 63.72 303 P **P 04 32 33.4 -0.4**
M44A IAmb IAmb 04 33 02.5
comp=Z,211nm,1.4s
BHUJ Bhuj 63.73 79 *e*P **P 04 32 35.9 +1.8**
BHUJ IAMs_20 IAMs_20 05 10 50.1
comp=Z,13µm,13.0s
CPCT Cooper Cave 63.82 296 IAmb IAmb 04 33 23.8
comp=Z,192nm,1.4s
ZSN Zaisan 63.86 49 *e*P **P 04 32 33.3 -1.4**
ZSN *e*S **S 04 41 08.9 -1.0**
ZSN pmax pmax
comp=Z,405nm,1.9s
ZSN Zaisan 63.86 49 *e*P **P 04 32 33.4 -1.4**
comp=Z,405nm,1.9s,baz=49
ZSN *e*S **S 04 41 08.9 -1.0**
baz=49
WCI Wyandotte Cave 63.88 300 P **P 04 32 34.8 -0.1**
WCI pmax pmax
comp=Z,234nm,1.4s
WCI Wyandotte Cave 63.88 300 P **P 04 32 34.8 -0.1**
WCI IAmb IAmb 04 33 20.7
comp=Z,234nm,1.4s
WCI Wyandotte Cave 63.88 300 IAMs_20 IAMs_20 04 59 03.6
comp=Z,32µm,19.0s
WCI Wyandotte Cave 63.88 300 P **P 04 32 34.2 -0.7**
baz=64
WCI S **S 04 41 08.7 -1.6**
baz=64
GOGA Godfrey 63.96 294 IAmb IAmb 04 33 18.6
comp=Z,203nm,1.6s
GOGA Godfrey 63.96 294 P **P 04 32 35.1 -0.4**
baz=63,SNR=8.2
GOGA S **S 04 41 11.7 +0.3**
baz=63
BAUV El Baul 64.04 262 *e*P **P 04 32 39.8 +3.5**
BAUV El Baul 64.04 262 P **P 04 32 36.0 -0.2**
U49A Red Boiling Sp 64.26 298 IAmb IAmb 04 33 07.9
comp=Z,349nm,1.6s
I40A Norwalk 64.36 307 IAmb IAmb 04 33 14.9
comp=Z,115nm,1.1s
B35A Bob, Littlefor 64.39 312 P **P 04 32 37.3 -0.8**
B35A IAmb IAmb 04 32 48.0
comp=Z,107nm,0.9s
DGZ Jazzator, Alta 64.44 46 *d i*P **P 04 32 38.7 0.0**
DGZ pmax pmax
comp=Z,544nm,1.6s
DGZ MLR MLR
comp=Z,28µm,17.0s
X51A Calhoun 64.47 295 IAmb IAmb 04 33 22.4
comp=Z,334nm,1.6s
NPGB Novo Progresso 64.51 240 *e*P **P 04 32 38.8 -0.6**
JFWS Jewell Farm 64.54 306 IAMs_20 IAMs_20 04 59 46.1
comp=Z,35µm,19.0s
JFWS Jewell Farm 64.54 306 P **P 04 32 38.3 -0.9**
baz=64,SNR=10.0
JFWS S **S 04 41 16.2 -2.3**
baz=64
O44A Mansfield 64.55 302 P **P 04 32 38.7 -0.6**
L42A Oliver, Polo 64.55 305 P **P 04 32 38.4 -0.9**
L42A IAmb IAmb 04 33 11.1
comp=Z,128nm,1.2s
DHRM DHARAMSHALA 64.63 67 *e*P **P 04 32 40.3 +0.1**
DHRM IAMs_20 IAMs_20 05 13 53.5
comp=Z,11µm,23.2s
BSFB Barra de Sao F 64.65 219 *e*P **P 04 32 40.5 +0.4**
SJMB Sao Joao De Ma 64.72 220 *e*P **P 04 32 40.7 +0.2**
AUSN Aus 64.82 160 *e*P **P 04 32 43.0 +1.8**
AUSN Aus 64.82 160 *e*P **P 04 32 41.4 +0.2**
AUSN IAmb IAmb 04 32 47.4
comp=Z,515nm,2.2s
RIB01 Linhares ES 64.83 219 *e*P **P 04 32 42.2 +1.0**
ULM Lac du Bonnet 64.83 315 P **P 04 32 39.8 -1.1**
comp=Z,24nm,1.0s,baz=67,slow=7.3,SNR=14
ULM LR LR 04 59 32.2
comp=Z,16µm,18.2s,baz=66,slow=35
ULM Lac du Bonnet 64.83 315 IAmb IAmb 04 33 08.5
comp=Z,324nm,1.4s
DWPF Disney Wildern 64.86 288 P **P 04 32 41.0 -0.5**
baz=61
DWPF S **S 04 41 23.9 +1.2**
baz=61
OLIL Olney 64.92 301 IAmb IAmb 04 32 54.7
comp=Z,111nm,0.7s
HDIL Hopedale 64.94 303 IAmb IAmb 04 33 09.6
comp=Z,358nm,1.6s
HDIL Hopedale 64.94 303 P **P 04 32 41.3 -0.6**
baz=64
HDIL S **S 04 41 21.6 -1.7**
baz=64
TIGA Tifton 64.95 292 IAmb IAmb 04 33 28.2
comp=Z,199nm,1.2s
TIGA Tifton 64.95 292 P **P 04 32 42.2 +0.1**
baz=62
TIGA S **S 04 41 25.8 +2.0**
baz=62
SWET Sewanee 64.96 296 IAmb IAmb 04 32 53.9
comp=Z,429nm,1.9s
T47A Sharon Grove 65.00 299 P **P 04 32 42.2 -0.1**
T47A IAmb IAmb 04 33 01.5
comp=Z,141nm,0.9s
DABV Dabajuro 65.02 266 *i* P **P 04 32 42.4 -0.3**
FPAL Fort Paine 65.03 296 IAmb IAmb 04 33 25.9
comp=Z,226nm,1.5s

656A Willston 65.12 289 P **P** **04 32 43.4 +0.3**
SPMN Marine on St. 65.18 309 IAmb IAmb 04 33 03.9
comp=Z,199nm,1.3s
SPMN Marine on St. 65.18 309 P **P** **04 32 42.7 -0.6**
baz=64,SNR=27
SPMN S **S** **04 41 22.6 -3.6**
baz=64
A36M Sachs Harbour 65.21 343 IAMs_20 IAMs_20 05 04 38.7
comp=Z,26µm,18.0s
A36M Sachs Harbour 65.21 343 P **P** **04 32 43.0 0.0**
baz=50,SNR=210
A36M S **S** **04 41 29.1 +3.4**
baz=50
152A Waverly Hall 65.23 293 IAmb IAmb 04 32 55.5
comp=Z,213nm,1.1s
Z51A Franklin 65.27 294 IAmb IAmb 04 32 55.5
comp=Z,159nm,1.2s
SNDB Serra Nova Dou 65.33 233 *e*P **P** **04 32 44.8 +0.2**
V48A Smith Brothers 65.36 297 P **P** **04 32 44.0 -0.7**
V48A IAmb IAmb 04 33 13.8
comp=Z,220nm,1.4s
L40A Anamosa 65.56 305 IAmb IAmb 04 32 55.0
comp=Z,142nm,1.0s
URIC Uribia, Colomb 65.69 267 *i* P **P** **04 32 47.2 +0.2**
AGMN Agassiz Nation 65.69 313 IAMs_20 IAMs_20 04 57 37.3
comp=Z,31µm,22.0s
AGMN Agassiz Nation 65.69 313 P **P** **04 32 45.9 -0.7**
baz=63,SNR=25
AGMN S **S** **04 41 29.5 -2.9**
baz=63
DIAM Diamantina, MG 65.71 222 *e*P **P** **04 32 47.4 +0.3**
MACA Manacapuru-AM 65.74 247 *e*P **P** **04 32 47.6 +0.3**
MACA Manacapuru-AM 65.74 247 IAmb IAmb 04 32 57.5
comp=Z,228nm,1.4s
SMLA Simla 65.81 68 IAMs_20 IAMs_20 05 14 44.9
comp=Z,13µm,13.6s
WVT Waverly 65.91 298 P **P** **04 32 46.6 -1.6**
WVT pmax pmax
comp=Z,112nm,1.4s
WVT Waverly 65.91 298 P **P** **04 32 46.6 -1.6**
WVT Waverly 65.91 298 IAMs_20 IAMs_20 05 00 12.6
comp=Z,27µm,19.0s
WVT Waverly 65.91 298 P **P** **04 32 46.7 -1.5**
baz=62
WVT S **S** **04 41 32.2 -3.2**
baz=62
Y49A Blount Mountai 65.93 295 IAmb IAmb 04 33 25.2
comp=Z,109nm,1.0s
MSNA Messina 65.95 146 *e*P **P** **04 32 48.4 -0.1**
MSNA IAmb IAmb 04 32 54.7
comp=Z,128nm,1.0s
BDFB Brasilia 66.08 227 P **P** **04 32 48.3 -1.2**
comp=Z,65nm,1.1s,baz=50,slow=9.0,SNR=18
BDFB LR LR 04 57 48.2
comp=Z,53µm,21.9s,baz=41,slow=32
BDFB Brasilia 66.08 227 P **P** **04 32 48.5 -1.1**
BDFB pmax pmax
comp=Z,261nm,1.5s
BDFB Brasilia 66.08 227 P **P** **04 32 48.5 -1.1**
BDFB IAmb IAmb 04 32 55.3
comp=Z,261nm,1.5s
ALF01 Guarapari-ES 66.08 218 *e*P **P** **04 32 49.8 +0.5**
T45A Paducah 66.08 299 P **P** **04 32 48.0 -1.3**
AJM Ajmer 66.10 74⇑ *i*P **P** **04 32 48.0 -1.6**
I37A Lemond, Waseca 66.11 308 IAmb IAmb 04 33 20.8
comp=Z,175nm,1.1s
X48A Hartselle 66.12 296 IAmb IAmb 04 33 20.6
comp=Z,123nm,1.1s
SDV Santo Domingo 66.17 264 LR LR 04 57 10.0
comp=Z,16µm,21.6s,baz=64,slow=32
SDV Santo Domingo 66.17 264⇑ *i*P **P** **04 32 51.1 +0.7**
SDV Santo Domingo 66.17 264 *e*P **P** **04 32 50.9 +0.5**
SDV Santo Domingo 66.17 264 P **P** **04 32 50.1 -0.2**
SDV IAmb IAmb 04 33 01.7
comp=Z,142nm,1.1s
S44A Carbondale 66.21 300 IAmb IAmb 04 33 35.9
comp=Z,154nm,1.2s
ELOV Elorza 66.32 261 *i* P **P** **04 32 51.1 0.0**
LBTB Lobatse 66.42 151 LR LR 05 01 09.7
comp=Z,59µm,19.1s,baz=334,slow=35
LBTB Lobatse 66.42 151 *e*P **P** **04 32 53.8 +2.3**
LBTB Lobatse 66.42 151 *e*P **P** **04 32 54.5 +2.9**
LBTB IAmb IAmb 04 32 56.4
comp=Z,158nm,1.2s
LBTB Lobatse 66.42 151 P **P** **04 32 52.0 +0.5**
LBTB pmax pmax
comp=Z,101nm,1.0s
LBTB Lobatse 66.42 151 P **P** **04 32 52.0 +0.5**
C36M Paulatuk 66.62 341 IAMs_20 IAMs_20 05 05 10.1
comp=Z,26µm,19.0s
C36M Paulatuk 66.62 341 P **P** **04 32 52.0 -0.1**
baz=50,SNR=59
C36M S **S** **04 41 41.4 -1.5**
baz=50
PLAL Pickwick Lake 66.62 297 IAmb IAmb 04 33 23.1
comp=Z,192nm,0.9s
SOCV Socops 66.69 263 *i* P **P** **04 32 52.0 -1.5**
250A Grady 66.71 293 P **P** **04 32 53.8 +0.4**
LRAL Lakeview Retre 66.75 295 IAMs_20 IAMs_20 05 01 09.9
comp=Z,28µm,20.0s
CRJC Cerrejon, Guaj 66.79 267 *i* P **P** **04 32 55.0 +0.7**
DDI Dehra Dun 66.87 69 *e*P **P** **04 32 53.5 -0.9**
DDI IAMs_20 IAMs_20 05 14 56.5
comp=Z,7µm,11.6s
GLAT Glass 66.89 299 P **P** **04 32 53.5 -0.9**
SCIA State Center 66.96 306 IAmb IAmb 04 33 21.9
comp=Z,324nm,1.7s
SCIA State Center 66.96 306 P **P** **04 32 53.7 -1.1**
baz=62
SCIA S **S** **04 41 43.8 -4.1**
baz=62
451A Vernon 66.97 292 P **P** **04 32 55.7 +0.7**
451A IAmb IAmb 04 33 36.9
comp=Z,251nm,1.2s
NDI New Delhi 67.02 70 *e*P **P** **04 32 52.0 -3.4**
ARMS Ukamas 67.13 158 *e*P **P** **04 32 56.5 +0.6**
ARMS Ukamas 67.13 158 *e*P **P** **04 32 55.8 -0.1**
ARMS IAmb IAmb 04 33 01.5
comp=Z,716nm,2.4s
WMQ Urumqi 67.26 52 P **P** **04 32 57.9 +1.1**
WMQ pP sP 04 33 01.9 +0.5
WMQ sP pP 04 33 12.4 +12
WMQ S **S** **04 41 54.1 +2.4**
WMQ sS sS 04 42 01.9 +4.7
WMQ SS **SS** **04 46 11.4 +0.8**
WMQ pmax pmax
comp=Z,300nm,1.1s
WMQ pmax pmax
comp=Z,3µm,3.7s
WMQ LR LR
comp=Z,69µm,12.3s
WMQ LR LR
comp=Z,35µm,17.3s
P40A Paris 67.29 303 IAmb IAmb 04 33 24.2
comp=Z,384nm,1.9s
W45A Hickory Valley 67.34 298 IAmb IAmb 04 33 27.3
comp=Z,222nm,1.1s
CCM Cathedral Cave 67.43 301 P **P** **04 32 57.1 -0.8**
CCM pmax pmax
comp=Z,96nm,0.9s
CCM Cathedral Cave 67.43 301 P **P** **04 32 57.1 -0.8**
CCM IAmb IAmb 04 33 21.3
comp=Z,96nm,0.8s
CCM Cathedral Cave 67.43 301 IAMs_20 IAMs_20 05 01 17.6
comp=Z,29µm,19.0s
CCM Cathedral Cave 67.43 301 P **P** **04 32 56.5 -1.4**
baz=62
PBMO Poplar Bluff 67.46 300 IAmb IAmb 04 33 25.9
comp=Z,230nm,1.6s
Z47A Carrollton 67.47 295 IAmb IAmb 04 33 28.0
comp=Z,168nm,1.1s
N38A Joes South For 67.49 305 P **P** **04 32 56.8 -1.4**
N38A IAmb IAmb 04 33 34.1
comp=Z,122nm,1.1s
CLDB Colider 67.53 237 *e*P **P** **04 32 58.7 0.0**
GNAR Gosnell 67.56 299 IAmb IAmb 04 33 31.9
comp=Z,107nm,1.0s
CAM01 Campos-RJ 67.57 218 *e*P **P** **04 32 57.2 -1.6**
MOPA Mopani 67.60 145 *e*P **P** **04 32 58.9 0.0**
MOPA IAmb IAmb 04 33 05.5
comp=Z,7.9nm,0.9s
BRAL Brewton 67.69 293 IAmb IAmb 04 33 10.7
comp=Z,210nm,1.1s
BRAL Brewton 67.69 293 P **P** **04 32 59.5 -0.1**
baz=61
KSR Koster 67.69 150 *e*P **P** **04 33 02.6 +2.9**
KSR IAmb IAmb 04 33 08.8
comp=Z,213nm,1.6s
YKA Yellowknife Ar 67.70 332 P **P** **04 32 58.5 -0.7**
comp=Z,23nm,0.6s,baz=60,slow=6.4,SNR=219
YKA LR LR 05 00 14.4
comp=Z,40µm,20.7s,baz=54,slow=34
YKA P**K**PP**K**P **P'P'df** **05 01 21.9 -6.5**
comp=Z,1.8nm,1.0s,baz=226,slow=2.8,SNR=7.5
YKA Yellowknife Ar 67.70 332 P **P** **04 32 58.7 -0.5**
YKA Yellowknife Ar 67.70 332 P **P** **04 32 58.7 -0.5**
LL6C La Loma 6 Bece 67.82 266 *i* P **P** **04 32 58.8 -1.8**
TIXI Tiksi 67.88 15 LR LR 05 08 22.7
comp=Z,54µm,18.2s,baz=300,slow=41
TIXI Tiksi 67.88 15 *ce*P **P** **04 32 59.5 -0.6**
TIXI pmax pmax
comp=Z,24nm,0.7s
TIXI MLR MLR
comp=Z,64µm,19.0s
TIXI Tiksi 67.88 15 P **P** **04 33 00.0 -0.1**
UPI Upington 67.91 156 *e*P **P** **04 33 02.1 +1.2**
UPI Upington 67.91 156 *e*P **P** **04 33 00.6 -0.2**
UPI IAML 04 33 06.8
comp=Z,24nm,0.6s
R40A Maddies Statio 68.03 302 IAmb IAmb 04 33 29.9
comp=Z,228nm,1.4s
IPMB Ipameri, GO 68.03 226 *e*P **P** **04 33 00.2 -1.6**
HRAO HartRAO 68.04 150 *e*P **P** **04 33 01.6 -0.2**
HRAO HartRAO 68.04 150 *e*P **P** **04 33 01.5 -0.3**
HRAO IAmb IAmb 04 33 07.4
comp=Z,1µm,2.2s
MDND Maddock 68.12 314 P **P** **04 33 01.2 -0.9**
baz=61,SNR=22
MDND S **S** **04 42 00.7 -1.0**
baz=61
DUB01 Friburgo-RJ 68.14 219 *e*P **P** **04 33 02.1 -0.3**
SLR Silverton 68.15 149 *e*P **P** **04 33 04.8 +2.2**
SLR Silverton 68.15 149 *e*P **P** **04 33 03.4 +0.8**
SLR IAmb IAmb 04 33 07.7
comp=Z,139nm,1.2s
Y45A Yeager Farm, C 68.22 297 IAmb IAmb 04 33 12.4
comp=Z,172nm,0.8s
SWZ Schweizer 68.27 152 *e*P **P** **04 33 02.6 -0.7**
SWZ IAmb IAmb 04 33 07.8
comp=Z,240nm,1.3s
ECSD EROS Data Cent 68.29 309 P **P** **04 33 02.1 -1.2**
baz=61,SNR=27
ECSD S **S** **04 42 00.1 -3.8**
baz=61
146A Union 68.46 295 P **P** **04 33 03.5 -1.0**
146A IAmb IAmb 04 33 39.1
comp=Z,219nm,1.3s
ARAG Araguaiana, MT 68.46 230 *e*P **P** **04 33 05.2 +0.7**
BSCB Bom Sucesso 68.51 221 *e*P **P** **04 33 05.0 +0.2**
TAMC Tame, Arauca 68.51 262 *i* P **P** **04 33 05.6 +0.6**
ARGC Ariguani, Magd 68.55 267 *i* P **P** **04 33 04.6 -0.6**
MGMO Mountain Grove 68.57 301 IAmb IAmb 04 33 18.2
comp=Z,93nm,0.7s
PDRB Porto dos Gac 68.69 237 *e*P **P** **04 33 06.2 +0.2**
OCAC Ocana 68.71 265 *i* P **P** **04 33 05.6 -0.8**
PAMC Pamplona, Colo 68.72 264 *i* P **P** **04 33 07.5 +0.7**
PRYS Parys 68.83 150 *e*P **P** **04 33 07.3 +0.5**
PRYS IAmb IAmb 04 33 11.8
comp=Z,201nm,2.4s
L34A Svendsen Farm, 69.00 307 IAmb IAmb 04 33 18.9
comp=Z,204nm,1.0s
SMLC San Martn de 69.00 266 *i* P **P** **04 33 06.6 -1.5**
S39A Bolivar 69.05 302 P **P** **04 33 06.8 -1.2**
S39A IAmb IAmb 04 33 21.2
comp=Z,132nm,0.8s
N35A Tabor 69.06 306 IAmb IAmb 04 33 19.7
comp=Z,99nm,0.8s
FCAR Ozark Folk Cen 69.09 300 IAmb IAmb 04 33 36.7
comp=Z,124nm,1.1s
CRLN Carolina, Mapu 69.12 148 *e*P **P** **04 33 11.5 +2.8**
SJCC San Jacinto, C 69.28 267 *i* P **P** **04 33 11.4 +1.6**
SJCC San Jacinto, C 69.28 267 IAmb IAmb 04 33 22.4
comp=Z,220nm,1.1s
U40A Yellville 69.37 300 P **P** **04 33 09.6 -0.5**
U40A IAMs_20 IAMs_20 05 01 45.2
comp=Z,31µm,20.0s
U40A Yellville 69.37 300 P **P** **04 33 09.0 -1.0**
baz=60
U40A S **S** **04 42 14.0 -2.9**
baz=60
SUSD Miller 69.41 310 IAmb IAmb 04 33 40.8
comp=Z,134nm,0.8s
SUSD Miller 69.41 310 P **P** **04 33 09.3 -0.9**
baz=60
SUSD S **S** **04 42 14.4 -2.7**
baz=60
POO Poona 69.50 82⇑ *i*P **P** **04 33 08.0 -3.1**
POO *e*P **P** **04 33 10.5 -0.6**
WHAR Wooly Hollow 69.50 299 P **P** **04 33 09.4 -1.5**
W41B Gary Mavity, V 69.53 299 IAmb IAmb 04 33 40.5
comp=Z,177nm,1.2s
W41B Gary Mavity, V 69.53 299 P **P** **04 33 10.2 -0.8**
baz=60,SNR=19
W41B S **S** **04 42 12.7 -6.1**
baz=60
BOSA Boshof 69.53 153 P **P** **04 33 10.9 -0.2**
comp=Z,98nm,1.0s,baz=353,slow=6.4,SNR=21
BOSA LR LR 05 01 57.8
comp=Z,37µm,21.7s,baz=340,slow=34
BOSA Boshof 69.53 153 *e*P **P** **04 33 11.7 +0.6**
BOSA Boshof 69.53 153 *e*P **P** **04 33 10.7 -0.3**
BOSA IAmb IAmb 04 33 16.1
comp=Z,139nm,0.9s
BOSA Boshof 69.53 153 P **P** **04 33 10.7 -0.3**
BOSA pmax pmax
comp=Z,143nm,1.0s
BOSA Boshof 69.53 153 P **P** **04 33 10.7 -0.3**
BOSA IAmb IAmb 04 33 16.4
comp=Z,143nm,0.9s
BOSA Boshof 69.53 153 P **P** **04 33 12.2 +1.1**
MAN01 Angra dos Reis 69.61 220 *e*P **P** **04 33 11.9 +0.3**
VBMS Vicksburg 69.74 296 IAmb IAmb 04 33 44.6
comp=Z,427nm,1.9s
VBMS Vicksburg 69.74 296 P **P** **04 33 12.1 -0.3**
baz=60
VBMS S **S** **04 42 16.9 -4.4**
baz=60
INK Inuvik 69.81 342 P **P** **04 33 12.1 -0.1**
comp=Z,21nm,1.0s,baz=12,slow=8.1,SNR=13
INK Inuvik 69.81 342 P **P** **04 33 11.6 -0.5**
INK pmax pmax
comp=Z,504nm,1.8s
INK Inuvik 69.81 342 P **P** **04 33 11.6 -0.5**
INK Inuvik 69.81 342 P **P** **04 33 12.1 -0.1**
baz=42,SNR=25
INK S **S** **04 42 20.4 -0.5**
baz=42
CCAR Cane Creek 69.81 298 P **P** **04 33 11.8 -0.9**
CCAR IAmb IAmb 04 34 00.6
comp=Z,145nm,1.2s
RUSC La Rusia 69.87 263 *i* P **P** **04 33 13.4 -0.6**
BHPL Bhopal 69.90 75 *e*P **P** **04 33 12.2 -1.3**
BHPL IAMs_20 IAMs_20 05 14 36.1
comp=Z,13µm,19.4s
143A Socs Landing, 70.15 296 IAmb IAmb 04 33 25.0
comp=Z,180nm,0.9s
HHAR Hobbs 70.17 301 IAmb IAmb 04 33 27.4
comp=Z,192nm,1.1s
344A Westbrook Farm 70.28 295 P **P** **04 33 15.9 +0.1**
X40A Basin Creek Fa 70.29 299 IAmb IAmb 04 33 44.0
comp=Z,203nm,1.2s
X40A IAMs_20 IAMs_20 05 03 13.5
comp=Z,29µm,19.0s
X40A Basin Creek Fa 70.29 299 P **P** **04 33 14.4 -1.3**
baz=60,SNR=48
X40A S **S** **04 42 23.0 -4.7**
baz=60
MOTC Monteria, Cord 70.31 267 *i* P **P** **04 33 17.2 +1.1**
N33A J Bar K, Ejeda 70.31 306 IAmb IAmb 04 33 27.8
comp=Z,239nm,1.0s
CNG Changalane 70.34 146 *e*P **P** **04 33 19.2 +3.3**
CNG IAmb IAmb 04 33 25.4
comp=Z,98nm,1.7s
CVNA Calvinia 70.35 159 *e*P **P** **04 33 15.6 -0.4**
CVNA IAmb IAmb 04 33 21.0
comp=Z,258nm,1.5s
ZARC Zaragoza, Cauc 70.39 265 *i* P **P** **04 33 17.2 +0.6**
ZARC Zaragoza, Cauc 70.39 265 IAmb IAmb 04 33 36.8
comp=Z,266nm,1.2s
SBV Sambava 70.39 124 P **P** **04 33 19.6 +3.2**
SNR=9.2
SBV Sambava 70.39 124 P P 04 33 22.7 +6.3
BGNE Belgrade 70.43 307 P **P** **04 33 14.8 -1.7**
baz=59,SNR=49
BGNE S **S** **04 42 25.0 -4.3**
baz=59
WRGLY Wrigley 70.44 335 P **P** **04 33 15.6 -0.5**
baz=48,SNR=24
WRGLY S **S** **04 42 27.2 -1.4**
baz=48
DGMT Dagmar 70.45 316 P **P** **04 33 15.9 -0.7**
DGMT IAmb IAmb 04 33 50.3
comp=Z,224nm,1.1s
DGMT Dagmar 70.45 316 IAMs_20 IAMs_20 05 00 08.0
comp=Z,21µm,21.0s
DGMT Dagmar 70.45 316 P **P** **04 33 16.4 -0.1**
baz=58,SNR=35
DGMT S **S** **04 42 29.1 -0.2**
baz=58
KSU1 Kansas State U 70.58 305 IAMs_20 IAMs_20 05 03 22.0
comp=Z,31µm,20.0s
KSU1 Kansas State U 70.58 305 P **P** **04 33 15.0 -2.4**
baz=60,SNR=24
KSU1 S **S** **04 42 25.5 -5.5**
baz=60
NWCL Newcastle 70.59 149 *e*P **P** **04 33 18.2 +0.7**
NWCL IAmb IAmb 04 33 23.3
comp=Z,107nm,0.9s
PTBC PUERTO BERRIO, 70.61 264 *i* P **P** **04 33 16.3 -1.7**
W39A Magazine 70.61 300 IAmb IAmb 04 33 46.4
comp=Z,193nm,1.2s
W39A IAMs_20 IAMs_20 04 59 46.8
comp=Z,26µm,22.0s
W39A Magazine 70.61 300 P **P** **04 33 16.8 -0.8**
baz=60,SNR=31
W39A S **S** **04 42 28.6 -2.8**
baz=60
ITRB Iturama 70.63 227 *e*P **P** **04 33 18.1 +0.3**
BB19B Bebedouro 70.64 224 *e*P **P** **04 33 18.8 +0.9**
MIAR Mount Ida 70.79 299 IAmb IAmb 04 33 29.1
comp=Z,136nm,0.9s
MIAR IAMs_20 IAMs_20 05 03 27.7
comp=Z,29µm,19.0s
MIAR Mount Ida 70.79 299 P **P** **04 33 18.1 -0.7**
baz=60,SNR=35
MIAR S **S** **04 42 30.7 -2.9**
baz=60
SPBC San Pablo de B 70.81 263 *i* P **P** **04 33 17.2 -2.0**
PARB Paraibuna 70.86 221 *e*P **P** **04 33 20.3 +1.0**
Z41A Richland Creek 70.89 298 P **P** **04 33 19.0 -0.4**
Z41A Richland Creek 70.89 298 P **P** **04 33 18.7 -0.6**
baz=59,SNR=18
Z41A S **S** **04 42 32.2 -2.5**
baz=59
WLAR White Oak Lake 70.89 298 IAmb IAmb 04 33 32.0
comp=Z,246nm,1.4s
MOY Mondy 70.98 40 *e*P **P** **04 33 20.8 +1.0**
MOY pmax pmax
comp=Z,362nm,2.0s
POGA Pongola 71.04 147 *e*P **P** **04 33 20.4 +0.3**
POGA IAmb IAmb 04 33 28.5
comp=Z,199nm,0.9s
SALV Santo Antonio 71.09 233 *e*P **P** **04 33 21.0 +0.2**
GOA Goa 71.10 84 *e*P **P** **04 33 21.1 +0.2**
GOA IAMs_20 IAMs_20 05 10 54.6
comp=Z,21µm,11.5s
CHIC Chingaza 71.13 262 *i* P **P** **04 33 21.1 -0.5**
RCLB Rio Claro- Sao 71.15 223 *e*P **P** **04 33 21.8 +0.8**
VAO Valinhos 71.31 222 *e*P **P** **04 33 22.5 +0.5**
VILC Villavicencio, 71.40 262 *i* P **P** **04 33 24.0 +1.1**
ROSC El Rosal 71.48 263 P **P** **04 33 23.4 -0.3**
comp=Z,20nm,0.5s,baz=77,slow=8.0,SNR=15
ROSC LR LR 05 01 23.2
comp=Z,20µm,21.7s,baz=48,slow=33
ROSC El Rosal 71.48 263 P **P** **04 33 23.2 -0.5**
ROSC pmax pmax
comp=Z,257nm,1.5s
ROSC El Rosal 71.48 263 *i* P **P** **04 33 21.1 -2.6**
ROSC El Rosal 71.48 263 P **P** **04 33 23.2 -0.5**
ROSC IAmb IAmb 04 33 54.6
comp=Z,257nm,1.5s
342A Flagon Creek P 71.50 296 IAmb IAmb 04 33 34.0
comp=Z,161nm,1.0s
SUR Sutherland 71.50 158 LR LR 05 07 09.3
comp=Z,27µm,19.0s,baz=342,slow=38
SUR Sutherland 71.50 158 P **P** **04 33 23.9 +0.8**
SUR IAmb IAmb 04 33 29.1
comp=Z,178nm,1.1s
SUR Sutherland 71.50 158 P **P** **04 33 26.8 +3.7**
NORC Norcasia 71.50 263 *i* P **P** **04 33 23.1 -0.4**
A21K Barrow 71.56 351 IAMs_20 IAMs_20 05 02 54.7
comp=Z,31µm,21.0s
A21K Barrow 71.56 351 P **P** **04 33 21.0 -1.8**
baz=23,SNR=5.2
A21K S **S** **04 42 44.0 +2.7**
baz=23
TUL1 Leonard 71.65 301 IAMs_20 IAMs_20 05 03 59.4
comp=Z,31µm,19.0s
TUL1 Leonard 71.65 301 P **P** **04 33 22.9 -1.0**
baz=59,SNR=28
TUL1 S **S** **04 42 39.6 -4.0**
baz=59
HELC Santa Helena 71.68 264 *i* P **P** **04 33 26.0 +1.1**
PYUN Piuthan 71.71 68 *e*P **P** **04 33 24.3 -0.4**
comp=Z,221nm,0.8s
DBBC Dabeiba 71.75 266 *i* P **P** **04 33 26.9 +1.9**
PP1B Ponte de Pedra 71.82 231 *e*P **P** **04 33 25.7 +0.6**
GRAN Grantham 71.85 157 *e*P **P** **04 33 25.0 0.0**
GRAN Grantham 71.85 157 *e*P **P** **04 33 25.5 +0.4**
GRAN IAmb IAmb 04 33 32.6
comp=Z,64nm,1.0s
JBP Jabalpur 71.95 74 *e*P **P** **04 33 24.8 -1.2**
JBP IAmb IAmb 04 33 31.3
comp=Z,201nm,0.9s
JBP *e*S **S** **04 42 43.7 -3.6**
KLRI Killari 71.95 80 *e*P **P** **04 33 25.3 -0.8**
VILB Vilhena 72.03 239 *e*P **P** **04 33 27.4 +1.0**
VILB Vilhena 72.03 239 IAmb IAmb 04 33 37.0
comp=Z,199nm,0.9s
X37A Clayton 72.04 300 IAmb IAmb 04 33 37.1
comp=Z,212nm,0.9s
EPYK Eagle Plains 72.09 342 P **P** **04 33 24.5 -1.7**
baz=39,SNR=32
EPYK S **S** **04 42 48.7 +1.0**
baz=39
GUY2C Guyana, Caldas 72.10 263 *i* P **P** **04 33 26.9 -0.6**
QUOK Quay 72.15 302 P **P** **04 33 26.3 -0.7**
DANN Dangsing 72.16 68 *e*P **P** **04 33 27.2 -0.3**
comp=Z,378nm,1.0s
BLOK Blackwell 72.19 303 IAmb IAmb 04 34 02.2
comp=Z,286nm,1.0s
OK034 N. Norfolk Rd. 72.24 302 P **P** **04 33 26.0 -1.5**
CBOC Ciudad Bolivar 72.26 264 *i* P **P** **04 33 27.9 -0.2**
MATJ Matjiesfontein 72.26 159 *e*P **P** **04 33 27.7 +0.2**
MATJ Matjiesfontein 72.26 159 *e*P **P** **04 33 27.0 -0.5**
MATJ IAmb IAmb 04 33 35.1
comp=Z,18nm,0.7s
IRK Irkutsk 72.32 38 *e*P **P** **04 33 26.5 -1.2**
IRK pmax pmax
comp=Z,529nm,2.0s
KOLN Koldanda 72.34 68 *e*P **P** **04 33 27.6 -0.9**
comp=Z,881nm,1.6s
R32A Long Quarter, 72.34 305 IAmb IAmb 04 33 34.3
comp=Z,186nm,0.8s
OK033 Mehan 72.38 302 IAmb IAmb 04 33 41.9
comp=Z,249nm,0.9s
KAN06 Argonia West S 72.38 303 P **P** **04 33 27.4 -0.9**
Z38A Mt. Pleasant 72.45 299 IAmb IAmb 04 33 39.9
comp=Z,259nm,1.0s
441A DeRidder 72.45 295 IAmb IAmb 04 33 40.2
comp=Z,235nm,1.0s
PET01 Itanhaem-SP 72.52 221 *e*P **P** **04 33 29.6 +0.5**
KAN16 Harper SW Stat 72.53 303 IAmb IAmb 04 33 42.4
comp=Z,334nm,1.3s
ANIL Santa Ana 72.56 263 *i* P **P** **04 33 30.8 +0.7**
LAO LASA Array 72.57 315 P **P** **04 33 28.4 -1.0**
LAO IAmb IAmb 04 34 03.2
comp=Z,235nm,1.2s
LAO IAMs_20 IAMs_20 05 03 54.1
comp=Z,21µm,19.0s
LAO LASA Array 72.57 315 P **P** **04 33 28.9 -0.5**
baz=56,SNR=58
LAO S **S** **04 42 52.1 -1.8**
baz=56
GC02 Grant County # 72.59 303 P **P** **04 33 29.1 -0.5**
PRAC Prado 72.59 262 *i* P **P** **04 33 28.9 -1.1**
PCMB Pacaembu 72.64 226 *e*P **P** **04 33 30.3 +0.3**
MACC Macarena, Meta 72.69 260 *i* P **P** **04 33 29.8 -0.6**

RSSD	**Black Hills**	**72.69 312**	P	**P**	**04 33 30.1**	**-0.3**
RSSD			pmax	pmax		
	comp=Z,204nm,1.3s					
RSSD	**Black Hills**	**72.69 312**	P	**P**	**04 33 30.1**	**-0.3**
RSSD			IAmb	IAmb	04 34 09.2	
	comp=Z,204nm,1.3s					
RSSD	**Black Hills**	**72.69 312**	IAMs_20	IAMs_20	05 01 55.5	
	comp=Z,34μm,22.0s					
RSSD	**Black Hills**	**72.69 312**	P	**P**	**04 33 29.9**	**-0.5**
	baz=57					
RSSD			S	**S**	**04 42 51.5**	**-4.2**
	baz=57					
ORTC	**Ortega, Tolima**	**72.77 262**	*i* P	**P**	**04 33 32.7**	**+1.7**
W35A	**Tecumseh**	**72.80 301**	IAmb	IAmb	04 33 43.0	
	comp=Z,226nm,1.1s					
CBKS	**Cedar Bluff**	**72.82 306**	IAmb	IAmb	04 33 43.4	
	comp=Z,168nm,0.8s					
CBKS			IAMs_20	IAMs_20	05 04 44.1	
	comp=Z,30μm,20.0s					
CBKS	**Cedar Bluff**	**72.82 306**	P	**P**	**04 33 30.8**	**-0.2**
	baz=58,SNR=22					
CBKS			S	**S**	**04 42 53.4**	**-3.5**
	baz=58					
CROK	**Carrier**	**72.86 303**	IAmb	IAmb	04 33 44.4	
	comp=Z,321nm,1.4s					
SRSP	**Sriramsagar**	**72.89 79**	*e*P	**P**	**04 33 30.6**	**-1.1**
OK025	**Westminster Rd**	**72.90 302**	P	**P**	**04 33 30.8**	**-0.7**
OK025			IAmb	IAmb	04 33 43.7	
	comp=Z,227nm,1.2s					
OK025			IAMs_20	IAMs_20	05 04 54.4	
	comp=Z,30μm,19.0s					
ZAK	**Zakamensk**	**72.90 40**	*e*P	**P**	**04 33 31.8**	**+0.5**
ZAK			pmax	pmax		
	comp=Z,176nm,1.6s					
GKN	**Gorkha**	**73.00 68**	*e*P	**P**	**04 33 31.6**	**-0.8**
	comp=Z,358nm,0.9s					
NATX	**Nacogdoches**	**73.00 297**	IAMs_20	IAMs_20	05 05 03.4	
	comp=Z,24μm,20.0s					
NATX	**Nacogdoches**	**73.00 297**	P	**P**	**04 33 31.7**	**-0.4**
	baz=58					
NATX			S	**S**	**04 42 56.6**	**-2.5**
	baz=58					
FRTB	**Fartura**	**73.02 224**	*e*P	**P**	**04 33 33.5**	**+1.3**
PLMC	**San Jos del P**	**73.03 264**	*i* P	**P**	**04 33 35.6**	**+3.1**
BCOK	**Bluff Creek, N**	**73.04 302**	IAmb	IAmb	04 33 44.7	
	comp=Z,191nm,1.1s					
PTLB	**Pontes e Lacer**	**73.06 236**	*e*P	**P**	**04 33 33.1**	**+0.6**
PTLB	**Pontes e Lacer**	**73.06 236**	P	**P**	**04 33 31.9**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**73.06 302**	P	**P**	**04 33 30.9**	**-1.5**
OKCFA	**Oklahoma City**	**73.06 302**	IAmb	IAmb	04 33 45.3	
	comp=Z,341nm,1.3s					
FNO	**Franklin**	**73.11 301**	IAmb	IAmb	04 33 45.0	
	comp=Z,150nm,0.8s					
OGNE	**Ogallala**	**73.17 308**	P	**P**	**04 33 32.8**	**-0.3**
	baz=57,SNR=18					
OGNE			S	**S**	**04 42 58.6**	**-2.3**
	baz=57					
OK035	**E0210 Rd and N**	**73.24 303**	IAMs_20	IAMs_20	05 05 04.5	
	comp=Z,26μm,19.0s					
BOD	**Bodaibo**	**73.25 30**	*e*P	**P**	**04 33 32.3**	**-0.8**
BOD			pmax	pmax		
	comp=Z,28nm,1.6s					
ELIM	**Elim**	**73.26 160**	*e*P	**P**	**04 33 33.5**	**+0.2**
ELIM			IAmb	IAmb	04 33 38.4	
	comp=Z,545nm,1.6s					
I29M	**Ogilvie Camp,**	**73.29 342**	P	**P**	**04 33 33.3**	**0.0**
	baz=37,SNR=59					
I29M			S	**S**	**04 43 02.3**	**+1.0**
	baz=37					
SOE	**Somerset East**	**73.35 155**	*e*P	**P**	**04 33 36.8**	**+2.8**
SOE			IAmb	IAmb	04 33 39.1	
	comp=Z,319nm,1.6s					
TBTG	**Tabatinga, AM**	**73.43 252**	*i* P	**P**	**04 33 35.6**	**+0.8**
TBTG	**Tabatinga, AM**	**73.43 252**	*e*P	**P**	**04 33 35.2**	**+0.4**
TBTG	**Tabatinga, AM**	**73.43 252**	IAmb	IAmb	04 34 19.7	
	comp=Z,179nm,1.1s					
DMN	**Daman**	**73.56 68**	*e*P	**P**	**04 33 35.5**	**-0.3**
	comp=Z,2μm,1.6s					
KKN	**Kakani**	**73.60 67**	*e*P	**P**	**04 33 35.4**	**-0.6**
	comp=Z,260nm,0.9s					
YOTC	**Yotoco, Valle**	**73.61 263**	*i* P	**P**	**04 33 36.6**	**+0.5**
LOOK	**Love County**	**73.62 300**	P	**P**	**04 33 35.6**	**-0.2**
LOOK			IAmb	IAmb	04 33 48.0	
	comp=Z,211nm,1.0s					
RPR	**Rampur**	**73.69 78**	*e*P	**P**	**04 33 37.5**	**+1.2**
X34A	**Smith Ranch, M**	**73.76 301**	IAmb	IAmb	04 33 47.7	
	comp=Z,254nm,0.9s					
EGMT	**Eagleton**	**73.79 318**	P	**P**	**04 33 36.4**	**-0.2**
	baz=54,SNR=26					
EGMT			S	**SKiKP**	**04 43 06.7**	**+0.9**
	baz=54					
PKIN	**Phulchoki**	**73.80 68**	*e*P	**P**	**04 33 36.3**	**-0.9**
	comp=Z,905nm,1.6s					
PKI	**Pulchoki**	**73.81 68**	*e*P	**P**	**04 33 36.5**	**-0.9**
	comp=Z,964nm,1.6s					
HYBB	**Hyderabad (bro**	**73.87 80**	*e*P	**P**	**04 33 36.3**	**-1.2**
HYBB			*e*PcP	**PcP**	**04 33 53.4**	**+0.4**
HYBB			*e*SKKSac	**SKSac**	**04 43 46.8**	**+1.9**
HYB	**Hyderabad**	**73.87 80**	*e*P	**P**	**04 33 36.0**	**-1.5**
FYU	**Fort Yukon**	**73.90 345**	IAMs_20	IAMs_20	05 05 18.5	
	comp=Z,25μm,22.0s					
GARC	**Garzon, Huila**	**73.98 261**	*i* P	**P**	**04 33 38.6**	**+0.1**
GUN	**Gumba**	**73.98 67**	*e*P	**P**	**04 33 38.0**	**-0.4**
	comp=Z,562nm,1.2s					
J29M	**Klondike Camp**	**73.99 341**	P	**P**	**04 33 37.9**	**+0.4**
	baz=37					
J29M			S	**S**	**04 43 12.1**	**+2.6**
	baz=37					
MAYO	**Mayo, Yukon**	**74.04 340**	P	**P**	**04 33 38.4**	**+0.7**
	baz=39,SNR=24					
MAYO			S	**S**	**04 43 12.4**	**+2.5**
	baz=39					
URV	**Uravakonda**	**74.17 83**	*e*P	**P**	**04 33 38.7**	**-0.5**
CUPL	**Choutuppal**	**74.23 80**	*e*P	**P**	**04 33 38.5**	**-1.0**
CUPL			*e*ScS	**SKSac**	**04 43 51.6**	**+4.0**
ETMB	**Extrema**	**74.23 245**	*e*P	**P**	**04 33 39.6**	**+0.1**
TIJ01	**Guaruva-PR**	**74.28 222**	*e*P	**P**	**04 33 41.1**	**+1.5**
COLD	**Coldfoot**	**74.30 347**	P	**P**	**04 33 39.0**	**-0.2**
	baz=28,SNR=68					
COLD			S	**S**	**04 43 14.2**	**+1.6**
	baz=28					
WMOK	**Wichita Mounta**	**74.34 302**	P	**P**	**04 33 39.8**	**-0.2**
WMOK			pmax	pmax		
	comp=Z,98nm,1.0s					
WMOK			MLR	MLR		
	comp=Z,36μm,20.0s					
WMOK	**Wichita Mounta**	**74.34 302**	P	**P**	**04 33 39.8**	**-0.2**
WMOK	**Wichita Mounta**	**74.34 302**	P	**P**	**04 33 39.4**	**-0.6**
	baz=57,SNR=33					
WMOK			S	**S**	**04 43 12.3**	**-2.0**
	baz=57					
FARO	**Faro, Yukon**	**74.35 338**	P	**P**	**04 33 38.9**	**-0.7**
	baz=41,SNR=25					
FARO			S	**S**	**04 43 16.1**	**+2.6**
	baz=41					
WTLY	**Watson Lake, Y**	**74.44 335**	P	**P**	**04 33 39.5**	**-0.7**
	baz=44					
WTLY			S	**S**	**04 43 13.9**	**-0.7**
	baz=44					
FLOC	**Florencia**	**74.47 261**	*i* P	**P**	**04 33 43.4**	**+2.4**
AQDB	**Aquidauana**	**74.47 230**	*e*P	**P**	**04 33 41.1**	**+0.4**
AQDB	**Aquidauana**	**74.47 230**	P	**P**	**04 33 40.2**	**-0.5**
VOI	**Vohitsoka**	**74.59 132**	P	P	04 33 46.9	+5.3
	SNR=8.9					
VOI	**Vohitsoka**	**74.59 132**	P	P	04 33 46.5	+4.9
KSCO	**Kaye Shedlock'**	**74.61 307**	IAmb	IAmb	04 33 54.2	
	comp=Z,312nm,1.4s					
KSCO	**Kaye Shedlock'**	**74.61 307**	P	**P**	**04 33 40.9**	**-0.7**
	baz=56,SNR=11					
KSCO			S	**S**	**04 43 15.9**	**-1.4**
	baz=56					
DAWY	**Dawson**	**74.61 341**	P	**P**	**04 33 41.2**	**+0.1**
	baz=36,SNR=28					
DAWY			S	**S**	**04 43 18.0**	**+1.6**
	baz=36					
PCON	**Cinco Dias**	**74.63 262**	*i* P	**P**	**04 33 43.4**	**+0.8**
M31M	**Drury Creek, Y**	**74.69 338**	IAMs_20	IAMs_20	05 04 26.5	
	comp=Z,30μm,20.0s					
M31M	**Drury Creek, Y**	**74.69 338**	P	**P**	**04 33 42.0**	**+0.5**
	baz=40,SNR=28					
M31M			S	**S**	**04 43 18.9**	**+1.7**
	baz=40					
POPC	**Popayan, Colom**	**74.73 262**	*i* P	**P**	**04 33 42.4**	**-0.3**
SIV	**San Ignacio**	**74.75 237**	LR	LR	05 05 24.7	
	comp=Z,34μm,19.1s,baz=70,slow=35					
HKT	**Hockley**	**74.81 296**	P	**P**	**04 33 42.4**	**-0.3**
HKT			pmax	pmax		
	comp=Z,125nm,1.1s					
HKT	**Hockley**	**74.81 296**	P	**P**	**04 33 42.4**	**-0.3**
SRLM	**Srisailam**	**74.86 81**	*e*P	**P**	**04 33 42.6**	**-0.6**
SRLM			*e*PP	**PP**	**04 36 31.5**	**+0.9**
PRP	**Porcupine Dome**	**74.86 345**	IAmb	IAmb	04 33 55.8	
	comp=Z,459nm,1.5s					
PRP			IAMs_20	IAMs_20	05 06 12.9	
	comp=Z,27μm,22.0s					
PRP	**Porcupine Dome**	**74.86 345**	P	**P**	**04 33 41.4**	**-1.2**
	baz=31,SNR=28					
PRP			S	**S**	**04 43 22.2**	**+2.9**
	baz=31					
WHTX	**Lake Whitney,**	**74.89 299**	IAmb	IAmb	04 33 55.4	
	comp=Z,404nm,1.4s					
WHTX	**Lake Whitney,**	**74.89 299**	P	**P**	**04 33 42.8**	**-0.3**
	baz=57,SNR=24					
WHTX			S	**S**	**04 43 18.3**	**-2.1**
	baz=57					
SOTA	**Rioblanco**	**74.91 262**	*i* P	**P**	**04 33 45.3**	**+1.2**
NJS	**Nagarjunasagar**	**74.94 80**	*e*P	**P**	**04 33 42.9**	**-0.8**
K22A	**Casper**	**75.02 312**	IAmb	IAmb	04 34 17.1	
	comp=Z,327nm,1.4s					
K22A	**Casper**	**75.02 312**	P	**P**	**04 33 43.3**	**-0.6**
	baz=55,SNR=43					
K22A			S	**S**	**04 43 18.2**	**-3.7**
	baz=55					
H24K	**Noodor Dome**	**75.08 346**	IAmb	IAmb	04 33 56.7	
	comp=Z,323nm,1.6s					
H24K			IAMs_20	IAMs_20	05 09 25.6	
	comp=Z,19μm,20.0s					
H24K	**Noodor Dome**	**75.08 346**	P	**P**	**04 33 44.3**	**+0.6**
	baz=30					
H24K			S	**S**	**04 43 23.9**	**+2.4**
	baz=30					
M30M	**Minto, Yukon**	**75.10 340**	IAMs_20	IAMs_20	05 09 13.3	
	comp=Z,32μm,20.0s					
M30M	**Minto, Yukon**	**75.10 340**	P	**P**	**04 33 44.7**	**+0.8**
	baz=38,SNR=29					
M30M			S	**S**	**04 43 25.5**	**+3.7**
	baz=38					
PHWY	**Pilot Hill**	**75.13 310**	IAmb	IAmb	04 34 18.8	
	comp=Z,265nm,1.4s					
PHWY			IAMs_20	IAMs_20	05 06 42.0	
	comp=Z,22μm,18.0s					
RLMT	**Red Lodge**	**75.21 315**	P	**P**	**04 33 45.6**	**+0.6**
RLMT			IAMs_20	IAMs_20	05 05 35.9	
	comp=Z,22μm,19.0s					
RLMT	**Red Lodge**	**75.21 315**	P	**P**	**04 33 45.0**	**-0.1**
	baz=54,SNR=20					
RLMT			S	**S**	**04 43 22.4**	**-1.6**
	baz=54					
RCLA	**Racherla**	**75.26 81**	*e*P	**P**	**04 33 44.6**	**-0.9**
J26L	**Joseph Creek**	**75.28 343**	IAMs_20	IAMs_20	05 06 50.0	
	comp=Z,29μm,22.0s					
J26L	**Joseph Creek**	**75.28 343**	P	**P**	**04 33 45.4**	**+0.4**
	baz=33					
J26L			S	**S**	**04 43 26.5**	**+2.6**
	baz=33					
WALA	**Waterton Lakes**	**75.39 320**	IAmb	IAmb	04 33 57.4	
	comp=Z,228nm,1.1s					
RDOG	**Red Dog Mine**	**75.40 352**	IAMs_20	IAMs_20	05 12 31.0	
	comp=Z,24μm,20.0s					
RDOG	**Red Dog Mine**	**75.40 352**	P	P	04 33 57.0	+11
	baz=17,SNR=12					
RDOG			S	S	04 43 38.7	+14
	baz=17					
PTGB	**Pitanga**	**75.51 225**	*e*P	**P**	**04 33 47.1**	**+0.4**
J25K	**Salcha River,**	**75.60 344**	IAmb	IAmb	04 33 59.7	
	comp=Z,359nm,1.8s					
J25K			IAMs_20	IAMs_20	05 07 01.5	
	comp=Z,30μm,21.0s					
J25K	**Salcha River,**	**75.60 344**	P	**P**	**04 33 46.5**	**-0.3**
	baz=31,SNR=21					
J25K			S	**S**	**04 43 29.7**	**+2.3**
	baz=31					
YAK	**Yakutsk**	**75.60 21**	LR	LR	05 12 20.9	
	comp=Z,52μm,18.8s,baz=320,slow=40					
YAK	**Yakutsk**	**75.60 21**	*e*P	**P**	**04 33 48.4**	**+1.7**
YAK			*e**PP	**sP**	**04 33 53.6**	**+2.5**
YAK			*e*		04 34 05.9	
YAK			*e*		04 36 34.7	
YAK			*e*S	**S**	**04 43 27.5**	**+0.3**
YAK			*e*		04 43 50.5	
YAK			*e*SS	**SS**	**04 48 16.5**	**-0.6**
YAK			pmax	pmax		
	comp=Z,30nm,0.8s					
YAK			pmax	pmax		
	comp=E,11nm,1.4s					
YAK			pmax	pmax		
	comp=N,11nm,1.1s					
YAK			pmax	pmax		
	comp=Z,816nm,4.8s					
YAK			pmax	pmax		
	comp=N,114nm,2.3s					
YAK			pmax	pmax		
	comp=E,235nm,2.6s					
YAK			smax	smax		
	comp=E,1μm,4.7s					
YAK			smax	smax		
	comp=N,3μm,5.0s					
YAK			MLR	MLR		
	comp=Z,50μm,21.0s					
YAK			MLR	MLR		
	comp=E,78μm,16.0s					
YAK			MLR	MLR		
	comp=N,34μm,13.0s					
YAK	**Yakutsk**	**75.60 21**	P	**P**	**04 33 46.5**	**-0.1**
YAK			IAmb	IAmb	04 33 55.7	
	comp=Z,408nm,1.4s					
POKR	**Poker Plat Res**	**75.61 345**	IAmb	IAmb	04 34 10.1	
	comp=Z,357nm,1.4s					
POKR			IAMs_20	IAMs_20	05 11 50.8	
	comp=Z,17μm,20.0s					
POKR	**Poker Plat Res**	**75.61 345**	P	**P**	**04 33 47.1**	**+0.3**
	baz=30,SNR=18					
POKR			S	**S**	**04 43 31.6**	**+4.2**
	baz=30					
N23A	**Red Feather La**	**75.66 310**	IAmb	IAmb	04 34 29.6	
	comp=Z,224nm,1.2s					
N23A	**Red Feather La**	**75.66 310**	P	**P**	**04 33 47.9**	**+0.1**
	baz=55,SNR=36					
N23A			S	**S**	**04 43 29.8**	**+0.6**
	baz=55					
N31M	**Braeburn, Yuko**	**75.66 338**	IAmb	IAmb	04 33 59.4	
	comp=Z,269nm,1.3s					
N31M	**Braeburn, Yuko**	**75.66 338**	P	**P**	**04 33 46.6**	**-0.5**
	baz=38,SNR=11					
N31M			S	**S**	**04 43 31.0**	**+3.0**
	baz=38					
P33M	**Teslin, Yukon**	**75.72 336**	P	**P**	**04 33 48.3**	**+0.7**
P33M			IAMs_20	IAMs_20	05 04 56.8	
	comp=Z,29μm,20.0s					
P33M	**Teslin, Yukon**	**75.72 336**	P	**P**	**04 33 48.0**	**+0.4**
	baz=41,SNR=27					
P33M			S	**S**	**04 43 30.5**	**+1.6**
	baz=41					
IL31		**75.80 345**	IAmb	IAmb	04 34 00.3	
	comp=Z,492nm,2.0s					
ILAR	**Eielson Array**	**75.80 345**	P	**P**	**04 33 48.2**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=20,slow=4.5,SNR=29					
ILAR			LR	LR	05 09 19.4	
	comp=Z,14μm,20.1s,baz=36,slow=37					
SCRK	**Sand Creek**	**75.83 343**	IAMs_20	IAMs_20	05 06 55.4	
	comp=Z,26μm,21.0s					
SCRK	**Sand Creek**	**75.83 343**	P	**P**	**04 33 46.7**	**-1.4**
	baz=32,SNR=40					
SCRK			S	**S**	**04 43 33.3**	**+3.3**
	baz=32					
ADKI	**Addanki**	**75.86 81**	*e*P	**P**	**04 33 51.9**	**+2.9**
ADKI			*e*PP	**PP**	**04 36 40.0**	**+1.0**
GOMU	**GeErMu**	**75.87 56**	P	**P**	**04 33 49.9**	**+0.7**
GOMU			pP	PcP	04 34 01.1	-0.6
GOMU			sP	sP	04 34 03.3	+9.5
GOMU			S	**S**	**04 43 28.3**	**-3.6**
GOMU			sS	sS	04 43 38.4	+0.9
GOMU			LR	LR		
	comp=Z,21μm,14.5s					
GOMU			LR	LR		
	comp=Z,13μm,14.5s					
MYLAV	**Mylavaram**	**75.90 79**	*e*P	**P**	**04 33 48.6**	**-0.5**
COLA	**College**	**75.92 345**	P	**P**	**04 33 50.0**	**+1.6**
COLA			pmax	pmax		
	comp=Z,154nm,1.3s					
COLA	**College**	**75.92 345**	P	**P**	**04 33 50.0**	**+1.6**
COLA	**College**	**75.92 345**	P	**P**	**04 33 48.0**	**-0.4**
	baz=29					
COLA			S	**S**	**04 43 31.5**	**+0.9**
	baz=29					
TCOL	**CIGO, UAF Yank**	**75.92 345**	P	**P**	**04 33 48.5**	**0.0**
	baz=29,SNR=7.8					
TCOL			S	**S**	**04 43 31.0**	**+0.4**
	baz=29					
MDM	**Murphy Dome**	**75.92 345**	IAmb	IAmb	04 34 01.1	
	comp=Z,374nm,1.8s					
YMP	**Mirror Lake PI**	**75.94 315**	IAmb	IAmb	04 34 24.0	
	comp=Z,196nm,1.4s					
I23K	**Minto, Yukon-K**	**75.98 346**	IAmb	IAmb	04 34 08.2	
	comp=Z,318nm,1.8s					
I23K			IAMs_20	IAMs_20	05 06 54.5	
	comp=Z,27μm,22.0s					
I23K	**Minto, Yukon-K**	**75.98 346**	P	**P**	**04 33 48.8**	**0.0**
	baz=28,SNR=19					
I23K			S	**S**	**04 43 35.6**	**+4.2**
	baz=28					
RWWY	**Rawlins**	**75.98 311**	P	**P**	**04 33 49.8**	**+0.2**
RWWY			IAMs_20	IAMs_20	05 04 00.7	
	comp=Z,19μm,19.0s					
WHY	**Whitehorse**	**76.03 338**	P	**P**	**04 33 48.9**	**-0.5**
	baz=39,SNR=18					
WHY			S	**S**	**04 43 33.2**	**+0.8**
	baz=39					
GCUF	**Volcan Galeras**	**76.04 261**	*i* P	**P**	**04 33 52.1**	**+1.5**
SONM	**Songino Array**	**76.06 41**	P	**P**	**04 33 50.0**	**+0.2**
	comp=Z,18nm,0.7s,baz=289,slow=6.5,SNR=54					
SONM			PP	**PP**	**04 36 46.3**	**+6.3**
	comp=Z,15nm,1.0s,baz=295,slow=7.3,SNR=4.5					
SONM			LR	LR	05 10 02.9	
	comp=Z,46μm,18.1s,baz=318,slow=38					
L27K	**Beaver Creek,**	**76.06 342**	IAMs_20	IAMs_20	05 05 40.7	
	comp=Z,21μm,21.0s					
L27K	**Beaver Creek,**	**76.06 342**	P	**P**	**04 33 49.5**	**+0.1**
	baz=34					
L27K			S	**S**	**04 43 35.1**	**+2.7**
	baz=34					
ISCO	**Idaho Springs**	**76.08 309**	IAmb	IAmb	04 34 12.4	
	comp=Z,256nm,1.5s					
ISCO	**Idaho Springs**	**76.08 309**	P	**P**	**04 33 50.5**	**+0.2**
	baz=55,SNR=42					
ISCO			S	**S**	**04 43 31.8**	**-2.2**
	baz=55					
ABTX	**Abilene, Hawle**	**76.10 300**	P	**P**	**04 33 47.5**	**-2.7**
	baz=56,SNR=19					
ABTX			S	**S**	**04 43 31.2**	**-2.6**
	baz=56					
CCB	**Clear Creek Bu**	**76.10 345**	IAmb	IAmb	04 34 01.9	
	comp=Z,348nm,1.7s					
DLBC	**Dease Lake**	**76.10 334**	LR	LR	05 05 01.1	
	comp=Z,25μm,21.1s,baz=34,slow=34					
DLBC	**Dease Lake**	**76.10 334**	P	**P**	**04 33 50.5**	**+0.7**
DLBC			IAmb	IAmb	04 34 03.7	
	comp=Z,221nm,1.2s					
DOT	**Dot Lake**	**76.12 343**	IAmb	IAmb	04 33 58.7	
	comp=Z,225nm,1.2s					
HDA	**Harding Lake**	**76.13 344**	IAMs_20	IAMs_20	05 05 38.3	
	comp=Z,25μm,22.0s					
HDA	**Harding Lake**	**76.13 344**	P	**P**	**04 33 49.3**	**-0.4**
	baz=30,SNR=69					
HDA			S	**S**	**04 43 35.9**	**+2.9**
	baz=30					
HDA			S	**S**	**04 43 35.9**	**+2.9**
	baz=30					
H21K	**Melozitna Rive**	**76.18 347**	IAMs_20	IAMs_20	05 09 19.6	
	comp=Z,18μm,21.0s					
H21K	**Melozitna Rive**	**76.18 347**	P	**P**	**04 33 50.8**	**+0.8**
	baz=26					
H21K			S	**S**	**04 43 37.6**	**+4.0**
	baz=26					
LKWY	**Lake**	**76.19 315**	P	**P**	**04 33 51.4**	**+0.6**
LKWY			pmax	pmax		
	comp=Z,214nm,1.6s					
LKWY	**Lake**	**76.19 315**	P	**P**	**04 33 51.4**	**+0.6**
LKWY			IAmb	IAmb	04 34 25.7	
	comp=Z,214nm,1.6s					
RIDG	**Independent Ri**	**76.23 343**	IAMs_20	IAMs_20	05 07 16.0	
	comp=Z,22μm,21.0s					
RIDG	**Independent Ri**	**76.23 343**	P	**P**	**04 33 48.7**	**-1.7**
	baz=32,SNR=32					
RIDG			S	**S**	**04 43 38.4**	**+4.1**
	baz=32					
Q24A	**Divide**	**76.26 308**	P	**P**	**04 33 50.9**	**-0.4**
	baz=55,SNR=22					
Q24A			S	**S**	**04 43 32.4**	**-3.6**
	baz=55					
ACON	**Acoyapa**	**76.26 275**	IAmb	IAmb	04 34 10.9	
	comp=Z,337nm,1.6s					
AMTX	**Amarillo**	**76.26 303**	P	**P**	**04 33 50.9**	**-0.2**
	baz=56					
AMTX			S	**S**	**04 43 35.8**	**+0.1**
	baz=56					
BOZ	**Bozeman (W)**	**76.27 317**	P	**P**	**04 33 50.7**	**-0.3**
BOZ			pmax	pmax		
	comp=Z,531nm,1.8s					
BOZ	**Bozeman (W)**	**76.27 317**	P	**P**	**04 33 50.7**	**-0.3**
BOZ	**Bozeman (W)**	**76.27 317**	P	**P**	**04 33 51.0**	**0.0**
	baz=53,SNR=57					
BOZ			S	**S**	**04 43 33.1**	**-2.4**
	baz=53					
BILL	**Bilibino**	**76.31 4**	*ce*P	**P**	**04 33 50.2**	**-0.5**
BILL			*i **PP	**pP**	**04 33 53.1**	**-0.9**
BILL			*i*		04 33 59.8	
BILL			*i* S	**S**	**04 43 35.3**	**+0.3**
BILL			*i*		04 43 56.9	
BILL			*i* PS	**PnS**	**04 44 21.1**	**+9.3**
BILL			SS	**SS**	**04 48 26.0**	**-1.7**
BILL			pmax	pmax		
	comp=Z,357nm,1.7s					
BILL			MLR	MLR		
	comp=Z,15μm,17.0s					
WRH	**Wood River Hil**	**76.32 345**	IAmb	IAmb	04 34 03.9	
	comp=Z,263nm,1.4s					
WRH			IAMs_20	IAMs_20	05 06 17.4	
	comp=Z,20μm,22.0s					
COVE	**Coope Vega, Sa**	**76.33 273**	IAmb	IAmb	04 34 24.7	
	comp=Z,273nm,1.2s					
GTK	**Tadong**	**76.33 66**	*e*P	**P**	**04 33 51.3**	**-0.4**
BVCY	**Beaver Creek**	**76.35 341**	P	**P**	**04 33 51.8**	**+0.8**
	baz=35,SNR=30					
BVCY			S	**S**	**04 43 37.7**	**+2.1**
	baz=35					
H17A	**Grant Village**	**76.39 315**	P	**P**	**04 33 53.5**	**+1.6**
H17A	**Grant Village**	**76.39 315**	P	**P**	**04 33 52.1**	**+0.2**
	baz=53,SNR=20					
H17A			S	**S**	**04 43 40.4**	**+3.2**
	baz=53					
ULN	**Ulaanbaatar**	**76.39 40**	*d i* P	**P**	**04 33 51.2**	**-0.5**
ULN			pmax	pmax		
	comp=Z,269nm,1.8s					
ULN			MLR	MLR		
	comp=Z,34μm,17.0s					
ULN	**Ulaanbaatar**	**76.39 40**	P	**P**	**04 33 52.4**	**+0.7**
ULN	**Ulaanbaatar**	**76.39 40**	P	**P**	**04 33 51.6**	**-0.1**
ULN			IAmb	IAmb	04 33 57.8	
	comp=Z,545nm,1.9s					
NEA2	**Nenana**	**76.42 345**	IAmb	IAmb	04 34 03.7	
	comp=Z,334nm,1.7s					
NEA2	**Nenana**	**76.42 345**	P	**P**	**04 33 51.3**	**0.0**
	baz=28,SNR=14					
NEA2			S	**S**	**04 43 33.4**	**-2.8**
	baz=28					
PVM	**Polavaram**	**76.42 78**	*e*P	**P**	**04 33 51.9**	**-0.3**
RIMA	**Rio Macho**	**76.42 272**	P	**P**	**04 33 54.5**	**+2.1**
I21K	**Tanana**	**76.46 347**	IAMs_20	IAMs_20	05 08 44.1	
	comp=Z,23μm,20.0s					
I21K	**Tanana**	**76.46 347**	P	**P**	**04 33 52.0**	**+0.5**
	baz=26					
I21K			S	**S**	**04 43 38.3**	**+1.6**
	baz=26					
L26K	**Log Cabin Wild**	**76.47 342**	IAMs_20	IAMs_20	05 06 44.6	
	comp=Z,21μm,21.0s					
L26K	**Log Cabin Wild**	**76.47 342**	P	**P**	**04 33 52.7**	**+0.9**
	baz=33,SNR=7.2					
L26K			S	**S**	**04 43 39.3**	**+2.4

	baz=34						
TULM	Tulcn-Chalpat	76.69	261	*i* P	P	04 33 56.0	+1.7
RIOS	Rincon, Osa	76.74	271	P	P	04 33 54.6	+0.6
RIOS				IAmb	IAmb	04 34 06.0	
	comp=Z,242nm,1.3s						
PDAR	Pinedale Array	76.77	313	P	P	04 33 53.4	-0.7
	comp=Z,23nm,0.7s,baz=62,slow=6.7,SNR=86						
PDAR				LR	LR	05 06 03.5	
	comp=Z,12μm,19.2s,baz=62,slow=34						
BW06	Boulder Array	76.77	313	P	P	04 33 52.8	-1.2
	baz=54,SNR=67						
BW06				S	S	04 43 37.4	-3.9
	baz=54						
YUK3	Moose Creek	76.77	340	P	P	04 33 52.0	-1.6
	baz=35,SNR=8.0						
YUK3				S	S	04 43 42.4	+1.8
	baz=35						
MSO	Missoula	76.78	319	IAms_20	IAms_20	05 04 47.4	
	comp=Z,23μm,21.0s						
MSO	Missoula	76.78	319	P	P	04 33 52.4	-1.5
	baz=52,SNR=31						
MSO				S	S	04 43 38.3	-2.7
	baz=52						
TGUH	Tegucigalpa,Un	76.80	278	IAmb	IAmb	04 34 16.4	
	comp=Z,277nm,1.2s						
TGUH				IAms_20	IAms_20	05 06 49.7	
	comp=Z,16μm,20.0s						
SKHT	Srikalahasti	76.81	82	*e*P	P	04 33 55.2	+0.9
T25A	Trinidad	76.82	306	P	P	04 33 53.6	-0.8
	baz=55,SNR=21						
T25A				S	S	04 43 40.7	-1.3
	baz=55						
735A	Kenedy	76.85	296	IAmb	IAmb	04 34 05.6	
	comp=Z,261nm,1.3s						
BWN	Browne	76.87	345	P	P	04 33 55.9	+2.0
LOHW	Long Hollow	76.88	314	IAms_20	IAms_20	05 07 48.1	
	comp=Z,26μm,18.0s						
MOOW	Moose Ponds	76.88	315	IAms_20	IAms_20	05 07 57.1	
	comp=Z,19μm,19.0s						
LSA	Lhasa	76.90	63	P	P	04 33 55.0	-0.3
LSA				pmax	pmax		
	comp=Z,170nm,1.0s						
LSA				LR	LR		
	comp=Z,20μm,17.1s						
LSA				LR	LR		
	comp=Z,20μm,18.2s						
LSA				LR	LR		
	comp=Z,32μm,16.4s						
TER01	Tubaro-SC	76.90	220	*e*P	P	04 33 55.5	+1.0
M26K	Nabesna, AK	76.91	342	IAms_20	IAms_20	05 08 38.2	
	comp=Z,24μm,20.0s						
M26K	Nabesna, AK	76.91	342	P	P	04 33 52.3	-2.0
	baz=33						
M26K				S	S	04 43 46.5	+4.6
	baz=33						
CIT	Chita	76.92	34	*e*P	P	04 33 58.2	+3.7
CIT				*e*		04 34 02.5	
CIT				*e*		04 34 07.4	
CIT				*e*		04 36 47.8	
CIT				pmax	pmax		
	comp=Z,299nm,1.9s						
DLMT	Dillon	76.95	317	P	P	04 33 55.0	+0.1
JTS	Las Juntas de	77.02	273	LR	LR	05 02 55.3	
	comp=Z,16μm,21.9s,slow=32						
PAX	Paxson	77.03	343	IAmb	IAmb	04 34 17.5	
	comp=Z,464nm,1.9s						
PAX	Paxson	77.03	343	P	P	04 33 55.0	0.0
	baz=31,SNR=17						
PAX				S	S	04 43 44.4	+1.1
	baz=31						
SKAG	Skagway	77.11	337	P	P	04 33 57.1	+1.8
SKAG				IAmb	IAmb	04 34 07.9	
	comp=Z,383nm,1.9s						
SKAG	Skagway	77.11	337	P	P	04 33 53.2	-2.1
	baz=39						
SKAG				S	S	04 43 44.4	+0.5
	baz=39						
JACO	JACO, Garabito	77.13	273	IAmb	IAmb	04 34 01.8	
	comp=Z,206nm,1.4s						
MCK	McKinley	77.15	345	IAmb	IAmb	04 34 14.2	
	comp=Z,455nm,1.7s						
MCK				IAms_20	IAms_20	05 06 30.3	
	comp=Z,28μm,22.0s						
MCK	McKinley	77.15	345	P	P	04 33 54.6	-0.9
	baz=28,SNR=17						
MCK				S	S	04 43 44.5	+0.2
	baz=28						
REDW	Red Top Meadow	77.17	314	IAmb	IAmb	04 34 43.4	
	comp=Z,276nm,1.5s						
REDW				IAms_20	IAms_20	05 08 05.9	
	comp=Z,29μm,19.0s						
SDCO	Great Sand Dun	77.18	307	P	P	04 33 55.8	-0.7
	baz=55,SNR=39						
SDCO				S	S	04 43 44.6	-1.5
	baz=55						
BPAW	Bear Paw Mtn.	77.24	346	IAmb	IAmb	04 34 07.8	
	comp=Z,278nm,1.8s						
BPAW				IAms_20	IAms_20	05 08 02.7	
	comp=Z,24μm,21.0s						
BPAW	Bear Paw Mtn.	77.24	346	P	P	04 33 55.0	-1.1
	baz=27,SNR=21						
BPAW				S	S	04 43 45.5	+0.2
	baz=27						
GTA	Gaotai	77.29	51	⇑P	P	04 33 57.3	+0.4
GTA				pP	sP	04 34 01.8	+0.2
GTA				sP	PcP	04 34 05.4	-2.1
GTA				S	S	04 43 46.0	-0.9
GTA				sS	sS	04 43 55.1	+2.6
GTA				SS	SS	04 48 47.4	+3.3
GTA				pmax	pmax		
	comp=Z,27nm,1.0s						
GTA				pmax	pmax		
	comp=Z,1μm,6.6s						
GTA				LR	LR		
	comp=Z,27μm,15.6s						
GTA				LR	LR		
	comp=Z,31μm,14.5s						
GTA				LR	LR		
	comp=Z,21μm,14.2s						
SMCO	Snowmass	77.30	309	P	P	04 33 56.4	-0.9
SMCO				IAmb	IAmb	04 34 09.1	
	comp=Z,187nm,1.4s						
CRIN	San Cristobal	77.37	277	P	P	04 33 57.8	+0.1
JCT	Junction City	77.40	298	IAms_20	IAms_20	05 07 19.7	
	comp=Z,23μm,20.0s						
JCT	Junction City	77.40	298	P	P	04 33 57.1	-0.4
	baz=56,SNR=75						
JCT				S	S	04 43 45.2	-3.0
	baz=56						
RND	Reindeer	77.42	345	IAms_20	IAms_20	05 07 38.5	
	comp=Z,21μm,22.0s						
HARP	HAARP	77.45	343	P	P	04 33 57.4	+0.1
	baz=31						
ITAB	Concordia	77.50	223	*e*P	P	04 33 58.8	+1.0
ITAB	Concordia	77.50	223	IAmb	IAmb	04 34 20.2	
	comp=Z,226nm,1.3s						
TRD	Trivandrum	77.51	88	*e*P	P	04 33 57.4	-0.9
OTAV	Otavalo	77.51	261	P	P	04 33 59.4	+0.6
OTAV				pmax	pmax		
	comp=Z,137nm,1.3s						
OTAV	Otavalo	77.51	261	*i* P	P	04 33 58.9	+0.1
OTAV	Otavalo	77.51	261	*e*P	P	04 33 59.5	+0.6
OTAV	Otavalo	77.51	261	P	P	04 33 59.4	+0.6
VIS	Vishakhapatnam	77.52	77	*e*P	P	04 33 57.7	-0.5
VIS				IAms_20	IAms_20	05 15 10.0	
	comp=Z,12μm,11.6s						
MSTX	Muleshoe	77.52	303	IAmb	IAmb	04 34 10.0	
	comp=Z,420nm,1.6s						
MSTX	Muleshoe	77.52	303	P	P	04 33 57.5	-0.7
	baz=55,SNR=16						
MSTX				S	S	04 43 49.0	-0.6
	baz=55						
O20A	White River Ci	77.53	311	IAmb	IAmb	04 35 04.4	
	comp=Z,213nm,1.5s						
O20A	White River Ci	77.53	311	P	P	04 33 57.0	-1.3
	baz=54,SNR=22						
O20A				S	S	04 43 51.1	+1.5
	baz=54						
NEW	Newport	77.54	321	P	P	04 33 58.0	-0.1
	comp=Z,21nm,0.9s,baz=35,slow=4.4,SNR=22						
NEW				LR	LR	05 04 23.1	
	comp=Z,28μm,21.9s,baz=38,slow=33						
NEW	Newport	77.54	321	P	P	04 33 58.0	-0.1
NEW	Newport	77.54	321	IAms_20	IAms_20	05 04 12.4	
	comp=Z,31μm,21.0s						
NEW	Newport	77.54	321	P	P	04 33 57.0	-1.1
	baz=50,SNR=29						
NEW				S	S	04 43 47.6	-1.5
	baz=50						
KVTX	Kingsville	77.64	295	IAms_20	IAms_20	05 12 30.2	
	comp=Z,15μm,18.0s						
CHLP	Challavanipeta	77.66	76	*e*P	P	04 33 58.6	-0.5
AHID	Auburn Hatcher	77.68	314	IAmb	IAmb	04 34 20.8	
	comp=Z,155nm,1.1s						
AHID				IAms_20	IAms_20	05 04 54.3	
	comp=Z,26μm,22.0s						
TRF	Thorofare Moun	77.68	345	IAms_20	IAms_20	05 07 57.4	
	comp=Z,17μm,20.0s						
TRF	Thorofare Moun	77.68	345	P	P	04 33 57.3	-1.4
	baz=27,SNR=19						
TRF				S	S	04 43 46.5	-3.8
	baz=27						
BARN	Barnard Glacie	77.69	341	P	P	04 33 59.8	+1.0
BARN				IAmb	IAmb	04 34 14.8	
	comp=Z,479nm,2.0s						
BARN				IAms_20	IAms_20	05 08 37.7	
	comp=Z,20μm,20.0s						
CHUM	Lake Minchumin	77.69	346	P	P	04 33 58.2	-0.4
	baz=26,SNR=19						
CHUM				S	S	04 43 52.2	+2.1
	baz=26						
GCSA	Galena City Sc	77.71	349	P	P	04 33 58.9	+0.3
	baz=22,SNR=9.1						
GCSA				S	S	04 43 54.5	+4.4
	baz=22						
KTH	Kantishna Hill	77.72	346	IAmb	IAmb	04 34 15.1	
	comp=Z,258nm,1.1s						
KTH				IAms_20	IAms_20	05 06 27.4	
	comp=Z,25μm,22.0s						
JIS	Juneau Island	77.73	336	IAms_20	IAms_20	05 13 34.8	
	comp=Z,20μm,18.0s						
J20K	Nowinta River	77.77	347	P	P	04 33 59.4	+0.4
	baz=24						
J20K				S	S	04 43 55.4	+4.5
	baz=24						
CZSB	Cruzeiro do Su	77.81	251	*e*P	P	04 33 59.7	-0.2
GLB	Gilahina Butte	77.93	342	IAms_20	IAms_20	05 09 10.1	
	comp=Z,28μm,20.0s						
M24K	Tolsona, Glenn	77.95	343	P	P	04 34 02.6	+2.6
M24K				IAmb	IAmb	04 35 19.0	
	comp=Z,245nm,1.2s						
M24K				IAms_20	IAms_20	05 07 58.5	
	comp=Z,18μm,22.0s						
M24K	Tolsona, Glenn	77.95	343	P	P	04 33 59.1	-0.9
	baz=30						
N25K	Chitina, Valde	77.99	342	P	P	04 34 01.1	+0.8
N25K				IAmb	IAmb	04 34 24.6	
	comp=Z,563nm,2.0s						
N25K				IAms_20	IAms_20	05 07 33.7	
	comp=Z,26μm,20.0s						
N25K	Chitina, Valde	77.99	342	P	P	04 33 59.4	-1.0
	baz=32						
N25K				S	S	04 43 56.2	+2.6
	baz=32						
VRDI	Verde Repeater	78.02	341	IAms_20	IAms_20	05 08 54.5	
	comp=Z,26μm,20.0s						
S22A	4UR Ranch, Cre	78.04	308	P	P	04 34 00.9	-0.4
	baz=54,SNR=34						
S22A				S	S	04 43 54.5	-0.9
	baz=54						
TABL	Table Mountain	78.06	340	IAmb	IAmb	04 34 28.8	
	comp=Z,146nm,1.1s						
TABL				IAms_20	IAms_20	05 09 22.5	
	comp=Z,28μm,20.0s						
CAST	Castle Rocks	78.07	346	IAms_20	IAms_20	05 07 30.6	
	comp=Z,28μm,22.0s						
CAST	Castle Rocks	78.07	346	P	P	04 33 59.9	-0.7
	baz=26,SNR=10						
RDMU	Red Mountain	78.08	312	IAmb	IAmb	04 34 13.2	
	comp=Z,246nm,0.9s						
PINM	Pinnacle	78.09	339	P	P	04 34 01.0	+0.1
	baz=35						
PINM				S	S	04 43 57.7	+3.0
	baz=35						
ESQI	Esquipulas	78.19	279	P	P	04 34 02.5	+0.4
PNL	Peninsula	78.19	339	P	P	04 34 01.6	+0.2
	baz=36						
YAH	Yahtse	78.29	340	IAms_20	IAms_20	05 09 38.8	
	comp=Z,23μm,18.0s						
MTO3	Montecristo	78.29	279	P	P	04 34 03.0	+0.1
MTO3				IAmb	IAmb	04 34 31.8	
	comp=Z,241nm,1.3s						
833A	Chaparral WMA,	78.31	296	IAmb	IAmb	04 34 14.6	
	comp=Z,284nm,1.1s						
833A	Chaparral WMA,	78.31	296	P	P	04 34 01.3	-1.3
	baz=56,SNR=28						
833A				S	S	04 43 57.6	-0.3
	baz=56						
LLLB	Lillooet	78.32	325	IAmb	IAmb	04 34 38.7	
	comp=Z,315nm,1.7s						
TNA	Tin City	78.34	353	P	P	04 34 01.3	-0.7
	baz=13,SNR=26						
TNA				S	S	04 44 01.1	+4.1
	baz=13						
KLU	Klutina	78.42	343	IAmb	IAmb	04 34 15.7	
	comp=Z,460nm,1.7s						
KLU				IAms_20	IAms_20	05 08 05.9	
	comp=Z,28μm,22.0s						
KLU	Klutina	78.42	343	P	P	04 34 02.4	-0.3
	baz=31,SNR=15						
KLU				S	S	04 44 01.6	+3.5
	baz=31						
WRAK	Wrangell Islan	78.45	334	IAms_20	IAms_20	05 07 03.9	
	comp=Z,27μm,18.0s						
WRAK	Wrangell Islan	78.45	334	P	P	04 34 03.1	+0.3
	baz=40						
WRAK				S	S	04 44 01.1	+2.6
	baz=40						
SCM	Sheep Creek Mo	78.46	343	P	P	04 34 02.9	0.0
SCM				pmax	pmax		
	comp=Z,303nm,1.0s						
SCM				MLR	MLR		
	comp=Z,20μm,22.0s						
SCM	Sheep Creek Mo	78.46	343	P	P	04 34 02.9	0.0
SCM				IAmb	IAmb	04 34 45.2	
	comp=Z,303nm,1.0s						
SCM				IAms_20	IAms_20	05 07 58.0	
	comp=Z,20μm,22.0s						
SCM	Sheep Creek Mo	78.46	343	P	P	04 34 00.5	-2.4
	baz=30						
MESA	MESA	78.50	340	IAms_20	IAms_20	05 07 25.2	
	comp=Z,22μm,20.0s						
MESA	MESA	78.50	340	P	P	04 34 03.2	-0.1
	baz=34						
WAX	Waxell Ridge	78.52	341	IAmb	IAmb	04 34 23.1	
	comp=Z,229nm,1.2s						
WAX				IAms_20	IAms_20	05 09 57.7	
	comp=Z,16μm,20.0s						
BMRM	Bremner River	78.54	342	P	P	04 34 04.0	+0.6
BMRM				IAms_20	IAms_20	05 09 39.2	
	comp=Z,27μm,20.0s						
BMRM	Bremner River	78.54	342	P	P	04 34 03.6	+0.2
	baz=32,SNR=14						
PPLA	Purkeypile	78.56	346	IAmb	IAmb	04 34 15.8	
	comp=Z,226nm,1.4s						
PPLA	Purkeypile	78.56	346	P	P	04 34 03.1	-0.4
	baz=26,SNR=8.6						
PPLA				S	S	04 43 59.2	-0.7
	baz=26						
B08A	Colville Reser	78.60	322	IAmb	IAmb	04 34 15.7	
	comp=Z,190nm,1.1s						
CUT	Chulitna	78.61	345	IAmb	IAmb	04 34 37.8	
	comp=Z,260nm,1.3s						
CUT				IAms_20	IAms_20	05 07 58.9	
	comp=Z,18μm,21.0s						
CUT	Chulitna	78.61	345	P	P	04 34 02.6	-1.0
	baz=27						
DIV	Divide	78.69	342	IAmb	IAmb	04 34 27.7	
	comp=Z,416nm,1.8s						
SML	Sawmill	78.71	344	IAms_20	IAms_20	05 07 50.7	
	comp=Z,20μm,22.0s						
SML	Sawmill	78.71	344	P	P	04 34 04.3	0.0
	baz=29,SNR=9.2						
SML				S	S	04 44 04.6	+3.4
	baz=29						
PV15	Paradox Valley	78.74	309	P	P	04 34 05.0	-0.1
SNH	Sunshine Point	78.74	341	IAms_20	IAms_20	05 07 41.6	
	comp=Z,17μm,20.0s						
BERG	Berg Lake	78.79	341	IAms_20	IAms_20	05 10 06.9	
	comp=Z,28μm,19.0s						
APG	El Apazote	78.84	280	LR	LR	05 04 19.1	
	comp=Z,8μm,21.2s,baz=59,slow=32						
GHO	Glory Hole Cre	78.88	344	IAms_20	IAms_20	05 08 28.1	
	comp=Z,18μm,22.0s						
BGLC	Bering Glacier	78.91	341	P	P	04 34 06.4	+1.1
	baz=32						
PLID	Pearl Lake	78.99	318	IAms_20	IAms_20	05 06 27.0	
	comp=Z,18μm,20.0s						
SIT	Sitka	79.00	335	P	P	04 34 06.7	+0.9
	baz=38						
PV23	Carpenter Ridg	79.01	310	IAmb	IAmb	04 34 41.6	
	comp=Z,434nm,1.4s						
PV11	David Mesa, Pa	79.01	309	P	P	04 34 06.5	-0.1
ANM	Nome	79.05	352	IAms_20	IAms_20	05 10 36.3	
	comp=Z,23μm,19.0s						
ANM	Nome	79.05	352	P	P	04 34 05.4	-0.6
	baz=15						
ANM				S	S	04 44 06.8	+2.2
	baz=15						
PV10	Paradox Valley	79.07	309	P	P	04 34 07.2	+0.3
PV10				IAmb	IAmb	04 34 15.6	
	comp=Z,191nm,0.8s						
PMR	Palmer	79.08	344	P	P	04 34 06.3	+0.1
PMR				pmax	pmax		
	comp=Z,231nm,1.6s						
PMR	Palmer	79.08	344	P	P	04 34 06.3	+0.1
PMR	Palmer	79.08	344	P	P	04 34 06.1	-0.1
	baz=28						
PMR				S	S	04 44 05.8	+0.7
	baz=28						
HLID	Hailey	79.09	316	IAmb	IAmb	04 34 19.5	
	comp=Z,346nm,1.8s						
HLID				IAms_20	IAms_20	05 07 52.5	
	comp=Z,17μm,18.0s						
HLID	Hailey	79.09	316	P	P	04 34 07.0	+0.1
	baz=51,SNR=132						
HLID				S	S	04 44 09.6	+3.4
	baz=51						
KNK	Knik Glacier	79.09	344	IAmb	IAmb	04 34 22.9	
	comp=Z,512nm,1.6s						
KNK				IAms_20	IAms_20	05 08 26.6	
	comp=Z,25μm,22.0s						
KNK	Knik Glacier	79.09	344	P	P	04 34 05.5	-0.8
	baz=28						
KNK				S	S	04 44 07.6	+2.4
	baz=28						
M22K	Willow	79.16	344	IAms_20	IAms_20	05 07 19.5	
	comp=Z,21μm,21.0s						
M22K	Willow	79.16	344	P	P	04 34 05.6	-1.0
	baz=27						
EYAK	Cordova Ski Ar	79.19	342	P	P	04 34 06.7	-0.1
EYAK				S	S	04 44 08.7	+2.5
	baz=31						
FID	Port Fidalgo	79.20	342	IAms_20	IAms_20	05 08 31.8	
	comp=Z,28μm,21.0s						
JLU	Jordanelle	79.20	312	IAmb	IAmb	04 34 19.2	
	comp=Z,427nm,1.7s						
GLI	Glacier Island	79.23	343	IAms_20	IAms_20	05 08 40.5	
	comp=Z,23μm,22.0s						
GLI	Glacier Island	79.23	343	P	P	04 34 06.3	-0.7
	baz=30						
GLI				S	S	04 44 09.1	+2.4
	baz=30						
TTA	Tatalina	79.25	348	P	P	04 34 09.8	+2.6
TTA				pmax	pmax		
	comp=Z,602nm,1.8s						
TTA	Tatalina	79.25	348	P	P	04 34 09.8	+2.6
TTA				IAmb	IAmb	04 34 20.1	
	comp=Z,602nm,1.8s						
TTA	Tatalina	79.25	348	P	P	04 34 06.1	-1.2
	baz=23,SNR=22						
TTA				S	S	04 44 09.1	+2.1
	baz=23						
HVU	Hansel Valley	79.26	314	IAmb	IAmb	04 34 19.5	
	comp=Z,435nm,1.9s						
L20K	Farewell, AK	79.27	346	P	P	04 34 06.2	-1.1
	baz=24						
KAIM	Kayak Island	79.38	341	P	P	04 34 07.5	-0.4
	baz=32						
MVCO	Mesa Verde	79.43	308	P	P	04 34 09.0	+0.1
MVCO				IAmb	IAmb	04 34 44.3	
	comp=Z,223nm,1.3s						
MVCO	Mesa Verde	79.43	308	P	P	04 34 06.7	-2.2
	baz=53,SNR=23						
MVCO				S	S	04 44 10.3	+0.2
	baz=53						
ANMO	Albuquerque	79.44	305	LR	LR	05 07 44.1	
	comp=Z,22μm,21.7s,baz=56,slow=34						
ANMO	Albuquerque	79.44	305	P	P	04 34 08.1	-0.8
ANMO				pmax	pmax		
	comp=Z,87nm,1.5s						
ANMO				MLR	MLR		
	comp=Z,23μm,20.0s						
ANMO	Albuquerque	79.44	305	P	P	04 34 08.1	-0.8
ANMO	Albuquerque	79.44	305	IAms_20	IAms_20	05 09 15.4	
	comp=Z,23μm,20.0s						
ANMO	Albuquerque	79.44	305	P	P	04 34 07.4	-1.6
	baz=54						
ANMO				S	S	04 44 09.5	-0.7
	baz=54						
P17A	Butcher Ranch,	79.46	311	IAmb	IAmb	04 34 20.4	
	comp=Z,447nm,1.6s						
PWL	Port Wells	79.55	343	IAms_20	IAms_20	05 09 06.8	
	comp=Z,18μm,22.0s						
PWL	Port Wells	79.55	343	P	P	04 34 06.3	-2.6
	baz=29						
PWL				S	S	04 44 11.5	+1.4
	baz=29						
RC01	Rabbit Creek A	79.67	344	P	P	04 34 07.5	-1.9
	baz=28						
RC01				S	S	04 44 13.1	+1.8
	baz=28						
C06D	Leavenworth	79.67	323	P	P	04 34 09.1	-0.6
	baz=47						
C06D				S	S	04 44 10.8	-1.1
	baz=47						
E08A	Dider Farm, El	79.70	321	IAmb	IAmb	04 34 21.6	
	comp=Z,516nm,2.0s						
RER	Riviere de l'E	79.74	125	IAms_20	IAms_20	05 11 44.2	
	comp=Z,27μm,19.0s						
SHL	Shillong	79.75	66	*e*P	P	04 34 10.3	-0.4
SHL				IAms_20	IAms_20	05 14 38.1	
	comp=Z,9μm,17.4s						
CPUP	Villa Florida	79.81	227	P	P	04 34 10.2	-0.4
	comp=Z,44nm,0.9s,baz=47,slow=4.3,SNR=10.0						
CPUP				LR	LR	05 09 55.3	
	comp=Z,46μm,18.1s,baz=52,slow=36						
CPUP	Villa Florida	79.81	227	*e*P	P	04 34 09.8	-0.9
CPUP	Villa Florida	79.81	227	IAmb	IAmb	04 34 31.5	
	comp=Z,270nm,1.3s						
BMO	Blue Mountains	79.85	319	P	P	04 34 10.0	-0.9
BMO				pmax	pmax		
	comp=Z,589nm,2.0s						
BMO	Blue Mountains	79.85	319	P	P	04 34 09.9	-0.9
BMO				IAmb	IAmb	04 34 22.3	
	comp=Z,589nm,1.9s						
BMO				IAms_20	IAms_20	05 05 19.7	
	comp=Z,17μm,21.0s						
SEY	Seymchan	79.86	11	P	P	04 34 10.5	+0.1
	comp=Z,4.0nm,0.8s,baz=334,slow=3.9,SNR=22						
SEY				LR	LR	05 10 54.5	
	comp=Z,27μm,22.0s,baz=333,slow=37						
LPAZ	La Paz	79.90	242	P	P	04 34 11.2	-0.9
	comp=Z,9.8nm,0.7s,baz=8.5,slow=9.8,SNR=13						
LPAZ				LR	LR	05 06 08.0	
	comp=Z,27μm,21.9s,baz=53,slow=33						
LPAZ	La Paz	79.90	242	*e*P	P	04 34 11.2	-0.9
BBB	Bella Bella	79.97	329	LR	LR	05 09 00.9	
	comp=Z,17μm,18.3s,baz=26,slow=35						
MFID	Camas Ranch	79.97	317	P	P	04 34 11.6	0.0
MFID				IAms_20	IAms_20	05 10 25.0	
	comp=Z,15μm,18.0s						
A04D	Lummi Island	80.00	324	S	S	04 44 16.0	+0.8
	baz=46						
HAWA	Hanford	80.01	321	IAms_20	IAms_20	05 05 25.7	
	comp=Z,19μm,20.0s						
BNM	Barren Site	80.02	305	P	P	04 34 12.6	+0.4
B05A	Bryant	80.02	323	P	P	04 34 10.1	-1.5
	baz=47						
B05A				S	S	04 44 15.6	+0.2
	baz=47						
Q16A	Castle Valley	80.07	311	IAmb	IAmb	04 34 33.9	
	comp=Z,484nm,1.7s						
O22K	Cooper Landing	80.20	344	IAms_20	IAms_20	05 09 10.1	
	comp=Z,20μm,22.0s						
O22K	Cooper Landing	80.20	344	P	P	04 34 11.3	-1.0
	baz=27						
O22K				S	S	04 44 18.1	+1.1
	baz=27						
ITAN	ITANAGAR	80.21	64	*e*P	P	04 34 13.0	0.0
Y22D	IRIS PASSCAL I	80.26	305	IAms_20	IAms_20	05 08 08.3	
	comp=Z,24μm,21.0s						

Y22D	**IRIS PASSCAL I**	**80.26 305**	P	**P**	**04 34 13.4**	**+0.1**
	baz=53					
CAPN	**Captain Cook N**	**80.27 344**	IAMs_20	IAMs_20	05 08 04.7	
	comp=Z,26µm,21.0s					
DUG	**Dugway, Tooele**	**80.27 313**	IAMs_20	IAMs_20	05 06 53.1	
	comp=Z,20µm,20.0s					
DUG	**Dugway, Tooele**	**80.27 313**	P	**P**	**04 34 12.3**	**-1.0**
	baz=51,SNR=57					
DUG			S	**S**	**04 44 16.3**	**-2.4**
	baz=51					
Q23K	**Middleton Isla**	**80.31 342**	IAMs_20	IAMs_20	05 08 56.9	
	comp=Z,24µm,21.0s					
CBB	**Campbell River**	**80.32 326**	P	**P**	**04 34 13.2**	**0.0**
CBB			IAmb	IAmb	04 34 46.5	
	comp=Z,553nm,1.6s					
GAMB	**Gambell**	**80.42 355**	P	**P**	**04 34 13.1**	**-0.3**
GAMB			IAmb	IAmb	04 34 25.1	
	comp=Z,368nm,1.6s					
GAMB			IAMs_20	IAMs_20	05 08 26.5	
	comp=Z,18µm,21.0s					
GAMB	**Gambell**	**80.42 355**	P	**P**	**04 34 12.8**	**-0.6**
	baz=9.9,SNR=27					
GAMB			S	**S**	**04 44 19.1**	**+0.1**
	baz=9.9					
SEW	**Seward**	**80.48 343**	P	**P**	**04 34 14.2**	**+0.5**
	baz=28					
F07A	**Phinny Hill Vi**	**80.55 321**	IAmb	IAmb	04 34 25.9	
	comp=Z,612nm,2.0s					
MNTX	**Cornudas Mount**	**80.62 302**	IAMs_20	IAMs_20	05 09 40.9	
	comp=Z,25µm,20.0s					
MNTX	**Cornudas Mount**	**80.62 302**	P	**P**	**04 34 14.2**	**-0.9**
	baz=54,SNR=30					
MNTX			S	**S**	**04 44 20.9**	**-1.6**
	baz=54					
CPSB	**Cacapava Do Su**	**80.68 222**	*e*P	**P**	**04 34 15.7**	**+0.5**
TXAR	**Lajitas Array**	**80.80 299**	P	**P**	**04 34 16.5**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=74,slow=5.8,SNR=34					
TXAR			PP	PP	04 37 31.9	+12
	comp=Z,8.3nm,1.1s,baz=87,slow=6.4,SNR=3.6					
TXAR			LR	LR	05 09 38.0	
	comp=Z,29µm,19.4s,baz=45,slow=35					
TX31	**Lajitas Ar. Si**	**80.81 299**	P	**P**	**04 34 15.5**	**-0.8**
TX31			IAmb	IAmb	04 34 35.9	
	comp=Z,286nm,1.5s					
DIBR	**DIBRUGARH**	**80.89 63**	*ex*	**P**	**04 34 20.1**	**+3.5**
N19K	**Bonanza Creek**	**80.92 346**	IAMs_20	IAMs_20	05 08 46.9	
	comp=Z,21µm,21.0s					
N19K	**Bonanza Creek**	**80.92 346**	P	**P**	**04 34 13.9**	**-2.4**
	baz=24					
N19K			S	**S**	**04 44 25.6**	**+0.9**
	baz=24					
D03D	**Eldon**	**81.01 323**	P	**P**	**04 34 17.2**	**+0.3**
	baz=46					
D03D			S	**S**	**04 44 28.8**	**+3.0**
	baz=46					
BRSE	**Bradley Lake S**	**81.10 344**	P	**P**	**04 34 18.1**	**+1.0**
	baz=27					
BRSE			S	**S**	**04 44 28.4**	**+2.0**
	baz=27					
D04E	**Lakebay**	**81.10 323**	P	**P**	**04 34 18.0**	**+0.6**
	baz=46					
BRLK	**Bradley Lake**	**81.11 344**	IAMs_20	IAMs_20	05 08 50.5	
	comp=Z,20µm,22.0s					
CMIG	**Matias Romero**	**81.18 285**	LR	LR	05 08 06.5	
	comp=Z,12µm,20.2s,baz=58,slow=34					
MTPU	**Mount Pierson**	**81.23 311**	P	**P**	**04 34 17.9**	**-0.8**
PALK	**Pallekele**	**81.25 87**	LR	LR	05 11 01.6	
	comp=Z,34µm,21.7s,baz=41,slow=36					
PALK	**Pallekele**	**81.25 87**	P	**P**	**04 34 18.4**	**-0.4**
PALK			pmax	pmax		
	comp=Z,393nm,1.9s					
PALK			MLR	MLR		
	comp=Z,39µm,20.0s					
PALK	**Pallekele**	**81.25 87**	P	**P**	**04 34 18.4**	**-0.4**
PALK			IAmb	IAmb	04 34 24.3	
	comp=Z,393nm,1.9s					
MOKO	**MOKOCHONG**	**81.26 64**	*e*P	**P**	**04 34 18.9**	**+0.1**
KOHI	**KOHIMA**	**81.31 65**	*e*P	**P**	**04 34 18.1**	**-1.0**
F05D	**White Salmon**	**81.34 321**	IAmb	IAmb	04 34 57.2	
	comp=Z,456nm,1.8s					
F05D			IAMs_20	IAMs_20	05 06 18.9	
	comp=Z,23µm,21.0s					
F05D	**White Salmon**	**81.34 321**	P	**P**	**04 34 18.2**	**-0.6**
	baz=47					
F05D			S	**S**	**04 44 29.2**	**-0.2**
	baz=47					
EPT	**El Paso**	**81.35 303**	IAMs_20	IAMs_20	05 09 54.1	
	comp=Z,23µm,21.0s					
ELK	**Elko**	**81.35 314**	P	**P**	**04 34 19.4**	**+0.2**
	comp=Z,23nm,1.0s,baz=40,slow=4.6,SNR=25					
ELK			LR	LR	05 08 42.7	
	comp=Z,19µm,20.0s,baz=44,slow=34					
ELK	**Elko**	**81.35 314**	IAMs_20	IAMs_20	05 08 21.6	
	comp=Z,17µm,19.0s					
ZEA	**Zeya**	**81.35 27**	*e*P	**P**	**04 34 20.2**	**+1.6**
ZEA			*e*S	**S**	**04 44 34.8**	**+5.6**
ZEA			*e*SS	**SS**	**04 49 44.0**	**+0.2**
ZEA			pmax	pmax		
	comp=E,300nm,4.9s					
ZEA			pmax	pmax		
	comp=Z,700nm,6.1s					
ZEA			pmax	pmax		
	comp=N,30nm,1.4s					
ZEA			pmax	pmax		
	comp=E,20nm,1.3s					
ZEA			pmax	pmax		
	comp=Z,50nm,1.3s					
ZEA			smax	smax		
	comp=N,2µm,14.1s					
ZEA			MLR	MLR		
	comp=E,14µm,16.0s					
ZEA			MLR	MLR		
	comp=Z,23µm,17.0s					
HOM	**Homer**	**81.37 344**	IAMs_20	IAMs_20	05 08 30.1	
	comp=Z,22µm,21.0s					
CNPM	**China Poot**	**81.40 344**	P	**P**	**04 34 21.2**	**+2.4**
CNPM			IAmb	IAmb	04 35 12.8	
	comp=Z,271nm,1.6s					
CNPM			IAMs_20	IAMs_20	05 08 57.8	
	comp=Z,23µm,22.0s					
E04D	**Cinebar**	**81.43 322**	IAmb	IAmb	04 34 30.9	
	comp=Z,235nm,1.2s					
E04D			IAMs_20	IAMs_20	05 07 27.4	
	comp=Z,17µm,20.0s					
E04D	**Cinebar**	**81.43 322**	P	**P**	**04 34 18.5**	**-0.7**
	baz=46					
E04D			S	**S**	**04 44 31.1**	**+0.8**
	baz=46					
O19K	**Port Alsworth**	**81.45 346**	P	**P**	**04 34 20.2**	**+1.2**
O19K			IAMs_20	IAMs_20	05 12 13.0	
	comp=Z,17µm,20.0s					
O19K	**Port Alsworth**	**81.45 346**	P	**P**	**04 34 17.3**	**-1.6**
	baz=24					
J08A	**Circle Bar Ran**	**81.47 318**	IAmb	IAmb	04 34 45.5	
	comp=Z,284nm,1.5s					
W18A	**Petrified Fore**	**81.49 307**	P	**P**	**04 34 18.7**	**-1.2**
	baz=52					
W18A			S	**S**	**04 44 30.9**	**-0.8**
	baz=52					
LKP	**Lekhapani**	**81.64 62**	*e*P	**P**	**04 34 24.6**	**+3.9**
PKCU	**Pink Cliffs**	**81.69 310**	IAmb	IAmb	04 34 32.8	
	comp=Z,415nm,1.7s					
IMP	**Imphal**	**81.70 66**	*e*P	**P**	**04 34 22.3**	**+1.2**
G05D	**Wamic, OR**	**81.71 321**	P	**P**	**04 34 20.3**	**-0.4**
	baz=47					
G05D			S	**S**	**04 44 35.4**	**+2.1**
	baz=47					
121A	**Cookes Peak, D**	**81.76 304**	IAmb	IAmb	04 34 34.1	
	comp=Z,245nm,1.3s					
121A	**Cookes Peak, D**	**81.76 304**	P	**P**	**04 34 20.4**	**-1.0**
	baz=53,SNR=18					
121A			S	**S**	**04 44 34.8**	**+0.2**
	baz=53					
F04A	**Amboy**	**81.79 322**	IAmb	IAmb	04 34 53.6	
	comp=Z,260nm,1.5s					
PLTB	**Pedras Altas**	**81.82 221**	*e*P	**P**	**04 34 22.0**	**+0.7**
PLTB	**Pedras Altas**	**81.82 221**	IAmb	IAmb	04 34 43.2	
	comp=Z,242nm,1.3s					
HOOD	**Mount Hood Mea**	**81.82 321**	P	**P**	**04 34 20.9**	**-0.6**
LZH	**Lanzhou**	**81.84 51**	⇑P	**P**	**04 34 22.6**	**+0.9**
LZH			sP	PcP	04 34 27.3	-0.1
LZH			S	**S**	**04 44 32.0**	**-3.2**
LZH			sS	SKKSac	04 44 47.8	+2.6
LZH			pmax	pmax		
	comp=Z,240nm,1.3s					
LZH			pmax	pmax		
	comp=Z,3µm,7.1s					
LZH			LR	LR		
	comp=Z,40µm,16.5s					
LZH			LR	LR		
	comp=Z,37µm,17.0s					
LZH			LR	LR		
	comp=Z,34µm,18.9s					
ATAH	**Atahualpa**	**81.87 255**	LR	LR	05 07 47.2	
	comp=Z,8µm,21.1s,baz=44,slow=34					
ITQB	**Itaqui**	**81.90 225**	*e*P	**P**	**04 34 21.9**	**+0.2**
ITQB	**Itaqui**	**81.90 225**	IAmb	IAmb	04 34 43.1	
	comp=Z,272nm,1.3s					
SPR3	**Spring Creek 3**	**81.94 313**	P	**P**	**04 34 22.7**	**+0.3**
SPR3			IAmb	IAmb	04 34 35.1	
	comp=Z,457nm,1.7s					
O18K	**Koktuh Hills**	**81.94 346**	P	**P**	**04 34 23.3**	**+1.7**
O18K			IAMs_20	IAMs_20	05 09 52.0	
	comp=Z,19µm,22.0s					
O18K	**Koktuh Hills**	**81.94 346**	P	**P**	**04 34 21.4**	**-0.2**
	baz=23					
O18K			S	**S**	**04 44 36.1**	**+1.0**
	baz=23					
F04D	**Rainier, OR**	**81.98 322**	P	**P**	**04 34 20.3**	**-1.8**
	baz=46					
F04D			S	**S**	**04 44 36.8**	**+0.8**
	baz=46					
SZCU	**Shurtz Canyon**	**82.07 311**	IAmb	IAmb	04 34 35.1	
	comp=Z,543nm,2.0s					
WVOR	**Wild Horse Val**	**82.17 317**	P	**P**	**04 34 23.7**	**+0.4**
WVOR			pmax	pmax		
	comp=Z,347nm,1.8s					
WVOR	**Wild Horse Val**	**82.17 317**	P	**P**	**04 34 23.7**	**+0.4**
WVOR			IAmb	IAmb	04 34 34.9	
	comp=Z,347nm,1.8s					
WVOR			IAMs_20	IAMs_20	05 17 55.2	
	comp=Z,17µm,18.0s					
PB16	**IPOC Station P**	**82.24 241**	IAmb	IAmb	04 34 44.6	
	comp=Z,188nm,1.2s					
WUAZ	**Wupatki**	**82.30 308**	P	**P**	**04 34 24.6**	**+0.5**
WUAZ			IAmb	IAmb	04 34 46.9	
	comp=Z,272nm,1.6s					
WUAZ	**Wupatki**	**82.30 308**	P	**P**	**04 34 24.4**	**+0.2**
	baz=51,SNR=23					
WUAZ			S	**S**	**04 44 38.8**	**-1.1**
	baz=51					
U15A	**North Rim**	**82.31 310**	P	**P**	**04 34 24.4**	**+0.1**
I05D	**Terrebonne, OR**	**82.34 320**	P	**P**	**04 34 23.7**	**-0.4**
	baz=47					
I05D			S	**S**	**04 44 40.1**	**+0.2**
	baz=47					
P18K	**Big Mountain,**	**82.37 346**	P	**P**	**04 34 22.5**	**-1.4**
	baz=23					
Q19K	**Cape Douglas,**	**82.47 345**	IAMs_20	IAMs_20	05 13 33.0	
	comp=Z,17µm,20.0s					
Q19K	**Cape Douglas,**	**82.47 345**	P	**P**	**04 34 23.9**	**-0.5**
	baz=24					
H04A	**Detroit Lake**	**82.54 321**	IAmb	IAmb	04 34 57.1	
	comp=Z,368nm,1.7s					
BTO	**Baotou**	**82.68 45**	*e*P	**P**	**04 34 25.3**	**-0.7**
BTO			S	**S**	**04 44 44.6**	**+1.0**
BTO			LR	LR		
	comp=Z,61µm,22.8s					
BTO			LR	LR		
	comp=Z,54µm,23.9s					
BMN	**Battle Mountai**	**82.70 315**	IAmb	IAmb	04 35 08.7	
	comp=Z,370nm,1.9s					
G03D	**McMinnville, O**	**82.72 322**	IAMs_20	IAMs_20	05 07 14.4	
	comp=Z,24µm,22.0s					
G03D	**McMinnville, O**	**82.72 322**	P	**P**	**04 34 26.0**	**0.0**
	baz=46					
G03D			S	**S**	**04 44 45.3**	**+1.7**
	baz=46					
MA2	**Magadan**	**82.75 13**	*d*iP	**P**	**04 34 26.5**	**+0.6**
MA2			pmax	pmax		
	comp=Z,107nm,1.1s					
MA2			MLR	MLR		
	comp=Z,60µm,21.0s					
MA2	**Magadan**	**82.75 13**	P	**P**	**04 34 25.6**	**-0.2**
H04D	**Lebanon**	**82.93 321**	IAMs_20	IAMs_20	05 07 20.1	
	comp=Z,17µm,21.0s					
H04D	**Lebanon**	**82.93 321**	P	**P**	**04 34 28.8**	**+1.8**
	baz=46,SNR=7.3					
H04D			S	**S**	**04 44 47.8**	**+2.0**
	baz=46					
J05D	**Fort Rock, OR**	**83.00 319**	P	**P**	**04 34 28.8**	**+1.1**
	baz=47,SNR=36					
J05D			S	**S**	**04 44 49.2**	**+2.3**
	baz=47					
PB12	**IPOC Station P**	**83.00 241**	P	**P**	**04 34 26.0**	**-1.8**
X16A	**Lo Mia Camp, P**	**83.02 308**	IAmb	IAmb	04 34 57.0	
	comp=Z,196nm,1.5s					
R11A	**Troy Canyon, C**	**83.10 313**	P	**P**	**04 34 28.0**	**-0.4**
	baz=50,SNR=57					
R11A			S	**S**	**04 44 46.6**	**-1.5**
	baz=50					
COR	**Corvallis**	**83.18 321**	IAMs_20	IAMs_20	05 07 28.6	
	comp=Z,23µm,21.0s					
PB08	**IPOC Station P**	**83.18 239**	P	**P**	**04 34 28.0**	**-1.0**
PB08			IAMs_20	IAMs_20	05 10 08.2	
	comp=Z,17µm,21.0s					
I04A	**Tendick Farm,**	**83.27 320**	P	**P**	**04 34 28.1**	**-0.8**
	baz=46					
I04A			S	**S**	**04 44 50.1**	**+0.7**
	baz=46					
PB11	**IPOC Station P**	**83.28 240**	IAmb	IAmb	04 34 36.1	
	comp=Z,114nm,0.9s					
KDAK	**Kodiak Island**	**83.28 344**	P	**P**	**04 34 29.5**	**+0.9**
	comp=Z,42nm,0.8s,baz=53,slow=6.2,SNR=6.8					
KDAK			LR	LR	05 13 34.8	
	comp=Z,12µm,19.5s,baz=42,slow=37					
KDAK	**Kodiak Island**	**83.28 344**	P	**P**	**04 34 28.6**	**-0.1**
KDAK	**Kodiak Island**	**83.28 344**	IAMs_20	IAMs_20	05 11 08.5	
	comp=Z,16µm,22.0s					
KDAK	**Kodiak Island**	**83.28 344**	P	**P**	**04 34 27.5**	**-1.1**
	baz=25					
PRN	**Pahroc Range**	**83.39 312**	IAmb	IAmb	04 34 41.8	
	comp=Z,182nm,1.3s					
HHC	**Hu-ho-hao-te**	**83.40 44**	*e*P	**P**	**04 34 30.4**	**+0.7**
HHC			pP	sP	04 34 35.4	+1.2
HHC			S	**S**	**04 44 51.0**	**+0.1**
HHC			sS	SKKSac	04 44 57.9	+1.3
HHC			pmax	pmax		
	comp=Z,110nm,1.9s					
HHC			pmax	pmax		
	comp=Z,2µm,5.7s					
HHC			LR	LR		
	comp=Z,61µm,15.7s					
HHC			LR	LR		
	comp=Z,20µm,19.1s					
HHC			LR	LR		
	comp=Z,82µm,17.1s					
MOD	**Modoc Plateau**	**83.45 318**	IAmb	IAmb	04 34 42.6	
	comp=Z,269nm,1.5s					
319A	**Douglas**	**83.47 304**	P	**P**	**04 34 30.8**	**+0.5**
J04D	**Umpqua Nationa**	**83.50 320**	IAMs_20	IAMs_20	05 16 20.1	
	comp=Z,16µm,18.0s					
J04D	**Umpqua Nationa**	**83.50 320**	P	**P**	**04 34 27.7**	**-2.6**
	baz=46					
J04D			S	**S**	**04 44 54.1**	**+2.0**
	baz=46					
NNA	**Nana**	**83.63 250**	LR	LR	05 09 28.6	
	comp=Z,10µm,21.5s,baz=38,slow=34					
NNA	**Nana**	**83.63 250**	P	**P**	**04 34 31.2**	**+0.1**
NNA			pmax	pmax		
	comp=Z,176nm,1.2s					
NNA	**Nana**	**83.63 250**	P	**P**	**04 34 31.2**	**+0.1**
NNA			IAmb	IAmb	04 34 41.5	
	comp=Z,176nm,1.1s					
Q09A	**Carvers**	**83.73 314**	IAmb	IAmb	04 34 43.5	
	comp=Z,240nm,1.3s					
XLT	**XiLinHaoTe**	**83.73 39**	⇑*i*P	**P**	**04 34 31.8**	**+0.4**
XLT			pP	PcP	04 34 35.3	-0.2
XLT			sP	sP	04 34 39.3	+3.5
XLT			PP	**PP**	**04 37 48.4**	**+4.8**
XLT			SKS	**S**	**04 44 48.6**	**-5.5**
XLT			S	**SKSac**	**04 44 54.9**	**+0.7**
XLT			sS	sS	04 45 02.0	+2.1
XLT			SS	**SS**	**04 50 22.8**	**+2.9**
XLT			pmax	pmax		
	comp=Z,140nm,1.8s					
XLT			pmax	pmax		
	comp=Z,1µm,3.8s					
XLT			LR	LR		
	comp=Z,59µm,15.6s					
XLT			LR	LR		
	comp=Z,56µm,16.8s					
XLT			LR	LR		
	comp=Z,50µm,15.5s					
K04D	**Chiloquin, OR**	**83.74 319**	P	**P**	**04 34 28.9**	**-2.5**
	baz=46					
K04D			S	**S**	**04 44 55.8**	**+1.5**
	baz=46					
I02E	**Swisshome, OR**	**83.79 321**	IAMs_20	IAMs_20	05 07 47.8	
	comp=Z,22µm,22.0s					
I02E	**Swisshome, OR**	**83.79 321**	P	**P**	**04 34 34.2**	**+2.7**
	baz=45					
I02E			S	**S**	**04 44 56.5**	**+2.0**
	baz=45					
I03D	**Drain, OR**	**83.83 321**	P	**P**	**04 34 30.8**	**-0.9**
	baz=45					
I03D			S	**S**	**04 44 55.7**	**+0.9**
	baz=45					
ZAIG	**Zacatecas**	**83.83 293**	IAmb	IAmb	04 34 46.6	
	comp=Z,126nm,1.3s					
TUC	**Tucson**	**83.90 306**	P	**P**	**04 34 33.4**	**+1.0**
TUC			pmax	pmax		
	comp=Z,538nm,1.5s					
TUC			MLR	MLR		
	comp=Z,21µm,18.0s					
TUC	**Tucson**	**83.90 306**	P	**P**	**04 34 33.4**	**+1.0**
TUC	**Tucson**	**83.90 306**	IAMs_20	IAMs_20	05 12 28.6	
	comp=Z,21µm,18.0s					
TUC	**Tucson**	**83.90 306**	P	**P**	**04 34 32.3**	**-0.1**
	baz=51					
TUC			S	**S**	**04 44 57.0**	**+0.8**
	baz=51					
OHAK	**Old Harbor**	**83.95 344**	P	**P**	**04 34 31.0**	**-1.1**
	baz=24					
OHAK			S	**S**	**04 44 53.6**	**-2.0**
	baz=24					
PB01	**IPOC Station P**	**84.01 239**	IAmb	IAmb	04 34 52.6	
	comp=Z,136nm,1.4s					
PB01			IAMs_20	IAMs_20	05 10 36.2	
	comp=Z,19µm,20.0s					
SHPR	**Sheep Range**	**84.04 311**	IAmb	IAmb	04 34 45.8	
	comp=Z,340nm,1.7s					
W13A	**Hualapai Mount**	**84.15 309**	IAmb	IAmb	04 34 55.8	
	comp=Z,188nm,1.5s					
TA01	**Diego Aracena**	**84.18 240**	P	**P**	**04 34 32.9**	**-0.8**
L04D	**Klamath Falls**	**84.31 319**	P	**P**	**04 34 33.7**	**-0.7**
	baz=46,SNR=5.2					
L04D			S	**S**	**04 44 59.6**	**-0.5**
	baz=46					
PB09	**IPOC Station P**	**84.34 238**	IAmb	IAmb	04 34 60.0	
	comp=Z,228nm,1.4s					
PB09			IAMs_20	IAMs_20	05 09 58.9	
	comp=Z,15µm,21.0s					
M04C	**Macdoel**	**84.36 319**	P	**P**	**04 34 34.9**	**+0.2**
M04C			IAmb	IAmb	04 34 46.2	
	comp=Z,182nm,1.1s					
M04C	**Macdoel**	**84.36 319**	P	**P**	**04 34 33.9**	**-0.7**
	baz=46,SNR=9.4					
M04C			S	**S**	**04 44 58.0**	**-2.6**
	baz=46					
HUMO	**Hull Mountain**	**84.39 320**	P	**P**	**04 34 35.0**	**+0.4**
HUMO			IAmb	IAmb	04 34 45.3	
	comp=Z,169nm,1.6s					
HUMO			IAMs_20	IAMs_20	05 12 06.6	
	comp=Z,13µm,18.0s					
TPNV	**Topopah Spring**	**84.42 312**	P	**P**	**04 34 34.1**	**-1.0**
	baz=49,SNR=21					
TPNV			S	**S**	**04 44 58.5**	**-2.9**
	baz=49					
J01E	**Myrtle Point**	**84.50 321**	P	**P**	**04 34 34.9**	**-0.3**
	baz=45					
J01E			S	**S**	**04 45 01.5**	**-0.2**
	baz=45					
NV11	**Mina Array Sit**	**84.57 314**	IAmb	IAmb	04 35 29.6	
	comp=Z,184nm,1.6s					
MOIG	**Morelia**	**84.60 290**	P	**P**	**04 34 36.6**	**+0.3**
MOIG			IAmb	IAmb	04 34 48.6	
	comp=Z,184nm,1.1s					
LVC	**Limon Verde**	**84.65 237**	LR	LR	05 09 57.5	
	comp=Z,12µm,22.0s,baz=34,slow=34					
LVC	**Limon Verde**	**84.65 237**	P	**P**	**04 34 36.1**	**-0.4**
LVC			pmax	pmax		
	comp=Z,134nm,1.3s					
LVC			MLR	MLR		
	comp=Z,15µm,19.0s					
LVC	**Limon Verde**	**84.65 237**	*e*P	**P**	**04 34 37.1**	**+0.6**
LVC	**Limon Verde**	**84.65 237**	P	**P**	**04 34 36.1**	**-0.4**
LVC			IAmb	IAmb	04 35 03.6	
	comp=Z,134nm,1.2s					
LVC	**Limon Verde**	**84.65 237**	IAMs_20	IAMs_20	05 13 32.2	
	comp=Z,15µm,19.0s					
NVAR	**Mina Array Bea**	**84.66 314**	P	**P**	**04 34 36.6**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=51,slow=4.9,SNR=18					
NVAR			PP	**PP**	**04 37 58.2**	**+6.7**
	comp=Z,14nm,1.2s,baz=59,slow=6.8,SNR=4.9					
NVAR			PKKPbc	**PKKPbc**	**04 52 49.1**	**+3.9**
	comp=Z,0.9nm,0.7s,baz=229,slow=5.2,SNR=5.4					
NVAR	**Mina Array Bea**	**84.66 314**	P	**P**	**04 34 35.5**	**-0.8**
K02D	**Willamette Mer**	**84.69 320**	P	**P**	**04 34 36.6**	**+0.3**
	baz=45,SNR=9.3					
K02D			S	**S**	**04 45 04.8**	**+1.0**
	baz=45					
SII	**Sitkinak Islan**	**84.76 344**	IAMs_20	IAMs_20	05 14 37.6	
	comp=Z,15µm,20.0s					
SII	**Sitkinak Islan**	**84.76 344**	P	**P**	**04 34 33.6**	**-2.6**
	baz=24					
PDMCI	**Parker Dam,Lak**	**84.82 309**	P	**P**	**04 34 36.5**	**-0.4**
	baz=50,SNR=23					
PDMCI			S	**S**	**04 45 04.8**	**-0.3**
	baz=50					
NEE2	**Needles Airpor**	**84.83 309**	P	**P**	**04 34 35.3**	**-1.6**
	baz=50					
NEE2			S	**S**	**04 45 02.5**	**-2.7**
	baz=50					
VCNR	**Virginia City**	**84.85 316**	IAmb	IAmb	04 34 58.9	
	comp=Z,141nm,1.3s					
YBH	**Yreka Blue Hor**	**84.87 319**	P	**P**	**04 34 37.8**	**+0.6**
	comp=Z,24nm,1.2s,baz=93,slow=2.4,SNR=6.5					
YBH			LR	LR	05 09 45.5	
	comp=Z,9µm,20.1s,baz=22,slow=34					
LHV	**Little Huntoon**	**84.89 314**	IAmb	IAmb	04 35 20.2	
	comp=Z,152nm,1.3s					
PNTR	**Pine Nut**	**84.96 315**	IAmb	IAmb	04 35 00.7	
	comp=Z,157nm,0.9s					
CD2	**Chengdu**	**85.00 55**	P	**P**	**04 34 38.8**	**+0.8**
CD2			PP	**PP**	**04 37 52.6**	**-1.7**
CD2			S	**S**	**04 45 04.0**	**-3.2**
CD2			SS	**SS**	**04 50 36.5**	**-2.8**
CD2			pmax	pmax		
	comp=Z,60nm,0.7s					
CD2			pmax	pmax		
	comp=Z,830nm,7.0s					
CD2			LR	LR		
	comp=Z,23µm,14.7s					
CD2			LR	LR		
	comp=Z,23µm,16.3s					
L02E	**Cave Junction**	**85.04 320**	IAMs_20	IAMs_20	05 17 43.9	
	comp=Z,17µm,20.0s					
L02E	**Cave Junction**	**85.04 320**	P	**P**	**04 34 36.1**	**-1.8**
	baz=45					
L02E			S	**S**	**04 45 08.4**	**+1.3**
	baz=45					
GRAC	**Grapevine Rang**	**85.06 313**	P	**P**	**04 34 37.9**	**-0.2**
	baz=48					
GRAC			S	**S**	**04 45 07.7**	**+0.2**
	baz=48					
FURC	**Furnace Creek,**	**85.10 312**	P	**P**	**04 34 39.0**	**+0.7**
	baz=49,SNR=16					
FURC			S	**S**	**04 45 08.0**	**+0.2**
	baz=49					
SHOC	**Shoshone, Teco**	**85.12 311**	P	**P**	**04 34 38.9**	**+0.5**
	baz=49					
SHOC			S	**S**	**04 45 07.6**	**-0.5**
	baz=49					
GWY	**Greenwater Val**	**85.17 312**	P	**P**	**04 34 39.2**	**+0.4**
PB06	**IPOC Station P**	**85.17 238**	P	**P**	**04 34 38.2**	**-0.7**
PB06			IAMs_20	IAMs_20	05 13 40.9	
	comp=Z,14µm,20.0s					
M02C	**Callahan**	**85.18 319**	IAmb	IAmb	04 35 21.4	
	comp=Z,225nm,1.7s					
M02C			IAMs_20	IAMs_20	05 19 53.7	
	comp=Z,15µm,19.0s					
M02C	**Callahan**	**85.18 319**	P	**P**	**04 34 39.8**	**+1.1**
	baz=45					
M02C			S	**S**	**04 45 07.7**	**-0.9**
	baz=45					
TUQ	**Turquoise Moun**	**85.20 311**	P	**P**	**04 34 39.1**	**0.0**
	baz=49					
TUQ			S	**S**	**04 45 09.9**	**+0.7**
	baz=49					
PB04	**IPOC Station P**	**85.32 238**	IAmb	IAmb	04 34 59.7	
	comp=Z,291nm,1.5s					

O03E	**Paynes Creek**	**85.37**	**317**	IAmb	IAmb	04 34 57.2		
	comp=Z,200nm,1.2s							
O03E				IAms_20	IAms_20	05 12 47.9		
	comp=Z,13μm,18.0s							
O03E	**Paynes Creek**	**85.37**	**317**	P	**P**	**04 34 38.9**	**-0.8**	
	baz=46							
O03E				S	**S**	**04 45 08.3**	**-2.3**	
	baz=46							
N02D	**Trinity Center**	**85.39**	**318**	P	**P**	**04 34 39.5**	**-0.3**	
N02D				IAmb	IAmb	04 35 06.3		
	comp=Z,228nm,1.4s							
N02D	**Trinity Center**	**85.39**	**318**	P	**P**	**04 34 39.0**	**-0.8**	
	baz=46							
N02D				S	**S**	**04 45 10.7**	**-0.1**	
	baz=46							
PB15	**IPOC Station P**	**85.44**	**237**	IAmb	IAmb	04 34 49.3		
	comp=Z,128nm,1.1s							
PB15				IAms_20	IAms_20	05 16 05.9		
	comp=Z,20μm,18.0s							
QSM	**Queen of Sheba**	**85.44**	**312**	P	**P**	**04 34 40.4**	**+0.4**	
214A	**Organ Pipe Nat**	**85.46**	**306**	P	**P**	**04 34 40.3**	**+0.1**	
	baz=50,SNR=38							
214A				S	**S**	**04 45 12.3**	**+0.6**	
	baz=50							
GMRC	**Granite Mounta**	**85.47**	**310**	P	**P**	**04 34 39.1**	**-1.2**	
	baz=49,SNR=26							
GMRC				S	**S**	**04 45 11.7**	**-0.1**	
	baz=49							
MLAC	**Mammoth, Mammo**	**85.50**	**314**	P	**P**	**04 34 41.3**	**+0.7**	
	baz=48,SNR=21							
MLAC				S	**S**	**04 45 13.7**	**+1.3**	
	baz=48							
TIN	**Tinemaha, Big**	**85.53**	**313**	P	**P**	**04 34 40.2**	**-0.4**	
	baz=48,SNR=16							
TIN				S	**S**	**04 45 12.9**	**+0.5**	
	baz=48							
IRM	**Iron Mountain**	**85.55**	**309**	P	**P**	**04 34 40.1**	**-0.5**	
	baz=49,SNR=19							
IRM				S	**S**	**04 45 11.2**	**-1.2**	
	baz=49							
113A	**Mohawk Valley,**	**85.57**	**307**	IAmb	IAmb	04 35 07.7		
	comp=Z,297nm,1.8s							
WDC	**Whiskeytown Da**	**85.58**	**318**	IAmb	IAmb	04 35 40.2		
	comp=Z,380nm,2.0s							
ORV	**Oroville**	**85.72**	**317**	IAmb	IAmb	04 34 52.9		
	comp=Z,144nm,1.2s							
ORV				IAms_20	IAms_20	05 10 57.0		
	comp=Z,15μm,20.0s							
MPMC	**Manual Prospec**	**85.75**	**312**	P	**P**	**04 34 41.6**	**-0.2**	
	baz=48,SNR=26							
MPMC				S	**S**	**04 45 12.2**	**-2.6**	
	baz=48							
CHIR	**Chirikof Islan**	**85.76**	**345**	P	**P**	**04 34 39.2**	**-2.0**	
	baz=23							
GSC	**Goldstone, Bar**	**85.84**	**311**	IAmb	IAmb	04 35 03.9		
	comp=Z,197nm,1.6s							
GSC	**Goldstone, Bar**	**85.84**	**311**	P	**P**	**04 34 42.2**	**+0.1**	
	baz=48							
GSC				S	**S**	**04 45 16.3**	**+1.0**	
	baz=48							
CWC	**Cottonwood Cre**	**85.85**	**313**	P	**P**	**04 34 40.7**	**-1.6**	
	baz=48							
CWC				S	**S**	**04 45 15.9**	**+0.3**	
	baz=48							
HEC	**Hector,Ludlow**	**85.86**	**310**	P	**P**	**04 34 41.2**	**-1.1**	
	baz=49,SNR=20							
HEC				S	**S**	**04 45 16.0**	**+0.4**	
	baz=49							
CHGN	**Chignik**	**85.88**	**346**	P	**P**	**04 34 41.3**	**-0.5**	
	baz=20							
TIY	**Taiyuan**	**86.01**	**46**	⇑P	**P**	**04 34 42.9**	**0.0**	
TIY				SKS	**S**	**04 45 09.1**	**-7.8**	
TIY				S	**SKKSac**	**04 45 16.3**	**0.0**	
TIY				SS	**SS**	**04 50 56.6**	**+2.9**	
TIY				pmax	pmax			
	comp=Z,78nm,1.5s							
TIY				pmax	pmax			
	comp=Z,1μm,4.5s							
TIY				LR	LR			
	comp=Z,24μm,17.2s							
TIY				LR	LR			
	comp=Z,30μm,23.4s							
GLA	**Glamis**	**86.07**	**308**	P	**P**	**04 34 42.4**	**-0.8**	
	baz=50							
GLA				S	**S**	**04 45 18.0**	**+0.4**	
	baz=50							
BC3	**Big Chuckawall**	**86.07**	**309**	P	**P**	**04 34 41.6**	**-1.7**	
	baz=49							
BC3				S	**S**	**04 45 19.0**	**+1.2**	
	baz=49							
CMB	**Columbia Colle**	**86.13**	**315**	P	**P**	**04 34 44.4**	**+0.9**	
CMB				pmax	pmax			
	comp=Z,163nm,1.5s							
CMB	**Columbia Colle**	**86.13**	**315**	P	**P**	**04 34 44.4**	**+0.9**	
CMB				IAmb	IAmb	04 35 27.0		
	comp=Z,163nm,1.4s							
CMB				IAms_20	IAms_20	05 09 56.1		
	comp=Z,15μm,21.0s							
BELC	**Belle Mtn. Jos**	**86.19**	**310**	P	**P**	**04 34 44.2**	**+0.2**	
	baz=49,SNR=13							
BELC				S	**S**	**04 45 16.7**	**-2.2**	
	baz=49							
RRX	**Edison Barstow**	**86.23**	**311**	P	**P**	**04 34 44.7**	**+0.7**	
	baz=48							
RRX				S	**S**	**04 45 20.6**	**+1.5**	
	baz=48							
LRMC	**Laurel Mtn Rad**	**86.25**	**312**	P	**P**	**04 34 44.4**	**+0.2**	
	baz=48,SNR=17							
LRMC				S	**S**	**04 45 21.6**	**+2.1**	
	baz=48							
NKL	**Nikolayevsk**	**86.27**	**21**	*e*P	**P**	**04 34 45.4**	**+1.7**	
NKL				pmax	pmax			
	comp=E,5.0nm,0.8s							
NKL				pmax	pmax			
	comp=N,358nm,0.9s							
NKL				pmax	pmax			
	comp=Z,92nm,1.7s							
XAN	**Xi'an**	**86.34**	**50**	⇑P	**P**	**04 34 44.0**	**-0.6**	
XAN				pP	sP	04 34 48.8	-0.3	
XAN				sP	pP	04 34 51.6	+3.5	
XAN				PP	**PP**	**04 38 06.6**	**+1.5**	
XAN				SKS	**SKSac**	**04 45 04.3**	**-6.8**	
XAN				S	**S**	**04 45 19.3**	**-1.0**	
XAN				SS	**SS**	**04 51 01.3**	**+2.5**	
XAN				pmax	pmax			
	comp=Z,44nm,1.7s							
XAN				pmax	pmax			
	comp=Z,2μm,3.6s							
XAN				LR	LR			
	comp=Z,34μm,15.8s							
XAN				LR	LR			
	comp=Z,32μm,13.1s							
XAN				LR	LR			
	comp=Z,31μm,17.2s							
PZH	**PanZhiHua**	**86.34**	**60**	⇑P	**P**	**04 34 44.8**	**0.0**	
PZH				PP	**PP**	**04 38 05.4**	**-0.1**	
PZH				S	**S**	**04 45 14.9**	**-5.8**	
PZH				SS	**SS**	**04 50 56.3**	**-3.2**	
PZH				pmax	pmax			
	comp=Z,50nm,1.0s							
PZH				pmax	pmax			
	comp=Z,2μm,5.5s							
PZH				LR	LR			
	comp=Z,9μm,21.6s							
PZH				LR	LR			
	comp=Z,12μm,19.0s							
PZH				LR	LR			
	comp=Z,8μm,24.1s							
PB10	**IPOC Station P**	**86.38**	**238**	IAms_20	IAms_20	05 10 43.9		
	comp=Z,22μm,22.0s							
BJI	**Beijing**	**86.50**	**42**	P	**P**	**04 34 45.4**	**+0.2**	
BJI				S	**S**	**04 45 19.3**	**-2.1**	
BJI				pmax	pmax			
	comp=Z,40nm,1.1s							
BJI				pmax	pmax			
	comp=Z,1μm,4.3s							
BJI				LR	LR			
	comp=Z,34μm,20.4s							
BJI				LR	LR			
	comp=Z,32μm,13.2s							
BJI				LR	LR			
	comp=Z,51μm,15.9s							
BJT	**Baijiatuau**	**86.52**	**42**	P	**P**	**04 34 44.9**	**-0.4**	
BJT				pmax	pmax			
	comp=Z,486nm,1.8s							
BJT				MLR	MLR			
	comp=Z,27μm,21.0s							
BJT	**Baijiatuau**	**86.52**	**42**	P	**P**	**04 34 44.9**	**-0.4**	
LPA	**La Plata**	**86.56**	**222**	*e*P	P	04 34 39.3	-5.9	
LPA				pP	sP	04 34 52.5	+2.8	
LPA				PP	**PP**	**04 38 06.2**	**-1.3**	
LPA				PKIKP	PKiKP	04 39 44.0	-8.1	
LPA				PPP	PPP	04 39 57.8		
LPA				SKIKP		04 43 23.4		
LPA				PKIKS		04 43 30.1		
LPA				SKS	**SKSac**	**04 45 06.7**	**-4.9**	
LPA				S	**S**	**04 45 26.9**	**+5.2**	
LPA				SCS	ScS	04 45 41.0	+11	
LPA				PS	**PnS**	**04 46 17.8**	**-2.9**	
LPA				PSP	PSP	04 46 44.7		
LPA				SKIKS		04 47 07.3		
LPA				SS	**SS**	**04 51 12.5**	**+9.3**	
LPA				SSS	SSS	04 54 29.5		
LPA				PPP	PPP	05 01 12.1		
BBRC	**Big Bear Solar**	**86.59**	**310**	S	**S**	**04 45 23.3**	**+0.3**	
	baz=48							
ISA	**Isabella, Lake**	**86.61**	**312**	IAmb	IAmb	04 34 58.7		
	comp=Z,116nm,1.0s							
ISA	**Isabella, Lake**	**86.61**	**312**	P	**P**	**04 34 45.8**	**-0.1**	
	baz=48,SNR=40							
ISA				S	**S**	**04 45 24.3**	**+1.4**	
	baz=48							
KLR	**Kul'dur**	**86.65**	**27**	P	**P**	**04 34 45.4**	**-0.3**	
	comp=Z,7.6nm,0.9s,baz=316,slow=4.1,SNR=5.4							
KLR				LR	LR	05 16 58.1		
	comp=Z,26μm,19.2s,baz=336,slow=38							
KLR	**Kul'dur**	**86.65**	**27**	*i*P	**P**	**04 34 44.5**	**-1.2**	
KLR				pmax	pmax			
	comp=Z,172nm,1.9s							
KLR				MLR	MLR			
	comp=Z,27μm,18.0s							
VOG	**Valley Oaks Go**	**86.71**	**313**	P	**P**	**04 34 47.2**	**+1.0**	
	baz=47							
PFO	**Pinyon Flats O**	**86.73**	**310**	LR	LR	05 13 52.7		
	comp=Z,14μm,18.1s,baz=52,slow=36							
PFO	**Pinyon Flats O**	**86.73**	**310**	P	**P**	**04 34 47.0**	**+0.4**	
PFO				pmax	pmax			
	comp=Z,106nm,1.4s							
PFO	**Pinyon Flats O**	**86.73**	**310**	P	**P**	**04 34 47.0**	**+0.4**	
PFO	**Pinyon Flats O**	**86.73**	**310**	IAms_20	IAms_20	05 18 44.3		
	comp=Z,15μm,19.0s							
PFO	**Pinyon Flats O**	**86.73**	**310**	P	**P**	**04 34 46.5**	**-0.1**	
	baz=49,SNR=9.6							
PFO				S	**S**	**04 45 25.0**	**+0.7**	
	baz=49							
TPFO	**Pinon Flats**	**86.73**	**310**	P	**P**	**04 34 46.8**	**+0.2**	
	baz=49,SNR=9.3							
TPFO				S	**S**	**04 45 26.4**	**+2.1**	
	baz=49							
SWSC	**Sam W. Stewart**	**86.75**	**309**	P	**P**	**04 34 44.6**	**-1.9**	
	baz=49							
SWSC				S	**S**	**04 45 25.1**	**+1.0**	
	baz=49							
EDW2	**Edwards Air Fo**	**86.84**	**311**	P	**P**	**04 34 47.1**	**0.0**	
	baz=48							
EDW2				S	**S**	**04 45 24.1**	**-1.1**	
	baz=48							
VES	**Vestal, Richgr**	**86.86**	**313**	P	**P**	**04 34 45.3**	**-1.7**	
	baz=47							
VES				S	**S**	**04 45 23.6**	**-1.4**	
	baz=47							
PB14	**IPOC Station P**	**87.01**	**237**	P	**P**	**04 34 48.0**	**-0.2**	
PB14				IAms_20	IAms_20	05 11 52.6		
	comp=Z,20μm,21.0s							
GRNR	**Gornyy**	**87.02**	**24**	⇓*i*P	**P**	**04 34 51.2**	**+3.7**	
GRNR				pmax	pmax			
	comp=Z,20nm,1.1s							
GRNR				MLR	MLR			
	comp=E,33μm,16.0s							
GRNR				MLR	MLR			
	comp=N,27μm,15.0s							
BFSC	**Mount Baldy Ra**	**87.06**	**311**	P	**P**	**04 34 47.6**	**-0.7**	
	baz=48							
BFSC				S	**S**	**04 45 26.6**	**-0.9**	
	baz=48							
IKP	**In-Ko-Pah, Jac**	**87.14**	**309**	P	**P**	**04 34 48.6**	**0.0**	
	baz=49							
IKP				S	**S**	**04 45 28.9**	**+0.7**	
	baz=49							
SDPT	**Sand Point**	**87.17**	**347**	P	**P**	**04 34 48.2**	**+0.1**	
	baz=19							
MONP2	**Monument Peak**	**87.18**	**309**	P	**P**	**04 34 48.2**	**-0.7**	
	baz=49							
MONP2				S	**S**	**04 45 30.0**	**+1.2**	
	baz=49							
ARVC	**Arvin**	**87.19**	**312**	P	**P**	**04 34 49.6**	**+1.0**	
	baz=47							
ARVC				S	**S**	**04 45 28.1**	**-0.2**	
	baz=47							
MURC	**Murrieta**	**87.20**	**310**	P	**P**	**04 34 50.6**	**+1.8**	
	baz=48							
MURC				S	**S**	**04 45 28.7**	**+0.1**	
	baz=48							
PASC	**Pasadena Art C**	**87.44**	**311**	IAms_20	IAms_20	05 10 53.8		
	comp=Z,23μm,22.0s							
OSI	**Osito Audit: C**	**87.47**	**312**	P	**P**	**04 34 48.3**	**-1.8**	
	baz=48							
OSI				S	**S**	**04 45 31.7**	**+0.6**	
	baz=48							
DECC	**Green Verdugo**	**87.47**	**311**	P	**P**	**04 34 48.3**	**-1.7**	
	baz=48							
DECC				S	**S**	**04 45 30.4**	**-0.7**	
	baz=48							
MCCM	**Marconi Confer**	**87.47**	**316**	IAms_20	IAms_20	05 13 01.5		
	comp=Z,13μm,19.0s							
CNBA	**Chernabura Isl**	**87.50**	**346**	IAms_20	IAms_20	05 14 15.8		
	comp=Z,23μm,21.0s							
HNS	**HongShan**	**87.54**	**45**	⇑P	**P**	**04 34 50.8**	**+0.6**	
HNS				PP	**PP**	**04 38 15.8**	**+1.3**	
HNS				S	**S**	**04 45 29.6**	**-1.9**	
HNS				SS	**SS**	**04 51 22.5**	**+6.7**	
HNS				pmax	pmax			
	comp=Z,190nm,1.6s							
HNS				pmax	pmax			
	comp=Z,2μm,5.5s							
HNS				LR	LR			
	comp=Z,37μm,17.7s							
HNS				LR	LR			
	comp=Z,54μm,15.0s							
HNS				LR	LR			
	comp=Z,47μm,18.0s							
109C	**Camp Elliot, M**	**87.62**	**309**	IAms_20	IAms_20	05 14 07.7		
	comp=Z,21μm,19.0s							
109C	**Camp Elliot, M**	**87.62**	**309**	S	**S**	**04 45 33.0**	**+0.5**	
	baz=48							
AC02	**Maricunga**	**87.62**	**234**	IAmb	IAmb	04 34 57.0		
	comp=Z,208nm,1.7s							
DGPR	**DIGLIPUR**	**87.69**	**76**	*e*P	**P**	**04 34 53.1**	**+1.8**	
BNX	**BinXian**	**87.72**	**32**	⇑P	**P**	**04 34 49.5**	**-1.5**	
BNX				PP	**PP**	**04 38 18.3**	**+2.7**	
BNX				S	**S**	**04 45 27.4**	**-5.6**	
BNX				SS	**SS**	**04 51 18.9**	**+1.0**	
BNX				pmax	pmax			
	comp=Z,46nm,1.4s							
BNX				pmax	pmax			
	comp=Z,1μm,3.9s							
BNX				LR	LR			
	comp=Z,90μm,14.2s							
BNX				LR	LR			
	comp=Z,69μm,16.7s							
SMMC	**Simmler**	**87.76**	**313**	P	**P**	**04 34 49.1**	**-2.4**	
	baz=47							
SMMC				S	**S**	**04 45 31.7**	**-2.2**	
	baz=47							
FMP	**Fort Macarthur**	**87.81**	**311**	P	**P**	**04 34 49.1**	**-2.5**	
	baz=48							
FMP				S	**S**	**04 45 36.2**	**+1.9**	
	baz=48							
KMI	**Kunming**	**87.90**	**60**	⇑P	**P**	**04 34 52.5**	**0.0**	
KMI				pP	pP	04 34 56.3	+0.3	
KMI				PP	**PP**	**04 38 17.1**	**-1.1**	
KMI				SKS	**SKSac**	**04 45 18.8**	**-2.5**	
KMI				S	**S**	**04 45 33.8**	**-2.2**	
KMI				SS	**SS**	**04 51 25.0**	**+2.5**	
KMI				pmax	pmax			
	comp=Z,84nm,1.9s							
KMI				pmax	pmax			
	comp=Z,720nm,3.5s							
KMI				LR	LR			
	comp=Z,14μm,13.6s							
KMI				LR	LR			
	comp=Z,12μm,13.4s							
KMI				LR	LR			
	comp=Z,14μm,26.0s							
PKM	**Mcpherson Peak**	**87.94**	**312**	P	**P**	**04 34 51.1**	**-1.4**	
	baz=47							
PKM				S	**S**	**04 45 35.9**	**-0.1**	
	baz=47							
CIS	**Catalina Islan**	**88.09**	**311**	S	**S**	**04 45 35.7**	**-1.4**	
	baz=48							
FALS	**False Pass**	**88.15**	**348**	P	**P**	**04 34 50.8**	**-2.0**	
	baz=16							
LYN	**LuoYang**	**88.18**	**48**	⇑*i*P	**P**	**04 34 54.0**	**+0.6**	
LYN				PP	**PP**	**04 38 23.5**	**+3.7**	
LYN				S	**S**	**04 45 41.0**	**+3.2**	
LYN				SS	**SS**	**04 51 26.1**	**+0.6**	
LYN				pmax	pmax			
	comp=Z,50nm,1.0s							
LYN				LR	LR			
	comp=Z,32μm,14.8s							
LYN				LR	LR			
	comp=Z,31μm,16.0s							
SBC	**Santa Barbara**	**88.18**	**312**	P	**P**	**04 34 50.8**	**-2.6**	
	baz=47							
SBC				S	**S**	**04 45 38.9**	**+1.1**	
	baz=47							
CN2	**Changchun**	**88.36**	**34**	*e*P	**P**	**04 34 52.0**	**-2.1**	
CN2				*e*PP	**PP**	**04 38 22.3**	**+1.4**	
CN2				SKS	**SKSac**	**04 45 17.9**	**-5.1**	
CN2				*e*SS	**SS**	**04 51 26.4**	**-1.0**	
CN2				pmax	pmax			
	comp=Z,40nm,1.8s							
CN2				pmax	pmax			
	comp=Z,280nm,3.0s							
CN2				LR	LR			
	comp=Z,34μm,16.0s							
CN2				LR	LR			
	comp=Z,82μm,16.0s							
CN2				LR	LR			
	comp=Z,56μm,16.0s							
SCI2	**San Clemente I**	**88.46**	**310**	S	**S**	**04 45 41.2**	**+0.7**	
	baz=48							
SLBS	**Sierra La Lagu**	**88.68**	**298**	IAms_20	IAms_20	05 14 25.6		
	comp=Z,20μm,20.0s							
LPIG	**La Paz**	**88.68**	**299**	LR	LR	05 14 27.0		
	comp=Z,23μm,19.4s,baz=46,slow=36							
TYV	**Tymovskoe**	**88.86**	**21**	*e*P	**P**	**04 34 58.3**	**+2.0**	
TYV				*e*S	**S**	**04 45 47.9**	**+4.3**	
TYV				pmax	pmax			
	comp=Z,1μm,5.9s							
TYV				pmax	pmax			
	comp=Z,39nm,1.3s							
TYV				smax	smax			
	comp=N,8.0nm,1.6s							
TYV				smax	smax			
	comp=N,3μm,8.2s							
TYV				smax	smax			
	comp=E,2μm,8.2s							
SNCC	**San Nicolas Is**	**88.88**	**311**	P	**P**	**04 34 53.0**	**-3.8**	
	baz=47							
CHTO	**Chiang Mai**	**88.99**	**68**	P	**P**	**04 34 56.7**	**-0.8**	
CHTO				pmax	pmax			
	comp=Z,123nm,1.4s							
CHTO	**Chiang Mai**	**88.99**	**68**	P	**P**	**04 34 56.6**	**-0.8**	
CHTO				IAmb	IAmb	04 35 28.2		
	comp=Z,123nm,1.4s							
SNY	**Shenyang**	**89.00**	**37**	⇓P	**P**	**04 34 58.3**	**+1.2**	
SNY				PP	PP	04 38 34.4	+8.4	
SNY				S	**S**	**04 45 42.3**	**-2.9**	
SNY				SS	**SS**	**04 51 37.4**	**+0.7**	
SNY				pmax	pmax			
	comp=Z,18nm,0.8s							
SNY				LR	LR			
	comp=Z,32μm,23.0s							
SNY				LR	LR			
	comp=Z,40μm,17.8s							
ENH	**Enshi**	**89.19**	**53**	IAms_20	IAms_20	05 20 03.4		
	comp=Z,25μm,21.0s							
CM31	**Chiang Mai Arr**	**89.21**	**68**	P	**P**	**04 34 57.7**	**-0.8**	
CM31				IAmb	IAmb	04 35 12.1		
	comp=Z,138nm,1.3s							
CMAR	**Chiang Mai Arr**	**89.21**	**68**	P	**P**	**04 34 58.5**	**0.0**	
	comp=Z,7.1nm,0.6s,baz=303,slow=6.5,SNR=32							
CMAR				LR	LR	05 20 01.5		
	comp=Z,7μm,21.6s,baz=295,slow=39							
MDJ	**Mudanjiang**	**89.54**	**31**	P	**P**	**04 35 01.1**	**+1.5**	
MDJ				S	**S**	**04 45 49.3**	**-1.0**	
MDJ				pmax	pmax			
	comp=Z,1μm,6.6s							
MDJ				LR	LR			
	comp=Z,4μm,21.5s							
MDJ				LR	LR			
	comp=Z,3μm,21.7s							
TIA	**Tai'an**	**89.75**	**44**	⇑P	**P**	**04 35 00.6**	**-0.2**	
TIA				PP	PP	04 38 41.1	+8.9	
TIA				S	**S**	**04 45 52.8**	**+0.3**	
TIA				pmax	pmax			
	comp=Z,93nm,1.6s							
TIA				pmax	pmax			
	comp=Z,1μm,5.5s							
TIA				LR	LR			
	comp=Z,24μm,14.5s							
TIA				LR	LR			
	comp=Z,36μm,15.9s							
TIA				LR	LR			
	comp=Z,47μm,14.7s							
GYA	**Guiyang**	**89.79**	**57**	⇑*i*P	**P**	**04 35 00.9**	**-0.4**	
GYA				pP	pP	04 35 04.6	-0.1	
GYA				PP	**PP**	**04 38 33.3**	**+0.2**	
GYA				SKS	**SKSac**	**04 45 28.5**	**-3.8**	
GYA				S	**S**	**04 45 52.3**	**-1.2**	
GYA				SS	**SS**	**04 51 54.9**	**+5.3**	
GYA				pmax	pmax			
	comp=Z,74nm,1.8s							
GYA				pmax	pmax			
	comp=Z,790nm,3.5s							
GYA				LR	LR			
	comp=Z,15μm,24.7s							
GYA				LR	LR			
	comp=Z,12μm,14.4s							
GYA				LR	LR			
	comp=Z,22μm,20.2s							
PEA0B	**Petropavlovsk-**	**90.10**	**11**	*i*P	**P**	**04 35 02.5**	**+0.4**	
PEA0B	**Petropavlovsk-**	**90.10**	**11**	IAmb	IAmb	04 35 11.1		
	comp=Z,159nm,1.5s							
PETK	**Petropavlovsk-**	**90.10**	**11**	P	**P**	**04 35 01.4**	**-0.6**	
	comp=Z,5.2nm,0.9s,baz=166,slow=2.4,SNR=5.1							
PETK				LR	LR	05 22 17.0		
	comp=Z,21μm,18.8s,baz=329,slow=40							
LCO	**Las Campanas**	**90.10**	**234**	P	**P**	**04 35 02.1**	**-0.5**	
LCO				MLR	MLR			
	comp=Z,23μm,20.0s							
LCO	**Las Campanas**	**90.10**	**234**	P	**P**	**04 35 02.1**	**-0.5**	
LCO	**Las Campanas**	**90.10**	**234**	IAms_20	IAms_20	05 14 23.5		
	comp=Z,23μm,20.0s							
DL2	**Dalian**	**90.22**	**40**	⇑*i*P	**P**	**04 35 06.5**	**+3.6**	
DL2				SKS	**SKSac**	**04 45 34.9**	**+0.8**	
DL2				S	**ScS**	**04 46 00.3**	**-0.4**	
DL2				pmax	pmax			
	comp=Z,89nm,1.9s							
DL2				pmax	pmax			
	comp=Z,1μm,9.8s							
DL2				LR	LR			
	comp=Z,31μm,15.5s							
DL2				LR	LR			
	comp=Z,48μm,21.6s							
UGL	**Uglegorsk**	**90.28**	**22**	*c i*P	P	04 35 10.2	+7.3	
UGL				*e*S	**S**	**04 46 03.0**	**+6.1**	
UGL				pmax	pmax			
	comp=Z,1μm,7.6s							
UGL				smax	smax			
	comp=E,4μm,14.0s							
UGL				smax	smax			
	comp=N,3μm,15.0s							
UGL				MLR	MLR			
	comp=Z,23μm,17.0s							
UGL				MLR	MLR			
	comp=N,18μm,17.0s							
UGL				MLR	MLR			
	comp=E,47μm,17.0s							
PET	**Petropavlovsk**	**90.33**	**11**	⇓*i*P	**P**	**04 35 04.5**	**+1.4**	
PET				*e*S	**S**	**04 45 52.4**	**-4.8**	
PET				pmax	pmax			
	comp=Z,101nm,1.6s							
PET				pmax	pmax			
	comp=Z,1μm,14.4s							
PET				pmax	pmax			
	comp=Z,1μm,8.0s							
PET				smax	smax			

	comp=E,2μm,24.6s						
PET				smax	smax		
	comp=E,2μm,16.4s						
PET				MLR	MLR		
	comp=Z,60μm,20.0s						
PET	**Petropavlovsk**	**90.33**	**11**	P	**P**	**04 35 04.5**	**+1.4**
PET				IAmb	IAmb	04 35 12.8	
	comp=Z,207nm,1.6s						
SUJ	**Sinuiju**	**90.76**	**37**	P	**P**	**04 35 07.4**	**+2.0**
SUJ				sP	sP	04 35 24.7	+15
SUJ				S	**S**	**04 46 00.0**	**-1.6**
SUJ				AmB			
	comp=Z,2μm,4.0s						
SUJ				AMS	AMS		
	comp=N,6μm,24.4s						
SUJ				AMS	AMS		
	comp=E,3μm,14.4s						
SUJ				AMS	AMS		
	comp=Z,1μm,6.1s						
NIKH	**Nikolski High**	**90.77**	**351**	P	**P**	**04 35 01.8**	**-3.3**
	baz=12						
NIKH				S	**S**	**04 45 59.0**	**-2.3**
	baz=12						
USA0B	**Ussuriysk Arra**	**90.88**	**30**	IAmb	IAmb	04 35 11.1	
	comp=Z,171nm,1.8s						
USRK	**Ussuriysk Ar.**	**90.88**	**30**	P	**P**	**04 35 05.9**	**0.0**
	comp=Z,6.2nm,0.9s,baz=309,slow=3.9,SNR=18						
USRK				LR	LR	05 20 24.1	
	comp=Z,27μm,19.2s,baz=326,slow=38						
USRK	**Ussuriysk Ar.**	**90.88**	**30**	P	**P**	**04 35 04.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**90.88**	**30**	P	**P**	**04 35 04.7**	**-1.2**
SHEM	**Shemya Is, Ala**	**91.93**	**1**	LR	LR	05 18 13.3	
	comp=Z,5μm,18.3s,baz=333,slow=37						
WHN	**Wuhan**	**92.09**	**50**	⇑P	**P**	**04 35 14.8**	**+3.1**
WHN				PP	**PP**	**04 38 54.6**	**+3.7**
WHN				S	**S**	**04 46 14.1**	**+0.1**
WHN				SS	**SS**	**04 52 23.3**	**+1.2**
WHN				LR	LR		
	comp=Z,50μm,14.0s						
WHN				LR	LR		
	comp=Z,86μm,14.0s						
WHN				LR	LR		
	comp=Z,61μm,14.8s						
SKR	**Severo-Kuril's**	**92.17**	**13**	*e*P	P	04 35 06.5	-5.2
SKR				*e*S	**S**	**04 46 05.8**	**-8.2**
SKR				pmax	pmax		
	comp=Z,400nm,3.8s						
SKR				MLR	MLR		
	comp=Z,13μm,17.0s						
PYAG	**Pyongyang**	**92.19**	**37**	P	**P**	**04 35 13.3**	**+1.3**
PYAG				pP	sP	04 35 25.1	+8.6
PYAG				S	**S**	**04 46 10.8**	**-3.9**
PYAG				AmB			
	comp=Z,644nm,2.1s						
PYAG				AMS	AMS		
	comp=N,2μm,13.6s						
PYAG				AMS	AMS		
	comp=E,5μm,26.1s						
PYAG				AMS	AMS		
	comp=Z,791nm,4.5s						
YSS	**Yuzh-Sakhalins**	**92.39**	**22**	*e*P	**P**	**04 35 11.7**	**-1.0**
YSS				*e*		04 38 56.8	
YSS				*e*		04 45 43.9	
YSS				*e*S	**S**	**04 46 09.9**	**-6.2**
YSS				*e*SS	**SS**	**04 52 23.0**	**-2.1**
YSS				pmax	pmax		
	comp=Z,900nm,5.9s						
YSS				pmax	pmax		
	comp=Z,70nm,1.5s						
YSS				MLR	MLR		
	comp=N,29μm,18.0s						
YSS				MLR	MLR		
	comp=Z,37μm,18.0s						
YSS				MLR	MLR		
	comp=E,33μm,16.0s						
YSS	**Yuzh-Sakhalins**	**92.39**	**22**	P	**P**	**04 35 13.4**	**+0.7**
YSS				IAmb	IAmb	04 35 48.9	
	comp=Z,132nm,1.3s						
CNSH	**ChangSha**	**92.81**	**52**	⇑P	**P**	**04 35 13.8**	**-1.3**
CNSH				PP	**PP**	**04 39 02.3**	**+5.6**
CNSH				S	**S**	**04 46 18.3**	**-2.3**
CNSH				SS	**SS**	**04 52 33.8**	**+1.1**
CNSH				LR	LR		
	comp=Z,11μm,14.8s						
CNSH				LR	LR		
	comp=Z,25μm,17.5s						
CNSH				LR	LR		
	comp=Z,18μm,17.9s						
NJ2	**Nanjing**	**93.73**	**46**	⇑P	**P**	**04 35 18.8**	**-0.4**
NJ2				pP	**pP**	**04 35 22.6**	**-0.1**
NJ2				sP	**sP**	**04 35 24.4**	**+0.7**
NJ2				PP	PP	04 39 12.4	+8.7
NJ2				SKS	**SKSac**	**04 45 53.1**	**-1.0**
NJ2				S	**S**	**04 46 27.6**	**-1.0**
NJ2				SS	**SS**	**04 52 49.6**	**+4.1**
NJ2				pmax	pmax		
	comp=Z,26nm,1.3s						
NJ2				pmax	pmax		
	comp=Z,940nm,5.2s						
NJ2				LR	LR		
	comp=Z,16μm,15.6s						
NJ2				LR	LR		
	comp=Z,43μm,18.9s						
NJ2				LR	LR		
	comp=Z,36μm,17.1s						
BO01	**Tunca**	**93.89**	**230**	P	**P**	**04 35 20.3**	**+0.6**
KS19	**Wonju Array Si**	**94.44**	**37**	P	**P**	**04 35 23.1**	**+0.6**
KS19				IAmb	IAmb	04 35 26.9	
	comp=Z,242nm,2.0s						
KSRS	**Korea Array**	**94.50**	**37**	P	**P**	**04 35 21.9**	**-0.8**
	comp=Z,7.7nm,0.8s,baz=334,slow=4.2,SNR=14						
KSRS				PP	PP	04 39 19.4	+10
	comp=Z,2.7nm,0.8s,baz=313,slow=5.8,SNR=5.7						
KSRS				LR	LR	05 22 39.8	
	comp=Z,30μm,18.1s,baz=300,slow=38						
ASAJ	**Asahikawa**	**94.87**	**24**	LR	LR	05 24 25.1	
	comp=Z,23μm,18.6s,baz=0.0,slow=40						
KUR	**Kuril'sk**	**95.44**	**20**	*e*P	**P**	**04 35 26.0**	**-0.8**
KUR						04 39 15.7	
KUR				S	**SKSac**	**04 46 01.0**	**-1.8**
KUR				*e*SS	**SS**	**04 53 13.7**	**+5.0**
KUR				MLR	MLR		
	comp=Z,33μm,19.0s						
KUR				MLR	MLR		
	comp=E,10μm,14.0s						
KUR				MLR	MLR		
	comp=N,49μm,19.0s						
SSE	**Sheshan**	**95.78**	**45**	P	**P**	**04 35 26.6**	**-2.1**
SSE				S	**S**	**04 46 42.8**	**-3.7**
SSE				pmax	pmax		
	comp=N,9.0nm,2.0s						
SSE				pmax	pmax		
	comp=N,300nm,8.0s						
SSE				LR	LR		
	comp=N,3μm,20.2s						
SSE				LR	LR		
	comp=N,2μm,19.7s						
QIZ	**Qiongzhong**	**96.84**	**61**	P	**P**	**04 35 31.8**	**-1.9**
QIZ				S	**S**	**04 46 52.9**	**-3.2**
QIZ				LR	LR		
	comp=N,14μm,16.7s						
QIZ				LR	LR		
	comp=N,18μm,18.1s						
QIZ				LR	LR		
	comp=N,16μm,19.1s						
QIZ	**Qiongzhong**	**96.84**	**61**	IAMs_20	IAMs_20	05 23 08.8	
	comp=Z,15μm,20.0s						
LC01	**Cunco**	**97.31**	**227**	IAmb	IAmb	04 35 44.0	
	comp=Z,64nm,1.2s						
HKPS	**Hong Kong Po S**	**97.65**	**56**	IAMs_20	IAMs_20	05 26 34.7	
	comp=Z,18μm,20.0s						
PLCA	**Paso Flores**	**97.73**	**225**	P	Pdif	04 35 37.9	+0.7
	comp=Z,10nm,0.9s,baz=40,slow=4.5,SNR=17						
PLCA				LR	LR	05 17 43.2	
	comp=Z,30μm,21.2s,baz=51,slow=34						
PLCA	**Paso Flores**	**97.73**	**225**	P	Pdif	04 35 37.3	+0.1
PLCA				pmax	pmax		
	comp=Z,121nm,1.6s						
PLCA	**Paso Flores**	**97.73**	**225**	*e*P	Pdif	04 35 37.6	+0.4
PLCA	**Paso Flores**	**97.73**	**225**	P	Pdif	04 35 37.3	+0.1
PLCA				IAmb	IAmb	04 35 56.5	
	comp=Z,121nm,1.6s						
LR03	**Panguipulli**	**98.06**	**227**	IAmb	IAmb	04 35 56.8	
	comp=Z,134nm,1.6s						
PSI	**Prapat**	**98.58**	**80**	LR	LR	05 28 37.5	
	comp=Z,7μm,18.3s,baz=296,slow=40						
QZH	**Quanzhou**	**98.69**	**51**	*e*P	Pdif	04 35 47.3	+5.4
QZH				PP	**PP**	**04 39 45.5**	**+3.3**
QZH				S	**S**	**04 47 12.5**	**+0.9**
QZH				SS	**SS**	**04 54 01.9**	**+5.9**
QZH				LR	LR		
	comp=Z,24μm,15.3s						
QZH				LR	LR		
	comp=Z,29μm,15.4s						
QZH				LR	LR		
	comp=Z,16μm,14.1s						
KNMB	**Chin-men Tao**	**98.90**	**51**	IAMs_20	IAMs_20	05 28 31.6	
	comp=Z,13μm,20.0s						
EFI	**East Falkland**	**99.16**	**211**	IAMs_20	IAMs_20	05 15 36.4	
	comp=Z,20μm,21.0s						
JNU	**Nakatsue**	**99.41**	**37**	LR	LR	05 25 43.0	
	comp=Z,52μm,18.0s,baz=334,slow=38						
MJAR	**Matsushiro Arr**	**99.88**	**30**	P	**Pdif**	**04 35 48.7**	**+1.7**
	comp=Z,5.6nm,1.0s,baz=328,slow=4.3,SNR=4.3						
MJAR				PP	PP	04 39 59.7	+8.9
	comp=Z,2.1nm,0.7s,baz=325,slow=11,SNR=2.0						
MJAR				LR	LR	05 24 36.0	
	comp=Z,26μm,18.0s,baz=346,slow=38						
SSLB	**Suanglung**	**101.01**	**50**	IAMs_20	IAMs_20	05 25 35.3	
	comp=Z,19μm,20.0s						
BKNI	**Bangkinang**	**101.75**	**81**	IAMs_20	IAMs_20	05 22 10.8	
	comp=Z,19μm,22.0s						
MYKOM	**Kota Tinggi**	**103.13**	**78**	IAMs_20	IAMs_20	05 24 44.2	
	comp=Z,17μm,21.0s						
COCO	**West Island**	**105.49**	**94**	IAMs_20	IAMs_20	05 22 19.5	
	comp=Z,11μm,20.0s						
MNAI	**Manna**	**106.04**	**84**	IAMs_20	IAMs_20	05 24 36.7	
	comp=Z,13μm,20.0s						
VNA2	**Neumayer--Watz**	**106.34**	**181**	SS	SS	04 55 44.0	+2.2
	baz=311,slow=17						
SYO	**Syowa Base**	**109.16**	**165‖**	*e*Pdiff	**Pdif**	**04 36 26.4**	**-0.8**
SYO	**Syowa Base**	**109.16**	**165‖**	*e*X	**Pdif**	**04 36 40.6**	**+13**
KKM	**Kota Kinabalu**	**110.05**	**67**	IAMs_20	IAMs_20	05 34 56.0	
	comp=Z,14μm,19.0s						
SMRI	**Semarang**	**113.64**	**81**	IAMs_20	IAMs_20	05 29 05.1	
	comp=Z,13μm,21.0s						
DAV	**Davao City (W)**	**116.12**	**59**	IAMs_20	IAMs_20	05 35 12.6	
	comp=Z,12μm,22.0s						
TOLI2	**Tolitoli**	**116.71**	**67**	IAMs_20	IAMs_20	05 39 24.6	
	comp=Z,9μm,20.0s						
JAGI	**Jajag, Banyuwa**	**117.45**	**80**	IAMs_20	IAMs_20	05 31 44.0	
	comp=Z,13μm,22.0s						
LUWI	**Luwuk**	**119.61**	**68**	IAMs_20	IAMs_20	05 38 00.6	
	comp=Z,11μm,21.0s						
KAPI	**Kappang**	**119.82**	**73**	IAMs_20	IAMs_20	05 34 56.5	
	comp=Z,12μm,21.0s						
MMRI	**Maumere**	**123.98**	**75**	IAMs_20	IAMs_20	05 36 45.8	
	comp=Z,10μm,22.0s						
FAKI	**Fak Fak**	**127.85**	**62**	IAMs_20	IAMs_20	05 40 55.4	
	comp=Z,9μm,21.0s						
MBWA	**Marble Bar**	**128.82**	**90**	IAMs_20	IAMs_20	05 48 02.5	
	comp=Z,9μm,19.0s						
SAUI	**Saumlaki**	**130.55**	**67**	IAMs_20	IAMs_20	05 47 01.4	
	comp=Z,7μm,20.0s						
TAOE	**Nuku Hiva Isla**	**132.22**	**293**	*e*SS	SS	05 01 23.4	+6.2
	comp=Z,4μm,24.9s						
TAOE	**Nuku Hiva Isla**	**132.22**	**293**	*e*LQ	LQ	05 17 44.3	
	comp=Z,6μm,31.0s						
TAOE				*e*LR	LR	05 23 19.2	
	comp=Z,9μm,27.4s						
VNDA	**Vanda**	**137.59**	**175**	PKP	**PKPdf**	**04 41 24.6**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=26,slow=1.7,SNR=3.9						
VNDA	**Vanda**	**137.59**	**175**		**PKPdf**	**04 41 24.3**	**-0.7**
FORT	**Forrest**	**139.66**	**97**	PKPdf	**PKPdf**	**04 41 27.2**	**-3.0**
WRA	**Warramunga Arr**	**140.02**	**78**	PKhKP	PKPpre	04 41 21.4	
	comp=Z,1.0nm,0.6s,baz=313,slow=2.6,SNR=17						
WRA				PKP	**PKPdf**	**04 41 30.6**	**-0.5**
	comp=Z,4.5nm,0.9s,baz=310,slow=2.6,SNR=8.3						
WRA				PP	**PP**	**04 44 26.5**	**-1.6**
	comp=Z,7.1nm,1.1s,baz=314,slow=4.5,SNR=7.9						
WRA	**Warramunga Arr**	**140.02**	**78**	PKPdf	**PKPdf**	**04 41 28.1**	**-3.1**
WRAB	**Tennant Creek**	**140.02**	**78**	PKIKP	**PKPdf**	**04 41 27.3**	**-3.9**
WRAB	**Tennant Creek**	**140.02**	**78**	PKPdf	**PKPdf**	**04 41 27.3**	**-3.9**
ASAR	**Alice Springs**	**141.53**	**84**	PKhKP	PKPpre	04 41 26.3	
	comp=Z,2.0nm,0.5s,baz=301,slow=2.7,SNR=20						
ASAR				PKP	**PKPdf**	**04 41 33.2**	**-0.6**
	comp=Z,6.1nm,0.7s,baz=302,slow=2.5,SNR=17						
ASAR				PP	**PP**	**04 44 36.1**	**-1.4**
	comp=Z,6.6nm,0.9s,baz=296,slow=5.1,SNR=4.9						
ASAR	**Alice Springs**	**141.53**	**84**		PKPpre	04 41 26.8	
AS31	**Alice Springs**	**141.53**	**84**		PKPpre	04 41 26.2	
PMG	**Port Moresby**	**142.73**	**53**	PKIKP	**PKPdf**	**04 41 37.1**	**+0.9**
PMG	**Port Moresby**	**142.73**	**53**		**PKPdf**	**04 41 37.1**	**+0.9**
COEN	**Coen**	**143.22**	**62**	PKPdf	**PKPdf**	**04 41 36.9**	**-0.1**
MEH	**Mehetia**	**143.84**	**290**	*e*PKIKP	**PKPdf**	**04 41 37.6**	**-0.4**
	comp=Z,21nm,1.0s						
TIAR	**Tiarei**	**144.63**	**292**	*e*PKIKP	**PKPdf**	**04 41 39.0**	**-0.4**
	comp=Z,1.1nm,1.0s						
PPT	**Papeete**	**144.81**	**292**	PKPbc	**PKiKP**	**04 41 42.3**	**-1.2**
	comp=Z,73nm,0.8s,baz=226,slow=16,SNR=6.2						
PPT2	**Papeete2**	**144.82**	**292**	*e*PKIKP	**PKPdf**	**04 41 39.3**	**-0.5**
	comp=Z,152nm,1.4s						
PPT2	**Papeete2**	**144.82**	**292**	*e*SS	SS	05 03 48.6	+2.5
	comp=Z,6μm,26.0s						
PPT2	**Papeete2**	**144.82**	**292**	*e*LR	LR	05 29 12.5	
	comp=Z,13μm,22.5s						
PAE	**Paea**	**144.87**	**292**	*e*PKIKP	**PKPdf**	**04 41 39.4**	**-0.3**
	comp=Z,24nm,1.0s						
BBOO	**Buckleboo**	**146.76**	**97**	PKPdf	**PKPdf**	**04 41 43.1**	**+0.5**
CTAO	**Charters Tower**	**149.37**	**68**	PKP2	**PKPdf**	**04 41 49.2**	**+1.9**
CTAO				MLR	MLR		
	comp=Z,11μm,22.0s						
CTAO	**Charters Tower**	**149.37**	**68**		**PKPdf**	**04 41 49.2**	**+1.9**
STKA	**Stephens Creek**	**150.98**	**93**	PKPbc	**PKPbc**	**04 41 54.5**	**-0.7**
	comp=Z,25nm,0.9s,baz=324,slow=3.9,SNR=39						
STKA	**Stephens Creek**	**150.98**	**93**	PKIKP	**PKPbc**	**04 41 54.1**	**-1.1**
STKA	**Stephens Creek**	**150.98**	**93**		**PKPbc**	**04 41 54.1**	**-1.1**
ARMA	**Armidale**	**158.67**	**83**	PKPdf	**PKPdf**	**04 42 00.8**	**+0.6**
DZM	**Mont Dzumac**	**163.93**	**35**	PKP	**PKPdf**	**04 42 07.4**	**+1.5**
	comp=Z,6.1nm,0.9s,baz=129,slow=6.5,SNR=3.5						
DZM	**Mont Dzumac**	**163.93**	**35**	*e*PKIKP	**PKPdf**	**04 42 05.0**	**-1.0**
	comp=Z,71nm,1.6s						
DZM	**Mont Dzumac**	**163.93**	**35**	*e*PP	PP	04 46 45.9	+2.4
	comp=Z,2μm,25.4s						
DZM	**Mont Dzumac**	**163.93**	**35**	*e*SS	SS	05 07 18.6	+6.2
	comp=Z,8μm,35.2s						
DZM	**Mont Dzumac**	**163.93**	**35**	*e*LR	LR	05 38 08.3	
	comp=Z,21μm,24.2s						
DZM	**Mont Dzumac**	**163.93**	**35**	PKPdf	**PKPdf**	**04 42 05.7**	**-0.3**
DZM				PKPab	**PKPab**	**04 42 59.6**	**+1.0**
BKZ	**Black Stump Fm**	**176.52**	**182**	PKPdf	**PKPdf**	**04 42 13.4**	**+0.9**
BKZ				PKPab	**PKPab**	**04 43 51.3**	**-2.5**
URZ	**Urewera**	**177.35**	**194**	PKPdf	**PKPdf**	**04 42 12.8**	**+0.2**

SFS ***25*** *04:27:44.0, 35.°59N×3.°85W, ML3.6, ALBORAN SUR*
CNRM ***25*** *04:27:46.7, 35.°55N×3.°68W, h22km, ml4.0*
INMG ***25*** *04:27:47.2±1.4, 35.°73N×3.°81W, h5km±5km, ML3.2, Error ellipse: s-maj=4.1km s-min=3.8km az=161.0*
ISC 25 04:27:45.8±1.2,**35.°60N**±0.°04×**3.°70W**±0.°03,**h27**km±12km,
n44,σ1°**31/72,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.43**	**207**	P	**Pb**	**04 27 54.6**	**-0.4**
PALE				S	**Sb**	**04 28 00.8**	**-0.4**
GOG	**Mont Gurugu**	**0.69**	**123**	P	**Pb**	**04 27 59.5**	**+0.2**
GOG				S	**Sb**	**04 28 08.9**	**+0.3**
CHAS	**Isla Isabel II**	**1.12**	**112**	P	**Pn**	**04 28 05.3**	**-0.5**
EMAL	**Malaga-Limoner**	**1.30**	**333**	P	**Pn**	**04 28 08.6**	**+0.4**
EMAL				S	**Sn**	**04 28 23.5**	**-1.1**
CHEFC	**Chefchaouen**	**1.43**	**250**	P	**Pn**	**04 28 10.8**	**+0.8**
CHEFC				S	**Sb**	**04 28 29.9**	**+0.3**
JBK	**JBK**	**1.57**	**143**	P	**Pn**	**04 28 12.1**	**-0.1**
JBK				S	**Sn**	**04 28 31.3**	**-0.5**
RSA	**Sarsar**	**1.88**	**248**	P	**Pb**	**04 28 19.1**	**-0.3**
RSA				S	**Sb**	**04 28 42.1**	**-0.4**
SICH	**Sidi Chahed**	**2.00**	**222**	P	**Pb**	**04 28 21.4**	**-0.1**
SICH				S	**Sb**	**04 28 46.3**	**+0.3**
LCRM	**LCR**	**2.14**	**207**	P	**Pb**	**04 28 22.3**	**-1.6**
LCRM				S	**Sn**	**04 28 46.7**	**+1.0**
MD31	**MD31**	**2.87**	**198**	P	**Pn**	**04 28 31.1**	**+1.2**
MDT	**Midelt**	**2.88**	**195**	P	**Pn**	**04 28 31.2**	**+1.1**
TDRA	**Tendrara**	**2.91**	**151**	P	**Pn**	**04 28 31.5**	**+0.9**
PVAQ	**Vaqueiros**	**3.70**	**300**	*e*Pn	**Pn**	**04 28 41.3**	**+0.1**
PVAQ				*e*Sn	**Sn**	**04 29 22.5**	**-1.4**
PVAQ	**Vaqueiros**	**3.70**	**300**	P	**Pn**	**04 28 41.3**	**+0.1**
PBAR	**Barrancos**	**3.71**	**315**	*e*Pn	**Pn**	**04 28 42.9**	**+1.6**
PBAR				*e*Sn	**Sn**	**04 29 22.1**	**-2.0**
PBDV	**Barranco-do-Ve**	**3.78**	**297**	*e*Pn	**Pn**	**04 28 43.0**	**+0.6**
PBDV				*e*Sn	**Sn**	**04 29 25.2**	**-0.8**
FIGM	**Figuig**	**4.01**	**149**	P	**Pn**	**04 28 47.2**	**+1.4**
PCVE	**Castro Verde**	**4.03**	**301**	*e*Pn	**Pn**	**04 28 46.3**	**+0.5**
PBEJ	**Beja**	**4.12**	**307**	*e*Pn	**Pn**	**04 28 48.3**	**+1.2**
PBEJ				*e*Sn	**Sn**	**04 29 33.0**	**-1.4**
MESJ	**Messejana**	**4.26**	**303**	*e*Pn	**Pn**	**04 28 49.9**	**+1.0**
MESJ				*e*Sn	**Sn**	**04 29 36.6**	**-1.2**
MORF	**Marmelete**	**4.33**	**295**	*e*Pn	**Pn**	**04 28 50.7**	**+0.7**
MORF				*e*Sn	**Sn**	**04 29 39.9**	**+0.2**
PFVI	**Vila Bisbo**	**4.41**	**292**	*e*Pn	**Pn**	**04 28 53.5**	**+2.5**
PFVI				*e*Sn	**Sn**	**04 29 39.9**	**-1.5**
PFVI	**Vila Bisbo**	**4.41**	**292**	P	**Pn**	**04 28 51.9**	**+0.9**
PTEO	**Sao Teotonio**	**4.48**	**297**	*e*Pn	**Pn**	**04 28 53.2**	**+1.2**
PTEO				*e*Sn	**Sn**	**04 29 42.0**	**-1.2**
PESTR	**Estremoz**	**4.50**	**318**	*e*Pn	**Pn**	**04 28 53.9**	**+1.7**
PESTR				*e*Sn	**Sn**	**04 29 41.6**	**-2.1**
EVO	**Evora**	**4.52**	**312**	*e*Pn	**Pn**	**04 28 53.6**	**+1.1**
EVO				*e*Sn	**Sn**	**04 29 42.9**	**-1.3**
PNCL	**Nicolau / Gran**	**4.61**	**304**	*e*Pn	**Pn**	**04 28 54.4**	**+0.7**
PNCL				*e*Sn	**Sn**	**04 29 44.6**	**-1.8**
PMRV	**Marv??o**	**4.81**	**324**	*e*Pn	**Pn**	**04 28 57.4**	**+0.8**
PMRV				*e*Sn	**Sn**	**04 29 50.6**	**-0.9**
PMTG	**Montargil**	**4.99**	**315**	*e*Pn	**Pn**	**04 29 00.1**	**+1.1**
PMTG				*e*Sn	**Sn**	**04 29 55.5**	**-0.4**
PCBR	**Castelo Branco**	**5.18**	**326**	*e*Pn	**Pn**	**04 29 03.3**	**+1.7**
OUZM	**OUZ**	**5.34**	**210**	P	**Pn**	**04 29 06.6**	**+2.7**
PMST	**Lisbon--Monsan**	**5.38**	**307**	*e*Pn	**Pn**	**04 29 05.6**	**+1.3**
PMAFR	**Mafra**	**5.56**	**309**	*e*Pn	**Pn**	**04 29 08.0**	**+1.1**
PMAFR				*e*Sn	**Sn**	**04 30 08.5**	**-1.5**
PSBE	**So Bento**	**5.62**	**315**	*e*Pn	**Pn**	**04 29 09.3**	**+1.6**
PSBE				*e*Sn	**Sn**	**04 30 10.6**	**-0.8**
MTE	**Manteigas**	**5.67**	**329**	*e*Pn	**Pn**	**04 29 10.3**	**+2.0**
PCAS	**Casmilo, Conde**	**5.84**	**321**	*e*Pn	**Pn**	**04 29 11.3**	**+0.6**
PVIS	**Viseu**	**6.08**	**328**	*e*Pn	**Pn**	**04 29 16.1**	**+2.1**
PVIS				*e*Sn	**Sn**	**04 30 22.3**	**-0.4**
MVO	**Moncorvo**	**6.13**	**336**	*e*Pn	**Pn**	**04 29 17.3**	**+2.5**
MVO				*e*Sn	**Sn**	**04 30 23.7**	**-0.4**
PVRL	**Vila Real**	**6.48**	**332**	*e*Pn	**Pn**	**04 29 21.5**	**+2.0**
PVRL				*e*Sn	**Sn**	**04 30 31.7**	**-0.8**
PVRL				A	A	04 30 35.3	
	19nm,0.5s						
POLO	**Lamas de Olo**	**6.59**	**332**	*e*Pn	**Pn**	**04 29 23.0**	**+1.9**
POLO				*e*Sn	**Sn**	**04 30 34.4**	**-1.0**
PBRG	**Braganca**	**6.63**	**340**	*e*Pn	**Pn**	**04 29 23.7**	**+2.1**
PBRG				*e*Sn	**Sn**	**04 30 35.0**	**-1.3**
PTO	**Porto**	**6.73**	**327**	*e*Pn	**Pn**	**04 29 24.3**	**+1.4**
PCAB	**Cabril**	**6.97**	**332**	*e*Pn	**Pn**	**04 29 28.1**	**+1.9**
PGAV	**Gavieira, Arco**	**7.28**	**332**	*e*Pn	**Pn**	**04 29 32.7**	**+2.1**

IDC ***25*** *04:29:34.3±8.0, 31.°60S×179.°91E, h422km±96km, mb2.8/2, mb1 3.1/3, mb1mx2.6/28, mbtmp3.8/3, Error ellipse:*
s-maj=100.1km s-min=39.6km az=8.0
WEL ***25*** *04:29:41.4±1.1, 32.°5S±24.°×18.°0E±5.°1, h480km±31km, M3.9/7, mB4.0/5, ML4.4/9, MLv4.4/7, Mw(mB)3.0/5, Error ellipse: s-maj=0.1km s-min=0.0km az=113.8*
ISC 25 04:29:37.2±2.1,**31.°8S**±0.°1×**179.°7E**±0.°3,**h450**km,**n18,**
σ1°**69/30,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**6.12**	**194**	P	**P**	**04 31 14.7**	**+2.1**
HAZ				S	**S**	**04 32 30.3**	**-0.3**
PKGZ	**Pakihiroa**	**6.20**	**192**	P	**P**	**04 31 15.1**	**+1.7**
PKGZ				S	**S**	**04 32 29.9**	**-2.3**
CNGZ	**Carnagh Statio**	**6.76**	**190**	P	**P**	**04 31 19.9**	**+0.7**
URZ	**Urewera**	**6.76**	**197**	P	**P**	**04 31 20.0**	**+0.9**
	2.5nm,0.3s,baz=278,slow=3.4,SNR=25						
URZ				S	**S**	**04 32 42.4**	**-0.3**
	6.7nm,0.3s,baz=44,slow=21,SNR=15						
MUGZ	**Murupara**	**7.05**	**199**	P	**P**	**04 31 24.1**	**+1.8**
MUGZ				S	**S**	**04 32 48.9**	**+0.4**
RTZ	**Ruatahuna**	**7.13**	**197**	P	**P**	**04 31 24.6**	**+1.5**
RTZ				S	**S**	**04 32 49.8**	**-0.2**
RAHZ	**Arahi**	**7.39**	**196**	P	**P**	**04 31 27.5**	**+1.7**
RAHZ				S	**S**	**04 32 54.3**	**-0.7**
NMHZ	**Naumai**	**7.63**	**197**	P	**P**	**04 31 30.5**	**+2.0**
NMHZ				S	**S**	**04 33 01.4**	**+1.6**
OTVZ	**Oturere**	**8.02**	**203**	P	**P**	**04 31 33.0**	**+0.3**
KWHZ	**Kaweka Forest**	**8.03**	**198**	P	**P**	**04 31 34.0**	**+1.2**
KWHZ				S	**S**	**04 33 07.7**	**-0.1**
SNVZ	**South Ngauruho**	**8.05**	**203**	P	**P**	**04 31 35.2**	**+2.1**
WNVZ	**Wahianoa**	**8.19**	**203**	P	**P**	**04 31 34.8**	**+0.2**
WNVZ				S	**S**	**04 33 10.2**	**-0.8**
BHHZ	**Black Hill Sta**	**8.19**	**200**	P	**P**	**04 31 33.6**	**-1.0**
BHHZ				S	**S**	**04 33 06.5**	**-4.5**
KRHZ	**Kereru**	**8.25**	**198**	P	**P**	**04 31 35.9**	**+0.7**
KRHZ				S	**S**	**04 33 09.7**	**-2.4**
KAHZ	**Kahuranaki**	**8.27**	**195**	P	**P**	**04 31 37.0**	**+1.6**
KAHZ				S	**S**	**04 33 11.2**	**-1.3**
ASAR

PCAS	Casmilo, Conde	5.79 320	ePn	Pn	04 31 20.0 +0.6
PVIS	Viseu	6.02 328	ePn	Pn	04 31 24.5 +1.9
MVO	Moncorvo	6.07 335	ePn	Pn	04 31 25.7 +2.4
PVRL	Vila Real	6.42 332	ePn	Pn	04 31 30.0 +1.9
POLO	Lamas de Olo	6.53 332	ePn	Pn	04 31 31.9 +2.2
PBRG	Braganca	6.56 340	ePn	Pn	04 31 33.0 +2.9
PTO	Porto	6.68 326	ePn	Pn	04 31 33.2 +1.6
PCAB	Cabril	6.91 332	ePn	Pn	04 31 37.1 +2.3
PGAV	Gavieira, Arco	7.22 332	ePn	Pn	04 31 41.0 +1.8

KRSC 25 04:30:03.6±1.3,53°.78N×169°.16E,h40km±65km,ML3.9,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	5.30	289	S	Sn	04 32 23.2	+3.2
TUMR	Tumrok	5.46	290	P	Pn	04 31 27.1	+4.6
SPN	Mys Shipunski	5.50	267	P	Pn	04 31 27.1	+4.1
SPN				S	Sn	04 32 29.7	+4.8
KMNR	Kamenistaya	5.53	295	P	Pn	04 31 27.6	+4.2
KMNR				S	Sn	04 32 31.0	+5.3
KII	Karymskiy	5.75	276	S	Sn	04 32 35.9	+4.9
SDLR	Sedlovina	6.15	269	P	Pn	04 31 36.5	+4.6
UGLR	Uglovaya	6.20	269	P	Pn	04 31 38.1	+5.5
SMAR	Somma	6.20	269	P	Pn	04 31 37.6	+4.9
KRER	Koryakskii	6.22	270	P	Pn	04 31 38.3	+5.3
AVH	Avacha	6.24	269	P	Pn	04 31 38.6	+5.5
KOK	Koryaka	6.29	270	P	Pn	04 31 39.0	+5.1
RUS	Russkaya	6.55	262	P	Pn	04 31 42.1	+4.8
RUS				S	Sn	04 32 54.8	+4.1
GNL	Ganaly	6.66	274	P	Pn	04 31 42.8	+3.9
KRMR	Karymshinskiy	6.68	266	P	Pn	04 31 43.9	+4.8
KRMR				S	Sn	04 32 59.1	+5.3
MTVR	Mutnovka	6.73	263	P	Pn	04 31 44.6	+4.6
MTVR				S	Sn	04 33 00.4	+5.0
GRL	Gorelyy	6.78	264	P	Pn	04 31 46.0	+5.4
GRL				S	Sn	04 33 02.2	+5.7
KDTR	Khodutka, Kamc	7.00	258	P	Pn	04 31 48.3	+4.8

*IDC **25** 04:30:53.6±0.6, 35°.55N×3°.97W, h0km, mb4.4/20, mb1 4.6/24, mb1mx4.3/57, mbtmp4.4/24, ML4.2/4, Error ellipse: s-maj=18.2km s-min=13.8km az=90.0*
*LDG **25** 04:30:53.6±0.2, 35°.33N×3°.89W, h10km, Ml4.1/23, Error ellipse: s-maj=5.2km s-min=4.1km az=157.0*
*SFS **25** 04:30:54.0, 35°.52N×3°.82W, ML4.0, ALBORAN SUR*
*INMG **25** 04:30:54.9±2.0, 35°.63N×3°.73W, h0km±6km, ML3.9, Error ellipse: s-maj=6.1km s-min=5.1km az=90.0*
*NEIC **25** 04:30:55.2±1.6, 35°.60N±0°.06×3°.82W±0°.07, h10km±1km, mb5.0/64, Error ellipse: s-maj=9.9km s-min=9.1km az=128.0*
*BJI **25** 04:30:55.9±0.0, 36°.35N×3°.92W, h10km, mb4.9/23, mB5.5/3*
*CNRM **25** 04:30:55.0, 35°.53N×3°.68W, h16km, ml4.9*
ISC 25 04:30:54.5±1.1,35°.61N±0°.03×3°.70W±0°.03,h8km±7km,
n244,σ1°92/303,mb5.0/61,23C-2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.44	207	P	Pg	04 31 02.1	-1.0
PALE				S	Sg	04 31 07.9	-0.9
GOG	Mont Gurugu	0.69	124	P	Pg	04 31 07.7	-0.1
GOG				S	Sg	04 31 16.4	-0.4
CHAS	Isla Isabel II	1.12	112	P	Pg	04 31 13.6	-2.4
CHAS				S	Sg	04 31 28.5	-2.0
EMAL	Malaga-Limoner	1.29	333	P	Pn	04 31 17.2	-1.5
EMAL				S	Sb	04 31 34.3	-1.4
CHEFC	Chefchaouen	1.43	250	P	Pn	04 31 20.0	-0.8
CHEFC				S	Sn	04 31 38.6	-1.4
JBK	JBK	1.58	144	P	Pn	04 31 20.5	-2.3
JBK				S	Sn	04 31 40.7	-2.9
CPS	Cap Spartel	1.81	276	P	Pb	04 31 26.9	-0.8
RSA	Sarsar	1.88	248	P	Pn	04 31 27.8	+0.8
SICH	Sidi Chahed	2.01	222	P	Pn	04 31 29.2	+0.6
SICH				S	Sn	04 31 54.5	+0.5
LCRM	LCR	2.15	207	P	Pn	04 31 30.4	-0.3
LCRM				S	Sn	04 31 56.8	-0.8
SFS	San Fernando	2.20	293	P	Pn	04 31 29.9	-1.4
SFS				S	Sg	04 32 05.3	0.0
SFS	San Fernando	2.20	293	Pn	Pn	04 31 30.4	-1.0
SFS	San Fernando	2.20	293	P	Pn	04 31 31.4	+0.1
IFR	Ifrane	2.40	210	P	Pn	04 31 33.8	-0.4
IFR				S	Sn	04 32 02.5	-1.4
MD31	MD31	2.88	198	P	Pn	04 31 40.2	-0.5
MDT	Midelt	2.89	195	Pn	Pn	04 31 41.2	+0.3
	28nm,0.3s,baz=137,slow=6.9,SNR=6.9						
MDT				Sn	Sn	04 32 13.8	-2.1
	38nm,0.3s,baz=330,slow=7.6,SNR=4.8						
MDT	Midelt	2.89	195	P	Pn	04 31 40.0	-0.8
TDRA	Tendrara	2.91	151	P	Pn	04 31 40.6	-0.7
CART	Cartagena	2.93	47	P	Pn	04 31 41.2	-0.2
CART				S	Sn	04 32 13.1	-3.6
CART	Cartagena	2.93	47	Pn	Pn	04 31 41.1	-0.2
CART	Cartagena	2.93	47	P	Pn	04 31 40.4	-0.9
PVAQ	Vaqueiros	3.70	300	ePn	Pn	04 31 51.2	-0.7
PVAQ				eSn	Sn	04 32 33.0	-2.7
PVAQ				A	A	04 32 55.8	
	214nm,0.7s						
PVAQ	Vaqueiros	3.70	300	Pn	Pn	04 31 50.8	-1.1
PVAQ	Vaqueiros	3.70	300	P	Pn	04 31 52.1	+0.2
PBDV	Barranco-do-Ve	3.78	297	ePn	Pn	04 31 52.2	-0.9
PBDV				eSn	Sn	04 32 35.0	-2.8
PBDV				A	A	04 32 57.9	
	138nm,0.7s						
AVE	Averroes	3.84	234	P	Pn	04 31 53.7	-0.2
PAB	San Pablo	3.96	353	Pn	Pn	04 31 57.5	+1.9
FIGM	Figuig	4.02	149	P	Pn	04 31 56.8	+0.4
PCVE	Castro Verde	4.03	301	ePn	Pn	04 31 56.4	-0.1
PCVE				eSn	Sn	04 32 43.7	-0.2
PCVE				A	A	04 32 49.3	
	170nm,0.5s						
GOLM	Goulmima	4.04	195	P	Pn	04 31 57.3	+0.6
ESDC	Sonseca Array	4.06	357	Pn	Pn	04 31 58.3	+1.4
	14nm,0.3s,baz=177,slow=12,SNR=31						
ESDC	Sonseca Array	4.06	357		Pn	04 31 57.2	+0.3
ESBB	Sonseca Array	4.06	357	Pn	Pn	04 31 58.1	+1.2
PBEJ	Beja	4.12	307	ePn	Pn	04 31 58.0	+0.3
PBEJ				eSn	Sn	04 32 44.6	-1.5
PBEJ				A	A	04 32 53.7	
	82nm,0.6s						
MESJ	Messejana	4.26	303	ePn	Pn	04 31 59.9	+0.3
MESJ				eSn	Sn	04 32 48.4	-1.1
MESJ				A	A	04 32 59.8	
	156nm,0.4s						
MORF	Marmelete	4.34	294	ePn	Pn	04 32 00.9	+0.2
MORF				eSn	Sn	04 32 49.1	-2.3
MORF				A	A	04 32 59.4	
	103nm,0.9s						
PFVI	Vila Bisbo	4.41	292	ePn	Pn	04 32 01.5	-0.1
PFVI				eSn	Sn	04 32 49.8	-3.4
PFVI				A	A	04 33 17.3	
	148nm,0.7s						
PFVI	Vila Bisbo	4.41	292	Pn	Pn	04 32 00.5	-1.2
PFVI	Vila Bisbo	4.41	292	P	Pn	04 32 01.7	+0.1
PTEO	Sao Teotonio	4.48	297	ePn	Pn	04 32 02.5	-0.1
PTEO				eSn	Sn	04 32 53.8	-1.2
PTEO				A	A	04 32 59.3	
	152nm,0.8s						
PESTR	Estremoz	4.49	317	ePn	Pn	04 32 03.8	+1.0
PESTR				eSn	Sn	04 32 53.1	-2.2
PESTR				A	A	04 33 14.3	
	114nm,0.5s						
PESTR	Estremoz	4.49	317	Pn	Pn	04 32 02.5	-0.3
PESTR	Estremoz	4.49	317	P	Pn	04 32 03.6	+0.8
EVO	Evora	4.52	311	ePn	Pn	04 32 03.4	+0.3
EVO				eSn	Sn	04 32 54.0	-1.8
EVO				A	A	04 33 01.5	
	214nm,0.5s						
PNCL	Nicolau / Gran	4.61	304	ePn	Pn	04 32 04.2	-0.2
PNCL				eSn	Sn	04 32 56.5	-1.5
PNCL				A	A	04 32 59.2	
	149nm,0.7s						
UCM	Universidad Co	4.70	4	P	Pn	04 32 06.7	+1.0
PMRV	Marv??o	4.81	323	ePn	Pn	04 32 08.1	+0.9
PMRV				eSn	Sn	04 33 01.7	-1.4
PMRV				A	A	04 33 41.9	
	114nm,0.7s						
PMTG	Montargil	4.99	315	ePn	Pn	04 32 10.8	+1.2
PMTG				eSn	Sn	04 33 05.2	-2.3
PMTG				A	A	04 33 08.1	
	101nm,0.6s						
TZRR	Tazzarine	5.06	199	P	Pn	04 32 11.1	+0.3
PCBR	Castelo Branco	5.17	326	ePn	Pn	04 32 12.6	+0.4
PCBR				eSn	Sn	04 33 10.8	-1.2
PCBR				A	A	04 33 12.7	
	127nm,0.5s						
OUZM	OUZ	5.35	210	P	Pn	04 32 14.4	-0.2
PMST	Lisbon--Monsan	5.38	307	ePn	Pn	04 32 15.0	+0.1
PMST				eSn	Sn	04 33 15.9	-1.1
PMST				A	A	04 33 17.8	
	124nm,0.8s						
PMAFR	Mafra	5.56	308	ePn	Pn	04 32 17.6	+0.1
PMAFR				eSn	Sn	04 33 19.0	-2.7
PMAFR				A	A	04 33 24.8	
	129nm,0.5s						
OUK	Oukaimeden	5.61	220	P	Pn	04 32 16.9	-1.5
PSBE	So Bento	5.62	315	ePn	Pn	04 32 18.8	+0.5
PSBE				eSn	Sn	04 33 20.3	-2.7
PSBE				A	A	04 33 45.2	
	126nm,0.6s						
MTE	Manteigas	5.66	329	ePn	Pn	04 32 19.5	+0.6
MTE				eSn	Sn	04 33 23.1	-1.1
MTE				A	A	04 33 33.6	
	83nm,0.6s						
MTE	Manteigas	5.66	329	Pn	Pn	04 32 19.0	+0.1
ZGR	Zagora	5.71	197	P	Pn	04 32 19.6	0.0
PCAS	Casmilo, Conde	5.84	321	ePn	Pn	04 32 20.9	-0.4
PCAS				eSn	Sn	04 33 24.7	-3.7
PCAS				A	A	04 34 09.2	
	117nm,0.6s						
PVIS	Viseu	6.07	328	ePn	Pn	04 32 25.3	+0.7
PVIS				eSn	Sn	04 33 32.3	-2.0
PVIS				A	A	04 33 54.9	
	66nm,0.6s						
MVO	Moncorvo	6.13	336	ePn	Pn	04 32 26.3	+1.0
MVO				eSn	Sn	04 33 33.8	-1.9
MVO				A	A	04 34 17.5	
	123nm,0.6s						
TTIG	Tnine Tigouga,	6.43	220	P	Pn	04 32 26.8	-2.8
PVRL	Vila Real	6.47	332	ePn	Pn	04 32 30.8	+0.7
PVRL				eSn	Sn	04 33 41.5	-2.6
PVRL				A	A	04 33 43.9	
	123nm,0.5s						
POLO	Lamas de Olo	6.59	332	ePn	Pn	04 32 32.5	+0.8
POLO				eSn	Sn	04 33 44.1	-2.9
POLO				A	A	04 34 30.1	
	45nm,0.7s						
PBRG	Braganca	6.62	340	ePn	Pn	04 32 33.1	+1.0
PBRG				eSn	Sn	04 33 46.0	-1.8
PBRG				A	A	04 34 28.1	
	59nm,0.6s						
PTO	Porto	6.73	327	ePn	Pn	04 32 33.5	0.0
PTO				eSn	Sn	04 33 46.7	-3.6
PTO				A	A	04 33 58.6	
	87nm,0.5s						
PCAB	Cabril	6.97	332	ePn	Pn	04 32 37.6	+0.8
PCAB				eSn	Sn	04 33 52.4	-3.8
PCAB				A	A	04 34 02.6	
	133nm,0.6s						
PGAV	Gavieira, Arco	7.28	332	ePn	Pn	04 32 42.0	+0.9
PGAV				eSn	Sn	04 34 00.7	-3.3
PGAV				A	A	04 34 08.6	
	89nm,0.6s						
ETSF	Etsaut	7.67	18	ePn	Pn	04 32 48.6	+2.1
ETSF				eSn	Sn	04 34 12.4	-1.2
	84nm,1.4s						
ETSF				eSg	Sg	04 34 59.7	-0.9
	161nm,1.0s						
SJPF	Ste Jean	7.73	14	eSn	Sn	04 34 13.8	-1.2
SJPF				eSg	Sg	04 35 00.7	-1.8
	55nm,1.0s						
EPF	Esparros	8.04	22	eSn	Sn	04 34 21.5	-1.2
	15nm,0.7s						
MTLF	Montolieu	8.97	29	ePn	Pn	04 33 05.9	+1.7
MTLF				eSn	Sn	04 34 41.9	-3.5
	29nm,0.8s						
TANT	Tantan	9.62	224	P	Pn	04 33 11.3	-1.9
LFF	La Frestale	9.91	19	ePn	Pn	04 33 17.8	+0.7
LFF				eSn	Sn	04 35 05.1	-3.4
	46nm,0.9s						
LASF	Ste Croix	10.25	32	ePn	Pn	04 33 23.4	+1.6
LASF				eSn	Sn	04 35 14.2	-2.7
	31nm,0.9s						
CAF	Calviac	10.29	24	ePn	Pn	04 33 22.3	0.0
RJF	Les Rejaudoux	10.46	21	ePn	Pn	04 33 24.9	+0.2
RJF				eSn	Sn	04 35 18.9	-3.1
	2.4nm,0.5s						
SMRF	Simiane la Rot	10.98	38	ePn	Pn	04 33 31.5	-0.3
SMRF				eSn	Sn	04 35 30.3	-4.4
	5.5nm,0.5s						
LMR	La Mourre	11.02	43	ePn	Pn	04 33 34.1	+1.7
LMR				eSn	Sn	04 35 30.9	-4.9
	0.9nm,0.2s						
VIVF	Saint-Julien-l	11.22	32	ePn	Pn	04 33 36.8	+1.6
VIVF				eSn	Sn	04 35 37.3	-3.5
	1.9nm,0.5s						
MFF	Saint Martin d	11.30	13	ePn	Pn	04 33 36.5	+0.4
MFF				eSn	Sn	04 35 38.9	-3.6
	5.3nm,0.6s						
TCF	Toulx Ste Croi	11.56	21	ePn	Pn	04 33 41.3	+1.6
ORIF	Oris-en-Rattie	11.82	35	eP	Pn	04 33 49.7	+6.4
ORIF				eSn	Sn	04 35 51.5	-3.9
ORIF				eSg		04 37 07.9	
	8.2nm,0.6s						
SBF	Sospel	11.88	43	eP	Pn	04 33 50.8	+6.7
SBF				eSn	Sn	04 35 51.7	-5.2
SBF				eSg		04 37 12.4	
	68nm,0.9s						
BGF	Bois d'Agland	11.99	22	ePn	Pn	04 33 45.9	+0.3
PGF	Pioggiola	12.05	51	ePn	Pn	04 33 48.5	+2.0
PGF				eSn	Sn	04 35 56.2	-4.8
	37nm,0.8s						
MBDF	Montbardon	12.11	38	eP	Pn	04 33 53.9	+6.5
MBDF				eSn	Sn	04 35 58.2	-4.5
MBDF				eSg		04 37 16.7	
	18nm,1.1s						
QUIF	Quistinic	12.30	2	ePn	Pn	04 33 50.2	+0.4
QUIF				eSn	Sn	04 36 01.1	-5.9
	9.2nm,0.6s						
AVF	Avril sur Loir	12.36	23	ePn	Pn	04 33 52.1	+1.5
AVF				eSn	Sn	04 36 02.3	-6.1
	1.3nm,0.5s						
SMF	Signal de Mont	12.39	25	ePn	Pn	04 33 53.5	+2.4
HYF	Humbligny	12.57	20	ePn	Pn	04 33 56.4	+2.9
SSF	Saint Saulge	12.65	23	ePn	Pn	04 33 56.9	+2.3
LPG	La Plagne	12.66	36	ePn	Pn	04 33 56.8	+1.8
LPG				eSn	Sn	04 36 11.8	-4.5
	0.3nm,0.2s						
LPL	La Plagne	12.67	35	ePn	Pn	04 33 56.8	+1.8
LPL				eSn	Sn	04 36 11.3	-5.0
	4.7nm,0.6s						
ROSF	Rostrenen	12.72	1	ePn	Pn	04 33 55.7	+0.2
ROSF				eSn	Sn	04 36 10.1	-7.1
	15nm,0.6s						
GRR	Gorron	12.94	8	ePn	Pn	04 34 00.0	+1.5
GRR				eSn	Sn	04 36 16.2	-6.4
	11nm,0.6s						
LDF	La Druitiere	13.24	10	ePn	Pn	04 34 03.3	+0.7
LDF				eSn	Sn	04 36 25.0	-4.9
	4.4nm,0.5s						
CASP	Castiglione de	13.37	53	Pn	Pn	04 34 05.0	+0.6
GERES	GERESS Array B	18.40	39	P	P	04 35 11.8	+1.8
	0.1nm,0.3s,baz=227,slow=9.3,SNR=2.5						
GERES	GERESS Array B	18.40	39	P	Pn	04 35 08.9	-1.0
KHC	Kasperske Hory	18.52	38	P	Pn	04 35 12.8	+1.4
PDG	Podgorica	19.06	62	⇑P	Pn	04 35 20.5	+2.6
PDG	Podgorica	19.06	62	P	Pn	04 35 20.4	+2.6
ESK	Eskdalemuir	19.71	1	P	Pn	04 35 25.8	+0.2
EKA	Eskdalemuir Ar	19.73	1	P	Pn	04 35 25.4	-0.3
	baz=176,slow=10,SNR=6.2						
CLL	Collm	19.75	32	*i* Px	Px	04 35 28.1	
FRGS	Fruska Gora	20.23	55	⇑P	Pn	04 35 45.2	+13
MORC	Moravsky Berou	20.97	41		Pn	04 35 41.5	+1.0
MORC				IAmb	IAmb	04 35 46.4	
	comp=Z,171nm,2.0s						
BOVS	Bovan	21.09	60	⇑P	P	04 35 40.9	+1.8
PSZ	Piszkesteto	21.37	48	⇑P	P	04 35 43.7	+1.4
MDVR	Moldovita	21.39	57	⇑P	P	04 35 48.8	+6.3
SIRR	Siria	21.82	53	⇑P	P	04 35 50.1	+3.0
VTS	Vitosha	21.98	63	⇑P	P	04 35 49.2	+0.2
DRGR		22.68	52	⇑P	P	04 35 58.6	+2.2
TORD	Torodi Ar. Bea	22.89	166	P	P	04 35 59.0	+0.4
	comp=Z,61nm,1.0s,baz=346,slow=9.1,SNR=1.6						
TRPA	Tarpa	23.07	49	⇑P	P	04 36 00.4	+0.1
ARR	Arges	23.54	57	⇑P	P	04 36 05.7	+0.6
VOIR		23.84	57	⇑P	P	04 36 09.0	+0.9
ARCR	ARCALIA	23.84	53	⇓P	P	04 36 09.2	+1.1
MLR	Muntele Rosu	24.47	57	⇑P	P	04 36 17.2	+3.2
MLR	Muntele Rosu	24.47	57	P	P	04 36 17.4	+3.4
	comp=Z,9.4nm,0.9s,baz=313,slow=10,SNR=3.0						
MLR	Muntele Rosu	24.47	57	P	P	04 36 15.1	+1.1
MLR				IAmb	IAmb	04 36 31.0	
	comp=Z,51nm,1.2s						
OZUR		24.51	56	⇑P	P	04 36 16.2	+1.9
BURAR	Bucovina Array	24.57	52	⇑P	P	04 36 16.5	+1.7
NEHR	Nehoiu	24.69	57	⇑P	P	04 36 31.8	+16
COVR	Voineasa-Covas	24.73	56	⇑P	P	04 36 17.9	+1.7
PLOR	Plostina	25.03	57	⇑P	P	04 36 21.2	+2.3
VRI	Vrincioaia	25.09	57	⇑P	P	04 36 22.1	+2.7
TESR	Tescani	25.19	55	⇑P	P	04 36 22.3	+2.0
CFR	Carcaliu	25.91	59	⇑P	P	04 36 36.2	+9.3
TPGR	Topolog	26.06	59	⇑P	P	04 36 27.6	-0.6
SORM	Soroca	26.74	52	⇑P	P	04 36 34.6	+0.3
NC602	NORSAR Array S	26.98	17	P	P	04 36 36.1	-0.2
HFS	Hagfors	26.99	19	P	P	04 36 38.9	+2.4
	comp=Z,7.5nm,1.0s,baz=164,slow=5.7,SNR=2.9						
NOA	NORSAR Array B	27.17	16	P	P	04 36 38.1	-0.1
	comp=Z,1.5nm,0.8s,baz=207,slow=9.0,SNR=4.3						
AKASG	Malin Array Be	28.07	47	P	P	04 36 45.8	-0.4
	comp=Z,2.0nm,0.8s,baz=246,slow=10.0,SNR=4.4						
MNK	Minsk	28.86	39	*i* P	P	04 36 50.4	-2.9
MNK				*i* P	P	04 36 50.4	-2.9
MNK				*i* P	P	04 36 50.4	-2.9
	comp=Z,40nm,1.4s,baz=64						
MNK				*i* PP	PnPn	04 37 41.4	-2.8
MNK				*i* S	S	04 41 39.0	-4.4
MNK				*i* SS	SnSn	04 43 04.5	-0.5
MNK				*i* LQ	LQ	04 46 08.4	
MNK				*i* LR	LR	04 48 20.2	
MNK				*i* LRM	MLR	04 49 24.9	
	comp=N,25μm,23.9s						
MNK				*i* LRM	MLR	04 49 33.6	
	comp=E,2μm,17.5s						
MNK				*i* LRM	MLR	04 49 33.6	
	comp=Z,16μm,19.6s						
FINES	FINESS Array B	31.98	27	P	P	04 37 23.6	+2.9
	comp=Z,4.1nm,0.8s,baz=223,slow=7.7,SNR=4.3						
FINES				PcP	PcP	04 40 11.4	+0.9
	comp=Z,1.0nm,0.7s,baz=180,slow=0.6,SNR=3.6						
ARCES	ARCESS Array B	37.55	16	P	P	04 38 11.3	+2.6
	comp=Z,2.2nm,0.8s,baz=318,slow=1.6,SNR=4.5						
DAG	Danmarks Havn	41.80	355	*i* P	P	04 38 45.0	+1.0
LMN	Caledonia Moun	46.39	302	P	P	04 39 20.6	-0.6
LMN				IAmb	IAmb	04 39 25.7	
	comp=Z,30nm,1.4s						
SCHQ	Schefferville	46.70	315	P	P	04 39 23.2	-0.3
	comp=Z,5.2nm,0.9s,baz=141,slow=4.9,SNR=3.2						
SCHQ	Schefferville	46.70	315	P	P	04 39 22.6	-1.0
SCHQ				IAmb	IAmb	04 39 36.5	
	comp=Z,18nm,1.2s						
BATG	Bathurst New B	47.01	304	P	P	04 39 26.1	0.0
BATG				IAmb	IAmb	04 39 52.4	
	comp=Z,25nm,1.4s						
ABKAR	Akbulak array	47.55	53	P	P	04 39 30.8	+0.6
MBAR	Mbarara	48.24	131	P	P	04 39 37.7	+1.5
MBAR				IAmb	IAmb	04 39 41.5	
	comp=Z,12nm,0.8s						
G65A	Princeton	48.41	302	P	P	04 39 38.1	+1.1
D62A	Allapoint, All	49.05	305	P	P	04 39 41.5	-0.4
D62A				IAmb	IAmb	04 39 42.5	
	comp=Z,30nm,1.4s						
K62A	Royalston	52.31	300	P	P	04 40 06.7	+0.1
KMBO	Kilima Mbogo	52.84	125	P	P	04 40 13.8	+2.8
	comp=Z,4.1nm,1.0s,baz=335,slow=7.5,SNR=5.8						
BRVK	Borovoye	53.28	46	P	P	04 40 15.3	+1.8
BRVK				IAmb	IAmb	04 40 33.5	
	comp=Z,28nm,1.6s						
EUNU	Eureka	53.92	348	P	P	04 40 19.5	+1.5
EUNU				IAmb	IAmb	04 40 25.3	
	comp=Z,17nm,1.1s						
ODNJ	Ogdensburg	54.48	299	P	P	04 40 22.3	-0.2
ODNJ				IAmb	IAmb	04 40 47.9	
	comp=Z,27nm,1.5s						
N58A	Sunbury	56.07	299	P	P	04 40 34.0	0.0
N58A				IAmb	IAmb	04 40 40.2	
	comp=Z,17nm,1.1s						
KKAR	Karatay Array	56.14	58	P	P	04 40 35.9	+1.4
M55A	Ridgway	57.30	300	P	P	04 40 43.1	+0.3
TSUM	Tsumeb	58.13	156	P	P	04 40 50.4	+1.6
TSUM				IAmb	IAmb	04 40 52.5	
	comp=Z,14nm,0.9s						
KURK	Kurchatov	58.89	47	P	P	04 40 53.7	0.0
T57A	Hurt	59.33	296	P	P	04 40 57.8	+0.8
FCC	Fort Churchill	60.54	323	P	P	04 41 05.2	+0.3
FCC				IAmb	IAmb	04 41 29.9	
	comp=Z,13nm,1.2s						
KSH	Kashi	61.29	60	*e*P	P	04 41 13.1	+2.6
KSH				pP	sP	04 41 18.0	+4.2
KSH				pmax	pmax		
	comp=Z,17nm,1.0s						
ZALV	Zalesovo Beam	61.31	42	P	P	04 41 11.4	+1.2
	comp=Z,2.3nm,0.6s,baz=301,slow=7.4,SNR=6.1						
ZALV	Zalesovo Beam	61.31	42	P	P	04 41 10.8	+0.6
BOAV	Boa Vista	61.99	251	P	P	04 41 14.4	-1.0
BOAV				IAmb	IAmb	04 41 38.8	
	comp=Z,9.7nm,1.2s						
S51A	Beattyville	62.22	298	P	P	04 41 16.3	-0.3
MK31	Makanchi Array	62.59	51	P	P	04 41 19.5	+0.5
MK31				IAmb	IAmb	04 41 22.5	
	comp=Z,14nm,0.9s						
MKAR	Makanchi Array	62.59	51	P	P	04 41 19.6	+0.6
	comp=Z,12nm,0.7s,baz=291,slow=5.5,SNR=27						
MKAR	Makanchi Array	62.59	51	P	P	04 41 19.1	+0.1
G40A	Rib Lake	63.54	308	P	P	04 41 25.4	0.0
G40A				IAmb	IAmb	04 41 31.1	
	comp=Z,16nm,1.1s						
E38A	The Farm, Brul	63.84	310	P	P	04 41 26.0	-1.3
E38A				IAmb	IAmb	04 41 30.6	
	comp=Z,15nm,0.8s						
BAUV	El Baul	64.02	262

comp=Z,38nm,1.7s
R32A Long Quarter, 72.37 305 P **P** **04 42 20.3 -0.8**
EDM Edmonton 72.64 324 P **P** **04 42 21.3 -1.1**
EDM IAmb IAmb 04 42 25.0
comp=Z,12nm,0.9s
BMAR Burnt Mountain 73.10 345 P **P** **04 42 25.2 +0.4**
EGMT Eagleton 73.84 318 P **P** **04 42 29.2 -0.4**
EGMT IAmb IAmb 04 42 41.5
comp=Z,17nm,1.2s
DAWY Dawson 74.68 341 P **P** **04 42 34.5 +0.4**
GCMT Greycliff 75.09 316 P **P** **04 42 37.0 -0.1**
WALA Waterton Lakes 75.44 320 P **P** **04 42 38.8 -0.2**
WALA IAmb IAmb 04 42 41.9
comp=Z,11nm,1.0s
ILAR Eielson Array 75.87 345 P **P** **04 42 42.8 +1.9**
comp=Z,0.4nm,0.7s,baz=1.4,slow=3.6,SNR=1.9
GOMU GeErMu 75.92 56 P **P** **04 42 41.8 -0.4**
GOMU pP PcP 04 42 52.3 -2.4
GOMU sP sP 04 42 55.6 +10
GOMU PP **PP** **04 45 31.5 -0.6**
GOMU pmax pmax
comp=Z,590nm,11.0s
RWWY Rawlins 76.02 311 P **P** **04 42 41.6 -1.0**
BCAR Beaver Creek A 76.11 342 P **P** **04 42 42.0 -0.5**
ISCO Idaho Springs 76.11 309 P **P** **04 42 42.4 -0.8**
IMAR Indian Mountai 76.11 348 P **P** **04 42 42.4 +0.1**
SONM Songino Array 76.12 41 P **P** **04 42 43.9 +1.0**
comp=Z,1.2nm,0.7s,baz=108,slow=18,SNR=5.8
SONM Songino Array 76.12 41 P **P** **04 42 44.4 +1.5**
BOZ Bozeman (W) 76.31 317 P **P** **04 42 44.3 +0.3**
BW06 Boulder Array 76.81 313 P **P** **04 42 46.1 -0.9**
PDAR Pinedale Array 76.81 313 P **P** **04 42 46.3 -0.7**
comp=Z,4.0nm,0.8s,baz=65,slow=6.6,SNR=14
GTA Gaotai 77.34 51 *e*P **P** **04 42 52.4 +2.5**
GTA pP PcP 04 42 57.3 -3.2
GTA sP sP 04 43 00.5 +7.3
GTA pmax pmax
comp=Z,5.0nm,0.8s
JCT Junction City 77.42 298 P **P** **04 42 49.8 -0.6**
JCT IAmb IAmb 04 42 52.5
comp=Z,10.0nm,0.9s
RDMU Red Mountain 78.12 312 P **P** **04 42 52.5 -1.8**
RDMU IAmb IAmb 04 42 57.7
comp=Z,15nm,0.9s
PV11 David Mesa, Pa 79.05 309 P **P** **04 42 58.7 -0.8**
PV11 IAmb IAmb 04 43 03.8
comp=Z,48nm,1.8s
P17A Butcher Ranch, 79.50 311 P **P** **04 43 01.8 -0.1**
TMUT Trail Mountain 79.90 311 P **P** **04 43 04.0 -0.2**
BMO Blue Mountains 79.90 319 P **P** **04 43 03.2 -0.7**
TXAR Lajitas Array 80.83 299 P **P** **04 43 09.7 +0.5**
comp=Z,1.5nm,0.7s,baz=79,slow=5.7,SNR=8.3
TXAR Lajitas Array 80.83 299 P **P** **04 43 08.7 -0.5**
TX31 Lajitas Ar. Si 80.83 299 P **P** **04 43 09.4 +0.3**
LZH Lanzhou 81.89 51 *e*P **P** **04 43 17.4 +2.6**
LZH pP PcP 04 43 22.8 +2.4
LZH pmax pmax
comp=Z,20nm,1.3s
U15A North Rim 82.34 310 P **P** **04 43 16.6 -0.7**
R11A Troy Canyon, C 83.14 313 P **P** **04 43 20.4 -0.9**
HHC Hu-ho-hao-te 83.46 44 *e*P **P** **04 43 23.4 +0.6**
HHC pmax pmax
comp=Z,16nm,1.0s
XLT XiLinHaoTe 83.80 39 *e*P **P** **04 43 26.8 +2.4**
XLT sP PcP 04 43 34.0 +5.5
XLT pmax pmax
comp=Z,12nm,1.7s
TUC Tucson 83.94 306 P **P** **04 43 24.9 -0.5**
TUC IAmb IAmb 04 43 30.0
comp=Z,8.2nm,0.9s
NVAR Mina Array Bea 84.70 314 P **P** **04 43 29.9 +0.6**
comp=Z,0.8nm,0.8s,baz=46,slow=4.4,SNR=4.0
NVAR Mina Array Bea 84.70 314 P **P** **04 43 29.6 +0.3**
PNTR Pine Nut 85.01 315 P **P** **04 43 31.1 +0.3**
PZH PanZhiHua 86.39 60 P **P** **04 43 39.8 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 86.40 50 P **P** **04 43 39.9 +2.3**
XAN pP sP 04 43 50.8 +10
XAN pmax pmax
comp=Z,10.0nm,1.4s
HNS HongShan 87.60 45 ⇑P **P** **04 43 45.9 +2.6**
HNS pmax pmax
comp=Z,8.0nm,1.1s
CN2 Changchun 88.43 34 *e*P **P** **04 43 46.8 -0.3**
CMAR Chiang Mai Arr 89.24 68 P **P** **04 43 53.6 +2.2**
comp=Z,1.2nm,0.3s,baz=308,slow=6.2,SNR=5.3
CMAR Chiang Mai Arr 89.24 68 P **P** **04 43 51.3 -0.2**
NJ2 Nanjing 93.79 46 *e*P **P** **04 44 12.1 -0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
KSRS Korea Array 94.57 37 P **P** **04 44 16.7 +1.0**
comp=Z,1.9nm,0.7s,baz=315,slow=2.6,SNR=4.3
SYO Syowa Base 109.09 165μ *e*X **Pdif** **04 45 15.4 -4.2**
ASAR Alice Springs 141.54 84 PKhKP PKPpre 04 50 22.0
comp=Z,1.0nm,1.0s,baz=288,slow=1.8,SNR=2.5
STKA Stephens Creek 150.99 93 PKPbc **PKiKP** **04 50 48.5 -0.1**
comp=Z,8.5nm,0.9s,baz=322,slow=4.5,SNR=6.5

IDC ***25*** *04:34:17.6±0.4, 35°.74N×3°.81W, h0km, mb4.6/34, mb1 4.8/40, mb1mx4.6/60, mbtmp4.6/40, ML4.4/4, Error ellipse: s-maj=12.8km s-min=10.7km az=124.0*
LDG ***25*** *04:34:17.3±0.2, 35°.37N×3°.75W, h10km, Ml4.2/26, Error ellipse: s-maj=5.3km s-min=4.4km az=177.0*
BJI ***25*** *04:34:18.0±0.0, 35°.70N×3°.80W, h10km, mb5.0/36, mB5.9/11*
MDD ***25*** *04:34:18.6±0.5, 35°.62N×3°.81W, h0km, mbLg4.5/20, Error ellipse: s-maj=4.5km s-min=3.1km az=16.0, Sentido ampliamente en la costa andaluza.*
INMG ***25*** *04:34:18.2±2.6, 35°.62N×3°.82W, h0km±5km, MD3.5, ML4.5, Error ellipse: s-maj=4.3km s-min=2.9km az=15.0*
SFS ***25*** *04:34:18.0, 35°.62N×3°.81W, ML4.9, ALBORAN SUR*
NEIC ***25*** *04:34:19.2±1.9, 35°.68N±0°.06×3°.72W±0°.05, h10km±1km, mb5.3/324, Error ellipse: s-maj=11.2km s-min=3.3km az=211.0*
CNRM ***25*** *04:34:19.4, 35°.56N×3°.68W, h17km, ml5.3*
MED_RC ***25*** *04:34:20.0±2.0, 35°.44N×3°.73W, h12km±4km, MW5.2/15, Moment Tensor Solution. Mantle waves: s15,c17; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr 0.04±.11; Mθθ-0.80±.08; Mφφ 0.77±.08; Mrθ 0.01±.27; Mθφ 0.10±.07; Mφr-0.37±.27; Best double couple: M0 0.87000×10^17 NP1:φs 137.00000°, δ 76.00000°, λ 162.00000°. NP2:φs 231.00000°, δ 72.00000°, λ 14.00000°. Principal axes: T 0.9300, Plg 23.0000°, Azm 93.0000°; N -0.1200, Plg 67.0000°, Azm 281.0000°; P -0.8100, Plg 3.0000°, Azm 184.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
CRAAG ***25*** *04:34:20.0, 35°.65N×3°.85W, Mb5.3*
IGIL ***25*** *04:34:20.0, 35°.62N×3°.81W, h2km, ML4.6*
ISC 25 04:34:19.5±0.9, 35°.64N±0°.02×3°.75W±0°.02, h14km±5km, n874, σ1§79/849, mb5.2/198, 38C-28D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.45**	**200**	P	**Pg**	**04 34 27.3**	**-1.1**
PALE				S	**Sg**	**04 34 33.4**	**-1.0**
EALB	**Alboran**	**0.66**	**62**	Pg	**Pg**	**04 34 32.0**	**-0.3**
	5μm,0.3s,SNR=75						
EALB				Lg	Lg	04 34 41.9	
	10μm,0.3s,SNR=7.9						
EMEL	**Melilla**	**0.73**	**117**	Pg	**Pg**	**04 34 32.3**	**-1.3**
	43μm,0.3s,SNR=110						
EMEL				Lg	Lg	04 34 42.3	
	15μm,0.3s,SNR=19						
GOG	**Mont Gurugu**	**0.74**	**124**	P	**Pg**	**04 34 32.5**	**-1.4**
GOG				S	**Sg**	**04 34 41.7**	**-2.0**
CHAS	**Isla Isabel II**	**1.17**	**112**	P	**Pn**	**04 34 38.3**	**-3.1**
CHAS				S	**Sb**	**04 34 53.2**	**-3.3**
ELGU	**Los Guajares,**	**1.23**	**5**	Pg	**Pn**	**04 34 40.4**	**-2.0**
	1μm,0.3s,SNR=7.9						
ELGU				Lg	Lg	04 34 57.9	
	12μm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.24**	**319**	Pg	**Pn**	**04 34 40.3**	**-2.2**
	2μm,0.4s,SNR=7.9						
EMIJ				Lg	Lg	04 34 56.8	
	28μm,0.4s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.25**	**334**	P	**Pn**	**04 34 41.0**	**-1.6**
EMAL				S	**Sb**	**04 34 57.6**	**-1.3**
CEU	**Ceuta**	**1.34**	**282**	P	**Pn**	**04 34 40.7**	**-3.1**
CEU				S	**Sn**	**04 34 55.8**	**-5.8**
ECEU	**Ceuta**	**1.35**	**282**	Pg	**Pn**	**04 34 41.6**	**-2.3**
	515nm,0.3s,SNR=41						
ECEU				Lg	Lg	04 34 57.6	
	5μm,0.4s,SNR=15						
CHEFC	**Chefchaouen**	**1.40**	**248**	P	**Pn**	**04 34 44.0**	**-0.7**
CHEFC				S	**Sg**	**04 35 04.0**	**-0.7**
EBER	**Berja**	**1.44**	**29**	Pg	**Pn**	**04 34 44.4**	**-0.9**
	327nm,0.3s,SNR=7.9						
EBER				Lg	Lg	04 35 04.9	
	4μm,0.4s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.50**	**349**	Pg	**Pn**	**04 34 45.4**	**-0.7**
	345nm,0.3s,SNR=7.9						
EGOR				Lg	Lg	04 35 06.4	
	1μm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.59**	**9**	Pg	**Pn**	**04 34 46.8**	**-0.5**
	604nm,0.4s,SNR=40						
EQUE				Lg	Lg	04 35 09.2	
	2μm,0.5s,SNR=12						
JBK	**JBK**	**1.62**	**143**	P	**Pn**	**04 34 45.6**	**-2.3**
JBK				S	**Sn**	**04 35 04.5**	**-4.1**
CPS	**Cap Spartel**	**1.76**	**275**	P	**Pg**	**04 34 52.9**	**-0.4**
ENIJ	**Nijar**	**1.82**	**43**	Pn	**Pn**	**04 34 49.8**	**-0.8**
	309nm,0.4s,SNR=7.9						
ENIJ				Lg	Lg	04 35 14.9	
	5μm,0.7s,SNR=7.9						
RSA	**Sarsar**	**1.85**	**247**	P	**Pb**	**04 34 52.8**	**-0.4**
SICH	**Sidi Chahed**	**2.00**	**221**	P	**Pb**	**04 34 54.9**	**-0.8**
SICH				S	**Sb**	**04 35 19.1**	**-1.3**
LCRM	**LCR**	**2.15**	**205**	P	**Pb**	**04 34 57.8**	**-0.5**
LCRM				S	**Sn**	**04 35 22.2**	**+0.6**
SFS	**San Fernando**	**2.15**	**293**	P	**Pb**	**04 34 58.1**	**-0.1**
SFS				S	**Sg**	**04 35 28.1**	**-0.7**
SFS	**San Fernando**	**2.15**	**293**	⇓P	**Pb**	**04 34 58.7**	**+0.5**
SFS	**San Fernando**	**2.15**	**293**		**Pb**	**04 34 57.8**	**-0.5**
SFS	**San Fernando**	**2.15**	**293**	P	**Pb**	**04 34 58.6**	**+0.4**
EQES	**Quesada**	**2.23**	**14**	Pn	**Pn**	**04 34 57.5**	**+1.3**
	82nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**04 35 24.6**	**+1.1**
	4μm,0.6s,SNR=5.0						
IFR	**Ifrane**	**2.40**	**209**	P	**Pn**	**04 34 58.5**	**0.0**
IFR				S	**Sn**	**04 35 27.2**	**-0.7**
TLOR	**Lorca, Murcia**	**2.61**	**39**	Pn	**Pn**	**04 35 01.0**	**-0.3**
	89nm,0.3s,SNR=7.9						
TLOR				Sn	**Sn**	**04 35 32.9**	**+0.1**
	301nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.61**	**346**	Pn	**Pn**	**04 35 02.1**	**+0.8**
	33nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**04 35 32.0**	**-0.9**
	22nm,0.3s,SNR=7.9						
EADA				Lg	Lg	04 35 42.0	
	SNR=7.9						
ECAB	**El Cabril**	**2.78**	**332**	Pn	**Pn**	**04 35 03.7**	**+0.1**
	6.8nm,0.3s,SNR=7.9						
ECAB				Sn	**Sn**	**04 35 35.7**	**-1.3**
	37nm,0.3s,SNR=7.9						
ECAB				Lg	Lg	04 35 47.5	
	SNR=7.9						
EZAR	**Zarzadilla de**	**2.78**	**36**	Pn	**Pn**	**04 35 03.1**	**-0.6**
	28nm,0.2s,SNR=7.9						
EZAR				Sn	**Sn**	**04 35 38.3**	**+1.2**
	72nm,0.2s,SNR=7.9						
MD31	**MD31**	**2.89**	**197**	P	**Pn**	**04 35 05.5**	**+0.4**
MDT	**Midelt**	**2.90**	**194**	Pn	**Pn**	**04 35 06.6**	**+1.2**
	47nm,0.3s,baz=179,slow=12,SNR=14						
MDT				Sn	**Sn**	**04 35 39.8**	**-0.4**
	184nm,0.3s,baz=165,slow=9.3,SNR=5.5						
CART	**Cartagena**	**2.95**	**48**	P	**Pn**	**04 35 05.4**	**-0.5**
CART				S	**Sn**	**04 35 35.2**	**-5.9**
CART	**Cartagena**	**2.95**	**48**	Pn	**Pn**	**04 35 05.2**	**-0.6**
CART	**Cartagena**	**2.95**	**48**	P	**Pn**	**04 35 05.7**	**-0.2**
TDRA	**Tendrara**	**2.96**	**151**	P	**Pn**	**04 35 05.3**	**-0.9**
EMUR	**La Murta**	**2.98**	**42**	Pn	**Pn**	**04 35 06.3**	**-0.2**
	23nm,0.3s,SNR=21						
EMUR				Sn	**Sn**	**04 35 41.1**	**-1.0**
	74nm,0.4s,SNR=4.1						
EMUR				Lg	Lg	04 35 56.7	
	371nm,0.5s,SNR=4.2						
EMIN	**Mina Concepcio**	**3.17**	**313**	Pn	**Pn**	**04 35 08.6**	**-0.3**
	36nm,0.2s,SNR=32						
EMIN				Sn	**Sn**	**04 35 44.7**	**-1.9**
	115nm,0.2s,SNR=7.7						
EMIN				Lg	Lg	04 35 57.8	
	SNR=7.9						
ETOB	**Tobarra**	**3.48**	**30**	Pn	**Pn**	**04 35 14.8**	**+1.5**
	101nm,0.3s,SNR=79						
ETOB				Sn	**Sn**	**04 35 54.8**	**+0.4**
	40nm,0.2s,SNR=5.0						
ETOB				Lg	Lg	04 36 11.6	
	2μm,1.2s,SNR=5.0						
EGRO	**El Granado**	**3.55**	**303**	Pn	**Pn**	**04 35 13.8**	**-0.4**
	75nm,0.1s,SNR=54						
EGRO				Pg	**Pb**	**04 35 22.9**	**+0.8**
	SNR=7.9						
EGRO				Sn	**Sn**	**04 35 53.8**	**-2.2**
	29nm,0.4s,SNR=9.8						
EGRO				Lg	Lg	04 36 11.3	
	1μm,0.7s,SNR=5.0						
PFARO	**Faro**	**3.64**	**294**	*e*Sn	**Sn**	**04 35 57.8**	**-0.4**
PVAQ	**Vaqueiros**	**3.65**	**300**	*e*Pn	**Pn**	**04 35 15.1**	**-0.5**
PVAQ				*e*Sn	**Sn**	**04 35 55.5**	**-2.9**
PVAQ				A	A	04 36 09.8	
	1μm,0.7s						
PVAQ	**Vaqueiros**	**3.65**	**300**	Pn	**Pn**	**04 35 15.1**	**-0.5**
PBAR	**Barrancos**	**3.66**	**315**	*e*Pn	**Pn**	**04 35 15.7**	**+0.1**
PBAR				*e*Sn	**Sn**	**04 35 56.6**	**-2.0**
PBAR				A	A	04 36 08.0	
	711nm,0.6s						
AVE	**Averroes**	**3.82**	**233**	P	**Pn**	**04 35 17.8**	**-0.1**
AVE				S	Sn	04 35 50.1	-13
AVE	**Averroes**	**3.82**	**233**	P	**Pn**	**04 35 16.9**	**-1.0**
PAB	**San Pablo**	**3.93**	**353**	⇑P	**Pn**	**04 35 21.0**	**+1.5**
PAB	**San Pablo**	**3.93**	**353**	Pn	**Pn**	**04 35 19.8**	**+0.3**
PAB	**San Pablo**	**3.93**	**353**	Pn	**Pn**	**04 35 19.7**	**+0.3**
	9.5nm,0.1s,SNR=7.9						
EANR	**'Ain N'Sour**	**3.96**	**84**	P	**Pb**	**04 35 31.0**	**+2.0**
AFON	**Font Roja**	**3.96**	**39**	Pn	**Pn**	**04 35 21.0**	**+1.0**
	7.6nm,0.2s,SNR=34						
AFON				Sn	**Sn**	**04 36 06.8**	**+0.4**
	15nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**3.98**	**301**	*e*Pn	**Pn**	**04 35 19.7**	**-0.4**
PCVE				*e*Sn	**Sn**	**04 36 04.0**	**-2.6**
PCVE				A	A	04 36 15.3	
	793nm,0.6s						
ESDC	**Sonseca Array**	**4.04**	**358**	Pn	**Pn**	**04 35 21.1**	**+0.1**
	21nm,0.3s,baz=179,slow=12,SNR=22						
ESDC	**Sonseca Array**	**4.04**	**358**		**Pn**	**04 35 20.8**	**-0.2**
ESDC	**Sonseca Array**	**4.04**	**358**	Pn	**Pn**	**04 35 20.6**	**-0.3**
	44nm,0.2s,SNR=7.9						
ESDC				Sn	**Sn**	**04 36 06.8**	**-1.3**
	46nm,0.2s,SNR=7.9						
ESDC				Lg	Lg	04 36 29.2	
	SNR=7.9						
ESDC	**Sonseca Array**	**4.04**	**358**	Pn	**Pn**	**04 35 20.3**	**-0.6**
	74nm,0.1s,baz=176,slow=12,SNR=45						
ESDC				Sn	**Sn**	**04 36 06.8**	**-1.3**
	16nm,0.2s,SNR=7.9						
ESDC				Lg	Lg	04 36 28.6	
	SNR=7.9						
ESBB	**Sonseca Array**	**4.04**	**358**	Pn	**Pn**	**04 35 21.4**	**+0.4**
GOLM	**Goulmima**	**4.05**	**195**	P	**Pn**	**04 35 22.7**	**+1.6**
EBAD	**Badajoz**	**4.06**	**321**	Pn	**Pn**	**04 35 20.8**	**-0.4**
	16nm,0.3s,SNR=27						
EBAD				Sn	**Sn**	**04 36 06.0**	**-2.5**
	44nm,0.4s,SNR=8.8						
EBAD				Lg	Lg	04 36 28.5	
	1μm,1.0s,SNR=4.5						
FIGM	**Figuig**	**4.06**	**149**	P	**Pn**	**04 35 20.5**	**-0.8**
PBEJ	**Beja**	**4.07**	**307**	*e*Pn	**Pn**	**04 35 20.8**	**-0.6**
PBEJ				*e*Sn	**Sn**	**04 36 07.5**	**-1.4**
PBEJ				A	A	04 36 11.9	
	424nm,0.5s						
ECHA	**Ech Chlef**	**4.19**	**81**	P	**Pb**	**04 35 35.0**	**+2.1**
MESJ	**Messejana**	**4.21**	**303**	*e*P	**Pn**	**04 35 22.9**	**-0.4**
MESJ				*e*S	**Sn**	**04 36 08.8**	**-3.4**
MESJ				IAML		04 36 13.0	
	comp=N,774nm,0.4s						
MESJ	**Messejana**	**4.21**	**303**	*e*Pn	**Pn**	**04 35 23.0**	**-0.3**
MESJ				*e*Sn	**Sn**	**04 36 09.5**	**-2.7**
MESJ				A	A	04 36 19.6	
	comp=N,612nm,0.4s						
MORF	**Marmelete**	**4.29**	**294**	*e*P	**Pn**	**04 35 23.7**	**-0.6**
MORF				*e*S	**Sn**	**04 36 10.5**	**-3.6**
MORF				IAML		04 36 21.1	
	comp=N,1μm,0.8s						
MORF	**Marmelete**	**4.29**	**294**	*e*Pn	**Pn**	**04 35 23.3**	**-1.1**
MORF				*e*Sn	**Sn**	**04 36 10.6**	**-3.6**
MORF				A	A	04 36 18.2	
	comp=N,385nm,0.5s						
MORF	**Marmelete**	**4.29**	**294**	⇑P	**Pn**	**04 35 24.2**	**-0.1**
PFVI	**Vila Bisbo**	**4.36**	**292**	*e*Pn	**Pn**	**04 35 24.9**	**-0.4**
PFVI				*e*Sn	**Sn**	**04 36 13.2**	**-2.7**
PFVI				A	A	04 36 33.0	
	comp=N,500nm,0.8s						
PFVI	**Vila Bisbo**	**4.36**	**292**	Pn	**Pn**	**04 35 24.7**	**-0.6**
PFVI	**Vila Bisbo**	**4.36**	**292**	P	**Pn**	**04 35 24.9**	**-0.4**
PFVI	**Vila Bisbo**	**4.36**	**292**	Pn	**Pn**	**04 35 25.5**	**+0.2**
	comp=N,7.6nm,0.2s,SNR=23						
PFVI				Sn	**Sn**	**04 36 12.0**	**-4.0**
	comp=N,158nm,0.2s,SNR=7.9						
PFVI				Lg	Lg	04 36 32.6	
	comp=N,418nm,0.6s,SNR=7.2						
PALJ	**Aljezur**	**4.40**	**294**	*e*Sn	**Sn**	**04 36 14.9**	**-2.0**
PTEO	**Sao Teotonio**	**4.43**	**297**	*e*Pn	**Pn**	**04 35 26.1**	**-0.2**
PTEO				*e*Sn	**Sn**	**04 36 15.4**	**-2.3**
PTEO				A	A	04 36 35.3	
	comp=N,560nm,0.5s						
PESTR	**Estremoz**	**4.45**	**318**	*e*Pn	**Pn**	**04 35 26.7**	**+0.1**
PESTR				*e*Sn	**Sn**	**04 36 16.3**	**-1.9**
PESTR				A	A	04 36 45.6	
	comp=N,581nm,0.5s						
PESTR	**Estremoz**	**4.45**	**318**	⇑S	**Sn**	**04 36 16.2**	**-1.9**
PESTR	**Estremoz**	**4.45**	**318**	Pn	**Pn**	**04 35 26.7**	**+0.1**
PESTR	**Estremoz**	**4.45**	**318**	P	**Pn**	**04 35 26.6**	**+0.1**
PSVI	**Cabo S. Vicent**	**4.46**	**290**	*e*Sn	**Sn**	**04 36 14.6**	**-3.7**
PSVI				A	A	04 36 27.4	
	comp=N,914nm,0.6s						
EVO	**Evora**	**4.47**	**312**	P	**Pn**	**04 35 26.7**	**-0.1**
EVO				S	**Sn**	**04 36 15.9**	**-2.7**
EVO	**Evora**	**4.47**	**312**	*e*Pn	**Pn**	**04 35 26.8**	**0.0**
EVO				*e*Sn	**Sn**	**04 36 16.1**	**-2.5**
EVO				A	A	04 36 21.6	
	comp=N,653nm,0.4s						
ECHE	**Chera**	**4.52**	**28**	Pn	**Pn**	**04 35 28.9**	**+1.3**
	comp=N,0.7nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**4.56**	**304**	*e*Pn	**Pn**	**04 35 27.6**	**-0.4**
PNCL				*e*Sn	**Sn**	**04 36 18.0**	**-2.8**
PNCL				A	A	04 36 28.3	
	comp=N,369nm,0.6s						
UCM	**Universidad Co**	**4.68**	**5**	P	**Pn**	**04 35 30.7**	**+0.9**
UCM				S	**Sn**	**04 36 23.9**	**0.0**
PMRV	**Marv??o**	**4.76**	**324**	*e*Pn	**Pn**	**04 35 30.9**	**0.0**
PMRV				*e*Sn	**Sn**	**04 36 23.9**	**-2.0**
PMRV				A	A	04 36 47.2	
	comp=N,518nm,0.5s						
EPLA	**Plasencia**	**4.79**	**338**	Pn	**Pn**	**04 35 32.5**	**+1.3**
	comp=N,87nm,0.4s,SNR=20						
EPLA				Sn	**Sn**	**04 36 26.6**	**0.0**
	comp=N,22nm,0.4s,SNR=9.8						
EPLA				Lg	Lg	04 36 51.8	
	comp=N,647nm,0.6s,SNR=7.0						
PMTG	**Montargil**	**4.94**	**315**	*e*Pn	**Pn**	**04 35 33.2**	**-0.1**
PMTG				*e*Sn	**Sn**	**04 36 28.4**	**-1.9**
PMTG				A	A	04 36 32.6	
	comp=N,359nm,0.4s						
GUD	**Guadarrama**	**5.01**	**356**	Pn	**Pn**	**04 35 34.3**	**0.0**
	comp=N,3.0nm,0.3s,SNR=7.9						
TZRR	**Tazzarine**	**5.07**	**198**	P	**Pn**	**04 35 35.6**	**+0.4**
PCBR	**Castelo Branco**	**5.13**	**326**	*e*Pn	**Pn**	**04 35 36.3**	**+0.4**
PCBR				*e*Sn	**Sn**	**04 36 31.9**	**-3.1**
PCBR				A	A	04 36 35.7	
	comp=N,668nm,0.5s						
EIBI	**Ibiza**	**5.29**	**49**	Pn	**Pn**	**04 35 37.4**	**-0.6**
	comp=N,34nm,0.2s,SNR=65						
EIBI				Sn	**Sn**	**04 36 39.2**	**+0.4**
	comp=N,39nm,0.2s,SNR=6.5						
EIBI				Lg	Lg	04 37 10.3	
	SNR=7.9						
LIS	**Lisbon**	**5.29**	**307**	*e*P	**Pn**	**04 35 37.9**	**-0.2**
LIS				*e*S	**Sn**	**04 36 34.1**	**-4.9**
LIS				IAML		04 36 42.1	
	comp=N,1μm,0.5s						
PMST	**Lisbon--Monsan**	**5.33**	**307**	*e*Pn	**Pn**	**04 35 39.0**	**+0.4**
PMST				*e*Sn	**Sn**	**04 36 38.3**	**-1.5**
PMST				A	A	04 36 42.9	
	comp=N,434nm,0.4s						
ETOR	**Torete**	**5.34**	**14**	Pn	**Pn**	**04 35 39.3**	**+0.4**
	comp=N,31nm,0.3s,SNR=8.6						
ETOR				Sn	**Sn**	**04 36 37.1**	**-3.2**
	comp=N,25nm,0.2s,SNR=7.9						
OUZM	**OUZ**	**5.34**	**209**	P	**Pn**	**04 35 38.9**	**-0.2**
EMOS	**Mosqueruela**	**5.38**	**28**	Pn	**Pn**	**04 35 39.7**	**+0.1**
	comp=N,3.7nm,0.2s,SNR=18						
PMAFR	**Mafra**	**5.51**	**309**	*e*Pn	**Pn**	**04 35 41.1**	**-0.1**
PMAFR				*e*Sn	**Sn**	**04 36 42.1**	**-2.3**
PMAFR				A	A	04 37 17.6	
	comp=N,710nm,0.6s						
PMAFR	**Mafra**	**5.51**	**309**	Pn	**Pn**	**04 35 41.2**	**-0.1**
	comp=N,30nm,0.3s,SNR=17						
PMAFR				Sn	**Sn**	**04 36 42.6**	**-1.8**
	comp=N,120nm,0.2s,SNR=7.1						
PMAFR				Lg	Lg	04 37 17.1	
	comp=N,899nm,0.6s,SNR=5.0						
PSBE	**So Bento**	**5.57**	**316**	*e*Pn	**Pn**	**04 35 42.3**	**+0.3**
PSBE				*e*Sn	**Sn**	**04 36 42.9**	**-2.9**
PSBE				A	A	04 37 23.8	
	comp=N,647nm,0.7s						
OUK	**Oukaimeden**	**5.60**	**219**	P	**Pn**	**04 35 41.4**	**-1.3**
MTE	**Manteigas**	**5.62**	**329**	*e*Pn	**Pn**	**04 35 43.3**	**+0.6**
MTE				*e*Sn	**Sn**	**04 36 44.8**	**-2.3**
MTE				A	A	04 37 26.6	
	comp=N,637nm,0.6s						
MTE	**Manteigas**	**5.62**	**329**	⇑P	**Pn**	**04 35 43.8**	**+1.1**
MTE	**Manteigas**	**5.62**	**329**	Pn	**Pn**	**04 35 42.5**	**-0.2**
ZGR	**Zagora**	**5.72**	**196**	P	**Pn**	**04 35 44.5**	**+0.3**
PCAS	**Casmilo, Conde**	**5.79**	**321**	*e*Pn	**Pn**	**04 35 44.7**	**-0.3**
PCAS				*e*Sn	**Sn**	**04 36 46.6**	**-4.7**
PCAS				A	A	04 37 36.7	
	comp=N,528nm,0.6s						
PVIS	**Viseu**	**6.03**	**328**	*e*Pn	**Pn**	**04 35 49.0**	**+0.7**
PVIS				*e*Sn	**Sn**	**04 36 54.9**	**-2.3**
PVIS				A	A	04 36 56.7	
	comp=N,449nm,0.6s						
MVO	**Moncorvo**	**6.09**	**336**	*e*Pn	**Pn**	**04 35 49.9**	**+0.8**
MVO				*e*Sn	**Sn**	**04 36 55.9**	**-2.8**
MVO				A	A	04 37 50.6	
	comp

PGAV A A 04 37 31.9
comp=N,375nm,0.6s
EARA Aranguren 7.32 13 Pn **Pn 04 36 05.9 -0.1**
comp=N,4.8nm,0.2s,SNR=7.9
EORO Oroz-Betelu 7.49 14 Pn **Pn 04 36 10.3 +1.9**
comp=N,2.6nm,0.2s,SNR=12
EZAM Zamans 7.56 331 Pn **Pn 04 36 08.2 -1.1**
comp=N,1.5nm,0.3s,SNR=7.9
EZAM Sn **Sn 04 37 30.0 -4.7**
comp=N,5.9nm,0.2s,SNR=7.9
ELAN Lanestosa 7.59 2 Pn **Pn 04 36 11.4 +1.7**
comp=N,1.0nm,0.3s,SNR=16
ELAN Sn **Sn 04 37 31.3 -4.3**
comp=N,0.9nm,0.4s,SNR=7.9
ECHI Chisagues Biel 7.66 22 Pn **Pn 04 36 11.3 +0.6**
comp=N,0.9nm,0.2s,SNR=7.9
ETSF Etsaut 7.66 18 *e*Pn **Pn 04 36 11.3 +0.6**
ETSF *e*Sn **Sn 04 37 34.8 -2.6**
comp=N,24nm,0.3s
ETSF *e*Sg **Sg 04 38 24.7 -0.6**
comp=N,526nm,1.1s
SJPF Ste Jean 7.72 14 *e*Pn **Pn 04 36 12.0 +0.5**
SJPF *e*Sn **Sn 04 37 35.5 -3.2**
comp=N,20nm,0.4s
SJPF *e*Sg **Sg 04 38 26.6 -0.5**
comp=N,965nm,1.4s
CSOR Sort 7.73 28 Pn **Pn 04 36 12.5 +0.9**
comp=N,0.4nm,0.4s,SNR=32
CSOR Sn **Sn 04 37 35.9 -3.1**
comp=N,0.0nm,0.4s,SNR=7.9
EARI Arriondas 7.74 352 Pn **Pn 04 36 11.7 -0.1**
comp=N,1.6nm,0.1s,SNR=13
EARI Sn **Sn 04 37 39.2 0.0**
comp=N,60nm,0.6s,SNR=4.7
EARI Lg Lg 04 38 27.0
comp=N,234nm,0.8s,SNR=4.8
EALK Alkurruntz 7.77 12 Pn **Pn 04 36 12.7 +0.5**
comp=N,36nm,0.3s,SNR=7.9
CFON Fontmartina 7.80 36 Pn **Pn 04 36 13.6 +1.0**
comp=N,6.2nm,0.3s,SNR=11
ATE Arette 7.80 17 Pn **Pn 04 36 13.7 +1.1**
comp=N,0.4nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 7.91 336 Pn **Pn 04 36 13.7 -0.3**
comp=N,5.6nm,0.2s,SNR=7.9
EAGO Sn **Sn 04 37 37.7 -5.7**
comp=N,2.6nm,0.2s,SNR=7.9
EAGO Lg Lg 04 38 32.3
SNR=7.9
EPF Esparros 8.04 22 *e*Pn **Pn 04 36 16.8 +1.0**
EPF *e*Sn **Sn 04 37 42.4 -4.1**
comp=N,58nm,0.6s
EPON Pontenova 8.12 342 Pn **Pn 04 36 17.4 +0.4**
comp=N,3.5nm,0.2s,SNR=11
EPON Sn **Sn 04 37 42.8 -5.7**
comp=N,3.8nm,0.3s,SNR=7.9
EPON Lg Lg 04 38 37.5
comp=N,418nm,1.0s,SNR=5.3
CLLI Llivia 8.15 31 Pn **Pn 04 36 18.1 +0.5**
comp=N,0.7nm,0.1s,SNR=9.7
EMAZ Mazaricos 8.35 333 Pn **Pn 04 36 19.6 -0.5**
comp=N,1.0nm,0.1s,SNR=7.9
EMAZ Sn **Sn 04 37 48.9 -5.3**
comp=N,2.6nm,0.1s,SNR=7.9
EMAZ Lg Lg 04 38 45.8
SNR=7.9
MTLF Montolieu 8.97 29 *e*Pn **Pn 04 36 29.4 +0.8**
MTLF *e*Sn **Sn 04 38 05.0 -4.4**
comp=N,1.7nm,0.3s
TANT Tantan 9.60 223 P **Pn 04 36 36.2 -1.2**
LFF La Frestale 9.90 19 *e*Pn **Pn 04 36 41.1 -0.3**
LFF *e*Sn **Sn 04 38 27.5 -4.8**
comp=N,48nm,0.8s
LASF Ste Croix 10.25 32 *e*Pn **Pn 04 36 47.3 +1.1**
CAF Calviac 10.28 24 *e*Pn **Pn 04 36 46.7 +0.1**
CAF *e*Sn **Sn 04 38 35.9 -5.8**
comp=N,86nm,1.2s
RJF Les Rejaudoux 10.45 21 *e*Pn **Pn 04 36 48.3 -0.6**
RJF *e*Sn **Sn 04 38 42.3 -3.6**
comp=N,8.6nm,0.5s
EFAM Famara 10.51 235 Pn **Pn 04 36 48.7 -1.0**
comp=N,3.1nm,0.2s,SNR=7.9
EFAM Sn Sn 04 38 37.7 -9.5
comp=N,7.1nm,0.2s,SNR=7.9
CFUE Fuerteventura 11.09 234 Sn **Sn 04 38 53.4 -8.1**
comp=N,0.0nm,0.2s,SNR=7.9
VIVF Saint-Julien-l 11.23 32 *e*Pn **Pn 04 37 01.5 +1.9**
PMAR Madeira 11.28 259 P **Pn 04 36 58.9 -1.6**
MFF Saint Martin d 11.29 13 *e*Pn **Pn 04 36 59.8 -0.5**
MFF *e*Sn **Sn 04 39 01.3 -4.9**
comp=N,21nm,0.7s
PMOZ Porto Moniz, M 11.48 260 *e*Sn Sn 04 39 00.3 -11
PMOZ Porto Moniz, M 11.48 260 Sn Sn 04 39 00.3 -11
SNR=7.9
TCF Toulx Ste Croi 11.55 21 *e*Pn **Pn 04 37 04.2 +0.2**
TCF *e*Sn **Sn 04 39 06.7 -6.0**
comp=N,30nm,0.8s
ORIF Oris-en-Rattie 11.82 35 *e*Pn **Pn 04 37 09.1 +1.3**
ORIF *e*Sn **Sn 04 39 13.0 -6.6**
comp=N,6.1nm,0.6s
BGF Bois d'Agland 11.99 22 *e*Pn **Pn 04 37 09.8 -0.1**
BGF *e*Sn **Sn 04 39 15.9 -7.5**
comp=N,15nm,0.7s
MBDF Montbardon 12.12 38 *e*Pn **Pn 04 37 12.6 +0.7**
QUIF Quistinic 12.28 2 *e*Pn **Pn 04 37 13.7 -0.1**
QUIF *e*Sn **Sn 04 39 25.0 -5.4**
comp=N,22nm,0.7s
AVF Avril sur Loir 12.35 23 *e*Pn **Pn 04 37 15.8 +0.9**
AVF *e*Sn **Sn 04 39 25.7 -6.6**
comp=N,3.8nm,0.5s
SMF Signal de Mont 12.39 25 *e*Pn **Pn 04 37 15.1 -0.3**
SMF *e*Sn **Sn 04 39 27.8 -5.4**
comp=N,1.7nm,0.5s
HYF Humbligny 12.56 20 *e*Pn **Pn 04 37 17.4 -0.4**
HYF *e*Sn **Sn 04 39 33.6 -3.9**
SGMF Saint Gilles 12.64 4 *e*Pn **Pn 04 37 18.5 -0.3**
SGMF *e*Sn **Sn 04 39 32.3 -7.0**
comp=N,16nm,0.8s
SSF Saint Saulge 12.64 23 *e*Pn **Pn 04 37 18.3 -0.5**
SSF *e*Sn **Sn 04 39 33.2 -6.2**
comp=N,5.1nm,0.6s
ROSF Rostrenen 12.70 1 *e*Pn **Pn 04 37 19.8 +0.2**
ROSF *e*Sn **Sn 04 39 34.1 -6.6**
comp=N,15nm,0.5s
GRR Gorron 12.92 9 *e*Pn **Pn 04 37 21.7 -0.9**
GRR *e*Sn **Sn 04 39 40.0 -6.2**
comp=N,38nm,1.1s
LOR Lormes 12.94 24 *e*Pn **Pn 04 37 23.4 +0.5**
baz=209
LOR Lormes 12.94 24 *e*P **P 04 37 29.4 -4.1**
LOR *e*Sn **Sn 04 39 41.4 -5.3**
comp=N,7.4nm,0.7s
CLF Chambon-Foret 13.16 18 Pn **Pn 04 37 26.2 +0.3**
LDF La Druitiere 13.22 11 *e*Pn **Pn 04 37 26.3 -0.5**
LDF *e*Sn **Sn 04 39 47.5 -6.0**
comp=N,9.1nm,0.8s
FLN La Foliniere 13.34 9 *e*Pn **Pn 04 37 27.9 -0.4**
baz=193
FLN *e*Sn **Sn 04 39 50.2 -6.1**
comp=N,17nm,0.6s
CASP Castiglione de 13.39 53 Pn **Pn 04 37 29.2 +0.2**
VLC Villacollemand 13.78 48 ⇓P **Pn 04 37 38.0 +3.6**
VLC Villacollemand 13.78 48 Pn **Pn 04 37 36.6 +2.2**
ZCCA Zocca 14.24 48 Pn **Pn 04 37 40.9 +0.2**
MURB Monte Urbino 14.69 54 **Pn 04 37 47.0 +0.1**
VAE Valguarnera 14.72 77 Pn **Pn 04 37 47.9 +0.6**
baz=131,slow=21,SNR=1.1
SULZ Cheisacher 14.81 33 *e*P **P 04 37 56.5 +2.1**
comp=N,35nm,1.0s,baz=219,slow=11
NRCA Norcia 14.90 56 Pn **Pn 04 37 47.0 -2.7**
AQU L'Aquila 14.92 58 **Pn 04 37 51.4 +1.4**
PLONS Plons/SG 15.05 37 *e*P **P 04 37 58.5 +1.5**
comp=N,33nm,1.0s,baz=219,slow=11
WILA Wila 15.09 35 *e*P **P 04 37 59.3 +1.9**
comp=N,23nm,1.0s,baz=219,slow=11
DAVOX Davos/Dischmat 15.11 38 Pn **Pn 04 37 53.4 +0.7**
comp=N,0.1nm,0.3s,baz=305,slow=14,SNR=2.9
SLE Schleitheim 15.16 33 *e*P **P 04 37 59.7 +1.5**
comp=N,37nm,1.2s,baz=219,slow=11
TEOL Teolo 15.21 46 P **P 04 37 57.8 -1.0**
TEOL IAmb IAmb 04 38 09.3
comp=Z,137nm,1.3s
DAVA Damuels 15.46 37 *e*Pn **Pn 04 37 58.4 +1.2**
comp=Z,21nm,0.9s
BFO Black Forest 15.52 31 *e*P **P 04 38 04.5 +2.3**
comp=Z,22nm,1.2s,baz=219,slow=11
CTI Castel Tesino 15.59 43 P **P 04 38 01.6 -1.6**

DOU Dourbes 15.68 20 P **Pn 04 38 00.9 +1.0**
FETA Feichten 15.71 39 *e*Pn **Pn 04 38 01.1 +0.6**
comp=Z,38nm,1.0s
WLF Walferdange 15.78 24 P **Pn 04 38 01.5 +0.3**
BMRD Maredsous 15.91 20 P **Pn 04 38 01.6 -1.3**
RCHB Rochefort 15.91 21 P **Pn 04 38 04.2 +1.2**
RCHB x x 04 38 11.6
SNF Seneffe 15.97 19 P **Pn 04 38 04.1 +0.5**
SNF x x 04 38 12.2
RETA Reutte 16.04 38 *e*Pn **Pn 04 38 05.4 +0.8**
comp=Z,46nm,1.1s
BGES Gesves 16.08 21 P **P 04 38 06.8 -1.6**
SQTA Sankt Quirin 16.09 39 *e*Pn **Pn 04 38 05.8 +0.5**
comp=Z,93nm,1.4s
MOTA Moosalm 16.11 39 *e*Pn **P 04 38 07.4 -1.6**
comp=Z,68nm,1.2s
BCLA Clavier 16.17 21 P **Pn 04 38 07.5 +1.3**
comp=Z,36nm,1.3s
UCC Uccle 16.25 19 P **Pn 04 38 07.6 +0.4**
UCC Uccle 16.25 19 P **Pn 04 38 08.6 +1.4**
STAL STALIGIAL 16.32 44 P **Pn 04 38 09.3 +1.2**
BHOU Houvegnez 16.33 23 P **Pn 04 38 07.5 -0.7**
WTTA Wattenberg 16.34 40 *e*Pn **P 04 38 10.0 -1.4**
comp=Z,52nm,1.1s
WATA Walderalm 16.35 40 *e*Pn **P 04 38 10.4 -1.2**
comp=Z,42nm,0.9s
BSTI Sart Tilman 16.39 21 P **P 04 38 10.5 -1.3**
ABTA Abfaltersbach 16.49 43 *e*Pn **P 04 38 13.9 +0.9**
comp=Z,15nm,0.8s
MEM Membach 16.55 22 P **Pn 04 38 12.1 +1.1**
BTNL Ternell 16.57 23 P **Pn 04 38 12.3 +1.0**
BEBN Eben Emael 16.62 21 P **Pn 04 38 11.8 0.0**
TIP Timpagrande 16.67 72 ⇑P **P 04 38 15.9 +0.8**
TIP Timpagrande 16.67 72 P **Pn 04 38 13.3 +0.6**
FUR Furstenfeldbru 16.75 37 *e*P **P 04 38 16.9 +1.0**
comp=Z,26nm,0.9s,baz=219,slow=11
MYKA Terra Mystica 17.06 45 *e*Pn **P 04 38 20.2 +0.8**
comp=Z,39nm,2.0s
TNS Taunus Mts 17.06 28 *e*P **P 04 38 23.0 +3.7**
comp=Z,56nm,1.3s,baz=219,slow=11
KBA Koelnbreinsper 17.14 43 *e*Pn **P 04 38 20.4 0.0**
comp=Z,34nm,1.1s
RJOB Jochberg 17.25 40 *e*P **P 04 38 24.0 +2.6**
comp=Z,9.3nm,0.8s,baz=219,slow=11
OBKA Obir 17.52 46 *e*Pn **P 04 38 25.7 +1.3**
comp=Z,48nm,1.3s
BUG Bochum--Univer 17.67 23 *e*P **P 04 38 30.4 +4.4**
comp=Z,100nm,1.2s,baz=219,slow=11
GRF Grafenberg Arr 17.80 33 *e*P **P 04 38 28.3 +0.8**
comp=Z,49nm,1.1s,baz=219,slow=11
SOKA Soboth 17.89 46 *e*Pn **P 04 38 30.5 +2.0**
comp=Z,42nm,1.2s
MOA Molln 18.10 42 *e*Pn **P 04 38 31.2 +0.4**
comp=Z,16nm,1.2s
WET Wettzell 18.20 37 *e*P **P 04 38 34.6 +2.8**
comp=Z,13nm,0.9s,baz=219,slow=11
ROTZ Rotzenmuhle 18.30 35 *e*P **P 04 38 34.8 +1.8**
comp=Z,4.0nm,0.9s,baz=219,slow=11
MANZ Manzenberg 18.41 34 *e*P **Pn 04 38 35.2 +0.9**
comp=Z,4.4nm,1.0s,baz=219,slow=11
GEC2 GERESS Array S 18.41 39 *e*P **Pn 04 38 36.2 +1.8**
comp=Z,33nm,1.2s,baz=219,slow=11
GEC2 GERESS Array S 18.41 39 P **P 04 38 33.1 -1.2**
GERES GERESS Array B 18.41 39 P **P 04 38 33.7 -0.6**
comp=Z,0.3nm,0.3s,baz=219,slow=10,SNR=11
GERES GERESS Array B 18.41 39 P **P 04 38 32.5 -1.8**
ARSA Arzberg 18.48 45 *e*Pn **Pn 04 38 35.7 +0.6**
comp=Z,28nm,1.1s
KHC Kasperske Hory 18.53 38 *e*P **Pn 04 38 37.8 +2.1**
KHC Kasperske Hory 18.53 38 P **P 04 38 34.9 -0.6**
IBBN Ibbenburen 18.57 23 *e*P **Pn 04 38 38.3 +2.2**
comp=Z,80nm,1.2s,baz=219,slow=11
MOX Moxa 18.67 32 *e*P **Pn 04 38 38.4 +1.1**
comp=Z,14nm,1.1s,baz=219,slow=11
GTTG Gottingen 18.70 28 *e*P **Pn 04 38 39.4 +1.7**
comp=Z,26nm,1.0s,baz=219,slow=11
NKC Novy Kostel 18.74 34 *e*P **Pn 04 38 39.7 +1.5**
WERN Wernitzgruen 18.75 34 *e*P **Pn 04 38 39.9 +1.6**
comp=Z,7.0nm,0.8s,baz=219,slow=11
WERD Werda 18.83 33 *e*P **Pn 04 38 41.5 +2.2**
comp=Z,10nm,0.9s,baz=219,slow=11
BEHE Becsehely 18.83 49 PN Pn 04 38 51.6 +12
TANN Tannenbergstha 18.88 34 *e*P **Pn 04 38 40.7 +0.8**
comp=Z,23nm,0.9s,baz=219,slow=11
CONA Conrad Observa 19.03 44 *e*Pn **P 04 38 41.4 +0.3**
comp=Z,35nm,1.4s
PDG Podgorica 19.09 62 ⇑P **P 04 38 41.9 +0.3**
PDG Podgorica 19.09 62 P **P 04 38 41.0 -0.7**
KOVH Kovagotottos 19.49 51 P **Pn 04 38 48.8 +1.6**
NRDL Niedersach Rie 19.52 26 *e*P **Pn 04 38 50.1 +2.7**
comp=Z,17nm,1.0s,baz=219,slow=11
BBLS Lazići 19.57 58 *e*P **P 04 38 47.1 +0.2**
PRU Pruhonice 19.57 37 *e*P **Pn 04 38 48.6 +0.4**
TREC Trest 19.61 40 *e*P **Pn 04 38 54.1 +5.3**
MPLH Magyarpolny 19.62 48 P **Pn 04 38 52.0 +3.1**
FBE Freiberg 19.64 34 *e*P **Pn 04 38 49.6 +0.7**
comp=Z,34nm,0.9s,baz=219,slow=11
EKA Eskdalemuir Ar 19.70 1 P **P 04 38 48.3 0.0**
baz=179,slow=11,SNR=14
TIH Tihany 19.71 49 PN Pn 04 39 01.9 +12
CLL Collm 19.75 32 *i* P **Pn 04 38 50.9 +0.5**
CLL Collm 19.75 32 *e*P **Pn 04 38 50.3 0.0**
comp=Z,45nm,1.0s,baz=219,slow=11
CLL Collm 19.75 32 P **P 04 38 49.0 +0.2**
SJES Sjenica 19.80 60 *e*P **P 04 38 48.9 -0.6**
BRG Berggiesshubel 19.87 35 *e*P **Pn 04 38 52.6 +0.9**
BRG Amp 04 39 02.8
comp=Z,56nm,1.3s
BRG Berggiesshubel 19.87 35 *e*P **Pn 04 38 51.5 -0.3**
comp=Z,26nm,1.1s,baz=219,slow=11
ZST Bratislava 19.88 44 *e*P **Pn 04 38 52.2 +0.3**
MORH Mrgy, Hungar 19.89 51 P **Pn 04 38 52.7 +0.7**
PVCC Panska Ves 19.93 36 *e*P **Pn 04 38 52.5 0.0**
KRUC Moravsky 19.96 42 *e*P **Pn 04 38 52.7 -0.2**
OHR Ohrid 19.98 67 *i* P **Pn 04 38 52.5 -0.7**
IVAS Ivanjica 20.00 59 *e*P **P 04 38 49.6 -2.1**
DIVS Divibare 20.04 58 ⇓P **P 04 38 51.8 -0.3**
DIVS Divibare 20.04 58 P **P 04 38 50.4 -1.8**
DIVS Divibare 20.04 58 *e*P **P 04 38 51.2 -0.9**
MODS Modra-Piesok 20.07 44 *e*P Pn 04 38 55.0 +0.8
VRAC Vranov 20.21 41 ⇑P Pn 04 38 55.5 -0.3
VRAC Vranov 20.21 41 P Pn 04 38 54.8 -0.9
comp=Z,14nm,0.9s,baz=255,slow=9.5,SNR=4.9
VRAC Vranov 20.21 41 *e*P Pn 04 38 54.8 -1.0
SMOL Smolenice 20.23 44 *e*P Pn 04 38 56.0 -0.1
FRGS Fruska Gora 20.25 55 ⇑P **P 04 38 53.4 -0.9**
TRUS Trudelj 20.36 58 *e*P **P 04 38 54.6 -0.9**
FNA Florina 20.37 68 ⇑P **P 04 38 56.0 +0.2**
FNA Florina 20.37 68 P **P 04 38 54.4 -1.4**
SRO Srobarova 20.39 47 *e*Pn Pn 04 38 58.4 +0.5
GRUS Gruza 20.48 59 *e*P **P 04 38 56.0 -0.8**
JAVC Velka Javorina 20.55 43 *e*Pn Pn 04 39 02.4 +2.5
SKO Skopje 20.59 65 *i* P **P 04 38 57.6 -0.4**
SELS Selova 20.60 61 *e*P **P 04 38 54.5 -3.7**
UPC Upice 20.63 38 *e*P Pn 04 39 00.4 -0.3
BUD Budapest 20.67 48 P Pn 04 39 02.8 +1.7
DPC Dobruska-Polom 20.68 38 *e*P Pn 04 39 00.4 -1.0
ITM Ithomi 20.71 78 ⇑P Pn 04 39 02.1 +0.4
ITM Ithomi 20.71 78 P **P 04 38 59.2 -0.2**
KRLC Kraliky 20.75 40 *e*P Pn 04 39 01.9 -0.3
BSEG Bad Segeberg 20.77 24 *e*P Pn 04 39 01.7 -0.5
comp=Z,82nm,1.1s,baz=219,slow=11
RUE Ruedersdorf 20.94 31 *e*P Pn 04 39 03.3 -0.9
RUE Ruedersdorf 20.94 31 *e*P Pn 04 39 03.6 -0.6
comp=Z,144nm,1.0s,baz=219,slow=11
KSP Ksiaz 20.98 37 ⇓P Pn 04 39 09.5 +4.7
MORC Moravsky Berou 20.98 41 ⇑P Pn 04 39 04.5 -0.4
MORC Moravsky Berou 20.98 41 *e*P Pn 04 39 04.3 -0.6
MORC Moravsky Berou 20.98 41 ⇑P Pn 04 39 05.3 +0.4
MORC Moravsky Berou 20.98 41 P **P 04 39 03.1 +0.8**
MORC IAmb IAmb 04 39 41.4
comp=Z,194nm,1.9s
AGG Agios Georgios 20.99 73 ⇓P Pn 04 39 05.3 +0.2
AGG Agios Georgios 20.99 73 P **P 04 39 01.6 -0.8**
VYHS Vyhne 21.03 45 *e*P **P 04 39 03.7 +0.9**
BOVS Bovan 21.11 60 ⇑P **P 04 39 05.4 +1.8**
PRVS Prvonek 21.14 63 *e*P **P 04 39 02.8 -1.3**
LIT Litokhoron 21.16 70 ⇑P **P 04 39 06.8 +2.6**
LIT Litokhoron 21.16 70 P **P 04 39 03.2 -1.0**
VAY Valandovo 21.33 67 *i* P **P 04 39 05.7 -0.4**
PSZ Piszkesteto 21.39 48 ⇓P **P 04 39 06.7 +0.1**
MDVR Moldovita 21.41 57 ⇑P **P 04 39 07.8 +0.8**
BOSS Bosilegrad 21.44 63 *e*P **P 04 39 04.4 -2.8**
BZS Buzias 21.60 55 ⇑P **P 04 39 08.4 -0.5**

ZAPS Zavoj 21.69 61 *e*P **P 04 39 11.3 +1.3**
LANS Liptovska Anna 21.72 44 *e*P **P 04 39 11.7 +1.5**
SIRR Siria 21.84 53 ⇓P **P 04 39 11.6 +0.1**
HERR Herculane 21.92 57 ⇑P **P 04 39 11.5 -0.9**
KECS Kecovo 21.99 47 *e*P **P 04 39 14.8 +1.7**
VTS Vitosha 22.01 63 ⇑P **P 04 39 12.0 -1.4**
VTS Vitosha 22.01 63 ⇑P **P 04 39 13.9 +0.4**
VTS Vitosha 22.01 63 P **P 04 39 11.7 -1.8**
VTS Vitosha 22.01 63 *e*P P 04 39 06.0 -7.5
GZR Gura Zlata 22.31 56 ⇑P **P 04 39 14.9 -1.7**
MUD Monsted U'grnd 22.60 19 *i* P **P 04 39 19.0 -0.4**
DRGR 22.70 52 ⇑P **P 04 39 19.7 -1.1**
CRVS Cervenica-Dubn 22.76 47 *e*P **P 04 39 22.9 +1.6**
TORD Torodi Ar. Bea 22.92 166 P **P 04 39 24.4 +1.1**
comp=Z,62nm,0.8s,baz=349,slow=7.7,SNR=8.0
GKP Gorka Klasztor 22.99 33 *e*P **P 04 39 25.0 +1.4**
LOT Lotru 23.00 56 ⇓P **P 04 39 27.8 +3.9**
TRPA Tarpa 23.09 49 ⇑P **P 04 39 23.9 -0.8**
TRPA Tarpa 23.09 49 P **P 04 39 25.4 +0.8**
IDI Anoyia 23.30 82 P **P 04 39 28.1 +1.0**
comp=Z,65nm,1.0s,baz=278,slow=11,SNR=7.6
BMR Baia Mare 23.51 51 ⇓P **P 04 39 28.6 -0.4**
RDO Rodhopi 23.54 68 ⇓P **P 04 39 28.3 -1.0**
ARR Arges 23.57 57 ⇓P **P 04 39 30.0 +0.4**
ARCR ARCALIA 23.86 53 ⇑P **P 04 39 31.9 -0.5**
VOIR 23.87 57 ⇑P **P 04 39 33.9 +1.3**
ALN Alexandroupoli 23.91 68 ⇓P P 04 39 40.9 +8.0
ALN Alexandroupoli 23.91 68 P **P 04 39 32.2 -0.7**
ALN IAmb IAmb 04 39 52.0
comp=Z,96nm,1.5s
DOPR Dopca 24.23 56 ⇓P **P 04 39 36.0 +0.2**
MLR Muntele Rosu 24.49 57 ⇓P **P 04 39 38.3 0.0**
MLR Muntele Rosu 24.49 57 P **P 04 39 39.0 +0.7**
comp=Z,8.6nm,0.8s,baz=192,slow=3.2,SNR=6.4
MLR Muntele Rosu 24.49 57 P **P 04 39 36.5 -1.9**
OZUR 24.53 56 ⇓P **P 04 39 39.1 +0.5**
BUR08 Bucovina Ar. S 24.59 52 P **P 04 39 38.2 -1.0**
BUR08 IAmb IAmb 04 40 22.8
comp=Z,117nm,1.6s
BURAR Bucovina Array 24.59 52 ⇑P **P 04 39 38.5 -0.7**
BURAR Bucovina Array 24.59 52 P **P 04 39 38.1 -1.1**
COVR Voineasa-Covas 24.75 56 ⇑P **P 04 39 41.4 +0.8**
PLOR Plostina 25.05 57 ⇑P **P 04 39 43.5 +0.1**
VRI Vrincioaia 25.11 57 ⇑P **P 04 39 44.9 +1.0**
TESR Tescani 25.21 55 ⇑P **P 04 39 44.1 -0.6**
ICOR Ion Corvin 25.53 61 ⇓P **P 04 39 45.7 -1.8**
CFR Carcaliu 25.94 59 ⇑P **P 04 39 48.1 -3.2**
VASR Vaslui 26.01 55 ⇑P **P 04 39 51.9 -0.1**
VLDR Vladesti 26.03 57 ⇑P **P 04 39 49.8 -2.3**
TPGR Topolog 26.08 59 ⇓P **P 04 39 51.5 -1.1**
SUW Suwalki 26.25 37 *e*P **P 04 39 54.9 +0.9**
SUW Suwalki 26.25 37 ⇑P **P 04 39 54.9 +0.9**
SUW Suwalki 26.25 37 P **P 04 39 53.7 -0.3**
SORM Soroca 26.76 52 ⇓P **P 04 39 55.9 -2.8**
NC602 NORSAR Array S 26.97 17 P **P 04 39 59.4 -1.0**
HFS Hagfors 26.99 19 P **P 04 39 59.9 -0.7**
comp=Z,23nm,1.1s,baz=219,slow=6.9,SNR=13
NBO00 NORSAR Array S 27.06 16 P **P 04 39 60.0 -1.3**
ELL Elmali 27.11 78 P **P 04 40 01.7 -0.4**
NB2 NORSAR Subarra 27.16 16 P **P 04 40 02.0 -0.2**
comp=Z,14nm,1.1s,baz=207,slow=9.3
NOA NORSAR Array B 27.16 16 P **P 04 40 01.5 -0.7**
comp=Z,5.4nm,0.9s,baz=210,slow=8.9,SNR=6.0
NC204 NORSAR Array S 27.27 15 P **P 04 40 01.8 -1.5**
NC405 NORSAR Array S 27.34 16 P **P 04 40 03.8 0.0**
PABE Paberze 27.47 35 *e*P **P 04 40 07.2 +2.3**
UPP Uppsala 27.92 23 *e*P **P 04 40 13.7 +4.7**
AKASG Malin Array Be 28.09 47 P **P 04 40 08.4 -2.1**
comp=Z,2.1nm,0.7s,baz=243,slow=11,SNR=6.8
AKASG Malin Array Be 28.09 47 P **P 04 40 10.2 -0.3**
IIGN Ignalina 28.46 37 *e*P **P 04 40 15.4 +1.6**
NACGM Naroch 28.51 38 *i* P P 04 40 20.0 +5.8
IDID Didziasalis 28.69 37 *e*P **P 04 40 14.9 -1.0**
MNK Minsk 28.87 39 *i* P **P 04 40 19.0 +1.5**
comp=E,9.0nm,1.8s
MNK *i* P **P 04 40 19.0 +1.5**
comp=N,162nm,0.9s
MNK *i* P **P 04 40 19.0 +1.5**
comp=Z,136nm,1.5s,baz=63
MNK *i* PP **PnPn 04 41 08.8 +0.2**
MNK *i* S **S 04 45 11.2 +4.0**
MNK *i* SS **SnSn 04 46 29.2 0.0**
MNK *i* LR LR 04 51 41.8
MNK *i* LRM MLR 04 52 53.3
comp=E,2μm,16.2s
MNK *i* LRM MLR 04 52 53.3
comp=N,8μm,17.3s
MNK *i* LRM MLR 04 52 53.3
comp=Z,11μm,23.7s
MTSE Matsula 29.35 30 *e*P **P 04 40 24.3 +2.6**
VSU Vasula 30.41 32 *e*P **P 04 40 30.6 -0.5**
FINES FINESS Array B 31.98 27 P **P 04 40 44.2 -0.6**
comp=Z,16nm,0.9s,baz=228,slow=4.6,SNR=15
FINES PcP **PcP 04 43 33.8 -0.7**
comp=Z,2.4nm,0.8s,baz=132,slow=2.8,SNR=4.5
FINES FINESS Array B 31.98 27 P **P 04 40 44.0 -0.8**
FIA1 FINESS Array S 31.98 27 P **P 04 40 43.6 -1.2**
FIA1 IAmb IAmb 04 40 58.0
comp=Z,56nm,1.1s
KBZ Khabaz 36.40 63 P **P 04 41 23.1 -0.3**
comp=Z,5.5nm,0.9s,baz=259,slow=10,SNR=5.1
ONI Oni 36.89 65 P **P 04 41 27.2 -0.5**
KLMR Klimovskoe 37.24 34 *e*P **P 04 41 30.7 +0.4**
KLMR AMP 04 41 45.6
comp=Z,91nm,1.4s
KLMR *e*PcP **PcP 04 43 49.9 +0.2**
ARCES ARCESS Array B 37.54 16 P **P 04 41 31.6 -1.1**
comp=Z,13nm,1.0s,baz=212,slow=4.3,SNR=13
ARCES ARCESS Array B 37.54 16 IAmb IAmb 04 41 45.7
comp=Z,95nm,1.5s
SUMG Summit 40.99 345 P **P 04 42 01.1 -0.9**
KIRV Kirov 41.42 39 P **P 04 42 05.2 0.0**
comp=Z,13nm,0.7s,baz=66,slow=7,8,SNR=4.2
DAG Danmarks Havn 41.78 355 ⇑P **P 04 42 09.3 +1.4**
GBN Guysborough 44.13 301 P **P 04 42 26.2 -1.2**
ARU Arti 46.17 43 P **P 04 42 41.8 -1.6**
ARU IAmb IAmb 04 43 09.7
comp=Z,50nm,1.3s
LMN Caledonia Moun 46.34 302 P **P 04 42 44.3 -0.7**
LMN IAmb IAmb 04 42 55.1
comp=Z,34nm,0.8s
SCHQ Schefferville 46.65 315 P **P 04 42 46.4 -0.9**
comp=Z,6.4nm,0.7s,baz=82,slow=5.9,SNR=22
SCHQ Schefferville 46.65 315 ⇓P **P 04 42 47.4 +0.1**
SCHQ Schefferville 46.65 315 P **P 04 42 47.5 +0.1**
BATG Bathurst New B 46.96 304 P **P 04 42 47.2 -2.6**
ABKAR Akbulak array 47.57 53 ⇑P **P 04 42 54.7 +0.2**
ABKAR Akbulak array 47.57 53 P **P 04 42 53.8 -0.7**
FRB Frobisher Bay 47.64 327 P **P 04 42 54.2 -0.6**
comp=Z,4.9nm,0.9s,baz=86,slow=5.0,SNR=5.9
LODK Lodwar 48.29 122 P **P 04 43 00.2 -0.4**
MBAR Mbarara 48.29 131 ⇓P **P 04 43 02.4 +1.7**
MBAR Mbarara 48.29 131 P **P 04 43 01.2 +0.5**
MBAR IAmb IAmb 04 43 06.9
comp=Z,29nm,1.1s
D62A Allapoint, All 49.00 305 P **P 04 43 04.5 -1.0**
E62A Clayton Lake 49.41 304 P **P 04 43 08.5 -0.2**
LMQ La Malbaie 49.76 305 P **P 04 43 11.4 0.0**
G62A West of Eustis 50.41 303 P **P 04 43 16.8 +0.4**
NBCL Cascavel-CE 51.19 227 *e*P **P 04 43 25.4 +2.8**
NBMO Morrinhos-CE 51.52 229 *e*P **P 04 43 28.1 +3.1**
LBNH Lisbon 51.61 302 P **P 04 43 25.6 +0.1**
baz=75
UOSS Minazif 52.16 84 P **P 04 43 28.4 -1.4**
MNTQ Montreal, Queb 52.45 304 P **P 04 43 31.8 +0.2**
MNTQ IAmb IAmb 04 43 43.4
comp=Z,38nm,1.1s
L61B Northampton 52.64 300 P **P 04 43 33.9 +0.8**
L61B IAmb IAmb 04 43 44.5
comp=Z,37nm,1.1s
L61B Northampton 52.64 300 P **P 04 43 32.4 -0.7**
baz=73
KMBO Kilima Mbogo 52.89 125 P **P 04 43 37.3 +1.8**
comp=Z,6.0nm,1.0s,baz=336,slow=7.5,SNR=6.5
KMBO Kilima Mbogo 52.89 125 P **P 04 43 35.8 +0.3**
NBPB Pedra_Branca-C 53.01 227 *e*P **P 04 43 38.6 +2.5**
NBRF Rio Formoso - 53.08 220 *e*P **P 04 43 40.2 +3.6**
NBPS Pedro II - PI 53.23 230 *e*P **P 04 43 40.6 +2.7**
BRVK Borovoye 53.29 46 ⇓P **P 04 43 38.3 +0.6**
BRVK Borovoye 53.29 46 P **P 04 43 36.9 -0.8**
LONY Lake Ozonia 53.34 303 P **P 04 43 37.1 -1.2**
baz=74
BVAR Borovoye Array 53.36 46 P **P 04 43 38.7 +0.4**

comp=Z,3.5nm,0.8s,baz=318,slow=6.0,SNR=9.5
GAC Glen Almond 53.65 304 ⇓P P 04 43 41.7 +1.3
ROSB Rosrio 53.80 233 eP P 04 43 44.4 +2.5
EUNU Eureka 53.89 348 ⇓P P 04 43 42.9 +1.1
EUNU Eureka 53.89 348 P P 04 43 41.1 -0.7
EUNU IAmb IAmb 04 43 44.0
comp=Z,24nm,0.9s
PAL Palisades 53.96 298 P P 04 43 42.5 -0.3
baz=71
NBMA Muriti-CE 53.99 225 eP P 04 43 46.5 +3.2
KIBK Kibwezi 54.32 125 P P 04 43 45.7 -0.1
BINY Binghamton 55.05 300 P P 04 43 50.2 -0.6
baz=71
N59A State Game Lan 55.32 299 P P 04 43 51.3 -1.4
baz=70
BRZS Berezniki 55.50 50 eP P 04 43 53.2 -0.7
comp=Z,18nm,1.0s,baz=50
BRLS Borolday 55.73 58 eP P 04 43 54.7 -1.0
baz=59
N58A Sunbury 56.02 299 P P 04 43 58.1 +0.4
N58A IAmb IAmb 04 44 13.6
comp=Z,52nm,1.1s
MVL Millersville 56.05 298 P P 04 43 58.8 +0.8
SVB Belmont 56.05 262 P P 04 43 58.4 +0.1
TMAB Tom-Au,PA,Br 56.07 237 eP P 04 44 01.0 +2.7
IUG Iuzhnay 56.15 59 eP P 04 43 58.1 -0.7
baz=60
RES Resolute Bay 56.30 341 P P 04 43 58.5 -0.7
comp=Z,4.0nm,0.9s,baz=122,slow=6.1,SNR=4.9
RES Resolute Bay 56.30 341 P P 04 43 59.0 -0.2
NBLA Lagarto - SE 56.43 221 eP P 04 44 03.4 +2.5
CHGR Chuyangaron 56.75 63 IAmb IAmb 04 44 03.9
comp=Z,39nm,0.9s
DZA Taraz 56.80 58 eP P 04 44 03.3 -0.1
baz=58
SSPA Standing Stone 56.92 299 P P 04 44 03.5 -0.7
SSPA Standing Stone 56.92 299 P P 04 44 04.7 +0.5
baz=69
MCPB Macapa, AP 57.44 242 eP P 04 44 08.9 +0.8
O56A Blue Knob Stat 57.54 299 P P 04 44 08.7 +0.1
baz=69
NRIK Noril'sk 57.61 25 P P 04 44 09.9 +1.4
NRIK IAmb IAmb 04 44 23.7
comp=Z,40nm,1.5s
NBPN Ponto Novo - B 57.64 224 eP P 04 44 11.5 +2.0
M54A Oil Creek Stat 57.87 301 P P 04 44 10.9 +0.1
baz=69
BTLS Baital 57.92 55 eP P 04 44 10.4 -0.7
baz=55
TSUM Tsumeb 58.17 156 P P 04 44 13.1 -0.1
TSUM IAmb IAmb 04 44 18.6
comp=Z,56nm,1.6s
N54A Moraine State 58.30 300 P P 04 44 11.8 -2.0
baz=68
M53A WI Miller and 58.60 301 P P 04 44 14.6 -1.4
baz=68
MCWV Mont Chateau 58.68 299 P P 04 44 14.5 -2.0
baz=68
SGDS Sogindy 58.87 56 eP P 04 44 16.7 -1.2
baz=57
KURK Kurchatov 58.90 47 ⇑P P 04 44 17.5 -0.4
KURK Kurchatov 58.90 47 P P 04 44 17.1 -0.8
LSZ Lusaka 58.98 143 P P 04 44 18.6 -0.3
LSZ IAmb IAmb 04 44 24.0
comp=Z,31nm,1.2s
AAK Ala-Archa 59.07 57 P P 04 44 19.1 -0.3
AAK IAmb IAmb 04 44 32.9
comp=Z,18nm,1.1s
O53A New Philadelph 59.43 300 P P 04 44 20.8 -1.0
baz=67
Q54A Coxs Mills 59.65 298 IAmb IAmb 04 44 25.2
comp=Z,38nm,1.4s
GDU01 Guandu, BA 59.66 221 eP P 04 44 25.1 +1.7
KUU Kurty 59.86 55 eP P 04 44 24.2 -0.5
comp=Z,38nm,1.4s,baz=56
SEM Semipalatinsk 59.98 47 eP P 04 44 25.0 -0.7
comp=Z,11nm,1.4s,baz=47
SEM eS S 04 52 36.7 -1.1
baz=47
PRPB Paraupepabas 60.00 236 eP P 04 44 28.7 +2.8
GLMI Grayling 60.03 306 P P 04 44 24.8 -1.0
baz=68
BLA Blacksburg 60.05 296 P P 04 44 25.8 -0.3
baz=66
MALB Monte Alegre 60.06 243 eP P 04 44 29.1 +2.8
M50A Fremont 60.26 302 IAmb IAmb 04 44 36.8
comp=Z,18nm,0.9s
CHKK Chushkaly 60.31 55 eP P 04 44 27.2 -0.5
baz=55
P52A Corning 60.32 299 IAmb IAmb 04 44 39.0
comp=Z,26nm,0.9s
P52A Corning 60.32 299 P P 04 44 28.0 +0.1
baz=66
FCC Fort Churchill 60.49 323 P P 04 44 27.9 -0.7
FCC IAmb IAmb 04 44 35.8
comp=Z,19nm,1.0s
NBIT Itapeh - BA 60.59 220 eP P 04 44 32.7 +2.8
MDOK Medeo 60.61 56 eP P 04 44 29.7 -0.3
baz=56
ACSO Alum Creek Sta 60.68 300 IAmb IAmb 04 44 34.6
comp=Z,31nm,1.1s
ACSO Alum Creek Sta 60.68 300 P P 04 44 29.8 -0.5
baz=66
TDK Taldyqorghan 60.81 54 eP P 04 44 30.8 -0.3
baz=54
CMC01 Camacan, BA 60.99 220 eP P 04 44 35.4 +2.9
L48A N Adams 61.01 303 IAmb IAmb 04 44 43.4
comp=Z,27nm,0.8s
P51A Williamsport 61.03 300 IAmb IAmb 04 44 54.2
comp=Z,21nm,0.9s
WIN Windhoek 61.16 158 P P 04 44 32.9 -1.0
WIN IAmb IAmb 04 44 38.3
comp=Z,32nm,1.5s
KSH Kashi 61.31 60 P P 04 44 34.8 0.0
KSH pP pP 04 44 39.3 +0.3
KSH SS SS 04 56 51.3 -3.6
KSH pmax pmax
comp=Z,25nm,1.0s
ZAA0 Zalesovo Array 61.32 42 IAmb IAmb 04 44 43.9
comp=Z,27nm,1.6s
ZALV Zalesovo Beam 61.32 42 P P 04 44 34.2 -0.2
comp=Z,2.5nm,0.6s,baz=292,slow=6.9,SNR=7.4
ZALV Zalesovo Beam 61.32 42 P P 04 44 33.3 -1.1
Q51A Peebles 61.42 299 IAmb IAmb 04 44 46.9
comp=Z,34nm,1.1s
SATY Saty 61.57 56 eP P 04 44 35.5 -1.0
baz=56
KMSC Kings Mountain 61.58 294 P P 04 44 36.0 -0.4
baz=65
NHSC New Hope 61.59 292 P P 04 44 35.8 -0.8
baz=64
SDBA SAO DESIDERIO 61.62 227 eP P 04 44 39.2 +2.3
O49A Covington 61.65 301 IAmb IAmb 04 44 47.8
comp=Z,22nm,1.1s
TARG Taragay, Kyrgy 61.69 57 IAmb IAmb 04 44 47.9
comp=Z,24nm,1.0s
NIL Nilore 61.79 67 P P 04 44 37.0 -0.9
UZB Uzynbulak 61.95 55 eP P 04 44 38.2 -0.8
baz=56
BOAV Boa Vista 61.96 251 eP P 04 44 42.4 +3.1
GUA01 Guaratinga, BA 62.16 220 eP P 04 44 42.8 +2.3
MAKZ Makanchi 62.40 51 P P 04 44 41.0 -0.9
MAKZ IAmb IAmb 04 44 45.1
comp=Z,14nm,0.8s
R50A Paris 62.43 299 IAmb IAmb 04 44 53.3
comp=Z,28nm,1.2s
MK31 Makanchi Array 62.61 51 IAmb IAmb 04 44 46.3
comp=Z,14nm,0.9s
MKAR Makanchi Array 62.61 51 P P 04 44 43.1 -0.1
comp=Z,12nm,0.7s,baz=297,slow=5.7,SNR=30
MKAR Makanchi Array 62.61 51 P P 04 44 42.9 -0.4
TZTN Tazewell 62.61 297 P P 04 44 43.3 -0.1
baz=64
ITTB Itaituba 62.85 242 eP P 04 44 47.8 +2.6
R49A Shelbyville 63.03 299 IAmb IAmb 04 44 57.1
comp=Z,24nm,0.9s
L44A Lake County Fo 63.28 304 P P 04 44 46.8 -1.0
baz=65
T50A Nancy 63.34 298 P P 04 44 49.0 +0.8
T50A IAmb IAmb 04 44 59.6
comp=Z,31nm,1.2s
JANB Januaria 63.38 225 eP P 04 44 50.9 +2.2
PEXB Peixe 63.45 230 eP P 04 44 51.7 +2.5
G40A Rib Lake 63.49 308 IAmb IAmb 04 44 59.8
comp=Z,17nm,0.8s
V51A Loudon 63.51 296 P P 04 44 48.5 -0.9
V51A IAmb IAmb 04 45 02.9
comp=Z,20nm,0.9s
W52A Murphy 63.52 295 IAmb IAmb 04 44 53.3
comp=Z,27nm,1.2s
CPCT Cooper Cave 63.80 296 P P 04 44 50.9 -0.4
WCI Wyandotte Cave 63.85 300 P P 04 44 50.6 -1.0
WCI IAmb IAmb 04 45 02.2
comp=Z,38nm,1.2s
WCI Wyandotte Cave 63.85 300 P P 04 44 51.5 -0.1
baz=64
GOGA Godfrey 63.92 294 P P 04 44 51.5 -0.6
baz=63
ZSN Zaisan 63.94 49 eP P 04 44 52.0 -0.1
baz=49
U49A Red Boiling Sp 64.24 298 IAmb IAmb 04 45 05.0
comp=Z,28nm,1.2s
I40A Norwalk 64.35 307 IAmb IAmb 04 45 05.2
comp=Z,14nm,0.8s
NPGB Novo Progresso 64.44 240 eP P 04 44 56.1 +0.4
W50A Signal Mountai 64.48 296 IAmb IAmb 04 45 09.7
comp=Z,14nm,0.8s
O44A Mansfield 64.53 302 IAmb IAmb 04 45 06.4
comp=Z,30nm,1.1s
SJMB Sao Joao De Ma 64.65 220 eP P 04 44 57.8 +0.9
RIB01 Linhares ES 64.75 219 eP P 04 45 01.2 +3.6
CLTN Cedars of Leba 64.83 297 IAmb IAmb 04 45 08.8
comp=Z,18nm,1.1s
ULM Lac du Bonnet 64.83 315 P P 04 44 56.9 -0.8
comp=Z,4.2nm,0.7s,baz=87,slow=8.3,SNR=4.0
ULM Lac du Bonnet 64.83 315 P P 04 44 56.3 -1.5
ULM IAmb IAmb 04 45 25.5
comp=Z,44nm,1.6s
TIGA Tifton 64.92 292 P P 04 44 58.3 -0.4
baz=62
T47A Sharon Grove 64.98 299 IAmb IAmb 04 45 10.0
comp=Z,29nm,0.9s
SPMN Marine on St. 65.17 309 IAmb IAmb 04 45 10.9
comp=Z,30nm,1.2s
SPMN Marine on St. 65.17 309 P P 04 44 58.9 -1.2
baz=64
A36M Sachs Harbour 65.24 343 P P 04 45 00.2 +0.1
A36M IAmb IAmb 04 45 11.9
comp=Z,30nm,0.9s
A36M Sachs Harbour 65.24 343 P P 04 45 00.5 +0.5
baz=50,SNR=13
Z51A Franklin 65.24 294 IAmb IAmb 04 45 15.3
comp=Z,21nm,1.1s
SNDB Serra Nova Dou 65.26 233 eP P 04 45 03.4 +2.4
V48A Smith Brothers 65.34 297 IAmb IAmb 04 45 12.6
comp=Z,40nm,1.5s
F36A Milaca 65.34 310 IAmb IAmb 04 45 37.4
comp=Z,34nm,1.5s
L40A Anamosa 65.55 305 IAmb IAmb 04 45 12.6
comp=Z,22nm,1.0s
DIAM Diamantina, MG 65.64 222 eP P 04 45 07.5 +4.0
MACA Manacapuru-AM 65.67 247 eP P 04 45 06.9 +3.2
AGMN Agassiz Nation 65.69 313 IAmb IAmb 04 45 39.7
comp=Z,29nm,1.4s
AGMN Agassiz Nation 65.69 313 P P 04 45 03.2 -0.2
baz=63
WVT Waverly 65.89 298 P P 04 45 04.8 0.0
baz=62
BDFB Brasilia 66.01 227 P P 04 45 06.6 +0.7
comp=Z,14nm,1.0s,baz=35,slow=7.5,SNR=9.0
BDFB Brasilia 66.01 227 P P 04 45 06.2 +0.3
BDFB IAmb IAmb 04 45 11.2
comp=Z,27nm,1.2s
SDV Santo Domingo 66.11 264 eP P 04 45 08.5 +1.7
SDV Santo Domingo 66.11 264 P P 04 45 07.0 +0.2
LBTB Lobatse 66.40 151 P P 04 45 07.7 -0.6
C36M Paulatuk 66.64 341 IAmb IAmb 04 45 22.0
comp=Z,38nm,1.6s
C36M Paulatuk 66.64 341 P P 04 45 08.8 -0.4
baz=50
FVM French Village 66.87 301 IAmb IAmb 04 45 21.0
comp=Z,19nm,0.9s
D32A Dogwood Acres, 66.91 312 P P 04 45 10.3 -1.0
D32A IAmb IAmb 04 45 21.2
comp=Z,21nm,0.8s
F33A 5 Mile Ranch, 67.08 311 IAmb IAmb 04 45 47.6
comp=Z,50nm,1.7s
WMQ Urumqi 67.33 52 eP P 04 45 17.4 +3.3
WMQ pP sP 04 45 21.1 +1.1
WMQ pmax pmax
comp=Z,39nm,1.1s
CCM Cathedral Cave 67.41 301 ⇓P P 04 45 14.2 -0.3
CCM Cathedral Cave 67.41 301 P P 04 45 13.1 -1.4
CCM Cathedral Cave 67.41 301 P P 04 45 14.5 -0.1
baz=62
PBMO Poplar Bluff 67.44 300 IAmb IAmb 04 45 24.1
comp=Z,27nm,1.4s
CLDB Colider 67.45 237 eP P 04 45 18.8 +3.7
YKA Yellowknife Ar 67.72 332 P P 04 45 15.8 -0.3
comp=Z,11nm,0.9s,baz=59,slow=6.2,SNR=31
TIXI Tiksi 67.95 15 P P 04 45 17.0 -0.4
comp=Z,3.5nm,0.8s,baz=327,slow=4.6,SNR=6.4
TIXI Tiksi 67.95 15 P P 04 45 17.8 +0.4
TIXI IAmb IAmb 04 45 25.2
comp=Z,43nm,1.7s
R40A Maddies Statio 68.00 302 IAmb IAmb 04 45 28.8
comp=Z,32nm,1.2s
MDND Maddock 68.11 314 P P 04 45 18.6 -0.2
baz=61
P38A Dawn 68.23 304 IAmb IAmb 04 45 29.7
comp=Z,21nm,0.9s
ECSD EROS Data Cent 68.28 309 IAmb IAmb 04 45 30.2
comp=Z,32nm,1.4s
ECSD EROS Data Cent 68.28 309 P P 04 45 19.6 -0.4
baz=61
LCAR Lake Charles 68.29 299 IAmb IAmb 04 45 29.7
comp=Z,27nm,1.4s
ARAG Araguaiana, MT 68.39 230 eP P 04 45 23.9 +3.1
BSCB Bom Sucesso 68.43 221 eP P 04 45 23.8 +2.6
MGMO Mountain Grove 68.55 301 P P 04 45 21.0 -0.8
MGMO IAmb IAmb 04 45 31.9
comp=Z,15nm,0.8s
PDRB Porto dos Gac 68.62 237 eP P 04 45 24.9 +2.5
L34A Svendsen Farm, 68.98 307 IAmb IAmb 04 45 46.0
comp=Z,24nm,0.8s
S39A Bolivar 69.02 302 IAmb IAmb 04 45 34.8
comp=Z,31nm,1.1s
N35A Tabor 69.05 306 P P 04 45 23.4 -1.4
N35A IAmb IAmb 04 45 31.5
comp=Z,25nm,1.0s
FCAR Ozark Folk Cen 69.06 300 IAmb IAmb 04 45 34.8
comp=Z,25nm,1.2s
SJCC San Jacinto, C 69.23 267 P P 04 45 25.8 -0.6
U40A Yellville 69.35 300 P P 04 45 26.3 -0.5
baz=60
SUSD Miller 69.40 310 IAmb IAmb 04 45 37.0
comp=Z,21nm,0.8s
SUSD Miller 69.40 310 P P 04 45 26.8 -0.2
baz=60
W41B Gary Mavity, V 69.50 299 P P 04 45 27.9 +0.2
baz=60
BOSA Boshof 69.51 153 P P 04 45 27.7 -0.1
comp=Z,10nm,0.8s,baz=349,slow=6.1,SNR=9.2
BOSA Boshof 69.51 153 P P 04 45 27.2 -0.5
BOSA IAmb IAmb 04 45 31.5
comp=Z,18nm,1.0s
MAN01 Angra dos Reis 69.53 219 eP P 04 45 31.3 +3.3
INK Inuvik 69.84 342 P P 04 45 27.6 -1.6
comp=Z,5.2nm,0.9s,baz=15,slow=11,SNR=6.0
INK Inuvik 69.84 342 P P 04 45 28.5 -0.6
INK IAmb IAmb 04 45 41.0
comp=Z,23nm,1.2s
INK Inuvik 69.84 342 P P 04 45 29.4 +0.2
baz=42
HHAR Hobbs 70.15 301 IAmb IAmb 04 45 42.1
comp=Z,37nm,1.0s
344A Westbrook Farm 70.25 295 P P 04 45 32.5 +0.1
X40A Basin Creek Fa 70.26 299 IAmb IAmb 04 45 42.7
comp=Z,40nm,1.3s
X40A Basin Creek Fa 70.26 299 P P 04 45 31.9 -0.5
baz=60,SNR=6.6
U38A Gravette 70.38 301 IAmb IAmb 04 45 43.6
comp=Z,20nm,0.9s
BGNE Belgrade 70.42 307 P P 04 45 33.3 0.0
baz=59
DGMT Dagmar 70.45 316 P P 04 45 33.5 +0.1
baz=58
WRGLY Wrigley 70.47 335 P P 04 45 33.3 +0.2
baz=49
ITRB Iturama 70.56 227 eP P 04 45 37.0 +2.7
BB19B Bebedouro 70.56 224 eP P 04 45 39.0 +4.7
KSU1 Kansas State U 70.56 305 ⇑P P 04 45 35.1 +0.9
KSU1 Kansas State U 70.56 305 IAmb IAmb 04 45 45.4
comp=Z,33nm,1.1s
KSU1 Kansas State U 70.56 305 P P 04 45 34.1 -0.1
baz=60
W39A Magazine 70.58 300 P P 04 45 34.3 -0.1
W39A IAmb IAmb 04 45 44.6
comp=Z,35nm,1.1s
W39A Magazine 70.58 300 P P 04 45 34.7 +0.4
baz=60
MIAR Mount Ida 70.76 299 ⇑P P 04 45 36.1 +0.7
MIAR Mount Ida 70.76 299 IAmb IAmb 04 45 46.3
comp=Z,21nm,0.9s
MIAR Mount Ida 70.76 299 P P 04 45 35.3 -0.1
baz=60,SNR=7.6
PARB Paraibuna 70.79 221 eP P 04 45 40.6 +4.9
Z41A Richland Creek 70.86 298 IAmb IAmb 04 45 46.5
comp=Z,28nm,0.8s
Z41A Richland Creek 70.86 298 P P 04 45 36.0 0.0
baz=59
RCLB Rio Claro- Sao 71.08 223 eP P 04 45 40.5 +3.1
VAO Valinhos 71.24 222 eP P 04 45 41.5 +3.1
TUL1 Leonard 71.63 301 P P 04 45 40.2 -0.5
TUL1 IAmb IAmb 04 45 51.9
comp=Z,29nm,0.9s
TUL1 Leonard 71.63 301 P P 04 45 41.0 +0.3
baz=59
PYUN Piuthan 71.78 68 eP P 04 45 41.4 -0.6
comp=Z,59nm,0.8s
VILB Vilhena 71.96 239 eP P 04 45 46.4 +3.6
VILB Vilhena 71.96 239 P P 04 45 44.4 +1.5
VILB IAmb IAmb 04 45 46.9
comp=Z,31nm,1.0s
KLRI Killari 72.02 80 eP P 04 45 43.1 -0.2
EPYK Eagle Plains 72.12 342 P P 04 45 44.1 +0.9
baz=39
KAN13 South Haven SW 72.22 303 P P 04 45 44.6 +0.3
DANN Dangsing 72.23 68 eP P 04 45 44.1 -0.7
comp=Z,94nm,0.9s
KAN01 Argonia South 72.34 303 P P 04 45 43.9 -1.1
KOLN Koldanda 72.41 68 eP P 04 45 44.4 -1.4
PCMB Pacaembu 72.56 226 eP P 04 45 49.6 +3.3
LAO LASA Array 72.56 315 P P 04 45 45.5 -0.7
LAO IAmb IAmb 04 45 49.9
comp=Z,39nm,1.2s
LAO LASA Array 72.56 315 P P 04 45 46.7 +0.5
baz=56
EDM Edmonton 72.59 324 P P 04 45 45.7 -0.5
RSSD Black Hills 72.68 312 ⇓P P 04 45 48.0 +0.9
RSSD Black Hills 72.68 312 P P 04 45 47.4 +0.2
RSSD Black Hills 72.68 312 P P 04 45 47.5 +0.4
baz=57
W35A Tecumseh 72.78 301 IAmb IAmb 04 45 58.0
comp=Z,38nm,1.1s
CBKS Cedar Bluff 72.80 306 ⇓P P 04 45 49.6 +1.9
CBKS Cedar Bluff 72.80 306 P P 04 45 48.6 +0.9
baz=58
SRSP Sriramsagar 72.96 79 eP P 04 45 48.2 -0.7
PTLB Pontes e Lacer 72.98 236 eP P 04 45 51.8 +2.9
PTLB Pontes e Lacer 72.98 236 P P 04 45 49.6 +0.8
PTLB IAmb IAmb 04 45 57.6
comp=Z,31nm,1.5s
GKN Gorkha 73.07 68 eP P 04 45 48.6 -1.0
FNO Franklin 73.09 301 P P 04 45 48.9 -0.5
OGNE Ogallala 73.16 308 IAmb IAmb 04 46 00.9
comp=Z,36nm,0.9s
OGNE Ogallala 73.16 308 P P 04 45 50.0 +0.1
baz=57
I29M Ogilvie Camp, 73.32 342 P P 04 45 50.2 -0.1
baz=37,SNR=10
LOOK Love County 73.60 300 IAmb IAmb 04 46 03.4
comp=Z,27nm,0.8s
DMN Daman 73.63 68 eP P 04 45 52.0 -1.1
KKN Kakani 73.67 67 eP P 04 45 52.1 -1.1
EGMT Eagleton 73.79 318 P P 04 45 53.5 0.0
EGMT IAmb IAmb 04 45 57.6
comp=Z,43nm,1.1s
EGMT Eagleton 73.79 318 P P 04 45 53.2 -0.2
baz=54,SNR=6.6
PKIN Phulchoki 73.87 68 eP P 04 45 52.5 -2.0
PKI Pulchoki 73.88 68 eP P 04 45 52.7 -1.9
HYBB Hyderabad (bro 73.93 80 eP P 04 45 54.4 -0.3
HYBB eS S 04 55 26.5 -0.1
GUN Gumba 74.05 67 eP P 04 45 55.0 -0.6
ETMB Extrema 74.16 245 eP P 04 45 58.3 +2.4
ETMB Extrema 74.16 245 P P 04 45 56.4 +0.5
ETMB IAmb IAmb 04 46 04.9
comp=Z,26nm,1.2s
URV Uravakonda 74.23 83 eP P 04 45 56.0 -0.5
CUPL Choutuppal 74.30 80 eP P 04 45 55.8 -1.0
WMOK Wichita Mounta 74.32 302 P P 04 45 56.4 -0.3
baz=57,SNR=7.4
COLD Coldfoot 74.33 347 IAmb IAmb 04 46 07.3
comp=Z,45nm,1.6s
COLD Coldfoot 74.33 347 P P 04 45 57.2 +1.0
baz=28
FARO Faro, Yukon 74.38 338 P P 04 45 56.2 -0.3
baz=41
AQDB Aquidauana 74.39 230 eP P 04 46 00.1 +3.0
KSCO Kaye Shedlock' 74.59 307 IAmb IAmb 04 46 09.8
comp=Z,36nm,1.1s
KSCO Kaye Shedlock' 74.59 307 P P 04 45 58.6 +0.3
baz=56
DAWY Dawson 74.64 341 P P 04 45 59.0 +0.9
baz=36
M31M Drury Creek, Y 74.71 338 P P 04 45 58.4 -0.1
baz=40
HKT Hockley 74.78 296 P P 04 45 58.1 -1.3
WHTX Lake Whitney, 74.86 299 P P 04 46 00.3 +0.4
baz=57
PRP Porcupine Dome 74.89 345 IAmb IAmb 04 46 19.0
comp=Z,49nm,1.5s
PRP Porcupine Dome 74.89 345 P P 04 45 59.8 +0.2
baz=31
SRLM Srisailam 74.92 81 eP P 04 45 59.9 -0.5
K22A Casper 75.01 312 IAmb IAmb 04 46 03.7
comp=Z,27nm,1.1s
K22A Casper 75.01 312 P P 04 45 59.9 -0.8
baz=55,SNR=6.5
NJS Nagarjunasagar 75.01 80 eP P 04 46 01.2 +0.3
GCMT Greycliff 75.04 316 P P 04 46 00.7 -0.1
H24K Noodor Dome 75.11 346 P P 04 46 01.5 +0.7
baz=30
PHWY Pilot Hill 75.12 310 IAmb IAmb 04 46 05.1
comp=Z,28nm,0.9s
M30M Minto, Yukon 75.12 340 P P 04 46 00.5 -0.4
baz=38
RLMT Red Lodge 75.20 315 P P 04 46 01.4 -0.5
baz=54
J26L Joseph Creek 75.31 343 P P 04 46 01.8 -0.2
baz=33
RCLA Racherla 75.32 81 eP P 04 46 02.0 -0.7
PTGB Pitanga 75.43 225 eP P 04 46 06.4 +3.3
J25K Salcha River, 75.63 344 P P 04 46 03.2 -0.6
baz=31
POKR Poker Plat Res 75.65 345 P P 04 46 04.5 +0.7
baz=30
N23A Red Feather La 75.65 310 IAmb IAmb 04 46 09.0
comp=Z,29nm,1.1s
N23A Red Feather La 75.65 310 P P 04 46 03.6 -1.0
baz=55,SNR=8.1
N31M Braeburn, Yuko 75.69 338 P P 04 46 03.3 -0.8
baz=39
P33M Teslin, Yukon 75.75 336 P P 04 46 05.2 +0.6
P33M Teslin, Yukon 75.75 336 P P 04 46 04.8 +0.2
baz=41
ILAR Eielson Array 75.83 345 P P 04 46 05.0 +0.2
comp=Z,1.1nm,0.8s,baz=12,slow=5.4,SNR=8.0
SCRK Sand Creek 75.86 343 P P 04 46 06.1 +0.9
SCRK IAmb IAmb 04 46 17.0
comp=Z,32nm,1.3s
SCRK Sand Creek 75.86 343 P P 04 46 05.8 +0.6
baz=32
ADKI Addanki 75.93 81 ⇓eP P 04 46 06.0 -0.2
YMP Mirror Lake Pl 75.94 315 IAmb IAmb 04 46 16.5
comp=Z,26nm,1.1s
GOMU GeErMu 75.94 56 P P 04 46 09.6 +3.2
GOMU S S 04 55 42.8 -6.4
GOMU sS sS 04 55 55.5 -0.5
GOMU SS SS 05 00 39.8 -1.2
GOMU pmax pmax
comp=Z,1μm,8.8s
WHY Whitehorse 76.06 338 IAmb IAmb 04 46 24.8
comp=Z,41nm,1.5s
WHY Whitehorse 76.06 338 P P 04 46 06.3 0.0
baz=39
ISCO Idaho Springs 76.06 309 IAmb IAmb 04 46 15.3

comp=Z,41nm,1.4s
ISCO Idaho Springs 76.06 309 P P 04 46 05.5 -1.6
baz=55,SNR=12
ABTX Abilene, Hawle 76.08 300 P P 04 46 04.5 -2.4
ABTX IAmb IAmb 04 46 09.4
comp=Z,40nm,1.2s
ABTX Abilene, Hawle 76.08 300 P P 04 46 06.3 -0.5
baz=56
L27K Beaver Creek, 76.09 342 P P 04 46 06.9 +0.5
baz=34
DLBC Dease Lake 76.12 334 IAmb IAmb 04 46 19.3
comp=Z,34nm,1.2s
SONM Songino Array 76.14 41 P P 04 46 07.6 +0.6
comp=Z,2.2nm,0.7s,baz=289,slow=7.0,SNR=9.7
HDA Harding Lake 76.16 344 IAmb IAmb 04 46 26.9
comp=Z,36nm,1.2s
HDA Harding Lake 76.16 344 P P 04 46 06.8 +0.1
baz=30
H21K Melozitna Rive 76.21 347 IAmb IAmb 04 46 27.8
comp=Z,33nm,1.5s
H21K Melozitna Rive 76.21 347 P P 04 46 06.1 -1.0
baz=26
AMTX Amarillo 76.24 303 P P 04 46 07.8 0.0
baz=56
Q24A Divide 76.25 308 IAmb IAmb 04 46 11.4
comp=Z,24nm,1.1s
Q24A Divide 76.25 308 P P 04 46 07.9 -0.2
baz=55,SNR=5.9
RIDG Independent Ri 76.26 343 P P 04 46 06.1 -1.2
baz=32
BOZ Bozeman (W) 76.26 317 IAmb IAmb 04 46 11.7
comp=Z,21nm,1.1s
BOZ Bozeman (W) 76.26 317 P P 04 46 06.9 -1.0
baz=53,SNR=14
WRH Wood River Hil 76.35 345 IAmb IAmb 04 46 27.0
comp=Z,32nm,1.4s
BILL Bilibino 76.37 4 P P 04 46 07.1 -0.8
H17A Grant Village 76.39 315 P P 04 46 08.6 -0.1
H17A Grant Village 76.39 315 P P 04 46 10.4 +1.7
baz=53,SNR=6.3
YMR Madison River 76.44 315 IAmb IAmb 04 46 20.6
comp=Z,21nm,1.1s
ULN Ulaanbaatar 76.47 40 P P 04 46 08.1 -0.9
I21K Tanana 76.50 347 P P 04 46 08.9 +0.4
baz=26
L26K Log Cabin Wild 76.50 342 P P 04 46 09.2 +0.5
baz=33
QLMT Earthquake Lak 76.61 316 P P 04 46 10.2 +0.2
M27K Edge Creek, AK 76.69 341 P P 04 46 10.7 +0.8
baz=34
BW06 Boulder Array 76.76 313 IAmb IAmb 04 46 13.5
comp=Z,26nm,1.2s
BW06 Boulder Array 76.76 313 P P 04 46 10.1 -0.7
baz=54,SNR=14
PD31 Pinedale Array 76.76 313 IAmb IAmb 04 46 13.5
comp=Z,21nm,1.1s
PDAR Pinedale Array 76.76 313 P P 04 46 10.2 -0.6
comp=Z,13nm,1.0s,baz=65,slow=8.4,SNR=22
MSO Missoula 76.78 319 IAmb IAmb 04 46 16.8
comp=Z,50nm,1.8s
MSO Missoula 76.78 319 P P 04 46 09.9 -0.8
baz=52,SNR=5.4
T25A Trinidad 76.80 306 P P 04 46 11.2 0.0
baz=55
LOHW Long Hollow 76.87 314 P P 04 46 12.5 +1.0
SKHT Srikalahasti 76.88 82 eP P 04 46 11.4 -0.2
M26K Nabesna, AK 76.94 342 IAmb IAmb 04 46 37.6
comp=Z,39nm,1.4s
M26K Nabesna, AK 76.94 342 P P 04 46 11.7 +0.5
baz=33
SKAG Skagway 77.14 337 P P 04 46 12.4 +0.2
baz=39
REDW Red Top Meadow 77.16 314 IAmb IAmb 04 46 24.7
comp=Z,57nm,1.9s
SDCO Great Sand Dun 77.17 307 P P 04 46 12.6 -0.7
baz=55,SNR=6.1
MCK McKinley 77.18 345 P P 04 46 12.8 +0.3
baz=28
BPAW Bear Paw Mtn. 77.28 346 P P 04 46 12.3 -0.8
baz=27
SMCO Snowmass 77.28 309 IAmb IAmb 04 46 26.2
comp=Z,23nm,1.1s
GTA Gaotai 77.36 51 eP P 04 46 15.4 +1.3
GTA pP pP 04 46 18.9 +0.4
GTA sP sP 04 46 21.5 +1.5
GTA pmax pmax
comp=Z,7.0nm,1.4s
JCT Junction City 77.37 298 P P 04 46 13.8 -0.4
JCT IAmb IAmb 04 46 22.2
comp=Z,34nm,1.1s
JCT Junction City 77.37 298 P P 04 46 14.4 +0.2
baz=56,SNR=10
MCMT McKenzie Canyo 77.42 316 P P 04 46 14.0 -0.5
ITAB Concordia 77.43 223 eP P 04 46 17.4 +3.1
OTAV Otavalo 77.45 261 eP P 04 46 18.8 +3.5
HARP HAARP 77.48 343 P P 04 46 13.7 -0.6
baz=31
MSTX Muleshoe 77.50 303 P P 04 46 16.0 +1.0
baz=55
O20A White River Ci 77.52 311 P P 04 46 15.5 +0.4
baz=54
NEW Newport 77.55 321 P P 04 46 15.0 +0.1
baz=50
AHID Auburn Hatcher 77.67 314 IAmb IAmb 04 46 30.8
comp=Z,27nm,1.2s
TRF Thorofare Moun 77.71 345 P P 04 46 16.0 +0.3
baz=27
CHLP Challavanipeta 77.73 76 eP P 04 46 15.7 -0.6
CHUM Lake Minchumin 77.73 346 P P 04 46 15.9 +0.3
baz=26
CZSB Cruzeiro do Su 77.74 251 eP P 04 46 17.8 +1.4
CZSB Cruzeiro do Su 77.74 251 IAmb IAmb 04 46 36.0
comp=Z,36nm,0.9s
GCSA Galena City Sc 77.75 349 P P 04 46 15.9 +0.4
baz=22
KTH Kantishna Hill 77.75 346 P P 04 46 16.6 +0.8
KTH IAmb IAmb 04 46 26.9
comp=Z,44nm,1.3s
J20K Nowinta River 77.80 347 P P 04 46 16.9 +1.0
baz=24
S22A 4UR Ranch, Cre 78.03 308 P P 04 46 17.8 -0.3
baz=54,SNR=9.1
MTO3 Montecristo 78.24 279 IAmb IAmb 04 46 31.0
comp=Z,25nm,1.1s
833A Chaparral WMA, 78.28 296 P P 04 46 19.8 +0.6
833A IAmb IAmb 04 46 23.8
comp=Z,47nm,1.4s
833A Chaparral WMA, 78.28 296 P P 04 46 19.7 +0.4
baz=56,SNR=5.6
LLLB Lillooet 78.33 325 IAmb IAmb 04 46 30.6
comp=Z,22nm,1.2s
TNA Tin City 78.38 353 P P 04 46 19.5 +0.4
baz=13
BMRM Bremner River 78.57 342 P P 04 46 19.5 -0.8
baz=32
B08A Colville Reser 78.60 322 P P 04 46 20.2 -0.6
B08A IAmb IAmb 04 46 24.0
comp=Z,26nm,1.1s
PV07 Paradox Valley 78.78 309 IAmb IAmb 04 46 32.8
comp=Z,28nm,1.3s
PV23 Carpenter Ridg 79.00 309 IAmb IAmb 04 46 31.6
comp=Z,31nm,1.0s
PV11 David Mesa, Pa 79.00 309 IAmb IAmb 04 46 27.4
comp=Z,24nm,1.0s
P18A Preston Nutter 79.06 311 IAmb IAmb 04 46 35.2
comp=Z,31nm,1.3s
PV10 Paradox Valley 79.06 309 P P 04 46 23.0 -0.7
PV10 IAmb IAmb 04 46 28.0
comp=Z,30nm,1.0s
F10A Beach Ranch, E 79.08 319 IAmb IAmb 04 46 26.3
comp=Z,33nm,1.4s
HLID Hailey 79.08 316 P P 04 46 24.5 +0.8
baz=51
ANM Nome 79.09 352 P P 04 46 22.3 -0.8
baz=15
EYAK Cordova Ski Ar 79.22 342 P P 04 46 25.6 +1.8
baz=31
GLI Glacier Island 79.27 343 P P 04 46 24.8 +0.7
baz=30
TTA Tatalina 79.28 347 P P 04 46 26.6 +2.3
TTA IAmb IAmb 04 46 32.8
comp=Z,56nm,2.0s
TTA Tatalina 79.28 347 P P 04 46 25.5 +1.3
baz=23
MVCO Mesa Verde 79.41 308 P P 04 46 26.2 +0.6
baz=53
ANMO Albuquerque 79.42 305 P P 04 46 26.3 +0.6
ANMO Albuquerque 79.42 305 P P 04 46 25.5 -0.2
baz=54
P17A Butcher Ranch, 79.45 311 IAmb IAmb 04 46 37.0
comp=Z,25nm,1.1s
SRU San Rafael Swe 79.54 311 IAmb IAmb 04 46 36.6
comp=Z,72nm,1.9s
CPUP Villa Florida 79.74 227 P P 04 46 28.2 +1.2
comp=Z,16nm,1.0s,baz=47,slow=4.2,SNR=8.6
CPUP Villa Florida 79.74 227 eP P 04 46 29.2 +2.2
CPUP Villa Florida 79.74 227 IAmb IAmb 04 46 32.3
comp=Z,27nm,1.1s
LPAZ La Paz 79.83 242 P P 04 46 28.9 +0.5
comp=Z,2.5nm,0.8s,baz=40,slow=8.4,SNR=8.4
NLU North Lily Min 79.97 312 P P 04 46 28.2 -0.4
DUG Dugway, Tooele 80.26 313 P P 04 46 30.3 +0.2
baz=51
GAMB Gambell 80.46 355 P P 04 46 30.8 +0.3
baz=9.9
MNTX Cornudas Mount 80.60 302 P P 04 46 32.0 +0.1
baz=54
TX31 Lajitas Ar. Si 80.78 299 IAmb IAmb 04 46 36.7
comp=Z,40nm,1.2s
TXAR Lajitas Array 80.78 299 P P 04 46 33.2 +0.3
comp=Z,3.0nm,0.9s,baz=74,slow=4.9,SNR=14
MSU Marysvale 80.93 311 P P 04 46 33.6 -0.1
D03D Eldon 81.02 323 P P 04 46 34.6 +0.8
baz=46
TCRU Three Creeks R 81.03 311 P P 04 46 33.1 -1.3
TCRU IAmb IAmb 04 46 54.9
comp=Z,27nm,1.2s
MTPU Mount Pierson 81.22 311 IAmb IAmb 04 46 42.3
comp=Z,28nm,1.2s
F05D White Salmon 81.34 321 P P 04 46 36.5 +1.0
baz=47
E04D Cinebar 81.44 322 P P 04 46 36.0 -0.1
baz=46
J08A Circle Bar Ran 81.47 318 IAmb IAmb 04 46 48.0
comp=Z,36nm,1.3s
G05D Wamic, OR 81.71 321 P P 04 46 39.1 +1.6
baz=47
121A Cookes Peak, D 81.75 304 P P 04 46 38.6 +0.4
121A Cookes Peak, D 81.75 304 P P 04 46 38.5 +0.4
baz=53,SNR=7.5
PLTB Pedras Altas 81.75 221 eP P 04 46 40.7 +3.0
PLTB Pedras Altas 81.75 221 IAmb IAmb 04 46 41.5
comp=Z,20nm,1.0s
HOOD Mount Hood Mea 81.83 321 IAmb IAmb 04 46 48.7
comp=Z,34nm,1.1s
LZH Lanzhou 81.91 51 eP P 04 46 43.8 +4.8
LZH pP sP 04 46 47.4 +2.5
LZH sP PcP 04 46 50.5 +5.9
LZH pmax pmax
comp=Z,24nm,1.3s
SPR3 Spring Creek 3 81.93 313 IAmb IAmb 04 46 50.9
comp=Z,31nm,1.3s
PSUT Pine Spring 81.94 312 IAmb IAmb 04 46 43.2
comp=Z,22nm,1.2s
F04D Rainier, OR 81.99 322 P P 04 46 39.7 +0.8
baz=46
SZCU Shurtz Canyon 82.06 311 IAmb IAmb 04 46 50.0
comp=Z,40nm,1.6s
CCUT Cedar City 82.26 311 P P 04 46 41.1 +0.3
KNB Kanab 82.26 310 P P 04 46 40.7 -0.1
WUAZ Wupatki 82.28 308 P P 04 46 41.2 +0.3
baz=51
I05D Terrebonne, OR 82.34 320 P P 04 46 42.0 +1.1
baz=47
H04A Detroit Lake 82.54 321 IAmb IAmb 04 47 01.4
comp=Z,18nm,0.9s
J05D Fort Rock, OR 83.01 319 P P 04 46 44.5 -0.1
baz=47
R11A Troy Canyon, C 83.10 313 P P 04 46 45.3 +0.1
baz=50,SNR=12
K05A Summer Lake 83.21 319 P P 04 46 46.4 +0.8
PB11 IPOC Station P 83.21 240 IAmb IAmb 04 46 51.0
comp=Z,24nm,1.0s
PRN Pahroc Range 83.38 312 IAmb IAmb 04 46 58.9
comp=Z,28nm,1.2s
MOD Modoc Plateau 83.45 318 IAmb IAmb 04 46 59.1
comp=Z,25nm,1.2s
HHC Hu-ho-hao-te 83.47 44 eP P 04 46 46.4 -0.5
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,860nm,7.4s
NNA Nana 83.56 250 P P 04 46 48.1 +0.5
S11A Rachel 83.65 312 IAmb IAmb 04 47 03.0
comp=Z,34nm,1.2s
TLIG Tlapa 83.76 287 IAmb IAmb 04 46 53.1
comp=Z,32nm,1.4s
XLT XiLinHaoTe 83.81 39 eP P 04 46 49.0 +0.4
XLT pP pP 04 46 53.5 +0.6
XLT sP sP 04 46 57.5 +3.0
XLT S S **04 57 15.8 +4.4**
XLT pmax pmax
comp=Z,13nm,1.7s
XLT pmax pmax
comp=Z,650nm,7.5s
TUC Tucson 83.89 305 P P 04 46 50.0 +0.8
TUC IAmb IAmb 04 46 58.6
comp=Z,30nm,1.1s
TUC Tucson 83.89 305 P P 04 46 50.0 +0.8
baz=51
SHPR Sheep Range 84.03 311 IAmb IAmb 04 46 54.1
comp=Z,18nm,1.2s
KVN Kaiserville 84.12 315 IAmb IAmb 04 46 58.5
comp=Z,54nm,2.0s
PB09 IPOC Station P 84.27 238 IAmb IAmb 04 46 56.9
comp=Z,23nm,0.9s
L04D Klamath Falls 84.31 319 P P 04 46 52.5 +1.2
baz=46
Y14A Wickenburg 84.32 308 IAmb IAmb 04 46 55.5
comp=Z,29nm,1.2s
M04C Macdoel 84.36 318 P P 04 46 51.0 -0.5
baz=46
TPNV Topopah Spring 84.41 312 P P 04 46 51.4 -0.4
baz=49
PAHR Pah Rah Range 84.42 316 P P 04 46 51.9 +0.1
PAHR IAmb IAmb 04 47 10.3
comp=Z,26nm,1.2s
NVAR Mina Array Bea 84.65 314 P P 04 46 53.5 +0.4
comp=Z,2.2nm,1.0s,baz=50,slow=6.0,SNR=6.8
K02D Willamette Mer 84.70 320 P P 04 46 54.2 +1.1
baz=45
PDMCI Parker Dam,Lak 84.81 309 P P 04 46 54.0 +0.3
baz=50,SNR=6.4
NEE2 Needles Airpor 84.81 309 P P 04 46 54.8 +1.1
baz=50
YERR Yerington 84.82 315 P P 04 46 51.8 -2.2
VCNR Virginia City 84.85 316 IAmb IAmb 04 47 13.2
comp=Z,15nm,1.1s
LHV Little Huntoon 84.89 314 IAmb IAmb 04 47 24.1
comp=Z,16nm,1.3s
PNTR Pine Nut 84.96 315 IAmb IAmb 04 47 07.7
comp=Z,17nm,0.9s
GRAC Grapevine Rang 85.05 313 P P 04 46 53.8 -1.1
baz=48
LCH Last Change Ra 85.06 313 IAmb IAmb 04 46 59.1
comp=Z,18nm,1.2s
FURC Furnace Creek, 85.09 312 P P 04 46 57.0 +2.0
baz=49
SHOC Shoshone, Teco 85.11 311 P P 04 46 56.5 +1.2
baz=49
GWY Greenwater Val 85.16 312 P P 04 46 56.8 +1.1
GWY IAmb IAmb 04 47 08.3
comp=Z,32nm,1.2s
TUQ Turquoise Moun 85.19 311 P P 04 46 57.5 +1.7
baz=49
EMB Emerald Bay 85.33 316 P P 04 46 56.8 +0.3
O03E Paynes Creek 85.37 317 P P 04 46 57.2 +0.7
baz=46
N02D Trinity Center 85.39 318 P P 04 46 57.9 +1.3
baz=46
QSM Queen of Sheba 85.43 312 IAmb IAmb 04 47 09.6
comp=Z,23nm,1.2s
214A Organ Pipe Nat 85.45 306 P P 04 46 57.5 +0.5
baz=50,SNR=6.1
GMRC Granite Mounta 85.45 310 P P 04 46 58.4 +1.2
baz=49,SNR=5.2
MLAC Mammoth, Mammo 85.50 314 P P 04 46 59.0 +1.6
baz=48
TIN Tinemaha, Big 85.53 313 P P 04 46 58.1 +0.7
baz=48
IRM Iron Mountain 85.54 309 P P 04 46 58.5 +1.0
baz=49
MPMC Manual Prospec 85.74 312 P P 04 46 58.6 -0.1
baz=48
GSC Goldstone, Bar 85.83 311 P P 04 47 00.3 +1.4
baz=48
HEC Hector,Ludlow 85.85 310 P P 04 47 00.8 +1.8
baz=49
CWC Cottonwood Cre 85.85 313 P P 04 47 00.5 +1.5
baz=48
GLA Glamis 86.05 308 P P 04 47 01.2 +1.3
baz=50
BC3 Big Chuckawall 86.06 309 P P 04 47 00.6 +0.5
baz=49
LRMC Laurel Mtn Rad 86.25 312 P P 04 47 02.7 +1.7
baz=48
PZH PanZhiHua 86.42 60 P P 04 47 01.8 -0.2
PZH S **S 04 57 33.9 -4.0**
PZH pmax pmax
comp=Z,20nm,0.9s
XAN Xi'an 86.42 50 P P 04 47 03.9 +2.1
XAN pmax pmax
comp=Z,21nm,1.5s
BJT Baijiatuau 86.59 42 P P 04 47 02.2 -0.3
BJT IAmb IAmb 04 47 06.6
comp=Z,18nm,1.0s
ISA Isabella, Lake 86.60 312 P P 04 47 02.9 +0.2
baz=48,SNR=7.9
PFO Pinyon Flats O 86.72 310 P P 04 47 05.2 +1.8
baz=49
TPFO Pinon Flats 86.72 310 P P 04 47 05.8 +2.4
baz=49
SWSC Sam W. Stewart 86.74 309 P P 04 47 05.5 +2.2
baz=49
EDW2 Edwards Air Fo 86.83 311 P P 04 47 04.8 +1.0
baz=48
VES Vestal, Richgr 86.85 313 P P 04 47 03.8 0.0
baz=47
MONP2 Monument Peak 87.17 309 P P 04 47 08.0 +2.3
baz=49
HNS HongShan 87.61 44 ⇓P P 04 47 10.1 +2.7
HNS pmax pmax
comp=Z,18nm,1.3s
CN2 Changchun 88.44 34 eP P 04 47 09.4 -1.8
CMAR Chiang Mai Arr 89.28 68 P P 04 47 16.3 +0.7
comp=Z,2.0nm,0.5s,baz=296,slow=5.3,SNR=9.2
GYA Guiyang 89.87 57 eP P 04 47 20.4 +1.9
GYA pmax pmax
comp=Z,14nm,2.0s
NJ2 Nanjing 93.81 46 eP P 04 47 36.5 +0.1
NJ2 pmax pmax
comp=Z,14nm,1.0s
KSRS Korea Array 94.58 37 P P 04 47 40.3 +0.5
comp=Z,1.9nm,0.8s,baz=337,slow=5.4,SNR=5.0
LC01 Cunco 97.23 227 IAmb IAmb 04 47 54.7
comp=Z,8.7nm,1.1s
PLCA Paso Flores 97.65 225 P Pdif 04 47 55.2 +1.5
comp=Z,5.1nm,1.1s,baz=6.8,slow=2.7,SNR=5.5
ASAR Alice Springs 141.59 84 PKhKP PKPpre 04 53 43.9
comp=Z,1.2nm,0.8s,baz=300,slow=3.0,SNR=6.6
ASAR PKP **PKPdf 04 53 50.1 -0.6**
comp=Z,1.4nm,0.8s,baz=312,slow=1.9,SNR=4.5
ASAR PP **PP 04 56 56.9 +2.2**
comp=Z,0.8nm,1.0s,baz=322,slow=5.8,SNR=4.1
STKA Stephens Creek 151.03 93 PKPbc **PKPbc 04 54 11.5 -0.6**
comp=Z,13nm,1.0s,baz=317,slow=2.5,SNR=11
STKA Stephens Creek 151.03 93 PKPbc 04 54 09.4 -2.7

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*SJA **25** 04:35:54.0±0.6,31°.67S×72°.36W,h15km,ML4.0,MW4.2*
*NEIC **25** 04:35:58.0±1.3,31°.69S±0°.04×72°.1W±0°.1,h15km±6km,*
mb4.5/5,ML4.0(GUC),Error ellipse: s-maj=16.9km
s-min=5.7km az=94.0
*GUC **25** 04:35:59.7±0.8,31°.74S×72°.06W,h15km±9km,ML4.0*
ISC 25 04:35:56.1±1.4,31°.72S±0°.02×72°.13W±0°.05,h5km±9km,
n65,σ1§60/91,mb4.5/3,6C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.12**	**22**	⇑*iP*	**Pg**	**04 36 17.8**	**0.0**
CO06	**Fray Jorge**	**1.12**	**22**		**Pb**	**04 36 18.0**	**-0.1**
VA01	**Torpederas**	**1.36**	**163**	*eP*	**Pg**	**04 36 22.2**	**0.0**
VA01				*eS*	**Sb**	**04 36 37.6**	**-2.2**
VA01	**Torpederas**	**1.36**	**163**		**Pg**	**04 36 22.2**	**0.0**
VA01				Sn	**Sb**	**04 36 38.5**	**-1.3**
VA01	**Torpederas**	**1.36**	**163**	*eP*	**Pb**	**04 36 22.0**	**-0.1**
VA01				*eS*	**Sn**	**04 36 40.3**	**0.0**
CO03	**El Pedregal**	**1.51**	**55**	⇓*iP*	**Pn**	**04 36 23.8**	**-0.2**
CO03				*eS*	**Sn**	**04 36 42.2**	**-2.0**
CO03				IAML		04 36 49.4	
comp=E,3μm,0.4s							
CO03	**El Pedregal**	**1.51**	**55**	Pn	**Pn**	**04 36 23.8**	**-0.2**
CO03	**El Pedregal**	**1.51**	**55**	*eP*	**Pn**	**04 36 24.1**	**+0.1**
CO03				*eS*	**Sn**	**04 36 44.2**	**+0.1**
CO03				IAML		04 36 46.6	
comp=Z,2μm,0.7s							
ROC1	**El Roble**	**1.56**	**143**	*eP*	**Pn**	**04 36 24.7**	**-0.2**
ROC1				*eS*	**Sn**	**04 36 44.8**	**-1.0**
ROCH	**El Roble**	**1.56**	**143**	⇑*iP*	**Pb**	**04 36 25.3**	**-0.4**
ROCH				⇑*iP*	**Pn**	**04 36 24.4**	**-0.4**
ROCH				*eS*	**Sn**	**04 36 43.6**	**-2.0**
ROCH				*eS*	**Sn**	**04 36 43.8**	**-2.0**
ROCH				IAML		04 36 47.4	
comp=N,3μm,0.2s							
ROCH				IAML		04 36 52.9	
comp=N,4μm,0.4s							
VA03	**San Esteban**	**1.69**	**128**	⇑*iP*	**Pb**	**04 36 27.4**	**-0.5**
VA03				*eS*	**Sn**	**04 36 47.3**	**-1.3**
VA03				IAML		04 36 53.4	
comp=E,4μm,0.3s							
VA03	**San Esteban**	**1.69**	**128**	Pn	**Pn**	**04 36 27.1**	**+0.6**
VA03	**San Esteban**	**1.69**	**128**	*eP*	**Pb**	**04 36 27.6**	**-0.2**
VA03				*eS*	**Sn**	**04 36 44.7**	**-3.9**
VA03				IAML		04 36 56.0	
comp=Z,2μm,0.6s							
MT02	**Curacav**	**1.75**	**152**	⇑*iP*	**Pn**	**04 36 27.8**	**+0.7**
MT02				*eS*	**Sn**	**04 36 47.5**	**-2.3**
MT02	**Curacav**	**1.75**	**152**	Pn	**Pb**	**04 36 27.9**	**-0.8**
MT02	**Curacav**	**1.75**	**152**	*eP*	**Pb**	**04 36 28.0**	**-0.8**
MT02				*eS*	**Sn**	**04 36 50.0**	**+0.2**
MT02				IAML		04 36 55.9	
comp=Z,681nm,0.5s							
PEL	**Peldehue**	**1.87**	**140**	*eP*	**Pn**	**04 36 29.4**	**+0.5**
PEL				*eS*	**Sn**	**04 36 51.8**	**-1.2**
PEL				IAML		04 37 00.8	
comp=E,1μm,0.3s							
PEL	**Peldehue**	**1.87**	**140**			**04 36 29.8**	**+0.8**
PEL	**Peldehue**	**1.87**	**140**	*eP*	**Pb**	**04 36 30.0**	**-0.8**
PEL				*eS*	**Sb**	**04 36 54.0**	**-0.6**
GO04	**Tololo Observa**	**1.92**	**37**	*eP*	**Pn**	**04 36 29.2**	**-0.5**
GO04	**Tololo Observa**	**1.92**	**37**	Pn	**Pn**	**04 36 29.7**	**-0.1**
GO04	**Tololo Observa**	**1.92**	**37**	*eP*	**Pn**	**04 36 30.0**	**+0.3**
GO04				*eS*	**Sg**	**04 36 57.8**	**0.0**
CO05	**La Serena**	**1.95**	**23**	*eP*	**Pn**	**04 36 30.0**	**+0.1**
CO05				IAML		04 37 04.8	
comp=E,2μm,0.4s							
CO05	**La Serena**	**1.95**	**23**	Pn	**Pn**	**04 36 30.1**	**+0.2**
VA05	**Santo Domingo**	**1.98**	**168**	*eP*	**Pn**	**04 36 30.6**	**+0.3**
VA05				IAML		04 37 09.8	
comp=E,3μm,0.4s							
VA05	**Santo Domingo**	**1.98**	**168**	Pn	**Pn**	**04 36 31.0**	**+0.7**
MT05	**Renca**	**2.04**	**145**	*eP*	**Pn**	**04 36 31.8**	**+0.6**
MT05				IAML		04 37 04.5	
comp=N,3μm,0.6s							
MT05	**Renca**	**2.04**	**145**	Pn	**Pn**	**04 36 32.1**	**+0.9**
MT05	**Renca**	**2.04**	**145**	*eP*	**Pb**	**04 36 32.4**	**-1.3**
MT05				*eS*	**Sg**	**04 37 02.4**	**+0.8**
MT05				IAML		04 37 04.4	
comp=Z,954nm,0.5s							
MT01	**Popeta**	**2.26**	**161**	Pn	**Pn**	**04 36 35.1**	**+0.8**
MT09	**Talagante**	**2.26**	**155**	⇑*iP*	**Pn**	**04 36 35.7**	**+1.3**
MT09				IAML		04 37 13.2	
comp=E,1μm,0.4s							
MT09	**Talagante**	**2.26**	**155**	Pn	**Pb**	**04 36 36.1**	**-1.5**
AUSP	**Uspallata**	**2.38**	**103**	*eP*	**Pb**	**04 36 39.2**	**-0.5**
AUSP				*eS*	**Sg**	**04 37 11.6**	**-1.1**
LMEL	**Las Melosas**	**2.67**	**143**	*eP*	**Pn**	**04 36 41.4**	**+1.4**
LMEL				IAML		04 37 28.2	
comp=N,682nm,0.4s							
BO01	**Tunca**	**2.80**	**162**	Pn	**Pn**	**04 36 42.9**	**+1.2**
ASAL	**Salagasta**	**2.92**	**108**	*eP*	**Pb**	**04 36 48.0**	**-0.8**
ASAL				*eS*	**Sg**	**04 37 28.7**	**-1.4**
ARCO	**CERRO ARCO**	**2.93**	**113**	*eP*	**Pb**	**04 36 48.0**	**-0.9**
ARCO				*eS*	**Sb**	**04 37 23.7**	**-1.4**
ARCO				IAML		04 37 28.7	
comp=Z,335nm,1.2s							
LCO	**Las Campanas**	**2.97**	**25**	*eP*	**Pn**	**04 36 43.9**	**-0.3**
LCO	**Las Campanas**	**2.97**	**25**	*eP*	**Pn**	**04 36 44.0**	**-0.2**

AAGR	**Agrelo**	**3.10**	**117**	*e*P	**Pb**	**04 36 50.0**	**-1.9**
AAGR				*e*S	**Sg**	**04 37 37.1**	**+1.3**
BO02	**Sierra Bellavi**	**3.26**	**160**	*e*P	**Pn**	**04 36 49.4**	**+1.3**
BO02	**Sierra Bellavi**	**3.26**	**160**	Pn	**Pn**	**04 36 49.5**	**+1.4**
BO02	**Sierra Bellavi**	**3.26**	**160**	*e*P	**Pn**	**04 36 49.0**	**+0.9**
BO02				*e*S	**Sn**	**04 37 28.7**	**+1.3**
BO02				IAML		04 37 45.8	
	comp=Z,248nm,0.7s						
GO05	**Huala**	**3.29**	**177**	*e*P	**Pn**	**04 36 48.7**	**+0.4**
GO05				IAML		04 37 28.0	
	comp=N,157nm,0.3s						
GO05	**Huala**	**3.29**	**177**	Pn	**Pn**	**04 36 48.7**	**+0.4**
GO05	**Huala**	**3.29**	**177**	*e*P	**Pn**	**04 36 48.7**	**+0.4**
GO05				*e*S	**Sn**	**04 37 26.2**	**-1.7**
AC04	**Llanos de Chal**	**3.62**	**15**	Pn	**Pn**	**04 36 52.2**	**-0.7**
ML02	**Panimavida**	**4.08**	**172**	Pn	**Pn**	**04 36 59.6**	**+0.5**
RFA	**San Rafael**	**4.32**	**136**	*e*P	**Pn**	**04 37 05.3**	**+2.7**
RFA				*e*S	**Sg**	**04 38 18.1**	**+3.2**
GO03	**Copiap**	**4.43**	**22**	Pn	**Pn**	**04 37 05.5**	**+1.4**
GO03	**Copiap**	**4.43**	**22**	*e*P	**Pn**	**04 37 04.7**	**+0.6**
GO03				*e*S	**Sb**	**04 38 05.7**	**-2.5**
VCA	**Vinchina**	**4.51**	**50**	*e*P	**Pn**	**04 37 08.6**	**+3.3**
VCA				*e*S	**Sb**	**04 38 04.7**	**-6.0**
VCA				*e*S	**Sn**	**04 38 05.7**	**+7.4**
VCA				IAML		04 38 18.4	
	comp=Z,458nm,0.5s						
ACLC	**CERRO LA CRUZ**	**5.01**	**64**	*e*P	**Pn**	**04 37 13.9**	**+1.7**
AC02	**Maricunga**	**5.53**	**29**	*e*P	**Pn**	**04 37 19.8**	**+0.3**
AC02	**Maricunga**	**5.53**	**29**	Pn	**Pn**	**04 37 19.6**	**0.0**
LC01	**Cunco**	**7.16**	**178**	Pn	**Pn**	**04 37 42.2**	**+0.6**
PB14	**IPOC Station P**	**7.23**	**13**	Pn	**Pn**	**04 37 41.9**	**-0.9**
LR03	**Panguipulli**	**7.90**	**181**	Pn	**Pn**	**04 37 52.0**	**+0.4**
PLCA	**Paso Flores**	**9.08**	**172**	Pn	**Pn**	**04 38 09.5**	**+1.5**
ITQB	**Itaqui**	**13.50**	**85**	Pn	**Pn**	**04 39 09.6**	**+1.3**
ETMB	**Extrema**	**22.48**	**15**	P	**P**	**04 40 56.9**	**+0.5**
BDFB	**Brasilia**	**27.18**	**60**	IAmb	IAmb	04 41 45.1	
	comp=Z,20nm,1.4s						
BOAV	**Boa Vista**	**35.67**	**20**	P	**P**	**04 42 55.1**	**-0.4**
BOAV				IAmb	IAmb	04 43 21.6	
	comp=Z,7.7nm,1.4s						
SNAA	**Sanae**	**53.72**	**158**	P	**P**	**04 45 20.0**	**+1.2**
QSPA	**South Pole Qui**	**58.51**	**180**	P	**P**	**04 45 53.8**	**+0.6**
QSPA				IAmb	IAmb	04 46 22.5	
	comp=Z,5.2nm,1.2s						

CNRM ***25*** *04:37:26.9, 35.°78N×3.°52W, h24km, ml4.0*
SFS ***25*** *04:37:27.0, 35.°69N×3.°74W, ML3.3, ALBORAN SUR*
INMG ***25*** *04:37:29.0±1.5, 35.°81N×3.°72W, h0km±4km, ML3.3, Error ellipse: s-maj=4.1km s-min=3.5km az=175.0*
ISC 25 04:37:26.2±1.4,**35.74N**±0.'04×**3.58W**±0.'04,**h16**km±12km,
n41,σ1°**66**/66,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.59**	**210**	P	**Pb**	**04 37 39.4**	**+1.1**
PALE				S	**Sb**	**04 37 47.2**	**+0.8**
GOG	**Mont Gurugu**	**0.70**	**137**	P	**Pb**	**04 37 41.6**	**+1.6**
GOG				S	**Sg**	**04 37 50.5**	**+1.4**
CHAS	**Isla Isabel II**	**1.09**	**120**	P	**Pg**	**04 37 46.0**	**-1.2**
CHAS				S	**Sg**	**04 38 00.5**	**-0.9**
EMAL	**Malaga-Limoner**	**1.23**	**326**	P	**Pn**	**04 37 49.3**	**+0.5**
EMAL				S	**Sb**	**04 38 04.6**	**-0.2**
CHEFC	**Chefchaouen**	**1.57**	**247**	P	**Pb**	**04 37 54.4**	**-0.5**
CHEFC				S	**Sb**	**04 38 14.1**	**-0.5**
JBK	**JBK**	**1.62**	**149**	P	**Pn**	**04 37 54.8**	**+0.4**
JBK				S	**Sn**	**04 38 14.4**	**-0.7**
CPS	**Cap Spartel**	**1.90**	**272**	P	**Pn**	**04 37 57.6**	**-0.3**
RSA	**Sarsar**	**2.02**	**246**	P	**Pb**	**04 38 02.2**	**-0.4**
SICH	**Sidi Chahed**	**2.17**	**222**	P	**Pb**	**04 38 05.7**	**+0.6**
SFS	**San Fernando**	**2.25**	**290**	P	**Pb**	**04 38 05.8**	**-0.6**
CART	**Cartagena**	**2.78**	**48**	P	**Pn**	**04 38 07.4**	**-2.7**
MD31	**MD31**	**3.02**	**199**	P	**Pn**	**04 38 14.9**	**+1.4**
PBAR	**Barrancos**	**3.69**	**312**	*e*Pn	**Pn**	**04 38 24.1**	**+1.5**
PBAR				*e*Sn	**Sn**	**04 39 05.6**	**-0.2**
PBAR				A	A	04 39 08.6	
	46nm,0.3s						
PVAQ	**Vaqueiros**	**3.73**	**298**	*e*Pn	**Pn**	**04 38 24.3**	**+1.2**
PVAQ				*e*Sn	**Sn**	**04 39 05.6**	**-1.0**
PVAQ				A	A	04 39 05.6	
	41nm,0.6s						
PVAQ	**Vaqueiros**	**3.73**	**298**	P	**Pn**	**04 38 24.1**	**+1.0**
PBDV	**Barranco-do-Ve**	**3.82**	**295**	*e*Pn	**Pn**	**04 38 25.8**	**+1.4**
PBDV				*e*Sn	**Sn**	**04 39 08.4**	**-0.6**
PBDV				A	A	04 39 15.3	
	40nm,0.8s						
PCVE	**Castro Verde**	**4.05**	**299**	*e*Sn	**Sn**	**04 39 13.7**	**-1.1**
PCVE				A	A	04 39 17.9	
	36nm,0.3s						
PBEJ	**Beja**	**4.13**	**305**	*e*Pn	**Pn**	**04 38 29.9**	**+1.3**
PBEJ				*e*Sn	**Sn**	**04 39 16.4**	**-0.2**
PBEJ				A	A	04 39 17.3	
	20nm,0.7s						
MESJ	**Messejana**	**4.28**	**301**	*e*Pn	**Pn**	**04 38 31.7**	**+1.0**
MESJ				*e*Sn	**Sn**	**04 39 18.7**	**-1.6**
MESJ				A	A	04 39 21.4	
	28nm,0.4s						
MORF	**Marmelete**	**4.38**	**292**	*e*Sn	**Sn**	**04 39 23.0**	**+0.2**
MORF				A	A	04 39 33.8	
	22nm,0.5s						
PFVI	**Vila Bisbo**	**4.46**	**290**	*e*Sn	**Sn**	**04 39 22.5**	**-2.2**
PFVI				A	A	04 39 31.2	
	28nm,1.0s						
PFVI	**Vila Bisbo**	**4.46**	**290**	P	**Pn**	**04 38 28.9**	**-4.2**
PESTR	**Estremoz**	**4.47**	**316**	*e*Sn	**Sn**	**04 39 24.3**	**-0.8**
PESTR				A	A	04 39 28.4	
	27nm,0.3s						
EVO	**Evora**	**4.51**	**310**	*e*Pn	**Pn**	**04 38 35.9**	**+2.0**
EVO				*e*Sn	**Sn**	**04 39 25.0**	**-1.0**
EVO				A	A	04 39 26.6	
	53nm,0.4s						
PTEO	**Sao Teotonio**	**4.52**	**295**	*e*Pn	**Pn**	**04 38 35.9**	**+2.0**
PTEO				*e*Sn	**Sn**	**04 39 25.5**	**-0.6**
PTEO				A	A	04 39 30.1	
	34nm,0.5s						
PNCL	**Nicolau / Gran**	**4.62**	**302**	*e*Pn	**Pn**	**04 38 36.7**	**+1.3**
PNCL				*e*Sn	**Sn**	**04 39 28.3**	**-0.4**
PNCL				A	A	04 39 29.6	
	28nm,0.8s						
PMRV	**Marv??o**	**4.77**	**322**	*e*Pn	**Pn**	**04 38 39.9**	**+2.4**
PMRV				*e*Sn	**Sn**	**04 39 32.5**	**0.0**
PMTG	**Montargil**	**4.98**	**313**	*e*Pn	**Pn**	**04 38 42.4**	**+2.1**
PMTG				*e*Sn	**Sn**	**04 39 36.4**	**-1.1**
PCBR	**Castelo Branco**	**5.13**	**324**	*e*Pn	**Pn**	**04 38 45.0**	**+2.6**
PCBR				*e*Sn	**Sn**	**04 39 40.7**	**-0.6**
PCBR				A	A	04 39 42.5	
	31nm,0.5s						
LIS	**Lisbon**	**5.35**	**305**	*e*Pn	**Pn**	**04 38 47.4**	**+2.0**
PMST	**Lisbon--Monsan**	**5.38**	**305**	*e*Pn	**Pn**	**04 38 47.8**	**+1.9**
PMAFR	**Mafra**	**5.57**	**307**	*e*Pn	**Pn**	**04 38 50.5**	**+2.1**
PMAFR				*e*Sn	**Sn**	**04 39 49.8**	**-2.3**
PMAFR				A	A	04 39 52.7	
	44nm,0.5s						
PSBE	**So Bento**	**5.60**	**314**	*e*Pn	**Pn**	**04 38 51.1**	**+2.2**
PSBE				*e*Sn	**Sn**	**04 39 52.0**	**-1.0**
MTE	**Manteigas**	**5.61**	**327**	*e*Pn	**Pn**	**04 38 51.4**	**+2.4**
MTE				*e*Sn	**Sn**	**04 39 53.1**	**-0.1**
PCAS	**Casmilo, Conde**	**5.81**	**319**	*e*Pn	**Pn**	**04 38 53.4**	**+1.7**
MVO	**Moncorvo**	**6.06**	**334**	*e*Pn	**Pn**	**04 38 57.8**	**+2.6**
MVO				*e*Sn	**Sn**	**04 40 03.5**	**-0.8**
PVRL	**Vila Real**	**6.41**	**331**	*e*Pn	**Pn**	**04 39 02.7**	**+2.7**
PVRL				*e*Sn	**Sn**	**04 40 12.9**	**-0.1**
PVRL				A	A	04 40 16.2	
	26nm,0.4s						
POLO	**Lamas de Olo**	**6.53**	**331**	*e*Pn	**Pn**	**04 39 04.1**	**+2.4**
POLO				*e*Sn	**Sn**	**04 40 13.9**	**-1.9**
PBRG	**Braganca**	**6.54**	**339**	*e*Pn	**Pn**	**04 39 04.3**	**+2.4**
PCAB	**Cabril**	**6.91**	**331**	*e*Pn	**Pn**	**04 39 09.9**	**+3.1**
PCAB				*e*Sn	**Sn**	**04 40 23.3**	**-1.8**
PGAV	**Gavieira, Arco**	**7.22**	**331**	*e*Pn	**Pn**	**04 39 13.8**	**+2.7**
PGAV				*e*Sn	**Sn**	**04 40 31.6**	**-1.2**

SFS ***25*** *04:42:15.0, 35.°50N×3.°70W, h17km, ML2.4, ALBORAN SUR*
CNRM ***25*** *04:42:16.2, 35.°58N×3.°65W, h23km, ml3.2*
ISC 25 04:42:14.5±1.2,**35.65N**±0.'03×**3.70W**±0.'05,**h20**km±5km,
n12,σ0°**99**/20,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.47**	**204**	P	**Pg**	**04 42 24.1**	**-0.1**
PALE				S	**Sg**	**04 42 30.0**	**-0.7**
GOG	**Mont Gurugu**	**0.72**	**126**	P	**Pn**	**04 42 29.6**	**-0.1**
GOG				S	**Sg**	**04 42 38.7**	**+0.4**
CHAS	**Isla Isabel II**	**1.14**	**114**	P	**Pn**	**04 42 35.5**	**+0.1**
CHAS				S	**Sb**	**04 42 49.1**	**-0.9**
EMAL	**Malaga-Limoner**	**1.25**	**332**	P	**Pg**	**04 42 38.6**	**-0.1**
EMAL				S	**Sg**	**04 42 53.7**	**-1.5**
CHEFC	**Chefchaouen**	**1.44**	**248**	P	**Pg**	**04 42 42.6**	**+0.2**
JBK	**JBK**	**1.61**	**144**	P	**Pn**	**04 42 42.5**	**+0.4**
JBK				S	**Sn**	**04 43 01.1**	**-1.3**
SICH	**Sidi Chahed**	**2.04**	**221**	P	**Pb**	**04 42 50.7**	**-0.2**
CART	**Cartagena**	**2.91**	**48**	P	**Pn**	**04 43 01.4**	**+1.7**
CART				S	**Sn**	**04 43 34.2**	**+0.2**
MD31	**MD31**	**2.91**	**198**	P	**Pn**	**04 43 00.8**	**+0.9**
MD31				S	**Sn**	**04 43 33.8**	**-0.5**
MDT	**Midelt**	**2.93**	**195**	P	**Pn**	**04 43 01.3**	**+1.2**
MDT				S	**Sn**	**04 43 35.1**	**+0.4**
TDRA	**Tendrara**	**2.95**	**152**	P	**Pn**	**04 43 01.3**	**+0.8**
FIGM	**Figuig**	**4.05**	**149**	P	**Pn**	**04 43 17.5**	**+1.9**

LDG ***25*** *04:43:07.7, 35.°12N×4.°32W, h30km*
SFS ***25*** *04:43:12.0, 35.°58N×3.°80W, ML3.1, ALBORAN SUR*
CNRM ***25*** *04:43:14.1, 35.°49N×3.°65W, h16km, ml3.6*
ISC 25 04:43:11.8±1.3,**35.61N**±0.'03×**3.66W**±0.'04,**h15**km±10km,
n20,σ1°**39**/31,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.46**	**211**	P	**Pg**	**04 43 20.5**	**-0.4**
PALE				S	**Sg**	**04 43 26.6**	**-0.5**
GOG	**Mont Gurugu**	**0.66**	**126**	P	**Pn**	**04 43 26.4**	**-0.4**
GOG				S	**Sb**	**04 43 35.0**	**+0.7**
CHAS	**Isla Isabel II**	**1.09**	**113**	P	**Pn**	**04 43 32.9**	**+0.3**
CHAS				S	**Sb**	**04 43 47.0**	**+0.7**
EMAL	**Malaga-Limoner**	**1.31**	**332**	P	**Pb**	**04 43 36.0**	**-0.1**
EMAL				S	**Sb**	**04 43 51.7**	**-1.0**
CHEFC	**Chefchaouen**	**1.47**	**250**	P	**Pg**	**04 43 40.4**	**+0.3**
JBK	**JBK**	**1.56**	**145**	P	**Pn**	**04 43 39.0**	**-0.1**
JBK				S	**Sn**	**04 43 58.3**	**-0.9**
RSA	**Sarsar**	**1.92**	**248**	P	**Pb**	**04 43 47.4**	**+0.9**
SICH	**Sidi Chahed**	**2.03**	**223**	P	**Pb**	**04 43 47.7**	**-0.8**
SICH				S	**Sb**	**04 44 13.7**	**+0.1**
LCRM	**LCR**	**2.16**	**208**	P	**Pb**	**04 43 51.3**	**+0.5**
LCRM				S	**Sn**	**04 44 15.1**	**+1.0**
IFR	**Ifrane**	**2.42**	**211**	P	**Pg**	**04 43 57.0**	**-1.2**
IFR				S	**Sn**	**04 44 19.5**	**-1.0**
MD31	**MD31**	**2.89**	**199**	P	**Pn**	**04 43 58.7**	**+1.3**
PVAQ	**Vaqueiros**	**3.73**	**300**	P	**Pn**	**04 44 09.5**	**+0.6**
FIGM	**Figuig**	**4.00**	**149**	P	**Pn**	**04 44 14.2**	**+1.4**
UCM	**Universidad Co**	**4.70**	**4**	P	**Pn**	**04 44 26.6**	**+4.3**
UCM				S	**Sn**	**04 45 16.5**	**-0.1**
TZRR	**Tazzarine**	**5.07**	**199**	P	**Pn**	**04 44 28.9**	**+1.5**
OUZM	**OUZ**	**5.36**	**210**	P	**Pn**	**04 44 32.3**	**+0.9**
OUK	**Oukaimeden**	**5.63**	**220**	P	**Pn**	**04 44 35.9**	**+0.6**
ETSF	**Etsaut**	**7.66**	**17**	*e*Pn	**Pn**	**04 45 04.9**	**+1.9**
ETSF				*e*Sn	**Sn**	**04 46 27.8**	**-1.8**
	0.3nm,0.2s						
SJPF	**Ste Jean**	**7.72**	**13**	*e*Pn	**Pn**	**04 45 05.0**	**+1.2**
SJPF				*e*Sn	**Sn**	**04 46 28.2**	**-2.8**
	0.2nm,0.2s						
EPF	**Esparros**	**8.03**	**21**	*e*Pn	**Pn**	**04 45 09.0**	**+1.0**

IGIL ***25*** *04:43:42.9, 36.°35N×8.°96W, h8km, ML2.9*
INMG ***25*** *04:43:42.5±1.8, 36.°35N×9.°02W, h12km±5km, MD2.2, ML2.8, Error ellipse: s-maj=9.1km s-min=4.6km az=77.0*
ISC 25 04:43:44.3±3.2,**36.5N**±0.'1×**9.01W**±0.'08,**h24**km±14km,**n32**,
σ0°**93**/53,**1D**,**West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.64**	**13**	*e*P	**Pb**	**04 43 56.8**	**-0.1**
PFVI				*e*S	**Sn**	**04 44 08.3**	**+1.0**
PFVI				A	A	04 44 09.6	
	227nm,0.1s						
MORF	**Marmelete**	**0.85**	**20**	*e*P	**Pb**	**04 44 00.3**	**-0.1**
MORF				*e*S	**Sn**	**04 44 13.4**	**+0.9**
MORF				IAML		04 44 15.1	
	comp=N,318nm,0.3s						
MORF	**Marmelete**	**0.85**	**20**	*e*P	**Pb**	**04 44 00.3**	**-0.1**
MORF				*e*S	**Sn**	**04 44 13.7**	**+1.2**
MORF				A	A	04 44 15.1	
	comp=N,206nm,0.3s						
PTEO	**Sao Teotonio**	**1.06**	**12**	*e*P	**Pn**	**04 44 03.2**	**-0.4**
PTEO				*e*S	**Sn**	**04 44 19.1**	**+1.4**
PTEO				A	A	04 44 22.1	
	comp=N,185nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.14**	**49**	*e*P	**Pb**	**04 44 05.0**	**-0.3**
PBDV				S	**Sb**	**04 44 21.0**	**+1.4**
PBDV				A	A	04 44 24.5	
	comp=N,58nm,0.1s						
PCVE	**Castro Verde**	**1.37**	**34**	*e*P	**Pn**	**04 44 07.5**	**-0.3**
PCVE				*e*S	**Sb**	**04 44 26.3**	**+0.1**
PCVE				A	A	04 44 30.5	
	comp=N,39nm,0.4s						
PVAQ	**Vaqueiros**	**1.37**	**49**	*e*P	**Pn**	**04 44 07.5**	**-0.4**
PVAQ				*e*S	**Sb**	**04 44 26.1**	**-0.2**
PVAQ				A	A	04 44 30.7	
	comp=N,66nm,0.1s						
MESJ	**Messejana**	**1.47**	**25**	*e*P	**Pn**	**04 44 09.4**	**+0.1**
MESJ				*e*S	**Sn**	**04 44 29.1**	**+1.2**
MESJ				IAML		04 44 33.6	
	comp=N,70nm,0.2s						
MESJ	**Messejana**	**1.47**	**25**	*e*Pn	**Pn**	**04 44 09.4**	**+0.1**
MESJ				*e*Sn	**Sn**	**04 44 28.9**	**+1.1**
MESJ				A	A	04 44 36.5	
	comp=N,48nm,0.5s						
PNCL	**Nicolau / Gran**	**1.65**	**13**	*e*Pn	**Pn**	**04 44 11.2**	**-0.5**
PNCL				*e*Sn	**Sb**	**04 44 34.1**	**-0.2**
PNCL				A	A	04 44 38.3	
	comp=N,69nm,0.7s						
PBEJ	**Beja**	**1.77**	**31**	*e*Pn	**Pn**	**04 44 12.9**	**-0.5**
PBEJ				*e*Sn	**Sn**	**04 44 35.4**	**+0.2**
PBEJ				A	A	04 44 47.9	
	comp=N,24nm,0.2s						
EVO	**Evora**	**2.17**	**21**	S	**Sn**	**04 44 45.4**	**+0.3**
EVO	**Evora**	**2.17**	**21**	*e*Sn	**Sn**	**04 44 45.9**	**+0.8**
EVO				A	A	04 44 56.3	
	comp=N,29nm,0.1s						
LIS	**Lisbon**	**2.21**	**357**	*e*P	**Pn**	**04 44 20.4**	**+1.0**
LIS				*e*S	**Sn**	**04 44 47.3**	**+1.4**
LIS				IAML		04 44 49.5	
	comp=E,98nm,0.2s						
LIS	**Lisbon**	**2.21**	**357**	*e*Sn	**Sn**	**04 44 47.2**	**+1.3**
PMST	**Lisbon--Monsan**	**2.23**	**357**	*e*Pn	**Pn**	**04 44 19.9**	**+0.2**
PMST				*e*Sn	**Sn**	**04 44 47.1**	**+0.6**
PMST				A	A	04 44 56.5	
	comp=E,34nm,0.8s						
PBAR	**Barrancos**	**2.29**	**43**	*e*Sn	**Sn**	**04 44 49.5**	**+1.5**
PBAR				A	A	04 45 04.0	
	comp=E,32nm,0.8s						
PMAFR	**Mafra**	**2.45**	**355**	*e*Pn	**Pn**	**04 44 23.0**	**+0.2**
PMAFR				*e*Sn	**Sn**	**04 44 53.0**	**+1.0**
PMAFR				A	A	04 44 55.0	
	comp=E,44nm,0.2s						
PESTR	**Estremoz**	**2.61**	**25**	*e*Pn	**Pn**	**04 44 25.2**	**+0.2**
PESTR				*e*Sn	**Sn**	**04 44 57.3**	**+1.3**
PESTR				A	A	04 45 42.9	
	comp=E,14nm,0.7s						
PMTG	**Montargil**	**2.63**	**13**	*e*Pn	**Pn**	**04 44 24.8**	**-0.4**
PMTG				*e*Sn	**Sn**	**04 44 56.7**	**+0.3**
PMTG				A	A	04 45 09.5	
	comp=E,24nm,0.4s						
PSBE	**So Bento**	**3.01**	**3**	*e*Pn	**Pn**	**04 44 30.8**	**+0.4**
PSBE				*e*Sn	**Sn**	**04 45 06.5**	**+0.8**
PMRV	**Marv??o**	**3.19**	**23**	*e*Sn	**Sn**	**04 45 09.8**	**-0.3**
PMRV				A	A	04 45 27.1	
	comp=E,18nm,0.5s						
PCBR	**Castelo Branco**	**3.54**	**20**	*e*Sn	**Sn**	**04 45 19.1**	**+0.3**
PCBR				A	A	04 45 46.5	
	comp=E,12nm,0.4s						
PCAS	**Casmilo, Conde**	**3.56**	**6**	*e*Pn	**Pn**	**04 44 37.9**	**-0.1**
PCAS				*e*Sn	**Sn**	**04 45 18.6**	**-0.8**
PCAS				A	A	04 45 49.2	
	comp=E,10nm,0.5s						
MTE	**Manteigas**	**4.05**	**16**	*e*Sn	**Sn**	**04 45 31.4**	**-0.2**
MTE				A	A	04 46 13.5	
	comp=E,21nm,0.7s						
PVIS	**Viseu**	**4.29**	**11**	*e*Pn	**Pn**	**04 44 45.3**	**-2.8**
PVIS				*e*Sn	**Sn**	**04 45 37.0**	**-0.4**
PVIS				A	A	04 46 05.4	
	comp=E,9.6nm,0.6s						
PTO	**Porto**	**4.64**	**4**	*e*Pn	**Pn**	**04 44 52.6**	**-0.1**
PVRL	**Vila Real**	**4.87**	**12**	*e*Sn	**Sn**	**04 45 50.7**	**-0.9**
PVRL				A	A	04 46 02.4	
	comp=E,12nm,1.1s						
MVO	**Moncorvo**	**4.90**	**18**	*e*Sn	**Sn**	**04 45 50.9**	**-1.6**
MVO				A	A	04 46 25.6	
	comp=E,12nm,0.5s						
POLO	**Lamas de Olo**	**4.95**	**11**	*e*Sn	**Sn**	**04 45 52.4**	**-1.3**
POLO				A	A	04 46 42.0	
	comp=E,3.8nm,0.6s						
PCAB	**Cabril**	**5.25**	**8**	*e*Pn	**Pn**	**04 45 01.8**	**+0.5**
PCAB				*e*Sn	**Sn**	**04 46 00.0**	**-1.1**
PCAB				A	A	04 46 14.4	
	comp=E,11nm,0.5s						
PGAV	**Gavieira, Arco**	**5.48**	**6**	*e*Pn	**Pn**	**04 45 03.8**	**-0.7**
PGAV				*e*Sn	**Sn**	**04 46 05.0**	**-1.8**
PGAV				A	A	04 46 24.2	
	comp=E,8.5nm,0.6s						

SFS ***25*** *04:45:15.0, 35.°67N×3.°76W, ML2.7, ALBORAN SUR*
CNRM ***25*** *04:45:16.2, 35.°66N×3.°54W, h18km, ml3.3*
ISC 25 04:45:13.1±1.5,**35.71N**±0.'08×**3.57W**±0.'04,**h13**km±17km,
n8,σ0°**91**/16,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.58**	**212**	P	**Pn**	**04 45 27.2**	**+0.1**
PALE				S	**Sn**	**04 45 34.5**	**-2.0**
GOG	**Mont Gurugu**	**0.67**	**136**	P	**Pb**	**04 45 27.9**	**+1.1**
GOG				S	**Sn**	**04 45 38.5**	**-0.5**
CHAS	**Isla Isabel II**	**1.07**	**119**	P	**Pb**	**04 45 32.7**	**-0.7**
CHAS				S	**Sb**	**04 45 47.9**	**+0.6**
EMAL	**Malaga-Limoner**	**1.26**	**327**	P	**Pg**	**04 45 37.5**	**+0.2**
EMAL				S	**Sg**	**04 45 53.4**	**-0.4**
CHEFC	**Chefchaouen**	**1.57**	**248**	P	**Pg**	**04 45 42.6**	**-0.7**
CHEFC				S	**Sb**	**04 46 01.9**	**-0.1**
JBK	**JBK**	**1.60**	**149**	P	**Pb**	**04 45 42.8**	**+0.2**
JBK				S	**Sn**	**04 46 02.0**	**+0.1**
RSA	**Sarsar**	**2.02**	**247**	P	**Pb**	**04 45 50.2**	**+0.4**
RSA				S	**Sb**	**04 46 15.7**	**+0.8**
SICH	**Sidi Chahed**	**2.16**	**222**	P	**Pb**	**04 45 53.0**	**+1.0**
SICH				S	**Sb**	**04 46 19.8**	**+1.1**

IDC ***25*** *04:48:34.7±0.9, 35.°50N×3.°67W, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.3/38, mbtmp3.2/4, ML2.5/2, Error ellipse: s-maj=33.8km s-min=12.8km az=99.0*
SFS ***25*** *04:48:34.0, 35.°55N×3.°78W, ML2.8, ALBORAN SUR*
CNRM ***25*** *04:48:34.7, 35.°42N×3.°73W, h19km, ml3.2*
ISC 25 04:48:33.1±1.4,**35.50N**±0.'04×**3.70W**±0.'04,**h3**km±10km,
n20,σ2°**08**/30,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**215**	P	**Pg**	**04 48 39.9**	**+0.3**
PALE				S	**Sg**	**04 48 45.0**	**+0.9**
CHAS	**Isla Isabel II**	**1.09**	**106**	P	**Pb**	**04 48 53.6**	**-0.9**
CHAS				S	**Sg**	**04 49 07.0**	**-1.0**
EMAL	**Malaga-Limoner**	**1.39**	**335**	P	**Pn**	**04 48 58.7**	**-0.7**
EMAL				S	**Sb**	**04 49 15.7**	**-2.2**
CHEFC	**Chefchaouen**	**1.40**	**254**	P	**Pn**	**04 48 57.9**	**-1.7**
CHEFC				S	**Sb**	**04 49 17.8**	**-0.3**
JBK	**JBK**	**1.49**	**141**	P	**Pn**	**04 48 59.4**	**-1.5**
JBK				S	**Sn**	**04 49 17.3**	**-3.7**
SICH	**Sidi Chahed**	**1.92**	**224**	P	**Pn**	**04 49 07.1**	**+0.4**
SICH				S	**Sn**	**04 49 31.1**	**-0.3**
LCRM	**LCR**	**2.04**	**208**	P	**Pn**	**04 49 09.7**	**+1.2**
LCRM				S	**Sn**	**04 49 32.5**	**-2.1**
MD31	**MD31**	**2.77**	**199**	P	**Pn**	**04 49 17.9**	**-0.5**
MD31				S	**Sn**	**04 49 49.9**	**-2.5**
MDT	**Midelt**	**2.78**	**196**	Pn	**Pn**	**04 49 19.8**	**+1.2**
	0.7nm,0.3s,baz=169,slow=10,SNR=2.1						
MDT				Sn	**Sn**	**04 49 50.2**	**-2.5**
	2.8nm,0.3s,baz=252,slow=21,SNR=6.7						
MDT	**Midelt**	**2.78**	**196**	P	**Pn**	**04 49 18.3**	**-0.3**
MDT				S	**Sn**	**04 49 48.1**	**-4.7**
PVAQ	**Vaqueiros**	**3.75**	**302**	P	**Pn**	**04 49 30.9**	**-1.0**
FIGM	**Figuig**	**3.92**	**148**	P	**Pn**	**04 49 36.6**	**+2.3**
ESDC	**Sonseca Array**	**4.17**	**357**	Pn	**Pn**	**04 49 37.8**	**0.0**
	0.1nm,0.3s,baz=177,slow=13,SNR=2.2						
PFVI	**Vila Bisbo**	**4.45**	**293**	P	**Pn**	**04 49 41.8**	**+0.4**
PESTR	**Estremoz**	**4.58**	**318**	P	**Pn**	**04 49 41.5**	**-1.7**
TZRR	**Tazzarine**	**4.95**	**199**	P	**

LCRM S **Sn** **04 53 40.5 +0.6**
IFR Ifrane 2.41 209 P **Pn** **04 53 16.6 -0.6**
IFR S **Sn** **04 53 44.6 -1.6**
MD31 MD31 2.89 198 P **Pn** **04 53 24.2 +0.4**
MDT Midelt 2.90 195 Pn **Pn** **04 53 24.4 +0.5**
3.5nm,0.3s,baz=285,slow=7.1,SNR=1.5
MDT Sn **Sn** **04 54 01.0 +2.6**
13nm,0.3s,baz=161,slow=18,SNR=3.6
MDT Midelt 2.90 195 P **Pn** **04 53 24.8 +0.9**
CART Cartagena 2.93 47 P **Pn** **04 53 23.6 -0.6**
CART S **Sn** **04 53 53.6 -5.2**
CART Cartagena 2.93 47 P **Pn** **04 53 22.8 -1.4**
CART S **Sn** **04 53 55.7 -3.1**
TDRA Tendrara 2.94 151 P **Pn** **04 53 24.0 -0.5**
PVAQ Vaqueiros 3.68 300 *e*Pn **Pn** **04 53 33.7 -0.8**
PVAQ *e*Sn **Sn** **04 54 14.4 -2.9**
PVAQ A A 04 54 18.1
71nm,0.3s
PVAQ Vaqueiros 3.68 300 P **Pn** **04 53 33.9 -0.6**
PBAR Barrancos 3.68 315 *e*Pn **Pn** **04 53 36.4 +1.9**
PBAR *e*Sn **Sn** **04 54 16.0 -1.4**
AVE Averroes 3.84 234 P **Pn** **04 53 35.7 -1.0**
PCVE Castro Verde 4.01 301 *e*Pn **Pn** **04 53 38.3 -0.8**
PCVE *e*Sn **Sn** **04 54 22.4 -3.1**
PCVE A A 04 54 28.4
40nm,0.6s
FIGM Figuig 4.04 149 P **Pn** **04 53 38.4 -1.2**
ESDC Sonseca Array 4.04 357 Pn **Pn** **04 53 39.6 0.0**
5.0nm,0.3s,baz=180,slow=12,SNR=11
ESDC Sn **Sn** **04 54 25.4 -1.0**
2.8nm,0.3s,baz=177,slow=20,SNR=4.5
GOLM Goulmima 4.05 195 P **Pn** **04 53 42.4 +2.7**
PBEJ Beja 4.10 307 *e*Pn **Pn** **04 53 39.6 -0.7**
PBEJ *e*Sn **Sn** **04 54 25.6 -2.1**
PBEJ A A 04 54 34.3
23nm,0.4s
MESJ Messejana 4.24 303 *e*P **Pn** **04 53 41.3 -0.9**
MESJ *e*S **Sn** **04 54 27.4 -3.7**
MESJ IAML 04 54 31.5
comp=N,68nm,0.5s
MESJ Messejana 4.24 303 *e*Pn **Pn** **04 53 41.3 -0.9**
MESJ *e*Sn **Sn** **04 54 28.6 -2.5**
MESJ A A 04 54 33.0
comp=N,45nm,0.4s
MORF Marmelete 4.32 294 *e*P **Pn** **04 53 42.5 -0.8**
MORF *e*S **Sn** **04 54 29.1 -4.0**
MORF IAML 04 54 33.5
comp=N,50nm,0.3s
MORF Marmelete 4.32 294 *e*Pn **Pn** **04 53 42.8 -0.5**
MORF *e*Sn **Sn** **04 54 29.8 -3.3**
MORF A A 04 54 40.2
comp=N,26nm,0.4s
PFVI Vila Bisbo 4.39 291 *e*Pn **Pn** **04 53 44.5 +0.2**
PFVI *e*Sn **Sn** **04 54 29.4 -5.4**
PFVI A A 04 54 37.0
comp=N,25nm,0.4s
PFVI Vila Bisbo 4.39 291 P **Pn** **04 53 44.0 -0.2**
PTEO Sao Teotonio 4.46 297 *e*Pn **Pn** **04 53 45.5 +0.3**
PTEO *e*Sn **Sn** **04 54 35.4 -1.2**
PTEO A A 04 54 51.9
comp=N,33nm,0.4s
PESTR Estremoz 4.47 317 *e*Pn **Pn** **04 53 46.1 +0.7**
PESTR *e*Sn **Sn** **04 54 34.7 -2.2**
PESTR A A 04 54 49.3
comp=N,33nm,0.5s
PESTR Estremoz 4.47 317 P **Pn** **04 53 46.0 +0.6**
EVO Evora 4.49 311 P **Pn** **04 53 45.6 -0.1**
EVO S **Sn** **04 54 33.8 -3.6**
EVO Evora 4.49 311 *e*Pn **Pn** **04 53 45.6 -0.1**
EVO *e*Sn **Sn** **04 54 34.4 -3.0**
EVO A A 04 54 37.4
comp=N,42nm,0.4s
PNCL Nicolau / Gran 4.58 304 *e*Pn **Pn** **04 53 46.4 -0.6**
PNCL *e*Sn **Sn** **04 54 36.8 -2.8**
PNCL A A 04 54 49.9
comp=N,29nm,0.4s
UCM Universidad Co 4.69 4 P **Pn** **04 53 49.2 +0.8**
UCM S **Sn** **04 54 47.3 +5.1**
PMRV Marv??o 4.79 323 *e*Pn **Pn** **04 53 50.3 +0.5**
PMRV *e*Sn **Sn** **04 54 43.3 -1.4**
PMRV A A 04 55 12.8
comp=N,47nm,0.7s
PMTG Montargil 4.97 315 *e*Pn **Pn** **04 53 52.4 +0.2**
PMTG *e*Sn **Sn** **04 54 46.3 -2.8**
PMTG A A 04 54 51.0
comp=N,24nm,0.6s
TZRR Tazzarine 5.07 198 P **Pn** **04 53 55.1 +1.3**
PCBR Castelo Branco 5.15 326 *e*Pn **Pn** **04 53 55.1 +0.3**
PCBR *e*Sn **Sn** **04 54 51.5 -2.1**
PCBR A A 04 54 56.3
comp=N,22nm,0.5s
OUZM OUZ 5.35 209 P **Pn** **04 53 58.6 +1.0**
PMST Lisbon--Monsan 5.35 307 *e*Pn **Pn** **04 53 57.5 0.0**
PMST *e*Sn **Sn** **04 54 58.2 -0.4**
PMST A A 04 54 58.9
comp=N,34nm,0.8s
PMAFR Mafra 5.54 308 *e*Pn **Pn** **04 53 59.9 -0.2**
PMAFR *e*Sn **Sn** **04 55 00.6 -2.7**
PMAFR A A 04 55 21.1
comp=N,36nm,0.5s
PSBE So Bento 5.59 315 *e*Pn **Pn** **04 54 01.3 +0.4**
PSBE *e*Sn **Sn** **04 55 02.0 -2.6**
PSBE A A 04 55 17.3
comp=N,27nm,0.5s
OUK Oukaimeden 5.61 219 P **Pn** **04 53 60.0 -1.4**
MTE Manteigas 5.64 329 *e*Pn **Pn** **04 54 02.4 +0.9**
MTE *e*Sn **Sn** **04 55 04.0 -1.8**
MTE A A 04 55 40.9
comp=N,49nm,0.6s
ZGR Zagora 5.72 197 P **Pn** **04 54 03.1 +0.4**
PCAS Casmilo, Conde 5.81 321 *e*Pn **Pn** **04 54 03.7 -0.2**
PCAS *e*Sn **Sn** **04 55 06.1 -3.9**
PCAS A A 04 55 15.7
comp=N,23nm,0.5s
PVIS Viseu 6.05 328 *e*Pn **Pn** **04 54 08.0 +0.8**
PVIS *e*Sn **Sn** **04 55 14.4 -1.5**
PVIS A A 04 55 24.0
comp=N,18nm,0.6s
MVO Moncorvo 6.11 336 *e*Pn **Pn** **04 54 08.7 +0.8**
MVO *e*Sn **Sn** **04 55 14.6 -2.7**
MVO A A 04 55 59.7
comp=N,32nm,0.6s
TTIG Tnine Tigouga, 6.43 219 P Pn 04 54 10.0 -2.5
PVRL Vila Real 6.45 332 *e*Pn **Pn** **04 54 13.2 +0.6**
PVRL *e*Sn **Sn** **04 55 24.0 -1.7**
PVRL A A 04 55 28.6
comp=N,30nm,0.5s
POLO Lamas de Olo 6.57 332 *e*Pn **Pn** **04 54 14.8 +0.5**
POLO *e*Sn **Sn** **04 55 27.2 -1.4**
POLO A A 04 55 31.9
comp=N,9.3nm,0.6s
PBRG Braganca 6.60 340 *e*Pn **Pn** **04 54 15.3 +0.6**
PBRG *e*Sn **Sn** **04 55 29.2 -0.3**
PBRG A A 04 55 38.9
comp=N,11nm,0.6s
PTO Porto 6.71 327 *e*Sn **Sn** **04 55 30.7 -1.2**
PCAB Cabril 6.94 332 *e*Pn **Pn** **04 54 20.1 +0.7**
PCAB *e*Sn **Sn** **04 55 35.2 -2.6**
PCAB A A 04 55 46.6
comp=N,18nm,0.7s
PGAV Gavieira, Arco 7.26 332 *e*Pn **Pn** **04 54 24.6 +0.9**
PGAV *e*Sn **Sn** **04 55 43.5 -2.1**
PGAV A A 04 55 55.8
comp=N,15nm,0.7s
ETSF Etsaut 7.66 18 *e*Pn **Pn** **04 54 31.7 +2.4**
ETSF *e*Sn **Sn** **04 55 54.6 -0.9**
comp=N,2.7nm,0.5s
SJPF Ste Jean 7.72 14 *e*Pn **Pn** **04 54 31.0 +1.0**
SJPF *e*Sn **Sn** **04 55 53.8 -3.0**
comp=N,2.9nm,0.4s
EPF Esparros 8.03 22 *e*Pn **Pn** **04 54 35.0 +0.7**
EPF *e*Sn **Sn** **04 56 04.4 -0.2**
comp=N,1.2nm,0.3s
MTLF Montolieu 8.96 29 *e*Pn **Pn** **04 54 49.3 +2.3**
TANT Tantan 9.62 224 P **Pn** **04 54 54.7 -1.4**
LFF La Frestale 9.90 19 *e*Pn **Pn** **04 55 01.9 +2.0**
LFF La Frestale 9.90 19 *e*P Pn 04 55 07.7 +7.8
LASF Ste Croix 10.24 32 *e*Pn **Pn** **04 55 07.0 +2.4**
CAF Calviac 10.28 24 *e*Pn **Pn** **04 55 07.4 +2.3**
RJF Les Rejaudoux 10.45 21 *e*Pn **Pn** **04 55 09.0 +1.6**
KEST Kesra 10.63 86 Pn **Pn** **04 55 12.4 +2.4**
comp=N,0.1nm,0.3s,baz=292,slow=19,SNR=1.4
BGF Bois d'Agland 11.98 22 *e*Pn **Pn** **04 55 29.0 +0.6**

PGF Pioggiola 12.05 51 *e*Pn **Pn** **04 55 31.6 +2.2**
PGF *e*Sn **Sn** **04 57 39.6 -3.6**
comp=N,0.4nm,0.2s
QUIF Quistinic 12.29 2 *e*Pn **Pn** **04 55 32.7 +0.2**
QUIF *e*Sn **Sn** **04 57 43.7 -5.0**
comp=N,6.2nm,0.6s
HYF Humbligny 12.56 20 *e*Pn **Pn** **04 55 37.7 +1.4**
ROSF Rostrenen 12.70 1 *e*Pn **Pn** **04 55 39.0 +0.8**
ROSF *e*Sn **Sn** **04 57 55.8 -3.2**
comp=N,2.5nm,0.5s
LDF La Druitiere 13.22 10 *e*Pn **Pn** **04 55 45.4 +0.1**
FLN La Foliniere 13.34 9 *e*Pn **Pn** **04 55 47.3 +0.4**
baz=195
GERES GERESS Array B 18.40 39 P **Pn** **04 56 54.3 +1.7**
comp=N,0.1nm,0.3s,baz=234,slow=8.1,SNR=3.7
TORD Torodi Ar. Bea 22.91 166 P **P** **04 57 44.1 +2.6**
comp=N,1.8nm,0.8s,baz=351,slow=9.4,SNR=10.0
HFS Hagfors 26.98 19 P **P** **04 58 21.6 +2.7**
comp=N,1.1nm,0.7s,baz=232,slow=9.2,SNR=5.2
FINES FINESS Array B 31.97 27 P **P** **04 59 04.1 +1.0**
comp=N,1.4nm,0.9s,baz=230,slow=11,SNR=1.9
SCHQ Schefferville 46.67 315 P **P** **05 01 05.9 +0.1**
comp=N,2.3nm,0.9s,baz=72,slow=9.6,SNR=1.9
MKAR Makanchi Array 62.59 51 P **P** **05 03 01.9 +0.5**
comp=N,0.8nm,0.6s,baz=312,slow=5.0,SNR=4.5
YKA Yellowknife Ar 67.74 332 P **P** **05 03 34.1 -0.4**
comp=N,0.5nm,0.5s,baz=57,slow=6.4,SNR=7.8
PDAR Pinedale Array 76.78 313 P **P** **05 04 29.5 +0.3**
comp=N,0.6nm,0.7s,baz=66,slow=3.3,SNR=2.9

*SFS **25** 04:55:33.0, 35°.67N×3°.81W, ML2.7, ALBORAN SUR*
*CNRM **25** 04:55:34.3, 35°.65N×3°.57W, h14km, ml3.4*
ISC 25 04:55:32.5±2.6, 35°.68N±0°.04×3°.66W±0°.04, h7km±21km, n14, σ0°99/20, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**206**	P	**Pn**	**04 55 45.3**	**-1.0**
PALE				S	**Sb**	**04 55 51.8**	**+0.3**
CHAS	**Isla Isabel II**	**1.12**	**116**	P	**Pb**	**04 55 54.1**	**-0.1**
CHAS				S	**Sb**	**04 56 09.0**	**0.0**
EMAL	**Malaga-Limoner**	**1.25**	**330**	P	**Pn**	**04 55 56.1**	**-0.2**
EMAL				S	**Sb**	**04 56 11.6**	**-1.0**
CHEFC	**Chefchaouen**	**1.49**	**248**	P	**Pb**	**04 56 00.6**	**+0.1**
JBK	**JBK**	**1.61**	**146**	P	**Pn**	**04 56 01.6**	**0.0**
JBK				S	**Sn**	**04 56 22.0**	**-0.8**
RSA	**Sarsar**	**1.94**	**246**	P	**Pb**	**04 56 08.6**	**+0.4**
RSA				S	**Sg**	**04 56 34.1**	**-0.6**
SICH	**Sidi Chahed**	**2.08**	**221**	P	**Pb**	**04 56 10.9**	**+0.3**
SICH				S	**Sb**	**04 56 36.2**	**-0.4**
MD31	**MD31**	**2.95**	**198**	P	**Pn**	**04 56 21.3**	**+1.4**
TDRA	**Tendrara**	**2.96**	**152**	P	**Pn**	**04 56 21.3**	**+1.3**
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**04 56 21.6**	**+1.6**
PVAQ	**Vaqueiros**	**3.69**	**299**	P	**Pn**	**04 56 31.9**	**+2.0**
AVE	**Averroes**	**3.91**	**234**	P	**Pn**	**04 56 33.7**	**+0.8**
OUK	**Oukaimeden**	**5.68**	**219**	P	**Pn**	**04 56 57.5**	**-0.1**
TTIG	**Tnine Tigouga,**	**6.50**	**219**	P	**Pn**	**04 57 07.6**	**-1.1**

*ANF **25** 04:56:09.2±0.7, 35°.91N×97°.31W, h0km, ML4.1/10, Error ellipse: s-maj=9.6km s-min=5.5km az=175.0*
*TUL **25** 04:56:09.6±0.9, 35°.88N±0°.02×97°.33W±0°.02, h5km±7km, ML3.4, mb_Lg3.3/56(NEIC), Error ellipse: s-maj=2.6km s-min=1.9km az=137.0*
*NEIC **25** 04:56:10.2±0.7, 35°.88N±0°.01×97°.34W±0°.02, h1km±7km, Error ellipse: s-maj=2.3km s-min=1.9km az=130.0*
ISC 25 04:56:09.6±1.0, 35°.90N±0°.02×97°.34W±0°.02, h4km±9km, n102, σ0°66/118, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.14**	**224**	Pg	**Pg**	**04 56 12.2**	**-0.1**
OK029				Sg	**Sg**	**04 56 14.4**	**+0.2**
OK005	**Luther M Schoo**	**0.27**	**154**		**Pg**	**04 56 14.9**	**+0.2**
OK025	**Westminster Rd**	**0.31**	**180**		**Pg**	**04 56 15.7**	**+0.1**
OK025				Sg	**Sg**	**04 56 20.0**	**+0.2**
OK009	**Oakdale Elemen**	**0.32**	**192**		**Pg**	**04 56 15.8**	**0.0**
BCOK	**Bluff Creek, N**	**0.33**	**223**	Pg	**Pg**	**04 56 15.8**	**0.0**
BCOK				Sg	**Sg**	**04 56 20.4**	**+0.3**
OK001	**Jones High Sch**	**0.34**	**173**		**Pg**	**04 56 16.1**	**0.0**
OK033	**Mehan**	**0.36**	**65**		**Pg**	**04 56 17.0**	**+0.5**
OK033				Sg	**Sg**	**04 56 22.1**	**+0.9**
OK031	**S. Brethren Rd**	**0.41**	**82**	Pg	**Pg**	**04 56 17.7**	**+0.3**
OK031				Sg	**Sg**	**04 56 23.6**	**+0.8**
OK030	**Cody Creek RV**	**0.45**	**86**		**Pg**	**04 56 18.5**	**+0.3**
OK030				Sg	**Sg**	**04 56 24.9**	**+0.7**
OKCFA	**Oklahoma City**	**0.49**	**191**		**Pg**	**04 56 18.8**	**-0.1**
OKCFA				Sg	**Sg**	**04 56 25.7**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**0.50**	**189**		**Pg**	**04 56 19.0**	**-0.1**
OKCSW				Sg	**Sg**	**04 56 26.0**	**+0.4**
OK034	**N. Norfolk Rd.**	**0.52**	**77**		**Pg**	**04 56 19.9**	**+0.3**
OK034				Sg	**Sg**	**04 56 27.0**	**+0.7**
QUOK	**Quay**	**0.58**	**62**		**Pg**	**04 56 21.1**	**+0.3**
QUOK				Sg	**Sg**	**04 56 29.0**	**+0.7**
FNO	**Franklin**	**0.64**	**185**		**Pg**	**04 56 21.6**	**-0.2**
FNO				Sg	**Sg**	**04 56 30.4**	**+0.3**
CROK	**Carrier**	**0.80**	**320**	Pg	**Pg**	**04 56 24.9**	**-0.1**
CROK				Sg	**Sg**	**04 56 35.9**	**+0.5**
W35A	**Tecumseh**	**0.83**	**153**		**Pg**	**04 56 24.7**	**-0.8**
W35A				IAmb_Lg		04 56 35.0	
comp=Z,230nm,0.9s							
W35A				Sg	**Sg**	**04 56 36.0**	**-0.3**
BLOK	**Blackwell**	**0.87**	**7**		**Pg**	**04 56 26.4**	**+0.1**
GC02	**Grant County #**	**1.04**	**336**	Pg	**Pg**	**04 56 29.3**	**-0.3**
KAN13	**South Haven SW**	**1.12**	**354**		**Pg**	**04 56 30.8**	**-0.3**
KAN14	**Manchester OK**	**1.17**	**335**	Pg	**Pg**	**04 56 31.6**	**-0.4**
KAN14				Sg	**Sg**	**04 56 47.6**	**+0.4**
KAN17	**Caldwell West**	**1.20**	**343**	Pg	**Pg**	**04 56 32.2**	**-0.3**
KAN17				Sg	**Sg**	**04 56 48.2**	**+0.1**
T35A	**Sooner Cattle**	**1.22**	**33**		**Pg**	**04 56 32.4**	**-0.5**
T35A				Sg	**Sg**	**04 56 48.8**	**+0.1**
TUL1	**Leonard**	**1.26**	**89**		**Pg**	**04 56 32.3**	**-1.3**
TUL1				Sg	**Sg**	**04 56 49.8**	**0.0**
TUL1	**Leonard**	**1.26**	**89**	P	**Pg**	**04 56 32.4**	**-1.3**
baz=269							
TUL1				S	**Sg**	**04 56 49.9**	**0.0**
baz=269							
KAN05	**Bluff City Nor**	**1.28**	**341**		**Pg**	**04 56 33.8**	**-0.4**
KAN05				Sg	**Sb**	**04 56 51.1**	**0.0**
KAN01	**Argonia South**	**1.30**	**345**		**Pg**	**04 56 34.0**	**-0.5**
X34A	**Smith Ranch, M**	**1.35**	**198**		**Pn**	**04 56 34.8**	**-0.5**
KAN10	**Anthony SW Sta**	**1.37**	**334**	Pg	**Pn**	**04 56 35.0**	**-0.5**
OK035	**E0210 Rd and N**	**1.37**	**307**		**Pn**	**04 56 35.1**	**-0.4**
KAN06	**Argonia West S**	**1.41**	**343**		**Pn**	**04 56 36.0**	**-0.1**
KAN08	**Anthony NE Sta**	**1.42**	**339**		**Pn**	**04 56 36.0**	**-0.2**
U32A	**Winter Ranch,**	**1.43**	**290**		**Pn**	**04 56 35.7**	**-0.7**
KAN16	**Harper SW Stat**	**1.45**	**336**		**Pn**	**04 56 36.3**	**-0.3**
WMOK	**Wichita Mounta**	**1.65**	**226**	Pg	**Pn**	**04 56 39.4**	**0.0**
WMOK	**Wichita Mounta**	**1.65**	**226**	P	**Pn**	**04 56 39.3**	**-0.1**
baz=46							
WMOK				S	**Sn**	**04 57 01.0**	**0.0**
baz=46							
LOOK	**Love County**	**1.90**	**176**	Pn	**Pn**	**04 56 43.2**	**+0.5**
LOOK				IAmb_Lg		04 57 12.9	
comp=Z,104nm,0.8s							
X37A	**Clayton**	**2.07**	**128**	Pn	**Pn**	**04 56 45.6**	**+0.5**
X37A				IAmb_Lg		04 57 18.0	
comp=Z,167nm,0.8s							
U38A	**Gravette**	**2.45**	**76**	Pn	**Pn**	**04 56 50.7**	**+0.4**
U38A				IAmb_Lg		04 57 27.4	
comp=Z,127nm,0.8s							
Z35A	**Perchaven, San**	**2.56**	**178**	Pn	**Pn**	**04 56 52.1**	**+0.3**
Z35A				IAmb_Lg		04 57 34.6	
comp=Z,78nm,0.9s							
HHAR	**Hobbs**	**2.78**	**81**	Pn	**Pn**	**04 56 54.9**	**+0.1**
HHAR				IAmb_Lg		04 57 42.3	
comp=Z,75nm,0.8s							
W39A	**Magazine**	**2.98**	**103**	Pn	**Pn**	**04 56 57.9**	**+0.3**
W39A				IAmb_Lg		04 57 45.7	
comp=Z,93nm,0.8s							
W39A	**Magazine**	**2.98**	**103**	P	**Pn**	**04 56 58.1**	**+0.5**
baz=284							
W39A				S	**Sn**	**04 57 34.6**	**+0.8**
baz=284							
KSU1	**Kansas State U**	**3.25**	**10**	Pn	**Pn**	**04 57 02.0**	**+0.6**
KSU1				IAmb_Lg		04 57 57.6	
comp=Z,101nm,0.9s							
KSU1	**Kansas State U**	**3.25**	**10**	P	**Pn**	**04 57 02.3**	**+0.9**
baz=190							
Z38A	**Mt. Pleasant**	**3.27**	**143**	Pn	**Pn**	**04 57 01.4**	**-0.1**
Z38A				IAmb_Lg		04 57 57.5	
comp=Z,106nm,0.8s							
MIAR	**Mount Ida**	**3.36**	**113**	Pn	**Pn**	**04 57 03.6**	**+0.8**
MIAR				IAmb_Lg		04 58 00.6	
comp=Z,80nm,0.8s							
MIAR	**Mount Ida**	**3.36**	**113**	S	**Sn**	**04 57 43.8**	**+0.7**
baz=295							
CBKS	**Cedar Bluff**	**3.48**	**327**	Pn	**Pn**	**04 57 05.4**	**+0.8**
CBKS	**Cedar Bluff**	**3.48**	**327**	Sb	**Sg**	**04 58 00.6**	**-0.9**
baz=146							
U40A	**Yellville**	**3.66**	**81**	Pn	**Pn**	**04 57 06.8**	**-0.1**
U40A				IAmb_Lg		04 58 11.4	
comp=Z,73nm,0.8s							
S39A	**Bolivar**	**3.69**	**60**	Pn	**Pn**	**04 57 07.5**	**+0.2**
AMTX	**Amarillo**	**3.69**	**255**	Pn	**Pn**	**04 57 08.2**	**+0.8**
AMTX				IAmb_Lg		04 58 11.9	
comp=Z,90nm,0.8s							
AMTX	**Amarillo**	**3.69**	**255**	P	**Pn**	**04 57 08.9**	**+1.5**
baz=73							
AMTX				S	**Sn**	**04 57 53.5**	**+2.1**
baz=73							
ABTX	**Abilene, Hawle**	**3.78**	**211**	Pn	**Pn**	**04 57 09.2**	**+0.5**
ABTX				IAmb_Lg		04 58 13.8	
comp=Z,82nm,1.0s							
WHTX	**Lake Whitney,**	**3.90**	**181**	Pn	**Pn**	**04 57 09.9**	**-0.3**
WHTX	**Lake Whitney,**	**3.90**	**181**	Pb	**Pb**	**04 57 17.3**	**-1.6**
baz=1.5							
WHTX				S	**Sb**	**04 58 08.3**	**+2.0**
baz=1.5							
X40A	**Basin Creek Fa**	**3.95**	**110**	Pn	**Pn**	**04 57 11.5**	**+0.7**
237A	**Washetta, Mont**	**4.09**	**161**	Pn	**Pn**	**04 57 12.3**	**-0.5**
WLAR	**White Oak Lake**	**4.12**	**121**	Pn	**Pn**	**04 57 12.9**	**-0.3**
WHAR	**Wooly Hollow**	**4.16**	**97**	Pn	**Pn**	**04 57 14.0**	**+0.2**
WHAR				IAmb_Lg		04 58 26.3	
comp=Z,54nm,0.8s							
W41B	**Gary Mavity, V**	**4.21**	**98**	Pn	**Pn**	**04 57 14.7**	**+0.2**
W41B	**Gary Mavity, V**	**4.21**	**98**	P	**Pn**	**04 57 14.9**	**+0.4**
baz=281							
W41B				S	**Sn**	**04 58 04.3**	**+0.1**
baz=281							
FCAR	**Ozark Folk Cen**	**4.23**	**89**	Pn	**Pn**	**04 57 14.3**	**-0.6**
FCAR				IAmb_Lg		04 58 25.2	
comp=Z,60nm,0.7s							
MGMO	**Mountain Grove**	**4.27**	**71**	Pn	**Pn**	**04 57 15.9**	**+0.5**
Z41A	**Richland Creek**	**4.57**	**124**	IAmb_Lg		04 58 33.7	
comp=Z,51nm,0.7s							
Z41A	**Richland Creek**	**4.57**	**124**	S	**Sn**	**04 58 12.2**	**-0.9**
baz=306							
R40A	**Maddies Statio**	**4.71**	**58**		**Pn**	**04 57 21.5**	**+0.2**
N33A	**J Bar K, Exete**	**4.84**	**359**	Pn	**Pn**	**04 57 23.9**	**+0.7**
LCAR	**Lake Charles**	**5.02**	**86**	Pn	**Pn**	**04 57 24.8**	**-0.8**
N35A	**Tabor**	**5.13**	**15**	Pn	**Pn**	**04 57 26.9**	**-0.3**
KSCO	**Kaye Shedlock'**	**5.23**	**308**	IAmb_Lg		04 59 05.8	
comp=Z,68nm,0.8s							
CCM	**Cathedral Cave**	**5.33**	**64**	Pn	**Pn**	**04 57 30.1**	**+0.1**
BGNE	**Belgrade**	**5.54**	**354**	Pn	**Pn**	**04 57 33.1**	**+0.3**
P40A	**Paris**	**5.54**	**48**	Pn	**Pn**	**04 57 33.5**	**+0.6**
JCT	**Junction City**	**5.78**	**202**	IAmb_Lg		04 59 20.8	
comp=Z,56nm,0.7s							
T25A	**Trinidad**	**5.83**	**284**	Pn	**Pn**	**04 57 36.9**	**0.0**
T25A				IAmb_Lg		04 59 19.6	
comp=Z,55nm,0.8s							
T25A	**Trinidad**	**5.83**	**284**	P	**Pn**	**04 57 37.0**	**0.0**
baz=100							
FVM	**French Village**	**5.92**	**67**	Pn	**Pn**	**04 57 38.5**	**+0.5**
OGNE	**Ogallala**	**6.24**	**325**	Pn	**Pn**	**04 57 44.2**	**+1.6**
OXF	**Oxford**	**6.64**	**100**	Pn	**Pn**	**04 57 47.2**	**-0.7**
W45A	**Hickory Valley**	**6.69**	**94**	IAmb_Lg		04 59 49.8	
comp=Z,47nm,0.8s							
Y45A	**Yeager Farm, C**	**6.72**	**105**	Pn	**Pn**	**04 57 49.0**	**0.0**
S44A	**Carbondale**	**6.73**	**72**	Pn	**Pn**	**04 57 49.0**	**-0.1**
VBMS	**Vicksburg**	**6.74**	**121**	IAmb_Lg		04 59 58.8	
comp=Z,30nm,1.1s							
SDCO	**Great Sand Dun**	**6.80**	**288**		**Pn**	**04 57 51.5**	**+1.1**
SDCO				IAmb_Lg		04 59 52.4	
comp=Z,32nm,0.8s							
SDCO	**Great Sand Dun**	**6.80**	**288**	P	**Pn**	**04 57 51.5**	**+1.1**
baz=103							
SCIA	**State Center**	**6.81**	**27**	Pn	**Pn**	**04 57 50.5**	**+0.3**
Q24A	**Divide**	**6.93**	**299**	IAmb_Lg		04 59 54.9	
comp=Z,40nm,0.8s							
735A	**Kenedy**	**7.03**	**183**	IAmb_Lg		05 00 03.9	
comp=Z,48nm,0.9s							
Q44A	**Meyer Farm, Va**	**7.27**	**63**	Pn	**Pn**	**04 57 56.8**	**+0.3**
ISCO	**Idaho Springs**	**7.62**	**303**	Pn	**Pn**	**04 58 02.5**	**+0.9**
833A	**Chaparral WMA,**	**7.75**	**194**	Pn	**Pn**	**04 58 03.5**	**+0.4**
833A				IAmb_Lg		05 00 31.3	
comp=Z,24nm,0.9s							
L40A	**Anamosa**	**7.78**	**36**	Pn	**Pn**	**04 58 03.9**	**+0.4**
S22A	**4UR Ranch, Cre**	**7.83**	**286**	Pn	**Pn**	**04 58 06.0**	**+1.4**
ECSD	**EROS Data Cent**	**7.85**	**4**	Pn	**Pn**	**04 58 03.2**	**-1.3**
ECSD	**EROS Data Cent**	**7.85**	**4**	P	**Pn**	**04 58 03.0**	**-1.4**
baz=184							
HDIL	**Hopedale**	**7.86**	**51**	Pn	**Pn**	**04 58 04.5**	**0.0**
MNTX	**Cornudas Mount**	**7.89**	**240**		**Pn**	**04 58 04.8**	**-0.3**
MNTX				IAmb_Lg		05 00 28.7	
comp=Z,26nm,1.0s							
T47A	**Sharon Grove**	**8.32**	**79**	Pn	**Pn**	**04 58 10.0**	**-0.9**
PHWY	**Pilot Hill**	**8.34**	**313**	Pn	**Pn**	**04 58 11.6**	**+0.2**
PHWY				IAmb_Lg		05 00 54.8	
comp=Z,34nm,1.1s							
JFWS	**Jewell Farm**	**8.90**	**36**	Pn	**Pn**	**04 58 18.4**	**-0.5**
RWWY	**Rawlins**	**9.63**	**310**	IAmb_Lg		05 01 32.1	
comp=Z,30nm,1.1s							

*IDC **25** 04:56:09.3±1.4, 35°.68N×3°.77W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.4/39, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=50.9km s-min=23.7km az=88.0*
*SFS **25** 04:56:11.0, 35°.71N×3°.73W, ML3.1, ALBORAN SUR*
*CNRM **25** 04:56:11.9, 35°.66N×3°.48W, h28km, ml3.8*
*INMG **25** 04:56:13.4±1.6, 35°.78N×3°.81W, h0km±4km, ML3.1, Error ellipse: s-maj=5.4km s-min=3.7km az=130.0*
ISC 25 04:56:12.3±1.3, 35°.73N±0°.03×3°.59W±0°.04, h24km±12km, n57, σ1°58/92, mb3.8/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.59**	**209**	P	**Pb**	**04 56 24.0**	**0.0**
PALE				S	**Sb**	**04 56 31.1**	**-0.8**
CHAS	**Isla Isabel II**	**1.09**	**120**	P	**Pb**	**04 56 33.5**	**+1.1**
CHAS				S	**Sb**	**04 56 46.5**	**+0.3**
EMAL	**Malaga-Limoner**	**1.23**	**327**	P	**Pn**	**04 56 33.4**	**-0.6**
EMAL				S	**Sn**	**04 56 48.0**	**-1.9**
CHEFC	**Chefchaouen**	**1.56**	**247**	P	**Pn**	**04 56 38.4**	**-0.2**
CHEFC				S	**Sn**	**04 56 57.2**	**-1.0**
JBK	**JBK**	**1.63**	**149**	P	**Pn**	**04 56 38.4**	**-1.2**
JBK				S	**Sn**	**04 56 56.3**	**-3.6**

PBEJ			A	A	04 58 02.9	
	22nm,0.3s					
GOLM	**Goulmima**	**4.18 196**	P	**Pn**	**04 57 15.6**	**+1.0**
MESJ	**Messejana**	**4.27 301**	*e*Pn	**Pn**	**04 57 15.9**	**+0.1**
MESJ			*e*Sn	**Sn**	**04 58 02.8**	**-2.1**
MESJ			A	A	04 58 07.5	
	28nm,0.5s					
MORF	**Marmelete**	**4.37 293**	*e*Pn	**Pn**	**04 57 17.9**	**+0.7**
MORF			*e*Sn	**Sn**	**04 58 05.5**	**-1.9**
MORF			A	A	04 58 08.2	
	22nm,0.2s					
PFVI	**Vila Bisbo**	**4.45 290**	*e*Pn	**Pn**	**04 57 18.9**	**+0.6**
PFVI			*e*Sn	**Sn**	**04 58 06.8**	**-2.5**
PFVI			A	A	04 58 14.9	
	21nm,0.8s					
PFVI	**Vila Bisbo**	**4.45 290**	P	**Pn**	**04 57 18.8**	**+0.6**
PESTR	**Estremoz**	**4.47 316**	*e*Pn	**Pn**	**04 57 19.1**	**+0.6**
PESTR			*e*Sn	**Sn**	**04 58 08.7**	**-1.1**
PESTR			A	A	04 58 08.9	
	19nm,0.4s					
PESTR	**Estremoz**	**4.47 316**	P	**Pn**	**04 57 19.3**	**+0.7**
EVO	**Evora**	**4.51 310**	P	**Pn**	**04 57 19.4**	**+0.3**
EVO			S	**Sn**	**04 58 08.1**	**-2.6**
EVO	**Evora**	**4.51 310**	*e*Pn	**Pn**	**04 57 19.6**	**+0.6**
EVO			*e*Sn	**Sn**	**04 58 08.4**	**-2.3**
EVO			A	A	04 58 10.7	
	40nm,0.3s					
PTEO	**Sao Teotonio**	**4.51 295**	*e*Pn	**Pn**	**04 57 19.5**	**+0.4**
PTEO			*e*Sn	**Sn**	**04 58 09.3**	**-1.5**
PTEO			A	A	04 58 14.2	
	34nm,0.4s					
PNCL	**Nicolau / Gran**	**4.62 302**	*e*Pn	**Pn**	**04 57 20.8**	**+0.3**
PNCL			*e*Sn	**Sn**	**04 58 11.7**	**-1.7**
PNCL			A	A	04 58 13.2	
	13nm,0.8s					
PMRV	**Marv??o**	**4.77 322**	*e*Pn	**Pn**	**04 57 24.3**	**+1.6**
PMRV			*e*Sn	**Sn**	**04 58 15.6**	**-1.6**
PMRV			A	A	04 58 46.2	
	12nm,0.6s					
PMTG	**Montargil**	**4.97 313**	*e*Pn	**Pn**	**04 57 26.1**	**+0.7**
PMTG			*e*Sn	**Sn**	**04 58 20.2**	**-2.0**
PMTG			A	A	04 58 22.8	
	16nm,0.5s					
PCBR	**Castelo Branco**	**5.13 324**	*e*Pn	**Pn**	**04 57 29.1**	**+1.5**
PCBR			*e*Sn	**Sn**	**04 58 24.2**	**-1.8**
PCBR			A	A	04 58 27.4	
	20nm,0.5s					
TZRR	**Tazzarine**	**5.21 199**	P	**Pn**	**04 57 29.6**	**+0.9**
PMST	**Lisbon--Monsan**	**5.38 306**	*e*Pn	**Pn**	**04 57 31.8**	**+0.8**
PMST			*e*Sn	**Sn**	**04 58 31.1**	**-1.1**
PMST			A	A	04 58 42.9	
	40nm,0.7s					
OUZM	**OUZ**	**5.50 210**	P	**Pn**	**04 57 33.5**	**+0.7**
PMAFR	**Mafra**	**5.56 307**	*e*Pn	**Pn**	**04 57 34.3**	**+0.7**
PMAFR			*e*Sn	**Sn**	**04 58 35.6**	**-1.1**
PMAFR			A	A	04 58 37.6	
	36nm,0.3s					
PSBE	**So Bento**	**5.60 314**	*e*Pn	**Pn**	**04 57 35.1**	**+1.0**
PSBE			*e*Sn	**Sn**	**04 58 35.3**	**-2.3**
PSBE			A	A	04 59 02.9	
	13nm,0.5s					
MTE	**Manteigas**	**5.61 327**	*e*Pn	**Pn**	**04 57 35.5**	**+1.3**
MTE			*e*Sn	**Sn**	**04 58 36.3**	**-1.6**
MTE			A	A	04 58 40.5	
	14nm,0.5s					
OUK	**Oukaimeden**	**5.76 220**	P	**Pn**	**04 57 36.3**	**-0.2**
PCAS	**Casmilo, Conde**	**5.80 319**	*e*Pn	**Pn**	**04 57 37.2**	**+0.3**
PCAS			*e*Sn	**Sn**	**04 58 38.8**	**-3.9**
PCAS			A	A	04 58 43.1	
	13nm,0.5s					
PVIS	**Viseu**	**6.02 327**	*e*Pn	**Pn**	**04 57 41.3**	**+1.4**
PVIS			*e*Sn	**Sn**	**04 58 45.2**	**-2.9**
PVIS			A	A	04 58 49.3	
	17nm,0.4s					
MVO	**Moncorvo**	**6.06 335**	*e*Pn	**Pn**	**04 57 41.7**	**+1.3**
MVO			*e*Sn	**Sn**	**04 58 47.2**	**-1.8**
MVO			A	A	04 58 51.4	
	18nm,0.5s					
PVRL	**Vila Real**	**6.41 331**	*e*Pn	**Pn**	**04 57 46.6**	**+1.4**
PVRL			*e*Sn	**Sn**	**04 58 54.6**	**-3.1**
PVRL			A	A	04 59 01.7	
	17nm,0.9s					
POLO	**Lamas de Olo**	**6.53 331**	*e*Pn	**Pn**	**04 57 48.5**	**+1.6**
POLO			*e*Sn	**Sn**	**04 58 57.3**	**-3.3**
POLO			A	A	04 59 01.5	
	5.9nm,0.5s					
PBRG	**Braganca**	**6.54 339**	*e*Pn	**Pn**	**04 57 47.9**	**+0.8**
PBRG			*e*Sn	**Sn**	**04 58 59.0**	**-2.0**
PBRG			A	A	04 59 03.9	
	7.0nm,0.9s					
TTIG	**Tnine Tigouga,**	**6.58 220**	P	**Pn**	**04 57 45.7**	**-2.0**
PTO	**Porto**	**6.68 325**	*e*Pn	**Pn**	**04 57 50.0**	**+1.1**
PCAB	**Cabril**	**6.90 331**	*e*Pn	**Pn**	**04 57 53.9**	**+1.9**
PGAV	**Gavieira, Arco**	**7.22 331**	*e*Pn	**Pn**	**04 57 57.9**	**+1.6**
PGAV			*e*Sn	**Sn**	**04 59 16.1**	**-1.5**
PGAV			A	A	04 59 28.3	
	5.4nm,0.5s					
TANT	**Tantan**	**9.77 224**	P	**Pn**	**04 58 30.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**22.99 167**	P	**P**	**05 01 15.7**	**+0.4**
	4.9nm,0.7s,baz=342,slow=10,SNR=2.2					
MKAR	**Makanchi Array**	**62.44 51**	P	**P**	**05 06 34.8**	**+1.5**
	0.5nm,0.7s,baz=298,slow=3.1,SNR=2.4					
YKA	**Yellowknife Ar**	**67.70 332**	P	**P**	**05 07 07.9**	**+0.7**
	0.3nm,0.6s,baz=60,slow=6.4,SNR=5.7					

NEIC ***25*** *04:59:17.2±1.0, 59°.78N±0°.04×153°.13W±0°.08, h109km±4km, Error ellipse: s-maj=6.6km s-min=5.0km az=130.0*
AEIC ***25*** *04:59:18±1.3, 59°.75N±0°.04×153°.12W±0°.08, h104km±5km, ML3.3, ML3.6/102(NEIC), Error ellipse: s-maj=6.9km s-min=5.2km az=139.0*

ISC 25 04:59:17.1±1.4, 59°.76N±0°.05×153°.09W±0°.05, h110km±9km, n194, σ0°63/203, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.13**	**213**		**Pn**	**04 59 32.4**	**0.0**
OPT	**Oil Point**	**0.13**	**213**	P	**Pn**	**04 59 32.4**	**0.0**
	baz=30						
O20K	**Slope Mountain**	**0.40**	**36**		**Pn**	**04 59 33.5**	**+0.1**
O20K					**Sn**	**04 59 45.4**	**-0.3**
O20K	**Slope Mountain**	**0.40**	**36**	P	**Pn**	**04 59 33.5**	**+0.1**
	baz=217						
O20K				S	**Sn**	**04 59 45.4**	**-0.3**
	baz=217						
AUL	**Augustine Lava**	**0.42**	**205**		**Pn**	**04 59 33.7**	**+0.3**
AUL					**Sn**	**04 59 45.7**	**-0.1**
AUQ	**Augustine Qik'**	**0.44**	**202**		**Pn**	**04 59 33.7**	**0.0**
RED	**Redoubt Volcan**	**0.68**	**14**		**Pn**	**04 59 35.3**	**-0.1**
RED					**Sn**	**04 59 48.2**	**-0.9**
RSO	**Redoubt South**	**0.72**	**13**		**Pn**	**04 59 35.6**	**-0.3**
HOM	**Homer**	**0.74**	**98**		**Pn**	**04 59 36.1**	**+0.3**
HOM				IAML		04 59 51.5	
	comp=E,3μm,0.5s						
HOM				IAML		04 59 52.5	
	comp=N,2μm,0.3s						
HOM	**Homer**	**0.74**	**98**	P	**Pn**	**04 59 36.1**	**+0.3**
	baz=278						
O19K	**Port Alsworth**	**0.75**	**306**		**Pn**	**04 59 35.8**	**-0.1**
O19K					**Sn**	**04 59 49.1**	**-0.9**
O19K				IAML		04 59 50.1	
	comp=E,4μm,0.4s						
O19K				IAML		04 59 50.7	
	comp=N,1μm,0.4s						
O19K	**Port Alsworth**	**0.75**	**306**	P	**Pn**	**04 59 35.7**	**-0.1**
	baz=126						
O19K				S	**Sn**	**04 59 49.1**	**-0.9**
	baz=126						
NCT	**North Crescent**	**0.81**	**6**		**Pn**	**04 59 36.4**	**-0.1**
NCT					**Sn**	**04 59 50.6**	**-0.5**
DFR	**Drift River**	**0.86**	**14**		**Pn**	**04 59 36.9**	**-0.1**
DFR					**Sn**	**04 59 51.2**	**-0.7**
Q19K	**Cape Douglas,**	**0.88**	**199**		**Pn**	**04 59 37.0**	**-0.2**
Q19K	**Cape Douglas,**	**0.88**	**199**	P	**Pn**	**04 59 37.1**	**-0.1**
	baz=18						
CNPM	**China Poot**	**0.97**	**103**		**Pn**	**04 59 38.0**	**-0.1**
CNPM				IAML		04 59 56.5	
	comp=E,855nm,0.4s						
CNPM				IAML		04 59 56.9	
	comp=N,760nm,0.5s						
O18K	**Koktuh Hills**	**1.07**	**276**		**Pn**	**04 59 38.9**	**-0.2**
O18K					**Sn**	**04 59 54.9**	**-0.8**
O18K	**Koktuh Hills**	**1.07**	**276**	P	**Pn**	**04 59 38.8**	**-0.2**
	baz=95						
O18K				S	**Sn**	**04 59 54.9**	**-0.8**
	baz=95						
BRLK	**Bradley Lake**	**1.12**	**89**		**Pn**	**04 59 39.2**	**-0.3**
BRLK				IAML		04 59 57.1	
	comp=N,2μm,0.1s						
BRLK				IAML		04 59 57.3	
	comp=E,2μm,0.2s						
P18K	**Big Mountain,**	**1.15**	**252**		**Pn**	**04 59 39.2**	**-0.7**
P18K	**Big Mountain,**	**1.15**	**252**	P	**Pn**	**04 59 39.4**	**-0.5**
	baz=70						
BRSE	**Bradley Lake S**	**1.19**	**90**		**Pn**	**04 59 40.1**	**-0.2**
BRSE	**Bradley Lake S**	**1.19**	**90**	P	**Pn**	**04 59 40.1**	**-0.2**
	baz=272						
N19K	**Bonanza Creek**	**1.26**	**327**		**Pn**	**04 59 41.3**	**0.0**
N19K	**Bonanza Creek**	**1.26**	**327**	P	**Pn**	**04 59 41.2**	**0.0**
	baz=147						
CAPN	**Captain Cook N**	**1.40**	**43**	Pn	**Pn**	**04 59 44.3**	**+1.7**
CAPN				IAML		05 00 05.8	
	comp=N,1μm,0.7s						
CAPN				IAML		05 00 06.5	
	comp=E,890nm,0.8s						
CAPN	**Captain Cook N**	**1.40**	**43**	P	**Pn**	**04 59 44.4**	**+1.8**
	baz=225						
SPU	**Mount Spurr**	**1.51**	**19**		**Pn**	**04 59 43.8**	**-0.3**
SLKM	**Skilak Lake**	**1.62**	**61**		**Pn**	**04 59 45.4**	**+0.1**
SPCG	**Spurr Capps Gl**	**1.62**	**19**		**Pn**	**04 59 45.8**	**+0.3**
SVW2	**Sparrevohn**	**1.82**	**318**		**Pn**	**04 59 47.5**	**-0.3**
O22K	**Cooper Landing**	**1.83**	**65**	Pn	**Pn**	**04 59 48.3**	**+0.3**
O22K	**Cooper Landing**	**1.83**	**65**	P	**Pn**	**04 59 48.1**	**+0.2**
	baz=248						
STLK	**Strandline Lak**	**1.85**	**19**		**Pn**	**04 59 48.6**	**+0.4**
SEW	**Seward**	**1.86**	**78**	Pn	**Pn**	**04 59 48.1**	**-0.2**
SEW	**Seward**	**1.86**	**78**	P	**Pn**	**04 59 48.2**	**-0.1**
	baz=261						
FIS	**Fire Island**	**1.99**	**45**	Pn	**Pn**	**04 59 51.0**	**+1.1**
FIS				IAML		05 00 20.8	
	comp=N,387nm,0.6s						
FIS				IAML		05 00 23.4	
	comp=E,346nm,0.5s						
KDAK	**Kodiak Island**	**2.00**	**172**	Pn	**Pn**	**04 59 49.0**	**-1.1**
KDAK	**Kodiak Island**	**2.00**	**172**	IAML		05 00 16.0	
	comp=E,363nm,0.4s						
KDAK				IAML		05 00 16.9	
	comp=E,408nm,0.4s						
SUA	**Susitna One**	**2.06**	**33**	Pn	**Pn**	**04 59 51.1**	**+0.1**
SUA	**Susitna One**	**2.06**	**33**	P	**Pn**	**04 59 51.5**	**+0.6**
	baz=215						
RC01	**Rabbit Creek A**	**2.13**	**50**	Pn	**Pn**	**04 59 51.9**	**+0.2**
RC01				IAML		05 00 20.6	
	comp=N,659nm,0.4s						
RC01	**Rabbit Creek A**	**2.13**	**50**	P	**Pn**	**04 59 51.8**	**+0.1**
	baz=233						
M22K	**Willow**	**2.47**	**35**		**Pn**	**04 59 56.4**	**+0.4**
M22K				IAML		05 00 27.8	
	comp=E,624nm,0.7s						
M22K	**Willow**	**2.47**	**35**	P	**Pn**	**04 59 56.9**	**+0.8**
	baz=218						
OHAK	**Old Harbor**	**2.55**	**182**	Pn	**Pn**	**04 59 56.2**	**-0.9**
OHAK				IAML		05 00 46.1	
	comp=E,116nm,3.1s						
OHAK	**Old Harbor**	**2.55**	**182**	P	**Pn**	**04 59 56.3**	**-0.9**
	baz=1.9						
PWL	**Port Wells**	**2.61**	**63**		**Pn**	**04 59 57.2**	**-0.7**
PWL	**Port Wells**	**2.61**	**63**	P	**Pn**	**04 59 57.3**	**-0.7**
	baz=247						
PMR	**Palmer**	**2.68**	**45**		**Pn**	**04 59 57.9**	**-0.9**
PMR				IAML		05 00 30.4	
	comp=N,146nm,0.3s						
PMR				IAML		05 00 33.5	
	comp=E,115nm,0.4s						
PMR	**Palmer**	**2.68**	**45**	P	**Pn**	**04 59 58.2**	**-0.5**
	baz=228						
L20K	**Farewell, AK**	**2.75**	**352**		**Pn**	**05 00 00.3**	**+0.5**
L20K	**Farewell, AK**	**2.75**	**352**	P	**Pn**	**05 00 00.3**	**+0.5**
	baz=172						
KNK	**Knik Glacier**	**2.82**	**52**	Pn	**Pn**	**04 59 59.8**	**-0.9**
KNK				IAML		05 00 35.0	
	comp=E,473nm,0.4s						
KNK	**Knik Glacier**	**2.82**	**52**	P	**Pn**	**05 00 00.1**	**-0.6**
	baz=236						
GHO	**Glory Hole Cre**	**2.87**	**44**	Pn	**Pn**	**05 00 00.7**	**-0.7**
GHO				IAML		05 00 35.3	
	comp=N,228nm,0.4s						
GHO				IAML		05 00 39.6	
	comp=E,219nm,0.6s						
CUT	**Chulitna**	**2.98**	**26**		**Pn**	**05 00 03.0**	**+0.2**
CUT				IAML		05 00 43.1	
	comp=N,137nm,0.5s						
CUT				IAML		05 01 07.2	
	comp=E,143nm,1.0s						
CUT	**Chulitna**	**2.98**	**26**	P	**Pn**	**05 00 03.1**	**+0.3**
	baz=209						
SML	**Sawmill**	**3.11**	**47**	Pn	**Pn**	**05 00 03.6**	**-1.0**
SML				IAML		05 00 41.6	
	comp=N,133nm,0.4s						
SML				IAML		05 00 47.9	
	comp=E,107nm,0.7s						
SML	**Sawmill**	**3.11**	**47**	P	**Pn**	**05 00 03.9**	**-0.6**
	baz=231						
PPLA	**Purkeypile**	**3.17**	**7**	Pn	**Pn**	**05 00 06.5**	**+1.0**
PPLA	**Purkeypile**	**3.17**	**7**	P	**Pn**	**05 00 06.8**	**+1.4**
	baz=188						
GLI	**Glacier Island**	**3.19**	**67**	Pn	**Pn**	**05 00 04.5**	**-1.0**
GLI				IAML		05 00 40.7	
	comp=E,259nm,0.6s						
GLI				IAML		05 00 41.1	
	comp=N,276nm,0.7s						
GLI	**Glacier Island**	**3.19**	**67**	P	**Pn**	**05 00 03.9**	**-1.6**
	baz=252						
SII	**Sitkinak Islan**	**3.27**	**191**	Pn	**Pn**	**05 00 05.8**	**-0.8**
SII				IAML		05 01 14.6	
	comp=N,269nm,3.9s						
SII				IAML		05 01 35.1	
	comp=E,220nm,4.0s						
FID	**Port Fidalgo**	**3.44**	**70**	Pn	**Pn**	**05 00 08.3**	**-0.7**
Q23K	**Middleton Isla**	**3.44**	**93**	Pn	**Pn**	**05 00 08.1**	**-0.8**
MID	**Middleton Isla**	**3.45**	**93**	Pn	**Pn**	**05 00 08.4**	**-0.6**
MID				IAML		05 01 37.4	
	comp=N,286nm,2.5s						
TT01	**Tatalina**	**3.46**	**337**		**Pn**	**05 00 09.1**	**0.0**
JPK	**Jack Peak**	**3.47**	**65**		**Pn**	**05 00 08.9**	**-0.5**
TTA	**Tatalina**	**3.48**	**337**		**Pn**	**05 00 09.0**	**-0.4**
TTA	**Tatalina**	**3.48**	**337**	P	**Pn**	**05 00 09.2**	**-0.2**
	baz=155						
SCM	**Sheep Creek Mo**	**3.51**	**51**		**Pn**	**05 00 09.5**	**-0.3**
SCM				IAML		05 00 50.1	
	comp=E,147nm,0.5s						
SCM				IAML		05 00 53.0	
	comp=N,105nm,0.5s						
SCM	**Sheep Creek Mo**	**3.51**	**51**	P	**Pn**	**05 00 09.5**	**-0.3**
	baz=236						
K20K	**Telida**	**3.64**	**353**		**Pn**	**05 00 11.8**	**+0.3**
K20K	**Telida**	**3.64**	**353**	P	**Pn**	**05 00 11.8**	**+0.3**
	baz=172						
CAST	**Castle Rocks**	**3.70**	**7**		**Pn**	**05 00 13.0**	**+0.6**
CAST	**Castle Rocks**	**3.70**	**7**	P	**Pn**	**05 00 12.8**	**+0.4**
	baz=188						
EYAK	**Cordova Ski Ar**	**3.75**	**75**	Pn	**Pn**	**05 00 12.9**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.75**	**75**	P	**Pn**	**05 00 12.2**	**-0.9**
	baz=261						
DIV	**Divide**	**3.88**	**66**	Pn	**Pn**	**05 00 15.2**	**+0.4**
KLU	**Klutina**	**3.94**	**61**		**Pn**	**05 00 14.8**	**-0.8**
KLU				IAML		05 01 02.6	
	comp=E,141nm,0.5s						
KLU	**Klutina**	**3.94**	**61**	P	**Pn**	**05 00 14.8**	**-0.8**
	baz=247						
TRF	**Thorofare Moun**	**3.94**	**19**		**Pn**	**05 00 16.0**	**+0.3**
TRF				IAML		05 01 43.8	
	comp=E,35nm,2.7s						
TRF	**Thorofare Moun**	**3.94**	**19**	P	**Pn**	**05 00 15.9**	**+0.3**
	baz=201						
KTH	**Kantishna Hill**	**3.94**	**14**		**Pn**	**05 00 15.6**	**0.0**
M24K	**Tolsona, Glenn**	**4.11**	**52**	Pn	**Pn**	**05 00 17.6**	**-0.3**
M24K				IAML		05 01 06.4	
	comp=N,104nm,1.0s						
M24K				IAML		05 01 22.4	
	comp=E,116nm,3.6s						
M24K	**Tolsona, Glenn**	**4.11**	**52**	P	**Pn**	**05 00 18.0**	**+0.1**
	baz=238						
CHUM	**Lake Minchumin**	**4.15**	**5**		**Pn**	**05 00 18.9**	**+0.5**
CHUM	**Lake Minchumin**	**4.15**	**5**	P	**Pn**	**05 00 18.8**	**+0.5**
	baz=186						
RND	**Reindeer**	**4.18**	**27**	Pn	**Pn**	**05 00 19.1**	**+0.2**
GOAT	**Goat Mountain**	**4.26**	**75**		**Pn**	**05 00 19.0**	**-1.0**
RAGM	**Ragged Mountai**	**4.26**	**78**	Pn	**Pn**	**05 00 19.9**	**0.0**
RAGM				IAML		05 01 11.1	
	comp=E,151nm,0.3s						
BMRM	**Bremner River**	**4.38**	**70**	Pn	**Pn**	**05 00 22.1**	**+0.5**
BMRM				IAML		05 01 13.4	
	comp=E,102nm,0.4s						
BMRM				IAML		05 01 13.8	
	comp=N,106nm,0.4s						
BMRM	**Bremner River**	**4.38**	**70**	P	**Pn**	**05 00 20.5**	**-1.1**
	baz=258						
PS11	**TAPS Pump St11**	**4.38**	**55**		**Pn**	**05 00 20.8**	**-0.7**
MCK	**McKinley**	**4.45**	**25**		**Pn**	**05 00 22.9**	**+0.4**
MCK				IAML		05 01 13.5	
	comp=E,28nm,2.9s						
MCK				IAML		05 01 30.5	
	comp=N,26nm,3.8s						
MCK	**McKinley**	**4.45**	**25**	P	**Pn**	**05 00 22.8**	**+0.4**
	baz=208						
J20K	**Nowinta River**	**4.46**	**354**	Pn	**Pn**	**05 00 23.1**	**+0.6**
J20K	**Nowinta River**	**4.46**	**354**	P	**Pn**	**05 00 22.6**	**+0.1**
	baz=173						
BPAW	**Bear Paw Mtn.**	**4.46**	**12**	Pn	**Pn**	**05 00 22.4**	**-0.2**
BPAW	**Bear Paw Mtn.**	**4.46**	**12**	P	**Pn**	**05 00 21.9**	**-0.7**
	baz=194						
HMT	**Hamilton**	**4.46**	**79**	Pn	**Pn**	**05 00 21.0**	**-1.6**
CHGN	**Chignik**	**4.48**	**221**	Pn	**Pn**	**05 00 23.3**	**+0.5**
N25K	**Chitina, Valde**	**4.57**	**62**	Pn	**Pn**	**05 00 23.6**	**-0.4**
N25K				IAML		05 01 15.9	
	comp=E,73nm,0.6s						
N25K				IAML		05 01 17.9	
	comp=N,72nm,0.7s						
N25K	**Chitina, Valde**	**4.57**	**62**	P	**Pn**	**05 00 23.4**	**-0.7**
	baz=250						
HARP	**HAARP**	**4.67**	**52**		**Pn**	**05 00 25.3**	**-0.1**
HARP	**HAARP**	**4.67**	**52**	P	**Pn**	**05 00 25.3**	**-0.1**
	baz=239						
BWN	**Browne**	**4.74**	**20**		**Pn**	**05 00 27.1**	**+0.7**
BWN				IAML		05 01 06.0	
	comp=E,37nm,3.0s						
BWN				IAML		05 01 52.4	
	comp=N,46nm,4.5s						
BERG	**Berg Lake**	**4.75**	**78**	Pn	**Pn**	**05 00 26.6**	**+0.2**
GLB	**Gilahina Butte**	**4.88**	**66**	Pn	**Pn**	**05 00 27.2**	**-1.0**
GLB				IAML		05 01 24.4	
	comp=E,75nm,0.8s						
PAX	**Paxson**	**4.88**	**45**		**Pn**	**05 00 28.2**	**-0.1**
PAX	**Paxson**	**4.88**	**45**	P	**Pn**	**05 00 28.0**	**-0.2**
	baz=232						
KHIT	**Khitrov Hills**	**4.97**	**78**		**Pn**	**05 00 28.9**	**-0.7**
VRDI	**Verde Repeater**	**4.99**	**69**	Pn	**Pn**	**05 00 29.9**	**+0.1**
VRDI				IAML		05 01 27.0	
	comp=N,58nm,0.9s						
VRDI				IAML		05 01 35.5	
	comp=E,30nm,5.0s						
PS10	**TAPS Pump St10**	**5.07**	**40**		**Pn**	**05 00 31.1**	**+0.3**
SNH	**Sunshine Point**	**5.17**	**81**	Pn	**Pn**	**05 00 32.6**	**+0.4**
WAX	**Waxell Ridge**	**5.17**	**78**	Pn	**Pn**	**05 00 32.3**	**+0.1**
NEA2	**Nenana**	**5.20**	**20**		**Pn**	**05 00 32.1**	**-0.4**
NEA2				IAML		05 02 25.3	
	comp=N,17nm,4.9s						
NEA2	**Nenana**	**5.20**	**20**	P	**Pn**	**05 00 32.2**	**-0.4**
	baz=203						
WRH	**Wood River Hil**	**5.28**	**24**	Pn	**Pn**	**05 00 33.3**	**-0.2**
WRH				IAML		05 01 34.5	
	comp=E,25nm,3.8s						
WRH				IAML		05 01 58.5	
	comp=N,22nm,4.9s						
GCSA	**Galena City Sc**	**5.30**	**342**		**Pn**	**05 00 34.0**	**+0.1**
GCSA	**Galena City Sc**	**5.30**	**342**	P	**Pn**	**05 00 34.0**	**+0.1**
	baz=159						
ISLE	**Juniper Island**	**5.43**	**76**	Pn	**Pn**	**05 00 36.0**	**+0.2**
KIAG	**Kiagna River**	**5.46**	**73**		**Pn**	**05 00 36.9**	**+0.7**
I21K	**Tanana**	**5.46**	**5**	Pn	**Pn**	**05 00 36.2**	**+0.2**
BALM	**Baldy**	**5.48**	**72**		**Pn**	**05 00 35.9**	**-0.6**
HDA	**Harding Lake**	**5.48**	**29**	Pn	**Pn**	**05 00 35.9**	**-0.5**
HDA	**Harding Lake**	**5.48**	**29**	P	**Pn**	**05 00 35.6**	**-0.7**
	baz=215						
CCB	**Clear Creek Bu**	**5.49**	**25**		**Pn**	**05 00 36.0**	**-0.4**
MENT	**Mentasta**	**5.52**	**51**	Pn	**Pn**	**05 00 36.5**	**-0.4**
BAGL	**Bagley Icefiel**	**5.55**	**78**		**Pn**	**05 00 37.9**	**+0.6**
M26K	**Nabesna, AK**	**5.57**	**57**		**Pn**	**05 00 38.3**	**+0.8**
RIDG	**Independent Ri**	**5.59**	**41**	Pn	**Pn**	**05 00 38.0**	**+0.1**
RIDG	**Independent Ri**	**5.59**	**41**	P	**Pn**	**05 00 37.7**	**-0.2**
	baz=228						
MESA	**MESA**	**5.61**	**81**	Pn	**Pn**	**05 00 39.2**	**+0.9**
MESA	**MESA**	**5.61**	**81**	P	**Pn**	**05 00 38.9**	**+0.5**
	baz=270						
PS08	**TAPS Pump Stn8**	**5.62**	**29**		**Pn**	**05 00 37.8**	**-0.4**
I23K	**Minto, Yukon-K**	**5.67**	**16**		**Pn**	**05 00 38.8**	**0.0**
I23K	**Minto, Yukon-K**	**5.67**	**16**	P	**Pn**	**05 00 38.9**	**0.0**
	baz=200						
TCOL	**CIGO, UAF Yank**	**5.68**	**23**	Pn	**Pn**	**05 00 38.8**	**-0.1**
TCOL	**CIGO, UAF Yank**	**5.68**	**23**	P	**Pn**	**05 00 38.6**	**-0.3**
	baz=208						
COLA	**College**	**5.68**	**23**	Pn	**Pn**	**05 00 38.9**	**-0.1**
MDM	**Murphy Dome**	**5.68**	**21**		**Pn**	**05 00 38.7**	**-0.4**
L26K	**Log Cabin Wild**	**5.71**	**51**	Pn	**Pn**	**05 00 39.2**	**-0.3**
YAH	**Yahtse**	**5.72**	**79**	Pn	**Pn**	**05 00 40.4**	**+0.7**
DOT	**Dot Lake**	**5.80**	**44**	Pn	**Pn**	**05 00 40.5**	**-0.2**
IL31		**5.80**	**27**		**Pn**	**05 00 40.0**	**-0.6**
ILAR	**Eielson Array**	**5.80**	**27**	Pn	**Pn**	**05 00 40.0**	**-0.6**
BARN	**Barnard Glacie**	**5.81**	**72**		**Pn**	**05 00 42.0**	**+1.0**
H21K	**Melozitna Rive**	**5.92**	**1**		**Pn**	**05 00 42.3**	**+0.1**
H21K	**Melozitna Rive**	**5.92**	**1**	P	**Pn**	**05 00 42.4**	**+0.2**
	baz=182						
POKR	**Poker Plat Res**	**5.98**	**24**		**Pn**	**05 00 43.0**	**-0.1**
POKR	**Poker Plat Res**	**5.98**	**24**	P	**Pn**	**05 00 43.0**	**-0.1**
	baz=209						
TABL	**Table Mountain**	**6.02**	**78**		**Pn**	**05 00 44.6**	**+0

*INMG **25** 05:00:53.8±1.9, 35°.66N×3°.82W, h1km±6km, ML3.2, Error ellipse: s-maj=4.8km s-min=3.5km az=90.0*
*IGIL **25** 05:00:54.0, 35°.64N×3°.81W, h0km, ML3.0*
ISC 25 05:00:53.4±1.3, 35°.64N±0°.03×3°.68W±0°.03, h17km±9km, n74, σ1§70/126, mb3.8/6, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.47**	**207**	P	**Pg**	**05 01 02.1**	**-0.9**
PALE				S	**Sg**	**05 01 09.0**	**-0.4**
CHAS	**Isla Isabel II**	**1.12**	**114**	P	**Pn**	**05 01 12.7**	**-1.6**
CHAS				S	**Sb**	**05 01 26.5**	**-2.0**
EMAL	**Malaga-Limoner**	**1.27**	**332**	P	**Pn**	**05 01 15.2**	**-1.2**
EMAL				S	**Sb**	**05 01 30.2**	**-2.8**
CHEFC	**Chefchaouen**	**1.46**	**249**	P	**Pn**	**05 01 19.0**	**0.0**
CHEFC				S	**Sn**	**05 01 36.9**	**-0.9**
JBK	**JBK**	**1.59**	**145**	P	**Pn**	**05 01 19.8**	**-1.3**
JBK				S	**Sn**	**05 01 38.9**	**-2.4**
SICH	**Sidi Chahed**	**2.04**	**222**	P	**Pn**	**05 01 28.6**	**+1.6**
SICH				S	**Sb**	**05 01 56.0**	**+0.9**
LCRM	**LCR**	**2.18**	**207**	P	**Pn**	**05 01 30.1**	**+1.0**
LCRM				S	**Sn**	**05 01 56.2**	**+0.5**
IFR	**Ifrane**	**2.43**	**210**	P	**Pn**	**05 01 32.4**	**-0.1**
IFR				S	**Sn**	**05 02 00.7**	**-1.4**
ARNO	**Arenosillo**	**2.86**	**301**	P	**Pn**	**05 01 38.3**	**+0.1**
ARNO				S	**Sn**	**05 02 12.5**	**+0.3**
CART	**Cartagena**	**2.90**	**47**	P	**Pn**	**05 01 39.0**	**+0.2**
CART				S	**Sn**	**05 02 10.0**	**-3.3**
CART	**Cartagena**	**2.90**	**47**	P	**Pn**	**05 01 39.3**	**+0.5**
CART				S	**Sn**	**05 02 10.2**	**-3.1**
MD31	**MD31**	**2.91**	**198**	P	**Pn**	**05 01 38.4**	**-0.7**
MD31				S	**Sn**	**05 02 13.6**	**0.0**
MDT	**Midelt**	**2.92**	**195**	Pn	**Pn**	**05 01 39.9**	**+0.7**
	2.0nm,0.3s,baz=153,slow=13,SNR=8.3						
MDT				Sn	**Sn**	**05 02 14.0**	**0.0**
	8.1nm,0.3s,baz=24,slow=20,SNR=5.7						
MDT	**Midelt**	**2.92**	**195**	P	**Pn**	**05 01 39.0**	**-0.2**
MDT				S	**Sn**	**05 02 14.0**	**0.0**
TDRA	**Tendrara**	**2.93**	**152**	P	**Pn**	**05 01 39.7**	**+0.2**
PBAR	**Barrancos**	**3.69**	**314**	*e*Pn	**Pn**	**05 01 50.2**	**+0.5**
PBAR				*e*Sn	**Sn**	**05 02 32.1**	**-0.7**
PVAQ	**Vaqueiros**	**3.70**	**300**	*e*Pn	**Pn**	**05 01 49.3**	**-0.5**
PVAQ				*e*Sn	**Sn**	**05 02 30.3**	**-2.6**
PVAQ				A	A	05 02 34.3	
	49nm,0.4s						
PVAQ	**Vaqueiros**	**3.70**	**300**	P	**Pn**	**05 01 49.2**	**-0.5**
AVE	**Averroes**	**3.87**	**234**	P	**Pn**	**05 01 51.5**	**-0.7**
AVE				S	**Sn**	**05 02 34.1**	**-3.1**
AVE	**Averroes**	**3.87**	**234**	P	**Pn**	**05 01 52.0**	**-0.1**
PCVE	**Castro Verde**	**4.03**	**301**	*e*Pn	**Pn**	**05 01 53.9**	**-0.4**
PCVE				*e*Sn	**Sn**	**05 02 38.6**	**-2.5**
PCVE				A	A	05 02 43.3	
	56nm,0.5s						
ESDC	**Sonseca Array**	**4.03**	**357**	Pn	**Pn**	**05 01 55.3**	**+0.9**
	3.1nm,0.3s,baz=178,slow=12,SNR=55						
ESDC				Sn	**Sn**	**05 02 42.1**	**+0.8**
	1.9nm,0.3s,baz=182,slow=21,SNR=4.8						
FIGM	**Figuig**	**4.04**	**149**	P	**Pn**	**05 01 55.1**	**+0.5**
GOLM	**Goulmima**	**4.07**	**195**	P	**Pn**	**05 01 56.5**	**+1.5**
PBEJ	**Beja**	**4.12**	**307**	*e*Pn	**Pn**	**05 01 55.3**	**-0.2**
PBEJ				*e*Sn	**Sn**	**05 02 41.3**	**-2.0**
PBEJ				A	A	05 02 49.5	
	18nm,0.8s						
MESJ	**Messejana**	**4.25**	**302**	*e*P	**Pn**	**05 01 56.9**	**-0.6**
MESJ				*e*S	**Sn**	**05 02 42.9**	**-3.8**
MESJ				IAML		05 02 47.1	
	comp=N,26nm,0.2s						
MESJ	**Messejana**	**4.25**	**302**	*e*Pn	**Pn**	**05 01 57.1**	**-0.3**
MESJ				*e*Sn	**Sn**	**05 02 44.6**	**-2.1**
MESJ				A	A	05 02 51.6	
	comp=N,30nm,0.7s						
MORF	**Marmelete**	**4.34**	**294**	*e*P	**Pn**	**05 01 57.8**	**-0.8**
MORF				*e*S	**Sn**	**05 02 44.9**	**-3.9**
MORF				IAML		05 02 49.2	
	comp=N,44nm,0.4s						
MORF	**Marmelete**	**4.34**	**294**	*e*Pn	**Pn**	**05 01 58.1**	**-0.5**
MORF				*e*Sn	**Sn**	**05 02 47.6**	**-1.2**
MORF				A	A	05 02 59.1	
	comp=N,21nm,0.5s						
PFVI	**Vila Bisbo**	**4.41**	**291**	*e*Pn	**Pn**	**05 01 59.9**	**+0.3**
PFVI				*e*Sn	**Sn**	**05 02 47.5**	**-3.0**
PFVI				A	A	05 02 59.1	
	comp=N,23nm,0.8s						
PFVI	**Vila Bisbo**	**4.41**	**291**	P	**Pn**	**05 02 00.3**	**+0.7**
PTEO	**Sao Teotonio**	**4.48**	**297**	*e*Pn	**Pn**	**05 02 00.9**	**+0.4**
PTEO				*e*Sn	**Sn**	**05 02 50.3**	**-2.0**
PTEO				A	A	05 02 54.3	
	comp=N,34nm,0.6s						
PESTR	**Estremoz**	**4.48**	**317**	*e*Pn	**Pn**	**05 02 01.5**	**+0.9**
PESTR				*e*Sn	**Sn**	**05 02 50.7**	**-1.6**
PESTR				A	A	05 03 17.1	
	comp=N,20nm,0.5s						
PESTR	**Estremoz**	**4.48**	**317**	P	**Pn**	**05 02 00.4**	**-0.2**
EVO	**Evora**	**4.51**	**311**	P	**Pn**	**05 02 00.9**	**0.0**
EVO				S	**Sn**	**05 02 50.3**	**-2.7**
EVO	**Evora**	**4.51**	**311**	*e*Pn	**Pn**	**05 02 01.0**	**+0.1**
EVO				*e*Sn	**Sn**	**05 02 50.2**	**-2.7**
EVO				A	A	05 02 56.4	
	comp=N,33nm,0.3s						
PNCL	**Nicolau / Gran**	**4.60**	**304**	*e*Pn	**Pn**	**05 02 01.9**	**-0.3**
PNCL				*e*Sn	**Sn**	**05 02 52.6**	**-2.7**
PNCL				A	A	05 02 54.9	
	comp=N,22nm,0.5s						
UCM	**Universidad Co**	**4.67**	**4**	P	**Pn**	**05 02 04.5**	**+1.3**
UCM				S	**Sn**	**05 02 57.2**	**+0.2**
PMRV	**Marv??o**	**4.79**	**323**	*e*Pn	**Pn**	**05 02 05.7**	**+0.8**
PMRV				*e*Sn	**Sn**	**05 02 58.8**	**-1.2**
PMRV				A	A	05 03 25.6	
	comp=N,26nm,0.6s						
PMTG	**Montargil**	**4.98**	**315**	*e*Pn	**Pn**	**05 02 08.0**	**+0.6**
PMTG				*e*Sn	**Sn**	**05 03 03.2**	**-1.4**
PMTG				A	A	05 03 18.4	
	comp=N,16nm,0.4s						
TZRR	**Tazzarine**	**5.09**	**199**	P	**Pn**	**05 02 09.4**	**+0.3**
PCBR	**Castelo Branco**	**5.16**	**325**	*e*Pn	**Pn**	**05 02 10.7**	**+0.8**
PCBR				*e*Sn	**Sn**	**05 03 07.6**	**-1.4**
PCBR				A	A	05 03 09.7	
	comp=N,35nm,0.5s						
PMST	**Lisbon--Monsan**	**5.37**	**307**	*e*Pn	**Pn**	**05 02 13.2**	**+0.4**
PMST				*e*Sn	**Sn**	**05 03 14.0**	**-0.2**
OUZM	**OUZ**	**5.38**	**210**	P	**Pn**	**05 02 14.0**	**+0.9**
PMAFR	**Mafra**	**5.56**	**308**	*e*Pn	**Pn**	**05 02 15.9**	**+0.5**
PMAFR				*e*Sn	**Sn**	**05 03 16.4**	**-2.4**
PMAFR				A	A	05 03 17.4	
	comp=N,32nm,0.4s						
PSBE	**So Bento**	**5.61**	**315**	*e*Pn	**Pn**	**05 02 16.8**	**+0.7**
PSBE				*e*Sn	**Sn**	**05 03 18.6**	**-1.5**
PSBE				A	A	05 03 21.4	
	comp=N,15nm,0.4s						
OUK	**Oukaimeden**	**5.64**	**220**	P	**Pn**	**05 02 15.5**	**-1.3**
MTE	**Manteigas**	**5.64**	**328**	*e*Pn	**Pn**	**05 02 17.9**	**+1.3**
MTE				*e*Sn	**Sn**	**05 03 19.5**	**-1.6**
MTE				A	A	05 03 28.4	
	comp=N,25nm,0.4s						
ZGR	**Zagora**	**5.74**	**197**	P	**Pn**	**05 02 19.5**	**+1.5**
PCAS	**Casmilo, Conde**	**5.82**	**321**	*e*Pn	**Pn**	**05 02 19.1**	**+0.1**
PCAS				*e*Sn	**Sn**	**05 03 21.5**	**-3.9**
PCAS				A	A	05 04 00.0	
	comp=N,23nm,0.6s						
PVIS	**Viseu**	**6.05**	**328**	*e*Pn	**Pn**	**05 02 23.3**	**+1.1**
PVIS				*e*Sn	**Sn**	**05 03 29.1**	**-2.1**
PVIS				A	A	05 03 33.8	
	comp=N,20nm,0.6s						
MVO	**Moncorvo**	**6.11**	**336**	*e*Pn	**Pn**	**05 02 24.2**	**+1.2**
MVO				*e*Sn	**Sn**	**05 03 29.8**	**-2.7**
MVO				A	A	05 03 44.6	
	comp=N,17nm,0.8s						
PVRL	**Vila Real**	**6.45**	**332**	*e*Pn	**Pn**	**05 02 28.9**	**+1.2**
PVRL				*e*Sn	**Sn**	**05 03 38.6**	**-2.4**
PVRL				A	A	05 03 40.5	
	comp=N,23nm,0.5s						
TTIG	**Tnine Tigouga,**	**6.46**	**220**	P	**Pn**	**05 02 25.1**	**-2.8**
POLO	**Lamas de Olo**	**6.57**	**332**	*e*Pn	**Pn**	**05 02 30.7**	**+1.4**
POLO				*e*Sn	**Sn**	**05 03 41.4**	**-2.5**
POLO				A	A	05 03 45.3	
	comp=N,10nm,0.5s						
PBRG	**Braganca**	**6.60**	**340**	*e*Pn	**Pn**	**05 02 31.4**	**+1.7**
PBRG				*e*Sn	**Sn**	**05 03 43.3**	**-1.3**
PBRG				A	A	05 03 46.6	
	comp=N,9.9nm,0.6s						
PTO	**Porto**	**6.71**	**326**	*e*Pn	**Pn**	**05 02 32.1**	**+0.9**
PTO				*e*Sn	**Sn**	**05 03 44.2**	**-3.0**
PCAB	**Cabril**	**6.95**	**332**	*e*Pn	**Pn**	**05 02 35.7**	**+1.2**
PCAB				*e*Sn	**Sn**	**05 03 50.4**	**-2.7**
PCAB				A	A	05 03 56.6	
	comp=N,15nm,0.7s						
PGAV	**Gavieira, Arco**	**7.26**	**332**	*e*Pn	**Pn**	**05 02 40.0**	**+1.2**
PGAV				*e*Sn	**Sn**	**05 03 58.2**	**-2.6**
PGAV				A	A	05 04 05.9	
	comp=N,15nm,0.5s						
ETSF	**Etsaut**	**7.64**	**18**	*e*Pn	**Pn**	**05 02 46.7**	**+2.7**
ETSF				*e*Sn	**Sn**	**05 04 10.4**	**+0.2**
	comp=N,1.3nm,0.3s						
SJPF	**Ste Jean**	**7.70**	**14**	*e*Pn	**Pn**	**05 02 46.5**	**+1.7**
SJPF				*e*Sn	**Sn**	**05 04 10.1**	**-1.5**
	comp=N,2.0nm,0.3s						
EPF	**Esparros**	**8.01**	**22**	*e*Pn	**Pn**	**05 02 50.4**	**+1.4**
EPF				*e*Sn	**Sn**	**05 04 18.5**	**-0.7**
	comp=N,1.3nm,0.4s						
MTLF	**Montolieu**	**8.94**	**29**	*e*Pn	**Pn**	**05 03 05.0**	**+3.3**
TANT	**Tantan**	**9.65**	**224**	P	**Pn**	**05 03 10.5**	**-1.0**
SMRF	**Simiane la Rot**	**10.95**	**38**	*e*Pn	**Pn**	**05 03 31.0**	**+1.7**
SBF	**Sospel**	**11.85**	**43**	*e*Pn	**Pn**	**05 03 42.5**	**+0.9**
SBF				*e*Sn	**Sn**	**05 05 49.6**	**-3.8**
	comp=N,0.9nm,0.2s						
PGF	**Pioggiola**	**12.02**	**51**	*e*Pn	**Pn**	**05 03 46.4**	**+2.4**
PGF				*e*Sn	**Sn**	**05 05 53.6**	**-4.1**
	comp=N,0.6nm,0.5s						
GERES	**GERESS Array B**	**18.37**	**39**	P	**Pn**	**05 05 09.3**	**+1.9**
	comp=N,0.1nm,0.3s,baz=214,slow=10,SNR=1.9						
TORD	**Torodi Ar. Bea**	**22.92**	**166**	P	**P**	**05 05 58.4**	**+1.8**
	comp=N,2.9nm,0.9s,baz=345,slow=12,SNR=9.0						
SCHQ	**Schefferville**	**46.69**	**315**	P	**P**	**05 09 21.8**	**+0.8**
	comp=N,1.1nm,0.5s,baz=76,slow=8.3,SNR=1.5						
MKAR	**Makanchi Array**	**62.56**	**51**	P	**P**	**05 11 17.4**	**+1.0**
	comp=N,0.9nm,0.6s,baz=281,slow=6.5,SNR=5.8						
YKA	**Yellowknife Ar**	**67.74**	**332**	P	**P**	**05 11 50.0**	**+0.4**
	comp=N,0.5nm,0.7s,baz=60,slow=6.4,SNR=3.8						
SONM	**Songino Array**	**76.09**	**41**	P	**P**	**05 12 41.5**	**+1.3**
	comp=N,0.3nm,0.8s,baz=278,slow=10.0,SNR=2.7						
PDAR	**Pinedale Array**	**76.80**	**313**	P	**P**	**05 12 44.8**	**+0.4**
	comp=N,0.3nm,0.7s,baz=69,slow=4.9,SNR=2.8						

*IDC **25** 05:03:44.0±0.6, 35°.68N×3°.81W, h0km, mb4.2/19, mb1 4.3/24, mb1mx4.2/43, mbtmp4.2/24, ML4.0/5, Error ellipse: s-maj=17.6km s-min=13.0km az=105.0*
*SFS **25** 05:03:44.0, 35°.57N×3°.81W, ML4.4, ALBORAN SUR*
*CNRM **25** 05:03:44.1, 35°.58N×3°.58W, h10km, ml4.7*
*MDD **25** 05:03:44.3±0.7, 35°.64N×3°.84W, h0km, mbLg4.3/9, Error ellipse: s-maj=6.1km s-min=3.9km az=19.0*
*INMG **25** 05:03:45.0±2.1, 35°.66N×3°.75W, h3km±6km, MD3.8, ML4.1, Error ellipse: s-maj=4.4km s-min=4.0km az=83.0*
*MED_RC **25** 05:03:45.0±1.3, 35°.52N×3°.84W, h21km±10km, MW4.9/6, Moment Tensor Solution.Mantle waves: s6,c6; Duration: 1s0 Moment tensor: Scale 10^16Nm; M_{rr}-0.42±1.66; $M_{\theta\theta}$-2.19±.96; $M_{\phi\phi}$2.61±.87; $M_{r\theta}$-0.46±.58; $M_{\theta\phi}$-0.38±.51; $M_{\phi r}$-0.07±1.55; Best double couple: $M_0$2.49000×10^16 NP1:ϕ_s40.00000°, δ81.00000°, λ-10.00000°. NP2: ϕ_s131.00000°, δ80.00000°, λ-171.00000°. Principal axes: T 2.6400, Plg1.0000°, Azm86.0000°; N -0.3100, Plg76.0000°, Azm178.0000°; P -2.3300, Plg14.0000°, Azm355.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*LDG **25** 05:03:45.2±0.4, 35°.44N×3°.81W, h10km, Ml3.9/14 Error ellipse: s-maj=10.2km s-min=6.5km az=2.0*
*IGIL **25** 05:03:46.1, 35°.64N×3°.84W, h0km, ML3.9*
*NEIC **25** 05:03:46.3±2.0, 35°.68N±0°.06×3°.75W±0°.08, h10km±1km, mb4.7/72, Error ellipse: s-maj=10.9km s-min=9.1km az=123.0*
*CRAAG **25** 05:03:47.2, 35°.59N×3°.81W, Mb4.6*
ISC 25 05:03:45.3±0.7, 35°.65N±0°.02×3°.75W±0°.02, h10km±4km, n316, σ1§81/369, mb4.6/59, 22C-10D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.46**	**200**	P	**Pg**	**05 03 53.2**	**-1.2**
PALE				S	**Sg**	**05 03 58.9**	**-1.5**
EALB	**Alboran**	**0.65**	**63**	Pg	**Pg**	**05 03 58.5**	**+0.7**
	5μm,0.4s,SNR=120						
EALB				Lg	Lg	05 04 08.9	
	14μm,0.2s,SNR=14						
EMEL	**Melilla**	**0.73**	**118**	Pg	**Pg**	**05 03 58.9**	**-0.6**
	SNR=7.9						
EMEL				Lg	Lg	05 04 08.6	
	36μm,0.2s,SNR=19						
CHAS	**Isla Isabel II**	**1.17**	**113**	P	**Pn**	**05 04 04.9**	**-2.9**
CHAS				S	**Sb**	**05 04 20.5**	**-2.4**
ELGU	**Los Guajares,**	**1.22**	**4**	Pg	**Pn**	**05 04 07.1**	**-1.5**
	SNR=7.9						
ELGU				Lg	Lg	05 04 23.9	
	9μm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.23**	**318**	Pg	**Pb**	**05 04 06.7**	**-2.1**
	234nm,0.3s,SNR=30						
EMIJ				Lg	Lg	05 04 23.7	
	5μm,0.4s,SNR=16						
EMAL	**Malaga-Limoner**	**1.24**	**334**	P	**Pn**	**05 04 07.3**	**-1.4**
EMAL				S	**Sb**	**05 04 23.0**	**-1.9**
CEU	**Ceuta**	**1.35**	**281**	P	**Pn**	**05 04 06.1**	**-4.1**
CEU				S	**Sb**	**05 04 22.8**	**-5.1**
ECEU	**Ceuta**	**1.35**	**281**	Pg	**Pn**	**05 04 07.8**	**-2.5**
	263nm,0.6s,SNR=23						
ECEU				Lg	Lg	05 04 23.6	
	512nm,0.2s,SNR=16						
CHEFC	**Chefchaouen**	**1.41**	**248**	P	**Pn**	**05 04 10.2**	**-1.0**
CHEFC				S	**Sg**	**05 04 31.1**	**+0.3**
EBER	**Berja**	**1.42**	**29**	Pg	**Pn**	**05 04 10.3**	**-1.1**
	250nm,0.4s,SNR=21						
EBER				Lg	Lg	05 04 28.2	
	5μm,0.5s,SNR=11						
EGOR	**Sierra Gorda,**	**1.49**	**349**	Pg	**Pn**	**05 04 11.6**	**-0.7**
	SNR=7.9						
EGOR				Lg	Lg	05 04 32.8	
	5μm,0.7s,SNR=7.9						
EQUE	**Quentar**	**1.57**	**9**	Pg	**Pn**	**05 04 13.5**	**0.0**
	267nm,0.3s,SNR=56						
EQUE				Lg	Lg	05 04 34.1	
	1μm,0.3s,SNR=16						
EJIF	**Jimena Fronter**	**1.61**	**300**	Pg	**Pn**	**05 04 12.9**	**-0.9**
	SNR=7.9						
JBK	**JBK**	**1.63**	**143**	P	**Pn**	**05 04 12.0**	**-2.4**
JBK				S	**Sn**	**05 04 30.8**	**-4.7**
CPS	**Cap Spartel**	**1.76**	**275**	P	**Pg**	**05 04 18.5**	**-0.7**
ENIJ	**Nijar**	**1.81**	**43**	Pn	**Pn**	**05 04 14.9**	**-1.7**
	SNR=7.9						
ENIJ				Sn	**Sn**	**05 04 38.1**	**-1.6**
	SNR=7.9						
RSA	**Sarsar**	**1.86**	**246**	P	**Pb**	**05 04 18.3**	**-1.2**
RSA				S	**Sg**	**05 04 44.8**	**-0.4**
SICH	**Sidi Chahed**	**2.01**	**220**	P	**Pb**	**05 04 20.3**	**-1.8**
SICH				S	**Sb**	**05 04 46.6**	**-0.5**
SFS	**San Fernando**	**2.15**	**293**	P	**Pb**	**05 04 23.8**	**-0.7**
SFS				S	**Sg**	**05 04 53.2**	**-1.3**
SFS	**San Fernando**	**2.15**	**293**		**Pb**	**05 04 21.9**	**-2.6**
LCRM	**LCR**	**2.16**	**205**	P	**Pn**	**05 04 21.1**	**-0.5**
LCRM				S	**Sb**	**05 04 49.4**	**-2.3**
EQES	**Quesada**	**2.21**	**14**	Pg	**Pb**	**05 04 24.0**	**-1.6**
	517nm,0.4s,SNR=56						
EQES				Lg	Lg	05 04 53.5	
	4μm,0.5s,SNR=7.5						
IFR	**Ifrane**	**2.41**	**209**	P	**Pn**	**05 04 24.1**	**-1.0**
IFR				S	**Sn**	**05 04 52.0**	**-2.8**
ARNO	**Arenosillo**	**2.81**	**302**	P	**Pn**	**05 04 30.3**	**0.0**
ARNO				S	**Sn**	**05 05 04.0**	**-0.2**
MD31	**MD31**	**2.90**	**197**	P	**Pn**	**05 04 31.2**	**-0.5**
MDT	**Midelt**	**2.92**	**194**	Pn	**Pn**	**05 04 32.1**	**+0.1**
	16nm,0.3s,baz=17,slow=11,SNR=11						
MDT				Sn	**Sn**	**05 05 05.8**	**-1.3**
	50nm,0.3s,baz=142,slow=15,SNR=4.0						
MDT	**Midelt**	**2.92**	**194**	P	**Pn**	**05 04 32.0**	**+0.1**
CART	**Cartagena**	**2.93**	**48**	P	**Pn**	**05 04 30.3**	**-1.8**
CART				S	**Sn**	**05 05 03.9**	**-3.4**
CART	**Cartagena**	**2.93**	**48**	Pn	**Pn**	**05 04 32.0**	**0.0**
TDRA	**Tendrara**	**2.97**	**151**	P	**Pn**	**05 04 31.4**	**-1.3**
PVAQ	**Vaqueiros**	**3.65**	**300**	*e*Pn	**Pn**	**05 04 41.2**	**-0.6**
PVAQ				*e*Sn	**Sn**	**05 05 21.4**	**-3.5**
PVAQ				A	A	05 05 30.5	
	177nm,0.5s						
PVAQ	**Vaqueiros**	**3.65**	**300**	Pn	**Pn**	**05 04 40.5**	**-1.3**
PVAQ	**Vaqueiros**	**3.65**	**300**	P	**Pn**	**05 04 41.2**	**-0.6**
PBAR	**Barrancos**	**3.65**	**315**	*e*Pn	**Pn**	**05 04 42.1**	**+0.2**
PBAR				*e*Sn	**Sn**	**05 05 22.7**	**-2.3**
PBAR				A	A	05 05 34.3	
	227nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.73**	**296**	*e*Pn	**Pn**	**05 04 42.2**	**-0.8**
PBDV				*e*Sn	**Sn**	**05 05 24.3**	**-2.7**
PBDV				A	A	05 05 35.3	
	115nm,0.3s						
AVE	**Averroes**	**3.83**	**233**	P	**Pn**	**05 04 43.9**	**-0.5**
AVE				S	Sn	05 05 07.1	-22
AVE	**Averroes**	**3.83**	**233**	P	**Pn**	**05 04 43.9**	**-0.5**
PAB	**San Pablo**	**3.92**	**353**	Pn	**Pn**	**05 04 46.5**	**+0.8**
PAB	**San Pablo**	**3.92**	**353**	P	**Pn**	**05 04 47.5**	**+1.8**
EANR	**`Ain N'Sour**	**3.95**	**84**	P	**Pn**	**05 04 48.0**	**+1.9**
PCVE	**Castro Verde**	**3.98**	**301**	*e*Pn	**Pn**	**05 04 45.7**	**-0.7**
PCVE				*e*Sn	**Sn**	**05 05 31.4**	**-1.7**
PCVE				A	A	05 05 40.9	
	153nm,0.6s						
ESDC	**Sonseca Array**	**4.02**	**358**	Pn	**Pn**	**05 04 48.2**	**+1.2**
	13nm,0.3s,baz=180,slow=12,SNR=53						
ESDC				Sn	**Sn**	**05 05 33.8**	**-0.5**
	12nm,0.3s,baz=184,slow=18,SNR=6.7						
ESDC	**Sonseca Array**	**4.02**	**358**	Pn	**Pn**	**05 04 48.5**	**+1.4**
ESBB	**Sonseca Array**	**4.02**	**358**	Pn	**Pn**	**05 04 48.5**	**+1.5**
GOLM	**Goulmima**	**4.06**	**195**	P	**Pn**	**05 04 48.2**	**+0.5**
PBEJ	**Beja**	**4.07**	**307**	*e*Pn	**Pn**	**05 04 47.3**	**-0.3**
PBEJ				*e*Sn	**Sn**	**05 05 32.3**	**-3.0**
PBEJ				A	A	05 05 42.0	
	134nm,0.6s						
MESJ	**Messejana**	**4.21**	**303**	*e*P	**Pn**	**05 04 48.8**	**-0.7**
MESJ				*e*S	**Sn**	**05 05 34.5**	**-4.2**
MESJ				IAML		05 05 42.9	
	comp=N,193nm,0.4s						
MESJ	**Messejana**	**4.21**	**303**	*e*Pn	**Pn**	**05 04 49.0**	**-0.5**
MESJ				*e*Sn	**Sn**	**05 05 36.5**	**-2.2**
MESJ				A	A	05 05 46.3	
	comp=N,239nm,0.7s						
MORF	**Marmelete**	**4.28**	**294**	*e*P	**Pn**	**05 04 49.7**	**-0.9**
MORF				*e*S	**Sn**	**05 05 36.4**	**-4.3**
MORF				IAML		05 05 46.7	
	comp=N,348nm,0.6s						
MORF	**Marmelete**	**4.28**	**294**	*e*Pn	**Pn**	**05 04 49.8**	**-0.9**
MORF				*e*Sn	**Sn**	**05 05 38.3**	**-2.4**
MORF				A	A	05 05 53.1	
	comp=N,109nm,0.4s						
PFVI	**Vila Bisbo**	**4.36**	**291**	*e*Pn	**Pn**	**05 04 50.7**	**-0.9**
PFVI				*e*Sn	**Sn**	**05 05 39.8**	**-2.7**
PFVI				A	A	05 05 54.5	
	comp=N,159nm,0.6s						
PFVI	**Vila Bisbo**	**4.36**	**291**	Pn	**Pn**	**05 04 50.9**	**-0.7**
PFVI	**Vila Bisbo**	**4.36**	**291**	P	**Pn**	**05 04 50.9**	**-0.7**
PTEO	**Sao Teotonio**	**4.43**	**297**	*e*Pn	**Pn**	**05 04 52.2**	**-0.4**
PTEO				*e*Sn	**Sn**	**05 05 41.7**	**-2.5**
PTEO				A	A	05 06 01.4	
	comp=N,193nm,0.7s						
PESTR	**Estremoz**	**4.44**	**317**	*e*Pn	**Pn**	**05 04 53.2**	**+0.4**
PESTR				*e*Sn	**Sn**	**05 05 42.7**	**-1.8**
PESTR				A	A	05 06 14.3	
	comp=N,148nm,0.4s						
PESTR	**Estremoz**	**4.44**	**317**	Pn	**Pn**	**05 04 53.2**	**+0.4**
PESTR	**Estremoz**	**4.44**	**317**	P	**Pn**	**05 04 53.2**	**+0.4**
EVO	**Evora**	**4.46**	**311**	P	**Pn**	**05 04 52.9**	**-0.2**
EVO				S	**Sn**	**05 05 41.0**	**-4.0**
EVO	**Evora**	**4.46**	**311**	*e*Pn	**Pn**	**05 04 53.0**	**-0.1**
EVO				*e*Sn	**Sn**	**05 05 42.7**	**-2.3**
EVO				A	A	05 05 53.4	
	comp=N,215nm,0.6s						
PNCL	**Nicolau / Gran**	**4.55**	**304**	*e*Pn	**Pn**	**05 04 53.7**	**-0.6**
PNCL				*e*Sn	**Sn**	**05 05 45.5**	**-1.8**
PNCL				A	A	05 06 02.5	
	comp=N,123nm,0.6s						
UCM	**Universidad Co**	**4.67**	**5**	P	**Pn**	**05 04 57.1**	**+1.2**
UCM				S	**Sn**	**05 05 49.7**	**-0.4**
PMRV	**Marv??o**	**4.75**	**324**	*e*Pn	**Pn**	**05 04 57.4**	**+0.3**
PMRV				*e*Sn	**Sn**	**05 05 50.2**	**-2.1**
PMRV				A	A	05 06 30.9	
	comp=N,201nm,0.7s						
PMTG	**Montargil**	**4.94**	**315**	*e*Pn	**Pn**	**05 04 59.8**	**+0.2**
PMTG				*e*Sn	**Sn**	**05 05 55.0**	**-1.7**
PMTG				A	A	05 06 32.0	
	comp=N,172nm,0.5s						
TZRR	**Tazzarine**	**5.09**	**198**	P	**Pn**	**05 05 01.0**	**-0.8**
PCBR	**Castelo Branco**	**5.12**	**326**	*e*Pn	**Pn**	**05 05 02.7**	**+0.6**
PCBR				*e*Sn	**Sn**	**05 05 59.4**	**-1.9**
PCBR				A	A	05 06 07.0	
	comp=N,253nm,0.7s						
LIS	**Lisbon**	**5.29**	**307**	*e*Pn	**Pn**	**05 05 04.7**	**+0.3**
LIS				*e

comp=N,0.6nm,0.3s,baz=198,slow=7.1,SNR=11
KEST Kesra 10.65 86 Pn Pn 05 06 18.0 -0.1
SMRF Simiane la Rot 10.97 38 ePn Pn 05 06 24.7 +2.3
LMR La Mourre 11.02 43 ePn Pn 05 06 25.7 +2.7
LMR eSn Sn 05 08 19.6 -6.8
comp=N,1.1nm,0.3s
VSL Villasalto 11.10 66 Pn Pn 05 06 24.4 +0.3
VIVF Saint-Julien-l 11.21 32 ePn Pn 05 06 27.2 +1.5
MFF Saint Martin d 11.27 13 ePn Pn 05 06 26.7 +0.3
PMAR Madeira 11.29 259 P Pn 05 06 25.1 -1.8
TCF Toulx Ste Croi 11.54 21 ePn Pn 05 06 30.0 -0.1
ORIF Oris-en-Rattie 11.81 35 ePn Pn 05 06 36.0 +2.1
SBF Sospel 11.88 43 ePn Pn 05 06 37.1 +2.3
BGF Bois d'Agland 11.97 22 ePn Pn 05 06 35.9 -0.1
PGF Pioggiola 12.05 51 ePn Pn 05 06 39.2 +1.9
PGF eSn Sn 05 08 46.9 -4.9
comp=N,5.4nm,0.6s
MBDF Montbardon 12.11 38 ePn Pn 05 06 40.4 +2.4
MBDF Montbardon 12.11 38 eP Pn 05 06 46.0 +8.0
QUIF Quistinic 12.26 2 ePn Pn 05 06 40.9 +0.9
QUIF eSn Sn 05 08 52.1 -4.6
comp=N,8.1nm,0.4s
AVF Avril sur Loir 12.34 23 ePn Pn 05 06 42.6 +1.6
SMF Signal de Mont 12.38 25 ePn Pn 05 06 41.7 +0.2
SGMF Saint Gilles 12.62 4 ePn Pn 05 06 46.4 +1.5
SGMF eSn Sn 05 08 59.3 -6.2
comp=N,3.2nm,0.4s
SSF Saint Saulge 12.63 23 ePn Pn 05 06 45.2 +0.2
LPG La Plagne 12.65 36 eP Pn 05 06 52.7 +7.1
LPL La Plagne 12.66 36 ePn Pn 05 06 47.6 +2.0
LPL La Plagne 12.66 36 eP Pn 05 06 51.8 +6.2
ROSF Rostrenen 12.68 1 ePn Pn 05 06 46.9 +1.2
ROSF eSn Sn 05 09 00.7 -6.2
comp=N,7.2nm,0.4s
GRR Gorron 12.91 9 ePn Pn 05 06 49.6 +0.8
GRR eSn Sn 05 09 06.7 -5.7
comp=N,2.6nm,0.2s
CLF Chambon-Foret 13.14 18 Pn Pn 05 06 52.7 +0.7
LDF La Druitiere 13.21 11 ePn Pn 05 06 53.5 +0.6
FLN La Foliniere 13.32 9 ePn Pn 05 06 54.2 -0.2
baz=190
CASP Castiglione de 13.38 53 Pn Pn 05 06 57.3 +2.1
VLC Villacollemand 13.77 48 Pn Pn 05 07 03.8 +3.2
OSSC Osservatorio P 13.97 51 Pn Pn 05 07 06.7 +3.4
ZCCA Zocca 14.22 48 Pn Pn 05 07 07.1 +0.2
MURB Monte Urbino 14.67 54 Pn Pn 05 07 12.5 -0.5
NRCA Norcia 14.89 56 Pn Pn 05 07 14.8 -1.2
DAVOX Davos/Dischmat 15.10 38 Pn P 05 07 23.5 -0.7
comp=N,0.2nm,0.3s,baz=216,slow=17,SNR=11
DAVA Damuels 15.45 37 ePn P 05 07 29.6 +1.7
comp=N,10nm,1.0s
CTI Castel Tesino 15.58 44 P P 05 07 29.6 +0.1
DOU Dourbes 15.66 20 x x 05 07 37.5
FETA Feichten 15.69 39 ePn P 05 07 31.2 +0.4
comp=N,19nm,1.1s
WLF Walferdange 15.76 24 P P 05 07 32.7 +1.4
WLF PP PbPb 05 08 22.6 +3.2
BMRD Maredsous 15.90 20 P P 05 07 34.6 +1.8
BMRD x x 05 07 38.4
RCHB Rochefort 15.90 21 P P 05 07 35.0 +2.2
RCHB x x 05 07 38.3
RETA Reutte 16.02 38 ePn P 05 07 35.9 +1.6
comp=N,12nm,1.1s
BGES Gesves 16.06 21 P P 05 07 34.0 -0.6
SQTA Sankt Quirin 16.07 39 ePn P 05 07 36.0 +1.1
comp=N,15nm,1.1s
MOTA Moosalm 16.10 39 ePn P 05 07 36.1 +0.9
comp=N,6.7nm,1.1s
BCLA Clavier 16.16 21 P P 05 07 37.3 +1.7
STAL STALIGIAL 16.30 44 P P 05 07 38.0 +0.7
BHOU Houvegnez 16.31 23 P P 05 07 36.8 -0.6
WTTA Wattenberg 16.32 40 ePn P 05 07 38.9 +1.2
comp=N,14nm,1.1s
WATA Walderalm 16.34 40 ePn P 05 07 38.6 +0.7
comp=N,17nm,1.3s
ABTA Abfaltersbach 16.48 43 ePn P 05 07 41.3 +2.0
comp=N,9.5nm,1.5s
MEM Membach 16.54 22 P P 05 07 40.2 +0.4
BTNL Ternell 16.55 23 P P 05 07 41.2 +1.2
MYKA Terra Mystica 17.04 45 ePn P 05 07 48.7 +3.1
comp=N,6.3nm,1.2s
KBA Koelnbreinsper 17.13 43 ePn P 05 07 48.0 +1.3
comp=N,7.1nm,1.1s
OBKA Obir 17.50 46 ePn P 05 07 50.4 -0.3
comp=N,10nm,1.4s
GRFO Grafenberg 17.78 33 P Pn 05 07 53.3 +0.4
GRA1 Grafenberg Arr 17.79 33 P Pn 05 07 53.3 +0.4
SOKA Soboth 17.88 46 ePn Pn 05 07 54.3 +0.1
comp=N,7.9nm,1.5s
MOA Molln 18.09 42 ePn P 05 07 57.9 +0.9
comp=N,5.9nm,1.3s
GEC2 GERESS Array S 18.40 39 P Pn 05 08 01.9 +1.3
GERES GERESS Array B 18.40 39 P Pn 05 08 01.8 +1.2
comp=N,0.1nm,0.3s,baz=219,slow=10,SNR=13
GERES GERESS Array B 18.40 39 P Pn 05 08 02.2 +1.6
ARSA Arzberg 18.46 45 ePn Pn 05 08 03.5 +2.2
comp=N,7.6nm,1.1s
KHC Kasperske Hory 18.52 38 eP Pn 05 08 05.8 +3.8
CKRC Cesky Krumlov 18.70 40 eP Pn 05 08 08.4 +4.3
CONA Conrad Observa 19.02 44 ePn Pn 05 08 09.8 +1.7
comp=N,6.0nm,1.0s
PDG Podgorica 19.07 62 ⇑P P 05 08 08.5 +0.6
PRU Pruhonice 19.55 37 eP Pn 05 08 15.0 +0.6
EKA Eskdalemuir Ar 19.69 1 P Pn 05 08 15.7 -0.3
baz=179,slow=11,SNR=8.5
CLL Collm 19.74 32 *i* P Pn 05 08 16.5 -0.1
comp=Z,12nm,1.0s
CLL *i* pP sP 05 08 19.3 +0.6
comp=Z,17nm,1.0s
CLL *i* x x 05 08 23.7
CLL Collm 19.74 32 P Pn 05 08 16.5 -0.1
BRG Berggiesshubel 19.86 35 eP Pn 05 08 18.3 +0.3
BRG Amp 05 08 24.7
comp=Z,32nm,1.7s
KBN Korca 19.90 68 P Pn 05 08 18.2 -0.5
KBN IAmb IAmb 05 08 19.8
comp=Z,31nm,1.2s
KRUC Moravsky 19.95 42 eP Pn 05 08 20.6 +1.5
OHR Ohrid 19.97 67 *i* P P 05 08 18.6 +0.8
MODS Modra-Piesok 20.06 44 eP Pn 05 08 21.7 +1.3
VRAC Vranov 20.20 41 ⇓P Pn 05 08 21.6 -0.5
VRAC Vranov 20.20 41 P P 05 08 20.4 +0.2
comp=Z,2.0nm,0.4s,baz=234,slow=14,SNR=2.8
VRAC Vranov 20.20 41 eP Pn 05 08 21.4 -0.6
SMOL Smolenice 20.22 44 eP Pn 05 08 22.3 0.0
FRGS Fruska Gora 20.24 55 ⇑P P 05 08 20.7 +0.1
SKO Skopje 20.58 65 *i* P Pn 05 08 29.8 +3.2
DPC Dobruska-Polom 20.67 39 eP P 05 08 26.5 +1.2
CHVC Chvalec 20.68 38 eP P 05 08 26.6 +1.2
KRLC Kraliky 20.74 40 eP P 05 08 26.6 +0.5
MORC Moravsky Berou 20.97 41 ⇑P P 05 08 30.8 +2.2
MORC Moravsky Berou 20.97 41 eP P 05 08 29.4 +0.8
MORC Moravsky Berou 20.97 41 P P 05 08 29.2 +0.7
AGG Agios Georgios 20.98 73 P P 05 08 30.2 +1.5
AGG IAmb IAmb 05 08 33.6
comp=Z,34nm,1.3s
VYHS Vyhne 21.02 45 eP P 05 08 29.8 +0.8
BOVS Bovan 21.10 60 ⇑P P 05 08 32.0 +2.1
VAY Valandovo 21.32 67 *i* P P 05 08 34.8 +2.5
PSZ Piszkesteto 21.37 48 P P 05 08 33.7 +0.7
MDVR Moldovita 21.40 57 ⇑P P 05 08 38.5 +5.2
BZS Buzias 21.59 55 ⇑P P 05 08 34.9 -0.3
LANS Liptovska Anna 21.70 44 eP P 05 08 38.0 +1.6
SIRR Siria 21.83 53 ⇓P P 05 08 43.0 +5.1
HERR Herculane 21.91 57 ⇑P P 05 08 38.9 +0.2
DJES Djerdap 21.93 58 ⇑P P 05 08 47.2 +8.4
VTS Vitosha 22.00 63 ⇓P P 05 08 35.8 -3.9
VTS Vitosha 22.00 63 P P 05 08 40.5 +0.7
GZR Gura Zlata 22.30 56 ⇑P P 05 08 40.3 -2.6
LTVH Ltavrtes, Hu 22.39 51 ⇓P P 05 08 46.7 +3.0
OJC Ojcow 22.43 42 P P 05 08 44.8 +0.5
CRVS Cervenica-Dubn 22.75 47 eP P 05 08 49.0 +1.4
TORD Torodi Ar. Bea 22.94 166 P P 05 08 49.8 +0.1
comp=Z,19nm,1.0s,baz=349,slow=8.1,SNR=36
TORD Torodi Ar. Bea 22.94 166 IAmb IAmb 05 08 58.1
comp=Z,36nm,1.2s
LOT Lotru 22.99 56 ⇑P P 05 08 53.7 +3.4
TRPA Tarpa 23.07 49 ⇑P P 05 08 51.5 +0.5
BMR Baia Mare 23.50 51 ⇑P P 05 08 57.6 +2.3
ARR Arges 23.55 57 ⇓P P 05 08 56.2 +0.3
ARCR ARCALIA 23.85 53 ⇓P P 05 08 56.9 -1.9
VOIR 23.86 57 ⇑P P 05 08 59.6 +0.7
DOPR Dopca 24.22 56 ⇑P P 05 09 03.8 +1.6

MLR Muntele Rosu 24.48 57 ⇑P P 05 09 06.0 +1.2
MLR Muntele Rosu 24.48 57 P P 05 09 05.1 +0.4
comp=Z,5.5nm,0.9s,baz=139,slow=16,SNR=4.2
MLR Muntele Rosu 24.48 57 P P 05 09 04.8 +0.1
MLR IAmb IAmb 05 09 22.6
comp=Z,24nm,1.0s
OZUR 24.52 56 ⇓P P 05 09 05.3 +0.4
BUR08 Bucovina Ar. S 24.58 52 P P 05 09 06.9 +1.3
BUR08 IAmb IAmb 05 09 24.8
comp=Z,31nm,1.4s
BURAR Bucovina Array 24.58 52 ⇑P P 05 09 05.5 0.0
BURAR Bucovina Array 24.58 52 P P 05 09 05.1 -0.5
COVR Voineasa-Covas 24.74 56 ⇑P P 05 09 07.8 +0.8
PLOR Plostina 25.04 57 ⇑P P 05 09 07.7 -2.0
VRI Vrincioaia 25.10 57 ⇑P P 05 09 04.7 -5.5
TESR Tescani 25.20 55 ⇑P P 05 09 13.1 +2.0
CFR Carcaliu 25.93 59 ⇓P P 05 09 16.0 -1.7
TPGR Topolog 26.07 59 ⇓P P 05 09 18.5 -0.5
SUW Suwalki 26.24 37 P P 05 09 20.4 +0.1
SORM Soroca 26.75 52 ⇓P P 05 09 23.7 -1.3
HFS Hagfors 26.97 19 P P 05 09 27.2 +0.3
comp=Z,1.6nm,0.6s,baz=201,slow=7.8,SNR=6.6
NOA NORSAR Array B 27.15 16 P P 05 09 28.8 +0.3
comp=Z,1.1nm,0.9s,baz=221,slow=9.8,SNR=3.4
NACGM Naroch 28.50 38 *i* P P 05 09 38.2 -2.4
MNK Minsk 28.86 39 *i* P P 05 09 42.0 -1.8
comp=E,4.0nm,1.4s
MNK *i* P P 05 09 42.0 -1.8
comp=N,21nm,1.0s
MNK *i* P P 05 09 42.0 -1.8
comp=Z,8.0nm,0.8s,baz=63
MNK *i* PP PnPn 05 10 36.0 +1.1
MNK *i* S S 05 14 30.6 -3.2
MNK *i* SS SnSn 05 15 50.3 -5.2
MNK *i* LQ LQ 05 18 52.0
MNK *i* LR LR 05 21 02.2
MNK *i* LRM MLR 05 22 33.6
comp=Z,3μm,18.0s
MNK *i* LRM MLR 05 22 46.4
comp=N,4μm,17.2s
MNK *i* LRM MLR 05 23 00.1
comp=E,553nm,19.7s
DBIC Dimbokro 28.86 182 P P 05 09 46.2 +2.0
comp=E,8.0nm,1.0s,baz=28,slow=5.5,SNR=5.5
DBIC Dimbokro 28.86 182 P P 05 09 45.8 +1.7
DBIC IAmb IAmb 05 09 47.4
comp=Z,19nm,1.2s
TIC Toumodi 28.89 183 eP P 05 09 46.3 +1.8
KIC Kosan Boka 29.16 182 eP P 05 09 48.7 +1.8
comp=Z,19nm,1.0s
LIC Lamto 29.31 183 eP P 05 09 50.0 +1.9
comp=Z,21nm,1.0s
FINES FINESS Array B 31.96 27 P P 05 10 11.3 +0.1
comp=Z,3.0nm,0.9s,baz=217,slow=9.3,SNR=7.0
FINES FINESS Array B 31.96 27 P P 05 10 12.8 +1.7
KLMR Klimovskoe 37.22 34 eP P 05 10 55.7 -0.9
KLMR AMP 05 11 10.9
comp=Z,10.0nm,1.1s
KLMR ePcP PcP 05 13 14.1 -2.1
ARCES ARCESS Array B 37.52 16 P P 05 11 00.3 +1.2
comp=Z,3.0nm,0.8s,baz=210,slow=9.5,SNR=5.3
ARU Arti 46.15 43 P P 05 12 09.4 -0.4
ARU IAmb IAmb 05 12 32.7
comp=Z,11nm,1.1s
SCHQ Schefferville 46.64 315 P P 05 12 12.6 -1.1
comp=Z,3.5nm,0.9s,baz=117,slow=3.9,SNR=6.7
SCHQ Schefferville 46.64 315 IAmb IAmb 05 12 16.8
comp=Z,22nm,1.5s
ABKAR Akbulak array 47.55 53 P P 05 12 21.1 +0.2
BRVK Borovoye 53.28 46 P P 05 13 04.2 0.0
EUNU Eureka 53.88 348 P P 05 13 09.8 +1.6
EUNU IAmb IAmb 05 13 13.6
comp=Z,14nm,1.4s
KKAR Karatay Array 56.16 58 P P 05 13 24.4 -0.8
CHGR Chuyangaron 56.74 64 P P 05 13 29.6 0.0
KURBB Kurchatov Arra 58.87 48 P P 05 13 43.8 -0.4
comp=Z,8.3nm,0.8s,baz=292,slow=7.6,SNR=14
KURK Kurchatov 58.89 47 P P 05 13 44.3 0.0
AAK Ala-Archa 59.06 57 P P 05 13 47.6 +1.8
AAK IAmb IAmb 05 14 04.6
comp=Z,4.8nm,1.0s
FCC Fort Churchill 60.48 323 P P 05 13 56.0 +0.9
FCC IAmb IAmb 05 14 03.3
comp=Z,6.3nm,1.1s
KSH Kashi 61.30 60 P P 05 14 01.5 +0.3
KSH sP sP 05 14 10.3 +5.0
KSH pmax pmax
comp=Z,5.0nm,1.2s
ZAA0 Zalesovo Array 61.31 42 P P 05 14 00.9 0.0
ZALV Zalesovo Beam 61.31 42 P P 05 14 00.7 -0.1
comp=Z,0.9nm,0.4s,baz=298,slow=6.3,SNR=4.4
MK31 Makanchi Array 62.59 51 P P 05 14 09.4 -0.3
MK31 IAmb IAmb 05 14 13.4
comp=Z,5.7nm,0.9s
MKAR Makanchi Array 62.59 51 P P 05 14 09.6 0.0
comp=Z,6.6nm,0.8s,baz=290,slow=5.6,SNR=22
E38A The Farm, Brul 63.78 310 P P 05 14 19.8 +2.2
A36M Sachs Harbour 65.22 343 P P 05 14 26.7 +0.3
WMQ Urumqi 67.32 52 eP P 05 14 43.4 +2.9
YKA Yellowknife Ar 67.71 332 P P 05 14 42.3 -0.2
comp=Z,3.5nm,0.9s,baz=58,slow=6.3,SNR=23
BOSA Boshof 69.52 153 P P 05 14 54.8 +0.4
comp=Z,3.7nm,1.0s,baz=306,slow=10,SNR=3.1
BOSA Boshof 69.52 153 IAmb IAmb 05 14 55.7
comp=Z,14nm,1.4s
BGNE Belgrade 70.41 307 P P 05 15 00.4 +0.6
DGMT Dagmar 70.44 316 P P 05 15 02.3 +2.5
DGMT IAmb IAmb 05 15 07.6
comp=Z,7.1nm,0.9s
KSU1 Kansas State U 70.56 305 P P 05 15 01.4 +0.7
MIAR Mount Ida 70.76 299 P P 05 15 02.9 +0.9
MIAR IAmb IAmb 05 15 05.8
comp=Z,5.6nm,0.9s
T35A Sooner Cattle 71.61 302 P P 05 15 07.1 0.0
R32A Long Quarter, 72.32 305 P P 05 15 12.2 +0.8
EDM Edmonton 72.58 324 P P 05 15 14.9 +2.2
BMAR Burnt Mountain 73.05 345 P P 05 15 17.3 +2.1
EGMT Eagleton 73.78 318 P P 05 15 20.4 +0.5
K22A Casper 75.00 312 P P 05 15 26.1 -1.0
K22A IAmb IAmb 05 15 30.7
comp=Z,11nm,1.2s
PHWY Pilot Hill 75.11 310 P P 05 15 27.5 -0.6
PHWY IAmb IAmb 05 15 32.2
comp=Z,13nm,1.1s
WALA Waterton Lakes 75.38 320 P P 05 15 29.1 -0.2
WALA IAmb IAmb 05 15 32.9
comp=Z,14nm,1.2s
GOMU GeErMu 75.93 56 P P 05 15 26.4 -6.5
GOMU pP pP 05 15 36.0 +0.1
GOMU sP sP 05 15 37.8 +0.8
GOMU pmax pmax
comp=Z,2.0nm,0.5s
RWWY Rawlins 75.97 311 P P 05 15 32.1 -0.8
ISCO Idaho Springs 76.06 309 P P 05 15 34.7 +1.2
ISCO IAmb IAmb 05 15 37.8
comp=Z,4.7nm,0.9s
SONM Songino Array 76.12 41 P P 05 15 32.9 -0.6
comp=Z,1.0nm,0.7s,baz=295,slow=4.7,SNR=10
SONM Songino Array 76.12 41 P P 05 15 33.5 0.0
BOZ Bozeman (W) 76.26 317 P P 05 15 34.7 +0.4
BOZ IAmb IAmb 05 15 38.8
comp=Z,4.6nm,1.0s
BW06 Boulder Array 76.75 313 P P 05 15 36.7 -0.6
BW06 IAmb IAmb 05 15 40.5
comp=Z,7.6nm,1.1s
PD31 Pinedale Array 76.75 313 P P 05 15 36.7 -0.5
PD31 IAmb IAmb 05 15 40.5
comp=Z,7.2nm,1.2s
PDAR Pinedale Array 76.75 313 P P 05 15 36.8 -0.5
comp=Z,3.7nm,1.0s,baz=70,slow=5.7,SNR=15
DLMT Dillon 76.94 317 P P 05 15 39.0 +0.8
DLMT IAmb IAmb 05 15 43.2
comp=Z,9.4nm,1.1s
SDCO Great Sand Dun 77.16 307 P P 05 15 40.6 +0.8
SDCO IAmb IAmb 05 15 53.8
comp=Z,5.0nm,1.2s
GTA Gaotai 77.35 51 eP P 05 15 43.8 +3.2
GTA pP PcP 05 15 48.5 -2.6
GTA sP sP 05 15 51.3 +6.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
JCT Junction City 77.37 298 P P 05 15 40.8 +0.1
NEW Newport 77.54 321 P P 05 15 41.8 +0.5
NEW IAmb IAmb 05 15 45.6
comp=Z,4.7nm,1.1s
AHID Auburn Hatcher 77.66 314 P P 05 15 42.0 -0.4
AHID IAmb IAmb 05 15 50.8
comp=Z,4.4nm,0.9s
S22A 4UR Ranch, Cre 78.02 308 P P 05 15 45.0 +0.5
S22A IAmb IAmb 05 15 48.2
comp=Z,5.0nm,1.2s
RDMU Red Mountain 78.07 311 P P 05 15 45.7 +1.0
B08A Colville Reser 78.59 322 P P 05 15 49.3 +2.1
B08A IAmb IAmb 05 15 51.6
comp=Z,6.1nm,1.1s
PV11 David Mesa, Pa 78.99 309 P P 05 15 50.5 +0.7
PV11 IAmb IAmb 05 15 53.8
comp=Z,7.9nm,0.9s
HLID Hailey 79.08 316 P P 05 15 51.7 +1.6
HVU Hansel Valley 79.25 314 P P 05 15 52.1 +1.0
HVU IAmb IAmb 05 16 08.6
comp=Z,8.1nm,1.2s
P17A Butcher Ranch, 79.45 311 P P 05 15 52.6 +0.4
P17A IAmb IAmb 05 15 55.3
comp=Z,9.5nm,1.3s
CPUP Villa Florida 79.75 227 P P 05 15 54.0 +0.4
comp=Z,3.7nm,0.9s,baz=117,slow=4.4,SNR=2.8
TMUT Trail Mountain 79.84 311 P P 05 15 55.6 +1.0
TMUT IAmb IAmb 05 15 57.7
comp=Z,7.5nm,1.2s
BMO Blue Mountains 79.84 319 P P 05 15 54.6 +0.5
BMO IAmb IAmb 05 15 57.6
comp=Z,5.7nm,1.1s
NLU North Lily Min 79.96 312 P P 05 15 56.8 +1.7
MFID Camas Ranch 79.96 317 P P 05 15 54.9 0.0
TXAR Lajitas Array 80.78 299 P P 05 15 59.1 -0.4
comp=Z,0.9nm,0.9s,baz=84,slow=6.2,SNR=8.1
MTPU Mount Pierson 81.22 311 P P 05 16 02.4 +0.4
MTPU IAmb IAmb 05 16 06.3
comp=Z,9.9nm,1.2s
ELK Elko 81.34 314 P P 05 16 02.8 +0.3
ELK IAmb IAmb 05 16 06.5
comp=Z,4.3nm,1.0s
LZH Lanzhou 81.90 51 eP P 05 16 07.3 +1.9
LZH pP PcP 05 16 13.5 +2.5
LZH pmax pmax
comp=Z,15nm,1.3s
SZCU Shurtz Canyon 82.05 311 P P 05 16 06.5 +0.3
U15A North Rim 82.29 310 P P 05 16 08.8 +1.1
U15A IAmb IAmb 05 16 12.2
comp=Z,4.8nm,0.9s
R11A Troy Canyon, C 83.09 313 P P 05 16 13.7 +2.1
R11A IAmb IAmb 05 16 15.8
comp=Z,4.3nm,1.1s
HHC Hu-ho-hao-te 83.46 44 eP P 05 16 13.1 -0.3
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,26μm,6.9s
TPH Tonopah 84.24 313 P P 05 16 19.0 +1.4
NVAR Mina Array Bea 84.64 314 P P 05 16 20.4 +0.8
comp=Z,0.6nm,0.8s,baz=93,slow=5.9,SNR=4.5
PNTR Pine Nut 84.95 315 P P 05 16 21.1 -0.1
GWY Greenwater Val 85.16 312 P P 05 16 23.8 +1.7
GWY IAmb IAmb 05 16 43.6
comp=Z,8.0nm,1.2s
XAN Xi'an 86.41 50 P P 05 16 28.4 +0.2
XAN pmax pmax
comp=Z,9.0nm,1.5s
PZH PanZhiHua 86.41 60 P P 05 16 29.3 +0.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
NJ2 Nanjing 93.79 46 eP P 05 17 02.1 -0.8
NJ2 pmax pmax
comp=Z,9.0nm,1.1s
STKA Stephens Creek 151.03 93 PKPbc PKiKP 05 23 39.6 +0.3
comp=Z,3.9nm,1.0s,baz=243,slow=2.5,SNR=5.8

CNRM ***25*** *05:09:24.1, 35.°66N×3.°60W, h12km, ml3.4*
SFS ***25*** *05:09:24.0, 35.°66N×3.°80W, ML2.8, ALBORAN SUR*
IGIL ***25*** *05:09:26.4, 35.°66N×3.°81W, h0km, ML2.6*
ISC 25 05:09:24.1±1.3,**35.°68N**±0.°04×**3.°66W**±0.°04,**h17**km±10km,
n17,σ1.9**14**/27,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**206**	P	**Pb**	**05 09 34.1**	**-0.5**
PALE				S	**Sg**	**05 09 40.7**	**-0.5**
CHAS	**Isla Isabel II**	**1.12**	**116**	P	**Pg**	**05 09 46.6**	**+0.8**
CHAS				S	**Sb**	**05 09 58.8**	**-0.5**
EMAL	**Malaga-Limoner**	**1.25**	**330**	P	**Pg**	**05 09 47.7**	**-0.5**
EMAL				S	**Sn**	**05 10 03.1**	**0.0**
CHEFC	**Chefchaouen**	**1.48**	**248**	P	**Pb**	**05 09 51.0**	**-0.2**
CHEFC				S	**Sn**	**05 10 09.4**	**+0.3**
JBK	**JBK**	**1.61**	**146**	P	**Pn**	**05 09 51.8**	**-0.1**
JBK				S	**Sn**	**05 10 11.0**	**-1.5**
RSA	**Sarsar**	**1.93**	**246**	P	**Pb**	**05 09 59.1**	**+0.1**
RSA				S	**Sb**	**05 10 22.7**	**-0.1**
SICH	**Sidi Chahed**	**2.08**	**221**	P	**Pb**	**05 10 01.2**	**-0.1**
SICH				S	**Sb**	**05 10 28.2**	**+1.4**
IFR	**Ifrane**	**2.47**	**210**	P	**Pg**	**05 10 10.6**	**-0.9**
IFR				S	**Sn**	**05 10 32.9**	**-0.7**
MD31	**MD31**	**2.95**	**198**	P	**Pn**	**05 10 12.0**	**+1.8**
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**05 10 11.9**	**+1.5**
PVAQ	**Vaqueiros**	**3.69**	**299**	P	**Pn**	**05 10 20.7**	**+0.4**
AVE	**Averroes**	**3.90**	**234**	P	**Pn**	**05 10 24.3**	**+1.1**
MESJ	**Messejana**	**4.25**	**302**	eP	**Pn**	**05 10 29.2**	**+1.2**
MESJ				eS	**Sn**	**05 11 15.1**	**-2.1**
MESJ				IAML		05 11 19.3	
comp=N,12nm,0.4s							
MORF	**Marmelete**	**4.33**	**293**	eP	**Pn**	**05 10 30.2**	**+1.0**
PFVI	**Vila Bisbo**	**4.41**	**291**	P	**Pn**	**05 10 30.6**	**+0.4**
PESTR	**Estremoz**	**4.46**	**317**	P	**Pn**	**05 10 32.7**	**+1.7**
EVO	**Evora**	**4.49**	**311**	P	**Pn**	**05 10 33.2**	**+1.8**
EVO				S	**Sn**	**05 11 21.6**	**-1.7**

CNRM ***25*** *05:11:56.0, 35.°53N×3.°68W, h16km, ml3.8*
IDC ***25*** *05:11:56.4±1.5, 35.°48N×3.°72W, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.2/54, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=42.2km s-min=30.1km az=105.0*
SFS ***25*** *05:11:57.0, 35.°50N×3.°82W, ML3.1, ALBORAN SUR*
IGIL ***25*** *05:11:58.5, 35.°59N×3.°77W, h0km, ML2.6*
LDG ***25*** *05:11:59.2, 35.°35N×3.°71W, h30km*
ISC 25 05:11:56.2±1.3,**35.°52N**±0.°04×**3.°72W**±0.°03,**h11**km±9km,
n31,σ2.**04**/47,**mb3.9**/3,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**211**	P	**Pg**	**05 12 03.0**	**-0.2**
PALE				S	**Sg**	**05 12 07.8**	**0.0**
CHAS	**Isla Isabel II**	**1.10**	**107**	P	**Pb**	**05 12 16.6**	**-0.6**
CHAS				S	**Sb**	**05 12 30.8**	**-0.8**
EMAL	**Malaga-Limoner**	**1.37**	**335**	P	**Pn**	**05 12 21.5**	**+0.4**
EMAL				S	**Sn**	**05 12 37.6**	**-1.7**
CHEFC	**Chefchaouen**	**1.39**	**253**	P	**Pn**	**05 12 20.5**	**-1.0**
CHEFC				S	**Sn**	**05 12 38.5**	**-1.3**
CEU	**Ceuta**	**1.40**	**286**	P	**Pn**	**05 12 20.1**	**-1.5**
CEU				S	**Sn**	**05 12 33.2**	**-6.8**
JBK	**JBK**	**1.51**	**141**	P	**Pn**	**05 12 22.4**	**-0.9**
JBK				S	**Sn**	**05 12 41.8**	**-1.2**
SICH	**Sidi Chahed**	**1.93**	**224**	P	**Pb**	**05 12 31.0**	**-0.3**
SICH				S	**Sb**	**05 12 55.4**	**+0.1**
LCRM	**LCR**	**2.05**	**208**	P	**Pb**	**05 12 33.1**	**-0.4**
LCRM				S	**Sb**	**05 12 58.0**	**-1.1**
MD31	**MD31**	**2.78**	**198**	P	**Pn**	**05 12 41.2**	**+0.6**
MDT	**Midelt**	**2.79**	**196**	Pn	**Pn**	**05 12 41.5**	**+0.6**
1.2nm,0.3s,baz=158,slow=13,SNR=1.8							
MDT				Sn	**Sn**	**05 13 14.3**	**-0.3**
4.1nm,0.3s,baz=265,slow=23,SNR=2.2							
MDT	**Midelt**	**2.79**	**196**	P	**Pn**	**05 12 41.5**	**+0.6**
TDRA	**Tendrara**	**2.84**	**150**	P	**Pn**	**05 12 40.6**	**-0.9**
CART	**Cartagena**	**3.01**	**46**	P	**Pn**	**05 12 41.7**	**-2.0**
CART				S	**Sn**	**05 13 16.7**	**-3.0**
PVAQ	**Vaqueiros**	**3.73**	**301**	P	**Pn**	**05 12 53.8**	**+0.1**
PVAQ				S	**Sn**	**05 13 35.7**	**-1.9**
AVE	**Averroes**	**3.77**	**235**	P	**Pn**	**05 12 53.7**	**-0.5**
FIGM	**Figuig**	**3.94**	**148**	P	**Pn**	**05 12 56.2**	**-0.4**
ESDC	**Sonseca Array**	**4.16**	**357**	Pn	**Pn**	**05 13 00.8**	**+1.3**
0.9nm,0.3s,baz=176,slow=12,SNR=6.5							
ESDC				Sn	**Sn**	**05 13 47.9**	**-0.2**
0.7nm,0.3s,baz=175,slow=20,SNR=4.0							
MESJ	**Messejana**	**4.30**	**304**	eP	**Pn**	**05 13 02.1**	**+0.7**
MESJ				eS	**Sn**	**05 13 48.5**	**-3.0**
MESJ				IAML		05 13 52.7	

comp=N,6.5nm,0.2s
MORF Marmelete 4.36 296 *e*S **Sn 05 13 50.4 -2.8**
MORF IAML 05 13 54.1
comp=N,22nm,0.2s
PFVI Vila Bisbo 4.43 293 P **Pn 05 13 04.1 +0.8**
PESTR Estremoz 4.56 318 P **Pn 05 13 07.3 +2.4**
EVO Evora 4.57 312 P **Pn 05 13 06.2 +1.1**
EVO S **Sn 05 13 54.5 -3.7**
TZRR Tazzarine 4.97 199 P **Pn 05 13 11.5 +0.8**
OUK Oukaimeden 5.52 220 P **Pn 05 13 18.2 -0.4**
ZGR Zagora 5.61 197 P **Pn 05 13 19.9 +0.2**
ETSF Etsaut 7.77 17 *e*Pn **Pn 05 13 50.0 +0.8**
ETSF *e*Sn **Sn 05 15 13.7 -3.4**
comp=N,0.7nm,0.3s
SJPF Ste Jean 7.83 14 *e*Pn **Pn 05 13 50.9 +1.0**
SJPF *e*Sn **Sn 05 15 13.4 -5.1**
comp=N,0.2nm,0.2s
EPF Esparros 8.14 22 *e*Pn **Pn 05 13 55.4 +1.2**
KURBB Kurchatov Arra 58.94 47 P **P 05 21 56.8 +1.6**
comp=N,1.1nm,0.7s,baz=293,slow=7.8,SNR=6.1
MKAR Makanchi Array 62.66 50 P **P 05 22 23.7 +3.1**
comp=N,0.5nm,0.8s,baz=306,slow=5.0,SNR=2.5
YKA Yellowknife Ar 67.84 332 P **P 05 22 56.3 +2.4**
comp=N,0.6nm,0.7s,baz=59,slow=6.5,SNR=11

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*SFS **25** 05:14:15.0,35.°65N×3.°78W, ML2.9, ALBORAN SUR*
*CNRM **25** 05:14:16.2,35.°58N×3.°62W, h20km, ml3.3*
ISC 25 05:14:14.3±1.3, 35.°66N±0.°03×3.°66W±0.°03, h12km±10km, n15, σ1°s27/24, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.50**	**207**	P	**Pg**	**05 14 24.2**	**+0.1**
PALE				S	**Sg**	**05 14 30.1**	**-0.7**
CHAS	**Isla Isabel II**	**1.11**	**115**	P	**Pb**	**05 14 35.5**	**0.0**
CHAS				S	**Sb**	**05 14 50.0**	**0.0**
EMAL	**Malaga-Limoner**	**1.26**	**331**	P	**Pg**	**05 14 38.2**	**-0.3**
EMAL				S	**Sn**	**05 14 53.3**	**-1.4**
CHEFC	**Chefchaouen**	**1.48**	**248**	P	**Pb**	**05 14 41.5**	**-0.3**
CHEFC				S	**Sb**	**05 15 00.1**	**-0.5**
JBK	**JBK**	**1.60**	**146**	P	**Pn**	**05 14 42.5**	**-0.1**
JBK				S	**Sn**	**05 15 01.4**	**-2.0**
RSA	**Sarsar**	**1.93**	**247**	P	**Pg**	**05 14 51.3**	**-0.1**
SICH	**Sidi Chahed**	**2.07**	**222**	P	**Pb**	**05 14 52.2**	**+0.3**
SICH				S	**Sn**	**05 15 15.6**	**+1.0**
LCRM	**LCR**	**2.21**	**207**	P	**Pb**	**05 14 53.5**	**-0.8**
LCRM				S	**Sn**	**05 15 18.2**	**0.0**
CART	**Cartagena**	**2.87**	**47**	P	**Pn**	**05 15 01.2**	**+1.2**
CART				S	**Sn**	**05 15 34.1**	**-0.3**
MD31	**MD31**	**2.94**	**198**	P	**Pn**	**05 15 02.4**	**+1.5**
TDRA	**Tendrara**	**2.94**	**152**	P	**Pn**	**05 15 03.2**	**+2.1**
MDT	**Midelt**	**2.95**	**196**	P	**Pn**	**05 15 01.1**	**0.0**
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**05 15 12.9**	**+1.6**
PESTR	**Estremoz**	**4.48**	**317**	P	**Pn**	**05 15 23.8**	**+1.8**
EVO	**Evora**	**4.50**	**311**	P	**Pn**	**05 15 24.0**	**+1.6**
EVO				S	**Sn**	**05 16 12.0**	**-2.7**

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*IDC **25** 05:17:51.3±1.5, 35.°56N×3.°93W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.2/53, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=47.6km s-min=29.1km az=97.0*
*CNRM **25** 05:17:51.3, 35.°60N×3.°58W, h12km, ml3.6*
*SFS **25** 05:17:51.0, 35.°53N×3.°84W, ML3.2, ALBORAN SUR*
*IGIL **25** 05:17:53.6, 35.°56N×3.°84W, h0km, ML2.6*
*LDG **25** 05:17:53.2±0.6, 35.°51N×3.°78W, h10km, Ml2.8/2, Error ellipse: s-maj=12.4km s-min=7.1km az=2.0*
ISC 25 05:17:52.0±1.5, 35.°57N±0.°04×3.°70W±0.°03, h13km±11km, n35, σ1°s76/53, mb3.7/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.40**	**209**	P	**Pg**	**05 17 60.0**	**0.0**
PALE				S	**Sb**	**05 18 06.1**	**-0.9**
CHAS	**Isla Isabel II**	**1.10**	**110**	P	**Pg**	**05 18 12.6**	**-0.7**
CHAS				S	**Sn**	**05 18 27.0**	**-1.3**
EMAL	**Malaga-Limoner**	**1.33**	**334**	P	**Pn**	**05 18 15.3**	**-1.0**
EMAL				S	**Sn**	**05 18 31.9**	**-2.0**
CEU	**Ceuta**	**1.40**	**284**	P	**Pn**	**05 18 14.7**	**-2.5**
CEU				S	**Sn**	**05 18 32.1**	**-3.6**
CHEFC	**Chefchaouen**	**1.42**	**252**	P	**Pb**	**05 18 18.2**	**-0.2**
JBK	**JBK**	**1.54**	**143**	P	**Pn**	**05 18 18.8**	**-0.6**
JBK				S	**Sb**	**05 18 38.0**	**-2.0**
RSA	**Sarsar**	**1.87**	**249**	P	**Pb**	**05 18 25.5**	**-0.5**
SICH	**Sidi Chahed**	**1.97**	**223**	P	**Pb**	**05 18 28.4**	**+0.6**
SICH				S	**Sb**	**05 18 53.4**	**+1.1**
LCRM	**LCR**	**2.10**	**207**	P	**Pb**	**05 18 29.2**	**-0.9**
LCRM				S	**Sb**	**05 18 55.3**	**-1.0**
IFR	**Ifrane**	**2.36**	**210**	P	**Pn**	**05 18 29.7**	**-0.9**
IFR				S	**Sn**	**05 18 57.9**	**-1.7**
MD31	**MD31**	**2.83**	**198**	P	**Pn**	**05 18 38.0**	**+1.0**
MDT	**Midelt**	**2.85**	**196**	Pn	**Pn**	**05 18 37.9**	**+0.6**
1.6nm,0.3s,baz=166,slow=18,SNR=5.8
MDT Sn **Sn 05 19 12.2 +0.8**
5.8nm,0.3s,baz=146,slow=15,SNR=3.9
MDT Midelt 2.85 196 P **Pn 05 18 39.1 +1.8**
TDRA Tendrara 2.87 151 P **Pn 05 18 38.5 +0.8**
TDRA S **Sn 05 19 12.7 +0.5**
CART Cartagena 2.96 46 P **Pn 05 18 40.7 +1.9**
CART S **Sn 05 19 10.7 -3.5**
CART Cartagena 2.96 46 P **Pn 05 18 37.5 -1.3**
CART S **Sn 05 19 09.9 -4.3**
PVAQ Vaqueiros 3.72 301 P **Pn 05 18 49.6 +0.5**
AVE Averroes 3.81 235 P **Pn 05 18 52.5 +2.1**
AVE Averroes 3.81 235 P **Pn 05 18 51.6 +1.2**
ESDC Sonseca Array 4.11 357 Pn **Pn 05 18 56.3 +1.7**
0.9nm,0.3s,baz=180,slow=12,SNR=11
ESDC Sn **Sn 05 19 43.0 +0.5**
1.1nm,0.3s,baz=175,slow=17,SNR=4.5
MESJ Messejana 4.28 303 *e*P **Pn 05 18 56.7 -0.2**
MESJ *e*S **Sn 05 19 43.3 -3.4**
MESJ IAML 05 19 48.1
comp=N,14nm,0.4s
MORF Marmelete 4.35 295 *e*P **Pn 05 18 57.6 -0.3**
PFVI Vila Bisbo 4.42 292 P **Pn 05 18 58.8 0.0**
PESTR Estremoz 4.53 318 P **Pn 05 19 02.0 +1.7**
EVO Evora 4.55 312 P **Pn 05 19 00.8 +0.3**
EVO S **Sn 05 19 51.8 -1.5**
UCM Universidad Co 4.75 4 P **Pn 05 19 05.4 +2.1**
UCM S **Sn 05 19 59.4 +1.1**
OUK Oukaimeden 5.57 220 P **Pn 05 19 14.8 -0.2**
TTIG Tnine Tigouga, 6.39 220 P **Pn 05 19 24.7 -1.4**
ETSF Etsaut 7.72 17 *e*Pn **Pn 05 19 44.0 -0.1**
ETSF *e*Sn **Sn 05 21 08.6 -2.8**
comp=N,1.2nm,0.4s
SJPF Ste Jean 7.78 14 *e*Pn **Pn 05 19 47.3 +2.4**
SJPF *e*Sn **Sn 05 21 09.3 -3.5**
comp=N,0.6nm,0.3s
EPF Esparros 8.08 22 *e*Pn **Pn 05 19 49.1 0.0**
MTLF Montolieu 9.01 29 *e*Pn **Pn 05 20 03.9 +2.1**
MKAR Makanchi Array 62.62 51 P **P 05 28 18.3 +2.2**
comp=N,0.4nm,0.6s,baz=305,slow=5.1,SNR=2.7
YKA Yellowknife Ar 67.80 332 P **P 05 28 50.5 +1.3**
comp=N,0.3nm,0.6s,baz=59,slow=6.4,SNR=7.4
PDAR Pinedale Array 76.84 313 P **P 05 29 44.0 0.0**
comp=N,0.1nm,0.3s,baz=61,slow=7.0,SNR=3.4

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*IDC **25** 05:19:32.6±1.3, 35.°63N×3.°61W, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.3/53, mbtmp3.6/7, ML3.7/3, Error ellipse: s-maj=46.1km s-min=20.6km az=98.0*
*SFS **25** 05:19:33.0, 35.°64N×3.°81W, ML3.5, ALBORAN SUR*
*INMG **25** 05:19:34.8±2.0, 35.°68N×3.°67W, h15km±6km, MD3.3, ML3.4, Error ellipse: s-maj=4.9km s-min=3.7km az=88.0*
*CNRM **25** 05:19:34.0, 35.°64N×3.°63W, h24km, ml3.9*
*LDG **25** 05:19:35.7, 35.°41N×3.°76W, h30km*
*IGIL **25** 05:19:35.0, 35.°65N×3.°81W, h0km, ML3.2*
ISC 25 05:19:33.4±1.4, 35.°62N±0.°03×3.°74W±0.°03, h12km±10km, n68, σ1°s82/111, mb3.9/4, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.43**	**202**	P	**Pb**	**05 19 43.3**	**+0.3**
PALE				S	**Sb**	**05 19 49.9**	**+0.4**
CHAS	**Isla Isabel II**	**1.16**	**112**	P	**Pn**	**05 19 53.6**	**-1.7**
CHAS				S	**Sb**	**05 20 06.0**	**-4.3**
EMAL	**Malaga-Limoner**	**1.27**	**334**	P	**Pn**	**05 19 56.0**	**-0.9**
EMAL				S	**Sb**	**05 20 10.7**	**-2.7**
CEU	**Ceuta**	**1.35**	**282**	P	**Pn**	**05 19 55.5**	**-2.6**
CEU				S	**Sb**	**05 20 10.4**	**-5.5**
CHEFC	**Chefchaouen**	**1.40**	**249**	P	**Pg**	**05 19 59.6**	**-0.7**
CHEFC				S	**Sg**	**05 20 17.8**	**-0.8**
JBK	**JBK**	**1.60**	**143**	P	**Pn**	**05 20 00.8**	**-0.9**
JBK				S	**Sn**	**05 20 19.5**	**-3.0**
CPS	**Cap Spartel**	**1.77**	**276**	P	**Pg**	**05 20 07.3**	**0.0**
RSA	**Sarsar**	**1.85**	**247**	P	**Pb**	**05 20 07.4**	**+0.2**
RSA S **Sg 05 20 31.6 -1.4**
SICH Sidi Chahed 1.99 221 P **Pb 05 20 09.3 -0.2**
LCRM LCR 2.14 206 P **Pn 05 20 10.0 +1.0**
SFS San Fernando 2.17 294 P **Pb 05 20 12.1 -0.4**
SFS S **Sg 05 20 43.1 +0.1**
IFR Ifrane 2.39 209 P **Pn 05 20 12.7 +0.2**
IFR S **Sn 05 20 40.3 -1.5**
ARNO Arenosillo 2.83 302 P **Pn 05 20 18.6 +0.2**
ARNO S **Sn 05 20 52.4 +0.1**
MDT Midelt 2.89 195 Pn **Pn 05 20 20.6 +1.4**
7.5nm,0.3s,baz=170,slow=9.2,SNR=6.2
MDT Sn **Sn 05 20 54.5 +0.5**
21nm,0.3s,baz=112,slow=9.6,SNR=6.0
MDT Midelt 2.89 195 P **Pn 05 20 21.7 +2.4**
CART Cartagena 2.95 48 P **Pn 05 20 19.4 -0.7**
CART Cartagena 2.95 48 P **Pn 05 20 19.2 -0.9**
CART S **Sn 05 20 52.0 -3.4**
PVAQ Vaqueiros 3.66 300 *e*Pn **Pn 05 20 30.0 +0.2**
PVAQ *e*Sn **Sn 05 21 10.7 -2.3**
PVAQ A A 05 21 17.5
88nm,0.5s
PVAQ Vaqueiros 3.66 300 P **Pn 05 20 30.0 +0.2**
PVAQ S **Sn 05 21 10.6 -2.3**
PBAR Barrancos 3.67 315 *e*Sn **Sn 05 21 12.6 -0.5**
PBAR A A 05 21 16.7
59nm,0.5s
PBDV Barranco-do-Ve 3.75 297 *e*Pn **Pn 05 20 31.0 0.0**
PBDV *e*Sn **Sn 05 21 12.9 -2.1**
PBDV A A 05 21 18.6
74nm,0.6s
PCVE Castro Verde 4.00 301⇑ *e*Pn **Pn 05 20 34.7 +0.3**
PCVE *e*Sn **Sn 05 21 18.6 -2.5**
PCVE A A 05 21 27.9
55nm,0.7s
ESDC Sonseca Array 4.05 358 Pn **Pn 05 20 37.4 +2.1**
2.2nm,0.3s,baz=178,slow=12,SNR=6.7
ESDC Sn **Sn 05 21 22.1 -0.4**
2.2nm,0.3s,baz=179,slow=18,SNR=4.2
PBEJ Beja 4.09 307 *e*Pn **Pn 05 20 35.9 +0.2**
PBEJ *e*Sn **Sn 05 21 22.2 -1.2**
PBEJ A A 05 21 50.9
37nm,0.6s
MESJ Messejana 4.22 303 *e*P **Pn 05 20 37.7 +0.2**
MESJ *e*S **Sn 05 21 23.8 -2.9**
MESJ IAML 05 21 27.9
comp=N,45nm,0.4s
MESJ Messejana 4.22 303 *e*Pn **Pn 05 20 38.0 +0.5**
MESJ *e*Sn **Sn 05 21 24.8 -1.9**
MESJ A A 05 21 40.2
comp=N,49nm,0.5s
MORF Marmelete 4.30 294 *e*P **Pn 05 20 38.9 +0.2**
MORF *e*S **Sn 05 21 25.6 -3.1**
MORF IAML 05 21 29.9
comp=N,52nm,0.3s
MORF Marmelete 4.30 294 *e*Pn **Pn 05 20 39.0 +0.4**
MORF *e*Sn **Sn 05 21 26.5 -2.2**
MORF A A 05 21 34.3
comp=N,35nm,0.5s
PFVI Vila Bisbo 4.37 292 *e*Pn **Pn 05 20 40.6 +1.0**
PFVI *e*Sn **Sn 05 21 28.1 -2.3**
PFVI A A 05 21 47.2
comp=N,55nm,0.6s
PTEO Sao Teotonio 4.45 297 *e*Pn **Pn 05 20 41.1 +0.5**
PTEO *e*Sn **Sn 05 21 29.7 -2.5**
PTEO A A 05 21 52.4
comp=N,52nm,0.6s
PESTR Estremoz 4.46 318 *e*Pn **Pn 05 20 42.0 +1.2**
PESTR *e*Sn **Sn 05 21 31.3 -1.4**
PESTR A A 05 21 56.7
comp=N,44nm,0.6s
EVO Evora 4.48 312 P **Pn 05 20 41.8 +0.7**
EVO S **Sn 05 21 30.5 -2.6**
EVO Evora 4.48 312 *e*Pn **Pn 05 20 41.8 +0.7**
EVO *e*Sn **Sn 05 21 31.3 -1.9**
EVO A A 05 21 46.3
comp=N,67nm,0.5s
PNCL Nicolau / Gran 4.57 304 *e*Pn **Pn 05 20 42.6 +0.3**
PNCL *e*Sn **Sn 05 21 33.8 -1.5**
PNCL A A 05 21 46.4
comp=N,34nm,0.6s
PMRV Marv??o 4.78 324 *e*Pn **Pn 05 20 46.4 +1.2**
PMRV *e*Sn **Sn 05 21 39.6 -0.9**
PMRV A A 05 21 59.5
comp=N,51nm,0.5s
PMTG Montargil 4.96 315 *e*Pn **Pn 05 20 49.0 +1.4**
PMTG *e*Sn **Sn 05 21 44.0 -0.9**
PMTG A A 05 21 54.0
comp=N,31nm,0.5s
PCBR Castelo Branco 5.15 326 *e*Pn **Pn 05 20 51.6 +1.4**
PCBR *e*Sn **Sn 05 21 48.1 -1.4**
PCBR A A 05 22 00.2
comp=N,29nm,0.5s
LIS Lisbon 5.31 307 *e*Pn **Pn 05 20 53.5 +1.1**
PMST Lisbon--Monsan 5.34 307 *e*Pn **Pn 05 20 53.8 +0.9**
PMAFR Mafra 5.53 309 *e*Pn **Pn 05 20 56.5 +1.0**
PMAFR *e*Sn **Sn 05 21 57.2 -1.8**
PMAFR A A 05 22 10.2
comp=N,53nm,0.4s
PSBE So Bento 5.59 316 *e*Pn **Pn 05 20 57.5 +1.2**
PSBE *e*Sn **Sn 05 21 58.9 -1.5**
PSBE A A 05 22 20.2
comp=N,37nm,0.6s
MTE Manteigas 5.64 329 *e*Pn **Pn 05 20 58.6 +1.6**
MTE *e*Sn **Sn 05 21 59.6 -2.1**
MTE A A 05 22 36.5
comp=N,60nm,0.7s
PCAS Casmilo, Conde 5.81 321 *e*Pn **Pn 05 21 00.2 +0.9**
PCAS *e*Sn **Sn 05 22 03.7 -2.1**
PCAS A A 05 22 44.5
comp=N,48nm,0.7s
PVIS Viseu 6.05 329 *e*Pn **Pn 05 21 04.3 +1.7**
PVIS *e*Sn **Sn 05 22 08.7 -3.1**
PVIS A A 05 22 19.4
comp=N,25nm,0.6s
MVO Moncorvo 6.11 336 *e*Pn **Pn 05 21 05.0 +1.5**
MVO *e*Sn **Sn 05 22 10.3 -3.0**
MVO A A 05 22 51.0
comp=N,36nm,0.5s
PVRL Vila Real 6.45 332 *e*Pn **Pn 05 21 09.4 +1.3**
PVRL *e*Sn **Sn 05 22 19.1 -2.6**
PVRL A A 05 22 28.3
comp=N,42nm,0.5s
POLO Lamas de Olo 6.56 332 *e*Pn **Pn 05 21 11.2 +1.4**
POLO *e*Sn **Sn 05 22 20.4 -4.1**
POLO A A 05 22 27.5
comp=N,15nm,0.6s
PBRG Braganca 6.60 340 *e*Pn **Pn 05 21 11.9 +1.6**
PBRG *e*Sn **Sn 05 22 22.5 -3.0**
PBRG A A 05 22 45.8
comp=N,13nm,0.4s
PTO Porto 6.70 327 *e*Pn **Pn 05 21 12.7 +1.2**
PTO *e*Sn **Sn 05 22 25.5 -2.3**
PTO A A 05 22 38.1
comp=N,19nm,0.8s
PCAB Cabril 6.94 332 *e*Pn **Pn 05 21 16.4 +1.5**
PCAB *e*Sn **Sn 05 22 30.9 -2.9**
PCAB A A 05 22 36.3
comp=N,26nm,0.7s
PGAV Gavieira, Arco 7.25 332 *e*Pn **Pn 05 21 20.5 +1.3**
PGAV *e*Sn **Sn 05 22 38.6 -2.9**
PGAV A A 05 22 47.4
comp=N,23nm,0.7s
ETSF Etsaut 7.67 18 *e*Pn **Pn 05 21 26.9 +1.9**
ETSF *e*Sn **Sn 05 22 50.5 -1.4**
SJPF Ste Jean 7.73 14 *e*Pn **Pn 05 21 26.7 +1.0**
SJPF *e*Sn **Sn 05 22 51.0 -2.2**
comp=N,3.1nm,0.4s
EPF Esparros 8.05 22 *e*Pn **Pn 05 21 31.2 +1.1**
MTLF Montolieu 8.98 29 *e*Pn **Pn 05 21 44.6 +1.8**
LMR La Mourre 11.04 43 *e*Pn **Pn 05 22 13.8 +2.7**
LMR La Mourre 11.04 43 *e*P Pn 05 22 16.7 +5.6
PGF Pioggiola 12.07 51 *e*Pn **Pn 05 22 27.4 +2.2**
QUIF Quistinic 12.29 2 *e*Pn **Pn 05 22 30.2 +2.1**
QUIF Quistinic 12.29 2 *e*P P 05 22 36.6 -3.8
SGMF Saint Gilles 12.65 4 *e*Pn **Pn 05 22 34.6 +1.5**
LPL La Plagne 12.68 36 *e*Pn **Pn 05 22 34.7 +1.0**
ROSF Rostrenen 12.71 1 *e*Pn **Pn 05 22 35.6 +1.8**
GERES GERESS Array B 18.42 39 P **P 05 23 50.0 +1.5**
comp=N,0.2nm,0.3s,baz=173,slow=12,SNR=3.4
TORD Torodi Ar. Bea 22.91 166 P **P 05 24 38.7 +1.5**
comp=N,3.0nm,1.0s,baz=347,slow=12,SNR=7.5
FINES FINESS Array B 31.99 27 P **P 05 26 00.4 +1.3**
comp=N,1.5nm,0.8s,baz=248,slow=7.4,SNR=2.4
MKAR Makanchi Array 62.61 51 P **P 05 29 56.9 -0.6**
comp=N,0.7nm,0.7s,baz=296,slow=5.2,SNR=6.4
YKA Yellowknife Ar 67.74 332 P **P 05 30 31.3 +1.0**
comp=N,0.2nm,0.5s,baz=58,slow=6.2,SNR=2.5

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*SFS **25** 05:25:15.0, 35.°62N×3.°80W, ML3.4, ALBORAN SUR*
*CNRM **25** 05:25:15.5, 35.°64N×3.°64W, h16km, ml3.8*
*IDC **25** 05:25:15.1±1.4, 35.°68N×3.°87W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/43, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=52.2km s-min=22.4km az=89.0*
*INMG **25** 05:25:16.5±2.2, 35.°67N×3.°82W, h0km±6km, MD3.5, ML3.1, Error ellipse: s-maj=4.9km s-min=4.4km az=86.0*
*LDG **25** 05:25:17.8, 35.°36N×3.°72W, h30km*
*IGIL **25** 05:25:17.3, 35.°64N×3.°82W, h0km, ML3.1*
ISC 25 05:25:15.4±1.2, 35.°65N±0.°03×3.°70W±0.°03, h11km±9km, n76, σ1°s83/124, mb3.7/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.48**	**204**	P	**Pg**	**05 25 24.6**	**-0.2**
PALE				S	**Sg**	**05 25 31.1**	**0.0**
CHAS	**Isla Isabel II**	**1.14**	**114**	P	**Pb**	**05 25 36.0**	**-1.1**
CHAS				S	**Sb**	**05 25 49.3**	**-2.7**
EMAL	**Malaga-Limoner**	**1.25**	**332**	P	**Pn**	**05 25 38.8**	**0.0**
EMAL				S	**Sb**	**05 25 54.3**	**-0.9**
CEU	**Ceuta**	**1.38**	**281**	P	**Pn**	**05 25 38.2**	**-2.4**
CEU				S	**Sb**	**05 25 53.3**	**-5.5**
CHEFC	**Chefchaouen**	**1.44**	**248**	P	**Pn**	**05 25 41.6**	**+0.1**
CHEFC				S	**Sg**	**05 26 00.8**	**-1.2**
JBK	**JBK**	**1.61**	**144**	P	**Pn**	**05 25 42.8**	**-1.2**
JBK				S	**Sn**	**05 26 02.3**	**-2.6**
CPS	**Cap Spartel**	**1.80**	**275**	P	**Pn**	**05 25 45.3**	**-1.1**
RSA	**Sarsar**	**1.90**	**247**	P	**Pb**	**05 25 49.6**	**-0.5**
RSA S **Sb 05 26 12.7 -1.1**
SICH Sidi Chahed 2.04 221 P **Pb 05 25 52.2 -0.2**
SICH S **Sb 05 26 17.8 +0.1**
LCRM LCR 2.18 206 P **Pn 05 25 52.3 +0.5**
LCRM S **Sn 05 26 19.8 +0.9**
IFR Ifrane 2.43 209 P **Pn 05 25 55.1 -0.1**
IFR S **Sn 05 26 23.2 -1.9**
CART Cartagena 2.91 48 P **Pn 05 26 02.3 +0.7**
CART S **Sn 05 26 33.5 -3.0**
CART Cartagena 2.91 48 P **Pn 05 26 01.1 -0.5**
CART S **Sn 05 26 34.2 -2.3**
MD31 MD31 2.91 198 P **Pn 05 26 02.2 +0.4**
MDT Midelt 2.93 195 Pn **Pn 05 26 02.5 +0.5**
1.9nm,0.3s,baz=187,slow=8.9,SNR=8.7
MDT Sn **Sn 05 26 37.6 +0.4**
11nm,0.3s,baz=27,slow=2.0,SNR=5.6
MDT Midelt 2.93 195 P **Pb 05 26 07.8 +0.1**
TDRA Tendrara 2.95 152 P **Pn 05 26 02.3 -0.2**
PBAR Barrancos 3.67 314 *e*Pn **Pn 05 26 13.2 +1.1**
PBAR *e*Sn **Sn 05 26 54.2 -1.2**
PBAR A A 05 27 11.6
26nm,0.3s
PVAQ Vaqueiros 3.67 300 *e*Pn **Pn 05 26 12.5 +0.3**
PVAQ *e*Sn **Sn 05 26 53.1 -2.3**
PVAQ A A 05 26 59.4
34nm,0.3s
PVAQ Vaqueiros 3.67 300 P **Pn 05 26 12.4 +0.3**
AVE Averroes 3.86 234 P **Pn 05 26 15.1 +0.4**
AVE Averroes 3.86 234 P **Pn 05 26 14.7 0.0**
PCVE Castro Verde 4.01 301 *e*Pn **Pn 05 26 17.1 +0.4**
PCVE *e*Sn **Sn 05 27 01.9 -1.7**
PCVE A A 05 27 05.4
22nm,0.4s
ESDC Sonseca Array 4.02 357 Pn **Pn 05 26 18.4 +1.5**
2.0nm,0.3s,baz=179,slow=12,SNR=18
ESDC Sn **Sn 05 27 03.9 -0.2**
1.6nm,0.3s,baz=183,slow=24,SNR=4.7
FIGM Figuig 4.06 149 P **Pn 05 26 18.2 +0.6**
GOLM Goulmima 4.07 195 P **Pn 05 26 19.5 +1.7**
PBEJ Beja 4.09 307 *e*Pn **Pn 05 26 18.4 +0.5**
PBEJ *e*Sn **Sn 05 27 03.8 -2.0**
PBEJ A A 05 27 07.0
17nm,0.4s
MESJ Messejana 4.23 302 *e*P **Pn 05 26 20.1 +0.3**
MESJ *e*S **Sn 05 27 06.1 -3.1**
MESJ IAML 05 27 09.2
comp=N,26nm,0.3s
MESJ Messejana 4.23 302 *e*Pn **Pn 05 26 20.4 +0.6**
MESJ *e*Sn **Sn 05 27 07.3 -1.9**
MESJ A A 05 27 11.4
comp=N,23nm,0.7s
MORF Marmelete 4.31 294 *e*P **Pn 05 26 21.1 +0.2**
MORF *e*S **Sn 05 27 07.9 -3.4**
MORF IAML 05 27 13.1
comp=E,54nm,0.2s
MORF Marmelete 4.31 294 *e*Pn **Pn 05 26 21.2 +0.2**
MORF *e*Sn **Sn 05 27 08.9 -2.4**
MORF A A 05 27 16.1
comp=E,22nm,0.2s
PFVI Vila Bisbo 4.39 291 *e*Pn **Pn 05 26 22.8 +0.8**
PFVI *e*Sn **Sn 05 27 10.8 -2.3**
PFVI A A 05 27 39.9
comp=E,25nm,0.5s
PFVI Vila Bisbo 4.39 291 P **Pn 05 26 21.9 -0.1**
PTEO Sao Teotonio 4.46 297 *e*Pn **Pn 05 26 24.0 +1.1**
PTEO *e*Sn **Sn 05 27 14.7 -0.1**
PTEO A A 05 27 23.5
comp=E,21nm,0.6s
PESTR Estremoz 4.46 317 *e*Pn **Pn 05 26 24.1 +1.1**
PESTR *e*Sn **Sn 05 27 13.1 -1.8**
PESTR A A 05 27 35.6
comp=E,25nm,0.5s
PESTR Estremoz 4.46 317 P **Pn 05 26 24.1 +1.1**
EVO Evora 4.49 311 P **Pn 05 26 24.1 +0.9**
EVO S **Sn 05 27 13.2 -2.2**
EVO Evora 4.49 311 *e*Pn **Pn 05 26 24.2 +0.9**
EVO *e*Sn **Sn 05 27 13.5 -1.9**
EVO A A 05 27 19.1
comp=E,26nm,0.5s
PNCL Nicolau / Gran 4.58 304 *e*Pn **Pn 05 26 25.0 +0.4**
PNCL *e*Sn **Sn 05 27 15.9 -1.9**
PNCL A A 05 27 24.4
comp=E,19nm,0.6s
UCM Universidad Co 4.66 4 P **Pn 05 26 28.4 +2.7**
UCM S **Sn 05 27 19.6 -0.2**
PMRV Marv??o 4.77 323 *e*Pn **Pn 05 26 28.2 +0.9**
PMRV *e*Sn **Sn 05 27 21.4 -1.2**
PMRV A A 05 27 54.8
comp=E,21nm,0.4s
PMTG Montargil 4.96 315 *e*Pn **Pn 05 26 30.8 +1.0**
PMTG *e*Sn **Sn 05 27 25.9 -1.2**
PMTG A A 05 27 32.7
comp=E,15nm,0.6s
TZRR Tazzarine 5.10 198 P **Pn 05 26 33.2 +1.3**
PCBR Castelo Branco 5.14 326 *e*Pn **Pn 05 26 33.9 +1.6**
PCBR *e*Sn **Sn 05 27 29.9 -1.6**
PCBR A A 05 27 36.0
comp=E,18nm,0.5s
PMST Lisbon--Monsan 5.35 307 *e*Pn **Pn 05 26 36.3 +1.2**
OUZM OUZ 5.38 209 P **Pn 05 26 37.1 +1.4**
PMAFR Mafra 5.54 308 *e*Pn **Pn 05 26 39.1 +1.4**
PMAFR *e*Sn **Sn 05 27 39.3 -2.0**
PMAFR A A 05 28 02.1
comp=E,29nm,0.5s
PSBE So Bento 5.58 315 *e*Pn **Pn 05 26 39.7 +1.3**
PSBE *e*Sn **Sn 05 27 42.0 -0.6**
PSBE A A 05 27 58.5
comp=E,15nm,0.6s
MTE Manteigas 5.62 329 *e*Pn **Pn 05 26 40.8 +1.8**
MTE *e*Sn **Sn 05 27 42.1 -1.5**
MTE A A 05 28 27.2
comp=E,24nm,0.6s
OUK Oukaimeden 5.64 219 P **Pn 05 26 39.1 -0.4**
ZGR Zagora 5.75 197 P **Pn 05 26 42.1 +1.3**
PCAS Casmilo, Conde 5.80 321 *e*Pn **Pn 05 26 42.0 +0.6**
PCAS *e*Sn **Sn 05 27 44.8 -3.1**
PCAS A A 05 28 06.4
comp=E,15nm,0.6s
PVIS Viseu 6.04 328 *e*Pn **Pn 05 26 46.5 +1.9**
PVIS *e*Sn **Sn 05 27 51.3 -2.4**
PVIS A A 05 28 16.3
comp=E,13nm,0.5s
MVO Moncorvo 6.09 336 *e*Pn **Pn 05 26 47.6 +2.2**

MVO eSn Sn 05 27 54.7 -0.4
MVO A A 05 28 07.0
comp=E,14nm,0.5s
PVRL Vila Real 6.43 332 ePn Pn 05 26 52.0 +1.9
PVRL eSn Sn 05 28 02.4 -1.1
PVRL A A 05 28 11.3
comp=E,24nm,0.8s
TTIG Tnine Tigouga, 6.46 219 P Pn 05 26 47.9 -2.7
POLO Lamas de Olo 6.55 332 ePn Pn 05 26 53.8 +2.1
POLO eSn Sn 05 28 04.0 -2.4
POLO A A 05 28 13.8
comp=E,7.9nm,0.6s
PBRG Braganca 6.58 340 ePn Pn 05 26 54.5 +2.3
PBRG eSn Sn 05 28 06.9 -0.3
PBRG A A 05 28 13.6
comp=E,8.3nm,0.6s
PTO Porto 6.69 326 ePn Pn 05 26 55.2 +1.6
PTO eSn Sn 05 28 08.0 -1.8
PTO A A 05 28 14.6
comp=E,13nm,0.6s
PCAB Cabril 6.93 332 ePn Pn 05 26 58.9 +2.0
PCAB eSn Sn 05 28 13.2 -2.5
PCAB A A 05 28 16.9
comp=E,11nm,0.8s
PGAV Gavieira, Arco 7.24 332 ePn Pn 05 27 03.5 +2.3
PGAV eSn Sn 05 28 19.3 -4.1
PGAV A A 05 29 21.2
comp=E,12nm,0.7s
ETSF Etsaut 7.63 18 ePn Pn 05 27 09.9 +3.3
ETSF eSn Sn 05 28 32.9 -0.2
comp=E,0.8nm,0.3s
SJPF Ste Jean 7.69 14 ePn Pn 05 27 09.8 +2.4
SJPF eSn Sn 05 28 33.7 -0.8
comp=E,1.8nm,0.3s
EPF Esparros 8.00 22 ePn Pn 05 27 14.3 +2.6
EPF eSg Sg 05 29 30.7 -1.5
comp=E,1.1nm,0.3s
MTLF Montolieu 8.94 29 ePn Pn 05 27 28.5 +4.1
TANT Tantan 9.64 224 P Pn 05 27 33.9 -0.2
LFF La Frestale 9.88 19 ePn Pn 05 27 39.0 +1.8
LASF Ste Croix 10.22 32 ePn Pn 05 27 45.0 +3.0
CAF Calviac 10.25 24 ePn Pn 05 27 45.1 +2.6
LMR La Mourre 11.00 43 eP Pn 05 28 00.4 +7.8
LMR eSn Sn 05 29 51.5 -4.0
comp=E,0.1nm,0.2s
SBF Sospel 11.85 43 ePn Pn 05 28 08.1 +3.7
PGF Pioggiola 12.03 51 ePn Pn 05 28 09.4 +2.6
PGF eSn Sn 05 30 18.0 -2.9
comp=E,0.3nm,0.2s
QUIF Quistinic 12.26 2 ePn Pn 05 28 11.5 +1.7
TORD Torodi Ar. Bea 22.93 166 P P 05 30 21.9 +2.4
comp=E,2.6nm,1.1s,baz=347,slow=9.4,SNR=6.9
MKAR Makanchi Array 62.57 51 P P 05 35 40.9 +1.6
comp=E,0.4nm,0.7s,baz=309,slow=6.9,SNR=3.0
YKA Yellowknife Ar 67.72 332 P P 05 36 13.2 +0.8
comp=E,0.1nm,0.5s,baz=60,slow=6.3,SNR=3.8

*CNRM **25** 05:27:05.1, 35.°65N×3.°67W, h18km, ml3.0*
*SFS **25** 05:27:05.0, 35.°61N×3.°84W, ML2.5, ALBORAN SUR*
ISC 25 05:27:03.6±1.7, 35.°66N±0.°04×3.°67W±0.°05, h9km±13km, n13, σ1s04/21, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.49**	**206**	P	**Pb**	05 27 13.9	-0.5
PALE				S	**Sg**	05 27 19.9	+0.3
CHAS	**Isla Isabel II**	**1.12**	**115**	P	**Pn**	05 27 25.4	0.0
CHAS				S	**Sb**	05 27 40.1	+0.4
EMAL	**Malaga-Limoner**	**1.26**	**331**	P	**Pn**	05 27 28.3	+0.9
EMAL				S	**Sn**	05 27 44.4	-0.1
CHEFC	**Chefchaouen**	**1.47**	**249**	P	**Pb**	05 27 31.2	+0.1
JBK	**JBK**	**1.60**	**145**	P	**Pn**	05 27 32.7	+0.5
JBK				S	**Sn**	05 27 52.0	-1.1
RSA	**Sarsar**	**1.92**	**247**	P	**Pg**	05 27 39.6	-0.8
SICH	**Sidi Chahed**	**2.06**	**222**	P	**Pb**	05 27 41.5	+0.4
LCRM	**LCR**	**2.19**	**207**	P	**Pb**	05 27 43.6	+0.1
CART	**Cartagena**	**2.89**	**47**	P	**Pn**	05 27 50.6	+0.9
CART				S	**Sn**	05 28 24.5	-0.1
MD31	**MD31**	**2.92**	**198**	P	**Pn**	05 27 52.0	+1.7
MD31				S	**Sn**	05 28 25.6	0.0
MDT	**Midelt**	**2.94**	**196**	P	**Pn**	05 27 51.6	+1.1
TDRA	**Tendrara**	**2.94**	**152**	P	**Pn**	05 27 51.2	+0.5
TDRA				S	**Sn**	05 28 25.6	-0.6
PVAQ	**Vaqueiros**	**3.69**	**299**	P	**Pn**	05 28 01.9	+1.1
PVAQ				S	**Sn**	05 28 41.6	-2.9

IDC 25 05:29:43.4±1.7, 35.°61N×3.°86W, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/39, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=59.7km s-min=29.4km az=79.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**4.06**	**359**	Pn	Pn	05 30 47.0	+0.2
	0.7nm,0.3s,baz=179,slow=12,SNR=4.7						
TORD	**Torodi Ar. Bea**	**22.92**	**166**	P	P	05 34 49.1	+0.1
	0.8nm,0.8s,baz=336,slow=10,SNR=1.0						
MKAR	**Makanchi Array**	**62.70**	**50**	P	P	05 40 09.7	-0.3
	0.4nm,0.8s,baz=289,slow=4.4,SNR=2.3						
YKA	**Yellowknife Ar**	**67.70**	**332**	P	P	05 40 42.2	+0.1
	0.2nm,0.6s,baz=62,slow=6.5,SNR=3.5						

*IDC **25** 05:31:22.4±0.9, 35.°45N×3.°61W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=46.5km s-min=11.0km az=88.0*
*CNRM **25** 05:31:22.8, 35.°51N×3.°73W, h21km, ml3.7*
*SFS **25** 05:31:22.0, 35.°54N×3.°85W, ML3.2, ALBORAN SUR*
*IGIL **25** 05:31:24.2, 35.°54N×3.°85W, h0km, ML2.7*
ISC 25 05:31:22.0±1.2, 35.°54N±0.°03×3.°73W±0.°03, h10km±9km, n30, σ1s66/46, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**208**	P	**Pg**	05 31 29.4	+0.3
PALE				S	**Sg**	05 31 34.0	0.0
CHAS	**Isla Isabel II**	**1.12**	**108**	P	**Pb**	05 31 43.0	-0.4
CHAS				S	**Sg**	05 31 57.2	-0.8
EMAL	**Malaga-Limoner**	**1.34**	**335**	P	**Pg**	05 31 47.8	0.0
EMAL				S	**Sb**	05 32 04.0	-0.6
CHEFC	**Chefchaouen**	**1.39**	**252**	P	**Pn**	05 31 47.4	-0.1
CHEFC				S	**Sn**	05 32 06.6	+0.7
JBK	**JBK**	**1.54**	**141**	P	**Pn**	05 31 48.8	-0.9
JBK				S	**Sn**	05 32 08.1	-1.7
RSA	**Sarsar**	**1.83**	**250**	P	**Pb**	05 31 55.0	-0.7
SICH	**Sidi Chahed**	**1.94**	**223**	P	**Pn**	05 31 56.1	+1.1
SICH				S	**Sn**	05 32 19.7	+0.3
LCRM	**LCR**	**2.07**	**207**	P	**Pn**	05 31 58.0	+1.0
LCRM				S	**Sn**	05 32 21.1	-1.8
IFR	**Ifrane**	**2.32**	**210**	P	**Pn**	05 32 00.7	+0.2
IFR				S	**Sn**	05 32 26.5	-2.7
MD31	**MD31**	**2.80**	**198**	P	**Pn**	05 32 07.2	+0.2
MD31				S	**Sn**	05 32 40.0	-0.9
MDT	**Midelt**	**2.81**	**195**	Pn	**Pn**	05 32 07.7	+0.5
	1.3nm,0.3s,baz=340,slow=3.8,SNR=0.9						
MDT				Sn	**Sn**	05 32 40.5	-0.7
	7.7nm,0.3s,baz=61,slow=19,SNR=6.4						
MDT	**Midelt**	**2.81**	**195**	P	**Pn**	05 32 07.5	+0.3
MDT				S	**Sn**	05 32 41.0	-0.2
TDRA	**Tendrara**	**2.86**	**150**	P	**Pn**	05 32 08.5	+0.6
CART	**Cartagena**	**3.00**	**46**	P	**Pn**	05 32 10.8	+1.2
CART				S	**Sn**	05 32 42.9	-2.8
CART	**Cartagena**	**3.00**	**46**	P	**Pn**	05 32 09.7	+0.1
CART				S	**Sn**	05 32 42.7	-2.9
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	05 32 20.1	+0.7
PVAQ				S	**Sn**	05 33 00.7	-2.6
AVE	**Averroes**	**3.78**	**235**	P	**Pn**	05 32 19.5	-0.8
FIGM	**Figuig**	**3.97**	**148**	P	**Pn**	05 32 24.3	+1.2
ESDC	**Sonseca Array**	**4.13**	**358**	Pn	**Pn**	05 32 27.6	+2.4
	0.3nm,0.3s,baz=175,slow=12,SNR=0.8						
ESDC				Sn	**Sn**	05 33 13.6	-0.1
	0.4nm,0.3s,baz=176,slow=22,SNR=1.1						
MESJ	**Messejana**	**4.28**	**304**	eP	**Pn**	05 32 27.6	+0.4
MESJ				eS	**Sn**	05 33 13.6	-3.5
MESJ				IAML		05 33 18.1	
	comp=N,9.3nm,0.4s						
MORF	**Marmelete**	**4.34**	**295**	eS	**Sn**	05 33 15.2	-3.7
MORF				IAML		05 33 20.6	
	comp=N,28nm,0.3s						
PFVI	**Vila Bisbo**	**4.41**	**293**	P	**Pn**	05 32 28.7	-0.3
PESTR	**Estremoz**	**4.53**	**318**	P	**Pn**	05 32 33.3	+2.7
TZRR	**Tazzarine**	**4.99**	**199**	P	**Pn**	05 32 37.2	+0.2
OUZM	**OUZ**	**5.27**	**210**	P	**Pn**	05 32 40.9	0.0
OUK	**Oukaimeden**	**5.54**	**220**	P	**Pn**	05 32 43.6	-1.1
TTIG	**Tnine Tigouga,**	**6.36**	**220**	P	**Pn**	05 32 52.4	-3.5
TANT	**Tantan**	**9.54**	**224**	P	**Pn**	05 33 37.3	-2.2
TORD	**Torodi Ar. Bea**	**22.83**	**166**	P	**P**	05 36 26.1	+0.9
	comp=N,0.8nm,0.8s,baz=354,slow=10,SNR=1.1						
YKA	**Yellowknife Ar**	**67.82**	**332**	P	**P**	05 42 23.0	+3.2
	comp=N,0.3nm,0.6s,baz=60,slow=6.6,SNR=5.9						

*IDC **25** 05:37:10.8±0.8, 35.°46N×3.°57W, h0km, mb3.9/9, mb1 4.1/13, mb1mx3.8/42, mbtmp3.9/13, ML3.6/4, Error ellipse: s-maj=22.4km s-min=19.1km az=100.0*
*CNRM **25** 05:37:11.6, 35.°55N×3.°68W, h18km, ml4.7*
*SFS **25** 05:37:11.0, 35.°54N×3.°85W, ML4.0, ALBORAN SUR*
*NEIC **25** 05:37:11.9±2.1, 35.°50N±0.°06×3.°82W±0.°08, h10km±1km, mb4.2/9, Error ellipse: s-maj=10.7km s-min=9.5km az=284.0*
*INMG **25** 05:37:12.9±2.0, 35.°58N×3.°71W, h12km±9km, MD3.8, ML3.6, Error ellipse: s-maj=6.7km s-min=4.2km az=81.0*
*LDG **25** 05:37:13.8, 35.°30N×3.°70W, h30km*
*CRAAG **25** 05:37:13.0, 35.°45N×3.°77W, Mb3.4*
*IGIL **25** 05:37:13.1, 35.°58N×3.°83W, h0km, ML3.6*
ISC 25 05:37:12.2±0.8, 35.°58N±0.°02×3.°75W±0.°02, h14km±5km, n132, σ2s12/180, mb4.2/11, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39**	**203**	P	**Pg**	05 37 19.2	-0.9
PALE				S	**Sg**	05 37 24.2	-1.2
CHAS	**Isla Isabel II**	**1.15**	**110**	P	**Pb**	05 37 31.9	-1.9
CHAS				S	**Sb**	05 37 46.2	-2.4
EMAL	**Malaga-Limoner**	**1.30**	**335**	P	**Pn**	05 37 35.6	-0.5
EMAL				S	**Sb**	05 37 52.2	-1.0
CEU	**Ceuta**	**1.36**	**284**	P	**Pn**	05 37 34.0	-2.9
CEU				S	**Sb**	05 37 49.1	-5.7
CHEFC	**Chefchaouen**	**1.38**	**251**	P	**Pn**	05 37 36.7	-0.5
CHEFC				S	**Sg**	05 37 57.4	+0.6
JBK	**JBK**	**1.57**	**142**	P	**Pn**	05 37 38.2	-1.7
JBK				S	**Sn**	05 37 57.2	-3.1
RSA	**Sarsar**	**1.83**	**248**	P	**Pb**	05 37 44.7	-0.8
SICH	**Sidi Chahed**	**1.96**	**222**	P	**Pn**	05 37 45.7	+0.7
SICH				S	**Sb**	05 38 12.1	+0.2
LCRM	**LCR**	**2.10**	**206**	P	**Pn**	05 37 46.4	-0.7
LCRM				S	**Sn**	05 38 12.7	-0.4
SFS	**San Fernando**	**2.18**	**295**	P	**Pn**	05 37 48.1	+0.1
SFS				S	**Sg**	05 38 22.3	0.0
SFS	**San Fernando**	**2.18**	**295**	Pn	**Pn**	05 37 46.4	-1.7
IFR	**Ifrane**	**2.35**	**209**	P	**Pn**	05 37 49.5	-1.2
IFR				S	**Sn**	05 38 16.6	-2.7
OTSS	**Djebel Tessala**	**2.43**	**96**	P	**Pn**	05 37 52.0	+0.4
USTO	**Oran**	**2.61**	**86**	P	**Pg**	05 38 03.0	+0.8
MD31	**MD31**	**2.83**	**197**	P	**Pn**	05 37 56.9	-0.3
MD31				S	**Sn**	05 38 29.8	-1.3
MDT	**Midelt**	**2.85**	**195**	Pn	**Pn**	05 37 57.0	-0.4
	7.6nm,0.3s,baz=202,slow=8.5,SNR=28						
MDT				Sn	**Sn**	05 38 30.6	-1.0
	51nm,0.3s,baz=320,slow=6.2,SNR=7.2						
MDT	**Midelt**	**2.85**	**195**	S	**Sn**	05 38 30.2	-1.3
TDRA	**Tendrara**	**2.90**	**150**	P	**Pn**	05 37 57.7	-0.5
CART	**Cartagena**	**2.98**	**47**		**Pn**	05 37 59.0	-0.1
CART	**Cartagena**	**2.98**	**47**	P	**Pn**	05 37 57.4	-1.7
CART				S	**Sn**	05 38 32.8	-2.0
OKGL	**Djebel Kef Gue**	**3.60**	**81**	P	**Pb**	05 38 18.0	+2.3
PVAQ	**Vaqueiros**	**3.68**	**301**	ePn	**Pn**	05 38 09.1	+0.4
PVAQ				eSn	**Sn**	05 38 49.4	-2.6
PVAQ				A	A	05 38 52.1	
	138nm,0.5s						
PVAQ	**Vaqueiros**	**3.68**	**301**	Pn	**Pn**	05 38 08.6	-0.2
PVAQ	**Vaqueiros**	**3.68**	**301**	P	**Pn**	05 38 09.3	+0.6
PVAQ				S	**Sn**	05 38 49.8	-2.1
PBAR	**Barrancos**	**3.70**	**315**	ePn	**Pn**	05 38 09.7	+0.7
PBAR				eSn	**Sn**	05 38 51.2	-1.2
PBAR				A	A	05 39 00.9	
	59nm,0.9s						
PBDV	**Barranco-do-Ve**	**3.76**	**297**	ePn	**Pn**	05 38 10.1	+0.2
PBDV				eSn	**Sn**	05 38 51.5	-2.5
PBDV				A	A	05 39 05.5	
	88nm,0.4s						
AVE	**Averroes**	**3.79**	**234**	P	**Pn**	05 38 09.3	-0.9
AVE				S	Sn	05 38 38.9	-16
AVE	**Averroes**	**3.79**	**234**	P	**Pn**	05 38 09.4	-0.9
PAB	**San Pablo**	**3.99**	**353**		**Pn**	05 38 15.3	+2.3
GOLM	**Goulmima**	**3.99**	**195**	P	**Pn**	05 38 14.5	+1.3
FIGM	**Figuig**	**4.01**	**148**	P	**Pn**	05 38 13.0	-0.4
PCVE	**Castro Verde**	**4.01**	**302**	ePn	**Pn**	05 38 13.3	0.0
PCVE				eSn	**Sn**	05 38 57.6	-2.6
PCVE				A	A	05 38 58.8	
	84nm,0.5s						
ESDC	**Sonseca Array**	**4.09**	**358**	Pn	**Pn**	05 38 16.5	+2.0
	1.6nm,0.3s,baz=177,slow=13,SNR=47						
ESDC				Sn	**Sn**	05 39 01.8	-0.4
	2.5nm,0.3s,baz=180,slow=17,SNR=5.3						
ESDC	**Sonseca Array**	**4.09**	**358**		**Pn**	05 38 16.2	+1.7
ESBB	**Sonseca Array**	**4.09**	**358**		**Pn**	05 38 16.6	+2.2
PBEJ	**Beja**	**4.11**	**308**	ePn	**Pn**	05 38 15.1	+0.5
PBEJ				eSn	**Sn**	05 39 00.9	-1.7
PBEJ				A	A	05 39 12.4	
	69nm,0.6s						
MESJ	**Messejana**	**4.24**	**303**	eP	**Pn**	05 38 16.3	-0.1
MESJ				eS	**Sn**	05 39 02.5	-3.3
MESJ				IAML		05 39 17.8	
	comp=N,134nm,0.9s						
MESJ	**Messejana**	**4.24**	**303**	ePn	**Pn**	05 38 17.0	+0.5
MESJ				eSn	**Sn**	05 39 03.7	-2.1
MESJ				A	A	05 39 14.9	
	comp=N,77nm,0.5s						
MORF	**Marmelete**	**4.31**	**295**	eP	**Pn**	05 38 17.1	-0.4
MORF				eS	**Sn**	05 39 03.9	-3.7
MORF				IAML		05 39 10.5	
	comp=N,103nm,0.3s						
MORF	**Marmelete**	**4.31**	**295**	ePn	**Pn**	05 38 17.9	+0.4
MORF				eSn	**Sn**	05 39 05.7	-1.9
MORF				A	A	05 39 17.5	
	comp=N,55nm,0.5s						
PFVI	**Vila Bisbo**	**4.38**	**292**	ePn	**Pn**	05 38 18.5	+0.1
PFVI				eSn	**Sn**	05 39 05.9	-3.4
PFVI				A	A	05 39 13.6	
	comp=N,56nm,0.5s						
PFVI	**Vila Bisbo**	**4.38**	**292**	Pn	**Pn**	05 38 18.7	+0.3
PFVI	**Vila Bisbo**	**4.38**	**292**	P	**Pn**	05 38 19.2	+0.8
PTEO	**Sao Teotonio**	**4.46**	**298**	ePn	**Pn**	05 38 20.4	+1.0
PTEO				eSn	**Sn**	05 39 10.5	-0.7
PTEO				A	A	05 39 19.0	
	comp=N,67nm,0.4s						
PESTR	**Estremoz**	**4.49**	**318**	ePn	**Pn**	05 38 20.8	+0.9
PESTR				eSn	**Sn**	05 39 10.2	-1.8
PESTR				A	A	05 39 21.2	
	comp=N,46nm,0.5s						
PESTR	**Estremoz**	**4.49**	**318**		**Pn**	05 38 20.2	+0.3
PESTR	**Estremoz**	**4.49**	**318**	P	**Pn**	05 38 20.9	+0.9
EVO	**Evora**	**4.51**	**312**	ePn	**Pn**	05 38 20.7	+0.6
EVO				eSn	**Sn**	05 39 10.4	-2.0
EVO				A	A	05 39 24.3	
	comp=N,78nm,0.5s						
PNCL	**Nicolau / Gran**	**4.59**	**305**	ePn	**Pn**	05 38 21.6	+0.3
PNCL				eSn	**Sn**	05 39 12.2	-2.2
PNCL				A	A	05 39 21.0	
	comp=N,47nm,0.8s						
UCM	**Universidad Co**	**4.74**	**5**	S	**Sn**	05 39 15.5	-2.6
PMRV	**Marv??o**	**4.81**	**324**	ePn	**Pn**	05 38 25.1	+0.8
PMRV				eSn	**Sn**	05 39 18.6	-1.3
PMRV				A	A	05 39 24.6	
	comp=N,34nm,0.5s						
PMTG	**Montargil**	**4.99**	**316**	ePn	**Pn**	05 38 27.3	+0.6
PMTG				eSn	**Sn**	05 39 22.3	-1.9
PMTG				A	A	05 39 38.2	
	comp=N,50nm,0.5s						
TZRR	**Tazzarine**	**5.02**	**198**	P	**Pn**	05 38 27.3	+0.1
PCBR	**Castelo Branco**	**5.18**	**326**	ePn	**Pn**	05 38 30.6	+1.3
PCBR				eSn	**Sn**	05 39 27.4	-1.5
PCBR				A	A	05 39 36.9	
	comp=N,56nm,0.6s						
OUZM	**OUZ**	**5.30**	**209**	P	**Pn**	05 38 31.3	+0.2
PMST	**Lisbon--Monsan**	**5.37**	**308**	ePn	**Pn**	05 38 32.7	+0.8
PMST				eSn	**Sn**	05 39 31.1	-2.4
PMST				A	A	05 40 24.1	
	comp=N,59nm,0.6s						
PMAFR	**Mafra**	**5.55**	**309**	ePn	**Pn**	05 38 35.2	+0.7
PMAFR				eSn	**Sn**	05 39 35.8	-2.3
PMAFR				A	A	05 40 08.9	
	comp=N,82nm,0.5s						
OUK	**Oukaimeden**	**5.55**	**219**	P	**Pn**	05 38 33.6	-1.3
PSBE	**So Bento**	**5.61**	**316**	ePn	**Pn**	05 38 36.3	+1.0
PSBE				eSn	**Sn**	05 39 39.1	-0.6
PSBE				A	A	05 40 20.6	
	comp=N,72nm,0.6s						
ZGR	**Zagora**	**5.67**	**197**	P	**Pn**	05 38 36.2	0.0
MTE	**Manteigas**	**5.67**	**329**	ePn	**Pn**	05 38 37.8	+1.7
MTE				eSn	**Sn**	05 39 38.4	-2.7
MTE				A	A	05 40 13.3	
	comp=N,95nm,0.6s						
MTE	**Manteigas**	**5.67**	**329**		**Pn**	05 38 36.8	+0.7
PCAS	**Casmilo, Conde**	**5.84**	**321**	ePn	**Pn**	05 38 38.8	+0.4
PCAS				eSn	**Sn**	05 39 39.5	-5.7
PCAS				A	A	05 40 25.3	
	comp=N,99nm,0.6s						
PVIS	**Viseu**	**6.08**	**329**	ePn	**Pn**	05 38 43.2	+1.4
PVIS				eSn	**Sn**	05 39 49.5	-1.7
PVIS				A	A	05 40 28.9	
	comp=N,42nm,0.8s						
MVO	**Moncorvo**	**6.14**	**336**	ePn	**Pn**	05 38 44.5	+1.9
MVO				eSn	**Sn**	05 39 51.6	-1.2
MVO				A	A	05 40 30.9	
	comp=N,58nm,0.7s						
TTIG	**Tnine Tigouga,**	**6.38**	**219**	P	**Pn**	05 38 42.7	-3.2
PVRL	**Vila Real**	**6.49**	**332**	ePn	**Pn**	05 38 48.6	+1.3
PVRL				eSn	**Sn**	05 39 58.9	-2.2
PVRL				A	A	05 40 26.2	
	comp=N,35nm,0.6s						
POLO	**Lamas de Olo**	**6.60**	**332**	ePn	**Pn**	05 38 50.4	+1.5
POLO				eSn	**Sn**	05 40 02.2	-1.8
POLO				A	A	05 40 15.0	
	comp=N,21nm,0.5s						
PBRG	**Braganca**	**6.64**	**340**	ePn	**Pn**	05 38 51.7	+2.2
PBRG				eSn	**Sn**	05 40 03.5	-1.5
PBRG				A	A	05 40 46.8	
	comp=N,22nm,0.7s						
PTO	**Porto**	**6.73**	**327**	ePn	**Pn**	05 38 52.0	+1.3
PTO				eSn	**Sn**	05 40 04.6	-2.6
PTO				A	A	05 40 10.0	
	comp=N,50nm,0.5s						
PCAB	**Cabril**	**6.98**	**333**	ePn	**Pn**	05 38 55.2	+1.1
PCAB				eSn	**Sn**	05 40 09.8	-3.4
PCAB				A	A	05 40 59.4	
	comp=N,58nm,0.8s						
PGAV	**Gavieira, Arco**	**7.29**	**332**	ePn	**Pn**	05 39 00.2	+1.8
PGAV				eSn	**Sn**	05 40 17.9	-3.1
PGAV				A	A	05 40 25.5	
	comp=N,34nm,0.7s						
ETSF	**Etsaut**	**7.72**	**18**	ePn	**Pn**	05 39 06.8	+2.6
ETSF	**Etsaut**	**7.72**	**18**	eP	Pn	05 39 11.7	+7.5
ETSF				eSn	**Sn**	05 40 29.5	-2.0
ETSF				eSg	**Sg**	05 41 15.4	-4.4
	comp=N,5.8nm,0.5s						
SJPF	**Ste Jean**	**7.78**	**14**	ePn	**Pn**	05 39 07.2	+2.2
SJPF				eSn	**Sn**	05 40 30.2	-2.6
	comp=N,5.2nm,0.4s						
SJPF				eSg	**Sg**	05 41 17.7	-3.9
	comp=N,5.7nm,0.5s						
EPF	**Esparros**	**8.09**	**22**	ePn	**Pn**	05 39 10.9	+1.6
EPF				eSn	**Sn**	05 40 37.1	-3.5
	comp=N,3.5nm,0.3s						
MTLF	**Montolieu**	**9.02**	**29**	ePn	**Pn**	05 39 24.0	+2.0
TANT	**Tantan**	**9.56**	**224**	P	**Pn**	05 39 27.9	-1.6
LFF	**La Frestale**	**9.96**	**19**	eP	Pn	05 39 42.1	+7.2
KEST	**Kesra**	**10.66**	**85**	Pn	**Pn**	05 39 42.7	-1.9
	comp=N,0.3nm,0.3s,baz=235,slow=3.2,SNR=5.9						
KEST	**Kesra**	**10.66**	**85**		**Pn**	05 39 42.9	-1.7
LMR	**La Mourre**	**11.08**	**43**	eP	**Pn**	05 39 54.4	+4.2
LMR				eSn	**Sn**	05 41 50.2	-3.7
	comp=N,1.7nm,0.6s						
VSL	**Villasalto**	**11.13**	**66**	Pn	**Pn**	05 39 53.5	+2.5
MFF	**Saint Martin d**	**11.34**	**13**	ePn	**Pn**	05 39 55.6	+1.8
SBF	**Sospel**	**11.93**	**43**	eSn	**Sn**	05 42 12.3	-2.6
	comp=N,2.6nm,0.3s						
PGF	**Pioggiola**	**12.10**	**51**	ePn	**Pn**	05 40 07.1	+2.8
PGF				eSn	**Sn**	05 42 15.1	-4.0
	comp=N,0.7nm,0.3s						
QUIF	**Quistinic**	**12.34**	**2**	ePn	**Pn**	05 40 08.7	+1.3
QUIF				eSn	**Sn**	05 42 20.0	-4.6
	comp=N,1.0nm,0.4s						
SGMF	**Saint Gilles**	**12.70**	**4**	ePn	**Pn**	05 40 14.5	+2.2
SGMF	**Saint Gilles**	**12.70**	**4**	eP	**P**	05 40 20.4	-3.2
SGMF				eSn	**Sn**	05 42 26.0	-7.5
	comp=N,1.6nm,0.3s						
ROSF	**Rostrenen**	**12.75**	**1**	ePn	**Pn**	05 40 15.3	+2.2
ROSF				eSn	**Sn**	05 42 28.0	-6.8
	comp=N,7.7nm,0.5s						
GRR	**Gorron**	**12.98**	**9**	ePn	**Pn**	05 40 20.2	+4.0
GRR				eSn	**Sn**	05 42 33.7	-6.6
	comp=N,1.0nm,0.3s						
LDF	**La Druitiere**	**13.28**	**11**	eP	**P**	05 40 28.9	-1.1
FLN	**La Foliniere**	**13.39**	**9**	eP	**P**	05 40 31.2	-0.1
	baz=186						
DAVA	**Damuels**	**15.51**	**37**	ePn	**P**	05 40 55.9	+1.0
	comp=N,10.0nm,0.9s						
FETA	**Feichten**	**15.75**	**39**	ePn	**P**	05 40 56.1	-1.6
	comp=N,5.5nm,0.8s						
RETA	**Reutte**	**16.08**	**38**	ePn	**P**	05 41 02.4	+1.2
	comp=N,3.2nm,0.9s						
SQTA	**Sankt Quirin**	**16.13**	**39**	ePn	**P**	05 41 02.5	+0.7
	comp=N,6.6nm,1.1s						
ABTA	**Abfaltersbach**	**16.53**	**43**	ePn	**P**	05 41 06.6	+0.3
	comp=N,6.3nm,1.3s						
OBKA	**Obir**	**17.56**	**46**	ePn	**P**	05 41 19.4	+1.8
	comp=N,0.5nm,0.3s						
GEC2	**GERESS Array S**	**18.46**	**39**	P	**P**	05 41 26.3	-1.2
GERES	**GERESS Array B**	**18.46**	**39**	P	**P**	05 41 27.4	-0.1
	comp=N,

*CNRM **25** 05:44:48.5, 35.′50N×3.′61W, h15km, ml3.3*
*SFS **25** 05:44:48.0, 35.′48N×3.′86W, ML2.8, ALBORAN SUR*
ISC 25 05:44:48.4±1.3, 35.′55N±0.′03×3.′66W±0.′04, h14km±9km, n18, σ1°08/29, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.40**	**215**	P	**Pg**	**05 44 56.4**	**-0.1**
PALE				S	**Sg**	**05 45 01.2**	**-0.8**
CHAS	**Isla Isabel II**	**1.07**	**110**	P	**Pg**	**05 45 09.6**	**+0.6**
CHAS				S	**Sn**	**05 45 23.5**	**+0.1**
EMAL	**Malaga-Limoner**	**1.36**	**333**	P	**Pn**	**05 45 13.5**	**+0.5**
EMAL				S	**Sn**	**05 45 29.8**	**-0.9**
CHEFC	**Chefchaouen**	**1.44**	**253**	P	**Pb**	**05 45 15.6**	**+0.5**
CHEFC				S	**Sb**	**05 45 33.7**	**+0.3**
JBK	**JBK**	**1.51**	**143**	P	**Pn**	**05 45 14.8**	**-0.4**
JBK				S	**Sn**	**05 45 33.2**	**-1.5**
SICH	**Sidi Chahed**	**1.98**	**224**	P	**Pb**	**05 45 24.3**	**+0.1**
SICH				S	**Sb**	**05 45 48.7**	**-0.1**
LCRM	**LCR**	**2.10**	**208**	P	**Pn**	**05 45 23.9**	**+0.6**
LCRM				S	**Sn**	**05 45 50.5**	**+1.2**
MD31	**MD31**	**2.83**	**199**	P	**Pn**	**05 45 32.4**	**-0.7**
MD31				S	**Sn**	**05 46 06.1**	**-0.9**
MDT	**Midelt**	**2.84**	**196**	P	**Pn**	**05 45 33.1**	**-0.3**
MDT				S	**Sn**	**05 46 07.9**	**+0.6**
TDRA	**Tendrara**	**2.84**	**151**	P	**Pn**	**05 45 31.6**	**-1.9**
CART	**Cartagena**	**2.95**	**46**	P	**Pn**	**05 45 34.3**	**-0.5**
CART				S	**Sn**	**05 46 09.8**	**-0.2**
PVAQ	**Vaqueiros**	**3.76**	**301**	P	**Pn**	**05 45 46.3**	**+0.4**
AVE	**Averroes**	**3.83**	**235**	P	**Pn**	**05 45 45.1**	**-1.8**
FIGM	**Figuig**	**3.95**	**149**	P	**Pn**	**05 45 50.4**	**+1.7**
PESTR	**Estremoz**	**4.56**	**318**	P	**Pn**	**05 45 58.0**	**+1.0**
EVO	**Evora**	**4.58**	**312**	P	**Pn**	**05 45 58.0**	**+0.8**
EVO				S	**Sn**	**05 46 48.0**	**-2.2**
TZRR	**Tazzarine**	**5.01**	**199**	P	**Pn**	**05 46 04.7**	**+1.5**
OUZM	**OUZ**	**5.31**	**210**	P	**Pn**	**05 46 08.7**	**+1.4**

*IDC **25** 05:50:30.6±1.3, 35.′66N×3.′61W, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/45, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=48.7km s-min=22.1km az=92.0*
*SFS **25** 05:50:32.0, 35.′58N×3.′81W, ML3.4, ALBORAN SUR*
*IGIL **25** 05:50:33.7, 35.′59N×3.′81W, h0km, ML2.9*
*CNRM **25** 05:50:34.5, 35.′46N×3.′72W, h25km, ml3.7*
*INMG **25** 05:50:34.3±1.6, 35.′66N×3.′85W, h0km±3km, MD3.4, ML3.1, Error ellipse: s-maj=3.6km s-min=2.1km az=171.0*
*LDG **25** 05:50:35.7±0.3, 35.′59N×3.′79W, h10km, Ml3.1/4, Error ellipse: s-maj=5.8km s-min=3.2km az=177.0*
ISC 25 05:50:31.9±1.1, 35.′60N±0.′03×3.′74W±0.′03, h9km±9km, n77, σ1°82/117, mb3.7/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.42**	**203**	P	**Pg**	**05 50 40.6**	**+0.5**
PALE				S	**Sg**	**05 50 46.3**	**+0.7**
CHAS	**Isla Isabel II**	**1.15**	**111**	P	**Pg**	**05 50 52.8**	**-1.2**
CHAS				S	**Sg**	**05 51 07.4**	**-1.4**
EMAL	**Malaga-Limoner**	**1.28**	**334**	P	**Pg**	**05 50 55.7**	**-0.9**
EMAL				S	**Sg**	**05 51 12.0**	**-1.2**
CEU	**Ceuta**	**1.36**	**283**	P	Pg	05 50 54.6	-3.4
CEU				S	**Sg**	**05 51 09.1**	**-6.6**
CHEFC	**Chefchaouen**	**1.40**	**250**	P	**Pg**	**05 50 57.6**	**-1.2**
CHEFC				S	**Sg**	**05 51 16.5**	**-0.4**
JBK	**JBK**	**1.59**	**142**	P	**Pn**	**05 50 59.3**	**-1.1**
JBK				S	**Sn**	**05 51 17.7**	**-3.4**
CPS	**Cap Spartel**	**1.77**	**277**	P	**Pb**	**05 51 07.1**	**+2.5**
RSA	**Sarsar**	**1.85**	**248**	P	**Pn**	**05 51 05.3**	**+1.5**
RSA				S	**Sn**	**05 51 25.8**	**-1.5**
SICH	**Sidi Chahed**	**1.98**	**221**	P	**Pn**	**05 51 07.2**	**+1.6**
LCRM	**LCR**	**2.12**	**206**	P	**Pn**	**05 51 07.6**	**-0.1**
LCRM				S	**Sn**	**05 51 32.9**	**-1.4**
IFR	**Ifrane**	**2.38**	**209**	P	**Pn**	**05 51 11.2**	**0.0**
IFR				S	**Sn**	**05 51 37.8**	**-2.7**
MD31	**MD31**	**2.86**	**197**	P	**Pn**	**05 51 17.5**	**-0.2**
MDT	**Midelt**	**2.87**	**195**	Pn	**Pn**	**05 51 17.5**	**-0.5**
	3.3nm,0.3s,baz=156,slow=9.5,SNR=28						
MDT				Sn	**Sn**	**05 51 51.6**	**-1.1**
	11nm,0.3s,baz=106,slow=13,SNR=5.0						
MDT	**Midelt**	**2.87**	**195**	P	**Pn**	**05 51 17.9**	**-0.1**
TDRA	**Tendrara**	**2.92**	**151**	P	**Pn**	**05 51 18.9**	**+0.2**
TDRA				S	**Sn**	**05 51 51.8**	**-2.3**
CART	**Cartagena**	**2.96**	**47**	P	**Pn**	**05 51 19.5**	**+0.5**
CART				S	Sn	05 51 50.3	-4.4
CART	**Cartagena**	**2.96**	**47**	P	**Pn**	**05 51 19.4**	**+0.3**
PVAQ	**Vaqueiros**	**3.67**	**300**	*e*Pn	**Pn**	**05 51 29.5**	**+0.6**
PVAQ				*e*Sn	**Sn**	**05 52 10.0**	**-2.3**
PVAQ				A	A	05 52 31.3	
	39nm,0.4s						
PVAQ	**Vaqueiros**	**3.67**	**300**	P	**Pn**	**05 51 29.4**	**+0.6**
PBAR	**Barrancos**	**3.69**	**315**	*e*Pn	**Pn**	**05 51 29.8**	**+0.8**
PBAR				*e*Sn	**Sn**	**05 52 11.2**	**-1.4**
PBDV	**Barranco-do-Ve**	**3.76**	**297**	*e*Pn	**Pn**	**05 51 30.3**	**+0.3**
PBDV				*e*Sn	**Sn**	**05 52 13.7**	**-0.7**
PBDV				A	A	05 52 32.4	
	25nm,0.8s						
AVE	**Averroes**	**3.81**	**234**	P	**Pn**	**05 51 31.4**	**+0.7**
PCVE	**Castro Verde**	**4.01**	**302**	*e*Pn	**Pn**	**05 51 32.8**	**-0.6**
PCVE				*e*Sn	**Sn**	**05 52 18.1**	**-2.4**
PCVE				A	A	05 52 37.1	
	26nm,0.4s						
GOLM	**Goulmima**	**4.02**	**195**	P	**Pn**	**05 51 34.1**	**+0.4**
FIGM	**Figuig**	**4.03**	**149**	P	**Pn**	**05 51 33.8**	**0.0**
FIGM				S	**Sn**	**05 52 18.1**	**-3.1**
ESDC	**Sonseca Array**	**4.07**	**358**	Pn	**Pn**	**05 51 36.1**	**+1.8**
	2.4nm,0.3s,baz=178,slow=12,SNR=68						
ESDC				Sn	**Sn**	**05 52 20.8**	**-1.3**
	1.4nm,0.3s,baz=184,slow=18,SNR=4.7						
PBEJ	**Beja**	**4.10**	**307**	*e*Pn	**Pn**	**05 51 36.0**	**+1.3**
PBEJ				*e*Sn	**Sn**	**05 52 21.4**	**-1.4**
PBEJ				A	A	05 52 48.8	
	15nm,0.5s						
MESJ	**Messejana**	**4.24**	**303**	*e*P	**Pn**	**05 51 36.9**	**+0.3**
MESJ				*e*S	**Sn**	**05 52 23.3**	**-2.8**
MESJ				IAML		05 52 25.9	
	comp=N,20nm,0.5s						
MESJ	**Messejana**	**4.24**	**303**	*e*Pn	**Pn**	**05 51 37.2**	**+0.6**
MESJ				*e*Sn	**Sn**	**05 52 23.9**	**-2.2**
MESJ				A	A	05 52 42.8	
	comp=N,36nm,0.5s						
MORF	**Marmelete**	**4.31**	**295**	*e*S	**Sn**	**05 52 24.8**	**-3.2**
MORF				IAML		05 52 29.7	
	comp=N,23nm,0.3s						
MORF	**Marmelete**	**4.31**	**295**	*e*Pn	**Pn**	**05 51 38.7**	**+1.1**
MORF				*e*Sn	**Sn**	**05 52 27.7**	**-0.3**
MORF				A	A	05 52 48.1	
	comp=N,16nm,0.4s						
PFVI	**Vila Bisbo**	**4.38**	**292**	*e*Pn	**Pn**	**05 51 40.5**	**+1.9**
PFVI				*e*Sn	**Sn**	**05 52 28.8**	**-0.9**
PFVI				A	A	05 53 05.3	
	comp=N,21nm,0.7s						
PFVI	**Vila Bisbo**	**4.38**	**292**	P	**Pn**	**05 51 39.9**	**+1.4**
PTEO	**Sao Teotonio**	**4.46**	**297**	*e*Pn	**Pn**	**05 51 40.7**	**+1.1**
PTEO				*e*Sn	**Sn**	**05 52 30.2**	**-1.4**
PTEO				A	A	05 52 54.6	
	comp=N,28nm,0.6s						
PESTR	**Estremoz**	**4.48**	**318**	*e*Pn	**Pn**	**05 51 41.1**	**+1.2**
PESTR				*e*Sn	**Sn**	**05 52 30.7**	**-1.4**
PESTR				A	A	05 53 01.1	
	comp=N,20nm,0.5s						
PESTR	**Estremoz**	**4.48**	**318**	P	**Pn**	**05 51 41.2**	**+1.3**
EVO	**Evora**	**4.50**	**312**	P	**Pn**	**05 51 41.0**	**+0.8**
EVO				S	**Sn**	**05 52 29.5**	**-3.1**
EVO	**Evora**	**4.50**	**312**	*e*Pn	**Pn**	**05 51 41.0**	**+0.8**
EVO				*e*Sn	**Sn**	**05 52 30.1**	**-2.5**
EVO				A	A	05 52 52.4	
	comp=N,29nm,0.4s						
PNCL	**Nicolau / Gran**	**4.58**	**305**	*e*Pn	**Pn**	**05 51 41.9**	**+0.5**
PNCL				*e*Sn	**Sn**	**05 52 32.5**	**-2.2**
PNCL				A	A	05 52 34.4	
	comp=N,16nm,0.4s						
UCM	**Universidad Co**	**4.71**	**5**	P	**Pn**	**05 51 45.2**	**+2.1**
UCM				S	**Sn**	**05 52 38.0**	**+0.1**
PMRV	**Marv??o**	**4.80**	**324**	*e*Pn	**Pn**	**05 51 45.7**	**+1.4**
PMRV				*e*Sn	**Sn**	**05 52 37.7**	**-2.3**
PMRV				A	A	05 52 59.3	
	comp=N,17nm,0.5s						
PMTG	**Montargil**	**4.97**	**315**	*e*Sn	**Sn**	**05 52 42.5**	**-1.8**
PMTG				A	A	05 53 00.7	
	comp=N,13nm,0.6s						
TZRR	**Tazzarine**	**5.04**	**198**	P	**Pn**	**05 51 50.0**	**+2.2**
PCBR	**Castelo Branco**	**5.16**	**326**	*e*Pn	**Pn**	**05 51 50.8**	**+1.5**
PCBR				*e*Sn	**Sn**	**05 52 47.4**	**-1.6**
PCBR				A	A	05 52 57.0	
	comp=N,17nm,0.5s						
OUZM	**OUZ**	**5.32**	**209**	P	**Pn**	**05 51 53.0**	**+1.3**
PMAFR	**Mafra**	**5.54**	**309**	*e*Pn	**Pn**	**05 51 54.4**	**-0.1**
PMAFR				*e*Sn	**Sn**	**05 52 55.7**	**-2.7**
PMAFR				A	A	05 53 21.8	
	comp=N,28nm,0.6s						
OUK	**Oukaimeden**	**5.58**	**219**	P	**Pn**	**05 51 54.7**	**-0.7**
PSBE	**So Bento**	**5.60**	**316**	*e*Pn	**Pn**	**05 51 56.8**	**+1.4**
PSBE				*e*Sn	**Sn**	**05 52 58.5**	**-1.3**
PSBE				A	A	05 53 45.5	
	comp=N,18nm,0.5s						
MTE	**Manteigas**	**5.65**	**329**	*e*Pn	**Pn**	**05 51 58.4**	**+2.3**
MTE				*e*Sn	**Sn**	**05 52 59.0**	**-2.2**
MTE				A	A	05 53 51.9	
	comp=N,30nm,0.6s						
ZGR	**Zagora**	**5.69**	**197**	P	**Pn**	**05 51 56.2**	**-0.5**
PCAS	**Casmilo, Conde**	**5.82**	**321**	*e*Pn	**Pn**	**05 51 59.4**	**+1.0**
PCAS				*e*Sn	**Sn**	**05 53 01.6**	**-3.7**
PCAS				A	A	05 53 44.4	
	comp=N,19nm,0.7s						
PVIS	**Viseu**	**6.06**	**329**	*e*Pn	**Pn**	**05 52 03.9**	**+2.2**
PVIS				*e*Sn	**Sn**	**05 53 09.6**	**-1.7**
PVIS				A	A	05 53 34.8	
	comp=N,13nm,0.5s						
MVO	**Moncorvo**	**6.12**	**336**	*e*Pn	**Pn**	**05 52 04.7**	**+2.1**
MVO				*e*Sn	**Sn**	**05 53 11.6**	**-1.2**
MVO				A	A	05 54 04.5	
	comp=N,23nm,0.5s						
TTIG	**Tnine Tigouga,**	**6.40**	**219**	P	**Pn**	**05 52 05.3**	**-1.2**
PVRL	**Vila Real**	**6.47**	**332**	*e*Pn	**Pn**	**05 52 09.3**	**+2.1**
PVRL				*e*Sn	**Sn**	**05 53 19.0**	**-2.2**
PVRL				A	A	05 53 37.5	
	comp=N,17nm,0.5s						
POLO	**Lamas de Olo**	**6.58**	**332**	*e*Pn	**Pn**	**05 52 10.9**	**+2.0**
POLO				*e*Sn	**Sn**	**05 53 22.0**	**-2.0**
POLO				A	A	05 54 00.2	
	comp=N,5.9nm,0.7s						
PBRG	**Braganca**	**6.62**	**340**	*e*Pn	**Pn**	**05 52 11.4**	**+2.0**
PBRG				*e*Sn	**Sn**	**05 53 24.0**	**-1.0**
PBRG				A	A	05 53 26.5	
	comp=N,10.0nm,0.8s						
PTO	**Porto**	**6.72**	**327**	*e*Pn	**Pn**	**05 52 12.2**	**+1.6**
PTO				*e*Sn	**Sn**	**05 53 24.6**	**-2.6**
PCAB	**Cabril**	**6.96**	**332**	*e*Pn	**Pn**	**05 52 16.1**	**+2.1**
PCAB				*e*Sn	**Sn**	**05 53 29.8**	**-3.5**
PCAB				A	A	05 54 18.9	
	comp=N,16nm,0.6s						
PGAV	**Gavieira, Arco**	**7.27**	**332**	*e*Pn	**Pn**	**05 52 20.5**	**+2.2**
PGAV				*e*Sn	**Sn**	**05 53 39.3**	**-1.7**
PGAV				A	A	05 54 28.8	
	comp=N,11nm,0.6s						
ETSF	**Etsaut**	**7.69**	**18**	*e*Pn	**Pn**	**05 52 26.3**	**+2.2**
ETSF				*e*Sn	**Sn**	**05 53 48.9**	**-2.4**
	comp=N,4.2nm,0.4s						
SJPF	**Ste Jean**	**7.75**	**14**	*e*Pn	**Pn**	**05 52 26.8**	**+2.0**
SJPF				*e*Sn	**Sn**	**05 53 50.3**	**-2.4**
	comp=N,2.3nm,0.4s						
EPF	**Esparros**	**8.06**	**22**	*e*Pn	**Pn**	**05 52 30.7**	**+1.6**
EPF				*e*Sn	**Sn**	**05 53 57.7**	**-2.7**
	comp=N,2.1nm,0.4s						
MTLF	**Montolieu**	**8.99**	**29**	*e*Pn	**Pn**	**05 52 44.1**	**+2.2**
TANT	**Tantan**	**9.59**	**224**	P	**Pn**	**05 52 49.5**	**-0.6**
LFF	**La Frestale**	**9.93**	**19**	*e*Pn	**Pn**	**05 52 56.0**	**+1.3**
LASF	**Ste Croix**	**10.28**	**32**	*e*Pn	**Pn**	**05 53 01.5**	**+2.0**
SMRF	**Simiane la Rot**	**11.00**	**38**	*e*P	Pn	05 53 15.9	+6.4
LMR	**La Mourre**	**11.05**	**43**	*e*P	Pn	05 53 16.8	+6.7
PGF	**Pioggiola**	**12.08**	**51**	*e*Pn	**Pn**	**05 53 26.5**	**+2.3**
PGF				*e*Sn	Sn	05 55 33.6	-5.5
QUIF	**Quistinic**	**12.31**	**2**	*e*Pn	**Pn**	**05 53 28.2**	**+1.0**
SGMF	**Saint Gilles**	**12.67**	**4**	*e*Pn	**Pn**	**05 53 33.5**	**+1.3**
ROSF	**Rostrenen**	**12.73**	**1**	*e*Pn	**Pn**	**05 53 34.1**	**+1.1**
CLL	**Collm**	**19.78**	**32**	*e*Px	Px	05 55 05.0	
TORD	**Torodi Ar. Bea**	**22.89**	**166**	P	**P**	**05 55 36.5**	**+0.6**
	comp=N,2.2nm,0.8s,baz=342,slow=9.2,SNR=8.7						
MKAR	**Makanchi Array**	**62.62**	**51**	P	P	06 00 55.5	-1.0
	comp=N,0.5nm,0.6s,baz=287,slow=4.9,SNR=5.2						
YKA	**Yellowknife Ar**	**67.75**	**332**	P	**P**	**06 01 29.8**	**+0.3**
	comp=N,0.1nm,0.5s,baz=63,slow=6.0,SNR=1.9						

*TUL **25** 05:50:41.7±1.5, 35.′881N±0.′010×97.′337W±0.′009, h5km±5km, ML2.5, mb_Lg2.3/4(NEIC), Error ellipse: s-maj=1.6km s-min=0.7km az=146.0*
NEIC 25 05:50:41.9±1.1, 35.′895N±0.′009×97.′34W±0.′01, h5km±1km, Error ellipse: s-maj=3.0km s-min=1.9km az=162.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.14**	**224**	Pg	Pg	05 50 44.5	-0.1
OK029				Sg	Sg	05 50 46.6	+0.1
OK025	**Westminster Rd**	**0.31**	**180**	Pg	Pg	05 50 47.8	-0.1
OK025				Sg	Sg	05 50 52.5	+0.5
BCOK	**Bluff Creek, N**	**0.32**	**223**	Pg	Pg	05 50 47.8	-0.4
BCOK				Sg	Sg	05 50 52.9	+0.4
OK033	**Mehan**	**0.36**	**65**	Pg	Pg	05 50 48.7	-0.1
OK033				Sg	Sg	05 50 54.5	+1.1
OK031	**S. Brethren Rd**	**0.41**	**82**	Pg	Pg	05 50 50.1	+0.4
OK031				Sg	Sg	05 50 56.0	+0.9
OK030	**Cody Creek RV**	**0.45**	**86**	Pg	Pg	05 50 50.9	+0.3
OK030				Sg	Sg	05 50 57.5	+1.0
OKCFA	**Oklahoma City**	**0.49**	**191**	Pg	Pg	05 50 50.9	-0.4
OKCFA				Sg	Sg	05 50 57.9	+0.3
OKCSW	**OKLAHOMA CITY**	**0.49**	**190**	Pg	Pg	05 50 51.1	-0.2
OKCSW				Sg	Sg	05 50 58.2	+0.4
OK034	**N. Norfolk Rd.**	**0.52**	**77**	Pg	Pg	05 50 51.8	-0.1
OK034				Sg	Sg	05 50 59.4	+0.7
QUOK	**Quay**	**0.58**	**61**	Pg	Pg	05 50 53.1	+0.1
QUOK				Sg	Sg	05 51 01.2	+0.6
FNO	**Franklin**	**0.64**	**185**	Pg	Pg	05 50 53.9	-0.2
FNO				Sg	Sg	05 51 02.6	+0.2
CROK	**Carrier**	**0.80**	**320**	Pg	Pg	05 50 56.9	-0.3
CROK				Sg	Sg	05 51 08.2	+0.5
W35A	**Tecumseh**	**0.83**	**153**	Pg	Pg	05 50 57.0	-0.8
BLOK	**Blackwell**	**0.87**	**6**	Pg	Pg	05 50 58.6	0.0
GC02	**Grant County #**	**1.04**	**336**	Pg	Pg	05 51 01.5	-0.4
KAN14	**Manchester OK**	**1.17**	**335**	Pg	Pg	05 51 03.9	-0.5
KAN17	**Caldwell West**	**1.20**	**343**	Pg	Pg	05 51 04.2	-0.7
T35A	**Sooner Cattle**	**1.22**	**33**	Pg	Pg	05 51 04.8	-0.4
TUL1	**Leonard**	**1.25**	**89**	Pg	Pg	05 51 04.6	-1.3
TUL1				IAmb_Lg		05 51 22.5	
	comp=Z,8.4nm,0.8s						
KAN01	**Argonia South**	**1.30**	**345**	Pn	Pn	05 51 06.1	-0.6
X34A	**Smith Ranch, M**	**1.35**	**198**	Pn	Pn	05 51 07.2	-0.2
X34A					Pb	05 51 07.3	-0.4
KAN06	**Argonia West S**	**1.41**	**343**		Pn	05 51 08.1	-0.2
KAN08	**Anthony NE Sta**	**1.42**	**339**		Pn	05 51 07.7	-0.7
KAN16	**Harper SW Stat**	**1.45**	**336**	Pn	Pn	05 51 08.3	-0.5
WMOK	**Wichita Mounta**	**1.65**	**226**	Pn	Pn	05 51 11.7	+0.1
U38A	**Gravette**	**2.45**	**76**		Pn	05 51 22.4	-0.1
R32A	**Long Quarter,**	**2.75**	**337**	Pn	Pn	05 51 25.0	-1.7
N35A	**Tabor**	**5.13**	**15**	IAmb_Lg		05 53 33.2	
	comp=Z,13nm,0.9s						

*SOME **25** 05:50:45.8, 44.′27N×83.′07E, h15km*
*NNC **25** 05:50:48.9±1.8, 44.′22N×82.′81E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=14.2km s-min=5.1km az=127.0*
ISC 25 05:50:48.1±2.7, 44.′31N±0.′08×83.′0E±0.′1, h17km, n17, σ2°05/24, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.33**	**272**	*e*P	**Pb**	**05 51 29.5**	**-0.3**
	4.1nm,0.2s						
DJR				*e*S	**Sg**	**05 52 01.0**	**-2.1**
	5.4nm,0.4s						
DJR	**Jarkent**	**2.33**	**272**	Pg	**Pb**	**05 51 29.5**	**-0.3**
	4.1nm,0.2s						
DJR				Lg	Lg	05 52 01.0	
	5.4nm,0.4s						
MK31	**Makanchi Array**	**2.54**	**348**	Pn	**Pb**	**05 51 33.4**	**+0.1**
	1.3nm,0.2s,baz=176,slow=16,SNR=24						
MK31				Sn	**Sb**	**05 52 06.0**	**+1.7**
	1.8nm,0.2s,baz=166,slow=23,SNR=14						
MAKZ	**Makanchi**	**2.61**	**344**	⇑Sn	**Sb**	**05 52 06.9**	**+0.7**
	1.1nm,0.4s						
PDGK	**Podgornoye**	**2.75**	**250**	⇑Lg	Lg	05 52 11.7	
	3.6nm,0.5s						
KAPS	**Kapalarasan**	**2.80**	**292**	*e*P	**Pb**	**05 51 36.9**	**-0.8**
	1.1nm,0.1s						
KAPS				*e*S	**Sb**	**05 52 13.9**	**+2.2**
	4.1nm,0.2s						
KAPS	**Kapalarasan**	**2.80**	**292**	Pg	**Pb**	**05 51 36.9**	**-0.8**
	1.1nm,0.1s						
KAPS				Lg	Lg	05 52 13.9	
	4.1nm,0.2s						
UZB	**Uzynbulak**	**3.14**	**250**	*e*P	**Pb**	**05 51 42.6**	**-0.9**
	6.1nm,0.2s						
UZB				*e*S	**Sb**	**05 52 23.6**	**+2.0**
	4.0nm,0.3s						
UZB	**Uzynbulak**	**3.14**	**250**	Pg	**Pb**	**05 51 42.6**	**-0.9**
	6.1nm,0.2s						
UZB				Lg	Lg	05 52 23.5	
	4.0nm,0.3s						
TDK	**Taldyqorghan**	**3.38**	**283**	*e*P	**Pb**	**05 51 46.6**	**-1.0**
	28nm,0.1s						
TDK				*e*S	**Sb**	**05 52 30.6**	**+2.2**
	18nm,0.4s						
TDK	**Taldyqorghan**	**3.38**	**283**	Pg	**Pb**	**05 51 46.6**	**-1.0**
	28nm,0.1s						
TDK				Lg	Lg	05 52 30.6	
	18nm,0.4s						
SATY	**Saty**	**3.59**	**251**	*e*P	**Pb**	**05 51 50.2**	**-1.0**
	0.9nm,0.2s						
SATY				*e*S	**Sb**	**05 52 36.8**	**+2.3**
	6.2nm,0.1s						
SATY	**Saty**	**3.59**	**251**	Pg	**Pb**	**05 51 50.2**	**-1.0**
	0.9nm,0.2s						
SATY				Lg	Lg	05 52 36.8	
	6.2nm,0.1s						
ARXS	**Arharly**	**3.75**	**270**	*e*P	**Pb**	**05 51 54.2**	**+0.3**
	1.4nm,0.3s						
ARXS				*e*S	**Sb**	**05 52 43.7**	**+4.7**
	3.8nm,0.2s						
ARXS	**Arharly**	**3.75**	**270**	Pg	**Pb**	**05 51 54.2**	**+0.3**
	1.4nm,0.3s						
ARXS				Lg	Lg	05 52 43.7	
	3.8nm,0.2s						
KUU	**Kurty**	**4.84**	**267**	*e*P	**Pb**	**05 52 14.4**	**+1.9**
	0.9nm,0.3s						
KUU				*e*S	**Sg**	**05 53 18.7**	**-4.9**
	1.6nm,0.4s						
KUU	**Kurty**	**4.84**	**267**	Pg	**Pb**	**05 52 14.4**	**+1.9**
	0.9nm,0.3s						
KUU				Lg	Lg	05 53 18.7	
	1.6nm,0.4s						

*MOS **25** 05:54:03.0±1.0, 35.′45N×3.′72W, h11km, mb5.1/71, MS4.7/13, Error ellipse: s-maj=6.5km s-min=3.3km az=56.4*
*IDC **25** 05:54:03.2±0.4, 35.′49N×3.′82W, h0km, mb4.6/33, mb1 4.7/38, mb1mx4.6/44, mbtmp4.5/38, ML4.5/5, MS4.8/17, Ms1 4.8/17, ms1mx4.5/98, Error ellipse: s-maj=12.0km s-min=10.1km az=99.0*
*MDD **25** 05:54:04.5±0.5, 35.′49N×3.′85W, h0km, mbLg4.5/35, Error ellipse: s-maj=4.8km s-min=3.3km az=9.0*
MDD EMS: III INTENSIDAD MAXIMA.
*BJI **25** 05:54:04.2±0.0, 35.′60N×3.′80W, h15km, mb4.7/47, mB5.6/14, Ms5.6/10, Ms7 5.2/10*
*SFS **25** 05:54:04.0, 35.′47N×3.′84W, ML5.1, ALBORAN SUR*
*CRAAG **25** 05:54:04.0, 35.′47N×3.′83W, Mb4.6*
*NEIC **25** 05:54:05.5, 35.′48N×3.′77W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=0.55; $M_{\theta\theta}$=1.52; $M_{\phi\phi}$=-0.97; $M_{r\theta}$=-0.43; $M_{\theta\phi}$=-5.31; $M_{\phi r}$=2.50; Fault plane solution: M_0=6.03000×10^{16} NP1:ϕ_s=172.56000°, δ=87.97000°, λ=-25.23000°. NP2:ϕ_s=263.52000°, δ=64.78000°, λ=-177.76000°. Principal axes: T 6.2749, Plg16.0000°, Azm221.0000°; N -0.5142, Plg65.0000°, Azm348.0000°; P -5.7607, Plg19.0000°, Azm125.0000°;*
*NEIC **25** 05:54:05.5±1.4, 35.′48N±0.′05×3.′77W±0.′07, h10km±1km, mb5.2/323, Mwr5.1/24, mb_Lg4.6(MDD) Error ellipse: s-maj=9.6km s-min=8.8km az=122.0*
*LDG **25** 05:54:05.4±0.2, 35.′36N×3.′75W, h10km, Ml4.5/43, Error ellipse: s-maj=3.9km s-min=3.0km az=148.0*
*CNRM **25** 05:54:05.5, 35.′44N×3.′71W, h20km, ml5.6*
*IGIL **25** 05:54:05.4, 35.′48N×3.′84W, h0km, ML4.4*
*INMG **25** 05:54:06.3±2.3, 35.′43N×3.′75W, h31km±13km, MD4.2, ML4.4, Error ellipse: s-maj=5.9km s-min=3.9km az=156.0*
*MED_RC **25** 05:54:07.0±0.8, 35.′39N×3.′67W, h10km, MW5.3/25, Moment Tensor Solution.Mantle waves: s25,c35; Duration: 1°5 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.76±.47; $M_{\theta\theta}$0.51±.41; $M_{\phi\phi}$1.25±.42; $M_{r\theta}$5.87±1.42; $M_{\theta\phi}$=-7.69±.27; $M_{\phi r}$0.58±1.46; Best double couple: M_0=9.82000×10^{16} NP1:ϕ_s=275.00000°, δ82.00000°, λ=-142.00000°. NP2:ϕ_s=178.00000°, δ52.00000°, λ=-10.00000°. Principal axes: T 9.8500, Plg19.0000°, Azm41.0000°; N -0.0700, Plg51.0000°, Azm285.0000°; P -9.7800, Plg32.0000°, Azm144.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

SNR=7.9
CPS Cap Spartel 1.78 278 P **Pb 05 54 37.5 -0.3**
CPS S **Sn 05 54 59.1 +0.6**
RSA Sarsar 1.84 249 P **Pn 05 54 37.5 +0.9**
ENIJ Nijar 1.87 41 Pn **Pn 05 54 35.7 -1.4**
SNR=7.9
ENIJ Sn **Sn 05 54 59.6 -1.1**
SNR=7.9
SICH Sidi Chahed 1.95 222 P **Pn 05 54 38.4 +0.2**
SICH S **Sn 05 55 03.3 +0.6**
LCRM LCR 2.09 207 P **Pn 05 54 38.9 -1.4**
LCRM S **Sn 05 55 03.9 -2.4**
SFS San Fernando 2.20 295 P **Pn 05 54 42.4 +0.8**
SFS S **Sg 05 55 15.8 0.0**
SFS San Fernando 2.20 295 P **Pn 05 54 42.6 +1.1**
SFS San Fernando 2.20 295 **Pn 05 54 42.6 +1.1**
SFS San Fernando 2.20 295 P **Pn 05 54 43.0 +1.5**
EQES Quesada 2.30 13 Pn **Pb 05 54 45.1 -1.6**
483nm,0.4s,SNR=186
EQES Pg **Pg 05 54 50.4 +1.1**
SNR=7.9
EQES Sn **Sb 05 55 14.5 -0.6**
1µm,0.5s,SNR=8.3
IFR Ifrane 2.34 210 P **Pn 05 54 42.0 -1.7**
IFR S **Sn 05 55 08.5 -4.1**
OTSS Djebel Tessala 2.42 96 P **Pn 05 54 44.0 -0.7**
USTO Oran 2.60 85 P **Pn 05 54 48.0 +1.0**
TLOR Lorca, Murcia 2.66 38 Pn **Pn 05 54 48.3 +0.4**
SNR=7.9
TLOR Sn **Sn 05 55 20.3 +0.3**
SNR=7.9
TLOR Lg Lg 05 55 33.7
2µm,0.3s,SNR=7.9
EADA Adamuz 2.69 346 Pn **Pn 05 54 49.5 +1.2**
122nm,0.4s,SNR=70
EADA Lg Lg 05 55 27.5
2µm,0.4s,SNR=12
MD31 MD31 2.82 198 P **Pn 05 54 49.2 -1.0**
EZAR Zarzadilla de 2.83 35 Pn **Pn 05 54 50.1 -0.2**
SNR=7.9
EZAR Sn **Sn 05 55 27.1 +2.7**
SNR=7.9
MDT Midelt 2.84 195 Pn **Pn 05 54 49.0 -1.4**
46nm,0.3s,baz=194,slow=12,SNR=97
MDT Sn **Sn 05 55 21.9 -2.7**
320nm,0.3s,baz=234,slow=23,SNR=11
MDT LR LR 05 55 25.7
comp=Z,2µm,18.1s,baz=30,slow=30
MDT Midelt 2.84 195 P **Pn 05 54 49.4 -1.0**
MDT S **Sn 05 55 21.9 -2.7**
ECAB El Cabril 2.85 332 Pn **Pn 05 54 50.9 +0.4**
105nm,0.4s,SNR=18
ECAB Sn **Sn 05 55 25.9 +1.1**
324nm,0.4s,SNR=8.4
ECAB Lg Lg 05 55 35.4
1µm,0.4s,SNR=7.9
ARNO Arenosillo 2.87 303 P **Pn 05 54 50.8 +0.1**
ARNO S **Sn 05 55 24.9 -0.2**
TDRA Tendrara 2.89 150 P **Pn 05 54 50.0 -1.2**
ODJA Bouhanifia 2.94 94 P **Pn 05 54 50.0 -1.7**
CART Cartagena 2.98 47 P **Pn 05 54 49.9 -2.5**
CART S **Sn 05 55 26.0 -2.1**
CART Cartagena 2.98 47 Pn **Pn 05 54 51.2 -1.1**
CART Cartagena 2.98 47 P **Pn 05 54 50.8 -1.5**
EMUR La Murta 3.03 41 Pn **Pn 05 54 52.3 -0.7**
81nm,0.3s,SNR=68
EMUR Sn **Sn 05 55 27.6 -1.7**
1µm,0.6s,SNR=19
EMIN Mina Concepcio 3.23 314 Pn **Pn 05 54 55.2 -0.5**
365nm,0.9s,SNR=106
EMIN Sn **Sn 05 55 32.0 -2.2**
240nm,0.4s,SNR=5.4
OJBR Djebel Berber 3.32 88 P Pn 05 54 52.0 -5.1
ETOB Tobarra 3.54 29 Pn **Pn 05 55 01.7 +1.6**
355nm,0.3s,SNR=658
ETOB Sn **Sn 05 55 42.9 +1.0**
744nm,0.8s,SNR=5.5
EGRO El Granado 3.60 304 Pn **Pn 05 55 00.2 -0.6**
283nm,0.3s,SNR=105
EGRO Sn **Sn 05 55 41.2 -2.2**
353nm,0.4s,SNR=5.0
PFARO Faro 3.69 295 *e*Sn **Sn 05 55 43.8 -1.6**
PVAQ Vaqueiros 3.70 301⇓*e*Pn **Pn 05 55 01.3 -0.9**
PVAQ *e*Sn **Sn 05 55 42.7 -3.0**
PVAQ A A 05 55 51.6
620nm,0.6s
PVAQ Vaqueiros 3.70 301 Pn **Pn 05 55 01.3 -0.9**
PVAQ Vaqueiros 3.70 301 P **Pn 05 55 01.7 -0.5**
PBAR Barrancos 3.72 315 *e*Pn **Pn 05 55 02.2 -0.2**
PBAR *e*Sn **Sn 05 55 44.3 -1.9**
PBAR A A 05 55 52.5
454nm,0.6s
PBDV Barranco-do-Ve 3.78 298 *e*Pn **Pn 05 55 02.6 -0.7**
PBDV *e*Sn **Sn 05 55 44.4 -3.3**
PBDV A A 05 55 54.8
434nm,0.5s
AVE Averroes 3.79 234 P **Pn 05 55 02.4 -1.0**
AVE S **Sn 05 55 40.3 -7.7**
AVE Averroes 3.79 234 P **Pn 05 55 02.5 -0.9**
EANR 'Ain N'Sour 3.95 83 P **Pn 05 55 03.0 -2.7**
GOLM Goulmima 3.98 195 P **Pn 05 55 05.0 -1.2**
FIGM Figuig 3.99 148 P **Pn 05 55 04.8 -1.5**
PAB San Pablo 4.00 353 P **Pn 05 55 08.3 +1.8**
PAB San Pablo 4.00 353 Pn **Pn 05 55 08.3 +1.8**
PAB San Pablo 4.00 353 P **Pn 05 55 08.0 +1.5**
PAB San Pablo 4.00 353 Pn **Pn 05 55 07.9 +1.5**
SNR=7.9
PAB Sn **Sn 05 55 53.7 +0.3**
SNR=7.9
PAB Lg Lg 05 56 12.0
217nm,0.4s,SNR=7.9
AFON Font Roja 4.01 39 Pn **Pn 05 55 07.7 +1.2**
73nm,0.3s,SNR=54
AFON Sn **Sn 05 55 53.5 -0.1**
380nm,0.8s,SNR=8.6
PCVE Castro Verde 4.03 302⇓*e*Pn **Pn 05 55 05.9 -0.9**
PCVE *e*Sn **Sn 05 55 50.6 -3.4**
PCVE A A 05 55 56.6
564nm,0.5s
ESDC Sonseca Array 4.11 358 Pn **Pn 05 55 09.5 +1.6**
16nm,0.3s,baz=178,slow=13,SNR=63
ESDC Sn **Sn 05 55 55.0 -0.9**
20nm,0.3s,baz=176,slow=18,SNR=5.5
ESDC Sonseca Array 4.11 358 Pn **Pn 05 55 09.5 +1.6**
74nm,0.5s,baz=176,slow=12,SNR=82
ESDC Sn **Sn 05 55 56.2 +0.3**
baz=187,slow=24,SNR=7.9
ESDC Lg Lg 05 56 14.3
2µm,0.9s,baz=181,slow=28,SNR=5.4
ESBB Sonseca Array 4.11 358 **Pn 05 55 09.5 +1.6**
EBAD Badajoz 4.12 322 Pn **Pn 05 55 07.9 -0.2**
53nm,0.3s,SNR=63
EBAD Sn **Sn 05 55 53.7 -2.5**
198nm,0.4s,SNR=5.8
PBEJ Beja 4.13 308 *e*Pn **Pn 05 55 07.4 -0.7**
PBEJ *e*Sn **Sn 05 55 54.0 -2.3**
PBEJ A A 05 56 02.1
350nm,0.5s
ECHA Ech Chlef 4.18 80 P **Pn 05 55 08.0 -0.8**
MESJ Messejana 4.26 304 *e*P **Pn 05 55 09.1 -0.9**
MESJ *e*S **Sn 05 55 55.9 -3.7**
MESJ IAML 05 56 03.7
comp=N,670nm,0.3s
MESJ Messejana 4.26 304⇓*e*Pn **Pn 05 55 09.2 -0.7**
MESJ *e*Sn **Sn 05 55 57.3 -2.3**
MESJ A A 05 56 04.3
comp=N,387nm,0.3s
MESJ Messejana 4.26 304 *e*P **Pn 05 55 09.0 -0.9**
MESJ *e*S **Sn 05 55 55.9 -3.7**
MORF Marmelete 4.33 295 *e*P **Pn 05 55 09.6 -1.4**
MORF *e*S **Sn 05 55 57.3 -4.1**
MORF IAML 05 56 05.0
comp=N,902nm,0.4s
MORF Marmelete 4.33 295 *e*Pn **Pn 05 55 09.6 -1.4**
MORF *e*Sn **Sn 05 55 58.4 -3.0**
MORF A A 05 56 01.8
comp=N,320nm,0.3s
MORF Marmelete 4.33 295 *e*P **Pn 05 55 09.5 -1.4**
MORF *e*S **Sn 05 55 57.2 -4.1**
EBNR Beni Rached 4.33 79 P **Pn 05 55 13.0 +2.0**
PFVI Vila Bisbo 4.40 292 *e*Pn **Pn 05 55 10.4 -1.4**
PFVI *e*Sn **Sn 05 55 59.1 -3.9**
PFVI A A 05 56 06.4
comp=N,479nm,0.7s
PFVI Vila Bisbo 4.40 292 Pn **Pn 05 55 10.7 -1.1**
PFVI Vila Bisbo 4.40 292 P **Pn 05 55 11.0 -0.9**
PFVI Vila Bisbo 4.40 292 Pn **Pn 05 55 10.9 -0.9**
comp=N,116nm,0.3s,SNR=41
PFVI Sn **Sn 05 55 59.5 -3.5**
comp=N,400nm,0.6s,SNR=6.0
PTEO Sao Teotonio 4.48 298⇓*e*Pn **Pn 05 55 12.1 -0.8**
PTEO *e*Sn **Sn 05 56 03.0 -1.9**
PTEO A A 05 56 07.7
comp=N,546nm,0.4s
PESTR Estremoz 4.51 318 *e*Pn **Pn 05 55 13.6 +0.2**
PESTR *e*Sn **Sn 05 56 02.9 -2.9**
PESTR A A 05 56 19.9
comp=N,297nm,0.5s
PESTR Estremoz 4.51 318 Pn **Pn 05 55 13.5 +0.2**
PESTR Estremoz 4.51 318 P **Pn 05 55 13.6 +0.2**
EVO Evora 4.53 312 P **Pn 05 55 13.3 -0.3**
EVO S **Sn 05 56 03.8 -2.4**
EVO Evora 4.53 312 *e*Pn **Pn 05 55 13.4 -0.2**
EVO *e*Sn **Sn 05 56 04.2 -2.0**
EVO A A 05 56 17.5
comp=N,354nm,0.7s
ECHE Chera 4.58 28 Pn **Pn 05 55 15.1 +0.8**
SNR=7.9
ECHE Sn **Sn 05 56 06.4 -1.1**
SNR=7.9
ECHE Lg Lg 05 56 35.8
comp=N,18nm,0.2s,SNR=7.9
PNCL Nicolau / Gran 4.61 305 *e*Pn **Pn 05 55 14.1 -0.6**
PNCL *e*Sn **Sn 05 56 04.6 -3.6**
PNCL A A 05 56 19.8
comp=N,298nm,0.8s
UCM Universidad Co 4.75 5 P **Pn 05 55 18.3 +1.6**
UCM S **Sg 05 56 36.9 -0.8**
PMRV Marv??o 4.83 324⇓*e*Pn **Pn 05 55 18.1 +0.3**
PMRV *e*Sn **Sn 05 56 11.3 -2.4**
PMRV A A 05 56 26.2
comp=N,270nm,0.7s
EPLA Plasencia 4.86 338 Pn **Pn 05 55 19.7 +1.5**
comp=N,93nm,0.9s,SNR=37
EPLA Sn **Sn 05 56 12.9 -1.6**
comp=N,430nm,0.6s,SNR=5.0
EPLA Lg Lg 05 56 36.7
comp=N,356nm,0.5s,SNR=7.9
PMTG Montargil 5.00 316 *e*Pn **Pn 05 55 20.1 0.0**
PMTG *e*Sn **Sn 05 56 15.3 -2.6**
PMTG A A 05 56 30.8
comp=N,356nm,0.7s
TZRR Tazzarine 5.01 198 P **Pn 05 55 20.5 +0.2**
GUD Guadarrama 5.08 356 Pn **Pn 05 55 23.0 +1.7**
comp=N,47nm,0.4s,SNR=22
GUD Sn **Sn 05 56 18.2 -1.9**
comp=N,96nm,0.5s,SNR=6.3
GUD Lg Lg 05 56 45.3
comp=N,175nm,0.5s,SNR=6.0
PCBR Castelo Branco 5.20 326⇓*e*Pn **Pn 05 55 23.3 +0.5**
PCBR *e*Sn **Sn 05 56 20.6 -2.1**
PCBR A A 05 56 25.3
comp=N,233nm,0.6s
OUZM OUZ 5.29 209 P **Pn 05 55 24.0 -0.2**
EIBI Ibiza 5.32 48 Pn **Pn 05 55 24.5 0.0**
comp=N,76nm,0.3s,SNR=146
EIBI Sn **Sn 05 56 22.9 -2.8**
comp=N,153nm,0.9s,SNR=5.0
LIS Lisbon 5.35 308 *e*P **Pn 05 55 24.2 -0.6**
LIS *e*S **Sn 05 56 21.7 -4.8**
LIS IAML 05 56 28.1
comp=N,658nm,0.5s
LIS Lisbon 5.35 308 *e*Pn **Pn 05 55 24.9 +0.1**
LIS A A 05 55 38.0
comp=N,603nm,0.4s
LIS *e*Sn **Sn 05 56 25.0 -1.4**
LIS Lisbon 5.35 308 *e*P **Pn 05 55 24.2 -0.6**
LIS *e*S **Sn 05 56 21.6 -4.8**
PMST Lisbon--Monsan 5.38 308⇓*e*Pn **Pn 05 55 25.2 -0.1**
PMST *e*Sn **Sn 05 56 25.7 -1.5**
PMST A A 05 56 45.6
comp=N,388nm,0.6s
ETOR Torete 5.41 14 Pn **Pn 05 55 27.3 +1.5**
comp=N,80nm,0.5s,SNR=17
ETOR Sn **Sn 05 56 27.1 -1.0**
SNR=7.9
ETOR Lg Lg 05 56 55.4
comp=N,487nm,0.5s,SNR=5.0
EMOS Mosqueruela 5.44 27 Pn **Pn 05 55 27.7 +1.4**
comp=N,33nm,0.4s,SNR=45
EMOS Lg Lg 05 56 57.9
comp=N,24nm,0.4s,SNR=7.9
OUK Oukaimeden 5.55 220 P **Pn 05 55 25.5 -2.5**
PMAFR Mafra 5.57 309⇓*e*Pn **Pn 05 55 27.6 -0.3**
PMAFR *e*Sn **Sn 05 56 28.9 -3.0**
PMAFR A A 05 57 11.7
comp=N,375nm,0.6s
PMAFR Mafra 5.57 309 Pn **Pn 05 55 27.7 -0.2**
comp=N,249nm,0.4s,SNR=41
PMAFR Sn **Sn 05 56 29.2 -2.8**
comp=N,555nm,0.7s,SNR=5.0
PSBE So Bento 5.63 316⇓*e*Pn **Pn 05 55 29.0 +0.2**
PSBE *e*Sn **Sn 05 56 30.1 -3.3**
PSBE A A 05 57 13.9
comp=N,278nm,0.6s
ZGR Zagora 5.66 197 P **Pn 05 55 29.7 +0.4**
MTE Manteigas 5.69 329 *e*Pn **Pn 05 55 30.4 +0.8**
MTE *e*Sn **Sn 05 56 33.3 -1.6**
MTE A A 05 57 16.8
comp=N,440nm,0.6s
MTE Manteigas 5.69 329 Pn **Pn 05 55 30.0 +0.4**
PCAS Casmilo, Conde 5.86 321 *e*Pn **Pn 05 55 31.4 -0.5**
PCAS *e*Sn **Sn 05 56 34.4 -4.5**
PCAS A A 05 57 16.9
comp=N,409nm,0.7s
PVIS Viseu 6.10 329 *e*Pn **Pn 05 55 35.7 +0.5**
PVIS *e*Sn **Sn 05 56 42.3 -2.7**
PVIS A A 05 57 01.8
comp=N,250nm,0.6s
MVO Moncorvo 6.16 336⇓*e*Pn **Pn 05 55 37.1 +1.0**
MVO *e*Sn **Sn 05 56 44.0 -2.5**
MVO A A 05 57 24.6
comp=N,362nm,0.6s
MVO Moncorvo 6.16 336 Pn **Pn 05 55 37.4 +1.3**
comp=N,332nm,0.9s,SNR=64
MVO Sn **Sn 05 56 45.3 -1.2**
comp=N,443nm,0.6s,SNR=5.0
MVO Lg Lg 05 57 19.1
comp=N,74nm,0.3s,SNR=7.9
ERTA Horta de San J 6.26 29 Pn **Pn 05 55 38.6 +1.1**
comp=N,135nm,0.8s,SNR=76
ERTA Lg Lg 05 57 29.0
comp=N,38nm,0.5s,SNR=5.0
TTIG Tnine Tigouga, 6.38 220 P **Pn 05 55 35.0 -4.1**
PVRL Vila Real 6.50 332 *e*Pn **Pn 05 55 41.5 +0.7**
PVRL *e*Sn **Sn 05 56 51.8 -3.1**
PVRL A A 05 57 08.9
comp=N,260nm,0.5s
POLO Lamas de Olo 6.62 332 *e*Pn **Pn 05 55 43.3 +0.9**
POLO *e*Sn **Sn 05 56 53.9 -3.9**
POLO A A 05 57 40.4
comp=N,92nm,0.7s
PBRG Braganca 6.66 340 *e*Pn **Pn 05 55 44.5 +1.6**
PBRG *e*Sn **Sn 05 56 56.4 -2.4**
PBRG A A 05 57 46.2
comp=N,186nm,0.6s
ETOS Mallorca 6.68 49 Pn **Pn 05 55 43.4 +0.3**
comp=N,71nm,0.3s,SNR=276
ETOS Sn **Sn 05 56 57.1 -2.0**
comp=N,48nm,0.8s,SNR=5.0
PTO Porto 6.75 327 *e*Pn **Pn 05 55 45.0 +0.9**
PTO *e*Sn **Sn 05 56 57.3 -3.7**
PTO A A 05 57 03.3
comp=N,242nm,0.5s
EPOB Poblet 6.90 32 Pn **Pn 05 55 47.5 +1.2**
comp=N,13nm,0.3s,SNR=32
EPOB Sn **Sn 05 57 04.3 -0.5**
comp=N,71nm,0.9s,SNR=5.0
EPOB Lg Lg 05 57 48.7
SNR=7.9
PCAB Cabril 7.00 333 *e*Pn **Pn 05 55 48.3 +0.8**
PCAB *e*Sn **Sn 05 57 03.8 -3.2**
PCAB A A 05 57 18.9
comp=N,204nm,0.6s
CGR Cap Guir 7.13 228 P **Pn 05 55 46.9 -2.4**
ELOB Lobios 7.14 333 Pn **Pn 05 55 50.4 +0.8**
comp=N,36nm,0.5s,SNR=17
ELOB Sn **Sn 05 57 06.1 -4.7**
comp=N,227nm,0.8s,SNR=6.0
ELOB Lg Lg 05 57 54.4
comp=N,45nm,0.3s,SNR=7.9
PGAV Gavieira, Arco 7.31 332 *e*Pn **Pn 05 55 52.7 +0.9**
PGAV *e*Sn **Sn 05 57 11.2 -3.6**
PGAV A A 05 57 31.9
comp=N,175nm,0.7s
EARA Aranguren 7.39 12 Pn **Pn 05 55 56.0 +3.1**
comp=N,70nm,0.9s,SNR=7.4
EARA Lg Lg 05 57 58.3
comp=N,40nm,0.4s,SNR=7.9
SET Setif 7.44 82 P **Pn 05 55 57.0 +3.3**
EMIR Miracle 7.55 31 Pn **Pn 05 55 57.6 +2.4**
SNR=7.9
EMIR Lg Lg 05 58 12.8
comp=N,395nm,1.5s,SNR=7.9
EORO Oroz-Betelu 7.56 14 Pn **Pn 05 55 57.1 +1.8**
comp=N,40nm,0.4s,SNR=21
EORO Lg Lg 05 58 11.2
comp=N,825nm,1.1s,SNR=7.9
EZAM Zamans 7.63 331 Pn **Pn 05 55 57.8 +1.6**
SNR=7.9
EZAM Sn **Sn 05 57 18.7 -3.9**
SNR=7.9
ELAN Lanestosa 7.66 2 Pn **Pn 05 55 58.7 +2.1**
comp=N,13nm,0.3s,SNR=26
ELAN Lg Lg 05 58 11.6
comp=N,951nm,1.3s,SNR=7.9
MAHO Mahon 7.67 53 P **Pn 05 55 57.3 +0.6**
MAHO S **Sn 05 57 20.2 -3.4**
ECHI Chisagues Biel 7.72 22 Pn **Pn 05 55 59.2 +1.6**
SNR=7.9
ECHI Lg Lg 05 58 15.8
comp=N,581nm,1.9s,SNR=7.9
ETSF Etsaut 7.73 18 *e*Pn **Pn 05 55 58.9 +1.3**
ETSF *e*Sn **Sn 05 57 21.8 -3.3**
ETSF *e*Sg **Sg 05 58 09.5 -3.6**
comp=N,354nm,1.2s
CSOR Sort 7.79 28 Pn **Pn 05 56 00.3 +1.9**
comp=N,32nm,0.3s,SNR=107
CSOR Sn **Sn 05 57 24.3 -2.3**
SNR=7.9
SJPF Ste Jean 7.79 14 *e*Pn **Pn 05 55 59.4 +1.1**
SJPF *e*Sn **Sn 05 57 21.6 -4.8**
SJPF *e*Sg **Sg 05 58 09.8 -5.1**
comp=N,236nm,1.0s
EARI Arriondas 7.81 352 Pn **Pn 05 56 00.7 +2.0**
comp=N,19nm,0.4s,SNR=30
EARI Sn **Sn 05 57 24.0 -3.1**
comp=N,117nm,0.7s,SNR=5.1
EARI Lg Lg 05 58 12.9
comp=N,3µm,1.9s,SNR=7.9
EALK Alkurruntz 7.84 12 Pn **Pn 05 56 01.8 +2.7**
comp=N,196nm,0.4s,SNR=46
EALK Sn **Sn 05 57 25.9 -1.9**
SNR=7.9
EALK Lg Lg 05 58 18.7
comp=N,3µm,1.7s,SNR=7.9
CFON Fontmartina 7.85 36 Pn **Pn 05 56 00.3 +1.0**
comp=N,10nm,0.3s,SNR=21
CFON Sn **Sn 05 57 27.9 -0.1**
SNR=7.9
ATE Arette 7.87 16 Pn **Pn 05 56 02.0 +2.5**
SNR=7.9
ATE Lg Lg 05 58 16.5
comp=N,583nm,1.6s,SNR=7.9
EAGO Agolada(Pontev 7.98 336 Pn **Pn 05 56 02.5 +1.5**
SNR=7.9
EAGO Sn **Sn 05 57 27.3 -3.9**
SNR=7.9
EAGO Lg Lg 05 58 19.7
comp=N,481nm,1.4s,SNR=7.9
EPF Esparros 8.10 22 *e*Pn **Pn 05 56 04.2 +1.6**
EPF *e*Sg **Sg 05 58 16.8 -8.1**
comp=N,262nm,1.3s
EPON Pontenova 8.19 342 Pn **Pn 05 56 05.8 +1.9**
comp=N,12nm,0.4s,SNR=13
EPON Sn **Sn 05 57 32.8 -3.5**
SNR=7.9
EPON Lg Lg 05 58 25.4
comp=N,278nm,0.9s,SNR=5.6
CLLI Llivia 8.21 31 Pn **Pn 05 56 06.4 +2.1**
comp=N,32nm,0.9s,SNR=26
CLLI Lg Lg 05 58 36.7
comp=N,493nm,1.7s,SNR=7.9
EMAZ Mazaricos 8.42 333 Pn **Pn 05 56 07.7 +0.7**
SNR=7.9
EMAZ Sn **Sn 05 57 36.9 -5.1**
SNR=7.9
EMAZ Lg Lg 05 58 33.7
comp=N,641nm,1.4s,SNR=7.9
EJON La Jonquera 8.59 35 Pn **Pn 05 56 12.0 +2.6**
comp=N,55nm,1.1s,SNR=11
EJON Lg Lg 05 58 43.8
comp=N,124nm,1.4s,SNR=7.9
SJAF Saint Jean de 8.61 35 Pn **Pn 05 56 11.7 +2.0**
SNR=7.9
SJAF Sn **Sn 05 57 49.4 +2.5**
SNR=7.9
SJAF Lg Lg 05 58 53.1
comp=N,162nm,1.6s,SNR=7.9
MTLF Montolieu 9.03 29 *e*P Pn 05 56 23.8 +8.5
MTLF *e*Sn **Sn 05 57 54.7 -2.2**
MTLF *e*Sg 05 58 53.8
comp=N,411nm,1.8s
TANT Tantan 9.56 224 P **Pn 05 56 20.3 -2.4**
LFF La Frestale 9.97 19 *e*Pn **Pn 05 56 29.1 +0.9**
LFF *e*Sn **Sn 05 58 14.3 -5.7**
LFF *e*Sg 05 59 20.4
comp=N,301nm,1.5s
LASF Ste Croix 10.31 32 *e*Pn **Pn 05 56 34.1 +1.2**
LASF *e*Sn **Sn 05 58 25.1 -3.3**
LASF *e*Sg 05 59 31.8
comp=N,65nm,1.1s
CAF Calviac 10.34 24 *e*Pn **Pn 05 56 32.0 -1.4**
CAF *e*Sg Sn 05 59 27.6 +58
comp=N,447nm,2.0s
EFAM Famara 10.48 235 Pn **Pn 05 56 34.1 -1.1**
SNR=7.9
EFAM Sn Sn 05 58 20.8 -12
SNR=7.9
RJF Les Rejaudoux 10.52 21 *e*Pn **Pn 05 56 36.5 +0.8**
RJF *e*Sn **Sn 05 58 27.8 -5.7**
RJF *e*Sg 05 59 38.4
comp=N,350nm,1.8s
I48TN KESRA INFRASON10.62 85 *i* 06 59 50.0
baz=270,slow=302,SNR=0.5
KEST Kesra 10.65 85 Pn **Pn 05 56 36.7 -0.9**
comp=N,1.2nm,0.3s,baz=233,slow=1.9,SNR=18
KEST LR LR 06 01 19.5
comp=N,4µm,18.4s,baz=224,slow=41
KEST Kesra 10.65 85 P **Pn 05 56 41.2 +3.5**
SNR=8.9
KEST Kesra 10.65 85 Pn **Pn 05 56 39.1 +1.5**
PMPST Porto Santo, M 10.71 260 *e*Pn **Pn 05 56 39.6 +1.2**
PMPST *e*Sn Sn 05 58 24.6 -14
PMPS Porto Santo 10.72 260 *e*Pn **Pn 05 56 38.4 -0.1**
PMPS *e*Sn Sn 05 58 26.0 -12
SMRF Simiane la Rot 11.03 38 *e*Pn **Pn 05 56 43.4 +0.6**
SMRF *e*Sn **Sn 05 58 39.4 -6.8**
SMRF *e*Sg 05 59 58.4
comp=N,508nm,2.2s
CFUE Fuerteventura 11.06 234 Sn Sn 05 58 36.5 -10
SNR=7.9
LMR La Mourre 11.08 42 *e*Pn **Pn 05 56 44.0 +0.6**
LMR *e*Sn **Sn 05 58 42.8 -4.4**
comp=N,17nm,0.6s
LMR *e*Sg 05 59 59.6
VSL Villasalto 11.12 65 Pn **Pn 05 56 45.4 +1.3**
VIVF Saint-Julien-l 11.28 32 *e*Pn **Pn 05 56 46.9 +0.7**
VIVF *e*Sn **Sn 05 58 50.5 -1.8**
VIVF *e*Sg 06 00 02.4
comp=N,55nm,1.1s
PMAR Madeira 11.28 259 *e*Pn **Pn 05 56 44.6 -1.8**
PMAR *e*Sn Sn 05 58 34.7 -18
PMAR Madeira 11.28 259 P **Pn 05 56 44.3 -2.1**
FUL Funchal 11.29 259 *e*Sn Sn 05 58 40.0 -12
MFF Saint Martin d 11.35 13 *e*Pn **Pn 05 56 48.4 +1.2**
MFF *e*Sn **Sn 05 58 47.7 -6.2**
MFF *e*Sg 06 00 04.1
comp=N,25nm,0.9s
CGIN Giniginamar, F 11.45 233 Pn Pn 05 56 38.6 -10
SNR=4.0
CGIN Sn Sn 05 58 41.8 -15
SNR=7.9
PMOZ Porto Moniz, M 11.48 260 *e*Pn **Pn 05 56 47.8 -1.3**
PMOZ *e*Sn Sn 05 58 46.9 -10
PMOZ Porto Moniz, M 11.48 260 Pn **Pn 05 56 47.8 -1.3**

PMOZ Porto Moniz, M 11.48 260 P **Pn** **05 56 47.6 -1.5**
PMOZ Porto Moniz, M 11.48 260 Pn **Pn** **05 56 47.1 -2.0**
SNR=7.9
PMOZ Sn Sn 05 58 45.5 -12
SNR=7.9
SSB Saint Sauveur 11.57 30 P **Pn** **05 56 52.1 +2.0**
SSB Saint Sauveur 11.57 30 **Pn** **05 56 52.1 +2.0**
TCF Toulx Ste Croi 11.61 21 *e*Pn **Pn** **05 56 51.3 +0.5**
TCF *e*Sn **Sn** **05 58 56.0 -4.4**
TCF *e*Sg 06 00 17.3
comp=N,71nm,1.2s
ORIF Oris-en-Rattie 11.88 35 *e*Pn **Pn** **05 56 56.7 +2.3**
ORIF *e*Sg 06 00 19.7
comp=N,8.3nm,0.6s
SBF Sospel 11.93 43 *e*Pn **Pn** **05 56 55.9 +0.7**
SBF *e*Sn **Sn** **05 59 01.6 -6.7**
SBF *e*Sg 06 00 25.6
comp=N,21nm,0.8s
BGF Bois d'Agland 12.05 22 *e*Pn **Pn** **05 56 58.6 +1.9**
BGF *e*Sn **Sn** **05 59 04.5 -6.4**
BGF *e*Sg 06 00 26.6
comp=N,73nm,1.1s
PGF Pioggiola 12.10 51 *e*Pn **Pn** **05 56 57.8 +0.3**
PGF *e*Sn **Sn** **05 59 04.0 -8.4**
comp=N,4.3nm,0.3s
MBDF Montbardon 12.17 38 *e*P **Pn** **05 57 01.7 +3.2**
MBDF *e*Sn **Sn** **05 59 10.9 -3.3**
MBDF *e*Sg 06 00 29.0
comp=N,11nm,1.0s
QUIF Quistinic 12.35 2 *e*Pn **Pn** **05 57 02.4 +1.6**
QUIF *e*Sn **Sn** **05 59 13.5 -4.8**
comp=N,14nm,0.4s
QUIF *e*Sg 06 00 37.7
comp=N,42nm,1.0s
BNI Bardonecchia 12.36 37 P **Pn** **05 57 04.1 +3.1**
BNI Bardonecchia 12.36 37 **Pn** **05 57 04.1 +3.1**
AVF Avril sur Loir 12.41 23 *e*Pn **Pn** **05 57 04.5 +2.8**
AVF *e*Sg 06 00 39.0
comp=N,79nm,1.4s
SMF Signal de Mont 12.45 25 *e*Pn **Pn** **05 57 02.5 +0.3**
SMF *e*Sn **Sn** **05 59 13.9 -6.9**
SMF *e*Sg 06 00 38.7
comp=N,11nm,0.7s
EOSO Osorio 12.52 237 Pn **Pn** **05 57 02.8 -0.4**
SNR=7.9
EOSO Sn Sn 05 59 09.3 -13
SNR=7.9
GGC Guia, Gran Can 12.54 237 Sn Sn 05 59 11.8 -11
SNR=7.9
HYF Humbligny 12.63 20 *e*Pn **Pn** **05 57 04.7 +0.1**
HYF *e*Sn **Sn** **05 59 17.4 -7.7**
HYF *e*Sg 06 00 46.8
SSF Saint Saulge 12.70 23 *e*Pn **Pn** **05 57 06.2 +0.6**
SSF *e*Sn **Sn** **05 59 19.5 -7.5**
SSF *e*Sg 06 00 48.5
comp=N,26nm,1.0s
SGMF Saint Gilles 12.71 4 *e*Pn **Pn** **05 57 06.3 +0.6**
SGMF *e*Sn Sn 05 59 17.4 -10
SGMF *e*Sg 06 00 44.0
comp=N,107nm,1.2s
LPG La Plagne 12.72 36 *e*Pn **Pn** **05 57 08.6 +2.5**
LPG *e*Sg 06 00 46.6
comp=N,39nm,1.2s
LPL La Plagne 12.72 35 *e*Pn **Pn** **05 57 07.8 +1.7**
LPL *e*Sg 06 00 45.8
comp=N,23nm,1.1s
ROSF Rostrenen 12.77 1 *e*Pn **Pn** **05 57 08.3 +1.8**
ROSF *e*Sn **Sn** **05 59 23.3 -5.2**
CGUI Guimar, Teneri 12.98 240 Pn **Pn** **05 57 04.9 -4.7**
SNR=4.0
CGUI Sn Sn 05 59 20.2 -14
SNR=7.9
GRR Gorron 12.99 9 *e*Pn **Pn** **05 57 10.4 +0.9**
GRR *e*Sn Sn 05 59 24.6 -9.4
comp=N,14nm,0.4s
GRR *e*Sg 06 00 59.3
comp=N,64nm,1.2s
LOR Lormes 13.00 24 *e*Pn **Pn** **05 57 12.0 +2.3**
baz=204
LOR *e*Sn **Sn** **05 59 26.4 -7.8**
LOR *e*Sg 06 00 57.0
comp=N,12nm,0.7s
MACI Morro de la Ar 13.07 240 Sn Sn 05 59 21.8 -14
SNR=7.9
LDF La Druitiere 13.29 10 *e*Pn **Pn** **05 57 14.3 +0.7**
LDF *e*Sn **Sn** **05 59 34.1 -7.2**
LDF *e*Sg S 06 01 05.6 +60
comp=N,52nm,1.1s
MSSA Maissana 13.39 45 Pn **Pn** **05 57 16.8 +1.7**
FLN La Foliniere 13.41 9 *e*Pn **Pn** **05 57 16.9 +1.7**
baz=187
FLN *e*Sn **Sn** **05 59 35.4 -8.7**
FLN *e*Sg 06 01 09.7
comp=N,26nm,0.8s
CASP Castiglione de 13.42 53 **Pn** **05 57 19.0 +3.6**
EGOM La Gomera 13.62 241 Sn Sn 05 59 33.2 -16
SNR=7.9
SENIN Lac Senin/Sane 13.62 34 Pn **Pn** **05 57 21.8 +3.4**
VLC Villacollemand 13.82 47 **Pn** **05 57 22.3 +1.4**
LATE Laterza 13.96 55 Pn **Pn** **05 57 23.1 +0.3**
OSSC Osservatorio P 14.01 51 Pn **Pn** **05 57 24.3 +0.7**
PRMA PARMA 14.12 45 Pn **Pn** **05 57 27.6 +2.7**
SFTF Sexfontaines 14.21 25 *e*Pn **Pn** **05 57 28.8 +2.6**
baz=203
SFTF *e*Sg 06 01 33.0
comp=N,55nm,1.0s
ZCCA Zocca 14.28 48 Pn **Pn** **05 57 27.6 +0.4**
MEZF Maizieres J'vi 14.47 24 *e*Pn **Pn** **05 57 31.4 +1.7**
baz=202
MEZF *e*Sn **Sn** **06 00 07.2 -2.8**
MEZF *e*Sg 06 01 38.9
comp=N,28nm,0.8s
HAU Haudompre 14.51 28 *e*P **P** **05 57 37.4 +0.4**
HAU *e*Sg 06 01 44.2
comp=N,30nm,1.0s
HINF Hinteralfeld 14.56 30 *e*Pn **Pn** **05 57 31.6 +0.6**
HINF *e*Sg 06 01 43.8
comp=N,50nm,1.3s
SAVF Savonnieres en 14.59 24 *e*Pn **P** **05 57 34.8 -3.1**
SAVF *e*Sg 06 01 43.4
comp=N,5.7nm,0.4s
RAFF Raffo Rosso 14.67 78 Pn **Pn** **05 57 31.6 -0.9**
TUE Stuetta 14.68 38 Pn **Pn** **05 57 35.0 +2.1**
MURB Monte Urbino 14.72 54 Pn **Pn** **05 57 33.5 +0.2**
VAE Valguarnera 14.72 77 Pn **P** **05 57 37.9 -1.5**
comp=N,1.0nm,0.3s,baz=180,slow=5.9,SNR=7.7
VAE LR LR 06 02 54.8
comp=N,3µm,19.1s,baz=258,slow=36
PAGF Fort de Pagny 14.74 25 *e*P **P** **05 57 38.1 -1.5**
PAGF *e*Sn **Sn** **06 00 12.8 -3.9**
PAGF *e*Sg 06 01 50.9
comp=N,18nm,0.7s
SALO Salr 14.75 43 Pn **Pn** **05 57 35.2 +1.6**
NRCA Norcia 14.93 56 Pn **Pn** **05 57 36.8 +0.7**
AQU L'Aquila 14.94 58 P **Pn** **05 57 37.7 +1.4**
AQU pmax pmax
comp=Z,94nm,1.6s
AQU L'Aquila 14.94 58 Pn **Pn** **05 57 37.7 +1.4**
AQU IAmb IAmb 05 58 01.6
comp=Z,94nm,1.6s
ECH Echery 15.00 29 P **Pn** **05 57 38.3 +1.4**
ECH pmax pmax
comp=Z,38nm,1.3s
ECH Echery 15.00 29 Pn **Pn** **05 57 38.3 +1.4**
CDF Champ du Feu 15.20 29 *e*Pn **Pn** **05 57 41.0 +1.3**
CDF *e*Sn **Sn** **06 00 23.9 -4.2**
CDF *e*Sg 06 02 08.2
comp=Z,1.1nm,0.4s
TEOL Teolo 15.25 45 Pn **Pn** **05 57 41.6 +1.3**
DAVA Damuels 15.51 37 *i* Pn **P** **05 57 46.4 -1.8**
comp=Z,32nm,0.9s,SNR=6.5
BFO Black Forest 15.57 31 P **Pn** **05 57 45.8 +1.3**
BFO pmax pmax
comp=Z,85nm,1.8s
BFO Black Forest 15.57 31 *e*X 05 57 50.4
BFO Black Forest 15.57 31 Pn **Pn** **05 57 45.8 +1.3**
BAIF Baives 15.60 19 *e*P **P** **05 57 47.6 -1.4**
BAIF *e*Sg 06 02 16.3
comp=Z,5.9nm,0.6s
CTI Castel Tesino 15.64 43 P **Pn** **05 57 46.4 +1.0**
CTI pmax pmax
comp=Z,34nm,1.2s
CTI Castel Tesino 15.64 43 Pn **Pn** **05 57 46.4 +1.0**
DOU Dourbes 15.74 20 P **Pn** **05 57 48.3 +1.7**
DOU x x 05 58 07.8
FETA Feichten 15.76 39 *i* Pn **P** **05 57 49.8 -1.2**
comp=Z,66nm,1.8s,SNR=9.9
GIVF Givet 15.81 21 *e*Pn **Pn** **05 57 47.8 +0.2**
GIVF *e*Sg 06 02 23.4
comp=Z,2.7nm,0.3s
WLF Walferdange 15.84 24 P **Pn** **05 57 49.2 +1.3**
WLF pmax pmax
comp=Z,96nm,1.3s
WLF Walferdange 15.84 24 Pn **Pn** **05 57 49.2 +1.3**
WLF Walferdange 15.84 24 P **P** **05 57 51.6 -0.1**
WLF x x 05 58 04.5
UBR Ueberruh 15.90 36 *e*P **P** **05 57 53.6 +1.2**
comp=Z,130nm,1.6s,baz=219,slow=11
BMRD Maredsous 15.97 20 P **Pn** **05 57 50.5 +0.8**
RCHB Rochefort 15.98 21 P **P** **05 57 52.3 -0.9**
comp=Z,34nm,1.0s
RETA Reutte 16.08 38 *i* Pn **Pn** **05 57 52.9 +1.7**
comp=Z,26nm,1.1s,SNR=7.5
SQTA Sankt Quirin 16.13 39 *i* Pn **Pn** **05 57 53.5 +1.7**
comp=Z,82nm,1.9s,SNR=11
BGES Gesves 16.14 21 P **P** **05 57 53.7 -1.4**
MOTA Moosalm 16.16 39 *i* Pn **Pn** **05 57 53.5 +1.2**
comp=Z,54nm,1.7s,SNR=13
BCLA Clavier 16.23 21 P **P** **05 57 55.1 -0.9**
STU Stuttgart 16.28 32 P **P** **05 57 55.7 -0.9**
STU pmax pmax
comp=Z,80nm,1.6s
STU Stuttgart 16.28 32 *e*P **P** **05 57 58.3 +1.7**
comp=Z,109nm,1.6s,baz=219,slow=11
STU Stuttgart 16.28 32 Pn **P** **05 57 55.7 -0.9**
STAL STALIGIAL 16.36 40 Pn **Pn** **05 57 56.0 +1.4**
WTTA Wattenberg 16.38 40 *i* Pn **P** **05 57 57.2 -0.7**
comp=Z,20nm,1.0s,SNR=5.1
BHOU Houvegnez 16.39 23 P **P** **05 57 57.5 -0.4**
WATA Walderalm 16.40 40 *e*Pn **Pn** **05 57 56.5 +1.3**
comp=Z,37nm,1.6s
BSTI Sart Tilman 16.46 21 P **P** **05 57 58.4 -0.1**
ABTA Abfaltersbach 16.53 43 *i* Pn **P** **05 57 59.3 -0.3**
comp=Z,13nm,0.8s,SNR=13
MEM Membach 16.61 22 P **P** **05 57 59.6 -0.6**
BTNL Ternell 16.63 22 P **P** **05 58 00.1 -0.5**
BTNL x x 05 58 14.6
BEBN Eben Emael 16.68 21 x x 05 58 18.0
TIP Timpagrande 16.68 71 ⇑P **P** **05 58 02.2 +1.0**
TIP Timpagrande 16.68 71 **P** **05 58 01.7 +0.5**
FUR Furstenfeldbru 16.80 37 *e*P **P** **05 58 03.2 +0.8**
comp=Z,244nm,1.8s,baz=219,slow=11
AHRW Bad Neuenahr-A 16.90 24 *e*P **P** **05 58 03.6 +0.2**
comp=Z,157nm,2.4s,baz=219,slow=11
CEY Cerknica 17.09 48 *i* Pn **Pn** **05 58 03.9 0.0**
MYKA Terra Mystica 17.10 44 *e*Pn **P** **05 58 07.6 +1.9**
comp=Z,17nm,1.2s
TNS Taunus Mts 17.12 27 *e*P **P** **05 58 06.4 +0.4**
comp=Z,44nm,1.5s,baz=219,slow=11
KBA Koelnbreinsper 17.19 43 *e*Pn **P** **05 58 06.3 -0.6**
comp=Z,22nm,1.6s
LJU Ljubljana 17.30 47 *i* Pn **P** **05 58 07.4 -0.6**
OBKA Obir 17.56 46 *e*Pn **P** **05 58 13.2 +2.3**
comp=Z,28nm,1.1s
GRFO Grafenberg 17.85 33 P **P** **05 58 15.4 +1.4**
GRFO pmax pmax
comp=Z,187nm,1.7s
GRFO Grafenberg 17.85 33 **P** **05 58 15.4 +1.4**
GRFO IAmb IAmb 05 59 05.0
comp=Z,187nm,1.7s
GRA1 Grafenberg Arr 17.85 33 **P** **05 58 15.3 +1.3**
GRA1 IAmb IAmb 05 59 05.0
comp=Z,218nm,1.8s
GRF Grafenberg Arr 17.85 33 P **P** **05 58 15.3 +1.3**
GRF pmax pmax
comp=Z,218nm,1.8s
GRF Grafenberg Arr 17.85 33 *e*P **P** **05 58 16.0 +2.0**
comp=Z,221nm,2.2s,baz=219,slow=11
SOKA Soboth 17.93 46 *i* Pn **P** **05 58 16.1 +1.1**
comp=Z,36nm,2.0s,SNR=15
MOA Molln 18.15 42 *e*Pn **P** **05 58 17.6 +0.3**
comp=Z,15nm,1.0s
ROTZ Rotzenmuhle 18.35 34 *e*P **P** **05 58 21.2 +1.7**
comp=Z,20nm,1.8s,baz=219,slow=11
GEC2 GERESS Array S 18.46 39 *e*P **Pn** **05 58 21.9 +1.0**
comp=Z,51nm,1.3s,baz=219,slow=11
GEC2 GERESS Array S 18.46 39 P **Pn** **05 58 20.9 0.0**
GERES GERESS Array B 18.46 39 P **Pn** **05 58 20.9 0.0**
comp=Z,0.4nm,0.3s,baz=221,slow=10.0,SNR=30
GERES LR LR 06 05 17.6
comp=Z,4µm,19.4s,baz=228,slow=36
GERES GERESS Array B 18.46 39 P **P** **05 58 20.0 -0.8**
GERES GERESS Array B 18.46 39 P **P** **05 58 20.0 -0.8**
MANZ Manzenberg 18.46 34 *e*P **Pn** **05 58 21.7 +0.9**
comp=Z,6.7nm,1.3s,baz=219,slow=11
ARSA Arzberg 18.52 45 *i* Pn **Pn** **05 58 22.2 +0.7**
comp=Z,28nm,1.5s,SNR=12
KHC Kasperske Hory 18.58 38 P **Pn** **05 58 22.6 +0.3**
KHC pmax pmax
comp=Z,142nm,2.0s
KHC Kasperske Hory 18.58 38 *e*P **Pn** **05 58 24.6 +2.3**
KHC x x 05 58 39.5
KHC AMS AMS 06 05 10.0
comp=Z,4µm,16.9s
KHC Kasperske Hory 18.58 38 P **Pn** **05 58 22.6 +0.3**
IBBN Ibbenburen 18.63 23 *e*P **Pn** **05 58 25.2 +2.4**
comp=Z,78nm,1.6s,baz=219,slow=11
BRY Bratogost 18.71 60 *e*P **Pn** **05 58 25.0 +0.9**
MOX Moxa 18.72 32 *e*P **Pn** **05 58 25.3 +1.3**
comp=Z,66nm,1.8s,baz=219,slow=11
GTTG Gottingen 18.76 27 *e*P **Pn** **05 58 26.6 +2.3**
comp=Z,23nm,1.2s,baz=219,slow=11
CKRC Cesky Krumlov 18.76 40 *e*P **Pn** **05 58 25.0 +0.6**
CKRC AMS AMS 06 05 10.0
comp=Z,3µm,16.6s
NKC Novy Kostel 18.79 34 *e*P **Pn** **05 58 26.5 +1.7**
NKC MLR MLR
comp=Z,3µm,13.2s
NKC Novy Kostel 18.79 34 *e*P **Pn** **05 58 26.5 +1.7**
NKC AMS AMS 06 05 40.0
comp=Z,3µm,13.2s
WERN Wernitzgruen 18.80 34 *e*P **Pn** **05 58 25.6 +0.6**
comp=Z,93nm,2.0s,baz=219,slow=11
BUM Brajici-Budva 18.82 62 *e*P **Pn** **05 58 25.8 +0.6**
GUNZ Gunzen 18.83 33 *e*P **Pn** **05 58 26.3 +0.9**
comp=Z,29nm,1.2s,baz=219,slow=11
PLN Plauen 18.84 33 *e*P **Pn** **05 58 26.4 +1.0**
comp=Z,56nm,1.4s,baz=219,slow=11
WERD Werda 18.88 33 *e*P **Pn** **05 58 26.6 +0.7**
comp=Z,64nm,1.7s,baz=219,slow=11
CEME Cevo 18.89 62 *e*P **Pn** **05 58 26.8 +0.6**
TANN Tannenbergstha 18.93 33 *e*P **Pn** **05 58 27.3 +0.8**
comp=Z,75nm,1.7s,baz=219,slow=11
DRME Dracevica, Mon 19.00 63 *e*P **Pn** **05 58 28.1 +0.7**
CONA Conrad Observa 19.08 44 *e*Pn **P** **05 58 27.7 +0.1**
comp=Z,8.0nm,0.9s
PDG Podgorica 19.11 62 ⇓P **Pn** **05 58 29.3 +0.6**
PDG Podgorica 19.11 62 P **Pn** **05 58 28.4 -0.2**
TTG Podgorica 19.11 62 *e*P **Pn** **05 58 29.4 +0.7**
CLZ Clausthal 19.15 27 *e*P **Pn** **05 58 30.3 +1.2**
comp=Z,120nm,2.4s,baz=219,slow=11
PBCC Pribram 19.15 37 AMS AMS 06 05 40.0
comp=Z,2µm,15.3s
NEUB Neuenburg 19.21 31 *e*P **Pn** **05 58 31.0 +1.2**
comp=Z,71nm,1.2s,baz=219,slow=11
KOME Kolasin 19.39 61 *e*P **Pn** **05 58 32.9 +0.7**
ASSE Asse, Remlinge 19.49 27 *e*P **Pn** **05 58 34.6 +1.5**
comp=Z,50nm,1.4s,baz=219,slow=11
RETH Rethem/Aller, 19.52 24 *e*P **Pn** **05 58 35.7 +2.3**
comp=Z,215nm,2.1s,baz=219,slow=11
KOVH Kovagotottos 19.52 51 P **Pn** **05 58 33.9 +0.3**
NRDL Niedersach Rie 19.57 26 *e*P **Pn** **05 58 35.7 +1.6**
comp=Z,109nm,2.2s,baz=219,slow=11
BBLS Lazići 19.59 58 *e*P **Pn** **05 58 34.4 -0.2**
PRU Pruhonice 19.61 37 *e*P **Pn** **05 58 35.0 +0.3**
PRU MLR MLR
comp=Z,3µm,10.9s
PRU Pruhonice 19.61 37 *e*P **Pn** **05 58 35.0 +0.3**
PRU AMS AMS 06 07 00.0
comp=Z,3µm,10.9s
PVY Plav 19.65 62 *e*P **Pn** **05 58 35.5 +0.2**
TREC Trest 19.66 40 AMS AMS 06 08 50.0
comp=Z,3µm,19.7s
MPLH Magyarpolny 19.66 47 P **Pn** **05 58 36.3 +1.0**
IVA Berane 19.67 61 *e*P **Pn** **05 58 35.8 +0.3**
FBE Freiberg 19.69 34 *e*P **Pn** **05 58 35.9 +0.3**
comp=Z,65nm,1.0s,baz=219,slow=11
EKA Eskdalemuir Ar 19.77 1 P **Pn** **05 58 36.9 +0.3**
baz=174,slow=12,SNR=4.5
CLL Collm 19.81 32 ⇑*i*P **Pn** **05 58 37.4 +0.4**
CLL pmax pmax
comp=Z,69nm,1.1s
CLL Collm 19.81 32 ⇑*i*P **Pn** **05 58 37.4 +0.4**
comp=Z,69nm,1.1s
CLL Collm 19.81 32 *e*P **Pn** **05 58 37.3 +0.3**
comp=Z,69nm,1.1s,baz=219,slow=11
CLL Collm 19.81 32 P **Pn** **05 58 37.3 +0.3**
SJES Sjenica 19.82 60 *e*P **P** **05 58 36.2 +0.4**
FLTG Flechtingen 19.86 28 *e*P **Pn** **05 58 37.9 +0.3**
comp=Z,74nm,1.8s,baz=219,slow=11
MORH Mrgy, Hungar 19.92 51 P **Pn** **05 58 37.7 -0.6**
BRG Berggiesshubel 19.92 34 *i* P **Pn** **05 58 38.4 0.0**
BRG Amp 05 58 40.9
comp=Z,125nm,1.7s
BRG Berggiesshubel 19.92 34 *i* P **Pn** **05 58 38.3 0.0**
BRG pmax pmax
comp=Z,125nm,1.7s
BRG Berggiesshubel 19.92 34 *e*P **Pn** **05 58 38.1 -0.2**
comp=Z,125nm,1.7s,baz=219,slow=11
ZST Bratislava 19.92 44 *e*P **Pn** **05 58 38.3 -0.1**
ZST Bratislava 19.92 44 *e*P **Pn** **05 58 38.3 -0.1**
KBN Korca 19.92 68 P **Pn** **05 58 38.1 -0.5**
KBN pmax pmax
comp=Z,167nm,1.6s
KBN Korca 19.92 68 P **Pn** **05 58 38.1 -0.5**
KBN IAmb IAmb 05 58 49.3
comp=Z,167nm,1.6s
PVCC Panska Ves 19.98 36 *e*P **Pn** **05 58 39.3 +0.2**
PVCC MLR MLR
comp=Z,2µm,20.9s
PVCC Panska Ves 19.98 36 *e*P **Pn** **05 58 39.3 +0.2**
PVCC AMS AMS 06 06 10.0
comp=Z,2µm,20.9s
OHR Ohrid 20.00 67 *i* P Pn 05 58 39.4 0.0
KRUC Moravsky 20.01 41 *e*P **P** **05 58 37.9 +0.3**
DIVS Divibare 20.06 58 P **P** **05 58 38.8 +0.4**
DIVS Divibare 20.06 58 *e*P **P** **05 58 38.0 -0.4**
MODS Modra-Piesok 20.11 44 *e*P Pn 05 58 41.3 +0.6
MODS pmax pmax
comp=Z,80nm,1.1s
MODS Modra-Piesok 20.11 44 *e*P Pn 05 58 41.3 +0.6
VRAC Vranov 20.25 41 ⇑P Pn 05 58 41.4 -0.9
VRAC Vranov 20.25 41 P Pn 05 58 41.7 -0.6
comp=Z,8.2nm,0.7s,baz=236,slow=11,SNR=21
VRAC Vranov 20.25 41 ⇑P Pn 05 58 41.4 -0.9
VRAC Vranov 20.25 41 *e*P **P** **05 58 41.2 +0.9**
SMOL Smolenice 20.27 44 *e*P Pn 05 58 42.1 -0.4
SMOL pmax pmax
comp=Z,93nm,2.0s
SMOL Smolenice 20.27 44 *e*P Pn 05 58 42.1 -0.4
FRGS Fruska Gora 20.28 55 ⇓P **P** **05 58 40.4 -0.2**
FRGS Fruska Gora 20.28 55 *e*P **P** **05 58 39.7 -0.9**
KPRO Kipourio 20.30 70 P Pn 05 58 48.5 +5.6
TRUS Trudelj 20.39 58 *e*P **P** **05 58 40.7 -1.1**
FNA Florina 20.39 68 P **P** **05 58 41.7 -0.2**
FNA Florina 20.39 68 P **P** **05 58 42.5 +0.6**
FNA pmax pmax
comp=Z,42nm,1.0s
FNA Florina 20.39 68 P **P** **05 58 42.5 +0.6**
SRO Srobarova 20.43 46 *e*P Pn 05 58 44.2 -0.2
SRO pmax pmax
comp=Z,461nm,2.2s
SRO Srobarova 20.43 46 *e*P Pn 05 58 44.2 -0.2
GRUS Gruza 20.51 59 *e*P **P** **05 58 42.9 -0.2**
DRO Drossia 20.51 76 P **P** **05 58 44.3 +1.1**
EVR Evrytania 20.59 73 P Pn 05 58 47.0 +0.6
JAVC Velka Javorina 20.59 43 *e*P Pn 05 58 45.3 -1.0
SKO Skopje 20.61 64 *i* P **P** **05 58 44.7 +0.5**
SELS Selova 20.62 61 *e*P **P** **05 58 43.2 -1.2**
UPC Upice 20.67 38 *e*P **P** **05 58 46.1 +1.2**
UPC MLR MLR
comp=Z,3µm,17.8s
UPC Upice 20.67 38 *e*P **P** **05 58 46.1 +1.2**
UPC AMS AMS 06 06 20.0
comp=Z,3µm,17.8s
BUD Budapest 20.70 48 P Pn 05 58 48.5 +1.0
ITM Ithomi 20.71 78 P Pn 05 58 53.0 +5.2
ITM Ithomi 20.71 78 P Pn 05 58 46.9 -0.8
ITM IAmb IAmb 05 58 58.8
comp=Z,331nm,1.9s
LAKA Lakka 20.72 75 P Pn 05 58 47.6 -0.2
DPC Dobruska-Polom 20.73 38 *e*P **P** **05 58 46.5 +0.9**
DPC MLR MLR
comp=Z,2µm,15.3s
DPC Dobruska-Polom 20.73 38 *e*P **P** **05 58 46.5 +0.9**
DPC AMS AMS 06 06 40.0
comp=Z,2µm,15.3s
CHVC Chvalec 20.75 38 *e*P Pn 05 58 47.1 -1.0
CHVC AMS AMS 06 06 40.0
comp=Z,2µm,13.5s
THL Klokotos Trika 20.77 71 P Pn 05 58 48.5 +0.1
KRLC Kraliky 20.80 39 *e*P Pn 05 58 47.8 -0.9
KRLC MLR MLR
comp=Z,4µm,13.1s
KRLC Kraliky 20.80 39 *e*P Pn 05 58 47.8 -0.9
KRLC AMS AMS 06 09 30.0
comp=Z,4µm,13.1s
OSTC Ostas 20.81 38 *e*P Pn 05 58 47.7 -1.1
OSTC AMS AMS 06 06 00.0
comp=Z,3µm,21.2s
BSEG Bad Segeberg 20.83 24 *e*P Pn 05 58 48.5 -0.5
comp=Z,250nm,1.4s,baz=219,slow=11
MAKR Makrakomi, Fth 20.84 73 P Pn 05 58 51.0 +1.7
KLV Kalavryta, Ach 20.85 76 P **P** **05 58 46.7 -0.3**
KOLL Kolacno 20.86 45 *e*P **P** **05 58 48.0 +1.1**
SVIS Svilajnac 20.96 58 *e*P **P** **05 58 48.8 +0.9**
RUE Ruedersdorf 20.99 31 *e*P Pn 05 58 49.7 -1.2
RUE Ruedersdorf 20.99 31 *e*P Pn 05 58 49.8 -1.0
comp=Z,490nm,1.9s,baz=219,slow=11
AGG Agios Georgios 21.00 73 P **P** **05 58 51.0 +2.5**
AGG Agios Georgios 21.00 73 P **P** **05 58 49.6 +1.1**
AGG pmax pmax
comp=Z,268nm,1.8s
AGG Agios Georgios 21.00 73 P **P** **05 58 49.6 +1.1**
AGG IAmb IAmb 05 59 10.9
comp=Z,268nm,1.8s
KSP Ksiaz 21.02 37 *e*P **P** **05 58 49.8 +1.1**
MORC Moravsky Berou 21.03 41 ⇓P **P** **05 58 49.9 +1.1**
MORC Moravsky Berou 21.03 41 ⇓P **P** **05 58 49.9 +1.1**
MORC Moravsky Berou 21.03 41 *e*P **P** **05 58 49.4 +0.6**
MORC Moravsky Berou 21.03 41 P **P** **05 58 49.6 +0.8**
MORC IAmb IAmb 05 58 56.7
comp=Z,200nm,2.0s
BARS Barje 21.04 62 *e*P **P** **05 58 55.1 +6.2**
VYHS Vyhne 21.07 45 *e*P **P** **05 58 49.7 +0.5**
VYHS pmax pmax
comp=Z,154nm,2.1s
VYHS Vyhne 21.07 45 *e*P **P** **05 58 49.7 +0.5**
BOVS Bovan 21.14 60 ⇓P **P** **05 58 52.1 +2.2**
BOVS Bovan 21.14 60 *e*P **P** **05 58 49.7 -0.2**
PRVS Prvonek 21.16 63 *e*P **P** **05 58 50.3 0.0**
LIT Litokhoron 21.17 70 P **P** **05 58 53.0 +2.7**
LIT Litokhoron 21.17 70 P **P** **05 58 53.1 +2.7**
LIT pmax pmax
comp=Z,85nm,1.3s
LIT Litokhoron 21.17 70 P **P** **05 58 53.1 +2.7**
LIT IAmb IAmb 05 58 59.3
comp=Z,85nm,1.3s
GRG Griva 21.18 67 P **P** **05 58 49.6 -0.9**
KUBS Kucevo 21.31 58 *e*P **P** **05 58 51.1 -0.7**
VAY Valandovo 21.35 66 *i* P **P** **05 58 52.5 +0.3**
VAY Valandovo 21.35 66 *e*P **P** **05 58 50.6 -1.6**
OKC Ostrava-Krasne 21.39 41 AMS AMS 06 08 50.0
comp=Z,4µm,11.0s
PSZ Piszkesteto 21.42 48 ⇑P **P** **05 58 54.8 +1.8**
PSZ Piszkesteto 21.42 48 ⇑P **P** **05 58 54.8 +1.8**
PSZ Piszkesteto 21.42 48 P **P** **05 58 53.7 +0.6**
PSZ IAmb IAmb 05 59 05.3
comp=Z,201nm,1.9s
PSZ Piszkesteto 21.42 48 P **P** **05 58 54.6 +1.6**
MDVR Moldovita 21.44 57 ⇓P **P** **05 58 54.8 +1.5**
BOSS Bosilegrad 21.46 63 *e*P **P** **05 58 51.4 -2.0**
LTK Loutraki 21.50 76 P **P** **05 58 53.8 -0.1**
LKR Lokris 21.52 74 P **P** **05 58 56.4 +2.4**
ATAL Atalanti 21.53 74 P P 05 59 02.9 +8.7
RAC Raciborz 21.55 41 *e*P **P** **05 58 54.8 +0.5**
RAC Raciborz 21.55 41 *e*P **P** **05 58 54.8 +0.5**
VLI Veliai 21.55 79 P **P** **05 58 57.0 +2.6**
ZAGS Zajecar 21.55 60 *e*P **P** **05 58 57.0 +2.6**
KNT Kendrikon 21.57 67 P **P** **05 58 54.7 0.0**
IZAB Izabela 21.62 46 *e*P **P** **05 58 56.1 +1.1**
BZS Buzias 21.63 55 ⇑P **P** **05 58 55.8 +0.6**

BZS	**Buzias**	**21.63**	**55**	⇑P	**P**	**P**	**05 58 55.8 +0.6**
HORT	**Hortiatis**	**21.67**	**69**	P	**P**	**P**	**05 58 56.1 +0.3**
ZAPS	**Zavoj**	**21.71**	**61**	*e*P	**P**	**P**	**05 58 55.2 -1.0**
LANS	**Liptovska Anna**	**21.76**	**44**	*e*P	**P**	**P**	**05 58 58.4 +1.8**
LANS	**Liptovska Anna**	**21.76**	**44**	*e*P	**P**	**P**	**05 58 58.4 +1.8**
SIRR	**Siria**	**21.88**	**53**	⇓P	**P**	**P**	**05 58 59.0 +1.1**
HERR	**Herculane**	**21.95**	**57**	⇑P	**P**	**P**	**05 58 59.5 +0.9**
DJES	**Djerdap**	**21.96**	**58**	⇑P	**P**	**P**	**05 59 01.5 +2.7**
DJES	**Djerdap**	**21.96**	**58**	*e*P	**P**	**P**	**05 59 00.2 +1.4**
VTS	**Vitosha**	**22.03**	**63**	⇓P	**P**	**P**	**05 59 00.4 +0.7**
VTS	**Vitosha**	**22.03**	**63**	⇓P	**P**	**P**	**05 59 00.4 +0.7**
VTS	**Vitosha**	**22.03**	**63**	P	**P**	**P**	**05 58 59.9 +0.2**
VTS					IAmb	IAmb	05 59 26.1
	comp=Z,96nm,1.7s						
VTS	**Vitosha**	**22.03**	**63**	*e*P	**P**	**P**	**05 58 59.5 -0.2**
KECS	**Kecovo**	**22.03**	**47**	*e*P	**P**	**P**	**05 59 00.8 +1.3**
KECS					pmax	pmax	
	comp=Z,27nm,1.1s						
KECS	**Kecovo**	**22.03**	**47**	*e*P	**P**	**P**	**05 59 00.8 +1.3**
SRS	**Serrai**	**22.09**	**67**	P	**P**	P	05 59 10.5 +10
PUNG	**Punghina**	**22.15**	**59**	⇑P	**P**	**P**	**05 59 00.9 +0.1**
GZR	**Gura Zlata**	**22.34**	**56**	⇓P	**P**	**P**	**05 59 03.1 +0.2**
NIE	**Niedzica**	**22.36**	**44**	*e*P	**P**	**P**	**05 59 04.8 +1.7**
SRE	**Strehaia**	**22.43**	**58**	⇑P	**P**	**P**	**05 59 07.6 +3.7**
SRE	**Strehaia**	**22.43**	**58**	⇑P	**P**	**P**	**05 59 07.6 +3.7**
OJC	**Ojcow**	**22.49**	**42**	*e*P	**P**	**P**	**05 59 04.4 0.0**
OJC	**Ojcow**	**22.49**	**42**	P	**P**	**P**	**05 59 04.2 -0.2**
OJC					pmax	pmax	
	comp=Z,65nm,1.4s						
OJC	**Ojcow**	**22.49**	**42**	P	**P**	**P**	**05 59 04.2 -0.2**
DEV	**Deva**	**22.57**	**55**	⇓P	**P**	P	05 59 18.4 +13
MUD	**Monsted U'grnd**	**22.66**	**19**	*i* P	**P**	**P**	**05 59 06.0 -0.1**
MUD					IAmb	IAmb	05 59 13.5
	comp=Z,13nm,0.7s						
DRGR		**22.74**	**52**	⇑P	**P**	**P**	**05 59 08.4 +1.3**
DRGR		**22.74**	**52**	⇑P	**P**	**P**	**05 59 08.4 +1.3**
CRVS	**Cervenica-Dubn**	**22.80**	**46**	*e*P	**P**	**P**	**05 59 09.4 +1.7**
CRVS					pmax	pmax	
	comp=Z,162nm,1.6s						
CRVS	**Cervenica-Dubn**	**22.80**	**46**	*e*P	**P**	**P**	**05 59 09.4 +1.7**
TORD	**Torodi Ar. Bea**	**22.85**	**166**	P	**P**	**P**	**05 59 07.6 -0.9**
	comp=Z,111nm,1.1s,baz=352,slow=7.8,SNR=42						
TORD	**Torodi Ar. Bea**	**22.85**	**166**	P	**P**	**P**	**05 59 03.8 -4.6**
TRPA	**Tarpa**	**23.12**	**49**	⇑P	**P**	**P**	**05 59 11.2 +0.1**
TRPA	**Tarpa**	**23.12**	**49**	P	**P**	**P**	**05 59 11.1 +0.1**
UZH	**Uzhgorod**	**23.18**	**48**	*d i* P	**P**	**P**	**05 59 11.1 -0.5**
UZH				*e*S	**S**	**S**	**06 03 15.9 -7.1**
UZH				MLR	MLR		
	comp=N,1μm,14.0s						
UZH				MLR	MLR		
	comp=E,700nm,14.0s						
UZH				MLR	MLR		
	comp=Z,300nm,14.0s						
UZH				MLR	MLR		
	comp=Z,300nm,12.0s						
IDI	**Anoyia**	**23.30**	**82**	P	**P**	**P**	**05 59 13.5 +0.5**
	comp=Z,14nm,0.6s,baz=304,slow=16,SNR=7.8						
BMR	**Baia Mare**	**23.55**	**51**	⇓P	**P**	**P**	**05 59 16.2 +1.0**
BMR	**Baia Mare**	**23.55**	**51**	⇓P	**P**	**P**	**05 59 16.3 +1.0**
ARR	**Arges**	**23.59**	**57**	⇓P	**P**	**P**	**05 59 17.1 +1.2**
SANT	**Santorini**	**23.61**	**79**	P	**P**	**P**	**05 59 16.4 +0.3**
SANT					IAmb	IAmb	05 59 47.6
	comp=Z,125nm,1.2s						
HUMR	**Humele**	**23.64**	**59**	⇓P	**P**	**P**	**05 59 17.9 +1.7**
MTUR	**Matau**	**23.85**	**57**	⇓P	**P**	**P**	**05 59 23.7 +5.3**
MTUR	**Matau**	**23.85**	**57**	⇓P	**P**	**P**	**05 59 23.7 +5.3**
KWP	**Kalwaria Pacla**	**23.85**	**46**	P	**P**	**P**	**05 59 19.0 +0.7**
KWP					pmax	pmax	
	comp=Z,636nm,1.3s						
KWP	**Kalwaria Pacla**	**23.85**	**46**	P	**P**	**P**	**05 59 19.0 +0.7**
VOIR		**23.89**	**57**	⇓P	**P**	**P**	**05 59 21.2 +2.4**
VOIR		**23.89**	**57**	⇓P	**P**	**P**	**05 59 21.2 +2.4**
ARCR	**ARCALIA**	**23.90**	**53**	⇑P	**P**	**P**	**05 59 19.3 +0.6**
SNART	**Snartemo**	**23.91**	**14**	*e*P	**P**	**P**	**05 59 20.7 +2.0**
HOMB	**Homborsund**	**24.13**	**16**	*e*P	**P**	**P**	**05 59 22.2 +1.5**
DOPR	**Dopca**	**24.26**	**56**	⇑P	**P**	**P**	**05 59 22.3 +0.2**
MLR	**Muntele Rosu**	**24.52**	**57**	⇓P	**P**	**P**	**05 59 26.1 +1.4**
MLR	**Muntele Rosu**	**24.52**	**57**	P	**P**	**P**	**05 59 25.3 +0.7**
	comp=Z,48nm,1.3s,baz=306,slow=2.2,SNR=15						
MLR				LR	LR	LR	06 09 53.2
	comp=Z,3μm,18.8s,baz=308,slow=39						
MLR	**Muntele Rosu**	**24.52**	**57**	P	**P**	**P**	**05 59 25.3 +0.7**
MLR				pmax	pmax		
	comp=Z,129nm,1.5s						
MLR	**Muntele Rosu**	**24.52**	**57**	P	**P**	**P**	**05 59 25.3 +0.7**
MLR				IAmb	IAmb		05 59 55.1
	comp=Z,129nm,1.5s						
OZUR		**24.56**	**56**	⇓P	**P**	**P**	**05 59 26.1 +1.2**
SULR		**24.56**	**59**	⇓P	**P**	**P**	**05 59 22.5 -2.3**
BUR08	**Bucovina Ar. S**	**24.62**	**52**	P	**P**	**P**	**05 59 25.4 -0.1**
BUR08					IAmb	IAmb	05 59 39.7
	comp=Z,109nm,1.8s						
BURAR	**Bucovina Array**	**24.62**	**52**	⇑P	**P**	**P**	**05 59 26.4 +0.9**
BURAR	**Bucovina Array**	**24.62**	**52**	⇑P	**P**	**P**	**05 59 26.4 +0.9**
BURAR	**Bucovina Array**	**24.62**	**52**	P	**P**	**P**	**05 59 25.4 -0.1**
LVV	**L'vov**	**24.71**	**46**	*e*P	**P**	**P**	**05 59 25.6 -0.5**
LVV				*e*S	**S**	**S**	**06 03 48.1 +0.4**
LVV				MLR	MLR		
	comp=E,2μm,14.0s						
LVV				MLR	MLR		
	comp=N,1μm,11.0s						
LVV				MLR	MLR		
	comp=Z,μm,13.0s						
COVR	**Voineasa-Covas**	**24.78**	**56**	⇑P	**P**	**P**	**05 59 27.2 +0.4**
BLS5	**Blasjo**	**24.79**	**12**	*e*P	**P**	**P**	**05 59 28.7 +1.9**
ISR	**Istrita**	**24.85**	**58**	⇑P	**P**	**P**	**05 59 28.6 +1.1**
ISR	**Istrita**	**24.85**	**58**	⇑P	**P**	**P**	**05 59 28.6 +1.1**
PLOR	**Plostina**	**25.08**	**56**	⇓P	**P**	**P**	**05 59 29.8 +0.2**
PLOR	**Plostina**	**25.08**	**56**	⇓P	**P**	**P**	**05 59 29.8 +0.2**
VRI	**Vrincioaia**	**25.14**	**56**	⇓P	**P**	**P**	**05 59 29.6 -0.5**
VRI	**Vrincioaia**	**25.14**	**56**	⇓P	**P**	**P**	**05 59 29.6 -0.5**
PRAR	**RASCA**	**25.20**	**53**	⇑P	**P**	**P**	**05 59 31.4 +0.8**
TESR	**Tescani**	**25.24**	**55**	⇓P	**P**	**P**	**05 59 30.4 -0.6**
ODD1	**Odda**	**25.28**	**12**	*e*P	**P**	**P**	**05 59 32.4 +1.2**
BER	**Bergen**	**25.52**	**10**	*e*P	**P**	**P**	**05 59 34.1 +0.9**
ICOR	**Ion Corvin**	**25.55**	**61**	⇓P	**P**	**P**	**05 59 33.8 0.0**
ASK	**Askoy**	**25.59**	**10**	*e*P	**P**	**P**	**05 59 35.9 +1.9**
KONO	**Kongsberg**	**25.62**	**16**	*ce*P	**P**	**P**	**05 59 30.9 -3.3**
KONO					pmax	pmax	
	comp=Z,58nm,2.5s						
HARR	**Harsova**	**25.74**	**60**	⇑P	**P**	**P**	**05 59 32.9 -2.6**
HARR	**Harsova**	**25.74**	**60**	⇑P	**P**	**P**	**05 59 32.9 -2.6**
CFR	**Carcaliu**	**25.97**	**59**	⇑P	**P**	**P**	**05 59 36.2 -1.3**
CFR	**Carcaliu**	**25.97**	**59**	⇑P	**P**	**P**	**05 59 36.2 -1.3**
VASR	**Vaslui**	**26.04**	**55**	⇑P	**P**	**P**	**05 59 37.7 -0.5**
VLDR	**Vladesti**	**26.06**	**57**	⇓P	**P**	**P**	**05 59 37.4 -1.0**
TPGR	**Topolog**	**26.11**	**59**	⇑P	**P**	**P**	**05 59 37.5 -1.3**
OSL	**Oslo**	**26.13**	**17**	*e*P	**P**	**P**	**05 59 40.5 +1.6**
SKAR	**Skarslia**	**26.30**	**13**	*e*P	**P**	**P**	**05 59 42.8 +2.3**
SUW	**Suwalki**	**26.30**	**37**	*e*P	**P**	**P**	**05 59 41.2 +0.8**
SUW	**Suwalki**	**26.30**	**37**	P	**P**	**P**	**05 59 39.6 -0.9**
SUW					pmax	pmax	
	comp=Z,101nm,1.1s						
SUW	**Suwalki**	**26.30**	**37**	*e*P	**P**	**P**	**05 59 40.3 -0.2**
SUW	**Suwalki**	**26.30**	**37**	P	**P**	**P**	**05 59 39.5 -0.9**
HYA	**Hoyanger**	**26.39**	**11**	*e*P	**P**	**P**	**05 59 42.8 +1.6**
FOO	**Floro**	**26.64**	**9**	*e*P	**P**	**P**	**05 59 46.8 +3.3**
MILM	**Milestii Mici**	**26.79**	**55**	⇓P	**P**	**P**	**05 59 43.5 -1.5**
MILM	**Milestii Mici**	**26.79**	**55**	⇓*i* P	**P**	**P**	**05 59 43.0 -1.9**
	comp=Z,130nm,1.6s						
MILM	**Milestii Mici**	**26.79**	**55**	*de*P	**P**	**P**	**05 59 43.0 -1.9**
MILM				*e*			06 00 43.0
MILM				pmax	pmax		
	comp=Z,130nm,1.6s						
MILM				MLR	MLR		
	comp=Z,2μm,16.5s						
SORM	**Soroca**	**26.79**	**52**	⇑P	**P**	**P**	**05 59 43.5 -1.5**
KIS	**Kishinev**	**26.81**	**55**	*e*P	**P**	**P**	**05 59 44.0 -1.1**
KIS	**Kishinev**	**26.81**	**55**	*e*P	**P**	**P**	**05 59 44.0 -1.1**
KIS				*e*			06 00 43.0
KIS				MLR	MLR		
	comp=Z,900nm,16.0s						
NAO01	**NORSAR Array S**	**26.98**	**16**	P	**P**	**P**	**05 59 47.5 +0.9**
NAO01					IAmb	IAmb	06 00 02.7
	comp=Z,96nm,1.4s						
NC602	**NORSAR Array S**	**27.03**	**17**	*e*P	**P**	**P**	**05 59 47.5 +0.4**
NC602	**NORSAR Array S**	**27.03**	**17**	P	**P**	**P**	**05 59 47.4 +0.4**
NC602					IAmb	IAmb	06 00 02.0
	comp=Z,76nm,1.2s						
HFS	**Hagfors**	**27.05**	**19**	P	**P**	**P**	**05 59 48.3 +1.1**
	comp=Z,4.6nm,0.5s,baz=218,slow=11,SNR=8.6						
HFS				LR	LR	LR	06 11 29.3
	comp=Z,2μm,19.0s,baz=205,slow=38						
NBO00	**NORSAR Array S**	**27.12**	**16**	P	**P**	**P**	**05 59 47.8 -0.1**
NBO00					IAmb	IAmb	06 00 21.4
	comp=Z,142nm,1.8s						
NB2	**NORSAR Subarra**	**27.23**	**16**	P	**P**	**P**	**05 59 48.9 +0.1**
	comp=Z,16nm,1.1s,baz=209,slow=9.3						
NB2	**NORSAR Subarra**	**27.23**	**16**	P	**P**	**P**	**05 59 48.9 +0.1**
	baz=209,slow=9.3						
NOA	**NORSAR Array B**	**27.23**	**16**	P	**P**	**P**	**05 59 49.1 +0.3**
	comp=Z,4.3nm,0.9s,baz=208,slow=8.5,SNR=6.4						
NOA				LR	LR	LR	06 10 50.6
	comp=Z,2μm,19.6s,baz=45,slow=37						
AKN	**Aaknes**	**27.48**	**11**	*e*P	**P**	**P**	**05 59 53.3 +2.2**
PABE	**Paberze**	**27.52**	**35**	*e*P	**P**	**P**	**05 59 53.1 +1.7**
DOMB	**Dombas**	**27.70**	**13**	*e*P	**P**	**P**	**05 59 54.2 +1.2**
AKASG	**Malin Array Be**	**28.13**	**47**	P	**P**	**P**	**05 59 54.6 -2.4**
	comp=Z,3.4nm,0.7s,baz=246,slow=10,SNR=10.0						
AKASG	**Malin Array Be**	**28.13**	**47**	*i* P	**P**	**P**	**05 59 54.5 -2.4**
AKASG					pmax	pmax	
	comp=Z,4.0nm,0.7s						
IIGN	**Ignalina**	**28.51**	**37**	*e*P	**P**	**P**	**06 00 00.3 0.0**
NACGM	**Naroch**	**28.56**	**38**	*i* P	**P**	**P**	**06 00 04.0 +3.3**
IDID	**Didziasalis**	**28.74**	**37**	*e*P	**P**	**P**	**06 00 02.3 0.0**
DBIC	**Dimbokro**	**28.77**	**182**	P	**P**	**P**	**06 00 02.1 -0.8**
	comp=Z,6.5nm,0.7s,baz=22,slow=9.1,SNR=9.0						
DBIC	**Dimbokro**	**28.77**	**182**	P	**P**	**P**	**06 00 02.3 -0.7**
DBIC					pmax	pmax	
	comp=Z,23nm,1.0s						
DBIC	**Dimbokro**	**28.77**	**182**	P	**P**	**P**	**06 00 02.3 -0.7**
DBIC					IAmb	IAmb	06 00 38.0
	comp=Z,23nm,0.9s						
TIC	**Toumodi**	**28.81**	**183**	*e*P	**P**	**P**	**06 00 02.6 -0.7**
MNK	**Minsk**	**28.92**	**39**	*i* P	**P**	**P**	**06 00 03.7 -0.2**
MNK				*i*			06 00 55.0
MNK				*i*			06 03 12.4
MNK				*i* S	**S**	**S**	**06 04 56.9 +2.8**
MNK				*i* SS	**SnSn**	**SnSn**	**06 06 18.6 +2.2**
MNK				pmax	pmax		
	comp=E,3.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,13nm,0.7s						
MNK				MLR	MLR		
	comp=Z,1μm,20.0s						
MNK				MLR	MLR		
	comp=E,179nm,21.0s						
MNK				MLR	MLR		
	comp=N,1μm,16.0s						
MNK	**Minsk**	**28.92**	**39**	*i* P	**P**	**P**	**06 00 03.8 -0.2**
	comp=E,3.0nm,0.8s						
MNK				*i* P	**P**	**P**	**06 00 03.8 -0.2**
	comp=N,13nm,0.7s						
MNK				*i* P	**P**	**P**	**06 00 03.8 -0.2**
	comp=Z,10.0nm,0.7s,baz=62						
MNK				*i* PP	PP		06 00 55.0 -14
MNK				*i* S	**S**	**S**	**06 04 57.0 +2.8**
MNK				*i* SS	**SnSn**	**SnSn**	**06 06 18.6 +2.2**
MNK				*i* LQ	LQ	LQ	06 09 22.8
MNK				*i* LR	LR	LR	06 11 34.9
MNK				*i* LRM	MLR	MLR	06 12 24.4
	comp=Z,1μm,19.9s						
MNK				*i* LRM	MLR	MLR	06 12 48.6
	comp=E,179nm,21.0s						
MNK				*i* LRM	MLR	MLR	06 12 48.6
	comp=N,1μm,15.6s						
KIC	**Kosan Boka**	**29.08**	**182**	*e*P	**P**	**P**	**06 00 03.8 -1.9**
	comp=N,32nm,1.2s						
LIC	**Lamto**	**29.22**	**183**	*e*P	**P**	**P**	**06 00 05.0 -1.9**
	comp=N,83nm,1.4s						
BRTR	**Keskin Array B**	**29.74**	**71**	P	**P**	**P**	**06 00 10.3 -1.3**
	comp=N,0.7nm,0.9s,baz=256,slow=5.8,SNR=3.1						
BRTR	**Keskin Array B**	**29.74**	**71**	P	**P**	**P**	**06 00 11.6 0.0**
BRTR	**Keskin Array B**	**29.74**	**71**	P	**P**	**P**	**06 00 11.6 0.0**
VSU	**Vasula**	**30.46**	**32**	*i* P	**P**	**P**	**06 00 17.1 -0.4**
VSU					pmax	pmax	
	comp=Z,25nm,0.9s						
NSS	**Namsos**	**30.52**	**13**	*e*P	**P**	**P**	**06 00 19.7 +1.7**
BORG	**Borgarnes**	**31.08**	**345**	LR	LR	LR	06 11 45.6
	comp=Z,2μm,20.9s,baz=178,slow=34						
FINES	**FINESS Array B**	**32.03**	**27**	P	**P**	**P**	**06 00 31.4 +0.1**
	comp=Z,2.5nm,0.8s,baz=223,slow=6.1,SNR=11						
FINES				PcP	**PcP**	**PcP**	**06 03 20.8 +0.1**
	comp=Z,3.5nm,0.8s,baz=157,slow=1.5,SNR=4.5						
FINES	**FINESS Array B**	**32.03**	**27**	P	**P**	**P**	**06 00 31.4 +0.1**
FINES				PcP	**PcP**	**PcP**	**06 03 21.1 +0.4**
FIA1	**FINESS Array S**	**32.04**	**27**	P	**P**	**P**	**06 00 31.8 +0.4**
FIA1					IAmb	IAmb	06 00 58.5
	comp=Z,20nm,1.1s						
KONS	**Konsvik**	**32.51**	**12**	*e*P	**P**	**P**	**06 00 35.8 +0.4**
EIL	**Elat**	**32.96**	**89**	LR	LR	LR	06 16 29.1
	comp=Z,1μm,18.0s,baz=335,slow=41						
FAUS	**Fauske**	**33.69**	**13**	*e*P	**P**	**P**	**06 00 48.5 +2.8**
OBN	**Obninsk**	**33.78**	**42**	LR	LR	LR	06 14 48.4
	comp=Z,534nm,18.1s,baz=230,slow=37						
OBN	**Obninsk**	**33.78**	**42**	*e*P	**P**	**P**	**06 00 44.4 -2.3**
OBN				*PP	**pP**	**pP**	**06 00 50.0 0.0**
OBN				*e*SP	**sP**	**sP**	**06 00 51.2 -0.1**
OBN				*e*			06 02 11.5
OBN							06 03 28.0
OBN				pmax	pmax		
	comp=Z,16nm,1.2s						
OBN				MLR	MLR		
	comp=Z,2μm,16.0s						
LOF	**Lofoten**	**34.05**	**11**	*e*P	**P**	**P**	**06 00 50.0 +1.1**
STEI	**Steigen**	**34.16**	**13**	*e*P	**P**	**P**	**06 00 51.5 +1.6**
VSR	**Storozhevoye**	**34.33**	**49**	*e*P	**P**	**P**	**06 00 50.7 -0.8**
VSR					pmax	pmax	
	comp=Z,10.0nm,0.7s						
VORD	**Divnogorie**	**34.37**	**50**	*e*P	**P**	**P**	**06 00 51.7 -0.1**
VORD					pmax	pmax	
	comp=Z,7.0nm,0.5s						
LPSR	**Galich'ya Gora**	**34.46**	**47**	*e*P	**P**	**P**	**06 00 51.5 -1.1**
LPSR					pmax	pmax	
	comp=Z,10.0nm,0.9s						
MOS	**Moscow**	**34.55**	**41**	*e*P	**P**	**P**	**06 00 51.5 -1.9**
JMIC	**Jan Mayen**	**35.58**	**357**	LR	LR	LR	06 14 31.2
	comp=Z,2μm,19.8s,baz=117,slow=34						
VRH	**Novokhopyorsk**	**35.91**	**50**	*e*P	**P**	**P**	**06 01 04.8 -0.4**
VRH					pmax	pmax	
	comp=Z,20nm,0.7s						
NEY	**Neytrino**	**36.32**	**63**	*i* P	**P**	**P**	**06 01 09.2 +0.2**
KBZ	**Khabaz**	**36.42**	**63**	P	**P**	**P**	**06 01 10.3 +0.7**
	comp=Z,5.0nm,1.0s,baz=316,slow=5.9,SNR=3.7						
KBZ	**Khabaz**	**36.42**	**63**	*i* P	**P**	**P**	**06 01 10.9 +1.3**
KBZ					pmax	pmax	
	comp=Z,9.0nm,1.1s						
JETT	**Jettan, Norway**	**36.53**	**14**	*e*P	**P**	**P**	**06 01 11.4 +1.1**
KTK1	**Kautokeino**	**36.69**	**16**	*e*P	**P**	**P**	**06 01 12.7 +1.1**
KLMR	**Klimovskoe**	**37.29**	**34**	*e*P	**P**	**P**	**06 01 13.8 -3.0**
KLMR				*e*			06 03 36.1
KLMR				pmax	pmax		
	comp=Z,29nm,1.4s						
KLMR	**Klimovskoe**	**37.29**	**34**	*e*P	**P**	**P**	**06 01 13.8 -3.0**
KLMR				AMP			06 01 20.9
	comp=Z,29nm,1.4s						
KLMR				*e*PcP	**PcP**	**PcP**	**06 03 36.1 +0.2**
KLMR				*e*ScP	**ScP**	**ScP**	**06 07 21.9 -1.0**
ARA0	**ARCESS Array S**	**37.60**	**16**	*e*P	**P**	**P**	**06 01 20.0 +0.7**
ARCES	**ARCESS Array B**	**37.60**	**16**	P	**P**	**P**	**06 01 20.0 +0.6**
	comp=Z,4.1nm,0.7s,baz=222,slow=4.9,SNR=16						
ARCES	**ARCESS Array B**	**37.60**	**16**	P	**P**	**P**	**06 01 20.2 +0.8**
ARCES					pmax	pmax	
	comp=Z,74nm,1.8s						
ARCES	**ARCESS Array B**	**37.60**	**16**	P	**P**	**P**	**06 01 20.2 +0.8**
ARCES					IAmb	IAmb	06 02 41.8
	comp=Z,74nm,1.8s						
HAMF	**Hammerfest**	**38.07**	**14**	*e*P	**P**	**P**	**06 01 24.2 +0.9**
KEV	**Kevo**	**38.12**	**17**	P	**P**	**P**	**06 01 24.5 +0.8**
KEV					pmax	pmax	
	comp=Z,132nm,1.9s						
KEV	**Kevo**	**38.12**	**17**	P	**P**	**P**	**06 01 24.5 +0.8**
KEV					IAmb	IAmb	06 02 33.0
	comp=Z,132nm,1.9s						
DBG	**Daneborg**	**39.65**	**353**	*i* P	**P**	**P**	**06 01 41.2 +4.8**
DBG					IAmb	IAmb	06 01 47.4
	comp=Z,2.4nm,0.8s						
MAK	**Makhachkala**	**39.83**	**63**	*e*P	P		06 01 33.4 -5.0
MAK				*e*S	**S**	**S**	**06 07 35.5 -7.1**
MAK				pmax	pmax		
	comp=Z,444nm,1.9s						
MAK				MLR	MLR		
	comp=Z,2μm,15.0s						
PRGR	**Permogore**	**40.33**	**34**	*e*P	**P**	**P**	**06 01 39.5 -2.7**
PRGR				*e*			06 03 49.4
PRGR				pmax	pmax		
	comp=Z,17nm,0.9s						
DRLN	**Deer Lake**	**41.14**	**307**	P	**P**	**P**	**06 01 49.0 -0.1**
KIRV	**Kirov**	**41.47**	**39**	LR	LR	LR	06 20 11.9
	comp=Z,1μm,19.1s,baz=0.4,slow=38						
KIRV	**Kirov**	**41.47**	**39**	*i* P	**P**	**P**	**06 01 50.0 -1.6**
DAG	**Danmarks Havn**	**41.85**	**355**	*i* P	**P**	**P**	**06 01 55.7 +1.2**
DAG					IAmb	IAmb	06 02 01.3
	comp=Z,6.2nm,0.8s						
GBN	**Guysborough**	**44.18**	**301**	P	**P**	**P**	**06 02 14.5 +0.7**
ARU	**Arti**	**46.21**	**43**	LR	LR	LR	06 21 39.9
	comp=Z,2μm,21.3s,baz=280,slow=36						
ARU	**Arti**	**46.21**	**43**	*d i* P	**P**	**P**	**06 02 29.2 -0.6**
ARU							06 04 11.0
ARU				PPP	PPP	PPP	06 05 00.5
ARU				S	**S**	**S**	**06 09 16.3 +0.5**
ARU				SS	**SS**	**SS**	**06 12 40.5 -0.3**
ARU				pmax	pmax		
	comp=Z,40nm,1.7s						
ARU	**Arti**	**46.21**	**43**	P	**P**	**P**	**06 02 30.2 +0.4**
ARU					IAmb	IAmb	06 02 55.2
	comp=Z,28nm,0.7s						
AKTO	**Aktyubinsk**	**46.22**	**51**	P	**P**	**P**	**06 02 29.9 -0.1**
LMN	**Caledonia Moun**	**46.39**	**302**	P	**P**	**P**	**06 02 31.4 0.0**
NOR	**Nord**	**46.40**	**357**	*i* P	**P**	**P**	**06 02 31.5 +0.4**
NOR					IAmb	IAmb	06 02 38.0
	comp=Z,2.6nm,1.1s						
NEEM	**North Greenlan**	**46.70**	**347**	*i* P	**P**	**P**	**06 02 35.0 +1.3**
NEEM					IAmb	IAmb	06 02 41.9
	comp=Z,12nm,0.9s						
SCHQ	**Schefferville**	**46.71**	**315**	P	**P**	**P**	**06 02 33.9 +0.1**
	comp=Z,7.0nm,0.8s,baz=96,slow=5.3,SNR=9.9						
SCHQ	**Schefferville**	**46.71**	**315**	IAmb	IAmb	IAmb	06 03 12.9
	comp=Z,19nm,1.1s						
BATG	**Bathurst New B**	**47.01**	**304**	P	**P**	**P**	**06 02 36.3 +0.1**
AB31	**Akbulak array**	**47.60**	**53**	*i* P	**P**	**P**	**06 02 40.7 -0.1**
ABKAR	**Akbulak array**	**47.60**	**53**	P	**P**	**P**	**06 02 41.3 +0.5**
ABKAR					IAmb	IAmb	06 02 44.2
	comp=Z,16nm,0.9s						
ABKAR	**Akbulak array**	**47.60**	**53**	P	**P**	**P**	**06 02 41.6 +0.8**
MBAR	**Mbarara**	**48.24**	**131**	P	**P**	**P**	**06 02 46.4 +0.2**
	comp=Z,2.4nm,0.3s,baz=301,slow=7.5,SNR=12						
MBAR				LR	LR	LR	06 23 34.3
	comp=Z,1μm,18.3s,baz=321,slow=37						
MBAR	**Mbarara**	**48.24**	**131**	*ce*P	**P**	**P**	**06 02 48.5 +2.2**
MBAR				pmax	pmax		
	comp=Z,25nm,1.3s						
MBAR	**Mbarara**	**48.24**	**131**	P	**P**	**P**	**06 02 47.1 +0.8**
MBAR					IAmb	IAmb	06 02 52.8
	comp=Z,23nm,1.1s						
LODK	**Lodwar**	**48.24**	**122**	P	**P**	**P**	**06 02 48.5 +2.3**
	SNR=5.7						
LODK	**Lodwar**	**48.24**	**122**	P	**P**	**P**	**06 02 47.9 +1.7**
G65A	**Princeton**	**48.42**	**302**	P	**P**	**P**	**06 02 47.2 +0.1**
D62A	**Allapoint, All**	**49.05**	**305**	P	**P**	**P**	**06 02 52.5 +0.5**
F63A	**Nahmakanta, Br**	**49.37**	**303**	P	**P**	**P**	**06 02 55.5 +0.9**
PKME	**Peaks-Kenny Pk**	**49.59**	**302**	P	**P**	**P**	**06 02 58.1 +1.9**
	baz=77						
LMQ	**La Malbaie**	**49.81**	**306**	P	**P**	**P**	**06 02 58.0 +0.2**
G62A	**West of Eustis**	**50.46**	**303**	P	**P**	**P**	**06 03 01.7 -1.1**
LBNH	**Lisbon**	**51.66**	**302**	P	**P**	**P**	**06 03 13.1 +1.2**
LBNH					pmax	pmax	
	comp=Z,150nm,2.0s						
LBNH	**Lisbon**	**51.66**	**302**	P	**P**	**P**	**06 03 13.1 +1.2**
LBNH	**Lisbon**	**51.66**	**302**	P	**P**	**P**	**06 03 12.0 +0.1**
	baz=75						
HRV	**Adam Dziewonsk**	**51.88**	**299**	P	**P**	**P**	**06 03 14.2

O56A IAmb IAmb 06 04 13.6
comp=Z,18nm,1.1s
O56A Blue Knob Stat 57.59 299 P P 06 03 55.3 +0.3
baz=69
NBPN Ponto Novo - B 57.60 224 *eP* **P 06 03 59.0 +3.7**
NRIK Noril'sk 57.67 25 P **P 06 03 56.7 +1.7**
comp=Z,1.0nm,0.4s,baz=268,slow=5.1,SNR=4.6
NRIK Noril'sk 57.67 25 *ceP* **P 06 03 56.1 +1.1**
NRIK pmax pmax
comp=Z,9.0nm,1.4s
NRIK Noril'sk 57.67 25 IAmb IAmb 06 04 08.4
comp=Z,31nm,1.8s
M54A Oil Creek Stat 57.92 301 P **P 06 03 58.4 +1.1**
baz=69
TSUM Tsumeb 58.10 156 P **P 06 03 58.6 -0.1**
TSUM IAmb IAmb 06 04 04.2
comp=Z,17nm,1.1s
N54A Moraine State 58.34 300 P **P 06 03 59.9 -0.3**
baz=68
M53A WI Miller and 58.65 301 P **P 06 04 02.3 0.0**
baz=68
MCWV Mont Chateau 58.73 299 P **P 06 04 01.4 -1.5**
baz=68
SGDS Sogindy 58.90 56 *eP* **P 06 04 03.4 -0.7**
baz=56
KURBB Kurchatov Arra 58.92 47 P **P 06 04 03.3 -0.7**
LSZ Lusaka 58.92 143 P **P 06 04 03.8 -0.7**
LSZ pmax pmax
comp=Z,29nm,1.1s
LSZ Lusaka 58.92 143 P **P 06 04 03.8 -0.7**
LSZ IAmb IAmb 06 04 10.5
comp=Z,29nm,1.1s
KURK Kurchatov 58.94 47 P **P 06 04 04.1 -0.1**
KURK pmax pmax
comp=Z,37nm,1.0s
KURK Kurchatov 58.94 47 P **P 06 04 04.3 +0.1**
KURK Kurchatov 58.94 47 P **P 06 04 04.1 -0.1**
CNNC Cliffs of the 59.02 293 P **P 06 04 04.7 -0.2**
baz=66
AAK Ala-Archa 59.10 57 *ceP* **P 06 04 05.8 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 59.10 57 P **P 06 04 06.2 +0.6**
O53A New Philadelph 59.47 300 P **P 06 04 06.9 -1.2**
baz=67
KUU Kurty 59.89 55 *eP* **P 06 04 10.0 -0.9**
KUU Kurty 59.89 55 *eP* **P 06 04 10.0 -0.9**
baz=56
PRPB Paraupepas 59.97 236 *eP* **P 06 04 14.4 +2.6**
SEM Semipalatinsk 60.02 47 *eP* **P 06 04 10.6 -1.3**
SEM Semipalatinsk 60.02 47 *eP* **P 06 04 10.6 -1.3**
baz=47
MALB Monte Alegre 60.04 243 *eP* **P 06 04 13.1 +0.9**
GLMI Grayling 60.09 306 P **P 06 04 12.2 0.0**
baz=68
BLA Blacksburg 60.09 296 P **P 06 04 12.6 +0.1**
baz=66
CHKK Chushkaly 60.34 55 *eP* **P 06 04 13.5 -0.5**
baz=55
P52A Corning 60.36 300 IAmb IAmb 06 04 26.0
comp=Z,16nm,0.8s
P52A Corning 60.36 300 P **P 06 04 14.5 +0.3**
baz=67
AAM Ann Arbor 60.39 303 P **P 06 04 14.9 +0.6**
baz=67
NBIT Itapeh - BA 60.54 220 *eP* **P 06 04 19.5 +4.0**
FCC Fort Churchill 60.56 323 P **P 06 04 15.3 +0.1**
FCC pmax pmax
comp=Z,16nm,1.2s
FCC Fort Churchill 60.56 323 P **P 06 04 15.2 +0.1**
FCC IAmb IAmb 06 04 24.6
comp=Z,16nm,1.1s
MDOK Medeo 60.64 56 *eP* **P 06 04 15.6 -0.6**
MDOK Medeo 60.64 56 *eP* **P 06 04 15.6 -0.6**
baz=56
Q52A Bidwell 60.73 299 P **P 06 04 17.2 +0.5**
Q52A IAmb IAmb 06 04 38.8
comp=Z,45nm,1.4s
ACSO Alum Creek Sta 60.73 300 IAmb IAmb 06 04 52.9
comp=Z,29nm,1.1s
ACSO Alum Creek Sta 60.73 300 P **P 06 04 17.5 +0.8**
baz=67
L48A N Adams 61.06 303 IAmb IAmb 06 04 34.6
comp=Z,20nm,0.9s
P51A Williamsport 61.08 300 P **P 06 04 19.1 0.0**
P51A IAmb IAmb 06 04 30.6
comp=Z,21nm,0.9s
WIN Windhoek 61.09 158 P **P 06 04 18.2 -1.2**
WIN pmax pmax
comp=Z,41nm,1.7s
WIN Windhoek 61.09 158 P **P 06 04 18.2 -1.2**
WIN IAmb IAmb 06 04 25.4
comp=Z,41nm,1.7s
BIRD Birdtown, Kers 61.19 294 P **P 06 04 20.4 +0.5**
BIRD IAmb IAmb 06 04 21.7
comp=Z,9.7nm,0.9s
KSH Kashi 61.34 60 P **P 06 04 21.0 0.0**
KSH sP sP 06 04 31.0 +5.1
KSH PcP **PcP** **06 05 02.9 -0.4**
KSH pmax pmax
comp=Z,11nm,1.0s
ZAA0 Zalesovo Array 61.37 42 P **P 06 04 21.4 +0.6**
ZAA0 IAmb IAmb 06 04 27.6
comp=Z,8.7nm,0.8s
ZALV Zalesovo Beam 61.37 42 P **P 06 04 21.0 +0.2**
comp=Z,5.1nm,0.5s,baz=292,slow=7.2,SNR=14
ZALV LR LR 06 32 00.2
comp=Z,943nm,18.9s,baz=304,slow=37
ZALV Zalesovo Beam 61.37 42 *i P* **P 06 04 21.5 +0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 61.37 42 P **P 06 04 20.7 -0.1**
Q51A Peebles 61.47 299 IAmb IAmb 06 04 37.0
comp=Z,16nm,0.8s
SDBA SAO DESIDERIO 61.58 227 *eP* **P 06 04 25.9 +3.3**
KMSC Kings Mountain 61.62 295 P **P 06 04 23.7 +0.9**
baz=65
NHSC New Hope 61.63 292 P **P 06 04 23.0 +0.1**
baz=64
TARG Taragay, Kyrgy 61.72 57 IAmb IAmb 06 04 40.3
comp=Z,40nm,1.7s
NIL Nilore 61.80 67 P **P 06 04 24.6 +0.5**
NIL pmax pmax
comp=Z,15nm,1.0s
NIL Nilore 61.80 67 P **P 06 04 24.6 +0.5**
NIL IAmb IAmb 06 04 43.1
comp=Z,15nm,0.9s
BOAV Boa Vista 61.95 251 *eP* **P 06 04 26.5 +1.3**
GUA01 Guaratinga, BA 62.12 220 *eP* **P 06 04 30.2 +4.0**
PDGK Podgornoye 62.22 55 P **P 06 04 25.8 -1.1**
P49A Miami Univ. Ec 62.23 300 P **P 06 04 26.6 -0.2**
baz=65
MK31 Makanchi Array 62.64 51 P **P 06 04 29.4 -0.1**
MK31 pmax pmax
comp=Z,8.0nm,1.1s
MK31 Makanchi Array 62.64 51 P **P 06 04 29.4 -0.1**
MKAR Makanchi Array 62.64 51 P **P 06 04 29.9 +0.4**
comp=Z,4.5nm,0.6s,baz=285,slow=6.1,SNR=48
MKAR Makanchi Array 62.64 51 P **P 06 04 29.3 -0.2**
TZTN Tazewell 62.65 297 P **P 06 04 29.1 -0.6**
baz=64
ITTB Itaituba 62.83 242 *eP* **P 06 04 32.6 +1.5**
R49A Shelbyville 63.08 299 IAmb IAmb 06 04 42.3
comp=Z,21nm,1.1s
I42A Draeger Farm, 63.28 306 IAmb IAmb 06 04 44.1
comp=Z,17nm,1.0s
T50A Nancy 63.38 298 IAmb IAmb 06 05 00.0
comp=Z,16nm,1.1s
PEXB Peixe 63.42 230 *eP* **P 06 04 37.6 +2.6**
SFIN Lafayette 63.54 302 P **P 06 04 35.1 -0.4**
baz=65
WCI Wyandotte Cave 63.90 300 P **P 06 04 38.0 +0.1**
WCI pmax pmax
comp=Z,10.0nm,0.8s
WCI Wyandotte Cave 63.90 300 P **P 06 04 38.0 +0.1**
WCI IAmb IAmb 06 04 44.9
comp=Z,9.8nm,0.8s
WCI Wyandotte Cave 63.90 300 P **P 06 04 36.8 -1.2**
baz=64
GOGA Godfrey 63.97 294 P **P 06 04 38.1 -0.4**
baz=63
ZSN Zaisan 63.97 49 *eP* **P 06 04 37.6 -0.7**
ZSN pmax pmax
comp=Z,5.0nm,0.9s
ZSN Zaisan 63.97 49 *eP* **P 06 04 37.6 -0.7**
comp=Z,4.9nm,0.9s,baz=49

BAUV El Baul 63.98 262 P **P 06 04 37.7 -1.1**
Y52A Lilburn 64.21 294 P **P 06 04 40.8 +0.7**
Y52A IAmb IAmb 06 04 52.5
comp=Z,20nm,1.1s
U49A Red Boiling Sp 64.28 298 IAmb IAmb 06 04 50.2
comp=Z,16nm,1.1s
I40A Norwalk 64.40 307 P **P 06 04 41.2 +0.1**
I40A IAmb IAmb 06 04 42.9
comp=Z,12nm,0.8s
NPGB Novo Progresso 64.42 240 *eP* **P 06 04 42.5 +0.9**
B35A Bob, Littlefor 64.44 312 P **P 06 04 41.0 -0.3**
B35A IAmb IAmb 06 04 47.0
comp=Z,38nm,1.6s
W50A Signal Mountai 64.53 296 IAmb IAmb 06 05 07.6
comp=Z,15nm,0.9s
DGZ Jazzator, Alta 64.56 46 *i P* **P 06 04 42.6 +0.3**
DGZ pmax pmax
comp=Z,12nm,0.9s
JFWS Jewell Farm 64.58 306 P **P 06 04 42.1 -0.2**
baz=64
SJMB Sao Joao De Ma 64.60 220 *eP* **P 06 04 46.8 +4.1**
ULM Lac du Bonnet 64.89 315 P **P 06 04 43.6 -0.6**
comp=Z,7.2nm,0.7s,baz=83,slow=4.8,SNR=7.6
ULM Lac du Bonnet 64.89 315 IAmb IAmb 06 04 46.3
comp=Z,17nm,1.1s
TIGA Tifton 64.96 292 P **P 06 04 45.1 +0.1**
baz=62
HDIL Hopedale 64.97 303 P **P 06 04 44.3 -0.6**
baz=64
T47A Sharon Grove 65.03 299 IAmb IAmb 06 04 46.5
comp=Z,14nm,0.8s
SPMN Marine on St. 65.23 309 P **P 06 04 46.3 -0.2**
SPMN IAmb IAmb 06 04 55.6
comp=Z,8.2nm,0.7s
SPMN Marine on St. 65.23 309 P **P 06 04 46.3 -0.2**
baz=64
SNDB Serra Nova Dou 65.23 233 *eP* **P 06 04 48.7 +1.9**
Z51A Franklin 65.28 294 P **P 06 04 47.7 +0.6**
Z51A IAmb IAmb 06 05 13.1
comp=Z,19nm,1.1s
A36M Sachs Harbour 65.31 343 P **P 06 04 47.7 +1.2**
A36M IAmb IAmb 06 05 11.3
comp=Z,13nm,0.9s
A36M Sachs Harbour 65.31 343 P **P 06 04 47.1 +0.6**
baz=50,SNR=9.2
V48A Smith Brothers 65.38 297 IAmb IAmb 06 05 22.8
comp=Z,20nm,1.4s
F36A Milaca 65.40 310 IAmb IAmb 06 04 52.5
comp=Z,28nm,1.5s
DIAM Diamantina, MG 65.59 222 *eP* **P 06 04 53.8 +4.5**
L40A Anamosa 65.60 305 P **P 06 04 48.5 -0.5**
L40A IAmb IAmb 06 05 08.7
comp=Z,22nm,1.0s
MACA Manacapuru-AM 65.65 247 *eP* **P 06 04 52.0 +2.4**
MACA Manacapuru-AM 65.65 247 P **P 06 04 49.8 +0.1**
AGMN Agassiz Nation 65.75 313 IAmb IAmb 06 05 12.2
comp=Z,9.2nm,0.8s
AGMN Agassiz Nation 65.75 313 P **P 06 04 49.2 -0.6**
baz=63,SNR=7.2
WVT Waverly 65.93 298 P **P 06 04 50.8 -0.4**
baz=62
ALF01 Guarapari-ES 65.96 218 *eP* **P 06 04 55.7 +4.3**
N41A Harden Midland 65.97 304 IAmb IAmb 06 04 59.9
comp=Z,22nm,1.1s
BDFB Brasilia 65.97 227 P **P 06 04 50.7 -1.0**
comp=Z,2.5nm,0.9s,baz=20,slow=5.5,SNR=3.0
BDFB Brasilia 65.97 227 P **P 06 04 51.5 -0.2**
BDFB pmax pmax
comp=Z,15nm,1.1s
BDFB Brasilia 65.97 227 P **P 06 04 51.5 -0.2**
BDFB IAmb IAmb 06 04 57.3
comp=Z,15nm,1.1s
SDV Santo Domingo 66.11 264 *eP* **P 06 04 54.0 +1.1**
SDV Santo Domingo 66.11 264 P **P 06 04 52.6 -0.3**
X48A Hartselle 66.14 296 P **P 06 04 52.5 -0.1**
X48A IAmb IAmb 06 05 26.1
comp=Z,19nm,1.2s
LBTB Lobatse 66.33 151 P **P 06 04 53.6 -0.2**
LBTB pmax pmax
comp=Z,23nm,1.2s
LBTB Lobatse 66.33 151 P **P 06 04 53.6 -0.2**
LBTB IAmb IAmb 06 05 04.9
comp=Z,23nm,1.1s
PLAL Pickwick Lake 66.64 297 IAmb IAmb 06 05 16.1
comp=Z,25nm,1.1s
C36M Paulatuk 66.72 341 P **P 06 04 55.9 +0.2**
baz=50
FVM French Village 66.92 301 IAmb IAmb 06 05 17.5
comp=Z,34nm,1.4s
SCIA State Center 67.00 306 P **P 06 04 57.3 -0.7**
baz=62
F33A 5 Mile Ranch, 67.13 311 IAmb IAmb 06 05 03.3
comp=Z,14nm,1.1s
P40A Paris 67.32 303 IAmb IAmb 06 05 00.4
comp=Z,9.8nm,0.8s
WMQ Urumqi 67.37 52 *eP* **P 06 05 02.1 +1.7**
WMQ sP sP 06 05 12.8 +7.5
WMQ pmax pmax
comp=Z,21nm,0.9s
CLDB Colider 67.43 237 *eP* **P 06 05 04.6 +3.7**
CCM Cathedral Cave 67.46 301 P **P 06 05 00.1 -0.8**
CCM pmax pmax
comp=Z,12nm,0.9s
CCM Cathedral Cave 67.46 301 P **P 06 05 00.1 -0.8**
CCM IAmb IAmb 06 05 01.7
comp=Z,12nm,0.9s
CCM Cathedral Cave 67.46 301 P **P 06 05 00.4 -0.6**
baz=62
N38A Joes South For 67.53 305 P **P 06 05 00.5 -0.9**
N38A IAmb IAmb 06 05 22.5
comp=Z,11nm,0.6s
YKA Yellowknife Ar 67.79 332 P **P 06 05 02.1 -0.4**
comp=Z,11nm,0.8s,baz=60,slow=6.5,SNR=139
YKA Yellowknife Ar 67.79 332 P **P 06 05 02.0 -0.6**
TIXI Tiksi 68.01 15 P **P 06 05 04.3 +0.5**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI Tiksi 68.01 15 P **P 06 05 04.3 +0.5**
R40A Maddies Statio 68.06 302 IAmb IAmb 06 05 16.4
comp=Z,11nm,0.8s
MDND Maddock 68.17 314 P **P 06 05 04.2 -1.1**
baz=61
Y45A Yeager Farm, C 68.24 297 P **P 06 05 04.8 -1.1**
P38A Dawn 68.28 304 IAmb IAmb 06 05 06.8
comp=Z,12nm,0.8s
ECSD EROS Data Cent 68.33 309 P **P 06 05 05.8 -0.6**
ECSD EROS Data Cent 68.33 309 P **P 06 05 05.3 -1.1**
baz=61,SNR=7.2
PDRB Porto dos Gac 68.59 237 *eP* **P 06 05 11.5 +3.2**
MGMO Mountain Grove 68.60 301 P **P 06 05 07.6 -0.6**
MGMO IAmb IAmb 06 05 08.6
comp=Z,9.8nm,0.7s
S39A Bolivar 69.07 302 P **P 06 05 10.3 -0.8**
S39A IAmb IAmb 06 05 12.0
comp=Z,16nm,0.8s
FCAR Ozark Folk Cen 69.11 300 P **P 06 05 10.6 -0.7**
FCAR IAmb IAmb 06 05 15.9
comp=Z,15nm,1.1s
U40A Yellville 69.40 300 P **P 06 05 12.8 -0.4**
baz=60
BOSA Boshof 69.44 153 P **P 06 05 12.7 -0.7**
comp=Z,16nm,1.0s,baz=342,slow=5.9,SNR=16
BOSA Boshof 69.44 153 P **P 06 05 13.2 -0.2**
BOSA pmax pmax
comp=Z,27nm,1.2s
BOSA Boshof 69.44 153 P **P 06 05 13.2 -0.2**
BOSA IAmb IAmb 06 05 25.4
comp=Z,27nm,1.2s
E28A Huff 69.45 313 P **P 06 05 12.9 -0.4**
SUSD Miller 69.46 310 P **P 06 05 13.0 -0.4**
SUSD Miller 69.46 310 P **P 06 05 13.4 0.0**
baz=60
W41B Gary Mavity, V 69.55 299 P **P 06 05 13.2 -0.9**
baz=60
VBMS Vicksburg 69.76 296 P **P 06 05 16.3 +0.9**
baz=60
INK Inuvik 69.91 342 P **P 06 05 15.9 +0.3**
baz=42
143A Socs Landing, 70.17 296 P **P 06 05 17.2 -0.7**
143A IAmb IAmb 06 05 42.8
comp=Z,18nm,0.8s
HHAR Hobbs 70.20 301 P **P 06 05 17.5 -0.6**
HHAR IAmb IAmb 06 05 23.3
comp=Z,19nm,0.9s
K31A O'Neill 70.25 309 P **P 06 05 17.6 -0.7**
K31A IAmb IAmb 06 05 23.2
comp=Z,21nm,0.8s
X40A Basin Creek Fa 70.31 299 IAmb IAmb 06 05 23.8
comp=Z,18nm,1.0s
X40A Basin Creek Fa 70.31 299 P **P 06 05 18.2 -0.5**
baz=60
ZARC Zaragoza, Cauc 70.33 265 IAmb IAmb 06 05 24.9
comp=Z,20nm,1.1s
U38A Gravette 70.43 301 P **P 06 05 18.9 -0.6**
U38A IAmb IAmb 06 05 24.7
comp=Z,15nm,1.0s
BGNE Belgrade 70.47 307 P **P 06 05 19.2 -0.5**
BGNE Belgrade 70.47 307 P **P 06 05 18.7 -1.0**
baz=60,SNR=14
DGMT Dagmar 70.51 316 P **P 06 05 20.0 +0.2**
baz=58,SNR=7.8
ITRB Iturama 70.52 227 *eP* **P 06 05 23.4 +3.3**
WRGLY Wrigley 70.54 335 P **P 06 05 19.9 +0.3**
baz=49
KSU1 Kansas State U 70.62 305 IAmb IAmb 06 05 25.3
comp=Z,24nm,1.0s
KSU1 Kansas State U 70.62 305 P **P 06 05 20.0 -0.6**
baz=60,SNR=7.1
W39A Magazine 70.63 300 IAmb IAmb 06 05 26.2
comp=Z,24nm,1.2s
W39A Magazine 70.63 300 P **P 06 05 19.8 -0.9**
baz=60
MIAR Mount Ida 70.81 299 IAmb IAmb 06 05 47.1
comp=Z,20nm,1.1s
MIAR Mount Ida 70.81 299 P **P 06 05 21.6 -0.2**
baz=60
Z41A Richland Creek 70.91 298 P **P 06 05 21.9 -0.4**
Z41A IAmb IAmb 06 05 24.6
comp=Z,18nm,0.6s
Z41A Richland Creek 70.91 298 P **P 06 05 22.0 -0.4**
baz=60
SALV Santo Antonio 70.99 233 *eP* **P 06 05 26.5 +3.5**
MOY Mondy 71.10 40 *eP* **P 06 05 24.6 +1.2**
MOY pmax pmax
comp=Z,28nm,1.7s
SUR Sutherland 71.40 158 P **P 06 05 24.9 -0.4**
comp=Z,14nm,1.0s,baz=316,slow=3.8,SNR=6.2
SUR Sutherland 71.40 158 IAmb IAmb 06 05 26.2
comp=Z,110nm,1.6s
T35A Sooner Cattle 71.66 303 **P** **06 05 27.0 +0.1**
TUL1 Leonard 71.68 301 **P** **06 05 27.1 +0.1**
TUL1 IAmb IAmb 06 05 32.4
comp=Z,24nm,1.1s
TUL1 Leonard 71.68 301 P **P 06 05 26.5 -0.6**
baz=59
PYUN Piuthan 71.79 68 *eP* **P 06 05 26.9 -1.2**
comp=Z,34nm,0.7s
VILB Vilhena 71.93 239 *eP* **P 06 05 29.6 +0.9**
KLRI Killari 72.02 80 *eP* **P 06 05 29.9 +0.5**
X37A Clayton 72.06 300 IAmb IAmb 06 05 35.4
comp=Z,25nm,0.8s
QUOK Quay 72.18 302 **P** **06 05 29.0 -1.1**
EPYK Eagle Plains 72.19 342 IAmb IAmb 06 06 15.5
comp=Z,57nm,1.7s
EPYK Eagle Plains 72.19 342 P **P 06 05 29.7 0.0**
baz=39
BLOK Blackwell 72.22 303 **P** **06 05 30.4 +0.1**
DANN Dangsing 72.25 68 *eP* **P 06 05 30.9 0.0**
comp=Z,32nm,0.8s
KAN13 South Haven SW 72.28 303 **P** **06 05 30.5 -0.1**
OPO Ambohidratompo 72.29 129 P **P 06 05 30.5 -0.4**
comp=Z,4.3nm,1.0s,baz=343,slow=9.3,SNR=2.2
KAN06 Argonia West S 72.41 303 P **P 06 05 31.7 +0.3**
Z38A Mt. Pleasant 72.47 299 P **P 06 05 31.7 -0.1**
Z38A IAmb IAmb 06 05 38.2
comp=Z,28nm,0.8s
KAN08 Anthony NE Sta 72.50 303 **P** **06 05 31.8 -0.1**
PCMB Pacaembu 72.52 226 *eP* **P 06 05 36.6 +4.5**
LAO LASA Array 72.63 315 P **P 06 05 33.1 +0.5**
LAO IAmb IAmb 06 05 40.1
comp=Z,31nm,0.9s
LAO LASA Array 72.63 315 P **P 06 05 32.7 +0.1**
baz=56,SNR=8.4
EDM Edmonton 72.66 324 P **P 06 05 32.9 +0.2**
EDM pmax pmax
comp=Z,16nm,0.8s
EDM Edmonton 72.66 324 P **P 06 05 32.9 +0.2**
EDM IAmb IAmb 06 05 33.9
comp=Z,16nm,0.8s
RSSD Black Hills 72.74 312 P **P 06 05 33.8 +0.3**
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 72.74 312 P **P 06 05 33.8 +0.3**
RSSD IAmb IAmb 06 05 41.9
comp=Z,11nm,0.8s
RSSD Black Hills 72.74 312 P **P 06 05 33.6 +0.1**
baz=57
W35A Tecumseh 72.83 301 **P** **06 05 33.9 0.0**
W35A IAmb IAmb 06 05 39.0
comp=Z,24nm,0.9s
CBKS Cedar Bluff 72.85 306 P **P 06 05 34.0 -0.1**
CBKS pmax pmax
comp=Z,48nm,0.8s
CBKS Cedar Bluff 72.85 306 P **P 06 05 34.0 -0.1**
CBKS Cedar Bluff 72.85 306 P **P 06 05 33.9 -0.1**
baz=58,SNR=13
CROK Carrier 72.89 303 **P** **06 05 34.5 +0.3**
CROK IAmb IAmb 06 05 40.2
comp=Z,29nm,1.0s
OK029 Liberty Lake 72.89 302 **P** **06 05 34.4 +0.1**
OK025 Westminster Rd 72.92 302 IAmb IAmb 06 05 39.6
comp=Z,24nm,1.0s
PTLB Pontes e Lacer 72.95 236 *eP* **P 06 05 36.2 +1.5**
PTLB Pontes e Lacer 72.95 236 P **P 06 05 35.2 +0.4**
PTLB IAmb IAmb 06 05 40.2
comp=Z,22nm,1.3s
SRSP Sriramsagar 72.96 79 *eP* **P 06 05 35.5 +0.6**
ZAK Zakamensk 73.02 40 *eP* **P 06 05 35.0 +0.1**
ZAK pmax pmax
comp=Z,14nm,1.5s
BCOK Bluff Creek, N 73.07 302 **P** **06 05 34.7 -0.7**
BMAR Burnt Mountain 73.14 345 P **P 06 05 37.4 +2.1**
FNO Franklin 73.14 301 **P** **06 05 36.0 +0.2**
OGNE Ogallala 73.21 308 P **P 06 05 36.2 0.0**
baz=57
TBTG Tabatinga, AM 73.35 252 *eP* **P 06 05 39.6 +2.4**
BOD Bodaibo 73.38 30 *eP* **P 06 05 35.8 -0.9**
BOD pmax pmax
comp=Z,11nm,1.8s
I29M Ogilvie Camp, 73.39 342 P **P 06 05 37.5 +0.7**
baz=37
U32A Winter Ranch, 73.65 303 **P** **06 05 38.1 -0.7**
LOOK Love County 73.65 300 **P** **06 05 38.3 -0.5**
RPR Rampur 73.75 78 *eP* **P 06 05 40.0 +0.4**
RPR *ePcP* **PcP** **06 05 55.3 +0.1**
X34A Smith Ranch, M 73.79 301 **P** **06 05 40.4 +0.8**
EGMT Eagleton 73.85 318 P **P 06 05 40.4 +0.6**
EGMT IAmb IAmb 06 06 02.3
comp=Z,20nm,1.0s
EGMT Eagleton 73.85 318 P **P 06 05 39.8 0.0**
baz=55
PKIN Phulchoki 73.88 68 *eP* **P 06 05 38.8 -1.8**
PKI Pulchoki 73.89 67 *eP* **P 06 05 38.8 -1.9**
HYBB Hyderabad (bro 73.93 80 *eP* **P 06 05 41.0 +0.3**
HYBB *eS* **S** **06 15 14.7 +1.8**
Z35A Perchaven, San 74.05 300 P **P 06 05 41.0 -0.2**
GUN Gumba 74.07 67 *eP* **P 06 05 42.7 +0.9**
MAYO Mayo, Yukon 74.14 340 P **P 06 05 41.1 -0.1**
baz=39
ETMB Extrema 74.15 245 P **P 06 05 41.9 0.0**
ETMB IAmb IAmb 06 05 46.9
comp=Z,40nm,1.4s
URV Uravakonda 74.23 83 *eP* **P 06 05 42.6 +0.2**
CUPL Choutuppal 74.30 80 *eP* **P 06 05 43.7 +0.9**
WMOK Wichita Mounta 74.37 302 P **P 06 05 43.0 -0.1**
baz=57,SNR=8.3
COLD Coldfoot 74.41 347 P **P 06 05 42.7 0.0**
baz=28
FARO Faro, Yukon 74.45 338 P **P 06 05 43.9 +0.9**
baz=41
WTLY Watson Lake, Y 74.54 335 P **P 06 05 45.0 +1.5**
baz=44
KSCO Kaye Shedlock' 74.64 307 IAmb IAmb 06 05 51.9
comp=Z,29nm,0.9s
KSCO Kaye Shedlock' 74.64 307 P **P 06 05 43.7 -1.1**
baz=56
DAWY Dawson 74.71 341 P **P 06 05 45.1 +0.6**
baz=36
M31M Drury Creek, Y 74.79 338 P **P 06 05 44.4 -0.6**
baz=40
HKT Hockley 74.83 296 P **P 06 05 46.5 +0.9**

HKT			pmax	pmax		
	comp=Z,34nm,1.6s					
HKT	**Hockley**	**74.83 296**	P	**P**	**06 05 46.5**	**+0.9**
HKT			IAmb	IAmb	06 05 51.4	
	comp=Z,34nm,1.6s					
WHTX	**Lake Whitney,**	**74.91 299**	P	**P**	**06 05 46.2**	**0.0**
WHTX			IAmb	IAmb	06 05 51.9	
	comp=Z,24nm,0.8s					
WHTX	**Lake Whitney,**	**74.91 299**	P	**P**	**06 05 46.5**	**+0.4**
	baz=57					
SRLM	**Srisailam**	**74.92 81**	*e*P	**P**	**06 05 47.0**	**+0.6**
PRP	**Porcupine Dome**	**74.97 345**	P	**P**	**06 05 45.6**	**-0.5**
	baz=31					
NJS	**Nagarjunasagar**	**75.01 80**	*e*P	**P**	**06 05 47.9**	**+1.0**
K22A	**Casper**	**75.07 312**	P	**P**	**06 05 47.0**	**-0.1**
K22A			IAmb	IAmb	06 05 53.4	
	comp=Z,18nm,0.8s					
K22A	**Casper**	**75.07 312**	P	**P**	**06 05 46.6**	**-0.5**
	baz=55,SNR=12					
GCMT	**Greycliff**	**75.10 316**	P	**P**	**06 05 47.4**	**+0.1**
PHWY	**Pilot Hill**	**75.17 310**	IAmb	IAmb	06 05 55.2	
	comp=Z,24nm,0.8s					
H24K	**Noodor Dome**	**75.19 346**	P	**P**	**06 05 48.0**	**+0.8**
	baz=30					
M30M	**Minto, Yukon**	**75.20 340**	P	**P**	**06 05 49.4**	**+2.0**
	baz=38					
RLMT	**Red Lodge**	**75.27 315**	P	**P**	**06 05 49.3**	**+1.0**
RLMT	**Red Lodge**	**75.27 315**	P	**P**	**06 05 48.4**	**+0.1**
	baz=54					
J26L	**Joseph Creek**	**75.39 343**	P	**P**	**06 05 50.1**	**+1.7**
J26L	**Joseph Creek**	**75.39 343**	P	**P**	**06 05 47.9**	**-0.6**
	baz=33					
PTGB	**Pitanga**	**75.39 225**	*e*P	**P**	**06 05 52.2**	**+3.2**
WALA	**Waterton Lakes**	**75.46 320**	IAmb	IAmb	06 05 51.0	
	comp=Z,16nm,0.8s					
J25K	**Salcha River,**	**75.71 344**	P	**P**	**06 05 50.8**	**+0.5**
	baz=31					
N23A	**Red Feather La**	**75.71 310**	P	**P**	**06 05 51.7**	**+0.7**
N23A			IAmb	IAmb	06 05 57.3	
	comp=Z,18nm,0.9s					
N23A	**Red Feather La**	**75.71 310**	P	**P**	**06 05 51.0**	**0.0**
	baz=55,SNR=16					
POKR	**Poker Plat Res**	**75.72 345**	P	**P**	**06 05 52.0**	**+1.7**
	baz=30					
YAK	**Yakutsk**	**75.73 21**	*i* P	**P**	**06 05 51.5**	**+1.2**
HRY	**Holter Researc**	**75.77 318**	P	**P**	**06 05 51.4**	**+0.4**
P33M	**Teslin, Yukon**	**75.82 336**	P	**P**	**06 05 51.6**	**+0.6**
	baz=41					
ILAR	**Eielson Array**	**75.91 345**	P	**P**	**06 05 52.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=8.1,slow=6.5,SNR=7.1					
ADKI	**Addanki**	**75.92 80**	*e*P	**P**	**06 05 52.9**	**+0.7**
SCRK	**Sand Creek**	**75.93 343**	P	**P**	**06 05 52.0**	**+0.4**
	baz=32					
MYLAV	**Mylavaram**	**75.97 79**	*e*P	**P**	**06 05 53.3**	**+0.9**
GOMU	**GeErMu**	**75.97 56**	P	P	06 05 57.8	+5.1
GOMU			PP	**PP**	**06 08 48.9**	**+6.2**
GOMU			pmax	pmax		
	comp=Z,3.0nm,0.6s					
YMP	**Mirror Lake Pl**	**76.00 315**	P	**P**	**06 05 54.0**	**+1.3**
YMP			IAmb	IAmb	06 06 00.1	
	comp=Z,18nm,0.8s					
COLA	**College**	**76.02 345**	P	**P**	**06 05 54.1**	**+2.1**
	baz=29					
TCOL	**CIGO, UAF Yank**	**76.02 345**	P	**P**	**06 05 54.4**	**+2.4**
	baz=29					
RWWY	**Rawlins**	**76.03 311**	P	**P**	**06 05 53.4**	**+0.6**
I23K	**Minto, Yukon-K**	**76.09 346**	P	**P**	**06 05 51.7**	**-0.6**
	baz=28					
ISCO	**Idaho Springs**	**76.12 309**	P	**P**	**06 05 53.4**	**0.0**
ISCO			pmax	pmax		
	comp=Z,15nm,1.1s					
ISCO	**Idaho Springs**	**76.12 309**	P	**P**	**06 05 53.4**	**0.0**
ISCO			IAmb	IAmb	06 05 59.2	
	comp=Z,15nm,1.1s					
ISCO	**Idaho Springs**	**76.12 309**	P	**P**	**06 05 53.8**	**+0.4**
	baz=55,SNR=14					
ABTX	**Abilene, Hawle**	**76.12 300**	IAmb	IAmb	06 05 54.8	
	comp=Z,21nm,0.9s					
ABTX	**Abilene, Hawle**	**76.12 300**	P	**P**	**06 05 53.0**	**-0.2**
	baz=56,SNR=5.4					
WHY	**Whitehorse**	**76.13 338**	P	**P**	**06 05 53.8**	**+1.0**
	baz=39					
L27K	**Beaver Creek,**	**76.17 342**	P	**P**	**06 05 52.3**	**-0.6**
	baz=34					
SONM	**Songino Array**	**76.18 41**	P	**P**	**06 05 53.9**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=287,slow=7.3,SNR=14					
SONM	**Songino Array**	**76.18 41**	IAmb	IAmb	06 06 01.2	
	comp=Z,36nm,1.9s					
HDA	**Harding Lake**	**76.23 344**	P	**P**	**06 05 53.4**	**+0.2**
	baz=30					
H21K	**Melozitna Rive**	**76.29 347**	P	**P**	**06 05 54.4**	**+0.9**
	baz=26					
AMTX	**Amarillo**	**76.29 303**	P	**P**	**06 05 54.9**	**+0.7**
	baz=56					
Q24A	**Divide**	**76.30 308**	P	**P**	**06 05 54.4**	**0.0**
Q24A			IAmb	IAmb	06 05 55.9	
	comp=Z,11nm,0.8s					
Q24A	**Divide**	**76.30 308**	P	**P**	**06 05 54.7**	**+0.3**
	baz=55					
BOZ	**Bozeman (W)**	**76.33 317**	P	**P**	**06 05 55.0**	**+0.8**
BOZ			pmax	pmax		
	comp=Z,12nm,0.9s					
BOZ	**Bozeman (W)**	**76.33 317**	P	**P**	**06 05 55.0**	**+0.8**
BOZ			IAmb	IAmb	06 05 56.3	
	comp=Z,12nm,0.8s					
BOZ	**Bozeman (W)**	**76.33 317**	P	**P**	**06 05 54.6**	**+0.4**
	baz=53,SNR=22					
RIDG	**Independent Ri**	**76.33 343**	P	**P**	**06 05 54.6**	**+0.7**
	baz=32					
BILL	**Bilibino**	**76.44 4**	*e*P	**P**	**06 05 54.5**	**+0.2**
BILL			*PP	**pP**	**06 05 58.0**	**+0.2**
BILL			*e*SP	**sP**	**06 05 58.9**	**-0.3**
BILL			*e*		06 06 02.3	
BILL			S	**S**	**06 15 32.0**	**-7.2**
BILL			SS	**SS**	**06 20 40.0**	**+7.6**
BILL			pmax	pmax		
	comp=Z,7.0nm,1.1s					
BILL			MLR	MLR		
	comp=Z,935nm,18.0s					
H17A	**Grant Village**	**76.45 315**	IAmb	IAmb	06 06 12.2	
	comp=Z,25nm,1.6s					
H17A	**Grant Village**	**76.45 315**	P	**P**	**06 05 56.7**	**+1.6**
	baz=53					
BVCY	**Beaver Creek**	**76.45 341**	P	**P**	**06 05 55.8**	**+1.3**
	baz=35					
PVM	**Polavaram**	**76.48 78**	*e*P	**P**	**06 05 55.6**	**+0.2**
YMR	**Madison River**	**76.51 316**	P	**P**	**06 05 56.4**	**+1.0**
YMR			IAmb	IAmb	06 06 02.8	
	comp=Z,12nm,0.8s					
ULN	**Ulaanbaatar**	**76.51 40**	*i* P	**P**	**06 05 55.9**	**+0.6**
ULN			pmax	pmax		
	comp=Z,17nm,1.5s					
ULN	**Ulaanbaatar**	**76.51 40**	P	**P**	**06 05 56.2**	**+1.0**
NEA2	**Nenana**	**76.52 345**	P	**P**	**06 05 56.9**	**+2.1**
	baz=28					
I21K	**Tanana**	**76.57 347**	P	**P**	**06 05 55.9**	**+0.8**
	baz=26					
L26K	**Log Cabin Wild**	**76.58 342**	P	**P**	**06 05 56.3**	**+1.1**
	baz=33					
LRM	**Limekiln Ridge**	**76.65 317**	P	**P**	**06 05 56.9**	**+0.7**
BW06	**Boulder Array**	**76.82 313**	P	**P**	**06 05 56.7**	**-0.6**
BW06			IAmb	IAmb	06 06 02.3	
	comp=Z,15nm,0.9s					
BW06	**Boulder Array**	**76.82 313**	P	**P**	**06 05 56.7**	**-0.6**
	baz=54,SNR=24					
PD31	**Pinedale Array**	**76.82 313**	P	**P**	**06 05 56.6**	**-0.6**
PD31			IAmb	IAmb	06 06 02.3	
	comp=Z,13nm,0.9s					
PDAR	**Pinedale Array**	**76.82 313**	P	**P**	**06 05 56.6**	**-0.6**
	comp=Z,9.6nm,0.8s,baz=62,slow=6.5,SNR=72					
PDAR	**Pinedale Array**	**76.82 313**	P	**P**	**06 05 56.3**	**-0.9**
MSO	**Missoula**	**76.84 319**	P	**P**	**06 05 57.0**	**-0.1**
MSO	**Missoula**	**76.84 319**	P	**P**	**06 05 56.9**	**-0.2**
	baz=52,SNR=8.1					
T25A	**Trinidad**	**76.86 306**	P	**P**	**06 05 58.2**	**+0.7**
	baz=55					
YUK3	**Moose Creek**	**76.87 340**	P	**P**	**06 05 58.2**	**+1.1**
	baz=35					
SKHT	**Srikalahasti**	**76.87 82**	*e*P	**P**	**06 05 58.2**	**+0.6**
LOHW	**Long Hollow**	**76.93 314**	P	**P**	**06 05 58.1**	**+0.3**
DLMT	**Dillon**	**77.01 317**	IAmb	IAmb	06 06 05.1	
	comp=Z,25nm,1.1s					
M26K	**Nabesna, AK**	**77.02 342**	P	**P**	**06 05 58.5**	**+0.8**
	baz=33					
PAX	**Paxson**	**77.14 343**	P	**P**	**06 06 00.4**	**+1.9**
	baz=31					
SKAG	**Skagway**	**77.21 337**	P	**P**	**06 05 60.0**	**+1.2**
	baz=39					
SDCO	**Great Sand Dun**	**77.22 307**	P	**P**	**06 05 59.4**	**-0.3**
SDCO	**Great Sand Dun**	**77.22 307**	P	**P**	**06 05 59.5**	**-0.2**
	baz=55,SNR=13					
REDW	**Red Top Meadow**	**77.22 314**	P	**P**	**06 05 59.8**	**+0.4**
MCK	**McKinley**	**77.25 345**	P	**P**	**06 06 00.4**	**+1.4**
	baz=28					
SMCO	**Snowmass**	**77.34 309**	P	**P**	**06 06 00.2**	**-0.2**
BPAW	**Bear Paw Mtn.**	**77.35 346**	P	**P**	**06 06 02.1**	**+2.6**
	baz=27					
ITAB	**Concordia**	**77.38 223**	*e*P	P	06 06 05.2	+5.1
GTA	**Gaotai**	**77.40 51**	*e*P	**P**	**06 06 00.8**	**+0.4**
GTA			pP	sP	06 06 06.4	+1.0
GTA			sP	PcP	06 06 09.9	-1.0
GTA			pmax	pmax		
	comp=Z,3.0nm,1.2s					
JCT	**Junction City**	**77.42 298**	P	**P**	**06 06 00.7**	**+0.1**
JCT			pmax	pmax		
	comp=Z,30nm,0.8s					
JCT	**Junction City**	**77.42 298**	P	**P**	**06 06 00.7**	**+0.1**
JCT	**Junction City**	**77.42 298**	P	**P**	**06 06 00.4**	**-0.1**
	baz=56,SNR=28					
OTAV	**Otavalo**	**77.45 261**	P	**P**	**06 06 00.3**	**-1.1**
OTAV			pmax	pmax		
	comp=Z,28nm,1.5s					
OTAV	**Otavalo**	**77.45 261**	*e*P	**P**	**06 06 01.3**	**-0.1**
OTAV	**Otavalo**	**77.45 261**	P	**P**	**06 06 00.3**	**-1.1**
OTAV			IAmb	IAmb	06 06 07.4	
	comp=Z,28nm,1.5s					
MCMT	**McKenzie Canyo**	**77.48 316**	P	**P**	**06 06 02.1**	**+1.2**
MSTX	**Muleshoe**	**77.55 303**	P	**P**	**06 06 02.1**	**+0.8**
MSTX			IAmb	IAmb	06 06 08.3	
	comp=Z,9.9nm,0.8s					
MSTX	**Muleshoe**	**77.55 303**	P	**P**	**06 06 02.1**	**+0.8**
	baz=55					
O20A	**White River Ci**	**77.57 311**	P	**P**	**06 06 01.4**	**0.0**
	baz=54					
NEW	**Newport**	**77.61 321**	P	**P**	**06 06 01.4**	**+0.1**
NEW			pmax	pmax		
	comp=Z,7.0nm,0.9s					
NEW	**Newport**	**77.61 321**	P	**P**	**06 06 01.4**	**+0.1**
NEW	**Newport**	**77.61 321**	P	**P**	**06 06 01.1**	**-0.3**
	baz=50,SNR=6.5					
CZSB	**Cruzeiro do Su**	**77.73 251**	*e*P	**P**	**06 06 01.9**	**-0.5**
CZSB	**Cruzeiro do Su**	**77.73 251**	P	**P**	**06 06 02.2**	**-0.2**
AHID	**Auburn Hatcher**	**77.73 314**	IAmb	IAmb	06 06 08.8	
	comp=Z,13nm,0.8s					
CHLP	**Challavanipeta**	**77.73 76**	*e*P	**P**	**06 06 02.9**	**+0.5**
TRF	**Thorofare Moun**	**77.79 345**	P	**P**	**06 06 04.0**	**+1.8**
	baz=27					
CHUM	**Lake Minchumin**	**77.80 346**	P	**P**	**06 06 02.9**	**+0.9**
	baz=26					
GCSA	**Galena City Sc**	**77.82 349**	P	**P**	**06 06 02.1**	**+0.1**
	baz=22					
J20K	**Nowinta River**	**77.88 347**	P	**P**	**06 06 05.1**	**+2.6**
	baz=24					
S22A	**4UR Ranch, Cre**	**78.08 308**	P	**P**	**06 06 04.4**	**0.0**
S22A	**4UR Ranch, Cre**	**78.08 308**	P	**P**	**06 06 04.0**	**-0.4**
	baz=54,SNR=13					
N25K	**Chitina, Valde**	**78.09 342**	P	**P**	**06 06 05.4**	**+1.6**
	baz=32					
BCYI	**Bear Canyon**	**78.11 316**	P	**P**	**06 06 05.7**	**+1.3**
RDMU	**Red Mountain**	**78.13 312**	IAmb	IAmb	06 06 10.5	
	comp=Z,27nm,0.8s					
CAST	**Castle Rocks**	**78.18 346**	P	**P**	**06 06 04.9**	**+0.7**
	baz=26					
MTO3	**Montecristo**	**78.27 279**	P	**P**	**06 06 05.4**	**-0.2**
833A	**Chaparral WMA,**	**78.32 296**	P	**P**	**06 06 05.6**	**+0.1**
833A			IAmb	IAmb	06 06 12.7	
	comp=Z,17nm,0.8s					
833A	**Chaparral WMA,**	**78.32 296**	P	**P**	**06 06 05.5**	**+0.1**
	baz=56					
TNA	**Tin City**	**78.45 353**	P	**P**	**06 06 04.4**	**-1.1**
	baz=13					
SCM	**Sheep Creek Mo**	**78.56 343**	P	**P**	**06 06 06.8**	**+0.5**
	baz=30					
K20K	**Telida**	**78.61 347**	IAmb	IAmb	06 06 08.2	
	comp=Z,32nm,1.6s					
B08A	**Colville Reser**	**78.67 322**	P	**P**	**06 06 07.4**	**+0.2**
PPLA	**Purkeypile**	**78.67 346**	P	**P**	**06 06 08.0**	**+1.0**
	baz=26					
PV07	**Paradox Valley**	**78.83 309**	P	**P**	**06 06 08.2**	**-0.3**
PV23	**Carpenter Ridg**	**79.05 310**	IAmb	IAmb	06 06 16.9	
	comp=Z,21nm,0.7s					
PLID	**Pearl Lake**	**79.06 318**	P	**P**	**06 06 09.2**	**-0.5**
PV11	**David Mesa, Pa**	**79.06 309**	IAmb	IAmb	06 06 15.1	
	comp=Z,23nm,0.8s					
PV13	**Radium Mtn., P**	**79.11 309**	IAmb	IAmb	06 06 16.7	
	comp=Z,11nm,0.8s					
P18A	**Preston Nutter**	**79.11 311**	P	**P**	**06 06 10.2**	**0.0**
PV10	**Paradox Valley**	**79.11 309**	IAmb	IAmb	06 06 19.4	
	comp=Z,27nm,0.8s					
HLID	**Hailey**	**79.14 316**	P	**P**	**06 06 11.1**	**+1.0**
HLID	**Hailey**	**79.14 316**	P	**P**	**06 06 10.1**	**0.0**
	baz=51,SNR=18					
F10A	**Beach Ranch, E**	**79.15 319**	P	**P**	**06 06 09.6**	**-0.3**
F10A			IAmb	IAmb	06 06 33.1	
	comp=Z,41nm,1.8s					
ANM	**Nome**	**79.16 352**	P	**P**	**06 06 10.0**	**+0.6**
	baz=15					
JLU	**Jordanelle**	**79.25 312**	P	**P**	**06 06 10.9**	**+0.2**
E09A	**Wood Farm, Sta**	**79.28 320**	P	**P**	**06 06 11.2**	**+0.7**
E09A			IAmb	IAmb	06 06 30.6	
	comp=Z,38nm,1.9s					
HVU	**Hansel Valley**	**79.32 314**	P	**P**	**06 06 11.1**	**+0.1**
HVU			pmax	pmax		
	comp=Z,8.0nm,0.8s					
HVU	**Hansel Valley**	**79.32 314**	P	**P**	**06 06 11.1**	**+0.1**
CTU	**Camp Tracy**	**79.38 313**	P	**P**	**06 06 11.3**	**0.0**
MVCO	**Mesa Verde**	**79.47 308**	P	**P**	**06 06 12.7**	**+0.7**
MVCO	**Mesa Verde**	**79.47 308**	P	**P**	**06 06 12.4**	**+0.4**
	baz=53,SNR=8.6					
ANMO	**Albuquerque**	**79.48 305**	*i* P	**P**	**06 06 12.8**	**+0.8**
ANMO			pmax	pmax		
	comp=Z,3.0nm,1.0s					
ANMO	**Albuquerque**	**79.48 305**	P	**P**	**06 06 12.6**	**+0.5**
ANMO	**Albuquerque**	**79.48 305**	P	**P**	**06 06 12.5**	**+0.5**
	baz=54					
P17A	**Butcher Ranch,**	**79.51 311**	P	**P**	**06 06 11.6**	**-0.5**
P17A			IAmb	IAmb	06 06 13.2	
	comp=Z,12nm,0.8s					
SRU	**San Rafael Swe**	**79.60 311**	P	**P**	**06 06 12.5**	**-0.1**
SRU			pmax	pmax		
	comp=Z,12nm,0.8s					
SRU	**San Rafael Swe**	**79.60 311**	P	**P**	**06 06 12.5**	**-0.1**
SRU			IAmb	IAmb	06 06 22.8	
	comp=Z,12nm,0.8s					
PWL	**Port Wells**	**79.65 343**	P	**P**	**06 06 11.6**	**-0.6**
	baz=29					
CPUP	**Villa Florida**	**79.70 227**	P	**P**	**06 06 11.8**	**-1.0**
	comp=Z,13nm,1.1s,baz=27,slow=5.9,SNR=5.9					
CPUP	**Villa Florida**	**79.70 227**	P	**P**	**06 06 12.3**	**-0.6**
CPUP			pmax	pmax		
	comp=Z,25nm,1.2s					
CPUP	**Villa Florida**	**79.70 227**	P	**P**	**06 06 12.3**	**-0.6**
CPUP			IAmb	IAmb	06 06 17.4	
	comp=Z,25nm,1.1s					
RC01	**Rabbit Creek A**	**79.77 344**	P	**P**	**06 06 10.5**	**-2.4**
	baz=28					
LPAZ	**La Paz**	**79.81 242**	P	**P**	**06 06 13.7**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=125,slow=2.2,SNR=8.9					
LPAZ	**La Paz**	**79.81 242**	P	**P**	**06 06 12.8**	**-1.6**
LPAZ			pmax	pmax		
	comp=Z,8.0nm,1.4s					
LPAZ	**La Paz**	**79.81 242**	*e*P	**P**	**06 06 14.0**	**-0.4**
LPAZ	**La Paz**	**79.81 242**	P	**P**	**06 06 12.8**	**-1.6**
TMUT	**Trail Mountain**	**79.91 311**	P	**P**	**06 06 14.7**	**+0.3**
BMO	**Blue Mountains**	**79.92 319**	P	**P**	**06 06 14.1**	**0.0**
BMO			pmax	pmax		
	comp=Z,8.0nm,0.8s					
BMO	**Blue Mountains**	**79.92 319**	P	**P**	**06 06 14.1**	**0.0**
NLU	**North Lily Min**	**80.03 312**	P	**P**	**06 06 15.3**	**+0.3**
MFID	**Camas Ranch**	**80.03 317**	P	**P**	**06 06 15.4**	**+0.6**
Q16A	**Castle Valley**	**80.12 311**	P	**P**	**06 06 15.7**	**+0.3**
DUG	**Dugway, Tooele**	**80.32 313**	P	**P**	**06 06 16.5**	**0.0**
DUG			pmax	pmax		
	comp=Z,6.0nm,0.7s					
DUG	**Dugway, Tooele**	**80.32 313**	P	**P**	**06 06 16.5**	**0.0**
DUG	**Dugway, Tooele**	**80.32 313**	P	**P**	**06 06 16.0**	**-0.4**
	baz=51,SNR=8.6					
F07A	**Phinny Hill Vi**	**80.61 321**	P	**P**	**06 06 18.4**	**+0.7**
MNTX	**Cornudas Mount**	**80.65 302**	P	**P**	**06 06 18.4**	**+0.2**
MNTX	**Cornudas Mount**	**80.65 302**	P	**P**	**06 06 17.5**	**-0.7**
	baz=54					
TX31	**Lajitas Ar. Si**	**80.83 299**	P	**P**	**06 06 20.0**	**+0.7**
TX31			IAmb	IAmb	06 06 27.0	
	comp=Z,30nm,1.4s					
TX32	**Lajitas Array**	**80.83 299**	P	**P**	**06 06 20.0**	**+0.7**
TXAR	**Lajitas Array**	**80.83 299**	P	**P**	**06 06 19.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=76,slow=5.0,SNR=18					
MSU	**Marysvale**	**80.98 311**	P	**P**	**06 06 20.3**	**+0.1**
MSU	**Marysvale**	**80.98 311**	P	**P**	**06 06 20.3**	**+0.1**
N19K	**Bonanza Creek**	**81.02 346**	P	**P**	**06 06 19.0**	**-0.8**
	baz=24					
D03D	**Eldon**	**81.08 323**	P	**P**	**06 06 20.8**	**+0.6**
	baz=46					
TCRU	**Three Creeks R**	**81.09 311**	P	**P**	**06 06 20.6**	**-0.2**
TCRU			IAmb	IAmb	06 06 22.4	
	comp=Z,12nm,0.8s					
D04E	**Lakebay**	**81.17 323**	P	**P**	**06 06 21.0**	**+0.4**
	baz=46					
BRSE	**Bradley Lake S**	**81.20 344**	P	**P**	**06 06 22.3**	**+1.7**
	baz=27					
MTPU	**Mount Pierson**	**81.28 311**	P	**P**	**06 06 22.6**	**+0.7**
MTPU			IAmb	IAmb	06 06 31.0	
	comp=Z,16nm,0.8s					
ZEA	**Zeya**	**81.48 27**	*e*P	P	06 06 28.6	+6.4
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.5s					
E04D	**Cinebar**	**81.50 322**	P	**P**	**06 06 21.3**	**-1.1**
	baz=46					
PLTB	**Pedras Altas**	**81.70 221**	*e*P	**P**	**06 06 26.8**	**+3.3**
G05D	**Wamic, OR**	**81.77 321**	P	**P**	**06 06 24.5**	**+0.6**
	baz=47					
ITQB	**Itaqui**	**81.78 225**	*e*P	**P**	**06 06 27.8**	**+3.9**
121A	**Cookes Peak, D**	**81.80 304**	P	**P**	**06 06 25.3**	**+0.8**
	baz=53					
LZH	**Lanzhou**	**81.94 51**	*e*P	**P**	**06 06 27.0**	**+1.8**
LZH			sP	PcP	06 06 31.6	+0.8
LZH			pmax	pmax		
	comp=Z,21nm,1.3s					
SPR3	**Spring Creek 3**	**81.99 313**	P	**P**	**06 06 25.6**	**0.0**
SZCU	**Shurtz Canyon**	**82.12 311**	P	**P**	**06 06 26.6**	**+0.5**
PB16	**IPOC Station P**	**82.14 241**	P	**P**	**06 06 26.1**	**-0.7**
PB16			IAmb	IAmb	06 06 34.4	
	comp=Z,14nm,1.1s					
WVOR	**Wild Horse Val**	**82.24 317**	IAmb	IAmb	06 07 05.2	
	comp=Z,17nm,1.4s					
KNB	**Kanab**	**82.32 310**	P	**P**	**06 06 27.4**	**+0.3**
KNB			pmax	pmax		
	comp=Z,8.0nm,1.1s					
KNB	**Kanab**	**82.32 310**	P	**P**	**06 06 27.4**	**+0.3**
WUAZ	**Wupatki**	**82.34 308**	P	**P**	**06 06 27.8**	**+0.5**
WUAZ	**Wupatki**	**82.34 308**	P	**P**	**06 06 27.7**	**+0.5**
	baz=52					
U15A	**North Rim**	**82.35 310**	P	**P**	**06 06 27.6**	**+0.1**
U15A			IAmb	IAmb	06 06 34.0	
	comp=Z,12nm,0.8s					
BMN	**Battle Mountai**	**82.76 315**	P	**P**	**06 06 30.3**	**+0.9**
BMN			pmax	pmax		
	comp=Z,6.0nm,0.9s					
BMN	**Battle Mountai**	**82.76 315**	P	**P**	**06 06 30.3**	**+0.9**
G03D	**McMinnville, O**	**82.79 322**	P	**P**	**06 06 28.9**	**-0.3**
	baz=46					
GO01	**Chusmiza**	**82.80 240**	P	**P**	**06 06 29.4**	**-0.7**
GO01			IAmb	IAmb	06 06 36.9	
	comp=Z,15nm,1.2s					
BTO	**Baotou**	**82.80 45**	*e*P	**P**	**06 06 28.5**	**-1.0**
H04D	**Lebanon**	**83.00 321**	P	**P**	**06 06 30.9**	**+0.6**
	baz=46					
X16A	**Lo Mia Camp, P**	**83.06 308**	P	**P**	**06 06 32.6**	**+1.5**
J05D	**Fort Rock, OR**	**83.07 319**	P	**P**	**06 06 32.2**	**+1.3**
	baz=47					
R11A	**Troy Canyon, C**	**83.16 313**	P	**P**	**06 06 31.2**	**-0.3**
	baz=50,SNR=10					
PRN	**Pahroc Range**	**83.44 312**	P	**P**	**06 06 34.4**	**+1.5**
MOD	**Modoc Plateau**	**83.51 318**	IAmb	IAmb	06 07 41.6	
	comp=Z,13nm,1.4s					
HHC	**Hu-ho-hao-te**	**83.51 44**	*e*P	**P**	**06 06 33.3**	**+0.1**
HHC			pmax	pmax		
	comp=Z,12nm,1.2s					
HHC			pmax	pmax		
	comp=Z,580nm,6.3s					
S11A	**Rachel**	**83.71 312**	P	**P**	**06 06 34.7**	**+0.4**
S11A			IAmb	IAmb	06 06 48.5	
	comp=Z,16nm,1.0s					
XLT	**XiLinHaoTe**	**83.85 39**	*e*P	**P**	**06 06 34.4**	**-0.4**
XLT			pP	PcP	06 06 39.3	+0.4
XLT			sP	sP	06 06 42.3	+2.5
XLT			pmax	pmax		
	comp=Z,10.0nm,1.3s					
XLT			LR	LR		
	comp=Z,1μm,16.1s					
XLT			LR	LR		
	comp=Z,1μm,18.9s					
XLT			LR	LR		
	comp=Z,2μm,18.9s					
TUC	**Tucson**	**83.94 306**	P	**P**	**06 06 36.2**	**+0.7**
TUC			pmax	pmax		
	comp=Z,27nm,1.2s					
TUC	**Tucson**	**83.94 306**	P	**P**	**06 06 36.2**	**+0.7**
TUC			IAmb	IAmb	06 06 42.1	
	comp=Z,27nm,1.1s					
TUC	**Tucson**	**83.94 306**	P	**P**	**06 06 36.7**	**+1.2**
	baz=52					
SHPR	**Sheep Range**	**84.09 311**	P	**P**	**06 06 36.9**	**+0.6**
KVN	**Kaiserville**	**84.18 315**	P	**P**	**06 06 37.3**	**+0.6**
KVN			pmax	pmax		
	comp=Z,4.0nm,0.8s					
KVN	**Kaiserville**	**84.18 315**	P	**P**	**06 06 37.3**	**+0.6**
TPH	**Tonopah**	**84.31 313**	P	**P**	**06 06 37.9**	**+0.5**
TPH			pmax	pmax		
	comp=Z,49nm,1.2s					
TPH	**Tonopah**	**84.31 313**	P	**P**	**06 06 37.9**	**+0.5**
Y14A	**Wickenburg**	**84.37 308**	P	**P**	**06 06 38.1**	**+0.5**
Y14A			IAmb	IAmb	06 06 43.7	
	comp=Z,13nm,1.1s					
M04C	**Macdoel**	**84.43 318**	P	**P**	**06 06 38.9**	**+1.0**
	baz=46					
TPNV	**Topopah Spring**	**84.47 312**	P	**P**	**06 06 38.0**	**-0.2**
	baz=49					
PAHR	**Pah Rah Range**	**84.48 316**	IAmb	IAmb	06 06 44.2	
	comp=Z,28nm,1.6s					
LVC	**Limon Verde**	**84.55 237**	*e*P	**P**	**06 06 40.8**	**+1.9**
J01E	**Myrtle Point**	**84.57 321**	P	**P**	**06 06 38.4**	**0.0**
	baz=45					
NVAR	**Mina Array Bea**	**84.71 314**	P	**P**	**06

GSC	Goldstone, Bar	85.89	311	P	P	06 06 45.2	-0.1
	baz=49						
HEC	Hector,Ludlow	85.90	310	P	P	06 06 46.1	+0.8
	baz=49						
CWC	Cottonwood Cre	85.91	313	P	P	06 06 44.6	-0.8
	baz=48						
GLA	Glamis	86.11	308	P	P	06 06 48.4	+2.1
	baz=50						
BC3	Big Chuckawall	86.12	309	P	P	06 06 47.2	+0.8
	baz=49						
BELC	Belle Mtn. Jos	86.23	310	P	P	06 06 46.6	-0.4
	baz=49						
RRX	Edison Barstow	86.28	311	P	P	06 06 45.7	-1.4
	baz=48						
LRMC	Laurel Mtn Rad	86.30	312	P	P	06 06 47.2	-0.1
	baz=48						
PZH	PanZhiHua	86.44	60	P	P	06 06 48.8	+0.6
PZH				S	S	06 17 22.4	-2.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,260nm,12.0s						
PZH				LR	LR		
	comp=Z,550nm,21.6s						
PZH				LR	LR		
	comp=Z,870nm,21.6s						
PZH				LR	LR		
	comp=Z,750nm,22.0s						
XAN	Xi'an	86.45	50	P	P	06 06 48.3	+0.3
XAN				pP	sP	06 06 53.4	+0.4
XAN				sP	pP	06 06 57.3	+5.6
XAN				pmax	pmax		
	comp=Z,12nm,1.7s						
BJI	Beijing	86.62	42	P	P	06 06 48.9	+0.3
BJI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BJT	Baijiatuau	86.63	42	P	P	06 06 49.0	+0.3
BJT				pmax	pmax		
	comp=Z,15nm,1.1s						
BJT	Baijiatuau	86.63	42	P	P	06 06 49.0	+0.3
BJT				IAmb	IAmb	06 06 54.8	
	comp=Z,15nm,1.1s						
BBRC	Big Bear Solar	86.64	310	P	P	06 06 48.9	-0.3
	baz=48						
ISA	Isabella, Lake	86.66	312	P	P	06 06 49.9	+0.8
ISA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ISA	Isabella, Lake	86.66	312	P	P	06 06 49.9	+0.8
ISA				IAmb	IAmb	06 06 56.5	
	comp=Z,8.8nm,0.8s						
ISA	Isabella, Lake	86.66	312	P	P	06 06 49.2	+0.2
	baz=48,SNR=8.3						
PFO	Pinyon Flats O	86.78	310	P	P	06 06 49.0	-0.7
	baz=49						
TPFO	Pinon Flats	86.78	310	P	P	06 06 49.9	+0.2
	baz=49						
KLR	Kul'dur	86.78	27	*i* P	P	06 06 50.6	+1.4
KLR				pmax	pmax		
	comp=Z,15nm,2.0s						
SWSC	Sam W. Stewart	86.80	309	P	P	06 06 48.5	-1.1
	baz=49						
EDW2	Edwards Air Fo	86.89	311	P	P	06 06 50.1	-0.1
	baz=48						
MONP2	Monument Peak	87.23	309	P	P	06 06 51.8	-0.2
	baz=49						
OSI	Osito Audit: C	87.52	312	P	P	06 06 56.1	+2.9
	baz=48						
HNS	HongShan	87.65	44	⇑P	P	06 06 55.0	+1.3
HNS				*e*S	S	06 17 32.3	-3.2
HNS				pmax	pmax		
	comp=Z,17nm,1.0s						
HNS				LR	LR		
	comp=Z,720nm,20.4s						
HNS				LR	LR		
	comp=Z,1μm,20.2s						
HNS				LR	LR		
	comp=Z,2μm,21.6s						
SMMC	Simmler	87.81	313	P	P	06 06 52.8	-1.8
	baz=47						
KMI	Kunming	88.00	60	⇓P	P	06 06 58.8	+2.9
KMI				pmax	pmax		
	comp=Z,8.0nm,1.6s						
LYN	LuoYang	88.29	48	*e*P	P	06 06 58.8	+2.0
LYN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LYN				LR	LR		
	comp=Z,1μm,16.8s						
LYN				LR	LR		
	comp=Z,1μm,19.6s						
CN2	Changchun	88.49	34	*e*P	P	06 06 54.8	-2.7
CMAR	Chiang Mai Arr	89.29	68	P	P	06 07 02.3	+0.5
	comp=Z,2.8nm,0.7s,baz=307,slow=6.0,SNR=11						
CMAR	Chiang Mai Arr	89.29	68	P	P	06 07 02.2	+0.4
NJ2	Nanjing	93.85	46	*e*P	P	06 07 22.8	+0.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
KSRS	Korea Array	94.62	37	P	P	06 07 25.6	-0.6
	comp=Z,5.2nm,1.0s,baz=330,slow=3.9,SNR=4.1						
KSRS				LR	LR	06 55 43.1	
	comp=Z,696nm,18.9s,baz=165,slow=39						
PLCA	Paso Flores	97.61	225	P	Pdif	06 07 40.5	+0.9
	comp=Z,1.9nm,0.8s,baz=49,slow=4.7,SNR=6.6						
PLCA	Paso Flores	97.61	225	*e*P	Pdif	06 07 41.7	+2.1
WRA	Warramunga Arr	140.08	78	PKP	PKPdf	06 13 33.6	-0.5
	comp=Z,0.6nm,0.8s,baz=321,slow=3.1,SNR=4.5						
ASAR	Alice Springs	141.58	84	PKP	PKPdf	06 13 34.9	-1.9
	comp=Z,1.0nm,0.8s,baz=298,slow=2.4,SNR=8.2						
ASAR	Alice Springs	141.58	84	PKPdf	PKPdf	06 13 34.4	-2.3
STKA	Stephens Creek	151.02	93	PKPbc	PKPbc	06 13 57.9	-0.2
	comp=Z,9.5nm,0.8s,baz=300,slow=3.2,SNR=10						
STKA	Stephens Creek	151.02	93		PKPbc	06 13 57.7	-0.5

INMG ***25*** *05:58:38.9±1.7, 35°.56N×3°.82W, h3km±4km, ML3.2, Error ellipse: s-maj=3.8km s-min=2.7km az=15.0*
SFS ***25*** *05:58:38.0, 35°.56N×3°.83W, ML3.4, ALBORAN SUR*
CNRM ***25*** *05:58:39.9, 35°.56N×3°.76W, h22km, ml3.8*
ISC 25 05:58:37.5±0.8, 35°.63N±0°.04×3°.70W±0°.04, h10km, n49, σ1ᵖ55/80, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	Palemas	0.45	206	P	Pg	05 58 46.7	+0.4
PALE				S	Sg	05 58 52.8	+0.5
CHAS	Isla Isabel II	1.12	113	P	Pb	05 58 58.6	-0.3
CHAS				S	Sb	05 59 13.6	0.0
EMAL	Malaga-Limoner	1.28	333	P	Pn	05 59 01.3	-0.1
EMAL				S	Sb	05 59 16.6	-1.6
CHEFC	Chefchaouen	1.44	249	P	Pg	05 59 05.1	0.0
JBK	JBK	1.59	144	P	Pn	05 59 05.4	-0.4
JBK				S	Sn	05 59 24.9	-1.6
RSA	Sarsar	1.89	248	P	Pn	05 59 09.9	0.0
MD31	MD31	2.89	198	P	Pn	05 59 24.8	+1.2
MD31				S	Sn	05 59 56.3	-2.1
MDT	Midelt	2.90	195	P	Pn	05 59 24.5	+0.7
TDRA	Tendrara	2.92	151	P	Pn	05 59 25.2	+1.0
PVAQ	Vaqueiros	3.69	300	*e*Pn	Pn	05 59 35.3	+0.7
PVAQ				*e*Sn	Sn	06 00 16.9	-1.2
PVAQ				A	A	06 00 23.8	
	30nm,0.5s						
PVAQ	Vaqueiros	3.69	300	P	Pn	05 59 35.7	+1.1
PVAQ				S	Sn	06 00 16.9	-1.2
PBAR	Barrancos	3.69	315	*e*Sn	Sn	06 00 17.3	-0.9
PBDV	Barranco-do-Ve	3.78	297	*e*Pn	Pn	05 59 36.6	+0.8
PBDV				*e*Sn	Sn	06 00 18.3	-2.0
PBDV				A	A	06 00 36.9	
	26nm,0.7s						
AVE	Averroes	3.85	234	P	Pn	05 59 38.2	+1.4
PCVE	Castro Verde	4.03	301	*e*Pn	Pn	05 59 40.0	+0.8
PCVE				*e*Sn	Sn	06 00 26.4	0.0
PCVE				A	A	06 00 32.6	
	27nm,0.6s						
FIGM	Figuig	4.03	149	P	Pn	05 59 40.4	+1.1
PBEJ	Beja	4.12	307	*e*Pn	Pn	05 59 41.0	+0.6
PBEJ				*e*Sn	Sn	06 00 28.6	0.0
PBEJ				A	A	06 00 34.9	
	19nm,0.5s						
MESJ	Messejana	4.25	303	*e*Pn	Pn	05 59 43.4	+1.1
MESJ				*e*Sn	Sn	06 00 30.8	-1.2
MESJ				A	A	06 00 42.5	
	30nm,0.6s						
MORF	Marmelete	4.33	294	*e*Pn	Pn	05 59 43.2	-0.2
MORF				*e*Sn	Sn	06 00 33.1	-0.9
MORF				A	A	06 00 41.2	
	17nm,0.5s						
PFVI	Vila Bisbo	4.40	291	*e*Pn	Pn	05 59 48.7	+4.3
PFVI				*e*Sn	Sn	06 00 36.5	+0.8
PFVI				A	A	06 00 46.0	
	21nm,0.6s						
PFVI	Vila Bisbo	4.40	291	P	Pn	05 59 45.9	+1.6
PTEO	Sao Teotonio	4.48	297	*e*Pn	Pn	05 59 46.5	+1.2
PTEO				*e*Sn	Sn	06 00 36.2	-1.3
PTEO				A	A	06 00 48.2	
	25nm,0.5s						
PESTR	Estremoz	4.49	317	*e*Pn	Pn	05 59 46.5	+1.0
PESTR				*e*Sn	Sn	06 00 37.1	-0.6
PESTR				A	A	06 01 12.8	
	32nm,0.5s						
PESTR	Estremoz	4.49	317	P	Pn	05 59 46.2	+0.7
EVO	Evora	4.51	311	P	Pn	05 59 43.1	-2.6
EVO				S	Sn	06 00 36.3	-2.0
EVO	Evora	4.51	311	*e*Pn	Pn	05 59 46.8	+1.0
EVO				*e*Sn	Sn	06 00 36.2	-2.1
EVO				A	A	06 00 41.5	
	29nm,0.5s						
PNCL	Nicolau / Gran	4.60	304	*e*Pn	Pn	05 59 48.1	+1.1
PNCL				*e*Sn	Sn	06 00 39.5	-1.0
PNCL				A	A	06 00 55.2	
	19nm,0.6s						
PMRV	Marv??o	4.80	323	*e*Pn	Pn	05 59 51.2	+1.4
PMRV				*e*Sn	Sn	06 00 44.5	-1.0
PMRV				A	A	06 01 12.4	
	30nm,0.6s						
PMTG	Montargil	4.98	315	*e*Pn	Pn	05 59 53.7	+1.4
PMTG				*e*Sn	Sn	06 00 48.7	-1.3
PMTG				A	A	06 01 18.7	
	19nm,0.8s						
TZRR	Tazzarine	5.08	199	P	Pn	05 59 56.6	+2.9
PCBR	Castelo Branco	5.17	326	*e*Pn	Pn	05 59 56.3	+1.5
PCBR				*e*Sn	Sn	06 00 52.9	-1.6
PCBR				A	A	06 01 01.9	
	21nm,0.6s						
OUZM	OUZ	5.36	209	P	Pn	05 59 59.4	+1.8
PMST	Lisbon--Monsan	5.37	307	*e*Pn	Pn	05 59 59.1	+1.5
PMAFR	Mafra	5.56	308	*e*Pn	Pn	06 00 01.5	+1.3
PMAFR				*e*Sn	Sn	06 01 02.4	-1.7
PMAFR				A	A	06 01 54.1	
	28nm,0.7s						
PSBE	So Bento	5.61	315	*e*Pn	Pn	06 00 02.2	+1.3
OUK	Oukaimeden	5.62	220	P	Pn	06 00 01.3	0.0
MTE	Manteigas	5.65	329	*e*Pn	Pn	06 00 03.7	+2.1
MTE				*e*Sn	Sn	06 01 05.8	-0.8
MTE				A	A	06 01 38.6	
	47nm,0.6s						
ZGR	Zagora	5.72	197	P	Pn	06 00 04.4	+1.8
PCAS	Casmilo, Conde	5.83	321	*e*Pn	Pn	06 00 04.5	+0.6
PCAS				*e*Sn	Sn	06 01 07.2	-3.6
PCAS				A	A	06 01 58.4	
	27nm,0.8s						
PVIS	Viseu	6.06	328	*e*Pn	Pn	06 00 09.3	+2.1
PVIS				*e*Sn	Sn	06 01 16.4	-0.3
PVIS				A	A	06 01 22.9	
	16nm,0.6s						
MVO	Moncorvo	6.12	336	*e*Pn	Pn	06 00 10.5	+2.5
MVO				*e*Sn	Sn	06 01 16.8	-1.2
MVO				A	A	06 01 39.8	
	22nm,0.7s						
TTIG	Tnine Tigouga,	6.44	219	P	Pn	06 00 11.9	-0.6
PVRL	Vila Real	6.46	332	*e*Pn	Pn	06 00 14.8	+2.1
PVRL				*e*Sn	Sn	06 01 24.3	-2.2
PVRL				A	A	06 01 34.8	
	30nm,0.7s						
POLO	Lamas de Olo	6.58	332	*e*Pn	Pn	06 00 16.5	+2.2
POLO				*e*Sn	Sn	06 01 27.7	-1.7
POLO				A	A	06 01 43.6	
	9.8nm,0.7s						
PBRG	Braganca	6.61	340	*e*Pn	Pn	06 00 17.2	+2.5
PBRG				*e*Sn	Sn	06 01 30.1	-0.1
PBRG				A	A	06 01 32.6	
	11nm,0.7s						
PTO	Porto	6.72	326	*e*Pn	Pn	06 00 17.7	+1.6
PTO				*e*Sn	Sn	06 01 30.3	-2.4
PTO				A	A	06 01 48.1	
	15nm,0.3s						
PCAB	Cabril	6.96	332	*e*Pn	Pn	06 00 22.1	+2.7
PCAB				*e*Sn	Sn	06 01 38.0	-0.6
PCAB				A	A	06 01 44.3	
	19nm,0.6s						
PGAV	Gavieira, Arco	7.27	332	*e*Pn	Pn	06 00 25.6	+1.8
TANT	Tantan	9.63	224	P	Pn	06 00 55.6	-0.5

IDC ***25*** *06:00:23.1±1.6, 35°.29N×3°.82W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/44, mbtmp3.5/4, Error ellipse: s-maj=33.1km s-min=29.3km az=126.0*
CNRM ***25*** *06:00:25.2, 35°.53N×3°.66W, h11km, ml3.7*
ISC 25 06:00:24.5±1.5, 35°.42N±0°.05×3°.71W±0°.04, h8km±11km, n15, σ1ᵖ36/21, mb3.7/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	Palemas	0.28	223	P	Pb	06 00 32.3	+0.5
PALE				S	Sb	06 00 36.8	+0.1
CHEFC	Chefchaouen	1.37	257	P	Pb	06 00 50.7	+0.2
JBK	JBK	1.43	139	P	Pg	06 00 53.2	+1.2
JBK				S	Sg	06 01 11.9	+1.2
RSA	Sarsar	1.81	253	P	Pb	06 00 58.7	+0.6
RSA				S	Sg	06 01 21.7	-1.2
SICH	Sidi Chahed	1.87	226	P	Pg	06 01 00.2	-0.2
LCRM	LCR	1.98	209	P	Pg	06 01 02.1	-0.4
MD31	MD31	2.70	199	P	Pb	06 01 11.0	-2.1
MD31				S	Sn	06 01 42.8	+1.7
MDT	Midelt	2.71	196	P	Pb	06 01 11.9	-1.4
MDT				S	Sb	06 01 45.1	-1.6
CART	Cartagena	3.07	44	P	Pn	06 01 12.1	-1.1
CART				S	Sn	06 01 47.0	-3.1
PVAQ	Vaqueiros	3.79	303	P	Pn	06 01 22.4	-0.8
ESDC	Sonseca Array	4.25	357	Pn	Pn	06 01 31.0	+1.4
	baz=174,slow=13,SNR=1.0						
PFVI	Vila Bisbo	4.47	294	P	Pn	06 01 32.9	+0.3
MKAR	Makanchi Array	62.71	50	P	P	06 10 51.0	+1.1
	0.2nm,0.5s,baz=282,slow=7.1,SNR=2.0						
YKA	Yellowknife Ar	67.93	332	P	P	06 11 23.6	+0.2
	0.7nm,0.8s,baz=59,slow=6.5,SNR=7.2						
PDAR	Pinedale Array	76.93	313	P	P	06 12 18.0	+0.3
	0.5nm,0.7s,baz=72,slow=5.3,SNR=4.3						

IDC 25 06:00:56.3±1.7, 35°.23N×3°.97W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/44, mbtmp3.4/4, Error ellipse: s-maj=34.2km s-min=30.7km az=117.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	Sonseca Array	4.43	0	Pn	Pn	06 02 04.6	-0.2
	baz=174,slow=13,SNR=1.2						
MKAR	Makanchi Array	63.00	50	P	P	06 11 25.0	+0.1
	0.3nm,0.8s,baz=285,slow=5.7,SNR=2.4						
YKA	Yellowknife Ar	67.99	332	P	P	06 11 57.6	+0.7
	0.3nm,0.6s,baz=59,slow=6.2,SNR=5.2						
PDAR	Pinedale Array	76.90	313	P	P	06 12 49.5	-1.2
	0.3nm,0.6s,baz=69,slow=8.2,SNR=2.0						

IDC ***25*** *06:03:15.6±1.0, 35°.49N×3°.88W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/44, mbtmp3.6/4, Error ellipse: s-maj=40.3km s-min=14.6km az=81.0*
CNRM ***25*** *06:03:15.7, 35°.46N×3°.69W, h18km, ml4.0*
SFS ***25*** *06:03:15.0, 35°.48N×3°.82W, ML3.4, ALBORAN SUR*
ISC 25 06:03:14.5±1.8, 35°.48N±0°.03×3°.76W±0°.04, h3km±13km, n28, σ1ᵖ63/38, mb3.8/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	Palemas	0.30	209	P	Pb	06 03 22.5	-0.1
PALE				S	Sb	06 03 26.8	-1.2
CHAS	Isla Isabel II	1.13	105	P	Pb	06 03 32.6	-3.9
CHAS				S	Sb	06 03 49.9	-1.6
CHEFC	Chefchaouen	1.35	254	P	Pb	06 03 40.3	-0.1
CHEFC				S	Sn	06 03 58.3	-0.4
EMAL	Malaga-Limoner	1.39	337	P	Pn	06 03 34.2	-6.5
EMAL				S	Sb	06 03 58.0	-1.1
JBK	JBK	1.51	139	P	Pn	06 03 41.9	-0.6
JBK				S	Sn	06 03 58.5	-4.3
RSA	Sarsar	1.79	251	P	Pb	06 03 47.3	-0.6
SICH	Sidi Chahed	1.88	223	P	Pb	06 03 49.4	-0.1
SICH				S	Sg	06 04 14.0	-0.9
LCRM	LCR	2.01	207	P	Pb	06 03 51.1	-0.6
LCRM				S	Sb	06 04 15.7	-1.5
IFR	Ifrane	2.26	210	P	Pg	06 03 58.3	+0.4
IFR				S	Sn	06 04 19.4	-2.0
MD31	MD31	2.74	198	P	Pn	06 03 59.7	+0.3
MD31				S	Sn	06 04 32.5	-0.5
MDT	Midelt	2.75	195	P	Pn	06 03 59.9	+0.3
MDT				S	Sn	06 04 33.0	-0.4
TDRA	Tendrara	2.83	149	P	Pn	06 04 01.0	+0.3
CART	Cartagena	3.06	46	P	Pn	06 04 01.6	-2.0
PVAQ	Vaqueiros	3.72	302	P	Pn	06 04 12.4	-0.4
AVE	Averroes	3.73	235	P	Pn	06 04 12.7	-0.2
GOLM	Goulmima	3.90	195	P	Pn	06 04 17.7	+2.3
ESDC	Sonseca Array	4.19	358	Pn	Pn	06 04 20.5	+1.2
	baz=180,slow=13,SNR=1.9						
ESDC				Sn	Sn	06 05 06.3	-2.4
	0.4nm,0.3s,baz=184,slow=18,SNR=1.6						
PFVI	Vila Bisbo	4.41	293	P	Pn	06 04 21.8	-0.5
PESTR	Estremoz	4.56	319	P	Pn	06 04 25.7	+1.4
EVO	Evora	4.57	313	P	Pn	06 04 25.1	+0.7
EVO				S	Sn	06 05 13.8	-4.2
TZRR	Tazzarine	4.93	198	P	Pn	06 04 30.8	+1.3
OUZM	OUZ	5.21	210	P	Pn	06 04 34.4	+1.0
OUK	Oukaimeden	5.48	220	P	Pn	06 04 35.8	-1.5
TTIG	Tnine Tigouga,	6.30	220	P	Pn	06 04 46.3	-2.1
TANT	Tantan	9.49	224	P	Pn	06 05 31.5	-0.6
TORD	Torodi Ar. Bea	22.78	166	P	P	06 08 19.9	+1.8
	6.3nm,1.2s,baz=344,slow=10,SNR=1.3						
MKAR	Makanchi Array	62.71	50	P	P	06 13 42.9	+2.2
	0.6nm,0.9s,baz=278,slow=4.1,SNR=2.8						
YKA	Yellowknife Ar	67.85	332	P	P	06 14 15.1	+1.4
	0.3nm,0.7s,baz=59,slow=6.4,SNR=4.4						

IDC ***25*** *06:04:23.6±1.8, 14°.54N×55°.29E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/47, mbtmp3.7/7, Error ellipse: s-maj=51.0km s-min=30.0km az=55.0*
ISC 25 06:04:27.2±1.8, 14°.6N±0°.3×55°.3E±0°.3, h22km, n7, σ0ᵖ84/7, mb3.8/7, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	39.25	30	P	P	06 11 54.8	+0.7
	0.6nm,0.6s,baz=211,slow=8.7,SNR=4.8						
ZALV	Zalesovo Beam	45.60	24	P	P	06 12 44.2	-1.3
	0.7nm,0.6s,baz=204,slow=10,SNR=3.5						
GERES	GERESS Array B	48.23	324	P	P	06 13 06.8	+0.4
	0.4nm,0.6s,baz=134,slow=2.8,SNR=3.6						
FINES	FINESS Array B	51.29	343	P	P	06 13 29.0	-0.3
	1.1nm,0.7s,baz=151,slow=8.3,SNR=4.8						
SONM	Songino Array	53.53	41	P	P	06 13 46.8	+0.4
	0.5nm,0.6s,baz=268,slow=8.5,SNR=3.8						
WRA	Warramunga Arr	84.94	112	P	P	06 17 01.0	-0.3
	0.9nm,0.9s,baz=296,slow=3.6,SNR=4.2						
ASAR	Alice Springs	85.68	116	P	P	06 17 05.0	+0.1
	0.6nm,0.7s,baz=288,slow=4.5,SNR=5.8						

CNRM ***25*** *06:05:30.6, 35°.47N×3°.67W, h17km, ml3.4*
SFS ***25*** *06:05:30.0, 35°.48N×3°.86W, ML3.1, ALBORAN SUR*
IDC ***25*** *06:05:31.1±0.8, 35°.70N×3°.90W, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.4/50, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=45.8km s-min=7.9km az=90.0*
ISC 25 06:05:30.5±1.2, 35°.52N±0°.03×3°.75W±0°.04, h11km±9km, n17, σ1ᵖ61/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	Palemas	0.34	208	P	Pg	06 05 37.1	-0.1
PALE				S	Sg	06 05 41.7	-0.1
CHAS	Isla Isabel II	1.12	107	P	Pb	06 05 50.2	-1.7
CHAS				S	Sb	06 06 04.8	-1.8
EMAL	Malaga-Limoner	1.36	336	P	Pg	06 05 57.2	+0.6
EMAL				S	Sb	06 06 13.8	+0.4
CHEFC	Chefchaouen	1.37	253	P	Pn	06 05 55.1	-0.4
CHEFC				S	Sg	06 06 14.0	-0.5
RSA	Sarsar	1.81	250	P	Pb	06 06 03.1	-0.6
SICH	Sidi Chahed	1.91	223	P	Pb	06 06 05.0	-0.3
SICH				S	Sb	06 06 28.6	-0.6
LCRM	LCR	2.04	207	P	Pn	06 06 03.5	-1.4
LCRM				S	Sn	06 06 30.6	0.0
MD31	MD31	2.77	198	P	Pn	06 06 15.3	+0.4
MD31				S	Sn	06 06 48.7	+0.2
MDT	Midelt	2.79	195	Pn	Pb	06 06 19.6	-0.7
	1.3nm,0.3s,baz=18,slow=20,SNR=1.2						
MDT				Sn	Sn	06 06 48.8	-0.1
	3.5nm,0.3s,baz=356,slow=15,SNR=1.8						
CART	Cartagena	3.02	46	P	Pn	06 06 20.8	+2.5
CART				S	Sn	06 06 51.1	-3.4
PVAQ	Vaqueiros	3.71	302	P	Pn	06 06 28.9	+1.1
ESDC	Sonseca Array	4.15	358	Pn	Pn	06 06 34.8	+0.9
	baz=176,slow=13,SNR=1.0						
ESDC				Sn	Sn	06 07 21.1	-1.3
	0.3nm,0.3s,baz=180,slow=14,SNR=1.3						
PFVI	Vila Bisbo	4.41	293	P	Pn	06 06 37.1	-0.2
EVO	Evora	4.55	313	P	Pn	06 06 39.5	+0.2
EVO				S	Sn	06 07 28.4	-3.8
TZRR	Tazzarine	4.96	198	P	Pn	06 06 45.6	+0.6
TORD	Torodi Ar. Bea	22.81	166	P	P	06 10 37.2	+3.8
	6.9nm,1.2s,baz=351,slow=10,SNR=2.4						
YKA	Yellowknife Ar	67.83	332	P	P	06 16 28.6	+0.4
	0.3nm,0.7s,baz=62,slow=6.4,SNR=4.9						

IDC ***25*** *06:10:39.8±0.4, 35°.51N×3°.99W, h0km, mb4.8/36, mb1 4.9/41, mb1mx4.8/48, mbtmp4.8/41, ML4.6/4, MS4.7/24, Ms1 4.7/24, ms1mx4.5/96, Error ellipse: s-maj=11.0km s-min=10.0km az=116.0*
MOS ***25*** *06:10:39.8±1.0, 35°.49N×3°.85W, h11km, mb5.3/81, MS4.8/10, Error ellipse: s-maj=6.3km s-min=3.3km az=58.0*
SFS ***25*** *06:10:39.0, 35°.30N×3°.89W, ML5.0, ALBORAN SUR*
LDG ***25*** *06:10:40.6±0.3, 35°.50N×3°.83W, h10km, Ml4.6/44, Error ellipse: s-maj=6.5km s-min=5.0km az=159.0*
MDD ***25*** *06:10:40.4±0.7, 35°.53N×3°.86W, h0km, mbLg4.7/10, Error ellipse: s-maj=6.3km s-min=3.9km az=19.0*
BJI ***25*** *06:10:40.0±0.0, 35°.60N×4°.00W, h10km, mb5.0/51, mB5.6/20, Ms5.6/18, Ms7 5.3/18*
CNRM ***25*** *06:10:41.4, 35°.47N×3°.72W, h19km, ml5.3*
NEIC ***25*** *06:10:42.0±1.4, 35°.51N±0°.05×3°.88W±0°.07, h10km±1km, mb5.2/343, mb_Lg4.6(MDD), Error ellipse: s-maj=9.4km s-min=8.5km az=106.0*
IGIL ***25*** *06:10:42.5, 35°.53N×3°.86W, h0km, ML4.6*
INMG ***25*** *06:10:42.1±2.7, 35°.56N×3°.89W, h0km±7km, MD4.1, ML4.4, Error ellipse: s-maj=6.7km s-min=5.6km az=128.0*
MED_RC ***25*** *06:10:42.0±0.9, 35°.50N×3°.76W, h10km, MW5.2/19, Moment Tensor Solution. Mantle waves: s19,c24; Duration: 1ˢ3 Moment tensor: Scale 10¹⁶Nm; Mrr-0.26±.54; Mθθ-2

PALE	**Palemas**	**0.34 201**	P		**Pg**	**06 10 47.1**	**-1.1**
PALE			S		**Sg**	**06 10 51.9**	**-0.9**
EMEL	**Melilla**	**0.72 109**	⇑Pg		**Pg**	**06 10 54.6**	**-0.8**
	5µm,0.1s,SNR=18						
EMEL			Lg		Lg	06 11 03.4	
	109µm,0.2s,SNR=23						
EALB	**Alboran**	**0.74 57**	Pg		**Pg**	**06 10 56.0**	**+0.3**
	5µm,0.1s,SNR=54						
EALB			Lg		Lg	06 11 06.7	
	39µm,0.3s,SNR=290						
CHAS	**Isla Isabel II**	**1.17 107**	P		**Pb**	**06 11 00.9**	**-2.8**
CHAS			S		**Sb**	**06 11 15.1**	**-3.8**
EMIJ	**Mijas**	**1.30 323**	Pg		**Pn**	**06 11 04.2**	**-1.5**
	121nm,0.2s,SNR=78						
EMIJ			Lg		Lg	06 11 22.2	
	6µm,0.3s,SNR=16						
EMAL	**Malaga-Limoner**	**1.33 337**	P		**Pn**	**06 11 05.2**	**-0.8**
EMAL			S		**Sg**	**06 11 25.2**	**+1.0**
CEU	**Ceuta**	**1.33 286**	P		**Pn**	**06 11 02.6**	**-3.5**
CEU			S		**Sb**	**06 11 19.5**	**-4.2**
CHEFC	**Chefchaouen**	**1.33 252**	P		**Pn**	**06 11 05.3**	**-0.9**
CHEFC			S		**Sb**	**06 11 19.2**	**-4.6**
ELGU	**Los Guajares,**	**1.34 6**	Pg		**Pn**	**06 11 05.1**	**-1.1**
	150nm,0.2s,SNR=7.9						
ELGU			Lg		Lg	06 11 22.7	
	12µm,0.3s,SNR=7.9						
ECEU	**Ceuta**	**1.34 286**	Pg		**Pn**	**06 11 04.2**	**-2.0**
	418nm,0.3s,SNR=102						
ECEU			Lg		Lg	06 11 21.2	
	2µm,0.2s,SNR=12						
EBER	**Berja**	**1.54 28**	⇓Pg		**Pn**	**06 11 08.8**	**-0.4**
	628nm,0.3s,SNR=18						
EBER			Lg		Lg	06 11 29.2	
	7µm,0.5s,SNR=16						
JBK	**JBK**	**1.56 140**	P		**Pn**	**06 11 06.9**	**-2.6**
JBK			S		**Sn**	**06 11 26.3**	**-3.7**
EGOR	**Sierra Gorda,**	**1.59 351**	Pg		**Pn**	**06 11 09.4**	**-0.5**
	327nm,0.4s,SNR=7.9						
EGOR			Lg		Lg	06 11 33.5	
	6µm,0.6s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.64 304**	Pg		**Pn**	**06 11 08.5**	**-1.8**
	SNR=7.9						
EQUE	**Quentar**	**1.69 10**	⇓Pg		**Pn**	**06 11 11.9**	**+0.7**
	212nm,0.3s,SNR=18						
EQUE			Lg		Lg	06 11 35.1	
	3µm,0.4s,SNR=5.8						
CPS	**Cap Spartel**	**1.74 279**	P		**Pg**	**06 11 14.5**	**-0.4**
CPS			S		**Sg**	**06 11 37.4**	**0.0**
RSA	**Sarsar**	**1.78 249**	P		**Pn**	**06 11 12.7**	**+0.3**
RSA			S		**Sb**	**06 11 36.7**	**0.0**
SICH	**Sidi Chahed**	**1.90 222**	P		**Pn**	**06 11 14.2**	**+0.2**
SICH			S		**Sn**	**06 11 38.7**	**+0.8**
ENIJ	**Nijar**	**1.92 41**	⇑Pn		**Pn**	**06 11 13.1**	**-1.1**
	425nm,0.4s,SNR=18						
ENIJ			Sn		**Sn**	**06 11 36.4**	**-2.2**
	5µm,0.3s,SNR=7.9						
LCRM	**LCR**	**2.04 206**	P		**Pn**	**06 11 15.1**	**-1.0**
LCRM			S		**Sn**	**06 11 39.7**	**-2.0**
SFS	**San Fernando**	**2.17 296**	P		**Pn**	**06 11 17.4**	**-0.1**
SFS			S		**Sb**	**06 11 48.4**	**+0.8**
SFS	**San Fernando**	**2.17 296**	P		**Pn**	**06 11 16.6**	**-0.9**
SFS	**San Fernando**	**2.17 296**			**Pn**	**06 11 16.6**	**-0.9**
SFS	**San Fernando**	**2.17 296**	P		**Pb**	**06 11 19.9**	**-0.8**
IFR	**Ifrane**	**2.29 209**	P		**Pn**	**06 11 18.2**	**-1.4**
IFR			S		Sg	06 12 45.4	+50
EQES	**Quesada**	**2.34 14**	⇓Pg		**Pb**	**06 11 22.5**	**-1.2**
	567nm,0.3s,SNR=18						
EQES			Lg		Lg	06 11 52.5	
	2µm,0.2s,SNR=7.6						
MD31	**MD31**	**2.78 197**	P		**Pn**	**06 11 25.6**	**-0.5**
MD31			S		**Sn**	**06 11 56.7**	**-3.0**
MDT	**Midelt**	**2.80 194**	Pn		**Pn**	**06 11 25.8**	**-0.6**
	53nm,0.3s,baz=17,slow=13,SNR=47						
MDT			Sn		**Sn**	**06 11 58.6**	**-1.5**
	281nm,0.3s,baz=43,slow=18,SNR=7.8						
MDT			LR		LR	06 12 20.3	
	comp=Z,3µm,21.5s,baz=132,slow=37						
ARNO	**Arenosillo**	**2.84 304**	P		**Pn**	**06 11 27.7**	**+0.9**
ARNO			S		**Sn**	**06 12 01.4**	**+0.3**
TDRA	**Tendrara**	**2.89 149**	P		**Pn**	**06 11 27.7**	**0.0**
CART	**Cartagena**	**3.04 47**	P		**Pn**	**06 11 27.2**	**-2.3**
CART			S		**Sn**	**06 12 00.8**	**-5.2**
CART	**Cartagena**	**3.04 47**			**Pn**	**06 11 27.2**	**-2.3**
CART	**Cartagena**	**3.04 47**	P		**Pn**	**06 11 28.6**	**-1.0**
CART			S		**Sn**	**06 12 01.9**	**-4.1**
PVAQ	**Vaqueiros**	**3.67 302**	*e*Pn		**Pn**	**06 11 37.8**	**-0.5**
PVAQ			*e*Sn		**Sn**	**06 12 19.1**	**-2.5**
PVAQ			A		A	06 12 21.8	
	1µm,0.5s						
PVAQ	**Vaqueiros**	**3.67 302**			**Pn**	**06 11 36.0**	**-2.2**
PVAQ	**Vaqueiros**	**3.67 302**	P		**Pn**	**06 11 37.9**	**-0.3**
PBAR	**Barrancos**	**3.70 316**	*e*Pn		**Pn**	**06 11 38.9**	**+0.2**
PBAR			*e*Sn		**Sn**	**06 12 20.4**	**-2.0**
PBAR			A		A	06 12 29.6	
	689nm,0.5s						
AVE	**Averroes**	**3.73 234**	P		**Pn**	**06 11 38.1**	**-1.1**
AVE			S		**Sn**	**06 12 18.6**	**-4.5**
AVE	**Averroes**	**3.73 234**	P		**Pn**	**06 11 38.0**	**-1.1**
PBDV	**Barranco-do-Ve**	**3.75 298**	*e*Pn		**Pn**	**06 11 38.9**	**-0.5**
PBDV			*e*Sn		**Sn**	**06 12 21.1**	**-2.4**
PBDV			A		A	06 12 26.5	
	685nm,0.9s						
GOLM	**Goulmima**	**3.94 195**	P		**Pn**	**06 11 42.3**	**+0.1**
FIGM	**Figuig**	**4.00 147**	P		**Pn**	**06 11 43.2**	**+0.3**
EANR	**'Ain N'Sour**	**4.00 83**	P		**Pb**	**06 11 50.0**	**-2.1**
PCVE	**Castro Verde**	**4.01 303**	*e*Pn		**Pn**	**06 11 42.5**	**-0.4**
PCVE			*e*Sn		**Sn**	**06 12 27.1**	**-2.8**
PCVE			A		A	06 12 33.1	
	632nm,0.7s						
PAB	**San Pablo**	**4.03 354**	P		**Pn**	**06 11 44.5**	**+1.3**
PAB	**San Pablo**	**4.03 354**			**Pn**	**06 11 44.5**	**+1.3**
PBEJ	**Beja**	**4.11 308**	⇓*e*Pn		**Pn**	**06 11 44.1**	**-0.2**
PBEJ			*e*Sn		**Sn**	**06 12 30.5**	**-1.8**
PBEJ			A		A	06 12 33.6	
	440nm,0.8s						
ESDC	**Sonseca Array**	**4.13 358**	Pn		**Pn**	**06 11 45.3**	**+0.6**
	24nm,0.3s,baz=177,slow=13,SNR=186						
ESDC			Sn		**Sn**	**06 12 32.9**	**-0.2**
	19nm,0.3s,baz=180,slow=16,SNR=6.8						
ESDC	**Sonseca Array**	**4.13 358**			**Pn**	**06 11 45.8**	**+1.1**
ESBB	**Sonseca Array**	**4.13 358**	Pn		**Pn**	**06 11 45.7**	**+1.0**
MESJ	**Messejana**	**4.24 304**	*e*P		**Pn**	**06 11 45.7**	**-0.3**
MESJ			*e*S		**Sn**	**06 12 32.1**	**-3.4**
MESJ			IAML			06 12 36.4	
	comp=N,689nm,0.8s						
MESJ	**Messejana**	**4.24 304**	⇓*e*Pn		**Pn**	**06 11 45.7**	**-0.3**
MESJ			*e*Sn		**Sn**	**06 12 33.1**	**-2.4**
MESJ			A		A	06 12 40.3	
	comp=N,619nm,0.5s						
MESJ	**Messejana**	**4.24 304**	*e*P		**Pn**	**06 11 45.7**	**-0.3**
MESJ			*e*S		**Sn**	**06 12 32.1**	**-3.4**
ECHA	**Ech Chlef**	**4.24 80**	P		**Pb**	**06 11 57.0**	**+1.0**
MORF	**Marmelete**	**4.30 296**	*e*P		**Pn**	**06 11 46.5**	**-0.5**
MORF			*e*S		**Sn**	**06 12 33.5**	**-3.7**
MORF			IAML			06 12 39.0	
	comp=N,1µm,0.3s						
MORF	**Marmelete**	**4.30 296**	*e*Pn		**Pn**	**06 11 46.5**	**-0.5**
MORF			*e*Sn		**Sn**	**06 12 34.5**	**-2.6**
MORF			A		A	06 12 38.5	
	comp=N,420nm,0.4s						
MORF	**Marmelete**	**4.30 296**	*e*P		**Pn**	**06 11 46.4**	**-0.5**
MORF			*e*S		**Sn**	**06 12 33.4**	**-3.7**
PFVI	**Vila Bisbo**	**4.37 293**	⇑*e*Pn		**Pn**	**06 11 47.4**	**-0.4**
PFVI			*e*Sn		**Sn**	**06 12 35.8**	**-2.9**
PFVI			A		A	06 12 50.6	
	comp=N,572nm,0.6s						
PFVI	**Vila Bisbo**	**4.37 293**	Pn		**Pn**	**06 11 46.8**	**-1.0**
PFVI	**Vila Bisbo**	**4.37 293**	P		**Pn**	**06 11 47.2**	**-0.6**
EBNR	**Beni Rached**	**4.39 79**	P		**Pb**	**06 12 02.0**	**+3.4**
PTEO	**Sao Teotonio**	**4.45 298**	*e*Pn		**Pn**	**06 11 49.0**	**+0.1**
PTEO			*e*Sn		**Sn**	**06 12 38.3**	**-2.4**
PTEO			A		A	06 12 51.1	
	comp=N,446nm,0.4s						
PESTR	**Estremoz**	**4.50 319**	⇓*e*Pn		**Pn**	**06 11 49.7**	**0.0**
PESTR			*e*Sn		**Sn**	**06 12 40.1**	**-1.9**
PESTR			A		A	06 13 05.8	
	comp=N,492nm,0.7s						
PESTR	**Estremoz**	**4.50 319**			**Pn**	**06 11 50.2**	**+0.5**
PESTR	**Estremoz**	**4.50 319**	P		**Pn**	**06 11 49.9**	**+0.2**
EVO	**Evora**	**4.51 313**	P		**Pn**	**06 11 50.0**	**+0.2**
EVO	**Evora**	**4.51 313**	⇓*e*Pn		**Pn**	**06 11 50.1**	**+0.3**
EVO			*e*Sn		**Sn**	**06 12 40.4**	**-1.9**
EVO			A		A	06 12 45.1	
	comp=N,540nm,0.7s						
PNCL	**Nicolau / Gran**	**4.59 305**	⇓*e*Pn		**Pn**	**06 11 50.6**	**-0.2**
PNCL			*e*Sn		**Sn**	**06 12 41.1**	**-3.1**
PNCL			A		A	06 12 45.5	
	comp=N,304nm,0.4s						
UCM	**Universidad Co**	**4.78 5**	P		**Pn**	**06 11 54.9**	**+1.3**
UCM			S		**Sn**	**06 12 55.6**	**+6.6**
PMRV	**Marv??o**	**4.83 325**	⇓*e*Pn		**Pn**	**06 11 54.7**	**+0.5**
PMRV			*e*Sn		**Sn**	**06 12 47.9**	**-2.2**
PMRV			A		A	06 13 04.9	
	comp=N,336nm,0.4s						
PMTG	**Montargil**	**4.99 316**	⇓*e*Pn		**Pn**	**06 11 56.5**	**+0.1**
PMTG			*e*Sn		**Sn**	**06 12 52.0**	**-2.1**
PMTG			A		A	06 12 54.6	
	comp=N,418nm,0.6s						
PCBR	**Castelo Branco**	**5.20 327**	⇓*e*Pn		**Pn**	**06 11 59.9**	**+0.7**
PCBR			*e*Sn		**Sn**	**06 12 57.6**	**-1.6**
PCBR			A		A	06 13 03.6	
	comp=N,274nm,0.6s						
LIS	**Lisbon**	**5.33 308**	*e*P		**Pn**	**06 12 00.8**	**-0.2**
LIS			*e*S		**Sn**	**06 12 57.5**	**-4.9**
LIS			IAML			06 13 08.0	
	comp=N,1µm,0.2s						
LIS	**Lisbon**	**5.33 308**	*e*Pn		**Pn**	**06 12 01.5**	**+0.5**
LIS			*e*Sn		**Sn**	**06 13 00.0**	**-2.4**
LIS	**Lisbon**	**5.33 308**	*e*P		**Pn**	**06 12 00.8**	**-0.2**
LIS			*e*S		**Sn**	**06 12 57.5**	**-4.9**
INMG	**Instituto de M**	**5.35 309**	*e*Pn		**Pn**	**06 12 02.1**	**+0.8**
INMG			*e*Sn		**Sn**	**06 13 01.6**	**-1.3**
PMST	**Lisbon--Monsan**	**5.36 308**	⇓*e*Pn		**Pn**	**06 12 01.9**	**+0.4**
PMST			*e*Sn		**Sn**	**06 12 59.9**	**-3.4**
PMST			A		A	06 13 30.1	
	comp=N,413nm,0.6s						
PMAFR	**Mafra**	**5.55 310**	*e*Pn		**Pn**	**06 12 04.5**	**+0.4**
PMAFR			*e*Sn		**Sn**	**06 13 05.6**	**-2.4**
PMAFR			A		A	06 13 28.2	
	comp=N,551nm,0.5s						
ZGR	**Zagora**	**5.62 196**	P		**Pn**	**06 12 04.8**	**-0.4**
PSBE	**So Bento**	**5.62 316**	⇓*e*Pn		**Pn**	**06 12 05.5**	**+0.4**
PSBE			*e*Sn		**Sn**	**06 13 06.6**	**-3.0**
PSBE			A		A	06 13 15.7	
	comp=N,382nm,0.5s						
MTE	**Manteigas**	**5.69 330**	⇓*e*Pn		**Pn**	**06 12 06.7**	**+0.7**
MTE			*e*Sn		**Sn**	**06 13 10.3**	**-1.1**
MTE			A		A	06 13 15.3	
	comp=N,350nm,0.6s						
MTE	**Manteigas**	**5.69 330**	Pn		**Pn**	**06 12 06.5**	**+0.5**
PCAS	**Casmilo, Conde**	**5.85 322**	*e*Pn		**Pn**	**06 12 07.9**	**-0.3**
PCAS			*e*Sn		**Sn**	**06 13 11.5**	**-3.8**
PCAS			A		A	06 13 17.9	
	comp=N,286nm,0.5s						
PVIS	**Viseu**	**6.10 329**	*e*Pn		**Pn**	**06 12 12.4**	**+0.7**
PVIS			*e*Sn		**Sn**	**06 13 19.4**	**-2.1**
PVIS			A		A	06 14 02.3	
	comp=N,194nm,0.7s						
MVO	**Moncorvo**	**6.17 337**	⇓*e*Pn		**Pn**	**06 12 13.5**	**+0.9**
MVO			*e*Sn		**Sn**	**06 13 21.4**	**-1.8**
MVO			A		A	06 13 28.1	
	comp=N,281nm,0.7s						
PVRL	**Vila Real**	**6.50 333**	*e*Pn		**Pn**	**06 12 18.3**	**+1.1**
PVRL			*e*Sn		**Sn**	**06 13 27.2**	**-4.3**
PVRL			A		A	06 13 31.9	
	comp=N,262nm,0.3s						
POLO	**Lamas de Olo**	**6.62 333**	⇓*e*Pn		**Pn**	**06 12 19.4**	**+0.5**
POLO			*e*Sn		**Sn**	**06 13 30.4**	**-4.0**
POLO			A		A	06 13 41.0	
	comp=N,102nm,0.7s						
PBRG	**Braganca**	**6.67 341**	*e*Pn		**Pn**	**06 12 20.3**	**+0.8**
PBRG			*e*Sn		**Sn**	**06 13 33.6**	**-2.0**
PBRG			A		A	06 13 46.8	
	comp=N,147nm,0.7s						
PTO	**Porto**	**6.75 327**	*e*Pn		**Pn**	**06 12 21.3**	**+0.8**
PTO			*e*Sn		**Sn**	**06 13 34.5**	**-2.9**
PTO			A		A	06 13 42.3	
	comp=N,244nm,0.6s						
PCAB	**Cabril**	**7.00 333**	*e*Pn		**Pn**	**06 12 24.7**	**+0.7**
PCAB			*e*Sn		**Sn**	**06 13 40.7**	**-2.9**
PCAB			A		A	06 13 47.7	
	comp=N,188nm,0.7s						
PGAV	**Gavieira, Arco**	**7.31 333**	*e*Pn		**Pn**	**06 12 29.2**	**+0.9**
PGAV			*e*Sn		**Sn**	**06 13 48.2**	**-3.2**
PGAV			A		A	06 13 55.6	
	comp=N,268nm,0.7s						
SET	**Setif**	**7.49 82**	P		**Pn**	**06 12 31.0**	**+0.1**
MAHO	**Mahon**	**7.73 53**	P		**Pn**	**06 12 34.1**	**+0.1**
MAHO			S		**Sn**	**06 13 55.8**	**-5.7**
ETSF	**Etsaut**	**7.77 18**	*e*Pn		**Pn**	**06 12 36.1**	**+1.5**
ETSF			*e*Sn		**Sn**	**06 14 00.9**	**-1.7**
ETSF			*e*Sg		**Sg**	**06 14 42.0**	**-8.7**
	comp=N,1µm,1.6s						
SJPF	**Ste Jean**	**7.82 14**	*e*Pn		**Pn**	**06 12 36.4**	**+1.1**
SJPF			*e*Sn		**Sn**	**06 14 00.4**	**-3.5**
SJPF			*e*Sg		**Sg**	**06 14 44.7**	**-7.8**
	comp=N,762nm,1.2s						
EPF	**Esparros**	**8.14 22**	*e*Pn		**Pn**	**06 12 41.3**	**+1.6**
EPF			*e*Sg		**Sg**	**06 14 58.9**	**-3.8**
	comp=N,114nm,0.8s						
MTLF	**Montolieu**	**9.07 29**	*e*Pn		Pn	06 12 57.5	+5.1
MTLF			*e*Sn		**Sn**	**06 14 30.3**	**-4.3**
MTLF			*e*Sg			06 15 27.8	
	comp=N,242nm,1.3s						
LFF	**La Frestale**	**10.01 19**	*e*P		**Pn**	**06 13 06.1**	**+0.9**
LFF			*e*Sn		**Sn**	**06 14 50.5**	**-7.0**
LFF			*e*Sg			06 15 52.8	
	comp=N,71nm,1.0s						
LASF	**Ste Croix**	**10.36 32**	*e*Pn		**Pn**	**06 13 11.4**	**+1.4**
LASF			*e*Sn		**Sn**	**06 14 59.1**	**-7.0**
LASF			*e*Sg			06 16 10.7	
	comp=N,304nm,1.6s						
CAF	**Calviac**	**10.39 24**	*e*P		**Pn**	**06 13 12.1**	**+1.6**
CAF			*e*Sn		Sn	06 14 57.4	-10
CAF			*e*Sg			06 16 05.6	
	comp=N,23nm,0.7s						
RJF	**Les Rejaudoux**	**10.56 21**	*e*Pn		**Pn**	**06 13 10.8**	**-2.0**
RJF			*e*Sn		**Sn**	**06 15 02.6**	**-8.5**
RJF			*e*Sg			06 16 09.8	
	comp=N,107nm,1.1s						
PMPST	**Porto Santo, M**	**10.66 260**	*e*Pn		**Pn**	**06 13 14.9**	**+0.7**
PMPS	**Porto Santo**	**10.66 260**	*e*Pn		**Pn**	**06 13 12.1**	**-2.1**
KEST	**Kesra**	**10.70 85**	Pn		**Pn**	**06 13 14.0**	**-0.8**
	comp=N,3.0nm,0.3s,baz=218,slow=3.4,SNR=41						
KEST			LR		LR	06 17 57.4	
	comp=N,5µm,20.1s,baz=234,slow=40						
KEST	**Kesra**	**10.70 85**	P		**Pn**	**06 13 18.7**	**+3.9**
	SNR=6.7						
KEST	**Kesra**	**10.70 85**	Pn		**Pn**	**06 13 13.8**	**-1.0**
CGL	**Cagliari Serpe**	**11.08 66**	S		**Pn**	**06 13 21.0**	**+0.9**
SMRF	**Simiane la Rot**	**11.09 38**	*e*P		**Pn**	**06 13 21.9**	**+1.9**
SMRF			*e*Sn		Sn	06 15 12.4	-12
SMRF			*e*Sg			06 16 26.9	
	comp=N,130nm,1.4s						
LMR	**La Mourre**	**11.13 43**	*e*P		**Pn**	**06 13 22.9**	**+2.3**
LMR			*e*Sn		Sn	06 15 14.9	-10
	comp=N,15nm,0.5s						
LMR			*e*Sg			06 16 35.4	
	comp=N,99nm,1.7s						
VSL	**Villasalto**	**11.18 65**	S		**Pn**	**06 13 21.0**	**-0.3**
VSL	**Villasalto**	**11.18 65**			**Pn**	**06 13 21.4**	**+0.1**
PMAR	**Madeira**	**11.23 259**	*e*Pn		**Pn**	**06 13 21.2**	**-1.0**
VIVF	**Saint-Julien-l**	**11.33 32**	*e*Pn		**Pn**	**06 13 25.3**	**+1.9**
VIVF			*e*Sn		**Sn**	**06 15 24.8**	**-5.2**
VIVF			*e*Sg			06 16 35.6	
	comp=N,380nm,1.9s						
MFF	**Saint Martin d**	**11.39 13**	*e*P		**Pn**	**06 13 25.5**	**+1.3**
MFF			*e*Sn		Sn	06 15 19.8	-12
MFF			*e*Sg			06 16 32.0	
	comp=N,28nm,0.9s						
PMOZ	**Porto Moniz, M**	**11.43 260**	*e*Pn		**Pn**	**06 13 24.7**	**-0.1**
PMOZ	**Porto Moniz, M**	**11.43 260**	Pn		**Pn**	**06 13 23.5**	**-1.3**
SSB	**Saint Sauveur**	**11.61 31**	P		**Pn**	**06 13 29.1**	**+1.8**
SSB	**Saint Sauveur**	**11.61 31**	Pn		**Pn**	**06 13 29.1**	**+1.8**
TCF	**Toulx Ste Croi**	**11.66 21**	*e*Pn		**Pn**	**06 13 25.0**	**-2.8**
TCF			*e*Sg			06 16 45.5	
	comp=N,36nm,0.8s						
ORIF	**Oris-en-Rattie**	**11.93 35**	*e*P		**Pn**	**06 13 34.5**	**+2.9**
ORIF			*e*Sn		**Sn**	**06 15 39.2**	**-5.5**
ORIF			*e*Sg			06 16 53.8	
	comp=N,32nm,1.0s						
SBF	**Sospel**	**11.99 43**	*e*P		**Pn**	**06 13 34.4**	**+2.0**
SBF			*e*Sn		**Sn**	**06 15 37.5**	**-8.7**
	comp=N,11nm,0.5s						
SBF			*e*Sg			06 17 00.9	
	comp=N,22nm,0.9s						
BGF	**Bois d'Agland**	**12.09 22**	*e*P		**Pn**	**06 13 33.5**	**-0.2**
BGF			*e*Sn		Sn	06 15 39.4	-9.2
BGF			*e*Sg			06 16 57.5	
	comp=N,47nm,0.8s						
PGF	**Pioggiola**	**12.16 51**	*e*P		**Pn**	**06 13 35.8**	**+1.1**
PGF			*e*Sn		Sn	06 15 40.6	-10
	comp=N,10nm,0.5s						
MBDF	**Montbardon**	**12.22 38**	*e*P		**Pn**	**06 13 39.1**	**+3.4**
MBDF			*e*Sn		Sn	06 15 42.8	-9.2
MBDF			*e*Sg			06 17 04.7	
	comp=N,36nm,1.5s						
QUIF	**Quistinic**	**12.38 2**	*e*P		**Pn**	**06 13 38.8**	**+1.2**
QUIF			*e*Sn		**Sn**	**06 15 47.1**	**-8.5**
	comp=N,198nm,1.3s						
BNI	**Bardonecchia**	**12.41 37**	P		**Pn**	**06 13 39.9**	**+1.7**
BNI	**Bardonecchia**	**12.41 37**	Pn		**Pn**	**06 13 39.9**	**+1.7**
AVF	**Avril sur Loir**	**12.46 23**	*e*P		**Pn**	**06 13 40.8**	**+2.1**
AVF			*e*Sn		Sn	06 15 45.9	-12
AVF			*e*Sg			06 17 09.6	
	comp=N,213nm,1.6s						
SMF	**Signal de Mont**	**12.49 25**	*e*P		**Pn**	**06 13 41.3**	**+2.0**
SMF			*e*Sn		Sn	06 15 48.5	-10
SMF			*e*Sg			06 17 13.7	
	comp=N,35nm,0.9s						
HYF	**Humbligny**	**12.67 20**	*e*P		**Pn**	**06 13 41.9**	**+0.2**
HYF			*e*Sn		Sn	06 15 53.5	-9.2
HYF			*e*Sg			06 17 25.0	
	comp=N,39nm,0.4s						
SGMF	**Saint Gilles**	**12.74 4**	*e*P		**Pn**	**06 13 43.4**	**+0.8**
SGMF			*e*Sn		Sn	06 15 51.7	-13
SGMF			*e*Sg			06 17 17.0	
	comp=N,172nm,1.4s						
SSF	**Saint Saulge**	**12.75 23**	*e*P		**Pn**	**06 13 43.9**	**+1.2**
SSF			*e*Sn		Sn	06 15 53.5	-11
SSF			*e*Sg			06 17 17.4	
	comp=N,28nm,1.0s						
LPG	**La Plagne**	**12.77 36**	*e*P		**Pn**	**06 13 44.8**	**+1.5**
LPG			*e*Sn		Sn	06 15 54.9	-11
LPG			*e*Sg			06 17 18.7	
	comp=N,56nm,1.4s						
LPL	**La Plagne**	**12.77 36**	*e*P		**Pn**	**06 13 44.6**	**+1.3**
LPL			*e*Sn		Sn	06 15 54.7	-11
LPL			*e*Sg			06 17 23.1	
	comp=N,4.0nm,0.7s						
ROSF	**Rostrenen**	**12.80 2**	*e*P		**Pn**	**06 13 44.2**	**+0.8**
ROSF			*e*Sn		Sn	06 15 53.2	-13
ROSF			*e*Sg			06 17 21.4	
	comp=N,270nm,1.6s						
GRR	**Gorron**	**13.03 9**	*e*Pn		**Pn**	**06 13 43.6**	**-2.9**
GRR			*e*Sn		Sn	06 16 01.8	-10
GRR			*e*Sg		S	06 17 25.1	+48
	comp=N,144nm,1.4s						
LOR	**Lormes**	**13.04 24**	*e*P		**Pn**	**06 13 49.1**	**+2.3**
	baz=203						
LOR			*e*Sn		**Sn**	**06 16 03.9**	**-8.0**
LOR			*e*Sg		S	06 17 29.8	+52
	comp=N,17nm,0.9s						
CLF	**Chambon-Foret**	**13.27 18**	Pn		**Pn**	**06 13 50.6**	**+0.8**
LDF	**La Druitiere**	**13.33 11**	*e*P		**Pn**	**06 13 50.9**	**+0.3**
LDF			*e*Sn		Sn	06 16 06.6	-12
LDF			*e*Sg		S	06 17 37.9	+55
	comp=N,26nm,0.8s						
FLN	**La Foliniere**	**13.44 9**	*e*P		**Pn**	**06 13 51.0**	**-1.1**
	baz=190						
FLN			*e*Sn		Sn	06 16 09.8	-12
FLN			*e*Sg		S	06 17 42.0	+57
	comp=N,30nm,0.8s						
MSSA	**Maissana**	**13.45 45**			**Pn**	**06 13 52.6**	**+0.3**
CASP	**Castiglione de**	**13.47 53**	Pn		**Pn**	**06 13 53.0**	**+0.4**
SENIN	**Lac Senin/Sane**	**13.67 34**			**Pn**	**06 13 55.9**	**+0.4**
CLTB	**Caltabellotta**	**13.83 77**	Pn		**Pn**	**06 13 58.0**	**+0.5**
VLC	**Villacollemand**	**13.87 47**	Pn		**Pn**	**06 13 58.9**	**+0.8**
LATE	**Laterza**	**14.02 55**	Pn		**Pn**	**06 13 59.9**	**-0.2**
OSSC	**Osservatorio P**	**14.07 51**	Pn		**Pn**	**06 14 02.0**	**+1.3**
PRMA	**PARMA**	**14.17 45**	Pn		**P**	**06 14 05.9**	**-3.8**
SFTF	**Sexfontaines**	**14.25 25**	*e*P		**Pn**	**06 14 05.1**	**+1.8**
SFTF			*e*Sn		Sn	06 16 30.8	-11
SFTF			*e*Sg			06 18 05.3	
	comp=N,36nm,0.9s						
MEZF	**Maizieres J'vi**	**14.51 24**	*e*P		**Pn**	**06 14 09.5**	**+2.7**
MEZF			*e*Sn		Sn	06 16 35.1	-13
MEZF			*e*Sg			06 18 12.5	
	comp=N,3.8nm,0.4s						
HAU	**Haudompre**	**14.56 28**	*e*P		**Pn**	**06 14 09.8**	**+2.3**
HAU			*e*Sn		Sn	06 16 38.2	-11
HAU			*e*Sg			06 18 15.3	
	comp=N,1.

BGES x x 06 14 34.5
SQTA Sankt Quirin 16.19 39 *i* Pn **P 06 14 32.5 +0.3**
comp=Z,61nm,1.1s,SNR=17
MOTA Moosalm 16.21 39 *i* Pn **P 06 14 33.0 +0.4**
comp=Z,45nm,1.1s,SNR=5.5
BCLA Clavier 16.28 21 P **P 06 14 32.4 -0.6**
comp=Z,48nm,1.3s
BCLA x x 06 14 35.5
STU Stuttgart 16.33 32 P **P 06 14 34.7 +1.0**
STU pmax pmax
comp=Z,115nm,1.7s
STU Stuttgart 16.33 32 *e*P **P 06 14 35.2 +1.6**
comp=Z,116nm,1.2s,baz=219,slow=11
STU Stuttgart 16.33 32 P **P 06 14 34.6 +1.0**
STAL STALIGIAL 16.41 44 P 06 14 34.8 +0.2
BHOU Houvegnez 16.43 23 P **Pn 06 14 31.9 -0.1**
BHOU x x 06 14 36.7
WTTA Wattenberg 16.44 40 *i* Pn **P 06 14 35.2 +0.2**
comp=Z,65nm,1.4s,SNR=19
WATA Walderalm 16.45 40 *i* Pn **P 06 14 36.4 +1.2**
comp=Z,49nm,1.4s,SNR=10
SGRT San Giovanni R 16.46 62 P **P 06 14 36.6 +1.4**
BSTI Sart Tilman 16.50 21 P **P 06 14 34.9 -0.6**
BSTI x x 06 14 36.9
ABTA Abfaltersbach 16.59 43 *i* Pn **P 06 14 38.2 +1.6**
comp=Z,75nm,1.6s,SNR=23
MEM Membach 16.66 22 P **P 06 14 37.0 -0.2**
MEM x x 06 14 39.1
BTNL Ternell 16.67 23 P **P 06 14 37.1 -0.4**
TIP Timpagrande 16.74 71 ⇓P **Pn 06 14 36.8 +0.8**
TIP Timpagrande 16.74 71 P **P 06 14 38.2 -0.1**
FUR Furstenfeldbru 16.85 37 *e*P **P 06 14 40.3 +0.8**
comp=Z,155nm,1.3s,baz=219,slow=11
AHRW Bad Neuenahr-A 16.94 24 *e*P **P 06 14 43.1 +2.7**
comp=Z,103nm,1.9s,baz=219,slow=11
MYKA Terra Mystica 17.15 44 *e*Pn **P 06 14 46.8 +4.0**
comp=Z,12nm,0.9s
TNS Taunus Mts 17.17 27 *e*P **P 06 14 46.2 +3.2**
comp=Z,43nm,1.4s,baz=219,slow=11
KBA Koelnbreinsper 17.24 43 *e*Pn **P 06 14 45.6 +1.7**
comp=Z,21nm,1.6s
RJOB Jochberg 17.34 40 *e*P **P 06 14 45.0 +0.1**
comp=Z,23nm,1.3s,baz=219,slow=11
OBKA Obir 17.61 46 *i* Pn **P 06 14 49.8 +1.8**
comp=Z,40nm,1.1s,SNR=9.5
BUG Bochum--Univer 17.77 23 *e*P **P 06 14 53.5 +3.9**
comp=Z,72nm,1.2s,baz=219,slow=11
GRFO Grafenberg 17.90 33 P **P 06 14 51.2 +0.2**
GRFO pmax pmax
comp=Z,120nm,1.4s
GRFO Grafenberg 17.90 33 P **P 06 14 51.2 +0.2**
GRA1 Grafenberg Arr 17.90 33 P **P 06 14 51.1 +0.1**
GRF Grafenberg Arr 17.90 33 P **P 06 14 51.1 +0.1**
GRF pmax pmax
comp=Z,120nm,1.4s
GRF Grafenberg Arr 17.90 33 *e*P **P 06 14 53.2 +2.1**
comp=Z,52nm,1.1s,baz=219,slow=11
SOKA Soboth 17.98 46 *i* Pn **P 06 14 53.0 +0.9**
comp=Z,30nm,1.2s,SNR=15
SCTE Santa Cesarea 18.15 69 P **P 06 14 54.8 +0.9**
SCTE IAmb IAmb 06 14 58.7
comp=Z,209nm,1.2s
MOA Molln 18.20 42 *i* Pn **P 06 14 55.5 +1.1**
comp=Z,30nm,1.3s,SNR=9.0
ROTZ Rotzenmuhle 18.40 34 *e*P **Pn 06 14 58.0 +1.5**
comp=Z,9.4nm,1.1s,baz=219,slow=11
GEC2 GERESS Array S 18.51 39 *e*P **Pn 06 14 58.4 +0.3**
comp=Z,76nm,1.3s,baz=219,slow=11
GEC2 GERESS Array S 18.51 39 P **Pn 06 14 58.3 +0.3**
GERES GERESS Array B 18.51 39 Pn **P 06 14 57.9 0.0**
comp=Z,0.6nm,0.3s,baz=224,slow=9.3,SNR=36
GERES LR LR 06 21 52.2
comp=Z,4μm,20.1s,baz=242,slow=36
GERES ScP **ScP 06 23 02.2 -0.7**
comp=Z,0.1nm,0.3s,baz=212,slow=4.6,SNR=3.6
GERES GERESS Array B 18.51 39 P **P 06 14 57.8 -0.1**
MANZ Manzenberg 18.51 34 *e*P **Pn 06 14 59.7 +1.7**
comp=Z,7.5nm,1.0s,baz=219,slow=11
ARSA Arzberg 18.57 45 *i* Pn **Pn 06 14 59.9 +1.2**
comp=Z,17nm,1.0s,SNR=11
HCY Herceg Novi 18.62 62 *e*P **Pn 06 15 04.3 +5.0**
KHC Kasperske Hory 18.63 38 P **Pn 06 14 59.8 +0.4**
KHC pmax pmax
comp=Z,49nm,1.3s
KHC Kasperske Hory 18.63 38 *e*P **Pn 06 15 01.5 +2.1**
KHC x x 06 15 44.0
KHC AMS AMS 06 22 40.0
comp=Z,3μm,19.2s
KHC Kasperske Hory 18.63 38 P **Pn 06 14 59.8 +0.4**
IBBN Ibbenburen 18.68 23 *e*P **Pn 06 15 02.5 +2.6**
comp=Z,44nm,1.0s,baz=219,slow=11
BRY Bratogost 18.77 60 *e*P **Pn 06 15 05.8 +4.6**
MOX Moxa 18.77 32 *e*P **Pn 06 15 02.7 +1.6**
comp=Z,33nm,1.4s,baz=219,slow=11
GTTG Gottingen 18.80 27 *e*P **Pn 06 15 03.9 +2.5**
comp=Z,49nm,1.2s,baz=219,slow=11
CKRC Cesky Krumlov 18.81 40 *e*P **Pn 06 15 02.3 +0.8**
CKRC AMS AMS 06 21 10.0
comp=Z,3μm,19.4s
NKC Novy Kostel 18.84 34 *e*P **Pn 06 15 04.2 +2.3**
NKC MLR MLR
comp=Z,6μm,11.2s
NKC Novy Kostel 18.84 34 *e*P **Pn 06 15 04.2 +2.3**
NKC AMS AMS 06 23 10.0
comp=Z,6μm,11.2s
WERN Wernitzgruen 18.85 34 *e*P **Pn 06 15 03.8 +1.8**
comp=Z,27nm,1.0s,baz=219,slow=11
BUM Brajici-Budva 18.87 62 *e*P **Pn 06 15 06.0 +3.6**
GUNZ Gunzen 18.88 33 *e*P **Pn 06 15 03.4 +1.0**
comp=Z,27nm,0.9s,baz=219,slow=11
PLN Plauen 18.89 33 *e*P **Pn 06 15 03.6 +1.1**
comp=Z,50nm,1.2s,baz=219,slow=11
WERD Werda 18.93 33 *e*P **Pn 06 15 04.2 +1.2**
comp=Z,31nm,1.1s,baz=219,slow=11
CEME Cevo 18.95 61 *e*P **Pn 06 15 07.7 +4.4**
TANN Tannenbergstha 18.98 33 *e*P **Pn 06 15 04.8 +1.2**
comp=Z,56nm,1.1s,baz=219,slow=11
NKME Niksic 19.03 61 *e*P **Pn 06 15 08.3 +4.0**
ULC Ulcinj 19.05 63 *e*P **Pn 06 15 06.1 +1.6**
DRME Dracevica, Mon 19.06 63 *e*P **Pn 06 15 07.4 +2.8**
CONA Conrad Observa 19.13 44 *e*Pn **Pn 06 15 05.3 -0.2**
comp=Z,25nm,0.8s
KEK Kerkira 19.13 70 P **Pn 06 15 05.5 0.0**
PDG Podgorica 19.16 62 ⇓P **Pn 06 15 06.8 +0.9**
PDG Podgorica 19.16 62 P **Pn 06 15 07.5 +1.6**
PDG IAmb IAmb 06 15 16.0
comp=Z,97nm,0.9s
TTG Podgorica 19.16 62 *e*P **Pn 06 15 09.2 +3.4**
CLZ Clausthal 19.19 28 *e*P **Pn 06 15 09.0 +2.9**
comp=Z,56nm,1.2s,baz=219,slow=11
PBCC Pribram 19.20 37 *e*P **Pn 06 15 09.2 +2.9**
PBCC AMS AMS 06 23 00.0
comp=Z,1μm,12.6s
NEUB Neuenburg 19.26 31 *e*P **Pn 06 15 08.8 +1.9**
comp=Z,138nm,1.4s,baz=219,slow=11
TIR Tirane 19.39 65 ⇓P **Pn 06 15 08.9 +0.3**
TIR Tirane 19.39 65 P **Pn 06 15 09.2 +0.6**
TIR pmax pmax
comp=Z,166nm,1.4s
TIR Tirane 19.39 65 P **Pn 06 15 09.2 +0.6**
TIR IAmb IAmb 06 15 12.7
comp=Z,166nm,1.4s
SOP Sopron 19.40 45 PN **Pn 06 15 13.2 +4.6**
KOME Kolasin 19.45 61 *e*P **Pn 06 15 12.6 +3.2**
IGT Igoumenitsa 19.53 71 P **Pn 06 15 12.8 +2.5**
ASSE Asse, Remlinge 19.54 27 *e*P **Pn 06 15 12.1 +1.9**
comp=Z,89nm,1.5s,baz=219,slow=11
RETH Rethem/Aller, 19.56 24 *e*P **Pn 06 15 11.8 +1.3**
comp=Z,105nm,1.6s,baz=219,slow=11
KOVH Kovagotottos 19.58 51 P **Pn 06 15 11.5 +0.7**
NRDL Niedersach Rie 19.62 26 *e*P **Pn 06 15 12.6 +1.4**
comp=Z,44nm,1.4s,baz=219,slow=11
BBLS Lazići 19.65 58 *e*P **P 06 15 10.2 -0.1**
PRU Pruhonice 19.67 37 *e*P **Pn 06 15 11.4 -0.4**
PRU MLR MLR
comp=Z,3μm,12.5s
PRU Pruhonice 19.67 37 *e*P **Pn 06 15 11.4 -0.4**
PRU AMS AMS 06 22 50.0
comp=Z,3μm,12.5s
PVY Plav 19.71 62 *e*P **Pn 06 15 13.8 +1.3**
TREC Trest 19.71 40 AMS AMS 06 22 00.0
comp=Z,3μm,19.2s
EGYH Egyhazaskeszo 19.71 47 PN **Pn 06 15 16.9 +4.5**
IVA Berane 19.73 61 *e*P **Pn 06 15 15.0 +2.3**
FBE Freiberg 19.74 34 *e*P **Pn 06 15 13.0 +0.3**
comp=Z,138nm,1.0s,baz=219,slow=11
LKD2 Lefkada island 19.74 73 P **P 06 15 11.7 +0.4**
NYDR Nydri-Lefkada 19.77 74 P **P 06 15 11.2 -0.4**
LSK Leskovik 19.79 69 P **Pn 06 15 13.2 -0.2**
ESK Eskdalemuir 19.79 1 P **P 06 15 12.4 +0.7**
ESK pmax pmax
comp=Z,57nm,1.1s
ESK Eskdalemuir 19.79 1 P **P 06 15 12.4 +0.7**
EKA Eskdalemuir Ar 19.80 1 P **Pn 06 15 12.8 -0.6**
baz=177,slow=10,SNR=20
TIH Tihany 19.81 48 P **P 06 15 12.5 +0.6**
CLL Collm 19.86 32 P **P 06 15 13.2 +0.8**
CLL pmax pmax
comp=Z,96nm,0.9s
CLL Collm 19.86 32 *i* P **Pn 06 15 14.3 +0.2**
comp=Z,30nm,0.8s
CLL *i* pP **sP 06 15 16.7 +0.5**
comp=Z,174nm,1.3s
CLL *e*PP **PnPn 06 15 31.0 +3.1**
CLL *e*PPP PPP 06 15 38.0
CLL *ex* x 06 19 09.0
CLL *ex* x 06 22 00.0
CLL Lmax 06 24 00.0
CLL Collm 19.86 32 *e*P **Pn 06 15 14.2 +0.1**
comp=Z,174nm,1.3s,baz=219,slow=11
CLL Collm 19.86 32 P **P 06 15 13.2 +0.8**
CLL IAmb IAmb 06 15 18.9
comp=Z,96nm,0.9s
PHP Peshkopia 19.88 65 P **Pn 06 15 15.4 +1.0**
SJES Sjenica 19.88 60 *e*P **Pn 06 15 14.2 -0.3**
FLTG Flechtingen 19.91 28 *e*P **Pn 06 15 15.4 +0.8**
comp=Z,91nm,1.5s,baz=219,slow=11
JAN Janina 19.94 71 P **P 06 15 12.6 -0.9**
BRG Berggiesshubel 19.97 34 *i* P **Pn 06 15 15.2 -0.2**
BRG Amp 06 15 19.7
comp=Z,108nm,1.1s
BRG *ex* x 06 15 26.9
BRG Amp 06 15 27.8
comp=Z,51nm,1.2s
BRG Berggiesshubel 19.97 34 *i* P **Pn 06 15 15.2 -0.2**
BRG pmax pmax
comp=Z,108nm,1.2s
BRG Berggiesshubel 19.97 34 *e*P **Pn 06 15 15.2 -0.2**
comp=Z,108nm,1.1s,baz=219,slow=11
MORH Mrgy, Hungar 19.98 51 P **Pn 06 15 15.8 +0.3**
ZST Bratislava 19.98 44 *e*P **Pn 06 15 16.1 +0.6**
ZST Bratislava 19.98 44 *e*P **Pn 06 15 16.1 +0.6**
KBN Korca 19.98 68 P **Pn 06 15 15.4 -0.3**
KBN Korca 19.98 68 P **P 06 15 14.6 +0.6**
KBN pmax pmax
comp=Z,93nm,1.1s
KBN Korca 19.98 68 P **P 06 15 14.6 +0.6**
KBN IAmb IAmb 06 15 27.9
comp=Z,93nm,1.1s
PVCC Panska Ves 20.03 36 AMS AMS 06 24 20.0
comp=Z,2μm,8.9s
OHR Ohrid 20.05 67 *i* P Pn 06 15 15.9 -0.6
KRUC Moravsky 20.06 41 *e*P **P 06 15 15.0 +0.3**
IVAS Ivanjica 20.09 59 *e*P **P 06 15 14.1 -1.0**
DIVS Divibare 20.12 58 P **P 06 15 16.0 +0.5**
DIVS Divibare 20.12 58 *e*P **P 06 15 14.5 -1.0**
NEST Nestorio 20.16 69 P Pn 06 15 19.6 +1.8
MODS Modra-Piesok 20.17 44 *e*P Pn 06 15 18.5 +0.7
MODS pmax pmax
comp=Z,197nm,1.7s
MODS Modra-Piesok 20.17 44 *e*P Pn 06 15 18.5 +0.7
PENT Pentalofos 20.20 69 P Pn 06 15 19.9 +1.6
VRAC Vranov 20.31 41 ⇑P **P 06 15 17.7 +0.3**
VRAC Vranov 20.31 41 P Pn 06 15 18.5 -0.9
comp=Z,37nm,1.1s,baz=237,slow=11,SNR=31
VRAC LR LR 06 22 36.1
comp=Z,2μm,20.2s,baz=238,slow=35
VRAC Vranov 20.31 41 *e*P **P 06 15 17.5 +0.1**
SMOL Smolenice 20.33 44 *e*P Pn 06 15 19.8 +0.1
SMOL pmax pmax
comp=Z,55nm,1.4s
SMOL Smolenice 20.33 44 *e*P Pn 06 15 19.8 +0.1
FRGS Fruska Gora 20.33 55 ⇓P Pn 06 15 19.6 -0.2
FRGS Fruska Gora 20.33 55 *e*P **P 06 15 16.9 -0.8**
KPRO Kipourio 20.35 70 P Pn 06 15 19.6 -0.5
TRUS Trudelj 20.44 58 *e*P **P 06 15 15.8 -3.1**
FNA Florina 20.44 68 P **P 06 15 18.8 -0.2**
FNA Florina 20.44 68 P **P 06 15 19.4 +0.4**
FNA pmax pmax
comp=Z,40nm,0.9s
FNA Florina 20.44 68 P **P 06 15 19.4 +0.4**
SRO Srobarova 20.49 46 *e*P Pn 06 15 21.9 +0.4
SRO pmax pmax
comp=Z,293nm,1.8s
SRO Srobarova 20.49 46 *e*P Pn 06 15 21.9 +0.4
DRO Drossia 20.56 76 P Pn 06 15 23.6 +1.1
GRUS Gruza 20.56 59 *e*P **P 06 15 19.3 -0.9**
EVR Evrytania 20.64 73 P Pn 06 15 23.8 +0.3
JAVC Velka Javorina 20.65 43 *e*P **P 06 15 22.2 +1.0**
SKO Skopje 20.66 64 *i* P **P 06 15 22.1 +0.8**
SELS Selova 20.68 61 *e*P **P 06 15 20.7 -0.8**
KZN Kozani 20.69 69 P Pn 06 15 23.9 -0.2
EFP Efpalio 20.71 74 P Pn 06 15 24.7 +0.5
ANX Ano Chora 20.73 74 P Pn 06 15 23.6 -0.9
UPC Upice 20.73 38 *e*P Pn 06 15 23.4 -0.9
UPC MLR MLR
comp=Z,3μm,11.7s
UPC Upice 20.73 38 *e*P Pn 06 15 23.4 -0.9
UPC AMS AMS 06 24 00.0
comp=Z,3μm,11.7s
BUD Budapest 20.76 48 P Pn 06 15 26.2 +1.5
ITM Ithomi 20.76 78 P Pn 06 15 24.1 -0.8
ITM Ithomi 20.76 78 P **P 06 15 22.6 +0.1**
ITM IAmb IAmb 06 15 29.7
comp=Z,223nm,1.3s
LAKA Lakka 20.77 75 P Pn 06 15 24.1 -0.8
DPC Dobruska-Polom 20.79 38 *e*P **P 06 15 23.7 +1.1**
DPC MLR MLR
comp=Z,3μm,12.7s
DPC Dobruska-Polom 20.79 38 *e*P **P 06 15 23.7 +1.1**
DPC AMS AMS 06 25 20.0
comp=Z,3μm,12.7s
CHVC Chvalec 20.80 38 *e*P Pn 06 15 24.0 -1.2
CHVC AMS AMS 06 24 00.0
comp=Z,2μm,14.4s
THL Klokotos Trika 20.83 71 P **P 06 15 24.1 +1.0**
SERG Sergoula 20.83 74 P **P 06 15 21.6 -1.6**
KRLC Kraliky 20.85 39 *e*P Pn 06 15 25.0 -0.8
KRLC MLR MLR
comp=Z,2μm,17.3s
KRLC Kraliky 20.85 39 *e*P Pn 06 15 25.0 -0.8
KRLC AMS AMS 06 22 50.0
comp=Z,2μm,17.3s
OSTC Ostas 20.86 38 *e*P **P 06 15 24.6 +1.2**
OSTC AMS AMS 06 24 10.0
comp=Z,4μm,13.3s
BSEG Bad Segeberg 20.88 24 *e*P Pn 06 15 25.6 -0.4
comp=Z,311nm,1.1s,baz=219,slow=11
MAKR Makrakomi, Fth 20.90 73 P **P 06 15 22.7 -1.2**
KLV Kalavryta, Ach 20.91 75 P **P 06 15 24.7 +0.6**
KTI Kastanea 20.96 69 P Pn 06 15 27.0 -0.3
TYRN Tyrnavos 21.00 71 P **P 06 15 25.6 +0.6**
RUE Ruedersdorf 21.04 31 *e*P **P 06 15 27.4 +2.1**
RUE Ruedersdorf 21.04 31 *e*P **P 06 15 27.6 +2.4**
comp=Z,405nm,1.3s,baz=219,slow=11
AGG Agios Georgios 21.05 73 P **P 06 15 28.1 +2.5**
AGG Agios Georgios 21.05 73 IAmb IAmb 06 15 31.1
comp=Z,133nm,1.5s
KSP Ksiaz 21.08 37 *e*P **P 06 15 28.7 +3.0**
MORC Moravsky Berou 21.08 41 ⇓P **P 06 15 26.6 +0.7**
MORC Moravsky Berou 21.08 41 P **P 06 15 26.1 +0.3**
MORC pmax pmax
comp=Z,77nm,1.2s
MORC Moravsky Berou 21.08 41 *e*P **P 06 15 26.4 +0.6**
MORC Moravsky Berou 21.08 41 P **P 06 15 26.1 +0.3**
MORC IAmb IAmb 06 15 31.9
comp=Z,77nm,1.2s
BARS Barje 21.09 62 *e*P P 06 15 34.5 +8.5
VYHS Vyhne 21.12 45 *e*P **P 06 15 27.2 +0.9**
VYHS pmax pmax
comp=Z,95nm,1.5s
VYHS Vyhne 21.12 45 *e*P **P 06 15 27.2 +0.9**
BOVS Bovan 21.19 60 ⇓P **P 06 15 27.9 +0.9**
BOVS Bovan 21.19 60 *e*P **P 06 15 28.6 +1.6**
PRVS Prvonek 21.22 63 *e*P **P 06 15 27.2 -0.2**
LIT Litokhoron 21.23 70 P **P 06 15 27.8 +0.4**
LIT Litokhoron 21.23 70 P **P 06 15 29.1 +1.7**
LIT pmax pmax
comp=Z,53nm,1.0s
LIT Litokhoron 21.23 70 P **P 06 15 29.1 +1.7**
GRG Griva 21.23 67 P **P 06 15 29.5 +2.0**
KUBS Kucevo 21.37 58 *e*P **P 06 15 30.4 +1.5**
VAY Valandovo 21.40 66 *i* P **P 06 15 28.5 -0.8**
VAY Valandovo 21.40 66 *e*P **P 06 15 30.9 +1.6**
BSZH Besenyszg 21.44 49 P **P 06 15 35.7 +6.1**
OKC Ostrava-Krasne 21.44 41 *e*P **P 06 15 33.2 +3.6**
OKC MLR MLR
comp=Z,3μm,9.8s
OKC Ostrava-Krasne 21.44 41 *e*P **P 06 15 33.2 +3.6**
OKC AMS AMS 06 25 30.0
comp=Z,3μm,9.8s
PSZ Piszkesteto 21.48 48 ⇓P **P 06 15 31.8 +1.7**
PSZ Piszkesteto 21.48 48 P **P 06 15 31.1 +1.0**
PSZ pmax pmax
comp=Z,88nm,1.3s
PSZ Piszkesteto 21.48 48 P **P 06 15 31.1 +1.0**
PSZ IAmb IAmb 06 15 35.1
comp=Z,88nm,1.3s
PSZ Piszkesteto 21.48 48 P **P 06 15 32.9 +2.8**
MDVR Moldovita 21.50 57 ⇓P **P 06 15 30.5 +0.2**
BOSS Bosilegrad 21.51 63 *e*P **P 06 15 31.0 +0.5**
LTK Loutraki 21.55 75 P **P 06 15 29.8 -1.2**
ATAL Atalanti 21.59 74 P **P 06 15 32.0 +0.7**
RAC Raciborz 21.60 41 *e*P **P 06 15 33.9 +2.6**
RAC Raciborz 21.60 41 *e*P **P 06 15 33.9 +2.6**
ZAGS Zajecar 21.61 60 *e*P **P 06 15 33.3 +1.9**
KNT Kendrikon 21.63 67 P **P 06 15 34.0 +2.2**
IZAB Izabela 21.67 46 *e*P **P 06 15 35.1 +3.0**
BZS Buzias 21.69 55 ⇓P **P 06 15 34.3 +2.0**
KRND KRANIDI 21.73 77 P **P 06 15 35.7 +2.9**
HORT Hortiatis 21.73 68 P **P 06 15 34.6 +1.7**
KTHA Kythira Island 21.75 80 P **P 06 15 34.0 +0.9**
ZAPS Zavoj 21.77 61 *e*P **P 06 15 36.2 +2.9**
LANS Liptovska Anna 21.81 44 *e*P **P 06 15 35.0 +1.3**
LANS pmax pmax
comp=Z,51nm,1.1s
LANS Liptovska Anna 21.81 44 *e*P **P 06 15 35.0 +1.3**
SIRR Siria 21.93 53 ⇑P **P 06 15 36.2 +1.2**
HERR Herculane 22.01 57 ⇓P **P 06 15 35.9 +0.1**
VTS Vitosha 22.08 63 ⇑P **P 06 15 39.1 +2.4**
VTS Vitosha 22.08 63 *e*P **P 06 15 33.2 -3.6**
VTS Vitosha 22.08 63 *e*P **P 06 15 38.0 +1.2**
KECS Kecovo 22.09 47 *e*P **P 06 15 38.9 +2.3**
KECS pmax pmax
comp=Z,30nm,1.0s
KECS Kecovo 22.09 47 *e*P **P 06 15 38.9 +2.3**
MMB Musomiste 22.30 66 *e*P **P 06 15 40.0 +1.0**
DION Dionisos Attik 22.31 75 P **P 06 15 39.7 +0.5**
NVR Nevrokopi 22.37 67 P **P 06 15 41.3 +1.5**
GZR Gura Zlata 22.40 56 ⇓P **P 06 15 42.2 +2.2**
NIE Niedzica 22.42 44 *e*P **P 06 15 42.8 +2.6**
SRE Strehaia 22.49 58 ⇓P **P 06 15 41.6 +0.6**
LTVH Ltavrtes, Hu 22.49 50 P **P 06 15 47.7 +6.7**
OJC Ojcow 22.54 42 *e*P **P 06 15 44.3 +2.8**
OJC Ojcow 22.54 42 P **P 06 15 42.3 +0.8**
OJC pmax pmax
comp=Z,48nm,1.0s
OJC Ojcow 22.54 42 P **P 06 15 42.3 +0.8**
MUD Monsted U'grnd 22.70 19 *i* P **P 06 15 44.0 +1.0**
MUD IAmb IAmb 06 15 48.5
comp=Z,29nm,1.1s
PGB Panagyurishte 22.75 64 *e*P **P 06 15 47.0 +3.2**
DRGR 22.79 52 ⇓P **P 06 15 45.4 +1.2**
TORD Torodi Ar. Bea 22.84 166 P **P 06 15 43.5 -1.3**
comp=Z,34nm,0.9s,baz=346,slow=10,SNR=51
TORD Torodi Ar. Bea 22.84 166 P **P 06 15 45.7 +1.0**
CRVS Cervenica-Dubn 22.85 46 *e*P **P 06 15 46.1 +1.3**
CRVS pmax pmax
comp=Z,202nm,1.5s
CRVS Cervenica-Dubn 22.85 46 *e*P **P 06 15 46.1 +1.3**
RZN Rozhen 23.05 66 *e*P **P 06 15 50.0 +3.0**
PLD Plovdiv 23.09 65 *e*P **P 06 15 49.0 +1.8**
GKP Gorka Klasztor 23.09 33 *e*P **P 06 15 49.3 +2.2**
TRPA Tarpa 23.18 49 ⇑P **P 06 15 48.5 +0.4**
TRPA Tarpa 23.18 49 P **P 06 15 49.2 +1.2**
UZH Uzhgorod 23.23 48 *e*P **P 06 15 49.1 +0.5**
UZH *i* 06 15 50.8
UZH *i* 06 15 54.6
IDI Anoyia 23.35 82 P **P 06 15 51.3 +1.3**
comp=Z,44nm,0.8s,baz=300,slow=15,SNR=18
IDI LR LR 06 26 53.2
comp=Z,1μm,18.8s,baz=290,slow=41
IDI Anoyia 23.35 82 P **P 06 15 51.2 +1.2**
BSD Bornholm Skovb 23.45 28 *i* P **P 06 15 52.8 +2.1**
BSD IAmb IAmb 06 16 02.1
comp=Z,9.5nm,0.8s
BSD Bornholm Skovb 23.45 28 *e*P **P 06 15 53.0 +2.3**
BMR Baia Mare 23.60 51 ⇑P **P 06 15 53.4 +1.0**
RDO Rodhopi 23.61 67 P **P 06 15 51.0 -1.5**
ARR Arges 23.65 57 ⇓P **P 06 15 54.6 +1.6**
OVD Ostervraa, Den 23.73 19 *i* P **P 06 15 56.5 +3.0**
KWP Kalwaria Pacla 23.91 46 *e*P **P 06 15 57.9 +2.6**
KWP Kalwaria Pacla 23.91 46 P **P 06 15 55.4 +0.1**
KWP pmax pmax
comp=Z,845nm,1.1s
KWP Kalwaria Pacla 23.91 46 P **P 06 15 55.4 +0.1**
VOIR 23.95 57 ⇑P **P 06 15 57.0 +1.2**
ARCR ARCALIA 23.95 53 ⇓P **P 06 15 57.0 +1.3**
DOPR Dopca 24.31 56 ⇓P **P 06 16 00.5 +1.4**
MLR Muntele Rosu 24.57 57 ⇑P **P 06 16 02.9 +1.2**
MLR Muntele Rosu 24.57 57 P **P 06 16 03.0 +1.3**
comp=Z,35nm,0.9s,baz=196,slow=6.1,SNR=19
MLR Muntele Rosu 24.57 57 P **P 06 16 02.8 +1.2**
MLR pmax pmax
comp=Z,77nm,1.1s
MLR Muntele Rosu 24.57 57 P **P 06 16 02.8 +1.2**
MLR IAmb IAmb 06 16 15.4
comp=Z,77nm,1.1s
OZUR 24.61 56 ⇓P **P 06 16 02.9 +1.0**
BUR08 Bucovina Ar. S 24.68 52 P **P 06 16 03.0 +0.5**
BUR08 IAmb IAmb 06 16 16.0
comp=Z,139nm,1.6s
BURAR Bucovina Array 24.68 52 ⇓P **P 06 16 03.0 +0.5**
BURAR Bucovina Array 24.68 52 P **P 06 16 03.0 +0.5**
LVV L'vov 24.76 46 *e*P **P 06 16 05.0 +1.9**
LVV *e* 06 16 54.0
LVV *e*S **S 06 20 24.8 -0.4**
LVV *e* 06 21 32.9
LVV pmax pmax
comp=Z,130nm,1.3s
LVV MLR MLR
comp=E,1μm,12.0s
LVV MLR MLR
comp=N,1μm,11.0s
LVV MLR MLR
comp=Z,2μm,13.0s
COVR Voineasa-Covas 24.84 56 ⇓P **P 06 16 04.4 +0.5**
PLOR Plostina 25.14 56 ⇓P **P 06 16 05.9 -0.7**
PRD Provadia 25.20 63 *e*P **P 06 16 09.0 +1.9**
VRI Vrincioaia 25.20 56 ⇑P **P 06 16 06.9 -0.2**
TESR Tescani 25.30 55 ⇑P **P 06 16 08.7 +0.7**
KONO Kongsberg 25.66 16 *i* P **P 06 16 12.8 +1.7**
KONO pmax pmax
comp=Z,95nm,1.6s
KONO Kongsberg 25.66 16 P **P 06 16 12.0 +0.9**
KONO IAmb IAmb 06 16 16.7
comp=Z,126nm,1.6s
HARR Harsova 25.79 60 ⇓P **P 06 16 12.2 -0.3**
YER Yerkesik 25.83 77 P **P 06 16 14.0 +1.0**
CFR Carcaliu 26.02 58 ⇓P **P 06 16 13.8 -0.8**
VLDR Vladesti 26.11 57 ⇓P **P 06 16 14.4 -1.0**
SUW Suwalki 26.35 37 *e*P **P 06 16 19.0 +1.6**
SUW Suwalki 26.35 37 P **P 06 16 17.2 -0.2**
SUW pmax pmax
comp=Z,179nm,1.0s
SUW Suwalki 26.35 37 *e*P **P 06 16 18.1 +0.7**
SUW Suwalki 26.35 37 P **P 06 16 17.2 -0.2**
MILM Milestii Mici 26.84 55 ⇓P **P 06 16 21.3 -0.7**
MILM Milestii Mici 26.84 55 *e*P **P 06 16 21.0 -0.9**
MILM LRM MLR 06 26 44.0
comp=Z,1μm,16.5s
MILM Milestii Mici 26.84 55 *e*P **P 06 16 21.0 -0.9**
MILM MLR MLR
comp=Z,1μm,16.5s
NAO01 NORSAR Array S 27.02 16 P **P 06 16 23.6 +0.1**
NC602 NORSAR Array S 27.07 17 P **P 06 16 23.8 -0.1**
HFS Hagfors 27.09 19 P **P 06 16 24.0 -0.1**
comp=Z,40nm,1.0s,baz=217,slow=7.1,SNR=20
HFS PcP **PcP 06 19 43.5 -1.2**
comp=Z,1.7nm,0.5s,baz=158,slow=4.7,SNR=5.9

HFS LR LR 06 29 01.2
comp=Z,2µm,18.5s,baz=220,slow=40
NBO00 NORSAR Array S 27.16 16 P **P 06 16 24.1 -0.6**
NBO00 IAmb IAmb 06 16 28.4
comp=Z,84nm,1.1s
NB2 NORSAR Subarra 27.27 16 P **P 06 16 25.5 -0.2**
comp=Z,58nm,1.2s,baz=205,slow=9.3
NB2 NORSAR Subarra 27.27 16 P **P 06 16 25.5 -0.2**
baz=205,slow=9.3
NOA NORSAR Array B 27.27 16 P **P 06 16 25.2 -0.4**
comp=Z,23nm,1.0s,baz=205,slow=8.8,SNR=14
NOA LR LR 06 27 45.9
comp=Z,2µm,19.9s,baz=190,slow=38
NC204 NORSAR Array S 27.38 15 P **P 06 16 27.6 +0.9**
NC405 NORSAR Array S 27.45 16 P **P 06 16 26.8 -0.4**
NC405 IAmb IAmb 06 16 30.9
comp=Z,87nm,1.1s
NC303 NORSAR Array S 27.47 16 P **P 06 16 27.7 +0.3**
NC303 IAmb IAmb 06 16 32.2
comp=Z,59nm,1.4s
PABE Paberze 27.57 35 *e*P **P 06 16 29.8 +1.5**
PABE Paberze 27.57 35 P **P 06 16 29.1 +0.8**
PABE IAmb IAmb 06 16 34.4
comp=Z,34nm,0.9s
UPP Uppsala 28.03 23 *e*P **P 06 16 33.7 +1.3**
AKASG Malin Array Be 28.18 47 P **P 06 16 31.4 -2.6**
comp=Z,11nm,0.8s,baz=247,slow=10,SNR=16
AKASG LR LR 06 27 45.8
comp=Z,1µm,18.9s,baz=268,slow=36
AKASG Malin Array Be 28.18 47 P **P 06 16 33.5 -0.4**
AKASG pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 28.18 47 P **P 06 16 33.5 -0.4**
AKBB Malin Array Si 28.18 47 P **P 06 16 33.7 -0.2**
AKBB pmax pmax
comp=Z,27nm,1.2s
AKBB Malin Array Si 28.18 47 P **P 06 16 33.7 -0.2**
IIGN Ignalina 28.56 37 *e*P **P 06 16 38.2 +1.0**
NACGM Naroch 28.61 38 *i*P **P 06 16 34.1 -3.5**
DBIC Dimbokro 28.75 182 P **P 06 16 38.2 -1.0**
comp=Z,13nm,1.0s,baz=14,slow=11,SNR=6.0
DBIC LR LR 06 30 00.1
comp=Z,1µm,18.3s,baz=7.5,slow=40
TIC Toumodi 28.77 183 *e*P **P 06 16 40.3 +0.8**
IDID Didziasalis 28.80 37 *e*P **P 06 16 40.4 +1.1**
MNK Minsk 28.97 39 *i*P **P 06 16 42.0 +1.1**
MNK *i* 06 17 33.0
MNK *i* 06 19 51.1
MNK *i*S **S 06 21 33.0 +1.4**
MNK pmax pmax
comp=Z,33nm,1.4s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,8.0nm,1.5s
MNK MLR MLR
comp=Z,463nm,16.0s
MNK MLR MLR
comp=E,90nm,16.0s
MNK MLR MLR
comp=N,1µm,33.0s
MNK Minsk 28.97 39 *i*P **P 06 16 42.1 +1.1**
comp=E,8.0nm,1.5s
MNK *i*P **P 06 16 42.1 +1.1**
comp=N,12nm,0.9s
MNK *i*P **P 06 16 42.1 +1.1**
comp=Z,33nm,1.4s,baz=63
MNK *i*PP **PnPn 06 17 33.1 +0.6**
MNK *i*S **S 06 21 33.0 +1.4**
MNK *i*SS **SnSn 06 22 53.2 -1.1**
MNK *i*LQ LQ 06 25 60.0
MNK *i*LR LR 06 28 11.7
MNK *i*LRM MLR 06 29 25.1
comp=E,90nm,16.4s
MNK *i*LRM MLR 06 29 25.1
comp=Z,463nm,16.3s
MNK *i*LRM MLR 06 29 27.0
comp=N,1µm,32.6s
KIC Kosan Boka 29.05 182 *e*P **P 06 16 42.7 +0.8**
comp=N,34nm,1.0s
AAL Aland 29.05 25 *e*P **P 06 16 43.3 +1.8**
LIC Lamto 29.19 183 *e*P **P 06 16 43.8 +0.6**
comp=N,63nm,1.2s
MTSE Matsula 29.45 29 *e*P **P 06 16 46.9 +1.8**
BR131 Keskin Array S 29.80 71 *i*P **P 06 16 50.3 +1.7**
BR131 Keskin Array S 29.80 71 P **P 06 16 49.9 +1.3**
BRTR Keskin Array B 29.80 71 P **P 06 16 49.8 +1.2**
comp=N,1.0nm,0.7s,baz=291,slow=3.4,SNR=4.4
BRTR ScP **ScP 06 23 33.7 -0.3**
comp=N,2.2nm,1.1s,baz=57,slow=3.4,SNR=4.9
VSU Vasula 30.51 32 *i*P **P 06 16 53.8 -0.7**
VSU pmax pmax
comp=Z,52nm,0.9s
VSU Vasula 30.51 32 *e*P **P 06 16 54.1 -0.3**
BORG Borgarnes 31.10 346 LR LR 06 28 34.2
comp=Z,2µm,21.2s,baz=178,slow=35
FINES FINESS Array B 32.08 27 P **P 06 17 07.8 -0.5**
comp=Z,10nm,0.9s,baz=228,slow=6.9,SNR=14
FINES PcP **PcP 06 19 56.8 -0.6**
comp=Z,2.5nm,0.5s,baz=257,slow=1.7,SNR=9.0
FINES LR LR 06 31 12.6
comp=Z,909nm,19.9s,baz=117,slow=38
FINES FINESS Array B 32.08 27 P **P 06 17 08.0 -0.3**
FIA1 FINESS Array S 32.08 27 P **P 06 17 07.9 -0.4**
FIA1 IAmb IAmb 06 17 12.0
comp=Z,45nm,1.4s
MMAI Mount Meron Ar 32.34 83 P **P 06 17 13.2 +2.1**
comp=Z,29nm,0.9s,baz=293,slow=11,SNR=8.2
PUL Pulkovo 32.78 32 *i*P **P 06 17 12.6 -1.8**
EIL Elat 33.01 89 P **P 06 17 19.2 +2.5**
comp=Z,10nm,0.7s,baz=300,slow=7.1,SNR=8.9
EIL LR LR 06 32 35.5
comp=Z,844nm,19.8s,baz=310,slow=40
ASF Jabal al Asfar 33.79 84 P **P 06 17 26.6 +2.9**
comp=Z,13nm,0.9s,baz=262,slow=2.0,SNR=5.3
OBN Obninsk 33.84 42 LR LR 06 31 22.7
comp=Z,436nm,19.3s,baz=227,slow=37
OBN Obninsk 33.84 42‖ *e*P **P 06 17 22.7 -1.0**
OBN *i**PP **pP 06 17 25.6 -1.1**
OBN *e**SP **sP 06 17 28.1 +0.1**
OBN 06 20 01.0
OBN S **S 06 22 53.0 +5.5**
OBN pmax pmax
comp=Z,29nm,1.0s
OBN MLR MLR
comp=Z,900nm,15.0s
VSR Storozhevoye 34.39 49 *e*P **P 06 17 27.6 -0.9**
VSR pmax pmax
comp=Z,20nm,0.6s
VORD Divnogorie 34.42 50 *e*P **P 06 17 28.5 -0.3**
VORD pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 34.51 47 *e*P **P 06 17 29.3 -0.3**
LPSR pmax pmax
comp=Z,50nm,1.1s
MOS Moscow 34.60 41 *e*P **P 06 17 30.0 -0.3**
MOS pmax pmax
comp=Z,71nm,1.2s
JMIC Jan Mayen 35.60 357 LR LR 06 31 41.1
comp=Z,1µm,21.2s,baz=118,slow=35
VRH Novokhopyorsk 35.97 50 *e*P **P 06 17 41.8 -0.3**
VRH pmax pmax
comp=Z,50nm,1.1s
SHA1 Shidzhatmaz 36.30 63 *i*P **P 06 17 45.6 +0.2**
NEY Neytrino 36.38 63 *i*P **P 06 17 46.2 +0.2**
KBZ Khabaz 36.47 63 P **P 06 17 48.8 +2.2**
comp=Z,5.6nm,1.0s,baz=235,slow=5.5,SNR=6.6
KBZ Khabaz 36.47 63*ce*P **P 06 17 48.2 +1.7**
KBZ pmax pmax
comp=Z,25nm,1.6s
GOF Gofitskoye 36.52 60‖ *e*P **P 06 17 47.4 +0.4**
GOF pmax pmax
comp=Z,46nm,0.8s
ONI Oni 36.96 64 P **P 06 17 52.1 +1.3**
ONI pmax pmax
comp=Z,12nm,1.0s
ONI Oni 36.96 64 P **P 06 17 52.1 +1.3**
KLMR Klimovskoe 37.34 34 *e*P **P 06 17 50.9 -2.7**
KLMR *e* 06 20 11.0
KLMR pmax pmax
comp=Z,41nm,1.3s
KLMR Klimovskoe 37.34 34 *e*P **P 06 17 51.0 -2.7**
KLMR AMP 06 17 56.8
comp=Z,41nm,1.3s
KLMR *e*PcP **PcP 06 20 11.1 -1.5**

KLMR *e*ScP **ScP 06 23 58.2 -1.6**
ARCES ARCESS Array B 37.65 16 P **P 06 17 56.4 +0.2**
comp=Z,6.4nm,0.7s,baz=212,slow=4.3,SNR=18
ARCES PcP **PcP 06 20 12.7 -0.7**
comp=Z,2.1nm,0.7s,baz=336,slow=2.7,SNR=5.1
ARCES LR LR 06 32 54.1
comp=Z,1µm,18.9s,baz=216,slow=35
ARCES ARCESS Array B 37.65 16 P **P 06 17 56.8 +0.6**
APA Apatity 38.41 22‖ *i*P **P 06 18 04.3 +1.7**
APA pmax pmax
comp=Z,21nm,0.9s
APA MLR MLR
comp=Z,2µm,12.0s
DBG Daneborg 39.67 353 *i*P **P 06 18 15.8 +2.6**
DBG IAmb IAmb 06 18 23.7
comp=Z,2.6nm,0.7s
MAK Makhachkala 39.89 63 *e*P **P 06 18 11.0 -4.3**
MAK *e*S **S 06 24 13.0 -7.0**
MAK pmax pmax
comp=Z,353nm,1.7s
PRGR Permogore 40.38 34 *e*P **P 06 18 18.3 -0.9**
PRGR *e* 06 19 52.8
PRGR *e* 06 20 17.4
PRGR pmax pmax
comp=Z,54nm,1.4s
SUMG Summit 41.08 345 P **P 06 18 25.4 +0.1**
SUMG pmax pmax
comp=Z,19nm,1.2s
SUMG Summit 41.08 345 *i*P **P 06 18 28.1 +2.8**
SUMG IAmb IAmb 06 18 34.4
comp=Z,6.1nm,0.8s
SUMG Summit 41.08 345 P **P 06 18 25.4 +0.1**
KIRV Kirov 41.52 39 P **P 06 18 30.0 +1.4**
comp=Z,39nm,1.1s,baz=88,slow=23,SNR=15
KIRV LR LR 06 36 46.7
comp=Z,1µm,18.4s,baz=24,slow=38
KIRV Kirov 41.52 39 *i*P **P 06 18 29.6 +1.0**
DAG Danmarks Havn 41.87 355 *i*P **P 06 18 32.0 +0.7**
DAG IAmb IAmb 06 18 35.3
comp=Z,5.7nm,0.8s
RAYN Ar Rayn 44.12 92 P **P 06 18 52.5 +2.3**
ARU Arti 46.26 43 LR LR 06 37 39.0
comp=Z,989nm,20.1s,baz=289,slow=35
ARU Arti 46.26 43*d i*P **P 06 19 06.6 -0.1**
ARU 06 20 48.3
ARU S **S 06 25 55.1 +1.9**
ARU pmax pmax
comp=Z,62nm,0.9s
ARU Arti 46.26 43 P **P 06 19 05.8 -1.0**
NOR Nord 46.43 357 *i*P **P 06 19 08.2 +0.4**
NOR IAmb IAmb 06 19 12.2
comp=Z,3.5nm,0.9s
SCHQ Schefferville 46.70 315 P **P 06 19 10.4 +0.3**
comp=Z,9.4nm,0.7s,baz=69,slow=4.0,SNR=14
SCHQ Schefferville 46.70 315 P **P 06 19 08.5 -1.7**
NEEM North Greenlan 46.71 347 *i*P **P 06 19 11.4 +1.1**
NEEM IAmb IAmb 06 19 16.3
comp=Z,9.9nm,1.0s
SVE Sverdlovsk 47.40 42 *e*P **P 06 19 18.1 +2.5**
SVE pmax pmax
comp=Z,37nm,1.0s
AB31 Akbulak array 47.66 53 *i*P **P 06 19 18.1 +0.4**
ABKAR Akbulak array 47.66 53 P **P 06 19 18.1 +0.4**
FRB Frobisher Bay 47.70 327 P **P 06 19 17.8 -0.1**
comp=Z,6.6nm,0.7s,baz=100,slow=7.1,SNR=17
MBAR Mbarara 48.26 131 P **P 06 19 25.2 +2.2**
comp=Z,8.5nm,0.7s,baz=305,slow=8.0,SNR=11
MBAR Mbarara 48.26 131 P **P 06 19 23.3 +0.3**
MBAR pmax pmax
comp=Z,17nm,1.1s
MBAR Mbarara 48.26 131 P **P 06 19 23.2 +0.3**
MBAR IAmb IAmb 06 19 27.6
comp=Z,17nm,1.1s
G65A Princeton 48.39 302 P **P 06 19 23.6 +0.1**
GEYT Alibeck 48.86 68 P **P 06 19 27.9 +0.6**
D62A Allapoint, All 49.03 305 P **P 06 19 28.5 +0.2**
D62A IAmb IAmb 06 19 33.2
comp=Z,34nm,1.0s
ASUD Al Ashush, Dub 51.63 85 P **P 06 19 50.0 +1.6**
SNR=5.8
ASUD Al Ashush, Dub 51.63 85 *i*P **P 06 19 49.4 +1.0**
SNR=6.6
LBNH Lisbon 51.64 302 P **P 06 19 46.6 -1.6**
baz=75
NAZ Nazwa, Dubai 51.74 84 P **P 06 19 49.7 +0.5**
FAQ Al Faqa, Dubai 51.79 85 P **P 06 19 52.2 +2.6**
BANOM Banah 51.85 83 P **P 06 19 50.1 +0.1**
MASF Masafi 51.97 84 P **P 06 19 53.0 +2.1**
MSFE Esma-Masafi 51.98 84 P **P 06 19 49.9 -1.1**
HATD Hatta, Dubai 52.20 84 P **P 06 19 55.4 +2.8**
SNR=8.6
HATD Hatta, Dubai 52.20 84 *i*P **P 06 19 52.9 +0.3**
SNR=7.2
ASHO Ashiyiah 52.20 85 P **P 06 19 56.0 +3.3**
SNR=8.3
ASHO Ashiyiah 52.20 85 *i*P **P 06 19 52.6 -0.1**
SNR=8.3
UOSS Minazif 52.20 84 P **P 06 19 53.0 +0.4**
UOSS IAmb IAmb 06 19 56.2
comp=Z,27nm,1.1s
UOSS Minazif 52.20 84 P **P 06 19 51.4 -1.3**
ALNE Al Ain 52.23 85 P **P 06 19 55.3 +2.4**
SNR=11
MNTQ Montreal, Queb 52.47 304 P **P 06 19 54.1 -0.2**
MNTQ IAmb IAmb 06 19 59.3
comp=Z,22nm,0.9s
L61B Northampton 52.66 300 P **P 06 19 54.3 -1.5**
baz=73
SOHO SOHO 52.83 85 *i*P **P 06 19 57.3 0.0**
SNR=6.4
KMBO Kilima Mbogo 52.87 125 P **P 06 20 00.2 +2.3**
comp=Z,3.2nm,0.9s,baz=339,slow=8.2,SNR=5.0
KMBO Kilima Mbogo 52.87 125 P **P 06 19 59.3 +1.4**
KMBO pmax pmax
comp=Z,33nm,2.0s
KMBO Kilima Mbogo 52.87 125 P **P 06 19 59.2 +1.4**
NBPB Pedra_Branca-C 52.91 227 *e*P **P 06 19 57.4 -0.5**
NBPS Pedro II - PI 53.14 230 *e*P **P 06 20 00.7 +1.0**
HRA Herat 53.18 71 P **P 06 20 02.0 +1.9**
ARQ Araqi 53.19 86 P **P 06 20 03.5 +3.5**
SNR=13
LONY Lake Ozonia 53.37 303 P **P 06 19 59.4 -1.6**
baz=74
BRVK Borovoye 53.39 46 *i*P **P 06 20 01.4 +0.4**
BRVK pmax pmax
comp=Z,93nm,1.8s
BRVK Borovoye 53.39 46 P **P 06 20 01.3 +0.4**
DOK Doka 53.53 92 P **P 06 20 04.6 +2.0**
WHFO Wadi Hawf 53.60 93 P **P 06 20 05.2 +2.1**
HOQ Hoqain 53.72 85 P **P 06 20 05.8 +2.0**
SNR=6.0
PAL Palisades 53.97 298 P **P 06 20 03.1 -2.3**
baz=71
EUNU Eureka 53.98 348 P **P 06 20 05.8 +0.8**
EUNU IAmb IAmb 06 20 12.3
comp=Z,19nm,0.8s
MDP Montagnes des 54.15 248 LR LR 06 41 23.4
comp=Z,861nm,18.0s,baz=52,slow=34
BIDO Bidbid 54.41 85 P **P 06 20 11.3 +2.4**
SNR=12
SMDO Samad 54.56 85 P **P 06 20 13.0 +2.8**
SNR=17
JMDO Jabal Madar 54.93 86 P **P 06 20 15.0 +2.3**
SNR=22
WSAR Wadi Sarin 54.95 85 P **P 06 20 14.8 +1.9**
SNR=11
BINY Binghamton 55.07 300 P **P 06 20 10.9 -2.5**
baz=71
WBK Wadi Bani Khal 55.52 85 P **P 06 20 20.2 +3.2**
SNR=16
BRZS Berezniki 55.59 50 *e*P **P 06 20 16.8 -0.3**
BRZS pmax pmax
comp=Z,41nm,1.1s
BRZS Berezniki 55.59 50 *e*P **P 06 20 16.9 -0.3**
comp=Z,41nm,1.1s,baz=50
P60A Greenville 55.61 298 P **P 06 20 15.4 -2.0**
baz=70
BRLS Borolday 55.81 58 *e*P **P 06 20 18.7 0.0**
BRLS Borolday 55.81 58 *e*P **P 06 20 18.8 0.0**
baz=59
OTUK Ortayu 55.87 52 P **P 06 20 19.4 +0.2**
MVL Millersville 56.06 298 IAmb IAmb 06 20 26.7
comp=Z,27nm,1.0s
JLN Jalan Bani Buh 56.10 86 P **P 06 20 23.8 +2.7**
SNR=15

M57A Sunshine Farm, 56.16 300 P **P 06 20 22.6 +1.3**
M57A IAmb IAmb 06 20 27.6
comp=Z,67nm,1.6s
IUG Iuzhnay 56.23 59 *e*P **P 06 20 21.3 -0.6**
IUG Iuzhnay 56.23 59 *e*P **P 06 20 21.3 -0.6**
baz=59
KKAR Karatay Array 56.25 58 P **P 06 20 21.9 -0.1**
KKAR Karatay Array 56.25 58 P **P 06 20 21.9 -0.1**
NBLA Lagarto - SE 56.34 221 *e*P **P 06 20 20.8 -2.0**
RES Resolute Bay 56.38 341 P **P 06 20 22.5 +0.2**
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 56.38 341 P **P 06 20 22.5 +0.2**
CHGR Chuyangaron 56.83 63 P **P 06 20 27.5 +1.3**
SSPA Standing Stone 56.94 299 P **P 06 20 25.2 -1.7**
baz=69
M55A Ridgway 57.27 300 P **P 06 20 30.1 +0.9**
CBN Corbin Frederi 57.45 296 P **P 06 20 28.8 -1.6**
baz=68
BTK Batken 57.52 61 IAmb IAmb 06 20 36.5
comp=Z,17nm,1.1s
NBPN Ponto Novo - B 57.54 224 *e*P **P 06 20 31.4 0.0**
O56A Blue Knob Stat 57.56 299 P **P 06 20 31.0 -0.3**
O56A Blue Knob Stat 57.56 299 P **P 06 20 28.5 -2.8**
baz=69
NRIK Noril'sk 57.71 25 P **P 06 20 33.0 +1.2**
comp=Z,19nm,1.1s,baz=278,slow=6.5,SNR=14
NRIK Noril'sk 57.71 25*ce*P **P 06 20 32.4 +0.6**
NRIK pmax pmax
comp=Z,13nm,0.9s
NRIK Noril'sk 57.71 25 P **P 06 20 33.1 +1.2**
NRIK IAmb IAmb 06 20 37.3
comp=Z,31nm,1.1s
CELP Cerrillos 57.77 270 P **P 06 20 32.9 -0.1**
M54A Oil Creek Stat 57.89 301 P **P 06 20 34.9 +1.3**
M54A Oil Creek Stat 57.89 301 P **P 06 20 31.0 -2.5**
baz=69
TSUM Tsumeb 58.09 156 P **P 06 20 34.7 -0.5**
Q56A Snyder Ridge, 58.46 298 P **P 06 20 37.1 -0.5**
Q56A IAmb IAmb 06 21 30.5
comp=Z,30nm,1.3s
M53A WI Miller and 58.62 301 P **P 06 20 36.0 -2.7**
baz=68
EKS2 Erkin-Say 58.66 58 P **P 06 20 40.1 +1.1**
SNR=21
MCWV Mont Chateau 58.70 299 P **P 06 20 36.2 -3.1**
baz=68
S57A Dark Hollow, R 58.77 296 P **P 06 20 40.8 +1.0**
S57A IAmb IAmb 06 20 53.9
comp=Z,50nm,1.6s
AML Almayashu 58.79 58 P P 06 20 31.3 -9.1
SNR=9.8
AML Almayashu 58.79 58 *i*P P 06 20 32.8 -7.5
SNR=9.8
LSZ Lusaka 58.92 143 P **P 06 20 42.6 +1.5**
LSZ pmax pmax
comp=Z,14nm,0.9s
LSZ Lusaka 58.92 143 P **P 06 20 42.6 +1.5**
LSZ IAmb IAmb 06 20 45.8
comp=Z,14nm,0.9s
USP Ospenovka 58.93 57 P **P 06 20 40.8 -0.1**
SNR=5.9
SGDS Sogindy 58.95 56 *e*P **P 06 20 40.7 -0.3**
baz=56
N53A Lisbon 58.97 300 IAmb IAmb 06 20 47.7
comp=Z,21nm,1.1s
CNNC Cliffs of the 58.98 293 P **P 06 20 38.1 -3.1**
baz=66
KURK Kurchatov 59.00 47 P **P 06 20 41.0 -0.1**
KURK pmax pmax
comp=Z,138nm,1.0s
KURK Kurchatov 59.00 47 P **P 06 20 41.0 -0.1**
AAK Ala-Archa 59.16 57 P **P 06 20 43.4 +0.8**
SNR=11
AAK Ala-Archa 59.16 57*ce*P **P 06 20 42.9 +0.3**
AAK pmax pmax
comp=Z,20nm,1.1s
AAK Ala-Archa 59.16 57 P **P 06 20 43.1 +0.6**
AAK IAmb IAmb 06 20 48.5
comp=Z,16nm,0.9s
AAK Ala-Archa 59.16 57 *i*P **P 06 20 42.4 -0.2**
SNR=10
CHMS Chumysh 59.20 57 P **P 06 20 43.2 +0.5**
SNR=8.4
T57A Hurt 59.29 296 P **P 06 20 44.5 +1.1**
T57A IAmb IAmb 06 20 49.2
comp=Z,18nm,1.0s
UCH Uchtor 59.32 58 P P 06 20 38.9 -5.2
SNR=5.8
O53A New Philadelph 59.45 300 P **P 06 20 45.7 +1.3**
O53A New Philadelph 59.45 300 P **P 06 20 41.6 -2.8**
baz=68
KBK Karagaybulak 59.46 57 P **P 06 20 47.1 +2.4**
SNR=6.6
GDU01 Guandu, BA 59.56 221 *e*P **P 06 20 45.2 -0.1**
TKM2 Tokmak 2 59.81 57 P **P 06 20 45.9 -1.2**
PRPB Parauapebas 59.91 236 *e*P **P 06 20 48.3 +0.4**
KUU Kurty 59.95 55 *e*P **P 06 20 47.5 -0.3**
KUU pmax pmax
comp=Z,17nm,0.8s
KUU Kurty 59.95 55 *e*P **P 06 20 47.5 -0.3**
comp=Z,17nm,0.8s,baz=56
MALB Monte Alegre 59.98 243 *e*P **P 06 20 48.7 +0.3**
N51A Ashland 60.01 301 P **P 06 20 47.9 -0.3**
N51A IAmb IAmb 06 20 54.7
comp=Z,20nm,0.8s
GLMI Grayling 60.06 306 P **P 06 20 46.1 -2.5**
baz=68
BLA Blacksburg 60.06 296 P **P 06 20 45.9 -2.9**
baz=66
SEM Semipalatinsk 60.08 47 *e*P **P 06 20 48.5 -0.3**
SEM pmax pmax
comp=Z,26nm,1.0s
SEM Semipalatinsk 60.08 47 *e*P **P 06 20 48.6 -0.3**
comp=Z,26nm,1.0s,baz=47
BOOM Boomskoye usch 60.20 57 P **P 06 20 51.8 +2.0**
BOOM pmax pmax
comp=Z,10.0nm,1.0s
BOOM Boomskoye usch 60.20 57 P **P 06 20 51.8 +2.0**
P52A Corning 60.34 299 P **P 06 20 50.7 +0.2**
P52A Corning 60.34 299 P **P 06 20 48.3 -2.3**
baz=67
CHKK Chushkaly 60.40 55 *e*P **P 06 20 50.5 -0.4**
baz=55
NBIT Itapeh - BA 60.49 220 *e*P **P 06 20 52.2 +0.5**
FCC Fort Churchill 60.55 323 P **P 06 20 52.0 +0.4**
FCC pmax pmax
comp=Z,17nm,1.0s
FCC Fort Churchill 60.55 323 P **P 06 20 52.0 +0.4**
FCC IAmb IAmb 06 20 56.4
comp=Z,17nm,0.9s
Q52A Bidwell 60.70 299 P **P 06 20 53.5 +0.5**
Q52A IAmb IAmb 06 20 58.1
comp=Z,29nm,1.1s
MDOK Medeo 60.70 56 *e*P **P 06 20 52.8 -0.3**
MDOK Medeo 60.70 56 *e*P **P 06 20 52.9 -0.3**
baz=56
ACSO Alum Creek Sta 60.70 300 P **P 06 20 53.8 +0.8**
ACSO Alum Creek Sta 60.70 300 P **P 06 20 51.2 -1.8**
baz=67,SNR=11
J47A Sunmer 60.80 304 P **P 06 20 54.8 +1.2**
L48A N Adams 61.03 303 P **P 06 20 56.0 +0.8**
P51A Williamsport 61.05 300 P **P 06 20 53.9 -1.5**
P51A IAmb IAmb 06 21 01.5
comp=Z,23nm,0.8s
ZAA0 Zalesovo Array 61.42 42 P **P 06 20 57.6 0.0**
ZAA0 IAmb IAmb 06 21 01.7
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 61.42 42 P **P 06 20 57.5 -0.2**
comp=Z,8.2nm,0.6s,baz=295,slow=7.2,SNR=29
ZALV LR LR 06 49 58.4
comp=Z,822nm,18.5s,baz=108,slow=38
ZALV Zalesovo Beam 61.42 42 P **P 06 20 57.7 +0.1**
ZALV Zalesovo Beam 61.42 42 P **P 06 20 57.7 +0.1**
SDBA SAO DESIDERIO 61.52 227 *e*P **P 06 20 58.7 -0.1**
KMSC Kings Mountain 61.59 295 P **P 06 20 57.6 -1.5**
baz=65
NHSC New Hope 61.59 292 P **P 06 20 59.7 +0.6**
baz=64
SATY Saty 61.66 56 *e*P **P 06 20 59.4 -0.2**
SATY Saty 61.66 56 *e*P **P 06 20 59.4 -0.2**
baz=56
O49A Covington 61.67 301 P **P 06 21 00.1 +0.5**
O49A IAmb IAmb 06 21 07.7
comp=Z,15nm,0.9s

TARG Taragay, Kyrgy 61.78 57 P P 06 21 01.5 +0.7
TARG IAmb IAmb 06 21 06.2
comp=Z,26nm,0.9s
NIL Nilore 61.86 67 P P 06 21 03.4 +2.4
NIL pmax pmax
comp=Z,52nm,1.1s
NIL Nilore 61.86 67 P P 06 21 03.4 +2.4
NIL Nilore 61.86 67 P P 06 21 03.4 +2.4
PRZ Przheval'sk 61.88 56 P P 06 21 01.4 +0.2
PRZ pmax pmax
comp=Z,40nm,0.9s
PRZ Przheval'sk 61.88 56 P P 06 21 01.4 +0.2
BOAV Boa Vista 61.90 251 eP P 06 21 02.2 +0.8
BOAV Boa Vista 61.90 251 P P 06 21 00.7 -0.7
BOAV IAmb IAmb 06 21 05.9
comp=Z,9.6nm,0.8s
GUA01 Guaratinga, BA 62.06 220 eP P 06 21 02.8 +0.4
S51A Beattyville 62.19 298 P P 06 21 04.7 +1.5
S51A IAmb IAmb 06 21 59.6
comp=Z,16nm,1.1s
P49A Miami Univ. Ec 62.20 300 P P 06 21 03.2 +0.1
P49A Miami Univ. Ec 62.20 300 P P 06 21 01.0 -2.1
baz=66
O48B Farmland 62.21 301 P P 06 21 03.0 -0.2
baz=66
PDGK Podgornoye 62.27 55 P P 06 21 03.7 -0.1
N47A Urbana 62.33 302 P P 06 21 04.4 +0.4
V53A Saluda 62.46 296 P P 06 21 06.2 +1.2
V53A IAmb IAmb 06 21 10.5
comp=Z,29nm,1.6s
MAKZ Makanchi 62.49 51 P P 06 21 05.1 +0.1
MAKZ pmax pmax
comp=Z,44nm,1.1s
MAKZ Makanchi 62.49 51 P P 06 21 05.1 +0.1
TZTN Tazewell 62.62 297 P P 06 21 07.1 +1.1
TZTN IAmb IAmb 06 21 30.6
comp=Z,41nm,1.6s
TZTN Tazewell 62.62 297 P P 06 21 04.2 -1.9
baz=64
MK31 Makanchi Array 62.70 50 P P 06 21 06.2 -0.2
MK31 pmax pmax
comp=Z,36nm,1.1s
MK31 Makanchi Array 62.70 50 P P 06 21 06.2 -0.2
MKAR Makanchi Array 62.70 50 P P 06 21 06.4 0.0
comp=Z,30nm,0.9s,baz=291,slow=5.9,SNR=87
P48A Milroy 62.73 300 P P 06 21 06.8 +0.1
ITTB Itaituba 62.77 242 eP P 06 21 07.7 +0.5
I42A Draeger Farm, 63.26 306 IAmb IAmb 06 21 15.2
comp=Z,28nm,1.2s
JANB Januaria 63.28 225 eP P 06 21 10.8 +0.2
L44A Lake County Fo 63.31 304 P P 06 21 10.6 +0.1
baz=65
T50A Nancy 63.35 298 P P 06 21 11.9 +1.0
T50A IAmb IAmb 06 21 15.8
comp=Z,17nm,1.0s
PEXB Peixe 63.36 230 eP P 06 21 11.9 +0.8
SFIN Lafayette 63.51 302 P P 06 21 10.3 -1.5
baz=65
G40A Rib Lake 63.53 308 P P 06 21 12.6 +0.7
G40A IAmb IAmb 06 21 16.7
comp=Z,16nm,0.9s
V51A Loudon 63.53 296 P P 06 21 12.4 +0.4
V51A IAmb IAmb 06 21 37.0
comp=Z,21nm,1.2s
W52A Murphy 63.53 296 IAmb IAmb 06 21 17.0
comp=Z,19nm,1.1s
BLO Bloomington 63.62 301 IAmb IAmb 06 21 18.1
comp=Z,14nm,0.9s
CPCT Cooper Cave 63.81 296 P P 06 21 14.2 +0.3
CPCT IAmb IAmb 06 21 35.8
comp=Z,29nm,1.6s
E38A The Farm, Brul 63.83 310 P P 06 21 14.4 +0.5
WCI Wyandotte Cave 63.87 300 P P 06 21 12.0 -2.2
baz=64
BAUV El Baul 63.93 262 P P 06 21 15.2 +0.3
GOGA Godfrey 63.93 294 P P 06 21 12.7 -2.0
baz=63
ZSN Zaisan 64.03 49 eP P 06 21 15.2 0.0
ZSN pmax pmax
comp=Z,22nm,1.1s
ZSN Zaisan 64.03 49 eP P 06 21 15.3 0.0
comp=Z,22nm,1.1s,baz=49
U49A Red Boiling Sp 64.25 298 P P 06 21 17.7 +0.9
U49A IAmb IAmb 06 21 21.9
comp=Z,27nm,1.4s
NPGB Novo Progresso 64.36 240 eP P 06 21 17.9 +0.2
I40A Norwalk 64.38 307 IAmb IAmb 06 21 21.7
comp=Z,15nm,0.8s
B35A Bob, Littlefor 64.42 312 P P 06 21 17.9 +0.2
B35A IAmb IAmb 06 21 22.6
comp=Z,12nm,0.8s
W50A Signal Mountai 64.50 296 IAmb IAmb 06 21 23.3
comp=Z,28nm,1.1s
SJMB Sao Joao De Ma 64.55 220 eP P 06 21 19.4 +0.6
O44A Mansfield 64.55 302 P P 06 21 20.1 +1.4
O44A IAmb IAmb 06 21 23.8
comp=Z,29nm,1.2s
JFWS Jewell Farm 64.56 306 P P 06 21 19.4 +0.7
JFWS Jewell Farm 64.56 306 P P 06 21 19.4 +0.7
JFWS IAmb IAmb 06 21 42.5
comp=Z,42nm,1.7s
JFWS Jewell Farm 64.56 306 P P 06 21 16.4 -2.3
baz=64
DGZ Jazzator, Alta 64.61 46 ||i P P 06 21 19.8 +0.6
DGZ pmax pmax
comp=Z,61nm,1.0s
DWPF Disney Wildern 64.82 288 P P 06 21 19.4 -1.2
baz=62
CLTN Cedars of Leba 64.84 297 P P 06 21 20.3 -0.4
CLTN IAmb IAmb 06 21 26.7
comp=Z,12nm,1.1s
ULM Lac du Bonnet 64.87 315 P P 06 21 20.4 -0.3
comp=Z,18nm,0.8s,baz=70,slow=6.6,SNR=9.4
ULM Lac du Bonnet 64.87 315 P P 06 21 20.3 -0.3
ULM pmax pmax
comp=Z,21nm,1.0s
ULM Lac du Bonnet 64.87 315 P P 06 21 20.3 -0.3
ULM IAmb IAmb 06 21 24.6
comp=Z,21nm,0.9s
OLIL Olney 64.92 301 P P 06 21 21.0 -0.2
TIGA Tifton 64.92 292 P P 06 21 19.8 -1.4
baz=62
HDIL Hopedale 64.94 303 P P 06 21 20.2 -1.1
baz=64
T47A Sharon Grove 65.00 299 P P 06 21 20.9 -0.8
T47A IAmb IAmb 06 21 30.8
comp=Z,20nm,0.8s
FPAL Fort Paine 65.01 296 P P 06 21 21.4 -0.5
FPAL IAmb IAmb 06 21 26.5
comp=Z,9.0nm,0.8s
SNDB Serra Nova Dou 65.17 233 eP P 06 21 23.4 +0.4
SPMN Marine on St. 65.21 309 P P 06 21 22.6 -0.3
SPMN Marine on St. 65.21 309 P P 06 21 21.8 -1.1
baz=64,SNR=6.0
Z51A Franklin 65.25 294 P P 06 21 22.8 -0.6
Z51A IAmb IAmb 06 21 30.0
comp=Z,15nm,0.9s
A36M Sachs Harbour 65.32 343 P P 06 21 23.7 +0.5
A36M Sachs Harbour 65.32 343 P P 06 21 22.9 -0.3
baz=50,SNR=23
V48A Smith Brothers 65.35 297 P P 06 21 23.1 -1.0
V48A IAmb IAmb 06 21 28.7
comp=Z,23nm,1.4s
F36A Milaca 65.38 310 P P 06 21 24.0 0.0
F36A IAmb IAmb 06 21 28.3
comp=Z,15nm,0.9s
Q44A Meyer Farm, Va 65.49 301 P P 06 21 24.5 -0.3
DIAM Diamantina, MG 65.54 222 eP P 06 21 25.6 +0.1
L40A Anamosa 65.58 305 P P 06 21 25.2 -0.1
L40A IAmb IAmb 06 21 29.5
comp=Z,16nm,0.9s
MACA Manacapuru-AM 65.60 247 eP P 06 21 26.7 +0.9
MACA Manacapuru-AM 65.60 247 IAmb IAmb 06 21 30.9
comp=Z,15nm,0.9s
AGMN Agassiz Nation 65.73 313 P P 06 21 25.2 -1.0
AGMN IAmb IAmb 06 21 30.1
comp=Z,22nm,0.9s
AGMN Agassiz Nation 65.73 313 P P 06 21 25.7 -0.6
baz=63,SNR=16
WVT Waverly 65.90 298 P P 06 21 25.6 -2.0
baz=63
BDFB Brasilia 65.92 227 P P 06 21 27.0 -0.8
comp=Z,4.5nm,0.9s,baz=100,slow=6.9,SNR=6.9
BDFB Brasilia 65.92 227 P P 06 21 27.1 -0.8
BDFB pmax pmax
comp=Z,24nm,1.6s
BDFB Brasilia 65.92 227 P P 06 21 27.1 -0.8
BDFB IAmb IAmb 06 21 35.5
comp=Z,24nm,1.6s
Y49A Blount Mountai 65.92 295 P P 06 21 27.9 +0.2
Y49A IAmb IAmb 06 21 52.7
comp=Z,12nm,0.9s
N41A Harden Midland 65.94 304 IAmb IAmb 06 21 31.6
comp=Z,26nm,1.1s
SDV Santo Domingo 66.06 264 eP P 06 21 30.1 +1.1
SDV Santo Domingo 66.06 264 P P 06 21 28.1 -1.0
SDV IAmb IAmb 06 21 34.5
comp=Z,14nm,0.9s
X48A Hartselle 66.11 296 P P 06 21 28.9 0.0
X48A IAmb IAmb 06 21 53.2
comp=Z,9.8nm,0.8s
I37A Lemond, Waseca 66.13 308 P P 06 21 29.2 +0.4
LBTB Lobatse 66.33 151 P P 06 21 30.9 +0.5
LBTB pmax pmax
comp=Z,13nm,0.8s
LBTB Lobatse 66.33 151 P P 06 21 30.9 +0.5
LBTB IAmb IAmb 06 21 33.6
comp=Z,13nm,0.8s
SLM Saint Louis 66.46 302 P P 06 21 30.8 -0.3
SLM pmax pmax
comp=Z,20nm,0.9s
SLM Saint Louis 66.46 302 P P 06 21 30.8 -0.3
SLM IAmb IAmb 06 21 38.3
comp=Z,20nm,0.8s
PLAL Pickwick Lake 66.61 297 P P 06 21 32.0 -0.1
C36M Paulatuk 66.73 341 P P 06 21 30.7 -1.5
baz=50
LRAL Lakeview Retre 66.73 295 P P 06 21 32.9 -0.1
LRAL IAmb IAmb 06 21 38.3
comp=Z,19nm,1.4s
LRAL Lakeview Retre 66.73 295 P P 06 21 32.8 -0.1
baz=62
FVM French Village 66.89 301 P P 06 21 33.6 -0.3
FVM pmax pmax
comp=Z,20nm,0.7s
FVM French Village 66.89 301 P P 06 21 33.5 -0.3
FVM IAmb IAmb 06 21 38.4
comp=Z,20nm,0.7s
D32A Dogwood Acres, 66.95 312 P P 06 21 33.9 -0.2
F33A 5 Mile Ranch, 67.11 311 P P 06 21 34.8 -0.4
F33A IAmb IAmb 06 21 38.6
comp=Z,20nm,0.9s
P40A Paris 67.29 303 P P 06 21 35.7 -0.7
P40A IAmb IAmb 06 21 39.6
comp=Z,12nm,0.9s
CLDB Colider 67.37 237 eP P 06 21 38.2 +1.0
WMQ Urumqi 67.42 52 eP P 06 21 38.4 +1.2
WMQ pP sP 06 21 42.0 +0.3
WMQ sP pP 06 21 45.0 +4.5
WMQ pmax pmax
comp=Z,66nm,1.1s
WMQ LR LR
comp=Z,2μm,17.5s
WMQ LR LR
comp=Z,1μm,22.1s
CCM Cathedral Cave 67.43 301 P P 06 21 36.8 -0.5
CCM pmax pmax
comp=Z,16nm,0.8s
CCM Cathedral Cave 67.43 301 P P 06 21 36.8 -0.5
CCM IAmb IAmb 06 21 41.0
comp=Z,16nm,0.8s
CCM Cathedral Cave 67.43 301 P P 06 21 35.7 -1.5
baz=62
Z47A Carrollton 67.45 295 P P 06 21 36.7 -0.7
Z47A IAmb IAmb 06 21 41.6
comp=Z,17nm,0.8s
PBMO Poplar Bluff 67.46 300 P P 06 21 36.7 -0.8
PBMO IAmb IAmb 06 21 42.0
comp=Z,38nm,1.6s
N38A Joes South For 67.50 305 IAmb IAmb 06 21 41.2
comp=Z,15nm,0.8s
YKA Yellowknife Ar 67.79 332 P P 06 21 38.9 -0.2
comp=Z,22nm,0.7s,baz=60,slow=6.4,SNR=151
YKA PKPPKP **P'P'df 06 50 00.9 -6.8**
comp=Z,0.6nm,1.0s,baz=247,slow=2.9,SNR=3.9
OXF Oxford 67.80 297 P P 06 21 36.8 -2.8
baz=61
IPMB Ipameri, GO 67.86 226 eP P 06 21 40.4 +0.2
R40A Maddies Statio 68.03 302 P P 06 21 40.8 -0.3
R40A IAmb IAmb 06 21 45.5
comp=Z,21nm,0.9s
TIXI Tiksi 68.05 15 LR LR 06 54 20.8
comp=Z,888nm,21.1s,baz=144,slow=38
TIXI Tiksi 68.05 15 ceP P 06 21 40.6 0.0
TIXI pmax pmax
comp=Z,7.0nm,0.6s
TIXI Tiksi 68.05 15 P P 06 21 41.0 +0.4
TIXI IAmb IAmb 06 21 45.0
comp=Z,12nm,1.0s
MDND Maddock 68.16 314 P P 06 21 39.6 -2.1
baz=61
Y45A Yeager Farm, C 68.21 297 P P 06 21 41.6 -0.6
ARAG Araguaiana, MT 68.30 230 eP P 06 21 43.3 +0.4
LCAR Lake Charles 68.31 299 P P 06 21 42.2 -0.6
ECSD EROS Data Cent 68.31 309 P P 06 21 42.1 -0.7
ECSD IAmb IAmb 06 21 49.8
comp=Z,9.0nm,0.7s
ECSD EROS Data Cent 68.31 309 P P 06 21 40.8 -1.9
baz=61,SNR=11
BSCB Bom Sucesso 68.33 221 eP P 06 21 43.3 +0.2
146A Union 68.44 295 P P 06 21 43.7 0.0
PDRB Porto dos Gac 68.54 237 eP P 06 21 44.9 +0.5
MGMO Mountain Grove 68.57 301 P P 06 21 44.1 -0.4
MGMO IAmb IAmb 06 21 49.2
comp=Z,14nm,0.7s
L34A Svendsen Farm, 69.02 307 P P 06 21 46.5 -0.6
S39A Bolivar 69.05 302 P P 06 21 47.4 0.0
N35A Tabor 69.08 306 P P 06 21 46.8 -0.7
FCAR Ozark Folk Cen 69.08 300 P P 06 21 47.2 -0.5
FCAR IAmb IAmb 06 21 51.6
comp=Z,21nm,1.1s
346A Big Creek Wild 69.36 294 P P 06 21 48.6 -0.9
U40A Yellville 69.37 300 P P 06 21 48.0 -1.4
baz=60
E28A Huff 69.43 313 P P 06 21 49.7 0.0
MAN01 Angra dos Reis 69.44 219 eP P 06 21 50.6 +0.7
BOSA Boshof 69.44 153 P P 06 21 49.8 -0.1
comp=Z,16nm,0.8s,baz=344,slow=6.4,SNR=18
BOSA Boshof 69.44 153 P P 06 21 50.8 +0.9
BOSA pmax pmax
comp=Z,22nm,0.9s
BOSA Boshof 69.44 153 P P 06 21 50.8 +0.9
BOSA IAmb IAmb 06 21 53.2
comp=Z,22nm,0.9s
SUSD Miller 69.44 310 P P 06 21 49.8 0.0
SUSD Miller 69.44 310 P P 06 21 48.4 -1.4
baz=60,SNR=6.5
WHAR Wooly Hollow 69.49 299 P P 06 21 49.6 -0.6
WHAR IAmb IAmb 06 21 54.1
comp=Z,21nm,1.1s
W41B Gary Mavity, V 69.52 299 P P 06 21 49.6 -0.8
W41B IAmb IAmb 06 21 54.8
comp=Z,13nm,0.9s
W41B Gary Mavity, V 69.52 299 P P 06 21 49.2 -1.1
baz=60,SNR=5.0
INK Inuvik 69.92 342 P P 06 21 52.0 -0.2
INK pmax pmax
comp=Z,12nm,1.2s
INK Inuvik 69.92 342 P P 06 21 52.0 -0.2
INK Inuvik 69.92 342 P P 06 21 50.6 -1.6
baz=42
143A Socs Landing, 70.14 296 P P 06 21 54.1 -0.1
HHAR Hobbs 70.17 301 P P 06 21 54.4 0.0
HHAR IAmb IAmb 06 21 58.9
comp=Z,27nm,0.8s
K31A O'Neill 70.22 309 P P 06 21 54.0 -0.6
K31A IAmb IAmb 06 21 58.4
comp=Z,26nm,0.9s
344A Westbrook Farm 70.27 295 IAmb IAmb 06 22 01.1
comp=Z,36nm,1.1s
X40A Basin Creek Fa 70.28 299 P P 06 21 54.1 -0.9
X40A IAmb IAmb 06 21 59.5
comp=Z,22nm,0.8s
X40A Basin Creek Fa 70.28 299 P P 06 21 53.9 -1.1
baz=60,SNR=17
ZARC Zaragoza, Cauc 70.28 265 P P 06 21 55.0 -0.4
ZARC IAmb IAmb 06 22 00.7
comp=Z,13nm,1.0s
U38A Gravette 70.40 301 P P 06 21 54.2 -1.6
U38A IAmb IAmb 06 21 59.8
comp=Z,27nm,1.0s
BGNE Belgrade 70.45 307 P P 06 21 55.2 -0.8
BGNE Belgrade 70.45 307 P P 06 21 54.8 -1.3
baz=60,SNR=20
ITRB Iturama 70.47 227 eP P 06 21 56.6 +0.3
DGMT Dagmar 70.50 316 P P 06 21 56.1 -0.1
DGMT Dagmar 70.50 316 P P 06 21 54.5 -1.7
baz=58
WRGLY Wrigley 70.54 335 P P 06 21 54.4 -1.8
baz=49
KSU1 Kansas State U 70.59 305 P P 06 21 56.5 -0.4
KSU1 Kansas State U 70.59 305 P P 06 21 55.7 -1.2
baz=60,SNR=12
W39A Magazine 70.60 300 P P 06 21 55.8 -1.3
baz=60,SNR=6.8
MIAR Mount Ida 70.78 299 P P 06 21 57.9 -0.2
MIAR pmax pmax
comp=Z,26nm,1.0s
MIAR Mount Ida 70.78 299 P P 06 21 57.9 -0.2
MIAR IAmb IAmb 06 22 03.6
comp=Z,26nm,0.9s
MIAR Mount Ida 70.78 299 P P 06 21 56.9 -1.3
baz=60,SNR=16
Z41A Richland Creek 70.87 298 P P 06 21 57.7 -1.0
baz=60
MOY Mondy 71.15 40 eP P 06 22 01.8 +1.6
MOY pmax pmax
comp=Z,51nm,1.4s
T35A Sooner Cattle 71.64 302 P P 06 22 02.7 -0.6
TUL1 Leonard 71.65 301 P P 06 22 02.2 -1.2
TUL1 IAmb IAmb 06 22 08.1
comp=Z,30nm,0.9s
TUL1 Leonard 71.65 301 P P 06 22 02.8 -0.6
baz=59
PYUN Piuthan 71.85 68 eP P 06 22 04.6 -0.4
comp=Z,146nm,0.8s
VILB Vilhena 71.88 239 eP P 06 22 05.5 +0.6
VILB Vilhena 71.88 239 P P 06 22 04.2 -0.7
VILB IAmb IAmb 06 22 06.7
comp=Z,20nm,0.8s
X37A Clayton 72.03 300 P P 06 22 06.0 +0.3
KLRI Killari 72.07 80 eP P 06 22 06.0 -0.2
QUOK Quay 72.15 302 P 06 22 06.3 -0.1
BLOK Blackwell 72.20 303 P 06 22 06.8 +0.1
EPYK Eagle Plains 72.20 342 P P 06 22 07.0 +0.8
KAN13 South Haven SW 72.25 303 P 06 22 07.3 +0.4
DANN Dangsing 72.30 68 eP P 06 22 07.2 -0.6
comp=Z,186nm,0.9s
PET01 Itanhaem-SP 72.34 221 eP P 06 22 07.9 +0.4
R32A Long Quarter, 72.35 305 P P 06 22 07.8 +0.3
OK031 S. Brethren Rd 72.36 302 P 06 22 07.5 -0.1
OK033 Mehan 72.38 302 P 06 22 07.1 -0.6
KAN06 Argonia West S 72.39 303 P P 06 22 07.9 +0.1
Z38A Mt. Pleasant 72.44 299 P P 06 22 07.8 -0.4
PCMB Pacaembu 72.47 226 eP P 06 22 09.6 +1.3
KOLN Koldanda 72.48 68 eP P 06 22 07.8 -0.9
comp=Z,58nm,1.1s
IRK Irkutsk 72.49 38 eP P 06 22 06.7 -1.5
IRK pmax pmax
comp=Z,66nm,2.6s
LAO LASA Array 72.61 315 P P 06 22 07.4 -1.6
LAO LASA Array 72.61 315 P P 06 22 07.8 -1.2
baz=56,SNR=18
EDM Edmonton 72.65 324 P P 06 22 08.7 -0.4
EDM pmax pmax
comp=Z,28nm,0.8s
EDM Edmonton 72.65 324 P P 06 22 08.7 -0.4
EDM IAmb IAmb 06 22 13.2
comp=Z,28nm,0.8s
RSSD Black Hills 72.72 312 P P 06 22 09.5 -0.4
RSSD pmax pmax
comp=Z,33nm,1.2s
RSSD Black Hills 72.72 312 P P 06 22 09.5 -0.4
RSSD IAmb IAmb 06 22 14.8
comp=Z,33nm,1.2s
RSSD Black Hills 72.72 312 P P 06 22 08.9 -1.1
baz=57
W35A Tecumseh 72.80 301 P 06 22 10.3 0.0
W35A IAmb IAmb 06 22 14.7
comp=Z,27nm,1.0s
CBKS Cedar Bluff 72.83 306 P P 06 22 10.5 +0.1
CBKS pmax pmax
comp=Z,55nm,0.8s
CBKS Cedar Bluff 72.83 306 P P 06 22 10.5 +0.1
CBKS Cedar Bluff 72.83 306 P P 06 22 10.0 -0.5
baz=58,SNR=12
FRTB Fartura 72.85 224 eP P 06 22 11.4 +0.8
CROK Carrier 72.86 303 P 06 22 11.1 +0.5
CROK IAmb IAmb 06 22 15.4
comp=Z,30nm,0.8s
OK025 Westminster Rd 72.90 302 IAmb IAmb 06 22 15.4
comp=Z,28nm,0.9s
PTLB Pontes e Lacer 72.90 236 eP P 06 22 11.8 +0.8
PTLB Pontes e Lacer 72.90 236 P P 06 22 11.3 +0.3
PTLB IAmb IAmb 06 22 17.4
comp=Z,29nm,1.7s
SRSP Sriramsagar 73.01 79 eP P 06 22 11.5 -0.3
OKCFA Oklahoma City 73.06 302 P P 06 22 11.5 -0.4
ZAK Zakamensk 73.07 40 eP P 06 22 12.4 +0.7
ZAK pmax pmax
comp=Z,29nm,1.3s
FNO Franklin 73.11 301 P 06 22 11.8 -0.4
GKN Gorkha 73.14 67 eP P 06 22 11.7 -0.9
comp=Z,8.7nm,0.3s
OGNE Ogallala 73.19 308 P P 06 22 12.3 -0.3
OGNE Ogallala 73.19 308 P P 06 22 11.4 -1.2
baz=57
TBTG Tabatinga, AM 73.30 252 eP P 06 22 13.9 +0.5
I29M Ogilvie Camp, 73.40 342 P P 06 22 14.1 +0.7
I29M IAmb IAmb 06 22 25.7
comp=Z,13nm,0.8s
I29M Ogilvie Camp, 73.40 342 P P 06 22 11.9 -1.4
baz=37,SNR=5.6
DMN Daman 73.70 68 eP P 06 22 15.5 -0.5
KKN Kakani 73.74 67 eP P 06 22 15.5 -0.7
X34A Smith Ranch, M 73.76 301 P P 06 22 15.0 -0.9
RPR Rampur 73.81 78 eP P 06 22 16.2 -0.3
EGMT Eagleton 73.84 318 P P 06 22 16.4 +0.2
EGMT Eagleton 73.84 318 P P 06 22 15.4 -0.9
baz=55
PKIN Phulchoki 73.94 67 eP P 06 22 16.6 -0.8
PKI Pulchoki 73.95 67 eP P 06 22 16.7 -0.9
HYBB Hyderabad (bro 73.99 80 eP P 06 22 16.6 -1.0
FYU Fort Yukon 74.02 345 IAmb IAmb 06 22 35.1
comp=Z,25nm,1.2s
Z35A Perchaven, San 74.02 300 P P 06 22 17.9 +0.4
ETMB Extrema 74.09 245 eP P 06 22 18.3 +0.3
ETMB Extrema 74.09 245 P P 06 22 17.0 -1.0
GUN Gumba 74.12 67 eP P 06 22 18.2 -0.4
MAYO Mayo, Yukon 74.15 340 P P 06 22 17.2 -0.5
baz=39
URV Uravakonda 74.28 83 eP P 06 22 18.9 -0.3
AQDB Aquidauana 74.30 230 eP P 06 22 19.6 +0.5
WMOK Wichita Mounta 74.35 302 P P 06 22 18.6 -0.9
baz=57,SNR=16
CUPL Choutuppal 74.35 80 eP P 06 22 18.8 -0.9
COLD Coldfoot 74.42 347 P P 06 22 20.0 +0.8
COLD Coldfoot 74.42 347 P P 06 22 18.6 -0.6
baz=28
FARO Faro, Yukon 74.46 338 P P 06 22 18.7 -0.9
baz=41
VOI Vohitsoka 74.56 132 P P 06 22 22.7 +2.0
VOI IAmb IAmb 06 24 34.0
comp=Z,38nm,1.6s
KSCO Kaye Shedlock' 74.62 307 P P 06 22 20.8 -0.3
KSCO IAmb IAmb 06 22 25.9
comp=Z,34nm,0.9s
KSCO Kaye Shedlock' 74.62 307 P P 06 22 19.9 -1.2
baz=57
DAWY Dawson 74.72 341 P P 06 22 20.5 -0.6
baz=36
M31M Drury Creek, Y 74.79 338 P P 06 22 20.3 -1.2
baz=40
WHTX Lake Whitney, 74.88 299 P P 06 22 21.6 -1.0
WHTX IAmb IAmb 06 22 27.5
comp=Z,28nm,0.8s
WHTX Lake Whitney, 74.88 299 P P 06 22 22.1 -0.5
baz=57
PRP Porcupine Dome 74.98 345 P P 06 22 21.6 -1.1
baz=32
K22A Casper 75.05 312 P P 06 22 23.3 -0.2
K22A IAmb IAmb 06 22 27.9
comp=Z,28nm,0.8s
K22A Casper 75.05 312 P P 06 22 22.1 -1.5
baz=55,SNR=18

NJS	Nagarjunasagar	75.06	80	eP	P	06 22 22.9 -0.9
GCMT	Greycliff	75.09	316	P	P	06 22 24.0 +0.3
PHWY	Pilot Hill	75.15	310	P	P	06 22 24.9 +0.5
H24K	Noodor Dome	75.20	346	P	P	06 22 23.1 -0.7
	baz=30					
RLMT	Red Lodge	75.25	315	IAmb	IAmb	06 22 30.9
	comp=Z,70nm,1.9s					
RLMT	Red Lodge	75.25	315	P	P	06 22 23.4 -1.3
	baz=54					
PTGB	Pitanga	75.34	225	eP	P	06 22 25.6 +0.5
RCLA	Racherla	75.37	81	eP	P	06 22 25.4 -0.1
J26L	Joseph Creek	75.40	343	P	P	06 22 25.7 +0.7
J26L	Joseph Creek	75.40	343	P	P	06 22 23.9 -1.2
	baz=33					
WALA	Waterton Lakes	75.45	320	P	P	06 22 25.7 +0.1
WALA				IAmb	IAmb	06 22 30.2
	comp=Z,23nm,0.8s					
N23A	Red Feather La	75.69	310	IAmb	IAmb	06 22 32.6
	comp=Z,20nm,0.9s					
N23A	Red Feather La	75.69	310	P	P	06 22 26.1 -1.2
	baz=55,SNR=7.4					
J25K	Salcha River,	75.72	344	P	P	06 22 25.6 -1.3
	baz=32					
POKR	Poker Plat Res	75.74	345	P	P	06 22 26.1 -0.8
	baz=30					
N31M	Braeburn, Yuko	75.77	338	P	P	06 22 26.8 -0.4
	baz=39					
YAK	Yakutsk	75.78	21	ceP	P	06 22 29.8 +2.7
YAK				pmax	pmax	
	comp=Z,22nm,1.0s					
P33M	Teslin, Yukon	75.82	336	IAmb	IAmb	06 22 41.4
	comp=Z,17nm,1.1s					
P33M	Teslin, Yukon	75.82	336	P	P	06 22 26.6 -1.0
	baz=41					
ILAR	Eielson Array	75.92	345	P	P	06 22 28.4 +0.5
	comp=Z,1.4nm,0.7s,baz=16,slow=4.6,SNR=11					
SCRK	Sand Creek	75.94	343	P	P	06 22 27.2 -1.0
	baz=33					
ADKI	Addanki	75.98	80	eP	P	06 22 28.9 -0.1
YMP	Mirror Lake Pl	75.99	315	P	P	06 22 29.4 +0.3
YMP				IAmb	IAmb	06 22 34.1
	comp=Z,15nm,0.8s					
RWWY	Rawlins	76.02	311	P	P	06 22 28.7 -0.5
MYLAV	Mylavaram	76.02	79	eP	P	06 22 28.9 -0.3
GOMU	GeErMu	76.03	56	P	P	06 22 30.0 +0.5
GOMU				pP	PcP	06 22 38.8 -3.0
GOMU				sP	sP	06 22 40.9 +6.9
GOMU				PcP	pP	06 22 43.8 +11
GOMU				pmax	pmax	
	comp=Z,2.0nm,0.7s					
ABTX	Abilene, Hawle	76.09	300	IAmb	IAmb	06 22 34.0
	comp=Z,28nm,0.8s					
ABTX	Abilene, Hawle	76.09	300	P	P	06 22 28.8 -0.8
	baz=57					
ISCO	Idaho Springs	76.10	309	IAmb	IAmb	06 22 35.7
	comp=Z,57nm,1.8s					
ISCO	Idaho Springs	76.10	309	P	P	06 22 28.3 -1.5
	baz=55,SNR=16					
WHY	Whitehorse	76.14	338	P	P	06 22 27.7 -1.7
	baz=39					
IMAR	Indian Mountai	76.17	348	P	P	06 22 29.9 +0.6
L27K	Beaver Creek,	76.18	342	P	P	06 22 28.3 -1.1
	baz=34					
DLBC	Dease Lake	76.20	334	IAmb	IAmb	06 22 43.9
	comp=Z,14nm,0.9s					
SONM	Songino Array	76.23	41	P	P	06 22 30.8 +0.6
	comp=Z,8.1nm,0.8s,baz=293,slow=6.6,SNR=34					
SONM	Songino Array	76.23	41	P	P	06 22 30.5 +0.3
SONM				pmax	pmax	
	comp=Z,15nm,0.9s					
SONM	Songino Array	76.23	41	P	P	06 22 30.5 +0.3
SONM				IAmb	IAmb	06 22 34.8
	comp=Z,15nm,0.9s					
HDA	Harding Lake	76.25	344	P	P	06 22 29.3 -0.5
	baz=30					
AMTX	Amarillo	76.27	303	P	P	06 22 30.2 -0.4
	baz=56					
Q24A	Divide	76.28	308	P	P	06 22 30.2 -0.6
Q24A				IAmb	IAmb	06 22 35.5
	comp=Z,11nm,0.8s					
Q24A	Divide	76.28	308	P	P	06 22 29.3 -1.5
	baz=55,SNR=9.5					
H21K	Melozitna Rive	76.30	347	P	P	06 22 28.9 -1.2
	baz=26					
BOZ	Bozeman (W)	76.31	317	IAmb	IAmb	06 22 36.0
	comp=Z,16nm,0.8s					
BOZ	Bozeman (W)	76.31	317	P	P	06 22 29.7 -1.0
	baz=53,SNR=27					
RIDG	Independent Ri	76.35	343	P	P	06 22 29.5 -0.9
	baz=32					
H17A	Grant Village	76.43	315	P	P	06 22 30.3 -1.2
	baz=53,SNR=6.1					
BVCY	Beaver Creek	76.46	341	P	P	06 22 30.2 -0.9
	baz=35					
BILL	Bilibino	76.47	4	ceP	P	06 22 30.6 -0.4
BILL				i *PP	pP	06 22 34.3 +0.1
BILL				e*SP	sP	06 22 37.6 +2.2
BILL				e		06 22 41.3
BILL				S	S	06 32 36.0 +20
BILL				SS	SS	06 37 13.0 +3.5
BILL				pmax	pmax	
	comp=Z,12nm,1.8s					
BILL	Bilibino	76.47	4	P	P	06 22 30.9 -0.1
YMR	Madison River	76.49	315	IAmb	IAmb	06 22 45.7
	comp=Z,11nm,0.7s					
PVM	Polavaram	76.54	78	eP	P	06 22 32.2 0.0
ULN	Ulaanbaatar	76.56	40	ceP	P	06 22 32.4 +0.3
ULN				pmax	pmax	
	comp=Z,29nm,1.0s					
ULN	Ulaanbaatar	76.56	40	P	P	06 22 31.7 -0.4
ULN				IAmb	IAmb	06 22 36.8
	comp=Z,23nm,0.9s					
I21K	Tanana	76.58	347	P	P	06 22 30.7 -1.0
	baz=26					
L26K	Log Cabin Wild	76.59	342	IAmb	IAmb	06 23 03.5
	comp=Z,63nm,2.0s					
L26K	Log Cabin Wild	76.59	342	P	P	06 22 30.5 -1.2
	baz=33					
LRM	Limekiln Ridge	76.63	317	P	P	06 22 31.9 -0.8
M27K	Edge Creek, AK	76.78	341	P	P	06 22 32.3 -0.7
	baz=34					
BW06	Boulder Array	76.80	313	IAmb	IAmb	06 22 37.6
	comp=Z,16nm,0.8s					
BW06	Boulder Array	76.80	313	P	P	06 22 32.7 -1.0
	baz=54,SNR=23					
PD31	Pinedale Array	76.80	313	P	P	06 22 32.9 -0.7
PD31				IAmb	IAmb	06 22 37.6
	comp=Z,14nm,0.8s					
PDAR	Pinedale Array	76.80	313	P	P	06 22 33.3 -0.3
	comp=Z,11nm,0.7s,baz=61,slow=6.3,SNR=59					
PDAR	Pinedale Array	76.80	313	P	P	06 22 32.8 -0.9
MSO	Missoula	76.83	319	P	P	06 22 32.3 -1.3
	baz=52,SNR=6.3					
T25A	Trinidad	76.83	306	IAmb	IAmb	06 22 40.3
	comp=Z,31nm,1.8s					
T25A	Trinidad	76.83	306	P	P	06 22 34.1 +0.2
	baz=55					
YUK3	Moose Creek	76.88	340	P	P	06 22 32.6 -1.1
	baz=35					
LOHW	Long Hollow	76.92	314	P	P	06 22 34.1 -0.1
MOOW	Moose Ponds	76.92	315	P	P	06 22 34.5 +0.3
SKHT	Srikalahasti	76.92	82	eP	P	06 22 34.0 -0.4
DLMT	Dillon	77.00	317	P	P	06 22 33.9 -0.7
DLMT				IAmb	IAmb	06 22 40.4
	comp=Z,23nm,0.9s					
M26K	Nabesna, AK	77.03	342	P	P	06 22 35.5 +1.2
M26K				IAmb	IAmb	06 23 04.3
	comp=Z,18nm,1.2s					
M26K	Nabesna, AK	77.03	342	P	P	06 22 33.0 -1.2
	baz=33					
PAX	Paxson	77.15	343	P	P	06 22 33.9 -1.1
	baz=31					
SDCO	Great Sand Dun	77.20	307	P	P	06 22 35.9 -0.1
SDCO	Great Sand Dun	77.20	307	P	P	06 22 34.9 -1.1
	baz=55,SNR=16					
REDW	Red Top Meadow	77.21	314	P	P	06 22 36.5 +0.6
SMCO	Snowmass	77.32	309	P	P	06 22 36.6 -0.2
SMCO				IAmb	IAmb	06 22 43.7
	comp=Z,23nm,1.4s					
ITAB	Concordia	77.33	223	eP	P	06 22 36.6 +0.3
JCT	Junction City	77.39	298	P	P	06 22 36.7 -0.2
JCT				pmax	pmax	
	comp=Z,30nm,0.9s					
JCT	Junction City	77.39	298	P	P	06 22 36.7 -0.2
JCT				IAmb	IAmb	06 22 41.5
	comp=Z,30nm,0.9s					
JCT	Junction City	77.39	298	P	P	06 22 36.2 -0.7
	baz=56,SNR=19					
OTAV	Otavalo	77.40	261	eP	P	06 22 38.8 +1.1
GTA	Gaotai	77.45	50	eP	P	06 22 37.8 +0.6
GTA				pP	pP	06 22 41.0 +0.5
GTA				sP	sP	06 22 43.6 +1.9
GTA				pmax	pmax	
	comp=Z,6.0nm,0.9s					
MSTX	Muleshoe	77.52	303	P	P	06 22 36.7 -1.0
	baz=56					
O20A	White River Ci	77.56	311	P	P	06 22 36.6 -1.3
O20A				IAmb	IAmb	06 23 41.6
	comp=Z,19nm,1.3s					
O20A	White River Ci	77.56	311	P	P	06 22 36.8 -1.0
	baz=54					
NEW	Newport	77.60	321	P	P	06 22 37.4 -0.4
NEW				pmax	pmax	
	comp=Z,8.0nm,0.9s					
NEW	Newport	77.60	321	P	P	06 22 37.4 -0.4
NEW	Newport	77.60	321	P	P	06 22 36.7 -1.1
	baz=50,SNR=7.2					
CZSB	Cruzeiro do Su	77.67	251	eP	P	06 22 38.9 +0.4
AHID	Auburn Hatcher	77.71	314	P	P	06 22 38.3 -0.4
CHLP	Challavanipeta	77.78	76	eP	P	06 22 39.0 -0.1
CHUM	Lake Minchumin	77.82	346	P	P	06 22 37.6 -1.0
	baz=26					
J20K	Nowinta River	77.89	347	P	P	06 22 39.2 +0.2
	baz=24					
S22A	4UR Ranch, Cre	78.06	308	P	P	06 22 41.3 +0.5
S22A	4UR Ranch, Cre	78.06	308	P	P	06 22 39.8 -1.0
	baz=54,SNR=13					
RDMU	Red Mountain	78.11	311	P	P	06 22 40.4 -0.6
MTO3	Montecristo	78.22	279	IAmb	IAmb	06 22 48.3
	comp=Z,22nm,1.1s					
833A	Chaparral WMA,	78.29	296	IAmb	IAmb	06 22 48.4
	comp=Z,28nm,1.1s					
833A	Chaparral WMA,	78.29	296	P	P	06 22 40.4 -1.5
	baz=56,SNR=5.6					
TNA	Tin City	78.47	353	P	P	06 22 41.1 -1.1
	baz=13					
C09A	Chrisman Ranch	78.49	321	P	P	06 22 42.0 -0.7
K20K	Telida	78.63	347	IAmb	IAmb	06 23 00.1
	comp=Z,23nm,1.4s					
K20K	Telida	78.63	347	P	P	06 22 43.0 -0.2
	baz=24					
BMRM	Bremner River	78.65	342	P	P	06 22 42.3 -1.1
	baz=32					
B08A	Colville Reser	78.66	322	P	P	06 22 44.1 +0.5
B08A				IAmb	IAmb	06 22 48.4
	comp=Z,16nm,0.9s					
PV23	Carpenter Ridg	79.03	309	P	P	06 22 44.2 -2.0
PV23				IAmb	IAmb	06 22 51.0
	comp=Z,22nm,0.8s					
PLID	Pearl Lake	79.05	318	P	P	06 22 45.6 -0.5
PV10	Paradox Valley	79.09	309	P	P	06 22 47.3 +0.8
PV10				IAmb	IAmb	06 22 51.6
	comp=Z,33nm,0.8s					
HLID	Hailey	79.13	316	P	P	06 22 46.7 +0.2
HLID	Hailey	79.13	316	P	P	06 22 45.1 -1.4
	baz=51,SNR=20					
F10A	Beach Ranch, E	79.14	319	P	P	06 22 46.4 0.0
F10A				IAmb	IAmb	06 22 58.4
	comp=Z,20nm,1.3s					
ANM	Nome	79.18	352	P	P	06 22 45.4 -0.7
	baz=15					
PMR	Palmer	79.20	344	P	P	06 22 46.8 +0.6
	baz=28					
JLU	Jordanelle	79.24	312	P	P	06 22 47.6 +0.4
HVU	Hansel Valley	79.30	314	P	P	06 22 47.8 +0.4
HVU				pmax	pmax	
	comp=Z,8.0nm,0.8s					
HVU	Hansel Valley	79.30	314	P	P	06 22 47.8 +0.4
CTU	Camp Tracy	79.36	313	P	P	06 22 47.5 -0.3
MVCO	Mesa Verde	79.45	308	IAmb	IAmb	06 23 00.7
	comp=Z,28nm,1.6s					
MVCO	Mesa Verde	79.45	308	P	P	06 22 47.0 -1.4
	baz=53					
ANMO	Albuquerque	79.45	305	i P	P	06 22 48.9 +0.5
ANMO				pmax	pmax	
	comp=Z,3.0nm,1.0s					
ANMO	Albuquerque	79.45	305	P	P	06 22 47.0 -1.4
	baz=54					
P17A	Butcher Ranch,	79.49	311	P	P	06 22 48.5 0.0
P17A				IAmb	IAmb	06 22 53.0
	comp=Z,12nm,0.8s					
SRU	San Rafael Swe	79.58	311	P	P	06 22 49.0 0.0
SRU				pmax	pmax	
	comp=Z,13nm,0.8s					
SRU	San Rafael Swe	79.58	311	P	P	06 22 49.0 0.0
SRU				IAmb	IAmb	06 22 59.1
	comp=Z,13nm,0.8s					
CPUP	Villa Florida	79.64	227	P	P	06 22 48.0 -1.1
	comp=Z,12nm,1.1s,baz=49,slow=4.9,SNR=6.2					
CPUP				LR	LR	06 58 28.4
	comp=Z,1μm,18.1s,baz=194,slow=36					
CPUP	Villa Florida	79.64	227	P	P	06 22 48.0 -1.1
CPUP	Villa Florida	79.64	227	eP	P	06 22 49.2 +0.1
LPAZ	La Paz	79.75	242	P	P	06 22 49.5 -1.2
	comp=Z,2.5nm,0.6s,baz=35,slow=1.8,SNR=14					
LPAZ				LR	LR	06 54 30.9
	comp=Z,859nm,21.7s,baz=89,slow=33					
LPAZ	La Paz	79.75	242	P	P	06 22 49.8 -0.8
LPAZ				pmax	pmax	
	comp=Z,3.0nm,0.8s					
LPAZ	La Paz	79.75	242	eP	P	06 22 50.1 -0.6
LPAZ	La Paz	79.75	242	P	P	06 22 49.8 -0.8
BMO	Blue Mountains	79.91	319	P	P	06 22 50.5 -0.1
BMO				pmax	pmax	
	comp=Z,10.0nm,0.8s					
BMO	Blue Mountains	79.91	319	P	P	06 22 50.5 -0.1
NLU	North Lily Min	80.01	312	P	P	06 22 51.1 -0.3
HAWA	Hanford	80.07	321	IAmb	IAmb	06 23 03.3
	comp=Z,35nm,2.0s					
Q16A	Castle Valley	80.10	311	P	P	06 22 51.7 -0.2
DUG	Dugway, Tooele	80.31	313	P	P	06 22 52.7 -0.2
DUG				pmax	pmax	
	comp=Z,8.0nm,0.9s					
DUG	Dugway, Tooele	80.31	313	P	P	06 22 52.7 -0.2
DUG	Dugway, Tooele	80.31	313	P	P	06 22 51.9 -1.0
	baz=51,SNR=11					
GAMB	Gambell	80.56	355	P	P	06 22 52.9 -0.6
	baz=10.0					
SEW	Seward	80.59	343	P	P	06 22 52.8 -1.0
	baz=28					
MNTX	Cornudas Mount	80.62	302	P	P	06 22 53.9 -0.7
	baz=54					
TX31	Lajitas Ar. Si	80.80	299	P	P	06 22 56.3 +0.7
TX31				IAmb	IAmb	06 23 11.6
	comp=Z,28nm,1.2s					
TX32	Lajitas Array	80.80	299	P	P	06 22 55.9 +0.3
TXAR	Lajitas Array	80.80	299	P	P	06 22 56.2 +0.6
	comp=Z,2.5nm,0.6s,baz=75,slow=5.5,SNR=25					
TXAR	Lajitas Array	80.80	299	P	P	06 22 55.4 -0.3
MSU	Marysvale	80.97	311	P	P	06 22 56.6 0.0
MSU	Marysvale	80.97	311	P	P	06 22 56.6 0.0
N19K	Bonanza Creek	81.04	346	P	P	06 22 55.1 -1.2
	baz=24					
TCRU	Three Creeks R	81.07	311	P	P	06 22 57.2 0.0
TCRU				IAmb	IAmb	06 23 08.1
	comp=Z,14nm,0.6s					
D03D	Eldon	81.08	323	P	P	06 22 56.0 -0.7
	baz=46					
D04E	Lakebay	81.17	323	P	P	06 22 55.6 -1.5
	baz=46					
MTPU	Mount Pierson	81.26	311	IAmb	IAmb	06 23 03.5
	comp=Z,15nm,0.8s					
PALK	Pallekele	81.35	87	LR	LR	07 02 37.7
	comp=Z,750nm,19.3s,baz=165,slow=38					
ELK	Elko	81.39	314	P	P	06 22 59.5 +0.7
ELK				pmax	pmax	
	comp=Z,12nm,1.1s					
ELK	Elko	81.39	314	P	P	06 22 59.5 +0.7
F05D	White Salmon	81.40	321	P	P	06 22 59.5 +1.1
	baz=47					
E04D	Cinebar	81.50	322	P	P	06 22 58.5 -0.4
	baz=46					
J08A	Circle Bar Ran	81.52	318	P	P	06 23 00.1 +0.9
J08A				IAmb	IAmb	06 23 05.6
	comp=Z,22nm,1.3s					
ZEA	Zeya	81.53	27	eP	P	06 23 03.2 +4.3
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
PLTB	Pedras Altas	81.65	221	eP	P	06 23 00.5 +0.7
ITQB	Itaqui	81.73	224	eP	P	06 23 00.7 +0.5
G05D	Wamic, OR	81.77	321	P	P	06 23 00.1 -0.3
	baz=47					
121A	Cookes Peak, D	81.77	304	P	P	06 23 00.6 -0.3
	baz=53					
SPR3	Spring Creek 3	81.97	313	IAmb	IAmb	06 23 13.7
	comp=Z,15nm,1.1s					
LZH	Lanzhou	82.00	51	eP	P	06 23 17.8 +16
LZH				pP	PcP	06 23 20.8 +13
LZH				sP	sP	06 23 21.9 +15
LZH				pmax	pmax	
	comp=Z,24nm,1.3s					
LZH	Lanzhou	82.00	51	eP	P	06 23 05.9 +3.9
LZH				PP	PP	06 26 12.5 +3.3
LZH				pmax	pmax	
	comp=Z,29nm,1.3s					
LZH				LR	LR	
	comp=Z,1μm,16.3s					
LZH				LR	LR	
	comp=Z,1μm,16.8s					
LZH				LR	LR	
	comp=Z,2μm,19.0s					
PB16	IPOC Station P	82.08	241	IAmb	IAmb	06 23 08.2
	comp=Z,14nm,0.8s					
SZCU	Shurtz Canyon	82.10	311	P	P	06 23 02.9 +0.3
WVOR	Wild Horse Val	82.22	317	IAmb	IAmb	06 23 18.7
	comp=Z,19nm,1.3s					
CCUT	Cedar City	82.30	311	P	P	06 23 03.0 -0.7
WUAZ	Wupatki	82.32	308	P	P	06 23 03.5 -0.2
WUAZ	Wupatki	82.32	308	P	P	06 23 03.2 -0.5
	baz=52					
U15A	North Rim	82.33	309	P	P	06 23 04.2 +0.3
U15A				IAmb	IAmb	06 23 08.4
	comp=Z,11nm,0.9s					
I05D	Terrebonne, OR	82.39	320	P	P	06 23 03.5 -0.2
	baz=47					
G03D	McMinnville, O	82.78	322	P	P	06 23 05.5 -0.2
	baz=46					
BTO	Baotou	82.85	45	eP	P	06 23 08.1 +1.8
MA2	Magadan	82.92	13	ceP	P	06 23 06.9 +0.8
MA2				pmax	pmax	
	comp=Z,10.0nm,1.0s					
J05D	Fort Rock, OR	83.06	319	P	P	06 23 06.8 -0.6
	baz=47					
R11A	Troy Canyon, C	83.14	313	P	P	06 23 08.7 +0.8
R11A	Troy Canyon, C	83.14	313	P	P	06 23 07.7 -0.2
	baz=50,SNR=12					
PRN	Pahroc Range	83.42	312	P	P	06 23 10.2 +0.8
PRN				IAmb	IAmb	06 23 32.8
	comp=Z,11nm,1.0s					
319A	Douglas	83.48	304	IAmb	IAmb	06 23 15.9
	comp=Z,18nm,0.8s					
MOD	Modoc Plateau	83.50	318	P	P	06 23 10.9 +1.2
MOD				IAmb	IAmb	06 23 21.3
	comp=Z,12nm,1.2s					
HHC	Hu-ho-hao-te	83.57	44	eP	P	06 23 10.3 +0.3
HHC				pmax	pmax	
	comp=Z,15nm,0.9s					
HHC				pmax	pmax	
	comp=Z,420nm,5.6s					
TLIG	Tlapa	83.75	287	IAmb	IAmb	06 23 20.9
	comp=Z,31nm,1.6s					
XLT	XiLinHaoTe	83.91	39	eP	P	06 23 12.4 +0.8
XLT				pP	sP	06 23 17.8 +1.7
XLT				sP	PcP	06 23 20.8 +5.1
XLT				S	S	06 33 44.0 +8.6
XLT				pmax	pmax	
	comp=Z,18nm,1.1s					
XLT				pmax	pmax	
	comp=Z,470nm,8.0s					
XLT				LR	LR	
	comp=Z,1μm,15.6s					
XLT				LR	LR	
	comp=Z,1μm,19.2s					
XLT				LR	LR	
	comp=Z,1μm,17.8s					
TUC	Tucson	83.92	305	P	P	06 23 12.1 +0.2
TUC				pmax	pmax	
	comp=Z,16nm,0.9s					
TUC	Tucson	83.92	305	P	P	06 23 12.1 +0.2
TUC				IAmb	IAmb	06 23 17.9
	comp=Z,16nm,0.9s					
TUC	Tucson	83.92	305	P	P	06 23 11.9 0.0
	baz=52					
SHPR	Sheep Range	84.07	311	P	P	06 23 12.8 +0.1
KVN	Kaiserville	84.17	314	IAmb	IAmb	06 23 19.4
	comp=Z,31nm,1.9s					
TPH	Tonopah	84.29	313	P	P	06 23 14.0 +0.1
TPH				pmax	pmax	
	comp=Z,46nm,1.0s					
TPH	Tonopah	84.29	313	P	P	06 23 14.0 +0.1
Y14A	Wickenburg	84.35	308	P	P	06 23 14.6 +0.6
Y14A				IAmb	IAmb	06 23 25.7
	comp=Z,10nm,1.0s					
L04D	Klamath Falls	84.36	319	P	P	06 23 12.8 -1.3
	baz=46					
M04C	Macdoel	84.42	318	P	P	06 23 13.1 -1.2
	baz=46					
TPNV	Topopah Spring	84.45	312	P	P	06 23 15.3 +0.7
TPNV				pmax	pmax	
	comp=Z,4.0nm,1.2s					
TPNV	Topopah Spring	84.45	312	P	P	06 23 15.3 +0.7
TPNV	Topopah Spring	84.45	312	P	P	06 23 13.8 -0.8
	baz=49					
PAHR	Pah Rah Range	84.47	316	P	P	06 23 14.7 +0.1
PAHR				IAmb	IAmb	06 23 25.7
	comp=Z,14nm,1.2s					
J01E	Myrtle Point	84.56	321	P	P	06 23 13.0 -1.8
	baz=45					
NVAR	Mina Array Bea	84.70	314	P	P	06 23 16.2 +0.3
	comp=Z,1.2nm,0.7s,baz=74,slow=5.9,SNR=7.0					
K02D	Willamette Mer	84.75	320	P	P	06 23 14.4 -1.5
	baz=45					
PDMCI	Parker Dam,Lak	84.85	309	P	P	06 23 16.6 +0.2
	baz=50					
YERR	Yerington	84.87	315	IAmb	IAmb	06 23 27.8
	comp=Z,20nm,1.3s					
LHV	Little Huntoon	84.93	314	P	P	06 23 17.2 +0.4
PNTR	Pine Nut	85.01	315	IAmb	IAmb	06 23 38.6
	comp=Z,15nm,0.8s					
LCH	Last Change Ra	85.10	313	P	P	06 23 18.7 +0.8
MPK	Martis Peak	85.11	316	IAmb	IAmb	06 23 29.8
	comp=Z,29nm,1.1s					
FURC	Furnace Creek,	85.14	312	P	P	06 23 18.7 +0.8
	baz=49					
GWY	Greenwater Val	85.20	312	P	P	06 23 19.1 +0.7
GWY				IAmb	IAmb	06 23 29.9
	comp=Z,18nm,1.1s					
M02C	Callahan	85.23	319	P	P	06 23 17.1 -1.3
	baz=46					
O03E	Paynes Creek	85.42	317	P	P	06 23 18.2 -1.2
	baz=46					
QSM	Queen of Sheba	85.47	312	IAmb	IAmb	06 23 31.1
	comp=Z,10nm,0.9s					
214A	Organ Pipe Nat	85.48	306	P	P	06 23 19.8 0.0
214A	Organ Pipe Nat	85.48	306	P	P	06 23 19.1 -0.6
	baz=50					
GMRC	Granite Mounta	85.49	310	P	P	06 23 18.9 -1.0
	baz=49					
IRM	Iron Mountain	85.58	309	P	P	06 23 18.9 -1.3
	baz=50					
113A	Mohawk Valley,	85.58	307	P	P	06 23 21.1 +0.9
ORV	Oroville	85.77	317	P	P	06 23 21.3 +0.3
ORV				pmax	pmax	
	comp=Z,12nm,1.3s					
ORV	Oroville	85.77	317	P	P	06 23 21.2 +0.3
MPMC	Manual Prospec	85.78	312	P	P	06 23 20.2 -1.2
	baz=48					
GSC	Goldstone, Bar	85.87	311	P	P	06 23 20.3 -1.3
	baz=49					
HEC	Hector,Ludlow	85.88	310	P	P	06 23 20.9 -0.9
	baz=49					
CWC	Cottonwood Cre	85.89	313	P	P	06 23 21.1 -0.8
	baz=48					
BC3	Big Chuckawall	86.10	309	P	P	06 23 21.8 -1.0
	baz=49					
PZH	PanZhiHua	86.50	60	P	P	06 23 25.9 +0.9
PZH				S	S	06 34 01.0 -0.7
PZH				pmax	pmax	
	comp=Z,30nm,0.8s					
PZH				pmax	pmax	
	comp=Z,590nm,12.0s					
PZH				LR	LR	
	comp=Z,510nm,20.1s					
PZH				LR	LR	
	comp=Z,500nm,19.0s					
PZH				LR	LR	
	comp=Z,580nm,16.2s					
XAN	Xi'an	86.51	50	P	P	06 23 24.8 0.0

XAN				pP	sP	06 23 32.8	+3.5
XAN				sP	pP	06 23 36.3	+8.2
XAN				pmax	pmax		
	comp=Z,20nm,1.2s						
ISA	**Isabella, Lake**	**86.64**	**312**	P	**P**	**06 23 26.2**	**+0.7**
ISA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ISA	**Isabella, Lake**	**86.64**	**312**	P	**P**	**06 23 26.2**	**+0.7**
ISA				IAmb	IAmb	06 23 31.3	
	comp=Z,8.6nm,0.8s						
ISA	**Isabella, Lake**	**86.64**	**312**	P	**P**	**06 23 24.6**	**-0.9**
	baz=48						
BJI	**Beijing**	**86.67**	**42**	P	**P**	**06 23 25.8**	**+0.4**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PFO	**Pinyon Flats O**	**86.76**	**310**	P	**P**	**06 23 25.2**	**-1.0**
	baz=49						
TPFO	**Pinon Flats**	**86.76**	**310**	P	**P**	**06 23 25.2**	**-0.9**
	baz=49						
SWSC	**Sam W. Stewart**	**86.78**	**309**	P	**P**	**06 23 25.3**	**-0.7**
	baz=49						
KLR	**Kul'dur**	**86.83**	**27**	*e*P	**P**	**06 23 26.2**	**+0.2**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
AC02	**Maricunga**	**87.46**	**234**	P	**P**	**06 23 29.9**	**0.0**
AC02				IAmb	IAmb	06 23 35.4	
	comp=Z,16nm,1.0s						
HNS	**HongShan**	**87.71**	**44**	⇑P	**P**	**06 23 31.4**	**+0.9**
HNS				*e*S	**S**	**06 34 12.8**	**+0.2**
HNS				pmax	pmax		
	comp=Z,30nm,1.0s						
HNS				LR	LR		
	comp=Z,590nm,15.7s						
HNS				LR	LR		
	comp=Z,2μm,17.2s						
HNS				LR	LR		
	comp=Z,2μm,18.4s						
KMI	**Kunming**	**88.06**	**60**	⇑P	**P**	**06 23 35.3**	**+2.6**
KMI				sP	sP	06 23 42.1	+4.9
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LYN	**LuoYang**	**88.35**	**48**	*e*P	**P**	**06 23 35.1**	**+1.5**
LYN				pP	sP	06 23 43.8	+5.7
LYN				PP	**PP**	**06 27 04.6**	**+4.1**
LYN				pmax	pmax		
	comp=Z,20nm,1.5s						
LYN				LR	LR		
	comp=Z,750nm,16.7s						
LYN				LR	LR		
	comp=Z,1μm,15.7s						
CN2	**Changchun**	**88.54**	**34**	*e*P	**P**	**06 23 33.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**89.35**	**68**	P	**P**	**06 23 39.8**	**+1.2**
	comp=Z,6.8nm,0.9s,baz=306,slow=6.4,SNR=16						
CMAR	**Chiang Mai Arr**	**89.35**	**68**	P	**P**	**06 23 38.4**	**-0.1**
USRK	**Ussuriysk Ar.**	**91.06**	**30**	P	**P**	**06 23 45.8**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=325,slow=3.0,SNR=5.7						
NJ2	**Nanjing**	**93.90**	**46**	*e*P	**P**	**06 23 59.0**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KSRS	**Korea Array**	**94.68**	**37**	P	**P**	**06 24 01.9**	**-0.9**
	comp=Z,5.1nm,0.9s,baz=328,slow=3.9,SNR=8.4						
KSRS	**Korea Array**	**94.68**	**37**	P	**P**	**06 24 02.0**	**-0.9**
PLCA	**Paso Flores**	**97.56**	**225**	P	**P**	**06 24 13.7**	**-2.1**
	comp=Z,1.6nm,0.6s,baz=40,slow=7.9,SNR=6.3						
PLCA	**Paso Flores**	**97.56**	**225**	*e*P	Pdif	06 24 15.9	0.0
QSPA	**South Pole Qui**	**125.42**	**180**		**PKPdf**	**06 29 41.5**	**-0.2**
WRA	**Warramunga Arr**	**140.14**	**78**	PKhKP	PKPpre	06 30 03.3	
	comp=Z,0.4nm,0.6s,baz=317,slow=2.6,SNR=5.6						
WRA				PKP	**PKPdf**	**06 30 11.3**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=320,slow=2.4,SNR=5.4						
WRA				PP	**PP**	**06 33 07.4**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=312,slow=6.2,SNR=5.4						
ASAR	**Alice Springs**	**141.63**	**84**	PKhKP	PKPpre	06 30 05.8	
	comp=Z,1.0nm,0.7s,baz=312,slow=2.9,SNR=9.9						
ASAR				PKP	**PKiKP**	**06 30 15.2**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=320,slow=2.3,SNR=9.4						
ASAR				PP	**PP**	**06 33 19.7**	**+2.2**
	comp=Z,1.2nm,0.9s,baz=308,slow=6.4,SNR=5.7						
STKA	**Stephens Creek**	**151.06**	**93**	PKPbc	**PKPbc**	**06 30 34.1**	**-0.7**
	comp=Z,7.8nm,0.7s,baz=329,slow=4.2,SNR=18						
STKA	**Stephens Creek**	**151.06**	**93**		**PKPbc**	**06 30 33.1**	**-1.7**

ROM 25 06:11:39.1±0.1, 42°.528N±0°.007×12°.865E±0°.006, h8km, ML1.3/8, 1D, Error ellipse: s-maj=0.8km s-min=0.2km az=203.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.15**	**60**	P	Pg	06 11 43.0	+0.6
LNSS				S	Sg	06 11 46.0	+1.3
CESX	**Cesi**	**0.23**	**291**	P	Pg	06 11 44.2	+0.5
CESX				S	Sg	06 11 48.4	+1.6
CESX				AML	AML		
	comp=E,85μm,0.3s						
CESX				AML	AML		
	comp=N,93μm,0.8s						
RM33	**Pellescritta (**	**0.26**	**94**	P	Pg	06 11 45.1	+0.8
RM33				S	Sg	06 11 49.3	+1.5
RM33				AML	AML		
	comp=E,239μm,1.0s						
RM33				AML	AML		
	comp=N,399μm,0.2s						
RM33				AML	AML		
	comp=E,238μm,1.0s						
FIAM	**Fiamignano**	**0.32**	**144**	P	Pb	06 11 46.4	-0.8
FIAM				S	Sb	06 11 52.2	-0.3
FIAM				AML	AML		
	comp=E,59μm,0.5s						
FIAM				AML	AML		
	comp=N,53μm,0.6s						
MOMA	**Monte Martano**	**0.35**	**322**	P	Pg	06 11 46.6	+0.5
MOMA				S	Sb	06 11 52.8	-0.7
MOMA				AML	AML		
	comp=E,84μm,1.0s						
MOMA				AML	AML		
	comp=N,62μm,0.1s						
SMA1	**SAN MARTINO**	**0.36**	**73**	P	Pg	06 11 46.9	+0.6
SMA1				S	Sb	06 11 53.5	-0.3
CAMP	**Campotosto**	**0.40**	**89**	P	Pg	06 11 47.6	+0.5
CAMP				AML	AML		
	comp=E,36μm,1.0s						
CAMP				AML	AML		
	comp=N,45μm,1.6s						
FDMO	**Fiordimonte**	**0.53**	**18**	P	Pg	06 11 49.6	+0.1
FDMO				S	Sb	06 11 57.6	-1.1
FDMO				AML	AML		
	comp=E,49μm,0.9s						
FDMO				AML	AML		
	comp=N,41μm,0.2s						
FDMO				AML	AML		
	comp=E,49μm,0.9s						
ASSB	**Assisi San Ben**	**0.54**	**344**	P	Pg	06 11 50.1	+0.5
ASSB				S	Sb	06 11 58.4	-0.4
ASSB				AML	AML		
	comp=N,42μm,1.4s						
ASSB				AML	AML		
	comp=E,47μm,1.2s						
EL6	**Elcito**	**0.82**	**12**	P	Pg	06 11 54.8	-0.1
EL6				S	Sb	06 12 07.3	+0.3
PP3	**Marolino**	**1.01**	**33**	⇓P	Pn	06 11 59.2	-0.3
SGG	**Gregorio Mates**	**1.60**	**135**	S	Sn	06 12 29.0	+0.2

SKO 25 06:14:14.8, 41°.02N×22°.43E, h1km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	**Griva**	**0.07**	**199**	*i* Pg	Pg	06 14 15.9	-0.2
GRG				*i* Sg	Sg	06 14 17.2	+0.3
VAY	**Valandovo**	**0.32**	**19**	*i* Pg	Pg	06 14 20.6	-0.3
VAY				*i* Sg	Sg	06 14 25.2	+0.1
VAY				*e*Lg	Lg	06 14 25.3	
	comp=E,7.3nm,0.6s						
KNT	**Kendrikon**	**0.38**	**68**	*i* Pg	Pg	06 14 21.6	-0.4
KNT				*i* Sg	Sg	06 14 27.0	0.0

SFS ***25*** *06:23:58.0, 35°.63N×3°.81W, ML3.1, ALBORAN SUR*
CNRM ***25*** *06:23:59.5, 35°.63N×3°.61W, h21km, ml3.1*
ISC 25 06:23:58.8±1.3, 35°.66N±0°.03×3°.69W±0°.04, h21km±4km, n21, σ1°.47/34, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.49**	**204**	P	**Pb**	**06 24 08.7**	**0.0**
PALE				S	**Sb**	**06 24 15.2**	**-0.1**
CHAS	**Isla Isabel II**	**1.14**	**115**	P	**Pn**	**06 24 19.1**	**-0.3**
CHAS				S	**Sb**	**06 24 32.8**	**-1.1**
EMAL	**Malaga-Limoner**	**1.25**	**332**	P	**Pn**	**06 24 21.6**	**+0.6**
EMAL				S	**Sb**	**06 24 38.2**	**+1.0**
CEU	**Ceuta**	**1.39**	**280**	P	**Pn**	**06 24 21.4**	**-1.5**
CEU				S	**Sn**	**06 24 36.2**	**-4.4**
CHEFC	**Chefchaouen**	**1.46**	**248**	P	**Pb**	**06 24 25.4**	**+0.2**
CHEFC				S	**Sb**	**06 24 42.4**	**-0.9**
JBK	**JBK**	**1.61**	**145**	P	**Pn**	**06 24 26.2**	**-0.1**
JBK				S	**Sn**	**06 24 45.3**	**-1.2**
CPS	**Cap Spartel**	**1.81**	**275**	P	**Pb**	**06 24 29.8**	**-1.4**
RSA	**Sarsar**	**1.91**	**247**	P	**Pb**	**06 24 33.2**	**+0.3**
RSA				S	**Sb**	**06 24 57.4**	**+1.1**
SICH	**Sidi Chahed**	**2.05**	**221**	P	**Pb**	**06 24 35.9**	**+0.6**
SICH				S	**Sb**	**06 25 01.8**	**+1.5**
LCRM	**LCR**	**2.19**	**206**	P	**Pb**	**06 24 38.2**	**+0.3**
LCRM				S	**Sb**	**06 25 03.9**	**-0.7**
IFR	**Ifrane**	**2.45**	**209**	P	**Pn**	**06 24 38.8**	**+1.1**
IFR				S	**Sn**	**06 25 06.5**	**-0.5**
CART	**Cartagena**	**2.89**	**48**	P	**Pn**	**06 24 46.2**	**+2.6**
CART				S	**Sn**	**06 25 16.2**	**-1.6**
MD31	**MD31**	**2.93**	**198**	P	**Pn**	**06 24 45.9**	**+1.8**
MD31				S	**Sn**	**06 25 18.8**	**+0.1**
MDT	**Midelt**	**2.94**	**195**	P	**Pn**	**06 24 46.5**	**+2.1**
PVAQ	**Vaqueiros**	**3.68**	**299**	P	**Pn**	**06 24 55.4**	**+1.0**
AVE	**Averroes**	**3.87**	**234**	P	**Pn**	**06 24 57.5**	**+0.4**
PFVI	**Vila Bisbo**	**4.39**	**291**	P	**Pn**	**06 25 05.3**	**+1.0**
PESTR	**Estremoz**	**4.46**	**317**	P	**Pn**	**06 25 07.6**	**+2.4**
EVO	**Evora**	**4.49**	**311**	P	**Pn**	**06 25 07.8**	**+2.2**
EVO				S	**Sn**	**06 25 56.6**	**-0.5**
OUK	**Oukaimeden**	**5.65**	**219**	P	**Pn**	**06 25 22.2**	**+0.3**
TTIG	**Tnine Tigouga,**	**6.47**	**219**	P	**Pn**	**06 25 32.1**	**-0.9**

IDC ***25*** *06:24:18.5±2.6, 20°.56S×178°.57W, h582km±20km, mb3.4/7, mb1 3.7/8, mb1mx3.4/28, mbtmp4.2/8, Error ellipse: s-maj=71.7km s-min=13.5km az=155.0*
NEIC ***25*** *06:24:18.6±1.5, 20°.5S±0°.1×178°.5W±0°.1, h582km±7km, mb4.3/12, Error ellipse: s-maj=20.9km s-min=14.1km az=132.0*
ISC 25 06:24:18.5±0.6, 20°.5S±0°.1×178°.53W±0°.09, h587km, n35, σ0°.88/38, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.25**	**310**	P	**P**	**06 25 44.6**	**-0.5**
	1.3nm,0.3s,baz=145,slow=9.6,SNR=7.6						
MSVF	**Nonsavu**	**4.25**	**310**	P	**P**	**06 25 44.4**	**-0.7**
NIUE	**Niue**	**8.23**	**81**	P	**P**	**06 26 18.3**	**-1.3**
RAO	**Raoul Island**	**8.72**	**176**	P	**P**	**06 26 25.0**	**+0.8**
DZM	**Mont Dzumac**	**14.09**	**261**	P	**P**	**06 27 17.9**	**-0.7**
	0.5nm,0.3s,baz=95,slow=19,SNR=8.6						
ARMA	**Armidale**	**28.61**	**244**	P	**P**	**06 29 29.4**	**+0.3**
ARMA				IAmb	IAmb	06 29 43.4	
	comp=Z,11nm,1.4s						
CTAO	**Charters Tower**	**32.99**	**264**	P	**P**	**06 30 07.3**	**+0.8**
CTAO				IAmb	IAmb	06 30 07.7	
	comp=Z,6.0nm,0.7s						
COEN	**Coen**	**37.08**	**274**	P	**P**	**06 30 41.5**	**+1.0**
COEN				IAmb	IAmb	06 30 41.8	
	comp=Z,5.4nm,0.8s						
BBOO	**Buckleboo**	**42.09**	**243**	P	**P**	**06 31 19.8**	**-0.6**
WR0	**Warramunga Arr**	**43.91**	**262**	P	**P**	**06 31 34.0**	**-0.7**
WR0				IAmb	IAmb	06 31 35.2	
	comp=Z,12nm,1.5s						
AS31	**Alice Springs**	**44.03**	**257**	P	**P**	**06 31 35.4**	**-0.1**
ASAR	**Alice Springs**	**44.03**	**257**	P	**P**	**06 31 35.4**	**-0.2**
	comp=Z,7.8nm,0.8s,baz=88,slow=8.3,SNR=58						
ASAR				PcP	**PcP**	**06 33 08.2**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=99,slow=3.8,SNR=9.0						
ASAR				S	**S**	**06 37 26.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=85,slow=15,SNR=4.2						
ASAR	**Alice Springs**	**44.03**	**257**	P	**P**	**06 31 35.2**	**-0.4**
WB0	**Warramunga Arr**	**44.08**	**262**	P	**P**	**06 31 35.8**	**-0.2**
WB0				IAmb	IAmb	06 31 36.2	
	comp=Z,6.2nm,0.6s						
WB2	**Warramunga Arr**	**44.09**	**262**	P	**P**	**06 31 36.0**	**-0.1**
WB2				IAmb	IAmb	06 31 36.4	
	comp=Z,9.2nm,1.1s						
WRA	**Warramunga Arr**	**44.10**	**262**	P	**P**	**06 31 35.9**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=97,slow=8.4,SNR=28						
WRA	**Warramunga Arr**	**44.10**	**262**	P	**P**	**06 31 35.7**	**-0.4**
FORT	**Forrest**	**48.83**	**247**	P	**P**	**06 32 10.5**	**-1.1**
QSPA	**South Pole Qui**	**69.55**	**180**	P	**P**	**06 34 28.7**	**-0.5**
JNU	**Nakatsue**	**71.94**	**317**	P	**P**	**06 34 43.0**	**-0.7**
NVAR	**Mina Array Bea**	**81.38**	**44**	P	**P**	**06 35 35.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=223,slow=9.2,SNR=10						
F10A	**Beach Ranch, E**	**86.32**	**38**	P	**P**	**06 35 59.9**	**+0.7**
TXAR	**Lajitas Array**	**87.49**	**58**	P	**P**	**06 36 06.3**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=220,slow=6.2,SNR=9.3						
TXAR	**Lajitas Array**	**87.49**	**58**	P	**P**	**06 36 05.9**	**+0.9**
ILAR	**Eielson Array**	**88.44**	**13**	P	**P**	**06 36 08.3**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=219,slow=6.0,SNR=9.9						
PDAR	**Pinedale Array**	**89.32**	**43**	P	**P**	**06 36 13.8**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=215,slow=3.5,SNR=12						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**06 36 17.0**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=134,slow=3.7,SNR=7.0						
ARCES	**ARCESS Array B**	**128.85**	**349**	PKP	**PKPdf**	**06 42 19.2**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=41,slow=2.2,SNR=6.9						
AKASG	**Malin Array Be**	**142.78**	**331**	PKP	**PKPdf**	**06 42 43.2**	**-2.4**
	comp=Z,1.5nm,0.5s,baz=43,slow=4.3,SNR=46						
AKBB	**Malin Array Si**	**142.78**	**331**		**PKPdf**	**06 42 43.4**	**-2.2**
BRTR	**Keskin Array B**	**146.48**	**312**	PKPbc	**PKPbc**	**06 42 55.5**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=146,slow=5.2,SNR=8.4						
CLL	**Collm**	**147.96**	**346**	*i* PKPbc	**PKPbc**	**06 42 58.9**	**+0.5**
	comp=Z,8.0nm,0.9s						
CLL				*i* PKPab	**PKPab**	**06 43 04.0**	**+0.8**
	comp=Z,4.0nm,0.7s						
MLR	**Muntele Rosu**	**147.96**	**327**	PKPbc	**PKPbc**	**06 42 59.3**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=97,slow=6.0,SNR=3.7						
KHC	**Kasperske Hory**	**149.85**	**344**	*e*PKP	**PKPbc**	**06 43 03.5**	**+0.4**
GERES	**GERESS Array B**	**150.08**	**344**	PKPbc	**PKPbc**	**06 43 04.0**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=321,slow=1.7,SNR=9.9						

MDD ***25*** *06:30:42.9±0.6, 35°.47N×3°.81W, h0km, mbLg3.7/18, Error ellipse: s-maj=5.6km s-min=3.6km az=20.0*
IDC ***25*** *06:30:42.3±1.0, 35°.62N×3°.95W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/47, mbtmp3.7/8, ML3.6/3, MS3.7/2, Ms1 3.8/2, ms1mx3.4/97, Error ellipse: s-maj=32.4km s-min=20.7km az=90.0*
SFS ***25*** *06:30:42.0, 35°.47N×3°.80W, ML3.7, ALBORAN SUR*
CNRM ***25*** *06:30:43.6, 35°.47N×3°.80W, h18km, ml4.2*
INMG ***25*** *06:30:43.1±2.1, 35°.46N×3°.80W, h8km±5km, MD3.8, ML3.4, Error ellipse: s-maj=4.6km s-min=3.2km az=11.0*
IGIL ***25*** *06:30:43.7, 35°.47N×3°.81W, h0km, ML3.3*
LDG ***25*** *06:30:45.7±0.3, 35°.47N×3°.73W, h10km, Ml3.1/8, Error ellipse: s-maj=5.9km s-min=3.2km az=178.0*
ISC 25 06:30:43.5±0.9, 35°.47N±0°.03×3°.73W±0°.02, h19km±3km, n130, σ2°.05/206, mb3.8/5, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.30**	**214**	P	**Pg**	**06 30 49.1**	**-1.2**
PALE				S	**Sg**	**06 30 53.7**	**-1.2**
EMEL	**Melilla**	**0.66**	**105**	Pg	**Pg**	**06 30 55.8**	**-0.7**
	1μm,0.1s,SNR=16						
EMEL				Lg	Lg	06 31 05.3	
	6μm,0.2s,SNR=14						
EALB	**Alboran**	**0.73**	**50**	Pg	**Pg**	**06 30 57.5**	**-0.5**
	796nm,0.3s,SNR=35						
EALB				Lg	Lg	06 31 07.7	
	1μm,0.2s,SNR=15						
CHAS	**Isla Isabel II**	**1.10**	**105**	P	**Pb**	**06 31 02.6**	**-1.3**
CHAS				S	**Sb**	**06 31 16.9**	**-1.0**
CHEFC	**Chefchaouen**	**1.37**	**255**	P	**Pn**	**06 31 06.6**	**-1.0**
CHEFC				S	**Sn**	**06 31 25.2**	**-0.1**
EMIJ	**Mijas**	**1.38**	**323**	Pg	**Pn**	**06 31 07.4**	**-0.5**
	55nm,0.3s,SNR=9.8						
EMIJ				Lg	Lg	06 31 24.9	
	314nm,0.2s,SNR=9.9						
ELGU	**Los Guajares,**	**1.40**	**3**	Pg	**Pn**	**06 31 07.3**	**-0.8**
	147nm,0.4s,SNR=7.9						
ELGU				Lg	Lg	06 31 26.4	
	2μm,0.5s,SNR=7.9						
CEU	**Ceuta**	**1.40**	**288**	P	**Pn**	**06 31 06.1**	**-2.0**
CEU				S	**Sn**	**06 31 20.7**	**-5.4**
ECEU	**Ceuta**	**1.41**	**288**	Pg	**Pn**	**06 31 05.9**	**-2.3**
	36nm,0.1s,SNR=18						
ECEU				Lg	Lg	06 31 22.4	
	298nm,0.2s,SNR=10						
EMAL	**Malaga-Limoner**	**1.41**	**337**	P	**Pn**	**06 31 07.3**	**-0.8**
EMAL				S	**Sn**	**06 31 25.1**	**-1.0**
JBK	**JBK**	**1.48**	**140**	P	**Pn**	**06 31 08.6**	**-0.8**
JBK				S	**Sn**	**06 31 27.9**	**-0.4**
EBER	**Berja**	**1.58**	**25**	Pg	**Pn**	**06 31 10.0**	**-0.7**
	71nm,0.3s,SNR=14						
EBER				Lg	Lg	06 31 28.4	
	2μm,1.1s,SNR=9.7						
EGOR	**Sierra Gorda,**	**1.66**	**350**	Pg	**Pn**	**06 31 12.3**	**+0.4**
	73nm,0.4s,SNR=7.9						
EGOR				Lg	Lg	06 31 33.9	
	2μm,0.8s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.72**	**305**	Pg	**Pb**	**06 31 14.1**	**-0.4**
	SNR=7.9						
EQUE	**Quentar**	**1.75**	**8**	Pn	**Pn**	**06 31 13.7**	**+0.8**
	11nm,0.4s,SNR=6.2						
EQUE				Pg	**Pb**	**06 31 15.6**	**+0.6**
	47nm,0.3s,SNR=21						
EQUE				Sn	**Sn**	**06 31 34.6**	**-0.1**
	129nm,0.6s,SNR=15						
EQUE				Lg	Lg	06 31 39.7	
	514nm,0.8s,SNR=5.6						
RSA	**Sarsar**	**1.81**	**252**	P	**Pn**	**06 31 15.1**	**+1.4**
RSA				S	**Sn**	**06 31 33.2**	**-3.0**
SICH	**Sidi Chahed**	**1.89**	**224**	P	**Pn**	**06 31 15.7**	**+0.9**
SICH				S	**Sb**	**06 31 41.4**	**+0.8**
ENIJ	**Nijar**	**1.94**	**39**	Pn	**Pn**	**06 31 15.0**	**-0.6**
	10nm,0.2s,SNR=7.9						
ENIJ				Pg	**Pb**	**06 31 19.0**	**+0.7**
	69nm,0.3s,SNR=7.9						
ENIJ				Sn	**Sn**	**06 31 37.6**	**-1.8**
	210nm,0.3s,SNR=7.9						
LCRM	**LCR**	**2.01**	**208**	P	**Pn**	**06 31 18.3**	**+1.7**
LCRM				S	**Sn**	**06 31 42.6**	**+1.4**
SFS	**San Fernando**	**2.24**	**297**	P	**Pn**	**06 31 21.0**	**+1.4**
IFR	**Ifrane**	**2.27**	**211**	P	**Pn**	**06 31 19.5**	**-0.6**
IFR				S	**Sn**	**06 31 44.3**	**-3.3**
EQES	**Quesada**	**2.39**	**13**	Pg	**Pn**	**06 31 23.9**	**+2.2**
	41nm,0.3s,SNR=21						
EQES				Sn	**Sn**	**06 31 51.1**	**+0.6**
	120nm,0.3s,SNR=7.5						
EQES				Lg	Lg	06 31 59.6	
	619nm,0.9s,SNR=12						
TLOR	**Lorca, Murcia**	**2.73**	**36**	Sn	**Sn**	**06 31 58.4**	**-0.5**
	124nm,0.3s,SNR=7.9						
MD31	**MD31**	**2.73**	**198**	P	**Pn**	**06 31 27.2**	**+0.7**
MDT	**Midelt**	**2.75**	**196**	Pn	**Pn**	**06 31 27.6**	**+1.0**
	7.2nm,0.3s,baz=358,slow=5.2,SNR=26						
MDT				Sn	**Sn**	**06 32 00.4**	**+1.0**
	14nm,0.3s,baz=340,slow=20,SNR=5.6						
MDT	**Midelt**	**2.75**	**196**	P	**Pn**	**06 31 28.4**	**+1.7**
EADA	**Adamuz**	**2.78**	**346**	Pn	**Pn**	**06 31 27.9**	**+0.9**
	2.9nm,0.1s,SNR=9.0						
EADA				Pg	**Pb**	**06 31 32.2**	**-0.4**
	15nm,0.2s,SNR=23						
EADA				Lg	Lg	06 32 06.2	
	499nm,0.7s,SNR=4.7						
TDRA	**Tendrara**	**2.81**	**149**	P	**Pn**	**06 31 30.4**	**+2.9**
EZAR	**Zarzadilla de**	**2.91**	**34**	Pn	**Pn**	**06 31 28.7**	**-0.2**
	11nm,0.4s,SNR=7.9						
EZAR				Sn	**Sn**	**06 32 02.2**	**-1.1**
	14nm,0.2s,SNR=7.9						
ARNO	**Arenosillo**	**2.92**	**305**	P	**Pn**	**06 31 30.7**	**+1.8**
ARNO				S	**Sn**	**06 32 03.1**	**-0.3**
ECAB	**El Cabril**	**2.93**	**333**	Pn	**Pn**	**06 31 30.6**	**+1.5**
	2.1nm,0.3s,SNR=14						
ECAB				Pg	**Pb**	**06 31 36.0**	**+0.8**
	16nm,0.3s,SNR=13						
ECAB				Sn	**Sn**	**06 32 03.5**	**-0.3**
	29nm,0.3s,SNR=5.5						
CART	**Cartagena**	**3.05**	**45**	P	**Pn**	**06 31 31.0**	**+0.3**
CART				S	**Sn**	**06 32 04.2**	**-2.4**
CART	**Cartagena**	**3.05**	**45**	P	**Pn**	**06 31 29.8**	**-0.9**
EMUR	**La Murta**	**3.10**	**40**	Pn	**Pn**	**06 31 31.9**	**+0.4**
	5.7nm,0.3s,SNR=7.3						
EMUR				Sn	**Sn**	**06 32 05.9**	**-2.2**
	40nm,0.3s,SNR=68						
EMIN	**Mina Concepcio**	**3.29**	**315**	Pn	**Pn**	**06 31 33.4**	**-0.7**
	6.9nm,0.2s,SNR=16						
EMIN				Sn	**Sn**	**06 32 10.8**	**-2.0**
	16nm,0.3s,SNR=5.3						
ETOB	**Tobarra**	**3.62**	**28**	Pn	**Pn**	**06 31 40.6**	**+2.0**
	26nm,0.2s,SNR=70						
ETOB				Sn	**Sn**	**06 32 21.1**	**+0.3**
	11nm,0.3s,SNR=4.5						
ETOB				Lg	Lg	06 32 40.2	
	400nm,1.3s,SNR=7.9						
EGRO	**El Granado**	**3.66**	**305**	Pn	**Pn**	**06 31 38.5**	**-0.6**
	36nm,0.3s,SNR=22						
EGRO				Sn	**Sn**	**06 32 18.6**	**-3.1**
	42nm,0.2s,SNR=5.0						
AVE	**Averroes**	**3.74**	**236**	P	**Pn**	**06 31 39.0**	**-1.2**
AVE	**Averroes**	**3.74**	**236**	P	**Pn**	**06 31 40.3**	**+0.1**
PVAQ	**Vaqueiros**	**3.75**	**302**	*e*Pn	**Pn**	**06 31 40.5**	**+0.1**
PVAQ				*e*Sn	**Sn**	**06 32 21.4**	**-2.6**
PVAQ				A	A	06 32 23.5	
	79nm,0.5s						
PVAQ	**Vaqueiros**	**3.75**	**302**	P	**Pn**	**06 31 39.8**	**-0.6**
PBAR	**Barrancos**	**3.79**	**316**	*e*Pn	**Pn**	**06 31 40.9**	**0.0**
PBAR				*e*Sn	**Sn**	**06 32 24.4**	**-0.5**
PBDV	**Barranco-do-Ve**	**3.82**	**299**	*e*Pn	**Pn**	**06 31 41.0**	**-0.4**
PBDV				*e*Sn	**Sn**	**06 32 23.4**	**-2.5**
PBDV				A	A	06 32 41.0

PTEO	**Sao Teotonio**	**4.52 299**	*e*Pn	**Pn**	**06 31 51.4**	**+0.4**
PTEO			*e*Sn	**Sn**	**06 32 40.7**	**-2.4**
PTEO			A	A	06 33 00.1	
	comp=N,39nm,0.5s					
PESTR	**Estremoz**	**4.58 319**	*e*Pn	**Pn**	**06 31 52.9**	**+1.1**
PESTR			*e*Sn	**Sn**	**06 32 41.8**	**-2.7**
PESTR			A	A	06 33 01.7	
	comp=N,38nm,0.6s					
PESTR	**Estremoz**	**4.58 319**	P	**Pn**	**06 31 52.3**	**+0.5**
EVO	**Evora**	**4.59 313**	P	**Pn**	**06 31 52.7**	**+0.7**
EVO			S	**Sn**	**06 32 41.4**	**-3.4**
EVO	**Evora**	**4.59 313**	*e*Pn	**Pn**	**06 31 52.4**	**+0.5**
EVO			*e*Sn	**Sn**	**06 32 41.8**	**-2.9**
EVO			A	A	06 32 56.0	
	comp=N,41nm,0.5s					
ECHE	**Chera**	**4.66 27**	Pn	**Pn**	**06 31 54.1**	**+1.1**
	comp=N,2.4nm,0.2s,SNR=7.9					
PNCL	**Nicolau / Gran**	**4.67 306**	*e*Pn	**Pn**	**06 31 52.5**	**-0.5**
PNCL			*e*Sn	**Sn**	**06 32 43.8**	**-2.8**
PNCL			A	A	06 33 02.0	
	comp=N,29nm,0.6s					
UCM	**Universidad Co**	**4.84 4**	P	**Pn**	**06 31 59.7**	**+4.3**
UCM			S	**Sn**	**06 32 51.5**	**+0.4**
PMRV	**Marv??o**	**4.91 325**	*e*Pn	**Pn**	**06 31 57.2**	**+0.9**
PMRV			*e*Sn	**Sn**	**06 32 53.0**	**+0.4**
PMRV			A	A	06 33 06.3	
	comp=N,30nm,0.6s					
TZRR	**Tazzarine**	**4.92 199**	P	**Pn**	**06 31 58.8**	**+2.2**
EPLA	**Plasencia**	**4.95 339**	Pn	**Pn**	**06 31 58.5**	**+1.6**
	comp=N,3.9nm,0.2s,SNR=6.1					
EPLA			Sn	**Sn**	**06 32 52.1**	**-1.5**
	comp=N,12nm,0.4s,SNR=7.0					
EPLA			Lg	Lg	06 33 19.6	
	comp=N,43nm,0.6s,SNR=5.0					
PMTG	**Montargil**	**5.07 316**	*e*Pn	**Pn**	**06 31 58.9**	**+0.3**
PMTG			*e*Sn	**Sn**	**06 32 54.8**	**-1.8**
PMTG			A	A	06 33 01.5	
	comp=N,30nm,0.5s					
GUD	**Guadarrama**	**5.17 356**	Pn	**Pn**	**06 32 00.8**	**+0.7**
	comp=N,7.2nm,0.5s,SNR=9.6					
GUD			Sn	**Sn**	**06 32 55.6**	**-3.7**
	comp=N,5.7nm,0.4s,SNR=7.9					
GUD			Lg	Lg	06 33 26.2	
	comp=N,139nm,1.2s,SNR=5.0					
OUZM	**OUZ**	**5.21 210**	P	**Pn**	**06 32 02.0**	**+1.4**
PCBR	**Castelo Branco**	**5.28 327**	*e*Pn	**Pn**	**06 32 02.1**	**+0.7**
PCBR			*e*Sn	**Sn**	**06 33 00.0**	**-1.7**
PCBR			A	A	06 33 42.4	
	comp=N,28nm,0.6s					
EIBI	**Ibiza**	**5.38 47**	Pn	**Pn**	**06 32 02.9**	**0.0**
	comp=N,4.2nm,0.2s,SNR=11					
EIBI			Sn	**Sn**	**06 33 00.6**	**-3.7**
	comp=N,7.8nm,0.2s,SNR=7.9					
PMST	**Lisbon--Monsan**	**5.44 308**	*e*Pn	**Pn**	**06 32 02.9**	**-0.7**
OUK	**Oukaimeden**	**5.48 220**	P	**Pn**	**06 32 03.3**	**-1.2**
ETOR	**Torete**	**5.50 13**	Pn	**Pn**	**06 32 05.6**	**+1.1**
	comp=N,10nm,0.2s,SNR=9.1					
ETOR			Sn	**Sn**	**06 33 02.7**	**-4.6**
	comp=N,11nm,0.3s,SNR=7.9					
ETOR			Lg	Lg	06 33 39.4	
	comp=N,120nm,0.9s,SNR=7.9					
EMOS	**Mosqueruela**	**5.52 27**	Pn	**Pn**	**06 32 05.9**	**+1.0**
	comp=N,2.3nm,0.4s,SNR=6.7					
ZGR	**Zagora**	**5.57 197**	P	**Pn**	**06 32 05.8**	**+0.3**
PMAFR	**Mafra**	**5.63 310**	*e*Pn	**Pn**	**06 32 06.3**	**+0.1**
PMAFR			*e*Sn	**Sn**	**06 33 08.0**	**-2.4**
PMAFR			A	A	06 33 29.8	
	comp=N,52nm,0.5s					
PMAFR	**Mafra**	**5.63 310**	Pn	**Pn**	**06 32 06.5**	**+0.3**
	comp=N,20nm,0.2s,SNR=6.9					
PMAFR			Sn	**Sn**	**06 33 03.7**	**-6.8**
	comp=N,29nm,0.4s,SNR=7.9					
PSBE	**So Bento**	**5.70 317**	*e*Pn	**Pn**	**06 32 07.9**	**+0.7**
PSBE			*e*Sn	**Sn**	**06 33 09.6**	**-2.5**
PSBE			A	A	06 34 08.7	
	comp=N,29nm,0.8s					
MTE	**Manteigas**	**5.77 330**	*e*Pn	**Pn**	**06 32 08.9**	**+0.7**
MTE			*e*Sn	**Sn**	**06 33 13.2**	**-0.7**
MTE			A	A	06 33 55.5	
	comp=N,72nm,0.6s					
PCAS	**Casmilo, Conde**	**5.93 322**	*e*Pn	**Pn**	**06 32 12.3**	**+2.0**
PCAS			*e*Sn	**Sn**	**06 33 15.2**	**-2.6**
PCAS			A	A	06 34 10.2	
	comp=N,31nm,0.6s					
PVIS	**Viseu**	**6.18 329**	*e*Pn	**Pn**	**06 32 14.4**	**+0.6**
PVIS			*e*Sn	**Sn**	**06 33 22.2**	**-1.8**
PVIS			A	A	06 33 34.3	
	comp=N,26nm,0.7s					
MVO	**Moncorvo**	**6.25 336**	*e*Pn	**Pn**	**06 32 15.9**	**+1.2**
MVO			*e*Sn	**Sn**	**06 33 23.9**	**-1.8**
MVO			A	A	06 34 15.3	
	comp=N,41nm,0.7s					
MVO	**Moncorvo**	**6.25 336**	Pn	**Pn**	**06 32 15.7**	**+0.9**
	comp=N,19nm,0.4s,SNR=14					
MVO			Sn	**Sn**	**06 33 22.2**	**-3.5**
	comp=N,28nm,0.5s,SNR=7.9					
TTIG	**Tnine Tigouga,**	**6.30 220**	P	**Pn**	**06 32 12.8**	**-2.8**
ERTA	**Horta de San J**	**6.34 29**	Pn	**Pn**	**06 32 17.9**	**+1.9**
	comp=N,3.4nm,0.3s,SNR=8.2					
ERTA			Sn	**Sn**	**06 33 25.9**	**-2.1**
	comp=N,1.9nm,0.4s,SNR=7.9					
PVRL	**Vila Real**	**6.59 333**	*e*Pn	**Pn**	**06 32 20.4**	**+1.0**
PVRL			*e*Sn	**Sn**	**06 33 31.2**	**-2.8**
PVRL			A	A	06 33 44.3	
	comp=N,27nm,0.6s					
POLO	**Lamas de Olo**	**6.70 333**	*e*Pn	**Pn**	**06 32 20.5**	**-0.5**
POLO			*e*Sn	**Sn**	**06 33 33.5**	**-3.4**
POLO			A	A	06 34 22.9	
	comp=N,12nm,0.7s					
ETOS	**Mallorca**	**6.74 49**	Pn	**Pn**	**06 32 21.8**	**+0.4**
	comp=N,5.2nm,0.3s,SNR=24					
ETOS			Sn	**Sn**	**06 33 33.3**	**-4.4**
	comp=N,2.6nm,0.4s,SNR=7.9					
PBRG	**Braganca**	**6.75 340**	*e*Pn	**Pn**	**06 32 23.0**	**+1.4**
PBRG			*e*Sn	**Sn**	**06 33 34.4**	**-3.6**
PBRG			A	A	06 33 43.0	
	comp=N,21nm,0.6s					
PTO	**Porto**	**6.83 327**	*e*Pn	**Pn**	**06 32 24.3**	**+1.6**
PTO			*e*Sn	**Sn**	**06 33 37.6**	**-2.3**
EPOB	**Poblet**	**6.98 31**	Pn	**Pn**	**06 32 26.6**	**+1.8**
	comp=N,0.6nm,0.2s,SNR=7.9					
PCAB	**Cabril**	**7.08 333**	*e*Pn	**Pn**	**06 32 25.4**	**-0.7**
PCAB			*e*Sn	**Sn**	**06 33 42.2**	**-3.9**
PCAB			A	A	06 34 34.4	
	comp=N,37nm,0.7s					
ELOB	**Lobios**	**7.23 333**	Pn	**Pn**	**06 32 29.3**	**+1.1**
	comp=N,3.4nm,0.3s,SNR=7.1					
ELOB			Sn	**Sn**	**06 33 45.0**	**-4.8**
	comp=N,5.7nm,0.3s,SNR=5.2					
PGAV	**Gavieira, Arco**	**7.39 333**	*e*Pn	**Pn**	**06 32 31.8**	**+1.3**
PGAV			*e*Sn	**Sn**	**06 33 49.3**	**-4.5**
PGAV			A	A	06 34 03.9	
	comp=N,20nm,0.7s					
EORO	**Oroz-Betelu**	**7.65 13**	Pn	**Pn**	**06 32 35.1**	**+1.2**
	comp=N,2.0nm,0.2s,SNR=11					
ELAN	**Lanestosa**	**7.75 2**	Pn	**Pn**	**06 32 36.8**	**+1.4**
	comp=N,1.4nm,0.2s,SNR=8.3					
ETSF	**Etsaut**	**7.81 17**	*e*Pn	**Pn**	**06 32 37.3**	**+1.0**
ETSF			*e*Sn	**Sn**	**06 34 01.7**	**-2.5**
	comp=N,1.7nm,0.3s					
CSOR	**Sort**	**7.87 27**	Pn	**Pn**	**06 32 38.8**	**+1.7**
	comp=N,2.5nm,0.3s,SNR=9.4					
SJPF	**Ste Jean**	**7.88 14**	*e*Pn	**Pn**	**06 32 37.0**	**0.0**
SJPF	**Ste Jean**	**7.88 14**	*e*P	Pn	06 32 42.3	+5.3
SJPF			*e*Sn	**Sn**	**06 34 01.8**	**-3.8**
	comp=N,0.7nm,0.3s					
SJPF			*e*Sg	Sb	06 34 50.5	+18
	comp=N,2.0nm,0.4s					
EARI	**Arriondas**	**7.90 352**	Pn	**Pn**	**06 32 38.9**	**+1.5**
	comp=N,1.7nm,0.4s,SNR=7.5					
EARI			Sn	**Sn**	**06 34 07.6**	**+1.2**
	comp=N,1.6nm,0.4s,SNR=7.9					
EARI			Lg	Lg	06 34 52.8	
	comp=N,55nm,0.8s,SNR=7.9					
EALK	**Alkurruntz**	**7.93 12**	Pn	**Pn**	**06 32 40.0**	**+2.2**
	comp=N,18nm,0.3s,SNR=10.0					
ATE	**Arette**	**7.96 16**	Pn	**Pn**	**06 32 40.7**	**+2.5**
	comp=N,1.4nm,0.3s,SNR=7.9					
EAGO	**Agolada(Pontev**	**8.06 337**	Pn	**Pn**	**06 32 41.9**	**+2.2**
	comp=N,2.1nm,0.4s,SNR=7.9					
EAGO			Sn	**Sn**	**06 34 06.0**	**-4.3**
	comp=N,2.1nm,0.3s,SNR=7.9					
EPF	**Esparros**	**8.18 21**	*e*Pn	**Pn**	**06 32 40.5**	**-0.8**
EPF	**Esparros**	**8.18 21**	*e*P	Pn	06 32 47.8	+6.5
EPF			*e*Sn	**Sn**	**06 34 10.3**	**-2.9**
	comp=N,2.4nm,0.4s					
EPON	**Pontenova**	**8.28 342**	Pn	**Pn**	**06 32 44.1**	**+1.5**
	comp=N,12nm,0.9s,SNR=5.0					
EPON			Sn	**Sn**	**06 34 11.3**	**-4.2**
	comp=N,2.0nm,0.3s,SNR=7.9					
CLLI	**Llivia**	**8.29 31**	Pn	**Pn**	**06 32 44.6**	**+1.8**
	comp=N,0.3nm,0.2s,SNR=7.9					
MTLF	**Montolieu**	**9.11 29**	*e*Pn	**Pn**	**06 32 54.4**	**+0.5**
MTLF			*e*Sn	**Sn**	**06 34 30.8**	**-5.0**
	comp=N,0.4nm,0.2s					
TANT	**Tantan**	**9.50 224**	P	**Pn**	**06 32 57.6**	**-1.7**
KEST	**Kesra**	**10.65 85**	LR	LR	06 37 57.6	
	comp=N,728nm,20.3s,baz=338,slow=40					
SMRF	**Simiane la Rot**	**11.11 37**	*e*Sn	**Sn**	**06 35 19.2**	**-5.8**
	comp=N,0.4nm,0.2s					
LMR	**La Mourre**	**11.15 42**	*e*Pn	**Pn**	**06 33 22.6**	**+0.8**
ORIF	**Oris-en-Rattie**	**11.95 35**	*e*Pn	**Pn**	**06 33 33.9**	**+1.0**
ORIF	**Oris-en-Rattie**	**11.95 35**	*e*P	Pn	06 33 39.2	+6.3
ORIF			*e*Sn	Sn	06 35 38.0	-7.7
	comp=N,0.9nm,0.3s					
SBF	**Sospel**	**12.00 42**	*e*Pn	**Pn**	**06 33 33.7**	**+0.1**
PGF	**Pioggiola**	**12.16 51**	*e*Pn	**Pn**	**06 33 36.6**	**+0.8**
PGF			*e*Sn	**Sn**	**06 35 44.3**	**-6.5**
	comp=N,0.5nm,0.3s					
LPL	**La Plagne**	**12.80 35**	*e*Pn	**Pn**	**06 33 45.0**	**+0.4**
GERES	**GERESS Array B**	**18.53 39**	P	**Pn**	**06 35 00.1**	**+0.9**
	comp=N,0.1nm,0.3s,baz=224,slow=9.3,SNR=4.5					
CLL	**Collm**	**19.89 32**	*e*P	**Pn**	**06 35 16.0**	**+0.7**
	comp=Z,8.0nm,1.1s					
CLL			*e*pP	**pP**	**06 35 19.0**	**+0.2**
	comp=Z,13nm,1.3s					
TORD	**Torodi Ar. Bea**	**22.76 166**	P	**P**	**06 35 49.6**	**+4.8**
	comp=Z,1.3nm,0.8s,baz=352,slow=10,SNR=6.5					
MKAR	**Makanchi Array**	**62.70 50**	P	**P**	**06 41 08.7**	**+1.6**
	comp=Z,1.9nm,0.9s,baz=298,slow=5.4,SNR=8.1					
YKA	**Yellowknife Ar**	**67.88 332**	P	**P**	**06 41 40.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=60,slow=6.4,SNR=13					
PDAR	**Pinedale Array**	**76.89 313**	P	**P**	**06 42 34.8**	**0.0**
	comp=Z,0.8nm,0.8s,baz=60,slow=6.4,SNR=6.9					
TXAR	**Lajitas Array**	**80.88 299**	P	**P**	**06 42 58.6**	**+1.9**
	comp=Z,0.2nm,0.8s,baz=82,slow=8.3,SNR=2.4					

*IDC **25** 06:32:05.3±5.8, 13°.09N×91°.70W, h0km, mb3.3/2, mb1 3.8/5, mb1mx3.5/37, mbtmp3.4/5, ML3.7/3, Error ellipse: s-maj=91.6km s-min=33.9km az=158.0*
*SNET **25** 06:32:14.9±0.9, 13°.58N×91°.67W, h35km±31km, ML3.2*
*GCG **25** 06:32:17.5±0.3, 13°.97N×91°.70W, h85km, MD4.1*
ISC 25 06:32:12.2±3.6,**13°.45N**±0°.10×**91°.79W**±0°.07,**h27**km±25km, **n24**,σ0**°99**/30,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**1.27**	**10**	*e*P	**Pn**	**06 32 34.8**	**+0.4**
FUG	**Fuego 3**	**1.35**	**43**	*e*P	**Pn**	**06 32 35.8**	**+0.3**
FUG				*e*S	**Sn**	**06 32 52.2**	**-0.4**
NBG	**Las Nubes**	**1.80**	**51**	*e*P	**Pn**	**06 32 43.4**	**+1.7**
HUEH	**Huehuetenango**	**1.87**	**9**	*e*P	**Pn**	**06 32 43.4**	**+0.6**
NUBE	**Las Nubes**	**2.00**	**77**	*e*P	**Pn**	**06 32 44.1**	**-0.3**
NUBE				*e*S	**Sn**	**06 33 07.1**	**-1.6**
NUBE				IAML		06 33 17.1	
	comp=Z,89nm,0.4s						
APG	**El Apazote**	**2.01**	**40**	Pn	**Pn**	**06 32 45.4**	**+0.8**
	comp=Z,49nm,0.3s,baz=249,slow=8.7,SNR=843						
APG				Sn	**Sb**	**06 33 12.1**	**-0.8**
	comp=Z,33nm,0.3s,baz=138,slow=20,SNR=12						
SLOZ	**Alcaldia de Sa**	**2.03**	**73**	*e*P	**Pn**	**06 32 44.7**	**0.0**
SLOZ				*e*S	**Sn**	**06 33 08.6**	**-0.6**
SLOZ				IAML		06 33 14.9	
	comp=Z,144nm,0.6s						
RTR	**El Retiro**	**2.13**	**78**	*e*P	**Pn**	**06 32 47.1**	**+0.9**
CEVE	**Cerro Verde**	**2.14**	**80**	*e*P	**Pn**	**06 32 46.6**	**+0.3**
CEVE				IAML		06 33 31.8	
	comp=Z,375nm,0.3s						
JAYA	**Jayaque - finc**	**2.29**	**85**	*e*P	**Pn**	**06 32 48.0**	**-0.3**
JAYA				*e*S	**Sn**	**06 33 14.1**	**-1.6**
JAYA				IAML		06 33 23.2	
	comp=Z,258nm,0.3s						
TACO	**Tacachico**	**2.42**	**77**	*e*P	**Pn**	**06 32 50.6**	**+0.6**
SNET	**Serv Nac Est T**	**2.50**	**84**	*e*P	**Pn**	**06 32 51.9**	**+0.7**
MTO3	**Montecristo**	**2.54**	**68**	*e*P	**Pn**	**06 32 52.6**	**+0.7**
MRL	**Marmol**	**2.60**	**51**	*e*P	**Pn**	**06 32 55.1**	**+2.3**
ESQI	**Esquipulas**	**2.62**	**65**	*e*P	**Pn**	**06 32 53.2**	**+0.4**
LFRS	**El Faro**	**2.66**	**86**	*e*P	**Pn**	**06 32 54.0**	**+0.6**
SJTE	**Alcalda de S**	**2.71**	**86**	*e*P	**Pn**	**06 32 55.0**	**+0.9**
SJTE				*e*S	**Sn**	**06 33 26.2**	**+0.1**
SCLA	**Alcaldia de Sa**	**2.99**	**85**	*e*P	**Pn**	**06 32 59.2**	**+1.3**
COEB	**Comit de Eme**	**3.17**	**89**	*e*P	**Pn**	**06 33 01.8**	**+1.3**
COEB				IAML		06 33 47.0	
	comp=Z,52nm,0.4s						
LCND	**La Caada**	**3.80**	**92**	*e*P	**Pn**	**06 33 09.8**	**+0.8**
LCND				IAML		06 33 18.8	
	comp=Z,72nm,0.3s						
CMIG	**Matias Romero**	**4.69**	**321**	Pn	**Pn**	**06 33 21.0**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=166,slow=12,SNR=17						
TXAR	**Lajitas Array**	**19.26**	**327**	P	**Pn**	**06 36 36.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=7.1						
NVAR	**Mina Array Bea**	**34.22**	**321**	P	**P**	**06 38 56.8**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=140,slow=7.5,SNR=2.7						
YKA	**Yellowknife Ar**	**51.60**	**347**	P	**P**	**06 41 15.1**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=147,slow=7.2,SNR=11						

*DNK **25** 06:37:29.3±2.1, 71°.30N×9°.25W, h15km±20km, ML3.0, Probable volcanic*
*BER **25** 06:37:30.7±0.4, 71°.25N×9°.04W, h3km±56km, ML2.9, Confirmed Earthquake*
ISC 25 06:37:27.6±1.0,**71°.35N**±0°.07×**9°.1W**±0°.1,**h10**km,**n7**, σ1**°79**/14,**4C,Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.40**	**145⇑**	*i*P	**Pb**	**06 37 36.9**	**+0.2**
JNW				*e*S	**Sg**	**06 37 40.9**	**+0.3**
JNW				IAML		06 37 46.3	
	comp=Z,2μm,0.3s						
JMIC	**Jan Mayen**	**0.42**	**151⇑**	*i*P	**Pb**	**06 37 37.1**	**0.0**
JMIC				*e*S	**Sb**	**06 37 41.8**	**-1.6**
JMIC				IAML		06 37 41.9	
	comp=Z,742nm,0.3s						
JMI	**Jan Mayen**	**0.45**	**163⇑**	*i*P	**Pb**	**06 37 37.5**	**0.0**
JMI				*e*S	**Sg**	**06 37 42.3**	**+0.2**
JMI				IAML		06 37 49.5	
	comp=Z,632nm,0.4s						
JNE	**Jan Mayen East**	**0.45**	**144⇑**	*i*P	**Pb**	**06 37 37.5**	**-0.1**
JNE				*e*S	**Sg**	**06 37 42.6**	**+0.2**
JNE				IAML		06 37 43.9	
	comp=Z,1μm,0.2s						
DBG	**Daneborg**	**4.42**	**317**	*i* P	**Pn**	**06 38 36.1**	**+1.5**
DBG				*e*S	**Sn**	**06 39 24.5**	**-1.6**
DBG				IAML		06 39 26.6	
	comp=Z,5.4nm,0.4s						
DAG	**Danmarks Havn**	**6.03**	**339**	*i* P	**Pn**	**06 38 58.3**	**+1.6**
DAG				*e*S	**Sn**	**06 40 03.8**	**-1.9**
DAG				IAML		06 40 11.7	
	comp=Z,4.4nm,0.4s						
NOR	**Nord**	**10.44**	**354**	*i* P	**Pn**	**06 40 00.0**	**+3.0**
NOR				*e*S	**Sn**	**06 41 50.2**	**-3.6**
NOR				IAML		06 41 55.3	
	comp=Z,3.5nm,0.6s						

*CNRM **25** 06:46:18.6, 35°.58N×3°.80W, h14km, ml2.8*
*SFS **25** 06:46:21.0, 35°.60N×3°.81W, ML2.8, ALBORAN SUR*
ISC 25 06:46:17.7±1.3,**35°.58N**±0°.03×**3°.68W**±0°.05,**h10**km±10km, **n10**,σ1**°55**/18,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.42**	**210**	P	**Pg**	**06 46 25.1**	**-0.9**
PALE				S	**Sg**	**06 46 30.1**	**-1.3**
CHAS	**Isla Isabel II**	**1.09**	**111**	P	**Pn**	**06 46 39.9**	**+0.8**
CHAS				S	**Sb**	**06 46 52.6**	**-0.4**
EMAL	**Malaga-Limoner**	**1.33**	**333**	P	**Pg**	**06 46 44.8**	**+1.6**
EMAL				S	**Sg**	**06 47 00.0**	**-0.4**
CHEFC	**Chefchaouen**	**1.44**	**251**	P	**Pb**	**06 46 44.4**	**-0.2**
JBK	**JBK**	**1.54**	**143**	P	**Pg**	**06 46 48.0**	**+0.7**
JBK				S	**Sb**	**06 47 06.6**	**+0.5**
MD31	**MD31**	**2.85**	**199**	P	**Pn**	**06 47 04.2**	**+0.9**
MD31				S	**Sn**	**06 47 37.2**	**-0.5**
MDT	**Midelt**	**2.86**	**196**	P	**Pn**	**06 47 05.6**	**+2.1**
MDT				S	**Sn**	**06 47 38.6**	**+0.5**
CART	**Cartagena**	**2.94**	**46**	P	**Pn**	**06 47 03.8**	**-0.8**
PVAQ	**Vaqueiros**	**3.73**	**300**	P	**Pn**	**06 47 16.7**	**+1.4**
PVAQ				S	**Sn**	**06 47 56.2**	**-3.1**
PESTR	**Estremoz**	**4.53**	**318**	P	**Pn**	**06 47 28.4**	**+2.0**
PESTR				S	**Sn**	**06 48 16.9**	**-2.2**

*IDC **25** 06:46:31.4±5.8, 36°.41N×71°.24E, h88km±43km, mb3.4/7, mb1 3.4/13, mb1mx3.1/72, mbtmp3.7/13, Error ellipse: s-maj=51.3km s-min=30.3km az=153.0*
*NNC **25** 06:46:34.6±2.1, 36°.71N×70°.92E, h72km±58km, mb3.9, mpv4.1, Error ellipse: s-maj=19.4km s-min=16.5km az=88.0*
ISC 25 06:46:33.6±1.4,**36°.6N**±0°.1×**71°.1E**±0°.1,**h100**km,**n34**, σ0**°86**/37,**mb3.7**/7,**3C-3D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.89**	**19**	P	**Pn**	**06 47 59.4**	**+0.7**
	SNR=43						
UCH	**Uchtor**	**6.22**	**24**	P	**Pn**	**06 48 04.0**	**+0.8**
	SNR=9.5						
MRKS	**Merke**	**6.36**	**14**	Lg	Lg	06 49 15.9	
	12nm,0.3s						
EKS2	**Erkin-Say**	**6.41**	**18**	P	**Pn**	**06 48 06.2**	**+0.8**
	SNR=15						
KK02	**Karatay Array**	**6.52**	**356**	⇓P	**Pn**	**06 48 07.2**	**+0.2**
	17nm,0.4s						
KK02				⇑S	**Sn**	**06 49 18.4**	**-1.4**
	12nm,0.5s						
AAK	**Ala-Archa**	**6.58**	**22**	P	**Pn**	**06 48 08.9**	**+1.0**
	5.2nm,0.3s,baz=188,slow=5.8,SNR=48						
AAK				S	**Sn**	**06 49 22.4**	**+0.9**
	0.7nm,0.3s,baz=14,slow=20,SNR=4.2						
AAK	**Ala-Archa**	**6.58**	**22**	P	**Pn**	**06 48 08.9**	**+1.0**
	SNR=14						
AAK	**Ala-Archa**	**6.58**	**22**	P	**Pn**	**06 48 08.6**	**+0.7**
	9.1nm,0.4s						
AAK				⇓S	**Sn**	**06 49 22.2**	**+0.7**
	11nm,0.8s						
CHMS	**Chumysh**	**6.99**	**23**	P	**Pn**	**06 48 13.9**	**+0.6**
	SNR=9.2						
USP	**Ospenovka**	**7.16**	**20**	P	**Pn**	**06 48 16.1**	**+0.5**
	SNR=11						
TKM2	**Tokmak 2**	**7.21**	**27**	P	**Pn**	**06 48 16.7**	**+0.3**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.21**	**27**	⇑P	**Pn**	**06 48 16.5**	**+0.1**
	3.6nm,0.5s						
TKM2				⇓S	**Sn**	**06 49 37.2**	**+0.4**
	3.4nm,0.8s						
SGDS	**Sogindy**	**7.37**	**20**	P	**Pn**	**06 48 18.3**	**-0.2**
	4.2nm,0.3s						
DGS	**Degeres**	**7.55**	**27**	P	**Pn**	**06 48 21.1**	**+0.1**
	3.1nm,0.3s						
MTBS	**Maitube**	**7.71**	**30**	P	**Pn**	**06 48 23.6**	**+0.4**
	6.9nm,0.3s						
TNSS	**Tian-Shan**	**7.86**	**33**	P	**Pn**	**06 48 25.9**	**+0.5**
	1.9nm,0.3s						
KRBS	**Karabastau**	**7.92**	**25**	P	**Pn**	**06 48 26.1**	**+0.2**
	1.1nm,0.3s						
KOTS	**Kotyrbulak**	**8.09**	**33**	P	**Pn**	**06 48 28.4**	**+0.1**
	2.5nm,0.3s						
MK31	**Makanchi Array**	**13.17**	**36**	P	**P**	**06 49 41.8**	**-1.2**
	0.8nm,0.6s,baz=215,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**13.17**	**36**	P	**Pn**	**06 49 34.7**	**-1.9**
	0.1nm,0.3s,baz=220,slow=13,SNR=4.8						
KURBB	**Kurchatov Arra**	**15.01**	**19**	P	**Pn**	**06 50 02.2**	**+2.0**
	0.1nm,0.3s,baz=207,slow=11,SNR=6.0						
AB31	**Akbulak array**	**15.04**	**331**	P	**Pn**	**06 49 59.5**	**-1.1**
	0.4nm,0.3s,baz=155,slow=12,SNR=46						
BVAR	**Borovoye Array**	**16.44**	**358**	P	**Pn**	**06 50 17.3**	**-0.8**
	0.2nm,0.3s,baz=138,slow=12,SNR=6.9						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**P**	**06 50 22.1**	**-0.3**
	0.2nm,0.3s,baz=129,slow=20,SNR=6.7						
AKTO	**Aktyubinsk**	**16.74**	**330**	⇑P	**P**	**06 50 21.9**	**-0.6**
	2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**19.80**	**24**	P	**P**	**06 50 55.4**	**-0.4**
	0.3nm,0.3s,baz=221,slow=9.9,SNR=5.8						
AKASG	**Malin Array Be**	**32.95**	**309**	P	**P**	**06 52 59.1**	**+0.7**
	0.5nm,0.5s,baz=84,slow=6.5,SNR=5.4						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**06 53 37.6**	**+0.8**
	0.6nm,0.6s,baz=134,slow=4.0,SNR=1.9						
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**06 54 08.2**	**+1.1**
	1.0nm,0.6s,baz=113,slow=8.9,SNR=6.4						
HFS	**Hagfors**	**43.04**	**322**	P	**P**	**06 54 23.9**	**+0.8**
	0.6nm,0.4s,baz=82,slow=11,SNR=4.5						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**06 54 34.6**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**06 54 34.0**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=96,slow=7.8,SNR=3.7				

ANX			AML	AML	06 48 36.4	
	comp=N,206μm,0.4s					
ANX			AML	AML	06 48 38.9	
	comp=E,166μm,0.4s					
LAKA	**Lakka**	**1.33 90**	P	**Pb**	**06 48 10.1**	**+0.2**
LAKA			AML	AML	06 48 30.3	
	comp=N,141μm,0.3s					
LAKA			AML	AML	06 48 30.3	
	comp=E,121μm,0.3s					
MAKR	**Makrakomi, Fth**	**1.62 62**	P	**Pg**	**06 48 16.3**	**-0.8**
ITM	**Ithomi**	**1.69 129**	P	**Pb**	**06 48 16.6**	**+0.5**
AGG	**Agios Georgios**	**1.77 64**	P	**Pb**	**06 48 18.4**	**+0.9**
STON	**Ston**	**5.01 338**	*e*Pn	**Pn**	**06 49 00.7**	**+0.9**
STON			Sn	**Sn**	**06 49 54.6**	**-2.5**
LSTV	**Lastovo**	**5.20 331**	*e*Pn	**Pn**	**06 49 02.6**	**+0.3**
LSTV			Sn	**Sn**	**06 49 59.1**	**-2.5**
RICI	**Ricice**	**5.75 336**	*e*Pn	**Pn**	**06 49 10.7**	**+0.8**
RICI			Sn	**Sn**	**06 50 13.8**	**-1.5**
ZIRJ	**Zirje**	**6.43 328**	*e*Pn	**Pn**	**06 49 20.2**	**+0.8**
ZIRJ			Sn	**Sn**	**06 50 30.4**	**-1.8**
KIJV	**Kijevo**	**6.45 334**	*e*Pn	**Pn**	**06 49 20.6**	**+1.1**
KIJV			Sn	**Sn**	**06 50 29.7**	**-2.8**
MORI	**Morici**	**6.58 330**	*e*Pn	**Pn**	**06 49 22.7**	**+1.3**
MORI			Sn	**Sn**	**06 50 33.9**	**-1.9**
DUGI	**Dugi Otok**	**6.96 327**	*e*Pn	**Pn**	**06 49 27.2**	**+0.7**
DUGI			Sn	**Sn**	**06 50 42.4**	**-2.7**

*IDC **25** 06:48:41.1±0.8, 14°.60N×55°.25E, h0km, mb4.1/21, mb1 4.2/21, mb1mx3.9/66, mbtmp4.1/21, MS3.6/1, Ms1 3.6/1, ms1mx3.3/85, Error ellipse: s-maj=21.3km s-min=17.5km az=38.0*
*NEIC **25** 06:48:42.8±1.6, 14°.57N±0°.08×55°.1E±0°.1, h10km±1km, mb4.1/16, Error ellipse: s-maj=20.7km s-min=12.0km az=106.0*
ISC 25 06:48:43.1±0.8, **14°.6N**±0°.1×**55°.2E**±0°.1, **h14**km, **n69**, σ0s**94**/58, **mb4.3**/40, **Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.67**	**206**		Pn	06 49 20.5	-5.2
WSAR	**Wadi Sarin**	**9.19**	**20**	LR	LR	06 53 21.2	
	comp=Z,317nm,18.9s,baz=172,slow=31						
UOSS	**Minazif**	**10.34**	**5**	Pn	**Pn**	**06 51 11.1**	**+0.1**
RAYN	**Ar Rayn**	**12.74**	**316**		**Pn**	**06 51 42.9**	**-1.1**
LODK	**Lodwar**	**22.48**	**242**	P	**P**	**06 53 40.3**	**-2.1**
LODK				IAmb	IAmb	06 53 53.0	
	comp=Z,8.7nm,1.2s						
GEYT	**Alibeck**	**23.38**	**6**	P	**P**	**06 53 51.2**	**-0.3**
KMBO	**Kilima Mbogo**	**23.65**	**230**	P	**P**	**06 53 56.2**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=43,slow=20,SNR=3.6						
KMBO	**Kilima Mbogo**	**23.65**	**230**	P	**P**	**06 53 54.9**	**+0.4**
KMBO				IAmb	IAmb	06 54 03.6	
	comp=Z,7.2nm,1.5s						
ABKAR	**Akbulak array**	**34.78**	**5**	P	**P**	**06 55 33.8**	**+0.7**
AKTO	**Aktyubinsk**	**35.81**	**3**	P	**P**	**06 55 42.2**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=165,slow=9.0,SNR=6.4						
MK31	**Makanchi Array**	**39.28**	**30**	P	**P**	**06 56 10.8**	**-0.6**
MK31				IAmb	IAmb	06 56 12.9	
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**39.28**	**30**	P	**P**	**06 56 11.9**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=213,slow=9.1,SNR=19						
MKAR				PcP	**PcP**	**06 58 19.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=219,slow=1.6,SNR=4.0						
MKAR	**Makanchi Array**	**39.28**	**30**	P	**P**	**06 56 11.7**	**+0.3**
MLR	**Muntele Rosu**	**39.44**	**327**	P	**P**	**06 56 13.1**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=156,slow=6.6,SNR=4.2						
MLR	**Muntele Rosu**	**39.44**	**327**	IAmb	IAmb	06 56 18.2	
	comp=Z,19nm,1.5s						
BVAR	**Borovoye Array**	**40.19**	**14**	P	**P**	**06 56 19.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=349,slow=3.0,SNR=6.3						
BVAR				PcP	**PcP**	**06 58 23.7**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=62,slow=3.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**40.60**	**23**	P	**P**	**06 56 23.2**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=224,slow=7.8,SNR=6.3						
KURK	**Kurchatov**	**40.71**	**23**	P	**P**	**06 56 23.2**	**0.0**
KURK	**Kurchatov**	**40.71**	**23**	IAmb	IAmb	06 56 32.9	
	comp=Z,3.1nm,1.2s						
BURAR	**Bucovina Array**	**41.25**	**329**	P	**P**	**06 56 26.8**	**-1.0**
BUR08	**Bucovina Ar. S**	**41.27**	**329**	P	**P**	**06 56 27.3**	**-0.7**
BUR08				IAmb	IAmb	06 56 43.5	
	comp=Z,5.3nm,1.4s						
AKASG	**Malin Array Be**	**41.69**	**335**	P	**P**	**06 56 31.0**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=133,slow=8.7,SNR=6.6						
AKASG	**Malin Array Be**	**41.69**	**335**	IAmb	IAmb	06 56 31.6	
	comp=Z,0.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**42.05**	**79**	P	**P**	**06 56 34.3**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=281,slow=9.8,SNR=5.5						
ZAA0	**Zalesovo Array**	**45.62**	**24**	P	**P**	**06 57 01.3**	**-1.6**
ZAA0				IAmb	IAmb	06 57 04.5	
	comp=Z,1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**45.62**	**24**	P	**P**	**06 57 02.2**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=227,slow=8.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**45.62**	**24**	P	**P**	**06 57 01.0**	**-1.8**
SOKA	**Soboth**	**46.28**	**322**	*e*P	**P**	**06 57 10.5**	**+2.2**
	comp=Z,4.1nm,1.1s						
ARSA	**Arzberg**	**46.28**	**323**	*e*P	**P**	**06 57 10.2**	**+1.9**
	comp=Z,3.3nm,0.8s						
CONA	**Conrad Observa**	**46.45**	**324**	*e*P	**P**	**06 57 09.4**	**-0.2**
	comp=Z,9.4nm,1.5s						
OBKA	**Obir**	**46.48**	**322**	*e*P	**P**	**06 57 11.0**	**+1.1**
	comp=Z,6.0nm,1.0s						
MYKA	**Terra Mystica**	**47.09**	**321**	*e*P	**P**	**06 57 16.3**	**+1.7**
	comp=Z,4.2nm,0.6s						
MOA	**Molln**	**47.32**	**323**	*e*P	**P**	**06 57 18.1**	**+1.6**
	comp=Z,3.2nm,0.6s						
KBA	**Koelnbreinsper**	**47.48**	**322**	*e*P	**P**	**06 57 19.3**	**+1.4**
	comp=Z,6.5nm,1.2s						
ABTA	**Abfaltersbach**	**47.83**	**321**	*e*P	**P**	**06 57 20.2**	**-0.3**
	comp=Z,1.5nm,0.6s						
GERES	**GERESS Array B**	**48.15**	**324**	P	**P**	**06 57 22.7**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=101,slow=6.9,SNR=5.4						
GERES	**GERESS Array B**	**48.15**	**324**	P	**P**	**06 57 23.2**	**+0.3**
KHC	**Kasperske Hory**	**48.37**	**324**	*e*P	P	06 57 19.5	-5.0
WTTA	**Wattenberg**	**48.60**	**321**	*e*P	**P**	**06 57 27.7**	**+1.2**
	comp=Z,0.9nm,0.5s						
WATA	**Walderalm**	**48.67**	**321**	*e*P	**P**	**06 57 27.5**	**+0.5**
	comp=Z,3.5nm,0.6s						
SQTA	**Sankt Quirin**	**48.84**	**321**	*e*P	**P**	**06 57 29.2**	**+1.0**
	comp=Z,3.3nm,0.5s						
MOTA	**Moosalm**	**48.96**	**321**	*e*P	**P**	**06 57 29.4**	**+0.1**
	comp=Z,3.4nm,0.7s						
FETA	**Feichten**	**49.05**	**321**	*e*P	**P**	**06 57 29.2**	**-0.7**
	comp=Z,2.4nm,0.8s						
RETA	**Reutte**	**49.23**	**321**	*e*P	**P**	**06 57 31.7**	**+0.5**
	comp=Z,2.2nm,0.5s						
DAVA	**Damuels**	**49.68**	**321**	*e*P	**P**	**06 57 36.0**	**+1.2**
	comp=Z,8.6nm,1.1s						
FIA1	**FINESS Array S**	**51.24**	**343**	P	**P**	**06 57 46.9**	**+0.9**
FINES	**FINESS Array B**	**51.24**	**343**	P	**P**	**06 57 46.1**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=135,slow=8.6,SNR=18						
FINES	**FINESS Array B**	**51.24**	**343**	P	**P**	**06 57 46.4**	**+0.4**
SONM	**Songino Array**	**53.58**	**41**	P	**P**	**06 58 04.1**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=246,slow=7.5,SNR=7.7						
SONM	**Songino Array**	**53.58**	**41**	IAmb	IAmb	06 58 05.0	
	comp=Z,1.2nm,0.9s						
HFS	**Hagfors**	**54.56**	**336**	P	**P**	**06 58 10.8**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=131,slow=8.1,SNR=4.8						
NC602	**NORSAR Array S**	**55.78**	**336**	P	**P**	**06 58 19.8**	**+0.3**
NOA	**NORSAR Array B**	**56.09**	**336**	P	**P**	**06 58 21.1**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=113,slow=5.4,SNR=2.5						
ARCES	**ARCESS Array B**	**57.98**	**348**	P	**P**	**06 58 34.7**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=145,slow=7.4,SNR=9.9						
ARCES	**ARCESS Array B**	**57.98**	**348**	IAmb	IAmb	06 58 44.0	
	comp=Z,21nm,1.4s						
EKA	**Eskdalemuir Ar**	**60.27**	**326**	P	**P**	**06 58 51.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=108,slow=8.0,SNR=4.6						
KSRS	**Korea Array**	**67.65**	**55**	P	**P**	**06 59 39.0**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=278,slow=6.8,SNR=6.3						
TIXI	**Tiksi**	**71.11**	**19**	P	**P**	**07 00 00.4**	**-0.3**
	comp=Z,3.0nm,0.3s,baz=139,slow=2.4,SNR=7.2						
TIXI	**Tiksi**	**71.11**	**19**	IAmb	IAmb	07 00 00.7	
	comp=Z,2.5nm,0.8s						
H01W3	**Cape Leeuwin H**	**74.46**	**133**	T	T	08 21 32.4	
	baz=301,slow=75,SNR=6.2						
H01W2	**Cape Leeuwin H**	**74.47**	**133**	T	T	08 21 31.6	
	baz=301,slow=75,SNR=7.9						
H01W1	**Cape Leeuwin H**	**74.48**	**133**	T	T	08 21 30.2	
	baz=301,slow=75,SNR=7.0						
SEY	**Seymchan**	**80.37**	**27**	P	**P**	**07 00 54.7**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=268,slow=7.6,SNR=15						
WRA	**Warramunga Arr**	**85.04**	**112**	P	**P**	**07 01 17.9**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=295,slow=4.1,SNR=12						
WRA	**Warramunga Arr**	**85.04**	**112**	IAmb	IAmb	07 01 19.2	
	comp=Z,0.1nm,0.8s						
ASAR	**Alice Springs**	**85.77**	**116**	P	**P**	**07 01 21.9**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=291,slow=4.9,SNR=18						
ASAR	**Alice Springs**	**85.77**	**116**	P	**P**	**07 01 22.6**	**+0.1**
PDAR	**Pinedale Array**	**121.22**	**347**	PKP	**PKiKP**	**07 07 36.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=59,slow=3.7,SNR=4.7						
NVAR	**Mina Array Bea**	**126.90**	**354**	PKP	**PKiKP**	**07 07 49.5**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=41,slow=0.7,SNR=7.8						

*CNRM **25** 06:51:47.9, 35°.47N×3°.75W, h20km, ml3.1*
ISC 25 06:51:46.7±1.1, **35°.48N**±0°.05×**3°.74W**±0°.04, **h14**km, **n14**, σ1s**30**/20, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.31**	**213**	P	**Pb**	**06 51 54.3**	**+0.2**
PALE				S	**Sb**	**06 51 58.6**	**-0.4**
CHAS	**Isla Isabel II**	**1.11**	**105**	P	**Pb**	**06 52 07.2**	**-0.4**
CHAS				S	**Sb**	**06 52 21.4**	**-0.5**
CHEFC	**Chefchaouen**	**1.36**	**255**	P	**Pn**	**06 52 12.1**	**+0.7**
JBK	**JBK**	**1.49**	**140**	P	**Pb**	**06 52 14.4**	**+0.1**
JBK				S	**Sn**	**06 52 31.3**	**-1.3**
RSA	**Sarsar**	**1.81**	**251**	P	**Pb**	**06 52 19.1**	**-0.5**
SICH	**Sidi Chahed**	**1.89**	**224**	P	**Pn**	**06 52 19.6**	**+1.0**
SICH				S	**Sb**	**06 52 45.9**	**+1.4**
LCRM	**LCR**	**2.01**	**208**	P	**Pn**	**06 52 20.5**	**+0.1**
LCRM				S	**Sb**	**06 52 47.8**	**-0.3**
MD31	**MD31**	**2.74**	**198**	P	**Pn**	**06 52 31.9**	**+1.6**
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**06 52 31.9**	**+1.4**
PVAQ	**Vaqueiros**	**3.74**	**302**	P	**Pn**	**06 52 44.2**	**+0.2**
PVAQ				S	**Sn**	**06 53 25.1**	**-2.8**
PESTR	**Estremoz**	**4.57**	**319**	P	**Pn**	**06 52 58.4**	**+2.9**
TZRR	**Tazzarine**	**4.93**	**199**	P	**Pn**	**06 53 01.6**	**+1.2**
OUZM	**OUZ**	**5.21**	**210**	P	**Pn**	**06 53 05.1**	**+0.7**
OUK	**Oukaimeden**	**5.48**	**220**	P	**Pn**	**06 53 08.3**	**0.0**

*UCR **25** 06:53:16.0±4.5, 11°.14N×86°.69W, h6km±26km, MW3.9*
*INET **25** 06:53:17.0±0.5, 11°.26N×86°.70W, h22km±4km, ML3.7*
ISC 25 06:53:15.5±1.8, **11°.21N**±0°.05×**86°.76W**±0°.08, **h31**km±15km, **n39**, σ1s**38**/47, **3D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.97**	**10**	*e*P	**Pn**	**06 53 33.2**	**+0.1**
TISN	**Laguna Tiscapa**	**1.04**	**27**	*e*P	**Pn**	**06 53 34.2**	**+0.1**
MGAN	**Managua**	**1.05**	**28**	*i*P	**Pn**	**06 53 34.3**	**+0.1**
MOMN	**Momotombo**	**1.21**	**10**	*e*P	**Pn**	**06 53 36.3**	**0.0**
HZTE	**Horizontes, Gu**	**1.24**	**113**	*e*P	**Pn**	**06 53 37.3**	**+0.5**
HZTE				*e*S	**Sn**	**06 53 53.1**	**+0.5**
HUEN		**1.25**	**27**	*i*P	**Pn**	**06 53 37.0**	**0.0**
HUEN				*e*S	**Sn**	**06 53 52.9**	**+0.1**
CNGN	**Cerro Negro**	**1.28**	**3**	*e*P	**Pn**	**06 53 37.5**	**+0.1**
LAPC	**Finca la Perla**	**1.37**	**109**	*i*P	**Pn**	**06 53 38.8**	**+0.1**
LAPC				*i*S	**Sn**	**06 53 55.9**	**+0.1**
BUEV	**Buena Vista**	**1.39**	**107**	*i*P	**Pn**	**06 53 39.1**	**+0.2**
BUEV				*i*S	**Sb**	**06 53 57.3**	**-1.1**
BUAI	**Buenos Aires**	**1.44**	**103**	*i*P	**Pn**	**06 53 40.0**	**+0.4**
CRIN	**San Cristobal**	**1.50**	**349**	*e*P	**Pn**	**06 53 41.2**	**+0.6**
ORTG	**Ortega, Santa**	**1.53**	**123**	*e*P	**Pn**	**06 53 40.7**	**-0.1**
SAJU	**San Juanillo,**	**1.54**	**138**	*e*P	**Pn**	**06 53 39.9**	**-1.0**
SAJU				*e*S	**Sn**	**06 53 57.1**	**-2.7**
GUAI	**GUAI**	**1.54**	**127**	*i*P	**Pn**	**06 53 40.8**	**-0.1**
PLVR	**Palo Verde**	**1.63**	**122**	*e*P	**Pb**	**06 53 44.2**	**-0.8**
PLVR				*e*S	**Sb**	**06 54 06.8**	**+1.6**
VMAR	**Armenia, Volca**	**1.66**	**104**	*e*P	**Pn**	**06 53 43.3**	**+0.8**
CUI	**Cuipilapa**	**1.66**	**109**	*i*P	**Pb**	**06 53 44.1**	**-1.4**
NICO	**Nicoya**	**1.68**	**130**	*e*P	**Pb**	**06 53 45.5**	**-0.3**
DUNO	**Dulce Nombre,**	**1.68**	**132**	*e*P	**Pb**	**06 53 46.1**	**+0.3**
GRZA	**Playa Garza**	**1.70**	**139**	*e*P	**Pn**	**06 53 42.3**	**-0.8**
ACON	**Acoyapa**	**1.72**	**64**	*e*P	**Pn**	**06 53 42.8**	**-0.6**
PTEN	**Parque Tenorio**	**1.81**	**106**	*i*P	**Pn**	**06 53 45.6**	**+0.9**
INDI	**Punta indio, G**	**1.82**	**137**	*e*P	**Pn**	**06 53 44.1**	**-0.7**
JTS	**Las Juntas de**	**2.00**	**117**	*e*P	**Pn**	**06 53 47.4**	**+0.2**
JTS	**Las Juntas de**	**2.00**	**117**	*e*P	**Pn**	**06 53 47.9**	**+0.6**
ARE1	**Arenal 1**	**2.14**	**110**	*e*P	**Pb**	**06 53 52.0**	**-1.7**
ARE1				*e*S	**Sb**	**06 54 22.9**	**+3.1**
CEDE	**Laguna Cedeo**	**2.14**	**110**	*e*P	**Pb**	**06 53 51.6**	**-2.1**
CAO2	**Cobano, Puntar**	**2.22**	**133**	*e*P	**Pn**	**06 53 49.9**	**-0.4**
LAFE	**Finca La Fe, P**	**2.29**	**127**	*e*P	**Pn**	**06 53 51.5**	**+0.2**
LAFE				*e*S	**Sn**	**06 54 16.4**	**-2.1**
SRA1	**San Ramn**	**2.50**	**116**	*e*P	**Pb**	**06 53 58.3**	**-1.6**
JACO	**JACO, Garabito**	**2.58**	**127**	*e*P	**Pn**	**06 53 57.8**	**+2.6**
ESPN	**Las Esperanzas**	**2.60**	**68**	*e*P	**Pn**	**06 53 55.9**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.87**	**350**	*e*P	**Pn**	**06 54 01.0**	**+1.6**
OCM	**Ochomogo**	**3.05**	**115**	*e*P	**Pn**	**06 54 04.4**	**+2.6**
LCR2	**La Lucha 2**	**3.08**	**118**	*e*P	**Pn**	**06 54 04.4**	**+2.2**
RIMA	**Rio Macho**	**3.19**	**117**	*e*P	**Pn**	**06 54 06.4**	**+2.6**
SRBA	**San Rafael, Bu**	**3.88**	**120**	*e*P	**Pn**	**06 54 14.9**	**+1.7**
RIOS	**Rincon, Osa**	**4.05**	**128**	*e*P	**Pn**	**06 54 17.8**	**+2.2**
PIRO	**Carate, Puerto**	**4.38**	**129**	*e*P	**Pn**	**06 54 21.9**	**+1.9**

*SFS **25** 06:54:20.0, 35°.40N×3°.87W, ML3.2, ALBORAN SUR*
*CNRM **25** 06:54:21.5, 35°.51N×3°.71W, h14km, ml3.5*
ISC 25 06:54:20.3±1.3, **35°.51N**±0°.04×**3°.69W**±0°.03, **h12**km±10km, **n19**, σ1s**61**/28, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**215**	P	**Pg**	**06 54 27.2**	**-0.3**
PALE				S	**Sg**	**06 54 31.5**	**-0.7**
CHAS	**Isla Isabel II**	**1.08**	**107**	P	**Pb**	**06 54 41.3**	**+0.4**
CHAS				S	**Sb**	**06 54 54.8**	**-0.2**
CHEFC	**Chefchaouen**	**1.41**	**254**	P	**Pn**	**06 54 46.1**	**+0.3**
JBK	**JBK**	**1.49**	**141**	P	**Pg**	**06 54 49.1**	**+0.2**
JBK				S	**Sb**	**06 55 06.3**	**-0.7**
RSA	**Sarsar**	**1.85**	**251**	P	**Pn**	**06 54 53.3**	**+1.4**
SICH	**Sidi Chahed**	**1.94**	**224**	P	**Pb**	**06 54 57.1**	**+1.5**
SICH				S	**Sb**	**06 55 19.8**	**+0.1**
LCRM	**LCR**	**2.06**	**208**	P	**Pb**	**06 54 57.9**	**+0.2**
LCRM				S	**Sb**	**06 55 22.8**	**-0.5**
IFR	**Ifrane**	**2.31**	**211**	P	**Pg**	**06 55 04.1**	**-0.5**
IFR				S	**Sn**	**06 55 25.3**	**-1.6**
MD31	**MD31**	**2.78**	**199**	P	**Pn**	**06 55 07.1**	**+2.4**
MDT	**Midelt**	**2.79**	**196**	P	**Pb**	**06 55 08.2**	**-2.0**
CART	**Cartagena**	**3.00**	**45**	P	**Pb**	**06 55 12.8**	**-0.8**
CART				S	**Sn**	**06 55 41.1**	**-2.3**
CART	**Cartagena**	**3.00**	**45**	P	**Pn**	**06 55 09.2**	**+1.6**
CART				S	**Sn**	**06 55 43.0**	**-0.5**
PVAQ	**Vaqueiros**	**3.75**	**301**	P	**Pn**	**06 55 20.1**	**+2.0**
PVAQ				S	**Sn**	**06 55 59.7**	**-2.4**
PFVI	**Vila Bisbo**	**4.45**	**293**	P	**Pn**	**06 55 30.4**	**+2.8**
PESTR	**Estremoz**	**4.57**	**318**	P	**Pn**	**06 55 31.2**	**+1.9**
TZRR	**Tazzarine**	**4.97**	**199**	P	**Pn**	**06 55 38.0**	**+3.2**
OUZM	**OUZ**	**5.26**	**210**	P	**Pn**	**06 55 40.0**	**+1.2**
OUK	**Oukaimeden**	**5.53**	**220**	P	**Pn**	**06 55 43.9**	**+1.2**
TANT	**Tantan**	**9.55**	**224**	P	**Pn**	**06 56 38.5**	**+0.9**

*CNRM **25** 06:56:36.0, 35°.70N×3°.62W, h10km, ml3.4*
*SFS **25** 06:56:37.0, 35°.70N×3°.75W, ML3.1, ALBORAN SUR*
*IGIL **25** 06:56:38.1, 35°.71N×3°.76W, h0km, ML2.8*
*INMG **25** 06:56:39.0±1.6, 35°.80N×3°.76W, h2km±4km, ML3.0, Error ellipse: s-maj=3.9km s-min=2.9km az=12.0*
ISC 25 06:56:35.3±1.5, **35°.70N**±0°.03×**3°.64W**±0°.03, **h8**km±11km, **n50**, σ1s**77**/88, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.54**	**207**	P	**Pg**	**06 56 46.0**	**+0.2**
PALE				S	**Sg**	**06 56 50.5**	**-2.3**
CHAS	**Isla Isabel II**	**1.11**	**117**	P	**Pn**	**06 56 57.2**	**0.0**
CHAS				S	**Sb**	**06 57 11.1**	**-0.4**
EMAL	**Malaga-Limoner**	**1.24**	**329**	P	**Pn**	**06 56 59.0**	**+0.1**
EMAL				S	**Sb**	**06 57 14.7**	**-0.4**
CHEFC	**Chefchaouen**	**1.51**	**247**	P	**Pn**	**06 57 03.5**	**+0.7**
CHEFC				S	**Sg**	**06 57 22.8**	**-1.1**
JBK	**JBK**	**1.62**	**147**	P	**Pn**	**06 57 04.8**	**+0.3**
JBK				S	**Sn**	**06 57 24.3**	**-1.3**
RSA	**Sarsar**	**1.96**	**246**	P	**Pb**	**06 57 12.0**	**+0.6**
SICH	**Sidi Chahed**	**2.11**	**221**	P	**Pb**	**06 57 13.6**	**-0.2**
SICH				S	**Sb**	**06 57 41.1**	**+1.0**
LCRM	**LCR**	**2.25**	**207**	P	**Pn**	**06 57 14.1**	**+1.1**
LCRM				S	**Sb**	**06 57 45.2**	**+0.9**
IFR	**Ifrane**	**2.50**	**210**	P	**Pn**	**06 57 17.5**	**+1.0**
IFR				S	**Sn**	**06 57 47.1**	**-0.2**
CART	**Cartagena**	**2.84**	**48**	P	**Pn**	**06 57 22.7**	**+1.8**
CART				S	**Sn**	**06 57 53.2**	**-2.2**
TDRA	**Tendrara**	**2.97**	**153**	P	**Pn**	**06 57 25.1**	**+2.1**
TDRA				S	**Sn**	**06 57 57.8**	**-1.2**
MD31	**MD31**	**2.98**	**198**	P	**Pn**	**06 57 24.6**	**+1.6**
MDT	**Midelt**	**2.99**	**196**	P	**Pn**	**06 57 25.1**	**+1.9**
PBAR	**Barrancos**	**3.68**	**313**	*e*Sn	**Sn**	**06 58 15.7**	**-0.3**
PVAQ	**Vaqueiros**	**3.70**	**299**	*e*Pn	**Pn**	**06 57 33.9**	**+1.1**
PVAQ				*e*Sn	**Sn**	**06 58 15.2**	**-1.4**
PVAQ				A	A	06 58 17.9	
	28nm,0.3s						
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**06 57 33.8**	**+1.0**
PVAQ				S	**Sn**	**06 58 15.1**	**-1.4**
PBDV	**Barranco-do-Ve**	**3.79**	**295**	*e*Pn	**Pn**	**06 57 34.9**	**+0.9**
PBDV				*e*Sn	**Sn**	**06 58 17.4**	**-1.4**
PBDV				A	A	06 58 23.6	
	18nm,0.3s						
PCVE	**Castro Verde**	**4.03**	**300**	*e*Pn	**Pn**	**06 57 38.2**	**+0.9**
PCVE				*e*Sn	**Sn**	**06 58 23.5**	**-1.2**
PCVE				A	A	06 58 36.0	
	17nm,0.4s						
FIGM	**Figuig**	**4.07**	**150**	P	**Pn**	**06 57 40.5**	**+2.4**
PBEJ	**Beja**	**4.11**	**306**	*e*Pn	**Pn**	**06 57 39.9**	**+1.5**
PBEJ				*e*Sn	**Sn**	**06 58 25.5**	**-1.2**
PBEJ				A	A	06 58 32.2	
	12nm,0.4s						
MESJ	**Messejana**	**4.25**	**301**	*e*P	**Pn**	**06 57 41.0**	**+0.6**
MESJ				*e*S	**Sn**	**06 58 27.1**	**-3.1**
MESJ				IAML		06 58 32.8	
	comp=N,20nm,0.3s						
MESJ	**Messejana**	**4.25**	**301**	*e*Pn	**Pn**	**06 57 41.3**	**+0.9**
MESJ				*e*Sn	**Sn**	**06 58 29.1**	**-1.1**
MESJ				A	A	06 58 32.8	
	comp=N,23nm,0.3s						
MORF	**Marmelete**	**4.34**	**293**	*e*P	**Pn**	**06 57 42.2**	**+0.5**
MORF	**Marmelete**	**4.34**	**293**	*e*Pn	**Pn**	**06 57 43.2**	**+1.5**
MORF				*e*Sn	**Sn**	**06 58 31.1**	**-1.5**
MORF				A	A	06 58 36.1	
	comp=N,21nm,0.2s						
PFVI	**Vila Bisbo**	**4.42**	**290**	*e*Pn	**Pn**	**06 57 45.1**	**+2.4**
PFVI				*e*Sn	**Sn**	**06 58 32.4**	**-2.0**
PFVI				A	A	06 58 45.4	
	comp=N,20nm,0.6s						
PFVI	**Vila Bisbo**	**4.42**	**290**	P	**Pn**	**06 57 44.5**	**+1.7**
PESTR	**Estremoz**	**4.46**	**316**	*e*Pn	**Pn**	**06 57 45.3**	**+2.0**
PESTR				*e*Sn	**Sn**	**06 58 34.0**	**-1.5**
PESTR				A	A	06 59 05.6	
	comp=N,18nm,0.5s						
PESTR	**Estremoz**	**4.46**	**316**	P	**Pn**	**06 57 43.6**	**+0.3**
PTEO	**Sao Teotonio**	**4.49**	**296**	*e*Pn	**Pn**	**06 57 45.4**	**+1.8**
PTEO				*e*Sn	**Sn**	**06 58 34.7**	**-1.3**
PTEO				A	A	06 58 43.4	
	comp=N,20nm,0.4s						
EVO	**Evora**	**4.49**	**310**	P	**Pn**	**06 57 45.7**	**+2.0**
EVO				S	**Sn**	**06 58 33.3**	**-2.9**
EVO	**Evora**	**4.49**	**310**	*e*Pn	**Pn**	**06 57 45.5**	**+1.7**
EVO				*e*Sn	**Sn**	**06 58 34.4**	**-1.8**

0.8nm,0.3s,baz=52,slow=16,SNR=6.7
ZALV Lg Lg 07 01 21.1
3.5nm,0.3s,baz=53,slow=27,SNR=23
KURBB **Kurchatov Arra 6.15 233** Pn Pn 07 02 18.7 +0.7
0.1nm,0.3s,baz=50,slow=14,SNR=7.1
MKAR **Makanchi Array 8.19 199** Pn Pn 07 02 46.7 +0.7
0.1nm,0.3s,baz=23,slow=13,SNR=1.7

IDC 25 07:01:39.5±2.9, 54°.09N×86°.45E, h0km, mb1 2.8/2, mb1mx2.3/56, mbtmp2.8/2, ML2.6/2, 2C-1D, Error ellipse: s-maj=23.7km s-min=13.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**262**	*i*		07 06 50.0	
	baz=80,slow=332,SNR=7.2						
ZALV	**Zalesovo Beam**	**0.97**	**262**	Pg	Pg	07 01 57.2	-0.9
	0.4nm,0.3s,baz=81,slow=18,SNR=2.1						
ZALV				Lg	Lg	07 02 12.0	
	1.1nm,0.3s,baz=83,slow=27,SNR=2.5						
KURK	**Kurchatov**	**5.86**	**238**	⇑Lg	Lg	07 04 05.2	
	11nm,1.2s						
KURBB	**Kurchatov Arra**	**5.96**	**238**	Pn	Pn	07 03 09.6	+0.7
	0.1nm,0.3s,baz=54,slow=13,SNR=4.1						
KURBB	**Kurchatov Arra**	**5.96**	**238**	Pg	Pn	07 03 09.6	+0.7
KURBB				⇑Lg	Lg	07 04 03.9	
	7.2nm,0.8s						
MK31	**Makanchi Array**	**7.77**	**202**	⇓Lg	Lg	07 04 12.6	
	0.2nm,0.3s,baz=275,slow=26,SNR=4.3						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	Pn	07 03 34.8	+1.0
	0.1nm,0.3s,baz=25,slow=14,SNR=4.5						

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*IDC **25** 07:06:02.2±3.7, 35°.30N×3°.93W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/52, mbtmp3.3/3, ML3.1/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/60, Error ellipse: s-maj=79.6km s-min=54.6km az=19.0*
*SFS **25** 07:06:06.0, 35°.45N×3°.70W, h3km, ML3.0, ALBORAN SUR*
*CNRM **25** 07:06:07.7, 35°.35N×3°.82W, h20km, ml3.3*
ISC 25 07:06:04.4±1.3, 35°.52N±0°.03×3°.72W±0°.03, h13km±9km, n24, σ2s12/35, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**210**	P	**Pg**	**07 06 11.1**	**-0.3**
PALE				S	**Sg**	**07 06 16.0**	**-0.2**
CHAS	**Isla Isabel II**	**1.11**	**107**	P	**Pb**	**07 06 24.9**	**-0.6**
CHAS				S	**Sb**	**07 06 38.9**	**-0.9**
EMAL	**Malaga-Limoner**	**1.37**	**336**	P	**Pn**	**07 06 30.7**	**+1.5**
EMAL				S	**Sn**	**07 06 46.7**	**-0.6**
CHEFC	**Chefchaouen**	**1.38**	**253**	P	**Pn**	**07 06 29.8**	**+0.2**
CEU	**Ceuta**	**1.40**	**286**	P	Pn	07 06 25.2	-4.5
CEU				S	**Sn**	**07 06 42.5**	**-5.4**
JBK	**JBK**	**1.52**	**141**	P	**Pn**	**07 06 30.7**	**-0.8**
JBK				S	**Sn**	**07 06 49.3**	**-1.8**
RSA	**Sarsar**	**1.83**	**250**	P	**Pn**	**07 06 37.1**	**+1.4**
RSA				S	**Sn**	**07 06 56.7**	**-2.1**
SICH	**Sidi Chahed**	**1.93**	**223**	P	**Pb**	**07 06 39.3**	**-0.1**
SICH				S	**Sn**	**07 07 01.7**	**+0.6**
LCRM	**LCR**	**2.05**	**207**	P	**Pn**	**07 06 39.9**	**+1.0**
LCRM				S	**Sn**	**07 07 03.4**	**-1.0**
IFR	**Ifrane**	**2.31**	**211**	P	**Pn**	**07 06 41.9**	**-0.5**
IFR				S	**Sn**	**07 07 08.9**	**-1.8**
MD31	**MD31**	**2.78**	**198**	P	**Pn**	**07 06 48.8**	**0.0**
MD31				S	**Sn**	**07 07 20.1**	**-2.2**
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**07 06 50.6**	**+1.6**
MDT				S	**Sn**	**07 07 22.7**	**0.0**
TDRA	**Tendrara**	**2.84**	**150**	P	**Pn**	**07 06 52.2**	**+2.5**
CART	**Cartagena**	**3.01**	**46**	P	**Pb**	**07 06 56.6**	**-1.3**
CART				S	**Sn**	**07 07 24.0**	**-3.8**
PVAQ	**Vaqueiros**	**3.73**	**301**	P	**Pn**	**07 07 03.6**	**+1.9**
FIGM	**Figuig**	**3.95**	**148**	P	**Pn**	**07 07 08.4**	**+3.5**
ESDC	**Sonseca Array**	**4.15**	**357**	Pn	**Pn**	**07 07 10.0**	**+2.4**
	0.5nm,0.3s,baz=180,slow=12,SNR=12						
PFVI	**Vila Bisbo**	**4.42**	**293**	P	**Pn**	**07 07 14.6**	**+3.3**
PESTR	**Estremoz**	**4.55**	**318**	P	**Pn**	**07 07 16.2**	**+3.1**
EVO	**Evora**	**4.56**	**313**	P	**Pn**	**07 07 14.3**	**+1.1**
EVO				S	**Sn**	**07 08 02.5**	**-3.6**
OUK	**Oukaimeden**	**5.52**	**220**	P	**Pn**	**07 07 26.2**	**-0.5**
IDI	**Anoyia**	**23.29**	**82**	LR	LR	07 22 51.7	
	comp=Z,293nm,19.5s,baz=114,slow=43						
MKAR	**Makanchi Array**	**62.66**	**50**	P	**P**	**07 16 30.4**	**+1.6**
	0.2nm,0.5s,baz=282,slow=6.8,SNR=2.5						
YKA	**Yellowknife Ar**	**67.84**	**332**	P	**P**	**07 17 02.5**	**+0.6**
	0.4nm,0.8s,baz=59,slow=6.6,SNR=5.3						

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*NNC **25** 07:07:49.0±0.8, 42°.98N×80°.45E, h2km±3km, mb3.9, mpv3.8, Error ellipse: s-maj=5.2km s-min=3.6km az=156.0*
*KRNET **25** 07:07:49.8±0.1, 43°.02N×80°.42E, h18km, mb3.6*
*SOME **25** 07:07:49.1, 43°.00N×80°.38E, h10km*
ISC 25 07:07:48.3±1.6, 42°.97N±0°.04×80°.44E±0°.05, h4km±11km, n64, σ1s87/105, 24C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.78**	**298**	⇑P	**Pg**	**07 08 04.9**	**+1.5**
	59nm,0.3s						
PDGK				⇑S	**Sn**	**07 08 15.9**	**-2.7**
	297nm,0.9s						
UZB	**Uzynbulak**	**1.06**	**280**	⇓*e*P	**Pn**	**07 08 09.4**	**-0.7**
	26nm,0.1s						
UZB				*e*S	**Sn**	**07 08 23.8**	**-1.6**
	190nm,0.3s						
UZB	**Uzynbulak**	**1.06**	**280**	P	**Pn**	**07 08 09.4**	**-0.7**
	43nm,0.2s						
UZB				S	**Sn**	**07 08 23.7**	**-1.6**
	222nm,0.4s						
UZB	**Uzynbulak**	**1.06**	**280**	⇓*e*P	**Pn**	**07 08 09.4**	**-0.7**
	baz=77						
UZB				⇓*e*S	**Sn**	**07 08 23.8**	**-1.6**
	baz=77						
DJR	**Jarkent**	**1.44**	**341**	*e*P	**Pg**	**07 08 16.0**	**+0.1**
	24nm,0.1s						
DJR				*e*S	**Sg**	**07 08 35.6**	**+1.0**
	226nm,0.2s						
DJR	**Jarkent**	**1.44**	**341**	P	**Pg**	**07 08 16.1**	**+0.1**
	24nm,0.1s						
DJR				S	**Sg**	**07 08 35.6**	**+1.0**
	226nm,0.2s						
ZHN	**Zhinishke**	**1.48**	**278**	*e*P	**Pb**	**07 08 17.0**	**+0.5**
	130nm,0.1s						
ZHN				*e*S	**Sg**	**07 08 36.5**	**+0.5**
	511nm,0.1s						
ZHN	**Zhinishke**	**1.48**	**278**	P	**Pb**	**07 08 17.0**	**+0.5**
	130nm,0.1s						
ZHN				S	**Sg**	**07 08 37.0**	**+1.0**
	511nm,0.1s						
ZHN	**Zhinishke**	**1.48**	**278**	*e*P	**Pb**	**07 08 17.0**	**+0.5**
	baz=76						
ZHN				*e*S	**Sg**	**07 08 36.5**	**+0.5**
	baz=76						
SATY	**Saty**	**1.50**	**274**	⇓*e*P	**Pb**	**07 08 17.2**	**+0.4**
	42nm,0.1s						
SATY				*e*S	**Sg**	**07 08 37.6**	**+1.3**
	242nm,0.4s						
SATY	**Saty**	**1.50**	**274**	P	**Pb**	**07 08 17.4**	**+0.6**
	42nm,0.1s						
SATY				S	**Sg**	**07 08 37.6**	**+1.3**
	242nm,0.4s						
SATY	**Saty**	**1.50**	**274**	⇓*e*P	**Pb**	**07 08 17.2**	**+0.4**
	baz=72						
SATY				⇓*e*S	**Sg**	**07 08 37.7**	**+1.3**
	baz=72						
PRZ	**Przheval'sk**	**1.58**	**253**	⇑*i*P	**Pb**	**07 08 19.0**	**+0.8**
	baz=51						
PRZ				⇑*i*S	**Sg**	**07 08 40.2**	**+1.1**
	baz=51						
KURS	**Kuram**	**1.74**	**288**	⇓*e*P	**Pb**	**07 08 21.3**	**+0.5**
	18nm,0.3s						
KURS				*e*S	**Sg**	**07 08 44.8**	**+0.6**
	218nm,0.6s						
KURS	**Kuram**	**1.74**	**288**	P	**Pb**	**07 08 21.3**	**+0.5**
	18nm,0.3s						
KURS				S	**Sg**	**07 08 44.6**	**+0.5**
	218nm,0.6s						
KURS	**Kuram**	**1.74**	**288**	⇓*e*P	**Pb**	**07 08 21.3**	**+0.5**
	baz=87						
KURS				⇓*e*S	**Sg**	**07 08 44.8**	**+0.6**
	baz=87						
BLB	**Baldybastay**	**1.82**	**309**	*e*P	**Pb**	**07 08 22.3**	**+0.1**
	91nm,0.1s						
BLB				*e*S	**Sg**	**07 08 46.5**	**-0.2**
	246nm,0.2s						
BLB	**Baldybastay**	**1.82**	**309**	P	**Pb**	**07 08 22.3**	**+0.1**
	91nm,0.1s						
BLB				S	**Sg**	**07 08 46.1**	**-0.6**
	246nm,0.2s						
ANVS	**Anan'yevo**	**2.05**	**266**	⇑*i*P	**Pb**	**07 08 26.9**	**+0.7**
	baz=64						
ANVS				⇑*i*S	**Sg**	**07 08 53.6**	**-0.5**
	baz=64						
ARXS	**Arharly**	**2.27**	**304**	*e*P	**Pb**	**07 08 29.0**	**-0.9**
	29nm,0.3s						
ARXS				*e*S	**Sb**	**07 08 57.5**	**-0.9**
	153nm,0.3s						
ARXS	**Arharly**	**2.27**	**304**	Pg	**Pb**	**07 08 29.8**	**-0.1**
	29nm,0.3s						
ARXS				Lg	Lg	07 08 59.7	
	153nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.31**	**239**	⇑*i*P	**Pb**	**07 08 31.0**	**+0.1**
	baz=37						
TARG				⇑*i*S	**Sb**	**07 09 01.3**	**+1.3**
	baz=37						
KAPS	**Kapalarasan**	**2.44**	**342**	*e*P	**Pb**	**07 08 31.5**	**-1.3**
	15nm,0.1s						
KAPS				*e*S	**Sb**	**07 09 02.4**	**-1.0**
	175nm,0.3s						
KAPS	**Kapalarasan**	**2.44**	**342**	Pg	**Pb**	**07 08 33.3**	**+0.4**
	15nm,0.1s						
KAPS				Lg	Lg	07 09 05.2	
	175nm,0.3s						
KOTS	**Kotyrbulak**	**2.45**	**277**	*e*P	**Pb**	**07 08 33.5**	**+0.4**
	19nm,0.3s						
KOTS				*e*S	**Sb**	**07 09 05.2**	**+1.5**
	108nm,0.4s						
KOTS	**Kotyrbulak**	**2.45**	**277**	Pg	**Pb**	**07 08 33.5**	**+0.4**
	19nm,0.3s						
KOTS				Lg	Lg	07 09 05.2	
	108nm,0.4s						
MDOK	**Medeo**	**2.50**	**276**	*e*P	**Pb**	**07 08 34.5**	**+0.7**
	6.2nm,0.1s						
MDOK				*e*S	**Sg**	**07 09 07.0**	**-1.5**
	44nm,0.3s						
MDOK	**Medeo**	**2.50**	**276**	⇑Pg	**Pb**	**07 08 34.3**	**+0.5**
	5.0nm,0.5s						
MDOK				⇓Lg	Lg	07 09 07.5	
	45nm,0.8s						
MDOK	**Medeo**	**2.50**	**276**	Pg	**Pb**	**07 08 34.5**	**+0.7**
	6.2nm,0.1s						
MDOK				Lg	Lg	07 09 07.0	
	44nm,0.3s						
TDK	**Taldyqorghan**	**2.51**	**325**	*e*P	**Pb**	**07 08 34.0**	**+0.1**
	52nm,0.3s						
TDK				*e*S	**Sg**	**07 09 06.6**	**-2.3**
	184nm,0.3s						
TDK	**Taldyqorghan**	**2.51**	**325**	Pg	**Pb**	**07 08 34.0**	**+0.1**
	52nm,0.3s						
TDK				Lg	Lg	07 09 06.6	
	184nm,0.3s						
KDJ	**Kajisay**	**2.55**	**252**	⇑*i*P	**Pb**	**07 08 33.8**	**-1.0**
	baz=50						
KDJ				⇑*i*S	**Sb**	**07 09 05.9**	**-0.7**
	baz=50						
KNDC	**Almaty**	**2.56**	**277**	⇑Lg	Lg	07 09 10.3	
	78nm,0.5s						
TNSS	**Tian-Shan**	**2.56**	**273**	*e*P	**Pb**	**07 08 35.2**	**0.0**
	12nm,0.2s						
TNSS				*e*S	**Sb**	**07 09 08.0**	**+0.8**
	26nm,0.2s						
TNSS	**Tian-Shan**	**2.56**	**273**	Pg	**Pb**	**07 08 35.2**	**0.0**
	12nm,0.2s						
TNSS				Lg	Lg	07 09 08.0	
	26nm,0.2s						
CHKK	**Chushkaly**	**2.67**	**291**	*e*P	**Pb**	**07 08 37.0**	**+0.3**
	8.3nm,0.2s						
CHKK				*e*S	**Sb**	**07 09 11.4**	**+1.6**
	47nm,0.2s						
CHKK	**Chushkaly**	**2.67**	**291**	Pg	**Pb**	**07 08 37.0**	**+0.3**
	8.3nm,0.2s						
CHKK				Lg	Lg	07 09 11.4	
	47nm,0.2s						
KTBS	**Karatobe**	**2.84**	**286**	*e*P	**Pb**	**07 08 40.5**	**+0.8**
	12nm,0.4s						
KTBS				*e*S	**Sg**	**07 09 17.3**	**-2.3**
	68nm,0.2s						
KTBS	**Karatobe**	**2.84**	**286**	Pg	**Pb**	**07 08 40.5**	**+0.8**
	12nm,0.4s						
KTBS				Lg	Lg	07 09 17.3	
	68nm,0.2s						
MTBS	**Maitube**	**2.95**	**274**	*e*P	**Pb**	**07 08 42.6**	**+1.2**
	7.2nm,0.2s						
MTBS				*e*S	**Sg**	**07 09 21.1**	**-1.8**
	33nm,0.3s						
MTBS	**Maitube**	**2.95**	**274**	Pg	**Pb**	**07 08 42.6**	**+1.2**
	7.2nm,0.2s						
MTBS				Lg	Lg	07 09 21.1	
	33nm,0.3s						
KUU	**Kurty**	**3.13**	**289**	*e*P	**Pb**	**07 08 44.9**	**+0.4**
	7.6nm,0.2s						
KUU				*e*S	**Sb**	**07 09 25.1**	**+2.1**
	39nm,0.2s						
KUU	**Kurty**	**3.13**	**289**	Pg	**Pb**	**07 08 44.9**	**+0.4**
	7.6nm,0.2s						
KUU				Lg	Lg	07 09 25.1	
	39nm,0.2s						
ULHL	**Ulahol**	**3.18**	**258**	⇓*i*P	**Pb**	**07 08 42.6**	**-3.0**
	baz=57						
ULHL				⇓*e*S	**Sb**	**07 09 21.2**	**-3.6**
	baz=57						
KST	**Kastek**	**3.29**	**273**	*e*P	**Pb**	**07 08 48.3**	**+1.1**
	14nm,0.5s						
KST				*e*S	**Sg**	**07 09 30.8**	**-3.0**
	33nm,0.3s						
KST	**Kastek**	**3.29**	**273**	Pg	**Pb**	**07 08 48.3**	**+1.1**
	14nm,0.5s						
KST				Lg	Lg	07 09 30.8	
	33nm,0.3s						
BOOM	**Boomskoye usch**	**3.35**	**263**	⇑*e*P	**Pn**	**07 08 44.8**	**+3.2**
	baz=62						
BOOM				⇑*e*S	**Sb**	**07 09 25.0**	**-4.6**
	baz=62						
DGS	**Degeres**	**3.43**	**276**	*e*P	**Pb**	**07 08 50.8**	**+1.1**
	11nm,0.3s						
DGS				*e*S	**Sg**	**07 09 35.2**	**-3.3**
	30nm,0.2s						
DGS	**Degeres**	**3.43**	**276**	Pg	**Pb**	**07 08 50.8**	**+1.1**
	11nm,0.3s						
DGS				Lg	Lg	07 09 35.2	
	30nm,0.2s						
KRBS	**Karabastau**	**3.55**	**283**	*e*P	**Pb**	**07 08 53.2**	**+1.4**
	6.0nm,0.2s						
KRBS				*e*S	**Sg**	**07 09 39.2**	**-3.1**
	51nm,0.3s						
KRBS	**Karabastau**	**3.55**	**283**	Pg	**Pb**	**07 08 53.2**	**+1.4**
	6.0nm,0.2s						
KRBS				Lg	Lg	07 09 39.3	
	51nm,0.3s						
TKM2	**Tokmak 2**	**3.56**	**271**	⇑Pg	**Pb**	**07 08 54.1**	**+2.2**
	2.0nm,0.3s						
TKM2				⇑Lg	Lg	07 09 42.0	
	6.1nm,0.4s						
TKM2	**Tokmak 2**	**3.56**	**271**	⇑*i*P	**Pn**	**07 08 47.6**	**+3.1**
	baz=70						
TKM2				⇑*i*S	**Sn**	**07 09 29.9**	**+2.8**
	baz=70						
MAKZ	**Makanchi**	**3.99**	**15**	⇑Pn	**Pn**	**07 08 50.6**	**+0.3**
	1.4nm,0.5s						
MAKZ				⇑Lg	Lg	07 09 54.2	
	5.2nm,0.6s						
MK31	**Makanchi Array**	**4.04**	**18**	⇑Pn	**Pn**	**07 08 52.2**	**+1.2**
	0.6nm,0.2s,baz=189,slow=12,SNR=75						
MK31				Sn	**Sn**	**07 09 38.5**	**-0.3**
	1.7nm,0.5s,baz=193,slow=20,SNR=5.4						
MK31				⇑Lg	Lg	07 09 56.5	
	6.3nm,0.6s,baz=196,slow=29,SNR=8.0						
SGDS	**Sogindy**	**4.28**	**278**	⇑*i*P	**Pb**	**07 09 06.9**	**+2.8**
	2.2nm,0.5s						
SGDS				*e*S	**Sg**	**07 10 03.1**	**-2.5**
	17nm,0.6s						
SGDS	**Sogindy**	**4.28**	**278**	Pg	**Pb**	**07 09 06.9**	**+2.8**
	2.2nm,0.5s						
SGDS				Lg	Lg	07 10 03.1	
	17nm,0.6s						
AAK	**Ala-Archa**	**4.39**	**268**	⇓Pg	**Pg**	**07 09 10.0**	**-2.3**
	3.4nm,1.1s						
AAK				⇑Lg	Lg	07 10 07.9	
	11nm,0.7s						
BTLS	**Baital**	**5.06**	**296**	*e*P	**Pb**	**07 09 21.3**	**+3.9**
	2.7nm,0.5s						
BTLS				*e*S	**Sg**	**07 10 27.7**	**-3.0**
	5.1nm,0.5s						
BTLS	**Baital**	**5.06**	**296**	Pg	**Pb**	**07 09 21.3**	**+3.9**
	2.7nm,0.5s						
BTLS				Lg	Lg	07 10 27.7	
	5.1nm,0.5s						
MRKS	**Merke**	**5.31**	**270**	*e*P	**Pb**	**07 09 25.6**	**+3.9**
	2.1nm,0.3s						
MRKS				*e*S	**Sg**	**07 10 34.4**	**-4.4**
	5.3nm,0.3s						
MRKS	**Merke**	**5.31**	**270**	Pg	**Pb**	**07 09 25.6**	**+3.9**
	2.1nm,0.3s						
MRKS				Lg	Lg	07 10 35.0	
	5.3nm,0.3s						
ZSN	**Zaisan**	**5.46**	**33**	*e*P	**Pb**	**07 09 27.2**	**+2.9**
	4.4nm,0.2s						
ZSN				*e*S	**Sg**	**07 10 37.9**	**-5.7**
	7.8nm,0.3s						
ZSN	**Zaisan**	**5.46**	**33**	Pg	**Pb**	**07 09 27.2**	**+2.9**
	4.4nm,0.2s						
ZSN				Lg	Lg	07 10 37.9	
	7.8nm,0.3s						

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*TUL **25** 07:09:10±1.2, 35°.881N±0°.010×97°.34W±0°.02, h6km±6km, ML2.7, mb_Lg2.8/47(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=59.0*
NEIC 25 07:09:10.1±0.8, 35°.90N±0°.01×97°.35W±0°.02, h5km, Error ellipse: s-maj=2.1km s-min=1.6km az=77.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.13**	**219**	Pg	Pg	07 09 12.8	0.0
OK025	**Westminster Rd**	**0.32**	**178**		Pg	07 09 16.2	0.0
OK025				Sg	Sg	07 09 20.9	+0.4
BCOK	**Bluff Creek, N**	**0.32**	**221**	Pg	Pg	07 09 16.3	0.0
BCOK				Sg	Sg	07 09 21.2	+0.7
OK009	**Oakdale Elemen**	**0.32**	**190**		Pg	07 09 16.4	0.0
OK001	**Jones High Sch**	**0.34**	**171**		Pg	07 09 16.8	0.0
OK033	**Mehan**	**0.36**	**67**	Pg	Pg	07 09 17.5	+0.3
OK033				Sg	Sg	07 09 22.4	+0.4
OK031	**S. Brethren Rd**	**0.42**	**83**		Pg	07 09 18.1	-0.1
OK031				Sg	Sg	07 09 23.9	+0.2
OK030	**Cody Creek RV**	**0.46**	**86**		Pg	07 09 19.0	0.0
OK030				Sg	Sg	07 09 24.8	-0.3
OKCFA	**Oklahoma City**	**0.49**	**190**		Pg	07 09 19.4	-0.1
OKCFA				Sg	Sg	07 09 26.2	+0.3
OKCSW	**OKLAHOMA CITY**	**0.50**	**188**		Pg	07 09 19.6	-0.1
OKCSW				Sg	Sg	07 09 26.6	+0.5
OK034	**N. Norfolk Rd.**	**0.53**	**78**		Pg	07 09 20.3	0.0
QUOK	**Quay**	**0.59**	**62**		Pg	07 09 21.5	+0.1
QUOK				Sg	Sg	07 09 29.9	+0.9
FNO	**Franklin**	**0.64**	**184**	Pg	Pg	07 09 22.1	-0.3
FNO				Sg	Sg	07 09 30.9	+0.1
CROK	**Carrier**	**0.79**	**320**	Pg	Pg	07 09 25.4	+0.2
CROK				Sg	Sg	07 09 36.4	+0.8
W35A	**Tecumseh**	**0.84**	**152**	Pg	Pg	07 09 25.3	-0.9
W35A				IAmb_Lg		07 09 35.5	
	comp=Z,78nm,1.0s						
W35A				Sg	Sb	07 09 38.5	-0.2
BLOK	**Blackwell**	**0.87**	**7**	Pg	Pg	07 09 26.7	-0.1
BLOK				Sg	Sb	07 09 39.9	+0.4
GC02	**Grant County #**	**1.03**	**337**	Pg	Pg	07 09 29.8	-0.2
GC02				Sg	Sb	07 09 44.0	-0.4
KAN13	**South Haven SW**	**1.12**	**355**	Pg	Pg	07 09 31.4	-0.1
KAN13				Sg	Sg	07 09 45.9	-0.1
KAN14	**Manchester OK**	**1.17**	**335**	Pg	Pg	07 09 32.2	-0.2
KAN14				Sg	Sb	07 09 47.9	-0.3
KAN17	**Caldwell West**	**1.19**	**344**	Pg	Pg	07 09 32.7	-0.2
KAN17				Sg	Sg	07 09 48.5	+0.2
T35A	**Sooner Cattle**	**1.22**	**33**	Pn	Pg	07 09 32.9	-0.6
TUL1	**Leonard**	**1.27**	**89**		Pg	07 09 32.8	-1.5
KAN05	**Bluff City Nor**	**1.28**	**341**		Pg	07 09 34.2	-0.4
KAN01	**Argonia South**	**1.29**	**345**		Pn	07 09 34.6	-0.2
X34A	**Smith Ranch, M**	**1.35**	**197**		Pn	07 09 35.4	-0.3
KAN10	**Anthony SW Sta**	**1.36**	**334**		Pn	07 09 35.5	-0.3
OK035	**E0210 Rd and N**	**1.36**	**307**		Pn	07 09 35.2	-0.6
KAN06	**Argonia West S**	**1.41**	**343**		Pn	07 09 36.5	+0.1
KAN08	**Anthony NE Sta**	**1.42**	**340**		Pn	07 09 36.5	0.0
U32A	**Winter Ranch,**	**1.42**	**290**		Pn	07 09 36.2	-0.3
KAN16	**Harper SW Stat**	**1.44**	**337**		Pb	07 09 37.3	-0.1
KAN12	**Harper NE Stat**	**1.49**	**340**		Pn	07 09 37.7	+0.2
WMOK	**Wichita Mounta**	**1.65**	**226**		Pn	07 09 39.7	0.0
LOOK	**Love County**	**1.91**	**176**	Pn	Pn	07 09 43.5	+0.2
LOOK				IAmb_Lg		07 10 12.3	
	comp=Z,41nm,0.8s						
X37A	**Clayton**	**2.08**	**128**	Pn	Pn	07 09 45.6	0.0
X37A				IAmb_Lg		07 10 19.4	
	comp=Z,52nm,0.8s						
U38A	**Gravette**	**2.46**	**76**	Pn	Pn	07 09 51.1	+0.2
U38A				IAmb_Lg		07 10 26.9	
	comp=Z,34nm,0.9s						
Z35A	**Perchaven, San**	**2.56**	**178**	Pn	Pn	07 09 52.4	+0.2
R32A	**Long Quarter,**	**2.74**	**337**		Pn	07 09 55.0	+0.2
HHAR	**Hobbs**	**2.79**	**81**		Pn	07 09 55.7	+0.3
W39A	**Magazine**	**2.99**	**103**		Pn	07 09 58.9	+0.8
W39A				IAmb_Lg		07 10 50.2	
	comp=Z,33nm,0.9s						
KSU1	**Kansas State U**	**3.25**	**10**		Pn	07 10 02.1	+0.4
KSU1				IAmb_Lg		07 11 01.2	
	comp=Z,27nm,0.8s						
Z38A	**Mt. Pleasant**	**3.28**	**143**		Pn	07 10 01.5	-0.6
Z38A				IAmb_Lg		07 10 59.6	
	comp=Z,19nm,0.7s						
MIAR	**Mount Ida**	**3.37**	**113**	Pn	Pn	07 10 03.6	+0.2
MIAR				IAmb_Lg		07 11 01.4	
	comp=Z,24nm,0.8s						
CBKS	**Cedar Bluff**	**3.48**	**328**		Pn	07 10 04.6	-0.3
U40A	**Yellville**	**3.67**	**82**	IAmb_Lg		07 11 09.9	
	comp=Z,18nm,0.8s						
AMTX	**Amarillo**	**3.68**	**255**	Pn	Pn	07 10 09.0	+1.3
S39A	**Bolivar**	**3.69**	**60**		Pn	07 10 07.8	0.0
S39A				IAmb_Lg		07 11 09.9	
	comp=Z,25nm,0.8s						
ABTX	**Abilene, Hawle**	**3.78**	**211**	IAmb_Lg		07 11 08.7	
	comp=Z,20nm,0.8s						
WHTX	**Lake Whitney,**	**3.90**	**181**	Pn	Pn	07 10 10.2	-0.4
237A	**Washetta, Mont**	**4.09**	**161**	Pn	Pn	07 10 12.5	-0.8
WLAR	**White Oak Lake**	**4.13**	**121**	IAmb_Lg		07 11 30.6	
	comp=Z,26nm,0.9s						
WHAR	**Wooly Hollow**	**4.17**	**97**		Pn	07 10 15.7	+1.4
W41B	**Gary Mavity, V**	**4.22**	**98**	Pn	Pn	07 10 15.8	+0.7
W41B				IAmb_Lg	

n30,σ1°78/46, mb3.5/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.53**	**204**	P	**Pn**	**07 13 05.2**	**+0.5**
PALE				S	**Sb**	**07 13 10.6**	**+0.4**
CHAS	**Isla Isabel II**	**1.14**	**116**	P	**Pg**	**07 13 11.8**	**-0.4**
CHAS				S	**Sg**	**07 13 25.1**	**-1.8**
EMAL	**Malaga-Limoner**	**1.23**	**330**	P	**Pn**	**07 13 14.2**	**-0.2**
EMAL				S	**Sb**	**07 13 29.9**	**-0.4**
CEU	**Ceuta**	**1.40**	**279**	P	**Pn**	**07 13 15.7**	**-1.0**
CEU				S	**Sb**	**07 13 30.8**	**-4.4**
CHEFC	**Chefchaouen**	**1.48**	**247**	P	**Pb**	**07 13 19.0**	**+0.4**
JBK	**JBK**	**1.64**	**146**	P	**Pn**	**07 13 19.8**	**-0.4**
JBK				S	**Sn**	**07 13 38.8**	**-3.0**
RSA	**Sarsar**	**1.93**	**246**	P	**Pb**	**07 13 27.3**	**+1.0**
SICH	**Sidi Chahed**	**2.09**	**221**	P	**Pb**	**07 13 28.7**	**-0.1**
LCRM	**LCR**	**2.23**	**206**	P	**Pn**	**07 13 28.7**	**+0.4**
LCRM				S	**Sn**	**07 13 56.4**	**0.0**
IFR	**Ifrane**	**2.48**	**209**	P	**Pn**	**07 13 32.5**	**+0.7**
IFR				S	**Sn**	**07 14 00.2**	**-2.5**
CART	**Cartagena**	**2.86**	**48**	P	**Pn**	**07 13 37.0**	**+0.2**
CART				S	**Sn**	**07 14 07.6**	**-4.1**
MD31	**MD31**	**2.96**	**198**	P	**Pn**	**07 13 39.8**	**+1.4**
MD31				S	**Sn**	**07 14 12.8**	**-1.6**
MDT	**Midelt**	**2.98**	**195**	Pn	**Pn**	**07 13 41.0**	**+2.5**
	1.1nm,0.3s,baz=46,slow=12,SNR=9.4						
MDT				Pg	**Pg**	**07 13 47.8**	**+0.3**
	2.4nm,0.3s,baz=170,slow=14,SNR=6.6						
MDT				Sn	**Sb**	**07 14 19.8**	**-1.1**
	3.4nm,0.3s,baz=59,slow=9.3,SNR=3.6						
MDT	**Midelt**	**2.98**	**195**	P	**Pn**	**07 13 40.8**	**+2.2**
TDRA	**Tendrara**	**2.98**	**152**	P	**Pn**	**07 13 38.8**	**+0.1**
TDRA				S	**Sn**	**07 14 13.4**	**-1.6**
PVAQ	**Vaqueiros**	**3.67**	**299**	P	**Pn**	**07 13 48.9**	**+0.9**
AVE	**Averroes**	**3.91**	**233**	P	**Pn**	**07 13 52.5**	**+1.3**
ESDC	**Sonseca Array**	**3.98**	**357**	Pn	**Pn**	**07 13 54.5**	**+2.2**
	1.1nm,0.3s,baz=177,slow=12,SNR=16						
ESDC				Sn	**Sn**	**07 14 40.2**	**+0.9**
	0.9nm,0.3s,baz=180,slow=23,SNR=4.4						
ESDC				Lg	Lg	07 14 56.0	
	1.5nm,0.3s,baz=181,slow=29,SNR=6.9						
FIGM	**Figuig**	**4.08**	**150**	P	**Pn**	**07 13 55.3**	**+1.5**
MESJ	**Messejana**	**4.23**	**302**	*e*P	**Pn**	**07 13 56.5**	**+0.8**
MESJ				*e*S	**Sn**	**07 14 42.9**	**-2.7**
MESJ				IAML		07 14 46.1	
	comp=N,9.0nm,0.2s						
MORF	**Marmelete**	**4.32**	**293**	*e*P	**Pn**	**07 13 57.7**	**+0.8**
MORF				*e*S	**Sn**	**07 14 44.8**	**-3.0**
MORF				IAML		07 14 49.8	
	comp=N,23nm,0.3s						
PFVI	**Vila Bisbo**	**4.39**	**291**	P	**Pn**	**07 14 00.7**	**+2.8**
PESTR	**Estremoz**	**4.45**	**317**	P	**Pn**	**07 14 00.4**	**+1.7**
EVO	**Evora**	**4.47**	**310**	P	**Pn**	**07 14 00.3**	**+1.2**
EVO				S	**Sn**	**07 14 49.5**	**-2.1**
TZRR	**Tazzarine**	**5.15**	**198**	P	**Pn**	**07 14 09.2**	**+0.7**
TTIG	**Tnine Tigouga,**	**6.51**	**219**	P	**Pn**	**07 14 25.6**	**-1.5**
TANT	**Tantan**	**9.69**	**224**	P	**Pn**	**07 15 10.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**22.97**	**166**	P	**P**	**07 17 58.5**	**+2.5**
	comp=N,0.9nm,0.8s,baz=341,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**62.52**	**51**	P	**P**	**07 23 16.2**	**+0.9**
	comp=N,0.3nm,0.6s,baz=298,slow=6.2,SNR=3.5						
YKA	**Yellowknife Ar**	**67.70**	**332**	P	**P**	**07 23 49.4**	**+0.8**
	comp=N,0.2nm,0.7s,baz=64,slow=6.2,SNR=3.2						

*CNRM **25** 07:15:13.7, 35.°98N×3.°63W, h20km, ml2.8*
*SFS **25** 07:15:16.0, 35.°50N×3.°86W, ML2.8, ALBORAN SUR*
*IGIL **25** 07:15:17.7, 35.°51N×3.°86W, h0km, ML2.5*

ISC 25 07:15:15.8±1.1, 35.°61N±0.°06×3.°72W±0.°05, h14km, n9, σ2°19/13, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAS	**Isla Isabel II**	**1.13**	**112**	P	**Pb**	**07 15 37.2**	**+0.1**
CHAS				S	**Sb**	**07 15 51.0**	**-0.7**
CHEFC	**Chefchaouen**	**1.42**	**250**	P	**Pn**	**07 15 41.2**	**0.0**
JBK	**JBK**	**1.58**	**143**	P	**Pn**	**07 15 44.6**	**+1.1**
SICH	**Sidi Chahed**	**2.00**	**222**	P	**Pb**	**07 15 53.0**	**+1.1**
LCRM	**LCR**	**2.14**	**206**	P	**Pn**	**07 15 52.7**	**+1.5**
IFR	**Ifrane**	**2.39**	**210**	P	**Pn**	**07 15 57.6**	**+3.0**
IFR				S	**Sn**	**07 16 19.4**	**-4.5**
MD31	**MD31**	**2.87**	**198**	P	**Pn**	**07 16 02.8**	**+1.6**
MESJ	**Messejana**	**4.25**	**303**	*e*P	**Pn**	**07 16 21.1**	**+1.0**
MESJ				*e*S	**Sn**	**07 17 07.6**	**-1.9**
MESJ				IAML		07 17 10.8	
	comp=N,9.8nm,0.2s						
EVO	**Evora**	**4.51**	**312**	P	**Pn**	**07 16 25.5**	**+1.8**
EVO				S	**Sn**	**07 17 14.0**	**-1.9**

*IDC **25** 07:15:51.6±2.3, 49.°97N×78.°36E, h0km, mb1 3.1/2, mb1mx3.0/46, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=35.8km s-min=6.7km az=81.0*
*NNC **25** 07:15:52.1±0.2, 50.°01N×78.°71E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=2.5km s-min=1.2km az=75.0, Suspected Mining explosion.*

ISC 25 07:15:52.3±0.9, 50.°18N±0.°03×78.°95E±0.°04, h0km, n31, σ1°12/42, 20C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.49**	**326**	⇑P	**Pb**	**07 16 03.7**	**-0.1**
KUR07				⇑S	**Sb**	**07 16 12.3**	**+0.7**
KUR14	**Kurchatov Arra**	**0.49**	**333**	⇑P	**Pb**	**07 16 04.0**	**+0.1**
KUR14				⇑S	**Sb**	**07 16 12.5**	**+0.8**
KUR06	**Kurchatov Arra**	**0.51**	**328**	⇑P	**Pb**	**07 16 03.9**	**-0.2**
KUR06				⇑S	**Sb**	**07 16 12.6**	**+0.6**
KUR15	**Kurchatov Arra**	**0.51**	**331**	⇑P	**Pb**	**07 16 04.1**	**0.0**
KUR15				⇑S	**Sb**	**07 16 13.1**	**+1.0**
KURBB	**Kurchatov Arra**	**0.52**	**329**	Pg	**Pb**	**07 16 04.7**	**+0.3**
	3.0nm,0.3s,baz=167,slow=18,SNR=40						
KURBB				Lg	Lg	07 16 13.6	
	8.0nm,0.3s,baz=178,slow=31,SNR=43						
KURBB	**Kurchatov Arra**	**0.52**	**329**	⇓P	**Pb**	**07 16 04.2**	**-0.1**
	32nm,0.5s						
KURBB				⇓S	**Sb**	**07 16 13.4**	**+1.0**
	172nm,0.5s						
KUR16	**Kurchatov Arra**	**0.53**	**328**	⇑P	**Pb**	**07 16 04.6**	**0.0**
KUR16				⇓S	**Sb**	**07 16 13.3**	**+0.4**
KUR05	**Kurchatov Arra**	**0.54**	**331**	⇓P	**Pb**	**07 16 04.5**	**-0.1**
KUR05				⇑S	**Sb**	**07 16 13.7**	**+0.8**
KUR17	**Kurchatov Arra**	**0.55**	**326**	⇑P	**Pb**	**07 16 04.5**	**-0.3**
KUR17				⇑S	**Sb**	**07 16 13.6**	**+0.3**
KUR04	**Kurchatov Arra**	**0.55**	**332**	⇓P	**Pb**	**07 16 04.9**	**0.0**
KUR04				⇑S	**Sb**	**07 16 14.3**	**+1.0**
KURK	**Kurchatov**	**0.58**	**339**	⇑P	**Pb**	**07 16 05.6**	**+0.2**
	12nm,0.4s						
KURK				⇑S	**Sb**	**07 16 15.0**	**+0.9**
	36nm,0.6s						
SEM	**Semipalatinsk**	**0.87**	**74**	P	**Pn**	**07 16 12.7**	**+0.7**
	7.6nm,0.2s						
SEM				S	**Sn**	**07 16 27.9**	**+2.4**
	67nm,0.3s						
MAKZ	**Makanchi**	**3.93**	**148**	⇓Lg	Lg	07 17 54.5	
	7.6nm,0.6s						
BRZS	**Berezniki**	**4.04**	**270**	Pg	**Pb**	**07 17 03.6**	**-0.8**
	5.2nm,0.2s						
BRZS				Lg	Lg	07 17 55.2	
	3.1nm,0.4s						
MK31	**Makanchi Array**	**4.05**	**145**	⇑Pn	**Pn**	**07 16 55.4**	**-0.2**
	0.5nm,0.3s,baz=326,slow=10,SNR=17						
MK31				⇓Pg	**Pb**	**07 17 04.9**	**+0.3**
	1.3nm,0.4s,baz=5.5,slow=14,SNR=22						
MK31				⇓Lg	Lg	07 17 59.0	
	9.3nm,0.6s,baz=326,slow=26,SNR=13						
MKAR	**Makanchi Array**	**4.05**	**145**	**Pn**	**Pn**	**07 16 56.6**	**+1.0**
	0.5nm,0.3s,baz=339,slow=12,SNR=22						
MKAR				Pg	**Pb**	**07 17 03.3**	**-1.3**
	0.6nm,0.3s,baz=321,slow=15,SNR=18						
MKAR				Sn	**Sn**	**07 17 43.6**	**-0.1**
	0.4nm,0.3s,baz=316,slow=29,SNR=1.8						
MKAR				Lg	Lg	07 17 56.4	
	1.9nm,0.3s,baz=332,slow=25,SNR=14						
OTUK	**Ortayu**	**4.74**	**248**	⇑Pn	**Pn**	**07 17 03.7**	**-1.5**
	1.3nm,0.3s						
OTUK				⇑Lg	Lg	07 18 16.6	
	4.8nm,0.5s						
ZSN	**Zaisan**	**4.77**	**123**	Pg	**Pb**	**07 17 16.2**	**-0.6**
	2.7nm,0.2s						
ZSN				Lg	Lg	07 18 16.5	
	8.0nm,0.4s						
KAPS	**Kapalarasan**	**4.90**	**177**	Pg	**Pb**	**07 17 18.4**	**-0.7**
	2.7nm,0.3s						
KAPS				Lg	Lg	07 18 20.5	
	12nm,0.3s						
TDK	**Taldyqorghan**	**5.19**	**184**	Pg	**Pb**	**07 17 23.5**	**-0.4**
	36nm,0.2s						
TDK				Lg	Lg	07 18 29.3	
	25nm,0.1s						
I46RU	**ZALESOVO INFRA**	**5.23**	**42**	*i*		07 49 30.0	
	baz=222,slow=341,SNR=0.9						
ZALV	**Zalesovo Beam**	**5.23**	**42**	Pn	Pn	07 17 17.0	+5.2
	1.1nm,0.3s,baz=230,slow=14,SNR=13						
ZALV				Sn	**Sb**	**07 18 24.6**	**-3.4**
	0.0nm,0.3s,baz=231,slow=20,SNR=1.3						
ZALV				Lg	Lg	07 18 49.6	
	0.6nm,0.3s,baz=235,slow=31,SNR=3.6						
DJR	**Jarkent**	**5.88**	**174**	Pg	**Pb**	**07 17 36.3**	**+0.6**
	2.2nm,0.2s						
DJR				Lg	Lg	07 18 51.4	
	4.3nm,0.2s						
ARXS	**Arharly**	**6.01**	**188**	Pg	**Pb**	**07 17 39.1**	**+1.0**
	1.4nm,0.2s						
ARXS				Lg	Lg	07 18 56.1	
	9.0nm,0.4s						
BTLS	**Baital**	**6.11**	**215**	Pg	**Pb**	**07 17 41.1**	**+1.4**
	1.7nm,0.4s						
BTLS				Lg	Lg	07 18 59.6	
	3.2nm,0.3s						
BRVK	**Borovoye**	**6.12**	**301**	⇑Sn	**Sn**	**07 18 34.1**	**-0.5**
	3.6nm,0.6s						
BRVK				⇑Lg	Lg	07 19 06.2	
	2.2nm,0.5s						
CHKK	**Chushkaly**	**6.47**	**193**	Pg	**Pb**	**07 17 48.0**	**+2.3**
	1.2nm,0.1s						
CHKK				Lg	Lg	07 19 11.4	
	9.1nm,0.3s						
KUU	**Kurty**	**6.53**	**197**	Pg	**Pb**	**07 17 47.5**	**+0.7**
	1.3nm,0.4s						
KUU				Lg	Lg	07 19 10.7	
	7.8nm,0.3s						
KTBS	**Karatobe**	**6.65**	**194**	Pg	**Pb**	**07 17 51.0**	**+2.2**
	1.0nm,0.3s						
KTBS				Lg	Lg	07 19 16.7	
	9.2nm,0.3s						
PDGK	**Podgornoye**	**6.86**	**177**	⇓Sn	**Sn**	**07 18 51.2**	**-1.9**
	1.0nm,0.3s						
PDGK				⇓Lg	Lg	07 19 26.4	
	2.9nm,0.6s						
TKM2	**Tokmak 2**	**7.62**	**199**	⇓Lg	Lg	07 19 47.6	
	2.0nm,0.6s						

*NEIC **25** 07:16:58.0±2.5, 21.°39S±0.°04×68.°72W±0.°07, h111km±4km, mb4.5/20, ML4.2(GUC), Error ellipse: s-maj=9.0km s-min=5.2km az=85.0*
*VAO **25** 07:16:57.5±0.4, 21.°33S×68.°69W, h114km, mb4.5*
*IDC **25** 07:16:58.7±0.5, 21.°45S×68.°63W, h118km±5km, mb3.7/6, mb1 3.9/9, mb1mx3.7/31, mbtmp4.1/9, Error ellipse: s-maj=18.2km s-min=9.1km az=101.0*
*GUC **25** 07:16:58.3±0.7, 21.°42S×68.°73W, h116km±4km, ML4.2*

ISC 25 07:16:57.6±0.5, 21.°39S±0.°03×68.°72W±0.°05, h116km±5km, n147, σ1°09/172, mb4.4/11, 8C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.63**	**230**	⇑*i*P	**Pn**	**07 17 16.9**	**+0.6**
PB09				*i* S	**Sn**	**07 17 30.6**	**+0.3**
PB09				IAML		07 17 32.1	
	comp=N,5μm,0.3s						
PB09	**IPOC Station P**	**0.63**	**230**		**Pn**	**07 17 16.9**	**+0.6**
PB09				Sn	**Sn**	**07 17 31.6**	**+1.3**
PB01	**IPOC Station P**	**0.80**	**296**	⇑*i*P	**Pn**	**07 17 17.7**	**+0.2**
PB01				*i* S	**Sn**	**07 17 32.5**	**0.0**
PB01				IAML		07 17 34.6	
	comp=E,9μm,0.3s						
PB01	**IPOC Station P**	**0.80**	**296**		**Pn**	**07 17 17.8**	**+0.2**
PB01				Sn	**Sn**	**07 17 32.7**	**+0.2**
PB02	**IPOC Station P**	**1.10**	**274**	⇑*i*P	**Pn**	**07 17 20.7**	**+0.2**
PB02				*i* S	**Sn**	**07 17 37.7**	**0.0**
PB07	**IPOC Station P**	**1.14**	**253**	⇑*i*P	**Pn**	**07 17 21.1**	**+0.2**
PB07				*i* S	**Sn**	**07 17 38.4**	**-0.2**
PB07				IAML		07 17 40.1	
	comp=E,15μm,0.9s						
PB07	**IPOC Station P**	**1.14**	**253**	Pn	**Pn**	**07 17 20.6**	**-0.3**
PB07				Sn	**Sn**	**07 17 38.8**	**+0.3**
PB03	**IPOC Station P**	**1.16**	**236**	⇑*i*P	**Pn**	**07 17 21.4**	**+0.2**
PB03				*i* S	**Sn**	**07 17 38.8**	**-0.2**
PB03				IAML		07 17 40.7	
	comp=E,6μm,0.3s						
LVC	**Limon Verde**	**1.22**	**188**	P	**Pn**	**07 17 22.7**	**+0.7**
	comp=E,140nm,0.3s,baz=14,slow=9.9,SNR=1167						
LVC				S	**Sn**	**07 17 41.0**	**+0.5**
	comp=E,292nm,0.3s,baz=90,slow=20,SNR=16						
LVC	**Limon Verde**	**1.22**	**188**	*e*P	**Pn**	**07 17 22.1**	**0.0**
LVC				*i* S	**Sn**	**07 17 40.6**	**0.0**
LVC	**Limon Verde**	**1.22**	**188**	*e*P	**Pn**	**07 17 22.6**	**+0.5**
LVC				*e*S	**Sn**	**07 17 41.2**	**+0.6**
LVC	**Limon Verde**	**1.22**	**188**	Pn	**Pn**	**07 17 22.6**	**+0.5**
LVC				Sn	**Sn**	**07 17 41.7**	**+1.2**
PB08	**IPOC Station P**	**1.31**	**342**	⇓*i*P	**Pn**	**07 17 24.0**	**+1.0**
PB08				*i* S	**Sn**	**07 17 43.5**	**+1.2**
PB08				IAML		07 17 47.8	
	comp=E,2μm,0.6s						
PB08	**IPOC Station P**	**1.31**	**342**	Pn	**Pn**	**07 17 24.1**	**+1.0**
PB08				Sn	**Sn**	**07 17 44.1**	**+1.8**
PB06	**IPOC Station P**	**1.53**	**211**	⇑*i*P	**Pn**	**07 17 25.7**	**+0.3**
PB06				*i* S	**Sn**	**07 17 46.5**	**+0.2**
PB06				IAML		07 17 48.0	
	comp=E,3μm,0.4s						
PB06	**IPOC Station P**	**1.53**	**211**	Pn	**Pn**	**07 17 25.6**	**+0.3**
PB06				Sn	**Sn**	**07 17 46.8**	**+0.5**
TA01	**Diego Aracena**	**1.59**	**301**	⇑*i*P	**Pn**	**07 17 25.8**	**-0.1**
TA01				*i* S	**Sn**	**07 17 46.7**	**-0.8**
TA01				IAML		07 17 48.7	
	comp=E,4μm,0.4s						
TA01	**Diego Aracena**	**1.59**	**301**	Pn	**Pn**	**07 17 25.9**	**-0.1**
PB04	**IPOC Station P**	**1.62**	**235**	⇑*i*P	**Pn**	**07 17 26.3**	**-0.2**
PB04				*i* S	**Sn**	**07 17 46.9**	**-1.5**
PB04				IAML		07 17 52.9	
	comp=E,2μm,0.1s						
PB04	**IPOC Station P**	**1.62**	**235**	Pn	**Pn**	**07 17 26.3**	**-0.2**
TA02	**Huaiquique**	**1.73**	**310**	*e*P	**Pn**	**07 17 27.1**	**-0.4**
TA02				*i* S	**Sn**	**07 17 49.8**	**-0.6**
TA02				IAML		07 17 52.1	
	comp=N,3μm,0.5s						
TA02	**Huaiquique**	**1.73**	**310**	Pn	**Pn**	**07 17 27.2**	**-0.3**
GO01	**Chusmiza**	**1.77**	**345**	⇓*i*P	**Pn**	**07 17 29.2**	**+0.6**
GO01				*i* S	**Sn**	**07 17 52.8**	**+0.7**
GO01	**Chusmiza**	**1.77**	**345**		**Pn**	**07 17 29.3**	**+0.6**
PB11	**IPOC Station P**	**1.85**	**331**	*e*P	**Pn**	**07 17 29.3**	**+0.1**
PB11				*i* S	**Sn**	**07 17 53.5**	**+0.3**
PB11				IAML		07 17 55.1	
	comp=N,7μm,0.5s						
PB11	**IPOC Station P**	**1.85**	**331**	Pn	**Pn**	**07 17 29.1**	**0.0**
PB15	**IPOC Station P**	**1.94**	**201**	*e*P	**Pn**	**07 17 30.5**	**+0.1**
PB15				*i* S	**Sn**	**07 17 55.5**	**+0.2**
PB15	**IPOC Station P**	**1.94**	**201**	Pn	**Pn**	**07 17 30.4**	**+0.1**
PB10	**IPOC Station P**	**2.71**	**218**	*e*P	**Pn**	**07 17 39.5**	**-0.4**
PB10	**IPOC Station P**	**2.71**	**218**	Pn	**Pn**	**07 17 39.8**	**-0.2**
PB16	**IPOC Station P**	**3.13**	**346**	⇓*e*P	**Pn**	**07 17 47.0**	**+0.9**
PB16	**IPOC Station P**	**3.13**	**346**	Pn	**Pn**	**07 17 47.3**	**+1.2**
PB12	**IPOC Station P**	**3.15**	**331**	*e*P	**Pn**	**07 17 44.6**	**-1.3**
PB12	**IPOC Station P**	**3.15**	**331**	Pn	**Pn**	**07 17 44.7**	**-1.3**
AP01	**Chacalluta**	**3.37**	**333**	Pn	**Pn**	**07 17 48.3**	**-0.5**
PB14	**IPOC Station P**	**3.57**	**205**	*e*P	**Pn**	**07 17 50.9**	**-0.8**
PB14	**IPOC Station P**	**3.57**	**205**	Pn	**Pn**	**07 17 50.6**	**-1.1**
LPAZ	**La Paz**	**5.11**	**6**	P	**Pn**	**07 18 14.6**	**+2.0**
	comp=N,3.3nm,0.3s,baz=190,slow=4.9,SNR=70						
LPAZ				S	Sn	07 19 00.5	-10
	baz=277,slow=17,SNR=1.7						
LPAZ	**La Paz**	**5.11**	**6**	Pn	**Pn**	**07 18 14.8**	**+2.2**
AC02	**Maricunga**	**5.43**	**184**		**Pn**	**07 18 16.4**	**-0.4**
GO03	**Copiap**	**6.33**	**192**	Pn	**Pn**	**07 18 25.9**	**-2.6**
AC04	**Llanos de Chal**	**7.11**	**197**	Pn	**Pn**	**07 18 35.4**	**-3.6**
GO04	**Tololo Observa**	**8.94**	**192**	Pn	**Pn**	**07 19 01.0**	**-3.1**
SIV	**San Ignacio**	**9.02**	**55**	P	**Pn**	**07 19 02.1**	**-2.9**
	comp=N,11nm,0.3s,baz=239,slow=12,SNR=190						
CO06	**Fray Jorge**	**9.61**	**195**	Pn	**Pn**	**07 19 11.5**	**-1.3**
CPUP	**Villa Florida**	**11.52**	**117**	P	**Pn**	**07 19 37.0**	**-1.6**
	comp=N,0.4nm,0.3s,baz=329,slow=13,SNR=5.9						
CPUP	**Villa Florida**	**11.52**	**117**	*e*P	**Pn**	**07 19 37.5**	**-1.1**
CPUP	**Villa Florida**	**11.52**	**117**		**Pn**	**07 19 37.3**	**-1.3**
VILB	**Vilhena**	**11.69**	**45**	*e*P	**Pn**	**07 19 39.0**	**-1.9**
VILB	**Vilhena**	**11.69**	**45**	Pn	**Pn**	**07 19 38.5**	**-2.4**
ETMB	**Extrema**	**11.76**	**12**	*e*P	**Pn**	**07 19 39.9**	**-1.9**
ETMB	**Extrema**	**11.76**	**12**		**Pn**	**07 19 40.3**	**-1.6**
AQDB	**Aquidauana**	**12.20**	**88**	*e*P	**Pn**	**07 19 47.5**	**-0.2**
AQDB	**Aquidauana**	**12.20**	**88**		**Pn**	**07 19 44.6**	**-3.0**
SALV	**Santo Antonio**	**13.50**	**68**	*e*P	**Pn**	**07 20 03.2**	**-1.3**
PP1B	**Ponte de Pedra**	**13.58**	**76**	*e*P	**Pn**	**07 20 06.2**	**+0.5**
PDRB	**Porto dos Gac**	**15.05**	**52**	*e*P	**Pn**	**07 20 22.6**	**-1.8**
PTGB	**Pitanga**	**15.68**	**105**	*e*P	**Pn**	**07 20 32.9**	**+0.6**
ITAB	**Concordia**	**16.19**	**114**	*e*P	**P**	**07 20 39.5**	**0.0**
ITAB	**Concordia**	**16.19**	**114**	P	**Pn**	**07 20 39.1**	**+0.6**
ITAB				IAmb	IAmb	07 20 40.4	
	comp=Z,16nm,0.9s						
CLDB	**Colider**	**16.22**	**52**	*e*P	**Pn**	**07 20 38.1**	**-0.9**
PCMB	**Pacaembu**	**16.25**	**94**	*e*P	**Pn**	**07 20 38.8**	**-0.5**
CPSB	**Cacapava Do Su**	**16.40**	**126**	*e*P	**Pn**	**07 20 40.8**	**-0.3**
ARAG	**Araguaiana, MT**	**16.99**	**73**	*e*P	**Pn**	**07 20 48.1**	**-0.3**
PLTB	**Pedras Altas**	**16.99**	**131**	*e*P	**Pn**	**07 20 48.5**	**+0.1**
TBTG	**Tabatinga, AM**	**17.14**	**356**	P	**P**	**07 20 49.4**	**-0.6**
TBTG				IAmb	IAmb	07 20 52.2	
	comp=Z,21nm,1.0s						
ITRB	**Iturama**	**17.28**	**88**	*e*P	**P**	**07 20 51.5**	**0.0**
FRTB	**Fartura**	**17.82**	**100**	*e*P	**P**	**07 20 58.1**	**+0.5**
TIJ01	**Guaruva-PR**	**18.52**	**106**	*e*P	**P**	**07 21 05.7**	**+0.6**
BB19B	**Bebedouro**	**18.83**	**93**	*e*P	**P**	**07 21 08.8**	**+0.2**
TER01	**Tubaro-SC**	**19.12**	**116**	*e*P	**P**	**07 21 11.5**	**-0.1**
SNDB	**Serra Nova Dou**	**19.12**	**63**	*e*P	**P**	**07 21 10.6**	**-1.2**
NPGB	**Novo Progresso**	**19.24**	**44**	*e*P	**P**	**07 21 10.9**	**-2.2**
PLCA	**Paso Flores**	**19.34**	**184**	P	**P**	**07 21 15.5**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=3.0,slow=9.2,SNR=14						
PLCA	**Paso Flores**	**19.34**	**184**	*e*P	**P**	**07 21 15.6**	**+1.6**
PLCA	**Paso Flores**	**19.34**	**184**	P	**P**	**07 21 14.8**	**+0.8**
IPMB	**Ipameri, GO**	**19.60**	**84**	*e*P	**P**	**07 21 16.6**	**-0.4**
RCLB	**Rio Claro- Sao**	**19.69**	**97**	*e*P	**P**	**07 21 16.9**	**-1.0**
LL04	**Puerto Octay**	**19.71**	**188**	P	**P**	**07 21 17.4**	**-0.4**
LL04				IAmb	IAmb	07 21 18.8	
	comp=Z,16nm,0.7s						
MACA	**Manacapuru-AM**	**19.74**	**24**	*e*P	**P**	**07 21 16.8**	**-1.6**
MACA	**Manacapuru-AM**	**19.74**	**24**	P	**P**	**07 21 16.7**	**-1.6**
LL03	**Petrohue**	**19.93**	**188**	P	**P**	**07 21 21.2**	**+0.9**
PET01	**Itanhaem-SP**	**19.97**	**102**	*e*P	**P**	**07 21 20.7**	**-0.2**
VAO	**Valinhos**	**20.21**	**99**	*e*P	**P**	**07 21 22.1**	**-1.4**
BDFB	**Brasilia**	**20.44**	**77**	P	**P**	**07 21 25.6**	**-0.6**
	comp=Z,18nm,0.5s,baz=251,slow=9.4,SNR=52						
BDFB	**Brasilia**	**20.44**	**77**	P	**P**	**07 21 25.4**	**-0.7**
BDFB				IAmb	IAmb	07 21 29.2	
	comp=Z,19nm,0.5s						
ITTB	**Itaituba**	**21.11**	**38**	*e*P	**P**	**07 21 31.6**	**-1.5**
PARB	**Paraibuna**	**21.45**	**100**	*e*P	**P**	**07 21 35.7**	**-1.1**
PEXB	**Peixe**	**21.60**	**68**	*e*P	**P**	**07 21 37.3**	**-1.2**
PTGA	**Pitinga**	**22.24**	**24**	P	**P**	**07 21 43.6**	**-1.5**
	comp=Z,5.8nm,0.4s,baz=329,slow=23,SNR=28						
BSCB	**Bom Sucesso**	**22.33**	**93**	*e*P	**P**	**07 21 45.5**	**-0.6**
MAN01	**Angra dos Reis**	**22.97**	**98**	*e*P	**P**	**07 21 51.8**	**-0.6**
PRPB	**Parauapebas**	**23.75**	**53**	*e*P	**P**	**07 21 58.3**	**-1.2**
DIAM	**Diamantina, MG**	**23.75**	**87**	*e*P	**P**	**07 21 59.6**	**-0.1**
MALB	**Monte Alegre**	**23.99**	**38**	*e*P	**P**	**07 22 00.2**	**-1.5**
JANB	**Januaria**	**24.01**	**79**	*e*P	**P**	**07 22 00.3**	**-1.6**
COYC	**Coyhaique**	**24.27**	**186**	P	**P**	**07 22 04.3**	**+0.3**
COYC				IAmb	IAmb	07 22 05.1	
	comp=Z,9.7nm,0.7s						
SDBA	**SAO DESIDERIO**	**24.45**	**72**	*e*P	**P**	**07 22 05.2**	**-0.7**
BOAV	**Boa Vista**	**24.97**	**20**	*e*P	**P**	**07 22 10.5**	**0.0**
BOAV	**Boa Vista**	**24.97**	**20**	P	**P**	**07 22 10.5**	**0.0**
BOAV				IAmb	IAmb	07 22 11.4	
	comp

KAN06	Argonia West S	0.75	35		Pg	07 17 26.8	-0.5
KAN13	South Haven SW	0.83	63		Pg	07 17 28.7	-0.2
BLOK	Blackwell	0.96	82	Pg	Pg	07 17 31.1	-0.2
OK029	Liberty Lake	1.13	137		Pg	07 17 34.5	-0.1
BCOK	Bluff Creek, N	1.17	146	Pg	Pg	07 17 33.6	-1.7
OK033	Mehan	1.32	116	Pn	Pn	07 17 37.7	-0.1
OK025	Westminster Rd	1.36	140		Pn	07 17 38.0	-0.3
OK031	S. Brethren Rd	1.43	118	Pn	Pn	07 17 39.5	+0.2
OKCFA	Oklahoma City	1.44	147	Pn	Pn	07 17 39.4	0.0
QUOK	Quay	1.44	108	Pn	Pn	07 17 39.5	+0.1
OKCSW	OKLAHOMA CITY	1.45	147		Pn	07 17 39.5	-0.1
OK030	Cody Creek RV	1.49	118	Pn	Pn	07 17 40.0	0.0
OK034	N. Norfolk Rd.	1.50	114	Pn	Pn	07 17 40.0	-0.1
OK034				IAmb_Lg		07 18 00.4	
	comp=Z,35nm,0.9s						
T35A	Sooner Cattle	1.54	79		Pn	07 17 41.2	+0.4
FNO	Franklin	1.60	149		Pn	07 17 41.8	+0.2
R32A	Long Quarter,	1.80	352		Pn	07 17 44.4	0.0
WMOK	Wichita Mounta	1.92	189		Pn	07 17 45.9	0.0
W35A	Tecumseh	1.93	140	Pn	Pn	07 17 46.0	-0.1
X34A	Smith Ranch, M	2.08	167	Pn	Pb	07 17 49.7	-1.2
X34A				IAmb_Lg		07 18 20.4	
	comp=Z,49nm,0.8s						
TUL1	Leonard	2.23	108	Pn	Pb	07 17 52.1	-1.4
TUL1				IAmb_Lg		07 18 30.4	
	comp=Z,17nm,0.8s						
CBKS	Cedar Bluff	2.42	334	Pn	Pn	07 17 53.3	+0.4
CBKS				IAmb_Lg		07 18 30.7	
	comp=Z,25nm,0.7s						
KSU1	Kansas State U	2.84	29		Pn	07 17 59.0	+0.3
X37A	Clayton	3.20	129	IAmb_Lg		07 19 03.5	
	comp=Z,14nm,0.9s						
U38A	Gravette	3.24	92		Pn	07 18 05.4	+1.2
HHAR	Hobbs	3.62	94	IAmb_Lg		07 19 10.6	
	comp=Z,14nm,0.7s						
MIAR	Mount Ida	4.45	116	Pn	Pn	07 18 20.1	-0.6
BGNE	Belgrade	4.77	2	Pn	Pn	07 18 24.7	-0.5
BGNE				IAmb_Lg		07 19 50.6	
	comp=Z,12nm,0.7s						
T25A	Trinidad	4.84	278		Pn	07 18 25.8	-0.5
P38A	Dawn	4.86	51	Pn	Pn	07 18 26.1	-0.3
MGMO	Mountain Grove	4.94	82		Pn	07 18 27.2	-0.4
X40A	Basin Creek Fa	5.02	114		Pn	07 18 29.4	+0.9
X40A				IAmb_Lg		07 19 53.7	
	comp=Z,7.3nm,0.9s						
N41A	Harden Midland	7.17	53	IAmb_Lg		07 21 13.2	
	comp=Z,11nm,0.8s						

SFS ***25*** *07:17:16.0, 35.°47N×3.°87W, ML2.7, ALBORAN SUR*
CNRM ***25*** *07:17:19.2, 35.°41N×3.°81W, h17km, ml2.7*
ISC 25 07:17:16.6±1.6, 35.°45N±0.°06×3.°76W±0.°04, h10km±13km, n11, σ1°27/19, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.27	212	P	Pb	07 17 23.5	-0.2
PALE				S	Sb	07 17 28.0	-0.4
CHAS	Isla Isabel II	1.12	103	P	Pn	07 17 38.0	-0.5
CHAS				S	Sb	07 17 51.9	-1.0
CHEFC	Chefchaouen	1.33	256	P	Pg	07 17 41.9	-0.4
CHEFC				S	Sg	07 17 59.3	-0.2
JBK	JBK	1.48	138	P	Pb	07 17 45.8	+1.4
JBK				S	Sn	07 18 02.2	-1.0
RSA	Sarsar	1.78	252	P	Pg	07 17 50.0	-0.8
LCRM	LCR	1.98	208	P	Pg	07 17 54.2	-0.3
LCRM				S	Sb	07 18 17.1	-0.5
IFR	Ifrane	2.23	211	P	Pg	07 18 01.6	+2.1
IFR				S	Sn	07 18 21.6	0.0
MD31	MD31	2.70	198	P	Pn	07 18 02.1	+1.8
MD31				S	Sn	07 18 34.0	+0.9
MDT	Midelt	2.72	195	P	Pb	07 18 03.7	-1.7
MDT				S	Sb	07 18 36.7	-2.2
PVAQ	Vaqueiros	3.74	303	P	Pn	07 18 15.8	+1.3
PESTR	Estremoz	4.58	319	P	Pn	07 18 26.9	+0.9

SFS ***25*** *07:18:31.0, 35.°48N×3.°88W, ML2.8, ALBORAN SUR*
CNRM ***25*** *07:18:31.2, 35.°71N×3.°77W, h10km*
ISC 25 07:18:30.4±1.0, 35.°57N±0.°05×3.°73W±0.°07, h11km, n7, σ1°02/9, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAS	Isla Isabel II	1.12	110	P	Pn	07 18 52.0	-0.1
CHAS				S	Sb	07 19 05.7	-0.8
EMAL	Malaga-Limoner	1.32	335	P	Pg	07 18 55.9	+0.2
EMAL				S	Sg	07 19 12.9	-0.1
CHEFC	Chefchaouen	1.40	251	P	Pg	07 18 56.6	-0.7
JBK	JBK	1.56	142	P	Pn	07 19 00.0	+1.9
LCRM	LCR	2.10	207	P	Pb	07 19 09.2	+0.7
MD31	MD31	2.83	198	P	Pb	07 19 19.9	-1.1
CART	Cartagena	2.98	47	P	Pn	07 19 17.9	+0.3

LDG ***25*** *07:20:55.8±0.4, 35.°40N×3.°71W, h30km, Ml3.0/3, Error ellipse: s-maj=8.5km s-min=4.8km az=179.0*
MDD ***25*** *07:20:55.9±0.7, 35.°55N×3.°82W, h0km, mbLg3.5/11, Error ellipse: s-maj=6.6km s-min=3.9km az=26.0*
IDC ***25*** *07:20:55.9±0.9, 35.°40N×3.°86W, h0km, mb4.0/7, mb1 3.9/12, mb1mx3.6/63, mbtmp3.8/12, ML3.4/4, Error ellipse: s-maj=25.2km s-min=16.4km az=99.0*
CRAAG ***25*** *07:20:55.0, 35.°39N×3.°82W, Mb3.3*
IGIL ***25*** *07:20:55.4, 35.°39N×3.°82W, h0km, ML2.8*
SFS ***25*** *07:20:55.0, 35.°39N×3.°87W, ML3.3, ALBORAN SUR*
INMG ***25*** *07:20:56.4±2.2, 35.°55N×3.°79W, h5km±8km, ML3.2, Error ellipse: s-maj=5.8km s-min=5.6km az=179.0*
CNRM ***25*** *07:20:56.8, 35.°40N×3.°70W, h17km, ml4.1*
ISC 25 07:20:56.5±0.9, 35.°32N±0.°03×3.°78W±0.°02, h16km±7km, n85, σ2°91/113, mb4.1/7, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.17	231	P	Pb	07 21 02.4	+1.1
PALE				S	Sg	07 21 07.0	+3.4
EMEL	Melilla	0.68	92	Pg	Pn	07 21 09.9	-1.5
	3μm,0.3s,SNR=64						
EMEL				Lg	Lg	07 21 18.8	
	18μm,0.2s,SNR=38						
EALB	Alboran	0.87	44	Pg	Pg	07 21 10.4	-2.9
	704nm,0.3s,SNR=34						
EALB				Lg	Lg	07 21 19.7	
	1μm,0.2s,SNR=11						
CHAS	Isla Isabel II	1.11	97	P	Pg	07 21 16.0	-2.0
CHAS				S	Sg	07 21 30.5	-2.1
CHEFC	Chefchaouen	1.29	261	P	Pg	07 21 19.6	-1.8
CHEFC				S	Sg	07 21 39.6	+1.3
JBK	JBK	1.40	134	P	Pb	07 21 21.7	-0.7
JBK				S	Sb	07 21 40.2	0.0
CEU	Ceuta	1.42	294	P	Pn	07 21 18.0	-3.6
CEU				S	Sn	07 21 32.6	-7.4
ECEU	Ceuta	1.42	294	Pg	Pn	07 21 18.3	-3.4
	34nm,0.4s,SNR=15						
ECEU				Lg	Lg	07 21 34.2	
	70nm,0.1s,SNR=10.0						
EMIJ	Mijas	1.48	327	Pg	Pn	07 21 20.1	-2.4
	67nm,0.3s,SNR=19						
EMIJ				Lg	Lg	07 21 36.0	
	220nm,0.2s,SNR=7.9						
EMAL	Malaga-Limoner	1.53	340	P	Pn	07 21 21.0	-2.2
EMAL				S	Sn	07 21 36.5	-6.3
ELGU	Los Guajares,	1.55	5	Pg	Pn	07 21 20.5	-3.0
	SNR=7.9						
ELGU				Lg	Lg	07 21 38.3	
	606nm,0.2s,SNR=7.9						
RSA	Sarsar	1.73	256	P	Pg	07 21 27.5	-2.2
EBER	Berja	1.73	24	Pg	Pn	07 21 22.5	-3.6
	36nm,0.4s,SNR=8.3						
EBER				Lg	Lg	07 21 42.6	
	935nm,0.7s,SNR=5.2						
SICH	Sidi Chahed	1.75	227	P	Pg	07 21 29.5	-0.7
SICH				S	Sg	07 21 53.5	+0.5
EJIF	Jimena Fronter	1.77	310	Pg	Pn	07 21 25.0	-1.5
	SNR=7.9						
EJIF				Lg	Lg	07 21 48.1	
	SNR=7.9						
CPS	Cap Spartel	1.79	286	P	Pg	07 21 30.0	-0.9
EGOR	Sierra Gorda,	1.80	352	Pg	Pn	07 21 25.7	-1.5
	SNR=7.9						
EGOR				Lg	Lg	07 21 46.1	
	550nm,0.6s,SNR=7.9						
LCRM	LCR	1.86	209	P	Pg	07 21 30.7	-1.5
LCRM				S	Sg	07 21 55.1	-1.2
EQUE	Quentar	1.90	8	Pg	Pn	07 21 26.2	-2.2
	18nm,0.4s,SNR=8.9						
EQUE				Lg	Lg	07 21 46.2	
	234nm,0.6s,SNR=8.9						
ENIJ	Nijar	2.08	37	Pn	Pn	07 21 27.5	-3.3
	SNR=7.9						
ENIJ				Sn	Sn	07 21 49.7	-6.8
	206nm,0.3s,SNR=7.9						
IFR	Ifrane	2.12	212	P	Pb	07 21 32.6	-1.9
IFR				S	Sb	07 21 59.5	-1.2
SFS	San Fernando	2.27	301	P	Pg	07 21 45.1	+4.9
SFS				S	Sg	07 22 14.3	+4.7
OTSS	Djebel Tessala	2.44	90	P	Pg	07 21 45.0	+1.6
EQES	Quesada	2.54	13	Pg	Pn	07 21 35.9	-1.3
	109nm,0.7s,SNR=16						
EQES				Lg	Lg	07 22 05.9	
	247nm,0.4s,SNR=5.7						
MD31	MD31	2.58	199	P	Pb	07 21 39.9	-2.5
MDT	Midelt	2.59	196	Pn	Pb	07 21 40.5	-2.2
	5.3nm,0.3s,baz=191,slow=12,SNR=14						
MDT				Sn	Sb	07 22 14.1	-0.3
	22nm,0.3s,baz=75,slow=16,SNR=5.0						
MDT	Midelt	2.59	196	P	Pb	07 21 40.6	-2.1
TDRA	Tendrara	2.70	147	P	Pb	07 21 41.2	-3.3
EADA	Adamuz	2.91	348	Pn	Pn	07 21 40.7	-1.5
	22nm,0.3s,SNR=16						
EADA				Lg	Lg	07 22 19.0	
	357nm,0.8s,SNR=6.4						
ODJA	Bouhanifia	2.97	89	P	Pb	07 21 48.0	-1.1
CART	Cartagena	3.18	44	P	Pn	07 21 45.1	-0.8
CART				S	Sn	07 22 14.0	-10
CART	Cartagena	3.18	44	P	Pn	07 21 44.4	-1.5
AVE	Averroes	3.62	237	P	Pn	07 21 53.0	+1.1
OKGL	Djebel Kef Gue	3.67	77	P	Pn	07 21 40.0	-13
PVAQ	Vaqueiros	3.79	304	*e*Pn	Pn	07 21 52.7	-1.6
PVAQ				*e*Sn	Sn	07 22 34.9	-3.8
PVAQ				A	A	07 22 44.9	
	51nm,0.5s						
PVAQ	Vaqueiros	3.79	304	P	Pn	07 21 52.9	-1.4
PBDV	Barranco-do-Ve	3.86	301	*e*Pn	Pn	07 21 53.8	-1.5
PBDV				*e*Sn	Sn	07 22 35.5	-4.9
PBDV				A	A	07 22 51.0	
	29nm,0.5s						
PBAR	Barrancos	3.87	318	*e*Pn	Pb	07 21 58.8	-5.5
PCVE	Castro Verde	4.13	305	*e*Pn	Pn	07 21 56.7	-2.3
PCVE				*e*Sn	Sn	07 22 43.6	-3.4
PCVE				A	A	07 22 57.0	
	26nm,0.4s						
PAB	San Pablo	4.24	354	P	Pn	07 21 58.7	-1.8
PBEJ	Beja	4.25	311	*e*Pn	Pn	07 21 59.1	-1.5
PBEJ				*e*Sn	Sn	07 22 45.8	-4.1
PBEJ				A	A	07 22 56.4	
	24nm,0.8s						
ESDC	Sonseca Array	4.35	358	Pn	Pn	07 22 00.3	-1.7
	1.0nm,0.3s,baz=180,slow=12,SNR=14						
ESDC				Sn	Sn	07 22 54.0	+1.7
	1.3nm,0.3s,baz=181,slow=20,SNR=4.3						
MESJ	Messejana	4.37	306	*e*P	Pn	07 21 59.9	-2.3
MESJ				*e*S	Sn	07 22 47.3	-5.4
MESJ				IAML		07 22 51.9	
	comp=N,21nm,0.2s						
MESJ	Messejana	4.37	306	*e*Pn	Pn	07 22 00.5	-1.7
MESJ				*e*Sn	Sn	07 22 48.1	-4.7
MESJ				A	A	07 22 56.2	
	comp=N,38nm,0.5s						
MORF	Marmelete	4.40	298	*e*Pn	Pn	07 22 03.5	+0.8
MORF				*e*Sn	Sn	07 22 49.6	-4.1
MORF				A	A	07 22 55.1	
	comp=N,19nm,0.4s						
PFVI	Vila Bisbo	4.46	295	*e*Pn	Pn	07 22 03.5	0.0
PFVI				*e*Sn	Sn	07 22 51.1	-4.0
PFVI				A	A	07 22 58.5	
	comp=N,23nm,0.7s						
PTEO	Sao Teotonio	4.56	301	*e*Pn	Pn	07 22 04.9	0.0
PTEO				*e*Sn	Sn	07 22 53.7	-3.8
PTEO				A	A	07 23 03.2	
	comp=N,26nm,0.5s						
EVO	Evora	4.66	315	P	Pn	07 22 04.5	-1.8
EVO				S	Sn	07 22 52.0	-8.1
EVO	Evora	4.66	315	*e*Pn	Pn	07 22 04.8	-1.5
EVO				*e*Sn	Sn	07 22 54.7	-5.4
EVO				A	A	07 23 02.8	
	comp=N,25nm,0.5s						
PESTR	Estremoz	4.67	320	*e*Pn	Pn	07 22 06.7	+0.4
PESTR				*e*Sn	Sn	07 22 55.5	-4.7
PESTR				A	A	07 23 30.8	
	comp=N,25nm,0.8s						
PNCL	Nicolau / Gran	4.72	308	*e*Pn	Pn	07 22 05.4	-1.7
PNCL				*e*Sn	Sn	07 22 57.5	-4.0
PNCL				A	A	07 23 03.2	
	comp=N,19nm,0.4s						
UCM	Universidad Co	5.00	5	P	Pn	07 22 11.8	+0.9
UCM				S	Sn	07 23 09.9	+1.5
PMRV	Marv??o	5.01	326	*e*Pn	Pn	07 22 10.1	-0.9
PMRV				*e*Sn	Sn	07 23 04.2	-4.4
PMRV				A	A	07 23 35.5	
	comp=N,25nm,0.6s						
OUZM	OUZ	5.06	210	P	Pn	07 22 16.0	+4.1
PMTG	Montargil	5.15	318	*e*Pn	Pn	07 22 11.6	-1.4
PMTG				*e*Sn	Sn	07 23 07.1	-5.1
PMTG				A	A	07 23 44.5	
	comp=N,22nm,0.7s						
OUK	Oukaimeden	5.34	221	P	Pn	07 22 17.0	+1.0
PCBR	Castelo Branco	5.38	328	*e*Pn	Pn	07 22 14.4	-1.7
PCBR				*e*Sn	Sn	07 23 13.4	-4.3
PCBR				A	A	07 23 57.0	
	comp=N,15nm,0.7s						
PSBE	So Bento	5.78	318	*e*Pn	Pn	07 22 20.9	-0.8
MTE	Manteigas	5.88	331	*e*Pn	Pn	07 22 24.2	+1.2
MTE				*e*Sn	Sn	07 23 29.6	-0.5
MTE				A	A	07 24 08.5	
	comp=N,38nm,0.7s						
PCAS	Casmilo, Conde	6.02	323	*e*Pn	Pn	07 22 25.6	+0.6
PVIS	Viseu	6.29	330	*e*Pn	Pn	07 22 30.1	+1.5
PVIS				*e*Sn	Sn	07 23 34.7	-5.5
PVIS				A	A	07 23 46.0	
	comp=N,13nm,0.5s						
MVO	Moncorvo	6.37	337	*e*Pn	Pn	07 22 28.2	-1.5
PVRL	Vila Real	6.70	334	*e*Pn	Pn	07 22 34.0	-0.3
PVRL				*e*Sn	Sn	07 23 44.4	-5.9
PVRL				A	A	07 23 54.2	
	comp=N,23nm,0.5s						
POLO	Lamas de Olo	6.81	334	*e*Pn	Pn	07 22 35.5	-0.4
POLO				*e*Sn	Sn	07 23 45.4	-7.8
POLO				A	A	07 23 58.2	
	comp=N,8.1nm,0.7s						
PBRG	Braganca	6.88	341	*e*Pn	Pn	07 22 35.4	-1.3
PBRG				*e*Sn	Sn	07 23 52.8	-1.8
PBRG				A	A	07 23 59.6	
	comp=N,9.0nm,0.4s						
PTO	Porto	6.94	328	*e*Pn	Pn	07 22 37.0	-0.5
PGAV	Gavieira, Arco	7.50	333	*e*Pn	Pn	07 22 45.8	+0.4
ETSF	Etsaut	7.97	17	*e*P	Pn	07 22 51.2	-0.5
ETSF				*e*Sn	Sn	07 24 09.6	-12
	comp=N,0.7nm,0.4s						
SJPF	Ste Jean	8.03	14	*e*P	Pn	07 22 52.4	-0.1
SJPF				*e*Sn	Sn	07 24 10.4	-13
	comp=N,5.8nm,0.7s						
EPF	Esparros	8.34	21	*e*P	Pn	07 22 54.7	-2.0
MTLF	Montolieu	9.26	28	*e*P	Pn	07 23 09.5	+0.2
MTLF				*e*Sn	Sn	07 24 40.5	-13
	comp=N,1.1nm,0.4s						
LFF	La Frestale	10.21	18	*e*Pn	Pn	07 23 16.6	-5.7
KEST	Kesra	10.71	84	Pn	Pn	07 23 32.4	+3.1
	comp=N,0.2nm,0.3s,baz=266,slow=16,SNR=1.9						
PGF	Pioggiola	12.28	50	*e*P	Pn	07 23 50.4	-0.4
AVF	Avril sur Loir	12.65	23	*e*Pn	Pn	07 23 48.3	-7.4
SMF	Signal de Mont	12.69	25	*e*Pn	Pn	07 23 49.2	-7.0
GERES	GERESS Array B	18.67	38	P	Pn	07 25 16.3	+2.0
	comp=N,0.1nm,0.3s,baz=219,slow=6.2,SNR=4.1						
EKA	Eskdalemuir Ar	20.02	1	P	Pn	07 25 29.7	-0.5
	baz=169,slow=8.3,SNR=1.3						
TORD	Torodi Ar. Bea	22.62	166	P	P	07 25 58.6	+1.8
	comp=N,6.0nm,0.9s,baz=345,slow=11,SNR=10						
AKASG	Malin Array Be	28.32	47	P	P	07 26 49.9	+0.5
	comp=N,0.3nm,0.6s,baz=259,slow=9.4,SNR=1.7						
KURBB	Kurchatov Arra	59.11	47	P	P	07 30 57.0	+1.0
	comp=N,2.6nm,0.7s,baz=292,slow=7.7,SNR=10						
ZALV	Zalesovo Beam	61.57	42	P	P	07 31 15.4	+2.6
	comp=N,0.6nm,0.4s,baz=296,slow=7.9,SNR=1.6						
MKAR	Makanchi Array	62.83	50	P	P	07 31 24.2	+2.8
	comp=N,1.4nm,0.7s,baz=286,slow=6.0,SNR=16						
YKA	Yellowknife Ar	67.99	332	P	P	07 31 55.0	+0.6
	comp=N,1.4nm,0.8s,baz=60,slow=6.4						
PDAR	Pinedale Array	76.96	313	P	P	07 32 51.2	+2.5
	comp=N,1.1nm,0.8s,baz=66,slow=6.9,SNR=7.6						

SFS ***25*** *07:23:33.0, 35.°60N×3.°85W, ML2.9, ALBORAN SUR*
CNRM ***25*** *07:23:34.0, 35.°57N×3.°73W, h25km, ml2.8*
ISC 25 07:23:33.2±1.6, 35.°60N±0.°05×3.°73W±0.°05, h19km±6km, n13, σ1°32/21, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.42	205	P	Pg	07 23 41.6	-0.3
PALE				S	Sg	07 23 47.2	-0.5
CHAS	Isla Isabel II	1.14	111	P	Pn	07 23 53.7	-0.3
CHAS				S	Sn	07 24 09.0	0.0
EMAL	Malaga-Limoner	1.29	334	P	Pn	07 23 56.0	-0.2
EMAL				S	Sn	07 24 11.7	-1.3
CHEFC	Chefchaouen	1.41	250	P	Pg	07 24 00.2	-0.2
JBK	JBK	1.58	143	P	Pn	07 24 00.2	-0.1
JBK				S	Sn	07 24 19.8	-0.4
MD31	MD31	2.85	198	P	Pn	07 24 17.4	-0.3
MD31				S	Sn	07 24 52.3	+0.7
TDRA	Tendrara	2.91	151	P	Pn	07 24 20.0	+1.4
TDRA				S	Sn	07 24 51.7	-1.4
CART	Cartagena	2.96	47	S	Sn	07 24 54.0	0.0
PVAQ	Vaqueiros	3.69	300	P	Pn	07 24 30.1	+1.0
PVAQ				S	Sn	07 25 09.5	-2.5
FIGM	Figuig	4.02	149	P	Pn	07 24 35.4	+1.7
PFVI	Vila Bisbo	4.39	292	P	Pn	07 24 40.9	+2.1
PESTR	Estremoz	4.49	318	P	Pn	07 24 42.5	+2.3
EVO	Evora	4.51	312	P	Pn	07 24 41.7	+1.3
EVO				S	Sn	07 25 31.1	-1.2

IDC ***25*** *07:25:53.4±1.8, 35.°40N×3.°71W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/55, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=74.5km s-min=21.2km az=89.0*
IGIL ***25*** *07:25:54.4, 35.°59N×3.°77W, h0km, ML2.7*
CNRM ***25*** *07:25:54.9, 35.°40N×3.°74W, h20km, ml3.5*
SFS ***25*** *07:25:54.0, 35.°59N×3.°77W, ML3.1, ALBORAN SUR*
ISC 25 07:25:53.2±1.3, 35.°54N±0.°03×3.°74W±0.°04, h13km±9km, n29, σ1°86/43, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.35	207	P	Pg	07 26 00.4	0.0
PALE				S	Sg	07 26 05.1	-0.1
CHAS	Isla Isabel II	1.13	108	P	Pn	07 26 13.5	-1.1
CHAS				S	Sb	07 26 27.9	-1.2
EMAL	Malaga-Limoner	1.34	336	P	Pg	07 26 18.7	-0.3
EMAL				S	Sn	07 26 33.1	-2.2
CHEFC	Chefchaouen	1.37	252	P	Pn	07 26 17.9	-0.2
CHEFC				S	Sn	07 26 36.4	+0.2
CEU	Ceuta	1.37	286	P	Pn	07 26 14.7	-3.3
CEU				S	Sn	07 26 30.8	-5.2
JBK	JBK	1.54	141	P	Pn	07 26 19.2	-1.2
JBK				S	Sn	07 26 37.7	-2.7
RSA	Sarsar	1.82	250	P	Pb	07 26 25.7	-0.7
SICH	Sidi Chahed	1.93	223	P	Pn	07 26 26.3	+0.7
SICH				S	Sb	07 26 52.3	+0.2
LCRM	LCR	2.06	207	P	Pn	07 26 28.5	+0.8
LCRM				S	Sn	07 26 52.4	-0.8
IFR	Ifrane	2.31	210	P	Pn	07 26 30.6	-0.5
IFR				S	Sn	07 26 57.6	-2.0
MD31	MD31	2.79	198	P	Pn	07 26 37.7	+0.1
MD31				S	Sn	07 27 09.7	-1.5
MDT	Midelt	2.81	195	Pn	Pn	07 26 38.0	+0.1
	3.1nm,0.3s,baz=178,slow=12,SNR=11						
MDT				Sn	Sn	07 27 11.3	-0.3
	12nm,0.3s,baz=84,slow=18,SNR=4.5						
MDT	Midelt	2.81	195	P	Pn	07 26 37.9	+0.1
MDT				S	Sn	07 27 09.7	-1.9
TDRA	Tendrara	2.87	150	P	Pn	07 26 39.0	+0.3
PVAQ	Vaqueiros	3.71	301	P	Pn	07 26 49.9	-0.1
FIGM	Figuig	3.97	148	P	Pn	07 26 54.3	+0.4
ESDC	Sonseca Array	4.14	358	Pn	Pn	07 26 58.1	+2.1
	0.6nm,0.3s,baz=179,slow=12,SNR=6.3						
MESJ	Messejana	4.27	304	*e*P	Pn	07 26 58.0	+0.2
MESJ				*e*S	Sn	07 27 44.5	-3.0
MESJ				IAML		07 27 53.0	
	comp=N,14nm,0.3s						
PFVI	Vila Bisbo	4.40	293	P	Pn	07 27 02.3	+2.6
PESTR	Estremoz	4.53	318	P	Pn	07 27 04.8	+3.4
EVO	Evora	4.54	312	P	Pn	07 27 02.5	+1.0
EVO				S	Sn	07 27 50.9	-3.3
TZRR	Tazzarine	4.98	198	P	Pn	07 27 08.9	+1.2
OUZM	OUZ	5.26	210	P	Pn	07 27 12.2	+0.7
OUK	Oukaimeden	5.52	220	P	Pn	07 27 14.5	-0.9
ZGR	Zagora	5.63	197	P	Pn	07 27 16.1	-0.6
TTIG	Tnine Tigouga,	6.35	220	P	Pn	07 27 24.2	-2.3
TANT	Tantan	9.53	224	P	Pn	07 28 09.2	-1.0
TORD	Torodi Ar. Bea	22.82	166	P	P	07 30 56.3	+0.4
	comp=N,1.1nm,0.7s,baz=345,slow=11,SNR=3.5						
YKA	Yellowknife Ar	67.81	332	P	P	07 36 54.2	+3.8
	comp=N,0.3nm,0.6s,baz=61,slow=6.3,SNR=4.8						

CNRM ***25*** *07:28:21.4, 35.°48N×3.°74W, h20km, ml2.8*
SFS ***25*** *07:28:22.0, 35.°51N×3.°81W, h24km, ML2.4, ALBORAN SUR*
ISC 25 07:28:20.3±1.2, 35.°49N±0.°04×3.°70W±0.°04, h15km±9km, n10, σ1°24/18, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.34	216	P	Pb	07 28 27.9	-0.1
PALE				S	Sg	07 28 32.3	+0.4
CHAS	Isla Isabel II	1.08	106	P	Pg	07 28 41.1	0.0
CHAS				S	Sn	07 28 55.4

CHEFC			S	Sg	07 42 46.7	+0.4
EMAL	**Malaga-Limoner**	**1.45 338**	P	**Pb**	**07 42 29.2**	**-0.8**
EMAL			S	**Sb**	**07 42 48.3**	**0.0**
JBK	**JBK**	**1.46 137**	P	**Pb**	**07 42 30.3**	**0.0**
JBK			S	**Sg**	**07 42 50.6**	**+0.3**
RSA	**Sarsar**	**1.77 253**	P	**Pb**	**07 42 35.4**	**-0.1**
SICH	**Sidi Chahed**	**1.83 225**	P	**Pg**	**07 42 39.0**	**+0.5**
SICH			S	**Sg**	**07 43 03.9**	**+1.6**
LCRM	**LCR**	**1.95 208**	P	**Pg**	**07 42 40.2**	**-0.6**
LCRM			S	**Sg**	**07 43 05.7**	**-0.3**
IFR	**Ifrane**	**2.21 211**	P	**Pb**	**07 42 43.4**	**+0.4**
IFR			S	**Sb**	**07 43 08.8**	**-1.4**
MD31	**MD31**	**2.67 198**	P	**Pb**	**07 42 49.0**	**-2.0**
MD31			S	**Sb**	**07 43 20.7**	**-2.9**
MDT	**Midelt**	**2.69 195**	Pn	**Pb**	**07 42 51.8**	**+0.6**
	2.7nm,0.3s,baz=5.7,slow=10,SNR=5.6					
MDT			Sn	**Sg**	**07 43 28.9**	**-0.9**
	4.5nm,0.3s,baz=276,slow=20,SNR=5.3					
MDT	**Midelt**	**2.69 195**	P	**Pb**	**07 42 49.5**	**-1.7**
MDT			S	**Sb**	**07 43 26.2**	**+2.1**
TDRA	**Tendrara**	**2.77 148**	P	**Pb**	**07 42 51.0**	**-1.7**
CART	**Cartagena**	**3.10 45**	P	**Pn**	**07 42 51.6**	**-0.2**
CART			S	**Sn**	**07 43 23.9**	**-4.7**
PVAQ	**Vaqueiros**	**3.76 303**	P	**Pn**	**07 43 01.3**	**+0.6**
PVAQ			S	**Sn**	**07 43 41.6**	**-3.2**
FIGM	**Figuig**	**3.88 147**	P	**Pn**	**07 43 04.4**	**+1.8**
ESDC	**Sonseca Array**	**4.25 358**	Pn	**Pn**	**07 43 09.3**	**+1.6**
	0.8nm,0.3s,baz=180,slow=12,SNR=15					
ESDC			Sn	**Sn**	**07 43 58.0**	**+0.9**
	0.4nm,0.3s,baz=187,slow=21,SNR=4.5					
PFVI	**Vila Bisbo**	**4.44 294**	P	**Pn**	**07 43 08.0**	**-2.1**
PESTR	**Estremoz**	**4.61 320**	P	**Pn**	**07 43 13.4**	**+0.9**
EVO	**Evora**	**4.61 314**	P	**Pn**	**07 43 13.3**	**+0.8**
EVO			S	**Sn**	**07 44 01.7**	**-4.1**
TTIG	**Tnine Tigouga,**	**6.25 220**	P	**Pn**	**07 43 34.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**22.71 166**	P	P	07 47 11.7	+7.1
	0.9nm,0.9s,baz=354,slow=12,SNR=3.1					
MKAR	**Makanchi Array**	**62.75 50**	P	P	07 52 32.3	+4.4
	0.3nm,0.6s,baz=284,slow=7.2,SNR=2.7					
YKA	**Yellowknife Ar**	**67.91 332**	P	**P**	**07 53 05.0**	**+4.0**
	0.2nm,0.6s,baz=60,slow=6.4,SNR=3.8					

SFS ***25*** *07:45:35.0, 35°.48N×3°.85W, ML2.7, ALBORAN SUR*
CNRM ***25*** *07:45:36.5, 35°.49N×3°.73W, h16km, ml3.0*
ISC 25 07:45:35.6±1.3, 35°.50N±0°.03×3°.76W±0°.04, h16km±10km, n16, σ1°70/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32 208**		P	**Pg**	**07 45 42.4**	**+0.1**
PALE				S	**Sb**	**07 45 46.9**	**-0.9**
CHAS	**Isla Isabel II**	**1.13 106**		P	**Pb**	**07 45 57.1**	**+0.4**
CHAS				S	**Sb**	**07 46 10.9**	**-0.3**
CHEFC	**Chefchaouen**	**1.35 254**		P	**Pb**	**07 46 00.9**	**+0.4**
CEU	**Ceuta**	**1.37 287**		P	**Pn**	**07 45 58.4**	**-1.6**
CEU				S	**Sn**	**07 46 13.8**	**-4.0**
EMAL	**Malaga-Limoner**	**1.37 337**		P	**Pb**	**07 46 01.4**	**+0.5**
EMAL				S	**Sb**	**07 46 19.2**	**+1.1**
JBK	**JBK**	**1.52 139**		P	**Pn**	**07 46 02.7**	**+0.4**
JBK				S	**Sn**	**07 46 19.8**	**-2.0**
RSA	**Sarsar**	**1.80 251**		P	**Pb**	**07 46 08.9**	**+0.8**
LCRM	**LCR**	**2.02 207**		P	**Pb**	**07 46 13.2**	**+1.1**
LCRM				S	**Sg**	**07 46 38.8**	**-1.9**
IFR	**Ifrane**	**2.28 210**		P	**Pb**	**07 46 17.4**	**+1.1**
IFR				S	**Sn**	**07 46 40.8**	**+0.4**
MD31	**MD31**	**2.75 198**		P	**Pn**	**07 46 20.0**	**+0.9**
MD31				S	**Sn**	**07 46 54.2**	**+2.1**
MDT	**Midelt**	**2.77 195**		P	**Pb**	**07 46 23.6**	**-1.2**
PVAQ	**Vaqueiros**	**3.71 302**		P	**Pn**	**07 46 32.7**	**+0.5**
PVAQ				S	**Sn**	**07 47 14.3**	**-1.3**
PFVI	**Vila Bisbo**	**4.40 293**		P	**Pn**	**07 46 45.2**	**+3.5**
PESTR	**Estremoz**	**4.54 319**		P	**Pn**	**07 46 45.1**	**+1.4**
EVO	**Evora**	**4.55 313**		P	**Pn**	**07 46 45.5**	**+1.7**
EVO				S	**Sn**	**07 47 34.5**	**-1.9**
OUK	**Oukaimeden**	**5.49 220**		P	**Pn**	**07 46 58.5**	**+1.6**

KRNET ***25*** *07:48:55.2±0.1, 40°.83N×69°.30E, h13km, mb2.7*
ISC 25 07:48:55.8±1.8, 40°.83N±0°.05×69°.34E±0°.08, h5km±16km, n7, σ1°41/13, 12C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.49 356**		⇑*iP*	**Pg**	**07 49 04.9**	**-0.4**
	baz=0.0						
TAS				⇑*iS*	**Sg**	**07 49 12.1**	**+0.3**
	baz=0.0						
BTK	**Batken**	**1.37 124**		⇑*iP*	**Pb**	**07 49 21.0**	**-0.9**
	baz=23						
BTK				⇑*iS*	**Sg**	**07 49 40.9**	**+1.2**
	baz=23						
TRKS	**Terek-Say**	**1.53**	**62**	⇑*iP*	**Pg**	**07 49 24.7**	**-0.4**
	baz=65						
TRKS				⇑*iS*	**Sg**	**07 49 45.1**	**+0.2**
	baz=65						
ARK	**Arkit**	**2.20**	**63**	⇑*iP*	**Pb**	**07 49 35.5**	**-0.6**
	baz=63						
ARK				⇑*iS*	**Sb**	**07 50 04.6**	**+0.9**
	baz=63						
DRK	**Karamyk**	**2.32**	**125**	⇓*iP*	**Pb**	**07 49 36.6**	**-1.6**
	baz=24						
DRK				⇓*iS*	**Sb**	**07 50 07.5**	**+0.2**
	baz=24						
KK02	**Karatay Array**	**2.43**	**21**	⇑Pg	**Pg**	**07 49 43.2**	**+0.8**
	1.3nm,0.5s,baz=198,slow=16						
KK02				⇑Lg	Lg	07 50 16.1	
	2.6nm,0.4s,baz=198,slow=29						
MNAS	**Manas**	**2.89**	**54**	⇑*iP*	**Pn**	**07 49 44.1**	**+1.5**
	baz=54						
MNAS				⇑*eS*	**Sb**	**07 50 20.7**	**-2.9**
	baz=54						

SFS ***25*** *07:49:08.0, 35°.69N×3°.72W, h8km, ML2.8, ALBORAN SUR*
IGIL ***25*** *07:49:10.1, 35°.69N×3°.73W, h2km, ML2.7*
IDC ***25*** *07:49:10.2±1.6, 35°.97N×3°.78W, h0km, mb3.2/3, mb1 3.4/4, mb1mx2.9/53, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=52.3km s-min=25.7km az=80.0*
ISC 25 07:49:09.6±0.9, 35°.73N±0°.05×3°.63W±0°.06, h14km, n9, σ2°88/15, mb3.4/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAS	**Isla Isabel II**	**1.12 119**		P	**Pn**	**07 49 28.0**	**-2.7**
CHAS				S	**Sb**	**07 49 41.7**	**-3.4**
EMAL	**Malaga-Limoner**	**1.22 328**		P	**Pn**	**07 49 30.8**	**-1.4**
EMAL				S	**Sb**	**07 49 46.2**	**-1.8**
IFR	**Ifrane**	**2.53 210**		P	**Pn**	**07 49 49.4**	**-1.0**
IFR				S	**Sn**	**07 50 19.4**	**-1.7**
ESDC	**Sonseca Array**	**3.95 356**		Pn	**Pn**	**07 50 10.4**	**+0.6**
	0.5nm,0.3s,baz=178,slow=12,SNR=11						
ESDC				Sn	**Sn**	**07 50 54.6**	**-1.4**
	0.4nm,0.3s,baz=175,slow=17,SNR=4.2						
MESJ	**Messejana**	**4.25 301**		*eP*	**Pn**	**07 50 13.3**	**-0.6**
MESJ				*eS*	**Sn**	**07 50 59.3**	**-3.9**
MESJ				IAML		07 51 08.7	
	comp=N,14nm,0.6s						
EVO	**Evora**	**4.49 310**		P	**Pn**	**07 50 17.1**	**0.0**
EVO				S	**Sn**	**07 51 05.6**	**-3.6**
TORD	**Torodi Ar. Bea**	**22.99 167**		P	**P**	**07 54 19.9**	**+6.0**
	comp=N,1.2nm,1.1s,baz=338,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**62.47 51**		P	**P**	**07 59 34.6**	**+2.2**
	comp=N,0.2nm,0.7s,baz=302,slow=6.6,SNR=1.9						
YKA	**Yellowknife Ar**	**67.69 332**		P	**P**	**08 00 06.4**	**+0.4**
	comp=N,0.2nm,0.9s,baz=59,slow=6.6,SNR=3.5						

TUL ***25*** *07:55:10.3±1.4, 36°.826N±0°.010×97°.78W±0°.01, h6km±4km, ML2.5, mb_Lg2.4/16(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=110.0*
NEIC 25 07:55:10.5±0.5, 36°.802N±0°.010×97°.773W±0°.009, h6km±3km, Error ellipse: s-maj=1.5km s-min=1.0km az=194.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.09 306**		Pg	Pg	07 55 12.4	-0.1
GC02				Sg	Sg	07 55 13.8	0.0
KAN14	**Manchester OK**	**0.22 316**		Pg	Pg	07 55 14.8	0.0
KAN14				Sg	Sg	07 55 17.8	+0.1
KAN17	**Caldwell West**	**0.24**	**2**	Pg	Pg	07 55 15.2	-0.1
KAN17				Sg	Sg	07 55 18.7	+0.2
KAN05	**Bluff City Nor**	**0.32 346**			Pg	07 55 16.6	-0.1
KAN05				Sg	Sg	07 55 20.9	0.0
KAN13	**South Haven SW**	**0.32**	**48**		Pg	07 55 16.5	-0.2
KAN13				Sg	Sg	07 55 21.2	+0.3
CROK	**Carrier**	**0.34 210**			Pg	07 55 17.6	+0.4
CROK				Sg	Sg	07 55 22.6	+0.9
KAN01	**Argonia South**	**0.35**	**2**		Pg	07 55 17.3	-0.1
KAN01				Sg	Sg	07 55 22.1	+0.1
KAN10	**Anthony SW Sta**	**0.41 321**		Pg	Pg	07 55 18.5	0.0
KAN10				Sg	Sg	07 55 24.0	+0.1
BLOK	**Blackwell**	**0.45**	**95**		Pg	07 55 19.2	0.0
BLOK				Sg	Sg	07 55 25.4	+0.3
KAN06	**Argonia West S**	**0.45 351**		Pg	Pg	07 55 19.1	-0.1
KAN06				Sg	Sg	07 55 25.2	+0.1
KAN08	**Anthony NE Sta**	**0.45 340**		Pg	Pg	07 55 19.2	-0.1
KAN08				Sg	Sg	07 55 25.2	0.0
KAN16	**Harper SW Stat**	**0.48 331**		Pg	Pg	07 55 19.8	-0.1
KAN16				Sg	Sg	07 55 26.6	+0.4
KAN12	**Harper NE Stat**	**0.53 340**		Pg	Pg	07 55 19.8	-0.9
KAN12				Sg	Sg	07 55 27.4	-0.1
OK035	**E0210 Rd and N**	**0.76 263**		Pg	Pg	07 55 24.7	-0.4
OK035				Sg	Sg	07 55 34.4	-0.6
OK033	**Mehan**	**1.01 138**		Pg	Pg	07 55 29.4	-0.5
OK033				Sg	Sg	07 55 43.2	+0.1
T35A	**Sooner Cattle**	**1.02**	**83**		Pg	07 55 29.4	-0.6
T35A				Sg	Sg	07 55 43.1	-0.1
OK029	**Liberty Lake**	**1.03 166**		Pg	Pg	07 55 30.3	-0.1
OK029				Sg	Sg	07 55 44.1	+0.3
QUOK	**Quay**	**1.06 126**		Pg	Pg	07 55 30.7	-0.2
QUOK				Sg	Sg	07 55 44.8	0.0
U32A	**Winter Ranch,**	**1.07 247**		Pg	Pg	07 55 30.6	-0.5
U32A				Sg	Sg	07 55 45.0	0.0
OK031	**S. Brethren Rd**	**1.13 138**		Pg	Pg	07 55 31.4	-0.9
OK031				Sg	Sg	07 55 47.0	+0.1
BCOK	**Bluff Creek, N**	**1.15 173**		Pg	Pg	07 55 32.1	-0.5
BCOK				Sg	Sg	07 55 47.1	-0.4
OK034	**N. Norfolk Rd.**	**1.16 132**		Pg	Pg	07 55 32.5	-0.4
OK034				Sg	Sg	07 55 47.5	-0.4
OK025	**Westminster Rd**	**1.27 164**			Pg	07 55 34.2	-0.6
OKCFA	**Oklahoma City**	**1.41 169**			Pn	07 55 36.3	-0.5
OKCFA				IAmb_Lg		07 55 58.5	
	comp=Z,17nm,1.0s						
OKCSW	**OKLAHOMA CITY**	**1.42 169**			Pn	07 55 37.1	+0.2
FNO	**Franklin**	**1.57 169**			Pn	07 55 39.3	+0.3
FNO				IAmb_Lg		07 56 04.4	
	comp=Z,20nm,0.8s						
R32A	**Long Quarter,**	**1.78 336**			Pn	07 55 42.1	+0.2
W35A	**Tecumseh**	**1.80 156**			Pn	07 55 42.8	+0.7
TUL1	**Leonard**	**1.83 118**		Pn	Pn	07 55 42.8	+0.3
TUL1				IAmb_Lg		07 56 10.5	
	comp=Z,31nm,0.9s						
X34A	**Smith Ranch, M**	**2.20 181**			Pn	07 55 47.4	-0.2
WMOK	**Wichita Mounta**	**2.22 202**		Pn	Pn	07 55 49.3	+1.4
KSU1	**Kansas State U**	**2.47**	**21**	IAmb_Lg		07 56 34.6	
	comp=Z,8.3nm,0.7s						
X37A	**Clayton**	**2.95 138**		IAmb_Lg		07 56 48.4	
	comp=Z,14nm,0.8s						
S39A	**Bolivar**	**3.66**	**75**	Pn	Pn	07 56 06.6	-1.1
AMTX	**Amarillo**	**3.71 240**			Pn	07 56 07.1	-1.3
Z38A	**Mt. Pleasant**	**4.21 146**		IAmb_Lg		07 57 32.3	
	comp=Z,13nm,0.7s						
WHAR	**Wooly Hollow**	**4.69 107**		IAmb_Lg		07 57 41.4	
	comp=Z,6.9nm,0.7s						

CNRM ***25*** *07:55:13.8, 35°.52N×3°.70W, h11km, ml3.9*
IDC ***25*** *07:55:14.2±1.0, 35°.48N×3°.89W, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.6/65, mbtmp3.7/8, ML3.7/3, MS3.8/1, Ms1 3.8/1, ms1mx2.9/97, Error ellipse: s-maj=33.3km s-min=17.3km az=95.0*
SFS ***25*** *07:55:14.0, 35°.48N×3°.82W, ML3.6, ALBORAN SUR*
CRAAG ***25*** *07:55:14.0, 35°.49N×3°.81W, Mb3.6*
IGIL ***25*** *07:55:15.5, 35°.49N×3°.82W, h0km, ML3.5*
NEIC ***25*** *07:55:15.8±1.1, 35°.49N±0°.06×3°.84W±0°.03, h10km±1km, mb4.2/2, Error ellipse: s-maj=10.2km s-min=4.2km az=180.0*
INMG ***25*** *07:55:15.4±2.2, 35°.57N×3°.75W, h6km±6km, ML3.4, Error ellipse: s-maj=4.6km s-min=3.3km az=15.0*
LDG ***25*** *07:55:16.7±0.3, 35°.46N×3°.70W, h10km, Ml3.7/8*
ISC 25 07:55:15.5±1.1, 35°.51N±0°.03×3°.70W±0°.03, h16km±8km, n111, σ2°46/152, mb4.0/7, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35 214**		P	**Pg**	**07 55 20.7**	**-2.2**
PALE				S	**Sg**	**07 55 25.2**	**-2.7**
CHAS	**Isla Isabel II**	**1.08 107**		P	**Pb**	**07 55 34.9**	**-1.0**
CHAS				S	**Sb**	**07 55 48.8**	**-1.0**
TAF	**Taforalt**	**1.26 123**		P	**Pn**	**07 55 38.1**	**-0.4**
TAF				S	**Sn**	**07 55 57.0**	**+1.9**
EMAL	**Malaga-Limoner**	**1.38 335**		P	**Pn**	**07 55 39.0**	**-1.1**
EMAL				S	**Sn**	**07 55 57.2**	**-0.8**
CHEFC	**Chefchaouen**	**1.40 254**		P	**Pn**	**07 55 39.4**	**-1.1**
CHEFC				S	**Sn**	**07 55 58.1**	**-0.7**
JBK	**JBK**	**1.50 141**		P	**Pn**	**07 55 40.8**	**-1.1**
JBK				S	**Sn**	**07 56 00.7**	**-0.5**
CPS	**Cap Spartel**	**1.82 279**		P	**Pn**	**07 55 48.0**	**+1.8**
RSA	**Sarsar**	**1.85 251**		P	**Pn**	**07 55 46.9**	**+0.3**
OLHC	**Oulhaca**	**1.88 97**		P	**Pn**	**07 55 45.3**	**-1.7**
SICH	**Sidi Chahed**	**1.94 224**		P	**Pn**	**07 55 49.1**	**+1.4**
SICH				S	**Sn**	**07 56 14.3**	**+2.6**
LCRM	**LCR**	**2.06 208**		P	**Pn**	**07 55 50.1**	**+0.5**
LCRM				S	**Sn**	**07 56 16.1**	**+1.2**
SFS	**San Fernando**	**2.25 296**		P	**Pg**	**07 56 00.7**	**+2.0**
SFS				S	**Sg**	**07 56 34.8**	**+7.0**
SFS	**San Fernando**	**2.25 296**		Pn	**Pn**	**07 55 51.5**	**-0.5**
IFR	**Ifrane**	**2.31 211**		P	**Pn**	**07 55 51.9**	**-1.3**
IFR				S	**Sn**	**07 56 18.6**	**-2.7**
OTSS	**Djebel Tessala**	**2.38**	**95**	P	**Pn**	**07 55 54.0**	**0.0**
MD31	**MD31**	**2.78 199**		P	**Pn**	**07 55 59.2**	**-0.3**
MDT	**Midelt**	**2.79 196**		Pn	**Pn**	**07 55 59.9**	**+0.3**
	8.3nm,0.3s,baz=184,slow=13,SNR=14						
MDT				Sn	**Sn**	**07 56 32.5**	**-0.6**
	28nm,0.3s,baz=92,slow=20,SNR=9.2						
MDT	**Midelt**	**2.79 196**		P	**Pn**	**07 56 00.3**	**+0.6**
MDT				S	**Sn**	**07 56 33.1**	**0.0**
ODJA	**Bouhanifia**	**2.90**	**93**	P	**Pn**	**07 56 01.4**	**+0.3**
CART	**Cartagena**	**3.00**	**46**	P	**Pn**	**07 56 00.9**	**-1.5**
CART				S	**Sn**	**07 56 35.0**	**-3.0**
CART	**Cartagena**	**3.00**	**46**	P	**Pn**	**07 56 00.0**	**-2.3**
CART				S	**Sn**	**07 56 35.3**	**-2.6**
PVAQ	**Vaqueiros**	**3.75 301**		*ePn*	**Pn**	**07 56 11.7**	**-1.0**
PVAQ				*eSn*	**Sn**	**07 56 53.1**	**-3.4**
PVAQ				A	A	07 56 56.0	
	123nm,0.6s						
PVAQ	**Vaqueiros**	**3.75 301**		P	**Pn**	**07 56 10.7**	**-2.0**
PVAQ	**Vaqueiros**	**3.75 301**		P	**Pn**	**07 56 11.7**	**-1.0**
PBAR	**Barrancos**	**3.77 316**		*eSn*	**Sn**	**07 56 55.2**	**-1.9**
AVE	**Averroes**	**3.78 235**		P	**Pn**	**07 56 16.5**	**+3.3**
AVE	**Averroes**	**3.78 235**		P	**Pb**	**07 56 20.4**	**-1.5**
PBDV	**Barranco-do-Ve**	**3.83 298**		*ePn*	**Pn**	**07 56 12.8**	**-1.0**
PBDV				*eSn*	**Sn**	**07 56 55.7**	**-2.8**
PBDV				A	A	07 57 00.6	
	53nm,0.6s						
FIGM	**Figuig**	**3.93 148**		P	**Pn**	**07 56 17.0**	**+1.7**
PAB	**San Pablo**	**4.06 353**			**Pn**	**07 56 17.7**	**+0.6**
PCVE	**Castro Verde**	**4.09 302**		*ePn*	**Pn**	**07 56 16.5**	**-0.8**
PCVE				*eSn*	**Sn**	**07 57 01.8**	**-3.0**
PCVE				A	A	07 57 11.7	
	53nm,0.6s						
ESDC	**Sonseca Array**	**4.16 357**		Pn	**Pn**	**07 56 20.2**	**+1.8**
	2.5nm,0.3s,baz=179,slow=12,SNR=46						
ESDC				Sn	**Sn**	**07 57 08.7**	**+2.0**
	2.0nm,0.3s,baz=185,slow=17,SNR=6.1						
ESDC	**Sonseca Array**	**4.16 357**			**Pn**	**07 56 18.5**	**+0.1**
ESBB	**Sonseca Array**	**4.16 357**			**Pn**	**07 56 19.6**	**+1.2**
PBEJ	**Beja**	**4.18 308**		*ePn*	**Pn**	**07 56 18.9**	**+0.2**
PBEJ				*eSn*	**Sn**	**07 57 04.8**	**-2.4**
PBEJ				A	A	07 57 10.6	
	33nm,0.4s						
PBEJ				*eLQ*	LQ	07 59 08.9	
MESJ	**Messejana**	**4.32 304**		*eP*	**Pn**	**07 56 19.5**	**-1.0**
MESJ				*eS*	**Sn**	**07 57 06.2**	**-4.2**
MESJ				IAML		07 57 15.1	
	comp=N,94nm,0.5s						
MESJ	**Messejana**	**4.32 304**		*ePn*	**Pn**	**07 56 19.8**	**-0.7**
MESJ				*eSn*	**Sn**	**07 57 07.3**	**-3.1**
MESJ				A	A	07 57 11.5	
	comp=N,52nm,0.3s						
MORF	**Marmelete**	**4.38 296**		*eP*	**Pn**	**07 56 20.2**	**-1.2**
MORF				*eS*	**Sn**	**07 57 07.7**	**-4.4**
MORF				IAML		07 57 14.1	
	comp=N,95nm,0.3s						
MORF	**Marmelete**	**4.38 296**		*ePn*	**Pn**	**07 56 20.7**	**-0.7**
MORF				*eSn*	**Sn**	**07 57 08.3**	**-3.8**
MORF				A	A	07 57 13.1	
	comp=N,40nm,0.5s						
PFVI	**Vila Bisbo**	**4.45 293**		*ePn*	**Pn**	**07 56 23.0**	**+0.7**
PFVI				*eSn*	**Sn**	**07 57 10.1**	**-3.6**
PFVI				A	A	07 57 27.4	
	comp=N,37nm,0.4s						
PFVI	**Vila Bisbo**	**4.45 293**		P	**Pn**	**07 56 21.1**	**-1.2**
PTEO	**Sao Teotonio**	**4.53 298**		*ePn*	**Pn**	**07 56 23.1**	**-0.3**
PTEO				*eSn*	**Sn**	**07 57 13.5**	**-2.2**
PTEO				A	A	07 57 19.0	
	comp=N,48nm,0.4s						
PESTR	**Estremoz**	**4.57 318**		*ePn*	**Pn**	**07 56 24.5**	**+0.5**
PESTR				*eSn*	**Sn**	**07 57 14.2**	**-2.5**
PESTR				A	A	07 57 44.0	
	comp=N,42nm,0.5s						
PESTR	**Estremoz**	**4.57 318**			**Pn**	**07 56 24.1**	**+0.1**
PESTR	**Estremoz**	**4.57 318**		P	**Pn**	**07 56 24.4**	**+0.5**
EVO	**Evora**	**4.58 312**		P	**Pn**	**07 56 24.3**	**+0.1**
EVO				S	**Sn**	**07 57 10.2**	**-6.8**
EVO	**Evora**	**4.58 312**		*ePn*	**Pn**	**07 56 24.2**	**+0.1**
EVO				*eSn*	**Sn**	**07 57 13.6**	**-3.5**
EVO				A	A	07 57 16.9	
	comp=N,50nm,0.5s						
PNCL	**Nicolau / Gran**	**4.67 305**		*ePn*	**Pn**	**07 56 24.5**	**-0.8**
PNCL				*eSn*	**Sn**	**07 57 15.6**	**-3.4**
PNCL				A	A	07 57 20.9	
	comp=N,34nm,0.4s						
UCM	**Universidad Co**	**4.80**	**4**	P	**Pn**	**07 56 30.2**	**+3.0**
UCM				S	**Sn**	**07 57 23.3**	**+0.9**
PMRV	**Marv??o**	**4.89 324**		*ePn*	**Pn**	**07 56 28.7**	**+0.3**
PMRV				*eSn*	**Sn**	**07 57 23.0**	**-1.7**
PMRV				A	A	07 57 39.1	
	comp=N,53nm,0.5s						
PMTG	**Montargil**	**5.06 316**		*ePn*	**Pn**	**07 56 30.6**	**-0.1**
PMTG				*eSn*	**Sn**	**07 57 25.8**	**-3.1**
PMTG				A	A	07 57 28.6	
	comp=N,38nm,0.5s						
OUZM	**OUZ**	**5.26 210**		P	**Pn**	**07 56 34.0**	**+0.4**
PCBR	**Castelo Branco**	**5.26 326**		*ePn*	**Pn**	**07 56 34.0**	**+0.6**
PCBR				*eSn*	**Sn**	**07 57 31.5**	**-2.2**
PCBR				A	A	07 58 17.7	
	comp=N,32nm,0.6s						
OUK	**Oukaimeden**	**5.53 220**		P	**Pn**	**07 56 35.5**	**-2.0**
PMAFR	**Mafra**	**5.63 309**		*ePn*	**Pn**	**07 56 38.9**	**+0.4**
PMAFR				*eSn*	**Sn**	**07 57 39.0**	**-3.8**
PMAFR				A	A	07 58 05.0	
	comp=N,49nm,0.6s						
PSBE	**So Bento**	**5.69 316**		*ePn*	**Pn**	**07 56 39.8**	**+0.4**
PSBE				*eSn*	**Sn**	**07 57 41.5**	**-2.9**
PSBE				A	A	07 57 46.1	
	comp=N,29nm,0.5s						
MTE	**Manteigas**	**5.75 329**		*ePn*	**Pn**	**07 56 41.1**	**+0.9**
MTE				*eSn*	**Sn**	**07 57 44.0**	**-1.9**
MTE				A	A	07 58 32.1	
	comp=N,44nm,0.7s						
MTE	**Manteigas**	**5.75 329**			**Pn**	**07 56 41.4**	**+1.1**
PCAS	**Casmilo, Conde**	**5.92 321**		*ePn*	**Pn**	**07 56 41.2**	**-1.3**
PCAS				*eSn*	**Sn**	**07 57 45.5**	**-4.4**
PCAS				A	A	07 58 31.8	
	comp=N,35nm,0.6s						
PVIS	**Viseu**	**6.16 329**		*ePn*	**Pn**	**07 56 46.6**	**+0.7**
PVIS				*eSn*	**Sn**	**07 57 54.7**	**-1.3**
PVIS				A	A	07 58 33.3	
	comp=N,20nm,0.6s						
MVO	**Moncorvo**	**6.22 336**		*ePn*	**Pn**	**07 56 47.7**	**+1.0**
MVO				*eSn*	**Sn**	**07 57 56.9**	**-0.6**
MVO				A	A	07 58 04.2	
	comp=N,30nm,0.5s						
TTIG	**Tnine Tigouga,**	**6.35 220**		P	**Pn**	**07 56 45.2**	**-3.4**
PVRL	**Vila Real**	**6.56 332**		*ePn*	**Pn**	**07 56 52.1**	**+0.7**
PVRL				*eSn*	**Sn**	**07 58 04.0**	**-1.9**
PVRL				A	A	07 58 09.3	
	comp=N,40nm,0.5s						
POLO	**Lamas de Olo**	**6.68 332**		*ePn*	**Pn**	**07 56 54.0**	**+1.0**
POLO				*eSn*	**Sn**	**07 58 05.8**	**-3.0**
POLO				A	A	07 58 14.0	
	comp=N,12nm,0.6s						
PBRG	**Braganca**	**6.72 340**		*ePn*	**Pn**	**07 56 54.9**	**+1.4**
PBRG				*eSn*	**Sn**	**07 58 09.0**	**-0.7**
PBRG				A	A	07 58 16.0	
	comp=N,20nm,0.6s						
PCAB	**Cabril**	**7.06 333**		*ePn*	**Pn**	**07 56 59.0**	**+0.9**
PCAB				*eSn*	**Sn**	**07 58 14.5**	**-3.5**
PGAV	**Gavieira, Arco**	**7.37 332**		*ePn*	**Pn**	**07 57 03.5**	**+1.0**
PGAV		

SFS 25 07:59:30.0, 35.47N×3.77W, ML2.8, ALBORAN SUR
CNRM 25 07:59:31.8, 35.35N×3.70W, h17km, ml3.0
ISC 25 07:59:28.1±1.2, 35.57N±0.04×3.69W±0.04, h13km±9km, n12, σ1§48/23, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	0.41	211	P	Pg	07 59 36.2	-0.1
PALE				S	Sg	07 59 41.1	-0.6
CHAS	**Isla Isabel II**	1.09	110	P	Pb	07 59 49.7	+0.8
CHAS				S	Sg	08 00 03.8	+0.3
EMAL	**Malaga-Limoner**	1.33	333	P	Pn	07 59 53.4	+0.9
EMAL				S	Sg	08 00 09.5	-1.7
CHEFC	**Chefchaouen**	1.43	252	P	Pn	07 59 54.1	+0.2
CHEFC				S	Sb	08 00 13.3	+0.4
JBK	**JBK**	1.54	143	P	Pn	07 59 55.1	-0.4
JBK				S	Sn	08 00 13.4	-2.0
RSA	**Sarsar**	1.88	249	P	Pb	08 00 02.4	0.0
SICH	**Sidi Chahed**	1.98	223	P	Pg	08 00 05.7	-0.5
SICH				S	Sn	08 00 27.7	+1.5
LCRM	**LCR**	2.11	208	P	Pb	08 00 06.6	+0.2
LCRM				S	Sn	08 00 29.0	-0.6
IFR	**Ifrane**	2.37	211	P	Pb	08 00 11.6	+0.8
IFR				S	Sn	08 00 33.1	-2.8
MD31	**MD31**	2.84	199	P	Pn	08 00 13.9	+0.7
MD31				S	Sn	08 00 46.0	-1.4
MDT	**Midelt**	2.85	196	P	Pn	08 00 16.5	+3.0
MDT				S	Sn	08 00 45.8	-1.9
EVO	**Evora**	4.55	312	P	Pn	08 00 38.7	+2.0
EVO				S	Sn	08 01 28.1	-1.5

IDC 25 08:03:53.5±1.1, 7.33S×122.44E, h543km±13km, mb3.0/2, mb1 3.2/6, mb1mx2.5/51, mbtmp4.0/6, Error ellipse: s-maj=40.6km s-min=18.0km az=67.0
ISC 25 08:03:54.2±1.2, 7.5S±0.1×122.6E±0.2, h573km, n6, σ2§43/7, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	2.90	159	P	P	08 05 09.5	-1.1
	18nm,0.3s,baz=333,slow=9.0,SNR=6.4						
BATI				S	S	08 06 09.9	-2.8
	46nm,0.3s,baz=223,slow=23,SNR=5.4						
SIJI	**Sorong**	10.87	53	P	P	08 06 20.8	-0.7
	3.2nm,0.3s,baz=268,slow=2.4,SNR=7.5						
WRA	**Warramunga Arr**	16.82	139	P	P	08 07 22.6	+2.2
	0.6nm,0.3s,baz=318,slow=11,SNR=17						
ASAR	**Alice Springs**	19.40	147	P	P	08 07 46.9	+3.0
	0.1nm,0.3s,baz=320,slow=8.5,SNR=9.3						
USRK	**Ussuriysk Ar.**	52.15	9	P	P	08 12 12.4	+0.3
	1.2nm,0.5s,baz=193,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	64.82	331	P	P	08 13 37.6	+0.3
	0.5nm,0.5s,baz=135,slow=6.6,SNR=8.5						

KRSC 25 08:04:46.8±2.4, 49.33N×157.15E, h43km±37km, ML4.3
IDC 25 08:04:53.4±1.7, 50.36N×154.65E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.4/77, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=44.6km s-min=23.6km az=119.0
ISC 25 08:04:47.0±1.5, 49.2N±0.1×156.8E±0.1, h50km, n35, σ1§81/39, mb3.7/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	1.55	344	eP	Pn	08 05 11.0	-1.2
SKR				eS	Sn	08 05 28.9	-2.2
PAU	**Pauzhetka**	2.27	0	eP	Pn	08 05 22.6	+0.5
PAU				eS	Sn	08 05 48.9	0.0
KDTR	**Khodutka, Kamc**	2.74	17	eP	Pn	08 05 29.0	+0.5
KDTR				eS	Sn	08 06 00.4	0.0
MTVR	**Mutnovka**	3.41	15	eP	Pn	08 05 38.7	+0.9
MTVR				eS	Sn	08 06 17.5	+0.5
RUS	**Russkaya**	3.42	18	eP	Pn	08 05 38.1	+0.3
RUS				eS	Sn	08 06 16.6	-0.4
GRL	**Gorelyy**	3.46	13	eP	Pn	08 05 39.9	+1.5
GRL				eS	Sn	08 06 19.5	+1.3
KRMR	**Karymshinskiy**	3.74	13	eP	Pn	08 05 43.5	+1.4
KRMR				eS	Sn	08 06 25.9	+1.1
APC	**Apacha**	3.74	3	eP	Pn	08 05 44.8	+2.6
PETK	**Petropavlovsk-**	3.96	8	Pn	Pn	08 05 46.8	+1.6
	1.5nm,0.3s,baz=208,slow=9.0,SNR=32						
PETK				Sn	Sn	08 06 27.7	-2.7
	0.8nm,0.3s,baz=233,slow=12,SNR=1.9						
PET	**Petropavlovsk**	4.01	16	eP	Pn	08 05 47.0	+1.2
DALK	**Dalny**	4.04	17	eP	Pn	08 05 47.2	+1.0
DALK				eS	Sn	08 06 32.7	+0.6
UGLR	**Uglovaya**	4.22	17	eP	Pn	08 05 51.2	+2.4
AVH	**Avacha**	4.26	16	eP	Pn	08 05 51.5	+2.2
KOK	**Koryaka**	4.26	15	eP	Pn	08 05 51.9	+2.5
SMAR	**Somma**	4.27	16	eP	Pn	08 05 51.9	+2.3
NLC	**Nalytchevo**	4.29	21	eP	Pn	08 05 49.8	+0.1
NLC				eS	Sn	08 06 36.8	-1.7
KRER	**Koryakskii**	4.30	16	eP	Pn	08 05 51.9	+1.9
SDLR	**Sedlovina**	4.30	17	eP	Pn	08 05 50.9	+1.0
SPN	**Mys Shipunski**	4.41	26	eP	Pn	08 05 52.8	+1.5
SPN				eS	Sn	08 06 41.6	+0.3
GNL	**Ganaly**	4.56	9	eP	Pn	08 05 56.2	+2.6
TUMD	**Tumrok D**	6.41	19	P	Pn	08 06 21.0	+2.2
TUMR	**Tumrok**	6.44	17	P	Pn	08 06 21.8	+2.6
KMNR	**Kamenistaya**	6.90	16	P	Pn	08 06 28.0	+2.4
KBTR	**Krutoberegovo**	7.92	25	P	Pn	08 06 39.4	0.0
BKI	**Bering**	8.24	40	S	Sn	08 08 10.6	-4.9
ASAJ	**Asahikawa**	10.99	248	Pn	Pn	08 07 22.4	+1.0
	1.1nm,0.3s,baz=45,slow=14,SNR=6.5						
TIXI	**Tiksi**	25.91	340	P	P	08 10 12.9	-0.9
	1.5nm,0.3s,baz=151,slow=13,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	30.50	161	T	T	08 43 51.6	
	baz=347						
H11N1	**WAKE ISLAND Hy**	30.51	161	T	T	08 43 51.6	
	baz=347						
H11N3	**WAKE ISLAND Hy**	30.51	161	T	T	08 44 02.3	
	baz=347						
H11S1	**WAKE ISLAND Hy**	31.64	162	T	T	08 45 23.1	
	baz=347,slow=76,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	31.65	162	T	T	08 45 21.2	
	baz=347,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	31.66	162	T	T	08 45 11.0	
	baz=347,slow=76,SNR=10						
MKAR	**Makanchi Array**	48.02	297	P	P	08 13 19.8	-1.1
	0.6nm,0.7s,baz=68,slow=8.2,SNR=5.7						
ASAR	**Alice Springs**	75.35	202	P	P	08 16 42.0	+17
	0.4nm,0.8s,baz=4.3,slow=4.8,SNR=4.5						

IDC 25 08:06:29.4±1.2, 35.56N×3.86W, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.2/70, mbtmp3.4/6, ML3.1/2, Error ellipse: s-maj=40.1km s-min=18.4km az=91.0
SFS 25 08:06:30.0, 35.50N×3.81W, ML3.1, ALBORAN SUR
CRAAG 25 08:06:30.0, 35.50N×3.81W, Mb3.1
CNRM 25 08:06:31.1, 35.45N×3.74W, h19km, ml3.7
ISC 25 08:06:29.3±1.3, 35.54N±0.03×3.74W±0.03, h8km±9km, n32, σ1§92/49, mb3.5/4, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	0.36	207	P	Pg	08 06 36.7	+0.4
PALE				S	Sg	08 06 41.4	+0.3
CHAS	**Isla Isabel II**	1.13	108	P	Pb	08 06 50.9	-0.1
CHAS				S	Sg	08 07 04.2	-1.3
TAF	**Taforalt**	1.31	123	P	Pn	08 06 53.4	-0.4
TAF				S	Sn	08 07 11.6	+0.2
EMAL	**Malaga-Limoner**	1.34	336	P	Pn	08 06 54.3	+0.1
EMAL				S	Sb	08 07 10.9	-1.6
CEU	**Ceuta**	1.38	286	P	Pn	08 06 53.3	-1.4
CEU				S	Sb	08 07 06.8	-6.1
CHEFC	**Chefchaouen**	1.38	252	P	Pb	08 06 55.0	-0.3
CHEFC				S	Sn	08 07 12.7	-0.5
JBK	**JBK**	1.54	141	P	Pn	08 06 55.7	-1.5
JBK				S	Sn	08 07 13.2	-4.2
RSA	**Sarsar**	1.82	250	P	Pb	08 07 02.4	-0.5
RSA				S	Sn	08 07 21.8	-2.5
SICH	**Sidi Chahed**	1.93	223	P	Pb	08 07 04.8	+0.1
SICH				S	Sb	08 07 29.0	0.0
LCRM	**LCR**	2.06	207	P	Pb	08 07 05.8	-1.3
LCRM				S	Sn	08 07 30.6	+0.3
IFR	**Ifrane**	2.32	210	P	Pn	08 07 07.5	-0.4
IFR				S	Sn	08 07 34.1	-2.5
USTO	**Oran**	2.61	85	P	Sn	08 07 44.0	+0.6
MD31	**MD31**	2.80	198	P	Pn	08 07 14.1	-0.2
MD31				S	Sn	08 07 46.4	-1.8
MDT	**Midelt**	2.81	195	Pn	Pn	08 07 15.9	+1.3
	1.4nm,0.3s,baz=341,slow=18,SNR=9.3						
MDT				Sn	Sn	08 07 49.4	+0.8
	7.9nm,0.3s,baz=44,slow=15,SNR=10						
MDT	**Midelt**	2.81	195	P	Pn	08 07 14.9	+0.3
MDT				S	Sn	08 07 47.6	-1.1
TDRA	**Tendrara**	2.87	150	P	Pn	08 07 16.1	+0.7
ODJA	**Bouhanifia**	2.94	93	P	Sn	08 07 46.0	-5.8
CART	**Cartagena**	3.01	46	P	Pn	08 07 17.2	+0.1
CART				S	Sn	08 07 49.8	-3.5
CART	**Cartagena**	3.01	46	P	Pn	08 07 18.1	+0.9
PVAQ	**Vaqueiros**	3.71	301	P	Pn	08 07 28.1	+1.3
FIGM	**Figuig**	3.97	148	P	Pn	08 07 31.9	+1.3
ESDC	**Sonseca Array**	4.13	358	Pn	Pn	08 07 35.0	+2.4
	0.9nm,0.3s,baz=180,slow=12,SNR=23						
ESDC				Sn	Sn	08 08 22.5	+1.3
	0.7nm,0.3s,baz=177,slow=18,SNR=4.9						
PFVI	**Vila Bisbo**	4.40	293	P	Pn	08 07 36.2	-0.2
PESTR	**Estremoz**	4.53	318	P	Pn	08 07 39.5	+1.5
EVO	**Evora**	4.54	312	P	Pn	08 07 39.3	+1.1
EVO				S	Sn	08 08 28.7	-2.4
TZRR	**Tazzarine**	4.98	198	P	Pn	08 07 46.3	+1.9
OUZM	**OUZ**	5.26	210	P	Pn	08 07 48.6	+0.3
OUK	**Oukaimeden**	5.53	220	P	Pn	08 07 51.6	-0.6
TORD	**Torodi Ar. Bea**	22.83	166	P	P	08 11 35.1	+2.4
	1.4nm,0.9s,baz=344,slow=10,SNR=5.5						
KURBB	**Kurchatov Arra**	58.94	47	P	P	08 16 30.2	+1.4
	0.7nm,0.6s,baz=291,slow=7.7,SNR=4.2						
YKA	**Yellowknife Ar**	67.81	332	P	P	08 17 28.2	+0.9
	0.3nm,0.8s,baz=58,slow=6.4,SNR=4.1						
PDAR	**Pinedale Array**	76.83	313	P	P	08 18 22.7	+0.8
	0.1nm,0.6s,baz=90,slow=6.3,SNR=1.5						

IDC 25 08:06:40.2±0.8, 59.75N×153.22W, h99km±9km, mb3.9/24, mb1 4.0/28, mb1mx3.7/83, mbtmp4.3/28, Error ellipse: s-maj=9.5km s-min=9.4km az=114.0
NEIC 25 08:06:40.9±1.4, 59.76N±0.03×153.13W±0.06, h107km±3km, Error ellipse: s-maj=4.6km s-min=4.5km az=158.0
ANF 25 08:06:40.6±0.1, 59.75N×153.12W, h110km±2km, ML4.6/46, Error ellipse: s-maj=1.6km s-min=1.5km az=152.0
AEIC 25 08:06:42±1.5, 59.75N±0.03×153.12W±0.06, h104km±3km, ML4.3, mb4.7/28(NEIC), ML4.5/108(NEIC), Error ellipse: s-maj=4.9km s-min=4.4km az=146.0
ISC 25 08:06:41.1±0.5, 59.77N±0.03×153.12W±0.03, h108km±4km, n357, σ0§80/371, mb4.6/44, 2D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	0.13	207		Pn	08 06 56.1	0.0
O20K	**Slope Mountain**	0.40	38		Pn	08 06 57.3	+0.1
O20K					Sn	08 07 09.6	+0.4
O20K	**Slope Mountain**	0.40	38	P	Pn	08 06 57.3	+0.1
	baz=217,SNR=214						
O20K				S	Sn	08 07 09.7	+0.4
	baz=217						
AUL	**Augustine Lava**	0.42	203		Pn	08 06 57.3	+0.1
AUL					Sn	08 07 09.3	0.0
AGU	**Augustine-Summ**	0.44	201		Pn	08 06 57.4	-0.1
AUQ	**Augustine Qik'**	0.44	200		Pn	08 06 57.4	+0.1
AUQ					Sn	08 07 09.5	0.0
RED	**Redoubt Volcan**	0.68	15		Pn	08 06 59.2	0.0
RED					Sn	08 07 12.4	-0.3
RSO	**Redoubt South**	0.72	15		Pn	08 06 56.2	-3.5
O19K	**Port Alsworth**	0.74	306		Sn	08 07 13.4	0.0
O19K	**Port Alsworth**	0.74	306		Pn	08 06 59.6	+0.1
O19K	**Port Alsworth**	0.74	306	IAML		08 07 13.9	
	comp=N,29μm,0.5s						
O19K				IAML		08 07 15.2	
	comp=E,17μm,0.5s						
O19K	**Port Alsworth**	0.74	306	P	Pn	08 06 59.6	+0.1
	baz=126,SNR=272						
O19K				S	Sn	08 07 13.2	-0.2
	baz=126						
HOM	**Homer**	0.76	98		Pn	08 06 59.9	+0.2
HOM				IAML		08 07 15.6	
	comp=N,31μm,0.5s						
HOM				IAML		08 07 15.8	
	comp=E,27μm,0.5s						
HOM	**Homer**	0.76	98		Sn	08 07 14.3	+0.6
HOM	**Homer**	0.76	98	P	Pn	08 06 59.9	+0.2
	baz=278,SNR=100						
HOM				S	Sn	08 07 14.4	+0.7
	baz=278						
NCT	**North Crescent**	0.80	7		Pn	08 07 00.0	-0.2
NCT					Sn	08 07 14.3	-0.4
DFR	**Drift River**	0.86	14		Pn	08 07 00.8	+0.1
DFR					Sn	08 07 14.9	-0.6
Q19K	**Cape Douglas,**	0.88	198	Pn	Pn	08 07 00.8	-0.2
Q19K	**Cape Douglas,**	0.88	198	P	Pn	08 07 00.7	-0.2
	baz=18,SNR=156						
Q19K				S	Sn	08 07 15.7	-0.2
	baz=18						
CNPM	**China Poot**	0.99	103		Sn	08 07 17.0	-0.7
CNPM	**China Poot**	0.99	103	Pn	Pn	08 07 01.9	-0.1
CNPM	**China Poot**	0.99	103	IAML		08 07 17.6	
	comp=N,17μm,0.5s						
CNPM				IAML		08 07 17.8	
	comp=E,12μm,0.4s						
O18K	**Koktuh Hills**	1.06	276		Sn	08 07 18.6	-0.6
O18K	**Koktuh Hills**	1.06	276		Pn	08 07 02.6	-0.2
O18K	**Koktuh Hills**	1.06	276	IAML		08 07 19.1	
	comp=E,3μm,0.8s						
O18K				IAML		08 07 19.2	
	comp=N,4μm,0.7s						
O18K	**Koktuh Hills**	1.06	276	P	Pn	08 07 02.5	-0.2
	baz=95,SNR=221						
O18K				S	Sn	08 07 18.5	-0.6
	baz=95						
BRLK	**Bradley Lake**	1.13	89		Pn	08 07 03.2	-0.3
BRLK				IAML		08 07 22.8	
	comp=N,7μm,0.3s						
P18K	**Big Mountain,**	1.14	252		Pn	08 07 03.0	-0.5
P18K					Sn	08 07 19.1	-1.5
P18K	**Big Mountain,**	1.14	252	P	Pn	08 07 03.1	-0.5
	baz=71						
P18K				S	Sn	08 07 19.3	-1.3
	baz=71						
BRSE	**Bradley Lake S**	1.20	90		Pn	08 07 03.8	-0.5
BRSE					Sn	08 07 20.9	-1.0
BRSE	**Bradley Lake S**	1.20	90	P	Pn	08 07 03.8	-0.5
	baz=271,SNR=94						
BRSE				S	Sn	08 07 20.9	-1.0
	baz=271						
N19K	**Bonanza Creek**	1.25	328		Pn	08 07 05.1	+0.2
N19K	**Bonanza Creek**	1.25	328	P	Pn	08 07 05.1	+0.2
	baz=147						
N19K				S	Sn	08 07 22.6	-0.4
	baz=147						
CAPN	**Captain Cook N**	1.40	43		Pn	08 07 08.4	+1.8
CAPN	**Captain Cook N**	1.40	43	IAML		08 07 32.9	
	comp=E,13μm,0.4s						
CAPN	**Captain Cook N**	1.40	43	P	Pn	08 07 08.3	+1.8
	baz=225						
SPU	**Mount Spurr**	1.52	20		Pn	08 07 08.1	+0.2
SPCG	**Spurr Capps Gl**	1.62	19		Pn	08 07 09.6	+0.3
SLKM	**Skilak Lake**	1.63	62		Pn	08 07 08.8	-0.5
SVW2	**Sparrevohn**	1.81	319		Pn	08 07 11.4	-0.1
O22K	**Cooper Landing**	1.84	66		Pn	08 07 12.0	+0.1
O22K	**Cooper Landing**	1.84	66	P	Pn	08 07 12.0	+0.1
	baz=248,SNR=115						
STLK	**Strandline Lak**	1.85	19		Pn	08 07 12.4	+0.3
SEW	**Seward**	1.88	78		Pn	08 07 11.5	-0.7
SEW	**Seward**	1.88	78	P	Pn	08 07 11.6	-0.7
	baz=261,SNR=140						
FIS	**Fire Island**	1.99	45		Pn	08 07 15.2	+1.4
FIS	**Fire Island**	1.99	45	IAML		08 07 44.9	
	comp=N,5μm,0.7s						
FIS				IAML		08 07 48.4	
	comp=E,5μm,0.5s						
KDAK	**Kodiak Island**	2.01	172	P	Pn	08 07 13.0	-0.9
	comp=E,636nm,0.3s,baz=21,slow=12,SNR=666						
KDAK				S	Sn	08 07 38.1	-1.1
	comp=E,421nm,0.3s,baz=301,slow=12,SNR=21						
KDAK	**Kodiak Island**	2.01	172		Pn	08 07 13.1	-0.9
KDAK				IAML		08 07 39.7	
	comp=E,3μm,0.6s						
KDAK				IAML		08 07 46.2	
	comp=E,3μm,0.6s						
KDAK	**Kodiak Island**	2.01	172	P	Pn	08 07 13.1	-0.9
	baz=352						
KDAK				S	Sn	08 07 37.9	-1.3
	baz=352						
CAHL	**Cahill**	2.06	214		Pn	08 07 15.0	+0.3
KJL	**Kejulik**	2.14	218		Pn	08 07 16.1	+0.3
RC01	**Rabbit Creek A**	2.14	50	Pn	Pn	08 07 15.8	+0.1
RC01	**Rabbit Creek A**	2.14	50	P	Pn	08 07 15.6	0.0
	baz=233,SNR=218						
M22K	**Willow**	2.48	35		Pn	08 07 20.3	+0.2
M22K	**Willow**	2.48	35	P	Pn	08 07 20.3	+0.2
	baz=218,SNR=94						
M22K				S	Sn	08 07 50.0	0.0
	baz=218						
OHAK	**Old Harbor**	2.55	182		Pn	08 07 19.5	-1.6
OHAK	**Old Harbor**	2.55	182	P	Pn	08 07 19.6	-1.5
	baz=1.9,SNR=43						
L19K	**White Mountain**	2.57	342		Pn	08 07 21.3	0.0
L19K	**White Mountain**	2.57	342	P	Pn	08 07 21.3	0.0
	baz=160,SNR=482						
PWL	**Port Wells**	2.62	63	Pn	Pn	08 07 21.2	-0.8
PWL	**Port Wells**	2.62	63	P	Pn	08 07 21.1	-0.8
	baz=247,SNR=98						
PLK3	**Peulik 3**	2.65	220		Pn	08 07 22.9	+0.5
PLK1	**Peulik 1**	2.68	224		Pn	08 07 23.1	+0.4
PMR	**Palmer**	2.68	45		Pn	08 07 22.2	-0.6
PMR	**Palmer**	2.68	45	IAML		08 07 55.1	
	comp=E,2μm,0.2s						
PMR				IAML		08 07 55.9	
	comp=N,2μm,0.4s						
PMR	**Palmer**	2.68	45	P	Pn	08 07 22.1	-0.7
	baz=228,SNR=68						
L20K	**Farewell, AK**	2.75	353		Pn	08 07 24.1	+0.5
L20K	**Farewell, AK**	2.75	353	P	Pn	08 07 24.1	+0.5
	baz=172						
KNK	**Knik Glacier**	2.83	52		Pn	08 07 24.3	-0.4
KNK	**Knik Glacier**	2.83	52	P	Pn	08 07 23.9	-0.8
	baz=236,SNR=99						
GHO	**Glory Hole Cre**	2.88	44		Pn	08 07 25.4	0.0
GHO				IAML		08 07 59.4	
	comp=N,3μm,0.4s						
CUT	**Chulitna**	2.99	26	Pn	Pn	08 07 27.3	+0.6
CUT				IAML		08 08 03.3	
	comp=N,2μm,0.4s						
CUT				IAML		08 08 07.6	
	comp=E,2μm,0.5s						
CUT	**Chulitna**	2.99	26	P	Pn	08 07 26.7	-0.1
	baz=209,SNR=36						
SML	**Sawmill**	3.11	47		Pn	08 07 27.8	-0.7
SML	**Sawmill**	3.11	47	IAML		08 08 05.7	
	comp=N,2μm,0.6s						
SML				IAML		08 08 12.0	
	comp=E,2μm,0.7s						
SML	**Sawmill**	3.11	47	P	Pn	08 07 27.8	-0.7
	baz=231,SNR=41						
PPLA	**Purkeypile**	3.17	8		Pn	08 07 30.3	+1.0
PPLA	**Purkeypile**	3.17	8	P	Pn	08 07 30.4	+1.0
	baz=188,SNR=136						
GLI	**Glacier Island**	3.20	67	Pn	Pn	08 07 28.6	-0.9
GLI				IAML		08 08 04.8	
	comp=E,2μm,0.6s						
GLI				IAML		08 08 05.2	
	comp=N,2μm,0.5s						
GLI	**Glacier Island**	3.20	67	P	Pn	08 07 28.5	-1.1
	baz=252,SNR=22						
SII	**Sitkinak Islan**	3.27	190		Pn	08 07 28.8	-1.7
SII				IAML		08 08 09.5	
	comp=N,1μm,0.7s						
SII				IAML		08 08 18.7	
	comp=E,1μm,0.6s						
SII	**Sitkinak Islan**	3.27	190	P	Pn	08 07 29.0	-1.5
	baz=9.6						
TT01	**Tatalina**	3.45	337		Pn	08 07 32.8	-0.1
FID	**Port Fidalgo**	3.45	71		Pn	08 07 31.1	-1.9
Q23K	**Middleton Isla**	3.46	93		Pn	08 07 32.6	-0.4
Q23K					Sn	08 08 13.6	+0.4
Q23K	**Middleton Isla**	3.46	93	IAML		08 08 18.8	
	comp=N,617nm,0.5s						
Q23K	**Middleton Isla**	3.46	93	P	Pn	08 07 32.6	-0.4
	baz=278,SNR=8.5						
MID	**Middleton Isla**	3.46	93		Pn	08 07 32.7	-0.4
MID					Sn	08 08 13.4	+0.2
MID	**Middleton Isla**	3.46	93	IAML		08 08 18.8	
	comp=N,544nm,0.5s						
MID				IAML		08 09 11.4	
	comp=E,503nm,3.3s						
TTA	**Tatalina**	3.47	338		Pn	08 07 32.9	-0.3
TTA	**Tatalina**	3.47	338	P	Pn	08 07 33.0	-0.3
	baz=155,SNR=331						
JPK	**Jack Peak**	3.48	65		Pn	08 07 32.4	-1.1
SCM	**Sheep Creek Mo**	3.51	51	Pn	Pn	08 07 33.8	0.0
SCM				IAML		08 08 16.4	
	comp=N,2μm,0.6s						
SCM	**Sheep Creek Mo**	3.51	51	P	Pn	08 07 33.3	-0.5
	baz=236,SNR=18						
K20K	**Telida**	3.63	353		Pn	08 07 35.7	+0.4
CAST	**Castle Rocks**	3.70	7		Pn	08 07 36.5	+0.3
CAST	**Castle Rocks**	3.70	7	P	Pn	08 07 36.6	+0.3
	baz=188,SNR=277						
EYAK	**Cordova Ski Ar**	3.77	75		Pn	08 07 35.8	-1.3
EYAK	**Cordova Ski Ar**	3.77	75	P	Pn	08 07 36.3	-0.8
	baz=261,SNR=37						
DIV	**Divide**	3.89	66		Pn	08 07 37.6	-1.2
TRF	**Thorofare Moun**	3.94	19		Pn	08 07 39.6	0.0
TRF	**Thorofare Moun**	3.94	19	IAML		08 08 27.4	
	comp=N,612nm,0.5s						
TRF				IAML		08 08 47.8	
	comp=E,405nm,1.2s						
TRF	**Thorofare Moun**	3.94	19	P	Pn	08 07 39.5	-0.1
	baz=201,SNR=99						
KTH	**Kantishna Hill**	3.94	14		Pn	08 07 39.1	-0.4
KTH	**Kantishna Hill**	3.94	14	IAML		08 08 49.6	
	comp=N,338nm,0.8s						
KTH				IAML		08 08 51.2	
	comp=E,416nm,0.9s						
KLU	**Klutina**	3.94	61		Pn	08 07 38.7	-0.9
KLU	**Klutina**	3.94	61	P	Pn	08 07 38.7	-0.9
	baz=247,SNR=58						
M24K	**Tolsona, Glenn**	4.12	52		Pn	08 07 41.7	-0.3
M24K	**Tolsona, Glenn**	4.12	52	P	Pn	08 07 41.6	-0.3
	baz=238,SNR=43						
CHUM	**Lake Minchumin**	4.15	5		Pn	08 07 42.5	+0.3
CHUM	**Lake Minchumin**	4.15	5	P	P

comp=N,375nm,0.1s
CHGN Chignik 4.47 221 P Pn 08 07 46.6 0.0
baz=37
HMT Hamilton 4.48 79 Pn 08 07 45.3 -1.4
N25K Chitina, Valde 4.58 63 Pn 08 07 48.0 -0.1
N25K IAML 08 08 42.1
comp=N,678nm,0.5s
N25K Chitina, Valde 4.58 63 P Pn 08 07 47.3 -0.8
baz=250,SNR=183
NICHA Nichawak Mount 4.62 80 Pn 08 07 47.7 -0.9
HARP HAARP 4.68 52 Pn 08 07 49.0 -0.4
HARP HAARP 4.68 52 P Pn 08 07 49.1 -0.4
baz=239,SNR=23
SUCK Suckling Hills 4.71 82 Pn 08 07 50.0 +0.2
SUCK IAML 08 08 45.8
comp=N,268nm,0.7s
SUCK IAML 08 09 10.0
comp=E,258nm,3.7s
BWN Browne 4.75 20 Pn 08 07 49.8 -0.5
BWN Browne 4.75 20 IAML 08 09 10.9
comp=E,354nm,1.1s
BWN IAML 08 09 24.3
comp=N,403nm,1.0s
BERG Berg Lake 4.76 78 Pn 08 07 49.5 -1.0
PAX Paxson 4.88 46 Pn 08 07 51.7 -0.5
PAX Paxson 4.88 46 P Pn 08 07 51.9 -0.4
baz=232,SNR=85
GLB Gilahina Butte 4.88 66 Pn **Pn 08 07 51.7 -0.6**
GLB IAML 08 08 48.2
comp=E,544nm,0.6s
GRIN Grindle Hills 4.94 80 Pn 08 07 52.6 -0.4
BGLC Bering Glacier 4.96 82 P Pn 08 07 53.4 +0.2
baz=270
KHIT Khitrov Hills 4.99 78 Pn 08 07 52.9 -0.7
VRDI Verde Repeater 5.00 69 Pn **Pn 08 07 52.9 -1.0**
VRDI IAML 08 08 50.5
comp=N,417nm,0.5s
VRDI IAML 08 08 52.8
comp=E,219nm,0.3s
PS10 TAPS Pump St10 5.08 41 Pn 08 07 55.2 +0.4
SNH Sunshine Point 5.18 81 Pn 08 07 56.5 +0.3
SNH IAML 08 08 56.1
comp=E,288nm,0.5s
SNH IAML 08 08 56.4
comp=N,417nm,0.8s
WAX Waxell Ridge 5.18 78 Pn 08 07 55.3 -1.0
NEA2 Nenana 5.20 20 Pn 08 07 55.8 -0.7
NEA2 Nenana 5.20 20 P Pn 08 07 55.9 -0.6
baz=203,SNR=190
WRH Wood River Hil 5.28 24 Pn 08 07 55.9 -1.5
WRH Wood River Hil 5.28 24 IAML 08 08 56.1
comp=E,144nm,0.5s
GCSA Galena City Sc 5.30 342 Pn 08 07 57.6 0.0
GCSA Galena City Sc 5.30 342 P Pn 08 07 57.6 0.0
baz=159,SNR=98
CYK Cape Yakataga 5.36 82 Pn 08 07 58.7 +0.1
ISLE Juniper Island 5.45 77 Pn 08 07 59.1 -0.8
I21K Tanana 5.46 5 Pn 08 07 59.4 -0.5
I21K Tanana 5.46 5 P Pn 08 07 59.7 -0.3
baz=186
KIAG Kiagna River 5.47 73 Pn 08 07 59.2 -1.1
HDA Harding Lake 5.49 29 Pn 08 07 59.4 -0.9
HDA Harding Lake 5.49 29 P Pn 08 07 59.6 -0.7
baz=215,SNR=94
BALM Baldy 5.49 72 Pn 08 07 59.6 -0.9
CCB Clear Creek Bu 5.49 25 Pn 08 07 59.0 -1.3
MENT Mentasta 5.53 51 Pn 08 08 01.0 +0.1
BAGL Bagley Icefiel 5.56 78 Pn 08 08 01.1 -0.2
M26K Nabesna, AK 5.58 57 Pn 08 08 02.0 +0.4
M26K Nabesna, AK 5.58 57 P Pn 08 08 01.2 -0.4
baz=246,SNR=265
RIDG Independent Ri 5.59 41 Pn 08 08 02.2 +0.4
RIDG Independent Ri 5.59 41 P Pn 08 08 01.2 -0.6
baz=228,SNR=42
MESA MESA 5.62 81 Pn 08 08 02.1 -0.2
MESA MESA 5.62 81 P Pn 08 08 02.0 -0.4
baz=270,SNR=39
PS08 TAPS Pump Stn8 5.63 29 Pn 08 08 01.6 -0.5
I23K Minto, Yukon-K 5.67 16 Pn 08 08 03.1 +0.3
I23K Minto, Yukon-K 5.67 16 P Pn 08 08 02.5 -0.3
baz=200,SNR=261
TCOL CIGO, UAF Yank 5.68 23 Pn 08 08 02.3 -0.6
TCOL CIGO, UAF Yank 5.68 23 P Pn 08 08 02.5 -0.4
baz=208,SNR=103
COLA College 5.68 23 Pn **Pn 08 08 02.2 -0.7**
COLA College 5.68 23 P Pn 08 08 02.6 -0.3
baz=208
MDM Murphy Dome 5.69 21 Pn 08 08 02.5 -0.5
L26K Log Cabin Wild 5.72 51 Pn 08 08 03.4 -0.1
L26K Log Cabin Wild 5.72 51 P Pn 08 08 03.3 -0.2
baz=239,SNR=22
YAH Yahtse 5.73 79 Pn 08 08 03.8 0.0
IL31 5.80 27 Pn 08 08 03.4 -1.1
ILAR Eielson Array 5.80 27 P Pn 08 08 03.9 -0.7
comp=E,46nm,0.3s,baz=213,slow=13,SNR=913
ILAR S **Sn 08 09 04.5 -5.2**
comp=E,8.3nm,0.3s,baz=214,slow=16,SNR=4.1
DOT Dot Lake 5.80 44 Pn 08 08 04.2 -0.5
BARN Barnard Glacie 5.82 72 Pn 08 08 04.7 -0.4
H21K Melozitna Rive 5.92 1 Pn **Pn 08 08 06.5 +0.4**
H21K Melozitna Rive 5.92 1 P Pn 08 08 05.6 -0.5
baz=182
SDPT Sand Point 5.94 225 Pn **Pn 08 08 05.1 -1.4**
POKR Poker Plat Res 5.98 24 Pn 08 08 06.4 -0.6
POKR Poker Plat Res 5.98 24 P Pn 08 08 06.2 -0.8
baz=209,SNR=88
PS07 TAPS Pump Stn7 6.00 20 Pn 08 08 06.9 -0.2
TABL Table Mountain 6.03 78 Pn 08 08 07.2 -0.7
SCRK Sand Creek 6.04 42 Pn 08 08 06.5 -1.3
SCRK Sand Creek 6.04 42 P Pn 08 08 07.0 -0.9
baz=230,SNR=50
M27K Edge Creek, AK 6.04 60 Pn 08 08 08.2 +0.2
M27K Edge Creek, AK 6.04 60 P Pn 08 08 07.8 -0.1
baz=249
J25K Salcha River, 6.06 33 Pn 08 08 07.4 -0.8
J25K Salcha River, 6.06 33 P Pn 08 08 07.5 -0.6
baz=220,SNR=144
CNBA Chernabura Isl 6.07 218 Pn **Pn 08 08 07.1 -1.2**
SAMH Samovar Hills 6.21 81 Pn 08 08 10.8 +0.6
IM03 6.25 358 Pn 08 08 10.7 +0.1
IMAR Indian Mountai 6.25 358 Pn **Pn 08 08 10.7 +0.1**
PS06 TAPS Pump Stn6 6.30 13 Pn 08 08 11.6 +0.3
L27K Beaver Creek, 6.34 54 Pn 08 08 10.9 -1.1
L27K Beaver Creek, 6.34 54 P Pn 08 08 11.1 -0.8
baz=244
YUK2 White River 6.34 66 Pn 08 08 12.2 +0.1
BC03 6.36 54 Pn 08 08 11.7 -0.4
BCAR Beaver Creek A 6.36 54 Pn **Pn 08 08 12.7 +0.5**
PCA Pinnacle 6.47 82 Pn 08 08 13.6 -0.1
PINM Pinnacle 6.48 82 P Pn 08 08 13.8 0.0
baz=272,SNR=33
BVCY Beaver Creek 6.51 61 Pn 08 08 14.2 +0.1
BVCY Beaver Creek 6.51 61 P Pn 08 08 13.9 -0.3
baz=251,SNR=53
YUK3 Moose Creek 6.52 67 Pn 08 08 14.2 -0.3
YUK3 Moose Creek 6.52 67 P Pn 08 08 13.9 -0.6
baz=258,SNR=63
J26L Joseph Creek 6.53 39 Pn 08 08 13.6 -0.8
J26L Joseph Creek 6.53 39 P Pn 08 08 13.8 -0.7
baz=228
H24K Noodor Dome 6.55 19 Pn 08 08 14.0 -0.8
H24K Noodor Dome 6.55 19 P Pn 08 08 13.9 -0.8
baz=204
PRP Porcupine Dome 6.75 28 Pn 08 08 16.6 -0.9
PRP Porcupine Dome 6.75 28 P Pn 08 08 16.6 -0.9
baz=215,SNR=334
BCPM Bancas Point 6.79 83 Pn 08 08 18.0 0.0
YKU2 Yakutat 6.82 86 Pn **Pn 08 08 20.0 +1.6**
PNL Peninsula 6.94 85 Pn 08 08 19.6 -0.4
PNL Peninsula 6.94 85 P Pn 08 08 19.7 -0.4
baz=277,SNR=103
PS05 TAPS Pump Stn5 7.16 8 Pn 08 08 22.5 -0.4
FALS False Pass 7.43 233 Pn **Pn 08 08 27.4 +0.7**
FALS False Pass 7.43 233 P Pn 08 08 26.3 -0.4
baz=44
ANM Nome 7.48 315 Pn 08 08 27.9 +0.6
ANM Nome 7.48 315 P Pn 08 08 27.2 -0.1
baz=124,SNR=22
COLD Coldfoot 7.60 9 Pn 08 08 28.0 -0.9
COLD Coldfoot 7.60 9 P Pn 08 08 28.1 -0.8
baz=191,SNR=58
ISLZ Isanotski Laza 7.65 233 Pn 08 08 29.8 +0.2
FYU Fort Yukon 7.69 24 Pn 08 08 29.2 -0.9
SSLS Shishaldin Sou 7.77 234 Pn 08 08 31.9 +0.6
DAWY Dawson 7.77 50 Pn 08 08 30.9 -0.5
DAWY Dawson 7.77 50 P Pn 08 08 30.7 -0.6
baz=242,SNR=15
WECS Westdahl Cape 8.22 235 Pn 08 08 38.2 +0.7
M30M Minto, Yukon 8.37 63 Pn 08 08 39.3 -0.2
M30M Minto, Yukon 8.37 63 P Pn 08 08 38.8 -0.6
baz=258
J29M Klondike Camp 8.41 50 Pn 08 08 40.8 +0.9
J29M Klondike Camp 8.41 50 P Pn 08 08 39.6 -0.3
baz=243,SNR=26
BM03 Burnt Mountain 8.56 23 Pn 08 08 39.5 -2.4
BMAR Burnt Mountain 8.57 23 Pn **Pn 08 08 40.5 -1.6**
N31M Braeburn, Yuko 8.69 71 Pn 08 08 44.4 +0.6
N31M Braeburn, Yuko 8.69 71 P Pn 08 08 44.2 +0.4
baz=266,SNR=25
I29M Ogilvie Camp, 8.83 44 Pn 08 08 45.7 +0.2
I29M Ogilvie Camp, 8.83 44 P Pn 08 08 45.8 +0.2
baz=237,SNR=23
AKSA Akutan Strait 8.88 236 Pn 08 08 46.7 +0.3
AKUT Akutan 8.92 236 Pn **Pn 08 08 46.7 -0.1**
TNA Tin City 8.94 317 Pn 08 08 47.6 +0.7
TNA Tin City 8.94 317 P Pn 08 08 46.2 -0.8
baz=124,SNR=7.1
SKAG Skagway 9.02 84 Pn 08 08 48.1 -0.1
SKAG Skagway 9.02 84 P Pn 08 08 47.9 -0.3
baz=280,SNR=54
MAYO Mayo, Yukon 9.03 58 P Pn 08 08 47.8 -0.6
baz=253
WHY Whitehorse 9.12 77 Pn 08 08 49.0 -0.6
WHY Whitehorse 9.12 77 P Pn 08 08 49.0 -0.6
baz=272,SNR=72
M31M Drury Creek, Y 9.41 67 Pn 08 08 53.5 0.0
M31M Drury Creek, Y 9.41 67 P Pn 08 08 53.7 +0.1
baz=263,SNR=43
BESE Bessie Mountai 9.45 89 Pn 08 08 53.9 -0.2
MSW Makushin Switc 9.50 238 Pn 08 08 54.1 -0.6
MAPS Pakushin South 9.64 238 Pn 08 08 55.9 -0.8
SIT Sitka 9.72 98 Pn **Pn 08 08 56.2 -1.4**
SIT Sitka 9.72 98 P Pn 08 08 56.2 -1.4
baz=294
JIS Juneau Island 9.77 91 Pn 08 08 59.7 +1.3
FARO Faro, Yukon 9.90 67 P Pn 08 09 00.5 +0.4
baz=264,SNR=30
EPYK Eagle Plains 9.93 41 Pn 08 09 00.8 +0.2
EPYK Eagle Plains 9.93 41 P Pn 08 09 00.7 +0.2
baz=236
P33M Teslin, Yukon 10.18 79 Pn **Pn 08 09 04.7 +0.7**
P33M Teslin, Yukon 10.18 79 P Pn 08 09 03.4 -0.5
baz=276,SNR=34
WRAK Wrangell Islan 11.48 98 Pn 08 09 21.4 +0.1
WRAK Wrangell Islan 11.48 98 P Pn 08 09 20.9 -0.5
baz=296
CRAG Craig 11.54 103 Pn **Pn 08 09 21.7 -0.5**
CRAG Craig 11.54 103 P Pn 08 09 21.0 -1.1
baz=300
A21K Barrow 11.69 354 Pn **Pn 08 09 22.0 -2.1**
A21K Barrow 11.69 354 P Pn 08 09 22.0 -2.1
baz=171
DLBC Dease Lake 11.93 86 P Pn 08 09 28.4 +0.9
comp=E,2.1nm,0.3s,baz=293,slow=11,SNR=129
DLBC S **Sn 08 11 38.3 -0.2**
comp=E,2.1nm,0.3s,baz=135,slow=20,SNR=3.0
INK Inuvik 12.06 37 P Pn 08 09 28.3 -0.7
comp=E,1.4nm,0.3s,baz=240,slow=14,SNR=33
INK ScP **ScP 08 18 26.4 -0.1**
comp=E,0.1nm,0.3s,baz=136,slow=0.4,SNR=2.2
INK Inuvik 12.06 37 P Pn 08 09 27.3 -1.7
baz=234,SNR=11
DIB Dawson Inlet, 13.13 111 Pn **Pn 08 09 43.9 +0.8**
MOBC Moresby Island 13.40 110 Pn **Pn 08 09 47.7 +0.9**
RUBB Prince Rupert 13.55 104 Pn **Pn 08 09 48.9 +0.4**
GRNB Grenville Isla 13.96 105 Pn **Pn 08 09 54.9 +1.0**
ADK Adak 15.35 249 P 08 10 13.1 -0.7
ADK IAmb IAmb 08 10 21.9
comp=Z,43nm,1.2s
C36M Paulatuk 15.56 40 P Pn 08 10 11.3 -2.7
baz=246,SNR=15
KIWB Kanags Island 15.59 250 P P 08 10 16.6 +0.2
BBB Bella Bella 15.84 108 P P 08 10 19.5 +0.2
comp=Z,0.4nm,0.3s,baz=322,slow=8.2,SNR=5.2
BBB S **Sn 08 13 12.0 -0.9**
comp=Z,0.4nm,0.3s,baz=99,slow=15,SNR=6.3
A36M Sachs Harbour 16.49 31 Pn 08 10 24.9 -0.6
A36M IAmb IAmb 08 10 27.8
comp=Z,43nm,0.8s
A36M Sachs Harbour 16.49 31 P Pn 08 10 23.4 -2.1
baz=236,SNR=44
YKA Yellowknife Ar 18.60 65 P Pn 08 10 50.4 -0.7
comp=Z,1.1nm,0.3s,baz=277,slow=9.9,SNR=142
YKA ScP **ScP 08 18 38.8 +0.1**
comp=Z,0.1nm,0.3s,baz=285,slow=2.4,SNR=23
YKA Yellowknife Ar 18.60 65 P P 08 10 50.1 +0.6
YKA ScP **ScP 08 18 39.1 +0.4**
EDM Edmonton 22.62 89 P P 08 11 30.4 -2.2
EDM IAmb IAmb 08 11 58.9
comp=Z,33nm,1.4s
RES Resolute Bay 25.54 32 P P 08 11 59.0 0.0
comp=Z,1.5nm,0.5s,baz=245,slow=9.2,SNR=9.0
RES ScP **ScP 08 18 55.6 -0.5**
comp=Z,0.6nm,0.6s,baz=315,slow=1.4,SNR=1.9
RES Resolute Bay 25.54 32 P P 08 11 59.2 +0.2
SEY Seymchan 25.66 301 P P 08 11 59.7 -0.5
comp=Z,1.4nm,0.5s,baz=52,slow=5.6,SNR=6.3
PEA0B Petropavlovsk- 27.43 278 P P 08 12 16.6 +0.3
PEA0B IAmb IAmb 08 12 43.9
comp=Z,27nm,1.2s
PETK Petropavlovsk- 27.43 278 P P 08 12 15.7 -0.6
comp=Z,3.2nm,0.4s,baz=89,slow=10,SNR=34
FCC Fort Churchill 29.33 66 P P 08 12 34.2 +1.2
NVAR Mina Array Bea 30.66 118 P P 08 12 47.0 +1.7
comp=Z,0.4nm,0.7s,baz=303,slow=8.8,SNR=5.2
NVAR ScP **ScP 08 19 13.7 +0.7**
comp=Z,0.3nm,0.7s,baz=324,slow=2.6,SNR=3.2
B35A Bob, Littlefor 35.46 82 P P 08 13 28.5 +1.9
B35A IAmb IAmb 08 13 57.0
comp=Z,9.7nm,1.4s
FRB Frobisher Bay 37.46 47 P P 08 13 43.5 +0.1
comp=Z,6.4nm,0.6s,baz=306,slow=10.0,SNR=29
ANMO Albuquerque 39.00 108 ScP **ScP 08 19 44.2 +1.2**
comp=Z,0.6nm,0.6s,baz=11,slow=5.2,SNR=2.6
SUMG Summit 40.64 25 P P 08 14 11.9 +1.7
JKA Kamikawa-asahi 40.84 277 P P 08 14 11.9 +0.1
ASAJ Asahikawa 40.85 277 P P 08 14 11.9 +0.1
comp=Z,8.4nm,0.7s,baz=93,slow=12,SNR=4.3
E46A Sault Ste Mari 41.51 77 P P 08 14 18.3 +1.1
E46A IAmb IAmb 08 14 32.9
comp=Z,24nm,1.5s
ERM Erimo 42.09 275 P P 08 14 22.7 +0.8
SPITS Spitsbergen Ar 42.15 3 P P 08 14 22.1 0.0
comp=Z,2.9nm,0.5s,baz=17,slow=6.0,SNR=16
SPB2 Spitsbergen Ar 42.16 3 P P 08 14 22.4 +0.3
KLR Kul'dur 42.57 291 P P 08 14 25.3 -0.5
comp=Z,1.4nm,0.3s,baz=33,slow=8.2,SNR=9.7
SCHQ Schefferville 43.74 57 P P 08 14 35.5 +0.3
comp=Z,3.3nm,0.5s,baz=306,slow=7.2,SNR=20
SCHQ Schefferville 43.74 57 IAmb IAmb 08 14 35.9
comp=Z,6.0nm,0.7s
JTM Tenmabayashi 44.05 275 P P 08 14 37.9 +0.1
TXAR Lajitas Array 44.96 110 P P 08 14 46.0 +0.7
comp=Z,0.1nm,0.4s,baz=312,slow=9.4,SNR=1.8
TXAR ScP **ScP 08 20 07.4 +0.7**
comp=Z,0.2nm,0.7s,baz=295,slow=2.6,SNR=2.3
USRK Ussuriysk Ar. 46.05 285 P P 08 14 52.4 -1.1
comp=Z,1.7nm,0.6s,baz=48,slow=9.0,SNR=4.7
MJAR Matsushiro Arr 48.74 274 P P 08 15 14.3 -0.2
comp=Z,2.8nm,0.7s,baz=347,slow=10.0,SNR=6.2
CN2 Changchun 49.50 290 *eP* **P 08 15 19.0 -1.1**
CN2 pmax pmax
comp=Z,40nm,0.6s
JGF Kuroka 49.90 274 P P 08 15 23.3 0.0
JGF IAmb IAmb 08 15 32.8
comp=Z,12nm,1.0s
ARCES ARCESS Array B 50.99 1 P P 08 15 31.3 +0.3
comp=Z,5.3nm,1.0s,baz=356,slow=5.8,SNR=5.4
LMN Caledonia Moun 51.15 64 P P 08 15 32.9 +0.3
LMN IAmb IAmb 08 15 35.1
comp=Z,12nm,1.4s
JHS Saijyo 52.51 277 P P 08 15 42.8 -0.1
KS19 Wonju Array Si 53.16 283 P P 08 15 48.0 +0.5
KSRS Korea Array 53.17 283 P P 08 15 48.0 +0.4
comp=Z,9.1nm,0.5s,baz=39,slow=7.0,SNR=38
KSAR Wonju Array Be 53.20 283 P P 08 15 47.6 -0.1
ULN Ulaanbaatar 54.59 306 P P 08 15 58.3 +0.4
ULN IAmb IAmb 08 15 58.9
comp=Z,4.9nm,0.6s
SONM Songino Array 54.88 306 P P 08 16 00.8 +0.8
comp=Z,7.4nm,0.7s,baz=40,slow=6.9,SNR=54
SONM Songino Array 54.88 306 P 08 16 00.8 +0.8
SONM IAmb IAmb 08 16 01.4
comp=Z,6.6nm,0.7s
BJT Baijiatuau 56.80 293 P P 08 16 13.8 +0.2
BJT IAmb IAmb 08 16 14.0
comp=Z,8.0nm,0.6s
ZAA0 Zalesovo Array 57.53 324 P P 08 16 18.7 +0.1
ZAA0 IAmb IAmb 08 16 19.1
comp=Z,6.1nm,0.5s
ZALV Zalesovo Beam 57.53 324 P P 08 16 18.6 0.0
comp=Z,6.1nm,0.4s,baz=28,slow=7.8,SNR=21
HHC Hu-ho-hao-te 58.24 297 *eP* **P 08 16 23.5 -0.4**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,250nm,5.1s
FINES FINESS Array B 59.12 0 P P 08 16 29.7 +0.3
comp=Z,0.3nm,0.4s,baz=0.0,slow=7.5,SNR=4.6
HNS HongShan 59.58 293 ||P **P 08 16 33.3 +0.3**
HNS pmax pmax
comp=Z,14nm,0.8s
HFS Hagfors 59.99 8 P P 08 16 35.4 -0.1
comp=Z,1.0nm,0.7s,baz=290,slow=4.3,SNR=1.7
KURK Kurchatov 62.19 326 P P 08 16 50.4 -0.1
BVAR Borovoye Array 62.25 332 P P 08 16 50.7 -0.2
comp=Z,1.6nm,0.6s,baz=27,slow=13,SNR=9.9
KURBB Kurchatov Arra 62.30 326 P P 08 16 50.8 -0.4
comp=Z,1.4nm,0.4s,baz=0.3,slow=7.2,SNR=13
EKA Eskdalemuir Ar 62.77 19 P P 08 16 53.7 -0.6
comp=Z,0.7nm,0.4s,baz=331,slow=5.5,SNR=4.4
GTA Gaotai 64.51 305 *eP* **P 08 17 05.8 -0.4**
GTA pP pP 08 17 34.0 +1.0
GTA sP sP 08 17 50.5 +5.6
GTA pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 64.58 321 P P 08 17 05.4 -0.9
MKAR Makanchi Array 64.58 321 P P 08 17 05.8 -0.6
comp=Z,0.9nm,0.5s,baz=43,slow=7.1,SNR=12
XAN Xi'an 65.02 295 P P 08 17 08.5 -0.9
XAN pmax pmax
comp=Z,12nm,0.6s
WMQ Urumqi 65.39 316 *eP* **P 08 17 12.8 +1.1**
WMQ pmax pmax
comp=Z,13nm,0.7s
LZH Lanzhou 65.59 300 ||P **P 08 17 13.3 +0.1**
LZH pmax pmax
comp=Z,26nm,1.0s
ABKAR Akbulak array 68.06 337 P P 08 17 27.8 -0.6
AKASG Malin Array Be 69.87 358 P P 08 17 39.6 0.0
comp=Z,0.2nm,0.3s,baz=3.2,slow=6.1,SNR=2.1
AKASG Malin Array Be 69.87 358 IAmb IAmb 08 17 43.7
comp=Z,0.8nm,1.0s
CD2 Chengdu 69.99 297 P P 08 17 40.8 0.0
CD2 pmax pmax
comp=Z,20nm,0.7s
KKAR Karatay Array 71.40 328 P P 08 17 48.9 -0.1
PZH PanZhiHua 74.67 296 P P 08 18 08.3 -0.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,190nm,5.7s
SLVN Son La 78.11 292 P P 08 18 28.0 -0.1
SLVN IAmb IAmb 08 18 29.2
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 82.91 294 P P 08 18 53.1 -0.6
comp=Z,2.5nm,0.7s,baz=14,slow=5.9,SNR=6.2
CTA Charters Tower 93.51 235 P P 08 19 44.2 -0.1
comp=Z,2.0nm,0.6s,baz=34,slow=5.9,SNR=5.8
BOSA Boshof 148.83 3 PKPbc **PKPbc 08 26 14.7 -0.9**
comp=Z,1.2nm,0.5s,baz=337,slow=3.9,SNR=4.9

SNET ***25*** *08:06:45.0±1.5, 12°.37N×89°.06W, h14km±9km, ML3.6*
UCR ***25*** *08:06:45.1±1.5, 12°.37N×89°.06W, h14km±9km, ML3.5*
INET ***25*** *08:06:46.3±1.7, 12°.30N×89°.18W, h40km, ML3.6*
GCG ***25*** *08:06:47.5±0.7, 12°.27N×89°.66W, h0km±42km, MD4.1*
ISC 25 08:06:45.5±2.5, 12°.41N±0°.07×89°.06W±0°.04, h14km±16km, n61, σ0°81/81, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.10**	**347**	*eP*	**Pb**	**08 07 05.5**	**-0.9**
LALI				*eS*	**Sb**	**08 07 21.0**	**+0.3**
LALI				IAML		08 07 23.8	
comp=Z,390nm,0.4s							
LALI	**Alcalda de L**	**1.10**	**347**	*eP*	**Pb**	**08 07 06.0**	**-0.4**
LALI				*eS*	**Sb**	**08 07 21.2**	**+0.5**
LALI	**Alcalda de L**	**1.10**	**347**	*eP*	**Pb**	**08 07 05.5**	**-0.9**
LALI				*eS*	**Sb**	**08 07 21.0**	**+0.3**
LALI				IAML		08 07 23.8	
comp=Z,390nm,0.4s							
TECO	**Alcaldia de Te**	**1.16**	**14**	*eP*	**Pn**	**08 07 06.3**	**-1.1**
TECO				*eS*	**Sb**	**08 07 22.6**	**+0.3**
TECO	**Alcaldia de Te**	**1.16**	**14**	*eP*	**Pn**	**08 07 06.3**	**-1.1**
TECO				*eS*	**Sb**	**08 07 22.6**	**+0.3**
COEB	**Comit de Eme**	**1.20**	**25**	*eP*	**Pn**	**08 07 07.1**	**-1.0**
COEB				*eS*	**Sn**	**08 07 24.4**	**+0.1**
COEB				IAML		08 07 34.4	
comp=Z,1μm,0.3s							
COEB	**Comit de Eme**	**1.20**	**25**	*eP*	**Pn**	**08 07 07.1**	**-1.0**
COEB				*eS*	**Sn**	**08 07 24.4**	**+0.1**
COEB				IAML		08 07 34.4	
comp=Z,1μm,0.3s							
SJTE	**Alcalda de S**	**1.20**	**2**	*eP*	**Pn**	**08 07 07.3**	**-0.7**
SJTE				*eS*	**Sn**	**08 07 24.4**	**+0.2**
SJTE	**Alcalda de S**	**1.20**	**2**	*eP*	**Pn**	**08 07 07.3**	**-0.7**
SJTE				*eS*	**Sn**	**08 07 24.4**	**+0.2**
LFRS	**El Faro**	**1.21**	**360**	*eP*	**Pn**	**08 07 07.3**	**-0.8**
LFRS	**El Faro**	**1.21**	**360**	*eP*	**Pn**	**08 07 07.3**	**-0.8**
PACA	**Pacayal**	**1.28**	**34**	*eP*	**Pb**	**08 07 09.2**	**-0.2**
SNET	**Serv Nac Est T**	**1.28**	**353**	*eP*	**Pn**	**08 07 08.5**	**-0.7**
SNET				IAML		08 07 33.1	
comp=Z,890nm,0.2s							
SNET	**Serv Nac Est T**	**1.28**	**353**	*eP*	**Pn**	**08 07 08.5**	**-0.7**
SNET	**Serv Nac Est T**	**1.28**	**353**	*eP*	**Pn**	**08 07 08.5**	**-0.7**
SNET				IAML		08 07 33.1	
comp=Z,890nm,0.2s							
JAYA	**Jayaque - finc**	**1.30**	**343**	*eP*	**Pn**	**08 07 08.7**	**-0.7**
JAYA				*eS*	**Sb**	**08 07 24.5**	**-1.9**
JAYA	**Jayaque - finc**	**1.30**	**343**	*eP*	**Pn**	**08 07 08.7**	**-0.7**
JAYA				*eS*	**Sb**	**08 07 24.5**	**-1.9**
OPAM	**Oficina de Pla**	**1.30**	**354**	*eP*	**Pn**	**08 07 08.7**	**-0.8**
OPAM	**Oficina de Pla**	**1.30**	**354**	*eP*	**Pn**	**08 07 08.7**	**-0.8**
PAVA	**Las Pavas**	**1.30**	**5**	*eP*	**Pn**	**08 07 08.7**	**-0.7**
PAVA				*eS*	**Sn**	**08 07 27.5**	**+0.7**
PAVA				IAML		08 07 33.6	
comp=Z,1μm,0.5s							
PAVA	**Las Pavas**	**1.30**	**5**	*eP*	**Pn**	**08 07 08.8**	**-0.6**
PAVA	**Las Pavas**	**1.30**	**5**	*eP*	**Pn**	**08 07 08.7**	**-0.7**
PAVA				*eS*	**Sn**	**08 07 27.5**	**+0.7**
PAVA				IAML		08 07 33.6	
comp=Z,1μm,0.5s							
UEES	**Universidad Ev**	**1.31**	**352**	*eP*	**Pn**	**08 07 08.9**	**-0.7**
UEES	**Universidad Ev**	**1.31**	**352**	*eP*	**Pn**	**08 07 08.9**	**-0.7**
PMON	**Piamonte**	**1.32**	**349**	*eP*	Pg	08 07 16.7	+5.7
SCLA	**Alcaldia de Sa**	**1.33**	**14**	*eP*	**Pn**	**08 07 09.3**	**-0.5**
SCLA				*eS*	**Sb**	**08 07 28.0**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.33**	**14**	*eP*	**Pn**	**08 07 09.3**	**-0.5**
SCLA				*eS*	**Sb**	**08 07 28.0**	**+0.8**
LFU	**La Fuente**	**1.33**	**358**	*eP*	**Pn**	**08 07 09.5**	**-0.4**
LFU	**La Fuente**	**1.33**	**358**	*eP*	**Pn**	**08 07 09.5**	**-0.4**
BOQS	**Boqueron**	**1.34**	**351**	*eP*	**Pn**	**08 07 09.6**	**-0.4**
BOQS	**Boqueron**	**1.34**	**351**	*eP*	**Pn**	**08 07 09.6**	**-0.4**
CEDA	**San Andres**	**1.43**	**347**	*eP*	**Pn**	**08 07 10.5**	**-0.6**
CEDA				IAML		08 07 38.5	
comp=Z,1μm,0.4s							
CEDA	**San Andres**	**1.43**	**347**	*eP*	**Pn**	**08 07 11.0**	**-0.1**
CEDA	**San Andres**	**1.43**	**347**	*eP*	**Pn**	**08 07 10.5**	**-0.6**
CEDA				*eS*	**Sg**	**08 07 32.8**	**+1.3**
CEDA				IAML		08 07 38.5	
comp=Z,1μm,0.4s							
LCND	**La Caada**	**1.45**	**52**	*eP*	**Pn**	**08 07 10.3**	**-1.1**
LCND				*eS*	**Sb**	**08 07 30.9**	**+0.2**
LCND				IAML		08 07 36.6	
comp=Z,917nm,0.4s							
LCND	**La Caada**	**1.45**	**52**	*eP*	**Pn**	**08 07 10.3**	**-1.1**
LCND				*eS*	**Sb**	**08 07 30.9**	**+0.2**
LCND				IAML		08 07 36.6	
comp=Z,917nm,0.4s							
CNCH	**Conchagua**	**1.48**	**54**	*eP*	**Pn**	**08 07 11.9**	**+0.1**
CNCH	**Conchagua**	**1.48**	**54**	*eP*	**Pn**	**08 07 11.9**	**+0.1**
CEVE	**Cerro Verde**	**1.52**	**339**	*eP*	**Pn**	**08 07 12.3**	**-0.2**

CEVE			IAML		08 07 39.8	
	comp=Z,2μm,0.3s					
CEVE	**Cerro Verde**	**1.52 339**	*e*P	**Pn**	**08 07 12.3**	**-0.2**
CEVE			IAML		08 07 39.8	
	comp=Z,2μm,0.3s					
SBLS	**San Blas**	**1.53 339**	*e*P	**Pn**	**08 07 12.5**	**-0.1**
SBLS	**San Blas**	**1.53 339**	*e*P	**Pn**	**08 07 12.5**	**-0.1**
SNJE	**San Jose**	**1.55 340**	*e*P	**Pn**	**08 07 12.8**	**-0.1**
SNJE			IAML		08 07 45.8	
	comp=Z,363nm,0.4s					
SNJE	**San Jose**	**1.55 340**	*e*P	**Pn**	**08 07 12.8**	**-0.1**
SNJE			IAML		08 07 45.8	
	comp=Z,363nm,0.4s					
TACO	**Tacachico**	**1.58 350**	*e*P	**Pn**	**08 07 12.9**	**-0.3**
TACO			IAML		08 07 39.9	
	comp=Z,555nm,0.5s					
TACO	**Tacachico**	**1.58 350**	*e*P	**Pn**	**08 07 12.9**	**-0.3**
TACO			IAML		08 07 39.9	
	comp=Z,555nm,0.5s					
RTR	**El Retiro**	**1.59 339**	*e*P	**Pn**	**08 07 13.2**	**-0.2**
RTR	**El Retiro**	**1.59 339**	*e*P	**Pn**	**08 07 13.2**	**-0.2**
NUBE	**Las Nubes**	**1.64 335**	*e*P	**Pn**	**08 07 13.5**	**-0.7**
NUBE	**Las Nubes**	**1.64 335**	*e*P	**Pn**	**08 07 13.5**	**-0.7**
SLOZ	**Alcaldia de Sa**	**1.76 336**	*e*P	**Pn**	**08 07 15.8**	**+0.2**
SLOZ			IAML		08 07 48.8	
	comp=Z,395nm,0.5s					
CRIN	**San Cristobal**	**1.98 81**	*e*P	**Pn**	**08 07 18.8**	**+0.1**
MTO3	**Montecristo**	**2.00 352**	*e*P	**Pn**	**08 07 19.4**	**+0.3**
MTO3	**Montecristo**	**2.00 352**	*e*P	**Pn**	**08 07 19.5**	**+0.3**
MTO3			*e*S	**Sb**	**08 07 47.5**	**+0.7**
MTO3	**Montecristo**	**2.00 352**	*e*P	**Pn**	**08 07 19.4**	**+0.3**
ESQI	**Esquipulas**	**2.16 353**	*e*P	**Pn**	**08 07 20.9**	**-0.3**
CNGN	**Cerro Negro**	**2.31 87**	*e*P	**Pn**	**08 07 23.9**	**+0.7**
CNGN			*e*S	**Sb**	**08 07 55.1**	**-0.3**
CNGN			IAML		08 08 05.1	
	comp=N,310nm,0.5s					
NBG	**Las Nubes**	**2.50 330**	*e*P	**Pb**	**08 07 28.6**	**-1.9**
FUG	**Fuego 3**	**2.67 320**	*e*P	**Pn**	**08 07 29.7**	**+1.4**
FUG			*e*S	**Sn**	**08 08 01.8**	**+1.2**
MRL	**Marmol**	**2.73 347**	*e*S	**Sb**	**08 08 10.9**	**+3.2**
STG3	**Santiaguito 3,**	**3.35 313**	*e*S	**Sn**	**08 08 17.1**	**-0.2**

*CNRM **25** 08:11:04.0, 35°.60N×3°.63W, h5km, ml3.3*
*IDC **25** 08:11:05.7±1.0, 35°.56N×3°.50W, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.2/68, mbtmp3.5/7, ML3.0/2, Error ellipse: s-maj=31.7km s-min=16.1km az=101.0*
*SFS **25** 08:11:05.0, 35°.43N×3°.76W, h31km, ML2.9, ALBORAN SUR*
*IGIL **25** 08:11:09.4, 35°.44N×3°.77W, h31km*
ISC 25 08:11:05.7±1.4,**35°.53N**±0°.03×**3°.68W**±0°.04,**h7**km±10km, **n21**, σ1§**87**/34,**mb3.8**/5,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38 215**		P	**Pg**	**08 11 12.5**	**-0.6**
PALE				S	**Sg**	**08 11 18.0**	**-0.1**
CHAS	**Isla Isabel II**	**1.07 108**		P	**Pn**	**08 11 25.3**	**-1.8**
CHAS				S	**Sn**	**08 11 40.0**	**-2.2**
TAF	**Taforalt**	**1.26 124**		P	**Pb**	**08 11 28.4**	**-1.3**
TAF				S	**Sn**	**08 11 47.0**	**+0.1**
EMAL	**Malaga-Limoner**	**1.37 334**		S	**Sb**	**08 11 46.3**	**-3.1**
CHEFC	**Chefchaouen**	**1.43 253**		P	**Pn**	**08 11 30.8**	**-1.3**
CHEFC				S	**Sg**	**08 11 55.0**	**+3.5**
JBK	**JBK**	**1.50 142**		P	**Pb**	**08 11 32.9**	**-1.0**
JBK				S	**Sn**	**08 11 52.1**	**-1.0**
SICH	**Sidi Chahed**	**1.96 224**		P	**Pg**	**08 11 44.1**	**+0.8**
SICH				S	**Sb**	**08 12 07.3**	**+0.9**
IFR	**Ifrane**	**2.34 211**		P	**Pn**	**08 11 43.3**	**-1.4**
IFR				S	**Sn**	**08 12 10.1**	**-3.6**
MD31	**MD31**	**2.80 199**		P	**Pn**	**08 11 50.6**	**-0.4**
MDT	**Midelt**	**2.82 196**		Pn	**Pn**	**08 11 52.1**	**+0.9**
	0.7nm,0.3s,baz=30,slow=3.0,SNR=2.0						
MDT				Pg	**Pg**	**08 11 58.7**	**-1.0**
	5.9nm,0.3s,baz=352,slow=23,SNR=12						
MDT				Sn	**Sb**	**08 12 30.1**	**-1.0**
	4.9nm,0.3s,baz=188,slow=14,SNR=4.8						
MDT	**Midelt**	**2.82 196**		P	**Pn**	**08 11 52.0**	**+0.9**
MDT				S	**Sn**	**08 12 25.4**	**0.0**
PVAQ	**Vaqueiros**	**3.76 301**		P	**Pn**	**08 12 03.0**	**-1.0**
PVAQ				S	**Sn**	**08 12 45.2**	**-3.2**
ESDC	**Sonseca Array**	**4.14 357**		Pn	**Pn**	**08 12 10.2**	**+0.8**
	0.8nm,0.3s,baz=181,slow=12,SNR=17						
ESDC				Sn	**Sn**	**08 13 00.9**	**+2.8**
	0.4nm,0.3s,baz=177,slow=22,SNR=4.4						
MESJ	**Messejana**	**4.32 304**		*e*P	**Pn**	**08 12 10.7**	**-1.0**
PESTR	**Estremoz**	**4.57 318**		P	**Pn**	**08 12 14.2**	**-1.0**
EVO	**Evora**	**4.58 312**		P	**Pn**	**08 12 14.8**	**-0.6**
EVO				S	**Sn**	**08 13 04.7**	**-4.2**
TORD	**Torodi Ar. Bea**	**22.81 166**		P	**P**	**08 16 10.7**	**+1.6**
	0.9nm,0.9s,baz=348,slow=9.8,SNR=3.0						
KURBB	**Kurchatov Arra**	**58.91 47**		P	**P**	**08 21 05.0**	**-0.2**
	1.1nm,0.9s,baz=293,slow=7.5,SNR=6.5						
MKAR	**Makanchi Array**	**62.63 51**		P	**P**	**08 21 30.6**	**0.0**
	0.5nm,0.8s,baz=305,slow=5.1,SNR=4.6						
YKA	**Yellowknife Ar**	**67.84 332**		P	**P**	**08 22 05.7**	**+1.6**
	0.7nm,0.9s,baz=61,slow=6.0,SNR=6.7						
PDAR	**Pinedale Array**	**76.88 313**		P	**P**	**08 23 00.8**	**+2.1**
	0.1nm,0.4s,baz=62,slow=6.5,SNR=2.7						

*IDC **25** 08:13:24.4±1.8, 35°.58N×3°.53W, h0km, mb3.5/3, mb1 3.4/5, mb1mx3.2/62, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=61.5km s-min=20.9km az=105.0*
*CNRM **25** 08:13:24.7, 35°.54N×3°.74W, h15km, ml3.2*
*SFS **25** 08:13:24.0, 35°.45N×3°.79W, h24km, ML2.8, ALBORAN SUR*
ISC 25 08:13:23.5±1.2,**35°.56N**±0°.03×**3°.72W**±0°.03,**h5**km±9km,**n19**, σ1§**69**/31,**mb3.8**/3,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39 208**		P	**Pg**	**08 13 31.4**	**+0.4**
PALE				S	**Sg**	**08 13 36.6**	**+0.6**
CHAS	**Isla Isabel II**	**1.12 109**		P	**Pg**	**08 13 44.2**	**-0.8**
CHAS				S	**Sg**	**08 13 58.7**	**-0.8**
TAF	**Taforalt**	**1.30 124**		P	**Pg**	**08 13 47.2**	**-1.3**
TAF				S	**Sn**	**08 14 06.3**	**-0.1**
EMAL	**Malaga-Limoner**	**1.33 335**		P	**Pg**	**08 13 48.6**	**-0.4**
EMAL				S	**Sg**	**08 14 06.5**	**+0.2**
CHEFC	**Chefchaouen**	**1.40 252**		P	**Pn**	**08 13 50.1**	**+0.2**
CHEFC				S	**Sn**	**08 14 09.9**	**+1.2**
JBK	**JBK**	**1.55 142**		P	**Pn**	**08 13 52.2**	**+0.2**
JBK				S	**Sn**	**08 14 12.4**	**-0.1**
LCRM	**LCR**	**2.09 207**		P	**Pb**	**08 14 01.7**	**-0.4**
LCRM				S	**Sn**	**08 14 27.4**	**+1.5**
IFR	**Ifrane**	**2.34 210**		P	**Pn**	**08 14 03.7**	**+0.8**
IFR				S	**Sn**	**08 14 26.3**	**-6.0**
MD31	**MD31**	**2.82 198**		P	**Pn**	**08 14 10.0**	**+0.7**
MD31				S	**Sn**	**08 14 42.3**	**-1.5**
MDT	**Midelt**	**2.83 195**		Pn	**Pn**	**08 14 11.4**	**+1.7**
	baz=82,slow=7.1,SNR=0.7						
MDT				Sn	**Sb**	**08 14 48.9**	**-0.9**
	3.1nm,0.3s,baz=62,slow=14,SNR=4.3						
MDT	**Midelt**	**2.83 195**		P	**Pn**	**08 14 11.3**	**+1.7**
PVAQ	**Vaqueiros**	**3.71 301**		P	**Pn**	**08 14 21.4**	**-0.2**
PVAQ				S	**Sn**	**08 15 02.9**	**-2.7**
ESDC	**Sonseca Array**	**4.11 357**		Pn	**Pn**	**08 14 29.4**	**+2.3**
	0.7nm,0.3s,baz=179,slow=12,SNR=6.5						
PFVI	**Vila Bisbo**	**4.41 292**		P	**Pn**	**08 14 31.7**	**+0.5**
PESTR	**Estremoz**	**4.52 318**		P	**Pn**	**08 14 33.2**	**+0.4**
EVO	**Evora**	**4.54 312**		P	**Pn**	**08 14 34.1**	**+1.2**
EVO				S	**Sn**	**08 15 23.8**	**-2.2**
TORD	**Torodi Ar. Bea**	**22.84 166**		P	**P**	**08 18 29.5**	**+1.8**
	0.5nm,0.8s,baz=339,slow=9.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**58.91 47**		P	**P**	**08 23 24.1**	**+0.6**
	0.8nm,0.9s,baz=293,slow=7.9,SNR=4.8						
MKAR	**Makanchi Array**	**62.64 51**		P	**P**	**08 23 49.3**	**+0.3**
	0.6nm,0.9s,baz=308,slow=5.1,SNR=5.3						

*CRAAG **25** 08:15:26.0, 35°.24N×3°.77W, Mb3.3*
*SFS **25** 08:15:27.0, 35°.54N×3°.82W, h30km, ML3.5, ALBORAN SUR*
*IDC **25** 08:15:27.6±1.0, 35°.62N×3°.53W, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.5/62, mbtmp3.7/9, ML3.6/3, Error ellipse: s-maj=37.7km s-min=15.5km az=109.0*
*CNRM **25** 08:15:27.9, 35°.57N×3°.67W, h15km, ml4.0*
*NEIC **25** 08:15:29.1±1.4, 35°.70N±0°.06×3°.67W±0°.08, h10km±2km, mb4.1/2, Error ellipse: s-maj=11.3km s-min=9.5km az=290.0*
*IGIL **25** 08:15:31.2, 35°.54N×3°.82W, h30km*
ISC 25 08:15:28.1±0.6,**35°.53N**±0°.03×**3°.75W**±0°.03,**h14**km,**n78**, σ1§**60**/87,**mb4.1**/7,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35 206**		P	**Pb**	**08 15 35.9**	**-0.1**
PALE				S	**Sb**	**08 15 41.4**	**0.0**
CHAS	**Isla Isabel II**	**1.13 107**		P	**Pb**	**08 15 48.0**	**-1.4**
CHAS				S	**Sb**	**08 16 03.1**	**-1.0**
TAF	**Taforalt**	**1.31 123**		P	**Pn**	**08 15 51.5**	**-0.6**
TAF				S	**Sb**	**08 16 08.3**	**-0.9**
EMAL	**Malaga-Limoner**	**1.35 336**		P	**Pn**	**08 15 50.2**	**-2.3**
EMAL				S	**Sn**	**08 16 06.2**	**-4.1**
CHEFC	**Chefchaouen**	**1.36 253**		P	**Pn**	**08 15 53.0**	**+0.1**
CEU	**Ceuta**	**1.37 286**		P	**Pn**	**08 15 52.2**	**-0.6**
CEU				S	**Sn**	**08 16 06.4**	**-4.3**
JBK	**JBK**	**1.54 140**		P	**Pn**	**08 15 54.6**	**-0.7**
JBK				S	**Sn**	**08 16 14.1**	**-1.1**
SICH	**Sidi Chahed**	**1.92 223**		P	**Pb**	**08 16 03.2**	**+0.3**
OLHC	**Oulhaca**	**1.93 98**		P	**Pn**	**08 15 58.2**	**-2.3**
LCRM	**LCR**	**2.05 207**		P	**Pb**	**08 16 04.6**	**-0.7**
LCRM				S	**Sb**	**08 16 31.5**	**+0.8**
SFS	**San Fernando**	**2.20 296**		Pn	**Pn**	**08 16 05.7**	**+1.5**
IFR	**Ifrane**	**2.31 210**		P	**Pn**	**08 16 07.2**	**+1.3**
IFR				S	**Sn**	**08 16 27.4**	**-6.8**
OTSS	**Djebel Tessala**	**2.43 95**		P	**Pg**	**08 16 17.0**	**+2.3**
USTO	**Oran**	**2.62 85**		P	**Pg**	**08 16 22.0**	**+3.7**
MD31	**MD31**	**2.78 198**		P	**Pn**	**08 16 13.7**	**+1.4**
MDT	**Midelt**	**2.80 195**		Pn	**Pn**	**08 16 15.1**	**+2.5**
	3.0nm,0.3s,baz=86,slow=14,SNR=7.1						
MDT				Pg	**Pg**	**08 16 21.8**	**0.0**
	23nm,0.3s,baz=127,slow=22,SNR=10						
MDT				Sn	**Sb**	**08 16 52.0**	**-0.1**
	14nm,0.3s,baz=62,slow=23,SNR=4.0						
MDT	**Midelt**	**2.80 195**		P	**Pn**	**08 16 13.9**	**+1.3**
TDRA	**Tendrara**	**2.86 150**		P	**Pn**	**08 16 14.2**	**+0.6**
CART	**Cartagena**	**3.02 46**		P	**Pn**	**08 16 14.8**	**-0.8**
CART				S	**Sn**	**08 16 47.4**	**-4.1**
CART	**Cartagena**	**3.02 46**		Pn	**Pn**	**08 16 13.7**	**-1.8**
CART	**Cartagena**	**3.02 46**		P	**Pn**	**08 16 12.6**	**-2.9**
OJBR	**Djebel Berber**	**3.34 88**		P	**Pn**	**08 16 19.0**	**-1.0**
PVAQ	**Vaqueiros**	**3.70 302**		*e*Pn	**Pn**	**08 16 24.5**	**-0.4**
PVAQ	**Vaqueiros**	**3.70 302**		Pn	**Pn**	**08 16 24.4**	**-0.4**
PVAQ	**Vaqueiros**	**3.70 302**		P	**Pn**	**08 16 24.5**	**-0.4**
PBDV	**Barranco-do-Ve**	**3.78 298**		*e*Pn	**Pn**	**08 16 25.3**	**-0.7**
GOLM	**Goulmima**	**3.94 195**		P	**Pb**	**08 16 33.7**	**-3.8**
FIGM	**Figuig**	**3.97 148**		P	**Pn**	**08 16 28.8**	**0.0**
PAB	**San Pablo**	**4.04 353**		Pn	**Pn**	**08 16 27.3**	**-2.3**
PCVE	**Castro Verde**	**4.04 303**		*e*Pn	**Pn**	**08 16 29.2**	**-0.3**
PBEJ	**Beja**	**4.14 308**		*e*Pn	**Pn**	**08 16 31.3**	**+0.4**
ESDC	**Sonseca Array**	**4.14 358**		Pn	**Pn**	**08 16 31.5**	**+0.5**
	2.4nm,0.3s,baz=181,slow=12,SNR=21						
ESDC	**Sonseca Array**	**4.14 358**			**Pn**	**08 16 30.4**	**-0.6**
ESBB	**Sonseca Array**	**4.14 358**		Pn	**Pn**	**08 16 30.0**	**-1.0**
MESJ	**Messejana**	**4.27 304**		*e*P	**Pn**	**08 16 32.1**	**-0.6**
MESJ	**Messejana**	**4.27 304**		*e*Pn	**Pn**	**08 16 32.3**	**-0.4**
MORF	**Marmelete**	**4.33 296**		*e*P	**Pn**	**08 16 32.8**	**-0.8**
MORF	**Marmelete**	**4.33 296**		*e*Pn	**Pn**	**08 16 33.3**	**-0.3**
PFVI	**Vila Bisbo**	**4.40 293**		*e*Pn	**Pn**	**08 16 35.0**	**+0.5**
PFVI	**Vila Bisbo**	**4.40 293**		Pn	**Pn**	**08 16 36.2**	**+1.8**
PFVI	**Vila Bisbo**	**4.40 293**		P	**Pn**	**08 16 34.9**	**+0.4**
PTEO	**Sao Teotonio**	**4.48 298**		*e*Pn	**Pn**	**08 16 36.1**	**+0.5**
PESTR	**Estremoz**	**4.53 319**		*e*Pn	**Pn**	**08 16 36.8**	**+0.6**
PESTR	**Estremoz**	**4.53 319**		Pn	**Pn**	**08 16 36.9**	**+0.7**
PESTR	**Estremoz**	**4.53 319**		P	**Pn**	**08 16 36.2**	**0.0**
EVO	**Evora**	**4.54 313**		*e*Pn	**Pn**	**08 16 36.0**	**-0.4**
PNCL	**Nicolau / Gran**	**4.62 305**		*e*Pn	**Pn**	**08 16 37.0**	**-0.5**
PMRV	**Marv??o**	**4.85 324**		*e*Pn	**Pn**	**08 16 40.2**	**-0.5**
TZRR	**Tazzarine**	**4.97 198**		P	**Pn**	**08 16 44.1**	**+1.6**
PMTG	**Montargil**	**5.02 316**		*e*Pn	**Pn**	**08 16 43.1**	**+0.1**
PCBR	**Castelo Branco**	**5.22 327**		*e*Pn	**Pn**	**08 16 45.9**	**+0.2**
OUZM	**OUZ**	**5.25 210**		P	**Pn**	**08 16 48.6**	**+2.3**
OUK	**Oukaimeden**	**5.51 220**		P	**Pn**	**08 16 50.3**	**+0.2**
PMAFR	**Mafra**	**5.58 309**		*e*Pn	**Pn**	**08 16 51.1**	**+0.4**
PSBE	**So Bento**	**5.65 316**		*e*Pn	**Pn**	**08 16 51.8**	**+0.2**
MTE	**Manteigas**	**5.71 330**		*e*Pn	**Pn**	**08 16 52.6**	**0.0**
MTE	**Manteigas**	**5.71 330**		Pn	**Pn**	**08 16 53.5**	**+0.9**
PCAS	**Casmilo, Conde**	**5.87 322**		*e*Pn	**Pn**	**08 16 54.0**	**-0.8**
PVIS	**Viseu**	**6.12 329**		*e*Pn	**Pn**	**08 16 58.2**	**0.0**
MVO	**Moncorvo**	**6.19 336**		*e*Pn	**Pn**	**08 16 59.9**	**+0.8**
TTIG	**Tnine Tigouga,**	**6.34 220**		P	**Pn**	**08 17 00.5**	**-0.7**
PVRL	**Vila Real**	**6.53 333**		*e*Pn	**Pn**	**08 17 05.0**	**+1.3**
POLO	**Lamas de Olo**	**6.64 333**		*e*Pn	**Pn**	**08 17 05.8**	**+0.4**
PBRG	**Braganca**	**6.69 340**		*e*Pn	**Pn**	**08 17 06.8**	**+0.8**
PCAB	**Cabril**	**7.02 333**		*e*Pn	**Pn**	**08 17 11.1**	**+0.6**
TANT	**Tantan**	**9.53 224**		P	**Pn**	**08 17 45.2**	**+0.3**
GERES	**GERESS Array B**	**18.50 39**		P	**P**	**08 19 43.5**	**-0.4**
	0.1nm,0.3s,baz=221,slow=11,SNR=1.9						
CLL	**Collm**	**19.85 32**		*i* P	**Pn**	**08 20 00.4**	**+0.3**
	comp=Z,7.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**22.82 166**		P	**P**	**08 20 32.8**	**+2.1**
	comp=Z,1.9nm,0.9s,baz=344,slow=11,SNR=6.4						
TORD	**Torodi Ar. Bea**	**22.82 166**		IAmb	IAmb	08 21 02.3	
	comp=Z,3.6nm,0.6s						
AKTO	**Aktyubinsk**	**46.25 51**		P	**P**	**08 23 53.3**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=278,slow=15,SNR=2.6						
ABKAR	**Akbulak array**	**47.63 53**		P	**P**	**08 24 04.5**	**+0.8**
KURBB	**Kurchatov Arra**	**58.95 47**		P	**P**	**08 25 26.9**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=294,slow=7.5,SNR=8.2						
KURK	**Kurchatov**	**58.98 47**		P	**P**	**08 25 26.9**	**-0.1**
KURK	**Kurchatov**	**58.98 47**		IAmb	IAmb	08 25 27.9	
	comp=Z,1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**61.40 42**		P	**P**	**08 25 43.8**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=294,slow=7.7,SNR=2.3						
MKAR	**Makanchi Array**	**62.68 50**		P	**P**	**08 25 52.4**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=284,slow=6.2,SNR=9.5						
PDAR	**Pinedale Array**	**76.83 313**		P	**P**	**08 27 21.9**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=73,slow=6.9,SNR=2.6						

*CNRM **25** 08:16:03.0, 35°.60N×3°.65W, h20km, ml3.9*
*IDC **25** 08:16:03.8±3.0, 35°.79N×4°.00W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.6/61, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=99.6km s-min=23.9km az=88.0*
*INMG **25** 08:16:04.8±1.2, 35°.59N×3°.90W, h10km, ML3.5, Error ellipse: s-maj=5.2km s-min=4.3km az=167.0*
ISC 25 08:16:03.4±0.7,**35°.62N**±0°.03×**3°.76W**±0°.04,**h11**km,**n55**, σ2§**26**/86,**mb3.9**/6,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.43 200**		P	**Pg**	**08 16 12.0**	**+0.1**
PALE				S	**Sg**	**08 16 18.5**	**+0.9**
CHAS	**Isla Isabel II**	**1.17 112**		P	**Pn**	**08 16 24.4**	**-1.3**
CHAS				S	**Sb**	**08 16 36.1**	**-4.6**
EMAL	**Malaga-Limoner**	**1.26 335**		P	**Pn**	**08 16 25.0**	**-1.9**
EMAL				S	**Sb**	**08 16 40.0**	**-3.4**
TAF	**Taforalt**	**1.36 126**		P	**Pn**	**08 16 26.4**	**-2.0**
TAF				S	**Sn**	**08 16 43.3**	**-3.3**
CHEFC	**Chefchaouen**	**1.39 249**		P	**Pb**	**08 16 28.9**	**-0.6**
JBK	**JBK**	**1.61 142**		S	**Sn**	**08 16 48.2**	**-4.6**
SICH	**Sidi Chahed**	**1.99 221**		P	**Pb**	**08 16 39.6**	**+0.1**
MD31	**MD31**	**2.87 197**		P	**Pn**	**08 16 47.7**	**-1.5**
MDT	**Midelt**	**2.89 194**		P	**Pn**	**08 16 49.3**	**-0.2**
PVAQ	**Vaqueiros**	**3.65 300**		*e*Pn	**Pn**	**08 16 59.0**	**-0.9**
PVAQ				*e*Sn	**Sn**	**08 17 39.7**	**-3.2**
PVAQ				A	A	08 17 43.3	
	114nm,0.4s						
PVAQ	**Vaqueiros**	**3.65 300**		P	**Pn**	**08 16 58.5**	**-1.4**
PBAR	**Barrancos**	**3.66 315**		*e*Pn	**Pn**	**08 16 59.8**	**-0.2**
PBAR				*e*Sn	**Sn**	**08 17 41.5**	**-1.7**
PBAR				A	A	08 17 45.5	
	81nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.74 297**		*e*Pn	**Pn**	**08 17 00.2**	**-0.8**
PBDV				*e*Sn	**Sn**	**08 17 41.9**	**-3.1**
PBDV				A	A	08 17 45.5	
	83nm,0.5s						
AVE	**Averroes**	**3.81 234**		P	**Pn**	**08 17 01.4**	**-0.7**
PCVE	**Castro Verde**	**3.99 301**		*e*Pn	**Pn**	**08 17 03.7**	**-0.7**
PCVE				*e*Sn	**Sn**	**08 17 47.5**	**-3.7**
PCVE				A	A	08 17 51.4	
	85nm,0.3s						
ESDC	**Sonseca Array**	**4.05 358**		Pn	**Pn**	**08 17 05.8**	**+0.4**
	2.1nm,0.3s,baz=179,slow=16,SNR=4.7						
ESDC				Sn	**Sn**	**08 17 51.9**	**-0.9**
	3.9nm,0.3s,baz=177,slow=25,SNR=6.8						
PBEJ	**Beja**	**4.08 307**		*e*Pn	**Pn**	**08 17 05.9**	**+0.2**
PBEJ				*e*Sn	**Sn**	**08 17 50.9**	**-2.5**
PBEJ				A	A	08 17 53.3	
	68nm,0.4s						
MESJ	**Messejana**	**4.21 303**		*e*Pn	**Pn**	**08 17 06.9**	**-0.7**
MESJ				*e*Sn	**Sn**	**08 17 54.1**	**-2.7**
MESJ				A	A	08 17 58.4	
	91nm,0.4s						
MORF	**Marmelete**	**4.29 295**		*e*Pn	**Pn**	**08 17 08.1**	**-0.5**
MORF				*e*Sn	**Sn**	**08 17 58.0**	**-0.7**
MORF				A	A	08 17 58.8	
	53nm,0.2s						
PFVI	**Vila Bisbo**	**4.36 292**		*e*Pn	**Pn**	**08 17 09.4**	**-0.2**
PFVI				*e*Sn	**Sn**	**08 17 58.0**	**-2.4**
PFVI				A	A	08 18 04.0	
	63nm,0.5s						
PFVI	**Vila Bisbo**	**4.36 292**		P	**Pn**	**08 17 09.2**	**-0.4**
PTEO	**Sao Teotonio**	**4.44 297**		*e*Pn	**Pn**	**08 17 10.4**	**-0.2**
PTEO				*e*Sn	**Sn**	**08 18 00.6**	**-1.6**
PESTR	**Estremoz**	**4.46 318**		*e*Pn	**Pn**	**08 17 10.9**	**0.0**
PESTR				*e*Sn	**Sn**	**08 18 00.4**	**-2.4**
PESTR				A	A	08 18 04.7	
	44nm,0.6s						
PESTR	**Estremoz**	**4.46 318**		P	**Pn**	**08 17 10.5**	**-0.4**
EVO	**Evora**	**4.47 312**		S	**Sn**	**08 17 58.6**	**-4.6**
EVO	**Evora**	**4.47 312**		*e*Pn	**Pn**	**08 17 11.0**	**-0.1**
EVO				*e*Sn	**Sn**	**08 17 59.8**	**-3.4**
EVO				A	A	08 18 02.0	
	79nm,0.4s						
EVO	**Evora**	**4.47 312**		P	**Pn**	**08 17 10.7**	**-0.5**
PNCL	**Nicolau / Gran**	**4.56 304**		*e*Pn	**Pn**	**08 17 12.0**	**-0.3**
PNCL				*e*Sn	**Sn**	**08 18 01.8**	**-3.6**
PNCL				A	A	08 18 04.4	
	52nm,0.4s						
PMRV	**Marv??o**	**4.77 324**		*e*Pn	**Pn**	**08 17 15.3**	**0.0**
PMRV				*e*Sn	**Sn**	**08 18 08.4**	**-2.2**
PMRV				A	A	08 18 19.3	
	47nm,0.6s						
PMTG	**Montargil**	**4.95 315**		*e*Pn	**Pn**	**08 17 17.9**	**+0.2**
PMTG				*e*Sn	**Sn**	**08 18 11.9**	**-3.0**
PMTG				A	A	08 18 13.3	
	46nm,0.5s						
TZRR	**Tazzarine**	**5.06 198**		P	**Pn**	**08 17 20.0**	**+0.8**
PCBR	**Castelo Branco**	**5.14 326**		*e*Pn	**Pn**	**08 17 20.8**	**+0.5**
PCBR				*e*Sn	**Sn**	**08 18 17.1**	**-2.5**
PCBR				A	A	08 18 23.5	
	34nm,0.5s						
OUZM	**OUZ**	**5.33 209**		P	**Pn**	**08 17 22.7**	**-0.3**
PMST	**Lisbon--Monsan**	**5.33 307**		*e*Pn	**Pn**	**08 17 23.0**	**+0.1**
PMAFR	**Mafra**	**5.52 309**		*e*Pn	**Pn**	**08 17 25.2**	**-0.3**
PMAFR				*e*Sn	**Sn**	**08 18 26.7**	**-2.3**
PMAFR				A	A	08 18 36.9	
	66nm,0.6s						
PSBE	**So Bento**	**5.58 316**		*e*Pn	**Pn**	**08 17 26.6**	**+0.3**
PSBE				*e*Sn	**Sn**	**08 18 27.4**	**-3.0**
PSBE				A	A	08 18 41.7	
	34nm,0.6s						
OUK	**Oukaimeden**	**5.58 219**		P	**Pn**	**08 17 25.8**	**-1.0**
MTE	**Manteigas**	**5.63 329**		*e*Pn	**Pn**	**08 17 27.5**	**+0.4**
MTE				*e*Sn	**Sn**	**08 18 26.7**	**-5.1**
MTE				A	A	08 19 10.6	
	54nm,0.6s						
PCAS	**Casmilo, Conde**	**5.80 321**		*e*Pn	**Pn**	**08 17 30.0**	**+0.6**
PCAS				*e*Sn	**Sn**	**08 18 31.3**	**-4.6**
PCAS				A	A	08 18 53.2	
	39nm,0.5s						
PVIS	**Viseu**	**6.04 329**		*e*Pn

PALE Palemas 0.38 207 P Pg 08 25 10.2 -1.2
PALE S **Sg 08 25 15.4 -1.0**
EALB Alboran 0.68 56 Pg **Pb 08 25 18.3 -0.2**
SNR=7.9
EALB Lg Lg 08 25 28.8
3µm,0.2s,SNR=7.9
EMEL Melilla 0.68 112 Pg **Pg 08 25 17.1 +0.1**
SNR=7.9
EMEL Lg Lg 08 25 26.4
15µm,0.2s,SNR=7.9
CHAS Isla Isabel II 1.12 109 P Pb 08 25 23.8 -2.3
CHAS S **Sb 08 25 38.2 -2.8**
TAF Taforalt 1.31 124 P Pn 08 25 28.0 -1.2
TAF S **Sb 08 25 44.2 -2.3**
ELGU Los Guajares, 1.31 4 Pg **Pn 08 25 27.6 -1.6**
SNR=7.9
ELGU Lg Lg 08 25 47.2
2µm,0.3s,SNR=7.9
EMIJ Mijas 1.31 320 Pg **Pn 08 25 27.8 -1.4**
SNR=7.9
EMIJ Lg Lg 08 25 44.0
762nm,0.3s,SNR=7.9
EMAL Malaga-Limoner 1.33 335 P Pn 08 25 28.2 -1.2
EMAL S **Sb 08 25 45.0 -2.0**
CEU Ceuta 1.38 285 P Pn 08 25 26.9 -3.2
CEU S **Sb 08 25 41.4 -7.0**
ECEU Ceuta 1.38 285 Pg **Pn 08 25 26.8 -3.3**
49nm,0.3s,SNR=14
ECEU Lg Lg 08 25 43.7
202nm,0.3s,SNR=7.9
CHEFC Chefchaouen 1.39 252 P Pn 08 25 28.9 -1.5
CHEFC S **Sg 08 25 50.5 +1.7**
EBER Berja 1.50 27 Pg **Pn 08 25 30.2 -1.7**
SNR=7.9
EBER Lg Lg 08 25 53.0
4µm,1.2s,SNR=7.9
JBK JBK 1.55 142 P Pn 08 25 30.2 -2.5
JBK S **Sn 08 25 51.1 -2.2**
EGOR Sierra Gorda, 1.58 349 Pg **Pb 08 25 32.6 -1.3**
SNR=7.9
EGOR Lg Lg 08 25 54.6
2µm,1.1s,SNR=7.9
EQUE Quentar 1.66 8 Pg **Pb 08 25 33.8 -1.4**
SNR=7.9
EQUE Lg Lg 08 25 58.3
648nm,0.7s,SNR=7.9
EJIF Jimena Fronter 1.67 303 Pg **Pn 08 25 32.8 -1.3**
SNR=7.9
CPS Cap Spartel 1.79 278 P Pg 08 25 41.0 +2.7
ENIJ Nijar 1.87 41 Pn **Pn 08 25 35.3 -1.6**
SNR=7.9
ENIJ Sn **Sn 08 25 56.3 -4.7**
SNR=7.9
OLHC Oulhaca 1.91 99 P Pn 08 25 34.2 -3.3
SICH Sidi Chahed 1.95 222 P Pb 08 25 39.2 -1.0
SICH S **Sb 08 26 05.0 +0.1**
LCRM LCR 2.09 207 P Pb 08 25 42.2 -0.4
LCRM S **Sn 08 26 05.9 -0.7**
SFS San Fernando 2.20 295 Pb 08 25 42.1 -2.4
EQES Quesada 2.30 13 Pn **Pn 08 25 43.1 +0.2**
SNR=7.9
EQES Sn **Sb 08 26 14.2 -0.9**
SNR=7.9
IFR Ifrane 2.34 210 P Pn 08 25 41.9 -1.6
IFR S **Sn 08 26 10.3 -2.5**
OTSS Djebel Tessala 2.41 96 P Pn 08 25 42.7 -1.7
USTO Oran 2.59 85 P Pn 08 25 48.0 +1.2
TLOR Lorca, Murcia 2.66 37 Pn **Pb 08 25 50.0 -2.3**
SNR=7.9
TLOR Sn **Sn 08 26 20.8 +0.3**
SNR=7.9
TLOR Lg Lg 08 26 36.5
2µm,1.0s,SNR=7.9
EADA Adamuz 2.69 346 Pn **Pn 08 25 48.7 +0.5**
SNR=7.9
EADA Lg Lg 08 26 26.7
470nm,0.5s,SNR=7.9
MD31 MD31 2.82 198 P Pn 08 25 49.2 -0.8
MD31 S **Sn 08 26 22.7 -1.7**
EZAR Zarzadilla de 2.83 35 Pn **Pn 08 25 49.5 -0.7**
SNR=7.9
MDT Midelt 2.83 195 Pn **Pn 08 25 49.5 -0.7**
4.1nm,0.3s,baz=11,slow=15,SNR=14
MDT Pg **Pg 08 25 56.6 -1.7**
19nm,0.3s,baz=5.8,slow=16,SNR=41
MDT Sn **Sn 08 26 25.3 +0.4**
29nm,0.3s,baz=170,slow=8.9,SNR=10
MDT Midelt 2.83 195 P Pn 08 25 48.8 -1.4
MDT S **Sn 08 26 24.2 -0.7**
ECAB El Cabril 2.85 332 Pn **Pn 08 25 50.3 -0.1**
SNR=7.9
ECAB Sn **Sn 08 26 26.0 +0.7**
SNR=7.9
ECAB Lg Lg 08 26 32.6
714nm,1.2s,SNR=7.9
ODJA Bouhanifia 2.93 93 P Pn 08 25 49.8 -1.7
CART Cartagena 2.99 47 P Pn 08 25 45.7 -6.5
CART S **Sn 08 26 21.4 -7.1**
CART Cartagena 2.99 47 Pn 08 25 51.8 -0.4
CART Cartagena 2.99 47 P Pn 08 25 50.9 -1.3
CART S **Sn 08 26 24.5 -4.0**
EMUR La Murta 3.03 41 Pn **Pn 08 25 53.4 +0.5**
SNR=7.9
EMUR Sn **Sn 08 26 25.1 -4.6**
SNR=7.9
EMIN Mina Concepcio 3.23 314 Pn **Pn 08 25 55.0 -0.6**
SNR=7.9
EMIN Sn Sn 08 26 25.1 -10
SNR=7.9
OJBR Djebel Berber 3.32 88 P Pn 08 25 58.0 +1.1
ETOB Tobarra 3.54 29 Pn **Pn 08 26 01.3 +1.4**
SNR=7.9
ETOB Sn **Sn 08 26 44.7 +2.4**
SNR=7.9
ETOB Lg Lg 08 27 02.0
805nm,1.7s,SNR=7.9
OKGL Djebel Kef Gue 3.59 81 P Pb 08 26 10.0 +1.9
EGRO El Granado 3.61 304 Pn **Pn 08 25 59.5 -1.3**
SNR=7.9
EGRO Sn **Sn 08 26 40.8 -3.1**
SNR=7.9
OJGS Djebel Guires 3.65 90 P Pb 08 26 09.0 -0.2
PVAQ Vaqueiros 3.70 301 *e*Pn **Pn 08 26 00.9 -1.2**
PVAQ *e*Sn **Sn 08 26 42.3 -3.9**
PVAQ A A 08 26 48.5
68nm,0.6s
PVAQ Vaqueiros 3.70 301 Pn **Pn 08 26 01.5 -0.6**
PVAQ Vaqueiros 3.70 301 P Pn 08 26 00.9 -1.2
PVAQ S **Sn 08 26 42.3 -3.9**
PBDV Barranco-do-Ve 3.78 298 *e*Pn **Pn 08 26 01.9 -1.3**
PBDV *e*Sn **Sn 08 26 44.8 -3.4**
PBDV A A 08 26 56.1
71nm,0.6s
AVE Averroes 3.79 235 P Pn 08 26 04.3 +1.1
AVE S **Sn 08 26 49.2 +0.8**
FIGM Figuig 3.98 148 P Pn 08 26 09.1 +3.0
PAB San Pablo 4.01 353 Pn 08 26 06.6 +0.2
PAB San Pablo 4.01 353 Pn **Pn 08 26 07.6 +1.2**
SNR=7.9
PAB Sn **Sn 08 26 53.6 -0.4**
SNR=7.9
PAB Lg Lg 08 27 14.7
512nm,1.4s,SNR=7.9
AFON Font Roja 4.01 38 Pn **Pn 08 26 08.0 +1.5**
SNR=7.9
AFON Sn **Sn 08 26 50.7 -3.3**
SNR=7.9
AFON Lg Lg 08 27 18.8
552nm,1.2s,SNR=7.9
PCVE Castro Verde 4.04 302 *e*Pn **Pn 08 26 05.8 -0.9**
PCVE *e*Sn **Sn 08 26 51.2 -3.3**
PCVE A A 08 27 01.3
58nm,0.5s
ESDC Sonseca Array 4.11 357 Pn **Pn 08 26 08.8 +1.0**
4.0nm,0.3s,baz=179,slow=12,SNR=60
ESDC Sn **Sn 08 26 55.6 -0.8**
2.2nm,0.3s,baz=184,slow=18,SNR=5.6
ESDC LR LR 08 27 34.6
comp=Z,365nm,20.6s,baz=211,slow=37
ESDC Sonseca Array 4.11 357 Pn 08 26 08.9 +1.2
ESDC Sonseca Array 4.11 357 Pn **Pn 08 26 09.0 +1.2**
baz=175,slow=12,SNR=7.9
ESDC Sn **Sn 08 26 54.5 -1.9**
baz=193,slow=27,SNR=7.9
ESDC Lg Lg 08 27 13.0
281nm,1.1s,baz=181,slow=28,SNR=7.9
ESBB Sonseca Array 4.11 357 Pn 08 26 08.6 +0.8
EBAD Badajoz 4.13 322 Pn **Pn 08 26 07.6 -0.4**
SNR=7.9
EBAD Sn **Sn 08 26 53.9 -2.9**
SNR=7.9
EBAD Lg Lg 08 27 12.9
468nm,2.1s,SNR=7.9
PBEJ Beja 4.13 308 *e*Pn **Pn 08 26 07.5 -0.5**
PBEJ *e*Sn **Sn 08 26 53.3 -3.5**
PBEJ A A 08 27 10.5
37nm,0.7s
MESJ Messejana 4.27 304 *e*P **Pn 08 26 08.7 -1.1**
MESJ *e*S **Sn 08 26 55.5 -4.6**
MESJ IAML 08 27 00.7
comp=N,41nm,0.4s
MESJ Messejana 4.27 304 *e*Pn **Pn 08 26 09.0 -0.8**
MESJ *e*Sn **Sn 08 26 56.0 -4.1**
MESJ A A 08 27 19.1
comp=N,47nm,0.7s
MORF Marmelete 4.33 295 *e*P **Pn 08 26 09.4 -1.4**
MORF *e*S **Sn 08 26 56.6 -5.2**
MORF IAML 08 27 03.4
comp=N,64nm,0.2s
MORF Marmelete 4.33 295 *e*Pn **Pn 08 26 09.9 -0.9**
MORF *e*Sn **Sn 08 26 58.6 -3.3**
MORF A A 08 27 16.0
comp=N,33nm,0.5s
PFVI Vila Bisbo 4.41 292 *e*Pn **Pn 08 26 11.7 -0.1**
PFVI *e*Sn **Sn 08 26 58.7 -4.8**
PFVI A A 08 27 10.2
comp=N,40nm,0.7s
PFVI Vila Bisbo 4.41 292 Pn 08 26 13.9 +2.2
PFVI Vila Bisbo 4.41 292 P **Pn 08 26 11.6 -0.1**
PFVI Vila Bisbo 4.41 292 Pn **Pn 08 26 11.5 -0.2**
SNR=7.9
PFVI Sn **Sn 08 26 58.4 -5.1**
SNR=7.9
PTEO Sao Teotonio 4.48 298 *e*Pn **Pn 08 26 12.5 -0.3**
PTEO *e*Sn **Sn 08 27 01.9 -3.5**
PTEO A A 08 27 10.6
comp=N,37nm,0.4s
PESTR Estremoz 4.52 318 *e*Pn **Pn 08 26 13.4 +0.1**
PESTR *e*Sn **Sn 08 27 03.7 -2.6**
PESTR A A 08 27 31.7
comp=N,46nm,0.7s
PESTR Estremoz 4.52 318 Pn **Pn 08 26 13.7 +0.4**
PESTR Estremoz 4.52 318 P **Pn 08 26 14.7 +1.4**
EVO Evora 4.53 312 P **Pn 08 26 12.9 -0.6**
EVO S Sg 08 28 02.7 +33
EVO Evora 4.53 312 *e*Pn **Pn 08 26 13.2 -0.3**
EVO *e*Sn **Sn 08 27 03.5 -3.2**
EVO A A 08 27 09.5
comp=N,40nm,0.5s
ECHE Chera 4.58 28 Pn **Pn 08 26 16.0 +1.8**
SNR=7.9
ECHE Lg Lg 08 27 39.1
comp=N,381nm,1.1s,SNR=7.9
PNCL Nicolau / Gran 4.62 305 *e*Pn **Pn 08 26 14.1 -0.5**
PNCL *e*Sn **Sn 08 27 05.1 -3.6**
PNCL A A 08 27 26.2
comp=N,28nm,0.4s
UCM Universidad Co 4.76 4 P **Pn 08 26 17.9 +1.3**
PMRV Marv??o 4.84 324 *e*Pn **Pn 08 26 17.6 -0.1**
PMRV *e*Sn **Sn 08 27 11.4 -2.8**
PMRV A A 08 27 30.8
comp=N,49nm,0.5s
EPLA Plasencia 4.87 338 Pn **Pn 08 26 19.5 +1.4**
SNR=7.9
EPLA Sn **Sn 08 27 13.9 -1.1**
SNR=7.9
EPLA Lg Lg 08 27 37.7
comp=N,1µm,2.7s,SNR=7.9
TZRR Tazzarine 5.00 198 P **Pn 08 26 21.0 +0.9**
PMTG Montargil 5.01 316 *e*Pn **Pn 08 26 20.0 -0.1**
PMTG *e*Sn **Sn 08 27 16.7 -1.8**
PMTG A A 08 27 21.2
comp=N,50nm,0.6s
GUD Guadarrama 5.09 356 Pn **Pn 08 26 22.3 +1.1**
SNR=7.9
GUD Lg Lg 08 27 45.1
comp=N,527nm,1.7s,SNR=7.9
PCBR Castelo Branco 5.21 326 *e*Pn **Pn 08 26 23.4 +0.7**
PCBR *e*Sn **Sn 08 27 20.4 -2.8**
PCBR A A 08 27 32.2
comp=N,35nm,0.6s
OUZM OUZ 5.29 210 P **Pn 08 26 25.0 +1.0**
EIBI Ibiza 5.32 48 Pn **Pn 08 26 23.7 -0.7**
SNR=7.9
EIBI Sn **Sn 08 27 21.3 -4.8**
SNR=7.9
PMST Lisbon--Monsan 5.39 308 *e*Pn **Pn 08 26 25.6 +0.4**
ETOR Torete 5.42 14 Pn **Pn 08 26 26.5 +0.8**
SNR=7.9
ETOR Lg Lg 08 27 53.7
comp=N,402nm,2.6s,SNR=7.9
EMOS Mosqueruela 5.44 27 Pn **Pn 08 26 27.4 +1.3**
SNR=7.9
EMOS Lg Lg 08 27 59.9
comp=N,456nm,1.9s,SNR=7.9
OUK Oukaimeden 5.55 220 P **Pn 08 26 26.4 -1.4**
PMAFR Mafra 5.58 309 *e*Pn **Pn 08 26 28.0 +0.1**
PMAFR *e*Sn **Sn 08 27 28.4 -4.0**
PMAFR A A 08 27 45.1
comp=N,44nm,0.7s
PMAFR Mafra 5.58 309 Pn **Pn 08 26 27.7 -0.1**
SNR=7.9
PMAFR Sn **Sn 08 27 28.5 -4.0**
SNR=7.9
PMAFR Lg Lg 08 28 03.4
comp=N,564nm,1.5s,SNR=7.9
PSBE So Bento 5.64 316 *e*Pn **Pn 08 26 29.1 +0.4**
PSBE *e*Sn **Sn 08 27 32.8 -1.2**
PSBE A A 08 28 15.4
comp=N,44nm,0.6s
ZGR Zagora 5.65 197 P **Pn 08 26 31.0 +2.0**
MTE Manteigas 5.70 329 *e*Pn **Pn 08 26 31.6 +2.1**
MTE *e*Sn **Sn 08 27 31.3 -4.1**
MTE A A 08 28 08.2
comp=N,85nm,0.7s
MTE Manteigas 5.70 329 Pn 08 26 29.9 +0.4
PCAS Casmilo, Conde 5.86 321 *e*Pn **Pn 08 26 33.0 +1.2**
PCAS *e*Sn **Sn 08 27 32.5 -7.0**
PCAS A A 08 28 32.7
comp=N,40nm,0.7s
PVIS Viseu 6.11 329 *e*Pn **Pn 08 26 35.9 +0.8**
PVIS *e*Sn **Sn 08 27 42.4 -3.1**
PVIS A A 08 28 28.6
comp=N,29nm,0.7s
MVO Moncorvo 6.17 336 *e*Pn **Pn 08 26 37.1 +1.1**
MVO *e*Sn **Sn 08 27 44.1 -3.0**
MVO A A 08 28 29.6
comp=N,45nm,0.6s
MVO Moncorvo 6.17 336 Pn **Pn 08 26 36.3 +0.3**
SNR=7.9
MVO Sn **Sn 08 27 43.0 -4.1**
SNR=7.9
MVO Lg Lg 08 28 20.1
comp=N,333nm,1.3s,SNR=7.9
ERTA Horta de San J 6.26 29 Pn **Pn 08 26 38.6 +1.3**
SNR=7.9
ERTA Lg Lg 08 28 17.3
comp=N,147nm,1.9s,SNR=7.9
PVRL Vila Real 6.51 332 *e*Pn **Pn 08 26 41.0 +0.3**
PVRL *e*Sn **Sn 08 27 52.5 -2.9**
PVRL A A 08 27 55.6
comp=N,43nm,0.6s
POLO Lamas de Olo 6.62 332 *e*Pn **Pn 08 26 43.4 +1.1**
POLO *e*Sn **Sn 08 27 53.8 -4.5**
POLO A A 08 28 11.4
comp=N,15nm,0.6s
PBRG Braganca 6.67 340 *e*Pn **Pn 08 26 43.7 +0.9**
PBRG *e*Sn **Sn 08 27 57.9 -1.4**
PBRG A A 08 28 40.1
comp=N,30nm,0.6s
ETOS Mallorca 6.68 49 Pn **Pn 08 26 42.5 -0.4**
SNR=7.9
ETOS Sn **Sn 08 27 54.9 -4.6**
SNR=7.9
PTO Porto 6.76 327 *e*Pn **Pn 08 26 44.3 +0.3**
PTO *e*Sn **Sn 08 27 58.4 -3.1**
EPOB Poblet 6.91 32 Pn **Pn 08 26 48.9 +2.8**
SNR=7.9
EPOB Lg Lg 08 28 48.7
comp=N,122nm,2.0s,SNR=7.9
PCAB Cabril 7.00 333 *e*Pn **Pn 08 26 48.2 +0.8**
PCAB *e*Sn **Sn 08 28 03.3 -4.2**
PCAB A A 08 29 00.7
comp=N,37nm,0.6s
ELOB Lobios 7.15 333 Pn **Pn 08 26 49.8 +0.2**
SNR=7.9
ELOB Sn **Sn 08 28 07.0 -4.2**
SNR=7.9
ELOB Lg Lg 08 28 41.4
comp=N,433nm,2.4s,SNR=7.9
PGAV Gavieira, Arco 7.31 332 *e*Pn **Pn 08 26 52.7 +0.9**
PGAV *e*Sn **Sn 08 28 10.5 -4.8**
PGAV A A 08 28 21.4
comp=N,32nm,0.7s
EARA Aranguren 7.39 12 Lg Lg 08 29 08.0
comp=N,607nm,2.8s,SNR=7.9
EMIR Miracle 7.56 31 Lg Lg 08 29 06.8
comp=N,78nm,1.5s,SNR=7.9
EORO Oroz-Betelu 7.56 14 Lg Lg 08 29 06.4
comp=N,256nm,1.8s,SNR=7.9
ELAN Lanestosa 7.67 2 Pn **Pn 08 26 57.9 +1.4**
SNR=7.9
ELAN Lg Lg 08 29 12.6
comp=N,327nm,1.8s,SNR=7.9
ECHI Chisagues Biel 7.72 22 Lg Lg 08 29 14.3
comp=N,596nm,3.9s,SNR=7.9
ETSF Etsaut 7.73 18 *e*Pn **Pn 08 26 58.9 +1.4**
ETSF *e*Sn **Sn 08 28 22.7 -2.8**
ETSF *e*Sg **Sg 08 29 10.2 -2.0**
comp=N,0.8nm,0.2s
CSOR Sort 7.79 28 Pn **Pn 08 26 58.9 +0.6**
SNR=7.9
CSOR Lg Lg 08 29 08.9
comp=N,205nm,2.1s,SNR=7.9
SJPF Ste Jean 7.79 14 *e*Pn **Pn 08 26 59.5 +1.3**
SJPF *e*Sn **Sn 08 28 24.9 -2.0**
SJPF *e*Sg **Sg 08 29 12.5 -1.6**
comp=N,3.0nm,0.4s
EARI Arriondas 7.82 352 Pn **Pn 08 26 57.1 -1.5**
SNR=7.9
EARI Lg Lg 08 29 14.3
comp=N,556nm,2.3s,SNR=7.9
EALK Alkurruntz 7.84 12 Pn **Pn 08 27 01.0 +2.0**
SNR=7.9
EALK Lg Lg 08 29 20.9
comp=N,742nm,1.7s,SNR=7.9
ATE Arette 7.87 16 Pn **Pn 08 27 01.4 +2.0**
SNR=7.9
ATE Lg Lg 08 29 10.0
comp=N,570nm,2.9s,SNR=7.9
EAGO Agolada(Pontev 7.99 336 Pn **Pn 08 27 02.0 +1.1**
SNR=7.9
EAGO Sn **Sn 08 28 27.7 -4.0**
SNR=7.9
EAGO Lg Lg 08 29 19.1
comp=N,381nm,2.1s,SNR=7.9
EPF Esparros 8.10 22 *e*Pn **Pn 08 27 03.6 +1.1**
EPF *e*Sg **Sg 08 29 20.2 -3.8**
comp=N,3.0nm,0.3s
EPON Pontenova 8.20 342 Pn **Pn 08 27 04.6 +0.8**
SNR=7.9
EPON Sn **Sn 08 28 31.8 -5.0**
SNR=7.9
EPON Lg Lg 08 29 24.4
comp=N,305nm,1.8s,SNR=7.9
MTLF Montolieu 9.03 29 *e*Pn **Pn 08 27 16.9 +1.7**
LFF La Frestale 9.97 19 *e*Pn **Pn 08 27 29.6 +1.5**
CAF Calviac 10.35 24 *e*Pn **Pn 08 27 34.6 +1.3**
KEST Kesra 10.64 85 Pn **Pn 08 27 37.8 +0.3**
comp=N,0.5nm,0.3s,baz=243,slow=13,SNR=2.6
KEST LR LR 08 32 39.8
comp=N,404nm,18.2s,baz=214,slow=43
KEST Kesra 10.64 85 Pn 08 27 37.4 0.0
SMRF Simiane la Rot 11.04 38 *e*Pn **Pn 08 27 44.8 +2.1**
LMR La Mourre 11.08 42 *e*Pn **Pn 08 27 44.2 +0.9**
VSL Villasalto 11.12 65 Pn **Pn 08 27 44.9 +1.0**
PGF Pioggiola 12.10 51 *e*Pn **Pn 08 27 58.3 +1.0**
PGF Pioggiola 12.10 51 *e*P Pn 08 28 03.8 +6.5
QUIF Quistinic 12.36 2 *e*Pn **Pn 08 28 02.1 +1.4**
AVF Avril sur Loir 12.42 23 *e*Pn **Pn 08 28 02.7 +1.2**
ROSF Rostrenen 12.77 1 *e*Pn **Pn 08 28 07.9 +1.5**
ROSF Rostrenen 12.77 1 *e*P Pn 08 28 14.8 +8.4
GRR Gorron 13.00 9 *e*Pn **Pn 08 28 10.9 +1.5**
GRR Gorron 13.00 9 *e*P Pn 08 28 16.9 +7.5
FLN La Foliniere 13.41 9 *e*Pn **Pn 08 28 16.4 +1.3**
baz=188
MEZF Maizieres J'vi 14.47 24 *e*Pn **Pn 08 28 31.0 +1.4**
baz=204
SAVF Savonnieres en 14.59 24 *e*P **P 08 28 38.6 +0.7**
baz=203
VAE Valguarnera 14.71 77 LR LR 08 34 12.6
comp=N,291nm,18.2s,baz=293,slow=38
DAVOX Davos/Dischmat 15.16 38 Pn **P 08 28 43.0 -1.5**
comp=N,0.2nm,0.3s,baz=245,slow=18,SNR=2.2
DAVA Damuels 15.51 37 *e*Pn **Pn 08 28 43.9 +0.2**
comp=N,12nm,1.4s
FETA Feichten 15.76 39 *e*Pn **Pn 08 28 47.9 +1.0**
comp=N,8.0nm,1.2s
RETA Reutte 16.09 38 *e*Pn **P 08 28 55.8 +1.2**
comp=N,5.6nm,0.9s
SQTA Sankt Quirin 16.14 39 *e*Pn **P 08 28 53.1 -2.0**
comp=N,5.3nm,1.0s
MOTA Moosalm 16.16 39 *e*Pn **P 08 28 53.0 -2.5**
comp=N,2.4nm,0.5s
WTTA Wattenberg 16.39 40 *e*Pn **P 08 28 56.8 -1.2**
comp=N,14nm,1.6s
WATA Walderalm 16.40 39 *e*Pn **P 08 28 57.7 -0.4**
comp=N,3.1nm,0.5s
ABTA Abfaltersbach 16.53 43 *e*Pn **P 08 28 59.9 +0.3**
comp=N,4.3nm,0.9s
OBKA Obir 17.56 46 *e*Pn **P 08 29 11.9 +1.0**
comp=N,4.4nm,1.0s
MOA Molln 18.15 42 *e*Pn **P 08 29 20.4 +3.0**
comp=N,0.4nm,0.3s
GEC2 GERESS Array S 18.46 39 Pn 08 29 21.8 +1.0
GERES GERESS Array B 18.46 39 P **Pn 08 29 20.5 -0.3**
comp=N,0.1nm,0.3s,baz=220,slow=8.0,SNR=6.9
GERES LR LR 08 36 01.4
comp=N,211nm,20.1s,baz=256,slow=36
GERES GERESS Array B 18.46 39 P **Pn 08 29 21.7 +0.8**
KHC Kasperske Hory 18.58 38 *e*P **Pn 08 29 24.2 +1.9**
CONA Conrad Observa 19.08 44 *e*Pn **Pn 08 29 27.9 -0.4**
comp=N,0.5nm,0.3s
EKA Eskdalemuir Ar 19.78 1 P **Pn 08 29 35.9 -0.7**
baz=183,slow=11,SNR=4.3
EKA LR LR 08 37 28.9
comp=N,124nm,18.9s,baz=187,slow=38
CLL Collm 19.81 32 *e*P **Pn 08 29 37.0 0.0**
comp=Z,13nm,1.1s
CLL Lmax 08 38 00.0
CLL Collm 19.81 32 Pn 08 29 35.8 -1.1
BRG Berggiesshubel 19.93 34 *e*P **Pn 08 29 38.8 +0.4**
BRG Amp 08 29 41.8
comp=Z,16nm,1.7s
KRUC Moravsky 20.01 41 *e*P Pn 08 29 40.5 +1.2
MODS Modra-Piesok 20.12 44 *e*P Pn 08 29 41.3 +0.6
VRAC Vranov 20.25 41 P Pn 08 29 40.6 -1.6
comp=Z,3.1nm,0.6s,baz=196,slow=10,SNR=4.0
VRAC Vranov 20.25 41 *e*P Pn 08 29 40.8 -1.5
DPC Dobruska-Polom 20.73 38 *e*P **P 08 29 45.6 0.0**
KRLC Kraliky 20.80 39 *e*P Pn 08 29 47.4 -1.3
MORC Moravsky Berou 21.03 41 *e*P **P 08 29 50.5 +1.7**
LANS Liptovska Anna 21.76 44 *e*P **P 08 29 58.8 +2.2**
CRVS Cervenica-Dubn 22.80 46 *e*P **P 08 30 09.9 +2.2**
TORD Torodi Ar. Bea 22.84 166 P **P 08 30 08.4 0.0**
comp=Z,4.0nm,0.7s,baz=348,slow=9.5,SNR=20
TORD Torodi Ar. Bea 22.84 166 IAmb IAmb 08 30 15.9
comp=Z,6.7nm,0.7s
MLR Muntele Rosu 24.52 57 P **P 08 30 24.6 -0.1**
comp=Z,3.5nm,1.0s,baz=274,slow=13,SNR=2.1
MLR Muntele Rosu 24.52 57 IAmb IAmb 08 30 43.0
comp=Z,18nm,1.4s
BUR08 Bucovina Ar. S 24.62 52 P **P 08 30 26.2 +0.6**
BURAR Bucovina Array 24.62 52 P **P 08 30 26.0 +0.4**
HFS Hagfors 27.05 19 P **P 08 30 47.8 +0.5**
comp=Z,5.1nm,1.0s,baz=212,slow=8.2,SNR=4.9
NOA NORSAR Array B 27.23 16 P **P 08 30 49.0 +0.1**
comp=Z,1.5nm,0.9s,baz=205,slow=8.8,SNR=3.6
NOA LR LR 08 43 36.7
comp=Z,117nm,20.3s,baz=205,slow=41
AKASG Malin Array Be 28.13 47 P **P 08 30 55.6 -1.4**
comp=Z,0.7nm,0.6s,baz=244,slow=10,SNR=2.4
AKASG Malin Array Be 28.13 47 IAmb IAmb 08 31 01.7
comp=Z,2.1nm,1.4s
DBIC Dimbokro 28.77 182 LR LR 08 41 59.8
comp=Z,130nm,18.6s,baz=332,slow=35

BORG Borgarnes 31.09 345 LR LR 08 42 55.8
comp=Z,94nm,20.6s,baz=179,slow=34
FINES FINESS Array B 32.04 27 P **P 08 31 32.4 +0.9**
comp=Z,1.9nm,0.9s,baz=193,slow=5.7,SNR=2.2
JMIC Jan Mayen 35.58 357 LR LR 08 46 24.6
comp=Z,114nm,19.8s,baz=90,slow=36
KBZ Khabaz 36.42 63 P **P 08 32 09.4 -0.2**
comp=Z,0.7nm,0.2s,baz=18,slow=4.7,SNR=2.1
ARCES ARCESS Array B 37.61 16 P **P 08 32 19.8 +0.3**
comp=Z,1.8nm,0.8s,baz=222,slow=12,SNR=2.1
ARCES LR LR 08 50 21.2
comp=Z,135nm,19.1s,baz=202,slow=40
ARCES ARCESS Array B 37.61 16 IAmb IAmb 08 32 24.0
comp=Z,13nm,1.2s
ARU Arti 46.21 43 P **P 08 33 30.1 +0.1**
baz=278,slow=14
ARU Arti 46.21 43 P **P 08 33 30.0 +0.1**
ARU IAmb IAmb 08 33 36.0
comp=Z,6.1nm,0.7s
AKTO Aktyubinsk 46.22 51 P **P 08 33 30.0 -0.1**
comp=Z,2.0nm,0.5s,baz=280,slow=6.1,SNR=7.8
ABKAR Akbulak array 47.60 53 P **P 08 33 40.9 -0.1**
ABKAR Akbulak array 47.60 53 P **P 08 33 41.3 +0.4**
ABKAR IAmb IAmb 08 33 43.6
comp=Z,4.6nm,0.8s
BRVK Borovoye 53.33 46 P **P 08 34 24.5 +0.3**
MDP Montagnes des 54.20 248 LR LR 08 53 09.5
comp=Z,103nm,19.3s,baz=208,slow=31
TSUM Tsumeb 58.09 156 LR LR 09 01 53.3
comp=Z,73nm,18.3s,baz=310,slow=38
KURK Kurchatov 58.94 47 P **P 08 35 04.1 -0.2**
KURK IAmb IAmb 08 35 09.6
comp=Z,8.5nm,0.9s
P52A Corning 60.37 300 P **P 08 35 16.7 +2.3**
FCC Fort Churchill 60.56 323 P **P 08 35 17.4 +2.1**
FCC IAmb IAmb 08 35 18.8
comp=Z,9.0nm,1.2s
KSH Kashi 61.34 60 P **P 08 35 20.8 -0.3**
KSH pP sP 08 35 26.3 +3.8
KSH PcP **PcP 08 36 04.3 +0.8**
KSH ScS **ScS 08 45 06.3 -7.3**
KSH pmax pmax
comp=Z,4.0nm,1.0s
ZALV Zalesovo Beam 61.37 42 P **P 08 35 21.3 +0.4**
comp=Z,0.4nm,0.3s,baz=293,slow=7.7,SNR=1.7
MK31 Makanchi Array 62.64 51 P **P 08 35 28.4 -1.3**
MK31 IAmb IAmb 08 35 35.5
comp=Z,3.6nm,0.9s
MKAR Makanchi Array 62.64 51 P **P 08 35 29.7 0.0**
comp=Z,2.8nm,0.8s,baz=287,slow=5.3,SNR=18
MKAR Makanchi Array 62.64 51 P **P 08 35 29.9 +0.2**
E38A The Farm, Brul 63.85 310 P **P 08 35 38.3 +0.7**
ULM Lac du Bonnet 64.89 315 P **P 08 35 45.6 +1.2**
comp=Z,2.7nm,0.6s,baz=42,slow=8.9,SNR=2.8
ULM Lac du Bonnet 64.89 315 IAmb IAmb 08 35 49.8
comp=Z,5.0nm,0.8s
FVM French Village 66.92 301 P **P 08 36 00.1 +2.3**
D32A Dogwood Acres, 66.98 312 P **P 08 35 59.6 +1.8**
D32A IAmb IAmb 08 36 00.7
comp=Z,9.8nm,1.0s
WMQ Urumqi 67.37 52 *eP* **P 08 36 01.5 +1.0**
WMQ pmax pmax
comp=Z,11nm,0.9s
YKA Yellowknife Ar 67.80 332 P **P 08 36 02.7 -0.1**
comp=Z,5.3nm,0.9s,baz=59,slow=6.3,SNR=38
YKA Yellowknife Ar 67.80 332 P **P 08 36 04.7 +1.9**
ECSD EROS Data Cent 68.34 309 P **P 08 36 07.1 +0.5**
LCAR Lake Charles 68.34 299 P **P 08 36 07.8 +1.1**
LCAR IAmb IAmb 08 36 12.5
comp=Z,15nm,1.3s
146A Union 68.48 295 P **P 08 36 07.7 +0.1**
MGMO Mountain Grove 68.61 301 P **P 08 36 09.0 +0.6**
L34A Svendsen Farm, 69.05 307 P **P 08 36 12.1 +1.1**
S39A Bolivar 69.08 302 P **P 08 36 13.1 +1.8**
S39A IAmb IAmb 08 36 14.7
comp=Z,6.3nm,0.9s
BOSA Boshof 69.44 153 P **P 08 36 13.9 +0.4**
comp=Z,4.9nm,0.8s,baz=334,slow=7.3,SNR=6.2
BOSA LR LR 09 06 29.7
comp=Z,64nm,19.4s,baz=324,slow=36
T35A Sooner Cattle 71.67 303 P **P 08 36 29.4 +2.2**
BLOK Blackwell 72.23 303 P **P 08 36 32.2 +1.7**
R32A Long Quarter, 72.38 305 P **P 08 36 33.5 +2.1**
KAN06 Argonia West S 72.42 303 P **P 08 36 34.6 +2.9**
KAN17 Caldwell West 72.46 303 P **P 08 36 34.4 +2.5**
LAO LASA Array 72.63 315 P **P 08 36 35.6 +2.8**
LAO IAmb IAmb 08 36 37.7
comp=Z,10.0nm,0.8s
PHWY Pilot Hill 75.18 310 P **P 08 36 49.0 +0.8**
PHWY IAmb IAmb 08 36 53.9
comp=Z,7.5nm,0.8s
WALA Waterton Lakes 75.46 320 P **P 08 36 51.0 +1.5**
WALA IAmb IAmb 08 36 53.2
comp=Z,14nm,1.2s
YMP Mirror Lake Pl 76.01 315 P **P 08 36 54.0 +1.1**
YMP IAmb IAmb 08 36 59.4
comp=Z,6.5nm,1.1s
RWWY Rawlins 76.04 311 P **P 08 36 52.8 -0.2**
ISCO Idaho Springs 76.13 309 P **P 08 36 55.6 +2.0**
SONM Songino Array 76.18 41 P **P 08 36 53.7 +0.2**
comp=Z,0.9nm,0.7s,baz=298,slow=6.2,SNR=7.3
BOZ Bozeman (W) 76.33 317 P **P 08 36 56.5 +2.0**
BOZ IAmb IAmb 08 36 58.8
comp=Z,6.7nm,1.1s
BW06 Boulder Array 76.83 313 P **P 08 36 58.0 +0.6**
BW06 IAmb IAmb 08 37 01.2
comp=Z,3.7nm,0.9s
PD31 Pinedale Array 76.83 313 P **P 08 36 56.7 -0.7**
PDAR Pinedale Array 76.83 313 P **P 08 36 57.0 -0.4**
comp=Z,2.1nm,0.7s,baz=60,slow=5.8,SNR=18
PDAR Pinedale Array 76.83 313 P **P 08 36 57.8 +0.4**
MOOW Moose Ponds 76.94 315 P **P 08 37 00.1 +2.0**
DLMT Dillon 77.02 317 P **P 08 37 00.1 +1.8**
DLMT IAmb IAmb 08 37 03.4
comp=Z,5.5nm,0.9s
SDCO Great Sand Dun 77.23 307 P **P 08 37 01.1 +1.2**
SDCO IAmb IAmb 08 37 13.6
comp=Z,4.2nm,0.7s
AHID Auburn Hatcher 77.74 314 P **P 08 37 04.7 +2.2**
AHID IAmb IAmb 08 37 07.8
comp=Z,3.9nm,0.9s
RDMU Red Mountain 78.14 312 P **P 08 37 05.7 +0.9**
RDMU IAmb IAmb 08 37 09.3
comp=Z,7.9nm,0.9s
PV13 Radium Mtn., P 79.11 309 P **P 08 37 11.9 +1.6**
PV13 IAmb IAmb 08 37 24.5
comp=Z,14nm,1.2s
HLID Hailey 79.15 316 P **P 08 37 12.0 +1.7**
HVU Hansel Valley 79.32 314 P **P 08 37 12.1 +0.9**
HVU IAmb IAmb 08 37 14.9
comp=Z,5.9nm,1.2s
CPUP Villa Florida 79.70 227 LR LR 09 12 43.2
comp=Z,57nm,18.2s,baz=29,slow=36
LPAZ La Paz 79.81 242 LR LR 09 10 59.9
comp=Z,35nm,19.1s,baz=74,slow=34
TXAR Lajitas Array 80.83 299 P **P 08 37 22.0 +2.5**
comp=Z,0.8nm,0.8s,baz=111,slow=5.5,SNR=4.2
ELK Elko 81.42 314 P **P 08 37 23.1 +0.5**
ELK IAmb IAmb 08 37 27.6
comp=Z,5.1nm,1.1s
LZH Lanzhou 81.95 51 *eP* **P 08 37 24.0 -1.4**
LZH pP PcP 08 37 29.3 -1.7
LZH pmax pmax
comp=Z,17nm,1.3s
HHC Hu-ho-hao-te 83.52 44 *eP* **P 08 37 32.8 -0.6**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,170nm,5.2s
TUC Tucson 83.95 306 P **P 08 37 36.3 +0.6**
TUC IAmb IAmb 08 37 41.0
comp=Z,8.8nm,1.1s
NVAR Mina Array Bea 84.72 314 P **P 08 37 41.9 +2.2**
comp=Z,0.3nm,0.7s,baz=64,slow=5.4,SNR=2.4
PZH PanZhiHua 86.44 60 P **P 08 37 50.8 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,160nm,5.9s
XAN Xi'an 86.45 50 P **P 08 37 47.5 -0.7**
XAN pP sP 08 37 55.0 +5.4
XAN pmax pmax
comp=Z,6.0nm,1.3s
CMAR Chiang Mai Arr 89.29 68 P **P 08 38 03.8 +1.9**
comp=Z,1.0nm,0.4s,baz=278,slow=6.2,SNR=2.1

NJ2 Nanjing 93.85 46 *eP* **P 08 38 24.0 +1.1**
NJ2 pmax pmax
comp=Z,14nm,0.6s
KS19 Wonju Array Si 94.56 37 P **P 08 38 25.0 -1.1**

IDC ***25*** *08:28:03.1±0.6,6.05S×76.69W,h0km,mb4.1/13,*
mb1 4.3/19,mb1mx4.2/36,mbtmp4.2/19,ML3.9/6,MS3.7/13,
Ms1 3.8/13,ms1mx3.4/66,Error ellipse: s-maj=14.7km
s-min=13.2km az=47.0
ARE ***25*** *08:28:04±8.7,5.93S±0.07×76.69W±0.07,h101km±6km,*
Error ellipse: s-maj=0.0km s-min=0.0km az=68.0
VAO ***25*** *08:28:05.2±0.5,6.18S×76.62W,h10km,mb4.5*
NEIC ***25*** *08:28:08.2±2.0,6.07S±0.07×76.73W±0.06,h29km±5km,*
mb4.7/86,ML4.7(ARE),Error ellipse: s-maj=9.7km
s-min=9.0km az=150.0
ISC 25 08:28:08.2±0.4,6.08S±0.04×76.70W±0.05,h35km,n193,
σ1§35/197,mb4.7/50,MS3.8/5,1D,Northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.98**	**238**		Pn		**Pn**	**08 28 38.6**	**-1.0**
	58nm,0.3s,baz=25,slow=8.4,SNR=335								
ATAH					Sn		**Sn**	**08 29 05.9**	**+2.5**
	241nm,0.3s,baz=240,slow=18,SNR=14								
ATAH					LR		LR	08 29 43.1	
	comp=Z,2μm,21.8s,baz=0.6,slow=50								
CZSB	**Cruzeiro do Su**	**4.29**	**113**		Pn		**Pn**	**08 29 12.7**	**+1.6**
NNA	**Nana**	**5.87**	**181**		Pn		**Pn**	**08 29 32.8**	**0.0**
	15nm,0.3s,baz=22,slow=7.2,SNR=28								
NNA					Sn		**Sn**	**08 30 41.6**	**+2.7**
	16nm,0.3s,baz=70,slow=20,SNR=8.1								
NNA					LR		LR	08 31 17.3	
	comp=Z,352nm,20.6s,baz=344,slow=33								
OTAV	**Otavalo**	**6.52**	**344**	*eP*			**Pn**	**08 29 43.4**	**+1.4**
OTAV	**Otavalo**	**6.52**	**344**	*eP*			**Pn**	**08 29 43.3**	**+1.2**
OTAV	**Otavalo**	**6.52**	**344**		Pn		**Pn**	**08 29 41.2**	**-0.9**
CUSE	**Cuicocha Este**	**6.57**	**345**	*eP*			**Pn**	**08 29 46.3**	**+3.6**
CUSE				*eS*			Sn	08 31 07.2	+10
PAC1	**Pacto, Paraso**	**6.64**	**342**	*eP*			**Pn**	**08 29 45.4**	**+1.8**
PAC1				*eS*			**Sn**	**08 31 04.3**	**+6.1**
TBTG	**Tabatinga, AM**	**7.02**	**75**	*eP*			**Pn**	**08 29 50.2**	**+1.6**
TBTG				*eS*			**Sn**	**08 31 11.0**	**+3.7**
TBTG	**Tabatinga, AM**	**7.02**	**75**	*eP*			**Pn**	**08 29 49.4**	**+0.7**
TBTG	**Tabatinga, AM**	**7.02**	**75**				**Pn**	**08 29 49.1**	**+0.4**
CMBC	**Cumbal**	**7.07**	**351**	*eP*			**Pn**	**08 29 51.1**	**+1.5**
FLOC	**Florencia**	**7.69**	**8**	*eP*			**Pn**	**08 29 56.9**	**-0.9**
FLOC				*eS*			**Sn**	**08 31 19.7**	**-4.0**
SOTA	**Rioblanco**	**8.16**	**1**	*eP*			**Pn**	**08 30 01.7**	**-3.0**
SOTA				*eS*			**Sn**	**08 31 36.0**	**-0.1**
PCON	**Cinco Dias**	**8.36**	**2**	*eP*			**Pn**	**08 30 08.5**	**+1.0**
PCON				*eS*			**Sn**	**08 31 42.8**	**+1.7**
POPC	**Popayan, Colom**	**8.57**	**0**	*eP*			**Pn**	**08 30 09.4**	**-0.6**
POPC				*eS*			**Sn**	**08 31 43.7**	**-1.9**
MACC	**Macarena, Meta**	**8.66**	**19**	*eP*			**Pn**	**08 30 12.3**	**+1.2**
MACC				*eS*			**Sn**	**08 31 47.6**	**0.0**
BETC	**Betania**	**8.80**	**8**	*eP*			**Pn**	**08 30 13.3**	**+0.2**
BETC				*eS*			**Sn**	**08 31 53.4**	**+2.3**
YOTC	**Yotoco, Valle**	**10.01**	**2**	*eP*			**Pn**	**08 30 32.5**	**+2.8**
ORTC	**Ortega, Tolima**	**10.03**	**8**	*eP*			**Pn**	**08 30 31.6**	**+1.6**
VILC	**Villavicencio,**	**10.56**	**17**	*eP*			**Pn**	**08 30 37.3**	**0.0**
VILC				*eS*			Sn	08 32 51.1	+17
PLMC	**San Jos del P**	**10.92**	**2**	*eP*			**Pn**	**08 30 39.3**	**-3.0**
ETMB	**Extrema**	**11.03**	**110**	*eP*			**Pn**	**08 30 41.9**	**-1.7**
ETMB	**Extrema**	**11.03**	**110**		Pn		**Pn**	**08 30 42.2**	**-1.4**
ROSC	**El Rosal**	**11.11**	**12**		Pn		**Pn**	**08 30 47.9**	**+2.9**
	2.0nm,0.3s,baz=102,slow=21,SNR=5.0								
ROSC					Lg		Lg	08 33 55.1	
	2.9nm,0.3s,baz=256,slow=19,SNR=2.2								
ROSC					LR		LR	08 36 02.8	
	comp=Z,697nm,20.1s,baz=206,slow=43								
ROSC	**El Rosal**	**11.11**	**12**				**Pn**	**08 30 45.2**	**+0.2**
GUY2C	**Guyana, Caldas**	**11.31**	**7**	*eP*			**Pn**	**08 30 50.8**	**+2.9**
NORC	**Norcasia**	**11.71**	**9**	*eP*			**Pn**	**08 30 52.7**	**-0.3**
CBOC	**Ciudad Bolivar**	**11.89**	**3**	*eP*			**Pn**	**08 30 56.6**	**+1.1**
CBOC				*eS*				08 34 06.2	
SPBC	**San Pablo de B**	**11.95**	**13**	*eP*			**Pn**	**08 30 57.5**	**+1.3**
HELC	**Santa Helena**	**12.25**	**6**	*eP*			**Pn**	**08 31 01.4**	**+0.8**
RUSC	**La Rusia**	**12.43**	**17**	*eP*			**Pn**	**08 31 04.3**	**+1.0**
DBBC	**Dabeiba**	**13.02**	**2**	*i P*			**Pn**	**08 31 11.0**	**+0.1**
BARC	**Barichara**	**13.07**	**16**	*eP*			**Pn**	**08 31 15.8**	**+4.1**
LPAZ	**La Paz**	**13.17**	**141**		Pn		**Pn**	**08 31 12.7**	**-0.7**
	0.1nm,0.3s,baz=342,slow=12,SNR=8.0								
LPAZ					Lg		Lg	08 35 04.0	
	0.2nm,0.3s,baz=227,slow=18,SNR=2.2								
LPAZ					LR		LR	08 37 30.0	
	comp=Z,532nm,18.4s,baz=326,slow=43								
LPAZ	**La Paz**	**13.17**	**141**	*eP*			**Pn**	**08 31 09.8**	**-3.6**
LPAZ	**La Paz**	**13.17**	**141**		Pn		**Pn**	**08 31 13.3**	**-0.1**
ZARC	**Zaragoza, Cauc**	**13.61**	**8**		Pn		**Pn**	**08 31 16.7**	**-2.2**
PAMC	**Pamplona, Colo**	**13.92**	**17**	*eP*			**Pn**	**08 31 25.4**	**+1.9**
PB12	**IPOC Station P**	**13.92**	**154**		Pn		**Pn**	**08 31 23.9**	**+0.8**
PB16	**IPOC Station P**	**14.05**	**151**		Pn		**Pn**	**08 31 28.5**	**+3.1**
OCAC	**Ocana**	**14.62**	**13**	*eP*			**Pn**	**08 31 35.1**	**+2.3**
OCAC	**Ocana**	**14.62**	**13**				**Pn**	**08 31 32.5**	**-0.4**
SOCV	**Socops**	**15.42**	**22**	*eP*			**Pn**	**08 31 41.8**	**-1.5**
SJCC	**San Jacinto, C**	**15.95**	**5**				**Pn**	**08 31 49.5**	**-0.6**
SDV	**Santo Domingo**	**16.05**	**22**		Pn		**Pn**	**08 31 50.5**	**-1.1**
	1.2nm,0.3s,baz=246,slow=15,SNR=5.3								
SDV					LR		LR	08 39 19.9	
	comp=Z,368nm,19.7s,baz=208,slow=42								
SDV	**Santo Domingo**	**16.05**	**22**	*eP*			**Pn**	**08 31 51.4**	**-0.2**
SDV	**Santo Domingo**	**16.05**	**22**				**Pn**	**08 31 49.8**	**-1.9**
MACA	**Manacapuru-AM**	**16.23**	**80**	*eP*			**Pn**	**08 31 53.0**	**-0.6**
MACA	**Manacapuru-AM**	**16.23**	**80**		Pn		**Pn**	**08 31 53.6**	**-0.1**
MACA					IAmb		IAmb	08 32 15.4	
	comp=Z,53nm,0.6s								
PB01	**IPOC Station P**	**16.43**	**156**				**Pn**	**08 31 58.1**	**+1.8**
BAUV	**El Baul**	**17.25**	**30**				**Pn**	**08 32 06.6**	**+0.1**
PTGA	**Pitinga**	**17.53**	**73**		P		**Pn**	**08 32 08.0**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=268,slow=18,SNR=20								
PTGA					S		**Sn**	**08 35 25.9**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=153,slow=14,SNR=3.2								
PTGA					LR		LR	08 38 49.0	
	comp=Z,127nm,21.9s,baz=268,slow=37								
VILB	**Vilhena**	**17.64**	**114**	*eP*			**Pn**	**08 32 09.7**	**-1.7**
LVC	**Limon Verde**	**18.07**	**156**		LR		LR	08 40 20.4	
	comp=Z,244nm,20.5s,baz=323,slow=41								
LVC	**Limon Verde**	**18.07**	**156**	*eP*			**Pn**	**08 32 15.1**	**-1.9**
SIV	**San Ignacio**	**18.21**	**124**		P		**P**	**08 32 16.9**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=291,slow=14,SNR=12								
SIV					LR		LR	08 39 07.3	
	comp=Z,70nm,20.3s,baz=306,slow=36								
BOAV	**Boa Vista**	**18.22**	**63**	*eP*			**Pn**	**08 32 17.7**	**-0.8**
BOAV	**Boa Vista**	**18.22**	**63**		P		**P**	**08 32 19.1**	**+0.6**
URIC	**Uribia, Colomb**	**18.28**	**15**		P		**P**	**08 32 17.9**	**-1.2**
BIRV	**Birongo**	**19.46**	**32**		P		**Pn**	**08 32 34.4**	**+0.9**
PTLB	**Pontes e Lacer**	**19.59**	**120**	*eP*			**P**	**08 32 31.8**	**-1.7**
PCRV	**Puerto La Cruz**	**20.13**	**37**	*eP*			**P**	**08 32 38.3**	**-1.2**
	comp=Z,8.8nm,0.9s,baz=221,slow=9.3,SNR=1.6								
PLCV	**Puerto La Cruz**	**20.15**	**37**		P		**P**	**08 32 38.3**	**-1.3**
BOAB	**BOACO BROADBAND**	**20.45**	**334**		P		**P**	**08 32 43.1**	**+0.3**
PDRB	**Porto dos Gac**	**20.48**	**107**	*eP*			**P**	**08 32 42.7**	**-0.6**
ITTB	**Itaituba**	**20.95**	**86**	*eP*			**P**	**08 32 48.1**	**-0.2**
CLDB	**Colider**	**21.21**	**104**	*eP*			**P**	**08 32 51.3**	**+0.1**
NPGB	**Novo Progresso**	**21.23**	**94**	*eP*			**P**	**08 32 49.7**	**-1.6**
MALB	**Monte Alegre**	**22.77**	**80**	*eP*			**P**	**08 33 08.0**	**+0.1**
SALV	**Santo Antonio**	**22.79**	**117**	*eP*			**P**	**08 33 08.3**	**+0.3**
GRGR	**Grenville**	**23.48**	**40**		P		**P**	**08 33 15.3**	**+0.3**
PP1B	**Ponte de Pedra**	**24.20**	**120**	*eP*			**P**	**08 33 22.1**	**+0.3**
AQDB	**Aquidauana**	**24.90**	**127**	*eP*			**P**	**08 33 27.2**	**-0.9**
APG	**El Apazote**	**25.00**	**327**		P		**P**	**08 33 29.3**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=146,slow=13,SNR=4.0								
MCPB	**Macapa, AP**	**25.25**	**78**	*eP*			**P**	**08 33 29.4**	**-1.9**
CRPR	**Cabo Rojo, PR**	**25.74**	**21**		P		**P**	**08 33 37.0**	**+1.4**
CRPR					IAmb		IAmb	08 33 42.6	
	comp=Z,21nm,0.8s								
SNDB	**Serra Nova Dou**	**25.75**	**105**	*eP*			**P**	**08 33 34.2**	**-1.7**
CELP	**Cerrillos**	**26.00**	**22**		P		**P**	**08 33 38.8**	**+0.8**
SC01	**Santiago de lo**	**26.02**	**13**		P		**P**	**08 33 38.6**	**+0.4**
PDPR	**Patillas Dam,**	**26.17**	**24**		P		**P**	**08 33 38.0**	**-1.5**
AOPR	**Arecibo Observ**	**26.18**	**22**		P		**P**	**08 33 39.2**	**-0.5**
SJG	**San Juan**	**26.20**	**23**		P		**P**	**08 33 40.0**	**+0.1**
CBYP	**Canovanas**	**26.46**	**24**		P		**P**	**08 33 44.3**	**+2.0**
CBYP					IAmb		IAmb	08 33 49.3	
	comp=Z,15nm,0.8s								
MDP	**Montagnes des**	**26.47**	**66**		LR		LR	08 44 43.5	
	comp=Z,241nm,18.3s,baz=339,slow=38								
CBE	**Ff, Capester**	**26.60**	**34**		P		**P**	**08 33 43.2**	**-0.4**
PRPB	**Paraguapebas**	**26.73**	**92**	*eP*			**P**	**08 33 42.9**	**-1.9**
STVI	**Saint Thomas**	**26.91**	**25**		P		**P**	**08 33 46.1**	**-0.1**
STVI					IAmb		IAmb	08 34 14.9	
	comp=Z,32nm,1.2s								
CPUP	**Villa Florida**	**27.33**	**140**		P		**P**	**08 33 49.9**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=293,slow=4.9,SNR=3.5								
CPUP	**Villa Florida**	**27.33**	**140**		IAmb		IAmb	08 34 11.9	
	comp=Z,19nm,1.5s								
IPMB	**Ipameri, GO**	**30.21**	**116**	*eP*			**P**	**08 34 15.2**	**-0.6**
LC01	**Cunco**	**32.96**	**173**		P		**P**	**08 34 39.6**	**0.0**
PLCA	**Paso Flores**	**34.94**	**172**		P		**P**	**08 34 56.5**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=346,slow=10,SNR=4.3								
PLCA	**Paso Flores**	**34.94**	**172**		P		**P**	**08 34 55.9**	**-1.0**
GDU01	**Guandu, BA**	**37.31**	**105**	*eP*			**P**	**08 35 17.3**	**-0.1**
RPN	**Rapa Nui**	**37.43**	**232**		LR		LR	08 47 10.7	
	comp=Z,154nm,18.1s,baz=83,slow=31								
CMC01	**Camacan, BA**	**37.62**	**107**	*eP*			**P**	**08 35 20.2**	**+0.1**
NBAN	**Anadia - AL**	**40.19**	**98**	*eP*			**P**	**08 35 40.1**	**-1.5**
V53A	**Saluda**	**41.93**	**353**		P		**P**	**08 35 55.7**	**+0.1**
TZTN	**Tazewell**	**42.89**	**352**		P		**P**	**08 36 03.1**	**-0.2**
TZTN					IAmb		IAmb	08 36 11.4	
	comp=Z,15nm,1.3s								
T57A	**Hurt**	**42.92**	**357**		P		**P**	**08 36 04.1**	**+0.5**
T57A					IAmb		IAmb	08 36 25.5	
	comp=Z,28nm,1.4s								
TXAR	**Lajitas Array**	**43.73**	**325**		P		**P**	**08 36 10.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=149,slow=9.1,SNR=11								
TX31	**Lajitas Ar. Si**	**43.73**	**325**		P		**P**	**08 36 10.5**	**+0.1**
TX32	**Lajitas Array**	**43.73**	**325**		P		**P**	**08 36 10.1**	**-0.3**
FCAR	**Ozark Folk Cen**	**44.20**	**342**		P		**P**	**08 36 13.6**	**-0.3**
ABTX	**Abilene, Hawle**	**44.25**	**332**		P		**P**	**08 36 12.6**	**-1.8**
ABTX					IAmb		IAmb	08 36 28.4	
	comp=Z,13nm,1.1s								
HHAR	**Hobbs**	**45.14**	**340**		P		**P**	**08 36 20.1**	**-1.3**
HHAR					IAmb		IAmb	08 36 25.1	
	comp=Z,17nm,1.3s								
W35A	**Tecumseh**	**45.21**	**337**		P		**P**	**08 36 22.3**	**+0.3**
W35A					IAmb		IAmb	08 36 37.2	
	comp=Z,13nm,1.0s								
MGMO	**Mountain Grove**	**45.41**	**342**		P		**P**	**08 36 22.4**	**-1.2**
MGMO					IAmb		IAmb	08 36 23.5	
	comp=Z,12nm,1.0s								
U38A	**Gravette**	**45.43**	**340**		P		**P**	**08 36 21.9**	**-1.9**
U38A					IAmb		IAmb	08 36 22.8	
	comp=Z,9.1nm,1.2s								
TUL1	**Leonard**	**45.46**	**338**		P		**P**	**08 36 24.3**	**+0.3**
TUL1					IAmb		IAmb	08 36 25.8	
	comp=Z,13nm,1.1s								
MNTX	**Cornudas Mount**	**46.48**	**326**		P		**P**	**08 36 31.5**	**-0.6**
SSPA	**Standing Stone**	**46.50**	**359**		P		**P**	**08 36 33.0**	**+0.9**
SSPA					IAmb		IAmb	08 36 58.2	
	comp=Z,19nm,1.4s								
MSTX	**Muleshoe**	**46.86**	**330**		P		**P**	**08 36 35.1**	**0.0**
MSTX					IAmb		IAmb	08 36 39.2	
	comp=Z,12nm,1.1s								
M57A	**Sunshine Farm,**	**47.19**	**360**		P		**P**	**08 36 39.1**	**+1.6**
M54A	**Oil Creek Stat**	**47.44**	**357**		P		**P**	**08 36 39.9**	**+0.4**
BNM	**Barren Site**	**49.01**	**327**		P		**P**	**08 36 49.7**	**-2.3**
ANMO	**Albuquerque**	**49.52**	**328**		P		**P**	**08 36 55.7**	**-0.1**
ANMO					IAmb		IAmb	08 36 57.2	
	comp=Z,8.4nm,1.1s								
TUC	**Tucson**	**50.10**	**322**		P		**P**	**08 36 59.7**	**-0.5**
T25A	**Trinidad**	**50.19**	**331**		P		**P**	**08 36 58.9**	**-2.0**
T25A					IAmb		IAmb	08 37 02.6	
	comp=Z,11nm,1.1s								
L34A	**Svendsen Farm,**	**51.08**	**341**		P		**P**	**08 37 05.9**	**-1.4**
L34A					IAmb		IAmb	08 37 10.9	
	comp=Z,9.0nm,0.7s								
214A	**Organ Pipe Nat**	**51.14**	**320**		P		**P**	**08 37 08.8**	**+0.9**
W18A	**Petrified Fore**	**51.45**	**325**		P		**P**	**08 37 10.9**	**+0.5**
W18A					IAmb		IAmb	08 37 12.1	
	comp=Z,12nm,1.1s								
X16A	**Lo Mia Camp, P**	**51.95**	**323**		P		**P**	**08 37 14.8**	**+0.6**
113A	**Mohawk Valley,**	**52.28**	**320**		P		**P**	**08 37 15.9**	**-0.4**
K31A	**O'Neill**	**52.46**	**340**		P		**P**	**08 37 18.1**	**+0.5**
WUAZ	**Wupatki**	**52.68**	**324**		P		**P**	**08 37 20.4**	**+0.9**
WUAZ					IAmb		IAmb	08 37 24.9	
	comp=Z,9.5nm,0.9s								
ECSD	**EROS Data Cent**	**52.76**	**342**		P		**P**	**08 37 18.9**	**-0.8**
ECSD					IAmb		IAmb	08 37 30.8	
	comp=Z,9.6nm,1.3s								
LMN	**Caledonia Moun**	**52.78**	**10**		P		**P**	**08 37 18.4**	**-1.5**
PV15	**Paradox Valley**	**53.15**	**329**		P		**P**	**08 37 23.5**	**+0.4**
PV15					IAmb		IAmb	08 37 24.6	
	comp=Z,8.2nm,0.9s								
W13A	**Hualapai Mount**	**53.89**	**322**		P		**P**	**08 37 28.8**	**+0.3**
KNB	**Kanab**	**54.56**	**325**		P		**P**	**08 37 33.5**	**+0.2**
KNB					IAmb		IAmb	08 37 38.3	
	comp=Z,6.2nm,1.0s								
LCMT	**Little Creek M**	**54.80**	**324**		P		**P**	**08 37 35.5**	**+0.5**
LCMT					IAmb		IAmb	08 37 36.6	
	comp=Z,8.8nm,1.2s								
RDMU	**Red Mountain**	**55.38**	**330**		P		**P**	**08 37 39.9**	**+0.7**
RDMU					IAmb		IAmb	08 37 40.6	
	comp=Z,4.7nm,0.8s								
SHPR	**Sheep Range

TORD	**Torodi Ar. Bea**	**80.15**	**76**	P	**P**	**08 40 15.8**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=284,slow=2.9,SNR=12						
TORD	**Torodi Ar. Bea**	**80.15**	**76**	P	**P**	**08 40 14.7**	**-0.8**
TORD				IAmb	IAmb	08 40 23.9	
	comp=Z,9.1nm,1.2s						
ESDC	**Sonseca Array**	**80.75**	**48**	P	**P**	**08 40 18.9**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=282,slow=6.4,SNR=2.3						
ESDC				LR	LR	09 12 15.7	
	comp=Z,39nm,19.9s,baz=254,slow=33						
ESDC	**Sonseca Array**	**80.75**	**48**	P	**P**	**08 40 18.4**	**0.0**
SUMG	**Summit**	**82.25**	**11**	*i* P	**P**	**08 40 26.0**	**0.0**
SUMG	**Summit**	**82.25**	**11**	P	**P**	**08 40 26.3**	**+0.4**
A36M	**Sachs Harbour**	**83.99**	**346**	P	**P**	**08 40 34.1**	**-0.3**
L27K	**Beaver Creek,**	**84.45**	**335**	P	**P**	**08 40 37.4**	**+0.4**
L27K				IAmb	IAmb	08 40 43.1	
	comp=Z,5.8nm,1.1s						
ILAR	**Eielson Array**	**87.17**	**336**	P	**P**	**08 40 50.5**	**+0.1**
	comp=Z,1.6nm,1.1s,baz=107,slow=2.8,SNR=6.1						
DAG	**Danmarks Havn**	**88.93**	**11**	*i* P	**P**	**08 40 57.7**	**-0.8**
DAG	**Danmarks Havn**	**88.93**	**11**	*i* P	**P**	**08 40 59.0**	**+0.5**
ZALV	**Zalesovo Beam**	**129.97**	**14**	PKP	**PKPdf**	**08 47 14.3**	**+0.1**
	comp=Z,5.5nm,1.1s,baz=338,slow=1.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**131.02**	**21**	PKP	**PKPdf**	**08 47 16.7**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=317,slow=2.4,SNR=5.2						
MKAR	**Makanchi Array**	**135.59**	**21**	PKP	**PKPdf**	**08 47 25.5**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=315,slow=2.5,SNR=3.4						
ASAR	**Alice Springs**	**137.97**	**224**	PKP	**PKPdf**	**08 47 29.6**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=115,slow=2.1,SNR=8.9						
ASAR	**Alice Springs**	**137.97**	**224**		**PKPdf**	**08 47 30.7**	**+0.5**
SONM	**Songino Array**	**138.32**	**357**	PKP	**PKPdf**	**08 47 30.9**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=100,slow=1.8,SNR=3.0						
WRA	**Warramunga Arr**	**139.98**	**229**	PKP	**PKPdf**	**08 47 33.9**	**0.0**
	comp=Z,1.7nm,0.9s,baz=120,slow=2.2,SNR=11						
WRA	**Warramunga Arr**	**139.98**	**229**		**PKPdf**	**08 47 32.2**	**-1.7**
KSRS	**Korea Array**	**141.55**	**328**	PKP	**PKPdf**	**08 47 36.1**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=143,slow=3.0,SNR=1.8						
GTA	**Gaotai**	**146.67**	**5**	||PKPbc	**PKPdf**	**08 47 46.0**	**+0.7**
GTA				pPKP	pPKPbc	08 47 59.0	+0.3
GTA				sPKP		08 48 04.8	
LZH	**Lanzhou**	**150.13**	**359**	*e*PKPbc	**PKPdf**	**08 47 52.8**	**+1.7**
XAN	**Xi'an**	**151.70**	**350**	PKPbc	**PKiKP**	**08 48 00.3**	**+0.2**
XAN				pPKP	sPKPbc	08 48 14.0	-1.7
PZH	**PanZhiHua**	**159.64**	**4**	PKP	**PKPdf**	**08 48 02.5**	**-1.8**

KRSC 25 08:35:54.1±0.4, 55°50N×161°89E, h68km±14km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.81**	**311**	*e*P	Pn	08 36 11.6	+1.4
ZLN				*e*S	Sn	08 36 23.7	+1.6
BZGR	**Bezymyannyi-Gr**	**0.81**	**304**	*e*P	Pn	08 36 11.3	+1.1
BZGR				*e*S	Sn	08 36 23.6	+1.5
KBTR	**Krutoberegovo**	**0.89**	**36**	*e*P	Pn	08 36 12.7	+1.7
KBTR				*e*S	Sn	08 36 25.8	+2.3
KBG	**Krutoberegovo**	**0.89**	**31**	*e*P	Pn	08 36 12.5	+1.5
KBG				*e*S	Sn	08 36 25.5	+1.9
CIRR	**Tsirk**	**0.90**	**314**	*e*P	Pn	08 36 12.5	+1.2
TUMD	**Tumrok D**	**0.90**	**252**	*e*P	Pn	08 36 12.2	+1.0
TUMD				*e*S	Sn	08 36 24.9	+1.0
BZWR	**Bezymyannyi-We**	**0.92**	**301**	*e*P	Pn	08 36 12.8	+1.2
BZWR				*e*S	Sn	08 36 26.3	+1.7
KMNR	**Kamenistaya**	**0.97**	**286**	*e*P	Pn	08 36 13.6	+1.4
KMNR				*e*S	Sn	08 36 27.7	+2.0
KIRR	**Kirishev**	**0.99**	**298**	*e*P	Pn	08 36 13.9	+1.5
KIRR				*e*S	Sn	08 36 27.7	+1.6
TUMR	**Tumrok**	**1.02**	**259**	*e*P	Pn	08 36 14.3	+1.5
TUMR				*e*S	Sn	08 36 28.4	+1.7
KRSR	**Krestovskiy**	**1.04**	**315**	*e*P	Pn	08 36 13.8	+0.7
KRSR				*e*S	Sn	08 36 27.0	-0.2
KPT	**Kopyto**	**1.05**	**297**	*e*P	Pn	08 36 14.4	+1.2
KPT				*e*S	Sn	08 36 28.8	+1.3
KLY	**Klyuchi**	**1.08**	**320**	*e*P	Pn	08 36 13.5	+0.1
KLY				*e*S	Sn	08 36 26.6	-1.2
SMKR	**Semkarok**	**1.11**	**348**	*e*P	Pn	08 36 15.5	+1.5
BDR	**Baidarnaya**	**1.14**	**341**	*e*P	Pn	08 36 15.8	+1.5
SRKR	**Sorokina**	**1.23**	**341**	*e*P	Pn	08 36 16.8	+1.3
KOZ	**Kozyrevsk**	**1.27**	**297**	*e*P	Pn	08 36 17.5	+1.6
KOZ				*e*S	Sn	08 36 34.0	+1.7
ESO	**Esso**	**1.86**	**285**	*e*P	Pn	08 36 25.8	+2.1
KII	**Karymskiy**	**2.04**	**225**	*e*P	Pn	08 36 28.2	+2.0
KII				*e*S	Sn	08 36 53.0	+2.4
BKI	**Bering**	**2.35**	**95**	*e*P	Pn	08 36 31.9	+1.6
BKI				*e*S	Sn	08 36 58.8	+0.7
SPN	**Mys Shipunski**	**2.64**	**205**	*e*P	Pn	08 36 36.0	+1.7
SPN				*e*S	Sn	08 37 06.1	+0.9
NLC	**Nalytchevo**	**2.77**	**214**	*e*P	Pn	08 36 39.1	+3.1
NLC				*e*S	Sn	08 37 10.7	+2.5
SDLR	**Sedlovina**	**2.83**	**220**	*e*P	Pn	08 36 39.4	+2.3
KRER	**Koryakskii**	**2.86**	**221**	*e*P	Pn	08 36 40.6	+3.1
SMAR	**Somma**	**2.88**	**220**	*e*P	Pn	08 36 40.4	+2.7
AVH	**Avacha**	**2.90**	**221**	*e*P	Pn	08 36 40.8	+2.9
KOK	**Koryaka**	**2.92**	**222**	*e*P	Pn	08 36 41.0	+2.9
GNL	**Ganaly**	**2.92**	**233**	*e*P	Pn	08 36 41.1	+2.9
DALK	**Dalny**	**3.08**	**218**	*e*P	Pn	08 36 42.6	+2.3
PET	**Petropavlovsk**	**3.12**	**219**	*e*P	Pn	08 36 44.4	+3.6
PET				*e*S	Sn	08 37 20.7	+3.8
RUS	**Russkaya**	**3.66**	**214**	*e*P	Pn	08 36 50.4	+2.2
MTVR	**Mutnovka**	**3.73**	**217**	*e*P	Pn	08 36 53.2	+3.9
MTVR				*e*S	Sn	08 37 36.1	+4.1
PALN	**Palana**	**3.75**	**345**	*e*P	Pn	08 36 54.1	+4.7
TILK	**Tilichiki**	**5.46**	**23**	*e*P	Pn	08 37 15.6	+2.9

*CNRM **25** 08:38:08.6, 35°62N×3°65W, h16km, ml3.1*
*SFS **25** 08:38:10.0, 35°55N×3°81W, ML3.1, ALBORAN SUR*
ISC 25 08:38:09.8±1.6, 35°62N±0°04×3°72W±0°04, h19km±11km, n13, σ1ˢ42/20, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.44**	**204**	P	**Pb**	**08 38 18.6**	**-0.4**
PALE				S	**Sb**	**08 38 24.4**	**-0.8**
CHAS	**Isla Isabel II**	**1.14**	**112**	P	**Pb**	**08 38 30.6**	**-0.2**
CHAS				S	**Sb**	**08 38 45.0**	**-0.2**
EMAL	**Malaga-Limoner**	**1.28**	**334**	P	**Pb**	**08 38 33.8**	**+0.6**
EMAL				S	**Sn**	**08 38 49.8**	**+0.6**
CHEFC	**Chefchaouen**	**1.42**	**249**	P	**Pg**	**08 38 36.3**	**-0.9**
CHEFC				S	**Sg**	**08 38 57.1**	**+1.3**
JBK	**JBK**	**1.59**	**143**	P	**Pn**	**08 38 36.8**	**-0.3**
JBK				S	**Sn**	**08 38 55.9**	**-1.3**
LCRM	**LCR**	**2.14**	**206**	P	**Pb**	**08 38 47.7**	**-0.4**
LCRM				S	**Sb**	**08 39 14.4**	**+0.2**
MD31	**MD31**	**2.88**	**198**	P	**Pn**	**08 38 55.1**	**+0.5**
MD31				S	**Sn**	**08 39 29.8**	**+1.1**
MDT	**Midelt**	**2.89**	**195**	P	Pn	08 38 44.0	-11
TDRA	**Tendrara**	**2.93**	**151**	P	**Pn**	**08 38 56.5**	**+1.0**
PVAQ	**Vaqueiros**	**3.68**	**300**	P	**Pn**	**08 39 01.7**	**-3.9**
PVAQ				S	**Sn**	**08 39 48.0**	**-0.4**
FIGM	**Figuig**	**4.03**	**149**	P	**Pn**	**08 39 10.8**	**+0.2**
PESTR	**Estremoz**	**4.48**	**318**	P	**Pn**	**08 39 18.9**	**+2.3**
OUK	**Oukaimeden**	**5.60**	**219**	P	**Pn**	**08 39 34.1**	**+1.8**

*CNRM **25** 08:39:47.3, 35°50N×3°66W, h19km, ml3.3*
*SFS **25** 08:39:48.0, 35°44N×3°81W, h24km, ML2.7, ALBORAN SUR*
ISC 25 08:39:45.4±2.1, 35°58N±0°05×3°66W±0°04, h11km±14km, n12, σ1ˢ29/18, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.43**	**213**	P	**Pb**	**08 39 54.6**	**-0.4**
PALE				S	**Sg**	**08 39 59.2**	**-0.3**
CHAS	**Isla Isabel II**	**1.08**	**111**	P	**Pn**	**08 40 07.7**	**+1.3**
CHAS				S	**Sn**	**08 40 22.0**	**+0.7**
CHEFC	**Chefchaouen**	**1.45**	**252**	P	**Pn**	**08 40 11.9**	**+0.2**
JBK	**JBK**	**1.53**	**144**	P	**Pb**	**08 40 13.8**	**-0.1**
JBK				S	**Sn**	**08 40 30.8**	**-2.0**
SICH	**Sidi Chahed**	**2.01**	**223**	S	**Sb**	**08 40 46.5**	**-0.4**
LCRM	**LCR**	**2.13**	**208**	P	**Pb**	**08 40 24.0**	**-0.1**
LCRM				S	**Sn**	**08 40 48.6**	**+1.0**
MD31	**MD31**	**2.85**	**199**	P	**Pn**	**08 40 32.5**	**+1.5**
MD31				S	**Sn**	**08 41 04.5**	**-0.9**
MDT	**Midelt**	**2.87**	**196**	P	**Pn**	**08 40 33.3**	**+2.1**
MDT				S	**Sn**	**08 41 05.0**	**-0.7**
CART	**Cartagena**	**2.93**	**46**	P	**Pn**	**08 40 31.3**	**-0.6**
PVAQ	**Vaqueiros**	**3.75**	**300**	P	**Pn**	**08 40 45.4**	**+2.3**
PVAQ				S	**Sn**	**08 41 26.3**	**-0.9**
PESTR	**Estremoz**	**4.54**	**317**	P	Pb	08 40 59.9	-5.2
OUK	**Oukaimeden**	**5.60**	**220**	P	**Pn**	**08 41 08.1**	**-0.9**

*CNRM **25** 08:42:49.5, 35°55N×3°71W, h15km, ml3.2*
*SFS **25** 08:42:50.0, 35°50N×3°86W, ML2.7, ALBORAN W.*
*IGIL **25** 08:42:52.6, 35°51N×3°87W, h0km*
ISC 25 08:42:49.3±1.1, 35°52N±0°03×3°68W±0°03, h14km±9km, n16, σ1ˢ23/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**215**	P	**Pg**	**08 42 57.0**	**+0.1**
PALE				S	**Sg**	**08 43 01.3**	**-0.7**
CHAS	**Isla Isabel II**	**1.07**	**108**	P	**Pg**	**08 43 11.9**	**+1.8**
CHAS				S	**Sn**	**08 43 25.1**	**+0.5**
EMAL	**Malaga-Limoner**	**1.38**	**334**	P	**Pg**	**08 43 15.9**	**+0.1**
EMAL				S	**Sb**	**08 43 32.9**	**+0.6**
CHEFC	**Chefchaouen**	**1.42**	**253**	P	**Pb**	**08 43 15.7**	**+0.1**
JBK	**JBK**	**1.50**	**142**	P	**Pg**	**08 43 18.5**	**+0.4**
JBK				S	**Sg**	**08 43 37.6**	**0.0**
SICH	**Sidi Chahed**	**1.96**	**224**	P	**Pg**	**08 43 25.8**	**-1.0**
SICH				S	**Sb**	**08 43 48.7**	**-0.2**
LCRM	**LCR**	**2.08**	**208**	P	**Pb**	**08 43 27.1**	**+0.3**
LCRM				S	**Sb**	**08 43 52.1**	**-0.4**
IFR	**Ifrane**	**2.33**	**211**	P	**Pb**	**08 43 30.6**	**-0.6**
IFR				S	**Sn**	**08 43 54.9**	**-1.0**
MD31	**MD31**	**2.80**	**199**	P	**Pn**	**08 43 34.8**	**+1.1**
MD31				S	**Sn**	**08 44 07.3**	**+0.1**
MDT	**Midelt**	**2.81**	**196**	P	**Pn**	**08 43 36.2**	**+2.3**
MDT				S	**Sn**	**08 44 08.5**	**+0.9**
TDRA	**Tendrara**	**2.83**	**151**	P	**Pb**	**08 43 37.4**	**-2.4**
CART	**Cartagena**	**2.98**	**46**	P	**Pn**	**08 43 35.2**	**-0.9**
CART				S	**Sn**	**08 44 10.2**	**-1.4**
PVAQ	**Vaqueiros**	**3.76**	**301**	P	**Pn**	**08 43 49.2**	**+2.4**
PVAQ				S	**Sn**	**08 44 29.3**	**-1.5**
MESJ	**Messejana**	**4.32**	**304**	*e*P	**Pn**	**08 43 56.0**	**+1.5**
TZRR	**Tazzarine**	**4.98**	**199**	P	Pn	08 43 56.9	-6.9
OUK	**Oukaimeden**	**5.55**	**220**	P	**Pn**	**08 44 11.7**	**0.0**

*IDC **25** 08:44:41.7±1.4, 35°55N×3°84W, h0km, mb3.1/3, mb1 3.3/5, mb1mx2.9/55, mbtmp3.1/5, ML2.9/2, Error ellipse: s-maj=51.8km s-min=20.9km az=94.0*
*SFS **25** 08:44:42.0, 35°42N×3°81W, h31km, ML2.9, ALBORAN SUR*
*CNRM **25** 08:44:43.3, 35°46N×3°76W, h18km, ml3.6*
*IGIL **25** 08:44:43.4, 35°42N×3°81W, h3km, ML2.5*
ISC 25 08:44:42.3±1.4, 35°49N±0°03×3°73W±0°04, h13km±9km, n21, σ1ˢ57/32, mb3.4/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**212**	P	**Pg**	**08 44 49.1**	**+0.3**
PALE				S	**Sg**	**08 44 53.4**	**+0.2**
CHAS	**Isla Isabel II**	**1.10**	**106**	P	**Pn**	**08 45 02.5**	**-1.0**
CHAS				S	**Sb**	**08 45 15.6**	**-2.0**
CHEFC	**Chefchaouen**	**1.37**	**254**	P	**Pb**	**08 45 07.3**	**-0.5**
EMAL	**Malaga-Limoner**	**1.39**	**336**	P	**Pn**	**08 45 07.6**	**+0.2**
EMAL				S	**Sn**	**08 45 23.5**	**-2.1**
JBK	**JBK**	**1.50**	**140**	P	**Pn**	**08 45 08.3**	**-0.7**
JBK				S	**Sn**	**08 45 27.2**	**-1.4**
SICH	**Sidi Chahed**	**1.90**	**224**	S	**Sg**	**08 45 40.9**	**-2.5**
LCRM	**LCR**	**2.03**	**208**	P	**Pb**	**08 45 19.2**	**+0.2**
LCRM				S	**Sb**	**08 45 43.4**	**-0.9**
IFR	**Ifrane**	**2.28**	**211**	P	**Pn**	**08 45 19.8**	**-0.1**
IFR				S	**Sn**	**08 45 45.9**	**-2.1**
MD31	**MD31**	**2.75**	**198**	P	**Pn**	**08 45 27.0**	**+0.7**
MD31				S	**Sn**	**08 45 58.2**	**-1.2**
MDT	**Midelt**	**2.77**	**196**	Pn	**Pn**	**08 45 27.9**	**+1.4**
	2.1nm,0.3s,baz=142,slow=19,SNR=4.4						
MDT				Sn	**Sb**	**08 46 04.6**	**-0.9**
	4.0nm,0.3s,baz=90,slow=23,SNR=3.2						
MDT	**Midelt**	**2.77**	**196**	P	**Pn**	**08 45 27.3**	**+0.8**
MDT				S	**Sn**	**08 46 01.0**	**+1.2**
TDRA	**Tendrara**	**2.82**	**150**	P	**Pn**	**08 45 28.3**	**+1.0**
PVAQ	**Vaqueiros**	**3.74**	**302**	P	**Pn**	**08 45 40.1**	**+0.4**
PVAQ				S	**Sn**	**08 46 20.5**	**-3.1**
ESDC	**Sonseca Array**	**4.18**	**358**	Pn	**Pn**	**08 45 47.6**	**+1.8**
	0.3nm,0.3s,baz=180,slow=12,SNR=4.9						
MESJ	**Messejana**	**4.30**	**304**	*e*P	**Pn**	**08 45 47.6**	**+0.2**
MESJ				*e*S	**Sn**	**08 46 34.5**	**-3.0**
MESJ				IAML		08 46 36.9	
	comp=N,10nm,0.5s						
PFVI	**Vila Bisbo**	**4.43**	**293**	P	**Pn**	**08 45 50.7**	**+1.5**
PESTR	**Estremoz**	**4.57**	**319**	P	**Pn**	**08 45 53.5**	**+2.4**
OUK	**Oukaimeden**	**5.50**	**220**	P	**Pn**	**08 46 04.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**22.78**	**166**	P	**P**	**08 49 46.9**	**+2.3**
	comp=N,0.4nm,0.9s,baz=349,slow=13,SNR=1.4						
KURBB	**Kurchatov Arra**	**58.96**	**47**	P	**P**	**08 54 42.5**	**+1.3**
	comp=N,0.2nm,0.5s,baz=293,slow=7.6,SNR=2.3						
YKA	**Yellowknife Ar**	**67.86**	**332**	P	**P**	**08 55 40.5**	**+0.6**
	comp=N,0.2nm,0.7s,baz=64,slow=6.0,SNR=4.1						

*IDC **25** 08:45:27.9±0.5, 36°10N×137°05E, h263km±4km, mb3.3/15, mb1 3.4/19, mb1mx3.1/58, mbtmp3.9/19, Error ellipse: s-maj=13.8km s-min=11.3km az=65.0*
*JMA **25** 08:45:28.0±0.1, 36°14N×137°13E, h267km±1km, M3.2*
ISC 25 08:45:28.0±0.7, 36°17N±0°08×137°08E±0°07, h264km±6km, n38, σ0ˢ65/45, mb3.6/15, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.20**	**73**	P	**Pn**	**08 46 02.3**	**+0.3**
JGN				*e*S	**S**	**08 46 28.7**	**0.0**
JKG	**Kaga**	**0.62**	**281**	P	**Pn**	**08 46 03.5**	**+0.7**
JYTA	**Yamagatataniai**	**0.64**	**206**	P	**Pn**	**08 46 03.2**	**+0.2**
JYTA				*e*S	**S**	**08 46 30.1**	**-0.4**
MAT	**Matsushiro**	**0.98**	**67**	P	**Pn**	**08 46 04.8**	**+0.4**
MAT				S	**S**	**08 46 33.0**	**-0.2**
MAT	**Matsushiro**	**0.98**	**67**	P	**Pn**	**08 46 04.8**	**+0.4**
MAT				S	**S**	**08 46 33.6**	**+0.4**
MJAR	**Matsushiro Arr**	**0.98**	**67**	P	**Pn**	**08 46 05.2**	**+0.7**
	1.7nm,0.3s,baz=234,slow=7.4,SNR=44						
MJAR				S	**S**	**08 46 33.8**	**+0.6**
	0.5nm,0.3s,baz=278,slow=14,SNR=18						
JSZ	**Suzu**	**1.30**	**10**	P	**Pn**	**08 46 06.7**	**+0.5**
JYN	**Shimob**	**1.36**	**119**	P	**Pn**	**08 46 06.5**	**-0.3**
JRY	**Ryogami san**	**1.48**	**95**	P	**Pn**	**08 46 07.6**	**0.0**
JRY				*e*S	**S**	**08 46 38.6**	**-0.2**
JWT	**Wachi**	**1.62**	**238**	P	**Pn**	**08 46 08.9**	**+0.3**
JFNN	**Fujinakano**	**1.63**	**126**	P	**Pn**	**08 46 09.0**	**+0.4**
JIE	**Ise**	**1.79**	**190**	P	**Pn**	**08 46 10.5**	**+0.5**
JIE				*e*S	**S**	**08 46 42.8**	**-0.4**
JOD2	**Odawara 2**	**1.86**	**118**	P	**Pn**	**08 46 10.7**	**+0.1**
JAG	**Ashikaga**	**1.93**	**82**	P	**Pn**	**08 46 11.1**	**0.0**
JSD	**Sado**	**2.09**	**26**	P	**Pn**	**08 46 12.9**	**+0.5**
JWY	**Kouya**	**2.29**	**213**	P	**Pn**	**08 46 14.8**	**+0.3**
JNS	**Sasagawa**	**2.44**	**47**	P	**Pn**	**08 46 15.9**	**+0.3**
TTO1	**TONANKAI O.B.S**	**2.55**	**186**	P	**Pn**	**08 46 17.5**	**+1.0**
JNU	**Nakatsue**	**5.95**	**241**	P	**Pn**	**08 46 56.0**	**+0.2**
	0.6nm,0.3s,baz=35,slow=4.8,SNR=6.6						
KSRS	**Korea Array**	**7.46**	**283**	P	**Pn**	**08 47 15.7**	**+1.1**
	0.4nm,0.3s,baz=102,slow=13,SNR=8.5						
USRK	**Ussuriysk Ar.**	**8.92**	**336**	P	**Pn**	**08 47 33.6**	**+0.8**
	baz=141,slow=11,SNR=6.5						
ASAJ	**Asahikawa**	**8.99**	**26**	P	**Pn**	**08 47 31.6**	**-2.0**
	7.9nm,0.3s,baz=227,slow=9.4,SNR=48						
KLR	**Kul'dur**	**13.63**	**345**	P	**Pn**	**08 48 29.7**	**-1.3**
	0.5nm,0.3s,baz=157,slow=8.7,SNR=11						
SONM	**Songino Array**	**25.44**	**307**	P	**P**	**08 50 31.2**	**-0.8**
	0.8nm,0.5s,baz=115,slow=8.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**39.95**	**313**	P	**P**	**08 52 36.6**	**-0.1**
	0.7nm,0.4s,baz=92,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**41.63**	**302**	P	**P**	**08 52 50.8**	**+0.1**
	2.2nm,0.7s,baz=89,slow=9.9,SNR=16						
KURBB	**Kurchatov Arra**	**43.79**	**308**	P	**P**	**08 53 07.7**	**-0.2**
	5.0nm,0.8s,baz=86,slow=8.1,SNR=37						
BVAR	**Borovoye Array**	**48.58**	**312**	P	**P**	**08 53 45.1**	**+0.2**
	0.4nm,0.4s,baz=62,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**52.08**	**32**	P	**P**	**08 54 11.5**	**+0.6**
	0.3nm,0.5s,baz=262,slow=4.9,SNR=2.6						
ARU	**Arti**	**54.69**	**318**	P	**P**	**08 54 29.7**	**-0.1**
	0.7nm,0.3s,baz=190,slow=6.1,SNR=1.5						
WRA	**Warramunga Arr**	**55.86**	**183**	P	**P**	**08 54 37.6**	**-1.0**
	1.6nm,0.3s,baz=360,slow=7.6,SNR=51						
INK	**Inuvik**	**56.73**	**26**	P	**P**	**08 54 44.9**	**+0.9**
	1.0nm,0.4s,baz=292,slow=8.5,SNR=4.1						
ASAR	**Alice Springs**	**59.58**	**183**	P	**P**	**08 55 03.7**	**-0.6**
	0.9nm,0.3s,baz=357,slow=5.5,SNR=38						
ARCES	**ARCESS Array B**	**63.55**	**339**	P	**P**	**08 55 29.7**	**-0.5**
	1.8nm,0.8s,baz=55,slow=7.9,SNR=1.8						
YKA	**Yellowknife Ar**	**66.28**	**29**	P	**P**	**08 55 48.0**	**+0.2**
	0.1nm,0.5s,baz=303,slow=6.5,SNR=2.5						

FINES	**FINESS Array B**	**67.92**	**331**	P	**P**	**08 55 58.1**	**0.0**
	0.7nm,0.6s,baz=88,slow=6.3,SNR=4.6						
PDAR	**Pinedale Array**	**80.72**	**43**	P	**P**	**08 57 12.9**	**+0.6**
	0.5nm,0.8s,baz=321,slow=1.9,SNR=3.7						
TXAR	**Lajitas Array**	**93.38**	**50**	P	**P**	**08 58 14.5**	**+0.8**
	0.3nm,0.5s,baz=279,slow=2.8,SNR=6.4						

IDC 25 08:46:13.2±586.0, 52°32N×9°80E, h0km, Error ellipse: s-maj=256.7km s-min=92.0km az=137.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**4.27**	**143**	*i*		09 13 00.0	
	baz=326,slow=317,SNR=0.9						
I43RU	**DUBNA INFRASONI**	**6.46**	**64**	*i*		10 26 10.0	
	baz=266,slow=331,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**29.74**	**74**	*i*		11 49 10.0	
	baz=292,slow=333,SNR=0.8						

*NEIC **25** 08:47:06.8±0.8, 59°80N±0°02×152°87W±0°08, h105km±6km, Error ellipse: s-maj=5.9km s-min=2.5km az=73.0*
AEIC 25 08:47:08±1.1, 59°82N±0°06×152°86W±0°07, h99km±5km, ML2.7/25, ML2.8/30(NEIC), Error ellipse: s-maj=8.8km s-min=4.7km az=199.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.25**	**229**		Pn	08 47 22.2	-0.1
O20K	**Slope Mountain**	**0.29**	**24**		Pn	08 47 22.3	-0.2
O20K					Sn	08 47 33.4	+0.2
RED	**Redoubt Volcan**	**0.61**	**4**		Pn	08 47 23.9	-0.6
RED					Sn	08 47 35.9	-1.1
HOM	**Homer**	**0.64**	**104**	Pn	Pn	08 47 22.7	-2.0
HOM				IAML		08 47 26.7	
	comp=N,304nm,2.1s						
HOM				IAML		08 47 34.6	
	comp=E,242nm,2.7s						
RSO	**Redoubt South**	**0.65**	**5**	Pn	Pn	08 47 24.8	-0.2
DFR	**Drift River**	**0.78**	**6**		Pn	08 47 25.6	-0.6
DFR					Sn	08 47 38.5	-1.2
RDT	**Redoubt**	**0.79**	**16**		Pn	08 47 25.7	-0.6
O19K	**Port Alsworth**	**0.83**	**298**		Pn	08 47 26.3	-0.2
O19K	**Port Alsworth**	**0.83**	**298**		Sn	08 47 39.1	-1.2
O19K	**Port Alsworth**	**0.83**	**298**	IAML		08 47 27.1	
	comp=E,32nm,0.4s						
O19K	**Port Alsworth**	**0.83**	**298**	IAML		08 47 39.2	
	comp=N,26nm,1.7s						
CNPM	**China Poot**	**0.87**	**109**		Pn	08 47 26.6	-0.4
CNPM	**China Poot**	**0.87**	**109**		Sn	08 47 40.7	-0.6
CNPM	**China Poot**	**0.87**	**109**	IAML		08 47 38.3	
	comp=E,42nm,2.9s						
BRLK	**Bradley Lake**	**1.00**	**92**	Pn	Pn	08 47 27.7	-0.6
BRLK				IAML		08 47 59.8	
	comp=E,84nm,0.1s						
BRSE	**Bradley Lake S**	**1.07**	**93**		Pn	08 47 28.4	-0.7
BRSE					Sn	08 47 43.8	-1.2
O18K	**Koktuh Hills**	**1.19**	**273**		Pn	08 47 29.8	-0.6
CAPN	**Captain Cook N**	**1.28**	**41**		Pn	08 47 32.2	+0.8
CAPN	**Captain Cook N**	**1.28**	**41**	IAML		08 47 42.3	
	comp=N,386nm,2.8s						
CAPN				IAML		08 47 55.2	
	comp=E,407nm,3.2s						
N19K	**Bonanza Creek**	**1.29**	**322**		Pn	08 47 30.9	-0.7
SPU	**Mount Spurr**	**1.43

MDT S **Sn** **08 59 35.7 0.0**
CART Cartagena 3.00 45 S **Sn** **08 59 39.9 -1.2**
PVAQ Vaqueiros 3.77 302 P **Pn** **08 59 16.2 +0.5**
OUK Oukaimeden 5.53 220 P **Pn** **08 59 38.9 -1.2**

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*IDC **25** 09:00:28.1±3.9, 14°.36N×93°.15W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.5/49, mbtmp3.4/6, ML3.0/3, Error ellipse: s-maj=77.5km s-min=24.1km az=16.0*
*MEX **25** 09:00:30.4±1.9, 14°.27N×93°.38W, h13km±356km, MD4.0*
ISC 25 09:00:29.1±3.9, **14°.34N**±0°.09×**93°.17W**±0°.05, **h5**km±24km, **n15**, σ1§**66**/25, **mb3.3**/3, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	**El Naranjo**	**1.19**	**49**	*eP*	**Pn**	**09 00 51.7**	**-0.9**
CHUJ	**Union Juarez**	**1.27**	**54**	*eP*	**Pn**	**09 00 52.9**	**-0.8**
CHUJ				*eS*	**Sn**	**09 01 11.5**	**+0.1**
PAVE	**Pavencul**	**1.28**	**48**	*eP*	**Pn**	**09 00 53.2**	**-0.7**
PAVE				*i* S	**Sb**	**09 01 11.6**	**+0.8**
PCIG		**1.36**	**358**	*eP*	**Pn**	**09 00 53.4**	**-1.3**
PCIG				*i* S	**Sn**	**09 01 09.2**	**-3.9**
CCIG	**Comitan**	**2.17**	**27**	*eP*	**Pb**	**09 01 08.8**	**-0.2**
CCIG				*i* S	**Sb**	**09 01 38.6**	**+2.2**
TGIG		**2.42**	**1**	*eP*	**Pn**	**09 01 10.9**	**+1.5**
TGIG				*eS*	**Sb**	**09 01 42.8**	**-0.7**
APG	**El Apazote**	**2.70**	**76**	Pn	**Pn**	**09 01 12.7**	**-0.7**
	3.0nm,0.3s,baz=260,slow=6.1,SNR=30						
APG				Sn	**Sn**	**09 01 49.1**	**+2.5**
	4.1nm,0.3s,baz=217,slow=20,SNR=4.6						
UXUV	**UXUV**	**3.11**	**343**	*eP*	**Pn**	**09 01 20.3**	**+1.5**
UXUV				*eS*	**Sn**	**09 01 58.8**	**+2.5**
CMIG	**Matias Romero**	**3.19**	**329**	Pn	**Pn**	**09 01 19.8**	**-0.2**
	1.5nm,0.3s,baz=149,slow=13,SNR=12						
CMIG				Sn	**Sn**	**09 01 58.6**	**+0.1**
	3.1nm,0.3s,baz=180,slow=20,SNR=9.7						
NEUV	**Arroyo Zacate**	**4.20**	**323**	*eP*	**Pn**	**09 01 35.4**	**+1.6**
NEUV				*eS*	**Sn**	**09 02 25.3**	**+2.0**
JAUV	**Jalcomulco**	**6.09**	**326**	*eP*	**Pn**	**09 01 58.3**	**-1.5**
JAUV				*eS*	**Sn**	**09 03 08.2**	**-1.8**
TXAR	**Lajitas Array**	**17.80**	**329**	P	**Pn**	**09 04 38.2**	**+0.4**
	0.0nm,0.3s,baz=144,slow=12,SNR=3.2						
NVAR	**Mina Array Bea**	**32.70**	**322**	P	**P**	**09 07 03.8**	**+1.0**
	0.1nm,0.4s,baz=126,slow=9.1,SNR=1.8						
YKA	**Yellowknife Ar**	**50.44**	**347**	P	**P**	**09 09 26.4**	**-1.0**
	1.2nm,0.7s,baz=151,slow=7.4,SNR=25						
ILAR	**Eielson Array**	**62.08**	**337**	P	**P**	**09 10 49.8**	**-0.8**
	0.1nm,0.5s,baz=119,slow=7.3,SNR=2.4						

IDC 25 09:00:58.4±2.6, **54°.32N**×**86°.09E**, **h0**km, **mb1 3.0**/2, **mb1mx2.9**/56, **mbtmp3.0**/2, **ML2.8**/2, **Error ellipse: s-maj=20.7km s-min=11.8km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.84**	**244**	*i*		09 05 42.4	
	baz=66,slow=332,SNR=6.2						
ZALV	**Zalesovo Beam**	**0.84**	**244**	Pg	Pg	09 01 13.9	-0.6
	1.4nm,0.3s,baz=61,slow=17,SNR=7.1						
ZALV				Lg	Lg	09 01 26.1	
	1.7nm,0.3s,baz=59,slow=28,SNR=4.7						
KURBB	**Kurchatov Arra**	**5.92**	**234**	Pn	Pn	09 02 28.5	+1.2
	0.1nm,0.3s,baz=51,slow=13,SNR=8.1						
MKAR	**Makanchi Array**	**7.91**	**199**	Pn	Pn	09 02 55.0	+0.3
	0.4nm,0.3s,baz=21,slow=13,SNR=15						
MKAR				Sn	Sn	09 04 24.9	0.0
	0.1nm,0.3s,baz=11,slow=20,SNR=1.6						

IDC 25 09:03:05.6±3.0, **54°.07N**×**86°.58E**, **h0**km, **mb1 2.7**/2, **mb1mx2.7**/55, **mbtmp2.7**/2, **ML2.2**/2, **Error ellipse: s-maj=23.5km s-min=15.2km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**264**	*i*		09 08 45.3	
	baz=84,slow=330,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.05**	**264**	Pg	Pg	09 03 24.4	-1.3
	0.2nm,0.3s,baz=84,slow=16,SNR=2.9						
ZALV				Lg	Lg	09 03 40.4	
	1.2nm,0.3s,baz=84,slow=31,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.02**	**238**	Pn	Pn	09 04 36.3	+0.5
	0.1nm,0.3s,baz=55,slow=14,SNR=5.4						
KURBB				Lg	Lg	09 06 19.7	
	0.0nm,0.3s,baz=358,slow=23,SNR=1.8						
MKAR	**Makanchi Array**	**7.78**	**202**	Pn	Pn	09 05 01.3	+1.3
	0.1nm,0.3s,baz=18,slow=14,SNR=2.2						

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*IDC **25** 09:06:12.6±1.0, 35°.62N×3°.73W, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.4/64, mbtmp3.5/9, ML3.8/4, MS3.2/1, Ms1 3.3/1, ms1mx2.6/88, Error ellipse: s-maj=34.4km s-min=12.1km az=98.0*
*CNRM **25** 09:06:12.6, 35°.64N×3°.62W, h11km, ml3.8*
*CRAAG **25** 09:06:13.9, 35°.57N×3°.82W, Mb3.6*
*SFS **25** 09:06:13.0, 35°.55N×3°.84W, ML3.6, ALBORAN SUR*
*INMG **25** 09:06:14.3±2.0, 35°.65N×3°.76W, h3km±6km, ML3.2, Error ellipse: s-maj=4.5km s-min=3.7km az=29.0*
*IGIL **25** 09:06:14.7, 35°.55N×3°.84W, h0km, ML2.9*
*LDG **25** 09:06:15.5±0.3, 35°.48N×3°.77W, h10km, Ml3.5/4, Error ellipse: s-maj=6.2km s-min=3.1km az=1.0*
ISC 25 09:06:12.7±1.1, **35°.64N**±0°.02×**3°.70W**±0°.02, **h5**km±7km, **n79**, σ1§**93**/119, **mb3.9**/5, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.46**	**205**	P	**Pg**	**09 06 21.8**	**+0.3**
PALE				S	**Sg**	**09 06 27.6**	**+0.1**
CHAS	**Isla Isabel II**	**1.13**	**113**	P	**Pg**	**09 06 33.8**	**-0.6**
CHAS				S	**Sg**	**09 06 48.7**	**-0.4**
EMAL	**Malaga-Limoner**	**1.27**	**333**	P	**Pg**	**09 06 36.4**	**-0.6**
EMAL				S	**Sg**	**09 06 51.9**	**-1.5**
TAF	**Taforalt**	**1.34**	**127**	P	**Pn**	**09 06 37.4**	**-0.7**
TAF				S	**Sg**	**09 06 54.3**	**-1.3**
CEU	**Ceuta**	**1.38**	**281**	P	**Pn**	**09 06 35.9**	**-2.8**
CEU				S	**Sg**	**09 06 51.6**	**-5.6**
CHEFC	**Chefchaouen**	**1.44**	**249**	P	**Pn**	**09 06 39.2**	**-0.3**
CHEFC				S	**Sn**	**09 06 58.5**	**-0.3**
JBK	**JBK**	**1.60**	**144**	P	**Pn**	**09 06 40.8**	**-1.0**
JBK				S	**Sn**	**09 06 59.2**	**-3.7**
OLHC	**Oulhaca**	**1.90**	**101**	P	**Pn**	**09 06 43.9**	**-2.0**
SICH	**Sidi Chahed**	**2.02**	**221**	P	**Pb**	**09 06 49.2**	**-0.8**
SICH				S	**Sg**	**09 07 17.8**	**+0.1**
LCRM	**LCR**	**2.17**	**206**	P	**Pn**	**09 06 50.0**	**+0.4**
LCRM				S	**Sn**	**09 07 17.1**	**+0.2**
OTSS	**Djebel Tessala**	**2.40**	**98**	P	**Pn**	**09 06 52.7**	**-0.1**
IFR	**Ifrane**	**2.42**	**209**	P	**Pn**	**09 06 52.9**	**-0.2**
IFR				S	**Sn**	**09 07 20.7**	**-2.4**
USTO	**Oran**	**2.57**	**87**	P	Pg	09 07 08.0	+6.1
MD31	**MD31**	**2.90**	**198**	P	**Pn**	**09 07 00.0**	**+0.5**
MDT	**Midelt**	**2.91**	**195**	Pn	**Pn**	**09 07 00.1**	**+0.3**
	1.6nm,0.3s,baz=7.1,slow=8.1,SNR=14						
MDT				Sn	**Sn**	**09 07 34.7**	**-0.5**
	6.4nm,0.3s,baz=8.3,slow=9.3,SNR=5.1						
MDT				Lg	Lg	09 07 44.7	
	8.2nm,0.3s,baz=107,slow=19,SNR=5.7						
MDT	**Midelt**	**2.91**	**195**	P	**Pn**	**09 06 59.8**	**0.0**
ODJA	**Bouhanifia**	**2.92**	**95**	P	Pg	09 07 14.0	+5.5
CART	**Cartagena**	**2.92**	**47**	P	**Pn**	**09 07 00.2**	**+0.4**
CART				S	**Sn**	**09 07 31.9**	**-3.3**
CART	**Cartagena**	**2.92**	**47**	P	**Pn**	**09 06 59.2**	**-0.5**
CART				S	**Sn**	**09 07 31.3**	**-3.9**
TDRA	**Tendrara**	**2.94**	**151**	P	**Pn**	**09 07 00.4**	**+0.2**
PVAQ	**Vaqueiros**	**3.68**	**300**	*e*Pn	**Pn**	**09 07 10.6**	**+0.3**
PVAQ				*e*Sn	**Sn**	**09 07 51.9**	**-2.2**
PVAQ				A	A	09 07 59.0	
	49nm,0.5s						
PVAQ	**Vaqueiros**	**3.68**	**300**	P	**Pn**	**09 07 10.2**	**-0.1**
PBDV	**Barranco-do-Ve**	**3.77**	**296**	*e*Pn	**Pn**	**09 07 11.3**	**-0.2**
PBDV				*e*Sn	**Sn**	**09 07 53.9**	**-2.4**
PBDV				A	A	09 08 01.1	
	30nm,0.5s						
PCVE	**Castro Verde**	**4.02**	**301**	*e*Pn	**Pn**	**09 07 14.9**	**0.0**
PCVE				*e*Sn	**Sn**	**09 08 00.5**	**-1.8**
PCVE				A	A	09 08 13.2	
	26nm,0.6s						
ESDC	**Sonseca Array**	**4.04**	**357**	Pn	**Pn**	**09 07 17.0**	**+1.8**
	2.7nm,0.3s,baz=181,slow=12,SNR=75						
ESDC				Sn	**Sn**	**09 08 04.5**	**+1.6**
	2.4nm,0.3s,baz=175,slow=19,SNR=5.5						
ESDC				Lg	Lg	09 08 19.8	
	4.9nm,0.3s,baz=177,slow=28,SNR=3.0						
FIGM	**Figuig**	**4.04**	**149**	P	**Pn**	**09 07 15.2**	**-0.2**
PBEJ	**Beja**	**4.11**	**307**	*e*Pn	**Pn**	**09 07 16.6**	**+0.5**
PBEJ				*e*Sn	**Sn**	**09 08 02.7**	**-1.8**
PBEJ				A	A	09 08 06.6	
	25nm,0.7s						
MESJ	**Messejana**	**4.24**	**303**	*e*P	**Pn**	**09 07 18.0**	**0.0**
MESJ				*e*S	**Sn**	**09 08 04.3**	**-3.6**
MESJ				IAML		09 08 05.7	
	comp=N,13nm,0.5s						
MESJ	**Messejana**	**4.24**	**303**	*e*Pn	**Pn**	**09 07 18.3**	**+0.3**
MESJ				*e*Sn	**Sn**	**09 08 06.1**	**-1.8**
MESJ				A	A	09 08 18.3	
	comp=N,39nm,0.5s						
MORF	**Marmelete**	**4.32**	**294**	*e*P	**Pn**	**09 07 18.8**	**-0.3**
MORF				*e*S	**Sn**	**09 08 05.8**	**-4.1**
MORF				IAML		09 08 15.8	
	comp=N,47nm,0.4s						
MORF	**Marmelete**	**4.32**	**294**	*e*Pn	**Pn**	**09 07 20.1**	**+1.0**
MORF				*e*Sn	**Sn**	**09 08 06.6**	**-3.4**
MORF				A	A	09 08 16.3	
	comp=N,13nm,0.5s						
PFVI	**Vila Bisbo**	**4.40**	**291**	*e*Pn	**Pn**	**09 07 20.9**	**+0.8**
PFVI				*e*Sn	**Sn**	**09 08 08.6**	**-3.1**
PFVI				A	A	09 08 32.2	
	comp=N,32nm,0.6s						
PFVI	**Vila Bisbo**	**4.40**	**291**	P	**Pn**	**09 07 19.8**	**-0.3**
PTEO	**Sao Teotonio**	**4.47**	**297**	*e*Pn	**Pn**	**09 07 21.6**	**+0.5**
PTEO				*e*Sn	**Sn**	**09 08 10.9**	**-2.5**
PTEO				A	A	09 08 21.3	
	comp=N,22nm,0.4s						
PESTR	**Estremoz**	**4.47**	**317**	*e*Pn	**Pn**	**09 07 22.3**	**+1.1**
PESTR				*e*Sn	**Sn**	**09 08 11.1**	**-2.6**
PESTR				A	A	09 08 43.5	
	comp=N,32nm,0.5s						
EVO	**Evora**	**4.50**	**311**	P	**Pn**	**09 07 21.9**	**+0.4**
EVO				S	**Sn**	**09 08 11.2**	**-3.1**
EVO	**Evora**	**4.50**	**311**	*e*Pn	**Pn**	**09 07 22.1**	**+0.6**
EVO				*e*Sn	**Sn**	**09 08 11.5**	**-2.7**
EVO				A	A	09 08 17.1	
	comp=N,31nm,0.6s						
PNCL	**Nicolau / Gran**	**4.59**	**304**	*e*Pn	**Pn**	**09 07 22.9**	**+0.1**
PNCL				*e*Sn	**Sn**	**09 08 13.4**	**-3.1**
PNCL				A	A	09 08 26.0	
	comp=N,17nm,0.5s						
UCM	**Universidad Co**	**4.68**	**4**	P	**Pn**	**09 07 24.8**	**+0.8**
PMRV	**Marv??o**	**4.79**	**323**	*e*Pn	**Pn**	**09 07 26.5**	**+1.0**
PMRV				*e*Sn	**Sn**	**09 08 19.4**	**-2.0**
PMRV				A	A	09 08 55.3	
	comp=N,30nm,0.6s						
PMTG	**Montargil**	**4.97**	**315**	*e*Pn	**Pn**	**09 07 29.0**	**+1.0**
PMTG				*e*Sn	**Sn**	**09 08 24.0**	**-1.9**
PMTG				A	A	09 09 05.3	
	comp=N,24nm,0.5s						
TZRR	**Tazzarine**	**5.08**	**198**	P	**Pn**	**09 07 31.0**	**+1.4**
PCBR	**Castelo Branco**	**5.15**	**326**	*e*Pn	**Pn**	**09 07 32.0**	**+1.5**
PCBR				*e*Sn	**Sn**	**09 08 27.9**	**-2.5**
PCBR				A	A	09 08 35.3	
	comp=N,27nm,0.4s						
OUZM	**OUZ**	**5.36**	**209**	P	**Pn**	**09 07 37.0**	**+3.5**
PMAFR	**Mafra**	**5.55**	**308**	*e*Pn	**Pn**	**09 07 36.9**	**+1.0**
PMAFR				*e*Sn	**Sn**	**09 08 39.2**	**-0.9**
PMAFR				A	A	09 08 56.1	
	comp=N,34nm,0.5s						
PSBE	**So Bento**	**5.60**	**315**	*e*Pn	**Pn**	**09 07 37.6**	**+1.0**
PSBE				*e*Sn	**Sn**	**09 08 41.1**	**-0.3**
OUK	**Oukaimeden**	**5.62**	**219**	P	**Pn**	**09 07 36.4**	**-0.9**
MTE	**Manteigas**	**5.64**	**329**	*e*Pn	**Pn**	**09 07 39.7**	**+2.5**
MTE				*e*Sn	**Sn**	**09 08 41.6**	**-0.9**
MTE				A	A	09 09 13.3	
	comp=N,40nm,0.6s						
PCAS	**Casmilo, Conde**	**5.82**	**321**	*e*Pn	**Pn**	**09 07 39.8**	**+0.2**
PCAS				*e*Sn	**Sn**	**09 08 42.3**	**-4.4**
PCAS				A	A	09 09 28.2	
	comp=N,32nm,0.7s						
PVIS	**Viseu**	**6.05**	**328**	*e*Pn	**Pn**	**09 07 44.4**	**+1.5**
PVIS				*e*Sn	**Sn**	**09 08 51.3**	**-1.3**
MVO	**Moncorvo**	**6.11**	**336**	*e*Pn	**Pn**	**09 07 45.7**	**+2.0**
MVO				*e*Sn	**Sn**	**09 08 51.6**	**-2.4**
MVO				A	A	09 09 00.6	
	comp=N,31nm,0.5s						
TTIG	**Tnine Tigouga,**	**6.45**	**219**	P	**Pn**	**09 07 47.7**	**-0.7**
PVRL	**Vila Real**	**6.45**	**332**	*e*Pn	**Pn**	**09 07 49.8**	**+1.4**
PVRL				*e*Sn	**Sn**	**09 08 59.6**	**-2.8**
PVRL				A	A	09 09 05.6	
	comp=N,27nm,0.5s						
POLO	**Lamas de Olo**	**6.57**	**332**	*e*Pn	**Pn**	**09 07 51.5**	**+1.5**
POLO				*e*Sn	**Sn**	**09 09 01.7**	**-3.6**
POLO				A	A	09 09 07.7	
	comp=N,13nm,0.6s						
PBRG	**Braganca**	**6.60**	**340**	*e*Pn	**Pn**	**09 07 52.5**	**+2.1**
PBRG				*e*Sn	**Sn**	**09 09 05.1**	**-1.0**
PBRG				A	A	09 09 11.2	
	comp=N,12nm,0.7s						
PTO	**Porto**	**6.71**	**326**	*e*Pn	**Pn**	**09 07 53.1**	**+1.3**
PCAB	**Cabril**	**6.94**	**332**	*e*Pn	**Pn**	**09 07 56.6**	**+1.5**
PCAB				*e*Sn	**Sn**	**09 09 12.1**	**-2.4**
PCAB				A	A	09 09 56.7	
	comp=N,24nm,0.6s						
PGAV	**Gavieira, Arco**	**7.26**	**332**	*e*Pn	**Pn**	**09 08 01.2**	**+1.7**
PGAV				*e*Sn	**Sn**	**09 09 19.4**	**-2.9**
PGAV				A	A	09 09 34.1	
	comp=N,14nm,0.5s						
ETSF	**Etsaut**	**7.65**	**18**	*e*Pn	**Pn**	**09 08 08.1**	**+3.2**
ETSF				*e*Sn	**Sn**	**09 09 30.4**	**-1.6**
	comp=N,3.5nm,0.6s						
SJPF	**Ste Jean**	**7.71**	**14**	*e*Pn	**Pn**	**09 08 07.8**	**+2.2**
SJPF				*e*Sn	**Sn**	**09 09 31.2**	**-2.1**
	comp=N,1.9nm,0.3s						
EPF	**Esparros**	**8.02**	**22**	*e*Pn	**Pn**	**09 08 11.8**	**+1.9**
EPF	**Esparros**	**8.02**	**22**	*e*P	Pn	09 08 17.4	+7.5
MTLF	**Montolieu**	**8.95**	**29**	*e*Pn	**Pn**	**09 08 23.4**	**+0.8**
TANT	**Tantan**	**9.63**	**224**	P	**Pn**	**09 08 31.5**	**-0.5**
LFF	**La Frestale**	**9.89**	**19**	*e*Pn	**Pn**	**09 08 37.4**	**+1.9**
RJF	**Les Rejaudoux**	**10.44**	**21**	*e*Pn	**Pn**	**09 08 44.9**	**+1.9**
SMRF	**Simiane la Rot**	**10.96**	**38**	*e*Pn	**Pn**	**09 08 51.7**	**+1.5**
LMR	**La Mourre**	**11.01**	**43**	*e*Pn	**Pn**	**09 08 53.5**	**+2.7**
SBF	**Sospel**	**11.87**	**43**	*e*Pn	**Pn**	**09 09 04.8**	**+2.2**
SBF	**Sospel**	**11.87**	**43**	*e*P	Pn	09 09 09.5	+6.9
PGF	**Pioggiola**	**12.04**	**51**	*e*Pn	**Pn**	**09 09 06.8**	**+1.9**
PGF				*e*Sn	**Sn**	**09 11 15.8**	**-3.8**
	comp=N,1.3nm,0.3s						
GERES	**GERESS Array B**	**18.39**	**39**	P	**Pn**	**09 10 31.0**	**+2.5**
	comp=N,0.1nm,0.3s,baz=221,slow=12,SNR=3.5						
EKA	**Eskdalemuir Ar**	**19.70**	**1**	P	**P**	**09 10 45.1**	**+2.4**
	baz=192,slow=26,SNR=1.7						
TORD	**Torodi Ar. Bea**	**22.91**	**166**	P	**P**	**09 11 18.3**	**+0.7**
	comp=N,2.2nm,0.8s,baz=347,slow=10,SNR=8.8						
NOA	**NORSAR Array B**	**27.15**	**16**	LR	LR	09 23 14.2	
	comp=N,45nm,19.2s,baz=260,slow=38						
KURBB	**Kurchatov Arra**	**58.85**	**48**	P	**P**	**09 16 12.8**	**+0.6**
	comp=N,0.8nm,0.6s,baz=291,slow=7.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**61.30**	**42**	P	**P**	**09 16 30.0**	**+1.1**
	comp=N,0.5nm,0.4s,baz=293,slow=7.4,SNR=1.3						
MKAR	**Makanchi Array**	**62.58**	**51**	P	**P**	**09 16 37.8**	**+0.1**
	comp=N,0.7nm,0.8s,baz=298,slow=7.2,SNR=6.0						
YKA	**Yellowknife Ar**	**67.74**	**332**	P	**P**	**09 17 11.5**	**+0.6**
	comp=N,0.4nm,0.9s,baz=59,slow=6.1,SNR=6.2						

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*IDC **25** 09:10:19.6±1.0, 35°.57N×3°.61W, h0km, mb3.5/5, mb1 3.5/7, mb1mx3.2/62, mbtmp3.4/7, ML3.2/2, Error ellipse: s-maj=30.1km s-min=12.3km az=101.0*
*SFS **25** 09:10:20.0, 35°.44N×3°.81W, ML3.1, ALBORAN SUR*
*CNRM **25** 09:10:21.1, 35°.52N×3°.73W, h17km, ml3.3*
*IGIL **25** 09:10:21.2, 35°.44N×3°.81W, h0km, ML2.6*
ISC 25 09:10:20.4±1.3, **35°.55N**±0°.03×**3°.75W**±0°.03, **h13**km±9km, **n25**, σ1§**79**/40, **mb3.6**/5, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**205**	S	**Sg**	**09 10 32.7**	**+0.1**
CHAS	**Isla Isabel II**	**1.14**	**108**	P	**Pb**	**09 10 40.3**	**-1.7**
CHAS				S	**Sb**	**09 10 54.7**	**-2.0**
TAF	**Taforalt**	**1.32**	**123**	P	**Pb**	**09 10 45.0**	**-0.1**
TAF				S	**Sg**	**09 11 02.5**	**-0.4**
EMAL	**Malaga-Limoner**	**1.33**	**336**	P	**Pn**	**09 10 44.6**	**-0.2**
EMAL				S	**Sn**	**09 11 01.1**	**-1.2**
CEU	**Ceuta**	**1.36**	**285**	P	**Pn**	**09 10 43.7**	**-1.5**
CEU				S	**Sn**	**09 10 57.4**	**-5.7**
CHEFC	**Chefchaouen**	**1.37**	**252**	P	**Pn**	**09 10 45.3**	**0.0**
CHEFC				S	**Sg**	**09 11 07.7**	**+3.1**
JBK	**JBK**	**1.55**	**141**	P	**Pn**	**09 10 46.2**	**-1.8**
JBK				S	**Sn**	**09 11 07.1**	**-1.0**
LCRM	**LCR**	**2.07**	**206**	P	**Pg**	**09 10 60.0**	**-0.1**
LCRM				S	**Sb**	**09 11 23.1**	**-0.5**
IFR	**Ifrane**	**2.32**	**210**	P	**Pg**	**09 11 04.3**	**-0.6**
IFR				S	**Sn**	**09 11 24.9**	**-2.2**
MD31	**MD31**	**2.80**	**198**	P	**Pn**	**09 11 05.5**	**+0.5**
MD31				S	**Sn**	**09 11 38.7**	**0.0**
MDT	**Midelt**	**2.82**	**195**	Pn	**Pn**	**09 11 06.7**	**+1.4**
	1.3nm,0.3s,baz=333,slow=16,SNR=2.6						
MDT				Pg	**Pg**	**09 11 13.1**	**-1.2**
	4.2nm,0.3s,baz=307,slow=15,SNR=8.0						
MDT				Lg	Lg	09 11 49.6	
	6.7nm,0.3s,baz=284,slow=18,SNR=5.6						
MDT	**Midelt**	**2.82**	**195**	P	**Pn**	**09 11 06.8**	**+1.6**
MDT				S	**Sn**	**09 11 38.6**	**-0.5**
TDRA	**Tendrara**	**2.88**	**150**	P	**Pn**	**09 11 08.5**	**+2.3**
PVAQ	**Vaqueiros**	**3.69**	**301**	P	**Pn**	**09 11 17.8**	**+0.6**
PVAQ				S	**Sn**	**09 11 58.9**	**-1.7**
ESDC	**Sonseca Array**	**4.12**	**358**	Pn	**Pn**	**09 11 25.2**	**+2.0**
	1.3nm,0.3s,baz=178,slow=12,SNR=12						
ESDC				Sn	**Sn**	**09 12 13.3**	**+2.0**
	0.7nm,0.3s,baz=176,slow=22,SNR=1.0						
ESDC				Lg	Lg	09 12 28.5	
	1.4nm,0.3s,baz=178,slow=28,SNR=4.4						
MESJ	**Messejana**	**4.26**	**304**	*e*P	**Pn**	**09 11 25.4**	**+0.5**
MESJ				*e*S	**Sn**	**09 12 12.7**	**-1.8**
MESJ				IAML		09 12 16.1	
	comp=N,9.3nm,0.3s						
MORF	**Marmelete**	**4.32**	**295**	*e*S	**Sn**	**09 12 13.7**	**-2.5**
MORF				IAML		09 12 19.8	
	comp=N,18nm,0.3s						
PFVI	**Vila Bisbo**	**4.39**	**293**	P	**Pn**	**09 11 28.5**	**+1.7**
EVO	**Evora**	**4.53**	**312**	P	**Pn**	**09 11 29.7**	**+1.0**
EVO				S	**Sn**	**09 12 18.6**	**-2.5**
OUK	**Oukaimeden**	**5.53**	**220**	P	**Pn**	**09 11 43.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**22.84**	**166**	P	**P**	**09 15 24.4**	**+1.0**
	comp=N,0.5nm,0.7s,baz=346,slow=9.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**58.94**	**47**	P	**P**	**09 20 19.4**	**+0.1**
	comp=N,0.4nm,0.6s,baz=290,slow=7.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**61.39**	**42**	P	**P**	**09 20 35.1**	**-0.8**
	comp=N,0.5nm,0.4s,baz=296,slow=5.6,SNR=1.5						
MKAR	**Makanchi Array**	**62.66**	**50**	P	**P**	**09 20 45.9**	**+1.2**
	comp=N,0.2nm,0.6s,baz=293,slow=6.5,SNR=3.9						
YKA	**Yellowknife Ar**	**67.80**	**332**	P	**P**	**09 21 20.1**	**+2.4**
	comp=N,0.4nm,0.9s,baz=63,slow=6.5,SNR=4.5						

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*IDC **25** 09:12:30.1±1.2, 35°.65N×3°.48W, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.1/65, mbtmp3.3/6, ML2.7/1, Error ellipse: s-maj=32.0km s-min=15.6km az=95.0*
*CNRM **25** 09:12:30.8, 35°.55N×3°.72W, h14km, ml3.2*
*SFS **25** 09:12:31.0, 35°.53N×3°.80W, ML2.9, ALBORAN SUR*
*IGIL **25** 09:12:32.5, 35°.53N×3°.81W, h0km, ML2.8*
ISC 25 09:12:30.2±1.3, **35°.59N**±0°.03×**3°.69W**±0°.03, **h5**km±10km, **n21**, σ1§**45**/36, **mb3.5**/4, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.43**	**209**	P	**Pg**	**09 12 38.1**	**-0.2**
PALE				S	**Sg**	**09 12 43.2**	**-0.8**
CHAS	**Isla Isabel II**	**1.11**	**111**	P	**Pg**	**09 12 50.9**	**-0.5**
CHAS				S	**Sg**	**09 13 05.4**	**-0.3**
TAF	**Taforalt**	**1.30**	**126**	P	**Pn**	**09 12 53.6**	**-1.4**
TAF				S	**Sg**	**09 13 11.5**	**-0.5**
EMAL	**Malaga-Limoner**	**1.31**	**333**	P	**Pn**	**09 12 55.3**	**+0.2**
EMAL				S	**Sb**	**09 13 10.5**	**-1.8**
CHEFC	**Chefchaouen**	**1.43**	**251**	P	**Pn**	**09 12 56.1**	**-0.7**
CHEFC				S	**Sb**	**09 13 14.5**	**-1.4**
JBK	**JBK**	**1.56**	**143**	P	**Pn**	**09 12 57.4**	**-1.2**
JBK				S	**Sn**	**09 13 18.1**	**-1.2**
LCRM	**LCR**	**2.13**	**207**	P	**Pn**	**09 13 06.3**	**-0.2**
LCRM				S	**Sn**	**09 13 35.0**	**+1.6**
IFR	**Ifrane**	**2.38**	**210**	P	**Pn**	**09 13 11.4**	**+1.3**
IFR				S	**Sn**	**09 13 36.6**	**-3.1**
MD31	**MD31**	**2.86**	**198**	P	**Pn**	**09 13 15.9**	**-0.5**
MD31				S	**Sn**	**09 13 50.8**	**-0.4**
MDT	**Midelt**	**2

TNTI	Ternate	2.62 203	Pn	Pn	09 18 31.3	+1.0
TNTI	Ternate	2.62 203	P	Pn	09 18 32.5	+2.2
SGSI	Sangihe	2.88 280	P	Pn	09 18 32.2	-1.8
SGSI			S	Sn	09 19 06.4	-1.1
LBMI	Labuha	3.91 193	P	Pn	09 18 48.6	+0.5
DDMP	Don Marcelino,	3.92 317	⇓iP	Pn	09 18 46.3	-1.9
DDMP			eS	Sn	09 19 39.6	+6.6
MATI	Mati	4.28 330	⇑iP	Pn	09 18 55.4	+2.4
MATI			eS	Sn	09 19 59.2	+17
GSPH	General Santos	4.46 310	⇑iP	Pn	09 18 54.3	-1.4
GSPH			i S	Sn	09 19 46.0	-0.4
DAV	Davao City (W)	4.75 324	Pn	Pn	09 18 59.8	+0.3
107nm,0.3s,baz=95,slow=6.2,SNR=12						
DAV			Sn	Sn	09 20 00.0	+6.7
20nm,0.3s,baz=256,slow=20,SNR=1.8						
DAV	Davao City (W)	4.75 324	P	Pn	09 18 59.2	-0.3
DAV			S	Sn	09 19 55.7	+2.4
DAV	Davao City (W)	4.75 324	Pn	Pn	09 19 02.4	+2.9
DAV	Davao City (W)	4.75 324	P	Pn	09 19 03.7	+4.2
SWI	Sorong	4.96 144	P	Pn	09 19 02.0	-0.4
3.6nm12μm14μm826nm,0.9s						
SIJI	Sorong	4.97 144	Pn	Pn	09 19 01.9	-0.6
150nm,0.3s,baz=335,slow=14,SNR=150						
SIJI			Sn	Sn	09 19 57.2	-1.5
70nm,0.3s,baz=182,slow=23,SNR=10						
KCP	Kidapawan	5.00 319	⇑eP	Pn	09 19 02.3	-0.8
KCP			i S	Sn	09 20 07.2	+7.5
KMSI	Cibinong	5.11 239	P	Pn	09 19 05.2	+0.7
26nm1μm41μm5μm,0.8s						
BIPH	Bislig	5.34 338	⇓iP	Pn	09 19 06.8	-0.8
BIPH			i S	Sn	09 19 58.2	-10
BUKP	Musuan	5.70 325	⇑eP	Pn	09 19 13.4	+0.8
BUKP			i S	Sn	09 20 23.3	+6.6
CTBH	Cotabato--PC H	5.73 314	⇑iP	Pn	09 19 12.3	-0.7
SANI	Sanana	5.74 205	P	Pn	09 19 13.4	+0.3
4.0nm7μm13μm1μm,0.8s						
SANI	Sanana	5.74 205	P	Pn	09 19 14.1	+1.0
GTOI	Gorontalo	5.94 245	P	Pn	09 19 17.1	+1.3
2.4nm6μm633nm,0.6s						
BUTP	Butuan	6.35 335	⇑eP	Pn	09 19 20.3	-1.2
BUTP			i S	Sn	09 20 49.4	+17
MSAI	Masohi	6.53 175	P	Pn	09 19 25.6	+1.7
0.4nm1μm106nm,0.7s						
PAGZ	Pagadian	6.79 313	⇓eP	Pn	09 19 27.4	0.0
AAI	Ambon	6.84 182	P	Pn	09 19 29.9	+1.7
3.5nm9μm1μm,0.8s						
MRSI	Marisa	6.98 247	P	Pn	09 19 31.4	+1.3
71nm9μm173μm23μm,0.7s						
LUWI	Luwuk	7.01 233	P	Pn	09 19 32.0	+1.5
9.0nm15μm2μm,0.8s						
LUWI	Luwuk	7.01 233	Pn	Pn	09 19 32.5	+1.9
LUWI	Luwuk	7.01 233	P	Pn	09 19 33.2	+2.7
FAKI	Fak Fak	7.21 147	P	Pn	09 19 33.8	+0.6
1.4nm8μm5μm390nm,0.7s						
FAKI	Fak Fak	7.21 147	Pn	Pn	09 19 33.5	+0.3
FAKI	Fak Fak	7.21 147	P	Pn	09 19 33.8	+0.6
ZCP	Zamboanga City	7.29 301	⇑iP	Pn	09 19 35.4	+1.0
ZCP			i S	Sn	09 20 52.2	-3.5
DCPH	Dipolog City	7.32 317	⇓eP	Pn	09 19 41.5	+6.8
MSLP	Maasin	7.72 333	⇑eP	Pn	09 19 43.9	+3.6
BNDI	Bandanaira	7.82 169	P	Pn	09 19 44.2	+2.6
TBP	Tagbilaran	7.86 325	eP	Pn	09 19 41.2	-0.9
APSI	Ampana	7.87 239	P	Pn	09 19 43.6	+1.3
6.4nm5μm16μm2μm,1.0s						
TOLI2	Tolitoli	7.87 255	Pn	Pn	09 19 41.2	-1.1
TOLI2	Tolitoli	7.87 255	P	Pn	09 19 41.8	-0.5
SNPH	Sibulan	7.96 320	eP	Pn	09 19 38.4	-5.1
LLP	Lapu-Lapu	8.32 328	eP	Pn	09 19 47.7	-0.7
LLP			eS	Sn	09 21 29.1	+8.2
CNOP	Candoni, Negro	8.71 319	⇑eP	Pn	09 19 54.3	+0.6
MPSI	Mapaga	8.94 252	P	Pn	09 19 57.2	+0.3
5.0nm12μm2μm,0.9s						
SRPI	Serui, Papua	9.34 123	P	Pn	09 20 05.4	+3.0
400nm,0.8s						
RCP	Roxas	10.01 326	⇓eP	Pn	09 20 09.0	-2.6
MYLDM	Lahad Datu	10.05 282	Pn	Pn	09 20 14.1	+2.0
BBSI	Bau Bau	10.40 214	P	Pn	09 20 18.2	+1.3
1μm160nm,0.9s						
TTSI	Tana Toraja	10.57 234	P	Pn	09 20 18.2	-1.0
6μm8μm1μm,0.9s						
SPSI	Sidrap Palu	11.16 230	P	Pn	09 20 27.2	-0.2
4μm6μm866nm,0.7s						
BNSI	Bone	11.19 228	P	Pn	09 20 27.3	-0.5
5μm491nm,0.8s						
SAUI	Saumlaki	11.48 165	P	Pn	09 20 32.9	+1.1
14μm473nm,0.8s						
SAUI	Saumlaki	11.48 165	P	Pn	09 20 33.4	+1.6
SMPI	Sarmi	11.54 116	P	Pn	09 20 35.3	+2.7
3μm201nm,1.0s						
PPR	Puerto Princes	11.60 305	⇑eP	Pn	09 20 31.4	-1.9
SMKI	Samarinda	11.74 252	P	Pn	09 20 36.3	+1.1
14μm2μm,0.8s						
BKSI	Bulukumba	11.82 224	P	Pn	09 20 36.1	-0.2
3μm425nm,0.7s						
KAPI	Kappang	11.87 227	Pn	Pn	09 20 35.7	-1.3
7.6nm,0.3s,baz=73,slow=4.7,SNR=35						
KAPI			Sn	Sn	09 22 48.5	+0.6
5.3nm,0.3s,baz=222,slow=22,SNR=2.2						
KAPI			LR	LR	09 26 07.5	
comp=Z,878nm,20.1s,baz=74,slow=42						
KAPI	Kappang	11.87 227	P	Pn	09 20 35.8	-1.3
KAPI			P	Pn	09 20 35.8	-1.3
KAPI			S	Sn	09 22 42.4	-5.5
KAPI			S	Sn	09 22 42.4	-5.5
KAPI	Kappang	11.87 227	Pn	Pn	09 20 36.3	-0.7
KAPI	Kappang	11.87 227	P	Pn	09 20 36.8	-0.2
SPMM	Sapulut	11.98 278	P	Pn	09 20 39.0	+0.4
BSSI	Bau Bau, Buton	12.17 220	P	Pn	09 20 41.8	+0.6
3μm294nm,0.6s						
BKB	Balikpapan	12.30 249	P	Pn	09 20 43.4	+0.5
4μm5μm545nm,1.2s						
BKB	Balikpapan	12.30 249	Pn	Pn	09 20 43.4	+0.5
BKB	Balikpapan	12.30 249	P	Pn	09 20 43.7	+0.8
KKM	Kota Kinabalu	12.45 284	Pn	Pn	09 20 44.1	-0.9
KKM	Kota Kinabalu	12.45 284	P	Pn	09 20 45.0	0.0
TGY	Tagaytay City	13.09 326	LR	LR	09 26 33.6	
comp=Z,4μm,20.4s,baz=148,slow=41						
GENI	Genyem	13.12 116	P	Pn	09 20 56.3	+2.3
4μm23μm2μm,1.6s						
GENI	Genyem	13.12 116	P	Pn	09 20 56.8	+2.8
LUBP	Lubang	13.19 323	⇑eP	Pn	09 20 57.7	+2.6
MMRI	Maumere	13.26 207	P	Pn	09 20 58.5	+2.5
3μm7μm559nm,0.8s						
MMRI	Maumere	13.26 207	P	Pn	09 20 57.5	+1.5
JAY	Jayapura	13.57 115	Pn	Pn	09 21 01.9	+1.6
0.8nm,0.3s,baz=264,slow=5.8,SNR=16						
JAY			Sn	Sn	09 23 34.3	+4.8
0.2nm,0.3s,baz=198,slow=16,SNR=0.8						
JAY			LR	LR	09 25 16.1	
comp=Z,6μm,21.5s,baz=302,slow=33						
JAY	Jayapura	13.57 115	P	Pn	09 21 03.4	+3.2
2μm160nm,0.9s						
KBKI	Kotabaru	13.81 242	P	Pn	09 21 02.4	-1.0
5μm624nm,0.8s						
MTKI	Muara Teweh, K	14.09 253	P	Pn	09 21 08.0	+0.8
10μm694nm,1.0s						
BATI	Baumata	14.12 199	Pn	Pn	09 21 07.0	-0.7
3.8nm,0.3s,baz=0.0,slow=7.1,SNR=2.9						
BATI			Sn	Sn	09 23 49.3	+6.3
2.6nm,0.3s,baz=47,slow=23,SNR=0.8						
BATI			LR	LR	09 26 58.1	
comp=Z,4μm,19.2s,baz=36,slow=39						
BATI	Baumata	14.12 199	P	P	09 21 10.7	-2.9
3μm3μm330nm,0.8s						
BBKI	Banjar Baru	15.06 244	P	Pn	09 21 19.5	-0.4
5μm255nm,1.4s						
BASI	Baing, Sumba	15.43 210	P	P	09 21 26.8	-1.3
2μm7μm472nm,0.8s						
WBSI	Waikabubak, Su	15.59 215	P	Pn	09 21 27.5	+0.8
8μm949nm,0.9s						
SBUM	Sibu	16.16 268	Pn	Pn	09 21 33.3	-0.6
SBUM			IAmb	IAmb	09 21 39.6	
comp=Z,2μm,2.0s						
SBUM	Sibu	16.16 268	P	Pn	09 21 34.0	+0.1
MTN	Manton Dam	16.17 170	P	Pn	09 21 33.0	-1.0
baz=16,SNR=29						
MTN	Manton Dam	16.17 170	Pn	Pn	09 21 32.7	-1.4
MTN			IAmb	IAmb	09 21 42.4	
comp=Z,599nm,0.9s						
MTN	Manton Dam	16.17 170	P	Pn	09 21 34.7	+0.6
KDU	Kakadu	16.30 166	P	Pn	09 21 33.5	-2.2
baz=16,SNR=32						
KDU	Kakadu	16.30 166	P	Pn	09 21 34.6	-1.1
STKI	Sintang	17.18 260	P	Pn	09 21 46.9	+0.3
comp=Z,3μmcomp=Z,10μmcomp=Z,153nm,1.0s						

SRBI	Singaraja	17.27 229	P	P	09 21 48.4	-0.1
comp=Z,5μmcomp=Z,12μmcomp=Z,1μm,1.1s						
KMMI	Kalianget	17.62 235	P	Pn	09 21 52.0	-0.1
comp=Z,5μmcomp=Z,9μmcomp=Z,1μm,0.9s						
KMMI			pP	pP	09 22 05.9	+2.0
comp=Z,5μmcomp=Z,9μmcomp=Z,1μm,0.9s						
DNP	Denpasar	17.65 228	P	P	09 21 53.4	+0.7
comp=Z,38μmcomp=Z,2μm,1.3s						
PBKI	Pangkalan Bun	17.70 251	P	Pn	09 21 52.0	-1.1
comp=Z,7μmcomp=Z,857nm,1.0s						
IGBI	Denpasar	17.79 228	P	P	09 21 55.3	+1.0
comp=Z,11μmcomp=Z,749nm,1.0s						
ABJI	Asem Bagus	17.84 232	P	P	09 21 56.3	+1.4
comp=Z,6μmcomp=Z,9μmcomp=Z,590nm,0.9s						
KSM	Kuching	18.14 265	P	P	09 21 58.1	0.0
KSM			IAmb	IAmb	09 22 02.4	
comp=Z,327nm,1.0s						
KSM	Kuching	18.14 265	P	Pn	09 21 59.0	+0.6
KSM	Kuching	18.14 265	P	Pn	09 21 59.4	+1.0
JAGI	Jajag, Banyuwa	18.32 231	P	Pn	09 22 01.2	+0.6
comp=Z,7μmcomp=Z,13μmcomp=Z,1μm,0.8s						
JAGI	Jajag, Banyuwa	18.32 231	P	Pn	09 22 00.9	+0.3
JAGI	Jajag, Banyuwa	18.32 231	P	Pn	09 22 02.9	+2.3
BLJI	Banyuglugur	18.32 234	P	Pn	09 22 00.9	+0.2
comp=Z,12μmcomp=Z,2μm,0.8s						
GMJI	Gumukmas	18.75 232	P	Pn	09 22 06.0	+0.1
comp=Z,9μmcomp=Z,914nm,0.9s						
KNRA	Kununurra	18.76 179	P	P	09 22 05.1	+0.3
baz=19,SNR=305						
KNRA	Kununurra	18.76 179	P	P	09 22 04.8	0.0
KNRA	Kununurra	18.76 179	P	Pn	09 22 06.5	+0.6
GUMO	Guam	19.29 57	P	P	09 22 10.1	-0.5
comp=Z,4.0nm,0.3s,baz=185,slow=12,SNR=4.2						
GUMO			LR	LR	09 28 07.4	
comp=Z,3μm,21.6s,baz=233,slow=32						
MANU	Manus Island	19.68 105	P	Pn	09 22 18.7	+1.7
MANU			IAmb	IAmb	09 22 20.6	
comp=Z,833nm,1.5s						
UWJI	Ujung Watu	19.85 241	P	P	09 22 15.6	-1.3
comp=Z,7μmcomp=Z,479nm,0.8s						
PCJI	Pacitan	20.55 236	P	Pn	09 22 26.1	-1.1
comp=Z,15μmcomp=Z,2μm,0.8s						
SMRI	Semarang	20.60 240	P	P	09 22 24.4	-0.6
comp=Z,6μmcomp=Z,526nm,0.9s						
SMRI	Semarang	20.60 240	P	P	09 22 23.9	-1.1
SMRI	Semarang	20.60 240	P	P	09 22 25.9	+0.9
comp=Z,525nm,0.9s						
UGM	Wanagama	20.95 238	P	P	09 22 29.4	+0.5
comp=Z,3μmcomp=Z,7μmcomp=Z,852nm,0.9s						
UGM	Wanagama	20.95 238	P	P	09 22 27.4	-1.4
UGM	Wanagama	20.95 238	P	P	09 22 29.7	+0.8
YOGI	Yogyakarta	21.10 239	P	P	09 22 30.8	+0.4
comp=Z,8μmcomp=Z,665nm,0.8s						
FITZ	Fitzroy Crossi	21.34 187	P	P	09 22 31.9	-1.0
comp=Z,72nm,1.1s,baz=16,slow=9.0,SNR=19						
FITZ			LR	LR	09 31 49.0	
comp=Z,1μm,20.4s,baz=359,slow=40						
TPUB	Ta-pu	21.34 340	IAmb	IAmb	09 22 46.4	
comp=Z,238nm,0.9s						
TPUB			IAMs_20	IAMs_20	09 31 21.4	
comp=Z,3μm,22.0s						
DLV	T Lat	21.53 295	IAmb	IAmb	09 22 46.1	
comp=Z,262nm,1.1s						
DLV	T Lat	21.53 295	P	P	09 22 37.2	+2.0
comp=Z,218nm,1.0s						
TPI	Tanjungpandan	21.54 254	P	P	09 22 35.3	+0.2
comp=Z,2μmcomp=Z,177nm,0.9s						
SSLB	Suanglung	21.69 341	P	P	09 22 33.5	-3.1
SSLB			IAmb	IAmb	09 22 42.0	
comp=Z,221nm,0.8s						
SSLB			IAMs_20	IAMs_20	09 32 28.6	
comp=Z,3μm,21.0s						
YHNB	Yeheng	22.39 343	IAmb	IAmb	09 22 52.9	
comp=Z,146nm,0.8s						
YHNB	Yeheng	22.39 343	P	P	09 22 44.7	+0.5
COEN	Coen	22.49 140	P	P	09 22 44.9	-0.4
COEN			IAmb	IAmb	09 22 54.5	
comp=Z,238nm,1.4s						
COEN	Coen	22.49 140	P	P	09 22 46.2	+0.9
PMG	Port Moresby	22.52 124	P	P	09 22 45.5	-0.1
comp=Z,67nm,0.9s,baz=327,slow=6.5,SNR=16						
PMG			LR	LR	09 32 09.8	
comp=Z,3μm,19.1s,baz=315,slow=38						
PMG	Port Moresby	22.52 124	d iP	P	09 22 44.9	-0.7
PMG			pmax	pmax		
comp=Z,88nm,1.0s						
PMG	Port Moresby	22.52 124	P	P	09 22 45.1	-0.5
PMG			IAmb	IAmb	09 22 55.9	
comp=Z,272nm,1.2s						
PMG	Port Moresby	22.52 124	IAMs_20	IAMs_20	09 31 48.6	
comp=Z,2μm,20.0s						
PMG	Port Moresby	22.52 124	P	P	09 22 47.2	+1.6
PMG	Port Moresby	22.52 124	P	P	09 22 47.3	+1.6
TATO	Taipei	22.64 344	P	P	09 22 46.0	-0.8
TATO			S	Sn	09 27 02.4	-5.9
CMJI	Cimerak	22.68 241	P	P	09 22 46.4	-0.9
comp=Z,4μmcomp=Z,519nm,0.8s						
PPBI	Pangkal Pinang	22.86 257	P	P	09 22 50.7	+1.5
comp=Z,27μmcomp=Z,119nm,0.9s						
LEM	Lembang	22.99 244	P	P	09 22 51.0	+0.2
comp=Z,202nm,0.8s,baz=77,slow=8.9,SNR=11						
LEM			S	S	09 27 01.4	+4.2
comp=Z,23nm,0.5s,baz=340,slow=22,SNR=1.5						
LEM			LR	LR	09 33 49.3	
comp=Z,2μm,19.5s,baz=63,slow=42						
LEM	Lembang	22.99 244	P	P	09 22 51.0	+0.2
KNMB	Chin-men Tao	23.23 336	IAmb	IAmb	09 22 56.6	
comp=Z,301nm,1.0s						
HKPS	Hong Kong Po S	23.46 325	IAMs_20	IAMs_20	09 32 12.4	
comp=Z,4μm,19.0s						
JOW	Kunigami	23.50 360	P	P	09 22 54.8	-0.5
comp=Z,51nm,0.7s,baz=221,slow=11,SNR=6.1						
JOW			LR	LR	09 30 54.4	
comp=Z,2μm,21.3s,baz=196,slow=34						
JOW	Kunigami	23.50 360	P	P	09 22 55.1	-0.1
JOW			IAmb	IAmb	09 23 36.7	
comp=Z,196nm,0.9s						
JOW	Kunigami	23.50 360	P	P	09 22 56.0	+0.7
CBJI	Citeko	23.52 246	P	P	09 22 56.5	+0.9
comp=Z,618nm,0.8s						
WB0	Warramunga Arr	23.58 166	P	P	09 22 55.4	-0.7
QZH	Quanzhou	23.58 337	⇓iP	P	09 22 56.0	0.0
QZH			PP	PnPn	09 23 26.5	+0.9
QZH			S	S	09 27 06.3	+0.1
QZH			pmax	pmax		
comp=Z,110nm,0.9s						
QZH			pmax	pmax		
comp=Z,720nm,3.7s						
QZH			LR	LR		
comp=Z,1μm,14.5s						
QZH			LR	LR		
comp=Z,1μm,21.1s						
QZH			LR	LR		
comp=Z,2μm,20.1s						
CNJI	Cibinong	23.64 244	P	P	09 22 57.3	+0.6
comp=Z,2μmcomp=Z,7μmcomp=Z,851nm,1.3s						
DBJI	Dramaga	23.67 246	P	P	09 22 57.8	+0.8
comp=Z,438nm,1.2s						
WRAB	Tennant Creek	23.73 166	d iP	P	09 22 56.5	-0.9
WRAB			pmax	pmax		
comp=Z,544nm,1.5s						
WRAB	Tennant Creek	23.73 166	P	P	09 22 57.0	-0.4
WRAB	Tennant Creek	23.73 166	P	P	09 22 57.6	+0.2
WRA	Warramunga Arr	23.73 166	P	P	09 22 56.9	-0.6
comp=Z,132nm,0.7s,baz=345,slow=11,SNR=107						
WRA			S	S	09 27 07.5	-1.2
comp=Z,42nm,1.1s,baz=341,slow=15,SNR=7.0						
WRA			ScP	ScP	09 30 14.6	+0.6
comp=Z,4.3nm,0.7s,baz=348,slow=2.7,SNR=4.9						
WRA			LR	LR	09 34 27.2	
comp=Z,3μm,18.4s,baz=342,slow=42						
WRA			P3KPbc		09 56 17.9	
comp=Z,0.6nm,0.7s,baz=183,slow=3.9,SNR=5.0						
WRA	Warramunga Arr	23.73 166	i P	P	09 22 54.4	-3.1
WRA			pmax	pmax		
comp=Z,132nm,0.7s						
WRA	Warramunga Arr	23.73 166	P	P	09 22 56.6	-0.9
WR0	Warramunga Arr	23.80 166	P	P	09 22 57.3	-0.8
WR0			IAmb	IAmb	09 23 05.6	
comp=Z,282nm,1.0s						
TPRI	Tanjung Pinang	23.94 265	P	P	09 22 59.3	-0.2
comp=Z,158nm,1.0s						
QIZ	Qiongzhong	24.00 312	P	P	09 23 01.3	+1.3
QIZ			S	S	09 27 18.8	+5.7
QIZ			pmax	pmax		
comp=Z,2μm,6.4s						

QIZ			LR	LR		
comp=Z,2μm,15.1s						
QIZ			LR	LR		
comp=Z,2μm,19.1s						
QIZ			LR	LR		
comp=Z,2μm,28.7s						
QIZ	Qiongzhong	24.00 312	P	P	09 23 01.2	+1.3
SKJI	Sukabumi	24.02 245	P	P	09 23 00.5	+0.3
comp=Z,4μmcomp=Z,486nm,0.8s						
DSRI	Dabo	24.07 262	P	P	09 23 00.8	+0.2
comp=Z,96nm,1.1s						
SBJI	Serang	24.07 247	P	P	09 23 01.3	+0.7
comp=Z,379nm,1.0s						
MYKOM	Kota Tinggi	24.54 267	IAmb	IAmb	09 23 10.1	
comp=Z,268nm,1.2s						
MYKOM	Kota Tinggi	24.54 267	P	P	09 23 06.0	+1.0
BLSI	Bandar Lampung	24.62 250	P	P	09 23 06.5	+0.8
comp=Z,473nm,0.8s						
CGJI	Cibinong	24.66 247	P	P	09 23 05.4	-0.6
comp=Z,798nm,0.9s						
KLI	Kotabumi	24.83 251	P	P	09 23 08.2	+0.7
comp=Z,8μmcomp=Z,700nm,1.1s						
RABL	Rabaul	24.88 107	P	P	09 23 08.8	+0.7
RABL	Rabaul	24.88 107	P	P	09 23 09.5	+1.5
comp=Z,432nm,0.9s						
KLSI		24.89 252	P	P	09 23 08.5	+0.3
comp=Z,3μmcomp=Z,297nm,1.1s						
JMBI	JAMBI	25.19 259	P	P	09 23 11.3	+0.5
comp=Z,5μmcomp=Z,376nm,1.0s						
MDSI	Maura Dua	25.36 253	P	P	09 23 12.8	+0.4
comp=Z,2μmcomp=Z,303nm,0.9s						
KASI	Kota Agung	25.38 250	P	P	09 23 13.9	+1.3
comp=Z,7μmcomp=Z,875nm,0.9s						
UBPT	Khong Chiam	25.56 299	P	P	09 23 14.2	0.0
LWLI	Liwa	25.63 252	P	P	09 23 15.5	+0.5
comp=Z,698nm,0.9s						
MBWA	Marble Bar	25.65 199	P	P	09 23 14.1	-0.7
MBWA			S	S	09 27 44.6	+5.3
MBWA	Marble Bar	25.65 199	P	P	09 23 15.4	+0.5
LHSI	Lahat	25.80 254	P	P	09 23 16.8	+0.4
comp=Z,196nm,0.9s						
JRMM	Jerantut	25.86 272	P	P	09 23 17.0	+0.1
QIS	Mount Isa	26.05 155	P	P	09 23 18.3	-0.3
baz=26,SNR=89						
QIS	Mount Isa	26.05 155	P	P	09 23 18.7	+0.1
XMI	Christmas Isla	26.35 239	P	P	09 23 22.6	+1.3
comp=Z,660nm,1.3s						
MTSU	Mount Surprise	26.39 144	P	P	09 23 21.5	-0.2
baz=26,SNR=17						
MTSU	Mount Surprise	26.39 144	P	P	09 23 22.2	+0.6
XMIS	Christmas Isla	26.39 239	P	P	09 23 21.9	+0.2
XMIS	Christmas Isla	26.39 239	P	P	09 23 23.1	+1.3
MNAI	Manna	26.49 254	P	P	09 23 22.9	+0.3
comp=Z,4μmcomp=Z,477nm,0.9s						
MNAI	Manna	26.49 254	P	P	09 23 24.0	+1.4
MNAI	Manna	26.49 254	P	P	09 23 24.5	+1.9
MASI	Maura Aman, Be	26.87 257	P	P	09 23 27.9	+1.8
comp=Z,5μmcomp=Z,627nm,0.9s						
AS31	Alice Springs	27.24 169	P	P	09 23 28.2	-1.1
ASAR	Alice Springs	27.24 169	P	P	09 23 28.6	-0.7
comp=Z,27nm,0.7s,baz=336,slow=5.3,SNR=120						
ASAR			PcP	PcP	09 26 48.7	+0.5
comp=Z,6.9nm,0.5s,baz=350,slow=2.1,SNR=1.0						
ASAR			S	S	09 28 04.1	-0.4
comp=Z,12nm,0.9s,baz=5.1,slow=21,SNR=5.4						
ASAR			ScP	ScP	09 30 24.7	+0.8
comp=Z,5.4nm,0.8s,baz=341,slow=2.3,SNR=5.8						
ASAR			LR	LR	09 36 53.1	
comp=Z,2μm,18.1s,baz=352,slow=42						
ASAR			P3KPbc		09 56 02.4	
comp=Z,0.6nm,0.6s,baz=172,slow=4.3,SNR=9.9						
ASAR	Alice Springs	27.24 169	P	P	09 23 28.7	-0.6
IPM	Ipoh	27.32 274	P	P	09 23 30.2	+0.1
IPM			IAmb	IAmb	09 24 05.7	
comp=Z,277nm,2.0s						
IPM	Ipoh	27.32 274	P	P	09 23 32.6	+2.5
comp=Z,56nm,0.9s						
KRJI	Kerinci	27.41 259	P	P	09 23 32.2	+1.1
comp=Z,13μmcomp=Z,352nm,1.1s						
BKNI	Bangkinang	27.47 265	P	P	09 23 31.9	+0.4
comp=Z,201nm,1.0s						
BKNI	Bangkinang	27.47 265	P	P	09 23 32.6	+1.1
KULM	Kulim	27.73 275	P	P	09 23 33.2	-0.6
WRKA	Warakurna	28.07 180	P	P	09 23 35.9	-0.8
baz=28,SNR=167						
WRKA	Warakurna	28.07 180	P	P	09 23 36.6	-0.1
SSE	Sheshan	28.57 347	P	P	09 23 42.5	+1.6
SSE			pP	pP	09 23 54.5	-0.2
SSE			S	S	09 28 27.5	+2.4
SSE			pmax	pmax		
comp=Z,14nm,1.2s						
SSE			pmax	pmax		
comp=Z,220nm,6.3s						
SSE			LR	LR		
comp=Z,370nm,23.5s						
MNSI	Mandailing Nat	28.88 266	P	P	09 23 43.4	-0.6
comp=Z,3μmcomp=Z,53nm,0.9s						
PPSI	Pulau Pagai	28.97 259	P	P	09 23 44.6	-0.2
comp=Z,291nm,1.1s						
CTA	Charters Tower	29.05 144	P	P	09 23 45.2	-0.2
comp=Z,10.0nm,1.0s,baz=327,slow=12,SNR=7.6						
CTA			LR	LR	09 36 40.7	
comp=Z,1μm,18.6s,baz=312,slow=39						
CTA	Charters Tower	29.05 144	P	P	09 23 46.5	+1.1
CTAO	Charters Tower	29.05 144	P	P	09 23 45.5	+0.1
CTAO			pmax	pmax		
comp=Z,48nm,1.1s						
CTAO			MLR	MLR		
comp=Z,2μm,18.0s						
CTAO	Charters Tower	29.05 144	P	P	09 23 45.5	+0.1
CTAO	Charters Tower	29.05 144	IAMs_20	IAMs_20	09 36 37.2	
comp=Z,2μm,18.0s						
CTAO	Charters Tower	29.05 144	P	P	09 23 46.6	+1.1
GIRL	Giralia	29.16 208	P	P	09 23 47.4	+1.0
baz=29,SNR=21						
GIRL	Giralia	29.16 208	P	P	09 23 46.7	+0.4
GIRL	Giralia	29.16 208	P	P	09 23 47.9	+1.5
comp=Z

comp=Z,139nm,0.9s
GSI Gunungsitoli 30.83 267 P P 09 24 02.8 +1.5
comp=Z,169nm,1.6s
GYA Guiyang 31.11 320⇑ iP P 09 24 07.5 +3.7
GYA pP pP 09 24 19.0 +1.5
GYA S S **09 29 10.8 +5.2**
GYA ScS **ScS 09 34 33.5 -0.3**
GYA pmax pmax
comp=Z,23nm,1.1s
GYA LR LR
comp=Z,2μm,18.8s
GYA LR LR
comp=Z,1μm,18.4s
GYA LR LR
comp=Z,2μm,19.6s
MEEK Meekatharra 31.13 197 P P 09 24 03.0 -0.8
baz=31,SNR=52
MEEK Meekatharra 31.13 197 P P 09 24 03.2 -0.6
OOD Oodnadatta 31.61 168 P P 09 24 08.7 +0.8
JHJ Hachijo jima 2 31.62 18 LR LR 09 37 45.6
comp=Z,489nm,18.4s,baz=67,slow=38
JHS Saijyo 31.94 7 P P 09 24 11.3 +0.5
JHS IAmb IAmb 09 24 11.9
comp=Z,172nm,1.6s
ENH Enshi 32.32 328 IAmb IAmb 09 24 29.3
comp=Z,75nm,0.9s
ENH IAMs_20 IAMs_20 09 38 18.2
comp=Z,2μm,19.0s
CM31 Chiang Mai Arr 32.56 300 P P 09 24 17.3 +0.9
SNR=12
CMAR Chiang Mai Arr 32.56 300 P P 09 24 14.5 -2.0
comp=Z,26nm,1.0s,baz=120,slow=7.2,SNR=44
CMAR PcP **PcP 09 27 03.3 +1.3**
comp=Z,12nm,1.1s,baz=120,slow=1.5,SNR=6.8
CMAR ScP **ScP 09 30 43.0 +1.8**
comp=Z,6.7nm,0.8s,baz=159,slow=1.8,SNR=13
CMAR LR LR 09 37 25.6
comp=Z,1μm,21.8s,baz=100,slow=36
CMAR P3KPbc 09 55 43.5
comp=Z,0.9nm,0.8s,baz=296,slow=4.3,SNR=6.0
CMAR Chiang Mai Arr 32.56 300 i P P 09 24 16.8 +0.4
CMAR pmax pmax
comp=Z,27nm,1.0s
CMAR Chiang Mai Arr 32.56 300 P P 09 24 15.4 -1.1
CMAR pwP **pP 09 24 29.4 -0.7**
CHTO Chiang Mai 32.70 301 P P 09 24 17.0 -0.7
CHTO pmax pmax
comp=Z,175nm,1.5s
CHTO MLR MLR
comp=Z,1μm,21.0s
CHTO Chiang Mai 32.70 301 P P 09 24 17.0 -0.7
CHTO IAmb IAmb 09 24 21.8
comp=Z,175nm,1.5s
CHTO Chiang Mai 32.70 301 P P 09 24 18.0 +0.3
comp=Z,43nm,1.5s
KMI Kunming 32.92 314 ⇓P **P 09 24 20.5 +0.7**
KMI pP pwP 09 24 35.5 -0.9
KMI sP sP 09 24 41.0 +0.8
KMI PcP **PcP 09 27 05.3 +2.1**
KMI S **S 09 29 39.3 +5.3**
KMI SS **SnSn 09 31 42.0 +6.0**
KMI pmax pmax
comp=Z,64nm,1.3s
KMI pmax pmax
comp=Z,230nm,3.5s
KMI LR LR
comp=Z,1μm,20.9s
KMI LR LR
comp=Z,1μm,22.9s
KMI LR LR
comp=Z,2μm,21.9s
INU Inuyama 32.98 13 P P 09 24 18.2 -1.6
INU IAmb IAmb 09 24 20.9
comp=Z,55nm,0.8s
INU IAMs_20 IAMs_20 09 34 34.4
comp=Z,2μm,22.0s
INU Inuyama 32.98 13 P P 09 24 19.6 -0.2
INKA Innaminka 32.99 160 P P 09 24 20.4 +0.4
comp=Z,127nm,0.9s
TJN Taejon 33.03 358 P P 09 24 20.3 0.0
TJN pmax pmax
comp=Z,260nm,1.1s
TJN Taejon 33.03 358 P P 09 24 20.3 0.0
TJN Taejon 33.03 358 P P 09 24 20.2 0.0
QLP Quilpie 33.34 154 P P 09 24 22.9 -0.2
baz=34,SNR=7.7
QLP Quilpie 33.34 154 P P 09 24 23.2 +0.1
MULG Mulgathing 33.73 171 P P 09 24 27.0 +0.5
FORT Forrest 33.79 180 P P 09 24 26.5 -0.4
baz=34,SNR=56
FORT Forrest 33.79 180 P P 09 24 26.0 -1.0
FORT Forrest 33.79 180 P P 09 24 27.5 +0.5
HNR Honiara 33.87 112 P P 09 24 28.7 +0.8
comp=Z,146nm,0.9s,baz=159,slow=7.8,SNR=6.8
HNR LR LR 09 36 59.4
comp=Z,2μm,21.9s,baz=292,slow=34
HNR Honiara 33.87 112 IAMs_20 IAMs_20 09 37 15.7
comp=Z,2μm,20.0s
HNR Honiara 33.87 112 P P 09 24 29.6 +1.7
KSAR Wonju Array Be 34.08 359 P P 09 24 29.3 -0.1
KSAR 09 27 06.5
KSAR Wonju Array Be 34.08 359 P P 09 24 29.3 -0.1
KSAR PcP **PcP 09 27 06.5 +0.6**
KSRS Korea Array 34.09 359 P P 09 24 28.4 -1.0
comp=Z,11nm,0.7s,baz=175,slow=9.5,SNR=36
KSRS PcP **PcP 09 27 07.0 +1.0**
comp=Z,16nm,1.0s,baz=180,slow=3.7,SNR=11
KSRS ScP **ScP 09 30 47.3 +1.2**
comp=Z,2.6nm,0.8s,baz=187,slow=3.0,SNR=5.8
KSRS LR LR 09 37 05.6
comp=Z,838nm,21.4s,baz=185,slow=34
RK1H Rockhampton Ha 34.11 142 P P 09 24 30.9 +1.1
KS19 Wonju Array Si 34.14 359 IAmb IAmb 09 24 47.5
comp=Z,66nm,1.2s
MORW Morawa 34.20 199 P P 09 24 29.9 -0.7
baz=34,SNR=33
MORW Morawa 34.20 199 IAmb IAmb 09 24 30.7
comp=Z,62nm,0.8s
MORW Morawa 34.20 199 P P 09 24 30.3 -0.2
MJAR Matsushiro Arr 34.40 14 P P 09 24 29.3 -2.9
comp=Z,19nm,0.7s,baz=186,slow=8.7,SNR=26
MJAR PcP **PcP 09 27 07.7 +0.8**
comp=Z,23nm,0.8s,baz=187,slow=2.5,SNR=12
MJAR ScP **ScP 09 30 47.4 +0.1**
comp=Z,6.5nm,1.1s,baz=104,slow=4.0,SNR=4.5
MJAR LR LR 09 38 01.2
comp=Z,1μm,19.7s,baz=194,slow=36
MJAR Matsushiro Arr 34.40 14 P P 09 24 30.7 -1.5
MJAR PcP **PcP 09 27 07.6 +0.8**
MAJO Matsushiro 34.40 14 i P P 09 24 30.7 -1.5
MAJO pmax pmax
comp=Z,27nm,0.7s
MAJO Matsushiro 34.40 14 P P 09 24 30.1 -2.1
MAJO IAmb IAmb 09 24 46.7
comp=Z,90nm,1.5s
MAJO **PcP 09 27 07.8 +1.0**
MAJO Matsushiro 34.40 14 P P 09 24 31.9 -0.3
comp=Z,45nm,1.1s
MAT Matsushiro 34.40 14 P P 09 24 29.8 -2.4
MAT S **S 09 29 56.4 +0.3**
MJB9 Matsu-Tunnel 34.40 14 IAmb IAmb 09 24 46.7
comp=Z,93nm,1.5s
MJB9 **PcP 09 27 08.1 +1.2**
TIA Tai'an 34.45 344 ⇓P **P 09 24 32.0 -0.7**
TIA pmax pmax
comp=Z,72nm,1.0s
TIA pmax pmax
comp=Z,230nm,6.9s
TIA LR LR
comp=Z,730nm,19.8s
TIA LR LR
comp=Z,600nm,13.3s
TIA LR LR
comp=Z,1μm,24.5s
PZH PanZhiHua 34.47 315 P P 09 24 34.5 +1.4
PZH pP **pwP 09 24 49.0 -0.8**
PZH sP **sP 09 24 55.8 +2.2**
PZH PP **PP 09 25 53.3 +1.1**
PZH S **S 09 30 04.8 +7.0**
PZH sS **sS 09 30 24.3 +3.3**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,380nm,6.1s
PZH LR LR
comp=Z,3μm,22.9s
PZH LR LR
comp=Z,2μm,20.8s
PZH LR LR
comp=Z,5μm,24.5s
LYN LuoYang 34.53 336 ⇓ iP **P 09 24 33.5 +0.2**
LYN pP pP 09 24 48.5 +1.0
LYN S **S 09 29 59.3 +1.2**
LYN pmax pmax
comp=Z,40nm,1.3s
LYN pmax pmax
comp=Z,280nm,7.4s
LYN LR LR
comp=Z,1μm,22.2s
LYN LR LR
comp=Z,1μm,22.8s
LCRK Leigh Creek 34.75 165 P P 09 24 36.1 +0.8
COCO West Island 34.88 243 P P 09 24 37.5 +0.9
COCO pmax pmax
comp=Z,489nm,1.1s
COCO West Island 34.88 243 P P 09 24 37.5 +0.9
BLDU Ballidu 35.42 198 P P 09 24 40.4 -0.7
baz=36,SNR=30
BLDU Ballidu 35.42 198 P P 09 24 40.8 -0.3
RMQ Roma 35.49 147 P P 09 24 41.2 -0.5
baz=36,SNR=6.9
RMQ Roma 35.49 147 P P 09 24 41.4 -0.3
comp=Z,26nm,0.7s
XAN Xi'an 35.64 332 P P 09 24 42.5 -0.5
XAN pP pP 09 24 55.3 -1.6
XAN sP sP 09 25 02.0 -1.3
XAN PcP **PcP 09 27 11.5 +0.9**
XAN S **S 09 30 14.0 -1.4**
XAN ScP **ScP 09 30 52.5 +0.6**
XAN PcS **PcS 09 30 54.5 -3.5**
XAN SS **SS 09 32 40.5 -12**
XAN pmax pmax
comp=Z,210nm,1.4s
XAN LR LR
comp=Z,1μm,24.7s
XAN LR LR
comp=Z,970nm,22.7s
XAN LR LR
comp=Z,2μm,23.4s
EIDS Eidsvold 35.94 143 P P 09 24 45.3 -0.2
baz=36,SNR=5.9
EIDS Eidsvold 35.94 143 IAmb IAmb 09 24 55.8
comp=Z,60nm,1.1s
EIDS Eidsvold 35.94 143 P P 09 24 47.3 +1.7
KLBR Kellerberrin 36.05 196 P P 09 24 46.0 -0.4
baz=36,SNR=8.0
KLBR Kellerberrin 36.05 196 P P 09 24 46.2 -0.2
CD2 Chengdu 36.05 323 P P 09 24 47.3 +0.8
CD2 S **S 09 30 24.8 +3.1**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,370nm,7.0s
CD2 LR LR
comp=Z,230nm,23.8s
CD2 LR LR
comp=Z,2μm,21.8s
CD2 LR LR
comp=Z,3μm,21.7s
DL2 Dalian 36.07 351 P P 09 24 46.5 0.0
DL2 S **S 09 30 26.0 +4.4**
DL2 pmax pmax
comp=Z,53nm,0.9s
DL2 pmax pmax
comp=Z,340nm,5.6s
DL2 LR LR
comp=Z,630nm,23.5s
DL2 LR LR
comp=Z,2μm,25.0s
DL2 LR LR
comp=Z,770nm,17.7s
HNS HongShan 36.28 341 ⇓P **P 09 24 47.5 -0.8**
HNS pP **pP 09 25 02.0 -0.2**
HNS PcP **PcP 09 27 14.0 +1.7**
HNS *e*S **S 09 30 24.3 -0.5**
HNS sS **sS 09 30 48.3 +0.1**
HNS ScS **ScS 09 35 00.5 +0.4**
HNS pmax pmax
comp=Z,240nm,0.9s
HNS LR LR
comp=Z,580nm,14.9s
HNS LR LR
comp=Z,1μm,17.3s
HNS LR LR
comp=Z,1μm,16.3s
JMM Marumori 36.33 17 IAmb IAmb 09 24 51.6
comp=Z,92nm,0.7s
BBOO Buckleboo 36.55 169 P P 09 24 50.3 -0.4
baz=37,SNR=58
BBOO Buckleboo 36.55 169 P P 09 24 51.2 +0.5
MUN Mundaring 36.85 197 P P 09 24 52.9 -0.4
baz=37,SNR=14
MUN Mundaring 36.85 197 P P 09 24 53.6 +0.4
WHYH Whyalla 37.07 167 P P 09 24 55.6 +0.5
comp=Z,257nm,0.8s
STKA Stephens Creek 37.08 161 P P 09 24 54.6 -0.5
comp=Z,24nm,0.4s,baz=335,slow=8.9,SNR=31
STKA LR LR 09 42 45.7
comp=Z,1μm,18.6s,baz=331,slow=40
STKA Stephens Creek 37.08 161 P P 09 24 54.8 -0.4
baz=37,SNR=37
STKA Stephens Creek 37.08 161 P P 09 24 55.4 +0.2
TIY Taiyuan 37.33 339 ⇓P **P 09 24 57.5 +0.2**
TIY S **S 09 30 42.8 +1.7**
TIY sS **sS 09 31 10.8 +6.3**
TIY pmax pmax
comp=Z,92nm,0.9s
TIY pmax pmax
comp=Z,230nm,3.7s
TIY LR LR
comp=Z,1μm,22.0s
TIY LR LR
comp=Z,590nm,22.0s
TIY LR LR
comp=Z,1μm,25.4s
NWAO Narrogin (SRO) 37.45 196 P P 09 24 57.8 -0.5
NWAO pmax pmax
comp=Z,131nm,1.1s
NWAO Narrogin (SRO) 37.45 196 P P 09 24 57.8 -0.5
NWAO IAmb IAmb 09 24 59.4
comp=Z,131nm,1.1s
NWAO Narrogin (SRO) 37.45 196 P P 09 24 58.5 +0.2
HTT Hallett 37.77 166 P P 09 25 01.2 +0.1
baz=38,SNR=20
HTT Hallett 37.77 166 P P 09 25 03.0 +1.9
CMSA Cobar Meteorol 38.27 156 P P 09 25 05.0 -0.3
baz=38,SNR=17
CMSA Cobar Meteorol 38.27 156 P P 09 25 05.5 +0.2
BJI Beijing 38.30 345 P P 09 25 05.0 -0.4
BJI S **S 09 31 01.8 +6.2**
BJI pmax pmax
comp=Z,190nm,1.0s
BJI pmax pmax
comp=Z,220nm,5.7s
BJI LR LR
comp=Z,440nm,14.3s
BJI LR LR
comp=Z,580nm,20.9s
BJI LR LR
comp=Z,890nm,23.1s
SNY Shenyang 38.70 354 ⇓P **P 09 25 08.5 -0.2**
SNY S **S 09 31 03.3 +1.8**
SNY pmax pmax
comp=Z,31nm,0.8s
SNY LR LR
comp=Z,850nm,17.8s
SNY LR LR
comp=Z,570nm,18.0s
SNY LR LR
comp=Z,1μm,19.2s
RKGY Rocky Gully 39.11 195 P P 09 25 13.2 +1.0
baz=39,SNR=10
RKGY Rocky Gully 39.11 195 P P 09 25 13.5 +1.3
GHSS Government Hou 39.12 167 P P 09 25 14.6 +2.3
JTM Tenmabayashi 39.13 15 P P 09 25 12.5 +0.1
JTM IAmb IAmb 09 25 15.9
comp=Z,128nm,1.0s
TWOA Tennyson Woods 39.22 167 P P 09 25 14.7 +1.6
comp=Z,346nm,0.8s
LKP Lekhapani 39.27 311 *e*P **P 09 25 14.7 +0.9**
MSHR Mys Shultsa 39.29 3*ce*P **P 09 25 12.6 -1.0**
MSHR pmax pmax
comp=Z,22nm,1.0s
IMP Imphal 39.52 306 *e*P **P 09 25 14.7 -1.3**
MOKO MOKOCHONG 39.77 309 *e*P **P 09 25 16.7 -1.5**
LZH Lanzhou 39.80 328 ⇓P **P 09 25 19.3 +1.1**
LZH pP pP 09 25 29.0 -3.3
LZH sP pwP 09 25 33.5 -1.8
LZH PP **PP 09 26 49.5 -1.2**
LZH ScP **ScP 09 31 09.0 +1.3**
LZH S **S 09 31 20.5 +1.9**
LZH pmax pmax
comp=Z,230nm,1.3s
LZH pmax pmax
comp=Z,490nm,5.4s
LZH LR LR
comp=Z,2μm,13.6s
LZH LR LR
comp=Z,2μm,14.0s
LZH LR LR
comp=Z,2μm,15.7s
KOHI KOHIMA 39.80 307 *e*P **P 09 25 17.1 -1.2**
VLA Vladivostok 39.87 4 *i* P **P 09 25 18.7 +0.2**
VLA pmax pmax
comp=Z,65nm,0.9s
ARMA Armidale 40.14 148 P P 09 25 21.1 +0.1
baz=40,SNR=29
ARMA Armidale 40.14 148 P P 09 25 21.4 +0.5
ARMA Armidale 40.14 148 P P 09 25 21.5 +0.5
HHC Hu-ho-hao-te 40.43 340 ⇓P **P 09 25 23.8 +0.5**
HHC sP sP 09 25 42.5 -1.3
HHC S **S 09 31 27.0 -0.8**
HHC pmax pmax
comp=Z,170nm,1.0s
HHC pmax pmax
comp=Z,420nm,6.7s
HHC LR LR
comp=Z,1μm,19.3s
HHC LR LR
comp=Z,590nm,16.7s
HHC LR LR
comp=Z,1μm,21.8s
H11S3 WAKE ISLAND Hy 40.45 65 T T 10 08 26.8
baz=253,slow=75,SNR=262
H11S1 WAKE ISLAND Hy 40.46 65 T T 10 08 35.1
baz=253,slow=75,SNR=32
H11S2 WAKE ISLAND Hy 40.46 65 T T 10 08 36.2
baz=253,slow=75,SNR=179
CN2 Changchun 40.51 357 *e*P **P 09 25 22.3 -1.5**
CN2 *e*pP pP 09 25 34.5 -3.2
CN2 *e*PP **PP 09 27 00.0 +1.9**
CN2 *e*S **S 09 31 28.5 -0.2**
CN2 *e*sS sS 09 31 49.0 -3.2
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,430nm,22.0s
CN2 LR LR
comp=Z,1μm,22.0s
CN2 LR LR
comp=Z,520nm,22.0s
BTO Baotou 40.76 338 *e*P **P 09 25 26.5 +0.5**
ITAN ITANAGAR 40.80 309 *e*P **P 09 25 27.9 +1.5**
BELO BELONIA 40.90 302 *e*P **P 09 25 26.6 -0.7**
USA0B Ussuriysk Arra 40.95 4 P **P 09 25 26.8 -0.6**
USA0B pmax pmax
comp=Z,56nm,1.0s
USA0B Ussuriysk Arra 40.95 4 P **P 09 25 26.8 -0.6**
USRK Ussuriysk Ar. 40.95 4 P **P 09 25 27.2 -0.2**
comp=Z,37nm,0.7s,baz=182,slow=7.4,SNR=80
USRK LR LR 09 39 51.7
comp=Z,632nm,21.4s,baz=173,slow=32
H11N1 WAKE ISLAND Hy 41.01 63 T T 10 09 38.6
baz=250,slow=75,SNR=25
H11N2 WAKE ISLAND Hy 41.02 63 T T 10 09 40.8
baz=250,slow=75,SNR=8.7
H11N3 WAKE ISLAND Hy 41.02 63 T T 10 09 29.3
baz=250,slow=75,SNR=10.0
JEW Eniwo 41.16 15 IAmb IAmb 09 26 17.7
comp=Z,187nm,1.2s
MDJ Mudanjiang 41.26 1 P P 09 25 29.5 -0.4
MDJ S **S 09 31 42.8 +3.1**
MDJ pmax pmax
comp=Z,47nm,1.1s
MDJ pmax pmax
comp=Z,330nm,5.1s
MDJ LR LR
comp=Z,310nm,17.6s
MDJ LR LR
comp=Z,600nm,18.5s
MDJ LR LR
comp=Z,750nm,18.4s
MDJ Mudanjiang 41.26 1 IAmb IAmb 09 25 31.4
comp=Z,100nm,1.0s
MDJ IAMs_20 IAMs_20 09 45 28.6
comp=Z,1μm,19.0s
MDJ Mudanjiang 41.26 1 P P 09 25 30.1 +0.2
comp=Z,103nm,1.0s
SHL Shillong 41.52 306 P P 09 25 32.6 +0.1
SHL pmax pmax
comp=Z,118nm,0.8s
SHL Shillong 41.52 306 *e*P **P 09 25 32.1 -0.4**
SHL IAmb IAmb 09 25 35.2
comp=Z,95nm,1.2s
SHL Shillong 41.52 306 P P 09 25 33.0 +0.4
SNR=60
SHL Shillong 41.52 306 P P 09 25 32.6 +0.1
SHL IAmb IAmb 09 25 43.8
comp=Z,118nm,0.8s
ARPS Mount Arapiles 41.70 164 P P 09 25 34.1 +0.5
baz=42,SNR=23
ARPS Mount Arapiles 41.70 164 P P 09 25 34.6 +1.0
XLT XiLinHaoTe 41.97 347 ⇓ *i*P **P 09 25 35.5 -0.3**
XLT pP pP 09 25 48.0 -2.1
XLT sP pwP 09 25 52.3 -0.3
XLT S **S 09 31 53.8 +3.4**
XLT sS sS 09 32 15.3 +1.2
XLT pmax pmax
comp=Z,88nm,0.7s
XLT pmax pmax
comp=Z,380nm,3.5s
XLT LR LR
comp=Z,830nm,20.4s
XLT LR LR
comp=Z,1μm,16.8s
XLT LR LR
comp=Z,1μm,19.8s
TEY Ternei 42.29 9⇑ *e*P **P 09 25 38.8 +0.5**
TEY pmax pmax
comp=E,10.0nm,0.9s
TEY pmax pmax
comp=N,30nm,0.6s
TEY pmax pmax
comp=Z,50nm,0.6s
BNX BinXian 42.38 359 ⇑P **P 09 25 38.3 -0.7**
BNX pmax pmax
comp=Z,37nm,1.0s
BNX pmax pmax
comp=Z,690nm,4.0s
ASAJ Asahikawa 42.64 15 LR LR 09 40 55.8
comp=Z,777nm,21.7s,baz=201,slow=33
SANVU Saraoutou 42.66 117 P P 09 25 42.1 +0.4
SANVU IAmb IAmb 09 25 45.5
comp=Z,125nm,1.2s
SANVU Saraoutou 42.66 117 P P 09 25 43.4 +1.7
CAN Canberra 42.92 155 P P 09 25 44.4 +0.7
BRAT Ballarat 43.04 162 P P 09 25 45.6 +1.1
CNB Canberra Magne 43.07 155 P P 09 25 44.7 -0.3
baz=43,SNR=6.3
CNB Canberra Magne 43.07 155 P P 09 25 44.2 -0.7
DHUB DHUBRI 43.24 305 *e*P **P 09 25 46.1 -0.3**
DHUB IAmb IAmb 09 25 49.5
comp=Z,72nm,0.8s
TOO Toolangi 43.57 160 P P 09 25 49.7 +0.8
baz=44,SNR=5.5
TOO Toolangi 43.57 160 P P 09 25 49.4 +0.6
TOO pmax pmax
comp=Z,52nm,0.9s
TOO Toolangi 43.57 160 P P 09 25 49.4 +0.6
TOO Toolangi 43.57 160 P P 09 25 49.4 +0.6
GEXS Deakin Univers 43.75 162 P P 09 25 51.1 +0.9
LSA Lhasa 44.02 311 P P 09 25 53.5 +0.3
LSA pmax pmax
comp=Z,500nm,1.2s
GTA Gaotai 44.40 328 ⇑P **P 09 25 55.0 -0.6**
GTA pP pP 09 26 08.5 -1.4
GTA sP pwP 09 26 13.0 +0.2

GTA			PcP	**PP**	**09 27 40.0**	**-0.2**
GTA			ScP	**ScP**	**09 31 27.0**	**+1.0**
GTA			S	**S**	**09 32 24.8**	**-1.6**
GTA			ScS	**ScS**	**09 35 48.5**	**-0.3**
GTA			pmax	pmax		
	comp=Z,28nm,0.9s					
GTA			pmax	pmax		
	comp=Z,300nm,6.5s					
GTA			LR	LR		
	comp=Z,1μm,18.2s					
GTA			LR	LR		
	comp=Z,1μm,18.2s					
GTA			LR	LR		
	comp=Z,2μm,19.6s					
MILA	**Mila**	**44.48 156**	P	**P**	**09 25 55.6**	**-0.5**
	baz=45,SNR=5.5					
NOUC	**Port Laguerre**	**44.79 126**	P	**P**	**09 25 59.3**	**+0.5**
	comp=Z,26nm,1.3s					
DZM	**Mont Dzumac**	**44.89 126**	P	**P**	**09 25 59.4**	**-0.3**
	comp=Z,14nm,0.9s,baz=312,slow=9.2,SNR=9.2					
DZM			LR	LR	09 43 23.3	
	comp=Z,804nm,21.8s,baz=324,slow=34					
DZM	**Mont Dzumac**	**44.89 126**	*e*P	**P**	**09 25 59.3**	**-0.4**
	comp=Z,78nm,1.4s					
DZM			*e*S	S	09 32 23.9	-10
	comp=Z,975nm,25.9s					
DZM			*e*LR	LR	09 38 17.7	
	comp=Z,1μm,25.0s					
DZM	**Mont Dzumac**	**44.89 126**	P	**P**	**09 26 00.5**	**+0.8**
GTK	**Tadong**	**44.92 306**	*e*P	**P**	**09 26 01.6**	**+1.6**
GTK			IAmb	IAmb	09 26 04.6	
	comp=Z,121nm,1.2s					
LIFNC	**LIFOU**	**44.93 124**	P	**P**	**09 26 00.5**	**+0.5**
LIFNC			IAmb	IAmb	09 26 03.1	
	comp=Z,173nm,1.1s					
LIFNC			IAMs_20	IAMs_20	09 42 31.5	
	comp=Z,2μm,21.0s					
LIFNC	**LIFOU**	**44.93 124**	P	**P**	**09 26 01.3**	**+1.4**
GOMU	**GeErMu**	**45.12 321**	P	**P**	**09 26 02.5**	**+0.8**
GOMU			pP	pP	09 26 12.5	-3.6
GOMU			S	**S**	**09 32 39.5**	**+2.1**
GOMU			SS	**ScS**	**09 35 56.0**	**+1.9**
GOMU			pmax	pmax		
	comp=Z,27nm,1.4s					
GOMU			pmax	pmax		
	comp=Z,240nm,3.8s					
GOMU			LR	LR		
	comp=Z,630nm,19.4s					
GOMU			LR	LR		
	comp=Z,760nm,21.0s					
GOMU			LR	LR		
	comp=Z,1μm,20.8s					
YSS	**Yuzh-Sakhalins**	**45.34 14⇑**	*e*P	**P**	**09 26 02.9**	**+0.2**
YSS			*e*		09 27 41.8	
YSS			*e*S	**S**	**09 32 36.2**	**-3.1**
YSS			pmax	pmax		
	comp=Z,60nm,0.6s					
YSS			MLR	MLR		
	comp=Z,400nm,17.0s					
YSS			MLR	MLR		
	comp=N,200nm,16.0s					
YSS			MLR	MLR		
	comp=E,300nm,16.0s					
YSS	**Yuzh-Sakhalins**	**45.34 14**	P	**P**	**09 26 02.5**	**-0.3**
YSS			IAmb	IAmb	09 26 04.2	
	comp=Z,49nm,0.6s					
YSS	**Yuzh-Sakhalins**	**45.34 14**	P	**P**	**09 26 04.7**	**+2.0**
OUENC	**Ouen Island, N**	**45.38 126**	P	**P**	**09 26 03.3**	**-0.2**
CHLP	**Challavanipeta**	**45.94 293**	*e*P	**P**	**09 26 09.2**	**+1.2**
KLR	**Kul'dur**	**45.95 3**	P	**P**	**09 26 07.0**	**-0.5**
	comp=Z,104nm,0.9s,baz=197,slow=7.5,SNR=189					
KLR			LR	LR	09 43 12.2	
	comp=Z,766nm,21.7s,baz=186,slow=33					
KLR	**Kul'dur**	**45.95 3**	*ce*P	**P**	**09 26 06.6**	**-1.0**
KLR			pmax	pmax		
	comp=Z,89nm,0.8s					
VIS	**Vishakhapatnam**	**46.44 291**	*e*P	**P**	**09 26 13.5**	**+1.6**
UGL	**Uglegorsk**	**47.18 12**	*e*P	**P**	**09 26 16.5**	**-0.7**
UGL			*e*S	**S**	**09 33 05.8**	**+0.1**
UGL			pmax	pmax		
	comp=Z,540nm,5.0s					
UGL			pmax	pmax		
	comp=Z,100nm,1.0s					
GUN	**Gumba**	**47.37 306**	*e*P	**P**	**09 26 19.9**	**+0.4**
	comp=Z,409nm,1.0s					
PKI	**Pulchoki**	**47.62 305**	*e*P	**P**	**09 26 21.1**	**-0.3**
	comp=Z,276nm,1.2s					
CORO	**Coronation Par**	**47.62 161**	P	**P**	**09 26 21.6**	**+0.9**
PALK	**Pallekele**	**47.63 277**	P	**P**	**09 26 22.0**	**+0.7**
	comp=Z,30nm,1.1s,baz=177,slow=5.0,SNR=6.2					
PALK			LR	LR	09 48 51.6	
	comp=Z,360nm,18.9s,baz=200,slow=39					
PALK	**Pallekele**	**47.63 277**	P	**P**	**09 26 23.3**	**+2.0**
PALK			pmax	pmax		
	comp=Z,59nm,1.2s					
PALK	**Pallekele**	**47.63 277**	P	**P**	**09 26 23.3**	**+2.0**
PALK			IAmb	IAmb	09 26 24.1	
	comp=Z,59nm,1.2s					
PALK	**Pallekele**	**47.63 277**	IAMs_20	IAMs_20	09 45 13.4	
	comp=Z,780nm,22.0s					
PKIN	**Phulchoki**	**47.63 305**	*e*P	**P**	**09 26 21.2**	**-0.2**
	comp=Z,339nm,1.4s					
KKN	**Kakani**	**47.81 305**	*e*P	**P**	**09 26 23.4**	**+0.7**
	comp=Z,325nm,1.2s					
DMN	**Daman**	**47.88 305**	*e*P	**P**	**09 26 23.6**	**+0.3**
	comp=Z,329nm,1.2s					
GRNR	**Gornyy**	**47.88 7⇑**	*i*P	**P**	**09 26 22.7**	**0.0**
GRNR			*e*S	**S**	**09 33 19.2**	**+3.5**
GRNR			pmax	pmax		
	comp=N,50nm,1.1s					
GRNR			pmax	pmax		
	comp=Z,90nm,0.9s					
GRNR			smax	smax		
	comp=N,3.0nm,0.6s					
PVM	**Polavaram**	**47.93 290**	*e*P	**P**	**09 26 23.7**	**+0.2**
PVM			*ep*P	**pP**	**09 26 35.8**	**-1.8**
ULN	**Ulaanbaatar**	**48.14 341**	*ce*P	**P**	**09 26 24.7**	**-0.2**
ULN			pmax	pmax		
	comp=Z,77nm,1.0s					
ULN	**Ulaanbaatar**	**48.14 341**	P	**P**	**09 26 24.6**	**-0.3**
ULN			IAmb	IAmb	09 26 26.3	
	comp=Z,104nm,1.2s					
ULN	**Ulaanbaatar**	**48.14 341**	IAMs_20	IAMs_20	09 47 26.9	
	comp=Z,1μm,21.0s					
SONM	**Songino Array**	**48.33 340**	P	**P**	**09 26 26.0**	**-0.3**
	comp=Z,16nm,0.6s,baz=155,slow=9.4,SNR=110					
SONM			PcP	**PcP**	**09 27 52.8**	**+0.5**
	comp=Z,14nm,0.9s,baz=168,slow=4.2,SNR=5.8					
SONM			ScP	**ScP**	**09 31 42.7**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=200,slow=0.8,SNR=4.0					
SONM			LR	LR	09 48 16.9	
	comp=Z,908nm,21.8s,baz=164,slow=38					
GKN	**Gorkha**	**48.41 305**	*e*P	**P**	**09 26 28.0**	**+0.7**
	comp=Z,319nm,1.1s					
MOO	**Moorlands**	**48.52 161**	P	**P**	**09 26 28.6**	**+0.9**
MYLAV	**Mylavaram**	**48.76 289**	*e*P	**P**	**09 26 30.2**	**+0.3**
MYLAV			*ep*P	**pP**	**09 26 42.4**	**-1.7**
TAU	**Tasmania Unive**	**48.99 162**	P	**P**	**09 26 31.8**	**+0.6**
TAU			pmax	pmax		
	comp=Z,125nm,1.6s					
TAU	**Tasmania Unive**	**48.99 162**	P	**P**	**09 26 31.8**	**+0.6**
TAU			IAmb	IAmb	09 28 02.9	
	comp=Z,125nm,1.6s					
TYV	**Tymovskoe**	**49.00 12**	*e*P	**P**	**09 26 30.6**	**-0.6**
TYV			*e*S	**S**	**09 33 32.6**	**+1.3**
TYV			pmax	pmax		
	comp=Z,300nm,4.9s					
TYV			pmax	pmax		
	comp=Z,22nm,1.2s					
TYV			smax	smax		
	comp=E,9.0nm,1.9s					
TYV			smax	smax		
	comp=N,500nm,8.2s					
TYV			smax	smax		
	comp=E,500nm,8.2s					
SKHT	**Srikalahasti**	**49.17 285**	*e*P	**P**	**09 26 33.3**	**+0.2**
SKHT			*ep*P	**pP**	**09 26 45.8**	**-1.4**
KOLN	**Koldanda**	**49.18 304**	*e*P	**P**	**09 26 32.8**	**-0.4**
	comp=E,353nm,0.9s					
ADKI	**Addanki**	**49.23 288**	*e*P	**P**	**09 26 33.9**	**+0.4**
ADKI			*e*P	**P**	**09 26 34.0**	**+0.4**
DANN	**Dangsing**	**49.26 305**	*e*P	**P**	**09 26 34.1**	**+0.1**
	comp=E,362nm,0.8s					
PYUN	**Piuthan**	**49.80 305**	*e*P	**P**	**09 26 38.3**	**+0.3**
	comp=E,651nm,1.0s					
NJS	**Nagarjunasagar**	**49.98 289**	*e*P	**P**	**09 26 39.2**	**-0.1**
RCLA	**Racherla**	**50.14 287**	*e*P	**P**	**09 26 40.0**	**-0.5**
RCLA			*e*P	**P**	**09 26 40.6**	**+0.2**
RCLA			*e*P	**P**	**09 26 40.8**	**+0.3**
RCLA			*ep*P	**pP**	**09 26 52.3**	**-2.4**
RCLA			*ep*P	**pwP**	**09 26 52.8**	**-6.0**
CIT	**Chita**	**50.20 348**	*e*P	**P**	**09 26 40.6**	**+0.2**
CIT			*e*		09 27 00.4	
CIT			*e*		09 28 00.0	
CIT			pmax	pmax		
	comp=Z,135nm,1.8s					
SRLM	**Srisailam**	**50.30 288**	*e*P	**P**	**09 26 41.9**	**+0.2**
SRLM			*ep*P	**pP**	**09 26 54.2**	**-1.7**
ZEA	**Zeya**	**50.38 359**	*e*P	**P**	**09 26 40.7**	**-1.0**
ZEA			pmax	pmax		
	comp=E,10.0nm,0.8s					
ZEA			pmax	pmax		
	comp=N,30nm,0.9s					
ZEA			pmax	pmax		
	comp=Z,40nm,0.9s					
ZEA			MLR	MLR		
	comp=E,300nm,16.0s					
ZEA			MLR	MLR		
	comp=N,400nm,21.0s					
ZEA			MLR	MLR		
	comp=Z,400nm,17.0s					
RPR	**Rampur**	**50.42 292**	*e*P	**P**	**09 26 42.1**	**-0.5**
RPR			*ep*P	**pP**	**09 26 54.5**	**-2.3**
CUPL	**Choutuppal**	**50.47 290**	*e*P	**P**	**09 26 42.8**	**-0.2**
HYB	**Hyderabad**	**50.84 290**	*e*P	**P**	**09 26 46.0**	**+0.2**
HYB			IAmb	IAmb	09 26 50.2	
	comp=Z,62nm,0.8s					
HYBB	**Hyderabad (bro**	**50.84 290**	*e*P	**P**	**09 26 45.5**	**-0.3**
HYBB			*es*P	**pwP**	**09 27 03.0**	**-1.2**
HYBB			*e*PcP	**PcP**	**09 28 02.2**	**+0.2**
HYBB			*e*PP	**PP**	**09 28 41.3**	**-1.3**
HYBB			*e*S	**S**	**09 34 00.8**	**+2.6**
HYBB			*e*ScS	**ScS**	**09 36 32.9**	**+0.8**
SRSP	**Sriramsagar**	**51.32 292**	*e*P	**P**	**09 26 49.0**	**-0.3**
SRSP			*ep*P	**pP**	**09 27 01.3**	**-2.3**
URV	**Uravakonda**	**51.68 286**	*e*P	**P**	**09 26 51.4**	**-0.7**
FUNA	**Funafuti**	**51.99 103**	P	**P**	**09 26 55.3**	**+0.9**
KLRI	**Killari**	**52.79 290**	*e*P	**P**	**09 27 00.5**	**+0.2**
IRK	**Irkutsk**	**52.83 342**	*e*P	**P**	**09 26 57.8**	**-2.2**
IRK			pmax	pmax		
	comp=Z,62nm,1.9s					
BHPL	**Bhopal**	**53.11 297**	*e*P	**P**	**09 27 01.4**	**-1.2**
MSVF	**Nonsavu**	**53.20 115**	LR	LR	09 48 01.3	
	comp=Z,752nm,20.0s,baz=295,slow=34					
MSVF	**Nonsavu**	**53.20 115**	*i* P	**P**	**09 27 02.2**	**-1.2**
MSVF			pmax	pmax		
	comp=Z,62nm,1.0s					
MSVF	**Nonsavu**	**53.20 115**	P	**P**	**09 27 04.4**	**+1.1**
MSVF			IAmb	IAmb	09 27 06.0	
	comp=Z,64nm,1.0s					
MSVF	**Nonsavu**	**53.20 115**	P	**P**	**09 27 04.5**	**+1.1**
MOY	**Mondy**	**53.45 339**	*e*P	**P**	**09 27 05.3**	**+0.6**
MOY			pmax	pmax		
	comp=Z,90nm,2.9s					
WMQ	**Urumqi**	**54.10 324**	*e*P	**P**	**09 27 10.5**	**+0.9**
WMQ			pP	pwP	09 27 28.3	+1.5
WMQ			S	**S**	**09 34 43.3**	**+1.3**
WMQ			sS	sS	09 35 05.0	-1.8
WMQ			ScS	**ScS**	**09 36 52.0**	**-2.0**
WMQ			pmax	pmax		
	comp=Z,73nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,330nm,4.1s					
WMQ			LR	LR		
	comp=Z,1μm,17.9s					
WMQ			LR	LR		
	comp=Z,1μm,18.5s					
WMQ			LR	LR		
	comp=Z,1μm,23.5s					
DGTI	**Dogotuki**	**54.32 113**	P	**P**	**09 27 12.8**	**+1.3**
TAVE	**Taveuni**	**54.76 113**	P	**P**	**09 27 16.0**	**+1.3**
PEA0B	**Petropavlovsk-**	**55.31 21**	*ce*P	**P**	**09 27 18.6**	**+0.5**
PEA0B	**Petropavlovsk-**	**55.31 21**	IAmb	IAmb	09 27 20.1	
	comp=Z,147nm,1.5s					
PETK	**Petropavlovsk-**	**55.31 21**	P	**P**	**09 27 18.0**	**-0.1**
	comp=Z,25nm,0.5s,baz=188,slow=4.5,SNR=107					
PETK			LR	LR	09 50 27.2	
	comp=Z,260nm,19.8s,baz=205,slow=36					
POO	**Poona**	**55.44 290**	*e*P	**P**	**09 27 19.4**	**-0.3**
PET	**Petropavlovsk**	**55.59 22**	*e*P	**P**	**09 27 20.3**	**+0.3**
PET			*e*S	**S**	**09 35 01.3**	**-0.2**
PET	**Petropavlovsk**	**55.59 22**	P	**P**	**09 27 20.1**	**+0.1**
PET			IAmb	IAmb	09 27 22.1	
	comp=Z,83nm,1.3s					
PET	**Petropavlovsk**	**55.59 22**	P	**P**	**09 27 21.7**	**+1.7**
	comp=Z,181nm,1.4s					
SMLA	**Simla**	**55.60 306**	*e*P	**P**	**09 27 20.4**	**-0.1**
BOD	**Bodaibo**	**55.63 351**	*e*P	**P**	**09 27 19.4**	**-0.9**
BOD			pmax	pmax		
	comp=Z,106nm,1.5s					
DHRM	**DHARAMSHALA**	**56.67 307**	*e*P	**P**	**09 27 29.4**	**+0.9**
DGAR	**Diego Garcia**	**56.79 259**	*i* P	**P**	**09 27 29.6**	**+0.3**
DGAR			pmax	pmax		
	comp=Z,179nm,1.0s					
DGAR	**Diego Garcia**	**56.79 259**	P	**P**	**09 27 30.0**	**+0.7**
ZSN	**Zaisan**	**57.85 326**	*e*P	**P**	**09 27 34.0**	**-2.2**
ZSN	**Zaisan**	**57.85 326**	*e*P	**P**	**09 27 34.0**	**-2.2**
	baz=326					
DGZ	**Jazzator, Alta**	**57.87 330**	*c i*P	**P**	**09 27 35.9**	**-0.6**
DGZ			pmax	pmax		
	comp=Z,29nm,1.1s					
YAK	**Yakutsk**	**58.70 1**	P	**P**	**09 27 41.2**	**-0.6**
	comp=Z,152nm,0.7s,baz=170,slow=3.2,SNR=84					
YAK			LR	LR	09 51 39.1	
	comp=Z,606nm,22.0s,baz=224,slow=35					
YAK	**Yakutsk**	**58.70 1**	*ce*P	**P**	**09 27 41.1**	**-0.7**
YAK			*e**PP	**pP**	**09 27 57.6**	**+1.0**
YAK			*e*		09 28 31.5	
YAK			*e*		09 29 50.9	
YAK			*e*S	**S**	**09 35 40.3**	**-1.7**
YAK			*e*		09 37 22.6	
YAK			*e*SS	**SS**	**09 39 42.4**	**+6.5**
YAK			*e*SSS	SSS	09 42 02.4	
YAK			pmax	pmax		
	comp=Z,338nm,0.9s					
YAK			pmax	pmax		
	comp=Z,22nm,0.8s					
YAK			pmax	pmax		
	comp=E,7.0nm,0.9s					
YAK			pmax	pmax		
	comp=N,14nm,0.8s					
YAK			smax	smax		
	comp=E,39nm,1.5s					
YAK			smax	smax		
	comp=N,69nm,1.8s					
YAK	**Yakutsk**	**58.70 1**	P	**P**	**09 27 40.8**	**-1.0**
YAK			IAMs_20	IAMs_20	09 51 37.9	
	comp=Z,688nm,22.0s					
MA2	**Magadan**	**58.83 13**	*ce*P	**P**	**09 27 42.8**	**0.0**
MA2			pmax	pmax		
	comp=Z,90nm,1.0s					
MA2	**Magadan**	**58.83 13**	P	**P**	**09 27 42.2**	**-0.6**
MA2	**Magadan**	**58.83 13**	P	**P**	**09 27 43.9**	**+1.1**
PDGK	**Podgornoye**	**58.87 320**	P	**P**	**09 27 43.3**	**-0.3**
MK31	**Makanchi Array**	**58.93 325**	*e*P	**P**	**09 27 43.0**	**-0.8**
MK31	**Makanchi Array**	**58.93 325**	IAmb	IAmb	09 27 49.7	
	comp=Z,57nm,1.0s					
MKAR	**Makanchi Array**	**58.93 325**	P	**P**	**09 27 43.0**	**-0.7**
	comp=Z,27nm,0.5s,baz=120,slow=8.5,SNR=198					
MKAR			ScP	**ScP**	**09 32 28.4**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=102,slow=6.0,SNR=3.9					
MKAR			LR	LR	09 54 41.3	
	comp=Z,1μm,19.3s,baz=120,slow=38					
MKAR			PKPPKP		09 57 11.8	
	comp=Z,1.3nm,1.0s,baz=243,slow=5.3,SNR=5.0					
MKAR	**Makanchi Array**	**58.93 325**	pP	pP	09 27 54.6	-3.7
UZB	**Uzynbulak**	**59.08 320**	*e*P	**P**	**09 27 43.2**	**-1.9**
UZB			pmax	pmax		
	comp=Z,34nm,0.9s					
UZB	**Uzynbulak**	**59.08 320**	*e*P	**P**	**09 27 43.2**	**-1.9**
	comp=Z,34nm,0.9s,baz=320					
MAKZ	**Makanchi**	**59.12 325**	P	**P**	**09 27 44.7**	**-0.4**
MAKZ			pmax	pmax		
	comp=Z,90nm,1.0s					
MAKZ			MLR	MLR		
	comp=Z,2μm,20.0s					
MAKZ	**Makanchi**	**59.12 325**	P	**P**	**09 27 44.6**	**-0.4**
PRZ	**Przheval'sk**	**59.18 319**	P	**P**	**09 27 46.3**	**+0.5**
PRZ			pmax	pmax		
	comp=Z,102nm,0.9s					
PRZ	**Przheval'sk**	**59.18 319**	P	**P**	**09 27 46.3**	**+0.5**
TARG	**Taragay, Kyrgy**	**59.24 318**	IAmb	IAmb	09 27 55.6	
	comp=Z,47nm,0.8s					
DCZ	**Deep Cove**	**59.44 149**	IAmb	IAmb	09 28 01.4	
	comp=Z,106nm,1.3s					
SATY	**Saty**	**59.44 319**	*e*P	**P**	**09 27 45.6**	**-1.9**
SATY			pmax	pmax		
	comp=Z,56nm,1.0s					
SATY	**Saty**	**59.44 319**	*e*P	**P**	**09 27 45.6**	**-1.9**
	comp=Z,56nm,1.0s,baz=319					
ZHN	**Zhinishke**	**59.47 319**	*e*P	**P**	**09 27 45.8**	**-1.9**
ZHN	**Zhinishke**	**59.47 319**	*e*P	**P**	**09 27 45.9**	**-1.9**
	baz=319					
QRZ	**Quartz Range**	**59.50 142**	IAmb	IAmb	09 27 51.5	
	comp=Z,72nm,1.3s					
NIL	**Nilore**	**59.55 307**	P	**P**	**09 27 48.1**	**-0.2**
NIL			pmax	pmax		
	comp=Z,282nm,1.0s					
NIL	**Nilore**	**59.55 307**	P	**P**	**09 27 48.1**	**-0.2**
KSH	**Kashi**	**59.58 315**	P	**P**	**09 27 50.5**	**+2.0**
KSH			pP	pP	09 28 03.5	+0.3
KSH			S	**S**	**09 35 55.8**	**+1.2**
KSH			ScS	**ScS**	**09 37 32.8**	**-1.3**
KSH			pmax	pmax		
	comp=Z,89nm,1.6s					
KSH			LR	LR		
	comp=Z,460nm,24.2s					
KSH			LR	LR		
	comp=Z,560nm,21.0s					
KSH			LR	LR		
	comp=Z,800nm,29.2s					
KDJ	**Kajisay**	**59.84 318**	P	**P**	**09 27 50.3**	**0.0**
KDJ			pmax	pmax		
	comp=Z,95nm,1.0s					
KDJ	**Kajisay**	**59.84 318**	P	**P**	**09 27 50.3**	**0.0**
BHUJ	**Bhuj**	**60.10 295**	*e*P	**P**	**09 27 53.3**	**+1.1**
THZ	**Tophouse**	**60.28 143**	P	**P**	**09 27 52.5**	**-0.7**
THZ			IAmb	IAmb	09 28 02.9	
	comp=Z,46nm,0.7s					
LBZ	**Lake Benmore**	**60.33 147**	P	**P**	**09 27 52.9**	**-0.5**
LBZ			IAmb	IAmb	09 28 02.4	
	comp=Z,56nm,0.8s					
TDK	**Taldyqorghan**	**60.35 321**	*e*P	**P**	**09 27 51.8**	**-1.7**
TDK			pmax	pmax		
	comp=Z,84nm,1.1s					
TDK	**Taldyqorghan**	**60.35 321**	*e*P	**P**	**09 27 51.9**	**-1.7**
	comp=Z,84nm,1.1s,baz=321					
MDOK	**Medeo**	**60.38 319**	P	**P**	**09 27 54.5**	**+0.5**
MDOK	**Medeo**	**60.38 319**	*e*P	**P**	**09 27 52.4**	**-1.6**
	baz=319					
RPZ	**Rata Peaks**	**60.39 146**	P	**P**	**09 27 54.1**	**+0.3**
RPZ			IAmb	IAmb	09 28 03.1	
	comp=Z,53nm,0.8s					
NNVZ	**North Ngauruho**	**60.50 139**	P	**P**	**09 27 57.4**	**+2.6**
ULHL	**Ulahol**	**60.52 318**	P	**P**	**09 27 55.6**	**+0.6**
	SNR=18					
OTVZ	**Oturere**	**60.55 139**	P	**P**	**09 27 57.6**	**+2.4**
RAO	**Raoul Island**	**60.69 126**	LR	LR	09 51 33.9	
	comp=Z,513nm,21.9s,baz=302,slow=33					
OXZ	**Oxford**	**60.71 145**	IAmb	IAmb	09 28 04.6	
	comp=Z,30nm,0.7s					
CHKK	**Chushkaly**	**60.72 320**	*e*P	**P**	**09 27 54.9**	**-1.3**
	baz=320					
BOOM	**Boomskoye usch**	**60.82 318**	IAmb	IAmb	09 28 15.6	
	comp=Z,39nm,1.0s					
URZ	**Urewera**	**61.04 137**	LR	LR	09 55 01.4	
	comp=Z,1μm,19.1s,baz=312,slow=37					
KHZ	**Kahutara**	**61.05 143**	IAmb	IAmb	09 28 07.0	
	comp=Z,36nm,0.9s					
BKZ	**Black Stump Fm**	**61.10 139**	P	**P**	**09 27 59.4**	**+0.6**
KUU	**Kurty**	**61.16 319**	*e*P	**P**	**09 27 57.4**	**-1.7**
KUU			pmax	pmax		
	comp=Z,57nm,1.0s					
KUU	**Kurty**	**61.16 319**	*e*P	**P**	**09 27 57.4**	**-1.7**
	comp=Z,57nm,1.0s,baz=319					
MTHZ	**Maungataniwha**	**61.16 138**	P	**P**	**09 28 01.1**	**+1.9**
TKM2	**Tokmak 2**	**61.23 318**	P	**P**	**09 27 59.2**	**-0.6**
	SNR=31					
HAZ	**Te Kaha**	**61.24 137**	P	**P**	**09 28 01.6**	**+1.9**
NMHZ	**Naumai**	**61.27 138**	P	**P**	**09 28 01.8**	**+1.9**
KRHZ	**Kereru**	**61.27 139**	P	**P**	**09 28 00.6**	**+0.7**
MWZ	**Matawai**	**61.36 137**	P	**P**	**09 28 00.8**	**+0.3**
RAHZ	**Arahi**	**61.36 138**	P	**P**	**09 28 01.9**	**+1.4**
MCHZ	**McNeill Hill**	**61.38 139**	P	**P**	**09 28 02.1**	**+1.5**
KBK	**Karagaybulak**	**61.56 318**	P	P	09 28 06.9	+4.9
	SNR=5.5					
TWGZ	**Tauwhareparae**	**61.59 137**	P	**P**	**09 28 03.6**	**+1.5**
UCH	**Uchtor**	**61.68 317**	P	**P**	**09 28 04.3**	**+1.1**
	SNR=54					
KAHZ	**Kahuranaki**	**61.68 139**	P	**P**	**09 28 03.5**	**+0.8**
AFI	**Afiamalu**	**61.72 108**	LR	LR	09 50 53.1	
	comp=Z,656nm,21.6s,baz=284,slow=32					
ZAA0	**Zalesovo Array**	**61.81 332**	IAmb	IAmb	09 28 03.9	
	comp=Z,52nm,1.0s					
ZALV	**Zalesovo Beam**	**61.81 332**	P	**P**	**09 28 02.0**	**-1.2**
	comp=Z,43nm,0.9s,baz=112,slow=5.8,SNR=94					
ZALV			S	**S**	**09 36 23.9**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=105,slow=11,SNR=4.1					
ZALV			LR	LR	09 56 45.8	
	comp=Z,692nm,20.5s,baz=138,slow=38					
ZALV			PKPPKP	**P'P'df**	**09 57 13.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=313,slow=9.5,SNR=4.5					
ZALV	**Zalesovo Beam**	**61.81 332**	P	**P**	**09 28 01.7**	**-1.5**
CHMS	**Chumysh**	**61.83 318**	P	**P**	**09 28 03.8**	**+0.1**
	SNR=15					
AAK	**Ala-Archa**	**61.85 317**	P	**P**	**09 28 04.5**	**+0.5**
	comp=Z,5.3nm,0.4s,baz=125,slow=6.7,SNR=12					
AAK			S	**S**	**09 36 25.3**	**+1.7**
	comp=Z,0.8nm,0.4s,baz=241,slow=24,SNR=3.6					
AAK			LR	LR	09 57 01.5	
	comp=Z,2μm,21.4s,baz=99,slow=38					
AAK	**Ala-Archa**	**61.85 317**	*ce*P	**P**	**09 28 03.6**	**-0.4**
AAK			pmax	pmax		
	comp=Z,72nm,2.5s					
AAK	**Ala-Archa**	**61.85 317**	P	**P**	**09 28 04.2**	**+0.2**
AAK	**Ala-Archa**	**61.85 317**	*i* P	**P**	**09 28 05.0**	**+1.0**
	SNR=7.7					
CNGZ	**Carnagh Statio**	**61.89 137**	P	**P**	**09 28 04.6**	**+0.5**
SEM	**Semipalatinsk**	**62.03 327**	*e*P	**P**	**09 28 03.3**	**-1.7**
SEM	**Semipalatinsk**	**62.03 327**	*e*P	**P**	**09 28 03.4**	**-1.7**
	baz=327					
SGDS	**Sogindy**	**62.10 318**	*e*P	**P**	**09 28 03.6**	**-1.9**
	baz=318					
SHEM	**Shemya Is, Ala**	**62.10 30**	LR	LR	09 50 36.7	
	comp=Z,474nm,21.2s,baz=266,slow=32					
USP	**Ospenovka**	**62.11 318**	P	**P**	**09 28 05.4**	**-0.2**
	SNR=37					
SEY	**Seymchan**	**62.19 12**	P	**P**	**09 28 05.8**	**+0.2**
	comp=Z,95nm,1.0s,baz=213,slow=6.2,SNR=124					
SEY			LR	LR	09 54 11.5	
	comp=Z,170nm,21.8s,baz=208,slow=35					
AML	**Almayashu**	**62.20 317**	P	**P**	**09 28 07.5**	**+0.9**
	SNR=38					
AML	**Almayashu**	**62.20 317**	*i* P	**P**	**09 28 07.0**	**+0.4**
	SNR=122					
EKS2	**Erkin-Say**	**62.35 317**	P	**P**	**09 28 08.1**	**+0.8**
	SNR=19					
KURK	**Kurchatov**	**63.07 327**	P	**P**	**09 28 11.1**	**-0.6**
KURK			IAMs_20	IAMs_20	09 57 20.2

KKAR pwP **pP** **09 28 36.8 -1.0**
BRLS Borolday 65.18 316 *e*P **P** **09 28 24.1 -1.6**
BRLS pmax pmax
comp=Z,20nm,1.1s
BRLS Borolday 65.18 316 *e*P **P** **09 28 24.1 -1.6**
comp=Z,20nm,1.1s,baz=316
OTUK Ortayu 65.54 322 P **P** **09 28 27.1 -0.9**
BRZS Berezniki 66.07 324 *e*P **P** **09 28 29.5 -1.9**
BRZS pmax pmax
comp=Z,32nm,1.5s
BRZS Berezniki 66.07 324 *e*P **P** **09 28 29.5 -1.9**
comp=Z,32nm,1.5s,baz=324
ATKA Atka Island 68.00 34 P **P** **09 28 44.0 +0.5**
TIXI Tiksi 68.36 0 P **P** **09 28 44.0 -1.4**
comp=Z,58nm,0.5s,baz=152,slow=5.6,SNR=143
TIXI S **S** **09 37 38.2 -3.7**
comp=Z,0.7nm,0.3s,baz=3.2,slow=20,SNR=15
TIXI LR LR 09 57 30.0
comp=Z,602nm,21.9s,baz=192,slow=35
TIXI Tiksi 68.36 0 P **P** **09 28 43.6 -1.8**
TIXI S **S** **09 37 39.6 -2.3**
TIXI pmax pmax
comp=Z,107nm,1.0s
TIXI Tiksi 68.36 0 P **P** **09 28 43.6 -1.8**
TIXI **S** **09 37 39.6 -2.3**
TIXI IAMs_20 IAMs_20 09 56 57.7
comp=Z,620nm,19.0s
HRA Herat 68.58 306 IAmb IAmb 09 28 51.8
comp=Z,74nm,1.2s
BVAR Borovoye Array 68.66 327 P **P** **09 28 46.8 -0.8**
comp=Z,52nm,1.0s,baz=99,slow=9.2,SNR=90
BRVK Borovoye 68.73 327 P **P** **09 28 47.2 -0.9**
BRVK pmax pmax
comp=Z,85nm,0.9s
BRVK MLR MLR
comp=Z,600nm,19.0s
BRVK Borovoye 68.73 327 P **P** **09 28 47.2 -0.9**
BRVK IAmb IAmb 09 28 53.6
comp=Z,85nm,0.9s
BRVK Borovoye 68.73 327 IAMs_20 IAMs_20 10 00 43.9
comp=Z,612nm,19.0s
JLN Jalan Bani Buh 69.33 292 P **P** **09 28 55.0 +2.6**
SNR=11
JLN P **P** **09 28 55.0 +2.6**
SNR=11
BILL Bilibino 69.65 14 *d i* P **P** **09 28 52.9 -0.6**
BILL *i* *PP **pP** **09 29 01.0 -7.6**
BILL *e* 09 29 16.8
BILL *e*S **S** **09 37 52.8 -4.5**
BILL *e**SS **sS** **09 38 19.9 -1.6**
BILL pmax pmax
comp=Z,15nm,0.6s
BILL MLR MLR
comp=Z,242nm,19.0s
BILL Bilibino 69.65 14 P **P** **09 28 52.0 -1.4**
BILL IAMs_20 IAMs_20 09 56 23.7
comp=Z,423nm,21.0s
WBK Wadi Bani Khal 69.78 293 P **P** **09 28 58.0 +2.8**
SNR=18
WSAR Wadi Sarin 70.14 293 LR LR 09 59 10.9
comp=Z,160nm,21.8s,baz=106,slow=36
WSAR Wadi Sarin 70.14 293 P **P** **09 28 59.0 +1.6**
SNR=18
CASY Casey 70.50 188 P **P** **09 28 59.0 +0.3**
CASY IAmb IAmb 09 29 06.3
comp=Z,41nm,0.8s
JMDO Jabal Madar 70.55 292 P **P** **09 29 02.0 +2.1**
SNR=19
JMDO P **P** **09 29 02.0 +2.1**
SNR=19
BIDO Bidbid 70.63 294 P **P** **09 29 01.0 +0.6**
SNR=29
SMDO Samad 70.66 293 P **P** **09 29 03.1 +2.5**
SNR=8.9
SMDO P **P** **09 29 03.1 +2.5**
SNR=8.9
DQM DQM 70.91 290 P **P** **09 29 03.0 +0.9**
SNR=48
NIKH Nikolski High 71.31 35 P **P** **09 29 03.8 -0.1**
baz=250
NRIK Noril'sk 71.34 346 P **P** **09 29 02.7 -1.0**
comp=Z,47nm,0.8s,baz=130,slow=6.1,SNR=78
NRIK S **S** **09 38 13.3 -3.6**
comp=Z,0.7nm,0.3s,baz=120,slow=22,SNR=6.0
NRIK LR LR 10 02 58.5
comp=Z,603nm,21.9s,baz=142,slow=38
NRIK Noril'sk 71.34 346 *ce*P **P** **09 29 02.5 -1.2**
NRIK pmax pmax
comp=Z,75nm,0.9s
NRIK Noril'sk 71.34 346 IAmb IAmb 09 29 04.3
comp=Z,63nm,0.9s
HOQ Hoqain 71.38 294 P **P** **09 29 06.0 +1.0**
SNR=13
HOQ P **P** **09 29 06.0 +1.0**
SNR=13
ARQ Araqi 72.08 293 P **P** **09 29 12.0 +2.8**
SNR=10
SPIA Saint Paul Isl 72.12 30 P **P** **09 29 08.8 +0.2**
baz=247
SOHO SOHO 72.13 294 *i* P **P** **09 29 08.7 -0.8**
SNR=7.0
BANOM Banah 72.50 296 P **P** **09 29 11.9 +0.3**
UOSS Minazif 72.50 295 P **P** **09 29 11.0 -0.6**
UOSS Minazif 72.50 295 P **P** **09 29 11.3 -0.3**
GEYT Alibeck 72.51 309 P **P** **09 29 11.8 +0.4**
comp=Z,47nm,0.8s,baz=96,slow=9.1,SNR=21
GEYT LR LR 10 05 45.6
comp=Z,489nm,19.7s,baz=81,slow=40
GEYT Alibeck 72.51 309 P **P** **09 29 11.8 +0.4**
GEYT IAmb IAmb 09 29 16.9
comp=Z,61nm,0.9s
GYA0B ALIBECK ARRAY 72.51 309 IAmb IAmb 09 29 16.9
comp=Z,75nm,0.9s
HATD Hatta, Dubai 72.55 295 P **P** **09 29 15.0 +3.0**
SNR=9.2
HATD P **P** **09 29 15.0 +3.0**
SNR=9.2
HATD Hatta, Dubai 72.55 295 *i* P **P** **09 29 12.1 +0.2**
SNR=16
MSFE Esma-Masafi 72.57 295 *i* P **P** **09 29 12.7 +0.7**
SNR=8.7
MASF Masafi 72.57 295 P **P** **09 29 15.1 +3.0**
SNR=8.5
MASF P **P** **09 29 15.1 +3.0**
SNR=8.5
ASHO Ashiyiah 72.61 295 P **P** **09 29 16.0 +3.7**
SNR=7.7
ASHO Ashiyiah 72.61 295 *i* P **P** **09 29 11.9 -0.4**
SNR=7.7
SHAO Shalim 72.62 288 P **P** **09 29 16.0 +3.6**
SNR=6.4
SHAO P **P** **09 29 16.0 +3.6**
SNR=6.4
SHAO Shalim 72.62 288 P **P** **09 29 12.7 +0.3**
SHME Shamm 72.65 296 P **P** **09 29 16.2 +3.7**
SNR=6.6
SHME Shamm 72.65 296 *i* P **P** **09 29 12.6 +0.1**
SNR=13
ALNE Al Ain 72.84 294 P **P** **09 29 14.4 +0.8**
SNR=28
ALNE P **P** **09 29 14.4 +0.8**
SNR=28
ALNE Al Ain 72.84 294 *i* P **P** **09 29 13.0 -0.6**
SNR=16
NAZ Nazwa, Dubai 72.99 295 P **P** **09 29 18.0 +3.5**
SNR=6.9
FAQ Al Faqa, Dubai 73.04 295 P **P** **09 29 18.0 +3.2**
SNR=8.7
FAQ Al Faqa, Dubai 73.04 295 *i* P **P** **09 29 15.1 +0.3**
SNR=6.5
ASUD Al Ashush, Dub 73.27 295 P **P** **09 29 18.0 +1.8**
SNR=14
ASUD Al Ashush, Dub 73.27 295 *i* P **P** **09 29 16.2 0.0**
SNR=25
AJN Ajban 73.57 295 P **P** **09 29 20.5 +2.6**
SNR=8.3
AJN Ajban 73.57 295 *i* P **P** **09 29 18.5 +0.5**
SNR=5.5
AB31 Akbulak array 73.60 321 *i* P **P** **09 29 15.9 -1.7**
ABKAR Akbulak array 73.60 321 P **P** **09 29 16.2 -1.3**
ABKAR Akbulak array 73.60 321 IAmb IAmb 09 29 25.1
comp=Z,58nm,1.1s
DHH Diamond Head 73.77 69 P **P** **09 29 21.4 +2.2**
DHH Diamond Head 73.77 69 P **P** **09 29 21.4 +2.2**
RBK Rabkut 73.95 287 P **P** **09 29 22.4 +2.1**
SNR=5.6
RBK P **P** **09 29 22.4 +2.1**
SNR=5.6
DOK Doka 74.06 288 P **P** **09 29 22.0 +1.1**
SNR=14
DOK P **P** **09 29 22.0 +1.1**
SNR=14
SOCY Socotra 74.08 282 P **P** **09 29 20.8 -0.3**
SNR=9.2
GAMB Gambell 74.22 24 IAmb IAmb 09 29 22.7
comp=Z,69nm,1.1s
GAMB Gambell 74.22 24 P **P** **09 29 21.0 +0.2**
baz=244
RAR Rarotonga 74.32 113 LR LR 09 59 32.7
comp=Z,242nm,20.3s,baz=279,slow=34
WHFO Wadi Hawf 74.38 288 P **P** **09 29 25.0 +2.2**
SNR=15
WHFO P **P** **09 29 25.0 +2.2**
SNR=15
ABTO Aybut 74.81 287 P **P** **09 29 28.1 +2.8**
SNR=9.4
ABTO P **P** **09 29 28.1 +2.8**
SNR=9.4
FALS False Pass 74.95 34 P **P** **09 29 24.4 -0.9**
baz=254
AKTO Aktyubinsk 75.09 321 P **P** **09 29 25.7 -0.6**
comp=Z,26nm,0.9s,baz=102,slow=5.5,SNR=20
AKTO LR LR 10 05 27.6
comp=Z,818nm,18.8s,baz=107,slow=38
SVE Sverdlovsk 75.27 328 *e*P **P** **09 29 26.9 -0.2**
SVE *e*S **S** **09 39 01.3 -0.6**
SVE pmax pmax
comp=Z,83nm,1.2s
HMH Humu'ula Sheep 75.88 71 P **P** **09 29 30.8 -0.9**
MLH Mauna Loa 75.97 71 P **P** **09 29 31.7 -0.5**
ARU Arti 76.26 328 P **P** **09 29 31.5 -1.3**
comp=Z,2.7nm,0.4s,baz=90,slow=3.9,SNR=17
ARU LR LR 10 05 28.0
comp=Z,394nm,21.4s,baz=104,slow=38
ARU Arti 76.26 328 *c i* P **P** **09 29 31.7 -1.1**
ARU *PP **PcP** **09 29 45.4 +0.9**
ARU 09 32 22.2
ARU S **S** **09 39 14.1 +1.3**
ARU SS **SS** **09 44 04.8 -2.8**
ARU pmax pmax
comp=Z,28nm,1.2s
ARU Arti 76.26 328 P **P** **09 29 31.2 -1.5**
ARU IAmb IAmb 09 29 40.4
comp=Z,47nm,0.9s
TNA Tin City 76.44 23 P **P** **09 29 33.5 0.0**
baz=247,SNR=7.2
SDPT Sand Point 76.71 34 P **P** **09 29 34.1 -1.2**
baz=256
ANM Nome 77.07 24 P **P** **09 29 37.0 -0.3**
baz=250
CHNA Chernabura Isl 77.09 34 P **P** **09 29 36.5 -1.0**
baz=257
RDOG Red Dog Mine 79.19 21 P P 09 30 00.0 +11
baz=251,SNR=59
CHIR Chirikof Islan 79.51 34 P **P** **09 29 49.9 -0.9**
baz=260
SBV Sambava 79.54 256 P P 09 29 59.2 +7.4
P18K Big Mountain, 80.34 30 P **P** **09 29 53.9 -1.4**
baz=260
O18K Koktuh Hills 80.43 30 P **P** **09 29 56.4 +0.6**
O18K IAmb IAmb 09 29 57.4
comp=Z,114nm,1.5s
O18K Koktuh Hills 80.43 30 P **P** **09 29 55.7 -0.1**
baz=260
TTA Tatalina 80.63 27 IAmb IAmb 09 29 59.6
comp=Z,74nm,1.4s
TTA Tatalina 80.63 27 P **P** **09 29 57.1 +0.3**
baz=259,SNR=16
GCSA Galena City Sc 80.63 25 P **P** **09 29 56.6 -0.1**
baz=258,SNR=33
O19K Port Alsworth 80.93 30 IAmb IAmb 09 30 01.7
comp=Z,69nm,1.4s
O19K Port Alsworth 80.93 30 P **P** **09 29 57.9 -0.5**
baz=260
N19K Bonanza Creek 80.95 29 IAmb IAmb 09 30 02.5
comp=Z,63nm,1.1s
N19K Bonanza Creek 80.95 29 P **P** **09 29 58.7 0.0**
baz=260
OHAK Old Harbor 81.00 33 P **P** **09 29 58.1 -0.8**
baz=262
L19K White Mountain 81.01 28 IAmb IAmb 09 30 01.9
comp=Z,60nm,1.2s
L19K White Mountain 81.01 28 P **P** **09 29 59.2 +0.4**
baz=260,SNR=19
Q19K Cape Douglas, 81.07 31 P **P** **09 29 59.4 +0.1**
baz=261
MAK Makhachkala 81.14 313 *c i* P **P** **09 29 56.2 -3.7**
MAK *e**PP **PcP** **09 30 08.3 +2.2**
MAK *e* 09 33 03.9
MAK *e*S **S** **09 40 02.2 -3.3**
MAK pmax pmax
comp=Z,110nm,0.6s
MAK MLR MLR
comp=Z,261nm,19.0s
KDAK Kodiak Island 81.46 32 P **P** **09 30 00.9 -0.3**
comp=Z,29nm,0.9s,baz=274,slow=3.7,SNR=9.9
KDAK LR LR 10 00 27.0
comp=Z,350nm,20.2s,baz=263,slow=32
KDAK Kodiak Island 81.46 32 P **P** **09 30 00.9 -0.3**
KDAK pmax pmax
comp=Z,153nm,1.4s
KDAK Kodiak Island 81.46 32 IAmb IAmb 09 32 05.2
comp=Z,153nm,1.4s
KDAK Kodiak Island 81.46 32 P **P** **09 30 01.6 +0.4**
baz=262
L20K Farewell, AK 81.51 27 P **P** **09 30 01.6 +0.1**
baz=261
KIRV Kirov 81.53 329 P **P** **09 30 00.9 -0.7**
comp=Z,38nm,0.9s,baz=147,slow=7.1,SNR=14
KIRV LR LR 10 08 46.7
comp=Z,598nm,21.9s,baz=94,slow=38
KIRV Kirov 81.53 329 *ce*P **P** **09 30 00.6 -0.9**
J20K Nowinta River 81.68 26 IAmb IAmb 09 30 05.0
comp=Z,64nm,1.1s
J20K Nowinta River 81.68 26 P **P** **09 30 02.8 +0.5**
baz=260
O20K Slope Mountain 81.75 30 P **P** **09 30 03.3 +0.5**
baz=262
IMAR Indian Mountai 82.16 24 pP 09 30 14.3 -6.0
HOM Homer 82.18 30 P **P** **09 30 05.5 +0.5**
baz=263
A21K Barrow 82.20 18 P **P** **09 30 04.9 0.0**
baz=257
RAYN Ar Rayn 82.20 293 P **P** **09 30 05.0 -1.0**
RAYN pmax pmax
comp=Z,29nm,0.9s
RAYN Ar Rayn 82.20 293 P **P** **09 30 05.0 -1.0**
RAYN Ar Rayn 82.20 293 *i* P **P** **09 30 05.7 -0.3**
SNR=21
PPLA Purkeypile 82.35 27 IAmb IAmb 09 30 08.1
comp=Z,107nm,1.6s
PPLA Purkeypile 82.35 27 P **P** **09 30 05.8 -0.2**
baz=262,SNR=7.7
GROC Groznyy 82.41 313 *e*P **P** **09 30 02.2 -4.4**
GROC pmax pmax
comp=Z,8.0nm,0.4s
CHUM Lake Minchumin 82.43 26 P **P** **09 30 06.6 +0.3**
baz=262,SNR=24
CAST Castle Rocks 82.47 27 P **P** **09 30 06.2 -0.2**
baz=262,SNR=17
H21K Melozitna Rive 82.49 24 IAmb IAmb 09 30 09.1
comp=Z,87nm,1.1s
H21K Melozitna Rive 82.49 24 P **P** **09 30 06.9 +0.4**
baz=261
CAPN Captain Cook N 82.56 29 P **P** **09 30 06.9 -0.1**
baz=263
BRSE Bradley Lake S 82.65 30 P **P** **09 30 06.6 -0.9**
baz=264
ABPO Ambohimpanom 82.68 250 P **P** **09 30 08.3 -0.4**
ABPO pmax pmax
comp=Z,35nm,1.0s
ABPO Ambohimpanom 82.68 250 P **P** **09 30 08.2 -0.4**
VNDA Vanda 82.70 173 P **P** **09 30 07.4 0.0**
comp=Z,14nm,0.9s,baz=323,slow=7.1,SNR=13
VNDA LR LR 10 07 48.3
comp=Z,276nm,18.4s,baz=340,slow=36
VNDA Vanda 82.70 173 P **P** **09 30 07.4 0.0**
VNDA pmax pmax
comp=Z,61nm,1.0s
VNDA Vanda 82.70 173 P **P** **09 30 07.4 0.0**
VNDA IAmb IAmb 09 30 22.7
comp=Z,61nm,0.9s
I21K Tanana 82.76 25 IAmb IAmb 09 30 10.5
comp=Z,110nm,1.1s
I21K Tanana 82.76 25 P **P** **09 30 08.2 +0.3**
baz=262
SUA Susitna One 82.84 29 IAmb IAmb 09 30 19.4
comp=Z,181nm,1.8s
KTH Kantishna Hill 83.00 26 IAmb IAmb 09 30 11.6
comp=Z,103nm,1.2s
BPAW Bear Paw Mtn. 83.04 26 IAmb IAmb 09 30 11.4
comp=Z,93nm,1.2s
BPAW Bear Paw Mtn. 83.04 26 P **P** **09 30 09.6 +0.1**
baz=263,SNR=25
GNI Garni 83.08 310 P **P** **09 30 10.4 +0.1**
comp=Z,18nm,1.1s,baz=150,slow=20,SNR=1.9
GNI LR LR 10 12 11.2
comp=Z,236nm,21.8s,baz=84,slow=39
GNI Garni 83.08 310 P **P** **09 30 10.4 +0.1**
GNI pmax pmax
comp=Z,144nm,1.5s
CUT Chulitna 83.17 28 P **P** **09 30 09.0 -1.1**
baz=264,SNR=10
M22K Willow 83.17 28 P **P** **09 30 08.9 -1.1**
baz=264,SNR=8.4
O22K Cooper Landing 83.23 30 P **P** **09 30 09.5 -0.9**
baz=264
TRF Thorofare Moun 83.27 27 IAmb IAmb 09 30 12.1
comp=Z,91nm,1.2s
TRF Thorofare Moun 83.27 27 P **P** **09 30 10.0 -0.8**
baz=264,SNR=14
RC01 Rabbit Creek A 83.28 29 P **P** **09 30 09.9 -0.8**
baz=264
SEW Seward 83.33 30 P **P** **09 30 10.2 -0.8**
baz=265
PPT Papeete 83.39 108 P **P** **09 30 13.1 +1.0**
comp=Z,90nm,1.0s,baz=330,slow=2.2,SNR=4.1
PPT LR LR 10 02 53.1
comp=Z,224nm,20.5s,baz=269,slow=32
PPT2 Papeete2 83.39 108 *e*P **P** **09 30 13.7 +1.5**
comp=Z,182nm,1.3s
PPT2 Papeete2 83.39 108 *e*S **S** **09 40 22.3 -7.2**
comp=Z,176nm,23.0s
PPT2 Papeete2 83.39 108 *e*LQ LQ 09 52 32.7
comp=Z,1μm,34.0s
PPT2 *e*LR LR 09 55 56.2
comp=Z,967nm,27.8s,baz=289
VOI Vohitsoka 83.39 248 P **P** **09 30 12.9 +0.7**
SNR=5.5
VOI Vohitsoka 83.39 248 P **P** **09 30 12.1 -0.1**
VOI IAmb IAmb 09 30 15.7
comp=Z,75nm,1.2s
VOI Vohitsoka 83.39 248 P **P** **09 30 12.6 +0.4**
PAE Paea 83.39 108 *e*P **P** **09 30 13.2 +1.1**
comp=Z,31nm,1.3s
PPTF Pamatai, Papee 83.40 108 P **P** **09 30 13.6 +1.3**
PPTF Pamatai, Papee 83.40 108 P **P** **09 30 13.4 +1.1**
TIAR Tiarei 83.61 108 *e*P **P** **09 30 14.2 +0.9**
PMR Palmer 83.62 28 IAmb IAmb 09 30 13.7
comp=Z,76nm,1.2s
PMR Palmer 83.62 28 P **P** **09 30 11.8 -0.6**
baz=265,SNR=16
GHO Glory Hole Cre 83.73 28 IAmb IAmb 09 30 21.8
comp=Z,36nm,0.9s
COLD Coldfoot 83.74 23 P **P** **09 30 13.1 +0.1**
baz=263
PRGR Permogore 83.75 332 *e*P **P** **09 30 12.1 -1.0**
PRGR *e* 09 33 25.4
PRGR *e*S **S** **09 40 36.8 +5.5**
PRGR pmax pmax
comp=Z,98nm,1.0s
MAW Mawson 83.83 201 P **P** **09 30 13.9 +0.5**
comp=Z,25nm,0.9s,baz=59,slow=3.6,SNR=9.9
MAW LR LR 10 08 28.7
comp=Z,203nm,18.2s,baz=58,slow=36
MAW Mawson 83.83 201 P **P** **09 30 13.8 +0.5**
MAW pmax pmax
comp=Z,52nm,1.9s
MAW Mawson 83.83 201 P **P** **09 30 13.8 +0.4**
I23K Minto, Yukon-K 83.85 25 P **P** **09 30 13.9 +0.3**
baz=264,SNR=83
MCK McKinley 83.90 26 P **P** **09 30 12.8 -1.1**
baz=265,SNR=30
RND Reindeer 83.91 27 IAmb IAmb 09 30 14.9
comp=Z,96nm,1.1s
NEA2 Nenana 83.92 25 IAmb IAmb 09 30 16.5
comp=Z,43nm,1.0s
NEA2 Nenana 83.92 25 P **P** **09 30 14.4 +0.4**
baz=265,SNR=11
KNK Knik Glacier 83.93 29 P **P** **09 30 14.2 +0.1**
baz=266,SNR=13
PWL Port Wells 83.94 29 P **P** **09 30 13.7 -0.5**
baz=266,SNR=7.9
SML Sawmill 84.02 28 P **P** **09 30 14.2 -0.3**
baz=266,SNR=17
MDM Murphy Dome 84.31 25 IAmb IAmb 09 30 19.0
comp=Z,42nm,1.1s
WRH Wood River Hil 84.33 26 IAmb IAmb 09 30 17.0
comp=Z,67nm,1.2s
PYA1 Pyatigorsk 84.40 314 P **P** **09 30 17.0 +0.2**
TCOL CIGO, UAF Yank 84.46 25 P **P** **09 30 16.6 -0.1**
baz=266
COLA College 84.47 25 *i* P **P** **09 30 14.2 -2.4**
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 84.47 25 P **P** **09 30 15.4 -1.3**
COLA College 84.47 25 P **P** **09 30 16.3 -0.3**
baz=266
CCB Clear Creek Bu 84.47 25 IAmb IAmb 09 30 17.4
comp=Z,65nm,1.2s
SCM Sheep Creek Mo 84.50 28 P **P** **09 30 16.6 -0.4**
baz=266,SNR=13
H24K Noodor Dome 84.53 24 IAmb IAmb 09 30 19.4
comp=Z,80nm,1.2s
H24K Noodor Dome 84.53 24 P **P** **09 30 17.3 +0.2**
baz=266
KBZ Khabaz 84.53 313 P **P** **09 30 16.6 -0.8**
comp=Z,4.1nm,0.7s,baz=138,slow=5.4,SNR=5.0
KBZ LR LR 10 12 19.4
comp=Z,308nm,20.3s,baz=79,slow=39
KBZ Khabaz 84.53 313 *ce*P **P** **09 30 16.1 -1.3**
KBZ pmax pmax
comp=Z,33nm,2.5s
GLI Glacier Island 84.55 29 P **P** **09 30 16.9 -0.3**
baz=267
POKR Poker Plat Res 84.66 25 P **P** **09 30 17.4 -0.3**
baz=266,SNR=7.1
KVAR Kislovodsk Arr 84.68 314 P **P** **09 30 18.8 +0.4**
comp=Z,3.2nm,0.7s,baz=57,slow=17,SNR=1.6
SHA1 Shidzhatmaz 84.71 313 *e*P **P** **09 30 17.4 -1.3**
PMOR Pomariorny Ree 84.77 105 *e*P **P** **09 30 20.2 +1.0**
comp=Z,182nm,1.2s
HDA Harding Lake 84.83 26 P **P** **09 30 17.2 -1.3**
baz=267,SNR=13
FID Port Fidalgo 84.85 29 IAmb IAmb 09 30 22.0
comp=Z,89nm,1.2s
MEH Mehetia 84.85 108 *e*P **P** **09 30 20.7 +1.1**
comp=Z,42nm,1.2s
Q23K Middleton Isla 84.85 31 P **P** **09 30 17.6 -1.1**
baz=268
ILAR Eielson Array 84.87 25 P **P** **09 30 17.4 -1.4**
comp=Z,11nm,1.0s,baz=243,slow=4.9,SNR=67
ILAR LR LR 10 07 25.1
comp=Z,132nm,20.5s,baz=291,slow=35
ATD Arta Tunnel 84.99 281 LR LR 10 08 32.5
comp=Z,57nm,18.4s,baz=88,slow=36
VAH Vaihoa 85.05 106 *e*P **P** **09 30 21.5 +0.9**
comp=Z,68nm,1.0s
M24K Tolsona, Glenn 85.05 28 P **P** **09 30 19.4 -0.4**
baz=268,SNR=11
KLU Klutina 85.15 29 IAmb IAmb 09 30 22.3
comp=Z,51nm,1.1s
KLU Klutina 85.15 29 P **P** **09 30 20.3 0.0**
baz=268,SNR=9.1
GURO Guroymak-BITLI 85.16 308 IAmb IAmb 09 30 36.3
comp=Z,47nm,1.0s
EYAK Cordova Ski Ar 85.20 30 P **P** **09 30 20.7 +0.3**
baz=268
PAX Paxson 85.42 27 IAmb IAmb 09 30 23.5
comp=Z,82nm,1.3s
PAX Paxson 85.42 27 P **P** **09 30 21.6 0.0**
baz=268,SNR=21
VRH Novokhopyorsk 85.43 321 *e*P **P** **09 30 20.8 -0.9**
VRH pmax pmax
comp=Z,60nm,0.9s
PRP Porcupine Dome 85.48 25 P **P** **09 30 22.2 +0.2**
baz=268
J25K Salcha River, 85.52 26 P **P** **09 30 20.2 -1.8**
baz=268,SNR=10
HARP HAARP 85.54 28 P **P** **09 30 21.3 -0.9**
baz=268,SNR=5.2

FYU	**Fort Yukon**	85.64	24	IAmb	IAmb	09 30 25.8		
	comp=Z,71nm,1.3s							
RIDG	**Independent Ri**	85.72	26	IAmb	IAmb	09 30 25.0		
	comp=Z,44nm,1.1s							
RIDG	**Independent Ri**	85.72	26	P	P	09 30 22.4	-0.7	
	baz=268,SNR=5.8							
BMRM	**Bremner River**	85.77	29	IAmb	IAmb	09 30 28.1		
	comp=Z,66nm,1.0s							
BMRM	**Bremner River**	85.77	29	P	P	09 30 23.3	0.0	
	baz=269,SNR=7.7							
N25K	**Chitina, Valde**	85.78	29	IAmb	IAmb	09 30 25.8		
	comp=Z,65nm,1.1s							
N25K	**Chitina, Valde**	85.78	29	P	P	09 30 24.0	+0.6	
	baz=269,SNR=15							
KAIM	**Kayak Island**	85.84	30	P	P	09 30 24.0	+0.3	
	baz=269							
BMAR	**Burnt Mountain**	85.93	23	P	P	09 30 24.6	+0.6	
SCRK	**Sand Creek**	86.11	26	P	P	09 30 25.1	+0.1	
	baz=269,SNR=7.6							
MARD	**Mardin**	86.17	307	IAmb	IAmb	09 30 44.9		
	comp=Z,21nm,0.7s							
MENT	**Mentasta**	86.21	27	IAmb	IAmb	09 30 27.6		
	comp=Z,32nm,1.2s							
VRDI	**Verde Repeater**	86.33	29	IAmb	IAmb	09 30 28.2		
	comp=Z,32nm,1.0s							
L26K	**Log Cabin Wild**	86.38	27	P	P	09 30 26.6	+0.3	
	baz=270,SNR=7.6							
BGLC	**Bering Glacier**	86.42	30	P	P	09 30 26.7	+0.3	
	baz=270							
M26K	**Nabesna, AK**	86.55	28	IAmb	IAmb	09 30 35.5		
	comp=Z,57nm,1.7s							
M26K	**Nabesna, AK**	86.55	28	P	P	09 30 27.5	+0.3	
	baz=270							
WAX	**Waxell Ridge**	86.63	30	IAmb	IAmb	09 30 37.8		
	comp=Z,46nm,0.8s							
KLMR	**Klimovskoe**	86.67	331	*e*P	P	09 30 25.5	-2.1	
KLMR				*e*		09 33 48.4		
KLMR				*e*S	SKSac	09 40 47.8	-1.6	
KLMR				pmax	pmax			
	comp=Z,63nm,1.2s							
KLMR	**Klimovskoe**	86.67	331	*e*P	P	09 30 25.6	-2.1	
KLMR				AMP		09 30 40.7		
	comp=Z,63nm,1.2s							
KLMR				*e*PP	PP	09 33 48.4	-1.9	
KLMR				*e*S	SKSac	09 40 47.8	-1.6	
KLMR				*e*S	SKSac	09 40 47.8	-1.6	
KLMR				LQ	LQ	10 03 35.8		
KLMR				LQ	LQ	10 03 35.8		
KLMR				LR	LR	10 07 43.3		
SOC	**Sochi**	86.84	313	*e*P	P	09 30 25.4	-3.5	
SOC				*e*		09 33 45.7		
SOC				*e*PPP	PPP	09 35 41.6		
SOC				*e*S	SKSac	09 40 46.9	-4.3	
SOC				*e*SS	SS	09 46 40.0	-5.6	
SOC				*e*SSS	SSS	09 50 13.1		
SOC				MLR	MLR			
	comp=Z,200nm,19.0s							
ISLE	**Juniper Island**	86.88	30	IAmb	IAmb	09 30 31.2		
	comp=Z,61nm,1.1s							
VORD	**Divnogorie**	86.96	321	*e*P	P	09 30 28.5	-0.8	
VORD				pmax	pmax			
	comp=Z,20nm,0.7s							
VORR	**Voronezh**	87.00	321	*e*P	P	09 30 30.7	+1.2	
VORR				pmax	pmax			
	comp=Z,56nm,0.3s							
VSR	**Storozhevoye**	87.03	321	*e*P	P	09 30 29.7	0.0	
VSR				pmax	pmax			
	comp=Z,20nm,0.7s							
M27K	**Edge Creek, AK**	87.07	28	P	P	09 30 30.5	+0.7	
	baz=271							
L27K	**Beaver Creek,**	87.08	27	P	P	09 30 30.2	+0.5	
	baz=271							
MESA	**MESA**	87.08	30	P	P	09 30 30.4	+0.4	
	baz=271							
BCAR	**Beaver Creek A**	87.10	27	P	P	09 30 29.6	-0.2	
LPSR	**Galich'ya Gora**	87.15	322	*e*P	P	09 30 28.9	-1.3	
LPSR				pmax	pmax			
	comp=Z,30nm,0.9s							
BVCY	**Beaver Creek**	87.54	28	P	P	09 30 32.7	+0.7	
	baz=272							
YUK3	**Moose Creek**	87.76	28	P	P	09 30 33.4	+0.2	
	baz=272							
MOS	**Moscow**	87.80	326	*e*P	P	09 30 31.3	-2.0	
MOS				*e*		09 30 40.6		
MOS				*e*		09 33 57.6		
MOS				*e*		09 41 04.9		
MOS				pmax	pmax			
	comp=Z,48nm,0.8s							
MOS				MLR	MLR			
	comp=Z,1μm,22.0s							
PINM	**Pinnacle**	87.94	30	P	P	09 30 34.2	+0.3	
	baz=273							
DAWY	**Dawson**	88.12	26	P	P	09 30 34.9	+0.2	
	baz=273,SNR=9.6							
OBN	**Obninsk**	88.44	325	P	P	09 30 36.3	+0.1	
	comp=Z,4.8nm,0.3s,baz=53,slow=9.2,SNR=5.6							
OBN				LR	LR	10 12 42.5		
	comp=Z,188nm,20.2s,baz=105,slow=37							
OBN	**Obninsk**	88.44	325⇑	*e*P	P	09 30 35.1	-1.2	
OBN				*i* *PP	pP	09 30 45.7	-5.9	
OBN				*e*S	S	09 41 10.0	-7.3	
OBN				*e*PS	PS	09 42 31.3	+3.4	
OBN				*e*SSS	SSS	09 50 46.5		
OBN				pmax	pmax			
	comp=Z,47nm,1.3s							
OBN				MLR	MLR			
	comp=Z,752nm,20.0s							
I29M	**Ogilvie Camp,**	88.50	25	IAmb	IAmb	09 30 38.1		
	comp=Z,28nm,1.0s							
I29M	**Ogilvie Camp,**	88.50	25	P	P	09 30 36.4	-0.1	
	baz=274,SNR=20							
J29M	**Klondike Camp**	88.61	26	P	P	09 30 37.3	+0.2	
	baz=274							
APA	**Apatity**	88.97	338⇓	*i*P	P	09 30 49.3	+11	
APA				pmax	pmax			
	comp=Z,13nm,1.1s							
APA				MLR	MLR			
	comp=Z,1μm,22.0s							
EPYK	**Eagle Plains**	89.06	24	IAmb	IAmb	09 30 40.5		
	comp=Z,38nm,1.1s							
EPYK	**Eagle Plains**	89.06	24	P	P	09 30 38.7	-0.4	
	baz=276,SNR=12							
FURI	**Furi**	89.22	279	IAMs_20	IAMs_20	10 06 50.5		
	comp=Z,553nm,22.0s							
M30M	**Minto, Yukon**	89.41	27	P	P	09 30 40.3	-0.6	
	baz=276,SNR=5.8							
MAYO	**Mayo, Yukon**	89.71	26	P	P	09 30 41.6	-0.5	
	baz=277,SNR=7.3							
N31M	**Braeburn, Yuko**	90.01	29	P	P	09 30 43.0	-0.6	
	baz=277							
INK	**Inuvik**	90.05	22	P	P	09 30 42.1	-1.4	
	comp=Z,17nm,1.1s,baz=281,slow=5.8,SNR=25							
INK				LR	LR	10 11 14.3		
	comp=Z,148nm,20.9s,baz=258,slow=36							
INK	**Inuvik**	90.05	22	IAmb	IAmb	09 30 44.1		
	comp=Z,30nm,1.2s							
INK	**Inuvik**	90.05	22	P	P	09 30 42.6	-0.9	
	baz=279,SNR=16							
KIBK	**Kibwezi**	90.46	268	P	P	09 30 47.8	+1.0	
	SNR=5.3							
KIBK	**Kibwezi**	90.46	268	P	P	09 30 46.6	-0.2	
KIBK				IAMs_20	IAMs_20	10 11 42.7		
	comp=Z,256nm,19.0s							
SKAG	**Skagway**	90.47	31	P	P	09 30 45.2	-0.5	
	baz=277							
WHY	**Whitehorse**	90.54	29	P	P	09 30 45.2	-1.0	
	baz=277							
M31M	**Drury Creek, Y**	90.57	28	IAmb	IAmb	09 31 09.8		
	comp=Z,51nm,1.9s							
M31M	**Drury Creek, Y**	90.57	28	P	P	09 30 46.0	-0.2	
	baz=278							
SIT	**Sitka**	90.77	33	P	P	09 30 46.8	-0.3	
	baz=277							
MMAI	**Mount Meron Ar**	90.77	303	P	P	09 30 49.2	+1.3	
	comp=Z,14nm,0.9s,baz=164,slow=22,SNR=3.9							
FARO	**Faro, Yukon**	91.05	28	P	P	09 30 48.2	-0.2	
	baz=279							
KMBO	**Kilima Mbogo**	91.19	269	P	P	09 30 50.8	+0.4	
	comp=Z,14nm,1.0s,baz=38,slow=6.6,SNR=18							
KMBO	**Kilima Mbogo**	91.19	269	P	P	09 30 50.0	-0.3	
KMBO				pmax	pmax			
	comp=Z,23nm,1.1s							
KMBO	**Kilima Mbogo**	91.19	269	P	P	09 30 50.0	-0.3	
KMBO				IAmb	IAmb	09 30 55.2		
	comp=Z,22nm,1.1s							
KMBO	**Kilima Mbogo**	91.19	269	*i* P	P	09 30 51.4	+1.1	
	SNR=8.8							
SPITS	**Spitsbergen Ar**	91.31	349	P	P	09 30 47.8	-1.5	
	comp=Z,21nm,0.9s,baz=94,slow=8.6,SNR=14							
SPITS				LR	LR	10 16 35.4		
	comp=Z,588nm,21.9s,baz=245,slow=39							
EIL	**Elat**	91.41	300	LR	LR	10 15 40.4		
	comp=Z,154nm,21.6s,baz=90,slow=38							
ARCES	**ARCESS Array B**	91.51	340	P	P	09 30 48.6	-1.7	
	comp=Z,8.7nm,0.6s,baz=78,slow=4.6,SNR=37							
ARCES				LR	LR	10 17 11.0		
	comp=Z,323nm,18.4s,baz=82,slow=39							
ARCES	**ARCESS Array B**	91.51	340	P	P	09 30 49.0	-1.4	
ARCES				pmax	pmax			
	comp=Z,46nm,1.4s							
ARCES	**ARCESS Array B**	91.51	340	P	P	09 30 49.0	-1.4	
ARCES				IAmb	IAmb	09 30 50.8		
	comp=Z,46nm,1.4s							
P33M	**Teslin, Yukon**	91.62	30	P	P	09 30 50.2	-0.9	
	baz=279							
BRTR	**Keskin Array B**	91.62	310	P	P	09 30 49.8	-1.9	
	comp=Z,1.3nm,0.8s,baz=107,slow=5.2,SNR=10							
BRTR				PP	PP	09 34 31.8	+1.2	
	comp=Z,1.2nm,0.7s,baz=95,slow=8.3,SNR=3.6							
BRTR				LR	LR	10 14 55.3		
	comp=Z,110nm,21.7s,baz=84,slow=38							
BRTR	**Keskin Array B**	91.62	310	P	P	09 30 54.3	+2.6	
TAOE	**Nuku Hiva Isla**	91.94	99	*e*LR	LR	09 59 57.6		
	comp=Z,1μm,23.2s							
A36M	**Sachs Harbour**	92.00	17	P	P	09 30 51.4	-1.1	
	baz=287,SNR=7.3							
CRAG	**Craig**	92.20	34	P	P	09 30 53.5	-0.3	
	baz=279							
WRAK	**Wrangell Islan**	92.48	33	P	P	09 30 54.8	-0.3	
	baz=280							
SYO	**Syowa Base**	92.53	201⇑	*e*P	P	09 30 56.0	+1.0	
FINES	**FINESS Array B**	93.07	332	P	P	09 30 55.6	-2.1	
	comp=Z,3.4nm,0.7s,baz=66,slow=4.8,SNR=19							
FINES				LR	LR	10 17 36.8		
	comp=Z,500nm,18.6s,baz=76,slow=39							
FINES	**FINESS Array B**	93.07	332	*i* P	P	09 30 54.7	-3.0	
FINES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
FINES	**FINESS Array B**	93.07	332	P	P	09 30 56.0	-1.7	
QSPA	**South Pole Qui**	93.11	180	LR	LR	10 15 20.8		
	comp=Z,653nm,18.4s,baz=350,slow=37							
QSPA	**South Pole Qui**	93.11	180	P	P	09 30 58.1	+0.1	
C36M	**Paulatuk**	93.15	20	IAmb	IAmb	09 30 58.6		
	comp=Z,43nm,1.1s							
C36M	**Paulatuk**	93.15	20	P	P	09 30 57.2	-0.7	
	baz=288,SNR=31							
AKASG	**Malin Array Be**	93.34	321	P	P	09 30 57.0	-2.1	
	comp=Z,7.2nm,1.0s,baz=64,slow=4.5,SNR=12							
AKASG				PP	PP	09 34 41.3	-2.2	
	comp=Z,0.3nm,0.4s,baz=259,slow=23,SNR=2.1							
AKASG				LR	LR	10 15 03.5		
	comp=Z,337nm,21.4s,baz=72,slow=37							
AKASG	**Malin Array Be**	93.34	321	P	P	09 30 57.8	-1.4	
AKBB	**Malin Array Si**	93.34	321	*e*P	P	09 30 57.6	-1.6	
DLBC	**Dease Lake**	93.35	31	P	P	09 30 58.4	-0.8	
	comp=Z,8.9nm,0.9s,baz=327,slow=4.2,SNR=8.4							
DLBC				LR	LR	10 07 37.0		
	comp=Z,437nm,21.5s,baz=299,slow=32							
DLBC	**Dease Lake**	93.35	31	IAmb	IAmb	09 31 01.1		
	comp=Z,20nm,1.1s							
MNK	**Minsk**	93.50	325	*i* P	P	09 30 53.9	-5.9	
MNK				*i* *PP	pP	09 31 09.4	-5.8	
MNK				*i*		09 34 39.7		
MNK				*i* PPP	PPP	09 36 43.8		
MNK				*i* S	SKSac	09 41 23.2	-6.1	
MNK				*i* SS	SS	09 48 23.8	+2.6	
MNK				pmax	pmax			
	comp=N,7.0nm,0.7s							
MNK				pmax	pmax			
	comp=E,3.0nm,1.0s							
MNK				pmax	pmax			
	comp=Z,6.0nm,0.5s							
MNK				MLR	MLR			
	comp=N,276nm,23.0s							
MNK				MLR	MLR			
	comp=E,88nm,17.0s							
MNK				MLR	MLR			
	comp=Z,677nm,16.0s							
MNK	**Minsk**	93.50	325	*i* P	P	09 30 54.0	-5.8	
	comp=E,3.0nm,1.1s							
MNK				*i* P	P	09 30 54.0	-5.8	
	comp=N,7.0nm,0.7s							
MNK				*i* P	P	09 30 54.0	-5.8	
	comp=Z,6.0nm,0.5s,baz=259							
MNK				*i* pP	pP	09 31 09.5	-5.7	
MNK				*i* PP	PP	09 34 39.7	-4.9	
MNK				*i* PPP	PPP	09 36 43.9		
MNK				*i* SKS		09 40 34.6		
MNK				*i* S	SKSac	09 41 23.3	-6.1	
MNK				*i* sS	SKKSac	09 41 43.9	-5.2	
MNK				*i* SS	SS	09 48 23.8	+2.7	
MNK				*i* LR	LR	10 09 35.0		
MNK				*i* LRM	MLR	10 15 39.1		
	comp=N,276nm,23.3s							
MNK				*i* LRM	MLR	10 15 40.5		
	comp=E,88nm,17.1s							
MNK				*i* LRM	MLR	10 15 51.3		
	comp=Z,677nm,16.2s							
WTLY	**Watson Lake, Y**	93.61	29	P	P	09 30 59.5	-0.8	
	baz=283							
NOR	**Nord**	93.76	355	*i* P	P	09 30 56.6	-4.0	
NOR				IAmb	IAmb	09 31 00.1		
	comp=Z,3.8nm,0.6s							
NACGM	**Naroch**	94.05	325	*i* P	P	09 31 13.3	+11	
WRGLY	**Wrigley**	95.25	26	P	P	09 31 07.0	-0.7	
	baz=288							
BBB	**Bella Bella**	95.73	37	LR	LR	10 08 57.5		
	comp=Z,200nm,19.8s,baz=270,slow=32							
MLR	**Muntele Rosu**	96.42	316	P	P	09 31 12.6	-1.0	
	comp=Z,8.4nm,0.9s,baz=85,slow=9.0,SNR=3.1							
MLR				PP	PP	09 35 04.7	-3.1	
	comp=Z,3.8nm,0.9s,baz=52,slow=3.7,SNR=4.4							
MLR				LR	LR	10 19 01.6		
	comp=Z,569nm,22.0s,baz=72,slow=38							
MLR	**Muntele Rosu**	96.42	316	P	P	09 31 12.6	-1.0	
MLR				pmax	pmax			
	comp=Z,13nm,1.1s							
MLR				MLR	MLR			
	comp=Z,700nm,22.0s							
MLR	**Muntele Rosu**	96.42	316	IAmb	IAmb	09 31 17.8		
	comp=Z,13nm,1.1s							
MLR				IAMs_20	IAMs_20	10 17 19.3		
	comp=Z,699nm,22.0s							
MBAR	**Mbarara**	97.66	270	LR	LR	10 14 35.3		
	comp=Z,87nm,20.2s,baz=61,slow=35							
DAG	**Danmarks Havn**	97.99	353	*i* P	P	09 31 15.6	-4.2	
DAG				IAmb	IAmb	09 31 18.9		
	comp=Z,10nm,0.6s							
RES	**Resolute Bay**	98.03	11	P	P	09 31 18.7	-1.3	
	comp=Z,19nm,0.9s,baz=312,slow=5.5,SNR=53							
RES				PP	PP	09 35 13.6	-5.5	
	comp=Z,1.9nm,0.4s,baz=100,slow=20,SNR=12							
RES	**Resolute Bay**	98.03	11	IAmb	IAmb	09 31 20.9		
	comp=Z,18nm,0.8s							
UZH	**Uzhgorod**	98.17	320	*e*P	P	09 31 21.1	-0.1	
CRVS	**Cervenica-Dubn**	98.63	320	*e*P	P	09 31 23.2	-0.1	
CRVS	**Cervenica-Dubn**	98.63	320	*e*PDIFF	P	09 31 23.2	-0.1	
IDI	**Anoyia**	99.13	306	LR	LR	10 23 12.8		
	comp=Z,62nm,20.5s,baz=78,slow=40							
HFS	**Hagfors**	99.25	333	P	Pdif	09 31 23.6	-2.2	
	comp=Z,4.1nm,0.7s,baz=85,slow=3.1,SNR=9.1							
HFS				LR	LR	10 21 07.8		
	comp=Z,632nm,19.3s,baz=61,slow=38							
YKA	**Yellowknife Ar**	99.29	25	P	Pdif	09 31 25.2	-0.8	
	comp=Z,6.6nm,0.9s,baz=298,slow=4.6,SNR=71							
YKA				PKIKP	PKiKP	09 35 55.3	-0.2	
	comp=Z,1.2nm,0.7s,baz=300,slow=1.9,SNR=13							
YKA				PKKPbc	PKKPbc	09 47 50.3	-2.1	
	comp=Z,1.3nm,0.9s,baz=111,slow=2.5,SNR=4.1							
YKA	**Yellowknife Ar**	99.29	25	*i* P	Pdif	09 31 25.5	-0.4	
YKA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
NEEM	**North Greenlan**	99.46	360	*i* P	Pdif	09 31 24.8	-2.0	
NEEM				IAmb	IAmb	09 31 27.0		
	comp=Z,10nm,0.7s							
A04D	**Lummi Island**	99.95	39	P	Pdif	09 31 27.3	-1.8	
	baz=286							
NOA	**NORSAR Array B**	99.99	334	P	Pdif	09 31 27.3	-1.8	
	comp=Z,2.7nm,0.9s,baz=65,slow=4.6,SNR=6.3							
NOA				LR	LR	10 22 32.8		
	comp=Z,337nm,18.5s,baz=70,slow=39							
DBG	**Daneborg**	100.29	352	*i* P	Pdif	09 31 27.1	-3.1	
DBG				IAmb	IAmb	09 31 29.7		
	comp=Z,5.5nm,0.9s							
KRLC	**Kraliky**	101.21	322	*e*PP	PP	09 35 46.4	+2.4	
DPC	**Dobruska-Polom**	101.40	323	*e*PP	PP	09 35 52.0	+6.6	
PDG	**Podgorica**	101.82	314	IAMs_20	IAMs_20	10 20 52.4		
	comp=Z,429nm,22.0s							
CONA	**Conrad Observa**	102.48	320	*e*P	PKiKP	09 36 00.4	-1.4	
	comp=Z,9.1nm,1.2s							
BRG	**Berggiesshubel**	102.64	324	*e*PKP	PKiKP	09 35 59.4	-2.4	
BRG				Amp		09 36 09.0		
	comp=Z,12nm,1.3s							
ARSA	**Arzberg**	102.92	320	*e*P	PKiKP	09 36 01.2	-1.4	
	comp=Z,4.4nm,1.0s							
CLL	**Collm**	103.03	324	*e*PP	PP	09 35 51.0	-6.5	
CLL				*e*PS	PS	09 45 06.0	-1.1	
CLL				*e*PPS	PPS	09 45 54.0		
CLL				Lm	MLR	10 21 00.0		
	comp=Z,500nm,20.9s							
BOSA	**Boshof**	103.05	242	PP	PP	09 35 59.1	+0.3	
	comp=Z,8.3nm,1.1s,baz=160,slow=8.0,SNR=3.7							
SOKA	**Soboth**	103.43	319	*e*P	PKiKP	09 36 01.2	-2.3	
	comp=Z,14nm,1.4s							
KHC	**Kasperske Hory**	103.49	322	*e*PP	PP	09 36 00.0	-1.1	
GERES	**GERESS Array B**	103.52	322	Pdiff	Pdif	09 31 44.3	-0.9	
	comp=Z,0.2nm,0.3s,baz=35,slow=5.1,SNR=3.9							
GERES				PP	PP	09 36 03.6	+2.2	
	comp=Z,0.8nm,0.6s,baz=69,slow=7.3,SNR=4.5							
NEW	**Newport**	103.61	39	P	Pdif	09 31 45.6	0.0	
	baz=291							
OBKA	**Obir**	103.80	319	*e*P	PKiKP	09 36 02.8	-1.4	
	comp=Z,2.0nm,0.6s							
MOX	**Moxa**	104.09	324	*e*L	L	10 25 52.6		
	comp=Z,377nm,20.0s							
KBA	**Koelnbreinsper**	104.38	320	*e*P	PKiKP	09 36 09.4	+4.0	
	comp=Z,5.2nm,1.0s							
GRF	**Grafenberg Arr**	104.70	323	*e*PP	PP	09 36 14.6	+4.5	
	baz=67,slow=7.0							
GRF				*e*L	L	10 23 01.2		
	comp=Z,603nm,20.3s							
ABTA	**Abfaltersbach**	105.03	320	*e*P	PKiKP	09 36 06.1	-0.4	
	comp=Z,0.1nm,0.2s							
SNAA	**Sanae**	105.11	194	PKKPbc	PKKPbc	09 47 31.6	-4.2	
	comp=Z,6.3nm,0.8s,baz=250,slow=6.5,SNR=9.6							
WTTA	**Wattenberg**	105.39	321	*e*P	PKiKP	09 36 06.8	-0.4	
	comp=Z,27nm,1.5s							
SQTA	**Sankt Quirin**	105.68	321	*e*P	PKiKP	09 36 06.4	-1.3	
	comp=Z,3.3nm,0.5s							
MOTA	**Moosalm**	105.69	321	*e*P	PKiKP	09 36 09.8	+2.0	
	comp=Z,6.3nm,1.1s							
NVAR	**Mina Array Bea**	106.03	49	Pdiff	Pdif	09 31 58.1	+1.4	
	comp=Z,0.7nm,0.7s,baz=268,slow=5.5,SNR=6.1							
NVAR				PKiKP	PKiKP	09 36 09.8	+1.1	
	comp=Z,1.6nm,0.9s,baz=262,slow=6.5,SNR=4.8							
NVAR				PKKPbc	PKKPbc	09 47 34.4	+2.3	
	comp=Z,1.2nm,0.8s,baz=162,slow=3.0,SNR=6.5							
FETA	**Feichten**	106.06	321	*e*P	PKiKP	09 36 07.5	-1.0	
	comp=Z,4.9nm,1.0s							
MSO	**Missoula**	106.15	39	P	PKiKP	09 36 08.6	0.0	
	baz=293							
VES	**Vestal, Richgr**	106.18	51	P	PKiKP	09 36 08.5	-0.3	
	baz=286							
DAVA	**Damuels**	106.48	321	*e*P	PKiKP	09 36 10.1	+0.8	
	comp=Z,1.9nm,0.5s							
CWC	**Cottonwood Cre**	106.79	51	P	PKiKP	09 36 10.1	-0.1	
	baz=287							
HLID	**Hailey**	107.08	43	P	PKiKP	09 36 11.3	+0.7	
	baz=292							
LRMC	**Laurel Mtn Rad**	107.38	51	P	PKiKP	09 36 11.5	+0.2	
	baz=287							
CIS	**Catalina Islan**	107.38	54	P	PKiKP	09 36 11.3	+0.2	
	baz=286							
ELK	**Elko**	107.52	46	PKKPbc	PKKPbc	09 47 30.0	+2.4	
	comp=Z,1.6nm,0.9s,baz=4.6,slow=1.6,SNR=5.3							
TPNV	**Topopah Spring**	108.03	50	P	PKiKP	09 36 12.8	+0.4	
	baz=288							
R11A	**Troy Canyon, C**	108.08	48	P	PKiKP	09 36 13.0	+0.4	
	baz=289							
GSC	**Goldstone, Bar**	108.11	51	P	PKiKP	09 36 12.7	+0.1	
	baz=288							
BOZ	**Bozeman (W)**	108.12	40	P	PKiKP	09 36 12.9	+0.6	
	baz=295							
EGMT	**Eagleton**	108.23	37	P	PKiKP	09 36 13.1	+0.7	
	baz=297							
SHOC	**Shoshone, Teco**	108.34	51	P	PKiKP	09 36 13.9	+1.0	
	baz=288							
TPFO	**Pinon Flats**	108.89	53	P	PKiKP	09 36 14.8	+0.7	
	baz=287							
GMRC	**Granite Mounta**	109.17	52	P	PKiKP	09 36 15.2	+0.6	
	baz=288							
DUG	**Dugway, Tooele**	109.44	45	P	PKiKP	09 36 16.1	+1.1	
	baz=292							
SWSC	**Sam W. Stewart**	109.61	53	P	PKiKP	09 36 16.6	+1.3	
	baz=288							
BC3	**Big Chuckawall**	109.67	53	P	PKiKP	09 36 15.6	0.0	
	baz=288							
PDMCI	**Parker Dam,Lak**	110.51	52	P	PKiKP	09 36 17.8	+0.8	
	baz=289							
BW06	**Boulder Array**	110.66	42	P	PKiKP	09 36 18.0	+0.7	
	baz=295							
PDAR	**Pinedale Array**	110.66	42	PKiKP	PKiKP	09 36 17.5	+0.2	
	comp=Z,0.4nm,0.5s,baz=110,slow=1.1,SNR=5.2							
PDAR				PKKPbc	PKKPbc	09 47 16.2	-1.4	
	comp=Z,1.5nm,0.9s,baz=101,slow=4.7,SNR=4.5							
LAO	**LASA Array**	110.97	37	P	PKiKP	09 36 18.8	+1.2	
	baz=299							
KEST	**Kesra**	111.22	310	PKiKP	PKiKP	09 36 20.2	+1.8	
	comp=Z,7.0nm,1.1s,baz=203,slow=10,SNR=3.1							
KEST				PP	PP	09 37 00.8	+2.5	
	comp=Z,14nm,1.0s,baz=265,slow=3.0,SNR=7.0							
DGMT	**Dagmar**	111.25	35	P	PKiKP	09 36 19.0	+1.0	
	baz=302							
WUAZ	**Wup

SPMN	Marine on St.	119.46	32	P	PKPdf	09 36 32.8	-1.0
	baz=311,SNR=5.3						
AMTX	Amarillo	119.70	47	P	PKiK	09 36 35.4	+0.6
	baz=298						
MVO	Moncorvo	120.03	322	*e*PKPdf	PKiK	09 36 37.3	+2.1
PGAV	Gavieira, Arco	120.30	324	*e*PKPdf	PKiK	09 36 36.8	+1.1
PCAB	Cabril	120.31	323	*e*PKPdf	PKiK	09 36 38.0	+2.3
POLO	Lamas de Olo	120.37	323	*e*PKPdf	PKiK	09 36 37.3	+1.4
PVRL	Vila Real	120.38	323	*e*PKPdf	PKiK	09 36 37.1	+1.3
TXAR	Lajitas Array	120.61	53	PKP	PKiK	09 36 37.3	+0.6
	comp=Z,4.6nm,0.9s,baz=251,slow=1.2,SNR=38						
TXAR				PKKPbc	PKKPbc	09 46 42.5	0.0
	comp=Z,1.3nm,0.9s,baz=124,slow=7.7,SNR=5.9						
MTE	Manteigas	120.80	322	*e*PKPdf	PKiK	09 36 38.3	+1.6
SCHQ	Schefferville	120.81	10	PKP	PKPdf	09 36 35.6	-0.5
	comp=Z,2.9nm,0.6s,baz=331,slow=2.3,SNR=13						
SCHQ				PKKPbc	PKKPab	09 46 45.0	+2.4
	comp=Z,1.9nm,0.9s,baz=140,slow=7.2,SNR=1.4						
KSU1	Kansas State U	120.97	40	P	PKiK	09 36 37.2	+0.2
	baz=305						
PCBR	Castelo Branco	121.08	321	*e*PKPdf	PKiK	09 36 38.2	+1.0
PMRV	Marv??o	121.27	321	*e*PKPdf	PKiK	09 36 38.5	+0.9
SCIA	State Center	121.36	35	P	PKPdf	09 36 36.4	-1.1
	baz=309						
PESTR	Estremoz	121.72	320	*e*PKPdf	PKiK	09 36 39.9	+1.4
WMOK	Wichita Mounta	121.85	45	P	PKPdf	09 36 37.9	-0.8
	baz=301,SNR=9.8						
PMTG	Montargil	122.00	321	*e*PKPdf	PKiK	09 36 39.9	+0.9
ABTX	Abilene, Hawle	122.26	48	P	PKPdf	09 36 39.2	-0.4
	baz=299						
JFWS	Jewell Farm	122.37	33	P	PKPdf	09 36 38.7	-0.8
	baz=312,SNR=7.9						
PVAQ	Vaqueiros	122.64	319	*e*PKPdf	PKiK	09 36 41.2	+0.9
MESJ	Messejana	122.72	320	*e*PKPdf	PKiK	09 36 42.2	+1.7
JCT	Junction City	123.14	50	P	PKiK	09 36 41.8	+0.2
	baz=297						
TUL1	Leonard	123.30	43	P	PKPdf	09 36 40.4	-1.0
	baz=304,SNR=5.9						
GLMI	Grayling	123.85	28	P	PKPdf	09 36 41.8	-0.4
	baz=319						
L44A	Lake County Fo	124.13	32	P	PKPdf	09 36 42.4	-0.4
	baz=315						
WHTX	Lake Whitney,	124.19	47	P	PKiK	09 36 43.5	-0.1
	baz=300						
X37A	Clayton	124.31	44		PKPdf	09 36 40.9	-2.5
833A	Chaparral WMA,	124.43	52	P	PKiK	09 36 44.1	0.0
	baz=296						
HDIL	Hopedale	124.49	34	P	PKPdf	09 36 43.1	-0.5
	baz=312						
TORD	Torodi Ar. Bea	124.65	288	PKP	PKPdf	09 36 43.6	-1.0
	comp=Z,11nm,1.1s,baz=41,slow=0.7,SNR=22						
TORD				PP	PP	09 38 32.7	+0.6
	comp=Z,1.4nm,1.1s,baz=289,slow=4.4,SNR=1.1						
TORD				SKP		09 40 16.7	
	comp=Z,2.6nm,0.8s,baz=48,slow=2.2,SNR=3.6						
TORD				PKKPbc	PKKPab	09 46 26.9	+0.5
	comp=Z,1.0nm,0.8s,baz=275,slow=4.7,SNR=3.8						
TORD	Torodi Ar. Bea	124.65	288		PKPdf	09 36 44.4	-0.1
CCM	Cathedral Cave	124.97	38	PKIKP	PKPdf	09 36 43.3	-1.3
CCM	Cathedral Cave	124.97	38	PKPdf	PKPdf	09 36 43.3	-1.3
CCM	Cathedral Cave	124.97	38	P	PKPdf	09 36 44.2	-0.4
	baz=309						
U40A	Yellville	124.99	40	P	PKPdf	09 36 44.0	-0.8
	baz=307						
W39A	Magazine	125.05	42	P	PKPdf	09 36 44.7	-0.2
	baz=305						
MIAR	Mount Ida	125.56	43	PKIKP	PKPdf	09 36 45.7	-0.1
MIAR	Mount Ida	125.56	43	PKPdf	PKPdf	09 36 45.7	-0.1
MIAR	Mount Ida	125.56	43	P	PKiK	09 36 46.2	0.0
	baz=305						
SFIN	Lafayette	125.83	33	P	PKPdf	09 36 45.6	-0.5
	baz=314						
W41B	Gary Mavity, V	126.09	41		PKiK	09 36 47.6	+0.4
W41B	Gary Mavity, V	126.09	41	P	PKPdf	09 36 45.6	-1.2
	baz=307						
X40A	Basin Creek Fa	126.10	42	P	PKPdf	09 36 46.7	-0.2
	baz=306						
AAM	Ann Arbor	126.21	29	P	PKPdf	09 36 46.8	0.0
	baz=319						
SADO	Sadowa	126.29	24	PKP	PKPdf	09 36 46.4	-0.5
	comp=Z,25nm,1.0s,baz=11,slow=1.3,SNR=9.4						
NATX	Nacogdoches	126.34	46	P	PKPdf	09 36 46.6	-0.8
	baz=302						
Z41A	Richland Creek	126.83	44	P	PKPdf	09 36 47.6	-0.7
	baz=305						
DELO	Deloro Mine	127.10	23		PKiK	09 36 49.0	0.0
P49A	Miami Univ. Ec	127.71	32	P	PKPdf	09 36 49.2	-0.6
	baz=317						
WCI	Wyandotte Cave	127.77	35	PKIKP	PKPdf	09 36 48.6	-1.3
WCI	Wyandotte Cave	127.77	35		PKPdf	09 36 48.6	-1.3
WCI	Wyandotte Cave	127.77	35	P	PKPdf	09 36 49.6	-0.3
	baz=314						
ERPA	Erie	128.07	27	P	PKPdf	09 36 49.1	-1.3
	baz=323						
ACSO	Alum Creek Sta	128.10	30	P	PKPdf	09 36 49.6	-0.9
	baz=319,SNR=9.9						
LONY	Lake Ozonia	128.15	21	P	PKPdf	09 36 50.7	+0.2
	baz=330						
WVT	Waverly	128.29	38	PKIKP	PKPdf	09 36 50.9	-0.1
WVT	Waverly	128.29	38	PKPdf	PKPdf	09 36 50.9	-0.1
WVT	Waverly	128.29	38	P	PKPdf	09 36 50.9	-0.1
	baz=311						
M53A	Wi Miller and	128.29	28	P	PKPdf	09 36 50.3	-0.6
	baz=322						
M54A	Oil Creek Stat	128.70	27	P	PKPdf	09 36 51.0	-0.6
	baz=323,SNR=6.7						
O53A	New Philadelph	128.96	29	P	PKPdf	09 36 51.4	-0.8
	baz=321						
P52A	Corning	128.98	30	P	PKPdf	09 36 51.3	-0.9
	baz=319,SNR=9.4						
N54A	Moraine State	128.99	28	P	PKPdf	09 36 51.8	-0.4
	baz=322,SNR=5.8						
PKME	Peaks-Kenny Pk	129.24	16	P	PKPdf	09 36 51.9	-0.6
	baz=337						
LBNH	Lisbon	129.38	19	P	PKPdf	09 36 52.7	-0.1
	baz=333						
BINY	Binghamton	129.70	23	P	PKPdf	09 36 51.7	-1.8
	baz=328						
MCWV	Mont Chateau	130.08	28	P	PKPdf	09 36 52.8	-1.5
	baz=322						
O56A	Blue Knob Stat	130.19	27	P	PKPdf	09 36 53.7	-0.8
	baz=324						
SSPA	Standing Stone	130.20	26		PKiK	09 36 55.0	-0.3
SSPA	Standing Stone	130.20	26	P	PKPdf	09 36 53.6	-0.9
	baz=325						
TZTN	Tazewell	130.51	34	P	PKPdf	09 36 54.2	-1.0
	baz=316						
L61B	Northampton	130.72	21	P	PKPdf	09 36 55.4	0.0
	baz=332						
N59A	State Game Lan	130.86	24	P	PKPdf	09 36 55.0	-0.8
	baz=327						
TKL	Tuckaleechee C	131.01	35	SKPbc	SKPab	09 40 17.5	+1.3
	comp=Z,9.7nm,1.0s,baz=179,slow=1.9,SNR=4.9						
HRV	Adam Dziewonsk	131.05	20	P	PKPdf	09 36 56.3	+0.3
	baz=333						
PAL	Palisades	131.53	23	P	PKPdf	09 36 56.3	-0.6
	baz=330						
BLA	Blacksburg	131.69	31	P	PKPdf	09 36 57.4	-0.1
	baz=320						
P60A	Greenville	131.85	25	P	PKPdf	09 36 57.1	-0.5
	baz=327						
KIC	Kosan Boka	132.24	281	*e*PKP1		09 40 22.0	
	comp=Z,39nm,1.0s						
KIC	Kosan Boka	132.24	281	*e*P	PKiK	09 37 00.9	+0.7
	comp=Z,20nm,0.7s						
DBIC	Dimbokro	132.30	282	PKP	PKiK	09 36 60.0	-0.3
	comp=Z,8.1nm,1.0s,baz=42,slow=5.0,SNR=5.7						
DBIC				SKPbc	SKPbc	09 40 21.4	+0.3
	comp=Z,23nm,0.9s,baz=94,slow=3.4,SNR=12						
DBIC	Dimbokro	132.30	282	PKIKP	PKiK	09 37 00.0	-0.3
CBN	Corbin Frederi	132.40	28	P	PKPdf	09 36 58.5	-0.3
	baz=324						
TIC	Toumodi	132.46	282	*e*PKP1	SKPbc	09 40 21.8	+0.1
TIC	Toumodi	132.46	282	*e*P	PKPdf	09 36 59.9	+0.4
LIC	Lamto	132.54	281	*e*PKP1	SKPbc	09 40 22.1	+0.1
	comp=Z,58nm,1.0s						
LIC	Lamto	132.54	281	*e*P	PKPdf	09 37 03.0	+3.4
	comp=Z,32nm,0.8s						
KMSC	Kings Mountain	132.76	34	P	PKPdf	09 36 58.4	-1.1
	baz=318						
GOGA	Godfrey	132.77	37	P	PKPdf	09 36 59.3	-0.2
	baz=314						
CMIG	Matias Romero	132.78	63	PKP	PKiK	09 37 01.6	+0.4
	comp=Z,11nm,0.9s,baz=264,slow=1.5,SNR=6.3						
CMIG				SKPbc	SKPab	09 40 24.7	+0.5
	comp=Z,5.6nm,0.8s,baz=321,slow=4.2,SNR=7.8						
CNNC	Cliffs of the	134.51	31	P	PKPdf	09 37 02.3	-0.5
	baz=322						
APG	El Apazote	137.50	64	PKP	PKPdf	09 37 09.0	-0.1
	comp=Z,12nm,0.8s,baz=337,slow=7.1,SNR=5.0						
APG				SKPbc	SKPbc	09 40 39.1	+1.2
	comp=Z,7.8nm,1.1s,baz=261,slow=6.8,SNR=4.5						
PLCA	Paso Flores	138.92	158	PKhKP	PKPpre	09 37 03.8	
	comp=Z,6.2nm,1.0s,baz=188,slow=4.3,SNR=6.6						
PLCA				PKP	PKPdf	09 37 11.9	+1.0
	comp=Z,7.1nm,0.6s,baz=226,slow=12,SNR=9.5						
PLCA				SKPbc	SKiKP	09 40 44.8	+0.3
	comp=Z,5.9nm,1.2s,baz=182,slow=7.2,SNR=2.9						
BOAB	BOACO BROADBAND	142.77	65		PKPdf	09 37 14.9	-3.5
ML02	Panimavida	142.78	153	PKPdf	PKPdf	09 37 14.6	-3.3
JTS	Las Juntas de	144.21	68	PKP	PKPbc	09 37 20.0	+0.8
	comp=Z,78nm,1.0s						
JTS	Las Juntas de	144.21	68	PKIKP	PKPbc	09 37 19.6	+0.3
JTS	Las Juntas de	144.21	68		PKPbc	09 37 19.6	+0.3
MT01	Popeta	144.42	151	PKPdf	PKPbc	09 37 19.8	+0.4
LCO	Las Campanas	148.57	147	PKIKP	PKPdf	09 37 30.1	+1.8
LCO	Las Campanas	148.57	147		PKPdf	09 37 30.1	+1.8
AC04	Llanos de Chal	148.98	145	PKPab	PKiK	09 37 33.6	-0.4
SC01	Santiago de lo	150.70	39		PKPbc	09 37 34.5	-2.6
SOLC	Bahia Solano	152.60	70	*e*P	PKPbc	09 37 41.4	-0.2
ATAH	Atahualpa	153.06	99	PKP	PKPdf	09 37 37.5	+1.6
	comp=Z,30nm,1.0s,baz=269,slow=2.9,SNR=21						
ATAH				PKPbc	PKiK	09 37 45.5	+2.1
	comp=Z,44nm,0.9s,baz=296,slow=3.0,SNR=22						
ATAH				PKPab	sPKPdf	09 37 56.7	-1.4
	comp=Z,60nm,1.0s,baz=178,slow=7.0,SNR=6.5						
SJCC	San Jacinto, C	153.17	61	*e*P	PKPdf	09 37 36.0	+0.5
MOTC	Monteria, Cord	153.24	63	*e*P	PKPbc	09 37 39.6	-3.5
MOTC	Monteria, Cord	153.24	63		PKPbc	09 37 42.5	-0.6
DBBC	Dabeiba	153.44	67	*e*P	PKPdf	09 37 39.6	+3.6
CMBC	Cumbal	153.49	81	*e*P	PKPbc	09 37 41.4	-2.8
NNA	Nana	153.54	111	PKP	PKPdf	09 37 36.5	+0.5
	comp=Z,15nm,1.0s,baz=265,slow=2.9,SNR=6.9						
NNA				PKPbc	PKiK	09 37 44.5	+0.6
	comp=Z,24nm,0.8s,baz=282,slow=4.2,SNR=10						
NNA				PKPab	PKPab	09 37 56.7	+0.4
	comp=Z,39nm,1.1s,baz=278,slow=6.7,SNR=6.5						
NNA	Nana	153.54	111	PKPdf	PKPdf	09 37 35.7	-0.3
TULM	Tulcn-Chalpat	153.56	82	*e*P	PKPbc	09 37 43.2	-1.2
UREC	San Jos de Ur	153.78	65	*e*P	PKPbc	09 37 43.2	-1.1
GCUF	Volcan Galeras	153.91	81	*e*P	PKPbc	09 37 43.2	-2.0
CBOC	Ciudad Bolivar	154.03	70	*e*P	PKPdf	09 37 34.2	-2.7
PLMC	San Jos del P	154.08	72	*e*P	PKPdf	09 37 36.0	-0.9
YOTC	Yotoco, Valle	154.28	74	*e*P	PKPdf	09 37 36.0	-1.2
POPC	Popayan, Colom	154.32	77	*e*P	PKPdf	09 37 36.0	-1.4
HELC	Santa Helena	154.37	69	*e*P	PKPbc	09 37 43.2	-2.8
LVC	Limon Verde	154.44	140	PKPbc	PKiK	09 37 46.5	+0.6
	comp=Z,12nm,0.6s,baz=271,slow=3.9,SNR=8.2						
SOTA	Rioblanco	154.47	78	*e*P	PKPdf	09 37 39.6	+1.6
ZARC	Zaragoza, Cauc	154.50	65	*e*P	PKPdf	09 37 36.0	-1.4
PCON	Cinco Dias	154.63	78	*e*P	PKPdf	09 37 36.0	-2.3
SMLC	San Martn de	154.64	62	*e*P	PKPdf	09 37 36.0	-1.5
SMLC				*e*P	PKPbc	09 37 41.4	-4.7
GUY2C	Guyana, Caldas	154.85	71	*e*P	PKPdf	09 37 39.6	+1.1
LL6C	La Loma 6 Bece	154.89	59	*e*P	PKPdf	09 37 36.0	-1.9
ANIL	Santa Ana	155.04	72	*e*P	PKPdf	09 37 36.0	-2.5
NORC	Noraisia	155.20	70	*e*P	PKPdf	09 37 46.8	+8.4
PTBC	PUERTO BERRIO	155.24	67	*e*P	PKPdf	09 37 36.0	-2.4
ORTC	Ortega, Tolima	155.36	74	*e*P	PKPdf	09 37 39.6	+1.0
OCAC	Ocana	155.56	62	*e*P	PKPdf	09 37 36.0	-3.0
SPBC	San Pablo de B	155.91	69	*e*P	PKPdf	09 37 37.8	-1.6
ROSC	El Rosal	155.96	71	PKP	PKPdf	09 37 40.0	+0.2
	comp=Z,6.4nm,0.3s,baz=286,slow=19,SNR=5.3						
ROSC				PKPab	PKPab	09 38 07.9	+0.8
	comp=Z,50nm,0.9s,baz=40,slow=7.9,SNR=10						
ROSC	El Rosal	155.96	71	PKIKP	PKPdf	09 37 40.0	+0.2
ITAB	Concordia	156.10	179	PKPab	PKPab	09 38 07.3	+0.8
CPUP	Villa Florida	156.36	167	PKP	PKPdf	09 37 40.3	+0.8
	comp=Z,2.0nm,0.4s,baz=189,slow=4.1,SNR=4.0						
CPUP				PKPab	PKPab	09 38 08.8	+1.1
	comp=Z,17nm,1.1s,baz=214,slow=3.9,SNR=5.9						
PAMC	Pamplona, Colo	156.50	63	*e*P	PKPdf	09 37 36.0	-4.7
CHIC	Chingaza	156.58	71	*e*P	PKPdf	09 37 39.6	-1.1
RUSC	La Rusia	156.74	67	*e*P	PKPdf	09 37 41.4	+0.4
SDV	Santo Domingo	157.56	58	PKP	PKPdf	09 37 41.8	+0.2
	comp=Z,38nm,1.0s,baz=316,slow=1.7,SNR=22						
SDV				PKPab	PKPab	09 38 13.6	-0.1
	comp=Z,14nm,0.9s,baz=318,slow=3.8,SNR=5.3						
SDV	Santo Domingo	157.56	58	*e*P	PKPdf	09 37 41.4	-0.2
LPAZ	La Paz	159.20	130	PKP	PKPdf	09 37 44.5	+0.5
	comp=Z,12nm,1.1s,baz=179,slow=9.0,SNR=26						
LPAZ				PKPab	PKPab	09 38 22.5	+1.4
	comp=Z,8.6nm,0.7s,baz=174,slow=4.0,SNR=7.8						
LPAZ	La Paz	159.20	130	*e*P	PKPdf	09 37 43.3	-0.7
SIV	San Ignacio	164.25	144	PKP	PKPdf	09 37 49.2	+0.7
	comp=Z,8.0nm,1.0s,baz=203,slow=1.1,SNR=23						
SIV				PKPab	PKPab	09 38 42.6	+0.2
	comp=Z,7.1nm,1.0s,baz=208,slow=3.6,SNR=4.5						
BDFB	Brasilia	167.14	196	PKP	PKPdf	09 37 51.9	+0.9
	comp=Z,3.9nm,0.6s,baz=130,slow=0.7,SNR=5.6						
BDFB				PKPab	PKPab	09 38 56.3	+1.2
	comp=Z,11nm,1.0s,baz=148,slow=4.0,SNR=5.3						
PTGA	Pitinga	171.31	74	PKP	PKPdf	09 37 53.8	+0.2
	comp=Z,10nm,1.1s,baz=192,slow=2.4,SNR=7.1						
PTGA				PKPab	PKPab	09 39 14.1	+0.1
	comp=Z,16nm,0.9s,baz=288,slow=5.1,SNR=12						

IDC 25 09:22:45.9±2.8, 54°12.12N×86°54.54E, h0km, mb1 2.9/2, mb1mx2.3/70, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=23.2km s-min=14.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.03	261	*i*		09 28 20.8	
	baz=83,slow=331,SNR=13						
ZALV	Zalesovo Beam	1.03	261	Pg	Pg	09 23 03.9	-1.7
	0.7nm,0.3s,baz=80,slow=14,SNR=5.9						
ZALV				Lg	Lg	09 23 20.2	
	1.6nm,0.3s,baz=74,slow=23,SNR=9.0						
KURBB	Kurchatov Arra	6.02	238	Pn	Pn	09 24 17.0	+0.8
	0.2nm,0.3s,baz=54,slow=13,SNR=11						
KURBB				Lg	Lg	09 25 58.1	
	0.0nm,0.3s,baz=58,slow=22,SNR=0.9						
MKAR	Makanchi Array	7.81	202	Pn	Pn	09 24 41.4	+0.6
	0.1nm,0.3s,baz=24,slow=14,SNR=6.0						
MKAR				Sn	Sn	09 26 11.4	+1.5
	0.1nm,0.3s,baz=17,slow=25,SNR=2.0						

*SFS **25** 09:26:44.0, 35°.53N×3°.82W, ML3.0, ALBORAN SUR*
*CNRM **25** 09:26:45.6, 35°.51N×3°.66W, h18km, ml3.1*

ISC 25 09:26:43.5±1.4, 35°.60N±0°.04×3°.73W±0°.03, h13km±12km, n18, σ1°30/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.42	204	P	Pb	09 26 52.9	0.0
PALE				S	Sb	09 26 58.6	-0.5
CHAS	Isla Isabel II	1.14	111	P	Pb	09 27 05.0	-0.1
CHAS				S	Sb	09 27 19.4	-0.4
EMAL	Malaga-Limoner	1.29	334	P	Pg	09 27 08.4	+0.1
EMAL				S	Sb	09 27 24.0	0.0
TAF	Taforalt	1.33	126	P	Pb	09 27 08.4	0.0
TAF				S	Sn	09 27 25.5	-0.1
CEU	Ceuta	1.37	283	P	Pn	09 27 07.8	-0.4
CEU				S	Sn	09 27 22.5	-3.7
CHEFC	Chefchaouen	1.41	250	P	Pg	09 27 10.7	+0.1
JBK	JBK	1.59	143	P	Pn	09 27 11.4	-0.1
JBK				S	Sn	09 27 30.4	-1.6
SICH	Sidi Chahed	1.99	222	P	Pb	09 27 20.0	+0.5
SICH				S	Sg	09 27 45.8	-1.6
LCRM	LCR	2.13	206	P	Pb	09 27 22.6	+0.6
LCRM				S	Sn	09 27 46.6	+1.4
IFR	Ifrane	2.38	209	P	Pn	09 27 23.0	+0.6
MD31	MD31	2.86	198	P	Pn	09 27 30.8	+1.9
MD31				S	Sn	09 28 03.6	+0.4
MDT	Midelt	2.88	195	P	Pn	09 27 30.5	+1.4
MDT				S	Sn	09 28 02.3	-1.4
TDRA	Tendrara	2.92	151	P	Pn	09 27 30.7	+0.9
CART	Cartagena	2.96	47	P	Pn	09 27 31.3	+1.2
PVAQ	Vaqueiros	3.68	300	P	Pn	09 27 42.6	+2.6
FIGM	Figuig	4.03	149	P	Pn	09 27 45.5	+0.6
PFVI	Vila Bisbo	4.39	292	P	Pn	09 27 50.9	+1.1
OUK	Oukaimeden	5.58	219	P	Pn	09 28 07.6	+1.0

*IGIL **25** 09:34:14.9, 35°.43N×3°.72W, h4km, ML2.3*
*CNRM **25** 09:34:15.2, 35°.48N×3°.73W, h17km, ml3.4*

*SFS **25** 09:34:16.0, 35°.42N×3°.72W, h6km, ML2.8, ALBORAN SUR*

ISC 25 09:34:13.9±1.3, 35°.50N±0°.03×3°.72W±0°.03, h15km±11km, n19, σ1°17/27, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.33	212	P	Pb	09 34 21.8	+0.2
PALE				S	Sb	09 34 26.6	-0.1
CHAS	Isla Isabel II	1.10	106	P	Pn	09 34 35.0	+0.2
CHAS				S	Sb	09 34 49.0	+0.1
TAF	Taforalt	1.27	122	P	Pg	09 34 39.4	+1.0
CHEFC	Chefchaouen	1.38	254	P	Pb	09 34 39.8	+0.3
CHEFC				S	Sg	09 34 59.1	+0.7
EMAL	Malaga-Limoner	1.38	336	S	Pn	09 34 36.1	-2.6
EMAL	Malaga-Limoner	1.38	336	P	Pb	09 34 40.1	+0.6
EMAL	Malaga-Limoner	1.38	336	P	Sb	09 34 57.2	+0.2
JBK	JBK	1.50	140	P	Pn	09 34 40.6	+0.1
JBK				S	Sg	09 35 01.6	-0.8
SICH	Sidi Chahed	1.91	224	P	Pg	09 34 50.0	-0.6
SICH				S	Sb	09 35 12.9	+0.7
LCRM	LCR	2.04	208	P	Pb	09 34 49.2	-1.6
LCRM				S	Sn	09 35 14.1	+1.0
MD31	MD31	2.76	198	P	Pn	09 34 59.6	+1.8
MD31				S	Sn	09 35 31.9	+1.0
MDT	Midelt	2.78	196	P	Pb	09 35 01.2	-2.2
CART	Cartagena	3.02	46	P	Pn	09 35 01.2	-0.1
PVAQ	Vaqueiros	3.74	302	P	Pn	09 35 11.6	+0.5
MESJ	Messejana	4.30	304	*e*P	Pn	09 35 19.8	+0.9
MESJ				*e*S	Sn	09 36 07.2	-1.6
MESJ				IAML		09 36 11.2	
	comp=E,6.0nm,0.3s						
PFVI	Vila Bisbo	4.43	293	P	Pn	09 35 21.8	+1.1
PESTR	Estremoz	4.56	319	P	Pn	09 35 23.6	+1.1
OUK	Oukaimeden	5.51	220	P	Pn	09 35 35.8	0.0
TTIG	Tnine Tigouga,	6.33	220	P	Pn	09 35 45.5	-1.4

NEIC 25 09:38:13.3±0.9, 35°.896N±0°.009×97°.33W±0°.01, h8km±5km, mb_Lg2.5/22, Error ellipse: s-maj=1.7km s-min=1.3km az=110.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.14	226	Pg	Pg	09 38 15.9	-0.5
OK029				Sg	Sg	09 38 18.2	-0.2
OK025	Westminster Rd	0.31	181	Pg	Pg	09 38 19.4	-0.1
OK025				Sg	Sg	09 38 23.7	0.0
BCOK	Bluff Creek, N	0.33	224	Pg	Pg	09 38 19.5	-0.3
BCOK				Sg	Sg	09 38 24.4	+0.2
OK033	Mehan	0.35	65	Sg	Sg	09 38 25.6	+0.7
OK030	Cody Creek RV	0.44	86		Pg	09 38 22.2	+0.3
OKCFA	Oklahoma City	0.49	192		Pg	09 38 22.6	-0.2
OKCSW	OKLAHOMA CITY	0.50	190	Pg	Pg	09 38 22.6	-0.3
OKCSW				Sg	Sg	09 38 29.9	+0.5
OK034	N. Norfolk Rd.	0.51	77		Pg	09 38 23.6	+0.3
QUOK	Quay	0.57	61		Pg	09 38 24.6	+0.2
FNO	Franklin	0.64	185	Pg	Pg	09 38 25.3	-0.4
FNO				Sg	Sg	09 38 34.2	+0.2
CROK	Carrier	0.81	319	Pg	Pg	09 38 28.7	-0.2
W35A	Tecumseh	0.83	153		Pg	09 38 28.5	-0.8
BLOK	Blackwell	0.87	6		Pg	09 38 30.0	0.0
GC02	Grant County #	1.04	336	Pg	Pg	09 38 33.0	-0.4
KAN13	South Haven SW	1.12	354		Pg	09 38 34.6	-0.3
KAN14	Manchester OK	1.18	334	Pg	Pg	09 38 35.4	-0.5
KAN17	Caldwell West	1.20	343	Pn	Pb	09 38 36.0	-0.3
T35A	Sooner Cattle	1.21	33	Pn	Pb	09 38 36.2	-0.4
TUL1	Leonard	1.25	89	Pn	Pn	09 38 36.1	-1.0
KAN05	Bluff City Nor	1.29	340	Pn	Pn	09 38 37.5	-0.2
KAN01	Argonia South	1.30	345	Pn	Pn	09 38 37.7	-0.2
X34A	Smith Ranch, M	1.36	198	Pn	Pn	09 38 38.5	-0.2
KAN10	Anthony SW Sta	1.37	334	Pn	Pn	09 38 39.0	+0.2
KAN06	Argonia West S	1.42	343		Pn	09 38 39.7	+0.3
KAN08	Anthony NE Sta	1.43

comp=N,11nm,0.5s
MORF Marmelete 4.33 293 *e*P **Pn 09 48 52.4 +0.9**
PESTR Estremoz 4.45 316 P **Pn 09 48 54.0 +1.0**
OUK Oukaimeden 5.71 219 P **Pn 09 49 11.2 +0.5**
TTIG Tnine Tigouga, 6.53 219 P **Pn 09 49 21.1 -0.7**
TORD Torodi Ar. Bea 22.98 167 P **P 09 52 50.1 -0.3**
comp=N,0.6nm,0.7s,baz=351,slow=9.8,SNR=3.2
MKAR Makanchi Array 62.50 51 P **P 09 58 10.6 +1.2**
comp=N,0.7nm,0.9s,baz=299,slow=5.4,SNR=1.3
YKA Yellowknife Ar 67.69 332 P **P 09 58 43.4 +0.7**
comp=N,0.3nm,0.6s,baz=56,slow=6.4,SNR=8.5

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*SFS **25** 09:52:12.0,35°.61N×3°.83W,ML2.7,ALBORAN SUR*
*CNRM **25** 09:52:12.6,35°.66N×3°.66W,h23km,ml2.7*
ISC 25 09:52:12.2±1.5,35°.67N±0°.04×3°.66W±0°.04,h20km±5km,
n11,σ0°93/22,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**207**	P	**Pb**	**09 52 22.0**	**-0.5**
PALE				S	**Sg**	**09 52 28.4**	**-1.0**
GOG	**Mont Gurugu**	**0.70**	**129**	P	**Pg**	**09 52 26.3**	**+0.2**
GOG				S	**Sb**	**09 52 35.4**	**+0.4**
CHAS	**Isla Isabel II**	**1.11**	**115**	P	**Pn**	**09 52 32.9**	**+0.2**
CHAS				S	**Sb**	**09 52 46.6**	**-0.2**
EMAL	**Malaga-Limoner**	**1.26**	**330**	P	**Pb**	**09 52 35.8**	**+0.5**
EMAL				S	**Sb**	**09 52 51.1**	**+0.1**
TAF	**Taforalt**	**1.33**	**130**	P	**Pb**	**09 52 36.4**	**-0.1**
TAF				S	**Sn**	**09 52 52.7**	**-0.2**
CHEFC	**Chefchaouen**	**1.48**	**248**	P	**Pb**	**09 52 38.7**	**-0.5**
CHEFC				S	**Sn**	**09 52 55.6**	**-1.1**
JBK	**JBK**	**1.60**	**146**	P	**Pn**	**09 52 39.8**	**+0.2**
JBK				S	**Sn**	**09 52 58.7**	**-1.2**
SICH	**Sidi Chahed**	**2.07**	**222**	P	**Pb**	**09 52 49.9**	**+0.7**
SICH				S	**Sb**	**09 53 14.8**	**+0.3**
MD31	**MD31**	**2.94**	**198**	P	**Pn**	**09 52 59.3**	**+1.4**
MD31				S	**Sn**	**09 53 32.1**	**-0.6**
MDT	**Midelt**	**2.95**	**196**	P	**Pn**	**09 52 59.7**	**+1.6**
MDT				S	**Sn**	**09 53 32.7**	**-0.3**
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**09 53 09.1**	**+0.8**
PVAQ				S	**Sn**	**09 53 49.2**	**-2.2**

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*IGIL **25** 09:56:36.8,36°.87N×5°.19W,h9km*
*INMG **25** 09:56:36.8±1.7,36°.83N×5°.20W,h13km±7km,ML2.4,Error ellipse: s-maj=3.9km s-min=3.5km az=16.0*
*SFS **25** 09:56:36.0,36°.87N×5°.18W,h9km,ML2.5,SETENIL DE LAS BODEGAS (CADIZ)*
ISC 25 09:56:35.6±1.4,36°.84N±0°.08×5°.19W±0°.05,h15km±11km,
n15,σ0°71/29,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.61**	**97**	P	**Pg**	**09 56 47.3**	**-0.3**
EMAL				S	**Sb**	**09 56 56.6**	**+0.1**
PBAR	**Barrancos**	**1.99**	**313**	*e*Sn	**Sn**	**09 57 33.8**	**+0.5**
PVAQ	**Vaqueiros**	**2.10**	**286**	*e*Pn	**Pn**	**09 57 10.1**	**-0.2**
PVAQ				*e*Sn	**Sn**	**09 57 35.5**	**-0.6**
PVAQ				*e*Sg	**Sg**	**09 57 43.6**	**+0.4**
PVAQ				A	A	09 57 46.9	
18nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.23**	**281**	*e*Pn	**Pn**	**09 57 12.3**	**+0.2**
PBDV				*e*Sn	**Sn**	**09 57 39.4**	**-0.1**
PBDV				A	A	09 57 56.8	
10nm,0.9s							
PCVE	**Castro Verde**	**2.41**	**290**	*e*Pn	**Pn**	**09 57 14.5**	**0.0**
PCVE				*e*Sg	**Sg**	**09 57 52.8**	**-0.3**
PCVE				A	A	09 57 55.4	
10nm,0.4s							
PBEJ	**Beja**	**2.44**	**300**	*e*Pn	**Pn**	**09 57 15.9**	**+1.0**
PBEJ				*e*Sn	**Sn**	**09 57 43.7**	**-0.8**
PBEJ				A	A	09 57 59.7	
10nm,0.5s							
MESJ	**Messejana**	**2.62**	**293**	*e*P	**Pn**	**09 57 17.3**	**-0.1**
MESJ	**Messejana**	**2.62**	**293**	*e*Pn	**Pn**	**09 57 17.5**	**+0.2**
MESJ				*e*Sn	**Sn**	**09 57 49.5**	**+0.7**
MESJ				*e*Sg	**Sg**	**09 57 59.5**	**-0.2**
MESJ				A	A	09 58 08.2	
11nm,0.3s							
PESTR	**Estremoz**	**2.78**	**317**	*e*Pn	**Pn**	**09 57 19.6**	**0.0**
PESTR				*e*Sn	**Sn**	**09 57 51.4**	**-1.5**
PESTR				*e*Sg	**Sg**	**09 58 04.9**	**0.0**
PESTR				A	A	09 58 12.7	
15nm,0.6s							
MORF	**Marmelete**	**2.81**	**281**	*e*Sg	**Sg**	**09 58 06.4**	**+0.5**
PTEO	**Sao Teotonio**	**2.91**	**285**	*e*Sn	**Sn**	**09 57 56.8**	**+0.7**
PTEO				A	A	09 58 22.2	
10nm,0.6s							
PNCL	**Nicolau / Gran**	**2.95**	**297**	*e*Pn	**Pn**	**09 57 22.1**	**+0.2**
PNCL				*e*Sn	**Sn**	**09 57 56.4**	**-0.6**
PNCL				A	A	09 58 15.6	
8.4nm,0.5s							
PMRV	**Marv??o**	**3.11**	**327**	*e*Pn	**Pn**	**09 57 25.4**	**+1.2**
PMRV				*e*Sn	**Sn**	**09 57 59.9**	**-1.3**
PMRV				A	A	09 58 16.6	
11nm,0.4s							
PMTG	**Montargil**	**3.27**	**314**	*e*Pn	**Pn**	**09 57 27.3**	**+0.9**
PMTG				*e*Sn	**Sn**	**09 58 04.2**	**-0.9**
PMTG				A	A	09 58 30.3	
8.1nm,0.3s							
PCBR	**Castelo Branco**	**3.50**	**330**	*e*Pn	**Pn**	**09 57 30.6**	**+1.2**
PCBR				*e*Sn	**Sn**	**09 58 10.0**	**-0.5**
PCBR				A	A	09 58 29.6	
6.5nm,0.2s							

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*IDC **25** 09:59:21.0±0.7, 12°.91N×88°.61W,h0km,mb4.0/12, mb1 4.3/16,mb1mx4.1/36,mbtmp4.1/16,ML3.3/4,MS3.9/22, Ms1 3.9/22,ms1mx3.7/69,Error ellipse: s-maj=29.7km s-min=12.9km az=56.0*
*SNET **25** 09:59:22.9±1.0, 12°.47N×89°.05W,h21km±5km,ML3.8*
*UCR **25** 09:59:23.0±1.5, 12°.47N×89°.06W,h20km±7km,ML3.7, mb4.6(NEIC)*
*GCG **25** 09:59:24.0±0.3, 12°.36N×89°.43W,h153km±22km,MD4.4*
*NEIC **25** 09:59:24.7±2.2, 12°.67N±0°.08×88°.82W±0°.07,h20km±6km, mb4.6/114,Error ellipse: s-maj=14.0km s-min=6.8km az=221.0*
*INET **25** 09:59:25.7±1.4, 12°.55N×88°.94W,h34km±21km,ML4.1*
ISC 25 09:59:26.0±1.0,12°.56N±0°.05×88°.96W±0°.05,h48km±10km,
n283,σ1$24/234,mb4.6/61,MS4.1/20,22C-16D,Fault plane solution: NP1:**ϕ_s283.47604°,δ67.71144°, λ-106.66988°. **NP2:ϕ_s141.76778°,δ27.57584°, λ-55.01460°. **Principal axes:** T Plg21.0138°, Azm26.0259°; N Plg15.3922°, Azm289.9554°; P Plg63.5038°, Azm166.4334°; **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.99**	**10**	*e*P	**Pn**	**09 59 42.5**	**-1.0**
TECO	**Alcaldia de Te**	**0.99**	**10**	*e*P	**Pn**	**09 59 42.5**	**-1.0**
LALI	**Alcalda de L**	**0.99**	**339**	*e*P	**Pn**	**09 59 42.2**	**-1.3**
LALI				IAML		10 00 32.8	
comp=Z,500nm,0.8s							
LALI	**Alcalda de L**	**0.99**	**339**	*i* P	**Pn**	**09 59 42.3**	**-1.3**
LALI	**Alcalda de L**	**0.99**	**339**	*e*P	**Pn**	**09 59 42.2**	**-1.3**
LALI				IAML		10 00 32.8	
comp=Z,500nm,0.8s							
COEB	**Comit de Eme**	**1.02**	**24**	*e*P	**Pn**	**09 59 43.4**	**-0.7**
COEB				IAML		10 00 03.9	
comp=Z,2μm,0.4s							
COEB	**Comit de Eme**	**1.02**	**24**	*i* P	**Pn**	**09 59 43.4**	**-0.7**
COEB	**Comit de Eme**	**1.02**	**24**	*e*P	**Pn**	**09 59 43.4**	**-0.7**
COEB				IAML		10 00 03.9	
comp=Z,2μm,0.4s							
SJTE	**Alcalda de S**	**1.05**	**357**	*e*P	**Pn**	**09 59 43.2**	**-1.2**
SJTE				*e*S	**Sn**	**09 59 58.7**	**+0.7**
SJTE				IAML		10 00 14.7	
comp=Z,905nm,0.6s							
SJTE	**Alcalda de S**	**1.05**	**357**	*e*P	**Pn**	**09 59 43.2**	**-1.2**
SJTE				*e*S	**Sn**	**09 59 58.7**	**+0.7**
SJTE				IAML		10 00 14.7	
comp=Z,905nm,0.6s							
LFRS	**El Faro**	**1.06**	**355**	*e*P	**Pn**	**09 59 43.5**	**-1.1**
LFRS	**El Faro**	**1.06**	**355**	*e*P	**Pn**	**09 59 43.5**	**-1.1**
VSM	**San Miguel**	**1.09**	**38**	*e*P	**Pn**	**09 59 45.2**	**+0.1**
VSM	**San Miguel**	**1.09**	**38**	*e*P	**Pn**	**09 59 45.2**	**+0.1**
PACA	**Pacayal**	**1.09**	**34**	*e*P	**Pn**	**09 59 45.4**	**+0.3**
PACA	**Pacayal**	**1.09**	**34**	*e*P	**Pn**	**09 59 45.5**	**+0.4**
PACA	**Pacayal**	**1.09**	**34**	*e*P	**Pn**	**09 59 45.4**	**+0.3**
PAVA	**Las Pavas**	**1.15**	**1**	*e*P	**Pn**	**09 59 45.0**	**-0.7**
PAVA				IAML		10 00 04.3	
comp=Z,2μm,0.5s							
PAVA	**Las Pavas**	**1.15**	**1**	*e*P	**Pn**	**09 59 45.1**	**-0.7**
PAVA	**Las Pavas**	**1.15**	**1**	*e*P	**Pn**	**09 59 45.0**	**-0.7**
PAVA				IAML		10 00 04.3	
comp=Z,2μm,0.5s							
SNET	**Serv Nac Est T**	**1.15**	**347**	*e*P	**Pn**	**09 59 44.7**	**-1.1**
SNET				IAML		10 00 15.3	
comp=Z,2μm,0.5s							
SNET	**Serv Nac Est T**	**1.15**	**347**		**Pn**	**09 59 44.8**	**-1.1**
SNET	**Serv Nac Est T**	**1.15**	**347**	*e*P	**Pn**	**09 59 44.8**	**-1.1**
SNET	**Serv Nac Est T**	**1.15**	**347**	*e*P	**Pn**	**09 59 44.7**	**-1.1**
SNET				IAML		10 00 15.3	
comp=Z,2μm,0.5s							
SCLA	**Alcaldia de Sa**	**1.16**	**11**	*e*P	**Pn**	**09 59 45.5**	**-0.3**
SCLA				IAML		10 00 31.7	
comp=Z,539nm,0.6s							
SCLA	**Alcaldia de Sa**	**1.16**	**11**	*e*P	**Pn**	**09 59 45.5**	**-0.3**
SCLA				IAML		10 00 31.7	
comp=Z,539nm,0.6s							
OPAM	**Oficina de Pla**	**1.17**	**348**	*e*P	**Pn**	**09 59 44.9**	**-1.1**
OPAM				IAML		10 00 10.7	
comp=Z,1μm,0.4s							
OPAM	**Oficina de Pla**	**1.17**	**348**	*e*P	**Pn**	**09 59 44.9**	**-1.1**
OPAM				IAML		10 00 10.7	
comp=Z,1μm,0.4s							
LBRS	**Las Brisas**	**1.17**	**356**	*e*P	**Pn**	**09 59 45.6**	**-0.5**
LBRS	**Las Brisas**	**1.17**	**356**	*e*P	**Pn**	**09 59 45.6**	**-0.5**
UEES	**Universidad Ev**	**1.18**	**347**	*e*P	**Pn**	**09 59 45.1**	**-1.1**
UEES	**Universidad Ev**	**1.18**	**347**	*e*P	**Pn**	**09 59 45.1**	**-1.1**
JAYA	**Jayaque - finc**	**1.19**	**336**	*e*P	**Pn**	**09 59 45.0**	**-1.4**
JAYA				*e*S	**Sn**	**10 00 02.0**	**+0.5**
JAYA				IAML		10 00 08.1	
comp=Z,2μm,0.2s							
JAYA	**Jayaque - finc**	**1.19**	**336**	*e*P	**Pn**	**09 59 45.0**	**-1.4**
JAYA				*e*S	**Sn**	**10 00 02.0**	**+0.5**
JAYA				IAML		10 00 08.1	
comp=Z,2μm,0.2s							
LFU	**La Fuente**	**1.19**	**353**	*e*P	**Pn**	**09 59 45.8**	**-0.5**
LFU	**La Fuente**	**1.19**	**353**	*e*P	**Pn**	**09 59 45.8**	**-0.5**
BOQS	**Boqueron**	**1.21**	**345**	*e*P	**Pn**	**09 59 45.8**	**-0.9**
BOQS				*e*S	**Sn**	**10 00 04.9**	**+2.8**
BOQS	**Boqueron**	**1.21**	**345**	*e*P	**Pn**	**09 59 45.8**	**-0.9**
BOQS				*e*S	**Sn**	**10 00 04.9**	**+2.8**
LCND	**La Caada**	**1.28**	**54**	*e*P	**Pn**	**09 59 46.6**	**-0.8**
LCND				IAML		10 00 14.8	
comp=Z,3μm,0.4s							
LCND	**La Caada**	**1.28**	**54**	*e*P	**Pn**	**09 59 46.6**	**-0.8**
LCND				IAML		10 00 14.8	
comp=Z,3μm,0.4s							
CEDA	**San Andres**	**1.31**	**341**	*e*P	**Pn**	**09 59 46.8**	**-1.1**
CEDA				IAML		10 00 27.3	
comp=Z,4μm,0.4s							
CEDA	**San Andres**	**1.31**	**341**	*e*P	**Pn**	**09 59 46.9**	**-1.0**
CEDA	**San Andres**	**1.31**	**341**	*e*P	**Pn**	**09 59 46.8**	**-1.1**
CEDA				IAML		10 00 27.3	
comp=Z,4μm,0.4s							
CNCH	**Conchagua**	**1.31**	**57**	*e*P	**Pn**	**09 59 47.9**	**0.0**
CNCH	**Conchagua**	**1.31**	**57**	*e*P	**Pn**	**09 59 47.9**	**0.0**
CEVE	**Cerro Verde**	**1.42**	**333**	*e*P	**Pn**	**09 59 48.4**	**-1.2**
CEVE				IAML		10 00 28.3	
comp=Z,4μm,0.4s							
CEVE	**Cerro Verde**	**1.42**	**333**	*e*P	**Pn**	**09 59 48.4**	**-1.2**
CEVE				IAML		10 00 28.3	
comp=Z,4μm,0.4s							
SBLS	**San Blas**	**1.43**	**333**	*e*P	**Pn**	**09 59 48.5**	**-1.2**
SBLS	**San Blas**	**1.43**	**333**	*e*P	**Pn**	**09 59 48.5**	**-1.2**
SNJE	**San Jose**	**1.45**	**334**	*e*P	**Pn**	**09 59 48.7**	**-1.2**
SNJE	**San Jose**	**1.45**	**334**	*e*P	**Pn**	**09 59 48.7**	**-1.2**
TACO	**Tacachico**	**1.45**	**345**	*e*P	**Pn**	**09 59 49.3**	**-0.6**
TACO				IAML		10 00 16.7	
comp=Z,1μm,0.6s							
TACO	**Tacachico**	**1.45**	**345**	*e*P	**Pn**	**09 59 49.3**	**-0.6**
TACO				IAML		10 00 16.7	
comp=Z,1μm,0.6s							
RTR	**El Retiro**	**1.49**	**333**	*e*P	**Pn**	**09 59 49.4**	**-1.0**
RTR	**El Retiro**	**1.49**	**333**	*e*P	**Pn**	**09 59 49.4**	**-1.0**
NUBE	**Las Nubes**	**1.56**	**329**	*e*P	**Pn**	**09 59 50.2**	**-1.2**
NUBE				IAML		10 00 16.6	
comp=Z,930nm,0.4s							
NUBE	**Las Nubes**	**1.56**	**329**	*e*P	**Pn**	**09 59 50.2**	**-1.2**
NUBE				IAML		10 00 16.6	
comp=Z,930nm,0.4s							
SLOZ	**Alcaldia de Sa**	**1.66**	**331**	*e*P	**Pn**	**09 59 52.0**	**-0.8**
SLOZ				IAML		10 00 24.4	
comp=Z,955nm,0.7s							
CRIN	**San Cristobal**	**1.87**	**86**		**Pn**	**09 59 54.8**	**-0.8**
CRIN	**San Cristobal**	**1.87**	**86**	*e*P	**Pn**	**09 59 54.9**	**-0.6**
MTO3	**Montecristo**	**1.87**	**348**	*e*P	**Pn**	**09 59 55.7**	**0.0**
MTO3	**Montecristo**	**1.87**	**348**		**Pn**	**09 59 55.8**	**0.0**
MTO3	**Montecristo**	**1.87**	**348**	*e*P	**Pn**	**09 59 56.3**	**+0.6**
MTO3	**Montecristo**	**1.87**	**348**	*e*P	**Pn**	**09 59 55.7**	**0.0**
ESQI	**Esquipulas**	**2.02**	**349**		**Pn**	**09 59 57.8**	**0.0**
CNGN	**Cerro Negro**	**2.21**	**91**		**Pn**	**09 59 58.4**	**-1.8**
CNGN	**Cerro Negro**	**2.21**	**91**	*e*P	**Pn**	**09 59 58.9**	**-1.3**
TGUH	**Tegucigalpa,Un**	**2.21**	**48**	*e*P	**Pn**	**10 00 00.8**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.21**	**48**	Pn	**Pn**	**10 00 00.0**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.21**	**48**	*e*P	**Pn**	**10 00 00.8**	**+0.4**
NBG	**Las Nubes**	**2.42**	**326**	*e*P	**Pn**	**10 00 05.3**	**+1.9**
NBG				*e*S	**Sn**	**10 00 37.7**	**+5.7**
MRL	**Marmol**	**2.60**	**344**	*e*P	**Pn**	**10 00 09.4**	**+3.6**
FUG	**Fuego 3**	**2.62**	**316**	*e*P	**Pn**	**10 00 06.3**	**+0.3**
FUG				*e*S	**Sn**	**10 00 39.3**	**+2.5**
MGAN	**Managua**	**2.68**	**99**	‖ *i*P	**Pn**	**10 00 05.4**	**-1.2**
APG	**El Apazote**	**2.83**	**329**	Pn	**Pn**	**10 00 08.5**	**-0.5**
comp=Z,2.5nm,0.3s,baz=136,slow=7.8,SNR=33							
APG				LR	LR	10 00 55.1	
comp=Z,357nm,18.5s,baz=162,slow=34							
BOAB	**BOACO BROADBAN**	**2.22**	**92**	Pn	**Pn**	**10 00 10.6**	**-3.4**
STG3	**Santiaguito 3,**	**3.32**	**310**	*e*P	**Pn**	**10 00 16.0**	**+0.4**
STG3				*e*S	**Sn**	**10 00 54.0**	**+0.1**
CONN	**Concepcion**	**3.41**	**107**	*e*P	**Pn**	**10 00 15.9**	**-0.7**
ACON	**Acoyapa**	**3.75**	**99**		**Pn**	**10 00 19.3**	**-2.0**
ACON	**Acoyapa**	**3.75**	**99**	*e*P	**Pn**	**10 00 20.5**	**-0.8**
HZTE	**Horizontes, Gu**	**3.77**	**119**	*e*P	**Pn**	**10 00 20.5**	**-1.2**
HZTE	**Horizontes, Gu**	**3.77**	**119**		**Pn**	**10 00 20.8**	**-0.8**
SAJU	**San Juanillo,**	**4.04**	**128**	*e*P	**Pn**	**10 00 22.6**	**-2.7**
ORTG	**Ortega, Santa**	**4.07**	**122**	Pn	**Pn**	**10 00 24.5**	**-1.3**
VMAR	**Armenia, Volca**	**4.14**	**114**	*e*P	**Pn**	**10 00 26.5**	**-0.3**
DUNO	**Dulce Nombre,**	**4.20**	**126**		**Pn**	**10 00 26.3**	**-1.2**
INDI	**Punta indio, G**	**4.32**	**128**	*e*P	**Pn**	**10 00 26.1**	**-3.1**
JTS	**Las Juntas de**	**4.53**	**119**	Pn	**Pn**	**10 00 30.9**	**-1.2**
JTS	**Las Juntas de**	**4.53**	**119**	*e*P	**Pn**	**10 00 31.2**	**-0.8**
JTS	**Las Juntas de**	**4.53**	**119**		**Pn**	**10 00 31.3**	**-0.8**
ESPN	**Las Esperanzas**	**4.56**	**94**	Pn	**Pn**	**10 00 32.5**	**0.0**
ARE1	**Arenal 1**	**4.65**	**116**	*e*P	**Pn**	**10 00 33.2**	**-0.6**
CAO2	**Cobano, Puntar**	**4.74**	**127**		**Pn**	**10 00 33.4**	**-1.5**
CCIG	**Comitan**	**4.81**	**321**		**Pn**	**10 00 38.9**	**+2.8**
LAFE	**Finca La Fe, P**	**4.82**	**124**	*e*P	**Pn**	**10 00 34.4**	**-1.7**
SRA1	**San Ramn**	**5.03**	**119**	*e*P	**Pn**	**10 00 38.6**	**-0.5**
JACO	**JACO, Garabito**	**5.11**	**124**	*e*P	**Pn**	**10 00 39.7**	**-0.3**
JACO	**JACO, Garabito**	**5.11**	**124**	Pn	**Pn**	**10 00 39.4**	**-0.6**
HDC	**Heredia**	**5.39**	**118**	*e*P	**Pn**	**10 00 43.1**	**-0.9**
HDC	**Heredia**	**5.39**	**118**		**Pn**	**10 00 42.3**	**-1.7**
LCR2	**La Lucha 2**	**5.61**	**119**	*e*P	**Pn**	**10 00 46.9**	**-0.2**
RIMA	**Rio Macho**	**5.72**	**119**	*e*P	**Pn**	**10 00 48.5**	**-0.1**
RIMA	**Rio Macho**	**5.72**	**119**		**Pn**	**10 00 47.1**	**-1.4**
PEZE	**Perez Zeledon,**	**6.07**	**121**	*e*P	**Pn**	**10 00 53.2**	**0.0**
PEZE	**Perez Zeledon,**	**6.07**	**121**		**Pn**	**10 00 53.3**	**0.0**
SRBA	**San Rafael, Bu**	**6.42**	**120**	*e*P	**Pn**	**10 00 57.5**	**-0.6**
SRBA	**San Rafael, Bu**	**6.42**	**120**		**Pn**	**10 00 57.2**	**-0.8**
RIOS	**Rincon, Osa**	**6.58**	**125**		**Pn**	**10 00 59.8**	**-0.4**
PIRO	**Carate, Puerto**	**6.90**	**126**	*e*P	**Pn**	**10 01 04.2**	**-0.4**
CMIG	**Matias Romero**	**7.29**	**309**	Pn	**Pn**	**10 01 09.6**	**-0.4**
comp=Z,1.4nm,0.3s,baz=151,slow=8.3,SNR=18							
CMIG				Sn	**Sn**	**10 02 29.6**	**-1.7**
baz=117,slow=17,SNR=1.9							
TLIG	**Tlapa**	**10.53**	**299**	Pn	**Pn**	**10 01 54.1**	**-0.3**
ROSC	**El Rosal**	**16.37**	**117**	Pn	**Pn**	**10 03 10.8**	**-2.2**
comp=Z,2.0nm,0.3s,baz=204,slow=20,SNR=1.7							
DWPF	**Disney Wildern**	**16.99**	**23**	P	**Pn**	**10 03 19.6**	**-0.7**
baz=206							
SDV	**Santo Domingo**	**18.37**	**100**	P	**P**	**10 03 35.2**	**-2.0**
comp=Z,0.7nm,0.3s,baz=273,slow=6.6,SNR=1.9							
SDV				LR	LR	10 12 01.1	
comp=Z,276nm,19.5s,baz=304,slow=42							
HKT	**Hockley**	**18.44**	**341**	P	**Pn**	**10 03 37.5**	**-0.6**
833A	**Chaparral WMA,**	**18.46**	**330**		**Pn**	**10 03 38.2**	**-0.2**
833A	**Chaparral WMA,**	**18.46**	**330**	P	**Pn**	**10 03 38.3**	**-0.2**
baz=146							
342A	**Flagon Creek P**	**18.98**	**351**		**Pn**	**10 03 45.2**	**+0.6**
342A				IAmb	IAmb	10 03 56.8	
comp=Z,48nm,1.1s							
TIGA	**Tifton**	**19.43**	**14**	P	**Pn**	**10 03 48.7**	**-1.2**
baz=196							
VBMS	**Vicksburg**	**19.62**	**356**	P	**Pn**	**10 03 51.0**	**-1.1**
baz=175							
NATX	**Nacogdoches**	**19.82**	**346**	P	**Pn**	**10 03 53.3**	**-1.3**
baz=163							
JCT	**Junction City**	**20.46**	**332**	P	**P**	**10 04 00.1**	**+0.3**
JCT				IAmb	IAmb	10 04 00.7	
comp=Z,20nm,0.9s							
JCT	**Junction City**	**20.46**	**332**	P	**P**	**10 03 59.4**	**-0.3**
baz=148,SNR=13							
Z47A	**Carrollton**	**20.56**	**2**	IAmb	IAmb	10 04 05.3	
comp=Z,18nm,0.7s							
154A	**Montrose**	**20.67**	**14**	IAmb	IAmb	10 04 12.0	
comp=Z,38nm,1.1s							
WHTX	**Lake Whitney,**	**20.86**	**339**	P	**P**	**10 04 03.6**	**-0.4**
WHTX				IAmb	IAmb	10 04 29.2	
comp=Z,39nm,1.1s							
WHTX	**Lake Whitney,**	**20.86**	**339**	P	**P**	**10 04 03.7**	**-0.3**
baz=156,SNR=12							
Y45A	**Yeager Farm, C**	**21.21**	**359**		**P**	**10 04 10.4**	**+2.7**
Y45A				IAmb	IAmb	10 04 25.1	
comp=Z,24nm,0.9s							
HPIG		**21.22**	**315**	P	**P**	**10 04 08.8**	**+0.7**
GOGA	**Godfrey**	**21.35**	**13**	P	**P**	**10 04 09.6**	**+0.3**
GOGA	**Godfrey**	**21.35**	**13**	P	**P**	**10 04 09.9**	**+0.7**
baz=194,SNR=6.0							
TX32	**Lajitas Array**	**21.58**	**323**	P	**P**	**10 04 12.8**	**+1.0**
TXAR	**Lajitas Array**	**21.58**	**323**	P	**P**	**10 04 12.7**	**+0.9**
comp=Z,7.8nm,0.7s,baz=147,slow=11,SNR=108							
TX31	**Lajitas Ar. Si**	**21.58**	**323**	IAmb	IAmb	10 04 14.0	
comp=Z,27nm,0.8s							
Y52A	**Lilburn**	**21.67**	**11**	IAmb	IAmb	10 04 26.0	
comp=Z,23nm,1.4s							
OXF	**Oxford**	**21.86**	**359**	P	**P**	**10 04 15.2**	**+0.6**
OXF				IAmb	IAmb	10 04 27.1	
comp=Z,25nm,0.9s							
X40A	**Basin Creek Fa**	**22.11**	**351**	IAmb	IAmb	10 04 21.5	
comp=Z,32nm,1.4s							
X40A	**Basin Creek Fa**	**22.11**	**351**	P	**P**	**10 04 17.1**	**-0.2**
baz=170,SNR=5.8							
ATAH	**Atahualpa**	**22.21**	**151**	P	**P**	**10 04 22.2**	**+3.2**
comp=Z,6.2nm,0.9s,baz=324,slow=7.9,SNR=5.9							
ATAH				LR	LR	10 11 57.4	
comp=Z,231nm,19.5s,baz=347,slow=34							
ABTX	**Abilene, Hawle**	**22.24**	**336**	IAmb	IAmb	10 04 33.5	
comp=Z,13nm,0.8s							
ABTX	**Abilene, Hawle**	**22.24**	**336**	P	**P**	**10 04 18.0**	**-0.9**
baz=151							
MIAR	**Mount Ida**	**22.29**	**350**	P	**P**	**10 04 18.5**	**-0.8**
baz=168,SNR=20							
LOOK	**Love County**	**22.61**	**342**		**P**	**10 04 22.6**	**-0.1**
LOOK				IAmb	IAmb	10 04 24.6	
comp=Z,17nm,0.9s							
X37A	**Clayton**	**22.69**	**346**	IAmb	IAmb	10 04 35.3	
comp=Z,41nm,1.3s							
W41B	**Gary Mavity, V**	**22.71**	**353**	IAmb	IAmb	10 04 26.9	
comp=Z,22nm,1.1s							
W41B	**Gary Mavity, V**	**22.71**	**353**	P	**P**	**10 04 23.2**	**-0.5**
baz=171,SNR=7.1							
JSC	**Jenkinsville**	**22.73**	**17**	P	**P**	**10 04 25.1**	**+1.1**
Y57A	**Sumter**	**22.74**	**19**	IAmb	IAmb	10 04 30.9	
comp=Z,19nm,0.7s							
WHAR	**Wooly Hollow**	**22.83**	**353**	IAmb	IAmb	10 04 27.1	
comp=Z,13nm,0.8s							
W39A	**Magazine**	**22.96**	**350**	IAmb	IAmb	10 04 28.8	
comp=Z,26nm,1.1s							
W39A	**Magazine**	**22.96**	**350**	P	**P**	**10 04 25.9**	**-0.4**
baz=168,SNR=8.2							
BG3	**Lake Jocassee**	**22.99**	**13**	P	**P**	**10 04 27.1**	**+0.5**
PAULI	**Pauline**	**23.09**	**15**	IAmb	IAmb	10 04 28.7	
comp=Z,38nm,1.5s							
BIRD	**Birdtown, Kers**	**23.30**	**18**	IAmb	IAmb	10 04 42.9	
comp=Z,19

baz=205
TUC Tucson 28.06 318 P **P 10 05 17.6 +4.5**
TUC Tucson 28.06 318 P **P 10 05 12.5 -0.6**
baz=129
N41A Harden Midland 28.09 357 IAmb IAmb 10 05 26.1
comp=Z,16nm,1.1s
T25A Trinidad 28.12 333 IAmb IAmb 10 05 26.5
comp=Z,7.0nm,0.9s
T25A Trinidad 28.12 333 P **P 10 05 13.6 -0.2**
baz=146
O53A New Philadelph 28.41 13 P **P 10 05 15.6 -0.5**
baz=196
SDCO Great Sand Dun 29.11 332 P **P 10 05 22.8 +0.1**
baz=145
N54A Moraine State 29.37 14 P **P 10 05 23.6 -1.0**
baz=198
S22A 4UR Ranch, Cre 29.73 331 P **P 10 05 28.2 +0.1**
baz=143
BGNE Belgrade 29.84 346 P **P 10 05 28.9 +0.1**
baz=162
JFWS Jewell Farm 30.26 358 P **P 10 05 32.2 -0.2**
JFWS IAmb IAmb 10 05 44.9
comp=Z,16nm,1.1s
JFWS Jewell Farm 30.26 358 P **P 10 05 32.2 -0.2**
baz=177
ISCO Idaho Springs 30.86 335 P **P 10 05 38.4 +0.3**
baz=147
BINY Binghamton 31.61 19 P **P 10 05 43.9 -0.4**
baz=204
PTGA Pitinga 31.66 113 LR LR 10 21 01.0
comp=Z,170nm,18.3s,baz=290,slow=41
ETMB Extrema 31.70 134 P **P 10 05 47.2 +1.8**
ETMB IAmb IAmb 10 05 56.6
comp=Z,8.8nm,1.1s
ECSD EROS Data Cent 31.76 349 P **P 10 05 45.7 +0.1**
baz=166
BC3 Big Chuckawall 32.00 315 P **P 10 05 47.7 -0.3**
baz=125
O20A White River Ci 32.30 332 IAmb IAmb 10 06 05.7
comp=Z,7.0nm,1.1s
O20A White River Ci 32.30 332 P **P 10 05 50.4 -0.2**
baz=143
SPMN Marine on St. 32.72 355 P **P 10 05 52.4 -1.5**
baz=173,SNR=23
109C Camp Elliot, M 32.74 313 P **P 10 05 54.9 +0.5**
baz=122
GMRC Granite Mounta 32.79 317 P **P 10 05 55.9 +1.0**
baz=126
SUSD Miller 32.91 347 P **P 10 05 55.7 0.0**
baz=162
RWWY Rawlins 33.10 335 P **P 10 05 58.3 +0.5**
RWWY IAmb IAmb 10 06 07.3
comp=Z,5.3nm,0.8s
SADO Sadowa 33.18 13 IAmb IAmb 10 06 00.0
comp=Z,12nm,1.1s
F36A Milaca 33.42 354 IAmb IAmb 10 06 10.4
comp=Z,12nm,1.3s
F33A 5 Mile Ranch, 33.75 351 IAmb IAmb 10 06 02.2
comp=Z,5.9nm,0.7s
RSSD Black Hills 34.02 340 P **P 10 06 06.5 +0.9**
RSSD IAmb IAmb 10 06 16.2
comp=Z,7.2nm,1.0s
LONY Lake Ozonia 34.24 18 P **P 10 06 06.3 -1.0**
baz=205
MPMC Manual Prospec 34.74 317 P **P 10 06 11.6 -0.4**
baz=125
PDAR Pinedale Array 34.99 333 P **P 10 06 14.6 +0.6**
comp=Z,0.4nm,0.8s,baz=122,slow=9.7,SNR=2.7
LPAZ La Paz 35.30 144 P **P 10 06 20.8 +3.4**
comp=Z,1.3nm,0.9s,baz=62,slow=3.0,SNR=3.7
LPAZ LR LR 10 20 06.0
comp=Z,130nm,20.0s,baz=330,slow=35
AHID Auburn Hatcher 35.69 332 P **P 10 06 22.4 +2.4**
AHID IAmb IAmb 10 06 24.9
comp=Z,5.1nm,0.9s
REDW Red Top Meadow 36.04 332 IAmb IAmb 10 06 38.0
comp=Z,6.0nm,0.7s
AGMN Agassiz Nation 36.09 352 P **P 10 06 21.6 -1.5**
baz=168,SNR=9.5
LOHW Long Hollow 36.13 333 P **P 10 06 25.5 +1.7**
PKME Peaks-Kenny Pk 36.65 23 P **P 10 06 26.8 -1.1**
baz=213
NVAR Mina Array Bea 36.66 320 P **P 10 06 30.4 +1.9**
comp=Z,0.8nm,0.8s,baz=142,slow=7.6,SNR=7.4
NVAR PcP **PcP 10 08 51.8 +1.2**
comp=Z,0.7nm,0.7s,baz=140,slow=3.6,SNR=5.3
NVAR LR LR 10 22 12.2
comp=Z,331nm,19.1s,baz=231,slow=38
RLMT Red Lodge 36.78 336 P **P 10 06 29.0 -0.4**
baz=145
HLID Hailey 37.88 329 P **P 10 06 38.6 0.0**
baz=137
DGMT Dagmar 37.98 343 P **P 10 06 39.4 +0.2**
baz=155
ULM Lac du Bonnet 38.01 353 P **P 10 06 37.0 -2.4**
comp=Z,4.5nm,0.8s,baz=160,slow=7.9,SNR=2.9
ULM Lac du Bonnet 38.01 353 IAmb IAmb 10 06 46.9
comp=Z,11nm,1.1s
MCMT McKenzie Canyo 38.09 332 P **P 10 06 42.1 +1.7**
BOZ Bozeman (W) 38.15 334 P **P 10 06 40.8 0.0**
baz=142
EGMT Eagleton 39.38 338 P **P 10 06 51.5 +0.4**
baz=147
MSO Missoula 40.11 333 P **P 10 06 57.3 +0.1**
MSO Missoula 40.11 333 P **P 10 06 57.3 +0.1**
baz=140
F10A Beach Ranch, E 41.01 330 P **P 10 07 05.9 +1.3**
YBH Yreka Blue Hor 41.33 321 LR LR 10 24 30.7
comp=Z,304nm,19.8s,baz=236,slow=37
I05D Terrebonne, OR 42.08 325 P **P 10 07 13.5 +0.2**
baz=129
EDM Edmonton 44.98 339 P **P 10 07 35.6 -0.9**
SCHQ Schefferville 45.61 18 P **P 10 07 39.1 -2.3**
comp=Z,3.3nm,0.5s,baz=214,slow=5.1,SNR=15
SCHQ Schefferville 45.61 18 P **P 10 07 39.8 -1.6**
SCHQ IAmb IAmb 10 07 48.7
comp=Z,12nm,1.2s
FCC Fort Churchill 46.27 356 P **P 10 07 45.2 -1.3**
H03N2 Juan Fernandez 46.73 168 T T 10 57 50.6
baz=347,slow=74
H03N1 Juan Fernandez 46.74 168 T T 10 57 51.7
baz=347,slow=74
H03N3 Juan Fernandez 46.75 168 T T 10 57 52.8
baz=347
YKA Yellowknife Ar 53.13 345 P **P 10 08 37.5 -1.1**
comp=Z,1.3nm,0.7s,baz=142,slow=7.7,SNR=26
YKA PcP **PcP 10 09 46.3 0.0**
comp=Z,0.2nm,0.5s,baz=152,slow=3.8,SNR=3.9
PLCA Paso Flores 55.70 163 P **P 10 08 59.5 +1.9**
comp=Z,2.9nm,0.9s,baz=333,slow=9.3,SNR=5.6
INK Inuvik 62.66 343 LR LR 10 39 52.4
comp=Z,147nm,19.0s,baz=130,slow=39
ILAR Eielson Array 65.33 336 P **P 10 10 02.6 -0.4**
comp=Z,0.2nm,0.6s,baz=169,slow=4.6,SNR=3.8
PPT Papeete 66.91 245 LR LR 10 30 49.3
comp=Z,113nm,19.8s,baz=352,slow=28
H21K Melozitna Rive 67.97 336 P **P 10 10 19.4 -0.4**
baz=109
SPITS Spitsbergen Ar 80.90 12 LR LR 10 49 16.1
comp=Z,120nm,18.2s,baz=346,slow=37
NOA NORSAR Array B 83.98 29 LR LR 10 45 20.6
comp=Z,46nm,21.4s,baz=60,slow=33
AFI Afiamalu 86.16 255 LR LR 10 44 38.4
comp=Z,52nm,19.8s,baz=16,slow=31
TORD Torodi Ar. Bea 87.82 77 P **P 10 12 09.6 -1.4**
comp=Z,0.2nm,0.5s,baz=293,slow=5.1,SNR=1.7
GERES GERESS Array B 88.80 40 LR LR 10 48 03.9
comp=Z,73nm,19.4s,baz=3.0,slow=33
VRAC Vranov 90.46 39 LR LR 10 48 16.2
comp=Z,89nm,19.2s,baz=346,slow=33
SEY Seymchan 91.26 336 LR LR 10 56 48.4
comp=Z,46nm,21.1s,baz=330,slow=38
TIXI Tiksi 92.25 349 LR LR 10 57 28.2
comp=Z,68nm,19.8s,baz=308,slow=38
VAE Valguarnera 92.79 51 LR LR 10 48 57.9
comp=Z,100nm,19.6s,baz=41,slow=32
AKASG Malin Array Be 97.27 34 LR LR 10 55 17.5
comp=Z,64nm,19.3s,baz=328,slow=35
NRIK Norilʼsk 98.27 1 LR LR 10 58 39.9
comp=Z,104nm,20.4s,baz=338,slow=36
YAK Yakutsk 99.73 343 LR LR 11 02 19.8
comp=Z,48nm,21.8s,baz=172,slow=38
MKAR Makanchi Array 120.40 7 PKP **PKiKP 10 18 13.5 +1.1**
comp=Z,0.3nm,0.8s,baz=46,slow=4.2,SNR=2.1
WRA Warramunga Arr 137.88 254 PKP **PKiKP 10 18 51.0 +2.8**
comp=Z,0.8nm,0.5s,baz=89,slow=2.2,SNR=17
ASAR Alice Springs 137.94 249 PKhKP PKPpre 10 18 44.7
comp=Z,0.2nm,0.5s,baz=109,slow=2.7,SNR=4.3
PZH PanZhiHua 139.80 345 PKP **PKPdf 10 18 49.3 -0.4**
CMAR Chiang Mai Arr 148.21 346 PKPbc **PKiKP 10 19 08.4 -1.0**
comp=Z,2.0nm,0.6s,baz=344,slow=3.6,SNR=9.5
CMAR Chiang Mai Arr 148.21 346 **PKPbc 10 19 07.9 +0.2**

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*SFS **25** 10:05:00.0, 35°.51N×3°.85W, ML2.8, ALBORAN SUR*
*CNRM **25** 10:05:00.7, 35°.55N×3°.74W, h16km, ml3.5*
*IDC **25** 10:05:02.3±1.6, 35°.65N×3°.99W, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/36, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=38.4km s-min=20.2km az=83.0*
ISC 25 10:05:01.0±1.2, 35°.53N±0°.03×3°.75W±0°.03, h13km±9km, n23, σ1§80/36, mb3.5/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.35**	**206**	P	**Pg**	**10 05 08.0**	**-0.1**
PALE				S	**Sg**	**10 05 12.7**	**-0.1**
GOG	**Mont Gurugu**	**0.69**	**116**	P	**Pb**	**10 05 14.6**	**-0.4**
GOG				S	**Sg**	**10 05 23.2**	**-0.3**
CHAS	**Isla Isabel II**	**1.13**	**108**	P	**Pb**	**10 05 21.3**	**-1.1**
CHAS				S	**Sb**	**10 05 35.4**	**-1.7**
TAF	**Taforalt**	**1.31**	**123**	P	**Pb**	**10 05 25.0**	**-0.5**
TAF				S	**Sg**	**10 05 43.6**	**+0.4**
EMAL	**Malaga-Limoner**	**1.34**	**336**	P	**Pb**	**10 05 25.1**	**-0.9**
EMAL				S	**Sn**	**10 05 41.9**	**-1.2**
CHEFC	**Chefchaouen**	**1.37**	**252**	P	**Pb**	**10 05 26.0**	**-0.5**
CEU	**Ceuta**	**1.37**	**286**	P	**Pn**	**10 05 24.7**	**-1.0**
CEU				S	**Sn**	**10 05 38.4**	**-5.4**
JBK	**JBK**	**1.54**	**141**	P	**Pn**	**10 05 26.6**	**-1.7**
JBK				S	**Sn**	**10 05 45.8**	**-2.5**
SICH	**Sidi Chahed**	**1.92**	**223**	P	**Pb**	**10 05 36.0**	**+0.2**
SICH				S	**Sb**	**10 06 00.1**	**+0.4**
LCRM	**LCR**	**2.06**	**207**	P	**Pb**	**10 05 38.8**	**+0.5**
LCRM				S	**Sb**	**10 06 03.3**	**-0.5**
IFR	**Ifrane**	**2.31**	**210**	P	**Pn**	**10 05 38.9**	**0.0**
IFR				S	**Sn**	**10 06 04.8**	**-2.4**
MD31	**MD31**	**2.79**	**198**	P	**Pn**	**10 05 45.9**	**+0.6**
MD31				S	**Sn**	**10 06 19.1**	**+0.2**
MDT	**Midelt**	**2.80**	**195**	P	**Pn**	**10 05 45.8**	**+0.3**
TDRA	**Tendrara**	**2.87**	**150**	P	**Pn**	**10 05 46.9**	**+0.4**
PVAQ	**Vaqueiros**	**3.70**	**301**	P	**Pn**	**10 05 58.0**	**+0.2**
PVAQ				S	**Sn**	**10 06 38.1**	**-3.2**
FIGM	**Figuig**	**3.97**	**148**	P	**Pn**	**10 06 01.2**	**-0.5**
ESDC	**Sonseca Array**	**4.14**	**358**	Pn	**Pn**	**10 06 05.8**	**+2.0**
	0.9nm,0.3s,baz=183,slow=12,SNR=14						
ESDC				Sn	**Sn**	**10 06 51.4**	**-0.7**
	0.4nm,0.3s,baz=179,slow=26,SNR=4.2						
ESDC				Lg	Lg	10 07 07.9	
	0.7nm,0.3s,baz=179,slow=29,SNR=5.0						
PESTR	**Estremoz**	**4.52**	**318**	P	**Pn**	**10 06 09.8**	**+0.7**
EVO	**Evora**	**4.54**	**313**	P	**Pn**	**10 06 10.6**	**+1.3**
EVO				S	**Sn**	**10 06 58.9**	**-3.0**
OUK	**Oukaimeden**	**5.52**	**220**	P	**Pn**	**10 06 20.5**	**-2.6**
TORD	**Torodi Ar. Bea**	**22.82**	**166**	P	**P**	**10 10 07.1**	**+3.3**
	0.5nm,0.9s,baz=344,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**62.67**	**50**	P	P	10 15 30.4	+5.1
	0.2nm,0.6s,baz=301,slow=5.6,SNR=2.5						
YKA	**Yellowknife Ar**	**67.81**	**332**	P	**P**	**10 16 00.8**	**+2.5**
	0.3nm,0.8s,baz=61,slow=6.9,SNR=4.0						

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*NEIC **25** 10:05:43.6±1.4, 35°.88N±0°.01×97°.35W±0°.02, h13km±4km, Error ellipse: s-maj=2.3km s-min=1.6km az=98.0*
*TUL **25** 10:05:43.3±1.5, 35°.88N±0°.01×97°.34W±0°.02, h5km±6km, ML3.0, mb_Lg3.0/64(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=91.0*
*ANF **25** 10:05:43.2±0.6, 35°.86N×97°.34W, h0km, ML3.7/8, Error ellipse: s-maj=10.6km s-min=3.4km az=168.0*
ISC 25 10:05:43.6±1.0, 35°.89N±0°.02×97°.35W±0°.02, h7km±10km, n74, σ0§75/62, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.13**	**222**	Pg	**Pg**	**10 05 46.1**	**-0.2**
OK025	**Westminster Rd**	**0.31**	**178**	Pg	**Pg**	**10 05 49.6**	**-0.1**
BCOK	**Bluff Creek, N**	**0.32**	**222**	Pg	**Pg**	**10 05 49.6**	**-0.2**
OK009	**Oakdale Elemen**	**0.32**	**191**		**Pg**	**10 05 49.2**	**-0.6**
OK001	**Jones High Sch**	**0.33**	**171**		**Pg**	**10 05 50.5**	**+0.4**
OK033	**Mehan**	**0.37**	**65**	Pg	**Pg**	**10 05 50.8**	**0.0**
OK033				Sg	**Sg**	**10 05 56.1**	**+0.5**
OK031	**S. Brethren Rd**	**0.42**	**82**	Pg	**Pg**	**10 05 51.7**	**-0.1**
OK030	**Cody Creek RV**	**0.46**	**85**	Pg	**Pg**	**10 05 52.3**	**-0.2**
OKCFA	**Oklahoma City**	**0.48**	**190**		**Pg**	**10 05 52.8**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**0.49**	**188**	Pg	**Pg**	**10 05 52.9**	**-0.1**
OK034	**N. Norfolk Rd.**	**0.53**	**77**	Pg	**Pg**	**10 05 53.7**	**-0.1**
QUOK	**Quay**	**0.59**	**62**	Pg	**Pg**	**10 05 54.6**	**-0.4**
QUOK				Sg	**Sg**	**10 06 03.0**	**+0.3**
FNO	**Franklin**	**0.64**	**184**	Pg	**Pg**	**10 05 55.5**	**-0.3**
FNO				Sg	**Sg**	**10 06 04.3**	**+0.2**
CROK	**Carrier**	**0.80**	**320**	Pg	**Pg**	**10 05 58.8**	**-0.1**
CROK				Sg	**Sg**	**10 06 09.5**	**+0.2**
W35A	**Tecumseh**	**0.83**	**152**	Pg	**Pg**	**10 05 58.5**	**-1.1**
W35A				Sg	**Sg**	**10 06 09.9**	**-0.5**
BLOK	**Blackwell**	**0.87**	**7**	Pg	**Pg**	**10 05 59.9**	**-0.4**
BLOK				Sg	**Sg**	**10 06 12.4**	**+0.7**
GC02	**Grant County #**	**1.04**	**337**		**Pg**	**10 06 03.1**	**-0.5**
GC02				Sg	**Sg**	**10 06 17.2**	**+0.1**
KAN13	**South Haven SW**	**1.12**	**355**	Sg	**Sb**	**10 06 20.4**	**+0.2**
KAN14	**Manchester OK**	**1.17**	**335**	Pg	**Pg**	**10 06 05.3**	**-0.7**
KAN14				Sg	**Sg**	**10 06 20.7**	**-0.6**
KAN14					**Sb**	**10 06 21.2**	**-0.4**
KAN17	**Caldwell West**	**1.20**	**344**	Pg	**Pg**	**10 06 06.2**	**-0.3**
KAN17					**Sg**	**10 06 22.2**	**+0.1**
T35A	**Sooner Cattle**	**1.23**	**33**	Pg	**Pg**	**10 06 06.4**	**-0.7**
T35A				Sn	**Sb**	**10 06 23.3**	**+0.1**
TUL1	**Leonard**	**1.27**	**89**		**Pg**	**10 06 06.4**	**-1.5**
TUL1	**Leonard**	**1.27**	**89**	P	**Pg**	**10 06 06.2**	**-1.7**
TUL1	baz=273			S	**Sg**	**10 06 23.7**	**-0.6**
	baz=273						
KAN01	**Argonia South**	**1.30**	**345**		**Pn**	**10 06 07.9**	**-0.3**
OK035	**E0210 Rd and N**	**1.37**	**307**		**Pn**	**10 06 09.0**	**-0.2**
U32A	**Winter Ranch,**	**1.42**	**290**		**Pn**	**10 06 09.8**	**-0.1**
WMOK	**Wichita Mounta**	**1.64**	**226**		**Pn**	**10 06 12.8**	**-0.1**
WMOK	**Wichita Mounta**	**1.64**	**226**	P	**Pn**	**10 06 13.1**	**+0.2**
WMOK	baz=42			S	**Sb**	**10 06 34.9**	**-0.2**
	baz=42						
LOOK	**Love County**	**1.90**	**176**		**Pn**	**10 06 16.6**	**+0.2**
LOOK				IAmb_Lg		10 06 46.2	
	comp=Z,50nm,0.8s						
X37A	**Clayton**	**2.08**	**128**		**Pn**	**10 06 19.0**	**+0.1**
X37A				IAmb_Lg		10 06 52.8	
	comp=Z,64nm,0.8s						
U38A	**Gravette**	**2.46**	**76**	Pn	**Pn**	**10 06 25.6**	**+1.5**
Z35A	**Perchaven, San**	**2.56**	**178**		**Pn**	**10 06 26.2**	**+0.7**
R32A	**Long Quarter,**	**2.75**	**337**	IAmb_Lg		10 07 13.3	
	comp=Z,37nm,1.2s						
HHAR	**Hobbs**	**2.79**	**81**	Pn	**Pn**	**10 06 30.0**	**+1.3**
W39A	**Magazine**	**2.99**	**102**	IAmb_Lg		10 07 23.8	
	comp=Z,43nm,0.8s						
W39A	**Magazine**	**2.99**	**102**	P	**Pn**	**10 06 31.9**	**+0.5**
	baz=286						
KSU1	**Kansas State U**	**3.26**	**10**	IAmb_Lg		10 07 33.5	
	comp=Z,47nm,0.9s						
Z38A	**Mt. Pleasant**	**3.27**	**143**	Pn	**Pn**	**10 06 35.4**	**+0.1**
Z38A				IAmb_Lg		10 07 29.5	
	comp=Z,29nm,0.7s						
MIAR	**Mount Ida**	**3.37**	**112**		**Pn**	**10 06 38.1**	**+1.5**
MIAR				IAmb_Lg		10 07 34.4	
	comp=Z,29nm,0.8s						
MIAR	**Mount Ida**	**3.37**	**112**	P	**Pn**	**10 06 37.9**	**+1.2**
	baz=296						
U40A	**Yellville**	**3.67**	**81**	IAmb_Lg		10 07 41.9	
	comp=Z,36nm,1.1s						
AMTX	**Amarillo**	**3.68**	**255**	Pn	**Pn**	**10 06 42.8**	**+1.8**
AMTX	**Amarillo**	**3.68**	**255**	Pb	**Pb**	**10 06 48.3**	**-0.7**
	baz=72						
ABTX	**Abilene, Hawle**	**3.77**	**211**	IAmb_Lg		10 07 42.1	
	comp=Z,26nm,0.9s						
WHTX	**Lake Whitney,**	**3.89**	**181**	Pn	**Pn**	**10 06 45.5**	**+1.7**
WHTX	**Lake Whitney,**	**3.89**	**181**	P	**Pn**	**10 06 44.1**	**+0.2**
	baz=0.6						
X40A	**Basin Creek Fa**	**3.96**	**109**	P	**Pn**	**10 06 45.6**	**+0.9**
	baz=293						
WHAR	**Wooly Hollow**	**4.17**	**97**	Pn	**Pn**	**10 06 48.8**	**+1.1**
WHAR				IAmb_Lg		10 07 59.6	
	comp=Z,31nm,1.1s						
W41B	**Gary Mavity, V**	**4.22**	**98**		**Pn**	**10 06 48.4**	**0.0**
W41B	**Gary Mavity, V**	**4.22**	**98**	P	**Pn**	**10 06 48.9**	**+0.6**
	baz=282						
FCAR	**Ozark Folk Cen**	**4.24**	**89**	IAmb_Lg		10 08 02.2	
	comp=Z,27nm,0.8s						
MGMO	**Mountain Grove**	**4.28**	**71**	IAmb_Lg		10 08 00.3	
	comp=Z,34nm,0.7s						
Z41A	**Richland Creek**	**4.58**	**124**	IAmb_Lg		10 08 07.1	
	comp=Z,22nm,0.8s						
R40A	**Maddies Statio**	**4.71**	**58**	Pn	**Pn**	**10 06 56.1**	**+1.0**
R40A				IAmb_Lg		10 08 20.5	
	comp=Z,24nm,0.7s						
N33A	**J Bar K, Exete**	**4.84**	**359**	IAmb_Lg		10 08 23.8	
	comp=Z,22nm,0.8s						
CCAR	**Cane Creek**	**4.99**	**112**	IAmb_Lg		10 08 30.9	
	comp=Z,26nm,0.7s						
LCAR	**Lake Charles**	**5.03**	**86**	Pn	**Pn**	**10 07 00.3**	**+0.9**
N35A	**Tabor**	**5.14**	**15**	Pn	**Pn**	**10 07 01.8**	**+0.9**
CCM	**Cathedral Cave**	**5.34**	**64**	IAmb_Lg		10 08 36.8	
	comp=Z,23nm,0.9s						
BGNE	**Belgrade**	**5.54**	**354**	IAmb_Lg		10 08 55.4	
	comp=Z,27nm,0.9s						
P40A	**Paris**	**5.55**	**48**	IAmb_Lg		10 08 43.1	
	comp=Z,34nm,0.8s						
PBMO	**Poplar Bluff**	**5.66**	**79**	IAmb_Lg		10 08 42.9	
	comp=Z,17nm,0.8s						
JCT	**Junction City**	**5.78**	**202**	IAmb_Lg		10 08 56.7	
	comp=Z,21nm,0.9s						
T25A	**Trinidad**	**5.82**	**284**	IAmb_Lg		10 08 54.2	
	comp=Z,20nm,0.7s						
143A	**Socs Landing,**	**5.86**	**121**	IAmb_Lg		10 08 59.5	
	comp=Z,20nm,0.8s						
FVM	**French Village**	**5.93**	**67**	IAmb_Lg		10 08 56.7	
	comp=Z,32nm,1.3s						
OXF	**Oxford**	**6.64**	**100**	IAmb_Lg		10 09 21.8	
	comp=Z,20nm,1.0s						
W45A	**Hickory Valley**	**6.70**	**94**	IAmb_Lg		10 09 24.6	
	comp=Z,28nm,0.7s						
SDCO	**Great Sand Dun**	**6.79**	**288**	P	**Pn**	**10 07 25.4**	**+1.4**
	baz=103						
K31A	**O'Neill**	**6.81**	**351**	IAmb_Lg		10 09 33.3	
	comp=Z,24nm,0.8s						
N41A	**Harden Midland**	**7.01**	**45**	IAmb_Lg		10 09 37.1	
	comp=Z,25nm,0.9s						
L40A	**Anamosa**	**7.79**	**36**	IAmb_Lg		10 10 08.9	
	comp=Z,18nm,0.8s						
OLIL	**Olney**	**7.90**	**66**	IAmb_Lg		10 10 11.7	
	comp=Z,16nm,0.8s						
N23A	**Red Feather La**	**8.39**	**309**	IAmb_Lg		10 10 32.3	
	comp=Z,19nm,1.0s						

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*IDC **25** 10:12:35.2±1.1, 19°.12N×121°.68E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.5/37, mbtmp3.4/6, ML3.4/1, Error ellipse: s-maj=64.2km s-min=21.6km az=75.0*
*MAN **25** 10:12:42.3, 19°.19N×121°.42E, h21km, mb4.7, ML3.5, MS3.4*
ISC 25 10:12:38.8±0.7, 19°.30N±0°.05×121°.61E±0°.10, h10km, n17, σ2§14/14, mb3.3/5, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Gonzaga**	**1.13**	**158**	⇑P	**Pn**	**10 13 02.0**	**+1.3**
SGCP				eS	**Sn**	**10 13 18.3**	**+1.9**
BBP	**Basco**	**1.18**	**16**	⇓eP	**Pg**	**10 13 04.6**	**+3.0**
SIPP	**Brgy, Tapao**	**1.75**	**219**	⇓iP	**Pn**	**10 13 09.3**	**+0.1**
SIPP				i S	**Sg**	**10 13 38.9**	**+3.7**
CAUP	**Cauayan**	**2.35**	**175**	⇑iP	**Pb**	**10 13 20.6**	**-0.8**
CAUP				i S	**Sb**	**10 13 51.3**	**+0.8**
BALP	**Baler**	**3.54**	**180**	⇓eP	**Pn**	**10 13 34.8**	**+0.9**
BALP				i S	**Sn**	**10 14 14.8**	**-1.1**
KSRS	**Korea Array**	**18.91**	**16**	P	**P**	**10 17 00.9**	**+1.2**
	0.1nm,0.3s,baz=198,slow=12,SNR=1.9						
SONM	**Songino Array**	**31.04**	**340**	P	**P**	**10 18 56.3**	**-0.6**
	0.3nm,0.4s,baz=148,slow=7.4,SNR=2.8						
WRA	**Warramunga Arr**	**40.95**	**162**	P	P	10 20 18.0	-3.9
	0.6nm,0.9s,baz=344,slow=8.9,SNR=3.1						
MKAR	**Makanchi Array**	**42.20**	**320**	P	**P**	**10 20 31.5**	**-0.4**
	0.2nm,0.5s,baz=116,slow=9.9,SNR=2.0						
H11S3	**WAKE ISLAND Hy**	**42.57**	**83**	T	T	11 06 12.6	
	baz=274,slow=76,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**42.58**	**83**	T	T	11 06 17.2	
	baz=274,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**42.58**	**83**	T	T	11 06 15.8	
	baz=274,slow=76,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**42.59**	**82**	T	T	11 06 14.8	
	baz=277,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy**	**42.59**	**82**	T	T	11 06 17.0	
	baz=277,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**42.61**	**82**	T	T	11 06 16.1	
	baz=277,slow=75,SNR=16						
ASAR	**Alice Springs**	**44.36**	**164**	P	**P**	**10 20 46.2**	**-3.3**
	0.2nm,0.3s,baz=344,slow=6.6,SNR=8.0						
YKA	**Yellowknife Ar**	**87.30**	**23**	P	**P**	**10 25 23.1**	**-2.5**
	0.1nm,0.6s,baz=311,slow=4.1,SNR=6.4						

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*IDC **25** 10:16:59.9±2.7, 30°.19S×177°.28W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/26, mbtmp3.8/4, ML3.1/1, Error ellipse: s-maj=56.3km s-min=29.8km az=97.0*
ISC 25 10:17:05.6±2.2, 30°.20S±0°.08×177°.5W±0°.3, h35km, n7, σ1§87/9, mb3.7/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.00**	**340**	Pn	**Pn**	**10 17 23.0**	**-0.2**
	225nm,0.3s,baz=78,slow=20,SNR=6.6						
RAO				Sn	**Sn**	**10 17 34.5**	**-1.7**
	597nm,0.3s,baz=36,slow=19,SNR=12						
URZ	**Urewera**	**9.18**	**207**	Pn	**Pn**	**10 19 16.7**	**+1.2**
	0.2nm,0.3s,baz=56,slow=2.5,SNR=2.2						
URZ				Sn	**Sn**	**10 20 54.3**	**-3.2**
	0.4nm,0.3s,baz=168,slow=20,SNR=2.0						
CTA	**Charters Tower**	**34.17**	**279**	P	**P**	**10 23 49.8**	**+2.0**
	1.2nm,0.6s,baz=90,slow=8.1,SNR=1.5						
ASAR	**Alice Springs**	**43.53**	**267**	P	**P**	**10 25 06.3**	**+0.2**
	0.2nm,0.4s,baz=101,slow=7.6,SNR=8.4						
WRA	**Warramunga Arr**	**44.50**	**272**	P	**P**	**10 25 14.8**	**+0.8**
	0.6nm,0.4s,baz=110,slow=8.1,SNR=25						
FINES	**FINESS Array B**	**145.10**	**340**	PKPbc	**PKPdf**	**10 36 38.2**	**-0.4**
	0.5nm,0.5s,baz=58,slow=3.4,SNR=1.9						
AKASG	**Malin Array Be**	**151.39**	**323**	PKPab	**PKPab**	**10 37 02.3**	**-1.2**
	0.3nm,0.4s,baz=46,slow=2.7,SNR=2.2						

NNC 25 10:37:46.9±3.6, 36°.68N×70°.58E, h105km±72km, mb3.3, mpv3.5, 4C-2D, Error ellipse: s-maj=31.1km s-min=26.9km az=135.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK02	**Karatay Array**	**6.42**	**360**	⇓P	Pn	10 39 19.2	+0.3
	3.7nm,0.3s						
KK02				⇑S	Sn	10 40 31.3	+0.5
	2.4nm,0.5s						
AAK	**Ala-Archa**	**6.67**	**26**	P	Pn	10 39 22.5	0.0
	1.2nm,0.5s						
AAK				⇑S	Sn	10 40 37.7	+0.6
	7.9nm,0.5s						
TKM2	**Tokmak 2**	**7.33**	**30**	P	Pn	10

EMAL	**Malaga-Limoner**	**1.29 334**	P	Pn	10 39 26.2	-11
EMAL			S	**Sb**	**10 39 51.6**	**-2.5**
TAF	**Taforalt**	**1.33 126**	P	**Pn**	**10 39 37.1**	**-0.6**
TAF			S	**Sn**	**10 39 54.1**	**-0.8**
CHEFC	**Chefchaouen**	**1.41 250**	P	**Pg**	**10 39 39.9**	**-1.5**
CHEFC			S	**Sg**	**10 39 59.1**	**-0.7**
JBK	**JBK**	**1.58 143**	P	**Pn**	**10 39 40.7**	**-0.6**
JBK			S	**Sn**	**10 39 60.0**	**-1.3**
SICH	**Sidi Chahed**	**1.98 222**	P	**Pb**	**10 39 49.0**	**-0.5**
SICH			S	**Sg**	**10 40 17.8**	**-0.2**
LCRM	**LCR**	**2.12 206**	P	**Pb**	**10 39 52.9**	**+0.8**
LCRM			S	**Sg**	**10 40 21.2**	**-1.4**
MD31	**MD31**	**2.85 198**	P	**Pn**	**10 40 01.1**	**+2.4**
MDT	**Midelt**	**2.87 195**	Pn	**Pn**	**10 40 01.6**	**+2.6**
	1.5nm,0.3s,baz=6.3,slow=18,SNR=1.3					
MDT			Sn	**Sn**	**10 40 32.9**	**-0.1**
	3.4nm,0.3s,baz=183,slow=17,SNR=3.8					
MDT			Lg	Lg	10 40 43.5	
	7.2nm,0.3s,baz=93,slow=22,SNR=5.1					
MDT	**Midelt**	**2.87 195**	S	**Sb**	**10 40 37.5**	**-2.1**
PVAQ	**Vaqueiros**	**3.69 300**	*e*Pn	**Pn**	**10 40 10.4**	**+0.3**
PVAQ			*e*Sn	**Sn**	**10 40 50.2**	**-2.7**
PVAQ			A	A	10 41 06.7	
	25nm,0.6s					
PVAQ	**Vaqueiros**	**3.69 300**	P	**Pn**	**10 40 10.4**	**+0.3**
PVAQ			S	**Sn**	**10 40 51.9**	**-1.1**
PBAR	**Barrancos**	**3.70 315**	*e*Pn	**Pn**	**10 40 10.7**	**+0.5**
PBAR			*e*Sn	**Sn**	**10 40 52.1**	**-1.1**
PBDV	**Barranco-do-Ve**	**3.77 297**	*e*Pn	**Pn**	**10 40 11.3**	**+0.1**
PBDV			*e*Sn	**Sn**	**10 40 53.7**	**-1.3**
PBDV			A	A	10 40 58.5	
	17nm,0.7s					
PCVE	**Castro Verde**	**4.02 302**	*e*Pn	**Pn**	**10 40 15.0**	**+0.4**
PCVE			*e*Sn	**Sn**	**10 41 00.1**	**-1.1**
PCVE			A	A	10 41 11.2	
	22nm,0.5s					
ESDC	**Sonseca Array**	**4.08 357**	Pn	**Pn**	**10 40 16.6**	**+1.1**
	1.2nm,0.3s,baz=186,slow=12,SNR=5.6					
ESDC			Sn	**Sn**	**10 41 03.3**	**+0.7**
	0.2nm,0.3s,baz=183,slow=23,SNR=2.0					
ESDC			Lg	Lg	10 41 18.8	
	1.2nm,0.3s,baz=182,slow=29,SNR=6.5					
PBEJ	**Beja**	**4.11 307**	*e*Pn	**Pn**	**10 40 16.8**	**+0.9**
PBEJ			*e*Sn	**Sn**	**10 41 02.1**	**-1.4**
PBEJ			A	A	10 41 07.4	
	13nm,0.7s					
MESJ	**Messejana**	**4.25 303**	*e*P	**Pn**	**10 40 18.2**	**+0.4**
MESJ			*e*S	**Sn**	**10 41 04.2**	**-2.6**
MESJ			IAML		10 41 07.3	
	comp=N,24nm,0.5s					
MESJ	**Messejana**	**4.25 303**	*e*Pn	**Pn**	**10 40 18.6**	**+0.8**
MESJ			*e*Sn	**Sn**	**10 41 05.9**	**-0.9**
MESJ			A	A	10 41 07.0	
	comp=N,14nm,0.5s					
MORF	**Marmelete**	**4.32 295**	*e*Pn	**Pn**	**10 40 20.0**	**+1.2**
MORF			*e*Sn	**Sn**	**10 41 08.2**	**-0.5**
MORF			A	A	10 41 22.5	
	comp=N,13nm,0.5s					
PFVI	**Vila Bisbo**	**4.39 292**	*e*Sn	**Sn**	**10 41 08.5**	**-1.8**
PFVI			A	A	10 41 19.6	
	comp=N,21nm,0.7s					
PTEO	**Sao Teotonio**	**4.47 297**	*e*Pn	**Pn**	**10 40 21.9**	**+1.1**
PTEO			*e*Sn	**Sn**	**10 41 10.7**	**-1.5**
PTEO			A	A	10 41 28.0	
	comp=N,17nm,0.7s					
PESTR	**Estremoz**	**4.49 318**	*e*Pn	**Pn**	**10 40 22.1**	**+1.0**
PESTR			*e*Sn	**Sn**	**10 41 11.5**	**-1.3**
PESTR			A	A	10 41 48.6	
	comp=N,15nm,0.7s					
EVO	**Evora**	**4.51 312**	P	**Pn**	**10 40 21.0**	**-0.3**
EVO			S	**Sn**	**10 41 10.9**	**-2.3**
EVO	**Evora**	**4.51 312**	*e*Pn	**Pn**	**10 40 22.2**	**+0.8**
EVO			*e*Sn	**Sn**	**10 41 12.0**	**-1.2**
EVO			A	A	10 41 26.8	
	comp=N,14nm,0.6s					
PNCL	**Nicolau / Gran**	**4.60 305**	*e*Pn	**Pn**	**10 40 22.8**	**+0.2**
PNCL			*e*Sn	**Sn**	**10 41 13.1**	**-2.3**
PNCL			A	A	10 41 15.4	
	comp=N,14nm,0.4s					
PMRV	**Marv??o**	**4.81 324**	*e*Pn	**Pn**	**10 40 26.8**	**+1.3**
PMRV			*e*Sn	**Sn**	**10 41 18.9**	**-1.7**
PMRV			A	A	10 41 52.6	
	comp=N,12nm,0.6s					
PMTG	**Montargil**	**4.99 315**	*e*Pn	**Pn**	**10 40 29.2**	**+1.3**
PCBR	**Castelo Branco**	**5.17 326**	*e*Pn	**Pn**	**10 40 32.5**	**+2.0**
PCBR			*e*Sn	**Sn**	**10 41 28.3**	**-1.3**
PCBR			A	A	10 41 30.8	
	comp=N,9.9nm,0.6s					
PMAFR	**Mafra**	**5.55 309**	*e*Pn	**Pn**	**10 40 36.9**	**+1.2**
PMAFR			*e*Sn	**Sn**	**10 41 36.8**	**-2.2**
MTE	**Manteigas**	**5.66 329**	*e*Sn	**Sn**	**10 41 41.5**	**-0.3**
PCAS	**Casmilo, Conde**	**5.83 321**	*e*Sn	**Sn**	**10 41 43.9**	**-2.0**
PVIS	**Viseu**	**6.07 329**	*e*Sn	**Sn**	**10 41 50.4**	**-1.5**
PVIS			A	A	10 41 57.2	
	comp=N,11nm,0.5s					
MVO	**Moncorvo**	**6.13 336**	*e*Pn	**Pn**	**10 40 45.4**	**+1.7**
MVO			*e*Sn	**Sn**	**10 41 51.2**	**-2.2**
MVO			A	A	10 42 31.7	
	comp=N,15nm,0.6s					
POLO	**Lamas de Olo**	**6.59 332**	*e*Sn	**Sn**	**10 42 02.2**	**-2.5**
POLO			A	A	10 42 15.9	
	comp=N,3.7nm,0.7s					
PCAB	**Cabril**	**6.97 332**	*e*Pn	**Pn**	**10 40 57.2**	**+2.0**
PGAV	**Gavieira, Arco**	**7.28 332**	*e*Pn	**Pn**	**10 41 01.8**	**+2.3**
TORD	**Torodi Ar. Bea**	**22.88 166**	P	**P**	**10 44 19.9**	**+3.2**
	comp=N,0.7nm,0.8s,baz=339,slow=9.7,SNR=2.0					
MKAR	**Makanchi Array**	**62.62 51**	P	**P**	**10 49 38.8**	**+1.8**
	comp=N,0.7nm,0.8s,baz=286,slow=8.4,SNR=6.6					
YKA	**Yellowknife Ar**	**67.77 332**	P	**P**	**10 50 10.4**	**+0.3**
	comp=N,0.2nm,0.8s,baz=61,slow=6.2,SNR=3.6					

IDC 25 10:44:43.8±1.9, 10°.94S×166°.22E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/32, mbtmp3.4/4, ML3.5/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/23, Error ellipse: s-maj=59.9km s-min=33.4km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.07**	**179**	Pn	Pn	10 47 24.1	+0.6
	0.3nm,0.3s,baz=300,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**31.95**	**250**	P	P	10 51 12.4	+0.7
	0.5nm,1.1s,baz=85,slow=8.9,SNR=2.0						
ASAR	**Alice Springs**	**33.25**	**243**	P	P	10 51 22.3	-0.8
	0.2nm,0.9s,baz=65,slow=9.3,SNR=4.4						
BATI	**Baumata**	**41.81**	**267**	LR	LR	11 09 46.1	
	comp=Z,146nm,18.5s,baz=271,slow=36						
ILAR	**Eielson Array**	**83.27**	**18**	P	P	10 57 11.9	0.0
	0.3nm,0.6s,baz=232,slow=4.4,SNR=4.9						

PRU ***25*** *10:45:19.2±0.0, 53°.90N×17°.77E, h0km*
DNK ***25*** *10:45:20.2±1.4, 54°.41N×18°.65E, h0km±33km, ML2.8*
UPP ***25*** *10:45:21.9±2.0, 54°.49N×18°.51E, h0km, ML2.3, Suspected explosion*
IDC ***25*** *10:45:23.5±2.6, 54°.61N×18°.83E, h0km, mb1 3.1/4, mb1mx3.0/42, mbtmp3.1/4, ML2.3/4, Error ellipse: s-maj=23.3km s-min=15.9km az=7.0*

ISC 25 10:45:20.1±1.4, 54°.51N±0°.05×18°.75E±0°.07, h10km, n28, σ2s85/52, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSD	**Bornholm Skovb**	**2.30**	**287**	*i* P	**Pn**	**10 45 59.6**	**+1.6**
BSD				*e*S	**Sb**	**10 46 31.4**	**+1.4**
BSD				IAML		10 46 32.8	
	comp=Z,24nm,0.2s						
BLEU	**Blekinge**	**2.45**	**318**	*i* P	**Pn**	**10 46 01.6**	**+1.5**
BLEU				P	**Pn**	**10 46 02.1**	**+2.0**
BLEU				P	**Pn**	**10 46 02.1**	**+2.0**
BLEU				S	**Sn**	**10 46 32.4**	**+2.3**
BLEU				S	**Sn**	**10 46 32.4**	**+2.3**
BLEU	**Blekinge**	**2.45**	**318**	P	**Pn**	**10 46 02.1**	**+2.0**
BLEU				S	**Sn**	**10 46 32.4**	**+2.3**
BYXU	**Byxelkrok**	**2.95**	**341**	P	**Pn**	**10 46 09.5**	**+2.6**
BYXU				P	**Pn**	**10 46 09.5**	**+2.6**
BYXU				S	**Sn**	**10 46 46.1**	**+3.8**
BYXU				S	**Sn**	**10 46 46.1**	**+3.8**
BYXU	**Byxelkrok**	**2.95**	**341**	P	**Pn**	**10 46 09.5**	**+2.6**
BYXU				S	**Sn**	**10 46 46.1**	**+3.8**
GOTU	**Gotland**	**3.18**	**358**	P	**Pn**	**10 46 13.4**	**+3.3**
GOTU				P	**Pn**	**10 46 13.4**	**+3.3**
GOTU	**Gotland**	**3.18**	**358**	P	**Pn**	**10 46 13.4**	**+3.3**
VXJU	**Vaexsjoe**	**3.24**	**320**	P	**Pn**	**10 46 12.9**	**+2.1**
VXJU				P	**Pn**	**10 46 12.9**	**+2.1**
VXJU	**Vaexsjoe**	**3.24**	**320**	P	**Pn**	**10 46 12.9**	**+2.1**
LUNU	**Lund**	**3.25**	**292**	P	**Pn**	**10 46 12.6**	**+1.6**
LUNU				P	**Pn**	**10 46 12.6**	**+1.6**
LUNU				*e*P	Pb	10 46 13.1	-4.6
LUNU				S	**Sn**	**10 46 50.4**	**+0.8**
LUNU				S	**Sn**	**10 46 50.4**	**+0.8**
LUNU	**Lund**	**3.25**	**292**	P	**Pn**	**10 46 12.6**	**+1.6**
LUNU				S	**Sn**	**10 46 50.4**	**+0.8**
VSTU	**Vaestervik**	**3.39**	**339**	P	**Pn**	**10 46 15.7**	**+2.8**
VSTU				P	**Pn**	**10 46 15.7**	**+2.8**
VSTU	**Vaestervik**	**3.39**	**339**	P	**Pn**	**10 46 15.7**	**+2.8**
DEL	**Delary**	**3.40**	**307**	P	**Pn**	**10 46 14.4**	**+1.3**
DEL				*e*P	Pb	10 46 14.8	-5.5
DEL	**Delary**	**3.40**	**307**	P	**Pn**	**10 46 14.4**	**+1.3**
EKSU	**Eksjoe**	**3.63**	**329**	P	**Pn**	**10 46 19.2**	**+3.0**
EKSU				P	**Pn**	**10 46 19.2**	**+3.0**
EKSU	**Eksjoe**	**3.63**	**329**	P	**Pn**	**10 46 19.2**	**+3.0**
FABU	**Falkenberg**	**4.22**	**309**	*e*P	**Pn**	**10 46 26.2**	**+1.9**
OSTC	**Ostas**	**4.25**	**202**	*e*PG	**Pn**	**10 46 25.2**	**+0.3**
DPC	**Dobruska-Polom**	**4.42**	**201**	*e*PG	**Pn**	**10 46 27.9**	**+0.7**
DPC				*e*SG	**Sn**	**10 47 17.0**	**-1.8**
BORU	**Boraas**	**4.58**	**315**	*e*P	**Pn**	**10 46 31.0**	**+1.6**
KRLC	**Kraliky**	**4.61**	**196**	*e*PG	**Pn**	**10 46 31.5**	**+1.8**
KRLC				*e*SG	**Sn**	**10 47 22.5**	**-0.7**
ONAU	**Onsala**	**4.80**	**310**	*e*P	**Pn**	**10 46 34.4**	**+2.0**
HFS	**Hagfors**	**6.26**	**336**	Pn	**Pn**	**10 46 54.6**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=145,slow=12,SNR=11						
HFS				Sn	**Sn**	**10 48 05.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=150,slow=23,SNR=1.4						
HFS				Lg	Lg	10 48 37.0	
	comp=Z,0.3nm,0.3s,baz=154,slow=34,SNR=2.4						
KHC	**Kasperske Hory**	**6.27**	**213**	*e*SG	**Sn**	**10 48 11.9**	**+7.7**
NOA	**NORSAR Array B**	**7.68**	**331**	Pn	**Pn**	**10 47 11.7**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=150,slow=9.2,SNR=6.3						
NOA				Sn	**Sn**	**10 48 35.1**	**-3.8**
	comp=Z,0.0nm,0.3s,baz=157,slow=19,SNR=1.3						
NOA				Lg	Lg	10 49 21.1	
	comp=Z,0.0nm,0.3s,baz=166,slow=18,SNR=1.4						
FINES	**FINESS Array B**	**7.96**	**26**	Pn	**Pn**	**10 47 17.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=212,slow=11,SNR=10.0						
FINES				Sn	**Sn**	**10 48 43.7**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=205,slow=22,SNR=5.8						
FINES				Lg	Lg	10 49 28.2	
	comp=Z,0.1nm,0.3s,baz=211,slow=27,SNR=1.4						
ARCES	**ARCESS Array B**	**15.39**	**9**	Pn	**Pn**	**10 48 53.5**	**-3.5**
	baz=190,slow=14,SNR=5.8						
ARCES				Sn	**Sn**	**10 51 38.3**	**-8.9**
	baz=195,slow=24,SNR=1.3						

SFS ***25*** *10:48:53.0, 35°.60N×3°.72W, ML2.3, ALBORAN SUR*
CNRM ***25*** *10:48:53.3, 35°.44N×3°.67W, h15km, ml2.7*

ISC 25 10:48:52.2±1.2, 35°.51N±0°.05×3°.66W±0°.03, h15km±10km, n8, σ0s73/16, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**218**	P	**Pg**	**10 48 59.4**	**-0.3**
PALE				S	**Sg**	**10 49 04.6**	**-0.4**
GOG	**Mont Gurugu**	**0.61**	**118**	P	**Pn**	**10 49 05.9**	**-0.6**
GOG				S	**Sb**	**10 49 13.2**	**0.0**
CHAS	**Isla Isabel II**	**1.06**	**108**	P	**Pn**	**10 49 12.4**	**-0.1**
CHAS				S	**Sg**	**10 49 26.1**	**-0.4**
TAF	**Taforalt**	**1.23**	**124**	P	**Pg**	**10 49 16.6**	**+0.5**
TAF				S	**Sb**	**10 49 30.2**	**-0.8**
EMAL	**Malaga-Limoner**	**1.40**	**334**	P	**Pg**	**10 49 20.1**	**+1.0**
EMAL				S	**Sn**	**10 49 33.9**	**-1.5**
CHEFC	**Chefchaouen**	**1.43**	**254**	P	**Pn**	**10 49 17.5**	**-0.2**
CHEFC				S	**Sg**	**10 49 37.8**	**-0.6**
JBK	**JBK**	**1.48**	**142**	P	**Pb**	**10 49 19.9**	**+0.4**
JBK				S	**Sb**	**10 49 38.9**	**+0.7**
SICH	**Sidi Chahed**	**1.96**	**225**	P	**Pn**	**10 49 25.4**	**+0.6**
SICH				S	**Sn**	**10 49 49.7**	**+0.5**

IDC ***25*** *10:52:22.4±1.0, 24°.16N×127°.04E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/42, mbtmp3.6/9, ML3.5/2, Error ellipse: s-maj=38.3km s-min=19.6km az=86.0*
JMA ***25*** *10:52:26.5±0.3, 24°.37N×126°.95E, h99km, M3.2*

ISC 25 10:52:23.6±3.3, 24°.13N±0°.06×127°.12E±0°.04, h15km±21km, n33, σ2s64/53, mb3.5/8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.68**	**292**	P	**Pb**	**10 52 52.8**	**-1.5**
JOGS				S	**Sn**	**10 53 11.7**	**-2.1**
JMJ2	**Miyako jima3**	**1.74**	**291**	P	**Pn**	**10 52 53.4**	**0.0**
JMJ2				*e*S	**Sn**	**10 53 12.8**	**-2.5**
JIKM	**Ikemajima**	**1.88**	**295**	P	**Pb**	**10 52 55.8**	**-1.9**
JIKM				S	**Sn**	**10 53 16.1**	**-2.6**
JIRB	**Irabujima**	**1.90**	**292**	P	**Pn**	**10 52 55.3**	**-0.3**
JIRB				S	**Sn**	**10 53 16.0**	**-3.3**
JJT3	**Tamagusuku3**	**2.10**	**17**	P	**Pn**	**10 52 58.2**	**-0.1**
JJT3				*e*S	**Sn**	**10 53 22.1**	**-2.0**
JKE	**Kume jima 2**	**2.21**	**352**	P	**Pn**	**10 52 59.4**	**-0.4**
JKE				S	**Sn**	**10 53 23.4**	**-3.5**
JTJ	**Tarama**	**2.26**	**284**	P	**Pn**	**10 53 00.1**	**-0.4**
JTJ				*e*S	**Sn**	**10 53 25.3**	**-2.8**
JAGN	**Aguni-jima**	**2.45**	**3**	P	**Pn**	**10 53 02.8**	**-0.4**
JAGN				*e*S	**Sn**	**10 53 30.1**	**-2.8**
JNTH	**Nagotoyohara**	**2.52**	**19**	P	**Pn**	**10 53 03.2**	**-0.8**
JISG	**Ishigakijimahi**	**2.60**	**281**	P	**Pn**	**10 53 04.8**	**-0.4**
JISG				*e*S	**Sn**	**10 53 31.3**	**-5.2**
JIJ	**Ishigaki jima**	**2.72**	**276**	P	**Pn**	**10 53 06.4**	**-0.5**
JIJ				*e*S	**Sn**	**10 53 35.1**	**-4.5**
JKRS	**Kuro-shima**	**2.84**	**273**	P	**Pn**	**10 53 08.3**	**-0.2**
JKRS				*e*S	**Sn**	**10 53 37.9**	**-4.6**
JOW	**Kunigami**	**2.89**	**21**	Pn	**Pn**	**10 53 09.2**	**0.0**
	6.6nm,0.3s,baz=160,slow=24,SNR=16						
JOW				Sn	**Sn**	**10 53 38.2**	**-5.5**
	6.9nm,0.3s,baz=132,slow=27,SNR=1.9						
JOW	**Kunigami**	**2.89**	**21**	P	**Pn**	**10 53 10.0**	**+0.8**
JOW				*e*S	**Sn**	**10 53 39.7**	**-4.0**
JIH	**Iheya**	**2.99**	**15**	P	**Pn**	**10 53 10.8**	**+0.2**
JIH				*e*S	**Sn**	**10 53 43.5**	**-2.8**
HATJ	**Hateruma jima**	**3.03**	**269**	P	**Pn**	**10 53 10.7**	**-0.4**
HATJ				*e*S	**Sn**	**10 53 42.6**	**-4.5**
IRIF	**Iriomote-Funau**	**3.10**	**274**	P	**Pn**	**10 53 11.5**	**-0.5**
IRIF				*e*S	**Sn**	**10 53 44.8**	**-4.0**
JYRO	**Yoronjima**	**3.12**	**22**	P	**Pn**	**10 53 12.9**	**+0.5**
JOKE	**Okinoerabujima**	**3.48**	**22**	P	**Pn**	**10 53 18.0**	**+0.7**
JTK	**Tokunoshima**	**4.00**	**24**	P	**Pn**	**10 53 24.4**	**0.0**
JTK				*e*S	**Sn**	**10 54 06.8**	**-4.3**
JMZ	**Minamidaito 2**	**4.09**	**65**	P	**Pn**	**10 53 23.9**	**-1.7**
JMZ				*e*S	**Sn**	**10 54 08.5**	**-4.7**
JKDJ	**Kitadaitoujima**	**4.20**	**64**	P	**Pn**	**10 53 25.8**	**-1.4**
JKDJ				S	**Sn**	**10 54 11.4**	**-4.7**
JAMN	**Amaminishikomi**	**4.50**	**24**	P	**Pn**	**10 53 31.6**	**+0.4**
JAMN				S	**Sn**	**10 54 18.8**	**-4.5**
JAM	**Amami Oshima**	**4.81**	**27**	P	**Pn**	**10 53 35.8**	**+0.2**
JNU	**Nakatsue**	**9.55**	**19**	Pn	**Pn**	**10 54 41.3**	**+0.6**
	0.8nm,0.3s,baz=219,slow=8.8,SNR=8.3						
KLR	**Kul'dur**	**25.32**	**7**	P	**P**	**10 57 50.9**	**+1.2**
	0.8nm,0.7s,baz=180,slow=7.1,SNR=3.6						
SONM	**Songino Array**	**28.82**	**330**	P	**P**	**10 58 25.7**	**+4.4**
	1.0nm,0.5s,baz=148,slow=8.5,SNR=7.9						
MKAR	**Makanchi Array**	**42.22**	**314**	P	**P**	**11 00 16.6**	**+0.5**
	0.4nm,0.5s,baz=102,slow=10.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**43.34**	**325**	P	**P**	**11 00 25.1**	**+0.1**
	0.9nm,0.5s,baz=100,slow=8.2,SNR=4.0						
WRA	**Warramunga Arr**	**44.37**	**170**	P	**P**	**11 00 34.6**	**+0.9**
	0.6nm,0.8s,baz=350,slow=8.6,SNR=6.1						
ASAR	**Alice Springs**	**47.97**	**172**	P	**P**	**11 01 03.4**	**+1.4**
	0.1nm,0.4s,baz=358,slow=6.5,SNR=2.3						
FINES	**FINESS Array B**	**74.19**	**331**	P	**P**	**11 04 00.2**	**+0.7**
	0.6nm,0.6s,baz=63,slow=6.4,SNR=4.2						
YKA	**Yellowknife Ar**	**80.85**	**24**	P	**P**	**11 04 38.1**	**+1.3**
	0.2nm,0.6s,baz=294,slow=5.5,SNR=4.4						

CNRM ***25*** *10:52:53.7, 35°.48N×3°.74W, h7km, ml2.5*

ISC 25 10:52:52.3±1.5, 35°.56N±0°.05×3°.69W±0°.04, h7km±12km, n8, σ2s24/16, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39**	**211**	P	**Pg**	**10 52 58.5**	**-1.4**
PALE				S	**Sg**	**10 53 04.6**	**-0.5**
GOG	**Mont Gurugu**	**0.66**	**120**	P	**Pb**	**10 53 06.5**	**+0.3**
GOG				S	**Sb**	**10 53 15.7**	**+0.1**
CHAS	**Isla Isabel II**	**1.10**	**110**	P	**Pb**	**10 53 13.0**	**-0.6**
CHAS				S	**Sb**	**10 53 21.5**	**-6.6**
TAF	**Taforalt**	**1.28**	**125**	P	**Pg**	**10 53 18.0**	**+1.1**
TAF				S	**Sg**	**10 53 36.0**	**+2.4**
EMAL	**Malaga-Limoner**	**1.34**	**334**	P	**Pn**	**10 53 17.2**	**-0.2**
EMAL				S	**Sb**	**10 53 36.0**	**+0.9**
CHEFC	**Chefchaouen**	**1.42**	**252**	P	**Pn**	**10 53 18.1**	**-0.5**
CHEFC				S	**Sn**	**10 53 37.8**	**+0.2**
JBK	**JBK**	**1.53**	**142**	P	**Pb**	**10 53 21.7**	**+0.6**
JBK				S	**Sb**	**10 53 40.3**	**-0.5**
SICH	**Sidi Chahed**	**1.97**	**223**	P	**Pn**	**10 53 28.4**	**+2.3**
SICH				S	**Sn**	**10 53 51.5**	**+0.4**

SFS ***25*** *10:55:28.0, 35°.61N×3°.81W, ML3.2, ALBORAN SUR*
CNRM ***25*** *10:55:29.5, 35°.58N×3°.70W, h22km, ml3.4*
LDG ***25*** *10:55:30.5, 35°.37N×3°.85W, h30km*

ISC 25 10:55:29.4±1.2, 35°.58N±0°.04×3°.73W±0°.03, h24km±12km, n32, σ1s72/40, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.40**	**205**	P	**Pb**	**10 55 37.2**	**-0.8**
PALE				S	**Sb**	**10 55 43.3**	**-0.5**
GOG	**Mont Gurugu**	**0.70**	**121**	P	**Pb**	**10 55 42.5**	**-0.5**
GOG				S	**Sb**	**10 55 51.8**	**-0.5**
CHAS	**Isla Isabel II**	**1.14**	**110**	P	**Pn**	**10 55 48.8**	**-0.9**
CHAS	**Isla Isabel II**	**1.14**	**110**	S	**Sn**	**10 56 03.6**	**-1.0**
EMAL	**Malaga-Limoner**	**1.30**	**335**	P	**Pn**	**10 55 51.9**	**-0.2**
EMAL	**Malaga-Limoner**	**1.30**	**335**	S	**Sn**	**10 56 07.8**	**-0.9**
TAF	**Taforalt**	**1.32**	**125**	P	**Pn**	**10 55 52.4**	**0.0**
TAF				S	**Sb**	**10 56 09.3**	**-0.8**
CEU	**Ceuta**	**1.37**	**284**	P	**Pn**	**10 55 51.0**	**-1.9**
CEU	**Ceuta**	**1.37**	**284**	S	**Sn**	**10 56 07.5**	**-2.8**
CHEFC	**Chefchaouen**	**1.40**	**251**	P	**Pb**	**10 55 54.3**	**-0.5**
CHEFC				S	**Sb**	**10 56 12.6**	**+0.4**
JBK	**JBK**	**1.57**	**142**	P	**Pn**	**10 55 55.7**	**-0.2**
JBK				S	**Sn**	**10 56 14.6**	**-1.0**
SICH	**Sidi Chahed**	**1.97**	**222**	P	**Pb**	**10 56 04.3**	**-0.2**
LCRM	**LCR**	**2.11**	**206**	P	**Pb**	**10 56 08.5**	**+1.5**
LCRM				S	**Sb**	**10 56 32.3**	**-0.4**
IFR	**Ifrane**	**2.36**	**210**	P	**Pn**	**10 56 07.6**	**+0.9**
IFR	**Ifrane**	**2.36**	**210**	S	**Sn**	**10 56 30.4**	**-4.6**
MD31	**MD31**	**2.84**	**198**	P	**Pn**	**10 56 15.0**	**+1.8**
MD31				S	**Sn**	**10 56 48.2**	**+1.4**
MDT	**Midelt**	**2.86**	**195**	P	**Pn**	**10 56 14.8**	**+1.3**
CART	**Cartagena**	**2.97**	**47**	P	**Pn**	**10 56 14.7**	**-0.3**
CART	**Cartagena**	**2.97**	**47**	S	**Sn**	**10 56 46.8**	**-3.0**
PVAQ	**Vaqueiros**	**3.69**	**301**	P	**Pn**	**10 56 25.6**	**+0.8**
PVAQ				S	**Sn**	**10 57 07.0**	**-0.5**
EVO	**Evora**	**4.51**	**312**	P	**Pn**	**10 56 37.4**	**+1.2**
EVO	**Evora**	**4.51**	**312**	S	**Sn**	**10 57 27.0**	**-0.9**
OUK	**Oukaimeden**	**5.57**	**220**	P	**Pn**	**10 56 51.9**	**+0.9**
ETSF	**Etsaut**	**7.71**	**18**	*e*Pn	**Pn**	**10 57 22.3**	**+2.2**
ETSF				*e*Sn	**Sn**	**10 58 45.1**	**-1.6**
	0.3nm,0.2s						
SJPF	**Ste Jean**	**7.77**	**14**	*e*Pn	**Pn**	**10 57 23.6**	**+2.8**
SJPF				*e*Sn	**Sn**	**10 58 45.5**	**-2.5**
	0.6nm,0.3s						
EPF	**Esparros**	**8.08**	**22**	*e*Pn	**Pn**	**10 57 26.6**	**+1.4**
MTLF	**Montolieu**	**9.01**	**29**	*e*Pn	**Pn**	**10 57 39.8**	**+1.9**
MTLF				*e*Sn	**Sn**	**10 59 15.5**	**-3.0**
	1.5nm,0.4s						
LASF	**Ste Croix**	**10.29**	**32**	*e*P	Pn	10 58 02.2	+6.8
LMR	**La Mourre**	**11.06**	**43**	*e*Pn	**Pn**	**10 58 07.9**	**+1.9**
LMR	**La Mourre**	**11.06**	**43**	*e*P	Pn	10 58 13.7	+7.7
PGF	**Pioggiola**	**12.09**	**51**	*e*Pn	**Pn**	**10 58 22.2**	**+2.1**
PGF	**Pioggiola**	**12.09**	**51**	*e*P	P	10 58 26.6	-6.1

IDC ***25*** *11:03:15.1±1.4, 10°.14S×117°.27E, h0km, mb3.9/4, mb1 4.2/9, mb1mx3.7/49, mbtmp4.1/9, ML4.0/5, MS2.7/1, Ms1 2.7/1, ms1mx2.3/69, Error ellipse: s-maj=42.5km s-min=18.9

MK31 IAmb IAmb 11 14 03.8
comp=Z,2.2nm,1.4s
MKAR Makanchi Array 64.97 334 P **P** **11 13 55.3 -0.5**
comp=Z,0.6nm,0.4s,baz=152,slow=7.1,SNR=14
MKAR Makanchi Array 64.97 334 P **P** **11 13 55.5 -0.3**
ZALV Zalesovo Beam 69.75 340 P **P** **11 14 24.6 -1.2**
comp=Z,0.8nm,0.4s,baz=131,slow=5.0,SNR=3.5
ZALV Zalesovo Beam 69.75 340 P **P** **11 14 25.0 -0.9**
VNDA Vanda 70.94 171 P **P** **11 14 32.1 -0.8**
ABKAR Akbulak array 77.81 326 P **P** **11 15 12.6 -0.5**
QSPA South Pole Qui 79.71 180 P **P** **11 15 22.8 -0.8**
SNAA Sanae 89.38 196 P **P** **11 16 12.2 0.0**
YKA Yellowknife Ar 115.94 24 PKP **PKPdf** **11 22 00.1 +1.9**
comp=Z,0.2nm,0.5s,baz=307,slow=2.0,SNR=5.4
YKA Yellowknife Ar 115.94 24 **PKiKP** **11 21 56.3 -1.9**

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*IDC **25** 11:16:34.1±0.9, 35°52N×3°84W, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.6/50, mbtmp3.8/8, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/95, Error ellipse: s-maj=29.3km s-min=13.5km az=98.0*
*INMG **25** 11:16:35.8±2.3, 35°53N×3°87W, h0km±6km, ML3.1, Error ellipse: s-maj=5.5km s-min=5.3km az=33.0*
*SFS **25** 11:16:35.0, 35°48N×3°86W, ML3.4, ALBORAN SUR*
*CNRM **25** 11:16:36.1, 35°46N×3°74W, h18km, ml3.9*
*IGIL **25** 11:16:37.0, 35°48N×3°87W, h0km, ML3.3*
ISC 25 11:16:35.6±1.1, **35°52N**±0°03×**3°74W**±0°03, **h15**km±8km, **n56**, σ1s**67**/80, **mb4.0**/6, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**208**	P	**Pg**	**11 16 42.5**	**-0.1**
PALE				S	**Sg**	**11 16 47.3**	**-0.1**
GOG	**Mont Gurugu**	**0.68**	**116**	P	**Pg**	**11 16 49.1**	**+0.2**
GOG				S	**Sg**	**11 16 57.6**	**-0.3**
CHAS	**Isla Isabel II**	**1.12**	**107**	P	**Pb**	**11 16 55.6**	**-1.1**
CHAS	**Isla Isabel II**	**1.12**	**107**	S	**Sb**	**11 17 09.7**	**-1.5**
TAF	**Taforalt**	**1.29**	**122**	P	**Pn**	**11 16 58.5**	**-0.8**
TAF				S	**Sb**	**11 17 16.6**	**+0.4**
EMAL	**Malaga-Limoner**	**1.36**	**336**	P	**Pn**	**11 16 59.7**	**-0.4**
EMAL	**Malaga-Limoner**	**1.36**	**336**	S	**Sn**	**11 17 17.6**	**-0.3**
CHEFC	**Chefchaouen**	**1.37**	**253**	P	**Pn**	**11 17 00.3**	**0.0**
CEU	**Ceuta**	**1.38**	**286**	P	Pn	11 16 57.5	-2.8
CEU	**Ceuta**	**1.38**	**286**	S	**Sn**	**11 17 13.1**	**-5.3**
JBK	**JBK**	**1.53**	**140**	P	**Pn**	**11 17 01.4**	**-1.2**
JBK				S	**Sn**	**11 17 22.3**	**0.0**
SICH	**Sidi Chahed**	**1.92**	**223**	P	**Pn**	**11 17 09.1**	**+1.3**
LCRM	**LCR**	**2.05**	**207**	P	**Pn**	**11 17 09.2**	**-0.5**
LCRM				S	**Sn**	**11 17 36.6**	**+1.5**
IFR	**Ifrane**	**2.30**	**210**	P	**Pn**	**11 17 13.1**	**-0.2**
IFR	**Ifrane**	**2.30**	**210**	S	**Sn**	**11 17 40.1**	**-1.3**
MDT	**Midelt**	**2.79**	**195**	Pn	**Pn**	**11 17 21.5**	**+1.6**
	3.7nm,0.3s,baz=9.9,slow=9.6,SNR=9.3						
MDT				Sn	**Sn**	**11 17 50.7**	**-2.7**
	15nm,0.3s,baz=93,slow=18,SNR=9.4						
MDT				Lg	Lg	11 18 01.1	
	16nm,0.3s,baz=299,slow=19,SNR=4.9						
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**11 17 22.0**	**+2.1**
MDT				S	**Sn**	**11 17 52.4**	**-1.0**
CART	**Cartagena**	**3.02**	**46**	P	Pn	11 17 17.5	-5.4
CART	**Cartagena**	**3.02**	**46**	S	**Sn**	**11 17 55.4**	**-3.5**
PVAQ	**Vaqueiros**	**3.71**	**302**	*e*Pn	**Pn**	**11 17 32.9**	**+0.4**
PVAQ				*e*Sn	**Sn**	**11 18 14.0**	**-2.0**
PVAQ				A	A	11 18 15.9	
	51nm,0.4s						
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**11 17 32.7**	**+0.2**
PVAQ				S	**Sn**	**11 18 15.6**	**-0.4**
AVE	**Averroes**	**3.76**	**235**	P	**Pn**	**11 17 33.5**	**+0.4**
PBDV	**Barranco-do-Ve**	**3.79**	**298**	*e*Pn	**Pn**	**11 17 33.6**	**0.0**
PBDV				*e*Sn	**Sn**	**11 18 15.7**	**-2.3**
PBDV				A	A	11 18 20.5	
	38nm,0.4s						
PCVE	**Castro Verde**	**4.05**	**303**	*e*Pn	**Pn**	**11 17 37.7**	**+0.6**
PCVE				*e*Sn	**Sn**	**11 18 22.4**	**-1.9**
PCVE				A	A	11 18 30.2	
	24nm,0.4s						
PBEJ	**Beja**	**4.15**	**308**	*e*Pn	**Pn**	**11 17 39.1**	**+0.6**
PBEJ				*e*Sn	**Sn**	**11 18 25.3**	**-1.5**
PBEJ				A	A	11 18 32.3	
	20nm,0.5s						
ESDC	**Sonseca Array**	**4.15**	**358**	Pn	**Pn**	**11 17 40.7**	**+2.2**
	1.3nm,0.3s,baz=179,slow=12,SNR=16						
ESDC				Sn	**Sn**	**11 18 25.4**	**-1.4**
	0.8nm,0.3s,baz=180,slow=23,SNR=4.8						
ESDC				Lg	Lg	11 18 44.3	
	1.7nm,0.3s,baz=178,slow=27,SNR=5.9						
MESJ	**Messejana**	**4.28**	**304**	*e*P	**Pn**	**11 17 40.5**	**+0.3**
MESJ				*e*S	**Sn**	**11 18 27.0**	**-2.9**
MESJ				IAML		11 18 35.1	
	comp=N,62nm,0.5s						
MESJ	**Messejana**	**4.28**	**304**	*e*Pn	**Pn**	**11 17 41.3**	**+1.0**
MESJ				*e*Sn	**Sn**	**11 18 28.1**	**-1.8**
MESJ				A	A	11 18 35.2	
	comp=N,33nm,0.3s						
MORF	**Marmelete**	**4.34**	**296**	*e*P	**Pn**	**11 17 41.3**	**+0.1**
MORF	**Marmelete**	**4.34**	**296**	*e*Pn	**Pn**	**11 17 42.0**	**+0.8**
MORF				*e*Sn	**Sn**	**11 18 29.0**	**-2.6**
MORF				A	A	11 18 36.6	
	comp=N,19nm,0.3s						
PFVI	**Vila Bisbo**	**4.41**	**293**	*e*Pn	**Pn**	**11 17 43.3**	**+1.2**
PFVI				*e*Sn	**Sn**	**11 18 30.8**	**-2.4**
PFVI				A	A	11 18 36.6	
	comp=N,30nm,0.4s						
PTEO	**Sao Teotonio**	**4.49**	**298**	*e*Pn	**Pn**	**11 17 44.0**	**+0.8**
PTEO				*e*Sn	**Sn**	**11 18 32.6**	**-2.6**
PTEO				A	A	11 18 38.6	
	comp=N,28nm,0.4s						
PESTR	**Estremoz**	**4.54**	**319**	*e*Pn	**Pn**	**11 17 44.8**	**+0.9**
PESTR				*e*Sn	**Sn**	**11 18 34.9**	**-1.5**
PESTR				A	A	11 18 45.0	
	comp=N,17nm,0.9s						
EVO	**Evora**	**4.55**	**313**	P	**Pn**	**11 17 44.8**	**+0.7**
EVO	**Evora**	**4.55**	**313**	S	**Sn**	**11 18 34.5**	**-2.2**
EVO	**Evora**	**4.55**	**313**	*e*Pn	**Pn**	**11 17 44.9**	**+0.9**
EVO				*e*Sn	**Sn**	**11 18 35.2**	**-1.5**
EVO				A	A	11 18 38.6	
	comp=N,20nm,0.3s						
PNCL	**Nicolau / Gran**	**4.63**	**305**	*e*Pn	**Pn**	**11 17 45.3**	**+0.2**
PNCL				*e*Sn	**Sn**	**11 18 36.4**	**-2.2**
PNCL				A	A	11 18 40.8	
	comp=N,19nm,0.3s						
PMRV	**Marv??o**	**4.86**	**324**	*e*Pn	**Pn**	**11 17 49.8**	**+1.5**
PMRV				*e*Sn	**Sn**	**11 18 43.2**	**-1.2**
PMRV				A	A	11 19 01.4	
	comp=N,17nm,0.6s						
TZRR	**Tazzarine**	**4.96**	**198**	P	**Pn**	**11 17 53.0**	**+3.2**
PMTG	**Montargil**	**5.03**	**316**	*e*Pn	**Pn**	**11 17 51.8**	**+1.2**
PMTG				*e*Sn	**Sn**	**11 18 46.9**	**-1.6**
PMTG				A	A	11 18 48.2	
	comp=N,21nm,0.6s						
PCBR	**Castelo Branco**	**5.23**	**327**	*e*Pn	**Pn**	**11 17 55.3**	**+1.9**
PCBR				*e*Sn	**Sn**	**11 18 51.8**	**-1.6**
PCBR				A	A	11 19 37.6	
	comp=N,9.6nm,0.6s						
PSBE	**So Bento**	**5.66**	**316**	*e*Pn	**Pn**	**11 18 01.2**	**+1.9**
PCAS	**Casmilo, Conde**	**5.89**	**322**	*e*Sn	**Sn**	**11 19 07.8**	**-1.8**
PCAS				A	A	11 19 32.3	
	comp=N,13nm,0.6s						
PVIS	**Viseu**	**6.13**	**329**	*e*Pn	**Pn**	**11 18 08.1**	**+2.3**
PVIS				*e*Sn	**Sn**	**11 19 14.8**	**-0.9**
MVO	**Moncorvo**	**6.20**	**336**	*e*Pn	**Pn**	**11 18 08.5**	**+1.8**
MVO				*e*Sn	**Sn**	**11 19 14.4**	**-3.0**
MVO				A	A	11 19 22.2	
	comp=N,15nm,0.7s						
PVRL	**Vila Real**	**6.54**	**333**	*e*Pn	**Pn**	**11 18 13.1**	**+1.8**
PVRL				*e*Sn	**Sn**	**11 19 24.2**	**-1.5**
PVRL				A	A	11 19 30.3	
	comp=N,14nm,0.3s						
POLO	**Lamas de Olo**	**6.65**	**333**	*e*Sn	**Sn**	**11 19 26.5**	**-2.1**
POLO				A	A	11 20 10.8	
	comp=N,4.5nm,0.7s						
PBRG	**Braganca**	**6.70**	**340**	*e*Pn	**Pn**	**11 18 15.4**	**+1.8**
PGAV	**Gavieira, Arco**	**7.34**	**333**	*e*Pn	**Pn**	**11 18 24.1**	**+1.7**
KEST	**Kesra**	**10.66**	**85**	LR	LR	11 23 05.8	
	comp=N,105nm,20.9s,baz=296,slow=36						
TORD	**Torodi Ar. Bea**	**22.81**	**166**	P	**P**	**11 21 38.3**	**+0.3**
	comp=N,0.4nm,0.6s,baz=354,slow=10,SNR=2.4						
KURBB	**Kurchatov Arra**	**58.95**	**47**	P	**P**	**11 26 35.6**	**+1.4**
	comp=N,2.1nm,0.6s,baz=294,slow=7.6,SNR=15						
ZALV	**Zalesovo Beam**	**61.40**	**42**	P	**P**	**11 26 51.8**	**+0.8**
	comp=N,0.6nm,0.4s,baz=304,slow=8.5,SNR=2.4						
MKAR	**Makanchi Array**	**62.67**	**50**	P	**P**	**11 27 01.1**	**+1.3**

comp=N,0.6nm,0.7s,baz=290,slow=6.4,SNR=7.5
YKA Yellowknife Ar 67.83 332 P **P** **11 27 33.6 +0.8**
comp=N,1.2nm,0.7s,baz=59,slow=6.5,SNR=21
PDAR Pinedale Array 76.84 313 P **P** **11 28 27.6 +0.3**
comp=N,1.0nm,0.7s,baz=65,slow=7.3,SNR=9.6

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*KRSC **25** 11:22:44.1±1.0, 52°59N×158°71E, h128km±8km, ML3.6*
*IDC **25** 11:22:44.5±5.5, 52°03N×158°10E, h79km±78km, mb3.2/2, mb1 3.5/2, mb1mx2.8/44, mbtmp3.6/2, Error ellipse: s-maj=96.9km s-min=77.0km az=8.0*
ISC 25 11:22:45.6±1.1, **52°60N**±0°06×**158°66E**±0°06, **h127**km±6km, **n28**, σ1s**01**/44, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.19**	**208**	*e*P	**Pn**	**11 23 02.9**	**-0.1**
RUS				*e*S	**Sn**	**11 23 15.8**	**-0.3**
MTVR	**Mutnovka**	**0.31**	**248**	*e*P	**Pn**	**11 23 03.5**	**-0.1**
MTVR				*e*S	**Sn**	**11 23 18.0**	**+0.8**
GRL	**Gorelyy**	**0.36**	**262**	*e*P	**Pn**	**11 23 03.9**	**+0.1**
GRL				*e*S	**Sn**	**11 23 18.5**	**+1.0**
KRMR	**Karymshinskiy**	**0.39**	**306**	*e*P	**Pn**	**11 23 03.3**	**-0.4**
KRMR				*e*S	**Sn**	**11 23 16.9**	**-0.5**
PET	**Petropavlovsk**	**0.42**	**360**	*e*P	**Pn**	**11 23 03.5**	**-0.3**
PET				*e*S	**Sn**	**11 23 17.6**	**-0.1**
DALK	**Dalny**	**0.43**	**8**	*e*P	**Pn**	**11 23 03.8**	**-0.1**
DALK				*e*S	**Sn**	**11 23 17.3**	**-0.5**
UGLR	**Uglovaya**	**0.62**	**9**	*e*P	**Pn**	**11 23 05.4**	**+0.2**
UGLR				*e*S	**Sn**	**11 23 19.9**	**-0.1**
AVH	**Avacha**	**0.67**	**4**	*e*P	**Pn**	**11 23 05.7**	**+0.2**
AVH				*e*S	**Sn**	**11 23 21.6**	**+1.0**
SMAR	**Somma**	**0.67**	**7**	*e*P	**Pn**	**11 23 05.7**	**0.0**
SDLR	**Sedlovina**	**0.69**	**11**	*e*P	**Pn**	**11 23 05.6**	**-0.1**
SDLR				*e*S	**Sn**	**11 23 21.1**	**+0.1**
KOK	**Koryaka**	**0.69**	**359**	*e*P	**Pn**	**11 23 05.9**	**+0.2**
KRER	**Koryakskii**	**0.70**	**4**	*e*P	**Pn**	**11 23 06.1**	**+0.2**
KRER				*e*S	**Sn**	**11 23 21.5**	**+0.2**
NLC	**Nalytchevo**	**0.70**	**36**	*e*P	**Pn**	**11 23 05.4**	**-0.2**
NLC				*e*S	**Sn**	**11 23 20.3**	**-0.5**
PETK	**Petropavlovsk-**	**0.77**	**311**	P	**Pn**	**11 23 04.8**	**-1.4**
	30nm,0.3s,baz=122,slow=11,SNR=1115						
PETK				S	**Sn**	**11 23 20.1**	**-1.7**
	6.2nm,0.3s,baz=122,slow=16,SNR=6.5						
KDTR	**Khodutka, Kamc**	**0.87**	**204**	*e*P	**Pn**	**11 23 07.0**	**0.0**
KDTR				*e*S	**Sn**	**11 23 22.6**	**-0.6**
SPN	**Mys Shipunski**	**0.96**	**59**	*e*P	**Pn**	**11 23 08.1**	**+0.3**
SPN				*e*S	**Sn**	**11 23 24.4**	**-0.3**
APC	**Apacha**	**0.97**	**290**	*e*P	**Pn**	**11 23 07.6**	**-0.2**
APC				*e*S	**Sn**	**11 23 24.0**	**-0.7**
GNL	**Ganaly**	**1.18**	**339**	*e*P	**Pn**	**11 23 09.4**	**-0.7**
GNL				*e*S	**Sn**	**11 23 27.3**	**-1.4**
KII	**Karymskiy**	**1.51**	**18**	*e*P	**Pn**	**11 23 13.8**	**+0.2**
KII				*e*S	**Sn**	**11 23 36.5**	**+1.4**
TUMD	**Tumrok D**	**2.80**	**21**	*e*P	**Pn**	**11 23 30.0**	**+0.5**
TUMD				*e*S	**Sn**	**11 24 03.6**	**+0.3**
TUMR	**Tumrok**	**2.83**	**18**	*e*P	**Pn**	**11 23 31.4**	**+1.5**
KBTR	**Krutoberegovo**	**4.35**	**32**	*e*P	**Pn**	**11 23 49.9**	**0.0**
BKI	**Bering**	**5.05**	**56**	*e*P	**Pn**	**11 23 59.3**	**+0.2**
BKI				*e*S	**Sn**	**11 24 51.7**	**-4.7**
H11S1	**WAKE ISLAND Hy**	**34.60**	**166**	T	T	12 06 36.5	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**34.61**	**167**	T	T	12 06 20.4	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**34.62**	**166**	T	T	12 06 08.2	
	baz=352						
WRA	**Warramunga Arr**	**75.28**	**204**	P	**P**	**11 34 14.6**	**+0.2**
	0.3nm,0.5s,baz=22,slow=6.2,SNR=5.9						
ASAR	**Alice Springs**	**78.96**	**203**	P	**P**	**11 34 36.0**	**+1.0**
	0.3nm,0.5s,baz=13,slow=5.5,SNR=8.5						

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*SFS **25** 11:23:12.0, 35°49N×3°86W, ML2.8, ALBORAN SUR*
*CNRM **25** 11:23:13.2, 35°53N×3°72W, h16km, ml3.0*
ISC 25 11:23:12.6±1.2, **35°51N**±0°03×**3°76W**±0°03, **h14**km±10km, **n13**, σ0s**95**/25, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**207**	P	**Pb**	**11 23 20.3**	**0.0**
PALE				S	**Sb**	**11 23 24.8**	**-0.7**
GOG	**Mont Gurugu**	**0.69**	**115**	P	**Pb**	**11 23 26.9**	**+0.5**
GOG				S	**Sg**	**11 23 35.8**	**+0.7**
CHAS	**Isla Isabel II**	**1.13**	**106**	P	**Pn**	**11 23 33.6**	**-0.4**
CHAS				S	**Sb**	**11 23 48.2**	**-0.3**
TAF	**Taforalt**	**1.30**	**122**	P	**Pb**	**11 23 37.1**	**+0.3**
TAF				S	**Sn**	**11 23 53.0**	**-0.7**
CHEFC	**Chefchaouen**	**1.36**	**253**	P	**Pg**	**11 23 38.0**	**-0.7**
CHEFC				S	**Sg**	**11 23 58.6**	**+2.1**
EMAL	**Malaga-Limoner**	**1.36**	**337**	P	**Pb**	**11 23 38.1**	**+0.2**
EMAL				S	**Sg**	**11 23 56.1**	**-0.4**
JBK	**JBK**	**1.53**	**140**	P	**Pb**	**11 23 40.8**	**0.0**
JBK				S	**Sb**	**11 24 00.2**	**+0.1**
SICH	**Sidi Chahed**	**1.90**	**223**	P	**Pb**	**11 23 47.0**	**-0.1**
SICH				S	**Sg**	**11 24 12.7**	**-1.2**
LCRM	**LCR**	**2.04**	**207**	P	**Pb**	**11 23 48.2**	**-1.3**
LCRM				S	**Sb**	**11 24 15.5**	**+0.7**
IFR	**Ifrane**	**2.29**	**210**	P	**Pg**	**11 23 56.0**	**-0.6**
IFR				S	**Sn**	**11 24 17.5**	**-0.8**
MD31	**MD31**	**2.77**	**198**	P	**Pn**	**11 23 57.8**	**+1.2**
MD31				S	**Sn**	**11 24 29.9**	**0.0**
MDT	**Midelt**	**2.78**	**195**	P	**Pn**	**11 23 58.7**	**+1.9**
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**11 24 10.6**	**+1.1**
PVAQ				S	**Sn**	**11 24 52.0**	**-1.0**

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*IDC **25** 11:29:19.9±0.9, 35°56N×3°79W, h0km, mb3.9/14, mb1 4.0/17, mb1mx3.8/65, mbtmp3.9/17, ML3.6/3, Error ellipse: s-maj=22.3km s-min=18.4km az=124.0*
*CNRM **25** 11:29:20.6, 35°53N×3°73W, h18km, ml3.9*
*INMG **25** 11:29:21.2±2.5, 35°52N×3°84W, h0km±9km, ML3.2, Error ellipse: s-maj=5.8km s-min=5.5km az=18.0*
*LDG **25** 11:29:22.9±0.5, 35°41N×3°80W, h10km, Ml3.3/6, Error ellipse: s-maj=12.5km s-min=5.9km az=179.0*
*NEIC **25** 11:29:23.1±1.1, 35°5N±0°1×3°75W±0°09, h21km±6km, mb4.4/5, Error ellipse: s-maj=17.7km s-min=10.7km az=171.0*
ISC 25 11:29:20.6±1.1, **35°52N**±0°03×**3°75W**±0°02, **h11**km±7km, **n108**, σ1s**78**/138, **mb4.1**/17, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**208**	P	**Pg**	**11 29 27.3**	**-0.2**
PALE				S	**Sg**	**11 29 31.9**	**-0.2**
GOG	**Mont Gurugu**	**0.68**	**116**	P	**Pg**	**11 29 33.7**	**-0.2**
GOG				S	**Sg**	**11 29 43.2**	**+0.4**
CHAS	**Isla Isabel II**	**1.13**	**107**	P	**Pb**	**11 29 40.9**	**-1.2**
CHAS	**Isla Isabel II**	**1.13**	**107**	S	**Sb**	**11 29 54.8**	**-2.0**
TAF	**Taforalt**	**1.30**	**123**	P	**Pn**	**11 29 45.1**	**+0.2**
TAF				S	**Sb**	**11 30 02.5**	**+0.6**
EMAL	**Malaga-Limoner**	**1.35**	**336**	P	**Pn**	**11 29 45.5**	**-0.1**
EMAL	**Malaga-Limoner**	**1.35**	**336**	S	**Sb**	**11 30 02.5**	**-1.0**
CHEFC	**Chefchaouen**	**1.37**	**253**	P	**Pn**	**11 29 45.7**	**-0.1**
CHEFC				S	**Sg**	**11 30 04.2**	**-0.6**
CEU	**Ceuta**	**1.38**	**286**	P	**Pn**	**11 29 43.2**	**-2.6**
CEU	**Ceuta**	**1.38**	**286**	S	**Sb**	**11 29 57.3**	**-6.7**
JBK	**JBK**	**1.53**	**140**	P	**Pn**	**11 29 46.7**	**-1.4**
JBK				S	**Sn**	**11 30 04.6**	**-3.5**
CPS	**Cap Spartel**	**1.78**	**279**	P	**Pb**	**11 29 53.3**	**0.0**
SICH	**Sidi Chahed**	**1.92**	**223**	P	**Pn**	**11 29 54.4**	**+1.1**
SICH				S	**Sb**	**11 30 19.0**	**-0.6**
LCRM	**LCR**	**2.05**	**207**	P	**Pn**	**11 29 56.7**	**+1.5**
LCRM				S	**Sb**	**11 30 23.0**	**-0.6**
IFR	**Ifrane**	**2.30**	**210**	P	**Pn**	**11 29 58.2**	**-0.5**
IFR	**Ifrane**	**2.30**	**210**	S	**Sn**	**11 30 25.0**	**-2.2**
MD31	**MD31**	**2.78**	**198**	P	**Pn**	**11 30 05.1**	**-0.1**
MDT	**Midelt**	**2.79**	**195**	Pn	**Pn**	**11 30 06.4**	**+0.9**
	4.6nm,0.3s,baz=331,slow=14,SNR=12						
MDT				Sn	**Sn**	**11 30 36.7**	**-2.5**
	18nm,0.3s,baz=120,slow=14,SNR=6.5						
MDT				Lg	Lg	11 30 45.3	
	16nm,0.3s,baz=3.0,slow=21,SNR=4.7						
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**11 30 06.3**	**+0.9**
MDT				S	**Sn**	**11 30 37.5**	**-1.7**
TDRA	**Tendrara**	**2.85**	**150**	P	**Pn**	**11 30 06.3**	**-0.1**
CART	**Cartagena**	**3.02**	**46**	P	**Pn**	**11 30 08.1**	**-0.3**
CART	**Cartagena**	**3.02**	**46**	S	**Sn**	**11 30 40.1**	**-4.5**
CART	**Cartagena**	**3.02**	**46**		**Pn**	**11 30 09.6**	**+1.2**
CART	**Cartagena**	**3.02**	**46**	P	**Pn**	**11 30 07.6**	**-0.9**
CART				S	**Sn**	**11 30 42.0**	**-2.6**

PVAQ Vaqueiros 3.71 302 *e*Pn **Pn** **11 30 16.6 -1.3**
PVAQ *e*Sn **Sn** **11 30 59.0 -2.7**
PVAQ A A 11 31 03.4
79nm,0.4s
PVAQ Vaqueiros 3.71 302 **Pn** **11 30 18.0 0.0**
PVAQ Vaqueiros 3.71 302 S **Sn** **11 30 58.1 -3.6**
AVE Averroes 3.76 235 P **Pn** **11 30 22.6 +4.1**
PBDV Barranco-do-Ve 3.79 298 *e*Pn **Pn** **11 30 19.1 +0.1**
PBDV *e*Sn **Sn** **11 30 59.5 -4.1**
PBDV A A 11 31 09.8
46nm,0.4s
FIGM Figuig 3.96 148 P **Pn** **11 30 22.9 +1.4**
PAB San Pablo 4.04 353 Pn **Pn** **11 30 24.6 +2.0**
PCVE Castro Verde 4.05 303 *e*Pn **Pn** **11 30 22.4 -0.2**
PCVE *e*Sn **Sn** **11 31 07.8 -2.2**
PCVE A A 11 31 13.2
50nm,0.3s
PBEJ Beja 4.15 308 *e*Pn **Pn** **11 30 25.4 +1.5**
PBEJ *e*Sn **Sn** **11 31 11.5 -0.9**
PBEJ A A 11 31 17.2
27nm,0.5s
ESDC Sonseca Array 4.15 358 Pn **Pn** **11 30 26.0 +2.0**
1.5nm,0.3s,baz=178,slow=12,SNR=26
ESDC Sn **Sn** **11 31 10.0 -2.6**
1.8nm,0.3s,baz=176,slow=23,SNR=4.6
ESDC Lg Lg 11 31 28.3
2.5nm,0.3s,baz=179,slow=29,SNR=5.2
ESDC Sonseca Array 4.15 358 **Pn** **11 30 25.4 +1.4**
ESBB Sonseca Array 4.15 358 Pn **Pn** **11 30 25.7 +1.7**
MESJ Messejana 4.28 304 *e*Pn **Pn** **11 30 26.6 +0.9**
MESJ *e*Sn **Sn** **11 31 13.9 -1.7**
MESJ A A 11 31 19.9
41nm,0.5s
MORF Marmelete 4.34 296 *e*Pn **Pn** **11 30 27.1 +0.5**
MORF *e*Sn **Sn** **11 31 16.0 -1.2**
MORF A A 11 31 18.4
32nm,0.4s
PFVI Vila Bisbo 4.41 293 *e*Pn **Pn** **11 30 27.5 0.0**
PFVI *e*Sn **Sn** **11 31 16.4 -2.4**
PFVI A A 11 31 22.5
34nm,0.6s
PFVI Vila Bisbo 4.41 293 Pn **Pn** **11 30 28.8 +1.3**
PFVI Vila Bisbo 4.41 293 P **Pn** **11 30 27.5 0.0**
PTEO Sao Teotonio 4.49 298 *e*Pn **Pn** **11 30 29.6 +1.0**
PTEO *e*Sn **Sn** **11 31 18.3 -2.5**
PTEO A A 11 31 22.0
49nm,0.5s
PESTR Estremoz 4.54 319 *e*Pn **Pn** **11 30 30.4 +1.1**
PESTR *e*Sn **Sn** **11 31 20.3 -1.7**
PESTR A A 11 31 38.1
17nm,0.6s
PESTR Estremoz 4.54 319 Pn **Pn** **11 30 31.2 +1.9**
PESTR Estremoz 4.54 319 P **Pn** **11 30 29.0 -0.2**
EVO Evora 4.55 313 P **Pn** **11 30 30.0 +0.6**
EVO Evora 4.55 313 S **Sn** **11 31 20.8 -1.6**
EVO Evora 4.55 313 *e*Pn **Pn** **11 30 30.0 +0.6**
EVO *e*Sn **Sn** **11 31 20.7 -1.6**
EVO A A 11 31 24.3
26nm,0.5s
PNCL Nicolau / Gran 4.63 305 *e*Pn **Pn** **11 30 31.0 +0.5**
PNCL *e*Sn **Sn** **11 31 22.5 -1.7**
PNCL A A 11 31 25.8
30nm,0.5s
PMRV Marv??o 4.86 324 *e*Pn **Pn** **11 30 35.3 +1.6**
PMRV *e*Sn **Sn** **11 31 29.0 -1.0**
PMRV A A 11 31 42.8
18nm,0.4s
TZRR Tazzarine 4.97 198 P **Pn** **11 30 36.9 +1.6**
PMTG Montargil 5.03 316 *e*Pn **Pn** **11 30 37.0 +1.0**
PMTG *e*Sn **Sn** **11 31 32.4 -1.7**
PMTG A A 11 31 33.8
22nm,0.7s
PCBR Castelo Branco 5.23 327 *e*Pn **Pn** **11 30 40.5 +1.7**
OUZM OUZ 5.25 210 P **Pn** **11 30 41.0 +1.8**
OUK Oukaimeden 5.51 220 P **Pn** **11 30 41.6 -1.5**
PMAFR Mafra 5.59 309 *e*Pn **Pn** **11 30 45.2 +1.4**
PSBE So Bento 5.66 316 *e*Pn **Pn** **11 30 46.1 +1.4**
MTE Manteigas 5.72 329 Pn **Pn** **11 30 48.6 +3.0**
PCAS Casmilo, Conde 5.88 322 *e*Pn **Pn** **11 30 50.9 +3.1**
PCAS *e*Sn **Sn** **11 31 54.6 -0.6**
PCAS A A 11 32 28.6
20nm,0.6s
PVIS Viseu 6.13 329 *e*Pn **Pn** **11 30 53.0 +1.8**
MVO Moncorvo 6.20 336 *e*Pn **Pn** **11 30 54.1 +2.0**
EAH EAH 6.22 233 P **Pn** **11 30 51.0 -1.4**
TTIG Tnine Tigouga, 6.34 220 P **Pn** **11 30 51.2 -2.9**
PVRL Vila Real 6.54 333 *e*Pn **Pn** **11 30 58.3 +1.5**
POLO Lamas de Olo 6.65 333 *e*Pn **Pn** **11 31 00.1 +1.7**
POLO *e*Sn **Sn** **11 32 14.2 0.0**
POLO A A 11 32 50.6
7.1nm,0.5s
PBRG Braganca 6.70 340 *e*Pn **Pn** **11 31 00.8 +1.8**
PGAV Gavieira, Arco 7.34 333 *e*Pn **Pn** **11 31 09.7 +1.8**
ETSF Etsaut 7.77 18 *e*Pn **Pn** **11 31 15.8 +2.1**
ETSF *e*Sn **Sn** **11 32 39.8 -1.9**
1.3nm,0.3s
SJPF Ste Jean 7.83 14 *e*Pn **Pn** **11 31 16.6 +2.1**
SJPF *e*Sn **Sn** **11 32 41.0 -2.1**
1.6nm,0.3s
SJPF *e*Sg **Sg** **11 33 28.8 -3.0**
2.6nm,0.4s
EPF Esparros 8.14 22 *e*Pn **Pn** **11 31 20.7 +1.9**
MTLF Montolieu 9.06 29 *e*Pn **Pn** **11 31 33.7 +2.3**
MTLF *e*Sn **Sn** **11 33 11.1

comp=Z,0.9nm,0.7s,baz=65,slow=7.1,SNR=8.3
PDAR Pinedale Array 76.84 313 P P 11 41 12.9 -0.1
TXAR Lajitas Array 80.84 299 P P 11 41 36.5 +1.5
comp=Z,0.3nm,0.7s,baz=93,slow=5.0,SNR=4.0

*IDC **25** 11:29:56.3±1.8, 35°.48N×3°.41W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.1/67, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=105.0km s-min=28.6km az=76.0*
*CNRM **25** 11:30:00.2, 35°.66N×3°.55W, h26km, ml3.4*
ISC 25 11:30:01.2±1.4, 35°.59N±0°.07×3°.56W±0°.06, h31km±11km, n8, σ1§02/13, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.49**	**220**	P	**Pb**	**11 30 11.6**	**+0.1**
PALE				S	**Sn**	**11 30 19.3**	**-0.1**
GOG	**Mont Gurugu**	**0.59**	**129**	P	**Pb**	**11 30 12.6**	**-0.6**
GOG				S	**Sb**	**11 30 21.8**	**+0.4**
CHAS	**Isla Isabel II**	**1.00**	**114**	P	**Pn**	**11 30 18.8**	**-0.3**
CHAS				S	**Sn**	**11 30 32.4**	**+0.1**
TAF	**Taforalt**	**1.22**	**129**	P	**Pn**	**11 30 22.2**	**+0.1**
TAF				S	**Sb**	**11 30 39.7**	**+0.7**
JBK	**JBK**	**1.49**	**147**	P	**Pn**	**11 30 26.0**	**0.0**
JBK				S	**Sn**	**11 30 46.0**	**+1.5**
ESDC	**Sonseca Array**	**4.09**	**356**	Pn	**Pn**	**11 31 01.5**	**-0.1**
	1.8nm,0.3s,baz=176,slow=16,SNR=5.7						
TORD	**Torodi Ar. Bea**	**22.84**	**167**	P	**P**	**11 34 59.6**	**-2.2**
	0.4nm,0.5s,baz=342,slow=11,SNR=1.4						
YKA	**Yellowknife Ar**	**67.84**	**332**	P	**P**	**11 40 57.0**	**+1.0**
	0.8nm,0.6s,baz=59,slow=6.4,SNR=9.5						

*IDC **25** 11:36:03.7±1.6, 5°.84N×126°.77E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.1/56, mbtmp3.6/5, Error ellipse: s-maj=116.7km s-min=20.9km az=70.0*
*MAN **25** 11:36:12.8, 5°.61N×126°.54E, h25km, mb4.4, ML3.3, MS3.1*
ISC 25 11:36:13.0±1.0, 5°.58N±0°.09×126°.5E±0°.1, h66km, n11, σ0§97/14, mb3.5/5, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.92**	**305**	⇑*eP*	**Pn**	**11 36 30.4**	**+0.1**
DDMP				*eS*	**Sn**	**11 36 43.5**	**+0.4**
MATI	**Mati**	**1.37**	**351**	⇓*iP*	**Pn**	**11 36 35.2**	**-1.0**
MATI				*eS*	**Sn**	**11 36 54.5**	**+0.9**
GSPH	**General Santos**	**1.59**	**288**	⇑*iP*	**Pn**	**11 36 38.3**	**-0.9**
GSPH				*eS*	**Sn**	**11 36 59.0**	**0.0**
DAV	**Davao City (W)**	**1.72**	**329**	Lg	Lg	11 36 59.6	
	53nm,0.3s,baz=43,slow=19,SNR=1.6						
KCP	**Kidapawan**	**1.97**	**316**	⇑*eP*	**Pn**	**11 36 44.8**	**+0.4**
KCP				*iS*	Sn	11 37 19.2	+11
BUKP	**Musuan**	**2.68**	**329**	⇓*iP*	**Pn**	**11 36 55.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**23.54**	**182**	P	**P**	**11 41 19.4**	**+1.8**
	0.8nm,0.5s,baz=13,slow=8.8,SNR=7.1						
WRA	**Warramunga Arr**	**26.52**	**163**	P	**P**	**11 41 44.3**	**-0.4**
	0.2nm,0.3s,baz=341,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**29.96**	**166**	P	**P**	**11 42 15.2**	**-0.1**
	0.3nm,0.4s,baz=340,slow=6.9,SNR=18						
ASAR				PcP	**PcP**	**11 45 16.6**	**0.0**
	0.2nm,0.4s,baz=346,slow=2.2,SNR=7.8						
MKAR	**Makanchi Array**	**55.90**	**325**	P	**P**	**11 45 43.5**	**-0.7**
	0.3nm,0.4s,baz=115,slow=7.9,SNR=4.5						
KURBB	**Kurchatov Arra**	**60.05**	**327**	P	**P**	**11 46 11.7**	**-1.4**
	0.4nm,0.5s,baz=117,slow=7.4,SNR=3.6						

*IDC **25** 11:37:19.4±7.2, 37°.05N×72°.33E, h170km±33km, mb3.2/3, mb1 3.2/8, mb1mx2.7/70, mbtmp3.7/8, MS2.9/1, Ms1 2.9/1, ms1mx2.2/43, Error ellipse: s-maj=102.2km s-min=26.7km az=157.0*
ISC 25 11:37:17.0±3.7, 36°.9N±0°.4×72°.4E±0°.2, h152km, n9, σ1§06/8, mb3.5/3, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.92**	**15**	P	**Pn**	**11 38 44.0**	**+1.2**
	1.4nm,0.3s,baz=180,slow=6.5,SNR=22						
GEYT	**Alibeck**	**11.42**	**279**	P	**Pn**	**11 39 56.4**	**+0.9**
	0.4nm,0.3s,baz=126,slow=12,SNR=1.7						
MKAR	**Makanchi Array**	**12.29**	**34**	P	**Pn**	**11 40 08.0**	**+1.1**
	0.3nm,0.3s,baz=209,slow=14,SNR=7.2						
KURBB	**Kurchatov Arra**	**14.38**	**16**	P	**P**	**11 40 35.0**	**-0.9**
	0.1nm,0.3s,baz=205,slow=11,SNR=5.1						
WSAR	**Wadi Sarin**	**18.09**	**225**	LR	LR	11 49 10.5	
	comp=Z,39nm,19.2s,baz=283,slow=39						
ZALV	**Zalesovo Beam**	**19.07**	**23**	P	**P**	**11 41 27.1**	**-0.4**
	0.7nm,0.3s,baz=222,slow=10,SNR=12						
ARCES	**ARCESS Array B**	**41.19**	**337**	P	**P**	**11 44 45.2**	**-0.9**
	1.7nm,0.8s,baz=113,slow=8.3,SNR=3.9						
HFS	**Hagfors**	**43.44**	**322**	P	**P**	**11 45 03.7**	**-0.7**
	0.5nm,0.4s,baz=104,slow=12,SNR=1.1						
YKA	**Yellowknife Ar**	**80.76**	**3**	P	**P**	**11 49 13.1**	**0.0**
	0.2nm,0.4s,baz=350,slow=5.4,SNR=5.7						

*SOME **25** 11:38:19.0, 41°.23N×77°.75E, h20km*
*KRNET **25** 11:38:19.9±0.1, 41°.31N×77°.94E, h17km, mb3.6*
*NNC **25** 11:38:20.9±0.6, 41°.32N×77°.92E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=4.1km s-min=3.1km az=167.0*
ISC 25 11:38:22.3±1.4, 41°.43N±0°.04×77°.83E±0°.03, h6km±10km, n74, σ1§59/111, 24C-25D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.85**	**326**	⇓*iP*	**Pb**	**11 38 38.8**	**-0.8**
	baz=26						
KDJ				⇓*iS*	**Sn**	**11 38 52.4**	**-1.5**
	baz=26						
PRZ	**Przheval'sk**	**1.14**	**22**	⇓*iP*	**Pb**	**11 38 43.0**	**-1.5**
	baz=16						
PRZ				⇓*iS*	**Sn**	**11 39 00.4**	**-0.6**
	baz=16						
ANVS	**Anan'yevo**	**1.36**	**355**	⇓*iP*	**Pb**	**11 38 47.9**	**-0.4**
	baz=52						
ANVS				⇓*iS*	**Sg**	**11 39 08.0**	**+2.0**
	baz=52						
ULHL	**Ulahol**	**1.44**	**305**	P	**Pb**	**11 38 48.9**	**-0.7**
	SNR=43						
ULHL	**Ulahol**	**1.44**	**305**	⇓*iP*	**Pb**	**11 38 49.1**	**-0.5**
	baz=7.0						
ULHL				⇓*iS*	**Sg**	**11 39 10.6**	**+2.1**
	baz=7.0						
SATY	**Saty**	**1.69**	**15**	*eP*	**Pb**	**11 38 53.1**	**-0.6**
	68nm,0.4s						
SATY				*eS*	**Sg**	**11 39 18.0**	**+1.5**
	211nm,0.5s						
SATY	**Saty**	**1.69**	**15**	P	**Pb**	**11 38 53.3**	**-0.5**
	68nm,0.4s						
SATY				S	**Sg**	**11 39 18.0**	**+1.5**
	211nm,0.5s						
TNSS	**Tian-Shan**	**1.73**	**338**	*eP*	**Pg**	**11 38 54.9**	**-0.7**
	80nm,0.5s						
TNSS				*eS*	**Sg**	**11 39 20.8**	**+2.7**
	70nm,0.5s						
TNSS	**Tian-Shan**	**1.73**	**338**	Pg	**Pg**	**11 38 54.9**	**-0.7**
	80nm,0.5s						
TNSS				Lg	Lg	11 39 20.8	
	70nm,0.5s						
BOOM	**Boomskoye usch**	**1.76**	**308**	⇑*eP*	**Pg**	**11 38 55.1**	**-1.0**
	baz=9.0						
BOOM				⇑*eS*	**Sg**	**11 39 20.6**	**+1.7**
	baz=9.0						
ZHN	**Zhinishke**	**1.80**	**14**	*eP*	**Pb**	**11 38 55.4**	**-0.2**
	97nm,0.2s						
ZHN				*eS*	**Sg**	**11 39 21.7**	**+1.7**
	344nm,0.4s						
ZHN	**Zhinishke**	**1.80**	**14**	Pg	**Pb**	**11 38 55.4**	**-0.2**
	97nm,0.2s						
ZHN				Lg	Lg	11 39 21.7	
	344nm,0.4s						
MDOK	**Medeo**	**1.83**	**342**	⇑*eP*	**Pg**	**11 38 56.5**	**-0.8**
	115nm,0.6s						
MDOK				*eS*	**Sg**	**11 39 23.6**	**+2.6**
	210nm,0.5s						
MDOK	**Medeo**	**1.83**	**342**	⇓Pn	**Pb**	**11 38 56.1**	**-0.1**
	74nm,0.5s						
MDOK				⇑Lg	Lg	11 39 24.4	
	181nm,0.8s						
MDOK	**Medeo**	**1.83**	**342**	Pg	**Pg**	**11 38 56.5**	**-0.8**
	115nm,0.6s						
MDOK				Lg	Lg	11 39 23.6	
	210nm,0.5s						
IZV	**Izvestkoviy**	**1.84**	**331**	⇓*eP*	**Pg**	**11 38 56.7**	**-0.9**
	57nm,0.6s						
IZV				*eS*	**Sg**	**11 39 24.2**	**+2.7**
	176nm,0.4s						
IZV	**Izvestkoviy**	**1.84**	**331**	Pg	**Pg**	**11 38 56.7**	**-0.9**
	57nm,0.6s						
IZV				Lg	Lg	11 39 24.5	
	176nm,0.4s						
KOTS	**Kotyrbulak**	**1.88**	**344**	⇓*eP*	**Pg**	**11 38 57.6**	**-0.7**
	182nm,0.2s						
KOTS				*eS*	**Sg**	**11 39 25.7**	**+3.0**
	592nm,0.3s						
KOTS	**Kotyrbulak**	**1.88**	**344**	Pg	**Pg**	**11 38 57.6**	**-0.7**
	182nm,0.2s						
KOTS				Lg	Lg	11 39 25.7	
	592nm,0.3s						
KNDC	**Almaty**	**1.90**	**341**	⇑Pn	**Pb**	**11 38 56.5**	**-0.9**
	136nm,0.6s						
KNDC				⇑Lg	Lg	11 39 26.1	
	240nm,0.5s						
AAA	**Alma-Ata**	**1.90**	**340**	*eP*	**Pg**	**11 38 58.4**	**-0.4**
	190nm,0.3s						
AAA				*eS*	**Sg**	**11 39 27.0**	**+3.6**
	291nm,0.3s						
AAA	**Alma-Ata**	**1.90**	**340**	Pg	**Pg**	**11 38 58.4**	**-0.4**
	190nm,0.3s						
AAA				Lg	Lg	11 39 27.0	
	291nm,0.3s						
UZB	**Uzynbulak**	**1.93**	**27**	*eP*	**Pb**	**11 38 57.1**	**-0.9**
	76nm,0.5s						
UZB				*eS*	**Sg**	**11 39 24.4**	**0.0**
	160nm,0.3s						
UZB	**Uzynbulak**	**1.93**	**27**	Pg	**Pb**	**11 38 57.1**	**-0.9**
	76nm,0.5s						
UZB				Lg	Lg	11 39 24.4	
	160nm,0.3s						
MTBS	**Maitube**	**1.99**	**329**	*eP*	**Pb**	**11 38 59.2**	**+0.2**
	27nm,0.4s						
MTBS				*eS*	**Sg**	**11 39 27.6**	**+1.3**
	165nm,0.4s						
MTBS	**Maitube**	**1.99**	**329**	Pg	**Pb**	**11 38 59.2**	**+0.2**
	27nm,0.4s						
MTBS				Lg	Lg	11 39 27.6	
	165nm,0.4s						
KURS	**Kuram**	**2.07**	**7**	⇓*eP*	**Pb**	**11 39 00.4**	**0.0**
	81nm,0.4s						
KURS				*eS*	**Sg**	**11 39 30.2**	**+1.3**
	53nm,0.4s						
KURS	**Kuram**	**2.07**	**7**	Pg	**Pb**	**11 39 00.3**	**0.0**
	81nm,0.4s						
KURS				Lg	Lg	11 39 30.0	
	53nm,0.4s						
TKM2	**Tokmak 2**	**2.23**	**313**	P	**Pb**	**11 39 03.1**	**0.0**
	SNR=21						
TKM2	**Tokmak 2**	**2.23**	**313**	⇓Pn	**Pb**	**11 39 01.5**	**-1.6**
	9.4nm,0.3s						
TKM2				⇓Lg	Lg	11 39 36.2	
	358nm,0.5s						
TKM2	**Tokmak 2**	**2.23**	**313**	⇑*iP*	**Pb**	**11 39 01.5**	**-1.6**
	baz=14						
TKM2				⇑*iS*	**Sb**	**11 39 31.8**	**+0.8**
	baz=14						
PDGK	**Podgornoye**	**2.26**	**32**	⇓Pn	**Pb**	**11 39 01.3**	**-2.3**
	24nm,0.5s						
PDGK				⇑Lg	Lg	11 39 34.3	
	283nm,0.5s						
DGS	**Degeres**	**2.37**	**321**	*eP*	**Pb**	**11 39 06.0**	**+0.6**
	27nm,0.6s						
DGS				*eS*	**Sg**	**11 39 40.2**	**+1.9**
	249nm,0.7s						
DGS	**Degeres**	**2.37**	**321**	Pg	**Pb**	**11 39 05.5**	**+0.1**
	27nm,0.6s						
DGS				Lg	Lg	11 39 39.4	
	249nm,0.7s						
KSH	**Kashi**	**2.38**	**217**	P	**Pg**	**11 39 08.0**	**+0.2**
KSH				S	Sg	11 39 46.3	+7.7
KSH				pmax	pmax		
	comp=Z,17nm,0.6s						
KSH				smax	smax		
	comp=N,94nm,0.6s						
KSH				smax	smax		
	comp=E,120nm,1.0s						
KTBS	**Karatobe**	**2.43**	**340**	*eP*	**Pb**	**11 39 06.9**	**+0.4**
	comp=E,55nm,0.5s						
KTBS				*eS*	**Sg**	**11 39 42.1**	**+1.6**
	comp=E,100nm,0.6s						
KBK	**Karagaybulak**	**2.47**	**301**	P	**Pg**	**11 39 10.0**	**+0.4**
	SNR=22						
KBK	**Karagaybulak**	**2.47**	**301**	⇓*eP*	**Pb**	**11 39 04.8**	**-2.4**
	baz=2.0						
KBK				⇓*iS*	**Sb**	**11 39 37.2**	**-0.7**
	baz=2.0						
CHKK	**Chushkaly**	**2.50**	**346**	*eP*	**Pb**	**11 39 08.1**	**+0.5**
	comp=E,42nm,0.3s						
CHKK				*eS*	**Sg**	**11 39 43.7**	**+1.1**
	comp=E,183nm,0.4s						
CHKK	**Chushkaly**	**2.50**	**346**	Pg	**Pb**	**11 39 07.5**	**-0.1**
	comp=E,42nm,0.3s						
CHKK				Lg	Lg	11 39 42.6	
	comp=E,183nm,0.4s						
UCH	**Uchtor**	**2.60**	**289**	P	**Pb**	**11 39 09.6**	**0.0**
	SNR=22						
UCH	**Uchtor**	**2.60**	**289**	⇑*iP*	**Pn**	**11 39 06.4**	**+1.1**
	baz=91						
UCH				⇑*iS*	**Sb**	**11 39 40.5**	**-1.5**
	baz=91						
ARLS	**Aral**	**2.66**	**281**	⇓*eP*	**Pn**	**11 39 06.9**	**+1.1**
	baz=83						
ARLS				⇓*iS*	**Sb**	**11 39 41.7**	**-1.7**
	baz=83						
KUU	**Kurty**	**2.70**	**336**	*eP*	**Pb**	**11 39 11.8**	**+0.8**
	comp=E,16nm,0.5s						
KUU				*eS*	**Sg**	**11 39 49.7**	**+0.8**
	comp=E,153nm,0.7s						
KUU	**Kurty**	**2.70**	**336**	Pg	**Pb**	**11 39 11.8**	**+0.8**
	comp=E,16nm,0.5s						
KUU				Lg	Lg	11 39 49.7	
	comp=E,153nm,0.7s						
BLB	**Baldybastay**	**2.71**	**10**	*eP*	**Pb**	**11 39 11.5**	**+0.3**
	comp=E,46nm,0.3s						
BLB				*eS*	**Sg**	**11 39 49.0**	**-0.4**
	comp=E,299nm,0.3s						
BLB	**Baldybastay**	**2.71**	**10**	Pg	**Pb**	**11 39 11.5**	**+0.3**
	comp=E,46nm,0.3s						
BLB				Lg	Lg	11 39 49.0	
	comp=E,299nm,0.3s						
FRU1	**Bishkek**	**2.75**	**301**	⇑*iP*	**Pb**	**11 39 08.9**	**-3.0**
	baz=3.0						
FRU1				⇑*iS*	**Sb**	**11 39 44.7**	**-1.1**
	baz=3.0						
AAK	**Ala-Archa**	**2.76**	**297**	P	**Pg**	**11 39 13.4**	**-1.7**
	SNR=13						
AAK	**Ala-Archa**	**2.76**	**297**	⇑Pg	**Pb**	**11 39 13.0**	**+0.9**
	comp=E,11nm,0.6s						
AAK				⇑Lg	Lg	11 39 52.2	
	comp=E,58nm,0.8s						
AAK	**Ala-Archa**	**2.76**	**297**	⇓*iP*	**Pn**	**11 39 08.7**	**+1.5**
	baz=99						
AAK				⇓*iS*	**Sb**	**11 39 44.5**	**-1.8**
	baz=99						
KRBS	**Karabastau**	**2.77**	**326**	*eP*	**Pg**	**11 39 13.4**	**-1.9**
	comp=E,13nm,0.5s						
KRBS				*eS*	**Sg**	**11 39 52.3**	**+1.1**
	comp=E,122nm,0.6s						
KRBS	**Karabastau**	**2.77**	**326**	Pg	**Pg**	**11 39 13.5**	**-1.9**
	comp=E,13nm,0.5s						
KRBS				Lg	Lg	11 39 52.3	
	comp=E,122nm,0.6s						
CHMS	**Chumysh**	**2.77**	**306**	P	**Pb**	**11 39 12.8**	**+0.5**
	SNR=15						
CHMS	**Chumysh**	**2.77**	**306**	⇑*iP*	**Pb**	**11 39 09.0**	**-3.2**
	baz=7.0						
CHMS				⇑*iS*	**Sb**	**11 39 44.9**	**-1.5**
	baz=7.0						
ARXS	**Arharly**	**2.78**	**0**	*eP*	**Pb**	**11 39 13.3**	**+0.8**
	comp=E,20nm,0.3s						
ARXS				*eS*	**Sg**	**11 39 52.0**	**+0.3**
	comp=E,167nm,0.5s						
ARXS	**Arharly**	**2.78**	**0**	Pg	**Pb**	**11 39 13.3**	**+0.8**
	comp=E,20nm,0.3s						
ARXS				Lg	Lg	11 39 52.0	
	comp=E,167nm,0.5s						
USP	**Ospenovka**	**3.08**	**308**	P	**Sg**	**11 40 00.9**	**-0.1**
	SNR=9.0						
USP	**Ospenovka**	**3.08**	**308**	⇓*iP*	**Pn**	**11 39 13.2**	**+1.8**
	baz=9.0						
USP				⇓*iS*	**Sb**	**11 39 52.2**	**-3.0**
	baz=9.0						
AML	**Almayashu**	**3.17**	**284**	P	**Pb**	**11 39 19.7**	**+0.5**
	SNR=20						
DJR	**Jarkent**	**3.24**	**26**	*eP*	**Pb**	**11 39 20.1**	**-0.2**
	comp=E,4.9nm,0.2s						
DJR				*eS*	**Sg**	**11 40 03.6**	**-2.8**
	comp=E,127nm,0.6s						
DJR	**Jarkent**	**3.24**	**26**	Pg	**Pb**	**11 39 20.1**	**-0.2**
	comp=E,4.9nm,0.2s						
DJR				Lg	Lg	11 40 03.6	
	comp=E,127nm,0.6s						
EKS2	**Erkin-Say**	**3.26**	**294**	P	**Pb**	**11 39 21.8**	**+1.2**
	SNR=6.4						
EKS2	**Erkin-Say**	**3.26**	**294**	⇑*eP*	**Pn**	**11 39 15.6**	**+1.6**
	baz=95						
EKS2				⇑*iS*	**Sb**	**11 39 56.3**	**-4.2**
	baz=95						
MRKS	**Merke**	**3.67**	**293**	*eP*	**Pg**	**11 39 29.7**	**-2.8**
	comp=E,12nm,0.6s						
MRKS				*eS*	**Sg**	**11 40 20.2**	**+0.1**
	comp=E,39nm,0.4s						
MRKS	**Merke**	**3.67**	**293**	Pg	**Pg**	**11 39 29.7**	**-2.8**
	comp=E,12nm,0.6s						
MRKS				Lg	Lg	11 40 20.2	
	comp=E,39nm,0.4s						
KAPS	**Kapalarasan**	**4.01**	**16**	*eP*	**Pb**	**11 39 34.7**	**+1.3**
	comp=E,8.2nm,0.4s						
KAPS				*eS*	**Sg**	**11 40 28.7**	**-2.4**
	comp=E,38nm,0.7s						
KAPS	**Kapalarasan**	**4.01**	**16**	Pg	**Pb**	**11 39 34.7**	**+1.3**
	comp=E,8.2nm,0.4s						
KAPS				Lg	Lg	11 40 28.7	
	comp=E,38nm,0.7s						
MNAS	**Manas**	**4.11**	**287**	⇑*eP*	**Pn**	**11 39 27.2**	**+1.5**
	baz=88						
MNAS				⇑*iS*	**Sn**	**11 40 16.2**	**+2.1**
	baz=88						
BTLS	**Baital**	**4.54**	**324**	*eP*	**Pb**	**11 39 44.9**	**+2.4**
	comp=E,3.6nm,0.4s						
BTLS				*eS*	**Sg**	**11 40 46.6**	**-1.6**
	comp=E,18nm,0.5s						
BTLS	**Baital**	**4.54**	**324**	Pg	**Pg**	**11 39 45.6**	**-3.8**
	comp=E,3.6nm,0.4s						
BTLS				Lg	Lg	11 40 48.3	
	comp=E,18nm,0.5s						
KK02	**Karatay Array**	**5.68**	**290**	⇑Lg	Lg	11 41 24.9	
	comp=E,5.1nm,0.5s						
MAKZ	**Makanchi**	**6.15**	**28**	⇓Lg	Lg	11 41 38.1	
	comp=E,5.8nm,0.7s						
MK31	**Makanchi Array**	**6.25**	**29**	⇓Pn	**Pn**	**11 39 55.7**	**+0.7**
	comp=E,0.9nm,0.7s,baz=198,slow=15,SNR=5.3						
MK31				⇑Pg	**Pb**	**11 40 15.1**	**+3.6**
	comp=E,0.3nm,0.3s,baz=201,slow=15,SNR=4.4						
MK31				Sn	**Sn**	**11 41 08.8**	**+2.0**
	comp=E,1.0nm,0.4s,baz=205,slow=21,SNR=3.9						
MK31				⇑Lg	Lg	11 41 39.7	
	comp=E,6.8nm,0.8s,baz=211,slow=30,SNR=3.9						

*IDC **25** 11:40:09.6±1.4, 59°.75N×153°.21W, h106km±14km, mb3.6/13, mb1 3.8/17, mb1mx3.4/60, mbtmp4.0/17, Error ellipse: s-maj=20.9km s-min=15.4km az=166.0*
*NEIC **25** 11:40:09.7±1.6, 59°.72N±0°.03×153°.21W±0°.07, h119km±4km, Error ellipse: s-maj=5.5km s-min=4.2km az=135.0*
*AEIC **25** 11:40:10±1.6, 59°.70N±0°.02×153°.17W±0°.07, h113km±4km, ML3.9, mb4.4/4(NEIC), ML4.1/106(NEIC), Error ellipse: s-maj=5.3km s-min=2.5km az=108.0*
ISC 25 11:40:09.8±0.6, 59°.73N±0°.03×153°.10W±0°.03, h115km±4km, n277, σ1§11/295, mb4.0/14, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.10**	**223**		**Pn**	**11 40 25.8**	**+0.1**
AU22	**Augustine Moun**	**0.38**	**200**		**Pn**	**11 40 26.6**	**+0.1**
AU22					**Sn**	**11 40 38.9**	**-0.2**
AUL	**Augustine Lava**	**0.39**	**207**		**Pn**	**11 40 26.8**	**+0.2**
AUL					**Sn**	**11 40 39.1**	**-0.1**
AGU	**Augustine-Summ**	**0.41**	**205**		**Pn**	**11 40 26.9**	**+0.1**
AGU					**Sn**	**11 40 38.9**	**-0.7**
AUW	**Augustine West**	**0.41**	**208**		**Pn**	**11 40 26.9**	**+0.2**
AUQ	**Augustine Qik'**	**0.41**	**204**		**Pn**	**11 40 26.9**	**+0.1**
O20K	**Slope Mountain**	**0.43**	**34**		**Pn**	**11 40 27.3**	**+0.4**
O20K					**Sn**	**11 40 40.2**	**+0.4**
O20K	**Slope Mountain**	**0.43**	**34**	P	**Pn**	**11 40 27.3**	**+0.4**
	baz=216,SNR=55						
O20K				S	**Sn**	**11 40 40.4**	**+0.6**
	baz=216						
RED	**Redoubt Volcan**	**0.71**	**13**		**Pn**	**11 40 29.1**	**+0.2**
RED					**Sn**	**11 40 43.2**	**-0.1**
HOM	**Homer**	**0.74**	**95**		**Pn**	**11 40 29.7**	**+0.7**
HOM					**Sn**	**11 40 44.4**	**+1.0**
HOM	**Homer**	**0.74**	**95**	IAML		11 40 45.0	
	comp=E,7μm,0.4s						
HOM	**Homer**	**0.74**	**95**	P	**Pn**	**11 40 29.6**	**+0.7**
	baz=274,SNR=16						
HOM				S	**Sn**	**11 40 44.6**	**+1.2**
	baz=274						
RSO	**Redoubt South**	**0.76**	**13**		**Pn**	**11 40 29.9**	**+0.5**
NCT	**North Crescent**	**0.84**	**6**		**Pn**	**11 40 30.4**	**+0.4**
NCT					**Sn**	**11 40 45.1**	**-0.2**
Q19K	**Cape Douglas,**	**0.85**	**200**		**Pn**	**11 40 29.8**	**-0.1**
Q19K					**Sn**	**11 40 44.7**	**-0.5**
Q19K	**Cape Douglas,**	**0.85**	**200**	P	**Pn**	**11 40 29.9**	**-0.1**
	baz=17,SNR=114						
Q19K				S	**Sn**	**11 40 44.8**	**-0.4**
	baz=17						
DFR	**Drift River**	**0.89**	**13**		**Pn**	**11 40 30.9**	**+0.4**
DFR					**Sn**	**11 40 46.1**	**0.0**
CNPM	**China Poot**	**0.97**	**101**		**Pn**	**11 40 31.5**	**+0.4**
CNPM					**Sn**	**11 40 47.1**	**-0.1**
CNPM	**China Poot**	**0.97**	**101**	IAML		11 40 48.3	
	comp=N,7μm,0.4s						
CNPM				IAML		11 40 48.6	
	comp=E,5μm,0.4s						
O18K	**Koktuh Hills**	**1.07**	**278**		**Pn**	**11 40 31.8**	**-0.4**
O18K					**Sn**	**11 40 48.0**	**-1.2**
O18K	**Koktuh Hills**	**1.07**	**278**	P	**Pn**	**11 40 31.8**	**-0.4**
	baz=98,SNR=17						
O18K				S	**Sn**	**11 40 47.8**	**-1.3**
	baz=98						
BRLK	**Bradley Lake**	**1.12**	**87**		**Pn**	**11 40 32.9**	**+0.2**
BRLK					**Sn**	**11 40 49.4**	**-0.6**
BRLK	**Bradley Lake**	**1.12**	**87**	IAML		11 40 50.0	
	comp=N,2μm,0.6s						
P18K	**Big Mountain,**	**1.14**	**254**		**Pn**	**11 40 32.1**	**-0.7**
P18K					**Sn**	**11 40 48.3**	**-2.0**
P18K	**Big Mountain,**	**1.14**	**254**	P	**Pn**	**11 40 32.1**	**-0.7**
	baz=73,SNR=6.5						
P18K				S	**Sn**	**11 40 48.4**	**-2.0**
	baz=73						
BRSE	**Bradley Lake S**	**1.19**	**88**		**Pn**	**11 40 33.7**	**+0.2**
BRSE					**Sn**	**11 40 51.2**	**-0.2**
BRSE	**Brad

KDAK	**Kodiak Island**	**1.97**	**172**	IAML			11 41 07.8
	comp=N,701nm,0.5s						
KDAK				IAML			11 41 09.8
	comp=N,765nm,0.3s						
KDAK	**Kodiak Island**	**1.97**	**172**	P		**Pn**	**11 40 41.8 -0.8**
	baz=351						
KDAK				S		**Sn**	**11 41 07.2 -0.4**
	baz=351						
FIS	**Fire Island**	**2.02**	**44**			**Pn**	**11 40 45.1 +2.0**
FIS	**Fire Island**	**2.02**	**44**	IAML			11 41 15.7
	comp=N,2μm,0.3s						
FIS				IAML			11 41 32.3
	comp=E,2μm,0.6s						
CAHL	**Cahill**	**2.03**	**215**			**Pn**	**11 40 43.6 +0.1**
KJL	**Kejulik**	**2.11**	**219**			**Pn**	**11 40 44.7 +0.2**
RC01	**Rabbit Creek A**	**2.16**	**49**			**Pn**	**11 40 45.7 +0.7**
RC01	**Rabbit Creek A**	**2.16**	**49**	IAML			11 41 14.7
	comp=E,2μm,0.3s						
RC01	**Rabbit Creek A**	**2.16**	**49**	P		**Pn**	**11 40 45.7 +0.7**
	baz=232,SNR=61						
RC01				S		**Sn**	**11 41 11.6 -0.3**
	baz=232						
M22K	**Willow**	**2.50**	**34**			**Pn**	**11 40 50.5 +1.1**
M22K	**Willow**	**2.50**	**34**	P		**Pn**	**11 40 50.5 +1.1**
	baz=217,SNR=36						
M22K				S		**Sn**	**11 41 20.4 +0.6**
	baz=217						
OHAK	**Old Harbor**	**2.51**	**182**			**Pn**	**11 40 48.3 -1.3**
OHAK	**Old Harbor**	**2.51**	**182**	P		**Pn**	**11 40 48.3 -1.3**
	baz=1.4,SNR=19						
L19K	**White Mountain**	**2.61**	**342**			**Pn**	**11 40 51.0 +0.2**
PLK3	**Peulik 3**	**2.63**	**220**			**Pn**	**11 40 51.4 +0.3**
PWL	**Port Wells**	**2.63**	**62**			**Pn**	**11 40 51.1 0.0**
PWL	**Port Wells**	**2.63**	**62**	IAML			11 41 23.5
	comp=E,1μm,0.4s						
PWL	**Port Wells**	**2.63**	**62**	P		**Pn**	**11 40 51.0 -0.1**
	baz=246,SNR=47						
PWL				S		**Sn**	**11 41 21.9 -0.9**
	baz=246						
PMR	**Palmer**	**2.71**	**45**			**Pn**	**11 40 51.9 -0.1**
PMR	**Palmer**	**2.71**	**45**	IAML			11 41 24.3
	comp=E,581nm,0.5s						
PMR				IAML			11 41 26.4
	comp=N,625nm,0.3s						
PMR	**Palmer**	**2.71**	**45**	P		**Pn**	**11 40 51.9 -0.1**
	baz=228,SNR=37						
PMR				S		**Sn**	**11 41 22.9 -1.5**
	baz=228						
L20K	**Farewell, AK**	**2.79**	**353**			**Pn**	**11 40 53.7 +0.6**
L20K	**Farewell, AK**	**2.79**	**353**	P		**Pn**	**11 40 53.9 +0.7**
	baz=173						
KNK	**Knik Glacier**	**2.85**	**52**	Pn		**Pn**	**11 40 54.7 +0.8**
KNK	**Knik Glacier**	**2.85**	**52**	P		**Pn**	**11 40 54.0 +0.1**
	baz=236,SNR=36						
KNK				S		**Sn**	**11 41 26.4 -1.4**
	baz=236						
GHO	**Glory Hole Cre**	**2.90**	**43**			**Pn**	**11 40 54.7 0.0**
GHO				IAML			11 41 32.9
	comp=N,847nm,0.3s						
CUT	**Chulitna**	**3.02**	**26**			**Pn**	**11 40 57.3 +1.2**
CUT				IAML			11 41 37.3
	comp=N,833nm,0.4s						
CUT	**Chulitna**	**3.02**	**26**	P		**Pn**	**11 40 56.7 +0.6**
	baz=209,SNR=75						
CUT				S		**Sn**	**11 41 32.4 +0.6**
	baz=209						
SML	**Sawmill**	**3.13**	**46**			**Pn**	**11 40 57.8 0.0**
SML	**Sawmill**	**3.13**	**46**	IAML			11 41 34.4
	comp=N,481nm,0.7s						
SML				IAML			11 41 42.6
	comp=E,619nm,0.6s						
SML	**Sawmill**	**3.13**	**46**	P		**Pn**	**11 40 57.7 0.0**
	baz=230,SNR=16						
SML				S		**Sn**	**11 41 33.2 -1.4**
	baz=230						
GLI	**Glacier Island**	**3.20**	**66**			**Pn**	**11 40 57.7 -0.8**
GLI	**Glacier Island**	**3.20**	**66**	IAML			11 41 36.1
	comp=N,396nm,0.6s						
GLI				IAML			11 41 37.7
	comp=E,668nm,0.5s						
GLI	**Glacier Island**	**3.20**	**66**	P		**Pn**	**11 40 58.0 -0.6**
	baz=251,SNR=8.9						
PPLA	**Purkeypile**	**3.21**	**7**			**Pn**	**11 41 00.2 +1.4**
PPLA	**Purkeypile**	**3.21**	**7**	P		**Pn**	**11 41 00.0 +1.2**
	baz=189,SNR=49						
SII	**Sitkinak Islan**	**3.23**	**191**	Pn		**Pn**	**11 40 57.8 -1.2**
SII				IAML			11 41 35.3
	comp=E,744nm,0.3s						
SII				IAML			11 41 46.7
	comp=N,490nm,0.6s						
SII	**Sitkinak Islan**	**3.23**	**191**	P		**Pn**	**11 40 57.7 -1.2**
	baz=9.3						
Q23K	**Middleton Isla**	**3.44**	**92**	Pn		**Pn**	**11 41 02.6 +0.9**
Q23K				IAML			11 41 43.8
	comp=N,407nm,0.5s						
Q23K				IAML			11 41 45.1
	comp=E,573nm,1.4s						
Q23K	**Middleton Isla**	**3.44**	**92**	P		**Pn**	**11 41 02.4 +0.7**
	baz=277						
MID	**Middleton Isla**	**3.45**	**92**	Pn		**Pn**	**11 41 02.4 +0.6**
MID				IAML			11 41 43.8
	comp=N,416nm,0.5s						
MID				IAML			11 42 52.6
	comp=E,416nm,3.2s						
FID	**Port Fidalgo**	**3.46**	**70**			**Pn**	**11 41 01.0 -0.9**
FID	**Port Fidalgo**	**3.46**	**70**	IAML			11 41 44.6
	comp=N,674nm,0.5s						
TT01	**Tatalina**	**3.49**	**337**			**Pn**	**11 41 02.1 -0.2**
JPK	**Jack Peak**	**3.49**	**65**			**Pn**	**11 41 02.1 -0.3**
TTA	**Tatalina**	**3.51**	**338**			**Pn**	**11 41 02.5 -0.2**
TTA	**Tatalina**	**3.51**	**338**	P		**Pn**	**11 41 02.5 -0.2**
	baz=156,SNR=92						
SCM	**Sheep Creek Mo**	**3.53**	**51**			**Pn**	**11 41 03.5 +0.5**
SCM	**Sheep Creek Mo**	**3.53**	**51**	IAML			11 41 47.7
	comp=E,564nm,0.5s						
SCM	**Sheep Creek Mo**	**3.53**	**51**	P		**Pn**	**11 41 03.3 +0.3**
	baz=236,SNR=9.2						
K20K	**Telida**	**3.67**	**353**			**Pn**	**11 41 05.3 +0.5**
CAST	**Castle Rocks**	**3.74**	**7**			**Pn**	**11 41 06.3 +0.6**
CAST	**Castle Rocks**	**3.74**	**7**	P		**Pn**	**11 41 06.3 +0.6**
	baz=188,SNR=136						
EYAK	**Cordova Ski Ar**	**3.77**	**74**			**Pn**	**11 41 05.7 -0.3**
EYAK	**Cordova Ski Ar**	**3.77**	**74**	P		**Pn**	**11 41 06.0 0.0**
	baz=260,SNR=6.7						
DIV	**Divide**	**3.90**	**66**			**Pn**	**11 41 08.4 +0.6**
KLU	**Klutina**	**3.96**	**60**			**Pn**	**11 41 08.8 +0.2**
KLU	**Klutina**	**3.96**	**60**	P		**Pn**	**11 41 08.7 0.0**
	baz=246,SNR=65						
TRF	**Thorofare Moun**	**3.97**	**19**			**Pn**	**11 41 09.9 +1.0**
TRF				IAML			11 41 56.9
	comp=N,229nm,0.5s						
TRF				IAML			11 41 58.7
	comp=E,162nm,0.7s						
TRF	**Thorofare Moun**	**3.97**	**19**	P		**Pn**	**11 41 08.9 0.0**
	baz=201,SNR=52						
KTH	**Kantishna Hill**	**3.98**	**14**			**Pn**	**11 41 09.3 +0.4**
KTH				IAML			11 42 20.1
	comp=N,140nm,1.0s						
KTH				IAML			11 42 21.8
	comp=E,112nm,0.8s						
M24K	**Tolsona, Glenn**	**4.14**	**52**			**Pn**	**11 41 11.8 +0.8**
M24K	**Tolsona, Glenn**	**4.14**	**52**	P		**Pn**	**11 41 11.8 +0.8**
	baz=238,SNR=19						
CHIR	**Chirikof Islan**	**4.14**	**200**	Pn		**Pn**	**11 41 09.3 -1.8**
CHIR				IAML			11 41 55.5
	comp=N,389nm,0.6s						
CHIR				IAML			11 43 21.9
	comp=E,362nm,3.1s						
CHUM	**Lake Minchumin**	**4.19**	**5**			**Pn**	**11 41 12.3 +0.6**
CHUM	**Lake Minchumin**	**4.19**	**5**	P		**Pn**	**11 41 12.3 +0.6**
	baz=186,SNR=79						
RND	**Reindeer**	**4.21**	**27**			**Pn**	**11 41 12.1 0.0**
RND	**Reindeer**	**4.21**	**27**	IAML			11 42 04.5
	comp=E,127nm,0.3s						
RND				IAML			11 42 05.2
	comp=N,107nm,0.5s						
BMRM	**Bremner River**	**4.40**	**70**			**Pn**	**11 41 15.0 +0.4**
BMRM				IAML			11 42 05.1
	comp=E,255nm,0.4s						
BMRM				IAML			11 42 05.7
	comp=N,216nm,0.4s						
BMRM	**Bremner River**	**4.40**	**70**	P		**Pn**	**11 41 14.3 -0.2**
	baz=257,SNR=18						
CHGN	**Chignik**	**4.45**	**222**	Pn		**Pn**	**11 41 14.1 -1.1**
CHGN				IAML			11 42 05.1
	comp=N,234nm,0.2s						
CHGN				IAML			11 42 05.3
	comp=E,321nm,0.1s						
HMT	**Hamilton**	**4.47**	**78**			**Pn**	**11 41 16.7 +1.1**
MCK	**McKinley**	**4.48**	**24**			**Pn**	**11 41 16.2 +0.6**
MCK	**McKinley**	**4.48**	**24**	IAML			11 42 06.5
	comp=E,79nm,0.4s						
MCK				IAML			11 42 14.2
	comp=N,95nm,0.7s						
MCK	**McKinley**	**4.48**	**24**	P		**Pn**	**11 41 16.2 +0.6**
	baz=208,SNR=47						
J20K	**Nowinta River**	**4.49**	**354**			**Pn**	**11 41 16.2 +0.5**
J20K	**Nowinta River**	**4.49**	**354**	P		**Pn**	**11 41 16.3 +0.5**
	baz=174						
BPAW	**Bear Paw Mtn.**	**4.50**	**12**			**Pn**	**11 41 15.4 -0.5**
BPAW	**Bear Paw Mtn.**	**4.50**	**12**	P		**Pn**	**11 41 15.8 -0.1**
	baz=194,SNR=17						
N25K	**Chitina, Valde**	**4.59**	**62**			**Pn**	**11 41 17.3 +0.2**
N25K	**Chitina, Valde**	**4.59**	**62**	IAML			11 42 10.9
	comp=E,175nm,0.5s						
N25K				IAML			11 42 11.2
	comp=N,213nm,0.5s						
N25K	**Chitina, Valde**	**4.59**	**62**	P		**Pn**	**11 41 17.5 +0.4**
	baz=249,SNR=49						
HARP	**HAARP**	**4.70**	**52**			**Pn**	**11 41 18.9 +0.4**
HARP	**HAARP**	**4.70**	**52**	P		**Pn**	**11 41 19.7 +1.1**
	baz=239,SNR=18						
SUCK	**Suckling Hills**	**4.71**	**82**	Pn		**Pn**	**11 41 19.3 +0.6**
SUCK				IAML			11 42 00.3
	comp=E,244nm,3.7s						
SUCK				IAML			11 43 20.5
	comp=N,244nm,3.6s						
BERG	**Berg Lake**	**4.76**	**78**			**Pn**	**11 41 19.8 +0.4**
BERG	**Berg Lake**	**4.76**	**78**	IAML			11 42 13.9
	comp=N,247nm,0.4s						
BWN	**Browne**	**4.78**	**19**			**Pn**	**11 41 20.0 +0.4**
BWN	**Browne**	**4.78**	**19**	IAML			11 42 52.2
	comp=N,128nm,0.7s						
BWN				IAML			11 42 53.5
	comp=E,130nm,1.0s						
GLB	**Gilahina Butte**	**4.89**	**65**			**Pn**	**11 41 21.2 +0.1**
GLB	**Gilahina Butte**	**4.89**	**65**	IAML			11 42 16.8
	comp=E,151nm,0.3s						
PAX	**Paxson**	**4.91**	**45**			**Pn**	**11 41 21.6 +0.2**
PAX	**Paxson**	**4.91**	**45**	P		**Pn**	**11 41 21.8 +0.4**
	baz=232,SNR=25						
GRIN	**Grindle Hills**	**4.94**	**79**			**Pn**	**11 41 22.8 +1.0**
KHIT	**Khitrov Hills**	**4.98**	**77**			**Pn**	**11 41 22.8 +0.4**
VRDI	**Verde Repeater**	**5.00**	**68**			**Pn**	**11 41 22.6 -0.2**
VRDI	**Verde Repeater**	**5.00**	**68**	IAML			11 42 19.1
	comp=N,189nm,0.3s						
VRDI				IAML			11 42 20.0
	comp=E,110nm,0.6s						
PS10	**TAPS Pump St10**	**5.10**	**40**			**Pn**	**11 41 25.4 +1.4**
SNH	**Sunshine Point**	**5.18**	**81**	Pn		**Pn**	**11 41 26.3 +1.3**
SNH				IAML			11 42 36.4
	comp=E,164nm,3.7s						
WAX	**Waxell Ridge**	**5.18**	**78**			**Pn**	**11 41 25.0 -0.1**
NEA2	**Nenana**	**5.24**	**19**			**Pn**	**11 41 25.5 -0.3**
NEA2	**Nenana**	**5.24**	**19**	P		**Pn**	**11 41 25.6 -0.1**
	baz=203,SNR=48						
WRH	**Wood River Hil**	**5.31**	**24**			**Pn**	**11 41 26.5 -0.2**
WRH	**Wood River Hil**	**5.31**	**24**	IAML			11 42 29.9
	comp=E,46nm,0.5s						
GCSA	**Galena City Sc**	**5.34**	**342**			**Pn**	**11 41 27.2 +0.1**
GCSA	**Galena City Sc**	**5.34**	**342**	P		**Pn**	**11 41 27.1 +0.1**
	baz=159,SNR=53						
ISLE	**Juniper Island**	**5.45**	**76**			**Pn**	**11 41 29.6 +0.9**
KIAG	**Kiagna River**	**5.47**	**73**			**Pn**	**11 41 29.9 +0.8**
BALM	**Baldy**	**5.49**	**72**			**Pn**	**11 41 29.7 +0.3**
I21K	**Tanana**	**5.50**	**5**			**Pn**	**11 41 28.9 -0.4**
I21K	**Tanana**	**5.50**	**5**	P		**Pn**	**11 41 29.1 -0.2**
	baz=186						
HDA	**Harding Lake**	**5.51**	**29**			**Pn**	**11 41 29.3 -0.2**
HDA	**Harding Lake**	**5.51**	**29**	P		**Pn**	**11 41 29.3 -0.2**
	baz=214,SNR=50						
CCB	**Clear Creek Bu**	**5.52**	**24**			**Pn**	**11 41 29.2 -0.4**
MENT	**Mentasta**	**5.54**	**50**			**Pn**	**11 41 31.2 +1.3**
BAGL	**Bagley Icefiel**	**5.56**	**77**			**Pn**	**11 41 31.6 +1.4**
M26K	**Nabesna, AK**	**5.59**	**57**			**Pn**	**11 41 31.4 +0.8**
M26K	**Nabesna, AK**	**5.59**	**57**	P		**Pn**	**11 41 30.7 +0.1**
	baz=246						
RIDG	**Independent Ri**	**5.62**	**41**			**Pn**	**11 41 32.4 +1.4**
RIDG	**Independent Ri**	**5.62**	**41**	P		**Pn**	**11 41 31.3 +0.4**
	baz=228,SNR=12						
MESA	**MESA**	**5.62**	**81**			**Pn**	**11 41 32.0 +0.8**
MESA	**MESA**	**5.62**	**81**	P		**Pn**	**11 41 31.5 +0.3**
	baz=270						
I23K	**Minto, Yukon-K**	**5.71**	**16**			**Pn**	**11 41 32.0 -0.1**
I23K	**Minto, Yukon-K**	**5.71**	**16**	P		**Pn**	**11 41 32.2 +0.1**
	baz=200,SNR=106						
TCOL	**CIGO, UAF Yank**	**5.71**	**23**			**Pn**	**11 41 31.6 -0.6**
TCOL	**CIGO, UAF Yank**	**5.71**	**23**	P		**Pn**	**11 41 32.1 0.0**
	baz=208,SNR=71						
COLA	**College**	**5.71**	**23**			**Pn**	**11 41 32.0 -0.2**
COLA	**College**	**5.71**	**23**	P		**Pn**	**11 41 32.1 0.0**
	baz=208						
MDM	**Murphy Dome**	**5.72**	**21**			**Pn**	**11 41 31.8 -0.5**
YAH	**Yahtse**	**5.73**	**79**			**Pn**	**11 41 33.9 +1.3**
L26K	**Log Cabin Wild**	**5.74**	**51**			**Pn**	**11 41 34.3 +1.8**
L26K	**Log Cabin Wild**	**5.74**	**51**	P		**Pn**	**11 41 34.3 +1.8**
	baz=239						
DOT	**Dot Lake**	**5.83**	**44**			**Pn**	**11 41 34.0 +0.2**
BARN	**Barnard Glacie**	**5.83**	**72**			**Pn**	**11 41 35.1 +1.2**
IL31		**5.83**	**27**			**Pn**	**11 41 33.7 -0.1**
ILAR	**Eielson Array**	**5.83**	**27**	P		**Pn**	**11 41 33.4 -0.5**
	comp=E,17nm,0.3s,baz=215,slow=14,SNR=604						
ILAR				S		**Sn**	**11 42 33.0 -6.3**
	comp=E,3.0nm,0.3s,baz=212,slow=23,SNR=4.3						
ILAR	**Eielson Array**	**5.83**	**27**	Pn		**Pn**	**11 41 33.5 -0.3**
SDPT	**Sand Point**	**5.92**	**225**	Pn		**Pn**	**11 41 34.6 -0.3**
SDPT	**Sand Point**	**5.92**	**225**	P		**Pn**	**11 41 34.4 -0.6**
	baz=39						
H21K	**Melozitna Rive**	**5.96**	**1**			**Pn**	**11 41 35.6 +0.1**
H21K	**Melozitna Rive**	**5.96**	**1**	P		**Pn**	**11 41 35.6 +0.1**
	baz=182						
POKR	**Poker Plat Res**	**6.01**	**23**			**Pn**	**11 41 36.3 0.0**
POKR	**Poker Plat Res**	**6.01**	**23**	P		**Pn**	**11 41 36.0 -0.2**
	baz=209,SNR=33						
TABL	**Table Mountain**	**6.03**	**78**			**Pn**	**11 41 37.5 +0.9**
PS07	**TAPS Pump Stn7**	**6.03**	**20**			**Pn**	**11 41 36.4 -0.1**
CNBA	**Chernabura Isl**	**6.05**	**218**	Pn		**Pn**	**11 41 36.4 -0.4**
M27K	**Edge Creek, AK**	**6.05**	**59**			**Pn**	**11 41 37.5 +0.5**
M27K	**Edge Creek, AK**	**6.05**	**59**	P		**Pn**	**11 41 38.1 +1.1**
	baz=249						
SCRK	**Sand Creek**	**6.06**	**41**			**Pn**	**11 41 36.6 -0.4**
SCRK	**Sand Creek**	**6.06**	**41**	P		**Pn**	**11 41 36.9 -0.1**
	baz=230,SNR=20						
J25K	**Salcha River,**	**6.09**	**33**			**Pn**	**11 41 37.3 0.0**
SAMH	**Samovar Hills**	**6.21**	**81**			**Pn**	**11 41 40.6 +1.6**
IM03		**6.29**	**358**			**Pn**	**11 41 40.4 +0.5**
IMAR	**Indian Mountai**	**6.29**	**358**	Pn		**Pn**	**11 41 41.2 +1.3**
PS06	**TAPS Pump Stn6**	**6.34**	**13**			**Pn**	**11 41 40.8 +0.2**
YUK2	**White River**	**6.35**	**66**			**Pn**	**11 41 42.1 +1.2**
L27K	**Beaver Creek,**	**6.36**	**53**			**Pn**	**11 41 42.4 +1.4**
L27K	**Beaver Creek,**	**6.36**	**53**	P		**Pn**	**11 41 42.0 +1.0**
	baz=243						
BC03		**6.38**	**54**			**Pn**	**11 41 41.6 +0.4**
BCAR	**Beaver Creek A**	**6.38**	**54**	Pn		**Pn**	**11 41 42.8 +1.5**
PCA	**Pinnacle**	**6.47**	**81**			**Pn**	**11 41 43.6 +1.1**
PINM	**Pinnacle**	**6.47**	**81**	P		**Pn**	**11 41 43.7 +1.1**
	baz=272,SNR=8.4						
BVCY	**Beaver Creek**	**6.52**	**60**			**Pn**	**11 41 44.6 +1.5**
BVCY	**Beaver Creek**	**6.52**	**60**	P		**Pn**	**11 41 44.4 +1.3**
	baz=251,SNR=23						
YUK3	**Moose Creek**	**6.53**	**66**			**Pn**	**11 41 45.0 +1.6**
YUK3	**Moose Creek**	**6.53**	**66**	P		**Pn**	**11 41 44.4 +1.0**
	baz=257,SNR=21						
J26L	**Joseph Creek**	**6.55**	**39**			**Pn**	**11 41 43.4 -0.2**
H24K	**Noodor Dome**	**6.58**	**19**			**Pn**	**11 41 43.5 -0.4**
H24K	**Noodor Dome**	**6.58**	**19**	P		**Pn**	**11 41 43.6 -0.4**
	baz=204						
PRP	**Porcupine Dome**	**6.78**	**28**			**Pn**	**11 41 46.7 0.0**
PRP	**Porcupine Dome**	**6.78**	**28**	P		**Pn**	**11 41 46.6 0.0**
	baz=215,SNR=90						
BCPM	**Bancas Point**	**6.79**	**82**			**Pn**	**11 41 49.1 +2.4**
PNL	**Peninsula**	**6.94**	**85**			**Pn**	**11 41 49.4 +0.6**
PNL	**Peninsula**	**6.94**	**85**	P		**Pn**	**11 41 49.4 +0.6**
	baz=276,SNR=25						
PS05	**TAPS Pump Stn5**	**7.20**	**8**			**Pn**	**11 41 52.5 +0.3**
FALS	**False Pass**	**7.42**	**233**			**Pn**	**11 41 55.9 +0.6**
ANM	**Nome**	**7.52**	**315**			**Pn**	**11 41 57.2 +0.6**
ANM	**Nome**	**7.52**	**315**	P		**Pn**	**11 41 56.2 -0.3**
	baz=125,SNR=12						
ISLZ	**Isanotski Laza**	**7.63**	**234**			**Pn**	**11 41 58.4 +0.2**
COLD	**Coldfoot**	**7.64**	**9**			**Pn**	**11 41 58.2 0.0**
COLD	**Coldfoot**	**7.64**	**9**	P		**Pn**	**11 41 58.0 -0.2**
	baz=191,SNR=29						
FYU	**Fort Yukon**	**7.73**	**24**			**Pn**	**11 41 59.4 +0.1**
SSLS	**Shishaldin Sou**	**7.76**	**234**			**Pn**	**11 42 00.1 +0.1**
DAWY	**Dawson**	**7.79**	**50**			**Pn**	**11 42 01.3 +1.0**
DAWY	**Dawson**	**7.79**	**50**	P		**Pn**	**11 42 00.9 +0.6**
	baz=242,SNR=5.9						
M30M	**Minto, Yukon**	**8.38**	**63**			**Pn**	**11 42 09.2 +0.9**
J29M	**Klondike Camp**	**8.43**	**49**			**Pn**	**11 42 10.7 +1.7**
J29M	**Klondike Camp**	**8.43**	**49**	P		**Pn**	**11 42 10.2 +1.3**
	baz=243,SNR=6.9						
BM03	**Burnt Mountain**	**8.59**	**22**			**Pn**	**11 42 09.3 -1.8**
BMAR	**Burnt Mountain**	**8.60**	**22**	Pn		**Pn**	**11 42 10.0 -1.2**
N31M	**Braeburn, Yuko**	**8.70**	**71**			**Pn**	**11 42 14.3 +1.8**
N31M	**Braeburn, Yuko**	**8.70**	**71**	P		**Pn**	**11 42 13.8 +1.2**
	baz=266,SNR=11						
I29M	**Ogilvie Camp,**	**8.85**	**44**			**Pn**	**11 42 15.9 +1.3**
AKUT	**Akutan**	**8.90**	**237**	Pn		**Pn**	**11 42 13.7 -1.7**
SKAG	**Skagway**	**9.02**	**84**	Pn		**Pn**	**11 42 19.5 +2.6**
SKAG	**Skagway**	**9.02**	**84**	P		**Pn**	**11 42 18.3 +1.5**
	baz=279,SNR=19						
WHY	**Whitehorse**	**9.12**	**76**	Pn		**Pn**	**11 42 20.5 +2.2**
WHY	**Whitehorse**	**9.12**	**76**	P		**Pn**	**11 42 19.7 +1.3**
	baz=272,SNR=11						
M31M	**Drury Creek, Y**	**9.42**	**67**			**Pn**	**11 42 24.2 +1.9**
M31M	**Drury Creek, Y**	**9.42**	**67**	P		**Pn**	**11 42 23.1 +0.7**
	baz=263,SNR=12						
BESE	**Bessie Mountai**	**9.44**	**89**	Pn		**Pn**	**11 42 25.4 +2.8**
SIT	**Sitka**	**9.70**	**98**	Pn		**Pn**	**11 42 26.3 +0.2**
JIS	**Juneau Island**	**9.76**	**90**			**Pn**	**11 42 29.9 +3.0**
FARO	**Faro, Yukon**	**9.91**	**67**	P		**Pn**	**11 42 29.5 +0.5**
	baz=264,SNR=8.8						
P33M	**Teslin, Yukon**	**10.17**	**79**	Pn		**Pn**	**11 42 34.6 +2.1**
P33M	**Teslin, Yukon**	**10.17**	**79**	P		**Pn**	**11 42 33.2 +0.6**
	baz=276,SNR=8.5						
CRAG	**Craig**	**11.52**	**103**	Pn		**Pn**	**11 42 51.5 +1.0**
A21K	**Barrow**	**11.73**	**354**	P		**Pn**	**11 42 51.7 -1.6**
	baz=171						
DLBC	**Dease Lake**	**11.92**	**86**	P		**Pn**	**11 42 58.3 +2.4**
	comp=E,2.4nm,0.3s,baz=287,slow=5.5,SNR=53						
DLBC				S		**Sn**	**11 45 05.1 -1.9**
	comp=E,0.3nm,0.3s,baz=238,slow=21,SNR=1.8						
DLBC	**Dease Lake**	**11.92**	**86**			**Pn**	**11 42 59.0 +3.1**
INK	**Inuvik**	**12.09**	**36**	P		**Pn**	**11 42 57.5 -0.4**
	comp=E,0.3nm,0.3s,baz=236,slow=16,SNR=10						
INK				S		**Sn**	**11 45 02.9 -7.8**
	comp=E,0.1nm,0.3s,baz=209,slow=31,SNR=1.5						
INK				ScP		**ScP**	**11 51 54.6 +0.9**
	comp=E,0.1nm,0.3s,baz=199,slow=1.7,SNR=2.7						
INK	**Inuvik**	**12.09**	**36**	Pn		**Pn**	**11 42 57.9 0.0**
INK	**Inuvik**	**12.09**	**36**	P		**Pn**	**11 42 57.0 -0.9**
	baz=234						
ADK	**Adak**	**15.34**	**250**	P		**P**	**11 43 40.3 -1.7**
ADK				IAmb		IAmb	11 43 54.9
	comp=Z,20nm,1.1s						
C36M	**Paulatuk**	**15.58**	**40**			**Pn**	**11 43 41.0 -1.7**
C36M				IAmb		IAmb	11 43 49.0
	comp=Z,9.1nm,0.3s						
C36M	**Paulatuk**	**15.58**	**40**	P		**Pn**	**11 43 40.9 -1.7**
	baz=246,SNR=8.5						
A36M	**Sachs Harbour**	**16.52**	**31**			**Pn**	**11 43 53.8 -0.4**
A36M	**Sachs Harbour**	**16.52**	**31**	P		**Pn**	**11 43 53.2 -1.1**
	baz=236						
YKA	**Yellowknife Ar**	**18.61**	**65**	P		**Pn**	**11 44 19.6 +0.1**
	comp=Z,0.9nm,0.3s,baz=276,slow=9.9,SNR=178						
YKA				pP		**pP**	**11 44 40.2 +1.4**
	comp=Z,0.2nm,0.3s,baz=278,slow=10.0,SNR=5.8						
YKA				ScP		**ScP**	**11 52 07.1 +1.2**
	comp=Z,0.0nm,0.3s,baz=281,slow=2.2,SNR=11						
RES	**Resolute Bay**	**25.56**	**32**	P		**P**	**11 45 27.5 +0.1**
	comp=Z,0.8nm,0.5s,baz=266,slow=12,SNR=4.2						
RES	**Resolute Bay**	**25.56**	**32**	P		**P**	**11 45 28.0 +0.6**
SEY	**Seymchan**	**25.69**	**301**	P		**P**	**11 45 29.1 +0.5**
	comp=Z,0.4nm,0.4s,baz=105,slow=12,SNR=1.4						
NVAR	**Mina Array Bea**	**30.63**	**118**	pP		pP	11 46 42.1 +3.7
	comp=Z,0.5nm,0.9s,baz=326,slow=9.1,SNR=3.0						
TIXI	**Tiksi**	**31.68**	**324**			**pP**	**11 46 47.4 +0.3**
TIXI						**S**	**11 51 22.6 +0.5**
SCHQ	**Schefferville**	**43.76**	**57**	P		**P**	**11 48 04.3 +1.0**
	comp=Z,4.4nm,0.6s,baz=312,slow=10,SNR=23						
**

*NNC **25** 12:12:37.9±1.2,39°.62N×73°.47E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=9.1km s-min=4.5km az=166.0*
ISC 25 12:12:33.6±1.8,39°.55N±0°.07×73°.44E±0°.04, h2km±12km, n33,σ1§26/49, 12C-12D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.47**	**6**	⇑*e*P	**Pg**	**12 12 44.0**	**+1.4**
	baz=58						
SFK				⇑*e*S	**Sb**	**12 12 52.6**	**+0.5**
	baz=58						
OHH	**Osh**	**1.10**	**333**	⇓*i*P	**Pn**	**12 12 56.1**	**+0.1**
	baz=33						
OHH				⇓*i*S	**Sn**	**12 13 13.4**	**+1.6**
	baz=33						
DRK	**Karamyk**	**1.27**	**267**	⇓*i*P	**Pg**	**12 12 58.1**	**+0.1**
	baz=73						
DRK				⇓*e*S	**Sn**	**12 13 16.4**	**0.0**
	baz=73						
BTK	**Batken**	**2.09**	**285**	⇓*e*P	**Pb**	**12 13 12.4**	**+0.2**
	baz=88						
BTK				⇓*e*S	**Sg**	**12 13 41.0**	**+0.4**
	baz=88						
ARLS	**Aral**	**2.41**	**16**	⇑*i*P	**Pb**	**12 13 16.3**	**-1.4**
	baz=14						
ARLS				⇑*i*S	**Sb**	**12 13 49.0**	**+1.2**
	baz=14						
ARK	**Arkit**	**2.51**	**334**	⇑*e*P	**Pb**	**12 13 18.7**	**-0.8**
	baz=34						
ARK				⇑*e*S	**Sb**	**12 13 52.6**	**+1.7**
	baz=34						
TRKS	**Terek-Say**	**2.65**	**319**	⇑*e*P	**Pb**	**12 13 19.8**	**-2.0**
	baz=19						
TRKS				⇑*i*S	**Sb**	**12 13 54.1**	**-0.6**
	baz=19						
MNAS	**Manas**	**3.02**	**347**	⇓*e*P	**Pb**	**12 13 26.0**	**-2.1**
	baz=46						
MNAS				⇓*i*S	**Sb**	**12 14 04.9**	**-0.6**
	baz=46						
AAK	**Ala-Archa**	**3.19**	**14**	⇑Pg	**Pg**	**12 13 33.6**	**-1.1**
	3.7nm,1.1s						
AAK				⇓Lg	Lg	12 14 16.6	
	12nm,0.6s						
MRKS	**Merke**	**3.20**	**357**	*e*P	**Pg**	**12 13 33.8**	**-1.0**
	2.1nm,0.3s						
MRKS				*e*S	**Sg**	**12 14 16.5**	**+0.2**
	17nm,0.2s						
MRKS	**Merke**	**3.20**	**357**	Pg	**Pg**	**12 13 33.8**	**-1.0**
	2.1nm,0.3s						
MRKS				Lg	Lg	12 14 17.2	
	17nm,0.2s						
IUG	**Iuzhnay**	**3.67**	**316**	*e*P	**Pg**	**12 13 44.0**	**+0.2**
	3.7nm,0.5s						
IUG				*e*S	**Sg**	**12 14 34.0**	**+2.7**
	15nm,0.7s						
IUG	**Iuzhnay**	**3.67**	**316**	Pg	**Pg**	**12 13 44.0**	**+0.2**
	3.7nm,0.5s						
IUG				Lg	Lg	12 14 34.1	
	15nm,0.7s						
TKM2	**Tokmak 2**	**3.74**	**25**	⇓Pg	**Pg**	**12 13 45.1**	**-0.2**
	0.8nm,0.5s						
TKM2				⇑Lg	Lg	12 14 33.9	
	5.0nm,0.7s						
KST	**Kastek**	**3.97**	**28**	*e*P	**Pg**	**12 13 49.6**	**-0.1**
	2.0nm,0.3s						
KST				*e*S	**Sg**	**12 14 43.4**	**+2.2**
	12nm,0.7s						
KST	**Kastek**	**3.97**	**28**	Pg	**Pg**	**12 13 49.6**	**-0.1**
	2.0nm,0.3s						
KST				Lg	Lg	12 14 43.4	
	12nm,0.7s						
SGDS	**Sogindy**	**4.00**	**12**	*e*P	**Pg**	**12 13 49.1**	**-1.1**
	1.0nm,0.3s						
SGDS				*e*S	**Sg**	**12 14 42.7**	**+0.6**
	3.6nm,0.6s						
SGDS	**Sogindy**	**4.00**	**12**	Pg	**Pg**	**12 13 49.1**	**-1.1**
	1.0nm,0.3s						
SGDS				Lg	Lg	12 14 42.7	
	3.6nm,0.6s						
KK02	**Karatay Array**	**4.18**	**329**	⇓Pn	Pn	12 13 42.9	+4.6
	0.3nm,0.3s,baz=135,slow=13						
KK02				⇑Pg	**Pg**	**12 13 52.4**	**-1.2**
	1.1nm,0.5s,baz=134,slow=15						
KK02				⇑Lg	Lg	12 14 47.7	
	5.0nm,0.8s,baz=140,slow=28						
MTBS	**Maitube**	**4.22**	**31**	*e*P	**Pg**	**12 13 53.9**	**-0.6**
	2.2nm,0.4s						
MTBS				*e*S	**Sg**	**12 14 51.1**	**+1.8**
	6.4nm,0.6s						
MTBS	**Maitube**	**4.22**	**31**	Pg	**Pg**	**12 13 53.9**	**-0.6**
	2.2nm,0.4s						
MTBS				Lg	Lg	12 14 51.7	
	6.4nm,0.6s						
TNSS	**Tian-Shan**	**4.37**	**36**	*e*P	**Pg**	**12 13 55.8**	**-1.6**
	1.5nm,0.2s						
TNSS				*e*S	**Sg**	**12 14 54.0**	**0.0**
	2.9nm,0.5s						
TNSS	**Tian-Shan**	**4.37**	**36**	Pg	**Pg**	**12 13 55.8**	**-1.6**
	1.5nm,0.2s						
TNSS				Lg	Lg	12 14 54.0	
	2.9nm,0.5s						
BRLS	**Borolday**	**4.41**	**323**	*e*P	**Pg**	**12 13 56.2**	**-1.9**
	1.5nm,0.3s						
BRLS				*e*S	**Sg**	**12 14 55.2**	**-0.1**
	4.1nm,0.5s						
BRLS	**Borolday**	**4.41**	**323**	Pg	**Pg**	**12 13 56.2**	**-1.9**
	1.5nm,0.3s						
BRLS				Lg	Lg	12 14 55.2	
	4.1nm,0.5s						
KRBS	**Karabastau**	**4.47**	**21**	*e*P	**Pg**	**12 13 58.1**	**-1.1**
	1.1nm,0.4s						
KRBS				*e*S	**Sg**	**12 14 58.5**	**+1.4**
	5.1nm,0.5s						
KRBS	**Karabastau**	**4.47**	**21**	Pg	**Pg**	**12 13 57.6**	**-1.6**
	1.1nm,0.4s						
KRBS				Lg	Lg	12 14 58.5	
	5.1nm,0.5s						
MDOK	**Medeo**	**4.52**	**36**	*e*P	**Pg**	**12 13 59.4**	**-0.7**
	1.7nm,0.4s						
MDOK				*e*S	**Sg**	**12 15 00.5**	**+1.9**
	6.5nm,0.8s						
MDOK	**Medeo**	**4.52**	**36**	Lg	Lg	12 14 56.8	
	9.8nm,0.9s						
MDOK	**Medeo**	**4.52**	**36**	Pg	**Pg**	**12 13 59.4**	**-0.7**
	1.7nm,0.4s						
MDOK				Lg	Lg	12 15 00.5	
	6.5nm,0.8s						
KUU	**Kurty**	**4.85**	**26**	*e*P	**Pg**	**12 14 05.7**	**-0.8**
	1.1nm,0.5s						
KUU				*e*S	**Sg**	**12 15 11.1**	**+1.7**
	5.6nm,0.4s						
KUU	**Kurty**	**4.85**	**26**	Pg	**Pg**	**12 14 05.7**	**-0.8**
	1.1nm,0.5s						
KUU				Lg	Lg	12 15 11.1	
	5.6nm,0.4s						
PDGK	**Podgornoye**	**5.91**	**48**	⇓Lg	Lg	12 15 43.3	
	3.2nm,1.0s						

*CNRM **25** 12:15:53.5, 35°.80N×3°.58W, h28km, ml2.8*
*SFS **25** 12:15:54.0, 35°.59N×3°.81W, ML2.5, ALBORAN SUR*
ISC 25 12:15:53.8±1.4,35°.65N±0°.05×3°.67W±0°.05, h23km±18km, n9,σ0§88/16, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.70**	**127**	P	**Pn**	**12 16 08.3**	**0.0**
GOG				S	**Sn**	**12 16 18.5**	**0.0**
CHAS	**Isla Isabel II**	**1.11**	**114**	P	**Pn**	**12 16 14.0**	**0.0**
CHAS				S	**Sn**	**12 16 28.3**	**-0.3**
EMAL	**Malaga-Limoner**	**1.27**	**331**	P	**Pb**	**12 16 17.0**	**-0.1**
EMAL				S	**Sb**	**12 16 32.5**	**-0.5**
TAF	**Taforalt**	**1.32**	**129**	P	**Pn**	**12 16 17.6**	**+0.6**
TAF				S	**Sn**	**12 16 34.8**	**+0.9**
CHEFC	**Chefchaouen**	**1.47**	**249**	P	**Pn**	**12 16 18.9**	**0.0**
CHEFC				S	**Sb**	**12 16 40.7**	**+2.0**
JBK	**JBK**	**1.59**	**145**	P	**Pn**	**12 16 20.7**	**0.0**
JBK				S	**Sb**	**12 16 42.6**	**+0.1**
SICH	**Sidi Chahed**	**2.05**	**222**	P	**Pb**	**12 16 29.3**	**-1.0**
LCRM	**LCR**	**2.19**	**207**	P	**Pb**	**12 16 32.4**	**-0.4**
IFR	**Ifrane**	**2.44**	**210**	P	**Pn**	**12 16 33.2**	**+0.8**
IFR				S	**Sn**	**12 17 00.2**	**-1.4**

*IDC **25** 12:23:50.0±1.1, 35°.69N×3°.69W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.3/39, mbtmp3.6/5, ML3.3/2, Error ellipse:*
s-maj=39.7km s-min=15.7km az=98.0
*CNRM **25** 12:23:51.6, 35°.71N×3°.54W, h17km, ml3.6*
*SFS **25** 12:23:51.0, 35°.63N×3°.70W, ML3.2, ALBORAN SUR*
*IGIL **25** 12:23:52.8, 35°.68N×3°.70W, h0km, ML3.3*
*INMG **25** 12:23:53.0±1.8, 35°.80N×3°.64W, h5km±5km, ML3.1, Error ellipse: s-maj=4.3km s-min=4.1km az=140.0*
*LDG **25** 12:23:53.0±0.3, 35°.61N×3°.64W, h10km, Ml3.1/2, Error ellipse: s-maj=5.6km s-min=3.5km az=12.0*
ISC 25 12:23:51.6±1.3,35°.71N±0°.03×3°.58W±0°.03, h16km±9km, n66,σ1§60/109, mb4.0/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.57**	**211**	P	**Pb**	**12 24 03.6**	**+0.3**
PALE				S	**Sb**	**12 24 12.1**	**+0.8**
GOG	**Mont Gurugu**	**0.69**	**136**	P	**Pg**	**12 24 04.8**	**-0.3**
GOG				S	**Sg**	**12 24 13.9**	**-0.3**
CHAS	**Isla Isabel II**	**1.08**	**119**	P	**Pb**	**12 24 10.3**	**-1.6**
CHAS				S	**Sb**	**12 24 25.5**	**-0.3**
EMAL	**Malaga-Limoner**	**1.25**	**327**	P	**Pn**	**12 24 13.9**	**-0.5**
EMAL				S	**Sb**	**12 24 28.8**	**-2.0**
TAF	**Taforalt**	**1.31**	**133**	P	**Pn**	**12 24 14.4**	**-1.0**
TAF				S	**Sg**	**12 24 35.4**	**+1.4**
CEU	**Ceuta**	**1.47**	**278**	P	**Pn**	**12 24 14.1**	**-3.3**
CEU				S	**Sn**	**12 24 31.6**	**-4.6**
CHEFC	**Chefchaouen**	**1.56**	**248**	P	**Pn**	**12 24 18.9**	**+0.2**
CHEFC				S	**Sn**	**12 24 38.6**	**-0.1**
JBK	**JBK**	**1.61**	**149**	P	**Pn**	**12 24 18.4**	**-1.1**
JBK				S	**Sn**	**12 24 37.9**	**-2.2**
SICH	**Sidi Chahed**	**2.15**	**222**	P	**Pn**	**12 24 28.3**	**+1.5**
SICH				S	**Sg**	**12 24 58.6**	**-2.2**
LCRM	**LCR**	**2.28**	**208**	P	**Pn**	**12 24 29.2**	**+0.4**
LCRM				S	**Sb**	**12 24 59.0**	**-1.5**
IFR	**Ifrane**	**2.54**	**211**	P	**Pn**	**12 24 32.6**	**+0.3**
IFR				S	**Sn**	**12 25 02.5**	**-0.5**
CART	**Cartagena**	**2.79**	**47**	P	**Pn**	**12 24 34.1**	**-1.5**
CART				S	**Sn**	**12 25 04.9**	**-4.1**
CART	**Cartagena**	**2.79**	**47**	P	**Pn**	**12 24 34.5**	**-1.2**
TDRA	**Tendrara**	**2.96**	**154**	P	**Pn**	**12 24 38.9**	**+0.7**
MD31	**MD31**	**3.00**	**199**	P	**Pn**	**12 24 39.1**	**+0.5**
MDT	**Midelt**	**3.01**	**197**	Pn	**Pn**	**12 24 39.2**	**+0.4**
	1.4nm,0.3s,baz=45,slow=2.9,SNR=21						
MDT				Sn	**Sn**	**12 25 13.6**	**-1.0**
	5.9nm,0.3s,baz=177,slow=21,SNR=5.6						
MDT				Lg	Lg	12 25 22.0	
	7.3nm,0.3s,baz=61,slow=19,SNR=4.7						
MDT	**Midelt**	**3.01**	**197**	P	**Pn**	**12 24 39.1**	**+0.4**
ZHG	**ZHG**	**3.39**	**229**	P	**Pn**	**12 24 44.1**	**+0.1**
PBAR	**Barrancos**	**3.70**	**313**	*e*Pn	**Pn**	**12 24 49.1**	**+0.9**
PVAQ	**Vaqueiros**	**3.73**	**298**	*e*Pn	**Pn**	**12 24 48.6**	**0.0**
PVAQ				*e*Sn	**Sn**	**12 25 30.9**	**-1.3**
PVAQ				A	A	12 25 34.9	
	36nm,0.2s						
PVAQ	**Vaqueiros**	**3.73**	**298**	P	**Pn**	**12 24 48.5**	**0.0**
PBDV	**Barranco-do-Ve**	**3.82**	**295**	*e*Pn	**Pn**	**12 24 49.9**	**0.0**
PBDV				*e*Sn	**Sn**	**12 25 32.8**	**-1.7**
PBDV				A	A	12 25 37.0	
	26nm,0.2s						
ESDC	**Sonseca Array**	**3.97**	**356**	Pn	**Pn**	**12 24 53.5**	**+1.7**
	1.9nm,0.3s,baz=178,slow=12,SNR=32						
ESDC				Sn	**Sn**	**12 25 37.3**	**-0.7**
	1.2nm,0.3s,baz=176,slow=22,SNR=5.1						
ESDC				Lg	Lg	12 25 51.5	
	2.4nm,0.3s,baz=176,slow=28,SNR=8.0						
FIGM	**Figuig**	**4.06**	**151**	P	**Pn**	**12 24 54.1**	**+0.9**
PCVE	**Castro Verde**	**4.06**	**299**	*e*Pn	**Pn**	**12 24 53.6**	**+0.5**
PCVE				*e*Sn	**Sn**	**12 25 39.0**	**-1.3**
PCVE				A	A	12 25 41.9	
	42nm,0.4s						
PBEJ	**Beja**	**4.14**	**305**	*e*Pn	**Pn**	**12 24 54.7**	**+0.5**
PBEJ				*e*Sn	**Sn**	**12 25 40.8**	**-1.4**
PBEJ				A	A	12 25 44.6	
	18nm,0.7s						
MESJ	**Messejana**	**4.29**	**301**	*e*P	**Pn**	**12 24 56.5**	**+0.3**
MESJ				*e*S	**Sn**	**12 25 43.1**	**-2.8**
MESJ				IAML		12 25 52.3	
	comp=N,55nm,0.4s						
MESJ	**Messejana**	**4.29**	**301**	*e*Pn	**Pn**	**12 24 56.7**	**+0.5**
MESJ				*e*Sn	**Sn**	**12 25 45.1**	**-0.7**
MESJ				A	A	12 25 49.0	
	comp=N,32nm,0.5s						
MORF	**Marmelete**	**4.38**	**293**	*e*P	**Pn**	**12 24 57.6**	**0.0**
MORF				*e*S	**Sn**	**12 25 44.8**	**-3.5**
MORF				IAML		12 25 53.2	
	comp=N,64nm,0.4s						
MORF	**Marmelete**	**4.38**	**293**	*e*Pn	**Pn**	**12 24 58.0**	**+0.4**
MORF				*e*Sn	**Sn**	**12 25 47.0**	**-1.3**
MORF				A	A	12 25 53.5	
	comp=N,23nm,0.5s						
PFVI	**Vila Bisbo**	**4.46**	**290**	*e*Pn	**Pn**	**12 24 59.5**	**+0.9**
PFVI				*e*Sn	**Sn**	**12 25 49.0**	**-1.2**
PFVI				A	A	12 25 54.0	
	comp=N,23nm,0.9s						
PFVI	**Vila Bisbo**	**4.46**	**290**	P	**Pn**	**12 24 59.3**	**+0.7**
PESTR	**Estremoz**	**4.49**	**316**	*e*Pn	**Pn**	**12 24 59.9**	**+0.9**
PESTR				*e*Sn	**Sn**	**12 25 49.3**	**-1.5**
PESTR				A	A	12 25 52.2	
	comp=N,19nm,0.5s						
PESTR	**Estremoz**	**4.49**	**316**	P	**Pn**	**12 25 00.2**	**+1.2**
EVO	**Evora**	**4.52**	**310**	P	**Pn**	**12 25 00.1**	**+0.7**
EVO				S	**Sn**	**12 25 49.4**	**-2.3**
EVO	**Evora**	**4.52**	**310**	*e*Pn	**Pn**	**12 25 00.2**	**+0.7**
EVO				*e*Sn	**Sn**	**12 25 49.6**	**-2.1**
EVO				A	A	12 25 51.9	
	comp=N,25nm,0.6s						
PTEO	**Sao Teotonio**	**4.52**	**295**	*e*Pn	**Pn**	**12 25 00.2**	**+0.8**
PTEO				*e*Sn	**Sn**	**12 25 50.6**	**-1.1**
PTEO				A	A	12 25 55.4	
	comp=N,48nm,0.6s						
PNCL	**Nicolau / Gran**	**4.63**	**303**	*e*Pn	**Pn**	**12 25 01.3**	**+0.4**
PNCL				*e*Sn	**Sn**	**12 25 52.8**	**-1.5**
PNCL				A	A	12 25 53.9	
	comp=N,21nm,0.3s						
PMRV	**Marv??o**	**4.79**	**322**	*e*Pn	**Pn**	**12 25 04.3**	**+1.2**
PMRV				*e*Sn	**Sn**	**12 25 57.0**	**-1.2**
PMRV				A	A	12 26 20.1	
	comp=N,16nm,0.6s						
PMTG	**Montargil**	**4.99**	**314**	*e*Pn	**Pn**	**12 25 06.8**	**+1.0**
PMTG				*e*Sn	**Sn**	**12 26 01.8**	**-1.4**
PMTG				A	A	12 26 03.2	
	comp=N,19nm,0.7s						
PCBR	**Castelo Branco**	**5.15**	**324**	*e*Pn	**Pn**	**12 25 09.6**	**+1.6**
PCBR				*e*Sn	**Sn**	**12 26 05.9**	**-1.2**
PCBR				A	A	12 26 07.4	
	comp=N,20nm,0.5s						
PMST	**Lisbon--Monsan**	**5.39**	**306**	*e*Pn	**Pn**	**12 25 13.1**	**+1.7**
PMAFR	**Mafra**	**5.58**	**307**	*e*Pn	**Pn**	**12 25 15.4**	**+1.5**
PMAFR				*e*Sn	**Sn**	**12 26 15.8**	**-1.9**
PMAFR				A	A	12 26 18.2	
	comp=N,42nm,0.5s						
PSBE	**So Bento**	**5.61**	**314**	*e*Pn	**Pn**	**12 25 15.7**	**+1.2**
PSBE				*e*Sn	**Sn**	**12 26 17.6**	**-1.0**
PSBE				A	A	12 26 39.8	
	comp=N,18nm,0.4s						
MTE	**Manteigas**	**5.63**	**327**	*e*Pn	**Pn**	**12 25 16.6**	**+1.9**
MTE				*e*Sn	**Sn**	**12 26 18.4**	**-0.6**
MTE				A	A	12 26 52.3	
	comp=N,23nm,0.8s						
OUK	**Oukaimeden**	**5.75**	**220**	P	**Pn**	**12 25 17.5**	**+0.9**
PCAS	**Casmilo, Conde**	**5.82**	**320**	*e*Pn	**Pn**	**12 25 17.9**	**+0.6**
PCAS				*e*Sn	**Sn**	**12 26 20.2**	**-3.5**
PCAS				A	A	12 26 21.6	
	comp=N,13nm,0.4s						
ZGR	**Zagora**	**5.84**	**198**	P	**Pn**	**12 25 16.6**	**-1.1**
PVIS	**Viseu**	**6.04**	**327**	*e*Pn	**Pn**	**12 25 22.3**	**+1.7**
PVIS				*e*Sn	**Sn**	**12 26 27.3**	**-1.8**
PVIS				A	A	12 26 32.0	
	comp=N,16nm,0.5s						
MVO	**Moncorvo**	**6.08**	**335**	*e*Pn	**Pn**	**12 25 22.6**	**+1.7**
MVO				*e*Sn	**Sn**	**12 26 27.8**	**-2.3**
MVO				A	A	12 27 12.3	
	comp=N,13nm,0.6s						
PVRL	**Vila Real**	**6.43**	**331**	*e*Pn	**Pn**	**12 25 27.4**	**+1.7**
PVRL				*e*Sn	**Sn**	**12 26 36.4**	**-2.3**
PVRL				A	A	12 26 43.1	
	comp=N,19nm,0.5s						
EAH	**EAH**	**6.44**	**233**	P	**Pn**	**12 25 25.9**	**+0.1**
POLO	**Lamas de Olo**	**6.54**	**331**	*e*Pn	**Pn**	**12 25 29.0**	**+1.7**
POLO				*e*Sn	**Sn**	**12 26 38.4**	**-3.2**
POLO				A	A	12 26 44.6	
	comp=N,4.0nm,0.6s						
PBRG	**Braganca**	**6.56**	**339**	*e*Pn	**Pn**	**12 25 28.9**	**+1.4**
PBRG				*e*Sn	**Sn**	**12 26 39.6**	**-2.4**
PBRG				A	A	12 27 35.8	
	comp=N,6.4nm,0.7s						
PTO	**Porto**	**6.70**	**325**	*e*Sn	**Sn**	**12 26 42.1**	**-3.1**
PCAB	**Cabril**	**6.92**	**331**	*e*Sn	**Sn**	**12 26 48.6**	**-2.2**
PCAB				A	A	12 26 59.1	
	comp=N,12nm,0.6s						
PGAV	**Gavieira, Arco**	**7.23**	**331**	*e*Pn	**Pn**	**12 25 38.7**	**+1.9**
PGAV				*e*Sn	**Sn**	**12 26 56.5**	**-2.1**
PGAV				A	A	12 27 01.9	
	comp=N,11nm,0.8s						
ETSF	**Etsaut**	**7.55**	**17**	*e*Pn	**Pn**	**12 25 42.8**	**+1.8**
ETSF				*e*Sn	**Sn**	**12 27 07.1**	**+0.8**
	comp=N,1.9nm,0.4s						
SJPF	**Ste Jean**	**7.61**	**13**	*e*Pn	**Pn**	**12 25 43.9**	**+2.0**
SJPF				*e*Sn	**Sn**	**12 27 07.3**	**-0.5**
	comp=N,2.1nm,0.3s						
EPF	**Esparros**	**7.91**	**21**	*e*Pn	**Pn**	**12 25 47.6**	**+1.6**
MTLF	**Montolieu**	**8.84**	**29**	*e*Pn	**Pn**	**12 26 00.3**	**+1.7**
CAF	**Calviac**	**10.16**	**23**	*e*Pn	**Pn**	**12 26 17.7**	**+0.9**
PGF	**Pioggiola**	**11.91**	**51**	*e*Pn	**Pn**	**12 26 41.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**22.97**	**167**	P	**P**	**12 28 57.9**	**+2.5**
	comp=N,0.8nm,0.7s,baz=345,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**62.45**	**51**	P	**P**	**12 34 14.7**	**+0.7**
	comp=N,0.8nm,0.6s,baz=293,slow=5.7,SNR=11						
YKA	**Yellowknife Ar**	**67.72**	**332**	P	**P**	**12 34 48.8**	**+0.9**
	comp=N,0.8nm,0.6s,baz=59,slow=6.3,SNR=18						

*TUL **25** 12:24:26.5±1.3, 36°.71N±0°.01×97°.57W±0°.01, h1km±7km, ML2.8, mb_Lg2.6/24(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=216.0*
NEIC 25 12:24:27.1±0.9,36°.69N±0°.01×97°.57W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.1km az=61.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.29**	**304**	Pg	Pg	12 24 32.5	-0.2
GC02				Sg	Sg	12 24 36.4	-0.1
BLOK	**Blackwell**	**0.29**	**76**		Pg	12 24 32.9	+0.1
BLOK				Sg	Sg	12 24 36.7	+0.1
KAN13	**South Haven SW**	**0.33**	**12**	Pg	Pg	12 24 33.4	-0.2
KAN13				Sg	Sg	12 24 38.0	0.0
CROK	**Carrier**	**0.38**	**241**		Pg	12 24 34.7	+0.1
CROK				Sg	Sg	12 24 40.1	+0.5
KAN17	**Caldwell West**	**0.39**	**336**	Pg	Pg	12 24 34.4	-0.3
KAN17				Sg	Sg	12 24 39.2	-0.6
KAN14	**Manchester OK**	**0.42**	**310**	Pg	Pg	12 24 34.9	-0.3
KAN14				Sg	Sg	12 24 40.4	-0.2
KAN01	**Argonia South**	**0.49**	**342**	Pg	Pg	12 24 36.6	0.0
KAN01				Sg	Sg	12 24 42.6	-0.3
KAN06	**Argonia West S**	**0.60**	**337**	Pg	Pg	12 24 38.5	-0.3
KAN06				Sg	Sg	12 24 46.5	-0.1
KAN10	**Anthony SW Sta**	**0.61**	**316**	Pg	Pg	12 24 38.4	-0.4
KAN10				Sg	Sg	12 24 46.9	+0.2
KAN08	**Anthony NE Sta**	**0.63**	**329**	Pg	Pg	12 24 39.2	0.0
KAN08				Sg	Sg	12 24 46.6	-0.7
KAN16	**Harper SW Stat**	**0.67**	**323**	Pg	Pg	12 24 40.3	+0.3
KAN16				Sg	Sg	12 24 48.6	0.0
OK033	**Mehan**	**0.82**	**142**		Pg	12 24 42.4	-0.4
OK033				Sg	Sg	12 24 53.8	+0.3
QUOK	**Quay**	**0.86**	**127**		Pg	12 24 43.4	-0.3
QUOK				Sg	Sg	12 24 53.5	-1.4
T35A	**Sooner Cattle**	**0.88**	**75**	Pg	Pg	12 24 43.7	-0.2
T35A				Sg	Sg	12 24 54.6	-0.7
OK029	**Liberty Lake**	**0.90**	**174**		Pg	12 24 44.4	+0.1
OK029				Sg	Sg	12 24 55.7	-0.3
OK035	**E0210 Rd and N**	**0.92**	**272**		Pg	12 24 44.1	-0.7
OK035				Sg	Sg	12 24 56.4	-0.3
OK031	**S. Brethren Rd**	**0.94**	**141**		Pg	12 24 45.1	-0.1
OK031				Sg	Sg	12 24 57.6	+0.2
OK034	**N. Norfolk Rd.**	**0.97**	**134**		Pg	12 24 45.4	-0.3
OK034				Sg	Sb	12 24 59.0	-0.4
OK030	**Cody Creek RV**	**0.99**	**140**		Pg	12 24 45.9	-0.2
OK030				Sg	Sg	12 24 58.9	0.0
BCOK	**Bluff Creek, N**	**1.03**	**182**		Pg	12 24 46.6	-0.4
BCOK				Sg	Sg	12 25 00.6	+0.3
OK025	**Westminster Rd**	**1.12**	**170**		Pg	12 24 46.2	-2.5
OK025					Sg	12 25 03.2	+0.1
U32A	**Winter Ranch,**	**1.20**	**255**		Pg	12 24 49.4	-0.7
U32A				Sg	Sg	12 25 05.4	-0.2
OKCFA	**Oklahoma City**	**1.27**	**176**	Pg	Pg	12 24 50.8	-0.8
OKCFA				Sg	Sg	12 25 08.0	-0.1
OKCSW	**OKLAHOMA CITY**	**1.28**	**175**		Pn	12 24 50.8	-1.0
OKCSW				Sg	Sg	12 25 08.2	-0.3
FNO	**Franklin**	**1.44**	**175**		Pb	12 24 54.1	-0.3
TUL1	**Leonard**	**1.63**	**118**		Pn	12 24 56.5	0.0
TUL1				IAmb_Lg		12 25 19.9	
	comp=Z,27nm,0.8s						
W35A	**Tecumseh**	**1.63**	**160**		Pn	12 24 56.5	-0.1
R32A	**Long Quarter,**	**1.96**	**333**	Pn	Pn	12 25 01.0	-0.1
X34A	**Smith Ranch, M**	**2.10**	**186**		Pn	12 25 04.2	+1.2
X34A				IAmb_Lg		12 25 37.0	
	comp=Z,37nm,0.7s						
WMOK	**Wichita Mounta**	**2.18**	**207**		Pn	12 25 04.8	+0.7
WMOK				IAmb_Lg		12 25 38.4	
	comp=Z,27nm,0.8s						
KSU1	**Kansas State U**	**2.52**	**17**		Pn	12 25 10.1	+1.3
U38A	**Gravette**	**2.57**	**95**		Pb	12 25 11.8	-1.9
LOOK	**Love County**	**2.71**	**173**	Pn	Pn	12 25 11.8	+0.5
CBKS	**Cedar Bluff**	**2.73**	**322**		Pn	12 25 12.2	+0.5
X37A	**Clayton**	**2.75**	**139**		Pn	12 25 12.7	+0.7
HHAR

MD31			S	Sn	12 42 45.0	+2.8
MDT	**Midelt**	**2.81 195**	P	Pb	12 42 12.5	-1.5
MDT			S	Sn	12 42 44.4	+1.7
ZHG	**ZHG**	**3.19 230**	P	Pn	12 42 13.8	0.0
PVAQ	**Vaqueiros**	**3.72 301**	P	Pn	12 42 22.9	+1.8
PVAQ			S	Sn	12 43 03.0	-1.9

NEIC ***25*** *12:54:10.1±2.2, 6°.65S±0°.08×108°.17E±0°.07, h241km±8km, mb4.2/23, Error ellipse: s-maj=14.4km s-min=4.5km az=222.0*
IDC ***25*** *12:54:10.4±0.5, 6°.53S×108°.35E, h238km±9km, mb3.5/8, mb1 3.7/9, mb1mx3.3/37, mbtmp4.2/9, Error ellipse: s-maj=42.6km s-min=11.6km az=49.0*
DJA ***25*** *12:54:11.1±0.5, 7°.5±7°×10°.8E±°, h235km±4km, M3.8/12, MLv3.8/12*

ISC 25 12:54:10.0±0.6, 6°.69S±0°.07×108°.36E±0°.05, h243km±5km, n55, σ1°59/66, mb4.1/20, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**0.75**	**260**	P	**Pn**	**12 54 44.7**	**+1.4**
	77nm,0.3s,baz=96,slow=9.2,SNR=64						
LEM				S	**S**	**12 55 09.3**	**+0.1**
	20nm,0.3s,baz=319,slow=19,SNR=14						
LEM	**Lembang**	**0.75**	**260**	P	**Pn**	**12 54 44.5**	**+1.3**
LEM				S	**S**	**12 55 09.9**	**+0.7**
CMJI	**Cimerak**	**1.09**	**175**	P	**Pn**	**12 54 44.7**	**-0.1**
CMJI				S	**S**	**12 55 10.4**	**-1.8**
CNJI	**Cibinong**	**1.37**	**243**	P	**Pn**	**12 54 47.3**	**+0.6**
CNJI				S	**S**	**12 55 14.8**	**-0.6**
CBJI	**Citeko**	**1.53**	**280**	P	**Pn**	**12 54 48.1**	**+0.2**
DBJI	**Dramaga**	**1.61**	**275**	P	**Pn**	**12 54 49.3**	**+0.8**
SKJI	**Sukabumi**	**1.82**	**260**	P	**Pn**	**12 54 50.8**	**+0.5**
SKJI				S	**S**	**12 55 22.3**	**+0.4**
SMRI	**Semarang**	**2.09**	**100**	P	**Pn**	**12 54 53.0**	**+0.2**
SMRI	**Semarang**	**2.09**	**100**	Pn	**Pn**	**12 54 54.2**	**+1.4**
YOGI	**Yogyakarta**	**2.22**	**120**	P	**Pn**	**12 54 53.3**	**-0.7**
SBJI	**Serang**	**2.29**	**284**	P	**Pn**	**12 54 55.8**	**+1.1**
UGM	**Wanagama**	**2.46**	**120**	P	**Pn**	**12 54 56.3**	**-0.1**
UGM	**Wanagama**	**2.46**	**120**	Pn	**Pn**	**12 54 56.1**	**-0.3**
UWJI	**Ujung Watu**	**2.58**	**84**	P	**Pn**	**12 54 58.3**	**+0.7**
CGJI	**Cibinong**	**2.65**	**271**	P	**Pn**	**12 54 59.1**	**+0.8**
PCJI	**Pacitan**	**3.17**	**118**	P	**Pn**	**12 55 03.4**	**-0.5**
KLSI		**4.12**	**299**	P	**Pn**	**12 55 16.3**	**+1.3**
XMIS	**Christmas Isla**	**4.62**	**215**	Pn	**Pn**	**12 55 19.9**	**-1.2**
MNAI	**Manna**	**5.86**	**293**	Pn	**Pn**	**12 55 35.4**	**-0.9**
JAGI	**Jajag, Banyuwa**	**6.01**	**107**	Pn	**Pn**	**12 55 37.3**	**-0.8**
GSI	**Gunungsitoli**	**13.38**	**306**	P	**Pn**	**12 57 08.3**	**-2.7**
BATI	**Baumata**	**15.53**	**104**	P	**Pn**	**12 57 38.4**	**+1.4**
	7.8nm,0.3s,baz=333,slow=11,SNR=6.9						
BATI				S	**S**	**13 00 19.1**	**-8.6**
	2.7nm,0.3s,baz=289,slow=22,SNR=1.9						
GIRL	**Giralia**	**16.84**	**161**	P	**P**	**12 57 50.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.31**	**126**	P	**P**	**12 58 29.6**	**+1.6**
	8.0nm,0.6s,baz=322,slow=10,SNR=41						
KNRA	**Kununurra**	**21.90**	**116**	P	**P**	**12 58 44.4**	**+0.6**
MTN	**Manton Dam**	**23.25**	**107**	P	**P**	**12 58 57.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**26.66**	**340**	P	**P**	**12 59 27.4**	**+0.5**
	0.5nm,0.6s,baz=178,slow=9.0,SNR=4.5						
WB0	**Warramunga Arr**	**28.42**	**120**	P	**P**	**12 59 43.3**	**+0.7**
WB0				IAmb	IAmb	12 59 45.8	
	comp=Z,6.4nm,1.3s						
WRA	**Warramunga Arr**	**28.45**	**120**	P	**P**	**12 59 43.9**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=309,slow=8.8,SNR=45						
WRA				PcP	**PcP**	**13 02 49.4**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=296,slow=3.8,SNR=2.0						
WRA				ScP	**ScP**	**13 06 07.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=301,slow=3.3,SNR=4.9						
WRA	**Warramunga Arr**	**28.45**	**120**	P	**P**	**12 59 43.3**	**+0.5**
WRAB	**Tennant Creek**	**28.45**	**120**	P	**P**	**12 59 43.6**	**+0.8**
WRAB				IAmb	IAmb	12 59 45.7	
	comp=Z,4.7nm,1.0s						
WB2	**Warramunga Arr**	**28.45**	**120**	P	**P**	**12 59 43.8**	**+0.9**
WB2				IAmb	IAmb	12 59 45.8	
	comp=Z,5.9nm,1.1s						
WR0	**Warramunga Arr**	**28.62**	**120**	P	**P**	**12 59 45.5**	**+1.2**
WR0				IAmb	IAmb	12 59 46.2	
	comp=Z,5.2nm,0.8s						
AS31	**Alice Springs**	**29.78**	**127**	P	**P**	**12 59 56.2**	**+1.6**
ASAR	**Alice Springs**	**29.78**	**127**	P	**P**	**12 59 56.1**	**+1.6**
	comp=Z,5.2nm,0.8s,baz=312,slow=9.0,SNR=73						
ASAR				PcP	**PcP**	**13 02 53.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=303,slow=2.3,SNR=2.4						
ASAR				ScP	**ScP**	**13 06 12.5**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=309,slow=2.9,SNR=18						
FORT	**Forrest**	**30.26**	**145**	P	**P**	**13 00 00.1**	**+1.5**
COEN	**Coen**	**34.97**	**105**	P	**P**	**13 00 40.6**	**+1.0**
COEN				IAmb	IAmb	13 00 40.9	
	comp=Z,6.0nm,0.7s						
BBOO	**Buckleboo**	**36.58**	**139**	P	**P**	**13 00 54.8**	**+1.7**
BBOO				IAmb	IAmb	13 01 04.6	
	comp=Z,12nm,1.1s						
CTA	**Charters Tower**	**39.08**	**114**	P	**P**	**13 01 15.2**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=262,slow=7.1,SNR=2.1						
STKA	**Stephens Creek**	**39.85**	**133**	P	**P**	**13 01 22.4**	**+2.1**
	comp=Z,8.2nm,0.5s,baz=312,slow=8.4,SNR=25						
STKA	**Stephens Creek**	**39.85**	**133**	P	**P**	**13 01 22.3**	**+1.9**
EIDS	**Eidsvold**	**44.81**	**119**	P	**P**	**13 02 01.2**	**+0.9**
EIDS				IAmb	IAmb	13 02 04.0	
	comp=Z,9.5nm,1.4s						
CAN	**Canberra**	**46.92**	**133**	P	**P**	**13 02 18.2**	**+1.5**
CAN				IAmb	IAmb	13 02 23.0	
	comp=Z,10nm,1.3s						
SONM	**Songino Array**	**54.32**	**358**	P	**P**	**13 03 11.3**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=178,slow=6.8,SNR=4.4						
SONM	**Songino Array**	**54.32**	**358**	P	**P**	**13 03 11.4**	**-0.3**
SOCY	**Socotra**	**57.22**	**289**	P	**P**	**13 03 31.1**	**-1.6**
SOCY				IAmb	IAmb	13 04 00.3	
	comp=Z,12nm,1.2s						
MKAR	**Makanchi Array**	**58.07**	**339**	P	**P**	**13 03 36.6**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=150,slow=7.1,SNR=6.2						
MKAR				pP	**pP**	**13 04 32.1**	**0.0**
	comp=Z,0.4nm,0.7s,baz=120,slow=7.4,SNR=3.4						
MKAR	**Makanchi Array**	**58.07**	**339**	P	**P**	**13 03 36.1**	**-1.9**
VOI	**Vohitsoka**	**61.18**	**249**	P	**P**	**13 04 00.2**	**+0.4**
VOI				IAmb	IAmb	13 04 08.8	
	comp=Z,22nm,1.5s						
ZAA0	**Zalesovo Array**	**63.58**	**345**	P	**P**	**13 04 14.7**	**-0.1**
ZAA0				IAmb	IAmb	13 04 16.4	
	comp=Z,1.6nm,0.5s						
QRZ	**Quartz Range**	**66.18**	**132**	P	**P**	**13 04 33.3**	**+1.4**
BKZ	**Black Stump Fm**	**68.87**	**129**	P	**P**	**13 04 49.6**	**+0.8**
BKZ				IAmb	IAmb	13 05 12.5	
	comp=Z,17nm,1.3s						
ABKAR	**Akbulak array**	**69.85**	**329**	P	**P**	**13 04 52.6**	**-1.8**
QSPA	**South Pole Qui**	**83.30**	**180**	P	**P**	**13 06 09.3**	**-0.2**
SNAA	**Sanae**	**90.22**	**197**	P	**P**	**13 06 41.6**	**-1.2**
SNAA				IAmb	IAmb	13 07 05.2	
	comp=Z,8.4nm,1.4s						

CNRM ***25*** *13:08:40.0, 35°.49N×3°.76W, h23km, ml3.0*
SFS ***25*** *13:08:40.0, 35°.51N×3°.82W, ML2.4, ALBORAN SUR*

ISC 25 13:08:38.9±1.7, 35°.54N±0°.08×3°.71W±0°.05, h14km±10km, n11, σ0°78/18, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**210**	P	**Pg**	**13 08 46.6**	**+0.1**
PALE				S	**Sg**	**13 08 51.2**	**-0.5**
GOG	**Mont Gurugu**	**0.67**	**118**	P	**Pn**	**13 08 54.2**	**+0.2**
GOG				S	**Sb**	**13 09 02.7**	**+1.2**
CHAS	**Isla Isabel II**	**1.11**	**108**	P	**Pn**	**13 08 59.9**	**0.0**
CHAS				S	**Sb**	**13 09 14.2**	**+0.1**
TAF	**Taforalt**	**1.29**	**124**	P	**Pn**	**13 09 02.7**	**+0.1**
TAF				S	**Sn**	**13 09 19.8**	**+0.2**
EMAL	**Malaga-Limoner**	**1.35**	**335**	P	Pg	13 09 22.2	+17
EMAL				S	Sg	13 09 43.6	+21
JBK	**JBK**	**1.53**	**142**	P	**Pn**	**13 09 05.3**	**-0.7**
JBK				S	**Sn**	**13 09 24.1**	**-1.6**
LCRM	**LCR**	**2.08**	**207**	P	**Pb**	**13 09 16.5**	**0.0**
LCRM				S	**Sn**	**13 09 38.8**	**-0.4**
MD31	**MD31**	**2.81**	**198**	P	**Pn**	**13 09 23.8**	**+0.4**
MD31				S	**Sn**	**13 09 56.4**	**-0.6**
MDT	**Midelt**	**2.82**	**195**	P	**Pn**	**13 09 25.3**	**+1.6**
MDT				S	**Sn**	**13 09 57.3**	**-0.2**
CART	**Cartagena**	**2.99**	**46**	P	**Pn**	**13 09 25.9**	**+0.1**
ZHG	**ZHG**	**3.20**	**230**	P	**Pn**	**13 09 28.4**	**-0.4**

IDC 25 13:16:50.1±449.0, 65°.97N×42°.31E, h0km, Error ellipse: s-maj=256.0km s-min=148.1km az=40.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**17.58**	**145**	*i*		14 56 40.0	
	baz=336,slow=330,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**23.89**	**100**	*i*		15 44 40.0	
	baz=318,slow=337,SNR=0.6						
I18DK	**QAANAAQ INFRAS**	**30.97**	**337**	*i*		16 25 30.0	
	baz=39,slow=336,SNR=1.4						
I34MN	**SONGINO INFRAS**	**37.40**	**87**	*i*		17 07 20.0	
	baz=324,slow=337,SNR=1.0						

CNRM ***25*** *13:18:31.7, 35°.52N×3°.81W, h12km, ml2.7*
SFS ***25*** *13:18:31.0, 35°.53N×3°.80W, ML2.4, ALBORAN SUR*

ISC 25 13:18:30.4±1.2, 35°.56N±0°.04×3°.72W±0°.03, h9km±10km, n10, σ1°54/19, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**208**	P	**Pg**	**13 18 36.8**	**-1.2**
PALE				S	**Sg**	**13 18 42.7**	**-0.3**
GOG	**Mont Gurugu**	**0.68**	**119**	P	**Pn**	**13 18 48.6**	**+2.3**
GOG				S	**Sb**	**13 18 54.1**	**+0.1**
CHAS	**Isla Isabel II**	**1.12**	**109**	P	**Pg**	**13 18 50.9**	**-1.0**
CHAS				S	**Sg**	**13 19 05.0**	**-1.4**
EMAL	**Malaga-Limoner**	**1.33**	**335**	P	**Pg**	**13 18 56.2**	**+0.1**
EMAL				S	**Sb**	**13 19 12.8**	**0.0**
CHEFC	**Chefchaouen**	**1.40**	**252**	P	**Pg**	**13 18 57.7**	**+0.4**
CHEFC				S	**Sg**	**13 19 16.6**	**+1.1**
JBK	**JBK**	**1.54**	**142**	S	**Sg**	**13 19 20.5**	**+0.4**
IFR	**Ifrane**	**2.34**	**210**	P	**Pb**	**13 19 13.9**	**+1.0**
IFR				S	**Sn**	**13 19 34.9**	**-3.3**
MD31	**MD31**	**2.82**	**198**	P	**Pn**	**13 19 15.3**	**-0.4**
MD31				S	**Sn**	**13 19 47.8**	**-1.9**
MDT	**Midelt**	**2.83**	**195**	P	**Pn**	**13 19 18.5**	**+2.6**
MDT				S	**Sn**	**13 19 50.5**	**+0.3**
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	**13 19 27.0**	**-0.9**
PVAQ				S	**Sn**	**13 20 10.6**	**-1.1**

IDC 25 13:20:36.8±694.0, 54°.82N×7°.24E, h0km, Error ellipse: s-maj=350.5km s-min=150.2km az=119.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASONI**	**16.91**	**71**	*i*		15 01 45.9	
	baz=278,slow=311,SNR=5.0						
I48TN	**KESRA INFRASON**	**19.07**	**175**	*i*		15 20 00.0	
	baz=358,slow=321,SNR=1.0						
I31KZ	**AKTYUBINSK INF**	**30.59**	**77**	*i*		16 30 00.0	
	baz=297,slow=328,SNR=1.5						

WEL 25 13:22:35.6±1.0, 45°.5±4°×16°.7E±°, h95km±7km, M3.6/12, MLv3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.11**	**243**	P	Pn	13 22 49.6	+0.6
DCZ				S	Sn	13 23 00.1	+1.1
MLZ	**Mavora Lakes**	**0.58**	**86**	P	Pn	13 22 53.1	+1.4
MLZ				S	Sn	13 23 06.7	+3.1
WHZ	**Wether Hill Ro**	**0.66**	**136**	P	Pn	13 22 53.5	+1.2
WHZ				S	Sn	13 23 07.0	+2.3
MSZ	**Milford Sound**	**0.87**	**31**	P	Pn	13 22 55.2	+1.0
MSZ				S	Sn	13 23 10.2	+2.0
PYZ	**Puysegur Point**	**0.87**	**209**	P	Pn	13 22 54.3	0.0
PYZ				S	Sn	13 23 08.2	0.0
WKZ	**Wanaka**	**1.35**	**65**	P	Pn	13 23 01.0	+1.1
WKZ				S	Sn	13 23 19.5	+1.3
EAZ	**Earnscleugh**	**1.43**	**83**	P	Pn	13 23 01.7	+0.9
EAZ				S	Sn	13 23 20.6	+0.8
APZ	**The Paps**	**1.50**	**161**	P	Pn	13 23 02.0	+0.3
APZ				S	Sn	13 23 22.0	+0.7
SYZ	**Scrubby Hill**	**1.71**	**132**	P	Pn	13 23 04.9	+0.7
SYZ				S	Sn	13 23 26.3	+0.4
JCZ	**Jackson Bay**	**1.71**	**39**	P	Pn	13 23 04.4	0.0
JCZ				S	Sn	13 23 26.2	0.0
TUZ	**Tuapeka**	**1.73**	**109**	P	Pn	13 23 05.3	+0.9
TUZ				S	Sn	13 23 26.1	-0.3
LBZ	**Lake Benmore**	**2.30**	**64**	P	Pn	13 23 11.0	-0.9
LBZ				S	Sn	13 23 38.0	-1.7
HHSZ	**Highcliff Hill**	**2.37**	**103**	P	Pn	13 23 13.0	+0.2
ODZ	**Otahua Downs**	**2.40**	**82**	P	Pn	13 23 12.7	-0.5
FOZ	**Fox Glacier**	**2.61**	**45**	P	Pn	13 23 14.5	-1.5
TMZ	**Timaru**	**2.83**	**70**	P	Pn	13 23 17.6	-1.5
ARCZ	**Arundel**	**3.13**	**63**	P	Pn	13 23 21.1	-2.0
RPZ	**Rata Peaks**	**3.18**	**59**	P	Pn	13 23 21.9	-1.8
WACZ	**Wakanui South**	**3.56**	**67**	P	Pn	13 23 27.2	-1.6
MHCZ	**Mount Hutt**	**3.59**	**60**	P	Pn	13 23 27.1	-2.1
RACZ	**Rakaia**	**3.85**	**66**	P	Pn	13 23 32.6	-0.1
OXZ	**Oxford**	**3.99**	**60**	P	Pn	13 23 32.1	-2.5
INZ	**Inchbonnie**	**4.02**	**50**	P	Pn	13 23 32.9	-2.1
MQZ	**McQueen's Vall**	**4.19**	**68**	P	Pn	13 23 35.3	-2.0
AKCZ	**Akaroa Harbour**	**4.29**	**71**	P	Pn	13 23 37.6	-1.1
LTZ	**Lake Taylor**	**4.45**	**55**	P	Pn	13 23 38.1	-2.7
AMCZ	**Amberley**	**4.45**	**62**	P	Pn	13 23 39.0	-1.7
OKCZ	**Okains Bay**	**4.45**	**70**	P	Pn	13 23 40.0	-0.8
GVZ	**Greta Valley S**	**4.80**	**61**	P	Pn	13 23 43.3	-2.2
DSZ	**Denniston Nort**	**4.92**	**43**	P	Pn	13 23 44.5	-2.7
KHZ	**Kahutara**	**5.42**	**59**	P	Pn	13 23 52.1	-1.8
THZ	**Tophouse**	**5.47**	**50**	P	Pn	13 23 51.6	-3.1
MRNZ	**Matariki Terra**	**5.65**	**47**	P	Pn	13 23 55.5	-1.7
QRZ	**Quartz Range**	**5.97**	**42**	P	Pn	13 23 59.7	-1.9
BSWZ	**Blackbirch Sta**	**6.04**	**55**	P	Pn	13 24 04.1	+1.6
NNZ	**Nelson**	**6.11**	**49**	P	Pn	13 24 02.2	-1.1
PKE	**Pukeiti**	**7.95**	**41**	P	Pn	13 24 29.0	+0.5

SFS ***25*** *13:31:48.0, 35°.54N×3°.81W, ML2.3, ALBORAN SUR*
CNRM ***25*** *13:31:49.4, 35°.47N×3°.97W, h17km, ml2.9*

ISC 25 13:31:48.3±1.3, 35°.49N±0°.04×3°.76W±0°.05, h14km±10km, n10, σ1°29/20, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.31**	**208**	P	**Pg**	**13 31 54.2**	**-0.5**
PALE				S	**Sb**	**13 32 00.1**	**-0.6**
CHAS	**Isla Isabel II**	**1.13**	**105**	P	**Pn**	**13 32 09.3**	**-0.5**
CHAS				S	**Sb**	**13 32 22.5**	**-1.7**
EMAL	**Malaga-Limoner**	**1.38**	**337**	P	**Pg**	**13 32 14.9**	**+0.1**
EMAL				S	**Sg**	**13 32 33.3**	**+0.7**
JBK	**JBK**	**1.52**	**139**	P	**Pn**	**13 32 14.4**	**-0.8**
JBK				S	**Sb**	**13 32 38.5**	**+3.0**
LCRM	**LCR**	**2.02**	**207**	P	**Pn**	**13 32 22.9**	**+0.8**
LCRM				S	**Sb**	**13 32 49.6**	**-0.3**
IFR	**Ifrane**	**2.27**	**210**	P	**Pb**	**13 32 29.3**	**+0.1**
IFR				S	**Sn**	**13 32 52.4**	**-1.1**
MD31	**MD31**	**2.75**	**198**	P	**Pn**	**13 32 32.0**	**-0.1**
MD31				S	**Sn**	**13 33 05.2**	**+0.1**
MDT	**Midelt**	**2.76**	**195**	P	**Pn**	**13 32 32.7**	**+0.4**
MDT				S	**Sn**	**13 33 07.8**	**+2.3**
ZHG	**ZHG**	**3.13**	**230**	P	**Pn**	**13 32 35.9**	**-1.5**
ZHG				S	**Sn**	**13 33 14.4**	**-0.3**
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**13 32 46.3**	**+1.1**
PVAQ				S	**Sn**	**13 33 27.4**	**-1.5**

SNET 25 13:38:07.7±1.1, 12°.87N×89°.69W, h16km±9km, ML3.1, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.71**	**30**	*eS*	Sb	13 38 31.3	+0.1
JAYA	**Jayaque - finc**	**0.81**	**17**	*eP*	Pb	13 38 23.1	-0.4
JAYA				*eS*	Sg	13 38 34.8	+0.4
JAYA				IAML		13 38 35.6	
	comp=Z,2μm,0.2s						
BOQS	**Boqueron**	**0.94**	**25**	*eP*	Pb	13 38 25.3	-0.5
BOQS				IAML		13 38 40.8	
	comp=Z,426nm,0.2s						
CEVE	**Cerro Verde**	**0.95**	**4**	*eP*	Pb	13 38 25.2	-0.7
CEVE				*eS*	Sn	13 38 40.1	+0.1
LFRS	**El Faro**	**0.96**	**39**	*eP*	Pb	13 38 25.7	-0.4
SBLS	**San Blas**	**0.96**	**4**	*eP*	Pb	13 38 25.4	-0.8
SBLS				IAML		13 38 47.4	
	comp=Z,424nm,0.2s						
SJTE	**Alcalda de S**	**0.99**	**42**	*eP*	Pb	13 38 26.0	-0.5
SJTE				*eS*	Sg	13 38 39.8	-0.2
SJTE				IAML		13 38 44.4	
	comp=Z,521nm,0.3s						
SNJE	**San Jose**	**0.99**	**5**	*eP*	Pb	13 38 25.7	-1.0
NUBE	**Las Nubes**	**1.03**	**355**	*eP*	Pb	13 38 26.0	-1.2
LFU	**La Fuente**	**1.03**	**33**	*eP*	Pb	13 38 27.0	-0.3
LBRS	**Las Brisas**	**1.06**	**36**	*eP*	Pb	13 38 27.3	-0.5
TECO	**Alcaldia de Te**	**1.10**	**53**	*eP*	Pb	13 38 27.5	-0.9
PAVA	**Las Pavas**	**1.11**	**41**	*eP*	Pb	13 38 28.2	-0.4
PAVA				*eS*	Sn	13 38 43.5	-0.2
TACO	**Tacachico**	**1.14**	**16**	*eP*	Pn	13 38 28.1	-0.9
TACO				*eS*	Sb	13 38 43.1	-0.5
SCLA	**Alcaldia de Sa**	**1.25**	**48**	*eP*	Pn	13 38 30.1	-0.4
SCLA				*eS*	Sn	13 38 46.9	-0.1
COEB	**Comit de Eme**	**1.29**	**61**	*eP*	Pn	13 38 30.2	-0.9
PACA	**Pacayal**	**1.46**	**66**	*eP*	Pn	13 38 33.7	+0.3
MTO3	**Montecristo**	**1.55**	**12**	*eP*	Pn	13 38 34.8	-0.1
LCND	**La Caada**	**1.80**	**76**	*eP*	Pn	13 38 37.9	-0.2

IDC 25 13:38:11.4±14.0, 3°.38N×83°.83W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.6/29, mbtmp3.4/5, Error ellipse: s-maj=303.2km s-min=109.9km az=175.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**31.95**	**326**	P	P	13 44 39.2	-0.1
	0.1nm,0.6s,baz=137,slow=11,SNR=1.4						
PDAR	**Pinedale Array**	**45.43**	**333**	P	P	13 46 31.2	-1.1
	0.4nm,1.0s,baz=138,slow=9.6,SNR=2.2						
NVAR	**Mina Array Bea**	**46.95**	**323**	P	P	13 46 44.6	+0.2
	0.6nm,0.6s,baz=133,slow=7.5,SNR=7.1						
ULM	**Lac du Bonnet**	**47.81**	**350**	P	P	13 46 51.3	+0.7
	1.9nm,0.5s,baz=180,slow=5.1,SNR=2.2						
YKA	**Yellowknife Ar**	**63.25**	**345**	P	P	13 48 41.3	-0.2
	0.2nm,0.8s,baz=138,slow=6.7						

CNRM ***25*** *13:44:27.7, 35°.55N×3°.71W, h26km, ml2.9*
SFS ***25*** *13:44:27.0, 35°.59N×3°.82W, ML2.5, ALBORAN SUR*

ISC 25 13:44:26.1±1.3, 35°.58N±0°.04×3°.71W±0°.03, h16km±11km, n14, σ1°02/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.41**	**207**	P	**Pb**	**13 44 34.9**	**-0.1**
PALE				S	**Sb**	**13 44 40.3**	**-0.6**
GOG	**Mont Gurugu**	**0.69**	**121**	P	**Pn**	**13 44 41.1**	**-0.1**
GOG				S	**Sb**	**13 44 50.4**	**+1.4**
AKLM	**AKL**	**1.08**	**187**	P	**Pg**	**13 44 47.1**	**+0.2**
AKLM				S	**Sn**	**13 45 01.5**	**+0.2**
CHAS	**Isla Isabel II**	**1.12**	**110**	P	**Pn**	**13 44 47.1**	**0.0**
CHAS				S	**Sb**	**13 45 01.5**	**+0.2**
TAF	**Taforalt**	**1.31**	**125**	P	**Pb**	**13 44 50.4**	**+0.1**
TAF				S	**Sn**	**13 45 06.6**	**-0.3**
EMAL	**Malaga-Limoner**	**1.31**	**334**	P	**Pg**	**13 44 51.8**	**+0.4**
EMAL				S	**Sb**	**13 45 05.5**	**-1.5**
CHEFC	**Chefchaouen**	**1.41**	**251**	P	**Pg**	**13 44 52.5**	**-0.8**
CHEFC				S	**Sg**	**13 45 11.6**	**-0.1**
JBK	**JBK**	**1.56**	**143**	P	**Pn**	**13 44 53.4**	**+0.1**
JBK				S	**Sn**	**13 45 11.9**	**-1.4**
LCRM	**LCR**	**2.11**	**207**	P	**Pb**	**13 45 04.4**	**+0.3**
LCRM				S	**Sn**	**13 45 27.2**	**+0.3**
IFR	**Ifrane**	**2.37**	**210**	P	**Pg**	**13 45 10.0**	**-1.5**
IFR				S	**Sn**	**13 45 32.1**	**-1.1**
MD31	**MD31**	**2.84**	**198**	P	**Pn**	**13 45 12.4**	**+1.5**
MD31				S	**Sn**	**13 45 45.0**	**+0.1**
MDT	**Midelt**	**2.86**	**195**	P	**Pn**	**13 45 12.6**	**+1.5**
MDT				S	**Sn**	**13 45 45.3**	**0.0**
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	**13 45 24.7**	**+2.0**
PVAQ				S	**Sn**	**13 46 04.3**	**-1.7**
FIGM	**Figuig**	**4.00**	**149**	P	**Pn**	**13 45 27.8**	**+1.0**
FIGM				S	**Sn**	**13 46 12.3**	**-1.1**

IDC ***25*** *13:53:09.6±1.9, 36°.98N×142°.36E, h0km, mb3.2/3, mb1 3.5/6, mb1mx3.0/56, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=45.1km s-min=26.6km az=82.0*
JMA ***25*** *13:53:12.3±0.3, 37°.03N×142°.01E, h25km±4km, M3.2*

ISC 25 13:53:12.6±1.1, 37°.01N±0°.06×141°.96E±0°.08, h19km, n21, σ1°54/18, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.93**	**276**	P	**Pb**	**13 53 30.1**	**-0.1**
ONAJ				*eS*	**Sb**	**13 53 42.6**	**+0.4**
JFK	**Kawauchi**	**0.94**	**293**	P	**Pb**	**13 53 30.0**	**-0.3**
JMST	**Minamisoumatoc**	**1.12**	**310**	P	**Pb**	**13 53 32.5**	**-0.8**
JFFD	**Fukushimafurud**	**1.12**	**

*IDC **25** 13:59:09.3±1.9, 35.°60N×3.°84W, h0km, mb3.1/2, mb1 3.3/3, mb1mx2.8/46, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=45.1km s-min=20.3km az=84.0*
ISC 25 13:59:08.6±1.2, 35.°52N±0.°04×3.°68W±0.°03, h10km±9km, n17, σ1§60/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**216**	P	**Pg**	**13 59 15.2**	**-0.7**
PALE				S	**Sg**	**13 59 21.7**	**+1.0**
GOG	**Mont Gurugu**	**0.63**	**118**	P	**Pg**	**13 59 20.7**	**0.0**
GOG				S	**Sb**	**13 59 30.2**	**-0.4**
AKLM	**AKL**	**1.01**	**189**	P	**Pn**	**13 59 29.0**	**0.0**
AKLM				S	**Sn**	**13 59 42.7**	**-0.6**
CHAS	**Isla Isabel II**	**1.07**	**108**	P	**Pb**	**13 59 28.1**	**-1.1**
CHAS				S	**Sb**	**13 59 42.5**	**-0.8**
TAF	**Taforalt**	**1.25**	**124**	P	**Pg**	**13 59 33.0**	**+0.4**
EMAL	**Malaga-Limoner**	**1.39**	**334**	P	**Pn**	**13 59 31.8**	**-2.2**
EMAL				S	**Sn**	**13 59 48.4**	**-4.1**
CHEFC	**Chefchaouen**	**1.42**	**254**	P	**Pg**	**13 59 37.0**	**+1.1**
CHEFC				S	**Sg**	**13 59 54.0**	**-0.2**
JBK	**JBK**	**1.49**	**142**	P	**Pn**	**13 59 34.4**	**-1.2**
JBK				S	**Sn**	**13 59 54.5**	**-0.8**
LCRM	**LCR**	**2.07**	**208**	P	**Pg**	**13 59 49.0**	**+0.7**
LCRM				S	**Sb**	**14 00 11.3**	**-0.9**
IFR	**Ifrane**	**2.33**	**211**	P	**Pn**	**13 59 44.0**	**-3.1**
IFR				S	**Sn**	**14 00 15.1**	**-0.8**
MD31	**MD31**	**2.79**	**199**	P	**Pn**	**13 59 53.6**	**+0.2**
MDT	**Midelt**	**2.80**	**196**	P	Pn	13 59 47.9	-5.7
ZHG	**ZHG**	**3.20**	**231**	P	**Pn**	**13 59 57.6**	**-1.5**
PVAQ	**Vaqueiros**	**3.76**	**301**	P	**Pn**	**14 00 07.0**	**+0.3**
ESDC	**Sonseca Array**	**4.16**	**357**	Pn	**Pn**	**14 00 13.1**	**+0.9**
	0.3nm,0.3s,baz=179,slow=12,SNR=8.6						
ESDC				Sn	**Sn**	**14 01 01.4**	**+0.4**
	0.2nm,0.3s,baz=175,slow=26,SNR=3.0						
ESDC				Lg	Lg	14 01 18.4	
	0.5nm,0.3s,baz=182,slow=28,SNR=5.4						
TORD	**Torodi Ar. Bea**	**22.79**	**166**	P	**P**	**14 04 14.6**	**+3.1**
	0.6nm,0.8s,baz=340,slow=9.2,SNR=2.6						
YKA	**Yellowknife Ar**	**67.86**	**332**	P	**P**	**14 10 08.3**	**+1.6**
	0.2nm,0.7s,baz=47,slow=7.2,SNR=3.0						

IDC 25 14:09:27.2±346.0, 53.°97N×42.°81E, h0km, Error ellipse: s-maj=148.2km s-min=82.3km az=137.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.22**	**313**	*i*		14 35 20.0	
	baz=128,slow=336,SNR=2.7						
I31KZ	**AKTYUBINSK INF**	**10.01**	**105**	*i*		15 10 50.0	
	baz=297,slow=319,SNR=2.2						
I46RU	**ZALESOVO INFRA**	**24.46**	**73**	*i*		16 40 10.0	
	baz=285,slow=344,SNR=2.0						
I34MN	**SONGINO INFRAS**	**39.38**	**72**	*i*		18 14 00.0	
	baz=292,slow=339,SNR=0.7						

IDC 25 14:11:33.0±1.3, 11.°73N×139.°72E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/42, mbtmp3.6/5, Error ellipse: s-maj=58.6km s-min=30.4km az=96.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**27.30**	**70**	T	T	14 46 56.5	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**27.31**	**70**	T	T	14 46 55.8	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**27.32**	**70**	T	T	14 47 01.3	
	baz=267						
ASAR	**Alice Springs**	**35.64**	**189**	P	P	14 18 33.2	+0.4
	0.2nm,0.6s,baz=24,slow=12,SNR=1.6						
KLR	**Kul'dur**	**37.96**	**352**	P	P	14 18 54.1	+1.8
	0.7nm,0.5s,baz=194,slow=8.3,SNR=2.0						
MKAR	**Makanchi Array**	**59.40**	**318**	P	P	14 21 35.9	-1.4
	0.3nm,0.7s,baz=120,slow=6.5,SNR=1.8						
ILAR	**Eielson Array**	**72.39**	**26**	P	P	14 23 00.1	-0.6
	1.0nm,1.1s,baz=252,slow=5.7,SNR=7.2						
YKA	**Yellowknife Ar**	**86.78**	**27**	P	P	14 24 19.3	+0.3
	0.7nm,0.7s,baz=290,slow=4.8,SNR=10						

*CNRM **25** 14:20:36.8, 35.°85N×3.°35W, h48km*
*SFS **25** 14:20:38.0, 35.°62N×3.°80W, ML2.8, ALBORAN SUR*
ISC 25 14:20:37.6±1.7, 35.°67N±0.°06×3.°61W±0.°05, h35km±5km, n12, σ2§17/16, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.67**	**132**	P	**Pb**	**14 20 50.4**	**-0.8**
GOG				S	**Sb**	**14 21 01.0**	**+0.7**
CHAS	**Isla Isabel II**	**1.08**	**116**	P	**Pn**	**14 20 56.4**	**+0.2**
CHAS				S	**Sn**	**14 21 10.7**	**+0.8**
EMAL	**Malaga-Limoner**	**1.28**	**329**	P	**Pn**	**14 20 59.5**	**+0.5**
EMAL				S	**Sn**	**14 21 15.0**	**+0.1**
TAF	**Taforalt**	**1.30**	**131**	P	**Pn**	**14 21 00.2**	**+0.8**
SMIR	**Smir Dam**	**1.44**	**271**	S	**Sn**	**14 21 22.0**	**+2.9**
CEU	**Ceuta**	**1.45**	**280**	P	Pn	14 20 59.2	-2.2
CEU				S	**Sn**	**14 21 13.6**	**-5.6**
CHEFC	**Chefchaouen**	**1.52**	**249**	P	**Pn**	**14 21 05.0**	**+2.5**
JBK	**JBK**	**1.58**	**147**	P	**Pn**	**14 21 03.5**	**+0.1**
LCRM	**LCR**	**2.23**	**208**	P	Pn	14 21 17.0	+4.7
IFR	**Ifrane**	**2.49**	**211**	P	**Pn**	**14 21 16.0**	**+0.1**
IFR				S	**Sn**	**14 21 43.8**	**-1.3**
PVAQ	**Vaqueiros**	**3.73**	**299**	P	**Pn**	**14 21 33.4**	**+0.6**
EVO	**Evora**	**4.53**	**310**	P	**Pn**	**14 21 45.3**	**+1.5**
EVO				S	**Sn**	**14 22 33.6**	**-1.7**

*SFS **25** 14:24:17.0, 35.°59N×3.°83W, ML3.2, ALBORAN SUR*
*IDC **25** 14:24:17.6±1.1, 35.°60N×3.°82W, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.4/66, mbtmp3.6/6, ML3.2/2, MS2.6/3, Ms1 2.7/3, ms1mx2.4/94, Error ellipse: s-maj=33.6km s-min=12.7km az=98.0*
*CNRM **25** 14:24:18.8, 35.°59N×3.°72W, h16km, ml3.7*
*INMG **25** 14:24:18.9±1.8, 35.°64N×3.°79W, h0km±5km, ML3.0, Error ellipse: s-maj=4.0km s-min=3.6km az=89.0*
*IGIL **25** 14:24:19.9, 35.°59N×3.°83W, h0km, ML2.7*
*LDG **25** 14:24:20.0, 35.°45N×3.°58W, h30km*
ISC 25 14:24:17.5±1.2, 35.°63N±0.°03×3.°75W±0.°03, h3km±9km, n68, σ1§95/107, mb3.8/4, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.44**	**201**	P	**Pg**	**14 24 26.7**	**+0.6**
PALE				S	**Sg**	**14 24 32.6**	**+0.8**
GOG	**Mont Gurugu**	**0.74**	**124**	P	**Pg**	**14 24 32.7**	**+1.0**
GOG				S	**Sg**	**14 24 41.9**	**+0.6**
AKLM	**AKL**	**1.12**	**185**	P	**Pg**	**14 24 39.1**	**0.0**
AKLM				S	**Sb**	**14 24 54.5**	**-0.2**
CHAS	**Isla Isabel II**	**1.17**	**112**	P	**Pg**	**14 24 38.6**	**-1.3**
CHAS				S	**Sg**	**14 24 53.9**	**-1.1**
EMAL	**Malaga-Limoner**	**1.25**	**334**	P	**Pg**	**14 24 41.4**	**-0.2**
EMAL				S	**Sg**	**14 24 57.2**	**-0.6**
CEU	**Ceuta**	**1.35**	**282**	P	**Pg**	**14 24 42.8**	**-0.5**
CEU				S	**Sg**	**14 24 56.3**	**-4.6**
TAF	**Taforalt**	**1.36**	**126**	P	**Pg**	**14 24 42.2**	**-1.5**
CHEFC	**Chefchaouen**	**1.40**	**248**	P	**Pg**	**14 24 43.9**	**-0.5**
CHEFC				S	**Sg**	**14 25 02.3**	**-0.3**
JBK	**JBK**	**1.62**	**143**	P	**Pn**	**14 24 44.9**	**-2.3**
JBK				S	**Sn**	**14 25 04.8**	**-3.9**
SICH	**Sidi Chahed**	**2.00**	**221**	P	**Pn**	**14 24 54.0**	**+1.8**
LCRM	**LCR**	**2.15**	**206**	P	**Pn**	**14 24 55.0**	**+0.6**
LCRM				S	**Sn**	**14 25 22.8**	**+1.2**
IFR	**Ifrane**	**2.40**	**209**	P	**Pn**	**14 24 57.8**	**-0.1**
IFR				S	**Sn**	**14 25 23.1**	**-4.8**
MD31	**MD31**	**2.88**	**197**	P	**Pn**	**14 25 04.5**	**0.0**
MDT	**Midelt**	**2.90**	**194**	Pn	**Pn**	**14 25 05.0**	**+0.2**
	1.4nm,0.3s,baz=189,slow=10,SNR=10						
MDT				Sn	**Sn**	**14 25 38.9**	**-1.3**
	5.4nm,0.3s,baz=52,slow=17,SNR=4.9						
MDT				Lg	Lg	14 25 47.1	
	5.5nm,0.3s,baz=74,slow=18,SNR=4.0						
MDT				LR	LR	14 26 01.8	
	comp=Z,46nm,20.8s,baz=42,slow=36						
MDT	**Midelt**	**2.90**	**194**	P	**Pn**	**14 25 04.8**	**0.0**
CART	**Cartagena**	**2.95**	**48**	P	**Pn**	**14 25 05.7**	**+0.5**
TDRA	**Tendrara**	**2.95**	**151**	P	**Pn**	**14 25 05.3**	**-0.2**
ZHG	**ZHG**	**3.23**	**228**	P	**Pn**	**14 25 09.3**	**0.0**
PVAQ	**Vaqueiros**	**3.65**	**300**	*e*Pn	**Pn**	**14 25 15.2**	**+0.2**
PVAQ				*e*Sn	**Sn**	**14 25 56.7**	**-1.9**
PVAQ				A	A	14 26 04.2	
	22nm,0.7s						
PBAR	**Barrancos**	**3.66**	**315**	*e*Pn	**Pn**	**14 25 15.7**	**+0.6**
PBAR				*e*Sn	**Sn**	**14 25 58.2**	**-0.5**
PBDV	**Barranco-do-Ve**	**3.73**	**297**	*e*Pn	**Pn**	**14 25 16.1**	**0.0**
PBDV				*e*Sn	**Sn**	**14 25 59.0**	**-1.7**
PBDV				A	A	14 26 12.1	
	18nm,0.6s						
PCVE	**Castro Verde**	**3.98**	**301**	*e*Pn	**Pn**	**14 25 19.9**	**+0.4**
PCVE				*e*Sn	**Sn**	**14 26 04.3**	**-2.5**
PCVE				A	A	14 26 18.2	
	14nm,0.6s						
ESDC	**Sonseca Array**	**4.04**	**358**	Pn	**Pn**	**14 25 22.6**	**+2.3**
	1.1nm,0.3s,baz=180,slow=12,SNR=22						
ESDC				Sn	**Sn**	**14 26 09.3**	**+1.1**
	0.8nm,0.3s,baz=182,slow=20,SNR=6.6						
ESDC				Lg	Lg	14 26 24.9	
	2.1nm,0.3s,baz=177,slow=26,SNR=7.8						
ESDC				LR	LR	14 26 47.5	
	comp=Z,98nm,20.8s,baz=238,slow=37						
FIGM	**Figuig**	**4.06**	**149**	P	**Pn**	**14 25 20.5**	**-0.2**
PBEJ	**Beja**	**4.08**	**307**	*e*Pn	**Pn**	**14 25 21.6**	**+0.8**
PBEJ				*e*Sn	**Sn**	**14 26 06.4**	**-2.6**
PBEJ				A	A	14 26 15.0	
	13nm,0.5s						
MESJ	**Messejana**	**4.21**	**303**	*e*P	**Pn**	**14 25 23.0**	**+0.4**
MESJ	**Messejana**	**4.21**	**303**	*e*Pn	**Pn**	**14 25 23.6**	**+0.9**
MESJ				*e*Sn	**Sn**	**14 26 11.4**	**-1.0**
MESJ				A	A	14 26 18.9	
	21nm,0.4s						
MORF	**Marmelete**	**4.29**	**294**	*e*P	**Pn**	**14 25 23.8**	**+0.1**
MORF				*e*S	**Sn**	**14 26 10.7**	**-3.6**
MORF				IAML		14 26 14.2	
	comp=N,17nm,0.5s						
MORF	**Marmelete**	**4.29**	**294**	*e*Pn	**Pn**	**14 25 23.9**	**+0.1**
MORF				*e*Sn	**Sn**	**14 26 13.2**	**-1.1**
MORF				A	A	14 26 23.3	
	comp=N,9.9nm,0.5s						
PFVI	**Vila Bisbo**	**4.36**	**292**	*e*Pn	**Pn**	**14 25 24.8**	**+0.1**
PFVI				*e*Sn	**Sn**	**14 26 13.2**	**-2.9**
PFVI				A	A	14 26 37.8	
	comp=N,17nm,0.6s						
PFVI	**Vila Bisbo**	**4.36**	**292**	P	**Pn**	**14 25 24.5**	**-0.2**
PTEO	**Sao Teotonio**	**4.43**	**297**	*e*Pn	**Pn**	**14 25 26.0**	**+0.3**
PTEO				*e*Sn	**Sn**	**14 26 17.3**	**-0.6**
PTEO				A	A	14 26 35.1	
	comp=N,18nm,0.8s						
PESTR	**Estremoz**	**4.45**	**318**	*e*Pn	**Pn**	**14 25 27.2**	**+1.2**
PESTR				*e*Sn	**Sn**	**14 26 17.2**	**-1.1**
PESTR				A	A	14 27 02.7	
	comp=N,20nm,0.7s						
PESTR	**Estremoz**	**4.45**	**318**	P	**Pn**	**14 25 28.2**	**+2.3**
EVO	**Evora**	**4.47**	**312**	*e*Pn	**Pn**	**14 25 26.9**	**+0.7**
EVO				*e*Sn	**Sn**	**14 26 16.5**	**-2.3**
PNCL	**Nicolau / Gran**	**4.56**	**304**	*e*Pn	**Pn**	**14 25 27.8**	**+0.4**
PNCL				*e*Sn	**Sn**	**14 26 19.1**	**-1.9**
PNCL				A	A	14 26 24.9	
	comp=N,11nm,0.7s						
PMRV	**Marv??o**	**4.77**	**324**	*e*Pn	**Pn**	**14 25 31.4**	**+1.1**
PMRV				*e*Sn	**Sn**	**14 26 24.9**	**-1.2**
PMRV				A	A	14 26 58.8	
	comp=N,16nm,0.5s						
PMTG	**Montargil**	**4.95**	**315**	*e*Pn	**Pn**	**14 25 33.3**	**+0.5**
PMTG				*e*Sn	**Sn**	**14 26 28.3**	**-2.2**
PMTG				A	A	14 27 05.8	
	comp=N,14nm,0.7s						
TZRR	**Tazzarine**	**5.07**	**198**	P	**Pn**	**14 25 34.7**	**+0.1**
PCBR	**Castelo Branco**	**5.13**	**326**	*e*Pn	**Pn**	**14 25 36.8**	**+1.5**
PCBR				*e*Sn	**Sn**	**14 26 33.0**	**-2.1**
PCBR				A	A	14 26 44.3	
	comp=N,13nm,0.7s						
OUZM	**OUZ**	**5.34**	**209**	P	**Pn**	**14 25 40.0**	**+1.6**
PMAFR	**Mafra**	**5.52**	**309**	*e*Pn	**Pn**	**14 25 41.8**	**+1.2**
PMAFR				*e*Sn	**Sn**	**14 26 42.3**	**-2.3**
PSBE	**So Bento**	**5.57**	**316**	*e*Pn	**Pn**	**14 25 42.5**	**+1.1**
OUK	**Oukaimeden**	**5.60**	**219**	P	**Pn**	**14 25 41.8**	**-0.3**
MTE	**Manteigas**	**5.62**	**329**	*e*Pn	**Pn**	**14 25 45.5**	**+3.4**
MTE				*e*Sn	**Sn**	**14 26 45.6**	**-1.6**
MTE				A	A	14 27 18.5	
	comp=N,38nm,0.7s						
ZGR	**Zagora**	**5.72**	**196**	P	**Pn**	**14 25 44.1**	**+0.6**
PCAS	**Casmilo, Conde**	**5.79**	**321**	*e*Pn	**Pn**	**14 25 45.0**	**+0.6**
PCAS				*e*Sn	**Sn**	**14 26 45.8**	**-5.6**
PCAS				A	A	14 27 29.8	
	comp=N,15nm,0.6s						
PVIS	**Viseu**	**6.03**	**328**	*e*Pn	**Pn**	**14 25 49.5**	**+1.8**
PVIS				*e*Sn	**Sn**	**14 26 55.5**	**-1.8**
MVO	**Moncorvo**	**6.09**	**336**	*e*Pn	**Pn**	**14 25 50.8**	**+2.2**
MVO				*e*Sn	**Sn**	**14 26 57.0**	**-1.8**
MVO				A	A	14 27 38.5	
	comp=N,20nm,0.8s						
TTIG	**Tnine Tigouga,**	**6.42**	**219**	P	**Pn**	**14 25 50.2**	**-3.0**
PVRL	**Vila Real**	**6.43**	**332**	*e*Pn	**Pn**	**14 25 55.2**	**+1.9**
PVRL				*e*Sn	**Sn**	**14 27 05.3**	**-1.9**
PVRL				A	A	14 27 10.8	
	comp=N,18nm,0.6s						
POLO	**Lamas de Olo**	**6.55**	**332**	*e*Pn	**Pn**	**14 25 57.4**	**+2.5**
POLO				*e*Sn	**Sn**	**14 27 07.9**	**-2.2**
POLO				A	A	14 27 14.7	
	comp=N,6.1nm,0.8s						
PBRG	**Braganca**	**6.59**	**340**	*e*Pn	**Pn**	**14 25 57.8**	**+2.4**
PBRG				*e*Sn	**Sn**	**14 27 09.9**	**-1.2**
PBRG				A	A	14 27 57.5	
	comp=N,8.3nm,0.8s						
PCAB	**Cabril**	**6.93**	**332**	*e*Pn	**Pn**	**14 26 02.0**	**+2.0**
PCAB				*e*Sn	**Sn**	**14 27 17.5**	**-1.8**
PGAV	**Gavieira, Arco**	**7.24**	**332**	*e*Pn	**Pn**	**14 26 05.4**	**+1.1**
PGAV				*e*Sn	**Sn**	**14 27 24.8**	**-2.3**
PGAV				A	A	14 27 37.8	
	comp=N,11nm,0.8s						
ETSF	**Etsaut**	**7.67**	**18**	*e*Pn	**Pn**	**14 26 08.9**	**-1.2**
ETSF	**Etsaut**	**7.67**	**18**	*e*P	**Pn**	**14 26 13.3**	**+3.2**
ETSF				*e*Sn	**Sn**	**14 27 31.9**	**-5.6**
	comp=N,0.8nm,0.3s						
SJPF	**Ste Jean**	**7.72**	**14**	*e*Pn	**Pn**	**14 26 10.3**	**-0.6**
SJPF	**Ste Jean**	**7.72**	**14**	*e*P	**Pn**	**14 26 14.5**	**+3.6**
SJPF				*e*Sn	**Sn**	**14 27 33.2**	**-5.6**
	comp=N,0.9nm,0.2s						
EPF	**Esparros**	**8.04**	**22**	*e*Pn	**Pn**	**14 26 13.9**	**-1.3**
EPF	**Esparros**	**8.04**	**22**	*e*P	**Pn**	**14 26 17.5**	**+2.3**
SMRF	**Simiane la Rot**	**10.99**	**38**	*e*Pn	**Pn**	**14 26 55.0**	**-0.6**
PGF	**Pioggiola**	**12.07**	**51**	*e*P	**Pn**	**14 27 13.5**	**+3.0**
TORD	**Torodi Ar. Bea**	**22.92**	**166**	P	**P**	**14 29 23.9**	**+1.1**
	comp=N,1.7nm,1.1s,baz=348,slow=9.2,SNR=4.9						
NOA	**NORSAR Array B**	**27.16**	**16**	LR	LR	14 41 50.4	
	comp=N,29nm,19.3s,baz=190,slow=39						
KURBB	**Kurchatov Arra**	**58.88**	**48**	P	**P**	**14 34 17.9**	**+0.4**
	comp=N,0.7nm,0.2s,baz=295,slow=8.1,SNR=2.1						
MKAR	**Makanchi Array**	**62.61**	**51**	P	**P**	**14 34 43.7**	**+0.6**
	comp=N,0.7nm,0.9s,baz=282,slow=6.1,SNR=7.0						
YKA	**Yellowknife Ar**	**67.72**	**332**	P	**P**	**14 35 17.4**	**+1.4**
	comp=N,0.4nm,0.9s,baz=64,slow=6.2,SNR=3.4						

*IDC **25** 14:32:49.1±1.0, 35.°58N×3.°80W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/59, mbtmp3.5/6, ML2.8/2, Error ellipse: s-maj=30.8km s-min=13.3km az=94.0*
*CNRM **25** 14:32:50.8, 35.°52N×3.°69W, h14km, ml3.7*
*SFS **25** 14:32:51.0, 35.°59N×3.°76W, ML3.2, ALBORAN SUR*
*CRAAG **25** 14:32:51.0, 35.°59N×3.°76W, Mb3.2*
ISC 25 14:32:49.5±1.3, 35.°56N±0.°03×3.°74W±0.°03, h9km±9km, n40, σ1§91/47, mb3.8/4, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**205**	P	**Pg**	**14 32 57.4**	**+0.5**
PALE				S	**Sg**	**14 33 02.0**	**0.0**
GOG	**Mont Gurugu**	**0.70**	**119**	P	**Pb**	**14 33 04.3**	**+0.5**
GOG				S	**Sb**	**14 33 12.9**	**-0.7**
AKLM	**AKL**	**1.05**	**185**	P	**Pb**	**14 33 10.1**	**+0.2**
AKLM				S	**Sg**	**14 33 22.6**	**-0.9**
CHAS	**Isla Isabel II**	**1.14**	**109**	P	**Pb**	**14 33 11.1**	**-0.1**
CHAS	**Isla Isabel II**	**1.14**	**109**	S	**Sg**	**14 33 24.4**	**-1.7**
EMAL	**Malaga-Limoner**	**1.32**	**335**	P	Pn	14 33 09.1	-5.0
EMAL	**Malaga-Limoner**	**1.32**	**335**	S	**Sb**	**14 33 31.0**	**-0.4**
TAF	**Taforalt**	**1.32**	**124**	P	**Pn**	**14 33 13.2**	**-0.9**
TAF				S	**Sb**	**14 33 31.0**	**-0.5**
CEU	**Ceuta**	**1.37**	**285**	P	**Pn**	**14 33 10.7**	**-4.0**
CEU	**Ceuta**	**1.37**	**285**	S	**Sb**	**14 33 28.1**	**-4.7**
CHEFC	**Chefchaouen**	**1.38**	**251**	P	**Pb**	**14 33 15.5**	**0.0**
JBK	**JBK**	**1.56**	**141**	P	**Pn**	**14 33 17.7**	**+0.2**
JBK				S	**Sn**	**14 33 34.8**	**-3.2**
SICH	**Sidi Chahed**	**1.95**	**222**	P	**Pb**	**14 33 25.3**	**+0.2**
SICH				S	**Sb**	**14 33 50.4**	**+0.9**
IFR	**Ifrane**	**2.34**	**210**	P	**Pn**	**14 33 25.7**	**-2.5**
IFR	**Ifrane**	**2.34**	**210**	S	**Sn**	**14 33 55.0**	**-2.1**
USTO	**Oran**	**2.61**	**85**	P	**Sn**	**14 34 02.0**	**-1.4**
MD31	**MD31**	**2.82**	**198**	P	**Pn**	**14 33 35.3**	**+0.5**
MDT	**Midelt**	**2.83**	**195**	Pn	**Pn**	**14 33 35.6**	**+0.6**
	1.3nm,0.3s,baz=136,slow=11,SNR=4.3						
MDT				Sn	**Sn**	**14 34 08.6**	**-0.7**
	12nm,0.3s,baz=230,slow=7.7,SNR=9.9						
MDT				Lg	Lg	14 34 19.5	
	15nm,0.3s,baz=176,slow=4.0,SNR=5.8						
MDT	**Midelt**	**2.83**	**195**	P	**Pg**	**14 33 44.5**	**+0.7**
TDRA	**Tendrara**	**2.89**	**150**	P	**Pn**	**14 33 37.1**	**+1.3**
ODJA	**Bouhanifia**	**2.94**	**93**	P	**Sn**	**14 34 06.0**	**-5.9**
CART	**Cartagena**	**2.99**	**47**	P	**Pn**	**14 33 35.5**	**-1.5**
CART	**Cartagena**	**2.99**	**47**	S	**Sn**	**14 34 10.1**	**-2.9**
CART	**Cartagena**	**2.99**	**47**	P	**Pn**	**14 33 36.9**	**-0.2**
ZHG	**ZHG**	**3.19**	**229**	P	**Pn**	**14 33 40.0**	**+0.1**
PVAQ	**Vaqueiros**	**3.69**	**301**	P	**Pn**	**14 33 47.2**	**+0.5**
AVE	**Averroes**	**3.78**	**234**	P	**Pb**	**14 33 54.4**	**-2.0**
FIGM	**Figuig**	**4.00**	**148**	P	**Pn**	**14 33 52.6**	**+1.6**
ESDC	**Sonseca Array**	**4.11**	**358**	Pn	**Pn**	**14 33 51.0**	**-1.4**
	0.3nm,0.3s,baz=180,slow=12,SNR=13						
ESDC				Sn	**Sn**	**14 34 42.4**	**+1.8**
	1.4nm,0.3s,baz=177,slow=22,SNR=3.4						
ESDC				Lg	Lg	14 35 00.2	
	3.3nm,0.3s,baz=177,slow=28,SNR=8.3						
PFVI	**Vila Bisbo**	**4.39**	**292**	P	**Pn**	**14 33 56.8**	**+0.5**
PESTR	**Estremoz**	**4.51**	**318**	P	**Pn**	**14 34 01.5**	**+3.6**
EVO	**Evora**	**4.52**	**312**	P	**Pn**	**14 34 00.0**	**+2.0**
EVO	**Evora**	**4.52**	**312**	S	**Sn**	**14 34 49.0**	**-1.7**
TZRR	**Tazzarine**	**5.00**	**198**	P	**Pn**	**14 34 05.9**	**+1.1**
OUZM	**OUZ**	**5.28**	**209**	P	**Pn**	**14 34 09.3**	**+0.6**
OUK	**Oukaimeden**	**5.55**	**220**	P	**Pn**	**14 34 12.4**	**0.0**
TORD	**Torodi Ar. Bea**	**22.85**	**166**	P	**P**	**14 37 54.2**	**+1.1**
	1.0nm,0.8s,baz=344,slow=10.0,SNR=4.7						
MKAR	**Makanchi Array**	**62.65**	**51**	P	**P**	**14 43 15.9**	**+1.7**
	0.4nm,0.8s,baz=284,slow=6.1,SNR=4.8						
YKA	**Yellowknife Ar**	**67.79**	**332**	P	**P**	**14 43 48.5**	**+1.2**
	1.0nm,0.7s,baz=61,slow=6.4,SNR=15						
PDAR	**Pinedale Array**	**76.81**	**313**	P	**P**	**14 44 42.5**	**+0.7**
	0.8nm,0.7s,baz=72,slow=7.3,SNR=8.7						

IDC 25 14:37:36.8±61.0, 15.°66S×174.°11W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/32, mbtmp3.8/3, Error ellipse: s-maj=1171.0km s-min=188.7km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.31**	**240**	P	P	14 45 40.8	+0.1
	0.7nm,0.6s,baz=78,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**49.11**	**257**	P	P	14 46 26.5	-0.1
	0.4nm,0.6s,baz=92,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**49.38**	**252**	P	P	14 46 28.3	-0.3
	2.9nm,0.5s,baz=89,slow=7.8,SNR=114						

*SFS **25** 14:45:40.0, 35.°56N×3.°82W, ML2.9, ALBORAN SUR*
*CNRM **25** 14:45:40.7, 35.°57N×3.°75W, h20km, ml3.0*
*IGIL **25** 14:45:42.5, 35.°56N×3.°82W, h0km, ML2.7*
ISC 25 14:45:39.6±1.1, 35.°57N±0.°04×3.°74W±0.°03, h15km±9km, n18, σ1§48/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39**	**205**	P	**Pb**	**14 45 48.4**	**+0.2**
PALE				S	**Sg**	**14 45 53.3**	**+0.5**
GOG	**Mont Gurugu**	**0.70**	**120**	P	**Pn**	**14 45 54.6**	**-0.4**
GOG				S	**Sb**	**14 46 03.9**	**+0.9**
AKLM	**AKL**	**1.06**	**186**	P	**Pn**	**14 46 00.8**	**+0.8**
CHAS	**Isla Isabel II**	**1.14**	**109**	P	**Pn**	**14 46 01.2**	**+0.3**
CHAS				S	**Sg**	**14 46 15.4**	**-1.0**
EMAL	**Malaga-Limoner**	**1.31**	**335**	P	**Pg**	**14 46 05.2**	**+0.2**
EMAL				S	**Sg**	**14 46 21.6**	**-0.5**
TAF	**Taforalt**	**1.32**	**124**	P	**Pg**	**14 46 04.3**	**-0.8**
TAF				S	Sb	14 46 04.3	-17
CEU	**Ceuta**	**1.37**	**284**	P	**Pn**	**14 46 03.2**	**-0.9**
CEU				S	**Sb**

CHAS	Isla Isabel II	1.09 118	P	Pb	14 53 00.6	-2.4
CHAS	Isla Isabel II	1.09 118	S	Sb	14 53 15.1	-2.0
ELGU	Los Guajares,	1.17 359	Pg	Pb	14 53 03.4	-0.9
	262nm,0.2s,SNR=7.9					
ELGU			Lg	Lg	14 53 19.3	
	18µm,0.5s,SNR=7.9					
EMAL	Malaga-Limoner	1.25 328	P	Pn	14 53 03.5	-1.9
EMAL	Malaga-Limoner	1.25 328	S	Sb	14 53 19.8	-1.8
EMIJ	Mijas	1.28 313	Pg	Pn	14 53 03.8	-2.0
	199nm,0.2s,SNR=7.9					
EMIJ			Lg	Lg	14 53 20.5	
	8µm,0.3s,SNR=7.9					
TAF	Taforalt	1.32 132	P	Pn	14 53 05.0	-1.4
TAF			S	Sb	14 53 22.1	-1.6
EBER	Berja	1.33 26	Pg	Pn	14 53 05.6	-1.1
	395nm,0.6s,SNR=7.9					
EBER			Lg	Lg	14 53 25.7	
	2µm,0.3s,SNR=7.9					
CEU	Ceuta	1.44 278	P	Pn	14 53 04.8	-3.2
CEU	Ceuta	1.44 278	S	Sn	14 53 22.2	-4.6
ECEU	Ceuta	1.45 278	Pg	Pn	14 53 06.0	-2.0
	112nm,0.2s,SNR=80					
ECEU			Lg	Lg	14 53 24.3	
	1µm,0.3s,SNR=5.0					
EGOR	Sierra Gorda,	1.47 344	Pg	Pn	14 53 08.5	0.0
	209nm,0.3s,SNR=7.9					
EGOR			Lg	Lg	14 53 28.7	
	6µm,0.4s,SNR=7.9					
EQUE	Quentar	1.51 5	Pg	Pn	14 53 09.0	0.0
	130nm,0.3s,SNR=7.9					
EQUE			Lg	Lg	14 53 30.4	
	631nm,0.3s,SNR=7.9					
CHEFC	Chefchaouen	1.53 248	P	Pn	14 53 09.0	-0.3
CHEFC			S	Sg	14 53 30.9	-0.6
JBK	JBK	1.61 147	P	Pn	14 53 08.7	-1.8
JBK			S	Sn	14 53 28.7	-2.4
ENIJ	Nijar	1.71 41	Pn	Pn	14 53 10.2	-1.4
	SNR=7.9					
ENIJ			Sn	Sn	14 53 33.4	+0.2
	793nm,0.3s,SNR=7.9					
OLHC	Oulhaca	1.84 103	P	Pn	14 53 10.2	-3.4
CPS	Cap Spartel	1.87 273	P	Pg	14 53 18.0	-0.1
SICH	Sidi Chahed	2.12 222	P	Pn	14 53 18.2	+0.9
SICH			S	Sb	14 53 45.7	-1.0
EQES	Quesada	2.15 12	Pn	Pn	14 53 18.6	+0.8
	105nm,0.2s,SNR=120					
EQES			Lg	Lg	14 53 47.5	
	2µm,0.4s,SNR=6.7					
SFS	San Fernando	2.23 291	P	Pb	14 53 20.6	-1.9
SFS	San Fernando	2.23 291	S	Sg	14 53 53.2	-0.9
SFS	San Fernando	2.23 291		Pn	14 53 19.7	+0.8
LCRM	LCR	2.25 207	P	Pn	14 53 19.2	-0.2
LCRM			S	Sb	14 53 49.6	-1.1
OTSS	Djebel Tessala	2.34 99	P	Pn	14 53 18.6	-1.8
TLOR	Lorca, Murcia	2.49 38	Pn	Pn	14 53 22.9	+0.5
	100nm,0.3s,SNR=7.9					
TLOR			Sn	Sn	14 53 53.2	+0.5
	814nm,0.4s,SNR=7.9					
USTO	Oran	2.49 88	P	Pn	14 53 22.6	+0.2
IFR	Ifrane	2.51 210	P	Pn	14 53 22.1	-0.7
IFR	Ifrane	2.51 210	S	Sn	14 53 52.8	-0.6
EADA	Adamuz	2.58 343	Pn	Pn	14 53 24.1	+0.3
	35nm,0.4s,SNR=68					
EADA			Sn	Sn	14 53 54.9	0.0
	366nm,0.3s,SNR=4.7					
EADA			Lg	Lg	14 54 00.8	
	656nm,0.3s,SNR=7.9					
EZAR	Zarzadilla de	2.66 35	Pn	Pn	14 53 24.4	-0.5
	80nm,0.4s,SNR=7.9					
EZAR			Sn	Sn	14 53 58.0	+1.0
	634nm,0.6s,SNR=7.9					
CART	Cartagena	2.82 47	P	Pn	14 53 24.8	-2.2
CART	Cartagena	2.82 47	Pn	Pn	14 53 24.6	-2.3
CART	Cartagena	2.82 47	P	Pn	14 53 26.4	-0.5
CART			S	Sn	14 53 57.4	-3.4
ODJA	Bouhanifia	2.85 96	P	Pn	14 53 29.0	+1.6
ARNO	Arenosillo	2.88 300	P	Pn	14 53 26.7	-1.0
ARNO	Arenosillo	2.88 300	S	Sn	14 54 02.9	+0.7
MD31	MD31	2.98 199	P	Pn	14 53 29.7	+0.5
MD31			S	Sn	14 54 05.1	+0.3
MDT	Midelt	2.99 196	Pn	Pn	14 53 29.4	0.0
	15nm,0.3s,baz=156,slow=9.1,SNR=48					
MDT			Sn	Sn	14 54 04.3	-0.8
	79nm,0.3s,baz=25,slow=20,SNR=6.9					
MDT			LR	LR	14 54 10.0	
	comp=Z,950nm,20.8s,baz=28,slow=30					
MDT			Lg	Lg	14 54 16.2	
	85nm,0.3s,baz=114,slow=12,SNR=7.5					
MDT	Midelt	2.99 196	P	Pn	14 53 29.4	0.0
MDT			S	Sn	14 54 05.3	+0.1
OJBR	Djebel Berber	3.23 91	P	Pn	14 53 31.0	-1.6
ZHG	ZHG	3.36 229	P	Pn	14 53 35.1	+0.7
OKGL	Djebel Kef Gue	3.47 83	P	Pn	14 53 35.6	-0.4
OJGS	Djebel Guires	3.56 92	P	Pn	14 53 39.0	+1.8
PBAR	Barrancos	3.69 313	*e*Pn	Pn	14 53 38.9	-0.1
PBAR			*e*Sn	Sn	14 54 20.6	-1.7
PBAR			A	A	14 54 34.1	
	410nm,0.6s					
PVAQ	Vaqueiros	3.72 298	*e*Pn	Pn	14 53 38.7	-0.6
PVAQ			*e*Sn	Sn	14 54 20.5	-2.4
PVAQ			A	A	14 54 28.7	
	552nm,0.4s					
PVAQ	Vaqueiros	3.72 298	Pn	Pn	14 53 38.3	-1.0
PVAQ	Vaqueiros	3.72 298	P	Pn	14 53 38.6	-0.7
PBDV	Barranco-do-Ve	3.81 295	*e*Pn	Pn	14 53 40.0	-0.5
PBDV			*e*Sn	Sn	14 54 23.6	-1.5
PBDV			A	A	14 54 28.2	
	515nm,0.7s					
EANR	'Ain N'Sour	3.84 85	P	Pn	14 53 28.0	-13
PAB	San Pablo	3.88 352	Pn	Pn	14 53 41.8	+0.1
AVE	Averroes	3.95 234	P	Pn	14 53 41.9	-0.5
AVE	Averroes	3.95 234	S	Sn	14 54 13.6	-15
AVE	Averroes	3.95 234	P	Pn	14 53 42.0	-0.5
ESDC	Sonseca Array	3.98 356	Pn	Pn	14 53 43.6	+0.7
	12nm,0.3s,baz=178,slow=12,SNR=151					
ESDC			Sn	Sn	14 54 30.1	+0.7
	12nm,0.3s,baz=178,slow=23,SNR=5.6					
ESDC			Lg	Lg	14 54 46.3	
	26nm,0.3s,baz=184,slow=27,SNR=7.9					
ESDC			LR	LR	14 54 55.0	
	comp=Z,1µm,21.5s,baz=226,slow=34					
ESDC	Sonseca Array	3.98 356	Pn	Pn	14 53 43.1	+0.1
ESBB	Sonseca Array	3.98 356	Pn	Pn	14 53 43.1	+0.2
PCVE	Castro Verde	4.05 300	*e*Pn	Pn	14 53 43.4	-0.4
PCVE			*e*Sn	Sn	14 54 29.4	-1.6
PCVE			A	A	14 54 32.5	
	926nm,0.6s					
FIGM	Figuig	4.06 151	P	Pg	14 54 02.0	+2.0
PBEJ	Beja	4.13 306	*e*Pn	Pn	14 53 44.4	-0.5
PBEJ			*e*Sn	Sn	14 54 31.3	-1.7
PBEJ			A	A	14 54 38.6	
	287nm,0.6s					
GOLM	Goulmima	4.14 196	P	Pn	14 53 49.0	+3.8
MESJ	Messejana	4.27 301	*e*P	Pn	14 53 46.4	-0.4
MESJ			*e*S	Sn	14 54 33.2	-3.4
MESJ			IAML		14 54 38.6	
	comp=N,1µm,0.3s					
MESJ	Messejana	4.27 301	*e*Pn	Pn	14 53 46.5	-0.4
MESJ			*e*Sn	Sn	14 54 34.4	-2.2
MESJ			A	A	14 54 36.6	
	comp=N,470nm,0.5s					
MORF	Marmelete	4.36 293	*e*P	Pn	14 53 47.5	-0.7
MORF			*e*S	Sn	14 54 35.3	-3.6
MORF			IAML		14 54 42.7	
	comp=N,757nm,0.7s					
MORF	Marmelete	4.36 293	*e*Pn	Pn	14 53 47.6	-0.7
MORF			*e*Sn	Sn	14 54 35.9	-3.0
MORF			A	A	14 54 40.2	
	comp=N,346nm,0.6s					
PFVI	Vila Bisbo	4.44 290	*e*Pn	Pn	14 53 48.8	-0.4
PFVI			*e*Sn	Sn	14 54 38.0	-2.8
PFVI			A	A	14 54 47.4	
	comp=N,443nm,0.5s					
PFVI	Vila Bisbo	4.44 290	Pn	Pn	14 53 49.4	+0.2
PFVI	Vila Bisbo	4.44 290	P	Pn	14 53 49.5	+0.2
PESTR	Estremoz	4.48 316	*e*Pn	Pn	14 53 49.6	-0.2
PESTR			*e*Sn	Sn	14 54 40.0	-1.7
PESTR			A	A	14 55 16.8	
	comp=N,293nm,0.6s					
PESTR	Estremoz	4.48 316	Pn	Pn	14 53 49.2	-0.6
PESTR	Estremoz	4.48 316	P	Pn	14 53 49.8	0.0
PTEO	Sao Teotonio	4.50 296	*e*Pn	Pn	14 53 50.0	-0.1
PTEO			*e*Sn	Sn	14 54 40.1	-2.2
PTEO			A	A	14 54 45.7	
	comp=N,622nm,0.7s					
EVO	Evora	4.51 310	P	Pn	14 53 50.1	-0.1
EVO	Evora	4.51 310	S	Sn	14 54 40.2	-2.3
EVO	Evora	4.51 310	*e*Pn	Pn	14 53 50.1	-0.1
EVO			*e*Sn	Sn	14 54 40.5	-2.0
EVO			A	A	14 54 43.0	
	comp=N,497nm,0.6s					
UCM	Universidad Co	4.61 4	P	Pn	14 53 52.7	+1.1
UCM	Universidad Co	4.61 4	S	Sn	14 54 43.8	-1.2
PNCL	Nicolau / Gran	4.62 303	*e*Pn	Pn	14 53 51.2	-0.4
PNCL			*e*Sn	Sn	14 54 43.2	-1.9
PNCL			A	A	14 54 49.1	
	comp=N,308nm,0.4s					
PMRV	Marv??o	4.78 322	*e*Pn	Pn	14 53 54.3	+0.4
PMRV			*e*Sn	Sn	14 54 47.7	-1.5
PMRV			A	A	14 55 03.0	
	comp=N,398nm,0.5s					
PMTG	Montargil	4.98 314	*e*Pn	Pn	14 53 56.4	-0.2
PMTG			*e*Sn	Sn	14 54 52.0	-2.0
PMTG			A	A	14 54 53.6	
	comp=N,251nm,0.5s					
PCBR	Castelo Branco	5.14 325	*e*Pn	Pn	14 53 59.3	+0.4
PCBR			*e*Sn	Sn	14 54 55.3	-2.8
PCBR			A	A	14 54 58.6	
	comp=N,335nm,0.6s					
TZRR	Tazzarine	5.17 199	P	Pn	14 54 01.0	+1.7
LIS	Lisbon	5.35 306	*e*P	Pn	14 54 01.2	-0.4
LIS			*e*S	Sn	14 54 58.1	-4.9
LIS			IAML		14 55 03.7	
	comp=N,1µm,0.6s					
LIS	Lisbon	5.35 306	*e*Pn	Pn	14 54 02.3	+0.6
LIS			*e*Sn	Sn	14 55 01.1	-2.0
LIS			A	A	14 55 11.8	
	comp=N,378nm,0.6s					
PMST	Lisbon--Monsan	5.38 306	*e*Pn	Pn	14 54 02.2	+0.1
PMST			*e*Sn	Sn	14 55 01.7	-2.2
PMST			A	A	14 55 18.1	
	comp=N,234nm,0.5s					
OUZM	OUZ	5.45 210	P	Pn	14 54 04.2	+0.9
PMAFR	Mafra	5.57 307	*e*Pn	Pn	14 54 04.6	-0.1
PMAFR			*e*Sn	Sn	14 55 05.9	-2.6
PMAFR			A	A	14 55 10.5	
	comp=N,508nm,0.6s					
PSBE	So Bento	5.61 314	*e*Pn	Pn	14 54 05.6	+0.3
PSBE			*e*Sn	Sn	14 55 07.0	-2.5
PSBE			A	A	14 55 40.7	
	comp=N,251nm,0.6s					
MTE	Manteigas	5.63 328	*e*Pn	Pn	14 54 06.4	+0.8
MTE			*e*Sn	Sn	14 55 07.6	-2.4
MTE			A	A	14 55 17.2	
	comp=N,308nm,0.6s					
MTE	Manteigas	5.63 328	Pn	Pn	14 54 04.5	-1.1
OUK	Oukaimeden	5.72 220	P	Pn	14 54 06.5	-0.6
ZGR	Zagora	5.81 197	P	Pn	14 54 09.0	+0.8
PCAS	Casmilo, Conde	5.82 320	*e*Pn	Pn	14 54 07.6	-0.5
PCAS			*e*Sn	Sn	14 55 10.4	-4.2
PCAS			A	A	14 55 31.9	
	comp=N,200nm,0.6s					
PVIS	Viseu	6.04 327	*e*Pn	Pn	14 54 11.9	+0.7
PVIS			*e*Sn	Sn	14 55 18.1	-2.1
PVIS			A	A	14 55 20.9	
	comp=N,349nm,0.6s					
MVO	Moncorvo	6.08 335	*e*Pn	Pn	14 54 12.4	+0.6
MVO			*e*Sn	Sn	14 55 18.3	-2.9
MVO			A	A	14 55 57.4	
	comp=N,333nm,0.5s					
EAH	EAH	6.41 233	P	Pn	14 54 16.0	-0.3
PVRL	Vila Real	6.43 331	*e*Pn	Pn	14 54 17.5	+0.9
PVRL			*e*Sn	Sn	14 55 26.4	-3.4
PVRL			A	A	14 55 30.9	
	comp=N,274nm,1.0s					
TTIG	Tnine Tigouga,	6.54 220	P	Pn	14 54 17.0	-1.2
POLO	Lamas de Olo	6.54 331	*e*Pn	Pn	14 54 18.7	+0.5
POLO			*e*Sn	Sn	14 55 28.4	-4.3
POLO			A	A	14 55 33.4	
	comp=N,126nm,0.6s					
PBRG	Braganca	6.57 339	*e*Pn	Pn	14 54 19.0	+0.5
PBRG			*e*Sn	Sn	14 55 31.6	-1.6
PBRG			A	A	14 56 25.6	
	comp=N,137nm,0.6s					
PTO	Porto	6.70 326	*e*Pn	Pn	14 54 20.8	+0.6
PTO			*e*Sn	Sn	14 55 31.6	-4.7
PCAB	Cabril	6.92 331	*e*Pn	Pn	14 54 23.6	+0.2
PCAB			*e*Sn	Sn	14 55 39.2	-2.7
PCAB			A	A	14 56 29.8	
	comp=N,214nm,0.6s					
PGAV	Gavieira, Arco	7.24 331	*e*Pn	Pn	14 54 28.3	+0.6
PGAV			*e*Sn	Sn	14 55 44.2	-5.5
PGAV			A	A	14 56 01.0	
	comp=N,179nm,0.6s					
ETSF	Etsaut	7.57 17	*e*Pn	Pn	14 54 34.3	+2.0
ETSF			*e*Sn	Sn	14 55 56.4	-1.5
	comp=N,12nm,0.4s					
SJPF	Ste Jean	7.63 13	*e*Pn	Pn	14 54 34.3	+1.2
SJPF			*e*Sn	Sn	14 55 58.4	-1.0
	comp=N,9.3nm,0.3s					
EPF	Esparros	7.94 21	*e*Pn	Pn	14 54 38.9	+1.6
EPF			*e*Sn	Sn	14 56 06.0	-0.9
	comp=N,12nm,0.5s					
MTLF	Montolieu	8.86 29	*e*Pn	Pn	14 54 51.1	+1.2
MTLF			*e*Sn	Sn	14 56 28.7	-0.8
	comp=N,1.1nm,0.2s					
LFF	La Frestale	9.81 18	*e*Pn	Pn	14 55 04.0	+1.1
LASF	Ste Croix	10.14 32	*e*Pn	Pn	14 55 08.9	+1.4
CAF	Calviac	10.18 23	*e*Pn	Pn	14 55 09.3	+1.3
RJF	Les Rejaudoux	10.36 21	*e*Pn	Pn	14 55 10.2	-0.2
KEST	Kesra	10.54 86	Pn	Pn	14 55 14.1	+1.1
	comp=N,0.4nm,0.3s,baz=195,slow=4.3,SNR=4.3					
KEST			LR	LR	15 00 00.2	
	comp=N,505nm,20.6s,baz=170,slow=42					
KEST	Kesra	10.54 86	Pn	Pn	14 55 13.7	+0.7
SMRF	Simiane la Rot	10.87 38	*e*Pn	Pn	14 55 19.2	+1.8
SMRF			*e*Sn	Sn	14 57 15.6	-3.2
	comp=N,0.8nm,0.3s					
LMR	La Mourre	10.91 43	*e*Pn	Pn	14 55 19.1	+1.1
LMR			*e*Sn	Sn	14 57 16.3	-3.6
	comp=N,1.4nm,0.3s					
VSL	Villasalto	10.98 66	Pn	Pn	14 55 18.1	-0.9
VIVF	Saint-Julien-l	11.12 32	*e*Pn	Pn	14 55 22.0	+1.2
MFF	Saint Martin d	11.20 12	*e*Pn	Pn	14 55 23.0	+1.1
MFF			*e*Sn	Sn	14 57 21.4	-5.5
	comp=N,3.2nm,0.4s					
PMAR	Madeira	11.40 259	*e*Pn	Pn	14 55 24.6	-0.3
PMAR			*e*Sn	Sn	14 57 23.6	-8.7
PMOZ	Porto Moniz, M	11.60 260	*e*Sn	Sn	14 57 35.9	-1.0
BGF	Bois d'Agland	11.89 22	*e*Pn	Pn	14 55 32.7	+1.4
PGF	Pioggiola	11.94 51	*e*Pn	Pn	14 55 33.7	+1.5
PGF			*e*Sn	Sn	14 57 40.7	-4.5
	comp=N,1.4nm,0.4s					
QUIF	Quistinic	12.21 1	*e*Pn	Pn	14 55 36.2	+0.4
QUIF			*e*Sn	Sn	14 57 46.5	-5.2
	comp=N,17nm,0.6s					
AVF	Avril sur Loir	12.25 23	*e*Pn	Pn	14 55 37.5	+1.2
SMF	Signal de Mont	12.29 25	*e*Pn	Pn	14 55 37.4	+0.6
SGMF	Saint Gilles	12.57 3	*e*Pn	Pn	14 55 41.7	+1.1
SGMF			*e*Sn	Sn	14 57 54.6	-5.8
	comp=N,3.0nm,0.3s					
ROSF	Rostrenen	12.63 1	*e*Pn	Pn	14 55 42.0	+0.5
ROSF			*e*Sn	Sn	14 57 57.2	-4.7
	comp=N,3.5nm,0.3s					
GRR	Gorron	12.84 8	*e*Pn	Pn	14 55 45.0	+0.6
LDF	La Druitiere	13.14 10	*e*Pn	Pn	14 55 48.9	+0.5
FLN	La Foliniere	13.26 9	*e*Pn	Pn	14 55 50.4	+0.4
SAVF	Savonnieres en	14.43 24	*e*Pn	Pn	14 56 07.5	+1.5
TUE	Stuetta	14.52 38	P	P	14 56 14.2	+0.1
MURB	Monte Urbino	14.56 54	P	P	14 56 14.3	-0.1
VAE	Valguarnera	14.59 78	Pn	Pn	14 56 07.3	-1.1
	comp=N,1.4nm,0.3s,baz=16,slow=3.2,SNR=1.4					
DAVOX	Davos/Dischmat	15.00 38	Pn	P	14 56 20.3	+0.9
	comp=N,0.3nm,0.3s,baz=226,slow=11,SNR=17					
DAVA	Damuels	15.35 37	*i* P	P	14 56 24.6	+1.3
	comp=N,16nm,0.9s					
CTI	Castel Tesino	15.47 43	Pn	Pn	14 56 19.5	-0.6
FETA	Feichten	15.59 39	*i* P	P	14 56 27.0	+1.1
	comp=N,17nm,0.7s					
WLF	Walferdange	15.68 24	*e*P	P	14 56 27.2	+0.5
	comp=N,25nm,0.9s,baz=224,slow=11					
WLF	Walferdange	15.68 24		P	14 56 26.9	+0.2
UBR	Ueberruh	15.73 36	*e*P	P	14 56 28.5	+1.1
	comp=N,18nm,1.0s,baz=224,slow=11					
RETA	Reutte	15.92 38	*e*P	P	14 56 30.3	+0.8
	comp=N,12nm,0.8s					
SQTA	Sankt Quirin	15.97 39	*i* P	P	14 56 30.6	+0.5
	comp=N,22nm,0.9s					
MOTA	Moosalm	15.99 39	*e*P	P	14 56 30.9	+0.5
	comp=N,11nm,1.0s					
STAL	STALIGIAL	16.19 44	P	P	14 56 32.6	+0.1
WTTA	Wattenberg	16.22 40	*e*P	P	14 56 33.4	+0.4
	comp=N,20nm,1.1s					
WATA	Walderalm	16.23 40	*e*P	P	14 56 32.7	-0.3
	comp=N,20nm,1.0s					
ABTA	Abfaltersbach	16.37 43	*e*P	P	14 56 34.5	0.0
	comp=N,13nm,1.0s					
FUR	Furstenfeldbru	16.63 37	*e*P	P	14 56 38.3	+1.0
	comp=N,24nm,0.9s,baz=224,slow=11					
KBA	Koelnbreinsper	17.02 43	*e*P	P	14 56 41.5	-0.3
	comp=N,2.9nm,0.6s					
OBKA	Obir	17.39 46	*e*P	P	14 56 47.1	+1.2
	comp=N,3.7nm,0.6s					
GRF	Grafenberg Arr	17.69 33	*e*P	P	14 56 50.9	+2.0
	comp=N,13nm,0.6s,baz=224,slow=11					
SOKA	Soboth	17.77 46	*e*P	P	14 56 52.0	+2.1
	comp=N,6.8nm,0.9s					
ROTZ	Rotzenmuhle	18.19 34	*e*P	P	14 56 56.7	+2.2
	comp=N,3.8nm,1.1s,baz=224,slow=11					
GEC2	GERESS Array S	18.30 39		Pn	14 56 54.8	-0.8
GERES	GERESS Array B	18.30 39	P	Pn	14 56 55.4	-0.3
	comp=N,0.1nm,0.3s,baz=237,slow=8.9,SNR=9.2					
GERES			PcP	PcP	15 01 27.8	+0.5
	comp=N,0.1nm,0.3s,baz=204,slow=1.9,SNR=4.7					
GERES	GERESS Array B	18.30 39		Pn	14 56 54.6	-1.0
MANZ	Manzenberg	18.30 34	*e*P	P	14 56 57.3	+1.5
	comp=N,2.5nm,0.9s,baz=224,slow=11					
ARSA	Arzberg	18.35 45	*e*P	P	14 56 57.8	+1.4
	comp=N,3.2nm,0.7s					
KHC	Kasperske Hory	18.42 38	*e*P	Pn	14 56 59.9	+2.8
KHC			AMS	AMS	15 05 00.0	
	comp=N,1µm,10.9s					
KHC	Kasperske Hory	18.42 38		P	14 56 55.7	-1.3
MOX	Moxa	18.56 32	*e*P	Pn	14 57 00.7	+1.9
	comp=N,13nm,1.3s,baz=224,slow=11					
CKRC	Cesky Krumlov	18.59 40	*e*P	Pn	14 56 59.3	+0.1
CKRC			AMS	AMS	15 05 10.0	
	comp=N,700nm,8.3s					
NKC	Novy Kostel	18.63 34	*e*P	Pn	14 57 02.2	+2.4
NKC			AMS	AMS	15 05 00.0	
	comp=N,2µm,10.7s					
CONA	Conrad Observa	18.91 44	*e*P	Pn	14 57 03.4	+0.2
	comp=N,5.7nm,0.8s					
PDG	Podgorica	18.96 62	P	P	14 57 03.2	+0.2
NEUB	Neuenburg	19.05 31	*e*P	Pn	14 57 06.8	+2.1
	comp=N,19nm,0.9s,baz=224,slow=11					
BBLS	Lazići	19.44 58	*e*P	P	14 57 05.1	-3.2
PRU	Pruhonice	19.45 37	*e*P	Pn	14 57 09.9	+0.4
PRU			AMS	AMS	15 05 30.0	
	comp=N,600nm,10.3s					
TREC	Trest	19.50 40	AMS	AMS	15 05 40.0	
	comp=N,700nm,9.1s					
FBE	Freiberg	19.52 34	*e*P	Pn	14 57 10.8	+0.4
	comp=N,16nm,0.9s,baz=224,slow=11					
ESK	Eskdalemuir	19.62 1	P	P	14 57 10.3	+0.2
EKA	Eskdalemuir Ar	19.64 1	P	Pn	14 57 12.3	+0.5
	baz=175,slow=10,SNR=16					
EKA			LR	LR	15 04 53.0	
	comp=N,556nm,21.2s,baz=190,slow=37					
CLL	Collm	19.64 32	‖ *i* P	Pn	14 57 12.5	+0.7
	comp=Z,23nm,0.8s					
CLL			*e*S	Sn	15 00 52.0	-0.1
	comp=N,200nm,18.8s					
CLL			*e*S	Sn	15 00 52.0	-0.1
	comp=E,200nm,20.5s					
CLL			*ex*	x	15 04 35.0	
CLL			Lmax		15 06 00.0	
CLL	Collm	19.64 32	*e*P	Pn	14 57 12.5	+0.7
	comp=E,22nm,0.8s,baz=224,slow=11					
CLL	Collm	19.64 32	P	P	14 57 11.1	+0.7
SJES	Sjenica	19.67 60	*e*P	P	14 57 06.0	-4.9
BRG	Berggiesshubel	19.76 34	*e*P	Pn	14 57 13.3	+0.2
BRG			Amp		14 57 19.7	
	comp=Z,13nm,1.0s					
KBN	Korca	19.78 68		Pn	14 57 13.8	+0.1
PVCC	Panska Ves	19.82 36	AMS	AMS	15 05 50.0	
	comp=Z,800nm,10.9s					
KRUC	Moravsky	19.84 42	*e*P	P	14 57 12.8	+0.2
OHR	Ohrid	19.85 67	*i* P	Pn	14 57 14.1	-0.4
IVAS	Ivanjica	19.88 59	*e*P	P	14 57 11.3	-1.8
DIVS	Divibare	19.91 58	*e*P	P	14 57 05.2	-8.3
MODS	Modra-Piesok	19.95 44	*e*P	Pn	14 57 16.5	+0.9
VRAC	Vranov	20.09 41	P	P	14 57 15.0	-0.4
	comp=Z,4.9nm,0.7s,baz=244,slow=11,SNR=7.3					
VRAC			LR	LR	15 04 36.4	
	comp=Z,79nm,20.5s,baz=248,slow=36					
VRAC	Vranov	20.09 41	*e*P	P	14 57 15.5	+0.2
SMOL	Smolenice	20.11 44	*e*P	Pn	14 57 17.0	-0.4
TRUS	Trudelj	20.23 58	*e*P	P	14 57 14.8	-2.1
FNA	Florina	20.25 68	P	P	14 57 17.4	+0.3
SRO	Srobarova	20.27 47	*e*P	Pn	14 57 19.2	-0.1
GRUS	Gruza	20.35 59	*e*P	P	14 57 17.7	-0.5
JAVC	Velka Javorina	20.43 43	*e*P	Pn	14 57 24.1	+2.9
SKO	Skopje	20.46 65	*i* P	P	14 57 19.6	+0.1
UPC	Upice	20.51 38	AMS	AMS	15 05 50.0	
	comp=Z,600nm,9.4s					
DPC	Dobruska-Polom	20.57 38	*ex*	x	14 56 59.0	
DPC			*e*P	Pn	14 57 22.4	-0.4
DPC			AMS	AMS	15 07 10.0	
	comp=Z,800nm,10.7s					
CHVC	Chvalec	20.58 38	*e*P	Pn	14 57 22.0	-0.9
CHVC			AMS	AMS	15 06 00.0	
	comp=Z,700nm,8.3s					
ITM	Ithomi	20.59 78	P	P	14 57 21.4	+0.6
KRLC	Kraliky	20.64 40	*e*P	Pn	14 57 23.0	-0.6
KRLC			AMS	AMS	15 06 50.0	
	comp=Z,700nm,8.6s					
OSTC	Ostas	20.64 38	*e*P	Pn	14 57 23.9	+0.3
OSTC			AMS	AMS	15 06 00.0	
	comp=Z,600nm,9.5s					
BSEG	Bad Segeberg	20.67 24	*e*P	Pn	14 57 24.2	+0.3
	comp=Z,34nm,1.2s,baz=224,slow=11					
RUE	Ruedersdorf	20.83 31	*e*P	Pn	14 57 25.3	-

NC405 NORSAR Array S 27.25 16 P **P 14 58 24.8 -1.0**
NC405 IAmb IAmb 14 58 29.4
comp=Z,20nm,1.1s
PABE Paberze 27.35 35 P **P 14 58 27.3 +0.6**
PABE IAmb IAmb 14 58 30.9
comp=Z,18nm,0.9s
AKASG Malin Array Be 27.96 47 P **P 14 58 29.7 -2.5**
comp=Z,1.5nm,0.8s,baz=245,slow=10,SNR=3.4
AKASG LR LR 15 09 44.5
comp=Z,141nm,18.4s,baz=270,slow=37
NACGM Naroch 28.39 38 *i* P P 14 58 23.3 -13
MNK Minsk 28.76 39 *i* P **P 14 58 36.5 -2.7**
comp=E,3.0nm,1.0s
MNK *i* P **P 14 58 36.5 -2.7**
comp=N,9.0nm,0.9s
MNK *i* P **P 14 58 36.5 -2.7**
comp=Z,10.0nm,1.1s,baz=242
MNK *i* PP **PnPn 14 59 26.1 -3.7**
MNK *i* S **S 15 03 25.8 -2.3**
MNK *i* SS **SnSn 15 04 41.2 -7.9**
MNK *i* LQ LQ 15 07 19.9
MNK *i* LR LR 15 09 10.6
MNK *i* LRM MLR 15 11 09.1
comp=E,15nm,17.7s
MNK *i* LRM MLR 15 11 09.1
comp=Z,163nm,22.8s
MNK *i* LRM MLR 15 11 40.5
comp=N,206nm,21.6s
DBIC Dimbokro 28.91 183 P **P 14 58 40.8 -0.1**
comp=N,5.0nm,0.7s,baz=11,slow=12,SNR=9.7
DBIC LR LR 15 10 09.8
comp=N,679nm,18.2s,baz=18,slow=36
DBIC Dimbokro 28.91 183 P **P 14 58 40.9 -0.1**
DBIC IAmb IAmb 14 59 04.4
comp=Z,23nm,1.3s
TIC Toumodi 28.94 183 *eP* **P 14 58 41.4 +0.1**
KIC Kosan Boka 29.22 182 *eP* **P 14 58 43.3 -0.4**
comp=Z,21nm,0.9s
LIC Lamto 29.36 183 *eP* **P 14 58 41.9 -3.0**
comp=Z,35nm,1.0s
BORG Borgarnes 30.98 345 LR LR 15 10 08.6
comp=Z,529nm,21.6s,baz=168,slow=34
FINES FINESS Array B 31.87 27 P **P 14 59 06.4 -0.3**
comp=Z,1.5nm,0.5s,baz=233,slow=6.8,SNR=15
FINES PcP **PcP 15 01 57.1 +0.1**
comp=Z,3.6nm,0.6s,baz=205,slow=1.7,SNR=13
FINES LR LR 15 11 16.5
comp=Z,211nm,21.2s,baz=226,slow=35
FINES FINESS Array B 31.87 27 P **P 14 59 06.2 -0.4**
FIA1 FINESS Array S 31.87 27 P **P 14 59 06.4 -0.3**
FIA1 IAmb IAmb 14 59 24.3
comp=Z,19nm,1.4s
JMIC Jan Mayen 35.45 357 LR LR 15 14 03.9
comp=Z,286nm,18.5s,baz=126,slow=36
KLMR Klimovskoe 37.12 34 *eP* **P 14 59 49.6 -2.5**
KLMR AMP 15 00 08.0
comp=Z,20nm,1.4s
KLMR *e*PcP **PcP 15 02 10.9 -1.2**
ARCES ARCESS Array B 37.45 16 P **P 14 59 55.3 +0.5**
comp=Z,3.6nm,0.8s,baz=259,slow=0.6,SNR=12
ARCES PcP **PcP 15 02 12.8 -0.2**
comp=Z,2.5nm,0.7s,baz=222,slow=1.2,SNR=6.4
ARCES LR LR 15 14 44.6
comp=Z,363nm,19.6s,baz=219,slow=35
ARCES ARCESS Array B 37.45 16 P **P 14 59 55.1 +0.3**
LVZ Lovozero 38.78 22 P **P 15 00 07.1 +1.0**
LVZ IAmb IAmb 15 00 33.8
comp=Z,36nm,1.3s
SUMG Summit 40.96 345 *i* P **P 15 00 25.0 +0.5**
SUMG Summit 40.96 345 P **P 15 00 26.2 +1.7**
SUMG IAmb IAmb 15 00 48.0
comp=Z,32nm,1.5s
DRLN Deer Lake 41.14 306 P **P 15 00 26.2 +0.3**
DRLN IAmb IAmb 15 00 55.4
comp=Z,40nm,1.3s
SFJD Kangerlussuaq 41.21 334 LR LR 15 14 35.5
comp=Z,210nm,21.6s,baz=133,slow=32
SFJD Kangerlussuaq 41.21 334 P **P 15 00 28.0 +1.8**
SFJD IAmb IAmb 15 00 43.4
comp=Z,13nm,1.1s
KIRV Kirov 41.30 39 LR LR 15 17 39.3
comp=Z,71nm,18.4s,baz=267,slow=36
SPITS Spitsbergen Ar 43.43 6 LR LR 15 18 38.8
comp=Z,148nm,20.2s,baz=95,slow=36
GBN Guysborough 44.19 301 P **P 15 00 51.6 +1.0**
ARU Arti 46.04 43 LR LR 15 21 09.8
comp=Z,60nm,19.3s,baz=274,slow=37
ARU Arti 46.04 43 P **P 15 01 04.9 -0.4**
ARU IAmb IAmb 15 01 05.7
comp=Z,8.6nm,0.6s
AKTO Aktyubinsk 46.06 51 LR LR 15 20 48.9
comp=Z,50nm,21.1s,baz=311,slow=37
LMN Caledonia Moun 46.40 302 P **P 15 01 08.5 +0.2**
SCHQ Schefferville 46.69 315 P **P 15 01 10.9 +0.5**
comp=Z,3.4nm,0.6s,baz=73,slow=4.4,SNR=12
SCHQ LR LR 15 16 57.5
comp=Z,201nm,18.6s,baz=95,slow=31
SCHQ Schefferville 46.69 315 P **P 15 01 10.5 +0.2**
SCHQ IAmb IAmb 15 01 33.4
comp=Z,9.7nm,1.1s
BATG Bathurst New B 47.01 304 P **P 15 01 13.2 +0.1**
ABKAR Abkulak array 47.44 53 P **P 15 01 16.4 +0.1**
ABKAR Abkulak array 47.44 53 P **P 15 01 16.4 +0.1**
ABKAR IAmb IAmb 15 01 17.8
comp=Z,8.1nm,0.8s
FRB Frobisher Bay 47.65 327 LR LR 15 17 43.5
comp=Z,332nm,21.4s,baz=85,slow=32
MBAR Mbarara 48.25 131 LR LR 15 22 14.1
comp=Z,232nm,19.4s,baz=312,slow=37
ATD Arta Tunnel 48.33 108 LR LR 15 24 43.3
comp=Z,114nm,20.5s,baz=317,slow=40
G65A Princeton 48.43 302 P **P 15 01 24.7 +0.7**
PQI Presque Isle 48.44 304 P **P 15 01 24.6 +0.5**
F64A Sherman 48.83 303 P **P 15 01 27.5 +0.4**
F64A IAmb IAmb 15 01 31.6
comp=Z,13nm,0.8s
D62A Allapoint, All 49.05 305 P **P 15 01 29.1 +0.3**
D62A IAmb IAmb 15 01 33.1
comp=Z,14nm,0.8s
F63A Nahmakanta, Br 49.38 303 P **P 15 01 32.2 +0.8**
F63A IAmb IAmb 15 01 55.3
comp=Z,19nm,1.4s
E62A Clayton Lake 49.47 304 P **P 15 01 32.9 +0.9**
E62A IAmb IAmb 15 01 36.7
comp=Z,5.9nm,0.8s
PKME Peaks-Kenny Pk 49.61 302 P **P 15 01 34.0 +1.0**
PKME IAmb IAmb 15 01 52.3
comp=Z,21nm,1.2s
LMQ La Malbaie 49.81 305 P **P 15 01 35.4 +0.8**
F62A Pittston Farm, 49.92 303 P **P 15 01 36.2 +0.7**
F62A IAmb IAmb 15 02 04.2
comp=Z,18nm,1.3s
G62A West of Eustis 50.47 303 P **P 15 01 40.8 +1.1**
G62A IAmb IAmb 15 01 56.0
comp=Z,30nm,1.4s
I63A Otisfield 50.79 301 P **P 15 01 43.3 +1.3**
LBNH Lisbon 51.68 302 P **P 15 01 50.3 +1.6**
LBNH IAmb IAmb 15 01 51.1
comp=Z,14nm,0.9s
K62A Royalston 52.33 300 P **P 15 01 54.1 +0.5**
K62A IAmb IAmb 15 01 56.9
comp=Z,12nm,1.0s
M63A Gales Ferry 52.57 298 P **P 15 01 56.2 +0.9**
FRNY Flat Rock 52.66 303 P **P 15 01 56.8 +0.8**
FRNY IAmb IAmb 15 02 10.0
comp=Z,17nm,1.4s
L61B Northampton 52.71 300 P **P 15 01 57.6 +1.2**
L61B IAmb IAmb 15 02 10.6
comp=Z,16nm,1.1s
KMBO Kilima Mbogo 52.84 125 P **P 15 01 59.3 +1.4**
comp=Z,2.4nm,0.9s,baz=277,slow=5.9,SNR=4.3
KMBO Kilima Mbogo 52.84 125 P **P 15 01 58.7 +0.8**
TRQ Mont Tremblant 52.94 305 P **P 15 01 59.0 +0.9**
BRVK Borovoye 53.17 46 P **P 15 01 59.9 +0.3**
NCB Newcomb 53.34 302 P **P 15 02 01.7 +0.6**
NCB IAmb IAmb 15 02 19.5
comp=Z,25nm,1.3s
LONY Lake Ozonia 53.40 303 P **P 15 02 02.2 +0.7**
LONY IAmb IAmb 15 02 20.1
comp=Z,11nm,1.2s
KSCT Kent School, K 53.50 299 P **P 15 02 03.4 +1.2**
KSCT IAmb IAmb 15 02 04.0
comp=Z,11nm,1.0s
EUNU Eureka 53.86 348 P **P 15 02 06.0 +1.6**
VLDQ Val d'Or 54.34 308 P **P 15 02 09.8 +1.6**
VLDQ IAmb IAmb 15 02 21.0
comp=Z,12nm,1.5s
ODNJ Ogdensburg 54.50 299 P **P 15 02 09.8 +0.3**
ODNJ IAmb IAmb 15 02 11.2
comp=Z,18nm,1.3s
WSAR Wadi Sarin 54.79 85 LR LR 15 31 02.7
comp=Z,36nm,18.3s,baz=297,slow=42
BRZS Berezniki 55.38 50 *eP* **P 15 02 15.7 -0.1**
comp=Z,11nm,0.9s,baz=50
BRLS Borolday 55.60 58 *eP* **P 15 02 17.0 -0.5**
baz=59
IUG Iuzhnay 56.02 59 *eP* **P 15 02 20.5 -0.2**
baz=60
KKAR Karatay Array 56.04 58 P **P 15 02 21.0 +0.3**
MVL Millersville 56.12 298 P **P 15 02 22.2 +1.0**
MVL IAmb IAmb 15 02 50.2
comp=Z,24nm,1.5s
RES Resolute Bay 56.28 341 LR LR 15 24 41.5
comp=Z,72nm,20.9s,baz=90,slow=34
RES Resolute Bay 56.28 341 P **P 15 02 23.2 +1.4**
SADO Sadowa 56.45 304 LR LR 15 23 51.3
comp=Z,201nm,21.1s,baz=38,slow=33
SADO Sadowa 56.45 304 P **P 15 02 24.7 +1.1**
SADO IAmb IAmb 15 02 47.8
comp=Z,16nm,1.2s
CHGR Chuyangaron 56.62 64 P **P 15 02 25.2 +0.2**
CHGR IAmb IAmb 15 02 26.3
comp=Z,12nm,0.7s
SSPA Standing Stone 56.99 299 P **P 15 02 29.0 +1.5**
SSPA IAmb IAmb 15 02 36.1
comp=Z,24nm,1.5s
M55A Ridgway 57.32 300 P **P 15 02 30.9 +1.1**
NRIK Noril'sk 57.51 25 LR LR 15 28 49.5
comp=Z,211nm,21.9s,baz=301,slow=38
BTLS Baital 57.79 55 *eP* **P 15 02 33.1 +0.1**
baz=55
TSUM Tsumeb 58.18 156 LR LR 15 28 35.0
comp=Z,279nm,18.6s,baz=336,slow=37
KURK Kurchatov 58.78 47 P **P 15 02 39.6 -0.2**
KURK IAmb IAmb 15 02 43.6
comp=Z,12nm,0.8s
AAK Ala-Archa 58.95 57 LR LR 15 30 11.3
comp=Z,73nm,19.1s,baz=310,slow=38
AAK Ala-Archa 58.95 57 P **P 15 02 42.1 +0.7**
LSZ Lusaka 58.97 144 LR LR 15 29 02.8
comp=Z,214nm,20.3s,baz=335,slow=37
T57A Hurt 59.35 296 P **P 15 02 45.7 +1.6**
T57A IAmb IAmb 15 02 51.4
comp=Z,6.4nm,0.8s
KUU Kurty 59.73 56 *eP* **P 15 02 45.7 -0.9**
comp=Z,17nm,1.5s,baz=56
SEM Semipalatinsk 59.86 47 *eP* **P 15 02 47.4 -0.2**
baz=48
BOOM Boomskoye usch 59.99 57 P **P 15 02 49.1 +0.5**
CHKK Chushkaly 60.18 55 *eP* **P 15 02 49.6 0.0**
baz=56
P52A Corning 60.38 299 P **P 15 02 52.4 +1.3**
MDOK Medeo 60.49 56 *eP* **P 15 02 51.7 -0.2**
baz=56
FCC Fort Churchill 60.51 323 P **P 15 02 52.6 +1.1**
FCC IAmb IAmb 15 02 56.6
comp=Z,9.8nm,1.2s
TDK Taldyqorghan 60.69 54 *eP* **P 15 02 53.2 +0.1**
baz=54
Q52A Bidwell 60.75 299 P **P 15 02 54.6 +1.1**
Q52A IAmb IAmb 15 02 55.2
comp=Z,7.7nm,0.7s
R53A Hurricane 60.78 298 P **P 15 02 55.0 +1.2**
KDJ Kajisay 60.98 57 P **P 15 02 55.8 +0.4**
KDJ IAmb IAmb 15 02 57.8
comp=Z,5.4nm,0.8s
L48A N Adams 61.07 303 P **P 15 02 56.8 +1.0**
KSH Kashi 61.19 60 P **P 15 02 56.8 +0.1**
KSH pP pP 15 03 01.3 +0.4
KSH pmax pmax
comp=Z,9.0nm,0.9s
ZAA0 Zalesovo Array 61.20 42 P **P 15 02 56.7 +0.3**
ZAA0 IAmb IAmb 15 02 57.5
comp=Z,3.3nm,0.7s
ZALV Zalesovo Beam 61.20 42 P **P 15 02 56.6 +0.3**
comp=Z,4.0nm,0.6s,baz=294,slow=7.1,SNR=16
ZALV LR LR 15 31 43.1
comp=Z,86nm,18.3s,baz=274,slow=38
ZALV Zalesovo Beam 61.20 42 P **P 15 02 56.4 0.0**
SATY Saty 61.44 56 *eP* **P 15 02 58.1 -0.3**
baz=56
S51A Beattyville 62.24 298 P **P 15 03 05.2 +1.5**
S51A IAmb IAmb 15 03 06.3
comp=Z,5.3nm,0.6s
MAKZ Makanchi 62.28 51 P **P 15 03 04.4 +0.6**
MK31 Makanchi Array 62.48 51 P **P 15 03 05.4 +0.2**
MK31 IAmb IAmb 15 03 06.5
comp=Z,11nm,0.8s
MKAR Makanchi Array 62.48 51 P **P 15 03 05.3 +0.2**
comp=Z,15nm,0.7s,baz=286,slow=5.8,SNR=169
MKAR LR LR 15 32 33.1
comp=Z,83nm,18.4s,baz=322,slow=38
R50A Paris 62.50 299 P **P 15 03 06.5 +1.1**
R50A IAmb IAmb 15 03 08.1
comp=Z,6.6nm,0.7s
R49A Shelbyville 63.09 299 P **P 15 03 10.1 +0.8**
TKL Tuckaleechee C 63.23 296 LR LR 15 29 26.8
comp=Z,96nm,18.9s,baz=78,slow=35
EYMN Ely 63.24 311 P **P 15 03 10.1 -0.1**
EYMN IAmb IAmb 15 03 14.1
comp=Z,9.9nm,0.9s
G40A Rib Lake 63.54 308 P **P 15 03 12.2 0.0**
G40A IAmb IAmb 15 03 15.8
comp=Z,6.8nm,0.8s
ZSN Zaisan 63.81 49 *eP* **P 15 03 14.3 +0.3**
comp=Z,5.7nm,0.8s,baz=49
E38A The Farm, Brul 63.84 310 P **P 15 03 14.2 +0.1**
E38A IAmb IAmb 15 03 19.1
comp=Z,12nm,0.9s
BAUV El Baul 64.10 262 P **P 15 03 16.9 +0.6**
W50A Signal Mountai 64.56 296 P **P 15 03 20.1 +0.9**
O44A Mansfield 64.59 302 P **P 15 03 19.4 +0.2**
ULM Lac du Bonnet 64.86 315 P **P 15 03 20.8 0.0**
comp=Z,3.0nm,0.6s,baz=62,slow=9.2,SNR=3.0
ULM LR LR 15 28 38.0
comp=Z,118nm,20.8s,baz=52,slow=33
ULM Lac du Bonnet 64.86 315 IAmb IAmb 15 03 26.0
comp=Z,4.3nm,0.7s
T47A Sharon Grove 65.05 299 P **P 15 03 23.0 +0.8**
FPAL Fort Paine 65.08 296 P **P 15 03 23.6 +1.1**
FPAL IAmb IAmb 15 03 25.1
comp=Z,12nm,1.1s
A36M Sachs Harbour 65.21 343 P **P 15 03 24.2 +1.5**
F36A Milaca 65.39 310 P **P 15 03 24.9 +0.5**
F36A IAmb IAmb 15 03 26.0
comp=Z,7.0nm,1.1s
Q44A Meyer Farm, Va 65.53 301 P **P 15 03 25.6 +0.3**
Q44A IAmb IAmb 15 03 26.1
comp=Z,8.5nm,0.7s
N41A Harden Midland 65.97 304 P **P 15 03 28.7 +0.6**
Y49A Blount Mountai 65.98 295 P **P 15 03 29.1 +0.8**
Y49A IAmb IAmb 15 03 32.5
comp=Z,6.4nm,0.8s
X48A Hartselle 66.17 296 P **P 15 03 30.0 +0.5**
X48A IAmb IAmb 15 03 31.1
comp=Z,8.0nm,0.6s
LBTB Lobatse 66.40 151 LR LR 15 33 21.7
comp=Z,443nm,20.3s,baz=338,slow=37
C36M Paulatuk 66.62 341 P **P 15 03 32.4 +0.6**
C36M IAmb IAmb 15 03 33.2
comp=Z,3.9nm,0.7s
PLAL Pickwick Lake 66.67 297 P **P 15 03 32.9 +0.2**
WMQ Urumqi 67.21 52 *eP* **P 15 03 37.3 +1.2**
WMQ pP pP 15 03 40.3 0.0
WMQ sP sP 15 03 45.8 +4.0
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,160nm,4.1s
P40A Paris 67.33 303 P **P 15 03 36.4 -0.4**
P40A IAmb IAmb 15 03 38.1
comp=Z,5.9nm,0.7s
CCM Cathedral Cave 67.47 301 P **P 15 03 37.7 0.0**
YKA Yellowknife Ar 67.72 332 P **P 15 03 39.4 +0.5**
comp=Z,1nm,0.6s,baz=60,slow=6.4,SNR=217
YKA LR LR 15 30 20.3
comp=Z,301nm,20.6s,baz=68,slow=33
YKA Yellowknife Ar 67.72 332 P **P 15 03 39.1 +0.2**
TIXI Tiksi 67.86 15 LR LR 15 38 58.4
comp=Z,167nm,18.9s,baz=329,slow=41
R40A Maddies Statio 68.07 302 P **P 15 03 41.2 -0.4**
R40A IAmb IAmb 15 03 43.6
comp=Z,7.3nm,0.9s
P38A Dawn 68.29 304 P **P 15 03 42.6 -0.3**
P38A IAmb IAmb 15 03 45.7
comp=Z,4.8nm,0.7s
ECSD EROS Data Cent 68.33 309 P **P 15 03 42.8 -0.3**
ECSD IAmb IAmb 15 03 45.9
comp=Z,16nm,1.4s
MGMO Mountain Grove 68.62 301 P **P 15 03 45.0 0.0**
S39A Bolivar 69.09 302 P **P 15 03 47.9 0.0**
FCAR Ozark Folk Cen 69.13 300 P **P 15 03 48.2 +0.1**
FCAR IAmb IAmb 15 03 49.7
comp=Z,6.9nm,0.8s
U40A Yellville 69.42 300 P **P 15 03 49.6 -0.4**
E28A Huff 69.43 313 P **P 15 03 50.5 +0.6**
BOSA Boshof 69.52 153 P **P 15 03 51.2 +0.6**
comp=Z,1.1nm,0.5s,baz=102,slow=12,SNR=1.5
BOSA LR LR 15 35 26.5
comp=Z,253nm,19.6s,baz=358,slow=37
BOSA Boshof 69.52 153 IAmb IAmb 15 04 07.0
comp=Z,19nm,1.4s
WHAR Wooly Hollow 69.54 299 P **P 15 03 50.5 -0.2**
WHAR IAmb IAmb 15 03 52.8
comp=Z,8.2nm,0.8s
W41B Gary Mavity, V 69.57 299 P **P 15 03 50.5 -0.4**
W41B IAmb IAmb 15 03 52.4
comp=Z,9.5nm,1.0s
INK Inuvik 69.81 342 LR LR 15 34 32.8
comp=Z,69nm,19.1s,baz=6.5,slow=36
143A Socs Landing, 70.19 296 P **P 15 03 55.4 +0.6**
HHAR Hobbs 70.21 301 P **P 15 03 54.7 -0.2**
HHAR IAmb IAmb 15 03 58.4
comp=Z,13nm,0.8s
X40A Basin Creek Fa 70.33 299 P **P 15 03 55.4 -0.2**
X40A IAmb IAmb 15 03 55.9
comp=Z,7.0nm,0.8s
ZARC Zaragoza, Cauc 70.44 265 P **P 15 03 57.6 +1.0**
ZARC IAmb IAmb 15 03 59.3
comp=Z,20nm,1.5s
U38A Gravette 70.44 301 P **P 15 03 55.5 -0.8**
U38A IAmb IAmb 15 03 57.9
comp=Z,8.1nm,0.8s
BGNE Belgrade 70.47 307 P **P 15 03 55.0 -1.4**
DGMT Dagmar 70.48 316 P **P 15 03 57.1 +0.8**
KSU1 Kansas State U 70.62 305 P **P 15 03 57.5 +0.2**
KSU1 IAmb IAmb 15 04 00.5
comp=Z,11nm,0.8s
W39A Magazine 70.65 300 P **P 15 03 57.1 -0.5**
W39A IAmb IAmb 15 03 59.4
comp=Z,8.1nm,0.8s
MIAR Mount Ida 70.83 299 P **P 15 03 58.5 -0.1**
MIAR IAmb IAmb 15 04 00.0
comp=Z,7.6nm,0.8s
SUR Sutherland 71.49 158 LR LR 15 37 27.8
comp=Z,170nm,19.2s,baz=342,slow=38
ROSC El Rosal 71.54 263 LR LR 15 31 51.9
comp=Z,75nm,19.1s,baz=38,slow=33
NORC Norcasia 71.56 263 *eP* **P 15 04 04.2 +0.7**
PYUN Piuthan 71.65 68 *eP* **P 15 04 04.1 +0.1**
comp=Z,27nm,0.7s
T35A Sooner Cattle 71.67 303 P **P 15 04 03.4 -0.4**
X37A Clayton 72.08 300 P **P 15 04 06.6 +0.4**
X37A IAmb IAmb 15 04 09.2
comp=Z,12nm,0.8s
DANN Dangsing 72.10 68 *eP* **P 15 04 06.6 -0.2**
comp=Z,34nm,0.8s
GUY2C Guyana, Caldas 72.16 264 *eP* **P 15 04 07.0 -0.5**
BLOK Blackwell 72.23 303 P **P 15 04 07.7 +0.5**
OK030 Cody Creek RV 72.37 302 P **P 15 04 07.8 -0.1**
R32A Long Quarter, 72.38 305 P **P 15 04 07.0 -1.0**
Z38A Mt. Pleasant 72.50 299 P **P 15 04 09.8 +1.1**
EDM Edmonton 72.61 324 P **P 15 04 09.3 +0.2**
RSSD Black Hills 72.72 312 P **P 15 04 10.3 +0.1**
W35A Tecumseh 72.84 301 P **P 15 04 10.9 +0.1**
W35A IAmb IAmb 15 04 12.7
comp=Z,14nm,1.0s
CBKS Cedar Bluff 72.86 306 P **P 15 04 10.4 -0.4**
GKN Gorkha 72.94 68 *eP* **P 15 04 10.7 -1.0**
comp=Z,17nm,0.9s
BMAR Burnt Mountain 73.03 345 P **P 15 04 13.4 +2.1**
PLMC San Jos del P 73.09 264 *eP* **P 15 04 13.0 +0.4**
PTLB Pontes e Lacer 73.11 236 P **P 15 04 13.4 +1.0**
PTLB IAmb IAmb 15 04 16.0
comp=Z,6.5nm,1.0s
FNO Franklin 73.15 301 P **P 15 04 13.2 +0.6**
OGNE Ogallala 73.20 308 P **P 15 04 13.7 +0.8**
DMN Daman 73.50 68 *eP* **P 15 04 12.4 -2.7**
comp=Z,0.6nm,0.2s
LOOK Love County 73.67 300 P **P 15 04 16.0 +0.3**
PKIN Phulchoki 73.74 68 *eP* **P 15 04 14.1 -2.4**
comp=Z,2.9nm,0.5s
PKI Pulchoki 73.75 68 *eP* **P 15 04 13.8 -2.9**
X34A Smith Ranch, M 73.80 301 P **P 15 04 17.3 +0.8**
Z35A Perchaven, San 74.07 300 P **P 15 04 18.4 +0.4**
ETMB Extrema 74.29 245 P **P 15 04 20.3 +0.9**
COLD Coldfoot 74.30 347 P **P 15 04 20.0 +1.3**
WMOK Wichita Mounta 74.39 302 P **P 15 04 20.2 +0.3**
AQDB Aquidauana 74.52 230 P **P 15 04 20.8 +0.2**
DAWY Dawson 74.62 341 P **P 15 04 22.1 +1.4**
DAWY IAmb IAmb 15 04 34.5
comp=Z,11nm,1.2s
M31M Drury Creek, Y 74.70 338 P **P 15 04 22.9 +1.7**
M31M IAmb IAmb 15 04 23.8
comp=Z,4.9nm,0.8s
SIV San Ignacio 74.81 237 LR LR 15 36 13.4
comp=Z,96nm,18.3s,baz=118,slow=35
PRP Porcupine Dome 74.86 345 P **P 15 04 23.7 +1.5**
PRP IAmb IAmb 15 04 36.2
comp=Z,7.8nm,1.0s
WHTX Lake Whitney, 74.93 299 P **P 15 04 22.9 -0.2**
SOTA Rioblanco 74.97 262 *eP* **P 15 04 25.7 +1.7**
K22A Casper 75.05 312 P **P 15 04 23.8 0.0**
K22A IAmb IAmb 15 04 24.6
comp=Z,5.3nm,0.6s
GCMT Greycliff 75.08 316 P **P 15 04 24.4 +0.6**
PHWY Pilot Hill 75.16 310 P **P 15 04 25.2 +0.6**
PHWY IAmb IAmb 15 04 26.6
comp=Z,6.1nm,0.8s
RLMT Red Lodge 75.24 315 P **P 15 04 26.4 +1.6**
WALA Waterton Lakes 75.42 320 P **P 15 04 25.7 0.0**
WALA IAmb IAmb 15 04 27.3
comp=Z,6.2nm,0.7s
YAK Yakutsk 75.57 21 LR LR 15 42 47.7
comp=Z,181nm,18.6s,baz=296,slow=40
YAK Yakutsk 75.57 21 P **P 15 04 25.5 -0.7**
YAK IAmb IAmb 15 04 27.1
comp=Z,6.9nm,0.7s
HRY Holter Researc 75.73 318 P **P 15 04 28.3 +0.7**
P33M Teslin, Yukon 75.73 336 P **P 15 04 28.5 +1.3**
P33M IAmb IAmb 15 04 29.6
comp=Z,6.0nm,0.7s
IL31 75.80 345 P **P 15 04 28.6 +1.3**
ILAR Eielson Array 75.80 345 P **P 15 04 28.5 +1.0**
comp=Z,0.8nm,0.6s,baz=16,slow=4.1,SNR=4.1
ILAR LR LR 15 39 14.7
comp=Z,45nm,21.7s,baz=7.0,slow=37
ILAR Eielson Array 75.80 345 P **P 15 04 28.9 +1.4**
SCRK Sand Creek 75.83 343 P **P 15 04 29.1 +1.3**
SCRK IAmb IAmb 15 04 45.2
comp=Z,7.0nm,1.0s
SONM Songino Array 76.02 41 P **P 15 04 30.0 +0.8**
comp=Z,1.4nm,0.7s,baz=289,slow=5.9,SNR=12
SONM LR LR 15 39 29.7
comp=Z,153nm,18.1s,baz=320,slow=37
SONM Songino Array 76.02 41 P **P 15 04 29.6 +0.4**
RWWY Rawlins 76.02 311 P **P 15 04 30.0 +0.5**
IMAR Indian Mountai 76.05 348 P **P 15 04 29.5 +0.7**
BCAR Beaver Creek A 76.06 342 P **P 15 04 30.6 +1.6**
L27K Beaver Creek, 76.07 342 P **P 15 04 30.4 +1.3**
CCB Clear Creek Bu 76.11 345 P **P 15 04 30.3 +1.2**
DLBC Dease Lake 76.12 334 LR LR 15 35 06.1
comp=Z,162nm,21.7s,baz=326,slow=33
DLBC Dease Lake 76.12 334 P **P 15 04 30.4 +1.0**
DLBC IAmb IAmb 15 04 32.5
comp=Z,7.7nm,0.8s
DOT Dot Lake 76.13 343 P **P 15 04 30.6 +1.2**
DOT IAmb IAmb 15 04 57.9
comp=Z,18nm,1.4s
HDA Harding Lake 76.13 345 P **P 15 04 30.2 +0.9**
HDA IAmb IAmb 15 04 39.2
comp=Z,22nm,1.5s
BOZ Bozeman (W) 76.30 317 P **P 15 04 31.9 +1.1**
BOAB BOACO BROADBAN 76.45 276 P **P 15 04 31.8 -0.2**
YMR Madison River 76.48 316 P **P 15 04 32.2 +0.2**

YMR				IAmb	IAmb	15 04 41.2
	comp=Z,11nm,1.4s					
LRM	**Limekiln Ridge**	**76.62**	**317**	P	**P**	**15 04 33.7 +0.9**
BW06	**Boulder Array**	**76.80**	**313**	P	**P**	**15 04 33.6 -0.2**
PD31	**Pinedale Array**	**76.80**	**313**	P	**P**	**15 04 33.6 -0.2**
PDAR	**Pinedale Array**	**76.80**	**313**	P	**P**	**15 04 34.0 +0.2**
	comp=Z,2.5nm,0.6s,baz=64,slow=6.8,SNR=30					
PDAR				LR	LR	15 36 49.2
	comp=Z,81nm,18.6s,baz=48,slow=34					
PDAR	**Pinedale Array**	**76.80**	**313**	P	**P**	**15 04 33.7 -0.1**
MOOW	**Moose Ponds**	**76.91**	**315**	P	**P**	**15 04 35.0 +0.6**
JTS	**Las Juntas de**	**77.07**	**273**	LR	LR	15 34 26.2
	comp=Z,44nm,18.3s,slow=32					
SKAG	**Skagway**	**77.12**	**337**	P	**P**	**15 04 36.4 +1.4**
SKAG				IAmb	IAmb	15 04 53.4
	comp=Z,21nm,1.3s					
SDCO	**Great Sand Dun**	**77.22**	**307**	P	**P**	**15 04 36.8 +0.5**
GTA	**Gaotai**	**77.24**	**51**	⇑P	**P**	**15 04 36.8 +0.6**
GTA				pP	sP	15 04 41.3 -0.6
GTA				sP	PcP	15 04 44.0 -2.9
GTA				pmax	pmax	
	comp=Z,6.0nm,1.0s					
SMCO	**Snowmass**	**77.33**	**309**	P	**P**	**15 04 37.3 +0.2**
HZTE	**Horizontes, Gu**	**77.36**	**274**	P	**P**	**15 04 38.4 +1.3**
RND	**Reindeer**	**77.42**	**345**	P	**P**	**15 04 37.4 +0.7**
RND				IAmb	IAmb	15 04 46.4
	comp=Z,14nm,1.2s					
JCT	**Junction City**	**77.44**	**298**	P	**P**	**15 04 38.4 +1.0**
MCMT	**McKenzie Canyo**	**77.45**	**317**	P	**P**	**15 04 39.0 +1.5**
ITAB	**Concordia**	**77.55**	**223**	P	**P**	**15 04 39.8 +2.0**
NEW	**Newport**	**77.57**	**321**	LR	LR	15 35 01.0
	comp=Z,191nm,21.9s,baz=34,slow=33					
TRF	**Thorofare Moun**	**77.68**	**345**	P	**P**	**15 04 39.3 +1.0**
TRF				IAmb	IAmb	15 04 58.1
	comp=Z,18nm,1.5s					
KTH	**Kantishna Hill**	**77.72**	**346**	P	**P**	**15 04 39.2 +0.8**
KTH				IAmb	IAmb	15 04 56.1
	comp=Z,8.8nm,1.0s					
CZSB	**Cruzeiro do Su**	**77.86**	**251**	P	**P**	**15 04 40.7 +0.9**
N25K	**Chitina, Valde**	**78.00**	**342**	P	**P**	**15 04 41.5 +1.5**
VRDI	**Verde Repeater**	**78.03**	**341**	P	**P**	**15 04 41.5 +1.2**
VRDI				IAmb	IAmb	15 04 45.0
	comp=Z,11nm,0.9s					
S22A	**4UR Ranch, Cre**	**78.08**	**308**	P	**P**	**15 04 42.2 +1.1**
BCYI	**Bear Canyon**	**78.08**	**316**	P	**P**	**15 04 41.5 +0.5**
RDMU	**Red Mountain**	**78.12**	**312**	P	**P**	**15 04 41.8 +0.5**
RDMU				IAmb	IAmb	15 04 44.3
	comp=Z,10nm,1.0s					
833A	**Chaparral WMA,**	**78.35**	**296**	P	**P**	**15 04 43.1 +0.7**
833A				IAmb	IAmb	15 04 47.4
	comp=Z,9.4nm,0.7s					
WAX	**Waxell Ridge**	**78.53**	**341**	P	**P**	**15 04 44.0 +1.1**
BMRM	**Bremner River**	**78.55**	**342**	P	**P**	**15 04 43.6 +0.6**
B08A	**Colville Reser**	**78.62**	**322**	P	**P**	**15 04 44.1 +0.5**
B08A				IAmb	IAmb	15 04 44.8
	comp=Z,5.7nm,1.0s					
SML	**Sawmill**	**78.72**	**344**	P	**P**	**15 04 45.1 +1.2**
PV21	**Cone Mtn., Par**	**78.95**	**310**	P	**P**	**15 04 47.2 +1.3**
PV21				IAmb	IAmb	15 04 49.0
	comp=Z,6.3nm,0.7s					
PV11	**David Mesa, Pa**	**79.05**	**309**	P	**P**	**15 04 46.8 +0.4**
PV11				IAmb	IAmb	15 04 52.4
	comp=Z,6.1nm,0.7s					
PV16	**Nyswonger Mesa**	**79.07**	**309**	P	**P**	**15 04 47.1 +0.6**
PV16				IAmb	IAmb	15 05 03.5
	comp=Z,7.0nm,1.0s					
PV14	**Lion Creek, Pa**	**79.10**	**309**	P	**P**	**15 04 47.5 +0.8**
PV14				IAmb	IAmb	15 04 49.6
	comp=Z,6.6nm,0.7s					
P18A	**Preston Nutter**	**79.10**	**311**	P	**P**	**15 04 47.4 +0.6**
P18A				IAmb	IAmb	15 05 13.4
	comp=Z,8.3nm,1.2s					
PV13	**Radium Mtn., P**	**79.10**	**309**	P	**P**	**15 04 47.4 +0.7**
PV18	**Skein Mesa, Pa**	**79.10**	**309**	P	**P**	**15 04 47.5 +0.8**
PV18				IAmb	IAmb	15 04 49.5
	comp=Z,4.5nm,0.7s					
F10A	**Beach Ranch, E**	**79.11**	**319**	P	**P**	**15 04 46.8 +0.3**
F10A				IAmb	IAmb	15 04 54.5
	comp=Z,7.6nm,1.2s					
PV17	**East Wray Mesa**	**79.11**	**309**	P	**P**	**15 04 47.2 +0.5**
PV17				IAmb	IAmb	15 04 49.2
	comp=Z,7.8nm,0.8s					
HLID	**Hailey**	**79.12**	**316**	P	**P**	**15 04 48.5 +1.9**
HVU	**Hansel Valley**	**79.29**	**314**	P	**P**	**15 04 48.2 +0.6**
PV05	**Paradox Valley**	**79.32**	**309**	P	**P**	**15 04 47.5 -0.4**
PV05				IAmb	IAmb	15 04 50.1
	comp=Z,5.7nm,0.7s					
ANMO	**Albuquerque**	**79.48**	**305**	LR	LR	15 38 50.8
	comp=Z,157nm,19.0s,baz=55,slow=35					
P17A	**Butcher Ranch,**	**79.50**	**311**	P	**P**	**15 04 48.7 -0.1**
P17A				IAmb	IAmb	15 05 03.6
	comp=Z,11nm,1.3s					
RC01	**Rabbit Creek A**	**79.67**	**344**	P	**P**	**15 04 50.4 +1.3**
SEY	**Seymchan**	**79.84**	**11**	LR	LR	15 45 44.6
	comp=Z,66nm,19.1s,baz=330,slow=40					
CPUP	**Villa Florida**	**79.86**	**227**	P	**P**	**15 04 50.9 +0.4**
	comp=Z,4.7nm,0.8s,baz=13,slow=6.2,SNR=4.0					
CPUP				LR	LR	15 40 36.6
	comp=Z,104nm,18.1s,baz=50,slow=36					
BMO	**Blue Mountains**	**79.88**	**319**	P	**P**	**15 04 51.5 +0.9**
LPAZ	**La Paz**	**79.96**	**242**	P	**P**	**15 04 52.1 +0.1**
	comp=Z,1.4nm,0.5s,baz=27,slow=4.1,SNR=6.1					
LPAZ				LR	LR	15 36 46.7
	comp=Z,66nm,21.7s,baz=56,slow=33					
LPAZ	**La Paz**	**79.96**	**242**	*e*P	**P**	**15 04 52.4 +0.4**
LPAZ	**La Paz**	**79.96**	**242**	P	**P**	**15 04 51.5 -0.4**
BBB	**Bella Bella**	**79.98**	**329**	LR	LR	15 37 59.8
	comp=Z,81nm,18.4s,baz=5.5,slow=34					
TX31	**Lajitas Ar. Si**	**80.85**	**299**	P	**P**	**15 04 56.1 0.0**
TX31				IAmb	IAmb	15 05 00.8
	comp=Z,5.1nm,0.8s					
TX32	**Lajitas Array**	**80.85**	**299**	P	**P**	**15 04 56.4 +0.2**
TXAR	**Lajitas Array**	**80.85**	**299**	P	**P**	**15 04 57.3 +1.1**
	comp=Z,1.2nm,0.6s,baz=77,slow=5.7,SNR=15					
TXAR				LR	LR	15 40 34.6
	comp=Z,143nm,18.9s,baz=45,slow=36					
PALK	**Pallekele**	**81.20**	**87**	LR	LR	15 44 37.6
	comp=Z,35nm,18.6s,baz=7.2,slow=38					
CMIG	**Matias Romero**	**81.23**	**285**	LR	LR	15 34 36.9
	comp=Z,50nm,21.2s,baz=70,slow=31					
MTPU	**Mount Pierson**	**81.27**	**311**	P	**P**	**15 04 58.5 -0.1**
ELK	**Elko**	**81.39**	**314**	LR	LR	15 39 20.0
	comp=Z,107nm,19.6s,baz=36,slow=34					
ELK	**Elko**	**81.39**	**314**	P	**P**	**15 04 59.8 +0.8**
LZH	**Lanzhou**	**81.79**	**51**	*e*P	**P**	**15 05 02.5 +1.4**
LZH				pP	sP	15 05 06.0 -0.8
LZH				sP	PcP	15 05 08.8 +2.0
LZH				pmax	pmax	
	comp=Z,20nm,1.3s					
LZH				LR	LR	
	comp=N,240nm,16.2s					
LZH				LR	LR	
	comp=E,280nm,15.9s					
LZH				LR	LR	
	comp=Z,230nm,18.5s					
ATAH	**Atahualpa**	**81.93**	**255**	LR	LR	15 40 08.3
	comp=Z,40nm,18.9s,baz=20,slow=35					
SPR3	**Spring Creek 3**	**81.97**	**313**	P	**P**	**15 05 03.2 +1.0**
SPR3				IAmb	IAmb	15 05 19.1
	comp=Z,6.7nm,1.2s					
PB16	**IPOC Station P**	**82.29**	**241**	P	**P**	**15 05 04.8 +0.4**
PB16				IAmb	IAmb	15 05 10.2
	comp=Z,8.3nm,0.8s					
U15A	**North Rim**	**82.34**	**310**	P	**P**	**15 05 04.9 +0.8**
GO01	**Chusmiza**	**82.95**	**240**	P	**P**	**15 05 08.0 +0.4**
GO01				IAmb	IAmb	15 05 14.5
	comp=Z,6.4nm,1.2s					
R11A	**Troy Canyon, C**	**83.14**	**313**	P	**P**	**15 05 08.5 +0.4**
KDAK	**Kodiak Island**	**83.29**	**344**	LR	LR	15 45 13.9
	comp=Z,63nm,18.1s,baz=49,slow=38					
HHC	**Hu-ho-hao-te**	**83.35**	**44**	*e*P	**P**	**15 05 07.5 -1.6**
HHC				pmax	pmax	
	comp=Z,14nm,1.1s					
HHC				pmax	pmax	
	comp=Z,98nm,7.8s					
XLT	**XiLinHaoTe**	**83.69**	**39**	*e*P	**P**	**15 05 11.5 +0.8**
XLT				pmax	pmax	
	comp=Z,7.0nm,1.0s					
XLT				pmax	pmax	
	comp=Z,250nm,4.2s					
PB01	**IPOC Station P**	**84.06**	**239**	P	**P**	**15 05 13.1 +0.2**
PB01				IAmb	IAmb	15 05 16.3
	comp=Z,11nm,1.3s					
KVN	**Kaiserville**	**84.16**	**315**	P	**P**	**15 05 14.1 +0.7**
TPH	**Tonopah**	**84.29**	**313**	P	**P**	**15 05 14.6 +0.5**
NVAR	**Mina Array Bea**	**84.69**	**314**	P	**P**	**15 05 16.9 +0.8**
	comp=Z,0.7nm,0.7s,baz=55,slow=5.1,SNR=7.0					
YBH	**Yreka Blue Hor**	**84.89**	**319**	LR	LR	15 41 53.5
	comp=Z,44nm,18.1s,baz=20,slow=35					
PNTR	**Pine Nut**	**84.99**	**315**	P	**P**	**15 05 18.2 +0.6**
PNTR				IAmb	IAmb	15 05 24.9
	comp=Z,8.1nm,0.7s					
LCH	**Last Change Ra**	**85.10**	**313**	P	**P**	**15 05 18.4 +0.3**
GWY	**Greenwater Val**	**85.20**	**312**	P	**P**	**15 05 19.0 +0.4**
GWY				IAmb	IAmb	15 05 34.5
	comp=Z,4.3nm,0.9s					
PZH	**PanZhiHua**	**86.29**	**60**	P	**P**	**15 05 24.5 +0.3**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,240nm,6.3s					
XAN	**Xi'an**	**86.29**	**50**	P	**P**	**15 05 24.5 +0.5**
XAN				sP	sP	15 05 33.3 +3.6
XAN				pmax	pmax	
	comp=Z,7.0nm,1.0s					
KLR	**Kul'dur**	**86.62**	**27**	LR	LR	15 49 20.6
	comp=Z,50nm,18.1s,baz=336,slow=39					
PFO	**Pinyon Flats O**	**86.77**	**310**	LR	LR	15 42 55.0
	comp=Z,62nm,18.8s,baz=63,slow=35					
HNS	**HongShan**	**87.49**	**45**	⇑P	**P**	**15 05 30.5 +0.9**
HNS				pmax	pmax	
	comp=Z,11nm,0.8s					
LPIG	**La Paz**	**88.73**	**299**	LR	LR	15 44 55.3
	comp=Z,139nm,19.3s,baz=43,slow=35					
CMAR	**Chiang Mai Arr**	**89.15**	**68**	P	**P**	**15 05 38.4 +0.6**
	comp=Z,1.4nm,0.8s,baz=302,slow=5.8,SNR=7.0					
PETK	**Petropavlovsk-**	**90.08**	**11**	LR	LR	15 51 03.5
	comp=Z,101nm,20.8s,baz=332,slow=39					
USRK	**Ussuriysk Ar.**	**90.84**	**30**	P	**P**	**15 05 46.1 +0.8**
	comp=Z,1.2nm,0.6s,baz=276,slow=4.3,SNR=2.1					
NJ2	**Nanjing**	**93.68**	**46**	*e*P	**P**	**15 05 58.5 -0.1**
NJ2				pmax	pmax	
	comp=Z,11nm,0.7s					
KSRS	**Korea Array**	**94.46**	**37**	LR	LR	15 53 51.3
	comp=Z,84nm,18.2s,baz=335,slow=39					
ASAJ	**Asahikawa**	**94.83**	**24**	LR	LR	15 54 04.9
	comp=Z,116nm,18.1s,baz=347,slow=39					
PLCA	**Paso Flores**	**97.78**	**225**	P	Pdif	15 06 18.1 +1.1
	comp=Z,1.2nm,0.8s,baz=41,slow=9.7,SNR=4.5					
PLCA				LR	LR	15 50 12.3
	comp=Z,57nm,20.0s,baz=142,slow=35					
PSI	**Prapat**	**98.53**	**80**	LR	LR	15 59 15.7
	comp=Z,40nm,18.3s,baz=168,slow=40					
MJAR	**Matsushiro Arr**	**99.84**	**30**	LR	LR	15 54 24.1
	comp=Z,67nm,20.3s,baz=355,slow=37					
WRA	**Warramunga Arr**	**139.96**	**78**	PKP	**PKPdf**	**15 12 11.5 +0.9**
	comp=Z,0.4nm,0.8s,baz=299,slow=1.9,SNR=2.7					
ASAR	**Alice Springs**	**141.47**	**84**	PKhKP	PKPpre	15 12 06.5
	comp=Z,0.6nm,0.6s,baz=302,slow=2.6,SNR=13					
ASAR				PKP	**PKPdf**	**15 12 12.8 -0.6**
	comp=Z,1.0nm,0.9s,baz=327,slow=2.1,SNR=11					
STKA	**Stephens Creek**	**150.93**	**93**	PKPbc	**PKPbc**	**15 12 34.5 -0.2**
	comp=Z,5.4nm,0.8s,baz=326,slow=2.9,SNR=12					

NOU 25 14:57:28.9, 21˚.70S×170˚.18E, h0km, MLv3.8/11,
Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.01	276	P	Pn	14 58 03.7	-0.4
PINNC	Pines Island,	2.69	250	P	Pn	14 58 13.0	-0.5
LIFNC	LIFOU	2.89	288	P	Pn	14 58 15.3	-0.9
OUENC	Ouen Island, N	3.18	256	P	Pn	14 58 19.8	-0.4
DZM	Mont Dzumac	3.49	263	P	Pn	14 58 24.4	-0.2
ONTNC	Ouen Toro	3.51	259	P	Pn	14 58 25.1	+0.4
NOUC	Port Laguerre	3.62	263	P	Pn	14 58 26.1	-0.2
KOUNC	Koumac, New Ca	5.62	281	P	Pn	14 58 54.6	+0.8

*NEIC **25** 15:00:44.8±1.1, 59˚.65N±0˚.04×153˚.32W±0˚.07, h119km±5km, Error ellipse: s-maj=6.2km s-min=5.0km az=148.0*
*ANF **25** 15:00:45.2±0.3, 59˚.67N×153˚.28W, h109km±3km, ML3.5/22, Error ellipse: s-maj=2.7km s-min=2.3km az=137.0*
*AEIC **25** 15:00:45±1.3, 59˚.64N±0˚.04×153˚.31W±0˚.07, h115km±5km, ML3.0, ML3.3/84(NEIC), Error ellipse: s-maj=6.2km s-min=5.0km az=140.0*
*IDC **25** 15:00:47.8±8.8, 60˚.04N×153˚.43W, h128km±70km, mb2.7/1, mb1 3.1/3, mb1mx2.9/36, mbtmp3.3/3, Error ellipse: s-maj=70.7km s-min=44.1km az=21.0*
ISC 25 15:00:44.5±0.9, 59˚.67N±0˚.03×153˚.29W±0˚.04, h120km±6km, n190, σ0s87/201, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.03**	**115**		**Pn**	**15 01 01.1**	**+0.2**
AUL	**Augustine Lava**	**0.29**	**195**		**Pn**	**15 01 01.8**	**+0.4**
AUL					**Sn**	**15 01 13.9**	**-0.3**
AUQ	**Augustine Qik'**	**0.32**	**192**		**Pn**	**15 01 01.9**	**+0.4**
O20K	**Slope Mountain**	**0.54**	**39**		**Pn**	**15 01 03.0**	**+0.3**
O20K					**Sn**	**15 01 15.8**	**-0.7**
O20K	**Slope Mountain**	**0.54**	**39**	P	**Pn**	**15 01 02.7**	**0.0**
	baz=218,SNR=7.2						
O20K				S	**Sn**	**15 01 15.8**	**-0.7**
	baz=218						
Q19K	**Cape Douglas,**	**0.76**	**194**		**Pn**	**15 01 04.6**	**+0.2**
Q19K					**Sn**	**15 01 19.1**	**-0.3**
Q19K	**Cape Douglas,**	**0.76**	**194**	IAML		15 01 21.2	
	comp=E,1μm,1.1s						
Q19K	**Cape Douglas,**	**0.76**	**194**	P	**Pn**	**15 01 04.6**	**+0.2**
	baz=13,SNR=11						
Q19K				S	**Sn**	**15 01 19.1**	**-0.3**
	baz=13						
RED	**Redoubt Volcan**	**0.80**	**19**		**Pn**	**15 01 05.0**	**+0.3**
HOM	**Homer**	**0.84**	**90**		**Pn**	**15 01 05.9**	**+1.0**
HOM					**Sn**	**15 01 20.7**	**+0.3**
HOM	**Homer**	**0.84**	**90**	IAML		15 01 21.8	
	comp=E,1μm,0.4s						
HOM				IAML		15 01 22.1	
	comp=N,1μm,0.5s						
HOM	**Homer**	**0.84**	**90**	P	**Pn**	**15 01 05.5**	**+0.6**
	baz=270,SNR=12						
HOM				S	**Sn**	**15 01 20.8**	**+0.4**
	baz=270						
RSO	**Redoubt South**	**0.84**	**18**		**Pn**	**15 01 05.3**	**+0.1**
DFR	**Drift River**	**0.98**	**18**		**Pn**	**15 01 06.8**	**+0.4**
O18K	**Koktuh Hills**	**0.99**	**282**		**Pn**	**15 01 06.2**	**-0.2**
O18K	**Koktuh Hills**	**0.99**	**282**	P	**Pn**	**15 01 06.4**	**0.0**
	baz=102,SNR=20						
O18K				S	**Sn**	**15 01 22.0**	**-1.0**
	baz=102						
P18K	**Big Mountain,**	**1.03**	**255**		**Pn**	**15 01 06.5**	**-0.3**
P18K	**Big Mountain,**	**1.03**	**255**	IAML		15 01 13.4	
	comp=E,52nm,2.7s						
P18K				IAML		15 01 23.3	
	comp=N,62nm,2.1s						
P18K	**Big Mountain,**	**1.03**	**255**	P	**Pn**	**15 01 06.5**	**-0.3**
	baz=75,SNR=6.6						
P18K				S	**Sn**	**15 01 22.5**	**-1.1**
	baz=75						
CNPM	**China Poot**	**1.05**	**97**		**Pn**	**15 01 07.4**	**+0.3**
CNPM					**Sn**	**15 01 23.5**	**-0.6**
CNPM	**China Poot**	**1.05**	**97**	IAML		15 01 27.6	
	comp=E,466nm,0.2s						
BRLK	**Bradley Lake**	**1.22**	**84**		**Pn**	**15 01 08.9**	**+0.1**
BRLK	**Bradley Lake**	**1.22**	**84**	IAML		15 01 27.6	
	comp=E,367nm,0.2s						
BRLK				IAML		15 01 30.6	
	comp=N,443nm,0.1s						
BRSE	**Bradley Lake S**	**1.29**	**86**		**Pn**	**15 01 09.9**	**+0.3**
BRSE					**Sn**	**15 01 27.6**	**-1.0**
BRSE	**Bradley Lake S**	**1.29**	**86**	P	**Pn**	**15 01 09.7**	**+0.2**
	baz=267						
BRSE				S	**Sn**	**15 01 27.9**	**-0.7**
	baz=267						
N19K	**Bonanza Creek**	**1.30**	**333**		**Pn**	**15 01 09.9**	**+0.2**
N19K					**Sn**	**15 01 27.9**	**-0.9**
N19K	**Bonanza Creek**	**1.30**	**333**	P	**Pn**	**15 01 09.9**	**+0.2**
	baz=153						
N19K				S	**Sn**	**15 01 27.8**	**-1.1**
	baz=153						
CAPN	**Captain Cook N**	**1.54**	**43**		**Pn**	**15 01 14.4**	**+2.2**
SPU	**Mount Spurr**	**1.64**	**21**		**Pn**	**15 01 14.0**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.75**	**21**		**Pn**	**15 01 15.9**	**+0.9**
SLKM	**Skilak Lake**	**1.75**	**60**		**Pn**	**15 01 15.5**	**+0.5**
KDAK	**Kodiak Island**	**1.92**	**169**		**Pn**	**15 01 16.6**	**-0.3**
KDAK					**Sn**	**15 01 41.2**	**-0.5**
KDAK	**Kodiak Island**	**1.92**	**169**	P	**Pn**	**15 01 16.6**	**-0.3**
	baz=349						
KDAK				S	**Sn**	**15 01 41.1**	**-0.7**
	baz=349						
O22K	**Cooper Landing**	**1.97**	**64**		**Pn**	**15 01 18.0**	**+0.5**
O22K	**Cooper Landing**	**1.97**	**64**	IAML		15 01 51.2	
	comp=E,367nm,0.6s						
O22K	**Cooper Landing**	**1.97**	**64**	P	**Pn**	**15 01 17.9**	**+0.5**
	baz=246						
O22K				S	**Sn**	**15 01 41.8**	**-0.8**
	baz=246						
STLK	**Strandline Lak**	**1.98**	**21**		**Pn**	**15 01 18.8**	**+1.2**
SEW	**Seward**	**1.98**	**76**		**Pn**	**15 01 17.9**	**+0.3**
SEW	**Seward**	**1.98**	**76**	P	**Pn**	**15 01 18.1**	**+0.4**
	baz=258						
SEW				S	**Sn**	**15 01 42.1**	**-0.9**
	baz=258						
RC01	**Rabbit Creek A**	**2.27**	**49**		**Pn**	**15 01 21.9**	**+0.6**
RC01	**Rabbit Creek A**	**2.27**	**49**	IAML		15 01 50.7	
	comp=N,239nm,0.4s						
RC01	**Rabbit Creek A**	**2.27**	**49**	P	**Pn**	**15 01 22.0**	**+0.7**
	baz=232,SNR=11						
RC01				S	**Sn**	**15 01 49.1**	**-0.4**
	baz=232						
OHAK	**Old Harbor**	**2.45**	**180**		**Pn**	**15 01 23.0**	**-0.7**
OHAK	**Old Harbor**	**2.45**	**180**	IAML		15 01 50.6	
	comp=E,98nm,3.5s						
OHAK				IAML		15 02 24.3	
	comp=N,109nm,3.1s						
OHAK	**Old Harbor**	**2.45**	**180**	P	**Pn**	**15 01 22.9**	**-0.7**
	baz=360						
OHAK				S	**Sn**	**15 01 51.5**	**-2.1**
	baz=360						
M22K	**Willow**	**2.61**	**35**	Pn	**Pn**	**15 01 26.2**	**+0.6**
M22K	**Willow**	**2.61**	**35**	S	**Sn**	**15 01 57.9**	**+0.7**
	baz=218						
L19K	**White Mountain**	**2.64**	**344**		**Pn**	**15 01 26.4**	**+0.3**
PWL	**Port Wells**	**2.74**	**62**		**Pn**	**15 01 27.1**	**-0.2**
PWL	**Port Wells**	**2.74**	**62**	IAML		15 02 02.3	
	comp=E,155nm,0.4s						
PWL				IAML		15 02 03.0	
	comp=N,151nm,0.5s						
PWL	**Port Wells**	**2.74**	**62**	P	**Pn**	**15 01 27.2**	**-0.2**
	baz=246						
PWL				S	**Sn**	**15 01 59.1**	**-1.3**
	baz=246						
PMR	**Palmer**	**2.82**	**45**		**Pn**	**15 01 28.1**	**-0.2**
PMR	**Palmer**	**2.82**	**45**	IAML		15 02 02.8	
	comp=N,68nm,0.2s						
PMR	**Palmer**	**2.82**	**45**	P	**Pn**	**15 01 28.0**	**-0.2**
	baz=228						
PMR				S	**Sn**	**15 02 00.3**	**-1.7**
	baz=228						
L20K	**Farewell, AK**	**2.84**	**354**		**Pn**	**15 01 29.4**	**+0.8**
L20K	**Farewell, AK**	**2.84**	**354**	P	**Pn**	**15 01 29.4**	**+0.8**
	baz=174,SNR=10						
KNK	**Knik Glacier**	**2.96**	**52**		**Pn**	**15 01 30.1**	**-0.1**
KNK	**Knik Glacier**	**2.96**	**52**	IAML		15 02 06.7	
	comp=E,144nm,0.4s						
KNK	**Knik Glacier**	**2.96**	**52**	P	**Pn**	**15 01 30.2**	**-0.1**
	baz=236						
KNK				S	**Sn**	**15 02 04.2**	**-1.3**
	baz=236						
GHO	**Glory Hole Cre**	**3.01**	**44**		**Pn**	**15 01 30.8**	**-0.1**
GHO				IAML		15 02 07.2	
	comp=E,104nm,0.3s						
GHO				IAML		15 02 08.0	
	comp=N,109nm,0.4s						
CUT	**Chulitna**	**3.12**	**27**	S	**Sn**	**15 02 08.8**	**-0.3**
	baz=209						
SII	**Sitkinak Islan**	**3.15**	**189**	Pn	**Pn**	**15 01 33.3**	**+0.6**
SML	**Sawmill**	**3.25**	**46**		**Pn**	**15 01 33.5**	**-0.5**
SML	**Sawmill**	**3.25**	**46**	IAML		15 02 13.2	
	comp=N,48nm,1.2s						
SML				IAML		15 02 22.6	
	comp=E,44nm,1.8s						
SML	**Sawmill**	**3.25**	**46**	P	**Pn**	**15 01 33.8**	**-0.2**
	baz=231						
SML				S	**Sn**	**15 02 10.3**	**-1.9**
	baz=231						
PPLA	**Purkeypile**	**3.29**	**9**	Pn	**Pn**	**15 01 36.1**	**+1.6**
GLI	**Glacier Island**	**3.32**	**66**		**Pn**	**15 01 34.9**	**0.0**
GLI				IAML		15 02 12.8	
	comp=N,60nm,0.6s						
GLI				IAML		15 02 14.3	
	comp=E,79nm,0.5s						
GLI	**Glacier Island**	**3.32**	**66**	S	**Sn**	**15 02 11.5**	**-2.3**
	baz=251						
TT01	**Tatalina**	**3.51**	**339**		**Pn**	**15 01 37.8**	**+0.3**
TTA	**Tatalina**	**3.53**	**339**		**Pn**	**15 01 37.9**	**+0.1**
TTA	**Tatalina**	**3.53**	**339**	P	**Pn**	**15 01 37.9**	**+0.1**
	baz=157,SNR=10						
FID	**Port Fidalgo**	**3.57**	**69**		**Pn**	**15 01 37.0**	**-1.2**
SCM	**Sheep Creek Mo**	**3.65**	**51**		**Pn**	**15 01 39.3**	**0.0**
SCM	**Sheep Creek Mo**	**3.65**	**51**	IAML		15 02 20.9	
	comp=E,61nm,3.7s						
SCM				IAML		15 02 36.1	
	comp=N,42nm,3.2s						
SCM	**Sheep Creek Mo**	**3.65**	**51**	P	**Pn**	**15 01 39.3**	**0.0**
	baz=236						
SCM				S	**Sn**	**15 02 21.5**	**-0.2**
	baz=236						
K20K	**Telida**	**3.72**	**355**		**Pn**	**15 01 40.9**	**+0.6**
CAST	**Castle Rocks**	**3.81**	**8**		**Pn**	**15 01 42.8**	**+1.3**
CAST	**Castle Rocks**	**3.81**	**8**	P	**Pn**	**15 01 42.7**	**+1.3**
	baz=189						
EYAK	**Cordova Ski Ar**	**3.88**	**74**		**Pn**	**15 01 42.2**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.88**	**74**	P	**Pn**	**15 01 42.6**	**+0.3**
	baz=260						
EYAK				S	**Sn**	**15 02 25.1**	**-1.9**
	baz=260						
DIV	**Divide**	**4.01**	**65**		**Pn**	**15 01 44.0**	**-0.1**
TRF	**Thorofare Moun**	**4.06**	**19**	Pn	**Pn**	**15 01 45.4**	**+0.5**

BPAW				IAML		15 04 17.2	
	comp=N,16nm,4.8s						
HMT	**Hamilton**	**4.58**	**78**	Pn	**Pn**	**15 01 52.3**	**+0.5**
N25K	**Chitina, Valde**	**4.70**	**62**		**Pn**	**15 01 53.5**	**+0.1**
N25K	**Chitina, Valde**	**4.70**	**62**	IAML		15 02 53.2	
	comp=E,27nm,3.5s						
N25K				IAML		15 03 29.9	
	comp=N,37nm,4.6s						
N25K	**Chitina, Valde**	**4.70**	**62**	P	**Pn**	**15 01 53.6**	**+0.1**
	baz=249,SNR=12						
HARP	**HAARP**	**4.81**	**52**		**Pn**	**15 01 55.1**	**+0.3**
HARP	**HAARP**	**4.81**	**52**	P	**Pn**	**15 01 55.1**	**+0.3**
	baz=239						
GLB	**Gilahina Butte**	**5.01**	**65**		**Pn**	**15 01 57.5**	**0.0**
GLB	**Gilahina Butte**	**5.01**	**65**	IAML		15 02 56.2	
	comp=N,25nm,0.5s						
GLB				IAML		15 03 08.1	
	comp=E,28nm,3.8s						
PAX	**Paxson**	**5.02**	**45**		**Pn**	**15 01 58.1**	**+0.5**
PAX	**Paxson**	**5.02**	**45**	P	**Pn**	**15 01 57.9**	**+0.2**
	baz=232						
VRDI	**Verde Repeater**	**5.12**	**68**		**Pn**	**15 01 59.0**	**-0.1**
VRDI	**Verde Repeater**	**5.12**	**68**	IAML		15 03 51.0	
	comp=E,23nm,3.6s						
SNH	**Sunshine Point**	**5.28**	**80**		**Pn**	**15 02 02.4**	**+1.2**
WAX	**Waxell Ridge**	**5.29**	**77**		**Pn**	**15 02 01.7**	**+0.4**
NEA2	**Nenana**	**5.33**	**20**	Pn	**Pn**	**15 02 02.2**	**+0.5**
NEA2				IAML		15 02 55.4	
	comp=E,15nm,4.9s						
NEA2				IAML		15 05 09.9	
	comp=N,16nm,4.0s						
GCSA	**Galena City Sc**	**5.37**	**343**	P	**Pn**	**15 02 02.2**	**0.0**
	baz=160						
WRH	**Wood River Hil**	**5.41**	**25**	Pn	**Pn**	**15 02 02.5**	**-0.2**
ISLE	**Juniper Island**	**5.55**	**76**	Pn	**Pn**	**15 02 05.7**	**+0.8**
I21K	**Tanana**	**5.57**	**6**	Pn	**Pn**	**15 02 06.3**	**+1.4**
KIAG	**Kiagna River**	**5.58**	**72**		**Pn**	**15 02 06.1**	**+0.8**
BALM	**Baldy**	**5.61**	**71**		**Pn**	**15 02 05.8**	**+0.3**
HDA	**Harding Lake**	**5.62**	**29**	Pn	**Pn**	**15 02 05.7**	**+0.1**
HDA	**Harding Lake**	**5.62**	**29**	P	**Pn**	**15 02 06.4**	**+0.8**
	baz=215						
CCB	**Clear Creek Bu**	**5.62**	**25**		**Pn**	**15 02 05.3**	**-0.3**
MENT	**Mentasta**	**5.66**	**50**		**Pn**	**15 02 07.7**	**+1.5**
M26K	**Nabesna, AK**	**5.70**	**57**		**Pn**	**15 02 07.8**	**+0.9**
MESA	**MESA**	**5.73**	**80**	Pn	**Pn**	**15 02 08.0**	**+0.7**
MESA	**MESA**	**5.73**	**80**	P	**Pn**	**15 02 07.7**	**+0.4**
	baz=270						
RIDG	**Independent Ri**	**5.73**	**41**	Pn	**Pn**	**15 02 07.9**	**+0.7**
RIDG	**Independent Ri**	**5.73**	**41**	P	**Pn**	**15 02 07.3**	**+0.2**
	baz=228						
I23K	**Minto, Yukon-K**	**5.80**	**17**		**Pn**	**15 02 08.7**	**+0.7**
I23K	**Minto, Yukon-K**	**5.80**	**17**	P	**Pn**	**15 02 07.7**	**-0.3**
	baz=200						
SDPT	**Sand Point**	**5.81**	**225**	P	**Pn**	**15 02 08.6**	**+0.4**
	baz=39						
TCOL	**CIGO, UAF Yank**	**5.81**	**24**	Pn	**Pn**	**15 02 08.8**	**+0.6**
TCOL	**CIGO, UAF Yank**	**5.81**	**24**	P	**Pn**	**15 02 07.8**	**-0.3**
	baz=208						
COLA	**College**	**5.81**	**24**	Pn	**Pn**	**15 02 08.9**	**+0.7**
MDM	**Murphy Dome**	**5.81**	**22**	Pn	**Pn**	**15 02 08.3**	**+0.1**
YAH	**Yahtse**	**5.83**	**78**		**Pn**	**15 02 09.9**	**+1.2**
L26K	**Log Cabin Wild**	**5.85**	**51**		**Pn**	**15 02 08.9**	**+0.1**
L26K	**Log Cabin Wild**	**5.85**	**51**	P	**Pn**	**15 02 10.2**	**+1.4**
	baz=239						
IL31		**5.93**	**28**		**Pn**	**15 02 09.8**	**0.0**
ILAR	**Eielson Array**	**5.93**	**28**	P	**Pn**	**15 02 09.9**	**+0.1**
	comp=N,0.7nm,0.3s,baz=214,slow=14,SNR=29						
ILAR				S	**Sn**	**15 03 12.4**	**-4.1**
	comp=N,1.4nm,0.3s,baz=238,slow=0.8,SNR=12						
ILAR	**Eielson Array**	**5.93**	**28**	Pn	**Pn**	**15 02 10.2**	**+0.3**
DOT	**Dot Lake**	**5.94**	**44**	Pn	**Pn**	**15 02 10.6**	**+0.6**
BARN	**Barnard Glacie**	**5.94**	**71**		**Pn**	**15 02 11.5**	**+1.4**
H21K	**Melozitna Rive**	**6.02**	**2**		**Pn**	**15 02 11.9**	**+0.9**
POKR	**Poker Plat Res**	**6.11**	**24**	Pn	**Pn**	**15 02 12.9**	**+0.7**
POKR	**Poker Plat Res**	**6.11**	**24**	P	**Pn**	**15 02 12.6**	**+0.3**
	baz=209						
TABL	**Table Mountain**	**6.13**	**78**		**Pn**	**15 02 13.8**	**+1.0**
M27K	**Edge Creek, AK**	**6.17**	**59**		**Pn**	**15 02 14.7**	**+1.5**
M27K	**Edge Creek, AK**	**6.17**	**59**	P	**Pn**	**15 02 14.3**	**+1.1**
	baz=249						
SCRK	**Sand Creek**	**6.17**	**42**	Pn	**Pn**	**15 02 13.1**	**-0.1**
SCRK	**Sand Creek**	**6.17**	**42**	P	**Pn**	**15 02 13.1**	**-0.1**
	baz=230						
J25K	**Salcha River,**	**6.20**	**33**		**Pn**	**15 02 13.4**	**-0.1**
IM03		**6.35**	**358**		**Pn**	**15 02 16.8**	**+1.4**
IMAR	**Indian Mountai**	**6.35**	**358**	Pn	**Pn**	**15 02 16.1**	**+0.7**
YUK2	**White River**	**6.46**	**65**		**Pn**	**15 02 18.8**	**+1.6**
L27K	**Beaver Creek,**	**6.47**	**53**		**Pn**	**15 02 18.7**	**+1.5**
L27K	**Beaver Creek,**	**6.47**	**53**	P	**Pn**	**15 02 18.7**	**+1.5**
	baz=243						
BC03		**6.49**	**53**		**Pn**	**15 02 19.0**	**+1.6**
BCAR	**Beaver Creek A**	**6.49**	**53**	Pn	**Pn**	**15 02 18.8**	**+1.2**
PCA	**Pinnacle**	**6.58**	**81**	Pn	**Pn**	**15 02 19.6**	**+1.0**
PINM	**Pinnacle**	**6.58**	**81**	P	**Pn**	**15 02 19.6**	**+0.9**
	baz=272						
BVCY	**Beaver Creek**	**6.63**	**60**		**Pn**	**15 02 20.8**	**+1.4**
BVCY	**Beaver Creek**	**6.63**	**60**	P	**Pn**	**15 02 20.9**	**+1.4**
	baz=251						
YUK3	**Moose Creek**	**6.64**	**66**		**Pn**	**15 02 20.4**	**+0.8**
YUK3	**Moose Creek**	**6.64**	**66**	P	**Pn**	**15 02 19.8**	**+0.1**
	baz=257						
J26L	**Joseph Creek**	**6.66**	**39**	Pn	**Pn**	**15 02 20.0**	**+0.2**
H24K	**Noodor Dome**	**6.67**	**20**		**Pn**	**15 02 20.2**	**+0.4**
H24K	**Noodor Dome**	**6.67**	**20**	P	**Pn**	**15 02 20.3**	**+0.4**
	baz=204						
PRP	**Porcupine Dome**	**6.88**	**28**		**Pn**	**15 02 23.0**	**+0.3**
PRP	**Porcupine Dome**	**6.88**	**28**	P	**Pn**	**15 02 23.6**	**+0.9**
	baz=215						
PNL	**Peninsula**	**7.04**	**84**		**Pn**	**15 02 25.4**	**+0.6**
PNL	**Peninsula**	**7.04**	**84**	P	**Pn**	**15 02 25.3**	**+0.5**
	baz=276						
ANM	**Nome**	**7.49**	**316**	Pn	**Pn**	**15 02 31.6**	**+0.7**
ANM	**Nome**	**7.49**	**316**	P	**Pn**	**15 02 32.4**	**+1.5**
	baz=126						
COLD	**Coldfoot**	**7.71**	**9**	Pn	**Pn**	**15 02 34.4**	**+0.5**
FYU	**Fort Yukon**	**7.82**	**24**	Pn	**Pn**	**15 02 35.6**	**+0.3**
DAWY	**Dawson**	**7.91**	**50**	Pn	**Pn**	**15 02 37.4**	**+0.9**
M30M	**Minto, Yukon**	**8.49**	**63**	Pn	**Pn**	**15 02 45.8**	**+1.3**
BM05	**Burnt Mountain**	**8.70**	**23**		**Pn**	**15 02 46.6**	**-0.6**
BMAR	**Burnt Mountain**	**8.70**	**23**	Pn	**Pn**	**15 02 46.9**	**-0.3**
N31M	**Braeburn, Yuko**	**8.81**	**71**	Pn	**Pn**	**15 02 50.1**	**+1.4**
SKAG	**Skagway**	**9.12**	**84**	Pn	**Pn**	**15 02 54.4**	**+1.5**
P33M	**Teslin, Yukon**	**10.28**	**78**	Pn	**Pn**	**15 03 10.3**	**+1.7**
YKA	**Yellowknife Ar**	**18.73**	**65**	P	**Pn**	**15 04 55.8**	**+0.5**
	comp=N,0.2nm,0.3s,baz=276,slow=10,SNR=7.5						
YKA	**Yellowknife Ar**	**18.73**	**65**	P	**P**	**15 04 53.8**	**+0.4**
MKAR	**Makanchi Array**	**64.60**	**321**	P	**P**	**15 11 08.5**	**-0.2**
	comp=N,0.1nm,0.3s,baz=46,slow=6.1,SNR=1.3						

*SFS **25** 15:03:47.0, 35°.54N×3°.83W, ML2.6, ALBORAN SUR*
*CNRM **25** 15:03:48.3, 35°.46N×3°.71W, h22km, ml3.1*

ISC 25 15:03:47.4±1.4,**35°.49N**±0°.03×**3°.74W**±0°.03,**h19**km±3km,
n17,σ1°**53/29**,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**211**	P	**Pb**	**15 03 54.5**	**+0.1**
PALE				S	**Sb**	**15 03 59.3**	**+0.1**
GOG	**Mont Gurugu**	**0.67**	**113**	P	**Pb**	**15 04 00.8**	**+0.4**
GOG				S	**Sb**	**15 04 10.2**	**+1.0**
CHAS	**Isla Isabel II**	**1.11**	**106**	P	**Pb**	**15 04 07.7**	**-0.4**
CHAS				S	**Sb**	**15 04 21.6**	**-0.5**
TAF	**Taforalt**	**1.28**	**121**	P	**Pn**	**15 04 10.6**	**+0.2**
TAF				S	**Sb**	**15 04 26.4**	**-0.6**
CHEFC	**Chefchaouen**	**1.36**	**254**	P	**Pg**	**15 04 12.7**	**-0.9**
EMAL	**Malaga-Limoner**	**1.39**	**337**	P	**Pg**	**15 04 14.9**	**+0.8**
EMAL				S	**Sb**	**15 04 30.3**	**+0.3**
CEU	**Ceuta**	**1.39**	**288**	P	**Pn**	**15 04 11.5**	**-0.2**
CEU				S	**Sn**	**15 04 23.7**	**-5.9**
JBK	**JBK**	**1.50**	**140**	P	**Pn**	**15 04 13.2**	**-0.3**
JBK				S	**Sn**	**15 04 31.3**	**-1.4**
LCRM	**LCR**	**2.02**	**207**	P	**Pb**	**15 04 24.3**	**+0.7**
LCRM				S	**Sb**	**15 04 48.3**	**-0.2**
IFR	**Ifrane**	**2.28**	**211**	P	**Pg**	**15 04 29.9**	**-1.2**
IFR				S	**Sn**	**15 04 51.9**	**+0.1**
MD31	**MD31**	**2.75**	**198**	P	**Pn**	**15 04 32.3**	**+1.8**
MD31				S	**Sn**	**15 05 04.0**	**+0.7**
MDT	**Midelt**	**2.76**	**195**	P	**Pn**	**15 04 32.1**	**+1.3**
MDT				S	**Sn**	**15 05 05.9**	**+2.2**
TDRA	**Tendrara**	**2.83**	**149**	P	**Pn**	**15 04 32.6**	**+0.9**
PVAQ	**Vaqueiros**	**3.73**	**302**	P	**Pn**	**15 04 46.0**	**+2.0**
PVAQ				S	**Sn**	**15 05 27.8**	**+0.4**
FIGM	**Figuig**	**3.93**	**148**	P	**Pn**	**15 04 46.9**	**0.0**
PFVI	**Vila Bisbo**	**4.42**	**293**	P	**Pn**	**15 04 54.6**	**+1.1**
OUK	**Oukaimeden**	**5.49**	**220**	P	**Pn**	**15 05 08.9**	**+0.4**

*IDC **25** 15:11:10.8±1.2, 35°.74N×3°.98W, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/41, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=34.4km s-min=12.9km az=94.0*
*SFS **25** 15:11:11.0, 35°.71N×3°.73W, ML2.9, ALBORAN SUR*
*IGIL **25** 15:11:12.6, 35°.71N×3°.73W, h0km*
*CNRM **25** 15:11:12.5, 35°.73N×3°.51W, h24km, ml3.3*

ISC 25 15:11:10.8±1.2,**35°.74N**±0°.03×**3°.57W**±0°.03,**h8**km±9km,**n29**,
σ1°**38/47**,**mb3.6/3**,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.60**	**210**	P	**Pg**	**15 11 22.7**	**+0.2**
PALE				S	**Sg**	**15 11 30.9**	**+0.5**
GOG	**Mont Gurugu**	**0.70**	**138**	P	**Pg**	**15 11 24.9**	**+0.6**
GOG				S	**Sg**	**15 11 34.8**	**+1.4**
CHAS	**Isla Isabel II**	**1.08**	**121**	P	**Pg**	**15 11 30.5**	**-1.1**
CHAS				S	**Sg**	**15 11 44.4**	**-1.4**
EMAL	**Malaga-Limoner**	**1.23**	**326**	P	**Pb**	**15 11 33.3**	**-1.1**
EMAL				S	**Sb**	**15 11 49.5**	**-1.0**
TAF	**Taforalt**	**1.32**	**134**	P	**Pn**	**15 11 34.6**	**-1.1**
TAF				S	**Sb**	**15 11 51.8**	**-1.3**
CEU	**Ceuta**	**1.47**	**277**	P	**Pn**	**15 11 35.0**	**-2.7**
CEU				S	**Sn**	**15 11 54.8**	**-2.4**
SMIR	**Smir Dam**	**1.48**	**268**	P	**Sn**	**15 11 58.0**	**+0.8**
CHEFC	**Chefchaouen**	**1.58**	**247**	P	**Pn**	**15 11 39.3**	**+0.1**
CHEFC				S	**Sn**	**15 11 58.8**	**-1.2**
JBK	**JBK**	**1.63**	**149**	P	**Pn**	**15 11 38.4**	**-1.6**
JBK				S	**Sn**	**15 11 59.0**	**-2.2**
SICH	**Sidi Chahed**	**2.17**	**222**	P	**Pb**	**15 11 50.1**	**-0.4**
SICH				S	**Sb**	**15 12 18.2**	**+0.6**
LCRM	**LCR**	**2.31**	**208**	P	**Pb**	**15 11 52.8**	**-0.1**
LCRM				S	**Sb**	**15 12 20.5**	**-1.1**
IFR	**Ifrane**	**2.56**	**210**	P	**Pn**	**15 11 51.7**	**-1.2**
IFR				S	**Sn**	**15 12 21.1**	**-3.3**
CART	**Cartagena**	**2.77**	**48**	P	**Pn**	**15 11 55.9**	**+0.4**
CART				S	**Sn**	**15 12 26.2**	**-2.9**
TDRA	**Tendrara**	**2.98**	**154**	P	**Pn**	**15 11 59.2**	**+0.5**
MD31	**MD31**	**3.03**	**199**	P	**Pn**	**15 11 59.1**	**-0.1**
MD31				S	**Sn**	**15 12 34.8**	**-1.0**
MDT	**Midelt**	**3.04**	**197**	Pn	**Pn**	**15 11 59.3**	**-0.2**
	0.7nm,0.3s,baz=305,slow=23,SNR=3.7						
MDT				Sn	**Sn**	**15 12 37.3**	**+1.2**
	2.5nm,0.3s,baz=280,slow=12,SNR=3.8						
MDT				Lg	Lg	15 12 46.5	
	2.4nm,0.3s,baz=83,slow=20,SNR=4.5						
MDT	**Midelt**	**3.04**	**197**	P	**Pn**	**15 12 00.3**	**+0.9**
MDT				S	**Sn**	**15 12 36.0**	**-0.1**
PVAQ	**Vaqueiros**	**3.73**	**298**	P	**Pn**	**15 12 08.2**	**-0.5**
PVAQ				S	**Sn**	**15 12 51.1**	**-1.7**
ESDC	**Sonseca Array**	**3.94**	**356**	Pn	**Pn**	**15 12 13.5**	**+1.8**
	1.5nm,0.3s,baz=178,slow=12,SNR=43						
ESDC				Sn	**Sn**	**15 12 59.2**	**+1.1**
	0.6nm,0.3s,baz=182,slow=21,SNR=3.6						
ESDC				Lg	Lg	15 13 17.7	
	1.1nm,0.3s,baz=180,slow=29,SNR=4.8						
FIGM	**Figuig**	**4.08**	**151**	P	**Pn**	**15 12 13.9**	**+0.2**
MESJ	**Messejana**	**4.28**	**301**	*e*P	**Pn**	**15 12 15.7**	**-0.6**
MORF	**Marmelete**	**4.38**	**292**	*e*P	**Pn**	**15 12 17.0**	**-0.7**
PFVI	**Vila Bisbo**	**4.46**	**290**	P	**Pn**	**15 12 19.4**	**+0.6**
PESTR	**Estremoz**	**4.47**	**315**	P	**Pn**	**15 12 19.4**	**+0.4**
EVO	**Evora**	**4.51**	**309**	P	**Pn**	**15 12 19.8**	**+0.3**
EVO				S	**Sn**	**15 13 10.7**	**-1.5**
OUK	**Oukaimeden**	**5.77**	**220**	P	**Pn**	**15 12 36.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**22.99**	**167**	P	**P**	**15 16 17.7**	**+1.5**
	1.4nm,0.8s,baz=348,slow=9.4,SNR=6.7						
MKAR	**Makanchi Array**	**62.43**	**51**	P	**P**	**15 21 37.3**	**+2.9**
	0.3nm,0.8s,baz=289,slow=5.3,SNR=4.4						
YKA	**Yellowknife Ar**	**67.70**	**332**	P	**P**	**15 22 08.1**	**-0.2**
	0.4nm,0.7s,baz=60,slow=6.4,SNR=5.3						

*IDC **25** 15:18:31.8±1.2, 35°.70N×3°.70W, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.2/49, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=36.3km s-min=13.2km az=96.0*
*IGIL **25** 15:18:31.8, 35°.36N×3°.64W, h10km, ML2.9*
*SFS **25** 15:18:32.0, 35°.67N×3°.74W, ML2.9, ALBORAN SUR*
*CNRM **25** 15:18:33.1, 35°.70N×3°.57W, h22km, ml3.2*

ISC 25 15:18:31.8±1.3,**35°.70N**±0°.03×**3°.61W**±0°.03,**h7**km±10km,
n26,σ1°**27/44**,**mb3.6/3**,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.55**	**209**	P	**Pb**	**15 18 43.9**	**0.0**
PALE				S	**Sb**	**15 18 51.7**	**-0.3**
GOG	**Mont Gurugu**	**0.69**	**134**	P	**Pb**	**15 18 46.2**	**-0.1**
GOG				S	**Sg**	**15 18 55.3**	**+1.1**
CHAS	**Isla Isabel II**	**1.09**	**118**	P	**Pb**	**15 18 51.8**	**-1.2**
CHAS				S	**Sg**	**15 19 05.5**	**-1.5**
AKLM	**AKL**	**1.21**	**190**	P	**Pb**	**15 18 54.3**	**-0.7**
AKLM				S	**Sg**	**15 19 10.9**	**+0.2**
EMAL	**Malaga-Limoner**	**1.25**	**328**	P	**Pg**	**15 18 55.7**	**0.0**
EMAL				S	**Sb**	**15 19 10.4**	**-1.5**
TAF	**Taforalt**	**1.32**	**132**	P	**Pn**	**15 18 55.8**	**-0.9**
TAF				S	**Sb**	**15 19 13.6**	**-0.5**
CHEFC	**Chefchaouen**	**1.53**	**248**	P	**Pb**	**15 18 59.9**	**-0.6**
CHEFC				S	**Sb**	**15 19 19.5**	**-0.7**
JBK	**JBK**	**1.61**	**148**	P	**Pn**	**15 18 59.9**	**-0.9**
JBK				S	**Sn**	**15 19 19.6**	**-2.4**
LCRM	**LCR**	**2.26**	**207**	P	**Pb**	**15 19 13.9**	**+0.9**
LCRM				S	**Sb**	**15 19 39.8**	**-1.4**
IFR	**Ifrane**	**2.51**	**210**	P	**Pn**	**15 19 11.9**	**-1.4**
IFR				S	**Sn**	**15 19 42.3**	**-1.9**
MD31	**MD31**	**2.98**	**199**	P	**Pn**	**15 19 20.3**	**+0.7**
MD31				S	**Sn**	**15 19 56.4**	**+0.7**
MDT	**Midelt**	**3.00**	**196**	Pn	**Pn**	**15 19 19.5**	**-0.3**
	1.0nm,0.3s,baz=332,slow=17,SNR=1.5						
MDT				Sn	**Sn**	**15 19 56.1**	**0.0**
	3.3nm,0.3s,baz=65,slow=6.4,SNR=2.6						
MDT				Lg	Lg	15 20 07.6	
	2.8nm,0.3s,baz=237,slow=17,SNR=5.0						
MDT	**Midelt**	**3.00**	**196**	P	**Pn**	**15 19 20.6**	**+0.8**
MDT				S	**Sn**	**15 19 56.7**	**+0.6**
ZHG	**ZHG**	**3.37**	**229**	P	**Pn**	**15 19 24.7**	**-0.1**
PVAQ	**Vaqueiros**	**3.72**	**298**	P	**Pn**	**15 19 29.6**	**0.0**
PVAQ				S	**Sn**	**15 20 12.7**	**-0.9**
ESDC	**Sonseca Array**	**3.97**	**356**	Pn	**Pn**	**15 19 35.2**	**+2.0**
	0.9nm,0.3s,baz=177,slow=12,SNR=11						
ESDC				Sn	**Sn**	**15 20 21.2**	**+1.1**
	0.6nm,0.3s,baz=186,slow=22,SNR=3.0						
ESDC				Lg	Lg	15 20 38.1	
	1.2nm,0.3s,baz=180,slow=28,SNR=5.1						
MESJ	**Messejana**	**4.27**	**301**	*e*P	**Pn**	**15 19 37.3**	**+0.1**
MESJ				*e*S	**Sn**	**15 20 25.0**	**-2.2**
MESJ				IAML		15 20 29.7	
	comp=N,18nm,0.6s						
MORF	**Marmelete**	**4.36**	**293**	*e*P	**Pn**	**15 19 38.1**	**-0.4**
MORF				*e*S	**Sn**	**15 20 26.4**	**-3.2**
MORF				IAML		15 20 33.0	
	comp=N,26nm,0.3s						
PFVI	**Vila Bisbo**	**4.44**	**290**	P	**Pn**	**15 19 39.0**	**-0.5**
PESTR	**Estremoz**	**4.48**	**316**	P	**Pn**	**15 19 41.3**	**+1.2**
EVO	**Evora**	**4.51**	**310**	P	**Pn**	**15 19 41.0**	**+0.5**
EVO				S	**Sn**	**15 20 30.3**	**-2.9**
OUZM	**OUZ**	**5.46**	**210**	P	**Pn**	**15 19 54.7**	**+1.0**
OUK	**Oukaimeden**	**5.72**	**220**	P	**Pn**	**15 19 57.5**	**0.0**
TORD	**Torodi Ar. Bea**	**22.96**	**167**	P	**P**	**15 23 38.6**	**+1.7**
	comp=N,1.5nm,0.9s,baz=336,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**62.48**	**51**	P	**P**	**15 28 56.3**	**+0.5**
	comp=N,0.3nm,0.6s,baz=288,slow=5.5,SNR=4.2						
YKA	**Yellowknife Ar**	**67.72**	**332**	P	**P**	**15 29 31.0**	**+1.5**
	comp=N,0.3nm,0.6s,baz=59,slow=6.5,SNR=6.0						

*IDC **25** 15:33:27.5±0.7, 27°.49S×66°.30E, h0km, mb4.1/11, mb1 4.2/11, mb1mx3.9/41, mbtmp4.1/11, MS3.3/5, Ms1 3.3/5, ms1mx2.9/71, Error ellipse: s-maj=25.5km s-min=21.2km az=75.0*
*NEIC **25** 15:33:30.2±0.7, 27°.35S±0°.09×66°.3E±0°.2, h14km±4km, mb4.3/12, Error ellipse: s-maj=19.9km s-min=13.2km az=100.0*

ISC 25 15:33:29.3±0.6,**27°.4S**±0°.1×**66°.3E**±0°.1,**h10**km,**n32**,
σ0°**66/23**,**mb4.2/14**,**MS3.1/5**,**Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**20.52**	**18**	T	T	15 59 45.6	
	baz=198						
H08S2	**Diego Garcia H**	**20.53**	**18**	T	T	15 59 29.0	
	baz=198						
H08S3	**Diego Garcia H**	**20.55**	**18**	T	T	15 59 33.2	
	baz=198						
KIBK	**Kibwezi**	**36.74**	**308**	P	**P**	**15 40 36.3**	**-0.8**
KIBK				IAmb	IAmb	15 40 40.6	
	comp=Z,5.3nm,1.2s						
PALK	**Pallekele**	**37.21**	**24**	LR	LR	15 53 33.3	
	comp=Z,64nm,18.6s,baz=325,slow=32						
LSZ	**Lusaka**	**37.30**	**281**	P	**P**	**15 40 41.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=115,slow=5.2,SNR=2.0						
LSZ				LR	LR	15 53 41.5	
	comp=Z,31nm,18.1s,baz=136,slow=32						
LSZ	**Lusaka**	**37.30**	**281**	IAmb	IAmb	15 40 53.6	
	comp=Z,6.8nm,1.3s						
KMBO	**Kilima Mbogo**	**38.15**	**308**	P	**P**	**15 40 48.4**	**-0.9**
KMBO				IAmb	IAmb	15 40 52.2	
	comp=Z,3.8nm,1.1s						
LODK	**Lodwar**	**42.74**	**311**	P	**P**	**15 41 27.3**	**+0.3**
LODK				IAmb	IAmb	15 41 30.8	
	comp=Z,3.1nm,1.0s						
MBAR	**Mbarara**	**43.25**	**302**	LR	LR	15 56 05.9	
	comp=Z,53nm,19.2s,baz=147,slow=31						
ATD	**Arta Tunnel**	**44.87**	**327**	LR	LR	15 57 30.2	
	comp=Z,24nm,19.3s,baz=116,slow=32						
CMAR	**Chiang Mai Arr**	**55.53**	**38**	LR	LR	16 04 37.4	
	comp=Z,14nm,18.2s,baz=155,slow=34						
SNAA	**Sanae**	**57.67**	**200**	P	**P**	**15 43 19.2**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=355,slow=11,SNR=2.6						
SNAA	**Sanae**	**57.67**	**200**	P	**P**	**15 43 20.7**	**+1.2**
SNAA				IAmb	IAmb	15 43 44.5	
	comp=Z,11nm,1.5s						
ASAR	**Alice Springs**	**60.48**	**103**	P	**P**	**15 43 39.0**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=249,slow=6.4,SNR=13						
AS31	**Alice Springs**	**60.49**	**103**	P	**P**	**15 43 39.0**	**-0.8**
WRA	**Warramunga Arr**	**62.14**	**99**	P	**P**	**15 43 50.3**	**-0.7**
	comp=Z,1.8nm,1.1s,baz=249,slow=6.4,SNR=4.6						
WRAB	**Tennant Creek**	**62.15**	**99**	P	**P**	**15 43 50.2**	**-0.9**
QSPA	**South Pole Qui**	**62.73**	**180**	P	**P**	**15 43 53.7**	**-0.7**
	comp=Z,5.5nm,0.8s,baz=252,slow=1.8,SNR=22						
QSPA	**South Pole Qui**	**62.73**	**180**	P	**P**	**15 43 54.2**	**-0.1**
TAU	**Tasmania Unive**	**65.67**	**127**	P	**P**	**15 44 14.7**	**+0.8**
KKAR	**Karatay Array**	**70.27**	**3**	P	**P**	**15 44 42.8**	**+0.2**
BRTR	**Keskin Array B**	**73.38**	**334**	P	**P**	**15 45 02.5**	**+1.0**
	comp=Z,1.8nm,1.0s,baz=169,slow=7.6,SNR=5.9						
MKAR	**Makanchi Array**	**75.27**	**11**	P	**P**	**15 45 11.7**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=193,slow=4.9,SNR=4.7						
ABKAR	**Akbulak array**	**76.53**	**356**	P	**P**	**15 45 19.1**	**-0.1**
ZALV	**Zalesovo Beam**	**82.60**	**11**	P	**P**	**15 45 52.4**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=211,slow=4.9,SNR=9.8						
SONM	**Songino Array**	**83.14**	**26**	P	**P**	**15 45 56.2**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=203,slow=4.3,SNR=8.0						
SONM	**Songino Array**	**83.14**	**26**	P	**P**	**15 45 55.1**	**-0.2**
SONM				IAmb	IAmb	15 45 56.7	
	comp=Z,3.8nm,1.1s						
AKASG	**Malin Array Be**	**84.38**	**337**	P	**P**	**15 46 01.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=161,slow=4.5,SNR=4.3						
KSRS	**Korea Array**	**86.65**	**45**	P	**P**	**15 46 13.2**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=234,slow=5.1,SNR=6.8						
YKA	**Yellowknife Ar**	**144.91**	**1**	PKP	PKPbc	15 53 05.2	0.0
	comp=Z,6.9nm,0.8s,baz

M_0r1.82±.96; Best double couple: $M_0$2.17000×10^15 NP1:$\phi_0$180.00000°,δ81.00000°,λ-65.00000°. NP2: $\phi_0$289.00000°,δ26.00000°,λ-159.00000°. Principal axes: T 2.6900, Plg31.0000°, Azm250.0000°; N -1.0400, Plg24.0000°, Azm356.0000°; P -1.6500, Plg48.0000°, Azm116.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
*CNRM **25** 16:02:43.2, 35.50N×3.73W, h16km, ml4.2*
*NEIC **25** 16:02:43.6±1.5, 35.54N±0.05×3.78W±0.07, h10km±1km, mb4.3/25, Error ellipse: s-maj=12.4km s-min=6.5km az=131.0*

ISC 25 16:02:43.1±1.0, 35.54N±0.02×3.73W±0.02, h14km±7km, n172, σ1$81/204, mb4.2/27, MS3.4/7, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**208**	P	**Pg**	**16 02 49.8**	**-0.6**
PALE				S	**Sg**	**16 02 54.7**	**-0.7**
EMEL	**Melilla**	**0.68**	**110**	Pg	**Pg**	**16 02 55.0**	**-1.3**
	SNR=7.9						
EMEL				Lg	Lg	16 03 05.7	
	27μm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**0.68**	**117**	P	**Pg**	**16 02 56.2**	**-0.1**
GOG				S	**Sg**	**16 03 05.7**	**+0.4**
EALB	**Alboran**	**0.69**	**54**	Pg	**Pb**	**16 02 57.9**	**+0.9**
	1μm,0.3s,SNR=306						
EALB				Lg	Lg	16 03 07.8	
	3μm,0.2s,SNR=5.0						
AKLM	**AKL**	**1.03**	**186**	P	**Pb**	**16 03 02.1**	**-0.6**
AKLM				S	**Sb**	**16 03 14.8**	**-1.4**
CHAS	**Isla Isabel II**	**1.12**	**108**	P	**Pb**	**16 03 02.7**	**-1.5**
CHAS				S	**Sb**	**16 03 17.3**	**-1.3**
TAF	**Taforalt**	**1.30**	**123**	P	**Pn**	**16 03 05.6**	**-1.2**
TAF				S	**Sb**	**16 03 24.0**	**+0.2**
EMIJ	**Mijas**	**1.33**	**321**	Pg	**Pn**	**16 03 05.6**	**-1.7**
	SNR=7.9						
EMIJ				Lg	Lg	16 03 22.7	
	146nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**1.33**	**4**	Pg	**Pn**	**16 03 06.2**	**-1.1**
	SNR=7.9						
ELGU				Lg	Lg	16 03 25.5	
	925nm,0.3s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.35**	**335**	P	**Pn**	**16 03 06.7**	**-0.7**
EMAL				S	**Sb**	**16 03 22.6**	**-2.6**
CEU	**Ceuta**	**1.38**	**286**	P	**Pn**	**16 03 04.8**	**-3.2**
CEU				S	**Sn**	**16 03 18.9**	**-7.1**
CHEFC	**Chefchaouen**	**1.38**	**252**	P	**Pn**	**16 03 08.0**	**-0.1**
ECEU	**Ceuta**	**1.39**	**286**	Pg	**Pn**	**16 03 06.3**	**-1.7**
	62nm,0.3s,SNR=15						
ECEU				Lg	Lg	16 03 22.4	
	145nm,0.1s,SNR=9.7						
EBER	**Berja**	**1.52**	**26**	Pg	**Pn**	**16 03 09.8**	**-0.2**
	SNR=7.9						
EBER				Lg	Lg	16 03 31.0	
	400nm,0.3s,SNR=7.9						
JBK	**JBK**	**1.53**	**141**	P	**Pn**	**16 03 09.0**	**-1.2**
JBK				S	**Sn**	**16 03 30.3**	**+0.3**
EGOR	**Sierra Gorda,**	**1.60**	**349**	Pg	**Pn**	**16 03 11.1**	**0.0**
	SNR=7.9						
EGOR				Lg	Lg	16 03 32.1	
	142nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.68**	**8**	Pg	**Pn**	**16 03 12.8**	**+0.7**
	81nm,0.4s,SNR=136						
EQUE				Lg	Lg	16 03 36.2	
	141nm,0.4s,SNR=10						
CPS	**Cap Spartel**	**1.79**	**279**	P	**Pb**	**16 03 15.9**	**+0.2**
ENIJ	**Nijar**	**1.89**	**40**	Pn	**Pn**	**16 03 14.3**	**-0.6**
	SNR=7.9						
ENIJ				Sn	**Sn**	**16 03 37.5**	**-1.0**
	SNR=7.9						
SICH	**Sidi Chahed**	**1.94**	**223**	P	**Pb**	**16 03 18.0**	**-0.2**
SICH				S	**Sn**	**16 03 36.5**	**-3.2**
LCRM	**LCR**	**2.07**	**207**	P	**Pn**	**16 03 17.0**	**-0.5**
LCRM				S	Sn	16 03 27.1	-16
SFS	**San Fernando**	**2.21**	**295**	Pn	**Pn**	**16 03 19.2**	**-0.1**
EQES	**Quesada**	**2.32**	**13**	Pg	**Pb**	**16 03 23.5**	**-1.3**
	102nm,0.4s,SNR=191						
EQES				Lg	Lg	16 03 54.5	
	403nm,0.4s,SNR=5.1						
IFR	**Ifrane**	**2.32**	**210**	P	**Pn**	**16 03 20.2**	**-0.8**
IFR				S	**Sn**	**16 03 47.5**	**-2.0**
OTSS	**Djebel Tessala**	**2.41**	**95**	P	**Pn**	**16 03 21.0**	**-1.2**
USTO	**Oran**	**2.60**	**85**	P	**Pb**	**16 03 28.0**	**-1.4**
EADA	**Adamuz**	**2.71**	**346**	Pn	**Pn**	**16 03 27.0**	**+0.7**
	20nm,0.3s,SNR=58						
EADA				Sn	**Sn**	**16 03 57.7**	**-1.1**
	122nm,0.4s,SNR=5.4						
EADA				Lg	Lg	16 04 08.1	
	166nm,0.4s,SNR=5.5						
MD31	**MD31**	**2.80**	**198**	P	**Pn**	**16 03 27.6**	**+0.1**
MD31				S	**Sn**	**16 04 00.3**	**-0.7**
MDT	**Midelt**	**2.81**	**195**	Pn	**Pn**	**16 03 27.4**	**-0.3**
	7.6nm,0.3s,baz=180,slow=16,SNR=85						
MDT				Sn	**Sn**	**16 04 00.6**	**-0.8**
	13nm,0.3s,baz=51,slow=6.8,SNR=6.7						
MDT				Lg	Lg	16 04 10.9	
	17nm,0.3s,baz=72,slow=20,SNR=4.7						
MDT	**Midelt**	**2.81**	**195**	P	**Pn**	**16 03 27.4**	**-0.3**
TDRA	**Tendrara**	**2.86**	**150**	P	**Pn**	**16 03 28.8**	**+0.3**
ODJA	**Bouhanifia**	**2.93**	**93**	P	**Pn**	**16 03 29.0**	**-0.3**
CART	**Cartagena**	**3.00**	**46**	P	**Pn**	**16 03 29.6**	**-0.6**
CART				S	**Sn**	**16 04 02.6**	**-3.3**
CART	**Cartagena**	**3.00**	**46**		**Pn**	**16 03 29.6**	**-0.6**
CART	**Cartagena**	**3.00**	**46**	P	**Pn**	**16 03 29.7**	**-0.5**
ZHG	**ZHG**	**3.18**	**230**	P	**Pn**	**16 03 32.0**	**-0.8**
PVAQ	**Vaqueiros**	**3.71**	**301**	*e*Pn	**Pn**	**16 03 40.0**	**0.0**
PVAQ				*e*Sn	**Sn**	**16 04 21.1**	**-2.4**
PVAQ				A	A	16 04 30.7	
	84nm,0.7s						
PVAQ	**Vaqueiros**	**3.71**	**301**		**Pn**	**16 03 39.8**	**-0.2**
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	**16 03 41.5**	**+1.5**
PBAR	**Barrancos**	**3.74**	**316**	*e*Sn	**Sn**	**16 04 22.7**	**-1.4**
AVE	**Averroes**	**3.78**	**235**	P	**Pn**	**16 03 39.8**	**-1.1**
AVE				S	Sn	16 04 11.8	-13
AVE	**Averroes**	**3.78**	**235**	P	**Pb**	**16 03 51.0**	**+1.5**
PBDV	**Barranco-do-Ve**	**3.79**	**298**	*e*Pn	**Pn**	**16 03 41.2**	**+0.1**
PBDV				*e*Sn	**Sn**	**16 04 22.3**	**-3.2**
PBDV				A	A	16 04 28.6	
	67nm,0.7s						
GOLM	**Goulmima**	**3.96**	**195**	P	**Pn**	**16 03 42.8**	**-0.7**
FIGM	**Figuig**	**3.97**	**148**	P	**Pn**	**16 03 45.1**	**+1.5**
PAB	**San Pablo**	**4.03**	**353**		**Pn**	**16 03 46.0**	**+1.5**
PCVE	**Castro Verde**	**4.05**	**302**	*e*Pn	**Pn**	**16 03 44.9**	**+0.3**
PCVE				*e*Sn	**Sn**	**16 04 30.0**	**-1.8**
PCVE				A	A	16 04 36.3	
	59nm,0.4s						
ESDC	**Sonseca Array**	**4.13**	**358**	Pn	**Pn**	**16 03 47.3**	**+1.4**
	3.2nm,0.3s,baz=180,slow=12,SNR=65						
ESDC				Sn	**Sn**	**16 04 35.6**	**+1.6**
	2.6nm,0.3s,baz=189,slow=23,SNR=5.7						
ESDC				Lg	Lg	16 04 53.5	
	4.6nm,0.3s,baz=174,slow=28,SNR=8.1						
ESDC				LR	LR	16 05 26.7	
	comp=Z,92nm,18.1s,baz=216,slow=40						
ESBB	**Sonseca Array**	**4.13**	**358**	Pn	**Pn**	**16 03 47.4**	**+1.5**
PBEJ	**Beja**	**4.15**	**308**	*e*Pn	**Pn**	**16 03 46.2**	**+0.2**
PBEJ				*e*Sn	**Sn**	**16 04 32.3**	**-1.9**
PBEJ				A	A	16 04 35.2	
	37nm,0.4s						
MESJ	**Messejana**	**4.28**	**304**	*e*P	**Pn**	**16 03 47.7**	**0.0**
MESJ				*e*S	**Sn**	**16 04 34.6**	**-2.9**
MESJ				IAML		16 04 41.4	
	comp=N,101nm,0.3s						
MESJ	**Messejana**	**4.28**	**304**	*e*Pn	**Pn**	**16 03 48.0**	**+0.3**
MESJ				*e*Sn	**Sn**	**16 04 35.1**	**-2.3**
MESJ				A	A	16 04 49.5	
	comp=N,64nm,0.4s						
MORF	**Marmelete**	**4.34**	**295**	*e*P	**Pn**	**16 03 48.5**	**-0.2**
MORF				*e*S	**Sn**	**16 04 36.0**	**-3.1**
MORF				IAML		16 04 38.8	
	comp=N,133nm,0.3s						
MORF	**Marmelete**	**4.34**	**295**	*e*Pn	**Pn**	**16 03 49.1**	**+0.4**
MORF				*e*Sn	**Sn**	**16 04 36.7**	**-2.4**
MORF				A	A	16 04 41.5	
	comp=N,41nm,0.4s						
PFVI	**Vila Bisbo**	**4.41**	**293**	*e*Pn	**Pn**	**16 03 50.0**	**+0.4**
PFVI				*e*Sn	**Sn**	**16 04 37.1**	**-3.7**
PFVI				A	A	16 04 49.5	
	comp=N,44nm,0.4s						
PFVI	**Vila Bisbo**	**4.41**	**293**	Pn	**Pn**	**16 03 50.0**	**+0.4**
PFVI	**Vila Bisbo**	**4.41**	**293**	P	**Pn**	**16 03 50.3**	**+0.7**
PTEO	**Sao Teotonio**	**4.49**	**298**	*e*Pn	**Pn**	**16 03 51.6**	**+0.9**
PTEO				*e*Sn	**Sn**	**16 04 40.5**	**-2.2**
PTEO				A	A	16 04 44.3	
	comp=N,50nm,0.3s						
PESTR	**Estremoz**	**4.53**	**318**	*e*Pn	**Pn**	**16 03 52.3**	**+1.0**
PESTR				*e*Sn	**Sn**	**16 04 41.9**	**-1.8**
PESTR				A	A	16 04 47.0	
	comp=N,39nm,0.4s						
PESTR	**Estremoz**	**4.53**	**318**		**Pn**	**16 03 52.3**	**+1.0**
PESTR	**Estremoz**	**4.53**	**318**	P	**Pn**	**16 03 51.9**	**+0.7**
EVO	**Evora**	**4.55**	**312**	*e*Pn	**Pn**	**16 03 52.1**	**+0.7**
EVO				*e*Sn	**Sn**	**16 04 41.9**	**-2.2**
EVO				A	A	16 04 54.4	
	comp=N,65nm,0.5s						
PNCL	**Nicolau / Gran**	**4.63**	**305**	*e*Pn	**Pn**	**16 03 52.6**	**0.0**
PNCL				*e*Sn	**Sn**	**16 04 44.4**	**-1.7**
PNCL				A	A	16 04 48.5	
	comp=N,44nm,0.6s						
UCM	**Universidad Co**	**4.78**	**4**	P	**Pn**	**16 03 56.3**	**+1.6**
UCM				S	**Sn**	**16 04 43.7**	**-6.2**
PMRV	**Marv??o**	**4.85**	**324**	*e*Pn	**Pn**	**16 03 56.7**	**+1.0**
PMRV				*e*Sn	**Sn**	**16 04 49.5**	**-2.2**
PMRV				A	A	16 05 01.0	
	comp=N,26nm,0.7s						
TZRR	**Tazzarine**	**4.98**	**199**	P	**Pn**	**16 03 58.2**	**+0.6**
PMTG	**Montargil**	**5.03**	**316**	*e*Pn	**Pn**	**16 03 58.7**	**+0.7**
PMTG				*e*Sn	**Sn**	**16 04 54.5**	**-1.4**
PMTG				A	A	16 04 59.0	
	comp=N,26nm,0.4s						
PCBR	**Castelo Branco**	**5.22**	**326**	*e*Pn	**Pn**	**16 04 02.6**	**+1.9**
PCBR				*e*Sn	**Sn**	**16 04 58.8**	**-1.9**
PCBR				A	A	16 05 35.1	
	comp=N,35nm,0.6s						
OUZM	**OUZ**	**5.27**	**210**	P	**Pn**	**16 04 02.0**	**+0.5**
OUK	**Oukaimeden**	**5.53**	**220**	P	**Pn**	**16 04 05.0**	**-0.3**
PMAFR	**Mafra**	**5.59**	**309**	*e*Pn	**Pn**	**16 04 06.5**	**+0.7**
PMAFR				*e*Sn	**Sn**	**16 05 07.1**	**-2.7**
PMAFR				A	A	16 05 20.9	
	comp=N,71nm,0.6s						
ZGR	**Zagora**	**5.63**	**197**	P	**Pn**	**16 04 06.4**	**-0.1**
PSBE	**So Bento**	**5.65**	**316**	*e*Pn	**Pn**	**16 04 07.8**	**+1.1**
MTE	**Manteigas**	**5.71**	**329**	*e*Pn	**Pn**	**16 04 08.9**	**+1.4**
MTE				*e*Sn	**Sn**	**16 05 09.8**	**-3.1**
MTE				A	A	16 05 46.4	
	comp=N,69nm,0.6s						
MTE	**Manteigas**	**5.71**	**329**		**Pn**	**16 04 08.5**	**+1.0**
PCAS	**Casmilo, Conde**	**5.88**	**321**	*e*Pn	**Pn**	**16 04 11.8**	**+2.0**
PCAS				*e*Sn	**Sn**	**16 05 13.1**	**-3.8**
PCAS				A	A	16 05 50.4	
	comp=N,37nm,0.7s						
PVIS	**Viseu**	**6.12**	**329**	*e*Pn	**Pn**	**16 04 15.0**	**+1.8**
PVIS				*e*Sn	**Sn**	**16 05 21.6**	**-1.4**
PVIS				A	A	16 05 59.7	
	comp=N,45nm,0.7s						
MVO	**Moncorvo**	**6.19**	**336**	*e*Pn	**Pn**	**16 04 15.7**	**+1.7**
MVO				*e*Sn	**Sn**	**16 05 23.4**	**-1.2**
MVO				A	A	16 05 32.3	
	comp=N,58nm,0.5s						
EAH	**EAH**	**6.24**	**233**	P	**Pn**	**16 04 13.3**	**-1.4**
TTIG	**Tnine Tigouga,**	**6.36**	**220**	P	**Pn**	**16 04 13.9**	**-2.6**
PVRL	**Vila Real**	**6.53**	**333**	*e*Pn	**Pn**	**16 04 20.0**	**+1.3**
PVRL				*e*Sn	**Sn**	**16 05 30.0**	**-3.0**
PVRL				A	A	16 05 42.5	
	comp=N,44nm,0.5s						
POLO	**Lamas de Olo**	**6.64**	**333**	*e*Pn	**Pn**	**16 04 21.5**	**+1.2**
POLO				*e*Sn	**Sn**	**16 05 33.0**	**-2.8**
POLO				A	A	16 06 22.7	
	comp=N,14nm,0.6s						
PBRG	**Braganca**	**6.69**	**340**	*e*Pn	**Pn**	**16 04 22.9**	**+2.0**
PBRG				*e*Sn	**Sn**	**16 05 35.9**	**-1.0**
PBRG				A	A	16 05 49.3	
	comp=N,24nm,0.6s						
PTO	**Porto**	**6.78**	**327**	*e*Pn	**Pn**	**16 04 23.1**	**+1.1**
PTO				*e*Sn	**Sn**	**16 05 35.6**	**-3.4**
PCAB	**Cabril**	**7.02**	**333**	*e*Pn	**Pn**	**16 04 26.9**	**+1.4**
PCAB				*e*Sn	**Sn**	**16 05 42.1**	**-3.0**
PCAB				A	A	16 06 31.4	
	comp=N,34nm,0.7s						
PGAV	**Gavieira, Arco**	**7.33**	**332**	*e*Pn	**Pn**	**16 04 31.1**	**+1.3**
PGAV				*e*Sn	**Sn**	**16 05 50.5**	**-2.3**
PGAV				A	A	16 06 05.5	
	comp=N,29nm,0.8s						
ETSF	**Etsaut**	**7.75**	**18**	*e*Pn	**Pn**	**16 04 34.6**	**-0.9**
ETSF	**Etsaut**	**7.75**	**18**	*e*P	**Pn**	**16 04 39.2**	**+3.7**
ETSF				*e*Sn	**Sn**	**16 05 58.7**	**-4.4**
	comp=N,0.8nm,0.3s						
SJPF	**Ste Jean**	**7.81**	**14**	*e*Pn	**Pn**	**16 04 34.7**	**-1.6**
SJPF	**Ste Jean**	**7.81**	**14**	*e*P	**Pn**	**16 04 39.9**	**+3.6**
SJPF				*e*Sn	**Sn**	**16 05 59.1**	**-5.4**
	comp=N,0.7nm,0.2s						
EPF	**Esparros**	**8.12**	**22**	*e*Pn	**Pn**	**16 04 39.5**	**-1.1**
EPF	**Esparros**	**8.12**	**22**	*e*P	**Pn**	**16 04 44.6**	**+4.0**
MTLF	**Montolieu**	**9.05**	**29**	*e*Pn	**Pn**	**16 04 51.9**	**-1.3**
MTLF	**Montolieu**	**9.05**	**29**	*e*P	Pn	16 04 58.2	+5.0
TANT	**Tantan**	**9.54**	**224**	P	**Pn**	**16 04 58.8**	**-1.3**
CAF	**Calviac**	**10.37**	**23**	*e*P	**Pn**	**16 05 13.8**	**+2.5**
KEST	**Kesra**	**10.65**	**85**	Pn	**Pn**	**16 05 17.4**	**+2.2**
	comp=N,0.2nm,0.3s,baz=214,slow=7.6,SNR=2.3						
KEST				Sn	**Sn**	**16 07 13.5**	**-0.8**
	comp=N,0.2nm,0.3s,baz=296,slow=14,SNR=1.7						
KEST				LR	LR	16 10 09.4	
	comp=N,166nm,18.6s,baz=74,slow=42						
LMR	**La Mourre**	**11.10**	**42**	*e*P	Pn	16 05 26.3	+5.0
VSL	**Villasalto**	**11.13**	**65**	Pn	**Pn**	**16 05 23.6**	**+1.7**
PGF	**Pioggiola**	**12.12**	**51**	*e*P	**Pn**	**16 05 38.9**	**+3.6**
PGF				*e*Sn	**Sn**	**16 07 43.8**	**-6.4**
	comp=N,0.4nm,0.2s						
QUIF	**Quistinic**	**12.38**	**2**	*e*Pn	**Pn**	**16 05 36.8**	**-1.9**
DAVOX	**Davos/Dischmat**	**15.18**	**38**	Pn	**P**	**16 06 21.1**	**-1.1**
	comp=N,0.2nm,0.3s,baz=314,slow=19,SNR=1.6						
DAVOX				LR	LR	16 12 43.8	
	comp=N,77nm,18.9s,baz=264,slow=40						
GEC2	**GERESS Array S**	**18.48**	**39**	P	**Pn**	**16 06 59.6**	**+0.9**
GERES	**GERESS Array B**	**18.48**	**39**	P	**Pn**	**16 06 58.9**	**+0.2**
	comp=N,0.1nm,0.3s,baz=230,slow=12,SNR=7.5						
GERES				LR	LR	16 13 29.7	
	comp=N,102nm,19.8s,baz=239,slow=35						
GERES	**GERESS Array B**	**18.48**	**39**	P	**Pn**	**16 06 60.0**	**+1.2**
KHC	**Kasperske Hory**	**18.60**	**38**	*e*P	**Pn**	**16 07 03.3**	**+3.2**
KHC	**Kasperske Hory**	**18.60**	**38**	P	**Pn**	**16 07 02.0**	**+1.8**
EKA	**Eskdalemuir Ar**	**19.80**	**1**	P	**P**	**16 07 13.6**	**+0.8**
	baz=170,slow=9.4,SNR=1.2						
CLL	**Collm**	**19.83**	**32**	↓↓*i*P	**Pn**	**16 07 15.6**	**+0.8**
	comp=Z,15nm,1.0s						
CLL	**Collm**	**19.83**	**32**	Pn	**Pn**	**16 07 15.7**	**+0.9**
CLL				IAmb	IAmb	16 07 17.2	
	comp=Z,15nm,1.0s						
BRG	**Berggiesshubel**	**19.94**	**34**	*e*P	**Pn**	**16 07 17.2**	**+1.0**
BRG				Amp		16 07 18.9	
	comp=Z,14nm,1.4s						
KRUC	**Moravsky**	**20.02**	**41**	*e*P	Pn	16 07 16.9	-0.2
MODS	**Modra-Piesok**	**20.13**	**44**	*e*P	Pn	16 07 19.9	+1.4
VRAC	**Vranov**	**20.27**	**41**	P	**P**	**16 07 18.1**	**0.0**
	comp=Z,1.7nm,0.4s,baz=246,slow=10,SNR=3.7						
VRAC				LR	LR	16 15 39.6	
	comp=Z,16nm,18.1s,baz=222,slow=38						
VRAC	**Vranov**	**20.27**	**41**	*e*P	**P**	**16 07 19.1**	**+1.0**
SMOL	**Smolenice**	**20.29**	**44**	*e*P	Pn	16 07 20.5	+0.2
UPC	**Upice**	**20.69**	**38**	*e*P	Pn	16 07 24.5	-0.5
DPC	**Dobruska-Polom**	**20.75**	**38**	*e*P	Pn	16 07 24.7	-1.0
CHVC	**Chvalec**	**20.77**	**37**	*e*P	Pn	16 07 25.2	-0.7
KRLC	**Kraliky**	**20.82**	**39**	*e*P	Pn	16 07 26.4	-0.1
MORC	**Moravsky Berou**	**21.05**	**41**	*e*P	**P**	**16 07 28.1**	**+1.6**
MORC	**Moravsky Berou**	**21.05**	**41**	P	**P**	**16 07 27.9**	**+1.4**
VYHS	**Vyhne**	**21.09**	**45**	*e*P	**P**	**16 07 28.1**	**+1.2**
LANS	**Liptovska Anna**	**21.77**	**44**	*e*P	**P**	**16 07 36.4**	**+2.1**
CRVS	**Cervenica-Dubn**	**22.81**	**46**	*e*P	**P**	**16 07 46.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**22.82**	**166**	P	**P**	**16 07 46.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=347,slow=9.2,SNR=7.4						
IDI	**Anoyia**	**23.30**	**82**	LR	LR	16 18 53.8	
	comp=Z,31nm,18.2s,baz=216,slow=42						
MLR	**Muntele Rosu**	**24.53**	**57**	P	**P**	**16 08 02.3**	**0.0**
	comp=Z,3.9nm,0.6s,baz=149,slow=23,SNR=2.7						
BUR08	**Bucovina Ar. S**	**24.64**	**52**	P	**P**	**16 08 03.9**	**+0.8**
BUR08				IAmb	IAmb	16 08 08.9	
	comp=Z,6.5nm,1.3s						
BURAR	**Bucovina Array**	**24.64**	**52**	P	**P**	**16 08 04.2**	**+1.0**
NAO01	**NORSAR Array S**	**27.00**	**16**	P	**P**	**16 08 26.4**	**+2.1**
NC602	**NORSAR Array S**	**27.06**	**17**	P	**P**	**16 08 26.2**	**+1.4**
HFS	**Hagfors**	**27.07**	**19**	P	**P**	**16 08 25.6**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=212,slow=14,SNR=4.4						
NOA	**NORSAR Array B**	**27.25**	**16**	P	**P**	**16 08 27.2**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=210,slow=8.0,SNR=3.9						
NOA				LR	LR	16 19 47.0	
	comp=Z,75nm,18.4s,baz=205,slow=38						
AKASG	**Malin Array Be**	**28.14**	**47**	P	**P**	**16 08 31.6**	**-3.0**
	comp=Z,1.2nm,0.7s,baz=245,slow=10,SNR=5.1						
AKASG	**Malin Array Be**	**28.14**	**47**	IAmb	IAmb	16 08 32.6	
	comp=Z,0.9nm,0.9s						
FINES	**FINESS Array B**	**32.06**	**27**	P	**P**	**16 09 09.1**	**0.0**
	comp=Z,1.3nm,0.8s,baz=230,slow=11,SNR=2.2						
ASF	**Jabal al Asfar**	**33.74**	**84**	LR	LR	16 25 47.5	
	comp=Z,1μm,20.8s,baz=108,slow=41						
ARCES	**ARCESS Array B**	**37.63**	**16**	P	**P**	**16 09 57.3**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=216,slow=8.4,SNR=1.4						
ARU	**Arti**	**46.23**	**43**	P	**P**	**16 11 07.6**	**+0.1**
ARU				IAmb	IAmb	16 11 09.4	
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**47.61**	**53**	P	**P**	**16 11 19.3**	**+0.9**
ATD	**Arta Tunnel**	**48.37**	**108**	LR	LR	16 32 46.7	
	comp=Z,43nm,18.4s,baz=6.5,slow=37						
EUNU	**Eureka**	**53.99**	**348**	P	**P**	**16 12 07.4**	**+1.2**
KURK	**Kurchatov**	**58.96**	**47**	P	**P**	**16 12 42.1**	**+0.3**
AAK	**Ala-Archa**	**59.11**	**57**	P	**P**	**16 12 44.4**	**+1.1**
AAK				IAmb	IAmb	16 12 45.9	
	comp=Z,1.5nm,0.8s						
KSH	**Kashi**	**61.35**	**60**	P	**P**	**16 12 59.5**	**+0.9**
KSH				pP	sP	16 13 04.3	-0.3
KSH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZAA0	**Zalesovo Array**	**61.38**	**42**	P	**P**	**16 12 59.1**	**+0.7**
ZAA0				IAmb	IAmb	16 13 02.3	
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**61.38**	**42**	P	**P**	**16 12 58.6**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=290,slow=6.8,SNR=6.1						
MAKZ	**Makanchi**	**62.45**	**51**	P	**P**	**16 13 06.5**	**+0.7**
MK31	**Makanchi Array**	**62.66**	**50**	P	**P**	**16 13 07.6**	**+0.5**
MK31				IAmb	IAmb	16 13 08.8	
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**62.66**	**50**	P	**P**	**16 13 07.7**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=286,slow=6.0,SNR=34						
MKAR	**Makanchi Array**	**62.66**	**50**	P	**P**	**16 13 07.8**	**+0.7**
WMQ	**Urumqi**	**67.38**	**52**	*e*P	**P**	**16 13 41.5**	**+3.5**
YKA	**Yellowknife Ar**	**67.82**	**332**	P	**P**	**16 13 40.6**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=60,slow=6.5,SNR=30						
RSSD	**Black Hills**	**72.76**	**312**	P	**P**	**16 14 12.0**	**+0.9**
RSSD				IAmb	IAmb	16 14 13.0	
	comp=Z,6.3nm,1.3s						
WALA	**Waterton Lakes**	**75.48**	**320**	P	**P**	**16 14 27.3**	**+0.5**
WALA				IAmb	IAmb	16 14 36.2	
	comp=Z,7.5nm,1.4s						
RWWY	**Rawlins**	**76.05**	**311**	P	**P**	**16 14 29.8**	**-0.6**
SONM	**Songino Array**	**76.20**	**41**	P	**P**	**16 14 32.2**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=292,slow=5.7,SNR=5.0						
SONM	**Songino Array**	**76.20**	**41**	IAmb	IAmb	16 14 33.1	
	comp=Z,1.4nm,0.9s						
PD31	**Pinedale Array**	**76.84**	**313**	P	**P**	**16 14 35.1**	**+0.3**
PD31				IAmb	IAmb	16 14 40.2	
	comp=Z,2.2nm,0.9s						
PDAR	**Pinedale Array**	**76.84**	**313**	P	**P**	**16 14 34.9**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=61,slow=6.7,SNR=16						
PDAR	**Pinedale Array**	**76.84**	**313**	P	**P**	**16 14 34.8**	**0.0**
BW06	**Boulder Array**	**76.84**	**313**	P	**P**	**16 14 34.6**	**-0.2**
BW06				IAmb	IAmb	16 14 40.2	
	comp=Z,2.4nm,0.9s						
SDCO	**Great Sand Dun**	**77.24**	**307**	P	**P**	**16 14 38.2**	**+1.0**
SDCO				IAmb	IAmb	16 14 44.0	
	comp=Z,1.3nm,0.8s						
GTA	**Gaotai**	**77.41**	**51**	*e*P	**P**	**16 14 38.8**	**+0.8**
GTA				pP	sP	16 14 43.5	-0.6
GTA				sP	PcP	16 14 45.8	-2.6
GTA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
PV23	**Carpenter Ridg**	**79.07**	**310**	P	**P**	**16 14 48.2**	**+0.9**
PV23				IAmb	IAmb	16 15 00.3	
	comp=Z,6.9nm,1.1s						
TXAR	**Lajitas Array**	**80.84**	**299**	P

LBTB	Lobatse	3.33	287	*i* P	Pn	16 26 40.0	+0.7
MSNA	Messina	3.77	13	*i* P	Pn	16 26 45.2	-0.2
MSNA				*i* S	Sn	16 27 27.8	-2.7
MSNA	Messina	3.77	13	*i* P	Pn	16 26 45.2	-0.2
MSNA				*i* S	Sn	16 27 27.8	-2.7
BOSA	Boshof	4.28	232	*i* P	Pn	16 26 53.7	+1.4
BOSA				*i* Sg	Sb	16 27 56.1	+1.9
BOSA	Boshof	4.28	232	*i* P	Pn	16 26 53.7	+1.4
BOSA				*i* Sg	Sb	16 27 56.1	+1.9
MATP	Matopo	5.62	354	*i* S	Sn	16 28 11.3	-4.8
MATP	Matopo	5.62	354	*i* S	Sn	16 28 11.3	-4.8
BLWY	Bulawayo	5.89	355	*i* S	Sn	16 28 17.8	-5.1
BLWY	Bulawayo	5.89	355	*i* S	Sn	16 28 17.8	-5.1
KRI	Karoi	9.18	3	*i* S	Sn	16 29 20.9	-23
KRI	Karoi	9.18	3	*i* S	Sn	16 29 20.9	-23
KRI	Karoi	9.18	3	*i* P	Pn	16 27 49.9	-10
KRI	Karoi	9.18	3	*i* P	Pn	16 27 49.9	-10

TUL ***25*** *16:29:38.1±1.0, 36°.83N±0°.02×97°.77W±0°.02, h5km±6km, ML2.8, mb_Lg2.6/35(NEIC), Error ellipse: s-maj=2.5km s-min=2.0km az=48.0*

NEIC 25 16:29:38.1±0.5,**36°.81N**±0°.02×**97°.77W**±0°.02,**h5**km±6km,
Error ellipse: s-maj=2.5km s-min=2.0km az=62.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.09**	**301**	Pg	Pg	16 29 40.1	0.0
GC02				Sg	Sg	16 29 41.4	0.0
KAN14	**Manchester OK**	**0.22**	**314**	Pg	Pg	16 29 42.5	0.0
KAN17	**Caldwell West**	**0.24**	**0**	Pg	Pg	16 29 42.9	+0.1
KAN13	**South Haven SW**	**0.31**	**48**	Pg	Pg	16 29 44.3	+0.1
KAN13				Sg	Sg	16 29 48.4	+0.1
KAN05	**Bluff City Nor**	**0.31**	**344**		Pg	16 29 44.1	-0.2
KAN01	**Argonia South**	**0.35**	**1**		Pg	16 29 44.8	-0.1
KAN10	**Anthony SW Sta**	**0.41**	**320**		Pg	16 29 46.1	-0.1
BLOK	**Blackwell**	**0.44**	**96**	Pg	Pg	16 29 46.9	+0.2
KAN06	**Argonia West S**	**0.45**	**350**		Pg	16 29 46.7	-0.1
KAN08	**Anthony NE Sta**	**0.45**	**339**	Pg	Pg	16 29 46.8	-0.1
KAN16	**Harper SW Stat**	**0.48**	**330**		Pg	16 29 47.4	-0.1
KAN12	**Harper NE Stat**	**0.52**	**339**	Pg	Pg	16 29 47.9	-0.4
OK035	**E0210 Rd and N**	**0.77**	**263**		Pg	16 29 52.4	-0.5
T35A	**Sooner Cattle**	**1.01**	**83**		Pg	16 29 57.1	-0.5
OK033	**Mehan**	**1.01**	**138**	Pg	Pg	16 29 57.4	-0.1
OK029	**Liberty Lake**	**1.04**	**166**		Pg	16 29 57.9	-0.1
OK029				Sg	Sb	16 30 12.1	-0.4
QUOK	**Quay**	**1.06**	**126**		Pg	16 29 58.1	-0.4
U32A	**Winter Ranch,**	**1.08**	**247**	Pg	Pg	16 29 58.6	-0.3
U32A				Sg	Sg	16 30 13.1	+0.2
OK031	**S. Brethren Rd**	**1.13**	**138**	Pg	Pg	16 29 59.7	-0.1
BCOK	**Bluff Creek, N**	**1.15**	**174**	Pg	Pg	16 29 59.9	-0.4
OK034	**N. Norfolk Rd.**	**1.16**	**133**	Pg	Pg	16 30 00.2	-0.2
OK034				IAmb_Lg		16 30 14.6	
	comp=Z,46nm,1.2s						
OK030	**Cody Creek RV**	**1.18**	**138**	Pg	Pg	16 30 00.2	-0.6
OK025	**Westminster Rd**	**1.27**	**164**		Pg	16 30 02.1	-0.4
OKCFA	**Oklahoma City**	**1.41**	**170**		Pn	16 30 04.4	-0.1
OKCFA				IAmb_Lg		16 30 25.7	
	comp=Z,34nm,0.7s						
OKCSW	**OKLAHOMA CITY**	**1.42**	**169**	Pn	Pn	16 30 04.7	+0.1
FNO	**Franklin**	**1.57**	**169**		Pn	16 30 06.7	0.0
FNO				IAmb_Lg		16 30 31.7	
	comp=Z,34nm,0.7s						
R32A	**Long Quarter,**	**1.78**	**335**		Pn	16 30 09.7	+0.1
W35A	**Tecumseh**	**1.80**	**156**		Pn	16 30 10.1	+0.3
TUL1	**Leonard**	**1.83**	**119**	IAmb_Lg		16 30 38.2	
	comp=Z,54nm,0.7s						
X34A	**Smith Ranch, M**	**2.20**	**181**	IAmb_Lg		16 30 52.9	
	comp=Z,22nm,0.7s						
WMOK	**Wichita Mounta**	**2.22**	**202**	Pn	Pn	16 30 16.0	+0.4
WMOK				IAmb_Lg		16 30 50.1	
	comp=Z,21nm,0.8s						
KSU1	**Kansas State U**	**2.47**	**21**	Pn	Pn	16 30 18.7	-0.3
U38A	**Gravette**	**2.74**	**97**	Pn	Pn	16 30 23.2	+0.4
LOOK	**Love County**	**2.85**	**170**	Pn	Pn	16 30 24.1	-0.1
X37A	**Clayton**	**2.95**	**138**	IAmb_Lg		16 31 13.3	
	comp=Z,21nm,0.8s						
Z35A	**Perchaven, San**	**3.49**	**173**	Pn	Pn	16 30 33.2	+0.1
W39A	**Magazine**	**3.61**	**115**	IAmb_Lg		16 31 37.3	
	comp=Z,21nm,0.8s						
AMTX	**Amarillo**	**3.71**	**240**	IAmb_Lg		16 31 43.3	
	comp=Z,17nm,0.7s						
MGMO	**Mountain Grove**	**4.42**	**84**	IAmb_Lg		16 31 59.8	
	comp=Z,12nm,0.8s						
R40A	**Maddies Statio**	**4.61**	**70**	IAmb_Lg		16 32 05.7	
	comp=Z,10nm,0.8s						
X40A	**Basin Creek Fa**	**4.63**	**118**	IAmb_Lg		16 32 11.9	
	comp=Z,10nm,0.8s						
WHAR	**Wooly Hollow**	**4.69**	**107**	IAmb_Lg		16 32 11.1	
	comp=Z,13nm,1.0s						
P40A	**Paris**	**5.26**	**57**	IAmb_Lg		16 32 26.7	
	comp=Z,14nm,0.8s						
L34A	**Svendsen Farm,**	**5.26**	**11**	IAmb_Lg		16 32 32.1	
	comp=Z,13nm,0.8s						
PBMO	**Poplar Bluff**	**5.89**	**88**	IAmb_Lg		16 32 51.1	
	comp=Z,9.7nm,0.9s						
FVM	**French Village**	**5.96**	**76**	IAmb_Lg		16 32 48.8	
	comp=Z,9.8nm,0.8s						
SCIA	**State Center**	**6.19**	**33**	IAmb_Lg		16 33 04.7	
	comp=Z,13nm,0.7s						
JCT	**Junction City**	**6.54**	**196**	IAmb_Lg		16 33 22.4	
	comp=Z,7.8nm,1.0s						

JMA ***25*** *16:31:33.1±0.1, 24°.39N×122°.47E, h74km±2km, M1.8*
TAP ***25*** *16:31:33.4, 24°.41N×122°.48E, h69km±1km, ML2.8, B*

ISC 25 16:31:33.8±1.4,**24°.44N**±0°.04×**122°.49E**±0°.02,**h70**km±9km,
n65,σ0**950/**110**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.42**	**88**	P	**Pn**	**16 31 45.9**	**+0.1**
JYNG				S	**Sn**	**16 31 55.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.48**	**87**	P	**Pn**	**16 31 46.4**	**0.0**
YOJ				S	**Sn**	**16 31 55.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.48**	**87**	*i* P	**Pn**	**16 31 46.3**	**0.0**
	baz=82						
YOJ				*i* S	**Sn**	**16 31 55.9**	**+0.3**
	baz=82						
TWC	**Suao**	**0.61**	**287**	P	**Pn**	**16 31 47.7**	**+0.1**
	baz=289						
TWC				*e*S	**Sn**	**16 31 58.2**	**+0.4**
	baz=289						
EWUT	**Wuta**	**0.65**	**271**	*e*P	**Pn**	**16 31 48.2**	**+0.2**
	baz=273						
EWUT				*e*S	**Sn**	**16 31 59.3**	**+0.8**
	baz=273						
EGS		**0.65**	**309**	*e*P	**Pn**	**16 31 48.1**	**0.0**
	baz=311						
ENA	**Nanau**	**0.68**	**270**	*i* P	**Pn**	**16 31 48.3**	**-0.1**
	baz=271						
ENA				*e*S	**Sn**	**16 31 59.9**	**+0.7**
	baz=271						
NDS	**Dongshan**	**0.73**	**286**	*e*P	**Pn**	**16 31 49.4**	**+0.5**
	baz=288						
NDS				S	**Sn**	**16 32 00.7**	**+0.4**
	baz=288						
NTC	**Toucheng**	**0.73**	**305**	*e*P	**Pn**	**16 31 49.3**	**+0.3**
	baz=307						
NTC				*e*S	**Sn**	**16 31 59.2**	**-1.0**
	baz=307						
ILA	**Ilan**	**0.75**	**296**	*e*P	**Pn**	**16 31 49.4**	**+0.2**
	baz=298						
ILA				*e*S	**Sn**	**16 32 00.5**	**-0.1**
	baz=298						
TWE	**Neicheng**	**0.80**	**291**	*e*P	**Pn**	**16 31 50.1**	**+0.4**
	baz=293						
TWE				*e*S	**Sn**	**16 32 01.3**	**-0.3**
	baz=293						
TIPB	**Shuangxi**	**0.80**	**312**	*e*P	**Pn**	**16 31 50.3**	**+0.4**
	baz=313						
TIPB				*e*S	**Sn**	**16 32 00.8**	**-1.0**
	baz=313						
ETL	**Fush Village**	**0.83**	**251**	*e*P	**Pn**	**16 31 50.1**	**-0.1**
	baz=252						
ETL				*e*S	**Sn**	**16 32 02.4**	**-0.1**
	baz=252						
NACB	**Ninganchiao**	**0.85**	**252**	*e*P	**Pn**	**16 31 49.8**	**-0.6**
	baz=253						
NACB				*e*S	**Sn**	**16 32 02.7**	**-0.1**
	baz=253						
SXI1	**Grass Mountain**	**0.86**	**320**	*e*P	**Pn**	**16 31 50.8**	**+0.2**
	baz=321						
ENTT	**Nioudou**	**0.86**	**284**	*e*P	**Pn**	**16 31 51.2**	**+0.6**
	baz=285						
ENTT				*e*S	**Sn**	**16 32 03.2**	**+0.2**
	baz=285						
FUSB	**Fushanzhiwuyua**	**0.88**	**292**	*e*P	**Pn**	**16 31 50.6**	**-0.2**
	baz=293						
FUSB				*e*S	**Sn**	**16 32 02.7**	**-0.7**
	baz=293						
LATG	**Datong**	**0.88**	**277**	P	**Pn**	**16 31 51.0**	**+0.1**
	baz=278						
LATG				*e*S	**Sn**	**16 32 03.9**	**+0.3**
	baz=278						
TWD	**Chiawan**	**0.89**	**247**	*e*P	**Pn**	**16 31 50.4**	**-0.4**
	baz=247						
TWD				S	**Sn**	**16 32 03.2**	**-0.3**
	baz=247						
NWF	**Wu-fen Shan**	**0.90**	**315**	*e*P	**Pn**	**16 31 50.8**	**-0.3**
	baz=316						
NWF				*e*S	**Sn**	**16 32 03.0**	**-1.0**
	baz=316						
WFSB	**Wu-fen Shan**	**0.90**	**315**	*e*P	**Pn**	**16 31 50.6**	**-0.4**
	baz=316						
WFSB				*e*S	**Sn**	**16 32 02.9**	**-0.9**
	baz=316						
NDT	**Datong Townshi**	**0.90**	**281**	*e*P	**Pn**	**16 31 51.3**	**+0.3**
	baz=282						
NDT				S	**Sn**	**16 32 04.1**	**+0.2**
	baz=282						
ETLH	**Xiulin Townshi**	**0.94**	**256**	*e*P	**Pn**	**16 31 51.2**	**-0.4**
	baz=257						
ETLH				*e*S	**Sn**	**16 32 04.5**	**-0.4**
	baz=257						
NWLT	**Wulai**	**0.96**	**291**	*e*P	**Pn**	**16 31 52.3**	**+0.6**
	baz=292						
NWLT				*e*S	**Sn**	**16 32 04.5**	**-0.6**
	baz=292						
TEYL	**Yanliau Villag**	**0.99**	**235**	*e*P	**Pn**	**16 31 51.7**	**-0.4**
	baz=237						
NNSB	**Datong**	**1.00**	**270**	*e*P	**Pn**	**16 31 52.8**	**+0.4**
	baz=271						
NNSB				*e*S	**Sn**	**16 32 06.4**	**+0.1**
	baz=271						
NNS	**Nan Shan**	**1.01**	**271**	*e*P	**Pn**	**16 31 53.5**	**+1.0**
	baz=271						
NNS				*e*S	**Sn**	**16 32 06.1**	**-0.5**
	baz=271						
ETM	**Tongmen**	**1.02**	**243**	*e*P	**Pn**	**16 31 51.8**	**-0.7**
	baz=243						
ETM				*e*S	**Sn**	**16 32 06.1**	**-0.4**
	baz=243						
YHNB	**Yeheng**	**1.04**	**283**	*e*P	**Pn**	**16 31 52.9**	**+0.1**
	baz=284						
YHNB				*e*S	**Sn**	**16 32 06.7**	**-0.3**
	baz=284						
NSK	**Sanguang**	**1.05**	**283**	*e*P	**Pn**	**16 31 53.1**	**+0.1**
	baz=284						
NSK				*e*S	**Sn**	**16 32 07.0**	**-0.3**
	baz=284						
IRIF	**Iriomote-Funau**	**1.14**	**95**	P	**Pn**	**16 31 53.7**	**-0.3**
IRIF				S	**Sn**	**16 32 09.0**	**-0.1**
ESL	**Shilin**	**1.14**	**238**	*e*P	**Pn**	**16 31 53.8**	**-0.3**
	baz=237						
ESL				*e*S	**Sn**	**16 32 08.9**	**-0.4**
	baz=237						
FUSS	**Fushou**	**1.15**	**261**	*e*P	**Pn**	**16 31 54.4**	**+0.1**
	baz=261						
FUSS				*e*S	**Sn**	**16 32 09.6**	**-0.1**
	baz=261						
WHF	**Hehuan Shan**	**1.15**	**256**	*e*P	**Pn**	**16 31 54.3**	**-0.3**
	baz=256						
WHF				*e*S	**Sn**	**16 32 09.6**	**-0.4**
	baz=256						
TWS1	**Kuangyinshan**	**1.18**	**305**	*e*P	**Pn**	**16 31 54.1**	**-0.4**
	baz=305						
TWT	**Tachien**	**1.21**	**262**	*e*P	**Pn**	**16 31 55.3**	**+0.3**
	baz=262						
TWT				*e*S	**Sn**	**16 32 11.3**	**+0.3**
	baz=262						
EGFH	**Guangfu**	**1.23**	**232**	*e*P	**Pn**	**16 31 54.8**	**-0.4**
	baz=232						
EGFH				*e*S	**Sn**	**16 32 11.3**	**0.0**
	baz=232						
CHGB	**Renai**	**1.25**	**253**	*e*P	**Pn**	**16 31 55.8**	**+0.1**
	baz=253						
CHGB				*e*S	**Sn**	**16 32 12.0**	**-0.1**
	baz=253						
NFF	**Wufeng Townshi**	**1.26**	**279**	*e*P	**Pn**	**16 31 55.8**	**+0.1**
	baz=280						
NFF				*e*S	**Sn**	**16 32 11.9**	**-0.1**
	baz=280						
HATJ	**Hateruma jima**	**1.26**	**107**	P	**Pn**	**16 31 56.1**	**+0.5**
WUSB	**Renai**	**1.32**	**251**	*e*P	**Pn**	**16 31 56.6**	**+0.1**
	baz=251						
WUSB				*e*S	**Sn**	**16 32 13.5**	**-0.1**
	baz=251						
HGSD	**Ruisui**	**1.35**	**226**	*e*P	**Pn**	**16 31 56.5**	**-0.2**
	baz=226						
LIOB	**Emei**	**1.35**	**279**	*e*P	**Pn**	**16 31 57.2**	**+0.4**
	baz=280						
LIOB				*e*S	**Sn**	**16 32 14.6**	**+0.4**
	baz=280						
NSTT	**Nanjuang**	**1.37**	**279**	*e*P	**Pn**	**16 31 57.1**	**+0.1**
	baz=279						
NSTT				*e*S	**Sn**	**16 32 14.6**	**+0.2**
	baz=279						
JKRS	**Kuro-shima**	**1.40**	**98**	P	**Pn**	**16 31 57.7**	**+0.3**
JKRS				S	**Sn**	**16 32 16.1**	**+0.9**
VWDT	**VWDT**	**1.40**	**241**	*e*P	**Pn**	**16 31 57.5**	**+0.1**
	baz=241						
VWDT				*e*S	**Sn**	**16 32 15.2**	**0.0**
	baz=241						
EHY	**Hungye**	**1.41**	**229**	*e*P	**Pn**	**16 31 56.7**	**-0.8**
	baz=229						
WHP	**Taichung City**	**1.41**	**264**	*e*P	**Pn**	**16 31 58.5**	**+0.8**
	baz=264						
WHP				*e*S	**Sn**	**16 32 15.8**	**+0.2**
	baz=264						
DPDB	**Guoxing**	**1.48**	**255**	*e*P	**Pn**	**16 31 59.2**	**+0.7**
	baz=255						
WCS	**Beigang Elemen**	**1.48**	**256**	*e*P	**Pn**	**16 31 59.7**	**+1.2**
	baz=256						
YULB	**Yu-li**	**1.50**	**227**	*e*P	**Pn**	**16 31 58.0**	**-0.8**
	baz=226						
JIJ	**Ishigaki jima**	**1.51**	**92**	P	**Pn**	**16 31 58.6**	**-0.3**
JIJ				S	**Sn**	**16 32 16.9**	**-0.9**
EYUL	**Yuli**	**1.52**	**225**	*e*P	**Pn**	**16 31 58.9**	**-0.1**
	baz=225						
TWF1	**Yuli**	**1.53**	**226**	*e*P	**Pn**	**16 31 58.9**	**-0.3**
	baz=225						
SSLB	**Suanglung**	**1.54**	**246**	*e*P	**Pn**	**16 31 59.9**	**+0.6**
	baz=246						
SMLT	**Sun Moon Lake**	**1.55**	**250**	*e*P	**Pn**	**16 32 00.9**	**+1.4**
	baz=249						
TYC	**Yuchr**	**1.58**	**251**	*e*P	**Pn**	**16 32 00.9**	**+1.2**
	baz=251						
FULB	**Fuli**	**1.65**	**222**	*e*P	**Pn**	**16 32 00.5**	**-0.2**
	baz=221						
FULB				*e*S	**Sn**	**16 32 20.8**	**-0.2**
	baz=221						
JISG	**Ishigakijimahi**	**1.67**	**84**	P	**Pn**	**16 32 00.5**	**-0.4**
JISG				S	**Sn**	**16 32 21.0**	**-0.5**
WJS	**Zhushan**	**1.72**	**250**	*e*P	**Pn**	**16 32 02.8**	**+1.2**
	baz=249						
ALS	**Alishan**	**1.79**	**239**	*e*P	**Pn**	**16 32 03.2**	**+0.3**
	baz=239						
EDH	**Donghe**	**1.81**	**217**	*e*P	**Pn**	**16 32 02.7**	**-0.2**
	baz=216						
ELDTW	**Lidau**	**1.83**	**228**	*e*P	**Pn**	**16 32 02.7**	**-0.6**
	baz=227						
CHN5	**Tsauling**	**1.85**	**244**	*e*P	**Pn**	**16 32 04.2**	**+0.7**
	baz=243						
JTJ	**Tarama**	**2.03**	**84**	P	**Pn**	**16 32 06.0**	**+0.2**
JTJ				S	**Sn**	**16 32 30.7**	**+0.5**

SFS ***25*** *16:51:45.0, 35°.52N×3°.82W, ML2.8, ALBORAN SUR*
IGIL ***25*** *16:51:47.4, 35°.53N×3°.85W, h0km, ML2.4*
CNRM ***25*** *16:51:47.4, 35°.43N×3°.85W, h21km, ml3.4*

ISC 25 16:51:45.4±1.3,**35°.55N**±0°.04×**3°.73W**±0°.04,**h17**km±9km,
n19,σ1**965/**32**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**207**	P	**Pg**	**16 51 52.8**	**-0.4**
PALE				S	**Sg**	**16 51 57.3**	**-1.0**
GOG	**Mont Gurugu**	**0.68**	**118**	P	**Pb**	**16 51 59.0**	**+0.1**
GOG				S	**Sb**	**16 52 08.1**	**-0.1**
CHAS	**Isla Isabel II**	**1.12**	**109**	P	**Pn**	**16 52 05.8**	**-0.6**
CHAS				S	**Sb**	**16 52 19.7**	**-1.0**
EMAL	**Malaga-Limoner**	**1.34**	**335**	P	**Pn**	**16 52 09.9**	**+0.6**
EMAL				S	**Sb**	**16 52 28.3**	**+1.4**
CEU	**Ceuta**	**1.38**	**285**	P	**Pn**	**16 52 08.4**	**-1.5**
CEU				S	**Sn**	**16 52 22.9**	**-4.8**
CHEFC	**Chefchaouen**	**1.39**	**252**	P	**Pg**	**16 52 13.0**	**+0.8**
JBK	**JBK**	**1.54**	**141**	P	**Pn**	**16 52 13.0**	**+0.7**
JBK				S	**Sn**	**16 52 31.9**	**-0.1**
LCRM	**LCR**	**2.08**	**207**	P	**Pb**	**16 52 24.1**	**+1.3**
LCRM				S	**Sn**	**16 52 46.9**	**+1.7**
IFR	**Ifrane**	**2.33**	**210**	P	**Pn**	**16 52 22.9**	**-0.2**
IFR				S	**Sn**	**16 52 50.0**	**-1.5**
MD31	**MD31**	**2.81**	**198**	P	**Pn**	**16 52 30.5**	**+0.9**
MD31				S	**Sn**	**16 53 03.9**	**+0.8**
MDT	**Midelt**	**2.82**	**195**	P	**Pn**	**16 52 31.6**	**+1.8**
MDT				S	**Sn**	**16 53 04.3**	**+0.8**
ZHG	**ZHG**	**3.19**	**230**	P	**Pn**	**16 52 35.1**	**+0.2**
ZHG				S	**Sn**	**16 53 10.9**	**-1.6**
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	**16 52 43.5**	**+1.6**
PVAQ				S	**Sn**	**16 53 24.3**	**-0.9**
MESJ	**Messejana**	**4.27**	**304**	*e*P	**Pn**	**16 52 50.6**	**+1.0**
MESJ				*e*S	**Sn**	**16 53 37.2**	**-1.9**
MESJ				IAML		16 53 41.8	
	comp=N,7.0nm,0.2s						
PFVI	**Vila Bisbo**	**4.41**	**293**	P	**Pn**	**16 52 54.9**	**+3.4**
PESTR	**Estremoz**	**4.52**	**318**	P	Pn	16 52 57.8	+4.6
EVO	**Evora**	**4.54**	**312**	P	**Pn**	**16 52 54.5**	**+1.2**
EVO				S	**Sn**	**16 53 44.1**	**-1.6**
OUK	**Oukaimeden**	**5.54**	**220**	P	**Pn**	**16 53 06.6**	**-0.9**
TTIG	**Tnine Tigouga,**	**6.36**	**220**	P	**Pn**	**16 53 16.4**	**-2.2**

EAF ***25*** *16:54:37.9±4.2, 21°.38S×33°.01E, h8km±50km, MD4.2*

BUL 25 16:54:37.9±4.2,**21°.38S**×**33°.01E**,**h8**km±50km,**MD4.6,**
Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.94**	**250**	*i* Sg	Sg	16 56 11.9	-0.4
MSNA	**Messina**	**2.94**	**250**	*i* Sg	Sg	16 56 11.9	-0.4
BLWY	**Bulawayo**	**4.30**	**286**	*i* P	Pn	16 55 43.6	-0.3
BLWY	**Bulawayo**	**4.30**	**286**	*i* P	Pn	16 55 43.6	-0.3
MATP	**Matopo**	**4.33**	**282**	*i* P	Pn	16 55 45.1	+0.9
MATP	**Matopo**	**4.33**	**282**	*i* P	Pn	16 55 45.1	+0.9
CNG	**Changalane**	**4.94**	**189**	*i* P	Pn	16 55 51.4	-1.1
CNG				*i* S	Sn	16 56 46.4	-3.5
CNG	**Changalane**	**4.94**	**189**	*i* P	Pn	16 55 51.4	-1.1
CNG				*i* S	Sn	16 56 46.4	-3.5
KRI	**Karoi**	**5.55**	**324**	*i* P	Pn	16 55 51.0	-10
KRI				*i* S	Sn	16 56 43.4	-22
KRI	**Karoi**	**5.55**	**324**	*i* P	Pn	16 55 51.0	-10
KRI				*i* S	Sn	16 56 43.4	-22
LBTB	**Lobatse**	**7.72**	**241**	*i* Sg	Sb	16 58 32.8	+8.5
LBTB	**Lobatse**	**7.72**	**241**	*i* Sg	Sb	16 58 32.8	+8.5

JMA ***25*** *16:59:49.7, 22°.81N×121°.44E, h11km±2km, M3.3*
TAP ***25*** *16:59:51.0, 22°.79N×121°.32E, h27km, ML2.9, B*

ISC 25 16:59:50.8±0.9,**22°.76N**±0°.02×**121°.35E**±0°.02,**h32**km±5km,
n100,σ0**996/**126**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.14**	**126**	P	**Pb**	**16 59 56.8**	**+0.1**
	baz=122						
LDUT				S	**Sb**	**17 00 01.0**	**+0.2**
	baz=122						
TTN	**Taitung**	**0.19**	**270**	P	**Pb**	**16 59 57.2**	**+0.1**
	baz=258						
TTN				*e*S	**Sb**	**17 00 02.0**	**+0.5**
	baz=258						
EDH	**Donghe**	**0.22**	**349**	P	**Pb**	**16 59 56.9**	**-0.7**
	baz=349						
EDH				*e*S	**Sb**	**17 00 01.0**	**-1.1**
	baz=349						
LONT	**Longtian**	**0.25**	**307**	P	**Pb**	**16 59 57.2**	**-0.7**
	baz=305						
TWGBT	**Beinan**	**0.26**	**284**	*e*P	**Pb**	**16 59 57.2**	**-0.7**
	baz=279						
TWG	**Pinlang**	**0.26**	**284**	*e*P	**Pb**	**16 59 57.2**	**-0.8**
	baz=279						
CHKT	**Chengkung**	**0.34**	**3**	*e*P	**Pb**	**16 59 58.6**	**-0.5**
	baz=14						
CHKT				S	**Sb**	**17 00 04.1**	**-0.5**
	baz=14						
ECS	**Chishang**	**0.36**	**341**	*e*P	**Pn**	**16 59 59.4**	**-0.4**
	baz=332						
ECL	**Taimali**	**0.40**	**247**	P	**Pb**	**16 59 58.8**	**-1.0**
	baz=251						
ECL				*e*S	**Sb**	**17 00 04.4**	**-1.6**
	baz=251						
FULB	**Fuli**	**0.45**	**353**	*e*P	**Pb**	**17 00 00.1**	**-0.4**
	baz=344						
FULB				*e*S	**Sn**	**17 00 07.3**	**-0.6**
	baz=344						
ELDTW	**Lidau**	**0.53**	**325**	*e*P	**Pb**	**17 00 00.4**	**-1.5**
	baz=325						
ECBN	**Changbin**	**0.57**	**10**	*e*P	**Pb**	**17 00 02.1**	**-0.4**
	baz=24						
ECBN				*e*S	**Sn**	**17 00 10.5**	**-0.4**
	baz=24						
TAW	**Tawu**	**0.58**	**227**	*e*P	**Pb**	**17 00 02.1**	**-0.4**
	baz=230						
EYUL	**Yuli**	**0.59**	**357**	*e*P	**Pb**	**17 00 02.5**	**-0.3**
	baz=349						
EAST	**Anshuo**	**0.59**	**231**	P	**Pb**	**17 00 02.1**	**-0.8**
	baz=234						
TAWH	**Dawu Township**	**0.59**	**226**	*e*P	**Pb**	**17 00 02.5**	**-0.4**
	baz=230						
TWF1	**Yuli**	**0.60**	**355**	P	**Pb**	**17 00 02.1**	**-0.8**
	baz=348						
YULB	**Yu-li**	**0.64**	**356**	*e*P	**Pb**	**17 00 02.5**	**-1.1**
	baz=348						
TSMG	**Majia**	**0.65**	**266**	*e*P	**Pb**	**17 00 02.8**	**-1.0**
	baz=261						
SSD	**Sandimen**	**0.66**	**269**	*e*P	**Pb**	**17 00 02.9**	**-1.1**
	baz=271						
STYH	**Taoyuan**	**0.67**	**308**	P	**Pb**	**17 00 03.2**	**-0.9**
	baz=307						
MASBT	**Mashibuluo**	**0.68**	**258**	P	**Pb**	**17 00 03.4**	**-0.8**
	baz=251						
STYT	**Tauyuan**	**0.68**	**307**	P	**Pb**	**17 00 03.3**	**-1.0**
	baz=306						
STYT				*e*S	**Sb**	**

ALS	**Alishan**	**0.90 326**	P	**Pb**	**17 00 07.7**	**-0.6**
	baz=326					
SNST	**Tainan City**	**0.91 301**	*e*P	**Pn**	**17 00 08.3**	**+1.0**
	baz=309					
CHN4	**Tsaushan**	**0.92 311**	P	**Pn**	**17 00 08.1**	**+0.7**
	baz=310					
HEN	**Hengchun**	**0.94 217**	*e*P	**Pn**	**17 00 07.7**	**0.0**
	baz=203					
HEN			*e*S	**Sb**	**17 00 20.4**	**-0.2**
	baz=203					
TWK	**Hsinying**	**0.94 303**	P	**Pn**	**17 00 08.6**	**+0.7**
	baz=302					
TWKBT	**Hengchun**	**0.95 212**	P	**Pn**	**17 00 07.8**	**-0.1**
	baz=203					
TWKBT			S	**Sb**	**17 00 20.3**	**-0.7**
	baz=203					
TWK1	**Hengchun**	**0.95 212**	*e*P	**Pn**	**17 00 07.7**	**-0.2**
	baz=203					
TWK1			*e*S	**Sb**	**17 00 20.1**	**-1.0**
	baz=203					
SHHT	**Tainan City**	**0.96 286**	*e*P	**Pb**	**17 00 10.4**	**+1.5**
	baz=285					
WLCH	**Liuqiu**	**0.98 246**	*e*P	**Pb**	**17 00 09.4**	**+0.1**
	baz=241					
VWDT	**VWDT**	**1.01 349**	*e*P	**Pn**	**17 00 08.4**	**-0.4**
	baz=353					
CHN5	**Tsauling**	**1.04 324**	*e*P	**Pb**	**17 00 10.1**	**-0.3**
	baz=323					
ESL	**Shilin**	**1.06 4**	*e*P	**Pn**	**17 00 09.3**	**0.0**
	baz=3.0					
SSLB	**Suanglung**	**1.09 341**	*e*P	**Pn**	**17 00 10.1**	**+0.2**
	baz=348					
CHY	**Chiayi**	**1.13 311**	P	**Pb**	**17 00 11.4**	**-0.3**
	baz=311					
WGK	**Gukeng**	**1.18 322**	*e*P	**Pb**	**17 00 12.9**	**+0.3**
	baz=322					
WDLH	**Douliu**	**1.19 321**	*e*P	**Pb**	**17 00 13.2**	**+0.4**
	baz=321					
SMLT	**Sun Moon Lake**	**1.20 340**	*e*P	**Pb**	**17 00 12.7**	**-0.3**
	baz=339					
WJS	**Zhushan**	**1.21 332**	P	**Pb**	**17 00 13.4**	**+0.3**
	baz=331					
ETM	**Tongmen**	**1.21 6**	*e*P	**Pn**	**17 00 11.2**	**-0.3**
	baz=4.0					
TYC	**Yuchr**	**1.23 339**	*e*P	**Pb**	**17 00 13.2**	**-0.3**
	baz=346					
WUSB	**Renai**	**1.25 350**	*e*P	**Pn**	**17 00 12.5**	**+0.3**
	baz=1.0					
WNT	**Mingjian**	**1.27 331**	*e*P	**Pb**	**17 00 14.3**	**0.0**
	baz=331					
WTK	**Tuku**	**1.28 317**	P	**Pb**	**17 00 13.8**	**-0.5**
	baz=316					
WSL	**Shuilin Townsh**	**1.28 307**	*e*P	**Pb**	**17 00 13.7**	**-0.7**
	baz=306					
WSL			*e*S	**Sb**	**17 00 30.5**	**-0.1**
	baz=306					
CHGB	**Renai**	**1.31 353**	*e*P	**Pn**	**17 00 13.2**	**+0.1**
	baz=358					
DPDB	**Guoxing**	**1.33 343**	*e*P	**Pb**	**17 00 14.5**	**-0.8**
	baz=355					
WCS	**Beigang Elemen**	**1.36 343**	*e*P	**Pb**	**17 00 14.9**	**-0.7**
	baz=341					
WHF	**Hehuan Shan**	**1.39 357**	*e*P	**Pn**	**17 00 14.4**	**+0.1**
	baz=6.0					
NACB	**Ningnchiao**	**1.43 9**	*e*P	**Pn**	**17 00 14.3**	**-0.2**
	baz=6.0					
WRL	**Guolierlin Hig**	**1.45 322**	*e*P	**Pn**	**17 00 14.6**	**-0.1**
	baz=321					
ETLH	**Xiulin Townshi**	**1.45 5**	*e*P	**Pn**	**17 00 14.7**	**-0.2**
	baz=2.0					
FUSS	**Fushou**	**1.49 356**	*e*P	**Pn**	**17 00 16.0**	**+0.4**
	baz=5.0					
WHP	**Taichung City**	**1.56 346**	*e*P	**Pb**	**17 00 18.5**	**-0.6**
	baz=354					
NNSB	**Datong**	**1.67 1**	*e*P	**Pn**	**17 00 18.2**	**+0.3**
	baz=10.0					
TWQ1	**Liyutan**	**1.67 342**	*e*P	**Pb**	**17 00 20.2**	**-0.8**
	baz=341					
NNS	**Nan Shan**	**1.68 1**	*e*P	**Pb**	**17 00 19.6**	**-1.5**
	baz=10.0					
ENA	**Nanau**	**1.70 12**	*e*P	**Pn**	**17 00 19.8**	**+1.5**
	baz=358					
LATG	**Datong**	**1.78 5**	*e*P	**Pn**	**17 00 19.6**	**+0.2**
	baz=14					
PHUB	**P'eng-hu**	**1.80 295**	*e*S	**Sn**	**17 00 41.1**	**-0.2**
	baz=295					
NFF	**Wufeng Townshi**	**1.88 354**	*e*P	**Pn**	**17 00 22.5**	**+1.8**
	baz=2.0					
ENTT	**Nioudou**	**1.89 6**	*e*P	**Pn**	**17 00 22.1**	**+1.3**
	baz=3.0					
NDS	**Dongshan**	**1.90 10**	*e*P	**Pn**	**17 00 22.4**	**+1.4**
	baz=5.0					
TWC	**Suao**	**1.90 14**	*e*P	**Pn**	**17 00 22.1**	**+1.1**
YHNB	**Yeheng**	**1.91 1**	*e*P	**Pn**	**17 00 22.3**	**+1.2**
	baz=9.0					
LIOB	**Emei**	**1.91 351**	*e*P	**Pn**	**17 00 22.6**	**+1.5**
	baz=350					
NSK	**Sanguang**	**1.91 0**	*e*P	**Pn**	**17 00 22.4**	**+1.2**
	baz=10.0					
TWE	**Neicheng**	**1.98 8**	*e*P	**Pb**	**17 00 24.6**	**-1.6**
	baz=5.0					
FUSB	**Fushanzhiwuyua**	**2.01 6**	*e*P	**Pn**	**17 00 23.6**	**+1.1**
	baz=14					
NWLT	**Wulai**	**2.02 4**	*e*P	**Pn**	**17 00 24.3**	**+1.7**
	baz=13					
JYNG	**Yonaguni jima**	**2.23 41**	P	**Pn**	**17 00 27.0**	**+1.4**
JYNG			S	**Sn**	**17 00 52.4**	**+0.3**
TIPB	**Shuangxi**	**2.25 11**	*e*P	**Pn**	**17 00 27.0**	**+1.2**
	baz=7.0					
YOJ	**Yonaguni jima**	**2.28 42**	P	**Pn**	**17 00 27.8**	**+1.6**
YOJ			*e*S	**Sn**	**17 00 53.6**	**+0.4**
NWF	**Wu-fen Shan**	**2.34 10**	*e*P	**Pn**	**17 00 28.7**	**+1.6**
	baz=6.0					
WFSB	**Wu-fen Shan**	**2.34 10**	*e*P	**Pn**	**17 00 28.4**	**+1.4**
	baz=5.0					
HATJ	**Hateruma jima**	**2.60 60**	P	**Pn**	**17 00 31.1**	**+0.5**
HATJ			S	**Sn**	**17 01 01.2**	**+0.1**
IRIF	**Iriomote-Funau**	**2.69 54**	P	**Pn**	**17 00 33.1**	**+1.3**
IRIF			S	**Sn**	**17 01 04.2**	**+0.9**
JKRS	**Kuro-shima**	**2.85 58**	P	**Pn**	**17 00 36.9**	**+2.8**
JKRS			S	**Sn**	**17 01 07.8**	**+0.5**
JIJ	**Ishigaki jima**	**3.02 57**	P	**Pn**	**17 00 37.7**	**+1.3**
JIJ			S	**Sn**	**17 01 11.1**	**-0.4**
KNM	**Kinmen**	**3.15 302**	*e*P	**Pn**	**17 00 40.1**	**+2.0**
	baz=303					
KNMB	**Chin-men Tao**	**3.20 303**	*e*P	**Pn**	**17 00 39.4**	**+0.6**
	baz=304					
JISG	**Ishigakijimahi**	**3.27 56**	P	**Pn**	**17 00 40.4**	**+0.6**
JISG			S	**Sn**	**17 01 16.6**	**-1.0**
JTJ	**Tarama**	**3.60 58**	P	**Pn**	**17 00 46.8**	**+2.5**
JTJ			S	**Sn**	**17 01 25.8**	**0.0**
AXDP	**Jialang**	**3.76 305**	*e*P	**Pn**	**17 00 47.2**	**+0.7**
	baz=307					

*SFS **25** 17:01:18.0, 35.°52N×3.°81W, ML2.3, ALBORAN SUR*
*CNRM **25** 17:01:19.7, 35.°42N×3.°77W, h22km, ml2.6*
ISC 25 17:01:17.9±1.2, 35.°50N±0.°04×3.°67W±0.°03, h15km±9km, n12, σ0°78/24, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35 218**		P	**Pg**	**17 01 24.9**	**-0.2**
PALE				S	**Sg**	**17 01 30.3**	**+0.3**
GOG	**Mont Gurugu**	**0.62 116**		P	**Pn**	**17 01 32.5**	**+0.3**
GOG				S	**Sn**	**17 01 42.0**	**+0.1**
CHAS	**Isla Isabel II**	**1.06 107**		P	**Pb**	**17 01 37.7**	**-0.2**
CHAS				S	**Sg**	**17 01 52.1**	**-0.2**
EMAL	**Malaga-Limoner**	**1.40 334**		P	**Pb**	**17 01 44.0**	**+0.2**
EMAL				S	**Sn**	**17 01 59.8**	**-1.4**
CHEFC	**Chefchaouen**	**1.42 255**		P	**Pn**	**17 01 42.8**	**-0.4**
CHEFC				S	**Sb**	**17 02 02.7**	**+0.7**
JBK	**JBK**	**1.47 142**		P	**Pn**	**17 01 44.2**	**+0.1**
JBK				S	**Sn**	**17 02 02.7**	**-0.5**
LCRM	**LCR**	**2.05 209**		P	**Pb**	**17 01 54.6**	**-0.4**
LCRM				S	**Sn**	**17 02 16.9**	**-0.6**
IFR	**Ifrane**	**2.31 212**		P	**Pn**	**17 01 55.4**	**-0.2**
IFR				S	**Sn**	**17 02 21.5**	**-2.4**
MD31	**MD31**	**2.77 199**		P	**Pn**	**17 02 02.7**	**+0.9**
MD31				S	**Sn**	**17 02 35.1**	**0.0**
MDT	**Midelt**	**2.79 196**		P	**Pn**	**17 02 03.0**	**+1.0**
MDT				S	**Sn**	**17 02 36.2**	**+0.8**
ZHG	**ZHG**	**3.19 231**		P	**Pn**	**17 02 08.2**	**+0.6**
ZHG				S	**Sn**	**17 02 45.5**	**0.0**
PVAQ	**Vaqueiros**	**3.77 301**		P	**Pn**	**17 02 16.1**	**+0.5**
PVAQ				S	**Sn**	**17 02 59.9**	**+0.2**

*NCEDC **25** 17:11:10.7±1.5, 40.°60N±0.°02×127.°3W±0.°1, h10km±2km, Error ellipse: s-maj=16.5km s-min=3.5km az=262.0*
*NEIC **25** 17:11:14.6±1.9, 40.°71N±0.°07×126.°75W±0.°04, h10km±2km, ML2.9/52, Error ellipse: s-maj=12.7km s-min=5.8km az=179.0*
*ANF **25** 17:11:17.0±1.2, 41.°04N×126.°56W, h0km, ML3.2/3, Error ellipse: s-maj=18.0km s-min=7.5km az=132.0*
ISC 25 17:11:11.5±2.7, 40.°69N±0.°06×126.°9W±0.°1, h12km, n41, σ1°71/42, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPM	**Mount Pierce**	**2.17**	**96**		**Pn**	**17 11 48.6**	**+1.0**
KMPM				IAML		17 12 25.4	
	comp=N,46nm,2.3s						
JCC	**Jacoby Creek,**	**2.22**	**86**		**Pn**	**17 11 48.4**	**+0.3**
JCC				IAML		17 12 37.6	
	comp=N,46nm,4.0s						
JCC	**Jacoby Creek,**	**2.22**	**86**		**Sb**	**17 12 17.7**	**-1.3**
JCC	**Jacoby Creek,**	**2.22**	**86**	IAML		17 12 13.1	
	comp=E,39nm,3.8s						
KRPM	**Rodgers**	**2.26**	**77**	Pn	**Pn**	**17 11 50.0**	**+1.2**
KRPM				IAML		17 12 19.7	
	comp=E,93nm,4.2s						
KRPM				IAML		17 12 45.8	
	comp=N,82nm,3.3s						
KCRM	**Chalk Rock**	**2.40**	**95**		**Pn**	**17 11 51.8**	**+1.2**
KHMM	**Horse Mountain**	**2.45**	**85**	Pn	**Pn**	**17 11 51.9**	**+0.4**
KHMM				IAML		17 12 42.8	
	comp=E,42nm,3.0s						
KMRM	**Mail Ridge**	**2.51**	**100**		**Pn**	**17 11 53.7**	**+1.4**
KMRM				IAML		17 12 19.4	
	comp=E,48nm,3.5s						
KMRM				IAML		17 13 08.3	
	comp=N,36nm,5.0s						
KBO	**Bosley Butte**	**2.55**	**52**	Pn	**Pn**	**17 11 52.8**	**0.0**
KBO				IAML		17 13 00.4	
	comp=N,90nm,2.3s						
KBO				IAML		17 13 16.5	
	comp=E,114nm,3.8s						
KSXB	**Camp Six Broad**	**2.58**	**63**		**Pn**	**17 11 53.8**	**+0.7**
KSXB				IAML		17 13 21.2	
	comp=E,37nm,4.7s						
KBSM	**Bell Springs**	**2.68**	**106**		**Pn**	**17 11 56.0**	**+1.4**
KOMM	**Orleans Mounta**	**2.71**	**76**		**Pn**	**17 11 56.4**	**+1.4**
KCPM	**Cahto Peak**	**2.77**	**110**	Pn	**Pn**	**17 11 57.1**	**+1.3**
KCPM				IAML		17 12 19.6	
	comp=N,37nm,3.0s						
KCPM				IAML		17 13 14.3	
	comp=E,42nm,3.9s						
L02E	**Cave Junction**	**2.91**	**59**	Pn	**Pn**	**17 11 58.6**	**+1.0**
L02E				IAML		17 12 40.6	
	comp=N,24nm,4.2s						
L02E				IAML		17 13 16.7	
	comp=E,28nm,4.2s						
L02E	**Cave Junction**	**2.91**	**59**	P	**Pn**	**17 11 58.6**	**+1.0**
	baz=242,SNR=31						
L02E				S	**Sn**	**17 12 30.7**	**-1.8**
	baz=242						
K02D	**Willamette Mer**	**3.17**	**50**	P	**Pn**	**17 12 01.5**	**+0.2**
	baz=233,SNR=46						
M02C	**Callahan**	**3.17**	**76**		**Pn**	**17 12 03.4**	**+2.0**
M02C	**Callahan**	**3.17**	**76**	P	**Pn**	**17 12 03.7**	**+2.3**
	baz=258,SNR=121						
N02D	**Trinity Center**	**3.23**	**84**		**Pn**	**17 12 03.5**	**+1.4**
N02D				IAML		17 12 42.0	
	comp=E,17nm,3.8s						
N02D	**Trinity Center**	**3.23**	**84**	P	**Pn**	**17 12 04.4**	**+2.3**
	baz=265,SNR=12						
WDC	**Whiskeytown Da**	**3.35**	**90**	Pn	**Pn**	**17 12 05.1**	**+1.4**
YBH	**Yreka Blue Hor**	**3.36**	**71**		**Pn**	**17 12 05.7**	**+1.8**
HOPS	**Hopland Field**	**3.43**	**118**	Pn	**Pn**	**17 12 06.8**	**+2.0**
HOPS				IAML		17 12 49.2	
	comp=N,52nm,3.2s						
HOPS				IAML		17 13 40.3	
	comp=E,43nm,2.0s						
HUMO	**Hull Mountain**	**3.55**	**56**	Pn	**Pn**	**17 12 07.3**	**+0.9**
DBO	**Dodson Butte**	**3.68**	**48**	Pn	**Pn**	**17 12 09.2**	**+0.9**
DBO				IAML		17 12 59.7	
	comp=N,33nm,4.0s						
DBO				IAML		17 13 35.4	
	comp=E,24nm,4.6s						
L04D	**Klamath Falls**	**3.81**	**65**		**Pn**	**17 12 13.2**	**+3.1**
L04D				IAML		17 14 18.5	
	comp=E,39nm,4.7s						
L04D	**Klamath Falls**	**3.81**	**65**	P	**Pn**	**17 12 13.1**	**+3.0**
	baz=248,SNR=15						
O03E	**Paynes Creek**	**3.94**	**94**		**Pn**	**17 12 13.2**	**+1.3**
O03E				IAML		17 13 25.0	
	comp=N,17nm,4.6s						
O03E				IAML		17 14 20.0	
	comp=E,19nm,4.4s						
O03E	**Paynes Creek**	**3.94**	**94**	P	**Pn**	**17 12 13.2**	**+1.3**
	baz=276						
M04C	**Macdoel**	**4.00**	**73**		**Pn**	**17 12 15.8**	**+3.0**
M04C				IAML		17 14 24.8	
	comp=N,34nm,5.0s						
M04C	**Macdoel**	**4.00**	**73**	P	**Pn**	**17 12 15.5**	**+2.8**
	baz=256,SNR=21						
MCCM	**Marconi Confer**	**4.05**	**128**	Pn	**Pn**	**17 12 13.8**	**+0.5**
I02E	**Swisshome, OR**	**4.11**	**33**	Pn	**Pn**	**17 12 14.8**	**+0.6**
K04D	**Chiloquin, OR**	**4.34**	**62**	P	**Pn**	**17 12 19.0**	**+1.6**
	baz=246						
K05A	**Summer Lake**	**4.96**	**64**		**Pn**	**17 12 28.1**	**+2.0**
J05D	**Fort Rock, OR**	**4.98**	**57**	P	**Pn**	**17 12 27.9**	**+1.6**
	baz=241,SNR=15						
J05D				S	**Sn**	**17 13 21.8**	**-2.1**
	baz=241						
MOD	**Modoc Plateau**	**5.15**	**74**		**Pn**	**17 12 30.8**	**+2.2**
MOD				IAML		17 13 17.2	
	comp=N,8.1nm,4.8s						
MOD				IAML		17 14 42.0	
	comp=E,11nm,4.8s						
PINE	**Pine Mountain**	**5.43**	**53**	Pn	**Pn**	**17 12 34.1**	**+1.7**
SAO	**San Andreas Ge**	**5.82**	**131**	Pn	**Pn**	**17 12 37.4**	**-0.2**
PMPB	**Monarch Peak**	**6.57**	**131**	Pn	**Pn**	**17 12 48.6**	**+0.6**
G08A	**Pilot Rock**	**7.44**	**49**	Pn	**Pn**	**17 13 02.6**	**+2.6**

IDC 25 17:15:08.8±2.1, 25.°68N×90.°47E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/43, mbtmp3.4/5, ML3.3/1, MS3.4/1, Ms1 3.3/1, ms1mx2.4/67, Error ellipse: s-maj=73.9km s-min=22.3km az=65.0, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.64**	**131**	Pn	Pn	17 17 42.7	+1.0
	0.1nm,0.3s,baz=310,slow=13,SNR=1.5						
MKAR	**Makanchi Array**	**22.05**	**345**	P	P	17 20 06.1	+1.0
	1.2nm,0.7s,baz=155,slow=12,SNR=16						
SONM	**Songino Array**	**25.43**	**25**	P	P	17 20 38.3	0.0
	0.8nm,0.6s,baz=208,slow=10,SNR=6.6						
KURBB	**Kurchatov Arra**	**26.54**	**343**	P	P	17 20 47.1	-1.1
	0.3nm,0.7s,baz=150,slow=8.7,SNR=3.2						
KBZ	**Khabaz**	**42.42**	**308**	LR	LR	17 46 26.5	
	comp=Z,43nm,18.8s,baz=151,slow=44						
ASAR	**Alice Springs**	**64.61**	**136**	P	P	17 25 48.4	0.0
	0.4nm,0.7s,baz=315,slow=6.4,SNR=8.6						

IDC 25 17:21:03.7±7.0, 20.°45S×169.°37E, h79km±71km, mb3.0/2, mb1 3.3/3, mb1mx3.1/30, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=226.4km s-min=49.9km az=152.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.17**	**239**	P	Pn	17 21 51.4	-0.1
	2.2nm,0.3s,baz=115,slow=9.4,SNR=132						
DZM				S	Sn	17 22 28.7	+0.5
	18nm,0.3s,baz=304,slow=22,SNR=30						
DZM	**Mont Dzumac**	**3.17**	**239**	*e*Pn	Pn	17 21 51.8	+0.4
	13nm,0.2s						
DZM				*e*Sn	Sn	17 22 28.0	-0.3
	71nm,0.3s						
WRA	**Warramunga Arr**	**32.85**	**265**	P	P	17 27 30.3	+0.1
	0.3nm,0.7s,baz=98,slow=7.8,SNR=5.8						
ASAR	**Alice Springs**	**32.98**	**258**	P	P	17 27 31.0	-0.3
	0.3nm,0.6s,baz=78,slow=8.4,SNR=10						
GERES	**GERESS Array B**	**145.61**	**331**	PKPbc	PKPdf	17 40 32.5	-0.4
	0.3nm,0.5s,baz=90,slow=0.4,SNR=3.7						

*SFS **25** 17:31:38.0, 35.°44N×3.°89W, ML2.5, ALBORAN SUR*

*CNRM **25** 17:31:41.1, 35.°45N×3.°84W, h11km, ml2.5*
ISC 25 17:31:40.8±1.3, 35.°57N±0.°05×3.°70W±0.°04, h25km±16km, n11, σ1°12/20, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.67 121**		P	**Pn**	**17 31 54.8**	**-0.1**
GOG				S	**Sn**	**17 32 05.0**	**+0.3**
CHAS	**Isla Isabel II**	**1.11 110**		P	**Pn**	**17 32 00.5**	**-0.2**
CHAS				S	**Sn**	**17 32 14.8**	**-0.5**
EMAL	**Malaga-Limoner**	**1.33 334**		S	**Sb**	**17 32 22.6**	**+1.0**
EMAL	**Malaga-Limoner**	**1.33 334**		P	**Pb**	**17 32 05.5**	**+0.4**
CEU	**Ceuta**	**1.40 284**		P	**Pb**	**17 32 05.2**	**-1.0**
CEU				S	**Sn**	**17 32 20.2**	**-2.3**
CHEFC	**Chefchaouen**	**1.42 251**		P	**Pn**	**17 32 04.8**	**-0.4**
CHEFC				S	**Sn**	**17 32 22.9**	**-0.1**
JBK	**JBK**	**1.54 143**		P	**Pb**	**17 32 08.3**	**-0.6**
JBK				S	**Sb**	**17 32 28.4**	**+0.3**
IFR	**Ifrane**	**2.36 210**		P	**Pb**	**17 32 22.0**	**-0.8**
IFR				S	**Sn**	**17 32 44.8**	**-1.7**
MD31	**MD31**	**2.83 198**		P	**Pn**	**17 32 26.0**	**+1.4**
MD31				S	**Sn**	**17 32 58.4**	**+0.3**
MDT	**Midelt**	**2.85 196**		P	**Pn**	**17 32 25.8**	**+0.9**
MDT				S	**Sn**	**17 32 57.9**	**-0.5**
ZHG	**ZHG**	**3.22 230**		P	**Pn**	**17 32 30.7**	**+0.8**
ZHG				S	**Sn**	**17 33 09.7**	**+2.2**

*SFS **25** 17:32:28.0, 35.°64N×3.°78W, ML2.6, ALBORAN SUR*
*CNRM **25** 17:32:30.6, 35.°67N×3.°60W, h15km, ml2.4*
ISC 25 17:32:25.6±2.3, 35.°8N±0.°1×3.°54W±0.°05, h1km±14km, n7, σ1°25/14, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.62 212**		P	**Pn**	**17 32 40.9**	**-0.7**
PALE				S	**Sb**	**17 32 47.5**	**-1.0**
GOG	**Mont Gurugu**	**0.69 140**		P	**Pn**	**17 32 42.8**	**+0.3**
GOG				S	**Sn**	**17 32 53.9**	**+0.1**
CHAS	**Isla Isabel II**	**1.07 122**		P	**Pn**	**17 32 48.3**	**+0.7**
CHAS				S	**Sn**	**17 33 02.8**	**-0.2**
CHEFC	**Chefchaouen**	**1.60 247**		P	**Pg**	**17 32 57.2**	**+0.9**
CHEFC				S	**Sn**	**17 33 16.1**	**-0.4**
JBK	**JBK**	**1.62 150**		P	**Pg**	**17 32 57.0**	**+0.3**
JBK				S	**Sn**	**17 33 16.6**	**-0.4**
MD31	**MD31**	**3.05 200**		P	**Pb**	**17 33 19.9**	**-0.7**
MD31				S	**Sn**	**17 33 54.2**	**+2.1**
MDT	**Midelt**	**3.06 197**		P	**Pb**	**17 33 19.7**	**-1.2**
MDT				S	**Sn**	**17 33 54.9**	**+2.5**

*SFS **25** 17:41:25.0, 35.°56N×3.°87W, ML2.2, ALBORAN SUR*
*CNRM **25** 17:41:26.6, 35.°66N×3.°75W, h17km, ml2.5*
ISC 25 17:41:24.6±1.7, 35.°71N±0.°05×3.°60W±0.°05, h5km±12km, n9, σ0°79/18, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.56 210**		P	**Pg**	**17 41 34.9**	**-0.5**
PALE				S	**Sg**	**17 41 42.8**	**+0.1**
GOG	**Mont Gurugu**	**0.69 134**		P	**Pn**	**17 41 41.4**	**+0.4**
GOG				S	**Sn**	**17 41 52.6**	**+0.4**
CHAS	**Isla Isabel II**	**1.09 118**		P	**Pb**	**17 41 46.2**	**+0.3**
CHAS				S	**Sn**	**17 42 01.3**	**-0.5**
EMAL	**Malaga-Limoner**	**1.25 328**		P	**Pn**	**17 41 48.9**	**+0.2**
EMAL				S	**Sb**	**17 42 04.8**	**-0.3**
JBK	**JBK**	**1.61 148**		P	**Pn**	**17 41 54.5**	**+0.7**
JBK				S	**Sn**	**17 42 14.2**	**-0.9**
LCRM	**LCR**	**2.27 208**		P	**Pn**	**17 42 04.4**	**+1.5**
LCRM				S	**Sb**	**17 42 34.5**	**0.0**
MD31	**MD31**	**2.99 199**		P	**Pn**	**17 42 12.2**	**-0.5**
MD31				S	**Sn**	**17 42 48.2**	**-0.7**
MDT	**Midelt**	**3.00 196**		P	**Pn**	**17 42 12.9**	**0.0**
MDT				S	**Sn**	**17 42 48.2**	**-1.1**
ZHG	**ZHG**	**3.37 229**		P	**Pn**	**17 42 19.4**	**+1.4**
ZHG				S	**Sn**	**17 42 58.1**	**-0.4**

*NNC **25** 17:45:04.6±7.0, 36.°96N×70.°94E, h184km±103km, mb3.0, mpv3.9, Error ellipse: s-maj=73.2km s-min=64.6km az=87.0*
ISC 25 17:44:57.8±1.3, 36.°48N±0.°10×71.°1E±0.°1, h188km, n19, σ2°55/22, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.00**	**19**	P	**Pn**	**17 46 25.8**	**+0.6**
	SNR=70						
UCH	**Uchtor**	**6.33**	**24**	P	**Pn**	**17 46 31.1**	**+1.6**
	SNR=9.0						
EKS2	**Erkin-Say**	**6.52**	**18**	P	**Pn**	**17 46 33.1**	**+1.5**
	SNR=13						
KK02	**Karatay Array**	**6.63**	**357**	⇓P	**Pn**	**17 46 33.5**	**+0.5**
	13nm,0.3s,baz=174,slow=12						
AAK	**Ala-Archa**	**6.70**	**22**	P	**Pn**	**17 46 35.8**	**+1.8**
	SNR=16						
AAK	**Ala-Archa**	**6.70**	**22**	⇓P	**Pn**	**17 46 35.4**	**+1.4**
	3.4nm,0.3s						
AAK				⇑S	**Sn**	**17 47 48.9**	**-1.2**
	19nm,0.7s						
CHMS	**Chumysh**	**7.10**	**22**	P	**Pn**	**17 46 41.3**	**+2.1**
	SNR=12						
USP	**Ospenovka**	**7.28**	**20**	P	**Pn**	**17 46 43.2**	**+1.8**
	SNR=13						
TKM2	**Tokmak 2**	**7.32**	**27**	⇓P	**Pn**	**17 46 42.6**	**+0.3**
	2.6nm,0.8s						
PYUN	**Piuthan**	**13.10**	**126**	*e*P	**Pn**	**17 47 55.7**	**-1.4**
	2.1nm,0.3s						
DANN	**Dangsing**	**13.44**	**123**	*e*P	**Pn**	**17 48 00.4**	**-1.1**
	3.0nm,0.3s						
KOLN	**Koldanda**	**13.71**	**126**	*e*P	**Pn**	**17 48 03.6**	**-1.2**
	4.0nm,0.4s						
GKN	**Gorkha**	**14.25**	**123**	*e*P	**Pn**	**17 48 11.1**	**-0.4**
	5.4nm,0.4s						
DMN	**Daman**	**14.82**	**123**	*e*P	**Pn**	**17 48 17.9**	**-0.7**
	2.0nm,0.3s						
PKIN	**Phulchoki**	**15.04**	**122**	*e*P	**P**	**17 48 21.6**	**-0.6**
	0.8nm,0.2s						
PKI	**Pulchoki**	**15.05**	**122**	*e*P	**P**	**17 48 21.7**	**-0.7**
	0.6nm,0.2s						
AB31	**Akbulak array**	**15.12**	**331**	P	**P**	**17 48 24.6**	**+2.0**
	1.0nm,0.3s,baz=159,slow=12,SNR=76						
AB31				S	**S**	**17 51 02.2**	**-8.4**
	1.5nm,0.6s,baz=154,slow=23,SNR=

FIGM	**Figuig**	**3.94 149**	P	**Pb**	**17 51 41.7**	**-3.0**
FIGM			S	**Sb**	**17 52 27.5**	**-4.9**
EVO	**Evora**	**4.58 312**	P	**Pn**	**17 51 46.4**	**+2.0**
EVO			S	**Sn**	**17 52 35.9**	**-1.7**

*TAP **25** 18:04:26.6, 25°.22N×122°.46E, h220km, ML3.0, D*
*JMA **25** 18:04:28.7±0.3, 25°.21N×122°.37E, h198km±4km, M2.7*
ISC 25 18:04:28.6±2.4, 25°.19N±0°.10×122°.38E±0°.04, h203km±13km, n66, σ0960/100, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40 243**		P	**Pn**	**18 04 55.7**	**0.0**
	baz=241						
SXI1	**Grass Mountain**	**0.46 258**		*e*P	**Pn**	**18 04 56.2**	**+0.2**
	baz=254						
TIPB	**Shuangxi**	**0.55 246**		*i* P	**Pn**	**18 04 56.0**	**-0.3**
	baz=256						
TIPB				*e*S	**S**	**18 05 17.4**	**-0.3**
	baz=256						
NWF	**Wu-fen Shan**	**0.55 258**		*i* P	**Pn**	**18 04 56.2**	**-0.1**
	baz=255						
WFSB	**Wu-fen Shan**	**0.55 258**		*e*P	**Pn**	**18 04 56.2**	**0.0**
	baz=255						
TWY	**Chenhua**	**0.71 277**		P	**Pn**	**18 04 57.2**	**+0.2**
	baz=272						
TWY				S	**S**	**18 05 19.4**	**+0.6**
	baz=272						
YM01	**YM01**	**0.73 267**		*e*S	**S**	**18 05 19.4**	**+0.2**
	baz=272						
TWA	**Mucha**	**0.75 254**		P	**Pn**	**18 04 56.9**	**-0.3**
	baz=249						
TWA				S	**S**	**18 05 19.4**	**+0.2**
	baz=249						
TWE	**Neicheng**	**0.80 234**		*i* P	**Pn**	**18 04 57.5**	**+0.1**
	baz=233						
TWE				S	**S**	**18 05 20.5**	**+0.9**
	baz=233						
NDS	**Dongshan**	**0.82 227**		*i* P	**Pn**	**18 04 57.6**	**0.0**
	baz=227						
NDS				*i* S	**S**	**18 05 21.1**	**+1.2**
	baz=227						
FUSB	**Fushanzhiwuyua**	**0.83 239**		P	**Pn**	**18 04 57.2**	**-0.5**
	baz=240						
FUSB				S	**S**	**18 05 20.4**	**+0.2**
	baz=240						
TWS1	**Kuangyinshan**	**0.87 264**		*e*P	**Pn**	**18 04 57.7**	**-0.2**
	baz=256						
NWLT	**Wulai**	**0.89 243**		*i* P	**Pn**	**18 04 57.4**	**-0.7**
	baz=242						
NWLT				*i* S	**S**	**18 05 20.0**	**-0.7**
	baz=242						
JYNG	**Yonagunijimaku**	**0.90 145**		P	**Pn**	**18 04 57.7**	**-0.4**
ENTT	**Nioudou**	**0.92 233**		*i* P	**Pn**	**18 04 58.1**	**0.0**
	baz=234						
ENTT				*i* S	**S**	**18 05 21.8**	**+0.8**
	baz=234						
EWUT	**Wuta**	**0.92 216**		S	**S**	**18 05 21.4**	**+0.4**
	baz=219						
ENA	**Nanau**	**0.95 217**		S	**S**	**18 05 22.2**	**+0.9**
	baz=222						
NDT	**Datong Townshi**	**0.98 233**		*i* P	**Pn**	**18 04 58.6**	**0.0**
	baz=234						
NDT				*i* S	**S**	**18 05 22.0**	**+0.4**
	baz=234						
LATG	**Datong**	**1.01 230**		P	**Pn**	**18 04 59.0**	**+0.1**
	baz=228						
LATG				S	**S**	**18 05 23.0**	**+0.8**
	baz=228						
YHNB	**Yeheng**	**1.05 240**		P	**Pn**	**18 04 58.5**	**-0.6**
	baz=234						
YHNB				S	**S**	**18 05 21.9**	**-0.6**
	baz=234						
NSK	**Sanguang**	**1.06 241**		*i* P	**Pn**	**18 04 58.2**	**-0.9**
	baz=234						
NSK				*i* S	**S**	**18 05 21.6**	**-1.0**
	baz=234						
NNS	**Nan Shan**	**1.18 231**		*i* S	**S**	**18 05 24.2**	**-0.1**
	baz=231						
NNSB	**Datong**	**1.18 230**		S	**S**	**18 05 24.2**	**-0.1**
	baz=231						
NACB	**Ninganchiao**	**1.24 215**		S	**S**	**18 05 23.6**	**-1.2**
	baz=223						
NFF	**Wufeng Townshi**	**1.27 244**		P	**Pn**	**18 05 00.2**	**-0.6**
	baz=239						
NFF				S	**S**	**18 05 23.9**	**-1.5**
	baz=239						
ETLH	**Xiulin Townshi**	**1.27 220**		S	**S**	**18 05 25.1**	**-0.4**
	baz=221						
TWD	**Chiawan**	**1.31 213**		S	**S**	**18 05 26.2**	**+0.3**
	baz=220						
LIOB	**Emei**	**1.35 247**		*i* P	**Pn**	**18 05 01.1**	**-0.2**
	baz=250						
LIOB				*i* S	**S**	**18 05 26.1**	**-0.3**
	baz=250						
NSTT	**Nanjuang**	**1.37 246**		*i* P	**Pn**	**18 05 01.1**	**-0.4**
	baz=250						
NSTT				S	**S**	**18 05 26.9**	**+0.3**
	baz=250						
FUSS	**Fushou**	**1.39 228**		*i* P	**Pn**	**18 05 02.3**	**+0.3**
	baz=222						
FUSS				*i* S	**S**	**18 05 27.5**	**0.0**
	baz=222						
HWA	**Hwalien**	**1.40 210**		*e*P	**Pn**	**18 05 02.0**	**+0.2**
	baz=212						
TWT	**Tachien**	**1.44 230**		P	**Pn**	**18 05 03.0**	**+0.7**
	baz=224						
TWT				S	**S**	**18 05 29.4**	**+1.4**
	baz=224						
IRIF	**Iriomote-Funau**	**1.50 124**		P	**Pn**	**18 05 02.7**	**+0.1**
IRIF				S	**S**	**18 05 28.8**	**+0.3**
CHGB	**Renai**	**1.57 224**		P	**Pn**	**18 05 04.0**	**+0.5**
	baz=222						
CHGB				S	**S**	**18 05 30.5**	**+0.4**
	baz=222						
WHP	**Taichung City**	**1.59 235**		*i* P	**Pn**	**18 05 03.5**	**+0.1**
	baz=235						
WHP				S	**S**	**18 05 29.3**	**-0.8**
	baz=235						
ESL	**Shilin**	**1.62 212**		*e*P	**Pn**	**18 05 02.9**	**-0.8**
	baz=214						
WUSB	**Renai**	**1.66 224**		P	**Pn**	**18 05 03.3**	**-0.9**
	baz=222						
WUSB				S	**S**	**18 05 30.6**	**-0.7**
	baz=222						
TWQ1	**Liyutan**	**1.68 240**		*e*P	**Pn**	**18 05 04.0**	**-0.3**
	baz=234						
HATJ	**Hateruma jima**	**1.72 131**		S	**S**	**18 05 32.7**	**+0.6**
WCS	**Beigang Elemen**	**1.75 230**		P	**Pn**	**18 05 04.7**	**-0.2**
	baz=226						
WCS				S	**S**	**18 05 32.2**	**-0.3**
	baz=226						
JKRS	**Kuro-shima**	**1.76 122**		P	**Pn**	**18 05 05.1**	**+0.1**
JKRS				S	**S**	**18 05 32.9**	**+0.1**
JIJ	**Ishigaki jima**	**1.81 117**		P	**Pn**	**18 05 05.3**	**-0.1**
JIJ				S	**S**	**18 05 32.3**	**-1.2**
VWDT	**VWDT**	**1.82 218**		P	**Pn**	**18 05 05.3**	**-0.3**
	baz=214						
VWDT				S	**S**	**18 05 33.8**	**0.0**
	baz=214						
JISG	**Ishigakijimahi**	**1.86 108**		P	**Pn**	**18 05 05.7**	**-0.2**
JISG				S	**S**	**18 05 33.8**	**-0.5**
SMLT	**Sun Moon Lake**	**1.87 226**		P	**Pn**	**18 05 06.2**	**0.0**
	baz=225						
SMLT				S	**S**	**18 05 36.3**	**+1.4**
	baz=225						
TYC	**Yuchr**	**1.89 228**		*i* P	**Pn**	**18 05 06.1**	**-0.1**
	baz=221						
TYC				S	**S**	**18 05 35.2**	**+0.3**
	baz=221						
HGSD	**Ruisui**	**1.90 207**		P	**Pn**	**18 05 05.9**	**-0.5**
	baz=214						
SSLB	**Suanglung**	**1.91 223**		P	**Pn**	**18 05 06.5**	**0.0**
	baz=229						
SSLB				S	**S**	**18 05 36.3**	**+0.9**
	baz=229						
EHY	**Hungye**	**1.93 210**		*e*P	**Pn**	**18 05 06.8**	**+0.1**
	baz=211						
YULB	**Yu-li**	**2.04 209**		P	**Pn**	**18 05 07.1**	**-0.8**
	baz=211						
EYUL	**Yuli**	**2.07 208**		P	**Pn**	**18 05 06.8**	**-1.4**
	baz=212						
JTJ	**Tarama**	**2.18 104**		P	**Pn**	**18 05 09.7**	**+0.5**
JTJ				S	**S**	**18 05 40.4**	**+0.2**
ALS	**Alishan**	**2.20 221**		*i* P	**Pn**	**18 05 09.8**	**0.0**
	baz=227						
ALS				*e*S	**S**	**18 05 41.4**	**+0.1**
	baz=227						
FULB	**Fuli**	**2.22 207**		P	**Pn**	**18 05 09.8**	**+0.1**
	baz=203						
CHN5	**Tsauling**	**2.22 225**		P	**Pn**	**18 05 09.7**	**0.0**
	baz=224						
CHN5				S	**S**	**18 05 42.3**	**+1.2**
	baz=224						
ELDTW	**Lidau**	**2.35 212**		*e*P	**Pn**	**18 05 09.6**	**-1.6**
	baz=210						
WTK	**Tuku**	**2.35 231**		*e*P	**Pn**	**18 05 10.8**	**-0.2**
	baz=230						
TPUB	**Ta-pu**	**2.47 221**		*e*P	**Pn**	**18 05 12.4**	**0.0**
	baz=220						
WTP	**Ta-pu**	**2.52 220**		P	**Pn**	**18 05 12.8**	**-0.2**
	baz=219						
JIRB	**Irabujima**	**2.56 98**		P	**Pn**	**18 05 13.5**	**+0.1**
JIRB				S	**S**	**18 05 46.9**	**-0.7**
TWK	**Hsinying**	**2.58 222**		P	**Pn**	**18 05 13.8**	**+0.2**
	baz=217						
CHN1	**Nanshi**	**2.62 221**		P	**Pn**	**18 05 13.9**	**-0.2**
	baz=220						
JIKM	**Ikemajima**	**2.62 95**		*e*S	**S**	**18 05 48.6**	**-0.1**
SGST	**Jiashian**	**2.66 218**		P	**Pn**	**18 05 13.9**	**-0.7**
	baz=218						
SLGT	**Liugui**	**2.70 216**		P	**Pn**	**18 05 15.9**	**+1.0**
	baz=216						
JMJ2	**Miyako jima3**	**2.72 99**		P	**Pn**	**18 05 15.6**	**+0.5**
JMJ2				*e*S	**S**	**18 05 50.9**	**+0.1**

TAP 25 18:04:48.6, 24°.18N×121°.87E, h31km±1km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.22 265**		P	Pb	18 04 55.4	+0.2
	baz=265						
ETL				S	Sn	18 05 00.3	-0.2
	baz=265						
NACB	**Ninganchiao**	**0.25 269**		P	Pb	18 04 55.3	-0.1
	baz=269						
NACB				S	Sb	18 05 00.5	+0.4
	baz=269						
TWD	**Chiawan**	**0.27 249**		P	Pb	18 04 55.7	0.0
	baz=248						
TWD				S	Sn	18 05 01.0	-0.4
	baz=248						
ENA	**Nanau**	**0.28 335**		*i* P	Pb	18 04 55.9	+0.1
	baz=331						
EWUT	**Wuta**	**0.28 343**		P	Pb	18 04 56.0	+0.1
	baz=338						
EWUT				S	Sn	18 05 01.6	-0.2
	baz=338						
HWA	**Hwalien**	**0.31 230**		P	Pb	18 04 56.6	+0.4
	baz=229						
ETLH	**Xiulin Townshi**	**0.35 275**		P	Pb	18 04 57.0	+0.2
	baz=275						
TEYL	**Yanliau Villag**	**0.39 219**		*e*S	Sb	18 05 02.6	-0.8
	baz=222						
ETM	**Tongmen**	**0.40 238**		P	Pb	18 04 57.6	+0.1
	baz=235						
ETM				*e*S	Sb	18 05 02.9	-0.7
	baz=235						
TWC	**Suao**	**0.43 358**		*e*P	Pb	18 04 57.2	-0.7
	baz=222						
TWC	**Suao**	**0.43 358**		*e*P	Pb	18 04 57.7	-0.2
	baz=5.0						
NDS	**Dongshan**	**0.47 343**		P	Pb	18 04 58.3	-0.4
	baz=343						
NDS				*e*S	Sb	18 05 05.9	+0.3
	baz=343						
NNSB	**Datong**	**0.51 300**		P	Pb	18 04 59.4	+0.1
	baz=300						
NNSB				S	Sb	18 05 06.7	+0.1
	baz=300						
NNSB	**Datong**	**0.51 300**		P	Pb	18 04 59.4	+0.2
	baz=231						
NNS	**Nan Shan**	**0.52 300**		*i* P	Pn	18 04 60.0	0.0
	baz=300						
NNS				*e*S	Sb	18 05 07.1	+0.1
	baz=300						
NNS	**Nan Shan**	**0.52 300**		*i* P	Pn	18 04 60.0	0.0
	baz=231						

*IDC **25** 18:05:53.2±0.4, 19°.82N×76°.01W, h0km, mb4.4/30, mb1 4.5/36, mb1mx4.5/57, mbtmp4.4/36, ML3.8/6, MS3.8/43, Ms1 3.8/43, ms1mx3.7/77, Error ellipse: s-maj=13.7km s-min=10.5km az=61.0*

*NEIC **25** 18:05:54.5±2.9, 19°.78N±0°.05×76°.07W±0°.04, h10km±1km, mb4.8/379, Mwr4.6/19, Error ellipse: s-maj=9.1km s-min=6.0km az=16.0*

*NEIC **25** 18:05:54.4, 19°.77N×76°.07W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.99; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$-0.79; $M_{r\theta}$0.04; $M_{\theta\phi}$0.27; $M_{\phi r}$-0.57; Fault plane solution: $M_0$1.10000×10^{16} NP1:ϕ_s167.33000°, δ60.48000°, λ97.40000°. NP2:ϕ_s332.57000°, δ30.35000°, λ77.19000°. Principal axes: T 1.1538, Plg73.0000°, Azm96.0000°; N -0.1142, Plg6.0000°, Azm344.0000°; P -1.0396, Plg15.0000°, Azm252.0000°;*

*SSNC **25** 18:05:54.4±1.7, 19°.69N×76°.07W, h5km±6km, MD4.8, ML4.5, MW4.7*

*GCMT **25** 18:05:57.5±0.4, 19°.96N±0°.03×76°.14W±0°.03, h24km±1km, MW4.8/66, Moment Tensor Solution. s25,c28; s66,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.26±.17; $M_{\theta\theta}$-0.40±.10; $M_{\phi\phi}$-1.86±.12; $M_{r\theta}$0.08±.12; $M_{\theta\phi}$0.36±.06; $M_{\phi r}$-0.90±.12; Best double couple: $M_0$2.28600×10^{16} NP1:ϕ_s345.00000°, δ34.00000°, λ86.00000°. NP2: ϕ_s170.00000°, δ57.00000°, λ93.00000°. Principal axes: T 2.4460, Plg78.0000°, Azm89.0000°; N -0.3190, Plg2.0000°, Azm348.0000°; P -2.1250, Plg12.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*JSN **25** 18:06:00.3±0.6, 19°.33N×76°.36W, h0km±9km, MD3.9*

ISC 25 18:05:53.8±1.2, 19°.78N±0°.03×76°.12W±0°.03, h7km±7km, n783, σ1959/45/765, mb4.8/217, MS3.8/39, 7C-10D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.88 289**		*i* P	**Pg**	**18 06 11.3**	**+0.5**
LMGC				*e*S	**Sg**	**18 06 23.1**	**+0.9**
LMGC				IAML		18 06 25.9	
	comp=E,3μm,0.1s						
LMGC				IAML		18 06 26.1	
	comp=N,5μm,0.1s						
GTBY	**Guantanamo Bay**	**0.96 81**			**Pg**	**18 06 11.7**	**-0.5**
GTBY	**Guantanamo Bay**	**0.96 81**		*i* P	**Pg**	**18 06 11.5**	**-0.7**
GTBY				*e*S	**Sg**	**18 06 24.1**	**-0.6**
GTMO	**Guantanamo**	**0.97 72**		*e*P	**Pg**	**18 06 12.6**	**+0.3**
HLGC	**Holguin**	**1.10 3**		*e*P	**Pg**	**18 06 15.3**	**+0.3**
HLGC				*e*S	**Sn**	**18 06 32.0**	**+0.8**
MOAC	**Moa**	**1.40 51**		*e*P	**Pn**	**18 06 17.6**	**-2.0**
MOAC				*e*S	**Sn**	**18 06 37.4**	**-0.9**
MOAC				IAML		18 06 41.3	
	comp=E,8μm,0.7s						
MOAC				IAML		18 06 43.7	
	comp=N,9μm,0.5s						
CMJ	**Castle Mountai**	**1.65 188**		*i* P	**Pn**	**18 06 22.2**	**-1.1**
BBJ	**Bamboo Saint A**	**1.77 218**		*i* P	**Pn**	**18 06 23.3**	**-1.5**
GWJ	**Greenwich**	**1.79 199**		*i* P	**Pn**	**18 06 23.4**	**-1.8**
MASC	**Masc**	**1.82 77**		*e*P	**Pn**	**18 06 22.8**	**-2.6**
MASC				*e*S	**Sn**	**18 06 46.5**	**-2.2**
STH	**Stony Hill**	**1.82 201**		*i* P	**Pn**	**18 06 23.8**	**-1.7**
HOJ	**Hope**	**1.87 199**		*i* P	**Pn**	**18 06 24.9**	**-1.3**
YHJ	**Yallahs**	**1.91 191**		*i* P	**Pn**	**18 06 26.1**	**-0.7**
MTDJ	**Mount Denham**	**2.05 221**			**Pn**	**18 06 26.6**	**-2.1**
MTDJ	**Mount Denham**	**2.05 221**		*e*P	**Pn**	**18 06 27.1**	**-1.6**
MTDJ				*e*S	**Sn**	**18 06 51.2**	**-3.3**
CCCC	**Cccc**	**2.09 313**		*e*P	**Pn**	**18 06 26.8**	**-2.5**
CCCC				*e*S	**Sn**	**18 06 50.3**	**-5.2**
CCCC				IAML		18 06 55.4	
	comp=N,4μm,0.6s						
CCCC				IAML		18 06 55.4	
	comp=E,10μm,0.6s						
MCJ	**Malvern**	**2.37 219**		*i* P	**Pn**	**18 06 32.5**	**-0.6**
MCJ				*i* S	**Sn**	**18 06 56.6**	**-5.9**
LGNH	**Logne**	**3.55 110**			**Pn**	**18 06 47.6**	**-1.7**
LGNH	**Logne**	**3.55 110**		*e*P	**Pn**	**18 06 48.1**	**-1.2**
JAKH	**Jacmel**	**3.73 114**		Pn	**Pn**	**18 06 50.3**	**-1.6**
LCCY	**Blossom Villag**	**3.74 269**		Pn	**Pn**	**18 06 51.3**	**-0.6**
SDDR	**Presa de Saban**	**4.63 99**			**Pn**	**18 07 02.5**	**-1.7**
SDDR	**Presa de Saban**	**4.63 99**		*e*P	**Pn**	**18 07 02.6**	**-1.6**
GRTK	**Grand Turk**	**4.97 69**		Pn	**Pn**	**18 07 08.0**	**-0.9**
SC01	**Santiago de lo**	**5.09 93**			**Pn**	**18 07 09.6**	**-0.9**
BANI	**BANI**	**5.62 103**		Pn	**Pn**	**18 07 16.1**	**-1.8**
SDD	**Santo Domingo**	**6.01 102**		Pn	**Pn**	**18 07 20.8**	**-2.3**
DR12	**Loma Pena Alta**	**6.44 98**			**Pn**	**18 07 28.1**	**-1.0**
SOR	**Soroa**	**7.09 296**		Pn	**Pn**	**18 07 39.4**	**+1.4**
061Z	**Ochoppi**	**7.50 325**		Pn	**Pn**	**18 07 42.2**	**-1.3**
PRVC	**Isla de Provid**	**8.11 219**		Pn	**Pn**	**18 07 52.5**	**+0.5**
CRPR	**Cabo Rojo, PR**	**8.71 100**		Pn	**Pn**	**18 07 59.4**	**-0.7**
URIC	**Uribia, Colomb**	**8.96 153**		Pn	**Pn**	**18 08 01.1**	**-2.5**
AOPR	**Arecibo Observ**	**8.97 98**		Pn	**Pn**	**18 08 04.3**	**+0.5**
CELP	**Cerrillos**	**9.19 99**		Pn	**Pn**	**18 08 06.1**	**-0.6**
CRJC	**Cerrejon, Guaj**	**9.25 160**		*e*P	**Pn**	**18 08 07.1**	**-0.6**
DWPF	**Disney Wildern**	**9.61 331**		Pn	**Pn**	**18 08 11.2**	**-1.3**
DWPF	**Disney Wildern**	**9.61 331**		P	**Pn**	**18 08 13.2**	**+0.7**
	baz=148						
PDPR	**Patillas Dam,**	**9.71 99**		Pn	**Pn**	**18 08 12.4**	**-1.6**
SJCC	**San Jacinto, C**	**9.87 175**		Pn	**Pn**	**18 08 16.6**	**+0.4**
ESPN	**Las Esperanzas**	**10.90 227**			**Pn**	**18 08 30.2**	**0.0**
656A	**Willston**	**11.19 330**		Pn	**Pn**	**18 08 30.9**	**-3.2**
ACON	**Acoyapa**	**11.67 230**		Pn	Pn	18 08 36.4	-4.4
BOAB	**BOACO BROADBAN**	**11.71 233**			**Pn**	**18 08 39.8**	**-1.7**
SDV	**Santo Domingo**	**12.06 153**		Pn	**Pn**	**18 08 45.7**	**-0.7**
	comp=E,2.8nm,0.3s,baz=2.6,slow=7.9,SNR=9.6						
SDV				Sn	Sn	18 10 48.7	-13
	baz=27,slow=12,SNR=1.4						
SDV				LR	LR	18 14 38.6	
	comp=E,234nm,19.3s,baz=334,slow=44						
SDV	**Santo Domingo**	**12.06 153**		*e*P	**Pn**	**18 08 45.0**	**-1.4**
SDV	**Santo Domingo**	**12.06 153**		Pn	**Pn**	**18 08 44.2**	**-2.1**
TGUH	**Tegucigalpa,Un**	**12.10 244**		Pn	**Pn**	**18 08 44.1**	**-2.6**
ZARC	**Zaragoza, Cauc**	**12.28 174**		Pn	**Pn**	**18 08 49.4**	**+0.2**
RIMA	**Rio Macho**	**12.45 218**		Pn	**Pn**	**18 08 50.2**	**-1.5**
SRBA	**San Rafael, Bu**	**12.61 215**		Pn	**Pn**	**18 08 52.9**	**-0.9**
DBBC	**Dabeiba**	**12.69 180**		*e*P	Pn	18 09 00.5	+5.6
JTS	**Las Juntas de**	**12.72 223**		LR	LR	18 13 53.5	
	comp=E,882nm,18.5s,slow=38						
JTS	**Las Juntas de**	**12.72 223**			**Pn**	**18 08 53.9**	**-1.3**
PAMC	**Pamplona, Colo**	**12.80 165**		*e*P	**Pn**	**18 08 58.3**	**+1.5**
ORTG	**Ortega, Santa**	**13.00 225**			**Pn**	**18 08 56.0**	**-3.1**
RIOS	**Rincon, Osa**	**13.14 214**		Pn	**Pn**	**18 09 00.7**	**-0.2**
DUNO	**Dulce Nombre,**	**13.23 225**			**Pn**	**18 09 02.9**	**+0.8**
PTBC	**PUERTO BERRIO,**	**13.26 173**		*e*P	**Pn**	**18 09 04.7**	**+2.1**
BAUV	**El Baul**	**13.31 143**			**Pn**	**18 09 02.3**	**-0.9**
PETF	**Flores**	**13.36 260**		Pn	**Pn**	**18 09 05.1**	**+1.2**
255A	**Hazlehurst**	**13.38 336**		Pn	**Pn**	**18 09 03.1**	**-0.9**
BARC	**Barichara**	**13.42 167**		*e*P	**Pn**	**18 09 06.2**	**+1.2**
TIGA	**Tifton**	**13.42 331**		Pn	**Pn**	**18 09 04.0**	**-0.6**
HELC	**Santa Helena**	**13.52 177**		*e*P	**Pn**	**18 09 10.1**	**+3.7**
MTO3	**Montecristo**	**13.74 249**		Pn	**Pn**	**18 09 09.5**	**+0.1**
CBOC	**Ciudad Bolivar**	**13.83 180**		*e*P	**Pn**	**18 09 12.2**	**+1.7**
NORC	**Norcasia**	**14.18 175**		*e*P	**Pn**	**18 09 17.9**	**+2.6**
154A	**Montrose**	**14.23 335**			**Pn**	**18 09 12.1**	**-3.6**
ELOV	**Elorza**	**14.24 152**		*e*P	**Pn**	**18 09 17.2**	**+1.2**
Y60A	**Bolivia**	**14.29 353**		Pn	**Pn**	**18 09 12.0**	**-4.6**
GUY2C	**Guyana, Caldas**	**14.49 177**		*e*P	**Pn**	**18 09 23.1**	**+3.3**
APG	**El Apazote**	**14.49 253**		Pn	**Pn**	**18 09 22.2**	**+2.6**
	comp=E,0.4nm,0.3s,baz=88,slow=23,SNR=5.5						
PCRV	**Puerto La Cruz**	**14.63 129**		Pn	**Pn**	**18 09 23.4**	**+2.1**
	comp=E,1.3nm,0.3s,baz=37,slow=6.4,SNR=3.3						
PLCV	**Puerto La Cruz**	**14.67 129**		P	**Pn**	**18 09 23.4**	**+1.6**
PLMC	**San Jos del P**	**14.79 181**		*e*P	**Pn**	**18 09 25.1**	**+1.5**
ROSC	**El Rosal**	**14.95 173**		Pn	**Pn**	**18 09 27.5**	**+1.5**
	comp=E,1.2nm,0.3s,baz=253,slow=19,SNR=1.3						
ROSC				LR	LR	18 15 46.2	
	comp=E,433nm,20.3s,baz=65,slow=40						
ROSC	**El Rosal**	**14.95 173**		Pn	**Pn**	**18 09 23.2**	**-2.9**
152A	**Waverly Hall**	**14.97 331**		Pn	**Pn**	**18 09 24.3**	**-1.4**
X58A	**Rowland**	**14.99 350**			**Pn**	**18 09 26.0**	**0.0**
BRAL	**Brewton**	**15.02 321**		P	**Pn**	**18 09 26.8**	**+0.3**
	baz=136						
GOGA	**Godfrey**	**15.07 336**		Pn	**Pn**	**18 09 24.9**	**-2.3**
GOGA	**Godfrey**	**15.07 336**		P	**Pn**	**18 09 27.1**	**-0.1**
	baz=152						
JSC	**Jenkinsville**	**15.15 343**		Pn	**Pn**	**18 09 26.5**	**-1.7**
250A	**Grady**	**15.19 325**		Pn	**Pn**	**18 09 24.4**	**-4.3**
250A				IAmb	IAmb	18 09 46.8	
	comp=Z,62nm,1.1s						
ANIL	**Santa Ana**	**15.21 177**		*e*P	**P**	**18 09 34.0**	**-0.6**
CHIC	**Chingaza**	**15.24 171**		*e*P	**Pn**	**18 09 31.8**	**+1.9**
BIRD	**Birdtown, Kers**	**15.30 346**			**Pn**	**18 09 25.4**	**-4.8**
BIRD				IAmb	IAmb	18 09 39.8	
	comp=Z,44nm,1.5s						
HODGE	**Hodges**	**15.39 340**		Pn	**Pn**	**18 09 29.7**	**-1.8**
CNNC	**Cliffs of the**	**15.48 355**		P	**Pn**	**18 09 32.9**	**+0.4**
	baz=174						
CCIG	**Comitan**	**15.63 260**			**Pn**	**18 09 34.1**	**-0.6**
CCIG				IAmb	IAmb	18 09 43.9	
	comp=Z,48nm,0.8s						
W57A	**Gilead**	**15.69 348**		Pn	**Pn**	**18 09 32.2**	**-3.1**
Y52A	**Lilburn**	**15.71 335**		Pn	**Pn**	**18 09 34.3**	**-1.3**
Z51A	**Franklin**	**15.72 331**			**Pn**	**18 09 33.1**	**-2.6**
ORTC	**Ortega, Tolima**	**15.80 177**		*e*P	**P**	**18 09 41.7**	**+0.9**
PAULI	**Pauline**	**15.81 343**			**Pn**	**18 09 34.9**	**-1.9**
KMSC	**Kings Mountain**	**15.98 344**		Pn	**Pn**	**18 09 35.7**	**-3.4**
KMSC	**Kings Mountain**	**15.98 344**		P	**Pn**	**18 09 38.8**	**-0.3**
	baz=162						
PRAC	**Prado**	**16.02 176**		*e*P	**P**	**18 09 44.6**	**+1.4**
BG3	**Lake Jocassee**	**16.31 340**		Pn	**Pn**	**18 09 41.0**	**-2.3**
LRAL	**Lakeview Retre**	**16.39 326**		Pn	**Pn**	**18 09 42.9**	**-1.5**
U59A	**Littleton**	**16.58 355**		Pn	**Pn**	**18 09 43.1**	**-3.6**
V55A	**Taylorsville**	**16.63 345**		Pn	**Pn**	**18 09 44.2**	**-3.1**
X51A	**Calhoun**	**16.64 334**		Pn	**Pn**	**18 09 48.0**	**+0.5**
W52A	**Murphy**	**16.74 337**		Pn	**Pn**	**18 09 47.1**	**-1.7**
Y49A	**Blount Mountai**	**16.75 329**		Pn	**Pn**	**18 09 47.3**	**-1.6**
MARP	**Paez Belalcaza**	**16.84 179**		*e*P	**P**	**18 09 55.1**	**+2.5

comp=Z,94nm,1.2s
S51A Beattyville 18.95 341 P **P 18 10 13.9 -1.6**
R53A Hurricane 19.17 346 P **Pn 18 10 18.2 -0.4**
R53A IAmb IAmb 18 10 23.9
comp=Z,30nm,0.8s
W45A Hickory Valley 19.18 326 P **P 18 10 17.5 -0.5**
W45A IAmb IAmb 18 10 39.0
comp=Z,62nm,0.9s
WVT Waverly 19.27 330 P **Pn 18 10 19.4 -0.5**
WVT Waverly 19.27 330 P **Pn 18 10 19.7 -0.3**
baz=145
Q56A Snyder Ridge, 19.38 353 P **P 18 10 18.4 -1.8**
OTAV Otavalo 19.56 187 eP P 18 10 14.4 -8.4
OTAV Otavalo 19.56 187 P **P 18 10 16.5 -6.3**
Q54A Coxs Mills 19.57 349 P **P 18 10 22.2 0.0**
SDMD Soldier's Deli 19.57 358 P **P 18 10 21.8 -0.5**
T47A Sharon Grove 19.65 333 P **Pn 18 10 24.2 -0.3**
P57A Homestead Farm 19.70 356 P **P 18 10 22.6 -1.1**
P57A IAmb IAmb 18 10 27.4
comp=Z,40nm,1.3s
R50A Paris 19.77 341 P **P 18 10 24.2 -0.2**
Q52A Bidwell 19.84 346 P **P 18 10 23.1 -2.1**
P60A Greenville 19.97 1 P **P 18 10 26.3 -0.2**
P60A IAmb IAmb 18 10 32.0
comp=Z,51nm,1.2s
P60A Greenville 19.97 1 P **P 18 10 26.6 +0.1**
baz=181,SNR=6.5
R49A Shelbyville 20.05 339 P **P 18 10 26.2 -1.3**
MCWV Mont Chateau 20.07 352 P **Pn 18 10 29.0 -0.4**
baz=170
WUPA West Chester U 20.09 1 P **P 18 10 28.6 +0.7**
MVL Millersville 20.15 359 P **P 18 10 27.2 -1.4**
MVL IAmb IAmb 18 10 41.5
comp=Z,59nm,1.5s
P53A Whipple 20.16 348 P **Pn 18 10 29.5 -1.0**
P53A IAmb IAmb 18 10 45.3
comp=Z,44nm,1.1s
Q51A Peebles 20.17 343 P **P 18 10 28.1 -0.7**
Q51A IAmb IAmb 18 10 50.9
comp=Z,20nm,0.7s
PAGS Pennsylvania G 20.39 359 P Pn 18 10 32.4 -0.7
WCI Wyandotte Cave 20.40 336 P **P 18 10 31.8 +0.5**
WCI IAmb IAmb 18 10 37.6
comp=Z,27nm,0.8s
WCI Wyandotte Cave 20.40 336 P Pn 18 10 32.4 -0.9
baz=152
P52A Corning 20.45 347 P **P 18 10 32.5 +0.6**
P52A IAmb IAmb 18 10 39.0
comp=Z,41nm,0.7s
P52A Corning 20.45 347 P **P 18 10 32.0 +0.2**
baz=164,SNR=8.9
NATX Nacogdoches 20.49 309 P **P 18 10 31.3 -1.0**
NATX IAmb IAmb 18 10 49.2
comp=Z,27nm,0.6s
WLAR White Oak Lake 20.51 316 P **P 18 10 31.7 -0.7**
WLAR IAmb IAmb 18 10 53.2
comp=Z,83nm,1.3s
P51A Williamsport 20.53 345 P **P 18 10 30.8 -1.8**
P51A IAmb IAmb 18 10 39.8
comp=Z,48nm,1.1s
O56A Blue Knob Stat 20.53 355 P **P 18 10 33.6 +0.9**
O56A Blue Knob Stat 20.53 355 P **P 18 10 33.2 +0.5**
baz=173,SNR=18
O54A Avella 20.66 351 P Pn 18 10 35.2 -1.2
O54A IAmb IAmb 18 10 49.0
comp=Z,44nm,0.9s
LUPA Lehigh Univers 20.76 2 P **P 18 10 34.5 -0.7**
LUPA IAmb IAmb 18 10 42.4
comp=Z,41nm,1.0s
X40A Basin Creek Fa 20.83 318 P **P 18 10 35.1 -0.9**
X40A Basin Creek Fa 20.83 318 P **P 18 10 36.4 +0.4**
baz=130
SSPA Standing Stone 20.84 356 P **P 18 10 36.6 +0.5**
SSPA IAmb IAmb 18 10 51.5
comp=Z,79nm,1.4s
SSPA Standing Stone 20.84 356 P Pn 18 10 37.5 -1.0
baz=175
O52A Adamsville 20.85 348 P **P 18 10 35.9 -0.3**
O52A IAmb IAmb 18 10 50.9
comp=Z,50nm,0.9s
O53A New Philadelph 20.86 349 P **P 18 10 36.2 -0.1**
O53A IAmb IAmb 18 10 48.5
comp=Z,52nm,1.1s
O53A New Philadelph 20.86 349 P **P 18 10 36.7 +0.4**
baz=166
BRNJ Basking Ridge 20.88 3 P **P 18 10 34.6 -1.8**
LCAR Lake Charles 20.93 324 P **P 18 10 37.0 0.0**
W41B Gary Mavity, V 20.93 320 P Pn 18 10 39.3 -0.3
W41B Gary Mavity, V 20.93 320 P **P 18 10 37.9 +0.9**
baz=133
N58A Sunbury 21.00 359 **P 18 10 38.7 +1.0**
N58A IAmb IAmb 18 10 49.2
comp=Z,45nm,1.2s
WHAR Wooly Hollow 21.03 321 P **P 18 10 39.5 +1.3**
WHAR IAmb IAmb 18 10 54.1
comp=Z,37nm,1.0s
P49A Miami Univ. Ec 21.04 341 P **P 18 10 37.7 -0.4**
P49A IAmb IAmb 18 10 49.9
comp=Z,55nm,1.1s
P49A Miami Univ. Ec 21.04 341 P **P 18 10 38.7 +0.5**
baz=157
PBMO Poplar Bluff 21.07 326 P **P 18 10 38.9 +0.4**
PBMO IAmb IAmb 18 10 54.3
comp=Z,34nm,0.7s
N59A State Game Lan 21.07 1 P **P 18 10 39.2 +0.7**
N59A State Game Lan 21.07 1 P **P 18 10 38.7 +0.1**
baz=181,SNR=14
P48A Milroy 21.19 340 P **P 18 10 40.1 +0.3**
P48A IAmb IAmb 18 10 51.2
comp=Z,62nm,1.2s
S44A Carbondale 21.20 330 P **P 18 10 40.3 +0.4**
S44A IAmb IAmb 18 10 52.0
comp=Z,30nm,0.7s
ACSO Alum Creek Sta 21.22 345 P **P 18 10 40.3 +0.2**
ACSO Alum Creek Sta 21.22 345 P **P 18 10 41.0 +0.9**
baz=162
PAL Palisades 21.24 5 P **P 18 10 41.0 +0.7**
baz=186
ODNJ Ogdensburg 21.27 3 P **P 18 10 41.6 +0.9**
ODNJ IAmb IAmb 18 10 49.1
comp=Z,48nm,0.9s
MIAR Mount Ida 21.34 317 P **P 18 10 43.1 +1.6**
MIAR IAmb IAmb 18 10 54.6
comp=Z,28nm,1.0s
MIAR Mount Ida 21.34 317 P **P 18 10 41.2 -0.3**
baz=129,SNR=9.1
N53A Lisbon 21.34 350 P **P 18 10 42.3 +0.9**
N53A IAmb IAmb 18 10 57.6
comp=Z,72nm,1.4s
FCAR Ozark Folk Cen 21.35 322 P **P 18 10 43.1 +1.6**
FCAR IAmb IAmb 18 10 57.0
comp=Z,45nm,0.8s
TRNY Table Rock, Ra 21.36 4 P **P 18 10 42.3 +0.7**
TRNY IAmb IAmb 18 10 49.4
comp=Z,44nm,0.9s
N54A Moraine State 21.37 352 P **P 18 10 43.0 +1.3**
N54A IAmb IAmb 18 10 60.0
comp=Z,50nm,1.1s
N54A Moraine State 21.37 352 P **P 18 10 42.8 +1.0**
baz=170
TLIG Tlapa 21.38 268 P **P 18 10 41.7 -0.5**
TLIG IAmb IAmb 18 11 08.8
comp=Z,49nm,1.4s
WSPT Westport, CT 21.45 6 P **P 18 10 43.8 +1.2**
M57A Sunshine Farm, 21.50 358 P **P 18 10 43.5 +0.3**
M57A IAmb IAmb 18 10 51.2
comp=Z,76nm,1.4s
O49A Covington 21.53 343 P **P 18 10 43.2 -0.2**
OLIL Olney 21.55 334 P **P 18 10 44.7 +1.0**
OLIL IAmb IAmb 18 10 55.5
comp=Z,43nm,0.9s
KSPA Keystone Colle 21.71 1 P **P 18 10 46.1 +0.7**
KSPA IAmb IAmb 18 10 55.7
comp=Z,46nm,1.1s
M55A Ridgway 21.74 355 P **P 18 10 42.6 -3.1**
M55A IAmb IAmb 18 10 53.5
comp=Z,65nm,1.4s
N51A Ashland 21.74 347 P **P 18 10 45.7 0.0**
N51A IAmb IAmb 18 10 52.6
comp=Z,41nm,0.8s
M63A Gales Ferry 21.83 8 P **P 18 10 47.5 +0.9**
M63A IAmb IAmb 18 10 54.8
comp=Z,49nm,0.9s
M54A Oil Creek Stat 21.87 353 P **P 18 10 48.4 +1.3**
M54A IAmb IAmb 18 10 58.8

comp=Z,42nm,1.0s
M54A Oil Creek Stat 21.87 353 P **P 18 10 47.3 +0.2**
baz=171
W39A Magazine 21.89 318 P **P 18 10 46.0 -1.4**
W39A IAmb IAmb 18 11 09.5
comp=Z,45nm,1.1s
W39A Magazine 21.89 318 P **P 18 10 48.2 +0.8**
baz=130
M53A WI Miller and 21.94 351 P **P 18 10 48.2 +0.4**
M53A WI Miller and 21.94 351 P **P 18 10 47.9 +0.1**
baz=168
P46A Rosedale 21.95 337 P **P 18 10 47.0 -1.1**
P46A IAmb IAmb 18 11 00.1
comp=Z,40nm,0.9s
KSCT Kent School, K 21.99 5 P **P 18 10 48.4 0.0**
KSCT IAmb IAmb 18 10 55.6
comp=Z,27nm,0.9s
FVM French Village 21.99 329 P **P 18 10 50.2 +1.7**
FVM IAmb IAmb 18 11 05.1
comp=Z,34nm,1.0s
ALLY Alegheny Colle 22.07 352 P **P 18 10 50.1 +0.8**
Q44A Meyer Farm, Va 22.08 332 P **P 18 10 50.9 +1.5**
U40A Yellville 22.10 322 P **P 18 10 49.3 -0.3**
U40A IAmb IAmb 18 11 18.4
comp=Z,61nm,1.5s
U40A Yellville 22.10 322 P **P 18 10 50.1 +0.5**
baz=134
M52A Chesterland 22.14 350 P **P 18 10 49.8 -0.3**
N49A Columbus Grove 22.17 344 P **P 18 10 49.9 -0.5**
N49A IAmb IAmb 18 11 01.6
comp=Z,26nm,0.8s
UCCT U. Connecticut 22.19 8 P **P 18 10 48.2 -2.4**
L56A Greenwood 22.32 357 P **P 18 10 52.2 +0.2**
L56A IAmb IAmb 18 11 11.4
comp=Z,52nm,1.2s
MGMO Mountain Grove 22.33 324 P **P 18 10 53.1 +1.0**
MGMO IAmb IAmb 18 11 06.0
comp=Z,25nm,0.8s
M50A Fremont 22.35 346 P **P 18 10 50.4 -1.9**
BINY Binghamton 22.35 0 P **P 18 10 52.3 0.0**
BINY IAmb IAmb 18 11 12.3
comp=Z,62nm,1.3s
BINY Binghamton 22.35 0 P **P 18 10 52.9 +0.6**
baz=180,SNR=7.6
L59A Walton 22.36 2 P **P 18 10 50.5 -1.9**
L59A IAmb IAmb 18 11 11.6
comp=Z,29nm,0.9s
BRYW Bryant College 22.41 9 P **P 18 10 54.4 +1.5**
BRYW IAmb IAmb 18 11 08.2
comp=Z,54nm,1.2s
SLM Saint Louis 22.42 330 P **P 18 10 50.8 -2.2**
SLM IAmb IAmb 18 11 04.9
comp=Z,24nm,0.7s
CCM Cathedral Cave 22.46 327 P **P 18 10 52.2 -1.3**
CCM IAmb IAmb 18 11 10.3
comp=Z,23nm,0.8s
CCM Cathedral Cave 22.46 327 P **P 18 10 53.6 +0.2**
baz=140
ERPA Erie 22.51 352 P **P 18 10 54.0 0.0**
baz=170
X37A Clayton 22.54 315 **P 18 10 54.1 -0.3**
X37A IAmb IAmb 18 11 18.4
comp=Z,38nm,1.0s
N47A Urbana 22.57 341 P **P 18 10 55.5 +0.9**
SFIN Lafayette 22.58 338 P **P 18 10 55.7 +1.0**
SFIN IAmb IAmb 18 11 06.5
comp=Z,38nm,1.1s
SFIN Lafayette 22.58 338 P **P 18 10 54.7 0.0**
baz=152
QUA2 Belchertown 22.65 7 P **P 18 10 54.5 -1.0**
QUA2 IAmb IAmb 18 11 06.5
comp=Z,28nm,0.9s
WVNY West Valley, N 22.65 355 P **P 18 10 55.8 +0.3**
WVNY IAmb IAmb 18 11 10.1
comp=Z,32nm,0.8s
WHTX Lake Whitney, 22.68 307 P **P 18 10 57.6 +1.8**
WHTX Lake Whitney, 22.68 307 P **P 18 10 55.8 -0.1**
baz=117
HHAR Hobbs 22.69 320 P **P 18 10 58.2 +2.2**
L61B Northampton 22.79 7 P **P 18 10 58.0 +1.1**
L61B IAmb IAmb 18 11 12.1
comp=Z,45nm,1.1s
L61B Northampton 22.79 7 P **P 18 10 58.0 +1.1**
baz=188
833A Chaparral WMA, 22.86 296 P **P 18 10 58.7 +0.9**
833A Chaparral WMA, 22.86 296 P **P 18 10 57.1 -0.7**
baz=107
K57A Scipio Center 22.88 359 P **P 18 10 58.0 0.0**
WES Weston 22.90 9 P **P 18 11 00.0 +2.0**
O44A Mansfield 22.90 335 P **P 18 10 58.5 +0.3**
O44A IAmb IAmb 18 11 18.9
comp=Z,24nm,0.8s
HRV Adam Dziewonsk 22.98 9 P **P 18 10 58.8 -0.2**
baz=191
BOAV Boa Vista 23.04 137 eP **P 18 10 57.6 -2.2**
U38A Gravette 23.07 320 **P 18 10 59.4 -0.5**
U38A IAmb IAmb 18 11 17.1
comp=Z,15nm,0.8s
R40A Maddies Statio 23.16 326 P **P 18 11 00.1 -0.7**
R40A IAmb IAmb 18 11 29.3
comp=Z,34nm,0.9s
Z35A Perchaven, San 23.17 310 P **P 18 10 59.4 -1.6**
L48A N Adams 23.19 344 P **P 18 11 00.9 -0.2**
S39A Bolivar 23.30 324 P **P 18 11 04.5 +2.3**
S39A IAmb IAmb 18 11 16.1
comp=Z,20nm,0.8s
AAM Ann Arbor 23.34 346 P **P 18 11 01.3 -1.3**
AAM Ann Arbor 23.34 346 P **P 18 11 03.5 +0.9**
baz=162
MEDO Medina 23.40 356 P **P 18 11 04.3 +1.2**
MEDO IAmb IAmb 18 11 22.9
comp=Z,37nm,0.9s
LOOK Love County 23.46 311 P **P 18 11 03.1 -0.8**
J55A Hilton 23.46 357 P **P 18 11 01.5 -2.2**
J54A Appleton 23.52 355 P **P 18 11 05.1 +0.8**
J58A Remsen 23.52 2 P **P 18 11 04.4 0.0**
J57A Williamstown 23.56 0 P **P 18 11 06.4 +1.6**
HDIL Hopedale 23.58 334 P **P 18 11 05.2 +0.2**
HDIL IAmb IAmb 18 11 18.0
comp=Z,28nm,0.8s
HDIL Hopedale 23.58 334 P **P 18 11 05.8 +0.8**
baz=148
TUL1 Leonard 23.61 317 **P 18 11 06.1 +0.7**
TUL1 IAmb IAmb 18 11 19.8
comp=Z,34nm,0.9s
TUL1 Leonard 23.61 317 P **P 18 11 04.9 -0.5**
baz=128
ACCN Adirondack Com 23.62 4 P **P 18 11 06.2 +0.8**
ACCN IAmb IAmb 18 11 22.2
comp=Z,15nm,0.8s
J59A Piesco 23.65 3 P **P 18 11 06.3 +0.5**
J59A IAmb IAmb 18 11 21.0
comp=Z,28nm,1.1s
W35A Tecumseh 23.88 314 **P 18 11 06.5 -1.5**
W35A IAmb IAmb 18 11 19.0
comp=Z,25nm,0.7s
JCT Junction City 23.89 301 P **P 18 11 08.3 0.0**
JCT IAmb IAmb 18 11 37.1
comp=Z,26nm,0.9s
JCT Junction City 23.89 301 P **P 18 11 08.9 +0.6**
baz=111,SNR=5.2
P40A Paris 23.99 329 P **P 18 11 09.5 +0.5**
P40A IAmb IAmb 18 11 20.5
comp=Z,20nm,0.7s
HNH Hanover 24.07 7 P **P 18 11 10.1 +0.4**
HNH IAmb IAmb 18 11 26.9
comp=Z,30nm,1.1s
PECO Prince Edward 24.09 358 P **P 18 11 11.1 +1.2**
PECO IAmb IAmb 18 11 21.6
comp=Z,24nm,0.8s
NCB Newcomb 24.17 3 P **P 18 11 10.4 -0.3**
NCB IAmb IAmb 18 11 22.4
comp=Z,23nm,0.9s
X34A Smith Ranch, M 24.24 312 P **P 18 11 10.0 -1.4**
N41A Harden Midland 24.37 332 P **P 18 11 13.4 +0.9**
N41A IAmb IAmb 18 11 41.2
comp=Z,26nm,1.0s
OK025 Westminster Rd 24.43 314 P **P 18 11 11.9 -1.2**
OK033 Mehan 24.43 316 P **P 18 11 11.8 -1.4**
L44A Lake County Fo 24.46 338 P **P 18 11 14.2 +0.9**
baz=152
J47A Sunmer 24.51 345 P **P 18 11 14.3 +0.6**
TBTG Tabatinga, AM 24.59 165 eP **P 18 11 18.2 +3.6**
ABTX Abilene, Hawle 24.61 306 P **P 18 11 16.4 +1.6**
ABTX IAmb IAmb 18 11 34.2

comp=Z,23nm,1.0s
ABTX Abilene, Hawle 24.61 306 P **P 18 11 15.3 +0.4**
baz=116
OK029 Liberty Lake 24.63 315 **P 18 11 11.8 -3.2**
LBNH Lisbon 24.64 7 P **P 18 11 15.9 +1.0**
LBNH IAmb IAmb 18 11 18.2
comp=Z,15nm,0.8s
LBNH Lisbon 24.64 7 P **P 18 11 15.1 +0.2**
baz=189
T35A Sooner Cattle 24.68 318 P **P 18 11 15.7 +0.2**
DELO Deloro Mine 24.70 357 P **P 18 11 15.4 0.0**
DELO IAmb IAmb 18 11 26.0
comp=Z,13nm,0.7s
LONY Lake Ozonia 24.80 3 P **P 18 11 16.5 +0.2**
baz=183
P38A Dawn 24.81 327 P **P 18 11 17.5 +0.9**
ZAIG Zacatecas 24.82 282 P **P 18 11 16.9 -0.1**
ZAIG IAmb IAmb 18 11 22.5
comp=Z,14nm,1.0s
L42A Oliver, Polo 24.95 336 P **P 18 11 18.0 +0.2**
L42A IAmb IAmb 18 11 30.4
comp=Z,16nm,0.8s
WMOK Wichita Mounta 24.98 311 P **P 18 11 17.5 -0.6**
baz=121
BLOK Blackwell 25.04 317 **P 18 11 17.3 -1.3**
SADO Sadowa 25.05 355 P **P 18 11 19.4 +0.8**
comp=Z,7.8nm,0.5s,baz=224,slow=3.9,SNR=9.2
SADO LR LR 18 21 26.6
comp=Z,210nm,18.9s,baz=188,slow=37
SADO Sadowa 25.05 355 P **P 18 11 19.3 +0.8**
SADO IAmb IAmb 18 11 30.3
comp=Z,19nm,0.8s
K43A Burlington 25.07 338 P **P 18 11 18.6 -0.2**
N38A Joes South For 25.54 329 P **P 18 11 21.6 -1.6**
N38A IAmb IAmb 18 11 35.9
comp=Z,22nm,0.8s
KAN17 Caldwell West 25.56 317 P **P 18 11 22.0 -1.3**
KAN01 Argonia South 25.62 317 P **P 18 11 21.4 -2.5**
L40A Anamosa 25.64 333 P **P 18 11 25.1 +1.2**
MNTQ Montreal, Queb 25.73 4 P **P 18 11 25.4 +0.7**
MNTQ IAmb IAmb 18 11 35.9
comp=Z,24nm,1.0s
KAN06 Argonia West S 25.74 317 P **P 18 11 25.0 +0.1**
PTGA Pitinga 25.81 140 P **P 18 11 26.7 +0.9**
comp=Z,1.9nm,0.5s,baz=335,slow=13,SNR=5.6
PTGA LR LR 18 23 42.1
comp=Z,166nm,18.1s,baz=66,slow=42
KAN16 Harper SW Stat 25.86 317 P **P 18 11 24.7 -1.3**
GLMI Grayling 25.95 346 P **P 18 11 25.8 -1.0**
baz=161
JFWS Jewell Farm 25.95 336 P **P 18 11 27.3 +0.4**
JFWS IAmb IAmb 18 11 40.2
comp=Z,25nm,0.9s
JFWS Jewell Farm 25.95 336 P **P 18 11 26.4 -0.5**
baz=148
PKME Peaks-Kenny Pk 26.04 11 P **P 18 11 26.7 -0.8**
baz=195
KSU1 Kansas State U 26.14 322 P **P 18 11 28.4 -0.2**
KSU1 Kansas State U 26.14 322 P **P 18 11 29.5 +0.9**
baz=132,SNR=6.4
I42A Draeger Farm, 26.32 339 P **P 18 11 30.5 +0.4**
SCIA State Center 26.40 330 P **P 18 11 30.6 -0.2**
SCIA State Center 26.40 330 P **P 18 11 31.3 +0.5**
baz=142
G45A Suttons Bay 26.41 345 P **P 18 11 30.1 -0.8**
TXAR Lajitas Array 26.75 296 P **P 18 11 35.8 +1.5**
comp=Z,5.3nm,1.0s,baz=118,slow=10.0,SNR=13
TXAR PcP **PcP 18 14 58.5 +0.9**
comp=Z,0.5nm,0.6s,baz=124,slow=2.5,SNR=3.8
TXAR Lajitas Array 26.75 296 P **P 18 11 34.9 +0.6**
TX31 Lajitas Ar. Si 26.75 296 P **P 18 11 35.3 +1.0**
TX32 Lajitas Array 26.75 296 P **P 18 11 34.0 -0.3**
TX32 IAmb IAmb 18 11 55.9
comp=Z,25nm,1.4s
K38A Parkersburg 26.78 332 P **P 18 11 35.2 +0.9**
N35A Tabor 26.82 326 P **P 18 11 34.7 0.0**
N35A IAmb IAmb 18 11 54.0
comp=Z,19nm,0.7s
ATAH Atahualpa 26.84 185 P **P 18 11 36.3 +0.8**
comp=Z,4.0nm,0.7s,baz=5.1,slow=12,SNR=3.6
ATAH LR LR 18 23 55.2
comp=Z,221nm,21.2s,baz=14,slow=40
I40A Norwalk 26.93 336 P **P 18 11 34.5 -1.2**
I40A IAmb IAmb 18 11 41.3
comp=Z,18nm,0.8s
R32A Long Quarter, 26.98 318 P **P 18 11 36.2 0.0**
R32A IAmb IAmb 18 11 52.8
comp=Z,16nm,0.8s
AMTX Amarillo 27.14 309 P **P 18 11 34.7 -3.0**
AMTX IAmb IAmb 18 11 51.5
comp=Z,13nm,0.8s
E46A Sault Ste Mari 27.36 348 P **P 18 11 38.7 -0.8**
E46A IAmb IAmb 18 12 03.6
comp=Z,34nm,1.2s
MACA Manacapuru-AM 27.38 145 eP **P 18 11 41.1 +1.1**
CZSB Cruzeiro do Su 27.54 173 eP **P 18 11 45.8 +4.4**
CZSB Cruzeiro do Su 27.54 173 P **P 18 11 39.2 -2.1**
CZSB IAmb IAmb 18 11 52.7
comp=Z,15nm,0.7s
CBKS Cedar Bluff 27.86 318 P **P 18 11 43.2 -0.9**
CBKS Cedar Bluff 27.86 318 P **P 18 11 44.1 -0.1**
baz=126
G40A Rib Lake 27.97 339 P **P 18 11 45.8 +0.9**
G40A IAmb IAmb 18 12 04.1
comp=Z,11nm,0.8s
L34A Svendsen Farm, 28.00 327 P **P 18 11 43.6 -1.6**
L34A IAmb IAmb 18 11 56.9
comp=Z,15nm,0.8s
HPIG 28.00 290 P **P 18 11 47.4 +1.7**
HPIG IAmb IAmb 18 12 03.7
comp=Z,15nm,1.0s
LMQ La Malbaie 28.10 8 P **P 18 11 46.6 +0.6**
I37A Lemond, Waseca 28.15 333 P **P 18 11 45.4 -1.2**
I37A IAmb IAmb 18 12 03.1
comp=Z,14nm,0.9s
BGNE Belgrade 28.56 324 P **P 18 11 50.4 +0.1**
BGNE Belgrade 28.56 324 P **P 18 11 51.1 +0.8**
baz=132
MNTX Cornudas Mount 28.82 300 P **P 18 11 54.5 +1.8**
MNTX IAmb IAmb 18 12 08.9
comp=Z,14nm,1.1s
MNTX Cornudas Mount 28.82 300 P **P 18 11 53.1 +0.4**
baz=107
ECSD EROS Data Cent 29.41 329 P **P 18 11 58.0 +0.2**
ECSD IAmb IAmb 18 12 08.7
comp=Z,7.4nm,0.7s
ECSD EROS Data Cent 29.41 329 P **P 18 11 57.9 +0.1**
baz=138,SNR=6.3
F36A Milaca 29.71 335 P **P 18 12 01.6 +1.2**
K31A O'Neill 29.71 325 P **P 18 12 01.9 +1.3**
T25A Trinidad 30.13 311 P **P 18 12 05.3 +0.8**
T25A IAmb IAmb 18 12 16.9
comp=Z,18nm,0.8s
T25A Trinidad 30.13 311 P **P 18 12 04.3 -0.2**
baz=117
BNM Barren Site 30.59 304 P **P 18 12 08.8 +0.2**
ANMO Albuquerque 30.74 306 LR LR 18 26 22.0
comp=Z,84nm,19.8s,baz=74,slow=40
EYMN Ely 30.74 340 P **P 18 12 10.7 +1.1**
EYMN IAmb IAmb 18 12 21.2
comp=Z,18nm,1.0s
EYMN Ely 30.74 340 P **P 18 12 09.3 -0.2**
baz=151
F33A 5 Mile Ranch, 30.85 332 P **P 18 12 09.8 -0.7**
F33A IAmb IAmb 18 12 22.4
comp=Z,19nm,1.4s
ETMB Extrema 30.99 161 P **P 18 12 09.9 -2.0**
ETMB IAmb IAmb 18 12 21.8
comp=Z,13nm,0.8s
121A Cookes Peak, D 31.01 301 P **P 18 12 10.9 -1.4**
121A IAmb IAmb 18 12 33.7
comp=Z,17nm,1.2s
SUSD Miller 31.08 327 P **P 18 12 10.5 -2.1**
SUSD Miller 31.08 327 P **P 18 12 13.1 +0.5**
baz=135
SDCO Great Sand Dun 31.18 311 P **P 18 12 14.8 +0.9**
SDCO Great Sand Dun 31.18 311 P **P 18 12 13.3 -0.6**
baz=117,SNR=6.7
ITTB Itaituba 31.27 138 eP **P 18 12 15.7 +1.2**
Q24A Divide 31.50 314 P **P 18 12 16.7 -0.1**
baz=119
NNA Nana 31.58 181 LR LR 18 27 48.5
comp=Z,184nm,18.0s,baz=352,slow=42
B35A Bob, Littlefor 31.86 338 P **P 18 12 20.8 +1.4**
B35A IAmb IAmb 18 12 30.6

comp=Z,8.5nm,0.9s
319A Douglas 31.94 298 P **P** **18 12 18.0 -2.5**
319A IAmb IAmb 18 12 39.6
comp=Z,11nm,0.9s
LPIG La Paz 31.96 284 LR LR 18 26 10.1
comp=Z,153nm,21.8s,baz=75,slow=38
S22A 4UR Ranch, Cre 32.12 310 P **P** **18 12 24.3 +2.1**
S22A 4UR Ranch, Cre 32.12 310 P **P** **18 12 22.1 -0.2**
baz=115
ISCO Idaho Springs 32.23 315 P **P** **18 12 22.9 -0.1**
ISCO IAmb IAmb 18 12 35.0
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 32.23 315 P **P** **18 12 22.6 -0.5**
baz=120
AGMN Agassiz Nation 32.62 335 P **P** **18 12 23.3 -2.7**
AGMN IAmb IAmb 18 12 38.8
comp=Z,14nm,1.1s
AGMN Agassiz Nation 32.62 335 P **P** **18 12 26.4 +0.4**
baz=144
SMCO Snowmass 32.86 313 P **P** **18 12 29.9 +1.1**
SMCO IAmb IAmb 18 12 40.6
comp=Z,9.2nm,0.9s
N23A Red Feather La 32.99 316 P **P** **18 12 30.2 +0.4**
baz=121
MVCO Mesa Verde 33.12 309 P **P** **18 12 29.0 -1.9**
MVCO IAmb IAmb 18 12 52.9
comp=Z,15nm,1.3s
MVCO Mesa Verde 33.12 309 P **P** **18 12 29.5 -1.4**
baz=113
W18A Petrified Fore 33.33 304 P **P** **18 12 32.1 -0.6**
baz=108
TUC Tucson 33.40 299 P **P** **18 12 32.7 -0.5**
baz=103
E28A Huff 33.45 329 P **P** **18 12 30.4 -3.0**
PV01 Paradox Valley 33.54 310 P **P** **18 12 31.9 -2.6**
PV01 IAmb IAmb 18 12 46.9
comp=Z,7.6nm,1.0s
RSSD Black Hills 33.62 322 P **P** **18 12 32.4 -2.8**
RSSD IAmb IAmb 18 12 49.9
comp=Z,7.4nm,0.8s
RSSD Black Hills 33.62 322 P **P** **18 12 33.9 -1.2**
baz=127
PV02 Paradox Valley 33.69 310 P **P** **18 12 35.2 -0.6**
PV02 IAmb IAmb 18 12 50.3
comp=Z,8.4nm,1.0s
PV13 Radium Mtn., P 33.73 310 P **P** **18 12 33.9 -2.2**
PV13 IAmb IAmb 18 12 48.6
comp=Z,11nm,0.8s
PV12 Saucer Basin, 33.78 310 P **P** **18 12 34.0 -2.6**
PV12 IAmb IAmb 18 12 49.0
comp=Z,9.4nm,0.9s
PV03 Paradox Valley 33.79 310 P **P** **18 12 33.6 -3.1**
PV03 IAmb IAmb 18 12 48.9
comp=Z,7.8nm,0.8s
PV11 David Mesa, Pa 33.82 310 P **P** **18 12 36.5 -0.5**
PV11 IAmb IAmb 18 12 49.2
comp=Z,8.0nm,0.8s
PV18 Skein Mesa, Pa 33.83 310 P **P** **18 12 34.4 -2.6**
PV18 IAmb IAmb 18 13 00.7
comp=Z,11nm,1.0s
MDND Maddock 33.86 331 P **P** **18 12 37.8 +0.9**
MDND Maddock 33.86 331 P **P** **18 12 36.7 -0.2**
baz=138
PV16 Nyswonger Mesa 33.86 310 P **P** **18 12 34.3 -3.0**
PV16 IAmb IAmb 18 12 49.5
comp=Z,9.1nm,0.9s
PV17 East Wray Mesa 33.88 310 P **P** **18 12 35.3 -2.1**
PV17 IAmb IAmb 18 12 49.6
comp=Z,11nm,1.0s
PV05 Paradox Valley 33.90 310 P **P** **18 12 34.2 -3.4**
PV05 IAmb IAmb 18 12 49.4
comp=Z,13nm,0.9s
PV14 Lion Creek, Pa 33.96 310 P **P** **18 12 35.3 -2.9**
PV14 IAmb IAmb 18 12 52.8
comp=Z,11nm,1.2s
PV23 Carpenter Ridg 33.98 310 P **P** **18 12 34.0 -4.4**
PV23 IAmb IAmb 18 12 58.5
comp=Z,13nm,1.2s
O20A White River Ci 34.16 313 P **P** **18 12 36.9 -3.0**
O20A IAmb IAmb 18 12 59.0
comp=Z,17nm,1.2s
ULM Lac du Bonnet 34.22 337 P **P** **18 12 39.6 -0.3**
comp=Z,11nm,0.9s,baz=152,slow=10,SNR=6.2
ULM LR LR 18 27 55.9
comp=Z,372nm,18.1s,baz=148,slow=39
ULM Lac du Bonnet 34.22 337 P **P** **18 12 38.4 -1.6**
ULM IAmb IAmb 18 12 42.6
comp=Z,9.3nm,0.8s
RWWY Rawlins 34.22 317 P **P** **18 12 39.4 -1.0**
RWWY IAmb IAmb 18 12 57.9
comp=Z,22nm,1.2s
K22A Casper 34.28 318 P **P** **18 12 40.3 -0.5**
baz=122
X16A Lo Mia Camp, P 34.47 302 P **P** **18 12 45.5 +3.0**
X16A IAmb IAmb 18 13 00.7
comp=Z,9.2nm,1.0s
WUAZ Wupatki 34.73 304 P **P** **18 12 46.8 +2.1**
WUAZ Wupatki 34.73 304 P **P** **18 12 44.6 -0.1**
baz=107,SNR=6.3
214A Organ Pipe Nat 35.01 298 P **P** **18 12 48.9 +1.8**
214A IAmb IAmb 18 13 00.9
comp=Z,11nm,1.1s
214A Organ Pipe Nat 35.01 298 P **P** **18 12 46.4 -0.7**
baz=101
RDMU Red Mountain 35.27 313 P **P** **18 12 47.1 -2.3**
RDMU IAmb IAmb 18 13 02.6
comp=Z,10nm,1.1s
SRU San Rafael Swe 35.33 311 P **P** **18 12 51.1 +1.2**
SRU IAmb IAmb 18 13 14.4
comp=Z,12nm,1.2s
P18A Preston Nutter 35.34 311 P **P** **18 12 52.3 +2.2**
P18A IAmb IAmb 18 13 06.1
comp=Z,15nm,1.1s
Y14A Wickenburg 35.60 301 P **P** **18 12 50.7 -1.5**
Y14A IAmb IAmb 18 13 09.3
comp=Z,18nm,1.4s
P17A Butcher Ranch, 35.63 311 P **P** **18 12 51.6 -0.9**
P17A IAmb IAmb 18 13 04.4
comp=Z,12nm,1.1s
SCHQ Schefferville 35.70 9 P **P** **18 12 52.8 +0.2**
comp=Z,7.1nm,0.7s,baz=202,slow=7.9,SNR=17
SCHQ LR LR 18 27 42.2
comp=Z,127nm,18.6s,baz=210,slow=37
SCHQ Schefferville 35.70 9 P **P** **18 12 52.9 +0.2**
SCHQ IAmb IAmb 18 13 03.3
comp=Z,15nm,1.1s
U15A North Rim 35.71 305 P **P** **18 12 53.5 +0.1**
U15A IAmb IAmb 18 13 22.0
comp=Z,10nm,1.1s
TMUT Trail Mountain 35.89 310 P **P** **18 12 53.7 -1.3**
113A Mohawk Valley, 35.96 299 P **P** **18 12 52.3 -2.9**
MTPU Mount Pierson 36.15 308 P **P** **18 12 57.9 +0.7**
MTPU IAmb IAmb 18 13 17.5
comp=Z,8.8nm,0.9s
BW06 Boulder Array 36.27 317 P **P** **18 12 55.3 -2.7**
BW06 Boulder Array 36.27 317 P **P** **18 12 58.0 0.0**
baz=119
PD31 Pinedale Array 36.27 317 P **P** **18 12 58.2 +0.2**
PDAR Pinedale Array 36.27 317 P **P** **18 12 59.2 +1.2**
comp=Z,1.0nm,0.7s,baz=125,slow=9.1,SNR=11
PDAR LR LR 18 28 34.6
comp=Z,189nm,18.6s,baz=114,slow=38
PDAR Pinedale Array 36.27 317 P **P** **18 12 55.5 -2.6**
KNB Kanab 36.30 306 P **P** **18 12 57.4 -0.9**
KNB IAmb IAmb 18 13 13.9
comp=Z,23nm,1.2s
MSU Marysvale 36.31 309 P **P** **18 12 55.7 -2.7**
LAO LASA Array 36.41 324 P **P** **18 12 55.9 -3.0**
LAO IAmb IAmb 18 13 11.4
comp=Z,14nm,1.0s
LAO LASA Array 36.41 324 P **P** **18 13 00.1 +1.2**
baz=127
CLDB Colider 36.45 145 *e*P **P** **18 13 02.8 +3.3**
DGMT Dagmar 36.48 328 P **P** **18 13 01.1 +1.6**
DGMT IAmb IAmb 18 13 11.9
comp=Z,25nm,1.2s
DGMT Dagmar 36.48 328 P **P** **18 13 00.7 +1.2**
baz=132
PRPB Paraupebas 36.54 132 *e*P **P** **18 13 01.2 +0.9**
TCRU Three Creeks R 36.54 309 P **P** **18 12 58.4 -2.1**
JLU Jordanelle 36.58 312 P **P** **18 13 02.5 +1.8**
JLU IAmb IAmb 18 13 14.4
comp=Z,14nm,1.3s
W13A Hualapai Mount 36.59 303 P **P** **18 12 59.8 -1.0**
LCMT Little Creek M 36.62 306 P **P** **18 12 58.9 -2.0**
SZCU Shurtz Canyon 36.68 307 P **P** **18 12 58.6 -3.0**

LPAZ La Paz 36.69 167 P **P** **18 13 05.5 +3.2**
comp=Z,1.0nm,0.5s,baz=330,slow=5.0,SNR=5.3
LPAZ La Paz 36.69 167 P **P** **18 12 59.6 -2.6**
NLU North Lily Min 36.76 311 P **P** **18 13 04.5 +2.3**
NLU IAmb IAmb 18 13 17.4
comp=Z,14nm,1.3s
CTU Camp Tracy 36.82 312 P **P** **18 12 58.7 -4.0**
CCUT Cedar City 36.87 307 P **P** **18 13 03.9 +0.6**
AHID Auburn Hatcher 37.27 316 P **P** **18 13 04.2 -2.3**
RLMT Red Lodge 37.27 320 P **P** **18 13 06.5 0.0**
RLMT Red Lodge 37.27 320 P **P** **18 13 07.1 +0.6**
baz=122,SNR=10
LOHW Long Hollow 37.34 317 P **P** **18 13 08.5 +1.4**
LOHW IAmb IAmb 18 13 19.2
comp=Z,11nm,0.8s
SNOW Snow King Moun 37.37 317 P **P** **18 13 07.3 -0.1**
IRM Iron Mountain 37.38 301 P **P** **18 13 08.8 +1.5**
baz=102,SNR=5.7
DUG Dugway, Tooele 37.38 311 P **P** **18 13 09.5 +2.1**
DUG IAmb IAmb 18 13 22.0
comp=Z,18nm,1.1s
DUG Dugway, Tooele 37.38 311 P **P** **18 13 09.5 +2.1**
baz=112,SNR=6.8
REDW Red Top Meadow 37.38 317 P **P** **18 13 07.7 +0.2**
REDW IAmb IAmb 18 13 18.9
comp=Z,15nm,0.7s
MOOW Moose Ponds 37.50 317 P **P** **18 13 09.6 +1.1**
MOOW IAmb IAmb 18 13 20.0
comp=Z,13nm,0.8s
TPAW Teton Pass 37.51 317 P **P** **18 13 09.4 +0.8**
TPAW IAmb IAmb 18 13 34.6
comp=Z,12nm,1.0s
BC3 Big Chuckawall 37.52 300 P **P** **18 13 09.6 +0.9**
baz=102
PSUT Pine Spring 37.55 308 P **P** **18 13 08.7 -0.3**
PSUT IAmb IAmb 18 13 30.0
comp=Z,18nm,0.8s
ECR Eagle Creek 37.58 316 P **P** **18 13 08.8 -0.4**
YMP Mirror Lake Pl 37.62 319 P **P** **18 13 10.1 +0.6**
YMP IAmb IAmb 18 13 25.6
comp=Z,14nm,0.9s
FLWY Flagg Ranch 37.63 318 P **P** **18 13 09.6 0.0**
H17A Grant Village 37.70 318 P **P** **18 13 10.6 +0.4**
H17A Grant Village 37.70 318 P **P** **18 13 09.8 -0.5**
baz=119
GCMT Greycliff 37.86 321 P **P** **18 13 10.8 -0.6**
IKP In-Ko-Pah, Jac 37.88 298 P **P** **18 13 11.5 -0.1**
baz=100
YNR Norris Junctio 37.92 319 P **P** **18 13 09.1 -3.0**
GMRC Granite Mounta 37.93 302 P **P** **18 13 12.4 +0.3**
baz=103
SHPR Sheep Range 37.95 304 P **P** **18 13 10.2 -2.1**
HVU Hansel Valley 37.97 313 P **P** **18 13 12.9 +0.5**
BELC Belle Mtn. Jos 38.04 300 P **P** **18 13 12.2 -0.9**
baz=102
SPR3 Spring Creek 3 38.06 309 P **P** **18 13 12.8 -0.6**
SPR3 IAmb IAmb 18 13 28.6
comp=Z,20nm,1.2s
YMR Madison River 38.08 319 P **P** **18 13 13.1 -0.3**
PRN Pahroc Range 38.11 306 P **P** **18 13 14.1 +0.5**
MONP2 Monument Peak 38.18 298 P **P** **18 13 13.5 -0.9**
baz=100
TUQ Turquoise Moun 38.28 302 P **P** **18 13 15.9 +0.8**
baz=103
PFO Pinyon Flats O 38.34 299 LR LR 18 30 14.2
comp=Z,92nm,19.3s,baz=50,slow=38
SIV San Ignacio 38.50 156 P **P** **18 13 16.9 0.0**
comp=Z,4.7nm,0.9s,baz=341,slow=7.6,SNR=17
SIV LR LR 18 31 39.1
comp=Z,125nm,18.2s,baz=118,slow=40
ROSB Rosrio 38.67 122 *e*P **P** **18 13 19.9 +1.6**
S11A Rachel 38.71 306 P **P** **18 13 15.6 -3.1**
S11A IAmb IAmb 18 13 40.6
comp=Z,18nm,1.0s
PTLB Pontes e Lacer 38.79 153 P **P** **18 13 17.4 -1.8**
R11A Troy Canyon, C 38.79 307 P **P** **18 13 20.5 +1.1**
R11A Troy Canyon, C 38.79 307 P **P** **18 13 19.3 -0.1**
baz=107
BBRC Big Bear Solar 38.84 300 P **P** **18 13 19.5 -0.4**
baz=101
TPNV Topopah Spring 38.91 305 P **P** **18 13 17.4 -3.0**
MURC Murrieta 38.94 299 P **P** **18 13 21.4 +0.8**
baz=100
BOZ Bozeman (W) 38.95 320 P **P** **18 13 21.1 +0.5**
BOZ IAmb IAmb 18 13 36.7
comp=Z,22nm,1.5s
BOZ Bozeman (W) 38.95 320 P **P** **18 13 21.3 +0.8**
baz=120
GSC Goldstone, Bar 38.96 302 P **P** **18 13 19.2 -1.5**
GSC Goldstone, Bar 38.96 302 P **P** **18 13 20.3 -0.4**
baz=102
GWY Greenwater Val 39.05 303 **P** **18 13 23.9 +2.3**
EGMT Eagleton 39.13 324 P **P** **18 13 21.9 -0.1**
EGMT IAmb IAmb 18 13 33.9
comp=Z,11nm,0.8s
EGMT Eagleton 39.13 324 P **P** **18 13 21.8 -0.2**
baz=124
ELK Elko 39.30 311 P **P** **18 13 25.4 +1.7**
comp=Z,0.9nm,0.3s,baz=142,slow=9.3,SNR=4.3
ELK LR LR 18 30 25.0
comp=Z,117nm,19.3s,baz=98,slow=37
ELK Elko 39.30 311 P **P** **18 13 24.3 +0.6**
MCMT McKenzie Canyo 39.34 318 P **P** **18 13 25.7 +1.8**
DLMT Dillon 39.43 319 P **P** **18 13 25.3 +0.8**
BFSC Mount Baldy Ra 39.44 300 P **P** **18 13 24.5 -0.3**
baz=100
BCYI Bear Canyon 39.46 317 P **P** **18 13 26.5 +1.6**
LRM Limekiln Ridge 39.56 319 P **P** **18 13 25.3 -0.5**
MPMC Manual Prospec 39.67 303 P **P** **18 13 26.9 +0.1**
baz=103
LRMC Laurel Mtn Rad 39.70 302 P **P** **18 13 27.0 +0.1**
baz=102
GRAC Grapevine Rang 39.79 304 P **P** **18 13 27.7 +0.1**
baz=104
HLID Hailey 39.80 315 P **P** **18 13 27.3 -0.4**
HLID Hailey 39.80 315 P **P** **18 13 27.8 +0.1**
baz=114
EDW2 Edwards Air Fo 39.83 301 P **P** **18 13 27.0 -0.9**
baz=101
TPH Tonopah 39.95 306 P **P** **18 13 31.3 +2.2**
LCH Last Change Ra 40.06 305 P **P** **18 13 31.6 +1.6**
CWC Cottonwood Cre 40.22 303 P **P** **18 13 30.9 -0.4**
baz=103
BMN Battle Mountai 40.63 310 P **P** **18 13 34.4 -0.2**
MFID Camas Ranch 40.69 314 P **P** **18 13 36.3 +1.2**
NV11 Mina Array Sit 40.75 306 P **P** **18 13 33.6 -2.1**
NVAR Mina Array Bea 40.86 306 P **P** **18 13 39.1 +2.4**
comp=Z,1.5nm,0.8s,baz=106,slow=7.3,SNR=9.0
NVAR LR LR 18 32 32.8
comp=Z,93nm,18.8s,baz=101,slow=39
NVAR Mina Array Bea 40.86 306 P **P** **18 13 33.9 -2.8**
KVN Kaiserville 40.87 307 P **P** **18 13 38.8 +2.0**
KVN IAmb IAmb 18 13 50.9
comp=Z,22nm,1.3s
LHV Little Huntoon 40.97 306 P **P** **18 13 35.2 -2.0**
LHV IAmb IAmb 18 13 53.4
comp=Z,16nm,1.2s
FCC Fort Churchill 41.07 346 P **P** **18 13 37.1 -0.6**
PKM Mcpherson Peak 41.30 301 P **P** **18 13 40.9 +0.6**
baz=100
PLID Pearl Lake 41.47 317 P **P** **18 13 41.8 +0.2**
PLID IAmb IAmb 18 13 54.1
comp=Z,22nm,1.5s
JTMT Jette 41.59 321 P **P** **18 13 43.9 +1.5**
JTMT IAmb IAmb 18 13 54.9
comp=Z,14nm,0.9s
YERR Yerington 41.71 307 P **P** **18 13 46.1 +2.5**
YERR IAmb IAmb 18 13 59.2
comp=Z,26nm,1.1s
PNTR Pine Nut 42.01 307 P **P** **18 13 43.3 -2.8**
PNTR IAmb IAmb 18 14 10.6
comp=Z,16nm,1.1s
BMO Blue Mountains 42.22 316 P **P** **18 13 44.0 -3.5**
WVOR Wild Horse Val 42.27 312 P **P** **18 13 46.7 -1.3**
EMB Emerald Bay 42.36 307 P **P** **18 13 48.0 -1.0**
J08A Circle Bar Ran 42.46 313 P **P** **18 13 47.9 -1.7**
J08A IAmb IAmb 18 14 03.3
comp=Z,11nm,1.0s
F10A Beach Ranch, E 42.61 317 P **P** **18 13 48.4 -2.4**
LVC Limon Verde 42.72 170 P **P** **18 13 54.2 +2.1**
comp=Z,2.9nm,0.7s,baz=24,slow=12,SNR=2.4
LVC LR LR 18 31 51.5
comp=Z,72nm,21.4s,baz=329,slow=36
LVC Limon Verde 42.72 170 IAmb IAmb 18 14 01.8
comp=Z,6.3nm,0.9s

MOD Modoc Plateau 43.28 311 P **P** **18 13 55.2 -1.1**
MOD IAmb IAmb 18 14 09.6
comp=Z,18nm,1.4s
E09A Wood Farm, Sta 43.41 318 P **P** **18 13 56.9 -0.2**
G08A Pilot Rock 43.47 316 P **P** **18 13 58.8 +1.0**
NEW Newport 43.52 320 P **P** **18 13 58.8 +0.8**
comp=Z,3.4nm,0.7s,baz=111,slow=7.7,SNR=6.8
NEW LR LR 18 32 13.5
comp=Z,95nm,18.3s,baz=113,slow=36
NEW Newport 43.52 320 P **P** **18 13 57.7 -0.3**
NEW IAmb IAmb 18 14 10.7
comp=Z,21nm,1.1s
NEW Newport 43.52 320 P **P** **18 13 58.1 +0.1**
baz=116,SNR=5.1
O03E Paynes Creek 43.95 308 P **P** **18 14 01.1 -0.5**
baz=104
EDM Edmonton 43.98 328 P **P** **18 14 01.1 -0.4**
EDM IAmb IAmb 18 14 14.4
comp=Z,15nm,0.9s
E08A Dider Farm, El 43.99 317 P **P** **18 14 02.0 +0.3**
C09A Chrisman Ranch 44.02 319 P **P** **18 14 03.1 +1.1**
C09A IAmb IAmb 18 14 15.0
comp=Z,12nm,1.0s
D08A Wollman Farm, 44.12 318 P **P** **18 13 59.4 -3.4**
D08A IAmb IAmb 18 14 13.6
comp=Z,12nm,1.1s
FRB Frobisher Bay 44.24 5 P **P** **18 14 03.6 +0.2**
comp=Z,9.2nm,0.8s,baz=182,slow=8.5,SNR=12
FRB LR LR 18 32 56.7
comp=Z,199nm,18.3s,baz=183,slow=37
J05D Fort Rock, OR 44.35 312 P **P** **18 14 05.7 +0.8**
baz=107
M04C Macdoel 44.35 310 P **P** **18 14 05.5 +0.6**
baz=105
AQDB Aquidauana 44.73 152 P **P** **18 14 07.9 0.0**
AQDB IAmb IAmb 18 14 17.6
comp=Z,11nm,0.9s
L04D Klamath Falls 44.80 310 P **P** **18 14 07.7 -0.8**
baz=105
B08A Colville Reser 44.90 320 P **P** **18 14 09.2 +0.2**
J04D Umpqua Nationa 44.95 312 P **P** **18 14 09.7 -0.1**
baz=106
YBH Yreka Blue Hor 44.97 310 LR LR 18 34 52.4
comp=Z,88nm,18.2s,baz=104,slow=39
G05D Wamic, OR 45.02 315 P **P** **18 14 10.1 +0.1**
baz=109
I04A Tendick Farm, 45.32 313 P **P** **18 14 12.4 0.0**
baz=107
L02E Cave Junction 45.72 310 P **P** **18 14 15.0 -0.7**
baz=104
K02D Willamette Mer 45.90 311 P **P** **18 14 16.5 -0.6**
baz=105
I03D Drain, OR 45.94 312 P **P** **18 14 15.7 -1.6**
baz=106
E04D Cinebar 46.27 316 P **P** **18 14 18.6 -1.3**
baz=109
I02E Swisshome, OR 46.40 313 P **P** **18 14 20.5 -0.4**
baz=106
AC02 Maricunga 46.83 171 P **P** **18 14 25.4 +0.4**
LLLB Lilloet 47.32 322 P **P** **18 14 28.6 +0.4**
SFJD Kangerlussuaq 49.95 13 LR LR 18 36 15.9
comp=Z,62nm,18.9s,baz=220,slow=36
YKA Yellowknife Ar 50.19 338 P **P** **18 14 50.7 +0.8**
comp=Z,2.8nm,0.7s,baz=131,slow=8.5,SNR=55
BBB Bella Bella 51.53 322 LR LR 18 41 28.4
comp=Z,223nm,18.1s,baz=250,slow=41
ICESG Greenland Ices 54.14 15 *i*P **P** **18 15 15.6 -4.0**
DLBC Dease Lake 54.70 329 P **P** **18 15 25.6 +2.1**
DLBC IAmb IAmb 18 15 35.5
comp=Z,9.8nm,0.8s
RES Resolute Bay 55.86 354 P **P** **18 15 31.4 0.0**
comp=Z,6.2nm,0.7s,baz=177,slow=11,SNR=24
RES LR LR 18 40 05.4
comp=Z,163nm,18.4s,baz=57,slow=37
RES Resolute Bay 55.86 354 P **P** **18 15 31.5 0.0**
RES IAmb IAmb 18 15 32.4
comp=Z,7.8nm,0.8s
RPN Rapa Nui 56.66 216 LR LR 18 36 08.8
comp=Z,108nm,18.6s,baz=38,slow=32
SUMG Summit 56.95 13 *i*P **P** **18 15 39.0 -0.8**
SUMG Summit 56.95 13 *i*P **P** **18 15 39.0 -0.8**
SUMG Summit 56.95 13 P **P** **18 15 39.9 +0.1**
M31M Drury Creek, Y 58.04 332 P **P** **18 15 46.7 -0.5**
baz=109
N31M Braeburn, Yuko 58.44 331 P **P** **18 15 49.6 -0.5**
baz=108
M30M Minto, Yukon 59.22 332 P **P** **18 15 54.5 -1.0**
M30M IAmb IAmb 18 16 06.5
comp=Z,13nm,1.3s
A36M Sachs Harbour 59.24 344 P **P** **18 15 55.4 0.0**
A36M Sachs Harbour 59.24 344 P **P** **18 15 55.3 0.0**
baz=124,SNR=11
INK Inuvik 59.94 339 P **P** **18 15 59.9 -0.4**
comp=Z,2.6nm,0.6s,baz=102,slow=5.8,SNR=8.4
INK LR LR 18 42 50.9
comp=Z,270nm,21.1s,baz=125,slow=37
INK Inuvik 59.94 339 P **P** **18 16 00.1 -0.1**
INK IAmb IAmb 18 16 12.8
comp=Z,8.8nm,1.0s
INK Inuvik 59.94 339 P **P** **18 16 00.2 -0.1**
baz=114
PLCA Paso Flores 60.42 175 P **P** **18 16 05.6 +1.6**
comp=Z,1.6nm,0.7s,baz=332,slow=4.3,SNR=2.8
EUNU Eureka 60.50 358 P **P** **18 16 04.8 +0.7**
EUNU IAmb IAmb 18 16 05.7
comp=Z,6.4nm,0.8s
YUK3 Moose Creek 60.67 331 P **P** **18 16 05.1 -0.5**
baz=103
I29M Ogilvie Camp, 60.69 335 P **P** **18 16 05.4 -0.1**
baz=107
DAWY Dawson 60.77 333 P **P** **18 16 04.3 -1.7**
baz=105
BVCY Beaver Creek 61.00 331 P **P** **18 16 07.2 -0.5**
baz=103
BCAR Beaver Creek A 61.56 332 P **P** **18 16 12.7 +1.2**
L26K Log Cabin Wild 62.25 332 P **P** **18 16 17.5 +1.4**
L26K Log Cabin Wild 62.25 332 P **P** **18 16 15.2 -0.9**
baz=101
MENT Mentasta 62.40 331 P **P** **18 16 17.1 0.0**
MENT IAmb IAmb 18 16 28.5
comp=Z,9.3nm,1.0s
N25K Chitina, Valde 62.57 330 P **P** **18 16 16.8 -1.5**
baz=99
J26L Joseph Creek 62.64 333 P **P** **18 16 18.4 -0.3**
SCRK Sand Creek 62.72 333 P **P** **18 16 19.7 +0.4**
SCRK IAmb IAmb 18 16 31.2
comp=Z,8.9nm,1.0s
SCRK Sand Creek 62.72 333 P **P** **18 16 18.1 -1.2**
baz=101
RIDG Independent Ri 63.05 332 P **P** **18 16 23.7 +2.3**
RIDG Independent Ri 63.05 332 P **P** **18 16 20.3 -1.1**
baz=100
DIV Divide 63.06 329 P **P** **18 16 21.0 -0.6**
KLU Klutina 63.18 330 P **P** **18 16 20.5 -1.9**
KLU Klutina 63.18 330 P **P** **18 16 21.0 -1.4**
baz=98
PAX Paxson 63.19 331 P **P** **18 16 20.8 -1.6**
PAX Paxson 63.19 331 P **P** **18 16 22.4 -0.1**
baz=99
M24K Tolsona, Glenn 63.39 330 P **P** **18 16 22.6 -1.1**
M24K Tolsona, Glenn 63.39 330 P **P** **18 16 24.0 +0.2**
baz=98
PRP Porcupine Dome 63.65 334 P **P** **18 16 26.5 +1.0**
PRP IAmb IAmb 18 16 36.9
comp=Z,8.0nm,0.9s
PRP Porcupine Dome 63.65 334 P **P** **18 16 26.0 +0.5**
baz=100
BMAR Burnt Mountain 63.65 336 P **P** **18 16 26.6 +1.2**
FYU Fort Yukon 63.73 335 P **P** **18 16 26.6 +0.8**
HDA Harding Lake 64.07 333 P **P** **18 16 29.7 +1.6**
baz=98
IL31 64.09 333 P **P** **18 16 28.6 +0.4**
IL31 IAmb IAmb 18 16 40.1
comp=Z,7.7nm,1.1s
ILAR Eielson Array 64.09 333 P **P** **18 16 28.9 +0.6**
comp=Z,1.4nm,0.6s,baz=105,slow=4.4,SNR=15
ILAR Eielson Array 64.09 333 P **P** **18 16 28.3 0.0**
ESDC Sonseca Array 64.11 55 P **P** **18 16 27.7 -1.2**
comp=Z,3.0nm,0.9s,baz=288,slow=6.1,SNR=12
ESDC LR LR 18 41 47.4
comp=Z,106nm,18.0s,baz=268,slow=34
ESDC Sonseca Array 64.11 55 P **P** **18 16 29.1 +0.2**
ESDC IAmb IAmb 18 16 30.5
comp=Z,6.0nm,1.2s
MDT Midelt 64.35 62 LR LR 18 40 21.8
comp=Z,166nm,18.7s,baz=338,slow=32

SML	Sawmill	64.36	330	P		P	18 16 31.0 +0.8
	baz=96						
POKR	Poker Plat Res	64.38	334	P		P	18 16 30.1 0.0
	baz=98						
KNK	Knik Glacier	64.38	329	P		P	18 16 30.2 -0.1
	baz=96						
H24K	Noodor Dome	64.66	334	P		P	18 16 31.8 -0.3
MDM	Murphy Dome	64.69	333	P		P	18 16 31.8 -0.4
PMR	Palmer	64.72	330	P		P	18 16 32.1 -0.3
	baz=95						
RND	Reindeer	64.77	332	P		P	18 16 33.7 +0.9
MCK	McKinley	64.84	332	P		P	18 16 32.7 -0.6
	baz=96						
RC01	Rabbit Creek A	64.97	329	P		P	18 16 33.1 -0.9
	baz=94						
NEA2	Nenana	65.00	333	P		P	18 16 33.6 -0.6
	baz=96						
I23K	Minto, Yukon-K	65.19	334	P		P	18 16 36.1 +0.8
I23K	Minto, Yukon-K	65.19	334	P		P	18 16 35.0 -0.4
	baz=96,SNR=7.8						
M22K	Willow	65.20	330	P		P	18 16 34.6 -0.9
	baz=94						
CUT	Chulitna	65.33	330	P		P	18 16 35.7 -0.6
	baz=94						
TRF	Thorofare Moun	65.42	332	P		P	18 16 37.0 -0.2
TRF	Thorofare Moun	65.42	332	P		P	18 16 36.9 -0.2
	baz=95						
KTH	Kantishna Hill	65.71	332	P		P	18 16 39.1 +0.2
COLD	Coldfoot	65.77	336	P		P	18 16 40.7 +1.6
COLD	Coldfoot	65.77	336	P		P	18 16 39.0 -0.2
	baz=97,SNR=7.8						
CAST	Castle Rocks	66.22	332	P		P	18 16 42.0 -0.2
	baz=93						
NOR	Nord	66.22	8	*i* P		P	18 16 41.0 -0.8
PPLA	Purkeypile	66.24	331	P		P	18 16 41.9 -0.5
	baz=93						
I21K	Tanana	66.29	333	P		P	18 16 42.7 +0.2
H21K	Melozitna Rive	66.67	334	P		P	18 16 46.0 +1.1
OHAK	Old Harbor	66.67	325	P		P	18 16 47.1 +2.1
	baz=90						
L20K	Farewell, AK	67.01	330	P		P	18 16 47.3 +0.2
	baz=91						
IMAR	Indian Mountai	67.08	334	P		P	18 16 46.0 -1.6
J20K	Nowinta River	67.17	332	P		P	18 16 47.1 -1.0
CLF	Chambon-Foret	67.87	45	P		P	18 16 53.8 +1.0
TTA	Tatalina	67.99	331	P		P	18 16 53.9 +0.4
	baz=90						
BER	Bergen	68.81	32⇑	*e*P		P	18 16 58.2 -0.2
TIC	Toumodi	70.02	90	*e*P		P	18 17 05.9 -0.9
LIC	Lamto	70.14	90	*e*P		P	18 17 07.4 -0.2
	comp=Z,42nm,1.5s						
DBIC	Dimbokro	70.16	90	P		P	18 17 06.9 -0.8
	comp=Z,5.2nm,0.9s,baz=316,slow=7.2,SNR=4.8						
DBIC				LR		LR	18 42 57.8
	comp=Z,46nm,21.1s,baz=338,slow=32						
DBIC	Dimbokro	70.16	90	P		P	18 17 06.9 -0.8
DBIC				IAmb		IAmb	18 17 08.1
	comp=Z,12nm,1.1s						
WLF	Walferdange	70.24	43	P		P	18 17 07.6 0.0
KIC	Kosan Boka	70.37	90	*e*P		P	18 17 08.1 -0.9
	comp=Z,8.9nm,0.8s						
SDPT	Sand Point	70.79	323	P		P	18 17 11.5 +0.7
	baz=83						
KONO	Kongsberg	71.00	32	*e*P		P	18 17 13.2 +1.2
ECH	Echery	71.10	45	P		P	18 17 12.6 -0.3
SPA0	Spitsbergen Ar	71.29	13	*e*P		P	18 17 13.6 +0.1
SPITS	Spitsbergen Ar	71.29	13	LR		LR	18 50 02.3
	comp=Z,88nm,18.0s,baz=4.5,slow=37						
SENIN	Lac Senin/Sane	71.49	47	P		P	18 17 16.0 +0.5
NAO01	NORSAR Array S	71.49	31	P		P	18 17 16.0 +1.0
NSS	Namsos	71.52	27	*e*P		P	18 17 17.5 +2.4
NB2	NORSAR Subarra	71.63	31	P		P	18 17 16.7 +0.9
	comp=Z,7.8nm,0.7s,baz=279,slow=6.2						
NB2	NORSAR Subarra	71.63	31	P		P	18 17 16.7 +0.9
	baz=279,slow=6.2						
NOA	NORSAR Array B	71.63	31	P		P	18 17 16.6 +0.8
	comp=Z,6.4nm,0.8s,baz=279,slow=6.0,SNR=13						
TNS	Taunus Mts	71.63	42	*e*P		P	18 17 17.7 +1.6
	comp=Z,8.9nm,1.0s,baz=281,slow=5.4						
RETH	Rethem/Aller,	71.81	40	*e*P		P	18 17 18.5 +1.5
	comp=Z,14nm,1.2s,baz=281,slow=5.4						
NC602	NORSAR Array S	71.83	31	*e*P		P	18 17 18.6 +1.7
NC405	NORSAR Array S	71.86	31	P		P	18 17 16.8 -0.4
ANM	Nome	72.02	333	P		P	18 17 17.6 -0.5
	baz=82						
NRDL	Niedersach Rie	72.29	40	*e*P		P	18 17 21.7 +1.9
	comp=Z,32nm,1.6s,baz=281,slow=5.4						
CLZ	Clausthal	72.56	40	*e*P		P	18 17 22.1 +0.4
	comp=Z,13nm,1.1s,baz=281,slow=5.4						
ASSE	Asse, Remlinge	72.70	40	*e*P		P	18 17 23.3 +1.0
	comp=Z,20nm,1.3s,baz=281,slow=5.4						
TNA	Tin City	72.93	334	P		P	18 17 23.8 +0.3
TNA				IAmb		IAmb	18 17 27.4
	comp=Z,5.3nm,0.8s						
TNA	Tin City	72.93	334	P		P	18 17 23.0 -0.5
	baz=80						
FLTG	Flechtingen	73.00	40	*e*P		P	18 17 24.0 -0.2
	comp=Z,11nm,1.0s,baz=281,slow=5.4						
DAVOX	Davos/Dischmat	73.17	46	P		P	18 17 26.4 +0.9
	comp=Z,4.3nm,0.7s,baz=324,slow=8.7						
DAVOX				LR		LR	18 43 44.2
	comp=Z,75nm,20.9s,baz=262,slow=31						
GRF	Grafenberg Arr	73.49	43	*e*P		P	18 17 27.9 +0.8
	comp=Z,23nm,1.3s,baz=281,slow=5.4						
NEUB	Neuenburg	73.54	41	*e*P		P	18 17 28.4 +1.1
	comp=Z,17nm,1.1s,baz=281,slow=5.4						
MOX	Moxa	73.55	42	*e*P		P	18 17 28.2 +0.7
	comp=Z,21nm,1.7s,baz=281,slow=5.4						
RETA	Reutte	73.62	45	*e*P		P	18 17 29.2 +1.2
	comp=Z,12nm,1.0s						
FETA	Feichten	73.69	45	*e*P		P	18 17 29.5 +0.9
	comp=Z,14nm,1.4s,SNR=5.9						
MOTA	Moosalm	73.88	45	*e*P		P	18 17 30.2 +0.6
	comp=Z,18nm,1.7s						
JETT	Jettan, Norway	73.90	21	*e*P		P	18 17 31.2 +2.1
PLN	Plauen	73.92	42	*e*P		P	18 17 29.8 +0.2
	comp=Z,9.5nm,1.0s,baz=281,slow=5.4						
SQTA	Sankt Quirin	73.97	45	*i* P		P	18 17 30.9 +0.8
	comp=Z,7.6nm,1.0s						
WERD	Werda	74.02	42	*e*P		P	18 17 30.8 +0.6
	comp=Z,10nm,1.2s,baz=281,slow=5.4						
GUNZ	Gunzen	74.06	42	*e*P		P	18 17 31.0 +0.5
	comp=Z,18nm,1.5s,baz=281,slow=5.4						
ROTZ	Rotzenmuhle	74.10	42	*e*P		P	18 17 31.1 +0.4
	comp=Z,3.4nm,1.4s,baz=281,slow=5.4						
WERN	Wernitzgruen	74.10	42	*e*P		P	18 17 31.1 +0.4
	comp=Z,10nm,1.3s,baz=281,slow=5.4						
TANN	Tannenbergstha	74.13	42	*e*P		P	18 17 31.0 +0.1
	comp=Z,11nm,1.1s,baz=281,slow=5.4						
WATA	Walderalm	74.19	45	*e*P		P	18 17 31.8 +0.4
	comp=Z,8.5nm,1.1s						
WTTA	Wattenberg	74.25	45	*e*P		P	18 17 33.1 +1.3
	comp=Z,4.2nm,0.9s						
CLL	Collm	74.28	41	*e*P		P	18 17 32.0 +0.3
	comp=Z,7.0nm,1.0s						
CLL				*ex*		x	18 17 42.0
CLL	Collm	74.28	41	*e*P		P	18 17 31.4 -0.3
	comp=Z,7.3nm,1.1s,baz=281,slow=5.4						
TORD	Torodi Ar. Bea	74.35	81	P		P	18 17 32.4 -0.3
	comp=Z,5.6nm,0.9s,baz=292,slow=5.3,SNR=25						
TORD	Torodi Ar. Bea	74.35	81	P		P	18 17 31.9 -0.9
TORD				IAmb		IAmb	18 17 33.2
	comp=Z,6.7nm,1.0s						
FBE	Freiberg	74.58	41	*e*P		P	18 17 33.9 +0.5
	comp=Z,8.8nm,1.0s,baz=281,slow=5.4						
RJOB	Jochberg	74.91	44	*e*P		P	18 17 35.5 -0.1
	comp=Z,4.4nm,0.8s,baz=281,slow=5.4						
ABTA	Abfaltersbach	74.94	45	*e*P		P	18 17 36.9 +1.2
	comp=Z,9.6nm,1.1s						
BRG	Berggiesshubel	74.95	41	*e*P		P	18 17 36.2 +0.6
BRG				Amp			18 17 39.0
	comp=Z,6.5nm,1.0s						
BRG	Berggiesshubel	74.95	41	*e*P		P	18 17 35.8 +0.2
	comp=Z,6.5nm,1.0s,baz=281,slow=5.4						
KTK1	Kautokeino	75.01	22	*e*P		P	18 17 36.3 +0.8
KHC	Kasperske Hory	75.11	43	*e*P		P	18 17 37.5 +0.9
KHC	Kasperske Hory	75.11	43	P		P	18 17 35.9 -0.8
KHC				IAmb		IAmb	18 17 38.6
	comp=Z,6.3nm,1.1s						
KEST	Kesra	75.16	57	P		P	18 17 37.6 +0.5
	comp=Z,7.7nm,0.8s,baz=192,slow=1.9,SNR=12						
KEST				LR		LR	18 45 53.6
	comp=Z,38nm,21.1s,baz=303,slow=32						
KEST	Kesra	75.16	57	P		P	18 17 37.7 +0.5
STAL	STALIGIAL	75.19	46	P		P	18 17 36.9 -0.2
STAL				IAmb		IAmb	18 17 38.1
	comp=Z,7.5nm,0.9s						
GEC2	GERESS Array S	75.25	43	*e*P		P	18 17 37.7 +0.2
	comp=Z,9.1nm,1.3s,baz=281,slow=5.4						
GEC2	GERESS Array S	75.25	43	P		P	18 17 37.1 -0.4
GEC2				IAmb		IAmb	18 17 40.8
	comp=Z,9.8nm,1.2s						
GERES	GERESS Array B	75.25	43	P		P	18 17 38.4 +0.9
	comp=Z,2.4nm,0.8s,baz=255,slow=3.6,SNR=16						
GERES				LR		LR	18 47 41.1
	comp=Z,72nm,18.5s,baz=256,slow=33						
GERES	GERESS Array B	75.25	43	P		P	18 17 38.0 +0.4
LATE	Laterza	75.39	50	P		P	18 17 38.7 +0.3
KBA	Koelnbreinsper	75.43	45	*e*P		P	18 17 38.0 -0.6
	comp=Z,7.3nm,0.9s						
ARA0	ARCESS Array S	75.63	21	*e*P		P	18 17 39.3 +0.2
ARCES	ARCESS Array B	75.63	21	P		P	18 17 39.3 +0.2
	comp=Z,3.9nm,0.5s,baz=286,slow=4.5,SNR=34						
ARCES	ARCESS Array B	75.63	21	IAmb		IAmb	18 18 06.7
	comp=Z,15nm,1.3s						
MYKA	Terra Mystica	75.73	45	*e*P		P	18 17 40.6 +0.3
	comp=Z,6.6nm,0.9s						
MOA	Molln	75.85	44	*e*P		P	18 17 41.3 +0.5
	comp=Z,5.9nm,0.9s						
OBKA	Obir	76.37	45	*e*P		P	18 17 43.8 -0.1
	comp=Z,14nm,1.3s						
SOKA	Soboth	76.65	45	*e*P		P	18 17 45.5 +0.1
	comp=Z,11nm,1.2s,SNR=7.3						
CONA	Conrad Observa	76.87	44	*e*P		P	18 17 47.4 +0.7
	comp=Z,4.7nm,0.8s						
VRAC	Vranov	76.98	42	P		P	18 17 47.8 +0.5
	comp=Z,2.4nm,0.8s,baz=288,slow=7.2,SNR=3.5						
VRAC				LR		LR	18 49 17.3
	comp=Z,36nm,19.9s,baz=290,slow=34						
MORC	Moravsky Berou	77.46	42	P		P	18 17 50.8 +0.8
MODS	Modra-Piesok	77.67	43	*e*P		P	18 17 53.2 +2.1
SMOL	Smolenice	77.73	43	*e*P		P	18 17 53.3 +1.9
MTSE	Matsula	78.33	32	*e*P		P	18 17 55.0 +0.5
FINES	FINESS Array B	78.50	29	P		P	18 17 56.2 +0.9
	comp=Z,6.6nm,0.5s,baz=280,slow=3.0,SNR=65						
FINES				LR		LR	18 47 28.2
	comp=Z,32nm,22.0s,baz=267,slow=32						
FINES	FINESS Array B	78.50	29	P		P	18 17 55.8 +0.4
FIA1	FINESS Array S	78.50	29	P		P	18 17 55.6 +0.3
FIA1				IAmb		IAmb	18 17 56.5
	comp=Z,7.1nm,0.6s						
OJC	Ojcow	78.73	41	P		P	18 17 57.0 +0.1
OJC				IAmb		IAmb	18 17 59.9
	comp=Z,5.7nm,0.8s						
LANS	Liptovska Anna	78.84	42	*e*P		P	18 18 00.2 +2.6
MORH	Mrgy, Hungar	79.17	45	⇓P		P	18 18 00.2 +0.7
PABE	Paberze	79.46	35	*e*P		P	18 18 01.4 +0.6
PSZ	Piszkesteto	79.48	43	P		P	18 17 59.1 -2.1
PSZ				IAmb		IAmb	18 18 12.5
	comp=Z,8.8nm,1.1s						
VSU	Vasula	79.86	31	*e*P		P	18 18 01.4 -1.5
FRGS	Fruska Gora	80.27	46	⇓P		P	18 18 04.9 -0.6
FRGS	Fruska Gora	80.27	46	*e*P		P	18 18 05.0 -0.5
BBLS	Lazići	80.40	47	*e*P		P	18 18 06.7 +0.5
IIGN	Ignalina	80.72	34	*e*P		P	18 18 07.8 +0.2
DIVS	Divibare	80.73	47	P		P	18 18 05.9 -2.1
DIVS				IAmb		IAmb	18 18 10.3
	comp=Z,7.7nm,0.9s						
DIVS	Divibare	80.73	47	*e*P		P	18 18 08.3 +0.3
TRUS	Trudelj	80.97	46	*e*P		P	18 18 09.2 0.0
SJES	Sjenica	80.98	47	*e*P		P	18 18 09.9 +0.5
IVAS	Ivanjica	81.00	47	*e*P		P	18 18 08.8 -0.7
IDID	Didziasalis	81.01	34	*e*P		P	18 18 09.4 +0.2
TRPA	Tarpa	81.09	42	⇑P		P	18 18 10.8 +1.0
NACGM	Naroch	81.19	35	*i* P		P	18 18 09.0 -1.1
GRUS	Gruza	81.29	47	*e*P		P	18 18 10.9 0.0
BZS	Buzias	81.33	45	⇓P		P	18 18 12.6 +1.5
BOVS	Bovan	82.05	47	⇓P		P	18 18 16.0 +1.0
BOVS	Bovan	82.05	47	*e*P		P	18 18 14.3 -0.6
HERR	Herculane	82.11	45	⇑P		P	18 18 16.1 +0.8
GZR	Gura Zlata	82.18	45	⇑P		P	18 18 17.0 +1.3
ZAGS	Zajecar	82.35	46	*e*P		P	18 18 15.1 -1.4
BARS	Barje	82.40	47	*e*P		P	18 18 14.3 -2.5
BARS	Barje	82.40	47	*e*P		P	18 18 16.8 0.0
ZAPS	Zavoj	82.81	47	*e*P		P	18 18 17.0 -2.0
BOSS	Bosilegrad	82.97	47	*e*P		P	18 18 20.1 +0.3
ARR	Arges	83.41	44	⇓P		P	18 18 23.5 +1.5
VTS	Vitosha	83.45	47	⇓P		P	18 18 24.1 +1.6
VTS	Vitosha	83.45	47	P		P	18 18 22.5 0.0
VOIR		83.66	44	⇑P		P	18 18 24.5 +1.1
DOPR	Dopca	83.68	43	⇑P		P	18 18 23.8 +0.4
HUMR	Humele	83.95	45	⇓P		P	18 18 26.0 +1.3
AKASG	Malin Array Be	84.19	38	P		P	18 18 25.5 -0.3
	comp=Z,1.8nm,0.8s,baz=288,slow=3.7,SNR=6.6						
AKASG				LR		LR	18 53 04.9
	comp=Z,53nm,18.9s,baz=327,slow=34						
AKASG	Malin Array Be	84.19	38	IAmb		IAmb	18 18 25.9
	comp=Z,1.5nm,1.0s						
MLR	Muntele Rosu	84.22	44	⇓P		P	18 18 28.3 +2.0
MLR	Muntele Rosu	84.22	44	P		P	18 18 25.8 -0.5
	comp=Z,27nm,1.1s,baz=232,slow=1.6,SNR=16						
MLR	Muntele Rosu	84.22	44	P		P	18 18 28.1 +1.8
COVR	Voineasa-Covas	84.25	43	⇓P		P	18 18 28.1 +1.7
PLOR	Plostina	84.54	43	⇑P		P	18 18 29.8 +2.0
VRI	Vrincioaia	84.58	43	⇓P		P	18 18 28.3 +0.4
KLMR	Klimovskoe	84.61	26	*e*P		P	18 18 27.3 -0.5
KLMR				AMP			18 18 30.1
	comp=Z,28nm,1.3s						
SHEM	Shemya Is, Ala	85.80	325	LR		LR	18 59 18.3
	comp=Z,133nm,18.4s,baz=74,slow=37						
TIXI	Tiksi	87.21	352	P		P	18 18 40.6 +0.2
IDI	Anoyia	87.34	54	LR		LR	18 54 15.2
	comp=Z,16nm,19.1s,baz=287,slow=33						
SEY	Seymchan	89.22	340	LR		LR	19 02 15.2
	comp=Z,128nm,18.1s,baz=310,slow=38						
BRTR	Keskin Array B	91.80	47	P		P	18 19 03.4 +0.5
	comp=Z,2.7nm,1.0s,baz=304,slow=5.3,SNR=7.0						
BRTR				LR		LR	19 00 03.1
	comp=Z,39nm,18.2s,baz=312,slow=35						
PETK	Petropavlovsk-	93.83	331	LR		LR	19 05 01.0
	comp=Z,70nm,18.1s,baz=42,slow=38						
AKTO	Aktyubinsk	99.25	28	LR		LR	19 03 42.4
	comp=Z,31nm,19.2s,baz=320,slow=35						
TSUM	Tsumeb	99.64	107	LR		LR	18 57 16.0
	comp=Z,26nm,21.8s,baz=311,slow=31						
PZH	PanZhiHua	133.94	3	PKP		PKPdf	18 25 11.3 -1.3
STKA	Stephens Creek	144.16	243	PKP		PKPdf	18 25 31.8 +0.9
	comp=Z,5.7nm,1.0s,baz=126,slow=4.8,SNR=3.7						
STKA	Stephens Creek	144.16	243	PKPdf		PKPbc	18 25 29.6 +0.7
WRA	Warramunga Arr	151.37	264	PKP		PKPdf	18 25 43.1 +0.1
	comp=Z,1.3nm,0.7s,baz=81,slow=1.5,SNR=7.6						
WRA				PKPbc		PKPbc	18 25 48.5 -0.6
	comp=Z,2.0nm,0.5s,baz=85,slow=3.0,SNR=43						
WRA	Warramunga Arr	151.37	264	PKPdf		PKPdf	18 25 41.2 -1.8
ASAR	Alice Springs	151.87	257	PKP		PKPdf	18 25 43.5 -0.3
	comp=Z,0.6nm,0.7s,baz=103,slow=1.3,SNR=10						
ASAR				PKPbc		PKPbc	18 25 49.5 -0.7
	comp=Z,4.7nm,0.9s,baz=86,slow=2.2,SNR=21						

BUL ***25*** *18:13:32.2±1.3, 21.′16S×33.′25E, h3km±12km, MD4.7*
ISC 25 18:13:20.6±2.2, 20.′89S±0.′06×33.′4E±0.′1, h14km, n10,
σ2S36/20, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	3.23	216	*i* P	Pg	18 14 21.0	-1.6
MOPA				*i* S	Sb	18 14 56.3	-0.7
MOPA	Mopani	3.23	216	*i* P	Pg	18 14 21.0	-1.6
MOPA				*i* S	Sb	18 14 56.3	-0.7
MSNA	Messina	3.50	245	*i* P	Pb	18 14 24.3	+1.9
MSNA				*i* Sg	Sg	18 15 12.8	-0.2
MSNA	Messina	3.50	245	*i* P	Pb	18 14 24.3	+1.9
MSNA				*i* Sg	Sg	18 15 12.8	-0.2
BLWY	Bulawayo	4.59	278	*i* P	Pb	18 14 40.8	-0.2
BLWY				*i* Sg	Sg	18 15 49.8	+1.7
BLWY	Bulawayo	4.59	278	*i* P	Pb	18 14 40.8	-0.2
BLWY				*i* Sg	Sg	18 15 49.8	+1.7
MATP	Matopo	4.65	275	*i* P	Pb	18 14 41.1	-1.0
MATP				*i* Sg	Sg	18 15 52.2	+2.1
MATP	Matopo	4.65	275	*i* P	Pb	18 14 41.1	-1.0
MATP				*i* Sg	Sg	18 15 52.2	+2.1
KRI	Karoi	5.42	317	*i* P	Pn	18 14 44.6	+3.3
KRI				*i* S	Sn	18 15 39.0	-4.6
KRI	Karoi	5.42	317	*i* P	Pn	18 14 44.6	+3.3
KRI				*i* S	Sn	18 15 39.0	-4.6

IDC ***25*** *18:17:30.7±0.8, 35.′48N×3.′69W, h0km, mb3.9/13,*
mb1 4.0/18, mb1mx3.9/45, mbtmp3.9/18, ML3.9/5, MS3.4/18, Ms1 3.4/18, ms1mx3.1/93, Error ellipse: s-maj=22.7km s-min=15.7km az=94.0
CNRM ***25*** *18:17:33.0, 35.′51N×3.′72W, h18km, ml4.4*
MDD ***25*** *18:17:32.1±0.7, 35.′56N×3.′83W, h0km, mbLg4.0/10, Error ellipse: s-maj=6.0km s-min=3.9km az=27.0*
INMG ***25*** *18:17:32.7±2.1, 35.′55N×3.′83W, h0km±8km, MD3.9, ML3.8, Error ellipse: s-maj=6.1km s-min=4.5km az=96.0*
CRAAG ***25*** *18:17:32.5, 35.′47N×3.′80W, Mb4.2*
SFS ***25*** *18:17:32.0, 35.′55N×3.′83W, ML4.2, ALBORAN SUR*
LDG ***25*** *18:17:33.1, 35.′25N×3.′64W, h30km*
NEIC ***25*** *18:17:33.4±1.5, 35.′59N±0.′09×3.′77W±0.′07, h10km±1km, mb4.1/18, Error ellipse: s-maj=14.8km s-min=10.1km az=171.0*
IGIL ***25*** *18:17:33.9, 35.′56N×3.′83W, h0km, ML3.9*
ISC 25 18:17:32.3±0.4, 35.′55N±0.′02×3.′73W±0.′02, h11km, n189,
σ2S18/230, mb4.1/23, MS3.4/14, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.37	207	P	Pg	18 17 39.8	+0.1
PALE				S	Sg	18 17 45.0	+0.4
EMEL	Melilla	0.68	111	Pg	Pg	18 17 46.3	+0.9
	17μm,0.3s,SNR=654						
EMEL				Lg	Lg	18 17 55.2	
	35μm,0.2s,SNR=20						
GOG	Mont Gurugu	0.68	118	P	Pg	18 17 46.0	+0.5
GOG				S	Sg	18 17 55.2	+0.7
EALB	Alboran	0.69	55	Pg	Pb	18 17 47.0	+0.7
	9μm,0.3s,SNR=812						
EALB				Lg	Lg	18 17 56.3	
	9μm,0.3s,SNR=8.1						
AKLM	AKL	1.04	186	P	Pg	18 17 52.0	-0.3
AKLM				S	Sg	18 18 04.8	-1.0
CHAS	Isla Isabel II	1.12	108	P	Pb	18 17 52.6	-1.1
CHAS				S	Sb	18 18 06.8	-1.5
EMIJ	Mijas	1.32	321	Pg	Pn	18 17 55.5	-1.3
	363nm,0.3s,SNR=96						
EMIJ				Lg	Lg	18 18 12.0	
	1μm,0.3s,SNR=14						
ELGU	Los Guajares,	1.32	4	Pg	Pn	18 17 56.8	0.0
	SNR=7.9						
ELGU				Lg	Lg	18 18 14.5	
	8μm,0.4s,SNR=7.9						
EMAL	Malaga-Limoner	1.34	335	P	Pn	18 17 56.4	-0.6
EMAL				S	Sb	18 18 13.0	-1.6
CEU	Ceuta	1.38	285	P	Pn	18 17 54.1	-3.3
CEU				S	Sb	18 18 09.6	-6.1
ECEU	Ceuta	1.38	285	Pg	Pn	18 17 55.8	-1.8
	88nm,0.3s,SNR=80						
ECEU				Lg	Lg	18 18 13.0	
	795nm,0.3s,SNR=12						
CHEFC	Chefchaouen	1.39	252	P	Pb	18 17 58.0	-0.2
CHEFC				S	Sg	18 18 16.8	-0.1
EBER	Berja	1.51	27	Pg	Pn	18 17 58.9	-0.6
	SNR=7.9						
EBER				Lg	Lg	18 18 20.6	
	996nm,0.3s,SNR=7.9						
JBK	JBK	1.54	141	P	Pn	18 17 58.7	-1.2
JBK				S	Sn	18 18 18.9	-1.0
EGOR	Sierra Gorda,	1.59	349	Pg	Pn	18 18 00.8	+0.3
	SNR=7.9						
EGOR				Lg	Lg	18 18 22.7	
	1μm,0.3s,SNR=7.9						
EQUE	Quentar	1.67	8	Pg	Pn	18 18 02.4	+0.7
	108nm,0.4s,SNR=116						
EQUE				Lg	Lg	18 18 26.3	
	1μm,0.6s,SNR=13						
CPS	Cap Spartel	1.79	278	P	Pg	18 18 10.0	+3.4
ENIJ	Nijar	1.88	40	Pn	Pn	18 18 03.5	-0.9
	SNR=7.9						
ENIJ				Lg	Lg	18 18 33.6	
	530nm,0.3s,SNR=7.9						
SICH	Sidi Chahed	1.94	223	P	Pn	18 18 06.1	+0.8
LCRM	LCR	2.07	207	P	Pn	18 18 08.0	+0.8
LCRM				S	Sn	18 18 33.8	+0.7
SFS	San Fernando	2.21	295	Pn	Pn	18 18 08.9	+0.1
EQES	Quesada	2.31	13	Pg	Pb	18 18 12.9	-1.2
	148nm,0.3s,SNR=254						
EQES				Lg	Lg	18 18 43.5	
	603nm,0.3s,SNR=5.0						
IFR	Ifrane	2.33	210	P	Pn	18 18 10.2	-0.5
IFR				S	Sn	18 18 37.5	-1.9
OTSS	Djebel Tessala	2.41	95	P	Pn	18 18 11.0	-0.8
USTO	Oran	2.60	85	P	Pn	18 18 13.0	-1.2
EADA	Adamuz	2.70	346	Pn	Pn	18 18 16.6	+0.9
	73nm,0.4s,SNR=70						
EADA				Sn	Sn	18 18 47.3	-1.2
	345nm,0.6s,SNR=4.4						
EADA				Lg	Lg	18 18 55.6	
	474nm,0.4s,SNR=6.3						
MD31	MD31	2.80	198	P	Pn	18 18 17.3	+0.1
MD31

comp=N,83nm,0.6s
PFVI Vila Bisbo 4.41 293 Pn **Pn 18 18 37.7 -1.4**
PFVI Vila Bisbo 4.41 293 P **Pn 18 18 39.0 -0.2**
PTEO Sao Teotonio 4.49 298 *e*Pn **Pn 18 18 40.2 0.0**
PTEO *e*Sn **Sn 18 19 28.9 -3.5**
PTEO A A 18 19 46.0
comp=N,116nm,0.5s
PESTR Estremoz 4.53 318 *e*Pn **Pn 18 18 41.6 +0.8**
PESTR *e*Sn **Sn 18 19 31.3 -2.1**
PESTR A A 18 19 46.7
comp=N,107nm,0.6s
PESTR Estremoz 4.53 318 Pn **Pn 18 18 41.4 +0.7**
PESTR Estremoz 4.53 318 P **Pn 18 18 41.5 +0.7**
EVO Evora 4.54 312 P **Pn 18 18 41.3 +0.3**
EVO S **Sn 18 19 31.3 -2.4**
EVO Evora 4.54 312 *e*Pn **Pn 18 18 41.4 +0.4**
EVO *e*Sn **Sn 18 19 31.5 -2.2**
EVO A A 18 19 40.2
comp=N,133nm,0.5s
PNCL Nicolau / Gran 4.62 305 *e*Pn **Pn 18 18 42.2 +0.1**
PNCL *e*Sn **Sn 18 19 33.1 -2.6**
PNCL A A 18 19 36.0
comp=N,85nm,0.4s
UCM Universidad Co 4.77 4 P **Pn 18 18 45.8 +1.6**
UCM S **Sn 18 19 39.6 +0.2**
PMRV Marv??o 4.85 324 *e*Pn **Pn 18 18 45.7 +0.5**
PMRV *e*Sn **Sn 18 19 40.8 -0.5**
PMRV A A 18 19 57.9
comp=N,99nm,0.5s
TZRR Tazzarine 4.99 198 P **Pn 18 18 48.0 +0.8**
PMTG Montargil 5.02 316 *e*Pn **Pn 18 18 48.0 +0.5**
PMTG *e*Sn **Sn 18 19 43.6 -1.9**
PMTG A A 18 19 45.8
comp=N,101nm,0.4s
PCBR Castelo Branco 5.22 326 *e*Pn **Pn 18 18 51.4 +1.2**
PCBR *e*Sn **Sn 18 19 48.3 -2.1**
PCBR A A 18 20 03.6
comp=N,66nm,0.6s
OUZM OUZ 5.27 210 P **Pn 18 18 52.0 +0.8**
LIS Lisbon 5.36 308 *e*S **Sn 18 19 48.9 -5.0**
LIS IAML 18 20 03.5
comp=E,264nm,0.5s
LIS Lisbon 5.36 308 *e*Pn **Pn 18 18 53.2 +1.0**
PMST Lisbon--Monsan 5.40 308 *e*Pn **Pn 18 18 53.5 +0.8**
PMST *e*Sn **Sn 18 19 52.3 -2.5**
PMST A A 18 19 53.4
comp=E,74nm,0.6s
OUK Oukaimeden 5.54 220 P **Pn 18 18 54.5 -0.5**
PMAFR Mafra 5.58 309 *e*Pn **Pn 18 18 55.7 +0.4**
PMAFR *e*Sn **Sn 18 19 56.4 -3.1**
PMAFR A A 18 20 13.8
comp=E,127nm,0.5s
ZGR Zagora 5.64 197 P **Pn 18 18 57.2 +1.0**
PSBE So Bento 5.65 316 *e*Pn **Pn 18 18 57.1 +0.9**
PSBE *e*Sn **Sn 18 19 59.8 -1.2**
PSBE A A 18 20 05.8
comp=E,79nm,0.6s
MTE Manteigas 5.71 329 *e*Pn **Pn 18 18 58.5 +1.5**
MTE *e*Sn **Sn 18 20 02.0 -0.5**
MTE A A 18 20 38.6
comp=E,179nm,0.6s
MTE Manteigas 5.71 329 Pn **Pn 18 18 57.6 +0.6**
PCAS Casmilo, Conde 5.87 321 *e*Pn **Pn 18 18 59.3 0.0**
PCAS *e*Sn **Sn 18 20 01.3 -5.3**
PCAS A A 18 20 46.4
comp=E,82nm,0.6s
PVIS Viseu 6.12 329 *e*Pn **Pn 18 19 03.6 +1.0**
PVIS *e*Sn **Sn 18 20 11.5 -1.1**
PVIS A A 18 20 54.7
comp=E,60nm,0.7s
MVO Moncorvo 6.18 336 *e*Pn **Pn 18 19 05.1 +1.6**
MVO *e*Sn **Sn 18 20 11.9 -2.3**
MVO A A 18 20 51.9
comp=E,123nm,0.6s
TTIG Tnine Tigouga, 6.36 220 P **Pn 18 19 03.7 -2.4**
PVRL Vila Real 6.52 333 *e*Pn **Pn 18 19 09.5 +1.3**
PVRL *e*Sn **Sn 18 20 18.6 -4.0**
PVRL A A 18 20 22.2
comp=E,86nm,0.3s
POLO Lamas de Olo 6.63 333 *e*Pn **Pn 18 19 11.2 +1.4**
POLO *e*Sn **Sn 18 20 21.9 -3.6**
POLO A A 18 20 29.0
comp=E,40nm,0.6s
PBRG Braganca 6.68 340 *e*Pn **Pn 18 19 12.1 +1.7**
PBRG *e*Sn **Sn 18 20 24.2 -2.3**
PBRG A A 18 21 07.6
comp=E,42nm,0.7s
PTO Porto 6.77 327 *e*Pn **Pn 18 19 12.1 +0.6**
PTO *e*Sn **Sn 18 20 24.4 -4.2**
PCAB Cabril 7.01 333 *e*Pn **Pn 18 19 16.2 +1.3**
PCAB *e*Sn **Sn 18 20 31.2 -3.5**
PCAB A A 18 21 20.3
comp=E,95nm,0.6s
PGAV Gavieira, Arco 7.33 332 *e*Pn **Pn 18 19 20.5 +1.2**
PGAV *e*Sn **Sn 18 20 38.6 -3.8**
PGAV A A 18 20 41.7
comp=E,56nm,0.5s
ETSF Etsaut 7.74 18 *e*Pn **Pn 18 19 25.8 +0.8**
ETSF *e*Sn **Sn 18 20 49.9 -2.8**
comp=E,6.1nm,0.4s
SJPF Ste Jean 7.80 14 *e*Pn **Pn 18 19 26.5 +0.7**
SJPF *e*Sn **Sn 18 20 50.2 -3.9**
comp=E,11nm,0.5s
EPF Esparros 8.11 22 *e*Pn **Pn 18 19 29.9 -0.2**
EPF *e*Sn **Sn 18 20 59.1 -2.7**
comp=E,5.2nm,0.5s
MTLF Montolieu 9.04 29 *e*Pn **Pn 18 19 43.5 +0.8**
TANT Tantan 9.55 224 P **Pn 18 19 48.8 -1.0**
LFF La Frestale 9.98 19 *e*Pn **Pn 18 19 55.3 -0.3**
LFF *e*Sn **Sn 18 21 43.9 -3.7**
comp=E,5.1nm,0.6s
LASF Ste Croix 10.32 32 *e*Pn **Pn 18 20 00.2 -0.1**
CAF Calviac 10.36 24 *e*Pn **Pn 18 20 01.2 +0.4**
CAF *e*Sn **Sn 18 21 52.7 -4.2**
comp=E,0.5nm,0.2s
KEST Kesra 10.65 85 Pn **Pn 18 20 05.5 +0.7**
comp=E,0.6nm,0.3s,baz=84,slow=2.8,SNR=9.8
KEST Sn **Sn 18 22 00.5 -3.6**
comp=E,0.4nm,0.3s,baz=41,slow=17,SNR=2.4
KEST LR LR 18 24 48.1
comp=E,105nm,21.0s,baz=295,slow=41
KEST Kesra 10.65 85 **Pn 18 20 06.7 +1.8**
LMR La Mourre 11.09 42 *e*P Pn 18 20 15.8 +5.0
LMR *e*Sn **Sn 18 22 08.3 -6.5**
comp=E,2.3nm,0.3s
VSL Villasalto 11.13 65 Pn **Pn 18 20 11.9 +0.6**
MFF Saint Martin d 11.37 13 *e*Pn **Pn 18 20 14.0 -0.6**
MFF Saint Martin d 11.37 13 *e*P Pn 18 20 20.6 +6.0
TCF Toulx Ste Croi 11.63 21 *e*Pn **Pn 18 20 18.9 +0.7**
TCF *e*Sn **Sn 18 22 22.6 -5.4**
comp=E,0.5nm,0.2s
SBF Sospel 11.95 43 *e*P Pn 18 20 27.9 +5.3
BGF Bois d'Agland 12.06 22 *e*Pn **Pn 18 20 24.5 +0.4**
BGF *e*Sn **Sn 18 22 32.8 -5.8**
comp=E,6.3nm,0.4s
PGF Pioggiola 12.11 51 *e*Pn **Pn 18 20 24.6 -0.2**
PGF Pioggiola 12.11 51 *e*P **Pn 18 20 29.1 +4.3**
PGF *e*Sn **Sn 18 22 33.6 -6.3**
comp=E,0.7nm,0.3s
QUIF Quistinic 12.37 2 *e*Pn **Pn 18 20 29.1 +0.9**
QUIF *e*Sn **Sn 18 22 40.6 -5.4**
comp=E,3.9nm,0.4s
HYF Humbligny 12.64 20 *e*P Pn 18 20 37.3 +5.3
SSF Saint Saulge 12.72 23 *e*Pn **Pn 18 20 33.6 +0.6**
SGMF Saint Gilles 12.73 4 *e*Pn **Pn 18 20 33.2 0.0**
SGMF *e*Sn **Sn 18 22 47.7 -7.1**
comp=E,0.9nm,0.3s
ROSF Rostrenen 12.79 1 *e*Pn **Pn 18 20 34.1 +0.2**
ROSF *e*Sn **Sn 18 22 49.9 -6.3**
comp=E,3.5nm,0.4s
GRR Gorron 13.01 9 *e*Pn **Pn 18 20 37.6 +0.6**
LDF La Druitiere 13.31 10 *e*Pn **Pn 18 20 41.0 -0.1**
FLN La Foliniere 13.42 9 *e*Pn **Pn 18 20 43.1 +0.5**
FLN La Foliniere 13.42 9 *e*P **Pn 18 20 47.1 +4.5**
VAE Valguarnera 14.72 77 LR LR 18 26 31.1
comp=E,127nm,18.6s,baz=319,slow=37
DAVOX Davos/Dischmat 15.18 38 LR LR 18 26 16.7
comp=E,151nm,20.2s,baz=230,slow=35
DAVA Damuels 15.52 37 *e*P **P 18 21 17.6 +2.0**
comp=E,9.6nm,0.9s
FETA Feichten 15.77 39 *e*P **P 18 21 20.1 +1.8**
comp=E,5.3nm,0.8s
RETA Reutte 16.10 38 *e*P **P 18 21 24.0 +2.1**
comp=E,7.2nm,1.0s

SQTA Sankt Quirin 16.15 39 *e*P **P 18 21 24.7 +2.2**
comp=E,12nm,1.5s
WATA Walderalm 16.41 39 *e*P **P 18 21 27.4 +2.0**
comp=E,4.0nm,0.6s
ABTA Abfaltersbach 16.55 42 *e*P **P 18 21 29.9 +3.1**
comp=E,5.7nm,0.8s
KBA Koelnbreinsper 17.20 43 *i* P **P 18 21 38.2 +4.0**
comp=E,3.0nm,0.8s
OBKA Obir 17.57 46 *e*P **P 18 21 41.5 +3.2**
comp=E,3.7nm,0.9s
SOKA Soboth 17.94 46 *e*P **P 18 21 44.9 +2.6**
comp=E,3.6nm,1.1s
GERES GERESS Array B 18.47 39 P **Pn 18 21 48.8 +0.5**
comp=E,0.1nm,0.3s,baz=221,slow=9.7,SNR=10
GERES LR LR 18 28 54.4
comp=E,119nm,19.0s,baz=232,slow=37
GERES GERESS Array B 18.47 39 P **Pn 18 21 48.6 +0.4**
KHC Kasperske Hory 18.59 38 *e*P **Pn 18 21 52.8 +3.1**
KHC Kasperske Hory 18.59 38 P **Pn 18 21 50.8 +1.1**
CKRC Cesky Krumlov 18.77 40 *e*P **Pn 18 21 54.4 +2.6**
PDG Podgorica 19.11 62 P **P 18 21 55.5 +0.4**
PDG IAmb IAmb 18 22 07.1
comp=Z,7.0nm,0.8s
EKA Eskdalemuir Ar 19.79 1 P **Pn 18 22 05.1 +1.1**
baz=181,slow=11,SNR=2.0
CLL Collm 19.82 32 *i* P **Pn 18 22 04.3 -0.1**
comp=Z,14nm,1.0s
CLL Collm 19.82 32 P **Pn 18 22 04.2 -0.1**
CLL IAmb IAmb 18 22 06.2
comp=Z,10nm,0.9s
KBN Korca 19.93 68 P **P 18 22 04.9 +0.8**
KBN IAmb IAmb 18 22 07.2
comp=Z,7.2nm,0.9s
MODS Modra-Piesok 20.13 44 *e*P Pn 18 22 09.4 +1.4
VRAC Vranov 20.27 41 LR LR 18 29 27.2
comp=Z,64nm,21.9s,baz=248,slow=35
SMOL Smolenice 20.29 44 *e*P Pn 18 22 09.9 0.0
FNA Florina 20.39 68 P **P 18 22 10.1 +0.9**
FNA IAmb IAmb 18 22 11.3
comp=Z,7.7nm,1.1s
DPC Dobruska-Polom 20.75 38 *e*P **P 18 22 14.2 +1.3**
KRLC Kraliky 20.82 39 *e*P Pn 18 22 15.9 -0.2
MORC Moravsky Berou 21.04 41 P **P 18 22 17.0 +0.9**
VYHS Vyhne 21.08 45 *e*P **P 18 22 17.1 +0.6**
LANS Liptovska Anna 21.77 44 *e*P **P 18 22 26.0 +2.1**
TORD Torodi Ar. Bea 22.83 166 P **P 18 22 35.3 -0.1**
comp=Z,5.6nm,0.8s,baz=351,slow=8.4,SNR=28
TORD Torodi Ar. Bea 22.83 166 P **P 18 22 36.4 +0.9**
IDI Anoyia 23.30 82 LR LR 18 33 53.0
comp=Z,27nm,18.2s,baz=278,slow=42
MLR Muntele Rosu 24.53 57 LR LR 18 32 16.0
comp=Z,71nm,19.3s,baz=304,slow=36
MLR Muntele Rosu 24.53 57 P **P 18 22 53.2 +1.3**
BUR08 Bucovina Ar. S 24.63 52 P **P 18 22 53.8 +1.0**
BUR08 IAmb IAmb 18 22 59.7
comp=Z,5.1nm,0.9s
BURAR Bucovina Array 24.63 52 P **P 18 22 54.2 +1.4**
BURAR IAmb IAmb 18 22 56.0
comp=Z,2.8nm,0.8s
HFS Hagfors 27.07 19 P **P 18 23 14.7 +0.2**
comp=Z,1.6nm,0.6s,baz=211,slow=8.4,SNR=5.6
HFS LR LR 18 35 50.7
comp=Z,115nm,18.3s,baz=229,slow=41
NOA NORSAR Array B 27.25 16 P **P 18 23 15.2 -1.0**
comp=Z,0.5nm,0.8s,baz=208,slow=8.8,SNR=2.2
NOA LR LR 18 35 53.8
comp=Z,80nm,18.3s,baz=295,slow=40
AKASG Malin Array Be 28.14 47 P **P 18 23 21.5 -2.8**
comp=Z,0.2nm,0.3s,baz=247,slow=10.0,SNR=4.3
AKASG Malin Array Be 28.14 47 IAmb IAmb 18 23 30.2
comp=Z,1.9nm,1.4s
BRTR Keskin Array B 29.75 71 LR LR 18 35 34.9
comp=Z,36nm,18.0s,baz=272,slow=36
FINES FINESS Array B 32.05 27 P **P 18 23 58.0 -0.7**
comp=Z,2.9nm,1.1s,baz=203,slow=10,SNR=2.3
EIL Elat 32.96 89 LR LR 18 39 16.9
comp=Z,19nm,19.6s,baz=330,slow=40
JMIC Jan Mayen 35.60 357 LR LR 18 38 28.7
comp=Z,60nm,18.5s,baz=23,slow=35
ARCES ARCESS Array B 37.62 16 P **P 18 24 47.9 +1.2**
comp=Z,2.2nm,0.9s,baz=192,slow=4.7,SNR=1.2
ARU Arti 46.22 43 LR LR 18 44 30.5
comp=Z,56nm,19.2s,baz=134,slow=35
ARU Arti 46.22 43 P **P 18 25 57.4 +0.3**
ABKAR Akbulak array 47.61 53 P **P 18 26 08.9 +0.9**
ABKAR Akbulak array 47.61 53 P **P 18 26 09.1 +1.0**
ABKAR IAmb IAmb 18 26 10.1
comp=Z,3.5nm,0.8s
BRVK Borovoye 53.34 46 **P 18 26 52.8 +1.4**
BRVK IAmb IAmb 18 26 58.0
comp=Z,2.1nm,0.8s
WSAR Wadi Sarin 54.90 85 LR LR 18 54 55.9
comp=Z,26nm,18.3s,baz=306,slow=41
KURK Kurchatov 58.95 47 P **P 18 27 31.8 +0.3**
AAK Ala-Archa 59.11 57 P **P 18 27 33.8 +0.8**
AAK IAmb IAmb 18 27 53.3
comp=Z,2.3nm,1.1s
KSH Kashi 61.34 60 P **P 18 27 49.0 +0.7**
KSH pmax pmax
comp=Z,3.0nm,1.2s
ZALV Zalesovo Beam 61.38 42 P **P 18 27 48.3 +0.2**
comp=Z,1.3nm,0.5s,baz=297,slow=7.9,SNR=3.6
MK31 Makanchi Array 62.65 51 P **P 18 27 56.8 0.0**
MK31 IAmb IAmb 18 28 01.9
comp=Z,1.8nm,0.8s
MKAR Makanchi Array 62.65 51 P **P 18 27 57.1 +0.3**
comp=Z,2.2nm,0.6s,baz=284,slow=6.0,SNR=18
MKAR Makanchi Array 62.65 51 P **P 18 27 57.5 +0.7**
WMQ Urumqi 67.38 52 *e*P **P 18 28 30.8 +3.1**
YKA Yellowknife Ar 67.81 332 P **P 18 28 30.4 +0.5**
comp=Z,2.5nm,0.8s,baz=59,slow=6.5,SNR=15
YKA Yellowknife Ar 67.81 332 P **P 18 28 31.5 +1.6**
BOSA Boshof 69.42 153 P **P 18 28 39.4 -1.1**
comp=Z,1.3nm,0.5s,baz=352,slow=3.3,SNR=3.9
ILAR Eielson Array 75.92 345 P **P 18 29 19.1 +0.5**
comp=Z,0.2nm,0.7s,baz=15,slow=4.7,SNR=1.3
RWWY Rawlins 76.05 311 P **P 18 29 21.7 +1.6**
SONM Songino Array 76.19 41 P **P 18 29 21.3 +0.6**
comp=Z,0.4nm,0.6s,baz=318,slow=2.0,SNR=3.8
PDAR Pinedale Array 76.83 313 P **P 18 29 25.3 +0.8**
comp=Z,1.2nm,0.6s,baz=76,slow=6.3,SNR=12
CPUP Villa Florida 79.69 227 LR LR 19 02 14.7
comp=Z,46nm,19.4s,baz=215,slow=34
TXAR Lajitas Array 80.84 299 P **P 18 29 47.2 +0.7**
comp=Z,0.4nm,0.8s,baz=159,slow=7.4,SNR=4.0
TXAR LR LR 19 04 47.9
comp=Z,44nm,19.0s,baz=339,slow=35
HHC Hu-ho-hao-te 83.53 44 *e*P **P 18 30 00.5 0.0**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.7s
PZH PanZhiHua 86.45 60 P **P 18 30 16.5 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.0s
KLR Kul'dur 86.80 27 LR LR 19 12 14.7
comp=Z,79nm,19.2s,baz=17,slow=38
USRK Ussuriysk Ar. 91.02 30 LR LR 19 17 41.9
comp=Z,73nm,18.4s,baz=56,slow=40

NOU ***25*** *18:23:45.2, 22.°43S×179.°34W, h581km, mb4.6/35, South of Fiji Islands*
NEIC ***25*** *18:23:46.1±2.2, 22.°4S±0.°1×179.°6W±0.°1, h575km±4km, mb4.7/109, Error ellipse: s-maj=17.8km s-min=15.0km az=145.0*
IDC ***25*** *18:23:46.5±1.0, 22.°31S×179.°68W, h580km±9km, mb3.8/21, mb1 4.0/23, mb1mx3.9/31, mbtmp4.7/23, Error ellipse: s-maj=14.0km s-min=9.4km az=153.0*
BGR ***25*** *18:23:48.3±0.0, 22.°38S×179.°51W, h600km*
ISC 25 18:23:45.5±0.3, 22.°52S±0.°05×179.°50W±0.°06, h579km, n516, σ1§15/551, mb4.6/77, 34C-55D, Fault plane solution: NP1: ϕ_1=253.63983°, δ37.17685°, λ-61.19321°. **NP2:** ϕ_2=39.02759°, δ58.02848°, λ-110.07448°. **Principal axes:** T Plg10.8940°, Azm143.3373°; N Plg16.9283°, Azm49.9790°; P Plg69.6879°, Azm264.6664°; **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.29**	**334**	**P**	**P**		**18 25 19.1**	**-0.6**
	40nm,0.3s,baz=112,slow=24,SNR=220							
MSVF				S	**S**		**18 26 35.4**	**-1.0**
	baz=304,slow=22,SNR=1.0							
MSVF	**Nonsavu**	**5.29**	**334**	P	**P**		**18 25 18.6**	**-1.0**
MSVF	**Nonsavu**	**5.29**	**334**	P	**P**		**18 25 19.4**	**-0.2**
TAVE	**Taveuni**	**5.79**	**356**	P	**P**		**18 25 23.6**	**-0.2**
DGTI	**Dogotuki**	**6.23**	**353**	P	**P**		**18 25 26.9**	**-0.8**
GLKZ	**Green Lake**	**6.87**	**168**	P	**P**		**18 25 33.3**	**+0.2**
GLKZ				S	**S**		**18 26 57.7**	**-3.8**
NIUE	**Niue**	**9.59**	**71**	P	**P**		**18 25 58.5**	**-1.3**
AFI	**Afiamalu**	**11.27**	**42**	P	P		18 26 11.9	-5.0
	6.8nm,0.3s,baz=260,slow=16,SNR=4.0							
MARNC	**Mare, Loyalty**	**11.62**	**273**	P	**P**		**18 26 18.6**	**-1.7**
MARNC	**Mare, Loyalty**	**11.62**	**273**	P	**P**		**18 26 20.4**	**+0.2**
OUENC	**Ouen Island, N**	**12.63**	**268**	P	**P**		**18 26 31.2**	**+0.5**
OUENC	**Ouen Island, N**	**12.63**	**268**	P	**P**		**18 26 31.1**	**+0.5**
DZM	**Mont Dzumac**	**13.02**	**269**	P	**P**		**18 26 33.7**	**-1.0**
	1.7nm,0.3s,baz=88,slow=21,SNR=27							
DZM	**Mont Dzumac**	**13.02**	**269**	P	**P**		**18 26 34.0**	**-0.7**
DZM	**Mont Dzumac**	**13.02**	**269**	P	**P**		**18 26 35.2**	**+0.5**
NOUC	**Port Laguerre**	**13.15**	**269**	P	**P**		**18 26 37.9**	**+2.0**
OUZ	**Omahuta**	**14.02**	**204**	P	**P**		**18 26 48.8**	**+4.2**
OUZ	**Omahuta**	**14.02**	**204**	P	**P**		**18 26 44.8**	**+0.2**
WCZ	**Waipu Caves**	**14.41**	**200**	P	**P**		**18 26 52.6**	**+4.2**
KUZ	**Kuaotunu**	**14.77**	**195**	P	**P**		**18 26 54.7**	**+2.9**
KOUNC	**Koumac, New Ca**	**15.21**	**274**	P	**P**		**18 26 57.5**	**+1.1**
HAZ	**Te Kaha**	**15.37**	**188**	P	**P**		**18 26 58.2**	**+0.7**
HAZ				S	**S**		**18 29 31.2**	**-3.4**
PKGZ	**Pakihiroa**	**15.46**	**187**	P	**P**		**18 26 59.9**	**+1.3**
RUGZ	**Raukumara Rang**	**15.59**	**188**	P	**P**		**18 26 59.9**	**+0.1**
RUGZ				S	**S**		**18 29 35.9**	**-2.7**
TGRZ	**Tauranga**	**15.60**	**193**	P	**P**		**18 27 02.9**	**+3.2**
PUZ	**Puketiti**	**15.62**	**187**	P	**P**		**18 27 00.2**	**+0.1**
TWGZ	**Tauwhareparae**	**15.76**	**187**	P	**P**		**18 27 03.0**	**+1.6**
TWGZ				S	**S**		**18 29 40.7**	**-0.6**
TOZ	**Tahuroa Road**	**15.76**	**195**	P	**P**		**18 27 04.3**	**+2.9**
URZ	**Urewera**	**15.96**	**190**	P	**P**		**18 27 01.6**	**-1.6**
	4.2nm,0.3s,baz=5.1,slow=2.8,SNR=26							
URZ	**Urewera**	**15.96**	**190**	P	**P**		**18 27 00.5**	**-2.7**
URZ				S	**S**		**18 29 39.6**	**-4.8**
URZ	**Urewera**	**15.96**	**190**	P	**P**		**18 27 00.7**	**-2.5**
URZ	**Urewera**	**15.96**	**190**	P	**P**		**18 27 02.6**	**-0.6**
MWZ	**Matawai**	**15.97**	**189**	P	**P**		**18 27 02.8**	**-0.5**
MWZ				S	**S**		**18 29 40.9**	**-3.8**
RAGZ	**Rawiri**	**16.14**	**189**	P	**P**		**18 27 05.2**	**+0.1**
MUGZ	**Murupara**	**16.23**	**191**	P	**P**		**18 27 05.0**	**-0.7**
MUGZ				S	**S**		**18 29 49.5**	**+0.7**
RIGZ	**Rimuhau**	**16.31**	**188**	P	**P**		**18 27 07.0**	**+0.6**
RIGZ				S	**S**		**18 29 51.1**	**+0.9**
RTZ	**Ruatahuna**	**16.33**	**190**	P	**P**		**18 27 06.2**	**-0.5**
RTZ				S	**S**		**18 29 48.6**	**-2.1**
MTHZ	**Maungataniwha**	**16.58**	**190**	P	**P**		**18 27 08.7**	**-0.2**
MTHZ				S	**S**		**18 29 54.9**	**+0.2**
RATZ	**Rangitukua**	**16.79**	**193**	P	**P**		**18 27 11.8**	**+1.0**
NMHZ	**Naumai**	**16.83**	**190**	P	**P**		**18 27 11.1**	**-0.1**
BKZ	**Black Stump Fm**	**16.95**	**191**	P	**P**		**18 27 11.1**	**-1.2**
BKZ	**Black Stump Fm**	**16.95**	**191**	P	**P**		**18 27 10.6**	**-1.7**
BKZ				IAmb	IAmb		18 27 12.5	
	comp=Z,18nm,1.0s							
NTVZ	**North Tongarir**	**17.04**	**193**	P	**P**		**18 27 14.7**	**+1.6**
TMVZ	**Te Maari**	**17.05**	**193**	P	**P**		**18 27 13.8**	**+0.6**
TWVZ	**Taurewa**	**17.06**	**194**	P	**P**		**18 27 14.8**	**+1.5**
ETVZ	**East Tongariro**	**17.06**	**193**	P	**P**		**18 27 14.1**	**+0.6**
OTVZ	**Oturere**	**17.10**	**193**	P	**P**		**18 27 13.4**	**-0.4**
NGZ	**Ngauruhoe**	**17.12**	**193**	P	**P**		**18 27 15.6**	**+1.6**
SNVZ	**South Ngauruho**	**17.13**	**193**	P	**P**		**18 27 14.4**	**+0.4**
MCHZ	**McNeill Hill**	**17.18**	**190**	P	**P**		**18 27 12.2**	**-2.2**
TUVZ	**Tukino**	**17.20**	**193**	P	**P**		**18 27 16.0**	**+1.3**
KWHZ	**Kaweka Forest**	**17.21**	**191**	P	**P**		**18 27 08.8**	**-5.9**
VRZ	**Vera Road**	**17.27**	**195**	P	**P**		**18 27 19.0**	**+3.9**
WNVZ	**Wahianoa**	**17.27**	**193**	P	**P**		**18 27 15.6**	**+0.3**
PKVZ	**Pokaka**	**17.29**	**194**	P	**P**		**18 27 16.8**	**+1.5**
MOVZ	**Moawhango**	**17.32**	**192**	P	**P**		**18 27 15.8**	**+0.2**
BHHZ	**Black Hill Sta**	**17.34**	**192**	P	**P**		**18 27 14.3**	**-1.5**
KRHZ	**Kereru**	**17.43**	**191**	P	**P**		**18 27 16.3**	**-0.4**
KAHZ	**Kahuranaki**	**17.50**	**189**	P	**P**		**18 27 18.0**	**+0.7**
NEZ	**North Egmont**	**17.57**	**197**	P	**P**		**18 27 22.9**	**+4.9**
PXZ	**Pawanui**	**17.73**	**189**	P	**P**		**18 27 19.5**	**+0.2**
NMEZ	**Namu Road**	**17.76**	**197**	P	**P**		**18 27 24.5**	**+4.9**
TSZ	**Takapari Road**	**17.91**	**191**	P	**P**		**18 27 22.2**	**+1.2**
DVHZ	**Dannevirke**	**18.10**	**191**	P	**P**		**18 27 22.9**	**+0.1**
BFZ	**Birch Farm**	**18.46**	**190**	P	**P**		**18 27 26.4**	**+0.4**
BFZ	**Birch Farm**	**18.46**	**190**	P	**P**		**18 27 24.7**	**-1.4**
MRZ	**Mangatainoka R**	**18.56**	**192**	P	**P**		**18 27 26.5**	**-0.4**
OGWZ	**Otaki Gorge**	**18.79**	**193**	P	**P**		**18 27 28.9**	**-0.1**
HOWZ	**Holdsworth Sta**	**18.80**	**192**	P	**P**		**18 27 29.2**	**0.0**
KIW	**Kapiti Island**	**18.89**	**193**	P	**P**		**18 27 30.5**	**+0.6**
TMWZ	**Te Maipa**	**18.94**	**191**	P	**P**		**18 27 30.6**	**+0.2**
MSWZ	**Moikau Station**	**19.35**	**192**	P	**P**		**18 27 31.8**	**-2.3**
SNZO	**South Karori**	**19.36**	**193**	P	**P**		**18 27 31.8**	**-2.3**
BHW	**Baring Head**	**19.42**	**193**	P	**P**		**18 27 34.8**	**+0.1**
QRZ	**Quartz Range**	**19.46**	**198**	P	**P**		**18 27 35.9**	**+0.9**
QRZ	**Quartz Range**	**19.46**	**198**	P	**P**		**18 27 36.0**	**+0.9**
PLWZ	**Palliser**	**19.50**	**192**	P	**P**		**18 27 35.1**	**-0.4**
NNZ	**Nelson**	**19.59**	**196**	P	**P**		**18 27 36.2**	**0.0**
THZ	**Tophouse**	**20.22**	**197**	P	**P**		**18 27 42.0**	**0.0**
THZ				IAmb	IAmb		18 27 44.1	
	comp=Z,17nm,0.6s							
KHZ	**Kahutara**	**20.68**	**195**	P	**P**		**18 27 45.8**	**-0.3**
KHZ	**Kahutara**	**20.68**	**195**	P	**P**		**18 27 45.6**	**-0.4**
LTZ	**Lake Taylor**	**21.34**	**197**	P	**P**		**18 27 50.8**	**-1.3**
OXZ	**Oxford**	**21.91**	**197**	P	**P**		**18 27 57.2**	**+0.1**
MQZ	**McQueen's Vall**	**22.11**	**195**	P	**P**		**18 27 57.9**	**-1.0**
RPZ	**Rata Peaks**	**22.54**	**198**	P	**P**		**18 28 01.0**	**-1.8**
RPZ				IAmb	IAmb		18 28 29.0	
	comp=Z,31nm,1.4s							
FOZ	**Fox Glacier**	**22.75**	**200**	P	**P**		**18 28 04.4**	**-0.1**
LBZ	**Lake Benmore**	**23.41**	**199**	P	**P**		**18 28 09.1**	**-1.3**
WKZ	**Wanaka**	**24.17**	**200**	P	**P**		**18 28 16.8**	**-0.4**
MLZ	**Mavora Lakes**	**24.94**	**201**	P	**P**		**18 28 23.6**	**-0.4**
MLZ				IAmb	IAmb		18 28 44.8	
	comp=Z,27nm,1.3s							
WHZ	**Wether Hill Ro**	**25.46**	**201**	P	**P**		**18 28 30.1**	**+1.6**
ARMA	**Armidale**	**26.96**	**247**	P	**P**		**18 28 43.9**	**+1.8**
ARMA				IAmb	IAmb		18 28 44.9	
	comp=Z,22nm,1.1s							
ARMA	**Armidale**	**26.96**	**247**	P	**P**		**18 28 43.9**	**+1.8**
EIDS	**Eidsvold**	**27.01**	**258**	P	**P**		**18 28 43.1**	**+0.6**
EIDS				IAmb	IAmb		18 28 44.2	
	comp=Z,14nm,0.7s							
EIDS	**Eidsvold**	**27.01**	**258**	P	**P**		**18 28 43.5**	**+1.0**
RMQ	**Roma**	**29.11**	**256**	P	**P**		**18 29 02.6**	**+1.8**
CAN	**Canberra**	**30.25**	**238**	P	**P**		**18 29 12.1**	**+1.6**
CAN	**Canberra**	**30.25**	**238**	P	**P**		**18 29 12.2**	**+1.8**
CTA	**Charters Tower**	**31.96**	**268**	P	**P**		**18 29 25.7**	**+0.5**
CTAO	**Charters Tower**	**31.96**	**268**	P	**P**		**18 29 25.6**	**+0.3**
CTAO				IAmb	IAmb		18 29 26.6	
	comp=Z,21nm,0.8s							
CTAO	**Charters Tower**	**31.96**	**268**	P	**P**		**18 29 25.7**	**+0.5**
CMSA	**Cobar Meteorol**	**32.17**	**246**	P	**P**		**18 29 27.9**	**+1.0**
QLP	**Quilpie**	**33.16**	**256**	P	**P**		**18 29 36.0**	**+0.7**
TOO	**Toolangi**	**33.59**	**235**	P	**P**		**18 29 40.2**	**+1.3**
TOO	**Toolangi**	**33.59**	**235**	P	**P**		**18 29 40.4**	**+1.6**
MTSU	**Mount Surprise**	**34.16**	**271**	P	**P**		**18 29 44.1**	**+0.3**
TAU	**Tasmania Unive**	**34.22**	**226**	P	**P**		**18 29 45.3**	**+1.5**
TAU				IAmb	IAmb		18 29 46.0	
	comp=Z,17nm,0.9s							
PMG	**Port Moresby**	**34.51**	**287**	P

comp=Z,1.1nm,0.8s,baz=98,slow=3.7,SNR=4.8
ASAR S **S** **18 36 33.7 -2.0**
comp=Z,2.1nm,1.0s,baz=98,slow=16,SNR=11
ASAR Alice Springs 42.73 259 P **P** **18 30 53.1 +0.1**
WR0 Warramunga Arr 42.79 265 P **P** **18 30 52.4 -1.1**
WB0 Warramunga Arr 42.96 265 P **P** **18 30 54.1 -0.7**
WB0 IAmb IAmb 18 30 55.2
comp=Z,14nm,0.8s
WB2 Warramunga Arr 42.97 264 P **P** **18 30 53.9 -0.9**
WB2 IAmb IAmb 18 30 55.3
comp=Z,18nm,0.9s
WRAB Tennant Creek 42.97 265 P **P** **18 30 53.8 -1.0**
WRAB IAmb IAmb 18 30 55.2
comp=Z,15nm,0.9s
WRAB Tennant Creek 42.97 265 P **P** **18 30 54.3 -0.5**
WRA Warramunga Arr 42.98 264 P **P** **18 30 54.4 -0.5**
comp=Z,11nm,0.9s,baz=96,slow=8.0,SNR=86
WRA ScP **ScP** **18 35 30.5 +2.0**
comp=Z,4.3nm,0.9s,baz=96,slow=4.3,SNR=13
WRA S **S** **18 36 36.6 -2.6**
comp=Z,0.7nm,0.7s,baz=99,slow=14,SNR=2.4
WRA Warramunga Arr 42.98 264 P **P** **18 30 54.0 -0.9**
JAY Jayapura 43.42 292 P **P** **18 30 57.9 -0.6**
comp=Z,11nm,0.6s,baz=190,slow=7.4,SNR=6.7
FORT Forrest 47.23 248 P **P** **18 31 26.8 -0.4**
FORT Forrest 47.23 248 P **P** **18 31 27.5 +0.3**
WRKA Warakurna 47.60 256 P **P** **18 31 30.4 +0.3**
MTN Manton Dam 47.83 273 P **P** **18 31 30.3 -1.6**
MTN IAmb IAmb 18 31 36.1
comp=Z,26nm,1.3s
KNRA Kununurra 49.17 268 P **P** **18 31 41.4 -0.3**
KNRA IAmb IAmb 18 31 42.3
comp=Z,13nm,0.7s
KNRA Kununurra 49.17 268 P **P** **18 31 41.8 0.0**
MBWA Marble Bar 56.08 259 P **P** **18 32 30.4 -0.5**
MORW Morawa 57.79 249 P **P** **18 32 42.5 0.0**
QSPA South Pole Qui 67.56 180 P **P** **18 33 47.1 +2.3**
comp=Z,9.7nm,0.8s,baz=312,slow=0.8,SNR=42
QSPA South Pole Qui 67.56 180 IAmb IAmb 18 33 48.2
comp=Z,11nm,0.9s
SBUM Sibu 70.99 281 P **P** **18 34 05.9 -0.2**
MJAR Matsushiro Arr 71.03 325 P **P** **18 34 04.4 -1.4**
comp=Z,3.2nm,0.7s,baz=162,slow=5.9,SNR=6.6
MJAR Matsushiro Arr 71.03 325 IAmb IAmb 18 34 06.3
comp=Z,3.6nm,1.0s
ADK Adak 74.12 2 **P** **18 34 22.8 -0.4**
ADK IAmb IAmb 18 34 22.9
comp=Z,32nm,0.8s
JTU Tsushima 74.66 318 P **P** **18 34 27.9 +1.3**
NIKH Nikolski High 75.74 7 P **P** **18 34 31.6 -0.5**
baz=190
KSRS Korea Array 77.49 320 P **P** **18 34 41.2 -0.8**
comp=Z,1.2nm,0.7s,baz=128,slow=5.5,SNR=3.3
PEA0B Petropavlovsk- 77.87 346 P **P** **18 34 44.1 +0.3**
PEA0B IAmb IAmb 18 34 44.6
comp=Z,17nm,0.8s
PETK Petropavlovsk- 77.87 346 P **P** **18 34 43.2 -0.5**
comp=Z,11nm,0.7s,baz=133,slow=6.3,SNR=22
PETK Petropavlovsk- 77.87 346 P **P** **18 34 43.1 -0.6**
FALS False Pass 78.28 9 P **P** **18 34 45.8 -0.1**
baz=195
USRK Ussuriysk Ar. 79.86 327 P **P** **18 34 55.3 +0.8**
comp=Z,3.5nm,0.8s,baz=131,slow=5.3,SNR=4.4
NJ2 Nanjing 80.11 311 *eP* **P** **18 34 58.0 +1.9**
NJ2 pmax pmax
comp=Z,11nm,0.9s
CIS Catalina Islan 80.48 48 P **P** **18 34 58.6 +0.5**
baz=235
SMMC Simmler 80.52 46 P **P** **18 34 59.4 +1.1**
baz=234
KMRM Mail Ridge 81.19 40 P **P** **18 35 04.2 +2.6**
MURC Murrieta 81.43 48 P **P** **18 35 04.0 +1.0**
baz=236
BFSC Mount Baldy Ra 81.47 48 P **P** **18 35 04.2 +0.9**
baz=235
MONP2 Monument Peak 81.58 49 P **P** **18 35 05.1 +1.1**
baz=236,SNR=6.1
EDW2 Edwards Air Fo 81.61 47 P **P** **18 35 04.1 +0.2**
baz=235
SII Sitkinak Islan 81.62 14 P **P** **18 35 04.0 +0.7**
baz=204
IKP In-Ko-Pah, Jac 81.67 50 P **P** **18 35 04.9 +0.7**
baz=237
ISA Isabella, Lake 81.74 46 P **P** **18 35 05.3 +0.8**
ISA Isabella, Lake 81.74 46 P **P** **18 35 05.4 +0.9**
baz=235,SNR=9.2
CMB Columbia Colle 81.88 43 P **P** **18 35 06.1 +1.0**
PFO Pinyon Flats O 81.95 49 P **P** **18 35 06.6 +1.0**
comp=Z,2.2nm,0.5s,baz=270,slow=3.7,SNR=3.6
PFO Pinyon Flats O 81.95 49 P **P** **18 35 06.7 +1.0**
baz=236
TPFO Pinon Flats 81.95 49 P **P** **18 35 06.7 +1.0**
baz=236
SWSC Sam W. Stewart 82.05 50 P **P** **18 35 07.4 +1.4**
baz=237
ORV Oroville 82.11 41 P **P** **18 35 06.9 +0.7**
WDC Whiskeytown Da 82.11 40 P **P** **18 35 07.2 +1.0**
WDC IAmb IAmb 18 35 08.8
comp=Z,18nm,1.1s
LRMC Laurel Mtn Rad 82.16 47 P **P** **18 35 07.7 +1.0**
baz=235
N02D Trinity Center 82.26 40 P **P** **18 35 08.2 +1.2**
baz=231,SNR=5.5
O03E Paynes Creek 82.38 41 P **P** **18 35 08.6 +1.0**
baz=232,SNR=5.7
M02C Callahan 82.43 39 P **P** **18 35 09.7 +1.8**
baz=231,SNR=7.0
CWC Cottonwood Cre 82.44 46 P **P** **18 35 09.1 +1.0**
baz=235
L02E Cave Junction 82.48 38 P **P** **18 35 09.2 +1.2**
baz=230
BELC Belle Mtn. Jos 82.48 49 P **P** **18 35 09.5 +1.1**
baz=236
MPMC Manual Prospec 82.62 46 P **P** **18 35 10.1 +1.0**
baz=235,SNR=7.9
EMB Emerald Bay 82.62 43 P **P** **18 35 10.3 +1.2**
EMB IAmb IAmb 18 35 11.2
comp=Z,27nm,1.5s
GSC Goldstone, Bar 82.65 47 P **P** **18 35 10.2 +1.0**
GSC Goldstone, Bar 82.65 47 P **P** **18 35 10.2 +1.0**
baz=236,SNR=5.7
BC3 Big Chuckawall 82.67 49 P **P** **18 35 10.1 +0.8**
baz=237
TIN Tinemaha, Big 82.70 45 P **P** **18 35 10.2 +0.8**
baz=235
HEC Hector,Ludlow 82.71 48 P **P** **18 35 10.4 +0.9**
baz=236,SNR=6.6
YBH Yreka Blue Hor 82.73 39 P **P** **18 35 11.1 +1.7**
comp=Z,6.9nm,0.8s,baz=181,slow=1.9,SNR=16
YBH Yreka Blue Hor 82.73 39 P **P** **18 35 10.9 +1.6**
K02D Willamette Mer 82.79 38 P **P** **18 35 11.0 +1.3**
baz=230
GLA Glamis 82.79 50 P **P** **18 35 11.0 +1.2**
GLA IAmb IAmb 18 35 12.8
comp=Z,21nm,0.9s
GLA Glamis 82.79 50 P **P** **18 35 10.9 +1.0**
baz=237
MPK Martis Peak 82.86 42 P **P** **18 35 11.2 +0.9**
MPK IAmb IAmb 18 35 12.6
comp=Z,17nm,0.8s
J01E Myrtle Point 82.93 37 P **P** **18 35 11.3 +1.1**
baz=230
GMRC Granite Mounta 83.15 48 P **P** **18 35 12.5 +0.7**
baz=237,SNR=6.7
IRM Iron Mountain 83.16 49 P **P** **18 35 12.8 +1.1**
baz=237,SNR=9.0
LHV Little Huntoon 83.21 44 P **P** **18 35 13.1 +1.4**
FURC Furnace Creek, 83.27 46 P **P** **18 35 13.3 +1.3**
baz=236
L04D Klamath Falls 83.27 39 P **P** **18 35 12.8 +0.6**
baz=231
M04C Macdoel 83.27 40 P **P** **18 35 13.6 +1.4**
baz=232
BNX BinXian 83.28 326 ⇑P **P** **18 35 12.5 +0.6**
BNX pmax pmax
comp=Z,20nm,0.8s
BNX pmax pmax
comp=Z,230nm,4.9s
TUQ Turquoise Moun 83.33 47 P **P** **18 35 13.5 +0.9**
baz=236,SNR=7.0
SHOC Shoshone, Teco 83.34 47 P **P** **18 35 13.7 +1.2**
baz=236
NVAR Mina Array Bea 83.44 44 P **P** **18 35 14.2 +1.0**
comp=Z,8.3nm,0.9s,baz=224,slow=8.6,SNR=38
NVAR Mina Array Bea 83.44 44 P **P** **18 35 13.6 +0.4**
I03D Drain, OR 83.60 37 P **P** **18 35 15.1 +1.5**
baz=230
214A Organ Pipe Nat 83.66 52 P **P** **18 35 15.3 +1.2**
214A Organ Pipe Nat 83.66 52 P **P** **18 35 15.6 +1.4**
baz=239
K04D Chiloquin, OR 83.84 39 P **P** **18 35 15.8 +0.9**
baz=232
NEE2 Needles Airpor 83.86 49 P **P** **18 35 16.3 +1.2**
baz=237
Q19K Cape Douglas, 83.91 13 P **P** **18 35 14.6 -0.1**
baz=204
PDMCI Parker Dam,Lak 83.94 49 P **P** **18 35 16.6 +1.1**
baz=238
TPNV Topopah Spring 83.94 46 P **P** **18 35 16.6 +1.0**
TPNV Topopah Spring 83.94 46 P **P** **18 35 16.2 +0.6**
baz=236,SNR=7.1
J04D Umpqua Nationa 84.02 38 P **P** **18 35 17.4 +1.5**
J04D Umpqua Nationa 84.02 38 P **P** **18 35 17.1 +1.2**
baz=232,SNR=5.9
I04A Tendick Farm, 84.19 38 P **P** **18 35 17.8 +1.2**
baz=231
MOD Modoc Plateau 84.25 40 P **P** **18 35 18.0 +1.0**
MOD IAmb IAmb 18 35 19.1
comp=Z,20nm,1.4s
O18K Koktuh Hills 84.45 12 P **P** **18 35 16.9 -0.5**
O18K Koktuh Hills 84.45 12 P **P** **18 35 17.4 0.0**
baz=202
H04D Lebanon 84.47 37 P **P** **18 35 19.1 +1.3**
baz=231
W13A Hualapai Mount 84.54 49 P **P** **18 35 19.8 +1.1**
J05D Fort Rock, OR 84.55 39 P **P** **18 35 19.7 +1.3**
baz=232,SNR=9.7
Y14A Wickenburg 84.55 50 P **P** **18 35 19.4 +0.9**
G03D McMinnville, O 84.61 36 P **P** **18 35 20.1 +1.6**
baz=230
PINE Pine Mountain 85.03 38 P **P** **18 35 22.3 +1.5**
PINE IAmb IAmb 18 35 23.5
comp=Z,46nm,1.4s
I05D Terrebonne, OR 85.13 38 P **P** **18 35 22.6 +1.4**
baz=232
R11A Troy Canyon, C 85.16 45 P **P** **18 35 22.7 +1.1**
baz=236
BMN Battle Mountai 85.28 43 P **P** **18 35 21.9 -0.2**
BRSE Bradley Lake S 85.29 14 P **P** **18 35 22.3 +0.8**
baz=206
TUC Tucson 85.31 52 P **P** **18 35 23.9 +1.6**
baz=240
MA2 Magadan 85.36 345 P **P** **18 35 21.2 -0.5**
MA2 IAmb IAmb 18 35 22.4
comp=Z,12nm,0.8s
WVOR Wild Horse Val 85.56 40 P **P** **18 35 24.0 +0.7**
G05D Wamic, OR 85.70 37 P **P** **18 35 25.6 +1.8**
baz=232
E04D Cinebar 85.84 35 P **P** **18 35 25.6 +1.3**
baz=231
LCMT Little Creek M 86.00 47 P **P** **18 35 26.3 +0.7**
F05D White Salmon 86.02 36 P **P** **18 35 26.8 +1.5**
baz=232
I07A Izee 86.03 39 P **P** **18 35 26.9 +1.4**
I07A IAmb IAmb 18 35 27.9
comp=Z,11nm,1.0s
D03D Eldon 86.18 34 P **P** **18 35 27.3 +1.4**
baz=230
CCUT Cedar City 86.20 47 P **P** **18 35 27.8 +1.1**
J08A Circle Bar Ran 86.20 40 P **P** **18 35 27.4 +1.1**
J08A IAmb IAmb 18 35 28.7
comp=Z,21nm,1.3s
WUAZ Wupatki 86.51 49 P **P** **18 35 28.9 +0.9**
baz=239
L19K White Mountain 86.67 11 P **P** **18 35 28.4 +0.4**
L19K IAmb IAmb 18 35 29.2
comp=Z,18nm,0.8s
ELK Elko 86.70 43 P **P** **18 35 29.2 +0.3**
RC01 Rabbit Creek A 86.72 14 P **P** **18 35 28.2 +0.1**
baz=207
G08A Pilot Rock 87.06 38 P **P** **18 35 31.2 +0.9**
G08A IAmb IAmb 18 35 32.6
comp=Z,19nm,1.1s
A04D Lummi Island 87.13 34 P **P** **18 35 31.6 +1.3**
baz=231
B05A Bryant 87.16 34 P **P** **18 35 32.0 +1.5**
baz=231
TTA Tatalina 87.17 11 P **P** **18 35 30.4 +0.1**
baz=202
EYAK Cordova Ski Ar 87.20 16 P **P** **18 35 30.5 +0.1**
baz=211
M22K Willow 87.22 14 P **P** **18 35 30.5 +0.1**
baz=207
LTY Liberty 87.29 36 P **P** **18 35 31.5 +0.2**
LTY IAmb IAmb 18 35 33.1
comp=Z,13nm,0.9s
KNK Knik Glacier 87.29 14 P **P** **18 35 31.0 +0.1**
baz=208
PMR Palmer 87.30 14 P **P** **18 35 31.0 +0.2**
baz=208
E07A Sunnyside 87.31 37 P **P** **18 35 32.1 +0.8**
E07A IAmb IAmb 18 35 33.8
comp=Z,21nm,0.9s
HAWA Hanford 87.39 37 P **P** **18 35 32.8 +1.1**
HAWA IAmb IAmb 18 35 34.0
comp=Z,18nm,1.0s
W18A Petrified Fore 87.47 50 P **P** **18 35 33.4 +0.8**
W18A IAmb IAmb 18 35 35.0
comp=Z,12nm,1.1s
W18A Petrified Fore 87.47 50 P **P** **18 35 33.6 +1.0**
baz=240
C06D Leavenworth 87.58 35 P **P** **18 35 33.5 +0.9**
baz=232
121A Cookes Peak, D 87.64 53 P **P** **18 35 34.5 +1.1**
121A IAmb IAmb 18 35 35.8
comp=Z,8.6nm,1.1s
121A Cookes Peak, D 87.64 53 P **P** **18 35 34.5 +1.1**
baz=241
E08A Dider Farm, El 87.71 37 P **P** **18 35 34.1 +0.9**
E08A IAmb IAmb 18 35 35.4
comp=Z,12nm,0.9s
BMO Blue Mountains 87.75 39 P **P** **18 35 33.9 +0.3**
MFID Camas Ranch 87.82 41 P **P** **18 35 34.7 +0.8**
MFID IAmb IAmb 18 35 36.1
comp=Z,12nm,0.9s
BMRM Bremner River 87.85 16 P **P** **18 35 34.0 +0.4**
baz=212
SCM Sheep Creek Mo 87.92 15 P **P** **18 35 34.6 +0.7**
SCM Sheep Creek Mo 87.92 15 P **P** **18 35 33.9 0.0**
baz=210
KLU Klutina 87.97 15 P **P** **18 35 34.5 +0.4**
baz=211
WRAK Wrangell Islan 88.12 24 P **P** **18 35 35.8 +1.1**
baz=223
D08A Wollman Farm, 88.13 37 P **P** **18 35 36.2 +1.1**
D08A IAmb IAmb 18 35 37.3
comp=Z,14nm,0.9s
E09A Wood Farm, Sta 88.24 37 P **P** **18 35 36.2 +0.6**
E09A IAmb IAmb 18 35 38.0
comp=Z,18nm,1.2s
TNA Tin City 88.25 5 P **P** **18 35 34.4 -0.7**
baz=191
XAN Xi'an 88.25 308 P **P** **18 35 37.3 +1.2**
XAN pmax pmax
comp=Z,7.0nm,1.0s
CAST Castle Rocks 88.33 12 P **P** **18 35 34.3 -1.4**
CAST Castle Rocks 88.33 12 P **P** **18 35 34.9 -0.8**
baz=205
N25K Chitina, Valde 88.39 16 P **P** **18 35 36.7 +0.6**
baz=212
M24K Tolsona, Glenn 88.44 15 P **P** **18 35 36.6 +0.3**
baz=210
KTH Kantishna Hill 88.67 12 P **P** **18 35 35.9 -1.4**
KTH IAmb IAmb 18 35 37.1
comp=Z,13nm,0.8s
B08A Colville Reser 88.68 35 P **P** **18 35 37.4 -0.3**
B08A IAmb IAmb 18 35 39.0
comp=Z,13nm,1.1s
CHUM Lake Minchumin 88.70 12 P **P** **18 35 37.1 -0.3**
baz=205
TRF Thorofare Moun 88.71 13 P **P** **18 35 37.1 -0.6**
TRF Thorofare Moun 88.71 13 P **P** **18 35 37.0 -0.7**
baz=207
GCSA Galena City Sc 88.73 9 P **P** **18 35 37.4 0.0**
baz=201
LLLB Lilloolet 88.74 33 P **P** **18 35 38.5 +0.6**
LLLB IAmb IAmb 18 35 39.8
comp=Z,8.8nm,0.9s
HLID Hailey 88.76 41 P **P** **18 35 39.8 +1.4**
baz=237
PLCA Paso Flores 88.89 134 P **P** **18 35 41.5 +2.4**
comp=Z,4.4nm,1.1s,baz=152,slow=3.0,SNR=4.5
C09A Chrisman Ranch 88.92 36 P **P** **18 35 39.3 +0.5**
C09A IAmb IAmb 18 35 40.4
comp=Z,8.7nm,1.0s
RND HAARP 88.93 15 P **P** **18 35 38.9 +0.4**
baz=211
LENM Reindeer 88.97 13 P **P** **18 35 38.2 -0.5**
KMI Lemitar 89.00 52 P **P** **18 35 40.9 +1.2**
MNTX Kunming 89.03 298 ⇑P **P** **18 35 39.0 -1.1**
KMI pmax pmax
comp=Z,8.0nm,1.1s
MNTX Cornudas Mount 89.05 55 **P** **18 35 41.0 +1.2**
MNTX IAmb IAmb 18 35 42.3
comp=Z,11nm,0.8s
MNTX Cornudas Mount 89.05 55 **P** **18 35 41.0 +1.2**
baz=243
MCK McKinley 89.24 13 P **P** **18 35 39.4 -0.6**
MCK IAmb IAmb 18 35 40.9
comp=Z,12nm,1.1s
MCK McKinley 89.24 13 P **P** **18 35 40.3 +0.4**
baz=208
BNM Barren Site 89.25 52 P **P** **18 35 42.3 +1.3**
TX31 Lajitas Ar. Si 89.31 58 P **P** **18 35 41.9 +0.7**
TX32 Lajitas Array 89.31 58 **P** **18 35 42.2 +1.0**
TX32 IAmb IAmb 18 35 44.1
comp=Z,10.0nm,1.1s
TXAR Lajitas Array 89.31 58 P **P** **18 35 42.9 +1.7**
comp=Z,5.5nm,0.9s,baz=214,slow=5.8,SNR=46
TXAR Lajitas Array 89.31 58 P **P** **18 35 42.3 +1.1**
PAX Paxson 89.35 15 P **P** **18 35 40.6 +0.1**
baz=211
CMAR Chiang Mai Arr 89.48 290 P **P** **18 35 43.2 +1.2**
comp=Z,2.9nm,0.8s,baz=131,slow=2.9,SNR=17
CMAR Chiang Mai Arr 89.48 290 P **P** **18 35 43.5 +1.4**
CHTO Chiang Mai 89.62 290 P **P** **18 35 44.4 +1.7**
CHTO IAmb IAmb 18 35 45.2
comp=Z,5.7nm,0.8s
YUK3 Moose Creek 89.63 17 P **P** **18 35 42.2 +0.2**
baz=216
ANMO Albuquerque 89.75 52 **P** **18 35 44.1 +0.9**
ANMO IAmb IAmb 18 35 45.2
comp=Z,7.8nm,1.0s
ANMO Albuquerque 89.75 52 P **P** **18 35 44.2 +1.0**
baz=242
HHC Hu-ho-hao-te 89.77 315 *eP* **P** **18 35 42.5 -0.5**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,170nm,4.8s
NEW Newport 89.82 36 P **P** **18 35 43.2 +0.2**
baz=235
L26K Log Cabin Wild 89.91 16 P **P** **18 35 43.1 +0.1**
baz=213
BVCY Beaver Creek 90.04 17 P **P** **18 35 44.3 +0.7**
baz=215
WRH Wood River Hil 90.07 13 P **P** **18 35 43.2 -0.5**
WRH IAmb IAmb 18 35 44.1
comp=Z,11nm,1.0s
RIDG Independent Ri 90.15 15 P **P** **18 35 44.5 +0.3**
baz=212
HDA Harding Lake 90.26 14 P **P** **18 35 44.3 -0.2**
HDA IAmb IAmb 18 35 45.9
comp=Z,10nm,1.1s
HDA Harding Lake 90.26 14 P **P** **18 35 44.2 -0.4**
baz=210
CCB Clear Creek Bu 90.28 13 P **P** **18 35 43.6 -1.0**
CCB IAmb IAmb 18 35 45.3
comp=Z,13nm,1.3s
L27K Beaver Creek, 90.32 16 P **P** **18 35 44.9 0.0**
baz=214
I23K Minto, Yukon-K 90.41 12 P **P** **18 35 44.9 -0.3**
baz=208
PZH PanZhiHua 90.43 298 P **P** **18 35 47.0 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,150nm,6.5s
MDM Murphy Dome 90.47 13 P **P** **18 35 45.2 -0.4**
MDM IAmb IAmb 18 35 46.1
comp=Z,8.2nm,1.1s
SCRK Sand Creek 90.56 15 P **P** **18 35 45.8 -0.3**
SCRK IAmb IAmb 18 35 56.6
comp=Z,6.9nm,1.3s
SCRK Sand Creek 90.56 15 P **P** **18 35 45.8 -0.3**
baz=212
IL31 90.59 13 P **P** **18 35 45.3 -0.7**
IL31 IAmb IAmb 18 35 46.3
comp=Z,7.2nm,1.1s
ILAR Eielson Array 90.59 13 P **P** **18 35 45.0 -1.1**
comp=Z,2.1nm,0.8s,baz=220,slow=5.1,SNR=14
ILAR Eielson Array 90.59 13 P **P** **18 35 45.2 -0.9**
POKR Poker Plat Res 90.77 13 P **P** **18 35 46.6 -0.4**
baz=209
S22A 4UR Ranch, Cre 90.79 49 P **P** **18 35 48.7 +0.6**
baz=242
BILL Bilibino 90.90 355 P **P** **18 35 47.4 -0.1**
BILL IAmb IAmb 18 35 48.5
comp=Z,6.6nm,0.8s
O20A White River Ci 90.96 47 P **P** **18 35 49.8 +1.1**
baz=241
BW06 Boulder Array 91.38 44 P **P** **18 35 51.1 +0.5**
baz=240
PDAR Pinedale Array 91.38 44 P **P** **18 35 51.0 +0.4**
comp=Z,3.3nm,0.9s,baz=242,slow=3.2,SNR=3.7
BOZ Bozeman (W) 91.52 41 P **P** **18 35 52.4 +1.3**
baz=239
H17A Grant Village 91.55 42 P **P** **18 35 52.7 +1.4**
baz=240
SDCO Great Sand Dun 91.72 50 P **P** **18 35 53.0 +0.6**
baz=243
M31M Drury Creek, Y 91.74 19 P **P** **18 35 52.3 +0.8**
baz=221
DAWY Dawson 91.78 16 P **P** **18 35 51.7 +0.1**
DAWY IAmb IAmb 18 35 52.3
comp=Z,6.4nm,0.9s
DAWY Dawson 91.78 16 P **P** **18 35 52.1 +0.5**
baz=217
MSTX Muleshoe 92.03 54 P **P** **18 35 54.6 +1.0**
baz=244
COLD Coldfoot 92.11 11 P **P** **18 35 53.6 +0.6**
baz=207
833A Chaparral WMA, 92.27 60 P **P** **18 35 55.5 +0.7**
baz=246
RLMT Red Lodge 92.72 42 P **P** **18 35 57.4 +0.7**
baz=240
YAK Yakutsk 93.46 339 P **P** **18 35 59.0 -0.3**
RSSD Black Hills 95.57 44 P **P** **18 36 09.9 +0.3**
baz=244
SONM Songino Array 96.36 319 P **P** **18 36 11.3 -1.6**
comp=Z,0.2nm,0.5s,baz=121,slow=6.4,SNR=1.5
INK Inuvik 96.58 16 P **P** **18 36 11.9 -1.4**
comp=Z,1.5nm,0.6s,baz=204,slow=3.7,SNR=5.4
INK Inuvik 96.58 16 P **P** **18 36 12.9 -0.4**
INK IAmb IAmb 18 36 13.2
comp=Z,3.2nm,1.0s
T35A Sooner Cattle 97.89 53 Pdif 18 36 14.7 -5.2
YKA Yellowknife Ar 98.92 25 P Pdif 18 36 23.6 -0.3
comp=Z,0.8nm,0.9s,baz=244,slow=4.8,SNR=7.4
E38A The Farm, Brul 104.65 45 Pdif **Pdif** **18 36 46.5 -3.2**
ZALV Zalesovo Beam 111.18 321 PKiKP **PKiKP** **18 41 12.3 -1.3**
comp=Z,1.3nm,0.6s,baz=226,slow=2.4,SNR=6.9
MKAR Makanchi Array 111.56 313 PKiKP **PKiKP** **18 41 13.9 -0.7**
comp=Z,0.8nm,0.5s,baz=198,slow=1.1,SNR=19
MKAR PKKPbc **PKKPbc** **18 52 11.7 +0.3**
comp=Z,0.4nm,0.6s,baz=270,slow=3.4,SNR=5.2
MKAR Makanchi Array 111.56 313 PKKPbc 18 52 09.6 -1.8
KURK Kurchatov 114.52 317 PKPdf 18 41 19.3 -0.8
KURBB Kurchatov Arra 114.56 317 PKP PKPdf 18 41 19.3 -0.9
comp=Z,1.2nm,0.5s,baz=107,slow=1.7,SNR=26
AAK Ala-Archa 116.43 308 PKP **PKPdf** **18 41 23.8 -0.5**
comp=Z,0.7nm,0.6s,baz=168,slow=3.3,SNR=4.5
BVAR Borovoye Array 119.70 319 PKP **PKPdf** **18 41 29.7 -0.3**
comp=Z,2.5nm,0.4s,baz=64,slow=5.1,SNR=23
BRVK Borovoye 119.77 319 **PKPdf** **18 41 29.4 -0.7**
SPITS Spitsbergen Ar 123.78 356 PKP **PKPdf** **18 41 36.8 -0.4**
comp=Z,5.0nm,0.6s,baz=83,slow=10,SNR=5.7
ARU Arti 126.04 324 PKP **PKPdf** **18 41 42.3 +0.2**
comp=Z,2.1nm,0.5s,baz=92,slow=2.0,SNR=13
ARU Arti 126.04 324 **PKPdf** **18 41 41.5 -0.5**
AKTO Aktyubinsk 127.61 317 PKP **PKPdf** **18 41 45.4 +0.1**
comp=Z,2.2nm,0.6s,baz=73,slow=3.2,SNR=10
KIRV Kirov 129.99 329 PKP **PKPdf** **18 41 49.1 -0.4**
comp=Z,8.1nm,0.5s,baz=107,slow=3.2,SNR=4.4
KIRV SKPbc SKPab 18 44 19.1 +0.1
comp=Z,14nm,0.7s,baz=282,slow=2.5,SNR=6.9
ARCES ARCESS Array B 130.63 349 PKP **PKPdf** **18 41 50.4 -0.1**
comp=Z,3.4nm,0.7s,baz=46,slow=3.5,SNR=6.3
ARCES SKPbc **SKPbc** **18 44 20.6 -0.3**
comp=Z,2.5nm,0.7s,baz=56,slow=11,SNR=4.9

KLMR Klimovskoe 133.13 335 *e*PKPdf **PKPdf 18 41 54.9 -0.5**
KLMR AMP 18 42 10.8
comp=Z,17nm,1.5s
FINES FINESS Array B 137.28 342 PKhKP PKPpre 18 41 49.8
comp=Z,1.0nm,0.7s,baz=60,slow=4.6,SNR=6.0
FINES PKP **PKPdf 18 42 02.8 -0.3**
comp=Z,1.9nm,0.7s,baz=104,slow=4.7,SNR=6.3
FINES SKPbc **SKPbc 18 44 43.2 +0.7**
comp=Z,1.3nm,0.7s,baz=45,slow=3.0,SNR=3.8
MTSE Matsula 140.17 341 *e*P **PKPdf 18 42 07.2 -1.2**
NB2 NORSAR Subarra140.79 352 PKP **PKPdf 18 42 03.8 -5.8**
comp=Z,0.6nm,0.5s,baz=10,slow=3.2
NOA NORSAR Array B140.79 352 PKhKP PKPpre 18 42 03.1
comp=Z,0.9nm,0.6s,baz=14,slow=4.0,SNR=5.8
NOA PKP **PKPdf 18 42 10.1 +0.5**
comp=Z,0.5nm,0.5s,baz=14,slow=3.9,SNR=3.3
IDID Didziasalis 141.86 336 *e*P **PKPdf 18 42 08.3 -3.2**
IIGN Ignalina 142.03 336 *e*P **PKPdf 18 42 08.2 -3.7**
PABE Paberze 142.72 338 *e*P **PKPdf 18 42 11.4 -1.6**
PABE Paberze 142.72 338 PKPdf 18 42 11.0 -2.1
AKASG Malin Array Be 144.05 329 PKP PKPbc 18 42 14.3 -0.8
comp=Z,6.8nm,0.5s,baz=44,slow=4.2,SNR=75
AKASG SKPbc **SKiKP 18 45 01.0 0.0**
comp=Z,1.0nm,0.7s,baz=43,slow=2.9,SNR=4.7
AKASG Malin Array Be 144.05 329 PKPbc 18 42 14.0 -1.1
AKBB Malin Array Si 144.05 329 PKPbc 18 42 14.0 -1.1
SUW Suwalki 144.19 337 *e*PKP PKPbc 18 42 15.2 -0.2
SUW Suwalki 144.19 337 *e*P PKPbc 18 42 15.1 -0.3
SUW Suwalki 144.19 337 PKPbc 18 42 14.8 -0.6
GAZ Gaziantep 145.20 303 PKPbc 18 42 18.9 -0.3
BSD Bornholm Skovb 145.71 345 *e*P **PKPbc 18 42 20.1 +0.2**
BNN Bunyan 145.77 307 PKPbc 18 42 21.2 +0.3
SORM Soroca 146.14 326 ⇑P **PKPbc 18 42 21.3 0.0**
MILM Milestii Mici 146.64 324 ⇑P **PKPbc 18 42 22.4 -0.4**
GKP Gorka Klasztor 146.75 342 *e*P **PKPbc 18 42 23.2 +0.3**
BR131 Keskin Array S 147.09 309 PKPbc 18 42 23.8 -0.6
BRTR Keskin Array B 147.09 309 PKPbc **PKPbc 18 42 24.2 -0.2**
comp=Z,4.5nm,0.7s,baz=141,slow=4.7,SNR=21
BRTR Keskin Array B 147.09 309 PKPbc 18 42 23.5 -0.9
VASR Vaslui 147.37 324 ⇓P **PKPbc 18 42 24.9 +0.1**
TLCR 147.66 321 ⇓P **PKPbc 18 42 26.1 +0.6**
VLDR Vladesti 147.69 323 ⇓P **PKiKP 18 42 26.5 -0.5**
BSEG Bad Segeberg 147.76 349 *e*PKPbc **PKPbc 18 42 25.8 +0.3**
comp=Z,2.4nm,0.7s,baz=141,slow=4.7,SNR=21
BSEG *e*PKPab **PKPab 18 42 30.4 +0.5**
baz=19,slow=4.3
KWP Kalwaria Pacla 147.77 333 PKPbc 18 42 26.0 +0.3
GHRR 147.94 324 ⇓P **PKiKP 18 42 27.2 -0.3**
CFR Carcaliu 148.06 322 ⇓P **PKPbc 18 42 27.0 +0.5**
TESR Tescani 148.06 325 ⇓P **PKPbc 18 42 26.9 +0.4**
BURAR Bucovina Array 148.07 328 ⇓P **PKiKP 18 42 28.3 +0.4**
TPGR Topolog 148.08 321 ⇓P **PKPbc 18 42 27.3 +0.6**
ODBI Odobesti 148.31 323 ⇑P **PKiKP 18 42 28.8 +0.5**
RUE Ruedersdorf 148.39 344 *e*P **PKiKP 18 42 27.7 -0.5**
RUE Ruedersdorf 148.39 344 *e*PKPbc **PKPbc 18 42 27.4 +0.4**
baz=19,slow=2.4
VRI Vrincioaia 148.43 324 ⇓P **PKPbc 18 42 27.6 +0.2**
MFTR Murfatlar 148.46 320 ⇑P **PKPbc 18 42 28.0 +0.5**
OJC Ojcow 148.48 336 *e*PKP **PKPbc 18 42 27.7 +0.3**
OJC Ojcow 148.48 336 PKPbc 18 42 26.9 -0.5
MDUB Mudurnu 148.51 312 PKPdf 18 42 23.8 +0.3
MANR Mangalia 148.56 319 ⇑P **PKiKP 18 42 28.7 -0.1**
COVR Voineasa-Covas 148.72 324 ⇓P **PKPbc 18 42 28.3 +0.1**
OZUR 148.79 325 ⇑P **PKiKP 18 42 28.9 -0.4**
CRVS Cervenica-Dubn 148.86 333 *e*PKP **PKiKP 18 42 29.0 -0.4**
ARCR ARCALIA 148.86 328 ⇓P **PKiKP 18 42 29.5 +0.1**
NIE Niedzica 148.93 335 *e*PKP **PKiKP 18 42 30.3 +0.8**
TRPA Tarpa 148.97 331 ⇑P **PKPbc 18 42 29.0 +0.4**
TRPA Tarpa 148.97 331 PKPDF **PKPbc 18 42 28.9 +0.4**
TRPA PKPDF **PKPbc 18 42 29.0 +0.4**
RETH Rethem/Aller, 149.07 350 *e*PKPbc **PKPbc 18 42 29.1 +0.4**
baz=19,slow=2.4
RETH *e*PKPab **PKPab 18 42 35.6 +0.2**
baz=19,slow=4.3
DOPR Dopca 149.08 325 ⇑P **PKiKP 18 42 29.8 -0.2**
MLR Muntele Rosu 149.09 324 ⇑P **PKiKP 18 42 29.8 -0.3**
MLR Muntele Rosu 149.09 324 PKPbc 18 42 28.4 -0.8
FLTG Flechtingen 149.11 347 *e*PKPbc **PKPbc 18 42 29.0 +0.2**
baz=19,slow=2.4
FLTG *e*PKPab **PKPab 18 42 35.4 -0.1**
baz=19,slow=4.3
KSP Ksiaz 149.16 340 *e*PKP **PKiKP 18 42 29.7 -0.2**
NRDL Niedersach Rie 149.18 349 *e*PKPbc **PKiKP 18 42 29.4 -0.4**
baz=19,slow=2.4
NRDL *e*PKPab **PKPab 18 42 35.9 +0.1**
baz=19,slow=4.3
SECR 149.31 323 ⇓P **PKiKP 18 42 30.3 -0.1**
ASSE Asse, Remlinge 149.41 348 *e*PKPbc **PKiKP 18 42 30.0 -0.2**
baz=19,slow=2.4
OSTC Ostas 149.43 340⇑*e*PKP **PKiKP 18 42 30.6 +0.1**
CHVC Chvalec 149.45 340⇑*e*PKP **PKiKP 18 42 30.2 -0.3**
LANS Liptovska Anna 149.47 335 *e*PKP **PKiKP 18 42 31.4 +0.8**
CJR Cluj-Napoca 149.49 328 ⇓P **PKiKP 18 42 30.9 +0.1**
UPC Upice 149.54 340⇑*e*PKP **PKiKP 18 42 30.7 0.0**
DPC Dobruska-Polom 149.58 340⇑*e*PKP **PKiKP 18 42 31.0 +0.2**
VOIR 149.61 325 ⇑P **PKPbc 18 42 29.9 -0.5**
MORC Moravsky Berou 149.66 338 ⇑P **PKiKP 18 42 30.8 -0.2**
MORC Moravsky Berou 149.66 338 *e*PKP **PKiKP 18 42 30.8 -0.2**
MORC *e* 18 42 41.3
MORC Moravsky Berou 149.66 338 PKiKP 18 42 30.9 -0.1
CLL Collm 149.66 344⇑*i*PKPbc **PKPbc 18 42 30.5 +0.3**
comp=Z,35nm,0.8s
CLL ⇓*i*PKPab **PKPab 18 42 37.9 -0.1**
comp=Z,12nm,0.8s
CLL Collm 149.66 344 *e*PKPbc **PKPbc 18 42 30.6 +0.3**
baz=19,slow=2.4
CLL *e*PKPab **PKPab 18 42 37.8 -0.1**
baz=19,slow=4.3
CLL Collm 149.66 344 PKPbc 18 42 30.3 +0.1
KRLC Kraliky 149.66 339⇑*e*PKP **PKiKP 18 42 30.9 -0.1**
IBBN Ibbenburen 149.74 351 *e*PKPbc **PKiKP 18 42 30.9 -0.1**
baz=19,slow=2.4
CLZ Clausthal 149.75 348 *e*PKPbc **PKiKP 18 42 31.1 0.0**
baz=19,slow=2.4
BRG Berggiesshubel 149.81 343⇑*i*PKP **PKiKP 18 42 31.1 -0.1**
BRG Amp 18 42 32.0
comp=Z,24nm,0.8s
BRG *ex* x 18 42 38.4
BRG Amp 18 42 39.5
comp=Z,11nm,0.8s
BRG Berggiesshubel 149.81 343 *e*PKPbc **PKiKP 18 42 31.1 -0.1**
baz=19,slow=2.4
BRG *e*PKPab **PKPab 18 42 38.7 +0.1**
baz=19,slow=4.3
ARR Arges 149.88 325 ⇓P **PKiKP 18 42 32.1 +0.4**
FBE Freiberg 149.93 344 *e*PKPbc **PKiKP 18 42 31.7 +0.2**
baz=19,slow=2.4
FBE *e*PKPab **PKPab 18 42 39.7 +0.6**
baz=19,slow=4.3
PVCC Panska Ves 149.95 342⇑*e*PKP **PKiKP 18 42 31.9 +0.4**
NEUB Neuenburg 150.05 346 *e*PKPbc **PKiKP 18 42 31.4 -0.2**
baz=19,slow=2.4
NEUB *e*PKPab **PKPab 18 42 39.9 +0.4**
baz=19,slow=4.3
GTTG Gottingen 150.11 348 *e*PKPbc **PKiKP 18 42 31.7 -0.1**
baz=19,slow=2.4
HUMR Humele 150.23 323 ⇓P **PKPbc 18 42 30.3 -1.5**
VYHS Vyhne 150.25 335 *e*PKP **PKPbc 18 42 31.9 +0.2**
VRAC Vranov 150.38 338 ⇓P **PKiKP 18 42 32.9 +0.4**
VRAC Vranov 150.38 338 *e*PKP **PKiKP 18 42 32.3 -0.2**
JAVC Velka Javorina 150.39 337 *e*PKP **PKiKP 18 42 33.5 +0.9**
PRU Pruhonice 150.44 341⇑*e*PKP **PKiKP 18 42 32.4 -0.2**
MOX Moxa 150.61 346 *e*PKPbc **PKiKP 18 42 32.8 -0.1**
baz=19,slow=2.4
MOX *e*PKPab **PKPab 18 42 41.8 -0.2**
baz=19,slow=4.3
TANN Tannenbergstha 150.62 344 *e*PKPbc **PKPbc 18 42 32.8 +0.2**
baz=19,slow=2.4
TANN *e*PKPab **PKPab 18 42 42.0 0.0**
baz=19,slow=4.3
WERD Werda 150.63 345 *e*PKPbc **PKiKP 18 42 33.0 0.0**
baz=19,slow=2.4
PLN Plauen 150.63 345 *e*PKPbc **PKiKP 18 42 33.0 0.0**
baz=19,slow=2.4
BUG Bochum--Univer 150.65 351 *e*PKPbc **PKPbc 18 42 32.7 +0.2**
baz=19,slow=2.4
KRUC Moravsky 150.66 338 *e*PKP **PKiKP 18 42 32.9 -0.2**
KRUC *e* 18 42 42.6
GUNZ Gunzen 150.70 344 *e*PKPbc **PKiKP 18 42 33.2 +0.1**
baz=19,slow=2.4
GUNZ *e*PKPab **PKPab 18 42 42.7 +0.3**
baz=19,slow=4.3
SIRR Siria 150.75 329 ⇓P **PKiKP 18 42 33.3 -0.1**
WERN Wernitzgruen 150.76 344 *e*PKPbc **PKiKP 18 42 33.4 +0.2**
baz=19,slow=2.4
WERN *e*PKPab **PKPab 18 42 43.0 +0.3**
baz=19,slow=4.3
NKC Novy Kostel 150.79 344⇑*e*PKP **PKiKP 18 42 33.5 +0.2**
UBBA Unterbreizbach 150.79 348 *e*PKPbc **PKiKP 18 42 33.1 0.0**
baz=19,slow=2.4
GZR Gura Zlata 150.82 327 ⇓P **PKPbc 18 42 33.4 +0.2**
MODS Modra-Piesok 150.94 337 *e*PKP **PKiKP 18 42 35.3 +1.6**
MANZ Manzenberg 151.10 344 *e*PKPbc **PKiKP 18 42 34.1 +0.1**
baz=19,slow=2.4
BZS Buzias 151.24 328 ⇓P **PKiKP 18 42 34.4 0.0**
ROTZ Rotzenmuhle 151.28 344 *e*PKPbc **PKPbc 18 42 34.1 +0.1**
baz=19,slow=2.4
ROTZ *e*PKPab **PKPab 18 42 45.0 +0.2**
baz=19,slow=4.3
HERR Herculane 151.36 326 ⇑P **PKPbc 18 42 34.5 +0.1**
KHC Kasperske Hory 151.49 342 *e*PKPDF **PKPdf 18 42 28.3 +0.5**
KHC ⇑*e*PKP **PKiKP 18 42 34.9 +0.1**
KHC *e*PKPAB **PKPab 18 42 46.3 +0.6**
KHC Kasperske Hory 151.49 342 PKPbc 18 42 34.0 -0.5
CKRC Cesky Krumlov 151.55 341⇑*e*PKP **PKiKP 18 42 35.1 +0.2**
CKRC *e*PKPAB **PKPab 18 42 46.5 +0.5**
GRF Grafenberg Arr 151.59 345 *e*PKPab **PKPab 18 42 46.6 +0.5**
baz=19,slow=4.3
GRA2 Grafenberg Arr 151.59 345 *e*PKPbc **PKPbc 18 42 34.8 +0.1**
baz=19,slow=2.4
MEM Membach 151.63 353 PKP **PKiKP 18 42 35.0 0.0**
BTNL Ternell 151.64 352 PKP **PKPbc 18 42 34.9 0.0**
TNS Taunus Mts 151.65 349 *e*PKPbc **PKiKP 18 42 35.1 0.0**
baz=19,slow=2.4
TNS *e*PKPab **PKPab 18 42 46.2 -0.2**
baz=19,slow=4.3
GEC2 GERESS Array S 151.71 341 *e*PKPbc **PKPbc 18 42 35.2 0.0**
baz=19,slow=2.4
GEC2 GERESS Array S 151.71 341 PKiKP 18 42 35.4 0.0
GERES GERESS Array B 151.71 341 PKPbc **PKPbc 18 42 35.2 0.0**
comp=Z,3.2nm,0.7s,baz=47,slow=2.4,SNR=22
GERES GERESS Array B 151.71 341 PKiKP 18 42 35.3 -0.1
CONA Conrad Observa 151.82 338 *i* P **PKiKP 18 42 36.0 +0.4**
comp=Z,7.0nm,0.8s
CONA *i* P **PKPab 18 42 47.9 +0.7**
comp=Z,6.5nm,1.0s
MPLH Magyarpolny 151.83 335 PKPDF **PKiKP 18 42 35.7 +0.2**
BMRD Maredsous 152.07 354 PKP **PKiKP 18 42 36.0 +0.1**
MORH Mrgy, Hungar 152.15 332 ⇑P **PKPbc 18 42 35.3 -0.7**
ZAPS Zavoj 152.34 324 *e*P **PKPbc 18 42 36.5 -0.1**
SVIS Svilajnac 152.40 327 *e*P **PKPbc 18 42 36.3 -0.3**
MOA Molln 152.42 340 *e*P **PKPab 18 42 50.7 +1.0**
comp=Z,5.2nm,1.0s,SNR=14
VTS Vitosha 152.42 322 ⇑P **PKPbc 18 42 34.8 -2.1**
FRGS Fruska Gora 152.44 330 ⇑P **PKPbc 18 42 35.8 -1.0**
FRGS Fruska Gora 152.44 330 *e*P **PKPbc 18 42 35.7 -1.0**
BOVS Bovan 152.59 325 ⇓P **PKPbc 18 42 36.7 -0.4**
BOVS Bovan 152.59 325 *e*P **PKPbc 18 42 36.1 -1.0**
TRUS Trudelj 152.84 328 *e*P **PKPbc 18 42 36.2 -1.4**
STU Stuttgart 152.90 347 *e*PKPab **PKPab 18 42 52.2 +0.5**
baz=19,slow=4.3
GRUS Gruza 152.93 327 *e*P **PKPbc 18 42 37.1 -0.7**
RJOB Jochberg 152.97 342 *e*PKPab **PKPab 18 42 53.0 +0.9**
baz=19,slow=4.3
FUR Furstenfeldbru 153.00 344 *e*PKPab **PKPab 18 42 52.5 +0.4**
baz=19,slow=4.3
DIVS Divibare 153.14 328 *e*P **PKPbc 18 42 36.9 -1.5**
SOKA Soboth 153.18 337 *i* P **PKPbc 18 42 38.2 -0.2**
comp=Z,1.9nm,0.7s
IVAS Ivanjica 153.43 327 *e*P **PKPbc 18 42 37.7 -1.3**
BFO Black Forest 153.49 348 *e*PKPab **PKPab 18 42 54.0 -0.3**
baz=19,slow=4.3
OBKA Obir 153.50 338 *e*P **PKPab 18 42 54.3 -0.1**
comp=Z,3.6nm,1.0s
BBLS Lazići 153.59 328 *e*P **PKPbc 18 42 36.9 -2.4**
WATA Walderalm 153.68 343 *e*P **PKiKP 18 42 39.6 0.0**
comp=Z,4.0nm,0.9s
WATA *e*P **PKPab 18 42 55.5 +0.3**
comp=Z,6.0nm,0.7s
WTTA Wattenberg 153.73 343 *i* P **PKiKP 18 42 39.8 +0.1**
comp=Z,3.9nm,0.6s
WTTA *e*P **PKPab 18 42 56.0 +0.4**
comp=Z,6.2nm,0.5s,SNR=4.7
SJES Sjenica 153.75 327 *e*P **PKiKP 18 42 40.2 +0.4**
RETA Reutte 153.75 344 *e*P **PKPab 18 42 55.9 +0.4**
comp=Z,8.3nm,1.0s
MOTA Moosalm 153.80 344 *i* P **PKiKP 18 42 39.8 0.0**
comp=Z,3.4nm,0.8s
MOTA *i* P **PKPab 18 42 56.4 +0.6**
comp=Z,9.5nm,1.1s
SQTA Sankt Quirin 153.89 343 *e*P **PKPdf 18 42 31.3 -0.1**
comp=Z,2.3nm,1.0s
SQTA *e*P **PKiKP 18 42 40.0 +0.1**
comp=Z,3.2nm,0.8s
SQTA *i* P **PKPab 18 42 56.1 0.0**
comp=Z,5.6nm,0.8s
ABTA Abfaltersbach 153.95 341 *e*P **PKPdf 18 42 30.7 -0.7**
comp=Z,5.7nm,1.2s
ABTA *e*P **PKPbc 18 42 39.7 -0.3**
comp=Z,3.6nm,0.8s
ABTA *i* P **PKPab 18 42 56.3 -0.1**
comp=Z,5.8nm,0.7s
DAVA Damuels 154.16 345 *i* P **PKPab 18 42 57.8 +0.5**
comp=Z,9.9nm,0.8s,SNR=4.4
FETA Feichten 154.20 344 *i* P **PKPdf 18 42 31.9 0.0**
comp=Z,5.9nm,1.0s
FETA *i* P **PKPab 18 42 57.9 +0.4**
comp=Z,6.9nm,1.6s
STAL STALIGIAL 154.32 340 PKPab 18 42 57.0 -0.9
NRCA Norcia 157.18 336 PKPab 18 43 10.4 0.0
ESDC Sonseca Array 162.48 12 PKPab **PKPab 18 43 33.3 -0.3**
comp=Z,1.9nm,0.9s,baz=349,slow=3.5,SNR=6.7
DBIC Dimbokro 163.42 161 PKP **PKPdf 18 42 42.9 -0.5**
comp=Z,3.9nm,1.0s,baz=276,slow=1.6,SNR=5.2
KEST Kesra 164.74 332 PKPab **PKPab 18 43 43.8 0.0**
comp=Z,2.3nm,0.8s,baz=217,slow=13,SNR=4.0
TORD Torodi Ar. Bea 170.61 187 PKP **PKPdf 18 42 48.0 -0.4**
comp=Z,1.8nm,0.9s,baz=267,slow=0.7,SNR=8.6
TORD PKPab **PKPab 18 44 11.0 +1.0**
comp=Z,0.6nm,0.7s,baz=217,slow=2.5,SNR=3.9

IDC ***25*** *18:31:16.5±2.2, 43°.54N×105°.39W, h0km, mb 1 3.5/3, mb1mx3.2/44, mbtmp3.2/3, ML3.2/3 Error ellipse: s-maj=49.1km s-min=10.9km az=152.0*
NEIC ***25*** *18:31:17.5±1.2, 43°.60N±0°.05×105°.29W±0°.09, h0km±2km, ML3.4/42, Error ellipse: s-maj=10.5km s-min=9.2km az=93.0*
ISC 25 18:31:16.4±0.9, **43°.52N**±0°.05×**105°.33W**±0°.05, **h0**km, **n40,** σ1§**61**/41, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.11**	**57**	Pg	**Pb**	**18 31 38.3**	**-0.3**
K22A	**Casper**	**1.23**	**226**		**Pg**	**18 31 40.0**	**-0.1**
K22A				IAML		18 32 02.8	
	comp=N,436nm,0.3s						
K22A				IAML		18 32 31.1	
	comp=E,401nm,2.1s						
PHWY	**Pilot Hill**	**2.22**	**183**		**Pb**	**18 31 56.7**	**-0.9**
RWWY	**Rawlins**	**2.30**	**218**		**Pb**	**18 31 58.3**	**-0.6**
RWWY				IAML		18 32 32.3	
	comp=E,246nm,0.9s						
RWWY				IAML		18 32 36.9	
	comp=E,188nm,1.1s						
N23A	**Red Feather La**	**2.66**	**190**	Pn	**Pn**	**18 32 03.2**	**+2.4**
N23A				IAML		18 32 46.9	
	comp=N,204nm,0.7s						
N23A				IAML		18 32 47.8	
	comp=E,124nm,1.2s						
BW06	**Boulder Array**	**3.19**	**258**		**Pn**	**18 32 09.2**	**+1.3**
BW06				IAML		18 33 29.1	
	comp=E,51nm,1.5s						
PD31	**Pinedale Array**	**3.19**	**258**	Pn	**Pn**	**18 32 09.1**	**+1.1**
PDAR	**Pinedale Array**	**3.19**	**258**	Pn	**Pn**	**18 32 09.2**	**+1.3**
	comp=E,2.5nm,0.3s,baz=75,slow=16,SNR=49						
PDAR				Pg	**Pg**	**18 32 18.1**	**+0.6**
	comp=E,9.0nm,0.3s,baz=72,slow=17,SNR=19						
PDAR				Lg	Lg	18 32 54.4	
	comp=E,14nm,0.3s,baz=74,slow=37,SNR=3.1						
PDAR	**Pinedale Array**	**3.19**	**258**		**Pn**	**18 32 09.1**	**+1.1**
LAO	**LASA Array**	**3.23**	**349**	Pn	**Pn**	**18 32 09.0**	**+0.6**
LAO				IAML		18 33 17.6	
	comp=E,139nm,0.9s						
LAO				IAML		18 33 27.8	
	comp=E,136nm,1.9s						
OGNE	**Ogallala**	**3.55**	**135**		**Pn**	**18 32 15.1**	**+2.3**
YMP	**Mirror Lake Pl**	**3.68**	**291**		**Pn**	**18 32 16.6**	**+1.7**
ISCO	**Idaho Springs**	**3.72**	**183**		**Pn**	**18 32 17.4**	**+1.9**
LKWY	**Lake**	**3.80**	**288**		**Pn**	**18 32 17.0**	**+0.6**
LKWY				IAML		18 33 23.4	
	comp=E,61nm,1.6s						
LKWY				IAML		18 33 47.4	
	comp=E,46nm,1.6s						
LOHW	**Long Hollow**	**3.84**	**273**		**Pn**	**18 32 18.1**	**+1.2**
LOHW				IAML		18 33 43.0	
	comp=E,33nm,1.7s						
GCMT	**Greycliff**	**3.84**	**308**		**Pn**	**18 32 17.0**	**+0.2**
H17A	**Grant Village**	**3.89**	**285**		**Pn**	**18 32 18.5**	**+0.9**
H17A				IAML		18 33 23.8	
	comp=E,49nm,1.9s						
H17A				IAML		18 33 25.4	
	comp=N,71nm,1.9s						
FLWY	**Flagg Ranch**	**3.93**	**280**		**Pn**	**18 32 19.6**	**+1.5**
FLWY				IAML		18 33 35.6	
	comp=N,71nm,1.9s						
MOOW	**Moose Ponds**	**3.94**	**275**		**Pn**	**18 32 20.3**	**+2.0**
O20A	**White River Ci**	**4.02**	**214**		**Pn**	**18 32 21.4**	**+2.0**
O20A				IAML		18 34 13.6	
	comp=E,82nm,2.0s						
REDW	**Red Top Meadow**	**4.03**	**270**	Pn	**Pn**	**18 32 21.3**	**+1.8**
REDW				IAML		18 33 35.8	
	comp=E,65nm,1.5s						
REDW				IAML		18 33 46.6	
	comp=E,73nm,0.9s						
TPAW	**Teton Pass**	**4.09**	**272**		**Pn**	**18 32 21.5**	**+1.0**
TPAW				IAML		18 33 41.0	
	comp=E,36nm,0.9s						
TPAW				IAML		18 33 56.2	
	comp=E,44nm,2.5s						
YMR	**Madison River**	**4.22**	**288**	Pn	**Pn**	**18 32 22.8**	**+0.6**
YMR				IAML		18 33 39.9	
	comp=E,41nm,1.0s						
YMR				IAML		18 33 51.1	
	comp=N,57nm,2.4s						
ECR	**Eagle Creek**	**4.44**	**266**		**Pn**	**18 32 27.4**	**+2.3**
E28A	**Huff**	**4.48**	**45**		**Pn**	**18 32 26.6**	**+1.0**
K31A	**O'Neill**	**4.90**	**98**	Pn	**Pn**	**18 32 30.9**	**-0.4**
P18A	**Preston Nutter**	**5.36**	**225**		**Pn**	**18 32 35.9**	**-2.0**
EGMT	**Eagleton**	**5.47**	**327**	Pn	**Pn**	**18 32 38.4**	**-0.7**
DLMT	**Dillon**	**5.52**	**292**		**Pn**	**18 32 42.5**	**+2.5**
HRY	**Holter Researc**	**5.60**	**307**		**Pn**	**18 32 41.5**	**+0.5**
HVU	**Hansel Valley**	**5.76**	**255**		**Pn**	**18 32 42.4**	**-0.9**
PV23	**Carpenter Ridg**	**5.78**	**210**		**Pn**	**18 32 43.1**	**-0.5**
PV11	**David Mesa, Pa**	**5.87**	**208**	Pn	**Pn**	**18 32 43.5**	**-1.2**
SRU	**San Rafael Swe**	**5.89**	**223**		**Pn**	**18 32 45.9**	**+0.8**
PV13	**Radium Mtn., P**	**5.97**	**207**	Pn	**Pn**	**18 32 43.5**	**-2.8**
TMUT	**Trail Mountain**	**6.11**	**228**		**Pn**	**18 32 47.5**	**-0.7**
Q16A	**Castle Valley**	**6.37**	**226**	Pn	**Pn**	**18 32 56.1**	**+4.4**
T25A	**Trinidad**	**6.41**	**173**	Pn	**Pn**	**18 32 50.1**	**-2.1**
ULM	**Lac du Bonnet**	**9.33**	**41**	Pn	**Pn**	**18 33 30.3**	**-1.8**
	comp=N,1.0nm,0.3s,baz=221,slow=12,SNR=3.2						
YKA	**Yellowknife Ar**	**19.77**	**347**	P	**P**	**18 35 48.1**	**+0.4**
	comp=N,0.1nm,0.3s,baz=154,slow=12,SNR=2.8						

SFS ***25*** *18:31:29.0, 35°.51N×3°.85W, ML2.4, ALBORAN SUR*
CNRM ***25*** *18:31:30.9, 35°.55N×3°.70W, h18km, ml2.9*
ISC 25 18:31:29.3±1.2, **35°.62N**±0°.03×**3°.68W**±0°.03, **h14**km±9km, **n14,** σ1§**71**/28, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.45**	**208**	P	**Pg**	**18 31 37.7**	**-0.6**
PALE				S	**Sg**	**18 31 44.2**	**-0.1**
GOG	**Mont Gurugu**	**0.68**	**125**	P	**Pn**	**18 31 44.9**	**+0.2**
GOG				S	**Sb**	**18 31 53.4**	**+1.0**
CHAS	**Isla Isabel II**	**1.11**	**113**	P	**Pb**	**18 31 50.1**	**-0.1**
CHAS				S	**Sb**	**18 32 04.5**	**0.0**
EMAL	**Malaga-Limoner**	**1.30**	**332**	P	**Pg**	**18 31 54.2**	**-0.1**
EMAL				S	**Sg**	**18 32 11.5**	**+0.4**
CEU	**Ceuta**	**1.41**	**282**	P	**Pn**	**18 31 52.7**	**-1.9**
CEU				S	**Sn**	**18 32 07.4**	**-5.5**
CHEFC	**Chefchaouen**	**1.45**	**250**	P	**Pb**	**18 31 56.0**	**-0.2**
CHEFC				S	**Sg**	**18 32 15.7**	**-0.4**
JBK	**JBK**	**1.57**	**144**	P	**Pn**	**18 31 56.7**	**-0.3**
JBK				S	**Sn**	**18 32 15.0**	**-2.2**
LCRM	**LCR**	**2.16**	**207**	P	**Pb**	**18 32 08.5**	**+0.2**
LCRM				S	**Sb**	**18 32 36.0**	**+1.0**
IFR	**Ifrane**	**2.41**	**210**	P	**Pn**	**18 32 08.3**	**-0.3**
IFR				S	**Sn**	**18 32 34.9**	**-3.1**
MD31	**MD31**	**2.88**	**198**	P	**Pn**	**18 32 15.7**	**+0.7**
MD31				S	**Sn**	**18 32 49.7**	**+0.2**
MDT	**Midelt**	**2.90**	**196**	P	**Pn**	**18 32 17.0**	**+1.8**
MDT				S	**Sn**	**18 32 50.4**	**+0.5**
ZHG	**ZHG**	**3.27**	**229**	P	**Pn**	**18 32 22.2**	**+2.0**
ZHG				S	**Sn**	**18 33 00.8**	**+1.9**
PVAQ	**Vaqueiros**	**3.71**	**300**	P	**Pn**	**18 32 28.1**	**+1.9**
PVAQ				S	**Sn**	**18 33 10.0**	**+0.2**
EVO	**Evora**	**4.53**	**311**	P	**Pn**	**18 32 39.2**	**+1.8**
EVO				S	**Sn**	**18 33 29.7**	**-0.2**

SFS ***25*** *18:37:17.0, 35°.58N×3°.80W, ML2.5, ALBORAN SUR*
CNRM ***25*** *18:37:17.9, 35°.59N×3°.71W, h18km, ml3.1*
ISC 25 18:37:17.0±1.2, **35°.60N**±0°.03×**3°.68W**±0°.04, **h13**km±10km, **n16,** σ1§**05**/29, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.44**	**208**	P	**Pg**	**18 37 25.4**	**-0.3**
PALE				S	**Sg**	**18 37 31.5**	**-0.1**
GOG	**Mont Gurugu**	**0.68**	**124**	P	**Pg**	**18 37 30.9**	**+0.6**
GOG				S	**Sg**	**18 37 40.1**	**+0.9**
AKLM	**AKL**	**1.10**	**188**	P	**Pg**	**18 37 38.2**	**-0.1**
AKLM				S	**Sn**	**18 37 55.3**	**+1.9**
CHAS	**Isla Isabel II**	**1.11**	**112**	P	**Pg**	**18 37 37.6**	**-0.7**
CHAS				S	**Sg**	**18 37 52.2**	**-0.5**
EMAL	**Malaga-Limoner**	**1.30**	**333**	P	**Pn**	**18 37 41.1**	**+0.1**
EMAL				S	**Sb**	**18 37 57.6**	**-0.5**
CEU	**Ceuta**	**1.41**	**283**	P	**Pn**	**18 37 41.6**	**-0.7**
CHEFC	**Chefchaouen**	**1.44**	**250**	P	**Pn**	**18 37 43.4**	**+0.4**
JBK	**JBK**	**1.56**	**144**	P	**Pn**	**18 37 44.1**	**-0.7**
JBK				S	**Sn**	**18 38 03.6**	**-1.4**
LCRM	**LCR**	**2.15**	**207**	P	**Pb**	**18 37 55.5**	**-0.3**
LCRM				S	**Sb**	**18 38 21.9**	**-0.5**
IFR	**Ifrane**	**2.40**	**210**	P	**Pn**	**18 37 56.5**	**+0.3**
IFR				S	**Sn**	**18 38 24.8**	**-0.8**
MD31	**MD31**	**2.87**	**198**	P	**Pn**	**18 38 03.6**	**+1.0**
MD31				S	**Sn**	**18 38 37.3**	**+0.2**
MDT	**Midelt**	**2.89**	**196**	P	**Pn**	**18 38 04.2**	**+1.4**
MDT				S	**Sn**	**18 38 39.4**	**+1.9**
ZHG	**ZHG**	**3.26**	**229**	P	**Pn**	**18 38 07.7**	**-0.2**
ZHG				S	**Sn**	**18 38 45.3**	**-1.3**
PVAQ	**Vaqueiros**	**3.71**	**300**	P	**Pn**	**18 38 15.4**	**+1.3**
PVAQ				S	**Sn**	**18 38 57.1**	**-0.7**
PESTR	**Estremoz**	**4.51**	**317**	P	**

IDC 25 18:57:09.8±3.3, 4°97S×153°07E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/35, mbtmp3.5/4, ML1.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/31, Error ellipse: s-maj=112.6km s-min=33.5km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.34**	**233**	Pn	Pn	18 58 59.7	+1.3
	0.7nm,0.3s,baz=15,slow=5.0,SNR=6.3						
PMG				Sn	Sn	19 00 16.9	-5.5
	0.5nm,0.3s,baz=238,slow=15,SNR=2.1						
WRA	**Warramunga Arr**	**23.54**	**229**	P	P	19 02 21.1	-0.9
	0.9nm,0.5s,baz=54,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**26.21**	**223**	P	P	19 02 46.6	0.0
	0.4nm,0.5s,baz=55,slow=9.3,SNR=12						
MJAR	**Matsushiro Arr**	**43.57**	**343**	LR	LR	19 20 25.1	
	comp=Z,73nm,19.7s,baz=337,slow=32						
MKAR	**Makanchi Array**	**80.63**	**319**	P	P	19 09 24.3	-0.3
	0.1nm,0.6s,baz=101,slow=4.8,SNR=1.3						
TORD	**Torodi Ar. Bea**	**150.61**	**288**	PKPbc	PKiKP	19 17 05.4	-0.3
	0.6nm,0.8s,baz=50,slow=1.4,SNR=2.6						

*FUNV **25** 19:01:36.6, 10°63N×62°34W, h98km, MW3.9*
*TRN **25** 19:01:37.2, 10°61N×62°18W, h101km, MD3.6*

ISC 25 19:01:33.3±1.5, 10°51N±0°06×62°37W±0°06, h119km±12km, n23, σ2°28/45, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.86**	**281**	*e*P	**Pn**	19 01 54.4	+0.5
CRUV				*e*S	**Sn**	19 02 07.6	-1.8
TRN	**Trinidad (W)**	**0.96**	**82**	*e*P	**Pn**	19 01 56.0	+1.1
TRN				*e*S	**Sn**	19 02 09.5	-1.6
COAV	**Cumanacoa**	**1.47**	**256**	*e*P	**Pn**	19 02 02.8	+2.3
COAV				*e*S	**Sn**	19 02 22.0	+0.9
GRGR	**Grenville**	**1.76**	**24**	*e*P	**Pn**	19 02 04.2	+0.5
GRGR				*e*S	**Sn**	19 02 24.6	-2.4
CUMV	**Cumana_UDO**	**1.79**	**267**	*e*P	**Pn**	19 02 06.8	+2.7
CUMV				*e*S	**Sn**	19 02 28.7	+1.1
TOSP	**Speyside**	**1.97**	**66**	*e*P	**Pn**	19 02 07.5	+1.2
TOSP				*e*S	**Sn**	19 02 27.4	-4.0
GCMP	**Grenada, Carri**	**2.17**	**25**	*e*P	**Pn**	19 02 09.6	+0.7
GCMP				*e*S	**Sn**	19 02 34.1	-2.0
PCRV	**Puerto La Cruz**	**2.25**	**262**	*e*P	**Pn**	19 02 12.0	+2.1
PCRV				*e*S	**Sn**	19 02 38.0	+0.1
PRGV	**PARIAGUAN**	**2.84**	**232**	*e*P	**Pn**	19 02 20.7	+3.3
PRGV				*e*S	**Sn**	19 02 53.2	+1.8
SVB	**Belmont**	**2.96**	**22**	*e*P	**Pn**	19 02 21.6	+2.6
SVB				*e*S	**Sn**	19 02 53.1	-1.1
SVV	**Soufriere Volc**	**3.01**	**22**	*e*P	**Pn**	19 02 21.4	+1.7
SVV				*e*S	**Sn**	19 02 53.4	-2.2
MCLT	**Moule a Chique**	**3.47**	**24**	*e*P	**Pn**	19 02 26.6	+0.8
MCLT				*e*S	**Sn**	19 03 04.4	-2.1
SLBI	**Saint Lucia, B**	**3.75**	**21**	*e*P	**Pn**	19 02 31.3	+1.9
SLBI				*e*S	**Sn**	19 03 11.4	-1.6
BIRV	**Birongo**	**3.83**	**270**	*e*P	**Pn**	19 02 33.8	+3.2
BIRV				*e*S	**Sn**	19 03 14.6	-0.4
MERV	**Las Mercedes**	**4.06**	**252**	*e*P	**Pn**	19 02 35.9	+2.2
MERV				*e*S	**Sn**	19 03 20.7	+0.2
BIM	**Bigot**	**4.18**	**18**	*e*P	**Pn**	19 02 36.5	+1.3
BIM				*e*S	**Sn**	19 03 21.0	-2.3
MPOM	**Morne Pois Mar**	**4.18**	**21**	*e*P	**Pn**	19 02 37.1	+1.9
MPOM				*e*S	**Sn**	19 03 22.0	-1.3
CACV	**CAICARA DEL OR**	**5.05**	**235**	*e*P	**Pn**	19 02 44.5	-2.4
CACV				*e*S	Sn	19 03 35.1	-9.1
BENV	**Beln**	**5.17**	**264**	*e*P	**Pn**	19 02 50.4	+1.8
BENV				*e*S	**Sn**	19 03 45.7	-1.6
BAUV	**El Baul**	**5.80**	**255**	*e*P	**Pn**	19 02 58.7	+1.7
BAUV				*e*S	**Sn**	19 04 00.2	-2.2
MAPV	**Macapo**	**6.03**	**264**	*e*P	**Pn**	19 03 01.9	+1.8
MAPV				*e*S	**Sn**	19 04 05.2	-2.7
PAYV	**Puerto Ayacuch**	**7.28**	**226**	*e*P	**Pn**	19 03 19.7	+2.7
PAYV				*e*S	**Sn**	19 04 34.8	-3.3
SOCV	**Socops**	**8.66**	**256**	*e*P	**Pn**	19 03 36.1	+0.4
SOCV				*e*S	**Sn**	19 05 05.3	-6.4

*IGIL **25** 19:09:50.6, 35°32N×3°49W, h10km, ML3.1*
*IDC **25** 19:09:51.5±1.0, 35°74N×3°65W, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.4/55, mbtmp3.6/6, ML3.1/3, Error ellipse: s-maj=31.3km s-min=12.7km az=98.0*
*MDD **25** 19:09:52.6±0.5, 35°73N×3°69W, h0km, mbLg3.2/8, Error ellipse: s-maj=5.2km s-min=3.4km az=30.0*
*SFS **25** 19:09:52.0, 35°73N×3°68W, ML3.2, ALBORAN SUR*
*CNRM **25** 19:09:52.9, 35°75N×3°48W, h21km, ml3.6*
*INMG **25** 19:09:53.9±1.9, 35°76N×3°53W, h14km±7km, ML3.1, Error ellipse: s-maj=5.1km s-min=3.4km az=86.0*
*LDG **25** 19:09:55.5, 35°52N×3°56W, h30km*

ISC 25 19:09:52.2±1.1, 35°72N±0°02×3°64W±0°02, h6km±9km, n77, σ1°83/117, mb4.1/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.54**	**65**	Pg	**Pg**	19 10 03.8	+1.2
	881nm,0.3s,SNR=876						
EALB				Lg	Lg	19 10 11.5	
	5μm,0.4s,SNR=42						
PALE	**Palemas**	**0.56**	**206**	P	**Pb**	19 10 05.0	+0.6
PALE				S	**Sb**	19 10 13.4	+0.7
EMEL	**Melilla**	**0.69**	**127**	Pg	**Pg**	19 10 06.1	+0.5
	2μm,0.3s,SNR=350						
EMEL				Lg	Lg	19 10 14.8	
	29μm,0.2s,SNR=29						
GOG	**Mont Gurugu**	**0.72**	**133**	P	**Pg**	19 10 06.4	+0.4
GOG				S	**Sg**	19 10 15.7	+0.3
CHAS	**Isla Isabel II**	**1.12**	**118**	P	**Pg**	19 10 11.7	-2.0
CHAS				S	**Sg**	19 10 25.0	-3.2
ELGU	**Los Guajares,**	**1.15**	**0**	Pg	**Pg**	19 10 13.9	-0.4
	SNR=7.9						
ELGU				Lg	Lg	19 10 28.4	
	189nm,0.2s,SNR=7.9						
AKLM	**AKL**	**1.22**	**189**	P	**Pg**	19 10 15.4	-0.3
AKLM				S	**Sg**	19 10 31.8	+0.4
EMAL	**Malaga-Limoner**	**1.22**	**329**	P	**Pg**	19 10 15.1	-0.6
EMAL				S	**Sg**	19 10 30.8	-0.7
EMIJ	**Mijas**	**1.25**	**313**	Pg	**Pg**	19 10 15.2	-1.0
	43nm,0.3s,SNR=106						
EMIJ				Lg	Lg	19 10 30.2	
	232nm,0.4s,SNR=5.0						
EBER	**Berja**	**1.32**	**27**	Pg	**Pg**	19 10 16.0	-1.6
	SNR=7.9						
EBER				Lg	Lg	19 10 34.4	
	248nm,0.3s,SNR=7.9						
CEU	**Ceuta**	**1.42**	**278**	P	**Pg**	19 10 16.4	-3.1
CEU				S	**Sg**	19 10 33.8	-4.2
ECEU	**Ceuta**	**1.43**	**278**	Pg	**Pg**	19 10 17.6	-2.0
	SNR=7.9						
ECEU				Lg	Lg	19 10 35.5	
	43nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.44**	**345**	Pg	**Pg**	19 10 18.9	-1.0
	SNR=7.9						
EGOR				Lg	Lg	19 10 38.0	
	59nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**1.49**	**6**	Pg	**Pn**	19 10 19.9	+0.2
	25nm,0.3s,SNR=86						
EQUE				Lg	Lg	19 10 39.1	
	25nm,0.3s,SNR=10						
CHEFC	**Chefchaouen**	**1.52**	**247**	P	**Pn**	19 10 20.5	+0.4
CHEFC				S	Sn	19 10 54.0	+14
JBK	**JBK**	**1.64**	**147**	P	**Pn**	19 10 20.2	-1.6
JBK				S	**Sn**	19 10 39.1	-4.1
EJIF	**Jimena Fronter**	**1.66**	**297**	Pg	**Pn**	19 10 22.3	+0.5
	SNR=7.9						
EJIF				Lg	Lg	19 10 45.5	
	SNR=7.9						
ENIJ	**Nijar**	**1.70**	**42**	Pn	**Pn**	19 10 20.4	-2.1
	SNR=7.9						
ENIJ				Sn	**Sn**	19 10 40.3	-4.3
	SNR=7.9						
SICH	**Sidi Chahed**	**2.12**	**221**	P	Pg	19 10 39.0	+6.1
SICH				S	**Sb**	19 10 58.1	+0.4
EQES	**Quesada**	**2.13**	**12**	Pg	**Pn**	19 10 30.1	+1.6
	34nm,0.3s,SNR=232						
EQES				Lg	Lg	19 10 57.8	
	166nm,0.4s,SNR=5.0						
LCRM	**LCR**	**2.26**	**207**	P	**Pn**	19 10 31.0	+0.7
LCRM				S	Sg	19 11 16.6	+12
IFR	**Ifrane**	**2.52**	**210**	P	**Pn**	19 10 34.0	+0.2
IFR				S	**Sn**	19 11 03.9	-1.1
EADA	**Adamuz**	**2.56**	**343**	Pn	**Pn**	19 10 35.2	+0.9
	8.9nm,0.4s,SNR=24						
EADA				Sn	**Sn**	19 11 04.8	-1.0
	32nm,0.3s,SNR=6.0						
CART	**Cartagena**	**2.82**	**48**	P	**Pn**	19 10 37.8	-0.1
CART				S	**Sn**	19 11 07.2	-5.1
CART	**Cartagena**	**2.82**	**48**	P	**Pn**	19 10 35.3	-2.5
CART				S	**Sn**	19 11 06.8	-5.4
TDRA	**Tendrara**	**2.98**	**153**	P	**Pn**	19 10 40.1	-0.2
MD31	**MD31**	**2.99**	**198**	P	**Pn**	19 10 40.7	+0.4
MDT	**Midelt**	**3.01**	**196**	Pn	**Pn**	19 10 40.8	+0.3
	1.9nm,0.3s,baz=217,slow=10.0,SNR=28						
MDT				Pg	**Pb**	19 10 48.6	+2.3
	5.0nm,0.3s,baz=138,slow=15,SNR=21						
MDT				Lg	Lg	19 11 24.9	
	9.6nm,0.3s,baz=30,slow=13,SNR=5.4						
MDT	**Midelt**	**3.01**	**196**	P	**Pn**	19 10 41.1	+0.6
ZHG	**ZHG**	**3.36**	**228**	P	**Pn**	19 10 46.1	+0.7
PVAQ	**Vaqueiros**	**3.69**	**298**	*e*Pn	**Pn**	19 10 50.1	+0.3
PVAQ				*e*Sn	**Sn**	19 11 31.8	-1.8
PVAQ				A	A	19 11 36.5	
	21nm,0.3s						
PVAQ	**Vaqueiros**	**3.69**	**298**	P	**Pn**	19 10 50.1	+0.3
PBDV	**Barranco-do-Ve**	**3.78**	**295**	*e*Pn	**Pn**	19 10 51.4	+0.3
PBDV				*e*Sn	**Sn**	19 11 34.4	-1.5
PBDV				A	A	19 11 41.6	
	31nm,0.6s						
ESDC	**Sonseca Array**	**3.96**	**356**	Pn	**Pn**	19 10 55.0	+1.4
	1.0nm,0.3s,baz=175,slow=12,SNR=39						
ESDC				Sn	**Sn**	19 11 37.7	-2.6
	1.1nm,0.3s,baz=183,slow=23,SNR=5.6						
ESDC				Lg	Lg	19 11 55.4	
	1.5nm,0.3s,baz=182,slow=27,SNR=5.7						
PCVE	**Castro Verde**	**4.02**	**300**	*e*Pn	**Pn**	19 10 54.6	+0.2
PCVE				*e*Sn	**Sn**	19 11 40.4	-1.4
PCVE				A	A	19 11 43.4	
	37nm,0.5s						
FIGM	**Figuig**	**4.08**	**150**	P	**Pn**	19 10 55.3	-0.1
PBEJ	**Beja**	**4.10**	**305**	*e*Pn	**Pn**	19 10 56.0	+0.6
PBEJ				*e*Sn	**Sn**	19 11 42.9	-0.8
PBEJ				A	A	19 11 46.5	
	20nm,0.7s						
MESJ	**Messejana**	**4.25**	**301**	*e*P	**Pn**	19 10 57.8	+0.3
MESJ				*e*S	**Sn**	19 11 46.7	-0.6
MESJ				IAML		19 11 48.1	
	comp=E,29nm,0.4s						
MESJ	**Messejana**	**4.25**	**301**	*e*Pn	**Pn**	19 10 58.2	+0.8
MESJ				*e*Sn	**Sn**	19 11 46.1	-1.2
MESJ				A	A	19 11 49.6	
	comp=E,22nm,0.5s						
MORF	**Marmelete**	**4.34**	**293**	*e*P	**Pn**	19 10 58.6	-0.2
MORF				*e*S	**Sn**	19 11 48.1	-1.6
MORF				IAML		19 11 53.8	
	comp=N,34nm,0.2s						
MORF	**Marmelete**	**4.34**	**293**	*e*Pn	**Pn**	19 10 58.8	0.0
MORF				*e*Sn	**Sn**	19 11 48.5	-1.2
MORF				A	A	19 11 54.7	
	comp=N,18nm,0.7s						
PFVI	**Vila Bisbo**	**4.42**	**290**	*e*Pn	**Pn**	19 11 01.0	+1.2
PFVI				*e*Sn	**Sn**	19 11 49.2	-2.4
PFVI				A	A	19 12 00.8	
	comp=N,23nm,0.5s						
PFVI	**Vila Bisbo**	**4.42**	**290**	P	**Pn**	19 11 00.3	+0.5
PESTR	**Estremoz**	**4.45**	**316**	*e*Pn	**Pn**	19 11 01.2	+0.9
PESTR				*e*Sn	**Sn**	19 11 50.2	-2.2
PESTR				A	A	19 12 03.8	
	comp=N,10nm,0.5s						
PESTR	**Estremoz**	**4.45**	**316**	P	**Pn**	19 11 00.9	+0.6
PTEO	**Sao Teotonio**	**4.48**	**296**	*e*Pn	**Pn**	19 11 01.6	+0.9
PTEO				*e*Sn	**Sn**	19 11 51.9	-1.2
PTEO				A	A	19 11 56.9	
	comp=N,40nm,0.7s						
EVO	**Evora**	**4.49**	**310**	P	**Pn**	19 11 01.6	+0.9
EVO				S	**Sn**	19 11 50.9	-2.3
EVO	**Evora**	**4.49**	**310**	*e*Pn	**Pn**	19 11 01.6	+0.9
EVO				*e*Sn	**Sn**	19 11 51.0	-2.3
EVO				A	A	19 11 53.5	
	comp=N,26nm,0.7s						
PNCL	**Nicolau / Gran**	**4.59**	**303**	*e*Pn	**Pn**	19 11 02.7	+0.5
PNCL				*e*Sn	**Sn**	19 11 54.4	-1.4
PNCL				A	A	19 11 57.2	
	comp=N,14nm,0.3s						
UCM	**Universidad Co**	**4.59**	**4**	P	**Pn**	19 11 04.0	+1.7
UCM				S	**Sn**	19 11 59.0	+3.0
PMRV	**Marv??o**	**4.75**	**322**	*e*Pn	**Pn**	19 11 05.7	+1.2
PMRV				*e*Sn	**Sn**	19 11 58.5	-1.4
PMRV				A	A	19 12 16.1	
	comp=N,13nm,0.4s						
PMTG	**Montargil**	**4.95**	**314**	*e*Pn	**Pn**	19 11 08.2	+1.0
PMTG				*e*Sn	**Sn**	19 12 03.5	-1.3
PMTG				A	A	19 12 04.7	
	comp=N,12nm,0.7s						
PCBR	**Castelo Branco**	**5.12**	**325**	*e*Pn	**Pn**	19 11 10.9	+1.5
PCBR				*e*Sn	**Sn**	19 12 06.1	-2.7
PCBR				A	A	19 12 08.9	
	comp=N,15nm,0.5s						
TZRR	**Tazzarine**	**5.18**	**199**	P	**Pn**	19 11 10.5	+0.1
PMAFR	**Mafra**	**5.54**	**307**	*e*Pn	**Pn**	19 11 16.8	+1.6
PSBE	**So Bento**	**5.58**	**314**	*e*Pn	**Pn**	19 11 17.2	+1.4
MTE	**Manteigas**	**5.60**	**328**	*e*Pn	**Pn**	19 11 17.8	+1.7
MTE				*e*Sn	**Sn**	19 12 18.6	-2.2
MTE				A	A	19 12 22.5	
	comp=N,19nm,0.7s						
OUK	**Oukaimeden**	**5.72**	**219**	P	**Pn**	19 11 17.9	-0.1
PCAS	**Casmilo, Conde**	**5.79**	**320**	*e*Pn	**Pn**	19 11 19.4	+0.8
PCAS				*e*Sn	**Sn**	19 12 22.4	-3.0
PCAS				A	A	19 13 11.1	
	comp=N,12nm,0.7s						
PVIS	**Viseu**	**6.01**	**327**	*e*Pn	**Pn**	19 11 23.1	+1.4
PVIS				*e*Sn	**Sn**	19 12 28.8	-2.1
PVIS				A	A	19 12 33.1	
	comp=N,16nm,0.6s						
MVO	**Moncorvo**	**6.05**	**335**	*e*Pn	**Pn**	19 11 24.1	+1.7
MVO				*e*Sn	**Sn**	19 12 29.2	-2.8
MVO				A	A	19 13 06.1	
	comp=N,12nm,0.7s						
PVRL	**Vila Real**	**6.40**	**331**	*e*Pn	**Pn**	19 11 29.2	+2.1
EAH	**EAH**	**6.41**	**232**	P	**Pn**	19 11 27.1	0.0
POLO	**Lamas de Olo**	**6.52**	**331**	*e*Pn	**Pn**	19 11 30.1	+1.3
POLO				*e*Sn	**Sn**	19 12 39.9	-3.6
POLO				A	A	19 12 46.2	
	comp=N,3.3nm,0.6s						
PBRG	**Braganca**	**6.54**	**339**	*e*Pn	**Pn**	19 11 30.4	+1.3
TTIG	**Tnine Tigouga,**	**6.54**	**219**	P	**Pn**	19 11 27.8	-1.3
PGAV	**Gavieira, Arco**	**7.21**	**331**	*e*Pn	**Pn**	19 11 40.1	+1.9
PGAV				*e*Sn	**Sn**	19 12 57.2	-3.3
PGAV				A	A	19 13 03.6	
	comp=N,8.9nm,0.8s						
ETSF	**Etsaut**	**7.56**	**17**	*e*Pn	**Pn**	19 11 46.0	+3.0
ETSF				*e*Sn	**Sn**	19 13 09.7	+0.7
	comp=N,1.2nm,0.4s						
SJPF	**Ste Jean**	**7.62**	**13**	*e*Pn	**Pn**	19 11 46.1	+2.3
SJPF				*e*Sn	**Sn**	19 13 09.7	-0.7
	comp=N,0.7nm,0.3s						
EPF	**Esparros**	**7.92**	**22**	*e*Pn	**Pn**	19 11 50.5	+2.5
MTLF	**Montolieu**	**8.85**	**29**	*e*Pn	**Pn**	19 12 04.7	+4.0
KEST	**Kesra**	**10.56**	**86**	Pn	**Pn**	19 12 25.4	+1.3
	comp=N,0.1nm,0.3s,baz=79,slow=17,SNR=1.5						
PGF	**Pioggiola**	**11.94**	**51**	*e*Pn	**Pn**	19 12 45.6	+2.5
QUIF	**Quistinic**	**12.19**	**1**	*e*Pn	**Pn**	19 12 48.0	+1.6
TORD	**Torodi Ar. Bea**	**22.98**	**167**	P	**P**	19 14 58.5	+0.9
	comp=N,1.7nm,0.9s,baz=347,slow=6.1,SNR=4.2						
MKAR	**Makanchi Array**	**62.48**	**51**	P	**P**	19 20 15.9	-0.5
	comp=N,1.0nm,0.8s,baz=282,slow=6.1,SNR=9.7						
YKA	**Yellowknife Ar**	**67.69**	**332**	P	**P**	19 20 50.1	+0.1
	comp=N,0.7nm,0.6s,baz=60,slow=6.3,SNR=12						

*IDC **25** 19:18:10.3±1.1, 19°45N×75°85W, h0km, mb3.5/7, mb1 3.8/9, mb1mx3.7/35, mbtmp3.6/9, ML3.2/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/49, Error ellipse: s-maj=32.4km s-min=27.9km az=31.0*
*SSNC **25** 19:18:14.2±1.2, 19°68N×76°08W, h6km±9km, ML3.9, MW3.8*
*JSN **25** 19:18:15.0±0.7, 19°57N×76°20W, h0km±95km, MD4.3*

ISC 25 19:18:13.2±1.3, 19°74N±0°04×76°13W±0°03, h11km±9km, n34, σ1°74/42, mb3.4/7, 2C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.48**	**57**	*e*P	**Pb**	19 18 22.6	-1.0
RCC				*e*S	**Sg**	19 18 28.7	-0.2
RCC				IAML		19 18 29.9	
	comp=E,5μm,0.4s						
RCC				IAML		19 18 30.1	
	comp=N,5μm,0.6s						
LMGC	**Las Mercedes**	**0.89**	**292**	*e*P	**Pg**	19 18 30.2	-0.1
LMGC				*e*S	**Sg**	19 18 42.4	+0.5
GTBY	**Guantanamo Bay**	**0.97**	**79**	*e*P	**Pn**	19 18 31.1	-1.7
GTMO	**Guantanamo**	**0.99**	**70**	*e*P	**Pn**	19 18 32.2	-0.7
GTMO				*e*S	**Sn**	19 18 46.6	-0.3
HLGC	**Holguin**	**1.15**	**3**	*e*P	**Pn**	19 18 35.0	-0.3
HLGC				*e*S	**Sb**	19 18 51.4	+1.3
MOAC	**Moa**	**1.43**	**50**	*e*P	**Pn**	19 18 37.2	-1.9
MOAC				*e*S	**Sb**	19 18 57.6	-0.5
MOAC				IAML		19 19 04.3	
	comp=N,917nm,0.5s						
MOAC				IAML		19 19 05.5	
	comp=E,1μm,0.4s						
CMJ	**Castle Mountai**	**1.61**	**188**	*i* P	**Pn**	19 18 40.8	-0.7
BBJ	**Bamboo Saint A**	**1.73**	**219**	⇑*i* P	**Pn**	19 18 42.4	-0.8
GWJ	**Greenwich**	**1.75**	**199**	*i* P	**Pn**	19 18 42.3	-1.3
STH	**Stony Hill**	**1.77**	**202**	*i* P	**Pn**	19 18 42.6	-1.2
HOJ	**Hope**	**1.82**	**199**	*i* P	**Pn**	19 18 43.9	-0.5
MASC	**Masc**	**1.83**	**76**	*e*P	**Pn**	19 18 42.9	-1.7
MASC				*e*S	**Sn**	19 19 04.5	-3.4
CVJ	**Coleyville**	**2.01**	**222**	⇑*i* P	**Pn**	19 18 46.2	-0.9
MTDJ	**Mount Denham**	**2.01**	**222**	*e*P	**Pn**	19 18 46.0	-1.1
MTDJ				*e*S	**Sn**	19 19 07.5	-4.8
CCCC	**Cccc**	**2.12**	**314**	*i* P	**Pn**	19 18 45.6	-3.0
CCCC				*e*S	**Sn**	19 19 10.7	-4.1
CCCC				IAML		19 19 14.1	
	comp=E,1μm,0.5s						
CCCC				IAML		19 19 14.9	
	comp=N,829nm,0.4s						
MCJ	**Malvern**	**2.33**	**220**	*i* P	**Pn**	19 18 51.4	-0.2
MCJ				*i* S	**Sn**	19 19 18.0	-2.2
SDDR	**Presa de Saban**	**4.63**	**99**	*e*P	**Pn**	19 19 23.4	+0.3
SMLC	**San Martn de**	**11.05**	**169**	*e*P	**Pn**	19 20 52.8	+1.5
SDV	**Santo Domingo**	**12.02**	**153**	Pn	Pn	19 20 59.4	-5.4
	comp=N,0.4nm,0.3s,baz=308,slow=11,SNR=1.7						
ZARC	**Zaragoza, Cauc**	**12.23**	**174**	*e*P	**Pn**	19 21 07.8	+0.3
SOCV	**Socops**	**12.48**	**155**	*e*P	**Pn**	19 21 10.0	-0.8
JTS	**Las Juntas de**	**12.68**	**223**	LR	LR	19 25 01.4	
	comp=N,37nm,21.1s,slow=32						
GUY2C	**Guyana, Caldas**	**14.44**	**177**	*e*P	**P**	19 21 44.6	-0.5
PRAC	**Prado**	**15.97**	**176**	*e*P	**P**	19 22 02.4	+0.8
CMIG	**Matias Romero**	**17.99**	**265**	P	**Pn**	19 22 23.4	0.0
	comp=N,0.3nm,0.3s,baz=39,slow=6.5,SNR=2.3						
CMIG				LR	LR	19 28 42.2	
	comp=N,34nm,18.4s,baz=196,slow=35						
TXAR	**Lajitas Array**	**26.76**	**296**	P	**P**	19 23 55.6	+2.4
	comp=N,0.4nm,0.8s,baz=133,slow=11,SNR=4.2						
PDAR	**Pinedale Array**	**36.29**	**317**	P	**P**	19 25 19.4	+2.4
	comp=N,1.3nm,1.1s,baz=101,slow=4.7,SNR=2.6						
NVAR	**Mina Array Bea**	**40.88**	**306**	P	**P**	19 25 58.3	+2.6
	comp=N,0.2nm,0.3s,baz=182,slow=15,SNR=2.3						
YKA	**Yellowknife Ar**	**50.23**	**338**	P	**P**	19 27 10.0	+1.0
	comp=N,0.1nm,0.6s,baz=121,slow=8.5,SNR=2.3						
ILAR	**Eielson Array**	**64.13**	**333**	P	**P**	19 28 48.6	+1.4
	comp=N,0.1nm,0.4s,baz=120,slow=5.4,SNR=1.5						
ARCES	**ARCESS Array B**	**75.67**	**21**	P	**P**	19 29 58.0	-0.2
	comp=N,2.0nm,0.8s,baz=29,slow=2.8,SNR=3.8						
FINES	**FINESS Array B**	**78.54**	**29**	P	**P**	19 30 13.9	-0.5
	comp=N,0.8nm,0.6s,baz=242,slow=4.1,SNR=7.6						
WRA	**Warramunga Arr**	**151.36**	**264**	PKP	**PKPdf**	19 38 02.1	+0.3
	comp=N,0.6nm,1.0s,baz=278,slow=33,SNR=2.4						
WRA				PKPbc	**PKPbc**	19 38 07.5	-0.4
	comp=N,0.6nm,0.9s,baz=80,slow=2.7,SNR=5.2						
ASAR	**Alice Springs**	**151.85**	**257**	PKPbc	**PKPbc**	19 38 06.7	-2.2
	comp=N,0.5nm,0.7s,baz=105,slow=1.4,SNR=4.8						

*IDC **25** 19:25:06.3±1.9, 7°85S×118°99E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.3/35, mbtmp3.5/6, ML3.0/3, Error ellipse: s-maj=70.3km s-min=21.9km az=66.0*

ISC 25 19:25:08.2±1.5, 7°82S±0°09×119°3E±0°3, h10km, n6, σ1°88/8, mb3.6/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.83**	**9**	Pn	**Pn**	19 25 54.1	+0.6
	1.3nm,0.3s,baz=231,slow=2.9,SNR=7.6						
KAPI				Sn	**Sn**	19 26 26.5	-1.1
	3.0nm,0.3s,baz=212,slow=20,SNR=1.8						
FITZ	**Fitzroy Crossi**	**11.94**	**149**	Pn	**Pn**	19 27 58.8	+0.1
	0.1nm,0.3s,baz=306,slow=17,SNR=2.1						
FITZ				Sn	**Sn**	19 30 08.9	-3.1
	0.1nm,0.3s,baz=50,slow=20,SNR=1.9						
WRA	**Warramunga Arr**	**18.92**	**131**	P	**Pn**

ISCO				IAML		19 34 46.2	
	comp=E,11nm,3.2s						
DGMT	**Dagmar**	**4.70**	**13**	Pn	**Pn**	**19 33 53.5**	**+2.4**
SRU	**San Rafael Swe**	**5.96**	**218**	Pn	**Pn**	**19 34 10.6**	**+2.0**
PV11	**David Mesa, Pa**	**6.06**	**204**		**Pn**	**19 34 11.2**	**+1.2**
PV13	**Radium Mtn., P**	**6.18**	**203**		**Pn**	**19 34 11.5**	**-0.2**
Q16A	**Castle Valley**	**6.41**	**221**		**Pn**	**19 34 16.2**	**+1.4**
ULM	**Lac du Bonnet**	**9.28**	**43**	Pn	**Pn**	**19 34 54.9**	**+1.0**
	comp=E,0.8nm,0.3s,baz=221,slow=13,SNR=2.2						
NVAR	**Mina Array Bea**	**10.89**	**244**	Pn	Pn	19 35 21.1	+4.8
	comp=E,0.1nm,0.3s,baz=57,slow=12,SNR=2.1						
TXAR	**Lajitas Array**	**14.64**	**173**	Pn	**P**	**19 36 13.9**	**-0.2**
	comp=E,0.0nm,0.3s,baz=339,slow=41,SNR=2.5						
TXAR				Pg	Pg	19 37 07.9	
	comp=E,0.0nm,0.3s,baz=3.9,slow=14,SNR=1.8						
TXAR				Lg	Lg	19 40 24.1	
	comp=E,0.0nm,0.3s,baz=346,slow=21,SNR=2.8						
YKA	**Yellowknife Ar**	**19.32**	**348**	P	**Pn**	**19 37 07.0**	**+0.6**
	comp=E,0.0nm,0.3s,baz=157,slow=8.9,SNR=1.7						

IGIL ***25*** *19:39:37.8, 35°.21N×3°.76W, h10km, ML2.7*
IDC ***25*** *19:39:38.3±1.2, 35°.57N×4°.24W, h0km, mb3.1/3, mb1 3.2/5, mb1mx3.1/54, mbtmp3.0/5, ML2.7/2, Error ellipse: s-maj=52.1km s-min=12.3km az=94.0*
SFS ***25*** *19:39:38.0, 35°.54N×3°.81W, ML3.0, ALBORAN SUR*
MDD ***25*** *19:39:38.4±0.8, 35°.54N×3°.82W, h0km, mbLg3.0/8, Error ellipse: s-maj=7.1km s-min=4.3km az=36.0*
CNRM ***25*** *19:39:39.3, 35°.45N×3°.73W, h24km, ml3.3*
ISC 25 19:39:37.9±1.2, 35°.52N±0°.02×3°.79W±0°.03, h7km±9km, n41, σ1§62/57, mb3.5/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**202**	P	**Pg**	**19 39 45.1**	**+0.7**
PALE				S	**Sg**	**19 39 50.2**	**+1.4**
GOG	**Mont Gurugu**	**0.71**	**115**	P	**Pb**	**19 39 53.0**	**+0.2**
GOG				S	**Sg**	**19 39 59.9**	**-1.0**
EMEL	**Melilla**	**0.71**	**108**	Pg	**Pg**	**19 39 51.9**	**+0.2**
	326nm,0.3s,SNR=20						
EMEL				Lg	Lg	19 40 00.8	
	2μm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.74**	**56**	Pg	**Pg**	**19 39 53.4**	**+1.2**
	340nm,0.3s,SNR=71						
EALB				Lg	Lg	19 40 03.6	
	511nm,0.2s,SNR=19						
AKLM	**AKL**	**1.01**	**184**	P	**Pg**	**19 39 57.1**	**-0.3**
AKLM				S	**Sg**	**19 40 09.5**	**-1.0**
CHAS	**Isla Isabel II**	**1.16**	**107**	P	**Pb**	**19 39 58.1**	**-2.2**
CHAS				S	**Sg**	**19 40 11.8**	**-3.4**
EMIJ	**Mijas**	**1.31**	**323**	Pg	**Pn**	**19 40 02.8**	**+0.1**
	SNR=7.9						
EMIJ				Lg	Lg	19 40 20.2	
	37nm,0.2s,SNR=7.9						
CHEFC	**Chefchaouen**	**1.33**	**252**	P	**Pn**	**19 40 03.3**	**+0.3**
CHEFC				S	Sg	19 40 35.9	+15
EMAL	**Malaga-Limoner**	**1.34**	**337**	P	**Pn**	**19 40 03.2**	**+0.1**
EMAL				S	**Sb**	**19 40 17.5**	**-3.3**
CEU	**Ceuta**	**1.34**	**287**	P	**Pn**	**19 40 00.8**	**-2.3**
CEU				S	**Sb**	**19 40 16.3**	**-4.5**
ECEU	**Ceuta**	**1.35**	**287**	Pg	**Pn**	**19 40 02.0**	**-1.2**
	SNR=7.9						
ECEU				Lg	Lg	19 40 18.1	
	38nm,0.1s,SNR=7.9						
ELGU	**Los Guajares,**	**1.35**	**5**	Pg	**Pn**	**19 40 02.4**	**-0.8**
	SNR=7.9						
ELGU				Lg	Lg	19 40 19.8	
	80nm,0.1s,SNR=7.9						
JBK	**JBK**	**1.55**	**139**	P	**Pn**	**19 40 07.0**	**+0.8**
JBK				S	**Sg**	**19 40 27.8**	**-0.1**
EBER	**Berja**	**1.55**	**28**	Pg	**Pn**	**19 40 06.0**	**-0.2**
	15nm,0.5s,SNR=7.5						
EBER				Lg	Lg	19 40 26.8	
	127nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.61**	**351**	Pg	**Pn**	**19 40 07.7**	**+0.8**
	SNR=7.9						
EGOR				Lg	Lg	19 40 28.0	
	23nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.70**	**9**	Pg	**Pn**	**19 40 08.7**	**+0.5**
	5.4nm,0.4s,SNR=12						
EQUE				Sn	**Sn**	**19 40 29.7**	**-0.5**
	32nm,0.3s,SNR=5.0						
SICH	**Sidi Chahed**	**1.89**	**222**	P	Pg	19 40 20.0	+5.8
ENIJ	**Nijar**	**1.93**	**41**	Pn	**Pn**	**19 40 10.1**	**-1.1**
	SNR=7.9						
ENIJ				Sn	**Sn**	**19 40 34.7**	**-1.0**
	SNR=7.9						
LCRM	**LCR**	**2.03**	**206**	P	**Pb**	**19 40 16.0**	**+0.7**
LCRM				S	**Sn**	**19 40 37.3**	**-1.2**
IFR	**Ifrane**	**2.29**	**209**	P	**Pn**	**19 40 16.0**	**-0.2**
IFR				S	**Sn**	**19 40 41.2**	**-3.5**
EQES	**Quesada**	**2.35**	**14**	Pg	**Pb**	**19 40 19.9**	**-0.7**
	10nm,0.4s,SNR=18						
EQES				Lg	Lg	19 40 48.4	
	53nm,0.3s,SNR=5.6						
EADA	**Adamuz**	**2.71**	**347**	Pn	**Pn**	**19 40 23.2**	**+1.2**
	SNR=7.9						
EADA				Sn	**Sn**	**19 40 52.8**	**-2.3**
	SNR=7.9						
EADA				Lg	Lg	19 41 00.9	
	9.4nm,0.2s,SNR=7.9						
MD31	**MD31**	**2.77**	**197**	P	**Pn**	**19 40 22.8**	**0.0**
MD31				S	**Sn**	**19 40 54.6**	**-1.9**
MDT	**Midelt**	**2.79**	**194**	Pn	**Pn**	**19 40 23.3**	**+0.3**
	1.0nm,0.3s,baz=184,slow=12,SNR=6.6						
MDT				Pg	**Pb**	**19 40 30.2**	**+2.2**
	2.5nm,0.3s,baz=134,slow=24,SNR=14						
MDT				Lg	Lg	19 41 04.3	
	5.2nm,0.3s,baz=28,slow=14,SNR=5.4						
MDT	**Midelt**	**2.79**	**194**	P	**Pn**	**19 40 22.6**	**-0.4**
ZHG	**ZHG**	**3.14**	**230**	P	**Pn**	**19 40 27.2**	**-0.6**
PVAQ	**Vaqueiros**	**3.68**	**302**	P	**Pn**	**19 40 35.5**	**+0.3**
FIGM	**Figuig**	**3.98**	**147**	P	**Pn**	**19 40 39.3**	**-0.2**
ESDC	**Sonseca Array**	**4.15**	**358**	Pn	**Pn**	**19 40 43.9**	**+2.2**
	0.3nm,0.3s,baz=176,slow=12,SNR=8.3						
ESDC				Sn	**Sn**	**19 41 30.4**	**0.0**
	0.4nm,0.3s,baz=175,slow=22,SNR=4.8						
ESDC				Lg	Lg	19 41 47.1	
	0.7nm,0.3s,baz=162,slow=27,SNR=6.3						
MESJ	**Messejana**	**4.25**	**304**	*e*P	**Pn**	**19 40 43.4**	**+0.4**
MESJ				*e*S	**Sn**	**19 41 31.4**	**-1.5**
MESJ				IAML		19 41 36.4	
	comp=N,13nm,0.3s						
MORF	**Marmelete**	**4.31**	**296**	*e*P	**Pn**	**19 40 43.9**	**0.0**
PFVI	**Vila Bisbo**	**4.37**	**293**	P	**Pn**	**19 40 46.0**	**+1.2**
PESTR	**Estremoz**	**4.51**	**319**	P	**Pn**	**19 40 47.2**	**+0.6**
EVO	**Evora**	**4.52**	**313**	P	**Pn**	**19 40 47.7**	**+0.9**
EVO				S	**Sn**	**19 41 39.3**	**-0.3**
TZRR	**Tazzarine**	**4.96**	**198**	P	**Pn**	**19 40 50.8**	**-2.1**
OUZM	**OUZ**	**5.23**	**209**	P	**Pn**	**19 40 57.7**	**+1.0**
OUK	**Oukaimeden**	**5.49**	**220**	P	**Pn**	**19 40 59.3**	**-1.1**
TTIG	**Tnine Tigouga,**	**6.32**	**220**	P	**Pn**	**19 41 09.5**	**-2.1**
TORD	**Torodi Ar. Bea**	**22.82**	**166**	P	**P**	**19 44 45.1**	**+3.5**
	comp=N,0.1nm,0.4s,baz=324,slow=14,SNR=2.1						
MKAR	**Makanchi Array**	**62.70**	**50**	P	**P**	**19 50 06.5**	**+3.1**
	comp=N,0.2nm,0.6s,baz=304,slow=6.4,SNR=1.8						
YKA	**Yellowknife Ar**	**67.81**	**332**	P	**P**	**19 50 36.3**	**+0.1**
	comp=N,0.2nm,0.5s,baz=65,slow=6.4,SNR=4.2						

CNRM ***25*** *19:45:26.9, 35°.51N×3°.80W, h17km, ml3.4*
SFS ***25*** *19:45:27.0, 35°.59N×3°.76W, ML2.9, ALBORAN SUR*
IGIL ***25*** *19:45:27.6, 35°.59N×3°.77W, h0km, ML2.6*
ISC 25 19:45:24.5±1.2, 35°.57N±0°.03×3°.76W±0°.03, h9km±10km, n28, σ1§61/46, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**202**	P	**Pb**	**19 45 32.9**	**-0.5**
PALE				S	**Sg**	**19 45 37.5**	**+0.7**
GOG	**Mont Gurugu**	**0.71**	**118**	P	**Pn**	**19 45 42.6**	**+1.7**
GOG				S	**Sg**	**19 45 48.2**	**+0.5**
AKLM	**AKL**	**1.05**	**184**	P	**Pn**	**19 45 46.9**	**+1.3**
AKLM				S	**Sg**	**19 45 58.7**	**+0.2**
CHAS	**Isla Isabel II**	**1.15**	**109**	P	**Pg**	**19 45 46.1**	**-0.6**
CHAS				S	**Sg**	**19 45 59.7**	**-2.0**
EMAL	**Malaga-Limoner**	**1.31**	**336**	P	Pg	19 45 59.7	+10
EMAL				S	**Sn**	**19 46 07.7**	**+1.1**
CEU	**Ceuta**	**1.35**	**285**	P	**Pn**	**19 45 49.3**	**-0.2**
CEU				S	**Sb**	**19 46 03.7**	**-3.7**
CHEFC	**Chefchaouen**	**1.37**	**251**	P	**Pg**	**19 45 51.1**	**+0.3**
CHEFC				S	**Sb**	**19 46 07.8**	**-0.2**
JBK	**JBK**	**1.57**	**141**	P	**Pb**	**19 45 53.6**	**-0.3**
JBK				S	**Sn**	**19 46 13.4**	**+0.1**
SICH	**Sidi Chahed**	**1.94**	**222**	P	**Pg**	**19 46 01.2**	**-0.5**
SICH				S	**Sb**	**19 46 25.7**	**+1.4**
LCRM	**LCR**	**2.08**	**206**	P	**Pb**	**19 46 02.2**	**-0.3**
LCRM				S	**Sb**	**19 46 28.5**	**0.0**
IFR	**Ifrane**	**2.33**	**209**	P	**Pb**	**19 46 07.1**	**+0.3**
IFR				S	**Sn**	**19 46 30.0**	**-2.1**
MD31	**MD31**	**2.81**	**197**	P	**Pn**	**19 46 09.9**	**+0.1**
MD31				S	**Sn**	**19 46 44.8**	**+0.9**
MDT	**Midelt**	**2.83**	**195**	P	**Pn**	**19 46 10.8**	**+0.7**
MDT				S	**Sn**	**19 46 45.0**	**+0.7**
TDRA	**Tendrara**	**2.90**	**150**	P	**Pn**	**19 46 11.5**	**+0.4**
CART	**Cartagena**	**3.00**	**47**	P	**Pb**	**19 46 18.8**	**+0.6**
CART				S	**Sn**	**19 46 45.1**	**-3.3**
CART	**Cartagena**	**3.00**	**47**	P	**Pn**	**19 46 13.0**	**+0.8**
ZHG	**ZHG**	**3.18**	**229**	P	**Pn**	**19 46 14.8**	**0.0**
ZHG				S	**Sn**	**19 46 50.6**	**-2.3**
PVAQ	**Vaqueiros**	**3.68**	**301**	P	**Pn**	**19 46 24.3**	**+2.8**
PVAQ				S	**Sn**	**19 47 06.0**	**+1.0**
FIGM	**Figuig**	**4.01**	**148**	P	**Pn**	**19 46 28.5**	**+2.3**
MESJ	**Messejana**	**4.24**	**304**	*e*P	**Pn**	**19 46 31.1**	**+1.8**
MESJ				*e*S	**Sn**	**19 47 17.9**	**-1.0**
MESJ				IAML		19 47 20.8	
	comp=N,7.1nm,0.4s						
MORF	**Marmelete**	**4.31**	**295**	*e*P	**Pn**	**19 46 32.1**	**+1.9**
MORF				*e*S	**Sn**	**19 47 19.6**	**-1.0**
MORF				IAML		19 47 23.7	
	comp=E,21nm,0.3s						
PFVI	**Vila Bisbo**	**4.38**	**292**	P	**Pn**	**19 46 33.6**	**+2.4**
PESTR	**Estremoz**	**4.49**	**318**	P	**Pn**	**19 46 35.3**	**+2.4**
EVO	**Evora**	**4.51**	**312**	P	**Pn**	**19 46 34.9**	**+1.9**
EVO				S	**Sn**	**19 47 25.8**	**+0.2**
UCM	**Universidad Co**	**4.75**	**5**	P	**Pb**	**19 46 46.8**	**-1.3**
OUZM	**OUZ**	**5.28**	**209**	P	**Pn**	**19 46 45.2**	**+1.5**
ZGR	**Zagora**	**5.65**	**197**	P	**Pn**	**19 46 52.0**	**+3.2**
TTIG	**Tnine Tigouga,**	**6.36**	**219**	P	**Pn**	**19 46 56.2**	**-2.3**

IDC ***25*** *19:47:14.2±0.7, 10°.11N×126°.05E, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.9/43, mbtmp4.0/13, MS2.8/1, Ms1 2.8/1, ms1mx2.3/78, Error ellipse: s-maj=31.8km s-min=16.3km az=74.0*
NEIC ***25*** *19:47:20.4±1.0, 10°.1N±0°.1×126°.07E±0°.10, h39km±10km, mb4.1/11, Error ellipse: s-maj=20.5km s-min=7.4km az=141.0*
MAN ***25*** *19:47:22.4, 10°.14N×126°.08E, h28km, mb4.8, ML3.7, MS3.7*
ISC 25 19:47:23.1±1.1, 10°.13N±0°.05×126°.09E±0°.06, h68km±11km, n46, σ1§50/49, mb4.0/20, 6C-10D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.21**	**270**	⇓*i*P	**Pn**	**19 47 43.0**	**-1.2**
MSLP				*i* S	**Sn**	**19 47 59.9**	**-0.1**
BUTP	**Butuan**	**1.25**	**202**	⇓*e*P	**Pn**	**19 47 43.1**	**-1.6**
BUTP				*i* S	**Sn**	**19 48 00.1**	**-0.6**
BESP	**Borongan**	**1.59**	**336**	⇓*i*P	**Pn**	**19 47 49.0**	**-0.2**
BESP				*i* S	**Sn**	**19 48 08.4**	**-0.5**
BIPH	**Bislig**	**1.96**	**172**	⇑*e*P	**Pn**	**19 47 55.1**	**+1.0**
BIPH				*i* S	**Sn**	**19 48 20.9**	**+3.3**
LLP	**Lapu-Lapu**	**2.10**	**275**	⇓*e*P	**Pn**	**19 47 56.2**	**+0.1**
LLP				*e*S	**Sn**	**19 48 23.8**	**+2.5**
TBP	**Tagbilaran**	**2.24**	**259**	⇓*e*P	**Pn**	**19 47 58.2**	**+0.2**
TBP				*i* S	**Sn**	**19 48 25.7**	**+1.1**
SNPH	**Sibulan**	**2.92**	**255**	⇓*i*P	**Pn**	**19 48 03.5**	**-3.8**
SNPH				*i* S	**Sn**	**19 48 44.8**	**+3.5**
DCPH	**Dipolog City**	**3.11**	**241**	⇓*e*P	**Pn**	**19 48 10.2**	**+0.4**
DCPH				*e*S	**Sn**	**19 48 46.1**	**+0.3**
MATI	**Mati**	**3.17**	**177**	⇑*e*P	Pn	19 48 16.1	+5.5
MATI				*e*S	Sn	19 49 06.5	+19
KCP	**Kidapawan**	**3.26**	**198**	⇓*e*P	**Pn**	**19 48 13.0**	**+1.1**
CNOP	**Candoni, Negro**	**3.42**	**265**	⇓*e*P	**Pn**	**19 48 14.4**	**+0.4**
CNOP				*i* S	**Sn**	**19 48 55.4**	**+2.1**
CTBH	**Cotabato--PC H**	**3.42**	**212**	⇑*e*P	**Pn**	**19 48 14.4**	**+0.4**
PAGZ	**Pagadian**	**3.51**	**230**	⇑*e*P	**Pn**	**19 48 16.1**	**+0.9**
PAGZ				*e*S	**Sn**	**19 48 58.8**	**+3.2**
PAGZ	**Pagadian**	**3.51**	**230**	⇓*e*P	**Pn**	**19 48 16.2**	**+1.0**
RCP	**Roxas**	**3.58**	**294**	⇑*e*P	**Pn**	**19 48 17.4**	**+1.2**
JAP	**San Jose, Anti**	**4.12**	**279**	⇑*e*P	**Pn**	**19 48 26.0**	**+2.4**
MYLDM	**Lahad Datu**	**8.99**	**237**	Pn	**Pn**	**19 49 26.6**	**-3.6**
TPUB	**Ta-pu**	**14.10**	**339**	P	**P**	**19 50 44.7**	**-0.5**
KNRA	**Kununurra**	**25.78**	**174**	P	**P**	**19 52 47.3**	**-0.5**
KNRA				IAmb	IAmb	19 53 13.2	
	comp=Z,5.2nm,0.8s						
JHJ	**Hachijo jima 2**	**26.12**	**27**	P	**P**	**19 52 51.1**	**+0.3**
	comp=Z,167nm,0.6s,baz=66,slow=20,SNR=1.9						
KSRS	**Korea Array**	**27.25**	**3**	LR	LR	20 04 24.7	
	comp=Z,19nm,19.5s,baz=20,slow=38						
CMAR	**Chiang Mai Arr**	**27.55**	**291**	P	**P**	**19 53 04.1**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=112,slow=8.2,SNR=5.6						
FITZ	**Fitzroy Crossi**	**28.05**	**181**	P	**P**	**19 53 07.8**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=37,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**30.97**	**165**	P	**P**	**19 53 33.1**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=343,slow=9.6,SNR=6.3						
AS31	**Alice Springs**	**34.45**	**167**	P	**P**	**19 54 02.2**	**-2.2**
AS31				IAmb	IAmb	19 54 27.9	
	comp=Z,1.5nm,1.4s						
ASAR	**Alice Springs**	**34.45**	**167**	P	**P**	**19 54 03.6**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=348,slow=6.9,SNR=29						
H11N1	**WAKE ISLAND Hy**	**40.46**	**72**	T	T	20 38 08.8	
	baz=264,slow=75,SNR=51						
H11N2	**WAKE ISLAND Hy**	**40.47**	**72**	T	T	20 38 12.4	
	baz=264,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**40.48**	**72**	T	T	20 38 10.7	
	baz=264,slow=75,SNR=44						
ULN	**Ulaanbaatar**	**40.89**	**340**	P	**P**	**19 54 59.0**	**+0.3**
ULN				IAmb	IAmb	19 55 00.3	
	comp=Z,2.6nm,0.6s						
SONM	**Songino Array**	**41.09**	**340**	P	**P**	**19 55 00.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=155,slow=7.9,SNR=5.2						
SONM	**Songino Array**	**41.09**	**340**	IAmb	IAmb	19 55 01.3	
	comp=Z,0.8nm,0.7s						
MK31	**Makanchi Array**	**52.03**	**323**	P	**P**	**19 56 25.8**	**0.0**
MK31				IAmb	IAmb	19 56 26.9	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**52.03**	**323**	P	**P**	**19 56 25.5**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=124,slow=8.4,SNR=23						
MAKZ	**Makanchi**	**52.22**	**323**	P	**P**	**19 56 27.1**	**-0.2**
MAKZ				IAmb	IAmb	19 56 47.6	
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**54.66**	**331**	P	**P**	**19 56 44.2**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=125,slow=7.4,SNR=3.9						
KURK	**Kurchatov**	**56.08**	**326**	P	**P**	**19 56 54.9**	**-0.3**
BRVK	**Borovoye**	**61.75**	**325**	P	**P**	**19 57 34.4**	**-0.1**
ARU	**Arti**	**69.24**	**327**	P	**P**	**19 58 21.8**	**-0.9**
ARU				IAmb	IAmb	19 58 22.1	
	comp=Z,2.7nm,0.7s						
ILAR	**Eielson Array**	**79.64**	**26**	P	**P**	**19 59 23.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=236,slow=5.1,SNR=6.9						
ARCES	**ARCESS Array B**	**84.26**	**340**	P	**P**	**19 59 47.0**	**0.0**
	comp=Z,6.6nm,1.2s,baz=78,slow=6.5,SNR=5.9						
BRTR	**Keskin Array B**	**85.48**	**309**	P	**P**	**19 59 53.3**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=134,slow=3.6,SNR=4.6						
FINES	**FINESS Array B**	**85.93**	**332**	P	**P**	**19 59 55.3**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=63,slow=4.3,SNR=16						
AKASG	**Malin Array Be**	**86.56**	**321**	P	**P**	**19 59 58.2**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=69,slow=5.0,SNR=3.3						
AKASG	**Malin Array Be**	**86.56**	**321**	IAmb	IAmb	20 00 11.5	
	comp=Z,1.7nm,1.3s						
YKA	**Yellowknife Ar**	**93.95**	**24**	P	**P**	**20 00 34.2**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=299,slow=4.5,SNR=8.2						

NEIC ***25*** *19:49:26.9±2.2, 13°.52N±0°.06×92°.21W±0°.08, h10km±2km, mb4.4/72, Error ellipse: s-maj=15.6km s-min=5.7km az=234.0*
GCG ***25*** *19:49:28.5±0.7, 13°.66N×92°.44W, h35km±571km, MD4.4*
IDC ***25*** *19:49:39.6±2.8, 14°.06N×91°.65W, h89km±21km, mb3.9/12, mb1 4.1/14, mb1mx3.7/48, mbtmp4.2/14, MS3.6/17, Ms1 3.6/17, ms1mx3.3/65, Error ellipse: s-maj=33.8km s-min=15.0km az=45.0*
ISC 25 19:49:31.1±1.9, 13°.74N±0°.08×92°.17W±0°.06, h31km±12km, n164, σ1§44/153, mb4.3/43, MS3.7/17, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.91**	**30**		**Pb**	**19 49 48.1**	**-0.3**
STG3	**Santiaguito 3,**	**1.13**	**31**	*e*P	**Pn**	**19 49 51.5**	**+0.5**
FUG	**Fuego 3**	**1.47**	**61**	*e*P	**Pn**	**19 49 55.9**	**+0.3**
PCG	**Pacaya**	**1.65**	**67**	*e*P	**Pb**	**19 49 59.9**	**-1.2**
HUEH	**Huehuetenango**	**1.70**	**22**	Pn	**Pn**	**19 49 59.7**	**+0.8**
NBG	**Las Nubes**	**1.96**	**64**	*e*P	**Pn**	**19 50 03.9**	**+1.4**
NBG				*e*S	**Sb**	**19 50 31.9**	**+1.4**
APG	**El Apazote**	**2.08**	**52**	P	**Pn**	**19 50 05.3**	**+1.2**
	64nm,0.3s,baz=94,slow=24,SNR=420						
APG				S	**Sb**	**19 50 33.0**	**-0.9**
	78nm,0.3s,baz=247,slow=9.5,SNR=23						
NUBE	**Las Nubes**	**2.33**	**86**	*e*P	**Pn**	**19 50 07.2**	**-0.2**
NUBE	**Las Nubes**	**2.33**	**86**	*e*P	**Pn**	**19 50 07.2**	**-0.2**
LOAL	**Lomas de Alarc**	**2.33**	**83**	*e*P	**Pn**	**19 50 07.9**	**+0.5**
LOAL				*e*S	**Sn**	**19 50 37.4**	**+2.3**
LOAL	**Lomas de Alarc**	**2.33**	**83**	*e*P	**Pn**	**19 50 07.9**	**+0.5**
LOAL				*e*S	**Sn**	**19 50 37.4**	**+2.3**
SLOZ	**Alcaldia de Sa**	**2.33**	**83**	IAML		19 50 46.6	
	comp=Z,523nm,0.4s						
CEVE	**Cerro Verde**	**2.48**	**88**	*e*P	**Pn**	**19 50 09.7**	**+0.1**
CEVE				*e*S	**Sn**	**19 50 39.9**	**+1.1**
CEVE	**Cerro Verde**	**2.48**	**88**	*e*P	**Pn**	**19 50 09.7**	**+0.1**
CEVE				*e*S	**Sn**	**19 50 39.9**	**+1.1**
SBLS	**San Blas**	**2.48**	**87**	IAML		19 50 48.4	
	comp=Z,330nm,0.4s						
SBLS	**San Blas**	**2.48**	**87**	IAML		19 50 48.4	
	comp=Z,330nm,0.4s						
CCIG	**Comitan**	**2.53**	**1**		**Pn**	**19 50 11.4**	**+1.1**
JAYA	**Jayaque - finc**	**2.65**	**91**	*e*P	**Pn**	**19 50 10.8**	**-1.0**
JAYA				*e*S	**Sn**	**19 50 45.6**	**+2.6**
JAYA	**Jayaque - finc**	**2.65**	**91**	*e*P	**Pn**	**19 50 10.8**	**-1.0**
JAYA				*e*S	**Sn**	**19 50 45.6**	**+2.6**
TACO	**Tacachico**	**2.75**	**85**	*e*P	**Pn**	**19 50 12.8**	**-0.3**
TACO	**Tacachico**	**2.75**	**85**	*e*P	**Pn**	**19 50 12.8**	**-0.3**
MRL	**Marmol**	**2.76**	**61**	*e*P	**Pn**	**19 50 15.3**	**+2.0**
MTO3	**Montecristo**	**2.81**	**76**	*e*P	**Pn**	**19 50 13.5**	**-0.5**
MTO3	**Montecristo**	**2.81**	**76**	*e*P	**Pn**	**19 50 13.5**	**-0.5**
ESQI	**Esquipulas**	**2.86**	**73**	Pn	**Pn**	**19 50 13.2**	**-1.5**
ESQI	**Esquipulas**	**2.86**	**73**	*e*P	**Pn**	**19 50 14.5**	**-0.3**
PAVA	**Las Pavas**	**3.14**	**90**	*e*P	**Pn**	**19 50 18.4**	**-0.2**
PAVA				IAML		19 51 06.5	
	comp=N,1μm,0.7s						
PAVA	**Las Pavas**	**3.14**	**90**	*e*P	**Pn**	**19 50 18.4**	**-0.2**
PAVA				IAML		19 51 06.5	
	comp=N,1μm,0.7s						
PETF	**Flores**	**3.87**	**35**	Pn	**Pn**	**19 50 29.3**	**+0.9**
CMIG	**Matias Romero**	**4.24**	**322**	P	**Pn**	**19 50 34.4**	**+0.8**
	comp=N,1.8nm,0.3s,baz=142,slow=12,SNR=27						
CMIG				S	**Sn**	**19 51 20.2**	**-1.9**
	comp=N,15nm,0.3s,baz=74,slow=3.7,SNR=6.6						
CMIG	**Matias Romero**	**4.24**	**322**		**Pn**	**19 50 34.3**	**+0.7**
CNCH	**Conchagua**	**4.24**	**96**	*e*P	**Pn**	**19 50 33.5**	**-0.2**
CNCH	**Conchagua**	**4.24**	**96**	*e*P	**Pn**	**19 50 33.5**	**-0.2**
TGUH	**Tegucigalpa,Un**	**4.77**	**86**	Pn	**Pn**	**19 50 39.8**	**-1.2**
CRIN	**San Cristobal**	**5.09**	**101**		**Pn**	**19 50 44.0**	**-1.3**
CNGN	**Cerro Negro**	**5.47**	**102**	Pn	**Pn**	**19 50 46.4**	**-4.2**
BOAB	**BOACO BROADBAN**	**6.46**	**101**	Pn	**Pn**	**19 51 00.8**	**-3.3**
HZTE	**Horizontes, Gu**	**7.09**	**114**	Pn	**Pn**	**19 51 14.2**	**+1.4**
TLIG	**Tlapa**	**7.24**	**303**		**Pn**	**19 51 16.7**	**+1.7**
ORTG	**Ortega, Santa**	**7.37**	**116**	Pn	**Pn**	**19 51 16.7**	**0.0**
DUNO	**Dulce Nombre,**	**7.47**	**118**	Pn	**Pn**	**19 51 15.6**	**-2.5**
JTS	**Las Juntas de**	**7.85**	**115**	Pn	**Pn**	**19 51 19.7**	**-3.5**
CVTR	**Volcan Turrial**	**9.02**	**113**	Pn	**Pn**	**19 51 36.3**	**-3.3**
RIMA	**Rio Macho**	**9.04**	**115**		**Pn**	**19 51 37.0**	**-2.7**
SRBA	**San Rafael, Bu**	**9.72**	**116**		**

comp=Z,7.2nm,1.0s
PV05 Paradox Valley 28.53 331 P **P** **19 55 23.5 -0.7**
PV05 IAmb IAmb 19 55 34.0
comp=Z,5.4nm,0.8s
PV03 Paradox Valley 28.56 332 P **P** **19 55 22.2 -2.3**
PV03 IAmb IAmb 19 55 28.1
comp=Z,8.0nm,1.2s
PV18 Skein Mesa, Pa 28.58 332 P **P** **19 55 24.4 -0.2**
PV18 IAmb IAmb 19 55 28.7
comp=Z,7.1nm,0.9s
PV12 Saucer Basin, 28.59 332 P **P** **19 55 23.9 -0.8**
PV11 David Mesa, Pa 28.60 332 P **P** **19 55 23.7 -1.2**
PV11 IAmb IAmb 19 55 30.8
comp=Z,6.5nm,1.0s
PV17 East Wray Mesa 28.63 332 P **P** **19 55 24.1 -0.9**
PV17 IAmb IAmb 19 55 29.1
comp=Z,7.6nm,0.9s
PV20 West Nyswonger 28.68 332 P **P** **19 55 24.9 -0.6**
PV20 IAmb IAmb 19 55 29.5
comp=Z,6.2nm,1.0s
PV04 Paradox Valley 28.70 332 P **P** **19 55 25.0 -0.6**
PV04 IAmb IAmb 19 55 29.8
comp=Z,7.6nm,1.0s
PV14 Lion Creek, Pa 28.73 332 P **P** **19 55 26.9 +0.8**
PV14 IAmb IAmb 19 55 29.9
comp=Z,6.5nm,1.0s
PV23 Carpenter Ridg 28.79 332 P **P** **19 55 24.7 -1.9**
PFO Pinyon Flats O 29.64 316 LR LR 20 07 46.4
comp=Z,55nm,19.7s,baz=278,slow=36
NNA Nana 29.73 149 LR LR 20 05 02.2
comp=Z,31nm,18.4s,baz=334,slow=31
MTPU Mount Pierson 30.04 327 P **P** **19 55 41.1 +3.3**
MTPU IAmb IAmb 19 55 47.1
comp=Z,3.0nm,0.7s
CCUT Cedar City 30.31 325 P **P** **19 55 39.5 -0.6**
CCUT IAmb IAmb 19 55 45.5
comp=Z,5.7nm,1.2s
TMUT Trail Mountain 30.50 330 P **P** **19 55 41.5 -0.2**
TMUT IAmb IAmb 19 56 09.1
comp=Z,9.0nm,1.3s
NLU North Lily Min 31.43 330 P **P** **19 55 49.8 -0.1**
NLU IAmb IAmb 19 56 01.3
comp=Z,4.2nm,1.2s
DUG Dugway, Tooele 31.98 329 P **P** **19 55 55.3 +0.7**
DUG IAmb IAmb 19 56 01.3
comp=Z,3.2nm,0.7s
J56A Wolcott 32.25 21 P **P** **19 55 55.8 -0.9**
PDAR Pinedale Array 32.59 336 LR LR 20 10 34.1
comp=Z,40nm,18.1s,baz=178,slow=39
SADO Sadowa 32.86 17 LR LR 20 10 52.9
comp=Z,105nm,18.3s,baz=222,slow=39
UCCT U. Connecticut 32.89 28 P **P** **19 56 01.7 -0.6**
ELK Elko 33.62 327 P **P** **19 56 10.3 +1.2**
NVAR Mina Array Bea 33.77 322 P **P** **19 56 13.9 +3.5**
comp=Z,1.6nm,0.7s,baz=134,slow=8.6,SNR=12
NVAR LR LR 20 12 54.9
comp=Z,105nm,19.7s,baz=110,slow=41
NVAR Mina Array Bea 33.77 322 P **P** **19 56 10.5 +0.1**
MCMT McKenzie Canyo 35.64 334 P **P** **19 56 29.5 +3.1**
LRM Limekiln Ridge 36.29 336 P **P** **19 56 32.2 +0.2**
J08A Circle Bar Ran 37.17 328 P **P** **19 56 39.8 +0.4**
EGMT Eagleton 37.18 340 P **P** **19 56 41.1 +1.7**
EGMT IAmb IAmb 19 56 42.0
comp=Z,3.4nm,0.6s
PLID Pearl Lake 37.23 332 P **P** **19 56 40.8 +0.8**
PLID IAmb IAmb 19 56 45.1
comp=Z,5.5nm,1.1s
BMO Blue Mountains 37.67 330 P **P** **19 56 44.0 +0.5**
G65A Princeton 37.67 29 P **P** **19 56 42.8 -0.7**
MSO Missoula 37.70 335 P **P** **19 56 41.3 -2.6**
F10A Beach Ranch, E 38.46 332 P **P** **19 56 50.0 -0.3**
F10A IAmb IAmb 19 56 57.7
comp=Z,9.0nm,0.9s
YBH Yreka Blue Hor 38.47 322 LR LR 20 13 05.9
comp=Z,41nm,18.9s,baz=194,slow=36
C09A Chrisman Ranch 40.31 333 P **P** **19 57 07.1 +1.5**
C09A IAmb IAmb 19 57 08.6
comp=Z,11nm,1.3s
SIV San Ignacio 42.63 133 P **P** **19 57 24.8 -0.2**
comp=Z,1.4nm,0.7s,baz=309,slow=11,SNR=6.0
SCHQ Schefferville 45.53 20 P **P** **19 57 45.2 -2.5**
comp=Z,5.4nm,0.8s,baz=232,slow=9.4,SNR=6.0
SCHQ LR LR 20 18 00.3
comp=Z,140nm,19.3s,baz=182,slow=38
YKA Yellowknife Ar 51.24 347 P **P** **19 58 31.9 +0.3**
comp=Z,1.7nm,0.6s,baz=148,slow=7.4,SNR=40
YKA PcP **PcP** **19 59 48.3 +1.9**
comp=Z,1.2nm,0.8s,baz=150,slow=3.6,SNR=15
FRB Frobisher Bay 52.61 13 LR LR 20 22 43.4
comp=Z,132nm,18.4s,baz=178,slow=38
SFJD Kangerlussuaq 59.82 18 LR LR 20 27 22.6
comp=Z,83nm,18.1s,baz=198,slow=38
BCAR Beaver Creek A 60.21 336 P **P** **19 59 36.0 0.0**
INK Inuvik 60.65 344 P **P** **19 59 39.8 +1.0**
comp=Z,4.9nm,0.8s,baz=124,slow=7.3,SNR=12
INK Inuvik 60.65 344 P **P** **19 59 37.3 -1.4**
IL31 63.02 337 P **P** **19 59 54.5 -0.3**
ILAR Eielson Array 63.02 337 P **P** **19 59 56.8 +2.0**
comp=Z,1.0nm,0.6s,baz=99,slow=6.8,SNR=12
ILAR Eielson Array 63.02 337 P **P** **19 59 55.0 +0.1**
BMAR Burnt Mountain 63.48 340 P **P** **19 59 58.5 +0.6**
EUNU Eureka 66.39 1 P **P** **20 00 16.3 -0.4**
JMIC Jan Mayen 75.05 20 LR LR 20 34 26.5
comp=Z,57nm,18.4s,baz=310,slow=36
EKA Eskdalemuir Ar 78.28 36 P **P** **20 01 25.6 -2.3**
comp=Z,2.4nm,0.6s,baz=272,slow=5.5,SNR=9.5
AFI Afiamalu 83.46 254 LR LR 20 29 42.2
comp=Z,67nm,21.8s,baz=311,slow=29
NOA NORSAR Array B 84.46 28 LR LR 20 41 24.3
comp=Z,28nm,18.8s,baz=265,slow=37
HFS Hagfors 85.91 29 LR LR 20 39 34.3
comp=Z,27nm,18.7s,baz=290,slow=35
ARCES ARCESS Array B 86.44 18 P **P** **20 02 10.8 +0.5**
comp=Z,2.9nm,1.0s,baz=308,slow=4.4,SNR=1.5
ARCES LR LR 20 40 30.1
comp=Z,42nm,19.3s,baz=259,slow=36
FINES FINESS Array B 90.81 25 P **P** **20 02 31.0 -0.1**
comp=Z,1.2nm,0.9s,baz=298,slow=12,SNR=1.0
NRIK Noril'sk 97.14 0 LR LR 20 51 17.9
comp=Z,75nm,18.5s,baz=82,slow=38
AKASG Malin Array Be 98.04 33 LR LR 20 46 44.7
comp=Z,16nm,20.7s,baz=347,slow=35
MKAR Makanchi Array 119.55 4 PKP **PKiKP** **20 08 18.5 +0.4**
comp=Z,0.3nm,0.7s,baz=33,slow=2.3,SNR=2.6
WRA Warramunga Arr 135.17 255 PKP **PKiKP** **20 08 49.9 0.0**
comp=Z,0.2nm,0.7s,baz=87,slow=2.3,SNR=1.2
ASAR Alice Springs 135.42 250 PKP **PKiKP** **20 08 50.0 -0.3**
comp=Z,0.4nm,0.9s,baz=92,slow=2.2,SNR=2.4
PZH PanZhiHua 137.78 341 PKP **PKPdf** **20 08 53.0 -0.3**
CMAR Chiang Mai Arr 146.19 341 PKPbc **PKPbc** **20 09 09.3 +0.1**
comp=Z,4.8nm,0.7s,baz=334,slow=3.6,SNR=25

*SFS **25** 19:52:53.0, 35°.64N×3°.80W, ML3.0, ALBORAN SUR*
*MDD **25** 19:52:54.0±0.6, 35°.64N×3°.80W, h0km, mbLg3.0/9, Error ellipse: s-maj=5.7km s-min=3.8km az=31.0*
*CNRM **25** 19:52:54.4, 35°.64N×3°.65W, h26km, ml3.1*
*IGIL **25** 19:52:55.6, 35°.64N×3°.80W, h0km, ML2.5*
ISC 25 19:52:53.2±1.0, 35°.65N±0°.02×3°.76W±0°.02, h13km±9km, n42, σ1§83/53, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.46**	**199**	P	**Pg**	**19 53 03.4**	**+1.2**
PALE				S	**Sg**	**19 53 10.2**	**+1.9**
EALB	**Alboran**	**0.66**	**63**	Pg	**Pg**	**19 53 07.4**	**+1.5**
	233nm,0.4s,SNR=132						
EALB				Lg	Lg	19 53 16.7	
	316nm,0.1s,SNR=17						
EMEL	**Melilla**	**0.74**	**118**	Pg	**Pg**	**19 53 07.9**	**+0.4**
	542nm,0.3s,SNR=32						
EMEL				Lg	Lg	19 53 17.5	
	892nm,0.2s,SNR=11						
GOG	**Mont Gurugu**	**0.75**	**124**	P	**Pg**	**19 53 08.0**	**+0.2**
GOG				S	**Sg**	**19 53 17.5**	**-0.3**
AKLM	**AKL**	**1.14**	**184**	P	**Pg**	**19 53 15.2**	**0.0**
AKLM				S	**Sg**	**19 53 30.0**	**0.0**
CHAS	**Isla Isabel II**	**1.18**	**113**	P	**Pg**	**19 53 13.8**	**-2.0**
CHAS	**Isla Isabel II**	**1.18**	**113**	S	**Sg**	**19 53 27.7**	**-3.5**
ELGU	**Los Guajares,**	**1.22**	**5**	Pg	**Pg**	**19 53 16.6**	**-0.1**
	SNR=7.9						
ELGU				Lg	Lg	19 53 32.9	
	328nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.23**	**318**	Pg	**Pg**	**19 53 16.4**	**-0.5**
	33nm,0.3s,SNR=42						
EMIJ				Lg	Lg	19 53 33.0	
	180nm,0.2s,SNR=28						
EMAL	**Malaga-Limoner**	**1.24**	**334**	P	**Pg**	**19 53 16.6**	**-0.4**
EMAL	**Malaga-Limoner**	**1.24**	**334**	S	**Sg**	**19 53 32.6**	**-0.5**
CEU	**Ceuta**	**1.34**	**281**	P	**Pg**	**19 53 16.2**	**-2.7**
CEU	**Ceuta**	**1.34**	**281**	S	**Sg**	**19 53 31.6**	**-4.8**
ECEU	**Ceuta**	**1.34**	**281**	Pg	**Pg**	**19 53 17.8**	**-1.2**
	9.9nm,0.2s,SNR=20						
ECEU				Lg	Lg	19 53 34.7	
	45nm,0.1s,SNR=5.0						
CHEFC	**Chefchaouen**	**1.40**	**248**	P	**Pg**	**19 53 20.1**	**-0.1**
EBER	**Berja**	**1.43**	**29**	Pg	**Pn**	**19 53 20.1**	**+1.1**
	7.0nm,0.3s,SNR=14						
EBER				Lg	Lg	19 53 39.4	
	60nm,0.3s,SNR=6.7						
EGOR	**Sierra Gorda,**	**1.49**	**349**	Pg	**Pn**	**19 53 21.1**	**+1.3**
	SNR=7.9						
EGOR				Lg	Lg	19 53 40.6	
	38nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.57**	**9**	Pg	**Pn**	**19 53 23.0**	**+2.1**
	11nm,0.3s,SNR=25						
EQUE				Lg	Lg	19 53 43.8	
	18nm,0.3s,SNR=6.7						
JBK	**JBK**	**1.63**	**143**	P	**Pn**	**19 53 21.2**	**-0.6**
JBK				S	**Sn**	**19 53 40.1**	**-2.7**
ENIJ	**Nijar**	**1.82**	**43**	Pn	**Pn**	**19 53 24.8**	**+0.5**
	SNR=7.9						
ENIJ				Sn	**Sn**	**19 53 46.3**	**-0.9**
	SNR=7.9						
SICH	**Sidi Chahed**	**2.00**	**220**	P	**Pn**	**19 53 27.5**	**+0.7**
LCRM	**LCR**	**2.16**	**205**	P	**Pb**	**19 53 33.0**	**+0.7**
LCRM				S	**Sn**	**19 53 57.4**	**+1.7**
EQES	**Quesada**	**2.22**	**14**	Pg	**Pn**	**19 53 33.7**	**+3.9**
	9.0nm,0.3s,SNR=37						
EQES				Lg	Lg	19 54 03.1	
	36nm,0.4s,SNR=5.0						
IFR	**Ifrane**	**2.41**	**208**	P	**Pn**	**19 53 33.6**	**+1.1**
IFR	**Ifrane**	**2.41**	**208**	S	**Sn**	**19 54 00.5**	**-1.4**
EADA	**Adamuz**	**2.60**	**346**	Pn	**Pn**	**19 53 36.9**	**+2.0**
	SNR=7.9						
EADA				Sn	**Sn**	**19 54 08.0**	**+1.6**
	SNR=7.9						
EADA				Lg	Lg	19 54 14.8	
	42nm,0.3s,SNR=7.9						
MD31	**MD31**	**2.90**	**197**	P	**Pn**	**19 53 40.5**	**+1.4**
MD31				S	**Sn**	**19 54 14.2**	**+0.4**
MDT	**Midelt**	**2.91**	**194**	P	**Pn**	**19 53 41.0**	**+1.7**
CART	**Cartagena**	**2.94**	**48**	P	**Pn**	**19 53 39.1**	**-0.5**
CART				S	**Sn**	**19 54 10.9**	**-3.9**
ZHG	**ZHG**	**3.24**	**228**	P	**Pn**	**19 53 44.4**	**+0.6**
PVAQ	**Vaqueiros**	**3.64**	**300**	P	**Pn**	**19 53 50.6**	**+1.4**
AVE	**Averroes**	**3.82**	**233**	P	**Pn**	**19 53 52.4**	**+0.6**
FIGM	**Figuig**	**4.07**	**149**	P	**Pn**	**19 53 57.1**	**+1.7**
MESJ	**Messejana**	**4.20**	**303**	*eP*	**Pn**	**19 53 58.4**	**+1.5**
MESJ				*eS*	**Sn**	**19 54 44.9**	**-0.9**
MESJ				IAML		19 54 48.5	
	comp=N,9.8nm,0.3s						
MORF	**Marmelete**	**4.28**	**294**	*eP*	**Pn**	**19 53 59.2**	**+1.1**
MORF				*eS*	**Sn**	**19 54 46.4**	**-1.4**
MORF				IAML		19 54 51.0	
	comp=N,8.9nm,0.2s						
PFVI	**Vila Bisbo**	**4.35**	**291**	P	**Pn**	**19 54 00.4**	**+1.4**
PESTR	**Estremoz**	**4.43**	**318**	P	**Pn**	**19 54 02.5**	**+2.3**
EVO	**Evora**	**4.46**	**311**	P	**Pn**	**19 54 02.4**	**+2.0**
EVO	**Evora**	**4.46**	**311**	S	**Sn**	**19 54 52.9**	**+0.7**
UCM	**Universidad Co**	**4.67**	**5**	P	**Pn**	**19 54 07.6**	**+4.2**
OUK	**Oukaimeden**	**5.61**	**219**	P	**Pn**	**19 54 17.0**	**+0.5**
TTIG	**Tnine Tigouga,**	**6.43**	**219**	P	**Pn**	**19 54 26.9**	**-0.8**

*NEIC **25** 20:00:40.0±1.2, 3°.7N±0°.1×122°.76E±0°.06, h550km±14km, mb4.0/12, Error ellipse: s-maj=21.4km s-min=5.8km az=201.0*
*IDC **25** 20:00:39.2±3.0, 3°.64N×122°.59E, h544km±43km, mb2.8/6, mb1 3.1/9, mb1mx2.8/45, mbtmp4.0/9, Error ellipse: s-maj=39.4km s-min=15.8km az=69.0*
ISC 25 20:00:39.6±0.8, 3°.6N±0°.1×122°.6E±0°.1, h550km, n27, σ1§29/26, mb3.8/10, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**3.11**	**217**	P	**P**	**20 01 56.3**	**+1.0**
MYLDM	**Lahad Datu**	**4.40**	**291**	P	**P**	**20 02 07.1**	**+2.6**
TNTI	**Ternate**	**5.51**	**121**	P	**P**	**20 02 12.5**	**-1.4**
TNTI				S	S	20 03 19.3	-12
KKM	**Kota Kinabalu**	**6.83**	**291**	P	**P**	**20 02 26.8**	**+0.7**
SIJI	**Sorong**	**9.71**	**117**	P	**P**	**20 02 53.6**	**-1.0**
	0.7nm,0.3s,baz=312,slow=12,SNR=2.8						
FAKI	**Fak Fak**	**11.60**	**124**	P	**P**	**20 03 14.1**	**0.0**
BATI	**Baumata**	**13.78**	**176**	P	**P**	**20 03 37.1**	**+0.5**
	4.5nm,0.3s,baz=330,slow=2.0,SNR=7.7						
UGM	**Wanagama**	**16.65**	**226**	P	**P**	**20 04 01.3**	**-4.1**
MTN	**Manton Dam**	**18.41**	**153**	P	**P**	**20 04 21.6**	**+0.3**
JAY	**Jayapura**	**19.06**	**108**	P	**P**	**20 04 28.6**	**+1.2**
	0.6nm,0.3s,baz=259,slow=12,SNR=1.4						
KNRA	**Kununurra**	**20.11**	**163**	P	**P**	**20 04 37.4**	**+0.6**
KNRA				IAmb	IAmb	20 04 48.5	
	comp=Z,7.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.79**	**172**	P	**P**	**20 04 52.3**	**+0.5**
	comp=Z,4.9nm,1.2s,baz=14,slow=14,SNR=2.4						
WB0	**Warramunga Arr**	**25.96**	**154**	P	**P**	**20 05 28.2**	**-0.7**
WB0				IAmb	IAmb	20 05 48.6	
	comp=Z,4.1nm,1.2s						
WRA	**Warramunga Arr**	**26.09**	**154**	P	**P**	**20 05 29.5**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=336,slow=9.6,SNR=52						
WRA	**Warramunga Arr**	**26.09**	**154**	P	**P**	**20 05 28.2**	**-1.9**
WB2	**Warramunga Arr**	**26.10**	**154**	P	**P**	**20 05 29.7**	**-0.5**
WB2				IAmb	IAmb	20 05 50.3	
	comp=Z,4.4nm,1.2s						
WR0	**Warramunga Arr**	**26.19**	**154**	P	**P**	**20 05 30.4**	**-0.5**
WR0				IAmb	IAmb	20 05 43.3	
	comp=Z,2.6nm,1.1s						
AS31	**Alice Springs**	**29.26**	**158**	P	**P**	**20 05 57.9**	**+0.1**
ASAR	**Alice Springs**	**29.26**	**158**	P	**P**	**20 05 57.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=336,slow=7.8,SNR=23						
ASAR	**Alice Springs**	**29.26**	**158**	P	**P**	**20 05 57.4**	**-0.5**
MORW	**Morawa**	**33.11**	**191**	P	**P**	**20 06 31.4**	**+0.8**
MORW				IAmb	IAmb	20 06 42.8	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**38.40**	**162**	P	**P**	**20 07 15.6**	**+1.2**
STKA	**Stephens Creek**	**39.64**	**154**	P	**P**	**20 07 24.9**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=354,slow=8.9,SNR=3.9						
STKA	**Stephens Creek**	**39.64**	**154**	IAmb	IAmb	20 07 44.5	
	comp=Z,1.6nm,1.4s						
SONM	**Songino Array**	**46.21**	**345**	P	**P**	**20 08 15.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=184,slow=12,SNR=1.4						
SONM	**Songino Array**	**46.21**	**345**	IAmb	IAmb	20 08 23.4	
	comp=Z,1.8nm,1.4s						
MKAR	**Makanchi Array**	**55.37**	**327**	P	**P**	**20 09 22.0**	**0.0**
	comp=Z,0.3nm,0.4s,baz=127,slow=6.7,SNR=9.6						
MKAR				PcP	**PcP**	**20 10 13.2**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=142,slow=3.6,SNR=4.3						

*SFS **25** 20:07:19.0, 35°.70N×3°.72W, ML2.0, ALBORAN SUR*
*CNRM **25** 20:07:20.0, 35°.73N×3°.58W, h12km, ml2.8*
*IGIL **25** 20:07:21.4, 35°.71N×3°.72W, h0km, ML2.3*
ISC 25 20:07:19.2±1.1, 35°.75N±0°.04×3°.64W±0°.05, h14km±12km, n13, σ1§55/21, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.58**	**204**	P	**Pb**	**20 07 31.3**	**+0.1**
PALE				S	**Sb**	**20 07 41.0**	**+1.6**
GOG	**Mont Gurugu**	**0.74**	**135**	P	**Pg**	**20 07 33.6**	**-0.1**
GOG				S	**Sg**	**20 07 45.0**	**+1.5**
CHAS	**Isla Isabel II**	**1.14**	**119**	P	**Pg**	**20 07 39.7**	**-1.4**
CHAS				S	**Sg**	**20 07 55.2**	**-0.8**
EMAL	**Malaga-Limoner**	**1.19**	**328**	P	**Pg**	**20 07 42.0**	**-0.2**
EMAL				S	**Sg**	**20 07 58.4**	**+0.6**
CEU	**Ceuta**	**1.41**	**277**	P	**Pn**	**20 07 43.4**	**-1.1**
CEU				S	**Sb**	**20 07 59.9**	**-3.3**
SMIR	**Smir Dam**	**1.42**	**268**	S	**Sn**	**20 08 05.3**	**+2.3**
CHEFC	**Chefchaouen**	**1.52**	**246**	P	**Pg**	**20 07 48.0**	**-0.5**
IFR	**Ifrane**	**2.54**	**209**	P	**Pn**	**20 08 00.7**	**+0.5**
IFR				S	**Sn**	**20 08 29.5**	**-1.5**
MDT	**Midelt**	**3.03**	**196**	P	**Pn**	**20 08 07.5**	**+0.6**
PVAQ	**Vaqueiros**	**3.67**	**298**	P	**Pn**	**20 08 17.3**	**+1.8**
MESJ	**Messejana**	**4.22**	**301**	*eP*	**Pn**	**20 08 24.6**	**+1.4**
MESJ				*eS*	**Sn**	**20 09 10.8**	**-1.5**
MESJ				IAML		20 09 17.5	
	comp=N,6.9nm,0.3s						
MORF	**Marmelete**	**4.32**	**293**	*eP*	**Pn**	**20 08 25.8**	**+1.2**
EVO	**Evora**	**4.46**	**310**	P	**Pn**	**20 08 28.2**	**+1.7**
EVO				S	**Sn**	**20 09 17.5**	**-0.7**

*IDC **25** 20:07:37.6±1.1, 37°.75N×142°.22E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/38, mbtmp3.7/10, ML3.0/4, MS3.3/1, Ms1 3.3/1, ms1mx2.3/88, Error ellipse: s-maj=27.0km s-min=18.8km az=86.0*
*JMA **25** 20:07:41.4±0.1, 37°.80N×141°.99E, h35km±2km, M3.8*
*NIED **25** 20:07:41.4, 37°.80N×141°.99E, h35km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr-2.39; Mθθ-0.06; Mφφ2.45; Mrθ1.17; Mθφ-0.09; Mφr-0.63; Fault plane solution: M0 2.74000×10^14^ NP1: φs336.00000°, δ57.00000°, λ-115.00000°. NP2: φs197.00000°, δ41.00000°, λ-57.00000°.*
ISC 25 20:07:39.3±1.7, 37°.79N±0°.04×142°.07E±0°.06, h11km±9km, n32, σ1§30/44, mb3.6/6, 8C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.70**	**318**	⇑P	**Pg**	**20 07 54.2**	**+1.2**
JIKH				S	**Sg**	**20 08 02.9**	**+0.7**
JIO	**Ouri**	**0.87**	**320**	⇑P	**Pg**	**20 07 56.8**	**+0.6**
JIO				S	**Sg**	**20 08 07.1**	**-0.5**
JMST	**Minamisoumatoc**	**0.94**	**267**	⇑P	**Pg**	**20 07 57.4**	**+0.1**
JMST				S	**Sg**	**20 08 08.7**	**-0.8**
JMM	**Marumori**	**1.01**	**275**	⇑P	**Pb**	**20 07 58.7**	**-0.1**
JMM				*e*S	**Sg**	**20 08 11.0**	**-0.9**
JFK	**Kawauchi**	**1.04**	**246**	⇑P	**Pb**	**20 07 58.9**	**-0.3**
JFK				S	**Sg**	**20 08 11.4**	**-1.3**
JKMT	**Kesennumamotoy**	**1.12**	**336**	⇑P	**Pb**	**20 08 00.3**	**-0.4**
JKMT				S	**Sb**	**20 08 13.4**	**-1.9**
JOU	**Okura**	**1.25**	**298**	⇑P	**Pn**	**20 08 02.6**	**-0.1**
JOU				S	**Sb**	**20 08 17.9**	**-1.0**
JMK	**Ichinoseki**	**1.34**	**330**	P	**Pn**	**20 08 03.7**	**-0.2**
JMK				S	**Sb**	**20 08 19.4**	**-2.1**
JFT	**Otama**	**1.40**	**259**	⇑P	**Pn**	**20 08 05.1**	**+0.4**
JFT				S	**Sn**	**20 08 22.3**	**-0.9**
JYS	**Shiratake**	**1.64**	**286**	P	**Pn**	**20 08 08.9**	**+0.9**
JYS				*e*S	**Sn**	**20 08 29.1**	**0.0**
JYK	**Kaneyama**	**1.75**	**311**	P	**Pn**	**20 08 09.6**	**0.0**
JYK				*e*S	**Sn**	**20 08 31.2**	**-0.7**
JOM	**Ohasama**	**1.79**	**340**	P	**Pn**	**20 08 10.3**	**+0.2**
JOM				*e*S	**Sn**	**20 08 32.5**	**-0.3**
JFY	**Yanaizu**	**1.91**	**259**	P	**Pn**	**20 08 12.3**	**+0.5**
JFY				*e*S	**Sn**	**20 08 35.0**	**-0.9**
JRG	**Rokugo**	**1.96**	**326**	P	**Pn**	**20 08 13.0**	**+0.5**
JRG				*e*S	**Sn**	**20 08 36.0**	**-1.0**
JYA	**Atsumi**	**2.02**	**294**	P	**Pn**	**20 08 13.6**	**+0.3**
JYA				*e*S	**Sn**	**20 08 37.0**	**-1.5**
MJAR	**Matsushiro Arr**	**3.32**	**249**	Pn	**Pn**	**20 08 32.1**	**+0.8**
	0.6nm,0.3s,baz=84,slow=16,SNR=15						
MJAR				Sn	**Sn**	**20 09 15.5**	**+4.9**
	0.8nm,0.3s,baz=94,slow=21,SNR=4.8						
MAT	**Matsushiro**	**3.32**	**249**	P	**Pn**	**20 08 32.4**	**+1.2**
MAT				*e*S	**Sn**	**20 09 11.2**	**+0.5**
JHJ	**Hachijo jima 2**	**5.02**	**202**	Pn	**Pn**	**20 08 54.2**	**-0.3**
	15nm,0.3s,baz=57,slow=23,SNR=2.1						
JHJ				Sn	**Sn**	**20 09 48.8**	**-3.6**
	22nm,0.3s,baz=268,slow=24,SNR=1.7						
ASAJ	**Asahikawa**	**6.33**	**3**	Pn	**Pn**	**20 09 11.4**	**-1.1**
	0.4nm,0.3s,baz=194,slow=16,SNR=1.2						
USRK	**Ussuriysk Ar.**	**9.95**	**313**	Pn	**Pn**	**20 10 02.4**	**+0.3**
	baz=121,slow=14,SNR=4.2						
SONM	**Songino Array**	**27.81**	**303**	P	**P**	**20 13 29.1**	**+0.7**
	0.5nm,0.7s,baz=96,slow=8.5,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**28.10**	**123**	T	T	20 42 52.9	
	baz=315,slow=75,SNR=90						
H11N1	**WAKE ISLAND Hy**	**28.11**	**123**	T	T	20 42 53.6	
	baz=315,slow=75,SNR=59						
H11N3	**WAKE ISLAND Hy**	**28.12**	**123**	T	T	20 42 53.0	
	baz=315,slow=75,SNR=54						
H11S1	**WAKE ISLAND Hy**	**28.85**	**125**	T	T	20 43 50.2	
	baz=317,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**28.85**	**125**	T	T	20 43 48.3	
	baz=317,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**28.86**	**125**	T	T	20 43 49.3	
	baz=317,slow=76,SNR=35						
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**	**20 15 30.4**	**+1.8**
	0.5nm,0.3s,baz=72,slow=9.3,SNR=1.8						
ZALV				LR	LR	20 35 18.8	
	comp=Z,32nm,18.5s,baz=221,slow=40						
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**20 15 48.6**	**+0.7**
	0.3nm,0.5s,baz=96,slow=8.0,SNR=4.7						
ILAR	**Eielson Array**	**48.58**	**33**	P	**P**	**20 16 22.6**	**+0.3**
	0.5nm,0.9s,baz=267,slow=5.8,SNR=2.9						
WRA	**Warramunga Arr**	**57.88**	**189**	P	**P**	**20 17 30.8**	**-0.4**
	1.3nm,0.6s,baz=5.4,slow=7.2,SNR=23						
ASAR	**Alice Springs**	**61.61**	**189**	P	**P**	**20 17 56.7**	**-0.1**
	0.7nm,0.7s,baz=8.5,slow=6.0,SNR=7.0						

*SFS **25** 20:12:54.0, 35°.51N×3°.83W, ML1.8, ALBORAN SUR*
*CNRM **25** 20:12:56.8, 35°.40N×3°.74W, h22km, ml2.6*
ISC 25 20:12:53.8±3.3, 35°.41N±0°.05×3°.70W±0°.03, h2km±24km, n10, σ1§46/20, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.27**	**227**	P	**Pb**	**20 13 01.6**	**+0.1**
PALE				S	**Sb**	**20 13 07.5**	**+0.9**
GOG	**Mont Gurugu**	**0.60**	**107**	P	**Pn**	**20 13 09.4**	**0.0**
GOG				S	**Sb**	**20 13 17.9**	**+1.9**
CHAS	**Isla Isabel II**	**1.06**	**102**	P	**Pb**	**20 13 14.4**	**-0.4**
CHAS				S	**Sb**	**20 13 28.6**	**-0.5**
CHEFC	**Chefchaouen**	**1.38**	**258**	P	**Pn**	**20 13 19.3**	**-0.9**
CHEFC				S	**Sn**	**20 13 37.6**	**-1.4**
JBK	**JBK**	**1.41**	**139**	P	**Pn**	**20 13 20.6**	**-0.2**
JBK				S	**Sn**	**20 13 38.9**	**-1.1**
LCRM	**LCR**	**1.96**	**210**	P	**Pb**	**20 13 31.0**	**+0.7**
LCRM				S	**Sb**	**20 13 55.9**	**+0.5

	baz=45								
KURS					*e*S		**Sg**	**20 56 53.5**	**-0.2**
	baz=45								
UZB	**Uzynbulak**	**0.55**	**94**		*e*P		**Pg**	**20 56 53.3**	**-0.3**
	3.5nm,0.1s								
UZB					*e*S		**Sg**	**20 57 00.5**	**-0.4**
	18nm,0.1s								
UZB	**Uzynbulak**	**0.55**	**94**		P		**Pg**	**20 56 53.3**	**-0.3**
	3.5nm,0.1s								
UZB					S		**Sg**	**20 57 00.5**	**-0.4**
	18nm,0.1s								
UZB	**Uzynbulak**	**0.55**	**94**		*e*P		**Pg**	**20 56 53.3**	**-0.3**
	baz=94								
UZB					*e*S		**Sg**	**20 57 00.5**	**-0.4**
	baz=94								
ANVS	**Anan'yevo**	**0.60**	**228**	⇑	*i*P		**Pg**	**20 56 54.2**	**-0.4**
	baz=29								
ANVS				⇑	*i*S		**Sg**	**20 57 02.5**	**-0.1**
	baz=29								
PRZ	**Przheval'sk**	**0.71**	**173**	⇑	*i*P		**Pg**	**20 56 55.8**	**-0.8**
	baz=73								
PRZ				⇑	*i*S		**Sg**	**20 57 05.3**	**-0.6**
	baz=73								
PDGK	**Podgornoye**	**0.90**	**80**	⇓	P		**Pb**	**20 57 00.5**	**+0.3**
	2.6nm,1.1s								
PDGK				⇓	S		**Sg**	**20 57 10.9**	**-1.1**
	1.9nm,0.5s								
MDOK	**Medeo**	**0.90**	**269**	⇓	P		**Pg**	**20 56 59.8**	**-0.4**
	1.7nm,1.3s								
MDOK					S		**Sg**	**20 57 11.7**	**-0.3**
	0.9nm,0.6s								
BLB	**Baldybastay**	**0.92**	**9**		*e*P		**Pg**	**20 57 00.2**	**-0.4**
	5.0nm,0.1s								
BLB					*e*S		**Sg**	**20 57 12.3**	**-0.5**
	16nm,0.3s								
BLB	**Baldybastay**	**0.92**	**9**		P		**Pg**	**20 57 00.2**	**-0.4**
	5.0nm,0.1s								
BLB					S		**Sg**	**20 57 12.3**	**-0.5**
	16nm,0.3s								
TNSS	**Tian-Shan**	**0.98**	**262**		*e*P		**Pg**	**20 57 01.4**	**-0.5**
	0.5nm,0.1s								
TNSS					*e*S		**Sg**	**20 57 14.4**	**-0.4**
	1.4nm,0.2s								
TNSS	**Tian-Shan**	**0.98**	**262**		P		**Pg**	**20 57 01.4**	**-0.5**
	0.5nm,0.1s								
TNSS					S		**Sg**	**20 57 14.4**	**-0.4**
	1.4nm,0.2s								
TNSS	**Tian-Shan**	**0.98**	**262**		*e*P		**Pg**	**20 57 01.4**	**-0.5**
	baz=62								
TNSS					*e*S		**Sg**	**20 57 14.4**	**-0.4**
	baz=62								
KDJ	**Kajisay**	**1.33**	**218**	⇑	*i*P		**Pn**	**20 57 07.0**	**0.0**
	baz=18								
KDJ				⇑	*i*S		**Sn**	**20 57 24.7**	**+0.1**
	baz=18								
TARG	**Taragay, Kyrgy**	**1.50**	**194**	⇑	*i*P		**Pn**	**20 57 10.1**	**+0.6**
	baz=94								
TARG				⇑	*i*S		**Sb**	**20 57 30.0**	**+0.5**
	baz=94								
BOOM	**Boomskoye usch**	**1.85**	**249**	⇑	*i*P		**Pb**	**20 57 16.1**	**-0.4**
	baz=49								
BOOM				⇑	*i*S		**Sb**	**20 57 40.6**	**+1.0**
	baz=49								
TKM2	**Tokmak 2**	**1.98**	**263**	⇑	Pg		**Pb**	**20 57 19.1**	**+0.4**
	0.5nm,0.6s								
TKM2				⇑	Lg		Lg	20 57 45.9	
	0.8nm,0.4s								

NIED ***25*** *21:18:55.7, 31°.87N×129°.23E, h12km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr~0.61; Mθθ1.97; Mφφ-1.36; Mrθ1.29; Mθφ2.40; Mφr0.28; Fault plane solution: M0 3.15000×10^14^ NP1: φs107.00000°, δ86.00000°, λ20.00000°. NP2: φs16.00000°, δ70.00000°, λ176.00000°.*

JMA 25 21:18:55.6±0.1, 31°.87N×129°.23E, h12km±3km, M3.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.46**	**115**	P	Pg	21 19 04.2	-0.4
JSJ				*e*S	Sg	21 19 10.2	-0.5
JFU	**Fukue jima 2**	**0.88**	**333**	P	Pg	21 19 12.4	-0.3
JFU				*e*S	Sg	21 19 24.3	+0.1
NGSJ	**Nagasakinomoza**	**0.90**	**32**	P	Pg	21 19 12.7	-0.3
NGSJ				*e*S	Sg	21 19 24.4	-0.4
JHD	**Hondo**	**0.97**	**52**	P	Pg	21 19 13.9	-0.4
JHD				*e*S	Sg	21 19 26.6	-0.4
JSU	**Suzuyama**	**1.11**	**109**	P	Pb	21 19 16.1	-0.6
JSU				*e*S	Sg	21 19 31.3	0.0
JZO	**Okuchi**	**1.19**	**77**	P	Pn	21 19 17.5	-0.7
JZO				*e*S	Sb	21 19 32.8	-0.8

TUL ***25*** *21:22:04.9±0.9, 36°.82N±0°.01×97°.78W±0°.01, h5km±3km, ML2.6, mb_Lg2.1/10(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=50.0*

NEIC 25 21:22:05.1±0.7, 36°.808N±0°.009×97°.77W±0°.01, h6km±3km, Error ellipse: s-maj=1.8km s-min=1.0km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.09**	**300**	Pg	Pg	21 22 07.0	-0.1
GC02				Sg	Sg	21 22 08.3	-0.1
KAN14	**Manchester OK**	**0.22**	**313**	Pg	Pg	21 22 09.4	0.0
KAN14				Sg	Sg	21 22 12.3	0.0
KAN17	**Caldwell West**	**0.24**	**0**	Pg	Pg	21 22 09.8	0.0
KAN17				Sg	Sg	21 22 13.2	+0.3
KAN13	**South Haven SW**	**0.31**	**48**	Pg	Pg	21 22 11.2	+0.1
KAN13				Sg	Sg	21 22 15.5	+0.3
KAN05	**Bluff City Nor**	**0.31**	**344**	Pg	Pg	21 22 11.2	-0.1
KAN05				Sg	Sg	21 22 15.4	0.0
KAN01	**Argonia South**	**0.34**	**1**		Pg	21 22 11.8	-0.1
KAN01				Sg	Sg	21 22 16.5	+0.1
CROK	**Carrier**	**0.35**	**210**		Pg	21 22 12.2	+0.3
CROK				Sg	Sg	21 22 17.3	+0.8
KAN10	**Anthony SW Sta**	**0.41**	**320**	Pg	Pg	21 22 12.8	-0.3
KAN10				Sg	Sg	21 22 18.5	0.0
BLOK	**Blackwell**	**0.44**	**96**	Pg	Pg	21 22 13.3	-0.4
BLOK				Sg	Sg	21 22 19.8	+0.3
KAN06	**Argonia West S**	**0.45**	**350**	Pg	Pg	21 22 13.5	-0.3
KAN08	**Anthony NE Sta**	**0.45**	**339**	Pg	Pg	21 22 13.4	-0.4
KAN16	**Harper SW Stat**	**0.48**	**330**	Pg	Pg	21 22 14.1	-0.3
KAN16				Sg	Sg	21 22 20.7	0.0
KAN12	**Harper NE Stat**	**0.52**	**339**	Pg	Pg	21 22 14.8	-0.5
T35A	**Sooner Cattle**	**1.01**	**83**	Pg	Pg	21 22 24.0	-0.5
OK033	**Mehan**	**1.01**	**139**	Pg	Pg	21 22 24.7	+0.1
OK029	**Liberty Lake**	**1.04**	**166**	Pg	Pg	21 22 24.8	-0.2
QUOK	**Quay**	**1.06**	**126**	Pg	Pg	21 22 25.2	-0.3
OK031	**S. Brethren Rd**	**1.13**	**138**	Pg	Pg	21 22 26.3	-0.6
BCOK	**Bluff Creek, N**	**1.16**	**174**	Pg	Pg	21 22 26.5	-0.8
OK034	**N. Norfolk Rd.**	**1.16**	**133**	Pg	Pg	21 22 27.0	-0.4
OK030	**Cody Creek RV**	**1.18**	**138**	Pg	Pg	21 22 27.0	-0.8
OK025	**Westminster Rd**	**1.27**	**164**	Pn	Pn	21 22 29.0	-0.5
R32A	**Long Quarter,**	**1.78**	**335**	IAmb_Lg		21 23 00.8	
	comp=Z,8.9nm,0.9s						
W35A	**Tecumseh**	**1.80**	**156**	Pn	Pn	21 22 37.4	+0.6
W35A				IAmb_Lg		21 23 06.9	
	comp=Z,8.5nm,0.7s						
WMOK	**Wichita Mounta**	**2.22**	**202**	IAmb_Lg		21 23 14.5	
	comp=Z,9.5nm,1.0s						
KSU1	**Kansas State U**	**2.46**	**21**	IAmb_Lg		21 23 27.4	
	comp=Z,8.8nm,0.8s						
HHAR	**Hobbs**	**3.12**	**99**	Pn	Pn	21 22 54.9	0.0
HHAR				IAmb_Lg		21 23 47.5	
	comp=Z,6.3nm,0.9s						
S39A	**Bolivar**	**3.65**	**75**	IAmb_Lg		21 24 06.3	
	comp=Z,3.9nm,0.8s						

SFS ***25*** *21:27:40.0, 35°.39N×3°.83W, ML2.6, ALBORAN SUR*
CNRM ***25*** *21:27:43.4, 35°.47N×3°.69W, h24km, ml2.8*

ISC 25 21:27:40.3±1.3, 35°.58N±0°.04×3°.64W±0°.03, h17km±9km, n19, σ1§69/34, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.44**	**214**	P	**Pg**	**21 27 50.0**	**+0.7**
PALE				S	**Sg**	**21 27 54.6**	**-0.7**
GOG	**Mont Gurugu**	**0.63**	**124**	P	**Pn**	**21 27 56.8**	**+2.2**
GOG				S	**Sn**	**21 28 05.4**	**+0.9**
CHAS	**Isla Isabel II**	**1.06**	**112**	P	**Pb**	**21 27 57.9**	**-2.4**
CHAS				S	**Sb**	**21 28 11.8**	**-2.1**
CHAS	**Isla Isabel II**	**1.06**	**112**	P	**Pb**	**21 27 59.4**	**-0.9**
CHAS				S	**Sn**	**21 28 16.9**	**+2.0**
AKLM	**AKL**	**1.09**	**190**	P	**Pb**	**21 27 57.3**	**-3.5**
AKLM				S	**Sn**	**21 28 16.7**	**+1.1**
EMAL	**Malaga-Limoner**	**1.34**	**332**	P	**Pn**	**21 28 03.4**	**-0.9**
EMAL				S	**Sb**	**21 28 23.1**	**+1.2**
CEU	**Ceuta**	**1.45**	**283**	P	**Pn**	**21 28 06.2**	**+0.4**
CEU				S	**Sn**	**21 28 20.7**	**-3.7**
CHEFC	**Chefchaouen**	**1.47**	**252**	P	**Pg**	**21 28 09.7**	**+1.0**
CHEFC				S	**Sn**	**21 28 26.0**	**+0.8**
JBK	**JBK**	**1.52**	**145**	P	**Pn**	**21 28 06.0**	**-1.0**
JBK				S	**Sn**	**21 28 25.9**	**-0.6**
RSA	**Sarsar**	**1.92**	**249**	P	**Pb**	**21 28 14.7**	**-0.2**
RSA				S	**Sn**	**21 28 35.8**	**-0.4**
SICH	**Sidi Chahed**	**2.02**	**224**	P	**Pb**	**21 28 16.8**	**+0.1**
SICH				S	**Sb**	**21 28 41.2**	**-0.4**
LCRM	**LCR**	**2.14**	**208**	P	**Pn**	**21 28 17.7**	**+2.2**
LCRM				S	**Sn**	**21 28 43.9**	**+2.0**
IFR	**Ifrane**	**2.40**	**211**	P	**Pn**	**21 28 20.3**	**+1.2**
IFR				S	**Sn**	**21 28 46.9**	**-1.3**
MD31	**MD31**	**2.87**	**199**	P	**Pn**	**21 28 25.0**	**-0.4**
MD31				S	**Sn**	**21 28 59.3**	**-0.3**
MDT	**Midelt**	**2.88**	**197**	P	**Pn**	**21 28 25.3**	**-0.2**
MDT				S	**Sn**	**21 28 59.2**	**-0.6**
ZHG	**ZHG**	**3.27**	**230**	P	**Pn**	**21 28 31.6**	**+0.6**
PVAQ	**Vaqueiros**	**3.76**	**300**	P	**Pn**	**21 28 39.9**	**+2.4**
FIGM	**Figuig**	**3.97**	**149**	P	**Pn**	**21 28 44.1**	**+3.5**
OUK	**Oukaimeden**	**5.62**	**220**	P	**Pn**	**21 29 04.3**	**+0.9**

NEIC ***25*** *21:28:07.5±1.4, 59°.72N±0°.03×153°.21W±0°.07, h112km±4km, Error ellipse: s-maj=5.2km s-min=4.6km az=142.0*
IDC ***25*** *21:28:07.1±1.2, 59°.70N×153°.20W, h104km±16km, mb3.7/12, mb1 3.8/17, mb1mx3.5/66, mbtmp4.1/17, Error ellipse: s-maj=16.1km s-min=12.1km az=138.0*
AEIC ***25*** *21:28:08±1.6, 59°.69N±0°.03×153°.17W±0°.06, h109km±3km, ML3.9, mb4.4/13(NEIC), ML4.1/98(NEIC), Error ellipse: s-maj=4.7km s-min=4.4km az=107.0*

ISC 25 21:28:08.2±0.6, 59°.72N±0°.03×153°.13W±0°.03, h115km±5km, n235, σ1§20/287, mb4.2/16, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.09**	**216**		**Pn**	**21 28 23.2**	**-0.8**
AU22	**Augustine Moun**	**0.37**	**198**		**Pn**	**21 28 24.0**	**-0.8**
AU22					**Sn**	**21 28 36.1**	**-1.1**
AUL	**Augustine Lava**	**0.37**	**204**		**Pn**	**21 28 24.1**	**-0.7**
AUL					**Sn**	**21 28 36.3**	**-1.0**
AUW	**Augustine West**	**0.39**	**206**		**Pn**	**21 28 24.6**	**-0.3**
AUQ	**Augustine Qik'**	**0.40**	**201**		**Pn**	**21 28 24.2**	**-0.7**
O20K	**Slope Mountain**	**0.44**	**35**		**Pn**	**21 28 24.7**	**-0.6**
O20K					**Sn**	**21 28 37.0**	**-1.1**
O20K	**Slope Mountain**	**0.44**	**35**	P	**Pn**	**21 28 24.7**	**-0.6**
	baz=215,SNR=48						
O20K				S	**Sn**	**21 28 37.1**	**-1.1**
	baz=215						
RED	**Redoubt Volcan**	**0.72**	**14**		**Pn**	**21 28 26.6**	**-0.6**
RED					**Sn**	**21 28 40.5**	**-1.1**
HOM	**Homer**	**0.76**	**94**	Pn	**Pn**	**21 28 27.2**	**-0.3**
HOM				Sn	**Sn**	**21 28 41.6**	**-0.3**
HOM				IAML		21 28 42.9	
	comp=E,10μm,0.4s						
HOM				IAML		21 28 44.0	
	comp=N,13μm,0.4s						
HOM	**Homer**	**0.76**	**94**	P	**Pn**	**21 28 27.1**	**-0.3**
	baz=273,SNR=17						
HOM				S	**Sn**	**21 28 41.8**	**-0.1**
	baz=273						
RSO	**Redoubt South**	**0.77**	**14**		**Pn**	**21 28 27.1**	**-0.7**
Q19K	**Cape Douglas,**	**0.84**	**198**		**Pn**	**21 28 27.2**	**-1.0**
Q19K				Sn	**Sn**	**21 28 41.8**	**-1.5**
Q19K	**Cape Douglas,**	**0.84**	**198**	P	**Pn**	**21 28 27.3**	**-0.9**
	baz=17,SNR=172						
Q19K				S	**Sn**	**21 28 42.0**	**-1.3**
	baz=17						
NCT	**North Crescent**	**0.85**	**7**		**Pn**	**21 28 27.7**	**-0.6**
NCT					**Sn**	**21 28 42.5**	**-1.1**
DFR	**Drift River**	**0.90**	**14**		**Pn**	**21 28 28.3**	**-0.6**
DFR					**Sn**	**21 28 43.3**	**-1.2**
CNPM	**China Poot**	**0.98**	**101**	Pn	**Pn**	**21 28 29.0**	**-0.6**
CNPM				Sn	**Sn**	**21 28 44.6**	**-1.2**
CNPM				IAML		21 28 45.7	
	comp=N,7μm,0.4s						
CNPM				IAML		21 28 46.1	
	comp=E,4μm,0.4s						
O18K	**Koktuh Hills**	**1.06**	**278**		**Pn**	**21 28 29.0**	**-1.3**
O18K				Sn	**Sn**	**21 28 45.0**	**-2.1**
O18K	**Koktuh Hills**	**1.06**	**278**	P	**Pn**	**21 28 29.1**	**-1.2**
	baz=98,SNR=16						
O18K				S	**Sn**	**21 28 44.9**	**-2.1**
	baz=98						
P18K	**Big Mountain,**	**1.12**	**254**		**Pn**	**21 28 29.2**	**-1.8**
P18K				Sn	**Sn**	**21 28 45.5**	**-2.7**
P18K	**Big Mountain,**	**1.12**	**254**	P	**Pn**	**21 28 29.5**	**-1.5**
	baz=73,SNR=5.7						
P18K				S	**Sn**	**21 28 45.6**	**-2.6**
	baz=73						
BRLK	**Bradley Lake**	**1.14**	**87**		**Pn**	**21 28 30.2**	**-1.0**
BRLK				Sn	**Sn**	**21 28 47.1**	**-1.5**
BRLK				IAML		21 28 47.6	
	comp=N,2μm,0.6s						
BRLK				IAML		21 28 48.9	
	comp=E,2μm,0.1s						
BRSE	**Bradley Lake S**	**1.21**	**88**		**Pn**	**21 28 31.5**	**-0.5**
BRSE					**Sn**	**21 28 48.7**	**-1.3**
BRSE	**Bradley Lake S**	**1.21**	**88**	P	**Pn**	**21 28 31.3**	**-0.7**
	baz=268,SNR=22						
BRSE				S	**Sn**	**21 28 48.5**	**-1.5**
	baz=268						
N19K	**Bonanza Creek**	**1.28**	**329**		**Pn**	**21 28 32.0**	**-0.9**
N19K				Sn	**Sn**	**21 28 50.0**	**-1.5**
N19K	**Bonanza Creek**	**1.28**	**329**	P	**Pn**	**21 28 32.1**	**-0.7**
	baz=149,SNR=88						
N19K				S	**Sn**	**21 28 50.1**	**-1.5**
	baz=149						
CAPN	**Captain Cook N**	**1.44**	**42**		**Pn**	**21 28 35.8**	**+1.4**
CAPN	**Captain Cook N**	**1.44**	**42**	P	**Pn**	**21 28 35.8**	**+1.4**
	baz=224,SNR=5.8						
SPU	**Mount Spurr**	**1.56**	**20**		**Pn**	**21 28 35.4**	**-0.6**
SLKM	**Skilak Lake**	**1.66**	**60**		**Pn**	**21 28 36.5**	**-0.6**
SLKM					**Sn**	**21 28 57.8**	**-1.4**
SPCG	**Spurr Capps Gl**	**1.67**	**19**		**Pn**	**21 28 37.1**	**-0.2**
CGLM	**Capps Glacier**	**1.69**	**19**		**Pn**	**21 28 37.3**	**-0.2**
KABU	**Katmai Buttres**	**1.83**	**218**		**Pn**	**21 28 38.9**	**-0.4**
KABU					**Sn**	**21 29 01.8**	**-1.3**
SVW2	**Sparrevohn**	**1.84**	**320**	Pn	**Pn**	**21 28 38.1**	**-1.2**
SVW2				IAML		21 28 56.5	
	comp=N,3μm,0.7s						
O22K	**Cooper Landing**	**1.87**	**64**		**Pn**	**21 28 39.5**	**-0.1**
O22K				IAML		21 29 14.2	
	comp=E,3μm,0.8s						
O22K	**Cooper Landing**	**1.87**	**64**	P	**Pn**	**21 28 39.5**	**-0.1**
	baz=247,SNR=90						
O22K				S	**Sn**	**21 29 01.9**	**-1.8**
	baz=247						
SEW	**Seward**	**1.89**	**77**		**Pn**	**21 28 39.4**	**-0.5**
SEW	**Seward**	**1.89**	**77**	P	**Pn**	**21 28 39.4**	**-0.5**
	baz=259,SNR=27						
SEW				S	**Sn**	**21 29 02.6**	**-1.7**
	baz=259						
STLK	**Strandline Lak**	**1.90**	**19**		**Pn**	**21 28 40.2**	**+0.1**
KDAK	**Kodiak Island**	**1.97**	**171**	P	**Pn**	**21 28 39.4**	**-1.5**
	comp=E,62nm,0.3s,baz=32,slow=8.6,SNR=201						
KDAK				S	**Sn**	**21 29 03.8**	**-2.0**
	comp=E,87nm,0.3s,baz=158,slow=24,SNR=23						
KDAK	**Kodiak Island**	**1.97**	**171**		**Pn**	**21 28 39.1**	**-1.8**
KDAK				IAML		21 29 06.4	
	comp=E,585nm,0.3s						
KDAK	**Kodiak Island**	**1.97**	**171**	P	**Pn**	**21 28 39.3**	**-1.5**
	baz=351						
KDAK				S	**Sn**	**21 29 04.1**	**-1.8**
	baz=351						
FIS	**Fire Island**	**2.03**	**44**	Pn	**Pn**	**21 28 42.5**	**+0.8**
FIS				IAML		21 29 13.0	
	comp=N,2μm,0.6s						
FIS				IAML		21 29 16.5	
	comp=E,2μm,0.6s						
RC01	**Rabbit Creek A**	**2.17**	**49**		**Pn**	**21 28 43.2**	**-0.3**
RC01				IAML		21 29 10.8	
	comp=N,1μm,0.7s						
RC01				IAML		21 29 10.9	
	comp=E,2μm,0.4s						
RC01	**Rabbit Creek A**	**2.17**	**49**	P	**Pn**	**21 28 43.2**	**-0.3**
	baz=232,SNR=80						
RC01				S	**Sn**	**21 29 08.9**	**-1.7**
	baz=232						
OHAK	**Old Harbor**	**2.51**	**182**	Pn	**Pn**	**21 28 45.5**	**-2.2**
OHAK	**Old Harbor**	**2.51**	**182**	P	**Pn**	**21 28 45.9**	**-1.9**
	baz=1.3,SNR=9.2						
OHAK				S	**Sn**	**21 29 14.2**	**-4.0**
	baz=1.3						
M22K	**Willow**	**2.52**	**35**	Pn	**Pn**	**21 28 48.0**	**+0.2**
M22K	**Willow**	**2.52**	**35**	P	**Pn**	**21 28 48.0**	**+0.2**
	baz=217,SNR=23						
M22K				S	**Sn**	**21 29 18.1**	**-0.3**
	baz=217						
L19K	**White Mountain**	**2.61**	**342**	Pn	**Pn**	**21 28 48.3**	**-0.7**
L19K	**White Mountain**	**2.61**	**342**	P	**Pn**	**21 28 48.4**	**-0.7**
	baz=161,SNR=97						
L19K				S	**Sn**	**21 29 19.0**	**-1.5**
	baz=161						
PWL	**Port Wells**	**2.65**	**62**	Pn	**Pn**	**21 28 48.5**	**-1.1**
PWL				IAML		21 29 21.1	
	comp=E,1μm,0.6s						
PWL	**Port Wells**	**2.65**	**62**	P	**Pn**	**21 28 48.6**	**-1.1**
	baz=246,SNR=29						
PWL				S	**Sn**	**21 29 19.5**	**-2.0**
	baz=246						
PMR	**Palmer**	**2.72**	**45**	Pn	**Pn**	**21 28 49.5**	**-1.0**
PMR				IAML		21 29 23.2	
	comp=E,474nm,0.5s						
PMR				IAML		21 29 23.9	
	comp=N,509nm,0.7s						
PMR	**Palmer**	**2.72**	**45**	P	**Pn**	**21 28 49.6**	**-0.9**
	baz=228,SNR=40						
PMR				S	**Sn**	**21 29 20.2**	**-2.9**
	baz=228						
L20K	**Farewell, AK**	**2.79**	**353**		**Pn**	**21 28 51.2**	**-0.2**
L20K	**Farewell, AK**	**2.79**	**353**	P	**Pn**	**21 28 51.3**	**-0.2**
	baz=173,SNR=103						
KNK	**Knik Glacier**	**2.86**	**52**	Pn	**Pn**	**21 28 51.5**	**-0.9**
KNK					**Sn**	**21 29 23.8**	**-2.8**
KNK	**Knik Glacier**	**2.86**	**52**	P	**Pn**	**21 28 51.5**	**-0.9**
	baz=235,SNR=49						
KNK				S	**Sn**	**21 29 23.9**	**-2.6**
	baz=235						
GHO	**Glory Hole Cre**	**2.92**	**43**		**Pn**	**21 28 51.9**	**-1.3**
GHO				IAML		21 29 28.4	
	comp=N,842nm,0.5s						
CUT	**Chulitna**	**3.03**	**26**	Pn	**Pn**	**21 28 54.9**	**+0.3**
CUT				IAML		21 29 34.2	
	comp=E,858nm,0.6s						
CUT	**Chulitna**	**3.03**	**26**	P	**Pn**	**21 28 54.5**	**0.0**
	baz=209,SNR=22						
CUT				S	**Sn**	**21 29 29.6**	**-0.8**
	baz=209						
SML	**Sawmill**	**3.15**	**46**	Pn	**Pn**	**21 28 55.1**	**-1.1**
SML				IAML		21 29 33.1	
	comp=N,694nm,1.0s						
SML				IAML		21 29 33.3	
	comp=E,576nm,1.0s						
SML	**Sawmill**	**3.15**	**46**	P	**Pn**	**21 28 55.2**	**-1.1**
	baz=230,SNR=17						
SML				S	**Sn**	**21 29 30.2**	**-3.2**
	baz=230						
PPLA	**Purkeypile**	**3.22**	**8**	Pn	**Pn**	**21 28 57.8**	**+0.6**
PPLA	**Purkeypile**	**3.22**	**8**	P	**Pn**	**21 28 57.8**	**+0.6**
	baz=189,SNR=31						
PPLA				S	**Sn**	**21 29 34.5**	**-0.6**
	baz=189						
SII	**Sitkinak Islan**	**3.22**	**190**	Pn	**Pn**	**21 28 55.0**	**-2.2**
SII				IAML		21 29 32.9	
	comp=E,727nm,0.4s						
SII				IAML		21 29 44.7	
	comp=N,458nm,0.7s						
Q23K	**Middleton Isla**	**3.46**	**92**	Pn	**Pn**	**21 28 59.7**	**-0.6**
Q23K				IAML		21 29 41.7	
	comp=N,480nm,0.4s						
Q23K				IAML		21 30 51.5	
	comp=E,451nm,3.8s						
Q23K	**Middleton Isla**	**3.46**	**92**	P	**Pn**	**21 28 59.7**	**-0.6**
	baz=277						
MID	**Middleton Isla**	**3.47**	**92**	Pn	**Pn**	**21 28 59.8**	**-0.5**
MID				IAML		21 29 46.5	
	comp=N,444nm,2.0s						
MID				IAML		21 30 51.5	
	comp=E,511nm,3.2s						
TT01	**Tatalina**	**3.48**	**338**		**Pn**	**21 28 59.8**	**-0.9**
TTA	**Tatalina**	**3.50**	**338**	Pn	**Pn**	**21 29 00.0**	**-1.0**
TTA	**Tatalina**	**3.50**	**338**	P	**Pn**	**21 28 60.0**	**-1.0**
	baz=156,SNR=79						
SCM	**Sheep Creek Mo**	**3.55**	**51**		**Pn**	**21 29 00.8**	**-0.7**
SCM				IAML		21 29 44.4	
	comp=N,526nm,0.6s						
SCM				IAML		21 29 45.0	
	comp=E,590nm,0.7s						
SCM	**Sheep Creek Mo**	**3.55**	**51**	P	**Pn**	**21 29 00.8**	**-0.7**
	baz=236						
SCM				S	**Sn**	**21 29 40.4**	**-2.4**
	baz=236						
K20K	**Telida**	**3.67**	**353**	Pn	**Pn**	**21 29 02.2**	**-1.0**
CAST	**Castle Rocks**	**3.74**	**7**		**Pn**	**21 29 03.9**	**-0.2**
CAST	**Castle Rocks**	**3.74**	**7**	P	**Pn**	**21 29 03.8**	**-0.2**
	baz=188,SNR=73						
EYAK	**Cordova Ski Ar**	**3.79**	**74**	Pn	**Pn**	**21 29 03.5**	**-1.1**
EYAK	**Cordova Ski Ar**	**3.79**	**74**	P	**Pn**	**21 29 03.5**	**-1.1**
	baz=260,SNR=6.0						
DIV	**Divide**	**3.91**	**66**	Pn	**Pn**	**21 29 05.4**	**-1.0**
KLU	**Klutina**	**3.97**	**60**		**Pn**	**21 29 06.3**	**-0.9**
KLU				IAML		21 29 53.1	
	comp=E,330nm,0.3s						
KLU	**Klutina**	**3.97**	**60**	P	**Pn**	**21 29 06.3**	**-0.9**
	baz=246,SNR=37						
KLU				S	**Sn**	**21 29 49.6**	**-3.4**
	baz=246						
TRF	**Thorofare Moun**	**3.98**	**19**		**Pn**	**21 29 07.0**	**-0.3**
TRF				IAML		21 30 16.8	
	comp=N,250nm,0.5s						
TRF				IAML		21 30 17.7	
	comp=E,164nm,0.8s						
TRF	**Thorofare Moun**	**3.98**	**19**	P	**Pn**	**21 29 06.7**	**-0.7**
	baz=201,SNR=40						

BPAW Bear Paw Mtn. 4.51 12 P **Pn 21 29 13.2 -1.1**
baz=194,SNR=6.3
BPAW S **Sn 21 30 02.2 -3.5**
baz=194
N25K Chitina, Valde 4.60 62 Pn **Pn 21 29 15.0 -0.6**
N25K IAML 21 30 08.8
comp=N,236nm,0.5s
N25K IAML 21 30 10.1
comp=E,195nm,0.4s
N25K Chitina, Valde 4.60 62 P **Pn 21 29 14.9 -0.7**
baz=249,SNR=42
N25K S **Sn 21 30 05.4 -2.7**
baz=249
HARP HAARP 4.71 52 P **Pn 21 29 16.5 -0.5**
baz=239,SNR=6.6
HARP S **Sn 21 30 09.4 -1.3**
baz=239
BERG Berg Lake 4.78 78 Pn **Pn 21 29 17.1 -0.8**
BWN Browne 4.79 20 Pn **Pn 21 29 17.9 -0.1**
BWN IAML 21 30 32.5
comp=N,116nm,1.2s
BWN IAML 21 30 49.1
comp=E,130nm,0.8s
GLB Gilahina Butte 4.91 65 **Pn 21 29 19.0 -0.8**
GLB IAML 21 30 16.4
comp=E,201nm,0.8s
PAX Paxson 4.92 45 **Pn 21 29 19.9 -0.1**
PAX Paxson 4.92 45 P **Pn 21 29 19.4 -0.6**
baz=232,SNR=18
PAX S **Sn 21 30 12.6 -3.1**
baz=232
KHIT Khitrov Hills 5.00 77 **Pn 21 29 20.4 -0.7**
VRDI Verde Repeater 5.02 68 Pn **Pn 21 29 21.3 -0.1**
VRDI IAML 21 30 18.0
comp=E,101nm,0.6s
VRDI IAML 21 30 18.5
comp=N,152nm,0.6s
PS10 TAPS Pump St10 5.12 40 **Pn 21 29 22.7 +0.3**
SNH Sunshine Point 5.20 80 Pn **Pn 21 29 23.3 -0.3**
WAX Waxell Ridge 5.20 78 **Pn 21 29 23.5 -0.2**
NEA2 Nenana 5.25 20 **Pn 21 29 23.3 -0.9**
NEA2 IAML 21 30 23.4
comp=N,40nm,0.8s
NEA2 Nenana 5.25 20 P **Pn 21 29 23.2 -0.9**
baz=203,SNR=36
WRH Wood River Hil 5.32 24 **Pn 21 29 24.4 -0.8**
WRH IAML 21 30 27.5
comp=E,56nm,0.5s
WRH IAML 21 31 03.2
comp=N,37nm,1.1s
GCSA Galena City Sc 5.34 342 **Pn 21 29 24.7 -0.7**
GCSA Galena City Sc 5.34 342 P **Pn 21 29 24.5 -0.9**
baz=160,SNR=9.4
ISLE Juniper Island 5.46 76 Pn **Pn 21 29 27.1 -0.2**
KIAG Kiagna River 5.49 73 **Pn 21 29 27.0 -0.6**
BALM Baldy 5.51 72 **Pn 21 29 26.9 -1.1**
HDA Harding Lake 5.53 29 Pn **Pn 21 29 27.1 -0.8**
HDA Harding Lake 5.53 29 P **Pn 21 29 27.2 -0.8**
baz=214,SNR=28
CCB Clear Creek Bu 5.54 24 **Pn 21 29 26.9 -1.2**
MENT Mentasta 5.56 51 Pn **Pn 21 29 28.5 0.0**
BAGL Bagley Icefiel 5.58 77 **Pn 21 29 28.9 +0.2**
M26K Nabesna, AK 5.61 57 **Pn 21 29 29.0 -0.1**
M26K Nabesna, AK 5.61 57 P **Pn 21 29 29.1 -0.1**
baz=246,SNR=43
RIDG Independent Ri 5.63 41 Pn **Pn 21 29 29.5 +0.1**
RIDG Independent Ri 5.63 41 P **Pn 21 29 29.3 -0.2**
baz=228,SNR=8.6
MESA MESA 5.64 81 Pn **Pn 21 29 29.5 -0.2**
MESA MESA 5.64 81 P **Pn 21 29 29.2 -0.5**
baz=270,SNR=9.1
I23K Minto, Yukon-K 5.72 16 **Pn 21 29 29.8 -0.7**
I23K Minto, Yukon-K 5.72 16 P **Pn 21 29 29.9 -0.7**
baz=200,SNR=61
TCOL CIGO, UAF Yank 5.72 23 **Pn 21 29 29.8 -0.8**
TCOL CIGO, UAF Yank 5.72 23 P **Pn 21 29 29.7 -0.8**
baz=208,SNR=25
COLA College 5.73 23 **Pn 21 29 29.8 -0.8**
COLA College 5.73 23 P **Pn 21 29 29.8 -0.8**
baz=208
MDM Murphy Dome 5.73 21 **Pn 21 29 29.6 -1.1**
YAH Yahtse 5.75 79 Pn **Pn 21 29 31.6 +0.4**
DOT Dot Lake 5.84 44 Pn **Pn 21 29 33.0 +0.7**
IL31 5.84 27 Pn **Pn 21 29 31.4 -0.9**
ILAR Eielson Array 5.84 27 P **Pn 21 29 30.9 -1.3**
comp=N,10nm,0.3s,baz=215,slow=14,SNR=430
ILAR S **Sn 21 30 33.0 -4.9**
comp=N,4.5nm,0.3s,baz=209,slow=26,SNR=6.3
ILAR Eielson Array 5.84 27 **Pn 21 29 31.2 -1.1**
H21K Melozitna Rive 5.96 1 Pn **Pn 21 29 32.5 -1.3**
POKR Poker Plat Res 6.03 24 Pn **Pn 21 29 33.7 -1.1**
POKR Poker Plat Res 6.03 24 P **Pn 21 29 33.6 -1.1**
baz=209,SNR=23
PS07 TAPS Pump Stn7 6.04 20 **Pn 21 29 33.8 -1.1**
TABL Table Mountain 6.05 78 **Pn 21 29 35.4 +0.2**
M27K Edge Creek, AK 6.07 59 Pn **Pn 21 29 36.0 +0.5**
M27K Edge Creek, AK 6.07 59 P **Pn 21 29 35.3 -0.2**
baz=249,SNR=28
SCRK Sand Creek 6.08 41 Pn **Pn 21 29 35.0 -0.5**
SCRK Sand Creek 6.08 41 P **Pn 21 29 34.6 -0.9**
baz=229,SNR=14
J25K Salcha River, 6.11 33 **Pn 21 29 34.2 -1.6**
SAMH Samovar Hills 6.23 81 **Pn 21 29 38.2 +0.7**
IM03 6.29 358 **Pn 21 29 38.3 0.0**
IMAR Indian Mountai 6.29 358 Pn **Pn 21 29 38.5 +0.2**
PS06 TAPS Pump Stn6 6.35 13 **Pn 21 29 38.5 -0.5**
YUK2 White River 6.37 66 **Pn 21 29 39.6 +0.1**
L27K Beaver Creek, 6.38 53 Pn **Pn 21 29 38.9 -0.6**
L27K Beaver Creek, 6.38 53 P **Pn 21 29 38.9 -0.6**
baz=243,SNR=7.5
BC03 6.40 54 **Pn 21 29 39.2 -0.5**
BCAR Beaver Creek A 6.40 54 Pn **Pn 21 29 39.1 -0.7**
PCA Pinnacle 6.49 81 Pn **Pn 21 29 41.2 +0.1**
PINM Pinnacle 6.49 81 P **Pn 21 29 40.6 -0.6**
baz=272,SNR=7.0
BVCY Beaver Creek 6.54 60 **Pn 21 29 41.8 +0.1**
BVCY Beaver Creek 6.54 60 P **Pn 21 29 41.6 -0.1**
baz=251,SNR=13
YUK3 Moose Creek 6.54 66 **Pn 21 29 41.7 -0.3**
YUK3 Moose Creek 6.54 66 P **Pn 21 29 41.5 -0.5**
baz=257,SNR=16
J26L Joseph Creek 6.56 39 **Pn 21 29 41.0 -1.1**
H24K Noodor Dome 6.59 19 **Pn 21 29 41.2 -1.2**
PRP Porcupine Dome 6.79 28 Pn **Pn 21 29 44.2 -0.9**
PRP Porcupine Dome 6.79 28 P **Pn 21 29 44.2 -0.9**
baz=215,SNR=41
PNL Peninsula 6.95 85 **Pn 21 29 47.0 -0.3**
PNL Peninsula 6.95 85 P **Pn 21 29 47.0 -0.3**
baz=276,SNR=18
PS05 TAPS Pump Stn5 7.20 8 **Pn 21 29 49.9 -0.8**
ANM Nome 7.51 316 **Pn 21 29 54.8 +0.1**
ISLZ Isanotski Laza 7.61 233 **Pn 21 29 55.9 -0.4**
COLD Coldfoot 7.65 9 Pn **Pn 21 29 55.5 -1.2**
COLD Coldfoot 7.65 9 P **Pn 21 29 55.8 -0.9**
baz=191,SNR=22
SSLS Shishaldin Sou 7.74 234 **Pn 21 29 57.7 -0.3**
DAWY Dawson 7.81 50 Pn **Pn 21 29 58.2 -0.7**
DAWY Dawson 7.81 50 P **Pn 21 29 58.0 -0.9**
baz=242,SNR=5.9
M30M Minto, Yukon 8.40 63 **Pn 21 30 07.2 +0.3**
M30M Minto, Yukon 8.40 63 P **Pn 21 30 06.8 -0.1**
baz=257
BM03 Burnt Mountain 8.60 23 **Pn 21 30 07.1 -2.4**
BMAR Burnt Mountain 8.62 23 Pn **Pn 21 30 07.6 -2.2**
N31M Braeburn, Yuko 8.71 71 Pn **Pn 21 30 10.8 -0.3**
N31M Braeburn, Yuko 8.71 71 P **Pn 21 30 10.8 -0.3**
baz=266,SNR=7.7
SKAG Skagway 9.03 84 P **Pn 21 30 15.1 -0.3**
baz=279,SNR=16
WHY Whitehorse 9.14 76 **Pn 21 30 17.6 +0.7**
WHY Whitehorse 9.14 76 P **Pn 21 30 16.4 -0.5**
baz=272,SNR=11
M31M Drury Creek, Y 9.44 67 Pn **Pn 21 30 21.0 +0.1**
M31M Drury Creek, Y 9.44 67 P **Pn 21 30 21.0 +0.1**
baz=263,SNR=15
BESE Bessie Mountai 9.46 89 Pn **Pn 21 30 22.5 +1.3**
JIS Juneau Island 9.78 90 Pn **Pn 21 30 27.0 +1.5**
P33M Teslin, Yukon 10.19 78 Pn **Pn 21 30 32.0 +0.9**
P33M Teslin, Yukon 10.19 78 P **Pn 21 30 30.6 -0.5**
baz=276,SNR=6.3
DLBC Dease Lake 11.94 86 P **Pn 21 30 55.8 +1.2**
comp=N,1.6nm,0.3s,baz=228,slow=11,SNR=27
DLBC S **Sn 21 33 05.5 -0.3**
comp=N,0.9nm,0.3s,baz=255,slow=16,SNR=2.7
DLBC Dease Lake 11.94 86 Pn **Pn 21 30 56.1 +1.6**
INK Inuvik 12.10 37 P **Pn 21 30 56.4 -0.1**
comp=N,0.3nm,0.3s,baz=237,slow=17,SNR=8.2
INK Inuvik 12.10 37 Pn **Pn 21 30 54.1 -2.3**
INK Inuvik 12.10 37 P **Pn 21 30 54.8 -1.6**
baz=234
ADK Adak 15.32 250 P **Pn 21 31 38.4 +0.5**
ADK IAmb IAmb 21 32 05.0
comp=Z,56nm,1.3s
KIWB Kanaga Island 15.56 250 P **P 21 31 42.9 +0.1**
C36M Paulatuk 15.60 40 Pn **Pn 21 31 39.3 -2.0**
BBB Bella Bella 15.84 107 P **P 21 31 45.6 -0.2**
comp=Z,0.2nm,0.3s,baz=288,slow=20,SNR=1.6
A36M Sachs Harbour 16.53 31 P **Pn 21 31 51.4 -1.4**
baz=236,SNR=9.9
YKA Yellowknife Ar 18.63 65 P **Pn 21 32 17.4 -0.6**
comp=Z,0.9nm,0.3s,baz=276,slow=9.9,SNR=125
YKA ScP **ScP 21 40 04.8 +0.5**
comp=Z,0.1nm,0.3s,baz=289,slow=1.9,SNR=7.2
YKA Yellowknife Ar 18.63 65 P **P 21 32 17.1 +0.7**
RES Resolute Bay 25.58 32 P **P 21 33 26.0 +0.1**
comp=Z,1.8nm,1.0s,baz=252,slow=14,SNR=3.8
SEY Seymchan 25.67 301 P **P 21 33 26.8 -0.1**
comp=Z,0.7nm,0.5s,baz=77,slow=18,SNR=3.0
PETK Petropavlovsk- 27.43 278 P **P 21 33 43.0 +0.2**
comp=Z,3.7nm,0.9s,baz=61,slow=14,SNR=2.7
FCC Fort Churchill 29.35 66 P **P 21 34 01.0 +1.3**
G40A Rib Lake 39.35 83 P **P 21 35 27.6 +1.6**
G40A IAmb IAmb 21 35 41.8
comp=Z,8.7nm,1.5s
SUMG Summit 40.68 25 P **P 21 35 38.4 +1.3**
KLR Kul'dur 42.58 291 P **P 21 35 52.2 0.0**
comp=Z,1.2nm,0.7s,baz=42,slow=6.5,SNR=3.5
SCHQ Schefferville 43.77 57 P **P 21 36 02.4 +0.5**
comp=Z,3.3nm,0.5s,baz=310,slow=7.4,SNR=16
SCHQ Schefferville 43.77 57 P **P 21 36 02.2 +0.3**
SCHQ IAmb IAmb 21 36 02.8
comp=Z,4.5nm,0.6s
N53A Lisbon 47.30 80 P **P 21 36 31.0 +1.3**
N53A IAmb IAmb 21 36 53.3
comp=Z,7.9nm,1.1s
E62A Clayton Lake 48.44 66 P **P 21 36 38.7 +0.3**
E62A IAmb IAmb 21 36 55.3
comp=Z,4.7nm,1.1s
BATG Bathurst New B 49.53 63 P **P 21 36 46.8 0.0**
ODNJ Ogdensburg 50.17 75 P **P 21 36 52.4 +0.7**
ODNJ IAmb IAmb 21 36 54.6
comp=Z,10nm,1.4s
LMN Caledonia Moun 51.18 64 P **P 21 36 59.4 +0.2**
KSRS Korea Array 53.17 283 P **P 21 37 14.4 +0.5**
comp=Z,1.9nm,0.5s,baz=32,slow=6.9,SNR=6.6
ULN Ulaanbaatar 54.60 306 P **P 21 37 24.9 +0.4**
SONM Songino Array 54.90 306 P **P 21 37 27.2 +0.6**
comp=Z,2.5nm,0.7s,baz=46,slow=6.9,SNR=18
SONM Songino Array 54.90 306 P **P 21 37 26.6 0.0**
SONM IAmb IAmb 21 37 27.6
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 57.56 324 P **P 21 37 44.8 -0.4**
comp=Z,0.8nm,0.5s,baz=39,slow=7.1,SNR=4.4
FINES FINESS Array B 59.16 0 P **P 21 37 58.2 +2.1**
comp=Z,2.0nm,1.0s,baz=359,slow=11,SNR=1.9
FINES FINESS Array B 59.16 0 P **P 21 37 57.9 +1.7**
BVAR Borovoye Array 62.28 332 P **P 21 38 17.1 -0.4**
comp=Z,1.6nm,0.6s,baz=27,slow=13,SNR=7.2
EKA Eskdalemuir Ar 62.82 19 P **P 21 38 19.5 -1.5**
comp=Z,1.0nm,0.6s,baz=321,slow=6.5,SNR=4.2
MKAR Makanchi Array 64.61 321 P **P 21 38 31.7 -1.2**
comp=Z,0.2nm,0.6s,baz=43,slow=4.2,SNR=4.3
MKAR Makanchi Array 64.61 321 P **P 21 38 31.5 -1.4**
ABKAR Abkulak array 68.09 337 P **P 21 38 54.7 -0.4**

*INMG **25** 21:32:27.8±2.5, 35°.51N×3°.80W, h0km±8km, MD3.3, ML3.0, Error ellipse: s-maj=6.0km s-min=5.3km az=179.0*
*IDC **25** 21:32:27.1±0.9, 35°.44N×3°.88W, h0km, mb3.7/7, mb1 3.7/11, mb1mx3.6/52, mbtmp3.6/11, ML3.4/4, MS2.7/2, Ms1 2.8/2, ms1mx2.3/94, Error ellipse: s-maj=28.5km s-min=11.9km az=99.0*
*MDD **25** 21:32:28.5±0.8, 35°.51N×3°.83W, h0km, mbLg3.2/11, Error ellipse: s-maj=6.7km s-min=4.4km az=23.0*
*SFS **25** 21:32:28.0, 35°.50N×3°.83W, ML3.2, ALBORAN SUR*
*LDG **25** 21:32:29.7, 35°.24N×3°.84W, h30km*
*CNRM **25** 21:32:29.2, 35°.45N×3°.70W, h16km, ml3.7*
*IGIL **25** 21:32:30.0, 35°.51N×3°.83W, h0km, ML3.2*
ISC 25 21:32:29.0±1.0, 35°.49N±0°.03×3°.74W±0°.02, h16km±7km, n89, σ1s83/132, mb3.8/7, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**210**	P	**Pg**	**21 32 35.1**	**-0.5**
PALE				S	**Sg**	**21 32 39.5**	**-0.6**
GOG	**Mont Gurugu**	**0.67**	**113**	P	**Pg**	**21 32 42.0**	**-0.1**
GOG				S	**Sg**	**21 32 51.3**	**+0.3**
EMEL	**Melilla**	**0.67**	**106**	Pg	**Pg**	**21 32 42.2**	**+0.1**
EMEL				Lg	Lg	21 32 50.9	
EALB	**Alboran**	**0.73**	**52**	Pg	**Pg**	**21 32 43.9**	**+0.6**
EALB				Lg	Lg	21 32 54.5	
AKLM	**AKL**	**0.98**	**186**	P	**Pb**	**21 32 47.4**	**-0.3**
AKLM				S	**Sb**	**21 33 00.9**	**+0.5**
CHAS	**Isla Isabel II**	**1.12**	**106**	P	**Pn**	**21 32 48.5**	**-1.5**
CHAS				S	**Sb**	**21 33 02.5**	**-1.7**
EMIJ	**Mijas**	**1.36**	**322**	Pg	**Pn**	**21 32 52.8**	**-0.5**
EMIJ				Lg	Lg	21 33 09.6	
CHEFC	**Chefchaouen**	**1.36**	**254**	P	**Pn**	**21 32 53.1**	**-0.3**
ELGU	**Los Guajares,**	**1.38**	**4**	Pg	**Pn**	**21 32 53.7**	**0.0**
ELGU				Lg	Lg	21 33 11.6	
EMAL	**Malaga-Limoner**	**1.39**	**337**	P	**Pn**	**21 32 53.6**	**-0.1**
EMAL				S	**Sn**	**21 33 10.9**	**-0.8**
CEU	**Ceuta**	**1.39**	**288**	P	**Pn**	**21 32 51.1**	**-2.6**
CEU				S	**Sb**	**21 33 05.9**	**-6.1**
ECEU	**Ceuta**	**1.39**	**288**	Pg	**Pn**	**21 32 52.1**	**-1.6**
ECEU				Lg	Lg	21 33 10.0	
JBK	**JBK**	**1.50**	**140**	P	**Pn**	**21 32 54.3**	**-1.1**
JBK				S	**Sn**	**21 33 11.7**	**-3.1**
EBER	**Berja**	**1.57**	**26**	Pg	**Pn**	**21 32 56.1**	**-0.3**
EBER				Lg	Lg	21 33 17.8	
EGOR	**Sierra Gorda,**	**1.64**	**350**	Pg	**Pn**	**21 32 58.6**	**+1.3**
EGOR				Lg	Lg	21 33 20.9	
EQUE	**Quentar**	**1.73**	**8**	Pg	**Pn**	**21 33 00.2**	**+1.7**
EQUE				Lg	Lg	21 33 22.3	
CPS	**Cap Spartel**	**1.79**	**280**	P	**Pg**	**21 33 02.9**	**-0.4**
RSA	**Sarsar**	**1.81**	**251**	P	**Pb**	**21 33 00.9**	**-0.7**
RSA				S	**Sg**	**21 33 24.5**	**-2.6**
SICH	**Sidi Chahed**	**1.89**	**224**	P	**Pg**	**21 33 09.2**	**+3.8**
SICH				S	**Sg**	**21 33 30.0**	**+0.1**
ENIJ	**Nijar**	**1.93**	**40**	Pn	**Pn**	**21 33 00.5**	**-0.7**
ENIJ				Sn	**Sn**	**21 33 24.0**	**-1.1**
LCRM	**LCR**	**2.02**	**207**	P	**Pn**	**21 33 02.3**	**-0.3**
LCRM				S	**Sb**	**21 33 30.1**	**-0.3**
IFR	**Ifrane**	**2.27**	**211**	P	**Pn**	**21 33 05.5**	**-0.5**
IFR				S	**Sn**	**21 33 31.9**	**-2.0**
EQES	**Quesada**	**2.37**	**13**	Pg	**Pb**	**21 33 10.4**	**-1.0**
EQES				Lg	Lg	21 33 40.4	
MD31	**MD31**	**2.75**	**198**	P	**Pn**	**21 33 12.7**	**+0.2**
MD31				S	**Sn**	**21 33 46.4**	**+1.0**
EADA	**Adamuz**	**2.75**	**346**	Pn	**Pn**	**21 33 13.6**	**+1.0**
EADA				Sn	**Sn**	**21 33 46.1**	**+0.6**
EADA				Lg	Lg	21 33 52.9	
MDT	**Midelt**	**2.76**	**195**	Pn	**Pn**	**21 33 12.4**	**-0.3**
MDT				Sn	**Sn**	**21 33 45.7**	**-0.1**
MDT				Lg	Lg	21 33 53.0	
MDT	**Midelt**	**2.76**	**195**	P	**Pn**	**21 33 12.5**	**-0.3**
MDT				S	**Sn**	**21 33 46.2**	**+0.4**
TDRA	**Tendrara**	**2.83**	**149**	P	**Pn**	**21 33 14.3**	**+0.6**
CART	**Cartagena**	**3.04**	**46**	P	**Pn**	**21 33 15.7**	**-0.7**
CART				S	**Sn**	**21 33 46.6**	**-5.9**
CART	**Cartagena**	**3.04**	**46**	P	**Pn**	**21 33 17.3**	**+0.9**
ZHG	**ZHG**	**3.14**	**230**	P	**Pn**	**21 33 17.7**	**-0.2**
PVAQ	**Vaqueiros**	**3.73**	**302**	*e*Pn	**Pn**	**21 33 26.3**	**+0.4**
PVAQ				*e*Sn	**Sn**	**21 34 07.0**	**-2.5**
PVAQ				A	A	21 34 08.7	
PVAQ	**Vaqueiros**	**3.73**	**302**	P	**Pn**	**21 33 26.4**	**+0.6**
AVE	**Averroes**	**3.74**	**235**	P	**Pn**	**21 33 26.8**	**+0.8**
PBDV	**Barranco-do-Ve**	**3.81**	**299**	*e*Pn	**Pn**	**21 33 26.9**	**-0.1**
PBDV				*e*Sn	**Sn**	**21 34 08.6**	**-2.8**
PBDV				A	A	21 34 15.3	
FIGM	**Figuig**	**3.93**	**148**	P	**Pn**	**21 33 29.7**	**+0.8**
PCVE	**Castro Verde**	**4.07**	**303**	*e*Pn	**Pn**	**21 33 30.8**	**+0.3**
PCVE				*e*Sn	**Sn**	**21 34 16.5**	**-1.3**
PCVE				A	A	21 34 32.4	
PBEJ	**Beja**	**4.17**	**309**	*e*Pn	**Pn**	**21 33 32.4**	**+0.5**
PBEJ				*e*Sn	**Sn**	**21 34 17.8**	**-2.5**
PBEJ				A	A	21 34 22.9	
ESDC	**Sonseca Array**	**4.18**	**358**	Pn	**Pn**	**21 33 34.1**	**+2.0**
ESDC				Sn	**Sn**	**21 34 21.6**	**+0.9**
ESDC				Lg	Lg	21 34 43.1	
ESDC				LR	LR	21 35 33.5	
MESJ	**Messejana**	**4.29**	**304**	*e*P	**Pn**	**21 33 33.7**	**0.0**
MESJ				*e*S	**Sn**	**21 34 20.2**	**-3.2**
MESJ				IAML		21 34 25.8	
MESJ	**Messejana**	**4.29**	**304**	*e*Pn	**Pn**	**21 33 33.9**	**+0.2**
MESJ				*e*Sn	**Sn**	**21 34 22.5**	**-0.9**
MESJ				A	A	21 34 27.4	
MORF	**Marmelete**	**4.35**	**296**	*e*P	**Pn**	**21 33 34.6**	**0.0**
MORF				*e*S	**Sn**	**21 34 21.5**	**-3.4**
MORF				IAML		21 34 27.4	
MORF	**Marmelete**	**4.35**	**296**	*e*Pn	**Pn**	**21 33 35.2**	**+0.7**
MORF				*e*Sn	**Sn**	**21 34 21.5**	**-3.4**
MORF				A	A	21 34 26.8	
PFVI	**Vila Bisbo**	**4.42**	**293**	*e*Pn	**Pn**	**21 33 36.1**	**+0.7**
PFVI				*e*Sn	**Sn**	**21 34 23.0**	**-3.5**
PFVI				A	A	21 34 25.9	
PFVI	**Vila Bisbo**	**4.42**	**293**	P	**Pn**	**21 33 36.1**	**+0.7**
PTEO	**Sao Teotonio**	**4.50**	**299**	*e*Pn	**Pn**	**21 33 37.2**	**+0.7**
PTEO				*e*Sn	**Sn**	**21 34 26.4**	**-2.2**
PTEO				A	A	21 34 59.5	
PESTR	**Estremoz**	**4.56**	**319**	*e*Pn	**Pn**	**21 33 40.0**	**+2.7**
PESTR				*e*Sn	**Sn**	**21 34 28.5**	**-1.5**
PESTR				A	A	21 34 35.7	
PESTR	**Estremoz**	**4.56**	**319**	P	**Pn**	**21 33 39.6**	**+2.3**
EVO	**Evora**	**4.57**	**313**	P	**Pn**	**21 33 38.2**	**+0.8**
EVO				S	**Sn**	**21 34 27.6**	**-2.6**
EVO	**Evora**	**4.57**	**313**	*e*Pn	**Pn**	**21 33 38.7**	**+1.3**
EVO				*e*Sn	**Sn**	**21 34 27.9**	**-2.3**
EVO				A	A	21 34 32.7	
PNCL	**Nicolau / Gran**	**4.65**	**306**	*e*Pn	**Pn**	**21 33 38.5**	**0.0**
PNCL				*e*Sn	**Sn**	**21 34 30.1**	**-2.0**
PNCL				A	A	21 34 35.7	
UCM	**Universidad Co**	**4.83**	**5**	P	**Pn**	**21 33 43.1**	**+2.1**
UCM				S	**Sn**	**21 34 34.7**	**-1.9**
PMRV	**Marv??o**	**4.89**	**325**	*e*Pn	**Pn**	**21 33 42.8**	**+1.0**
PMRV				*e*Sn	**Sn**	**21 34 39.1**	**+1.1**
PMRV				A	A	21 34 58.3	
TZRR	**Tazzarine**	**4.94**	**199**	P	**Pn**	**21 33 45.0**	**+2.4**
PMTG	**Montargil**	**5.05**	**316**	*e*Pn	**Pn**	**21 33 45.3**	**+1.2**
PMTG				*e*Sn	**Sn**	**21 34 41.0**	**-1.1**
PMTG				A	A	21 34 56.4	
OUZM	**OUZ**	**5.22**	**210**	P	**Pn**	**21 33 46.9**	**+0.4**
PCBR	**Castelo Branco**	**5.26**	**327**	*e*Pn	**Pn**	**21 33 48.3**	**+1.4**
PCBR				*e*Sn	**Sn**	**21 34 45.3**	**-1.8**
PCBR				A	A	21 34 51.7	
OUK	**Oukaimeden**	**5.49**	**220**	P	**Pn**	**21 33 50.0**	**-0.4**
ZGR	**Zagora**	**5.58**	**197**	P	**Pn**	**21 33 51.7**	**+0.2**
PMAFR	**Mafra**	**5.61**	**310**	*e*Pn	**Pn**	**21 33 54.0**	**+2.2**
PMAFR				*e*Sn	**Sn**	**21 34 54.0**	**-1.9**
PSBE	**So Bento**	**5.68**	**317**	*e*Pn	**Pn**	**21 33 54.3**	**+1.6**
MTE	**Manteigas**	**5.75**	**330**	*e*Sn	**Sn**	**21 34 58.8**	**-0.5**
MTE				A	A	21 35 05.4	
PCAS	**Casmilo, Conde**	**5.91**	**322**	*e*Pn	**Pn**	**21 33 57.2**	**+1.4**
PCAS				*e*Sn	**Sn**	**21 35 00.2**	**-3.0**
PCAS				A	A	21 35 31.6	
PVIS	**Viseu**	**6.16**	**329**	*e*Pn	**Pn**	**21 34 01.4**	**+2.1**
PVIS				*e*Sn	**Sn**	**21 35 08.3**	**-1.1**
PVIS				A	A	21 35 16.5	
MVO	**Moncorvo**	**6.23**	**336**	*e*Pn	**Pn**	**21 34 02.0**	**+1.7**
MVO				*e*Sn	**Sn**	**21 35 11.4**	**+0.3**
MVO				A	A	21 35 22.4	
TTIG	**Tnine Tigouga,**	**6.31**	**220**	P	**Pn**	**21 33 59.1**	**-2.4**
PVRL	**Vila Real**	**6.56**	**333**	*e*Pn	**Pn**	**21 34 07.2**	**+2.3**
PVRL				*e*Sn	**Sn**	**21 35 18.6**	**-0.8**
PVRL				A	A	21 35 26.1	
POLO	**Lamas de Olo**	**6.68**	**333**	*e*Pn	**Pn**	**21 34 08.9**	**+2.4**
POLO				*e*Sn	**Sn**	**21 35 21.8**	**-0.5**
POLO				A	A	21 35 50.0	
PBRG	**Braganca**	**6.73**	**341**	*e*Pn	**Pn**	**21 34 10.3**	**+3.2**
PTO	**Porto**	**6.81**	**327**	*e*Pn	**Pn**	**21 34 10.6**	**+2.4**
PGAV	**Gavieira, Arco**	**7.37**	**333**	*e*Pn	**Pn**	**21 34 19.8**	**+3.8**
ETSF	**Etsaut**	**7.80**	**18**	*e*Pn	**Pn**	**21 34 23.9**	**+2.0**
ETSF				*e*Sn	**Sn**	**21 35 48.5**	**-1.4**
SJPF	**Ste Jean**	**7.86**	**14**	*e*Pn	**Pn**	**21 34 24.3**	**+1.7**
SJPF				*e*Sn	**Sn**	**21 35 50.0**	**-1.2**
EPF	**Esparros**	**8.17**	**22**	*e*Pn	**Pn**	**21 34 28.6**	**+1.7**
MTLF	**Montolieu**	**9.09**	**29**	*e*Pn	**Pn**	**21 34 41.7**	**+2.2**
MTLF				*e*Sn	**Sn**	**21 36 18.1**	**-3.5**
CAF	**Calviac**	**10.41**	**23**	*e*Pn	**Pn**	**21 34 59.8**	**+2.1**
KEST	**Kesra**	**10.66**	**85**	Pn	**Pn**	**21 35 02.9**	**+1.8**
LMR	**La Mourre**	**11.14**	**42**	*e*P	Pn	21 35 13.9	+6.4
SBF	**Sospel**	**11.99**	**42**	*e*P	Pn	21 35 25.2	+5.9
PGF	**Pioggiola**	**12.15**	**51**	*e*Pn	**Pn**	**21 35 22.9**	**+1.4**
PGF				*e*Sn	**Sn**	**21 37 32.1**	**-4.6**
GERES	**GERESS Array B**	**18.52**	**39**	P	**Pn**	**21 36 47.1**	**+2.2**
TORD	**Torodi Ar. Bea**	**22.78**	**166**	P	**P**	**21 37 31.1**	**+0.2**
IDI	**Anoyia**	**23.32**	**82**	LR	LR	21 48 08.6	
HFS	**Hagfors**	**27.12**	**19**	P	**P**	**21 38 13.0**	**+2.1**
FINES	**FINESS Array B**	**32.11**	**27**	P	**P**	**21 38 56.0**	**+0.9**
ZALV	**Zalesovo Beam**	**61.43**	**42**	P	**P**	**21 42 45.6**	**+1.4**
MKAR	**Makanchi Array**	**62.70**	**50**	P	**P**	**21 42 53.9**	**+0.9**
YKA	**Yellowknife Ar**	**67.85**	**332**	P	**P**	**21 43 26.6**	**+0.5**
PDAR	**Pinedale Array**	**76.86**	**313**	P	**P**	**21 44 20.7**	**+0.2**

12nm,0.3s,baz=18,slow=20,SNR=4.9
15nm,0.3s,baz=24,slow=20,SNR=5.1
comp=N,0.3nm,0.3s,baz=237,slow=17,SNR=8.2
comp=Z,56nm,1.3s
comp=Z,0.2nm,0.3s,baz=288,slow=20,SNR=1.6
baz=236,SNR=9.9
comp=Z,0.9nm,0.3s,baz=276,slow=9.9,SNR=125
comp=Z,0.1nm,0.3s,baz=289,slow=1.9,SNR=7.2
comp=Z,1.8nm,1.0s,baz=252,slow=14,SNR=3.8
comp=Z,0.7nm,0.5s,baz=77,slow=18,SNR=3.0
comp=Z,3.7nm,0.9s,baz=61,slow=14,SNR=2.7
comp=Z,1.2nm,0.7s,baz=42,slow=6.5,SNR=3.5
comp=Z,3.3nm,0.5s,baz=310,slow=7.4,SNR=16
comp=Z,8.7nm,1.5s
comp=Z,1.2nm,0.7s,baz=42,slow=6.5,SNR=3.5
comp=Z,3.3nm,0.5s,baz=310,slow=7.4,SNR=16
comp=Z,4.5nm,0.6s
comp=Z,7.9nm,1.1s
comp=Z,4.7nm,1.1s
comp=Z,10nm,1.4s
comp=Z,1.9nm,0.5s,baz=32,slow=6.9,SNR=6.6
comp=Z,2.5nm,0.7s,baz=46,slow=6.9,SNR=18
comp=Z,2.0nm,0.7s
comp=Z,0.8nm,0.5s,baz=39,slow=7.1,SNR=4.4
comp=Z,2.0nm,1.0s,baz=359,slow=11,SNR=1.9
comp=Z,1.6nm,0.6s,baz=27,slow=13,SNR=7.2
comp=Z,1.0nm,0.6s,baz=321,slow=6.5,SNR=4.2
comp=Z,0.2nm,0.6s,baz=43,slow=4.2,SNR=4.3
comp=N,0.3nm,0.3s,baz=24,slow=20,SNR=5.1
comp=N,36nm,0.2s
comp=N,25nm,0.2s
comp=N,65nm,0.2s
comp=N,27nm,0.3s

SFS ***25*** *21:46:02.0, 35.51N×3.76W, ML2.3, ALBORAN SUR*
CNRM ***25*** *21:46:03.2, 35.43N×3.75W, h19km, ml2.8*
ISC 25 21:46:01.4±1.1, 35.52N±0.03×3.73W±0.03, h15km±9km, n13, σ1§82/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**210**	P	**Pg**	**21 46 08.3**	**-0.3**
PALE				S	**Sg**	**21 46 13.5**	**0.0**
GOG	**Mont Gurugu**	**0.67**	**116**	P	**Pg**	**21 46 14.8**	**+0.4**
GOG				S	**Sn**	**21 46 25.9**	**-0.6**
CHAS	**Isla Isabel II**	**1.11**	**107**	P	**Pb**	**21 46 21.5**	**-0.7**
CHAS				S	**Sb**	**21 46 35.8**	**-0.7**
EMAL	**Malaga-Limoner**	**1.36**	**335**	P	**Pg**	**21 46 28.9**	**+1.3**
EMAL				S	**Sg**	**21 46 45.2**	**-0.2**
CHEFC	**Chefchaouen**	**1.38**	**253**	P	**Pg**	**21 46 27.9**	**-0.1**
CHEFC				S	**Sg**	**21 46 45.6**	**-0.5**
CEU	**Ceuta**	**1.39**	**286**	P	**Pn**	**21 46 24.7**	**-1.6**
CEU				S	**Sn**	**21 46 38.9**	**-5.5**
JBK	**JBK**	**1.52**	**141**	P	**Pb**	**21 46 29.2**	**-0.1**
JBK				S	**Sn**	**21 46 46.2**	**-1.5**
LCRM	**LCR**	**2.06**	**207**	P	**Pb**	**21 46 37.7**	**-0.8**
LCRM				S	**Sn**	**21 47 02.0**	**+1.0**
IFR	**Ifrane**	**2.31**	**210**	P	**Pn**	**21 46 40.1**	**+1.0**
IFR				S	**Sn**	**21 47 05.1**	**-2.2**
MD31	**MD31**	**2.78**	**198**	P	**Pn**	**21 46 46.9**	**+1.4**
MD31				S	**Sn**	**21 47 20.3**	**+1.5**
MDT	**Midelt**	**2.80**	**195**	P	**Pn**	**21 46 44.9**	**-0.8**
MDT				S	**Sn**	**21 47 19.0**	**-0.2**
ZHG	**ZHG**	**3.18**	**230**	P	**Pn**	**21 46 54.1**	**+3.2**
ZHG				S	**Sn**	**21 47 30.8**	**+2.2**
PVAQ	**Vaqueiros**	**3.73**	**301**	P	**Pn**	**21 47 00.6**	**+2.3**
PVAQ				S	**Sn**	**21 47 43.2**	**+1.2**

IDC ***25*** *21:48:35.9±1.9, 37.36N×78.25E, h0km, mb3.4/7, mb1 3.6/10, mb1mx3.4/59, mbtmp3.5/10, ML3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/63, Error ellipse: s-maj=38.1km s-min=25.2km az=151.0*
NNC ***25*** *21:48:41.9±1.1, 37.73N×78.21E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=11.6km s-min=8.0km az=75.0*
ISC 25 21:48:37.6±1.5, 37.3N±0.1×78.37E±0.10, h10km, n27, σ1§03/29, mb3.6/7, 7C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.73**	**0**	Pg	**Pb**	**21 50 18.8**	**+1.0**
	9.5nm,0.4s						
SATY				Lg	Lg	21 51 32.5	
	27nm,0.9s						
TNSS	**Tian-Shan**	**5.81**	**350**	Pg	**Pb**	**21 50 19.9**	**+0.6**
	12nm,0.4s						
TNSS				Lg	Lg	21 51 34.2	
	8.2nm,0.5s						
UZB	**Uzymbulak**	**5.84**	**5**	Pg	**Pb**	**21 50 20.9**	**+1.2**
	4.5nm,0.4s						
UZB				Lg	Lg	21 51 35.9	
	9.0nm,0.5s						
MDOK	**Medeo**	**5.92**	**351**	Pn	**Pn**	**21 50 06.2**	**+0.7**
	2.2nm,0.9s						
MDOK				⇑Pg	**Pb**	**21 50 22.4**	**+1.3**
	7.4nm,0.6s						
MDOK				⇑Lg	Lg	21 51 38.6	
	35nm,1.0s						
MDOK	**Medeo**	**5.92**	**351**	Pg	**Pb**	**21 50 22.1**	**+1.1**
	7.7nm,0.3s						
MDOK				Lg	Lg	21 51 37.9	
	12nm,0.5s						
TKM2	**Tokmak 2**	**5.98**	**340**	⇑Pn	**Pn**	**21 50 07.2**	**+0.7**
	1.4nm,0.6s						
TKM2				⇑Pg	**Pb**	**21 50 22.9**	**+0.7**
	2.1nm,0.5s						
TKM2				⇓Lg	Lg	21 51 39.3	
	4.0nm,0.6s						
MTBS	**Maitube**	**5.99**	**346**	Pg	**Pb**	**21 50 22.4**	**+0.3**
	2.9nm,0.6s						
MTBS				Lg	Lg	21 51 38.9	
	8.1nm,0.3s						
KST	**Kastek**	**6.00**	**343**	Pg	**Pb**	**21 50 23.0**	**+0.6**
	5.8nm,0.2s						
KST				Lg	Lg	21 51 39.7	
	12nm,1.4s						
PDGK	**Podgornoye**	**6.06**	**8**	⇓Pn	**Pn**	**21 50 08.0**	**+0.6**
	2.4nm,0.4s						
PDGK				⇓Pg	**Pb**	**21 50 25.2**	**+1.8**
	3.9nm,0.4s						
PDGK				⇑Lg	Lg	21 51 42.2	
	20nm,0.8s						
AAK	**Ala-Archa**	**6.09**	**332**	Pn	**Pn**	**21 50 08.8**	**+1.0**
	0.6nm,0.3s,baz=159,slow=8.0,SNR=12						
AAK				Lg	Lg	21 51 38.7	
	0.9nm,0.3s,baz=183,slow=19,SNR=1.4						
AAK	**Ala-Archa**	**6.09**	**332**	⇑Pn	**Pn**	**21 50 08.4**	**+0.6**
	0.6nm,0.3s						
AAK				⇓Pg	**Pb**	**21 50 24.8**	**+1.0**
	6.8nm,1.0s						
AAK				⇑Lg	Lg	21 51 42.8	
	18nm,0.8s						
KURS	**Kuram**	**6.16**	**359**	Pg	Pg	21 50 28.1	-7.5
	7.1nm,0.6s						
KURS				Lg	Lg	21 51 48.4	
	7.7nm,1.0s						
DGS	**Degeres**	**6.24**	**342**	Pg	**Pb**	**21 50 26.2**	**-0.2**
	7.3nm,0.4s						
DGS				Lg	Lg	21 51 45.2	
	7.4nm,0.4s						
KTBS	**Karatobe**	**6.51**	**349**	Pg	**Pb**	**21 50 31.9**	**+0.9**
	3.1nm,0.4s						
KTBS				Lg	Lg	21 51 54.8	
	8.2nm,0.8s						
KUU	**Kurty**	**6.74**	**347**	Pg	**Pb**	**21 50 36.0**	**+1.0**
	1.7nm,0.5s						
KUU				Lg	Lg	21 52 02.2	
	7.8nm,0.6s						
SGDS	**Sogindy**	**6.75**	**336**	Pg	**Pb**	**21 50 36.6**	**+1.4**
	5.2nm,0.5s						
SGDS				Lg	Lg	21 52 03.5	
	4.6nm,0.7s						
MK31	**Makanchi Array**	**9.90**	**16**	Pn	**Pn**	**21 50 60.0**	**0.0**
	0.4nm,0.3s,baz=196,slow=13,SNR=39						
MKAR	**Makanchi Array**	**9.90**	**16**	Pn	**Pn**	**21 51 00.3**	**+0.3**
	0.4nm,0.3s,baz=198,slow=13,SNR=29						
MKAR				Sn	**Sn**	**21 52 48.3**	**-2.9**
	0.3nm,0.3s,baz=194,slow=30,SNR=2.1						
GEYT	**Alibeck**	**16.06**	**278**	Pn	**Pn**	**21 52 22.6**	**-1.0**
	0.4nm,0.3s,baz=98,slow=10,SNR=3.6						
SONM	**Songino Array**	**23.03**	**54**	P	**P**	**21 53 43.4**	**+0.4**
	0.2nm,0.4s,baz=255,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**40.21**	**324**	P	**P**	**21 56 13.4**	**-0.5**
	0.7nm,0.5s,baz=98,slow=10,SNR=6.9						
ARCES	**ARCESS Array B**	**42.74**	**336**	P	**P**	**21 56 34.5**	**-0.2**
	2.4nm,0.9s,baz=106,slow=9.5,SNR=0.9						
NOA	**NORSAR Array B**	**47.31**	**322**	P	**P**	**21 57 10.8**	**-0.4**
	1.0nm,1.0s,baz=90,slow=7.6,SNR=2.1						
KEST	**Kesra**	**54.33**	**291**	LR	LR	22 26 45.2	
	comp=Z,41nm,20.2s,baz=286,slow=42						
TORD	**Torodi Ar. Bea**	**71.62**	**273**	P	P	21 59 57.7	-1.9
	0.4nm,0.5s,baz=55,slow=5.7,SNR=4.2						
ILAR	**Eielson Array**	**72.24**	**19**	P	**P**	**22 00 02.8**	**+0.2**
	0.5nm,0.8s,baz=298,slow=3.8,SNR=3.2						
YKA	**Yellowknife Ar**	**79.98**	**6**	P	**P**	**22 00 46.3**	**-0.3**
	0.1nm,0.5s,baz=344,slow=4.6,SNR=2.6						

IDC ***25*** *21:51:41.6±1.1, 23.27N×62.28E, h0km, mb3.8/16, mb1 3.9/17, mb1mx3.7/55, mbtmp3.9/17, ML4.0/1, MS3.1/6, Ms1 3.2/6, ms1mx2.8/81, Error ellipse: s-maj=24.0km s-min=18.8km az=173.0*
NEIC ***25*** *21:51:45.6±1.7, 23.8N±0.1×62.0E±0.1, h10km±1km, mb4.2/15, Error ellipse: s-maj=20.1km s-min=14.7km az=153.0*
DSN ***25*** *21:51:46.7±2.0, 23.71N×61.99E, h8km, mb4.5/1, ML4.1/11, Error ellipse: s-maj=35.1km s-min=16.1km az=28.0*
OMAN ***25*** *21:51:46.7±2.6, 23.25N×62.18E, h33km±70km, mb5.8/17, ml4.2/9, ms2.8/2, Error ellipse: s-maj=48.5km s-min=11.8km az=82.0*
ISC 25 21:51:43.0±0.6, 23.39N±0.06×62.21E±0.05, h10km, n93, σ1§54/97, mb4.0/20, MS3.0/5, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**2.86**	**245**	P	**Pn**	**21 52 28.7**	**0.0**
	SNR=21						
JLN				S	**Sn**	**21 53 00.6**	**-2.6**
WBK	**Wadi Bani Khal**	**3.09**	**256**	P	**Pn**	**21 52 32.2**	**+0.4**
	SNR=1033						
WBK				S	**Sn**	**21 53 07.4**	**-1.4**
WSAR	**Wadi Sarin**	**3.30**	**268**	Pn	**Pn**	**21 52 34.6**	**0.0**
	15nm,0.3s,baz=116,slow=9.0,SNR=206						
WSAR				Sn	**Sn**	**21 53 09.6**	**-4.4**
	26nm,0.3s,baz=22,slow=19,SNR=4.2						
WSAR				LR	LR	21 53 59.3	
	comp=Z,180nm,21.6s,baz=36,slow=41						
WSAR	**Wadi Sarin**	**3.30**	**268**	P	**Pn**	**21 52 34.5**	**-0.2**
	SNR=40						
BIDO	**Bidbid**	**3.75**	**273**	P	**Pn**	**21 52 42.0**	**+1.0**
	SNR=40						
BIDO				S	**Sn**	**21 53 25.1**	**-0.2**
SMDO	**Samad**	**3.84**	**266**	P	**Pn**	**21 52 42.8**	**+0.5**
	SNR=71						
SMDO				S	**Sn**	**21 53 25.4**	**-2.3**
JMDO	**Jabal Madar**	**3.92**	**256**	P	**Pn**	**21 52 44.7**	**+1.4**
	SNR=22						
JMDO				S	**Sn**	**21 53 28.4**	**-1.1**
HOQ	**Hoqain**	**4.50**	**273**	P	**Pn**	**21 52 52.1**	**+0.8**
	SNR=11						
BSY	**Bisya**	**4.66**	**263**	P	**Pn**	**21 52 54.7**	**+1.2**
	SNR=184						
BSY				S	**Sn**	**21 53 48.5**	**+0.8**
ARQ	**Araqi**	**5.23**	**271**	P	**Pn**	**21 53 03.5**	**+2.2**
	SNR=37						
ARQ				S	**Sn**	**21 54 03.5**	**+1.8**
UOSS	**Minazif**	**5.70**	**287**	P	**Pn**	**21 53 07.1**	**-0.7**
UOSS	**Minazif**	**5.70**	**287**	Pn	**Pn**	**21 53 07.0**	**-0.7**
UOSS				Sn	Sn	21 54 06.0	-7.4
UOSS	**Minazif**	**5.70**	**287**	*i* P	**Pn**	**21 53 07.0**	**-0.7**
	SNR=5.5						
HATD	**Hatta, Dubai**	**5.74**	**286**	P	**Pn**	**21 53 09.2**	**+0.9**
	SNR=34						
HATD	**Hatta, Dubai**	**5.74**	**286**	*i* P	**Pn**	**21 53 09.0**	**+0.7**
	SNR=34						
ASHO	**Ashiyiah**	**5.77**	**284**	P	**Pn**	**21 53 11.6**	**+2.8**
	SNR=109						
ASHO	**Ashiyiah**	**5.77**	**284**	*i* P	**Pn**	**21 53 09.0**	**+0.2**
	SNR=142						
ASHO				S	**Sn**	**21 54 14.3**	**-0.9**
MSFE	**Esma-Masafi**	**5.86**	**291**	*i* P	Pn	21 53 08.7	-1.2
	SNR=11						
MASF	**Masafi**	**5.86**	**291**	P	**Pn**	**21 53 09.3**	**-0.7**
	SNR=11						
BANOM	**Banah**	**5.94**	**296**	P	**Pn**	**21 53 10.9**	**-0.2**
	SNR=156						
BANOM	**Banah**	**5.94**	**296**	*i* P	**Pn**	**21 53 10.5**	**-0.6**
	SNR=156						
ALNE	**Al Ain**	**5.96**	**278**	P	**Pn**	**21 53 13.5**	**+2.2**
	SNR=30						
ALNE	**Al Ain**	**5.96**	**278**	*i* P	**Pn**	**21 53 12.5**	**+1.2**
	SNR=50						
SHME	**Shamm**	**6.12**	**297**	P	**Pn**	**21 53 13.9**	**+0.3**
	SNR=34						
SHME	**Shamm**	**6.12**	**297**	*i* P	**Pn**	**21 53 13.3**	**-0.3**
	SNR=34						
SHME				S	**Sn**	**21 54 19.9**	**-3.9**
NAZ	**Nazwa, Dubai**	**6.19**	**286**	P	**Pn**	**21 53 17.7**	**+3.2**
NAZ	**Nazwa, Dubai**	**6.19**	**286**	*i* P	**Pn**	**21 53 15.8**	**+1.3**
	SNR=21						
FAQ	**Al Faqa, Dubai**	**6.20**	**284**	P	**Pn**	**21 53 17.0**	**+2.3**
	SNR=44						
FAQ	**Al Faqa, Dubai**	**6.20**	**284**	*i* P	**Pn**	**21 53 16.7**	**+2.1**
	SNR=34						
UMQ	**Umm Al-Quwin**	**6.34**	**291**	P	**Pn**	**21 53 20.2**	**+3.7**
UMQ	**Umm Al-Quwin**	**6.34**	**291**	*i* P	**Pn**	**21 53 17.0**	**+0.5**
	SNR=14						
ASUD	**Al Ashush, Dub**	**6.42**	**282**	P	**Pn**	**21 53 20.2**	**+2.6**
	SNR=59						
ASUD	**Al Ashush, Dub**	**6.42**	**282**	*i* P	**Pn**	**21 53 19.0**	**+1.5**
	SNR=13						
UMZA	**Um Al Zommool**	**6.53**	**266**	P	**Pn**	**21 53 20.3**	**+1.2**
AJN	**Ajban**	**6.71**	**282**	P	**Pn**	**21 53 23.4**	**+1.7**
BHUJ	**Bhuj**	**6.84**	**90**	*e*P	Pn	21 53 20.4	-3.0
BHUJ				IAML		21 54 37.0	
	comp=N,294nm,0.8s						
BHUJ				IAML		21 54 37.7	
	comp=E,276nm,0.5s						
MZWR	**Madinat Zayed**	**7.65**	**274**	P	**Pn**	**21 53 35.5**	**+1.0**
MZWR				P	**Pn**	**21 53 35.5**	**+1.0**
SHAO	**Shalim**	**8.15**	**230**	P	**Pn**	**21 53 41.6**	**+0.1**
	SNR=8.2						
GHWR	**Ruwais**	**8.58**	**276**	P	**Pn**	**21 53 47.9**	**+0.6**
DMTO	**DMTO**	**8.84**	**232**	P	**Pn**	**21 53 51.0**	**+0.1**
	SNR=27						
DOK	**Doka**	**8.92**	**239**	P	**Pn**	**21 53 52.3**	**+0.3**
	SNR=18						
BHV	**Bhavnagar**	**9.32**	**98**	*e*P	**Pn**	**21 53 55.6**	**-1.9**
BHV				*e*S	Sn	21 55 33.9	-8.5
RBK	**Rabkut**	**9.52**	**234**	P	**Pn**	**21 54 00.7**	**+0.4**
WHFO	**Wadi Hawf**	**9.59**	**237**	P	**Pn**	**21 54 01.0**	**-0.3**
	SNR=87						
WHFO				P	**Pn**	**21 54 01.0**	**-0.3**
	SNR=87						
KHOR	**Al-Khor Airpor**	**10.00**	**285**	P	**Pn**	**21 54 07.6**	**+0.9**
TRNA	**Turayna**	**10.14**	**280**	P	**Pn**	**21 54 09.1**	**+0.4**
HRA	**Herat**	**10.96**	**0**	Pn	Pn	21 54 17.4	-2.7
THW	**Thamme Wali**	**12.59**	**40**	P	**Pn**	**21 54 40.2**	**-2.0**
THW				S	Sn	21 56 46.0	-17
KBL	**Kabul**	**12.62**	**27**	**Pn**	**Pn**	**21 54 41.8**	**-0.9**
SOCY	**Socotra**	**13.61**	**216**	Pn	**Pn**	**21 54 58.0**	**+1.8**
BHPL	**Bhopal**	**13.98**	**88**	*ex*	**P**	**21 55 09.4**	**+0.1**
NIL	**Nilore**	**14.09**	**41**	Pn	**Pn**	**21 55 01.6**	**-1.1**
THN	**Thein Dam**	**14.95**	**50**	*e*P	Pn	21 55 06.8	-7.6
THN				*e*S	Sn	21 57 40.7	-19
RAYN	**Ar Rayn**	**15.34**	**274**		**Pn**	**21 55 16.2**	**-3.5**
RAYN				IAmb	IAmb	21 55 27.9	
	comp=Z,11nm,0.8s						
RAYN	**Ar Rayn**	**15.34**	**274**	*i* P	**Pn**	**21 55 16.4**	**-3.3**
	SNR=9.2						
SMLA	**Simla**	**15.36**	**57**	*e*P	Pn	21 55 12.9	-7.0
SMLA				IAML		21 58 02.2	
	comp=N,14nm,0.7s						
SMLA				IAML		21 58 02.5	
	comp=E,11nm,0.4s						
CHGR	**Chuyangaron**	**16.34**	**20**	Pn	**Pn**	**21 55 31.0**	**-1.6**
CHGR				IAmb	IAmb	21 55 36.3	
	comp=Z,17nm,0.7s						
DRK	**Karamyk**	**17.99**	**25**		**Pn**	**21 55 53.5**	**0.0**
BTK	**Batken**	**18.15**	**22**		**Pn**	**21 55 54.2**	**-0.9**
KKAR	**Karatay Array**	**20.83**	**17**		**P**	**21 56 24.9**	**+0.1**
AAK	**Ala-Archa**	**21.74**	**25**	P	**P**	**21 56 34.3**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=218,slow=13,SNR=2.4						
AAK				LR	LR	22 06 52.6	
	comp=Z,55nm,19.5s,baz=188,slow=42						
AAK	**Ala-Archa**	**21.74**	**25**	P	**P**	**21 56 35.2**	**+0.4**
AAK				IAmb	IAmb	21 56 50.2	
	comp=Z,7.4nm,1.0s						
ATD	**Arta Tunnel**	**21.88**	**241**	LR	LR	22 04 37.0	
	comp=Z,41nm,19.6s,baz=44,slow=35						
BOOM	**Boomskoye usch**	**22.21**	**28**	P	**P**	**21 56 38.8**	**-1.0**
BOOM				IAmb	IAmb	21 56 55.5	
	comp=Z,7.9nm,0.9s						
GNI	**Garni**	**22.29**	**323**	P	**P**	**21 56 43.5**	**+2.8**
	comp=Z,7.1nm,0.8s,baz=259,slow=7.7,SNR=1.6						
GNI				LR	LR	22 06 00.6	
	comp=Z,41nm,19.4s,baz=112,slow=38						
ABKAR	**Akbulak array**	**25.88**	**357**	P	**P**	**21 57 14.8**	**-0.1**
KVAR	**Kislovodsk Arr**	**26.05**	**327**	P	**P**	**21 57 18.7**	**+2.2**
	comp=Z,2.9nm,1.1s,baz=288,slow=22,SNR=1.2						
AKTO	**Aktyubinsk**	**27.20**	**354**	P	**P**	**21 57 28.6**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=153,slow=13,SNR=2.1						
MK31	**Makanchi Array**	**28.39**	**30**	P	**P**	**21 57 38.0**	**+0.4**
MK31				IAmb	IAmb	21 57 42.8	
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**28.39**	**30**	P	**P**	**21 57 38.5**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=213,slow=9.1,SNR=12						
MKAR	**Makanchi Array**	**28.39**	**30**	P	**P**	**21 57 37.0**	**-0.5**
KURBB	**Kurchatov Arra**	**30.01**	**21**	P	**P**	**21 57 52.5**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=215,slow=8.9,SNR=7.0						
KURK	**Kurchatov**	**30.12**	**21**	P	**P**	**21 57 53.1**	**+0.3**
KURK				IAmb	IAmb	21 57 56.2	
	comp=Z,8.3nm,1.5s						
BVAR	**Borovoye Array**	**30.24**	**10**	P	**P**	**21 57 54.8**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=134,slow=8.5,SNR=6.7						
ARU	**Arti**	**33.12**	**356**	P	**P**	**21 58 20.0**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=112,slow=5.1,SNR=5.5						
CMAR	**Chiang Mai Arr**	**34.59**	**91**	LR	LR	22 15 37.9	
	comp=Z,39nm,18.4s,baz=50,slow=42						
ZAA0	**Zalesovo Array**	**34.94**	**23**	P	**P**	**21 58 34.6**	**-0.3**
ZAA0				IAmb	IAmb	21 58 36.0	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**34.94**	**23**	P	**P**	**21 58 35.1**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=222,slow=10,SNR=11						
AKASG	**Malin Array Be**	**37.38**	**325**	P	**P**	**21 58 56.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=145,slow=13,SNR=1.3						
FNA	**Florina**	**38.31**	**307**	P	**P**	**21 59 02.5**	**-1.4**
SONM	**Songino Array**	**42.64**	**44**	P	**P**	**21 59 41.1**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=252,slow=8.5,SNR=11						
SONM	**Songino Array**	**42.64**	**44**	P	**P**	**21 59 41.5**	**+1.8**
FIA1	**FINESS Array S**	**45.36**	**337**	P	**P**	**22 00 00.8**	**-0.4**
FINES	**FINESS Array B**	**45.36**	**337**	P	**P**	**22 00 02.0**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=129,slow=8.5,SNR=12						
FINES	**FINESS Array B**	**45.36**	**337**	P	**P**	**22 00 00.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**58.02**	**271**	P	**P**	**22 01 37.0**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=61,slow=6.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**58.02**	**271**	P	**P**	**22 01 37.0**	**+0.5**
TORD				IAmb	IAmb	22 02 04.2	
	comp=Z,4.7nm,1.4s						
KLR	**Kul'dur**	**59.43**	**46**	P	**P**	**22 01 46.1**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=269,slow=8.8,SNR=4.3						
USRK	**Ussuriysk Ar.**	**59.83**	**51**	P	**P**	**22 01 46.9**	**-1.7**
MJAR	**Matsushiro Arr**	**65.61**	**59**	LR	LR	22 32 05.4	
	comp=Z,36nm,20.2s,baz=338,slow=37						
WRA	**Warramunga Arr**	**82.44**	**115**	P	**P**	**22 04 05.9**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=311,slow=4.8,SNR=2.7						
ASAR	**Alice Springs**	**83.85**	**119**	P	**P**	**22 04 13.0**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=302,slow=5.3,SNR=1.3						
ASAR	**Alice Springs**	**83.85**	**119**	P	**P**	**22 04 16.9**	**+3.6**

NOU ***25*** *21:52:53.9, 36.44S×177.43E, h308km, mb4.2/6, Off E. Coast of N. Island, N.Z.*
WEL ***25*** *21:52:55.8±0.8, 36°S±10'×17°8E±1°0, h271km±11km, M3.5/18, ML3.7/8, MLv3.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=140.2*
ISC 25 21:52:52.9±3.5, 36.4S±0.2×177.6E±0.1, h310km±15km, n91, σ1§04/104, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.38**	**174**	P	**Pn**	**21 53 36.0**	**-0.2**
HAZ				S	**S**	**21 54 07.8**	**-2.9**
PKGZ	**Pakihiroa**	**1.55**	**166**	P	**Pn**	**21 53 37.9**	**+0.5**
KUZ	**Kuaotunu**	**1.56**	**256**	P	**Pn**	**21 53 35.7**	**-1.7**
RUGZ	**Raukumara Rang**	**1.58**	**178**	P	**Pn**	**21 53 37.1**	**-0.5**
PUZ	**Puketiti**	**1.77**	**163**	P	**Pn**	**21 53 39.4**	**+0.7**
TWGZ	**Tauwhareparae**	**1.82**	**171**	P	**Pn**	**21 53 40.2**	**+1.1**
TWGZ				S	**S**	**21 54 16.1**	**+0.1**
URZ	**Urewera**	**1.92**	**192**	P	**Pn**	**21 53 39.9**	**+0.1**
URZ				S	**S**	**21 54 15.5**	**-1.7**
URZ	**Urewera**	**1.92**	**192**	P	**Pn**	**21 53 40.0**	**+0.2**
MWZ	**Matawai**	**1.95**	**182**	P	**Pn**	**21 53 40.6**	**+0.5**
MWZ				S	**S**	**21 54 16.9**	**-0.9**
OMRZ	**Omania**	**1.99**	**209**	P	**Pn**	**21 53 42.1**	**+1.7**
TARZ	**Mount Tarawera**	**2.05**	**205**	P	**Pn**	**21 53 42.1**	**+1.2**
TKGZ	**Te Karaka**	**2.06**	**175**	P	**Pn**	**21 53 42.0**	**+1.1**
TKGZ				S	**S**	**21 54 18.5**	**-0.8**
RAGZ	**Rawiri**	**2.12**	**184**	P	**Pn**	**21 53 41.9**	**+0.4**
TOZ	**Tahuroa Road**	**2.16**	**231**	P	**Pn**	**21 53 42.1**	**+0.4**
MUGZ	**Murupara**	**2.20**	**197**	P	**Pn**	**21 53 42.3**	**+0.3**
MUGZ				S	**S**	**21 54 20.7**	**-0.5**
RTZ	**Ruatahuna**	**2.29**	**192**	P	**Pn**	**21 53 42.9**	**+0.1**
RTZ				S	**S**	**21 54 21.4**	**-1.3**
RIGZ	**Rimuhau**	**2.32**	**177**	P	**Pn**	**21 53 44.6**	**+1.5**
RIGZ				S	**S**	**21 54 24.4**	**+1.2**
MTHZ	**Maungataniwha**	**2.54**	**194**	P	**Pn**	**21 53 45.5**	**+0.5**
MTHZ				S	**S**	**21 54 26.5**	**-0.1**
TLZ	**Tolley Road**	**2.55**	**220**	P	**Pn**	**21 53 46.6**	**+1.6**
RAHZ	**Arahi**	**2.56**	**189**	P	**Pn**	**21 53 46.4**	**+1.2**
RAHZ				S	**S**	**21 54 26.9**	**-0.1**
MRHZ	**Matea Rd**	**2.62**	**201**	P	**Pn**	**21 53 46.3**	**+0.6**
MRHZ				S	**S**	**21 54 27.6**	**-0.4**
KNZ	**Kokohu**	**2.64**	**179**	P	**Pn**	**21 53 47.3**	**+1.5**
WATZ	**Wairara**	**2.76**	**212**	P	**Pn**	**21 53 48.4**	**+1.4**
MHGZ	**Mahia Peninsul**	**2.78**	**175**	P	**Pn**	**21 53 48.7**	**+1.6**
NMHZ	**Naumai**	**2.79**	**193**	P	**Pn**	**21 53 48.6**	**+1.4**
NMHZ				S	**S**	**21 54 31.3**	**+0.6**
RATZ	**Rangitukua**	**2.88**	**210**	P	**Pn**	**21 53 49.2**	**+1.1**
ARHZ	**Aropaoanui**	**2.92**	**189**	P	**Pn**	**21 53 49.7**	**+1.3**
BKZ	**Black Stump Fm**	**2.92**	**197**	P	**Pn**	**21 53 48.5**	**0.0**
BKZ				S	**S**	**21 54 32.2**	**-0.8**
BKZ	**Black Stump Fm**	**2.92**	**197**	P	**Pn**	**21 53 48.7**	**+0.2**
KATZ	**Kakaramea**	**3.00**	**210**	P	**Pn**	**21 53 51.3**	**+1.9**
HIZ	**Hauiti**	**3.06**	**225**	P	**Pn**	**21 53 51.9**	**+2.2**
NTVZ	**North Tongarir**	**3.12**	**209**	P	**Pn**	**21 53 51.5**	**+1.0**
TMVZ	**Te Maari**	**3.12**	**208**	P	**Pn**	**21 53 51.4**	**+0.9**
KRVZ	**Karewarewa**	**3.13**	**209**	P	**Pn**	**21 53 51.5**	**+1.0**
ETVZ	**East Tongari

CHEFC	**Chefchaouen**	**1.67**	**248**	P	**Pb**	**21 57 35.9**	**-0.6**
CHEFC				S	**Sb**	**21 57 56.8**	**-1.1**
LCRM	**LCR**	**2.36**	**210**	P	**Pb**	**21 57 47.7**	**-0.6**
LCRM				S	**Sb**	**21 58 17.1**	**-0.7**
MD31	**MD31**	**3.07**	**201**	P	**Pn**	**21 57 56.2**	**+1.7**
MD31				S	**Sn**	**21 58 32.9**	**+1.1**
MDT	**Midelt**	**3.08**	**199**	P	**Pn**	**21 57 55.5**	**+0.9**
MDT				S	**Sn**	**21 58 32.9**	**+0.9**
ZHG	**ZHG**	**3.50**	**230**	P	**Pn**	**21 58 02.1**	**+1.8**
ZHG				S	**Sn**	**21 58 41.4**	**-0.8**
PVAQ	**Vaqueiros**	**3.81**	**297**	P	**Pn**	**21 58 06.7**	**+2.1**
PVAQ				S	**Sn**	**21 58 49.9**	**-0.1**

*SFS **25** 21:59:10.0, 35°.51N×3°.84W, ML2.5, ALBORAN SUR*
*CNRM **25** 21:59:11.4, 35°.51N×3°.77W, h14km, ml2.8*
ISC 25 21:59:11.2±1.2, 35°.47N±0°.04×3°.73W±0°.03, h24km±11km, n13, σ1§84/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.30**	**214**	P	**Pb**	**21 59 18.0**	**-0.1**
PALE				S	**Sb**	**21 59 22.6**	**-0.3**
GOG	**Mont Gurugu**	**0.65**	**112**	P	**Pn**	**21 59 25.2**	**+0.3**
GOG				S	**Sn**	**21 59 34.4**	**-0.1**
CHAS	**Isla Isabel II**	**1.10**	**104**	P	**Pn**	**21 59 31.3**	**+0.2**
CHAS				S	**Sb**	**21 59 45.5**	**0.0**
CHEFC	**Chefchaouen**	**1.36**	**255**	P	**Pb**	**21 59 37.7**	**+1.6**
CHEFC				S	**Sb**	**21 59 54.7**	**+1.7**
CEU	**Ceuta**	**1.40**	**288**	P	**Pn**	**21 59 34.8**	**-0.4**
CEU				S	**Sn**	**21 59 49.1**	**-3.9**
EMAL	**Malaga-Limoner**	**1.41**	**337**	P	**Pn**	**21 59 35.5**	**+0.2**
EMAL				S	**Sn**	**21 59 53.4**	**+0.3**
JBK	**JBK**	**1.48**	**139**	P	**Pn**	**21 59 37.0**	**+0.5**
JBK				S	**Sb**	**21 59 58.6**	**+2.0**
LCRM	**LCR**	**2.00**	**208**	P	**Pb**	**21 59 46.9**	**-0.2**
LCRM				S	**Sb**	**22 00 14.4**	**+2.8**
IFR	**Ifrane**	**2.26**	**211**	P	**Pb**	**21 59 49.5**	**-1.9**
IFR				S	**Sn**	**22 00 14.4**	**0.0**
MD31	**MD31**	**2.73**	**198**	P	**Pb**	**21 59 57.3**	**-2.0**
MD31				S	**Sb**	**22 00 30.1**	**-2.3**
MDT	**Midelt**	**2.74**	**196**	P	**Pn**	**21 59 56.0**	**+2.2**
MDT				S	**Sb**	**22 00 31.4**	**-1.4**
ZHG	**ZHG**	**3.14**	**231**	P	**Pn**	**22 00 01.9**	**+2.8**
ZHG				S	**Sb**	**22 00 40.6**	**-3.5**
PVAQ	**Vaqueiros**	**3.75**	**302**	P	**Pn**	**22 00 08.5**	**+1.0**
PVAQ				S	**Sn**	**22 00 51.7**	**+0.8**

*CNRM **25** 22:02:31.7, 35°.72N×3°.59W, h17km, ml2.5*
*SFS **25** 22:02:31.0, 35°.70N×3°.72W, ML2.1, ALBORAN SUR*
ISC 25 22:02:30.4±1.6, 35°.78N±0°.04×3°.52W±0°.04, h12km±12km, n11, σ1§05/22, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.66**	**211**	P	**Pg**	**22 02 43.0**	**-0.1**
PALE				S	**Sb**	**22 02 51.5**	**-1.4**
GOG	**Mont Gurugu**	**0.70**	**142**	P	**Pg**	**22 02 44.3**	**+0.3**
GOG				S	**Sb**	**22 02 54.8**	**+0.5**
CHAS	**Isla Isabel II**	**1.07**	**123**	P	**Pb**	**22 02 50.3**	**-0.5**
CHAS				S	**Sb**	**22 03 04.3**	**-0.5**
EMAL	**Malaga-Limoner**	**1.22**	**323**	P	**Pn**	**22 02 53.2**	**-0.1**
EMAL				S	**Sb**	**22 03 09.0**	**-0.3**
CHEFC	**Chefchaouen**	**1.63**	**246**	P	**Pb**	**22 03 00.0**	**-0.4**
CHEFC				S	**Sn**	**22 03 19.0**	**-1.0**
JBK	**JBK**	**1.64**	**151**	P	**Pn**	**22 02 59.4**	**+0.1**
JBK				S	**Sb**	**22 03 21.0**	**-0.4**
LCRM	**LCR**	**2.36**	**208**	P	**Pn**	**22 03 10.5**	**+1.4**
LCRM				S	**Sb**	**22 03 40.6**	**-1.5**
MD31	**MD31**	**3.08**	**200**	P	**Pn**	**22 03 19.7**	**+0.7**
MD31				S	**Sn**	**22 03 56.4**	**+0.5**
MDT	**Midelt**	**3.09**	**197**	P	**Pn**	**22 03 18.4**	**-0.8**
MDT				S	**Sn**	**22 03 56.4**	**+0.2**
ZHG	**ZHG**	**3.47**	**229**	P	**Pn**	**22 03 26.9**	**+2.6**
ZHG				S	**Sn**	**22 04 06.2**	**+0.8**
PVAQ	**Vaqueiros**	**3.75**	**297**	P	**Pn**	**22 03 29.5**	**+1.5**
PVAQ				S	**Sn**	**22 04 11.4**	**-0.7**

*KRNET **25** 22:04:12.3±0.1, 40°.35N×73°.26E, h19km, mb3.7*
*SOME **25** 22:04:12.4, 40°.48N×73°.30E, h10km*
*IDC **25** 22:04:12.0±1.4, 40°.37N×73°.31E, h0km, mb3.6/4, mb1 3.7/10, mb1mx3.4/47, mbtmp3.5/10, ML3.2/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/86, Error ellipse: s-maj=24.5km s-min=14.7km az=126.0*
*NNC **25** 22:04:13.5±1.2, 40°.48N×73°.28E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=10.7km s-min=5.1km az=175.0*
ISC 25 22:04:12.5±0.6, 40°.39N±0°.03×73°.27E±0°.02, h10km, n79, σ1§94/116, mb3.5/4, 38C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.39**	**290**	⇓*iP*	**Pb**	**22 04 20.4**	**-1.2**
OHH	baz=96			⇓*iS*	**Sb**	**22 04 26.2**	**-1.6**
SFK	**Sufi-Kurgan**	**0.42**	**155**	⇑*eP*	**Pg**	**22 04 19.8**	**-1.0**
SFK	baz=50			⇑*eS*	**Sg**	**22 04 25.5**	**-0.8**
DRK	**Karamyk**	**1.45**	**232**	⇑*iP*	**Pn**	**22 04 38.4**	**-0.7**
DRK	baz=33			⇑*iS*	**Sn**	**22 04 57.3**	**-1.0**
ARLS	**Aral**	**1.67**	**28**	⇑*eP*	**Pb**	**22 04 43.6**	**+0.1**
ARLS	baz=28			⇑*iS*	**Sg**	**22 05 06.4**	**+0.1**
ARK	**Arkit**	**1.72**	**325**	⇑*iP*	**Pb**	**22 04 44.3**	**0.0**
ARK	baz=26			⇑*iS*	**Sg**	**22 05 07.6**	**-0.2**
AML	**Almayashu**	**1.77**	**10**	P	**Pg**	**22 04 45.8**	**-0.7**
BTK	SNR=239 **Batken**	**1.91**	**261**	⇑*iP*	**Pb**	**22 04 46.6**	**-0.8**
BTK	baz=62			⇑*iS*	**Sb**	**22 05 11.4**	**+0.1**
TRKS	**Terek-Say**	**1.97**	**306**	⇑*iP*	**Pb**	**22 04 47.1**	**-1.5**
TRKS	baz=6.0			⇑*iS*	**Sb**	**22 05 12.4**	**-1.0**
UCH	**Uchtor**	**2.06**	**27**	P	**Pb**	**22 04 50.5**	**+0.2**
UCH	SNR=68 **Uchtor**	**2.06**	**27**	⇑*iP*	**Pb**	**22 04 49.4**	**-0.9**
UCH	baz=26			⇑*iS*	**Sb**	**22 05 16.5**	**+0.4**
MNAS	**Manas**	**2.17**	**345**	⇑*eP*	**Pb**	**22 04 51.0**	**-1.0**
MNAS	baz=45			⇑*iS*	**Sb**	**22 05 19.2**	**+0.1**
EKS2	**Erkin-Say**	**2.30**	**9**	P	**Pb**	**22 04 54.5**	**+0.3**
EKS2	SNR=32 **Erkin-Say**	**2.30**	**9**	⇑*eP*	**Pb**	**22 04 52.8**	**-1.4**
EKS2	baz=9.0			⇑*iS*	**Sb**	**22 05 22.3**	**-0.4**
MRKS	**Merke**	**2.35**	**359**	*eP*	**Pg**	**22 04 56.1**	**-1.5**
MRKS	21nm,0.4s			*eS*	**Sg**	**22 05 28.4**	**+0.2**
MRKS	176nm,0.5s **Merke**	**2.35**	**359**	Pg	**Pb**	**22 04 55.0**	**-0.1**
MRKS	15nm,0.4s			Lg	Lg	22 05 28.3	
AAK	176nm,0.5s **Ala-Archa**	**2.42**	**22**	Pn	**Pb**	**22 04 56.0**	**-0.4**
AAK	18nm,0.3s,baz=200,slow=8.0,SNR=153			Sn	**Sg**	**22 05 29.0**	**-1.5**
AAK	26nm,0.3s,baz=348,slow=14,SNR=23 **Ala-Archa**	**2.42**	**22**	P	**Pb**	**22 04 56.0**	**-0.4**
AAK	SNR=27 **Ala-Archa**	**2.42**	**22**	⇑Pn	**Pb**	**22 04 55.1**	**-1.3**
AAK	36nm,0.5s			⇑Lg	Lg	22 05 29.1	
AAK	107nm,0.7s **Ala-Archa**	**2.42**	**22**	⇑*iP*	**Pb**	**22 04 54.6**	**-1.7**
AAK	baz=22			⇑*iS*	**Sb**	**22 05 25.3**	**-1.1**
KBK	baz=22 **Karagaybulak**	**2.59**	**29**	P	**Pb**	**22 04 59.0**	**-0.2**
	SNR=37						
KBK	**Karagaybulak** baz=28	**2.59**	**29**	⇑*iP*	**Pb**	**22 04 56.8**	**-2.4**
KBK	baz=28			⇑*iS*	**Sb**	**22 05 29.2**	**-1.9**
FRU1	**Bishkek** baz=22	**2.62**	**22**	⇑*iP*	**Pb**	**22 04 57.5**	**-2.2**
FRU1	baz=22			⇑*iS*	**Sb**	**22 05 30.5**	**-1.5**
CHMS	**Chumysh** SNR=13	**2.83**	**23**	P	**Pb**	**22 05 01.6**	**-1.6**
DZA	**Taraz** 30nm,0.2s	**2.89**	**330**	*eP*	**Pb**	**22 05 05.4**	**+1.2**
DZA	275nm,0.4s			*eS*	**Sg**	**22 05 43.5**	**-1.8**
DZA	**Taraz** 30nm,0.2s	**2.89**	**330**	Pg	**Pb**	**22 05 04.3**	**+0.1**
DZA	275nm,0.4s			Lg	Lg	22 05 43.5	
BOOM	**Boomskoye usch** baz=42	**2.90**	**43**	⇑*iP*	**Pn**	**22 05 01.1**	**+2.1**
BOOM	baz=42			⇑*iS*	**Sn**	**22 05 36.7**	**+2.7**
ULHL	**Ulahol** SNR=14	**2.91**	**49**	P	**Pb**	**22 05 02.4**	**-2.2**
IUG	**Iuzhnay** 777nm,0.3s	**3.01**	**307**	*eP*	**Pb**	**22 05 07.3**	**+1.1**
IUG	398nm,0.6s			*eS*	**Sg**	**22 05 47.5**	**-1.5**
IUG	**Iuzhnay** 777nm,0.3s	**3.01**	**307**	Pg	**Pb**	**22 05 06.6**	**+0.4**
IUG	398nm,0.6s			Lg	Lg	22 05 47.5	
USP	**Ospenovka** SNR=8.6	**3.02**	**17**	P	**Pg**	**22 05 08.4**	**-2.0**
TKM2	**Tokmak 2** SNR=9.2	**3.07**	**34**	P	**Pb**	**22 05 04.8**	**-2.6**
TKM2	**Tokmak 2** 3.8nm,0.8s	**3.07**	**34**	⇑Pn	**Pn**	**22 05 04.2**	**+2.9**
TKM2	9.2nm,0.5s			⇓Pg	**Pg**	**22 05 09.4**	**-2.0**
TKM2	42nm,0.6s			⇓Lg	Lg	22 05 49.3	
SGDS	**Sogindy** 6.3nm,0.5s	**3.22**	**18**	*eP*	**Pb**	**22 05 11.3**	**+1.4**
SGDS	35nm,0.6s			*eS*	**Sg**	**22 05 54.4**	**-1.6**
SGDS	**Sogindy** 6.3nm,0.5s	**3.22**	**18**	Pg	**Pb**	**22 05 10.5**	**+0.6**
SGDS	35nm,0.6s			Lg	Lg	22 05 54.4	
KST	**Kastek** 13nm,0.4s	**3.33**	**36**	*eP*	**Pb**	**22 05 13.5**	**+1.8**
KST	29nm,0.5s			*eS*	**Sg**	**22 05 58.1**	**-1.4**
KST	**Kastek** 8.7nm,0.7s	**3.33**	**36**	Pg	**Pb**	**22 05 08.4**	**-3.3**
KST	29nm,0.5s			Lg	Lg	22 05 51.8	
CHM	**Chimkent** 25nm,0.2s	**3.37**	**306**	*eP*	**Pb**	**22 05 13.7**	**+1.4**
CHM	448nm,0.4s			*eS*	**Sg**	**22 05 59.0**	**-1.6**
KK02	**Karatay Array** 0.9nm,0.5s	**3.41**	**324**	⇑Pn	**Pn**	**22 05 08.0**	**+2.3**
KK02	2.6nm,0.3s			⇓Pg	**Pb**	**22 05 14.3**	**+1.3**
KK02	52nm,0.6s			⇑Lg	Lg	22 05 58.8	
DGS	**Degeres** 9.9nm,0.4s	**3.41**	**32**	*eP*	**Pg**	**22 05 15.4**	**-2.4**
DGS	57nm,0.5s			*eS*	**Sg**	**22 06 00.8**	**-1.1**
DGS	**Degeres** 9.9nm,0.4s	**3.41**	**32**	Pg	**Pb**	**22 05 14.1**	**+1.1**
DGS	57nm,0.5s			Lg	Lg	22 06 00.8	
KDJ	**Kajisay** baz=58	**3.42**	**58**	⇓*iP*	**Pn**	**22 05 08.3**	**+2.2**
KDJ	baz=58			⇓*iS*	**Sn**	**22 05 49.1**	**+2.3**
MTBS	**Maitube** 11nm,0.4s	**3.62**	**40**	*eP*	**Pb**	**22 05 18.6**	**+2.0**
MTBS	50nm,0.5s			*eS*	**Sg**	**22 06 07.0**	**-1.7**
MTBS	**Maitube** 11nm,0.4s	**3.62**	**40**	Pg	**Pb**	**22 05 17.7**	**+1.2**
MTBS	50nm,0.5s			Lg	Lg	22 06 07.0	
BRLS	**Borolday** 15nm,0.1s	**3.68**	**317**	*eP*	**Pb**	**22 05 18.3**	**+0.6**
BRLS	61nm,0.4s			*eS*	**Sb**	**22 06 05.0**	**+2.6**
BRLS	**Borolday** 15nm,0.1s	**3.68**	**317**	Pg	**Pb**	**22 05 16.8**	**-0.9**
BRLS	61nm,0.4s			Lg	Lg	22 06 05.0	
KRBS	**Karabastau** 5.4nm,0.4s	**3.76**	**28**	*eP*	**Pb**	**22 05 21.6**	**+2.6**
KRBS	31nm,0.5s			*eS*	**Sg**	**22 06 11.3**	**-1.9**
KRBS	**Karabastau** 5.4nm,0.4s	**3.76**	**28**	Pg	**Pb**	**22 05 20.2**	**+1.2**
KRBS	31nm,0.5s			Lg	Lg	22 06 11.3	
KNDC	**Almaty** 16nm,0.5s	**3.95**	**43**	⇑Pg	**Pb**	**22 05 24.9**	**+2.6**
KNDC	202nm,0.7s			⇓Lg	Lg	22 06 17.3	
MDOK	**Medeo** 4.2nm,0.7s	**3.96**	**44**	*eP*	**Pb**	**22 05 24.6**	**+2.2**
MDOK	66nm,0.7s			*eS*	**Sg**	**22 06 17.0**	**-2.5**
MDOK	**Medeo** 5.3nm,0.8s	**3.96**	**44**	⇑Pn	**Pn**	**22 05 15.9**	**+2.5**
MDOK	6.9nm,0.8s			⇓Pg	**Pb**	**22 05 23.9**	**+1.5**
MDOK	47nm,0.8s			⇓Lg	Lg	22 06 17.4	
MDOK	**Medeo** 4.2nm,0.7s	**3.96**	**44**	Pg	**Pb**	**22 05 23.6**	**+1.2**
MDOK	66nm,0.7s			Lg	Lg	22 06 17.0	
KOTS	**Kotyrbulak** 6.8nm,0.6s	**4.04**	**44**	*eP*	**Pb**	**22 05 26.0**	**+2.2**
KOTS	134nm,0.7s			*eS*	**Sg**	**22 06 19.3**	**-2.9**
KOTS	**Kotyrbulak** 6.8nm,0.6s	**4.04**	**44**	Pg	**Pb**	**22 05 24.9**	**+1.1**
KOTS	134nm,0.7s			Lg	Lg	22 06 19.8	
ANVS	**Anan'yevo** baz=52	**4.07**	**53**	⇑*iP*	**Pn**	**22 05 17.3**	**+2.3**
ANVS	baz=52			⇑*iS*	**Sn**	**22 06 04.7**	**+1.8**
KUU	**Kurty** 6.6nm,0.3s	**4.18**	**32**	*eP*	**Pb**	**22 05 29.1**	**+3.0**
KUU	48nm,0.7s			*eS*	**Sg**	**22 06 23.6**	**-3.1**
KUU	**Kurty** 6.6nm,0.3s	**4.18**	**32**	Pg	**Pb**	**22 05 27.4**	**+1.3**
KUU	48nm,0.7s			Lg	Lg	22 06 23.6	
KTBS	**Karatobe** 4.7nm,0.6s	**4.18**	**36**	*eP*	**Pb**	**22 05 28.4**	**+2.2**
KTBS	60nm,0.4s			*eS*	**Sg**	**22 06 23.3**	**-3.4**
KTBS	**Karatobe** 4.7nm,0.6s	**4.18**	**36**	Pg	**Pb**	**22 05 27.3**	**+1.2**
KTBS	60nm,0.4s			Lg	Lg	22 06 24.0	
SATY	**Saty** 8.1nm,0.6s	**4.68**	**54**	*eP*	**Pb**	**22 05 37.7**	**+3.0**
SATY	48nm,0.9s			*eS*	**Sg**	**22 06 39.1**	**-3.6**
SATY	**Saty** 8.1nm,0.6s	**4.68**	**54**	Pg	**Pb**	**22 05 36.6**	**+1.9**
SATY	48nm,0.9s			Lg	Lg	22 06 39.1	
BTLS	**Baital** 2.7nm,0.8s	**4.68**	**7**	*eP*	**Pb**	**22 05 36.8**	**+2.1**
BTLS	15nm,0.7s			*eS*	**Sg**	**22 06 37.5**	**-5.3**
BTLS	**Baital** 1.4nm,0.3s	**4.68**	**7**	Pg	**Pb**	**22 05 35.6**	**+0.9**
BTLS	15nm,0.7s			Lg	Lg	22 06 37.9	
KURS	**Kuram** 2.5nm,1.0s	**4.79**	**48**	*eP*	**Pb**	**22 05 40.0**	**+3.5**
KURS	20nm,1.7s			*eS*	**Sg**	**22 06 42.9**	**-3.3**
KURS	**Kuram** 2.5nm,1.0s	**4.79**	**48**	Pg	**Pb**	**22 05 38.7**	**+2.1**
KURS	20nm,1.7s			Lg	Lg	22 06 42.9	
UZB	**Uzynbulak** 7.4nm,0.2s	**5.11**	**55**	*eP*	**Pb**	**22 05 44.3**	**+2.3**
UZB	25nm,0.3s			*eS*	**Sg**	**22 06 51.3**	**-5.2**
UZB	**Uzynbulak** 7.4nm,0.2s	**5.11**	**55**	Pg	**Pb**	**22 05 43.7**	**+1.7**
UZB	25nm,0.3s			Lg	Lg	22 06 51.3	
PDGK	**Podgornoye** 2.4nm,0.8s	**5.49**	**56**	⇑Pn	**Pn**	**22 05 36.8**	**+2.3**
PDGK	3.4nm,0.6s			⇑Pg	**Pg**	**22 05 53.4**	**-4.3**
PDGK	38nm,1.1s			⇑Lg	Lg	22 07 04.2	
MK31	**Makanchi Array** 1.8nm,0.8s	**9.15**	**43**	⇓Lg	Lg	22 08 59.9	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=222,slow=14,SNR=1.5	**9.15**	**43**	Pn	**Pn**	**22 06 27.1**	**+2.5**
MKAR	0.1nm,0.3s,baz=234,slow=28,SNR=2.5			Lg	Lg	22 09 00.3	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=199,slow=14,SNR=1.8	**10.87**	**18**	Pn	**Pn**	**22 06 48.7**	**+0.6**
KURBB	0.1nm,0.3s,baz=185,slow=30,SNR=2.5			Lg	Lg	22 09 55.1	
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=147,slow=8.6,SNR=2.2	**12.79**	**352**	Pn	**Pn**	**22 07 14.9**	**+0.6**
AB31	**Akbulak array** 0.2nm,0.3s,baz=127,slow=12,SNR=12	**12.95**	**318**	Pn	**Pn**	**22 07 15.1**	**-1.3**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=94,slow=13,SNR=1.7	**14.65**	**318**	Pn	**Pn**	**22 07 39.2**	**-0.6**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=217,slow=13,SNR=6.3	**15.64**	**26**	Pn	**P**	**22 07 55.0**	**-2.1**
ARCES	**ARCESS Array B** 4.5nm,1.1s,baz=112,slow=8.8,SNR=5.0	**38.30**	**335**	P	**P**	**22 11 33.0**	**+0.3**
YAK	**Yakutsk** comp=Z,40nm,19.3s,baz=280,slow=37	**39.78**	**38**	LR	LR	22 29 00.0	
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=54,slow=7.5,SNR=1.9	**67.60**	**268**	P	**P**	**22 15 11.4**	**+1.7**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=358,slow=6.2,SNR=1.6	**77.27**	**4**	P	**P**	**22 16 06.6**	**+0.1**
WRA	**Warramunga Arr** 0.2nm,0.7s,baz=331,slow=4.8,SNR=1.1	**82.60**	**124**	P	**P**	**22 16 37.4**	**+1.4**

*SFS **25** 22:18:05.0, 35°.56N×3°.84W, ML2.7, ALBORAN SUR*
*CNRM **25** 22:18:06.2, 35°.66N×3°.64W, h26km, ml2.9*
*IGIL **25** 22:18:07.1, 35°.57N×3°.84W, h0km, ML2.3*
ISC 25 22:18:05.4±1.4, 35°.68N±0°.03×3°.68W±0°.03, h21km±4km, n24, σ1§16/40, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**205**	P	**Pb**	**22 18 15.3**	**-0.4**
PALE				S	**Sb**	**22 18 23.0**	**+0.3**
GOG	**Mont Gurugu**	**0.72**	**129**	P	**Pb**	**22 18 19.5**	**+0.2**
GOG				S	**Sb**	**22 18 29.1**	**+0.3**
CHAS	**Isla Isabel II**	**1.13**	**116**	P	**Pn**	**22 18 25.5**	**-0.5**
CHAS				S	**Sb**	**22 18 39.4**	**-1.2**
AKLM	**AKL**	**1.18**	**187**	P	**Pb**	**22 18 27.1**	**0.0**
AKLM				S	**Sn**	**22 18 42.7**	**+0.5**
EMAL	**Malaga-Limoner**	**1.24**	**331**	P	**Pb**	**22 18 28.4**	**+0.3**
EMAL				S	**Sb**	**22 18 43.6**	**+0.1**
CEU	**Ceuta**	**1.40**	**279**	P	**Pn**	**22 18 27.8**	**-1.9**
CEU				S	**Sn**	**22 18 44.5**	**-2.9**
CHEFC	**Chefchaouen**	**1.47**	**248**	P	**Pn**	**22 18 31.6**	**+0.8**
CHEFC				S	**Sn**	**22 18 50.1**	**+0.6**
JBK	**JBK**	**1.62**	**146**	P	**Pn**	**22 18 32.8**	**-0.2**
JBK				S	**Sn**	**22 18 52.7**	**-0.6**
RSA	**Sarsar**	**1.93**	**246**	P	**Pb**	**22 18 39.4**	**-0.5**
RSA				S	**Sb**	**22 19 04.9**	**+1.5**
SICH	**Sidi Chahed**	**2.07**	**221**	P	**Pb**	**22 18 41.2**	**-1.1**
LCRM	**LCR**	**2.22**	**206**	P	**Pn**	**22 18 41.9**	**+0.8**
LCRM				S	**Sn**	**22 19 09.6**	**+1.7**
IFR	**Ifrane**	**2.47**	**209**	P	**Pn**	**22 18 45.1**	**+0.5**
IFR				S	**Sn**	**22 19 13.3**	**-0.9**
MD31	**MD31**	**2.95**	**198**	P	**Pn**	**22 18 52.5**	**+1.4**
MD31				S	**Sn**	**22 19 26.2**	**+0.3**
MDT	**Midelt**	**2.96**	**195**	P	**Pn**	**22 18 52.6**	**+1.3**
TDRA	**Tendrara**	**2.97**	**152**	P	**Pn**	**22 18 52.5**	**+1.0**
ZHG	**ZHG**	**3.31**	**228**	P	**Pn**	**22 18 56.2**	**+0.1**
PVAQ	**Vaqueiros**	**3.68**	**299**	P	**Pn**	**22 19 02.2**	**+1.2**
PVAQ				S	**Sn**	**22 19 42.9**	**-0.9**
MESJ	**Messejana**	**4.24**	**302**	*eP*	**Pn**	**22 19 10.1**	**+1.4**
MESJ				*eS*	**Sn**	**22 19 56.5**	**-1.0**
MESJ				IAML		22 20 00.7	
MORF	comp=N,4.0nm,0.1s **Marmelete**	**4.32**	**293**	*eP*	**Pn**	**22 19 11.0**	**+1.0**
MORF				*eS*	**Sn**	**22 19 58.2**	**-1.5**
MORF				IAML		22 20 03.2	
PFVI	comp=N,9.3nm,0.4s **Vila Bisbo**	**4.40**	**291**	P	**Pn**	**22 19 12.3**	**+1.4**
PESTR	**Estremoz**	**4.46**	**317**	P	**Pn**	**22 19 13.4**	**+1.7**
EVO	**Evora**	**4.48**	**311**	P	**Pn**	**22 19 13.9**	**+1.8**
EVO				S	**Sn**	**22 20 03.0**	**-0.6**
OUK	**Oukaimeden**	**5.67**	**219**	P	**Pn**	**22 19 28.1**	**-0.6**
TTIG	**Tnine Tigouga,**	**6.50**	**219**	P	**Pn**	**22 19 38.2**	**-1.6**

IDC 25 22:23:16.0±10.0, 36°.09N×98°.52E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.1/45, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=141.3km s-min=49.3km az=147.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.1nm,0.3s,baz=207,slow=14,SNR=6.4	**13.11**	**24**	Pn	Pn	22 26 25.0	+1.4
SONM	0.0nm,0.3s,baz=206,slow=29,SNR=2.0			Lg	Lg	22 30 11.8	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=125,slow=14,SNR=14	**16.17**	**316**	Pn	Pn	22 27 01.6	-2.9
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=144,slow=12,SNR=2.4	**20.25**	**336**	P	P	22 27 51.3	-1.4

*IDC **25** 22:25:32.7±0.7, 30°.26S×60°.66E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.7/38, mbtmp4.0/9, MS3.3/5, Ms1 3.2/5, ms1mx2.8/74, Error ellipse: s-maj=26.3km s-min=21.7km az=30.0*
*NEIC **25** 22:25:34.7±1.9, 30°.4S±0°.1×60°.63E±0°.10, h10km±1km, mb4.3/11, Error ellipse: s-maj=26.4km s-min=6.1km az=210.0*
ISC 25 22:25:34.2±0.7, 30°.3S±0°.1×60°.6E±0°.1, h10km, n35, σ1§01/27, mb4.1/13, MS3.3/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**14.98**	**301**	Pn	**Pn**	**22 29 06.4**	**+0.1**
VOI	comp=Z,17nm,1.3s			IAmb	IAmb	22 29 17.7	
LSZ	**Lusaka**	**33.30**	**289**	P	**P**	**22 32 14.1**	**+1.7**
LSZ	comp=Z,2.2nm,0.7s			IAmb	IAmb	22 32 14.6	
KMBO	**Kilima Mbogo** comp=Z,36nm,19.4s,baz=96,slow=35	**36.55**	**318**	LR	LR	22 46 48.8	
TSUM	**Tsumeb** comp=Z,1.5nm,0.6s,baz=118,slow=10,SNR=5.2	**40.41**	**276**	P	**P**	**22 33 14.3**	**+1.3**
TSUM	**Tsumeb**	**40.41**	**276**	P	**P**	**22 33 09.9**	**-3.1**
TSUM	comp=Z,7.7nm,1.4s			IAmb	IAmb	22 33 15.6	
MBAR	**Mbarara** comp=Z,50nm,20.6s,baz=172,slow=34	**40.99**	**311**	LR	LR	22 48 30.8	
H01W2	**Cape Leeuwin H** baz=261,slow=75,SNR=4.7	**44.86**	**110**	T	T	23 21 38.7	
H01W3	**Cape Leeuwin H** baz=261,slow=75,SNR=3.6	**44.86**	**110**	T	T	23 21 34.7	
H01W1	**Cape Leeuwin H** baz=261,slow=75,SNR=6.4	**44.88**	**110**	T	T	23 21 38.7	
ATD	**Arta Tunnel** comp=Z,34nm,19.0s,baz=149,slow=33	**45.00**	**335**	LR	LR	22 50 02.7	
SNAA	**Sanae** comp=Z,1.4nm,0.9s,baz=104,slow=8.3,SNR=1.7	**53.21**	**201**	P	**P**	**22 34 52.5**	**+0.2**
SNAA	**Sanae**	**53.21**	**201**	P	**P**	**22 34 52.8**	**+0.5**
SNAA	comp=Z,3.9nm,1.3s			IAmb	IAmb	22 35 03.7	
QSPA	**South Pole Qui** comp=Z,0.7nm,0.2s,baz=267,slow=8.9,SNR=4.4	**59.83**	**180**	P	**P**	**22 35 40.0**	**+0.3**
QSPA	**South Pole Qui**	**59.83**	**180**	P	**P**	**22 35 39.1**	**-0.5**

ASAR	Alice Springs	64.62 104	P	P		22 36 13.5	+1.2
	comp=Z,0.8nm,0.6s,baz=242,slow=6.3,SNR=13						
ASAR	Alice Springs	64.62 104	P	P		22 36 11.9	-0.4
WRA	Warramunga Arr	66.52 100	P	P		22 36 23.9	-0.7
	comp=Z,1.9nm,0.8s,baz=243,slow=5.7,SNR=13						
WRA	Warramunga Arr	66.52 100	P	P		22 36 24.1	-0.5
WB2	Warramunga Arr	66.53 100	P	P		22 36 24.2	-0.5
WB2			IAmb	IAmb		22 36 27.9	
	comp=Z,4.5nm,1.1s						
WB0	Warramunga Arr	66.64 100	P	P		22 36 26.9	+1.5
GEYT	Alibeck	67.95 358	LR	LR		23 01 37.2	
	comp=Z,19nm,20.1s,baz=34,slow=32						
TORD	Torodi Ar. Bea	71.27 298	P	P		22 36 53.4	-0.7
	comp=Z,0.8nm,0.8s,baz=110,slow=5.1,SNR=4.5						
TORD	Torodi Ar. Bea	71.27 298	P	P		22 36 52.7	-1.4
BRTR	Keskin Array B	74.08 339	P	P		22 37 10.6	+1.0
	comp=Z,0.5nm,0.7s,baz=163,slow=9.3,SNR=2.2						
BRTR	Keskin Array B	74.08 339	P	P		22 37 11.5	+1.0
KBZ	Khabaz	75.47 347	LR	LR		23 08 22.7	
	comp=Z,15nm,21.2s,baz=166,slow=34						
MKAR	Makanchi Array	79.22 15	P	P		22 37 39.0	-0.3
	comp=Z,0.7nm,0.8s,baz=186,slow=4.9,SNR=7.8						
MKAR	Makanchi Array	79.22 15	P	P		22 37 38.9	-0.3
ABKAR	Abkulak array	79.23 360	P	P		22 37 39.5	+0.3
ABKAR	Abkulak array	79.23 360	P	P		22 37 39.5	+0.3
ABKAR			IAmb	IAmb		22 37 40.2	
	comp=Z,6.2nm,1.5s						
VTS	Vitosha	80.32 333	P	P		22 37 45.3	-0.2
VTS			IAmb	IAmb		22 38 03.3	
	comp=Z,3.0nm,1.3s						
ZALV	Zalesovo Beam	86.51 14	P	P		22 38 16.0	-0.8
	comp=Z,1.1nm,0.6s,baz=193,slow=6.1,SNR=6.9						
ZALV	Zalesovo Beam	86.51 14	P	P		22 38 16.4	-0.4
YKA	Yellowknife Ar	147.68 356	PKPbc	PKPbc		22 45 17.9	-0.4
	comp=Z,1.8nm,0.6s,baz=354,slow=2.9,SNR=38						
YKA	Yellowknife Ar	147.68 356		PKPbc		22 45 18.3	+0.1

TUL ***25*** *22:26:29.9±0.5, 36°.09N±0°.01×96°.86W±0°.02, h5km±4km, ML2.6, mb_Lg2.0/4(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=119.0*

NEIC 25 22:26:30.6±0.5, 36°.08N±0°.01×96°.86W±0°.02, h5km±4km, Error ellipse: s-maj=1.9km s-min=1.4km az=118.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK033	Mehan	0.07	241	Pg	Pg	22 26 31.9	-0.4
OK033				Sg	Sg	22 26 33.1	-0.3
OK031	S. Brethren Rd	0.13	173	Pg	Pg	22 26 33.0	-0.1
OK031				Sg	Sg	22 26 35.1	+0.3
OK034	N. Norfolk Rd.	0.14	121	Pg	Pg	22 26 33.3	0.0
OK034				Sg	Sg	22 26 35.5	+0.3
QUOK	Quay	0.15	53	Pg	Pg	22 26 33.5	-0.1
QUOK				Sg	Sg	22 26 36.0	+0.3
OK030	Cody Creek RV	0.16	159	Pg	Pg	22 26 33.8	-0.1
OK030				Sg	Sg	22 26 36.3	+0.3
OK029	Liberty Lake	0.56	240	Pg	Pg	22 26 40.9	-0.4
OK029				Sg	Sg	22 26 48.6	-0.1
OK025	Westminster Rd	0.63	218	Pg	Pg	22 26 42.2	-0.5
OK025				IAmb_Lg		22 26 50.6	
	comp=Z,18nm,1.0s						
OK025				Sg	Sg	22 26 51.1	+0.1
BLOK	Blackwell	0.74	337	Pg	Pg	22 26 43.2	-1.6
BLOK				Sg	Sg	22 26 53.6	-0.7
BCOK	Bluff Creek, N	0.74	236	Pg	Pg	22 26 44.1	-0.7
BCOK				Sg	Sg	22 26 54.2	-0.3
T35A	Sooner Cattle	0.88	18	Pg	Pg	22 26 46.7	-0.8
TUL1	Leonard	0.88	101	Pg	Pg	22 26 46.7	-0.8
W35A	Tecumseh	0.93	181	Pg	Pg	22 26 47.2	-1.1
FNO	Franklin	0.93	208	Pg	Pg	22 26 47.3	-1.2
CROK	Carrier	1.00	295	Pg	Pg	22 26 48.6	-1.2
GC02	Grant County #	1.12	314	Pg	Pg	22 26 50.9	-1.1
KAN14	Manchester OK	1.25	315	Pg	Pg	22 26 53.1	-1.4
KAN01	Argonia South	1.29	326		Pn	22 26 54.1	-1.2
WMOK	Wichita Mounta	2.06	230	Pn	Pn	22 27 05.8	-0.2
MIAR	Mount Ida	3.09	119	Pn	Pn	22 27 20.0	+0.1
W41B	Gary Mavity, V	3.86	102	Pn	Pn	22 27 29.9	-0.6

IDC ***25*** *22:34:43.9±1.9, 1°.86N×79°.27W, h0km, mb3.9/6, mb1 4.0/10, mb1mx3.7/45, mbtmp3.9/10, ML2.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/61, Error ellipse: s-maj=47.5km s-min=22.3km az=107.0*

RSNC ***25*** *22:34:45.7±0.8, 1°.61N×79°.42W, h0km±7km, ML3.6, Mw3.8*

IGQ ***25*** *22:34:46±0.7, 2°.N±5°×7°.9W±°, h10km*

NEIC ***25*** *22:34:47.1±0.8, 1°.86N±0°.05×79°.3W±0°.1, h19km±8km, mb4.3/12, Error ellipse: s-maj=16.1km s-min=7.3km az=79.0*

ISC 25 22:34:45.5±1.5, 1°.82N±0°.04×79°.37W±0°.05, h13km±10km, n106, σ2°.09/125, mb4.0/10, 3C-1D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	Tumaco	0.64	90	⇑iP	Pn	22 34 59.4	-0.8
TUMC				eS	Sn	22 35 09.7	-0.5
TUMC	Tumaco	0.64	90		Pb	22 34 58.9	+0.4
RVRD	Rio Verde	0.75	181	P	Pg	22 35 00.0	0.0
RVRD				S	Sg	22 35 11.0	+1.1
CHMA	Chilma	1.61	126	P	Pn	22 35 13.0	-0.9
CHMA				S	Sn	22 35 36.0	+1.3
BV15	Puerto Quito-O	1.66	175	P	Pn	22 35 14.0	-0.2
ECEN	Cerro Negro	1.71	125	P	Pn	22 35 15.0	-0.4
LNGL	El Angel-Carch	1.73	128	P	Pn	22 35 14.0	-1.7
CHL1	Volc¡n Chiles	1.75	126	P	Pn	22 35 15.0	-0.9
URCU	Urcuqui	1.77	141	P	Pn	22 35 16.0	-0.1
CHL2	Volc¡n Chiles	1.77	125	P	Pn	22 35 16.0	-0.2
CMBC	Cumbal	1.77	120	eP	Pn	22 35 15.7	-0.5
CMBC				eS	Sn	22 35 33.6	-5.1
CUSE	Cuicocha Este	1.79	147	eP	Pn	22 35 16.1	-0.3
CUSE				eS	Sn	22 35 37.9	-1.3
CUSE	Cuicocha Este	1.79	147	P	Pn	22 35 16.0	-0.4
COTA	Cotacachi	1.80	145	P	Pn	22 35 16.0	-0.6
CUIC	Cuicocha-Domo	1.81	146	P	Pn	22 35 16.0	-0.7
OTAV	Otavalo	1.82	150	eP	Pn	22 35 15.9	-0.9
OTAV				eS	Sn	22 35 31.2	-8.7
OTAV				i		22 35 41.7	
	comp=Z,300nm,0.4s						
OTAV	Otavalo	1.82	150	Pn	Pn	22 35 16.3	-0.5
CUSW	Cuicocha Oeste	1.83	146	P	Pn	22 35 17.0	+0.1
TULM	Tulcn-Chalpat	1.92	125	eP	Pn	22 35 18.4	+0.1
TULM				eS	Sn	22 35 43.0	+0.4
TULM	Tulcn-Chalpat	1.92	125	P	Pn	22 35 19.0	+0.7
MAG1	Magdalena	1.92	192	P	Pn	22 35 18.0	+0.1
IMBA	Imbabura, San	1.93	143	P	Pn	22 35 19.0	+0.7
PULU	Pululahua	1.98	154	P	Pn	22 35 19.0	-0.1
YANA	Yana	2.08	158	P	Pn	22 35 20.0	-0.5
GCUF	Volcan Galeras	2.10	106	eP	Pn	22 35 21.3	+0.5
GCUF				⇑eS	Sb	22 35 49.7	-0.3
GCUF				i		22 35 52.0	
	comp=Z,547nm,0.6s						
PINO	Pino	2.11	159	P	Pn	22 35 21.0	+0.1
TERV	Terraza Guagua	2.12	159	P	Pn	22 35 21.0	-0.1
GGPC	Guagua Pichinc	2.13	159	P	Pn	22 35 21.0	-0.2
HPAL	Hacienda Las P	2.15	161	P	Pn	22 35 21.0	-0.3
JUA2	San Juan 2	2.16	159	P	Pn	22 35 22.0	+0.5
GGPT	Toaza - Volcan	2.16	160	P	Pn	22 35 21.0	-0.5
ANGU	Angureal	2.22	142	P	Pn	22 35 23.0	+0.4
CAYR	Refugio Cayamb	2.25	143	P	Pn	22 35 24.0	+1.1
BONI	La Bonita	2.28	126	P	Pn	22 35 24.0	+0.9
CAB1	Cabo Pasado-Ma	2.44	206	P	Pn	22 35 24.0	-0.9
TOMA	Boca Toma-Volc	2.48	158	P	Pn	22 35 27.0	+1.0
ANTI	Antisana	2.56	152	P	Pn	22 35 28.0	+0.9
ANTG	Antisana-Guama	2.56	154	P	Pn	22 35 28.0	+0.9
ANTS	Antisana-Sarah	2.59	153	P	Pn	22 35 29.0	+1.4
SUCR	Mariscal Sucre	2.59	160	P	Pn	22 35 29.0	+1.5
ILLI	Illinizas Sur	2.60	166	P	Pn	22 35 29.0	+1.4
ANTM	Antisana-La Mi	2.60	154	P	Pn	22 35 29.0	+1.3
NAS2	Nasa	2.61	160	P	Pn	22 35 30.0	+2.2
CASC	Dorado de Casc	2.63	130	P	Pn	22 35 30.0	+2.3
BNAS	Cotopaxi Volca	2.63	160	P	Pn	22 35 30.0	+2.0
VC1	Cotopaxi 1	2.63	159	P	Pn	22 35 29.0	+0.9
BVC2	Cotopaxi Volca	2.64	159	P	Pn	22 35 30.0	+1.8
BTAM	Cotopaxi Volca	2.66	159	P	Pn	22 35 31.0	+2.5
SLOR	San Lorenzo -	2.68	161	P	Pn	22 35 30.0	+1.3
TAMB	Tambo	2.69	158	P	Pn	22 35 31.0	+2.1
BMOR	Cotopaxi Volca	2.69	160	P	Pn	22 35 30.0	+1.0
SOTA	Rioblanco	2.77	83	eP	Pn	22 35 30.9	+0.9
SOTA				eS	Sb	22 36 06.8	-2.5
VCES	Cotopaxi	2.78	160	P	Pn	22 35 32.0	+1.9
POPC	Popayan, Colom	2.78	75	⇑eP	Pn	22 35 30.2	+0.3
POPC				eS	Sb	22 36 06.8	-2.5
POPC				i		22 36 10.7	
	comp=Z,130nm,0.5s						
PCON	Cinco Dias	3.01	80	⇑eP	Pn	22 35 35.0	+1.6
PCON				eS	Sb	22 36 14.5	-1.7
PCON				i		22 36 22.5	
	comp=Z,374nm,0.5s						
PIS1	Pisayambo	3.02	161	P	Pn	22 35 35.0	+1.5
PORT	Chimborazo Vol	3.31	170	P	Pn	22 35 39.0	+1.4
CHSH	Refugio Sur-Vo	3.33	171	P	Pn	22 35 41.0	+3.3
TAMH	Tambohuasha Ch	3.39	170	P	Pn	22 35 41.0	+2.5
BMAS	Trigal station	3.42	165	P	Pn	22 35 43.0	+4.2
ARRY	Arrayan	3.43	165	P	Pn	22 35 43.0	+4.1
BPAT	Tungurahua Vol	3.43	164	P	Pn	22 35 43.0	+4.0
MARP	Paez Belalcaza	3.56	73	eP	Pn	22 35 42.7	+2.1
MARP				eS	Sb	22 36 27.2	-4.4
YOTC	Yotoco, Valle	3.70	54	eP	Pn	22 35 40.8	-1.7
YOTC				i		22 36 41.5	
	comp=Z,87nm,0.5s						
FLOC	Florencia	3.72	94	eP	Pn	22 35 44.0	+1.4
FLOC				eS	Sb	22 36 32.3	-3.8
FLOC				i		22 36 40.5	
	comp=Z,97nm,0.6s						
GARC	Garzon, Huila	3.89	85	eP	Pn	22 35 46.6	+1.4
PLMC	San Jos del P	4.34	45	eP	Pn	22 35 49.9	-1.3
PLMC				eS	Sb	22 36 52.7	-1.4
PLMC				i		22 36 59.8	
	comp=Z,68nm,0.5s						
ORTC	Ortega, Tolima	4.61	63	eP	Pn	22 35 56.9	+2.1
ORTC				eS	Sn	22 36 54.1	+5.8
ORTC				i		22 37 09.1	
	comp=Z,96nm,0.5s						
ANIL	Santa Ana	4.76	56	eP	Pn	22 35 57.5	+0.2
ANIL				eS	Sb	22 37 01.4	-5.0
PRAC	Prado	4.85	67	eP	Pn	22 35 60.0	+1.7
PRAC				eS	Sn	22 36 59.9	+5.6
PRAC				i		22 37 09.4	
	comp=Z,54nm,0.6s						
CBOC	Ciudad Bolivar	5.23	40	eP	Pn	22 36 02.3	-1.2
CBOC				i		22 37 43.3	
	comp=Z,50nm,0.6s						
GUY2C	Guyana, Caldas	5.23	50	eP	Pn	22 36 05.0	+1.2
GUY2C				eS	Sb	22 37 18.5	-1.6
GUY2C				i		22 37 25.7	
	comp=Z,73nm,0.7s						
MACC	Macarena, Meta	5.52	87	eP	Pn	22 36 08.6	+1.2
MACC				i		22 37 48.9	
HELC	Santa Helena	5.79	41	eP	Pn	22 36 11.3	-0.1
HELC				i		22 37 48.8	
	comp=Z,15nm,0.6s						
NORC	Norcasia	5.83	50	eP	Pn	22 36 13.1	+1.4
NORC				eS	Sb	22 37 28.5	-8.3
ROSC	El Rosal	5.86	59	Pn	Pn	22 36 11.5	-0.9
	comp=Z,3.4nm,0.3s,baz=232,slow=16,SNR=4.6						
ROSC				Sn	Sn	22 37 27.0	+7.3
	comp=Z,3.5nm,0.3s,baz=71,slow=21,SNR=1.5						
ROSC	El Rosal	5.86	59	eP	Pn	22 36 15.8	+3.3
ROSC				eS	Sb	22 37 28.9	-9.2
ROSC	El Rosal	5.86	59	Pn	Pn	22 36 11.1	-1.3
CHIC	Chingaza	6.28	63	eP	Pn	22 36 20.7	+2.5
CHIC				eS	Sn	22 37 34.8	+4.8
CHIC				i		22 37 45.1	
	comp=Z,27nm,0.6s						
PTBC	PUERTO BERRIO,	6.78	46	eP	Pn	22 36 24.7	0.0
PTBC				eS	Sn	22 37 49.4	+7.6
PTBC				i		22 38 12.9	
	comp=Z,8.7nm,0.5s						
ZARC	Zaragoza, Cauc	7.21	38	Pn	Pn	22 36 29.8	-0.7
RUSC	La Rusia	7.46	57	eP	Pn	22 36 38.8	+4.3
ATAH	Atahualpa	8.95	174	Pn	Pn	22 36 56.5	+1.6
	comp=Z,0.4nm,0.3s,baz=0.0,slow=13,SNR=2.4						
SJCC	San Jacinto, C	9.04	27	Pn	Pn	22 36 59.5	+3.7
SDV	Santo Domingo	11.17	51	Pn	Pn	22 37 24.6	-0.5
	comp=Z,0.8nm,0.3s,baz=247,slow=15,SNR=2.1						
BIRV	Birongo	15.59	56	P	P	22 38 28.4	-0.9
BIRV				IAmb	IAmb	22 38 38.4	
	comp=Z,29nm,1.3s						
MACA	Manacapuru-AM	19.32	105	P	P	22 39 09.2	-1.3
MACA				IAmb	IAmb	22 39 11.1	
	comp=Z,14nm,0.7s						
PTGA	Pitinga	19.56	97	P	P	22 39 12.8	-0.4
	comp=Z,0.8nm,0.3s,baz=326,slow=22,SNR=6.4						
CRPR	Cabo Rojo, PR	20.09	36	P	P	22 39 17.7	-1.2
LPAZ	La Paz	21.14	149	P	P	22 39 31.3	+0.4
	comp=Z,2.1nm,0.5s,baz=328,slow=12,SNR=7.0						
LPAZ	La Paz	21.14	149	P	P	22 39 30.7	-0.2
PB16	IPOC Station P	22.25	155	P	P	22 39 43.6	+0.8
PB16				IAmb	IAmb	22 39 56.2	
	comp=Z,6.0nm,0.8s						
MNMC	Minye Minye	22.93	156	P	P	22 39 49.7	0.0
MNMC				IAmb	IAmb	22 39 53.8	
	comp=Z,14nm,1.0s						
PB11	IPOC Station P	23.47	156	P	P	22 39 55.2	+0.2
PB11				IAmb	IAmb	22 40 06.3	
	comp=Z,14nm,1.0s						
GO01	Chusmiza	23.57	155	P	P	22 39 57.2	+0.8
GO01				IAmb	IAmb	22 40 08.5	
	comp=Z,11nm,0.9s						
SIV	San Ignacio	25.30	135	P	P	22 40 12.0	+0.1
	comp=Z,0.7nm,0.4s,baz=294,slow=12,SNR=4.0						
SIV				LR	LR	22 50 24.0	
	comp=Z,85nm,18.1s,baz=314,slow=37						
TKL	Tuckaleechee C	33.92	354	P	P	22 41 27.8	-0.4
PLCA	Paso Flores	43.11	170	P	P	22 42 46.2	+0.7
	comp=Z,1.8nm,0.6s,baz=342,slow=6.9,SNR=6.5						
PLCA	Paso Flores	43.11	170	P	P	22 42 46.0	+0.4
DBIC	Dimbokro	74.41	84	P	P	22 46 23.2	-0.7
	comp=Z,1.2nm,0.5s,baz=284,slow=4.2,SNR=3.5						
DBIC	Dimbokro	74.41	84	P	P	22 46 23.1	-0.7
ESDC	Sonseca Array	77.61	50	P	P	22 46 42.8	+1.0
	comp=Z,0.7nm,0.7s,baz=261,slow=6.2,SNR=11						
TORD	Torodi Ar. Bea	80.88	77	P	P	22 46 59.1	-0.9
	comp=Z,0.4nm,0.8s,baz=285,slow=6.4,SNR=4.1						
TORD	Torodi Ar. Bea	80.88	77	P	P	22 46 59.3	-0.7
ASAR	Alice Springs	141.15	233	PKP	PKPdf	22 54 16.6	0.0
	comp=Z,0.4nm,1.0s,baz=116,slow=2.2,SNR=2.3						
WRA	Warramunga Arr	142.46	239	PKP	PKPdf	22 54 19.0	-0.1
	comp=Z,0.4nm,0.6s,baz=111,slow=1.3,SNR=7.6						

SFS ***25*** *22:35:37.0, 35°.50N×3°.82W, ML2.5, ALBORAN SUR*

CNRM ***25*** *22:35:41.4, 35°.50N×3°.75W, h72km, ml2.7*

ISC 25 22:35:37.0±1.1, 35°.50N±0°.03×3°.74W±0°.03, h15km±10km, n15, σ1°.73/29, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAS	Isla Isabel II	1.11	106	P	Pb	22 35 57.8	-0.2
CHAS				S	Sb	22 36 11.8	-0.5
CHEFC	Chefchaouen	1.37	254	P	Pb	22 36 02.5	0.0
CHEFC				S	Sg	22 36 21.5	+0.2
EMAL	Malaga-Limoner	1.38	336	P	Pg	22 36 04.9	+1.3
EMAL				S	Sg	22 36 21.2	-0.2
CEU	Ceuta	1.39	287	P	Pn	22 36 01.0	-0.9
CEU				S	Sb	22 36 15.8	-4.5
JBK	JBK	1.51	140	P	Pg	22 36 06.4	+0.3
JBK				S	Sg	22 36 26.7	+0.9
SICH	Sidi Chahed	1.91	223	P	Pb	22 36 11.7	+0.1
SICH				S	Sb	22 36 37.2	+1.9
LCRM	LCR	2.04	207	P	Pg	22 36 15.6	-0.6
LCRM				S	Sg	22 36 44.4	+1.8
IFR	Ifrane	2.29	211	P	Pg	22 36 19.8	-1.2
IFR				S	Sn	22 36 42.2	-0.4
MD31	MD31	2.76	198	P	Pb	22 36 24.1	-2.1
MD31				S	Sn	22 36 55.5	+1.5
MDT	Midelt	2.78	195	P	Pb	22 36 24.8	-1.7
MDT				S	Sn	22 36 55.5	+1.1
CART	Cartagena	3.03	46	P	Pb	22 36 28.0	-2.6
CART				S	Sn	22 37 00.8	+0.4
ZHG	ZHG	3.16	230	P	Pb	22 36 32.6	-0.3
ZHG				S	Sb	22 37 09.9	-1.4
PVAQ	Vaqueiros	3.73	302	P	Pn	22 36 35.9	+1.8
PVAQ				S	Sn	22 37 17.8	+0.1
PESTR	Estremoz	4.55	319	P	Pn	22 36 50.3	+4.8
PESTR				S	Sn	22 37 42.0	+3.9
OUK	Oukaimeden	5.51	220	P	Pn	22 37 00.1	+1.3
OUK				S	Sn	22 38 01.0	-1.0

IDC ***25*** *22:37:08.4±0.6, 19°.70N×76°.06W, h0km, mb3.9/19, mb1 4.1/22, mb1mx4.0/49, mbtmp3.9/22, ML3.5/3, MS3.4/17, Ms1 3.4/17, ms1mx3.1/77, Error ellipse: s-maj=17.3km s-min=13.7km az=57.0*

OSPL ***25*** *22:37:08.6±0.7, 19°.72N×76°.22W, h0km±21km, ML4.5*

SSNC ***25*** *22:37:10.0±1.3, 19°.70N×76°.10W, h5km±7km, MD4.2, ML4.3, MW4.2*

NEIC ***25*** *22:37:10.9±1.6, 19°.78N±0°.06×76°.06W±0°.03, h10km±1km, mb4.4/53, Mwr4.3/20, Error ellipse: s-maj=10.7km s-min=5.4km az=177.0*

NEIC ***25*** *22:37:11, 19°.79N×76°.05W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.34; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-3.07; M_{rt}1.11; $M_{\theta\phi}$0.24; $M_{\theta r}$-1.66; Fault plane solution: $M_0$3.80000×10^{15} NP1:ϕ_s161.49000°, δ60.69000°, λ77.35000°. NP2:ϕ_s6.11000°, δ31.70000°, λ111.31000°. Principal axes: T 3.9975, Plg71.0000°, Azm42.0000°; N -0.4428, Plg11.0000°, Azm168.0000°; P -3.5547, Plg15.0000°, Azm261.0000°;*

JSN ***25*** *22:37:12.5±0.9, 19°.53N×76°.22W, h3km±36km, MD3.9*

ISC 25 22:37:09.9±1.2, 19°.74N±0°.04×76°.13W±0°.03, h12km±7km, n149, σ1°.55/150, mb4.3/38, MS3.3/14, 4C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	Las Mercedes	0.88	291	i P	Pg	22 37 26.4	-0.5
LMGC				eS	Sg	22 37 38.5	+0.1
LMGC				eS	Sb	22 37 38.7	-0.2
LMGC				IAML		22 37 41.7	
	comp=N,7μm,0.3s						
LMGC				IAML		22 37 41.8	
	comp=E,6μm,0.2s						
GTBY	Guantanamo Bay	0.98	79	Pg	Pb	22 37 27.8	-1.0
GTBY				Sg	Sg	22 37 40.3	-1.2
GTBY	Guantanamo Bay	0.98	79	eP	Pb	22 37 27.6	-1.2
GTBY				eS	Sg	22 37 40.6	-0.9
GTBY	Guantanamo Bay	0.98	79	i P	Pb	22 37 27.6	-1.2
GTBY				eS	Sb	22 37 42.0	+0.4
GTBY				IAML		22 37 43.3	
	comp=Z,16μm,0.9s						
HLGC	Holguin	1.14	3	eP	Pb	22 37 31.2	-0.4
HLGC				eS	Sn	22 37 48.1	+0.8
HLGC				IAML		22 37 51.3	
	comp=E,48μm,0.6s						
HLGC				IAML		22 37 51.6	
	comp=N,35μm,0.6s						
MOAC	Moa	1.43	50	eP	Pn	22 37 33.4	-2.2
MOAC				eS	Sn	22 37 52.8	-1.6
MOAC				IAML		22 37 56.7	
	comp=E,3μm,0.4s						
MOAC				IAML		22 37 58.9	
	comp=N,4μm,0.5s						
CMJ	Castle Mountai	1.61	188	⇑iP	Pn	22 37 37.1	-1.1
BBJ	Bamboo Saint A	1.73	219	⇑iP	Pn	22 37 38.8	-0.9
GWJ	Greenwich	1.75	199	⇑iP	Pn	22 37 38.7	-1.5
STH	Stony Hill	1.78	201	i P	Pn	22 37 38.9	-1.5
HOJ	Hope	1.82	199	i P	Pn	22 37 40.7	-0.4
MASC	Masc	1.84	76	eP	Pn	22 37 38.9	-2.3
MASC				eS	Sn	22 38 04.1	-0.3
MASC				IAML		22 38 08.3	
	comp=E,852nm,0.3s						
MASC				IAML		22 38 09.0	
	comp=N,781nm,0.4s						
CVJ	Coleyville	2.01	222	⇑iP	Pn	22 37 42.7	-1.0
MTDJ	Mount Denham	2.01	222	Pn	Pn	22 37 42.0	-1.7
MTDJ	Mount Denham	2.01	222	eP	Pn	22 37 42.4	-1.3
CCCC	Cccc	2.11	314	eP	Pn	22 37 41.9	-3.1
CCCC				eS	Sn	22 38 05.0	-6.2
CCCC				IAML		22 38 09.9	
	comp=N,2μm,0.4s						
CCCC				IAML		22 38 09.9	
	comp=E,3μm,0.5s						
MCJ	Malvern	2.33	219	i P	Pn	22 37 47.7	-0.4
MCJ				i S	Sn	22 38 13.6	-3.1
LGNH	Logne	3.55	110	Pn	Pn	22 38 04.4	-0.4
LGNH	Logne	3.55	110	eP	Pn	22 38 07.3	+2.5
LGNH	Logne	3.55	110	i P	Pn	22 38 04.0	-0.8
LCCY	Blossom Villag	3.72	270	Pn	Pn	22 38 07.9	+0.7
JAKH	Jacmel	3.73	113	Pn	Pn	22 38 06.2	-1.1
SDDR	Presa de Saban	4.63	99	Pn	Pn	22 38 19.1	-0.7
SDDR	Presa de Saban	4.63	99	eP	Pn	22 38 19.6	-0.1
SDDR	Presa de Saban	4.63	99	i P	Pn	22 38 19.4	-0.3
SDDR				IAML		22 39 45.1	
	comp=Z,226nm,0.7s						
GRTK	Grand Turk	5.00	69	Pn	Pn	22 38 23.9	-0.8
SC01	Santiago de lo	5.10	93	Pn	Pn	22 38 27.1	+0.9
BANI	BANI	5.62	103	Pn	Pn	22 38 33.4	0.0
SDD	Santo Domingo	6.02	101	Pn	Pn	22 38 38.6	0.0
DR12	Loma Pena Alta	6.45	97	Pn	Pn	22 38 45.1	+0.4
SOR	Soroa	7.09	297	Pn	Pn	22 38 57.0	+3.5
PRVC	Isla de Provid	8.07	219	Pn	Pn	22 39 08.5	+1.5
URIC	Uribia, Colomb	8.93	153	Pn	Pn	22 39 19.6	+0.9
AOPR	Arecibo Observ	8.98	97	Pn	Pn	22 39 19.9	+0.5
CELP	Cerrillos	9.19	99	Pn	Pn	22 39 21.8	-0.6
SJCC	San Jacinto, C	9.83	174	P

SFIN	**Lafayette**	**22.61**	**338**	P	**P**	**22 42 11.4 +1.0**
SFIN				IAmb	IAmb	22 42 30.6
comp=Z,19nm,1.2s						
WVNY	**West Valley, N**	**22.69**	**355**	P	**P**	**22 42 12.8 +1.5**
S39A	**Bolivar**	**23.32**	**324**	P	**P**	**22 42 18.9 +1.0**
S39A				IAmb	IAmb	22 42 38.9
comp=Z,9.6nm,1.0s						
J55A	**Hilton**	**23.50**	**357**	P	**P**	**22 42 20.0 +0.5**
J55A				IAmb	IAmb	22 42 29.8
comp=Z,21nm,1.2s						
SADO	**Sadowa**	**25.08**	**355**	P	**P**	**22 42 36.0 +1.8**
comp=Z,6.1nm,0.7s,baz=272,slow=12,SNR=1.1						
PTGA	**Pitinga**	**25.79**	**140**	P	**P**	**22 42 42.1 +1.2**
comp=Z,1.2nm,0.3s,baz=330,slow=23,SNR=1.5						
TX31	**Lajitas Ar. Si**	**26.75**	**296**	P	**P**	**22 42 50.6 +1.0**
TX31				IAmb	IAmb	22 43 02.4
comp=Z,13nm,0.9s						
TX32	**Lajitas Array**	**26.75**	**296**	P	**P**	**22 42 50.5 +0.8**
TX32				IAmb	IAmb	22 43 03.2
comp=Z,5.2nm,1.1s						
TXAR	**Lajitas Array**	**26.75**	**296**	P	**P**	**22 42 51.8 +2.1**
comp=Z,1.2nm,0.9s,baz=107,slow=6.7,SNR=7.4						
TXAR				LR	LR	22 54 44.7
comp=Z,33nm,20.1s,baz=46,slow=39						
TXAR	**Lajitas Array**	**26.75**	**296**	P	**P**	**22 42 50.3 +0.7**
ATAH	**Atahualpa**	**26.80**	**185**	LR	LR	22 55 52.2
comp=Z,78nm,18.9s,baz=16,slow=42						
ANMO	**Albuquerque**	**30.75**	**306**	LR	LR	22 56 27.9
comp=Z,23nm,19.7s,baz=81,slow=38						
ETMB	**Extrema**	**30.95**	**161**	P	**P**	**22 43 26.8 -0.2**
ETMB				IAmb	IAmb	22 43 34.7
comp=Z,7.2nm,1.1s						
NNA	**Nana**	**31.54**	**181**	LR	LR	22 59 12.3
comp=Z,43nm,18.6s,baz=346,slow=42						
LPIG	**La Paz**	**31.95**	**284**	LR	LR	22 57 13.6
comp=Z,69nm,20.9s,baz=54,slow=38						
ISCO	**Idaho Springs**	**32.24**	**315**	P	**P**	**22 43 37.2 -1.4**
ISCO				IAmb	IAmb	22 43 51.5
comp=Z,6.0nm,1.1s						
PV13	**Radium Mtn., P**	**33.74**	**310**		**P**	**22 43 52.5 +0.9**
PV13				IAmb	IAmb	22 44 04.9
comp=Z,5.3nm,0.8s						
WUAZ	**Wupatki**	**34.74**	**304**	P	**P**	**22 44 01.2 +1.0**
WUAZ				IAmb	IAmb	22 44 13.9
comp=Z,8.3nm,1.1s						
SCHQ	**Schefferville**	**35.74**	**9**	P	**P**	**22 44 09.2 +0.8**
comp=Z,2.2nm,0.5s,baz=192,slow=8.3,SNR=9.1						
SCHQ	**Schefferville**	**35.74**	**9**	P	**P**	**22 44 09.2 +0.8**
SCHQ				IAmb	IAmb	22 44 36.5
comp=Z,14nm,1.4s						
PDAR	**Pinedale Array**	**36.28**	**317**	P	**P**	**22 44 15.3 +1.8**
comp=Z,0.5nm,0.7s,baz=121,slow=11,SNR=5.1						
PDAR				LR	LR	22 59 58.8
comp=Z,73nm,18.8s,baz=112,slow=38						
PDAR	**Pinedale Array**	**36.28**	**317**	P	**P**	**22 44 14.2 +0.7**
LPAZ	**La Paz**	**36.66**	**167**	P	**P**	**22 44 17.7 +0.5**
comp=Z,0.5nm,0.4s,baz=0.0,slow=8.1,SNR=1.8						
LPAZ	**La Paz**	**36.66**	**167**	P	**P**	**22 44 17.0 -0.3**
LPAZ				IAmb	IAmb	22 44 31.8
comp=Z,5.3nm,1.3s						
DUG	**Dugway, Tooele**	**37.39**	**311**	P	**P**	**22 44 23.7 +0.9**
DUG				IAmb	IAmb	22 44 36.3
comp=Z,7.5nm,1.0s						
MOOW	**Moose Ponds**	**37.52**	**317**	P	**P**	**22 44 24.9 +0.9**
MOOW				IAmb	IAmb	22 44 40.5
comp=Z,3.8nm,0.9s						
SPR3	**Spring Creek 3**	**38.07**	**309**	P	**P**	**22 44 29.9 +1.1**
SPR3				IAmb	IAmb	22 44 41.6
comp=Z,14nm,1.3s						
PFO	**Pinyon Flats O**	**38.35**	**299**	LR	LR	23 01 41.0
comp=Z,46nm,19.2s,baz=44,slow=38						
SIV	**San Ignacio**	**38.47**	**156**	P	**P**	**22 44 31.8 -0.2**
comp=Z,1.2nm,0.5s,baz=324,slow=6.0,SNR=5.2						
ELK	**Elko**	**39.32**	**311**	P	**P**	**22 44 39.9 +0.7**
comp=Z,0.6nm,0.5s,baz=255,slow=3.7,SNR=2.7						
ELK				LR	LR	23 01 30.1
comp=Z,51nm,21.9s,baz=103,slow=37						
ELK	**Elko**	**39.32**	**311**	P	**P**	**22 44 39.6 +0.4**
ELK				IAmb	IAmb	22 44 51.1
comp=Z,9.4nm,1.4s						
MCMT	**McKenzie Canyo**	**39.36**	**318**	P	**P**	**22 44 40.0 +0.6**
BCYI	**Bear Canyon**	**39.48**	**317**	P	**P**	**22 44 40.9 +0.5**
HRY	**Holter Researc**	**39.65**	**321**	P	**P**	**22 44 42.7 +1.0**
NVAR	**Mina Array Bea**	**40.88**	**306**	P	**P**	**22 44 54.6 +2.5**
comp=Z,0.2nm,0.4s,baz=105,slow=6.8,SNR=2.0						
NVAR	**Mina Array Bea**	**40.88**	**306**	P	**P**	**22 44 54.1 +2.1**
NEW	**Newport**	**43.54**	**320**	LR	LR	23 03 37.8
comp=Z,87nm,18.1s,baz=278,slow=36						
YBH	**Yreka Blue Hor**	**44.99**	**310**	LR	LR	23 05 31.4
comp=Z,40nm,19.2s,baz=166,slow=38						
YKA	**Yellowknife Ar**	**50.22**	**338**	P	**P**	**22 46 05.8 +0.4**
comp=Z,0.6nm,0.6s,baz=130,slow=7.4,SNR=7.6						
SUMG	**Summit**	**56.99**	**13**	*i P*	**P**	**22 46 55.0 -0.4**
A36M	**Sachs Harbour**	**59.27**	**344**	P	**P**	**22 47 12.1 +1.2**
PLCA	**Paso Flores**	**60.39**	**175**	P	**P**	**22 47 19.3 +0.3**
comp=Z,0.8nm,0.7s,baz=6.4,slow=9.3,SNR=1.4						
PLCA	**Paso Flores**	**60.39**	**175**	P	**P**	**22 47 19.6 +0.6**
PLCA				IAmb	IAmb	22 47 34.6
comp=Z,3.7nm,1.2s						
BMAR	**Burnt Mountain**	**63.68**	**336**	P	**P**	**22 47 42.0 +1.2**
PAB	**San Pablo**	**63.86**	**55**	P	**P**	**22 47 42.9 +0.4**
ILAR	**Eielson Array**	**64.12**	**333**	P	**P**	**22 47 44.1 +0.4**
comp=Z,0.4nm,0.6s,baz=104,slow=5.2,SNR=6.7						
ILAR	**Eielson Array**	**64.12**	**333**	P	**P**	**22 47 46.0 +2.3**
ESDC	**Sonseca Array**	**64.14**	**55**	P	**P**	**22 47 44.8 +0.4**
comp=Z,0.7nm,0.9s,baz=288,slow=7.5,SNR=5.4						
ESDC				LR	LR	23 12 28.9
comp=Z,47nm,18.0s,baz=288,slow=33						
MDT	**Midelt**	**64.38**	**62**	LR	LR	23 11 29.4
comp=Z,69nm,18.9s,baz=296,slow=32						
TOLK	**Toolik Lake Re**	**65.75**	**337**	P	**P**	**22 47 55.1 +0.8**
COLD	**Coldfoot**	**65.80**	**336**	P	**P**	**22 47 56.0 +1.4**
KDAK	**Kodiak Island**	**66.31**	**325**	LR	LR	23 16 34.4
comp=Z,139nm,18.1s,baz=72,slow=36						
IMAR	**Indian Mountai**	**67.11**	**334**	P	**P**	**22 48 03.4 +0.4**
NAO01	**NORSAR Array S**	**71.53**	**31**	P	**P**	**22 48 32.0 +1.5**
NB2	**NORSAR Subarra**	**71.67**	**31**	P	**P**	**22 48 32.2 +0.9**
comp=Z,3.2nm,0.7s,baz=278,slow=6.2						
NOA	**NORSAR Array B**	**71.67**	**31**	P	**P**	**22 48 32.0 +0.7**
comp=Z,0.6nm,0.6s,baz=278,slow=6.0,SNR=4.1						
NC405	**NORSAR Array S**	**71.90**	**31**	P	**P**	**22 48 33.3 +0.6**
DAVOX	**Davos/Dischmat**	**73.20**	**46**	LR	LR	23 15 24.4
comp=Z,28nm,21.8s,baz=306,slow=31						
TORD	**Torodi Ar. Bea**	**74.37**	**81**	P	**P**	**22 48 47.5 -0.6**
comp=Z,0.6nm,0.5s,baz=286,slow=5.8,SNR=11						
TORD	**Torodi Ar. Bea**	**74.37**	**81**	P	**P**	**22 48 48.0 -0.1**
KEST	**Kesra**	**75.19**	**57**	P	**P**	**22 48 53.7 +1.1**
comp=Z,2.4nm,0.7s,baz=112,slow=1.8,SNR=11						
KEST	**Kesra**	**75.19**	**57**	P	**P**	**22 48 53.1 +0.5**
KEST				IAmb	IAmb	22 49 21.6
comp=Z,8.0nm,1.3s						
GERES	**GERESS Array B**	**75.29**	**43**	P	**P**	**22 48 53.6 +0.6**
comp=Z,0.3nm,0.5s,baz=288,slow=6.7,SNR=2.3						
ARCES	**ARCESS Array B**	**75.67**	**21**	P	**P**	**22 48 54.6 0.0**
comp=Z,1.5nm,0.5s,baz=283,slow=3.7,SNR=14						
ARCES	**ARCESS Array B**	**75.67**	**21**	P	**P**	**22 48 54.9 +0.3**
FIA1	**FINESS Array S**	**78.54**	**29**	P	**P**	**22 49 11.3 +0.4**
FINES	**FINESS Array B**	**78.54**	**29**	P	**P**	**22 49 11.7 +0.8**
comp=Z,2.0nm,0.5s,baz=270,slow=3.6,SNR=30						
FINES	**FINESS Array B**	**78.54**	**29**	P	**P**	**22 49 11.6 +0.7**
DIVS	**Divibare**	**80.77**	**47**	P	**P**	**22 49 24.7 +1.2**
DIVS				IAmb	IAmb	22 49 35.3
comp=Z,2.6nm,0.9s						
WB0	**Warramunga Arr**	**151.29**	**265**	PKPbc	**PKPbc**	**22 57 03.7 -0.5**
WB2	**Warramunga Arr**	**151.34**	**264**	PKPbc	**PKPbc**	**22 57 03.8 -0.5**
WRA	**Warramunga Arr**	**151.35**	**264**	PKPbc	**PKPbc**	**22 57 03.8 -0.5**
comp=Z,1.0nm,0.6s,baz=84,slow=2.6,SNR=14						
WRA	**Warramunga Arr**	**151.35**	**264**		**PKPbc**	**22 57 02.8 -1.5**
AS31	**Alice Springs**	**151.85**	**257**	PKPbc	**PKPbc**	**22 57 05.3 0.0**
ASAR	**Alice Springs**	**151.85**	**257**	PKPbc	**PKPbc**	**22 57 04.5 -0.8**
comp=Z,1.2nm,0.7s,baz=81,slow=2.2,SNR=9.5						
ASAR	**Alice Springs**	**151.85**	**257**	PKPdf	**PKPdf**	**22 56 58.7 -0.3**
ASAR				PKPbc	**PKPbc**	**22 57 04.4 -1.0**
ASAR				PKPab	**PKPab**	**22 57 14.3 -0.1**

NIED ***25*** *22:48:27.1,31°.87N×129°.23E,h10km,MW3.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; M_{rr}0.08; $M_{\theta\theta}$0.43; $M_{\phi\phi}$-0.51; $M_{r\theta}$0.34; $M_{\theta\phi}$1.31; $M_{\phi r}$0.39; Fault plane solution: $M_0$1.49000×10^14 NP1:ϕ_s8.00000°, δ80.00000°, λ163.00000°. NP2:ϕ_s101.00000°, δ73.00000°, λ10.00000°.*

JMA 25 22:48:27.1±0.1,31°.87N×129°.23E,h10km±3km,M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.46**	**115**	P	Pg	22 48 35.8	-0.2
JSJ				*e*S	Sg	22 48 41.9	-0.1
JFU	**Fukue jima 2**	**0.88**	**333**	P	Pg	22 48 43.8	-0.3
JFU				*e*S	Sb	22 48 56.1	-0.3
NGSJ	**Nagasakinomoza**	**0.90**	**32**	P	Pg	22 48 44.1	-0.4
NGSJ				*e*S	Sg	22 48 56.5	+0.3
JHD	**Hondo**	**0.97**	**52**	P	Pg	22 48 45.4	-0.4
JHD				*e*S	Sb	22 48 58.8	-0.1
JSU	**Suzuyama**	**1.11**	**109**	P	Pb	22 48 47.7	-0.6
JSU				*e*S	Sg	22 49 02.2	-0.5
JZO	**Okuchi**	**1.19**	**77**	P	Pb	22 48 48.9	-0.9

CNRM ***25*** *22:52:36.6,35°.53N×3°.76W,h17km,ml2.8*
SFS ***25*** *22:52:37.0,35°.55N×3°.80W,ML2.0,ALBORAN SUR*

ISC 25 22:52:36.7±1.1,35°.53N±0°.04×3°.73W±0°.03,h16km±8km, n13,σ1§26/26,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**209**	P	**Pg**	**22 52 43.4**	**-0.6**
PALE				S	**Sg**	**22 52 48.7**	**-0.4**
GOG	**Mont Gurugu**	**0.67**	**117**	P	**Pg**	**22 52 50.8**	**+0.9**
GOG				S	**Sg**	**22 53 00.1**	**+1.3**
CHAS	**Isla Isabel II**	**1.12**	**108**	P	**Pn**	**22 52 56.5**	**-1.1**
CHAS				S	**Sb**	**22 53 10.5**	**-1.3**
EMAL	**Malaga-Limoner**	**1.35**	**335**	P	**Pg**	**22 53 03.7**	**+0.9**
EMAL				S	**Sb**	**22 53 18.6**	**-0.1**
CHEFC	**Chefchaouen**	**1.38**	**253**	P	**Pb**	**22 53 01.6**	**-0.6**
CHEFC				S	**Sb**	**22 53 18.8**	**-0.8**
JBK	**JBK**	**1.53**	**141**	P	**Pn**	**22 53 02.8**	**-0.7**
JBK				S	**Sn**	**22 53 22.3**	**-0.7**
SICH	**Sidi Chahed**	**1.93**	**223**	P	**Pn**	**22 53 07.1**	**-1.7**
SICH				S	**Sb**	**22 53 34.0**	**-1.3**
LCRM	**LCR**	**2.06**	**207**	P	**Pb**	**22 53 12.4**	**-1.4**
LCRM				S	**Sb**	**22 53 40.2**	**+0.9**
IFR	**Ifrane**	**2.32**	**210**	P	**Pb**	**22 53 19.2**	**+1.0**
IFR				S	**Sn**	**22 53 40.9**	**-1.7**
MD31	**MD31**	**2.79**	**198**	P	**Pn**	**22 53 22.6**	**+1.9**
MD31				S	**Sn**	**22 53 55.1**	**+1.0**
MDT	**Midelt**	**2.81**	**195**	P	**Pn**	**22 53 21.8**	**+0.8**
MDT				S	**Sn**	**22 53 55.7**	**+1.2**
ZHG	**ZHG**	**3.18**	**230**	P	**Pn**	**22 53 27.3**	**+1.2**
ZHG				S	**Sn**	**22 54 05.9**	**+2.2**
PVAQ	**Vaqueiros**	**3.72**	**301**	P	**Pn**	**22 53 32.3**	**-1.1**
PVAQ				S	**Sn**	**22 54 17.3**	**+0.5**

SFS ***25*** *23:00:30.0,35°.69N×3°.71W,ML2.5,ALBORAN SUR*
CNRM ***25*** *23:00:32.0,35°.70N×3°.58W,h24km,ml2.9*

ISC 25 23:00:30.8±1.6,35.74N±0°.03×3°.57W±0°.04,h15km±12km, n19,σ1§53/37,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.60**	**210**	P	**Pg**	**23 00 42.7**	**0.0**
PALE				S	**Sb**	**23 00 51.6**	**+0.1**
GOG	**Mont Gurugu**	**0.70**	**138**	P	**Pb**	**23 00 45.0**	**+0.2**
GOG				S	**Sb**	**23 00 55.0**	**+0.8**
CHAS	**Isla Isabel II**	**1.08**	**121**	P	**Pb**	**23 00 49.9**	**-1.3**
CHAS				S	**Sb**	**23 01 03.5**	**-1.7**
EMAL	**Malaga-Limoner**	**1.23**	**326**	P	**Pn**	**23 00 53.3**	**-0.2**
EMAL				S	**Sn**	**23 01 10.0**	**+0.2**
CEU	**Ceuta**	**1.47**	**277**	P	**Pn**	**23 00 54.2**	**-2.6**
CEU				S	**Sn**	**23 01 11.6**	**-4.2**
CHEFC	**Chefchaouen**	**1.58**	**247**	P	**Pn**	**23 00 58.8**	**+0.5**
CHEFC				S	**Sn**	**23 01 18.0**	**-0.5**
JBK	**JBK**	**1.63**	**149**	P	**Pn**	**23 00 58.5**	**-0.6**
JBK				S	**Sn**	**23 01 18.0**	**-1.9**
SICH	**Sidi Chahed**	**2.17**	**222**	P	**Pn**	**23 01 07.9**	**+1.5**
SICH				S	**Sn**	**23 01 34.4**	**+1.2**
LCRM	**LCR**	**2.31**	**208**	P	**Pn**	**23 01 08.6**	**+0.1**
LCRM				S	**Sn**	**23 01 38.1**	**+1.5**
IFR	**Ifrane**	**2.56**	**210**	P	**Pn**	**23 01 11.4**	**-0.6**
IFR				S	**Sn**	**23 01 41.3**	**-1.7**
MD31	**MD31**	**3.03**	**199**	P	**Pn**	**23 01 19.3**	**+0.9**
MD31				S	**Sn**	**23 01 54.5**	**+0.1**
MDT	**Midelt**	**3.04**	**197**	P	**Pn**	**23 01 18.2**	**-0.3**
MDT				S	**Sn**	**23 01 54.8**	**+0.1**
ZHG	**ZHG**	**3.42**	**229**	P	**Pn**	**23 01 25.9**	**+2.3**
ZHG				S	**Sn**	**23 02 05.5**	**+1.7**
PVAQ	**Vaqueiros**	**3.73**	**298**	P	**Pn**	**23 01 28.2**	**+0.4**
PVAQ				S	**Sn**	**23 02 12.1**	**+0.7**
FIGM	**Figuig**	**4.08**	**151**	P	**Pn**	**23 01 34.1**	**+1.3**
FIGM				S	**Sn**	**23 02 21.0**	**+0.6**
PESTR	**Estremoz**	**4.47**	**315**	P	**Pn**	**23 01 39.4**	**+1.4**
PESTR				S	**Sn**	**23 02 30.1**	**+0.3**
EVO	**Evora**	**4.51**	**309**	P	**Pn**	**23 01 39.6**	**+1.0**
EVO				S	**Sn**	**23 02 29.7**	**-1.0**
UCM	**Universidad Co**	**4.56**	**3**	P	**Pn**	**23 01 43.3**	**+4.2**
OUK	**Oukaimeden**	**5.77**	**220**	P	**Pn**	**23 01 56.4**	**+0.1**
OUK				S	**Sn**	**23 03 01.9**	**-0.5**

IDC ***25*** *23:01:14.9±4.7,52°.53N×159°.22E,h57km±33km,mb2.9/3, mb1 3.1/3,mb1mx2.8/47,mbtmp3.2/3,MS3.4/1,Ms1 3.4/1, ms1mx2.5/14,Error ellipse: s-maj=57.9km s-min=27.5km az=171.0*
KRSC ***25*** *23:01:15.1±0.5,52°.57N×159°.08E,h63km±5km,ML3.9*

ISC 25 23:01:16.5±1.0,52°.57N±0°.04×159°.06E±0°.05,h59km±7km, n40,σ1§09/53,mb3.2/3,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.36**	**248**	*e*P	**Pn**	**23 01 27.2**	**+0.3**
RUS				*e*S	**Sn**	**23 01 35.2**	**+0.7**
DALK	**Dalny**	**0.50**	**338**	*e*P	**Pn**	**23 01 28.4**	**+0.1**
DALK				*e*S	**Sn**	**23 01 37.3**	**+0.4**
PET	**Petropavlovsk**	**0.52**	**332**	*e*P	**Pn**	**23 01 28.6**	**+0.1**
PET				*e*S	**Sn**	**23 01 37.6**	**+0.3**
MTVR	**Mutnovka**	**0.54**	**261**	*e*P	**Pn**	**23 01 29.4**	**+0.5**
MTVR				*e*S	**Sn**	**23 01 39.3**	**+1.3**
GRL	**Gorelyy**	**0.60**	**269**	*e*P	**Pn**	**23 01 30.5**	**+0.9**
GRL				*e*S	**Sn**	**23 01 41.3**	**+2.1**
KRMR	**Karymshinskiy**	**0.62**	**295**	*e*P	**Pn**	**23 01 29.6**	**-0.1**
KRMR				*e*S	**Sn**	**23 01 39.9**	**+0.5**
NLC	**Nalytchevo**	**0.63**	**16**	*e*P	**Pn**	**23 01 29.5**	**-0.3**
NLC				*e*S	**Sn**	**23 01 39.3**	**-0.2**
UGLR	**Uglovaya**	**0.66**	**348**	*e*P	**Pn**	**23 01 30.6**	**+0.3**
UGLR				*e*S	**Sn**	**23 01 40.5**	**+0.2**
SMAR	**Somma**	**0.71**	**348**	*e*P	**Pn**	**23 01 31.0**	**-0.1**
SMAR				*e*S	**Sn**	**23 01 42.0**	**+0.3**
SDLR	**Sedlovina**	**0.72**	**352**	*e*P	**Pn**	**23 01 31.0**	**0.0**
SDLR				*e*S	**Sn**	**23 01 41.8**	**+0.2**
AVH	**Avacha**	**0.72**	**345**	*e*P	**Pn**	**23 01 31.5**	**+0.4**
AVH				*e*S	**Sn**	**23 01 42.6**	**+0.9**
KRER	**Koryakskii**	**0.76**	**346**	*e*P	**Pn**	**23 01 31.9**	**+0.3**
KRER				*e*S	**Sn**	**23 01 43.3**	**+0.6**
KOK	**Koryaka**	**0.77**	**341**	*e*P	**Pn**	**23 01 32.1**	**+0.5**
KOK				*e*S	**Sn**	**23 01 43.0**	**+0.3**
SPN	**Mys Shipunski**	**0.79**	**47**	*e*P	**Pn**	**23 01 31.7**	**-0.1**
SPN				*e*S	**Sn**	**23 01 43.7**	**+0.7**
KDTR	**Khodutka, Kamc**	**0.97**	**219**	*e*P	**Pn**	**23 01 34.2**	**+0.2**
KDTR				*e*S	**Sn**	**23 01 47.5**	**+0.5**
PETK	**Petropavlovsk-**	**0.99**	**304**	P	**Pn**	**23 01 33.5**	**-0.8**
27nm,0.3s,baz=119,slow=15,SNR=262							
PETK				S	**Sn**	**23 01 48.5**	**+1.1**
40nm,0.3s,baz=8.4,slow=21,SNR=9.6							
APC	**Apacha**	**1.21**	**288**	*e*P	**Pn**	**23 01 37.6**	**+0.4**
APC				*e*S	**Sn**	**23 01 53.4**	**+0.7**
GNL	**Ganaly**	**1.31**	**330**	*e*P	**Pn**	**23 01 38.5**	**-0.2**
GNL				*e*S	**Sn**	**23 01 56.2**	**+0.8**
KII	**Karymskiy**	**1.49**	**9**	*e*P	**Pn**	**23 01 41.7**	**+0.6**
KII				*e*S	**Sn**	**23 02 01.2**	**+1.7**
PAU	**Pauzhetka**	**1.77**	**232**	*e*P	**Pn**	**23 01 45.7**	**+0.9**
SKR	**Severo-Kuril's**	**2.63**	**225**	*e*S	**Sn**	**23 02 28.4**	**+1.2**
TUMD	**Tumrok D**	**2.76**	**16**	*e*P	**Pn**	**23 01 59.0**	**+0.8**
TUMD				*e*S	**Sn**	**23 02 31.5**	**+1.2**
TUMR	**Tumrok**	**2.80**	**13**	*e*P	**Pn**	**23 02 00.2**	**+1.3**
KMNR	**Kamenistaya**	**3.27**	**12**	*e*P	**Pn**	**23 02 07.6**	**+2.3**
KPT	**Kopyto**	**3.47**	**11**	*e*P	**Pn**	**23 02 10.0**	**+1.9**
KIRR	**Kirishev**	**3.48**	**12**	*e*P	**Pn**	**23 02 10.0**	**+1.8**
BZWR	**Bezymyannyi-We**	**3.51**	**13**	*e*P	**Pn**	**23 02 10.1**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**3.51**	**15**	*e*P	**Pn**	**23 02 11.2**	**+2.5**
ZLN	**Zelenaya**	**3.60**	**16**	*e*P	**Pn**	**23 02 12.2**	**+2.3**
KBTR	**Krutoberegovo**	**4.26**	**30**	*e*P	**Pn**	**23 02 19.3**	**+0.6**
ILAR	**Eielson Array**	**29.63**	**45**	P	**P**	**23 07 14.4**	**-1.4**
0.5nm,0.9s,baz=267,slow=11,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**33.34**	**166**	T	T	23 43 47.2	
baz=352,slow=74							
H11N3	**WAKE ISLAND Hy**	**33.35**	**166**	T	T	23 43 40.5	
baz=352,SNR=38							
H11N1	**WAKE ISLAND Hy**	**33.35**	**166**	T	T	23 43 46.5	
baz=352,slow=74							
SONM	**Songino Array**	**33.41**	**283**	P	**P**	**23 07 50.2 +0.8**	
0.1nm,0.5s,baz=78,slow=7.5,SNR=2.4							
H11S1	**WAKE ISLAND Hy**	**34.51**	**167**	T	T	23 44 28.8	
baz=349,slow=74							
H11S3	**WAKE ISLAND Hy**	**34.52**	**167**	T	T	23 44 29.5	
baz=349,slow=74							
H11S2	**WAKE ISLAND Hy**	**34.53**	**167**	T	T	23 44 36.1	
baz=349							
NRIK	**Noril'sk**	**35.98**	**325**	LR	LR	23 24 43.6	
comp=Z,59nm,18.8s,baz=60,slow=39							
MKAR	**Makanchi Array**	**47.81**	**295**	P	**P**	**23 09 45.7 -2.2**	
0.3nm,0.8s,baz=56,slow=7.8,SNR=2.3							

IDC ***25*** *23:02:07.9±0.7,54°.15S×55°.27W,h0km,mb4.2/8, mb1 4.3/10,mb1mx4.0/27,mbtmp4.2/10,ML4.0/2,MS4.1/27, Ms1 4.0/27,ms1mx3.9/44,Error ellipse: s-maj=24.3km s-min=18.5km az=74.0*
NEIC ***25*** *23:02:09.1±1.8,53°.93S±0°.07×55°.4W±0°.1,h10km±1km, mb4.9/22,Error ellipse: s-maj=14.3km s-min=10.2km az=56.0*
GCMT ***25*** *23:02:14.1±0.3,54°.11S±0°.02×54°.79W±0°.04,h18km±1km, MW4.9/71,Moment Tensor Solution. s20,c21; s71,c94; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.06±.13; $M_{\theta\theta}$-2.25±.11; $M_{\phi\phi}$2.19±.11; $M_{r\theta}$0.99±.31; $M_{\theta\phi}$1.31±.11; $M_{\phi r}$-1.70±.34; Best double couple: $M_0$3.24300×10^16 NP1:ϕ_s240.00000°, δ53.00000°, λ1.00000°. NP2: ϕ_s150.00000°, δ89.00000°, λ143.00000°. Principal axes: T 3.2210, Plg26.0000°, Azm99.0000°; N 0.0400, Plg53.0000°, Azm329.0000°; P -3.2640, Plg25.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 23:02:09.1±0.5,53°.96S±0°.06×55°.38W±0°.06,h10km,n96, σ1§34/59,mb4.7/17,MS4.1/29,Falkland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**2.81**	**323**		**Pn**	**23 02 53.8**	**-0.1**
MG01	**Puerto William**	**7.21**	**257**		**Pn**	**23 03 54.2**	**-0.3**
DSPA	**Despedida**	**7.61**	**265**		**Pn**	**23 03 58.8**	**-1.0**
DSPA				Sn	**Sn**	**23 05 25.1**	**-1.0**
USHA	**Ushuaia**	**7.67**	**258**	Pn	**Pn**	**23 03 60.0**	**-0.8**
20nm,0.3s,baz=94,slow=11,SNR=56							
USHA				Sn	**Sn**	**23 05 28.8**	**+1.1**
121nm,0.3s,baz=222,slow=13,SNR=35							
MG02	**Cerro Sombrero**	**8.37**	**272**		**Pn**	**23 04 09.7**	**-0.6**
ORCD	**Orcadas**	**8.90**	**144**	Pn	**Pn**	**23 04 18.5**	**+1.1**
GO10	**Punta Arenas**	**9.37**	**269**	Pn	**Pn**	**23 04 22.9**	**-1.1**
ESPZ	**Base Esperanza**	**9.51**	**184**	Pn	**Pn**	**23 04 27.5**	**+1.6**
MG04	**Isla Riesco**	**9.74**	**270**	Pn	**Pn**	**23 04 28.1**	**-0.9**
MG05	**Puerto Natales**	**10.62**	**275**		**Pn**	**23 04 40.6**	**-0.5**
GO09	**Cerro Castillo**	**10.66**	**278**		**Pn**	**23 04 41.2**	**-0.5**
HOPE	**Hope Point**	**11.09**	**99**	Pn	**Pn**	**23 04 45.8**	**-1.7**
PMSA	**Palmer Station**	**11.70**	**199**	LR	LR	23 08 52.9	
comp=Z,1μm,18.9s,baz=26,slow=35							
PMSA	**Palmer Station**	**11.70**	**199**	*e*P	**Pn**	**23 04 57.4 +1.5**	
PMSA	**Palmer Station**	**11.70**	**199**	Pn	**Pn**	**23 04 56.4 +0.5**	
COYC	**Coyhaique**	**13.65**	**301**	Pn	**Pn**	**23 05 21.9 -0.5**	
SMAI	**San Martin Ant**	**15.27**	**197**	Pn	**Pn**	**23 05 44.7 +0.4**	
SMAI			

baz=207,slow=75,SNR=36
H10N1 ASCENSION HYDR 56.49 51 T T 00 13 07.3
baz=207,slow=75,SNR=32
H10N2 ASCENSION HYDR 56.51 51 T T 00 13 08.3
baz=207,slow=75,SNR=26
OTAV Otavalo 57.29 332 *eP* P 23 12 02.8 +5.4
OTAV Otavalo 57.29 332 P **P** **23 11 56.5 -0.9**
MDP Montagnes des 58.88 3 LR LR 23 39 09.4
comp=Z,132nm,21.5s,baz=202,slow=38
BOSA Boshof 62.04 101 P **P** **23 12 31.1 +1.5**
comp=Z,3.1nm,1.1s,baz=198,slow=6.4,SNR=2.4
BOSA LR LR 23 36 03.6
comp=Z,193nm,19.4s,baz=214,slow=33
SDV Santo Domingo 63.92 343 LR LR 23 44 46.2
comp=Z,143nm,19.2s,baz=191,slow=40
TSUM Tsumeb 64.70 88 LR LR 23 37 35.3
comp=Z,81nm,18.2s,baz=230,slow=33
LBTB Lobatse 64.95 98 LR LR 23 37 03.7
comp=Z,138nm,20.8s,baz=220,slow=32
DBIC Dimbokro 73.73 53 LR LR 23 45 11.9
comp=Z,63nm,18.1s,baz=216,slow=35
LSZ Lusaka 74.03 94 LR LR 23 42 16.9
comp=Z,154nm,21.1s,baz=224,slow=33
URZ Urewera 77.64 220 LR LR 23 42 01.4
comp=Z,49nm,18.4s,baz=176,slow=31
PPT2 Papeete2 78.41 256 *e*LR LR 23 38 35.7
comp=Z,366nm,22.2s,baz=138
CMIG Matias Romero 78.44 322 LR LR 23 46 17.0
comp=Z,76nm,18.1s,baz=164,slow=34
TAOE Nuku Hiva Isla 79.83 269 *e*LR LR 23 39 18.1
comp=Z,340nm,24.5s
TORD Torodi Ar. Bea 82.49 56 P **P** **23 14 31.7 0.0**
comp=Z,1.7nm,0.9s,baz=223,slow=5.6,SNR=8.0
MBAR Mbarara 87.22 87 LR LR 23 50 14.3
comp=Z,106nm,19.6s,baz=210,slow=33
LPIG La Paz 90.99 312 LR LR 23 50 40.8
comp=Z,114nm,19.0s,baz=188,slow=32
TKL Tuckaleechee C 92.57 337 LR LR 00 00 45.5
comp=Z,88nm,20.1s,baz=156,slow=38
TXAR Lajitas Array 92.86 319 P **P** **23 15 24.8 +3.1**
comp=Z,0.2nm,0.7s,baz=219,slow=9.7,SNR=2.0
TXAR LR LR 23 53 36.0
comp=Z,90nm,18.4s,baz=136,slow=33
DZM Mont Dzumac 96.15 218 *e*LR LR 23 46 48.8
comp=Z,108nm,26.6s
MDT Midelt 96.91 41 LR LR 00 00 57.5
comp=Z,176nm,18.1s,baz=226,slow=36
ANMO Albuquerque 98.92 320 LR LR 23 56 10.8
comp=Z,87nm,18.2s,baz=153,slow=33
ASAR Alice Springs 102.29 189 P **Pdif** **23 16 03.7 -0.9**
comp=Z,0.1nm,0.3s,baz=165,slow=5.2,SNR=3.0
YKA Yellowknife Ar 125.03 331 PKP **PKiKP** **23 21 08.2 -0.2**
comp=Z,0.2nm,0.6s,baz=149,slow=2.0,SNR=6.0
ILAR Eielson Array 137.35 321 PKP **PKiKP** **23 21 32.8 -0.3**
comp=Z,0.3nm,0.6s,baz=35,slow=2.2,SNR=4.6
AAK Ala-Archa 145.49 88 PKPbc **PKPdf** **23 21 46.0 -0.8**
comp=Z,2.8nm,0.8s,baz=196,slow=9.9,SNR=2.2
BVAR Borovoye Array 148.38 69 PKPbc **PKPbc** **23 21 54.7 +0.1**
comp=Z,0.7nm,0.5s,baz=20,slow=4.7,SNR=4.1
KURBB Kurchatov Arra 152.00 78 PKPbc **PKPbc** **23 22 02.8 -0.5**
comp=Z,1.0nm,0.5s,baz=248,slow=2.9,SNR=11
MKAR Makanchi Array 152.41 88 PKPbc **PKPbc** **23 22 03.4 -1.1**
comp=Z,0.8nm,0.6s,baz=237,slow=2.2,SNR=9.5

*SFS **25** 23:04:36.0, 35°.47N×3°.83W, h4km, ML2.8, ALBORAN SUR*
*CNRM **25** 23:04:36.7, 35°.51N×3°.74W, h24km, ml3.2*
*IGIL **25** 23:04:38.4, 35°.48N×3°.84W, h4km, ML2.4*
ISC 25 23:04:35.3±1.1, 35°.55N±0°.03×3°.71W±0°.03, h15km±9km, n25, σ1§44/42, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**209**	P	**Pg**	**23 04 43.0**	**0.0**
PALE				S	**Sg**	**23 04 48.1**	**-0.1**
GOG	**Mont Gurugu**	**0.67**	**119**	P	**Pn**	**23 04 50.1**	**-0.2**
GOG				S	**Sn**	**23 04 59.4**	**-1.2**
CHAS	**Isla Isabel II**	**1.11**	**109**	P	**Pn**	**23 04 56.5**	**+0.2**
CHAS				S	**Sg**	**23 05 10.6**	**-0.6**
EMAL	**Malaga-Limoner**	**1.35**	**335**	P	**Pg**	**23 05 00.9**	**-0.4**
EMAL				S	**Sb**	**23 05 16.9**	**-0.3**
CEU	**Ceuta**	**1.40**	**285**	P	**Pn**	**23 04 59.1**	**-1.1**
CEU				S	**Sn**	**23 05 13.9**	**-4.4**
CHEFC	**Chefchaouen**	**1.40**	**252**	P	**Pb**	**23 05 01.2**	**0.0**
CHEFC				S	**Sn**	**23 05 19.0**	**+0.3**
JBK	**JBK**	**1.53**	**142**	P	**Pn**	**23 05 02.4**	**+0.1**
JBK				S	**Sn**	**23 05 21.1**	**-1.0**
SICH	**Sidi Chahed**	**1.95**	**223**	P	**Pb**	**23 05 10.1**	**-0.5**
SICH				S	**Sb**	**23 05 35.7**	**+1.0**
LCRM	**LCR**	**2.08**	**207**	P	**Pn**	**23 05 11.0**	**+1.2**
LCRM				S	**Sn**	**23 05 36.2**	**+0.7**
IFR	**Ifrane**	**2.33**	**210**	P	**Pn**	**23 05 13.8**	**+0.4**
IFR				S	**Sn**	**23 05 40.6**	**-1.3**
MD31	**MD31**	**2.81**	**198**	P	**Pn**	**23 05 20.8**	**+1.0**
MD31				S	**Sn**	**23 05 53.2**	**-0.2**
MDT	**Midelt**	**2.82**	**195**	P	**Pn**	**23 05 21.3**	**+1.3**
MDT				S	**Sn**	**23 05 55.6**	**+1.8**
CART	**Cartagena**	**2.99**	**46**	P	**Pn**	**23 05 23.6**	**+1.5**
CART				S	**Sn**	**23 05 56.8**	**-0.8**
CART	**Cartagena**	**2.99**	**46**	P	**Pn**	**23 05 22.2**	**+0.1**
CART				S	**Sn**	**23 05 57.3**	**-0.3**
ZHG	**ZHG**	**3.20**	**230**	P	**Pn**	**23 05 25.5**	**+0.4**
ZHG				S	**Sn**	**23 06 01.2**	**-1.7**
PVAQ	**Vaqueiros**	**3.72**	**301**	P	**Pn**	**23 05 35.1**	**+2.9**
PVAQ				S	**Sn**	**23 06 15.6**	**-0.2**
AVE	**Averroes**	**3.79**	**235**	P	**Pn**	**23 05 33.3**	**+0.1**
FIGM	**Figuig**	**3.97**	**148**	P	**Pn**	**23 05 37.7**	**+2.0**
MESJ	**Messejana**	**4.29**	**304**	*e*P	**Pn**	**23 05 41.9**	**+1.9**
MESJ				*e*S	**Sn**	**23 06 28.2**	**-1.5**
MESJ				IAML		23 06 34.7	
comp=N,7.0nm,0.2s							
PESTR	**Estremoz**	**4.54**	**318**	P	**Pn**	**23 05 46.4**	**+3.0**
EVO	**Evora**	**4.55**	**312**	P	**Pn**	**23 05 45.9**	**+2.3**
EVO				S	**Sn**	**23 06 35.3**	**-0.9**
UCM	**Universidad Co**	**4.77**	**4**	P	Pb	23 05 53.0	-5.7
TZRR	**Tazzarine**	**5.00**	**199**	P	**Pn**	**23 05 51.2**	**+1.3**
OUK	**Oukaimeden**	**5.55**	**220**	P	**Pn**	**23 05 57.6**	**-0.1**
TTIG	**Tnine Tigouga,**	**6.37**	**220**	P	**Pn**	**23 06 07.2**	**-1.6**

*IDC **25** 23:17:13.3±4.7, 36°.81N×71°.15E, h80km±34km, mb3.3/4, mb1 3.3/11, mb1mx3.1/55, mbtmp3.6/11, Error ellipse: s-maj=55.7km s-min=23.5km az=142.0*
*NNC **25** 23:17:16.9±3.8, 37°.05N×70°.93E, h121km±73km, mb3.3, mpv3.8, Error ellipse: s-maj=35.2km s-min=25.1km az=43.0*
ISC 25 23:17:15.7±1.5, 37°.0N±0°.1×70°.86E±0°.09, h88km, n16, σ1§83/22, mb3.4/4, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.07**	**358**	⇓P	**Pn**	**23 18 45.1**	**+2.3**
5.2nm,0.3s							
KK02				⇑S	**Sn**	**23 19 52.1**	**+1.3**
6.6nm,0.5s							
AAK	**Ala-Archa**	**6.25**	**25**	P	**Pn**	**23 18 46.2**	**+0.8**
1.4nm,0.3s,baz=216,slow=6.5,SNR=24							
AAK				S	**Sn**	**23 19 56.1**	**+0.6**
0.7nm,0.3s,baz=342,slow=20,SNR=5.8							
AAK	**Ala-Archa**	**6.25**	**25**	⇑P	**Pn**	**23 18 45.7**	**+0.2**
2.9nm,0.6s							
AAK				⇓S	**Sn**	**23 19 57.1**	**+1.5**
6.8nm,0.7s							
TKM2	**Tokmak 2**	**6.91**	**30**	⇑P	**Pn**	**23 18 54.6**	**+0.1**
4.5nm,0.9s							
GEYT	**Alibeck**	**10.17**	**279**	P	**Pn**	**23 19 39.3**	**+0.5**
0.4nm,0.3s,baz=188,slow=21,SNR=1.9							
GEYT				S	**Sn**	**23 21 30.5**	**-0.5**
0.5nm,0.3s,baz=110,slow=20,SNR=1.8							
MKAR	**Makanchi Array**	**12.93**	**37**	P	**Pn**	**23 20 13.8**	**-2.1**
0.0nm,0.3s,baz=227,slow=11,SNR=3.0							
AB31	**Akbulak array**	**14.56**	**330**	P	**Pn**	**23 20 35.7**	**-1.5**
1.2nm,0.4s,baz=138,slow=12,SNR=83							
AB31				⇑S	**Sn**	**23 23 18.2**	**+0.8**
1.1nm,0.6s,baz=155,slow=24,SNR=4.6							
KURBB	**Kurchatov Arra**	**14.65**	**20**	P	**Pn**	**23 20 39.1**	**+0.7**
0.0nm,0.3s,baz=208,slow=10,SNR=4.8							
BVAR	**Borovoye Array**	**15.99**	**359**	P	**P**	**23 20 56.2**	**-0.9**
0.2nm,0.3s,baz=156,slow=11,SNR=8.0							
AKTO	**Aktyubinsk**	**16.26**	**329**	P	**P**	**23 21 01.2**	**+1.1**
0.7nm,0.3s,baz=137,slow=11,SNR=12							
AKTO				S	**Sn**	**23 23 52.6**	**-5.9**
0.1nm,0.3s,baz=282,slow=6.6,SNR=2.5							
AKTO	**Aktyubinsk**	**16.26**	**329**	⇓P	**P**	**23 20 60.0**	**-0.1**
4.1nm,0.7s							
ZALV	**Zalesovo Beam**	**19.48**	**25**	P	**P**	**23 21 33.8**	**-1.5**
0.2nm,0.3s,baz=204,slow=10.0,SNR=3.1							
ARU	**Arti**	**21.09**	**341**	P	**P**	**23 21 52.3**	**-0.5**
0.7nm,0.5s,baz=200,slow=8.0,SNR=3.0							
FINES	**FINESS Array B**	**36.98**	**326**	P	**P**	**23 24 17.4**	**+1.3**
2.1nm,1.0s,baz=119,slow=11,SNR=3.3							
NOA	**NORSAR Array B**	**43.89**	**323**	P	**P**	**23 25 15.3**	**+2.1**
0.6nm,0.8s,baz=95,slow=7.4,SNR=2.3							
TORD	**Torodi Ar. Bea**	**65.62**	**268**	P	**P**	**23 27 50.2**	**-0.4**
0.2nm,0.4s,baz=49,slow=5.9,SNR=4.4							

*TUL **25** 23:23:57.1±0.5, 36°.83N±0°.03×98°.28W±0°.04, h5km±7km, ML2.7, mb_Lg2.5/14(NEIC), Error ellipse: s-maj=4.4km s-min=3.7km az=135.0*
NEIC 25 23:23:57.8±0.4, 36°.83N±0°.02×98°.28W±0°.03, h2km±6km, Error ellipse: s-maj=3.5km s-min=2.7km az=48.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.29**	**63**		Pg	23 24 03.0	-0.3
KAN14				Sg	Sg	23 24 07.3	+0.3
KAN10	**Anthony SW Sta**	**0.33**	**26**	Pg	Pg	23 24 03.8	-0.4
GC02	**Grant County #**	**0.34**	**85**		Pg	23 24 04.0	-0.3
GC02				Sg	Sg	23 24 08.9	+0.3
OK035	**E0210 Rd and N**	**0.36**	**251**	Pg	Pg	23 24 04.4	-0.4
CROK	**Carrier**	**0.40**	**143**	Pg	Pg	23 24 05.2	-0.3
KAN16	**Harper SW Stat**	**0.43**	**23**		Pg	23 24 05.7	-0.4
KAN17	**Caldwell West**	**0.47**	**62**	Pg	Pg	23 24 06.1	-0.6
KAN08	**Anthony NE Sta**	**0.47**	**32**	Pg	Pg	23 24 06.4	-0.4
KAN12	**Harper NE Stat**	**0.52**	**26**	Pg	Pg	23 24 07.3	-0.4
KAN01	**Argonia South**	**0.53**	**52**		Pg	23 24 07.5	-0.4
KAN06	**Argonia West S**	**0.54**	**39**		Pg	23 24 07.6	-0.5
KAN13	**South Haven SW**	**0.67**	**74**		Pg	23 24 10.0	-0.6
U32A	**Winter Ranch,**	**0.73**	**233**		Pg	23 24 11.8	0.0
BLOK	**Blackwell**	**0.86**	**94**		Pg	23 24 13.3	-0.8
OK029	**Liberty Lake**	**1.22**	**147**		Pg	23 24 20.1	-1.2
BCOK	**Bluff Creek, N**	**1.29**	**155**	Pg	Pg	23 24 20.9	-1.5
OK033	**Mehan**	**1.33**	**125**		Pg	23 24 21.8	-1.5
T35A	**Sooner Cattle**	**1.42**	**86**		Pn	23 24 23.4	-1.1
QUOK	**Quay**	**1.43**	**117**		Pn	23 24 23.6	-1.0
OK031	**S. Brethren Rd**	**1.45**	**126**		Pn	23 24 23.9	-1.1
OK025	**Westminster Rd**	**1.46**	**148**		Pn	23 24 24.1	-1.0
OK034	**N. Norfolk Rd.**	**1.50**	**122**		Pn	23 24 24.6	-1.0
OK030	**Cody Creek RV**	**1.50**	**126**		Pn	23 24 24.7	-1.0
R32A	**Long Quarter,**	**1.63**	**348**		Pn	23 24 26.9	-0.6
FNO	**Franklin**	**1.72**	**155**		Pn	23 24 28.4	-0.3
W35A	**Tecumseh**	**2.02**	**145**		Pn	23 24 32.4	-0.4
WMOK	**Wichita Mounta**	**2.12**	**191**	Pn	Pn	23 24 33.7	-0.5
TUL1	**Leonard**	**2.21**	**114**		Pn	23 24 35.7	+0.3
X34A	**Smith Ranch, M**	**2.25**	**171**	Pn	Pn	23 24 36.8	+0.8
X34A				IAmb_Lg		23 25 11.7	
comp=Z,27nm,0.8s							
CBKS	**Cedar Bluff**	**2.30**	**330**	Pn	Pn	23 24 36.7	0.0
KSU1	**Kansas State U**	**2.63**	**30**	Pn	Pn	23 24 40.6	-0.6
LOOK	**Love County**	**2.97**	**162**	Pn	Pn	23 24 45.3	-0.5
U38A	**Gravette**	**3.16**	**96**	Pn	Pn	23 24 47.9	-0.5
U38A				IAmb_Lg		23 25 44.2	
comp=Z,14nm,0.9s							
X37A	**Clayton**	**3.25**	**132**	Pn	Pn	23 24 49.0	-0.7
AMTX	**Amarillo**	**3.37**	**236**	IAmb_Lg		23 25 46.3	
comp=Z,14nm,1.0s							
HHAR	**Hobbs**	**3.54**	**98**	Pn	Pn	23 24 52.7	-1.0
HHAR				IAmb_Lg		23 25 51.1	
comp=Z,9.5nm,1.0s							
W39A	**Magazine**	**3.99**	**113**	Pn	Pn	23 24 59.6	-0.3
S39A	**Bolivar**	**4.05**	**76**	Pn	Pn	23 24 59.9	-0.8
MIAR	**Mount Ida**	**4.45**	**119**	Pn	Pn	23 25 05.8	-0.4
MIAR				IAmb_Lg		23 26 18.7	
comp=Z,7.8nm,1.0s							
P38A	**Dawn**	**4.67**	**52**	Pn	Pn	23 25 08.7	-0.5
MGMO	**Mountain Grove**	**4.82**	**84**	Pn	Pn	23 25 10.8	-0.5
MGMO				IAmb_Lg		23 26 38.5	
comp=Z,8.1nm,1.1s							
WHTX	**Lake Whitney,**	**4.87**	**172**	Pn	Pn	23 25 11.2	-0.8
T25A	**Trinidad**	**4.92**	**275**	IAmb_Lg		23 26 39.2	
comp=Z,9.7nm,0.8s							
R40A	**Maddies Statio**	**5.00**	**71**	Pn	Pn	23 25 13.4	-0.3
X40A	**Basin Creek Fa**	**5.01**	**116**	Pn	Pn	23 25 12.7	-1.2
N38A	**Joes South For**	**5.59**	**43**	IAmb_Lg		23 27 09.5	
comp=Z,10.0nm,0.8s							

IDC 25 23:31:21.6±1.7, 1°.07S×147°.53E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.4/34, mbtmp3.6/3, MS3.6/1, Ms1 3.5/1, ms1mx2.5/41, Error ellipse: s-maj=122.4km s-min=28.4km az=119.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77**	**214**	P	P	23 36 25.3	-0.5
1.5nm,0.6s,baz=35,slow=10,SNR=17							
ASAR	**Alice Springs**	**26.06**	**209**	P	P	23 36 57.1	+0.1
0.6nm,0.9s,baz=39,slow=7.4,SNR=2.1							
STKA	**Stephens Creek**	**31.15**	**190**	LR	LR	23 50 09.9	
comp=Z,100nm,19.3s,baz=203,slow=36							
ILAR	**Eielson Array**	**80.77**	**23**	P	P	23 43 37.1	+0.3
0.5nm,0.7s,baz=239,slow=5.9,SNR=5.0							

*SFS **25** 23:34:11.0, 35°.59N×3°.84W, ML2.7, ALBORAN SUR*
*CNRM **25** 23:34:12.8, 35°.53N×3°.69W, h18km, ml3.2*
*IGIL **25** 23:34:13.3, 35°.60N×3°.84W, h0km, ML2.4*
ISC 25 23:34:11.8±1.2, 35°.59N±0°.03×3°.73W±0°.03, h19km±3km, n31, σ1§58/41, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.41**	**205**	P	**Pg**	**23 34 19.8**	**-0.5**
PALE				S	**Sg**	**23 34 25.2**	**-0.8**
GOG	**Mont Gurugu**	**0.70**	**121**	P	**Pg**	**23 34 26.0**	**+0.4**
GOG				S	**Sg**	**23 34 35.1**	**+0.2**
AKLM	**AKL**	**1.08**	**186**	P	**Pb**	**23 34 31.7**	**-0.2**
AKLM				S	**Sg**	**23 34 46.3**	**-0.7**
CHAS	**Isla Isabel II**	**1.13**	**110**	P	**Pb**	**23 34 31.8**	**-1.0**
CHAS	**Isla Isabel II**	**1.13**	**110**	S	**Sb**	**23 34 46.4**	**-0.8**
EMAL	**Malaga-Limoner**	**1.30**	**334**	P	**Pn**	**23 34 35.2**	**+0.1**
EMAL	**Malaga-Limoner**	**1.30**	**334**	S	**Sn**	**23 34 51.2**	**-0.8**
CEU	**Ceuta**	**1.38**	**284**	P	**Pn**	**23 34 33.8**	**-2.2**
CEU	**Ceuta**	**1.38**	**284**	S	**Sn**	**23 34 49.3**	**-4.4**
CHEFC	**Chefchaouen**	**1.40**	**251**	P	**Pb**	**23 34 39.0**	**+1.5**
CHEFC				S	**Sb**	**23 34 56.9**	**+1.8**
JBK	**JBK**	**1.57**	**142**	P	**Pn**	**23 34 38.4**	**-0.5**
JBK				S	**Sn**	**23 34 56.7**	**-2.1**
RSA	**Sarsar**	**1.85**	**248**	P	**Pn**	**23 34 45.0**	**+2.4**
SICH	**Sidi Chahed**	**1.98**	**222**	P	**Pb**	**23 34 47.0**	**-0.2**
SICH				S	**Sb**	**23 35 11.9**	**+0.4**
LCRM	**LCR**	**2.11**	**207**	P	**Pb**	**23 34 51.0**	**+1.3**
LCRM				S	**Sb**	**23 35 14.7**	**-0.8**
IFR	**Ifrane**	**2.37**	**210**	P	**Pn**	**23 34 50.3**	**+0.5**
IFR	**Ifrane**	**2.37**	**210**	S	**Sn**	**23 35 17.0**	**-1.5**
MD31	**MD31**	**2.84**	**198**	P	**Pn**	**23 34 56.7**	**+0.4**
MD31				S	**Sn**	**23 35 29.9**	**-0.2**
MDT	**Midelt**	**2.86**	**195**	P	**Pn**	**23 34 57.0**	**+0.4**
MDT				S	**Sn**	**23 35 31.0**	**+0.5**
TDRA	**Tendrara**	**2.90**	**151**	P	**Pn**	**23 34 58.1**	**+0.9**
ZHG	**ZHG**	**3.22**	**229**	P	**Pn**	**23 35 01.9**	**+0.4**
PVAQ	**Vaqueiros**	**3.69**	**301**	P	**Pn**	**23 35 08.8**	**+0.9**
FIGM	**Figuig**	**4.01**	**149**	P	**Pn**	**23 35 14.5**	**+2.1**
MESJ	**Messejana**	**4.25**	**303**	*e*P	**Pn**	**23 35 16.2**	**+0.6**
MESJ				*e*S	**Sn**	**23 36 02.2**	**-2.5**
MESJ				IAML		23 36 08.3	
comp=N,7.3nm,0.4s							
PFVI	**Vila Bisbo**	**4.40**	**292**	P	**Pn**	**23 35 18.6**	**+1.0**
PESTR	**Estremoz**	**4.50**	**318**	P	**Pn**	**23 35 20.5**	**+1.5**
EVO	**Evora**	**4.52**	**312**	P	**Pn**	**23 35 20.8**	**+1.6**
EVO	**Evora**	**4.52**	**312**	S	**Sn**	**23 36 08.9**	**-2.3**
UCM	**Universidad Co**	**4.73**	**4**	P	**Pn**	**23 35 25.9**	**+3.7**
UCM	**Universidad Co**	**4.73**	**4**	S	**Sn**	**23 36 17.1**	**+0.5**
TZRR	**Tazzarine**	**5.03**	**198**	P	**Pn**	**23 35 28.5**	**+2.1**
OUK	**Oukaimeden**	**5.57**	**220**	P	**Pn**	**23 35 34.6**	**+0.5**

*CNRM **25** 23:45:21.9, 35°.52N×3°.70W, h21km, ml3.5*
*SFS **25** 23:45:21.0, 35°.47N×3°.85W, ML3.0, ALBORAN SUR*
ISC 25 23:45:21.2±1.2, 35°.53N±0°.03×3°.75W±0°.03, h16km±9km, n22, σ1§72/35, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**206**	P	**Pg**	**23 45 28.3**	**-0.1**
PALE				S	**Sg**	**23 45 32.4**	**-0.9**
GOG	**Mont Gurugu**	**0.69**	**116**	P	**Pn**	**23 45 36.0**	**-0.4**
GOG				S	**Sb**	**23 45 44.2**	**0.0**
AKLM	**AKL**	**1.02**	**185**	P	**Pb**	**23 45 40.5**	**0.0**
AKLM				S	**Sn**	**23 45 55.0**	**0.0**
CHAS	**Isla Isabel II**	**1.13**	**107**	P	**Pb**	**23 45 41.7**	**-0.6**
CHAS				S	**Sb**	**23 45 55.8**	**-1.1**
EMAL	**Malaga-Limoner**	**1.35**	**336**	P	**Pb**	**23 45 46.0**	**0.0**
EMAL				S	**Sn**	**23 46 03.5**	**+0.6**
CHEFC	**Chefchaouen**	**1.37**	**252**	P	**Pn**	**23 45 46.2**	**+0.6**
CEU	**Ceuta**	**1.37**	**286**	P	**Pn**	**23 45 43.7**	**-1.9**
CEU				S	**Sn**	**23 45 58.0**	**-5.4**
JBK	**JBK**	**1.54**	**140**	P	**Pb**	**23 45 49.3**	**-0.1**
JBK				S	**Sn**	**23 46 07.4**	**-0.5**
RSA	**Sarsar**	**1.81**	**250**	P	**Pb**	**23 45 53.8**	**-0.3**
SICH	**Sidi Chahed**	**1.92**	**223**	P	**Pg**	**23 45 59.0**	**+0.9**
SICH				S	**Sb**	**23 46 20.7**	**+1.1**
LCRM	**LCR**	**2.05**	**207**	P	**Pb**	**23 45 58.0**	**-0.2**
LCRM				S	**Sn**	**23 46 21.0**	**+0.4**
MD31	**MD31**	**2.79**	**198**	P	**Pn**	**23 46 06.3**	**+1.1**
MD31				S	**Sn**	**23 46 38.5**	**0.0**
MDT	**Midelt**	**2.80**	**195**	P	**Pn**	**23 46 07.0**	**+1.6**
TDRA	**Tendrara**	**2.86**	**150**	P	**Pn**	**23 46 08.2**	**+1.8**
CART	**Cartagena**	**3.02**	**46**	P	**Pn**	**23 46 08.1**	**-0.2**
CART				S	**Sn**	**23 46 41.6**	**-2.5**
PVAQ	**Vaqueiros**	**3.70**	**301**	P	**Pn**	**23 46 19.1**	**+1.4**
PFVI	**Vila Bisbo**	**4.40**	**293**	P	**Pn**	**23 46 27.4**	**+0.1**
PESTR	**Estremoz**	**4.53**	**319**	P	**Pn**	**23 46 32.5**	**+3.4**
EVO	**Evora**	**4.54**	**313**	P	**Pn**	**23 46 31.6**	**+2.3**
EVO				S	**Sn**	**23 47 21.1**	**-0.5**
UCM	**Universidad Co**	**4.79**	**5**	P	**Pn**	**23 46 36.5**	**+3.9**
UCM				S	**Sn**	**23 47 27.0**	**-0.7**
OUK	**Oukaimeden**	**5.52**	**220**	P	**Pn**	**23 46 42.0**	**-1.0**
TTIG	**Tnine Tigouga,**	**6.34**	**220**	P	**Pn**	**23 46 52.3**	**-1.8**

*SNET **25** 23:45:53.4±1.3, 13°.87N×90°.83W, h75km±20km, ML2.8*
*GCG **25** 23:45:55.3±0.5, 13°.76N×90°.81W, h56km±16km, MD3.2*
ISC 25 23:45:54.3±2.4, 13°.8N±0°.2×90°.80W±0°.09, h77km±30km, n13, σ0§74/22, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.65**	**16**	*e*P	**Pn**	**23 46 09.6**	**0.0**
PCG				*e*S	**Sn**	**23 46 21.1**	**+0.2**
FUG	**Fuego 3**	**0.68**	**356**	*e*P	**Pn**	**23 46 09.8**	**-0.1**
FUG				*e*S	**Sn**	**23 46 20.6**	**-0.7**
NBG	**Las Nubes**	**0.93**	**28**	*e*P	**Pn**	**23 46 13.0**	**+0.3**
NBG				*e*S	**Sn**	**23 46 27.5**	**+1.1**
NUBE	**Las Nubes**	**1.00**	**82**	*e*P	**Pn**	**23 46 12.9**	**-0.5**
NUBE				*e*S	**Sn**	**23 46 27.2**	**-0.4**
LOAL	**Lomas de Alarc**	**1.02**	**76**	*e*S	**Sn**	**23 46 28.5**	**+0.7**
SLOZ	**Alcaldia de Sa**	**1.02**	**75**	*e*P	**Pn**	**23 46 12.3**	**-1.2**
SLOZ				*e*S	**Sn**	**23 46 28.3**	**+0.4**
SLOZ				IAML		23 46 37.0	
comp=Z,96nm,0.3s							
RTR	**El Retiro**	**1.13**	**83**	*e*P	**Pn**	**23 46 14.2**	**-0.8**
CEVE	**Cerro Verde**	**1.14**	**87**	*e*P	**Pn**	**23 46 15.2**	**0.0**
CEVE				*e*S	**Sn**	**23 46 32.3**	**+1.4**
SBLS	**San Blas**	**1.15**	**86**	*e*P	**Pn**	**23 46 14.7**	**-0.6**
SBLS				*e*S	**Sn**	**23 46 31.3**	**+0.4**
STG3	**Santiaguito 3,**	**1.20**	**322**	*e*P	**Pn**	**23 46 16.6**	**+0.6**
STG3				*e*S	**Sn**	**23 46 31.2**	**-1.0**
JAYA	**Jayaque - finc**	**1.32**	**94**	*e*P	**Pn**	**23 46 17.2**	**-0.1**
JAYA				*e*S	**Sn**	**23 46 34.8**	**+0.1**
JAYA				IAML		23 46 36.6	
comp=Z,463nm,0.2s							
MTO3	**Montecristo**	**1.53**	**65**	*i* P	**Pn**	**23 46 19.1**	**-1.1**
LFRS	**El Faro**	**1.69**	**94**	*e*P	**Pn**	**23 46 22.6**	**+0.4**

*IDC **25** 23:48:09.7±6.1, 13°.65N×91°.62W, h54km±35km, mb3.1/3, mb1 3.4/5, mb1mx3.2/36, mbtmp3.3/5, ML3.1/2, Error ellipse: s-maj=71.3km s-min=21.9km az=158.0*
*GCG **25** 23:48:11.5±0.6, 13°.94N×91°.64W, h21km±5km, MD4.1*
*UCR **25** 23:48:13.1±1.3, 14°.08N×91°.33W, h8km±7km, ML3.9*
*SNET **25** 23:48:13.0±1.4, 14°.06N×91°.36W, h10km±7km, ML4.0*
ISC 25 23:48:06.2±2.0, 13°.78N±0°.06×91°.62W±0°.05, h4km±11km, n50, σ1§79/72, mb3.5/3, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.74**	**354**	*i* P	**Pb**	**23 48 23.8**	**+1.9**
RTAL				*e*S	**Sb**	**23 48 32.9**	**+0.6**
STG3	**Santiaguito 3,**	**0.93**	**3**	⇓*

PAVA	**Las Pavas**	**2.60**	**91**	*e*P	**Pn**	**23 48 52.0**	**+2.6**
SCLA	**Alcaldia de Sa**	**2.81**	**91**	*e*P	**Pn**	**23 48 55.4**	**+3.3**
SCLA	**Alcaldia de Sa**	**2.81**	**91**	*e*P	**Pn**	**23 48 55.4**	**+3.3**
LCND	**La Caada**	**3.65**	**97**	*e*P	**Pn**	**23 49 06.6**	**+2.9**
LCND				*e*S	**Sn**	**23 49 48.5**	**+1.3**
LCND	**La Caada**	**3.65**	**97**	*e*P	**Pn**	**23 49 06.6**	**+2.9**
LCND				*e*S	**Sn**	**23 49 48.5**	**+1.3**
CMIG	**Matias Romero**	**4.56 317**		P	**Pn**	**23 49 16.4**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=135,slow=13,SNR=13						
CMIG				S	**Sn**	**23 50 04.6**	**-4.9**
	comp=Z,1.7nm,0.3s,baz=97,slow=17,SNR=1.9						
TXAR	**Lajitas Array**	**19.08 326**		P	**P**	**23 52 29.9**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=156,slow=12,SNR=2.7						
NVAR	**Mina Array Bea**	**34.07 321**		P	**P**	**23 54 51.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=133,slow=8.7,SNR=2.6						
YKA	**Yellowknife Ar**	**51.32 347**		P	P	23 57 07.5	-4.0
	comp=Z,0.2nm,0.7s,baz=153,slow=7.6,SNR=2.7						
ILAR	**Eielson Array**	**63.19 337**		P	P	23 58 32.6	-2.8
	comp=Z,0.3nm,0.8s,baz=125,slow=7.9,SNR=2.2						

*SFS **25** 23:55:20.0, 35.°47N×3.°83W, ML2.4, ALBORAN SUR*
*CNRM **25** 23:55:21.7, 35.°48N×3.°77W, h25km, ml2.5*

ISC 25 23:55:18.9±1.6, 35.°50N±0.°04×3.°72W±0.°04, h9km±13km, n12, σ0§90/19, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34 212**		P	**Pn**	**23 55 31.0**	**+1.0**
PALE				S	**Sb**	**23 55 31.7**	**-0.8**
GOG	**Mont Gurugu**	**0.66 115**		P	**Pn**	**23 55 33.7**	**-0.8**
GOG				S	**Sn**	**23 55 45.0**	**0.0**
AKLM	**AKL**	**1.00 187**		P	**Pn**	**23 55 40.0**	**+0.8**
AKLM				S	**Sn**	**23 55 53.8**	**+0.5**
CHAS	**Isla Isabel II**	**1.10 106**		P	**Pg**	**23 55 40.3**	**+0.2**
CHAS				S	**Sb**	**23 55 54.4**	**-0.1**
CHEFC	**Chefchaouen**	**1.38 254**		P	**Pg**	**23 55 45.0**	**-0.4**
EMAL	**Malaga-Limoner**	**1.38 336**		P	**Pb**	**23 55 44.6**	**-0.3**
EMAL				S	**Sb**	**23 56 02.2**	**-0.4**
JBK	**JBK**	**1.50 141**		P	**Pg**	**23 55 48.1**	**+0.3**
JBK				S	Sg	23 56 13.9	+6.6
RSA	**Sarsar**	**1.83 251**		P	**Pb**	**23 55 52.3**	**-0.2**
LCRM	**LCR**	**2.04 208**		P	Pg	23 55 59.0	+1.0
LCRM				S	**Sb**	**23 56 19.8**	**-1.9**
MD31	**MD31**	**2.77 198**		P	**Pn**	**23 56 04.0**	**+0.6**
MD31				S	**Sn**	**23 56 36.6**	**-0.5**
MDT	**Midelt**	**2.78 196**		P	**Pn**	**23 56 05.4**	**+1.7**
MDT				S	**Sn**	**23 56 37.5**	**+0.1**
PVAQ	**Vaqueiros**	**3.74 302**		P	**Pn**	**23 56 17.7**	**+0.9**

IDC 25 23:56:24.7±2.5, 4.°20S×152.°68E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/38, mbtmp3.5/3, Error ellipse: s-maj=195.5km s-min=32.6km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75 227**		P	P	00 01 38.1	-0.9
	1.0nm,0.9s,baz=53,slow=9.5,SNR=3.9						
ASAR	**Alice Springs**	**26.51 221**		P	P	00 02 04.8	+0.7
	0.5nm,0.9s,baz=53,slow=8.8,SNR=3.5						
ILAR	**Eielson Array**	**81.66 22**		P	P	00 08 44.7	+0.1
	0.8nm,0.9s,baz=248,slow=3.8,SNR=2.2						

*NEIC **25** 23:58:00.9±0.9, 18.°6N±0.°1×65.°04W±0.°06, h46km±6km, Error ellipse: s-maj=15.1km s-min=8.3km az=181.0*

RSPR 25 23:58:01.1, 18.°66N×65.°03W, h41km±4km, MD3.0/4, 4C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.31 167**		Pn	Pn	23 58 08.2	-1.3
STVI				Sn	Sn	23 58 14.2	-1.2
CUPR	**Culebra, Puert**	**0.42 215**		‖*e*P	Pn	23 58 10.1	-0.8
CUPR	**Culebra, Puert**	**0.42 215**		*e*S	Sn	23 58 17.0	-0.6
CUPR	**Culebra, Puert**	**0.42 215**			Pn	23 58 10.2	-0.6
CUPR					Sn	23 58 16.9	-0.8
TBVI	**Tortola**	**0.46 121**		*e*S	Sn	23 58 17.5	-1.0
TBVI	**Tortola**	**0.46 121**		*e*S	Sn	23 58 17.5	-1.0
MTP	**Monte Pirata**	**0.75 222**		‖*e*P	Pn	23 58 14.1	-1.1
MTP	**Monte Pirata**	**0.75 222**		‖*e*P	Pn	23 58 14.1	-1.1
MTP				*e*S	Sn	23 58 24.3	-1.0
MTP	**Monte Pirata**	**0.75 222**			Pn	23 58 14.1	-1.1
MTP	**Monte Pirata**	**0.75 222**			Sn	23 58 24.0	-1.4
MTP				IAML		23 58 25.5	
	comp=E,27nm,1.2s						
MTP				IAML		23 58 34.6	
	comp=N,32nm,3.1s						
CBYP	**Canovanas**	**0.87 244**		‖*e*P	Pn	23 58 16.1	-0.9
CBYP	**Canovanas**	**0.87 244**		‖*e*P	Pn	23 58 16.1	-0.9
CBYP				*e*S	Sn	23 58 26.9	-1.6
CBYP	**Canovanas**	**0.87 244**			Pn	23 58 16.0	-1.0
CBYP				IAML		23 58 27.3	
	comp=E,44nm,0.2s						
CBYP				IAML		23 58 27.8	
	comp=N,82nm,0.2s						
CBYP	**Canovanas**	**0.87 244**			Sn	23 58 26.9	-1.6
HUMP	**Col San Antoni**	**0.93 237**		‖*e*P	Pn	23 58 16.7	-1.0
HUMP	**Col San Antoni**	**0.93 237**		‖*e*P	Pn	23 58 16.7	-1.0
HUMP				*e*S	Sn	23 58 28.4	-1.5
HUMP	**Col San Antoni**	**0.93 237**			Pn	23 58 17.1	-0.6
HUMP					Sn	23 58 28.3	-1.6
HUMP				IAML		23 58 48.4	
	comp=N,15nm,2.8s						
PDPR	**Patillas Dam,**	**1.14 236**		Pn	Pn	23 58 19.6	-0.9
PDPR				IAML		23 58 26.9	
	comp=E,39nm,3.0s						
CELP	**Cerrillos**	**1.58 249**		Pn	Pn	23 58 26.2	-0.4

*IDC **25** 23:58:52.7±0.9, 29.°44N×87.°92E, h0km, mb3.6/10, mb1 3.7/11, mb1mx3.6/56, mbtmp3.6/11, ML3.0/1, MS3.5/4, Ms1 3.5/4, ms1mx2.8/87, Error ellipse: s-maj=27.5km s-min=20.5km az=63.0*

ISC 25 23:58:58.0±1.0, 29.°5N±0.°2×87.°9E±0.°2, h35km, n14, σ1§12/11, mb3.7/10, MS3.8/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.83 347**		P	**P**	**00 03 03.3**	**-0.5**
	0.1nm,0.3s,baz=158,slow=11,SNR=5.7						
MKAR				LR	LR	00 11 47.9	
	comp=Z,27nm,19.5s,baz=36,slow=43						
KURBB	**Kurchatov Arra**	**22.27 344**		P	**P**	**00 03 50.1**	**-1.8**
	0.3nm,0.3s,baz=151,slow=13,SNR=2.3						
SONM	**Songino Array**	**23.21 33**		P	**P**	**00 04 03.1**	**+1.3**
	1.4nm,0.9s,baz=218,slow=9.4,SNR=8.6						
ZALV	**Zalesovo Beam**	**24.55 356**		P	**P**	**00 04 13.5**	**-0.8**
	0.2nm,0.4s,baz=151,slow=6.3,SNR=1.7						
MJAR	**Matsushiro Arr**	**42.34 67**		LR	LR	00 25 10.2	
	comp=Z,121nm,18.7s,baz=160,slow=37						
BRTR	**Keskin Array B**	**45.24 298**		P	**P**	**00 07 13.5**	**+1.4**
	0.3nm,0.5s,baz=86,slow=5.9,SNR=1.2						
ASAJ	**Asahikawa**	**45.34 56**		LR	LR	00 27 59.6	
	comp=Z,106nm,19.1s,baz=16,slow=38						
FINES	**FINESS Array B**	**51.17 327**		P	**P**	**00 07 57.4**	**+0.1**
	1.0nm,0.6s,baz=77,slow=8.6,SNR=4.7						
PETK	**Petropavlovsk-**	**55.07 44**		LR	LR	00 31 57.4	
	comp=Z,71nm,20.3s,baz=139,slow=36						
KMBO	**Kilima Mbogo**	**57.13 247**		P	**P**	**00 08 41.1**	**-0.6**
	0.9nm,0.6s,baz=45,slow=6.9,SNR=3.6						
NOA	**NORSAR Array B**	**58.32 326**		P	**P**	**00 08 48.1**	**-1.1**
	1.3nm,0.9s,baz=90,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**66.44 132**		P	**P**	**00 09 44.0**	**0.0**
	1.0nm,0.9s,baz=324,slow=6.3,SNR=5.2						
ASAR	**Alice Springs**	**68.89 135**		P	**P**	**00 09 58.9**	**-0.5**
	0.6nm,0.7s,baz=327,slow=6.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**80.43 280**		P	**P**	**00 11 07.3**	**+0.7**
	0.4nm,0.6s,baz=53,slow=4.6,SNR=3.6						

*BUG **26** 00:01:05.7±0.0, 51.°60N×6.°84E, h2km±1km, MD2.4/6, ML2.4/3*
*BGR **26** 00:01:06.1±0.3, 51.°59N×6.°76E, h1km, ML2.1/7, Error ellipse: s-maj=4.4km s-min=2.2km az=108.0*
*LDG **26** 00:01:06.6±0.2, 51.°57N×6.°80E, h1km, Ml2.6/18, Error ellipse: s-maj=4.2km s-min=3.3km az=168.0, Suspected Mining induced.*
*BNS **26** 00:01:07.9±0.4, 51.°54N×6.°84E, h1km±7km, ML1.9*

ISC 26 00:01:05.0±0.8, 51.°56N±0.°02×6.°71E±0.°02, h0km, n61, σ1§52/114, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.11 59**		Pg	**Pg**	**00 01 06.9**	**-0.3**
BZER				Sg	**Sg**	**00 01 07.4**	**-1.3**
LAUG	**Laupendahl**	**0.26 146**		*e*Pg	**Pb**	**00 01 11.9**	**-0.6**
BAVN	**Auguste-Victor**	**0.31 55**		Pg	**Pg**	**00 01 11.4**	**+0.5**
BAVN				Sg	**Sg**	**00 01 15.6**	**+0.7**
BULI	**Ruhr-Universit**	**0.36 107**		Pg	**Pg**	**00 01 12.9**	**+1.0**
BULI				Sg	**Sg**	**00 01 17.9**	**+1.4**
BKLB	**Ruhr-Universit**	**0.37 109**		Pg	**Pg**	**00 01 13.2**	**+1.1**
BUG	**Bochum--Univer**	**0.37 109**		Pg	**Pg**	**00 01 13.2**	**+1.1**
BUG				Sg	**Sg**	**00 01 18.6**	**+1.8**
BTEZ	**Ruhr-Universit**	**0.37 108**		Pg	**Pg**	**00 01 13.4**	**+1.3**
WTSB	**Winterswijk**	**0.41 8**		*e*Pg	**Pg**	**00 01 13.8**	**+1.0**
WTSB				*e*Sg	**Sg**	**00 01 18.7**	**+0.6**
ENTS	**Ennepetalsperr**	**0.54 126**		*e*Pg	**Pg**	**00 01 16.6**	**+1.2**
ENTS				*e*Sg	**Sg**	**00 01 23.5**	**+1.1**
PLH	**Pulheim**	**0.56 173**		*e*Pg	**Pb**	**00 01 18.1**	**+0.4**
PLH				*e*Sg	**Sb**	**00 01 26.0**	**-0.3**
HOBG	**Hohbusch**	**0.70 146**		*e*Pg	**Pb**	**00 01 20.4**	**+0.3**
SORT	**Sorpetalsperre**	**0.82 105**		*e*Pg	**Pg**	**00 01 21.1**	**+0.5**
SORT				*e*Sg	**Sg**	**00 01 31.6**	**+0.4**
	26nm,0.3s						
GSH	**Grosshau**	**0.85 194**		*e*Pg	**Pn**	**00 01 23.9**	**-0.3**
GSH				*e*Sg	**Sb**	**00 01 36.1**	**+1.4**
	29nm,0.3s						
DREG	**Dreilaegerbach**	**0.95 199**		*e*Pg	**Pn**	**00 01 26.1**	**+0.5**
DREG				*e*Sg	**Sn**	**00 01 39.7**	**-0.2**
	71nm,0.4s						
STB	**Steinbach**	**0.97 175**		*e*Pg	**Pn**	**00 01 26.0**	**+0.1**
IBBN	**Ibbenburen**	**0.99 41**		*e*Sg	**Sb**	**00 01 38.4**	**-0.1**
TDN	**Todenfeld**	**1.00 171**		*e*Pg	**Pn**	**00 01 26.2**	**-0.1**
TDN				*e*Sg	**Sb**	**00 01 40.1**	**+1.2**
	51nm,0.3s						
BEBN	**Eben Emael**	**1.01 221**		P	**Pn**	**00 01 26.8**	**+0.4**
BEBN				S	**Sn**	**00 01 41.7**	**+0.5**
AHRW	**Bad Neuenahr-A**	**1.05 167**		*e*Pg	**Pn**	**00 01 27.9**	**+1.0**
AHRW				*e*Sg	**Sn**	**00 01 42.2**	**0.0**
MEM	**Membach**	**1.05 205**		*e*Pg	**Pn**	**00 01 27.5**	**+0.5**
MEM				*e*Sg	**Sn**	**00 01 42.7**	**+0.4**
MEM	**Membach**	**1.05 205**		P	**Pn**	**00 01 27.5**	**+0.5**
MEM				S	**Sn**	**00 01 42.8**	**+0.4**
OLFT	**Oleftalsperre**	**1.09 190**		*e*Pg	**Pn**	**00 01 28.2**	**+0.7**
OLFT				*e*Sg	**Sn**	**00 01 43.3**	**+0.1**
KASTN	**Kahler Asten**	**1.13 108**		*e*Pg	**Pb**	**00 01 27.6**	**+0.2**
KASTN				*e*Sg	**Sb**	**00 01 43.1**	**+0.6**
BLCH	**La Chartreuse**	**1.16 218**		P	**Pn**	**00 01 29.9**	**+1.4**
BLCH				S	**Sn**	**00 01 46.9**	**+1.9**
BSTI	**Sart Tilman**	**1.22 217**		P	**Pn**	**00 01 31.0**	**+1.7**
BSTI				S	**Sn**	**00 01 48.9**	**+2.5**
BHE	**Schloss Buerre**	**1.25 166**		*e*Pg	**Pn**	**00 01 30.3**	**+0.6**
BHE				*e*Sg	**Sn**	**00 01 47.1**	**-0.1**
	42nm,0.3s						
HILG	**Hillesheim**	**1.27 181**		*e*Pg	**Pn**	**00 01 31.1**	**+1.1**
BHOU	**Houvegnez**	**1.29 201**		P	**Pn**	**00 01 31.9**	**+1.6**
BHOU				S	**Sn**	**00 01 50.1**	**+1.8**
LOH	**Wallersheim-Lo**	**1.39 185**		*e*Sg	**Sn**	**00 01 51.4**	**+0.7**
	43nm,0.5s						
BCLA	**Clavier**	**1.45 218**		Pn	**Pb**	**00 01 33.8**	**+0.9**
BCLA				**Pg**	**Pg**	**00 01 34.8**	**+2.1**
BCLA				Sg	**Sn**	**00 01 55.2**	**+3.1**
BGES	**Gesves**	**1.56 222**		P	**Pg**	**00 01 36.2**	**+1.2**
BGES				S	**Sg**	**00 01 57.0**	**+1.8**
RCHB	**Rochefort**	**1.69 214**		P	**Pg**	**00 01 40.1**	**+2.7**
RCHB				S	**Sg**	**00 02 01.1**	**+1.7**
TNS	**Taunus Mts**	**1.73 140**		*e*Pg	**Pg**	**00 01 38.5**	**+0.3**
TNS				*e*Sg	**Sg**	**00 02 02.9**	**+2.2**
BMRD	**Maredsous**	**1.76 225**		P	**Pb**	**00 01 38.4**	**+0.2**
BMRD				S	**Sg**	**00 02 03.4**	**+1.8**
GIVF	**Givet**	**1.89 220**		*e*Pn	**Pn**	**00 01 38.6**	**+0.1**
GIVF	**Givet**	**1.89 220**		*e*Pg	**Pg**	**00 01 42.4**	**+1.2**
GIVF				*e*Sn	**Sn**	**00 02 01.9**	**-1.1**
GIVF				*e*Sg	**Sg**	**00 02 07.5**	**+1.8**
	12nm,0.3s						
BSKQ	**Steenkerk**	**1.90 242**		S	**Sb**	**00 02 04.3**	**-0.3**
WLF	**Walferdange**	**1.93 191**		*e*Sg	**Sg**	**00 02 07.6**	**+0.5**
WLF	**Walferdange**	**1.93 191**		S	**Sg**	**00 02 08.1**	**+1.0**
DOU	**Dourbes**	**1.99 223**		Pn	**Pg**	**00 01 43.2**	**+0.1**
DOU				Sg	**Sg**	**00 02 08.2**	**-0.6**
BAIF	**Baives**	**2.19 228**		*e*P	**Pb**	**00 01 45.2**	**-0.2**
BAIF				*e*Sn	**Sn**	**00 02 09.3**	**-1.1**
BAIF				*e*Sg	**Sg**	**00 02 16.7**	**+1.4**
	6.0nm,0.3s						
PAGF	**Fort de Pagny**	**3.08 192**		*e*P	**Pn**	**00 01 57.3**	**+2.5**
PAGF	**Fort de Pagny**	**3.08 192**		*e*P	**Pg**	**00 02 03.5**	**-0.5**
PAGF				*e*Sg	**Sg**	**00 02 42.6**	**-1.2**
	3.5nm,0.4s						
SAVF	**Savonnieres en**	**3.12 200**		*e*P	**Pn**	**00 01 57.4**	**+1.9**
SAVF	**Savonnieres en**	**3.12 200**		*e*Pg	**Pg**	**00 02 04.6**	**-0.2**
SAVF				*e*Sn	**Sn**	**00 02 30.7**	**-2.7**
SAVF				*e*Sg	**Sg**	**00 02 45.9**	**+0.6**
	4.2nm,0.4s						
CDF	**Champ du Feu**	**3.17 173**		*e*Pn	**Pn**	**00 01 55.3**	**-1.0**
CDF	**Champ du Feu**	**3.17 173**		*e*Pg	**Pg**	**00 02 04.8**	**-1.0**
CDF				*e*Sn	**Sn**	**00 02 31.2**	**-3.7**
CDF				*e*Sg	**Sg**	**00 02 45.4**	**-1.5**
	2.7nm,0.4s						
MEZF	**Maizieres J'vi**	**3.25 200**		*e*Pn	**Pn**	**00 01 56.6**	**-0.5**
MEZF	**Maizieres J'vi**	**3.25 200**		*e*Pg	**Pg**	**00 02 06.7**	**-0.5**
MEZF				*e*Sn	**Sn**	**00 02 35.0**	**-1.5**
MEZF				*e*Sg	**Sg**	**00 02 48.5**	**-0.7**
	10.0nm,0.5s						
SFTF	**Sexfontaines**	**3.53 198**		*e*Sg	**Sg**	**00 02 57.9**	**-0.5**
	1.5nm,0.2s						
HAU	**Haudompre**	**3.57 184**		*e*P	**Pn**	**00 02 03.4**	**+1.8**
HAU				*e*Sn	**Sn**	**00 02 44.8**	**+0.3**
HAU				*e*Sg	**Sg**	**00 02 58.2**	**-1.4**
	2.3nm,0.3s						
HINF	**Hinteralfeld**	**3.75 179**		*e*Pn	**Pn**	**00 02 03.2**	**-0.9**
HINF				*e*Sg	**Sg**	**00 03 03.6**	**-1.8**
	2.3nm,0.4s						
LOR	**Lormes**	**4.68 205**		*e*Pn	**Pn**	**00 02 16.5**	**-0.4**
	baz=22						
LOR				*e*Sn	**Sn**	**00 03 08.8**	**-3.2**
LOR				*e*Sg	**Sg**	**00 03 33.9**	**-1.5**
	2.9nm,0.3s						
SSF	**Saint Saulge**	**4.97 206**		*e*Pn	**Pn**	**00 02 20.9**	**+0.1**
SSF				*e*Sn	**Sn**	**00 03 16.3**	**-2.7**
SSF				*e*Sg	**Sg**	**00 03 42.7**	**-1.8**
	1.9nm,0.4s						
AVF	**Avril sur Loir**	**5.26 206**		*e*Pn	**Pn**	**00 02 24.6**	**-0.2**
AVF				*e*Sg	**Sg**	**00 03 52.6**	**-1.3**
	0.3nm,0.3s						
SMF	**Signal de Mont**	**5.27 202**		*e*Pn	**Pn**	**00 02 23.9**	**-1.1**
SMF				*e*Sg	**Sg**	**00 03 54.5**	**+0.3**
	1.4nm,0.3s						
LDF	**La Druitiere**	**5.31 239**		*e*Pn	**Pn**	**00 02 26.2**	**+0.7**
LDF				*e*Sn	**Sn**	**00 03 24.2**	**-3.1**
	0.5nm,0.3s						
FLN	**La Foliniere**	**5.41 242**		*e*Pn	**Pn**	**00 02 27.4**	**+0.6**
	baz=60						
FLN				*e*Sn	**Sn**	**00 03 26.4**	**-3.3**
	1.5nm,0.3s,baz=46						
BGF	**Bois d'Agland**	**5.62 208**		*e*P	**Pn**	**00 02 30.5**	**+0.8**
BGF				*e*Sn	**Sn**	**00 03 29.5**	**-5.4**
BGF				*e*Sg	**Sg**	**00 04 03.7**	**-1.6**
	6.8nm,0.4s						
GRR	**Gorron**	**5.83 240**		*e*Pn	**Pn**	**00 02 32.6**	**0.0**
GRR				*e*Sn	**Sn**	**00 03 36.7**	**-3.3**
	2.3nm,0.2s						
MFF	**Saint Martin d**	**6.70 225**		*e*Sn	**Sn**	**00 03 57.4**	**-4.2**
	0.9nm,0.3s						

*NEIC **26** 00:01:57.2±0.9, 4.°05S±0.°04×152.°67E±0.°04, h10km±2km, mb4.3/11, Error ellipse: s-maj=7.5km s-min=6.0km az=353.0*
*IDC **26** 00:02:08.2±5.5, 4.°25S×152.°35E, h109km±52km, mb3.4/7, mb1 3.6/8, mb1mx3.4/43, mbtmp3.8/8, MS3.5/14, Ms1 3.5/14, ms1mx3.4/30, Error ellipse: s-maj=32.1km s-min=30.4km az=104.0*

ISC 26 00:01:56.5±0.7, 3.°99S±0.°09×152.°67E±0.°07, h10km, n32, σ1§64/23, mb4.1/13, MS3.4/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.55 248**		Pg	**Pg**	**00 02 07.2**	**0.0**
RABL				Sg	**Sg**	**00 02 14.4**	**0.0**
MANU	**Manus Island**	**5.64 290**		Pn	**Pn**	**00 03 21.4**	**+0.9**
PMG	**Port Moresby**	**7.68 225**		P	**Pn**	**00 03 52.1**	**+3.6**
	2.6nm,0.3s,baz=45,slow=13,SNR=1.6						
PMG				LR	LR	00 07 03.1	
	comp=Z,213nm,18.2s,baz=7.5,slow=40						
PMG	**Port Moresby**	**7.68 225**			**Pn**	**00 03 48.5**	**-0.1**
CTA	**Charters Tower**	**17.18 201**		LR	LR	00 12 29.3	
	comp=Z,271nm,18.3s,baz=52,slow=37						
GUMO	**Guam**	**19.10 336**		LR	LR	00 14 19.0	
	comp=Z,74nm,18.9s,baz=116,slow=38						
DZM	**Mont Dzumac**	**22.39 145**		P	**P**	**00 06 57.8**	**+2.3**
	4.4nm,1.1s,baz=327,slow=17,SNR=1.8						
DZM				LR	LR	00 14 46.2	
	comp=Z,152nm,20.4s,baz=332,slow=34						
DZM	**Mont Dzumac**	**22.39 145**		P	**P**	**00 06 54.8**	**-0.6**
DZM				IAmb	IAmb	00 07 06.8	
	comp=Z,14nm,1.2s						
OUENC	**Ouen Island, N**	**22.89 144**		P	**P**	**00 07 00.3**	**-0.3**
OUENC				IAmb	IAmb	00 07 10.3	
	comp=Z,10nm,0.9s						
WB0	**Warramunga Arr**	**23.75 227**		P	**P**	**00 07 07.4**	**-1.9**
WB0				IAmb	IAmb	00 07 22.6	
	comp=Z,15nm,1.2s						
WR0	**Warramunga Arr**	**23.76 227**		P	**P**	**00 07 09.2**	**-0.2**
WR0				IAmb	IAmb	00 07 23.4	
	comp=Z,7.7nm,1.0s						
WRAB	**Tennant Creek**	**23.88 227**		P	**P**	**00 07 09.6**	**-1.0**
WRAB				IAmb	IAmb	00 07 23.4	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**23.89 227**		P	**P**	**00 07 07.5**	**-3.1**
WB2				IAmb	IAmb	00 07 13.2	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**23.89 227**		P	**P**	**00 07 08.0**	**-2.7**
	comp=Z,2.3nm,0.8s,baz=51,slow=9.6,SNR=10						
WRA				LR	LR	00 17 22.0	
	comp=Z,156nm,18.6s,baz=97,slow=39						
WRA	**Warramunga Arr**	**23.89 227**		P	**P**	**00 07 08.5**	**-2.2**
AS31	**Alice Springs**	**26.67 221**		P	**P**	**00 07 35.5**	**-0.4**
ASAR	**Alice Springs**	**26.67 221**		P	**P**	**00 07 33.9**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=56,slow=8.5,SNR=2.8						
ASAR				LR	LR	00 18 09.6	
	comp=Z,87nm,20.2s,baz=50,slow=37						
LHI	**Lord Howe Isla**	**28.04 168**		P	**P**	**00 07 47.4**	**-0.7**
MSVF	**Nonsavu**	**28.36 121**		LR	LR	00 18 29.0	
	comp=Z,135nm,20.9s,baz=358,slow=34						
MSVF	**Nonsavu**	**28.36 121**		P	**P**	**00 07 50.7**	**-0.5**
MSVF				IAmb	IAmb	00 07 51.3	
	comp=Z,7.0nm,1.3s						
STKA	**Stephens Creek**	**29.63 199**		LR	LR	00 19 17.0	
	comp=Z,139nm,21.5s,baz=23,slow=35						
KAPI	**Kappang**	**32.84 267**		LR	LR	00 23 41.5	
	comp=Z,30nm,18.2s,baz=115,slow=40						
MYLDM	**Lahad Datu**	**35.33 285**		P	**P**	**00 08 52.2**	**-0.2**
URZ	**Urewera**	**40.75 150**		LR	LR	00 26 57.6	
	comp=Z,175nm,18.1s,baz=5.0,slow=37						
LEM	**Lembang**	**44.93 264**		LR	LR	00 30 43.1	
	comp=Z,33nm,21.9s,baz=122,slow=38						
KSRS	**Korea Array**	**47.22 333**		LR	LR	00 28 37.2	
	comp=Z,51nm,21.9s,baz=95,slow=34						
CMAR	**Chiang Mai Arr**	**57.42 295**		LR	LR	00 36 20.9	
	comp=Z,7.0nm,18.8s,baz=125,slow=36						
SHEM	**Shemya Is, Ala**	**59.34 15**		LR	LR	00 31 52.2	
	comp=Z,82nm,21.4s,baz=52,slow=30						
SONM	**Songino Array**	**65.58 328**		P	**P**	**00 12 40.1**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=140,slow=4.5,SNR=3.2						
MKAR	**Makanchi Array**	**79.64 319**		P	**P**	**00 14 04.8**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=133,slow=7.1,SNR=3.1						
ILAR	**Eielson Array**	**81.46 22**		P	**P**	**00 14 15.0**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=252,slow=5.2,SNR=9.3						
NRIK	**Noril'sk**	**85.16 341**		P	**P**	**00 14 32.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=134,slow=9.7,SNR=1.8						

*IDC **26** 00:19:07.7±0.6, 32.°64S×71.°79W, h0km, mb4.6/12, mb1 4.7/16, mb1mx4.6/31, mbtmp4.6/16, ML4.8/4, MS4.3/32, Ms1 4.3/32, ms1mx4.1/51, Error ellipse: s-maj=22.0km s-min=18.1km az=65.0*
*MOS **26** 00:19:09.5±1.3, 32.°52S×71.°79W, h16km, mb5.2/19, Error ellipse: s-maj=14.5km s-min=8.0km az=94.1*
*VAO **26** 00:19:10.3±0.4, 32.°60S×71.°76W, h13km, mb4.8*
*NEIC **26** 00:19:10.0±1.5, 32.°59S±0.°04×71.°84W±0.°07, h8km±3km, mb5.0/202, Mwr4.8/44, ML5.1(GUC), Error ellipse: s-maj=9.7km s-min=4.3km az=68.0*
*NEIC **26** 00:19:10.2, 32.°62S×71.°87W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.97; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$

MT05	**Renca**	**1.27**	**129**			**Pn**		**00 19 32.7**	**-0.4**
MT05	**Renca**	**1.27**	**129**	*e*P		**Pn**		**00 19 32.8**	**-0.3**
MT05				*e*S		**Sb**		**00 19 48.9**	**-0.9**
MT05				IAML				00 19 58.5	
	comp=Z,31µm,0.7s								
MT01	**Popeta**	**1.39**	**156**	*e*P		**Pn**		**00 19 34.4**	**-0.2**
MT01				*i* S		**Sn**		**00 19 51.2**	**-1.9**
MT01				IAML				00 19 54.8	
	comp=E,87µm,0.5s								
MT01	**Popeta**	**1.39**	**156**	Pn		**Pn**		**00 19 34.4**	**-0.2**
MT01	**Popeta**	**1.39**	**156**	*e*P		**Pn**		**00 19 34.3**	**-0.2**
MT01				*e*S		**Sn**		**00 19 51.9**	**-1.2**
MT01				IAML				00 19 59.4	
	comp=Z,17µm,0.7s								
MT09	**Talagante**	**1.42**	**147**	*e*P		**Pn**		**00 19 35.0**	**0.0**
MT09				*i* S		**Sn**		**00 19 52.3**	**-1.7**
MT09				IAML				00 19 56.0	
	comp=E,82µm,0.5s								
MT09	**Talagante**	**1.42**	**147**			**Pn**		**00 19 35.1**	**0.0**
BO04	**La Punta**	**1.77**	**142**	*e*P		**Pb**		**00 19 41.1**	**-0.6**
BO04				*i* S		**Sn**		**00 20 02.9**	**+0.2**
LMEL	**Las Melosas**	**1.91**	**131**	‖ *i*P		**Pn**		**00 19 42.7**	**+0.9**
LMEL				*i* S		**Sb**		**00 20 07.4**	**-0.7**
LMEL				IAML				00 20 12.1	
	comp=N,38µm,0.5s								
BO01	**Tunca**	**1.93**	**159**	*e*P		**Pn**		**00 19 42.0**	**+0.1**
BO01				*i* S		**Sn**		**00 20 06.1**	**-0.3**
BO01	**Tunca**	**1.93**	**159**	Pn		**Pn**		**00 19 42.0**	**+0.1**
BO01	**Tunca**	**1.93**	**159**	*e*P		**Pn**		**00 19 42.5**	**+0.6**
BO01				*e*S		**Sb**		**00 20 07.2**	**-1.2**
CO06	**Fray Jorge**	**1.93**	**7**	*e*P		**Pn**		**00 19 42.0**	**0.0**
CO06	**Fray Jorge**	**1.93**	**7**			**Pn**		**00 19 42.0**	**0.0**
CO03	**El Pedregal**	**2.04**	**31**	Pn		**Pn**		**00 19 44.8**	**+1.2**
AUSP	**Uspallata**	**2.18**	**81**	*e*P		**Pb**		**00 19 48.6**	**-0.1**
BO02	**Sierra Bellavi**	**2.39**	**157**	*e*P		**Pn**		**00 19 49.0**	**+0.6**
BO02				*i* S		**Sn**		**00 20 18.6**	**+0.6**
BO02				IAML				00 20 27.6	
	comp=E,19µm,0.4s								
BO02	**Sierra Bellavi**	**2.39**	**157**			**Pn**		**00 19 48.3**	**-0.1**
GO05	**Huala**	**2.41**	**180**	Pn		**Pn**		**00 19 48.1**	**-0.5**
GO05	**Huala**	**2.41**	**180**	*e*P		**Pn**		**00 19 48.1**	**-0.5**
GO05				*e*S		**Sg**		**00 20 26.3**	**+0.1**
ARCO	**CERRO ARCO**	**2.53**	**96**	*e*P		**Pb**		**00 19 54.8**	**+0.2**
ARCO				*i* S		**Sg**		**00 20 29.3**	**-0.8**
ARCO				IAML				00 20 29.9	
	comp=Z,9µm,1.2s								
GO04	**Tololo Observa**	**2.60**	**22**	*e*P		**Pn**		**00 19 52.3**	**+0.9**
GO04	**Tololo Observa**	**2.60**	**22**			**Pn**		**00 19 52.3**	**+0.9**
GO04	**Tololo Observa**	**2.60**	**22**	*e*P		**Pn**		**00 19 52.0**	**+0.6**
GO04				*e*S		**Sg**		**00 20 31.8**	**-0.4**
ASAL	**Salagasta**	**2.61**	**91**	*e*P		**Pb**		**00 19 55.5**	**-0.3**
ASAL				*i* S		**Sg**		**00 20 31.4**	**-1.0**
AAGR	**Agrelo**	**2.65**	**101**	*e*P		**Pb**		**00 19 56.0**	**-0.6**
CO05	**La Serena**	**2.73**	**13**			**Pn**		**00 19 53.9**	**+0.9**
RTCV	**Cerro Valdivia**	**2.96**	**77**	*e*P		**Pb**		**00 20 08.8**	**-1.0**
AVIZ	**Vizcacheras**	**2.99**	**108**	*e*P		**Pb**		**00 20 00.1**	**-2.3**
ACCO	**Cerro Coronel**	**3.15**	**51**	*e*P		**Pb**		**00 20 02.9**	**-2.4**
ACCO				*i* S		**Sb**		**00 20 46.7**	**+2.6**
ML02	**Panimavida**	**3.19**	**173**	Pn		**Pn**		**00 19 59.6**	**+0.3**
RTLL	**Cerro Villicun**	**3.19**	**68**	*e*P		**Pn**		**00 20 02.6**	**+3.2**
AROD	**Rodeo**	**3.20**	**42**	*e*P		**Pn**		**00 20 03.3**	**+3.5**
AROD				*e*S		**Sb**		**00 20 48.0**	**+2.6**
ACDV	**Cuesta del Vie**	**3.40**	**46**	*e*P		**Pb**		**00 20 08.3**	**-1.1**
ACDV				*e*S		**Sb**		**00 20 54.9**	**+3.8**
LCO	**Las Campanas**	**3.72**	**17**	P		**Pn**		**00 20 07.4**	**+0.5**
LCO	**Las Campanas**	**3.72**	**17**	Pn		**Pn**		**00 20 07.4**	**+0.5**
LCO	**Las Campanas**	**3.72**	**17**	*e*P		**Pn**		**00 20 07.5**	**+0.5**
AC04	**Llanos de Chal**	**4.44**	**10**	Pn		**Pn**		**00 20 16.1**	**-0.3**
AC04	**Llanos de Chal**	**4.44**	**10**	*e*P		**Pn**		**00 20 16.0**	**-0.5**
AC04				*e*S		**Sb**		**00 21 16.6**	**-4.1**
AC04				IAML				00 21 36.0	
	comp=Z,1µm,0.7s								
VCA	**Vinchina**	**5.00**	**41**	*e*P		**Pn**		**00 20 27.6**	**+3.2**
VCA				*e*S		**Sb**		**00 21 32.7**	**-4.4**
APLL	**PUNTA DE LOS L**	**5.10**	**66**	*e*P		**Pn**		**00 20 28.6**	**+2.9**
GO03	**Copiap**	**5.19**	**17**	Pn		**Pn**		**00 20 27.1**	**+0.2**
GO03	**Copiap**	**5.19**	**17**	*e*P		**Pn**		**00 20 27.0**	**+0.1**
GO03				*i* S		**Sn**		**00 21 32.2**	**+5.1**
ACLC	**CERRO LA CRUZ**	**5.31**	**55**	*e*P		**Pn**		**00 20 30.7**	**+2.1**
ACLC				*e*S		**Sn**		**00 21 33.4**	**+3.3**
H03N1	**Juan Fernandez**	**5.93**	**260**	T		T		00 27 05.7	
	baz=89,slow=74,SNR=1915								
H03N3	**Juan Fernandez**	**5.94**	**260**	T		T		00 27 05.5	
	baz=89,slow=74,SNR=1143								
H03N2	**Juan Fernandez**	**5.95**	**260**	T		T		00 27 06.8	
	baz=89,slow=74,SNR=839								
H03S1	**Juan Fernandez**	**5.98**	**256**	T		T		00 26 57.6	
	SNR=1057								
H03S3	**Juan Fernandez**	**5.98**	**256**	T		T		00 27 00.2	
	SNR=1261								
H03S2	**Juan Fernandez**	**6.00**	**256**	T		T		00 26 59.5	
	SNR=1481								
AC02	**Maricunga**	**6.23**	**24**	Pn		**Pn**		**00 20 42.4**	**+0.7**
AC02	**Maricunga**	**6.23**	**24**	*e*P		**Pn**		**00 20 42.3**	**+0.7**
AC02				*e*S		**Sb**		**00 22 07.3**	**-5.6**
LC01	**Cunco**	**6.29**	**180**	Pn		**Pn**		**00 20 41.3**	**-0.6**
LC01	**Cunco**	**6.29**	**180**	*e*P		**Pn**		**00 20 41.1**	**-0.8**
TCA	**Tanti**	**6.35**	**81**	*e*P		**Pn**		**00 20 44.0**	**+1.1**
TCA				*e*S		**Sn**		**00 21 55.8**	**0.0**
LR03	**Panguipulli**	**7.03**	**183**	Pn		**Pn**		**00 20 51.7**	**-0.4**
PB14	**IPOC Station P**	**8.05**	**10**	Pn		**Pn**		**00 21 05.9**	**-0.5**
PLCA	**Paso Flores**	**8.20**	**173**	Pn		**Pn**		**00 21 09.2**	**+1.1**
	comp=Z,8.8nm,0.3s,baz=334,slow=11,SNR=210								
PLCA				LR		LR		00 24 54.6	
	comp=Z,303nm,20.1s,baz=350,slow=43								
PLCA	**Paso Flores**	**8.20**	**173**	P		**Pn**		**00 21 08.4**	**+0.2**
PLCA	**Paso Flores**	**8.20**	**173**	*e*P		**Pn**		**00 21 09.0**	**+0.8**
PLCA	**Paso Flores**	**8.20**	**173**	Pn		**Pn**		**00 21 08.4**	**+0.2**
PLCA	**Paso Flores**	**8.20**	**173**	*e*P		**Pn**		**00 21 09.0**	**+0.8**
FSA	**Cafayete**	**8.28**	**40**	*e*P		**Pn**		**00 21 08.9**	**-0.6**
LL04	**Puerto Octay**	**8.31**	**183**	Pn		**Pn**		**00 21 09.2**	**-0.4**
LL05	**Los Muermos**	**8.88**	**188**	Pn		**Pn**		**00 21 19.5**	**+2.0**
PB15	**IPOC Station P**	**9.60**	**14**			**Pn**		**00 21 24.4**	**-3.1**
LVC	**Limon Verde**	**10.30**	**16**	Pn		Pn		00 21 32.8	-4.5
	comp=Z,1.3nm,0.3s,baz=200,slow=8.9,SNR=10.0								
LVC				LR		LR		00 25 57.4	
	comp=Z,3µm,19.9s,baz=209,slow=40								
LVC	**Limon Verde**	**10.30**	**16**	P		**Pn**		**00 21 35.8**	**-1.4**
LVC	**Limon Verde**	**10.30**	**16**			**Pn**		**00 21 35.8**	**-1.4**
GO07	**Milladeo Hill,**	**10.59**	**187**			**Pn**		**00 21 38.9**	**-2.0**
PB07	**IPOC Station P**	**10.97**	**10**			**Pn**		**00 21 46.8**	**+0.4**
PB01	**IPOC Station P**	**11.71**	**11**			**Pn**		**00 21 57.0**	**+0.7**
LPA	**La Plata**	**11.87**	**105**	*e*P		**Pn**		**00 21 54.0**	**-4.4**
LPA	**La Plata**	**11.87**	**105**	PN		**Pn**		**00 21 58.3**	**-0.1**
LPA				pP				00 22 02.7	
LPA				pPP				00 22 39.1	
PB11	**IPOC Station P**	**12.94**	**10**			**Pn**		**00 22 14.2**	**+0.9**
COYC	**Coyhaique**	**12.96**	**180**			**Pn**		**00 22 13.7**	**+0.4**
GO01	**Chusmiza**	**13.10**	**11**	Pn		**Pn**		**00 22 16.7**	**+0.9**
ITQB	**Itaqui**	**13.43**	**82**	*e*P		**Pn**		**00 22 18.8**	**-0.9**
ITQB	**Itaqui**	**13.43**	**82**	Pn		**Pn**		**00 22 19.2**	**-0.5**
MNMC	**Minye Minye**	**13.57**	**9**			**Pn**		**00 22 22.6**	**+0.7**
PB12	**IPOC Station P**	**13.99**	**6**			**Pn**		**00 22 28.7**	**+1.1**
CPUP	**Villa Florida**	**14.16**	**68**	Pn		**Pn**		**00 22 29.6**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=238,slow=9.9,SNR=6.3								
CPUP	**Villa Florida**	**14.16**	**68**	*e*P		**Pn**		**00 22 29.4**	**-0.3**
CPUP	**Villa Florida**	**14.16**	**68**			**Pn**		**00 22 30.6**	**+0.9**
PB16	**IPOC Station P**	**14.36**	**9**			**Pn**		**00 22 34.9**	**+1.8**
PLTB	**Pedras Altas**	**15.54**	**92**	*e*P		**Pn**		**00 22 48.3**	**0.0**
PLTB	**Pedras Altas**	**15.54**	**92**	Pn		**Pn**		**00 22 47.6**	**-0.7**
CPSB	**Cacapava Do Su**	**15.92**	**87**	*e*P		**Pn**		**00 22 52.0**	**-1.2**
LPAZ	**La Paz**	**16.59**	**13**	Pn		**Pn**		**00 23 03.6**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=190,slow=7.3,SNR=33								
LPAZ	**La Paz**	**16.59**	**13**	P		**Pn**		**00 23 02.4**	**-0.1**
LPAZ				pmax		pmax			
	comp=Z,24nm,0.8s								
LPAZ	**La Paz**	**16.59**	**13**	*e*P		**Pn**		**00 23 03.5**	**+1.0**
LPAZ	**La Paz**	**16.59**	**13**	Pn		**Pn**		**00 23 02.4**	**-0.1**
ITAB	**Concordia**	**17.96**	**78**	Pn		**Pn**		**00 23 17.4**	**-1.7**
GO09	**Cerro Castillo**	**18.67**	**181**	P		**Pn**		**00 23 27.8**	**+0.4**
GO09				IAmb		IAmb		00 23 33.5	
	comp=Z,73nm,1.1s								
AQDB	**Aquidauana**	**18.85**	**54**	*e*P		**Pn**		**00 23 30.0**	**+0.1**
AQDB	**Aquidauana**	**18.85**	**54**			**P**		**00 23 28.4**	**-0.9**
PTGB	**Pitanga**	**19.09**	**71**	*e*P		**P**		**00 23 31.1**	**-1.0**
SIV	**San Ignacio**	**19.24**	**33**	P		**P**		**00 23 32.3**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=214,slow=11,SNR=14								
SIV				LR		LR		00 32 14.0	
	comp=Z,2µm,18.4s,baz=238,slow=41								
TER01	**Tubaro-SC**	**20.03**	**84**	*e*P		**P**		**00 23 42.0**	**-0.4**
PTLB	**Pontes e Lacer**	**20.65**	**37**	*e*P		**P**		**00 23 49.0**	**0.0**
PTLB	**Pontes e Lacer**	**20.65**	**37**	P		**P**		**00 23 49.0**	**0.0**
NNA	**Nana**	**21.00**	**346**	P		**P**		**00 23 54.2**	**+1.3**
	comp=Z,15nm,0.7s,baz=202,slow=7.9,SNR=7.2								
NNA				LR		LR		00 30 29.0	
	comp=Z,517nm,18.6s,baz=176,slow=32								
NNA	**Nana**	**21.00**	**346**	P		**P**		**00 23 53.9**	**+1.0**
NNA				pmax		pmax			
	comp=Z,16nm,0.7s								
NNA	**Nana**	**21.00**	**346**	P		**P**		**00 23 53.9**	**+1.0**
PCMB	**Pacaembu**	**21.36**	**64**	*e*P		**P**		**00 23 56.4**	**-0.3**
PP1B	**Ponte de Pedra**	**21.43**	**50**	*e*P		**P**		**00 23 57.1**	**-0.4**
EFI	**East Falkland**	**21.59**	**156**	*i* P		**P**		**00 23 56.1**	**-2.8**
EFI				pmax		pmax			
	comp=Z,221nm,2.2s								
EFI	**East Falkland**	**21.59**	**156**	P		**P**		**00 23 59.5**	**+0.5**
EFI				IAmb		IAmb		00 24 08.8	
	comp=Z,44nm,0.8s								
FRTB	**Fartura**	**21.76**	**71**	*e*P		**P**		**00 23 59.8**	**-1.2**
SALV	**Santo Antonio**	**22.20**	**45**	*e*P		**P**		**00 24 04.9**	**-0.9**
VILB	**Vilhena**	**22.30**	**31**	P		**P**		**00 24 07.1**	**+0.2**
VILB				IAmb		IAmb		00 24 19.4	
	comp=Z,50nm,0.9s								
MG01	**Puerto William**	**22.54**	**174**	P		**P**		**00 24 10.3**	**+1.3**
MG01				IAmb		IAmb		00 24 20.4	
	comp=Z,52nm,0.9s								
PET01	**Itanhaem-SP**	**23.16**	**75**	*e*P		**P**		**00 24 16.1**	**+0.3**
ITRB	**Iturama**	**23.17**	**62**	*e*P		**P**		**00 24 16.1**	**+0.1**
ETMB	**Extrema**	**23.27**	**14**	*e*P		**P**		**00 24 18.0**	**+1.0**
ETMB	**Extrema**	**23.27**	**14**	P		**P**		**00 24 18.0**	**+1.0**
ETMB				IAmb		IAmb		00 24 26.6	
	comp=Z,73nm,1.1s								
RCLB	**Rio Claro- Sao**	**23.84**	**71**	*e*P		**P**		**00 24 22.9**	**+0.2**
VAO	**Valinhos**	**24.01**	**73**	*e*P		**P**		**00 24 23.9**	**-0.4**
CZSB	**Cruzeiro do Su**	**24.75**	**358**	*e*P		**P**		**00 24 32.1**	**+1.1**
CZSB	**Cruzeiro do Su**	**24.75**	**358**	P		**P**		**00 24 31.2**	**+0.1**
PARB	**Paraibuna**	**24.94**	**75**	*e*P		**P**		**00 24 31.7**	**-1.1**
PDRB	**Porto dos Gac**	**25.12**	**37**	*e*P		**P**		**00 24 34.1**	**-0.3**
IPMB	**Ipameri, GO**	**25.83**	**61**	*e*P		**P**		**00 24 39.3**	**-1.6**
ATAH	**Atahualpa**	**26.04**	**345**	LR		LR		00 33 41.8	
	comp=Z,501nm,18.7s,baz=198,slow=34								
BSCB	**Bom Sucesso**	**26.77**	**71**	*e*P		**P**		**00 24 48.9**	**-0.5**
BDFB	**Brasilia**	**27.48**	**58**	P		**P**		**00 24 55.1**	**-0.8**
	comp=Z,15nm,1.1s,baz=218,slow=8.7,SNR=10								
BDFB	**Brasilia**	**27.48**	**58**	P		**P**		**00 24 55.1**	**-0.8**
BDFB				pmax		pmax			
	comp=Z,45nm,1.2s								
BDFB	**Brasilia**	**27.48**	**58**	P		**P**		**00 24 55.1**	**-0.8**
BDFB				IAmb		IAmb		00 25 07.5	
	comp=Z,45nm,1.2s								
SNDB	**Serra Nova Dou**	**27.92**	**47**	*e*P		**P**		**00 25 01.1**	**+1.3**
TBTG	**Tabatinga, AM**	**28.32**	**4**	P		**P**		**00 25 04.0**	**+0.7**
DIAM	**Diamantina, MG**	**29.10**	**68**	*e*P		**P**		**00 25 11.0**	**+0.6**
NPGB	**Novo Progresso**	**29.73**	**35**	*e*P		**P**		**00 25 15.5**	**-0.3**
PEXB	**Peixe**	**29.76**	**52**	*e*P		**P**		**00 25 14.9**	**-1.2**
SJMB	**Sao Joao De Ma**	**30.84**	**71**	*e*P		**P**		**00 25 25.1**	**-0.5**
BSFB	**Barra de Sao F**	**31.04**	**71**	*e*P		**P**		**00 25 26.3**	**-1.1**
MACA	**Manacapuru-AM**	**31.12**	**22**	*e*P		**P**		**00 25 29.0**	**+1.0**
MACA	**Manacapuru-AM**	**31.12**	**22**	P		**P**		**00 25 27.7**	**-0.3**
MACA				IAmb		IAmb		00 25 35.9	
	comp=Z,22nm,1.0s								
SDBA	**SAO DESIDERIO**	**31.88**	**57**	*e*P		**P**		**00 25 33.7**	**-1.2**
ITTB	**Itaituba**	**31.91**	**32**	*e*P		**P**		**00 25 35.5**	**+0.5**
PMSA	**Palmer Station**	**32.57**	**174**	LR		LR		00 38 05.2	
	comp=Z,817nm,21.2s,baz=331,slow=35								
PMSA	**Palmer Station**	**32.57**	**174**	*e*P		**P**		**00 25 40.6**	**+0.4**
SMTB	**Santa Maria do**	**32.63**	**49**	*e*P		**P**		**00 25 41.5**	**+0.1**
RPN	**Rapa Nui**	**32.78**	**270**	LR		LR		00 35 33.2	
	comp=Z,571nm,18.6s,baz=96,slow=30								
PRPB	**Parauapebas**	**33.40**	**43**	*e*P		**P**		**00 25 47.0**	**-1.1**
PTGA	**Pitinga**	**33.64**	**22**	P		**P**		**00 25 50.1**	**0.0**
	comp=Z,15nm,1.0s,baz=180,slow=12,SNR=7.3								
PTGA				LR		LR		00 41 58.0	
	comp=Z,523nm,19.1s,baz=188,slow=41								
NBIT	**Itateh - BA**	**34.35**	**67**	*e*P		**P**		**00 25 55.8**	**-0.6**
MALB	**Monte Alegre**	**34.80**	**32**	*e*P		**P**		**00 25 59.7**	**-0.5**
GDU01	**Guandu, BA**	**34.97**	**65**	*e*P		**P**		**00 26 00.4**	**-1.4**
NBPN	**Ponto Novo - B**	**36.33**	**61**	*e*P		**P**		**00 26 12.3**	**-1.2**
BOAV	**Boa Vista**	**36.44**	**19**	*e*P		**P**		**00 26 14.3**	**+0.1**
BOAV	**Boa Vista**	**36.44**	**19**	P		**P**		**00 26 13.7**	**-0.6**
MCPB	**Macapa, AP**	**37.13**	**34**	*e*P		**P**		**00 26 19.1**	**-1.1**
ROSC	**El Rosal**	**37.30**	**356**	LR		LR		00 41 52.7	
	comp=Z,507nm,20.2s,baz=206,slow=36								
NBLA	**Lagarto - SE**	**38.03**	**63**	*e*P		**P**		**00 26 26.3**	**-1.6**
NBMA	**Muriti-CE**	**39.72**	**58**	*e*P		**P**		**00 26 41.2**	**-0.8**
ZARC	**Zaragoza, Cauc**	**39.96**	**355**	P		**P**		**00 26 44.1**	**+0.1**
NBPS	**Pedro II - PI**	**39.99**	**52**	*e*P		**P**		**00 26 43.1**	**-1.2**
NBAN	**Anadia - AL**	**40.02**	**63**	*e*P		**P**		**00 26 43.1**	**-1.4**
NBPB	**Pedra_Branca-C**	**40.41**	**55**	*e*P		**P**		**00 26 47.5**	**-0.4**
SDV	**Santo Domingo**	**41.27**	**2**	LR		LR		00 45 27.7	
	comp=Z,400nm,20.2s,baz=212,slow=38								
SDV	**Santo Domingo**	**41.27**	**2**	*e*P		**P**		**00 26 55.2**	**+0.3**
SDV	**Santo Domingo**	**41.27**	**2**	P		**P**		**00 26 55.3**	**+0.4**
BAUV	**El Baul**	**41.47**	**6**	P		**P**		**00 26 56.4**	**0.0**
BAUV				IAmb		IAmb		00 27 05.8	
	comp=Z,36nm,1.1s								
MDP	**Montagnes des**	**41.73**	**30**	LR		LR		00 45 23.7	
	comp=Z,557nm,20.6s,baz=183,slow=38								
APG	**El Apazote**	**50.55**	**337**	P		**P**		**00 28 09.6**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=144,slow=18,SNR=2.9								
APG				LR		LR		00 45 12.1	
	comp=Z,191nm,19.9s,baz=118,slow=31								
VNA3	**Neumayer Olymp**	**50.62**	**158**	P		**P**		**00 28 08.5**	**+0.5**
VNA2	**Neumayer--Watz**	**51.27**	**158**	P		**P**		**00 28 13.2**	**+0.4**
	baz=283,slow=8.0								
SNAA	**Sanae**	**52.85**	**158**	LR		LR		00 49 40.4	
	comp=Z,418nm,19.9s,baz=283,slow=35								
SNAA	**Sanae**	**52.85**	**158**	P		**P**		**00 28 24.9**	**+0.2**
SNAA	**Sanae**	**52.85**	**158**	*ce*P		**P**		**00 28 24.2**	**-0.5**
SNAA				pmax		pmax			
	comp=Z,2µm,1.3s								
SNAA	**Sanae**	**52.85**	**158**	P		**P**		**00 28 24.9**	**+0.2**
SNAA				IAmb		IAmb		00 28 37.0	
	comp=Z,29nm,1.1s								
CMIG	**Matias Romero**	**54.07**	**333**	LR		LR		00 46 48.0	
	comp=Z,175nm,18.6s,baz=161,slow=31								
NVL	**N'lazarevskaya**	**57.57**	**157**	‖ *i*P		**P**		**00 29 02.6**	**+4.0**
NVL				pmax		pmax			
	comp=Z,26nm,1.2s								
QSPA	**South Pole Qui**	**57.64**	**180**	LR		LR		00 53 12.9	
	comp=Z,164nm,19.3s,baz=150,slow=36								
HKT	**Hockley**	**66.20**	**337**	*i* P		**P**		**00 29 58.6**	**+1.5**
HKT				pmax		pmax			
	comp=Z,17nm,1.8s								
TAOE	**Nuku Hiva Isla**	**66.96**	**274**	*e*LR		LR		00 50 10.8	
	comp=Z,185nm,24.9s								
Y52A	**Lilburn**	**67.09**	**349**	IAmb		IAmb		00 30 19.4	
	comp=Z,8.8nm,0.9s								
SYO	**Syowa Base**	**67.14**	**159**	‖ *e*P		P		00 30 10.6	+7.9
KMSC	**Kings Mountain**	**67.96**	**352**	IAmb		IAmb		00 30 08.8	
	comp=Z,8.0nm,1.0s								
BG3	**Lake Jocassee**	**68.02**	**350**	IAmb		IAmb		00 30 09.4	
	comp=Z,7.7nm,0.8s								
JCT	**Junction City**	**68.06**	**334**	IAmb		IAmb		00 30 22.5	
	comp=Z,14nm,1.0s								
237A	**Washetta, Mont**	**68.10**	**338**	P		**P**		**00 30 10.4**	**+1.3**
Y45A	**Yeager Farm, C**	**68.16**	**344**	P		**P**		**00 30 10.6**	**+1.2**
X48A	**Hartselle**	**68.19**	**347**	IAmb		IAmb		00 30 10.5	
	comp=Z,11nm,0.8s								
W52A	**Murphy**	**68.27**	**349**	IAmb		IAmb		00 30 12.4	
	comp=Z,8.4nm,0.8s								
TXAR	**Lajitas Array**	**68.56**	**330**	P		**P**		**00 30 13.3**	**+1.1**
	comp=Z,4.0nm,0.6s,baz=152,slow=8.4,SNR=63								
TXAR				LR		LR		00 55 59.3	
	comp=Z,249nm,18.3s,baz=154,slow=32								
V55A	**Taylorsville**	**68.64**	**352**	IAmb		IAmb		00 30 13.6	
	comp=Z,8.3nm,0.7s								
V53A	**Saluda**	**68.67**	**350**	IAmb		IAmb		00 30 14.2	
	comp=Z,9.8nm,0.7s								
TKL	**Tuckaleechee C**	**68.80**	**350**	IAmb		IAmb		00 30 14.7	
	comp=Z,9.7nm,0.8s								
U59A	**Littleton**	**68.81**	**355**	IAmb		IAmb		00 30 14.7	
	comp=Z,6.5nm,0.8s								
WLAR	**White Oak Lake**	**68.88**	**341**	P		**P**		**00 30 14.8**	**+0.8**
V51A	**Loudon**	**69.03**	**349**	IAmb		IAmb		00 30 15.7	
	comp=Z,8.8nm,0.7s								
U56A	**King**	**69.04**	**353**	IAmb		IAmb		00 30 26.6	
	comp=Z,17nm,1.1s								
U54A	**Nelsons Funny**	**69.38**	**351**	IAmb		IAmb		00 30 19.4	
	comp=Z,11nm,0.8s								
T59A	**Double "B" Far**	**69.41**	**355**	IAmb		IAmb		00 30 18.4	
	comp=Z,10nm,0.8s								
T57A	**Hurt**	**69.57**	**354**	IAmb		IAmb		00 30 19.0	
	comp=Z,6.7nm,0.8s								
CLTN	**Cedars of Leba**	**69.65**	**348**	IAmb		IAmb		00 30 20.4	
	comp=Z,14nm,0.8s								
MIAR	**Mount Ida**	**69.82**	**341**	P		**P**		**00 30 20.7**	**+0.9**
MIAR				pmax		pmax			
	comp=Z,8.0nm,1.0s								
MIAR	**Mount Ida**	**69.82**	**341**	P		**P**		**00 30 20.7**	**+0.9**
MIAR				IAmb		IAmb		00 30 33.2	
	comp=Z,8.1nm,1.0s								
U49A	**Red Boiling Sp**	**69.96**	**348**	IAmb		IAmb		00 30 21.1	
	comp=Z,5.9nm,0.6s								
WVT	**Waverly**	**69.97**	**346**	P		**P**		**00 30 21.0**	**+0.3**
WVT				pmax		pmax			
	comp=Z,26nm,0.6s								
WVT	**Waverly**	**69.97**	**346**	P		**P**		**00 30 21.0**	**+0.3**
S57A	**Dark Hollow, R**	**70.30**	**354**	IAmb		IAmb		00 30 23.7	
	comp=Z,8.9nm,0.7s								
PPT2	**Papeete2**	**70.54**	**261**	*e*S		**S**		**00 39 44.0**	**+5.1**
	comp=Z,128nm,25.2s								
PPT2	**Papeete2**	**70.54**	**261**	*e*LR		LR		00 51 54.3	
	comp=Z,80nm,23.0s								
FCAR	**Ozark Folk Cen**	**70.71**	**343**	IAmb		IAmb		00 30 39.8	
	comp=Z,10nm,1.2s								
S51A	**Beattyville**	**70.72**	**350**	IAmb		IAmb		00 30 41.2	
	comp=Z,10nm,0.9s								
MNTX	**Cornudas Mount**	**71.34**	**330**	IAmb		IAmb		00 30 30.0	
	comp=Z,7.3nm,0.7s								
WCI	**Wyandotte Cave**	**71.72**	**348**	P		**P**		**00 30 31.0**	**-0.3**
WCI				pmax		pmax			
	comp=Z,9.0nm,0.7s								
WCI	**Wyandotte Cave**	**71.72**	**348**	P		**P**		**00 30 31.0**	**-0.

ISCO Idaho Springs 78.50 334 P P 00 31 11.7 +0.9
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO Idaho Springs 78.50 334 P P 00 31 11.7 +0.9
I37A Lemond, Waseca 78.72 344 IAmb IAmb 00 31 12.9
comp=Z,14nm,0.8s
KNB Kanab 79.09 328 P P 00 31 15.1 +1.2
KNB pmax pmax
comp=Z,17nm,1.1s
KNB Kanab 79.09 328 P P 00 31 15.1 +1.2
KNB IAmb IAmb 00 31 28.4
comp=Z,17nm,1.1s
ECSD EROS Data Cent 79.24 342 IAmb IAmb 00 31 15.6
comp=Z,11nm,0.7s
LCMT Little Creek M 79.27 327 P P 00 31 16.2 +1.3
D62A Allapoint, All 79.35 2 P P 00 31 16.0 +1.2
D62A IAmb IAmb 00 31 24.7
comp=Z,18nm,1.1s
TSUM Tsumeb 79.50 106 LR LR 01 02 06.1
comp=Z,223nm,18.8s,baz=233,slow=32
TSUM Tsumeb 79.50 106 P P 00 31 16.9 +0.2
TSUM IAmb IAmb 00 31 23.4
comp=Z,16nm,0.9s
MTPU Mount Pierson 79.65 329 P P 00 31 18.1 +0.9
SZCU Shurtz Canyon 79.68 328 P P 00 31 18.6 +1.4
SHPR Sheep Range 79.75 326 P P 00 31 19.4 +1.8
PHWY Pilot Hill 79.77 335 P P 00 31 18.6 +0.9
LMQ La Malbaie 79.79 1 P P 00 31 18.4 +1.2
LMQ IAmb IAmb 00 31 29.1
comp=Z,18nm,1.0s
O20A White River Ci 79.79 333 P P 00 31 19.6 +1.8
P18A Preston Nutter 80.16 331 IAmb IAmb 00 31 37.4
comp=Z,15nm,1.0s
P17A Butcher Ranch, 80.23 331 P P 00 31 21.0 +0.9
PRN Pahroc Range 80.43 326 P P 00 31 22.8 +1.6
PRN IAmb IAmb 00 31 39.2
comp=Z,19nm,1.2s
VLDQ Val d'Or 80.49 356 IAmb IAmb 00 31 32.7
comp=Z,16nm,1.1s
F36A Milaca 80.50 345 IAmb IAmb 00 31 22.8
comp=Z,7.1nm,0.7s
BOSA Boshof 80.64 118 P P 00 31 22.7 0.0
comp=Z,11nm,0.8s,baz=239,slow=3.6,SNR=11
BOSA LR LR 01 05 04.3
comp=Z,276nm,18.1s,baz=203,slow=34
BOSA Boshof 80.64 118 P P 00 31 22.5 -0.2
BOSA pmax pmax
comp=Z,19nm,1.0s
BOSA Boshof 80.64 118 P P 00 31 22.5 -0.2
BOSA IAmb IAmb 00 31 23.6
comp=Z,19nm,1.0s
RWWY Rawlins 80.74 334 IAmb IAmb 00 31 40.5
comp=Z,8.3nm,0.8s
K22A Casper 81.33 335 IAmb IAmb 00 31 46.2
comp=Z,11nm,1.1s
SPR3 Spring Creek 3 81.39 328 IAmb IAmb 00 31 43.7
comp=Z,9.5nm,1.1s
PDAR Pinedale Array 82.56 333 P P 00 31 33.2 +0.8
comp=Z,0.5nm,0.6s,baz=138,slow=6.1,SNR=6.3
PDAR LR LR 01 04 50.3
comp=Z,167nm,19.6s,baz=164,slow=33
LHV Little Huntoon 82.75 325 P P 00 31 35.0 +1.9
LHV IAmb IAmb 00 31 47.8
comp=Z,8.4nm,1.1s
NVAR Mina Array Bea 82.79 325 P P 00 31 35.0 +1.3
comp=Z,1.0nm,0.6s,baz=153,slow=5.9,SNR=12
LBTB Lobatse 82.81 115 LR LR 01 04 07.0
comp=Z,84nm,18.9s,baz=229,slow=33
LBTB Lobatse 82.81 115 P P 00 31 34.2 0.0
LBTB pmax pmax
comp=Z,19nm,1.1s
LBTB Lobatse 82.81 115 P P 00 31 34.2 0.0
B35A Bob, Littlefor 82.92 346 IAmb IAmb 00 31 34.9
comp=Z,11nm,1.1s
HVU Hansel Valley 83.01 330 IAmb IAmb 00 31 51.2
comp=Z,7.8nm,1.0s
RYN Ryan 83.05 325 P P 00 31 36.0 +1.1
RYN IAmb IAmb 00 31 52.5
comp=Z,6.3nm,1.0s
ELK Elko 83.22 328 LR LR 01 05 52.9
comp=Z,119nm,18.1s,baz=146,slow=34
AGMN Agassiz Nation 83.33 344 IAmb IAmb 00 31 49.1
comp=Z,6.4nm,0.9s
TORD Torodi Ar. Bea 83.64 70 P P 00 31 38.3 -0.1
comp=Z,6.9nm,0.6s,baz=284,slow=6.0,SNR=38
YERR Yerington 83.68 325 P P 00 31 39.6 +1.3
YERR IAmb IAmb 00 31 55.9
comp=Z,7.6nm,1.0s
PAHR Pah Rah Range 84.31 325 P P 00 31 42.1 +0.7
YMR Madison River 84.71 333 P P 00 31 44.9 +1.4
YHH Holmes Hill 84.77 333 P P 00 31 44.5 +0.7
YHH IAmb IAmb 00 32 01.0
comp=Z,11nm,1.2s
HLID Hailey 85.16 330 P P 00 31 46.6 +1.0
ULM Lac du Bonnet 85.17 345 P P 00 31 45.6 +0.3
comp=Z,5.9nm,0.8s,baz=164,slow=5.5,SNR=4.9
ULM Lac du Bonnet 85.17 345 IAmb IAmb 00 31 56.3
comp=Z,12nm,1.1s
J08A Circle Bar Ran 86.75 328 IAmb IAmb 00 32 06.4
comp=Z,11nm,0.9s
PLID Pearl Lake 87.06 330 IAmb IAmb 00 31 58.0
comp=Z,9.3nm,1.1s
SCHQ Schefferville 87.18 3 P P 00 31 55.0 0.0
comp=Z,2.7nm,0.6s,baz=208,slow=5.5,SNR=6.7
SCHQ LR LR 01 10 32.4
comp=Z,93nm,21.8s,baz=198,slow=35
I07A Izee 87.78 328 IAmb IAmb 00 32 12.4
comp=Z,8.4nm,1.2s
PINE Pine Mountain 88.21 327 P P 00 32 02.0 +1.5
PINE IAmb IAmb 00 32 17.6
comp=Z,8.7nm,1.1s
NEW Newport 90.08 332 LR LR 01 08 27.8
comp=Z,152nm,19.7s,baz=144,slow=33
LSZ Lusaka 90.15 108 LR LR 01 09 35.6
comp=Z,382nm,18.6s,baz=237,slow=34
FRB Frobisher Bay 96.05 2 LR LR 01 21 23.7
comp=Z,69nm,18.1s,baz=212,slow=39
YKA Yellowknife Ar 100.76 341 P Pdif 00 32 56.9 -0.4
comp=Z,0.5nm,0.6s,baz=143,slow=4.6,SNR=17
DZM Mont Dzumac 102.15 234 *e*LR LR 01 06 35.9
comp=Z,154nm,21.2s
ASAR Alice Springs 118.86 207 PKP **PKPdf 00 37 57.3 -1.2**
comp=Z,0.3nm,0.5s,baz=127,slow=1.5,SNR=7.5
BR131 Keskin Array S 121.06 60 *i* PKIKP **PKPdf 00 38 01.6 -0.7**
BRTR Keskin Array B 121.06 60 PKP **PKPdf 00 38 01.5 -0.7**
comp=Z,1.2nm,0.8s,baz=204,slow=2.4,SNR=5.2
BRTR Keskin Array B 121.06 60 *c* *i* PKIKP **PKPdf 00 38 02.0 -0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 121.17 47 PKP **PKPdf 00 38 00.5 -1.3**
comp=Z,0.9nm,0.6s,baz=265,slow=2.7,SNR=4.3
FINES FINESS Array B 121.78 34 PKP **PKPdf 00 38 01.6 -1.1**
comp=Z,1.9nm,0.9s,baz=50,slow=3.0,SNR=4.5
FINES FINESS Array B 121.78 34 *c* *i* PKIKP **PKiKP 00 38 02.7 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 122.03 209 PKP **PKPdf 00 38 03.6 -1.0**
comp=Z,1.0nm,0.6s,baz=154,slow=1.6,SNR=26
H11S2 WAKE ISLAND Hyt 25.88 270 T T 02 57 09.8
baz=118,slow=75,SNR=542
H11S1 WAKE ISLAND Hyt 25.89 270 T T 02 57 09.9
baz=118,slow=75,SNR=203
H11S3 WAKE ISLAND Hyt 25.89 270 T T 02 57 05.3
baz=118,slow=75,SNR=244
H11N3 WAKE ISLAND Hyt 26.25 272 T T 02 57 35.0
baz=118,slow=75,SNR=48
H11N1 WAKE ISLAND Hyt 26.27 272 T T 02 57 39.1
baz=118,slow=75,SNR=29
H11N2 WAKE ISLAND Hyt 26.27 272 T T 02 57 36.3
baz=118,slow=75,SNR=128
OBN Obninsk 126.34 43 ⇓ *e*PKIKP **PKPdf 00 38 10.6 -1.0**
OBN *e* 00 40 10.4
OBN *e* 00 45 26.7
OBN pmax pmax
comp=Z,23nm,1.9s
FITZ Fitzroy Crossi 126.87 201 PKP PKPdf 00 38 13.8 -0.1
comp=Z,2.1nm,0.8s,baz=201,slow=7.6,SNR=2.1
KLMR Klimovskoe 128.21 35 *e*PKIKP **PKPdf 00 38 13.5 -1.5**
KLMR pmax pmax
comp=Z,29nm,1.5s
KLMR Klimovskoe 128.21 35 *e*PKPdf **PKPdf 00 38 13.6 -1.5**
KLMR AMP 00 38 18.7
comp=Z,29nm,1.5s
NEY Neytrino 128.55 58 *i* PKIKP **PKPdf 00 38 15.0 -1.5**
KBZ Khabaz 128.77 58 PKP **PKiKP 00 38 17.9 +0.7**
comp=Z,3.1nm,0.9s,baz=299,slow=4.8,SNR=4.6
KBZ Khabaz 128.77 58 *i* PKIKP **PKiKP 00 38 18.0 +0.7**
PRGR Permogore 131.11 34 *e*PKIKP **PKiKP 00 38 22.3 +0.9**
PRGR pmax pmax
comp=Z,59nm,1.4s
BILL Bilibino 131.61 335 ⇓ *e*PKIKP **PKPdf 00 38 21.2 -0.1**
BILL *e* 00 40 38.7
BILL *e*PPP PPP 00 43 36.8
BILL pmax pmax
comp=Z,7.0nm,1.4s
BILL MLR MLR
comp=Z,79nm,17.0s
ARU Arti 138.61 40 PKP **PKPdf 00 38 34.4 -0.3**
comp=Z,1.0nm,0.5s,baz=308,slow=5.1,SNR=6.4
ARU Arti 138.61 40 *i* PKIKP **PKPdf 00 38 34.2 -0.5**
ARU 00 41 22.2
ARU MLR MLR
comp=Z,171nm,20.0s
ABKAR Akbulak array 140.73 50 PKiKP 00 38 40.5 -1.0
BRVK Borovoye 146.10 42 *c* *i* PKP2 **PKPab 00 38 49.5 -0.2**
BRVK Borovoye 146.10 42 PKPdf **PKPab 00 38 49.7 0.0**
BVAR Borovoye Array 146.18 42 PKPbc **PKPab 00 38 49.7 -0.3**
comp=Z,6.8nm,0.6s,baz=7.1,slow=6.0,SNR=52
POO Poona 146.26 106 *e*P **PKPdf 00 38 48.0 -1.5**
TOLI2 Tolitoli 146.48 203 PKPbc 00 38 50.6 -0.7
URV Uravakonda 146.94 115 *e*PKPab **PKPdf 00 38 51.0 +0.3**
YAK Yakutsk 147.44 341 *e*PKP2 **PKPbc 00 38 51.7 -0.9**
YAK *e* 00 42 20.4
YAK *e*SS SS 01 01 25.1 +4.0
YAK pmax pmax
comp=Z,42nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,130nm,3.5s
YAK pmax pmax
comp=E,91nm,3.6s
YAK pmax pmax
comp=N,33nm,3.0s
KBL Kabul 147.55 76 PKP2 **PKPbc 00 38 54.0 -0.1**
KBL Kabul 147.55 76 PKPbc 00 38 54.0 -0.1
SKHT Srikalahasti 148.03 119 *e*PKPab **PKPbc 00 38 55.5 -0.1**
KLRI Killari 148.22 109 *e*PKPbc **PKPdf 00 38 53.2 +0.4**
KLRI *e*PKiKP **PKPbc 00 38 55.7 -0.5**
RCLA Racherla 148.55 116 *e*PKPab **PKPbc 00 38 57.5 +0.6**
SRLM Srisailam 148.89 115 *e*PKPbc **PKPdf 00 38 55.1 +1.2**
HYBB Hyderabad (bro 149.40 112 *e*PKPbc **PKPdf 00 38 56.5 +1.7**
HYBB *e*PKiKP **PKPbc 00 38 58.2 -0.9**
ADKI Addanki 149.56 116 *e*PKiKP **PKPbc 00 38 58.3 -1.2**
YSS Yuzh-Sakhalins 150.01 309 *e*PKIKP **PKPbc 00 38 57.3 -2.4**
YSS pmax pmax
comp=Z,20nm,1.0s
SRSP Sriramsagar 150.08 110 *e*PKPbc **PKPdf 00 38 57.9 +2.1**
MYLAV Mylavaram 150.61 116 *e*PKPbc **PKPbc 00 38 59.4 -2.6**
RPR Rampur 150.79 111 *e*PKPbc **PKPbc 00 38 59.9 -2.6**
NIL Nilore 150.89 78 PKIKP **PKPbc 00 39 01.7 -0.6**
NIL Nilore 150.89 78 PKPbc 00 39 01.7 -0.6
EKS2 Erkin-Say 151.21 60 P **PKiKP 00 39 03.7 +0.3**
SNR=20
AML Almayashu 151.22 61 P **PKiKP 00 39 03.9 +0.1**
SNR=14
IPM Ipoh 151.26 165 PKPab **PKPab 00 39 12.6 +1.1**
USP Óspenovka 151.63 58 P **PKiKP 00 39 04.3 +0.2**
SNR=15
PVM Polavaram 151.67 116 *e*PKPbc **PKPbc 00 39 02.2 -2.3**
AAK Ala-Archa 151.73 60 P **PKiKP 00 39 05.0 +0.5**
SNR=25
AAK Ala-Archa 151.73 60 PKIKP **PKiKP 00 39 05.1 +0.5**
AAK 01 38 59.5
AAK Ala-Archa 151.73 60 PKPdf **PKPdf 00 39 59.5 +1.7**
AAK **PKiKP 00 39 05.1 +0.5**
KURBB Kurchatov Arra 151.77 42 PKPbc **PKiKP 00 39 03.9 -0.2**
comp=Z,11nm,0.6s,baz=301,slow=3.0,SNR=52
KURK Kurchatov 151.78 41 PKIKP **PKiKP 00 39 04.1 0.0**
KURK Kurchatov 151.78 41 PKiKP 00 39 04.1 0.0
UCH Uchtor 151.81 60 P **PKiKP 00 39 05.5 +0.4**
SNR=28
CHMS Chumysh 151.86 59 P **PKiKP 00 39 04.8 +0.2**
SNR=8.9
KBK Karagaybulak 152.06 59 P **PKiKP 00 39 05.3 0.0**
SNR=9.6
TKM2 Tokmak 2 152.48 59 P **PKiKP 00 39 06.3 +0.1**
SNR=11
ZAA0 Zalesovo Array 152.98 31 PKPdf **PKPdf 00 38 59.5 +0.5**
ZAA0 **PKPbc 00 39 06.2 -0.1**
ZALV Zalesovo Beam 152.98 31 PKP **PKPdf 00 38 59.6 +0.6**
comp=Z,2.1nm,0.8s,baz=270,slow=1.5,SNR=6.8
ZALV PKPbc **PKPbc 00 39 06.3 0.0**
comp=Z,12nm,0.6s,baz=304,slow=3.1,SNR=53
ZALV Zalesovo Beam 152.98 31 PKIKP **PKPdf 00 38 58.8 -0.2**
ZALV 00 39 06.4
ZALV Zalesovo Beam 152.98 31 PKPdf **PKPdf 00 38 58.8 -0.2**
ZALV PKPbc **PKiKP 00 39 06.4 0.0**
BOD Bodaibo 154.45 353 *e*PKIKP **PKPbc 00 39 05.8 -3.6**
BOD pmax pmax
comp=Z,13nm,2.0s
ZEA Zeya 154.81 333 *e*PKIKP **PKPdf 00 39 02.7 +1.1**
MK31 Makanchi Array 155.75 47 PKP2 **PKPab 00 39 29.0 -0.7**
MK31 Makanchi Array 155.75 47 PKPab **PKPab 00 39 29.0 -0.7**
MKAR Makanchi Array 155.75 47 PKP **PKPdf 00 39 02.9 -0.4**
comp=Z,0.7nm,0.8s,baz=319,slow=1.3,SNR=6.0
MKAR PKPab **PKPab 00 39 28.8 -0.9**
comp=Z,2.9nm,0.6s,baz=287,slow=3.1,SNR=23
MKAR Makanchi Array 155.75 47 PKPab **PKPab 00 39 29.8 +0.1**
WMQ Urumqi 160.50 49 *e*P **PKPdf 00 39 09.3 +0.1**
WMQ pmax pmax
comp=Z,130nm,4.3s
ZAK Zakamensk 161.88 10 *e*PKP2 **PKPab 00 39 49.3 -6.8**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
SONM Songino Array 164.72 4 PKP **PKPdf 00 39 12.6 -0.6**
comp=Z,0.5nm,0.8s,baz=106,slow=4.8,SNR=2.4
SONM PKPab **PKPab 00 40 08.1 -0.7**
comp=Z,1.0nm,0.8s,baz=343,slow=4.9,SNR=5.5
ULN Ulaanbaatar 164.73 3 PKP2 **PKPab 00 40 09.8 +1.0**
ULN Ulaanbaatar 164.73 3 PKPab **PKPab 00 40 09.8 +1.0**
GTA Gaotai 170.46 42 PKPbc **PKPdf 00 39 18.0 +0.4**
GTA PKPab **PKPab 00 40 35.3 +0.8**
NJ2 Nanjing 170.86 269 *e*P **PKPdf 00 39 18.0 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
HHC Hu-ho-hao-te 171.30 342 *e*P **PKPdf 00 39 14.3 -3.7**
PZH PanZhiHua 171.80 136 PKP **PKPdf 00 39 18.3 -0.4**
LZH Lanzhou 175.06 44 *e*PKP **PKPdf 00 39 20.3 +0.6**
LZH sPKP 00 39 25.3

IDC ***26*** *00:22:46.5±1.3, 35°.53N×3°.77W, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.3/48, mbtmp3.4/6, ML3.1/2, Error ellipse: s-maj=44.1km s-min=22.3km az=95.0*
MDD ***26*** *00:22:47.2±0.8, 35°.43N×3°.87W, h0km±7km, mbLg3.4/3, Error ellipse: s-maj=10.7km s-min=4.4km az=16.0*
SFS ***26*** *00:22:48.0, 35°.42N×3°.87W, ML3.4, ALBORAN SUR*
CNRM ***26*** *00:22:48.0, 35°.53N×3°.71W, h15km, ml3.6*
IGIL ***26*** *00:22:48.9, 35°.43N×3°.87W, h0km, ML3.0*
LDG ***26*** *00:22:49.6±0.3, 35°.43N×3°.70W, h10km, Ml2.8/4, Error ellipse: s-maj=7.6km s-min=3.6km az=179.0*
ISC 26 00:22:47.6±1.1, 35°.53N±0°.02×3°.77W±0°.02, h13km±8km, n45, σ1§67/73, mb3.7/4, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**204**	P	**Pg**	**00 22 54.1**	**-0.4**
PALE				S	**Sg**	**00 22 58.8**	**-0.4**
EMEL	**Melilla**	**0.70**	**109**	Pg	**Pb**	**00 23 01.6**	**-0.2**
570nm,0.3s,SNR=54							
EMEL				Lg	Lg	00 23 11.5	
780nm,0.1s,SNR=16							
GOG	**Mont Gurugu**	**0.70**	**116**	P	**Pn**	**00 23 02.0**	**-1.4**
GOG				S	**Sb**	**00 23 10.6**	**-0.9**
EALB	**Alboran**	**0.72**	**56**	Pg	**Pn**	**00 23 02.9**	**-0.7**
254nm,0.4s,SNR=159							
EALB				Lg	Lg	00 23 13.8	
642nm,0.2s,SNR=9.1							
AKLM	**AKL**	**1.02**	**184**	P	**Pb**	**00 23 06.6**	**-0.6**
AKLM				S	**Sn**	**00 23 26.3**	**+4.3**
CHAS	**Isla Isabel II**	**1.15**	**107**	*e*P	**Pb**	**00 23 07.7**	**-1.6**
CHAS				*e*S	**Sg**	**00 23 23.4**	**-1.2**
EMIJ	**Mijas**	**1.31**	**322**	Pg	**Pn**	**00 23 12.2**	**+0.5**
18nm,0.3s,SNR=31							
EMIJ				Lg	Lg	00 23 30.1	
85nm,0.2s,SNR=11							
ELGU	**Los Guajares,**	**1.34**	**5**	Pn	**Pn**	**00 23 12.2**	**+0.1**
SNR=7.9							
ELGU				Sn	**Sg**	**00 23 32.8**	**+2.0**
SNR=7.9							
EMAL	**Malaga-Limoner**	**1.34**	**337**	*e*P	**Pn**	**00 23 12.1**	**+0.1**
EMAL				*e*S	**Sn**	**00 23 28.1**	**-1.6**
CHEFC	**Chefchaouen**	**1.35**	**252**	P	**Pn**	**00 23 12.5**	**+0.2**
CEU	**Ceuta**	**1.35**	**286**	*e*P	**Pn**	**00 23 09.6**	**-2.6**
CEU				*e*S	**Sn**	**00 23 24.1**	**-6.0**
ECEU	**Ceuta**	**1.36**	**286**	Pg	**Pn**	**00 23 11.2**	**-1.1**
30nm,0.2s,SNR=36							
ECEU				Lg	Lg	00 23 28.2	
108nm,0.1s,SNR=9.8							
EBER	**Berja**	**1.54**	**27**	Pn	**Pn**	**00 23 15.1**	**+0.1**
23nm,0.3s,SNR=50							
EBER				Sn	**Sg**	**00 23 37.8**	**+0.6**
SNR=7.9							
JBK	**JBK**	**1.55**	**140**	P	**Pb**	**00 23 15.7**	**-0.7**
JBK				S	**Sb**	**00 23 34.7**	**-1.3**
EGOR	**Sierra Gorda,**	**1.60**	**350**	Pn	**Pb**	**00 23 16.7**	**-0.4**
SNR=7.9							
EGOR				Sn	**Sb**	**00 23 38.9**	**+1.6**
SNR=7.9							
EQUE	**Quentar**	**1.69**	**9**	Pn	**Pb**	**00 23 18.4**	**-0.3**
27nm,0.6s,SNR=46							
EQUE				Sn	**Sg**	**00 23 42.7**	**+0.7**
47nm,0.4s,SNR=8.1							
RSA	**Sarsar**	**1.80**	**250**	P	**Pb**	**00 23 20.1**	**-0.3**
RSA				S	**Sb**	**00 23 44.1**	**+1.1**
SICH	**Sidi Chahed**	**1.91**	**222**	P	**Pb**	**00 23 21.3**	**-1.0**
SICH				S	**Sg**	**00 23 48.0**	**-1.0**
ENIJ	**Nijar**	**1.91**	**41**	Pn	**Pn**	**00 23 20.3**	**+0.3**
SNR=7.9							
ENIJ				Sn	**Sn**	**00 23 43.2**	**-0.8**
SNR=7.9							
LCRM	**LCR**	**2.05**	**206**	P	**Pb**	**00 23 24.0**	**-0.8**
LCRM				S	**Sg**	**00 23 56.8**	**+3.3**
IFR	**Ifrane**	**2.30**	**210**	*e*P	**Pn**	**00 23 24.9**	**-0.6**
IFR				*e*S	**Sn**	**00 23 51.7**	**-2.1**
EQES	**Quesada**	**2.33**	**14**	Pn	**Pb**	**00 23 28.1**	**-1.5**
19nm,0.3s,SNR=103							
EQES				Sn	**Sb**	**00 23 58.6**	**+0.1**
695μm,100.0s,SNR=5.8							
MD31	**MD31**	**2.78**	**197**	P	**Pn**	**00 23 32.4**	**+0.4**
MD31				S	**Sn**	**00 24 05.1**	**-0.4**
MDT	**Midelt**	**2.80**	**195**	Pn	**Pn**	**00 23 33.2**	**+1.0**
1.6nm,0.3s,baz=176,slow=10,SNR=25							
MDT				Sn	**Sn**	**00 24 06.6**	**+0.7**
4.7nm,0.3s,baz=75,slow=15,SNR=7.1							
MDT	**Midelt**	**2.80**	**195**	P	**Pn**	**00 23 33.1**	**+1.0**
TDRA	**Tendrara**	**2.87**	**149**	P	**Pn**	**00 23 35.1**	**+1.8**
TDRA				S	**Sn**	**00 24 07.6**	**-0.3**
CART	**Cartagena**	**3.03**	**47**	P	**Pn**	**00 23 34.4**	**-0.9**
CART				S	**Sn**	**00 24 08.9**	**-2.5**
PVAQ	**Vaqueiros**	**3.69**	**302**	P	**Pn**	**00 23 44.9**	**+0.5**
PVAQ				S	**Sn**	**00 24 27.3**	**-0.4**
AVE	**Averroes**	**3.75**	**235**	P	**Pn**	**00 23 45.3**	**+0.2**
FIGM	**Figuig**	**3.98**	**148**	P	**Pn**	**00 23 50.4**	**+1.9**
ESDC	**Sonseca Array**	**4.14**	**358**	Pn	**Pn**	**00 23 53.1**	**+2.5**
0.7nm,0.3s,baz=181,slow=12,SNR=42							
ESDC				Sn	**Sn**	**00 24 39.2**	**+0.3**
0.5nm,0.3s,baz=177,slow=14,SNR=4.7							
MESJ	**Messejana**	**4.25**	**304**	*e*P	**Pn**	**00 23 52.6**	**+0.5**
MESJ				*e*S	**Sn**	**00 24 39.5**	**-2.1**
MESJ				IAML		00 24 44.0	
comp=N,27nm,0.1s							
MORF	**Marmelete**	**4.32**	**296**	*e*P	**Pn**	**00 23 53.5**	**+0.5**
MORF				*e*S	**Sn**	**00 24 40.7**	**-2.5**
MORF				IAML		00 24 43.6	
comp=N,38nm,0.2s							
PFVI	**Vila Bisbo**	**4.38**	**293**	P	**Pn**	**00 23 55.6**	**+1.7**
PESTR	**Estremoz**	**4.51**	**319**	P	**Pn**	**00 23 57.3**	**+1.6**
TZRR	**Tazzarine**	**4.97**	**198**	P	**Pn**	**00 24 03.7**	**+1.7**
OUK	**Oukaimeden**	**5.51**	**220**	P	**Pn**	**00 24 08.8**	**-0.9**
ETSF	**Etsaut**	**7.77**	**18**	*e*Pn	**Pn**	**00 24 41.2**	**+0.8**
ETSF				*e*Sn	**Sn**	**00 26 04.5**	**-3.8**
comp=N,0.2nm,0.2s							
SJPF	**Ste Jean**	**7.82**	**14**	*e*Pn	**Pn**	**00 24 41.9**	**+0.7**
SJPF				*e*Sn	**Sn**	**00 26 07.2**	**-2.4**
comp=N,0.5nm,0.3s							
EPF	**Esparros**	**8.14**	**22**	*e*Pn	**Pn**	**00 24 46.5**	**+1.0**
EPF				*e*Sn	**Sn**	**00 26 13.3**	**-4.1**
comp=N,0.5nm,0.3s							
PGF	**Pioggiola**	**12.14**	**51**	*e*Pn	**Pn**	**00 25 40.3**	**-0.1**
PGF				*e*Sg		00 29 10.8	
comp=N,0.4nm,0.3s							
TORD	**Torodi Ar. Bea**	**22.83**	**166**	P	**P**	**00 27 50.3**	**-0.2**
comp=N,0.4nm,0.7s,baz=345,slow=11,SNR=2.3							
KURBB	**Kurchatov Arra**	**58.96**	**47**	P	**P**	**00 32 47.4**	**+0.8**
comp=N,1.2nm,0.3s,baz=295,slow=7.6,SNR=5.3							
MKAR	**Makanchi Array**	**62.69**	**50**	P	**P**	**00 33 13.5**	**+1.4**
comp=N,0.4nm,0.7s,baz=304,slow=6.2,SNR=2.6							
YKA	**Yellowknife Ar**	**67.81**	**332**	P	**P**	**00 33 45.7**	**+0.8**
comp=N,0.3nm,0.6s,baz=63,slow=6.5,SNR=4.2							

IDC ***26*** *00:24:54.4±5.4, 37°.18N×71°.85E, h156km±30km, mb3.6/4, mb1 3.5/11, mb1mx3.1/60, mbtmp4.0/11, Error ellipse: s-maj=64.9km s-min=24.6km az=150.0*
NEIC ***26*** *00:24:55.5±1.3, 37°.19N±0°.06×71°.8E±0°.1, h164km±6km, mb4.1/6, Error ellipse: s-maj=12.3km s-min=9.2km az=95.0*
NNC ***26*** *00:24:58.6±2.8, 37°.47N×71°.60E, h143km±47km, mb3.2, mpv3.8, Error ellipse: s-maj=25.8km s-min=17.4km az=9.0*
ISC 26 00:24:52.4±0.7, 37°.04N±0°.06×71°.87E±0°.06, h150km, n55, σ1§50/60, mb3.7/7, 2C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**2.44**	**359**	Pn	**Pn**	**00 25 35.4**	**+2.4**
CHGR	**Chuyangaron**	**2.68**	**308**		**Pn**	**00 25 37.3**	**+1.5**
BTK	**Batken**	**3.12**	**345**	Pn	**Pn**	**00 25 44.0**	**+2.6**
KBL	**Kabul**	**3.39**	**223**		Pn	00 25 50.0	+5.1
NIL	**Nilore**	**3.57**	**161**		Pn	00 25 51.8	+4.8
AML	**Almayashu**	**5.28**	**15**	P	**Pn**	**00 26 11.2**	**+1.5**
SNR=40							
UCH	**Uchtor**	**5.57**	**21**	P	**Pn**	**00 26 15.4**	**+1.8**
SNR=16							
EKS2	**Erkin-Say**	**5.80**	**14**	P	**Pn**	**00 26 19.0**	**+2.5**
SNR=11							
AAK	**Ala-Archa**	**5.95**	**19**	P	**Pn**	**00 26 20.5**	**+2.1**
3.3nm,0.3s,baz=171,slow=5.3,SNR=26							
AAK				S	**Sn**	**00 27 24.8**	**-0.9**
1.8nm,0.3s,baz=358,slow=22,SNR=17							
AAK	**Ala-Archa**	**5.95**	**19**	P	**Pn**	**00 26 20.2**	**+1.9**
SNR=6.7							
AAK	**Ala-Archa**	**5.95**	**19**	⇑P	**Pn**	**00 26 19.9**	**+1.5**
4.7nm,0.5s							
AAK				⇓S	**Sn**	**00 27 24.5**	**-1.2**
37nm,0.9s							
AAK	**Ala-Archa**	**5.95**	**19**		**Pn**	**00 26 20.3**	**+1.9**
DHRM	**DHARAMSHALA**	**6.01**	**141**	*e*P	**Pn**	**00 26 22.1**	**+2.6**
DHRM				*e*S	**Sn**	**00 27 26.6**	**-0.9**
DHRM				IAML		00 27 29.9	
comp=E,225nm,0.7s							
DHRM				IAML		00 27 30.4	
comp=N,241nm,0.3s							
KKAR	**Karatay Array**	**6.14**	**351**		**Pn**	**00 26 22.1**	**+1.2**
KK08	**Karatay Array**	**6.15**	**351**	⇑P	**Pn**	**00 26 21.9**	**+0.9**
comp=N,8.0nm,0.3s,baz=170,slow=12							
KK08				⇓S	**Sn**	**00 27 25.5**	**-4.9**
comp=N,31nm,0.4s,baz=159,slow=23							
BOOM	**Boomskoye usch**	**6.28**	**29**		**Pn**	**00 26 24.5**	**+1.6**
CHMS	**Chumysh**	**6.35**	**20**	P	**Pn**	**00 26 25.3**	**+1.6**
SNR=5.5							
KDJ	**Kajisay**	**6.53**	**37**	Pn	**Pn**	**00 26 27.1**	**+0.8**
TKM2	**Tokmak 2**	**6.54**	**25**	⇓P	**Pn**	**00 26 27.9**	**+1.6**
comp=N,1.8nm,0.4s							
TKM2				⇓S	**Sn**	**00 27 40.2**	**+0.3**
comp=N,4.9nm,0.8s							
TARG	**Taragay, Kyrgy**	**6.56**	**43**		**Pn**	**00 26 27.7**	**+0.9**
SMLA	**Simla**	**7.35**	**142**	*e*P	**Pn**	**00 26 39.6**	**+2.5**
SMLA				*e*S	**Sn**	**00 27 55.8**	**-3.5**
SMLA				IAML		00 28 01.4	
comp=E,97nm,0.8s							
SMLA				IAML		00 28 01.4	
comp=N,63nm,0.1s							
PRZ	**Przheval'sk**	**7.41**	**41**	Pn	**Pn**	**00 26 39.5**	**+1.6**
GEYT	**Alibeck**	**10.96**	**279**	P	**Pn**	**00 27 25.4**	**

GYA0B	ALIBECK ARRAY	10.96 279	Pn	Pn	00 27 25.9	+0.8
MK31	Makanchi Array	12.45 35	Pn	Pn	00 27 45.4	+1.1
MKAR	Makanchi Array	12.45 35	P	Pn	00 27 43.0	-1.4
	comp=N,0.1nm,0.3s,baz=214,slow=11,SNR=5.1					
MKAR	Makanchi Array	12.45 35		Pn	00 27 45.0	+0.7
PYUN	Piuthan	12.93 130	*e*P	Pn	00 27 50.0	-0.9
	comp=N,16nm,0.4s					
DANN	Dangsing	13.23 127	*e*P	Pn	00 27 54.7	-0.1
	comp=N,12nm,0.3s					
KOLN	Koldanda	13.54 130	*e*P	Pn	00 27 58.2	-0.5
	comp=N,17nm,0.5s					
GKN	Gorkha	14.03 126	*e*P	Pn	00 28 05.0	+0.2
	comp=N,13nm,0.4s					
KURBB	Kurchatov Arra	14.40 17	P	Pn	00 28 09.4	+0.4
	comp=N,0.2nm,0.3s,baz=206,slow=9.6,SNR=10					
KKN	Kakani	14.60 125	*e*P	Pn	00 28 11.7	-0.2
	comp=N,10nm,0.5s					
DMN	Daman	14.61 126	*e*P	Pn	00 28 12.1	0.0
	comp=N,10nm,0.3s					
PKIN	Phulchoki	14.81 126	*e*P	Pn	00 28 15.1	+0.4
PKI	Pulchoki	14.83 126	*e*P	Pn	00 28 15.1	+0.1
	comp=N,2.7nm,0.2s					
GUN	Gumba	14.91 124	*e*P	Pn	00 28 16.3	+0.3
	comp=N,5.0nm,0.3s					
AB31	Akbulak array	14.97 328	⇓P	P	00 28 17.0	-1.0
	comp=N,2.3nm,0.4s,baz=153,slow=11,SNR=115					
ABKAR	Akbulak array	14.97 328		Pn	00 28 16.7	+0.5
BVAR	Borovoye Array	16.02 357	P	Pn	00 28 28.5	-0.6
	comp=N,0.4nm,0.3s,baz=128,slow=12,SNR=10					
BRVK	Borovoye	16.06 357		Pn	00 28 29.2	-0.3
AKTO	Aktyubinsk	16.68 328	P	Pn	00 28 38.2	+1.1
	comp=N,1.1nm,0.3s,baz=148,slow=6.6,SNR=15					
AKTO	Aktyubinsk	16.68 328	⇓P	Pn	00 28 37.7	+0.6
	comp=N,5.0nm,0.8s					
ZAA0	Zalesovo Array	19.14 24		P	00 29 03.3	-0.4
ZAA0			IAmb	IAmb	00 29 05.7	
	comp=Z,2.9nm,0.4s					
ZALV	Zalesovo Beam	19.14 24	P	P	00 29 04.5	+0.7
	comp=Z,1.4nm,0.3s,baz=215,slow=11,SNR=16					
ARU	Arti	21.36 339		P	00 29 28.5	+0.9
ARU			IAmb	IAmb	00 29 29.2	
	comp=Z,2.5nm,0.8s					
GNI	Garni	21.40 287	P	P	00 29 29.8	+1.5
GNI			IAmb	IAmb	00 29 38.4	
	comp=Z,12nm,1.1s					
FINES	FINESS Array B	37.43 325	P	P	00 31 50.7	+0.1
	comp=Z,1.1nm,0.6s,baz=113,slow=11,SNR=4.2					
ARCES	ARCESS Array B	40.91 337	P	P	00 32 18.9	-0.6
	comp=Z,1.8nm,0.9s,baz=105,slow=7.6,SNR=4.1					
HFS	Hagfors	43.08 321	P	P	00 32 37.7	+0.7
	comp=Z,1.8nm,0.4s,baz=90,slow=12,SNR=13					
NB201	NORSAR Array S	44.33 323	P	P	00 32 47.6	+0.5
NB201			IAmb	IAmb	00 32 54.4	
	comp=Z,10.0nm,1.1s					
NB2	NORSAR Subarra	44.37 323	P	P	00 32 47.6	+0.1
	comp=Z,0.2nm,0.5s,baz=90,slow=7.9					
NOA	NORSAR Array B	44.37 323	P	P	00 32 48.0	+0.5
	comp=Z,3.9nm,1.2s,baz=107,slow=7.2,SNR=4.1					
NC204	NORSAR Array S	44.61 323	P	P	00 32 49.9	+0.6

*NOU **26** 00:30:45.6, 29°.36S×178°.53W, h339km, mb4.7/18, Kermadec Islands, New Zealand*
*NEIC **26** 00:30:45.7±2.2, 29°.5S±0°.1×178°.6W±0°.1, h336km±10km, mb4.5/3, Error ellipse: s-maj=26.6km s-min=3.7km az=138.0*
*IDC **26** 00:30:46.5±1.1, 29°.24S×179°.19W, h314km±11km, mb3.6/9, mb1 3.9/13, mb1mx3.7/37, mbtmp4.5/13, Error ellipse: s-maj=19.6km s-min=16.2km az=113.0*
ISC 26 00:30:45.1±0.5, **29°.63S**±0°.06×**178°.4W**±0°.1, **h350**km, **n105,** σ**2**s**78**/123, **mb4.1/9, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.57	50	P	Pn	00 31 28.1	-1.4
GLKZ				S	S	00 31 58.7	-6.3
RIZ	Raoul Island	0.58	48	P	Pn	00 31 28.8	-0.8
RIZ				S	S	00 31 57.3	-7.9
RAO	Raoul Island	0.58	49	P	Pn	00 31 29.0	-0.5
	601nm,0.3s,baz=295,slow=1.7,SNR=9.8						
RAO				S	S	00 32 00.0	-5.1
	335nm,0.3s,baz=86,slow=22,SNR=13						
RAO	Raoul Island	0.58	49		Pn	00 31 28.8	-0.8
RAO	Raoul Island	0.58	49	P	Pn	00 31 29.3	-0.3
MXZ	Matakaoa Point	8.36	198	P	P	00 32 47.7	+1.6
PKGZ	Pakihiroa	8.73	199	P	Pn	00 32 47.9	+0.1
OUZ	Omahuta	8.74	228	Pn	Pn	00 32 48.9	+0.9
WCZ	Waipu Caves	8.75	222	P	P	00 32 52.7	+2.2
PUZ	Puketiti	8.86	197	P	Pn	00 32 48.2	-1.0
CNGZ	Carnagh Statio	9.26	197	P	P	00 32 58.2	+2.1
URZ	Urewera	9.37	202	P	P	00 32 57.0	-0.4
	2.0nm,0.3s,baz=270,slow=5.0,SNR=12						
URZ				S	S	00 34 43.8	+1.8
	7.8nm,0.3s,baz=236,slow=22,SNR=14						
URZ	Urewera	9.37	202	P	Pn	00 32 54.0	-1.3
URZ	Urewera	9.37	202		Pn	00 32 56.5	+1.2
URZ					S	00 34 44.5	+2.5
URZ	Urewera	9.37	202	P	P	00 32 58.6	+1.3
TOZ	Tahuroa Road	9.53	210	P	P	00 33 01.5	+2.4
SNGZ	Shannon Statio	9.77	200	P	Pn	00 32 58.5	-1.7
TLZ	Tolley Road	10.02	208	P	P	00 33 09.4	+4.8
BKZ	Black Stump Fm	10.39	202	P	Pn	00 33 04.2	-3.4
BKZ	Black Stump Fm	10.39	202		P	00 33 08.9	+0.1
BKZ	Black Stump Fm	10.39	202	P	P	00 33 10.4	+1.6
HIZ	Hauiti	10.46	210	P	P	00 33 13.6	+4.2
HIZ	Hauiti	10.46	210	P	P	00 33 12.1	+2.6
HIZ	Hauiti	10.46	210	P	P	00 33 11.2	+1.7
DVHZ	Dannevirke	11.53	201	P	P	00 33 23.1	+1.8
DVHZ				S	S	00 35 24.8	-4.9
ANWZ	Angora Road	11.58	200	P	Pn	00 33 21.2	-0.4
ANWZ				S	S	00 35 28.2	-2.6
POWZ	Post Office Ro	11.74	202	P	Pn	00 33 23.1	-0.4
POWZ				S	S	00 35 29.9	-4.4
PRWZ	Pori Road	11.82	201	P	P	00 33 26.5	+2.0
PRWZ				S	S	00 35 32.5	-3.6
BFZ	Birch Farm	11.85	200	P	Pn	00 33 25.7	+0.8
BFZ				S	S	00 35 31.6	-5.2
BFZ	Birch Farm	11.85	200	P	Pn	00 33 26.1	+1.2
BFZ	Birch Farm	11.85	200	P	Pn	00 33 27.3	+2.4
MRZ	Mangatainoka R	12.04	202	P	Pn	00 33 27.4	+0.2
MRZ				S	S	00 35 34.2	-6.7
TIWZ	Tintock	12.05	201	P	P	00 33 26.5	-0.6
TIWZ				S	S	00 35 35.9	-5.2
CPWZ	Castlepoint	12.07	200	P	Pn	00 33 29.1	+1.6
CPWZ				S	S	00 35 39.3	-2.2
HOWZ	Holdsworth Sta	12.28	202	P	P	00 33 26.2	-3.5
HOWZ				S	S	00 35 41.0	-4.9
MSVF	Nonsavu	12.28	344	P	P	00 33 26.0	-4.0
	10nm,0.3s,baz=211,slow=7.1,SNR=42						
MSVF	Nonsavu	12.28	344	P	P	00 33 26.6	-3.4
MSVF	Nonsavu	12.28	344	P	P	00 33 26.9	-3.1
OGWZ	Otaki Gorge	12.32	203	P	P	00 33 29.9	-0.1
OGWZ				S	S	00 35 41.8	-4.9
TMWZ	Te Maipa	12.35	200	P	Pn	00 33 32.5	+1.7
TMWZ				S	S	00 35 42.7	-4.6
KIW	Kapiti Island	12.45	204	P	Pn	00 33 32.5	+0.5
KIW				S	S	00 35 45.2	-4.2
MTW	Mount Morrison	12.52	202	P	Pn	00 33 33.3	+0.6
MTW				S	S	00 35 44.4	-6.3
CAW	Cannon Point	12.61	203	P	P	00 33 30.3	-3.1
CAW				S	S	00 35 45.9	-6.8
TRWZ	Traveller	12.68	201	P	P	00 33 34.1	+0.1
PAWZ	Paruwai Farm	12.74	201	P	P	00 33 35.3	+0.5
DUWZ	D'Urville Isla	12.77	207	P	P	00 33 32.9	-2.2
MSWZ	Moikau Station	12.83	202	P	P	00 33 35.8	0.0
MSWZ	Moikau Station	12.83	202	P	Pn	00 33 36.6	+0.1
SNZO	South Karori	12.92	204	P	Pn	00 33 37.5	0.0
SNZO	South Karori	12.92	204	P	Pn	00 33 40.4	+2.9
BHW	Baring Head	12.95	203	P	P	00 33 35.2	-1.8
BHW	Baring Head	12.95	203	P	P	00 33 37.6	+0.6
PLWZ	Palliser	12.97	202	P	P	00 33 36.7	-0.6
TCW	Tory Channel	12.99	205	P	P	00 33 36.5	-1.0
NIUE	Niue	13.05	38	P	Pn	00 33 39.2	-0.1
TUWZ	Tuamarina	13.30	206	P	P	00 33 41.5	+0.6
TUWZ	Tuamarina	13.30	206	P	P	00 33 41.5	+0.6
NNZ	Nelson	13.34	208	P	P	00 33 40.6	-0.8
NNZ	Nelson	13.34	208	P	P	00 33 42.1	+0.7
DGTI	Dogotuki	13.38	352	P	P	00 33 39.8	-2.3
QRZ	Quartz Range	13.38	211	P	P	00 33 41.9	0.0
QRZ	Quartz Range	13.38	211	P	Pn	00 33 42.7	-0.3
QRZ	Quartz Range	13.38	211	P	Pn	00 33 45.1	+2.1
CMWZ	Cape Campbell	13.48	204	P	Pn	00 33 46.3	+2.2
BSWZ	Blackbirch Sta	13.57	205	P	Pn	00 33 45.5	+0.3
THZ	Tophouse	13.99	208	P	Pn	00 33 50.5	+0.4
KHZ	Kahutara	14.31	205	P	Pn	00 33 53.5	-0.2
KHZ	Kahutara	14.31	205	P	Pn	00 33 55.1	+1.4
PINNC	Pines Island,	14.48	296	P	P	00 33 52.5	-1.6
MARNC	Mare, Loyalty	14.67	300	P	P	00 33 52.3	-3.9
OUENC	Ouen Island, N	15.06	295	P	P	00 33 59.1	-1.4
OUENC	Ouen Island, N	15.06	295	P	P	00 33 58.6	-1.8
ONTNC	Ouen Toro	15.43	295	P	P	00 34 03.8	-0.6
ONTNC				IAmb	IAmb	00 34 06.6	
	comp=Z,36nm,1.1s						
DZM	Mont Dzumac	15.56	295	P	P	00 34 01.8	-4.1
	comp=Z,4.2nm,0.3s,baz=117,slow=14,SNR=57						
DZM	Mont Dzumac	15.56	295	P	P	00 34 04.3	-1.7
DZM				IAmb	IAmb	00 34 08.2	
	comp=Z,29nm,0.6s						
DZM	Mont Dzumac	15.56	295	P	P	00 34 05.1	-0.8
NOUC	Port Laguerre	15.65	295	P	P	00 34 06.2	-0.7
MQZ	McQueen's Vall	15.75	204	P	Pn	00 34 09.8	-0.6
MQZ				IAmb	IAmb	00 34 11.1	
	comp=Z,5.1nm,0.7s						
AFI	Afiamalu	16.81	23	P	P	00 34 20.1	+0.5
	comp=Z,11nm,0.3s,baz=2.8,slow=3.5,SNR=10						
AFI				S	S	00 37 11.4	-6.0
	comp=Z,3.9nm,0.3s,baz=61,slow=19,SNR=2.4						
ODZ	Otahua Downs	17.64	206	P	P	00 34 31.4	+3.4
ASAR	Alice Springs	42.79	266	P	P	00 38 09.2	-0.6
	comp=Z,1.0nm,0.5s,baz=98,slow=7.8,SNR=18						
WRA	Warramunga Arr	43.71	272	P	P	00 38 15.6	-1.5
	comp=Z,0.7nm,0.6s,baz=110,slow=6.2,SNR=11						
QSPA	South Pole Qui	60.47	180	P	P	00 40 27.3	+8.5
	comp=Z,1.2nm,0.6s,baz=23,slow=1.1,SNR=4.1						
MJAR	Matsushiro Arr	77.41	325	P	P	00 42 03.2	+1.0
	comp=Z,3.7nm,0.8s,baz=140,slow=4.6,SNR=4.1						
KSRS	Korea Array	83.53	320	P	P	00 42 36.0	+1.6
	comp=Z,2.3nm,0.8s,baz=139,slow=5.1,SNR=5.4						
PETK	Petropavlovsk-	84.98	346	P	P	00 42 43.6	+2.4
	comp=Z,6.6nm,0.7s,baz=132,slow=8.1,SNR=9.6						
USRK	Ussuriysk Ar.	86.32	327	P	P	00 42 50.5	+2.5
	comp=Z,2.9nm,0.7s,baz=183,slow=3.0,SNR=4.6						
NVAR	Mina Array Bea	87.93	43	P	P	00 43 02.5	+6.4
	comp=Z,1.1nm,0.8s,baz=220,slow=9.3,SNR=6.7						
KLR	Kul'dur	90.19	330	P	P	00 43 09.4	+3.4
	comp=Z,2.7nm,0.8s,baz=145,slow=3.6,SNR=6.1						
MKAR	Makanchi Array	117.00	310	PKP	PKiKP	00 48 51.1	+2.7
	comp=Z,0.2nm,0.6s,baz=195,slow=1.9,SNR=5.0						
KURBB	Kurchatov Arra	120.29	314	PKP	PKiKP	00 48 57.4	+2.8
	comp=Z,1.1nm,0.7s,baz=101,slow=1.9,SNR=8.0						
ARCES	ARCESS Array B	137.77	348	PKP	PKiKP	00 49 32.6	+3.4
	comp=Z,4.8nm,1.0s,baz=94,slow=3.8,SNR=6.6						
FINES	FINESS Array B	144.30	340	PKP	PKPdf	00 49 41.0	+2.0
	comp=Z,1.1nm,0.5s,baz=60,slow=3.9,SNR=142						
KBZ	Khabaz	144.38	305	PKP	PKiKP	00 49 42.7	-0.8
	comp=Z,3.3nm,1.0s,baz=119,slow=5.1,SNR=6.0						
VSU	Vasula	146.38	336	*e*P	PKiKP	00 49 48.2	+1.1
MTSE	Matsula	147.16	339	*e*P	PKPab	00 49 50.3	+0.9
NB2	NORSAR Subarra	147.94	351	PKP	PKPab	00 49 52.4	-0.2
	comp=Z,2.5nm,0.6s,baz=14,slow=2.8						
NOA	NORSAR Array B	147.94	351	PKPbc	PKPab	00 49 52.2	-0.4
	comp=Z,3.9nm,0.7s,baz=16,slow=4.3,SNR=12						
IDID	Didziasalis	148.66	332	*e*P	PKPab	00 49 55.0	-0.6
IIGN	Ignalina	148.84	333	*e*P	PKPab	00 49 54.8	-1.6
PABE	Paberze	149.60	335	*e*P	PKPab	00 49 57.2	-2.2
AKASG	Malin Array Be	150.47	323	PKPbc	PKiKP	00 49 58.5	+2.7
	comp=Z,5.0nm,0.6s,baz=50,slow=2.8,SNR=15						
BRTR	Keskin Array B	151.91	300	PKPbc	PKiKP	00 50 02.5	+3.1
	comp=Z,1.2nm,0.8s,baz=151,slow=6.4,SNR=6.4						
GERES	GERESS Array B	158.69	338	PKPab	PKPab	00 50 41.5	+3.0
	comp=Z,0.4nm,0.6s,baz=48,slow=4.0,SNR=4.4						
TORD	Torodi Ar. Bea	163.59	180	PKPab	PKPab	00 51 07.6	+7.0
	comp=Z,0.6nm,0.6s,baz=181,slow=4.1,SNR=4.9						

*ECX **26** 00:32:25.2±0.6, 32°.40N×115°.21W, h8km±1km, MD3.3, ML3.5*
*ANF **26** 00:32:25.9±0.5, 32°.42N×115°.22W, h26km±4km, ML3.2/10, Error ellipse: s-maj=5.4km s-min=2.4km az=174.0*
*NEIC **26** 00:32:26.8±3.2, 32°.34N±0°.04×115°.21W±0°.04, h14km±5km, Error ellipse: s-maj=6.9km s-min=4.6km az=204.0*
*PAS **26** 00:32:26.7±2.5, 32°.39N±0°.04×115°.22W±0°.02, h11km±4km, Error ellipse: s-maj=6.9km s-min=1.9km az=199.0*
*MEX **26** 00:32:28.3±0.4, 32°.53N×115°.11W, h12km±7km, MD3.9*
ISC 26 00:32:26.1±0.8, **32°.38N**±0°.02×**115°.22W**±0°.02, **h12**km±4km, **n72,** σ**1**s**18**/98, **2C-13D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.03	30		Pg	00 32 27.4	-1.0
MBIG					Sg	00 32 29.5	-0.4
MBIG	Mexicali	0.03	30	*i* P	Pg	00 32 27.4	-1.0
MBIG				*i* P		00 32 29.1	
MBIG				*i* S	Sg	00 32 29.5	-0.4
MBIG				*i* S		00 32 31.4	
CPBX	Cerro Prieto	0.09	296	Pg	Pg	00 32 28.8	0.0
CPBX				Sg	Sg	00 32 31.3	+0.5
CPBX	Cerro Prieto	0.09	296	⇑*e*P	Pg	00 32 29.1	+0.3
CPBX				*e*S	Sg	00 32 31.4	+0.6
CPBX				IAML		00 32 33.3	
	comp=E,59μm,0.4s						
CPBX				⇑*e*		00 32 33.3	
CTLX	Tlaxcala, TLX	0.11	33	⇓*e*P	Pg	00 32 29.6	+0.5
CTLX				*i* S	Sg	00 32 32.9	+1.6
GUVIX	Guadalupe Vict	0.14	124		Pb	00 32 30.7	0.0
GUVIX				Sg	Sb	00 32 34.2	+2.2
GUVIX	Guadalupe Vict	0.14	124	*e*P	Pb	00 32 30.6	0.0
GUVIX				*e*S	Sb	00 32 33.5	+1.5
YUCAX	Ej. Yucatɲn	0.24	25	⇓*i*P	Pb	00 32 32.1	-0.4
YUCAX				*i* S	Sb	00 32 36.9	+2.1
RITX	Riito Sonora	0.30	135	*e*P	Pb	00 32 33.2	-0.2
UABX	UABC, Campus M	0.31	323	Pg	Pb	00 32 33.4	-0.2
UABX				Sg	Sb	00 32 39.3	+0.6
UABX	UABC, Campus M	0.31	323	⇓*i*P	Pb	00 32 33.5	-0.1
UABX				*i* S	Sb	00 32 39.5	+0.8
EMSC	East Mesa	0.41	29	⇓*i*P	Pb	00 32 34.8	-0.4
DREC	Desert Rsrch C	0.47	335	⇓*i*P	Pb	00 32 36.3	+0.1
ALAMX	Rancho Alamar	0.56	228	⇓*i*P	Pb	00 32 38.1	+0.2
ALAMX				*e*S	Sb	00 32 47.4	+1.6
ALAMX				⇓*e*		00 32 49.2	
ALAMX				IAML		00 32 49.2	
	comp=E,3μm,0.4s						
WESC	Westside Schoo	0.58	311	*e*P	Pb	00 32 37.7	-0.4
YMD	Yuma Desert	0.59	73	*e*P	Pb	00 32 37.8	-0.6
YUH2	Yuha Desert	0.65	294	⇓*i*P	Pg	00 32 38.6	-0.2
GLA	Glamis	0.74	26		Pg	00 32 39.8	-0.7
GLA				Sg	Sb	00 32 50.0	-1.2
GLA				IAML		00 32 52.0	
	comp=E,2μm,0.7s						
GLA	Glamis	0.74	26	⇓*i*P	Pg	00 32 39.9	-0.7
GLA	Glamis	0.74	26	P	Pg	00 32 39.8	-0.7
	baz=207						
GLA				S	Sb	00 32 50.0	-1.2
	baz=207						
SWSC	Sam W. Stewart	0.75	319	⇓*e*P	Pg	00 32 39.7	-0.9
SWSC	Sam W. Stewart	0.75	319	P	Pg	00 32 39.7	-0.9
	baz=138,SNR=89						
SWSC				S	Sg	00 32 49.8	-0.6
	baz=138						
RMX	La Rumorosa	0.76	287	Pg	Pg	00 32 39.9	-1.0
RMX				Sg	Sg	00 32 49.1	-1.9
RMX	La Rumorosa	0.76	287	⇓*i*P	Pg	00 32 39.9	-1.0
IKP	In-Ko-Pah, Jac	0.80	290	⇓*i*P	Pg	00 32 41.3	-0.3
IKP	In-Ko-Pah, Jac	0.80	290	P	Pg	00 32 41.3	-0.3
	baz=109,SNR=82						
IKP				S	Sb	00 32 52.3	-0.5
	baz=109						
MONP2	Monument Peak	1.14	297	⇓*i*P	Pb	00 32 46.3	-1.6
MONP2	Monument Peak	1.14	297	P	Pb	00 32 46.3	-1.6
	baz=116,SNR=44						
MONP2				S	Sb	00 33 01.2	-1.4
	baz=116						
TKX	Tecate	1.19	279		Pg	00 32 49.4	+0.4
TKX				Sg	Sn	00 33 04.1	-0.7
TKX				IAML		00 33 04.8	
	comp=N,639nm,0.2s						
TKX				IAML		00 33 07.3	
	comp=E,583nm,0.2s						
CBX	Cerro Bola	1.23	267		Pn	00 32 48.3	-0.9
CBX					Sb	00 33 04.4	-0.7
CBX	Cerro Bola	1.23	267		Sg	00 33 05.8	0.0
CBX				IAML		00 33 14.6	
	comp=E,398nm,0.7s						
CBX	Cerro Bola	1.23	267	*i* P	Pn	00 32 48.3	-0.9
CBX				*i* S	Sb	00 33 04.4	-0.7
TJIG	Tijuana	1.24	273		Pb	00 32 49.2	-0.1
TJIG					Sn	00 33 05.2	-0.5
TJIG	Tijuana	1.24	273	*i* P	Pb	00 32 49.2	-0.1
TJIG				*i* S	Sn	00 33 05.2	-0.5
BAR	Barrett	1.27	284	Pn	Pn	00 32 49.1	-0.5
BAR				IAML		00 33 08.0	
	comp=N,519nm,0.7s						
113A	Mohawk Valley,	1.28	72		Pn	00 32 48.6	-1.2
113A				IAML		00 33 05.9	
	comp=N,361nm,0.5s						
BC3	Big Chuckawall	1.28	351	P	Pn	00 32 48.0	-2.0
	baz=171,SNR=102						
CCX	Cicese	1.33	248	Pn	Pb	00 32 50.6	-0.4
CCX				IAML		00 33 10.1	
	comp=N,749nm,0.3s						
SPIG	San Pedro Mart	1.35	189		Pn	00 32 50.8	-0.2
SPIG					Sg	00 33 10.8	+1.1
SPIG	San Pedro Mart	1.35	189	*i* P	Pn	00 32 50.8	-0.2
SPIG				*i* S	Sg	00 33 10.8	+1.1
TJX	Tijuana	1.56	275	Pn	Pb	00 32 54.5	-0.4
PFO	Pinyon Flats O	1.61	320		Pn	00 32 52.4	-2.1
PFO	Pinyon Flats O	1.61	320	P	Pn	00 32 52.2	-2.2
	baz=139,SNR=27						
109C	Camp Elliot, M	1.67	288		Pn	00 32 55.2	0.0
109C				IAML		00 33 22.2	
	comp=E,326nm,0.5s						
109C	Camp Elliot, M	1.67	288	Sb	Sb	00 33 17.5	-0.3
	baz=107						
214A	Organ Pipe Nat	2.08	101	Pn	Pn	00 32 59.2	-1.7
214A				IAML		00 33 55.7	
	comp=E,250nm,0.9s						
214A				IAML		00 34 07.9	
	comp=N,238nm,1.1s						
214A	Organ Pipe Nat	2.08	101	P	Pn	00 32 59.1	-1.8
	baz=283,SNR=15						
PDMCI	Parker Dam,Lak	2.12	25	Sb	Sb	00 33 30.6	0.0
	baz=206						
Y14A	Wickenburg	2.42	49		Pg	00 33 10.7	-1.8
Y14A				IAML		00 33 49.5	
	comp=E,168nm,0.5s						
Y14A				IAML		00 34 05.5	
	comp=N,245nm,0.8s						
CIS	Catalina Islan	2.88	292	Sb	Sb	00 33 53.8	+1.2
	baz=110						
W13A	Hualapai Mount	2.93	22	Pn	Pn	00 33 12.3	-0.3
W13A				IAML		00 34 07.2	
	comp=N,59nm,0.7s						
W13A				IAML		00 34 10.8	
	comp=E,81nm,0.8s						
MWC	Mount Wilson	3.01	308	Pg	Pg	00 33 22.1	-1.6
PASC	Pasadena Art C	3.06	306	Pn	Pn	00 33 15.7	+1.4
GSC	Goldstone, Bar	3.20	336	Pg	Pg	00 33 31.5	+4.1
GSC				IAML		00 34 28.9	
	comp=E,99nm,1.7s						
GSC				IAML		00 34 56.8	
	comp=N,56nm,1.2s						
TUC	Tucson	3.75	90	Pn	Pn	00 33 24.5	+0.7
TUC				IAML		00 34 37.3	
	comp=N,31nm,1.3s						
TUC				IAML		00 34 50.5	
	comp=N,44nm,2.1s						
X16A	Lo Mia Camp, P	3.75	56	Pn	Pn	00 33 24.6	+0.6
X16A				IAML		00 34 48.3	
	comp=E,44nm,0.8s						
X16A				IAML		00 34 57.8	
	comp=N,66nm,1.1s						
QSM	Queen of Sheba	3.83	339	Pn	Pn	00 33 27.1	+2.3
QSM				IAML		00 34 51.0	
	comp=E,39nm,1.6s						
QSM				IAML		00 34 54.6	
	comp=N,33nm,1.1s						
GWY	Greenwater Val	3.98	343	Pn	Pn	00 33 28.1	+1.0
GWY				Pg	Pg	00 33 46.7	+4.3
GWY				IAML		00 34 56.9	
	comp=N,40nm,1.4s						
GWY				IAML		00 34 57.8	
	comp=E,39nm,1.0s						
SHPR	Sheep Range	4.11	1		Pn	00 33 29.8	+0.9
SHPR				Pg	Pg	00 33 45.7	+0.8
SHPR				IAML		00 34 52.5	
	comp=E,43nm,1.3s						
SHPR				IAML		00 34 59.7	
	comp=N,33nm,1.1s						
ISA	Isabella, Lake	4.25	321	Pg	Pg	00 33 49.4	+2.0
WUAZ	Wupatki	4.47	45		Pn	00 33 34.8	+1.0
TPNV	Topopah Spring	4.63	350	Pn	Pn	00 33 38.8	+2.8
TPNV				Pg	Pg	00 33 56.5	+1.7
TPNV				IAML		00 35 26.8	
	comp=N,18nm,3.2s						
TPNV				IAML		00 35 41.2	
	comp=N,19nm,2.3s						
U15A	North Rim	4.70	30		Pn	00 33 38.4	+1.3
U15A				IAML		00 35 30.4	
	comp=N,29nm,3.9s						
X18A	Snowflake	4.89	63	Pn	Pn	00 33 40.8	+1.2
LCMT	Little Cre

CEU eS **Sb** **01 01 46.8 -3.7**
ECEU Ceuta 1.36 287 Lg Lg 01 01 48.1
35nm,0.1s,SNR=6.2
EMAL Malaga-Limoner 1.37 338 eP **Pn** **01 01 31.6 -1.2**
EMAL eS **Sg** **01 01 54.4 +2.7**
ELGU Los Guajares, 1.37 5 Lg Lg 01 01 53.7
199nm,0.2s,SNR=7.9
JBK JBK 1.53 139 P Pn 01 01 23.2 -12
EBER Berja 1.57 27 Sn **Sg** **01 01 58.8 +0.6**
SNR=7.9
EGOR Sierra Gorda, 1.63 351 Lg Lg 01 02 02.9
79nm,0.4s,SNR=7.9
EQUE Quentar 1.73 9 Lg Lg 01 02 03.8
18nm,0.3s,SNR=7.9
RSA Sarsar 1.78 250 P **Pb** **01 01 40.1 -0.3**
SICH Sidi Chahed 1.88 223 P **Pg** **01 01 44.0 +0.2**
SICH S **Sg** **01 02 09.6 +1.4**
LCRM LCR 2.02 206 P Pn 01 01 36.0 -5.8
LCRM S **Sb** **01 02 09.0 -0.7**
IFR Ifrane 2.27 210 eP Pn 01 01 38.7 -6.7
IFR eS **Sn** **01 02 11.0 -2.4**
EQES Quesada 2.37 14 Sn **Sb** **01 02 19.2 -0.5**
44nm,0.5s,SNR=5.6
MD31 MD31 2.75 197 P **Pn** **01 01 53.9 +2.1**
MD31 S **Sn** **01 02 24.3 -0.8**
MDT Midelt 2.77 195 Pn **Pn** **01 01 53.4 +1.3**
1.9nm,0.3s,baz=323,slow=20,SNR=10
MDT Sn **Sn** **01 02 25.1 -0.4**
6.4nm,0.3s,baz=30,slow=22,SNR=5.6
TDRA Tendrara 2.85 149 P **Pn** **01 01 54.7 +1.3**
PVAQ Vaqueiros 3.70 302 P **Pn** **01 02 06.5 +1.7**
PVAQ S **Sn** **01 02 47.1 -1.3**
ESDC Sonseca Array 4.17 358 Pn **Pn** **01 02 13.8 +2.4**
0.3nm,0.3s,baz=179,slow=12,SNR=13
ESDC Sn **Sn** **01 03 00.7 +0.5**
0.4nm,0.3s,baz=186,slow=15,SNR=4.2
PFVI Vila Bisbo 4.39 293 P **Pn** **01 02 15.9 +1.6**
PFVI S **Sn** **01 03 03.5 -2.0**
PESTR Estremoz 4.53 319 P **Pn** **01 02 19.1 +2.8**
TZRR Tazzarine 4.94 198 P **Pn** **01 02 21.3 -0.6**
OUZM OUZ 5.21 209 P **Pn** **01 02 26.7 +0.9**
OUK Oukaimeden 5.48 220 P **Pn** **01 02 30.0 +0.4**
TTIG Tnine Tigouga, 6.30 220 P **Pn** **01 02 40.6 -0.1**
GERES GERESS Array B 18.53 39 P **Pn** **01 05 25.4 +0.9**
0.1nm,0.3s,baz=227,slow=7.1,SNR=4.3
TORD Torodi Ar. Bea 22.80 166 P **P** **01 06 11.5 +1.0**
0.3nm,0.8s,baz=332,slow=8.1,SNR=2.0
YKA Yellowknife Ar 67.83 332 P **P** **01 12 05.8 +0.2**
0.2nm,0.5s,baz=61,slow=6.4,SNR=4.5

IDC ***26*** *01:05:19.9±1.3, 19°.74N×76°.03W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/43, mbtmp3.8/6, ML2.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/77, Error ellipse: s-maj=40.1km s-min=30.7km az=35.0*
SSNC ***26*** *01:05:21.7±2.0, 19°.71N×76°.07W, h5km±9km, MD3.7, ML3.7, MW3.7*
JSN ***26*** *01:05:24.5±0.8, 19°.59N×76°.07W, h30km±999km, MD4.3*
ISC 26 01:05:20.8±1.7, 19°.76N±0°.04×76°.10W±0°.03, h10km±12km, n23, σ1°.67/30, mb3.7/5, 3C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.45**	**58**	*i* P	**Pb**	**01 05 30.4**	**-0.4**
RCC				eS	**Sb**	**01 05 36.3**	**-1.3**
RCC				IAML		01 05 37.5	
	comp=E,4μm,0.5s						
RCC				IAML		01 05 37.6	
	comp=N,4μm,0.2s						
LMGC	**Las Mercedes**	**0.90**	**290**	eP	**Pg**	**01 05 38.1**	**-0.1**
LMGC				eS	**Sb**	**01 05 50.8**	**+0.2**
LMGC				IAML		01 05 53.9	
	comp=N,887nm,0.1s						
LMGC				IAML		01 05 54.0	
	comp=E,1μm,0.4s						
GTBY	**Guantanamo Bay**	**0.95**	**79**	eP	**Pb**	**01 05 39.1**	**-0.3**
GTBY				eS	**Sn**	**01 05 52.3**	**-1.5**
GTMO	**Guantanamo**	**0.96**	**70**	eP	**Pn**	**01 05 40.3**	**0.0**
HLGC	**Holguin**	**1.13**	**2**	eP	**Pn**	**01 05 42.7**	**0.0**
HLGC				eS	**Sn**	**01 05 59.2**	**+0.9**
HLGC				IAML		01 06 02.1	
	comp=E,10μm,0.6s						
HLGC				IAML		01 06 02.5	
	comp=N,7μm,0.7s						
MOAC	**Moa**	**1.40**	**50**	eP	**Pn**	**01 05 45.0**	**-1.3**
MOAC				eS	**Sb**	**01 06 02.7**	**-2.2**
MOAC				IAML		01 06 07.3	
	comp=E,1μm,0.4s						
MOAC				IAML		01 06 07.6	
	comp=N,884nm,0.4s						
BBJ	**Bamboo Saint A**	**1.75**	**219⇑**	*i* P	**Pn**	**01 05 50.5**	**-0.8**
GWJ	**Greenwich**	**1.77**	**200⇑**	*i* P	**Pn**	**01 05 50.5**	**-1.1**
STH	**Stony Hill**	**1.80**	**202**	*i* P	**Pn**	**01 05 50.9**	**-1.0**
MASC	**Masc**	**1.81**	**76**	eP	**Pn**	**01 05 50.6**	**-1.4**
MASC				eS	**Sn**	**01 06 14.2**	**-0.8**
MASC				IAML		01 06 22.7	
	comp=E,479nm,0.3s						
MASC				IAML		01 06 23.4	
	comp=N,490nm,0.4s						
CVJ	**Coleyville**	**2.04**	**222⇑**	*i* P	**Pn**	**01 05 54.6**	**-0.6**
MTDJ	**Mount Denham**	**2.04**	**222**	eP	**Pn**	**01 05 54.1**	**-1.2**
CCCC	**Cccc**	**2.12**	**313**	eP	**Pn**	**01 05 53.6**	**-2.7**
CCCC				eS	**Sn**	**01 06 17.9**	**-4.8**
CCCC				IAML		01 06 22.4	
	comp=N,340nm,0.5s						
CCCC				IAML		01 06 22.5	
	comp=E,544nm,0.6s						
MCJ	**Malvern**	**2.36**	**220**	*i* P	**Pn**	**01 06 00.0**	**+0.3**
MCJ				*i* S	**Sn**	**01 06 25.6**	**-3.2**
MGV	**Manicaragua**	**4.32**	**304**	eP	**Pn**	**01 06 27.8**	**+1.3**
SDV	**Santo Domingo**	**12.03**	**153**	Pn	**Pn**	**01 08 14.2**	**+1.6**
	comp=E,0.5nm,0.3s,baz=352,slow=17,SNR=2.2						
JTS	**Las Juntas de**	**12.71**	**223**	LR	LR	01 14 07.3	
	comp=E,72nm,19.6s,slow=41						
TXAR	**Lajitas Array**	**26.77**	**296**	P	**P**	**01 11 03.3**	**+2.3**
	comp=E,1.2nm,1.2s,baz=97,slow=7.6,SNR=2.8						
YKA	**Yellowknife Ar**	**50.22**	**338**	P	**P**	**01 14 17.8**	**+1.1**
	comp=E,0.3nm,0.8s,baz=130,slow=8.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**74.34**	**81**	P	**P**	**01 16 59.6**	**+0.4**
	comp=E,0.5nm,0.7s,baz=287,slow=6.8,SNR=2.2						
ARCES	**ARCESS Array B**	**75.65**	**21**	P	**P**	**01 17 06.0**	**+0.2**
	comp=E,1.7nm,0.7s,baz=284,slow=7.0,SNR=5.9						
FINES	**FINESS Array B**	**78.51**	**29**	P	**P**	**01 17 23.2**	**+1.2**
	comp=E,0.9nm,0.5s,baz=276,slow=1.3,SNR=9.7						
WRA	**Warramunga Arr**	**151.38**	**264**	PKPbc	**PKPbc**	**01 25 15.0**	**-0.6**
	comp=E,0.3nm,0.9s,baz=74,slow=1.5,SNR=6.1						

NEIC ***26*** *01:16:46.0±1.3, 35°.5N±0°.1×3°.94W±0°.06, h1km±6km, mb4.2/4, Mwr4.1/33, Error ellipse: s-maj=18.8km s-min=4.6km az=195.0*
MDD ***26*** *01:16:45.7±0.7, 35°.50N×3°.84W, h0km, mbLg3.5/7, Error ellipse: s-maj=6.8km s-min=4.2km az=24.0*
CNRM ***26*** *01:16:45.9, 35°.61N×3°.63W, h13km, ml4.4*
SFS ***26*** *01:16:45.0, 35°.50N×3°.84W, ML3.5, ALBORAN SUR*
CRAAG ***26*** *01:16:45.0, 35°.50N×3°.83W, Mb3.5*
IDC ***26*** *01:16:46.1±1.0, 35°.52N×4°.08W, h0km, mb3.9/7, mb1 3.9/12, mb1mx3.7/54, mbtmp3.8/12, ML3.4/5, MS3.6/13, Ms1 3.6/13, ms1mx3.2/94, Error ellipse: s-maj=28.1km s-min=18.1km az=93.0*
IGIL ***26*** *01:16:47.5, 35°.50N×3°.84W, h0km, ML3.3*
NEIC ***26*** *01:16:47.4, 35°.51N×3°.93W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}1.50; $M_{\theta\theta}$-1.39; $M_{\phi\phi}$-0.11; $M_{r\theta}$-0.78; $M_{\theta\phi}$0.30; $M_{\phi r}$0.39; Fault plane solution: $M_0$1.72000×10^15^ NP1:ϕ_s96.34000°, δ30.39000°, λ78.64000°. NP2:ϕ_s289.45000°, δ60.27000°, λ96.59000°. Principal axes: T 1.7506, Plg74.0000°, Azm216.0000°; N -0.0639, Plg6.0000°, Azm106.0000°; P -1.6867, Plg15.0000°, Azm15.0000°;*
INMG ***26*** *01:16:47.3±1.8, 35°.55N×3°.83W, h0km±6km, MD3.8, ML3.4 Error ellipse: s-maj=5.4km s-min=5.2km az=4.0*
LDG ***26*** *01:16:48.7±0.3, 35°.49N×3°.65W, h10km, Ml3.5/6, Error ellipse: s-maj=8.2km s-min=4.2km az=177.0*
ISC 26 01:16:46.1±1.1, 35°.57N±0°.02×3°.76W±0°.02, h4km±8km, n129, σ2°.01/169, mb4.0/8, MS3.6/11, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**203**	P	**Pb**	**01 16 54.2**	**-1.2**
PALE				S	**Sb**	**01 16 59.7**	**-2.0**
EALB	**Alboran**	**0.69**	**57**	Pg	**Pb**	**01 17 00.3**	**-0.5**
	2μm,0.5s,SNR=268						
EALB				Lg	Lg	01 17 11.1	
	2μm,0.2s,SNR=10						
EMEL	**Melilla**	**0.70**	**112**	Pg	**Pg**	**01 16 59.6**	**0.0**
	2μm,0.4s,SNR=217						
EMEL				Lg	Lg	01 17 09.3	
	11μm,0.2s						
GOG	**Mont Gurugu**	**0.71**	**119**	P	**Pg**	**01 16 59.2**	**-0.5**
GOG				S	**Sg**	**01 17 08.7**	**-0.2**
AKLM	**AKL**	**1.06**	**185**	P	**Pb**	**01 17 06.2**	**-0.8**
AKLM				S	**Sn**	**01 17 21.4**	**-1.6**
CHAS	**Isla Isabel II**	**1.15**	**109**	eP	**Pb**	**01 17 05.9**	**-2.6**
CHAS				eS	**Sb**	**01 17 20.3**	**-3.5**
EMIJ	**Mijas**	**1.29**	**321**	Pg	**Pn**	**01 17 09.5**	**-1.5**
	204nm,0.8s,SNR=87						
EMIJ				Lg	Lg	01 17 27.7	
	424nm,0.3s,SNR=15						
ELGU	**Los Guajares,**	**1.30**	**5**	Pg	**Pn**	**01 17 09.7**	**-1.5**
	SNR=7.9						
ELGU				Lg	Lg	01 17 29.5	
	672nm,0.3s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.31**	**336**	eP	**Pn**	**01 17 09.7**	**-1.6**
EMAL				eS	**Sb**	**01 17 27.2**	**-1.3**
CEU	**Ceuta**	**1.36**	**285**	eP	**Pn**	**01 17 08.9**	**-2.9**
CEU				eS	**Sb**	**01 17 25.8**	**-4.0**
ECEU	**Ceuta**	**1.36**	**285**	Pg	**Pn**	**01 17 09.8**	**-2.1**
	81nm,0.6s,SNR=66						
ECEU				Lg	Lg	01 17 27.0	
	88nm,0.1s						
CHEFC	**Chefchaouen**	**1.37**	**251**	P	**Pg**	**01 17 13.0**	**+0.5**
CHEFC				S	**Sg**	**01 17 33.5**	**+3.2**
EBER	**Berja**	**1.50**	**28**	Pn	**Pn**	**01 17 12.7**	**-1.4**
	58nm,0.4s,SNR=44						
EBER				Lg	Lg	01 17 37.0	
	278nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.57**	**350**	Pn	**Pb**	**01 17 14.3**	**-1.5**
	SNR=7.9						
EGOR				Lg	Lg	01 17 37.7	
	157nm,0.3s,SNR=7.9						
JBK	**JBK**	**1.57**	**141**	P	**Pn**	**01 17 12.7**	**-2.2**
JBK				S	**Sn**	**01 17 32.2**	**-3.6**
EQUE	**Quentar**	**1.66**	**9**	Pn	**Pb**	**01 17 15.7**	**-1.5**
	126nm,0.7s,SNR=56						
EQUE				Sn	**Sg**	**01 17 38.4**	**-0.9**
	254nm,0.6s,SNR=8.2						
RSA	**Sarsar**	**1.82**	**249**	P	**Pg**	**01 17 19.9**	**-1.1**
RSA				S	**Sg**	**01 17 44.9**	**+0.2**
ENIJ	**Nijar**	**1.88**	**41**	Pn	**Pn**	**01 17 17.1**	**-1.9**
	SNR=7.9						
ENIJ				Sn	**Sn**	**01 17 41.3**	**-1.9**
	SNR=7.9						
SICH	**Sidi Chahed**	**1.94**	**222**	P	**Pg**	**01 17 22.0**	**-1.3**
SICH				S	**Sg**	**01 17 47.7**	**-0.8**
LCRM	**LCR**	**2.08**	**206**	P	**Pn**	**01 17 22.0**	**0.0**
LCRM				S	**Sg**	**01 17 57.9**	**+4.8**
EQES	**Quesada**	**2.30**	**14**	Pn	**Pb**	**01 17 26.6**	**-1.7**
	99nm,0.4s,SNR=122						
EQES				Sn	**Sb**	**01 17 55.1**	**-1.9**
	290nm,0.7s,SNR=7.2						
IFR	**Ifrane**	**2.34**	**209**	eP	**Pn**	**01 17 24.9**	**-0.6**
IFR				eS	**Sn**	**01 17 53.5**	**-1.3**
USTO	**Oran**	**2.62**	**85**	P	**Pg**	**01 17 38.0**	**+1.8**
MD31	**MD31**	**2.82**	**197**	P	**Pn**	**01 17 31.7**	**-0.3**
MD31				S	**Sn**	**01 18 05.7**	**-0.7**
MDT	**Midelt**	**2.83**	**195**	Pn	**Pn**	**01 17 32.1**	**-0.2**
	2.6nm,0.3s,baz=190,slow=10,SNR=80						
MDT				Sn	**Sn**	**01 18 06.0**	**-0.9**
	12nm,0.3s,baz=135,slow=17,SNR=4.5						
MDT	**Midelt**	**2.83**	**195**	P	**Pn**	**01 17 31.7**	**-0.5**
MDT				S	**Sb**	**01 18 09.2**	**-3.3**
ODJA	**Bouhanifia**	**2.95**	**94**	P	**Pb**	**01 17 40.0**	**+0.7**
CART	**Cartagena**	**3.00**	**47**	Pn	**Pn**	**01 17 33.4**	**-0.9**
CART	**Cartagena**	**3.00**	**47**	P	**Pn**	**01 17 35.4**	**+1.0**
CART				S	**Sn**	**01 18 06.0**	**-4.7**
PVAQ	**Vaqueiros**	**3.68**	**301**	ePn	**Pn**	**01 17 43.4**	**-0.4**
PVAQ				eSn	**Sn**	**01 18 25.3**	**-2.4**
PVAQ				A	A	01 18 30.4	
	73nm,0.7s						
PVAQ	**Vaqueiros**	**3.68**	**301**		**Pn**	**01 17 42.7**	**-1.1**
PVAQ	**Vaqueiros**	**3.68**	**301**	P	**Pn**	**01 17 43.4**	**-0.4**
PVAQ				S	**Sn**	**01 18 26.7**	**-1.0**
PBAR	**Barrancos**	**3.70**	**316**	eSn	**Sn**	**01 18 26.3**	**-1.9**
PBDV	**Barranco-do-Ve**	**3.76**	**298**	ePn	**Pn**	**01 17 44.5**	**-0.4**
PBDV				eSn	**Sn**	**01 18 27.2**	**-2.5**
PBDV				A	A	01 18 35.6	
	61nm,0.8s						
AVE	**Averroes**	**3.78**	**234**	P	**Pn**	**01 17 46.0**	**+0.9**
GOLM	**Goulmima**	**3.98**	**195**	P	**Pb**	**01 17 54.0**	**-2.9**
PAB	**San Pablo**	**4.00**	**353**		**Pn**	**01 17 49.2**	**+0.9**
FIGM	**Figuig**	**4.00**	**148**	P	**Pn**	**01 17 50.0**	**+1.6**
PCVE	**Castro Verde**	**4.02**	**302**	ePn	**Pn**	**01 17 48.2**	**-0.2**
PCVE				eSn	**Sn**	**01 18 33.5**	**-2.4**
PCVE				A	A	01 18 37.3	
	58nm,0.5s						
ESDC	**Sonseca Array**	**4.11**	**358**	Pn	**Pn**	**01 17 50.8**	**+1.1**
	3.2nm,0.3s,baz=178,slow=12,SNR=127						
ESDC				Sn	**Sn**	**01 18 37.4**	**-0.8**
	1.5nm,0.3s,baz=181,slow=17,SNR=2.2						
ESDC				LR	LR	01 19 55.4	
	comp=Z,472nm,18.0s,baz=208,slow=46						
ESDC	**Sonseca Array**	**4.11**	**358**		**Pn**	**01 17 50.7**	**+1.0**
ESBB	**Sonseca Array**	**4.11**	**358**		**Pn**	**01 17 50.8**	**+1.1**
PBEJ	**Beja**	**4.11**	**308**	ePn	**Pn**	**01 17 50.0**	**+0.3**
PBEJ				eSn	**Sn**	**01 18 37.4**	**-0.9**
PBEJ				A	A	01 18 48.9	
	30nm,0.6s						
MESJ	**Messejana**	**4.25**	**304**	eP	**Pn**	**01 17 51.1**	**-0.4**
MESJ				eS	**Sn**	**01 18 37.7**	**-3.9**
MESJ				IAML		01 18 44.0	
	comp=N,71nm,1.0s						
MESJ	**Messejana**	**4.25**	**304**	ePn	**Pn**	**01 17 51.8**	**+0.3**
MESJ				eSn	**Sn**	**01 18 39.3**	**-2.2**
MESJ				A	A	01 18 46.5	
	comp=N,53nm,0.6s						
MORF	**Marmelete**	**4.31**	**295**	eP	**Pn**	**01 17 51.9**	**-0.7**
MORF				eS	**Sn**	**01 18 39.3**	**-4.0**
MORF				IAML		01 18 50.7	
	comp=N,61nm,0.3s						
MORF	**Marmelete**	**4.31**	**295**	ePn	**Pn**	**01 17 52.7**	**+0.2**
MORF				eSn	**Sn**	**01 18 41.6**	**-1.7**
MORF				A	A	01 18 53.4	
	comp=N,31nm,0.8s						
PFVI	**Vila Bisbo**	**4.38**	**292**	ePn	**Pn**	**01 17 54.2**	**+0.8**
PFVI				eSn	**Sn**	**01 18 42.3**	**-2.6**
PFVI				A	A	01 18 56.4	
	comp=N,49nm,0.5s						
PFVI	**Vila Bisbo**	**4.38**	**292**	Pn	**Pn**	**01 17 51.1**	**-2.3**
PFVI	**Vila Bisbo**	**4.38**	**292**	P	**Pn**	**01 17 54.8**	**+1.4**
PTEO	**Sao Teotonio**	**4.46**	**298**	ePn	**Pn**	**01 17 55.3**	**+0.8**
PTEO				eSn	**Sn**	**01 18 45.3**	**-1.6**
PTEO				A	A	01 19 01.2	
	comp=N,49nm,0.7s						
PESTR	**Estremoz**	**4.50**	**318**	ePn	**Pn**	**01 17 55.7**	**+0.7**
PESTR				eSn	**Sn**	**01 18 44.7**	**-3.1**
PESTR				A	A	01 19 20.1	
	comp=N,52nm,0.6s						
PESTR	**Estremoz**	**4.50**	**318**		**Pn**	**01 17 55.1**	**+0.1**
PESTR	**Estremoz**	**4.50**	**318**	P	**Pn**	**01 17 55.8**	**+0.8**
EVO	**Evora**	**4.51**	**312**	ePn	**Pn**	**01 17 55.3**	**+0.1**
EVO				eSn	**Sn**	**01 18 46.4**	**-1.7**
EVO				A	A	01 19 12.8	
	comp=N,51nm,0.6s						
PNCL	**Nicolau / Gran**	**4.59**	**305**	ePn	**Pn**	**01 17 56.4**	**0.0**
PNCL				eSn	**Sn**	**01 18 47.8**	**-2.4**
PNCL				A	A	01 18 54.3	
	comp=N,44nm,0.7s						
UCM	**Universidad Co**	**4.75**	**5**	eP	**Pn**	**01 17 59.2**	**+0.6**
UCM				eS	**Sn**	**01 18 53.2**	**-0.8**
PMRV	**Marv??o**	**4.82**	**324**	ePn	**Pn**	**01 17 59.6**	**+0.1**
PMRV				eSn	**Sn**	**01 18 53.9**	**-1.8**
PMRV				A	A	01 19 30.8	
	comp=N,48nm,0.7s						
PMTG	**Montargil**	**4.99**	**316**	ePn	**Pn**	**01 18 02.4**	**+0.6**
PMTG				eSn	**Sn**	**01 18 58.1**	**-1.8**
PMTG				A	A	01 19 39.8	
	comp=N,37nm,0.6s						
TZRR	**Tazzarine**	**5.00**	**198**	P	**Pn**	**01 18 02.7**	**+0.6**
PCBR	**Castelo Branco**	**5.19**	**326**	ePn	**Pn**	**01 18 05.1**	**+0.6**
PCBR				eSn	**Sn**	**01 19 03.2**	**-1.6**
PCBR				A	A	01 19 12.1	
	comp=N,39nm,0.6s						
OUZM	**OUZ**	**5.28**	**209**	P	**Pn**	**01 18 08.0**	**+2.0**
LIS	**Lisbon**	**5.33**	**308**	ePn	**Pn**	**01 18 07.7**	**+1.2**
LIS				eSn	**Sn**	**01 19 08.5**	**+0.1**
PMST	**Lisbon--Monsan**	**5.37**	**308**	ePn	**Pn**	**01 18 08.0**	**+1.0**
PMST				eSn	**Sn**	**01 19 09.5**	**+0.3**
PMST				A	A	01 19 35.8	
	comp=N,54nm,0.7s						
OUK	**Oukaimeden**	**5.54**	**219**	P	**Pn**	**01 18 08.9**	**-0.8**
PMAFR	**Mafra**	**5.56**	**309**	ePn	**Pn**	**01 18 10.3**	**+0.7**
PMAFR				eSn	**Sn**	**01 19 11.2**	**-2.7**
PMAFR				A	A	01 19 21.4	
	comp=N,46nm,0.6s						
MTE	**Manteigas**	**5.68**	**329**	ePn	**Pn**	**01 18 12.8**	**+1.5**
MTE				eSn	**Sn**	**01 19 15.3**	**-1.7**
MTE				A	A	01 19 20.5	
	comp=N,64nm,0.6s						
MTE	**Manteigas**	**5.68**	**329**		**Pn**	**01 18 11.4**	**+0.1**
PCAS	**Casmilo, Conde**	**5.84**	**321**	ePn	**Pn**	**01 18 13.4**	**-0.1**
PCAS				eSn	**Sn**	**01 19 16.5**	**-4.5**
PCAS				A	A	01 20 01.4	
	comp=N,38nm,0.6s						
PVIS	**Viseu**	**6.09**	**329**	ePn	**Pn**	**01 18 18.2**	**+1.3**
PVIS				eSn	**Sn**	**01 19 24.9**	**-2.2**
PVIS				A	A	01 19 32.2	
	comp=N,41nm,0.8s						
MVO	**Moncorvo**	**6.15**	**336**	ePn	**Pn**	**01 18 18.9**	**+1.1**
MVO				eSn	**Sn**	**01 19 26.0**	**-2.7**
MVO				A	A	01 20 04.3	
	comp=N,52nm,0.6s						
TTIG	**Tnine Tigouga,**	**6.37**	**219**	P	**Pn**	**01 18 19.0**	**-1.8**
PVRL	**Vila Real**	**6.49**	**333**	ePn	**Pn**	**01 18 23.6**	**+1.1**
PVRL				eSn	**Sn**	**01 19 34.9**	**-2.1**
PVRL				A	A	01 19 40.6	
	comp=N,56nm,0.6s						
POLO	**Lamas de Olo**	**6.61**	**333**	ePn	**Pn**	**01 18 25.3**	**+1.2**
POLO				eSn	**Sn**	**01 19 37.4**	**-2.5**
POLO				A	A	01 20 22.6	
	comp=N,15nm,0.8s						
PBRG	**Braganca**	**6.65**	**340**	ePn	**Pn**	**01 18 25.7**	**+1.0**
PBRG				eSn	**Sn**	**01 19 39.3**	**-1.6**
PBRG				A	A	01 19 43.1	
	comp=N,17nm,0.7s						
PTO	**Porto**	**6.74**	**327**	ePn	**Pn**	**01 18 26.6**	**+0.8**
PTO				eSn	**Sn**	**01 19 39.4**	**-3.6**
PTO				A	A	01 19 45.0	
	comp=N,23nm,0.5s						
PCAB	**Cabril**	**6.99**	**333**	ePn	**Pn**	**01 18 30.5**	**+1.3**
PCAB				eSn	**Sn**	**01 19 44.6**	**-4.5**
PCAB				A	A	01 20 38.8	
	comp=N,36nm,0.6s						
PGAV	**Gavieira, Arco**	**7.30**	**332**	ePn	**Pn**	**01 18 34.7**	**+1.1**
PGAV				eSn	**Sn**	**01 19 51.5**	**-5.4**
PGAV				A	A	01 20 01.6	
	comp=N,26nm,0.7s						
ETSF	**Etsaut**	**7.73**	**18**	ePn	**Pn**	**01 18 40.1**	**+0.6**
ETSF				eSn	**Sn**	**01 20 02.9**	**-4.6**
	comp=N,0.7nm,0.3s						
SJPF	**Ste Jean**	**7.79**	**14**	ePn	**Pn**	**01 18 40.3**	**+0.1**
SJPF				eSn	**Sn**	**01 20 04.2**	**-4.6**
	comp=N,4.7nm,0.6s						
SJPF				eSg	**Sg**	**01 20 53.5**	**-2.6**
	comp=N,147nm,1.6s						
EPF	**Esparros**	**8.10**	**22**	ePn	**Pn**	**01 18 44.9**	**+0.3**
EPF	**Esparros**	**8.10**	**22**	eP	Pn	01 18 48.9	+4.3
EPF				eSn	**Sn**	**01 20 12.0**	**-4.6**
	comp=N,0.7nm,0.3s						
MTLF	**Montolieu**	**9.03**	**29**	ePn	**Pn**	**01 18 58.0**	**+0.7**
MTLF	**Montolieu**	**9.03**	**29**	eP	Pn	01 19 02.5	+5.2
TANT	**Tantan**	**9.55**	**224**	P	**Pn**	**01 19 03.6**	**-0.8**
LFF	**La Frestale**	**9.97**	**19**	ePn	**Pn**	**01 19 11.0**	**+0.9**
LASF	**Ste Croix**	**10.31**	**32**	ePn	**Pn**	**01 19 14.7**	**-0.2**
KEST	**Kesra**	**10.66**	**85**	Pn	Pn	01 19 25.1	+5.4
	comp=N,0.1nm,0.3s,baz=301,slow=12,SNR=5.2						
KEST	**Kesra**	**10.66**	**85**	Pn	**Pn**	**01 19 22.5**	**+2.7**
SMRF	**Simiane la Rot**	**11.04**	**38**	ePn	**Pn**	**01 19 24.1**	**-0.7**
LMR	**La Mourre**	**11.09**	**43**	ePn	**Pn**	**01 19 25.8**	**+0.4**
MFF	**Saint Martin d**	**11.36**	**13**	ePn	**Pn**	**01 19 29.0**	**-0.1**
PGF	**Pioggiola**	**12.11**	**51**	ePn	**Pn**	**01 19 39.6**	**+0.1**
PGF	**Pioggiola**	**12.11**	**51**	eP	Pn	01 19 44.1	+4.6
QUIF	**Quistinic**	**12.35**	**2**	ePn	**Pn**	**01 19 42.2**	**-0.4**
QUIF				eSn	**Sn**	**01 21 54.0**	**-6.6**
	comp=N,2.1nm,0.3s						
SGMF	**Saint Gilles**	**12.71**	**4**	ePn	**Pn**	**01 19 46.5**	**-1.1**
GERES	**GERESS Array B**	**18.47**	**39**	P	**Pn**	**01 21 04.9**	**+1.9**
	comp=N,0.0nm,0.3s,baz=216,slow=11,SNR=6.0						
GERES				LR	LR	01 29 06.7	
	comp=N,76nm,18.2s,baz=213,slow=40						
GERES	**GERESS Array B**	**18.47**	**39**	P	**Pn**	**01 21 04.3**	**+1.4**
KHC	**Kasperske Hory**	**18.59**	**38**	eP	**Pn**	**01 21 07.1**	**+2.7**
CKRC	**Cesky Krumlov**	**18.77**	**40**	eP	**Pn**	**01 21 09.0**	**+2.5**
EKA	**Eskdalemuir Ar**	**19.77**	**1**	P	**Pn**	**01 21 18.6**	**0.0**
	baz=178,slow=10.0,SNR=3.6						
CLL	**Collm**	**19.82**	**32**	eP	**Pn**	**01 21 19.0**	**0.0**
BRG	**Berggiesshubel**	**19.93**	**34**	eP	**Pn**	**01 21 24.3**	**+3.9**
BRG				Amp		01 21 29.5	
	comp=Z,35nm,2.1s						
MODS	**Modra-Piesok**	**20.13**	**44**	eP	Pn	01 21 24.6	+1.8
KRLC	**Kraliky**	**20.81**	**40**	eP	Pn	01 21 30.0	-0.8
TORD	**Torodi Ar. Bea**	**22.86**	**166**	P	**P**	**01 21 51.6**	**+1.1**
	comp=Z,5.2nm,1.0s,baz=347,slow=11,SNR=17						
IDI	**Anoyia**	**23.31**	**82**	LR	LR	01 30 59.6	
	comp=Z,79nm,19.8s,baz=262,slow=36						
BURAR	**Bucovina Array**	**24.64**

160nm,0.3s,baz=164,slow=20,SNR=2.6
RAO Raoul Island 3.28 357 Sn **Sn 01 22 05.1 -4.4**
PKGZ Pakihiroa 6.34 212 P **Pn 01 22 13.5 +1.0**
PKGZ S **Sn 01 23 26.1 +1.1**
PUZ Puketiti 6.42 210 P **Pn 01 22 11.5 -2.0**
PUZ S **Sn 01 23 27.4 +0.6**
RUGZ Raukumara Rang 6.58 213 P **Pn 01 22 17.0 +1.0**
RUGZ S **Sn 01 23 33.4 +2.3**
TWGZ Tauwhareparae 6.62 211 P **Pn 01 22 17.4 +1.0**
TWGZ S **Sn 01 23 33.3 +1.4**
MWZ Matawai 6.95 212 P **Pn 01 22 21.4 +0.5**
MWZ S **Sn 01 23 40.7 +0.6**
URZ Urewera 7.09 215 Pn **Pn 01 22 22.8 +0.2**
2.4nm,0.3s,baz=276,slow=4.2,SNR=18
URZ Sn **Sn 01 23 43.2 -0.1**
6.1nm,0.3s,baz=185,slow=22,SNR=17
URZ Urewera 7.09 215 P **Pn 01 22 23.5 +0.8**
URZ S **Sn 01 23 42.5 -0.7**
URZ Urewera 7.09 215 **Pn 01 22 23.4 +0.7**
URZ **Sn 01 23 41.4 -1.9**
MARZ Manawahe 7.10 219 P Pn 01 22 28.3 +5.4
RAGZ Rawiri 7.13 212 P **Pn 01 22 23.7 +0.2**
RAGZ S **Sn 01 23 44.6 0.0**
RIGZ Rimuhau 7.16 210 P **Pn 01 22 24.3 +0.5**
RIGZ S **Sn 01 23 45.7 +0.5**
SNGZ Shannon Statio 7.40 211 P **Pn 01 22 27.9 +0.9**
SNGZ S **Sn 01 23 50.3 -0.8**
MUGZ Murupara 7.42 216 P **Pn 01 22 27.9 +0.5**
MUGZ S **Sn 01 23 51.7 0.0**
RTZ Ruatahuna 7.43 214 P **Pn 01 22 27.9 +0.4**
RTZ S **Sn 01 23 52.4 +0.5**
MHGZ Mahia Peninsul 7.49 207 P **Pn 01 22 27.6 -0.5**
MHGZ S **Sn 01 23 53.1 0.0**
OUZ Omahuta 7.69 247 Pn **Pn 01 22 33.7 +2.8**
MTHZ Maungataniwha 7.69 213 P **Pn 01 22 32.1 +1.1**
MTHZ S **Sn 01 23 57.8 -0.3**
NMHZ Naumai 7.90 213 P **Pn 01 22 33.2 -0.7**
NMHZ S **Sn 01 24 03.5 +0.1**
BKZ Black Stump Fm 8.10 214 P **Pn 01 22 37.0 +0.4**
BKZ S **Sn 01 24 07.7 -0.6**
BKZ Black Stump Fm 8.10 214 Pn **Pn 01 22 35.5 -1.1**
KWHZ Kaweka Forest 8.34 213 P **Pn 01 22 40.1 +0.1**
KWHZ S **Sn 01 24 13.5 -0.8**
NTVZ North Tongarir 8.45 217 P **Pn 01 22 42.1 +0.6**
OTVZ Oturere 8.50 217 P **Pn 01 22 44.4 +2.1**
OTVZ S **Sn 01 24 15.4 -3.0**
SNVZ South Ngauruho 8.53 217 P **Pn 01 22 44.2 +1.5**
SNVZ S **Sn 01 24 14.9 -4.2**
BHHZ Black Hill Sta 8.56 214 P **Pn 01 22 44.0 +1.1**
BHHZ S **Sn 01 24 17.2 -2.5**
WNVZ Wahianoa 8.66 217 P **Pn 01 22 45.0 +0.5**
WNVZ S **Sn 01 24 21.2 -1.1**
BFZ Birch Farm 9.45 209 Pn **Pn 01 22 55.2 0.0**
TMWZ Te Maipa 9.96 209 P **Pn 01 23 01.2 -0.8**
TMWZ S **Sn 01 24 48.2 -5.7**
OGWZ Otaki Gorge 10.03 213 P **Pn 01 23 02.4 -0.7**
OGWZ S **Sn 01 24 50.5 -5.1**
KIW Kapiti Island 10.18 213 P **Pn 01 23 03.5 -1.7**
KIW S **Sn 01 24 53.3 -6.1**
MSWZ Moikau Station 10.48 210 Pn **Pn 01 23 11.1 +1.9**
MSWZ **Sn 01 24 60.0 -6.8**
DUWZ D'Urville Isla 10.62 217 P **Pn 01 23 10.8 -0.3**
DUWZ S **Sn 01 25 03.7 -6.4**
THZ Tophouse 11.84 216 P **Pn 01 23 27.7 -0.2**
THZ S **Sn 01 25 32.1 -8.1**
KHZ Kahutara 12.04 213 P **Pn 01 23 29.3 -1.2**
KHZ S Sn 01 25 33.7 -11
GVZ Greta Valley S 12.70 212 P **Pn 01 23 38.0 -1.6**
LTZ Lake Taylor 12.92 215 P **Pn 01 23 41.2 -1.4**
LTZ S Sn 01 25 54.9 -12
MQZ McQueen's Vall 13.46 211 Pn **Pn 01 23 48.9 -1.0**
ARCZ Arundel 14.32 214 P **Pn 01 24 00.9 -0.9**
WKZ Wanaka 16.02 216 P **Pn 01 24 22.0 -2.3**
WKZ Wanaka 16.02 216 Pn **Pn 01 24 23.2 -1.1**
WKZ IAmb IAmb 01 24 34.1
comp=Z,25nm,1.1s
MLZ Mavora Lakes 16.85 216 Pn **P 01 24 37.0 0.0**
WHZ Wether Hill Ro 17.31 215 P **Pn 01 24 39.5 -1.1**
WHZ Wether Hill Ro 17.31 215 Pn **Pn 01 24 39.0 -1.5**
WHZ IAmb IAmb 01 24 57.8
comp=Z,27nm,1.5s
DZM Mont Dzumac 17.48 303 LR LR 01 30 26.3
comp=Z,109nm,18.0s,baz=122,slow=34
EIDS Eidsvold 28.13 277 P **P 01 26 31.8 +0.5**
EIDS IAmb IAmb 01 26 48.3
comp=Z,5.9nm,1.1s
CTAO Charters Tower 34.41 282 P **P 01 27 27.8 +1.2**
CTAO IAmb IAmb 01 27 31.2
comp=Z,6.2nm,1.0s
BBOO Buckleboo 38.65 257 P **P 01 28 03.8 +1.1**
COEN Coen 40.11 288 P **P 01 28 15.2 +0.2**
AS31 Alice Springs 43.26 269 P **P 01 28 41.2 +0.4**
ASAR Alice Springs 43.26 269 P **P 01 28 41.9 +1.0**
comp=Z,1.8nm,0.6s,baz=107,slow=7.6,SNR=27
ASAR Alice Springs 43.26 269 P **P 01 28 41.2 +0.4**
WR0 Warramunga Arr 44.26 274 P **P 01 28 49.5 +0.7**
WR0 IAmb IAmb 01 28 57.9
comp=Z,7.9nm,1.4s
WB2 Warramunga Arr 44.43 274 P **P 01 28 51.1 +0.9**
WB2 IAmb IAmb 01 28 51.7
comp=Z,4.3nm,0.5s
WRA Warramunga Arr 44.44 274 P **P 01 28 51.0 +0.7**
comp=Z,3.5nm,0.6s,baz=113,slow=8.0,SNR=57
WRA Warramunga Arr 44.44 274 P **P 01 28 51.0 +0.7**
WB0 Warramunga Arr 44.47 274 P **P 01 28 51.4 +0.8**
FORT Forrest 45.75 257 P **P 01 29 01.9 +1.3**
QSPA South Pole Qui 57.58 180 P P 01 30 42.2 +14
QSPA IAmb IAmb 01 30 47.8
comp=Z,4.4nm,0.7s
SNAA Sanae 76.02 178 P P 01 32 43.1 +17
SNAA Sanae 76.02 178 P **P 01 32 27.8 +1.8**
SNAA IAmb IAmb 01 32 29.6
comp=Z,5.9nm,1.1s
FINES FINESS Array B 147.22 339 PKPbc **PKiKP 01 40 24.1 0.0**
comp=Z,1.1nm,0.8s,baz=48,slow=2.8,SNR=4.3
FINES FINESS Array B 147.22 339 **PKPab 01 40 23.7 +0.2**
BRTR Keskin Array B 153.76 295 PKPbc **PKiKP 01 40 41.4 +2.9**
comp=Z,0.4nm,0.6s,baz=101,slow=4.6,SNR=1.4

*SJA **26** 01:35:09.9±0.7,30.°70S×71.°75W,h20km±3km,ML4.2, MW4.2*
*GUC **26** 01:35:13.6±0.8,30.°72S×71.°45W,h48km±2km,ML4.4*
*IDC **26** 01:35:14.1±1.0,30.°71S×71.°39W,h41km±5km,mb4.0/6, mb1 4.0/10,mb1mx3.8/26,mbtmp4.1/10,ML3.7/4,MS2.9/4, Ms1 2.9/4,ms1mx2.7/50,Error ellipse: s-maj=29.0km s-min=24.6km az=78.0*
*NEIC **26** 01:35:14.3±0.9,30.°74S±0.°04×71.°46W±0.°06,h38km±6km, mb4.5/9,ML4.4(GUC),Error ellipse: s-maj=7.0km s-min=5.4km az=80.0*
ISC 26 01:35:12.9±0.6,30.°74S±0.°02×71.°47W±0.°03,h31km±3km, n103,σ≥18/135,mb4.3/8,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.15**	**295**	⇑*iP*	**Pn**	**01 35 21.1**	**+1.9**
CO06				*i* S	**Sb**	**01 35 26.1**	**+3.2**
CO06				IAML		01 35 27.7	
comp=E,35μm,0.2s							
CO06	**Fray Jorge**	**0.15**	**295**		**Pn**	**01 35 21.0**	**+1.9**
CO06					**Sb**	**01 35 26.3**	**+3.4**
CO03	**El Pedregal**	**0.68**	**99**	⇓*iP*	**Pn**	**01 35 27.3**	**+0.8**
CO03				*eS*	**Sn**	**01 35 36.7**	**+0.6**
CO03				IAML		01 35 37.7	
comp=E,17μm,0.1s							
CO03	**El Pedregal**	**0.68**	**99**		**Pn**	**01 35 27.4**	**+0.8**
CO03				Sn	**Sn**	**01 35 36.9**	**+0.8**
GO04	**Tololo Observa**	**0.81**	**46**	⇓*iP*	**Pn**	**01 35 29.2**	**+0.8**
GO04				*eS*	**Sn**	**01 35 40.0**	**+0.6**
GO04	**Tololo Observa**	**0.81**	**46**		**Pn**	**01 35 29.2**	**+0.8**
GO04				Sn	**Sn**	**01 35 40.6**	**+1.1**
GO04	**Tololo Observa**	**0.81**	**46**	*eP*	**Pn**	**01 35 29.0**	**+0.6**
GO04				*eS*	**Sb**	**01 35 35.8**	**-3.5**
CO05	**La Serena**	**0.84**	**14**	*eP*	**Pb**	**01 35 29.4**	**+0.4**
CO05				*eS*	**Sn**	**01 35 41.0**	**+1.2**
CO05	**La Serena**	**0.84**	**14**		**Pb**	**01 35 29.6**	**+0.6**
CO05				Sn	**Sn**	**01 35 41.1**	**+1.2**
AROD	**Rodeo**	**1.82**	**72**	*eP*	**Pb**	**01 35 46.0**	**+0.3**
AROD				*eS*	**Sn**	**01 36 04.8**	**+0.4**
VA06	**Catapilco**	**1.82**	**175**	*eP*	**Pn**	**01 35 43.5**	**+1.4**
VA06				*eS*	**Sb**	**01 36 07.1**	**-0.9**
VA06				IAML		01 36 22.2	
comp=N,4μm,0.5s							
LCO	**Las Campanas**	**1.85**	**21**	*eP*	**Pn**	**01 35 43.9**	**+1.3**
LCO				*eS*	**Sn**	**01 36 06.6**	**+1.5**
LCO	**Las Campanas**	**1.85**	**21**	Pn	**Pn**	**01 35 44.0**	**+1.3**
LCO	**Las Campanas**	**1.85**	**21**	*eP*	**Pn**	**01 35 44.0**	**+1.3**
ACCO	**Cerro Coronel**	**2.08**	**86**	*eP*	**Pb**	**01 35 50.1**	**-0.1**
ACCO				*eS*	**Sb**	**01 36 19.8**	**+4.1**
ACDV	**Cuesta del Vie**	**2.11**	**75**	*eP*	**Pb**	**01 35 50.9**	**+0.3**
VA03	**San Esteban**	**2.17**	**159**	*eP*	**Pn**	**01 35 49.1**	**+2.1**
VA03				*eS*	**Sn**	**01 36 15.2**	**+2.5**
VA03				IAML		01 36 23.7	
comp=E,3μm,0.3s							
VA03	**San Esteban**	**2.17**	**159**		**Pn**	**01 35 48.6**	**+1.7**
VA03	**San Esteban**	**2.17**	**159**	*eP*	**Pn**	**01 35 49.0**	**+2.1**
VA03				*eS*	**Sn**	**01 36 12.8**	**+0.1**
VA03				IAML		01 36 25.2	
comp=Z,1μm,0.7s							
ROCH	**El Roble**	**2.26**	**170**	*eP*		01 35 49.7	
ROCH				*eP*	**Pn**	**01 35 48.4**	**0.0**
ROCH				IAML		01 36 29.4	
comp=N,3μm,0.3s							
ROCH				IAML		01 36 30.4	
comp=N,4μm,0.5s							
ROC1	**El Roble**	**2.26**	**170**	*eP*	Pn	01 35 37.8	-11
VA01	**Torpederas**	**2.28**	**184**	Pn	**Pn**	**01 35 49.0**	**+0.7**
VA01	**Torpederas**	**2.28**	**184**	*eP*	**Pn**	**01 35 49.2**	**+0.9**
VA01				*eS*	**Sb**	**01 36 19.3**	**-1.8**
AUSP	**Uspallata**	**2.31**	**130**	*eP*	**Pb**	**01 35 53.2**	**-0.9**
AUSP				*eS*	**Sb**	**01 36 26.2**	**+3.7**
PEL	**Peldehue**	**2.49**	**165**	*eP*	**Pn**	**01 35 52.9**	**+1.6**
PEL				IAML		01 36 37.3	
comp=N,2μm,0.4s							
PEL	**Peldehue**	**2.49**	**165**		**Pn**	**01 35 52.4**	**+1.1**
PEL	**Peldehue**	**2.49**	**165**	*eP*	**Pn**	**01 35 53.6**	**+2.3**
PEL				*eS*	**Sb**	**01 36 24.8**	**-2.4**
MT02	**Curacav**	**2.53**	**174**	*eP*	**Pn**	**01 35 53.2**	**+1.4**
MT02	**Curacav**	**2.53**	**174**		**Pn**	**01 35 52.8**	**+1.0**
AC04	**Llanos de Chal**	**2.55**	**8**	*eP*	**Pn**	**01 35 53.2**	**+1.1**
AC04	**Llanos de Chal**	**2.55**	**8**	Pn	**Pn**	**01 35 53.3**	**+1.1**
AC04	**Llanos de Chal**	**2.55**	**8**	*eP*	**Pn**	**01 35 53.0**	**+0.9**
AC04				*eS*	**Sn**	**01 36 23.3**	**+1.3**
AC04				IAML		01 36 38.7	
comp=Z,636nm,0.6s							
MT05	**Renca**	**2.72**	**167**	*eP*	**Pn**	**01 35 56.0**	**+1.6**
MT05				IAML		01 36 37.7	
comp=E,3μm,0.4s							
MT05	**Renca**	**2.72**	**167**		**Pn**	**01 35 55.6**	**+1.1**
MT05	**Renca**	**2.72**	**167**	*eP*	**Pn**	**01 35 56.8**	**+2.3**
MT05				*eS*	**Sn**	**01 36 30.3**	**+4.0**
MT05				IAML		01 36 44.3	
comp=Z,754nm,0.6s							
RTCV	**Cerro Valdivia**	**2.75**	**115**	*eP*	**Pb**	**01 35 59.0**	**-2.4**
RTCV				*eS*	**Sb**	**01 36 38.4**	**+3.8**
ASAL	**Salagasta**	**2.91**	**130**	*eP*	**Pb**	**01 36 01.0**	**-3.1**
ASAL				*eS*	**Sb**	**01 36 37.8**	**-1.5**
ASAL				*eS*		01 36 38.8	
ASAL				IAML		01 36 56.3	
comp=Z,600nm,1.1s							
VA05	**Santo Domingo**	**2.91**	**182**	*eP*	**Pn**	**01 35 57.9**	**+0.9**
VA05				IAML		01 36 52.1	
comp=N,1μm,0.2s							
VA05	**Santo Domingo**	**2.91**	**182**	Pn	**Pn**	**01 35 57.6**	**+0.6**
ARCO	**CERRO ARCO**	**3.01**	**135**	*eP*	**Pb**	**01 36 03.4**	**-2.6**
ARCO				*eS*	**Sb**	**01 36 46.8**	**+4.5**
ARCO				IAML		01 36 53.3	
comp=Z,759nm,0.6s							
MT09	**Talagante**	**3.06**	**172**	*eP*	**Pn**	**01 36 00.8**	**+1.6**
MT09				IAML		01 36 51.3	
comp=E,1μm,0.4s							
MT09	**Talagante**	**3.06**	**172**		**Pn**	**01 36 00.5**	**+1.3**
MT01	**Popeta**	**3.12**	**177**	*eP*	**Pn**	**01 36 01.1**	**+1.2**
MT01	**Popeta**	**3.12**	**177**		**Pn**	**01 36 01.2**	**+1.2**
MT01	**Popeta**	**3.12**	**177**	*eP*	**Pn**	**01 36 01.0**	**+1.0**
MT01				*eP*		01 36 01.4	
MT01				*eS*	**Sn**	**01 36 38.8**	**+2.6**
MT01				*eS*		01 36 40.3	
MT01				IAML		01 36 54.3	
comp=Z,493nm,0.7s							
AAGR	**Agrelo**	**3.24**	**137**	*eP*	**Pb**	**01 36 06.0**	**-3.8**
AAGR				IAML		01 37 01.4	
comp=Z,342nm,0.5s							
LMEL	**Las Melosas**	**3.28**	**161**	*eP*	**Pn**	**01 36 04.9**	**+2.6**
LMEL				IAML		01 36 53.6	
comp=N,810nm,0.1s							
GO03	**Copiap**	**3.32**	**19**	*eP*	**Pn**	**01 36 04.2**	**+1.5**
GO03	**Copiap**	**3.32**	**19**		**Pn**	**01 36 04.2**	**+1.5**
GO03	**Copiap**	**3.32**	**19**	*eP*	**Pn**	**01 36 04.5**	**+1.8**
GO03				*eS*	**Sn**	**01 36 45.3**	**+4.2**
BO04	**La Punta**	**3.32**	**168**	*eP*	**Pn**	**01 36 04.3**	**+1.6**
BO04				IAML		01 36 59.1	
comp=N,637nm,0.4s							
VCA	**Vinchina**	**3.47**	**56**	*eP*	**Pb**	**01 36 10.0**	**-3.8**
VCA				*eS*	**Sb**	**01 36 56.3**	**+0.8**
VCA				IAML		01 37 03.9	
comp=Z,1μm,0.6s							
BO01	**Tunca**	**3.66**	**175**	*eP*	**Pn**	**01 36 08.2**	**+0.9**
BO01	**Tunca**	**3.66**	**175**	Pn	**Pn**	**01 36 08.4**	**+1.1**
BO01	**Tunca**	**3.66**	**175**	*eP*	**Pn**	**01 36 09.0**	**+1.7**
BO01				*eS*	**Sn**	**01 36 53.8**	**+4.4**
BO01				IAML		01 37 18.8	
comp=Z,245nm,0.6s							
BO02	**Sierra Bellavi**	**4.08**	**172**	*eP*	**Pn**	**01 36 14.7**	**+1.5**
BO02	**Sierra Bellavi**	**4.08**	**172**		**Pn**	**01 36 14.6**	**+1.3**
BO02	**Sierra Bellavi**	**4.08**	**172**	*eP*	**Pn**	**01 36 15.0**	**+1.8**
BO02				*eS*	**Sb**	**01 37 07.3**	**-5.7**
BO02				IAML		01 37 26.1	
comp=Z,387nm,0.5s							
ACLC	**CERRO LA CRUZ**	**4.13**	**73**	*eP*	**Pn**	**01 36 17.4**	**+3.4**
ACLC				*eS*	**Sn**	**01 37 07.2**	**+5.9**
ACLC				IAML		01 37 15.9	
comp=Z,832nm,0.7s							
GO05	**Huala**	**4.28**	**185**		**Pn**	**01 36 15.5**	**-0.3**
GO05	**Huala**	**4.28**	**185**	*eP*	**Pn**	**01 36 16.0**	**+0.1**
GO05				*eS*	**Sb**	**01 37 18.3**	**-0.2**
AC02	**Maricunga**	**4.40**	**28**	Pn	**Pn**	**01 36 19.9**	**+1.9**
AC02	**Maricunga**	**4.40**	**28**	*eP*	**Pn**	**01 36 20.4**	**+2.4**
AC02				*eS*	**Sb**	**01 37 16.8**	**-5.7**
AC02				IAML		01 37 40.6	
comp=Z,234nm,0.8s							
RFA	**San Rafael**	**4.75**	**149**	*eP*	**Pn**	**01 36 19.3**	**-3.1**
RFA				*eP*		01 36 24.8	
RFA				*eP*		01 36 25.1	
RFA				*eS*	**Sb**	**01 37 40.8**	**+8.6**
RFA				IAML		01 37 54.0	
comp=Z,105nm,0.5s							
ML02	**Panimavida**	**5.01**	**180**		**Pn**	**01 36 27.1**	**+1.2**
AHML	**Horco Molle**	**6.67**	**55**	*eP*	**Pn**	**01 36 45.3**	**-3.5**
AHML				*eP*		01 36 52.8	
AHML				*eS*	**Sn**	**01 38 08.8**	**+5.0**
FSA	**Cafayete**	**6.68**	**48**	*eP*	**Pn**	**01 36 52.5**	**+3.4**
FSA				*eS*	Sn	01 38 13.8	+10
LC01	**Cunco**	**8.15**	**182**	Pn	**Pn**	**01 37 07.8**	**-1.2**
LC01	**Cunco**	**8.15**	**182**	*eP*	**Pn**	**01 37 09.0**	**0.0**
LVC	**Limon Verde**	**8.41**	**16**	P	**Pn**	**01 37 11.2**	**-1.8**
comp=Z,0.5nm,0.3s,baz=163,slow=4.5,SNR=13							
LVC				LR	LR	01 40 22.1	
comp=Z,89nm,21.9s,baz=206,slow=37							
LVC	**Limon Verde**	**8.41**	**16**	**Pn**	**Pn**	**01 37 11.0**	**-2.0**
PB02	**IPOC Station P**	**9.49**	**9**	*eP*	**Pn**	**01 37 28.5**	**+1.0**
PB02				*eP*		01 37 29.0	
PLCA	**Paso Flores**	**10.00**	**176**	P	**Pn**	**01 37 36.3**	**+1.8**
comp=Z,0.1nm,0.3s,baz=340,slow=12,SNR=3.5							
PLCA	**Paso Flores**	**10.00**	**176**		**Pn**	**01 37 35.4**	**+0.9**
PB11	**IPOC Station P**	**11.05**	**9**	Pn	**Pn**	**01 37 48.9**	**-0.2**
CPUP	**Villa Florida**	**13.18**	**74**	LR	LR	01 43 54.2	
comp=Z,85nm,20.0s,baz=216,slow=40							
LPAZ	**La Paz**	**14.71**	**13**	P	**Pn**	**01 38 40.5**	**+1.2**
comp=Z,0.2nm,0.3s,baz=182,slow=8.2,SNR=10							
LPAZ	**La Paz**	**14.71**	**13**	Pn	**Pn**	**01 38 39.3**	**0.0**
ITAB	**Concordia**	**17.28**	**83**	Pn	**Pn**	**01 39 11.5**	**-0.3**
SIV	**San Ignacio**	**17.49**	**35**	P	**Pn**	**01 39 14.7**	**+0.1**
comp=Z,0.5nm,0.3s,baz=213,slow=11,SNR=18							
SIV				LR	LR	01 45 21.4	
comp=Z,37nm,21.7s,baz=313,slow=35							
NNA	**Nana**	**19.31**	**344**	LR	LR	01 45 12.6	
comp=Z,36nm,20.8s,baz=169,slow=31							
BDFB	**Brasilia**	**26.20**	**60**	P	**P**	**01 40 44.7**	**-0.4**
comp=Z,3.7nm,0.6s,baz=245,slow=8.9,SNR=6.2							
BDFB	**Brasilia**	**26.20**	**60**	P	**P**	**01 40 44.5**	**-0.6**
BDFB				IAmb	IAmb	01 40 58.0	
comp=Z,5.8nm,1.0s							
SNAA	**Sanae**	**54.43**	**159**	P	**P**	**01 44 36.6**	**-0.2**
SNAA				PcP	**PcP**	**01 45 39.5**	**-0.6**
060A	**Indiantown**	**58.08**	**351**	P	**P**	**01 45 04.5**	**+1.4**
QSPA	**South Pole Qui**	**59.49**	**180**	P	**P**	**01 45 13.1**	**+0.3**
QSPA				IAmb	IAmb	01 45 15.8	
comp=Z,2.7nm,1.1s							
TXAR	**Lajitas Array**	**67.15**	**330**	P	**P**	**01 46 04.5**	**+0.7**
comp=Z,0.6nm,0.7s,baz=154,slow=8.4,SNR=6.9							
TXAR	**Lajitas Array**	**67.15**	**330**	P	**P**	**01 46 03.8**	**0.0**
P40A	**Paris**	**72.48**	**343**	P	**P**	**01 46 36.6**	**+0.3**
P40A				IAmb	IAmb	01 46 37.6	
comp=Z,6.1nm,1.0s							
DBIC	**Dimbokro**	**73.69**	**72**	P	**P**	**01 46 43.9**	**-0.2**
comp=Z,4.7nm,0.6s,baz=239,slow=5.8,SNR=11							
DBIC				pP	**sP**	**01 46 56.3**	**-1.2**
comp=Z,2.4nm,0.6s,baz=226,slow=5.0,SNR=2.6							
DBIC	**Dimbokro**	**73.69**	**72**	P	**P**	**01 46 43.4**	**-0.7**
DBIC				IAmb	IAmb	01 46 44.5	
comp=Z,5.4nm,0.7s							
ECSD	**EROS Data Cent**	**77.61**	**342**	P	**P**	**01 47 06.0**	**+0.2**
ECSD				IAmb	IAmb	01 47 07.1	
comp=Z,6.6nm,0.9s							
BOSA	**Boshof**	**81.16**	**118**	P	**P**	**01 47 25.0**	**-0.9**
comp=Z,2.6nm,0.9s,baz=299,slow=5.4,SNR=3.7							
BOSA	**Boshof**	**81.16**	**118**	P	**P**	**01 47 25.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.65**	**70**	P	**P**	**01 47 33.3**	**-0.4**
comp=Z,0.9nm,0.5s,baz=278,slow=6.3,SNR=28							
TORD				pP	**sP**	**01 47 45.7**	**-1.5**
comp=Z,0.8nm,0.4s,baz=280,slow=5.6,SNR=5.0							
YKA	**Yellowknife Ar**	**99.13**	**341**	P	**Pdif**	**01 48 49.5**	**-0.9**
comp=Z,0.1nm,0.5s,baz=140,slow=4.5,SNR=1.9							
H11S2	**WAKE ISLAND Hyl**	**26.24**	**271**	T	T	04 12 59.7	
baz=115,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hyl**	**26.25**	**271**	T	T	04 13 00.5	
baz=115,slow=75,SNR=44							
H11S3	**WAKE ISLAND Hyl**	**26.26**	**271**	T	T	04 13 01.0	
baz=115,slow=75,SNR=37							
BVAR	**Borovoye Array**	**144.53**	**40**	PKP	**PKPab**	**01 54 44.6**	**+0.4**
comp=Z,1.8nm,0.5s,baz=15,slow=6.2,SNR=11							
BVAR				pPKP	**pPKPdf**	**01 54 57.2**	**+1.1**
comp=Z,0.7nm,0.5s,baz=353,slow=3.6,SNR=4.5							
ZALV	**Zalesovo Beam**	**151.19**	**30**	PKPbc	**PKPbc**	**01 55 02.0**	**-0.5**
comp=Z,4.3nm,0.6s,baz=299,slow=3.3,SNR=21							
ZALV				pPKPbc	**sPKPbc**	**01 55 15.0**	**-1.4**
comp=Z,3.8nm,0.7s,baz=303,slow=3.0,SNR=9.9							
ZALV	**Zalesovo Beam**	**151.19**	**30**	PKPbc	**PKPbc**	**01 55 01.8**	**-0.7**
MKAR	**Makanchi Array**	**154.18**	**44**	PKPbc	**PKPbc**	**01 55 07.9**	**-1.6**
comp=Z,0.5nm,0.8s,baz=0.0,slow=2.4,SNR=5.4							

*IDC **26** 01:58:38.9±1.5,23.°38S×66.°69W,h193km±16km,mb3.4/3, mb1 3.5/8,mb1mx3.3/26,mbtmp3.9/8,Error ellipse: s-maj=25.2km s-min=17.3km az=127.0*
*NEIC **26** 01:58:39.8±1.2,23.°44S±0.°07×66.°86W±0.°08, h206km±10km,mb4.1/7,Md3.7(SJA),Error ellipse: s-maj=10.8km s-min=10.4km az=118.0*
*GUC **26** 01:58:41.1±0.5,23.°35S×67.°17W,h241km±7km,ML4.8*
ISC 26 01:58:39.2±0.8,23.°42S±0.°05×66.°84W±0.°09, h207km±10km,n60,σ1≥05/78,mb4.0/7,5C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.08**	**293**	P	**Pn**	**01 59 20.5**	**+1.1**
18nm,0.3s,baz=110,slow=6.8,SNR=27							
LVC				S	**S**	**01 59 50.3**	**+0.1**
42nm,0.3s,baz=128,slow=3.3,SNR=8.4							
LVC	**Limon Verde**	**2.08**	**293**	*eS*	**S**	**01 59 50.6**	**+0.4**
LVC	**Limon Verde**	**2.08**	**293**		**Pn**	**01 59 20.3**	**+0.9**
LVC				Sn	**S**	**01 59 50.8**	**+0.6**
PB15	**IPOC Station P**	**2.43**	**275**	*eP*	**Pn**	**01 59 24.2**	**+1.1**
PB15				*i* S	**S**	**01 59 57.2**	**+0.5**
PB15				IAML		02 00 00.7	
comp=N,6μm,0.4s							
PB15	**IPOC Station P**	**2.43**	**275**		**Pn**	**01 59 23.9**	**+0.8**
PB15				Sn	**S**	**01 59 57.1**	**+0.5**
PB06	**IPOC Station P**	**2.62**	**285**	⇑*iP*	**Pn**	**01 59 26.0**	**+0.9**
PB06				*i* S	**S**	**02 00 00.3**	**0.0**
PB06				IAML		02 00 01.1	
comp=N,2μm,0.2s							
PB06	**IPOC Station P**	**2.62**	**285**		**Pn**	**01 59 25.0**	**-0.1**
PB06				Sn	**S**	**02 00 00.3**	**0.0**
PB09	**IPOC Station P**	**2.75**	**306**	⇑*iP*	**Pn**	**01 59 27.8**	**+1.2**
PB09				*i* S	**S**	**02 00 03.6**	**+0.6**
PB09	**IPOC Station P**	**2.75**	**306**		**Pn**	**01 59 27.1**	**+0.5**
PB03	**IPOC Station P**	**3.02**	**296**	⇑*iP*	**Pn**	**01 59 30.2**	**+0.5**
PB03				*i* S	**S**	**02 00 07.6**	**-1.0**
PB03				IAML		02 00 09.0	
comp=N,1μm,0.3s							
PB04	**IPOC Station P**	**3.24**	**289**	*eP*	**Pn**	**01 59 32.5**	**+0.2**
PB04				*eS*	**S**	**02 00 11.8**	**-1.4**
PB04				IAML		02 00 17.0	
comp=N,767nm,0.2s							
PB04	**IPOC Station P**	**3.24**	**289**		**Pn**	**01 59 32.5**	**+0.2**
PB07	**IPOC Station P**	**3.29**	**300**	⇑*iP*	**Pn**	**01 59 33.2**	**+0.4**
PB07				*i* S	**S**	**02 00 12.8**	**-1.5**
PB07	**IPOC Station P**	**3.29**	**300**		**Pn**	**01 59 33.0**	**+0.2**
PB01	**IPOC Station P**	**3.41**	**313**	*eP*	**Pn**	**01 59 35.1**	**+0.9**
PB01				*eS*	**S**	**02 00 16.1**	**-0.8**
PB01	**IPOC Station P**	**3.41**	**313**		**Pn**	**01 59 34.7**	**+0.4**
PB10	**IPOC Station P**	**3.42**	**268**	*eP*	**Pn**	**01 59 34.7**	**+0.6**
PB10				*eS*	**S**	**02 00 14

YKA	**Yellowknife Ar**	93.64	340	P		**P**	02 11 32.6	+1.1
	comp=Z,0.2nm,0.5s,baz=128,slow=4.7,SNR=5.8							
WRA	**Warramunga Arr**	132.21	207	PKP		**PKiKP**	02 17 30.6	+0.2
	comp=Z,0.2nm,0.5s,baz=152,slow=2.0,SNR=5.4							
WRA	**Warramunga Arr**	132.21	207			**PKPdf**	02 17 28.8	-0.5
MKAR	**Makanchi Array**	145.99	39	PKPbc		**PKPab**	02 17 55.7	+0.2
	comp=Z,1.2nm,0.8s,baz=300,slow=3.5,SNR=10.0							
MKAR	**Makanchi Array**	145.99	39	PKPdf		**PKPdf**	02 17 53.6	+0.2

*NEIC **26** 02:05:14.7±1.1,21°.51S±0°.04×68°.52W±0°.09,h131km±6km, mb4.0/2,ML3.9(GUC),Error ellipse: s-maj=12.8km s-min=5.7km az=81.0*
*IDC **26** 02:05:15.5±1.0,21°.59S×68°.13W,h117km±14km,mb3.6/2, mb1 3.6/4,mb1mx3.3/22,mbtmp3.9/4,Error ellipse: s-maj=38.9km s-min=19.4km az=119.0*
*GUC **26** 02:05:16.2±0.5,21°.51S×68°.49W,h116km±4km,ML3.9*
ISC 26 02:05:15.2±0.8,21°.48S±0°.04×68°.53W±0°.08,h124km±8km, n38,σ0§87/56,9C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.73**	**245**	⇑*i*P	**Pn**	**02 05 36.0**	**+0.6**
PB09				*e*S	**Sn**	**02 05 50.7**	**+0.1**
PB09	**IPOC Station P**	**0.73**	**245**	Pn	**Pn**	**02 05 35.4**	**0.0**
PB09				Sn	**Sn**	**02 05 51.0**	**+0.3**
PB01	**IPOC Station P**	**1.00**	**296**	⇑*i*P	**Pn**	**02 05 37.7**	**+0.1**
PB01				*e*S	**Sn**	**02 05 54.3**	**-0.3**
PB01				IAML		02 05 56.8	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**1.00**	**296**		**Pn**	**02 05 37.1**	**-0.5**
PB01				Sn	**Sn**	**02 05 54.7**	**+0.1**
LVC	**Limon Verde**	**1.18**	**197**	P	**Pn**	**02 05 40.1**	**+0.4**
	comp=N,16nm,0.3s,baz=24,slow=7.7,SNR=114						
LVC				S	**Sn**	**02 05 58.9**	**+0.6**
	comp=N,109nm,0.3s,baz=148,slow=23,SNR=67						
LVC	**Limon Verde**	**1.18**	**197**	*e*P	**Pn**	**02 05 39.7**	**0.0**
LVC				*e*S	**Sn**	**02 05 57.9**	**-0.4**
LVC	**Limon Verde**	**1.18**	**197**	Pn	**Pn**	**02 05 40.1**	**+0.4**
LVC				Sn	**Sn**	**02 05 58.3**	**0.0**
PB03	**IPOC Station P**	**1.27**	**244**	⇑*i*P	**Pn**	**02 05 40.7**	**+0.2**
PB03				*e*S	**Sn**	**02 05 59.3**	**-0.4**
PB03				IAML		02 06 00.8	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**1.28**	**277**	⇑*i*P	**Pn**	**02 05 40.8**	**+0.2**
PB02				*e*S	**Sn**	**02 05 59.8**	**0.0**
PB02				IAML		02 06 01.1	
	comp=N,4μm,0.1s						
PB07	**IPOC Station P**	**1.29**	**259**	⇑*i*P	**Pn**	**02 05 40.9**	**+0.2**
PB07				*e*S	**Sn**	**02 05 59.9**	**-0.1**
PB07				IAML		02 06 01.6	
	comp=N,3μm,0.5s						
PB07	**IPOC Station P**	**1.29**	**259**	Pn	**Pn**	**02 05 40.4**	**-0.3**
PB07				Sn	**Sn**	**02 05 59.9**	**-0.1**
PB08	**IPOC Station P**	**1.46**	**336**	⇑*i*P	**Pn**	**02 05 43.8**	**+1.0**
PB08				*e*S	**Sn**	**02 06 04.6**	**+0.8**
PB08	**IPOC Station P**	**1.46**	**336**	Pn	**Pn**	**02 05 43.0**	**+0.2**
PB08				Sn	**Sn**	**02 06 04.6**	**+0.8**
PB06	**IPOC Station P**	**1.55**	**218**	*e*P	**Pn**	**02 05 43.9**	**+0.2**
PB06				*e*S	**Sn**	**02 06 05.3**	**-0.1**
PB06				IAML		02 06 06.5	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**1.55**	**218**	Pn	**Pn**	**02 05 44.0**	**+0.3**
PB06				Sn	**Sn**	**02 06 05.5**	**+0.2**
PB04	**IPOC Station P**	**1.73**	**240**	*e*P	**Pn**	**02 05 45.5**	**-0.2**
PB04				IAML		02 06 18.2	
	comp=N,732nm,0.4s						
PB04	**IPOC Station P**	**1.73**	**240**	Pn	**Pn**	**02 05 45.7**	**0.0**
TA01	**Diego Aracena**	**1.79**	**300**	⇑*i*P	**Pn**	**02 05 46.5**	**+0.2**
TA01				*e*S	**Sn**	**02 06 09.9**	**-0.2**
TA01	**Diego Aracena**	**1.79**	**300**	Pn	**Pn**	**02 05 46.5**	**+0.2**
GO01	**Chusmiza**	**1.91**	**341**	⇑*i*P	**Pn**	**02 05 48.9**	**+0.7**
GO01				IAML		02 06 17.0	
	comp=N,2μm,0.2s						
GO01	**Chusmiza**	**1.91**	**341**		**Pn**	**02 05 49.0**	**+0.7**
PB15	**IPOC Station P**	**1.93**	**207**	*e*P	**Pn**	**02 05 48.5**	**+0.3**
PB15				*e*S	**Sn**	**02 06 13.6**	**+0.3**
TA02	**Huaiquique**	**1.93**	**309**	*e*P	**Pn**	**02 05 47.8**	**-0.1**
TA02	**Huaiquique**	**1.93**	**309**		**Pn**	**02 05 47.8**	**-0.1**
PB11	**IPOC Station P**	**2.01**	**328**	⇑*i*P	**Pn**	**02 05 49.2**	**0.0**
PB11				*e*S	**Sn**	**02 06 14.6**	**-0.6**
PB11				IAML		02 06 17.7	
	comp=E,925nm,0.2s						
PB11	**IPOC Station P**	**2.01**	**328**		**Pn**	**02 05 48.6**	**-0.6**
MNMC	**Minye Minye**	**2.55**	**337**		**Pn**	**02 05 56.0**	**0.0**
PB10	**IPOC Station P**	**2.75**	**222**	Pn	**Pn**	**02 05 58.4**	**0.0**
PB16	**IPOC Station P**	**3.27**	**343**		**Pn**	**02 06 05.7**	**0.0**
PB12	**IPOC Station P**	**3.32**	**329**		**Pn**	**02 06 04.5**	**-1.4**
LPAZ	**La Paz**	**5.18**	**4**	P	**Pn**	**02 06 33.0**	**+1.7**
	comp=E,1.1nm,0.3s,baz=181,slow=4.1,SNR=28						
LPAZ	**La Paz**	**5.18**	**4**		**Pn**	**02 06 33.1**	**+1.8**
SIV	**San Ignacio**	**8.93**	**54**	P	**Pn**	**02 07 18.1**	**-3.2**
	comp=E,0.3nm,0.3s,baz=244,slow=13,SNR=13						
ITAB	**Concordia**	**15.99**	**114**		**Pn**	**02 08 52.9**	**-0.3**
ITAB				IAmb	IAmb	02 09 06.5	
	comp=Z,20nm,1.2s						
PLTB	**Pedras Altas**	**16.80**	**131**		**Pn**	**02 09 00.3**	**-2.8**
PLTB				IAmb	IAmb	02 09 16.5	
	comp=Z,4.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**77.02**	**70**	P	**P**	**02 16 53.9**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=254,slow=5.3,SNR=21						
YKA	**Yellowknife Ar**	**91.29**	**340**	P	**P**	**02 18 07.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=136,slow=4.1,SNR=7.1						
MKAR	**Makanchi Array**	**145.41**	**36**	PKPbc	**PKPab**	**02 24 40.9**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=298,slow=4.7,SNR=2.5						

*IDC **26** 02:24:21.4±3.5,36°.06N×70°.94E,h57km±30km,mb3.7/9, mb1 3.8/15,mb1mx3.5/49,mbtmp4.0/15,ML3.9/6,Error ellipse: s-maj=25.3km s-min=20.1km az=19.0*
*NEIC **26** 02:24:26.3±1.9,36°.34N±0°.05×70°.92E±0°.06,h94km±8km, mb4.3/8,Error ellipse: s-maj=8.5km s-min=4.5km az=222.0*
*NNC **26** 02:24:30.4±2.9,36°.73N×70°.90E,h113km±55km,mb3.8, mpv4.4,Error ellipse: s-maj=24.0km s-min=22.0km az=156.0*
ISC 26 02:24:25.0±0.6,36°.28N±0°.05×71°.07E±0°.07,h100km,n68, σ1§92/74,mb3.8/8,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.40**	**224**	Pn	**Pn**	**02 25 05.3**	**+2.3**
CHGR	**Chuyangaron**	**2.82**	**328**	Pn	**Pn**	**02 25 07.7**	**-0.7**
NIL	**Nilore**	**3.18**	**145**	Pn	**Pn**	**02 25 16.2**	**+3.0**
DRK	**Karamyk**	**3.25**	**10**		**Pn**	**02 25 15.4**	**+1.1**
BTK	**Batken**	**3.78**	**357**	Pn	**Pn**	**02 25 22.4**	**+1.1**
JMU	**Jammu**	**4.76**	**137**	*e*P	**Pn**	**02 25 36.3**	**+1.9**
JMU				*e*S	**Sn**	**02 26 29.3**	**+0.9**
THN	**Thein Dam**	**5.43**	**134**	*e*P	**Pn**	**02 25 45.8**	**+2.3**
THN				*i x*	x	02 25 46.7	
THN				*e*S	**Sn**	**02 26 45.0**	**+0.2**
DHRM	**DHARAMSHALA**	**5.91**	**131**	*e*P	**Pn**	**02 25 51.7**	**+1.4**
DHRM				*e*S	**Sn**	**02 26 55.7**	**-1.0**
DHRM				IAML		02 26 59.1	
	comp=N,222nm,0.2s						
DHRM				IAML		02 27 02.8	
	comp=E,138nm,0.3s						
AML	**Almayashu**	**6.19**	**18**	P	**Pn**	**02 25 54.8**	**+0.6**
	SNR=58						
UCH	**Uchtor**	**6.51**	**23**	P	**Pn**	**02 25 59.3**	**+0.7**
	SNR=35						
EKS2	**Erkin-Say**	**6.71**	**17**	P	**Pn**	**02 26 01.8**	**+0.8**
	SNR=8.0						
KK02	**Karatay Array**	**6.83**	**357**	⇓P	**Pn**	**02 26 02.1**	**-0.5**
	comp=E,13nm,0.3s,baz=175,slow=12						
KK02				⇓S	**Sn**	**02 27 13.6**	**-5.1**
	comp=E,19nm,0.5s,baz=187,slow=23						
KKAR	**Karatay Array**	**6.83**	**357**	Pn	**Pn**	**02 26 01.4**	**-1.2**
AAK	**Ala-Archa**	**6.88**	**22**	P	**Pn**	**02 26 04.5**	**+1.1**
	comp=E,14nm,0.3s,baz=170,slow=6.1,SNR=127						
AAK				S	**Sn**	**02 27 18.5**	**-1.6**
	comp=E,2.2nm,0.3s,baz=159,slow=23,SNR=9.1						
AAK	**Ala-Archa**	**6.88**	**22**	P	**Pn**	**02 26 04.2**	**+0.8**
	SNR=54						
AAK	**Ala-Archa**	**6.88**	**22**	⇓P	**Pn**	**02 26 04.1**	**+0.8**
	comp=E,17nm,0.4s						
AAK				⇑S	**Sn**	**02 27 17.1**	**-3.1**
	comp=E,26nm,0.8s						
AAK	**Ala-Archa**	**6.88**	**22**	Pn	**Pn**	**02 26 04.1**	**+0.8**
KBK	**Karagaybulak**	**7.04**	**24**	P	**Pn**	**02 26 06.8**	**+1.3**
	SNR=14						
FRU1	**Bishkek**	**7.08**	**22**	Pn	**Pn**	**02 26 07.2**	**+1.2**
ULHL	**Ulahol**	**7.18**	**32**	P	**Pn**	**02 26 08.3**	**+0.8**
	SNR=8.4						
SMLA	**Simla**	**7.22**	**134**	*e*P	**Pn**	**02 26 08.8**	**+0.8**
SMLA				*e*S	**Sn**	**02 27 25.9**	**-2.5**
SMLA				IAML		02 27 31.2	
	comp=E,64nm,0.3s						
SMLA				IAML		02 27 31.5	
	comp=N,60nm,0.3s						
BOOM	**Boomskoye usch**	**7.26**	**30**	Pn	**Pn**	**02 26 09.2**	**+0.7**
CHMS	**Chumysh**	**7.29**	**22**	P	**Pn**	**02 26 09.8**	**+1.0**
	SNR=27						
USP	**Ospenovka**	**7.46**	**20**	P	**Pn**	**02 26 11.4**	**+0.2**
	SNR=20						
TKM2	**Tokmak 2**	**7.50**	**26**	P	**Pn**	**02 26 12.4**	**+0.6**
	SNR=16						
TKM2	**Tokmak 2**	**7.50**	**26**	⇑P	**Pn**	**02 26 12.1**	**+0.3**
TKM2				⇑S	**Sn**	**02 27 33.9**	**-1.4**
	comp=N,8.9nm,0.5s						
KUDL	**Kundal**	**9.32**	**149**	*e*P	**Pn**	**02 26 36.3**	**-0.2**
KUDL				*e*S	**Sn**	**02 28 13.2**	**-6.2**
GEYT	**Alibeck**	**10.47**	**283**	P	Pn	02 26 47.8	-4.3
	comp=N,1.1nm,0.3s,baz=105,slow=17,SNR=10.0						
GEYT				S	Sn	02 28 39.1	-8.5
	comp=N,2.3nm,0.3s,baz=57,slow=8.8,SNR=3.1						
GEYT	**Alibeck**	**10.47**	**283**		**Pn**	**02 26 49.6**	**-2.5**
GYA0B	**ALIBECK ARRAY**	**10.47**	**283**	Pn	Pn	02 26 49.1	-3.0
PYUN	**Piuthan**	**12.97**	**126**	*e*P	**Pn**	**02 27 22.9**	**-2.8**
	comp=N,16nm,0.4s						
DANN	**Dangsing**	**13.32**	**123**	*e*P	**Pn**	**02 27 28.0**	**-2.4**
	comp=N,14nm,0.4s						
MK31	**Makanchi Array**	**13.44**	**35**		**Pn**	**02 27 31.6**	**+0.1**
MKAR	**Makanchi Array**	**13.44**	**35**	P	**Pn**	**02 27 31.9**	**+0.4**
	comp=N,0.1nm,0.3s,baz=220,slow=14,SNR=6.0						
KOLN	**Koldanda**	**13.59**	**125**	*e*P	**Pn**	**02 27 31.1**	**-2.7**
	comp=N,7.2nm,0.3s						
BHPL	**Bhopal**	**14.11**	**155**	*e*P	**Pn**	**02 27 38.6**	**-1.8**
GKN	**Gorkha**	**14.14**	**122**	*e*P	**Pn**	**02 27 38.4**	**-2.5**
	comp=N,10.0nm,0.3s						
DMN	**Daman**	**14.71**	**122**	*e*P	**Pn**	**02 27 46.1**	**-2.2**
	comp=N,9.7nm,0.4s						
KKN	**Kakani**	**14.72**	**121**	*e*P	**Pn**	**02 27 45.8**	**-2.6**
	comp=N,6.6nm,0.5s						
PKIN	**Phulchoki**	**14.93**	**121**	*e*P	**Pn**	**02 27 49.2**	**-1.9**
	comp=N,12nm,0.3s						
PKI	**Pulchoki**	**14.94**	**121**	*e*P	**Pn**	**02 27 49.1**	**-2.2**
	comp=N,4.1nm,0.2s						
GUN	**Gumba**	**15.06**	**119**	*e*P	**Pn**	**02 27 50.4**	**-2.5**
	comp=N,7.2nm,0.3s						
AB31	**Akbulak array**	**15.30**	**331**	P	**Pn**	**02 27 52.8**	**-2.6**
	comp=N,1.2nm,0.3s,baz=137,slow=13,SNR=215						
ABKAR	**Akbulak array**	**15.30**	**331**	P	**Pn**	**02 27 52.6**	**-2.8**
ABKAR	**Akbulak array**	**15.30**	**331**	P	**Pn**	**02 27 53.0**	**-2.4**
ABKAR				IAmb	IAmb	02 27 54.6	
	comp=Z,12nm,1.4s						
KURBB	**Kurchatov Arra**	**15.31**	**18**	P	**P**	**02 27 57.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=206,slow=11,SNR=10.0						
KURK	**Kurchatov**	**15.42**	**18**	P	**Pn**	**02 27 57.8**	**+0.9**
BVAR	**Borovoye Array**	**16.75**	**359**	P	**Pn**	**02 28 13.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=131,slow=10,SNR=2.7						
AKTO	**Aktyubinsk**	**17.00**	**330**	P	**Pn**	**02 28 16.4**	**0.0**
	comp=Z,1.1nm,0.3s,baz=147,slow=13,SNR=20						
AKTO				S	Sn	02 31 14.4	-11
	comp=Z,0.5nm,0.3s,baz=172,slow=22,SNR=6.0						
AKTO	**Aktyubinsk**	**17.00**	**330**	⇑P	**Pn**	**02 28 16.8**	**+0.4**
	comp=Z,9.3nm,0.8s						
ZAA0	**Zalesovo Array**	**20.09**	**24**	P	**P**	**02 28 52.3**	**+1.9**
ZAA0				IAmb	IAmb	02 28 53.9	
	comp=Z,7.6nm,1.1s						
ZALV	**Zalesovo Beam**	**20.09**	**24**	P	**P**	**02 28 51.1**	**+0.6**
	comp=Z,4.5nm,0.4s,baz=213,slow=10.0,SNR=31						
ZALV	**Zalesovo Beam**	**20.09**	**24**	P	**P**	**02 28 52.1**	**+1.6**
SHL	**Shillong**	**20.77**	**115**	P	Pn	02 28 59.9	-1.5
SHL				IAmb	IAmb	02 29 03.5	
	comp=Z,5.6nm,0.5s						
ARU	**Arti**	**21.86**	**341**	P	**P**	**02 29 11.0**	**+1.7**
	comp=Z,1.6nm,0.2s,baz=117,slow=7.1,SNR=6.8						
FINES	**FINESS Array B**	**37.70**	**326**	P	**P**	**02 31 32.6**	**+2.2**
	comp=Z,1.4nm,0.4s,baz=119,slow=9.4,SNR=23						
FINES	**FINESS Array B**	**37.70**	**326**	P	**P**	**02 31 31.5**	**+1.1**
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**02 32 03.3**	**+2.5**
	comp=Z,3.4nm,0.7s,baz=114,slow=8.4,SNR=13						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**02 32 02.5**	**+1.8**
ARCES				IAmb	IAmb	02 32 11.4	
	comp=Z,7.7nm,1.1s						
NC405	**NORSAR Array S**	**44.35**	**323**	P	**P**	**02 32 25.9**	**+0.9**
NC303	**NORSAR Array S**	**44.53**	**323**	P	**P**	**02 32 28.3**	**+1.9**
NB2	**NORSAR Subarra**	**44.59**	**323**	P	**P**	**02 32 28.8**	**+1.9**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.59**	**323**	P	**P**	**02 32 29.1**	**+2.2**
	comp=Z,1.2nm,0.5s,baz=97,slow=7.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**02 34 59.2**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=47,slow=5.3,SNR=9.5						
YKA	**Yellowknife Ar**	**81.46**	**3**	P	**P**	**02 36 32.4**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=350,slow=5.4,SNR=19						
YKA	**Yellowknife Ar**	**81.46**	**3**	P	**P**	**02 36 32.1**	**+1.4**
WRA	**Warramunga Arr**	**81.83**	**122**	P	**P**	**02 36 34.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=325,slow=4.8,SNR=5.9						
ASAR	**Alice Springs**	**84.08**	**125**	P	**P**	**02 36 46.9**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=308,slow=5.0,SNR=8.0						

*IDC **26** 02:31:46.5±0.7,17°.10S×176°.85W,h0km,mb4.4/15, mb1 4.6/17,mb1mx4.5/36,mbtmp4.4/17,ML5.2/1,MS4.8/13, Ms1 4.8/13,ms1mx4.2/68,Error ellipse: s-maj=27.1km s-min=15.9km az=142.0*
*BJI **26** 02:31:48.5±0.0,16°.27S×176°.52W,h10km,mb4.9/36, mB5.5/21,Ms5.1/2,Ms7 4.8/4*
*NEIC **26** 02:31:50.8±2.0,17°.02S±0°.09×177°.0W±0°.1,h25km±6km, mb4.8/30,Error ellipse: s-maj=16.8km s-min=12.0km az=118.0*
*BGR **26** 02:31:51.0±0.0,17°.39S×176°.38W,h33km*
*GCMT **26** 02:31:52.8±0.1,17°.12S±0°.01×176°.78W±0°.01,h12km, MW5.2/120,Moment Tensor Solution. s70,c102; s120,c190; Duration: 1§0 Moment tensor: Scale 10^17 Nm; M_{rr}-0.39±.02; $M_{\theta\theta}$-0.50±.02; $M_{\phi\phi}$0.88±.01; $M_{r\theta}$-0.18±.05; $M_{\theta\phi}$0.09±.01; $M_{\phi r}$0.55±.04; Best double couple: $M_0$0.92200×10^17 NP1:ϕ_s44.00000°,δ41.00000°, λ-24.00000°. NP2:ϕ_s153.00000°,δ74.00000°, λ-128.00000°. Principal axes: T 1.0930, Plg20.0000°, Azm271.0000°; N -0.3400, Plg37.0000°, Azm165.0000°; P -0.7520, Plg46.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 02:31:47.9±0.4,17°.17S±0°.08×176°.93W±0°.06,h10km, n286,σ1§07/278,mb4.8/38,MS4.8/11,10C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.83**	**263**	Pn	**Pn**	**02 33 01.6**	**+0.9**
	3.2nm,0.3s,baz=77,slow=19,SNR=20						
MSVF				LR	LR	02 34 50.1	
	comp=Z,31μm,18.1s,baz=95,slow=37						
MSVF	**Nonsavu**	**4.83**	**263**	Pn	**Pn**	**02 33 00.2**	**-0.5**
MSVF				Sn	**Sn**	**02 33 55.9**	**-0.8**
AFI	**Afiamalu**	**5.93**	**58**	LR	LR	02 35 01.3	
	comp=Z,4μm,21.5s,baz=238,slow=33						
FUNA	**Funafuti**	**9.39**	**336**	Pn	**Pn**	**02 34 01.9**	**-1.4**
RAO	**Raoul Island**	**12.06**	**184**	LR	LR	02 38 36.5	
	comp=Z,3μm,19.5s,baz=358,slow=34						
MARNC	**Mare, Loyalty**	**14.83**	**251**	Pn	**Pn**	**02 35 14.5**	**-3.3**
SANVU	**Saraoutou**	**15.33**	**274**	Pn	**Pn**	**02 35 23.5**	**-1.0**
LIFNC	**LIFOU**	**15.40**	**254**	Pn	**Pn**	**02 35 26.3**	**+1.0**
LIFNC				IAmb	IAmb	02 35 37.6	
	comp=Z,54nm,0.8s						
OUENC	**Ouen Island, N**	**16.14**	**249**	Pn	**Pn**	**02 35 34.0**	**-0.9**
OUENC				IAmb	IAmb	02 35 52.8	
	comp=Z,50nm,1.0s						
DZM	**Mont Dzumac**	**16.40**	**250**	Pn	**P**	**02 35 40.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=76,slow=12,SNR=7.9						
DZM				LR	LR	02 40 51.5	
	comp=Z,6μm,21.5s,baz=76,slow=33						
DZM	**Mont Dzumac**	**16.40**	**250**	*e*P	**P**	**02 35 41.8**	**+0.5**
	comp=Z,181nm,1.8s						
DZM				*e*LR	LR	02 39 37.0	
	comp=Z,8μm,25.5s						
DZM	**Mont Dzumac**	**16.40**	**250**	Pn	**Pn**	**02 35 36.7**	**-1.7**
DZM				IAmb	IAmb	02 35 55.1	
	comp=Z,111nm,1.5s						
RAR	**Rarotonga**	**16.69**	**107**	LR	LR	02 40 34.3	
	comp=Z,2μm,19.8s,baz=274,slow=32						
URZ	**Urewera**	**21.65**	**193**	P	**P**	**02 36 39.5**	**+1.0**
	comp=Z,10nm,0.8s,baz=27,slow=15,SNR=4.6						
URZ	**Urewera**	**21.65**	**193**	P	**P**	**02 36 39.3**	**+0.8**
HNR	**Honiara**	**23.77**	**286**	LR	LR	02 44 53.4	
	comp=Z,3μm,19.4s,baz=116,slow=33						
PAE	**Paea**	**26.09**	**95**	*e*T	T	03 03 59.5	
	comp=Z,1.5nm,0.3s						
PPT2	**Papeete2**	**26.10**	**95**	*e*S	**S**	**02 41 45.7**	**-8.1**
	comp=Z,446nm,27.5s						
PPT2				*e*LR	LR	02 43 44.9	
	comp=Z,6μm,27.0s						
PPT2	**Papeete2**	**26.10**	**95**	*e*T	T	03 04 00.8	
	comp=Z,2.1nm,0.2s						
PPT	**Papeete**	**26.10**	**95**	LR	LR	02 44 52.1	
	comp=Z,1μm,19.9s,baz=254,slow=30						
LTZ	**Lake Taylor**	**27.14**	**198**	P	**P**	**02 37 32.1**	**+0.8**
EIDS	**Eidsvold**	**30.85**	**249**	P	**P**	**02 38 01.5**	**-3.0**
EIDS				IAmb	IAmb	02 38 06.7	
	comp=Z,13nm,1.1s						
CTA	**Charters Tower**	**34.97**	**259**	LR	LR	02 51 20.1	
	comp=Z,2μm,19.4s,baz=98,slow=34						
CTAO	**Charters Tower**	**34.97**	**259**	P	**P**	**02 38 39.9**	**-0.6**
PMG	**Port Moresby**	**35.74**	**278**	LR	LR	02 52 33.9	
	comp=Z,1μm,18.0s,baz=97,slow=35						
TAOE	**Nuku Hiva Isla**	**36.72**	**82**	*e*S	S	02 44 26.9	-13
	comp=Z,294nm,26.2s						
TAOE				*e*LR	LR	02 48 33.2	
	comp=Z,2μm,29.0s						
TAOE	**Nuku Hiva Isla**	**36.72**	**82**	*e*T	T	03 17 17.0	
	comp=Z,25nm,0.2s						
COEN	**Coen**	**38.52**	**269**	P	**P**	**02 39 08.9**	**-2.0**
STKA	**Stephens Creek**	**40.22**	**241**	P	**P**	**02 39 25.6**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=86,slow=10,SNR=6.2						
STKA				LR	LR	02 55 00.1	
	comp=Z,584nm,18.8s,baz=69,slow=35						
STKA	**Stephens Creek**	**40.22**	**241**	P	**P**	**02 39 25.6**	**+0.7**
WB0	**Warramunga Arr**	**46.12**	**259**	P	**P**	**02 40 11.0**	**-1.8**
WB0				IAmb	IAmb	02 40 17.8	
	comp=Z,27nm,1.5s						
WB2	**Warramunga Arr**	**46.15**	**259**	P	**P**	**02 40 12.6**	**-0.4**
WB2				IAmb	IAmb	02 40 18.9	
	comp=Z,13nm,1.2s						
WRAB	**Tennant Creek**	**46.15**	**259**	P	**P**	**02 40 12.9**	**-0.1**
WRAB				IAmb	IAmb	02 40 18.1	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**46.16**	**259**	P	**P**	**02 40 12.6**	**-0.6**
	comp=Z,4.3nm,1.1s,baz=92,slow=6.7,SNR=12						
WRA	**Warramunga Arr**	**46.16**	**259**	P	**P**	**02 40 13.0**	**-0.1**
AS31	**Alice Springs**	**46.35**	**253**	P	**P**	**02 40 12.7**	**-1.9**
ASAR	**Alice Springs**	**46.35**	**253**	P	**P**	**02 40 14.2**	**-0.4**
	comp=Z,15nm,0.8s,baz=86,slow=8.3,SNR=136						
ASAR				LR	LR	02 58 59.4	
	comp=Z,2μm,18.9s,baz=114,slow=35						
ASAR	**Alice Springs**	**46.35**	**253**	P	**P**	**02 40 13.9**	**-0.7**
VNDA	**Vanda**	**61.30**	**185**	P	**P**	**02 42 04.7**	**+1.7**
RPN	**Rapa Nui**	**62.75**	**112**	LR	LR	03 02 24.1	
	comp=Z,714nm,19.2s,baz=264,slow=29						
MJAR	**Matsushiro Arr**	**68.18**	**322**	P	**P**	**02 42 48.8**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=155,slow=7.8,SNR=6.6						
MJAR	**Matsushiro Arr**	**68.18**	**322**	P	**P**	**02 42 47.5**	**-1.1**
MJAR				IAmb	IAmb	02 42 57.5	
	comp=Z,8.4nm,1.2s						
MAT	**Matsushiro**	**68.18**	**322**	P	**P**	**02 42 49.2**	**+0.6**
PETK	**Petropavlovsk-**	**73.34**	**344**	P	**P**	**02 43 20.1**	**+0.5**
	comp=Z,13nm,1.0s,baz=146,slow=6.1,SNR=7.3						
PETK	**Petropavlovsk-**	**73.34**	**344**	P	**P**	**02 43 19.2**	**-0.5**
KSAR	**Wonju Array Be**	**75.12**	**317**	P	**P**	**02 43 29.1**	**-1.3**
VES	**Vestal, Richgr**	**75.98**	**45**	P	**P**	**02 43 35.3**	**0.0**
	baz=237						
MURC	**Murrieta**	**76.08**	**48**	P	**P**	**02 43 36.2**	**+0.2**
	baz=238						
EDW2	**Edwards Air Fo**	**76.20**	**46**	P	**P**	**02 43 36.8**	**+0.1**
	baz=238,SNR=6.8						
MONP2	**Monument Peak**	**76.27**	**49**	P	**P**	**02 43 37.3**	**0.0**
	baz=239						
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K05A	Summer Lake	78.75	39	P	P	02 43 49.9	-1.1
O18K	Koktuh Hills	78.76	11	P	P	02 43 51.0	+0.6
	baz=201						
J05D	Fort Rock, OR	78.87	38	P	P	02 43 52.0	+0.5
	baz=234						
I05D	Terrebonne, OR	79.44	37	P	P	02 43 55.5	+0.9
	baz=233						
R11A	Troy Canyon, C	79.68	45	P	P	02 43 56.3	+0.1
	baz=239						
E04D	Cinebar	80.10	35	P	P	02 43 58.9	+1.0
	baz=232						
TUC	Tucson	80.14	52	P	P	02 43 57.1	-1.5
TUC				IAmb	IAmb	02 44 11.2	
	comp=Z,8.5nm,1.2s						
TUC	Tucson	80.14	52	P	P	02 43 59.4	+0.8
	baz=243						
SEW	Seward	80.16	14	P	P	02 43 59.0	+1.1
	baz=207						
KLR	Kul'dur	80.21	329	P	P	02 43 59.3	+0.8
	comp=Z,1.8nm,1.0s,baz=162,slow=10.0,SNR=3.9						
CN2	Changchun	80.31	322	*e*P	P	02 43 55.5	-3.7
CN2				*e*PP	PP	02 47 00.3	-2.0
CN2				SKS	S	02 54 07.3	+2.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MA2	Magadan	80.87	344	P	P	02 44 00.2	-1.6
WUAZ	Wupatki	81.20	49	P	P	02 44 04.8	+0.5
	baz=242						
A04D	Lummi Island	81.36	33	P	P	02 44 05.6	+1.0
	baz=232						
B05A	Bryant	81.40	34	P	P	02 44 06.4	+1.5
	baz=232						
M22K	Willow	81.50	13	P	P	02 44 06.2	+1.2
	baz=206						
TTA	Tatalina	81.51	10	P	P	02 44 06.6	+1.4
	baz=200						
SML	Sawmill	81.93	13	P	P	02 44 08.7	+1.3
	baz=208						
ANM	Nome	81.96	5	P	P	02 44 08.2	+0.7
	baz=191						
BMRM	Bremner River	82.07	15	P	P	02 44 08.9	+0.7
	baz=211						
K20K	Telida	82.23	10	P	P	02 44 09.3	+0.3
	baz=202						
DUG	Dugway, Tooele	82.47	44	P	P	02 44 10.4	-0.5
	baz=240						
121A	Cookes Peak, D	82.50	53	P	P	02 44 11.1	-0.2
	baz=244						
N25K	Chitina, Valde	82.62	15	P	P	02 44 12.0	+0.9
	baz=211						
CAST	Castle Rocks	82.64	11	P	P	02 44 10.9	-0.2
	baz=204						
TNA	Tin City	82.76	4	P	P	02 44 11.5	-0.1
	baz=189						
J20K	Nowinta River	82.98	10	P	P	02 44 13.0	+0.2
	baz=202						
TRF	Thorofare Moun	83.00	12	P	P	02 44 12.0	-1.2
	baz=206						
CHUM	Lake Minchumin	83.02	11	P	P	02 44 13.3	+0.3
	baz=204						
HLID	Hailey	83.15	41	P	P	02 44 14.0	-0.4
	baz=239,SNR=9.1						
SEY	Seymchan	83.39	346	P	P	02 44 15.3	+0.3
	comp=Z,13nm,1.0s,baz=144,slow=5.4,SNR=18						
MCK	McKinley	83.52	12	P	P	02 44 15.8	+0.1
	baz=207						
SKAG	Skagway	83.53	20	P	P	02 44 16.0	+0.3
	baz=220						
PAX	Paxson	83.60	14	P	P	02 44 16.4	+0.3
	baz=210						
M26K	Nabesna, AK	83.70	15	P	P	02 44 17.1	+0.4
	baz=212						
YUK3	Moose Creek	83.84	17	P	P	02 44 17.2	-0.4
	baz=215						
M27K	Edge Creek, AK	83.95	16	P	P	02 44 18.5	+0.5
	baz=214						
MNTX	Cornudas Mount	84.00	54	P	P	02 44 18.4	-0.4
	baz=246						
HNS	HongShan	84.08	312	⇑P	P	02 44 20.8	+1.8
HNS				pmax	pmax		
	comp=Z,9.0nm,1.4s						
L26K	Log Cabin Wild	84.14	15	P	P	02 44 19.2	+0.3
	baz=212						
I21K	Tanana	84.27	10	P	P	02 44 19.6	+0.2
	baz=204						
MLY	Manley	84.35	11	P	P	02 44 19.5	-0.4
	baz=205						
RIDG	Independent Ri	84.41	14	P	P	02 44 20.2	-0.1
	baz=211						
TXAR	Lajitas Array	84.41	57	P	P	02 44 20.9	-0.2
	comp=Z,5.7nm,1.3s,baz=232,slow=4.1,SNR=18						
LYN	LuoYang	84.47	309	*e*P	P	02 44 24.0	+2.9
HDA	Harding Lake	84.53	13	P	P	02 44 20.8	0.0
	baz=209						
ANMO	Albuquerque	84.54	51	P	P	02 44 21.2	-0.5
ANMO				IAmb	IAmb	02 44 27.2	
	comp=Z,8.9nm,1.2s						
ANMO	Albuquerque	84.54	51	P	P	02 44 20.8	-0.9
	baz=245						
L27K	Beaver Creek,	84.55	15	P	P	02 44 21.4	+0.4
	baz=214						
H21K	Melozitna Rive	84.57	10	P	P	02 44 20.2	-0.8
	baz=203,SNR=7.3						
WHY	Whitehorse	84.59	19	P	P	02 44 20.8	-0.5
	baz=220						
I23K	Minto, Yukon-K	84.71	11	P	P	02 44 21.6	0.0
	baz=206						
TCOL	CIGO, UAF Yank	84.76	12	P	P	02 44 21.5	-0.4
	baz=208						
COLA	College	84.76	12	P	P	02 44 20.5	-1.4
COLA	College	84.76	12	P	P	02 44 21.3	-0.5
	baz=208						
SCRK	Sand Creek	84.81	14	P	P	02 44 21.4	-1.0
	baz=212						
ILAR	Eielson Array	84.86	12	P	P	02 44 20.9	-1.5
	comp=Z,13nm,1.1s,baz=224,slow=5.8,SNR=28						
P33M	Teslin, Yukon	84.92	20	P	P	02 44 22.4	-0.5
	baz=222						
N31M	Braeburn, Yuko	84.95	18	P	P	02 44 23.0	0.0
	baz=219						
POKR	Poker Plat Res	85.06	12	P	P	02 44 23.4	0.0
	baz=208,SNR=6.4						
MSO	Missoula	85.14	38	P	P	02 44 24.1	-0.3
	baz=239						
J26L	Joseph Creek	85.35	14	P	P	02 44 25.3	+0.3
	baz=212						
S22A	4UR Ranch, Cre	85.47	48	P	P	02 44 26.1	-0.3
	baz=244						
O20A	White River Ci	85.53	46	P	P	02 44 26.4	-0.3
	baz=243						
PRP	Porcupine Dome	85.80	13	P	P	02 44 26.7	-0.5
	baz=210						
BILL	Bilibino	85.85	354	P	P	02 44 26.5	-0.8
BW06	Boulder Array	85.85	43	P	P	02 44 27.3	-0.9
	baz=242						
PDAR	Pinedale Array	85.85	43	P	P	02 44 27.5	-0.7
	comp=Z,0.6nm,0.8s,baz=245,slow=3.1,SNR=7.2						
BOZ	Bozeman (W)	85.90	40	P	P	02 44 27.9	-0.4
	baz=241,SNR=8.8						
H17A	Grant Village	85.97	41	P	P	02 44 29.7	+0.9
	baz=242						
DAWY	Dawson	86.00	16	P	P	02 44 28.4	+0.2
	baz=216,SNR=6.4						
XLT	XiLinHaoTe	86.14	318	*e*P	P	02 44 30.8	+1.4
XLT				pmax	pmax		
	comp=Z,11nm,1.3s						
XLT				pmax	pmax		
	comp=Z,130nm,4.6s						
XLT				LR	LR		
	comp=Z,270nm,18.5s						
XLT				LR	LR		
	comp=Z,380nm,20.2s						
XLT				LR	LR		
	comp=Z,170nm,14.7s						
EGAK	Eagle	86.15	15	P	P	02 44 29.3	+0.5
	baz=214						
FARO	Faro, Yukon	86.27	19	P	P	02 44 30.3	+0.8
	baz=221						
SDCO	Great Sand Dun	86.42	49	P	P	02 44 31.4	+0.2
	baz=245						
COLD	Coldfoot	86.44	10	P	P	02 44 31.4	+1.1
	baz=206						
MAYO	Mayo, Yukon	86.57	17	P	P	02 44 31.7	+0.7
	baz=219						
J29M	Klondike Camp	86.62	16	P	P	02 44 31.9	+0.7
	baz=217						
MSTX	Muleshoe	86.92	53	P	P	02 44 33.7	+0.2
	baz=247						
XAN	Xi'an	86.94	307	P	P	02 44 34.8	+1.3
XAN				pP	pwP	02 44 39.5	+0.2
XAN				pmax	pmax		
	comp=Z,16nm,1.7s						
RLMT	Red Lodge	87.13	41	P	P	02 44 34.3	-0.1
	baz=242						
Q24A	Divide	87.18	48	P	P	02 44 35.0	+0.1
	baz=246						
I29M	Ogilvie Camp,	87.32	15	P	P	02 44 35.3	+0.7
	baz=217						
N23A	Red Feather La	87.44	46	P	P	02 44 35.9	-0.2
	baz=245						
HHC	Hu-ho-hao-te	87.78	314	*e*P	P	02 44 39.3	+1.8
HHC				S	S	02 55 17.8	-2.4
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,6.0s						
EGMT	Eagleton	88.20	38	P	P	02 44 39.2	-0.1
	baz=242						
KMI	Kunming	88.76	297	⇑P	P	02 44 45.5	+2.9
KMI				pmax	pmax		
	comp=Z,12nm,1.5s						
ABTX	Abilene, Hawle	88.85	55	P	P	02 44 42.5	-0.1
	baz=249						
LAO	LASA Array	89.74	41	P	P	02 44 46.9	+0.4
	baz=244						
CMAR	Chiang Mai Arr	89.97	289	P	P	02 44 50.5	+2.4
	comp=Z,1.1nm,0.3s,baz=101,slow=4.7,SNR=5.0						
CMAR	Chiang Mai Arr	89.97	289	P	P	02 44 47.6	-0.6
RSSD	Black Hills	90.06	43	P	P	02 44 47.9	-0.4
	baz=246						
PZH	PanZhiHua	90.06	298	P	P	02 44 51.0	+2.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,3.9s						
SYO	Syowa Base	90.18	192	⇓*e*X	P	02 44 41.0	-7.2
INK	Inuvik	90.81	15	P	P	02 44 51.6	+0.7
	baz=221						
LZH	Lanzhou	91.57	307	*e*P	P	02 44 57.5	+2.1
LZH				pP	pwP	02 45 01.0	-0.2
LZH				sS	sS	02 56 04.8	+4.7
LZH				SS	SS	03 02 02.0	-0.8
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
DGMT	Dagmar	91.73	39	P	P	02 44 57.1	+1.3
	baz=246						
YKA	Yellowknife Ar	93.08	24	P	P	02 45 00.1	-1.4
	comp=Z,1.2nm,1.1s,baz=240,slow=4.4,SNR=10						
YKA	Yellowknife Ar	93.08	24	P	P	02 45 00.3	-1.3
SONM	Songino Array	93.92	319	P	P	02 45 04.7	-1.3
	comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=3.8						
C36M	Paulatuk	93.99	16	P	P	02 45 06.1	+0.5
	baz=230						
MIAR	Mount Ida	94.26	55	P	P	02 45 07.6	0.0
	baz=252						
ECSD	EROS Data Cent	94.91	46	P	P	02 45 10.6	+0.1
	baz=251						
A36M	Sachs Harbour	95.42	14	P	P	02 45 12.9	+0.8
	baz=229						
GTA	Gaotai	95.66	309	*e*P	P	02 45 15.8	+1.6
GTA				pP	pwP	02 45 20.0	+0.1
GTA				sP	sP	02 45 23.0	+5.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ATAH	Atahualpa	96.00	99	LR	LR	03 18 42.6	
	comp=Z,555nm,21.4s,baz=189,slow=29						
BNN	Bunyan	144.19	314		PKbc	02 51 23.6	+0.9
IBBN	Ibbenburen	144.75	355	*e*PKPbc	PKPab	02 51 23.1	-0.6
	baz=12,slow=3.1						
CRVS	Cervenica-Dubn	144.99	339	*e*PKP	PKPbc	02 51 25.4	+0.7
CLL	Collm	145.04	349	*i* PKPdf	PKPab	02 51 23.9	-0.9
	comp=Z,26nm,1.6s						
CLL				*i* (pPKPdf)		02 51 35.3	
CLL	Collm	145.04	349	*e*PKPbc	PKPab	02 51 24.1	-0.7
	baz=12,slow=3.1						
OSTC	Ostas	145.07	345	*e*PKP	PKPbc	02 51 25.6	+0.7
CHVC	Chvalec	145.07	346	*e*PKP	PKPbc	02 51 24.9	-0.1
TPGR	Topolog	145.16	328	⇑P	PKPdf	02 51 27.4	+1.5
WTSB	Winterswijk	145.16	356	*e*PKPbc	PKPbc	02 51 24.6	-0.5
	baz=12,slow=3.1						
DPC	Dobruska-Polom	145.23	345	*e*PKP	PKPbc	02 51 25.6	+0.1
DPC				*ex*	x	02 51 36.9	
BRTR	Keskin Array B	145.25	317	PKPbc	PKPdf	02 51 26.9	+0.5
	comp=Z,7.8nm,1.0s,baz=93,slow=2.5,SNR=29						
VRI	Vrincioaia	145.26	331	⇑P	PKPab	02 51 26.4	+0.6
BRG	Berggiesshubel	145.27	348	*e*PKP	PKPbc	02 51 26.2	+0.6
BRG				Amp		02 51 27.6	
	comp=Z,98nm,2.6s						
BRG	Berggiesshubel	145.27	348	*e*PKPbc	PKPbc	02 51 25.3	-0.2
	baz=12,slow=3.1						
PLOR	Plostina	145.31	331	⇑P	PKPdf	02 51 27.0	+0.8
FBE	Freiberg	145.34	349	*e*PKPbc	PKPbc	02 51 25.9	+0.2
	baz=12,slow=3.1						
NEUB	Neuenburg	145.34	350	*e*PKPbc	PKPbc	02 51 25.3	-0.4
	baz=12,slow=3.1						
KRLC	Kraliky	145.37	344	*e*PKP	PKPbc	02 51 26.2	+0.2
KRLC				*ex*	x	02 51 28.5	
MORC	Moravsky Berou	145.44	343	⇑P	PKPbc	02 51 26.6	+0.4
MORC	Moravsky Berou	145.44	343	*e*PKP	PKPbc	02 51 26.3	+0.1
PVCC	Panska Ves	145.47	347	*e*PKP	PKPab	02 51 27.1	+0.7
HARR	Harsova	145.53	328	⇑P	PKPab	02 51 27.8	+1.0
OZUR		145.53	332	⇓P	PKPab	02 51 27.9	+1.1
BUG	Bochum--Univer	145.65	355	*e*PKPbc	PKPdf	02 51 26.3	-0.2
	baz=12,slow=3.1						
DOPR	Dopca	145.80	332	⇑P	PKPab	02 51 28.8	+1.0
MOX	Moxa	145.91	350	*e*PKPbc	PKPdf	02 51 27.1	+0.1
	baz=12,slow=3.1						
PLN	Plauen	145.98	350	*e*PKPbc	PKPdf	02 51 27.4	+0.3
	baz=12,slow=3.1						
UBBA	Unterbreizbach	145.98	352	*e*PKPbc	PKPdf	02 51 27.3	+0.4
	baz=12,slow=3.1						
PRU	Pruhonice	145.98	347	*e*PKP	PKPbc	02 51 28.3	+0.5
PRU				*ep*PKP	sPKPab	02 51 38.7	+7.0
WERD	Werda	145.99	349	*e*PKPbc	PKPdf	02 51 27.7	+0.5
	baz=12,slow=3.1						
TANN	Tannenbergstha	145.99	349	*e*PKPbc	PKPdf	02 51 27.8	+0.6
	baz=12,slow=3.1						
GUNZ	Gunzen	146.06	349	*e*PKPbc	PKPdf	02 51 28.1	+0.8
	baz=12,slow=3.1						
VRAC	Vranov	146.12	344	*e*PKP	PKPbc	02 51 28.8	+0.5
WERN	Wernitzgruen	146.13	349	*e*PKPbc	PKPbc	02 51 28.6	+0.2
	baz=12,slow=3.1						
NKC	Novy Kostel	146.17	349	*e*PKP	PKPbc	02 51 29.2	+0.8
VYHS	Vyhne	146.21	341	*e*PKP	PKPbc	02 51 29.2	+0.6
JAVC	Velka Javorina	146.23	343	*e*PKP	PKPab	02 51 30.2	+0.8
VOIR		146.36	332	⇑P	PKPbc	02 51 29.7	+0.5
BEBN	Eben Emael	146.39	357	PKP	PKPdf	02 51 28.6	+0.8
KRUC	Moravsky	146.40	344	*e*PKP	PKPbc	02 51 29.2	+0.1
TREC	Trest	146.41	345	*e*PKP	PKPbc	02 51 29.5	+0.3
MANZ	Manzenberg	146.47	349	*e*PKPbc	PKPbc	02 51 29.5	+0.2
	baz=12,slow=3.1						
AHRW	Bad Neuenahr-A	146.56	355	*e*PKPbc	PKPbc	02 51 29.8	+0.3
	baz=12,slow=3.1						
MEM	Membach	146.56	357	PKP	PKPbc	02 51 29.7	+0.2
BTNL	Ternell	146.58	356	PKP	PKPdf	02 51 29.3	+1.1
BSTI	Sart Tilman	146.61	357	PKPdf	PKPdf	02 51 28.0	-0.1
BSTI				PKPab	PKPbc	02 51 29.6	0.0
SMOL	Smolenice	146.62	343	*e*PKP	PKPbc	02 51 30.8	+1.0
ROTZ	Rotzenmuhle	146.66	349	*e*PKPbc	PKPbc	02 51 30.1	+0.3
	baz=12,slow=3.1						
TNS	Taunus Mts	146.75	354	*e*PKPbc	PKPbc	02 51 30.2	+0.1
	baz=12,slow=3.1						
MODS	Modra-Piesok	146.78	343	*e*PKP	PKPab	02 51 31.8	+0.3
BCLA	Clavier	146.79	357	PKPdf	PKPdf	02 51 27.8	-0.7
BCLA				PKPab	PKPbc	02 51 29.7	-0.5
BGES	Gesves	146.83	358	PKP	PKPdf	02 51 28.5	-0.1
GRF	Grafenberg Arr	146.90	350	*e*PKPbc	PKPbc	02 51 31.0	+0.4
	baz=12,slow=3.1						
KHC	Kasperske Hory	147.00	347	*e*PKP	PKPbc	02 51 30.6	-0.3
KHC				*ex*	x	02 51 41.5	
CKRC	Cesky Krumlov	147.13	346	*e*PKP	PKPdf	02 51 29.5	+0.4
CKRC				*ex*	x	02 51 38.7	
DOU	Dourbes	147.14	358	PKPbc	PKPdf	02 51 30.1	+1.0
GEC2	GERESS Array S	147.25	347	*e*PKPbc	PKPbc	02 51 31.7	0.0
	baz=12,slow=3.1						
GERES	GERESS Array B	147.25	347	PKPbc	PKPbc	02 51 31.7	0.0
	comp=Z,1.4nm,0.7s,baz=60,slow=3.2,SNR=12						
GZR	Gura Zlata	147.39	334	⇓P	PKPbc	02 51 32.7	+0.5
WLF	Walferdange	147.50	356	*e*PKPbc	PKPbc	02 51 32.6	+0.4
	baz=12,slow=3.1						
WLF	Walferdange	147.50	356	PKP	PKPbc	02 51 33.8	+1.6
CONA	Conrad Observa	147.58	344	*e*P	PKPdf	02 51 31.6	+1.6
	comp=Z,19nm,1.5s,SNR=8.3						
HERR	Herculane	147.96	334	⇑P	PKPbc	02 51 33.8	+0.2
MOA	Molln	148.06	346	*e*P	PKPdf	02 51 31.9	+1.2
	comp=Z,13nm,1.1s						
ARSA	Arzberg	148.29	344	*e*P	PKPdf	02 51 32.2	+1.1
	comp=Z,6.8nm,1.2s						
FUR	Furstenfeldbru	148.37	350	*e*PKPbc	PKPbc	02 51 34.7	+0.1
	baz=12,slow=3.1						
RJOB	Jochberg	148.49	347	*e*PKPbc	PKPbc	02 51 35.1	+0.1
	baz=12,slow=3.1						
BFO	Black Forest	148.63	353	*e*PKPbc	PKPbc	02 51 35.3	0.0
	baz=12,slow=3.1						
SOKA	Soboth	148.95	344	*e*P	PKPbc	02 51 35.8	-0.4
	comp=Z,16nm,1.5s,SNR=5.8						
SVIS	Svilajnac	148.96	334	*e*P	PKPbc	02 51 35.7	-0.5
KBA	Koelnbreinsper	148.99	346	*i* P	PKPbc	02 51 35.9	-0.6
	comp=Z,5.5nm,0.9s						
UBR	Ueberruh	149.03	351	*e*PKPbc	PKPbc	02 51 36.1	-0.3
	baz=12,slow=3.1						
RETA	Reutte	149.11	350	*i* P	PKPbc	02 51 36.9	+0.3
	comp=Z,15nm,1.4s						
WATA	Walderalm	149.11	349	*e*P	PKPbc	02 51 37.2	+0.5
	comp=Z,13nm,1.2s,SNR=5.1						
ZAPS	Zavoj	149.13	332	*e*P	PKPbc	02 51 37.6	+0.8
WTTA	Wattenberg	149.17	349	*e*P	PKPbc	02 51 36.9	0.0
	comp=Z,13nm,0.9s,SNR=6.3						
MOTA	Moosalm	149.19	349	*e*P	PKPbc	02 51 36.8	-0.1
	comp=Z,20nm,1.5s,SNR=6.9						
OBKA	Obir	149.24	344	*e*P	PKPbc	02 51 36.3	-0.7
	comp=Z,9.3nm,1.8s						
BOVS	Bovan	149.26	333	*e*P	PKPdf	02 51 34.7	+2.0
SQTA	Sankt Quirin	149.29	349	*e*P	PKPbc	02 51 37.0	-0.1
	comp=Z,17nm,1.4s,SNR=6.1						
MYKA	Terra Mystica	149.35	346	*i* P	PKPbc	02 51 36.5	-0.7
	comp=Z,10nm,1.1s						
DAVA	Damuels	149.45	351	*e*P	PKPbc	02 51 37.6	0.0
	comp=Z,24nm,1.6s						
GRUS	Gruza	149.47	334	*e*P	PKPbc	02 51 36.9	-0.6
ABTA	Abfaltersbach	149.49	347	*e*P	PKPbc	02 51 37.5	-0.1
	comp=Z,21nm,1.5s,SNR=7.9						
FETA	Feichten	149.57	350	*e*P	PKPbc	02 51 37.9	-0.1
	comp=Z,20nm,1.4s,SNR=7.7						
BOSS	Bosilegrad	149.81	331	*e*P	PKPdf	02 51 33.3	-0.4
IVAS	Ivanjica	149.96	335	*e*P	PKPdf	02 51 36.8	+2.8
PRVS	Prvonek	149.99	331	*e*P	PKPbc	02 51 37.5	-1.4
TORD	Torodi Ar. Bea	175.78	161	PKPab	PKPab	02 53 38.4	+1.2
	comp=Z,1.4nm,1.1s,baz=124,slow=3.1,SNR=4.4						

IDC ***26*** *02:35:44.0±0.9, 16°.69S×177°.27W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/35, mbtmp4.2/12, ML5.0/1, Error ellipse: s-maj=40.2km s-min=17.3km az=142.0*

NEIC ***26*** *02:35:47±1.7, 16°.8S±0°.2×177°.2W±0°.2, h22km±5km, mb4.8/16, Error ellipse: s-maj=32.9km s-min=15.8km az=150.0*

GCMT ***26*** *02:35:49.0±0.3, 17°.17S±0°.02×176°.75W±0°.02, h17km±1km, MW5.1/85, Moment Tensor Solution. s42,c48; s85,c124; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.00±.27; Mθθ=3.37±.21; Mφφ=5.37±.23; Mrθ=1.07±.58; Mrφ=2.69±.18; Mθφ=1.54±.48; Best double couple: M0=5.41000×10^16 NP1:φs=330.00000°, δ70.00000°, λ=-176.00000°. NP2: φs=239.00000°, δ87.00000°, λ=-20.00000°. Principal axes: T 6.5030, Plg12.0000°, Azm286.0000°; N -2.1870, Plg69.0000°, Azm50.0000°; P -4.3160, Plg17.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 02:35:45.4±0.7, 16°.7S±0°.2×177°.2W±0°.1, h10km, n58, σ1°.19/53, mb4.5/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.62	257	Pn	Pn	02 36 56.4	+1.0
	2.7nm,0.3s,baz=156,slow=22,SNR=5.8						
MSVF	Nonsavu	4.62	257	Pn	Pn	02 36 57.1	+1.6
SANVU	Saraoutou	15.02	273	Pn	Pn	02 39 15.3	-2.6
SANVU				IAmb	IAmb	02 39 32.1	
	comp=Z,68nm,1.2s						
OUENC	Ouen Island, N	16.04	247	Pn	Pn	02 39 31.1	-0.1
DZM	Mont Dzumac	16.29	248	Pn	P	02 39 38.5	+1.0
	comp=Z,0.2nm,0.3s,baz=84,slow=12,SNR=6.9						
DZM	Mont Dzumac	16.29	248	*e*P	P	02 39 40.7	+3.2
	comp=Z,109nm,1.3s						
DZM				*e*LR	LR	02 43 35.5	
	comp=Z,3μm,25.1s						
DZM	Mont Dzumac	16.29	248	Pn	Pn	02 39 33.5	-1.1
DZM				IAmb	IAmb	02 39 44.6	
	comp=Z,87nm,1.5s						
URZ	Urewera	22.00	192	P	P	02 40 41.0	+1.2
	comp=Z,7.1nm,0.8s,baz=354,slow=3.8,SNR=4.2						
PAE	Paea	26.41	96	*e*T	T	03 08 01.2	
	comp=Z,1.2nm,0.3s						
PPT2	Papeete2	26.42	96	*e*LR	LR	02 47 43.4	
	comp=Z,3μm,26.5s,baz=257						
PPT2	Papeete2	26.42	96	*e*T	T	03 08 02.2	
	comp=Z,2.6nm,0.3s						
LTZ	Lake Taylor	27.46	197	P	P	02 41 30.2	-1.4
LTZ				IAmb	IAmb	02 41 44.5	
	comp=Z,26nm,1.4s						
EIDS	Eidsvold	30.74	248	P	P	02 41 59.9	-1.1
EIDS				IAmb	IAmb	02 42 10.6	
	comp=Z,17nm,1.1s						
CTAO	Charters Tower	34.77	259	P	P	02 42 36.8	+0.4
TAOE	Nuku Hiva Isla	36.94	82	*e*LR	LR	02 52 31.5	
	comp=Z,964nm,28.6s						
TOO	Toolangi	38.78	230	P	P	02 43 09.6	-0.7
TOO				IAmb	IAmb	02 43 15.3	
	comp=Z,29nm,1.2s						
STKA	Stephens Creek	40.18	240	P	P	02 43 22.3	+0.2
	comp=Z,7.3nm,0.9s,baz=74,slow=6.0,SNR=7.4						
STKA	Stephens Creek	40.18	240	P	P	02 43 20.9	-1.2
WR0	Warramunga Arr	45.78	258	P	P	02 44 07.1	-0.5
WR0				IAmb	IAmb	02 44 13.1	
	comp=Z,15nm,1.3s						
WB0	Warramunga Arr	45.93	259	P	P	02 44 07.5	-1.3
WB2	Warramunga Arr	45.95	258	P	P	02 44 07.7	-1.4
WB2				IAmb	IAmb	02 44 14.5	
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	45.97	258	P	P	02 44 08.3	-0.8
	comp=Z,4.7nm,1.1s,baz=92,slow=6.5,SNR=11			

comp=Z,9.1nm,1.3s
RETA Reutte 148.64 350 *e*P **PKPbc 02 55 33.0 +0.1**
comp=Z,12nm,1.5s
WTTA Wattenberg 148.70 348 *e*P **PKPbc 02 55 33.3 0.0**
comp=Z,11nm,1.5s
MOTA Moosalm 148.72 349 *e*P **PKPbc 02 55 34.2 +0.9**
comp=Z,9.6nm,1.2s
SQTA Sankt Quirin 148.82 349 *e*P **PKiKP 02 55 34.8 -0.1**
comp=Z,12nm,1.8s
DAVA Damuels 148.98 351 *e*P **PKPbc 02 55 33.8 -0.1**
comp=Z,16nm,1.6s
ABTA Abfaltersbach 149.01 347 *e*P **PKPdf 02 55 32.0 +2.1**
comp=Z,9.0nm,1.1s
FETA Feichten 149.10 349 *e*P **PKiKP 02 55 36.3 +0.8**
comp=Z,10nm,1.4s

NNC 26 02:36:56.6±9.0, 36°.09N×69°.81E, h0km, mb3.6, mpv3.2, 1C-3D, Error ellipse: s-maj=79.8km s-min=61.2km az=149.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	**Karatay Array**	**7.03**	**4**	⇑P	Pn	02 38 42.0	+1.2
	0.5nm,0.6s,baz=186,slow=13						
KK08				⇓S	Sn	02 40 02.6	+1.2
	0.5nm,0.5s,baz=188,slow=25						
AAK	**Ala-Archa**	**7.48**	**28**	⇓P	Pn	02 38 45.0	-2.2
	2.1nm,0.8s						
AAK				⇓S	Sn	02 40 13.9	+1.2
	0.9nm,0.5s						
AB31	**Akbulak array**	**15.01 334**		P	Pn	02 40 32.1	+2.2
	0.6nm,0.5s,baz=158,slow=12,SNR=24						

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*BGR **26** 02:46:49.2±0.0, 19°.84S×177°.25W, h33km*
*NEIC **26** 02:47:46.4±1.3, 20°.2S±0°.1×177°.6W±0°.1, h550km±9km, mb4.4/21, Error ellipse: s-maj=25.8km s-min=8.7km az=134.0*
*IDC **26** 02:47:46.3±1.5, 20°.13S×177°.69W, h544km±15km, mb3.5/13, mb1 3.7/17, mb1mx3.6/29, mbtmp4.4/17, Error ellipse: s-maj=22.9km s-min=12.8km az=140.0*
ISC 26 02:47:46.2±0.6, 20°.1S±0°.1×177°.63W±0°.10, h550km, n81, σ1°.08/86, mb4.2/22, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**299**	P	**P**	**02 49 14.2**	**+0.6**
	1.5nm,0.3s,baz=133,slow=6.4,SNR=10						
MSVF	**Nonsavu**	**4.69**	**299**	P	**P**	**02 49 15.7**	**+2.1**
AFI	**Afiamalu**	**8.28**	**43**	P	**P**	**02 49 46.0**	**-0.9**
	11nm,0.3s,baz=352,slow=2.2,SNR=15						
AFI				S	**S**	**02 51 21.5**	**-4.3**
	26nm,0.3s,baz=90,slow=19,SNR=8.0						
PINNC	**Pines Island,**	**14.14**	**257**	P	**P**	**02 50 46.8**	**0.0**
DZM	**Mont Dzumac**	**15.00**	**259**	P	**P**	**02 50 55.9**	**+0.1**
	0.5nm,0.3s,baz=101,slow=16,SNR=4.0						
DZM	**Mont Dzumac**	**15.00**	**259**	P	**P**	**02 50 55.6**	**-0.2**
DZM				IAmb	IAmb	02 50 57.7	
	comp=Z,6.9nm,0.8s						
OUZ	**Omahuta**	**16.98**	**205**	P	**P**	**02 51 15.8**	**+1.2**
URZ	**Urewera**	**18.71**	**193**	P	**P**	**02 51 29.0**	**-1.4**
	comp=Z,2.3nm,0.3s,baz=268,slow=4.9,SNR=9.8						
URZ	**Urewera**	**18.71**	**193**	P	**P**	**02 51 29.4**	**-1.0**
BKZ	**Black Stump Fm**	**19.72**	**194**	P	**P**	**02 51 37.0**	**-2.6**
BKZ				IAmb	IAmb	02 51 43.6	
	comp=Z,6.2nm,1.0s						
QRZ	**Quartz Range**	**22.35**	**200**	P	**P**	**02 52 02.4**	**-0.8**
THZ	**Tophouse**	**23.09**	**198**	P	**P**	**02 52 08.7**	**-1.1**
WHZ	**Wether Hill Ro**	**28.38**	**201**	P	**P**	**02 52 57.4**	**+1.1**
ARMA	**Armidale**	**29.58**	**243**	P	**P**	**02 53 07.7**	**+0.6**
CTAO	**Charters Tower**	**33.88**	**264**	P	**P**	**02 53 44.2**	**+0.4**
CTAO				IAmb	IAmb	02 53 45.0	
	comp=Z,7.2nm,0.7s						
TOO	**Toolangi**	**36.44**	**233**	P	**P**	**02 54 04.8**	**-0.2**
TOO				IAmb	IAmb	02 54 06.9	
	comp=Z,15nm,1.1s						
COEN	**Coen**	**37.90**	**273**	P	**P**	**02 54 17.0**	**-0.1**
COEN				IAmb	IAmb	02 54 18.5	
	comp=Z,9.0nm,0.8s						
STKA	**Stephens Creek**	**38.30**	**244**	P	**P**	**02 54 20.1**	**0.0**
	comp=Z,2.9nm,0.5s,baz=87,slow=9.9,SNR=18						
STKA	**Stephens Creek**	**38.30**	**244**	P	**P**	**02 54 20.2**	**+0.1**
BBOO	**Buckleboo**	**43.06**	**243**	P	**P**	**02 54 57.9**	**-0.1**
BBOO				IAmb	IAmb	02 54 58.2	
	comp=Z,18nm,1.1s						
WR0	**Warramunga Arr**	**44.82**	**262**	P	**P**	**02 55 11.3**	**-0.4**
AS31	**Alice Springs**	**44.96**	**256**	P	**P**	**02 55 13.0**	**+0.1**
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**02 55 12.9**	**0.0**
	comp=Z,7.6nm,0.8s,baz=87,slow=8.5,SNR=68						
ASAR				PcP	**PcP**	**02 56 42.5**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=105,slow=3.9,SNR=8.2						
ASAR				S	**S**	**03 01 09.0**	**-2.5**
	comp=Z,5.1nm,1.1s,baz=93,slow=15,SNR=20						
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**02 55 12.3**	**-0.5**
WB0	**Warramunga Arr**	**44.98**	**262**	P	**P**	**02 55 12.8**	**-0.3**
WB0				IAmb	IAmb	02 55 13.3	
	comp=Z,8.6nm,0.8s						
WB2	**Warramunga Arr**	**45.00**	**262**	P	**P**	**02 55 13.0**	**-0.2**
WB2				IAmb	IAmb	02 55 13.4	
	comp=Z,9.2nm,1.0s						
WRA	**Warramunga Arr**	**45.01**	**262**	P	**P**	**02 55 12.6**	**-0.7**
	comp=Z,5.2nm,0.6s,baz=97,slow=6.9,SNR=247						
WRA				PcP	**PcP**	**02 56 42.7**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=88,slow=4.0,SNR=5.9						
WRA				S	**S**	**03 01 08.7**	**-3.5**
	comp=Z,1.6nm,0.9s,baz=95,slow=13,SNR=7.1						
WRA	**Warramunga Arr**	**45.01**	**262**	P	**P**	**02 55 12.1**	**-1.2**
MTN	**Manton Dam**	**49.51**	**270**	P	**P**	**02 55 46.3**	**-0.8**
MTN				IAmb	IAmb	02 55 47.6	
	comp=Z,13nm,0.7s						
FORT	**Forrest**	**49.79**	**246**	P	**P**	**02 55 48.1**	**-0.8**
FORT				IAmb	IAmb	02 55 49.8	
	comp=Z,14nm,0.8s						
KNRA	**Kununurra**	**51.04**	**266**	P	**P**	**02 55 58.0**	**-0.2**
KNRA				IAmb	IAmb	02 56 16.0	
	comp=Z,11nm,1.1s						
MJAR	**Matsushiro Arr**	**70.06**	**323**	P	**P**	**02 58 03.7**	**+0.5**
	comp=Z,8.1nm,0.8s,baz=157,slow=5.5,SNR=11						
PETK	**Petropavlovsk-**	**75.93**	**345**	P	**P**	**02 58 37.2**	**+0.8**
	comp=Z,5.8nm,0.8s,baz=155,slow=11,SNR=5.0						
KSRS	**Korea Array**	**76.78**	**318**	P	**P**	**02 58 42.0**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=152,slow=6.4,SNR=4.5						
USRK	**Ussuriysk Ar.**	**78.79**	**326**	P	**P**	**02 58 54.2**	**+2.1**
	comp=Z,8.0nm,0.8s,baz=113,slow=5.0,SNR=5.9						
USRK	**Ussuriysk Ar.**	**78.79**	**326**	P	**P**	**02 58 53.9**	**+1.8**
NVAR	**Mina Array Bea**	**80.46**	**43**	P	**P**	**02 59 03.6**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=221,slow=7.8,SNR=5.9						
KLR	**Kul'dur**	**82.32**	**329**	P	**P**	**02 59 10.3**	**0.0**
	comp=Z,1.6nm,0.8s,baz=67,slow=4.4,SNR=6.2						
TXAR	**Lajitas Array**	**86.52**	**57**	P	**P**	**02 59 34.0**	**+2.5**
	comp=Z,0.6nm,0.7s,baz=220,slow=6.4,SNR=8.3						
ILAR	**Eielson Array**	**87.80**	**13**	P	**P**	**02 59 36.6**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=216,slow=5.3,SNR=10						
PDAR	**Pinedale Array**	**88.40**	**43**	P	**P**	**02 59 41.5**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=211,slow=3.6,SNR=6.4						
PDAR	**Pinedale Array**	**88.40**	**43**	P	**P**	**02 59 40.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**90.29**	**289**	P	**P**	**02 59 50.0**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=99,slow=2.9,SNR=9.8						
MKAR	**Makanchi Array**	**111.14**	**314**	PKiKP	**PKiKP**	**03 05 16.9**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=42,slow=0.6,SNR=5.5						
ARCES	**ARCESS Array B**	**128.54**	**350**	PKP	**PKPdf**	**03 05 49.6**	**-0.5**
	comp=Z,3.2nm,1.0s,baz=64,slow=2.8,SNR=3.7						
FINES	**FINESS Array B**	**135.44**	**344**	PKP	**PKiKP**	**03 06 04.5**	**-0.5**
	comp=Z,4.5nm,1.1s,baz=107,slow=2.6,SNR=6.9						
AKASG	**Malin Array Be**	**142.79**	**332**	PKhKP	PKPpre	03 06 14.0	
	comp=Z,4.7nm,0.5s,baz=42,slow=4.6,SNR=24						
AKASG	**Malin Array Be**	**142.79**	**332**		**PKPdf**	**03 06 14.4**	**-2.5**
BSEG	**Bad Segeberg**	**145.63**	**352**	*e*PKPbc	**PKPab**	**03 06 24.2**	**-0.6**
	baz=16,slow=2.6						
KWP	**Kalwaria Pacla**	**146.32**	**336**	PKPbc	**PKPbc**	**03 06 25.5**	**+0.1**
RUE	**Ruedersdorf**	**146.43**	**347**	*e*PKPbc	**PKPbc**	**03 06 26.3**	**+0.7**
	baz=16,slow=2.6						
BRTR	**Keskin Array B**	**146.79**	**313**	PKPbc	**PKPbc**	**03 06 27.4**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=134,slow=4.7,SNR=12						
BRTR	**Keskin Array B**	**146.79**	**313**		**PKPbc**	**03 06 27.0**	**-0.2**
BURAR	**Bucovina Array**	**146.84**	**331**	PKPbc	**PKPbc**	**03 06 26.6**	**-0.4**
FLTG	**Flechtingen**	**147.05**	**350**	*e*PKPbc	**PKPbc**	**03 06 27.6**	**+0.4**
	baz=16,slow=2.6						
OSTC	**Ostas**	**147.64**	**343**	*e*PKP	**PKiKP**	**03 06 29.7**	**-0.7**
CHVC	**Chvalec**	**147.66**	**344**	*e*PKP	**PKiKP**	**03 06 30.0**	**-0.5**
CLL	**Collm**	**147.70**	**347**	⇓*i*PKPbc	**PKiKP**	**03 06 29.7**	**-0.8**
	comp=Z,16nm,1.1s						
CLL				*i* PKPab	**PKPab**	**03 06 33.4**	**+0.1**
	comp=Z,8.0nm,1.0s						
CLL	**Collm**	**147.70**	**347**	*e*PKPbc	**PKiKP**	**03 06 29.7**	**-0.8**
	baz=16,slow=2.6						
DPC	**Dobruska-Polom**	**147.80**	**343**	*e*PKP	**PKiKP**	**03 06 30.4**	**-0.4**
BRG	**Berggiesshubel**	**147.91**	**346**	*e*PKPbc	**PKiKP**	**03 06 30.4**	**-0.5**
	baz=16,slow=2.6						
KRLC	**Kraliky**	**147.92**	**342**	*e*PKP	**PKiKP**	**03 06 30.7**	**-0.4**
MORC	**Moravsky Berou**	**147.96**	**341**	*e*PKP	**PKiKP**	**03 06 30.7**	**-0.5**
FBE	**Freiberg**	**147.99**	**347**	*e*PKPbc	**PKiKP**	**03 06 30.9**	**-0.2**
	baz=16,slow=2.6						
PVCC	**Panska Ves**	**148.09**	**345**	*e*PKP	**PKiKP**	**03 06 31.0**	**-0.3**
PRU	**Pruhonice**	**148.59**	**345**	*e*PKP	**PKiKP**	**03 06 32.1**	**-0.3**
PLN	**Plauen**	**148.65**	**348**	*e*PKPbc	**PKiKP**	**03 06 32.2**	**-0.3**
	baz=16,slow=2.6						
TANN	**Tannenbergstha**	**148.66**	**348**	*e*PKPbc	**PKiKP**	**03 06 32.3**	**-0.3**
	baz=16,slow=2.6						
WERD	**Werda**	**148.66**	**348**	*e*PKPbc	**PKiKP**	**03 06 32.1**	**-0.5**
	baz=16,slow=2.6						
VRAC	**Vranov**	**148.66**	**342**	*e*PKP	**PKiKP**	**03 06 32.5**	**-0.1**
GUNZ	**Gunzen**	**148.73**	**348**	*e*PKPbc	**PKiKP**	**03 06 32.4**	**-0.3**
	baz=16,slow=2.6						
JAVC	**Velka Javorina**	**148.74**	**340**	*e*PKP	**PKiKP**	**03 06 33.8**	**+1.0**
KRUC	**Moravsky**	**148.94**	**342**	*e*PKP	**PKiKP**	**03 06 33.0**	**-0.1**
TREC	**Trest**	**148.99**	**343**	*e*PKP	**PKPbc**	**03 06 32.5**	**+0.2**
MANZ	**Manzenberg**	**149.14**	**348**	*e*PKPbc	**PKiKP**	**03 06 33.5**	**0.0**
	baz=16,slow=2.6						
ROTZ	**Rotzenmuhle**	**149.33**	**347**	*e*PKPbc	**PKiKP**	**03 06 34.0**	**+0.1**
	baz=16,slow=2.6						
TNS	**Taunus Mts**	**149.51**	**352**	*e*PKPbc	**PKiKP**	**03 06 34.6**	**+0.2**
	baz=16,slow=2.6						
KHC	**Kasperske Hory**	**149.62**	**345**	*e*PKP	**PKiKP**	**03 06 34.6**	**0.0**
CKRC	**Cesky Krumlov**	**149.73**	**344**	*e*PKP	**PKiKP**	**03 06 34.6**	**-0.2**
GEC2	**GERESS Array S**	**149.86**	**345**	*e*PKPbc	**PKiKP**	**03 06 35.2**	**0.0**
	baz=16,slow=2.6						
GERES	**GERESS Array B**	**149.86**	**345**	PKPbc	**PKiKP**	**03 06 34.6**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=43,slow=2.4,SNR=19						

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*TAP **26** 02:58:58.5, 23°.95N×122°.71E, h46km±1km, ML3.0, D*
*JMA **26** 02:58:59.5±0.1, 24°.05N×122°.59E, h36km±5km, M2.3*
ISC 26 02:58:58.5±1.1, 23°.92N±0°.03×122°.68E±0°.02, h33km±10km, n49, σ0°.98/80, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.58**	**24**	P	**Pn**	**02 59 10.1**	**-0.4**
JYNG				S	**Sb**	**02 59 17.3**	**-1.1**
YOJ	**Yonaguni jima**	**0.61**	**29**	P	**Pn**	**02 59 10.9**	**-0.1**
YOJ				S	**Sn**	**02 59 18.4**	**-1.3**
YOJ	**Yonaguni jima**	**0.61**	**29**	P	**Pn**	**02 59 11.0**	**+0.1**
	baz=28						
YOJ				S	**Sn**	**02 59 19.5**	**-0.2**
	baz=28						
EWUT	**Wuta**	**0.98**	**302**	*i* P	**Pn**	**02 59 16.1**	**+0.2**
	baz=301						
EWUT				*e*S	**Sn**	**02 59 28.9**	**+0.3**
	baz=301						
ENA	**Nanau**	**1.00**	**300**	*i* P	**Pn**	**02 59 16.4**	**+0.1**
	baz=300						
ENA				S	**Sb**	**02 59 30.6**	**+0.5**
	baz=300						
TWD	**Chiawan**	**1.01**	**279**	*e*S	**Sb**	**02 59 31.0**	**+0.6**
	baz=279						
TWC	**Suao**	**1.02**	**312**	P	**Pn**	**02 59 16.6**	**0.0**
	baz=311						
TWC				S	**Sb**	**02 59 30.6**	**-0.3**
	baz=311						
NACB	**Ninganchiao**	**1.03**	**284**	*i* P	**Pn**	**02 59 16.2**	**-0.5**
	baz=273						
NACB				*e*S	**Sn**	**02 59 30.6**	**+0.7**
	baz=273						
HATJ	**Hateruma jima**	**1.03**	**82**	P	**Pb**	**02 59 18.7**	**+0.8**
HATJ				S	**Sb**	**02 59 33.2**	**+2.0**
IRIF	**Iriomote-Funau**	**1.04**	**67**	P	**Pb**	**02 59 18.7**	**+0.7**
IRIF				*e*S	**Sb**	**02 59 33.1**	**+1.7**
NDS	**Dongshan**	**1.13**	**309**	P	**Pn**	**02 59 18.9**	**+0.8**
	baz=308						
NDS				S	**Sb**	**02 59 33.2**	**-0.8**
	baz=308						
ETLH	**Xiulin Townshi**	**1.13**	**285**	P	**Pn**	**02 59 17.9**	**-0.4**
	baz=276						
ETLH				*e*S	**Sn**	**02 59 32.3**	**-0.4**
	baz=276						
NTC	**Toucheng**	**1.21**	**320**	*e*P	**Pb**	**02 59 21.1**	**+0.2**
	baz=319						
LATG	**Datong**	**1.22**	**300**	P	**Pn**	**02 59 19.9**	**+0.5**
	baz=300						
LATG				*e*S	**Sb**	**02 59 37.5**	**+0.9**
	baz=300						
TWE	**Neicheng**	**1.22**	**311**	*i* P	**Pn**	**02 59 20.0**	**+0.7**
	baz=310						
HGSD	**Ruisui**	**1.23**	**250**	*e*P	**Pn**	**02 59 19.6**	**+0.1**
	baz=249						
HGSD				*e*S	**Sn**	**02 59 34.7**	**-0.3**
	baz=249						
JKRS	**Kuro-shima**	**1.25**	**75**	P	**Pb**	**02 59 22.3**	**+0.7**
JKRS				*e*S	**Sb**	**02 59 38.1**	**+0.7**
NDT	**Datong Townshi**	**1.26**	**303**	*i* P	**Pn**	**02 59 20.4**	**+0.5**
	baz=291						
NNSB	**Datong**	**1.29**	**293**	*i* P	**Pn**	**02 59 20.7**	**+0.3**
	baz=293						
NNSB				S	**Sn**	**02 59 36.9**	**+0.3**
	baz=293						
FUSB	**Fushanzhiwuyua**	**1.30**	**310**	P	**Pn**	**02 59 21.5**	**+1.0**
	baz=299						
FUSB				*e*S	**Sb**	**02 59 39.5**	**+0.6**
	baz=299						
TIPB	**Shuangxi**	**1.30**	**323**	P	**Pn**	**02 59 21.3**	**+0.8**
	baz=324						
TIPB				*e*S	**Sb**	**02 59 38.8**	**-0.2**
	baz=324						
EHY	**Hungye**	**1.31**	**252**	P	**Pn**	**02 59 21.0**	**+0.4**
	baz=251						
EHY				S	**Sn**	**02 59 37.2**	**+0.2**
	baz=251						
FUSS	**Fushou**	**1.35**	**284**	P	**Pn**	**02 59 21.6**	**+0.2**
	baz=283						
NWLT	**Wulai**	**1.37**	**309**	*e*S	**Sb**	**02 59 40.6**	**-0.3**
	baz=309						
SXI1	**Grass Mountain**	**1.38**	**328**	P	**Pn**	**02 59 22.1**	**+0.6**
	baz=338						
SXI1				S	**Sb**	**02 59 39.2**	**-1.9**
	baz=338						
CHGB	**Renai**	**1.39**	**276**	P	**Pn**	**02 59 21.3**	**-0.5**
	baz=276						
CHGB				*e*S	**Sn**	**02 59 39.9**	**+0.8**
	baz=276						
JIJ	**Ishigaki jima**	**1.40**	**72**	P	**Pb**	**02 59 23.6**	**-0.6**
JIJ				S	**Sb**	**02 59 41.5**	**-0.2**
YHNB	**Yeheng**	**1.41**	**302**	P	**Pn**	**02 59 22.8**	**+0.9**
	baz=303						
YHNB				S	**Sn**	**02 59 39.9**	**+0.5**
	baz=303						
NWF	**Wu-fen Shan**	**1.41**	**324**	P	**Pn**	**02 59 22.6**	**+0.6**
	baz=323						
NSK	**Sanguang**	**1.42**	**302**	P	**Pn**	**02 59 23.0**	**+0.8**
	baz=290						
VWDT	**VWDT**	**1.42**	**263**	P	**Pn**	**02 59 22.3**	**+0.2**
	baz=263						
VWDT				*e*S	**Sn**	**02 59 40.1**	**+0.5**
	baz=263						
WUSB	**Renai**	**1.43**	**273**	P	**Pn**	**02 59 22.7**	**+0.3**
	baz=273						
WUSB				*e*S	**Sn**	**02 59 40.9**	**+0.7**
	baz=273						
CHKT	**Chengkung**	**1.46**	**236**	S	**Sn**	**02 59 38.9**	**-1.8**
	baz=226						
FULB	**Fuli**	**1.47**	**241**	*e*S	**Sn**	**02 59 40.1**	**-0.7**
	baz=231						
EDH	**Donghe**	**1.58**	**233**	P	**Pn**	**02 59 24.2**	**0.0**
	baz=226						
EDH				S	**Sn**	**02 59 42.0**	**-1.7**
	baz=226						
SSLB	**Suanglung**	**1.59**	**265**	P	**Pn**	**02 59 25.7**	**+1.3**
	baz=265						
NFF	**Wufeng Townshi**	**1.59**	**297**	*e*S	**Sn**	**02 59 43.4**	**-0.6**
	baz=297						
JISG	**Ishigakijimahi**	**1.62**	**66**	P	**Pb**	**02 59 26.4**	**-1.5**
JISG				S	**Sb**	**02 59 46.4**	**-1.7**
WCS	**Beigang Elemen**	**1.63**	**275**	P	**Pn**	**02 59 25.6**	**+0.7**
	baz=275						
WCS				*e*S	**Sn**	**02 59 45.9**	**+1.1**
	baz=275						
WHP	**Taichung City**	**1.63**	**283**	*e*P	**Pb**	**02 59 27.3**	**-0.7**
	baz=283						
WHP				*e*S	**Sn**	**02 59 46.6**	**+1.7**
	baz=283						
SMLT	**Sun Moon Lake**	**1.63**	**269**	*e*P	**Pn**	**02 59 25.9**	**+0.9**
	baz=261						
SMLT				*e*S	**Sn**	**02 59 45.6**	**+0.5**
	baz=261						
TYC	**Yuchr**	**1.67**	**270**	*e*P	**Pb**	**02 59 27.9**	**-0.7**
	baz=259						
LIOB	**Emei**	**1.68**	**296**	*e*P	**Pn**	**02 59 27.6**	**+1.9**
	baz=296						
LIOB				*e*S	**Sb**	**02 59 48.4**	**-1.3**
	baz=296						
ALS	**Alishan**	**1.77**	**257**	*e*P	**Pn**	**02 59 28.3**	**+1.1**
	baz=248						
TWGBT	**Beinan**	**1.84**	**234**	*e*S	**Sn**	**02 59 49.5**	**-0.5**
	baz=226						
TPUB	**Ta-pu**	**1.98**	**252**	*e*P	**Pn**	**02 59 29.9**	**0.0**
	baz=243						
CHN4	**Tsaushan**	**2.00**	**254**	*e*P	**Pn**	**02 59 32.7**	**+2.6**
	baz=253						
WTP	**Ta-pu**	**2.02**	**251**	*e*P	**Pn**	**02 59 32.9**	**+2.6**
	baz=241						
LYUB	**Lan-yu**	**2.17**	**208**	*e*P	**Pn**	**02 59 32.8**	**+0.5**
	baz=207						
LYUB				*e*S	**Sn**	**02 59 56.1**	**-1.9**
	baz=207						

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*JMA **26** 03:01:48.8±0.1, 39°.62N×139°.81E, h181km±1km, M3.1*
*IDC **26** 03:01:48.7±1.8, 39°.57N×139°.80E, h179km±18km, mb2.9/5, mb1 3.1/7, mb1mx2.6/57, mbtmp3.3/7, Error ellipse: s-maj=34.8km s-min=16.4km az=108.0*
ISC 26 03:01:48.8±0.8, 39°.64N±0°.05×139°.76E±0°.07, h180km±6km, n22, σ0°.56/31, mb3.1/5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYW	**Yuwa**	**0.36**	**106**	P	**Pn**	**03 02 13.5**	**+0.5**
JYW				S	**Sn**	**03 02 32.3**	**+0.8**
JTB	**Tobi-shima**	**0.47**	**199**	P	**Pn**	**03 02 13.5**	**+0.1**
JTB				S	**Sn**	**03 02 32.2**	**-0.1**
JOG3	**Oga3**	**0.59**	**298**	P	**Pn**	**03 02 13.0**	**-0.9**
JOG3				*e*S	**Sn**	**03 02 31.8**	**-1.4**
JRG	**Rokugo**	**0.72**	**110**	P	**Pn**	**03 02 14.6**	**0.0**
JRG				*e*S	**Sn**	**03 02 34.6**	**+0.2**
JYK	**Kaneyama**	**0.86**	**147**	P	**Pn**	**03 02 15.5**	**0.0**
JYK				S	**Sn**	**03 02 36.1**	**+0.1**
JAH	**Hinai**	**0.87**	**51**	P	**Pn**	**03 02 15.7**	**+0.2**
JIW	**Iwasaki**	**0.97**	**11**	P	**Pn**	**03 02 16.7**	**+0.5**
JIW				S	**Sn**	**03 02 37.4**	**-0.1**
JYA	**Atsumi**	**1.05**	**182**	P	**Pn**	**03 02 17.1**	**+0.3**
JYA				S	**Sn**	**03 02 38.5**	**+0.1**
JOM	**Ohasama**	**1.20**	**98**	P	**Pn**	**03 02 17.7**	**-0.3**
JAW	**Awa shima**	**1.25**	**199**	P	**Pn**	**03 02 18.5**	**+0.1**
JMK	**Ichinoseki**	**1.33**	**121**	P	**Pn**	**03 02 18.7**	**-0.4**
JMK				*e*S	**Sn**	**03 02 41.5**	**-1.0**
JANG	**Nango**	**1.54**	**61**	P	**Pn**	**03 02 20.8**	**-0.2**
JANG				*e*S	**Sn**	**03 02 45.8**	**-0.2**
JSD	**Sado**	**1.98**	**217**	P	**Pn**	**03 02 25.9**	**+0.3**
JOT	**Ohata**	**2.00**	**29**	P	**Pn**	**03 02 26.0**	**+0.3**
JFT	**Otama**	**2.17**	**168**	P	**Pn**	**03 02 27.4**	**-0.3**
MJAR	**Matsushiro Arr**	**3.33**	**202**	P	**Pn**	**03 02 41.6**	**+0.1**
	0.3nm,0.3s,baz=11,slow=13,SNR=8.5						
ASAJ	**Asahikawa**	**4.95**	**24**	P	**Pn**	**03 03 01.1**	**-0.8**
	1.4nm,0.3s,baz=211,slow=12,SNR=1.7						
MKAR	**Makanchi Array**	**41.67**	**299**	P	**P**	**03 09 19.8**	**+0.3**
	0.3nm,0.5s,baz=86,slow=9.1,SNR=4.1						
ILAR	**Eielson Array**	**48.02**	**34**	P	**P**	**03 10 09.9**	**+0.6**
	0.3nm,0.6s,baz=269,slow=5.4,SNR=4.5						
WRA	**Warramunga Arr**	**59.49**	**186**	P	**P**	**03 11 31.9**	**-1.0**
	0.7nm,0.9s,baz=2.7,slow=7.5,SNR=5.9						
YKA	**Yellowknife Ar**	**62.22**	**30**	P	**P**	**03 11 51.4**	**+0.6**
	0.1nm,0.6s,baz=302,slow=6.0,SNR=2.7						
ASAR	**Alice Springs**	**63.22**	**186**	P	**P**	**03 11 57.3**	**-0.6**
	0.2nm,0.3s,baz=359,slow=6.7,SNR=4.4						

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*IDC **26** 03:04:47.2±1.9, 48°.11N×148°.50E, h398km±22km, mb3.0/12, mb1 3.2/16, mb1mx3.0/63, mbtmp3.8/16, Error ellipse: s-maj=18.4km s-min=13.1km az=133.0*
ISC 26 03:04:46.0±0.8, 48°.1N±0°.1×148°.6E±0°.1, h384km, n16, σ0°.69/16, mb3.3/12, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**5.74**	**229**	P	**Pn**	**03 06 15.1**	**0.0**
	7.8nm,0.3s,baz=148,slow=20,SNR=4.6						
KLR	**Kul'dur**	**11.22**	**282**	P	**Pn**	**03 07 19.1**	**+1.1**
	0.3nm,0.3s,baz=76,slow=12,SNR=8.2						
MJAR	**Matsushiro Arr**	**13.82**	**217**	P	**Pn**	**03 07 48.2**	**-0.3**
	0.3nm,0.3s,baz=20,slow=11,SNR=13						
SEY	**Seymchan**	**15.06**	**7**	P	**P**	**03 07 59.9**	**+0.6**
	0.3nm,0.3s,baz=188,slow=7.6,SNR=9.6						
ILAR	**Eielson Array**	**37.47**	**39**	P	**P**	**03 11 24.1**	**+0.1**
	0.

ϕ_s=341.00000°, δ53.00000°, λ-135.00000°. NP2: ϕ_s=220.00000°, δ56.00000°, λ-46.00000°. Principal axes: T 1.6445, Plg2.0000°, Azm281.0000°; N -0.2010, Plg35.0000°, Azm13.0000°; P -1.4435, Plg55.0000°, Azm188.0000°;

ISC 26 03:10:21.6±0.2, 5°26S±0°.03×153°.26E±0°.03, h39km±1km, h39km:pP-P, n1922, σ1963/1942, mb6.0/354, MS6.0/327, 123C-83D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.52**	**314**	Pn		**Pn**	**Pn**	**03 10 47.7**	**+1.3**
RABL				Sn			**Sn**	**03 11 05.3**	**+0.3**
RABL	**Rabaul**	**1.52**	**314**	P		**Pn**	**Pn**	**03 10 48.3**	**+1.9**
MANU	**Manus Island**	**6.70**	**298**	⇑P		Pn	Pn	03 11 51.0	-6.5
PMG	**Port Moresby**	**7.32**	**235**	Pn		**Pn**	**Pn**	**03 12 06.5**	**+0.4**
	78nm,0.3s,baz=53,slow=9.0,SNR=60								
PMG				Sn			**Sn**	**03 13 28.0**	**+0.1**
	515nm,0.3s,baz=116,slow=22,SNR=14								
PMG				LR		LR	LR	03 14 47.5	
	comp=Z,83μm,21.9s,baz=30,slow=37								
PMG	**Port Moresby**	**7.32**	**235**	⇑P		**Pn**	**Pn**	**03 12 06.4**	**+0.4**
PMG	**Port Moresby**	**7.32**	**235**	Pn		**Pn**	**Pn**	**03 12 05.4**	**-0.7**
PMG				Sn			**Sn**	**03 13 26.9**	**-1.0**
PMG	**Port Moresby**	**7.32**	**235**	P		**Pn**	**Pn**	**03 12 08.1**	**+2.0**
PMG	**Port Moresby**	**7.32**	**235**	P		**Pn**	**Pn**	**03 12 07.9**	**+1.8**
PMG	**Port Moresby**	**7.32**	**235**	P		**Pn**	**Pn**	**03 12 06.5**	**+0.4**
HNR	**Honiara**	**7.82**	**122**	Pn		**Pn**	**Pn**	**03 12 15.0**	**+2.1**
	46nm,0.3s,baz=153,slow=14,SNR=14								
HNR	**Honiara**	**7.82**	**122**	P		**Pn**	**Pn**	**03 12 13.8**	**+0.9**
HNR	**Honiara**	**7.82**	**122**	⇑P		**Pn**	**Pn**	**03 12 13.9**	**+1.1**
HNR	**Honiara**	**7.82**	**122**			**Pn**	**Pn**	**03 12 13.8**	**+0.9**
HNR	**Honiara**	**7.82**	**122**	P		**Pn**	**Pn**	**03 12 17.0**	**+4.1**
JAY	**Jayapura**	**12.82**	**282**	Pn		**Pn**	**Pn**	**03 13 21.8**	**+0.3**
	3.7nm,0.3s,baz=92,slow=8.1,SNR=77								
JAY				LR		LR	LR	03 17 54.6	
	comp=Z,36μm,19.7s,baz=74,slow=36								
JAY	**Jayapura**	**12.82**	**282**	P		**Pn**	**Pn**	**03 13 21.8**	**+0.3**
	20μm720nm,1.8s								
PATS	**Pohnpei**	**13.03**	**23**	P		**Pn**	**Pn**	**03 13 25.7**	**+1.4**
	baz=13,SNR=5.4								
PATS	**Pohnpei**	**13.03**	**23**	Pn		**Pn**	**Pn**	**03 13 24.4**	**+0.1**
PATS	**Pohnpei**	**13.03**	**23**	P		**P**	**Pn**	**03 13 30.1**	**-3.9**
COEN	**Coen**	**13.17**	**228**	⇓P		**Pn**	**Pn**	**03 13 25.4**	**-0.9**
COEN	**Coen**	**13.17**	**228**	Pn		**Pn**	**Pn**	**03 13 24.5**	**-1.7**
COEN	**Coen**	**13.17**	**228**	P		**Pn**	**Pn**	**03 13 27.3**	**+1.1**
MMPI	**Merauke**	**13.18**	**255**	P		**Pn**	**Pn**	**03 13 25.9**	**-0.4**
	50μm130μm7μm,1.6s								
GENI	**Genyem**	**13.33**	**281**	⇑P		**Pn**	**Pn**	**03 13 27.1**	**-1.3**
GENI	**Genyem**	**13.33**	**281**	P		**Pn**	**Pn**	**03 13 28.4**	**0.0**
	79μm77μm4μm,1.7s								
GENI	**Genyem**	**13.33**	**281**	P		**Pn**	**Pn**	**03 13 30.5**	**+2.1**
SMPI	**Sarmi**	**14.88**	**282**	P		**Pn**	**Pn**	**03 13 49.2**	**-0.2**
MTSU	**Mount Surprise**	**15.50**	**214**	P		**Pn**	**Pn**	**03 13 57.6**	**+0.1**
	baz=16,SNR=21								
MTSU	**Mount Surprise**	**15.50**	**214**	P		**Pn**	**Pn**	**03 13 58.9**	**+1.4**
CTA	**Charters Tower**	**16.24**	**204**	Pn		**Pn**	**Pn**	**03 14 07.2**	**+0.2**
	5.5nm,0.3s,baz=20,slow=12,SNR=83								
CTA				LR		LR	LR	03 19 39.1	
	comp=Z,30μm,21.5s,baz=20,slow=35								
CTA	**Charters Tower**	**16.24**	**204**	P		**Pn**	**Pn**	**03 14 07.2**	**+0.2**
CTAO	**Charters Tower**	**16.24**	**204**	P		**Pn**	**Pn**	**03 14 06.6**	**-0.4**
CTAO				pmax		pmax	pmax		
	comp=Z,772nm,1.3s								
CTAO	**Charters Tower**	**16.24**	**204**	⇑P		**Pn**	**Pn**	**03 14 07.0**	**0.0**
CTAO	**Charters Tower**	**16.24**	**204**	Pn		**Pn**	**Pn**	**03 14 06.6**	**-0.4**
CTAO	**Charters Tower**	**16.24**	**204**	P		**Pn**	**Pn**	**03 14 07.2**	**+0.2**
CTAO	**Charters Tower**	**16.24**	**204**	P		**Pn**	**Pn**	**03 14 07.4**	**+0.3**
SANVU	**Saraoutou**	**17.03**	**128**	⇑P		**Pn**	**Pn**	**03 14 17.1**	**+0.1**
SANVU	**Saraoutou**	**17.03**	**128**			**Pn**	**Pn**	**03 14 17.2**	**+0.1**
SANVU				IAmb		IAmb	IAmb	03 14 39.3	
	comp=Z,2μm,1.3s								
SANVU	**Saraoutou**	**17.03**	**128**	P		**P**	**Pn**	**03 14 18.2**	**-0.3**
SANVU	**Saraoutou**	**17.03**	**128**	P		**Pn**	**Pn**	**03 14 17.4**	**+0.4**
SRPI	**Serui, Papua**	**17.32**	**281**	P		**Pn**	**Pn**	**03 14 17.4**	**-3.2**
	comp=Z,22μmcomp=Z,16μmcomp=Z,2μm,1.2s								
BAKI	**Biak**	**17.59**	**283**	P		**Pn**	**Pn**	**03 14 20.7**	**-3.3**
	comp=Z,43μmcomp=Z,2μm,1.3s								
KOUNC	**Koumac, New Ca**	**18.59**	**146**	⇓P		**Pn**	**Pn**	**03 14 36.6**	**+0.4**
KOUNC	**Koumac, New Ca**	**18.59**	**146**	P		**Pn**	**Pn**	**03 14 38.8**	**+2.6**
DVP	**Devils Point**	**19.14**	**132**	P		**Pn**	**Pn**	**03 14 43.8**	**+1.0**
RTV	**Rentapao**	**19.36**	**131**	P		**Pn**	**Pn**	**03 14 46.7**	**+1.2**
KWAJ	**Kwajalein Atol**	**20.00**	**46**	P		**P**	**P**	**03 14 49.6**	**-1.5**
KWAJ				pmax		pmax	pmax		
	comp=Z,8μm,2.0s								
KWAJ				MLR		MLR	MLR		
	comp=Z,43μm,19.0s								
KWAJ	**Kwajalein Atol**	**20.00**	**46**	P		**P**	**P**	**03 14 49.6**	**-1.5**
KWAJ	**Kwajalein Atol**	**20.00**	**46**	P		**Pn**	**Pn**	**03 14 55.2**	**+2.2**
EIDS	**Eidsvold**	**20.10**	**186**	P		**P**	**P**	**03 14 52.6**	**+0.4**
	baz=20,SNR=142								
EIDS	**Eidsvold**	**20.10**	**186**	⇓P		**P**	**P**	**03 14 52.5**	**+0.3**
EIDS	**Eidsvold**	**20.10**	**186**	P		**P**	**P**	**03 14 52.0**	**-0.2**
EIDS	**Eidsvold**	**20.10**	**186**	P		**P**	**P**	**03 14 53.2**	**+1.0**
QIS	**Mount Isa**	**20.18**	**220**	P		**P**	**P**	**03 14 53.0**	**-0.1**
	baz=20,SNR=188								
QIS	**Mount Isa**	**20.18**	**220**	P		**P**	**P**	**03 14 53.0**	**-0.1**
GUMO	**Guam**	**20.50**	**336**	P		**P**	**P**	**03 14 57.3**	**+0.8**
	comp=Z,1μm,1.1s,baz=178,slow=5.9,SNR=23								
GUMO				LR		LR	LR	03 23 23.1	
	comp=Z,14μm,18.4s,baz=147,slow=38								
GUMO	**Guam**	**20.50**	**336**	⇑P		Pn	Pn	03 14 58.6	-0.3
GUMO	**Guam**	**20.50**	**336**	P		**P**	**P**	**03 14 56.8**	**+0.3**
GUMO	**Guam**	**20.50**	**336**	P		Pn	Pn	03 14 59.4	+0.6
GUMO	**Guam**	**20.50**	**336**	P		**P**	**P**	**03 14 49.6**	**-6.8**
GUMO				pP		Pn	Pn	03 14 58.7	-0.1
LIFNC	**LIFOU**	**20.55**	**140**	P		**P**	**P**	**03 14 56.0**	**-1.0**
LIFNC	**LIFOU**	**20.55**	**140**	P		Pn	Pn	03 14 58.4	-1.0
NOUC	**Port Laguerre**	**20.97**	**144**	P		Pn	Pn	03 15 04.5	+0.2
NOUC	**Port Laguerre**	**20.97**	**144**	P		**P**	**P**	**03 15 02.1**	**+0.6**
DZM	**Mont Dzumac**	**21.02**	**144**	P		**P**	**P**	**03 15 03.0**	**+0.7**
	comp=Z,499nm,0.5s,baz=283,slow=7.3,SNR=333								
DZM	**Mont Dzumac**	**21.02**	**144**	*e*P		**P**	**P**	**03 15 03.3**	**+1.1**
	comp=Z,3μm,1.3s								
DZM				*e*S			**S**	**03 18 50.0**	**-4.5**
	comp=Z,29μm,24.4s								
DZM				*e*LR		LR	LR	03 20 06.3	
	comp=Z,82μm,23.9s								
DZM	**Mont Dzumac**	**21.02**	**144**	⇓P		**P**	**P**	**03 15 03.0**	**+0.7**
DZM	**Mont Dzumac**	**21.02**	**144**	P		**P**	**P**	**03 15 01.1**	**-1.2**
DZM				IAmb		IAmb	IAmb	03 15 19.1	
	comp=Z,1μm,1.2s								
DZM	**Mont Dzumac**	**21.02**	**144**	P		**P**	**P**	**03 15 04.0**	**+1.7**
DZM	**Mont Dzumac**	**21.02**	**144**	P		**P**	**P**	**03 15 03.4**	**+1.1**
FAKI	**Fak Fak**	**21.09**	**276**	⇑P		**P**	**P**	**03 15 00.8**	**-2.2**
FAKI	**Fak Fak**	**21.09**	**276**	P		**P**	**P**	**03 15 02.3**	**-0.6**
	comp=Z,34μmcomp=Z,28μmcomp=Z,2μm,1.5s								
FAKI	**Fak Fak**	**21.09**	**276**	P		**P**	**P**	**03 15 00.2**	**-2.7**
FAKI	**Fak Fak**	**21.09**	**276**	P		**P**	**P**	**03 15 04.4**	**+1.5**
OUENC	**Ouen Island, N**	**21.53**	**144**	P		**P**	**P**	**03 15 07.8**	**+0.3**
OUENC				IAmb		IAmb	IAmb	03 15 13.7	
	comp=Z,1μm,1.1s								
OUENC							**S**	**03 19 03.7**	**-0.6**
OUENC	**Ouen Island, N**	**21.53**	**144**	P		**P**	**P**	**03 15 09.4**	**+1.9**
RMQ	**Roma**	**21.54**	**191**	P		**P**	**P**	**03 15 07.8**	**+0.2**
	baz=22,SNR=79								
RMQ	**Roma**	**21.54**	**191**	P		**P**	**P**	**03 15 07.9**	**+0.2**
MARNC	**Mare, Loyalty**	**21.56**	**140**	⇑P		**P**	**P**	**03 15 08.8**	**+0.9**
MARNC	**Mare, Loyalty**	**21.56**	**140**	P		**P**	**P**	**03 15 08.5**	**+0.5**
MARNC	**Mare, Loyalty**	**21.56**	**140**	P		**P**	**P**	**03 15 10.2**	**+2.3**
KDU	**Kakadu**	**21.81**	**249**	⇑S		**S**	**S**	**03 19 07.7**	**-2.1**
KDU	**Kakadu**	**21.81**	**249**	P		**P**	**P**	**03 15 10.9**	**+0.3**
SAUI	**Saumlaki**	**21.98**	**262**	⇑P		**P**	**P**	**03 15 11.5**	**-1.1**
SAUI	**Saumlaki**	**21.98**	**262**	P		**P**	**P**	**03 15 12.6**	**+0.1**
	comp=Z,41μmcomp=Z,39μmcomp=Z,3μm,1.4s								
SAUI	**Saumlaki**	**21.98**	**262**	P		**P**	**P**	**03 15 13.4**	**+0.9**
PINNC	**Pines Island,**	**22.03**	**143**	P		**P**	**P**	**03 15 13.4**	**+0.4**
PINNC				IAmb		IAmb	IAmb	03 15 39.2	
	comp=Z,1μm,1.1s								
PINNC	**Pines Island,**	**22.03**	**143**	P		**P**	**P**	**03 15 14.5**	**+1.5**
SIJI	**Sorong**	**22.39**	**281**	P		**P**	**P**	**03 15 16.7**	**-0.2**
	comp=Z,236nm,0.5s,baz=85,slow=7.5,SNR=134								
SWI	**Sorong**	**22.39**	**281**	P		**P**	**P**	**03 15 15.1**	**-1.9**
	comp=Z,28μmcomp=Z,27μmcomp=Z,2μm,1.3s								
QLP	**Quilpie**	**22.89**	**201**	P		**P**	**P**	**03 15 21.5**	**-0.6**
	baz=23,SNR=74								
QLP	**Quilpie**	**22.89**	**201**	⇓P		**P**	**P**	**03 15 21.3**	**-0.7**
QLP	**Quilpie**	**22.89**	**201**	P		**P**	**P**	**03 15 21.7**	**-0.4**
MTN	**Manton Dam**	**23.10**	**249**	⇑S		**S**	**S**	**03 19 33.0**	**0.0**
MTN	**Manton Dam**	**23.10**	**249**	P		**P**	**P**	**03 15 23.9**	**-0.5**
MTN	**Manton Dam**	**23.10**	**249**	P		**P**	**P**	**03 15 24.5**	**+0.2**
BNDI	**Bandanaira**	**23.28**	**271**	⇑P		**P**	P	03 15 33.5	+7.3
BNDI	**Bandanaira**	**23.28**	**271**	P		**P**	**P**	**03 15 26.9**	**+0.7**
WB0	**Warramunga Arr**	**23.35**	**230**	P		**P**	**P**	**03 15 25.8**	**-1.0**
WR0	**Warramunga Arr**	**23.35**	**230**	P		**P**	**P**	**03 15 25.9**	**-0.9**
WR0				IAmb		IAmb	IAmb	03 15 36.1	
	comp=Z,792nm,0.9s								
WRAB	**Tennant Creek**	**23.48**	**230**	*ce*P		**P**	**P**	**03 15 27.0**	**-1.0**
WRAB				pmax		pmax	pmax		
	comp=Z,1μm,1.7s								
WRAB				MLR		MLR	MLR		
	comp=Z,17μm,15.0s								
WRAB	**Tennant Creek**	**23.48**	**230**	⇓P		**P**	**P**	**03 15 26.8**	**-1.3**
WRAB	**Tennant Creek**	**23.48**	**230**	P		**P**	**P**	**03 15 27.1**	**-1.0**
WRAB				IAmb		IAmb	IAmb	03 15 37.2	
	comp=Z,816nm,0.9s								
WRAB	**Tennant Creek**	**23.48**	**230**	P		**P**	**P**	**03 15 27.6**	**-0.4**
WRAB	**Tennant Creek**	**23.48**	**230**	P		**P**	**P**	**03 15 26.9**	**-1.2**
WB2	**Warramunga Arr**	**23.48**	**230**	P		**P**	**P**	**03 15 27.4**	**-0.7**
WRA	**Warramunga Arr**	**23.49**	**230**	P		**P**	**P**	**03 15 27.9**	**-0.3**
	comp=Z,286nm,1.0s,baz=54,slow=9.9,SNR=89								
WRA				PcP		**PcP**	**PcP**	**03 19 14.8**	**+1.3**
	comp=Z,51nm,0.9s,baz=62,slow=2.2,SNR=4.7								
WRA				S		Sn	Sn	03 19 51.0	-10
	comp=Z,125nm,1.1s,baz=36,slow=21,SNR=5.0								
WRA				LR		LR	LR	03 24 12.5	
	comp=Z,25μm,21.9s,baz=42,slow=36								
WRA				P3KP				03 49 53.8	
	comp=Z,2.0nm,1.1s,baz=175,slow=2.2,SNR=4.6								
WRA	**Warramunga Arr**	**23.49**	**230**	*i* P		**P**	**P**	**03 15 26.3**	**-1.9**
WRA				pmax		pmax	pmax		
	comp=Z,286nm,1.0s								
WRA				pmax		pmax	pmax		
	comp=Z,2.0nm,0.8s								
WRA	**Warramunga Arr**	**23.49**	**230**	P		**P**	**P**	**03 15 27.3**	**-0.8**
MSAI	**Masohi**	**24.34**	**273**	P		**P**	**P**	**03 15 33.8**	**-2.3**
	comp=Z,47nm,0.8s								
AAI	**Ambon**	**25.04**	**273**	P		**P**	**P**	**03 15 39.2**	**-3.3**
	comp=Z,17μmcomp=Z,8μmcomp=Z,379nm,1.4s								
ARMA	**Armidale**	**25.07**	**183**	P		**P**	**P**	**03 15 43.0**	**+0.3**
	baz=25,SNR=122								
ARMA	**Armidale**	**25.07**	**183**	⇓P		**P**	**P**	**03 15 42.9**	**+0.2**
ARMA	**Armidale**	**25.07**	**183**	P		**P**	**P**	**03 15 43.1**	**+0.4**
ARMA	**Armidale**	**25.07**	**183**	P		**P**	**P**	**03 15 42.4**	**-0.3**
INKA	**Innaminka**	**25.33**	**207**	P		**P**	**P**	**03 15 44.8**	**-0.1**
FUNA	**Funafuti**	**25.95**	**99**	P		**P**	**P**	**03 15 51.1**	**+0.4**
AS31	**Alice Springs**	**26.13**	**224**	P		**P**	**P**	**03 15 51.6**	**-0.7**
LBMI	**Labuha**	**26.13**	**279**	P		**P**	**P**	**03 15 52.5**	**+0.1**
	comp=Z,10μmcomp=Z,13μmcomp=Z,914nm,1.0s								
ASAR	**Alice Srpings**	**26.13**	**224**	P		**P**	**P**	**03 15 51.4**	**-0.9**
	comp=Z,72nm,0.9s,baz=55,slow=8.7,SNR=280								
ASAR				PcP		**PcP**	**PcP**	**03 19 21.4**	**+2.1**
	comp=Z,37nm,1.0s,baz=40,slow=3.5,SNR=4.8								
ASAR				S			**S**	**03 20 31.3**	**+10**
	comp=Z,19nm,1.1s,baz=28,slow=20,SNR=2.4								
ASAR				LR		LR	LR	03 25 44.0	
	comp=Z,24μm,21.8s,baz=55,slow=36								
ASAR				P3KP				03 49 48.8	
	comp=Z,1.1nm,1.0s,baz=300,slow=1.8,SNR=4.1								
KNRA	**Kununurra**	**26.19**	**245**	P		**P**	**P**	**03 15 52.7**	**-0.1**
KNRA	**Kununurra**	**26.19**	**245**	P		**P**	**P**	**03 15 53.8**	**+1.0**
TNTI	**Ternate**	**26.55**	**282**	P		**P**	**P**	**03 15 55.8**	**-0.4**
	comp=Z,8μmcomp=Z,8μmcomp=Z,453nm,1.7s								
TNTI	**Ternate**	**26.55**	**282**	P		**P**	**P**	**03 15 54.3**	**-1.9**
TNTI	**Ternate**	**26.55**	**282**	P		**P**	**P**	**03 15 58.5**	**+2.3**
LHI	**Lord Howe Isla**	**26.68**	**169**	P		**P**	**P**	**03 15 57.8**	**+0.6**
	baz=27,SNR=11								
LHI	**Lord Howe Isla**	**26.68**	**169**	⇓P		**P**	**P**	**03 15 57.2**	**+0.1**
LHI	**Lord Howe Isla**	**26.68**	**169**	P		**P**	**P**	**03 15 57.5**	**+0.3**
LHI	**Lord Howe Isla**	**26.68**	**169**	P		**P**	**P**	**03 15 58.0**	**+0.9**
H11S3	**WAKE ISLAND Hy**	**27.06**	**29**	T		T	T	03 44 33.5	
	baz=209,slow=75,SNR=518								
H11S2	**WAKE ISLAND Hy**	**27.07**	**29**	T		T	T	03 44 24.2	
	baz=209,slow=75,SNR=687								
H11S1	**WAKE ISLAND Hy**	**27.08**	**29**	T		T	T	03 44 25.2	
	baz=209,slow=75,SNR=590								
CMSA	**Cobar Meteorol**	**27.09**	**194**	P		**P**	**P**	**03 16 00.2**	**-0.6**
	baz=27,SNR=64								
CMSA	**Cobar Meteorol**	**27.09**	**194**	P		**P**	**P**	**03 16 00.2**	**-0.6**
MSVF	**Nonsavu**	**27.22**	**119**	P		**P**	**P**	**03 16 02.2**	**0.0**
	comp=Z,8.8nm,0.5s,baz=278,slow=12,SNR=15								
MSVF				ScP		**ScP**	**ScP**	**03 23 04.7**	**+5.2**
	comp=Z,15nm,1.1s,baz=255,slow=1.3,SNR=6.2								
MSVF				LR		LR	LR	03 26 10.9	
	comp=Z,36μm,19.0s,baz=300,slow=35								
MSVF	**Nonsavu**	**27.22**	**119**	⇑P		**P**	**P**	**03 16 03.5**	**+1.3**
MSVF	**Nonsavu**	**27.22**	**119**	P		**P**	**P**	**03 16 01.7**	**-0.6**
MSVF				ScP		**ScP**	**ScP**	**03 23 00.3**	**+0.8**
MSVF	**Nonsavu**	**27.22**	**119**	P		**P**	**P**	**03 16 04.8**	**+2.5**
SANI	**Sanana**	**27.40**	**276**	⇑P		**P**	**P**	**03 16 02.0**	**-1.8**
SANI	**Sanana**	**27.40**	**276**	P		**P**	**P**	**03 16 01.2**	**-2.6**
	comp=Z,13μmcomp=Z,7μmcomp=Z,565nm,0.9s								
SANI	**Sanana**	**27.40**	**276**	P		**P**	**P**	**03 16 03.9**	**+0.1**
NFK	**Norfolk Island**	**27.44**	**151**	P		**P**	**P**	**03 16 04.9**	**+0.9**
MGCD	**Mangrove Creek**	**27.88**	**184**	P		**P**	**P**	**03 16 08.8**	**+0.9**
	baz=28,SNR=90								
MGCD	**Mangrove Creek**	**27.88**	**184**	P		**P**	**P**	**03 16 09.8**	**+1.9**
OOD	**Oodnadatta**	**27.96**	**215**	P		**P**	**P**	**03 16 07.9**	**-0.7**
DGTI	**Dogotuki**	**28.18**	**115**	P		**P**	**P**	**03 16 12.3**	**+1.5**
RIV	**Riverview**	**28.49**	**184**	P		**P**	**P**	**03 16 14.3**	**+1.0**
	baz=28,SNR=7.0								
RIV	**Riverview**	**28.49**	**184**	⇓P		**P**	**P**	**03 16 13.6**	**+0.3**
STKA	**Stephens Creek**	**28.65**	**201**	P		**P**	**P**	**03 16 13.2**	**-1.5**
	comp=Z,159nm,1.0s,baz=11,slow=9.6,SNR=107								
STKA				LR		LR	LR	03 27 29.4	
	comp=Z,19μm,20.4s,baz=21,slow=36								
STKA	**Stephens Creek**	**28.65**	**201**	P		**P**	**P**	**03 16 13.9**	**-0.8**
	baz=29,SNR=62								
STKA	**Stephens Creek**	**28.65**	**201**	P		**P**	**P**	**03 16 13.5**	**-1.3**
STKA				pmax		pmax	pmax		
	comp=Z,56nm,1.2s								
STKA	**Stephens Creek**	**28.65**	**201**	P		**P**	**P**	**03 16 13.4**	**-1.3**
STKA	**Stephens Creek**	**28.65**	**201**	P		**P**	**P**	**03 16 13.9**	**-0.8**
TAVE	**Taveuni**	**28.65**	**116**	P		**P**	**P**	**03 16 17.3**	**+2.4**
LCRK	**Leigh Creek**	**28.79**	**208**	P		**P**	**P**	**03 16 15.8**	**-0.2**
BATI	**Baumata**	**29.73**	**259**	P		**P**	**P**	**03 16 23.4**	**-1.2**
	comp=Z,272nm,0.9s,baz=150,slow=0.7,SNR=15								
BATI	**Baumata**	**29.73**	**259**	P		**P**	**P**	**03 16 25.7**	**+1.1**
	comp=Z,9μmcomp=Z,7μmcomp=Z,297nm,1.6s								
KMSI	**Cibinong**	**29.81**	**280**	P		**P**	**P**	**03 16 25.8**	**+0.5**
	comp=Z,360nmcomp=Z,7μmcomp=Z,593nm,0.9s								
FITZ	**Fitzroy Crossi**	**29.85**	**242**	P		**P**	**P**	**03 16 24.4**	**-1.1**
	comp=Z,378nm,1.0s,baz=270,slow=23,SNR=27								
FITZ				LR		LR	LR	03 30 25.4	
	comp=Z,14μm,18.7s,baz=65,slow=40								
CAN	**Canberra**	**30.17**	**187**	P		**P**	**P**	**03 16 28.6**	**+0.3**
CAN				pmax		pmax	pmax		
	comp=Z,476nm,1.3s								
CAN				MLR		MLR	MLR		
	comp=Z,28μm,18.0s								
CAN	**Canberra**	**30.17**	**187**	⇑P		**P**	**P**	**03 16 28.2**	**0.0**
CAN	**Canberra**	**30.17**	**187**	P		**P**	**P**	**03 16 28.6**	**+0.3**
CAN				IAmb		IAmb	IAmb	03 16 30.3	
	comp=Z,476nm,1.3s								
CAN				IAMs_20		IAMs_20	IAMs_20	03 28 44.0	
	comp=Z,28μm,18.0s								
CAN	**Canberra**	**30.17**	**187**	P		**P**	**P**	**03 16 28.3**	**0.0**
CAN	**Canberra**	**30.17**	**187**	P		**P**	**P**	**03 16 28.4**	**+0.1**
CAN				pP		**pwP**	**pwP**	**03 16 46.8**	**+4.3**
DAV	**Davao City (W)**	**30.22**	**294**	P		**P**	**P**	**03 16 28.9**	**0.0**
	comp=Z,174nm,0.4s,baz=115,slow=6.1,SNR=4.2								
DAV				LR		LR	LR	03 28 04.6	
	comp=Z,13μm,18.5s,baz=116,slow=35								
DAV	**Davao City (W)**	**30.22**	**294**	P		**P**	**P**	**03 16 28.7**	**-0.2**
BBSI	**Bau Bau**	**30.56**	**268**	P		**P**	**P**	**03 16 32.8**	**+0.9**
	comp=Z,629nmcomp=Z,26nm,1.3s								
MULG	**Mulgathing**	**30.77**	**214**	P		**P**	**P**	**03 16 32.5**	**-1.1**
GTOI	**Gorontalo**	**30.78**	**280**	P		**P**	**P**	**03 16 34.3**	**+0.5**
	comp=Z,2μmcomp=Z,156nm,1.2s								
MMRI	**Maumere**	**30.97**	**262**	⇑P		**P**	**P**	**03 16 33.4**	**-2.1**
MMRI	**Maumere**	**30.97**	**262**	P		**P**	**P**	**03 16 33.8**	**-1.8**
	comp=Z,11μmcomp=Z,9μmcomp=Z,408nm,1.7s								
MMRI	**Maumere**	**30.97**	**262**	P		**P**	**P**	**03 16 33.9**	**-1.6**
MMRI	**Maumere**	**30.97**	**262**	P		**P**	**P**	**03 16 35.6**	**+0.1**
WRKA	**Warakurna**	**30.99**	**228**	P		**P**	**P**	**03 16 34.0**	**-1.6**
	baz=31,SNR=66								
WRKA	**Warakurna**	**30.99**	**228**	⇑P		**P**	**P**	**03 16 32.6**	**-3.0**
WRKA	**Warakurna**	**30.99**	**228**	P		**P**	**P**	**03 16 34.6**	**-1.0**
HTT	**Hallett**	**31.04**	**204**	P		**P**	**P**	**03 16 35.1**	**-0.9**
	baz=31,SNR=94								
HTT	**Hallett**	**31.04**	**204**	⇓P		**P**	**P**	**03 16 34.0**	**-2.0**
HTT	**Hallett**	**31.04**	**204**	P		**P**	**P**	**03 16 35.6**	**-0.4**
BBOO	**Buckleboo**	**31.76**	**208**	P		**P**	**P**	**03 16 41.0**	**-1.3**
	baz=32,SNR=37								
BBOO	**Buckleboo**	**31.76**	**208**	P		**P**	**P**	**03 16 40.8**	**-1.5**
BBOO				IAmb		IAmb	IAmb	03 16 42.5	
	comp=Z,378nm,1.2s								
BBOO	**Buckleboo**	**31.76**	**208**	P		**P**	**P**	**03 16 41.5**	**-0.8**
MRSI	**Marisa**	**31.80**	**279**	P		**P**	**P**	**03 16 40.1**	**-2.7**
	comp=Z,9μmcomp=Z,2μmcomp=Z,214nm,1.2s								
APSI	**Ampana**	**31.85**	**277**	P		**P**	**P**	**03 16 42.4**	**-0.9**
	comp=Z,6μmcomp=Z,4μmcomp=Z,503nm,1.2s								
MILA	**Mila**	**31.87**	**186**	P		**P**	**P**	**03 16 43.7**	**+0.5**
	baz=32,SNR=14								
MILA	**Mila**	**31.87**	**186**	⇑P		**P**	**P**	**03 16 43.8**	**+0.5**
BSSI	**Bau Bau, Buton**	**32.62**	**267**	P		**P**	**P**	**03 16 46.6**	**-3.4**
	comp=Z,6μmcomp=Z,288nm,2.1s								
BASI	**Baing, Sumba**	**32.74**	**259**	P		**P**	**P**	**03 16 51.0**	**-0.1**
	comp=Z,6μmcomp=Z,15μmcomp=Z,1μm,1.7s								
TOO	**Toolangi**	**32.93**	**191**	P		**P**	**P**	**03 16 52.5**	**0.0**
	baz=33,SNR=23								
TOO	**Toolangi**	**32.93**	**191**	P		**P**	**P**	**03 16 52.0**	**-0.5**
TOO				pmax		pmax	pmax		
	comp=Z,587nm,1.7s						

THZ Tophouse 40.35 157 P **P 03 17 55.2 -0.5**
BWJI Bawean 40.41 267 P **P 03 17 56.1 -0.4**
comp=Z,4μmcomp=Z,7μmcomp=Z,278nm,1.2s
TUWZ Tuamarina 40.48 156 P **P 03 17 57.1 +0.4**
BSWZ Blackbirch Sta 40.69 156 P **P 03 17 57.8 -0.6**
SNZO South Karori 40.70 155 ⇓P **P 03 17 58.2 -0.2**
SNZO South Karori 40.70 155 P **P 03 17 57.9 -0.6**
SNZO IAmb IAmb 03 18 00.1
comp=Z,848nm,1.6s
SNZO South Karori 40.70 155 IAMs_20 IAMs_20 03 33 23.4
comp=Z,18μm,20.0s
SNZO South Karori 40.70 155 P **P 03 17 59.3 +0.9**
SNZO South Karori 40.70 155 P **P 03 17 58.2 -0.2**
FOZ Fox Glacier 40.82 162 P **P 03 17 59.4 0.0**
FOZ IAmb IAmb 03 18 14.8
comp=Z,326nm,1.3s
BHW Baring Head 40.85 155 P **P 03 17 59.5 -0.2**
BFZ Birch Farm 40.86 153 P **P 03 17 59.7 -0.1**
BFZ IAMs_20 IAMs_20 03 37 13.7
comp=Z,17μm,18.0s
BFZ Birch Farm 40.86 153 P **P 03 18 00.5 +0.7**
LTZ Lake Taylor 40.99 159 P **P 03 18 01.4 +0.5**
LTZ IAmb IAmb 03 18 03.1
comp=Z,227nm,0.8s
LTZ IAMs_20 IAMs_20 03 34 05.1
comp=Z,22μm,19.0s
MSWZ Moikau Station 41.01 155 P **P 03 18 00.9 -0.2**
PLWZ Palliser 41.14 155 P **P 03 18 02.0 -0.2**
KHZ Kahutara 41.15 157 ⇓P **P 03 18 01.8 -0.4**
KHZ Kahutara 41.15 157 P **P 03 18 02.1 -0.1**
KHZ IAmb IAmb 03 18 03.5
comp=Z,294nm,1.1s
KHZ IAMs_20 IAMs_20 03 34 18.5
comp=Z,26μm,19.0s
KHZ Kahutara 41.15 157 P **P 03 18 02.0 -0.2**
OXZ Oxford 41.38 159 P **P 03 18 04.5 +0.4**
OXZ IAmb IAmb 03 18 05.4
comp=Z,428nm,1.4s
OXZ IAMs_20 IAMs_20 03 35 34.4
comp=Z,22μm,18.0s
RPZ Rata Peaks 41.39 160 P **P 03 18 04.7 +0.6**
RPZ IAmb IAmb 03 18 06.9
comp=Z,530nm,1.2s
RPZ Rata Peaks 41.39 160 P **P 03 18 04.6 +0.5**
GIRL Giralia 41.45 242 P **P 03 18 04.4 -0.5**
baz=41,SNR=17
GIRL Giralia 41.45 242 ⇓P **P 03 18 04.6 -0.3**
GIRL Giralia 41.45 242 P **P 03 18 05.2 +0.2**
GIRL Giralia 41.45 242 P **P 03 18 05.6 +0.7**
PBKI Pangkalan Bun 41.56 272 P **P 03 18 06.2 +0.2**
comp=Z,9μmcomp=Z,770nm,0.9s
LBZ Lake Benmore 41.70 162 P **P 03 18 06.3 -0.5**
LBZ IAmb IAmb 03 18 08.2
comp=Z,764nm,1.9s
SBUM Sibu 41.71 280 ⇑P **P 03 18 07.5 +0.3**
SBUM Sibu 41.71 280 P **P 03 18 06.4 -0.8**
SBUM Sibu 41.71 280 P **P 03 18 09.0 +1.8**
YOJ Yonaguni jima 41.72 316 P **P 03 18 07.6 +0.5**
YOJ pmax pmax
comp=Z,601nm,1.1s
YOJ Yonaguni jima 41.72 316 ⇓P **P 03 18 08.8 +1.8**
YOJ Yonaguni jima 41.72 316 P **P 03 18 07.6 +0.5**
YOJ IAmb IAmb 03 18 21.8
comp=Z,601nm,1.1s
WKZ Wanaka 41.75 163 P **P 03 18 06.8 -0.3**
WKZ IAmb IAmb 03 18 11.6
comp=Z,669nm,1.6s
WKZ IAMs_20 IAMs_20 03 33 39.2
comp=Z,23μm,20.0s
DCZ Deep Cove 41.84 165 P **P 03 18 08.1 +0.4**
DCZ IAmb IAmb 03 18 09.8
comp=Z,387nm,1.3s
PCJI Pacitan 41.88 264 P **P 03 18 06.9 -1.7**
comp=Z,8μmcomp=Z,749nm,1.2s
MQZ McQueen's Vall 41.93 159 P **P 03 18 08.8 +0.3**
MQZ IAMs_20 IAMs_20 03 36 01.0
comp=Z,18μm,18.0s
MLZ Mavora Lakes 42.00 164 P **P 03 18 09.4 +0.3**
MLZ IAMs_20 IAMs_20 03 33 50.6
comp=Z,24μm,19.0s
STKI Sintang 42.06 276 P **P 03 18 10.0 -0.1**
comp=Z,16μmcomp=Z,243nm,1.2s
TWG Pinlang 42.06 313 IAMs_20 IAMs_20 03 35 28.7
comp=Z,16μm,18.0s
UWJI Ujung Watu 42.10 266 P **P 03 18 08.7 -1.7**
comp=Z,3μmcomp=Z,267nm,1.3s
YULB Yu-li 42.25 314 P **P 03 18 10.3 -1.1**
YULB IAMs_20 IAMs_20 03 32 25.8
comp=Z,17μm,20.0s
PYZ Puysegur Point 42.38 166 P **P 03 18 12.4 +0.3**
PYZ IAmb IAmb 03 18 14.3
comp=Z,784nm,1.5s
MORW Morawa 42.42 232 P **P 03 18 11.4 -1.5**
baz=42,SNR=30
MORW Morawa 42.42 232 ⇓P **P 03 18 11.3 -1.5**
MORW Morawa 42.42 232 P **P 03 18 11.3 -1.5**
MORW IAmb IAmb 03 18 20.8
comp=Z,301nm,1.1s
MORW Morawa 42.42 232 P **P 03 18 11.8 -1.0**
ODZ Otahua Downs 42.44 162 ⇑P **P 03 18 12.6 -0.1**
ODZ Otahua Downs 42.44 162 P **P 03 18 12.5 -0.1**
ODZ IAmb IAmb 03 18 14.4
comp=Z,647nm,1.6s
ODZ Otahua Downs 42.44 162 P **P 03 18 14.2 +1.5**
comp=Z,243nm,1.7s
WHZ Wether Hill Ro 42.44 165 P **P 03 18 12.3 -0.4**
WHZ IAmb IAmb 03 18 13.3
comp=Z,634nm,1.8s
NACB Ninganchiao 42.52 315 P **P 03 18 13.7 0.0**
NACB IAmb IAmb 03 18 19.8
comp=Z,252nm,1.1s
UGM Wanagama 42.52 264 P **P 03 18 13.0 -0.9**
comp=Z,7μmcomp=Z,9μmcomp=Z,456nm,1.5s
UGM Wanagama 42.52 264 P **P 03 18 12.6 -1.2**
UGM Wanagama 42.52 264 P **P 03 18 14.1 +0.2**
JSU Suzuyama 42.55 331 ⇓P **P 03 18 15.1 +1.3**
JSU Suzuyama 42.55 331 P **P 03 18 14.6 +0.8**
JSU IAmb IAmb 03 18 25.2
comp=Z,376nm,1.3s
SMRI Semarang 42.60 265 P **P 03 18 14.4 -0.1**
comp=Z,6μmcomp=Z,250nm,0.9s
SMRI Semarang 42.60 265 P **P 03 18 13.9 -0.6**
BLDU Ballidu 42.62 229 P **P 03 18 12.8 -1.6**
baz=43,SNR=28
BLDU Ballidu 42.62 229 P **P 03 18 13.4 -1.0**
TPUB Ta-pu 42.67 313 P **P 03 18 13.7 -1.2**
TPUB IAMs_20 IAMs_20 03 32 20.1
comp=Z,19μm,22.0s
SSLB Suanglung 42.74 314 P **P 03 18 15.4 0.0**
SSLB IAMs_20 IAMs_20 03 32 20.8
comp=Z,26μm,22.0s
SSLB Suanglung 42.74 314 P **P 03 18 16.1 +0.7**
YOGI Yogyakarta 42.75 264 P **P 03 18 14.4 -1.3**
comp=Z,7μmcomp=Z,415nm,1.6s
JMN Monobe 42.90 336 ⇑P **P 03 18 17.7 +1.1**
JMN Monobe 42.90 336 P **P 03 18 16.2 -0.4**
YHNB Yeheng 42.99 315 P **P 03 18 18.7 +1.2**
YHNB IAmb IAmb 03 18 25.0
comp=Z,444nm,1.1s
YHNB IAMs_20 IAMs_20 03 33 05.5
comp=Z,22μm,21.0s
YHNB Yeheng 42.99 315 P **P 03 18 19.3 +1.8**
JYT Yasato 43.05 344 P **P 03 18 17.9 +0.2**
JYT IAmb IAmb 03 18 31.3
comp=Z,338nm,1.5s
TATO Taipei 43.10 316 P **P 03 18 18.7 +0.3**
TATO IAmb IAmb 03 18 38.7
comp=Z,352nm,1.1s
TATO Taipei 43.10 316 IAMs_20 IAMs_20 03 33 08.4
comp=Z,22μm,21.0s
INU Inuyama 43.19 340 ⇓P **P 03 18 18.8 -0.1**
INU Inuyama 43.19 340 P **P 03 18 18.7 -0.1**
JGF Kuroka 43.31 341 ⇓P **P 03 18 20.6 +0.7**
JGF Kuroka 43.31 341 P **P 03 18 20.3 +0.4**
NWAO Narrogin (SRO) 43.40 226 P **P 03 18 19.5 -1.1**
NWAO pmax pmax
comp=Z,198nm,1.3s
NWAO MLR MLR
comp=Z,19μm,20.0s
NWAO Narrogin (SRO) 43.40 226 P **P 03 18 18.5 -2.1**
NWAO Narrogin (SRO) 43.40 226 P **P 03 18 19.5 -1.1**
NWAO Narrogin (SRO) 43.40 226 IAMs_20 IAMs_20 03 36 11.2
comp=Z,19μm,20.0s
NWAO Narrogin (SRO) 43.40 226 P **P 03 18 19.9 -0.8**
NWAO Narrogin (SRO) 43.40 226 P **P 03 18 19.0 -1.6**

KSM Kuching 43.42 278 ⇑P **P 03 18 20.9 -0.3**
KSM Kuching 43.42 278 P **P 03 18 21.6 +0.5**
KSM IAmb IAmb 03 18 24.8
comp=Z,459nm,1.0s
KSM Kuching 43.42 278 P **P 03 18 22.0 +0.9**
JNU Nakatsue 43.68 332 LR LR 03 33 37.6
comp=Z,5μm,21.9s,baz=136,slow=32
JNU Nakatsue 43.68 332 ⇑P **P 03 18 23.7 +0.8**
JNU Nakatsue 43.68 332 P **P 03 18 23.4 +0.5**
JNU Nakatsue 43.68 332 P **P 03 18 24.3 +1.4**
MJAR Matsushiro Arr 43.91 342 P **P 03 18 24.1 -0.6**
comp=Z,22nm,0.9s,baz=164,slow=8.5,SNR=28
MJAR PcP **PcP 03 20 11.8 +1.5**
comp=Z,90nm,1.0s,baz=169,slow=3.2,SNR=16
MJAR ScP **ScP 03 24 05.8 +6.6**
comp=Z,11nm,1.0s,baz=173,slow=4.6,SNR=4.3
MJAR LR LR 03 34 52.3
comp=Z,13μm,21.9s,baz=176,slow=34
MJAR Matsushiro Arr 43.91 342 P **P 03 18 24.7 0.0**
MJAR ScP **ScP 03 23 60.0 +0.7**
MAJO Matsushiro 43.91 342 *i* P **P 03 18 23.7 -1.0**
MAJO pmax pmax
comp=Z,166nm,2.0s
MAJO Matsushiro 43.91 342 ⇑P **P 03 18 24.9 +0.2**
MAJO ⇓P **PcP 03 20 12.5 +2.2**
MAJO Matsushiro 43.91 342 P **P 03 18 24.5 -0.2**
MAJO Matsushiro 43.91 342 P **P 03 18 25.0 +0.3**
MAT Matsushiro 43.91 342 P **P 03 18 23.7 -1.0**
MAT S **S 03 24 56.8 +3.3**
MJB9 Matsu-Tunnel 43.91 342 P **P 03 18 24.4 -0.3**
KPJI Karang Pucung 44.10 265 P **P 03 18 25.1 -1.4**
comp=Z,473nm,1.3s
JHS Saijyo 44.31 336 ⇑P **P 03 18 28.6 +0.6**
JHS Saijyo 44.31 336 P **P 03 18 28.8 +0.9**
JMM Marumori 44.45 346 ⇑P **P 03 18 29.2 +0.3**
JMM Marumori 44.45 346 P **P 03 18 29.0 +0.1**
RKGY Rocky Gully 44.47 224 P **P 03 18 29.6 +0.3**
baz=44,SNR=25
RKGY Rocky Gully 44.47 224 P **P 03 18 29.1 -0.1**
CMJI Cimerak 44.58 264 P **P 03 18 28.4 -2.0**
comp=Z,3μmcomp=Z,4μmcomp=Z,416nm,1.0s
KNMB Chin-men Tao 45.01 313 P **P 03 18 33.6 0.0**
QZH Quanzhou 45.15 313 ⇑*i*P **P 03 18 35.5 +0.8**
QZH sP **sP 03 18 52.5 +2.4**
QZH S **S 03 25 12.8 +1.0**
QZH pmax pmax
comp=Z,130nm,1.2s
QZH pmax pmax
comp=Z,1μm,5.7s
QZH LR LR
comp=Z,5μm,18.5s
QZH LR LR
comp=Z,6μm,19.9s
QZH LR LR
comp=Z,7μm,20.4s
JSD Sado 45.28 343 ⇑P **P 03 18 36.4 +0.9**
JSD Sado 45.28 343 P **P 03 18 35.9 +0.3**
JSD IAmb IAmb 03 18 53.9
comp=Z,233nm,1.1s
LEM Lembang 45.41 266 P **P 03 18 37.4 +0.3**
comp=Z,92nm,0.9s,baz=86,slow=7.5,SNR=24
LEM LR LR 03 41 41.7
comp=Z,5μm,19.8s,baz=100,slow=42
LEM Lembang 45.41 266 P **P 03 18 36.4 -0.8**
comp=Z,4μmcomp=Z,4μmcomp=Z,147nm,0.9s
JTU Tsushima 45.53 332 ⇑P **P 03 18 39.5 +1.9**
JTU Tsushima 45.53 332 P **P 03 18 38.6 +1.0**
JTU IAmb IAmb 03 19 02.0
comp=Z,371nm,1.5s
TPI Tanjungpandan 45.56 271 P **P 03 18 38.6 +0.4**
comp=Z,3μmcomp=Z,356nm,1.0s
CNJI Cibinong 45.89 265 P **P 03 18 39.6 -1.2**
comp=Z,7μmcomp=Z,17μmcomp=Z,1μm,1.1s
CBJI Citeko 46.17 266 P **P 03 18 41.6 -1.4**
comp=Z,9μmcomp=Z,12μmcomp=Z,503nm,1.4s
DBJI Dramaga 46.27 266 P **P 03 18 42.9 -0.9**
comp=Z,10μmcomp=Z,264nm,1.5s
TNG Tangerang 46.38 267 P **P 03 18 45.9 +1.2**
comp=Z,526nm,0.5s
TNG P **P 03 18 43.8 -0.9**
comp=Z,778nm,0.8s
SKJI Sukabumi 46.46 265 P **P 03 18 44.4 -0.9**
comp=Z,5μmcomp=Z,316nm,0.9s
SBJI Serang 46.90 267 P **P 03 18 47.3 -1.4**
comp=Z,131nm,1.3s
HKC Hong Kong Obse 47.04 307 ⇓P **P 03 18 52.0 +2.3**
JTM Tenmabayashi 47.17 347 ⇑P **P 03 18 51.0 +0.6**
JTM Tenmabayashi 47.17 347 P **P 03 18 50.6 +0.3**
CGJI Cibinong 47.32 266 P **P 03 18 50.4 -1.6**
comp=Z,7μmcomp=Z,456nm,1.2s
XMI Christmas Isla 47.37 261 ⇓P **P 03 18 53.4 +1.0**
XMI Christmas Isla 47.37 261 P **P 03 18 53.5 +1.0**
SSE Sheshan 47.39 322 P **P 03 18 53.5 +1.3**
SSE pP **pP 03 19 02.0 -0.8**
SSE S **S 03 25 44.3 +0.5**
SSE pmax pmax
comp=Z,62nm,1.4s
SSE LR LR
comp=Z,2μm,22.7s
XMIS Christmas Isla 47.41 261 P **P 03 18 52.5 -0.3**
XMIS IAmb IAmb 03 18 57.8
comp=Z,240nm,0.9s
XMIS Christmas Isla 47.41 261 P **P 03 18 53.1 +0.4**
DLV T Lat 47.69 291 P **P 03 18 54.6 -0.5**
BLSI Bandar Lampung 47.80 268 P **P 03 18 53.6 -2.2**
comp=Z,145nm,1.1s
ERM Erimo 47.94 350 *i* P **P 03 18 55.6 -0.7**
ERM pmax pmax
comp=Z,31nm,1.0s
TJN Taejon 48.00 332 P **P 03 18 57.0 +0.1**
TJN pmax pmax
comp=Z,3μm,1.3s
TJN Taejon 48.00 332 P **P 03 18 57.0 +0.1**
RAR Rarotonga 48.17 114 LR LR 03 37 51.7
comp=Z,5μm,19.3s,baz=286,slow=34
RAR Rarotonga 48.17 114 P **P 03 19 00.3 +1.8**
KLI Kotabumi 48.21 268 P **P 03 18 57.3 -1.6**
comp=Z,10μmcomp=Z,289nm,1.6s
KLSI 48.34 268 P **P 03 18 59.0 -1.0**
comp=Z,1μmcomp=Z,81nm,1.6s
PMBI Palembang 48.41 271 P **P 03 19 00.8 +0.3**
comp=Z,33μmcomp=Z,621nm,1.2s
KASI Kota Agung 48.54 267 P **P 03 18 59.4 -2.1**
comp=Z,4μmcomp=Z,395nm,1.2s
KSRS Korea Array 48.62 333 P **P 03 19 03.1 +1.5**
comp=Z,33nm,0.8s,baz=152,slow=9.0,SNR=60
KSRS PcP **PcP 03 20 29.4 +2.6**
comp=Z,18nm,0.8s,baz=154,slow=4.8,SNR=5.5
KSRS LR LR 03 39 26.4
comp=Z,5μm,18.6s,baz=160,slow=36
KSAR Wonju Array Be 48.62 333 P **P 03 19 02.7 +1.0**
KSAR Wonju Array Be 48.62 333 P **P 03 19 02.7 +1.0**
KS19 Wonju Array Si 48.68 333 P **P 03 19 03.2 +1.0**
KS19 IAmb IAmb 03 19 25.2
comp=Z,175nm,1.2s
DSRI Dabo 48.84 274 P **P 03 19 03.4 -0.4**
comp=Z,3μmcomp=Z,256nm,0.9s
MDSI Maura Dua 48.90 269 P **P 03 19 03.2 -1.1**
comp=Z,3μmcomp=Z,240nm,1.3s
LWLI Liwa 49.00 268 P **P 03 19 03.3 -1.8**
comp=Z,360nm,0.8s
JEW Eniwo 49.06 349 ⇑P **P 03 19 06.0 +1.1**
JEW Eniwo 49.06 349 P **P 03 19 06.2 +1.2**
TPRI Tanjung Pinang 49.06 276 P **P 03 19 04.5 -1.0**
comp=Z,184μmcomp=Z,8μmcomp=Z,364nm,1.1s
QIZ Qiongzhong 49.10 301 P **P 03 19 06.5 +0.8**
QIZ S **S 03 26 10.0 +1.6**
QIZ pmax pmax
comp=Z,53nm,1.2s
QIZ pmax pmax
comp=Z,390nm,8.8s
QIZ LR LR
comp=Z,4μm,17.7s
QIZ LR LR
comp=Z,8μm,18.8s
QIZ LR LR
comp=Z,11μm,21.9s
QIZ Qiongzhong 49.10 301 P **P 03 19 05.9 +0.2**
INCN Inchon 49.23 332 P **P 03 19 07.8 +1.4**
INCN pmax pmax
comp=Z,991nm,1.3s
INCN Inchon 49.23 332 ⇓P **P 03 19 08.3 +1.9**
INCN Inchon 49.23 332 P **P 03 19 07.8 +1.4**
INCN Inchon 49.23 332 P **P 03 19 08.0 +1.6**
MCQ Macquarie Isla 49.31 176 P **P 03 19 08.2 +1.5**

baz=49,SNR=12
MCQ Macquarie Isla 49.31 176 P **P 03 19 07.8 +1.2**
MCQ pmax pmax
comp=Z,1μm,1.3s
MCQ Macquarie Isla 49.31 176 ⇑P **P 03 19 07.7 +1.0**
MCQ Macquarie Isla 49.31 176 P **P 03 19 07.8 +1.2**
NJ2 Nanjing 49.49 321 ⇑*i*P **P 03 19 10.0 +1.6**
NJ2 pP **sP 03 19 23.0 -0.7**
NJ2 PcP **PcP 03 20 31.5 +1.4**
NJ2 PP **PP 03 21 00.0 -3.0**
NJ2 ScP **ScP 03 24 26.5 +3.8**
NJ2 S **S 03 26 10.3 -3.2**
NJ2 sS **sS 03 26 34.3 +4.6**
NJ2 pmax pmax
comp=Z,60nm,0.9s
NJ2 pmax pmax
comp=Z,450nm,3.5s
NJ2 LR LR
comp=Z,11μm,19.6s
NJ2 LR LR
comp=Z,4μm,17.7s
NJ2 LR LR
comp=Z,12μm,20.6s
LHSI Lahat 49.59 269 P **P 03 19 08.5 -1.0**
comp=Z,264nm,1.0s
JMBI JAMBI 49.65 272 P **P 03 19 11.8 +1.8**
comp=Z,4μmcomp=Z,306nm,1.0s
MYKOM Kota Tinggi 49.85 277 ⇑P **P 03 19 12.2 +0.7**
MYKOM Kota Tinggi 49.85 277 P **P 03 19 11.4 -0.1**
MYKOM IAmb IAmb 03 19 15.3
comp=Z,309nm,1.1s
MYKOM Kota Tinggi 49.85 277 P **P 03 19 13.0 +1.5**
JKA Kamikawa-asahi 50.08 350 P **P 03 19 13.6 +0.9**
JKA IAmb IAmb 03 19 34.9
comp=Z,129nm,0.9s
ASAJ Asahikawa 50.08 350 P **P 03 19 13.7 +1.0**
ASAJ LR LR 03 37 36.2
comp=Z,10μm,21.6s,baz=164,slow=33
ASAJ Asahikawa 50.08 350 P **P 03 19 13.6 +0.9**
ASAJ pmax pmax
comp=Z,129nm,0.9s
HJU Haeju 50.11 332 P **P 03 19 15.1 +2.1**
MNAI Manna 50.13 269 ⇑P **P 03 19 13.5 -0.2**
MNAI Manna 50.13 269 P **P 03 19 12.0 -1.6**
comp=Z,5μmcomp=Z,4μmcomp=Z,414nm,1.2s
MNAI Manna 50.13 269 P **P 03 19 11.8 -1.8**
KUR Kuril'sk 50.50 355 P **P 03 19 15.5 -0.3**
KUR pmax pmax
comp=Z,486nm,1.7s
KUR MLR MLR
comp=Z,5μm,17.0s
HHU Hamhung 50.83 334 P P 03 19 26.7 +8.3
PYAG Pyongyang 50.90 332 P **P 03 19 21.2 +2.2**
PYAG pP **pP 03 19 28.0 -1.4**
PYAG S **S 03 26 39.4 +6.5**
PYAG AmB
comp=Z,629nm,1.7s
PYAG AMS AMS
comp=N,252nm,1.7s
PYAG AMS AMS
comp=E,2μm,10.6s
PYAG AMS AMS
comp=Z,452nm,3.1s
MASI Maura Aman, Be 50.92 270 P **P 03 19 19.7 +0.1**
comp=Z,6μmcomp=Z,485nm,0.9s
RGRI Rengat 51.08 274 P **P 03 19 21.5 +0.7**
CNSH ChangSha 51.14 313 ⇓P **P 03 19 21.5 +0.5**
CNSH sP **sP 03 19 38.8 +2.5**
CNSH S **S 03 26 39.8 +3.2**
CNSH LR LR
comp=Z,5μm,17.8s
CNSH LR LR
comp=Z,5μm,18.2s
CNSH LR LR
comp=Z,8μm,17.8s
WHN Wuhan 51.50 316 ⇓P **P 03 19 25.5 +1.8**
WHN S **S 03 26 43.3 +1.8**
WHN pmax pmax
comp=Z,440nm,1.5s
WHN LR LR
comp=Z,22μm,21.1s
WHN LR LR
comp=Z,22μm,20.5s
WHN LR LR
comp=Z,34μm,21.7s
JRMM Jerantut 51.53 279 P **P 03 19 25.0 +0.8**
UBPT Khong Chiam 51.55 294 P **P 03 19 24.1 -0.1**
MSHR Mys Shultsa 51.68 339 *ce*P **P 03 19 25.5 +0.8**
MSHR pmax pmax
comp=Z,36nm,1.3s
KRJI Kerinci 51.78 271 P **P 03 19 26.1 0.0**
comp=Z,895nm,1.0s
VLA Vladivostok 51.90 340 *d i*P **P 03 19 27.0 +0.6**
VLA pmax pmax
comp=Z,541nm,1.9s
TEY Ternei 52.25 345 ⇓*e*P **P 03 19 29.1 +0.2**
TEY *e* 03 19 41.1
TEY *e*S **S 03 26 47.5 -3.7**
TEY pmax pmax
comp=N,20nm,1.0s
TEY pmax pmax
comp=Z,40nm,1.0s
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY MLR MLR
comp=E,900nm,23.0s
TEY MLR MLR
comp=N,2μm,18.0s
TEY MLR MLR
comp=Z,3μm,18.0s
SUJ Sinuiju 52.33 332 P P 03 19 36.2 +6.6
SUJ pP sP 03 19 51.6 +6.5
SUJ S **S 03 26 56.6 +4.1**
SUJ AmB
comp=Z,2μm,3.4s
SUJ AMS AMS
comp=N,782nm,4.7s
SUJ AMS AMS
comp=E,792nm,4.8s
SUJ AMS AMS
comp=Z,1μm,6.7s
BKNI Bangkinang 52.45 274 P **P 03 19 30.3 -0.7**
comp=Z,5μmcomp=Z,500nm,0.9s
DL2 Dalian 52.80 329 P **P 03 19 33.5 +0.4**
DL2 S **S 03 26 58.0 -1.0**
DL2 pmax pmax
comp=Z,160nm,1.1s
DL2 pmax pmax
comp=Z,1μm,7.2s
DL2 LR LR
comp=Z,4μm,26.1s
DL2 LR LR
comp=Z,5μm,21.7s
DL2 LR LR
comp=Z,8μm,24.6s
YSS Yuzh-Sakhalins 52.81 351 *e*P **P 03 19 32.9 -0.2**
YSS *e**PP **pP 03 19 42.0 -1.7**
YSS *e**SP **sP 03 19 50.0 +2.6**
YSS *e* 03 21 34.0
YSS *e*S **S 03 26 58.1 -0.8**
YSS *e*PS **pS 03 27 10.0 -1.2**
YSS *e*SS **SS 03 30 32.0 -6.3**
YSS *e*SSS SSS 03 32 22.3
YSS pmax pmax
comp=Z,500nm,5.1s
YSS pmax pmax
comp=Z,80nm,1.1s
YSS smax smax
comp=N,400nm,8.9s
YSS MLR MLR
comp=Z,4μm,20.0s
YSS MLR MLR
comp=N,3μm,15.0s
YSS Yuzh-Sakhalins 52.81 351 P **P 03 19 33.8 +0.8**
YSS IAMs_20 IAMs_20 03 38 25.4
comp=Z,14μm,22.0s
YSS Yuzh-Sakhalins 52.81 351 P **P 03 19 33.8 +0.8**
USA0B Ussuriysk Arra 52.83 341 P **P 03 19 34.1 +0.8**
USA0B pmax pmax
comp=Z,325nm,1.4s
USA0B Ussuriysk Arra 52.83 341 P **P 03 19 34.1 +0.8**
USA0B IAmb IAmb 03 19 47.3
comp=Z,325nm,1.4s
USRK Ussuriysk Ar. 52.83 341 P **P 03 19 34.4 +1.2**
comp=Z,85nm,1.0s,baz=168,slow=8.3,SNR=67

USRK				ScP	**ScP**	**03 24 41.0 +4.2**
	comp=Z,6.5nm,0.9s,baz=134,slow=4.2,SNR=2.1					
USRK				LR	LR	03 42 24.7
	comp=Z,3μm,18.4s,baz=151,slow=36					
USRK				PKP2ab		03 50 39.0
	comp=Z,2.9nm,0.9s,baz=308,slow=7.1,SNR=4.6					
USRK	**Ussuriysk Ar.**	**52.83 341**		P	**P**	**03 19 34.1 +0.9**
USRK					**ScP**	**03 24 36.5 -0.3**
PPI	**Padang Panjang**	**52.99 273**		P	**P**	**03 19 34.0 -1.1**
	comp=Z,2μmcomp=Z,366nm,0.9s					
IPM	**Ipoh**	**53.06 280**		P	**P**	**03 19 35.3 -0.3**
IPM				IAmb	IAmb	03 19 38.9
	comp=Z,209nm,1.2s					
IPM	**Ipoh**	**53.06 280**		P	**P**	**03 19 36.0 +0.4**
PPSI	**Pulau Pagai**	**53.17 270**		P	**P**	**03 19 34.9 -1.4**
	comp=Z,6μmcomp=Z,304nm,1.5s					
TIA	**Tai'an**	**53.36 324**	⇓	P	**P**	**03 19 38.5 +1.2**
TIA				S	**S**	**03 27 01.5 -5.2**
TIA				pmax	pmax	
	comp=Z,69nm,1.2s					
TIA				pmax	pmax	
	comp=Z,1μm,3.9s					
TIA				LR	LR	
	comp=Z,3μm,19.0s					
TIA				LR	LR	
	comp=Z,3μm,19.4s					
TIA				LR	LR	
	comp=Z,7μm,27.9s					
KULM	**Kulim**	**53.57 280**	⇑	P	**P**	**03 19 39.4 +0.1**
KULM	**Kulim**	**53.57 280**		P	**P**	**03 19 38.7 -0.6**
KULM				IAmb	IAmb	03 19 42.6
	comp=Z,190nm,1.3s					
KULM	**Kulim**	**53.57 280**		P	**P**	**03 19 39.0 -0.3**
MNSI	**Mandailing Nat**	**53.95 275**		P	**P**	**03 19 41.1 -1.0**
	comp=Z,5μmcomp=Z,241nm,1.1s					
MDJ	**Mudanjiang**	**54.01 339**		P	**P**	**03 19 42.8 +0.9**
MDJ				S	**S**	**03 27 14.3 -1.0**
MDJ				SS	**SS**	**03 31 04.0 +6.7**
MDJ				pmax	pmax	
	comp=Z,53nm,1.1s					
MDJ				pmax	pmax	
	comp=Z,1μm,4.6s					
MDJ				LR	LR	
	comp=Z,3μm,19.2s					
MDJ				LR	LR	
	comp=Z,3μm,19.7s					
MDJ				LR	LR	
	comp=Z,8μm,21.1s					
MDJ	**Mudanjiang**	**54.01 339**		P	**P**	**03 19 41.7 -0.3**
MDJ				IAmb	IAmb	03 19 59.8
	comp=Z,275nm,1.3s					
MDJ	**Mudanjiang**	**54.01 339**		P	**P**	**03 19 42.8 +0.9**
SNY	**Shenyang**	**54.12 333**	⇓	P	**P**	**03 19 42.5 -0.3**
SNY				S	**S**	**03 27 12.5 -4.3**
SNY				SS	**SKiKP**	**03 30 55.5 +3.5**
SNY				pmax	pmax	
	comp=Z,26nm,1.2s					
SNY				pmax	pmax	
	comp=Z,1μm,3.9s					
SNY				LR	LR	
	comp=Z,6μm,19.6s					
SNY				LR	LR	
	comp=Z,9μm,18.6s					
SNY				LR	LR	
	comp=Z,14μm,19.8s					
SISI	**Saibi**	**54.21 272**		P	**P**	**03 19 42.3 -1.7**
	comp=Z,5μmcomp=Z,258nm,1.2s					
KIP	**Kipapa**	**54.62 59**		P	**P**	**03 19 46.5 -0.3**
KIP				pmax	pmax	
	comp=Z,524nm,1.7s					
KIP	**Kipapa**	**54.62 59**		P	**P**	**03 19 46.5 -0.3**
ENH	**Enshi**	**54.80 313**		P	**P**	**03 19 48.2 +0.2**
ENH	**Enshi**	**54.80 313**		P	**P**	**03 19 48.8 +0.8**
PSI	**Prapat**	**54.87 277**		LR	LR	03 46 29.4
	comp=Z,2μm,18.2s,baz=120,slow=40					
CN2	**Changchun**	**54.91 336**		*e*P	**P**	**03 19 48.0 -0.5**
CN2				*e*pP	pwP	03 20 00.8 -1.4
CN2				*e*PP	**PP**	**03 21 52.8 +1.0**
CN2				*e*S	**S**	**03 27 25.0 -2.3**
CN2				SS	**SS**	**03 31 08.8 -2.6**
CN2				pmax	pmax	
	comp=Z,50nm,1.1s					
CN2				pmax	pmax	
	comp=Z,300nm,3.0s					
CN2				LR	LR	
	comp=Z,4μm,18.0s					
CN2				LR	LR	
	comp=Z,4μm,18.0s					
CN2				LR	LR	
	comp=Z,6μm,20.0s					
UGL	**Uglegorsk**	**54.99 351**		*e*P	**P**	**03 19 50.2 +1.3**
UGL				*e*S	**S**	**03 27 30.6 +2.4**
UGL				pmax	pmax	
	comp=Z,210nm,1.0s					
UGL				smax	smax	
	comp=N,3μm,16.0s					
UGL				smax	smax	
	comp=E,3μm,16.0s					
UGL				MLR	MLR	
	comp=N,5μm,18.0s					
UGL				MLR	MLR	
	comp=E,3μm,18.0s					
UGL				MLR	MLR	
	comp=Z,3μm,18.0s					
GYA	**Guiyang**	**55.04 307**	⇓	*i*P	**P**	**03 19 51.5 +1.6**
GYA				pP	pwP	03 20 02.8 -0.3
GYA				PcP	**PcP**	**03 20 52.3 +1.1**
GYA				PP	**PP**	**03 21 59.0 +5.5**
GYA				S	**S**	**03 27 32.5 +2.5**
GYA				sS	sS	03 27 47.5 -1.4
GYA				SS	**SS**	**03 31 17.0 +2.6**
GYA				pmax	pmax	
	comp=Z,52nm,1.5s					
GYA				pmax	pmax	
	comp=Z,550nm,4.4s					
GYA				LR	LR	
	comp=Z,7μm,17.3s					
GYA				LR	LR	
	comp=Z,8μm,19.1s					
GYA				LR	LR	
	comp=Z,14μm,18.7s					
SLVN	**Son La**	**55.12 300**		P	**P**	**03 19 51.4 +0.9**
LYN	**LuoYang**	**55.19 319**	⇑	P	**P**	**03 19 51.5 +0.8**
LYN				pP	pP	03 20 00.5 -1.0
LYN				sP	sP	03 20 09.5 +3.2
LYN				ScS	ScS	03 29 36.8 -0.3
LYN				pmax	pmax	
	comp=Z,40nm,1.1s					
LYN				pmax	pmax	
	comp=Z,1μm,5.6s					
LYN				LR	LR	
	comp=Z,8μm,18.4s					
LYN				LR	LR	
	comp=Z,8μm,18.6s					
LYN				LR	LR	
	comp=Z,13μm,19.0s					
SRIT	**Nakonsritamara**	**55.25 284**		P	**P**	**03 19 52.4 +0.9**
SRIT				IAmb	IAmb	03 20 05.4
	comp=Z,230nm,1.4s					
TSI	**Tuntungan**	**55.33 278**		P	**P**	**03 19 50.7 -1.4**
	comp=Z,148nm,0.4s					
HNS	**HongShan**	**55.59 323**	⇑	P	**P**	**03 19 55.0 +1.5**
HNS				pP	**pP**	**03 20 02.8 -1.5**
HNS				sP	**pwP**	**03 20 06.3 -0.3**
HNS				S	**S**	**03 27 37.5 +0.8**
HNS				sS	**sS**	**03 27 54.3 -0.8**
HNS				ScS	**ScS**	**03 29 39.8 0.0**
HNS				SS	**SS**	**03 31 25.8 +3.4**
HNS				pmax	pmax	
	comp=Z,190nm,1.6s					
HNS				LR	LR	
	comp=Z,2μm,20.4s					
HNS				LR	LR	
	comp=Z,5μm,19.7s					
HNS				LR	LR	
	comp=Z,7μm,24.5s					
BNX	**BinXian**	**55.77 338**	⇓	P	**P**	**03 19 55.3 +0.7**
BNX				pP	**pwP**	**03 20 08.0 -0.3**
BNX				sP	**sP**	**03 20 14.0 +4.3**
BNX				PP	**PP**	**03 22 00.0 +0.5**
BNX				S	**S**	**03 27 37.8 -1.0**
BNX				sS	**pS**	**03 27 53.8 +2.3**
BNX				pmax	pmax	
	comp=Z,59nm,1.0s					
BNX				pmax	pmax	
	comp=Z,440nm,2.6s					
BNX				LR	LR	
	comp=Z,3μm,20.0s					
BNX				LR	LR	
	comp=Z,2μm,21.8s					
BNX				LR	LR	
	comp=Z,4μm,18.6s					
SKR	**Severo-Kuril's**	**55.77 2**		*i*P	**P**	**03 19 54.3 -0.2**
HUH	**Hualalai**	**55.86 62**		P	**P**	**03 19 55.6 -0.4**
KHU	**Kahuku**	**55.90 63**		P	**P**	**03 19 57.1 +0.8**
KHU	**Kahuku**	**55.90 63**		P	**P**	**03 19 57.1 +0.8**
GSI	**Gunungsitoli**	**56.00 275**	⇓	P	**P**	**03 19 56.2 -0.8**
GSI	**Gunungsitoli**	**56.00 275**		P	**P**	**03 19 55.8 -1.1**
	comp=Z,5μmcomp=Z,291nm,1.4s					
GSI	**Gunungsitoli**	**56.00 275**		P	**P**	**03 19 55.8 -1.1**
GSI				IAmb	IAmb	03 19 59.3
	comp=Z,293nm,1.1s					
MLOA	**Mauna Loa Obse**	**56.03 62**		P	**P**	**03 19 56.2 -1.3**
AIN	**Ainahou**	**56.08 63**		P	**P**	**03 19 58.6 +1.1**
KCSI	**Kotacane, Aceh**	**56.11 278**		P	**P**	**03 19 56.1 -1.6**
	comp=Z,2μmcomp=Z,111nm,1.1s					
HMH	**Humu'ula Sheep**	**56.14 62**		P	**P**	**03 19 58.6 +0.4**
POHA	**Pohakuloa**	**56.15 62**	⇓	P	**P**	**03 19 59.8 +1.7**
POHA	**Pohakuloa**	**56.15 62**		P	**P**	**03 19 58.2 +0.1**
BJT	**Baijiatuau**	**56.52 326**		P	**P**	**03 20 01.3 +1.2**
BJT				pmax	pmax	
	comp=Z,293nm,1.7s					
BJT	**Baijiatuau**	**56.52 326**		P	**P**	**03 20 01.3 +1.2**
BJT				IAmb	IAmb	03 20 14.4
	comp=Z,293nm,1.7s					
BJT	**Baijiatuau**	**56.52 326**		P	**P**	**03 20 01.7 +1.6**
BJI	**Beijing**	**56.53 326**		P	**P**	**03 20 01.5 +1.3**
BJI				pP	**pwP**	**03 20 13.5 -0.5**
BJI				sP	**sP**	**03 20 19.0 +3.7**
BJI				PcP	**PcP**	**03 21 04.0 +7.5**
BJI				PP	**PP**	**03 22 05.5 -0.9**
BJI				S	**S**	**03 27 44.3 -4.8**
BJI				pmax	pmax	
	comp=Z,44nm,1.3s					
BJI				pmax	pmax	
	comp=Z,340nm,3.7s					
BJI				LR	LR	
	comp=Z,5μm,22.1s					
BJI				LR	LR	
	comp=Z,6μm,22.6s					
BJI				LR	LR	
	comp=Z,9μm,23.1s					
TYV	**Tymovskoe**	**56.64 352**		*e*P	**P**	**03 20 01.9 +1.2**
TYV				*e*S	**S**	**03 27 53.4 +3.2**
TYV				pmax	pmax	
	comp=Z,114nm,0.9s					
TYV				pmax	pmax	
	comp=Z,900nm,3.8s					
TYV				smax	smax	
	comp=N,18nm,2.0s					
TYV				smax	smax	
	comp=E,17nm,2.0s					
TYV				smax	smax	
	comp=N,1μm,9.4s					
TYV				smax	smax	
	comp=E,800nm,9.4s					
PPT	**Papeete**	**57.15 107**		P	**P**	**03 20 06.9 +1.9**
	comp=E,89nm,1.1s,baz=47,slow=10,SNR=5.0					
PPT				LR	LR	03 42 32.6
	comp=E,4μm,18.8s,baz=274,slow=34					
PPT2	**Papeete2**	**57.15 107**		*e*P	**P**	**03 20 06.4 +1.3**
	comp=E,133nm,1.4s					
PPT2				*e*S	**S**	**03 27 57.7 -0.5**
	comp=E,4μm,25.0s					
PPT2				*e*LQ	LQ	03 34 25.9
	comp=E,7μm,26.8s					
PPT2				*e*LR	LR	03 36 53.0
	comp=E,4μm,21.5s					
PAE	**Paea**	**57.15 108**		*e*P	**P**	**03 20 06.0 +1.0**
	comp=E,32nm,1.2s					
PPTF	**Pamatai, Papee**	**57.16 107**		P	**P**	**03 20 07.7 +2.5**
TIY	**Taiyuan**	**57.17 322**	⇓	P	**P**	**03 20 06.5 +1.6**
TIY				pP	**pP**	**03 20 14.5 -1.3**
TIY				S	**S**	**03 27 58.5 +0.6**
TIY				ScS	**ScS**	**03 29 56.0 +4.5**
TIY				SS	**SS**	**03 31 50.0 +2.5**
TIY				pmax	pmax	
	comp=E,54nm,1.7s					
TIY				pmax	pmax	
	comp=E,1μm,5.9s					
TIY				LR	LR	
	comp=E,4μm,22.7s					
TIY				LR	LR	
	comp=E,7μm,19.9s					
TIY				LR	LR	
	comp=E,9μm,22.0s					
XAN	**Xi'an**	**57.27 316**		P	**P**	**03 20 06.3 +0.7**
XAN				pP	pwP	03 20 18.8 0.0
XAN				PP	PP	03 22 21.0 +7.8
XAN				ScP	**ScP**	**03 24 58.8 +2.2**
XAN				ScS	**ScS**	**03 29 52.0 -0.3**
XAN				pmax	pmax	
	comp=E,140nm,1.5s					
XAN				pmax	pmax	
	comp=E,2μm,3.5s					
XAN				LR	LR	
	comp=E,7μm,20.6s					
XAN				LR	LR	
	comp=E,10μm,21.0s					
XAN				LR	LR	
	comp=E,18μm,21.6s					
XAN	**Xi'an**	**57.27 316**		P	**P**	**03 20 06.1 +0.5**
XAN				pP	**pP**	**03 20 15.8 -0.7**
TIAR	**Tiarei**	**57.37 107**		*e*P	**P**	**03 20 07.7 +1.1**
	comp=E,1.2nm,0.9s					
KLR	**Kul'dur**	**57.41 343**		P	**P**	**03 20 07.2 +0.9**
	comp=E,166nm,1.0s,baz=153,slow=5.8,SNR=4.7					
KLR				LR	LR	03 43 22.4
	comp=E,3μm,21.7s,baz=166,slow=35					
KLR	**Kul'dur**	**57.41 343**		*ce*P	**P**	**03 20 07.0 +0.7**
KLR				pmax	pmax	
	comp=Z,268nm,1.1s					
KLR				MLR	MLR	
	comp=Z,4μm,18.0s					
KMI	**Kunming**	**57.62 304**	⇑	P	**P**	**03 20 10.0 +1.5**
KMI				pP	pwP	03 20 21.8 -0.1
KMI				PcP	**PcP**	**03 21 07.0 +5.5**
KMI				S	**S**	**03 28 00.3 -4.2**
KMI				sS	sS	03 28 24.3 +0.7
KMI				SS	**SS**	**03 31 55.8 +0.5**
KMI				pmax	pmax	
	comp=Z,140nm,1.1s					
KMI				pmax	pmax	
	comp=Z,870nm,3.5s					
KMI				LR	LR	
	comp=Z,5μm,17.0s					
KMI				LR	LR	
	comp=Z,8μm,23.9s					
KMI				LR	LR	
	comp=Z,10μm,23.8s					
GRNR	**Gornyy**	**57.66 347**	⇓	*i*P	**P**	**03 20 08.8 +0.8**
GRNR				*e*S	**S**	**03 28 08.4 +4.7**
GRNR				pmax	pmax	
	comp=N,20nm,1.1s					
GRNR				pmax	pmax	
	comp=Z,40nm,1.1s					
GRNR				smax	smax	
	comp=N,3.0nm,0.9s					
GRNR				MLR	MLR	
	comp=N,1μm,19.0s					
GRNR				MLR	MLR	
	comp=E,950nm,19.0s					
GRNR				MLR	MLR	
	comp=Z,2μm,18.0s					
PET	**Petropavlovsk**	**58.24 4**		*e*P	**P**	**03 20 13.0 +1.0**
PET				*e*S	**S**	**03 28 13.4 +2.3**
PET				pmax	pmax	
	comp=Z,101nm,1.1s					
PET				pmax	pmax	
	comp=Z,800nm,14.1s					
PET	**Petropavlovsk**	**58.24 4**		P	**P**	**03 20 13.0 +1.0**
PET				IAmb	IAmb	03 20 27.9
	comp=Z,131nm,1.1s					
PEA0B	**Petropavlovsk-**	**58.27 3**		P	**P**	**03 20 12.7 +0.5**
PEA0B				pmax	pmax	
	comp=Z,414nm,1.2s					
PEA0B	**Petropavlovsk-**	**58.27 3**		P	**P**	**03 20 12.7 +0.5**
PETK	**Petropavlovsk-**	**58.27 3**		P	**P**	**03 20 13.1 +0.8**
	comp=Z,51nm,0.8s,baz=187,slow=10,SNR=39					
PETK				PcP	**PcP**	**03 21 04.7 +1.6**
	comp=Z,115nm,1.0s,baz=172,slow=3.0,SNR=5.4					
PETK				LR	LR	03 41 22.1
	comp=Z,4μm,21.6s,baz=190,slow=32					
PETK	**Petropavlovsk-**	**58.27 3**		P	**P**	**03 20 12.9 +0.7**
PETK						03 21 03.6
PETK	**Petropavlovsk-**	**58.27 3**		P	**P**	**03 20 12.9 +0.7**
PETK				PcP	**PcP**	**03 21 03.6 +0.5**
CM31	**Chiang Mai Arr**	**58.49 295**		P	**P**	**03 20 16.3 +1.9**
SNR=57						
CM31				P	**P**	**03 20 16.3 +1.9**
SNR=57						
CM31	**Chiang Mai Arr**	**58.49 295**		P	**P**	**03 20 14.9 +0.6**
CMAR	**Chiang Mai Arr**	**58.49 295**		P	**P**	**03 20 16.3 +1.9**
	comp=Z,221nm,0.8s,baz=118,slow=5.2,SNR=168					
CMAR				LR	LR	03 44 10.5
	comp=Z,5μm,20.5s,baz=105,slow=35					
CMAR				PKPPKP		03 49 54.8
	comp=Z,6.2nm,1.1s,baz=273,slow=4.2,SNR=7.4					
CMAR	**Chiang Mai Arr**	**58.49 295**		*ce*P	**P**	**03 20 16.2 +1.9**
CMAR				pmax	pmax	
	comp=Z,250nm,0.9s					
CMAR	**Chiang Mai Arr**	**58.49 295**		P	**P**	**03 20 15.6 +1.2**
PMOR	**Pomariorio Ree**	**58.58 104**		*e*P	**P**	**03 20 16.3 +1.2**
	comp=Z,506nm,1.4s					
CHTO	**Chiang Mai**	**58.60 296**		P	**P**	**03 20 16.3 +1.1**
CHTO				pmax	pmax	
	comp=Z,364nm,1.1s					
CHTO	**Chiang Mai**	**58.60 296**		P	**P**	**03 20 16.3 +1.1**
CHTO				P	**P**	**03 20 16.3 +1.1**
CHTO	**Chiang Mai**	**58.60 296**	⇑	P	**P**	**03 20 15.4 +0.2**
CHTO	**Chiang Mai**	**58.60 296**		P	**P**	**03 20 16.3 +1.1**
CHTO	**Chiang Mai**	**58.60 296**		P	**P**	**03 20 17.1 +1.9**
CHTO	**Chiang Mai**	**58.60 296**		P	**P**	**03 20 15.9 +0.7**
CHTO				pP	**pP**	**03 20 25.8 -0.2**
MEH	**Mehetia**	**58.61 108**		*e*P	**P**	**03 20 16.0 +0.7**
	comp=Z,26nm,0.9s					
VAH	**Vaihoa**	**58.85 105**		*e*P	**P**	**03 20 17.9 +1.0**
	comp=Z,191nm,1.3s					
PZH	**PanZhiHua**	**59.01 305**	⇓	P	**P**	**03 20 19.3 +1.2**
PZH				S	**S**	**03 28 22.5 +0.1**
PZH				sS	**pS**	**03 28 37.5 +2.1**
PZH				ScS	**ScS**	**03 30 01.8 -3.8**
PZH				SS	**SS**	**03 32 22.8 +5.8**
PZH				pmax	pmax	
	comp=Z,70nm,1.1s					
PZH				pmax	pmax	
	comp=Z,1μm,5.3s					
PZH				LR	LR	
	comp=Z,6μm,19.6s					
PZH				LR	LR	
	comp=Z,6μm,18.8s					
PZH				LR	LR	
	comp=Z,10μm,21.6s					
NKL	**Nikolayevsk**	**59.16 351**		*e*P	P	03 20 09.7 -8.6
NKL				*e*		03 21 00.5
NKL				*e*		03 22 24.7
NKL				*e*S	**S**	**03 28 15.1 -7.9**
NKL				pmax	pmax	
	comp=N,516nm,0.9s					
NKL				pmax	pmax	
	comp=E,3.0nm,0.9s					
NKL				pmax	pmax	
	comp=Z,94nm,0.9s					
NKL				pmax	pmax	
	comp=Z,162nm,1.4s					
NKL				smax	smax	
	comp=N,2μm,2.2s					
NKL				smax	smax	
	comp=E,7.0nm,2.2s					
XLT	**XiLinHaoTe**	**59.30 329**	⇓	*i*P	**P**	**03 20 20.8 +1.2**
XLT				S	**S**	**03 28 23.8 -1.6**
XLT				ScS	**ScS**	**03 30 01.8 -5.1**
XLT				SS	**SS**	**03 32 22.0 +1.3**
XLT				pmax	pmax	
	comp=E,250nm,1.0s					
XLT				pmax	pmax	
	comp=E,2μm,4.3s					
XLT				LR	LR	
	comp=E,5μm,16.8s					
XLT				LR	LR	
	comp=E,7μm,18.1s					
XLT				LR	LR	
	comp=E,10μm,18.9s					
CD2	**Chengdu**	**59.38 311**		P	**P**	**03 20 21.5 +1.0**
CD2				pP	pwP	03 20 34.0 +0.3
CD2				S	**S**	**03 28 28.3 +1.4**
CD2				sS	sS	03 28 48.0 +2.8
CD2				SS	**SS**	**03 32 25.5 +3.0**
CD2				pmax	pmax	
	comp=E,140nm,1.0s					
CD2				pmax	pmax	
	comp=E,1μm,7.1s					
CD2				LR	LR	
	comp=E,11μm,23.1s					
CD2				LR	LR	
	comp=E,11μm,21.2s					
HHC	**Hu-ho-hao-te**	**59.69 324**		*e*P	**P**	**03 20 24.3 +1.9**
HHC				pP	sP	03 20 37.5 -0.2
HHC				S	**S**	**03 28 31.8 +1.2**
HHC				ScS	**ScS**	**03 30 12.0 +2.0**
HHC				SS	**SS**	**03 32 27.3 +0.3**
HHC				pmax	pmax	
	comp=E,130nm,1.0s					
HHC				pmax	pmax	
	comp=E,2μm,4.9s					
HHC				LR	LR	
	comp=E,5μm,20.9s					
HHC				LR	LR	
	comp=E,7μm,19.7s					
HHC				LR	LR	
	comp=E,13μm,18.4s					
SHEM	**Shemya Is, Ala**	**60.41 14**		LR	LR	03 42 11.2
	comp=E,13μm,21.6s,baz=198,slow=32					
BTO	**Baotou**	**60.44 323**		*e*P	**P**	**03 20 30.5 +2.9**
BTO				S	**S**	**03 28 38.0 -2.3**
BTO				LR	LR	
	comp=E,14μm,20.6s					
BTO				LR	LR	
	comp=E,13μm,21.3s					
HIA	**Hailar**	**61.64 336**		P	**P**	**03 20 36.4 +1.0**
HIA				pmax	pmax	
	comp=Z,160nm,1.1s					
HIA	**Hailar**	**61.64 336**		P	**P**	**03 20 36.4 +1.0**
HIA				IAmb	IAmb	03 20 53.5
	comp=Z,160nm,1.1s					
HIA	**Hailar**	**61.64 336**		P	**P**	**03 20 36.3 +0.8**
HIA				pP	**pP**	**03 20 45.2 -1.0**
LZH	**Lanzhou**	**61.88 316**	⇑	P	**P**	**03 20 39.8 +2.3**
LZH				pP	pP	03 20 48.5 0.0
LZH				sP	sP	03 20 54.5 +1.5
LZH				S	**S**	**03 29 00.5 +1.6**
LZH				sS	sS	03 29 17.0 0.0
LZH				SS	**SS**	**03 33 02.3 +0.6**
LZH				pmax	pmax	
	comp=Z,180nm,1.3s					
LZH				pmax	pmax	
	comp=Z,2μm,6.0s					
LZH				LR	LR	
	comp=Z,6μm,16.8s					
LZH				LR	LR	
	comp=Z,9μm,17.0s					
LZH				LR	LR	
	comp=Z,10μm,18.5s					
DRV	**Dumont d'Urvil**	**61.99 186**		P	**P**	**03 20 37.1 -0.3**
KIWB	**Kanaga Island**	**62.24 20**		P	**P**	**03 20 39.7 +0.3**
ADK	**Adak**	**62.43 20**		P	**P**	**03 20 40.5 -0.1**
ADK				pmax	pmax	
	comp=Z,260nm,1.3s					
ADK	**Adak**	**62.43 20**	⇑	P	**P**	**03 20 41.5 +0.8**
ADK	**Adak**	**62.43 20**		P	**P**	**03 20 40.5 -0.1**
ADK				IAmb	IAmb	03 20 59.8
	comp=Z,260nm,1.3s					
ADK	**Adak**	**62.43 20**		P	**P**	**03 20 41.4 +0.8**
ZEA	**Zeya**	**62.72 343**		*e*P	**P**	**03 20 43.5 +1.0**
ZEA				*e*		03 20 59.4
ZEA				*e*S	**S**	**03 29 10.1 +1.7**
ZEA				*e*		03 30 23.3
ZEA				pmax	pmax	
	comp=N,80nm,0.9s					
ZEA				pmax	pmax	
	comp=E,20nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,140nm,1.0s					
ZEA				pmax	pmax	
	comp=N,300nm,3.0s					
ZEA				pmax	pmax	

	comp=Z,700nm,3.0s							
ZEA				smax	smax			
	comp=Z,500nm,4.0s							
ZEA				smax	smax			
	comp=E,400nm,3.3s							
ZEA				smax	smax			
	comp=N,700nm,5.1s							
MA2	**Magadan**	**64.66**	**359**	*ce*P	**P**	**03 20 55.3**	**0.0**	
MA2				pmax	pmax			
	comp=Z,364nm,1.0s							
MA2	**Magadan**	**64.66**	**359**	⇓P	**P**	**03 20 55.7**	**+0.4**	
MA2	**Magadan**	**64.66**	**359**	P	**P**	**03 20 55.8**	**+0.5**	
MA2	**Magadan**	**64.66**	**359**	P	**P**	**03 20 56.1**	**+0.8**	
MA2	**Magadan**	**64.66**	**359**	P	**P**	**03 20 55.6**	**+0.4**	
TAOE	**Nuku Hiva Isla**	**66.11**	**97**	*e*P	**P**	**03 21 06.3**	**+0.6**	
	comp=Z,368nm,1.3s							
TAOE				*e*S	**S**	**03 29 51.5**	**-0.5**	
	comp=Z,1μm,30.9s							
TAOE	**Nuku Hiva Isla**	**66.11**	**97**	*e*LR	LR	03 41 06.9		
	comp=Z,5μm,21.9s							
NIKH	**Nikolski High**	**66.25**	**24**	P	**P**	**03 21 06.4**	**+0.8**	
	baz=222							
GTA	**Gaotai**	**66.31**	**317**	⇑P	**P**	**03 21 09.0**	**+2.5**	
GTA				pP	pwP	03 21 18.5	-1.9	
GTA				sP	sP	03 21 24.0	+1.9	
GTA				S	**S**	**03 29 53.0**	**-0.6**	
GTA				sS	sS	03 30 14.0	+2.4	
GTA				pmax	pmax			
	comp=Z,87nm,1.3s							
GTA				pmax	pmax			
	comp=Z,850nm,7.2s							
GTA				LR	LR			
	comp=Z,4μm,19.1s							
GTA				LR	LR			
	comp=Z,6μm,19.9s							
GTA				LR	LR			
	comp=Z,9μm,20.7s							
CIT	**Chita**	**66.31**	**334**	*e*P	**P**	**03 21 07.2**	**+1.1**	
CIT				*e*		03 21 35.8		
CIT				*e*		03 23 28.8		
CIT				*e*		03 30 35.4		
CIT				pmax	pmax			
	comp=Z,575nm,2.8s							
ULN	**Ulaanbaatar**	**66.63**	**328**	*ce*P	**P**	**03 21 10.0**	**+1.6**	
ULN				pmax	pmax			
	comp=Z,110nm,1.0s							
ULN	**Ulaanbaatar**	**66.63**	**328**	⇓P	**P**	**03 21 09.9**	**+1.5**	
ULN	**Ulaanbaatar**	**66.63**	**328**	P	**P**	**03 21 09.0**	**+0.6**	
ULN				IAmb	IAmb	03 21 23.7		
	comp=Z,174nm,1.2s							
ULN	**Ulaanbaatar**	**66.63**	**328**	P	**P**	**03 21 09.9**	**+1.5**	
ULN				pP	**pP**	**03 21 18.0**	**-1.3**	
SHL	**Shillong**	**66.94**	**300**	*e*P	**P**	**03 21 12.2**	**+1.3**	
SONM	**Songino Array**	**66.96**	**328**	P	**P**	**03 21 11.8**	**+1.3**	
	comp=Z,107nm,1.2s,baz=135,slow=5.6,SNR=125							
SONM				LR	LR	03 48 40.1		
	comp=Z,9μm,21.9s,baz=127,slow=34							
SONM				PKPPKP	**P'P'df**	**03 49 41.7**	**+3.8**	
	comp=Z,21nm,1.1s,baz=280,slow=2.0,SNR=15							
SONM	**Songino Array**	**66.96**	**328**	P	**P**	**03 21 11.5**	**+1.1**	
SONM				pmax	pmax			
	comp=Z,164nm,1.3s							
SONM	**Songino Array**	**66.96**	**328**	P	**P**	**03 21 11.5**	**+1.1**	
SONM				IAmb	IAmb	03 21 29.3		
	comp=Z,164nm,1.3s							
CASY	**Casey**	**67.71**	**197**	⇓P	**P**	**03 21 14.7**	**-0.1**	
CASY	**Casey**	**67.71**	**197**	P	**P**	**03 21 14.9**	**+0.1**	
CASY				IAmb	IAmb	03 21 15.6		
	comp=Z,327nm,1.4s							
CASY	**Casey**	**67.71**	**197**	IAMs_20	IAMs_20	03 49 28.0		
	comp=Z,8μm,20.0s							
CASY	**Casey**	**67.71**	**197**	P	**P**	**03 21 14.7**	**-0.1**	
SEY	**Seymchan**	**68.00**	**360**	P	**P**	**03 21 17.0**	**+0.5**	
	comp=Z,56nm,1.0s,baz=168,slow=5.0,SNR=112							
SEY				LR	LR	03 54 22.3		
	comp=Z,2μm,18.0s,baz=178,slow=39							
AKUT	**Akutan**	**68.36**	**25**	P	**P**	**03 21 19.8**	**+0.9**	
GOMU	**GeErMu**	**68.41**	**312**	P	**P**	**03 21 22.5**	**+2.3**	
GOMU				pP	pP	03 21 27.3	-3.9	
GOMU				sP	pwP	03 21 32.0	-1.8	
GOMU				S	**S**	**03 30 17.5**	**-2.0**	
GOMU				pmax	pmax			
	comp=Z,32nm,1.7s							
GOMU				LR	LR			
	comp=Z,4μm,19.6s							
GOMU				LR	LR			
	comp=Z,5μm,18.6s							
GOMU				LR	LR			
	comp=Z,6μm,19.9s							
LSA	**Lhasa**	**68.88**	**304**	P	**P**	**03 21 26.5**	**+3.2**	
LSA				pP	**pP**	**03 21 29.8**	**-4.6**	
LSA				sP	**pwP**	**03 21 35.5**	**-1.4**	
LSA				S	S	03 30 34.5	+9.0	
LSA				pmax	pmax			
	comp=Z,130nm,0.9s							
LSA				LR	LR			
	comp=Z,3μm,18.5s							
LSA				LR	LR			
	comp=Z,8μm,20.6s							
LSA				LR	LR			
	comp=Z,10μm,19.2s							
SPIA	**Saint Paul Isl**	**68.92**	**20**	P	**P**	**03 21 23.3**	**+1.0**	
	baz=219							
YAK	**Yakutsk**	**69.52**	**348**	P	**P**	**03 21 26.9**	**+0.9**	
	comp=Z,191nm,1.0s,baz=164,slow=0.9,SNR=55							
YAK				LR	LR	03 50 54.4		
	comp=Z,2μm,20.4s,baz=154,slow=35							
YAK	**Yakutsk**	**69.52**	**348**	*d i*P	**P**	**03 21 26.9**	**+0.9**	
YAK				*e**PP	**sP**	**03 21 39.8**	**-0.9**	
YAK				*e*		03 23 55.6		
YAK				*e*S	**S**	**03 30 31.4**	**+0.7**	
YAK				*e**SS	sS	03 30 54.4	+4.0	
YAK				*e*		03 31 20.8		
YAK				*e*SSS	SSS	03 38 03.5		
YAK				pmax	pmax			
	comp=Z,486nm,1.0s							
YAK				pmax	pmax			
	comp=N,149nm,1.1s							
YAK				pmax	pmax			
	comp=E,42nm,1.1s							
YAK				pmax	pmax			
	comp=Z,157nm,2.8s							
YAK				pmax	pmax			
	comp=N,225nm,2.7s							
YAK				smax	smax			
	comp=N,1μm,3.5s							
YAK				smax	smax			
	comp=E,644nm,2.9s							
YAK	**Yakutsk**	**69.52**	**348**	⇓P	**P**	**03 21 27.0**	**+0.9**	
YAK	**Yakutsk**	**69.52**	**348**	P	**P**	**03 21 26.1**	**+0.1**	
YAK	**Yakutsk**	**69.52**	**348**	P	**P**	**03 21 26.7**	**+0.7**	
YAK				pP	**pP**	**03 21 35.9**	**-1.1**	
FALS	**False Pass**	**69.84**	**25**	P	**P**	**03 21 28.7**	**+0.6**	
	baz=227							
ZAK	**Zakamensk**	**70.12**	**329**	*e*P	**P**	**03 21 31.3**	**+1.2**	
ZAK				pmax	pmax			
	comp=Z,289nm,1.2s							
BOD	**Bodaibo**	**70.38**	**339**	*e*P	**P**	**03 21 32.1**	**+0.7**	
BOD				pmax	pmax			
	comp=Z,264nm,1.7s							
IRK	**Irkutsk**	**70.73**	**331**	*e*P	**P**	**03 21 35.0**	**+1.3**	
IRK				*e*S	**S**	**03 30 49.4**	**+4.0**	
IRK				pmax	pmax			
	comp=Z,380nm,0.3s							
SDPT	**Sand Point**	**71.43**	**26**	P	**P**	**03 21 38.3**	**+0.6**	
	baz=229							
CNBA	**Chernabura Isl**	**71.48**	**27**	IAMs_20	IAMs_20	03 49 01.9		
	comp=Z,11μm,20.0s							
CHNA	**Chernabura Isl**	**71.48**	**27**	P	**P**	**03 21 39.1**	**+1.0**	
	baz=230							
BOK	**Bokaro**	**71.68**	**297**	*e*P	**P**	**03 21 41.6**	**+1.6**	
BOK				IAmb	IAmb	03 21 45.9		
	comp=Z,104nm,0.7s							
CCD	**Concordia, Ant**	**71.87**	**188**	P	**P**	**03 21 41.3**	**+0.6**	
MOY	**Mondy**	**72.04**	**329**	*e*P	**P**	**03 21 43.0**	**+1.2**	
MOY				pmax	pmax			
	comp=Z,433nm,2.5s							
CHLP	**Challavanipeta**	**72.14**	**291**	*e*P	**P**	**03 21 44.3**	**+1.5**	
VNDA	**Vanda**	**72.36**	**178**	P	**P**	**03 21 44.0**	**+0.8**	
	comp=Z,153nm,1.0s,baz=333,slow=6.5,SNR=65							
VNDA				LR	LR	03 50 01.5		
	comp=Z,2μm,18.1s,baz=358,slow=33							
VNDA	**Vanda**	**72.36**	**178**	P	**P**	**03 21 43.9**	**+0.8**	
VNDA				pmax	pmax			
	comp=Z,400nm,1.2s							
VNDA	**Vanda**	**72.36**	**178**	P	**P**	**03 21 43.9**	**+0.8**	
VIS	**Vishakhapatnam**	**72.66**	**290**	*e*P	**P**	**03 21 47.0**	**+1.0**	
VIS				IAmb	IAmb	03 22 01.5		
	comp=Z,379nm,1.3s							
GUN	**Gumba**	**72.75**	**301**	*e*P	**P**	**03 21 47.9**	**+1.1**	
	comp=Z,806nm,0.9s							
SBA	**Scott Base**	**72.89**	**177**	P	**P**	**03 21 47.6**	**+1.3**	
SBA				pmax	pmax			
	comp=Z,670nm,1.4s							
SBA	**Scott Base**	**72.89**	**177**	P	**P**	**03 21 47.6**	**+1.3**	
SBA	**Scott Base**	**72.89**	**177**	P	**P**	**03 21 48.1**	**+1.9**	
CHGN	**Chignik**	**72.93**	**26**	P	**P**	**03 21 47.1**	**+0.3**	
	baz=231							
PKI	**Pulchoki**	**73.06**	**301**	*e*P	**P**	**03 21 49.2**	**+0.6**	
	comp=Z,638nm,1.2s							
PKIN	**Phulchoki**	**73.08**	**301**	*e*P	**P**	**03 21 49.1**	**+0.5**	
	comp=Z,312nm,0.9s							
KKN	**Kakani**	**73.23**	**301**	*e*P	**P**	**03 21 50.3**	**+0.8**	
	comp=Z,407nm,0.9s							
DMN	**Daman**	**73.33**	**301**	*e*P	**P**	**03 21 51.2**	**+1.1**	
	comp=Z,1μm,1.0s							
PALK	**Pallekele**	**73.46**	**279**	LR	LR	03 57 28.2		
	comp=Z,1μm,19.2s,baz=216,slow=39							
PALK	**Pallekele**	**73.46**	**279**	P	**P**	**03 21 50.3**	**-0.6**	
PALK				pmax	pmax			
	comp=Z,187nm,1.5s							
PALK	**Pallekele**	**73.46**	**279**	P	**P**	**03 21 50.8**	**-0.1**	
PALK				P	**P**	**03 21 50.8**	**-0.1**	
PALK	**Pallekele**	**73.46**	**279**	⇑P	**P**	**03 21 52.2**	**+1.3**	
PALK				⇑P	pP	03 21 52.3	-10	
PALK	**Pallekele**	**73.46**	**279**	P	**P**	**03 21 50.3**	**-0.6**	
PALK				IAmb	IAmb	03 22 06.6		
	comp=Z,186nm,1.4s							
GAMB	**Gambell**	**73.70**	**15**	P	**P**	**03 21 51.9**	**+0.7**	
GAMB				IAMs_20	IAMs_20	03 49 49.0		
	comp=Z,10μm,21.0s							
GAMB	**Gambell**	**73.70**	**15**	P	**P**	**03 21 51.8**	**+0.7**	
	baz=217,SNR=7.8							
BILL	**Bilibino**	**73.70**	**5**	*c i*P	**P**	**03 21 51.5**	**+0.4**	
BILL				*e*		03 24 33.7		
BILL				*i*S	**S**	**03 31 23.9**	**+5.0**	
BILL				*i*SS	**SS**	**03 35 59.0**	**-4.1**	
BILL				pmax	pmax			
	comp=Z,105nm,1.0s							
BILL	**Bilibino**	**73.70**	**5**	P	**P**	**03 21 51.9**	**+0.8**	
BILL				IAmb	IAmb	03 22 13.1		
	comp=Z,136nm,0.8s							
BILL	**Bilibino**	**73.70**	**5**	P	**P**	**03 21 51.9**	**+0.8**	
GKN	**Gorkha**	**73.83**	**301**	*e*P	**P**	**03 21 53.8**	**+0.8**	
	comp=Z,1μm,1.0s							
CHIR	**Chirikof Islan**	**73.88**	**27**	IAMs_20	IAMs_20	03 50 09.3		
	comp=Z,11μm,20.0s							
PVM	**Polavaram**	**74.16**	**289**	*e*P	**P**	**03 21 55.3**	**+0.5**	
PVM				*es*P	**pP**	**03 22 05.8**	**-0.1**	
KOLN	**Koldanda**	**74.66**	**301**	*e*P	**P**	**03 21 58.5**	**+0.7**	
	comp=Z,900nm,1.0s							
DANN	**Dangsing**	**74.67**	**301**	*e*P	**P**	**03 21 58.0**	**0.0**	
	comp=Z,610nm,1.0s							
SII	**Sitkinak Islan**	**74.97**	**27**	IAMs_20	IAMs_20	03 51 03.0		
	comp=Z,9μm,20.0s							
SII	**Sitkinak Islan**	**74.97**	**27**	P	**P**	**03 21 59.1**	**+0.4**	
	baz=235							
MYLAV	**Mylavaram**	**75.00**	**289**	*e*P	**P**	**03 21 59.5**	**-0.2**	
MYLAV				*es*P	**pP**	**03 22 11.6**	**+0.7**	
PYUN	**Piuthan**	**75.27**	**301**	*e*P	**P**	**03 22 01.7**	**+0.4**	
	comp=Z,1μm,1.0s							
SKHT	**Srikalahasti**	**75.38**	**286**	*e*P	**P**	**03 22 02.2**	**+0.3**	
SKHT				*ep*P	**pP**	**03 22 10.6**	**-2.5**	
ADKI	**Addanki**	**75.47**	**288**	*e*P	**P**	**03 22 02.9**	**+0.4**	
ADKI				*es*P	**PcP**	**03 22 14.4**	**-1.0**	
OHAK	**Old Harbor**	**75.75**	**27**	P	**P**	**03 22 03.2**	**+0.1**	
	baz=236							
ANM	**Nome**	**76.08**	**17**	P	**P**	**03 22 04.2**	**-0.7**	
ANM				pmax	pmax			
	comp=Z,139nm,1.2s							
ANM				MLR	MLR			
	comp=Z,5μm,20.0s							
ANM	**Nome**	**76.08**	**17**	P	**P**	**03 22 04.2**	**-0.7**	
ANM				IAmb	IAmb	03 22 31.7		
	comp=Z,139nm,1.2s							
ANM	**Nome**	**76.08**	**17**	P	**P**	**03 22 05.5**	**+0.6**	
	baz=223							
TNA	**Tin City**	**76.11**	**16**	P	**P**	**03 22 04.9**	**-0.2**	
TNA	**Tin City**	**76.11**	**16**	P	**P**	**03 22 05.4**	**+0.3**	
	baz=220,SNR=6.5							
P18K	**Big Mountain,**	**76.18**	**24**	IAMs_20	IAMs_20	03 52 12.9		
	comp=Z,8μm,20.0s							
P18K	**Big Mountain,**	**76.18**	**24**	P	**P**	**03 22 05.6**	**0.0**	
	baz=233							
NJS	**Nagarjunasagar**	**76.22**	**288**	*e*P	**P**	**03 22 06.3**	**-0.4**	
NJS				*es*P	**PcP**	**03 22 18.3**	**-0.3**	
RCLA	**Racherla**	**76.37**	**287**	*e*P	**P**	**03 22 06.8**	**-0.8**	
KDAK	**Kodiak Island**	**76.38**	**27**	P	**P**	**03 22 07.2**	**+0.4**	
	comp=Z,24nm,0.9s,baz=199,slow=5.6,SNR=3.9							
KDAK				LR	LR	03 50 34.5		
	comp=Z,9μm,21.9s,baz=259,slow=32							
KDAK	**Kodiak Island**	**76.38**	**27**	IAMs_20	IAMs_20	03 49 38.3		
	comp=Z,11μm,21.0s							
KDAK	**Kodiak Island**	**76.38**	**27**	P	**P**	**03 22 06.3**	**-0.4**	
	baz=236							
WMQ	**Urumqi**	**76.39**	**317**	P	**P**	**03 22 09.3**	**+2.1**	
WMQ				pP	sP	03 22 22.5	-0.2	
WMQ				sP	pwP	03 22 25.5	+3.9	
WMQ				S	**S**	**03 31 51.8**	**+1.9**	
WMQ				SKS	**SKSac**	**03 32 09.3**	**-6.5**	
WMQ				pmax	pmax			
	comp=Z,420nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,3μm,4.1s							
WMQ				LR	LR			
	comp=Z,3μm,16.9s							
WMQ				LR	LR			
	comp=Z,2μm,17.9s							
WMQ				LR	LR			
	comp=Z,3μm,20.1s							
WMQ	**Urumqi**	**76.39**	**317**	P	**P**	**03 22 08.8**	**+1.5**	
O18K	**Koktuh Hills**	**76.46**	**24**	P	**P**	**03 22 07.1**	**-0.1**	
	baz=233							
SRLM	**Srisailam**	**76.54**	**288**	*e*P	**P**	**03 22 08.6**	**+0.1**	
SRLM				*es*P	**PcP**	**03 22 20.1**	**0.0**	
Q19K	**Cape Douglas,**	**76.57**	**25**	IAMs_20	IAMs_20	03 52 40.2		
	comp=Z,9μm,19.0s							
Q19K	**Cape Douglas,**	**76.57**	**25**	P	**P**	**03 22 06.9**	**-0.9**	
	baz=235							
RPR	**Rampur**	**76.63**	**291**	*e*P	**P**	**03 22 09.2**	**+0.2**	
RPR				*e*PcP	**PcP**	**03 22 20.6**	**+0.2**	
CUPL	**Choutuppal**	**76.71**	**289**	*e*P	**P**	**03 22 09.7**	**+0.2**	
CUPL				*e*PcP	**pP**	**03 22 20.1**	**-0.6**	
HYB	**Hyderabad**	**77.08**	**289**	*e*P	**P**	**03 22 11.0**	**-0.6**	
HYB				*e*P	**P**	**03 22 11.3**	**-0.2**	
HYB				IAmb	IAmb	03 22 15.4		
	comp=Z,277nm,1.3s							
HYB				*e*S	**S**	**03 31 57.0**	**-1.2**	
HYBB	**Hyderabad (bro**	**77.08**	**289**	*e*P	**P**	**03 22 11.4**	**-0.2**	
HYBB				*e*PcP	**pP**	**03 22 22.3**	**-0.5**	
HYBB				*es*P	**PcP**	**03 22 23.2**	**+0.8**	
HYBB				*e*PP	**PP**	**03 25 02.7**	**-2.9**	
HYBB				*e*S	**S**	**03 31 57.0**	**-1.3**	
HYBB				⇑*e*SKS	**SKSac**	**03 32 21.4**	**-0.4**	
N19K	**Bonanza Creek**	**77.33**	**23**	P	**P**	**03 22 12.8**	**+0.6**	
N19K				IAMs_20	IAMs_20	03 53 53.2		
	comp=Z,10μm,20.0s							
N19K	**Bonanza Creek**	**77.33**	**23**	P	**P**	**03 22 11.8**	**-0.3**	
	baz=234							
SRSP	**Sriramsagar**	**77.53**	**291**	*e*P	**P**	**03 22 13.8**	**-0.3**	
SRSP				*e*PcP	**pP**	**03 22 24.6**	**-0.7**	
O20K	**Slope Mountain**	**77.65**	**25**	P	**P**	**03 22 14.0**	**0.0**	
	baz=236							
HOM	**Homer**	**77.83**	**25**	IAMs_20	IAMs_20	03 50 31.5		
	comp=Z,10μm,21.0s							
HOM	**Homer**	**77.83**	**25**	P	**P**	**03 22 14.4**	**-0.5**	
	baz=237							
URV	**Uravakonda**	**77.91**	**286**	*e*P	**P**	**03 22 16.5**	**+0.2**	
URV				*es*P	**pP**	**03 22 27.4**	**-0.1**	
CNPM	**China Poot**	**77.93**	**25**	P	**P**	**03 22 16.7**	**+1.2**	
CNPM				IAmb	IAmb	03 22 44.1		
	comp=Z,247nm,1.0s							
L19K	**White Mountain**	**78.00**	**22**	P	**P**	**03 22 16.8**	**+1.0**	
L19K				IAmb	IAmb	03 22 59.5		
	comp=Z,148nm,1.1s							
L19K	**White Mountain**	**78.00**	**22**	P	**P**	**03 22 15.9**	**+0.1**	
	baz=233,SNR=20							
TTA	**Tatalina**	**78.03**	**21**	P	**P**	**03 22 17.1**	**+1.1**	
TTA	**Tatalina**	**78.03**	**21**	⇑P	**P**	**03 22 16.7**	**+0.7**	
TTA	**Tatalina**	**78.03**	**21**	P	**P**	**03 22 17.1**	**+1.1**	
TTA				IAmb	IAmb	03 22 59.6		
	comp=Z,340nm,1.8s							
TTA	**Tatalina**	**78.03**	**21**	P	**P**	**03 22 16.1**	**+0.1**	
	baz=232,SNR=15							
BRLK	**Bradley Lake**	**78.21**	**25**	P	**P**	**03 22 18.1**	**+1.1**	
BRLK				IAmb	IAmb	03 22 48.2		
	comp=Z,158nm,1.2s							
BRSE	**Bradley Lake S**	**78.26**	**25**	P	**P**	**03 22 17.3**	**0.0**	
	baz=238							
TIXI	**Tiksi**	**78.41**	**352**	P	**P**	**03 22 17.5**	**-0.3**	
	comp=Z,125nm,1.1s,baz=142,slow=7.2,SNR=70							
TIXI				LR	LR	03 55 17.9		
	comp=Z,1μm,21.5s,baz=153,slow=34							
TIXI	**Tiksi**	**78.41**	**352**	*ce*P	**P**	**03 22 17.9**	**+0.1**	
TIXI				pmax	pmax			
	comp=Z,177nm,1.1s							
TIXI				MLR	MLR			
	comp=Z,3μm,18.0s							
TIXI	**Tiksi**	**78.41**	**352**	⇑P	**P**	**03 22 17.7**	**-0.1**	
TIXI				⇓P	**P**	**03 22 18.1**	**+0.3**	
TIXI	**Tiksi**	**78.41**	**352**	P	**P**	**03 22 17.0**	**-0.8**	
TIXI				IAmb	IAmb	03 22 34.2		
	comp=Z,203nm,1.2s							
TIXI	**Tiksi**	**78.41**	**352**	P	**P**	**03 22 18.3**	**+0.5**	
TIXI				pP	**pP**	**03 22 27.7**	**-1.3**	
SPCR	**Spurr Chakacha**	**78.45**	**24**	P	**P**	**03 22 18.7**	**+0.3**	
	baz=236							
L20K	**Farewell, AK**	**78.54**	**22**	P	**P**	**03 22 18.9**	**+0.1**	
	baz=234							
CAPN	**Captn Cook N**	**78.64**	**24**	IAMs_20	IAMs_20	03 49 48.1		
	comp=Z,10μm,20.0s							
CAPN	**Captain Cook N**	**78.64**	**24**	P	**P**	**03 22 18.6**	**-0.7**	
	baz=237							
DGZ	**Jazzator, Alta**	**78.73**	**323**	*d i*P	**P**	**03 22 21.2**	**+0.9**	
DGZ				pmax	pmax			
	comp=Z,264nm,1.1s							
GCSA	**Galena City Sc**	**78.86**	**20**	P	**P**	**03 22 20.8**	**+0.3**	
	baz=231,SNR=10							
K20K	**Telida**	**78.99**	**21**	P	**P**	**03 22 21.7**	**+0.5**	
K20K				IAmb	IAmb	03 22 53.6		
	comp=Z,147nm,1.1s							
K20K	**Telida**	**78.99**	**21**	P	**P**	**03 22 21.0**	**-0.2**	
	baz=234							
SEW	**Seward**	**79.00**	**25**	IAmb	IAmb	03 22 52.9		
	comp=Z,292nm,1.3s							
SEW	**Seward**	**79.00**	**25**	P	**P**	**03 22 21.0**	**-0.2**	
	baz=239							
KLRI	**Killari**	**79.02**	**289**	*e*P	**P**	**03 22 21.6**	**-0.8**	
KLRI				*es*P	**pP**	**03 22 33.9**	**+0.3**	
O22K	**Cooper Landing**	**79.08**	**25**	P	**P**	**03 22 21.4**	**-0.4**	
	baz=238							
BHPL	**Bhopal**	**79.14**	**295**	*e*P	**P**	**03 22 22.8**	**-0.1**	
BHPL				IAmb	IAmb	03 22 25.8		
	comp=Z,104nm,0.7s							
FIS	**Fire Island**	**79.23**	**24**	IAMs_20	IAMs_20	03 53 41.6		
	comp=Z,6μm,20.0s							
RDOG	**Red Dog Mine**	**79.30**	**15**	IAMs_20	IAMs_20	03 54 59.1		
	comp=Z,8μm,21.0s							
RDOG	**Red Dog Mine**	**79.30**	**15**	P	P	03 22 35.3	+12	
	baz=225,SNR=56							
RC01	**Rabbit Creek A**	**79.40**	**24**	P	**P**	**03 22 23.6**	**+0.1**	
RC01				IAmb	IAmb	03 23 09.2		
	comp=Z,178nm,1.1s							
RC01				IAMs_20	IAMs_20	03 52 12.1		
	comp=Z,9μm,22.0s							
RC01	**Rabbit Creek A**	**79.40**	**24**	P	**P**	**03 22 22.6**	**-0.9**	
	baz=238,SNR=5.7							
PPLA	**Purkeypile**	**79.42**	**22**	P	**P**	**03 22 23.7**	**-0.1**	
PPLA				IAmb	IAmb	03 23 00.3		
	comp=Z,407nm,1.6s							
PPLA	**Purkeypile**	**79.42**	**22**	P	**P**	**03 22 22.7**	**-1.0**	
	baz=236							
J20K	**Nowinta River**	**79.45**	**21**	P	**P**	**03 22 24.8**	**+1.1**	
J20K				IAmb	IAmb	03 23 06.1		
	comp=Z,469nm,1.7s							
J20K				IAMs_20	IAMs_20	03 52 37.3		
	comp=Z,8μm,22.0s							
J20K	**Nowinta River**	**79.45**	**21**	P	**P**	**03 22 23.2**	**-0.4**	
	baz=234							
ZSN	**Zaisan**	**79.52**	**320**	*e*P	**P**	**03 22 23.9**	**-0.5**	
ZSN				*e*S	**S**	**03 32 23.3**	**0.0**	
ZSN				pmax	pmax			
	comp=Z,198nm,2.5s							
ZSN	**Zaisan**	**79.52**	**320**	*e*P	**P**	**03 22 23.9**	**-0.5**	
	comp=Z,198nm,2.5s,baz=320							
ZSN				*e*S	**S**	**03 32 23.3**	**0.0**	
	baz=320							
M22K	**Willow**	**79.60**	**24**	P	**P**	**03 22 24.9**	**+0.4**	
M22K				IAmb	IAmb	03 23 15.3		
	comp=Z,306nm,1.1s							
M22K				IAMs_20	IAMs_20	03 55 03.3		
	comp=Z,7μm,20.0s							
M22K	**Willow**	**79.60**	**24**	P	**P**	**03 22 23.7**	**-0.8**	
	baz=238,SNR=7.1							
CAST	**Castle Rocks**	**79.76**	**22**	P	**P**	**03 22 25.6**	**+0.2**	
CAST				IAmb	IAmb	03 22 56.5		
	comp=Z,168nm,1.1s							
CAST				IAMs_20	IAMs_20	03 55 02.4		
	comp=Z,7μm,20.0s							
CAST	**Castle Rocks**	**79.76**	**22**	P	**P**	**03 22 24.8**	**-0.6**	
	baz=236,SNR=21							
PWL	**Port Wells**	**79.87**	**25**	P	**P**	**03 22 26.9**	**+0.9**	
PWL				IAmb	IAmb	03 22 51.3		
	comp=Z,294nm,1.2s							
PWL	**Port Wells**	**79.87**	**25**	P	**P**	**03 22 25.7**	**-0.3**	
	baz=240							
CUT	**Chulitna**	**79.89**	**23**	IAMs_20	IAMs_20	03 56 41.0		
	comp=Z,7μm,19.0s							
CUT	**Chulitna**	**79.89**	**23**	P	**P**	**03 22 25.2**	**-0.9**	
	baz=238							
PMR	**Palmer**	**79.91**	**24**	P	**P**	**03 22 26.0**	**-0.2**	
PMR				pmax	pmax			
	comp=Z,163nm,1.2s							
PMR	**Palmer**	**79.91**	**24**	P	**P**	**03 22 26.0**	**-0.2**	
PMR				IAmb	IAmb	03 23 07.5		
	comp=Z,163nm,1.2s							
PMR	**Palmer**	**79.91**	**24**	P	**P**	**03 22 25.7**	**-0.5**	
	baz=239,SNR=

SCM	**Sheep Creek Mo**	**80.78**	**24**	P	**P**	**03 22 32.0**	**+1.0**
SCM				pmax	pmax		
	comp=Z,189nm,1.2s						
SCM	**Sheep Creek Mo**	**80.78**	**24**	P	**P**	**03 22 32.0**	**+1.0**
SCM				IAmb	IAmb	03 22 50.1	
	comp=Z,189nm,1.2s						
SCM	**Sheep Creek Mo**	**80.78**	**24**	P	**P**	**03 22 30.3**	**-0.7**
	baz=240						
H21K	**Melozitna Rive**	**80.79**	**20**	P	**P**	**03 22 31.8**	**+0.9**
H21K	**Melozitna Rive**	**80.79**	**20**	P	**P**	**03 22 30.4**	**-0.5**
	baz=235						
I21K	**Tanana**	**80.79**	**20**	P	**P**	**03 22 31.8**	**+0.9**
I21K				IAmb	IAmb	03 23 03.2	
	comp=Z,255nm,1.1s						
I21K				IAms_20	IAms_20	03 57 33.7	
	comp=Z,7μm,20.0s						
I21K	**Tanana**	**80.79**	**20**	P	**P**	**03 22 30.4**	**-0.5**
	baz=236						
EYAK	**Cordova Ski Ar**	**80.82**	**26**	P	**P**	**03 22 30.6**	**-0.6**
	baz=242						
SMLA	**Simla**	**80.89**	**303**	*e*P	**P**	**03 22 32.8**	**+0.6**
SMLA				IAmb	IAmb	03 22 36.7	
	comp=Z,272nm,1.0s						
RND	**Reindeer**	**80.97**	**23**	P	**P**	**03 22 31.9**	**-0.1**
RND				pmax	pmax		
	comp=Z,158nm,1.1s						
RND	**Reindeer**	**80.97**	**23**	P	**P**	**03 22 31.9**	**-0.1**
RND				IAmb	IAmb	03 23 02.8	
	comp=Z,158nm,1.1s						
RND				IAms_20	IAms_20	03 56 31.4	
	comp=Z,8μm,20.0s						
MK31	**Makanchi Array**	**80.97**	**319**	P	**P**	**03 22 33.0**	**+0.7**
MK31				pmax	pmax		
	comp=Z,301nm,1.2s						
MK31	**Makanchi Array**	**80.97**	**319**	P	**P**	**03 22 33.0**	**+0.7**
MK31				IAmb	IAmb	03 22 48.1	
	comp=Z,301nm,1.1s						
MKAR	**Makanchi Array**	**80.97**	**319**	P	**P**	**03 22 33.4**	**+1.0**
	comp=Z,78nm,0.9s,baz=101,slow=6.3,SNR=289						
MKAR				PKKPbc	**PKKPbc**	**03 41 11.1**	**-0.7**
	comp=Z,6.9nm,0.9s,baz=276,slow=2.9,SNR=23						
MKAR				PKP2ab		03 49 01.7	
	comp=Z,0.8nm,1.0s,baz=255,slow=2.4,SNR=4.9						
MKAR				PKPPKP	**P'P'df**	**03 49 16.9**	**+3.1**
	comp=Z,4.5nm,1.0s,baz=282,slow=5.7,SNR=8.5						
MKAR				LR	LR	03 59 14.1	
	comp=Z,6μm,19.3s,baz=98,slow=36						
MKAR	**Makanchi Array**	**80.97**	**319**	P	**P**	**03 22 33.0**	**+0.7**
MKAR	**Makanchi Array**	**80.97**	**319**	P	**P**	**03 22 33.0**	**+0.7**
DIV	**Divide**	**81.09**	**25**	P	**P**	**03 22 32.9**	**+0.2**
DIV				IAmb	IAmb	03 23 19.4	
	comp=Z,239nm,1.4s						
MCK	**McKinley**	**81.11**	**22**	P	**P**	**03 22 32.4**	**-0.3**
MCK				pmax	pmax		
	comp=Z,259nm,1.1s						
MCK				MLR	MLR		
	comp=Z,7μm,20.0s						
MCK	**McKinley**	**81.11**	**22**	P	**P**	**03 22 32.4**	**-0.3**
MCK				IAmb	IAmb	03 22 50.9	
	comp=Z,259nm,1.1s						
MCK				IAms_20	IAms_20	03 57 34.2	
	comp=Z,7μm,20.0s						
MCK	**McKinley**	**81.11**	**22**	P	**P**	**03 22 31.6**	**-1.1**
	baz=239,SNR=34						
KAIM	**Kayak Island**	**81.12**	**27**	P	**P**	**03 22 32.4**	**-0.4**
	baz=243						
BWN	**Browne**	**81.14**	**22**	IAms_20	IAms_20	03 57 02.7	
	comp=Z,7μm,20.0s						
MLY	**Manley**	**81.15**	**21**	P	**P**	**03 22 33.8**	**+0.9**
MLY				IAms_20	IAms_20	03 54 32.0	
	comp=Z,6μm,21.0s						
MLY	**Manley**	**81.15**	**21**	P	**P**	**03 22 32.1**	**-0.7**
	baz=237						
MAKZ	**Makanchi**	**81.18**	**319**	P	**P**	**03 22 34.1**	**+0.7**
MAKZ	**Makanchi**	**81.18**	**319**	P	**P**	**03 22 33.1**	**-0.4**
MAKZ				IAms_20	IAms_20	03 59 27.6	
	comp=Z,7μm,20.0s						
MAKZ	**Makanchi**	**81.18**	**319**	P	**P**	**03 22 34.5**	**+1.1**
MAKZ				pP	**pP**	**03 22 43.8**	**-0.7**
KLU	**Klutina**	**81.20**	**25**	IAms_20	IAms_20	03 55 25.6	
	comp=Z,8μm,20.0s						
KLU	**Klutina**	**81.20**	**25**	P	**P**	**03 22 33.4**	**+0.2**
	baz=242,SNR=13						
GOA	**Goa**	**81.27**	**286**	*e*P	**P**	**03 22 34.9**	**+0.5**
GOA				IAmb	IAmb	03 22 39.5	
	comp=Z,182nm,1.3s						
M24K	**Tolsona, Glenn**	**81.39**	**24**	P	**P**	**03 22 35.3**	**+1.0**
M24K				IAmb	IAmb	03 23 16.4	
	comp=Z,348nm,1.2s						
M24K	**Tolsona, Glenn**	**81.39**	**24**	P	**P**	**03 22 34.7**	**+0.4**
	baz=241,SNR=5.4						
SUCK	**Suckling Hills**	**81.48**	**27**	IAms_20	IAms_20	03 53 02.1	
	comp=Z,9μm,20.0s						
PAF	**Port-aux-Franc**	**81.50**	**221**	P	**P**	**03 22 35.8**	**+0.8**
PAF				pmax	pmax		
	comp=Z,315nm,1.0s						
PAF	**Port-aux-Franc**	**81.50**	**221**	⇑P	**P**	**03 22 35.9**	**+0.8**
PAF	**Port-aux-Franc**	**81.50**	**221**	P	**P**	**03 22 35.8**	**+0.8**
NEA2	**Nenana**	**81.51**	**22**	P	**P**	**03 22 34.1**	**-0.7**
NEA2				IAmb	IAmb	03 23 05.5	
	comp=Z,140nm,1.2s						
NEA2	**Nenana**	**81.51**	**22**	P	**P**	**03 22 33.9**	**-0.9**
	baz=238,SNR=9.1						
BMRM	**Bremner River**	**81.52**	**26**	P	**P**	**03 22 35.3**	**+0.4**
BMRM				IAmb	IAmb	03 23 11.2	
	comp=Z,343nm,1.5s						
BMRM	**Bremner River**	**81.52**	**26**	P	**P**	**03 22 34.7**	**-0.3**
	baz=243						
BERG	**Berg Lake**	**81.65**	**27**	P	**P**	**03 22 35.6**	**+0.1**
BERG				IAmb	IAmb	03 23 06.8	
	comp=Z,309nm,1.3s						
POO	**Poona**	**81.67**	**290**	⇓*i*P	**P**	**03 22 34.0**	**-2.6**
	comp=Z,200nm,1.0s						
POO				*e*P	**PcP**	**03 22 36.0**	**-6.4**
POO				IAmb	IAmb	03 22 40.9	
	comp=Z,281nm,1.3s						
POO				*i*S	**S**	**03 32 43.0**	**-4.0**
I23K	**Minto, Yukon-K**	**81.70**	**21**	P	**P**	**03 22 35.1**	**-0.5**
I23K				IAmb	IAmb	03 23 17.5	
	comp=Z,252nm,1.8s						
I23K	**Minto, Yukon-K**	**81.70**	**21**	P	**P**	**03 22 35.2**	**-0.5**
	baz=238,SNR=7.6						
ZAA0	**Zalesovo Array**	**81.79**	**326**	P	**P**	**03 22 36.5**	**+0.1**
ZAA0				IAmb	IAmb	03 22 51.3	
	comp=Z,198nm,1.1s						
ZALV	**Zalesovo Beam**	**81.79**	**326**	P	**P**	**03 22 36.5**	**+0.1**
	comp=Z,116nm,0.9s,baz=108,slow=4.8,SNR=269						
ZALV				S	**S**	**03 32 47.3**	**+0.6**
	comp=Z,6.5nm,1.1s,baz=91,slow=12,SNR=5.9						
ZALV				PKKPbc	**PKKPbc**	**03 41 08.6**	**-1.6**
	comp=Z,10nm,1.0s,baz=298,slow=3.2,SNR=18						
ZALV				PKPPKP	**P'P'df**	**03 49 15.5**	**+3.8**
	comp=Z,4.5nm,1.0s,baz=270,slow=3.0,SNR=8.6						
ZALV				LR	LR	03 58 06.1	
	comp=Z,4μm,21.9s,baz=112,slow=35						
ZALV	**Zalesovo Beam**	**81.79**	**326**	P	**P**	**03 22 36.5**	**+0.1**
ZALV				pP	**pP**	**03 22 46.2**	**-1.3**
N25K	**Chitina, Valde**	**81.81**	**25**	P	**P**	**03 22 37.5**	**+1.0**
N25K				IAmb	IAmb	03 23 08.4	
	comp=Z,203nm,1.4s						
N25K	**Chitina, Valde**	**81.81**	**25**	P	**P**	**03 22 35.6**	**-0.9**
	baz=243,SNR=5.7						
WRH	**Wood River Hil**	**81.81**	**22**	P	**P**	**03 22 35.9**	**-0.5**
WRH				IAms_20	IAms_20	03 57 49.7	
	comp=Z,6μm,20.0s						
DHRM	**DHARAMSHALA**	**81.84**	**303**	*e*P	**P**	**03 22 37.9**	**+0.4**
DHRM				IAmb	IAmb	03 22 40.9	
	comp=Z,777nm,1.7s						
PDGK	**Podgornoye**	**81.91**	**315**	P	**P**	**03 22 38.0**	**+0.5**
HARP	**HAARP**	**81.94**	**24**	P	**P**	**03 22 37.0**	**-0.1**
	baz=242						
CCB	**Clear Creek Bu**	**82.01**	**22**	P	**P**	**03 22 36.5**	**-0.9**
CCB				IAms_20	IAms_20	03 58 05.8	
	comp=Z,6μm,20.0s						
MDM	**Murphy Dome**	**82.01**	**21**	P	**P**	**03 22 36.5**	**-0.9**
MDM				IAms_20	IAms_20	03 56 42.0	
	comp=Z,7μm,20.0s						
WAX	**Waxell Ridge**	**82.06**	**27**	P	**P**	**03 22 38.7**	**+0.9**
WAX				IAms_20	IAms_20	03 55 52.4	
	comp=Z,10μm,20.0s						
GLB	**Gilahina Butte**	**82.07**	**26**	P	**P**	**03 22 38.1**	**+0.2**
GLB				IAmb	IAmb	03 23 09.5	
	comp=Z,228nm,1.2s						
GLB				IAms_20	IAms_20	03 55 16.8	
	comp=Z,7μm,20.0s						
PAX	**Paxson**	**82.08**	**24**	P	**P**	**03 22 38.0**	**+0.1**
PAX				pmax	pmax		
	comp=Z,78nm,1.1s						
PAX	**Paxson**	**82.08**	**24**	P	**P**	**03 22 38.0**	**+0.1**
PAX	**Paxson**	**82.08**	**24**	P	**P**	**03 22 37.6**	**-0.3**
	baz=242						
TCOL	**CIGO, UAF Yank**	**82.10**	**22**	P	**P**	**03 22 37.1**	**-0.7**
TCOL				IAmb	IAmb	03 23 08.4	
	comp=Z,170nm,1.1s						
TCOL				IAms_20	IAms_20	03 56 54.4	
	comp=Z,6μm,20.0s						
TCOL	**CIGO, UAF Yank**	**82.10**	**22**	P	**P**	**03 22 36.8**	**-1.0**
	baz=239,SNR=13						
COLA	**College**	**82.11**	**22**	*i*P	**P**	**03 22 36.5**	**-1.4**
COLA				pmax	pmax		
	comp=Z,120nm,1.0s						
COLA	**College**	**82.11**	**22**	⇑P	**P**	**03 22 36.4**	**-1.4**
COLA				⇓P	**P**	**03 22 36.6**	**-1.2**
COLA	**College**	**82.11**	**22**	P	**P**	**03 22 37.3**	**-0.5**
COLA				IAmb	IAmb	03 23 08.4	
	comp=Z,167nm,1.1s						
COLA	**College**	**82.11**	**22**	P	**P**	**03 22 36.5**	**-1.4**
	baz=239						
COLA	**College**	**82.11**	**22**	P	**P**	**03 22 36.6**	**-1.2**
VRDI	**Verde Repeater**	**82.13**	**26**	P	**P**	**03 22 38.4**	**+0.1**
VRDI				IAmb	IAmb	03 23 09.9	
	comp=Z,177nm,1.2s						
UZB	**Uzynbulak**	**82.19**	**315**	*e*P	**P**	**03 22 38.2**	**-0.8**
UZB				*e*S	**S**	**03 32 51.4**	**-0.2**
UZB	**Uzynbulak**	**82.19**	**315**	*e*P	**P**	**03 22 38.3**	**-0.8**
	baz=315						
UZB				*e*S	**S**	**03 32 51.4**	**-0.2**
	baz=315						
AJM	**Ajmer**	**82.20**	**298**	⇓*i*P	**P**	**03 22 39.0**	**-0.3**
HDA	**Harding Lake**	**82.21**	**22**	P	**P**	**03 22 37.9**	**-0.5**
HDA				IAms_20	IAms_20	03 57 22.2	
	comp=Z,8μm,20.0s						
HDA	**Harding Lake**	**82.21**	**22**	P	**P**	**03 22 37.4**	**-1.1**
	baz=240,SNR=10						
MESA	**MESA**	**82.35**	**27**	IAms_20	IAms_20	03 56 27.2	
	comp=Z,8μm,19.0s						
MESA	**MESA**	**82.35**	**27**	P	**P**	**03 22 38.5**	**-1.0**
	baz=245						
ISLE	**Juniper Island**	**82.35**	**27**	IAms_20	IAms_20	03 56 11.2	
	comp=Z,9μm,20.0s						
POKR	**Poker Plat Res**	**82.38**	**22**	P	**P**	**03 22 38.5**	**-0.9**
POKR				IAms_20	IAms_20	03 57 02.8	
	comp=Z,7μm,20.0s						
POKR	**Poker Plat Res**	**82.38**	**22**	P	**P**	**03 22 37.7**	**-1.6**
	baz=240,SNR=6.0						
IL31		**82.41**	**22**	P	**P**	**03 22 38.3**	**-1.1**
ILAR	**Eielson Array**	**82.41**	**22**	P	**P**	**03 22 38.4**	**-1.1**
	comp=Z,26nm,0.8s,baz=253,slow=5.1,SNR=107						
ILAR				PKKPbc	**PKKPbc**	**03 41 08.1**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=279,slow=1.7,SNR=5.2						
ILAR				PKPPKP		03 49 14.2	
	comp=Z,2.0nm,1.1s,baz=352,slow=3.9,SNR=8.0						
ILAR				LR	LR	03 58 10.3	
	comp=Z,5μm,19.1s,baz=248,slow=35						
ILAR	**Eielson Array**	**82.41**	**22**	P	**P**	**03 22 38.6**	**-0.9**
ILAR	**Eielson Array**	**82.41**	**22**	P	**P**	**03 22 38.6**	**-0.9**
ILAR					**sP**	**03 22 53.3**	**-0.4**
PRZ	**Przheval'sk**	**82.47**	**314**	P	**P**	**03 22 40.8**	**+0.3**
PRZ				pmax	pmax		
	comp=Z,556nm,1.4s						
PRZ	**Przheval'sk**	**82.47**	**314**	P	**P**	**03 22 40.8**	**+0.3**
YAH	**Yahtse**	**82.52**	**27**	IAms_20	IAms_20	03 55 44.5	
	comp=Z,10μm,21.0s						
COLD	**Coldfoot**	**82.54**	**19**	P	**P**	**03 22 40.8**	**+0.7**
COLD				IAmb	IAmb	03 23 17.1	
	comp=Z,166nm,1.3s						
COLD	**Coldfoot**	**82.54**	**19**	P	**P**	**03 22 40.5**	**+0.5**
	baz=237,SNR=20						
H24K	**Noodor Dome**	**82.59**	**21**	P	**P**	**03 22 40.3**	**-0.1**
H24K	**Noodor Dome**	**82.59**	**21**	P	**P**	**03 22 39.6**	**-0.9**
	baz=239,SNR=12						
ZHN	**Zhinishke**	**82.61**	**315**	*e*P	**P**	**03 22 40.8**	**-0.3**
ZHN				*e*S	**S**	**03 32 56.2**	**+0.3**
ZHN	**Zhinishke**	**82.61**	**315**	*e*P	**P**	**03 22 40.9**	**-0.3**
	baz=315						
ZHN				*e*S	**S**	**03 32 56.2**	**+0.3**
	baz=315						
RIDG	**Independent Ri**	**82.70**	**23**	IAms_20	IAms_20	04 01 06.1	
	comp=Z,7μm,19.0s						
RIDG	**Independent Ri**	**82.70**	**23**	P	**P**	**03 22 40.7**	**-0.4**
	baz=242						
TARG	**Taragay, Kyrgy**	**82.72**	**313**	P	**P**	**03 22 42.5**	**+0.3**
TARG				IAmb	IAmb	03 23 16.5	
	comp=Z,219nm,1.4s						
MENT	**Mentasta**	**82.78**	**24**	P	**P**	**03 22 41.8**	**+0.3**
TABL	**Table Mountain**	**82.82**	**27**	IAms_20	IAms_20	03 56 13.7	
	comp=Z,8μm,20.0s						
M26K	**Nabesna, AK**	**82.84**	**25**	P	**P**	**03 22 42.1**	**+0.2**
M26K				IAmb	IAmb	03 23 23.9	
	comp=Z,131nm,1.4s						
M26K	**Nabesna, AK**	**82.84**	**25**	P	**P**	**03 22 41.1**	**-0.8**
	baz=244						
BARN	**Barnard Glacie**	**82.85**	**26**	P	**P**	**03 22 42.8**	**+0.8**
BARN				IAmb	IAmb	03 23 29.2	
	comp=Z,151nm,1.2s						
BARN				IAms_20	IAms_20	03 53 27.3	
	comp=Z,9μm,22.0s						
DOT	**Dot Lake**	**82.96**	**24**	P	**P**	**03 22 42.1**	**-0.3**
DOT				IAmb	IAmb	03 23 00.8	
	comp=Z,143nm,1.0s						
L26K	**Log Cabin Wild**	**82.97**	**24**	P	**P**	**03 22 42.7**	**+0.2**
L26K				IAmb	IAmb	03 23 14.4	
	comp=Z,115nm,1.2s						
L26K	**Log Cabin Wild**	**82.97**	**24**	P	**P**	**03 22 42.6**	**+0.1**
	baz=244,SNR=15						
TDK	**Taldyqorghan**	**83.09**	**316**	*e*P	**P**	**03 22 43.3**	**-0.2**
TDK				*e*S	**S**	**03 33 00.7**	**+0.3**
TDK				pmax	pmax		
	comp=Z,73nm,0.9s						
TDK	**Taldyqorghan**	**83.09**	**316**	*e*P	**P**	**03 22 43.3**	**-0.2**
	comp=Z,73nm,0.9s,baz=316						
TDK				*e*S	**S**	**03 33 00.7**	**+0.3**
	baz=316						
PINM	**Pinnacle**	**83.09**	**28**	P	**P**	**03 22 42.9**	**-0.3**
	baz=247						
A21K	**Barrow**	**83.14**	**14**	IAmb	IAmb	03 23 00.4	
	comp=Z,154nm,1.1s						
A21K				IAms_20	IAms_20	03 55 05.4	
	comp=Z,9μm,22.0s						
A21K	**Barrow**	**83.14**	**14**	P	**P**	**03 22 43.2**	**+0.1**
	baz=230,SNR=11						
SCRK	**Sand Creek**	**83.14**	**23**	IAmb	IAmb	03 23 15.0	
	comp=Z,123nm,1.2s						
SCRK				IAms_20	IAms_20	04 02 30.9	
	comp=Z,7μm,19.0s						
SCRK	**Sand Creek**	**83.14**	**23**	P	**P**	**03 22 43.2**	**-0.3**
	baz=243,SNR=13						
PRP	**Porcupine Dome**	**83.28**	**22**	IAms_20	IAms_20	03 57 10.5	
	comp=Z,6μm,20.0s						
PRP	**Porcupine Dome**	**83.28**	**22**	P	**P**	**03 22 43.3**	**-0.8**
	baz=242						
ARXS	**Arharly**	**83.29**	**316**	*e*P	**P**	**03 22 44.9**	**+0.3**
M27K	**Edge Creek, AK**	**83.30**	**25**	IAms_20	IAms_20	03 55 40.1	
	comp=Z,8μm,20.0s						
M27K	**Edge Creek, AK**	**83.30**	**25**	P	**P**	**03 22 44.5**	**+0.2**
	baz=245						
BCPM	**Bancas Point**	**83.32**	**28**	IAms_20	IAms_20	03 55 33.9	
	comp=Z,6μm,20.0s						
PNL	**Peninsula**	**83.33**	**28**	P	**P**	**03 22 44.4**	**+0.1**
	baz=248						
TOLK	**Toolik Lake Re**	**83.51**	**18**	P	**P**	**03 22 45.2**	**0.0**
	baz=237,SNR=28						
J26L	**Joseph Creek**	**83.55**	**23**	IAms_20	IAms_20	04 01 27.6	
	comp=Z,6μm,19.0s						
J26L	**Joseph Creek**	**83.55**	**23**	P	**P**	**03 22 45.4**	**-0.1**
	baz=244						
KSH	**Kashi**	**83.58**	**311**	P	**P**	**03 22 49.0**	**+2.7**
KSH				pP	sP	03 23 03.0	+1.2
KSH				PP	PP	03 26 07.8	+8.6
KSH				S	**S**	**03 33 08.0**	**+2.1**
KSH				SS	**SS**	**03 38 40.5**	**+7.5**
KSH				pmax	pmax		
	comp=Z,90nm,1.2s						
KSH				pmax	pmax		
	comp=Z,2μm,3.2s						
KSH				LR	LR		
	comp=Z,5μm,19.0s						
KSH				LR	LR		
	comp=Z,3μm,18.4s						
KSH				LR	LR		
	comp=Z,6μm,20.9s						
MDOK	**Medeo**	**83.59**	**314**	*e*P	**P**	**03 22 46.0**	**-0.3**
MDOK				*e*S	**S**	**03 33 04.5**	**-1.5**
MDOK	**Medeo**	**83.59**	**314**	*e*P	**P**	**03 22 46.0**	**-0.3**
	baz=314						
MDOK				*e*S	**S**	**03 33 04.5**	**-1.5**
	baz=314						
L27K	**Beaver Creek,**	**83.61**	**25**	IAms_20	IAms_20	03 54 18.5	
	comp=Z,9μm,22.0s						
L27K	**Beaver Creek,**	**83.61**	**25**	P	**P**	**03 22 46.0**	**+0.3**
	baz=245						
BCAR	**Beaver Creek A**	**83.63**	**25**	P	**P**	**03 22 46.4**	**+0.5**
YUK3	**Moose Creek**	**83.67**	**26**	P	**P**	**03 22 46.5**	**+0.2**
	baz=247,SNR=6.7						
AAA	**Alma-Ata**	**83.70**	**314**	*e*P	**P**	**03 22 46.3**	**-0.4**
AAA				*e*S	**S**	**03 33 04.5**	**-2.3**
AAA	**Alma-Ata**	**83.70**	**314**	*e*P	**P**	**03 22 46.3**	**-0.4**
	baz=314						
AAA				*e*S	**S**	**03 33 04.5**	**-2.3**
	baz=314						
BVCY	**Beaver Creek**	**83.75**	**25**	P	**P**	**03 22 47.1**	**+0.6**
	baz=246,SNR=8.6						
CHKK	**Chushkaly**	**83.80**	**315**	*e*P	**P**	**03 22 46.2**	**-1.0**
	baz=315						
FYU	**Fort Yukon**	**83.89**	**21**	IAmb	IAmb	03 23 13.7	
	comp=Z,150nm,1.4s						
FYU				IAms_20	IAms_20	03 58 22.4	
	comp=Z,5μm,20.0s						
ULHL	**Ulahol**	**83.97**	**313**	P	**P**	**03 22 49.8**	**+1.5**
	SNR=29						
KUU	**Kurty**	**84.26**	**315**	*e*P	**P**	**03 22 48.6**	**-0.9**
KUU				*e*S	**S**	**03 33 08.3**	**-4.0**
KUU				pmax	pmax		
	comp=Z,251nm,1.0s						
KUU	**Kurty**	**84.26**	**315**	*e*P	**P**	**03 22 48.6**	**-0.9**
	comp=Z,251nm,1.0s,baz=315						
KUU				*e*S	**S**	**03 33 08.4**	**-4.0**
	baz=315						
KURK	**Kurchatov**	**84.41**	**322**	P	**P**	**03 22 50.7**	**+0.6**
KURK				pmax	pmax		
	comp=Z,611nm,1.4s						
KURK				MLR	MLR		
	comp=Z,5μm,19.0s						
KURK	**Kurchatov**	**84.41**	**322**	P	**P**	**03 22 50.7**	**+0.6**
KURK				P	**P**	**03 22 50.7**	**+0.6**
KURK	**Kurchatov**	**84.41**	**322**	P	**P**	**03 22 50.7**	**+0.6**
KURK	**Kurchatov**	**84.41**	**322**	P	**P**	**03 22 50.6**	**+0.6**
KURK				pP	**pP**	**03 23 00.1**	**-1.1**
SIT	**Sitka**	**84.42**	**31**	P	**P**	**03 22 50.2**	**+0.3**
	baz=252						
KURBB	**Kurchatov Arra**	**84.44**	**322**	P	**P**	**03 22 50.3**	**+0.1**
	comp=Z,105nm,1.0s,baz=105,slow=4.0,SNR=405						
KURBB				S	**S**	**03 33 10.6**	**-3.1**
	comp=Z,1.2nm,0.2s,baz=102,slow=8.9,SNR=4.2						
KURBB				PKKPbc	**PKKPbc**	**03 41 03.5**	**-0.4**
	comp=Z,9.1nm,1.1s,baz=286,slow=3.0,SNR=18						
KURBB				LR	LR	04 00 23.0	
	comp=Z,4μm,20.3s,baz=85,slow=36						
BMAR	**Burnt Mountain**	**84.52**	**20**	P	**P**	**03 22 51.0**	**+0.7**
TKM2	**Tokmak 2**	**84.58**	**314**	P	**P**	**03 22 52.7**	**+1.3**
	SNR=124						
TKM2	**Tokmak 2**	**84.58**	**314**	P	**P**	**03 22 52.2**	**+0.8**
EGAK	**Eagle**	**84.60**	**23**	IAmb	IAmb	03 23 38.6	
	comp=Z,115nm,1.1s						
EGAK				IAms_20	IAms_20	03 58 44.5	
	comp=Z,7μm,20.0s						
EGAK	**Eagle**	**84.60**	**23**	P	**P**	**03 22 50.6**	**-0.1**
	baz=246						
NIL	**Nilore**	**84.61**	**304**	P	**P**	**03 22 51.8**	**+0.3**
NIL				pmax	pmax		
	comp=Z,740nm,1.2s						
NIL	**Nilore**	**84.61**	**304**	P	**P**	**03 22 52.1**	**+0.6**
NIL				P	**P**	**03 22 52.1**	**+0.6**
NIL	**Nilore**	**84.61**	**304**	P	**P**	**03 22 51.8**	**+0.3**
NIL	**Nilore**	**84.61**	**304**	P	**P**	**03 22 52.2**	**+0.7**
NIL				pP	**pwP**	**03 23 05.4**	**-0.6**
QSPA	**South Pole Qui**	**84.70**	**180**	LR	LR	03 58 09.3	
	comp=Z,4μm,19.9s,baz=13,slow=34						
QSPA	**South Pole Qui**	**84.70**	**180**	P	**P**	**03 22 52.0**	**+0.6**
QSPA	**South Pole Qui**	**84.70**	**180**	P	**P**	**03 22 51.6**	**+0.2**
KBK	**Karagaybulak**	**84.99**	**314**	P	**P**	**03 22 55.0**	**+1.5**
	SNR=36						
DAWY	**Dawson**	**85.02**	**24**	IAmb	IAmb	03 23 25.2	
	comp=Z,159nm,1.4s						
DAWY	**Dawson**	**85.02**	**24**	P	**P**	**03 22 53.3**	**+0.4**
	baz=247,SNR=14						
CRAG	**Craig**	**85.12**	**33**	P	**P**	**03 22 53.1**	**-0.3**
	baz=254						
SKAG	**Skagway**	**85.19**	**29**	P	**P**	**03 22 53.7**	**0.0**
	baz=251						
CHMS	**Chumysh**	**85.20**	**314**	P	**P**	**03 22 55.6**	**+1.3**
	SNR=167						
UCH	**Uchtor**	**85.22**	**313**	P	**P**	**03 22 56.8**	**+1.9**
	SNR=195						
AAK	**Ala-Archa**	**85.31**	**313**	P	**P**	**03 22 56.4**	**+1.5**
	comp=Z,118nm,0.9s,baz=128,slow=4.2,SNR=189						
AAK				LR	LR	04 01 23.5	
	comp=Z,4μm,20.5s,baz=108,slow=36						
AAK	**Ala-Archa**	**85.31**	**313**	P	**P**	**03 22 56.5**	**+1.5**
	SNR=113						
AAK	**Ala-Archa**	**85.31**	**313**	P	**P**	**03 22 56.3**	**+1.3**
AAK				pmax	pmax		
	comp=Z,314nm,1.2s						
AAK				MLR	MLR		
	comp=Z,5μm,19.0s						
AAK	**Ala-Archa**	**85.31**	**313**	P	**P**	**03 22 56.5**	**+1.5**
AAK				P	**P**	**03 22 56.5**	**+1.5**
AAK	**Ala-Archa**	**85.31**	**313**	P	**P**	**03 22 56.3**	**+1.3**
AAK	**Ala-Archa**	**85.31**	**313**	P	**P**	**03 22 56.4**	**+1.5**
AAK				pP	**pP**	**03 23 05.9**	**-0.3**
AAK	**Ala-Archa**	**85.31**	**313**	*i*P	**P**	**03 22 55.6**	**+0.5**
	SNR=135						
MAW	**Mawson**	**85.32**	**203**	P	**P**	**03 22 54.8**	**+0.5**
	comp=Z,153nm,1.0s,baz=85,slow=5.2,SNR=37						
MAW				LR	LR	03 57 23.7	
	comp=Z,5μm,21.6s,baz=84,slow=33						

BTLS	Baital	86.11	316	*i* S		SKSac	03 33 19.5	-2.3
	baz=316							
BTLS				*e*S		SKSac	03 33 20.2	-1.7
	baz=316							
BHUJ	Bhuj	86.20	294	*e*P		P	03 22 59.9	+0.3
MAYO	Mayo, Yukon	86.30	25	P		P	03 22 59.9	+0.7
	baz=250,SNR=6.6							
M31M	Drury Creek, Y	86.50	27	IAmb		IAmb	03 23 53.7	
	comp=Z,293nm,1.6s							
M31M	Drury Creek, Y	86.50	27	P		P	03 23 00.4	+0.1
	baz=252,SNR=11							
NRIK	Noril'sk	86.55	341	P		P	03 23 00.4	+0.1
	comp=Z,50nm,0.9s,baz=123,slow=5.2,SNR=74							
NRIK				PKKPbc		PKKPbc	03 40 56.8	-2.7
	comp=Z,5.0nm,1.0s,baz=286,slow=4.2,SNR=5.2							
NRIK				PKPPKP		P'P'df	03 49 03.9	+1.7
	comp=Z,1.0nm,0.3s,baz=297,slow=4.1,SNR=4.4							
NRIK				LR		LR	04 00 47.5	
	comp=Z,5μm,21.1s,baz=116,slow=35							
NRIK	Noril'sk	86.55	341	*c e*P		P	03 23 00.4	+0.1
NRIK				pmax		pmax		
	comp=Z,120nm,1.1s							
NRIK				MLR		MLR		
	comp=Z,5μm,20.0s							
NRIK	Noril'sk	86.55	341	IAmb		IAmb	03 23 18.8	
	comp=Z,233nm,1.3s							
P33M	Teslin, Yukon	86.63	29	IAmb		IAmb	03 23 33.0	
	comp=Z,133nm,1.6s							
P33M				IAMs_20		IAMs_20	03 56 31.4	
	comp=Z,9μm,20.0s							
P33M	Teslin, Yukon	86.63	29	P		P	03 23 01.1	+0.1
	baz=254							
FARO	Faro, Yukon	86.97	27	P		P	03 23 02.9	+0.3
	baz=253,SNR=11							
BBB	Bella Bella	87.18	37	LR		LR	03 59 33.9	
	comp=Z,3μm,18.1s,baz=262,slow=34							
DLBC	Dease Lake	87.54	31	P		P	03 23 05.4	0.0
	comp=Z,12nm,1.0s,baz=262,slow=6.9,SNR=8.8							
DLBC				LR		LR	03 55 10.1	
	comp=Z,10μm,21.8s,baz=281,slow=31							
DZA	Taraz	87.65	313	*e*P		P	03 23 05.6	-0.7
DZA				*e*S		SKSac	03 33 29.4	-2.1
DZA	Taraz	87.65	313	*e*P		P	03 23 05.6	-0.7
	baz=313							
DZA				*e*S		SKSac	03 33 29.4	-2.1
	baz=313							
OTUK	Ortayu	87.86	319	P		P	03 23 07.0	-0.2
JCC	Jacoby Creek,	87.90	49	IAMs_20		IAMs_20	03 56 05.2	
	comp=Z,7μm,21.0s							
BRZS	Berezniki	87.96	320	*e*P		P	03 23 05.8	-1.8
BRZS				pmax		pmax		
	comp=Z,50nm,1.9s							
BRZS	Berezniki	87.96	320	*e*P		P	03 23 05.8	-1.8
	comp=Z,50nm,1.9s,baz=320							
KBL	Kabul	88.20	305	P		P	03 23 09.3	0.0
KBL				pmax		pmax		
	comp=Z,98nm,1.1s							
KBL	Kabul	88.20	305	P		P	03 23 08.4	-0.9
	SNR=47							
KBL				P		P	03 23 08.4	-0.9
	SNR=47							
KBL	Kabul	88.20	305	P		P	03 23 09.3	0.0
KBL				IAmb		IAmb	03 23 23.7	
	comp=Z,98nm,1.1s							
KBL	Kabul	88.20	305	P		P	03 23 08.7	-0.7
KBL				pP		pwP	03 23 22.2	-1.6
KKAR	Karatay Array	88.28	313	P		P	03 23 09.8	+0.5
KKAR	Karatay Array	88.28	313	P		P	03 23 09.8	+0.5
J01E	Myrtle Point	88.33	47	IAMs_20		IAMs_20	04 02 17.4	
	comp=Z,5μm,19.0s							
J01E	Myrtle Point	88.33	47	P		P	03 23 09.0	-0.4
	baz=261							
MCCM	Marconi Confer	88.40	52	IAMs_20		IAMs_20	03 55 45.5	
	comp=Z,8μm,20.0s							
L02E	Cave Junction	88.42	48	P		P	03 23 08.9	-1.1
	baz=262							
K02D	Willamette Mer	88.45	47	P		P	03 23 08.8	-1.4
	baz=261							
IUG	Iuzhnay	88.49	312	*e*P		P	03 23 09.7	-0.7
IUG				*e*S		SKSac	03 33 35.5	-1.3
IUG	Iuzhnay	88.49	312	*e*P		P	03 23 09.7	-0.7
	baz=312							
IUG				*e*S		SKSac	03 33 35.5	-1.3
	baz=312							
WTLY	Watson Lake, Y	88.55	29	P		P	03 23 09.1	-1.1
	baz=257							
INK	Inuvik	88.72	21	P		P	03 23 10.3	-0.4
	comp=Z,40nm,1.2s,baz=230,slow=5.5,SNR=34							
INK				S		SKSac	03 33 34.8	-1.9
	comp=Z,1.1nm,0.8s,baz=47,slow=33,SNR=7.4							
INK				LR		LR	03 59 15.1	
	comp=Z,7μm,21.6s,baz=234,slow=33							
INK	Inuvik	88.72	21	IAmb		IAmb	03 23 54.7	
	comp=Z,189nm,1.6s							
INK	Inuvik	88.72	21	P		P	03 23 10.2	-0.5
	baz=252							
BRLS	Boroldoy	88.76	313	*e*P		P	03 23 11.5	0.0
BRLS				*e*S		SKSac	03 33 36.7	-1.4
BRLS	Boroldoy	88.76	313	*e*P		P	03 23 11.6	0.0
	baz=313							
BRLS				*e*S		SKSac	03 33 36.8	-1.4
	baz=313							
I03D	Drain, OR	88.83	46	P		P	03 23 10.9	-0.9
	baz=262							
M02C	Callahan	88.86	48	P		P	03 23 12.4	+0.3
	baz=262							
N02D	Trinity Center	88.92	49	IAmb		IAmb	03 23 50.2	
	comp=Z,202nm,1.9s							
N02D	Trinity Center	88.92	49	P		P	03 23 12.7	+0.3
	baz=262							
HUMO	Hull Mountain	88.96	47	IAMs_20		IAMs_20	03 56 25.0	
	comp=Z,7μm,20.0s							
COR	Corvallis	88.99	45	IAMs_20		IAMs_20	03 59 31.8	
	comp=Z,5μm,19.0s							
NLWA	Neilton Lookou	89.02	42	IAMs_20		IAMs_20	03 55 35.3	
	comp=Z,7μm,20.0s							
YBH	Yreka Blue Hor	89.02	48	P		P	03 23 12.9	+0.1
	comp=Z,5.8nm,1.1s,baz=269,slow=12,SNR=3.7							
YBH				LR		LR	03 58 14.9	
	comp=Z,9μm,19.3s,baz=272,slow=32							
G03D	McMinnville, O	89.11	45	IAMs_20		IAMs_20	03 56 08.9	
	comp=Z,8μm,20.0s							
SAO	San Andreas Ge	89.35	53	IAMs_20		IAMs_20	03 58 48.7	
	comp=Z,6μm,19.0s							
H04D	Lebanon	89.38	45	IAMs_20		IAMs_20	04 00 03.2	
	comp=Z,5μm,19.0s							
H04D	Lebanon	89.38	45	P		P	03 23 13.7	-0.7
	baz=262							
L04D	Klamath Falls	89.38	48	IAMs_20		IAMs_20	03 58 17.3	
	comp=Z,8μm,20.0s							
L04D	Klamath Falls	89.38	48	P		P	03 23 14.0	-0.7
	baz=262							
O03E	Paynes Creek	89.51	50	IAMs_20		IAMs_20	03 56 44.8	
	comp=Z,7μm,20.0s							
I04A	Tendick Farm,	89.51	46	P		P	03 23 13.9	-1.2
	baz=262							
D03D	Eldon	89.56	42	P		P	03 23 13.9	-1.3
	baz=262							
ORV	Oroville	89.65	50	IAMs_20		IAMs_20	03 55 22.5	
	comp=Z,8μm,22.0s							
J04D	Umpqua Nationa	89.66	47	IAmb		IAmb	03 24 04.1	
	comp=Z,129nm,1.3s							
J04D	Umpqua Nationa	89.66	47	P		P	03 23 14.8	-1.2
	baz=262							
M04C	Macdoel	89.67	48	IAMs_20		IAMs_20	03 58 46.0	
	comp=Z,8μm,19.0s							
M04C	Macdoel	89.67	48	P		P	03 23 14.5	-1.5
	baz=263							
E04D	Cinebar	89.78	43	P		P	03 23 14.7	-1.5
	baz=262							
F04A	Amboy	89.80	44	IAmb		IAmb	03 23 51.6	
	comp=Z,146nm,1.5s							
K04D	Chiloquin, OR	89.84	47	P		P	03 23 16.1	-0.7
	baz=263							
BVAR	Borovoye Array	89.88	323	P		P	03 23 16.3	-0.3
	comp=Z,110nm,0.8s,baz=90,slow=8.9,SNR=364							
BRVK	Borovoye	89.95	323	P		P	03 23 16.6	-0.3
BRVK				pmax		pmax		
	comp=Z,182nm,1.1s							
BRVK	Borovoye	89.95	323	P		P	03 23 16.4	-0.4
BRVK				P		P	03 23 16.4	-0.4
BRVK	Borovoye	89.95	323	P		P	03 23 16.6	-0.3
BRVK				IAmb		IAmb	03 23 36.7	
	comp=Z,182nm,1.1s							
BRVK	Borovoye	89.95	323	IAMs_20		IAMs_20	04 01 26.5	
	comp=Z,6μm,22.0s							
BRVK	Borovoye	89.95	323	P		P	03 23 16.5	-0.3
BRVK				pP		pP	03 23 26.3	-1.8
A04D	Lummi Island	89.98	41	P		P	03 23 16.8	-0.3
	baz=262							
D05A	Enumclaw	90.25	43	IAmb		IAmb	03 24 07.7	
	comp=Z,150nm,1.4s							
J05D	Fort Rock, OR	90.30	47	P		P	03 23 18.1	-0.8
	baz=263							
B05A	Bryant	90.32	42	P		P	03 23 18.3	-0.3
	baz=262							
I05D	Terrebonne, OR	90.35	46	P		P	03 23 18.5	-0.5
	baz=263							
SMMC	Simmler	90.35	55	P		P	03 23 18.1	-1.1
	baz=264							
F05D	White Salmon	90.45	44	P		P	03 23 18.0	-1.4
	baz=263							
PKM	Mcpherson Peak	90.45	55	P		P	03 23 18.7	-1.2
	baz=264							
G05D	Wamic, OR	90.47	45	P		P	03 23 19.0	-0.5
	baz=263							
K05A	Summer Lake	90.48	47	IAmb		IAmb	03 24 02.2	
	comp=Z,147nm,1.5s							
PINE	Pine Mountain	90.57	46	IAmb		IAmb	03 23 56.1	
	comp=Z,121nm,1.4s							
MPK	Martis Peak	90.75	51	IAmb		IAmb	03 24 10.4	
	comp=Z,121nm,1.4s							
PNTR	Pine Nut	91.06	51	P		P	03 23 23.1	+0.4
PNTR				IAmb		IAmb	03 24 11.9	
	comp=Z,83nm,1.2s							
YERR	Yerington	91.33	51	IAmb		IAmb	03 24 12.8	
	comp=Z,91nm,1.5s							
ISA	Isabella, Lake	91.62	55	P		P	03 23 24.9	-0.3
ISA				pmax		pmax		
	comp=Z,41nm,1.5s							
ISA	Isabella, Lake	91.62	55	P		P	03 23 24.9	-0.3
WRGLY	Wrigley	91.63	27	P		P	03 23 24.4	0.0
	baz=262							
I07A	Izee	91.63	46	IAmb		IAmb	03 24 13.8	
	comp=Z,107nm,1.5s							
E07A	Sunnyside	91.64	44	IAmb		IAmb	03 24 00.5	
	comp=Z,164nm,1.6s							
LHV	Little Huntoon	91.83	52	IAmb		IAmb	03 24 15.4	
	comp=Z,113nm,1.3s							
MWC	Mount Wilson	91.83	56	IAmb		IAmb	03 23 52.5	
	comp=Z,90nm,1.2s							
HAWA	Hanford	91.84	44	IAmb		IAmb	03 24 01.4	
	comp=Z,114nm,1.5s							
EDW2	Edwards Air Fo	91.94	55	P		P	03 23 26.5	-0.2
	baz=265							
NVAR	Mina Array Bea	92.01	52	P		P	03 23 27.4	+0.4
	comp=Z,4.1nm,0.9s,baz=258,slow=6.4,SNR=23							
NVAR				PKKPbc		PKKPbc	03 40 46.2	+1.2
	comp=Z,1.4nm,1.0s,baz=132,slow=0.8,SNR=4.8							
NVAR				PKPPKP		P'P'df	03 48 54.3	-0.2
	comp=Z,0.5nm,0.9s,baz=48,slow=2.2,SNR=3.9							
NVAR				LR		LR	03 57 21.6	
	comp=Z,9μm,21.7s,baz=268,slow=31							
NVAR	Mina Array Bea	92.01	52	P		P	03 23 27.2	+0.2
CWC	Cottonwood Cre	92.01	54	P		P	03 23 26.8	-0.3
	baz=265							
PNT	Penticton	92.07	41	P		P	03 23 23.1	-3.7
PNT				pmax		pmax		
	comp=Z,83nm,1.2s							
WVOR	Wild Horse Val	92.11	48	IAmb		IAmb	03 24 25.1	
	comp=Z,74nm,1.4s							
NV11	Mina Array Sit	92.12	52	IAmb		IAmb	03 24 16.3	
	comp=Z,109nm,1.4s							
B08A	Colville Reser	92.17	42	IAmb		IAmb	03 24 03.5	
	comp=Z,81nm,1.6s							
KVN	Kaiserville	92.22	51	IAmb		IAmb	03 24 03.6	
	comp=Z,64nm,1.3s							
LRMC	Laurel Mtn Rad	92.25	55	P		P	03 23 27.3	-0.8
	baz=265							
C36M	Paulatuk	92.30	21	IAMs_20		IAMs_20	04 03 28.7	
	comp=Z,7μm,20.0s							
C36M	Paulatuk	92.30	21	P		P	03 23 27.4	+0.1
	baz=261							
J08A	Circle Bar Ran	92.31	47	IAmb		IAmb	03 24 16.1	
	comp=Z,67nm,1.3s							
D08A	Wollman Farm,	92.32	43	IAmb		IAmb	03 24 19.0	
	comp=Z,182nm,2.0s							
A36M	Sachs Harbour	92.33	18	IAMs_20		IAMs_20	04 03 48.6	
	comp=Z,7μm,20.0s							
A36M	Sachs Harbour	92.33	18	P		P	03 23 27.6	+0.1
	baz=260							
MPMC	Manual Prospec	92.45	54	P		P	03 23 28.7	-0.4
	baz=265							
109C	Camp Elliot, M	92.51	57	IAMs_20		IAMs_20	03 59 29.8	
	comp=Z,7μm,19.0s							
E09A	Wood Farm, Sta	92.81	44	IAmb		IAmb	03 24 05.7	
	comp=Z,118nm,1.3s							
QSM	Queen of Sheba	92.95	54	IAmb		IAmb	03 24 06.9	
	comp=Z,80nm,1.4s							
GSC	Goldstone, Bar	92.95	55	P		P	03 23 31.5	+0.2
	baz=266							
FURC	Furnace Creek,	92.99	54	P		P	03 23 31.8	+0.5
	baz=266							
MONP2	Monument Peak	93.09	57	P		P	03 23 32.7	+0.6
	baz=266							
PFO	Pinyon Flats O	93.11	57	P		P	03 23 33.9	+1.7
	comp=Z,8.4nm,1.1s,baz=202,slow=3.9,SNR=5.3							
PFO				LR		LR	04 00 29.9	
	comp=Z,5μm,18.9s,baz=264,slow=32							
PFO	Pinyon Flats O	93.11	57	P		P	03 23 31.8	-0.3
PFO				pmax		pmax		
	comp=Z,73nm,1.6s							
PFO				MLR		MLR		
	comp=Z,5μm,18.0s							
PFO	Pinyon Flats O	93.11	57	P		P	03 23 31.8	-0.3
PFO				IAmb		IAmb	03 24 23.6	
	comp=Z,73nm,1.6s							
PFO	Pinyon Flats O	93.11	57	IAMs_20		IAMs_20	04 03 48.6	
	comp=Z,5μm,18.0s							
PFO	Pinyon Flats O	93.11	57	P		P	03 23 32.1	0.0
	baz=266							
TPFO	Pinon Flats	93.11	57	P		P	03 23 32.7	+0.6
	baz=266							
GWY	Greenwater Val	93.12	54	IAmb		IAmb	03 24 28.6	
	comp=Z,80nm,1.6s							
BMO	Blue Mountains	93.27	45	IAmb		IAmb	03 24 07.8	
	comp=Z,111nm,1.4s							
HEC	Hector,Ludlow	93.30	55	P		P	03 23 33.7	+0.8
	baz=266							
IKP	In-Ko-Pah, Jac	93.33	58	P		P	03 23 34.1	+1.0
	baz=266							
SYO	Syowa Base	93.39	199	‖ *i* P		P	03 23 32.0	-0.5
SYO	Syowa Base	93.39	199	‖ *i* PcP		PcP	03 23 34.1	+1.1
F10A	Beach Ranch, E	93.40	44	IAmb		IAmb	03 24 08.2	
	comp=Z,98nm,1.5s							
SHOC	Shoshone, Teco	93.42	54	P		P	03 23 33.8	+0.4
	baz=266							
TPNV	Topopah Spring	93.52	53	IAmb		IAmb	03 24 09.7	
	comp=Z,80nm,1.6s							
TPNV	Topopah Spring	93.52	53	P		P	03 23 34.0	0.0
	baz=266							
BELC	Belle Mtn. Jos	93.52	56	P		P	03 23 34.0	0.0
	baz=266							
SWSC	Sam W. Stewart	93.61	57	P		P	03 23 34.6	+0.3
	baz=266							
NEW	Newport	93.63	42	P		P	03 23 34.0	-0.1
	comp=Z,6.3nm,1.0s,baz=238,slow=4.5,SNR=10							
NEW				LR		LR	03 59 34.8	
	comp=Z,6μm,20.8s,baz=267,slow=32							
NEW	Newport	93.63	42	P		P	03 23 34.0	-0.1
NEW	Newport	93.63	42	IAMs_20		IAMs_20	03 59 02.3	
	comp=Z,6μm,20.0s							
NEW	Newport	93.63	42	P		P	03 23 34.1	0.0
	baz=266							
TUQ	Turquoise Moun	93.68	55	P		P	03 23 34.4	-0.3
	baz=266							
BC3	Big Chuckawall	93.95	57	P		P	03 23 36.3	+0.4
	baz=266							
R11A	Troy Canyon, C	94.13	52	IAmb		IAmb	03 24 12.5	
	comp=Z,73nm,1.4s							
RPN	Rapa Nui	94.19	118	LR		LR	03 59 00.5	
	comp=Z,4μm,20.7s,baz=264,slow=31							
PLID	Pearl Lake	94.21	45	IAMs_20		IAMs_20	04 10 06.9	
	comp=Z,6μm,18.0s							
IRM	Iron Mountain	94.24	56	P		P	03 23 37.6	+0.5
	baz=266							
MFID	Camas Ranch	94.24	47	P		P	03 23 37.5	+0.4
MFID				IAmb		IAmb	03 24 03.9	
	comp=Z,138nm,2.0s							
SHPR	Sheep Range	94.36	54	P		P	03 23 38.3	+0.4
SHPR				IAmb		IAmb	03 24 14.1	
	comp=Z,69nm,1.3s							
GLA	Glamis	94.44	57	P		P	03 23 38.8	+0.6
	baz=267							
PRN	Pahroc Range	94.50	53	IAmb		IAmb	03 24 27.8	
	comp=Z,96nm,1.3s							
ELK	Elko	94.53	50	LR		LR	03 59 55.4	
	comp=Z,9μm,20.7s,baz=277,slow=32							
PDMCI	Parker Dam,Lak	95.07	56	P		P	03 23 40.9	-0.1
	baz=267							
SPR3	Spring Creek 3	95.14	51	IAmb		IAmb	03 24 30.7	
	comp=Z,84nm,1.4s							
HLID	Hailey	95.27	47	IAMs_20		IAMs_20	03 59 08.2	
	comp=Z,6μm,22.0s							
HLID	Hailey	95.27	47	P		P	03 23 42.7	+0.8
	baz=268							
JLN	Jalan Bani Buh	95.52	292	P		P	03 23 42.1	-1.1
JLN	SNR=21							
				P		P	03 23 42.1	-1.1
	SNR=21							
YKA	Yellowknife Ar	95.62	28	P		P	03 23 42.8	0.0
	comp=Z,8.7nm,0.9s,baz=268,slow=4.6,SNR=90							
YKA				PKiKP		PKiKP	03 28 23.4	+1.0
	comp=Z,1.9nm,0.9s,baz=267,slow=1.2,SNR=6.3							
YKA				PKKPbc		PKKPdf	03 40 39.6	+3.1
	comp=Z,3.5nm,1.0s,baz=86,slow=2.7,SNR=12							
YKA				PKPPKP			03 48 44.3	
	comp=Z,0.3nm,0.9s,baz=49,slow=1.8,SNR=4.6							
YKA				LR		LR	04 02 44.4	
	comp=Z,6μm,20.1s,baz=272,slow=33							
YKA	Yellowknife Ar	95.62	28	P		P	03 23 42.9	+0.2
MSO	Missoula	95.72	44	P		P	03 23 44.7	+0.9
	baz=268							
WALA	Waterton Lakes	95.79	41	IAmb		IAmb	03 24 43.9	
	comp=Z,88nm,1.4s							
SVE	Sverdlovsk	95.81	326	‖ *i* P		P	03 23 43.7	-0.1
SVE				*e*S		SKSac	03 34 16.5	-0.4
SVE				pmax		pmax		
	comp=Z,159nm,1.5s							
SVE				MLR		MLR		
	comp=Z,6μm,19.0s							
SVE				MLR		MLR		
	comp=E,5μm,19.0s							
CCUT	Cedar City	95.85	53	IAmb		IAmb	03 24 34.4	
	comp=Z,78nm,1.6s							
WBK	Wadi Bani Khal	95.95	292	P		P	03 23 44.7	-0.6
	SNR=25							
SZCU	Shurtz Canyon	96.07	53	IAmb		IAmb	03 24 35.2	
	comp=Z,61nm,1.3s							
214A	Organ Pipe Nat	96.08	59	P		P	03 23 46.1	+0.4
	baz=268							
AB31	Akbulak array	96.12	319	*i* P		P	03 23 43.6	-1.8
ABKAR	Akbulak array	96.12	319	P		P	03 23 44.8	-0.6
ABKAR						pwP	03 23 58.1	-1.7
ABKAR	Akbulak array	96.12	319	IAmb		IAmb	03 24 01.7	
	comp=Z,134nm,1.6s							
EDM	Edmonton	96.21	37	IAmb		IAmb	03 24 34.5	
	comp=Z,90nm,1.3s							
KNB	Kanab	96.26	53	IAmb		IAmb	03 24 37.0	
	comp=Z,130nm,1.5s							
WSAR	Wadi Sarin	96.30	293	P		P	03 23 46.5	-0.3
	comp=Z,26nm,0.9s,baz=123,slow=6.4,SNR=20							
WSAR				LR		LR	04 08 44.6	
	comp=Z,926nm,20.2s,baz=112,slow=36							
WSAR	Wadi Sarin	96.30	293	P		P	03 23 46.3	-0.5
	SNR=22							
DUG	Dugway, Tooele	96.36	50	IAMs_20		IAMs_20	04 00 19.1	
	comp=Z,6μm,21.0s							
DUG	Dugway, Tooele	96.36	50	P		P	03 23 46.3	-0.6
	baz=268							
DLMT	Dillon	96.62	45	IAMs_20		IAMs_20	03 59 56.7	
	comp=Z,6μm,22.0s							
U15A	North Rim	96.67	54	IAmb		IAmb	03 24 46.4	
	comp=Z,82nm,1.6s							
JMDO	Jabal Madar	96.74	292	P		P	03 23 48.0	-0.9
JMDO				P		P	03 23 48.0	-0.9
BIDO	Bidbid	96.77	293	P		P	03 23 48.3	-0.7
	SNR=32							
MTPU	Mount Pierson	96.80	52	IAmb		IAmb	03 24 17.3	
	comp=Z,70nm,1.5s							
SMDO	Samad	96.82	293	P		P	03 23 48.4	-0.9
	SNR=22							
SMDO				P		P	03 23 48.4	-0.9
	SNR=22							
ARU	Arti	96.95	326	P		P	03 23 48.4	-0.6
	comp=Z,20nm,0.8s,baz=102,slow=2.5,SNR=44							
ARU				LR		LR	04 08 15.8	
	comp=Z,6μm,20.9s,baz=86,slow=36							
ARU	Arti	96.95	326 *c i* P			P	03 23 47.6	-1.4
ARU							03 27 43.0	
ARU				PPP		PPP	03 29 50.3	
ARU				S		SKSac	03 34 21.8	-1.1
ARU				SP		SP	03 36 32.7	+3.4
ARU				PS		PS	03 37 19.4	+45
ARU				SS		SS	03 41 38.5	-6.6
ARU				SSS		SSS	03 45 36.3	
ARU				pmax		pmax		
	comp=Z,89nm,1.1s							
ARU				MLR		MLR		
	comp=Z,6μm,21.0s							
ARU	Arti	96.95	326	P		P	03 23 48.1	-0.9
ARU				IAMs_20		IAMs_20	04 08 02.6	
	comp=Z,6μm,20.0s							
ARU	Arti	96.95	326	P		P	03 23 47.9	-1.1
GEYT	Alibeck	97.26	307	P		P	03 23 50.0	-0.8
	comp=Z,10.0nm,1.0s,baz=224,slow=10,SNR=7.6							
GEYT				LR		LR	04 09 02.9	
	comp=Z,3μm,21.1s,baz=99,slow=36							
GEYT	Alibeck	97.26	307	P		P	03 23 50.8	-0.1
GYA0B	ALIBECK ARRAY	97.26	307	IAmb		IAmb	03 24 08.6	
	comp=Z,49nm,1.2s							
BOZ	Bozeman (W)	97.30	45	IAMs_20		IAMs_20	03 59 52.7	
	comp=Z,6μm,22.0s							
BOZ	Bozeman (W)	97.30	45	P		P	03 23 50.8	-0.3
	baz=270							
AKTO	Aktyubinsk	97.37	320	P		P	03 23 49.9	-1.1
	comp=Z,17nm,1.0s,baz=88,slow=5.6,SNR=29							
AKTO				LR		LR	04 07 15.0	
	comp=Z,3μm,21.9s,baz=85,slow=35							
WUAZ	Wupatki	97.39	55	IAMs_20		IAMs_20	04 02 42.7	
	comp=Z,5μm,20.0s							
HOQ	Hoqain	97.53	293	P		P	03 23 51.6	-0.7
	SNR=24							
BSY	Bisya	97.59	292	P		Pdif	03 23 53.3	+0.5
	SNR=18							
BSY				P		Pdif	03 23 53.3	+0.5
	SNR=18							
TUC	Tucson	97.81	58	IAMs_20		IAMs_20	04 04 22.1	
	comp=Z,5μm,19.0s							
TUC	Tucson	97.81	58	P		Pdif	03 23 55.3	+1.7
	baz=269							
MOOW	Moose Ponds	97.94	47	IAMs_20		IAMs

SNR=17
ASHO Ashiyiah 98.71 294 *i* P **P 03 23 56.5 -1.2**
SNR=9.5
BW06 Boulder Array 98.82 48 P **P 03 23 56.6 -1.4**
baz=271
PDAR Pinedale Array 98.82 48 P **P 03 23 56.9 -1.2**
comp=Z,2.6nm,1.1s,baz=279,slow=2.9,SNR=5.7
PDAR PP PP 03 28 13.3 +14
comp=Z,9.3nm,1.2s,baz=209,slow=3.4,SNR=3.6
PDAR PKKPbc **PKKPdf 03 40 33.5 +3.0**
comp=Z,0.7nm,0.8s,baz=119,slow=3.5,SNR=4.1
PDAR PKPPKP 03 48 44.9
comp=Z,0.8nm,0.9s,baz=119,slow=1.9,SNR=4.1
PDAR LR LR 04 04 52.1
comp=Z,8μm,18.9s,baz=280,slow=33
PDAR Pinedale Array 98.82 48 P **P 03 23 56.6 -1.4**
ALNE Al Ain 98.97 293 P **P 03 23 58.0 -0.9**
SNR=18
ALNE P **P 03 23 58.0 -0.9**
SNR=18
ALNE Al Ain 98.97 293 *i* P **P 03 23 58.1 -0.7**
SNR=15
RLMT Red Lodge 98.97 45 IAMs_20 IAMs_20 04 02 25.0
comp=Z,5μm,21.0s
RLMT Red Lodge 98.97 45 P **P 03 23 57.5 -1.1**
baz=272
FAQ Al Faqa, Dubai 99.14 294 P **Pdif 03 23 58.6 -0.9**
FAQ Al Faqa, Dubai 99.14 294 P **Pdif 03 23 58.6 -0.9**
ASUD Al Ashush, Dub 99.37 294 P **Pdif 03 24 01.2 +0.6**
ASUD Al Ashush, Dub 99.37 294 *i* P **Pdif 03 24 00.5 -0.1**
SNR=9.6
UMZA Um Al Zommool 99.47 292 P **Pdif 03 23 59.7 -1.3**
DMTO DMTO 99.49 287 P **Pdif 03 23 59.9 -1.4**
MVCO Mesa Verde 99.72 53 IAMs_20 IAMs_20 04 10 07.2
comp=Z,4μm,18.0s
MVCO Mesa Verde 99.72 53 P **Pdif 03 24 01.7 -0.5**
baz=271
O20A White River Ci 99.86 50 P **Pdif 03 24 02.9 +0.2**
baz=271
NVL N'lazarevskaya 99.91 192 *e*P **Pdif 03 24 02.4 +0.4**
NVL pmax pmax
comp=Z,61nm,1.8s
RBK Rabkut 100.19 287 P **Pdif 03 24 03.0 -1.4**
DOK Doka 100.30 288 P **Pdif 03 24 03.3 -1.5**
WHFO Wadi Hawf 100.61 287 P **Pdif 03 24 04.7 -1.6**
LAO LASA Array 101.02 44 IAMs_20 IAMs_20 04 04 37.0
comp=Z,6μm,20.0s
LAO LASA Array 101.02 44 P **Pdif 03 24 07.8 +0.3**
baz=274
S22A 4UR Ranch, Cre 101.03 53 P **Pdif 03 24 08.2 +0.1**
baz=272
ABTO Aybut 101.05 287 P **Pdif 03 24 07.0 -1.2**
SNR=14
Y22D IRIS PASSCAL I 101.05 56 IAMs_20 IAMs_20 04 05 45.8
comp=Z,5μm,19.0s
K22A Casper 101.06 48 P **Pdif 03 24 08.3 +0.4**
baz=273
ANMO Albuquerque 101.42 56 PP **PKiKP 03 28 32.5 -1.4**
comp=Z,3.6nm,1.1s,baz=267,slow=5.4,SNR=3.6
SNAA Sanae 101.63 188 Pdiff **Pdif 03 24 09.8 0.0**
SNAA Sanae 101.63 188 IAMs_20 IAMs_20 04 08 41.2
comp=Z,5μm,20.0s
KIRV Kirov 101.68 329 P **Pdif 03 24 09.2 -0.8**
comp=Z,6.7nm,0.5s,baz=144,slow=3.1,SNR=9.1
KIRV PP **PKiKP 03 28 32.6 -0.7**
comp=Z,11nm,0.6s,baz=86,slow=8.5,SNR=5.9
ISCO Idaho Springs 101.89 51 IAMs_20 IAMs_20 04 02 47.7
comp=Z,7μm,22.0s
ISCO Idaho Springs 101.89 51 P **Pdif 03 24 12.3 +0.4**
baz=273
PHWY Pilot Hill 101.93 49 IAMs_20 IAMs_20 04 05 41.4
comp=Z,4μm,20.0s
SDCO Great Sand Dun 102.08 53 IAMs_20 IAMs_20 04 09 24.9
comp=Z,4μm,19.0s
SDCO Great Sand Dun 102.08 53 P **Pdif 03 24 13.4 +0.7**
baz=273
DGMT Dagmar 102.23 42 IAMs_20 IAMs_20 04 05 55.0
comp=Z,6μm,20.0s
DGMT Dagmar 102.23 42 P **Pdif 03 24 13.5 +0.7**
baz=276
MNTX Cornudas Mount 102.40 59 IAMs_20 IAMs_20 04 05 58.7
comp=Z,6μm,19.0s
RSSD Black Hills 102.76 46 IAMs_20 IAMs_20 04 03 39.3
comp=Z,6μm,22.0s
RSSD Black Hills 102.76 46 P **Pdif 03 24 16.0 +0.4**
baz=275
FFC Flin Flon 102.79 35 IAMs_20 IAMs_20 04 06 04.1
comp=Z,5μm,21.0s
VNA3 Neumayer Olymp 102.81 186 Pdiff **Pdif 03 24 15.0 0.0**
VNA2 Neumayer--Watz 102.88 186 Pdiff **Pdif 03 24 15.1 -0.1**
baz=158,slow=2.1
PRGR Permogore 102.95 332 *e*P **Pdif 03 24 16.2 +0.6**
PRGR *e* 03 34 51.6
PRGR pmax pmax
comp=Z,106nm,1.0s
VOI Vohitsoka 103.20 246 P **Pdif 03 24 30.9 +13**
ABPO Ambohimpanom 103.34 249 IAMs_20 IAMs_20 04 09 44.8
comp=Z,4μm,20.0s
NOR Nord 103.55 358 *i* P **Pdif 03 24 16.8 -1.2**
TXAR Lajitas Array 103.95 61 Pdiff **Pdif 03 24 21.9 +0.9**
comp=Z,0.3nm,1.0s,baz=169,slow=0.9,SNR=2.2
TXAR PKiKP **PKiKP 03 28 41.0 +2.5**
comp=Z,3.0nm,1.0s,baz=336,slow=2.7,SNR=4.9
TXAR PP PP 03 28 52.3 +14
comp=Z,3.7nm,1.0s,baz=276,slow=4.9,SNR=6.0
TXAR PKKPbc **PKKPbc 03 40 13.2 +1.8**
comp=Z,2.6nm,0.9s,baz=124,slow=4.6,SNR=12
TXAR PKPPKP **P'P'df 03 48 34.4 +1.9**
comp=Z,0.4nm,0.9s,baz=132,slow=3.7,SNR=3.8
MAK Makhachkala 105.09 313 *i* P **Pdif 03 24 18.5 -7.1**
MAK *e* 03 28 42.7
MAK *e*PPP PPP 03 30 56.0
MAK *e* 03 34 58.6
MAK *e* 03 35 48.7
MAK *e*PS PS 03 37 56.6 -5.4
MAK *e*SS SS 03 43 36.1 -2.7
MAK pmax pmax
comp=Z,161nm,1.1s
MAK MLR MLR
comp=Z,2μm,19.0s
TULEG Thule 105.17 9 IAMs_20 IAMs_20 04 11 18.4
comp=Z,5μm,22.0s
AMTX Amarillo 105.34 55 IAMs_20 IAMs_20 04 07 04.2
comp=Z,5μm,20.0s
MDND Maddock 105.36 42 P **PKiKP 03 28 40.9 +0.4**
baz=279
APA Apatity 105.92 340 ⇓*i*P **Pdif 03 24 41.0 +12**
APA pmax pmax
comp=Z,15nm,1.0s
KLMR Klimovskoe 106.00 332 *e*P **Pdif 03 24 27.5 -1.7**
KLMR *e* 03 28 49.4
KLMR *e*PPP PPP 03 31 06.0
KLMR *e* 03 35 04.7
KLMR *e*PS PS 03 38 06.2 -4.5
KLMR pmax pmax
comp=Z,130nm,1.3s
KLMR Klimovskoe 106.00 332 *e*Pdif **Pdif 03 24 27.6 -1.7**
KLMR AMP 03 24 43.0
comp=Z,130nm,1.3s
KLMR *e*PP **PP 03 28 49.5 -3.2**
KLMR *e*PPP PPP 03 31 06.1
KLMR *e*SKSac **SKSac 03 35 04.8 -1.4**
KLMR *e*SKSac **SKSac 03 35 04.8 -1.4**
KLMR *e*PS **PS 03 38 06.2 -4.5**
KLMR *e*PS **PS 03 38 06.2 -4.5**
KLMR *e*PKKPbc **PKKPbc 03 40 02.9 -3.2**
KLMR *e*SS **SKKPbc 03 43 42.4 -4.3**
KLMR *e*SS **SKKPbc 03 43 42.4 -4.3**
KLMR LQ LQ 04 01 23.5
KLMR LQ LQ 04 01 23.5
KLMR LR LR 04 11 04.7
KLMR AMP 04 17 11.5
comp=Z,6μm,18.0s
SUSD Miller 106.34 45 P **PKiKP 03 28 42.9 +0.5**
baz=279
CBKS Cedar Bluff 106.52 51 P **PKiKP 03 28 43.3 +0.3**
baz=277
JCT Junction City 107.24 60 P **PKiKP 03 28 44.5 0.0**
baz=274
ULM Lac du Bonnet 107.31 39 PKiKP **PKiKP 03 28 44.0 0.0**
comp=Z,4.9nm,0.9s,baz=343,slow=2.8,SNR=3.7
ARCES ARCESS Array B 107.44 343 Pdiff **Pdif 03 24 34.9 -0.6**
comp=Z,6.2nm,0.9s,baz=5.7,slow=3.7,SNR=4.4
ARCES PKiKP **PKiKP 03 28 43.4 -0.3**
comp=Z,8.7nm,0.9s,baz=14,slow=2.6,SNR=19
ARCES PKKPbc **PKKPbc 03 40 02.5 +0.6**
comp=Z,5.9nm,1.0s,baz=230,slow=2.1,SNR=5.0
VRH Novokhopyorsk 107.51 322 *e*P **Pdif 03 24 33.1 -3.0**
VRH pmax pmax
comp=Z,6.0nm,0.5s
VRH MLR MLR
comp=Z,4μm,24.0s
OK035 E0210 Rd and N 107.57 53 IAMs_20 IAMs_20 04 11 17.1
comp=Z,4μm,19.0s
WMOK Wichita Mounta 107.73 55 IAMs_20 IAMs_20 04 10 48.5
comp=Z,4μm,19.0s
WMOK Wichita Mounta 107.73 55 P **PKiKP 03 28 44.6 -0.7**
baz=276
AGMN Agassiz Nation 107.74 41 IAMs_20 IAMs_20 04 07 34.7
comp=Z,5μm,20.0s
AGMN Agassiz Nation 107.74 41 P **PKiKP 03 28 45.1 +0.2**
baz=282
ECSD EROS Data Cent 108.13 46 P **PKiKP 03 28 46.0 +0.2**
baz=280,SNR=5.9
AKH Akhalkalaki 108.26 312 ⇑P PKiKP 03 28 59.0 +13
UNM Universidad Na 108.28 71 IAMs_20 IAMs_20 04 08 55.1
comp=Z,4μm,20.0s
DAG Danmarks Havn 108.40 358 *i* P **Pdif 03 24 38.3 -1.3**
MOS Moscow 108.59 327 *e*P **Pdif 03 24 39.6 -1.2**
MOS *e* 03 29 13.2
MOS *e*SS SS 03 44 38.2 +13
MOS pmax pmax
comp=Z,41nm,1.0s
MOS MLR MLR
comp=N,2μm,20.0s
MOS MLR MLR
comp=E,4μm,20.0s
MOS MLR MLR
comp=Z,5μm,20.0s
OK029 Liberty Lake 108.69 54 IAMs_20 IAMs_20 04 07 53.7
comp=Z,4μm,20.0s
OK025 Westminster Rd 108.81 54 IAMs_20 IAMs_20 04 07 27.0
comp=Z,5μm,21.0s
LPSR Galich'ya Gora 108.81 324 *e*P **Pdif 03 24 39.0 -2.9**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
KSU1 Kansas State U 108.90 51 P **PKiKP 03 28 47.7 +0.4**
baz=279
VSR Storozhevoye 109.06 323 *e*P **Pdif 03 24 43.5 +0.5**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR MLR MLR
comp=Z,4μm,21.0s
OK033 Mehan 109.07 54 IAMs_20 IAMs_20 04 10 56.9
comp=Z,5μm,19.0s
WHTX Lake Whitney, 109.11 58 P **PKiKP 03 28 48.0 +0.1**
baz=276
OK031 S. Brethren Rd 109.16 54 IAMs_20 IAMs_20 04 10 51.3
comp=Z,4μm,19.0s
OK030 Cody Creek RV 109.21 54 IAMs_20 IAMs_20 04 11 00.6
comp=Z,5μm,20.0s
OBN Obninsk 109.36 327 IAMs_20 IAMs_20 04 15 07.7
comp=Z,5μm,20.0s
TUL1 Leonard 110.01 54 IAMs_20 IAMs_20 04 11 33.8
comp=Z,6μm,20.0s
TUL1 Leonard 110.01 54 P **PKiKP 03 28 49.6 +0.1**
baz=278
SPMN Marine on St. 110.48 44 P **PKiKP 03 28 50.0 -0.1**
baz=284
SOC Sochi 110.59 315 *i* PKIKP **PKiKP 03 28 48.8 -1.5**
SOC *e* 03 29 23.5
SOC *e* 03 35 22.3
SOC MLR MLR
comp=Z,2μm,17.0s
SCIA State Center 110.93 47 IAMs_20 IAMs_20 04 10 57.6
comp=Z,6μm,20.0s
NATX Nacogdoches 111.50 58 P **PKiKP 03 28 51.9 -0.5**
baz=277
FINES FINESS Array B 111.66 336 Pdiff **Pdif 03 24 53.6 -0.8**
comp=Z,2.5nm,0.8s,baz=17,slow=2.6,SNR=6.4
FINES PKiKP **PKiKP 03 28 52.5 +0.7**
comp=Z,4.2nm,0.7s,baz=96,slow=3.4,SNR=15
FINES PKKPbc **PKKPbc 03 39 46.0 -2.1**
comp=Z,11nm,0.9s,baz=246,slow=2.4,SNR=15
W39A Magazine 111.74 54 IAMs_20 IAMs_20 04 12 25.5
comp=Z,5μm,20.0s
W39A Magazine 111.74 54 P **PKiKP 03 28 52.9 +0.2**
baz=279
MIAR Mount Ida 112.01 55 IAMs_20 IAMs_20 04 16 19.7
comp=Z,5μm,19.0s
MIAR Mount Ida 112.01 55 P **PKiKP 03 28 53.0 -0.3**
baz=279
U40A Yellville 112.29 53 IAMs_20 IAMs_20 04 20 37.0
comp=Z,4μm,19.0s
U40A Yellville 112.29 53 P **PKiKP 03 28 53.3 -0.5**
baz=280
SUMG Summit 112.37 4 *i* P **PKiKP 03 28 52.0 -1.5**
SUMG Summit 112.37 4 IAMs_20 IAMs_20 04 13 55.5
comp=Z,4μm,19.0s
X40A Basin Creek Fa 112.62 55 IAMs_20 IAMs_20 04 14 20.0
comp=Z,4μm,20.0s
JFWS Jewell Farm 112.84 46 IAMs_20 IAMs_20 04 12 39.9
comp=Z,5μm,20.0s
JFWS Jewell Farm 112.84 46 P **PKiKP 03 28 54.9 +0.2**
baz=285
Z41A Richland Creek 112.84 56 P **PKiKP 03 28 54.9 0.0**
baz=279
W41B Gary Mavity, V 112.98 54 P **PKiKP 03 28 55.5 +0.4**
baz=280
CCM Cathedral Cave 113.22 51 IAMs_20 IAMs_20 04 12 09.5
comp=Z,5μm,21.0s
CCM Cathedral Cave 113.22 51 P **PKiKP 03 28 55.9 +0.3**
baz=282
HDIL Hopedale 114.12 48 IAMs_20 IAMs_20 04 13 07.1
comp=Z,4μm,20.0s
HDIL Hopedale 114.12 48 P PKiKPdf 03 28 57.3 +0.2
baz=284
ILULI Ilulissat 114.14 9 IAMs_20 IAMs_20 04 16 48.3
comp=Z,6μm,20.0s
MNK Minsk 114.22 329 *i* PKIKP PKPdf 03 28 54.7 -2.2
MNK *i* 03 29 49.9
MNK *i* 03 36 04.2
MNK *i* SS SS 03 45 35.5 -4.9
MNK *i* SSS SSS 03 49 53.6
MNK pmax pmax
comp=E,2.0nm,1.1s
MNK pmax pmax
comp=Z,11nm,1.1s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK Minsk 114.22 329 *i* PKP PKPdf 03 28 54.8 -2.1
comp=E,2.0nm,1.1s
MNK *i* PKP PKPdf 03 28 54.8 -2.1
comp=N,9.0nm,0.8s
MNK *i* PKP PKPdf 03 28 54.8 -2.1
comp=Z,11nm,1.1s,baz=63
MNK *i* PP **PP 03 29 49.9 -2.2**
MNK *i* PPP PPP 03 32 13.0
MNK *i* PKS 03 32 30.2
MNK *i* SKS **SKSdf 03 36 04.2 -1.8**
MNK *i* SS **SS 03 45 35.6 -4.8**
MNK *i* SSS SSS 03 49 53.7
MNK *i* LR LR 04 16 53.8
MNK *i* LRM MLR 04 20 20.2
comp=N,4μm,21.7s
MNK *i* LRM MLR 04 20 26.6
comp=Z,4μm,16.6s
MNK *i* LRM MLR 04 20 28.5
comp=E,478nm,19.8s
IDID Didziasalis 114.43 330 *e*P **PKiKP 03 28 56.5 -0.8**
NACGM Naroch 114.60 329 *i* PKP **PKiKP 03 28 57.3 -0.3**
IIGN Ignalina 114.67 330 *e*P **PKiKP 03 28 57.6 -0.1**
L44A Lake County Fo 114.70 46 IAMs_20 IAMs_20 04 15 40.1
comp=Z,5μm,19.0s
L44A Lake County Fo 114.70 46 P **PKiKP 03 28 58.4 +0.2**
baz=286
SCO Scoresbysund 114.79 358 IAMs_20 IAMs_20 04 15 46.2
comp=Z,4μm,22.0s
VBMS Vicksburg 114.92 57 IAMs_20 IAMs_20 04 17 04.9
comp=Z,4μm,19.0s
ASF Jabal al Asfar 115.04 303 PKP **PKiKP 03 28 59.9 +0.6**
comp=Z,8.7nm,1.0s,baz=71,slow=2.9,SNR=5.2
AKASG Malin Array Be 115.14 324 PKP **PKiKP 03 28 58.6 -0.2**
comp=Z,13nm,0.8s,baz=63,slow=2.1,SNR=40
AKASG PP **PP 03 30 05.4 +6.7**
comp=Z,7.0nm,1.0s,baz=57,slow=7.7,SNR=4.9
AKASG PKKPbc **PKKPbc 03 39 34.6 -1.3**
comp=Z,2.3nm,0.5s,baz=261,slow=3.7,SNR=18
AKBB Malin Array Si 115.14 324 *i* PKIKP **PKiKP 03 28 58.7 -0.1**
OXF Oxford 115.40 54 IAMs_20 IAMs_20 04 14 47.4
comp=Z,4μm,20.0s
OXF Oxford 115.40 54 P **PKPdf 03 28 59.6 -0.2**
baz=282
PABE Paberze 115.70 331 *e*P **PKPdf 03 29 01.1 +1.4**
PABE Paberze 115.70 331 IAMs_20 IAMs_20 04 18 46.1
comp=Z,5μm,22.0s
KMBO Kilima Mbogo 115.78 266 PKP **PKiKP 03 29 02.7 +1.3**
comp=Z,4.8nm,1.0s,baz=76,slow=1.7,SNR=7.0
KMBO Kilima Mbogo 115.78 266 **PKPdf 03 28 58.1 -3.3**
SFIN Lafayette 115.79 48 P **PKPdf 03 29 00.2 -0.2**
baz=286
BRTR Keskin Array B 115.95 312 PKP **PKPdf 03 29 00.9 0.0**
comp=Z,19nm,1.0s,baz=130,slow=1.8,SNR=32
BRTR PP PP 03 30 13.2 +8.1
comp=Z,5.3nm,1.0s,baz=104,slow=5.2,SNR=3.9
BRTR PKKPbc **PKKPbc 03 39 33.9 +0.9**
comp=Z,3.5nm,1.1s,baz=198,slow=3.6,SNR=4.3
BRTR Keskin Array B 115.95 312 PKIKP **PKPdf 03 29 00.6 -0.3**
BRTR Keskin Array B 115.95 312 PKPdf **PKPdf 03 29 00.6 -0.3**
MMAI Mount Meron Ar 116.13 304 PKP **PKPdf 03 29 01.3 -0.1**
comp=Z,27nm,1.1s,baz=34,slow=6.1,SNR=7.6
GLMI Grayling 116.15 42 P **PKPdf 03 29 01.0 0.0**
baz=290
SFJD Kangerlussuaq 116.21 10 IAMs_20 IAMs_20 04 18 14.0
comp=Z,4μm,20.0s
WVT Waverly 116.31 52 PKIKP **PKPdf 03 29 00.4 -1.1**
WVT Waverly 116.31 52 PKPdf **PKPdf 03 29 00.4 -1.1**
WVT Waverly 116.31 52 P **PKPdf 03 29 01.3 -0.2**
baz=284
PLAL Pickwick Lake 116.37 54 IAMs_20 IAMs_20 04 15 09.2
comp=Z,5μm,19.0s
PURM Purcari 116.38 320 ⇓P **PKiKP 03 29 01.9 +0.6**
PBUR Paburge 116.40 332 *e*P **PKiKP 03 29 02.8 +1.7**
ANTO Ankara 116.54 312 PKIKP **PKPdf 03 29 00.4 -1.6**
ANTO Ankara 116.54 312 **PKPdf 03 29 00.3 -1.6**
SORM Soroca 116.70 322 ⇑P **PKPdf 03 29 01.7 -0.2**
SORM Soroca 116.70 322 ⇑PKIKP **PKPdf 03 29 01.7 -0.2**
KIS Kishinev 116.87 321 *e*PS PS 03 39 48.0 -6.9
KIS *e*LR LR 04 16 19.0
comp=Z,600nm,21.0s
SUW Suwalki 116.87 330 *e*PKP **PKiKP 03 29 03.1 +1.1**
SUW Suwalki 116.87 330 *e*P **PKiKP 03 29 03.1 +1.1**
SUW Suwalki 116.87 330 IAMs_20 IAMs_20 04 20 26.0
comp=Z,5μm,20.0s
MILM Milestii Mici 116.90 321 ⇑P **PKiKP 03 29 02.5 +0.2**
MILM Milestii Mici 116.90 321 *e*P **Pdif 03 25 22.0 +4.0**
MILM Milestii Mici 116.90 321 *i* PKP **PKPdf 03 29 01.8 -0.5**
comp=Z,80nm,1.3s
MILM Milestii Mici 116.90 321 *e*PP PP 03 30 16.0 +4.8
MILM Milestii Mici 116.90 321 *e*PS PS 03 39 45.0 -10
MILM *e*LR LR 04 14 13.0
comp=Z,3μm,21.0s
MILM Milestii Mici 116.90 321 *e*P **Pdif 03 25 22.0 +4.0**
MILM *i* 03 29 02.0
MILM *e* 03 29 17.0
MILM *e* 03 30 16.0
MILM *e*PS PKKPdf 03 39 45.0 -11
MILM pmax pmax
comp=Z,80nm,1.3s
MILM MLR MLR
comp=Z,3μm,21.0s
MILM MLR MLR
comp=N,2μm,22.0s
MILM MLR MLR
comp=E,900nm,16.0s
WCI Wyandotte Cave 116.97 50 PKIKP **PKPdf 03 29 02.1 -0.6**
WCI Wyandotte Cave 116.97 50 PKPdf **PKPdf 03 29 02.1 -0.6**
WCI Wyandotte Cave 116.97 50 P **PKPdf 03 29 02.0 -0.7**
baz=286
EIL Elat 117.12 301 PKP **PKPdf 03 29 03.4 +0.1**
comp=E,25nm,1.1s,baz=74,slow=3.0,SNR=9.2
HFS Hagfors 117.27 339 PKP **PKPdf 03 29 02.6 -0.1**
comp=E,9.4nm,1.0s,baz=108,slow=4.8,SNR=10
HFS PKKPbc **PKKPbc 03 39 29.7 +0.9**
comp=E,6.5nm,1.0s,baz=147,slow=3.5,SNR=5.4
NB2 NORSAR Subarra 117.50 340 PKPdf **PKPdf 03 29 02.9 -0.2**
comp=Z,64nm,1.4s,baz=40,slow=1.9
NB2 NORSAR Subarra 117.50 340 PKPdf **PKPdf 03 29 02.9 -0.2**
baz=40,slow=1.9
NOA NORSAR Array B 117.50 340 PKP **PKiKP 03 29 03.6 +0.5**
comp=Z,11nm,1.0s,baz=43,slow=2.0,SNR=15
NOA PP **PP 03 30 16.2 +1.4**
comp=Z,5.7nm,1.0s,baz=44,slow=7.9,SNR=3.5
NOA PKKPbc **PKKPbc 03 39 26.6 -1.5**
comp=Z,6.3nm,1.1s,baz=51,slow=4.0,SNR=9.3
TLCR 117.56 319 ⇑P **PKiKP 03 29 04.5 +0.9**
AAM Ann Arbor 117.67 45 P **PKPdf 03 29 04.1 +0.2**
baz=290
LRAL Lakeview Retre 117.67 55 IAMs_20 IAMs_20 04 22 01.7
comp=Z,3μm,19.0s
LRAL Lakeview Retre 117.67 55 P **PKPdf 03 29 03.5 -0.7**
baz=282,SNR=5.4
LEF Lefka 117.70 307 ⇑P **PKiKP 03 29 05.3 +1.1**
P49A Miami Univ. Ec 117.78 48 IAMs_20 IAMs_20 04 14 10.9
comp=Z,4μm,20.0s
P49A Miami Univ. Ec 117.78 48 P **PKPdf 03 29 04.2 0.0**
baz=288,SNR=7.5
VLDR Vladesti 117.79 320 ⇓P **PKiKP 03 29 05.6 +1.5**
TPGR Topolog 117.95 319 ⇑P **PKPdf 03 29 04.5 +0.1**
KLNR Kaliningrad 118.01 331 *i* PKIKP **PKiKP 03 29 04.9 +0.7**
CFR Carcaliu 118.01 319 ⇓P **PKiKP 03 29 05.1 +0.6**
CFR Carcaliu 118.01 319 ⇓PKIKP **PKiKP 03 29 05.1 +0.6**
BRAL Brewton 118.01 58 IAMs_20 IAMs_20 04 21 41.0
comp=Z,3μm,19.0s
BRAL Brewton 118.01 58 P **PKPdf 03 29 04.1 -0.8**
baz=282
GHRR 118.13 320 ⇑P **PKiKP 03 29 05.8 +1.1**
MANR Mangalia 118.23 317 ⇑P **PKiKP 03 29 06.2 +1.2**
HARR Harsova 118.33 319 ⇓P **PKiKP 03 29 06.1 +1.0**
HARR Harsova 118.33 319 ⇓PKIKP **PKiKP 03 29 06.1 +1.0**
LVV L'vov 118.51 325 *e*PKIKP **PKiKP 03 29 06.3 +0.9**
LVV *e* 03 35 49.0
LVV pmax pmax
comp=Z,80nm,1.5s
LVV MLR MLR
comp=N,1μm,21.0s
LVV MLR MLR
comp=E,3μm,21.0s
LVV MLR MLR
comp=Z,3μm,21.0s
ICOR Ion Corvin 118.64 318 ⇑P **PKiKP 03 29 06.8 +1.0**
VRI Vrincioaia 118.64 320 ⇑P **PKiKP 03 29 06.0 +0.2**
VRI ⇑P **PKiKP 03 29 07.1 +1.3**
VRI Vrincioaia 118.64 320 ⇑PKIKP **PKiKP 03 29 07.1 +1.3**
ACSO Alum Creek Sta 118.83 47 IAMs_20 IAMs_20 04 24 01.6
comp=Z,4μm,18.0s
ACSO Alum Creek Sta 118.83 47 P **PKPdf 03 29 06.0 -0.3**
baz=289,SNR=9.1
BURAR Bucovina Array 118.83 323 ⇓P **PKiKP 03 29 07.1 +0.9**
BURAR Bucovina Array 118.83 323 ⇓PKIKP **PKiKP 03 29 07.1 +0.9**
BURAR Bucovina Array 118.83 323 PKPdf **PKiKP 03 29 07.7 +1.4**
COVR Voineasa-Covas 118.99 320 ⇑P **PKiKP 03 29 07.4 +0.9**
KONO Kongsberg 119.07 340 IAMs_20 IAMs_20 04 25 16.6
comp=Z,4μm,20.0s
PLCA Paso Flores 119.14 143 PKP **PKiKP 03 29 07.8 +0.8**
comp=Z,30nm,0.9s,baz=216,slow=3.3,SNR=39
PLCA PKKPbc **PKKPbc 03 39 21.5 -0.2**
comp=Z,14nm,1.0s,baz=65,slow=5.1,SNR=17
OZUR 119.15 321 ⇓P **PKiKP 03 29 08.0 +1.2**
PRD Provadia 119.26 317 P **PKiKP 03 29 07.9 +0.9**
MLR Muntele Rosu 119.30 320 ⇑P **PKPdf 03 29 07.0 -0.1**
MLR ⇓P **PKiKP 03 29 08.0 +0.7**
MLR Muntele Rosu 119.30 320 PKP **PKiKP 03 29 08.3 +1.1**
comp=Z,13nm,0.8s,baz=352,slow=0.9,SNR=11
MLR Muntele Rosu 119.30 320 ⇓PKIKP **PKiKP 03 29 08.0 +0.7**
MLR Muntele Rosu 119.30 320 IAMs_20 IAMs_20 04 24 49.0
comp=Z,5μm,20.0s
KWP Kalwaria Pacla 119.35 325 *e*PKP **PKiKP 03 29 09.1 +2.0**
DOPR Dopca 119.45 321 ⇑P **PKiKP 03 29 08.2 +0.8**
TZTN Tazewell 119.54 51 P **PKPdf 03 29 07.6 -0.2**
baz=287
ARCR ARCALIA 119.60 322 ⇑P **PKiKP 03 29 08.3 +0.7**
P52A Corning 119.64 47 IAMs_20 IAMs_20 04 16 26.2
comp=Z,4μm,21.0s
P52A Corning 119.64 47 P **PKPdf 03 29 07.3 -0.5**
baz=290,SNR=9.4
RAZG Razgrad 119.72 318 ⇑P **PKiKP 03 29 08.5 +0.6**
BOSA Boshof 119.72 233 PKP **PKiKP 03 29 09.7 +1.1**
comp=Z,17nm,0.8s,baz=114,slow=2.0,SNR=20
BOSA Boshof 119.72 233 PKPdf **PKPdf 03 29 06.6 -1.9**
VOIR 119.89 320 ⇓P **PKPdf 03 29 08.0 -0.2**
VOIR 119.89 320 ⇓PKIKP **PKPdf 03 29 08.0 -0.2**
M53A WI Miller and 120.05 45 P **PKPdf 03 29 08.3 -0.3**
baz=292,SNR=5.8
UZH Uzhgorod 120.09 325 *c*e*P* **Pdif 03 25 29.4 -2.7**
UZH *i* 03 29 08.6
UZH *e* 03 29 20.4
UZH *e*PS **PS 03 40 16.0 -7.8**

UZH *e*SS SS 03 47 00.1 +3.2
UZH MLR MLR
comp=N,450nm,22.0s
UZH MLR MLR
comp=E,540nm,22.0s
UZH MLR MLR
comp=Z,340nm,22.0s
O53A New Philadelph 120.10 46 IAMs_20 IAMs_20 04 18 45.1
comp=Z,5µm,20.0s
O53A New Philadelph 120.10 46 P **PKPdf 03 29 08.2 -0.5**
baz=291,SNR=9.3
ARR Arges 120.19 320 ⇓P **PKiKP 03 29 10.4 +1.6**
TRPA Tarpa 120.19 324 ⇓P **PKiKP 03 29 09.6 +1.0**
GKP Gorka Klasztor 120.22 331 *e*PKP **PKiKP 03 29 09.5 +0.9**
GKP Gorka Klasztor 120.22 331 *e*P **PKPdf 03 29 08.5 +0.1**
ERPA Erie 120.28 44 P **PKPdf 03 29 09.0 0.0**
baz=293
HUMR Humele 120.33 319 ⇑P **PKPdf 03 29 09.0 0.0**
COPA Copaceanca 120.34 319 ⇓P **PKiKP 03 29 09.7 +0.7**
CRVS Cervenica-Dubn 120.43 325 *e*PKIKP **PKiKP 03 29 10.2 +1.0**
CRVS Cervenica-Dubn 120.43 325 *e*PKP **PKiKP 03 29 10.2 +1.0**
GOGA Godfrey 120.46 54 IAMs_20 IAMs_20 04 17 45.4
comp=Z,5µm,20.0s
GOGA Godfrey 120.46 54 P **PKPdf 03 29 09.7 +0.1**
baz=285
PVL Pavlikeni 120.64 318 P **PKiKP 03 29 10.1 +0.4**
N54A Moraine State 120.71 45 P **PKPdf 03 29 09.6 -0.3**
baz=292,SNR=10
DRGR 120.73 323 ⇑P **PKiKP 03 29 10.4 +0.5**
DRGR 120.73 323 ⇑PKIKP **PKiKP 03 29 10.4 +0.5**
M54A Oil Creek Stat 120.73 44 P **PKPdf 03 29 09.7 -0.2**
baz=292,SNR=13
NIE Niedzica 120.81 326 *e*PKP **PKiKP 03 29 11.7 +1.7**
TIGA Tifton 120.84 56 P **PKPdf 03 29 10.3 0.0**
baz=284
LTVH Ltavrtes, Hu 120.93 324 ⇓P **PKiKP 03 29 11.2 +1.0**
DIM Dimitrovgrad 120.97 317 P **PKiKP 03 29 10.9 +0.5**
SCHQ Schefferville 121.00 26 PKP **PKiKP 03 29 10.8 +0.7**
comp=Z,6.7nm,0.8s,baz=340,slow=4.4,SNR=7.2
SCHQ PKKPbc **PKKPab 03 39 13.6 -0.7**
comp=Z,9.7nm,0.9s,baz=117,slow=4.9,SNR=6.7
DEV Deva 121.04 322 ⇓P **PKPdf 03 29 10.3 0.0**
DEV Deva 121.04 322 ⇓PKIKP **PKPdf 03 29 10.3 0.0**
ALN Alexandroupoli 121.06 315 P **PKPdf 03 29 10.3 -0.2**
RGN Rugen 121.20 334 *e*PKPdf **PKiKP 03 29 11.3 +0.9**
baz=50,slow=1.9
RGN Rugen 121.20 334 IAMs_20 IAMs_20 04 25 45.4
comp=Z,5µm,21.0s
EZN Ezine 121.26 314 P **PKPdf 03 29 10.6 -0.3**
MCWV Mont Chateau 121.29 46 IAMs_20 IAMs_20 04 18 15.7
comp=Z,4µm,20.0s
MCWV Mont Chateau 121.29 46 P **PKPdf 03 29 10.9 -0.1**
baz=291
RDO Rodhopi 121.32 316 P **PKPdf 03 29 10.4 -0.6**
SUR Sutherland 121.34 227 IAMs_20 IAMs_20 04 19 41.4
comp=Z,4µm,19.0s
GZR Gura Zlata 121.35 321 ⇓P **PKPdf 03 29 11.2 +0.2**
GZR Gura Zlata 121.35 321 ⇓PKIKP **PKPdf 03 29 11.2 +0.2**
LANS Liptovska Anna 121.41 326 *e*PKIKP **PKiKP 03 29 12.8 +1.7**
LANS Liptovska Anna 121.41 326 *e*PKP **PKiKP 03 29 12.8 +1.7**
BODT Bodrum 121.49 311 P **PKPdf 03 29 09.3 -2.2**
PRK Paraskevi 121.51 313 P **PKiKP 03 29 12.0 +0.4**
PLD Plovdiv 121.52 317 P **PKPdf 03 29 11.2 -0.1**
BAIL Bailesti 121.61 319 ⇓P **PKiKP 03 29 12.9 +1.3**
SIRR Siria 121.62 322 ⇓P **PKiKP 03 29 12.0 +0.4**
MPEP Malo Peshtene 121.64 319 P **PKiKP 03 29 12.4 +0.7**
KMSC Kings Mountain 121.67 52 P **PKPdf 03 29 11.7 -0.2**
baz=288,SNR=11
RZN Rozhen 121.68 317 P **PKPdf 03 29 11.4 -0.5**
BLA Blacksburg 121.72 49 P **PKPdf 03 29 12.1 +0.1**
baz=290,SNR=8.7
OKC Ostrava-Krasne 121.75 327 AMS AMS 04 22 30.0
comp=Z,4µm,22.0s
HERR Herculane 121.81 321 ⇓P **PKPdf 03 29 12.0 +0.2**
PSZ Piszkesteto 121.83 325 ⇑P **PKiKP 03 29 12.9 +0.8**
PSZ Piszkesteto 121.83 325 ⇑PKIKP **PKiKP 03 29 12.9 +0.8**
PSZ Piszkesteto 121.83 325 IAMs_20 IAMs_20 04 24 18.5
comp=Z,3µm,20.0s
LSZ Lusaka 121.90 248 IAMs_20 IAMs_20 04 16 41.6
comp=Z,3µm,21.0s
BZS Buzias 121.96 322 ⇓P **PKPdf 03 29 12.2 +0.1**
BZS Buzias 121.96 322 ⇓PKIKP **PKPdf 03 29 12.2 +0.1**
CHOS Chios island 121.97 312 P **PKPdf 03 29 12.0 -0.5**
O56A Blue Knob Stat 121.98 45 P **PKPdf 03 29 12.4 +0.1**
baz=293,SNR=13
LIA Limnos Island 122.05 314 P **PKPdf 03 29 11.7 -0.7**
KAVA Kavala 122.09 316 P **PKPdf 03 29 11.8 -0.7**
MORC Moravsky Berou 122.11 328 ⇑P **PKiKP 03 29 13.0 +0.5**
MORC Moravsky Berou 122.11 328 ⇑PKIKP **PKiKP 03 29 13.0 +0.5**
MORC Moravsky Berou 122.11 328 *e*PKP **PKiKP 03 29 12.8 +0.3**
MORC *e*PKKP **PKKPbc 03 39 10.8 +0.1**
VYHS Vyhne 122.12 326 *e*PKIKP **PKiKP 03 29 13.2 +0.7**
VYHS Vyhne 122.12 326 *e*PKP **PKiKP 03 29 13.2 +0.7**
KSP Ksiaz 122.14 329 *e*PKP **PKiKP 03 29 13.3 +0.9**
TIM Timisoara 122.14 322 ⇑P **PKPdf 03 29 06.5 -5.9**
TIM Timisoara 122.14 322 ⇑PKIKP **PKPdf 03 29 06.5 -5.9**
JTS Las Juntas de 122.17 81 IAMs_20 IAMs_20 04 10 23.2
comp=Z,5µm,22.0s
VTS Vitosha 122.29 318 ⇑P **PKiKP 03 29 14.2 +1.0**
VTS Vitosha 122.29 318 ⇑PKIKP **PKiKP 03 29 14.2 +1.0**
VTS Vitosha 122.29 318 *e*P **PKiKP 03 29 13.5 +0.2**
VTS Vitosha 122.29 318 P **PKiKP 03 29 13.4 +0.2**
MDVR Moldovita 122.30 321 ⇑P **PKiKP 03 29 13.7 +0.7**
MBAR Mbarara 122.31 266*c i*PKIKP **PKiKP 03 29 14.9 +0.8**
MBAR pmax pmax
comp=Z,9.0nm,0.6s
SSPA Standing Stone 122.31 45 **PKPdf 03 29 11.9 -1.0**
SSPA Standing Stone 122.31 45 P **PKPdf 03 29 13.1 +0.1**
baz=294
KRLC Kraliky 122.34 328 *e*PKIKP **PKiKP 03 29 13.8 +0.9**
KRLC *e* 03 29 20.3
KRLC MLR MLR
comp=Z,4µm,21.4s
KRLC Kraliky 122.34 328 *e*PKP **PKiKP 03 29 13.8 +0.9**
KRLC *e*x x 03 29 20.3
KRLC *e*PKKP **PKKPab 03 39 09.4 +0.8**
KRLC AMS AMS 04 22 50.0
comp=Z,4µm,21.4s
OSTC Ostas 122.35 329 *e*PKP **PKPdf 03 29 11.5 -1.2**
OSTC *e*x x 03 29 17.6
OSTC *e*PKKP **PKKPbc 03 39 09.5 -0.3**
OSTC *e*x x 03 43 02.2
OSTC AMS AMS 04 22 50.0
comp=Z,4µm,21.5s
RUE Ruedersdorf 122.35 332 *e*P **PKiKP 03 29 14.0 +1.2**
RUE Ruedersdorf 122.35 332 *e*PKPdf **PKiKP 03 29 13.5 +0.7**
baz=50,slow=1.9
MMB Musomiste 122.39 317 P **PKPdf 03 29 12.7 -0.4**
ZAPS Zavoj 122.40 319 *e*P **PKiKP 03 29 14.0 +0.7**
NVR Nevrokopi 122.40 316 P **PKPdf 03 29 12.0 -1.1**
CHVC Chvalec 122.41 329 *e*PKP **PKiKP 03 29 13.6 +0.6**
CHVC *e*x x 03 29 20.5
CHVC *e*PKKP **PKKPab 03 39 09.0 +0.7**
CHVC AMS AMS 04 23 00.0
comp=Z,4µm,20.8s
DPC Dobruska-Polom 122.42 329 *e*PKIKP **PKPdf 03 29 13.1 +0.2**
DPC *e* 03 29 20.7
DPC MLR MLR
comp=Z,3µm,20.2s
DPC Dobruska-Polom 122.42 329 *e*PKP **PKPdf 03 29 13.1 +0.2**
DPC *ep*PKP **pPKPdf 03 29 20.7 -3.9**
DPC *e*PKKP **PKKPbc 03 39 09.3 -0.3**
DPC *e*SKKP 03 42 56.1
DPC AMS AMS 04 22 50.0
comp=Z,3µm,20.2s
ZAGS Zajecar 122.42 320 *e*P **PKPdf 03 29 12.1 -0.9**
UPC Upice 122.48 329 *e*PKIKP **PKiKP 03 29 13.7 +0.5**
UPC MLR MLR
comp=Z,5µm,22.8s
UPC Upice 122.48 329 *e*PKP **PKiKP 03 29 13.7 +0.5**
UPC AMS AMS 04 22 50.0
comp=Z,5µm,22.8s
KUBS Kucevo 122.50 321 *e*P **PKPdf 03 29 10.8 -2.4**
KOKK Kokkinochori, 122.52 316 P **PKPdf 03 29 12.3 -1.0**
JAVC Velka Javorina 122.56 327 *e*PKP **PKiKP 03 29 14.9 +1.5**
JAVC *e*PKKP **PKKPbc 03 39 09.6 +0.6**
SRS Serrai 122.68 316 P **PKPdf 03 29 12.2 -1.5**
KKB Krupnik 122.71 317 P **PKPdf 03 29 13.8 +0.1**
OUR Ouranopolis 122.73 315 P **PKPdf 03 29 12.8 -0.9**
LONY Lake Ozonia 122.75 39 IAMs_20 IAMs_20 04 17 43.6
comp=Z,3µm,20.0s
LONY Lake Ozonia 122.75 39 P **PKPdf 03 29 13.9 +0.2**
baz=299,SNR=12
SRO Srobarova 122.78 325 *e*PKIKP **PKiKP 03 29 15.0 +1.2**
SRO Srobarova 122.78 325 *e*PKP **PKiKP 03 29 15.0 +1.2**
BOVS Bovan 122.84 320 ⇑P **PKPdf 03 29 14.0 +0.2**
BOVS Bovan 122.84 320 *e*P **PKPdf 03 29 13.8 0.0**
BOSS Bosilegrad 122.84 318 *e*P **PKPdf 03 29 14.2 +0.3**
SVIS Svilajnac 122.86 321 *e*P **PKPdf 03 29 13.8 0.0**
VRAC Vranov 122.89 328 ⇓P **PKiKP 03 29 15.6 +1.6**
VRAC Vranov 122.89 328 PKP **PKiKP 03 29 14.7 +0.7**
comp=Z,8.2nm,0.9s,baz=76,slow=1.3,SNR=12
VRAC PKKPbc **PKKPbc 03 39 07.6 -0.1**
comp=Z,5.9nm,0.9s,baz=229,slow=5.6,SNR=6.8
VRAC Vranov 122.89 328 ⇓PKIKP **PKiKP 03 29 15.6 +1.6**
VRAC Vranov 122.89 328 *e*PKP **PKiKP 03 29 14.5 +0.5**
VRAC *e*PKKP **PKKPbc 03 39 07.3 -0.4**
SMOL Smolenice 122.89 327 *e*PKIKP **PKiKP 03 29 15.2 +1.2**
SMOL Smolenice 122.89 327 *e*PKP **PKiKP 03 29 15.2 +1.2**
BSEG Bad Segeberg 122.91 335 *e*PKPdf **PKiKP 03 29 14.7 +0.9**
baz=50,slow=1.9
BINY Binghamton 122.96 42 P **PKPdf 03 29 14.4 +0.2**
baz=296,SNR=9.4
HDC Heredia 122.99 82 IAMs_20 IAMs_20 04 12 21.2
comp=Z,5µm,21.0s
MODS Modra-Piesok 123.05 326 *e*PKIKP **PKiKP 03 29 16.6 +2.2**
MODS Modra-Piesok 123.05 326 *e*PKP **PKiKP 03 29 16.6 +2.2**
PLG Polygyros 123.09 316 P **PKPdf 03 29 13.3 -1.2**
PAIG Paliouri 123.10 315 P **PKPdf 03 29 13.4 -1.1**
PRVS Prvonek 123.11 318 *e*P **PKPdf 03 29 14.7 +0.2**
KRUC Moravsky 123.14 328 *e*PKP **PKiKP 03 29 14.7 +0.2**
KRUC *e*PKKP **PKKPab 03 39 06.1 +0.9**
KNT Kendrikon 123.14 317 P **PKPdf 03 29 13.5 -1.0**
NHSC New Hope 123.19 54 IAMs_20 IAMs_20 04 24 00.7
comp=Z,4µm,19.0s
NHSC New Hope 123.19 54 P **PKPdf 03 29 14.8 0.0**
baz=287
PVCC Panska Ves 123.20 330 *e*PKIKP **PKiKP 03 29 15.6 +1.0**
PVCC *e* 03 29 22.0
PVCC MLR MLR
comp=Z,3µm,20.5s
PVCC Panska Ves 123.20 330 *e*PKP **PKiKP 03 29 15.6 +1.0**
PVCC *ep*PKP **pPKPdf 03 29 22.0 -4.0**
PVCC AMS AMS 04 21 50.0
comp=Z,3µm,20.5s
HORT Hortiatis 123.24 316 P **PKPdf 03 29 13.9 -0.9**
ZST Bratislava 123.25 326 *e*PKIKP **PKiKP 03 29 15.7 +1.0**
ZST Bratislava 123.25 326 *e*PKP **PKiKP 03 29 15.7 +1.0**
KARY Karystos 123.29 313 P **PKPdf 03 29 14.4 -0.5**
FRGS Fruska Gora 123.29 322 ⇑P **PKPdf 03 29 14.6 -0.1**
FRGS Fruska Gora 123.29 322 ⇑*i*P **PKPdf 03 29 14.5 -0.2**
FRGS Fruska Gora 123.29 322 *e*P **PKPdf 03 29 13.8 -0.9**
BRG Berggiesshubel 123.30 330 *i*PKP **PKiKP 03 29 15.3 +0.6**
BRG Amp 03 29 17.7
comp=Z,169nm,1.7s
BRG *e*x x 03 29 22.5
BRG Amp 03 29 23.3
comp=Z,43nm,1.0s
BRG *e*x x 03 29 28.6
BRG Amp 03 29 32.1
comp=Z,114nm,1.4s
BRG Berggiesshubel 123.30 330 PP PP 03 30 56.0 +1.3
BRG Amp 03 31 06.4
comp=Z,32nm,3.0s
BRG PKKP 03 39 05.4
BRG Amp 03 39 07.1
comp=Z,19nm,1.3s
BRG Berggiesshubel 123.30 330 *i*PKIKP **PKiKP 03 29 15.3 +0.6**
BRG *e* 03 29 22.5
BRG *e* 03 29 28.6
BRG 03 30 56.0
BRG SP SP 03 40 49.0 +2.5
BRG SS SS 03 47 40.0 +2.5
BRG pmax pmax
comp=Z,169nm,1.7s
BRG pmax pmax
comp=Z,43nm,1.0s
BRG pmax pmax
comp=Z,114nm,1.4s
BRG pmax pmax
comp=Z,32nm,3.1s
BRG pmax pmax
comp=Z,19nm,1.3s
BRG Berggiesshubel 123.30 330 *e*PKPdf **PKiKP 03 29 15.3 +0.6**
baz=50,slow=1.9
BRG Berggiesshubel 123.30 330 SS SS 03 47 40.0 +2.5
VAY Valandovo 123.30 317 *i*P **PKPdf 03 29 14.6 -0.1**
VAY Valandovo 123.30 317 *e*P **PKPdf 03 29 14.7 -0.1**
THE Thessaloniki 123.32 316 P **PKPdf 03 29 13.9 -0.9**
GRUS Gruza 123.35 320 *e*P **PKiKP 03 29 15.3 +0.2**
TRUS Trudelj 123.39 321 *e*P **PKPdf 03 29 14.8 -0.1**
STIP Stip 123.39 317 *i*P **PKPdf 03 29 14.2 -0.8**
SELS Selova 123.41 320 *e*P **PKPdf 03 29 15.2 +0.2**
DWPF Disney Wildern 123.44 60 IAMs_20 IAMs_20 04 22 39.9
comp=Z,3µm,19.0s
DWPF Disney Wildern 123.44 60 P **PKPdf 03 29 15.7 +0.3**
baz=283
MORH Mrgy, Hungar 123.45 324 ⇑*i*P **PKiKP 03 29 15.5 +0.3**
CLL Collm 123.47 331 *e*PKIKP **PKPdf 03 29 15.0 +0.2**
CLL *e* 03 29 22.0
CLL *e* 03 31 00.0
CLL pmax pmax
comp=Z,168nm,1.8s
CLL MLR MLR
comp=Z,5µm,20.6s
CLL Collm 123.47 331 *e*PKPdf **PKPdf 03 29 15.0 +0.2**
comp=Z,168nm,1.8s
CLL *ep*PKPdf **pPKPdf 03 29 22.0 -4.5**
CLL *e*PP **PP 03 31 00.0 +4.1**
CLL *e*x x 03 32 23.0
CLL *e*PPP PPP 03 33 42.0
CLL *e*x x 03 34 54.0
CLL *e*(SKSac) 03 36 00.0
CLL *e*SKKSac SKKSac 03 37 54.0 +1.8
CLL *e*Sdif Sdif 03 38 54.0 +3.5
CLL *i*PKKPbc **PKKPbc 03 39 05.3 -0.1**
comp=Z,49nm,1.3s
CLL *es*PKKPbc 03 39 15.0
CLL *e*PS PS 03 40 54.0 +0.3
CLL *e*PPS PPS 03 42 18.0
CLL *e*SKKPbc SKKPbc 03 42 53.0 -0.1
CLL *e*SS SS 03 47 12.0 -28
CLL *e*x x 03 48 36.0
CLL *e*SSS SSS 03 52 12.0
CLL *e*SSSS 03 55 42.0
CLL *e*x x 03 57 30.0
CLL Lm MLR 04 26 00.0
comp=N,3µm,20.6s
CLL Lm MLR 04 26 00.0
comp=E,2µm,19.9s
CLL Lm MLR 04 26 00.0
comp=Z,5µm,20.6s
CLL Collm 123.47 331 *e*PKPdf **PKiKP 03 29 15.4 +0.3**
baz=50,slow=1.9
CLL *e*PP PP 03 31 05.7 +10
baz=57,slow=7.8
CLL Collm 123.47 331 IAMs_20 IAMs_20 04 26 15.6
comp=Z,5µm,20.0s
TREC Trest 123.48 328 *e*PKIKP **PKiKP 03 29 15.7 +0.5**
TREC *e* 03 29 22.6
TREC MLR MLR
comp=Z,4µm,24.8s
TREC Trest 123.48 328 *e*PKP **PKiKP 03 29 15.7 +0.5**
TREC *ep*PKP **pPKPdf 03 29 22.6 -4.0**
TREC *e*PKKP **PKKPbc 03 39 05.2 -0.1**
TREC AMS AMS 04 21 20.0
comp=Z,4µm,24.8s
PRU Pruhonice 123.55 329 *e*PKIKP **PKiKP 03 29 15.4 +0.1**
PRU *e* 03 29 22.5
PRU MLR MLR
comp=Z,4µm,21.7s
PRU Pruhonice 123.55 329 *e*PKP **PKiKP 03 29 15.4 +0.1**
PRU *ep*PKP **pPKPdf 03 29 22.5 -4.2**
PRU *e*PKKP **PKKPbc 03 39 04.5 -0.6**
PRU *e*x x 03 43 04.6
PRU AMS AMS 04 22 10.0
comp=Z,4µm,21.7s
FBE Freiberg 123.55 331 *e*PKPdf **PKiKP 03 29 16.1 +0.8**
baz=50,slow=1.9
GRG Griva 123.57 317 P **PKPdf 03 29 14.5 -0.9**
FLTG Flechtingen 123.62 333 *e*PKPdf **PKiKP 03 29 15.8 +0.5**
baz=50,slow=1.9
CBN Corbin Frederi 123.62 47 IAMs_20 IAMs_20 04 24 35.4
comp=Z,5µm,20.0s
CBN Corbin Frederi 123.62 47 P **PKPdf 03 29 15.8 +0.3**
baz=292
DION Dionisos Attik 123.64 313 P **PKPdf 03 29 14.8 -0.8**
N59A State Game Lan 123.66 43 P **PKPdf 03 29 15.7 +0.2**
baz=296,SNR=13
NEO Neokhori 123.68 314 P **PKPdf 03 29 14.6 -1.0**
PTL Penteli 123.70 313 P **PKPdf 03 29 13.7 -2.0**
DIVS Divibare 123.71 321 ⇑*i*P **PKiKP 03 29 16.4 +0.5**
DIVS Divibare 123.71 321 *e*P **PKPdf 03 29 15.9 +0.3**
HLG Helgoland 123.73 336 *e*PKPdf **PKiKP 03 29 16.3 +0.8**
baz=50,slow=1.9
SKO Skopje 123.77 318 *i*P **PKPdf 03 29 15.9 +0.2**
ATHU Athens Univers 123.79 313 P **PKPdf 03 29 14.8 -1.1**
VLY Voula,Athens 123.83 313 P **PKPdf 03 29 14.7 -1.2**
ATH Athens Observa 123.84 313 P **PKPdf 03 29 15.1 -0.8**
IVAS Ivanjica 123.86 320 *e*P **PKPdf 03 29 15.6 -0.3**
LIT Litokhoron 123.87 316 P **PKPdf 03 29 15.1 -0.9**
IDI Anoyia 123.92 309 P **PKiKP 03 29 17.2 +0.6**
KTI Kastanea 124.00 316 P **PKPdf 03 29 16.1 -0.3**
ASSE Asse, Remlinge 124.01 333 *e*PKPdf **PKiKP 03 29 16.8 +0.8**
baz=50,slow=1.9
NRDL Niedersach Rie 124.01 334 *e*PKPdf **PKiKP 03 29 16.9 +1.0**
baz=50,slow=1.9
PBCC Pribram 124.01 329 *e*PKP **PKiKP 03 29 16.8 +0.6**
PBCC *e*x x 03 29 23.3
VT1 Waterbury 124.04 39 IAMs_20 IAMs_20 04 25 42.7
comp=Z,4µm,20.0s
ATAL Atalanti 124.06 314 P **PKPdf 03 29 15.7 -0.7**
CONA Conrad Observa 124.08 327 *e*P **PKiKP 03 29 16.9 +0.4**
comp=Z,38nm,1.1s,SNR=19
CONA *i*P **PKKPbc 03 39 03.3 +0.3**
comp=Z,21nm,1.2s
CONA *e*S **SKKPbc 03 42 44.4 -6.6**
comp=Z,16nm,1.5s
LKR Lokris 124.10 314 P **PKPdf 03 29 15.0 -1.4**
NEUB Neuenburg 124.12 332 *e*PKPdf **PKiKP 03 29 16.8 +0.5**
baz=50,slow=1.9
NEUB *e*PP PP 03 31 11.4 +11
baz=57,slow=7.8
SJES Sjenica 124.13 320 *e*P **PKPdf 03 29 16.3 -0.2**
RETH Rethem/Aller, 124.16 334 *e*PKPdf **PKiKP 03 29 17.1 +0.8**
baz=50,slow=1.9
BBLS Lazići 124.19 321 ⇑*i*P **PKiKP 03 29 17.6 +0.8**
BBLS Lazići 124.19 321 *e*P **PKiKP 03 29 16.9 +0.1**
TYRN Tyrnavos 124.21 315 P **PKPdf 03 29 14.8 -1.8**
P60A Greenville 124.22 45 P **PKPdf 03 29 16.6 0.0**
baz=295,SNR=14
KZN Kozani 124.28 316 P **PKPdf 03 29 15.5 -1.3**
CNNC Cliffs of the 124.31 51 P **PKPdf 03 29 17.0 +0.1**
baz=290
TANN Tannenbergstha 124.31 331 *e*PKPdf **PKiKP 03 29 17.4 +0.5**
baz=50,slow=1.9
RUDO Rudo 124.33 321 ⇑*i*P **PKPdf 03 29 17.0 +0.3**
CLZ Clausthal 124.34 333 *e*PKPdf **PKiKP 03 29 17.6 +0.8**
baz=50,slow=1.9
FNA Florina 124.34 317 P **PKPdf 03 29 16.1 -0.8**
IVA Berane 124.36 320 *e*PKP **PKPdf 03 29 16.7 -0.2**
LTK Loutraki 124.37 313 P **PKPdf 03 29 15.4 -1.6**
WERD Werda 124.37 331 *e*PKPdf **PKiKP 03 29 17.4 +0.5**
baz=50,slow=1.9
CKRC Cesky Krumlov 124.38 328 *e*PKP **PKPdf 03 29 16.9 +0.2**
CKRC *e*x x 03 29 24.4
CKRC *e*PKKP **PKKPab 03 39 01.0 +1.1**
CKRC *e*x x 03 42 42.7
BEHE Becsehely 124.40 325 ⇑*i*P **PKiKP 03 29 17.9 +0.8**
GUNZ Gunzen 124.41 331 *e*PKPdf **PKiKP 03 29 17.6 +0.6**
baz=50,slow=1.9
PLN Plauen 124.42 331 *e*PKPdf **PKiKP 03 29 17.4 +0.5**
baz=50,slow=1.9
AGG Agios Georgios 124.43 314 P **PKPdf 03 29 16.3 -0.8**
NKC Novy Kostel 124.44 331 *e*PKIKP **PKiKP 03 29 18.0 +0.9**
NKC *e* 03 29 24.4
NKC MLR MLR
comp=Z,2µm,22.5s
NKC Novy Kostel 124.44 331 *e*PKP **PKiKP 03 29 18.0 +0.9**
NKC *ep*PKP **pPKPdf 03 29 24.4 -4.1**
NKC AMS AMS 04 23 00.0
comp=Z,2µm,22.5s
WERN Wernitzgruen 124.44 331 *e*PKPdf **PKiKP 03 29 17.8 +0.7**
baz=50,slow=1.9
PLE Pljevlja 124.47 320 *e*PKP **PKiKP 03 29 18.0 +0.5**
KRND KRANIDI 124.48 312 P **PKPdf 03 29 15.8 -1.4**
PHP Peshkopia 124.57 318 P **PKPdf 03 29 16.3 -1.0**
MAKR Makrakomi, Fth 124.57 315 P **PKPdf 03 29 16.6 -0.8**
KHC Kasperske Hory 124.57 329 *e*PKIKP **PKPdf 03 29 17.3 +0.2**
KHC *e* 03 29 24.7
KHC MLR MLR
comp=Z,7µm,22.1s
KHC Kasperske Hory 124.57 329 *e*PKP **PKPdf 03 29 17.3 +0.2**
KHC *ep*PKP **pPKPdf 03 29 24.7 -4.1**
KHC *e*PKKP **PKKPab 03 38 59.8 +0.7**
KHC *e*x x 03 42 42.3
KHC *e*SKKP 03 42 49.2
KHC AMS AMS 04 24 10.0
comp=Z,7µm,22.1s
MOX Moxa 124.57 331 *e*PKPdf **PKiKP 03 29 17.8 +0.5**
baz=50,slow=1.9
MOX *e*PP PP 03 31 14.4 +11
baz=57,slow=7.8
MOX *e*L L 04 29 02.3
comp=Z,5µm,19.5s
OHR Ohrid 124.59 317 *i*P **PKiKP 03 29 18.1 +0.4**
LBNH Lisbon 124.60 38 IAMs_20 IAMs_20 04 20 53.3
comp=Z,4µm,20.0s
LBNH Lisbon 124.60 38 P **PKiKP 03 29 17.6 +0.1**
baz=301,SNR=10
KOME Kolasin 124.62 320 *e*PKP **PKPdf 03 29 16.8 -0.6**
ARSA Arzberg 124.66 326 *e*P **PKPdf 03 29 17.6 +0.3**
comp=Z,21nm,1.2s,SNR=10
ARSA *i*P **PKKPbc 03 39 00.8 +0.2**
comp=Z,11nm,1.4s
ARSA *e*S **SKKPbc 03 42 45.5 -3.5**
comp=Z,31nm,1.7s
GEC2 GERESS Array S 124.69 329 *e*PKPdf **PKiKP 03 29 17.9 +0.3**
baz=50,slow=1.9
GERES GERESS Array B 124.69 329 PKP **PKiKP 03 29 18.3 +0.6**
comp=Z,18nm,0.7s,baz=73,slow=1.7,SNR=62
GERES PKKPbc **PKKPbc 03 39 00.1 -0.5**
comp=Z,2.4nm,1.0s,baz=219,slow=3.4,SNR=11
GERES SKKPbc SKKPbc 03 42 48.2 -0.9
comp=Z,1.4nm,0.9s,baz=224,slow=3.7,SNR=3.5
GERES GERESS Array B 124.69 329 PKPdf **PKPdf 03 29 17.3 0.0**
KPRO Kipourio 124.71 316 P **PKPdf 03 29 17.3 -0.4**
KOGS Kog 124.71 325 *i*PKPdf **PKPdf 03 29 17.4 +0.1**
NEST Nestorio 124.73 317 P **PKPdf 03 29 17.2 -0.5**
GTTG Gottingen 124.73 333 *e*PKPdf **PKiKP 03 29 18.3 +0.8**
baz=50,slow=1.9
MANZ Manzenberg 124.77 330 *e*PKPdf **PKiKP 03 29 18.2 +0.5**
baz=50,slow=1.9
KALN Kalnik 124.77 325 P **PKPdf 03 29 12.4 -5.1**
KBN Korca 124.81 317 P **PKPdf 03 29 17.6 -0.2**
EVR Evrytania 124.84 315 P **PKPdf 03 29 17.4 -0.6**
ROTZ Rotzenmuhle 124.86 330 *e*PKPdf **PKiKP 03 29 18.4 +0.5**
baz=50,slow=1.9
KNDR Palaiochora Ch 124.87 310 P **PKPdf 03 29 18.1 +0.1**
SERG Sergoula 124.87 314 P **PKPdf 03 29 17.1 -0.8**
PAL Palisades 124.88 43 P **PKPdf 03 29 17.9 +0.1**
baz=297,SNR=11
MOSL Moslavina 124.89 324 P **PKPdf 03 29 17.9 +0.1**
ANX Ano Chora 124.89 314 P **PKPdf 03 29 18.4 +0.3**
ANKY Antikythira Is 124.93 311 P **PKPdf 03 29 18.3 +0.2**
KTHA Kythira Island 124.97 311 P **PKPdf 03 29 17.7 -0.5**
LOBO Lobor 124.98 325 P PKPdf 03 29 10.2 -7.7
PDG Podgorica 124.99 319 ⇑P **PKiKP 03 29 18.6 +0.2**
PDG Podgorica 124.99 319 ⇑*i*P **PKiKP 03 29 18.4 +0.1**
PDG Podgorica 124.99 319 IAMs_20 IAMs_20 04 24 50.5
comp=Z,3µm,22.0s
TTG Podgorica 124.99 319 *e*PKP **PKPdf 03 29 18.3 +0.3**
LAKA Lakka 125.00 314 P **PKPdf 03 29 17.6 -0.6**
MOA Molln 125.00 327 *i*P **PKiKP 03 29 18.4 +0.2**
comp=Z,19nm,1.0s,SNR=8.4
MOA *i*P **PKKPbc 03 38 58.8 -0.5**
comp=Z,16nm,1.4s
MOA *e*S **SKKPbc 03 42 42.0 -5.8**
comp=Z,8.3nm,1.4s
KTHR Kythira 125.01 311 P **PKPdf 03 29 18.3 0.0**
L61B Northampton 125.01 40 P **PKiKP 03 29 18.8 +0.4**
baz=299,SNR=10
NKME Niksic 125.02 320 *e*PKP **PKPdf 03 29 18.2 +0.1**
BLY Banja Luka 125.10 323 ⇑*i*P **PKiKP 03 29 18.9 +0.4**
TIR Tirane 125.11 318 ⇑P **PKiKP 03 29 19.4 +0.8**
TIR Tirane 125.11 318 P **PKPdf 03 29 17.7 -0.6**
TIR Tirane 125.11 318 ⇑PKIKP **PKiKP 03 29 19.4 +0.8**
MRAK Mrakovica 125.13 323 ⇑*i*P **PKiKP 03 29 18.8 +0.2**
CEME Cevo 125.15 320 *e*PKP **PKPdf 03 29 18.0 -0.4**
LSK Leskovik 125.15 316 P **PKPdf 03 29 18.4 -0.1**
IBBN Ibbenburen 125.16 335 *e*PKPdf **PKiKP 03 29 19.0 +0.6**

baz=50,slow=1.9
PTJ Puntijarka 125.18 325 P PKPdf 03 29 14.0 -4.4
JAN Janina 125.20 316 P PKPdf 03 29 17.7 -0.8
UBBA Unterbreizbach 125.21 332 *e*PKPdf **PKiKP 03 29 19.1 +0.7**
baz=50,slow=1.9
ZAG Zagreb 125.22 325 P PKPdf 03 29 15.6 -2.7
BRY Bratogost 125.22 320 *e*P **PKiKP 03 29 19.2 +0.2**
BRY Bratogost 125.22 320 *e*PKP **PKPdf 03 29 18.4 -0.2**
SOKA Soboth 125.27 326 *e*P **PKPdf 03 29 18.8 +0.3**
comp=Z,42nm,1.0s,SNR=18
SOKA *i* P **PKKPbc 03 38 58.1 -0.2**
comp=Z,9.2nm,1.3s
SOKA *e*S **SKKPbc 03 42 37.8 -9.2**
comp=Z,11nm,1.3s
GRF Grafenberg Arr 125.39 331 *e*PKPdf **PKiKP 03 29 19.4 +0.4**
baz=50,slow=1.9
GRF *e*L L 04 25 15.4
comp=Z,2μm,21.3s
GRFO Grafenberg 125.39 331 PKIKP **PKiKP 03 29 19.0 0.0**
GRFO MLR MLR
comp=Z,3μm,20.0s
GRFO Grafenberg 125.39 331 PKPdf **PKiKP 03 29 18.9 0.0**
TREB Trebinje 125.43 320⇑ *i*P **PKiKP 03 29 19.5 +0.3**
HCY Herceg Novi 125.47 320 *e*P **PKiKP 03 29 19.4 +0.1**
HCY Herceg Novi 125.47 320 *e*PKP **PKPdf 03 29 18.7 -0.3**
CRES Cresnjev 125.52 325⇑ *i*P **PKiKP 03 29 19.8 +0.5**
IGT Igoumenitsa 125.61 316 P **PKPdf 03 29 19.2 -0.1**
PKME Peaks-Kenny Pk 125.63 36 P **PKiKP 03 29 19.8 +0.3**
baz=304,SNR=6.6
OZLJ Ozalj 125.64 325 P PKPdf 03 29 10.8 -8.3
OBKA Obir 125.64 326 *e*P **PKPdf 03 29 19.1 -0.2**
comp=Z,32nm,1.2s,SNR=14
OBKA *e*S **SKKPbc 03 42 36.7 -9.0**
comp=Z,24nm,1.6s
SRN Sarande 125.69 316 P **PKPdf 03 29 19.0 -0.4**
HRV Adam Dziewonsk 125.71 40 PKIKP **PKPdf 03 29 19.6 +0.2**
HRV Adam Dziewonsk 125.71 40 **PKPdf 03 29 19.6 +0.2**
HRV Adam Dziewonsk 125.71 40 P **PKPdf 03 29 19.6 +0.2**
baz=300
LKD2 Lefkada island 125.71 315 P **PKPdf 03 29 19.6 +0.1**
STON Ston 125.77 321 P **PKPdf 03 29 19.4 -0.1**
EVGI Lefkada island 125.78 315 P **PKiKP 03 29 20.3 +0.2**
RICI Ricice 125.80 322 P **PKPdf 03 29 18.1 -1.5**
RJOB Jochberg 125.85 328 *e*PKPdf **PKPdf 03 29 19.7 +0.1**
baz=50,slow=1.9
LJU Ljubljana 125.92 325⇑ *i*P **PKiKP 03 29 20.6 +0.5**
LJU Ljubljana 125.92 325 *i*PKPdf **PKPdf 03 29 20.1 +0.4**
PLIT Plitvice 125.96 324 P PKPpre 03 29 09.2
KBA Koelnbreinsper 125.96 327 *i*P **PKPdf 03 29 19.5 -0.5**
comp=Z,31nm,1.1s,SNR=14
KBA *i* S **SKKPbc 03 42 42.9 -1.9**
comp=Z,12nm,1.9s
KIJV Kijevo 125.97 322 P **PKiKP 03 29 20.4 +0.1**
MAKA Makarska 125.98 321 P **PKiKP 03 29 20.3 0.0**
BUG Bochum--Univer 126.00 334 *e*PKPdf **PKiKP 03 29 20.4 +0.4**
baz=50,slow=1.9
CRNS Crni Vrh 126.05 326 *i*PKPdf **PKPdf 03 29 20.3 +0.3**
MYKA Terra Mystica 126.07 326 *e*P **PKPdf 03 29 19.9 -0.1**
comp=Z,9.0nm,0.8s,SNR=10
UDBI Udbina 126.07 323 P **PKPdf 03 29 19.5 -0.6**
CEY Cerknica 126.16 325⇑ *i*P **PKiKP 03 29 20.8 +0.2**
LSTV Lastovo 126.33 321 P **PKPdf 03 29 20.0 -0.6**
TNS Taunus Mts 126.34 333 *e*PKPdf **PKiKP 03 29 21.4 +0.5**
baz=50,slow=1.9
FUR Furstenfeldbru 126.36 329 *e*PKPdf **PKiKP 03 29 21.2 +0.2**
baz=50,slow=1.9
RIY Rijeka 126.37 325 P **PKPdf 03 29 13.5 -7.1**
HVAR Hvar 126.39 322 P PKPdf 03 29 12.4 -8.3
MORI Morici 126.47 323 P **PKPdf 03 29 20.9 +0.2**
SKDS Skadanscina 126.51 325 *i*PKPdf **PKPdf 03 29 21.0 +0.2**
RABC Rab 126.53 324 P **PKiKP 03 29 21.6 +0.3**
NVLJ Novalja 126.58 324 P **PKPdf 03 29 13.5 -7.5**
EKA Eskdalemuir Ar 126.60 343 PKP **PKiKP 03 29 21.6 +0.5**
comp=Z,24nm,1.0s,baz=37,slow=3.2,SNR=18
ABTA Abfaltersbach 126.61 327 *e*P **PKPdf 03 29 21.1 0.0**
comp=Z,63nm,1.1s,SNR=21
ABTA *e*S **SKKPbc 03 42 39.3 -3.1**
comp=Z,27nm,1.5s
ZIRJ Zirje 126.62 322 P **PKPdf 03 29 21.0 -0.1**
ESK Eskdalemuir 126.63 343 IAMs_20 IAMs_20 04 28 30.4
comp=Z,4μm,19.0s
AHRW Bad Neuenahr-A 126.73 334 *e*PKPdf **PKiKP 03 29 22.4 +0.8**
baz=50,slow=1.9
WATA Walderalm 126.74 328 *e*P **PKPdf 03 29 21.6 +0.1**
comp=Z,102nm,1.9s,SNR=20
WTTA Wattenberg 126.76 328 *i*P **PKiKP 03 29 22.0 0.0**
comp=Z,54nm,1.0s,SNR=23
WTTA *e*S **SKKPbc 03 42 38.8 -3.3**
comp=Z,13nm,1.2s
DUGI Dugi Otok 126.79 323 P PKPpre 03 29 11.3
MOTA Moosalm 126.98 329 *i*P **PKPdf 03 29 22.1 +0.2**
comp=Z,67nm,1.1s,SNR=20
MOTA *e*S **SKKPbc 03 42 37.3 -3.9**
comp=Z,16nm,1.7s
STU Stuttgart 126.99 331 *e*PKPdf **PKiKP 03 29 22.5 +0.3**
baz=50,slow=1.9
STU Stuttgart 126.99 331 IAMs_20 IAMs_20 04 29 13.7
comp=Z,3μm,19.0s
SQTA Sankt Quirin 127.01 328 *i*P **PKiKP 03 29 22.4 0.0**
comp=Z,87nm,1.0s,SNR=17
SQTA *e*S **SKKPbc 03 42 39.0 -2.1**
comp=Z,14nm,1.7s
BRJN Brijuni 127.03 325 P **PKPdf 03 29 21.9 +0.1**
RETA Reutte 127.07 329 *e*P **PKPdf 03 29 22.3 +0.4**
comp=Z,53nm,2.1s,SNR=8.1
BTNL Ternell 127.11 334 PKP **PKiKP 03 29 22.7 +0.3**
BTNL x x 03 29 29.1
BTNL pPKP **sPKPdf 03 29 35.6 -1.8**
MEM Membach 127.15 334 PKP **PKiKP 03 29 22.9 +0.5**
MEM x x 03 29 29.9
MEM pPKP **sPKPdf 03 29 35.7 -1.8**
BEBN Eben Emael 127.15 335 PKP **PKiKP 03 29 23.0 +0.6**
BCIP Isla Barro Col 127.22 83 IAMs_20 IAMs_20 04 14 08.0
comp=Z,4μm,20.0s
UBR Ueberruh 127.28 329 *e*PKPdf **PKiKP 03 29 22.8 -0.1**
baz=50,slow=1.9
NNA Nana 127.31 109*c* *i*PKIKP **PKiKP 03 29 25.1 +1.3**
NNA pmax pmax
comp=Z,200nm,1.3s
BHOU Houvegnez 127.34 334 PKiKP **PKiKP 03 29 23.3 +0.5**
BSTI Sart Tilman 127.36 335 PKPdf **PKPdf 03 29 22.5 +0.3**
BSTI x x 03 29 30.4
FETA Feichten 127.39 328 *e*P **PKiKP 03 29 23.5 +0.2**
comp=Z,52nm,1.0s,SNR=12
MATE Matera 127.53 319⇑P **PKPdf 03 29 23.2 +0.3**
BCLA Clavier 127.59 335 PKP **PKPdf 03 29 23.1 +0.4**
BCLA PKiKP **PKiKP 03 29 23.6 +0.3**
BCLA x x 03 29 30.8
BCLA pPKP **sPKPdf 03 29 36.4 -2.0**
DAVA Damuels 127.65 329 *e*P **PKiKP 03 29 23.8 +0.1**
comp=Z,54nm,0.9s,SNR=16
DAVA *e*S **SKKPbc 03 42 34.0 -4.9**
comp=Z,16nm,1.1s
UCC Uccle 127.70 336 PKP **PKiKP 03 29 24.3 +0.9**
UCC x x 03 29 31.3
BGES Gesves 127.71 335 PKP **PKPdf 03 29 23.3 +0.4**
BGES x x 03 29 30.1
BFO Black Forest 127.72 331 PKIKP **PKPdf 03 29 22.7 -0.4**
BFO Black Forest 127.72 331 *e*PKPdf **PKPdf 03 29 23.6 +0.5**
baz=50,slow=1.9
BFO Black Forest 127.72 331 PKPdf **PKPdf 03 29 22.7 -0.4**
BFO IAMs_20 IAMs_20 04 29 42.8
comp=Z,4μm,20.0s
WLF Walferdange 127.78 333 *e*PKPdf **PKiKP 03 29 24.7 +1.0**
baz=50,slow=1.9
WLF Walferdange 127.78 333 IAMs_20 IAMs_20 04 27 00.3
comp=Z,5μm,21.0s
WLF Walferdange 127.78 333 PKP **PKiKP 03 29 24.1 +0.4**
WLF x x 03 29 31.8
WLF pPKP **sPKPdf 03 29 36.5 -2.2**
RCHB Rochefort 127.82 334 PKP **PKPdf 03 29 23.6 +0.4**
RCHB x x 03 29 31.2
BMRD Maredsous 127.91 335 PKP **PKiKP 03 29 24.2 +0.3**
BMRD x x 03 29 29.8
BMRD pPKP **sPKPdf 03 29 36.4 -2.6**
SNF Seneffe 127.95 335 PKP **PKiKP 03 29 24.5 +0.5**
SNF x x 03 29 31.6
DAVOX Davos/Dischmat 127.99 329 PKP **PKiKP 03 29 24.9 +0.5**
comp=Z,29nm,0.8s,baz=97,slow=1.7,SNR=5.2
OTAV Otavalo 128.13 94 *e*P **PKiKP 03 29 28.5 +2.4**
OTAV Otavalo 128.13 94 *e*P **PKPdf 03 29 25.5 0.0**
OTAV Otavalo 128.13 94 IAMs_20 IAMs_20 04 19 29.0
comp=Z,4μm,18.0s
DOU Dourbes 128.13 335 PKiKP **PKiKP 03 29 25.3 +0.9**

PB14 IPOC Station P 128.16 127 IAMs_20 IAMs_20 04 14 39.4
comp=Z,3μm,21.0s
TIP Timpagrande 128.23 317⇓⇓ P **PKiKP 03 29 26.0 +1.0**
TIP Timpagrande 128.23 317 IAMs_20 IAMs_20 04 28 19.5
comp=Z,3μm,22.0s
ECH Echery 128.36 332 IAMs_20 IAMs_20 04 28 40.7
comp=Z,4μm,20.0s
PB10 IPOC Station P 128.57 126 IAMs_20 IAMs_20 04 14 19.4
comp=Z,3μm,21.0s
AQU L'Aquila 128.71 322⇑⇑ *i*P **PKPdf 03 29 25.5 +0.3**
AQU L'Aquila 128.71 322 IAMs_20 IAMs_20 04 29 23.9
comp=Z,4μm,22.0s
MTDJ Mount Denham 128.80 71 IAMs_20 IAMs_20 04 20 15.6
comp=Z,3μm,19.0s
CEL Celeste 129.27 316 IAMs_20 IAMs_20 04 28 37.0
comp=Z,3μm,22.0s
GCUF Volcan Galeras 129.33 93 *e*P **PKiKP 03 29 28.5 0.0**
VLC Villacollemand 129.40 326 IAMs_20 IAMs_20 04 30 16.7
comp=Z,5μm,20.0s
PB15 IPOC Station P 129.59 126 IAMs_20 IAMs_20 04 15 12.4
comp=Z,4μm,21.0s
PB06 IPOC Station P 129.75 125 IAMs_20 IAMs_20 04 16 35.6
comp=Z,3μm,20.0s
TSUM Tsumeb 130.06 240 IAMs_20 IAMs_20 04 24 05.7
comp=Z,4μm,19.0s
POPC Popayan, Colom 130.12 91 *e*P **PKPdf 03 29 27.5 -1.4**
SOTA Rioblanco 130.15 92 *e*P **PKPdf 03 29 27.5 -1.8**
LVC Limon Verde 130.33 126 *e*P **PKiKP 03 29 30.4 +0.3**
LVC Limon Verde 130.33 126 IAMs_20 IAMs_20 04 17 25.0
comp=Z,3μm,19.0s
PCON Cinco Dias 130.38 91 *e*P **PKiKP 03 29 31.4 +0.7**
PB09 IPOC Station P 130.44 124 IAMs_20 IAMs_20 04 15 00.2
comp=Z,3μm,21.0s
YOTC Yotoco, Valle 130.55 89 *e*P **PKPdf 03 29 29.4 -0.2**
PLMC San Jos del P 130.66 88 *e*P **PKPdf 03 29 29.4 -0.3**
VAE Valguarnera 130.67 316 PKP **PKiKP 03 29 30.6 +0.6**
comp=Z,7.4nm,0.3s,baz=249,slow=6.0,SNR=5.2
DBBC Dabeiba 130.80 85 *e*P **PKPdf 03 29 24.6 -5.4**
CBOC Ciudad Bolivar 130.97 87 *e*P **PKPdf 03 29 29.4 -1.0**
PB11 IPOC Station P 131.01 122 IAMs_20 IAMs_20 04 14 46.7
comp=Z,4μm,22.0s
PB08 IPOC Station P 131.27 123 IAMs_20 IAMs_20 04 15 30.4
comp=Z,3μm,22.0s
MNMC Minye Minye 131.34 121 IAMs_20 IAMs_20 04 14 57.4
comp=Z,3μm,21.0s
CLTB Caltabellotta 131.44 317 IAMs_20 IAMs_20 04 32 51.5
comp=Z,3μm,22.0s
ANIL Santa Ana 131.51 89 *e*P **PKPdf 03 29 32.3 +0.7**
GUY2C Guyana, Caldas 131.59 88 *e*P **PKiKP 03 29 34.3 +1.3**
ORTC Ortega, Tolima 131.64 89 *e*P **PKPdf 03 29 31.4 -0.2**
SSB Saint Sauveur 131.71 331 IAMs_20 IAMs_20 04 30 31.6
comp=Z,4μm,22.0s
PRAC Prado 131.98 90 *e*P **PKPdf 03 29 32.3 +0.1**
ZARC Zaragoza, Cauc 132.14 85 *e*P **PKPdf 03 29 28.5 -4.0**
CZSB Cruzeiro do Su 132.36 105 *e*P **PKPdf 03 29 32.4 -0.5**
PTBC PUERTO BERRIO 132.53 86 *e*P **PKPdf 03 29 27.5 -5.7**
ROSC El Rosal 132.61 88 PKP **PKiKP 03 29 35.5 +0.6**
comp=Z,12nm,0.5s,baz=62,slow=7.3,SNR=11
SPBC San Pablo de B 132.89 87 *e*P **PKPdf 03 29 29.4 -4.5**
MACC Macarena, Meta 132.90 92 *e*P **PKPdf 03 29 34.3 +0.3**
SMLC San Martn de 132.91 83 *e*P **PKPdf 03 29 32.3 -1.5**
CHIC Chingaza 133.19 89 *e*P **PKPdf 03 29 31.4 -3.6**
OCAC Ocana 133.67 84 *e*P **PKPdf 03 29 34.3 -1.2**
LPAZ La Paz 133.79 118 PKP **PKiKP 03 29 37.3 -0.2**
comp=Z,39nm,1.0s,baz=312,slow=0.6,SNR=47
LPAZ SKPbc **SKPab 03 33 05.4 +0.6**
comp=Z,59nm,1.3s,baz=306,slow=2.1,SNR=8.7
LPAZ La Paz 133.79 118 *e*P **PKPdf 03 29 36.3 +0.1**
BARC Barichara 133.80 86 *e*P **PKPdf 03 29 32.3 -3.5**
RUSC La Rusia 133.88 87 *e*P **PKPdf 03 29 32.3 -4.0**
ITQB Itaqui 134.96 142 *e*P **PKPdf 03 29 36.2 -1.2**
KEST Kesra 135.05 317 PKhKP PKPpre 03 29 30.2
comp=Z,4.3nm,0.9s,baz=342,slow=2.6,SNR=5.4
KEST PKP **PKPdf 03 29 38.2 +0.8**
comp=Z,35nm,1.0s,baz=278,slow=1.5,SNR=14
PLTB Pedras Altas 135.15 147 *e*P **PKPdf 03 29 38.3 +0.6**
SOCV Socops 136.10 84 *e*P **PKPdf 03 29 39.1 -0.8**
CPSB Capapava Do Su 136.28 146 *e*P **PKPdf 03 29 39.8 0.0**
SDV Santo Domingo 136.31 83 *e*P **PKiKP 03 29 43.0 +0.8**
SDV Santo Domingo 136.31 83 *e*P **PKiKP 03 29 43.0 +0.8**
SDV Santo Domingo 136.31 83 IAMs_20 IAMs_20 04 20 47.1
comp=Z,3μm,21.0s
CPUP Villa Florida 136.81 138 PKhKP PKPpre 03 29 33.0
comp=Z,15nm,1.2s,baz=275,slow=2.2,SNR=4.6
CPUP PKP **PKiKP 03 29 42.6 -0.1**
comp=Z,47nm,0.9s,baz=270,slow=1.6,SNR=34
CPUP SKPbc **SKPbc 03 33 13.4 +2.6**
comp=Z,12nm,1.1s,baz=124,slow=3.8,SNR=5.1
CPUP Villa Florida 136.81 138 *e*P **PKiKP 03 29 42.4 -0.3**
HATO Hato, Curacao 137.75 78 IAMs_20 IAMs_20 04 21 06.1
comp=Z,3μm,21.0s
ETMB Extrema 137.91 111 *e*P **PKPdf 03 29 43.0 -0.2**
BAUV El Baul 138.87 82 PKPpre 03 29 35.6
ITAB Concordia 139.43 144 *e*P **PKPdf 03 29 44.9 -0.7**
ITAB Concordia 139.43 144 PKPdf **PKPdf 03 29 44.5 -1.2**
SJG San Juan 139.45 68 PKIKP **PKPdf 03 29 42.5 -3.4**
SJG San Juan 139.45 68 *e*P **PKPdf 03 29 45.9 0.0**
SJG San Juan 139.45 68 **PKPdf 03 29 42.5 -3.4**
SJG San Juan 139.45 68 IAMs_20 IAMs_20 04 27 21.8
comp=Z,4μm,20.0s
PBRG Braganca 139.48 337 *e*PKP **PKPdf 03 29 38.5 -6.9**
PGAV Gavieira, Arco 139.92 338 *e*PKP **PKPdf 03 29 46.6 +0.4**
PGAV Gavieira, Arco 139.92 338 *e*LQ LQ 04 08 40.8
PGAV Gavieira, Arco 139.92 338 *e*LR LR 04 20 03.1
comp=Z,3μm,20.0s
ESDC Sonseca Array 140.05 332 PKhKP PKPpre 03 29 39.6
comp=Z,9.6nm,1.1s,baz=26,slow=2.4,SNR=18
ESDC PP **PP 03 32 43.5 +0.9**
comp=Z,4.6nm,0.9s,baz=21,slow=6.7,SNR=11
PCAB Cabril 140.05 338 *e*PKP **PKPdf 03 29 40.0 -6.4**
TER01 Tubaro-SC 140.08 149 *e*P **PKPdf 03 29 47.5 +0.6**
MVO Moncorvo 140.13 337 *e*PKP PKPdf 03 29 38.7 -7.9
MVO Moncorvo 140.13 337 *e*LQ LQ 04 11 22.4
MVO *e*LR LR 04 19 20.9
comp=Z,2μm,22.0s
CART Cartagena 140.17 327 P **PKPdf 03 29 47.9 +1.2**
POLO Lamas de Olo 140.25 338 *e*PKP **PKPdf 03 29 40.8 -6.1**
PVRL Vila Real 140.31 337 *e*PKP **PKPdf 03 29 41.6 -5.3**
PAB San Pablo 140.33 333 PKHKP PKPpre 03 29 38.6
PAB San Pablo 140.33 333 PKPpre PKPpre 03 29 38.6
PAB San Pablo 140.33 333 IAMs_20 IAMs_20 04 39 41.5
comp=Z,3μm,20.0s
PVIS Viseu 140.86 337 *e*PKP **PKPdf 03 29 43.2 -4.7**
MTE Manteigas 140.99 336 *e*PKP **PKPdf 03 29 43.4 -4.8**
MTE Manteigas 140.99 336 *e*LQ LQ 04 11 43.7
MTE *e*LR LR 04 21 27.5
comp=Z,3μm,22.0s
PTGB Pitanga 141.33 141 *e*P **PKiKP 03 29 51.0 -1.1**
PCBR Castelo Branco 141.44 336 *e*PKP **PKPdf 03 29 45.3 -3.6**
PCAS Casmilo, Conde 141.66 337 *e*PKP **PKPdf 03 29 44.4 -4.9**
AQDB Aquidauana 141.74 133 *e*P **PKPdf 03 29 50.8 +0.8**
AQDB Aquidauana 141.74 133 PKPdf **PKPdf 03 29 48.1 -1.9**
PMRV Marv??o 141.75 336 *e*PKP **PKPdf 03 29 45.6 -3.9**
PMRV Marv??o 141.75 336 *e*LQ LQ 04 11 35.7
PMRV Marv??o 141.75 336 *e*LR LR 04 21 55.7
comp=Z,2μm,24.0s
PTLB Pontes e Lacer 141.88 123 *e*P **PKPdf 03 29 50.6 +0.3**
VILB Vilhena 142.15 119 *e*P **PKPdf 03 29 52.2 +1.3**
SMRT St. Maarten 142.30 67 *e*P PKPdf 03 29 41.4 -10
SMRT St. Maarten 142.30 67 **PKPdf 03 29 49.4 -1.7**
SMRT IAMs_20 IAMs_20 04 30 02.2
comp=Z,2μm,20.0s
PESTR Estremoz 142.31 335 *e*PKP **PKPdf 03 29 46.7 -3.8**
PMTG Montargil 142.40 336 *e*PKP **PKPdf 03 29 46.8 -3.8**
SEUS St. Eustatius 142.53 68 IAMs_20 IAMs_20 04 28 31.3
comp=Z,3μm,20.0s
EVO Evora 142.77 335 *e*PKP **PKPdf 03 29 48.8 -2.5**
PMAFR Mafra 142.91 337 *e*PKP **PKPdf 03 29 50.2 -1.4**
PMST Lisbon--Monsan 143.06 337 *e*PKP **PKPdf 03 29 51.4 -0.4**
LIS Lisbon 143.07 337 *e*PKPdf **PKPdf 03 29 52.1 +0.3**
LIS IAMs_20 IAMs_20 04 36 19.2
comp=Z,6μm,21.1s
LIS Lisbon 143.07 337 *e*PKIKP **PKPdf 03 29 52.1 +0.3**
PBEJ Beja 143.13 335 *e*PKP PKPbc 03 29 50.5 +1.6
PNCL Nicolau / Gran 143.34 336 *e*PKP PKPbc 03 29 50.6 +1.2
MESJ Messejana 143.44 335 *e*PKPdf **PKPdf 03 29 52.9 +0.3**
MESJ IAMs_20 IAMs_20 04 31 14.8
comp=Z,4μm,30.3s
MESJ Messejana 143.44 335 *e*PKP **PKPdf 03 29 51.5 -1.0**
MESJ Messejana 143.44 335 *e*PKIKP **PKPdf 03 29 52.8 +0.3**
PCVE Castro Verde 143.54 335 *e*PKP PKPbc 03 29 51.4 +1.4
ANWB Willy Bob 143.59 67 *e*P **PKPdf 03 29 52.5 -0.8**
ANWB Willy Bob 143.59 67 IAMs_20 IAMs_20 04 29 33.2
comp=Z,3μm,21.0s

PVAQ Vaqueiros 143.59 334 *e*PKP PKPbc 03 29 50.2 0.0
PVAQ Vaqueiros 143.59 334 *e*LQ LQ 04 09 10.5
PVAQ Vaqueiros 143.59 334 *e*LR LR 04 20 43.7
comp=Z,2μm,20.0s
ANBD Bethesda, Anti 143.77 68 *e*P PKPbc 03 29 52.5 +1.3
FRTB Fartura 143.88 143 *e*P PKPbc 03 29 52.5 +1.0
PTEO Sao Teotonio 143.90 335 *e*PKP **PKPdf 03 29 52.8 -0.5**
PCMB Pacaembu 144.07 139 *e*P PKPbc 03 29 52.7 +0.6
MORF Marmelete 144.07 335 *e*PKPdf **PKPdf 03 29 53.8 +0.1**
MORF IAMs_20 IAMs_20 04 37 09.9
comp=Z,4μm,20.3s
MORF Marmelete 144.07 335 *e*PKP **PKPdf 03 29 54.3 +0.6**
MORF Marmelete 144.07 335 *e*PKIKP **PKPdf 03 29 53.8 +0.1**
PP1B Ponte de Pedra 144.11 130 *e*P PKPbc 03 29 53.4 +1.0
CBE Ff, Capester 144.15 70 *e*P **PKPdf 03 29 55.5 +1.1**
ABD La Joyeuse, An 144.17 69 *e*P **PKPdf 03 29 55.5 +1.1**
TDBA Terre de Bas, 144.18 70 *e*P **PKiKP 03 29 56.5 -1.4**
PFVI Vila Bisbo 144.29 335 *e*PKP PKPbc 03 29 52.9 +0.6
MDVC Dominica, Viel 144.45 70 *e*P **PKPdf 03 29 56.4 +1.6**
SALV Santo Antonio 144.45 127 *e*P PKPbc 03 29 54.1 +0.7
PET01 Itanhaem-SP 144.46 147 *e*P **PKPdf 03 29 54.2 -0.5**
DSLB Salisbury 144.47 71 *e*P **PKPdf 03 29 55.7 +0.8**
MAGL Barre de l'ile 144.49 70 *e*P **PKPdf 03 29 55.5 +0.6**
DLPL La Plaine 144.66 71 *e*P **PKPab 03 29 52.4 -1.6**
SVN Savane Anatole 144.84 72 IAMs_20 IAMs_20 04 44 25.7
comp=Z,2μm,21.0s
GRGR Grenville 144.84 76 *e*P **PKPab 03 29 50.6 -4.0**
GRGR Grenville 144.84 76 IAMs_20 IAMs_20 04 32 14.1
comp=Z,2μm,20.0s
FDF Fort de France 144.88 72 *e*P **PKiKP 03 29 58.0 -1.5**
FDF Fort de France 144.88 72 IAMs_20 IAMs_20 04 32 28.8
comp=Z,3μm,20.0s
BIM Bigot 145.00 72 *e*P **PKPdf 03 29 57.5 +1.7**
GCMP Grenada, Carri 145.01 76 *e*P **PKPdf 03 29 57.6 +1.7**
SVB Belmont 145.06 74 *e*P **PKiKP 03 29 58.3 -1.5**
MACA Manacapuru-AM 145.07 103 *e*P **PKPbc 03 29 55.0 -0.5**
SICH Sidi Chahed 145.09 328 P **PKPdf 03 29 56.3 +0.7**
ILAM Ilet Lapin Mar 145.13 72 *e*P **PKPbc 03 29 55.6 0.0**
LCRM LCR 145.16 327 P **PKiKP 03 29 58.0 -1.7**
SLBI Saint Lucia, B 145.19 73 *e*P **PKPdf 03 29 57.1 +1.0**
MPOM Morne Pois Mar 145.21 72 *e*P **PKPbc 03 29 54.4 -1.5**
TRN Trinidad (W) 145.27 79 *e*P **PKPdf 03 29 56.9 +0.6**
MCLT Moule a Chique 145.28 74 *e*P PKPbc 03 29 46.1 -10
VAO Valinhos 145.65 146 *e*P **PKPbc 03 29 57.4 +0.2**
MDT Midelt 145.68 326 PKPbc **PKPab 03 29 58.0 +0.7**
comp=Z,181nm,1.0s,baz=89,slow=3.9,SNR=150
PDRB Porto dos Gac 145.78 119 *e*P **PKPdf 03 29 57.3 0.0**
RCLB Rio Claro- Sao 145.78 144 *e*P **PKPdf 03 29 57.3 +0.1**
H07S1 FLORES T-PHASE 145.80 6 *e*PKP **PKiKP 03 29 59.9 -0.8**
ITRB Iturama 146.01 138 *e*P **PKPdf 03 29 57.6 0.0**
TOSP Speyside 146.04 78 *e*P **PKiKP 03 30 02.8 +1.0**
PARB Paraibuna 146.12 148 *e*P **PKPdf 03 29 58.3 +0.6**
BOAV Boa Vista 146.18 94 *e*P **PKPdf 03 29 58.3 +0.4**
BOAV Boa Vista 146.18 94 **PKPdf 03 29 58.3 +0.4**
BB19B Bebedouro 146.21 141 *e*P **PKPdf 03 29 58.5 +0.6**
BBGH Gun Hill 146.70 74 *e*P **PKPdf 03 29 58.6 -0.2**
ADH Angra Heroismo 146.75 1 *e*PKP **PKPab 03 30 01.8 +0.7**
PMAN Manadas 146.76 2 *e*PKP **PKPdf 03 29 57.6 -0.6**
AVE Averroes 146.80 330 P **PKPbc 03 30 00.8 +0.6**
PICO Pico 146.88 2 *e*PKP **PKPdf 03 29 56.4 -2.1**
CLDB Colider 146.93 119 *e*P **PKPdf 03 29 59.2 0.0**
MAN01 Angra dos Reis 147.37 150 *e*P **PKPdf 03 29 60.0 +0.2**
PSET Sete Cidades 147.57 358 *e*PKP **PKPbc 03 30 03.2 +0.9**
GRON Grota Negra 147.62 358 *e*PKP **PKPab 03 30 07.0 +2.4**
CMLA Cha da Macela 147.63 358 *e*PKP **PKiKP 03 30 04.7 +0.2**
PDA Ponta Delgada 147.65 358 *e*PKP **PKPab 03 30 04.8 +0.2**
TZRR Tazzarine 147.73 324 P **PKPbc 03 30 02.0 -1.1**
ZGR Zagora 148.25 324 P **PKPdf 03 30 03.0 +1.9**
OUZM OUZ 148.32 326 P **PKPbc 03 30 04.0 -0.7**
PSMN Pico do Norte, 148.37 357 *e*PKP **PKPbc 03 30 02.9 -1.5**
PSMA Santa Maria 148.38 358 *e*PKP **PKPbc 03 30 02.9 -1.5**
BSCB Bom Sucesso 148.47 146 *e*P **PKPdf 03 30 01.8 +0.1**
IPMB Ipameri, GO 148.66 138 *e*P **PKPdf 03 30 01.8 -0.2**
OUK Oukaimeden 148.69 328 P **PKPdf 03 30 04.1 +2.0**
DUB01 Friburgo-RJ 148.81 151 *e*P **PKPdf 03 30 02.2 +0.1**
NPGB Novo Progresso 148.93 113 *e*P **PKPdf 03 30 03.0 +0.5**
CAM01 Campos-RJ 149.37 152 *e*P **PKPdf 03 30 03.6 +0.6**
ITTB Itaituba 149.50 108 *e*P **PKPdf 03 30 03.9 +0.5**
TTIG Tnine Tigouga, 149.51 328 P **PKPbc 03 30 06.0 -1.7**
SNDB Serra Nova Dou 150.18 125 *e*P **PKPdf 03 30 05.0 +0.5**
BDFB Brasilia 150.42 135 PKP **PKPdf 03 30 05.8 +0.8**
comp=Z,110nm,1.1s,baz=249,slow=0.4,SNR=78
BDFB PKPbc **PKiKP 03 30 11.6 +0.6**
comp=Z,218nm,0.8s,baz=190,slow=1.5,SNR=51
ALF01 Guarapari-ES 150.84 152 *e*P **PKPdf 03 30 05.7 +0.4**
TORD Torodi Ar. Bea 150.88 288 PKP **PKPdf 03 30 05.0 -0.5**
comp=Z,17nm,0.9s,baz=11,slow=1.2,SNR=40
TORD PKPbc **PKPbc 03 30 11.4 +0.2**
comp=Z,275nm,0.9s,baz=37,slow=1.9,SNR=164
DIAM Diamantina, MG 151.24 145 *e*P **PKPdf 03 30 06.0 -0.2**
MALB Monte Alegre 151.61 104 *e*P **PKPdf 03 30 06.6 -0.1**
RIB01 Linhares ES 152.12 152 *e*P **PKPdf 03 30 07.8 +0.5**
SJMB Sao Joao De Ma 152.25 149 *e*P **PKPdf 03 30 07.8 +0.3**
BSFB Barra de Sao F 152.32 150 *e*P **PKPdf 03 30 07.8 +0.2**
PEXB Peixe 152.48 129 *e*P **PKPdf 03 30 08.3 +0.3**
JANB Januaria 153.34 139 *e*P **PKPdf 03 30 09.5 +0.2**
MCPB Macapa, AP 154.11 102 *e*P **PKPdf 03 30 11.0 +0.6**
PRPB Parauapebas 154.31 116 *e*P **PKPdf 03 30 10.8 +0.2**
GUA01 Guaratinga, BA 154.74 149 *e*P **PKPdf 03 30 11.4 +0.3**
SDBA SAO DESIDERIO 154.82 134 *e*P **PKPdf 03 30 11.4 +0.1**
SMTB Santa Maria do 154.92 124 *e*P **PKPdf 03 30 12.8 +1.3**
CMC01 Camacan, BA 155.91 148 *e*P **PKPdf 03 30 13.2 +0.5**
NBIT Itapeh - BA 156.32 148 *e*P **PKPdf 03 30 13.6 +0.3**
GDU01 Guandu, BA 157.24 146 *e*P **PKPdf 03 30 14.6 +0.1**
KIC Kosan Boka 158.09 274 *e*PKP1 **PKPdf 03 30 14.9 -0.7**
comp=Z,134nm,1.7s
DBIC Dimbokro 158.19 275 PKP **PKPdf 03 30 15.5 -0.2**
comp=Z,20nm,1.1s,baz=100,slow=0.8,SNR=12
DBIC Dimbokro 158.19 275 PKPdf **PKPdf 03 30 13.7 -2.0**
TIC Toumodi 158.36 275 *e*PKP1 **PKPdf 03 30 14.7 -1.2**
LIC Lamto 158.38 274 *e*PKP1 **PKPdf 03 30 15.5 -0.4**
comp=Z,170nm,1.6s
NBPN Ponto Novo - B 159.13 140 *e*P **PKPdf 03 30 17.2 +0.3**
NBLA Lagarto - SE 160.46 146 *e*P **PKPdf 03 30 18.2 -0.1**
NBAN Anadia - AL 162.39 147 *e*P **PKPdf 03 30 20.0 -0.3**
NBPS Pedro II - PI 162.46 123 *e*P **PKPdf 03 30 20.5 -0.1**
NBMA Muriti-CE 162.64 136 *e*P **PKPdf 03 30 20.9 +0.2**
NBPB Pedra_Branca-C 163.28 130 *e*P **PKPdf 03 30 20.3 -0.9**
NBRF Rio Formoso - 163.82 149 *e*P **PKPdf 03 30 22.1 +0.4**
NBMO Morrinhos-CE 164.22 122 *e*P **PKPdf 03 30 22.3 +0.2**
NBCL Cascavel-CE 165.10 129 *e*P **PKPdf 03 30 23.8 +0.9**
RCBR Riachuelo 165.68 140 *e*P **PKPdf 03 30 24.1 +0.7**

SFS ***26*** *03:38:06.0,35.46N×3.83W,ML2.7,ALBORAN SUR*
CNRM ***26*** *03:38:07.2,35.48N×3

MOS **26** 03:46:36.7±0.9, 20°.38S×177°.70W, h514km, m5.3/36, Error ellipse: s-maj=8.6km s-min=7.8km az=39.1
BGR **26** 03:46:36.4±0.0, 20°.68S×176°.70W, h512km, 8km
NEIC **26** 03:46:36.3±1.5, 20°.48S±0°.09×177°.54W±0°.10, h504km±5km, m5.2/364, Error ellipse: s-maj=13.3km s-min=12.6km az=94.0
GCMT **26** 03:46:37.3±0.5, 20°.46S±0°.04×177°.49W±0°.06, h527km±3km, MW5.7/71, Moment Tensor Solution. s71,c90; Duration: 1s6 Moment tensor: Scale 10^17^Nm; M_{rr}-2.71±.14; $M_{\theta\theta}$4.06±.23; $M_{\phi\phi}$-1.35±.25; $M_{r\theta}$0.09±.29; $M_{\theta\phi}$0.77±.24; $M_{\phi r}$-1.29±.26; Best double couple: M_o3.84300×10^17^ NP1:ϕ_s290.00000°, δ52.00000°, λ-48.00000°. NP2:ϕ_s54.00000°, δ54.00000°, λ-131.00000°. Principal axes: T 4.1690, Plg1.0000°, Azm172.0000°; N -0.6510, Plg32.0000°, Azm81.0000°; P -3.5180, Plg58.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function
IDC **26** 03:46:37.7±0.4, 20°.38S×177°.65W, h517km±4km, mb4.9/31, mb1 5.0/33, mb1mx4.6/43, mbtmp5.7/33 Error ellipse: s-maj=9.5km s-min=7.6km az=168.0
ISC 26 03:46:36.0±0.3,**20°.47S**±0°.04×**177°.53W**±0°.04, **h508**km±2km,**h509**km:**pP-P,n1508**,σ1s**28**/1579,**mb5.2**/330, **117C-200D,Fault plane solution: NP1:**ϕ_s291.36447°, δ37.10830°,λ-45.51669°. **NP2:**ϕ_s60.44145°,δ64.50427°, λ-117.92788°. **Principal axes:** T Plg15.0431°, Azm170.4971°; N Plg25.0083°, Azm73.2950°; P Plg60.2600°, Azm288.5583°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.53**	**331**	P	P	**P**	**P**	**03 47 46.0**	**+1.2**
TAVE	**Taveuni**	**4.36**	**329**	P	P	**P**	**P**	**03 47 59.5**	**+1.5**
DGTI	**Dogotuki**	**4.89**	**328**	P	P	**P**	**P**	**03 48 03.7**	**+1.1**
MSVF	**Nonsavu**	**4.98**	**302**	P	P	**P**	**P**	**03 48 04.0**	**+0.6**
	81nm,0.3s,baz=133,slow=8.2,SNR=220								
MSVF	**Nonsavu**	**4.98**	**302**	P	P	**P**	**P**	**03 48 04.2**	**+0.8**
MSVF				S	S	**S**	**S**	**03 49 13.5**	**-1.2**
MSVF	**Nonsavu**	**4.98**	**302**	P	P	**P**	**P**	**03 48 04.2**	**+0.8**
NIUE	**Niue**	**7.29**	**80**	P	P	**P**	**P**	**03 48 26.1**	**+0.7**
	baz=7.4,SNR=42								
NIUE	**Niue**	**7.29**	**80**	P	P	**P**	**P**	**03 48 26.0**	**+0.5**
NIUE	**Niue**	**7.29**	**80**	P	P	**P**	**P**	**03 48 26.3**	**+0.8**
AFI	**Afiamalu**	**8.53**	**41**	P	P	**P**	**P**	**03 48 35.7**	**-2.6**
	102nm,0.3s,baz=352,slow=1.6,SNR=84								
AFI				S	S	**S**	**S**	**03 50 09.9**	**-8.7**
	80nm,0.3s,baz=36,slow=20,SNR=13								
RAO	**Raoul Island**	**8.76**	**182**	P	P	**P**	**P**	**03 48 39.2**	**-1.1**
	242nm,0.3s,baz=95,slow=21,SNR=5.9								
RAO				S	S	**S**	**S**	**03 50 20.2**	**-2.2**
	307nm,0.3s,baz=102,slow=23,SNR=5.6								
RAO	**Raoul Island**	**8.76**	**182**	P	P	**P**	**P**	**03 48 39.1**	**-1.1**
RAO				S	S	**S**	**S**	**03 50 20.9**	**-1.5**
RAO	**Raoul Island**	**8.76**	**182**	P	P	**P**	**P**	**03 48 39.1**	**-1.1**
RAO				S	S	**S**	**S**	**03 50 20.9**	**-1.5**
RAO	**Raoul Island**	**8.76**	**182**	P	P	**P**	**P**	**03 48 39.6**	**-0.7**
FUNA	**Funafuti**	**12.28**	**345**	P	P	**P**	**P**	**03 49 16.0**	**-1.7**
MARNC	**Mare, Loyalty**	**13.52**	**263**	P	P	**P**	**P**	**03 49 30.7**	**0.0**
RTV	**Rentapao**	**13.53**	**279**	P	P	**P**	**P**	**03 49 32.7**	**+1.9**
DVP	**Devils Point**	**13.77**	**279**	P	P	**P**	**P**	**03 49 34.7**	**+1.4**
PINNC	**Pines Island,**	**14.14**	**259**	P	P	**P**	**P**	**03 49 37.0**	**-0.1**
PINNC	**Pines Island,**	**14.14**	**259**	P	P	**P**	**P**	**03 49 37.8**	**+0.7**
	636nm,0.8s								
LIFNC	**LIFOU**	**14.26**	**266**	P	P	**P**	**P**	**03 49 37.1**	**-1.4**
LIFNC	**LIFOU**	**14.26**	**266**	P	P	**P**	**P**	**03 49 37.2**	**-1.2**
	719nm,1.0s								
OUENC	**Ouen Island, N**	**14.68**	**260**	P	P	**P**	**P**	**03 49 42.6**	**-0.1**
OUENC	**Ouen Island, N**	**14.68**	**260**	P	P	**P**	**P**	**03 49 42.7**	**-0.1**
	305nm,1.1s								
DZM	**Mont Dzumac**	**15.02**	**261**	P	P	**P**	**P**	**03 49 46.1**	**-0.4**
	6.2nm,0.3s,baz=84,slow=16,SNR=76								
DZM	**Mont Dzumac**	**15.02**	**261**	*e*P	P	**P**	**P**	**03 49 46.2**	**-0.3**
	551nm,0.9s								
DZM	**Mont Dzumac**	**15.02**	**261**	P	P	**P**	**P**	**03 49 46.2**	**-0.3**
DZM	**Mont Dzumac**	**15.02**	**261**	P	P	**P**	**P**	**03 49 46.7**	**+0.2**
ONTNC	**Ouen Toro**	**15.03**	**260**	P	P	**P**	**P**	**03 49 45.6**	**-0.9**
ONTNC	**Ouen Toro**	**15.03**	**260**	P	P	**P**	**P**	**03 49 48.8**	**+2.3**
	293nm,1.1s								
NOUC	**Port Laguerre**	**15.15**	**261**	P	P	**P**	**P**	**03 49 47.7**	**-0.1**
SANVU	**Saraoutou**	**15.35**	**286**	P	P	**P**	**P**	**03 49 48.8**	**-1.1**
SANVU	**Saraoutou**	**15.35**	**286**	P	P	**P**	**P**	**03 49 50.2**	**+0.3**
NFK	**Norfolk Island**	**15.71**	**234**	P	P	**P**	**P**	**03 49 52.3**	**-1.2**
	baz=16,SNR=9.2								
RAR	**Rarotonga**	**16.62**	**96**	P	P	**P**	**P**	**03 50 03.9**	**+0.9**
	1.5nm,0.3s,baz=91,slow=18,SNR=3.3								
RAR	**Rarotonga**	**16.62**	**96**	P	P	**P**	**P**	**03 49 58.7**	**-4.3**
	69nm,1.8s								
OUZ	**Omahuta**	**16.65**	**206**	P	P	**P**	**P**	**03 50 02.4**	**-0.6**
OUZ	**Omahuta**	**16.65**	**206**	P	P	**P**	**P**	**03 50 03.0**	**-0.1**
OUZ	**Omahuta**	**16.65**	**206**	P	P	**P**	**P**	**03 50 03.2**	**+0.2**
WCZ	**Waipu Caves**	**16.98**	**203**	P	P	**P**	**P**	**03 50 05.2**	**-1.2**
KOUNC	**Koumac, New Ca**	**17.03**	**267**	P	P	**P**	**P**	**03 50 08.4**	**+1.3**
	1μm,1.0s								
KUZ	**Kuaotunu**	**17.26**	**199**	P	P	**P**	**P**	**03 50 08.1**	**-1.0**
MXZ	**Matakaoa Point**	**17.42**	**191**	P	P	**P**	**P**	**03 50 10.3**	**-0.2**
MXZ	**Matakaoa Point**	**17.42**	**191**	P	P	**P**	**P**	**03 50 09.5**	**-1.0**
WIAZ	**Waiheke Island**	**17.48**	**200**	P	P	**P**	**P**	**03 50 11.5**	**+0.3**
WMGZ	**Waiomatatini S**	**17.65**	**191**	P	P	**P**	**P**	**03 50 11.5**	**-1.2**
PUZ	**Puketiti**	**17.92**	**191**	P	P	**P**	**P**	**03 50 15.4**	**+0.3**
TOZ	**Tahuroa Road**	**18.24**	**198**	P	P	**P**	**P**	**03 50 20.5**	**+2.5**
URZ	**Urewera**	**18.33**	**194**	P	P	**P**	**P**	**03 50 16.1**	**-2.7**
	29nm,0.3s,baz=1.1,slow=3.1,SNR=67								
URZ				S	S	**S**	**S**	**03 53 16.2**	**-4.2**
	6.3nm,0.3s,baz=154,slow=22,SNR=6.5								
URZ	**Urewera**	**18.33**	**194**	P	P	**P**	**P**	**03 50 16.6**	**-2.3**
URZ	**Urewera**	**18.33**	**194**	P	P	**P**	**P**	**03 50 16.2**	**-2.7**
URZ	**Urewera**	**18.33**	**194**	P	P	**P**	**P**	**03 50 16.5**	**-2.3**
MTHZ	**Maungataniwha**	**18.96**	**194**	P	P	**P**	**P**	**03 50 24.4**	**-0.3**
WHHZ	**Waihua**	**19.09**	**193**	P	P	**P**	**P**	**03 50 31.5**	**+5.7**
HIZ	**Hauiti**	**19.15**	**198**	P	P	**P**	**P**	**03 50 28.9**	**+2.5**
HIZ	**Hauiti**	**19.15**	**198**	P	P	**P**	**P**	**03 50 27.4**	**+1.0**
HIZ	**Hauiti**	**19.15**	**198**	P	P	**P**	**P**	**03 50 28.3**	**+1.9**
RATZ	**Rangitukua**	**19.23**	**196**	P	P	**P**	**P**	**03 50 26.7**	**-0.5**
RITZ	**Rihia Road**	**19.31**	**196**	P	P	**P**	**P**	**03 50 27.7**	**-0.2**
BKZ	**Black Stump Fm**	**19.33**	**194**	P	P	**P**	**P**	**03 50 26.2**	**-1.9**
BKZ				S	S	**S**	**S**	**03 53 30.9**	**-6.0**
BKZ	**Black Stump Fm**	**19.33**	**194**	P	P	**P**	**P**	**03 50 24.9**	**-3.2**
BKZ	**Black Stump Fm**	**19.33**	**194**	P	P	**P**	**P**	**03 50 25.9**	**-2.2**
NTVZ	**North Tongarir**	**19.47**	**196**	P	P	**P**	**P**	**03 50 28.1**	**-1.3**
KRVZ	**Karewarewa**	**19.48**	**196**	P	P	**P**	**P**	**03 50 29.7**	**+0.3**
TWVZ	**Taurewa**	**19.51**	**197**	P	P	**P**	**P**	**03 50 29.1**	**-0.7**
WTVZ	**West Tongariro**	**19.51**	**196**	P	P	**P**	**P**	**03 50 29.2**	**-0.6**
NNVZ	**North Ngauruho**	**19.52**	**196**	P	P	**P**	**P**	**03 50 29.4**	**-0.5**
OTVZ	**Oturere**	**19.53**	**196**	P	P	**P**	**P**	**03 50 28.3**	**-1.7**
NGZ	**Ngauruhoe**	**19.56**	**196**	P	P	**P**	**P**	**03 50 29.2**	**-1.1**
KWHZ	**Kaweka Forest**	**19.60**	**194**	P	P	**P**	**P**	**03 50 28.4**	**-2.1**
KWHZ				S	S	**S**	**S**	**03 53 34.8**	**-6.4**
TUVZ	**Tukino**	**19.64**	**196**	P	P	**P**	**P**	**03 50 29.4**	**-1.5**
TUVZ				S	S	**S**	**S**	**03 53 39.2**	**-2.8**
FWVZ	**Far West T-bar**	**19.65**	**196**	P	P	**P**	**P**	**03 50 30.2**	**-1.0**
DRZ	**Dome Shelter**	**19.66**	**196**	P	P	**P**	**P**	**03 50 32.0**	**+0.6**
WHVZ	**Whangaehu Hut**	**19.67**	**196**	P	P	**P**	**P**	**03 50 29.8**	**-1.5**
TRVZ	**Turoa**	**19.69**	**196**	P	P	**P**	**P**	**03 50 30.1**	**-1.4**
WNVZ	**Wahianoa**	**19.70**	**196**	P	P	**P**	**P**	**03 50 29.9**	**-1.7**
PKVZ	**Pokaka**	**19.74**	**197**	P	P	**P**	**P**	**03 50 31.1**	**-0.7**
MOVZ	**Moawhango**	**19.74**	**196**	P	P	**P**	**P**	**03 50 30.6**	**-1.3**
BHHZ	**Black Hill Sta**	**19.74**	**195**	P	P	**P**	**P**	**03 50 29.8**	**-2.0**
VRZ	**Vera Road**	**19.75**	**198**	P	P	**P**	**P**	**03 50 32.7**	**+0.9**
KRHZ	**Kereru**	**19.82**	**194**	P	P	**P**	**P**	**03 50 30.2**	**-2.2**
KRHZ				S	S	**S**	**S**	**03 53 40.0**	**-4.6**
KAHZ	**Kahuranaki**	**19.85**	**193**	P	P	**P**	**P**	**03 50 31.5**	**-1.3**
KAHZ				S	S	**S**	**S**	**03 53 42.4**	**-2.9**
NEZ	**North Egmont**	**20.08**	**199**	P	P	**P**	**P**	**03 50 38.6**	**+3.7**
PXZ	**Pawanui**	**20.08**	**193**	P	P	**P**	**P**	**03 50 34.5**	**-0.3**
PXZ				S	S	**S**	**S**	**03 53 44.9**	**-3.9**
PNHZ	**Pukenui**	**20.11**	**194**	P	P	**P**	**P**	**03 50 33.7**	**-1.5**
KHEZ	**Kahui Hut**	**20.12**	**199**	P	P	**P**	**P**	**03 50 38.3**	**+3.0**
PREZ	**Palmer Road**	**20.12**	**199**	P	P	**P**	**P**	**03 50 39.3**	**+4.0**
WPHZ	**Waipukurau**	**20.20**	**193**	P	P	**P**	**P**	**03 50 35.5**	**-0.4**
WAZ	**Wanganui**	**20.27**	**197**	P	P	**P**	**P**	**03 50 36.2**	**-0.4**
NMEZ	**Namu Road**	**20.28**	**200**	P	P	**P**	**P**	**03 50 39.5**	**+2.9**
DVHZ	**Dannevirke**	**20.49**	**194**	P	P	**P**	**P**	**03 50 37.0**	**-1.6**
ANWZ	**Angora Road**	**20.58**	**193**	P	P	**P**	**P**	**03 50 38.6**	**-0.7**
ANWZ				S	S	**S**	**S**	**03 53 55.2**	**-1.5**
POWZ	**Post Office Ro**	**20.67**	**195**	P	P	**P**	**P**	**03 50 40.3**	**+0.1**
PRWZ	**Pori Road**	**20.78**	**194**	P	P	**P**	**P**	**03 50 40.4**	**-0.8**
BFZ	**Birch Farm**	**20.84**	**193**	P	P	**P**	**P**	**03 50 40.3**	**-1.4**
BFZ				S	S	**S**	**S**	**03 53 58.6**	**-2.3**
BFZ	**Birch Farm**	**20.84**	**193**	P	P	**P**	**P**	**03 50 39.9**	**-1.8**
BFZ	**Birch Farm**	**20.84**	**193**	P	P	**P**	**P**	**03 50 40.5**	**-1.2**
MRZ	**Mangatainoka R**	**20.97**	**195**	P	P	**P**	**P**	**03 50 40.7**	**-2.2**
MRZ				S	S	**S**	**S**	**03 53 57.9**	**-5.1**
TIWZ	**Tintock**	**21.01**	**194**	P	P	**P**	**P**	**03 50 42.0**	**-1.2**
CPWZ	**Castlepoint**	**21.07**	**193**	P	P	**P**	**P**	**03 50 45.2**	**+1.4**
HOWZ	**Holdsworth Sta**	**21.21**	**195**	P	P	**P**	**P**	**03 50 43.0**	**-2.1**
HOWZ				S	S	**S**	**S**	**03 54 03.0**	**-3.9**
OGWZ	**Otaki Gorge**	**21.22**	**195**	P	P	**P**	**P**	**03 50 42.4**	**-2.7**
OGWZ				S	S	**S**	**S**	**03 54 02.4**	**-4.5**
TMWZ	**Te Maipa**	**21.32**	**194**	P	P	**P**	**P**	**03 50 44.9**	**-1.2**
TMWZ				S	S	**S**	**S**	**03 54 07.2**	**-1.4**
KIW	**Kapiti Island**	**21.32**	**196**	P	P	**P**	**P**	**03 50 45.0**	**-1.1**
KIW				S	S	**S**	**S**	**03 54 03.9**	**-4.8**
MTW	**Mount Morrison**	**21.46**	**194**	P	P	**P**	**P**	**03 50 45.9**	**-1.4**
MTW				S	S	**S**	**S**	**03 54 08.2**	**-2.6**
CAW	**Cannon Point**	**21.52**	**195**	P	P	**P**	**P**	**03 50 46.5**	**-1.3**
CAW				S	S	**S**	**S**	**03 54 06.5**	**-5.2**
DUWZ	**D'Urville Isla**	**21.54**	**198**	P	P	**P**	**P**	**03 50 46.8**	**-1.2**
DUWZ				S	S	**S**	**S**	**03 54 06.3**	**-5.8**
TRWZ	**Traveller**	**21.65**	**194**	P	P	**P**	**P**	**03 50 48.1**	**-0.9**
PAWZ	**Paruwai Farm**	**21.69**	**194**	P	P	**P**	**P**	**03 50 48.2**	**-1.2**
PAWZ				S	S	**S**	**S**	**03 54 11.0**	**-3.4**
MSWZ	**Moikau Station**	**21.77**	**195**	P	P	**P**	**P**	**03 50 48.9**	**-1.2**
MSWZ				S	S	**S**	**S**	**03 54 12.3**	**-3.3**
MSWZ	**Moikau Station**	**21.77**	**195**	P	P	**P**	**P**	**03 50 48.3**	**-1.7**
SNZO	**South Karori**	**21.80**	**196**	P	P	**P**	**P**	**03 50 48.7**	**-1.6**
SNZO	**South Karori**	**21.80**	**196**	P	P	**P**	**P**	**03 50 49.1**	**-1.2**
TCW	**Tory Channel**	**21.82**	**197**	P	P	**P**	**P**	**03 50 49.7**	**-0.9**
BHW	**Baring Head**	**21.85**	**195**	P	P	**P**	**P**	**03 50 50.2**	**-0.6**
BHW	**Baring Head**	**21.85**	**195**	P	P	**P**	**P**	**03 50 49.4**	**-1.4**
PLWZ	**Palliser**	**21.91**	**195**	P	P	**P**	**P**	**03 50 49.9**	**-1.5**
PLWZ	**Palliser**	**21.91**	**195**	P	P	**P**	**P**	**03 50 49.8**	**-1.6**
QRZ	**Quartz Range**	**21.99**	**200**	P	P	**P**	**P**	**03 50 52.1**	**0.0**
QRZ	**Quartz Range**	**21.99**	**200**	P	P	**P**	**P**	**03 50 52.3**	**+0.2**
NNZ	**Nelson**	**22.08**	**198**	P	P	**P**	**P**	**03 50 51.1**	**-1.8**
NNZ				IAmb	IAmb	IAmb	IAmb	03 50 54.7	
	comp=Z,73nm,1.0s								
TUWZ	**Tuamarina**	**22.11**	**197**	P	P	**P**	**P**	**03 50 52.5**	**-0.7**
TUWZ	**Tuamarina**	**22.11**	**197**	P	P	**P**	**P**	**03 50 52.0**	**-1.2**
CMWZ	**Cape Campbell**	**22.34**	**196**	P	P	**P**	**P**	**03 50 55.2**	**-0.1**
CMWZ	**Cape Campbell**	**22.34**	**196**	P	P	**P**	**P**	**03 50 54.3**	**-1.0**
BSWZ	**Blackbirch Sta**	**22.40**	**197**	P	P	**P**	**P**	**03 50 55.6**	**-0.1**
BSWZ	**Blackbirch Sta**	**22.40**	**197**	P	P	**P**	**P**	**03 50 54.9**	**-0.9**
THZ	**Tophouse**	**22.72**	**199**	P	P	**P**	**P**	**03 50 58.2**	**-0.5**
THZ				IAmb	IAmb	IAmb	IAmb	03 51 04.2	
	comp=Z,74nm,0.9s								
KHZ	**Kahutara**	**23.14**	**197**	P	P	**P**	**P**	**03 51 01.1**	**-1.2**
KHZ				IAmb	IAmb	IAmb	IAmb	03 51 08.2	
	comp=Z,73nm,0.6s								
KHZ	**Kahutara**	**23.14**	**197**	P	P	**P**	**P**	**03 51 01.4**	**-1.0**
LHI	**Lord Howe Isla**	**23.69**	**238**	P	P	**P**	**P**	**03 51 07.5**	**0.0**
	baz=24,SNR=16								
LHI	**Lord Howe Isla**	**23.69**	**238**	P	P	**P**	**P**	**03 51 08.3**	**+0.9**
LHI	**Lord Howe Isla**	**23.69**	**238**	P	P	**P**	**P**	**03 51 08.9**	**+1.4**
LTZ	**Lake Taylor**	**23.84**	**199**	P	P	**P**	**P**	**03 51 06.3**	**-2.4**
LTZ				IAmb	IAmb	IAmb	IAmb	03 51 11.3	
	comp=Z,62nm,0.9s								
OXZ	**Oxford**	**24.41**	**199**	IAmb	IAmb	IAmb	IAmb	03 51 15.3	
	comp=Z,164nm,1.1s								
RPZ	**Rata Peaks**	**25.07**	**200**	IAmb	IAmb	IAmb	IAmb	03 51 29.9	
	comp=Z,64nm,0.6s								
RPZ	**Rata Peaks**	**25.07**	**200**	P	P	**P**	**P**	**03 51 18.4**	**-1.1**
FOZ	**Fox Glacier**	**25.32**	**202**	P	P	**P**	**P**	**03 51 20.1**	**-1.6**
FOZ				IAmb	IAmb	IAmb	IAmb	03 51 26.3	
	comp=Z,72nm,1.0s								
ODZ	**Otahua Downs**	**26.39**	**199**	P	P	**P**	**P**	**03 51 31.0**	**-0.2**
PAE	**Paea**	**26.55**	**89**	*e*pP	pP	pP	pP	03 52 51.8	-4.0
	comp=Z,60nm,1.5s								
PPT2	**Papeete2**	**26.57**	**89**	*e*pP	pP	pP	pP	03 52 52.2	-3.9
	comp=Z,265nm,1.4s								
PPT	**Papeete**	**26.57**	**89**	P	P	**P**	**P**	**03 51 34.6**	**+1.5**
	comp=Z,38nm,0.7s,baz=56,slow=2.6,SNR=4.6								
PPTF	**Pamatai, Papee**	**26.58**	**89**	P	P	**P**	**P**	**03 51 33.0**	**-0.3**
TIAR	**Tiarei**	**26.79**	**89**	*e*pP	pP	pP	pP	03 52 54.4	-3.7
	comp=Z,2.2nm,1.2s								
MLZ	**Mavora Lakes**	**27.51**	**202**	P	P	**P**	**P**	**03 51 40.3**	**-0.8**
MLZ				IAmb	IAmb	IAmb	IAmb	03 51 46.3	
	comp=Z,92nm,1.4s								
MEH	**Mehetia**	**27.94**	**90**	*e*pP	pP	pP	pP	03 53 05.0	-3.6
	comp=Z,63nm,1.3s								
DCZ	**Deep Cove**	**27.95**	**203**	P	P	**P**	**P**	**03 51 44.9**	**+0.1**
DCZ				IAmb	IAmb	IAmb	IAmb	03 51 48.7	
	comp=Z,56nm,1.2s								
WHZ	**Wether Hill Ro**	**28.03**	**202**	P	P	**P**	**P**	**03 51 45.0**	**-0.5**
WHZ				IAmb	IAmb	IAmb	IAmb	03 51 50.5	
	comp=Z,104nm,0.8s								
EIDS	**Eidsvold**	**29.28**	**254**	P	P	**P**	**P**	**03 51 56.5**	**-0.2**
	baz=29,SNR=100								
EIDS	**Eidsvold**	**29.28**	**254**	P	P	**P**	**P**	**03 51 56.6**	**-0.2**
EIDS	**Eidsvold**	**29.28**	**254**	P	P	**P**	**P**	**03 51 56.4**	**-0.4**
ARMA	**Armidale**	**29.48**	**244**	P	P	**P**	**P**	**03 51 59.3**	**+0.7**
	baz=29,SNR=90								
ARMA	**Armidale**	**29.48**	**244**	P	P	**P**	**P**	**03 51 58.8**	**+0.2**
ARMA				IAmb	IAmb	IAmb	IAmb	03 52 00.3	
	comp=Z,110nm,0.8s								
ARMA	**Armidale**	**29.48**	**244**	P	P	**P**	**P**	**03 51 59.3**	**+0.7**
MGCD	**Mangrove Creek**	**30.60**	**239**	P	P	**P**	**P**	**03 52 09.0**	**+0.9**
	baz=31,SNR=19								
MGCD	**Mangrove Creek**	**30.60**	**239**	P	P	**P**	**P**	**03 52 08.8**	**+0.7**
RMQ	**Roma**	**31.43**	**253**	P	P	**P**	**P**	**03 52 16.0**	**+0.6**
	baz=31,SNR=170								
RMQ	**Roma**	**31.43**	**253**	P	P	**P**	**P**	**03 52 16.4**	**+1.0**
CAN	**Canberra**	**32.89**	**236**	P	P	**P**	**P**	**03 52 28.0**	**+0.2**
CAN				pmax	pmax	pmax	pmax		
	comp=Z,128nm,1.1s								
CAN	**Canberra**	**32.89**	**236**	P	P	**P**	**P**	**03 52 28.0**	**+0.2**
CAN				IAmb	IAmb	IAmb	IAmb	03 52 29.3	
	comp=Z,128nm,1.1s								
CAN	**Canberra**	**32.89**	**236**	P	P	**P**	**P**	**03 52 27.9**	**+0.2**
CTA	**Charters Tower**	**33.93**	**264**	P	P	**P**	**P**	**03 52 36.8**	**+0.1**
	comp=Z,679nm,0.7s,baz=93,slow=9.8,SNR=680								
CTA	**Charters Tower**	**33.93**	**264**	P	P	**P**	**P**	**03 52 36.7**	**+0.1**
CTAO	**Charters Tower**	**33.93**	**264**	P	P	**P**	**P**	**03 52 37.0**	**+0.3**
CTAO				pmax	pmax	pmax	pmax		
	comp=Z,676nm,0.7s								
CTAO	**Charters Tower**	**33.93**	**264**	P	P	**P**	**P**	**03 52 37.0**	**+0.3**
CTAO	**Charters Tower**	**33.93**	**264**	P	P	**P**	**P**	**03 52 36.7**	**+0.1**
CMSA	**Cobar Meteorol**	**34.69**	**244**	P	P	**P**	**P**	**03 52 42.8**	**-0.1**
	baz=35,SNR=30								
CMSA	**Cobar Meteorol**	**34.69**	**244**	P	P	**P**	**P**	**03 52 42.8**	**-0.1**
QLP	**Quilpie**	**35.48**	**253**	P	P	**P**	**P**	**03 52 49.3**	**-0.3**
	baz=35,SNR=233								
QLP	**Quilpie**	**35.48**	**253**	P	P	**P**	**P**	**03 52 49.6**	**0.0**
PMG	**Port Moresby**	**35.76**	**283**	P	P	**P**	**P**	**03 52 51.9**	**-0.1**
	comp=Z,332nm,0.8s,baz=81,slow=5.9,SNR=65								
PMG	**Port Moresby**	**35.76**	**283**	*ce*P	P	**P**	**P**	**03 52 51.8**	**-0.2**
PMG				pmax	pmax	pmax	pmax		
	comp=Z,446nm,1.0s								
PMG	**Port Moresby**	**35.76**	**283**	P	P	**P**	**P**	**03 52 51.6**	**-0.4**
MTSU	**Mount Surprise**	**36.03**	**267**	P	P	**P**	**P**	**03 52 54.3**	**0.0**
	baz=36,SNR=216								
MTSU	**Mount Surprise**	**36.03**	**267**	P	P	**P**	**P**	**03 52 54.3**	**0.0**
TOO	**Toolangi**	**36.27**	**234**	P	P	**P**	**P**	**03 52 56.6**	**+0.5**
	baz=36,SNR=19								
TOO	**Toolangi**	**36.27**	**234**	P	P	**P**	**P**	**03 52 56.1**	**+0.1**
TOO				pmax	pmax	pmax	pmax		
	comp=Z,169nm,1.5s								
TOO	**Toolangi**	**36.27**	**234**	P	P	**P**	**P**	**03 52 56.1**	**+0.1**
TOO				IAmb	IAmb	IAmb	IAmb	03 52 57.5	
	comp=Z,169nm,1.4s								
TOO	**Toolangi**	**36.27**	**234**	P	P	**P**	**P**	**03 52 56.5**	**+0.5**
COEN	**Coen**	**38.02**	**273**	P	P	**P**	**P**	**03 53 10.6**	**0.0**
COEN	**Coen**	**38.02**	**273**	P	P	**P**	**P**	**03 53 10.7**	**0.0**
STKA	**Stephens Creek**	**38.20**	**244**	P	P	**P**	**P**	**03 53 12.1**	**+0.2**
	comp=Z,105nm,0.8s,baz=88,slow=9.2,SNR=147								
STKA				PcP	PcP	**PcP**	**PcP**	**03 55 13.8**	**+0.3**
	comp=Z,20nm,0.8s,baz=83,slow=4.1,SNR=4.4								
STKA				ScP	ScP	**ScP**	**ScP**	**03 58 13.9**	**+1.0**
	comp=Z,13nm,0.8s,baz=41,slow=4.5,SNR=5.4								
STKA				PKKP	PKKPdf	**PKKPdf**	**PKKPdf**	**04 17 15.2**	**+2.4**
	comp=Z,3.2nm,0.6s,baz=336,slow=7.1,SNR=9.4								
STKA	**Stephens Creek**	**38.20**	**244**	P	P	**P**	**P**	**03 53 12.2**	**+0.2**
	baz=38,SNR=49								
STKA	**Stephens Creek**	**38.20**	**244**	P	P	**P**	**P**	**03 53 12.1**	**+0.2**
STKA				ScP	ScP	**ScP**	**ScP**	**03 58 13.2**	**+0.3**
STKA	**Stephens Creek**	**38.20**	**244**	P	P	**P**	**P**	**03 53 12.3**	**+0.4**
INKA	**Innaminka**	**38.62**	**251**	P	P	**P**	**P**	**03 53 16.2**	**+0.8**
MANU	**Manus Island**	**38.83**	**294**	P	P	**P**	**P**	**03 53 17.7**	**+0.4**
MANU				IAmb	IAmb	IAmb	IAmb	03 53 19.0	
	comp=Z,135nm,0.9s								
ARPS	**Mount Arapiles**	**38.87**	**236**	P	P	**P**	**P**	**03 53 17.2**	**0.0**
	baz=39,SNR=7.4								
ARPS	**Mount Arapiles**	**38.87**	**236**	P	P	**P**	**P**	**03 53 17.3**	**0.0**
QIS	**Mount Isa**	**40.06**	**262**	P	P	**P**	**P**	**03 53 26.4**	**-0.8**
	baz=40,SNR=98								
QIS	**Mount Isa**	**40.06**	**262**	P	P	**P**	**P**	**03 53 26.6**	**-0.5**
HTT	**Hallett**	**40.63**	**242**	P	P	**P**	**P**	**03 53 31.4**	**-0.2**
	baz=41,SNR=53								
HTT	**Hallett**	**40.63**	**242**	P	P	**P**	**P**	**03 53 31.4**	**-0.2**
LCRK	**Leigh Creek**	**40.95**	**247**	P	P	**P**	**P**	**03 53 34.1**	**0.0**
BBOO	**Buckleboo**	**42.95**	**244**	P	P	**P**	**P**	**03 53 49.5**	**-0.4**
	baz=43,SNR=118								
BBOO	**Buckleboo**	**42.95**	**244**	P	P	**P**	**P**	**03 53 49.6**	**-0.3**
BBOO	**Buckleboo**	**42.95**	**244**	P	P	**P**	**P**	**03 53 49.6**	**-0.3**
OOD	**Oodnadatta**	**43.11**	**251**	P	P	**P**	**P**	**03 53 51.7**	**+0.6**
JAY	**Jayapura**	**44.45**	**288**	P	P	**P**	**P**	**03 54 02.1**	**+0.3**
	comp=Z,437nm,

KAPI Kappang 62.72 275 P P 03 56 11.4 -0.1
comp=Z,41nm,0.7s,baz=158,slow=5.4,SNR=12
KAPI Kappang 62.72 275 P P 03 56 11.5 0.0
GIRL Giralia 62.98 254 P P 03 56 13.8 +0.7
baz=63,SNR=16
GIRL Giralia 62.98 254 P P 03 56 13.6 +0.6
GIRL Giralia 62.98 254 P P 03 56 13.7 +0.6
SPSI Sidrap Palu 63.07 276 P P 03 56 12.7 -1.1
comp=Z,2μmcomp=Z,182nm,1.1s
TTSI Tana Toraja 63.35 277 P P 03 56 15.6 0.0
comp=Z,76nm,1.1s
TOLI2 Tolitoli 64.03 282 P P 03 56 19.6 -0.4
TOLI2 Tolitoli 64.03 282 P P 03 56 19.7 -0.2
MPSI Mapaga 64.54 281 P P 03 56 22.9 -0.3
comp=Z,3μmcomp=Z,415nm,0.8s
DNP Denpasar 65.76 270 P P 03 56 30.4 -0.5
comp=Z,24μmcomp=Z,611nm,0.8s
IGBI Denpasar 65.78 269 P P 03 56 30.5 -0.5
comp=Z,4μmcomp=Z,475nm,1.0s
SRBI Singaraja 65.95 270 P P 03 56 31.1 -1.0
comp=Z,3μmcomp=Z,334nm,0.9s
KBKI Kotabaru 66.66 275 P P 03 56 31.3 -5.2
comp=Z,168nm,1.2s
SMKI Samarinda 66.73 279 P P 03 56 36.9 0.0
comp=Z,375nm,1.3s
JAGI Jajag, Banyuwa 66.82 269 P P 03 56 35.9 -1.6
comp=Z,3μmcomp=Z,376nm,1.0s
JAGI Jajag, Banyuwa 66.82 269 P P 03 56 36.5 -1.0
JAGI Jajag, Banyuwa 66.82 269 P P 03 56 36.5 -1.0
ABJI Asem Bagus 66.96 270 P P 03 56 38.0 -0.3
comp=Z,3μmcomp=Z,305nm,1.2s
JHJ2 Mitsune 67.06 322 P P 03 56 38.9 +0.4
JHJ2 Mitsune 67.06 322 P P 03 56 39.0 +0.5
KMMI Kalianget 67.45 271 P P 03 56 40.5 -0.9
comp=Z,3μmcomp=Z,279nm,1.1s
GMJI Gumukmas 67.55 269 P P 03 56 40.9 -1.0
comp=Z,135nm,0.9s
BLJI Banyuglugur 67.58 270 P P 03 56 41.6 -0.5
comp=Z,2μmcomp=Z,218nm,0.9s
MYLDM Lahad Datu 67.75 285 P P 03 56 44.8 +1.6
BBKI Banjar Baru 67.84 275 P P 03 56 43.8 0.0
comp=Z,4μmcomp=Z,176nm,1.2s
MTKI Muara Teweh, K 68.69 277 P P 03 56 48.9 0.0
comp=Z,155nm,0.9s
JYT Yasato 69.12 324 P P 03 56 51.5 +0.6
JSG Sagara 69.12 322 P P 03 56 52.2 +1.2
QSPA South Pole Qui 69.60 180 P P 03 56 55.4 +1.8
comp=Z,55nm,0.9s
QSPA South Pole Qui 69.60 180 P P 03 56 55.2 +1.6
QSPA IAmb IAmb 03 56 56.5
comp=Z,60nm,0.9s
PCJI Pacitan 69.70 269 P P 03 56 54.8 -0.2
comp=Z,8μmcomp=Z,1μm,0.7s
JMM Marumori 70.01 326 P P 03 56 56.7 +0.4
KKM Kota Kinabalu 70.17 285 P P 03 56 58.0 +0.1
KKM Kota Kinabalu 70.17 285 P P 03 56 58.4 +0.5
JGF Kuroka 70.25 322 P P 03 56 58.0 +0.1
JGF IAmb IAmb 03 56 58.7
comp=Z,42nm,0.7s
INU Inuyama 70.27 322 P P 03 56 57.9 -0.1
INU IAmb IAmb 03 56 59.1
comp=Z,59nm,0.9s
UGM Wanagama 70.40 269 P P 03 56 58.9 -0.3
comp=Z,4μmcomp=Z,443nm,0.7s
UGM Wanagama 70.40 269 P P 03 56 59.1 -0.1
UGM Wanagama 70.40 269 P P 03 56 58.9 -0.3
MJAR Matsushiro Arr 70.44 323 P P 03 56 58.7 -0.2
comp=Z,100nm,0.6s,baz=158,slow=5.8,SNR=194
MJAR Matsushiro Arr 70.44 323 P P 03 56 59.1 +0.2
MJAR pmax pmax
comp=Z,114nm,0.6s
MJAR Matsushiro Arr 70.44 323 P P 03 56 59.1 +0.2
MAJO Matsushiro 70.44 323 d iP P 03 56 58.4 -0.5
MAJO pmax pmax
comp=Z,88nm,0.8s
MAJO Matsushiro 70.44 323 P P 03 56 59.2 +0.2
MAJO Matsushiro 70.44 323 P P 03 56 59.0 +0.1
MAT Matsushiro 70.44 323 P P 03 56 58.7 -0.2
MJB9 Matsu-Tunnel 70.45 323 P P 03 56 59.4 +0.4
JOW Kunigami 70.48 310 P P 03 57 00.3 +1.0
UWJI Ujung Watu 70.49 270 P P 03 56 59.9 +0.2
comp=Z,5μmcomp=Z,442nm,0.8s
YOGI Yogyakarta 70.65 269 P P 03 57 00.4 -0.2
comp=Z,2μmcomp=Z,296nm,0.8s
SMRI Semarang 70.76 270 P P 03 57 01.6 +0.3
comp=Z,372nm,0.8s
SMRI Semarang 70.76 270 P P 03 57 01.4 0.0
JMN Monobe 71.05 319 P P 03 57 03.1 +0.5
JMN IAmb IAmb 03 57 04.5
comp=Z,85nm,0.8s
PBKI Pangkalan Bun 71.07 274 P P 03 57 04.1 +0.9
comp=Z,330μmcomp=Z,12μmcomp=Z,706nm,1.0s
JSD Sado 71.49 325 P P 03 57 05.6 +0.5
JSU Suzuyama 71.81 315 P P 03 57 07.3 +0.3
ADK Adak 72.04 1 P P 03 57 07.8 -0.1
JTM Tenmabayashi 72.07 328 P P 03 57 09.1 +0.8
JTM IAmb IAmb 03 57 09.9
comp=Z,98nm,0.7s
STKI Sintang 72.24 277 P P 03 57 11.1 +1.1
comp=Z,21μmcomp=Z,218nm,0.7s
JHS Saijyo 72.36 319 P P 03 57 10.4 +0.1
CMJI Cimerak 72.39 268 P P 03 57 09.7 -1.1
comp=Z,2μmcomp=Z,154nm,1.1s
SBUM Sibu 72.43 279 P P 03 57 10.7 -0.3
JNU Nakatsue 72.55 316 P P 03 57 11.0 -0.3
JNU IAmb IAmb 03 57 12.5
comp=Z,154nm,1.0s
JNU Nakatsue 72.55 316 P P 03 57 11.5 +0.1
YOJ Yonaguni jima 73.08 305 P P 03 57 14.6 +0.1
YOJ pmax pmax
comp=Z,493nm,0.6s
YOJ Yonaguni jima 73.08 305 P P 03 57 14.6 +0.1
YOJ Yonaguni jima 73.08 305 P P 03 57 14.7 +0.2
JEW Eniwo 73.45 330 P P 03 57 16.6 +0.4
LEM Lembang 73.48 269 P P 03 57 17.6 +0.3
comp=Z,3μmcomp=Z,369nm,0.9s
TWG Pinlang 73.73 302 P P 03 57 16.6 -1.7
CNJI Cibinong 73.78 268 P P 03 57 18.0 -0.8
comp=Z,3μmcomp=Z,386nm,1.0s
KSM Kuching 73.84 278 P P 03 57 19.3 +0.1
KSM Kuching 73.84 278 P P 03 57 20.0 +0.8
YULB Yu-li 73.85 303 P P 03 57 17.9 -1.1
YULB IAmb IAmb 03 57 18.8
comp=Z,98nm,0.7s
JKA Kamikawa-asahi 73.91 331 P P 03 57 19.6 +0.8
ASAJ Asahikawa 73.91 331 P P 03 57 20.7 +1.9
comp=Z,179nm,0.8s,baz=211,slow=6.5,SNR=29
NACB Ninganchiao 74.02 304 P P 03 57 19.4 -0.5
XMIS Christmas Isla 74.15 265 P P 03 57 20.7 -0.2
XMIS Christmas Isla 74.15 265 P P 03 57 21.2 +0.3
SSLB Suanglung 74.32 303 P P 03 57 20.5 -1.2
SSLB Suanglung 74.32 303 P P 03 57 20.9 -0.8
TPUB Ta-pu 74.33 303 P P 03 57 20.8 -0.9
TPUB Ta-pu 74.33 303 P P 03 57 21.0 -0.7
CBJI Citeko 74.33 269 P P 03 57 20.9 -1.0
comp=Z,460nm,0.8s
DBJI Dramaga 74.38 269 P P 03 57 22.1 -0.2
comp=Z,11μmcomp=Z,546nm,1.1s
SKJI Sukabumi 74.41 268 P P 03 57 21.7 -0.7
comp=Z,3μmcomp=Z,312nm,0.8s
YHNB Yeheng 74.45 304 P P 03 57 22.1 -0.3
YHNB Yeheng 74.45 304 P P 03 57 22.4 0.0
TATO Taipei 74.52 305 P P 03 57 22.6 -0.1
TATO Taipei 74.52 305 P P 03 57 22.4 -0.3
TNG Tangerang 74.60 269 P P 03 57 23.5 0.0
comp=Z,518nm,0.5s
TNG P P 03 57 23.5 0.0
comp=Z,758nm,0.5s
TPI Tanjungpandan 74.81 273 P P 03 57 25.3 +0.6
SBJI Serang 75.10 269 P P 03 57 25.8 -0.5
comp=Z,416nm,1.1s
CGJI Cibinong 75.35 268 P P 03 57 27.2 -0.5
comp=Z,4μmcomp=Z,478nm,0.9s
YSS Yuzh-Sakhalins 76.06 333 ke P P 03 57 31.9 +1.1
YSS pmax pmax
comp=Z,200nm,0.9s
BLSI Bandar Lampung 76.18 269 P P 03 57 30.8 -1.5
comp=Z,450nm,0.8s
PEA0B Petropavlovsk- 76.35 345 ce P P 03 57 32.1 -0.2
PEA0B Petropavlovsk- 76.35 345 P P 03 57 32.6 +0.3
PEA0B IAmb IAmb 03 57 33.6
comp=Z,167nm,1.2s
PETK Petropavlovsk- 76.35 345 P P 03 57 32.0 -0.3
comp=Z,50nm,0.9s,baz=155,slow=8.2,SNR=33
PETK Petropavlovsk- 76.35 345 P P 03 57 32.0 -0.3
PETK Petropavlovsk- 76.35 345 P P 03 57 31.6 -0.7
KNMB Chin-men Tao 76.68 303 P P 03 57 34.8 0.0
KLI Kotabumi 76.72 270 P P 03 57 34.3 -0.9
comp=Z,376nm,0.8s
QZH Quanzhou 76.76 303 ||i P P 03 57 35.8 +0.6
QZH pmax pmax
comp=Z,130nm,0.9s
KASI Kota Agung 76.83 269 P P 03 57 34.9 -1.0
comp=Z,4μmcomp=Z,580nm,1.0s
TJN Taejon 76.84 317 ce P P 03 57 35.2 -0.2
TJN Taejon 76.84 317 P P 03 57 35.5 +0.1
KLSI 76.89 270 P P 03 57 35.0 -1.2
comp=Z,56nm,1.1s
SNCC San Nicolas Is 76.90 47 P P 03 57 38.1 +2.3
baz=235
KSRS Korea Array 77.15 318 P P 03 57 38.0 +1.0
comp=Z,30nm,0.7s,baz=135,slow=6.2,SNR=64
KSAR Wonju Array Be 77.17 318 P P 03 57 37.3 +0.2
KSAR Wonju Array Be 77.17 318 P P 03 57 37.3 +0.2
KS19 Wonju Array Si 77.22 318 P P 03 57 37.8 +0.3
KS19 IAmb IAmb 03 57 39.2
comp=Z,98nm,1.4s
LWLI Liwa 77.41 269 P P 03 57 38.8 -0.4
comp=Z,560nm,0.8s
PMBI Palembang 77.45 272 P P 03 57 40.3 +1.0
comp=Z,430nm,0.4s
SBC Santa Barbara 77.47 46 P P 03 57 41.0 +2.2
baz=234
MDSI Maura Dua 77.48 270 P P 03 57 38.2 -1.2
comp=Z,2μmcomp=Z,194nm,0.9s
PKM Mcpherson Peak 77.66 45 P P 03 57 42.3 +2.1
baz=234,SNR=7.0
SAO San Andreas Ge 77.70 43 P P 03 57 40.9 +0.8
SAO pmax pmax
comp=Z,44nm,0.9s
SAO San Andreas Ge 77.70 43 P P 03 57 40.9 +0.8
SAO IAmb IAmb 03 57 43.2
comp=Z,44nm,0.8s
CIS Catalina Islan 77.75 47 P P 03 57 41.8 +1.3
baz=235
SMMC Simmler 77.79 45 P P 03 57 43.0 +2.3
baz=234,SNR=5.6
PMPB Monarch Peak 77.79 44 P P 03 57 41.2 +0.5
PMPB IAmb IAmb 03 57 43.9
comp=Z,113nm,1.6s
BBGB Big Mountain B 77.85 43 P P 03 57 41.8 +0.8
PAGB Antelope Grade 77.86 44 P P 03 57 42.9 +1.9
INCN Inchon 77.98 318 P P 03 57 41.6 0.0
INCN pmax pmax
comp=Z,87nm,1.0s
INCN Inchon 77.98 318 P P 03 57 42.9 +1.3
INCN Inchon 77.98 318 P P 03 57 41.6 0.0
INCN IAmb IAmb 03 57 43.5
comp=Z,87nm,0.9s
FMP Fort Macarthur 78.01 47 P P 03 57 43.6 +1.8
baz=235
UGL Uglegorsk 78.02 334 eP P 03 57 42.4 +1.0
UGL pmax pmax
comp=Z,170nm,0.9s
CHGN Chignik 78.16 11 P P 03 57 45.0 +3.0
baz=198
KCPM Cahto Peak 78.19 40 P P 03 57 42.2 -0.6
KCPM IAmb IAmb 03 57 46.1
comp=Z,78nm,1.3s
CHIR Chirikof Islan 78.23 12 P P 03 57 45.4 +2.9
baz=201
OSI Osito Audit: C 78.23 46 P P 03 57 44.9 +1.8
baz=235
DECC Green Verdugo 78.29 47 P P 03 57 44.9 +1.6
baz=235
KMPM Mount Pierce 78.33 39 P P 03 57 43.0 -0.5
KMPM IAmb IAmb 03 57 47.0
comp=Z,65nm,1.0s
PASC Pasadena Art C 78.35 47 P P 03 57 43.6 -0.1
109C Camp Elliot, M 78.38 48 P P 03 57 42.3 -1.5
109C Camp Elliot, M 78.38 48 P P 03 57 45.5 +1.7
baz=236
KMRM Mail Ridge 78.45 39 IAmb IAmb 03 57 47.6
comp=Z,97nm,0.8s
ARVC Arvin 78.45 46 P P 03 57 46.1 +1.9
baz=235,SNR=8.2
MWC Mount Wilson 78.46 47 P P 03 57 45.3 +0.8
MWC pmax pmax
comp=Z,52nm,1.1s
MWC Mount Wilson 78.46 47 P P 03 57 45.3 +0.8
SMAI San Martin Ant 78.48 159 P P 03 57 45.0 +1.2
DSRI Dabo 78.49 274 P P 03 57 45.4 +0.6
comp=Z,116nm,1.2s
VLA Vladivostok 78.51 325 i P P 03 57 43.2 -1.0
VLA pmax pmax
comp=Z,86nm,1.0s
MSHR Mys Shultsa 78.55 324 ce P P 03 57 45.7 +1.3
MSHR pmax pmax
comp=Z,113nm,0.8s
MNAI Manna 78.67 270 P P 03 57 45.6 -0.2
comp=Z,5μmcomp=Z,479nm,1.1s
MNAI Manna 78.67 270 P P 03 57 45.2 -0.6
MNAI Manna 78.67 270 P P 03 57 46.4 +0.6
VES Vestal, Richgr 78.70 45 P P 03 57 46.6 +1.1
baz=234,SNR=9.9
MURC Murrieta 78.71 48 P P 03 57 47.2 +1.6
baz=236,SNR=10
VOG Valley Oaks Go 78.78 44 P P 03 57 47.8 +2.0
baz=234
KHMM Horse Mountain 78.85 39 P P 03 57 46.9 +0.6
MONP2 Monument Peak 78.86 49 P P 03 57 48.7 +2.0
baz=237,SNR=20
EDW2 Edwards Air Fo 78.88 46 P P 03 57 48.3 +1.8
baz=235,SNR=40
IKP In-Ko-Pah, Jac 78.95 49 P P 03 57 49.2 +2.2
baz=237,SNR=11
JMBI JAMBI 78.96 272 P P 03 57 48.5 +1.1
comp=Z,4μmcomp=Z,419nm,1.1s
ISA Isabella, Lake 79.00 45 P P 03 57 48.2 +1.0
ISA pmax pmax
comp=Z,29nm,1.0s
ISA Isabella, Lake 79.00 45 P P 03 57 48.2 +1.0
ISA pP pP 03 59 34.8 -0.9
ISA Isabella, Lake 79.00 45 P P 03 57 48.7 +1.6
baz=235,SNR=24
TPRI Tanjung Pinang 79.03 275 P P 03 57 48.3 +0.6
HKPS Hong Kong Po S 79.06 299 P P 03 57 47.1 -0.6
SLBS Sierra La Lagu 79.11 60 P P 03 57 48.5 +0.5
CMB Columbia Colle 79.14 42 P P 03 57 48.7 +0.9
CMB pmax pmax
comp=Z,28nm,1.0s
CMB Columbia Colle 79.14 42 P P 03 57 48.7 +0.9
USRK Ussuriysk Ar. 79.18 326 P P 03 57 49.1 +1.3
comp=Z,108nm,0.8s,baz=127,slow=3.3,SNR=170
USRK Ussuriysk Ar. 79.18 326 P P 03 57 47.8 -0.1
USA0B Ussuriysk Arra 79.18 326 P P 03 57 48.6 +0.8
USA0B pmax pmax
comp=Z,135nm,0.9s
USA0B Ussuriysk Arra 79.18 326 P P 03 57 48.6 +0.8
USA0B IAmb IAmb 03 57 50.2
comp=Z,135nm,0.9s
TYV Tymovskoe 79.19 336 eP P 03 57 48.4 +0.7
TYV eS S 04 07 01.2 -4.3
TYV pmax pmax
comp=Z,79nm,1.0s
TYV pmax pmax
comp=Z,800nm,6.9s
TYV smax smax
comp=N,600nm,6.6s
TYV smax smax
comp=E,500nm,6.6s
PFO Pinyon Flats O 79.22 48 P P 03 57 48.8 +0.3
PFO pmax pmax
comp=Z,28nm,1.2s
PFO Pinyon Flats O 79.22 48 P P 03 57 48.8 +0.3
PFO Pinyon Flats O 79.22 48 P P 03 57 50.4 +1.9
baz=236,SNR=8.4
TPFO Pinon Flats 79.23 48 P P 03 57 50.3 +1.8
baz=236,SNR=8.3
BBRC Big Bear Solar 79.26 47 P P 03 57 50.1 +1.3
baz=236
SWSC Sam W. Stewart 79.33 49 P P 03 57 50.6 +1.7
baz=237,SNR=8.3
ORV Oroville 79.36 41 P P 03 57 49.3 +0.4
ORV pmax pmax
comp=Z,25nm,0.9s
ORV Oroville 79.36 41 P P 03 57 49.3 +0.4
WDC Whiskeytown Da 79.37 39 P P 03 57 49.8 +0.9
WDC pmax pmax
comp=Z,27nm,1.0s
WDC Whiskeytown Da 79.37 39 P P 03 57 49.8 +0.9
KSXB Camp Six Broad 79.38 38 P P 03 57 50.0 +1.0
LRMC Laurel Mtn Rad 79.43 46 P P 03 57 51.4 +1.9
baz=235,SNR=13
N02D Trinity Center 79.52 39 P P 03 57 50.5 +0.7
N02D Trinity Center 79.52 39 P P 03 57 51.8 +2.0
baz=231,SNR=18
O03E Paynes Creek 79.64 40 P P 03 57 51.3 +0.8
O03E IAmb IAmb 03 57 53.2
comp=Z,150nm,1.8s
O03E Paynes Creek 79.64 40 P P 03 57 51.7 +1.2
baz=232,SNR=12
M02C Callahan 79.69 39 P P 03 57 52.0 +1.3
M02C Callahan 79.69 39 P P 03 57 53.0 +2.3
baz=231,SNR=16
CWC Cottonwood Cre 79.70 45 P P 03 57 52.7 +1.7
baz=235
L02E Cave Junction 79.75 38 P P 03 57 53.1 +2.2
baz=230
MASI Maura Aman, Be 79.75 270 P P 03 57 51.1 -0.5
comp=Z,4μmcomp=Z,448nm,1.2s
BELC Belle Mtn. Jos 79.76 48 P P 03 57 53.1 +1.8
baz=237,SNR=6.7
MPMC Manual Prospec 79.88 45 P P 03 57 53.7 +1.7
baz=235,SNR=22
MLAC Mammoth, Mammo 79.90 44 P P 03 57 54.2 +2.1
baz=234
GSC Goldstone, Bar 79.92 46 P P 03 57 53.8 +1.7
baz=236,SNR=12
BC3 Big Chuckawall 79.95 48 P P 03 57 54.3 +2.0
baz=237,SNR=8.1
TIN Tinemaha, Big 79.96 44 P P 03 57 54.1 +1.9
baz=235,SNR=14
MYKOM Kota Tinggi 79.97 276 P P 03 57 52.5 -0.1
MYKOM IAmb IAmb 03 57 54.4
comp=Z,197nm,1.0s
HEC Hector,Ludlow 79.98 47 P P 03 57 54.1 +1.7
baz=236,SNR=9.8
YBH Yreka Blue Hor 79.99 38 P P 03 57 54.7 +2.4
YBH pmax pmax
comp=Z,33nm,0.8s
YBH Yreka Blue Hor 79.99 38 P P 03 57 54.7 +2.4
K02D Willamette Mer 80.05 37 P P 03 57 54.9 +2.3
baz=230
GLA Glamis 80.07 49 IAmb IAmb 03 57 56.4
comp=Z,69nm,1.1s
GLA Glamis 80.07 49 P P 03 57 55.3 +2.4
baz=238,SNR=10
MPK Martis Peak 80.12 42 P P 03 57 55.3 +2.1
MPK IAmb IAmb 03 57 56.2
comp=Z,123nm,1.3s
NJ2 Nanjing 80.19 309 ||i P P 03 57 54.5 +1.1
NJ2 pmax pmax
comp=Z,91nm,1.0s
J01E Myrtle Point 80.20 37 P P 03 57 53.8 +0.6
J01E Myrtle Point 80.20 37 P P 03 57 55.4 +2.2
baz=230
QSM Queen of Sheba 80.25 46 P P 03 57 54.3 +0.7
PNTR Pine Nut 80.26 42 P P 03 57 54.6 +0.6
PNTR IAmb IAmb 03 57 57.0
comp=Z,68nm,0.9s
VCNR Virginia City 80.35 42 P P 03 57 54.8 +0.4
HUMO Hull Mountain 80.40 38 P P 03 57 55.4 +1.1
GMRC Granite Mounta 80.42 47 P P 03 57 56.4 +1.6
baz=237,SNR=13
YERR Yerington 80.43 42 P P 03 57 54.9 +0.2
YERR IAmb IAmb 03 57 57.6
comp=Z,71nm,1.3s
IRM Iron Mountain 80.44 48 P P 03 57 56.9 +2.1
baz=237,SNR=24
LCH Last Change Ra 80.44 44 P P 03 57 54.3 -0.5
LHV Little Huntoon 80.47 43 P P 03 57 54.1 -0.6
LHV IAmb IAmb 03 57 58.1
comp=Z,59nm,1.2s
GRAC Grapevine Rang 80.49 45 P P 03 57 56.9 +1.9
baz=235,SNR=7.0
GWY Greenwater Val 80.50 46 P P 03 57 55.6 +0.4
FURC Furnace Creek, 80.53 45 P P 03 57 56.7 +1.7
baz=236,SNR=10
L04D Klamath Falls 80.53 38 P P 03 57 56.5 +1.4
L04D IAmb IAmb 03 57 58.0
comp=Z,50nm,0.8s
L04D Klamath Falls 80.53 38 P P 03 57 56.7 +1.5
baz=231,SNR=15
M04C Macdoel 80.53 39 P P 03 57 56.0 +0.8
M04C IAmb IAmb 03 57 58.3
comp=Z,66nm,1.2s
M04C Macdoel 80.53 39 P P 03 57 56.8 +1.6
baz=232,SNR=16
DBO Dodson Butte 80.56 37 P P 03 57 55.1 -0.1
TUQ Turquoise Moun 80.59 47 P P 03 57 57.2 +1.5
baz=237,SNR=15
RGRI Rengat 80.63 273 P P 03 57 57.5 +1.3
RYN Ryan 80.67 43 P P 03 57 56.9 +0.8
NVAR Mina Array Bea 80.70 43 P P 03 57 57.9 +1.7
comp=Z,22nm,0.9s,baz=225,slow=8.9,SNR=108
NVAR pP pwP 03 59 49.8 +1.1
comp=Z,7.0nm,0.9s,baz=226,slow=9.6,SNR=11
NVAR PKKPbc PKKPbc 04 16 33.1 +0.3
comp=Z,1.4nm,0.7s,baz=85,slow=3.0,SNR=15
NVAR PKPPKP P'P'df 04 24 38.0 +3.2
comp=Z,0.9nm,0.8s,baz=100,slow=2.9,SNR=3.6
NVAR Mina Array Bea 80.70 43 P P 03 57 58.3 +2.0
MDJ Mudanjiang 80.74 325 P P 03 57 57.0 +1.0
MDJ pP pP 03 59 49.0 +3.3
MDJ pmax pmax
comp=Z,200nm,0.9s
MDJ pmax pmax
comp=Z,480nm,11.6s
MDJ Mudanjiang 80.74 325 P P 03 57 57.0 +1.0
MDJ Mudanjiang 80.74 325 P P 03 57 57.5 +1.5
PAHR Pah Rah Range 80.76 42 P P 03 57 56.5 0.0
NV11 Mina Array Sit 80.80 43 P P 03 57 57.6 +1.0
KRJI Kerinci 80.84 271 P P 03 57 56.7 -0.7
comp=Z,33μmcomp=Z,164nm,0.9s
I02E Swisshome, OR 80.86 36 P P 03 57 58.9 +2.3
baz=230
I03D Drain, OR 80.87 37 P P 03 57 58.5 +1.8
baz=230,SNR=5.0
214A Organ Pipe Nat 80.95 51 P P 03 57 59.7 +2.2
214A Organ Pipe Nat 80.95 51 P P 03 57 59.7 +2.2
baz=239,SNR=12
K04D Chiloquin, OR 81.10 38 P P 03 57 60.0 +1.9
baz=232,SNR=6.2
NEE2 Needles Airpor 81.13 48 P P 03 58 00.3 +2.1
baz=236
KVN Kaiserville 81.19 43 P P 03 58 00.1 +1.4
KVN pmax pmax
comp=Z,35nm,0.9s
KVN Kaiserville 81.19 43 P P 03 58 00.1 +1.4
TPH Tonopah 81.20 44 P P 03 58 00.6 +1.8
TPH pmax pmax
comp=Z,192nm,1.0s
TPH Tonopah 81.20 44 P P 03 58 00.6 +1.8
TPNV Topopah Spring 81.21 45 P P 03 58 00.8 +2.0
TPNV pmax pmax
comp=Z,18nm,1.3s
TPNV Topopah Spring 81.21 45 P P 03 58 00.8 +2.0
TPNV Topopah Spring 81.21 45 P P 03 58 00.8 +2.0
baz=236,SNR=20
PDMCI Parker Dam,Lak 81.22 48 P P 03 58 00.8 +2.1
baz=238,SNR=11
J04D Umpqua Nationa 81.28 37 P P 03 57 59.9 +0.8
J04D IAmb IAmb 03 58 02.2
comp=Z,116nm,0.8s
J04D Umpqua Nationa 81.28 37 P P 03 58 00.8 +1.7
baz=231,SNR=31
BUCK Buck Mountain 81.39 36 P P 03 58 01.3 +1.8
BUCK IAmb IAmb 03 58 02.6
comp=Z,77nm,1.1s
I04A Tendick Farm, 81.46 37 P P 03 58 01.0 +1.2
baz=231,SNR=10
MOD Modoc Plateau 81.51 39 P P 03 57 59.3 -1.0
MOD IAmb IAmb 03 58 03.1
comp=Z,47nm,1.0s
MOD pP pP 03 59 49.7 -0.1
Q09A Carvers 81.65 43 IAmb IAmb 03 58 03.9
comp=Z,68nm,0.8s
K05A Summer Lake 81.67 38 IAmb IAmb 03 58 04.3
comp=Z,104nm,1.0s
H04D Lebanon 81.73 36 IAmb IAmb 03 58 04.3
comp=Z,51nm,0.9s
H04D Lebanon 81.73 36 P P 03 58 02.9 +1.8
baz=231,SNR=9.9
MAW Mawson 81.74 200 P P 03 58 01.8 +1.0
comp=Z,20nm,0.7s,baz=110,slow=6.2,SNR=12
MAW Mawson 81.74 200 P P 03 58 01.7 +0.9

baz=82,SNR=9.9
COCO West Island 81.79 260 P P 03 58 02.5 +0.4
COCO pmax pmax
comp=Z,286nm,1.3s
COCO West Island 81.79 260 P P 03 58 02.5 +0.4
J05D Fort Rock, OR 81.81 38 P P 03 58 03.7 +1.9
baz=232,SNR=71
Y14A Wickenburg 81.83 49 IAmb IAmb 03 58 05.1
comp=Z,34nm,0.8s
G03D McMinnville, O 81.88 35 P P 03 58 03.6 +1.7
baz=230
S11A Rachel 81.92 45 IAmb IAmb 03 58 05.2
comp=Z,43nm,0.9s
PPSI Pulau Pagai 81.98 270 P P 03 58 04.0 +0.9
comp=Z,3μmcomp=Z,158nm,1.1s
DL2 Dalian 82.01 317 P P 03 57 55.8 -6.8
DL2 pmax pmax
comp=Z,96nm,1.0s
BKNI Bangkinang 82.08 273 P P 03 58 03.2 -0.4
comp=Z,3μmcomp=Z,168nm,1.3s
O18K Koktuh Hills 82.08 11 IAmb IAmb 03 58 03.8
comp=Z,98nm,1.1s
O18K Koktuh Hills 82.08 11 P P 03 58 02.8 +0.3
baz=201,SNR=5.6
H04A Detroit Lake 82.14 36 P P 03 58 03.6 +0.4
H04A IAmb IAmb 03 58 05.7
comp=Z,67nm,1.2s
H04A pP **pP 03 59 51.0 -1.9**
PRN Pahroc Range 82.26 45 IAmb IAmb 03 58 07.4
comp=Z,54nm,1.0s
PINE Pine Mountain 82.29 38 IAmb IAmb 03 58 07.5
comp=Z,96nm,0.9s
I05D Terrebonne, OR 82.40 37 P P 03 58 06.4 +1.7
baz=232,SNR=20
PPI Padang Panjang 82.41 272 P P 03 58 03.6 -1.7
R11A Troy Canyon, C 82.42 44 P P 03 58 06.2 +1.2
baz=236,SNR=17
BMN Battle Mountai 82.53 42 IAmb IAmb 03 58 08.3
comp=Z,55nm,1.0s
CN2 Changchun 82.54 322 *e*P **P 03 58 05.0 -0.2**
CN2 *ep*P pP 03 59 57.5 +1.9
CN2 pmax pmax
comp=Z,100nm,1.1s
CN2 pmax pmax
comp=Z,900nm,7.0s
F04D Rainier, OR 82.58 35 P P 03 58 07.6 +2.3
baz=230
E03A Lebam 82.58 34 IAmb IAmb 03 58 08.3
comp=Z,62nm,0.9s
TUC Tucson 82.61 52 P P 03 58 06.5 +0.5
TUC pmax pmax
comp=Z,45nm,1.0s
TUC Tucson 82.61 52 P P 03 58 06.5 +0.5
TUC IAmb IAmb 03 58 09.8
comp=Z,45nm,0.9s
TUC Tucson 82.61 52 P P 03 58 08.3 +2.3
baz=240
BNX BinXian 82.65 325 ⇑P **P 03 58 05.8 +0.1**
BNX pmax pmax
comp=Z,85nm,0.9s
KLR Kul'dur 82.72 329 P P 03 58 06.9 +0.9
comp=Z,30nm,0.9s,baz=109,slow=4.4,SNR=63
KLR PKKPbc **PKKPbc 04 16 26.5 -1.9**
comp=Z,2.7nm,0.8s,baz=229,slow=2.0,SNR=8.5
KLR Kul'dur 82.72 329 *ce*P **P 03 58 07.0 +0.9**
KLR pmax pmax
comp=Z,57nm,1.1s
WHN Wuhan 82.78 306 ⇓P **P 03 58 07.3 +0.6**
WHN pmax pmax
comp=Z,220nm,1.0s
O20K Slope Mountain 82.79 12 P P 03 58 07.0 +0.8
baz=203
F04A Amboy 82.80 35 IAmb IAmb 03 58 09.1
comp=Z,65nm,1.1s
WVOR Wild Horse Val 82.83 40 IAmb IAmb 03 58 09.8
comp=Z,52nm,1.1s
HOOD Mount Hood Mea 82.84 36 IAmb IAmb 03 58 09.5
comp=Z,66nm,1.1s
BRSE Bradley Lake S 82.87 13 P P 03 58 07.2 +0.7
baz=205,SNR=5.8
G05D Wamic, OR 82.97 36 P P 03 58 08.9 +1.5
baz=232,SNR=6.3
N19K Bonanza Creek 83.11 11 P P 03 58 08.0 +0.1
baz=202
E04D Cinebar 83.12 35 IAmb IAmb 03 58 11.2
comp=Z,68nm,1.1s
E04D Cinebar 83.12 35 P P 03 58 09.7 +1.7
baz=230,SNR=9.3
X16A Lo Mia Camp, P 83.19 50 IAmb IAmb 03 58 12.5
comp=Z,50nm,1.1s
319A Douglas 83.28 53 IAmb IAmb 03 58 13.2
comp=Z,74nm,1.0s
I07A Izee 83.29 38 IAmb IAmb 03 58 12.2
comp=Z,51nm,1.0s
F05D White Salmon 83.29 36 P P 03 58 11.1 +2.1
baz=231
SISI Saibi 83.33 271 P P 03 58 09.9 0.0
comp=Z,48nm,1.4s
D04E Lakebay 83.40 34 P P 03 58 11.9 +2.4
baz=230
D03D Eldon 83.46 34 P P 03 58 11.6 +1.8
baz=230,SNR=6.8
J08A Circle Bar Ran 83.46 39 IAmb IAmb 03 58 12.9
comp=Z,53nm,1.2s
UBPT Khong Chiam 83.54 289 IAmb IAmb 03 58 12.8
comp=Z,92nm,0.9s
KNB Kanab 83.56 47 IAmb IAmb 03 58 14.1
comp=Z,48nm,1.1s
IPM Ipoh 83.56 277 P P 03 58 12.0 +0.9
TIA Tai'an 83.58 312 ⇓P **P 03 58 11.0 +0.4**
TIA pmax pmax
comp=Z,71nm,1.0s
MNSI Mandailing Nat 83.61 273 P P 03 58 10.2 -1.1
comp=Z,111nm,0.9s
U15A North Rim 83.62 47 IAmb IAmb 03 58 14.5
comp=Z,56nm,0.8s
O22K Cooper Landing 83.76 13 P P 03 58 11.1 +0.2
baz=206
WUAZ Wupatki 83.79 49 IAmb IAmb 03 58 15.2
comp=Z,37nm,1.1s
WUAZ Wupatki 83.79 49 P P 03 58 13.7 +1.8
baz=239,SNR=20
D05A Enumclaw 83.82 34 IAmb IAmb 03 58 14.9
comp=Z,88nm,1.2s
MA2 Magadan 83.87 344 *ce*P **P 03 58 11.0 -0.5**
MA2 pmax pmax
comp=Z,79nm,1.7s
MA2 Magadan 83.87 344 P P 03 58 10.6 -0.9
MA2 IAmb IAmb 03 58 12.3
comp=Z,43nm,1.0s
SPCR Spurr Chakacha 83.90 12 P P 03 58 10.8 -0.9
baz=204,SNR=6.2
ELK Elko 83.96 43 P P 03 58 11.2 -1.6
ELK pP **pP 04 00 01.1 -2.0**
PGC Sidney 84.00 33 IAmb IAmb 03 58 14.9
comp=Z,35nm,0.9s
GAMB Gambell 84.09 3 IAmb IAmb 03 58 14.5
comp=Z,54nm,0.8s
GAMB Gambell 84.09 3 P P 03 58 13.2 +0.8
baz=186,SNR=8.1
PKCU Pink Cliffs 84.13 47 IAmb IAmb 03 58 17.6
comp=Z,68nm,1.1s
RC01 Rabbit Creek A 84.30 13 IAmb IAmb 03 58 14.9
comp=Z,40nm,1.0s
RC01 Rabbit Creek A 84.30 13 P P 03 58 14.0 +0.4
baz=206,SNR=6.3
G08A Pilot Rock 84.33 37 P P 03 58 14.3 +0.1
G08A IAmb IAmb 03 58 17.0
comp=Z,53nm,1.1s
G08A pP **pP 04 00 02.6 -2.1**
L19K White Mountain 84.33 10 P P 03 58 14.5 +0.8
baz=201,SNR=9.2
PWL Port Wells 84.41 14 P P 03 58 14.4 +0.3
baz=207
A04D Lummi Island 84.42 33 P P 03 58 15.6 +1.2
baz=230,SNR=9.1
B05A Bryant 84.44 34 P P 03 58 15.8 +1.3
baz=231,SNR=10
E07A Sunnyside 84.59 36 IAmb IAmb 03 58 18.3
comp=Z,50nm,1.2s
HAWA Hanford 84.66 36 P P 03 58 16.0 +0.3
HAWA IAmb IAmb 03 58 18.7
comp=Z,47nm,1.1s
HAWA pP **pP 04 00 04.8 -1.6**
W18A Petrified Fore 84.76 50 P P 03 58 18.4 +1.7
baz=240
L20K Farewell, AK 84.77 11 P P 03 58 15.7 -0.2
baz=202,SNR=9.5
M22K Willow 84.82 13 P P 03 58 15.8 -0.3
baz=206,SNR=11
TTA Tatalina 84.84 10 P P 03 58 16.9 +0.6
TTA pmax pmax
comp=Z,48nm,1.2s
TTA Tatalina 84.84 10 P P 03 58 16.9 +0.6
TTA IAmb IAmb 03 58 18.1
comp=Z,48nm,1.2s
TTA Tatalina 84.84 10 P P 03 58 16.9 +0.6
baz=200,SNR=11
KNK Knik Glacier 84.87 14 P P 03 58 16.7 +0.2
baz=207,SNR=6.3
PMR Palmer 84.89 13 IAmb IAmb 03 58 17.7
comp=Z,106nm,1.5s
PMR Palmer 84.89 13 P P 03 58 16.3 -0.1
baz=207,SNR=8.3
121A Cookes Peak, D 84.94 53 IAmb IAmb 03 58 21.3
comp=Z,37nm,0.9s
121A Cookes Peak, D 84.94 53 P P 03 58 20.0 +2.3
baz=242
E08A Dider Farm, El 84.98 36 IAmb IAmb 03 58 20.1
comp=Z,31nm,0.9s
GHO Glory Hole Cre 85.09 13 IAmb IAmb 03 58 18.8
comp=Z,76nm,0.7s
DUG Dugway, Tooele 85.22 44 IAmb IAmb 04 00 15.2
comp=Z,24nm,1.9s
DUG Dugway, Tooele 85.22 44 P P 03 58 19.7 +0.9
baz=238
DIV Divide 85.24 15 IAmb IAmb 03 58 19.6
comp=Z,41nm,0.8s
SML Sawmill 85.25 13 P P 03 58 18.7 +0.4
baz=207
ANM Nome 85.28 5 P P 03 58 18.9 +0.6
baz=191
CUT Chulitna 85.38 12 P P 03 58 18.6 -0.3
baz=206,SNR=9.3
BMRM Bremner River 85.39 15 IAmb IAmb 03 58 20.5
comp=Z,40nm,0.9s
BMRM Bremner River 85.39 15 P P 03 58 19.7 +0.7
baz=211
D08A Wollman Farm, 85.40 36 IAmb IAmb 03 58 22.1
comp=Z,35nm,0.9s
MESA MESA 85.41 17 P P 03 58 20.5 +1.2
baz=213
SCM Sheep Creek Mo 85.50 14 IAmb IAmb 03 58 20.9
comp=Z,74nm,0.8s
SCM Sheep Creek Mo 85.50 14 P P 03 58 19.2 -0.3
baz=208,SNR=10
E09A Wood Farm, Sta 85.51 37 IAmb IAmb 03 58 22.3
comp=Z,54nm,1.2s
TSI Tuntungan 85.51 275 P P 03 58 21.3 +0.7
KLU Klutina 85.52 15 P P 03 58 20.3 +0.7
baz=210
K20K Telida 85.56 10 IAmb IAmb 03 58 21.1
comp=Z,54nm,1.1s
K20K Telida 85.56 10 P P 03 58 20.3 +0.6
baz=202
Q16A Castle Valley 85.65 46 IAmb IAmb 03 58 24.4
comp=Z,47nm,1.5s
GSI Gunungsitoli 85.66 273 P P 03 58 21.7 +0.3
comp=Z,4μmcomp=Z,318nm,1.2s
GSI Gunungsitoli 85.66 273 P P 03 58 22.7 +1.3
F10A Beach Ranch, E 85.71 37 IAmb IAmb 03 58 23.2
comp=Z,94nm,0.9s
TMUT Trail Mountain 85.82 45 IAmb IAmb 03 58 25.1
comp=Z,54nm,1.2s
HNS HongShan 85.85 312 ⇓P **P 03 58 22.5 +0.8**
HNS pmax pmax
comp=Z,87nm,1.1s
TABL Table Mountain 85.85 17 IAmb IAmb 03 58 23.2
comp=Z,46nm,0.8s
COYC Coyhaique 85.88 137 IAmb IAmb 03 58 25.5
comp=Z,36nm,0.9s
PLID Pearl Lake 85.91 39 IAmb IAmb 03 58 24.5
comp=Z,85nm,1.6s
N25K Chitina, Valde 85.94 15 IAmb IAmb 03 58 23.2
comp=Z,38nm,0.9s
N25K Chitina, Valde 85.94 15 P P 03 58 22.3 +0.6
baz=211,SNR=7.6
B08A Colville Reser 85.95 35 IAmb IAmb 03 58 24.0
comp=Z,39nm,1.0s
CAST Castle Rocks 85.96 11 IAmb IAmb 03 58 21.7
comp=Z,45nm,0.8s
CAST Castle Rocks 85.96 11 P P 03 58 20.5 -1.2
baz=204,SNR=21
GLB Gilahina Butte 85.99 16 IAmb IAmb 03 58 22.9
comp=Z,26nm,0.9s
M24K Tolsona, Glenn 86.00 14 P P 03 58 23.2 +1.2
baz=209
HLID Hailey 86.02 41 P P 03 58 22.8 +0.2
HLID pP **pP 04 00 14.2 +0.6**
HLID Hailey 86.02 41 P P 03 58 24.1 +1.5
baz=237,SNR=22
LLLB Lillooet 86.03 32 P P 03 58 22.6 +0.3
LLLB IAmb IAmb 03 58 24.6
comp=Z,26nm,1.0s
LLLB pP **pP 04 00 13.2 -0.2**
TNA Tin City 86.07 4 P P 03 58 22.4 +0.3
baz=189,SNR=6.8
LYN LuoYang 86.07 309 ⇓*i*P **P 03 58 24.0 +1.2**
LYN pP pwP 04 00 18.3 +1.5
LYN pmax pmax
comp=Z,80nm,1.1s
BJT Baijiatuan 86.17 315 IAmb IAmb 03 58 24.4
comp=Z,36nm,0.9s
BJI Beijing 86.17 315 P P 03 58 23.8 +0.6
BJI pmax pmax
comp=Z,45nm,0.9s
SRU San Rafael Swe 86.19 46 P P 03 58 22.8 -0.7
SRU IAmb IAmb 03 58 26.1
comp=Z,39nm,1.0s
SRU pP **pP 04 00 13.5 -1.0**
C09A Chrisman Ranch 86.19 36 IAmb IAmb 03 58 25.5
comp=Z,33nm,0.9s
BARN Barnard Glacie 86.22 17 IAmb IAmb 03 58 25.1
comp=Z,38nm,0.9s
KCSI Kotacane, Aceh 86.25 275 P P 03 58 24.6 +0.4
comp=Z,53nm,0.9s
Y22D IRIS PASSCAL I 86.30 52 P P 03 58 26.4 +2.2
baz=242
J20K Nowinta River 86.31 10 IAmb IAmb 03 58 24.9
comp=Z,37nm,1.1s
J20K Nowinta River 86.31 10 P P 03 58 23.8 +0.6
baz=202
TRF Thorofare Moun 86.33 12 IAmb IAmb 03 58 24.2
comp=Z,77nm,0.8s
TRF Thorofare Moun 86.33 12 P P 03 58 23.1 -0.5
baz=205,SNR=20
CHUM Lake Minchumin 86.34 11 P P 03 58 22.6 -0.8
baz=204,SNR=12
MNTX Cornudas Mount 86.38 54 P P 03 58 24.1 -0.3
MNTX IAmb IAmb 03 58 27.6
comp=Z,39nm,0.9s
MNTX pP **pP 04 00 12.8 -2.8**
MNTX Cornudas Mount 86.38 54 P P 03 58 26.6 +2.2
baz=243
GCSA Galena City Sc 86.42 9 P P 03 58 24.7 +1.0
baz=199
SEY Seymchan 86.44 347 P P 03 58 24.1 +0.3
comp=Z,59nm,0.9s,baz=147,slow=5.3,SNR=187
SEY pP **pwP 04 00 17.6 -0.1**
comp=Z,4.0nm,0.8s,baz=130,slow=23,SNR=2.9
HARP HAARP 86.49 14 P P 03 58 24.8 +0.6
baz=210
BNM Barren Site 86.55 52 P P 03 58 25.8 +0.3
BNM pP **pP 04 00 15.9 -0.7**
RND Reindeer 86.57 12 P P 03 58 24.0 -0.6
RND pmax pmax
comp=Z,97nm,0.8s
RND Reindeer 86.57 12 P P 03 58 24.0 -0.6
MVCO Mesa Verde 86.64 48 P P 03 58 26.9 +1.1
baz=241
TX31 Lajitas Ar. Si 86.67 57 IAmb IAmb 03 58 28.8
comp=Z,69nm,0.9s
TXAR Lajitas Array 86.67 57 P P 03 58 28.0 +2.1
comp=Z,17nm,0.8s,baz=218,slow=6.6,SNR=180
TXAR pP **pwP 04 00 20.9 +0.7**
comp=Z,12nm,1.1s,baz=212,slow=4.4,SNR=10.0
TXAR PKKPbc **PKKPbc 04 16 19.1 +0.8**
comp=Z,2.3nm,0.8s,baz=115,slow=3.5,SNR=16
TXAR Lajitas Array 86.67 57 P P 03 58 27.3 +1.4
TXAR Lajitas Array 86.67 57 P P 03 58 27.3 +1.4
TXAR pP **pP 04 00 16.0 -1.2**
SKAG Skagway 86.80 20 P P 03 58 27.4 +1.8
baz=219
PV10 Paradox Valley 86.83 47 IAmb IAmb 03 58 28.7
comp=Z,20nm,0.8s
MCK McKinley 86.85 12 P P 03 58 25.7 -0.2
MCK *PP **pP 04 00 16.7 -0.6**
MCK pmax pmax
comp=Z,88nm,1.1s
MCK McKinley 86.85 12 P P 03 58 25.6 -0.2
MCK IAmb IAmb 03 58 26.9
comp=Z,88nm,1.1s
MCK pP **pP 04 00 16.7 -0.6**
MCK McKinley 86.85 12 *e*P **P 03 58 25.4 -0.4**
baz=207,SNR=24
SYO Syowa Base 86.86 193 ⇓*e*P **P 03 58 25.7 -0.2**
PV23 Carpenter Ridg 86.89 47 IAmb IAmb 03 58 29.4
comp=Z,26nm,0.8s
PV11 David Mesa, Pa 86.91 47 IAmb IAmb 04 00 24.1
comp=Z,55nm,1.6s
PAX Paxson 86.91 14 P P 03 58 26.2 -0.1
baz=210
GYA Guiyang 87.01 300 ⇑*i*P **P 03 58 28.8 +1.2**
GYA pP pwP 04 00 24.5 +2.4
GYA pmax pmax
comp=Z,53nm,0.7s
M26K Nabesna, AK 87.01 15 IAmb IAmb 03 58 28.6
comp=Z,26nm,0.9s
M26K Nabesna, AK 87.01 15 P P 03 58 27.3 +0.6
baz=212,SNR=11
ANMO Albuquerque 87.04 51 *ce*P **P 03 58 28.9 +1.2**
ANMO pmax pmax
comp=Z,27nm,1.3s
ANMO Albuquerque 87.04 51 P P 03 58 28.0 +0.3
ANMO pP **pP 04 00 18.7 -0.3**
ANMO Albuquerque 87.04 51 P P 03 58 28.7 +1.1
baz=242
NEW Newport 87.09 36 P P 03 58 28.1 +0.7
baz=235,SNR=12
YUK3 Moose Creek 87.14 17 P P 03 58 28.5 +1.0
baz=214,SNR=16
M27K Edge Creek, AK 87.26 16 IAmb IAmb 03 58 30.2
comp=Z,72nm,1.1s
M27K Edge Creek, AK 87.26 16 P P 03 58 28.8 +0.8
baz=213,SNR=18
SLVN Son La 87.27 294 IAmb IAmb 03 58 32.6
comp=Z,41nm,1.2s
MENT Mentasta 87.29 15 IAmb IAmb 03 58 29.3
comp=Z,25nm,1.0s
L26K Log Cabin Wild 87.46 15 P P 03 58 29.4 +0.7
baz=212,SNR=7.5
BVCY Beaver Creek 87.57 16 P P 03 58 30.0 +0.7
baz=214,SNR=14
TIY Taiyuan 87.58 312 ⇓P **P 03 58 31.0 +1.0**
TIY S **S 04 08 27.3 -1.5**
TIY pmax pmax
comp=Z,69nm,1.5s
TIY pmax pmax
comp=Z,310nm,5.7s
NEA2 Nenana 87.59 12 P P 03 58 28.9 -0.4
baz=206,SNR=5.1
I21K Tanana 87.59 10 IAmb IAmb 03 58 30.4
comp=Z,44nm,0.8s
I21K Tanana 87.59 10 P P 03 58 29.6 +0.3
baz=204
LHMI Lhok Sumawe 87.62 276 P P 03 58 31.6 +1.0
WRH Wood River Hil 87.68 12 IAmb IAmb 03 58 30.6
comp=Z,61nm,0.8s
MLY Manley 87.68 11 IAmb IAmb 03 58 30.1
comp=Z,27nm,0.6s
MLY Manley 87.68 11 P P 03 58 29.2 -0.6
baz=205
RIDG Independent Ri 87.72 14 P P 03 58 30.1 +0.1
baz=210
ZEA Zeya 87.81 331 *e*P **P 03 58 31.4 +0.8**
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.7s
HDA Harding Lake 87.85 13 P P 03 58 30.5 -0.1
baz=208,SNR=32
L27K Beaver Creek, 87.86 15 P P 03 58 31.2 +0.5
baz=213
WHY Whitehorse 87.87 20 P P 03 58 31.9 +1.0
baz=219,SNR=5.6
CCB Clear Creek Bu 87.89 12 P P 03 58 30.4 -0.3
CCB pP **pP 04 00 23.2 +0.8**
H21K Melozitna Rive 87.90 10 IAmb IAmb 03 58 31.8
comp=Z,21nm,0.8s
H21K Melozitna Rive 87.90 10 P P 03 58 31.4 +0.6
baz=203
SNAA Sanae 88.03 178 P P 03 58 31.7 +0.1
SNAA Sanae 88.03 178 *ce*P **P 03 58 31.6 +0.1**
SNAA pmax pmax
comp=Z,2μm,1.3s
SNAA Sanae 88.03 178 P P 03 58 31.0 -0.5
SNAA IAmb IAmb 03 58 32.9
comp=Z,34nm,1.3s
I23K Minto, Yukon-K 88.04 12 IAmb IAmb 03 58 32.1
comp=Z,19nm,0.6s
I23K Minto, Yukon-K 88.04 12 P P 03 58 30.9 -0.5
baz=206,SNR=14
IMAR Indian Mountai 88.05 10 P P 03 58 31.3 -0.1
IMAR pP **pP 04 00 23.5 +0.3**
S22A 4UR Ranch, Cre 88.07 48 P P 03 58 30.0 -2.5
S22A IAmb IAmb 03 58 35.3
comp=Z,20nm,0.9s
S22A pP **pP 04 00 22.5 -1.6**
S22A 4UR Ranch, Cre 88.07 48 P P 03 58 34.0 +1.5
baz=242,SNR=27
MSO Missoula 88.07 38 IAmb IAmb 03 58 33.9
comp=Z,48nm,1.6s
MSO Missoula 88.07 38 P P 03 58 32.6 +0.4
baz=237,SNR=14
TCOL CIGO, UAF Yank 88.08 12 P P 03 58 31.2 -0.4
baz=208,SNR=18
DLMT Dillon 88.08 40 IAmb IAmb 03 58 35.1
comp=Z,39nm,1.0s
COLA College 88.08 12 *d i*P **P 03 58 31.0 -0.5**
COLA pmax pmax
comp=Z,49nm,0.8s
COLA College 88.08 12 P P 03 58 31.3 -0.2
COLA College 88.08 12 P P 03 58 31.4 -0.2
baz=208
MDM Murphy Dome 88.08 12 IAmb IAmb 03 58 32.3
comp=Z,56nm,0.9s
REDW Red Top Meadow 88.12 42 IAmb IAmb 03 58 35.3
comp=Z,57nm,1.2s
SCRK Sand Creek 88.12 14 P P 03 58 32.3 +0.3
baz=211,SNR=5.6
VNA3 Neumayer Olymp 88.15 176 P P 03 58 32.4 +0.4
IL31 88.19 13 IAmb IAmb 03 58 32.9
comp=Z,66nm,1.4s
ILAR Eielson Array 88.19 13 P P 03 58 31.8 -0.4
comp=Z,16nm,0.7s,baz=219,slow=5.9,SNR=240
ILAR pP **pwP 04 00 27.2 +0.3**
comp=Z,6.3nm,0.9s,baz=222,slow=5.9,SNR=9.0
ILAR PKiKP **PKiKP 04 03 29.4 -0.5**
comp=Z,0.6nm,0.5s,baz=239,slow=3.3,SNR=12
ILAR PKKPbc **PKKPdf 04 16 12.8 +2.1**
comp=Z,0.8nm,0.8s,baz=326,slow=2.2,SNR=12
ILAR PKPPKP **P'P'df 04 24 20.3 +1.3**
comp=Z,0.9nm,0.9s,baz=352,slow=1.8,SNR=6.2
ILAR Eielson Array 88.19 13 P P 03 58 31.7 -0.4
ILAR **pP 04 00 22.8 -1.1**
P33M Teslin, Yukon 88.19 21 P P 03 58 33.5 +1.1
baz=221,SNR=6.0
XLT XiLinHaoTe 88.20 318 ⇓*i*P **P 03 58 33.0 +0.2**
XLT pP pP 04 00 28.8 +3.6
XLT pmax pmax
comp=Z,72nm,0.8s
LR03 Panguipulli 88.22 132 IAmb IAmb 03 58 36.2
comp=Z,64nm,1.5s
O20A White River Ci 88.22 46 IAmb IAmb 03 58 35.6
comp=Z,110nm,1.9s
O20A White River Ci 88.22 46 P P 03 58 34.4 +1.3
baz=241,SNR=12
SNOW Snow King Moun 88.23 42 IAmb IAmb 03 58 35.9
comp=Z,52nm,1.1s
N31M Braeburn, Yuko 88.24 19 IAmb IAmb 03 58 34.5
comp=Z,40nm,0.9s
N31M Braeburn, Yuko 88.24 19 P P 03 58 33.4 +0.9
baz=219,SNR=7.7
MOOW Moose Ponds 88.38 42 IAmb IAmb 03 58 36.4
comp=Z,44nm,1.7s
POKR Poker Plat Res 88.38 12 IAmb IAmb 03 58 33.5
comp=Z,28nm,0.7s
POKR Poker Plat Res 88.38 12 P P 03 58 32.4 -0.5
baz=208,SNR=18
LOHW Long Hollow 88.40 42 IAmb IAmb 03 58 36.6
comp=Z,61nm,1.5s

XAN	Xi'an	88.46	307	P	P	03 58 35.0	+0.9
XAN				pP	pwP	04 00 30.5	+1.6
XAN				pmax	pmax		
	comp=Z,190nm,1.1s						
FLWY	Flagg Ranch	88.58	42	IAmb	IAmb	03 58 37.8	
	comp=Z,52nm,1.0s						
VNA2	Neumayer--Watz	88.59	177	P	P	03 58 34.8	+0.8
	baz=178,slow=4.3						
BW06	Boulder Array	88.64	43	IAmb	IAmb	03 58 37.0	
	comp=Z,23nm,0.9s						
BW06	Boulder Array	88.64	43	P	P	03 58 36.0	+1.0
	baz=240,SNR=34						
PD31	Pinedale Array	88.64	43	IAmb	IAmb	03 58 37.0	
	comp=Z,22nm,1.0s						
PDAR	Pinedale Array	88.64	43	P	P	03 58 35.8	+0.8
	comp=Z,14nm,0.8s,baz=214,slow=2.9,SNR=113						
PDAR				PKKPbc	PKKPbc	04 16 13.3	-1.0
	comp=Z,1.7nm,0.7s,baz=83,slow=4.8,SNR=12						
J26L	Joseph Creek	88.67	14	IAmb	IAmb	03 58 36.5	
	comp=Z,63nm,0.9s						
J26L	Joseph Creek	88.67	14	P	P	03 58 35.8	+1.4
	baz=212						
YMR	Madison River	88.71	41	IAmb	IAmb	03 58 38.7	
	comp=Z,39nm,0.9s						
NVL	N'lazarevskaya	88.78	183	⇑iP	P	03 58 39.6	+4.7
NVL				eS	PP	04 02 16.6	+4.4
NVL				pmax	pmax		
	comp=Z,75nm,0.9s						
BOZ	Bozeman (W)	88.78	40	IAmb	IAmb	03 58 38.4	
	comp=Z,41nm,0.9s						
BOZ	Bozeman (W)	88.78	40	P	P	03 58 37.1	+1.5
	baz=239,SNR=45						
M30M	Minto, Yukon	88.81	18	IAmb	IAmb	03 58 36.8	
	comp=Z,41nm,0.8s						
H17A	Grant Village	88.81	41	IAmb	IAmb	03 58 39.7	
	comp=Z,29nm,0.9s						
H17A	Grant Village	88.81	41	P	P	03 58 38.8	+2.9
	baz=240,SNR=24						
VNA1	Neumayer--Stat	88.82	176	P	P	03 58 36.0	+0.9
LC01	Cunco	88.86	131	P	P	03 58 36.0	0.0
LC01				pP	pP	04 00 27.6	-0.6
YNR	Norris Junctio	88.91	41	IAmb	IAmb	03 58 40.9	
	comp=Z,30nm,1.2s						
RDOG	Red Dog Mine	88.92	5	P	P	03 58 47.2	+12
	baz=194,SNR=10						
HIA	Hailar	88.92	324	iP	P	03 58 35.7	-0.2
HIA				pmax	pmax		
	comp=Z,21nm,1.1s						
H24K	Noodor Dome	88.93	12	P	P	03 58 35.0	-0.6
	baz=208						
PLCA	Paso Flores	88.98	133	P	P	03 58 39.0	+2.4
	comp=Z,5.5nm,1.0s,baz=246,slow=5.3,SNR=7.3						
PLCA				PKKPbc	PKKPbc	04 16 12.5	-0.3
	comp=Z,2.7nm,0.8s,baz=289,slow=2.6,SNR=5.6						
PLCA	Paso Flores	88.98	133	eP	P	03 58 39.3	+2.6
SDCO	Great Sand Dun	89.00	49	P	P	03 58 38.1	+1.2
	baz=243,SNR=14						
LKWY	Lake	89.00	41	IAmb	IAmb	03 58 40.8	
	comp=Z,34nm,0.9s						
BILL	Bilibino	89.05	354c	iP	P	03 58 36.1	+0.1
BILL				i*PP	pP	04 00 28.7	+0.8
BILL				e		04 02 17.1	
BILL				pmax	pmax		
	comp=Z,50nm,2.5s						
BILL	Bilibino	89.05	354	P	P	03 58 35.7	-0.3
PRP	Porcupine Dome	89.12	13	IAmb	IAmb	03 58 38.3	
	comp=Z,19nm,0.7s						
PRP	Porcupine Dome	89.12	13	P	P	03 58 36.5	0.0
	baz=210,SNR=8.7						
M31M	Drury Creek, Y	89.22	19	P	P	03 58 37.3	+0.3
	baz=220,SNR=9.3						
WALA	Waterton Lakes	89.30	36	IAmb	IAmb	03 58 40.0	
	comp=Z,23nm,0.9s						
DAWY	Dawson	89.31	16	IAmb	IAmb	03 58 39.2	
	comp=Z,40nm,0.8s						
DAWY	Dawson	89.31	16	P	P	03 58 38.3	+0.9
	baz=215,SNR=32						
MSTX	Muleshoe	89.34	53	P	P	03 58 39.2	+0.8
MSTX				IAmb	IAmb	03 58 40.6	
	comp=Z,40nm,0.9s						
MSTX				pP	pP	04 00 30.3	+0.1
MSTX	Muleshoe	89.34	53	P	P	03 58 39.1	+0.8
	baz=245,SNR=14						
EGAK	Eagle	89.46	15	IAmb	IAmb	03 58 39.6	
	comp=Z,51nm,0.8s						
EGAK	Eagle	89.46	15	P	P	03 58 38.8	+0.8
	baz=214						
T25A	Trinidad	89.51	50	P	P	03 58 40.3	+1.2
	baz=244,SNR=10.0						
FARO	Faro, Yukon	89.55	19	P	P	03 58 39.3	+0.8
	baz=221						
HHC	Hu-ho-hao-te	89.64	314	eP	P	03 58 40.3	+0.7
HHC				pmax	pmax		
	comp=Z,52nm,1.2s						
HHC				pmax	pmax		
	comp=Z,270nm,5.6s						
RWWY	Rawlins	89.65	45	IAmb	IAmb	03 58 42.0	
	comp=Z,44nm,1.1s						
833A	Chaparral WMA,	89.67	60	IAmb	IAmb	03 58 42.4	
	comp=Z,29nm,1.0s						
833A	Chaparral WMA,	89.67	60	P	P	03 58 41.4	+1.6
	baz=246,SNR=6.5						
KMI	Kunming	89.72	297	⇓P	P	03 58 42.0	+1.6
KMI				pP	pwP	04 00 38.8	+3.5
KMI				pmax	pmax		
	comp=Z,100nm,1.0s						
COLD	Coldfoot	89.77	10	IAmb	IAmb	03 58 41.3	
	comp=Z,30nm,0.9s						
COLD	Coldfoot	89.77	10	P	P	03 58 40.3	+0.9
	baz=206,SNR=25						
Q24A	Divide	89.80	48	IAmb	IAmb	03 58 43.4	
	comp=Z,62nm,1.9s						
Q24A	Divide	89.80	48	P	P	03 58 42.2	+1.6
	baz=243,SNR=6.1						
ISCO	Idaho Springs	89.85	47	P	P	03 58 41.9	+1.0
	baz=243,SNR=5.7						
MAYO	Mayo, Yukon	89.86	17	P	P	03 58 41.2	+1.3
	baz=218,SNR=9.1						
J29M	Klondike Camp	89.92	16	P	P	03 58 41.8	+1.6
	baz=216						
RLMT	Red Lodge	89.98	41	IAmb	IAmb	03 58 44.1	
	comp=Z,26nm,0.9s						
RLMT	Red Lodge	89.98	41	P	P	03 58 43.5	+2.3
	baz=240						
N23A	Red Feather La	90.13	46	IAmb	IAmb	03 58 45.3	
	comp=Z,23nm,1.1s						
N23A	Red Feather La	90.13	46	P	P	03 58 43.1	+1.1
	baz=243,SNR=12						
JCT	Junction City	90.20	58	IAmb	IAmb	03 58 44.2	
	comp=Z,16nm,0.8s						
JCT	Junction City	90.20	58	P	P	03 58 43.0	+0.7
	baz=246,SNR=7.1						
CM31	Chiang Mai Arr	90.52	289	P	P	03 58 45.5	+1.5
CMAR	Chiang Mai Arr	90.52	289	P	P	03 58 45.5	+1.5
	comp=Z,52nm,0.9s,baz=115,slow=2.9,SNR=131						
CMAR				pP	pwP	04 00 40.3	+1.2
	comp=Z,11nm,1.0s,baz=120,slow=3.4,SNR=5.3						
CMAR				PP	PP	04 02 33.2	+5.3
	comp=Z,1.3nm,0.4s,baz=130,slow=7.0,SNR=4.3						
CMAR				PKKPbc	PKKPbc	04 16 10.0	+1.7
	comp=Z,3.4nm,0.7s,baz=290,slow=4.5,SNR=14						
AMTX	Amarillo	90.54	53	P	P	03 58 43.8	-0.1
AMTX				IAmb	IAmb	03 58 45.9	
	comp=Z,20nm,0.9s						
AMTX				pP	pP	04 00 35.0	-0.8
AMTX	Amarillo	90.54	53	P	P	03 58 44.8	+1.0
	baz=245						
K22A	Casper	90.55	44	IAmb	IAmb	03 58 46.0	
	comp=Z,26nm,0.9s						
K22A	Casper	90.55	44	P	P	03 58 44.9	+1.1
	baz=242,SNR=15						
I29M	Ogilvie Camp,	90.64	15	IAmb	IAmb	03 58 44.7	
	comp=Z,32nm,1.2s						
I29M	Ogilvie Camp,	90.64	15	P	P	03 58 43.6	+0.1
	baz=216,SNR=9.8						
CHTO	Chiang Mai	90.64	290	P	P	03 58 44.7	+0.1
CHTO				pmax	pmax		
	comp=Z,217nm,1.5s						
CHTO	Chiang Mai	90.64	290	P	P	03 58 45.9	+1.3
CHTO	Chiang Mai	90.64	290	P	P	03 58 44.7	+0.1
CHTO	Chiang Mai	90.64	290	P	P	03 58 45.9	+1.3
PZH	PanZhiHua	91.08	298	⇓P	P	03 58 47.3	+0.7
PZH				pmax	pmax		
	comp=Z,50nm,1.2s						
PZH				pmax	pmax		
	comp=Z,970nm,11.0s						
EGMT	Eagleton	91.12	38	IAmb	IAmb	03 58 48.6	
	comp=Z,19nm,1.1s						
EGMT	Eagleton	91.12	38	P	P	03 58 47.6	+1.4
	baz=240						
CD2	Chengdu	91.14	303	P	P	03 58 47.3	+0.7
CD2				pmax	pmax		
	comp=Z,30nm,1.3s						
TOLK	Toolik Lake Re	91.15	10	IAmb	IAmb	03 58 47.4	
	comp=Z,28nm,1.2s						
TOLK	Toolik Lake Re	91.15	10	P	P	03 58 47.6	+1.8
	baz=206,SNR=9.9						
ABTX	Abilene, Hawle	91.18	56	P	P	03 58 46.5	-0.2
ABTX				IAmb	IAmb	03 58 49.0	
	comp=Z,37nm,1.0s						
ABTX				pP	pP	04 00 38.9	+0.1
ABTX	Abilene, Hawle	91.18	56	P	P	03 58 47.8	+1.0
	baz=246,SNR=12						
MT01	Popeta	91.49	127	P	P	03 58 48.5	+0.3
MT01				IAmb	IAmb	03 58 50.6	
	comp=Z,15nm,0.9s						
KSCO	Kaye Shedlock'	91.59	49	P	P	03 58 49.9	+1.3
	baz=245,SNR=9.1						
EDM	Edmonton	91.85	33	P	P	03 58 50.1	+0.7
EDM				IAmb	IAmb	03 58 50.9	
	comp=Z,51nm,1.3s						
EDM				pP	pP	04 00 41.3	-0.3
YAK	Yakutsk	92.25	338	P	P	03 58 50.2	-0.7
	comp=Z,20nm,0.7s,baz=93,slow=1.9,SNR=9.7						
YAK	Yakutsk	92.25	338	ceP	P	03 58 49.7	-1.2
YAK				pmax	pmax		
	comp=Z,47nm,0.9s						
LAO	LASA Array	92.60	41	P	P	03 58 52.7	-0.3
LAO				IAmb	IAmb	03 58 55.5	
	comp=Z,20nm,0.8s						
LAO				pP	pP	04 00 45.2	0.0
LAO	LASA Array	92.60	41	P	P	03 58 55.1	+2.1
	baz=243						
WHTX	Lake Whitney,	92.64	57	P	P	03 58 54.4	+1.0
	baz=247						
WMOK	Wichita Mounta	92.67	54	P	P	03 58 54.4	+0.8
	baz=247						
A21K	Barrow	92.69	7	P	P	03 58 53.0	+0.3
	baz=200						
RSSD	Black Hills	92.83	44	P	P	03 58 53.1	-1.2
RSSD				pmax	pmax		
	comp=Z,30nm,1.0s						
RSSD	Black Hills	92.83	44	P	P	03 58 53.1	-1.2
RSSD				IAmb	IAmb	03 58 56.3	
	comp=Z,30nm,1.0s						
RSSD	Black Hills	92.83	44	P	P	03 58 55.0	+0.6
	baz=244						
LZH	Lanzhou	93.10	307	⇓P	P	03 58 56.8	+1.1
LZH				pP	pwP	04 00 53.8	+3.2
LZH				pmax	pmax		
	comp=Z,57nm,1.5s						
HKT	Hockley	93.16	59	iP	P	03 58 57.1	+1.3
HKT				pmax	pmax		
	comp=Z,30nm,1.5s						
Z35A	Perchaven, San	93.30	56	IAmb	IAmb	03 58 58.4	
	comp=Z,17nm,0.8s						
X34A	Smith Ranch, M	93.34	54	IAmb	IAmb	04 00 55.1	
	comp=Z,44nm,1.3s						
CBKS	Cedar Bluff	93.56	50	IAmb	IAmb	03 59 00.4	
	comp=Z,33nm,1.2s						
CBKS	Cedar Bluff	93.56	50	P	P	03 58 58.4	+0.8
	baz=246						
FNO	Franklin	93.91	54	P	P	03 59 00.4	+1.2
FNO				pP	pP	04 00 51.4	-0.2
237A	Washetta, Mont	93.94	57	IAmb	IAmb	04 00 58.1	
	comp=Z,24nm,1.0s						
INK	Inuvik	94.13	15	IAmb	IAmb	03 59 00.3	
	comp=Z,21nm,1.1s						
INK	Inuvik	94.13	15	P	P	03 58 59.8	+0.4
	baz=221						
R32A	Long Quarter,	94.15	51	IAmb	IAmb	03 59 03.2	
	comp=Z,33nm,1.0s						
KAN13	South Haven SW	94.52	52	P	P	03 59 01.8	-0.2
KAN13				pP	pP	04 00 55.3	+1.0
KAN13				IAmb	IAmb	04 00 59.9	
	comp=Z,31nm,1.1s						
DGMT	Dagmar	94.62	40	P	P	03 59 02.7	+0.6
DGMT				IAmb	IAmb	03 59 04.6	
	comp=Z,28nm,0.9s						
DGMT	Dagmar	94.62	40	P	P	03 59 03.6	+1.4
	baz=244						
OK030	Cody Creek RV	94.63	53	P	P	03 59 02.3	-0.1
OK030				pP	pP	04 00 51.1	-3.8
OK030				IAmb	IAmb	04 01 00.2	
	comp=Z,26nm,1.3s						
T35A	Sooner Cattle	95.20	53	P	P	03 59 05.3	+0.2
T35A				pP	pP	04 00 56.1	-1.4
T35A				IAmb	IAmb	04 01 03.0	
	comp=Z,28nm,1.2s						
TUL1	Leonard	95.37	54	P	P	03 59 07.2	+1.3
	baz=249						
ULN	Ulaanbaatar	95.62	319	ceP	P	03 59 06.7	-0.2
ULN				pmax	pmax		
	comp=Z,20nm,1.6s						
ULN	Ulaanbaatar	95.62	319	P	P	03 59 06.0	-0.8
ULN				IAmb	IAmb	03 59 07.8	
	comp=Z,35nm,1.7s						
BGNE	Belgrade	95.69	48	P	P	03 59 06.9	-0.2
BGNE				pP	pP	04 00 58.2	-1.6
BGNE	Belgrade	95.69	48	P	P	03 59 08.4	+1.3
	baz=248						
K31A	O'Neill	95.73	47	P	P	03 59 07.0	-0.3
K31A				pP	pP	04 00 58.4	-1.4
KSU1	Kansas State U	95.93	51	P	P	03 59 09.9	+1.7
	baz=248						
SONM	Songino Array	96.02	319	P	P	03 59 07.5	-1.1
	comp=Z,1.4nm,0.5s,baz=133,slow=4.0,SNR=14						
SONM	Songino Array	96.02	319	IAmb	IAmb	03 59 09.5	
	comp=Z,16nm,1.5s						
YKA	Yellowknife Ar	96.30	25	P	P	03 59 09.5	+0.2
	comp=Z,2.3nm,0.7s,baz=241,slow=4.5,SNR=36						
YKA				pP	pP	04 01 03.3	+1.3
	comp=Z,2.3nm,1.0s,baz=244,slow=4.4,SNR=7.0						
YKA				PKiKP	PKiKP	04 03 43.3	-0.5
	comp=Z,0.6nm,0.7s,baz=236,slow=1.5,SNR=10						
YKA				PKKPbc	PKKPbc	04 15 49.8	-5.2
	comp=Z,1.0nm,0.6s,baz=42,slow=2.4,SNR=15						
YKA				PKPPKP	P'P'df	04 24 08.7	+4.5
	comp=Z,1.0nm,1.0s,baz=50,slow=2.3,SNR=7.3						
YKA	Yellowknife Ar	96.30	25	P	P	03 59 08.8	-0.5
W39A	Magazine	96.65	55	P	P	03 59 13.2	+1.6
	baz=250						
MDND	Maddock	97.17	42	IAmb	IAmb	04 01 11.6	
	comp=Z,17nm,0.9s						
MDND	Maddock	97.17	42	P	Pdif	03 59 14.8	+1.1
	baz=247						
GTA	Gaotai	97.29	309	⇓P	P	03 59 14.8	+0.3
GTA				pP	pwP	04 01 11.0	+1.1
GTA				sP	sP	04 02 01.5	+3.1
GTA				pmax	pmax		
	comp=Z,11nm,1.4s						
ECSD	EROS Data Cent	97.60	46	P	P	03 59 15.8	+0.2
ECSD				IAmb	IAmb	04 01 14.3	
	comp=Z,26nm,1.4s						
ECSD	EROS Data Cent	97.60	46	P	P	03 59 16.2	+0.6
	baz=249						
TIXI	Tiksi	98.83	345	P	Pdif	03 59 19.4	-1.0
	comp=Z,1.0nm,0.3s,baz=122,slow=4.2,SNR=4.9						
TIXI	Tiksi	98.83	345	ceP	Pdif	03 59 19.3	-1.1
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZAK	Zakamensk	98.88	320	eP	Pdif	03 59 18.9	-2.4
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
AGMN	Agassiz Nation	99.67	42	P	Pdif	03 59 25.3	+0.5
	baz=250						
SPMN	Marine on St.	100.67	46	P	Pdif	03 59 30.6	+1.4
	baz=252						
LRAL	Lakeview Retre	101.30	59	P	Pdif	03 59 32.8	+0.5
	baz=253						
WVT	Waverly	101.54	56	P	Pdif	03 59 34.1	+0.8
	baz=253						
LPAZ	La Paz	101.67	112	PKKPbc	PKKPbc	04 15 38.9	-0.5
	comp=Z,1.8nm,0.7s,baz=31,slow=5.2,SNR=4.8						
GUN	Gumba	104.89	295	eP	PKiKP	04 04 00.0	-0.9
	comp=Z,16nm,0.8s						
PKI	Pulchoki	105.21	294	eP	PKiKP	04 04 00.5	-1.0
	comp=Z,18nm,0.6s						
PKIN	Phulchoki	105.22	294	eP	PKiKP	04 04 00.5	-0.9
	comp=Z,18nm,0.6s						
KKN	Kakani	105.38	294	eP	PKiKP	04 04 00.4	-1.2
	comp=Z,23nm,0.7s						
DMN	Daman	105.48	294	eP	PKiKP	04 04 00.8	-1.1
	comp=Z,11nm,0.5s						
KOLN	Koldanda	106.81	294	eP	PKiKP	04 04 03.2	-1.1
	comp=Z,18nm,0.7s						
DANN	Dangsing	106.82	294	eP	PKiKP	04 04 03.3	-1.1
	comp=Z,42nm,0.7s						
PYUN	Piuthan	107.41	294	eP	PKiKP	04 04 04.1	-1.3
	comp=Z,15nm,0.6s						
RES	Resolute Bay	107.65	16	PKiKP	PKiKP	04 04 03.8	-0.4
	comp=Z,3.7nm,0.8s,baz=300,slow=3.0,SNR=9.8						
SDV	Santo Domingo	108.83	87	PKiKP	PKiKP	04 04 08.0	-0.4
	comp=Z,3.3nm,0.7s,baz=299,slow=10,SNR=4.5						
ZSN	Zaisan	109.84	314	ePKiKP	PKiKP	04 04 08.5	-0.7
	baz=314						
NRIK	Noril'sk	110.70	338	PKiKP	PKiKP	04 04 09.3	-0.7
	comp=Z,3.6nm,0.6s,baz=103,slow=3.3,SNR=6.5						
ZALV	Zalesovo Beam	110.74	321	PKiKP	PKiKP	04 04 09.7	-0.9
	comp=Z,14nm,0.6s,baz=152,slow=1.0,SNR=58						
ZALV				PKKPbc	PKKPbc	04 15 11.7	-0.2
	comp=Z,0.8nm,0.6s,baz=198,slow=4.2,SNR=3.7						
MK31	Makanchi Array	111.49	313	iPKiKP	PKiKP	04 04 11.3	-1.0
MKAR	Makanchi Array	111.49	313	Pdiff	Pdif	04 00 17.5	+0.1
	comp=Z,1.0nm,0.7s,baz=95,slow=6.1,SNR=10						
MKAR				PKiKP	PKiKP	04 04 11.4	-0.9
	comp=Z,13nm,0.6s,baz=228,slow=1.4,SNR=97						
MKAR				PKKPbc	PKKPbc	04 15 09.2	-0.1
	comp=Z,2.1nm,0.8s,baz=272,slow=4.1,SNR=13						
PDGK	Podgornoye	113.04	309	PKiKP	PKiKP	04 04 14.5	-1.0
LONY	Lake Ozonia	113.17	49	P	PKiKP	04 04 16.0	+0.4
	baz=264						
PAL	Palisades	113.23	53	P	PKiKP	04 04 15.8	+0.1
	baz=262						
UZB	Uzynbulak	113.35	309	iPKiKP	PKiKP	04 04 15.0	-1.1
UZB	Uzynbulak	113.35	309	ePKiKP	PKiKP	04 04 15.1	-1.1
	baz=309						
ZHN	Zhinishke	113.78	309	iPKiKP	PKiKP	04 04 16.2	-0.7
ZHN	Zhinishke	113.78	309	ePKiKP	PKiKP	04 04 16.2	-0.7
	baz=309						
SATY	Saty	113.79	309	iPKiKP	PKiKP	04 04 16.0	-0.9
SATY	Saty	113.79	309	ePKiKP	PKiKP	04 04 16.0	-0.9
	baz=309						
TDK	Taldyqorghan	113.99	311	iPKiKP	PKiKP	04 04 16.1	-1.0
TDK	Taldyqorghan	113.99	311	iPKiKP	PKiKP	04 04 16.2	-1.0
	baz=311						
KURK	Kurchatov	114.27	317c	iPKIKP	PKPdf	04 04 16.5	-0.9
KURK				pmax	pmax		
	comp=Z,27nm,0.8s						
KURK	Kurchatov	114.27	317	P	PKPdf	04 04 16.6	-0.8
KURBB	Kurchatov Arra	114.32	317	PKP	PKPdf	04 04 16.6	-0.9
	comp=Z,18nm,0.6s,baz=94,slow=1.8,SNR=142						
KURBB				PP	PP	04 05 23.9	+1.0
	comp=Z,3.8nm,1.0s,baz=96,slow=7.3,SNR=4.1						
KURBB				PKKPbc	PKKPbc	04 15 00.5	+0.4
	comp=Z,2.2nm,0.9s,baz=272,slow=4.1,SNR=12						
MDOK	Medeo	114.79	309	ePKIKP	PKPdf	04 04 17.7	-1.2
MDOK	Medeo	114.79	309	ePKP	PKPdf	04 04 17.7	-1.2
	baz=309						
LBNH	Lisbon	115.02	50	P	PKiKP	04 04 19.3	+0.2
	baz=265						
KSH	Kashi	115.23	305	PKP	PKiKP	04 04 20.5	+0.7
PTGA	Pitinga	115.44	101	PKP	PKPdf	04 04 20.6	-0.2
	comp=Z,4.5nm,0.8s,baz=224,slow=0.7,SNR=6.9						
TKM2	Tokmak 2	115.83	309	P	PKPdf	04 04 20.2	-0.8
	SNR=16						
TKM2	Tokmak 2	115.83	309	PKIKP	PKPdf	04 04 19.9	-1.1
CHMS	Chumysh	116.46	309	P	PKPdf	04 04 21.4	-0.6
	SNR=6.9						
SGDS	Sogindy	116.58	309	ePKP	PKPdf	04 04 21.0	-1.2
	baz=309						
UCH	Uchtor	116.58	308	P	PKiKP	04 04 22.8	0.0
	SNR=16						
AAK	Ala-Archa	116.62	308	PKP	PKPdf	04 04 21.6	-0.9
	comp=Z,7.3nm,0.7s,baz=129,slow=4.0,SNR=7.6						
AAK	Ala-Archa	116.62	308	P	PKPdf	04 04 22.0	-0.4
	SNR=8.2						
AAK	Ala-Archa	116.62	308c	iPKIKP	PKPdf	04 04 22.1	-0.4
AAK				pmax	pmax		
	comp=Z,16nm,1.3s						
AAK	Ala-Archa	116.62	308	P	PKPdf	04 04 22.1	-0.4
AAK	Ala-Archa	116.62	308	PKPdf	PKPdf	04 04 21.7	-0.8
AAK	Ala-Archa	116.62	308	iPKPdf	PKPdf	04 04 21.8	-0.7
	SNR=9.7						
USP	Ospenovka	116.66	309	P	PKPdf	04 04 21.8	-0.6
	SNR=18						
PKME	Peaks-Kenny Pk	116.96	49	P	PKiKP	04 04 23.0	+0.2
	baz=268						
BTLS	Baital	117.08	311	ePKIKP	PKPdf	04 04 22.0	-1.0
BTLS	Baital	117.08	311	ePKP	PKPdf	04 04 22.0	-1.0
	baz=311						
EKS2	Erkin-Say	117.15	308	P	PKPdf	04 04 23.3	-0.2
	SNR=8.8						
AML	Almayashu	117.18	308	P	PKPdf	04 04 23.7	-0.2
	SNR=16						
AML	Almayashu	117.18	308	P	PKPdf	04 04 23.6	-0.2
AML	Almayashu	117.18	308	iPKPdf	PKPdf	04 04 23.5	-0.3
	SNR=17						
NEEM	North Greenlan	117.46	11	iP	PKPdf	04 04 22.2	-1.1
NOR	Nord	118.30	3	iP	PKPdf	04 04 23.1	-1.3
SCHQ	Schefferville	118.38	38	PKP	PKPdf	04 04 24.0	-1.2
	comp=Z,4.3nm,0.8s,baz=249,slow=1.5,SNR=5.0						
SCHQ				PKKPbc	PKKPbc	04 14 44.9	-1.3
	comp=Z,4.6nm,0.9s,baz=244,slow=3.7,SNR=5.8						
UPNV	Upernavik	118.51	17	iP	PKPdf	04 04 23.4	-1.5
BDFB	Brasilia	118.80	122	PKP	PKPdf	04 04 27.1	-0.2
	comp=Z,8.7nm,0.9s,baz=214,slow=2.0,SNR=11						
BDFB				PKKPbc	PKKPbc	04 14 45.0	+0.7
	comp=Z,5.4nm,0.7s,baz=34,slow=3.3,SNR=9.7						
DZA	Taraz	118.96	308	ePKIKP	PKPdf	04 04 25.9	-0.9
DZA	Taraz	118.96	308	ePKP	PKPdf	04 04 25.9	-0.9
	baz=308						
BVAR	Borovoye Array	119.33	320	PKP	PKPdf	04 04 26.6	-0.6
	comp=Z,34nm,0.6s,baz=67,slow=5.3,SNR=125						
BRVK	Borovoye	119.39	320c	iPKIKP	PKPdf	04 04 26.7	-0.5
BRVK				pmax	pmax		
	comp=Z,49nm,1.0s						
BRVK	Borovoye	119.39	320	P	PKPdf	04 04 26.9	-0.3
BRVK	Borovoye	119.39	320	PKPdf	PKPdf	04 04 26.9	-0.3
VOI	Vohitsoka	119.60	228	P	PKPdf	04 04 28.6	-0.2
VOI	Vohitsoka	119.60	228	PKP	PKiKP	04 04 29.6	+0.7
CAM01	Campos-RJ	119.80	132	e

ARU Arti 125.42 326 PKP **PKPdf 04 04 38.7 0.0**
comp=Z,16nm,0.5s,baz=67,slow=0.3,SNR=66
ARU Arti 125.42 326 *i* PKIKP **PKPdf 04 04 38.7 0.0**
ARU 04 06 38.4
ARU 04 11 01.0
ARU SS SS 04 22 53.5 -2.8
ARU Arti 125.42 326 PKPdf **PKPdf 04 04 38.8 +0.1**
CMC01 Camacan, BA 125.51 128 *eP* **PKiKP 04 04 40.7 +0.2**
NBIT Itapeh - BA 125.85 127 *eP* **PKiKP 04 04 41.4 +0.2**
IVI Ivigtut 126.30 28 *i P* **PKPdf 04 04 38.0 -2.1**
AB31 Akbulak array 126.36 317 *i* PKIKP **PKPdf 04 04 40.2 -0.5**
BOSA Boshof 126.47 205 PKP **PKiKP 04 04 42.7 +0.4**
comp=Z,21nm,0.9s,baz=180,slow=2.3,SNR=29
GDU01 Guandu, BA 126.50 126 *eP* **PKPdf 04 04 42.2 +0.2**
JLN Jalan Bani Buh 127.19 283 P **PKiKP 04 04 43.5 -0.2**
AKTO Aktyubinsk 127.33 318 PKP **PKPdf 04 04 42.5 -0.1**
comp=Z,24nm,0.8s,baz=81,slow=2.5,SNR=75
ISOG Isortoq, Green 127.49 20 *i P* **PKPdf 04 04 41.1 -1.2**
NRS Narsarsuaq 127.51 27 *i P* **PKPdf 04 04 41.5 -0.9**
WBK Wadi Bani Khal 127.67 283 P **PKiKP 04 04 44.5 -0.2**
NBPN Ponto Novo - B 127.76 123 *eP* **PKPdf 04 04 44.3 -0.2**
SCO Scoresbysund 127.90 10 *i P* **PKPdf 04 04 41.7 -1.3**
WSAR Wadi Sarin 128.07 284 PKP **PKPdf 04 04 44.6 -0.2**
comp=Z,7.8nm,0.8s,baz=180,slow=3.3,SNR=8.3
WSAR Wadi Sarin 128.07 284 P **PKPdf 04 04 44.7 0.0**
JMDO Jabal Madar 128.42 283 P **PKPdf 04 04 45.6 +0.2**
DQM DQM 128.53 280 P **PKPdf 04 04 45.8 +0.1**
BIDO Bidbid 128.57 284 P **PKiKP 04 04 46.2 -0.2**
SNR=6.4
SMDO Samad 128.57 284 P **PKPdf 04 04 46.2 +0.4**
SNR=8.7
ROSB Rosrio 128.76 111 *eP* **PKiKP 04 04 47.6 +0.5**
ARCES ARCESS Array B 128.97 350 PKP **PKPdf 04 04 45.0 -0.1**
comp=Z,20nm,0.7s,baz=114,slow=0.6,SNR=37
ARCES ARCESS Array B 128.97 350 PKIKP **PKPdf 04 04 45.0 -0.1**
GEYT Alibeck 129.13 303 PKP **PKPdf 04 04 46.3 -0.1**
comp=Z,16nm,0.7s,baz=346,slow=3.1,SNR=17
GEYT SKPbc SKPbc 04 07 21.4 +1.3
comp=Z,8.7nm,0.9s,baz=188,slow=4.2,SNR=4.9
KIRV Kirov 129.15 330 PKP **PKPdf 04 04 45.9 +0.2**
comp=Z,48nm,0.7s,baz=145,slow=0.3,SNR=20
KIRV Kirov 129.15 330*c i* PKIKP **PKPdf 04 04 45.7 0.0**
PRGR Permogore 129.20 335 *e*PKIKP **PKPdf 04 04 44.5 -1.2**
PRGR pmax pmax
comp=Z,160nm,1.4s
BSY Bisya 129.30 283 P **PKPdf 04 04 46.4 -0.7**
HOQ Hoqain 129.32 284 P **PKPdf 04 04 47.4 +0.2**
NBLA Lagarto - SE 129.55 125 *eP* **PKPdf 04 04 47.8 -0.1**
SHAO Shalim 129.93 277 P **PKPdf 04 04 48.5 0.0**
ARQ Araqi 130.00 284 P **PKPdf 04 04 47.4 -1.0**
SOCY Socotra 130.04 269 P **PKPdf 04 04 48.5 -0.3**
SOHO SOHO 130.09 285 P **PKPdf 04 04 47.9 -0.7**
SOHO SOHO 130.09 285 *i* PKPdf **PKPdf 04 04 47.8 -0.8**
SNR=25
NBPS Pedro II - PI 130.32 115 *eP* **PKiKP 04 04 50.1 -0.2**
UOSS Minazif 130.49 286 P **PKPdf 04 04 48.3 -1.1**
UOSS Minazif 130.49 286 PKPdf **PKPdf 04 04 48.4 -0.9**
UOSS Minazif 130.49 286 *i* PKPdf **PKPdf 04 04 48.2 -1.1**
SNR=7.0
DMTO DMTO 130.50 276 P **PKPdf 04 04 49.4 -0.1**
HATD Hatta, Dubai 130.54 286 P **PKPdf 04 04 49.4 -0.1**
HATD Hatta, Dubai 130.54 286 *i* PKPdf **PKPdf 04 04 49.1 -0.3**
SNR=14
MSFE Esma-Masafi 130.57 286 *i* PKPdf **PKPdf 04 04 48.8 -0.7**
SNR=7.1
ASHO Ashiyiah 130.59 285 P **PKPdf 04 04 49.3 -0.2**
ASHO Ashiyiah 130.59 285 *i* PKPdf **PKPdf 04 04 48.7 -0.9**
SNR=8.6
SHME Shamm 130.65 287 P **PKPdf 04 04 49.9 +0.3**
SHME Shamm 130.65 287 PKPdf **PKPdf 04 04 49.4 -0.2**
ALNE Al Ain 130.79 285 P **PKiKP 04 04 50.6 -0.3**
NBMA Muriti-CE 130.93 120 *eP* **PKiKP 04 04 51.3 -0.3**
NAZ Nazwa, Dubai 130.98 286 P **PKPdf 04 04 50.1 -0.1**
NAZ Nazwa, Dubai 130.98 286 *i* PKPdf **PKPdf 04 04 49.6 -0.7**
SNR=6.9
FAQ Al Faqa, Dubai 131.02 285 P **PKPdf 04 04 50.6 +0.3**
FAQ Al Faqa, Dubai 131.02 285 PKPdf **PKPdf 04 04 50.0 -0.3**
RBK Rabkut 131.15 276 P **PKPdf 04 04 51.2 +0.4**
ASUD Al Ashush, Dub 131.24 285 P **PKPdf 04 04 51.1 +0.3**
ASUD Al Ashush, Dub 131.24 285 *i* PKiKP **PKPdf 04 04 50.9 +0.2**
SNR=6.8
NBPB Pedra_Branca-C 131.28 117 *eP* **PKPdf 04 04 50.8 -0.3**
DOK Doka 131.44 277 P **PKPdf 04 04 51.1 -0.1**
NBAN Anadia - AL 131.54 124 *eP* **PKiKP 04 04 52.8 +0.1**
WHFO Wadi Hawf 131.64 276 P **PKPdf 04 04 51.5 -0.2**
SNR=5.2
ABTO Aybut 131.96 275 P **PKPdf 04 04 52.2 -0.1**
KLMR Klimovskoe 132.02 337 *e*PKIKP **PKPdf 04 04 48.9 -2.2**
KLMR pmax pmax
comp=Z,20nm,0.8s
KLMR Klimovskoe 132.02 337 *e*PKPdf **PKPdf 04 04 48.9 -2.2**
KLMR AMP 04 04 52.2
comp=Z,20nm,0.8s
MATP Matopo 132.03 214 SKPbc **SKPab 04 07 32.8 0.0**
comp=Z,8.7nm,0.9s,baz=158,slow=10,SNR=7.4
NBMO Morrinhos-CE 132.08 115 *eP* **PKiKP 04 04 53.9 +0.1**
NBRF Rio Formoso - 133.03 124 *eP* **PKiKP 04 04 56.3 +0.6**
NBCL Cascavel-CE 133.07 117 *eP* **PKPdf 04 04 55.0 +0.5**
JRN Qarnain Island 133.51 285 P **PKPdf 04 04 55.3 +0.3**
RCBR Riachuelo 134.13 121 *eP* **PKiKP 04 04 58.2 +0.2**
FINES FINESS Array B 135.86 344 PKhKP PKPpre 04 04 46.0
comp=Z,1.6nm,0.6s,baz=70,slow=4.0,SNR=13
FINES PKP **PKPdf 04 04 57.4 -0.8**
comp=Z,15nm,0.8s,baz=87,slow=4.0,SNR=15
FINES SKPbc **SKPbc 04 07 43.5 +1.4**
comp=Z,7.1nm,0.8s,baz=66,slow=4.6,SNR=6.4
PUL Pulkovo 135.99 340 *i* PKIKP **PKPdf 04 04 58.1 -0.4**
MOS Moscow 136.07 332 *e*PKIKP **PKPdf 04 04 56.4 -2.4**
MOS *e* 04 07 43.4
LSZ Lusaka 136.41 217 SKPbc **SKPbc 04 07 47.2 +1.8**
comp=Z,5.0nm,0.8s,baz=96,slow=4.7,SNR=4.8
LSZ Lusaka 136.41 217 PKHKP PKPpre 04 04 49.1
LSZ Lusaka 136.41 217 P **PKiKP 04 05 01.9 -0.8**
LSZ Lusaka 136.41 217 PKPpre PKPpre 04 04 49.1
AKT Akhty 136.49 309 *e*PKIKP **PKiKP 04 05 07.9 +5.8**
AKT pmax pmax
comp=Z,3.0nm,0.3s
VRH Novokhopyorsk 136.63 325 *e*PKIKP **PKPdf 04 04 59.7 -0.3**
VRH pmax pmax
comp=Z,40nm,0.6s
OBN Obninsk 136.93 332 SKPbc **SKPbc 04 07 47.1 +1.7**
comp=Z,7.7nm,0.7s,baz=172,slow=22,SNR=6.0
OBN Obninsk 136.93 332⇑ *i*PKIKP **PKPdf 04 05 00.2 -0.2**
OBN *i* 04 07 00.9
OBN *i* 04 07 46.7
OBN *e* 04 11 14.6
OBN pmax pmax
comp=Z,63nm,1.6s
LPSR Galich'ya Gora 137.34 328 *e*PKIKP **PKPdf 04 05 00.9 -0.3**
LPSR pmax pmax
comp=Z,20nm,0.7s
TSUM Tsumeb 137.89 202 PKhKP PKPpre 04 04 54.4
comp=Z,3.4nm,0.7s,baz=122,slow=5.6,SNR=7.3
TSUM PKP **PKPdf 04 05 04.1 +0.6**
comp=Z,17nm,0.9s,baz=136,slow=2.7,SNR=19
TSUM SKPbc **SKPbc 04 07 51.1 +1.5**
comp=Z,4.9nm,1.0s,baz=110,slow=3.5,SNR=4.3
VSR Storozhevoye 137.99 326 *e*PKIKP **PKPdf 04 05 02.3 -0.2**
VSR pmax pmax
comp=Z,40nm,1.1s
VSU Vasula 138.16 341 *eP* **PKPdf 04 04 56.5 -6.0**
NCK Nalchik 138.80 313 *i* PKIKP **PKPdf 04 05 04.1 -0.2**
NB2 NORSAR Subarra139.00 354 PKP PKPdf 04 04 54.8 -9.3
comp=Z,4.5nm,0.8s,baz=12,slow=4.1
NOA NORSAR Array B139.00 354 PKhKP PKPpre 04 04 55.2
comp=Z,5.2nm,0.7s,baz=12,slow=2.4,SNR=14
NOA SKPbc **SKPbc 04 07 52.2 +0.9**
comp=Z,5.0nm,0.9s,baz=15,slow=4.5,SNR=7.5
NOA SKKPbc **SKKPbc 04 16 36.1 +2.3**
comp=Z,1.4nm,1.0s,baz=222,slow=6.6,SNR=3.3
GNI Garni 139.03 308 P **PKPdf 04 05 05.6 +0.6**
UPP Uppsala 139.18 348 *eP* PKPdf 04 04 56.3 -8.1
KBZ Khabaz 139.19 314 PKhKP PKPpre 04 04 57.8
comp=Z,4.1nm,0.9s,baz=59,slow=3.4,SNR=5.9
KBZ PKP **PKiKP 04 05 06.5 -0.8**
comp=Z,9.4nm,0.8s,baz=35,slow=0.7,SNR=11
SHA1 Shidzhatmaz 139.34 314 *i* PKIKP **PKPdf 04 05 05.6 +0.1**
NEY Neytrino 139.48 313 *i* PKIKP **PKPdf 04 05 05.9 +0.2**
HFS Hagfors 139.57 351 SKPbc **SKiKP 04 07 54.2 -1.2**
comp=Z,9.2nm,0.7s,baz=48,slow=2.2,SNR=7.3
KMBO Kilima Mbogo 139.74 242 PKhKP PKPpre 04 04 60.0
comp=Z,2.5nm,0.4s,baz=49,slow=5.3,SNR=12
KMBO PKP sPdif 04 05 08.6 +0.6
comp=Z,16nm,0.9s,baz=68,slow=4.4,SNR=20
KMBO SKPbc **SKiKP 04 07 57.3 -0.3**
comp=Z,4.1nm,0.9s,baz=350,slow=5.3,SNR=3.6
KMBO Kilima Mbogo 139.74 242 PKPpre PKPpre 04 04 59.7
KMBO Kilima Mbogo 139.74 242 *i* PKPdf **PKPdf 04 05 00.0 -7.2**
SNR=5.6
RAYN Ar Rayn 140.09 283 PKHKP PKPpre 04 04 59.9
RAYN Ar Rayn 140.09 283 PKPpre PKPpre 04 04 59.9
RAYN Ar Rayn 140.09 283 PKPdf **PKPdf 04 05 01.0 -6.3**
IDID Didziasalis 140.70 338 *eP* **PKPdf 04 05 02.4 -4.9**
IIGN Ignalina 140.85 339 *eP* **PKPdf 04 05 03.1 -4.5**
NACGM Naroch 141.01 338 *i* PKP **PKPdf 04 05 02.4 -5.4**
SOC Sochi 141.37 315 *e*PKIKP **PKPdf 04 05 07.6 -1.3**
SOC *e* 04 08 16.6
SOC pmax pmax
comp=Z,58nm,1.2s
SOC pmax pmax
comp=Z,11nm,0.6s
PABE Paberze 141.46 340 *eP* **PKPdf 04 05 04.4 -4.3**
PBUR Paburge 141.63 342 *eP* **PKPdf 04 05 05.2 -3.7**
HOMB Homborsund 141.99 355 *i P* **PKPdf 04 05 05.0 -4.4**
BORU Boraas 142.12 351 *i P* **PKPdf 04 05 04.0 -5.7**
ONAU Onsala 142.47 352 *i P* **PKPdf 04 05 06.0 -4.4**
KPL Plockton 142.69 7 *eP* **PKPdf 04 05 07.5 -3.2**
MCD Coleburn Disti 142.69 5 *eP* **PKPdf 04 05 07.4 -3.4**
MDO Dochfour 142.73 6 *eP* **PKPdf 04 05 07.9 -2.9**
FABU Falkenberg 142.73 351 *i P* **PKPdf 04 05 07.0 -3.8**
OVD Ostervraa, Den 142.76 353 *i P* **PKPdf 04 05 08.2 -2.6**
BLEU Blekinge 142.85 348 *i P* **PKPdf 04 05 06.7 -4.3**
SHEL Horse Pasture 142.91 167 PKIKP **PKPdf 04 05 12.1 -0.4**
SHEL Horse Pasture 142.91 167 PKPdf **PKPdf 04 05 12.1 -0.4**
SUW Suwalki 142.96 340 *e*PKPdf **PKPdf 04 05 08.8 -2.6**
SUW Suwalki 142.96 340 *eP* **PKPdf 04 05 08.9 -2.4**
DEL Delary 143.06 349 *i P* PKPab 04 05 08.0 -0.8
AKASG Malin Array Be 143.19 331 PKhKP PKPpre 04 05 08.9
comp=Z,102nm,0.7s,baz=42,slow=4.5,SNR=493
AKASG pPKP pPKPdf 04 07 15.3 +4.0
comp=Z,4.5nm,0.9s,baz=42,slow=3.1,SNR=2.9
DRUM Mains of Drumt 143.42 5 *eP* PKPab 04 05 09.7 -0.5
MUD Monsted U'grnd 143.72 354 *i P* PKPab 04 05 10.8 -0.5
LODK Lodwar 143.76 246 P **PKPdf 04 05 15.8 -0.3**
INVG Invergeldie, C 143.76 6 *eP* PKPab 04 05 11.3 -0.2
LUNU Lund 143.93 349 *i P* PKPbc 04 05 11.2 -0.9
BSD Bornholm Skovb 144.15 348 *i P* PKPbc 04 05 11.8 -1.0
BSD Bornholm Skovb 144.15 348 *eP* PKPbc 04 05 12.8 0.0
SIM Simferopol' 144.25 320*d i* PKIKP PKPbc 04 05 12.7 -0.8
SIM pmax pmax
comp=Z,279nm,0.7s
PGBU Glenifferbraes 144.32 7 *eP* PKPbc 04 05 13.0 -0.3
ESY Stoneypath 144.40 5 *eP* PKPbc 04 05 12.7 -0.9
EBL Broad Law 144.50 5 *eP* PKPbc 04 05 13.8 -0.1
CLGH Cloghs, Cushen 144.83 9 *eP* PKPbc 04 05 14.9 -0.1
EKA Eskdalemuir Ar 144.93 6 PKP **PKPdf 04 05 14.8 +0.1**
comp=Z,35nm,0.8s
EKA pPKP **pPKPdf 04 07 18.2 +4.0**
comp=Z,7.6nm,0.8s,baz=328,slow=3.0,SNR=4.7
ESK Eskdalemuir 144.94 6 PKIKP **PKPdf 04 05 14.8 0.0**
ESK Eskdalemuir 144.94 6 PKPdf **PKPdf 04 05 14.8 0.0**
NEWG New Galloway 145.03 7 *eP* **PKPdf 04 05 14.4 -0.5**
MBAR Mbarara 145.30 236 PKPbc **PKPab 04 05 18.6 -0.3**
comp=Z,121nm,1.0s,baz=122,slow=7.8,SNR=135
GKP Gorka Klasztor 145.33 344 *e*PKPab **PKPbc 04 05 16.4 -0.1**
GKP Gorka Klasztor 145.33 344 *eP* **PKPbc 04 05 17.0 +0.5**
SORM Soroca 145.40 329⇑P **PKPdf 04 05 15.3 -0.4**
SORM Soroca 145.40 329⇑PKIKP **PKPdf 04 05 15.3 -0.4**
BEL Belsk 145.58 340 *e*PKPab **PKPbc 04 05 17.7 +0.5**
KESW Keswick, Cumbr 145.67 6 *eP* **PKPbc 04 05 17.1 -0.4**
PURM Purcari 145.71 326⇑P **PKPdf 04 05 16.5 +0.2**
BZK Bozkurt 145.85 316⇓P **PKPbc 04 05 19.1 +0.7**
KIS Kishinev 145.95 327⇑P **PKPbc 04 05 18.5 0.0**
KIS Kishinev 145.95 327 *i* PKP **PKPbc 04 05 18.0 -0.5**
comp=Z,150nm,0.9s
KIS Kishinev 145.95 327 *i* PKIKP **PKPbc 04 05 18.0 -0.5**
KIS pmax pmax
comp=Z,150nm,0.9s
MILM Milestii Mici 146.00 327⇓P **PKPdf 04 05 15.9 -0.9**
MILM Milestii Mici 146.00 327 *i* PKP **PKPbc 04 05 18.0 -0.6**
MILM Milestii Mici 146.00 327 *i* PKIKP **PKPbc 04 05 18.0 -0.6**
MILM pmax pmax
comp=Z,300nm,1.0s
BSEG Bad Segeberg 146.05 352 *e*PKPbc **PKPbc 04 05 19.2 +0.6**
baz=15,slow=2.4
LVV L'vov 146.06 335 *e*PKIKP **PKPdf 04 05 16.6 -0.2**
HPK Haverah Park 146.42 4 *eP* **PKPbc 04 05 19.6 0.0**
IAS Iasi 146.44 328⇑P **PKPbc 04 05 20.2 +0.4**
IAS Iasi 146.44 328⇑PKP2 **PKPbc 04 05 20.2 +0.4**
LEOM Leova 146.59 327⇓P **PKPbc 04 05 20.6 +0.3**
LEOM Leova 146.59 327⇓PKP2 **PKPbc 04 05 20.6 +0.3**
WPS Cemaes, Angles 146.69 8 *eP* **PKPdf 04 05 18.2 +0.5**
VASR Vaslui 146.71 328⇓P **PKPbc 04 05 21.2 +0.5**
WME Myndd Eilian 146.72 7 *eP* **PKPdf 04 05 17.3 -0.5**
KWP Kalwaria Pacla 146.73 336 *e*PKPbc **PKPdf 04 05 17.8 -0.2**
KWP *e*PKPab **PKPbc 04 05 20.9 +0.3**
WLF1 Llynfaes 146.81 8 *eP* **PKPbc 04 05 19.6 -1.1**
YRC Rhoscolyn 146.83 8 *eP* **PKPbc 04 05 20.1 -0.6**
RUE Ruedersdorf 146.86 347 *eP* **PKPbc 04 05 20.7 -0.1**
RUE Ruedersdorf 146.86 347 *e*PKPdf **PKPdf 04 05 18.8 +0.8**
baz=21,slow=1.5
RUE *e*PKPbc **PKPbc 04 05 21.5 +0.8**
baz=15,slow=2.4
LBWR Ladybower, Pea 146.97 5 *eP* **PKPbc 04 05 20.6 -0.5**
VLDR Vladesti 147.10 326⇑P **PKPdf 04 05 19.9 +1.2**
TLCR 147.14 325⇓P **PKPdf 04 05 19.0 +0.3**
TLCR 147.14 325⇓PKIKP **PKPdf 04 05 19.0 +0.3**
BRTR Keskin Array B 147.14 313 PKP **PKPdf 04 05 18.6 -0.6**
comp=Z,47nm,0.7s,baz=76,slow=1.8,SNR=93
BRTR PKPbc **PKPbc 04 05 21.8 -0.4**
comp=Z,50nm,0.7s,baz=134,slow=3.4,SNR=101
BRTR SKKPbc 04 16 00.2
comp=Z,1.7nm,0.9s,baz=243,slow=4.0,SNR=5.9
BRTR Keskin Array B 147.14 313 PKPdf **PKPdf 04 05 18.8 -0.4**
ASF Jabal al Asfar 147.15 298 PKP **PKPdf 04 05 16.8 -2.5**
comp=Z,14nm,0.9s,baz=15,slow=13,SNR=6.2
ASF PKPbc **PKPbc 04 05 22.8 +0.4**
comp=Z,86nm,0.8s,baz=116,slow=1.1,SNR=40
BUR01 Bucovina Ar. S 147.25 331⇓P **PKPdf 04 05 20.3 +1.3**
BURAR Bucovina Array 147.25 331⇓P **PKPdf 04 05 19.9 +0.9**
BURAR Bucovina Array 147.25 331⇓PKIKP **PKPdf 04 05 19.9 +0.9**
SCTR Scantieesti 147.25 326⇓P **PKPbc 04 05 22.4 +0.3**
GIUM Giurgiulesti 147.27 326⇑P **PKPbc 04 05 22.7 +0.6**
TATR Tataca 147.28 326⇓P **PKPbc 04 05 22.8 +0.7**
OJC Ojcow 147.28 339 *e*PKPbc **PKPdf 04 05 18.8 -0.1**
OJC *e*PKPab **PKPbc 04 05 22.3 +0.2**
GHRR 147.30 327⇓P **PKiKP 04 05 23.5 -0.4**
RETH Rethem/Aller, 147.35 352 *e*PKPbc **PKPbc 04 05 22.8 +0.7**
baz=15,slow=2.4
RETH *e*PKPab **PKPab 04 05 25.5 -0.1**
baz=15,slow=4.3
TESR Tescani 147.37 328⇓P **PKPbc 04 05 22.6 +0.2**
JURR Jurilovca 147.37 324⇑P **PKPbc 04 05 22.8 +0.4**
SLCR Slobozia Conac 147.43 326⇓P **PKPbc 04 05 23.3 +0.7**
SCHL Schela 147.46 326⇑P **PKPbc 04 05 22.3 -0.3**
IZVR Izvoarele 147.46 326⇑P **PKPbc 04 05 23.4 +0.8**
FLTG Flechtingen 147.47 350 *e*PKPdf **PKPdf 04 05 19.5 +0.5**
baz=21,slow=1.5
FLTG *e*PKPbc **PKPbc 04 05 22.7 +0.2**
baz=15,slow=2.4
FLTG *e*pPKPbc **pPKPab 04 07 20.7 -0.1**
baz=19,slow=3.4
NRDL Niedersach Rie 147.49 351 *e*PKPdf **PKPdf 04 05 19.6 +0.6**
baz=21,slow=1.5
NRDL *e*PKPbc **PKPbc 04 05 22.9 +0.5**
baz=15,slow=2.4
CFR Carcaliu 147.51 325⇑P **PKPdf 04 05 19.2 -0.1**
CFR Carcaliu 147.51 325⇑PKIKP **PKPdf 04 05 19.2 -0.1**
TPGR Topolog 147.56 325⇑P **PKPdf 04 05 19.9 +0.4**
ANTO Ankara 147.65 313 PKP2 **PKPbc 04 05 23.6 +0.1**
ANTO Ankara 147.65 313 PKPbc **PKPbc 04 05 23.6 +0.1**
MQOL MQOL 147.65 277 *i* P **PKPbc 04 05 24.5 +0.6**
CWF Charnwood Fore 147.66 4 *eP* **PKPbc 04 05 22.4 -0.5**
ODBI Odobesti 147.68 327⇑P **PKiKP 04 05 24.5 -0.2**
UZH Uzhgorod 147.70 335*ce*PKP2 **PKPbc 04 05 23.5 +0.3**
RCY Rachaya 147.70 301 *eP* **PKPbc 04 05 24.1 +0.2**
BHL Bhannes 147.74 301 *eP* **PKPbc 04 05 24.0 +0.1**
ASSE Asse, Remlinge 147.75 351 *e*PKPbc **PKPbc 04 05 23.7 +0.6**
baz=15,slow=2.4
WACR West Acre 147.77 2 *eP* **PKPbc 04 05 22.0 -1.2**
VRI Vrincioaia 147.78 327⇑P **PKPbc 04 05 23.2 -0.3**
VRI ⇓P **PKPbc 04 05 23.4 -0.1**
VRI Vrincioaia 147.78 327⇓PKP2 **PKPbc 04 05 23.4 -0.1**
KSP Ksiaz 147.78 343 *e*PKPbc **PKPdf 04 05 20.2 +0.6**
KSP *e*PKPab **PKiKP 04 05 24.1 -0.7**
NIE Niedzica 147.79 338 *e*PKPbc **PKPdf 04 05 21.1 +1.3**
NIE *e*PKPab **PKiKP 04 05 25.0 +0.1**
CRVS Cervenica-Dubn 147.80 336 *e*PKIKP **PKPdf 04 05 20.2 +0.4**
CRVS Cervenica-Dubn 147.80 336 *e*PKP **PKPdf 04 05 20.1 +0.3**
CRVS *e* 04 05 24.0
TIRR Tirgusor 147.82 324⇑P **PKPbc 04 05 24.0 +0.4**
TIRR Tirgusor 147.82 324⇑PKP2 **PKPbc 04 05 24.0 +0.4**
PLOR Plostina 147.82 327⇑P **PKPbc 04 05 23.7 +0.1**
PLOR ⇓P **PKPbc 04 05 23.8 +0.1**
PLOR Plostina 147.82 327⇑PKP2 **PKPbc 04 05 23.7 +0.1**
HARR Harsova 147.94 325⇓P **PKPbc 04 05 24.4 +0.5**
HARR Harsova 147.94 325⇓PKP2 **PKPbc 04 05 24.4 +0.5**
IBBN Ibbenburen 147.95 354 *e*PKPdf **PKPdf 04 05 21.0 +1.1**
baz=21,slow=1.5
IBBN *e*PKPbc **PKPbc 04 05 24.2 +0.5**
baz=15,slow=2.4
IBBN *e*PKPab **PKPab 04 05 28.6 +0.5**
baz=15,slow=4.3
TRPA Tarpa 148.00 334⇑P **PKPdf 04 05 19.2 -0.9**
COVR Voineasa-Covas 148.05 328⇑P **PKPdf 04 05 20.6 +0.3**
OSTC Ostas 148.06 343 *e*PKPDF **PKPdf 04 05 20.9 +0.7**
OSTC ⇑*e*PKP **PKPbc 04 05 24.7 +0.6**
CHVC Chvalec 148.08 344 *e*PKPDF **PKPdf 04 05 20.4 +0.2**
CHVC ⇑*e*PKP **PKPbc 04 05 24.4 +0.3**
CLZ Clausthal 148.08 351 *e*PKPdf **PKPdf 04 05 20.9 +0.7**
baz=21,slow=1.5
CLZ *e*PKPbc **PKiKP 04 05 24.9 -0.6**
baz=15,slow=2.4
CLZ *e*PKPab **PKPab 04 05 28.4 -0.3**
baz=15,slow=4.3
OZUR 148.08 329⇑P **PKiKP 04 05 25.1 -0.6**
CLL Collm 148.13 347⇓*e*PKHKP **PKPdf 04 05 20.0 -0.2**
CLL pmax pmax
comp=Z,240nm,0.8s
CLL Collm 148.13 347 *e*PKPdf **PKPdf 04 05 21.0 +0.8**
CLL ⇓*i*PKPbc **PKPbc 04 05 24.7 +0.5**
comp=Z,240nm,0.8s
CLL *e*pPKPbc **pPKPab 04 07 23.0 -0.4**
CLL Collm 148.13 347 *e*PKPdf **PKPdf 04 05 20.5 +0.3**
baz=21,slow=1.5
CLL *e*PKPbc **PKPbc 04 05 24.6 +0.5**
baz=15,slow=2.4
CLL *e*pPKPbc **pPKPab 04 07 23.0 -0.4**
baz=19,slow=3.4
MANR Mangalia 148.13 323⇓P **PKPbc 04 05 25.0 +0.6**
OKC Ostrava-Krasne 148.15 341 *e*PKP2 **PKPbc 04 05 24.2 -0.1**
OKC Ostrava-Krasne 148.15 341⇑*e*PKP **PKPbc 04 05 24.2 -0.1**
UPC Upice 148.16 344 *e*PKHKP **PKPdf 04 05 20.6 +0.3**
UPC Upice 148.16 344 *e*PKPDF **PKPdf 04 05 20.6 +0.3**
UPC ⇑*e*PKP **PKPbc 04 05 24.7 +0.4**
MMAI Mount Meron Ar 148.18 300 PKPbc **PKPbc 04 05 25.4 +0.4**
comp=Z,101nm,0.6s,baz=72,slow=6.2,SNR=88
MMAI pPKPbc **pPKPab 04 07 25.8 +1.2**
comp=Z,18nm,0.9s,baz=69,slow=4.6,SNR=5.4
DPC Dobruska-Polom 148.22 343 *e*PKHKP **PKPdf 04 05 20.4 -0.1**
DPC Dobruska-Polom 148.22 343 *e*PKPDF **PKPdf 04 05 20.4 -0.1**
DPC ⇑*e*PKP **PKPbc 04 05 25.0 +0.5**
MCH1 Michaelchurch 148.24 6 *eP* **PKPbc 04 05 24.1 -0.3**
LANS Liptovska Anna 148.31 339 *e*PKHKP **PKPdf 04 05 21.7 +1.1**
LANS *e* 04 05 26.4
LANS Liptovska Anna 148.31 339 *e*PKP **PKPdf 04 05 21.7 +1.1**
LANS *e* 04 05 26.4
BRG Berggiesshubel 148.33 346 Amp 04 05 30.8
comp=Z,72nm,1.0s
BRG Berggiesshubel 148.33 346 *i* PKHKP **PKPdf 04 05 20.5 -0.1**
BRG *i* 04 05 30.1
BRG pmax pmax
comp=Z,27nm,1.1s
BRG pmax pmax
comp=Z,105nm,0.7s
BRG pmax pmax
comp=Z,72nm,1.0s
BRG pmax pmax
comp=Z,22nm,1.3s
BRG Berggiesshubel 148.33 346 *e*PKPdf **PKPdf 04 05 20.9 +0.3**
baz=21,slow=1.5
BRG *e*PKPbc **PKPbc 04 05 25.4 +0.7**
baz=15,slow=2.4
BRG *e*PKPab **PKPab 04 05 29.9 +0.2**
baz=15,slow=4.3
BRG Berggiesshubel 148.33 346 *i* PKPab **PKPab 04 05 30.1 +0.4**
BRG Berggiesshubel 148.33 346 pKPkP pPKPdf 04 07 26.3 +6.3
BRG Berggiesshubel 148.33 346 Amp 04 07 36.5
comp=Z,22nm,1.3s
BRG Berggiesshubel 148.33 346 Amp 04 29 41.0
comp=N,1.6nm,18.5s
BRG Berggiesshubel 148.33 346 Amp 04 29 53.0
comp=Z,3.9nm,18.1s
BRG Berggiesshubel 148.33 346 Amp 04 29 57.0
comp=E,1.9nm,18.5s
BRG Berggiesshubel 148.33 346⇓*i*PKPf 04 05 20.6
BRG Berggiesshubel 148.33 346 Amp 04 05 22.2
comp=Z,27nm,1.1s
BRG Berggiesshubel 148.33 346⇑*i*PKP **PKPbc 04 05 25.3 +0.7**
BRG Berggiesshubel 148.33 346 Amp 04 05 26.4
comp=Z,105nm,0.7s
KRLC Kraliky 148.34 342 *e*PKHKP **PKPdf 04 05 20.9 +0.2**
KRLC Kraliky 148.34 342 *e*PKPDF **PKPdf 04 05 20.9 +0.2**
KRLC ⇑*e*PKP **PKPbc 04 05 24.7 -0.1**
DOPR Dopca 148.37 329⇓P **PKPdf 04 05 22.0 +1.2**
ICOR Ion Corvin 148.38 324⇑P **PKPbc 04 05 25.1 +0.1**
ISR Istrita 148.38 327⇓P **PKiKP 04 05 26.0 -0.3**
ISR Istrita 148.38 327⇓PKP2 **PKiKP 04 05 26.0 -0.3**
MORC Moravsky Berou 148.39 341⇓P **PKPdf 04 05 21.0 +0.2**
MORC Moravsky Berou 148.39 341⇓PKHKP **PKPdf 04 05 21.0 +0.2**
MORC Moravsky Berou 148.39 341 *e*PKP **PKPdf 04 05 21.1 +0.3**
MORC *e* 04 05 25.4
ELMS Elmsett, Ipswi 148.41 2 *eP* **PKPbc 04 05 24.8 0.0**
FBE Freiberg 148.42 347 *e*PKPdf **PKPdf 04 05 21.3 +0.6**
baz=21,slow=1.5
FBE *e*PKPbc **PKiKP 04 05 26.1 0.0**
baz=15,slow=2.4
FBE *e*PKPab **PKPab 04 05 30.4 +0.4**
baz=15,slow=4.3
GTTG Gottingen 148.43 351 *e*PKPdf **PKPdf 04 05 21.2 +0.5**
baz=21,slow=1.5
GTTG *e*PKPbc **PKiKP 04 05 25.6 -0.5**
baz=15,slow=2.4
MLR Muntele Rosu 148.43 328⇑P **PKPbc 04 05 24.9 -0.4**
MLR ⇓P **PKPbc 04 05 25.0 -0.2**
MLR Muntele Rosu 148.43 328 PKP **PKPdf 04 05 20.6 -0.5**
comp=Z,24nm,0.9s,baz=210,slow=8.3,SNR=4.6
MLR PKPbc **PKPbc 04 05 25.1 -0.2**
comp=Z,67nm,0.9s,baz=35,slow=1.8,SNR=19
MLR Muntele Rosu 148.43 328⇑PKHKP **PKPbc 04 05 24.9 -0.4**
PSN Preselentsi 148.44 323 P **PKPbc 04 05 25.7 +0.5**
NEUB Neuenburg 148.46 349 *e*PKPdf **PKPdf 04 05 21.3 +0.6**
baz=21,slow=1.5
NEUB *e*PKPbc **PKiKP 04 05 25.7 -0.5**
baz=15,slow=2.4
PVCC Panska Ves 148.51 345 *e*PKHKP **PKPdf 04 05 21.5 +0.6**
PVCC Panska Ves 148.51 345 *e*PKPDF **PKPdf 04 05 21.5 +0.6**
PVCC ⇑*e*PKP **PKPbc 04 05 25.4 +0.2**
KECS Kecovo 148.51 337 *e*PKP2 **PKiKP 04 05 26.3 -0.1**
KECS Kecovo 148.51 337 *e*PKP **PKiKP 04 05 26.3 -0.1**
STRD Stroud 148.54 6 *eP* **PKPbc 04 05 24.6 -0.6**
CBBR Cluj-Babes-Bol 148.63 332⇑P **PKPbc 04 05 24.5 -1.0**
CJR Cluj-Napoca 148.65 332⇓P **PKiKP 04 05 26.4 -0.4**
**CJR Cluj-Napoca 148

TANN *e*PKPbc **PKiKP** 04 05 27.4 -0.2
baz=15,slow=2.4
TANN *e*pPKPbc **pPKPbc** 04 07 25.1 +0.3
baz=19,slow=3.4
WERD Werda 149.08 348 *e*PKPdf **PKPdf** 04 05 22.0 +0.1
baz=21,slow=1.5
WERD *e*PKPbc **PKiKP** 04 05 27.2 -0.3
baz=15,slow=2.4
WERD *e*PKPab **PKPab** 04 05 33.0 +0.2
baz=15,slow=4.3
VRAC Vranov 149.09 342 ⇑P **PKPbc** 04 05 26.9 +0.3
VRAC Vranov 149.09 342 PKP **PKPdf** 04 05 21.5 -0.3
comp=Z,3.5nm,0.8s,baz=27,slow=2.1,SNR=36
VRAC PKPbc **PKiKP** 04 05 27.2 -0.4
comp=Z,43nm,0.9s,baz=25,slow=1.8,SNR=37
VRAC PKPab **PKPab** 04 05 33.3 +0.4
comp=Z,26nm,0.8s,baz=249,slow=2.8,SNR=14
VRAC Vranov 149.09 342 *e*PKP **PKPdf** 04 05 22.1 +0.3
VRAC *e* 04 05 27.1
VYHS Vyhne 149.09 339 *e*PKHKP **PKPbc** 04 05 27.1 +0.4
VYHS *e* 04 05 33.3
VYHS Vyhne 149.09 339 *e*PKP **PKPbc** 04 05 27.1 +0.4
VYHS *e* 04 05 33.3
UBBA Unterbreizbach 149.13 351 *e*PKPdf **PKPdf** 04 05 21.8 +0.1
baz=21,slow=1.5
UBBA *e*PKPbc **PKiKP** 04 05 27.2 -0.2
baz=15,slow=2.4
JAVC Velka Javorina 149.16 340 *e*PKP **PKPdf** 04 05 23.3 +1.3
JAVC *e* 04 05 28.3
GUNZ Gunzen 149.16 348 *e*PKPdf **PKPdf** 04 05 22.4 +0.5
baz=21,slow=1.5
GUNZ *e*PKPbc **PKiKP** 04 05 27.6 -0.1
baz=15,slow=2.4
KOLL Kolacno 149.16 339 *e*PKP **PKPdf** 04 05 22.9 +0.9
KOLL *e* 04 05 27.9
PRD Provadia 149.19 323 P **PKiKP** 04 05 27.7 -0.2
PSZ Piszkesteto 149.20 337 ⇓P **PKPbc** 04 05 27.0 0.0
PSZ Piszkesteto 149.20 337 ⇓PKHKP **PKPbc** 04 05 27.0 0.0
WERN Wernitzgruen 149.22 348 *e*PKPdf **PKPdf** 04 05 22.1 0.0
baz=21,slow=1.5
WERN *e*PKPbc **PKiKP** 04 05 27.9 +0.1
baz=15,slow=2.4
WERN *e*PKPab **PKPab** 04 05 33.9 +0.4
baz=15,slow=4.3
NKC Novy Kostel 149.26 347 *e*PKIKP **PKPdf** 04 05 22.0 -0.1
NKC Novy Kostel 149.26 347 *e*PKPDF **PKPdf** 04 05 22.0 -0.1
NKC ⇑*e*PKP **PKPbc** 04 05 27.3 +0.3
EIL Elat 149.27 294 PKP **PKPdf** 04 05 21.8 -1.0
comp=Z,3.8nm,0.7s,baz=110,slow=2.6,SNR=4.9
EIL PKPbc **PKPbc** 04 05 28.0 +0.3
comp=Z,75nm,0.8s,baz=143,slow=2.3,SNR=59
ELSH Elham, Standar 149.36 2 *e*P **PKPbc** 04 05 27.6 +0.4
KRUC Moravsky 149.36 342 *e*PKP **PKPdf** 04 05 22.5 +0.2
KRUC *e* 04 05 27.7
TREC Trest 149.41 343 *e*PKHKP **PKPdf** 04 05 22.4 0.0
TREC Trest 149.41 343 *e*PKPDF **PKPdf** 04 05 22.4 0.0
TREC ⇑*e*PKP **PKPbc** 04 05 27.1 -0.3
PBCC Pribram 149.43 345 *e*PKPDF **PKPdf** 04 05 23.0 +0.6
PBCC ⇑*e*PKP **PKPbc** 04 05 27.5 +0.1
RAZG Razgrad 149.45 324 ⇓P **PKPbc** 04 05 27.7 0.0
LOT Lotru 149.52 330 ⇓P **PKPbc** 04 05 28.1 +0.2
LEF Lefka 149.53 305 ⇓P **PKPbc** 04 05 27.8 -0.3
SMOL Smolenice 149.54 340 *e*PKP2 **PKiKP** 04 05 28.7 +0.2
SMOL Smolenice 149.54 340 *e*PKP **PKiKP** 04 05 28.7 +0.2
MANZ Manzenberg 149.56 348 *e*PKPdf **PKPdf** 04 05 22.9 +0.3
baz=21,slow=1.5
MANZ *e*PKPbc **PKiKP** 04 05 28.6 +0.1
baz=15,slow=2.4
HUMR Humele 149.59 327 ⇓P **PKPbc** 04 05 27.5 -0.5
DEV Deva 149.60 331 ⇑P **PKiKP** 04 05 28.5 -0.2
DEV Deva 149.60 331 ⇑PKHKP **PKiKP** 04 05 28.5 -0.2
BEBN Eben Emael 149.63 356 PKiKP **PKiKP** 04 05 28.3 -0.3
BEBN PKPab **PKPab** 04 05 35.0 0.0
UCC Uccle 149.69 358 PKiKP **PKPbc** 04 05 28.3 +0.3
MODS Modra-Piesok 149.71 340 *e*PKHKP **PKPdf** 04 05 24.6 +1.7
MODS Modra-Piesok 149.71 340 *e*PKP **PKPdf** 04 05 24.6 +1.7
MODS *e* 04 05 30.0
COPA Copaceanca 149.75 326 ⇓P **PKPbc** 04 05 28.3 0.0
ROTZ Rotzenmuhle 149.75 347 *e*PKPbc **PKiKP** 04 05 28.9 0.0
baz=15,slow=2.4
AHRW Bad Neuenahr-A 149.77 354 *e*PKPdf **PKPdf** 04 05 23.5 +0.7
baz=21,slow=1.5
AHRW *e*PKPbc **PKiKP** 04 05 28.9 0.0
baz=15,slow=2.4
MEM Membach 149.79 356 PKPdf **PKPdf** 04 05 23.0 +0.1
MEM PKiKP **PKPbc** 04 05 28.6 +0.3
BTNL Ternell 149.80 355 PKPdf **PKPdf** 04 05 22.6 -0.3
BTNL PKiKP **PKPbc** 04 05 28.3 0.0
BTNL PKPab **PKPab** 04 05 34.8 -1.1
SIRR Siria 149.84 333 ⇑P **PKPdf** 04 05 23.0 -0.1
BSTI Sart Tilman 149.85 356 PKPdf **PKPdf** 04 05 23.2 +0.3
BSTI PKiKP **PKiKP** 04 05 28.8 -0.3
SRO Srobarova 149.85 339 *e*PKHKP **PKPbc** 04 05 29.0 +0.5
SRO Srobarova 149.85 339 *e*PKP **PKPbc** 04 05 29.0 +0.5
ZST Bratislava 149.92 340 *e*PKHKP **PKPbc** 04 05 29.5 +0.9
ZST Bratislava 149.92 340 *e*PKP **PKPbc** 04 05 29.5 +0.9
TNS Taunus Mts 149.93 352 *e*PKPdf **PKPdf** 04 05 23.7 +0.5
baz=21,slow=1.5
TNS *e*PKPbc **PKiKP** 04 05 29.3 -0.1
baz=15,slow=2.4
TNS *e*PKPab **PKPab** 04 05 36.6 +0.2
baz=15,slow=4.3
SZH Strazhica 149.96 324 P **PKPbc** 04 05 28.8 -0.1
SNF Seneffe 149.99 358 PKiKP **PKPbc** 04 05 29.0 +0.3
SNF PKPab **PKPab** 04 05 36.7 +0.2
GRF Grafenberg Arr 150.01 349 *e*PKPdf **PKPdf** 04 05 23.3 0.0
baz=21,slow=1.5
GRF *e*PKPbc **PKiKP** 04 05 29.6 +0.1
baz=15,slow=2.4
GRF *e*pPKPbc **pPKPab** 04 07 29.7 -1.2
baz=19,slow=3.4
GRFO Grafenberg 150.02 349 PKIKP **PKPdf** 04 05 23.4 +0.1
GRFO Grafenberg 150.02 349 PKPdf **PKPdf** 04 05 23.4 +0.1
BCLA Clavier 150.03 356 PKPdf **PKPdf** 04 05 23.3 0.0
BCLA PKPbc **PKPbc** 04 05 28.5 -0.3
BCLA PKPab **PKPab** 04 05 36.7 0.0
GZR Gura Zlata 150.03 331 ⇑P **PKPbc** 04 05 29.1 0.0
GZR Gura Zlata 150.03 331 ⇑PKIKP **PKPbc** 04 05 29.1 0.0
BHOU Houvegnez 150.04 355 PKPdf **PKPdf** 04 05 23.9 +0.6
BHOU PKiKP **PKiKP** 04 05 29.4 -0.1
KHC Kasperske Hory 150.05 345 *e*PKIKP **PKPdf** 04 05 23.6 +0.2
KHC *e* 04 05 36.5
KHC Kasperske Hory 150.05 345 *e*PKPDF **PKPdf** 04 05 23.6 +0.2
KHC ⇑*e*PKP **PKPbc** 04 05 28.9 -0.1
KHC *e*PKPAB **PKPab** 04 05 36.5 -0.4
BGES Gesves 150.07 357 PKiKP **PKPbc** 04 05 29.0 +0.1
BGES PKPab **PKPab** 04 05 36.1 -0.9
JMB Yambol 150.12 323 P **PKPbc** 04 05 29.3 0.0
CKRC Cesky Krumlov 150.16 344 *e*PKPDF **PKPdf** 04 05 24.0 +0.5
CKRC ⇑*e*PKP **PKiKP** 04 05 29.8 0.0
BMRD Maredsous 150.17 357 PKPdf **PKPdf** 04 05 23.8 +0.3
BMRD PKiKP **PKPbc** 04 05 29.4 +0.2
GEC2 GERESS Array S 150.28 345 *e*PKPdf **PKPdf** 04 05 24.0 +0.2
baz=21,slow=1.5
GEC2 *e*PKPbc **PKiKP** 04 05 30.2 0.0
baz=15,slow=2.4
GERES GERESS Array B 150.28 345 PKP **PKPdf** 04 05 23.2 -0.7
comp=Z,4.9nm,0.8s,baz=75,slow=1.5,SNR=34
GERES PKPbc **PKPbc** 04 05 29.9 +0.3
comp=Z,43nm,0.8s,baz=48,slow=2.2,SNR=137
GERES PKPab **PKPab** 04 05 38.0 0.0
comp=Z,11nm,1.0s,baz=32,slow=5.2,SNR=11
GERES pPKPbc **pPKPab** 04 07 31.1 -1.0
comp=Z,7.3nm,1.0s,baz=45,slow=2.1,SNR=5.4
RCHB Rochefort 150.29 356 PKPdf **PKPdf** 04 05 23.6 0.0
RCHB PKiKP **PKPbc** 04 05 29.5 0.0
BZS Buzias 150.37 332 ⇑P **PKPdf** 04 05 23.9 0.0
BZS Buzias 150.37 332 ⇑PKIKP **PKPdf** 04 05 23.9 0.0
SRE Strehaia 150.37 329 ⇓P **PKiKP** 04 05 30.5 +0.1
SRE Strehaia 150.37 329 ⇓PKIKP **PKiKP** 04 05 30.5 +0.1
DOU Dourbes 150.38 357 PKP **PKiKP** 04 05 30.0 -0.1
CONA Conrad Observa 150.54 342 *i* P **PKPdf** 04 05 24.2 -0.1
comp=Z,7.7nm,0.8s,SNR=40
CONA *i* P **PKiKP** 04 05 30.6 -0.1
comp=Z,73nm,0.7s
CONA *e*P **pPKPab** 04 07 35.6 +2.4
comp=Z,28nm,1.5s
HERR Herculane 150.58 330 ⇓P **PKPbc** 04 05 30.3 0.0
WLF Walferdange 150.72 355 *e*PKPdf **PKPdf** 04 05 25.3 +1.0
baz=21,slow=1.5
WLF *e*PKPbc **PKiKP** 04 05 31.7 +0.8
baz=15,slow=2.4
WLF *e*PKPab **PKPab** 04 05 40.8 +1.2
baz=15,slow=4.3
WLF *e*pPKPbc **pPKPab** 04 07 32.4 -1.3
baz=19,slow=3.4
WLF Walferdange 150.72 355 PKPdf **PKPdf** 04 05 25.2 +0.8
WLF PKiKP **PKiKP** 04 05 31.2 +0.3
WLF PKPab **PKPab** 04 05 39.9 +0.2
JAWL J.Aulia 150.97 265 *i* P **PKiKP** 04 05 32.9 +0.5
JAWL AMP 04 05 33.4
comp=N,4μm,0.6s
JAWL *i* 04 05 41.7
baz=342,slow=22
MDVR Moldovita 150.98 331 ⇓P **PKPbc** 04 05 31.3 0.0
DIM Dimitrovgrad 150.98 323 P **PKPbc** 04 05 31.5 +0.2
MPEP Malo Peshtene 151.06 327 P **PKiKP** 04 05 31.7 -0.1
MOA Molln 151.06 343 *i* P **PKPdf** 04 05 24.6 -0.4
comp=N,6.8nm,0.8s
MOA *i* P **PKPbc** 04 05 31.3 0.0
comp=N,26nm,0.7s
MOA *i* P **pPKPab** 04 07 35.5 +0.1
comp=N,7.4nm,1.1s
MORH Mrgy, Hungar 151.10 336 ⇓*i* P **PKPdf** 04 05 24.2 -0.8
JSA Saint Aubin 151.10 6 *e*P **PKPbc** 04 05 31.4 +0.1
STU Stuttgart 151.25 351 *e*PKPdf **PKPdf** 04 05 25.8 +0.6
baz=21,slow=1.5
STU *e*PKPbc **PKiKP** 04 05 32.4 +0.4
baz=15,slow=2.4
ARSA Arzberg 151.25 341 *i* P **PKPdf** 04 05 24.7 -0.6
comp=N,4.2nm,0.9s
ARSA *i* P **PKPbc** 04 05 31.6 -0.2
comp=N,30nm,1.5s
KDZ Kurdzhali 151.31 323 P **PKPbc** 04 05 32.0 -0.1
PGB Panagyurishte 151.40 325 P **PKPbc** 04 05 32.2 -0.1
PLD Plovdiv 151.41 324 P **PKPbc** 04 05 31.7 -0.5
FUR Furstenfeldbru 151.47 348 *e*PKPdf **PKPdf** 04 05 25.6 +0.1
baz=21,slow=1.5
FUR *e*PKPbc **PKiKP** 04 05 32.6 +0.1
baz=15,slow=2.4
FUR *e*PKPab **PKPab** 04 05 43.5 +0.6
baz=15,slow=4.3
ZAGS Zajecar 151.47 329 *e*P **PKPbc** 04 05 29.2 -3.1
FRGS Fruska Gora 151.51 334 ⇓P **PKPbc** 04 05 31.8 -0.6
FRGS Fruska Gora 151.51 334 ⇓*i* P **PKPdf** 04 05 24.1 -1.6
FRGS Fruska Gora 151.51 334 *e*P **PKPdf** 04 05 24.2 -1.5
RJOB Jochberg 151.54 345 *e*PKPdf **PKPdf** 04 05 25.1 -0.7
baz=21,slow=1.5
RJOB *e*PKPbc **PKPbc** 04 05 32.6 +0.1
baz=15,slow=2.4
RJOB *e*PKPab **PKPab** 04 05 44.2 +1.0
baz=15,slow=4.3
BEHE Becsehely 151.54 339 *e*P **PKPbc** 04 05 31.7 -0.7
SVIS Svilajnac 151.60 331 *e*P **PKPdf** 04 05 24.1 -1.7
ZAPS Zavoj 151.68 328 *e*P **PKPdf** 04 05 25.8 -0.3
RZN Rozhen 151.68 323 P **PKPbc** 04 05 32.6 -0.5
BFO Black Forest 151.80 352 PKIKP **PKPdf** 04 05 26.6 +0.5
BFO Black Forest 151.80 352 *e*PKPdf **PKPdf** 04 05 26.1 +0.1
baz=21,slow=1.5
BFO *e*PKPbc **PKiKP** 04 05 33.2 0.0
baz=15,slow=2.4
BFO *e*PKPab **PKPab** 04 05 44.3 0.0
baz=15,slow=4.3
BFO Black Forest 151.80 352 PKPdf **PKPdf** 04 05 26.6 +0.5
VTS Vitosha 151.84 326 ⇑P **PKPbc** 04 05 33.3 -0.1
VTS Vitosha 151.84 326 ⇑PKIKP **PKPbc** 04 05 33.3 -0.1
VTS Vitosha 151.84 326 *e*P **PKPdf** 04 05 25.6 -0.9
VTS Vitosha 151.84 326 P **PKPbc** 04 05 33.5 +0.1
BOVS Bovan 151.86 330 *e*P **PKPdf** 04 05 24.7 -1.5
SOKA Soboth 151.91 341 *e*P **PKPdf** 04 05 25.8 -0.5
comp=N,11nm,1.1s,SNR=5.9
SOKA *i* P **PKPbc** 04 05 32.9 -0.4
comp=N,32nm,0.8s,SNR=7.1
SOKA *i* P **pPKPab** 04 07 37.9 -1.3
comp=N,12nm,1.1s
PERS Pernice 151.92 341 *i* PKPdf **PKPdf** 04 05 25.6 -0.8
PERS *e*PKPbc **PKPbc** 04 05 32.9 -0.5
PERS *e*PKPab **PKPab** 04 05 45.1 +0.2
TRUS Trudelj 152.00 332 *e*P **PKPdf** 04 05 25.6 -0.9
KBA Koelnbreinsper 152.01 344 *i* P **PKPdf** 04 05 25.7 -0.9
comp=N,11nm,1.1s,SNR=6.3
KBA *i* P **PKPbc** 04 05 32.9 -0.8
comp=N,31nm,0.8s
GRUS Gruza 152.12 331 *e*P **PKPdf** 04 05 25.7 -0.9
UBR Ueberruh 152.15 349 *e*PKPdf **PKPdf** 04 05 26.6 0.0
baz=21,slow=1.5
UBR *e*PKPbc **PKiKP** 04 05 34.0 0.0
baz=15,slow=2.4
UBR *e*PKPab **PKPab** 04 05 45.4 -0.5
baz=15,slow=4.3
WATA Walderalm 152.19 347 *i* P **PKPdf** 04 05 26.3 -0.5
comp=N,16nm,0.9s,SNR=5.7
WATA *i* P **PKPbc** 04 05 33.8 -0.2
comp=N,51nm,1.1s
WATA *i* P **pPKPbc** 04 07 35.4 +2.6
comp=N,15nm,1.4s
OBKA Obir 152.21 342 *i* P **PKPdf** 04 05 26.0 -0.8
comp=N,4.7nm,0.9s
OBKA *i* P **PKPbc** 04 05 33.2 -0.8
comp=N,15nm,0.7s
OBKA *i* P **pPKPbc** 04 07 35.0 +2.3
comp=N,6.4nm,1.2s
RETA Reutte 152.22 348 *i* P **PKPdf** 04 05 26.6 -0.2
comp=N,8.6nm,0.9s,SNR=5.9
RETA *i* P **PKPbc** 04 05 33.7 -0.3
comp=N,20nm,0.9s
WTTA Wattenberg 152.25 347 *i* P **PKPdf** 04 05 26.5 -0.5
comp=N,22nm,0.8s,SNR=7.6
WTTA *i* P **PKPbc** 04 05 34.2 0.0
comp=N,81nm,0.9s
WTTA *i* P **pPKPbc** 04 07 35.0 +2.1
comp=N,10nm,1.3s
DIVS Divibare 152.28 332 ⇓*i* P **PKPdf** 04 05 25.9 -1.1
DIVS Divibare 152.28 332 *e*P **PKPdf** 04 05 26.1 -0.9
MOTA Moosalm 152.28 347 *i* P **PKPdf** 04 05 26.4 -0.5
comp=N,20nm,0.8s,SNR=8.0
MOTA *i* P **PKPbc** 04 05 34.0 -0.2
comp=N,46nm,0.8s
MOTA *i* P **pPKPbc** 04 07 35.5 +2.6
comp=N,14nm,1.3s
MMB Musomiste 152.29 324 P **PKPbc** 04 05 33.8 -0.5
BOSS Bosilegrad 152.32 327 *e*P **PKPdf** 04 05 26.0 -1.0
MYKA Terra Mystica 152.35 343 *i* P **PKPdf** 04 05 26.0 -1.0
comp=N,7.3nm,0.8s,SNR=6.1
MYKA *e*P **PKPbc** 04 05 33.6 -0.7
comp=N,29nm,0.6s
SQTA Sankt Quirin 152.38 347 *i* P **PKPdf** 04 05 26.8 -0.3
comp=N,20nm,0.8s,SNR=8.2
SQTA *i* P **PKPbc** 04 05 34.2 -0.3
comp=N,44nm,0.8s
SQTA *i* P **pPKPbc** 04 07 35.7 +2.6
comp=N,10nm,1.2s
SELS Selova 152.45 330 *e*P **PKPbc** 04 05 32.2 -2.4
PRVS Prvonek 152.51 327 *e*P **PKPdf** 04 05 26.0 -1.3
ABTA Abfaltersbach 152.53 345 *i* P **PKPdf** 04 05 26.6 -0.7
comp=N,34nm,0.8s,SNR=21
ABTA *i* P **PKPbc** 04 05 34.2 -0.6
comp=N,64nm,0.6s
CRES Cresnjev 152.54 340 ⇓*i* P **PKPdf** 04 05 26.6 -0.6
DAVA Damuels 152.57 349 *e*P **PKPdf** 04 05 26.3 -1.1
comp=N,9.8nm,0.8s
DAVA *i* P **PKiKP** 04 05 35.2 +0.2
comp=N,49nm,1.4s
IVAS Ivanjica 152.62 331 *e*P **PKPdf** 04 05 25.9 -1.6
LJU Ljubljana 152.63 342 ⇓*i* P **PKPdf** 04 05 26.8 -0.5
LJU Ljubljana 152.63 342 *i* PKPdf **PKPdf** 04 05 27.1 -0.2
LJU *i* PKPbc **PKPbc** 04 05 34.8 -0.1
LJU *e*PKPab **PKPab** 04 05 47.5 -0.4
FETA Feichten 152.67 348 *i* P **PKPdf** 04 05 27.5 0.0
comp=N,38nm,1.0s,SNR=18
FETA *i* P **PKiKP** 04 05 35.2 0.0
comp=N,41nm,0.9s
FETA *i* P **pPKPbc** 04 07 36.5 +2.7
comp=N,12nm,1.3s
BBLS Lazići 152.72 333 ⇓*i* P **PKPdf** 04 05 27.2 -0.4
BBLS Lazići 152.72 333 *e*P **PKPdf** 04 05 26.8 -0.8
MRAK Mrakovica 152.76 337 *e*P **PKPdf** 04 05 26.9 -0.7
VOJS Vojsko 152.83 342 *e*PKPdf **PKPdf** 04 05 27.0 -0.7
VOJS *i* PKPbc **PKPbc** 04 05 34.6 -0.7
BLY Banja Luka 152.88 337 *e*P **PKPdf** 04 05 27.3 -0.4
RUDO Rudo 152.94 332 *e*P **PKPdf** 04 05 27.1 -0.8
CEY Cerknica 152.94 341 ⇓*i* P **PKPdf** 04 05 26.8 -1.0
SJES Sjenica 152.95 331 *e*P **PKPdf** 04 05 25.9 -2.1
STIP Stip 153.05 326 *i* P **PKPdf** 04 05 27.9 -0.2
DAVOX Davos/Dischmat 153.06 349 PKP **PKPdf** 04 05 28.0 -0.2
comp=N,14nm,0.8s,baz=96,slow=0.8,SNR=34
DAVOX PKPbc **PKiKP** 04 05 36.1 +0.1
comp=N,35nm,0.7s,baz=247,slow=0.7,SNR=38
DAVOX Davos/Dischmat 153.06 349 PKIKP **PKPdf** 04 05 28.0 -0.2
VAY Valandovo 153.11 325 *i* P **PKPbc** 04 05 35.5 -0.5
VAY Valandovo 153.11 325 *e*P **PKPdf** 04 05 25.7 -2.4
SKO Skopje 153.23 327 *i* P **PKPdf** 04 05 28.0 -0.3
SKDS Skadanscina 153.24 342 *e*PKPdf **PKPdf** 04 05 27.5 -0.7
SKDS *i* PKPbc **PKPbc** 04 05 35.8 -0.4
BRY Bratogost 153.87 332 *e*P **PKPbc** 04 05 36.9 -0.9
PDG Podgorica 153.93 331 ⇑P **PKPbc** 04 05 37.6 -0.2
PDG Podgorica 153.93 331 ⇓*i* P **PKPdf** 04 05 28.0 -1.2
TREB Trebinje 154.10 332 *e*P **PKPbc** 04 05 35.7 -2.4
OHR Ohrid 154.19 327 *i* P **PKPbc** 04 05 38.3 -0.1
HCY Herceg Novi 154.26 332 *e*P **PKiKP** 04 05 40.5 +2.1
TIR Tirane 154.48 328 ⇓P **PKPab** 04 05 51.2 -4.7
TIR Tirane 154.48 328 ⇓PKP2 **PKPab** 04 05 51.2 -4.7
PGAV Gavieira, Arco 156.72 21 *e*PKPdf **PKPdf** 04 05 33.7 +0.6
PBRG Braganca 157.34 18 *e*PKPab **PKPab** 04 06 08.8 +0.5
PTO Porto 157.34 22 *e*PKPab **PKPab** 04 06 08.8 +0.6
POLO Lamas de Olo 157.41 20 *e*PKPdf **PKPdf** 04 05 34.8 +0.8
POLO Lamas de Olo 157.41 20 *e*PKPab **PKPab** 04 06 09.4 +0.7
PVRL Vila Real 157.52 20 *e*PKPdf **PKPdf** 04 05 35.3 +1.2
PVRL Vila Real 157.52 20 *e*PKPab **PKPab** 04 06 09.9 +0.8
TIP Timpagrande 157.66 330 ⇓P **PKPdf** 04 05 34.7 +0.3
MVO Moncorvo 157.84 19 *e*PKPdf **PKPdf** 04 05 35.4 +0.9
MVO Moncorvo 157.84 19 *e*PKPab **PKPab** 04 06 11.6 +1.1
PVIS Viseu 157.97 21 *e*PKPab **PKPab** 04 06 11.2 +0.2
PCAS Casmilo, Conde 158.34 23 *e*PKPdf **PKPdf** 04 05 35.5 +0.4
PCAS Casmilo, Conde 158.34 23 *e*PKPab **PKPab** 04 06 12.5 -0.1
MTE Manteigas 158.37 21 *e*PKPdf **PKPdf** 04 05 35.4 +0.2
MTE Manteigas 158.37 21 *e*PKPab **PKPab** 04 06 13.3 +0.5
PCBR Castelo Branco 158.89 22 *e*PKPdf **PKPdf** 04 05 36.4 +0.7
PCBR Castelo Branco 158.89 22 *e*PKPab **PKPab** 04 06 15.1 +0.1
LIS Lisbon 159.23 26 *e*PKPdf **PKPdf** 04 05 36.1 0.0
LIS Lisbon 159.23 26 *e*PKPdf **PKPdf** 04 05 36.8 +0.7
PMRV Marv??o 159.29 22 *e*PKPdf **PKPdf** 04 05 36.4 +0.2
PMRV Marv??o 159.29 22 *e*PKPab **PKPab** 04 06 16.7 -0.1
PMTG Montargil 159.30 24 *e*PKPdf **PKPdf** 04 05 36.6 +0.4
PMTG Montargil 159.30 24 *e*PKPab **PKPab** 04 06 17.1 +0.3
PESTR Estremoz 159.71 23 *e*PKPdf **PKPdf** 04 05 36.8 +0.1
PESTR Estremoz 159.71 23 *e*PKPab **PKPab** 04 06 18.8 +0.1
EVO Evora 159.85 24 *e*PKPdf **PKPdf** 04 05 37.5 +0.7
EVO Evora 159.85 24 *e*PKPab **PKPab** 04 06 19.8 +0.6
PNCL Nicolau / Gran 160.00 26 *e*PKPdf **PKPdf** 04 05 38.3 +1.3
PNCL Nicolau / Gran 160.00 26 *e*PKPab **PKPab** 04 06 20.2 +0.3
ESDC Sonseca Array 160.07 15 PKP **PKPdf** 04 05 37.5 +0.3
comp=N,3.9nm,0.9s,baz=340,slow=2.7,SNR=13
ESDC PKPab **PKPab** 04 06 20.7 +0.4
comp=N,6.2nm,1.1s,baz=347,slow=4.3,SNR=8.3
ESDC SKKPbc 04 15 02.3
comp=N,1.3nm,0.9s,baz=174,slow=3.2,SNR=6.1
PAB San Pablo 160.10 16 PKIKP **PKPdf** 04 05 36.7 -0.5
PAB San Pablo 160.10 16 PKPdf **PKPdf** 04 05 36.7 -0.5
PAB San Pablo 160.10 16 P **PKPdf** 04 05 38.5 +1.3
PBEJ Beja 160.34 25 *e*PKPdf **PKPdf** 04 05 38.8 +1.4
MESJ Messejana 160.36 26 *e*PKPdf **PKPdf** 04 05 37.4 0.0
MESJ Messejana 160.36 26 *e*PKPdf **PKPdf** 04 05 36.0 -1.4
MESJ Messejana 160.36 26 *e*PKPab **PKPab** 04 06 21.8 +0.3
PCVE Castro Verde 160.61 26 *e*PKPdf **PKPdf** 04 05 38.9 +1.2
PCVE Castro Verde 160.61 26 *e*PKPab **PKPab** 04 06 23.3 +0.7
MORF Marmelete 160.63 28 *e*PKPdf **PKPdf** 04 05 37.6 -0.1
MORF Marmelete 160.63 28 *e*PKPdf **PKPdf** 04 05 39.2 +1.4
PFVI Vila Bisbo 160.70 28 *e*PKPdf **PKPdf** 04 05 39.6 +1.8
PVAQ Vaqueiros 160.94 26 *e*PKPab **PKPab** 04 06 24.2 +0.2
KEST Kesra 163.63 340 PKP **PKPdf** 04 05 40.1 -0.7
comp=N,8.8nm,0.9s,baz=336,slow=1.0,SNR=15
KEST PKPab **PKPab** 04 06 35.8 -0.2
comp=N,8.7nm,0.8s,baz=135,slow=3.0,SNR=9.3
KEST Kesra 163.63 340 P **PKPdf** 04 05 41.3 +0.4
LIC Lamto 164.08 152 *e*PKIKP **PKPdf** 04 05 41.1 -0.7
comp=N,136nm,1.1s
LIC Lamto 164.08 152 *e*PKP2 **PKPab** 04 06 39.7 +1.3
comp=N,67nm,1.4s
KIC Kosan Boka 164.33 153 *e*PKIKP **PKPdf** 04 05 41.5 -0.5
comp=N,62nm,0.9s
KIC Kosan Boka 164.33 153 *e*PKP2 **PKPab** 04 06 40.9 +1.4
comp=N,36nm,0.9s
TIC Toumodi 164.46 151 *e*PKIKP **PKPdf** 04 05 41.6 -0.6
TIC Toumodi 164.46 151 *e*PKP2 **PKPab** 04 06 41.3 +1.2
DBIC Dimbokro 164.56 152 PKP **PKPdf** 04 05 41.9 -0.3
comp=N,25nm,0.9s,baz=173,slow=1.1,SNR=29
DBIC PKPab **PKPab** 04 06 42.5 +2.0
comp=N,13nm,0.9s,baz=209,slow=5.2,SNR=7.1
DBIC Dimbokro 164.56 152 **PKPdf** 04 05 41.0 -1.2
LCRM LCR 165.31 25 P **PKPdf** 04 05 45.0 +2.5
JBK JBK 165.48 17 P **PKPdf** 04 05 44.0 +1.3
OUK Oukaimeden 165.84 39 P **PKPdf** 04 05 45.0 +1.8
MDT Midelt 166.18 26 PKP **PKPdf** 04 05 43.3 +0.1
comp=N,11nm,0.9s,baz=344,slow=0.9,SNR=10
MDT PKPab **PKPab** 04 06 48.2 +0.9
comp=N,4.4nm,0.7s,baz=62,slow=3.5,SNR=4.7
MDT Midelt 166.18 26 P **PKPdf** 04 05 45.0 +1.9
TZRR Tazzarine 167.43 34 P **PKPdf** 04 05 46.0 +1.8
FIGM Figuig 167.91 15 P **PKPdf** 04 05 46.0 +1.5
ZGR Zagora 167.93 36 P **PKPdf** 04 05 46.0 +1.5
TORD Torodi Ar. Bea 172.69 174 PKP **PKPdf** 04 05 46.6 -0.7
comp=N,26nm,0.9s,baz=324,slow=1.2,SNR=112
TORD PKPab **PKPab** 04 07 17.0 +0.7
comp=N,5.0nm,0.7s,baz=185,slow=3.3,SNR=8.8
TORD PP **PP** 04 11 09.7 +2.7
comp=N,5.4nm,1.0s,baz=182,slow=4.1,SNR=6.7

RSNC 26 04:10:45.8±0.8, 4°.17N×76°.29W, h101km±5km, ML1.7, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.19**	**196**	*e*P	Pn	04 10 59.5	-0.8
YOTC				*e*S	Sn	04 11 10.7	-0.4
YOTC				*i*		04 11 12.4	
comp=Z,22nm,0.2s							
PLMC	**San Jos del P**	**0.73**	**1**	*e*P	Pn	04 11 03.3	-0.5
PLMC				*e*S	Sn	04 11 17.3	+0.1
PLMC				*i*		04 11 19.8	
comp=Z,43nm,0.4s							
ORTC	**Ortega, Tolima**	**1.08**	**104**	*e*P	Pn	04 11 06.1	-1.1
ORTC				*e*S	Sn	04 11 23.4	+0.1
ORTC				*i*		04 11 24.6	
comp=Z,11nm,0.2s							
GUY2C	**Guyana, Caldas**	**1.40**	**41**	*e*P	Pn	04 11 12.0	+0.6
GUY2C				*e*S	Sn	04 11 30.7	-0.1
GUY2C				*i*		04 11 32.7	
comp=Z,4.4nm,0.4s							
POPC	**Popayan, Colom**	**1.66**	**193**	⇑*e*P	Pn	04 11 14.2	-0.2
POPC				*e*S	Sn	04 11 36.0	0.0
POPC				*i*		04 11 42.0	
comp=Z,1.8nm,0.3s							

RSNC 26 04:10:49.5±0.8, 6°.75N×73°.21W, h138km±4km, ML2.0, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.16**	**169**	⇓*i* P	Pn	04 11 08.2	-0.4
BARC				*e*S	Sn	04 11 22.7	-0.4
BARC				*i*		04 11 23.7	
comp=Z,14nm,0.3s							
RUSC	**La Rusia**	**0.86**	**171**	*e*P	Pn	04 11 12.1	-0.5
RUSC				*e*S	Sn	04 11 30.0	0.0
RUSC				*i*		04 11 31.4	
comp=Z,15nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.25**	**261**	*e*P	Pn	04 11 14.5	-1.1
PTBC				*e*S	Sn	04 11 34.7	-0.8
PTBC				*i*		04 11 36.9	
comp=Z,14nm,0.4s							
SPBC	**San Pablo de B**	**1.39**	**218**	*e*P	Pn	04 11 16.6	-0.5
SPBC				*e*S	Sn	04 11 37.9	-0.2
SPBC				*i*		04 11 44.8

comp=Z,2.7nm,0.3s
SMLC San Martn de **2.21 337** *e*P Pn 04 11 25.8 -0.7
SMLC *e*S Sn 04 11 54.9 0.0
SMLC *i* 04 12 01.6
comp=Z,15nm,0.1s
GUY2C Guyana, Caldas **2.62 235** *e*S Sn 04 12 07.5 +2.8
GUY2C *i* 04 12 14.4
comp=Z,3.7nm,0.4s

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*IDC **26** 04:19:37.6±1.9, 1°.76N×126°.63E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.2/40, mbtmp3.8/4, Error ellipse: s-maj=166.7km s-min=24.5km az=65.0*
*NEIC **26** 04:19:45.9±0.4, 1°.3N±0°.2×125°.7E±0°.1, h47km±14km, mb4.1/6, Error ellipse: s-maj=34.1km s-min=8.9km az=200.0*

ISC 26 04:19:45.3±1.2, 1°.2N±0°.2×125°.7E±0°.1, h50km, n12, σ0.56/13, mb4.0/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.75 104**		Pn	**Pn**	**04 20 13.7**	**+0.4**
TNTI				Sn	**Sn**	**04 20 34.2**	**-0.4**
WB0	**Warramunga Arr**	**22.53 158**		P	**P**	**04 24 41.5**	**+0.3**
WB0				IAmb	IAmb	04 24 42.2	
comp=Z,3.3nm,0.6s							
WRAB	**Tennant Creek**	**22.67 158**		P	**P**	**04 24 43.0**	**+0.4**
WRAB				IAmb	IAmb	04 24 43.7	
comp=Z,4.3nm,0.6s							
WRA	**Warramunga Arr**	**22.67 158**		P	**P**	**04 24 43.2**	**+0.5**
comp=Z,3.3nm,0.5s,baz=340,slow=11,SNR=40							
WRA	**Warramunga Arr**	**22.67 158**		P	**P**	**04 24 42.0**	**-0.7**
WB2	**Warramunga Arr**	**22.68 158**		P	**P**	**04 24 43.1**	**+0.4**
WB2				IAmb	IAmb	04 24 43.8	
comp=Z,4.6nm,0.7s							
ASAR	**Alice Springs**	**25.99 163**		P	**P**	**04 25 14.6**	**+1.0**
comp=Z,0.4nm,0.5s,baz=345,slow=7.1,SNR=7.0							
ASAR	**Alice Springs**	**25.99 163**		P	**P**	**04 25 14.1**	**+0.5**
STKA	**Stephens Creek**	**36.20 157**		P	**P**	**04 26 42.7**	**-0.7**
comp=Z,0.9nm,0.3s,baz=336,slow=11,SNR=3.4							
MK31	**Makanchi Array**	**59.04 327**		P	**P**	**04 29 40.3**	**+0.1**
MK31				IAmb	IAmb	04 29 41.5	
comp=Z,6.0nm,1.9s							
MKAR	**Makanchi Array**	**59.04 327**		P	**P**	**04 29 40.1**	**-0.2**
comp=Z,0.4nm,0.5s,baz=123,slow=7.8,SNR=5.4							
KURK	**Kurchatov**	**63.31 329**		P	**P**	**04 30 08.9**	**-0.1**

TRN 26 04:21:55.8, 10°.07N×60°.52W, h83km, MD3.5, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.04 304**		*e*P	Pn	04 22 15.9	+0.4
TRN				*e*S	Sn	04 22 30.1	-0.1
TOSP	**Speyside**	**1.22 359**		*e*P	Pn	04 22 18.2	+0.5
TOSP				*e*S	Sn	04 22 33.5	-0.6
GRGR	**Grenville**	**2.33 332**		*e*P	Pn	04 22 33.0	+0.8
GRGR				*e*S	Sn	04 23 00.1	0.0
GCMP	**Grenada, Carri**	**2.56 340**		*e*P	Pn	04 22 35.7	+0.4
GCMP				*e*S	Sn	04 23 03.8	-1.7
BAUV	**El Baul**	**7.50 262**		*e*P	Pn	04 23 42.1	-0.5
BAUV	**El Baul**	**7.50 262**		*e*S	Sn	04 25 01.2	-4.9

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*IDC **26** 04:35:57.5±0.7, 35°.52N×3°.70W, h0km, mb4.1/15, mb1 4.3/19, mb1mx4.0/42, mbtmp4.1/19, ML3.6/4, Error ellipse: s-maj=20.1km s-min=15.7km az=97.0*
*SFS **26** 04:35:58.0, 35°.49N×3°.82W, ML3.5, ALBORAN SUR*
*MDD **26** 04:35:58.8±0.7, 35°.49N×3°.83W, h0km, mbLg3.5/7, Error ellipse: s-maj=7.8km s-min=4.5km az=38.0*
*IGIL **26** 04:35:59.7, 35°.49N×3°.83W, h0km, ML3.4*
*NEIC **26** 04:35:59.2±1.6, 35°.5N±0°.1×3°.70W±0°.05, h10km±1km, mb4.5/29, Error ellipse: s-maj=18.6km s-min=6.6km az=172.0*
*LDG **26** 04:36:00.8±0.3, 35°.50N×3°.73W, h10km, Ml3.3/6, Error ellipse: s-maj=7.1km s-min=4.1km az=178.0*
*INMG **26** 04:36:00.5±1.8, 35°.53N×3°.74W, h14km±7km, MD3.6, ML3.5, Error ellipse: s-maj=4.1km s-min=3.5km az=86.0*
*CNRM **26** 04:36:00.1, 35°.44N×3°.62W, h14km, ml4.5*
*CRAAG **26** 04:36:02.6, 35°.45N×3°.92W, Mb4.2*

ISC 26 04:35:59.8±1.0, 35°.55N±0°.02×3°.72W±0°.02, h17km±6km, n196, σ1.91/246, mb4.4/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38 208**		P	**Pg**	**04 36 06.0**	**-1.5**
PALE				S	**Sg**	**04 36 11.0**	**-1.8**
EMEL	**Melilla**	**0.67 111**		Pg	**Pg**	**04 36 12.6**	**-0.4**
4μm,0.3s,SNR=289							
EMEL				Lg	Lg	04 36 22.5	
9μm,0.1s,SNR=20							
GOG	**Mont Gurugu**	**0.68 119**		P	**Pg**	**04 36 12.1**	**-1.0**
GOG				S	**Sg**	**04 36 21.5**	**-0.7**
AKLM	**AKL**	**1.04 186**		P	**Pb**	**04 36 18.5**	**-0.9**
AKLM				S	**Sn**	**04 36 39.1**	**+5.2**
CHAS	**Isla Isabel II**	**1.12 109**		*e*P	**Pb**	**04 36 18.8**	**-1.8**
CHAS				*e*S	**Sb**	**04 36 32.9**	**-1.9**
ELGU	**Los Guajares,**	**1.32**	**3**	Pg	**Pb**	**04 36 23.9**	**-0.2**
SNR=7.9							
ELGU				Lg	Lg	04 36 43.3	
854nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**1.32 320**		Pg	**Pn**	**04 36 22.6**	**-0.9**
69nm,0.4s,SNR=27							
EMIJ				Lg	Lg	04 36 41.1	
291nm,0.2s,SNR=12							
EMAL	**Malaga-Limoner**	**1.34 335**		*e*P	**Pn**	**04 36 22.9**	**-0.8**
EMAL				*e*S	**Sn**	**04 36 40.4**	**-0.7**
CEU	**Ceuta**	**1.39 285**		*e*P	**Pn**	**04 36 19.6**	**-4.7**
CEU				*e*S	**Sn**	**04 36 34.4**	**-7.9**
ECEU	**Ceuta**	**1.39 285**		Pg	**Pn**	**04 36 22.8**	**-1.6**
139nm,0.6s,SNR=26							
ECEU				Lg	Lg	04 36 38.7	
146nm,0.2s,SNR=13							
CHEFC	**Chefchaouen**	**1.40 252**		P	**Pn**	**04 36 24.0**	**-0.6**
EBER	**Berja**	**1.50**	**26**	Pn	**Pn**	**04 36 25.8**	**-0.3**
171nm,0.5s,SNR=43							
EBER				Lg	Lg	04 36 48.5	
739nm,0.3s,SNR=15							
JBK	**JBK**	**1.54 142**		P	**Pn**	**04 36 25.0**	**-1.7**
JBK				S	**Sn**	**04 36 42.4**	**-3.9**
EGOR	**Sierra Gorda,**	**1.59 349**		Pn	**Pn**	**04 36 27.6**	**+0.4**
SNR=7.9							
EGOR				Lg	Lg	04 36 51.5	
366nm,0.3s,SNR=7.9							
EQUE	**Quentar**	**1.67**	**8**	Pn	**Pn**	**04 36 29.0**	**+0.6**
84nm,0.4s,SNR=67							
EQUE				Lg	Lg	04 36 54.1	
91nm,0.3s,SNR=7.9							
RSA	**Sarsar**	**1.84 249**		P	**Pn**	**04 36 31.5**	**+0.9**
RSA				S	**Sg**	**04 37 03.0**	**+3.8**
ENIJ	**Nijar**	**1.88**	**40**	Pn	**Pn**	**04 36 30.8**	**-0.2**
SNR=7.9							
ENIJ				Sn	**Sn**	**04 36 54.7**	**+0.3**
SNR=7.9							
SICH	**Sidi Chahed**	**1.95 223**		P	**Pn**	**04 36 32.2**	**+0.1**
SICH				S	**Sb**	**04 36 59.6**	**+0.7**
LCRM	**LCR**	**2.08 207**		P	**Pn**	**04 36 33.3**	**-0.8**
LCRM				S	**Sg**	**04 37 08.7**	**+1.9**
SFS	**San Fernando**	**2.21 295**		Pn	**Pn**	**04 36 37.3**	**+1.6**
EQES	**Quesada**	**2.31**	**13**	Pn	**Pb**	**04 36 39.6**	**-1.4**
212nm,0.8s,SNR=218							
EQES				Sn	**Sb**	**04 37 08.8**	**-0.5**
355nm,0.4s,SNR=7.0							
IFR	**Ifrane**	**2.34 210**		*e*S	**Pn**	**04 36 34.4**	**-3.2**
IFR	**Ifrane**	**2.34 210**		*e*P	**Pn**	**04 36 36.3**	**-1.2**
IFR				*e*S	**Sn**	**04 37 03.3**	**-2.7**
OTSS	**Djebel Tessala**	**2.41**	**96**	P	**Pn**	**04 36 38.0**	**-0.5**
USTO	**Oran**	**2.59**	**85**	P	**Pb**	**04 36 46.0**	**+0.3**
MD31	**MD31**	**2.81 198**		P	**Pn**	**04 36 43.6**	**-0.4**
MD31				S	**Sn**	**04 37 17.8**	**+0.2**
MDT	**Midelt**	**2.83 195**		Pn	**Pn**	**04 36 43.9**	**-0.4**
9.1nm,0.3s,baz=193,slow=11,SNR=78							
MDT				Sn	**Sn**	**04 37 16.4**	**-1.6**
21nm,0.3s,baz=201,slow=16,SNR=3.3							
MDT	**Midelt**	**2.83 195**		P	**Pn**	**04 36 44.7**	**+0.5**
MDT				S	**Sn**	**04 37 17.4**	**-0.6**
TDRA	**Tendrara**	**2.87 150**		P	**Pn**	**04 36 45.3**	**+0.3**
ODJA	**Bouhanifia**	**2.92**	**93**	P	**Pn**	**04 36 47.0**	**+1.4**
CART	**Cartagena**	**2.99**	**46**	Pn	**Pn**	**04 36 45.8**	**-0.6**
CART	**Cartagena**	**2.99**	**46**	P	**Pn**	**04 36 45.5**	**-0.8**
PVAQ	**Vaqueiros**	**3.71 301**		*e*Pn	**Pn**	**04 36 56.2**	**-0.1**
PVAQ				*e*Sn	**Sn**	**04 37 37.4**	**-2.3**
PVAQ				A	A	04 37 46.9	
98nm,0.6s							
PVAQ	**Vaqueiros**	**3.71 301**		Pn	**Pn**	**04 36 55.8**	**-0.5**
PBAR	**Barrancos**	**3.73 316**		*e*Pn	**Pn**	**04 36 56.9**	**+0.3**
PBAR				*e*Sn	**Sn**	**04 37 39.0**	**-1.2**
PBAR				A	A	04 38 01.5	
57nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.79 298**		*e*Pn	**Pn**	**04 36 57.4**	**-0.1**
PBDV				*e*Sn	**Sn**	**04 37 38.4**	**-3.3**
PBDV				A	A	04 37 49.8	
62nm,0.5s							
GOLM	**Goulmima**	**3.97 195**		P	**Pg**	**04 37 16.0**	**+0.1**
FIGM	**Figuig**	**3.98 148**		P	**Pg**	**04 37 20.0**	**+4.0**
PAB	**San Pablo**	**4.02 353**		Pn	**Pn**	**04 36 59.8**	**-0.9**
PCVE	**Castro Verde**	**4.05 302**		*e*Pn	**Pn**	**04 37 01.1**	**+0.2**
PCVE				*e*Sn	**Sn**	**04 37 45.9**	**-2.1**
PCVE				A	A	04 37 52.4	
71nm,0.4s							
ESDC	**Sonseca Array**	**4.12 357**		Pn	**Pn**	**04 37 02.9**	**+0.9**
3.1nm,0.3s,baz=180,slow=12,SNR=46							
ESDC				Sn	**Sn**	**04 37 51.0**	**+1.1**
2.6nm,0.3s,baz=185,slow=21,SNR=6.3							
ESDC	**Sonseca Array**	**4.12 357**		Pn	**Pn**	**04 37 03.0**	**+1.0**
ESBB	**Sonseca Array**	**4.12 357**			**Pn**	**04 37 03.3**	**+1.3**
PBEJ	**Beja**	**4.14 308**		*e*Pn	**Pn**	**04 37 02.5**	**+0.2**
PBEJ				*e*Sn	**Sn**	**04 37 48.6**	**-1.7**
PBEJ				A	A	04 37 53.1	
41nm,0.5s							
MESJ	**Messejana**	**4.28 304**		*e*P	**Pn**	**04 37 03.6**	**-0.5**
MESJ				*e*S	**Sn**	**04 37 50.2**	**-3.4**
MESJ				IAML		04 37 57.6	
comp=N,56nm,0.3s							
MESJ	**Messejana**	**4.28 304**		*e*Pn	**Pn**	**04 37 04.5**	**+0.4**
MESJ				*e*Sn	**Sn**	**04 37 51.8**	**-1.8**
MESJ				A	A	04 38 04.0	
comp=N,59nm,0.6s							
MORF	**Marmelete**	**4.34 295**		*e*P	**Pn**	**04 37 04.2**	**-0.9**
MORF				*e*S	**Sn**	**04 37 51.5**	**-3.9**
MORF				IAML		04 37 59.7	
comp=N,117nm,0.2s							
MORF	**Marmelete**	**4.34 295**		*e*Pn	**Pn**	**04 37 05.6**	**+0.5**
MORF				*e*Sn	**Sn**	**04 37 52.6**	**-2.7**
MORF				A	A	04 37 59.9	
comp=N,43nm,0.4s							
PFVI	**Vila Bisbo**	**4.41 292**		*e*Pn	**Pn**	**04 37 07.2**	**+1.2**
PFVI				*e*Sn	**Sn**	**04 37 53.5**	**-3.5**
PFVI				A	A	04 38 13.0	
comp=N,62nm,0.7s							
PFVI	**Vila Bisbo**	**4.41 292**			**Pn**	**04 37 04.8**	**-1.1**
PFVI	**Vila Bisbo**	**4.41 292**		P	**Pn**	**04 37 08.2**	**+2.2**
PTEO	**Sao Teotonio**	**4.49 298**		*e*Pn	**Pn**	**04 37 08.2**	**+1.2**
PTEO				*e*Sn	**Sn**	**04 37 57.9**	**-1.0**
PTEO				A	A	04 38 07.4	
comp=N,54nm,0.7s							
PESTR	**Estremoz**	**4.53 318**		*e*Pn	**Pn**	**04 37 08.3**	**+0.7**
PESTR				*e*Sn	**Sn**	**04 37 58.3**	**-1.5**
PESTR				A	A	04 38 39.0	
comp=N,43nm,0.7s							
PESTR	**Estremoz**	**4.53 318**		Pn	**Pn**	**04 37 07.7**	**+0.2**
EVO	**Evora**	**4.54 312**		*e*P	**Pn**	**04 37 07.8**	**+0.1**
EVO				*e*S	**Sn**	**04 37 57.8**	**-2.4**
EVO	**Evora**	**4.54 312**		*e*Pn	**Pn**	**04 37 08.1**	**+0.3**
EVO				*e*Sn	**Sn**	**04 37 58.0**	**-2.2**
EVO				A	A	04 38 10.5	
comp=N,60nm,0.6s							
PNCL	**Nicolau / Gran**	**4.63 305**		*e*Pn	**Pn**	**04 37 08.8**	**-0.1**
PNCL				*e*Sn	**Sn**	**04 38 00.1**	**-2.1**
PNCL				A	A	04 38 04.7	
comp=N,36nm,0.5s							
UCM	**Universidad Co**	**4.76**	**4**	*e*P	**Pn**	**04 37 12.9**	**+2.0**
PMRV	**Marv??o**	**4.85 324**		*e*Pn	**Pn**	**04 37 13.1**	**+1.1**
PMRV				*e*Sn	**Sn**	**04 38 05.8**	**-1.9**
PMRV				A	A	04 38 24.5	
comp=N,48nm,0.7s							
PMTG	**Montargil**	**5.02 316**		*e*Pn	**Pn**	**04 37 14.9**	**+0.6**
PMTG				*e*Sn	**Sn**	**04 38 10.1**	**-1.9**
PMTG				A	A	04 38 48.9	
comp=N,47nm,0.8s							
PCBR	**Castelo Branco**	**5.22 326**		*e*Pn	**Pn**	**04 37 18.0**	**+1.0**
PCBR				*e*Sn	**Sn**	**04 38 15.0**	**-1.8**
PCBR				A	A	04 38 26.3	
comp=N,27nm,0.6s							
LIS	**Lisbon**	**5.37 308**		*e*Pn	**Pn**	**04 37 19.9**	**+0.9**
PMST	**Lisbon--Monsan**	**5.40 308**		*e*Pn	**Pn**	**04 37 20.0**	**+0.5**
PMST				*e*Sn	**Sn**	**04 38 20.8**	**-0.5**
OUK	**Oukaimeden**	**5.55 220**		P	**Pn**	**04 37 20.6**	**-1.3**
PMAFR	**Mafra**	**5.59 309**		*e*Pn	**Pn**	**04 37 22.5**	**+0.4**
PMAFR				*e*Sn	**Sn**	**04 38 23.7**	**-2.2**
PMAFR				A	A	04 38 37.4	
comp=N,59nm,0.6s							
ZGR	**Zagora**	**5.65 197**		P	**Pn**	**04 37 23.2**	**+0.2**
MTE	**Manteigas**	**5.71 329**		*e*Pn	**Pn**	**04 37 25.0**	**+1.2**
MTE				*e*Sn	**Sn**	**04 38 26.1**	**-2.8**
MTE				A	A	04 39 11.9	
comp=N,57nm,0.8s							
MTE	**Manteigas**	**5.71 329**			**Pn**	**04 37 24.9**	**+1.2**
PCAS	**Casmilo, Conde**	**5.87 321**		*e*Pn	**Pn**	**04 37 26.7**	**+0.7**
PCAS				*e*Sn	**Sn**	**04 38 29.6**	**-3.4**
PCAS				A	A	04 39 03.9	
comp=N,39nm,0.6s							
PVIS	**Viseu**	**6.12 329**		*e*Pn	**Pn**	**04 37 31.0**	**+1.6**
PVIS				*e*Sn	**Sn**	**04 38 36.2**	**-2.8**
PVIS				A	A	04 38 49.6	
comp=N,32nm,0.6s							
MVO	**Moncorvo**	**6.18 336**		*e*Pn	**Pn**	**04 37 31.8**	**+1.5**
MVO				*e*Sn	**Sn**	**04 38 39.6**	**-1.0**
MVO				A	A	04 39 00.3	
comp=N,54nm,0.6s							
TTIG	**Tnine Tigouga,**	**6.37 220**		P	**Pn**	**04 37 30.0**	**-2.9**
PVRL	**Vila Real**	**6.52 332**		*e*Pn	**Pn**	**04 37 36.1**	**+1.2**
PVRL				*e*Sn	**Sn**	**04 38 46.6**	**-2.3**
PVRL				A	A	04 38 59.0	
comp=N,35nm,0.5s							
POLO	**Lamas de Olo**	**6.63 332**		*e*Pn	**Pn**	**04 37 38.1**	**+1.5**
POLO				*e*Sn	**Sn**	**04 38 49.5**	**-2.3**
POLO				A	A	04 39 00.0	
comp=N,13nm,0.7s							
PBRG	**Braganca**	**6.68 340**		*e*Pn	**Pn**	**04 37 39.1**	**+2.0**
PBRG				*e*Sn	**Sn**	**04 38 52.2**	**-0.6**
PBRG				A	A	04 39 05.5	
comp=N,23nm,0.5s							
PTO	**Porto**	**6.77 327**		*e*Pn	**Pn**	**04 37 39.4**	**+1.1**
PTO				*e*Sn	**Sn**	**04 38 53.2**	**-1.8**
PTO				A	A	04 39 00.4	
comp=N,29nm,0.7s							
PCAB	**Cabril**	**7.01 333**		*e*Pn	**Pn**	**04 37 44.0**	**+2.3**
PCAB				*e*Sn	**Sn**	**04 38 58.9**	**-2.2**
PCAB				A	A	04 39 12.2	
comp=N,27nm,0.8s							
PGAV	**Gavieira, Arco**	**7.32 332**		*e*Pn	**Pn**	**04 37 47.7**	**+1.7**
PGAV				*e*Sn	**Sn**	**04 39 06.7**	**-2.1**
PGAV				A	A	04 39 26.9	
comp=N,29nm,0.6s							
ETSF	**Etsaut**	**7.74**	**18**	*e*Pn	**Pn**	**04 37 53.5**	**+1.8**
ETSF				*e*Sn	**Sn**	**04 39 16.8**	**-2.2**
comp=N,2.7nm,0.4s							
SJPF	**Ste Jean**	**7.80**	**14**	*e*Pn	**Pn**	**04 37 54.4**	**+2.0**
SJPF				*e*Sn	**Sn**	**04 39 18.1**	**-2.2**
comp=N,4.9nm,0.4s							
EPF	**Esparros**	**8.11**	**22**	*e*Pn	**Pn**	**04 37 58.1**	**+1.4**
EPF				*e*Sn	**Sn**	**04 39 23.9**	**-4.1**
comp=N,2.4nm,0.3s							
MTLF	**Montolieu**	**9.03**	**29**	*e*Pn	**Pn**	**04 38 09.9**	**+0.5**
MTLF	**Montolieu**	**9.03**	**29**	*e*P	Pn	04 38 14.5	+5.1
MTLF				*e*Sn	**Sn**	**04 39 47.3**	**-3.4**
comp=N,0.3nm,0.2s							
LFF	**La Frestale**	**9.98**	**19**	*e*Pn	**Pn**	**04 38 22.8**	**+0.5**
LASF	**Ste Croix**	**10.31**	**32**	*e*Pn	**Pn**	**04 38 27.7**	**+0.7**
CAF	**Calviac**	**10.35**	**23**	*e*Pn	**Pn**	**04 38 28.2**	**+0.7**
RJF	**Les Rejaudoux**	**10.53**	**21**	*e*Pn	**Pn**	**04 38 29.3**	**-0.5**
KEST	**Kesra**	**10.64**	**85**	Pn	**Pn**	**04 38 30.8**	**-0.7**
comp=N,0.3nm,0.3s,baz=282,slow=19,SNR=3.4							
SMRF	**Simiane la Rot**	**11.04**	**38**	*e*Pn	**Pn**	**04 38 36.4**	**-0.5**
LMR	**La Mourre**	**11.08**	**42**	*e*Pn	**Pn**	**04 38 38.5**	**+1.1**
LMR	**La Mourre**	**11.08**	**42**	*e*P	Pn	04 38 43.2	+5.8
LMR				*e*Sn	**Sn**	**04 40 35.5**	**-5.5**
comp=N,4.6nm,0.6s							
MFF	**Saint Martin d**	**11.37**	**13**	*e*Pn	**Pn**	**04 38 40.1**	**-1.2**
TCF	**Toulx Ste Croi**	**11.62**	**21**	*e*P	**Pn**	**04 38 49.1**	**+4.2**
SBF	**Sospel**	**11.94**	**43**	*e*Pn	**Pn**	**04 38 49.1**	**-0.1**
SBF				*e*Sn	**Sn**	**04 40 53.7**	**-8.3**
BGF	**Bois d'Agland**	**12.06**	**22**	*e*Pn	**Pn**	**04 38 49.6**	**-1.2**
PGF	**Pioggiola**	**12.10**	**51**	*e*Pn	**Pn**	**04 38 54.0**	**+2.5**
PGF				*e*Sn	**Sn**	**04 41 00.7**	**-5.4**
comp=N,0.5nm,0.3s							
QUIF	**Quistinic**	**12.36**	**2**	*e*Pn	**Pn**	**04 38 54.8**	**-0.1**
QUIF	**Quistinic**	**12.36**	**2**	*e*P	**Pn**	**04 38 59.5**	**+4.6**
SMF	**Signal de Mont**	**12.46**	**25**	*e*Pn	**Pn**	**04 38 53.7**	**-2.5**
SGMF	**Saint Gilles**	**12.72**	**4**	*e*Pn	**Pn**	**04 38 57.6**	**-2.3**
ROSF	**Rostrenen**	**12.78**	**1**	*e*Pn	**Pn**	**04 39 00.8**	**+0.2**
GRR	**Gorron**	**13.00**	**9**	*e*Pn	**Pn**	**04 39 02.5**	**-1.2**
LDF	**La Druitiere**	**13.30**	**10**	*e*Pn	**Pn**	**04 39 08.8**	**+1.0**
DAVA	**Damuels**	**15.52**	**37**	*i* P	**P**	**04 39 44.8**	**+2.6**
comp=N,8.5nm,0.8s							
FETA	**Feichten**	**15.76**	**39**	*e*P	**P**	**04 39 47.4**	**+2.5**
comp=N,7.6nm,1.0s							
RETA	**Reutte**	**16.09**	**38**	*e*P	**P**	**04 39 49.6**	**+1.2**
comp=N,11nm,1.3s							
SQTA	**Sankt Quirin**	**16.14**	**39**	*e*P	**P**	**04 39 51.2**	**+2.2**
comp=N,8.1nm,1.0s							
MOTA	**Moosalm**	**16.17**	**39**	*e*P	**P**	**04 39 51.3**	**+1.9**
comp=N,7.0nm,1.3s							
WTTA	**Wattenberg**	**16.39**	**40**	*e*P	**P**	**04 39 52.7**	**+0.9**
comp=N,4.5nm,0.9s							
WATA	**Walderalm**	**16.40**	**39**	*e*P	**P**	**04 39 54.7**	**+2.7**
comp=N,9.6nm,1.4s							
ABTA	**Abfaltersbach**	**16.54**	**42**	*e*P	**P**	**04 39 56.2**	**+2.7**
comp=N,4.4nm,0.9s							
KBA	**Koelnbreinsper**	**17.19**	**43**	*e*P	**P**	**04 40 04.6**	**+3.9**
comp=N,5.3nm,1.6s							
OBKA	**Obir**	**17.56**	**46**	*e*P	**P**	**04 40 07.3**	**+2.6**
comp=N,3.1nm,0.8s							
SOKA	**Soboth**	**17.93**	**46**	*e*P	**P**	**04 40 12.2**	**+3.4**
comp=N,3.0nm,1.1s							
MOA	**Molln**	**18.15**	**42**	*i* P	**P**	**04 40 14.0**	**+2.8**
comp=N,3.5nm,0.8s							
GERES	**GERESS Array B**	**18.46**	**39**	P	**P**	**04 40 14.7**	**0.0**
comp=N,0.1nm,0.3s,baz=222,slow=12,SNR=12							
GERES	**GERESS Array B**	**18.46**	**39**	P	**P**	**04 40 13.4**	**-1.3**
ARSA	**Arzberg**	**18.52**	**45**	*e*P	**Pn**	**04 40 17.5**	**+2.0**
comp=N,8.5nm,1.7s							
KHC	**Kasperske Hory**	**18.59**	**38**	*e*P	**Pn**	**04 40 17.5**	**+1.2**
KHC	**Kasperske Hory**	**18.59**	**38**	P	**P**	**04 40 15.7**	**-0.3**
CKRC	**Cesky Krumlov**	**18.76**	**40**	*e*P	**Pn**	**04 40 21.9**	**+3.5**
CONA	**Conrad Observa**	**19.08**	**44**	*e*P	**Pn**	**04 40 23.2**	**+0.9**
comp=N,4.0nm,0.9s							
PDG	**Podgorica**	**19.11**	**62**	P	**Pn**	**04 40 22.4**	**-0.1**
KOVH	**Kovagotottos**	**19.52**	**51**	P	**Pn**	**04 40 27.8**	**+0.3**
MPLH	**Magyarpolny**	**19.67**	**47**	P	**Pn**	**04 40 29.5**	**+0.3**
TIH	**Tihany**	**19.75**	**48**	P	**P**	**04 40 29.2**	**+0.5**
CLL	**Collm**	**19.82**	**32**	*i* P	**Pn**	**04 40 31.9**	**+1.0**
comp=Z,18nm,1.0s							
CLL				*e*PPP	PPP	04 40 56.0	
CLL	**Collm**	**19.82**	**32**	P	**P**	**04 40 26.5**	**-2.9**
CLL				IAmb	IAmb	04 40 33.5	
comp=Z,13nm,0.8s							
MORH	**Mrgy, Hungar**	**19.92**	**51**	P	**Pn**	**04 40 32.5**	**+0.2**
BRG	**Berggiesshubel**	**19.93**	**34**	*e*P	**Pn**	**04 40 33.1**	**+0.8**
BRG				Amp		04 40 35.1	
comp=Z,20nm,1.5s							
KRUC	**Moravsky**	**20.01**	**41**	*e*P	**P**	**04 40 32.4**	**+0.9**
MODS	**Modra-Piesok**	**20.12**	**44**	*e*P	Pn	04 40 36.2	+1.6
VRAC	**Vranov**	**20.26**	**41**	*e*P	Pn	04 40 36.6	+0.4
SMOL	**Smolenice**	**20.28**	**44**	*e*P	Pn	04 40 36.8	+0.3
FNA	**Florina**	**20.38**	**68**		**P**	**04 40 35.6**	**-0.2**
SRO	**Srobarova**	**20.43**	**46**	*e*P	Pn	04 40 38.7	+0.4
JAVC	**Velka Javorina**	**20.60**	**43**	*e*P	Pn	04 40 40.1	-0.2
UPC	**Upice**	**20.68**	**38**	*e*P	Pn	04 40 40.3	-0.8
DPC	**Dobruska-Polom**	**20.74**	**38**	*e*P	**P**	**04 40 40.3**	**+0.8**
CHVC	**Chvalec**	**20.75**	**37**	*e*P	Pn	04 40 41.6	-0.4
KRLC	**Kralicky**	**20.81**	**39**	*e*P	Pn	04 40 42.4	-0.3
OSTC	**Ostas**	**20.81**	**38**	*e*P	Pn	04 40 41.9	-0.8
AGG	**Agios Georgios**	**20.99**	**73**	P	**P**	**04 40 42.3**	**0.0**
AGG				IAmb	IAmb	04 40 52.9	
comp=Z,16nm,1.3s							
MORC	**Moravsky Berou**	**21.03**	**41**	*e*P	**P**	**04 40 44.1**	**+1.4**
MORC	**Moravsky Berou**	**21.03**	**41**	P	**P**	**04 40 42.9**	**+0.2**
VYHS	**Vyhne**	**21.07**	**45**	*e*P	**P**	**04 40 44.6**	**+1.5**
LANS	**Liptovska Anna**	**21.76**	**44**	*e*P	**P**	**04 40 52.4**	**+1.9**
CRVS	**Cervenica-Dubn**	**22.80**	**46**	*e*P	**P**	**04 41 04.3**	**+2.7**
TORD	**Torodi Ar. Bea**	**22.84 166**		P	**P**	**04 41 01.6**	**-0.5**
comp=Z,2.0nm,0.

ISCO			IAmb	IAmb	04 47 53.1	
	comp=Z,7.0nm,1.4s					
SONM	**Songino Array**	**76.19 41**	P	**P**	**04 47 48.3**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=274,slow=4.2,SNR=7.5					
BOZ	**Bozeman (W)**	**76.34 317**	P	**P**	**04 47 49.0**	**+0.9**
BOZ			IAmb	IAmb	04 47 49.8	
	comp=Z,2.6nm,0.9s					
BW06	**Boulder Array**	**76.84 313**	P	**P**	**04 47 50.7**	**-0.3**
BW06			IAmb	IAmb	04 47 51.8	
	comp=Z,4.2nm,0.9s					
PD31	**Pinedale Array**	**76.84 313**	P	**P**	**04 47 51.2**	**+0.2**
PD31			IAmb	IAmb	04 47 51.8	
	comp=Z,3.8nm,0.9s					
PDAR	**Pinedale Array**	**76.84 313**	P	**P**	**04 47 51.1**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=70,slow=6.8,SNR=19					
PDAR	**Pinedale Array**	**76.84 313**	P	**P**	**04 47 50.8**	**-0.2**
RDMU	**Red Mountain**	**78.15 312**	P	**P**	**04 47 58.7**	**+0.3**
SHL	**Shillong**	**79.83 66**	P	**P**	**04 48 07.3**	**-0.5**
TXAR	**Lajitas Array**	**80.84 299**	P	**P**	**04 48 13.8**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=56,slow=7.7,SNR=5.4					
TXAR	**Lajitas Array**	**80.84 299**	P	**P**	**04 48 13.0**	**-0.1**
TX31	**Lajitas Ar. Si**	**80.84 299**	P	**P**	**04 48 13.2**	**+0.2**
TX31			IAmb	IAmb	04 48 25.6	
	comp=Z,10.0nm,1.4s					
ELK	**Elko**	**81.43 314**	P	**P**	**04 48 16.5**	**+0.3**
ELK			IAmb	IAmb	04 48 22.9	
	comp=Z,3.2nm,1.1s					
SPR3	**Spring Creek 3**	**82.00 313**	P	**P**	**04 48 19.0**	**-0.4**
SPR3			IAmb	IAmb	04 48 26.4	
	comp=Z,3.7nm,1.1s					
CMAR	**Chiang Mai Arr**	**89.29 68**	P	**P**	**04 48 56.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=302,slow=6.7,SNR=4.6					
STKA	**Stephens Creek**	**151.01 93**	PKPbc	**PKPbc**	**04 55 51.0**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=285,slow=5.4,SNR=4.8					

*IDC **26** 04:55:45.0±1.8, 35°.81N×53°.19E, h0km, mb3.8/10, mb1 3.9/16, mb1mx3.6/56, mbtmp3.9/16, ML3.4/6, Error ellipse: s-maj=35.0km s-min=15.5km az=8.0*
*TEH **26** 04:55:46.7, 35°.91N×53°.22E, h13km, ML4.4*
*NEIC **26** 04:55:46.3±1.2, 35°.97N±0°.05×53°.32E±0°.06, h10km±1km, mb4.0/5, mb_Lg4.4(TEH), Error ellipse: s-maj=10.1km s-min=5.7km az=133.0*
*AZER **26** 04:55:51.9±0.9, 35°.95N×52°.76E, h15km, Error ellipse: s-maj=14.3km s-min=8.1km az=53.0, Hypocentre not reviewed by the ISC*

ISC 26 04:55:46.7±1.0, 35°.96N±0°.03×53°.19E±0°.03, h10km±7km, n156, σ1$63/183, mb3.8/10, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHM	**Shahmirzad**	**0.17**	**154**	*e*Pg	**Pg**	**04 55 50.6**	**-0.1**
ISHM				*e*Sg	**Sg**	04 55 53.3	-0.2
ISHM	**Shahmirzad**	**0.17**	**154**	Pg	**Pg**	**04 55 50.7**	**0.0**
ILAS	**Lasjerd**	**0.61**	**199**	*e*Pg	**Pg**	**04 55 58.4**	**-0.2**
ILAS	**Lasjerd**	**0.61**	**199**	Pg	**Pg**	**04 55 58.4**	**-0.2**
IGLO	**Ghaloghah**	**0.74**	**43**	*e*Pg	**Pg**	**04 56 01.3**	**0.0**
IGLO				*e*		04 56 19.7	
	comp=Z,23μm,0.5s						
IGLO	**Ghaloghah**	**0.74**	**43**		**Pg**	**04 56 01.2**	**0.0**
IANJ	**Anjilo**	**0.76**	**130**	*e*Pg	**Pg**	**04 56 00.4**	**-1.0**
IANJ	**Anjilo**	**0.76**	**130**	Pg	**Pg**	**04 56 00.5**	**-1.0**
IPRN	**Peran**	**0.76**	**292**	*e*		04 56 03.2	
	comp=Z,40μm,0.2s						
IPRN				*e*Pg	**Pg**	**04 56 01.4**	**0.0**
DAMV	**Damavand**	**1.05**	**252**	*e*Pn	**Pg**	**04 56 06.1**	**-1.0**
TEHA	**Amirabad Tehra**	**1.49**	**262**	*e*Pn	**Pn**	**04 56 14.0**	**+0.5**
TEHA				*e*		04 56 44.3	
	comp=Z,63μm,0.5s						
TEHA	**Amirabad Tehra**	**1.49**	**262**		**Pn**	**04 56 14.0**	**+0.5**
TEH	**Tehran**	**1.50**	**262**	*e*Pn	**Pn**	**04 56 13.9**	**+0.3**
TEH				*e*		04 56 46.9	
	comp=Z,63μm,0.4s						
IVRN	**Varamin**	**1.54**	**232**	*e*Pn	**Pn**	**04 56 14.6**	**+0.5**
IVRN				*e*		04 56 40.1	
	comp=Z,7μm,0.2s						
IVRN	**Varamin**	**1.54**	**232**		**Pn**	**04 56 14.6**	**+0.5**
IHSB	**Hasanabad**	**1.65**	**252**	*e*Pn	**Pn**	**04 56 17.0**	**+1.2**
IHSB				*e*		04 56 44.4	
	comp=Z,35μm,0.2s						
IHSB	**Hasanabad**	**1.65**	**252**		**Pn**	**04 56 16.9**	**+1.2**
CHTH	**Charan**	**1.69**	**269**	*e*Pn	**Pn**	**04 56 17.5**	**+1.2**
ISFB	**Sefidab**	**1.79**	**207**	*e*Pn	**Pn**	**04 56 18.0**	**+0.5**
ISFB				*e*		04 56 45.5	
	comp=Z,55μm,0.2s						
ISFB	**Sefidab**	**1.79**	**207**		**Pn**	**04 56 18.0**	**+0.5**
THKV	**Tehran--Karaj**	**1.89**	**269**	*e*Pn	**Pn**	**04 56 19.7**	**+0.7**
IQOM	**Qom**	**2.07**	**238**	*e*Pn	**Pn**	**04 56 22.7**	**+1.1**
IQOM	**Qom**	**2.07**	**238**	Pn	**Pn**	**04 56 22.5**	**+0.9**
IMHD	**Mahdasht**	**2.08**	**263**	*e*Pn	**Pb**	**04 56 24.1**	**-0.4**
IMHD				*e*		04 56 57.6	
	comp=Z,25μm,0.5s						
QALM	**Alamut, Qazvin**	**2.12**	**284**	*e*Pn	**Pn**	**04 56 24.6**	**+2.3**
QALM				*e*		04 56 26.4	
	comp=Z,47μm,0.4s						
QALM	**Alamut, Qazvin**	**2.12**	**284**	Pn	**Pb**	**04 56 24.7**	**-0.6**
GHVR	**GHOM**	**2.15**	**227**	*e*Pn	**Pn**	**04 56 24.5**	**+2.0**
KRSH	**Karshahi**	**2.17**	**204**	*e*Pn	**Pn**	**04 56 23.5**	**+0.6**
IMND	**Minoodasht**	**2.20**	**53**	*e*Pn	**Pn**	**04 56 24.4**	**+1.3**
IMND				*e*		04 57 12.6	
	comp=Z,14μm,1.0s						
SHRO	**Shahrood**	**2.28**	**88**	*e*Pn	**Pn**	**04 56 25.5**	**+1.2**
IGZV	**Ghazvin**	**2.45**	**281**	*e*Pn	**Pb**	**04 56 29.8**	**-1.2**
IGZV				*e*		04 56 33.5	
	comp=Z,38μm,0.8s						
QJF1	**Jafarie**	**2.50**	**243**	*e*Pn	**Pn**	**04 56 29.2**	**+1.8**
QCNT	**Qazvin**	**2.61**	**278**	*e*Pn	**Pn**	**04 56 32.0**	**+3.1**
QAMS	**Qamsar**	**2.67**	**214**	*e*Pn	**Pn**	**04 56 30.8**	**+1.0**
IRAZ	**Razeghan**	**2.72**	**259**	*e*Pn	**Pn**	**04 56 31.5**	**+1.0**
IRAZ				*e*		04 57 29.9	
	comp=Z,16μm,0.7s						
ANAR	**Anarak**	**2.79**	**171**	*e*Pn	**Pn**	**04 56 32.1**	**+0.7**
ANAR				*e*		04 57 22.4	
	comp=Z,15μm,0.9s						
ANAR	**Anarak**	**2.79**	**171**	Pn	**Pn**	**04 56 32.3**	**+0.9**
LHJ2	**Lahijan - Gila**	**2.80**	**296**	*e*Pn	**Pn**	**04 56 32.8**	**+1.4**
JIR1	**Jirandeh**	**2.85**	**286**	*e*Pn	**Pn**	**04 56 35.0**	**+2.8**
MRVT	**Maraveh tapeh**	**2.87**	**53**	*e*Pn	**Pn**	**04 56 33.8**	**+1.3**
IKLH	**Kolahrood**	**2.95**	**207**	*e*Pn	**Pn**	**04 56 34.8**	**+1.1**
QABG	**Abgarm-Qazvin**	**2.95**	**266**	*e*Pn	**Pn**	**04 56 35.4**	**+1.7**
QABG				*e*		04 56 48.0	
	comp=Z,6μm,0.4s						
ASAO	**Ashtian**	**2.96**	**243**	*e*Pn	**Pn**	**04 56 35.1**	**+1.3**
NASN	**Na'in**	**3.17**	**186**	*e*Pn	**Pn**	**04 56 37.8**	**+1.1**
KHMZ	**Khomeyn**	**3.47**	**231**	*e*Pn	**Pn**	**04 56 41.6**	**+0.8**
HAGD	**Aghdareh**	**3.51**	**252**	*e*Pn	**Pn**	**04 56 43.3**	**+1.9**
SBZV	**Sabzevar**	**3.59**	**82**	*e*Pn	**Pn**	**04 56 44.0**	**+1.5**
CSN1	**Caspian**	**3.67**	**297**	*e*Pn	**Pn**	**04 56 45.0**	**+1.7**
IGAR	**Gharneh**	**3.67**	**196**	*e*Pn	**Pn**	**04 56 45.0**	**+1.4**
IGAR				*e*		04 56 59.9	
	comp=Z,4μm,0.4s						
ZNJK	**Zanjan**	**3.72**	**282**	*e*Pn	**Pn**	**04 56 48.3**	**+4.0**
YZKH	**Yazd**	**3.74**	**162**	*e*Pn	**Pn**	**04 56 45.5**	**+1.1**
IPIR	**Pirpir**	**3.78**	**211**	*e*Pn	**Pn**	**04 56 47.3**	**+2.1**
IPIR				*e*		04 57 00.1	
	comp=Z,4μm,0.4s						
BJRD	**Bojnurd**	**3.79**	**61**	*e*Pn	**Pn**	**04 56 47.9**	**+2.7**
ICHK	**Chekchek**	**3.83**	**165**	*e*Pn	**Pn**	**04 56 46.9**	**+1.1**
TABS	**Tabas**	**3.96**	**124**	*e*Pn	**Pn**	**04 56 48.3**	**+0.9**
TKDS	**Koohdasht(Taba**	**3.98**	**125**	*e*Pn	**Pn**	**04 56 48.8**	**+1.0**
ISFR	**Sfrayin**	**4.02**	**73**	*e*Pn	**Pn**	**04 56 50.2**	**+1.8**
ISAD	**Sadrabad**	**4.05**	**174**	*e*Pn	**Pn**	**04 56 49.9**	**+1.0**
SHK1	**Shahrekord**	**4.10**	**209**	*e*Pn	**Pn**	**04 56 51.7**	**+2.2**
TPRV	**Parvadeh(Tabas**	**4.10**	**134**	*e*Pn	**Pn**	**04 56 50.1**	**+0.8**
HSAM	**Samen**	**4.16**	**247**	*e*Pn	**Pn**	**04 56 53.0**	**+2.7**
IRAM	**Ramesheh**	**4.19**	**190**	*e*Pn	**Pn**	**04 56 52.0**	**+1.2**
IBRJ	**Brojen**	**4.35**	**202**	*e*Pn	**Pn**	**04 56 54.4**	**+1.4**
GEYT	**Alibeck**	**4.40**	**62**	Pn	**Pn**	**04 56 56.0**	**+2.5**
	comp=Z,2.7nm,0.3s,baz=193,slow=6.1,SNR=13						
GEYT				Lg	Lg	04 58 09.9	
	baz=286,slow=42,SNR=1.1						
GEYT	**Alibeck**	**4.40**	**62**	Pn	**Pn**	**04 56 51.5**	**-1.9**
GYA0B	**ALIBECK ARRAY**	**4.40**	**62**	Pn	**Pn**	**04 56 51.8**	**-1.7**
IAKL	**Akhelmad**	**4.53**	**80**	*e*Pn	**Pn**	**04 56 57.1**	**+1.6**
IBZA	**Bozab**	**4.62**	**253**	*e*Pn	**Pn**	**04 56 59.5**	**+2.8**
IDOB	**Doab**	**4.66**	**244**	*e*Pn	**Pn**	**04 56 58.0**	**+0.8**
IMEH	**Mehriz**	**4.70**	**165**	*e*Pn	**Pn**	**04 56 58.5**	**+0.7**
IMEH				*e*		04 58 31.0	
	comp=Z,4μm,0.8s						
ISRB	**Sarab**	**4.81**	**294**	*e*Pn	**Pn**	**04 57 02.3**	**+3.0**
IKFM	**Kafar-mosalman**	**5.03**	**243**	*e*Pn	**Pn**	**04 57 04.3**	**+2.2**
GRMI	**Germi**	**5.10**	**306**	*e*Pn	**Pn**	**04 57 04.4**	**+1.3**
KLNJ	**Kolanjah**	**5.12**	**196**	*e*Pn	**Pn**	**04 57 06.0**	**+2.4**
IKRD	**Kardeh**	**5.16**	**79**	*e*Pn	**Pn**	**04 57 05.8**	**+1.8**
IBST	**Bostanabad**	**5.35**	**291**	*e*Pn	**Pn**	**04 57 09.2**	**+2.5**
AMIS	**Naft Sefid**	**5.38**	**218**	*e*Pn	**Pn**	**04 57 09.1**	**+2.2**
AFRZ	**Afriz**	**5.41**	**116**	*e*Pn	**Pn**	**04 57 08.5**	**+1.1**
ITEG	**Tejag**	**5.50**	**122**	*e*Pn	**Pn**	**04 57 10.0**	**+1.2**
IMYA	**Miami**	**5.59**	**84**	*e*Pn	**Pn**	**04 57 10.3**	**+0.3**
IDHR	**Dehrash**	**5.71**	**259**	*e*Pn	**Pn**	**04 57 14.4**	**+2.8**
TBJM	**Torbat-e-JAM**	**5.84**	**95**	*e*Pn	**Pn**	**04 57 15.0**	**+1.6**
IKOO	**Kooshah**	**5.96**	**125**	*e*Pn	**Pn**	**04 57 16.1**	**+1.0**
IMON	**Monand**	**6.00**	**115**	*e*Pn	**Pn**	**04 57 17.4**	**+1.8**
KHGB	**Koh Gabri**	**6.20**	**153**	*e*Pn	**Pn**	**04 57 19.7**	**+1.3**
SHRT	**Shahrakht**	**6.27**	**110**	*e*Pn	**Pn**	**04 57 20.2**	**+1.1**
BSRN	**Basiran**	**6.33**	**127**	*e*Pn	**Pn**	**04 57 21.1**	**+1.1**
IDAH	**Dahanechah**	**6.38**	**118**	*e*Pn	**Pn**	**04 57 22.0**	**+1.2**
IMRD	**Marand**	**6.58**	**297**	*e*Pn	**Pn**	**04 57 25.8**	**+2.3**
KRBR	**Kerman**	**6.66**	**152**	*e*Pn	**Pn**	**04 57 26.0**	**+1.2**
AHBU	**AHRAM**	**7.25**	**193**	*e*Pn	**Pn**	**04 57 33.2**	**+0.6**
NHDN	**Nehbandan**	**7.30**	**127**	*e*Pn	**Pn**	**04 57 34.0**	**+0.7**
MAKU	**Maku**	**7.56**	**299**	*e*Pn	**Pn**	**04 57 39.4**	**+2.4**
GHIR	**Ghir-Karzin**	**7.65**	**181**	*e*Pn	**Pn**	**04 57 40.0**	**+1.8**
GNI	**Garni**	**7.88**	**305**	Pn	**Pn**	**04 57 45.8**	**+4.5**
	comp=Z,4.6nm,0.3s,baz=358,slow=0.9,SNR=16						
GNI	**Garni**	**7.88**	**305**	Pn	**Pn**	**04 57 41.4**	**+0.1**
ONI	**Oni**	**10.05**	**314**		**Pn**	**04 58 11.7**	**+0.7**
KBZ	**Khabaz**	**11.09**	**318**	Pn	**Pn**	**04 58 28.6**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=259,slow=5.5,SNR=5.9						
KBZ				Sn	**Sn**	**05 00 26.1**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=119,slow=14,SNR=2.5						
KVAR	**Kislovodsk Arr**	**11.34**	**318**	Sn	**Sn**	**05 00 32.5**	**-2.9**
	baz=206,slow=13,SNR=2.7						
ABKAR	**Akbulak array**	**14.18**	**18**	Pn	**Pn**	**04 59 05.9**	**-1.4**
AKTO	**Aktyubinsk**	**14.89**	**12**	Pn	**Pn**	**04 59 15.1**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=190,slow=16,SNR=13						
AKTO				Sn	Sn	05 01 52.1	-10
	comp=Z,0.6nm,0.3s,baz=82,slow=20,SNR=8.5						
KKAR	**Karatay Array**	**15.13**	**57**	Pn	**Pn**	**04 59 19.0**	**-1.3**
BRTR	**Keskin Array B**	**15.90**	**290**	Pn	**P**	**04 59 34.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=115,slow=14,SNR=7.6						
BRTR	**Keskin Array B**	**15.90**	**290**		**Pn**	**04 59 29.9**	**-0.7**
AAK	**Ala-Archa**	**17.75**	**61**	P	**P**	**04 59 55.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=195,slow=7.6,SNR=5.3						
AAK	**Ala-Archa**	**17.75**	**61**	P	**Pn**	**04 59 53.5**	**-0.4**
KSH	**Kashi**	**18.35**	**72**	P	**Pn**	**04 59 58.0**	**-3.2**
KSH				pP	P	05 00 03.3	+2.1
KSH				sP	sP	05 00 08.5	+1.6
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARU	**Arti**	**20.80**	**8**	P	**P**	**05 00 28.2**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=212,slow=7.9,SNR=6.6						
ARU	**Arti**	**20.80**	**8**		**P**	**05 00 27.0**	**-0.7**
ARU				IAmb	IAmb	05 00 38.3	
	comp=Z,9.6nm,0.8s						
BRVK	**Borovoye**	**20.90**	**30**	P	**P**	**05 00 27.4**	**-1.5**
BVAR	**Borovoye Array**	**20.92**	**30**	P	**P**	**05 00 30.2**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=185,slow=7.4,SNR=16						
AKASG	**Malin Array Be**	**22.70**	**318**	P	**P**	**05 00 48.4**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=118,slow=12,SNR=7.0						
KURBB	**Kurchatov Arra**	**23.40**	**43**	P	**P**	**05 00 57.5**	**+2.2**
	comp=Z,0.8nm,0.9s,baz=247,slow=10,SNR=4.0						
KURK	**Kurchatov**	**23.49**	**43**	P	**P**	**05 00 55.0**	**-1.3**
KURK				IAmb	IAmb	05 01 09.0	
	comp=Z,5.8nm,0.9s						
MK31	**Makanchi Array**	**24.23**	**54**	P	**P**	**05 01 02.8**	**-0.6**
MK31				IAmb	IAmb	05 01 17.6	
	comp=Z,2.4nm,1.1s						
MKAR	**Makanchi Array**	**24.23**	**54**	P	**P**	**05 01 03.8**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=248,slow=6.4,SNR=13						
MKAR	**Makanchi Array**	**24.23**	**54**	P	**P**	**05 01 03.9**	**+0.5**
CRVS	**Cervenica-Dubn**	**26.55**	**309**	*e*P	**P**	**05 01 26.3**	**+1.9**
FINES	**FINESS Array B**	**30.72**	**335**	P	**P**	**05 02 02.7**	**+1.4**
	comp=Z,2.9nm,1.1s,baz=137,slow=15,SNR=1.4						
GERES	**GERESS Array B**	**31.52**	**307**	P	**P**	**05 02 08.6**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=105,slow=8.4,SNR=5.5						
GERES	**GERESS Array B**	**31.52**	**307**	P	**P**	**05 02 08.4**	**-0.3**
HFS	**Hagfors**	**34.98**	**326**	P	**P**	**05 02 39.9**	**+1.4**
	comp=Z,5.1nm,1.0s,baz=138,slow=6.7,SNR=2.3						
CMAR	**Chiang Mai Arr**	**43.83**	**101**	P	**P**	**05 03 52.7**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=301,slow=9.3,SNR=1.4						
YKA	**Yellowknife Ar**	**81.40**	**354**	P	**P**	**05 08 03.6**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=6.1,slow=6.1,SNR=5.6						
YKA	**Yellowknife Ar**	**81.40**	**354**	P	**P**	**05 08 03.9**	**+0.8**

*IDC **26** 04:56:10.8±1.2, 35°.55N×3°.92W, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.3/60, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=41.5km s-min=21.8km az=96.0*
*CNRM **26** 04:56:11.4, 35°.55N×3°.69W, h11km, ml3.7*
*SFS **26** 04:56:11.0, 35°.52N×3°.83W, ML2.9, ALBORAN SUR*
*IGIL **26** 04:56:13.5, 35°.53N×3°.83W, h0km, ML2.8*

ISC 26 04:56:10.8±1.2, 35°.58N±0°.03×3°.79W±0°.02, h3km±9km, n34, σ1$85/53, mb3.8/5, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**199**	P	**Pg**	**04 56 18.4**	**-0.3**
PALE				S	**Sg**	04 56 22.8	-0.2
GOG	**Mont Gurugu**	**0.73**	**118**	P	**Pg**	**04 56 25.0**	**+0.1**
GOG				S	**Sg**	04 56 34.4	0.0
AKLM	**AKL**	**1.06**	**183**	P	**Pg**	**04 56 31.0**	**-0.2**
AKLM				S	**Sg**	**04 56 44.1**	**-0.9**
CHAS	**Isla Isabel II**	**1.17**	**109**	*e*P	**Pg**	**04 56 31.5**	**-1.8**
CHAS				*e*S	**Sg**	**04 56 45.4**	**-3.1**
EMAL	**Malaga-Limoner**	**1.29**	**336**	*e*P	**Pn**	**04 56 35.9**	**+0.2**
EMAL				*e*S	**Sg**	**04 56 52.0**	**-0.4**
CEU	**Ceuta**	**1.33**	**284**	*e*P	**Pg**	**04 56 33.5**	**-2.9**
CEU				*e*S	**Sg**	**04 56 49.4**	**-4.2**
CHEFC	**Chefchaouen**	**1.35**	**250**	P	**Pb**	**04 56 39.0**	**+2.1**
CHEFC				S	Sn	04 57 13.4	+18
JBK	**JBK**	**1.59**	**141**	P	**Pn**	**04 56 39.0**	**-1.0**
JBK				S	**Sg**	**04 57 05.1**	**+3.2**
RSA	**Sarsar**	**1.80**	**248**	P	**Pb**	**04 56 44.1**	**-0.4**
RSA				S	**Sg**	**04 57 11.8**	**+3.0**
SICH	**Sidi Chahed**	**1.94**	**221**	P	**Pn**	**04 56 44.9**	**+0.3**
SICH				S	**Sg**	**04 57 12.6**	**-0.4**
LCRM	**LCR**	**2.08**	**205**	P	**Pg**	**04 56 50.0**	**-0.7**
LCRM				S	**Sg**	**04 57 20.6**	**+2.9**
IFR	**Ifrane**	**2.33**	**209**	*e*P	**Pn**	**04 56 49.4**	**-0.8**
IFR				*e*S	**Sn**	**04 57 16.0**	**-3.5**
MD31	**MD31**	**2.82**	**197**	P	**Pn**	**04 56 55.9**	**-0.8**
MD31				S	**Sn**	**04 57 28.9**	**-2.4**
MDT	**Midelt**	**2.84**	**194**	Pn	**Pn**	**04 56 56.4**	**-0.6**
	1.4nm,0.3s,baz=235,slow=13,SNR=42						
MDT				Sn	**Sn**	**04 57 28.2**	**-3.6**
	4.9nm,0.3s,baz=128,slow=16,SNR=3.6						
MDT	**Midelt**	**2.84**	**194**	P	**Pn**	**04 56 57.1**	**0.0**
TDRA	**Tendrara**	**2.92**	**150**	P	**Pn**	**04 56 58.8**	**+0.5**
CART	**Cartagena**	**3.01**	**47**	P	**Pn**	**04 56 58.7**	**-0.6**
CART				S	**Sn**	**04 57 32.6**	**-3.2**
PVAQ	**Vaqueiros**	**3.66**	**301**	P	**Pn**	**04 57 09.2**	**+1.0**
PVAQ				S	**Sn**	**04 57 51.1**	**-0.7**
AVE	**Averroes**	**3.76**	**234**	P	**Pn**	**04 57 09.7**	**0.0**
FIGM	**Figuig**	**4.02**	**148**	P	**Pn**	**04 57 14.4**	**+1.0**
ESDC	**Sonseca Array**	**4.09**	**358**	Pn	**Pn**	**04 57 17.0**	**+2.7**
	1.0nm,0.3s,baz=179,slow=13,SNR=35						
ESDC				Sn	**Sn**	**04 58 02.9**	**+0.1**
	0.6nm,0.3s,baz=171,slow=12,SNR=5.0						
MESJ	**Messejana**	**4.22**	**304**	*e*P	**Pn**	**04 57 17.1**	**+1.1**
MESJ				*e*S	**Sn**	**04 58 03.7**	**-2.0**
MESJ				IAML		04 58 09.9	
	comp=N,16nm,0.3s						
MORF	**Marmelete**	**4.29**	**295**	*e*P	**Pn**	**04 57 17.9**	**+0.9**
MORF				*e*S	**Sn**	**04 58 04.9**	**-2.5**
MORF				IAML		04 58 09.5	
	comp=N,24nm,0.3s						
PFVI	**Vila Bisbo**	**4.36**	**292**	P	**Pn**	**04 57 19.0**	**+1.2**
PESTR	**Estremoz**	**4.47**	**318**	P	**Pn**	**04 57 22.8**	**+3.3**
UCM	**Universidad Co**	**4.74**	**5**	*e*P	**Pn**	**04 57 25.9**	**+2.8**
UCM				*e*S	**Sn**	**04 58 17.3**	**-1.4**
TZRR	**Tazzarine**	**5.01**	**198**	P	**Pn**	**04 57 26.8**	**-0.1**
OUZM	**OUZ**	**5.28**	**209**	P	**Pn**	**04 57 30.8**	**+0.1**
OUK	**Oukaimeden**	**5.53**	**219**	P	**Pn**	**04 57 33.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**22.87**	**166**	P	**P**	**05 01 16.8**	**+1.4**
	comp=N,0.3nm,0.5s,baz=352,slow=9.3,SNR=1.8						
KURBB	**Kurchatov Arra**	**58.94**	**47**	P	**P**	**05 06 11.9**	**+0.8**
	comp=N,2.0nm,0.8s,baz=292,slow=7.7,SNR=7.8						
ZALV	**Zalesovo Beam**	**61.38**	**42**	P	**P**	**05 06 28.9**	**+1.1**
	comp=N,0.3nm,0.3s,baz=293,slow=12,SNR=1.5						
MKAR	**Makanchi Array**	**62.67**	**50**	P	**P**	**05 06 37.9**	**+1.3**
	comp=N,0.5nm,0.8s,baz=297,slow=6.3,SNR=2.8						
YKA	**Yellowknife Ar**	**67.76**	**332**	P	**P**	**05 07 09.4**	**0.0**
	comp=N,0.3nm,0.6s,baz=59,slow=6.7,SNR=5.2						

*AZER **26** 05:00:10.6±2.4, 36°.12N×53°.16E, h15km, Error ellipse: s-maj=33.9km s-min=16.6km az=56.0, Hypocentre not reviewed by the ISC*

TEH 26 05:00:06.7, 35°.92N×53°.20E, h9km, ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHM	**Shahmirzad**	**0.14**	**145**	*e*Pg	**Pg**	**05 00 10.7**	**+0.8**
ISHM				*e*Sg	Sg	05 00 13.1	+1.0
ILAS	**Lasjerd**	**0.57**	**200**	*e*Pg	Pb	05 00 18.6	-0.4
ILAS				*e*Sg	Sg	05 00 26.0	+0.8
IANJ	**Anjilo**	**0.74**	**127**	*e*Pg	Pg	05 00 20.7	-0.2
IPRN	**Peran**	**0.77**	**295**	*e*Pg	Pg	05 00 21.8	+0.3
IPRN				*e*		05 00 23.4	
	comp=Z,23μm,0.6s						
IPRN				*e*Sg	Sg	05 00 31.9	+0.4
IGLO	**Ghaloghah**	**0.78**	**41**	*e*Pg	Pg	05 00 21.6	-0.1
IGLO				*e*Sg	Sb	05 00 33.9	+0.6
IGLO				*e*		05 00 39.8	
	comp=Z,38μm,0.5s						
DAMV	**Damavand**	**1.04**	**254**	*e*Pg	Pg	05 00 26.6	-0.1
TEHA	**Amirabad Tehra**	**1.48**	**264**	*e*Pn	Pb	05 00 34.4	-0.1
TEHA				*e*		05 01 04.8	
	comp=Z,10μm,0.5s						
TEH	**Tehran**	**1.49**	**264**	*e*Pn	Pb	05 00 34.7	+0.1
TEH				*e*		05 01 01.0	
	comp=Z,8μm,0.4s						
IVRN	**Varamin**	**1.51**	**233**	*e*Pn	Pb	05 00 35.1	+0.1
IVRN				*e*		05 01 01.6	
	comp=Z,12μm,0.4s						
IHSB	**Hasanabad**	**1.64**	**254**	*e*Pn	Pb	05 00 37.6	+0.5
IHSB				*e*		05 01 05.4	
	comp=Z,4μm,0.5s						
CHTH	**Charan**	**1.68**	**270**	*e*Pg	Pb	05 00 37.7	-0.3
ISFB	**Sefidab**	**1.75**	**207**	*e*Pn	Pb	05 00 38.3	-0.7
ISFB				*e*		05 01 04.8	
	comp=Z,4μm,0.3s						
THKV	**Tehran--Karaj**	**1.88**	**271**	*e*Pn	Pn	05 00 40.0	+0.7
IQOM	**Qom**	**2.04**	**239**	*e*Pn	Pb	05 00 43.5	-0.7
IQOM				*e*		05 01 14.5	
	comp=Z,8μm,0.4s						
IMHD	**Mahdasht**	**2.07**	**264**	*e*Pn	Pb	05 00 44.6	+0.1
IMHD				*e*		05 01 18.1	
	comp=Z,

comp=N,48µm,0.7s
SKR smax smax
SKR Severo-Kuril's 1.03 245 *e*P **Pn 05 05 36.4 -0.6**
SKR *e*S **Sn 05 05 50.2 -1.0**
MTVR Mutnovka 1.41 15 PN **Pn 05 05 42.7 +0.7**
MTVR Mutnovka 1.41 15 *e*P **Pn 05 05 42.7 +0.7**
RUS Russkaya 1.43 23 PN **Pn 05 05 42.1 0.0**
RUS Russkaya 1.43 23 *e*P **Pn 05 05 42.1 0.0**
GRL Gorelyy 1.46 12 PN **Pn 05 05 43.7 +1.1**
GRL S **Sn 05 06 02.8 +1.6**
GRL Gorelyy 1.46 12 *e*P **Pn 05 05 43.7 +1.1**
GRL *e*S **Sn 05 06 02.8 +1.6**
KRMR Karymshinskiy 1.74 11 PN **Pn 05 05 47.5 +1.3**
KRMR S **Sn 05 06 09.4 +1.8**
KRMR Karymshinskiy 1.74 11 *e*P **Pn 05 05 47.5 +1.3**
KRMR *e*S **Sn 05 06 09.4 +1.8**
APC Apacha 1.82 352 PN **Pn 05 05 48.5 +1.2**
APC S **Sn 05 06 10.7 +1.2**
APC Apacha 1.82 352 *e*P **Pn 05 05 48.5 +1.2**
APC *e*S **Sn 05 06 10.7 +1.2**
PEA0B Petropavlovsk- 1.98 2 *ce*PN **Pn 05 05 50.7 +1.2**
PEA0B Petropavlovsk- 1.98 2 Pn **Pn 05 05 50.7 +1.2**
PETK Petropavlovsk- 1.98 2 P **Pn 05 05 48.5 -1.0**
comp=E,66nm,0.3s,baz=110,slow=26,SNR=354
PETK S **Sn 05 06 18.8 +5.3**
comp=E,122nm,0.3s,baz=146,slow=16,SNR=9.0
PETK Petropavlovsk- 1.98 2 PN **Pn 05 05 49.9 +0.4**
PETK Petropavlovsk- 1.98 2 Pn **Pn 05 05 49.9 +0.4**
PET Petropavlovsk 2.01 19 *ce*PN **Pn 05 05 50.5 +0.7**
PET pmax pmax
comp=Z,404nm,0.7s
PET Petropavlovsk 2.01 19 **Pn 05 05 50.2 +0.4**
PET Petropavlovsk 2.01 19 *e*P **Pn 05 05 50.7 +0.9**
PET *e*S **Sn 05 06 15.4 +1.4**
DALK Dalny 2.04 20 PN **Pn 05 05 51.1 +0.9**
DALK S **Sn 05 06 15.6 +0.9**
DALK Dalny 2.04 20 *e*P **Pn 05 05 51.1 +0.9**
DALK *e*S **Sn 05 06 15.6 +0.9**
UGLR Uglovaya 2.22 20 PN **Pn 05 05 54.3 +1.6**
UGLR Uglovaya 2.22 20 *e*P **Pn 05 05 54.3 +1.6**
AVH Avacha 2.25 18 PN **Pn 05 05 55.3 +2.1**
AVH Avacha 2.25 18 *e*P **Pn 05 05 55.3 +2.1**
KOK Koryaka 2.26 16 PN **Pn 05 05 55.6 +2.3**
KOK Koryaka 2.26 16 *e*P **Pn 05 05 55.6 +2.3**
SMAR Somma 2.27 19 PN **Pn 05 05 55.0 +1.5**
SMAR Somma 2.27 19 *e*P **Pn 05 05 55.0 +1.5**
KRER Koryakskii 2.29 18 PN **Pn 05 05 55.7 +1.9**
KRER Koryakskii 2.29 18 *e*P **Pn 05 05 55.7 +1.9**
SDLR Sedlovina 2.30 20 PN **Pn 05 05 54.8 +1.0**
SDLR Sedlovina 2.30 20 *e*P **Pn 05 05 54.8 +1.0**
NLC Nalytchevo 2.32 27 PN **Pn 05 05 53.5 -0.4**
NLC S **Sn 05 06 20.2 -1.2**
NLC Nalytchevo 2.32 27 *e*P **Pn 05 05 53.5 -0.4**
NLC *e*S **Sn 05 06 20.2 -1.2**
GNL Ganaly 2.58 5 PN **Pn 05 05 59.6 +2.0**
GNL Ganaly 2.58 5 *e*P **Pn 05 05 59.6 +2.0**
KII Karymskiy 3.13 21 PN **Pn 05 06 07.4 +2.4**
KII Karymskiy 3.13 21 *e*P **Pn 05 06 07.4 +2.4**
MKZ Mys Kozlova 4.25 35 PN **Pn 05 06 20.7 +0.5**
MKZ Mys Kozlova 4.25 35 *e*P **Pn 05 06 20.7 +0.5**
TUMD Tumrok D 4.42 21 *e*P **Pn 05 06 24.5 +2.0**
TUMR Tumrok 4.44 19 PN **Pn 05 06 25.8 +2.9**
TUMR Tumrok 4.44 19 *e*P **Pn 05 06 25.8 +2.9**
ESO Esso 4.85 7 PN Pn 05 06 33.4 +5.0
ESO Esso 4.85 7 *e*P Pn 05 06 33.4 +5.0
KMNR Kamenistaya 4.90 18 PN **Pn 05 06 32.9 +3.8**
KMNR Kamenistaya 4.90 18 *e*P **Pn 05 06 32.9 +3.8**
KPT Kopyto 5.10 17 PN **Pn 05 06 35.6 +3.8**
KPT Kopyto 5.10 17 *e*P **Pn 05 06 35.6 +3.8**
KIRR Kirishev 5.11 18 PN **Pn 05 06 35.4 +3.4**
KIRR Kirishev 5.11 18 *e*P **Pn 05 06 35.4 +3.4**
BZWR Bezymyannyi-We 5.15 19 PN **Pn 05 06 36.7 +4.1**
BZWR Bezymyannyi-We 5.15 19 *e*P **Pn 05 06 36.7 +4.1**
ZLN Zelenaya 5.26 20 PN **Pn 05 06 38.3 +4.3**
ZLN Zelenaya 5.26 20 *e*P **Pn 05 06 38.3 +4.3**
KLY Klyuchi 5.50 18 PN **Pn 05 06 41.8 +4.5**
KLY Klyuchi 5.50 18 *e*P **Pn 05 06 41.8 +4.5**
SMKR Semkarok 5.93 21 PN **Pn 05 06 46.3 +3.2**
SMKR Semkarok 5.93 21 *e*P **Pn 05 06 46.3 +3.2**
SRKR Sorokina 5.93 20 PN **Pn 05 06 45.9 +2.8**
SRKR Sorokina 5.93 20 *e*P **Pn 05 06 45.9 +2.8**
KBTR Krutoberegovo 5.96 29 PN **Pn 05 06 44.7 +1.2**
KBTR Krutoberegovo 5.96 29 *e*P **Pn 05 06 44.7 +1.2**
KBG Krutoberegovo 5.97 29 PN **Pn 05 06 45.0 +1.4**
KBG Krutoberegovo 5.97 29 *e*P **Pn 05 06 45.0 +1.4**
BKI Bering 6.49 48 PN **Pn 05 06 50.6 0.0**
BKI Bering 6.49 48 *e*P **Pn 05 06 50.6 0.0**
PALN Palana 8.10 9 PN **Pn 05 07 16.7 +4.1**
PALN Palana 8.10 9 *e*P **Pn 05 07 16.7 +4.1**
KUR Kuril'sk 8.77 232 *e*PN Pn 05 07 28.0 +6.1
KUR S **Sn 05 09 02.5 +3.5**
KUR pmax pmax
comp=Z,132nm,0.5s
OKH Okha 9.29 291 *de*PN **Pn 05 07 29.3 +0.3**
OKH pmax pmax
comp=Z,300nm,14.4s
OKH MLR MLR
comp=Z,200nm,18.0s
OKH MLR MLR
comp=N,500nm,16.0s
OKH MLR MLR
comp=E,500nm,17.0s
MA2 Magadan 9.31 338 PN **Pn 05 07 30.2 +1.0**
MA2 Magadan 9.31 338 Pn **Pn 05 07 28.8 -0.4**
TYV Tymovskoe 9.42 274 *e*PN **Pn 05 07 34.1 +3.3**
TYV pmax pmax
comp=Z,200nm,2.3s
TYV pmax pmax
comp=Z,16nm,1.3s
UGL Uglegorsk 10.18 264 *e*PN **Pn 05 07 44.8 +3.7**
UGL S **Sn 05 09 34.7 +1.2**
UGL pmax pmax
comp=Z,97nm,1.4s
SHO Shikotan 10.27 229⇑ *i*PN **Pn 05 07 42.7 +0.3**
SHO *e*S **Sn 05 09 36.3 +0.6**
SHO pmax pmax
comp=N,66nm,0.4s
SHO pmax pmax
comp=Z,114nm,0.4s
SHO pmax pmax
comp=E,69nm,0.3s
SHEM Shemya Is, Ala 10.33 75 LR LR 05 11 21.0
comp=E,192nm,22.0s,baz=26,slow=35
SMY Shemya 10.33 75 PN **Pn 05 07 44.0 +1.0**
SMY Shemya 10.33 75 Pn **Pn 05 07 44.0 +1.0**
TILK Tilichiki 10.50 24 PN **Pn 05 07 46.8 +1.5**
TILK Tilichiki 10.50 24 *e*P **Pn 05 07 46.8 +1.5**
YSS Yuzh-Sakhalins 10.59 253 *e*PN **Pn 05 07 49.4 +2.7**
YSS *e*S **Sn 05 09 46.5 +3.0**
YSS pmax pmax
comp=Z,40nm,0.7s
YUK Yuzh-Kuril'sk 10.62 233⇑ *i*PN **Pn 05 07 49.1 +1.9**
YUK pmax pmax
comp=Z,990nm,0.4s
YUK pmax pmax
comp=N,48nm,0.2s
YUK pmax pmax
comp=E,132nm,0.2s
GRPR Tuman 10.70 233 *e*PN **Pn 05 07 49.0 +0.8**
GRPR *e*S **Sn 05 09 46.8 +0.6**
GRPR pmax pmax
comp=N,125nm,0.4s
GRPR pmax pmax
comp=E,166nm,0.4s
GRPR pmax pmax
comp=Z,569nm,0.4s
RUSJ Misakicho 10.89 235 *e*PN **Pn 05 07 53.6 +2.8**
RUSJ S **Sn 05 09 53.7 +3.0**
GLVR Golovnino 11.01 233⇓ *i*PN **Pn 05 07 54.1 +1.7**
GLVR *e*S **Sn 05 09 55.3 +1.6**
NMR Nemuro--Hokkai 11.18 231 *e*PN **Pn 05 07 54.5 -0.2**
SEY Seymchan 12.16 349 P **Pn 05 08 06.6 -1.4**
comp=Z,0.2nm,0.3s,baz=147,slow=12,SNR=11
SEY LR LR 05 13 24.8
comp=Z,250nm,18.7s,baz=132,slow=41
JKA Kamikawa-asahi 12.29 241 Pn **Pn 05 08 11.6 +1.7**
ASAJ Asahikawa 12.29 241 P **Pn 05 08 11.9 +2.0**
comp=Z,5.7nm,0.3s,baz=75,slow=15,SNR=24
GRNR Gornyy 13.35 277⇓ *i*PN **Pn 05 08 26.3 +2.2**
GRNR pmax pmax
comp=Z,6.0nm,1.1s

ERM Erimo 13.45 233 PN **Pn 05 08 24.7 -0.8**
ERM Erimo 13.45 233 Pn **Pn 05 08 24.6 -0.8**
KLR Kul'dur 16.63 274 *e*P **P 05 09 06.0 -1.5**
comp=Z,0.1nm,0.3s,baz=69,slow=12,SNR=10
KLR LR LR 05 15 12.7
comp=Z,227nm,21.7s,baz=46,slow=36
KLR Kul'dur 16.63 274 *ce*P **P 05 09 05.8 -1.6**
BILL Bilibino 17.49 11 *ce*P **P 05 09 17.7 +1.0**
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,131nm,16.0s
JMM Marumori 17.81 228 P **P 05 09 19.4 -1.0**
JMM IAmb IAmb 05 09 26.1
comp=Z,25nm,0.5s
USA0B Ussuriysk Arra 18.52 258 P **P 05 09 27.2 -1.0**
USA0B pmax pmax
comp=Z,14nm,0.9s
USA0B Ussuriysk Arra 18.52 258 P **P 05 09 27.2 -1.0**
USRK Ussuriysk Ar. 18.52 258 P **P 05 09 26.7 -1.6**
baz=57,slow=8.0,SNR=14
USRK LR LR 05 16 09.3
comp=Z,269nm,19.3s,baz=25,slow=35
USRK Ussuriysk Ar. 18.52 258 P **P 05 09 27.2 -1.0**
USRK Ussuriysk Ar. 18.52 258 P **P 05 09 27.2 -1.0**
ZEA Zeya 18.61 290 *eP* **Pn 05 09 29.7 -0.5**
ZEA *e* 05 12 40.4
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.6s
YAK Yakutsk 18.68 316 P **P 05 09 29.1 -0.7**
comp=Z,0.9nm,0.3s,baz=51,slow=0.4,SNR=13
YAK LR LR 05 16 12.1
comp=Z,501nm,20.7s,baz=72,slow=36
YAK Yakutsk 18.68 316 *eP* **Pn 05 09 29.6 -1.4**
YAK *e*S **Sn 05 12 55.8 -3.4**
YAK pmax pmax
comp=Z,35nm,0.6s
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=E,8.0nm,0.6s
YAK smax smax
comp=N,64nm,1.9s
YAK smax smax
comp=E,38nm,1.9s
JSD Sado 18.92 234 P **Pn 05 09 34.4 +0.4**
MDJ Mudanjiang 19.80 262 P **P 05 09 41.0 -1.2**
MDJ pP pP 05 09 55.0 -2.3
MDJ sP sP 05 10 03.8 -2.8
MDJ pmax pmax
comp=E,25nm,0.8s
MDJ pmax pmax
comp=E,280nm,5.5s
MDJ LR LR
comp=E,560nm,21.4s
MDJ Mudanjiang 19.80 262 P **P 05 09 41.7 -0.4**
MJB9 Matsu-Tunnel 20.11 231 P Pn 05 09 47.4 -0.7
MJB9 IAmb IAmb 05 09 51.2
comp=Z,22nm,0.5s
MAJO Matsushiro 20.11 231 P **P 05 09 46.8 +1.2**
MAJO pmax pmax
comp=Z,22nm,0.5s
MAJO Matsushiro 20.11 231 P **P 05 09 46.8 +1.2**
MAJO IAmb IAmb 05 09 51.2
comp=Z,22nm,0.5s
MAT Matsushiro 20.11 231 P **P 05 09 46.4 +0.8**
MJAR Matsushiro Arr 20.11 231 P Pn 05 09 48.1 +0.1
comp=Z,14nm,0.5s,baz=37,slow=7.6,SNR=20
MJAR Matsushiro Arr 20.11 231 P **P 05 09 46.2 +0.6**
MJAR pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 20.11 231 P **P 05 09 46.2 +0.6**
NIKH Nikolski High 20.62 72 P **P 05 09 52.4 +1.5**
baz=279
TNA Tin City 22.75 38 P **P 05 10 13.6 0.0**
TNA Tin City 22.75 38 P **P 05 10 13.6 0.0**
baz=248,SNR=6.2
ANM Nome 23.43 41 P **P 05 10 20.5 +0.3**
ANM pmax pmax
comp=Z,20nm,1.1s
ANM Nome 23.43 41 P **P 05 10 20.5 +0.3**
ANM Nome 23.43 41 P **P 05 10 20.9 +0.7**
baz=253
HIA Hailar 24.13 280 *i* P **P 05 10 25.3 -1.3**
HIA pmax pmax
comp=Z,23nm,0.7s
HIA Hailar 24.13 280 P **P 05 10 25.2 -1.5**
HIA IAmb IAmb 05 10 27.5
comp=Z,24nm,0.6s
HIA pP **pP 05 10 43.6 -0.2**
TIXI Tiksi 24.28 338 P **P 05 10 26.5 -1.3**
comp=Z,9.2nm,0.7s,baz=130,slow=8.6,SNR=18
TIXI LR LR 05 21 26.3
comp=Z,269nm,18.3s,baz=3.0,slow=40
TIXI Tiksi 24.28 338 *ce*P **P 05 10 26.7 -1.1**
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 24.28 338 P **P 05 10 26.2 -1.6**
TIXI IAmb IAmb 05 10 47.3
comp=Z,38nm,0.9s
KSRS Korea Array 25.05 248 P **P 05 10 36.8 +1.7**
comp=Z,7.3nm,0.7s,baz=45,slow=9.7,SNR=19
KSRS LR LR 05 18 46.8
comp=Z,152nm,20.9s,baz=45,slow=32
KSAR Wonju Array Be 25.08 249 P **P 05 10 34.8 -0.6**
KSAR Wonju Array Be 25.08 249 P **P 05 10 34.8 -0.6**
BOD Bodaibo 25.81 302 *eP* **P 05 10 41.2 -0.6**
BOD *e* 05 10 59.8
JNU Nakatsue 26.53 238 P **P 05 10 50.5 +1.9**
comp=Z,20nm,0.7s,baz=14,slow=2.8,SNR=11
JNU Nakatsue 26.53 238 P **P 05 10 47.8 -0.8**
JNU IAmb IAmb 05 10 51.8
comp=Z,38nm,1.0s
TTA Tatalina 27.22 46 P **P 05 10 54.9 +0.4**
TTA pmax pmax
comp=Z,10.0nm,1.0s
TTA Tatalina 27.22 46 P **P 05 10 54.9 +0.4**
TTA Tatalina 27.22 46 P **P 05 10 55.2 +0.6**
baz=266
O18K Koktuh Hills 27.58 53 P **P 05 10 58.6 +0.9**
baz=273
P18K Big Mountain, 27.59 54 P **P 05 10 58.2 +0.3**
baz=274
L19K White Mountain 27.72 48 P **P 05 11 00.7 +1.7**
L19K White Mountain 27.72 48 P **P 05 10 59.2 +0.3**
baz=269
CHIR Chirikof Islan 27.81 62 P **P 05 11 00.0 +0.3**
baz=280
N19K Bonanza Creek 27.90 51 P **P 05 11 00.7 +0.1**
baz=272
K20K Telida 28.12 46 P **P 05 11 04.2 +1.6**
K20K Telida 28.12 46 P **P 05 11 02.9 +0.3**
baz=267
J20K Nowinta River 28.14 44 P **P 05 11 03.2 +0.5**
J20K Nowinta River 28.14 44 P **P 05 11 03.3 +0.7**
baz=266
L20K Farewell, AK 28.18 47 P **P 05 11 03.9 +0.8**
baz=269
Q19K Cape Douglas, 28.44 55 P **P 05 11 06.4 +1.0**
baz=276
IMAR Indian Mountai 28.50 40 P **P 05 11 06.4 +0.6**
XLT XiLinHaoTe 28.64 272 *eP* **P 05 11 08.0 +0.6**
XLT S **S 05 15 55.5 +4.9**
XLT pmax pmax
comp=Z,15nm,0.7s
XLT LR LR
comp=Z,390nm,15.6s
XLT LR LR
comp=Z,380nm,15.7s
XLT LR LR
comp=Z,500nm,14.7s
A21K Barrow 28.76 29 P **P 05 11 09.2 +1.1**
A21K Barrow 28.76 29 P **P 05 11 07.7 -0.3**
baz=250
H21K Melozitna Rive 28.85 41 P **P 05 11 09.8 +0.8**
baz=264
CHUM Lake Minchumin 28.93 45 P **P 05 11 10.6 +0.9**
baz=268
PPLA Purkeypile 28.97 47 P **P 05 11 11.7 +1.5**
PPLA IAmb IAmb 05 11 34.4
comp=Z,21nm,1.3s
SPCR Spurr Chakacha 28.99 50 P **P 05 11 11.4 +1.1**

baz=273
CAST Castle Rocks 29.02 46 pP 05 11 27.8 -0.1
CAST Castle Rocks 29.02 46 P **P 05 11 11.4 +0.9**
baz=269
I21K Tanana 29.15 42 P **P 05 11 12.4 +0.9**
baz=266
CAPN Captain Cook N 29.53 51 P **P 05 11 15.9 +0.9**
baz=275
KTH Kantishna Hill 29.55 45 P **P 05 11 15.9 +0.7**
KTH IAmb IAmb 05 11 35.1
comp=Z,29nm,1.5s
MLY Manley 29.66 42 P **P 05 11 17.1 +0.9**
baz=267
TRF Thorofare Moun 29.83 45 P **P 05 11 18.4 +0.6**
baz=271
CUT Chulitna 29.86 48 P **P 05 11 18.1 +0.3**
baz=272
COLD Coldfoot 30.06 38 P **P 05 11 19.7 +0.2**
COLD Coldfoot 30.06 38 P **P 05 11 20.2 +0.6**
baz=264,SNR=10
I23K Minto, Yukon-K 30.25 42 P **P 05 11 21.8 +0.5**
I23K Minto, Yukon-K 30.25 42 P **P 05 11 21.6 +0.3**
baz=268
NEA2 Nenana 30.37 43 P **P 05 11 22.7 +0.3**
baz=270
MCK McKinley 30.43 45 P **P 05 11 23.6 +0.6**
MCK pmax pmax
comp=Z,16nm,1.0s
MCK McKinley 30.43 45 P **P 05 11 23.6 +0.6**
MCK IAmb IAmb 05 11 24.2
comp=Z,16nm,1.0s
MCK McKinley 30.43 45 P **P 05 11 22.9 0.0**
baz=271
TOLK Toolik Lake Re 30.46 35 P **P 05 11 23.5 +0.2**
TOLK Toolik Lake Re 30.46 35 P **P 05 11 23.2 0.0**
baz=262
RND Reindeer 30.48 46 P **P 05 11 23.4 0.0**
RND pmax pmax
comp=Z,24nm,1.1s
RND Reindeer 30.48 46 P **P 05 11 23.4 0.0**
RND IAmb IAmb 05 11 24.2
comp=Z,24nm,1.1s
RND pP **pP 05 11 39.6 -1.2**
GHO Glory Hole Cre 30.53 49 P **P 05 11 24.6 +0.7**
GHO IAmb IAmb 05 11 25.0
comp=Z,36nm,1.4s
KNK Knik Glacier 30.78 49 P **P 05 11 26.6 +0.4**
KNK **pP 05 11 43.0 -0.5**
KNK Knik Glacier 30.78 49 P **P 05 11 26.5 +0.4**
baz=276,SNR=5.3
WRH Wood River Hil 30.79 43 P **P 05 11 26.3 +0.2**
WRH IAmb IAmb 05 11 28.2
comp=Z,16nm,1.0s
WRH **pP 05 11 43.7 +0.1**
SML Sawmill 30.81 49 P **P 05 11 26.8 +0.5**
SML **pP 05 11 42.8 -1.1**
SML Sawmill 30.81 49 P **P 05 11 27.0 +0.7**
baz=275,SNR=6.4
TCOL CIGO, UAF Yank 30.89 43 P **P 05 11 27.2 +0.4**
baz=270
COLA College 30.89 43 *i* P **P 05 11 26.0 -0.9**
COLA pmax pmax
comp=Z,16nm,0.9s
COLA College 30.89 43 P **P 05 11 26.7 -0.2**
COLA IAmb IAmb 05 11 28.9
comp=Z,18nm,0.8s
COLA College 30.89 43 P **P 05 11 27.5 +0.6**
baz=270
H24K Noodor Dome 30.89 41 P **P 05 11 27.8 +0.8**
baz=269
CCB Clear Creek Bu 30.91 43 IAmb IAmb 05 11 28.5
comp=Z,14nm,1.0s
POKR Poker Plat Res 31.07 42 P **P 05 11 29.3 +0.7**
baz=270
SCM Sheep Creek Mo 31.28 49 P **P 05 11 30.9 +0.4**
baz=276
HDA Harding Lake 31.29 44 P **P 05 11 30.4 0.0**
HDA Harding Lake 31.29 44 P **P 05 11 30.8 +0.3**
baz=272
ILAR Eielson Array 31.30 43 P **P 05 11 30.8 +0.2**
comp=Z,7.5nm,0.8s,baz=260,slow=8.2,SNR=63
ILAR pP **pP 05 11 47.0 -1.1**
comp=Z,4.8nm,0.7s,baz=260,slow=7.0,SNR=12
ILAR Eielson Array 31.30 43 P **P 05 11 31.1 +0.5**
PRP Porcupine Dome 31.86 41 P **P 05 11 36.6 +0.9**
baz=271,SNR=7.4
KLU Klutina 31.98 49 P **P 05 11 37.6 +0.9**
baz=278
PAX Paxson 32.03 46 P **P 05 11 37.8 +0.7**
baz=276
H11N2 WAKE ISLAND Hy 32.18 163 T T 05 45 25.9
baz=349,slow=76,SNR=799
H11N3 WAKE ISLAND Hy 32.20 163 T T 05 45 38.2
baz=349,slow=76,SNR=1236
H11N1 WAKE ISLAND Hy 32.20 163 T T 05 45 46.2
baz=349,slow=76,SNR=655
HARP HAARP 32.23 47 P **P 05 11 39.6 +0.7**
baz=277
BMAR Burnt Mountain 32.24 38 P **P 05 11 39.7 +0.8**
ULN Ulaanbaatar 32.46 284 *ceP* **P 05 11 40.2 -0.9**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 32.46 284 P **P 05 11 40.3 -0.8**
N25K Chitina, Valde 32.60 49 P **P 05 11 42.2 +0.1**
baz=278
SCRK Sand Creek 32.61 44 P **P 05 11 41.9 -0.3**
baz=275,SNR=6.6
BMRM Bremner River 32.69 50 P **P 05 11 43.3 +0.5**
baz=279
SONM Songino Array 32.87 285 P **P 05 11 44.3 -0.4**
comp=Z,3.0nm,0.5s,baz=70,slow=7.5,SNR=24
SONM PcP **PcP 05 14 28.0 +0.5**
comp=Z,1.7nm,1.0s,baz=86,slow=1.0,SNR=6.4
SONM ScP **ScP 05 18 05.0 +0.3**
comp=Z,0.3nm,0.5s,baz=202,slow=1.6,SNR=4.3
SONM LR LR 05 24 44.6
comp=Z,417nm,21.0s,baz=3.5,slow=36
SONM Songino Array 32.87 285 P **P 05 11 44.3 -0.4**
HHC Hu-ho-hao-te 33.09 270 *eP* **P 05 11 45.0 -1.6**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,230nm,5.6s
HHC LR LR
comp=Z,330nm,15.2s
HHC LR LR
comp=Z,270nm,16.5s
HHC LR LR
comp=Z,260nm,16.5s
HNS HongShan 33.14 262⇓ P **P 05 11 46.8 -0.1**
HNS pmax pmax
comp=Z,8.0nm,0.7s
VRDI Verde Repeater 33.20 49 P **P 05 11 48.2 +0.7**
VRDI IAmb IAmb 05 12 05.7
comp=Z,19nm,1.4s
M26K Nabesna, AK 33.23 47 P **P 05 11 49.1 +1.6**
M26K IAmb IAmb 05 11 50.5
comp=Z,13nm,0.9s
M26K Nabesna, AK 33.23 47 P **P 05 11 48.4 +0.9**
baz=278
H11S1 WAKE ISLAND Hy 33.34 164 T T 05 46 50.5
baz=349,slow=76,SNR=3954
H11S3 WAKE ISLAND Hy 33.35 164 T T 05 46 51.9
baz=349,slow=76,SNR=4839
H11S2 WAKE ISLAND Hy 33.36 164 T T 05 47 04.3
baz=349,slow=76,SNR=2869
L27K Beaver Creek, 33.67 46 P **P 05 11 52.7 +1.3**
L27K **pP 05 12 08.7 -0.2**
L27K Beaver Creek, 33.67 46 P **P 05 11 52.9 +1.5**
baz=278
BCAR Beaver Creek A 33.69 46 P **P 05 11 52.0 +0.5**
BCAR pP **pP 05 12 08.5 -0.6**
ZAK Zakamensk 33.71 290 *eP* **P 05 11 49.4 -2.5**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
EGAK Eagle 33.75 43 IAmb IAmb 05 11 53.0
comp=Z,11nm,0.8s
EGAK Eagle 33.75 43 P **P 05 11 51.7 -0.3**
baz=276
M27K Edge Creek, AK 33.76 47 IAmb IAmb 05 11 54.8
comp=Z,18nm,1.1s
M27K Edge Creek, AK 33.76 47 P **P 05 11 53.3 +1.1**
baz=279
BARN Barnard Glacie 34.09 49 P **P 05 11 56.9 +1.8**
NJ2 Nanjing 34.16 251 *eP* **P 05 11 55.0 -0.8**
NJ2 pmax pmax

comp=Z,8.0nm,0.5s
YAH Yahtse 34.19 50 P **P 05 11 58.1 +2.1**
BVCY Beaver Creek 34.21 47 P **P 05 11 56.9 +0.8**
baz=280,SNR=5.3
TABL Table Mountain 34.46 50 P **P 05 12 00.3 +1.8**
YUK3 Moose Creek 34.52 48 P **P 05 11 59.4 +0.5**
baz=281
DAWY Dawson 34.60 44 P **P 05 11 60.0 +0.5**
baz=279
I29M Ogilvie Camp, 34.88 41 P **P 05 12 02.5 +0.8**
baz=278
PINM Pinnacle 34.97 51 P **P 05 12 03.5 +0.8**
baz=284
MAYO Mayo, Yukon 36.22 44 P **P 05 12 14.4 +1.2**
baz=282
INK Inuvik 36.37 36 P **P 05 12 15.3 +1.0**
comp=Z,2.3nm,0.5s,baz=267,slow=5.6,SNR=19
INK Inuvik 36.37 36 P **P 05 12 15.0 +0.6**
baz=278
N31M Braeburn, Yuko 36.76 47 P **P 05 12 20.3 +2.5**
N31M IAmb IAmb 05 12 21.4
comp=Z,13nm,0.9s
N31M Braeburn, Yuko 36.76 47 P **P 05 12 19.5 +1.7**
baz=285
M31M Drury Creek, Y 37.21 46 P **P 05 12 23.0 +1.4**
M31M IAmb IAmb 05 12 24.5
comp=Z,12nm,0.9s
M31M Drury Creek, Y 37.21 46 P **P 05 12 22.6 +0.9**
baz=285,SNR=6.4
WHY Whitehorse 37.40 49 IAmb IAmb 05 12 26.3
comp=Z,14nm,0.8s
WHY Whitehorse 37.40 49 P **P 05 12 24.8 +1.4**
baz=287
SKAG Skagway 37.54 51 P **P 05 12 25.6 +1.2**
baz=288
FARO Faro, Yukon 37.67 46 P **P 05 12 27.2 +1.6**
baz=286,SNR=5.7
P33M Teslin, Yukon 38.51 49 P **P 05 12 34.1 +1.4**
baz=289,SNR=6.1
A36M Sachs Harbour 38.60 29 P **P 05 12 34.5 +1.4**
A36M Sachs Harbour 38.60 29 P **P 05 12 33.4 +0.2**
baz=280,SNR=16
C36M Paulatuk 39.54 33 IAmb IAmb 05 12 42.5
comp=Z,24nm,1.3s
C36M Paulatuk 39.54 33 P **P 05 12 41.6 +0.6**
baz=284,SNR=8.8
DLBC Dease Lake 40.48 51 P **P 05 12 51.2 +2.2**
DLBC IAmb IAmb 05 12 52.6
comp=Z,14nm,0.9s
LZH Lanzhou 40.78 270 *e*P **P 05 12 51.8 -0.1**
LZH pmax pmax
comp=Z,21nm,1.2s
LZH LR LR
comp=Z,370nm,14.2s
LZH LR LR
comp=Z,300nm,14.0s
LZH LR LR
comp=Z,440nm,16.9s
GTA Gaotai 41.30 277 ⇑P **P 05 12 55.8 -0.3**
GTA pP pP 05 13 14.3 +0.1
GTA sP sP 05 13 23.0 +0.2
GTA pmax pmax
comp=Z,2.0nm,0.7s
GTA pmax pmax
comp=Z,190nm,8.4s
GTA LR LR
comp=Z,170nm,16.3s
GTA LR LR
comp=Z,230nm,15.9s
GTA LR LR
comp=Z,270nm,16.3s
ZALV Zalesovo Beam 42.55 303 P **P 05 13 04.7 -1.3**
comp=Z,1.7nm,0.5s,baz=58,slow=7.5,SNR=9.9
ZALV pP **pP 05 13 21.3 -2.9**
comp=Z,2.2nm,0.6s,baz=58,slow=6.8,SNR=4.5
ZALV Zalesovo Beam 42.55 303 *i* P **P 05 13 05.4 -0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 42.55 303 P **P 05 13 04.2 -1.8**
DGZ Jazzator, Alta 43.16 297 *i* P **P 05 13 10.4 -0.7**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
EUNU Eureka 44.22 13 P **P 05 13 18.9 -0.3**
YKA Yellowknife Ar 45.66 40 P **P 05 13 31.3 +0.6**
comp=Z,6.4nm,0.8s,baz=298,slow=7.9,SNR=80
YKA PcP **PcP 05 15 08.4 +0.9**
comp=Z,1.9nm,0.9s,baz=306,slow=3.1,SNR=6.4
RES Resolute Bay 45.72 21 P **P 05 13 31.3 +0.3**
RES pmax pmax
comp=Z,4.0nm,1.1s
RES Resolute Bay 45.72 21 P **P 05 13 31.2 +0.3**
ZSN Zaisan 45.79 295 *e*P **P 05 13 29.1 -2.8**
ZSN Zaisan 45.79 295 *e*P **P 05 13 29.2 -2.8**
baz=295
WMQ Urumqi 46.17 290 *e*P **P 05 13 35.5 +0.5**
WMQ pP pP 05 13 53.0 -0.6
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ LR LR
comp=Z,330nm,16.7s
WMQ LR LR
comp=Z,280nm,20.5s
GOMU GeErMu 46.39 277 P **P 05 13 36.3 -0.9**
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU pmax pmax
comp=Z,74nm,5.0s
SEM Semipalatinsk 46.76 301 *e*P **P 05 13 37.1 -2.6**
SEM Semipalatinsk 46.76 301 *e*P **P 05 13 37.1 -2.6**
baz=301
KURK Kurchatov 47.47 302 *ce*P **P 05 13 43.6 -1.3**
KURK pmax pmax
comp=Z,13nm,0.6s
KURK Kurchatov 47.47 302 P **P 05 13 43.2 -1.7**
KURBB Kurchatov Arra 47.56 302 P **P 05 13 44.4 -1.3**
comp=Z,12nm,0.5s,baz=62,slow=7.6,SNR=77
KURBB pP **pP 05 14 01.9 -2.3**
comp=Z,10nm,0.8s,baz=62,slow=7.6,SNR=8.1
KURBB ScP **ScP 05 19 01.2 -0.4**
comp=Z,0.9nm,1.0s,baz=65,slow=3.6,SNR=4.1
MK31 Makanchi Array 47.62 296 P **P 05 13 45.1 -1.1**
MK31 pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 47.62 296 P **P 05 13 45.1 -1.1**
MKAR Makanchi Array 47.62 296 P **P 05 13 44.8 -1.4**
comp=Z,1.6nm,0.4s,baz=52,slow=6.6,SNR=32
MKAR pP **pP 05 14 03.0 -1.8**
comp=Z,4.1nm,0.8s,baz=62,slow=8.4,SNR=6.6
PZH PanZhiHua 48.57 261 P **P 05 13 53.8 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,4.9s
SPITS Spitsbergen Ar 48.81 350 P **P 05 13 55.4 +0.4**
SPITS pmax pmax
comp=Z,80nm,1.3s
KMI Kunming 48.95 259 ⇓P **P 05 13 58.5 +1.6**
KMI pmax pmax
comp=Z,9.0nm,0.5s
D03D Eldon 49.45 61 P **P 05 14 01.3 +1.1**
baz=306
B05A Bryant 49.57 60 P **P 05 14 02.4 +1.3**
baz=306
E04D Cinebar 50.31 62 P **P 05 14 07.8 +1.0**
baz=306
BVAR Borovoye Array 50.40 308 P **P 05 14 05.5 -1.9**
comp=Z,6.4nm,0.5s,baz=55,slow=13,SNR=39
BRVK Borovoye 50.43 309 *ce*P **P 05 14 05.0 -2.6**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 50.43 309 P **P 05 14 05.9 -1.7**
B08A Colville Reser 51.01 58 IAmb IAmb 05 14 14.2
comp=Z,11nm,0.8s
BRZS Berezniki 51.02 304 *e*P **P 05 14 09.3 -2.7**
BRZS Berezniki 51.02 304 *e*P **P 05 14 09.3 -2.7**
baz=304
SLVN Son La 51.04 255 P **P 05 14 13.5 +0.9**
SLVN IAmb IAmb 05 14 14.9
comp=Z,8.5nm,0.8s
EDM Edmonton 51.20 50 P **P 05 14 14.4 +1.0**
EDM pP **pP 05 14 31.5 -0.5**
J01E Myrtle Point 51.59 66 P **P 05 14 16.9 +0.6**
baz=308
I03D Drain, OR 51.59 65 P **P 05 14 16.9 +0.5**
baz=308
H04A Detroit Lake 51.65 64 P **P 05 14 17.9 +1.0**

G05D Wamic, OR 51.80 63 P **P 05 14 18.8 +0.9**
baz=308
K02D Willamette Mer 52.03 67 P **P 05 14 21.1 +1.3**
baz=309
I04A Tendick Farm, 52.07 65 P **P 05 14 21.7 +1.7**
baz=308
F07A Phinny Hill Vi 52.17 61 P **P 05 14 22.1 +1.5**
NEW Newport 52.25 57 P **P 05 14 22.3 +1.1**
baz=308
I05D Terrebonne, OR 52.34 64 P **P 05 14 23.2 +1.2**
baz=308
CHKK Chukhaly 52.37 296 *e*P **P 05 14 19.4 -2.8**
baz=296
L02E Cave Junction 52.40 67 P **P 05 14 24.1 +1.7**
baz=309
HUMO Hull Mountain 52.49 66 IAmb IAmb 05 14 26.6
comp=Z,9.2nm,1.1s
J04D Umpqua Nationa 52.58 65 P **P 05 14 25.3 +1.3**
baz=309
KUU Kurty 52.72 296 *e*P **P 05 14 22.0 -2.8**
KUU Kurty 52.72 296 *e*P **P 05 14 22.0 -2.8**
baz=296
E09A Wood Farm, Sta 52.77 60 P **P 05 14 26.0 +0.9**
E09A IAmb IAmb 05 14 27.1
comp=Z,10nm,0.8s
J05D Fort Rock, OR 53.05 65 P **P 05 14 29.2 +1.8**
baz=309,SNR=10
L04D Klamath Falls 53.11 66 P **P 05 14 29.7 +1.9**
L04D Klamath Falls 53.11 66 P **P 05 14 29.1 +1.3**
baz=309,SNR=6.7
K04D Chiloquin, OR 53.17 65 P **P 05 14 29.2 +0.9**
baz=309
M02C Callahan 53.32 67 P **P 05 14 31.1 +1.8**
baz=310
WALA Waterton Lakes 53.44 55 P **P 05 14 31.0 +0.9**
WALA **pP 05 14 48.8 0.0**
K05A Summer Lake 53.60 65 IAmb IAmb 05 14 35.1
comp=Z,16nm,1.1s
M04C Macdoel 53.66 66 P **P 05 14 33.6 +1.7**
baz=310,SNR=5.7
N02D Trinity Center 53.67 68 P **P 05 14 33.9 +2.1**
baz=310
ARU Arti 53.79 317 *c i* P **P 05 14 30.1 -2.3**
ARU S **S 05 21 58.9 -2.1**
ARU SS **SKiKP 05 25 31.5 -6.6**
ARU pmax pmax
comp=Z,22nm,2.9s
WDC Whiskeytown Da 54.02 68 IAmb IAmb 05 14 37.5
comp=Z,7.6nm,0.8s
JTMT Jette 54.06 56 IAmb IAmb 05 14 37.8
comp=Z,8.8nm,0.9s
BMO Blue Mountains 54.27 61 P **P 05 14 37.4 +1.2**
BMO pmax pmax
comp=Z,3.0nm,0.7s
BMO Blue Mountains 54.27 61 P **P 05 14 37.4 +1.2**
BMO pP **pP 05 14 54.6 -0.3**
AAK Ala-Archa 54.55 296 P **P 05 14 38.6 +0.2**
comp=Z,2.0nm,0.5s,baz=138,slow=6.4,SNR=8.4
AAK Ala-Archa 54.55 296 *ce*P **P 05 14 37.2 -1.2**
AAK pmax pmax
comp=Z,5.0nm,1.3s
AAK Ala-Archa 54.55 296 P **P 05 14 38.0 -0.4**
O03E Paynes Creek 54.63 68 P **P 05 14 40.3 +1.4**
baz=311,SNR=9.2
ARCES ARCESS Array B 54.67 341 P **P 05 14 36.8 -1.8**
comp=Z,4.7nm,1.0s,baz=31,slow=2.6,SNR=8.7
ARCES ARCESS Array B 54.67 341 IAmb IAmb 05 14 46.5
comp=Z,7.9nm,1.1s
MSO Missoula 54.83 57 IAmb IAmb 05 15 00.7
comp=Z,18nm,1.5s
MSO Missoula 54.83 57 P **P 05 14 41.2 +1.0**
baz=310,SNR=6.1
PLID Pearl Lake 54.83 60 IAmb IAmb 05 14 43.1
comp=Z,8.6nm,0.8s
ORV Oroville 55.29 68 IAmb IAmb 05 14 45.8
comp=Z,9.7nm,0.8s
KSH Kashi 55.72 292 P **P 05 14 50.0 +3.2**
KSH pP pP 05 15 07.3 +1.4
KSH PP **PP 05 16 57.0 +5.5**
KSH pmax pmax
comp=Z,5.0nm,1.3s
CHTO Chiang Mai 55.98 257 P **P 05 14 48.3 -0.4**
CHTO pmax pmax
comp=Z,23nm,0.8s
CHTO Chiang Mai 55.98 257 P **P 05 14 48.2 -0.4**
FCC Fort Churchill 55.98 37 P **P 05 14 48.7 +0.5**
FCC IAmb IAmb 05 14 49.5
comp=Z,10.0nm,1.1s
FCC pP **pP 05 15 05.4 -1.6**
SUMG Summit 56.09 6 P **P 05 14 50.2 +1.0**
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 56.09 6 *i* P **P 05 14 48.8 -0.4**
SUMG Summit 56.09 6 P **P 05 14 50.1 +1.0**
SUMG pP **pP 05 15 06.2 -2.0**
EGMT Eagleton 56.23 54 IAmb IAmb 05 14 52.1
comp=Z,10nm,1.1s
EGMT Eagleton 56.23 54 P **P 05 14 50.6 +0.3**
baz=311
CMAR Chiang Mai Arr 56.25 257 P **P 05 14 52.2 +1.6**
comp=Z,11nm,0.7s,baz=28,slow=6.8,SNR=46
CMAR Chiang Mai Arr 56.25 257 P **P 05 14 50.8 +0.2**
CMAR Chiang Mai Arr 56.25 257 P **P 05 14 50.8 +0.2**
PAHR Pah Rah Range 56.42 67 IAmb IAmb 05 14 54.6
comp=Z,9.2nm,1.0s
VCNR Virginia City 56.54 67 IAmb IAmb 05 14 55.7
comp=Z,10nm,0.9s
HLID Hailey 56.69 60 P **P 05 14 54.5 +0.8**
baz=311,SNR=5.4
MCMT McKenzie Canyo 56.70 58 P **P 05 14 53.9 0.0**
MCMT **pP 05 15 12.0 -0.8**
BOZ Bozeman (W) 56.85 57 IAmb IAmb 05 14 57.2
comp=Z,8.7nm,0.8s
BOZ Bozeman (W) 56.85 57 P **P 05 14 55.7 +1.0**
baz=311,SNR=13
CMB Columbia Colle 56.95 69 IAmb IAmb 05 14 58.3
comp=Z,10nm,1.1s
BMN Battle Mountai 57.18 65 IAmb IAmb 05 15 00.2
comp=Z,17nm,1.4s
IUG luzhnay 57.38 298 *e*P **P 05 14 55.9 -2.6**
IUG luzhnay 57.38 298 *e*P **P 05 14 55.1 -3.4**
baz=298
GUN Gumba 57.55 275 *e*P **P 05 15 00.3 +0.2**
comp=Z,45nm,0.5s
KVN Kaiserville 57.60 67 P **P 05 15 01.6 +1.4**
KVN pmax pmax
comp=Z,17nm,1.1s
KVN Kaiserville 57.60 67 P **P 05 15 01.6 +1.4**
KVN **pP 05 15 19.3 +0.2**
RYN Ryan 57.64 67 IAmb IAmb 05 15 03.3
comp=Z,9.6nm,1.0s
YMR Madison River 57.81 57 IAmb IAmb 05 15 04.5
comp=Z,9.9nm,0.9s
ABKAR Akbulak array 57.88 310 IAmb IAmb 05 15 18.2
comp=Z,5.2nm,0.9s
NVAR Mina Array Bea 57.90 67 P **P 05 15 04.2 +1.9**
comp=Z,6.3nm,0.7s,baz=294,slow=7.7,SNR=53
NVAR pP **pP 05 15 22.3 +1.1**
comp=Z,2.3nm,0.7s,baz=296,slow=7.9,SNR=5.6
YNR Norris Junctio 57.94 57 IAmb IAmb 05 15 05.9
comp=Z,6.0nm,0.9s
NV11 Mina Array Sit 57.98 67 IAmb IAmb 05 15 05.5
comp=Z,8.7nm,1.1s
KKN Kakani 58.01 276 *e*P **P 05 15 03.8 +0.6**
comp=Z,65nm,0.6s
PKI Pulchoki 58.08 275 *e*P **P 05 15 04.2 +0.3**
comp=Z,15nm,0.4s
PKIN Phulchoki 58.09 275 *e*P **P 05 15 04.5 +0.7**
comp=Z,22nm,0.5s
ELK Elko 58.10 63 P **P 05 15 05.2 +1.5**
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 58.10 63 P **P 05 15 05.2 +1.5**
YMP Mirror Lake Pl 58.20 57 IAmb IAmb 05 15 25.1
comp=Z,11nm,1.0s
H17A Grant Village 58.20 57 P **P 05 15 06.8 +2.4**
baz=312,SNR=9.9
DMN Daman 58.25 276 *e*P **P 05 15 05.8 +0.9**
comp=Z,54nm,0.6s
BTK Batken 58.33 296 IAmb IAmb 05 15 23.8
comp=Z,5.4nm,0.8s
FLWY Flagg Ranch 58.35 58 IAmb IAmb 05 15 26.1
comp=Z,8.6nm,0.8s
RLMT Red Lodge 58.41 56 P **P 05 15 07.0 +1.2**
baz=313,SNR=15
MOOW Moose Ponds 58.55 58 IAmb IAmb 05 15 27.7

comp=Z,11nm,1.3s
DANN Dangsing 58.57 277 *e*P **P 05 15 07.0 -0.2**
comp=Z,42nm,0.6s
DGMT Dagmar 58.69 50 P **P 05 15 08.2 +0.7**
baz=313,SNR=6.2
LOHW Long Hollow 58.72 58 IAmb IAmb 05 15 11.2
comp=Z,9.5nm,1.1s
SNOW Snow King Moun 58.74 58 IAmb IAmb 05 15 11.6
comp=Z,7.4nm,0.8s
REDW Red Top Meadow 58.75 59 IAmb IAmb 05 15 11.5
comp=Z,13nm,1.1s
TIN Tinemaha, Big 58.87 68 P **P 05 15 10.7 +1.7**
baz=313
LAO LASA Array 58.91 53 P **P 05 15 10.0 +1.0**
LAO pP **pP 05 15 27.5 -0.5**
LAO LASA Array 58.91 53 P **P 05 15 10.4 +1.4**
baz=313,SNR=10
AHID Auburn Hatcher 59.02 59 IAmb IAmb 05 15 30.7
comp=Z,10nm,1.1s
KOLN Koldanda 59.08 277 *e*P **P 05 15 10.4 -0.2**
comp=Z,40nm,0.8s
LCH Last Change Ra 59.09 68 IAmb IAmb 05 15 13.4
comp=Z,8.1nm,1.1s
VES Vestal, Richgr 59.19 70 P **P 05 15 12.3 +1.2**
baz=314
PYUN Piuthan 59.22 278 *e*P **P 05 15 11.8 +0.2**
comp=Z,15nm,0.3s
CWC Cottonwood Cre 59.38 69 P **P 05 15 13.5 +1.0**
baz=314
PKM Mcpherson Peak 59.41 71 P **P 05 15 14.7 +1.8**
baz=314
GRAC Grapevine Rang 59.41 68 P **P 05 15 14.2 +1.6**
baz=313,SNR=7.6
ICESG Greenland Ices 59.42 7 *i* P **P 05 15 11.7 -0.9**
R11A Troy Canyon, C 59.52 66 IAmb IAmb 05 15 16.1
comp=Z,9.4nm,1.2s
R11A Troy Canyon, C 59.52 66 P **P 05 15 15.0 +1.4**
baz=313,SNR=8.8
ISA Isabella, Lake 59.68 70 P **P 05 15 14.0 -0.5**
ISA pmax pmax
comp=Z,5.0nm,0.9s
ISA Isabella, Lake 59.68 70 P **P 05 15 14.0 -0.5**
ISA IAmb IAmb 05 15 16.2
comp=Z,4.8nm,0.9s
ISA Isabella, Lake 59.68 70 P **P 05 15 15.4 +0.9**
baz=314
SBC Santa Barbara 59.78 72 P **P 05 15 16.5 +1.4**
baz=314
SPR3 Spring Creek 3 59.80 64 IAmb IAmb 05 15 18.5
comp=Z,6.2nm,0.8s
DUG Dugway, Tooele 59.83 62 IAmb IAmb 05 15 18.5
comp=Z,7.6nm,1.1s
DUG pP 05 15 35.7 +1.1
DUG Dugway, Tooele 59.83 62 P **P 05 15 16.9 +1.3**
baz=313,SNR=6.0
ARVC Arvin 59.83 70 P **P 05 15 17.0 +1.5**
baz=314
BW06 Boulder Array 59.85 58 P **P 05 15 17.2 +1.4**
BW06 IAmb IAmb 05 15 18.3
comp=Z,9.7nm,0.9s
BW06 pP **pP 05 15 34.6 -0.3**
BW06 Boulder Array 59.85 58 P **P 05 15 17.0 +1.2**
baz=314,SNR=15
PD31 Pinedale Array 59.85 58 IAmb IAmb 05 15 18.3
comp=Z,8.7nm,0.9s
PDAR Pinedale Array 59.85 58 P **P 05 15 17.4 +1.6**
comp=Z,7.2nm,0.8s,baz=316,slow=2.8,SNR=53
PDAR pP **pP 05 15 35.0 +0.1**
comp=Z,6.2nm,0.7s,baz=319,slow=2.9,SNR=16
PDAR Pinedale Array 59.85 58 P **P 05 15 16.8 +1.0**
PDAR pP **pP 05 15 33.9 -1.0**
MPMC Manual Prospec 59.99 69 P **P 05 15 18.1 +1.3**
baz=314,SNR=9.4
FURC Furnace Creek, 60.07 68 P **P 05 15 18.5 +1.5**
baz=314,SNR=15
TPNV Topopah Spring 60.10 67 IAmb IAmb 05 15 20.2
comp=Z,5.8nm,0.9s
TPNV Topopah Spring 60.10 67 P **P 05 15 18.8 +1.3**
baz=314,SNR=10
CHGR Chuyangaron 60.23 296 P **P 05 15 17.5 -0.8**
OSI Osito Audit: C 60.25 71 P **P 05 15 20.1 +1.6**
baz=314
LRMC Laurel Mtn Rad 60.27 69 P **P 05 15 19.9 +1.3**
baz=314
GWY Greenwater Val 60.38 68 P **P 05 15 20.9 +1.5**
NLU North Lily Min 60.41 62 IAmb IAmb 05 15 22.4
comp=Z,5.4nm,0.9s
QSM Queen of Sheba 60.41 68 IAmb IAmb 05 15 22.1
comp=Z,14nm,1.2s
PRN Pahroc Range 60.48 66 IAmb IAmb 05 15 23.0
comp=Z,10nm,1.2s
EDW2 Edwards Air Fo 60.50 70 P **P 05 15 21.5 +1.4**
baz=314,SNR=8.7
DECC Green Verdugo 60.73 71 P **P 05 15 22.8 +1.1**
baz=314
SHOC Shoshone, Teco 60.81 68 P **P 05 15 23.6 +1.5**
baz=314
GSC Goldstone, Bar 60.91 69 IAmb IAmb 05 15 25.3
comp=Z,9.0nm,0.9s
GSC Goldstone, Bar 60.91 69 P **P 05 15 23.9 +1.0**
baz=314,SNR=6.0
SHPR Sheep Range 61.04 67 P **P 05 15 25.0 +1.1**
SHPR IAmb IAmb 05 15 26.8
comp=Z,6.0nm,1.1s
FINES FINESS Array B 61.30 336 P **P 05 15 24.1 -0.9**
comp=Z,1.7nm,0.5s,baz=42,slow=6.9,SNR=16
ULM Lac du Bonnet 61.30 45 P **P 05 15 25.1 -0.2**
comp=Z,3.1nm,0.8s,baz=321,slow=6.2,SNR=3.4
ULM Lac du Bonnet 61.30 45 IAmb IAmb 05 15 43.8
comp=Z,5.6nm,0.8s
NIL Nilore 61.30 289 P **P 05 15 24.6 -1.0**
NIL pmax pmax
comp=Z,20nm,1.3s
NIL Nilore 61.30 289 P **P 05 15 24.6 -1.0**
TUQ Turquoise Moun 61.33 68 P **P 05 15 27.3 +1.5**
baz=314
TMUT Trail Mountain 61.35 62 IAmb IAmb 05 15 28.7
comp=Z,6.8nm,0.8s
HEC Hector,Ludlow 61.52 69 P **P 05 15 28.0 +1.0**
baz=315
BBRC Big Bear Solar 61.56 70 P **P 05 15 28.5 +1.0**
baz=315
Q16A Castle Valley 61.63 62 IAmb IAmb 05 15 30.6
comp=Z,5.4nm,0.9s
LCMT Little Creek M 61.79 65 IAmb IAmb 05 15 31.9
comp=Z,6.7nm,1.0s
RSSD Black Hills 61.80 54 P **P 05 15 29.2 +0.2**
RSSD pmax pmax
comp=Z,15nm,0.8s
RSSD Black Hills 61.80 54 P **P 05 15 29.2 +0.2**
RSSD Black Hills 61.80 54 P **P 05 15 29.8 +0.9**
baz=315
MURC Murrieta 61.87 71 P **P 05 15 30.4 +1.1**
baz=315
GMRC Granite Mounta 61.94 69 P **P 05 15 31.4 +1.5**
baz=315,SNR=7.0
KNB Kanab 62.03 65 IAmb IAmb 05 15 33.7
comp=Z,12nm,1.2s
BELC Belle Mtn. Jos 62.29 69 P **P 05 15 33.2 +0.8**
baz=315
PFO Pinyon Flats O 62.29 70 P **P 05 15 33.2 +0.9**
baz=315
TPFO Pinon Flats 62.30 70 P **P 05 15 33.0 +0.6**
baz=315
O20A White River Ci 62.39 60 IAmb IAmb 05 15 52.8
comp=Z,8.1nm,1.1s
O20A White River Ci 62.39 60 P **P 05 15 33.9 +0.9**
baz=315,SNR=5.1
109C Camp Elliot, M 62.42 71 P **P 05 15 34.1 +1.1**
baz=315
IRM Iron Mountain 62.69 69 P **P 05 15 36.3 +1.5**
baz=315,SNR=9.7
AGMN Agassiz Nation 62.73 46 IAmb IAmb 05 15 36.2
comp=Z,11nm,1.1s
AGMN Agassiz Nation 62.73 46 P **P 05 15 35.2 +0.3**
baz=317
MONP2 Monument Peak 62.82 71 P **P 05 15 37.0 +1.0**
baz=315
BC3 Big Chuckawall 62.86 69 P **P 05 15 37.2 +1.1**
baz=315
N23A Red Feather La 63.09 58 IAmb IAmb 05 15 58.1
comp=Z,7.4nm,0.8s
N23A Red Feather La 63.09 58 P **P 05 15 38.6 +0.9**
baz=316,SNR=5.8
SWSC Sam W. Stewart 63.16 70 P **P 05 15 40.0 +2.1**
baz=315
PV23 Carpenter Ridg 63.16 61 IAmb IAmb 05 15 58.7
comp=Z,12nm,1.0s

PDMCI	Parker Dam,Lak	63.17	68	P	P	05 15 39.4 +1.5
	baz=315					
IKP	In-Ko-Pah, Jac	63.18	71	P	P	05 15 39.2 +1.1
	baz=315					
OBN	Obninsk	63.32	327	*de*P	P	05 15 37.7 -0.9
OBN				*e*		05 16 13.9
OBN				*e*		05 18 03.1
OBN				*e*S	S	05 23 56.1 -8.6
OBN				pmax	pmax	
	comp=Z,8.0nm,0.4s					
OBN				MLR	MLR	
	comp=Z,231nm,16.0s					
PV07	Paradox Valley	63.37	61	IAmb	IAmb	05 15 41.8
	comp=Z,8.7nm,1.0s					
PV13	Radium Mtn., P	63.47	62	IAmb	IAmb	05 15 42.6
	comp=Z,12nm,0.8s					
PV15	Paradox Valley	63.53	61	IAmb	IAmb	05 15 46.1
	comp=Z,13nm,1.0s					
GLA	Glamis	63.65	69	P	P	05 15 42.4 +1.2
	baz=316					
SMCO	Snowmass	63.76	60	IAmb	IAmb	05 15 44.6
	comp=Z,6.9nm,0.8s					
WUAZ	Wupatki	63.91	65	IAmb	IAmb	05 15 46.1
	comp=Z,11nm,1.1s					
WUAZ	Wupatki	63.91	65	P	P	05 15 43.9 +0.8
	baz=316,SNR=6.4					
ISCO	Idaho Springs	64.05	58	IAmb	IAmb	05 15 46.9
	comp=Z,8.4nm,0.9s					
ISCO	Idaho Springs	64.05	58	P	P	05 15 45.3 +1.2
	baz=316,SNR=12					
MVCO	Mesa Verde	64.33	62	IAmb	IAmb	05 15 48.2
	comp=Z,6.9nm,0.8s					
MVCO	Mesa Verde	64.33	62	P	P	05 15 47.4 +1.5
	baz=316					
S22A	4UR Ranch, Cre	64.87	61	P	P	05 15 51.2 +1.8
	baz=316,SNR=9.7					
Q24A	Divide	64.90	59	P	P	05 15 50.8 +1.1
	baz=317					
EYMN	Ely	64.94	44	P	P	05 15 49.8 +0.5
	baz=320					
NB2	NORSAR Subarra	64.98	343	P	P	05 15 48.1 -1.3
	comp=Z,0.6nm,0.5s,baz=22,slow=6.5					
NOA	NORSAR Array B	64.98	343	P	P	05 15 48.4 -1.0
	comp=Z,0.6nm,0.6s,baz=28,slow=6.0,SNR=3.9					
NOA				LR	LR	05 48 36.2
	comp=Z,40nm,18.0s,baz=250,slow=40					
OGNE	Ogallala	65.11	55	P	P	05 15 52.0 +1.3
	baz=317					
W18A	Petrified Fore	65.13	64	P	P	05 15 52.5 +1.5
	baz=316					
X18A	Snowflake	65.43	65	IAmb	IAmb	05 15 55.9
	comp=Z,9.3nm,1.1s					
SDCO	Great Sand Dun	65.59	60	P	P	05 15 55.2 +1.1
	baz=317,SNR=5.4					
214A	Organ Pipe Nat	65.62	69	IAmb	IAmb	05 15 56.7
	comp=Z,11nm,1.1s					
214A	Organ Pipe Nat	65.62	69	P	P	05 15 55.5 +1.4
	baz=316,SNR=5.2					
ECSD	EROS Data Cent	65.76	50	IAmb	IAmb	05 15 56.0
	comp=Z,13nm,1.0s					
ECSD	EROS Data Cent	65.76	50	P	P	05 15 55.4 +0.6
	baz=319,SNR=11					
E38A	The Farm, Brul	65.94	45	IAmb	IAmb	05 16 14.6
	comp=Z,22nm,1.3s					
COEN	Coen	66.02	195	P	P	05 15 55.9 -0.7
COEN				IAmb	IAmb	05 15 58.3
	comp=Z,13nm,1.1s					
SPMN	Marine on St.	66.43	47	P	P	05 15 59.6 +0.7
	baz=320					
TUC	Tucson	66.55	67	P	P	05 16 01.2 +1.1
TUC				pmax	pmax	
	comp=Z,4.0nm,1.1s					
TUC	Tucson	66.55	67	P	P	05 16 01.2 +1.1
TUC	Tucson	66.55	67	P	P	05 16 00.7 +0.7
	baz=317					
T25A	Trinidad	66.63	60	IAmb	IAmb	05 16 02.9
	comp=Z,9.4nm,1.1s					
T25A	Trinidad	66.63	60	P	P	05 16 01.2 +0.6
	baz=317,SNR=5.6					
MNK	Minsk	66.68	331	*i* P	P	05 16 00.2 -0.2
MNK				*i* *PP	pP	05 16 21.0 +1.2
MNK				*i*		05 18 27.4
MNK				*i* PPP	PPP	05 20 03.6
MNK				*i* S	S	05 24 46.4 +0.6
MNK				*i* *SS	sS	05 25 20.7 +1.9
MNK				*i* SS	SS	05 29 04.6 +1.2
MNK				pmax	pmax	
	comp=Z,13nm,0.7s					
MNK				pmax	pmax	
	comp=E,2.0nm,1.0s					
MNK				pmax	pmax	
	comp=N,16nm,1.0s					
MNK				MLR	MLR	
	comp=Z,318nm,23.0s					
MNK				MLR	MLR	
	comp=N,114nm,19.0s					
MNK				MLR	MLR	
	comp=E,42nm,20.0s					
MNK	Minsk	66.68	331	*i* P	P	05 16 00.2 -0.1
	comp=E,2.0nm,1.0s					
MNK				*i* P	P	05 16 00.2 -0.1
	comp=N,16nm,1.0s					
MNK				*i* P	P	05 16 00.2 -0.1
	comp=Z,13nm,0.7s,baz=32					
MNK				*i* pP	pP	05 16 21.1 +1.3
MNK				*i* PP	PP	05 18 27.4 +0.1
MNK				*i* PPP	PPP	05 20 03.7
MNK				*i* S	S	05 24 46.4 +0.6
MNK				*i* sS	sS	05 25 20.8 +1.9
MNK				*i* SS	SS	05 29 04.7 +1.3
MNK				*i* SSS	SSS	05 32 16.8
MNK				*i* LR	LR	05 44 53.4
MNK				*i* LRM	MLR	05 47 01.8
	comp=Z,318nm,23.0s					
MNK				*i* LRM	MLR	05 47 09.5
	comp=N,114nm,19.2s					
MNK				*i* LRM	MLR	05 47 20.4
	comp=E,42nm,20.4s					
ANMO	Albuquerque	67.10	62	*ce*P	P	05 16 03.6 -0.1
ANMO				pmax	pmax	
	comp=Z,4.0nm,1.3s					
ANMO	Albuquerque	67.10	62	P	P	05 16 03.8 +0.2
ANMO	Albuquerque	67.10	62	P	P	05 16 04.7 +1.1
	baz=317					
CBKS	Cedar Bluff	67.87	55	IAmb	IAmb	05 16 09.2
	comp=Z,10.0nm,0.8s					
CBKS	Cedar Bluff	67.87	55	P	P	05 16 08.2 -0.1
	baz=319					
SCHQ	Schefferville	68.10	26	P	P	05 16 09.6 +0.2
	comp=Z,4.9nm,0.4s,baz=349,slow=6.2,SNR=45					
SCHQ				pP	pP	05 16 26.5 -2.4
	comp=Z,8.0nm,0.8s,baz=332,slow=8.9,SNR=5.6					
319A	Douglas	68.11	67	IAmb	IAmb	05 16 12.7
	comp=Z,12nm,1.0s					
PSI	Prapat	68.59	246	P	P	05 16 15.8 +2.7
	comp=Z,2.9nm,0.4s,baz=233,slow=4.2,SNR=4.9					
RPSI	Rantau Prapat	68.68	246	P	P	05 16 15.8 +2.3
KSU1	Kansas State U	69.25	53	IAmb	IAmb	05 16 16.9
	comp=Z,8.0nm,0.8s					
KSU1	Kansas State U	69.25	53	P	P	05 16 16.4 -0.4
	baz=320					
AKASG	Malin Array Be	69.48	328	P	P	05 16 15.6 -2.4
	comp=Z,1.0nm,0.5s,baz=31,slow=6.3,SNR=5.8					
AKASG	Malin Array Be	69.48	328	*i* P	P	05 16 17.1 -0.9
AKASG				pmax	pmax	
	comp=Z,2.0nm,0.6s					
AMTX	Amarillo	69.78	59	P	P	05 16 20.9 +0.7
	baz=319					
MSTX	Muleshoe	69.87	61	IAmb	IAmb	05 16 22.7
	comp=Z,9.5nm,0.9s					
MSTX	Muleshoe	69.87	61	P	P	05 16 21.5 +0.7
	baz=319					
MNTX	Cornudas Mount	70.11	64	P	P	05 16 23.4 +1.2
	baz=319,SNR=7.3					
KAN01	Argonia South	70.15	55	IAmb	IAmb	05 16 22.9
	comp=Z,11nm,0.8s					
VLDQ	Val d'Or	70.47	36	P	P	05 16 22.2 -1.8
VLDQ				IAmb	IAmb	05 16 24.4
	comp=Z,8.4nm,1.1s					
P40A	Paris	71.18	50	IAmb	IAmb	05 16 29.6
	comp=Z,10nm,0.9s					
WMOK	Wichita Mounta	71.45	58	IAmb	IAmb	05 16 31.8
	comp=Z,6.8nm,0.8s					
WMOK	Wichita Mounta	71.45	58	P	P	05 16 31.0 +0.7
	baz=320,SNR=7.1					
OK031	S. Brethren Rd	71.54	55	IAmb	IAmb	05 16 31.9
	comp=Z,12nm,0.9s					
OK030	Cody Creek RV	71.59	55	IAmb	IAmb	05 16 32.3
	comp=Z,9.3nm,0.9s					
HDIL	Hopedale	71.68	48	P	P	05 16 31.7 +0.2
	baz=323					
R40A	Maddies Statio	72.04	51	IAmb	IAmb	05 16 34.4
	comp=Z,12nm,0.9s					
TUL1	Leonard	72.12	55	IAmb	IAmb	05 16 35.4
	comp=Z,7.0nm,0.8s					
TUL1	Leonard	72.12	55	P	P	05 16 34.4 +0.1
	baz=321					
W35A	Tecumseh	72.14	56	IAmb	IAmb	05 16 35.7
	comp=Z,7.1nm,0.7s					
U38A	Gravette	72.42	54	IAmb	IAmb	05 16 36.8
	comp=Z,6.7nm,0.8s					
ABTX	Abilene, Hawle	72.60	60	P	P	05 16 37.9 +0.7
	baz=320					
EKA	Eskdalemuir Ar	72.70	349	P	P	05 16 35.2 -2.2
	comp=Z,1.3nm,0.3s,baz=18,slow=5.3,SNR=6.6					
CCM	Cathedral Cave	72.72	50	P	P	05 16 38.1 +0.3
	baz=322					
AAM	Ann Arbor	72.80	43	P	P	05 16 38.6 +0.4
	baz=325					
SFIN	Lafayette	72.83	46	P	P	05 16 38.7 +0.3
	baz=324					
TX32	Lajitas Array	72.85	65	IAmb	IAmb	05 16 41.1
	comp=Z,9.6nm,0.8s					
TXAR	Lajitas Array	72.86	65	P	P	05 16 40.1 +1.3
	comp=Z,6.4nm,0.7s,baz=298,slow=4.6,SNR=62					
TXAR				pP	pP	05 16 58.6 +0.1
	comp=Z,1.9nm,0.4s,baz=296,slow=5.0,SNR=6.7					
U40A	Yellville	73.26	53	P	P	05 16 41.1 +0.1
	baz=322					
WB0	Warramunga Arr	73.47	203	IAmb	IAmb	05 16 43.4
	comp=Z,17nm,1.3s					
WR0	Warramunga Arr	73.62	203	IAmb	IAmb	05 16 44.4
	comp=Z,13nm,1.2s					
WRAB	Tennant Creek	73.64	203	*ce*P	P	05 16 44.2 +0.9
WRAB				pmax	pmax	
	comp=Z,13nm,1.7s					
WRAB	Tennant Creek	73.64	203	P	P	05 16 42.7 -0.5
WB2	Warramunga Arr	73.65	203	P	P	05 16 43.3 0.0
WB2				IAmb	IAmb	05 16 44.5
	comp=Z,8.6nm,0.9s					
WRA	Warramunga Arr	73.66	203	P	P	05 16 43.7 +0.4
	comp=Z,6.9nm,1.0s,baz=19,slow=6.2,SNR=36					
WRA				pP	pP	05 17 02.1 -0.9
	comp=Z,3.9nm,0.8s,baz=18,slow=6.1,SNR=5.8					
W39A	Magazine	73.70	54	P	P	05 16 43.7 +0.1
	baz=322					
FCAR	Ozark Folk Cen	73.99	52	IAmb	IAmb	05 16 45.7
	comp=Z,8.5nm,0.7s					
JCT	Junction City	74.15	61	IAmb	IAmb	05 16 48.0
	comp=Z,8.1nm,0.8s					
JCT	Junction City	74.15	61	P	P	05 16 47.1 +0.7
	baz=320					
WHTX	Lake Whitney,	74.27	59	P	P	05 16 47.6 +0.6
	baz=321					
MIAR	Mount Ida	74.31	54	P	P	05 16 47.8 +0.6
	baz=322					
ERPA	Erie	74.49	41	P	P	05 16 48.0 -0.1
	baz=327					
W41B	Gary Mavity, V	74.49	53	IAmb	IAmb	05 16 49.7
	comp=Z,9.1nm,0.8s					
W41B	Gary Mavity, V	74.49	53	P	P	05 16 48.6 +0.4
	baz=322,SNR=6.6					
E62A	Clayton Lake	74.52	32	IAmb	IAmb	05 16 49.6
	comp=Z,9.7nm,1.0s					
P49A	Miami Univ. Ec	74.59	45	P	P	05 16 48.4 -0.3
	baz=325					
X40A	Basin Creek Fa	74.74	54	P	P	05 16 49.7 0.0
	baz=322					
M53A	WI Miller and	74.77	42	P	P	05 16 49.9 +0.2
	baz=326					
ACSO	Alum Creek Sta	74.78	44	P	P	05 16 50.0 +0.2
	baz=326					
WCI	Wyandotte Cave	74.93	47	P	P	05 16 50.8 +0.1
	baz=324					
M54A	Oil Creek Stat	75.13	41	P	P	05 16 51.6 -0.2
	baz=327					
N54A	Moraine State	75.45	41	IAmb	IAmb	05 16 54.6
	comp=Z,16nm,0.9s					
N54A	Moraine State	75.45	41	P	P	05 16 53.9 +0.2
	baz=327,SNR=5.2					
L56A	Greenwood	75.45	39	P	P	05 16 53.4 -0.3
L56A				IAmb	IAmb	05 16 54.2
	comp=Z,11nm,0.7s					
KHC	Kasperske Hory	75.49	337	*e*P	P	05 16 54.3 +0.5
KHC				*e*		05 17 00.6
KHC				*e*		05 17 26.5
KHC	Kasperske Hory	75.49	337	*e*P	P	05 16 54.3 +0.5
KHC				*ex*	x	05 17 00.6
KHC				*ex*	x	05 17 26.5
O53A	New Philadelph	75.53	43	P	P	05 16 53.1 -1.1
	baz=326					
T47A	Sharon Grove	75.55	48	IAmb	IAmb	05 16 55.7
	comp=Z,11nm,0.8s					
Q51A	Peebles	75.61	45	IAmb	IAmb	05 16 55.5
	comp=Z,10nm,0.7s					
P52A	Corning	75.64	44	P	P	05 16 54.4 -0.3
	baz=326					
GERES	GERESS Array B	75.72	336	P	P	05 16 54.4 -0.8
	comp=Z,0.5nm,0.6s,baz=36,slow=7.0,SNR=4.7					
H62A	Milan	75.75	34	P	P	05 16 55.8 +0.5
LBNH	Lisbon	75.77	34	P	P	05 16 55.6 +0.1
	baz=331					
PKME	Peaks-Kenny Pk	75.78	32	P	P	05 16 55.0 -0.4
	baz=332					
WVT	Waverly	75.90	49	P	P	05 16 56.8 +0.5
	baz=324					
833A	Chaparral WMA,	76.03	62	P	P	05 16 57.3 +0.2
	baz=321					
U49A	Red Boiling Sp	76.56	48	IAmb	IAmb	05 17 01.1
	comp=Z,8.0nm,0.8s					
SSPA	Standing Stone	76.59	40	P	P	05 17 00.3 +0.2
	baz=328					
O56A	Blue Knob Stat	76.62	41	P	P	05 17 00.0 -0.4
	baz=328					
CLTN	Cedars of Leba	76.64	48	IAmb	IAmb	05 17 01.8
	comp=Z,9.6nm,0.8s					
BRTR	Keskin Array B	77.12	319	P	P	05 17 03.6 +0.3
	comp=Z,0.5nm,0.7s,baz=128,slow=36,SNR=2.4					
N59A	State Game Lan	77.20	39	P	P	05 17 03.5 0.0
	baz=329					
ASAR	Alice Springs	77.34	202	P	P	05 17 05.7 +1.3
	comp=Z,3.8nm,0.7s,baz=14,slow=5.1,SNR=50					
ASAR				pP	pP	05 17 23.4 -0.9
	comp=Z,1.6nm,0.6s,baz=14,slow=5.3,SNR=5.2					
ASAR	Alice Springs	77.34	202	P	P	05 17 05.0 +0.6
HRV	Adam Dziewonsk	77.41	35	P	P	05 17 04.5 -0.2
	baz=331					
SWET	Sewanee	77.54	49	IAmb	IAmb	05 17 06.8
	comp=Z,14nm,1.2s					
TZTN	Tazewell	77.56	46	P	P	05 17 06.0 +0.3
	baz=326					
V51A	Loudon	77.80	47	IAmb	IAmb	05 17 08.0
	comp=Z,8.4nm,0.8s					
CPCT	Cooper Cave	78.01	48	IAmb	IAmb	05 17 09.1
	comp=Z,9.2nm,1.0s					
P60A	Greenville	78.19	39	P	P	05 17 08.8 -0.3
	baz=329					
BLA	Blacksburg	78.40	44	P	P	05 17 09.9 -0.5
	baz=327					
LRAL	Lakeview Retre	78.81	51	P	P	05 17 12.3 -0.2
	baz=325					
BG3	Lake Jocassee	79.12	47	IAmb	IAmb	05 17 15.6
	comp=Z,9.8nm,1.0s					
KMSC	Kings Mountain	79.73	46	P	P	05 17 17.6 +0.1
	baz=327					
BRAL	Brewton	80.30	52	P	P	05 17 21.3 +0.6
	baz=325					
NRCA	Norcia	81.44	334	P	P	05 17 27.6 +0.9
NRCA				IAmb	IAmb	05 17 30.1
	comp=Z,12nm,0.9s					
TIGA	Tifton	81.76	49	P	P	05 17 28.8 +0.3
	baz=326					
STKA	Stephens Creek	83.84	194	P	P	05 17 41.6 +2.8
	comp=Z,1.0nm,0.7s,baz=20,slow=5.1,SNR=4.0					
RAYN	Ar Rayn	84.80	301	P	P	05 17 43.4 -0.8
RAYN				pmax	pmax	
	comp=Z,8.0nm,0.8s					
RAYN	Ar Rayn	84.80	301	P	P	05 17 43.4 -0.8
RAYN				IAmb	IAmb	05 17 44.4
	comp=Z,7.6nm,0.8s					
ESDC	Sonseca Array	88.14	346	P	P	05 17 59.7 -0.6
	comp=Z,2.6nm,0.9s,baz=5.6,slow=4.6,SNR=9.7					
ESDC	Sonseca Array	88.14	346	P	P	05 17 59.5 -0.8
KEST	Kesra	89.11	335	P	P	05 18 05.2 +0.2
	comp=Z,5.3nm,0.9s,baz=298,slow=6.2,SNR=6.4					
KEST	Kesra	89.11	335	P	P	05 18 03.7 -1.3
KEST				IAmb	IAmb	05 18 06.7
	comp=Z,7.3nm,1.0s					
BANI	BANI	99.05	46	P	Pdif	05 18 47.6 -3.2
DBIC	Dimbokro	120.48	340	PKP	PKPdf	05 24 00.3 -0.7
	comp=Z,1.0nm,0.4s,baz=346,slow=0.9,SNR=5.9					
H03N2	Juan Fernandez	135.77	89	T	T	07 55 36.0
	baz=314,slow=77,SNR=2653					
H03N1	Juan Fernandez	135.78	89	T	T	07 55 37.3
	baz=314,slow=77,SNR=2782					
H03N3	Juan Fernandez	135.79	89	T	T	07 55 36.6
	baz=314,slow=77,SNR=2831					
PLCA	Paso Flores	145.52	92	PKPbc	PKPab	05 24 48.4 +0.8
	comp=Z,12nm,0.8s,baz=286,slow=3.5,SNR=36					
PLCA	Paso Flores	145.52	92	PKPdf	PKPdf	05 24 47.0 +0.1

BUL 26 05:25:34.5±1.4, 22°.40S×29°.78E, h7km±10km, MD4.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	1.86	127	*i* P	Pg	05 26 11.9	+1.7
MOPA				*i* Sg	Sg	05 26 45.1	+11
MOPA	Mopani	1.86	127	*i* P	Pg	05 26 11.9	+1.7
MOPA				*i* Sg	Sg	05 26 45.1	+11
MATP	Matopo	2.30	329	*i* P	Pn	05 26 13.5	+0.6
MATP				*i* Sg	Sb	05 26 45.1	+0.1
MATP	Matopo	2.30	329	*i* P	Pn	05 26 13.5	+0.6
MATP				*i* Sg	Sb	05 26 45.1	+0.1
BLWY	Bulawayo	2.50	334	*i* P	Pn	05 26 15.6	-0.1
BLWY				*i* Sg	Sb	05 26 52.0	+1.2
BLWY	Bulawayo	2.50	334	*i* P	Pn	05 26 15.6	-0.1
BLWY				*i* Sg	Sb	05 26 52.0	+1.2
CNG	Changalane	4.45	151	*i* P	Pn	05 26 42.4	0.0
CNG				*i* S	Sn	05 27 29.8	-4.7
CNG	Changalane	4.45	151	*i* P	Pn	05 26 42.4	0.0
CNG				*i* S	Sn	05 27 29.8	-4.7
LBTB	Lobatse	4.63	235	*i* P	Pn	05 26 44.4	-0.5
LBTB				*i* S	Sn	05 27 35.5	-3.5
LBTB	Lobatse	4.63	235	*i* P	Pn	05 26 44.4	-0.5
LBTB				*i* S	Sn	05 27 35.5	-3.5

IDC 26 05:30:56.5±1.9, 2°.39N×124°.59E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.1/50, mbtmp3.5/4, Error ellipse: s-maj=122.3km s-min=26.6km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.39	177	P	Pn	05 35 36.2	-0.9
	1.2nm,0.4s,baz=11,slow=8.3,SNR=9.5						
WRA	Warramunga Arr	24.17	157	P	P	05 36 14.4	-0.3
	0.8nm,0.3s,baz=334,slow=10,SNR=30						
ASAR	Alice Springs	27.44	161	P	P	05 36 44.2	-0.1
	0.4nm,1.0s,baz=336,slow=7.4,SNR=7.0						
MKAR	Makanchi Array	57.46	327	P	P	05 40 47.0	-0.4
	0.3nm,0.8s,baz=123,slow=9.5,SNR=1.8						

*IPEC **26** 05:38:51.9±0.2, 49°.85N×18°.54E, h1km, ML2.1/3, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0, Mining induced.*
*PRU **26** 05:38:51.9±0.0, 49°.86N×18°.47E, h0km, Mining Induced Event Darkov, E=3.1e+05*
*VIE **26** 05:38:51.6±0.4, 49°.75N×18°.53E, h0km, mb2.5/2, ml2.3/2, Error ellipse: s-maj=3.9km s-min=2.7km az=159.0 23 km ESE of Ostrava Suspected Mining induced.*

ISC 26 05:38:50.8±0.8, 49°.87N±0°.03×18°.50E±0°.03, h0km, n29, σ0°.74/52, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.23	261	*e*PG	Pg	05 38 56.6	+1.4
OKC				*e*SG	Sg	05 38 59.8	+1.6
	comp=Z,246nm,0.9s						
MORC	Moravsky Berou	0.63	262	*e*Pg	Pb	05 39 04.3	-0.4
	baz=84						
MORC				*e*Sg	Sg	05 39 12.1	+1.1
	50nm,0.5s,baz=84						
MORC	Moravsky Berou	0.63	262	*e*PG	Pb	05 39 04.4	-0.3
MORC				*e*SG	Sg	05 39 12.2	+1.2
OJC	Ojcow	0.91	67	*e*Pg	Pb	05 39 08.8	-0.7
OJC				*e*Sg	Sb	05 39 22.5	+0.5
LANS	Liptovska Anna	0.96	139	*e*PG	Pb	05 39 10.1	-0.2
LANS				*e*SG	Sb	05 39 23.6	0.0
LANS				*e*LG	Lg	05 39 27.0	
KRLC	Kraliky	1.13	281	*e*PG	Pg	05 39 12.5	+0.1
KRLC				*e*SG	Sb	05 39 28.3	-0.2
	comp=Z,32nm,0.5s						
JAVC	Velka Javorina	1.15	208	*e*Pg	Pn	05 39 14.0	-0.2
	baz=30						
VRAC	Vranov	1.36	246	*e*Pg	Pb	05 39 17.5	+0.3
	baz=66						
VRAC				*e*Sg	Sb	05 39 34.9	-0.3
	26nm,0.5s,baz=66						
VYHS	Vyhne	1.40	171	*e*PG	Pn	05 39 17.5	-0.1
VYHS				*e*SG	Sn	05 39 36.6	-0.1
DPC	Dobruska-Polom	1.48	290	*e*PG	Pn	05 39 18.6	-0.2
DPC				*e*SG	Sn	05 39 39.3	+0.4
	comp=Z,27nm,0.5s						
SMOL	Smolenice	1.53	208	*e*PG	Pb	05 39 19.8	-0.3
KRUC	Moravsky	1.60	240	*e*Pg	Pb	05 39 21.0	-0.2
	baz=60						
KRUC				*e*Sg	Sg	05 39 42.0	0.0
	21nm,0.4s,baz=60						
OSTC	Ostas	1.62	296	*e*PG	Pn	05 39 20.9	+0.2
OSTC				*e*SG	Sg	05 39 43.6	+0.8
	comp=Z,37nm,1.1s						
MODS	Modra-Piesok	1.70	209	*e*PG	Pg	05 39 23.6	+0.2
KSP	Ksiaz	1.72	305	*e*Pg	Pg	05 39 24.2	+0.5
KSP				*e*Sg	Sg	05 39 47.2	+1.3
UPC	Upice	1.72	293	*e*PG	Pg	05 39 23.6	-0.2
UPC				*e*SG	Sg	05 39 47.2	+1.1
	comp=Z,19nm,0.4s						
CHVC	Chvalec	1.73	295	*e*PG	Pb	05 39 22.8	-0.6
CHVC				*e*SG	Sg	05 39 46.3	0.0
	comp=Z,13nm,0.5s						
TREC	Trest	2.04	255	*e*PG	Pb	05 39 28.2	-0.6
TREC				*e*SG	Sg	05 39 56.1	-0.4
	comp=Z,14nm,0.4s						
PSZ	Piszkesteto	2.16	154	PG	Pg	05 39 32.9	+0.7
PRU	Pruhonice	2.56	274	*e*PG	Pb	05 39 38.5	+0.9
PRU				*e*SG	Sg	05 40 11.9	-1.2
	comp=Z,4.8nm,0.6s						
CONA	Conrad Observa	2.61	223	*e*Pn	Pn	05 39 34.1	-0.2
	0.4nm,0.1s						
CONA				*e*Sn	Sn	05 40 06.4	-0.4
	1.2nm,0.2s						
PVCC	Panska Ves	2.61	286	*e*PG	Pg	05 39 40.1	-0.7
PVCC				*e*SG	Sg	05 40 14.0	-0.6
	comp=Z,21nm,0.6s						
MPLH	Magyarpolny	2.78	194	PG	Pg	05 39 43.7	-0.4
CKRC	Cesky Krumlov	2.94	251	*e*PG	Pg	05 39 45.6	-1.5
CKRC				*e*SG	Sg	05 40 24.1	-1.0
BRG	Berggiesshubel	3.09	291	Pg	Pg	05 39 48.6	-1.3
BRG				Sg	Sg	05 40 30.2	+0.3
BRG				Amp		05 40 35.2	
	comp=Z,7.3nm,0.9s						
KHC	Kasperske Hory	3.29	259	*e*PN	Pn	05 39 43.5	-0.2
KHC				*e*PG	Pb	05 39 51.1	+1.0
KHC				*e*SG	Sg	05 40 36.1	-0.5
	comp=Z,7.7nm,0.4s						
MOA	Molln	3.45	236	*i* Pn	Pn	05 39 46.0	+0.2
	comp=Z,0.5nm,0.1s						
MOA				*e*Sn	Sn	05 40 28.6	+1.1
	comp=Z,0.8nm,0.2s						
CLL	Collm	3.79	294	*e*S

PGAV				A	A	05 41 38.3
	8.7nm,0.3s					
PBRG	**Braganca**	**2.42**	**165**	*e*Pn	**Pb**	**05 41 17.3 -1.2**
PBRG				*e*Sn	**Sn**	**05 41 45.8 +1.5**
PCAB	**Cabril**	**2.46**	**188**	*e*Pn	**Pb**	**05 41 16.8 -2.3**
PCAB				*e*Sn	**Sn**	**05 41 43.0 -2.1**
PCAB				A	A	05 41 47.0
	16nm,0.1s					
POLO	**Lamas de Olo**	**2.78**	**183**	*e*Pn	**Pn**	**05 41 21.1 +1.6**
POLO				*e*Sn	**Sn**	**05 41 50.4 -2.7**
POLO				A	A	05 41 53.1
	2.3nm,0.5s					
PVRL	**Vila Real**	**2.87**	**182**	*e*Sn	**Sn**	**05 41 53.7 -1.7**
PVRL				A	A	05 41 55.8
	6.8nm,0.1s					
MVO	**Moncorvo**	**3.01**	**172**	*e*Pn	**Pn**	**05 41 24.8 +2.2**
MVO				*e*Sn	**Sn**	**05 41 57.2 -1.6**
MVO				A	A	05 42 00.0
	4.6nm,0.7s					
PVIS	**Viseu**	**3.44**	**184**	*e*Pn	**Pn**	**05 41 29.8 +1.3**
PVIS				*e*Sn	**Sn**	**05 42 06.3 -3.0**
PVIS				A	A	05 42 08.0
	2.8nm,0.3s					
MTE	**Manteigas**	**3.75**	**180**	*e*Pn	**Pn**	**05 41 34.5 +1.7**
MTE				*e*Sn	**Sn**	**05 42 14.8 -2.1**
MTE				A	A	05 42 15.5
	3.3nm,0.7s					
PCAS	**Casmilo, Conde**	**4.15**	**190**	*e*Sn	**Sn**	**05 42 21.9 -4.9**
PCBR	**Castelo Branco**	**4.31**	**179**	*e*Pn	**Pn**	**05 41 42.9 +2.5**
PCBR				*e*Sn	**Sn**	**05 42 28.6 -2.0**
PCBR				A	A	05 42 29.3
	2.1nm,0.3s					
PMRV	**Marv??o**	**4.72**	**178**	*e*Sn	**Sn**	**05 42 37.9 -3.0**
SJPF	**Ste Jean**	**4.73**	**100**	*e*Pn	**Pn**	**05 41 50.5 +4.2**
SJPF				*e*Sn	**Sn**	**05 42 39.1 -2.1**
	2.6nm,0.3s					
QUIF	**Quistinic**	**4.87**	**38**	*e*Pn	**Pn**	**05 41 51.0 +3.0**
QUIF				*e*Sn	**Sn**	**05 42 42.3 -2.1**
	6.8nm,0.2s					
PMTG	**Montargil**	**5.10**	**186**	*e*Sn	**Sn**	**05 42 45.4 -4.8**
PMTG				A	A	05 42 48.0
	1.2nm,0.1s					
ROSF	**Rostrenen**	**5.15**	**34**	*e*Pn	**Pn**	**05 41 54.6 +2.7**
ROSF				*e*Sn	**Sn**	**05 42 49.5 -1.8**
	4.2nm,0.2s					
ETSF	**Etsaut**	**5.26**	**101**	*e*Pn	Pn	05 41 58.8 +5.2
ETSF				*e*Sn	**Sn**	**05 42 52.0 -2.3**
	2.8nm,0.4s					
SGMF	**Saint Gilles**	**5.39**	**39**	*e*Pn	**Pn**	**05 41 57.7 +2.5**
SGMF				*e*Sn	**Sn**	**05 42 54.8 -2.5**
	4.7nm,0.3s					
MFF	**Saint Martin d**	**5.79**	**62**	*e*Pn	**Pn**	**05 42 03.6 +2.9**
MFF				*e*Sn	**Sn**	**05 43 05.6 -1.5**
	4.3nm,0.3s					
EPF	**Esparros**	**5.86**	**98**	*e*Pn	Pn	05 42 07.5 +5.7
EPF				*e*Sn	**Sn**	**05 43 06.6 -2.5**
	0.8nm,0.2s					
LFF	**La Frestale**	**6.00**	**80**	*e*Pn	Pn	05 42 08.2 +4.5
LFF				*e*Sn	**Sn**	**05 43 11.4 -1.1**
	2.8nm,0.3s					
GRR	**Gorron**	**6.30**	**45**	*e*Pn	**Pn**	**05 42 09.9 +2.1**
GRR				*e*Sn	**Sn**	**05 43 15.6 -4.2**
	4.2nm,0.2s					
RJF	**Les Rejaudoux**	**6.59**	**77**	*e*Pn	**Pn**	**05 42 14.0 +2.3**
RJF				*e*Sn	**Sn**	**05 43 25.3 -1.6**
	2.0nm,0.3s					
FLN	**La Foliniere**	**6.74**	**44**	*e*Pn	**Pn**	**05 42 16.3 +2.6**
	baz=223					
FLN				*e*Sn	**Sn**	**05 43 27.1 -3.3**
	1.9nm,0.2s					
LDF	**La Druitiere**	**6.81**	**47**	*e*Pn	**Pn**	**05 42 17.3 +2.5**
LDF				*e*Sn	**Sn**	**05 43 28.2 -4.1**
	2.5nm,0.2s					
CAF	**Calviac**	**6.94**	**80**	*e*Pn	**Pn**	**05 42 19.7 +3.1**
CAF				*e*Sn	**Sn**	**05 43 33.4 -2.2**
	1.1nm,0.3s					
MTLF	**Montolieu**	**7.15**	**93**	*e*Pn	**Pn**	**05 42 23.2 +3.8**
MTLF				*e*Sn	**Sn**	**05 43 37.3 -3.3**
	1.1nm,0.3s					
TCF	**Toulx Ste Croi**	**7.24**	**69**	*e*Pn	**Pn**	**05 42 24.1 +3.4**
TCF				*e*Sn	**Sn**	**05 43 38.4 -4.6**
	1.6nm,0.2s					
BGF	**Bois d'Agland**	**7.73**	**68**	*e*Pn	**Pn**	**05 42 30.4 +3.0**
BGF				*e*Sn	**Sn**	**05 43 50.1 -5.0**
	5.6nm,0.3s					
AVF	**Avril sur Loir**	**8.13**	**67**	*e*Pn	**Pn**	**05 42 35.8 +2.9**
AVF				*e*Sn	**Sn**	**05 44 01.4 -3.4**
	1.4nm,0.3s					
LASF	**Ste Croix**	**8.24**	**87**	*e*Pn	**Pn**	**05 42 37.7 +3.3**
LASF				*e*Sn	**Sn**	**05 44 05.3 -2.2**
	0.7nm,0.3s					
SSF	**Saint Saulge**	**8.30**	**66**	*e*Pn	**Pn**	**05 42 38.7 +3.4**
SSF				*e*Sn	**Sn**	**05 44 04.5 -4.6**
	1.1nm,0.2s					
SMF	**Signal de Mont**	**8.42**	**69**	*e*Pn	**Pn**	**05 42 39.7 +2.8**
SMF				*e*Sn	**Sn**	**05 44 09.5 -2.5**
	0.7nm,0.2s					
LOR	**Lormes**	**8.60**	**65**	*e*Pn	**Pn**	**05 42 40.9 +1.6**
	baz=255					
LOR				*e*Sn	**Sn**	**05 44 10.4 -5.8**
	1.7nm,0.3s					
VIVF	**Saint-Julien-l**	**8.79**	**81**	*e*Pn	**Pn**	**05 42 45.5 +3.5**
BAIF	**Baives**	**9.97**	**50**	*e*Pn	**Pn**	**05 43 01.3 +3.2**
BAIF				*e*Sn	**Sn**	**05 44 46.0 -4.0**
	2.6nm,0.3s					

NNC 26 05:53:59.9±8.4, 38°.93N×70°.21E, h0km, mb3.8, mpv3.5, 3C-4D, Error ellipse: s-maj=75.5km s-min=37.5km az=174.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	**Karatay Array**	**4.17**	**3**	⇓Pn	Pn	05 55 05.9	+1.0
	2.0nm,0.4s,baz=174,slow=13						
KK08				⇑Lg	Lg	05 56 09.1	
	6.5nm,0.5s,baz=182,slow=30						
AAK	**Ala-Archa**	**4.93**	**40**	⇑Pg	Pb	05 55 26.0	-1.1
	5.6nm,0.6s						
AAK				⇓Sn	Sn	05 56 16.5	+3.4
	5.2nm,0.6s						
TKM2	**Tokmak 2**	**5.70**	**44**	⇓Pn	Pn	05 55 26.0	0.0
	4.8nm,0.5s						
TKM2				⇓Sn	Sn	05 56 33.0	+0.7
	3.5nm,0.6s						
AB31	**Akbulak array**	**12.67**	**328**	⇑P	Pn	05 56 58.2	-3.1
	0.5nm,0.6s,baz=154,slow=11,SNR=4.7						

*NEIC **26** 06:09:40.6±0.9, 59°.83N±0°.07×152°.9W±0°.1, h111km±3km, Error ellipse: s-maj=11.4km s-min=6.0km az=218.0*

AEIC 26 06:09:42±0.7, 59°.89N±0°.06×152°.89W±0°.07, h96km±4km, ML2.6/18, ML2.6/(12)(NEIC), Error ellipse: s-maj=9.5km s-min=5.1km az=183.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.24**	**35**		Pn	06 09 56.6	+0.7
O20K					Sn	06 10 08.1	+1.8
RED	**Redoubt Volcan**	**0.54**	**6**		Pn	06 09 58.0	+0.2
RED					Sn	06 10 10.2	+0.8
DFR	**Drift River**	**0.71**	**8**		Pn	06 09 59.6	+0.3
DFR					Sn	06 10 13.2	+1.1
O19K	**Port Alsworth**	**0.78**	**294**		Pn	06 10 00.1	+0.4
O19K	**Port Alsworth**	**0.78**	**294**	IAML		06 10 04.9	
	comp=N,34nm,3.4s						
O19K				IAML		06 10 18.3	
	comp=E,28nm,2.3s						
CNPM	**China Poot**	**0.92**	**113**		Pn	06 10 01.2	0.0
CNPM	**China Poot**	**0.92**	**113**	IAML		06 10 08.9	
	comp=E,60nm,3.3s						
CNPM				IAML		06 10 17.2	
	comp=N,74nm,4.2s						
BRSE	**Bradley Lake S**	**1.10**	**97**		Pn	06 10 03.1	-0.1
BRSE					Sn	06 10 19.3	+0.1
N19K	**Bonanza Creek**	**1.22**	**320**		Pn	06 10 04.8	+0.2
N19K	**Bonanza Creek**	**1.22**	**320**	IAML		06 10 49.9	
	comp=N,31nm,4.1s						
CAPN	**Captain Cook N**	**1.24**	**44**		Pn	06 10 06.5	+1.8
CAPN	**Captain Cook N**	**1.24**	**44**	IAML		06 10 44.3	
	comp=N,352nm,2.8s						
SLKM	**Skilak Lake**	**1.47**	**64**		Pn	06 10 07.7	0.0
O22K	**Cooper Landing**	**1.69**	**68**		Pn	06 10 10.2	-0.2
O22K					Sn	06 10 31.0	-0.9
O22K	**Cooper Landing**	**1.69**	**68**	IAML		06 11 16.0	
	comp=E,154nm,0.5s						
STLK	**Strandline Lak**	**1.70**	**17**		Pn	06 10 11.0	+0.5
SEW	**Seward**	**1.74**	**81**		Pn	06 10 10.6	-0.4
RC01	**Rabbit Creek A**	**1.97**	**51**		Pn	06 10 13.9	-0.1

*CNRM **26** 06:14:38.6, 35°.70N×3°.60W, h29km, ml2.6*
*IGIL **26** 06:14:40.4, 35°.71N×3°.69W, h22km*

ISC 26 06:14:37.7±1.5, 35°.72N±0°.06×3°.59W±0°.05, h25km±14km, n10, σ1°.69/19, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.58**	**210**	P	**Pn**	**06 14 50.1**	**-0.3**
PALE				S	**Sb**	**06 14 58.0**	**+0.8**
GOG	**Mont Gurugu**	**0.69**	**136**	P	**Pb**	**06 14 49.7**	**-1.5**
GOG				S	**Sb**	**06 15 01.7**	**+1.2**
AKLM	**AKL**	**1.23**	**191**	P	**Pn**	**06 14 58.9**	**-0.4**
AKLM				S	**Sn**	**06 15 13.1**	**-2.1**
CHEFC	**Chefchaouen**	**1.56**	**247**	P	**Pb**	**06 15 05.2**	**-0.7**
CHEFC				S	**Sn**	**06 15 19.4**	**-3.9**
JBK	**JBK**	**1.62**	**149**	P	**Pb**	**06 15 06.7**	**-0.4**
JBK				S	**Sn**	**06 15 23.3**	**-1.6**
LCRM	**LCR**	**2.29**	**208**	P	**Pb**	**06 15 17.9**	**-0.5**
LCRM				S	**Sb**	**06 15 46.5**	**+0.3**
MD31	**MD31**	**3.01**	**199**	P	**Pn**	**06 15 25.8**	**+2.0**
MD31				S	**Sn**	**06 16 00.4**	**+1.2**
MDT	**Midelt**	**3.02**	**197**	P	**Pn**	**06 15 26.5**	**+2.5**
MDT				S	**Sn**	**06 16 00.6**	**+1.1**
PVAQ	**Vaqueiros**	**3.72**	**298**	P	**Pn**	**06 15 34.7**	**+1.1**
PVAQ				S	**Sn**	**06 16 16.9**	**+0.3**
MESJ	**Messejana**	**4.28**	**301**	*e*P	**Pn**	**06 15 41.7**	**+0.6**

*ANF **26** 06:24:49.7±0.3, 36°.90N×97°.98W, h5km, ML4.5/17, Error ellipse: s-maj=3.7km s-min=2.8km az=40.0*
*NEIC **26** 06:24:49.7, 36°.90N×97°.98W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}=0.25; $M_{\theta\theta}$=7.75; $M_{\phi\phi}$=-7.50; $M_{r\theta}$=0.75; $M_{r\phi}$=2.64; $M_{\theta\phi}$=-1.38; Fault plane solution: M_0=8.22000×10^{13} NP1:ϕ_s=36.00000°, δ=80.00000°, λ=-175.00000°. NP2:ϕ_s=305.00000°, δ=85.00000°, λ=-10.00000°. Principal axes: T 8.2244, Plg3.0000°, Azm351.0000°; N -0.0025, Plg79.0000°, Azm99.0000°; P -8.2218, Plg11.0000°, Azm260.0000°;*
*IDC **26** 06:24:49.9±0.9, 37°.03N×98°.10W, h0km, mb3.2/1, mb1 3.9/6, mb1mx3.5/63, mbtmp3.6/6, ML4.4/3 Error ellipse: s-maj=11.7km s-min=9.9km az=123.0*
*TUL **26** 06:24:49.7±1.1, 36°.92N±0°.02×97°.98W±0°.05, h5km±7km, ML3.8, mb_Lg3.6/113(NEIC), Mwr3.2/11(SLM), Error ellipse: s-maj=6.4km s-min=2.3km az=113.0*
*NEIC **26** 06:24:50.2±1.6, 36°.90N±0°.04×97°.93W±0°.05, h4km±7km, Error ellipse: s-maj=6.1km s-min=4.7km az=50.0*

ISC 26 06:24:49.9±0.9, 36°.90N±0°.02×97°.97W±0°.03, h9km±6km, n140, σ1°.05/130, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.06**	**8**		**Pg**	**06 24 51.3**	**-0.6**
GC02	**Grant County #**	**0.10**	**118**		**Pg**	**06 24 52.5**	**+0.1**
KAN17	**Caldwell West**	**0.22**	**49**		**Pg**	**06 24 54.4**	**0.0**
KAN17				Sg	**Sg**	**06 24 57.1**	**-0.4**
KAN05	**Bluff City Nor**	**0.22**	**21**		**Pg**	**06 24 54.3**	**-0.2**
KAN05				Sg	**Sg**	**06 24 57.1**	**-0.5**
KAN10	**Anthony SW Sta**	**0.24**	**336**	Pg	**Pg**	**06 24 54.7**	**-0.2**
KAN10				Sg	**Sg**	**06 24 56.7**	**-1.6**
KAN01	**Argonia South**	**0.31**	**34**		**Pg**	**06 24 55.9**	**-0.2**
KAN01				Sg	**Sg**	**06 25 00.1**	**-0.1**
KAN08	**Anthony NE Sta**	**0.33**	**0**	Pg	**Pg**	**06 24 56.1**	**-0.3**
KAN16	**Harper SW Stat**	**0.33**	**347**		**Pg**	**06 24 56.2**	**-0.3**
KAN16				Sg	**Sg**	**06 25 00.7**	**-0.3**
KAN06	**Argonia West S**	**0.36**	**15**		**Pg**	**06 24 56.7**	**-0.3**
KAN06				Sg	**Sg**	**06 25 01.7**	**-0.1**
CROK	**Carrier**	**0.39**	**181**	Pg	**Pg**	**06 24 58.0**	**+0.3**
KAN12	**Harper NE Stat**	**0.40**	**357**	Pg	**Pg**	**06 24 57.5**	**-0.3**
KAN13	**South Haven SW**	**0.41**	**74**		**Pg**	**06 24 58.0**	**0.0**
OK035	**E0210 Rd and N**	**0.62**	**252**	Pg	**Pg**	**06 25 01.6**	**-0.3**
U32A	**Winter Ranch,**	**0.98**	**238**	Pg	**Pg**	**06 25 08.2**	**-0.5**
T35A	**Sooner Cattle**	**1.17**	**89**		**Pg**	**06 25 11.9**	**-0.5**
OK029	**Liberty Lake**	**1.18**	**159**		**Pg**	**06 25 12.1**	**-0.5**
OK033	**Mehan**	**1.19**	**135**		**Pg**	**06 25 12.5**	**-0.3**
QUOK	**Quay**	**1.25**	**125**	Pn	**Pn**	**06 25 13.4**	**-0.1**
OK031	**S. Brethren Rd**	**1.31**	**136**		**Pn**	**06 25 14.4**	**0.0**
OK030	**Cody Creek RV**	**1.36**	**135**	Pn	**Pn**	**06 25 15.2**	**+0.1**
OKCFA	**Oklahoma City**	**1.54**	**164**		**Pn**	**06 25 17.8**	**+0.2**
OKCFA				IAmb_Lg		06 25 42.2	
	comp=Z,290nm,0.9s						
R32A	**Long Quarter,**	**1.63**	**339**		**Pn**	**06 25 19.5**	**+0.6**
R32A				IAmb_Lg		06 25 42.4	
	comp=Z,454nm,0.8s						
TUL1	**Leonard**	**2.02**	**119**		**Pn**	**06 25 25.6**	**+1.5**
TUL1	**Leonard**	**2.02**	**119**	P	**Pn**	**06 25 25.2**	**+1.1**
	baz=300,SNR=87						
TUL1				S	**Sb**	**06 25 52.1**	**+0.2**
	baz=300						
WMOK	**Wichita Mounta**	**2.25**	**197**		**Pn**	**06 25 28.4**	**+1.0**
WMOK				IAmb_Lg		06 26 03.0	
	comp=Z,258nm,0.9s						
WMOK	**Wichita Mounta**	**2.25**	**197**	P	**Pn**	**06 25 28.4**	**+1.0**
	baz=17,SNR=140						
WMOK				S	**Sn**	**06 25 56.7**	**+1.4**
	baz=17						
X34A	**Smith Ranch, M**	**2.30**	**177**		**Pn**	**06 25 29.7**	**+1.7**
CBKS	**Cedar Bluff**	**2.37**	**324**	Pn	**Pn**	**06 25 30.1**	**+1.1**
CBKS				IAmb_Lg		06 26 09.3	
	comp=Z,199nm,0.9s						
CBKS	**Cedar Bluff**	**2.37**	**324**	P	**Pn**	**06 25 29.8**	**+0.8**
	baz=144,SNR=63						
CBKS				S	**Sn**	**06 25 59.2**	**+1.0**
	baz=144						
KSU1	**Kansas State U**	**2.45**	**26**	Pn	**Pn**	**06 25 31.2**	**+1.1**
KSU1	**Kansas State U**	**2.45**	**26**	P	**Pn**	**06 25 31.0**	**+0.9**
	baz=206,SNR=100						
KSU1				S	**Sn**	**06 26 02.4**	**+2.3**
	baz=206						
U38A	**Gravette**	**2.92**	**98**		**Pn**	**06 25 38.1**	**+1.6**
U38A				IAmb_Lg		06 26 25.9	
	comp=Z,125nm,0.8s						
LOOK	**Love County**	**2.97**	**167**	Pn	**Pn**	**06 25 39.0**	**+1.7**
X37A	**Clayton**	**3.13**	**137**		**Pn**	**06 25 40.5**	**+1.1**
HHAR	**Hobbs**	**3.30**	**100**	IAmb_Lg		06 26 39.0	
	comp=Z,108nm,0.8s						
Z35A	**Perchaven, San**	**3.61**	**170**		**Pn**	**06 25 47.0**	**+1.0**
AMTX	**Amarillo**	**3.62**	**237**	Pn	**Pn**	**06 25 48.1**	**+1.8**
AMTX				IAmb_Lg		06 26 52.3	
	comp=Z,110nm,0.9s						
AMTX	**Amarillo**	**3.62**	**237**	P	**Pn**	**06 25 47.4**	**+1.1**
	baz=55						
AMTX				Sb	**Sb**	**06 26 41.8**	**+3.6**
	baz=55						
S39A	**Bolivar**	**3.79**	**77**		**Pn**	**06 25 49.9**	**+1.3**
W39A	**Magazine**	**3.80**	**115**	P	**Pn**	**06 25 49.6**	**+1.0**
	baz=298,SNR=18						
W39A				S	**Sn**	**06 26 35.3**	**+1.9**
	baz=298						
U40A	**Yellville**	**4.15**	**96**	IAmb_Lg		06 27 02.5	
	comp=Z,205nm,0.7s						
U40A	**Yellville**	**4.15**	**96**	P	**Pn**	**06 25 54.7**	**+1.2**
	baz=279,SNR=9.1						
U40A				S	**Sn**	**06 26 43.4**	**+1.2**
	baz=279						
KSCO	**Kaye Shedlock'**	**4.24**	**301**		**Pn**	**06 25 55.3**	**+0.5**
KSCO				IAmb_Lg		06 27 15.5	
	comp=Z,122nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.24**	**301**	P	**Pn**	**06 25 55.4**	**+0.5**
	baz=118,SNR=11						
KSCO				S	**Sn**	**06 26 44.5**	**0.0**
	baz=118						
MIAR	**Mount Ida**	**4.28**	**122**	Pn	**Pn**	**06 25 56.3**	**+1.1**
MIAR				IAmb_Lg		06 27 16.9	
	comp=Z,177nm,1.0s						
MIAR	**Mount Ida**	**4.28**	**122**	P	**Pn**	**06 25 55.8**	**+0.6**
	baz=305,SNR=12						
MIAR				S	**Sn**	**06 26 46.4**	**+1.1**
	baz=305						
N35A	**Tabor**	**4.35**	**24**		**Pn**	**06 25 57.5**	**+1.2**
Z38A	**Mt. Pleasant**	**4.38**	**145**	Pn	**Pn**	**06 25 57.0**	**+0.4**
P38A	**Dawn**	**4.43**	**51**		**Pn**	**06 25 58.3**	**+1.0**
ABTX	**Abilene, Hawle**	**4.48**	**198**	IAmb_Lg		06 27 14.8	
	comp=Z,85nm,0.7s						
ABTX	**Abilene, Hawle**	**4.48**	**198**	S	**Sn**	**06 26 49.7**	**-0.6**
	baz=17						
BGNE	**Belgrade**	**4.50**	**358**		**Pn**	**06 25 59.3**	**+0.9**
BGNE				IAmb_Lg		06 27 13.0	
	comp=Z,160nm,0.8s						
BGNE	**Belgrade**	**4.50**	**358**	P	**Pn**	**06 25 59.3**	**+0.9**
	baz=178						
BGNE				S	**Sn**	**06 26 52.3**	**+1.4**
	baz=178						
MGMO	**Mountain Grove**	**4.57**	**85**		**Pn**	**06 26 00.7**	**+1.5**
MGMO				IAmb_Lg		06 27 18.3	
	comp=Z,101nm,0.8s						
R40A	**Maddies Statio**	**4.74**	**71**	IAmb_Lg		06 27 28.8	
	comp=Z,72nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.82**	**100**		**Pn**	**06 26 03.4**	**+0.7**
FCAR				IAmb_Lg		06 27 26.5	
	comp=Z,108nm,0.8s						
X40A	**Basin Creek Fa**	**4.83**	**118**	IAmb_Lg		06 27 33.2	
	comp=Z,91nm,0.8s						
X40A	**Basin Creek Fa**	**4.83**	**118**	P	**Pn**	**06 26 03.7**	**+1.0**
	baz=302,SNR=10						
X40A				S	**Sn**	**06 26 59.3**	**+0.6**
	baz=302						
WHAR	**Wooly Hollow**	**4.88**	**108**		**Pn**	**06 26 04.1**	**+0.7**
WHAR				IAmb_Lg		06 27 32.4	
	comp=Z,118nm,0.9s						
MSTX	**Muleshoe**	**4.89**	**235**	Pn	**Pn**	**06 26 04.8**	**+1.1**
MSTX	**Muleshoe**	**4.89**	**235**	P	**Pn**	**06 26 04.8**	**+1.1**
	baz=52						
WHTX	**Lake Whitney,**	**4.91**	**175**	Pn	**Pn**	**06 26 04.4**	**+0.5**
WHTX	**Lake Whitney,**	**4.91**	**175**	P	**Pn**	**06 26 04.4**	**+0.5**
	baz=355						
WHTX				S	**Sn**	**06 27 01.3**	**+0.3**
	baz=355						
W41B	**Gary Mavity, V**	**4.95**	**109**	IAmb_Lg		06 27 34.8	
	comp=Z,113nm,0.7s						
W41B	**Gary Mavity, V**	**4.95**	**109**	P	**Pn**	**06 26 05.5**	**+1.1**
	baz=292,SNR=8.1						
W41B				S	**Sn**	**06 27 02.6**	**+0.9**
	baz=292						
WLAR	**White Oak Lake**	**5.11**	**127**		**Pn**	**06 26 08.0**	**+1.5**
WLAR				IAmb_Lg		06 27 38.2	
	comp=Z,125nm,0.9s						
OGNE	**Ogallala**	**5.13**	**323**	Pn	**Pn**	**06 26 08.9**	**+1.9**
OGNE	**Ogallala**	**5.13**	**323**	P	**Pn**	**06 26 08.6**	**+1.5**
	baz=141						
T25A	**Trinidad**	**5.16**	**275**	Pn	**Pn**	**06 26 07.5**	**+0.1**
T25A				IAmb_Lg		06 27 36.5	
	comp=Z,76nm,0.8s						
T25A	**Trinidad**	**5.16**	**275**	P	**Pn**	**06 26 07.7**	**+0.2**
	baz=91,SNR=5.8						
237A	**Washetta, Mont**	**5.20**	**159**	IAmb_Lg		06 27 45.1	
	comp=Z,81nm,0.8s						
P40A	**Paris**	**5.35**	**59**	IAmb_Lg		06 27 41.9	
	comp=Z,144nm,0.8s						
CCM	**Cathedral Cave**	**5.47**	**76**		**Pn**	**06 26 12.5**	**+0.9**
CCM				IAmb_Lg		06 27 51.5	
	comp=Z,90nm,0.8s						
CCM	**Cathedral Cave**	**5.47**	**76**	P	**Pn**	**06 26 12.6**	**+0.9**
	baz=260						
Z41A	**Richland Creek**	**5.58**	**129**	IAmb_Lg		06 27 59.5	
	comp=Z,119nm,0.8s						
Z41A	**Richland Creek**	**5.58**	**129**	P	**Pn**	**06 26 13.7**	**+0.6**
	baz=312						
Z41A				S	**Sn**	**06 27 16.2**	**-1.2**
	baz=312						
K31A	**O'Neill**	**5.75**	**354**	IAmb_Lg		06 28 03.7	
	comp=Z,134nm,0.8s						
NATX	**Nacogdoches**	**5.81**	**151**	S	**Sn**	**06 27 22.0**	**-1.0**
	baz=333						
CCAR	**Cane Creek**	**5.87**	**119**	IAmb_Lg		06 28 09.0	
	comp=Z,116nm,0.7s						
Q24A	**Divide**	**6.04**	**292**	IAmb_Lg		06 28 04.7	
	comp=Z,77nm,0.7s						
Q24A	**Divide**	**6.04**	**292**	P	**Pn**	**06 26 19.4**	**-0.2**
	baz=108						
Q24A				S	**Sn**	**06 27 28.1**	**-1.0**
	baz=108						
PBMO	**Poplar Bluff**	**6.05**	**89**	IAmb_Lg		06 28 05.6	
	comp=Z,94nm,0.8s						
SDCO	**Great Sand Dun**	**6.06**	**280**		**Pn**	**06 26 21.6**	**+1.7**
SDCO	**Great Sand Dun**	**6.06**	**280**	P	**Pn**	**06 26 20.9**	**+0.9**
	baz=96,SNR=6.5						
FVM	**French Village**	**6.10**	**78**		**Pn**	**06 26 20.6**	**+0.4**
FVM				IAmb_Lg		06 28 06.8	
	comp=Z,58nm,0.7s						
SCIA	**State Center**	**6.21**	**35**	S	**Sn**	**06 27 32.2**	**-0.7**
	baz=218						
SLM	**Saint Louis**	**6.37**	**72**	IAmb_Lg		06 28 16.4	
	comp=Z,83nm,0.7s						
JCT	**Junction City**	**6.58**	**194**		**Pn**	**06 26 26.9**	**0.0**
JCT				IAmb_Lg		06 28 31.4	
	comp=Z,84nm,0.9s						
JCT	**Junction City**	**6.58**	**194**	P	**Pn**	**06 26 27.2**	**+0.2**
	baz=13						
JCT				S	**Sn**	**06 27 40.3**	**-1.8**
	baz=13						
ISCO	**Idaho Springs**	**6.67**	**298**		**Pn**	**06 26 28.6**	**+0.3**
ISCO				IAmb_Lg		06 28 22.7	
	comp=Z,52nm,0.8s						
ISCO	**Idaho Springs**	**6.67**	**298**	P	**Pn**	**06 26 28.8**	**+0.5**
	baz=113						
ISCO				S	**Sn**	**06 27 43.5**	**-1.0**
	baz=113						
MET	**Memphis--Engin**	**6.75**	**103**	IAmb_Lg		06 28 32.9	
	comp=Z,108nm,0.8s						
143A	**Socs Landing,**	**6.83**	**126**	IAmb_Lg		06 28 38.0	
	comp=Z,68nm,0.7s						
ECSD	**EROS Data Cent**	**6.91**	**8**		**Pn**	**06 26 31.9**	**+0.6**
ECSD	**EROS Data Cent**	**6.91**	**8**	P	**Pn**	**06 26 31.2**	**-0.1**
	baz=189						
ECSD				S	**Sn**	**06 27 48.5**	**-1.5**
	baz=189						
S44A	**Carbondale**	**7.00**	**81**	IAmb_Lg		06 28 36.5	
	comp=Z,82nm,0.8s						
K38A	**Parkersburg**	**7.00**	**33**	IAmb_

baz=227
146A Union 8.48 117 IAmb_Lg 06 29 42.0
comp=Z,46nm,0.9s
RSSD Black Hills 8.56 329 IAmb_Lg 06 29 27.7
comp=Z,37nm,0.8s
RSSD Black Hills 8.56 329 P **Pn 06 26 56.2 +2.0**
baz=145
RWWY Rawlins 8.61 307 IAmb_Lg 06 29 28.5
comp=Z,34nm,0.8s
K22A Casper 8.73 314 IAmb_Lg 06 29 44.2
comp=Z,63nm,1.0s
K22A Casper 8.73 314 P **Pn 06 26 56.8 +0.3**
baz=128,SNR=9.7
TXAR Lajitas Array 8.93 214 Pn **Pn 06 26 59.5 +0.3**
comp=Z,0.5nm,0.3s,baz=38,slow=11,SNR=22
TXAR Sn **Sn 06 28 38.4 -1.5**
comp=Z,0.8nm,0.3s,baz=38,slow=14,SNR=1.7
TXAR Lg Lg 06 29 26.5
comp=Z,1.3nm,0.3s,baz=37,slow=26,SNR=7.0
I40A Norwalk 8.96 36 IAmb_Lg 06 29 42.4
comp=Z,49nm,1.1s
F33A 5 Mile Ranch, 9.02 8 IAmb_Lg 06 29 37.3
comp=Z,34nm,0.9s
SPMN Marine on St. 9.19 24 IAmb_Lg 06 29 49.5
comp=Z,38nm,1.0s
SPMN Marine on St. 9.19 24 P **Pn 06 27 03.1 +0.5**
baz=207
WCI Wyandotte Cave 9.37 78 P **Pn 06 27 05.7 +0.6**
baz=265
I42A Draeger Farm, 9.82 42 IAmb_Lg 06 30 11.9
comp=Z,38nm,1.0s
E28A Huff 9.88 349 IAmb_Lg 06 30 20.5
comp=Z,34nm,0.8s
PDAR Pinedale Array 10.66 307 Pn **Pn 06 27 21.9 -1.0**
comp=Z,0.6nm,0.3s,baz=123,slow=13,SNR=19
PDAR Lg Lg 06 30 20.1
comp=Z,1.4nm,0.3s,baz=111,slow=36,SNR=3.0
BW06 Boulder Array 10.66 307 P **Pn 06 27 23.3 +0.4**
baz=120
P49A Miami Univ. Ec 10.76 72 P **Pn 06 27 23.4 -0.7**
baz=260
TKL Tuckaleechee C 11.53 92 Pn **Pn 06 27 35.8 +1.1**
comp=Z,1.2nm,0.3s,baz=233,slow=6.1,SNR=15
TKL Lg Lg 06 30 49.3
comp=Z,1.0nm,0.3s,baz=9.5,slow=20,SNR=8.5
ULM Lac du Bonnet 13.43 6 Pn **Pn** 06 27 55.9 -4.7
comp=Z,0.5nm,0.3s,baz=180,slow=17,SNR=1.9
ULM Sn Sn 06 30 16.9 -13
comp=Z,0.4nm,0.3s,baz=114,slow=20,SNR=2.2
ULM Lg Lg 06 31 47.1
comp=Z,0.3nm,0.3s,baz=95,slow=23,SNR=4.1
YKA Yellowknife Ar 27.61 343 P **P 06 30 38.9 +1.6**
comp=Z,0.4nm,1.1s,baz=148,slow=8.3,SNR=2.3

*IDC **26** 06:25:31.0±1.0, 6˚.95N×73˚.21W, h151km±15km, mb2.7/1, mb1 3.3/3, mb1mx2.9/48, mbtmp3.6/3, Error ellipse: s-maj=54.6km s-min=7.6km az=131.0*
*RSNC **26** 06:25:32.5±0.7, 6˚.82N×73˚.10W, h146km±2km, ML3.3, Mw3.6*
ISC 26 06:25:31.6±0.9, 6˚.83N±0˚.03×73˚.09W±0˚.03, h151km±6km, n32, σ0°94/60, 4C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**201**	⇑ *i* P	**Pn**	**06 25 52.7**	**+0.2**
BARC				*e* S	**Sn**	**06 26 07.4**	**-0.9**
BARC				*i*		06 26 09.3	
	comp=Z,321nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**37**	⇑ *e* P	**Pn**	**06 25 55.5**	**+1.1**
PAMC				*e* S	**Sn**	**06 26 13.0**	**+1.1**
PAMC				*i*		06 26 14.9	
	comp=Z,198nm,0.4s						
RUSC	**La Rusia**	**0.93**	**179**	*e* P	**Pn**	**06 25 56.7**	**+0.2**
RUSC				*e* S	**Sn**	**06 26 15.3**	**-0.2**
RUSC				*i*		06 26 16.8	
	comp=Z,230nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.39**	**258**	*e* P	**Pn**	**06 25 59.2**	**-0.8**
PTBC				*e* S	**Sn**	**06 26 20.4**	**-1.4**
PTBC				*i*		06 26 26.1	
	comp=Z,153nm,0.2s						
OCAC	**Ocana**	**1.42**	**351**	*e* P	**Pn**	**06 26 00.6**	**0.0**
OCAC				*e* S	**Sn**	**06 26 22.6**	**-0.3**
OCAC				*i*		06 26 33.8	
	comp=Z,290nm,0.4s						
SPBC	**San Pablo de B**	**1.52**	**220**	*e* P	**Pn**	**06 26 01.7**	**+0.1**
SPBC				*e* S	**Sn**	**06 26 23.6**	**-1.0**
SPBC				*i*		06 26 26.3	
	comp=Z,272nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e* P	**Pn**	**06 26 05.2**	**-0.2**
ZARC				*e* S	**Sn**	**06 26 31.0**	**-0.3**
ZARC				*i*		06 26 36.5	
	comp=Z,242nm,0.7s						
NORC	**Norcasia**	**2.17**	**235**	*e* P	**Pn**	**06 26 08.9**	**+0.1**
NORC				*e* S	**Sn**	**06 26 36.7**	**-0.8**
SMLC	**San Martn de**	**2.19**	**334**	*e* P	**Pn**	**06 26 08.9**	**-0.1**
SMLC				*e* S	**Sn**	**06 26 37.5**	**-0.4**
SMLC				*i*		06 26 41.1	
	comp=Z,237nm,0.1s						
CHIC	**Chingaza**	**2.27**	**196**	⇑ *i* P	**Pn**	**06 26 11.1**	**+0.6**
CHIC				*e* S	**Sn**	**06 26 40.2**	**-0.2**
CHIC				*i*		06 26 46.5	
	comp=Z,75nm,0.3s						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**06 26 12.5**	**+1.5**
	comp=Z,31nm,0.3s,baz=126,slow=21,SNR=118						
ROSC				S	**Sn**	**06 26 42.0**	**+0.7**
	comp=Z,99nm,0.3s,baz=193,slow=23,SNR=19						
HELC	**Santa Helena**	**2.50**	**255**	*e* P	**Pn**	**06 26 15.2**	**+2.0**
HELC				*e* S	**Sn**	**06 26 45.6**	**+0.5**
HELC				*i*		06 26 52.9	
	comp=Z,52nm,0.3s						
SOCV	**Socops**	**2.65**	**57**	⇑ *e* P	**Pn**	**06 26 14.5**	**-0.1**
SOCV				*e* S	**Sn**	**06 26 47.2**	**-0.7**
VILC	**Villavicencio,**	**2.76**	**193**	*e* P	**Pn**	**06 26 16.2**	**0.0**
VILC				*e* S	**Sn**	**06 26 50.1**	**-0.6**
GUY2C	**Guyana, Caldas**	**2.77**	**235**	*e* P	**Pn**	**06 26 17.8**	**+1.2**
GUY2C				*e* S	**Sn**	**06 26 51.2**	**0.0**
GUY2C				*i*		06 27 03.0	
	comp=Z,64nm,0.4s						
LL6C	**La Loma 6 Bece**	**2.89**	**357**	*e* P	**Pn**	**06 26 17.5**	**-0.2**
LL6C				*e* S	**Sn**	**06 26 52.9**	**-0.5**
CBOC	**Ciudad Bolivar**	**3.06**	**252**	*e* P	**Pn**	**06 26 20.7**	**+0.8**
CBOC				*e* S	**Sn**	**06 26 56.9**	**-0.3**
DBBC	**Dabeiba**	**3.10**	**274**	*e* P	**Pn**	**06 26 20.0**	**-0.4**
DBBC				*e* S	**Sn**	**06 26 56.2**	**-1.9**
DBBC				*i*		06 27 00.4	
	comp=Z,128nm,0.5s						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**06 26 22.3**	**+0.9**
	comp=Z,12nm,0.3s,baz=241,slow=13,SNR=41						
SDV				S	**Sn**	**06 26 59.6**	**-0.5**
	comp=Z,8.6nm,0.3s,baz=253,slow=22,SNR=18						
SDV	**Santo Domingo**	**3.18**	**50**	*i* P	**Pn**	**06 26 22.4**	**+0.9**
SDV				*e* S	**Sn**	**06 27 00.3**	**+0.2**
ARGC	**Ariguani, Magd**	**3.22**	**339**	*e* P	**Pn**	**06 26 22.7**	**+0.9**
ARGC				*e* S	**Sn**	**06 27 01.1**	**+0.3**
ARGC				*i*		06 27 10.7	
	comp=Z,25nm,0.4s						
ANIL	**Santa Ana**	**3.27**	**225**	*e* P	**Pn**	**06 26 24.6**	**+1.9**
ANIL				*e* S	**Sn**	**06 27 03.9**	**+1.7**
ANIL				*i*		06 27 08.9	
	comp=Z,152nm,0.3s						
PRAC	**Prado**	**3.57**	**210**	*e* P	**Pn**	**06 26 26.3**	**-0.1**
PRAC				*e* S	**Sn**	**06 27 08.8**	**-0.2**
PRAC				*i*		06 27 15.0	
	comp=Z,89nm,0.3s						
ELOV	**Elorza**	**3.59**	**87**	*i* P	**Pn**	**06 26 27.0**	**+0.5**
ELOV				*e* S	**Sn**	**06 27 08.9**	**-0.2**
ORTC	**Ortega, Tolima**	**3.61**	**217**	*e* P	**Pn**	**06 26 26.8**	**0.0**
ORTC				*e* S	**Sn**	**06 27 10.1**	**+0.3**
PLMC	**San Jos del P**	**3.71**	**239**	*e* P	**Pn**	**06 26 28.0**	**-0.1**
PLMC				*e* S	**Sn**	**06 27 11.9**	**-0.1**
GUVC	**San Jose del G**	**4.28**	**174**	*e* P	**Pn**	**06 26 34.6**	**-1.0**
GUVC				*e* S	**Sn**	**06 27 23.9**	**-1.5**
GUVC				*i*		06 27 28.2	
	comp=Z,54nm,0.2s						
DABV	**Dabajuro**	**4.74**	**31**	*i* P	**Pn**	**06 26 42.6**	**+1.0**
DABV				*e* S	**Sn**	**06 27 34.2**	**-1.9**
FLOC	**Florencia**	**5.80**	**206**	*e* P	**Pn**	**06 26 55.0**	**-0.7**
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**06 35 43.2**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=125,slow=6.4,SNR=4.2						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPdf**	**06 45 01.2**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=122,slow=3.7,SNR=7.8						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**06 45 04.5**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=107,slow=2.9,SNR=8.8						

GUC 26 06:39:53.3±0.8, 30˚.64S×71˚.67W, h37km±2km, ML4.0,5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.04**	**135**	⇓ *i* P	Pn	06 39 58.8	-0.6
CO06				*i* S	Sn	06 40 02.1	-1.5
CO06				IAML		06 40 03.0	
	comp=E,27μm,0.3s						
CO05	**La Serena**	**0.81**	**27**	⇓ *i* P	Pn	06 40 08.4	+0.2
CO05				*i* S	Sn	06 40 19.8	+0.7
CO05				IAML		06 40 25.1	
	comp=E,6μm,0.4s						
CO03	**El Pedregal**	**0.87**	**103**	⇓ *i* P	Pn	06 40 09.5	+0.4
CO03				*i* S	Sn	06 40 20.8	+0.2
CO03				IAML		06 40 24.2	
	comp=E,5μm,0.5s						
GO04	**Tololo Observa**	**0.89**	**58**	⇓ *i* P	Pn	06 40 10.1	+0.7
GO04				*e* S	Sn	06 40 20.9	-0.4
LCO	**Las Campanas**	**1.83**	**28**	*e* P	Pn	06 40 24.0	+1.5
LCO				*e* S	Sn	06 40 47.9	+3.3
VA03	**San Esteban**	**2.32**	**156**	*e* P	Pn	06 40 31.2	+2.2
VA03				*e* S	Sn	06 40 59.8	+3.5
VA03				IAML		06 41 09.4	
	comp=E,1μm,0.5s						
ROCH	**El Roble**	**2.39**	**167**	*e* P		06 40 31.4	
ROCH				*e* P	Pn	06 40 30.6	+0.6
ROCH				*e* S	Sn	06 40 58.6	+0.4
ROCH				IAML		06 41 07.9	
	comp=N,1μm,0.5s						
ROCH				IAML		06 41 14.4	
	comp=E,985nm,0.3s						
PEL	**Peldehue**	**2.63**	**162**	*e* P	Pn	06 40 35.0	+1.8
PEL				IAML		06 41 16.6	
	comp=N,521nm,0.6s						
MT02	**Curacav**	**2.65**	**170**	⇓ *e* P	Pn	06 40 35.5	+2.1
MT05	**Renca**	**2.85**	**164**	*e* P	Pn	06 40 38.0	+1.7
VA05	**Santo Domingo**	**3.00**	**179**	*e* P	Pn	06 40 40.9	+2.6
VA05				IAML		06 41 37.0	
	comp=N,565nm,0.3s						
MT09	**Talagante**	**3.18**	**170**	*e* P	Pn	06 40 42.4	+1.6
MT09				IAML		06 41 31.9	
	comp=E,423nm,0.7s						
GO03	**Copiap**	**3.29**	**23**	*e* P	Pn	06 40 43.6	+1.3
GO03				IAML		06 41 42.1	
	comp=N,341nm,0.4s						
BO02	**Sierra Bellavi**	**4.20**	**170**	*e* P	Pn	06 40 56.5	+1.6

*NEIC **26** 06:47:48.5±1.8, 53˚.33N±0˚.08×163˚.54W±0˚.09, h9km±6km, Error ellipse: s-maj=12.1km s-min=5.9km az=154.0*
*IDC **26** 06:47:48.5±1.3, 53˚.63N×163˚.74W, h0km, mb4.0/15, mb1 4.1/17, mb1mx3.8/54, mbtmp4.0/17, ML3.5/3, Error ellipse: s-maj=34.4km s-min=14.9km az=166.0*
*AEIC **26** 06:47:50±1.7, 53˚.34N±0˚.02×163˚.58W±0˚.07, h26km±5km, ML3.7/37, mb4.1/18(NEIC), ML3.8/8(NEIC), Error ellipse: s-maj=6.1km s-min=1.8km az=68.0*
ISC 26 06:47:51.3±2.1, 53˚.44N±0˚.08×163˚.59W±0˚.04, h23km±13km, n86, σ1°26/84, mb4.2/16, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.19**	**331**		**Pn**	**06 48 12.4**	**-0.1**
BRPK	**Brown Peak**	**1.21**	**356**		**Pn**	**06 48 12.9**	**+0.1**
WESP	**Westdahl Peak**	**1.25**	**328**		**Pn**	**06 48 13.3**	**-0.1**
WESP					**Sb**	**06 48 32.5**	**+2.6**
ISLZ	**Isanotski Laza**	**1.29**	**357**		**Pn**	**06 48 13.9**	**+0.1**
ISLZ					**Sb**	**06 48 31.4**	**+0.4**
SSLS	**Shishaldin Sou**	**1.30**	**349**		**Pn**	**06 48 14.3**	**+0.3**
SSLS					**Sb**	**06 48 33.1**	**+1.9**
WECS	**Westdahl Cape**	**1.30**	**328**		**Pn**	**06 48 14.0**	**0.0**
WECS					**Sb**	**06 48 33.1**	**+1.9**
WEBT	**Westdahl Beart**	**1.34**	**330**		**Pn**	**06 48 14.9**	**+0.4**
ISNN	**Isanotski Nort**	**1.40**	**355**		**Pb**	**06 48 16.4**	**-0.3**
FALS	**False Pass**	**1.42**	**4**		**Pn**	**06 48 16.1**	**+0.5**
FALS					**Sb**	**06 48 36.1**	**+1.4**
AKSA	**Akutan Strait**	**1.43**	**300**		**Pn**	**06 48 15.5**	**-0.3**
AKSA	**Akutan Strait**	**1.43**	**300**		**Pn**	**06 48 15.4**	**-0.3**
AKSA					**Sn**	**06 48 33.9**	**+0.1**
AKUT	**Akutan**	**1.47**	**299**		**Pn**	**06 48 16.1**	**-0.1**
AKUT	**Akutan**	**1.47**	**299**	IAML		06 48 42.3	
	comp=E,880nm,0.6s						
AKBBA	**Akutan Broad B**	**1.54**	**296**		**Pn**	**06 48 17.0**	**-0.2**
HSB	**Akutan Spr's B**	**1.57**	**299**		**Pn**	**06 48 17.5**	**-0.1**
AKMO	**Akutan Morgan**	**1.58**	**295**		**Pn**	**06 48 17.6**	**-0.2**
AKGG	**Akutan Green G**	**1.61**	**299**		**Pn**	**06 48 18.3**	**0.0**
AKGG					**Sb**	**06 48 39.9**	**-0.3**
DT1	**Dutton Round H**	**1.84**	**24**		**Pn**	**06 48 21.9**	**+0.6**
MTBL	**Makushin Table**	**1.91**	**287**		**Pn**	**06 48 22.4**	**-0.1**
MSW	**Makushin Switc**	**1.96**	**285**		**Pn**	**06 48 22.7**	**-0.3**
MSW					**Sn**	**06 48 47.0**	**+0.2**
MGOD	**Makushin Gods**	**1.99**	**282**		**Pn**	**06 48 23.3**	**-0.2**
HAG	**Hague Volcano**	**2.12**	**27**		**Pn**	**06 48 26.7**	**+1.4**
PS4A	**Pavlof South-4**	**2.16**	**27**		**Pn**	**06 48 27.0**	**+1.2**
SDPT	**Sand Point**	**2.64**	**42**		**Pn**	**06 48 33.5**	**+1.1**
SDPT	**Sand Point**	**2.64**	**42**	IAML		06 49 06.0	
	comp=N,443nm,0.3s						
OKNC	**Okmok New Cone**	**2.71**	**272**		**Pn**	**06 48 33.6**	**+0.2**
CNBA	**Chernabura Isl**	**2.73**	**58**		**Pn**	**06 48 34.4**	**+0.8**
CNBA	**Chernabura Isl**	**2.73**	**58**	IAML		06 49 08.0	
	comp=E,312nm,0.4s						
OKCE	**Okmok Cone E**	**2.74**	**272**		**Pn**	**06 48 34.4**	**+0.6**
OKSP	**Okmok Steeple**	**2.83**	**268**		**Pn**	**06 48 34.7**	**-0.2**
NIKH	**Nikolski High**	**3.20**	**264**		**Pn**	**06 48 39.9**	**-0.2**
CLCO	**Concord Point,**	**3.75**	**262**		**Pn**	**06 48 48.0**	**+0.4**
CHGN	**Chignik**	**4.14**	**44**		**Pn**	**06 48 54.0**	**+1.0**
CHGN				IAML		06 49 42.8	
	comp=N,112nm,0.3s						
KDAK	**Kodiak Island**	**7.60**	**51**	Pn	**Pn**	**06 49 39.5**	**-0.9**
	comp=N,1.6nm,0.3s,baz=205,slow=6.4,SNR=9.3						
KDAK				Sn	**Sn**	**06 50 59.8**	**-5.9**
	comp=N,1.1nm,0.3s,baz=4.8,slow=24,SNR=9.2						
KDAK	**Kodiak Island**	**7.60**	**51**	Pn	**Pn**	**06 49 38.8**	**-1.6**
H21K	**Melozitna Rive**	**13.39**	**20**		**P**	**06 51 05.1**	**-3.7**
ILAR	**Eielson Array**	**14.17**	**30**	Pn	**Pn**	**06 51 07.8**	**-2.4**
	comp=N,0.1nm,0.3s,baz=215,slow=11,SNR=5.3						
M27K	**Edge Creek, AK**	**14.52**	**43**	Pn	**Pn**	**06 51 14.7**	**-0.5**
SCRK	**Sand Creek**	**14.59**	**36**	Pn	**Pn**	**06 51 17.1**	**+1.0**
H24K	**Noodor Dome**	**14.68**	**26**	Pn	**Pn**	**06 51 15.7**	**-1.6**
L27K	**Beaver Creek,**	**14.89**	**41**	Pn	**Pn**	**06 51 19.4**	**-0.6**
BCAR	**Beaver Creek A**	**14.90**	**41**	Pn	**Pn**	**06 51 19.8**	**-0.5**
J26L	**Joseph Creek**	**15.06**	**35**	Pn	**Pn**	**06 51 22.0**	**-0.4**
COLD	**Coldfoot**	**15.28**	**20**	Pn	**Pn**	**06 51 26.0**	**+0.9**
COLD				IAmb	IAmb	06 51 31.1	
	comp=Z,8.7nm,1.0s						
EGAK	**Eagle**	**16.06**	**36**	Pn	**Pn**	**06 51 35.9**	**+0.7**
DAWY	**Dawson**	**16.33**	**40**		**Pn**	**06 51 39.3**	**+0.5**
TOLK	**Toolik Lake Re**	**16.61**	**18**		**Pn**	**06 51 43.4**	**+1.0**
TOLK				IAmb	IAmb	06 51 49.6	
	comp=Z,12nm,1.1s						
SKAG	**Skagway**	**16.66**	**58**	Pn	**Pn**	**06 51 42.2**	**-0.6**
SKAG				IAmb	IAmb	06 52 00.6	
	comp=Z,9.1nm,1.0s						
BMAR	**Burnt Mountain**	**16.75**	**26**	Pn	**Pn**	**06 51 44.0**	**-0.1**
M30M	**Minto, Yukon**	**16.76**	**46**		**P**	**06 51 46.6**	**+0.3**
N31M	**Braeburn, Yuko**	**16.87**	**50**		**Pn**	**06 51 46.1**	**+0.5**
N31M				IAmb	IAmb	06 51 59.8	
	comp=Z,20nm,1.2s						
DLBC	**Dease Lake**	**19.31**	**62**	P	**P**	**06 52 13.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=239,slow=12,SNR=1.6						
DLBC	**Dease Lake**	**19.31**	**62**	IAmb	IAmb	06 52 35.7	
	comp=Z,13nm,1.4s						
BILL	**Bilibino**	**20.43**	**327**	P	**P**	**06 52 25.8**	**-0.7**
BILL				IAmb	IAmb	06 52 31.3	
	comp=Z,8.6nm,1.0s						
INK	**Inuvik**	**20.55**	**32**	P	**P**	**06 52 26.2**	**-1.4**
	comp=Z,2.7nm,0.9s,baz=240,slow=11,SNR=16						
INK	**Inuvik**	**20.55**	**32**	P	**P**	**06 52 25.9**	**-1.8**
INK				IAmb	IAmb	06 52 35.4	
	comp=Z,4.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**22.96**	**285**	P	**P**	**06 52 54.4**	**+0.7**
PETK	**Petropavlovsk-**	**22.96**	**285**	P	**P**	**06 52 52.6**	**-1.1**
	comp=Z,3.5nm,0.6s,baz=78,slow=12,SNR=8.8						
C36M	**Paulatuk**	**24.09**	**34**	P	**P**	**06 53 05.0**	**+0.5**
C36M				IAmb	IAmb	06 53 06.8	
	comp=Z,6.0nm,1.1s						
A36M	**Sachs Harbour**	**24.83**	**27**	P	**P**	**06 53 11.3**	**0.0**
YKA	**Yellowknife Ar**	**26.87**	**51**	P	**P**	**06 53 30.4**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=269,slow=7.6,SNR=26						
YKA				PcP	**PcP**	**06 56 52.3**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=288,slow=2.1,SNR=4.4						

H11N2 WAKE ISLAND Hy 40.59 225 T T 07 39 04.8
baz=26,slow=76
H11N3 WAKE ISLAND Hy 40.60 225 T T 07 39 05.5
baz=26,slow=76
H11N1 WAKE ISLAND Hy 40.61 225 T T 07 39 08.2
baz=26,slow=76
H11S1 WAKE ISLAND Hy 41.77 225 T T 07 40 36.4
baz=26,slow=76
H11S2 WAKE ISLAND Hy 41.78 225 T T 07 40 39.7
baz=26,slow=76
H11S3 WAKE ISLAND Hy 41.78 225 T T 07 40 34.6
baz=26,slow=76
SUMG Summit 48.67 19 *i* P **P 06 56 34.0 +0.7**
KSRS Korea Array 48.71 280 P **P 06 56 34.5 +1.0**
comp=Z,2.6nm,0.7s,baz=47,slow=6.8,SNR=6.9
TXAR Lajitas Array 49.28 94 P **P 06 56 39.9 +1.7**
comp=Z,0.3nm,0.5s,baz=301,slow=5.2,SNR=4.3
ULN Ulaanbaatar 53.35 303 P **P 06 57 08.7 +0.2**
SONM Songino Array 53.70 303 P **P 06 57 11.1 +0.1**
comp=Z,3.6nm,0.7s,baz=40,slow=7.3,SNR=23
ZALV Zalesovo Beam 58.92 320 P **P 06 57 47.5 -0.5**
comp=Z,1.6nm,0.7s,baz=40,slow=6.4,SNR=6.1
KURK Kurchatov 63.82 321 P **P 06 58 21.3 +0.1**
FINES FINESS Array B 65.20 355 P **P 06 58 29.2 -0.8**
comp=Z,2.6nm,0.8s,baz=28,slow=8.6,SNR=5.2
MKAR Makanchi Array 65.53 316 P **P 06 58 31.9 -0.5**
comp=Z,1.5nm,0.7s,baz=47,slow=6.4,SNR=16
NB2 NORSAR Subarra 65.79 3 P **P 06 58 34.8 +0.9**
comp=Z,2.9nm,0.9s,baz=0,7,slow=6.9
NOA NORSAR Array B 65.79 3 P **P 06 58 33.6 -0.3**
comp=Z,1.9nm,0.8s,baz=357,slow=6.6,SNR=4.1
KSH Kashi 74.13 316 P **P 06 59 29.8 +4.2**
KSH pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 75.67 352 P **P 06 59 33.1 -1.0**
comp=Z,1.9nm,0.5s,baz=11,slow=5.8,SNR=7.2
AKASG Malin Array Be 75.67 352 IAmb IAmb 06 59 51.6
comp=Z,3.5nm,1.4s
GERES GERESS Array B 78.06 2 P **P 06 59 47.9 +0.1**
comp=Z,0.9nm,0.8s,baz=48,slow=4.3,SNR=4.3
CMAR Chiang Mai Arr 79.73 287 P **P 06 59 56.7 -0.5**
comp=Z,1.6nm,0.6s,baz=15,slow=5.9,SNR=6.5
ESDC Sonseca Array 85.60 16 P **P 07 00 28.3 +0.8**
comp=Z,0.2nm,0.4s,baz=303,slow=7.2,SNR=2.5
ESDC Sonseca Array 85.60 16 IAmb IAmb 07 00 43.6
comp=Z,3.6nm,1.4s
BRTR Keskin Array B 86.02 347 P **P 07 00 29.9 +0.2**
comp=Z,1.8nm,0.9s,baz=38,slow=3.4,SNR=6.2

*IDC **26** 06:49:38.4±1.4, 4˚.21S×131˚.06E, h0km, mb3.9/2, mb1 4.2/5, mb1mx3.8/33, mbtmp4.1/5, ML4.2/3, Error ellipse: s-maj=77.1km s-min=21.9km az=80.0*
*DJA **26** 06:49:44.0±1.2, 4˚.5±12˚×13˚1E±˚, h10km, M4.1/7, MLv4.1/7*
ISC 26 06:49:36.8±0.9, 4˚.47S±0˚.07×131˚.46E±0˚.08, h10km, n11, σ3°39/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.73**	**27**	P	**Pn**	**06 50 07.9**	**+0.9**
MSAI	**Masohi**	**2.76**	**294**	P	**Pn**	**06 50 23.5**	**+2.3**
AAI	**Ambon**	**3.35**	**283**	P	**Pb**	**06 50 33.8**	**-2.5**
SIJI	**Sorong**	**3.58**	**357**	Pn	**Pn**	**06 50 31.1**	**-1.4**
	24nm,0.3s,baz=234,slow=23,SNR=21						
SIJI				Sn	Sn	06 51 04.6	-10
	63nm,0.3s,baz=62,slow=23,SNR=22						
SWI	**Sorong**	**3.59**	**357**	P	**Pn**	**06 50 31.2**	**-1.4**
LBMI	**Labuha**	**5.49**	**314**	P	**Pn**	**06 50 59.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**14.69**	**202**	Pn	**Pn**	**06 53 07.5**	**+2.7**
	0.7nm,0.3s,baz=25,slow=11,SNR=21						
FITZ				Sn	**Sn**	**06 55 43.1**	**-4.8**
	1.3nm,0.3s,baz=271,slow=23,SNR=26						
WRA	**Warramunga Arr**	**15.63**	**170**	Pn	**P**	**06 53 20.2**	**-1.4**
	0.4nm,0.3s,baz=344,slow=14,SNR=21						
WRA				Sn	**Sn**	**06 56 06.4**	**-4.5**
	1.4nm,0.3s,baz=358,slow=24,SNR=9.7						
ASAR	**Alice Springs**	**19.23**	**173**	P	**Pn**	**06 54 08.2**	**+5.9**
	0.8nm,0.3s,baz=351,slow=10.0,SNR=82						
ASAR				S	**Sn**	**06 57 34.7**	**-3.3**
	0.3nm,0.3s,baz=358,slow=26,SNR=7.3						
STKA	**Stephens Creek**	**28.88**	**162**	P	P	06 55 42.2	+6.4
	1.2nm,0.8s,baz=346,slow=8.1,SNR=4.3						
MKAR	**Makanchi Array**	**66.94**	**326**	P	**P**	**07 00 30.3**	**+0.7**
	0.7nm,0.6s,baz=121,slow=7.3,SNR=7.2						

*GCG **26** 06:54:20.1±0.3, 13˚.51N×91˚.19W, h20km±3km, MD3.7*
*SNET **26** 06:54:21.4±1.8, 14˚.12N×91˚.39W, h21km, ML3.0*
ISC 26 06:54:15.6±3.4, 13˚.8N±0˚.1×91˚.8W±0˚.1, h30km±15km, n8, σ0°95/15, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.76**	**9**	*e* P	**Pn**	**06 54 30.6**	**+0.3**
RTAL				*e* S	**Sb**	**06 54 40.5**	**+0.2**
FUG	**Fuego 3**	**1.16**	**55**	*e* P	**Pn**	**06 54 36.5**	**+0.5**
FUG				*e* S	**Sb**	**06 54 52.9**	**+0.9**
PCG	**Pacaya**	**1.33**	**62**	*e* P	**Pb**	**06 54 39.6**	**-0.5**
PCG				*e* S	**Sn**	**06 54 55.0**	**-0.2**
HUEH	**Huehuetenango**	**1.56**	**11**	*e* P	**Pn**	**06 54 42.5**	**+0.8**
HUEH				*e* S	**Sn**	**06 55 00.2**	**-0.8**
NBG	**Las Nubes**	**1.64**	**60**	*e* P	**Pb**	**06 54 44.7**	**-0.8**
NBG				*e* S	**Sn**	**06 55 03.6**	**+0.6**
NUBE	**Las Nubes**	**1.99**	**86**	*e* P	**Pn**	**06 54 48.3**	**+1.0**
NUBE				*e* S	**Sn**	**06 55 09.6**	**-1.8**
CEVE	**Cer

SPIA	Saint Paul Isl	5.29	317	Pn	Pn	07 05 49.8	+0.3
KDAK	Kodiak Island	7.57	51	Pn	Pn	07 06 19.8	-0.9
	comp=N,0.8nm,0.3s,baz=230,slow=6.0,SNR=8.4						
KDAK				Sn	Sn	07 07 40.9	-4.5
	comp=N,0.6nm,0.3s,baz=307,slow=23,SNR=6.7						
KDAK	Kodiak Island	7.57	51		Pn	07 06 21.8	+1.0
ADK	Adak	8.11	264	Pn	Pn	07 06 27.3	-0.8
KIWB	Kanaga Island	8.40	264	Pn	Pn	07 06 31.9	-0.2
L19K	White Mountain	9.87	25	Pn	Pn	07 06 55.8	+3.5
RC01	Rabbit Creek A	10.67	39	Pn	Pn	07 07 03.0	-0.2
K20K	Telida	11.07	23	Pn	Pn	07 07 10.6	+2.0
ANM	Nome	11.14	356	Pn	Pn	07 07 11.0	+1.4
CAST	Castle Rocks	11.62	27	Pn	Pn	07 07 18.4	+2.2
J20K	Nowinta River	11.76	21	Pn	Pn	07 07 21.4	+3.3
M24K	Tolsona, Glenn	12.64	40	Pn	Pn	07 07 30.2	0.0
BMRM	Bremner River	12.69	46	Pn	Pn	07 07 31.8	+1.0
ILAR	Eielson Array	14.13	30	Pn	Pn	07 07 49.0	-1.4
	comp=N,0.0nm,0.3s,baz=220,slow=14,SNR=2.4						
INK	Inuvik	20.51	32	P	P	07 09 06.8	-1.1
	comp=N,0.5nm,0.5s,baz=247,slow=12,SNR=7.9						
PETK	Petropavlovsk-	22.94	285	P	P	07 09 34.3	+0.2
	comp=N,2.3nm,0.5s,baz=65,slow=14,SNR=2.3						
YKA	Yellowknife Ar	26.85	51	P	P	07 10 11.9	+1.8
	comp=N,0.7nm,0.7s,baz=269,slow=8.4,SNR=17						
YKA				PcP	PcP	07 13 33.2	+1.5
	comp=N,0.1nm,0.5s,baz=274,slow=2.1,SNR=4.1						
H11N2	WAKE ISLAND Hy	40.62	225	T	T	07 55 35.1	
	baz=26,slow=75						
H11N3	WAKE ISLAND Hy	40.63	225	T	T	07 55 39.4	
	baz=26,slow=75						
H11N1	WAKE ISLAND Hy	40.64	225	T	T	07 55 55.8	
	baz=26,slow=75						
H11S1	WAKE ISLAND Hy	41.79	225	T	T	07 57 12.7	
	baz=25,slow=76						
H11S2	WAKE ISLAND Hy	41.81	225	T	T	07 57 17.9	
	baz=25,slow=76						
H11S3	WAKE ISLAND Hy	41.81	225	T	T	07 57 17.6	
	baz=25,slow=76						
KSRS	Korea Array	48.70	280	P	P	07 13 14.7	+0.8
	comp=N,2.0nm,0.7s,baz=55,slow=6.1,SNR=4.8						
SONM	Songino Array	53.66	303	P	P	07 13 51.4	+0.1
	comp=N,1.2nm,0.6s,baz=42,slow=7.0,SNR=10						
ARCES	ARCESS Array B	57.10	356	P	P	07 14 14.9	-0.6
	comp=N,2.4nm,0.9s,baz=11,slow=6.8,SNR=1.0						
FINES	FINESS Array B	65.15	355	P	P	07 15 09.8	-0.3
	comp=N,5.2nm,0.9s,baz=10,slow=8.5,SNR=3.8						
MKAR	Makanchi Array	65.48	316	P	P	07 15 11.9	-0.6
	comp=N,0.7nm,0.7s,baz=44,slow=7.0,SNR=6.9						
AKASG	Malin Array Be	75.62	352	P	P	07 16 14.2	0.0
	comp=N,1.1nm,0.6s,baz=8.9,slow=5.8,SNR=4.6						
BRTR	Keskin Array B	85.97	347	P	P	07 17 11.3	+1.4
	comp=N,0.6nm,0.7s,baz=0.4,slow=3.6,SNR=2.2						

NEIC ***26*** *07:17:07.3±1.5, 12°.4S±0°.1×167°.1E±0°.2, h243km±8km, mb4.2/18, Error ellipse: s-maj=23.9km s-min=16.3km az=97.0*
IDC ***26*** *07:17:10.4±7.3, 12°.43S×166°.95E, h275km±79km, mb3.4/9, mb1 3.6/10, mb1mx3.4/37, mbtmp3.9/10, Error ellipse: s-maj=59.9km s-min=21.2km az=165.0*

ISC 26 07:17:07.5±0.6, 12°.46S±0°.07×167°.1E±0°.1, h250km, n38, σ1$25/39, mb4.0/17, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	2.98	177	Pn	Pn	07 17 59.3	-0.4
DZM	Mont Dzumac	9.58	183	P	P	07 19 24.7	-2.5
	0.7nm,0.3s,baz=191,slow=20,SNR=9.0						
DZM				S	S	07 21 13.0	+4.1
	0.2nm,0.3s,baz=90,slow=20,SNR=1.2						
DZM	Mont Dzumac	9.58	183		P	07 19 24.1	-3.1
EIDS	Eidsvold	19.80	227	P	Pn	07 21 21.5	-2.8
EIDS				IAmb	IAmb	07 21 22.0	
	comp=Z,4.4nm,0.6s						
CTA	Charters Tower	21.35	246	P	P	07 21 36.1	+0.6
	comp=Z,1.9nm,0.6s,baz=125,slow=13,SNR=2.1						
CTAO	Charters Tower	21.35	246	P	P	07 21 36.8	+1.2
CTAO				IAmb	IAmb	07 22 03.1	
	comp=Z,12nm,1.4s						
ARMA	Armidale	22.88	216	P	P	07 21 49.6	0.0
ARMA				IAmb	IAmb	07 22 02.5	
	comp=Z,15nm,1.5s						
COEN	Coen	23.30	264	P	P	07 21 55.1	+1.7
COEN				IAmb	IAmb	07 22 16.1	
	comp=Z,9.0nm,1.1s						
BKZ	Black Stump Fm	27.89	164	P	P	07 22 35.2	+0.8
WR0	Warramunga Arr	32.06	252	P	P	07 23 10.9	-0.5
WR0				IAmb	IAmb	07 23 28.9	
	comp=Z,3.5nm,1.1s						
WB0	Warramunga Arr	32.17	253	P	P	07 23 12.0	-0.3
WB0				IAmb	IAmb	07 23 28.4	
	comp=Z,5.9nm,1.2s						
WB2	Warramunga Arr	32.23	252	P	P	07 23 11.7	-1.1
WB2				IAmb	IAmb	07 23 39.3	
	comp=Z,6.8nm,1.4s						
WRA	Warramunga Arr	32.24	252	P	P	07 23 12.2	-0.7
	comp=Z,0.8nm,0.7s,baz=84,slow=8.7,SNR=8.7						
AS31	Alice Springs	33.35	246	P	P	07 23 21.6	-0.9
ASAR	Alice Springs	33.35	246	P	P	07 23 22.1	-0.4
	comp=Z,1.6nm,0.7s,baz=70,slow=9.5,SNR=31						
ASAR	Alice Springs	33.35	246	P	P	07 23 21.8	-0.7
BBOO	Buckleboo	34.85	229	P	P	07 23 36.3	+1.1
BBOO				IAmb	IAmb	07 24 00.3	
	comp=Z,5.4nm,1.0s						
KNRA	Kununurra	37.25	260	P	P	07 23 55.5	-0.2
FORT	Forrest	40.32	237	P	P	07 24 21.5	+0.6
FORT				IAmb	IAmb	07 24 37.3	
	comp=Z,12nm,0.9s						
MJAR	Matsushiro Arr	55.81	332	P	P	07 26 18.7	-0.3
CMAR	Chiang Mai Arr	73.85	294	P	P	07 28 16.2	+0.8
	comp=Z,0.8nm,0.5s,baz=90,slow=3.6,SNR=4.7						
CMAR	Chiang Mai Arr	73.85	294	P	P	07 28 16.0	+0.5
QSPA	South Pole Qui	77.56	180	P	P	07 28 35.1	-0.6
QSPA				IAmb	IAmb	07 29 01.4	
	comp=Z,7.3nm,1.4s						
SONM	Songino Array	80.56	323	P	P	07 28 52.3	+0.1
	comp=Z,0.3nm,0.3s,baz=130,slow=4.5,SNR=2.8						
SONM	Songino Array	80.56	323	P	P	07 28 51.9	-0.3
SCM	Sheep Creek Mo	82.21	20	P	P	07 29 00.9	+0.4
IMAR	Indian Mountai	83.44	15	P	P	07 29 07.2	+0.6
IL31		84.44	18	P	P	07 29 11.6	0.0
ILAR	Eielson Array	84.44	18	P	P	07 29 11.3	-0.3
	comp=Z,2.0nm,0.6s,baz=234,slow=5.4,SNR=35						
ILAR	Eielson Array	84.44	18	P	P	07 29 12.0	+0.4
BCAR	Beaver Creek A	84.94	21	P	P	07 29 15.4	+1.1
NVAR	Mina Array Bea	85.96	49	P	P	07 29 20.5	+0.5
	comp=Z,0.1nm,0.3s,baz=235,slow=8.4,SNR=2.1						
EGAK	Eagle	86.26	20	P	P	07 29 20.6	0.0
MKAR	Makanchi Array	95.42	317	P	P	07 30 04.3	+0.6
	comp=Z,1.1nm,0.7s,baz=92,slow=6.4,SNR=14						
MKAR	Makanchi Array	95.42	317	P	P	07 30 03.9	+0.2
YKA	Yellowknife Ar	95.63	27	P	P	07 30 03.3	-0.9
	comp=Z,0.1nm,0.7s,baz=261,slow=5.0,SNR=5.5						
ARCES	ARCESS Array B	118.01	346	PKP	PKiKP	07 35 24.5	+0.6
	comp=Z,9.4nm,1.1s,baz=65,slow=1.5,SNR=11						
ARCES	ARCESS Array B	118.01	346		PKiKP	07 35 24.3	+0.4

IPEC ***26*** *07:21:29.9±0.2, 51°.61N×16°.20E, h0km, ML3.0/3, Error ellipse: s-maj=1.9km s-min=1.1km az=32.0*
IDC ***26*** *07:21:30.4±0.8, 51°.59N×16°.00E, h0km, mb3.4/2, mb1 3.7/8, mb1mx3.4/44, mbtmp3.5/8, ML3.2/6, MS3.6/1, Ms1 3.6/1, ms1mx2.3/52, Error ellipse: s-maj=11.7km s-min=7.0km az=118.0*
BGR ***26*** *07:21:32.1±0.5, 51°.48N×16°.10E, h1km, ML3.3/13, Error ellipse: s-maj=6.7km s-min=3.3km az=27.0*
VIE ***26*** *07:21:32.7±0.8, 51°.41N×16°.19E, h0km, mb3.0/14, ml3.1/12, Error ellipse: s-maj=8.1km s-min=4.9km az=74.0 67 km WNW of Wroclaw Suspected Mining induced.*
LDG ***26*** *07:21:33.7±0.2, 51°.32N×15°.87E, h1km, Ml3.4/5, Error ellipse: s-maj=4.4km s-min=2.5km az=10.0, Suspected Mining induced.*

ISC 26 07:21:29.0±0.6, 51°.66N±0°.03×16°.24E±0°.02, h0km, n74, σ1$90/132, 5C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.82	177	*i* Pg	Pg	07 21 44.9	+0.3
KSP				*e*Sg	Sg	07 21 54.8	-0.4
KSP	Ksiaz	0.82	177	*e*Pg	Pg	07 21 44.8	+0.2
KSP				*e*Sg	Sg	07 21 55.1	-0.1
CHVC	Chvalec	1.08	186	*e*PG	Pg	07 21 49.6	0.0
CHVC				*e*SG	Sg	07 22 02.0	-1.5
	comp=Z,149nm,0.5s						
OSTC	Ostas	1.10	181	*e*PG	Pg	07 21 50.1	0.0
OSTC				*e*SG	Sg	07 22 03.4	-1.0
	comp=Z,225nm,0.8s						
UPC	Upice	1.16	187	*e*PG	Pg	07 21 51.0	-0.2
UPC				*e*SG	Sg	07 22 05.2	-1.0
	comp=Z,181nm,0.5s						
DPC	Dobruska-Polom	1.31	178	*e*PG	Pg	07 21 53.5	-0.6
DPC				*e*SG	Sg	07 22 09.2	-1.8
	comp=Z,214nm,0.8s						
DPC	Dobruska-Polom	1.31	178	*e*Pg	Pg	07 21 53.7	-0.3
DPC				*e*Sg	Sg	07 22 10.3	-0.7
PVCC	Panska Ves	1.54	224	*e*PG	Pn	07 21 57.3	-0.4
PVCC				*e*SG	Sg	07 22 17.2	-1.3
	comp=Z,558nm,0.7s						
KRLC	Kraliky	1.62	167	*e*PG	Pn	07 21 58.4	-0.4
KRLC				*e*SG	Sn	07 22 19.7	-0.8
	comp=Z,182nm,0.9s						
BRG	Berggiesshubel	1.64	242	Pn	Pn	07 21 58.1	-1.0
BRG				Pg	Pb	07 21 59.5	-0.5
BRG				Sg	Sn	07 22 20.2	-0.7
BRG				Amp		07 22 20.8	
	comp=Z,213nm,0.5s						
BRG	Berggiesshubel	1.64	242	*e*Pn	Pb	07 21 59.6	-0.5
BRG				*e*Sg	Sn	07 22 20.3	-0.5
FBE	Freiberg	1.95	249	*e*Pn	Pb	07 22 05.1	-0.3
FBE				*e*Sg	Sb	07 22 30.1	-0.2
PRU	Pruhonice	1.99	213	*e*PG	Pb	07 22 05.0	-1.0
PRU				*e*SG	Sn	07 22 29.5	+0.1
	comp=Z,134nm,0.8s						
CLL	Collm	2.05	261	*i* Pn	Pn	07 22 03.8	-0.9
	comp=Z,28nm,0.4s						
CLL				*e*Pg	Pg	07 22 08.0	-0.3
CLL				*i* x	x	07 22 10.7	
CLL				*ex*	x	07 22 22.0	
CLL				*e*Sg	Sb	07 22 33.0	-0.1
	comp=Z,86nm,0.7s						
CLL	Collm	2.05	261	*e*Pn	Pn	07 22 03.9	-0.8
CLL				*e*Sg	Sg	07 22 34.2	-0.7
MORC	Moravsky Berou	2.06	156	⇑P	Pn	07 22 04.7	-0.2
MORC				⇑S	Sn	07 22 30.5	-0.8
MORC	Moravsky Berou	2.06	156	*e*Pn	Pn	07 22 04.9	+0.1
	baz=336						
MORC				*e*Sg	Sb	07 22 32.9	-0.5
	comp=Z,98nm,0.8s,baz=336						
MORC	Moravsky Berou	2.06	156	*e*Pn	Pn	07 22 05.0	+0.1
MORC				*e*Sg	Sg	07 22 34.3	-0.8
OKC	Ostrava-Krasne	2.19	146	*e*PG	Pb	07 22 10.2	+0.8
OKC				*e*SG	Sb	07 22 38.0	+0.9
	comp=Z,139nm,0.5s						
OKC	Ostrava-Krasne	2.19	146	*e*Sg	Sb	07 22 37.7	+0.6
VRAC	Vranov	2.36	174	⇑P	Pn	07 22 09.2	+0.2
VRAC				⇑S	Sn	07 22 39.6	+0.9
VRAC	Vranov	2.36	174	Pn	Pn	07 22 09.6	+0.6
	comp=Z,3.9nm,0.3s,baz=339,slow=14,SNR=15						
VRAC				Pg	Pb	07 22 13.3	+0.9
	comp=Z,7.0nm,0.3s,baz=355,slow=16,SNR=15						
VRAC				Sn	Sn	07 22 39.7	+1.0
	comp=Z,9.1nm,0.3s,baz=237,slow=22,SNR=7.4						
VRAC	Vranov	2.36	174	*e*Pn	Pn	07 22 09.2	+0.2
	baz=354						
VRAC				*e*Sg	Sb	07 22 42.1	0.0
	comp=Z,91nm,0.8s,baz=354						
TREC	Trest	2.41	192	*e*PN	Pn	07 22 09.8	+0.1
TREC				*e*PG	Pb	07 22 13.0	-0.3
TREC				*e*SG	Sb	07 22 44.2	+0.6
	comp=Z,88nm,0.8s						
PBCC	Pribram	2.44	217	*e*PG	Pb	07 22 13.4	-0.2
PBCC				*e*SG	Sb	07 22 44.0	-0.2
KRUC	Moravsky	2.60	178	*e*Pn	Pn	07 22 12.4	+0.1
	baz=357						
KRUC				*e*Sg	Sb	07 22 49.4	+0.5
	comp=Z,73nm,1.0s,baz=357						
OJC	Ojcow	2.67	121	*e*Pn	Pn	07 22 13.4	+0.1
OJC				*e*Pg	Pg	07 22 22.0	+1.8
OJC				*e*Sg	Sg	07 22 56.9	+2.1
TANN	Tannenbergstha	2.69	244	*e*Pn	Pn	07 22 13.3	-0.2
TANN				*e*Sg	Sb	07 22 52.7	+1.2
WERD	Werda	2.76	245	*e*Pn	Pn	07 22 14.1	-0.4
WERD				*e*Sg	Sg	07 22 55.5	-2.1
NKC	Novy Kostel	2.79	241	*e*PN	Pn	07 22 15.0	+0.1
NKC				*e*PG	Pb	07 22 20.3	+0.6
NKC				*e*SG	Sg	07 22 57.6	-0.9
	comp=Z,139nm,0.4s						
JAVC	Velka Javorina	2.95	161	*e*Pn	Pn	07 22 17.4	+0.3
	baz=342						
JAVC	Velka Javorina	2.95	161	*e*PN	Pn	07 22 17.5	+0.3
KHC	Kasperske Hory	3.05	215	*e*PN	Pn	07 22 17.9	-0.6
KHC				*e*PG	Pb	07 22 23.1	-1.0
KHC				*e*SN	Sn	07 22 52.5	-3.1
KHC				*e*SG	Sg	07 23 04.1	-2.7
	comp=Z,46nm,0.4s						
MOX	Moxa	3.08	253	*e*Pn	Pn	07 22 19.7	+0.9
MOX				*e*Sg	Sg	07 23 06.9	-1.0
CKRC	Cesky Krumlov	3.10	204	*e*PN	Pn	07 22 19.7	+0.6
CKRC				*e*PG	Pb	07 22 25.2	+0.3
CKRC				*e*SG	Sb	07 23 04.9	+1.6
SMOL	Smolenice	3.24	166	*e*PG	Pg	07 22 31.0	0.0
SMOL				*e*SG	Sg	07 23 14.0	+1.0
GEC2	GERESS Array S	3.25	211	*e*Pn	Pn	07 22 21.6	+0.3
GERES	GERESS Array B	3.25	211	Pn	Pn	07 22 20.8	-0.6
	comp=Z,3.2nm,0.3s,baz=30,slow=13,SNR=70						
GERES				Pg	Pb	07 22 27.3	-0.3
	comp=Z,8.8nm,0.3s,baz=30,slow=17,SNR=33						
GERES				Lg	Lg	07 23 09.1	
	comp=Z,11nm,0.3s,baz=34,slow=29,SNR=12						
LANS	Liptovska Anna	3.25	139	*e*PN	Pn	07 22 22.7	+1.5
LANS				*e*PG	Pg	07 22 31.9	+0.6
LANS				*e*SG	Sg	07 23 11.6	-1.8
MODS	Modra-Piesok	3.36	168	*e*PN	Pn	07 22 24.7	+2.0
MODS				*e*PG	Pg	07 22 33.9	+0.7
MODS				*e*SG	Sg	07 23 15.7	-1.0
ZST	Bratislava	3.51	170	*e*SG	Sb	07 23 17.9	+2.8
VYHS	Vyhne	3.58	151	*e*PN	Pn	07 22 25.2	-0.6
VYHS				*e*PG	Pg	07 22 38.8	+1.2
CLZ	Clausthal	3.65	275	*e*Pn	Pn	07 22 27.5	+0.8
CLZ				*e*Sg	Sg	07 23 26.3	+0.2
CONA	Conrad Observa	3.74	184	*i* Pn	Pn	07 22 28.3	+0.3
	comp=Z,5.3nm,0.4s,SNR=10						
CONA				*e*Sg	Sg	07 23 26.2	-2.9
	comp=Z,22nm,0.3s						
GRF	Grafenberg Arr	3.75	240	*e*Pn	Pn	07 22 28.0	0.0
GRF				*e*Sg	Sg	07 23 26.7	-2.6
MOA	Molln	4.02	199	Pn	Pn	07 22 31.9	+0.1
	comp=Z,20nm,0.4s,SNR=9.6						
MOA				*e*Sg	Sg	07 23 35.4	-2.7
	comp=Z,48nm,0.6s						
CRVS	Cervenica-Dubn	4.34	127	*e*PG	Pg	07 22 54.3	+2.2
ARSA	Arzberg	4.44	186	Sg	Sg	07 23 51.4	0.0
	comp=Z,52nm,0.9s						
MPLH	Magyarpolny	4.57	169	PN	Pn	07 22 41.1	+1.8
KBA	Koelnbreinsper	4.96	204	*i* Pn	Pn	07 22 45.2	+0.4
	comp=Z,8.7nm,0.3s,SNR=7.7						
KBA				*e*Sg	Sg	07 24 05.5	-2.6
	comp=Z,29nm,0.6s						
OBKA	Obir	5.27	193	*e*Pn	Pn	07 22 49.4	+0.4
	comp=Z,1.1nm,0.3s						
OBKA				Sg	Sg	07 24 17.0	-1.2
	comp=Z,25nm,0.8s						
MYKA	Terra Mystica	5.31	200	*e*Sg	Sg	07 24 17.5	-2.0
	comp=Z,20nm,0.7s						
WTTA	Wattenberg	5.32	216	*i* Pn	Pn	07 22 50.8	+1.0
	comp=Z,2.6nm,0.3s						
TRPA	Tarpa	5.39	128	⇓P	Pn	07 22 48.8	-1.8
MOTA	Moosalm	5.46	220	*i* Pn	Pn	07 22 53.0	+1.3
	comp=Z,1.5nm,0.3s						
MOTA				Sg	Sg	07 24 23.2	-1.0
	comp=Z,16nm,0.6s						
RETA	Reutte	5.49	223	*e*Sg	Sg	07 24 25.0	-0.1
	comp=Z,17nm,0.5s						
SQTA	Sankt Quirin	5.52	218	*i* Pn	Pn	07 22 53.6	+1.1
	comp=Z,4.0nm,0.3s,SNR=4.2						
CEI	Carei	5.67	132	⇓P	Pn	07 22 53.0	-1.3
DAVA	Damuels	6.02	226	*e*Sg	Sg	07 24 42.3	-0.1
	comp=Z,5.5nm,0.3s						
DAVOX	Davos/Dischmat	6.41	223	Pn	Pn	07 23 02.5	-2.3
	comp=Z,0.3nm,0.3s,baz=31,slow=12,SNR=1.5						
DAVOX				Lg	Lg	07 24 49.9	
	comp=Z,1.2nm,0.3s,baz=195,slow=22,SNR=4.5						
CDF	Champ du Feu	6.62	244	*e*Pn	Pn	07 23 06.4	-1.2
CDF				*e*Sn	Sn	07 24 13.3	-10
CDF				*e*Sg	Sb	07 24 51.3	+6.6
	comp=Z,6.1nm,0.5s						
FRGS	Fruska Gora	6.92	159	⇓P	Pn	07 23 11.5	-0.1
BURAR	Bucovina Array	7.10	121	⇑P	Pn	07 23 11.6	-2.5
HINF	Hinteralfeld	7.19	241	*e*Pn	Pn	07 23 13.0	-2.4
HINF				*e*Sn	Sn	07 24 27.9	-10
HINF				*e*Sg	Sb	07 25 08.3	+7.3
	comp=Z,9.2nm,0.6s						
HAU	Haudompre	7.37	244	*e*Pn	Pn	07 23 13.8	-3.9
HAU				*e*Sn	Sn	07 24 30.7	-11
HAU				*e*Sg	Sb	07 25 13.4	+7.5
	comp=Z,18nm,0.7s						
GIVF	Givet	7.39	262	*e*P	Pn	07 23 20.1	+2.1
PAGF	Fort de Pagny	7.44	249	*e*Sg	Sb	07 25 17.0	+9.0
	comp=Z,4.3nm,0.4s						
SFTF	Sexfontaines	8.01	249	*e*Sg	Sb	07 25 32.8	+8.4
	comp=Z,2.6nm,0.3s						
AKASG	Malin Array Be	8.22	92	Pn	Pn	07 23 29.1	-0.3
	comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=10						
AKASG				Sn	Sn	07 24 59.6	-3.2
	comp=Z,0.6nm,0.3s,baz=54,slow=21,SNR=1.6						
AKASG				Lg	Lg	07 25 56.9	
	comp=Z,0.3nm,0.3s,baz=255,slow=37,SNR=1.6						
FINES	FINESS Array B	11.20	25	Pn	Pn	07 24 09.7	-0.4
	comp=Z,0.2nm,0.3s,baz=209,slow=10,SNR=5.6						
FINES				Sn	Sn	07 26 08.9	-6.9
	comp=Z,0.1nm,0.3s,baz=204,slow=20,SNR=1.6						
ARCES	ARCESS Array B	18.46	10	P	P	07 25 46.5	+0.6
	baz=200,slow=12,SNR=1.8						
MKAR	Makanchi Array	42.09	70	LR	LR	07 46 55.0	
	comp=Z,69nm,18.2s,baz=46,slow=36						
YKA	Yellowknife Ar	59.75	336	P	P	07 31 36.7	+1.7
	comp=Z,0.3nm,0.7s,baz=30,slow=6.6,SNR=5.9						
PDAR	Pinedale Array	74.87	322	P	P	07 33 12.3	+0.8
	comp=Z,0.3nm,0.7s,baz=69,slow=5.9,SNR=2.5						

MOS ***26*** *07:34:33.0±0.0, 42°.67N×46°.44E, h7km, MPVA3.5*
DRS ***26*** *07:34:34.2±0.0, 42°.60N×46°.37E, h14km*
MOS ***26*** *07:34:35.1±1.5, 42°.68N×46°.50E, h11km, mb3.6/1, Error ellipse: s-maj=7.5km s-min=4.8km az=32.1*

NORS 26 07:34:33.3±0.0, 42°.65N×46°.41E, h6km, MPVA3.5, 5C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.14	276	*e*PG	Pg	07 34 36.9	+0.7
BTLR				*i* S	Sg	07 34 39.7	+1.6
BTLR				pmax	pmax		
	comp=Z,747nm,0.3s						
BTLR				smax	smax		
	comp=N,2μm,0.4s						
BTLR	Botlikh	0.14	276	*i* Pg	Pg	07 34 37.1	+0.9
BTLR				*e*Sg	Sg	07 34 40.4	+2.2
XNZR	Khunzakh	0.24	116	*e*PG	Pg	07 34 40.5	+2.4
XNZR				*e*S	Sg	07 34 44.5	+3.1
XNZR	Khunzakh	0.24	116	*e*Pg	Pg	07 34 40.5	+2.4
XNZR				*e*Sg	Sg	07 34 44.5	+3.1
UNCR	Uncukul	0.29	77	*e*PG	Pb	07 34 40.4	-0.6
UNCR				*e*S	Sb	07 34 45.5	-0.6
UNCR				pmax	pmax		
	comp=Z,303nm,0.4s						
UNCR				smax	smax		
	comp=E,2μm,0.6s						
UNCR				smax	smax		
	comp=N,2μm,0.6s						
UNCR				smax	smax		
	comp=E,2μm,0.7s						
UNCR	Uncukul	0.29	77	*e*Pg	Pb	07 34 40.4	-0.5
UNCR				*e*Sg	Sb	07 34 45.4	-0.7
DVE	Vedeno	0.37	326	*d i*PG	Pg	07 34 41.4	+0.9
DVE				*e*S	Sb	07 34 48.4	-0.1
DVE				smax	smax		
	comp=Z,760nm,1.4s						
DVE	Vedeno	0.37	326	*e*Pg	Pb	07 34 41.7	-0.6
KRNR	Karanay	0.41	64	⇓*i*PG	Pb	07 34 42.5	-0.5
KRNR				*e*S	Sb	07 34 49.0	-0.5
KRNR				pmax	pmax		
	comp=Z,98nm,0.3s						
KRNR				smax	smax		
	comp=N,237nm,0.5s						
KRNR				smax	smax		
	comp=E,375nm,0.6s						
KRNR				smax	smax		
	comp=E,314nm,0.5s						
KRNR	Karanay	0.41	64	*i* Pg	Pb	07 34 42.5	-0.5
KRNR				*e*Sg	Sb	07 34 49.0	-0.5
ARKR	Arakani	0.43	96	*e*PG	Pb	07 34 43.8	+0.4
ARKR				*e*S	Sb	07 34 51.0	+0.8
ARKR				pmax	pmax		
	comp=Z,98nm,0.4s						
ARKR				smax	smax		
	comp=N,455nm,0.6s						
ARKR				smax	smax		
	comp=E,280nm,0.4s						
ARKR				smax	smax		
	comp=N,421nm,0.5s						
ARKR	Arakani	0.43	96	*e*Pg	Pb	07 34 43.8	+0.4
ARKR				*e*Sg	Sb	07 34 50.9	+0.6
DLMR	Dylym	0.45	21	*e*PG	Pb	07 34 44.1	+0.4
DLMR				*e*S	Sb	07 34 51.3	+0.6
DLMR				pmax	pmax		
	comp=Z,121nm,0.3s						
DLMR				smax	smax		
	com

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MAK                                  eSg      Sb     07 35 03.6 +1.0
SGKR Sergokala          0.94 101  i PG      Pn     07 34 52.8 -0.3
SGKR                                 eS       Sn     07 35 06.3 -0.6
SGKR                                 pmax     pmax
     comp=Z,39nm,1.1s
SGKR                                 smax     smax
     comp=N,228nm,0.5s
SGKR                                 smax     smax
     comp=E,238nm,0.4s
SGKR                                 smax     smax
     comp=E,228nm,0.4s
SGKR Sergokala          0.94 101  i Pg      Pn     07 34 53.4 +0.2
SGKR                                 eSg      Sn     07 35 06.4 -0.6
KANR Karaman            0.96  55  ePG      Pb     07 34 52.7 +0.3
KANR                                 eS       Sn     07 35 06.7 -0.7
KANR                                 pmax     pmax
     comp=Z,221nm,0.6s
KANR                                 smax     smax
     comp=N,330nm,0.6s
KANR                                 smax     smax
     comp=E,328nm,0.6s
KANR                                 smax     smax
     comp=N,399nm,1.1s
KANR Karaman            0.96  55  ePg      Pb     07 34 52.7 +0.3
KANR                                 eSg      Sn     07 35 06.8 -0.6
URKR Urkarakh           1.03 118  ePG      Pn     07 34 54.3 -0.1
URKR                                 eS       Sn     07 35 09.1 -0.1
URKR                                 pmax     pmax
     comp=Z,42nm,0.5s
URKR                                 smax     smax
     comp=N,118nm,0.7s
URKR                                 smax     smax
     comp=E,109nm,0.4s
URKR                                 smax     smax
     comp=N,109nm,0.4s
URKR Urkarakh           1.03 118  ePg      Pb     07 34 53.7 +0.1
URKR                                 eSg      Sn     07 35 09.2  0.0
KMGR Komgaron           1.21 290⇓ i PG     Pn     07 34 59.6 +2.8
KMGR                                 eS       Sn     07 35 18.3 +4.8
KMGR Komgaron           1.21 290  i Pg      Pn     07 34 59.0 +2.2
KMGR                                 eSg      Sn     07 35 17.0 +3.5
VLKR Vladikavkaz        1.33 288  ePG      Pg     07 35 01.7 +2.8
VLKR                                 eS       Sn     07 35 21.6 +4.9
VLKR Vladikavkaz        1.33 288  ePg      Pg     07 35 01.7 +2.8
VLKR                                 eSg      Sn     07 35 21.7 +5.1
AKT  Akhty              1.53 140  ePG      Pb     07 35 01.7 -0.4
AKT                                  i S      Sg     07 35 24.3 +1.9
AKT                                  pmax     pmax
     comp=Z,30nm,0.3s
AKT                                  smax     smax
     comp=E,58nm,0.3s
AKT  Akhty              1.53 140  ePg      Pg     07 35 03.5 +0.9
AKT                                  eSg      Sg     07 35 24.9 +2.5
LACR Lac                1.57 277 d i PN    Pg     07 35 03.6 +0.3
LACR                                 pmax     pmax
     comp=Z,135nm,0.3s
LACR Lac                1.57 277  ePg      Pg     07 35 03.5 +0.2
TRKR Terskaya           1.63 312  ePg      Pg     07 35 08.1 +3.5
TRKR                                 eSg      Sg     07 35 29.4 +3.8
ARNR Ardon              1.65 289  ePN      Pg     07 35 06.1 +1.2
ARNR                                 eS       Sg     07 35 29.6 +3.3
ARNR Ardon              1.65 289  ePg      Pg     07 35 05.7 +0.8
ARNR                                 eSg      Sg     07 35 29.6 +3.3
KSMR Kasumkent          1.65 129  ePG      Pb     07 35 04.3 +0.1
KSMR                                 i S      Sg     07 35 27.4 +1.0
KSMR                                 pmax     pmax
     comp=Z,26nm,0.4s
KSMR                                 smax     smax
     comp=N,108nm,0.4s
KSMR Kasumkent          1.65 129  ePg      Pb     07 35 04.4 +0.2
KSMR                                 eSg      Sg     07 35 29.7 +3.4
KORR Kora               1.78 285⇓ ePN      Pg     07 35 07.0 -0.3
KORR Kora               1.78 285  ePg      Pg     07 35 09.5 +2.1
KORR                                 eSg      Sg     07 35 33.1 +2.8
ZEI  Tsey               1.85 275  ePN      Pg     07 35 09.9 +1.1
ZEI                                  eS       Sg     07 35 34.9 +2.0
ZEI  Tsey               1.85 275  ePg      Pg     07 35 09.9 +1.1
ZEI                                  eSg      Sg     07 35 34.9 +2.0
STDR Stavd-Durt         1.86 293  ePN      Pg     07 35 10.7 +1.7
STDR                                 eS       Sg     07 35 37.5 +4.3
STDR Stavd-Durt         1.86 293  ePg      Pg     07 35 09.6 +0.5
STDR                                 eSg      Sg     07 35 36.3 +3.1
PRTR Priterechnaya      1.91 306⇓ ePN      Pg     07 35 10.7 +0.9
PRTR Priterechnaya      1.91 306  ePg      Pg     07 35 10.0 +0.2
PRTR                                 eSg      Sg     07 35 38.0 +3.5
LSNR Lesken             2.00 289⇑ ePN      Pg     07 35 12.3 +0.7
LSNR Lesken             2.00 289  ePg      Pg     07 35 12.5 +0.9
LSNR                                 eSg      Sg     07 35 38.0 +0.5
DIGR Digorskoe uzhe     2.10 278  ePN      Pb     07 35 12.5 +0.6
DIGR                                 eS       Sg     07 35 41.0 +0.3
DIGR Digorskoe uzhe     2.10 278  ePg      Pb     07 35 10.6 -1.3
DIGR                                 eSg      Sg     07 35 40.3 -0.4
NEY  Neytrino           2.77 284  ePn      Pb     07 35 21.1 -2.3
NEY                                  eSn      Sb     07 35 58.4 +0.7
KBZ  Khabaz             2.79 294⇑ ePN      Pb     07 35 23.1 -0.4
KBZ  Khabaz             2.79 294  ePn      Pn     07 35 20.5 +2.1
KBZ                                  eSn      Sb     07 35 56.3 -1.5
GNI  Garni              2.80 207⇓ ePN      Pb     07 35 24.2 +0.4
GNI  Garni              2.80 207  ePn      Pb     07 35 23.8  0.0
PYA1 Pyatigorsk         2.80 301⇓ ePN      Pn     07 35 20.0 +1.3
PYA1 Pyatigorsk         2.80 301  ePn      Pn     07 35 20.1 +1.5
PYA1                                 eSn      Sn     07 35 53.7 +0.9
SHA1 Shidzhatmaz        2.95 293  ePN      Pn     07 35 23.3 +2.3
SHA1                                 eS       Sb     07 36 01.1 -1.8
SHA1 Shidzhatmaz        2.95 293  ePn      Pn     07 35 22.1 +1.1
SHA1                                 eSn      Sn     07 35 59.0 +2.2
BEYR Belyy Ugol+        2.95 299  ePn      Pn     07 35 22.1 +1.3
BEYR                                 eSn      Sn     07 35 57.5 +0.9
KIV0 Kislovodsk Arr     3.01 297  ePn      Pn     07 35 22.9 +1.3
KIV0                                 eSn      Sn     07 35 59.1 +1.0
KIV  Kislovodsk         3.02 297⇓ i PN     Pn     07 35 24.1 +2.4
KIV                                  i S      Sb     07 36 01.8 -2.8
KIV                                  pmax     pmax
     comp=Z,13nm,3.2s
KIV  Kislovodsk         3.02 297  ePn      Pn     07 35 23.3 +1.6
KIV                                  eSn      Sn     07 35 59.0 +0.9
ALER Alexandrovskoy     3.30 311  ePn      Pn     07 35 28.2 +2.7
ALER                                 eSn      Sn     07 36 07.2 +2.1
GOF  Gofitskoye         3.42 316⇑ ePN      Pb     07 35 34.5 +0.1
GOF                                  eS       Sg     07 36 27.1 +3.9
GOF                                  pmax     pmax
     comp=Z,16nm,0.5s
GOF                                  smax     smax
     comp=E,40nm,0.6s
GOF  Gofitskoye         3.42 316  ePn      Pn     07 35 28.7 +1.5
GOF                                  eSn      Sn     07 36 11.2 +3.1
```

*IDC **26** 07:48:42.0±0.9, 8°.15S×158°.82E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/41, mbtmp3.9/8, MS3.3/1, Ms1 3.3/1, ms1mx2.5/56, Error ellipse: s-maj=22.3km s-min=20.5km az=74.0*

*NEIC **26** 07:48:51.3±0.3, 8°.4S±0°.1×159°.1E±0°.2, h80km±9km, mb4.0/15, Error ellipse: s-maj=30.2km s-min=14.5km az=58.0*

ISC 26 07:48:53.0±0.7, 8°.50S±0°.10×159°.1E±0°.1, h100km, n30, σ0.99/30, mb4.0/14, Bougainville-Solomon Islands region

```
Code Station Name          Δ°   AZ°   Phase ID   Time      Res
                                      Op    ISC  h m s     ISC
HNR  Honiara            1.25 138        Pn     Pn  07 49 14.4 -1.8
     159nm,0.3s,baz=244,slow=4.8,SNR=74
HNR                                     Sn     Sn  07 49 34.5 +0.8
     2μm,0.3s,baz=120,slow=12,SNR=31
HNR  Honiara            1.25 138        Pn     Pn  07 49 14.6 -1.7
DZM  Mont Dzumac        15.23 153       Pn     P   07 52 26.9 +1.4
     0.2nm,0.3s,baz=335,slow=17,SNR=2.2
CTA  Charters Tower     16.95 226       Pn     P   07 52 47.0 +2.6
     0.4nm,0.3s,baz=54,slow=13,SNR=12
CTAO Charters Tower     16.95 226       P      P   07 52 44.5  0.0
CTAO                                    IAmb   IAmb 07 52 50.6
     comp=Z,4.6nm,0.7s
EIDS Eidsvold           18.44 204       P      Pn  07 53 00.9 -1.2
EIDS                                    IAmb   IAmb 07 53 05.1
     comp=Z,4.5nm,0.8s
ARMA Armidale           22.91 197       P      P   07 53 49.1 +0.5
ARMA                                    IAmb   IAmb 07 54 13.9
     comp=Z,19nm,1.4s
WR0  Warramunga Arr     26.36 242       P      P   07 54 19.6 -0.4
WR0                                     IAmb   IAmb 07 54 21.7
     comp=Z,4.9nm,1.1s
WB0  Warramunga Arr     26.41 242       P      P   07 54 20.1 -0.4
WB0                                     IAmb   IAmb 07 54 22.3
     comp=Z,8.6nm,1.4s
WRAB Tennant Creek      26.51 242       P      P   07 54 19.6 -1.8
WRAB                                    IAmb   IAmb 07 54 42.1
     comp=Z,9.0nm,1.4s
WB2  Warramunga Arr     26.51 242       P      P   07 54 20.8 -0.7
WB2                                     IAmb   IAmb 07 54 25.0
     comp=Z,4.2nm,0.9s
WRA  Warramunga Arr     26.52 242       P      P   07 54 21.3 -0.3
     comp=Z,1.8nm,0.8s,baz=66,slow=9.3,SNR=15
WRA  Warramunga Arr     26.52 242       P      P   07 54 20.9 -0.7
STKA Stephens Creek     28.40 213       P      P   07 54 39.0 +0.9
     comp=Z,1.4nm,0.4s,baz=46,slow=14,SNR=9.6
STKA Stephens Creek     28.40 213       P      P   07 54 38.1  0.0
AS31 Alice Springs      28.45 235       P      P   07 54 38.4 -0.3
ASAR Alice Springs      28.45 235       P      P   07 54 38.2 -0.6
     comp=Z,2.0nm,0.5s,baz=61,slow=9.8,SNR=69
ASAR Alice Springs      28.45 235       P      P   07 54 38.7 -0.1
AFI  Afiamalu           29.05 103       LR     LR  08 05 14.0
     comp=Z,50nm,19.4s,baz=60,slow=34
BBOO Buckleboo          32.26 218       P      P   07 55 12.5 +0.3
FITZ Fitzroy Crossi     33.88 250       P      P   07 55 25.5 -1.0
     comp=Z,0.8nm,0.5s,baz=68,slow=5.4,SNR=1.2
FORT Forrest            36.48 228       P      P   07 55 48.0 -0.6
NWAO Narrogin (SRO)     45.66 232       P      P   07 57 03.8 -0.1
SONM Songino Array      72.82 326       P      P   08 00 11.7 +0.7
     comp=Z,0.7nm,0.5s,baz=124,slow=6.4,SNR=3.7
SONM Songino Array      72.82 326       P      P   08 00 10.6 -0.4
SONM                                    IAmb   IAmb 08 00 14.4
     comp=Z,2.0nm,1.3s
QSPA South Pole Qui     81.49 180       P      P   08 01 00.2 +1.0
QSPA                                    IAmb   IAmb 08 01 02.9
     comp=Z,3.3nm,1.4s
ILAR Eielson Array      83.31  20       P      P   08 01 08.6 +0.2
     comp=Z,0.3nm,0.5s,baz=247,slow=5.1,SNR=6.9
MKAR Makanchi Array     87.23 318       P      P   08 01 28.4  0.0
     comp=Z,0.7nm,0.7s,baz=87,slow=6.5,SNR=5.4
MKAR Makanchi Array     87.23 318       P      P   08 01 28.0 -0.3
YKA  Yellowknife Ar     95.75  28       P      P   08 02 07.7 +0.2
     comp=Z,0.1nm,0.8s,baz=264,slow=5.0,SNR=1.9
```

*IDC **26** 07:50:11.3±1.1, 0°.48S×130°.57E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/42, mbtmp3.7/5, ML3.5/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/70, Error ellipse: s-maj=28.7km s-min=10.1km az=34.0*

*DJA **26** 07:50:20.1±0.5, 1°.5±4°.×13°.1E±°, h10km, M3.2/4, MLv3.2/4*

ISC 26 07:50:11.0±1.2, 0°.29S±0°.08×131°.5E±0°.2, h10km, n10, σ0.97/10, mb3.7/3, Irian Jaya region

```
Code Station Name          Δ°   AZ°   Phase ID   Time      Res
                                      Op    ISC  h m s     ISC
SWI  Sorong             0.60 198        P      Pn  07 50 26.8 +1.1
SWI                                     S      Sg  07 50 30.0 -0.7
SIJI Sorong             0.60 198        Pg     Pn  07 50 26.9 +1.1
     72nm,0.3s,baz=16,slow=18,SNR=188
SIJI                                     Lg     Lg  07 50 38.1
     335nm,0.3s,baz=198,slow=20,SNR=19
FAKI Fak Fak            2.73 163        P      Pn  07 50 55.4 +0.4
DAV  Davao City (W)     9.37 321        LR     LR  07 56 09.3
     comp=Z,51nm,19.5s,baz=172,slow=40
BATI Baumata            12.53 218       LR     LR  07 58 20.3
     comp=Z,112nm,19.4s,baz=28,slow=41
FITZ Fitzroy Crossi     18.60 198       P      P   07 54 26.9 -1.7
     0.1nm,0.3s,baz=15,slow=16,SNR=2.1
WRA  Warramunga Arr     19.74 172       P      P   07 54 40.9 -0.2
     0.2nm,0.3s,baz=353,slow=11,SNR=8.9
WRA                                     S      S   07 58 10.7  -13
     0.1nm,0.3s,baz=331,slow=22,SNR=1.6
ASAR Alice Springs      23.36 174       P      P   07 55 20.5 +0.6
     1.9nm,0.8s,baz=0.7,slow=10,SNR=14
ASAR                                    S      S   07 59 33.4 +0.3
     0.3nm,1.0s,baz=58,slow=38,SNR=1.9
SONM Songino Array      52.65 339       P      P   07 59 25.5 -0.1
     0.5nm,0.6s,baz=139,slow=7.7,SNR=2.4
MKAR Makanchi Array     63.53 325       P      P   08 00 41.6 -0.1
     1.1nm,0.7s,baz=120,slow=7.9,SNR=14
```

*GCG **26** 07:58:45.4±0.7, 13°.97N×91°.62W, h108km±18km, MD3.8*
*SNET **26** 07:58:46.1±1.0, 13°.84N×91°.41W, h12km±11km, ML3.0*

ISC 26 07:58:41.7±3.2, 13°.6N±0°.1×91°.6W±0°.1, h11km±13km, n9, σ1.32/14, Near coast of Guatemala

```
Code Station Name          Δ°   AZ°   Phase ID   Time      Res
                                      Op    ISC  h m s     ISC
STG3 Santiaguito 3,     1.15   2        eP     Pn  07 59 04.6 +0.8
FUG  Fuego 3            1.16  40        eP     Pn  07 59 03.9 -0.1
FUG                                     eS     Sn  07 59 22.3 +2.5
PCG  Pacaya             1.28  49        eP     Pg  07 59 08.0 +1.6
NBG  Las Nubes          1.60  50        eP     Pg  07 59 12.2 -0.2
NBG                                     eS     Sg  07 59 32.3 -0.9
HUEH Huehuetenango      1.75   3        eS     Sn  07 59 33.1 -1.6
SLOZ Alcaldia de Sa     1.83  75        eP     Pn  07 59 13.6 +0.5
SLOZ                                     eS     Sn  07 59 35.7 -0.7
SLOZ                                     IAML       07 59 43.0
     comp=Z,101nm,0.7s
CEVE Cerro Verde        1.95  82        eP     Pb  07 59 16.6 -0.7
CEVE                                     eS     Sn  07 59 39.8 +0.3
CEVE                                     IAML       07 59 43.1
     comp=Z,336nm,0.3s
JAYA Jayaque - finc     2.10  87        eP     Pb  07 59 18.4 -1.5
JAYA                                     eS     Sn  07 59 43.1 -0.1
COEB Comit de Eme       3.00  91        eP     Pn  07 59 30.2 +1.0
```

*IDC **26** 08:05:43.3±2.6, 5°.72S×152°.40E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.2/50, mbtmp3.7/4, Error ellipse: s-maj=62.7km s-min=14.6km az=92.0*

ISC 26 08:05:45.0±3.6, 5°.6S±0°.2×152°.3E±0°.7, h10km, n6, σ1.34/6, mb3.5/4, New Britain region

```
Code Station Name          Δ°   AZ°   Phase ID   Time      Res
                                      Op    ISC  h m s     ISC
KRVT Keravat (AS076     1.32 348        Pg     Pn  08 06 08.8 -0.8
     baz=107,slow=19
KRVT                                     Lg     Lg  08 06 29.5
     baz=163,slow=19
WRA  Warramunga Arr     22.54 229       P      P   08 10 45.1 -0.3
     1.8nm,1.1s,baz=55,slow=10,SNR=5.3
ASAR Alice Springs      25.23 223       P      P   08 11 09.8 -1.5
     0.6nm,0.9s,baz=60,slow=8.9,SNR=6.8
FITZ Fitzroy Crossi     28.84 242       P      P   08 11 44.4 +0.5
     1.2nm,0.5s,baz=125,slow=6.1,SNR=6.8
MKAR Makanchi Array     80.61 319       P      P   08 17 59.5 +1.4
     0.6nm,0.9s,baz=92,slow=7.2,SNR=3.9
TORD Torodi Ar. Bea     150.07 287      PKPbc  PKiKP 08 25 37.9 -0.2
     0.3nm,0.4s,baz=43,slow=3.4,SNR=2.1
```

*NNC **26** 08:06:36.5±2.5, 54°.46N×86°.90E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=23.2km s-min=14.5km az=173.0, Suspected Mining explosion.*

IDC 26 08:06:39.0±3.0, 54°.39N×86°.77E, h0km, mb1 2.9/2, mb1mx2.3/58, mbtmp2.9/2, ML2.7/2, 6C-5D, Error ellipse: s-maj=26.0km s-min=17.3km az=50.0, Southwestern Siberia

```
Code Station Name          Δ°   AZ°   Phase ID   Time      Res
                                      Op    ISC  h m s     ISC
I46RU ZALESOVO INFRA    1.23 250  i
     baz=70,slow=329,SNR=9.5
ZAA0 Zalesovo Array     1.23 250        ⇑P     Pg  08 07 00.4 -2.1
     0.4nm,0.5s
ZAA0                                     ⇓S     Sb  08 07 19.8 +0.4
     0.7nm,0.3s
ZALV Zalesovo Beam      1.23 250        Pg     Pg  08 07 00.8 -1.7
     1.4nm,0.3s,baz=66,slow=17,SNR=13
ZALV                                     Lg     Lg  08 07 19.0
     1.5nm,0.3s,baz=68,slow=24,SNR=9.0
KURK Kurchatov          6.18 237        ⇑Pn    Pn  08 08 11.6 +0.2
     0.5nm,0.5s
KURK                                     ⇓Sn    Sn  08 09 22.6 -0.2
     1.2nm,0.9s
KURK                                     ⇑Lg    Lg  08 09 56.9
     4.5nm,1.2s
KURBB Kurchatov Arra    6.29 237        Pn     Pn  08 08 13.9 +1.1
     0.1nm,0.3s,baz=54,slow=14,SNR=13
KURBB                                    Lg     Lg  08 10 00.0
     0.0nm,0.3s,baz=61,slow=44,SNR=1.5
KURBB Kurchatov Arra    6.29 237        ⇓Pn    Pn  08 08 13.1 +0.2
     0.6nm,0.3s
KURBB                                    ⇓Sn    Sn  08 09 26.3 +1.0
     2.3nm,0.6s
KURBB                                    ⇑Lg    Lg  08 10 01.2
     2.2nm,0.6s
MK31 Makanchi Array     8.12 202        ⇑Pn    Pn  08 08 38.5 +0.4
     0.1nm,0.3s,baz=26,slow=13,SNR=7.5
MK31                                     ⇑Sn    Sn  08 10 11.6 +1.2
MK31                                     ⇓Lg    Lg  08 10 55.1
MKAR Makanchi Array     8.12 202        Pn     Pn  08 08 38.9 +0.9
     0.1nm,0.3s,baz=23,slow=14,SNR=7.1
MKAR                                     Lg     Lg  08 10 56.8
     0.0nm,0.3s,baz=18,slow=29,SNR=3.3
```

IDC 26 08:10:41.1±2.9, 54°.14N×87°.15E, h0km, mb1 2.7/2, mb1mx2.2/60, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=24.9km s-min=15.7km az=66.0, Southwestern Siberia

```
Code Station Name          Δ°   AZ°   Phase ID   Time      Res
                                      Op    ISC  h m s     ISC
I46RU ZALESOVO INFRA    1.39 263  i
     baz=81,slow=332,SNR=6.0
ZALV Zalesovo Beam      1.39 263        Pg     Pg  08 11 06.2 -1.5
     1.2nm,0.3s,baz=85,slow=13,SNR=10.0
ZALV                                     Lg     Lg  08 11 25.1
     2.3nm,0.3s,baz=82,slow=30,SNR=7.3
KURBB Kurchatov Arra    6.34 240        Pn     Pn  08 12 17.0 +1.2
     0.1nm,0.3s,baz=55,slow=14,SNR=3.1
KURBB                                    Lg     Lg  08 14 03.5
     0.0nm,0.3s,baz=65,slow=33,SNR=1.9
MKAR Makanchi Array     7.98 205        Pn     Pn  08 12 39.4 +1.1
     0.1nm,0.3s,baz=23,slow=11,SNR=7.4
MKAR                                     Sn     Sn  08 14 08.9 -0.3
     0.1nm,0.3s,baz=27,slow=29,SNR=2.8
MKAR                                     Lg     Lg  08 14 54.6
     0.0nm,0.3s,baz=30,slow=31,SNR=1.7
```

*NNC **26** 08:13:45.4±3.1, 54°.19N×87°.00E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=27.9km s-min=17.2km az=10.0, Suspected Mining explosion.*

IDC 26 08:13:45.8±2.7, 54°.10N×87°.06E, h0km, mb1 3.0/2, mb1mx2.9/55, mbtmp3.0/2, ML2.7/2, 5C-4D, Error ellipse: s-maj=23.1km s-min=15.6km az=64.0, Southwestern Siberia

```
Code Station Name          Δ°   AZ°   Phase ID   Time      Res
                                      Op    ISC  h m s     ISC
I46RU ZALESOVO INFRA    1.33 264  i
     baz=80,slow=332,SNR=9.2
ZAA0 Zalesovo Array     1.33 264        ⇑P     Pg  08 14 09.5 -1.7
     0.2nm,0.2s
ZAA0                                     ⇓S     Sg  08 14 28.2 -0.2
     0.8nm,0.4s
ZALV Zalesovo Beam      1.33 264        Pg     Pg  08 14 10.1 -1.2
     1.4nm,0.3s,baz=87,slow=17,SNR=12
ZALV                                     Lg     Lg  08 14 29.9
     1.1nm,0.3s,baz=83,slow=28,SNR=3.7
KURK Kurchatov          6.17 240        ⇑Pn    Pn  08 15 19.1 +1.0
     0.2nm,0.5s
KURK                                     ⇑Sn    Sn  08 16 28.2 -1.2
     0.4nm,0.5s
KURK                                     ⇑Lg    Lg  08 17 04.4
     3.1nm,0.9s
KURBB Kurchatov Arra    6.28 240        Pn     Pn  08 15 19.7 +0.2
     0.1nm,0.3s,baz=55,slow=14,SNR=4.1
KURBB                                    Sn     Sn  08 16 29.9 -2.0
     0.1nm,0.3s,baz=46,slow=4.0,SNR=1.7
KURBB                                    Lg     Lg  08 17 05.6
     0.0nm,0.3s,baz=59,slow=35,SNR=1.7
KURBB Kurchatov Arra    6.28 240        ⇑Pn    Pn  08 15 19.1 -0.4
     1.1nm,0.5s
KURBB                                    ⇓Sn    Sn  08 16 32.2 +0.3
     1.1nm,0.4s
KURBB                                    ⇓Lg    Lg  08 17 12.1
     3.1nm,0.8s
MK31 Makanchi Array     7.92 204        Pn     Pn  08 15 44.4 +2.3
     0.1nm,0.3s,baz=31,slow=15,SNR=9.2
MK31                                     Sn     Sn  08 17 16.4 +3.9
     0.1nm,0.3s,baz=36,slow=28,SNR=4.1
MK31                                     ⇓Lg    Lg  08 17 57.7
     0.4nm,0.6s,baz=24,slow=25,SNR=4.5
MKAR Makanchi Array     7.92 204        Pn     Pn  08 15 43.8 +1.7
     0.2nm,0.3s,baz=24,slow=13,SNR=9.7
MKAR                                     Sn     Sn  08 17 12.0 -0.4
     0.0nm,0.3s,baz=30,slow=20,SNR=2.2
```

*IDC **26** 08:24:36.3±0.9, 11°.31N×44°.33W, h0km, mb4.1/6, mb1 4.2/8, mb1mx3.8/37, mbtmp4.1/8, ML4.5/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/84, Error ellipse: s-maj=30.9km s-min=21.4km az=145.0*

ISC 26 08:24:37.5±0.8, 11°.2N±0°.2×44°.4W±0°.1, h10km, n14, σ1.82/10, mb3.9/6, MS3.2/3, Northern Mid-Atlantic Ridge

```
Code Station Name          Δ°   AZ°   Phase ID   Time      Res
                                      Op    ISC  h m s     ISC
MDP  Montagnes des      10.15 234       Pn     Pn  08 27 05.3 +1.8
     4.2nm,0.3s,baz=43,slow=16,SNR=38
MDP                                      Sn     Sn  08 28 53.9 -3.6
     0.1nm,0.3s,baz=336,slow=20,SNR=1.2
MDP                                      LR     LR  08 30 36.6
     comp=Z,94nm,20.7s,baz=124,slow=35
PTGA Pitinga            19.48 234       P      Pn  08 29 06.8 +0.7
     baz=69,slow=16
PTGA                                     LR     LR  08 36 11.8
     comp=Z,62nm,20.3s,baz=52,slow=36
H10N3 ASCENSION HYDR35.27 121           T      T   09 07 47.6
     baz=302,slow=75
H10N2 ASCENSION HYDR35.27 121           T      T   09 07 59.1
     baz=302,slow=75
H10N1 ASCENSION HYDR35.29 121           T      T   09 07 52.9
     baz=302,slow=75
LPAZ La Paz             36.01 221       P      P   08 31 40.0 +0.2
     0.6nm,0.5s,baz=29,slow=11,SNR=4.2
LPAZ                                     LR     LR  08 48 11.0
     comp=Z,40nm,18.4s,baz=42,slow=39
DBIC Dimbokro           39.31  93       P      P   08 32 06.0 -1.1
     3.4nm,1.0s,baz=282,slow=9.4,SNR=3.2
TORD Torodi Ar. Bea     45.07  83       P      P   08 32 53.5 -0.6
     1.4nm,1.0s,baz=283,slow=7.5,SNR=5.0
SCHQ Schefferville      46.98 342       P      P   08 33 08.3 -0.3
     3.2nm,0.9s,baz=154,slow=7.9,SNR=4.0
DAVOX Davos/Dischmat    57.74  41       LR     LR  08 54 45.8
     comp=Z,34nm,21.9s,baz=263,slow=31
NOA  NORSAR Array B     64.01  27       LR     LR  08 59 17.6
     comp=Z,14nm,18.1s,baz=335,slow=33
ILAR Eielson Array      85.20 335       P      P   08 37 13.8 -0.2
     0.6nm,0.8s,baz=78,slow=5.6,SNR=4.7
NRIK Noril'sk           93.00  15       P      P   08 37 51.2 +0.3
     2.5nm,0.7s,baz=19,slow=9.3,SNR=6.1
ASAR Alice Springs      167.50 173      PKPab  PKPab 08 45 52.2 +2.1
     0.3nm,0.7s,baz=177,slow=3.3,SNR=4.1
```

*CNRM **26** 08:43:46.3, 35°.56N×3°.73W, h20km, ml3.6*
*IGIL **26** 08:43:47.4, 35°.62N×3°.60W, h5km, ML3.1*

ISC 26 08:43:45.2±1.4, 35°.56N±0°.04×3°.69W±0°.03, h12km±10km, n18, σ1.37/27, Strait of Gibraltar

```
Code Station Name          Δ°   AZ°   Phase ID   Time      Res
                                      Op    ISC  h m s     ISC
PALE Palemas            0.40 211        P      Pg  08 43 53.2  0.0
PALE                                     S      Sg  08 43 57.9 -0.7
AKLM AKL                1.06 188        P      Pg  08 44 05.6  0.0
AKLM                                     S      Sb  08 44 18.3 -1.0
TAF  Taforalt           1.28 125        P      Pg  08 44 09.3 -0.5
TAF                                      S      Sg  08 44 36.5 +10
CHEFC Chefchaouen       1.43 252        P      Pg  08 44 14.0 +1.4
JBK  JBK                1.53 143        P      Pb  08 44 13.0 -0.6
JBK                                      S      Sn  08 44 31.6 -0.9
SICH Sidi Chahed        1.98 223        P      Pb  08 44 19.5 -1.7
SICH                                     S      Sb  08 44 45.7 -0.1
LCRM LCR                2.11 208        P      Pb  08 44 24.0 +0.6
LCRM                                     S      Sn  08 44 47.5 +0.9
MD31 MD31               2.83 199        P      Pn  08 44 31.3 +1.0
MDT  Midelt             2.85 196        P      Pn  08 44 31.9 +1.4
TDRA Tendrara           2.87 151        P      Pn  08 44 32.1 +1.2
CART Cartagena          2.96  46        P      Pn  08 44 33.0 +1.1
CART                                     S      Sn  08 45 07.2 -0.1
PVAQ Vaqueiros          3.73 301        P      Pn  08 44 44.4 +1.8
PVAQ                                     S      Sn  08 45 24.0 -2.5
FIGM Figuig             3.97 149        P      Pn  08 44 48.7 +2.7
MESJ Messejana          4.29 303  eP     Pn  08 44 51.8 +1.5
MESJ                                     eS     Sn  08 45 39.0 -1.4
MESJ                                     IAML       08 45 43.2
```

comp=N,32nm,0.3s
MORF Marmelete 4.37 295 *e*P **Pn 08 44 52.9 +1.6**
MORF *e*S **Sn 08 45 40.9 -1.3**
MORF IAML 08 45 43.1
comp=N,41nm,0.2s
PFVI Vila Bisbo 4.44 292 P **Pn 08 44 53.6 +1.3**
OUZM OUZ 5.31 210 P **Pn 08 45 05.8 +1.4**
OUK Oukaimeden 5.58 220 P **Pn 08 45 08.3 0.0**

IDC ***26*** *08:45:06.5±3.1, 36°.24N×70°.48E, h172km±26km, mb3.6/12, mb1 3.7/18, mb1mx3.3/65, mbtmp4.2/18, MS3.1/1, Ms1 3.1/1, ms1mx2.3/79, Error ellipse: s-maj=22.8km s-min=17.5km az=15.0*
NEIC ***26*** *08:45:10.5±2.0, 36°.49N±0°.08×70°.31E±0°.06, h203km±8km, mb4.2/11, Error ellipse: s-maj=11.5km s-min=6.1km az=191.0*
NNC ***26*** *08:45:16.8±3.6, 37°.07N×70°.45E, h216km±37km, mb3.2, mpv3.9, Error ellipse: s-maj=33.2km s-min=20.7km az=7.0*

ISC 26 08:45:09.8±0.5, 36°.50N±0°.05×70°.43E±0°.06, h204km, n69, σ1§72/77, mb4.0/14, 7C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.25**	**211**	Pn	**Pn**	**08 45 51.5**	**0.0**
CHGR	**Chuyangaron**	**2.38**	**335**		**Pn**	**08 45 52.4**	**-0.3**
DRK	**Karamyk**	**3.17**	**20**		**Pn**	**08 46 02.4**	**+0.5**
BTK	**Batken**	**3.57**	**5**		**Pn**	**08 46 07.6**	**+1.1**
CHCP	**Chirah Chowk**	**3.66**	**140**	P	**Pn**	**08 46 08.8**	**+1.2**
NIL	**Nilore**	**3.66**	**140**	Pn	**Pn**	**08 46 08.7**	**+1.0**
THW	**Thamme Wali**	**3.85**	**163**	P	**Pn**	**08 46 10.4**	**+0.5**
TAS	**Tashkent**	**4.90**	**350**	Pn	**Pn**	**08 46 23.9**	**+1.0**
SARP	**Sargodha**	**4.93**	**157**	P	**Pn**	**08 46 23.2**	**-0.2**
JMU	**Jammu**	**5.27**	**134**	*e*P	**Pn**	**08 46 28.4**	**+0.7**
JMU				*e*S	**S**	**08 47 25.6**	**-3.3**
THN	**Thein Dam**	**5.96**	**131**	*e*P	**Pn**	**08 46 37.3**	**+0.7**
THN				*e*S	**S**	**08 47 43.0**	**-1.9**
AML	**Almayashu**	**6.17**	**23**	P	**Pn**	**08 46 39.7**	**+0.1**
	SNR=95						
DHRM	**DHARAMSHALA**	**6.44**	**129**	*e*P	**Pn**	**08 46 43.2**	**+0.2**
DHRM				*e*S	**S**	**08 47 53.5**	**-3.2**
DHRM				IAML		08 47 55.4	
	comp=N,361nm,0.4s						
DHRM				IAML		08 47 57.0	
	comp=E,492nm,0.2s						
UCH	**Uchtor**	**6.54**	**28**	P	**Pn**	**08 46 44.6**	**+0.2**
	SNR=20						
KKAR	**Karatay Array**	**6.60**	**1**	Pn	**Pn**	**08 46 44.7**	**-0.1**
KK08	**Karatay Array**	**6.60**	**0**	⇑P	**Pn**	**08 46 45.3**	**+0.6**
	comp=E,4.9nm,0.5s						
KK08				⇓S	**S**	**08 47 54.2**	**-5.8**
	comp=E,27nm,0.5s						
EKS2	**Erkin-Say**	**6.68**	**22**	P	**Pn**	**08 46 46.4**	**+0.5**
	SNR=15						
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**08 46 48.6**	**-0.1**
	comp=E,3.6nm,0.3s,baz=186,slow=6.3,SNR=37						
AAK				S	**S**	**08 48 04.5**	**-2.6**
	comp=E,7.7nm,0.3s,baz=326,slow=20,SNR=36						
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**08 46 49.3**	**+0.5**
	SNR=11						
AAK	**Ala-Archa**	**6.89**	**26**	⇑P	**Pn**	**08 46 49.1**	**+0.5**
	comp=E,4.1nm,0.4s						
AAK				⇑S	**S**	**08 48 04.2**	**-2.8**
	comp=E,100nm,0.6s						
AAK	**Ala-Archa**	**6.89**	**26**	Pn	**Pn**	**08 46 49.2**	**+0.5**
BOOM	**Boomskoye usch**	**7.34**	**34**	Pn	**Pn**	**08 46 54.4**	**-0.2**
USP	**Ospenovka**	**7.45**	**24**	P	**Pn**	**08 46 55.8**	**0.0**
	SNR=6.3						
TKM2	**Tokmak 2**	**7.55**	**30**	P	**Pn**	**08 46 57.6**	**+0.3**
	SNR=16						
TKM2	**Tokmak 2**	**7.55**	**30**	⇓P	**Pn**	**08 46 57.1**	**-0.1**
	comp=E,6.1nm,0.5s						
TKM2				⇑S	**S**	**08 48 17.9**	**-4.9**
	comp=E,26nm,0.8s						
KDJ	**Kajisay**	**7.68**	**41**	Pn	**Pn**	**08 46 59.0**	**+0.1**
SMLA	**Simla**	**7.75**	**132**	*e*P	**Pn**	**08 46 59.7**	**-0.1**
SMLA				*e*S	**S**	**08 48 21.9**	**-5.4**
SMLA				IAML		08 48 24.5	
	comp=E,86nm,0.3s						
SMLA				IAML		08 48 24.8	
	comp=N,99nm,0.5s						
TARG	**Taragay, Kyrgy**	**7.75**	**45**	Pn	**Pn**	**08 46 59.7**	**-0.4**
KUDL	**Kundal**	**9.78**	**147**	*e*P	**Pn**	**08 47 25.2**	**-0.8**
KUDL				*e*S	S	08 49 05.8	-10
GEYT	**Alibeck**	**9.93**	**282**	P	**Pn**	**08 47 26.8**	**-1.2**
	comp=N,0.4nm,0.3s,baz=82,slow=16,SNR=1.7						
GEYT				S	**S**	**08 49 14.4**	**-4.8**
	comp=N,0.7nm,0.3s,baz=153,slow=16,SNR=2.7						
MAKZ	**Makanchi**	**13.43**	**36**		**Pn**	**08 48 13.6**	**+1.3**
MK31	**Makanchi Array**	**13.57**	**37**	⇓P	**Pn**	**08 48 14.5**	**+0.5**
	comp=N,10nm,0.8s						
MK31	**Makanchi Array**	**13.57**	**37**	Pn	**Pn**	**08 48 15.2**	**+1.1**
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**08 48 13.9**	**-0.1**
	comp=N,0.6nm,0.3s,baz=218,slow=9.2,SNR=34						
MKAR	**Makanchi Array**	**13.57**	**37**	Pn	**Pn**	**08 48 14.7**	**+0.7**
BHPL	**Bhopal**	**14.53**	**153**	*e*P	**P**	**08 48 29.8**	**+2.5**
BHPL				*e*S	S	08 50 51.1	-16
AB31	**Akbulak array**	**14.87**	**332**	⇑P	**Pn**	**08 48 29.1**	**-0.9**
	comp=N,1.2nm,0.3s,baz=148,slow=12,SNR=110						
ABKAR	**Akbulak array**	**14.87**	**332**		**Pn**	**08 48 29.3**	**-0.7**
ABKAR	**Akbulak array**	**14.87**	**332**		**Pn**	**08 48 29.1**	**-0.9**
KURBB	**Kurchatov Arra**	**15.28**	**20**	P	**Pn**	**08 48 34.5**	**-0.5**
	comp=N,0.2nm,0.3s,baz=209,slow=10,SNR=12						
KURK	**Kurchatov**	**15.39**	**20**	⇑P	**Pn**	**08 48 35.7**	**-0.6**
	comp=N,3.6nm,0.8s						
KURK	**Kurchatov**	**15.39**	**20**		**Pn**	**08 48 36.1**	**-0.2**
BVAR	**Borovoye Array**	**16.53**	**360**	P	**Pn**	**08 48 50.2**	**+0.2**
	comp=N,1.7nm,0.3s,baz=135,slow=9.5,SNR=17						
AKTO	**Aktyubinsk**	**16.56**	**331**	P	**Pn**	**08 48 50.9**	**+0.5**
	comp=N,2.1nm,0.3s,baz=147,slow=12,SNR=62						
AKTO	**Aktyubinsk**	**16.56**	**331**	⇓P	**Pn**	**08 48 51.2**	**+0.8**
	comp=N,23nm,0.8s						
BRVK	**Borovoye**	**16.56**	**360**	⇑P	**Pn**	**08 48 50.4**	**0.0**
	comp=N,4.2nm,0.5s						
BRVK	**Borovoye**	**16.56**	**360**		**Pn**	**08 48 51.2**	**+0.8**
BRVK				IAmb	IAmb	08 48 53.6	
	comp=Z,7.2nm,0.7s						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**08 49 28.9**	**+1.1**
	comp=Z,7.2nm,0.4s,baz=222,slow=11,SNR=28						
ARU	**Arti**	**21.49**	**342**	P	**P**	**08 49 43.9**	**+1.6**
	comp=Z,3.0nm,0.5s,baz=155,slow=8.2,SNR=14						
NRIK	**Noril'sk**	**34.21**	**11**	P	**P**	**08 51 37.8**	**+2.2**
	comp=Z,3.7nm,0.5s,baz=196,slow=6.7,SNR=4.8						
NRIK	**Noril'sk**	**34.21**	**11**	P	**P**	**08 51 37.6**	**+2.0**
NRIK				IAmb	IAmb	08 51 38.8	
	comp=Z,3.7nm,0.7s						
BUR08	**Bucovina Ar. S**	**34.91**	**303**	P	**P**	**08 51 40.6**	**-1.5**
BUR08				IAmb	IAmb	08 51 44.4	
	comp=Z,7.9nm,1.4s						
ATD	**Arta Tunnel**	**35.16**	**232**	LR	LR	09 09 54.6	
	comp=Z,30nm,18.4s,baz=332,slow=42						
FIA1	**FINESS Array S**	**37.23**	**326**	P	**P**	**08 52 02.6**	**+1.3**
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**08 52 03.0**	**+1.6**
	comp=Z,6.1nm,0.9s,baz=118,slow=9.3,SNR=13						
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**08 52 03.2**	**+1.9**
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**08 52 34.0**	**+1.8**
	comp=Z,4.8nm,0.6s,baz=113,slow=7.8,SNR=26						
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**08 52 34.2**	**+2.0**
ARCES				IAmb	IAmb	08 52 42.1	
	comp=Z,21nm,1.5s						
HFS	**Hagfors**	**42.79**	**322**	P	**P**	**08 52 48.5**	**+1.6**
	comp=Z,3.7nm,0.6s,baz=99,slow=9.5,SNR=12						
NB2	**NORSAR Subarra**	**44.11**	**323**	P	**P**	**08 52 58.6**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.11**	**323**	P	**P**	**08 52 58.8**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=104,slow=7.3,SNR=5.3						
NC204	**NORSAR Array S**	**44.35**	**323**	P	**P**	**08 53 00.7**	**+1.2**
NC204				IAmb	IAmb	08 53 28.0	
	comp=Z,50nm,1.4s						
TORD	**Torodi Ar. Bea**	**65.26**	**268**	P	**P**	**08 55 30.2**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=39,slow=5.2,SNR=2.1						
TOLK	**Toolik Lake Re**	**71.04**	**14**	P	**P**	**08 56 06.3**	**+1.3**
TOLK				IAmb	IAmb	08 56 08.0	
	comp=Z,2.2nm,0.8s						
INK	**Inuvik**	**73.98**	**9**	P	**P**	**08 56 24.2**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=339,slow=6.2,SNR=4.8						
INK	**Inuvik**	**73.98**	**9**	P	**P**	**08 56 23.4**	**+1.1**
YKA	**Yellowknife Ar**	**81.27**	**2**	P	**P**	**08 57 04.3**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=350,slow=5.4,SNR=7.0						
WRA	**Warramunga Arr**	**82.38**	**122**	P	**P**	**08 57 08.2**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=328,slow=4.8,SNR=2.4						
ASAR	**Alice Springs**	**84.63**	**125**	P	**P**	**08 57 20.3**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=324,slow=4.2,SNR=6.0						

NIED ***26*** *08:45:36.4, 46°.66N×153°.12E, h30km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 1015Nm; Mrr=0.69; Mθθ=2.01; Mφφ=-1.32; Mrθ=-1.22; Mrφ=1.56; Mθφ=0.95; Fault plane solution: M0=2.82000×10¹⁵ NP1: φs=109.00000°, δ=77.00000°, λ=-35.00000°. NP2: φs=208.00000°, δ=56.00000°, λ=-165.00000°.*
JMA ***26*** *08:45:36.3±0.9, 46°.66N×153°.12E, h30km, M4.9*
SKHL ***26*** *08:45:36.5±0.7, 46°.40N×153°.30E, h65km±4km, mb5.2/9*
MOS ***26*** *08:45:38.0±1.2, 46°.75N×152°.88E, h60km, mb4.6/10, Error ellipse: s-maj=9.7km s-min=6.0km az=59.0*
IDC ***26*** *08:45:42.1±2.5, 46°.87N×152°.66E, h76km±22km, mb3.6/18, mb1 3.9/24, mb1mx3.7/49, mbtmp4.0/24, MS3.4/17, Ms1 3.4/17, ms1mx3.1/89, Error ellipse: s-maj=17.4km s-min=11.9km az=136.0*
NEIC ***26*** *08:45:42.2±2.3, 46°.9N±0°.1×152°.7E±0°.1, h75km±6km, mb4.5/29, Error ellipse: s-maj=16.7km s-min=11.5km az=141.0*

ISC 26 08:45:38.6±0.5, 46°.58N±0°.06×152°.98E±0°.06, h50km, n177, σ1§84/180, mb4.4/37, MS3.5/14, 2C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.82**	**251**	*e*PN	**Pn**	**08 46 36.2**	**+1.4**
KUR				*e*S	**Sn**	**08 47 21.8**	**+3.5**
KUR				pmax	pmax		
	comp=Z,419nm,0.4s						
KUR				pmax	pmax		
	comp=N,107nm,0.3s						
KUR				pmax	pmax		
	comp=E,49nm,0.3s						
KUR				smax	smax		
	comp=N,690nm,0.6s						
KUR				smax	smax		
	comp=E,870nm,0.6s						
KUR	**Kuril'sk**	**3.82**	**251**	*e*P	**Pn**	**08 46 36.1**	**+1.3**
KUR				AMB	AMB	08 46 38.1	
	comp=E,540nm,0.4s						
KUR				*e*S	**Sn**	**08 47 20.1**	**+1.8**
KUR				A	A	08 47 33.5	
	comp=E,1μm,0.6s						
KUR				A	A	08 47 33.5	
	comp=E,1μm,0.6s						
SKR	**Severo-Kuril's**	**4.61**	**26**	*e*PN	**Pn**	**08 46 44.9**	**-0.7**
SKR				*e*S	**Sn**	**08 47 32.3**	**-5.4**
SKR				pmax	pmax		
	comp=Z,362nm,0.5s						
SKR				smax	smax		
	comp=E,919nm,0.6s						
SKR				smax	smax		
	comp=N,2μm,0.7s						
SKR				MLR	MLR		
	comp=Z,2μm,10.0s						
SKR	**Severo-Kuril's**	**4.61**	**26**	*e*P	**Pn**	**08 46 44.0**	**-1.6**
SKR				AMB	AMB	08 46 46.3	
	comp=Z,360nm,0.5s						
SKR				*e*S	**Sn**	**08 47 34.0**	**-3.7**
SKR				A	A	08 47 48.8	
	comp=Z,2μm,0.7s						
SKR				A	A	08 47 48.8	
	comp=Z,920nm,0.7s						
SHO	**Shikotan**	**5.12**	**240**	*d*PN	**Pn**	**08 46 52.4**	**-0.2**
SHO				pmax	pmax		
	comp=Z,126nm,0.4s						
SHO				pmax	pmax		
	comp=N,75nm,0.5s						
SHO				pmax	pmax		
	comp=E,98nm,0.3s						
SHO	**Shikotan**	**5.12**	**240**	*i*P	**Pn**	**08 46 52.5**	**-0.2**
SHO				AMB	AMB	08 47 04.2	
	comp=E,130nm,0.4s						
SHO				*e*S	**Sn**	**08 47 49.9**	**-0.5**
SHO				A	A	08 48 05.5	
	comp=E,260nm,0.5s						
SHO				A	A	08 48 05.5	
	comp=E,340nm,0.5s						
PAU	**Pauzhetka**	**5.50**	**26**	*e*P	**Pn**	**08 46 56.8**	**-1.1**
PAU				AMB	AMB	08 47 10.0	
	comp=E,110nm,0.4s						
PAU				*e*S	**Sn**	**08 47 57.3**	**-2.5**
PAU				A	A	08 47 59.9	
	comp=E,280nm,0.3s						
PAU				A	A	08 47 59.9	
	comp=E,380nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**246**	*e*PN	**Pn**	**08 47 00.9**	**+1.3**
YUK				*e*S	**Sn**	**08 48 03.1**	**+0.2**
YUK				pmax	pmax		
	comp=N,104nm,0.5s						
YUK				pmax	pmax		
	comp=Z,234nm,0.5s						
YUK				pmax	pmax		
	comp=E,65nm,0.2s						
YUK				smax	smax		
	comp=N,354nm,0.8s						
YUK				smax	smax		
	comp=E,623nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**246**	*e*P	**Pn**	**08 47 00.9**	**+1.3**
YUK				AMB	AMB	08 47 08.9	
	comp=E,230nm,0.5s						
YUK				*e*S	**Sn**	**08 48 03.1**	**+0.2**
YUK				A	A	08 48 16.5	
	comp=E,350nm,0.8s						
YUK				A	A	08 48 16.5	
	comp=E,620nm,0.8s						
GRPR	**Tuman**	**5.71**	**246**	*e*PN	**Pn**	**08 47 02.8**	**+2.1**
GRPR				*e*S	**Sn**	**08 48 04.7**	**-0.1**
GRPR				pmax	pmax		
	comp=Z,289nm,0.3s						
GRPR				pmax	pmax		
	comp=N,178nm,0.1s						
GRPR				smax	smax		
	comp=E,512nm,0.6s						
GRPR				smax	smax		
	comp=N,348nm,0.4s						
GRPR	**Tuman**	**5.71**	**246**	*e*P	**Pn**	**08 47 02.0**	**+1.3**
GRPR				AMB	AMB	08 47 11.5	
	comp=N,290nm,0.3s						
GRPR				*e*S	**Sn**	**08 48 04.7**	**-0.1**
GRPR				A	A	08 48 23.9	
	comp=N,350nm,0.6s						
GRPR				A	A	08 48 23.9	
	comp=N,510nm,0.6s						
RUSJ	**Misakicho**	**5.99**	**248**	*e*PN	**Pn**	**08 47 08.4**	**+3.9**
GLVR	**Golovnino**	**5.99**	**244**	⇑*i*PN	**Pn**	**08 47 04.9**	**+0.3**
GLVR				*e*S	**Sn**	**08 48 13.0**	**+1.2**
GLVR				pmax	pmax		
	comp=Z,257nm,0.4s						
GLVR				pmax	pmax		
	comp=N,98nm,0.3s						
GLVR				pmax	pmax		
	comp=E,128nm,0.5s						
GLVR				smax	smax		
	comp=E,524nm,0.4s						
GLVR				smax	smax		
	comp=N,347nm,0.5s						
GLVR	**Golovnino**	**5.99**	**244**	*i*P	**Pn**	**08 47 04.9**	**+0.3**
GLVR				AMB	AMB	08 47 12.3	
	comp=N,260nm,0.4s						
GLVR				*e*S	**Sn**	**08 48 13.0**	**+1.2**
GLVR				A	A	08 48 32.8	
	comp=N,350nm,0.5s						
GLVR				A	A	08 48 32.8	
	comp=N,520nm,0.5s						
NEM2	**Nemuro 2**	**6.06**	**241**	P	**Pn**	**08 47 05.0**	**-0.5**
NEM2				*e*S	**Sn**	**08 48 10.4**	**-3.0**
NMR	**Nemuro--Hokkai**	**6.06**	**241**	*e*PN	**Pn**	**08 47 04.6**	**-1.0**
NMR	**Nemuro--Hokkai**	**6.06**	**241**	*e*P	**Pn**	**08 47 05.6**	**0.0**
NMR				*e*S	**Sn**	**08 48 11.3**	**-2.3**
JRA	**Rausu**	**6.14**	**247**	P	**Pn**	**08 47 08.7**	**+2.0**
JNK	**Nakash**	**6.57**	**246**	P	**Pn**	**08 47 14.0**	**+1.5**
JNK				*e*S	**Sn**	**08 48 26.1**	**0.0**
AKK	**Akkeshi**	**6.80**	**241**	*e*P	**Pn**	**08 47 15.8**	**+0.2**
AKK				*e*S	**Sn**	**08 48 28.5**	**-3.1**
JAK	**Akkeshi**	**6.90**	**242**	P	**Pn**	**08 47 16.5**	**-0.5**
JAK				*e*S	**Sn**	**08 48 29.5**	**-4.6**
JTKR	**Abashiri--Toko**	**6.91**	**251**	P	**Pn**	**08 47 19.2**	**+2.0**
YSS	**Yuzh-Sakhalins**	**7.04**	**277**	*e*PN	**Pn**	**08 47 20.5**	**+1.6**
YSS				*e*S	**Sn**	**08 48 37.7**	**+0.2**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				smax	smax		
	comp=N,50nm,0.5s						
YSS				MLR	MLR		
	comp=Z,600nm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.04**	**277**		**Pn**	**08 47 20.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.04**	**277**	*e*P	**Pn**	**08 47 21.4**	**+2.5**
YSS				AMB	AMB	08 47 22.4	
	comp=Z,40nm,0.9s						
YSS				*e*S	**Sn**	**08 48 39.2**	**+1.7**
PEA0B	**Petropavlovsk-**	**7.21**	**23**	⇑*e*PN	**Pn**	**08 47 21.4**	**+0.1**
PEA0B	**Petropavlovsk-**	**7.21**	**23**		**Pn**	**08 47 21.4**	**+0.1**
PETK	**Petropavlovsk-**	**7.21**	**23**	P	**Pn**	**08 47 21.0**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=199,slow=17,SNR=13						
PETK				S	**Sn**	**08 48 44.9**	**+3.1**
	baz=121,slow=39,SNR=1.4						
PETK	**Petropavlovsk-**	**7.21**	**23**	PN	**Pn**	**08 47 20.3**	**-1.0**
PETK	**Petropavlovsk-**	**7.21**	**23**		**Pn**	**08 47 20.3**	**-1.0**
JMP	**Maruseppu**	**7.26**	**253**	P	**Pn**	**08 47 24.5**	**+2.5**
JAR	**Ashorobuto**	**7.31**	**247**	P	**Pn**	**08 47 24.0**	**+1.3**
JAR				*e*S	**Sn**	**08 48 44.3**	**0.0**
PET	**Petropavlovsk**	**7.42**	**28**	*e*PN	**Pn**	**08 47 21.2**	**-2.9**
PET				MLR	MLR		
	comp=Z,500nm,7.0s						
PET	**Petropavlovsk**	**7.42**	**28**	*e*P	**Pn**	**08 47 21.2**	**-2.9**
JOB	**Onbets**	**7.48**	**244**	*e*S	**Sn**	**08 48 45.0**	**-3.3**
JKK2	**Kamakawa 2**	**7.71**	**253**	P	**Pn**	**08 47 30.8**	**+2.6**
JKA	**Kamikawa-asahi**	**7.72**	**255**		**Pn**	**08 47 31.5**	**+3.2**
JKA	**Kamikawa-asahi**	**7.72**	**255**	*e*P	**Pn**	**08 47 31.5**	**+3.2**
ASAJ	**Asahikawa**	**7.72**	**255**	P	**Pn**	**08 47 31.4**	**+3.1**
	comp=Z,4.9nm,0.3s,baz=65,slow=11,SNR=26						
ASAJ				LR	LR	08 50 17.5	
	comp=Z,184nm,18.8s,baz=276,slow=36						
ASAJ	**Asahikawa**	**7.72**	**255**	P	**Pn**	**08 47 31.0**	**+2.7**
ASAJ	**Asahikawa**	**7.72**	**255**	PN	**Pn**	**08 47 31.5**	**+3.2**
UGL	**Uglegorsk**	**7.76**	**293**	*e*P	**Pn**	**08 47 32.1**	**+3.3**
JWK2	**Keihoku**	**7.83**	**265**	P	Pn	08 47 34.6	+4.8
JCH	**Churui**	**7.92**	**243**	P	**Pn**	**08 47 31.1**	**0.0**
JCH				*e*S	**Sn**	**08 48 56.1**	**-3.2**
TYV	**Tymovskoe**	**8.06**	**306**	*e*PN	**Pn**	**08 47 36.2**	**+3.3**
TYV				pmax	pmax		
	comp=Z,20nm,0.8s						
TYV	**Tymovskoe**	**8.06**	**306**	*e*P	**Pn**	**08 47 34.0**	**+1.1**
TYV				AMB	AMB	08 47 36.7	
	comp=Z,20nm,0.8s						
TYV				*e*S	**Sn**	**08 49 04.6**	**+2.0**
JFR	**Furan**	**8.13**	**249**	P	**Pn**	**08 47 37.0**	**+3.1**
JRBN	**Rebuntou**	**8.38**	**266**	P	**Pn**	**08 47 40.1**	**+2.8**
ERM	**Erimo**	**8.39**	**241**	⇓*e*PN	**Pn**	**08 47 39.1**	**+1.6**
ERM	**Erimo**	**8.39**	**241**	Pn	**Pn**	**08 47 39.5**	**+2.1**
JBT2	**Biratori 2**	**8.46**	**247**	P	**Pn**	**08 47 39.1**	**+0.6**
JNBK	**Urakawa-nobuka**	**8.49**	**243**	P	**Pn**	**08 47 38.0**	**-0.8**
JEW	**Eniwo**	**9.02**	**250**	Pn	**Pn**	**08 47 48.1**	**+2.0**
JNB	**Noboribetsu**	**9.47**	**249**	P	**Pn**	**08 47 52.2**	**0.0**
JNB				*e*S	**Sn**	**08 49 34.7**	**-2.4**
JKB	**Kayabe**	**9.77**	**246**	P	**Pn**	**08 47 55.2**	**-1.2**
JKB				*e*S	**Sn**	**08 49 38.4**	**-6.2**
JSH	**Shimam**	**10.03**	**252**	P	**Pn**	**08 48 00.9**	**+1.0**
JYM2	**Yakumo 2**	**10.07**	**248**	P	**Pn**	**08 48 00.2**	**-0.3**
JANG	**Nango**	**10.38**	**237**	P	**Pn**	**08 48 01.7**	**-3.0**
JANG				*e*S	Sn	08 49 49.7	-10
JTM	**Tenmabayashi**	**10.38**	**240**	P	**Pn**	**08 48 02.6**	**-2.2**
JTM				*e*S	Sn	08 49 50.4	-9.2
JTH	**Tanohata**	**10.47**	**235**	P	**Pn**	**08 48 02.8**	**-3.1**
JTH				*e*S	Sn	08 49 51.0	-11
JRG	**Rokugo**	**11.54**	**236**	P	**Pn**	**08 48 18.8**	**-1.7**
MA2	**Magadan**	**13.09**	**355**	⇓*e*PN	**Pn**	**08 48 40.6**	**-1.0**
MA2				pmax	pmax		
	comp=Z,24nm,2.4s						
MA2	**Magadan**	**13.09**	**355**	Pn	**Pn**	**08 48 40.1**	**-1.5**
MA2	**Magadan**	**13.09**	**355**	*e*P	**Pn**	**08 48 40.6**	**-1.0**
KLR	**Kul'dur**	**14.48**	**288**	P	**Pn**	**08 49 00.5**	**0.0**
	comp=Z,0.0nm,0.3s,baz=99,slow=13,SNR=3.3						
KLR				LR	LR	08 54 49.8	
	comp=Z,104nm,18.9s,baz=96,slow=39						
KLR	**Kul'dur**	**14.48**	**288**	⇓*e*P	**Pn**	**08 49 03.1**	**+2.7**
KLR				pmax	pmax		
	comp=Z,28nm,2.9s						
KLR	**Kul'dur**	**14.48**	**288**	*e*P	**Pn**	**08 49 00.7**	**+0.3**
MJAR	**Matsushiro Arr**	**14.90**	**233**	P	**Pn**	**08 49 07.7**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=33,slow=12,SNR=3.2						
MJB9	**Matsu-Tunnel**	**14.90**	**233**	P	**P**	**08 49 12.1**	**+1.3**
USA0B	**Ussuriysk Arra**	**14.94**	**268**	P	**Pn**	**08 49 06.4**	**0.0**
USA0B	**Ussuriysk Arra**	**14.94**	**268**	P	**Pn**	**08 49 06.4**	**0.0**
USRK	**Ussuriysk Ar.**	**14.94**	**268**	P	**Pn**	**08 49 06.2**	**-0.3**
	baz=71,slow=12,SNR=8.8						
USRK	**Ussuriysk Ar.**	**14.94**	**268**	P	**Pn**	**08 49 07.5**	**+1.1**
USRK	**Ussuriysk Ar.**	**14.94**	**268**	P	**Pn**	**08 49 07.5**	**+1.1**
SHEM	**Shemya Is, Ala**	**14.97**	**58**	LR	LR	08 55 34.1	
	comp=Z,39nm,19.5s,baz=28,slow=40						
SEY	**Seymchan**	**16.40**	**359**	P	**Pn**	**08 49 24.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=179,slow=13,SNR=6.3						
YAK	**Yakutsk**	**20.42**	**328**	LR	LR	08 58 11.5	
	comp=Z,59nm,18.5s,baz=80,slow=37						
YAK	**Yakutsk**	**20.42**	**328**	⇓*e*P	Pn	08 50 13.5	-0.2
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YAK	**Yakutsk**	**20.42**	**328**	*e*P	Pn	08 50 13.5	-0.2
KSRS	**Korea Array**	**20.66**	**253**	P	**P**	**08 50 14.7**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=62,slow=9.7,SNR=5.5						
TIXI	**Tiksi**	**27.61**	**344**	LR	LR	09 02 23.1	
	comp=Z,84nm,19

comp=Z,0.1nm,0.3s,baz=56,slow=2.6,SNR=4.7
MKAR Makanchi Array 46.94 297 P **P 08 54 02.4 -1.7**
EUNU Eureka 49.32 11 P **P 08 54 22.0 0.0**
EUNU IAmb IAmb 08 54 22.4
comp=Z,2.2nm,0.7s
JAY Jayapura 50.07 196 LR LR 09 18 41.5
comp=Z,48nm,18.0s,baz=14,slow=39
YKA Yellowknife Ar 51.12 37 P **P 08 54 35.6 -0.2**
comp=Z,0.3nm,0.7s,baz=300,slow=7.1,SNR=3.8
YKA PcP **PcP 08 55 51.0 +0.2**
comp=Z,0.3nm,0.4s,baz=304,slow=3.7,SNR=8.2
YKA Yellowknife Ar 51.12 37 *eP* **P 08 54 36.1 +0.4**
YKA Yellowknife Ar 51.12 37 P **P 08 54 36.7 +0.9**
CMAR Chiang Mai Arr 52.24 256 P **P 08 54 45.3 +0.6**
comp=Z,1.6nm,0.3s,baz=36,slow=7.7,SNR=9.5
CMAR LR LR 09 18 50.5
comp=Z,27nm,18.4s,baz=80,slow=38
CMAR Chiang Mai Arr 52.24 256 *eP* **P 08 54 45.9 +1.2**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
AAK Ala-Archa 53.83 296 LR LR 09 17 26.5
comp=Z,44nm,18.5s,baz=0.5,slow=36
KSH Kashi 54.64 292 P **P 08 55 05.5 +3.3**
KSH pmax pmax
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 58.47 310 P **P 08 55 27.4 -1.7**
AKTO Aktyubinsk 58.78 312 LR LR 09 24 07.7
comp=Z,42nm,18.9s,baz=33,slow=40
PLID Pearl Lake 59.85 55 P **P 08 55 39.6 +0.6**
PLID IAmb IAmb 08 55 56.3
comp=Z,11nm,1.5s
SUMG Summit 60.88 4 P **P 08 55 44.4 -1.4**
SUMG pmax pmax
comp=Z,20nm,1.5s
SUMG Summit 60.88 4 P **P 08 55 44.4 -1.4**
COEN Coen 60.90 191 P **P 08 55 48.2 +2.2**
PNTR Pine Nut 61.39 62 P **P 08 55 50.6 +1.0**
PNTR IAmb IAmb 08 56 05.2
comp=Z,3.6nm,1.0s
FCC Fort Churchill 61.46 33 P **P 08 55 49.6 +0.2**
FCC pmax pmax
comp=Z,6.0nm,1.4s
FCC Fort Churchill 61.46 33 P **P 08 55 49.6 +0.2**
FCC IAmb IAmb 08 56 06.3
comp=Z,5.9nm,1.4s
BOZ Bozeman (W) 61.96 52 P **P 08 55 53.8 +0.5**
BOZ pmax pmax
comp=Z,5.0nm,1.3s
BOZ Bozeman (W) 61.96 52 P **P 08 55 53.8 +0.5**
BOZ IAmb IAmb 08 56 10.3
comp=Z,5.3nm,1.3s
NVAR Mina Array Bea 62.59 62 P **P 08 55 59.1 +1.4**
comp=Z,0.3nm,0.7s,baz=307,slow=7.5,SNR=2.4
FIA1 FINESS Array S 64.16 335 P **P 08 56 05.1 -2.3**
FINES FINESS Array B 64.16 335 P **P 08 56 05.7 -1.7**
comp=Z,2.8nm,0.4s,baz=37,slow=7.3,SNR=31
FINES LR LR 09 30 09.3
comp=Z,43nm,18.7s,baz=193,slow=42
FINES FINESS Array B 64.16 335 P **P 08 56 05.9 -1.4**
FINES FINESS Array B 64.16 335 P **P 08 56 05.9 -1.4**
PDAR Pinedale Array 64.92 54 P **P 08 56 13.1 +0.1**
comp=Z,0.5nm,0.8s,baz=232,slow=1.7,SNR=4.5
PDAR Pinedale Array 64.92 54 P **P 08 56 12.1 -0.9**
FRB Frobisher Bay 65.24 19 LR LR 09 26 24.2
comp=Z,50nm,18.5s,baz=297,slow=38
KNRA Kununurra 65.69 206 P **P 08 56 19.0 +1.2**
WB0 Warramunga Arr 68.14 199 P **P 08 56 34.4 +1.2**
WB0 IAmb IAmb 08 56 35.1
comp=Z,4.6nm,1.1s
NC303 NORSAR Array S 68.17 341 P **P 08 56 31.8 -1.2**
WR0 Warramunga Arr 68.29 199 P **P 08 56 35.2 +1.0**
WR0 IAmb IAmb 08 56 49.7
comp=Z,5.2nm,1.1s
WB2 Warramunga Arr 68.32 199 P **P 08 56 36.0 +1.6**
WB2 IAmb IAmb 08 57 00.0
comp=Z,4.7nm,1.2s
WRA Warramunga Arr 68.32 199 P **P 08 56 35.1 +0.7**
comp=Z,1.1nm,0.5s,baz=17,slow=6.8,SNR=17
WRA Warramunga Arr 68.32 199 *eP* **P 08 56 35.7 +1.3**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 68.32 199 P **P 08 56 34.1 -0.3**
NB2 NORSAR Subarra 68.36 341 P **P 08 56 32.8 -1.6**
comp=Z,3.5nm,0.6s,baz=29,slow=6.5
NOA NORSAR Array B 68.36 341 P **P 08 56 32.8 -1.6**
comp=Z,1.4nm,0.5s,baz=29,slow=6.6,SNR=8.7
NOA LR LR 09 28 29.3
comp=Z,23nm,19.1s,baz=345,slow=38
NOA NORSAR Array B 68.36 341 *eP* **P 08 56 33.1 -1.2**
NOA pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 68.59 339 P **P 08 56 33.8 -1.9**
comp=Z,4.3nm,0.4s,baz=46,slow=6.4,SNR=27
ECSD EROS Data Cent 71.07 46 P **P 08 56 51.4 +0.2**
AKASG Malin Array Be 71.64 326 P **P 08 56 52.6 -1.9**
comp=Z,2.4nm,0.3s,baz=34,slow=6.0,SNR=16
AKASG Malin Array Be 71.64 326 *eP* **P 08 56 52.8 -1.7**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 71.64 326 P **P 08 56 53.2 -1.3**
AKBB Malin Array Si 71.64 326 P **P 08 56 52.6 -1.9**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 71.64 326 P **P 08 56 52.6 -1.9**
AKBB IAmb IAmb 08 56 53.7
comp=Z,4.3nm,0.7s
AS31 Alice Springs 72.01 198 P **P 08 56 58.7 +1.8**
ASAR Alice Springs 72.01 198 P **P 08 56 59.2 +2.3**
comp=Z,3.0nm,0.7s,baz=13,slow=5.5,SNR=63
ASAR Alice Springs 72.01 198 P **P 08 56 58.3 +1.3**
BUR08 Bucovina Ar. S 75.67 327 P **P 08 57 17.1 -1.2**
BUR08 IAmb IAmb 08 57 18.3
comp=Z,3.4nm,0.7s
BURAR Bucovina Array 75.69 326 P **P 08 57 16.8 -1.7**
CLL Collm 76.59 335 *i P* **P 08 57 22.2 -1.1**
CLL Collm 76.59 335 *i P* **P 08 57 22.2 -1.1**
VRAC Vranov 77.27 332 LR LR 09 38 30.4
comp=Z,33nm,18.3s,baz=354,slow=41
TXAR Lajitas Array 77.66 60 P **P 08 57 30.9 +1.0**
comp=Z,0.3nm,0.5s,baz=306,slow=4.9,SNR=6.4
TXAR Lajitas Array 77.66 60 P **P 08 57 31.3 +1.4**
TXAR Lajitas Array 77.66 60 P **P 08 57 31.3 +1.4**
SADO Sadowa 78.08 35 LR LR 09 33 23.6
comp=Z,23nm,18.4s,baz=226,slow=37
GERES GERESS Array B 78.57 334 P **P 08 57 32.6 -2.0**
comp=Z,0.4nm,0.5s,baz=45,slow=4.3,SNR=2.7
FORT Forrest 80.22 202 P **P 08 57 45.7 +2.3**
H03N2 Juan Fernandez 138.84 90 T T 11 40 22.2
baz=308,slow=77
H03N1 Juan Fernandez 138.85 90 T T 11 40 23.3
baz=308,slow=77
H03N3 Juan Fernandez 138.85 90 T T 11 40 22.4
baz=308,slow=77
PLCA Paso Flores 148.28 95 PKPbc **PKPbc 09 05 20.7 +1.9**
comp=Z,1.9nm,0.9s,baz=274,slow=5.8,SNR=5.8
PLCA Paso Flores 148.28 95 **PKPbc 09 05 20.5 +1.7**

IDC 26 08:47:04.2±11.0, 7°.51S×129°.79E, h410km±163km, mb2.9/1, mb1 2.3/3, mb1mx2.3/34, mbtmp3.1/3, Error ellipse: s-maj=104.5km s-min=73.5km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.12**	**161**	P	P	08 49 55.3	-0.7
	0.1nm,0.3s,baz=343,slow=12,SNR=6.1						
WRA				S	S	08 52 18.4	+0.4
	0.1nm,0.3s,baz=341,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**16.54**	**167**	P	P	08 50 33.6	+0.7
	0.0nm,0.3s,baz=337,slow=9.1,SNR=1.4						
MKAR	**Makanchi Array**	**68.54**	**327**	P	P	08 57 24.1	0.0
	0.5nm,0.7s,baz=147,slow=8.6,SNR=4.1						

*IDC **26** 09:08:51.9±0.5, 30°.14S×72°.03W, h0km, mb4.6/14, mb1 4.6/19, mb1mx4.5/33, mbtmp4.5/19, ML4.3/5, MS3.9/19, Ms1 3.9/19, ms1mx3.6/54, Error ellipse: s-maj=20.1km s-min=14.7km az=94.0*
*VAO **26** 09:08:54.3±0.4, 30°.19S×71°.89W, h1km, mb4.6*
*NEIC **26** 09:08:55.0±2.7, 30°.16S±0°.04×71°.90W±0°.06, h15km±3km, mb4.8/84, Mwr4.5/39, ML5.0(GUC), Error ellipse: s-maj=7.4km s-min=5.4km az=81.0*
*GUC **26** 09:08:55.5±0.6, 30°.21S×71°.93W, h23km±5km, ML5.0,*
MW5.0
*NEIC **26** 09:08:55, 30°.16S×71°.90W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.70; $M_{\theta\theta}$1.20; $M_{\phi\phi}$-4.90; $M_{r\theta}$1.66; $M_{r\phi}$-1.05; $M_{\theta\phi}$-5.40; Fault plane solution: $M_0$7.25000×10^{15} NP1:ϕ_s35.61000°, δ25.01000°, λ135.37000°. NP2:ϕ_s167.42000°, δ72.72000°, λ71.63000°. Principal axes: T 6.9656, Plg58.0000°, Azm52.0000°; N 0.5402, Plg18.0000°, Azm173.0000°; P -7.5058, Plg26.0000°, Azm272.0000°;*
ISC 26 09:08:53.1±1.5, 30°.13S±0°.03×71°.99W±0°.04, h9km±9km, n267, σ1°33/268, mb4.8/51, MS4.0/17, 24C-7D, Fault plane solution: NP1:ϕ_s192.06358°, δ71.31993°, λ97.08497°. NP2:ϕ_s350.85419°, δ19.93361°, λ69.95734°. Principal axes: T Plg63.0266°, Azm113.1497°; N Plg6.7100°, Azm9.7840°; P Plg25.9934°, Azm276.4954°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.62**	**150**	⇓*iP*	**Pb**	**09 09 06.3**	**+0.2**
CO06				*eS*	**Sg**	**09 09 13.5**	**+0.3**
CO06	**Fray Jorge**	**0.62**	**150**		**Pb**	**09 09 06.3**	**+0.2**
CO06				Sg	**Sb**	**09 09 14.9**	**0.0**
CO05	**La Serena**	**0.69**	**72**	⇓*iP*	**Pn**	**09 09 08.0**	**-0.9**
CO05				*eS*	**Sb**	**09 09 16.8**	**-0.1**
CO05	**La Serena**	**0.69**	**72**		**Pn**	**09 09 08.1**	**-0.9**
CO05				Sg	**Sn**	**09 09 17.6**	**-2.2**
GO04	**Tololo Observa**	**1.03**	**92**	⇓*iP*	**Pn**	**09 09 13.6**	**-0.4**
GO04	**Tololo Observa**	**1.03**	**92**		**Pn**	**09 09 13.7**	**-0.3**
GO04				Sg	**Sg**	**09 09 26.1**	**-0.4**
CO03	**El Pedregal**	**1.33**	**122**	⇓*iP*	**Pb**	**09 09 17.9**	**-0.3**
CO03				*eS*	**Sb**	**09 09 33.9**	**-1.5**
CO03				IAML		09 09 38.7	
	comp=E,30μm,0.3s						
CO03	**El Pedregal**	**1.33**	**122**	Pn	**Pb**	**09 09 17.9**	**-0.3**
CO03				Sn	**Sg**	**09 09 35.7**	**-0.1**
LCO	**Las Campanas**	**1.59**	**45**	*i P*	**Pb**	**09 09 22.2**	**-0.5**
LCO				*eS*	**Sg**	**09 09 43.4**	**-0.7**
LCO	**Las Campanas**	**1.59**	**45**	Pn	**Pb**	**09 09 22.3**	**-0.5**
LCO				Sn	**Sg**	**09 09 45.4**	**+1.3**
AC04	**Llanos de Chal**	**2.08**	**23**	⇑*iP*	**Pn**	**09 09 27.7**	**-0.5**
AC04				*eS*	**Sg**	**09 09 59.9**	**-0.1**
AC04	**Llanos de Chal**	**2.08**	**23**	Pn	**Pn**	**09 09 27.9**	**-0.3**
VA06	**Catapilco**	**2.49**	**166**	⇑*iP*	**Pn**	**09 09 33.7**	**-0.1**
VA06				*eS*	**Sn**	**09 10 03.1**	**-1.1**
VA06				IAML		09 10 17.5	
	comp=E,9μm,0.4s						
VA01	**Torpederas**	**2.90**	**174**	*eP*	**Pn**	**09 09 39.1**	**-0.2**
VA01	**Torpederas**	**2.90**	**174**	Pn	**Pn**	**09 09 38.9**	**-0.4**
VA03	**San Esteban**	**2.90**	**155**	⇑*iP*	**Pn**	**09 09 40.5**	**+1.0**
VA03				*eS*	**Sn**	**09 10 15.3**	**+0.9**
VA03				IAML		09 10 29.7	
	comp=E,7μm,0.7s						
VA03	**San Esteban**	**2.90**	**155**		**Pn**	**09 09 40.7**	**+1.3**
ROCH	**El Roble**	**2.95**	**164**	⇑*iP*	Pb	09 09 40.5	-5.4
ROCH				⇑*iP*	**Pn**	**09 09 39.7**	**-0.6**
ROCH				IAML		09 10 30.1	
	comp=E,5μm,0.6s						
ROCH				IAML		09 10 32.4	
	comp=N,6μm,0.4s						
GO03	**Copiap**	**2.96**	**32**	⇑*iP*	**Pn**	**09 09 40.2**	**-0.1**
GO03				IAML		09 10 35.8	
	comp=E,2μm,0.4s						
GO03	**Copiap**	**2.96**	**32**	Pn	**Pn**	**09 09 40.5**	**+0.2**
MT02	**Curacav**	**3.20**	**167**	*eP*	**Pn**	**09 09 44.1**	**+0.5**
MT02	**Curacav**	**3.20**	**167**		**Pn**	**09 09 43.1**	**-0.4**
PEL	**Peldehue**	**3.20**	**160**	⇑*iP*	**Pn**	**09 09 44.4**	**+0.8**
PEL				IAML		09 10 45.2	
	comp=N,4μm,0.7s						
PEL	**Peldehue**	**3.20**	**160**		**Pn**	**09 09 44.7**	**+1.1**
MT05	**Renca**	**3.42**	**162**	⇑*iP*	**Pn**	**09 09 47.2**	**+0.6**
MT05				IAML		09 10 43.1	
	comp=E,4μm,0.2s						
MT05	**Renca**	**3.42**	**162**		**Pn**	**09 09 47.6**	**+1.0**
VA05	**Santo Domingo**	**3.53**	**175**	*eP*	**Pn**	**09 09 47.4**	**-0.6**
VA05				IAML		09 10 57.3	
	comp=E,3μm,0.4s						
VA05	**Santo Domingo**	**3.53**	**175**	Pn	**Pn**	**09 09 47.8**	**-0.2**
MT09	**Talagante**	**3.73**	**167**	⇑*iP*	**Pn**	**09 09 51.6**	**+0.6**
MT09	**Talagante**	**3.73**	**167**		**Pn**	**09 09 51.7**	**+0.7**
MT01	**Popeta**	**3.77**	**171**	*i P*	**Pn**	**09 09 51.1**	**-0.3**
MT01	**Popeta**	**3.77**	**171**	Pn	**Pn**	**09 09 51.4**	**0.0**
BO04	**La Punta**	**4.02**	**163**	⇑*iP*	**Pn**	**09 09 55.4**	**+0.5**
AC02	**Maricunga**	**4.14**	**38**	Pn	**Pn**	**09 09 58.3**	**+1.4**
BO01	**Tunca**	**4.31**	**170**	*eP*	**Pn**	**09 09 58.8**	**-0.1**
BO01	**Tunca**	**4.31**	**170**	Pn	**Pn**	**09 09 58.9**	**0.0**
BO02	**Sierra Bellavi**	**4.76**	**168**	*eP*	**Pn**	**09 10 04.9**	**-0.1**
BO02	**Sierra Bellavi**	**4.76**	**168**		**Pn**	**09 10 05.3**	**+0.3**
GO05	**Huala**	**4.86**	**179**	Pn	**Pn**	**09 10 05.4**	**-1.0**
ML02	**Panimavida**	**5.63**	**175**	Pn	**Pn**	**09 10 16.5**	**-0.5**
PB14	**IPOC Station P**	**5.67**	**15**	Pn	**Pn**	**09 10 17.0**	**-0.8**
PB10	**IPOC Station P**	**6.72**	**11**	Pn	**Pn**	**09 10 31.3**	**-0.6**
H03N1	**Juan Fernandez**	**6.75**	**239**	Pn	**Pn**	**09 10 30.3**	**-1.8**
	baz=112,slow=18,SNR=82						
H03N1				Sn	Sn	09 11 38.8	-10
	baz=244,slow=73,SNR=12						
H03N1				T	T	09 17 40.3	
	baz=69,slow=72,SNR=3009						
H03N2	**Juan Fernandez**	**6.76**	**239**	Pn	**Pn**	**09 10 30.4**	**-1.8**
	baz=112,slow=18,SNR=163						
H03N2				Sn	Sn	09 11 38.4	-11
	baz=244,slow=73,SNR=11						
H03N2				T	T	09 17 43.9	
	baz=69,slow=72,SNR=2951						
H03N3	**Juan Fernandez**	**6.76**	**239**	Pn	**Pn**	**09 10 30.2**	**-2.1**
	baz=112,slow=18,SNR=264						
H03N3				Sn	Sn	09 11 37.8	-12
	baz=244,slow=73,SNR=8.8						
H03N3				T	T	09 17 43.3	
	baz=69,slow=72,SNR=2818						
H03S3	**Juan Fernandez**	**6.93**	**236**	Pn	**Pn**	**09 10 31.8**	**-2.8**
	baz=84						
H03S3				Sn	Sn	09 11 41.4	-12
	baz=140						
H03S3				T	T	09 17 50.3	
	baz=47						
H03S1	**Juan Fernandez**	**6.94**	**236**	Pn	**Pn**	**09 10 31.8**	**-2.8**
	baz=84						
H03S1				Sn	Sn	09 11 41.6	-12
	baz=140,SNR=29						
H03S1				T	T	09 17 48.9	
	baz=47						
H03S2	**Juan Fernandez**	**6.95**	**236**	Pn	**Pn**	**09 10 31.8**	**-3.1**
	baz=84						
H03S2				Sn	Sn	09 11 43.6	-10
	baz=140						
H03S2				T	T	09 17 48.9	
	baz=47						
PB15	**IPOC Station P**	**7.26**	**19**		**Pn**	**09 10 38.0**	**-1.5**
PB06	**IPOC Station P**	**7.71**	**17**	Pn	**Pn**	**09 10 44.7**	**-1.0**
PB04	**IPOC Station P**	**7.94**	**12**	Pn	**Pn**	**09 10 48.0**	**-0.8**
LVC	**Limon Verde**	**7.99**	**21**	Pn	**Pn**	**09 10 48.2**	**-1.4**
	comp=E,0.7nm,0.3s,baz=223,slow=9.0,SNR=2.3						
LVC				Sn	**Sn**	**09 12 15.9**	**-4.4**
	comp=E,2.8nm,0.3s,baz=154,slow=15,SNR=2.0						
LVC				Lg	Lg	09 12 52.6	
	comp=E,3.8nm,0.3s,baz=309,slow=4.0,SNR=5.6						
LVC	**Limon Verde**	**7.99**	**21**	*eP*	**Pn**	**09 10 49.5**	**-0.2**
LVC	**Limon Verde**	**7.99**	**21**	Pn	**Pn**	**09 10 48.8**	**-0.9**
PB07	**IPOC Station P**	**8.58**	**13**	Pn	**Pn**	**09 10 59.2**	**+1.5**
PB09	**IPOC Station P**	**8.66**	**17**	Pn	**Pn**	**09 10 57.7**	**-1.1**
LC01	**Cunco**	**8.74**	**179**	Pn	**Pn**	**09 10 58.5**	**-1.1**
PB01	**IPOC Station P**	**9.33**	**15**	Pn	**Pn**	**09 11 05.5**	**-2.4**
LR03	**Panguipulli**	**9.48**	**182**	Pn	**Pn**	**09 11 09.2**	**-0.6**
TA01	**Diego Aracena**	**9.67**	**10**	Pn	**Pn**	**09 11 12.5**	**+0.1**
TA02	**Huaiquique**	**9.96**	**10**	Pn	**Pn**	**09 11 17.7**	**+1.2**
PB11	**IPOC Station P**	**10.54**	**12**	Pn	**Pn**	**09 11 24.4**	**-0.2**
PLCA	**Paso Flores**	**10.64**	**174**	Pn	**Pn**	**09 11 26.0**	**+0.3**
	comp=E,0.9nm,0.3s,baz=339,slow=11,SNR=33						
PLCA				Lg	Lg	09 14 24.4	
	comp=E,0.2nm,0.3s,baz=79,slow=12,SNR=1.0						
PLCA	**Paso Flores**	**10.64**	**174**	*eP*	**Pn**	**09 11 25.8**	**+0.1**
PLCA	**Paso Flores**	**10.64**	**174**		**Pn**	**09 11 26.2**	**+0.5**
LL04	**Puerto Octay**	**10.76**	**182**	Pn	**Pn**	**09 11 26.8**	**-0.5**
PB12	**IPOC Station P**	**11.57**	**8**		**Pn**	**09 11 39.6**	**+1.1**
PB16	**IPOC Station P**	**11.96**	**11**		**Pn**	**09 11 46.1**	**+1.8**
LPA	**La Plata**	**12.78**	**116**	*eP*	**Pn**	**09 11 52.3**	**-2.7**
LPA	**La Plata**	**12.78**	**116**	PN	**Pn**	**09 11 56.6**	**+1.6**
LPA				pPP		09 12 07.4	
LPA				PP	**PbPb**	**09 12 34.0**	**-2.5**
LPA				PPP	PPP	09 12 41.3	
LPA				S	**Sn**	**09 14 15.6**	**-1.8**
LPA	**La Plata**	**12.78**	**116**	SN	**Sn**	**09 14 20.6**	**+3.2**
LPA				sS		09 14 25.1	
LPA				SS	**SnSn**	**09 14 32.2**	**+2.7**
LPA				SSS	SSS	09 14 44.8	
LPA				PCP	**PcP**	**09 17 25.1**	**-5.9**
LPA				SCS	**ScS**	**09 24 40.3**	**-0.4**
LPA				PKIKP	**PKiKP**	**09 25 24.5**	**-3.8**
LPA				SKIKP		09 28 57.6	
LPA				PKIKS		09 29 04.1	
LPA				SKIKS		09 32 17.1	
ITQB	**Itaqui**	**13.34**	**92**	*eP*	**Pn**	**09 12 01.9**	**-0.8**
ITQB	**Itaqui**	**13.34**	**92**	Pn	**Pn**	**09 12 00.3**	**-2.4**
CPUP	**Villa Florida**	**13.47**	**77**	Pn	**Pn**	**09 12 06.2**	**+1.9**
	comp=E,0.6nm,0.3s,baz=252,slow=12,SNR=6.1						
CPUP				Lg	Lg	09 15 43.5	
	baz=340,slow=18,SNR=1.8						
CPUP				LR	LR	09 17 37.7	
	comp=E,871nm,19.9s,baz=254,slow=39						
CPUP	**Villa Florida**	**13.47**	**77**		**Pn**	**09 12 03.3**	**-1.1**
LPAZ	**La Paz**	**14.23**	**15**	Pn	**Pn**	**09 12 16.6**	**+1.1**
	comp=E,0.4nm,0.3s,baz=185,slow=7.0,SNR=34						
LPAZ	**La Paz**	**14.23**	**15**	*eP*	**Pn**	**09 12 16.5**	**+1.1**
LPAZ	**La Paz**	**14.23**	**15**	Pn	**Pn**	**09 12 16.4**	**+1.0**
COYC	**Coyhaique**	**15.41**	**180**	P	**P**	**09 12 35.1**	**-0.2**
COYC				IAmb	IAmb	09 12 51.9	
	comp=Z,64nm,1.3s						
PLTB	**Pedras Altas**	**15.86**	**101**	P	**Pn**	**09 12 34.3**	**-2.3**
CPSB	**Cacapava Do Su**	**16.04**	**96**	*eP*	**Pn**	**09 12 37.4**	**-1.4**
SIV	**San Ignacio**	**17.28**	**38**	P	**Pn**	**09 12 54.6**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=210,slow=9.1,SNR=34						
SIV				LR	LR	09 20 41.8	
	comp=Z,575nm,19.6s,baz=246,slow=41						
AQDB	**Aquidauana**	**17.57**	**61**	*eP*	**P**	**09 12 59.0**	**-0.3**
AQDB	**Aquidauana**	**17.57**	**61**	P	**P**	**09 12 58.8**	**-0.6**
ITAB	**Concordia**	**17.66**	**85**	*eP*	**Pn**	**09 12 58.9**	**-0.5**
ITAB	**Concordia**	**17.66**	**85**	P	**P**	**09 13 01.5**	**+1.2**
PTGB	**Pitanga**	**18.49**	**78**	*eP*	**Pn**	**09 13 10.2**	**+0.6**
PTLB	**Pontes e Lacer**	**18.79**	**42**	*eP*	**Pn**	**09 13 13.4**	**+0.1**
PTLB	**Pontes e Lacer**	**18.79**	**42**	P	**P**	**09 13 12.9**	**+0.1**
PP1B	**Ponte de Pedra**	**19.98**	**55**	*eP*	**P**	**09 13 26.2**	**+0.3**
TER01	**Tubaro-SC**	**20.00**	**91**	*eP*	**Pn**	**09 13 27.1**	**-0.6**
VILB	**Vilhena**	**20.29**	**35**	*eP*	**P**	**09 13 29.5**	**+0.3**
VILB	**Vilhena**	**20.29**	**35**	P	**P**	**09 13 29.2**	**0.0**
VILB				IAmb	IAmb	09 13 40.8	
	comp=Z,27nm,0.9s						
PCMB	**Pacaembu**	**20.47**	**70**	*eP*	**P**	**09 13 31.4**	**+0.3**
SALV	**Santo Antonio**	**20.60**	**50**	*eP*	**P**	**09 13 32.7**	**+0.2**
ETMB	**Extrema**	**20.92**	**16**	*eP*	**P**	**09 13 37.1**	**+1.0**
ETMB	**Extrema**	**20.92**	**16**	P	**P**	**09 13 35.0**	**-1.0**
ITRB	**Iturama**	**22.16**	**67**	*eP*	**P**	**09 13 49.2**	**-0.2**
CZSB	**Cruzeiro do Su**	**22.30**	**358**	*eP*	**P**	**09 13 52.9**	**+2.0**
CZSB	**Cruzeiro do Su**	**22.30**	**358**	P	**P**	**09 13 52.4**	**+1.5**
CZSB				IAmb	IAmb	09 14 04.6	
	comp=Z,51nm,1.0s						
MG04	**Isla Riesco**	**22.71**	**179**	P	**P**	**09 13 54.0**	**-0.9**
PET01	**Itanhaem-SP**	**22.72**	**81**	*eP*	**P**	**09 13 56.3**	**+1.0**
BB19B	**Bebedouro**	**22.97**	**72**	*eP*	**P**	**09 13 59.2**	**+1.1**
RCLB	**Rio Claro- Sao**	**23.21**	**76**	*eP*	**P**	**09 14 01.4**	**+0.9**
PDRB	**Porto dos Gac**	**23.25**	**41**	*eP*	**P**	**09 14 01.0**	**0.0**
VAO	**Valinhos**	**23.45**	**78**	*eP*	**P**	**09 14 03.1**	**+0.1**
ATAH	**Atahualpa**	**23.66**	**344**	LR	LR	09 21 49.1	
	comp=Z,84nm,20.2s,baz=252,slow=33						
CLDB	**Colider**	**24.38**	**42**	*eP*	**P**	**09 14 12.4**	**+0.6**
IPMB	**Ipameri, GO**	**24.80**	**66**	*eP*	**P**	**09 14 15.9**	**+0.3**
USHA	**Ushuaia**	**24.82**	**175**	P	**P**	**09 14 15.4**	**+0.1**
	comp=Z,10.0nm,0.8s,baz=14,slow=2.1,SNR=3.5						
TBTG	**Tabatinga, AM**	**25.88**	**5**	P	**P**	**09 14 25.5**	**+0.2**
BDFB	**Brasilia**	**26.31**	**62**	P	**P**	**09 14 28.9**	**-0.4**
	comp=Z,9.4nm,0.6s,baz=241,slow=9.5,SNR=18						
BDFB				LR	LR	09 25 01.8	
	comp=Z,203nm,19.6s,baz=312,slow=37						
BDFB	**Brasilia**	**26.31**	**62**	P	**P**	**09 14 28.1**	**-1.2**
BDFB				IAmb	IAmb	09 14 29.6	
	comp=Z,13nm,0.8s						
SNDB	**Serra Nova Dou**	**26.37**	**51**	*eP*	**P**	**09 14 30.0**	**+0.2**
NPGB	**Novo Progresso**	**27.78**	**38**	*eP*	**P**	**09 14 42.5**	**0.0**
DIAM	**Diamantina, MG**	**28.31**	**72**	*eP*	**P**	**09 14 47.5**	**+0.2**
PEXB	**Peixe**	**28.36**	**56**	*eP*	**P**	**09 14 47.7**	**+0.1**
JANB	**Januaria**	**29.53**	**66**	*eP*	**P**	**09 14 58.0**	**-0.1**
ITTB	**Itaituba**	**29.88**	**34**	*eP*	P	09 15 06.8	+5.7
SJMB	**Sao Joao De Ma**	**30.18**	**75**	*eP*	**P**	**09 15 03.3**	**-0.5**
BSFB	**Barra de Sao F**	**30.40**	**75**	*eP*	**P**	**09 15 06.0**	**+0.2**
SDBA	**SAO DESIDERIO**	**30.67**	**61**	*eP*	**P**	**09 15 08.3**	**+0.1**
PTGA	**Pitinga**	**31.40**	**24**	P	**P**	**09 15 14.3**	**-0.2**
	comp=Z,12nm,1.0s,baz=217,slow=7.9,SNR=14						
PTGA				LR	LR	09 29 29.9	
	comp=Z,195nm,18.3s,baz=223,slow=39						
PRPB	**Parauapebas**	**31.68**	**46**	*eP*	**P**	**09 15 16.6**	**-0.5**
GUA01	**Guaratinga, BA**	**32.36**	**73**	*eP*	**P**	**09 15 23.6**	**+0.6**
MALB	**Monte Alegre**	**32.78**	**34**	*eP*	**P**	**09 15 26.6**	**-0.1**
RPN	**Rapa Nui**	**32.82**	**266**	LR	LR	09 25 22.0	
	comp=Z,180nm,20.7s,baz=98,slow=30						
CMC01	**Camacan, BA**	**33.22**	**71**	*eP*	**P**	**09 15 30.6**	**+0.1**
NBIT	**Itapeh - BA**	**33.52**	**70**	*eP*	**P**	**09 15 33.9**	**+0.7**
GDU01	**Guandu, BA**	**34.06**	**68**	*eP*	**P**	**09 15 37.8**	**-0.1**
BOAV	**Boa Vista**	**34.15**	**21**	*eP*	**P**	**09 15 39.4**	**+0.7**
BOAV	**Boa Vista**	**34.15**	**21**	P	**P**	**09 15 37.9**	**-0.7**
BOAV				IAmb	IAmb	09 15 39.9	
	comp=Z,13nm,0.9s						
NBPN	**Ponto Novo - B**	**35.24**	**64**	*eP*	**P**	**09 15 48.1**	**0.0**
TMAB	**Tom-Au,PA,Br**

CCM	**Cathedral Cave**	**70.18 344**	P	**P**	**09 20 07.0**	**+1.1**
CCM			IAmb	IAmb	09 20 08.2	
comp=Z,11nm,1.1s						
R40A	**Maddies Statio**	**70.66 343**	P	**P**	**09 20 10.5**	**+1.6**
R40A			IAmb	IAmb	09 20 28.0	
comp=Z,9.8nm,1.0s						
PPT	**Papeete**	**70.88 260**	LR	LR	09 42 43.6	
comp=Z,75nm,21.5s,baz=90,slow=29						
P40A	**Paris**	**71.78 344**	P	**P**	**09 20 16.8**	**+1.2**
P38A	**Dawn**	**72.24 343**	P	**P**	**09 20 19.2**	**+0.8**
P38A			IAmb	IAmb	09 20 20.3	
comp=Z,14nm,1.1s						
ANMO	**Albuquerque**	**72.43 331**	P	**P**	**09 20 22.8**	**+2.9**
N38A	**Joes South For**	**73.26 343**	P	**P**	**09 20 24.3**	**-0.2**
N38A			IAmb	IAmb	09 20 26.5	
comp=Z,13nm,0.9s						
T25A	**Trinidad**	**73.49 333**	P	**P**	**09 20 26.9**	**+0.7**
T25A			IAmb	IAmb	09 20 38.6	
comp=Z,8.1nm,1.1s						
LIC	**Lamto**	**73.55 73**	*e*P	**P**	**09 20 26.8**	**0.0**
comp=Z,49nm,0.8s						
X18A	**Snowflake**	**73.61 328**	P	**P**	**09 20 26.3**	**-0.7**
TIC	**Toumodi**	**73.79 72**	*e*P	**P**	**09 20 28.4**	**+0.2**
KIC	**Kosan Boka**	**73.86 73**	*e*P	**P**	**09 20 29.1**	**+0.5**
comp=Z,41nm,0.8s						
DBIC	**Dimbokro**	**73.94 72**	P	**P**	**09 20 29.7**	**+0.6**
comp=Z,25nm,0.7s,baz=233,slow=5.6,SNR=36						
DBIC			LR	LR	09 51 17.7	
comp=Z,182nm,18.8s,baz=220,slow=34						
DBIC	**Dimbokro**	**73.94 72**	P	**P**	**09 20 29.6**	**+0.6**
L40A	**Anamosa**	**74.00 345**	P	**P**	**09 20 29.2**	**+0.4**
SDCO	**Great Sand Dun**	**74.45 333**	P	**P**	**09 20 33.9**	**+2.0**
MVCO	**Mesa Verde**	**75.22 331**	P	**P**	**09 20 38.5**	**+2.2**
MVCO			IAmb	IAmb	09 20 49.0	
comp=Z,12nm,1.3s						
Q24A	**Divide**	**75.37 334**	P	**P**	**09 20 38.9**	**+1.7**
Q24A			IAmb	IAmb	09 20 50.0	
comp=Z,10nm,1.1s						
U15A	**North Rim**	**76.26 328**	P	**P**	**09 20 45.1**	**+2.8**
SMCO	**Snowmass**	**76.27 333**	P	**P**	**09 20 45.4**	**+3.0**
SMCO			IAmb	IAmb	09 20 57.1	
comp=Z,12nm,1.0s						
ISCO	**Idaho Springs**	**76.27 334**	P	**P**	**09 20 44.5**	**+2.1**
K31A	**O'Neill**	**76.47 340**	P	**P**	**09 20 44.6**	**+1.6**
SUR	**Sutherland**	**76.68 120**	LR	LR	09 51 27.6	
comp=Z,77nm,18.4s,baz=179,slow=33						
MAW	**Mawson**	**76.87 164**	LR	LR	09 53 54.3	
comp=Z,134nm,20.6s,baz=238,slow=35						
ECSD	**EROS Data Cent**	**76.89 342**	P	**P**	**09 20 46.7**	**+1.4**
KNB	**Kanab**	**76.98 328**	P	**P**	**09 20 49.0**	**+2.8**
KNB			IAmb	IAmb	09 21 00.4	
comp=Z,18nm,1.4s						
LCMT	**Little Creek M**	**77.18 327**	P	**P**	**09 20 49.9**	**+2.5**
LCMT			IAmb	IAmb	09 21 01.1	
comp=Z,11nm,1.5s						
PHWY	**Pilot Hill**	**77.52 335**	P	**P**	**09 20 51.2**	**+1.9**
CCUT	**Cedar City**	**77.67 327**	P	**P**	**09 20 53.1**	**+3.0**
CCUT			IAmb	IAmb	09 21 03.1	
comp=Z,8.7nm,1.1s						
SRU	**San Rafael Swe**	**77.68 330**	P	**P**	**09 20 52.1**	**+2.0**
SHPR	**Sheep Range**	**77.69 326**	P	**P**	**09 20 52.6**	**+2.4**
Q16A	**Castle Valley**	**77.80 330**	P	**P**	**09 20 53.0**	**+2.2**
Q16A			IAmb	IAmb	09 21 04.6	
comp=Z,7.6nm,1.0s						
RAR	**Rarotonga**	**77.82 253**	LR	LR	09 46 31.7	
comp=Z,66nm,21.6s,baz=101,slow=29						
P18A	**Preston Nutter**	**77.99 331**	P	**P**	**09 20 54.4**	**+2.4**
P18A			IAmb	IAmb	09 21 05.8	
comp=Z,10nm,1.1s						
VLDQ	**Val d'Or**	**78.04 356**	P	**P**	**09 20 53.2**	**+1.6**
VLDQ			IAmb	IAmb	09 20 54.3	
comp=Z,11nm,1.0s						
F36A	**Milaca**	**78.12 345**		**P**	**09 20 52.7**	**+0.5**
F36A			IAmb	IAmb	09 20 53.8	
comp=Z,7.7nm,1.1s						
PRN	**Pahroc Range**	**78.35 326**	P	**P**	**09 20 56.5**	**+2.7**
PRN			IAmb	IAmb	09 21 08.6	
comp=Z,7.0nm,1.0s						
RDMU	**Red Mountain**	**78.50 332**	P	**P**	**09 20 56.8**	**+2.1**
RDMU			IAmb	IAmb	09 21 06.6	
comp=Z,5.6nm,0.9s						
SPR3	**Spring Creek 3**	**79.29 328**	P	**P**	**09 21 01.2**	**+2.1**
PDAR	**Pinedale Array**	**80.34 333**	P	**P**	**09 21 04.3**	**-0.5**
comp=Z,0.7nm,0.7s,baz=144,slow=6.7,SNR=6.2						
PDAR	**Pinedale Array**	**80.34 333**	P	**P**	**09 21 05.9**	**+1.2**
NVAR	**Mina Array Bea**	**80.75 325**	P	**P**	**09 21 07.7**	**+0.7**
comp=Z,0.8nm,0.8s,baz=134,slow=6.4,SNR=5.1						
HVU	**Hansel Valley**	**80.85 330**	P	**P**	**09 21 09.3**	**+1.9**
AGMN	**Agassiz Nation**	**80.96 344**		**P**	**09 21 08.3**	**+0.8**
AGMN			IAmb	IAmb	09 21 09.9	
comp=Z,9.5nm,0.9s						
ELK	**Elko**	**81.10 328**	LR	LR	09 51 22.6	
comp=Z,53nm,19.9s,baz=331,slow=32						
ELK	**Elko**	**81.10 328**		**P**	**09 21 10.4**	**+1.6**
MDND	**Maddock**	**81.50 342**	P	**P**	**09 21 12.3**	**+1.8**
YERR	**Yerington**	**81.64 325**	P	**P**	**09 21 14.0**	**+2.3**
YERR			IAmb	IAmb	09 21 25.6	
comp=Z,16nm,1.5s						
BOSA	**Boshof**	**81.84 118**	P	**P**	**09 21 12.9**	**-0.2**
comp=Z,3.3nm,0.8s,baz=249,slow=6.6,SNR=5.5						
BOSA			LR	LR	09 55 33.4	
comp=Z,63nm,18.1s,baz=204,slow=34						
BOSA	**Boshof**	**81.84 118**	IAmb	IAmb	09 21 31.4	
comp=Z,13nm,1.2s						
PNTR	**Pine Nut**	**81.90 325**	P	**P**	**09 21 15.2**	**+2.2**
PNTR			IAmb	IAmb	09 21 27.6	
comp=Z,18nm,1.5s						
YMR	**Madison River**	**82.50 333**	P	**P**	**09 21 18.3**	**+2.3**
ULM	**Lac du Bonnet**	**82.79 345**	P	**P**	**09 21 18.0**	**+0.9**
comp=Z,5.8nm,0.8s,baz=167,slow=3.0,SNR=5.3						
ULM	**Lac du Bonnet**	**82.79 345**	IAmb	IAmb	09 21 19.2	
comp=Z,8.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.87 70**	P	**P**	**09 21 18.8**	**+0.4**
comp=Z,20nm,0.8s,baz=262,slow=4.8,SNR=88						
HLID	**Hailey**	**83.00 330**		**P**	**09 21 19.5**	**+0.8**
HLID			IAmb	IAmb	09 21 32.8	
comp=Z,6.3nm,1.1s						
ORV	**Oroville**	**83.22 324**	P	**P**	**09 21 22.5**	**+2.9**
DGMT	**Dagmar**	**83.40 339**		**P**	**09 21 21.5**	**+1.1**
LBTB	**Lobatse**	**83.90 115**	LR	LR	09 53 30.6	
comp=Z,128nm,19.0s,baz=214,slow=32						
MOD	**Modoc Plateau**	**84.39 326**	P	**P**	**09 21 27.0**	**+1.2**
MOD			IAmb	IAmb	09 21 39.9	
comp=Z,9.9nm,1.3s						
SCHQ	**Schefferville**	**84.73 3**	P	**P**	**09 21 27.4**	**+0.4**
comp=Z,5.1nm,1.0s,baz=65,slow=5.3,SNR=4.1						
SCHQ	**Schefferville**	**84.73 3**	IAmb	IAmb	09 21 37.1	
comp=Z,4.7nm,1.1s						
PLID	**Pearl Lake**	**84.90 330**	P	**P**	**09 21 29.3**	**+0.9**
PINE	**Pine Mountain**	**86.13 327**	P	**P**	**09 21 36.7**	**+2.2**
PINE			IAmb	IAmb	09 21 48.3	
comp=Z,6.0nm,0.9s						
FCC	**Fort Churchill**	**90.46 349**	P	**P**	**09 21 55.5**	**+1.1**
FCC			IAmb	IAmb	09 21 56.7	
comp=Z,7.1nm,0.9s						
LSZ	**Lusaka**	**90.97 108**	LR	LR	10 00 20.2	
comp=Z,94nm,18.3s,baz=215,slow=34						
AFI	**Afiamalu**	**91.36 253**	LR	LR	09 54 24.4	
comp=Z,64nm,19.5s,baz=139,slow=30						
ESDC	**Sonseca Array**	**93.87 46**	LR	LR	10 04 08.0	
comp=Z,81nm,18.3s,baz=241,slow=35						
YKA	**Yellowknife Ar**	**98.42 341**	P	**P**	**09 22 30.6**	**-0.3**
comp=Z,0.3nm,0.7s,baz=140,slow=4.4,SNR=9.1						
ASAR	**Alice Springs**	**121.01 208**	PKP	**PKPdf**	**09 27 46.2**	**-0.4**
comp=Z,0.4nm,0.8s,baz=124,slow=1.5,SNR=4.4						
ASAR	**Alice Springs**	**121.01 208**	PKPdf	**PKPdf**	**09 27 46.6**	**-0.1**
WRA	**Warramunga Arr**	**124.13 210**	PKP	**PKPdf**	**09 27 52.3**	**-0.4**
comp=Z,1.4nm,0.8s,baz=162,slow=1.6,SNR=9.7						
H11S2	**WAKE ISLAND Hyl**	**25.78 272**	T	T	11 46 47.8	
baz=115,slow=74,SNR=35						
H11S1	**WAKE ISLAND Hyl**	**25.79 272**	T	T	11 46 40.8	
baz=115,slow=74,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**25.79 272**	T	T	11 46 49.4	
baz=115,slow=74,SNR=27						
BVAR	**Borovoye Array**	**144.35 39**	PKP	**PKPdf**	**09 28 28.7**	**-0.5**
comp=Z,2.1nm,0.8s,baz=25,slow=4.9,SNR=7.2						
URV	**Uravakonda**	**147.96 111**	*e*PKPab	**PKPbc**	**09 28 40.1**	**+0.6**
KLRI	**Killari**	**149.02 106**	*e*PKPbc	**PKPbc**	**09 28 40.4**	**-1.8**
SKHT	**Srikalahasti**	**149.22 116**	*e*PKiKP	**PKPbc**	**09 28 42.3**	**-0.4**
RCLA	**Racherla**	**149.60 112**	*e*PKiKP	**PKPbc**	**09 28 43.5**	**-0.2**
SRLM	**Srisailam**	**149.91 111**	*e*PKiKP	**PKPbc**	**09 28 44.0**	**-0.5**
HYBB	**Hyderabad (bro**	**150.32 109**	*e*PKiKP	**PKPbc**	**09 28 45.0**	**-0.4**
HYBB			*e*PP	**PP**	**09 32 18.7**	**-2.1**
AAK	**Ala-Archa**	**150.47 56**	PKPbc	**PKiKP**	**09 28 46.5**	**+0.5**
comp=Z,11nm,0.8s,baz=229,slow=2.0,SNR=35						
AAK	**Ala-Archa**	**150.47 56**		**PKiKP**	**09 28 46.7**	**+0.7**
CUPL	**Choutuppal**	**150.56 109**	*e*PKiKP	**PKPbc**	**09 28 45.4**	**-0.5**
ADKI	**Addanki**	**150.63 113**	*e*PKiKP	**PKPbc**	**09 28 45.5**	**-0.6**
ZALV	**Zalesovo Beam**	**150.88 29**	PKPbc	**PKiKP**	**09 28 46.5**	**+0.3**
comp=Z,20nm,0.7s,baz=295,slow=3.2,SNR=78						
ZALV	**Zalesovo Beam**	**150.88 29**		**PKiKP**	**09 28 46.0**	**-0.2**
SRSP	**Sriramsagar**	**150.88 106**	*e*PKPbc	**PKPbc**	**09 28 45.1**	**-1.6**
RPSI	**Rantau Prapat**	**151.38 161**		**PKPbc**	**09 28 47.5**	**-0.4**
PSI	**Prapat**	**151.48 161**	PKPbc	**PKPbc**	**09 28 47.5**	**-0.8**
comp=Z,6.4nm,0.8s,baz=196,slow=14,SNR=5.5						
RPR	**Rampur**	**151.64 107**	*e*PKPbc	**PKPbc**	**09 28 46.9**	**-1.5**
MYLAV	**Mylavaram**	**151.66 112**	*e*PKPdf	**PKPdf**	**09 28 40.3**	**-1.9**
MKAR	**Makanchi Array**	**154.05 43**	PKP	**PKPdf**	**09 28 45.0**	**+0.1**
comp=Z,0.4nm,0.8s,baz=285,slow=2.2,SNR=2.9						
MKAR			PKPbc	**PKiKP**	**09 28 53.6**	**+0.5**
comp=Z,1.0nm,0.7s,baz=349,slow=1.8,SNR=9.6						
CHLP	**Challavanipeta**	**155.35 113**	*e*PKPdf	**PKPdf**	**09 28 45.7**	**-1.7**
SONM	**Songino Array**	**162.28 4**	PKPab	**PKPab**	**09 29 42.7**	**+0.6**
comp=Z,1.5nm,0.9s,baz=338,slow=4.7,SNR=7.1						
PZH	**PanZhiHua**	**173.40 122**	PKP	**PKPdf**	**09 29 03.3**	**-0.1**

*CNRM **26** 09:11:59.7, 35.°45N×3.°74W, h16km, ml3.0*
*MDD **26** 09:12:00.8±0.8, 35.°54N×3.°75W, h0km±6km, mbLg2.7/13, Error ellipse: s-maj=6.8km s-min=4.2km az=44.0*
*IGIL **26** 09:12:00.7, 35.°34N×3.°90W, h0km, ML2.7*
ISC 26 09:11:59.4±1.0, 35.°45N±0.°03×3.°75W±0.°03, h15km±8km, n34, σ1°23/52, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**214**	P	**Pg**	**09 12 05.4**	**0.0**
PALE				S	**Sg**	**09 12 09.3**	**-0.2**
EMEL	**Melilla**	**0.67**	**103**	⇑Pg	**Pn**	**09 12 13.5**	**-0.8**
299nm,0.3s,SNR=18							
EMEL				Lg	Lg	09 12 23.3	
2μm,0.3s,SNR=15							
AKLM	**AKL**	**0.94**	**186**	P	**Pn**	**09 12 18.2**	**+0.1**
AKLM				S	**Sb**	**09 12 29.1**	**-0.7**
TAF	**Taforalt**	**1.26**	**120**	P	**Pn**	**09 12 22.3**	**-0.3**
TAF				S	**Sg**	**09 12 40.3**	**+0.1**
CHEFC	**Chefchaouen**	**1.34**	**256**	P	**Pb**	**09 12 24.0**	**-0.3**
CHEFC				S	**Sg**	**09 12 43.7**	**+0.8**
EMIJ	**Mijas**	**1.39**	**324**	Pg	**Pb**	**09 12 24.5**	**-0.6**
16nm,0.5s,SNR=12							
EMIJ				Lg	Lg	09 12 41.6	
31nm,0.2s,SNR=7.9							
ECEU	**Ceuta**	**1.40**	**289**	Pg	**Pn**	**09 12 23.2**	**-1.2**
13nm,0.5s,SNR=7.3							
ECEU				Lg	Lg	09 12 40.0	
28nm,0.1s,SNR=6.0							
ELGU	**Los Guajares,**	**1.42**	**4**	Pg	**Pb**	**09 12 25.1**	**-0.6**
SNR=7.9							
ELGU				Lg	Lg	09 12 45.3	
223nm,0.4s,SNR=7.9							
JBK	**JBK**	**1.48**	**138**	P	**Pn**	**09 12 25.4**	**-0.2**
JBK				S	**Sn**	**09 12 44.1**	**-0.7**
EBER	**Berja**	**1.61**	**25**	Pg	**Pb**	**09 12 28.2**	**-0.7**
19nm,0.4s,SNR=27							
EBER				Lg	Lg	09 12 48.6	
241nm,0.6s,SNR=16							
EGOR	**Sierra Gorda,**	**1.68**	**350**	Pg	**Pb**	**09 12 30.5**	**+0.4**
SNR=7.9							
EGOR				Lg	Lg	09 12 52.6	
80nm,0.5s,SNR=7.9							
EJIF	**Jimena Fronter**	**1.72**	**306**	Pn	**Pb**	**09 12 29.9**	**-0.8**
SNR=7.9							
EQUE	**Quentar**	**1.77**	**8**	Pg	**Pb**	**09 12 31.1**	**-0.5**
6.1nm,0.3s,SNR=15							
EQUE				Lg	Lg	09 12 54.8	
23nm,0.4s,SNR=7.9							
ENIJ	**Nijar**	**1.97**	**39**	Pn	**Pn**	**09 12 33.3**	**+1.1**
SNR=7.9							
ENIJ				Pg	**Pb**	**09 12 35.0**	**+0.1**
SNR=7.9							
ENIJ				Sn	**Sn**	**09 12 55.9**	**-0.8**
SNR=7.9							
ENIJ				Lg	Lg	09 13 03.6	
51nm,0.3s,SNR=7.9							
LCRM	**LCR**	**1.98**	**208**	P	**Pg**	**09 12 37.0**	**-0.5**
LCRM				S	**Sb**	**09 13 00.6**	**+0.8**
EQES	**Quesada**	**2.41**	**13**	Pn	**Pn**	**09 12 39.6**	**+1.1**
SNR=7.9							
EQES				Pg	**Pb**	**09 12 42.2**	**-0.4**
20nm,0.8s,SNR=20							
EQES				Lg	Lg	09 13 13.3	
55nm,0.4s,SNR=7.0							
MD31	**MD31**	**2.71**	**198**	P	**Pn**	**09 12 44.0**	**+1.6**
MD31				S	**Sn**	**09 13 16.0**	**+1.1**
MDT	**Midelt**	**2.72**	**195**	P	**Pn**	**09 12 44.8**	**+2.1**
MDT				S	**Sn**	**09 13 16.0**	**+0.7**
EADA	**Adamuz**	**2.79**	**347**	Pn	**Pb**	**09 12 46.6**	**-2.4**
SNR=7.9							
EADA				Lg	Lg	09 13 24.5	
21nm,0.5s,SNR=7.9							
EZAR	**Zarzadilla de**	**2.93**	**34**	Sn	**Sn**	**09 13 20.2**	**-0.4**
SNR=7.9							
ECAB	**El Cabril**	**2.94**	**333**	Pn	**Pn**	**09 12 47.3**	**+1.6**
SNR=7.9							
ECAB				Sn	**Sn**	**09 13 22.6**	**+1.8**
SNR=7.9							
EMUR	**La Murta**	**3.13**	**39**	Sn	**Sn**	**09 13 24.4**	**-0.9**
SNR=7.9							
EMIN	**Mina Concepcio**	**3.30**	**315**	Pn	**Pn**	**09 12 51.7**	**+1.2**
2.0nm,0.4s,SNR=9.2							
EMIN				Sn	**Sn**	**09 13 28.7**	**-0.7**
3.6nm,0.4s,SNR=5.0							
ETOB	**Tobarra**	**3.65**	**28**	Pn	**Pn**	**09 12 58.7**	**+3.4**
5.1nm,0.3s,SNR=14							
ETOB				Sn	**Sn**	**09 13 38.4**	**+0.3**
8.0nm,0.5s,SNR=5.0							
PVAQ	**Vaqueiros**	**3.75**	**303**	P	**Pn**	**09 12 57.2**	**+0.5**
PVAQ				S	**Sn**	**09 13 39.8**	**-0.7**
PAB	**San Pablo**	**4.12**	**354**	Pn	**Pn**	**09 13 04.8**	**+2.9**
0.9nm,0.3s,SNR=7.9							
PAB				Sn	**Sn**	**09 13 47.6**	**-2.1**
SNR=7.9							
PAB				Lg	Lg	09 14 10.6	
4.1nm,0.4s,SNR=7.9							
EBAD	**Badajoz**	**4.21**	**323**	Pn	**Pn**	**09 13 03.5**	**+0.5**
1.8nm,0.3s,SNR=7.1							
EBAD				Sn	**Sn**	**09 13 51.4**	**-0.4**
4.2nm,0.7s,SNR=5.0							
ESDC	**Sonseca Array**	**4.22**	**358**	Lg	Lg	09 14 13.0	
SNR=7.9							
MESJ	**Messejana**	**4.32**	**305**	*e*P	**Pn**	**09 13 05.0**	**+0.6**
MESJ				*e*S	**Sn**	**09 13 52.4**	**-2.1**
MESJ				IAML		09 13 59.1	
comp=N,14nm,0.4s							
PFVI	**Vila Bisbo**	**4.43**	**294**	P	**Pn**	**09 13 07.0**	**+0.9**
PFVI	**Vila Bisbo**	**4.43**	**294**	Pn	**Pn**	**09 13 07.3**	**+1.2**
SNR=7.9							
PFVI				Sn	**Sn**	**09 13 55.4**	**-1.9**
SNR=7.9							
PESTR	**Estremoz**	**4.59**	**319**	P	**Pn**	**09 13 09.3**	**+1.0**
OUZM	**OUZ**	**5.18**	**210**	P	**Pn**	**09 13 17.6**	**+1.1**
OUK	**Oukaimeden**	**5.45**	**220**	P	**Pn**	**09 13 20.7**	**+0.2**

*IDC **26** 09:16:50.7±4.3, 36.°01N×70.°38E, h152km±36km, mb3.5/12, mb1 3.6/16, mb1mx3.3/56, mbtmp4.0/16, MS3.6/1, Ms1 3.6/1, ms1mx2.5/72, Error ellipse: s-maj=28.6km s-min=17.9km az=33.0*
*NEIC **26** 09:16:57.9±2.0, 36.°42N±0.°05×70.°65E±0.°10, h212km±7km, mb4.2/6, Error ellipse: s-maj=11.4km s-min=7.1km az=97.0*
*NNC **26** 09:17:02.0±4.3, 36.°81N×70.°50E, h179km±60km, mb3.2, mpv4.4, Error ellipse: s-maj=39.0km s-min=22.8km az=10.0*
ISC 26 09:16:57.3±0.6, 36.°41N±0.°06×70.°67E±0.°07, h204km, n63, σ1°55/66, mb3.6/14, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.28**	**216**		**Pn**	**09 17 40.5**	**+1.1**
CHGR	**Chuyangaron**	**2.55**	**332**	Pn	**Pn**	**09 17 42.8**	**+0.7**
DRK	**Karamyk**	**3.20**	**16**		**Pn**	**09 17 51.0**	**+1.3**
NIL	**Nilore**	**3.47**	**142**	Pn	**Pn**	**09 17 53.5**	**+0.7**
BTK	**Batken**	**3.65**	**2**		**Pn**	**09 17 56.2**	**+1.3**
TAS	**Tashkent**	**5.03**	**348**	Pn	**Pn**	**09 18 12.9**	**+0.8**
THN	**Thein Dam**	**5.75**	**132**	*e*P	**Pn**	**09 18 22.8**	**+1.3**
THN				*e*S	**S**	**09 19 26.2**	**-1.5**
AML	**Almayashu**	**6.18**	**21**	P	**Pn**	**09 18 27.5**	**+0.2**
SNR=215							
DHRM	**DHARAMSHALA**	**6.24**	**130**	*ex*	x	09 17 57.5	
DHRM				*e*S	**S**	**09 19 36.7**	**-2.7**
DHRM				IAML		09 19 38.8	
comp=N,99nm,0.2s							
UCH	**Uchtor**	**6.53**	**26**	P	**Pn**	**09 18 32.3**	**+0.5**
SNR=84							
KKAR	**Karatay Array**	**6.69**	**359**		**Pn**	**09 18 33.2**	**-0.2**
KK08	**Karatay Array**	**6.69**	**359**	⇑P	**Pn**	**09 18 33.5**	**0.0**
comp=N,4.9nm,0.3s							
KK08				⇑S	**S**	**09 19 44.1**	**-5.7**
comp=N,9.9nm,0.5s							
EKS2	**Erkin-Say**	**6.69**	**20**	P	**Pn**	**09 18 34.0**	**+0.3**
SNR=20							
AAK	**Ala-Archa**	**6.89**	**24**	P	**Pn**	**09 18 36.7**	**+0.5**
comp=N,7.1nm,0.3s,baz=197,slow=7.4,SNR=78							
AAK				S	**S**	**09 19 52.0**	**-2.6**
comp=N,2.5nm,0.3s,baz=328,slow=23,SNR=18							
AAK	**Ala-Archa**	**6.89**	**24**	P	**Pn**	**09 18 36.9**	**+0.7**
SNR=26							
AAK	**Ala-Archa**	**6.89**	**24**	⇓P	**Pn**	**09 18 36.4**	**+0.3**
comp=N,15nm,0.5s							
AAK				⇑S	**S**	**09 19 52.3**	**-2.3**
comp=N,24nm,0.6s							
AAK	**Ala-Archa**	**6.89**	**24**		**Pn**	**09 18 36.3**	**+0.1**
KBK	**Karagaybulak**	**7.06**	**27**	P	**Pn**	**09 18 39.3**	**+0.8**
SNR=21							
ULHL	**Ulahol**	**7.26**	**35**	P	**Pn**	**09 18 41.7**	**+0.7**
SNR=6.6							
CHMS	**Chumysh**	**7.30**	**24**	P	**Pn**	**09 18 42.0**	**+0.6**
SNR=13							
BOOM	**Boomskoye usch**	**7.32**	**32**		**Pn**	**09 18 41.6**	**-0.1**
USP	**Ospenovka**	**7.46**	**22**	P	**Pn**	**09 18 43.6**	**+0.2**
SNR=12							
TKM2	**Tokmak 2**	**7.54**	**29**	P	**Pn**	**09 18 45.1**	**+0.5**
SNR=12							
TKM2	**Tokmak 2**	**7.54**	**29**	⇓P	**Pn**	**09 18 44.5**	**-0.1**
comp=N,22nm,0.5s							
TKM2				⇓S	**S**	**09 20 08.2**	**-1.8**
comp=N,11nm,0.8s							
SMLA	**Simla**	**7.55**	**132**	*e*P	**Pn**	**09 18 44.9**	**+0.2**
SMLA				*e*S	**S**	**09 20 06.2**	**-3.8**
SMLA				IAML		09 20 09.1	
comp=N,32nm,0.3s							
SMLA				IAML		09 20 10.2	
comp=E,22nm,0.2s							
KDJ	**Kajisay**	**7.63**	**39**	Pn	**Pn**	**09 18 45.1**	**-0.6**
TARG	**Taragay, Kyrgy**	**7.69**	**44**	Pn	**Pn**	**09 18 46.1**	**-0.6**
KUDL	**Kundal**	**9.60**	**147**	*ex*	x	09 20 42.2	
PYUN	**Piuthan**	**13.31**	**125**	*e*P	**Pn**	**09 19 58.7**	**0.0**
comp=E,8.1nm,0.3s							
MAKZ	**Makanchi**	**13.39**	**36**	Pn	**Pn**	**09 19 58.7**	**-0.7**
MK31	**Makanchi Array**	**13.53**	**36**		**Pn**	**09 20 00.1**	**-1.0**
MKAR	**Makanchi Array**	**13.53**	**36**	P	**Pn**	**09 20 01.9**	**+0.8**
comp=E,0.4nm,0.3s,baz=216,slow=12,SNR=9.2							
DANN	**Dangsing**	**13.66**	**122**	*e*P	**Pn**	**09 20 02.6**	**-0.6**
comp=E,3.7nm,0.3s							
KOLN	**Koldanda**	**13.93**	**125**	*e*P	**Pn**	**09 20 06.8**	**+0.4**
comp=E,3.0nm,0.3s							
AB31	**Akbulak array**	**15.04**	**332**	⇑P	**P**	**09 20 21.3**	**+1.2**
comp=E,0.6nm,0.5s,baz=145,slow=13,SNR=6.8							
DMN	**Daman**	**15.05**	**122**	*e*P	**P**	**09 20 22.2**	**+1.4**
comp=E,9.8nm,0.4s							
KKN	**Kakani**	**15.06**	**121**	*e*P	**P**	**09 20 22.4**	**+1.6**
comp=E,20nm,0.5s							
PKIN	**Phulchoki**	**15.27**	**121**	*e*P	**P**	**09 20 25.8**	**+2.6**
comp=E,12nm,0.4s							
PKI	**Pulchoki**	**15.28**	**121**	*e*P	**P**	**09 20 25.4**	**+2.0**
comp=E,14nm,0.5s							
KURBB	**Kurchatov Arra**	**15.30**	**19**	P	**Pn**	**09 20 22.5**	**-0.2**
comp=E,0.2nm,0.3s,baz=207,slow=10,SNR=4.2							
GUN	**Gumba**	**15.40**	**119**	*e*P	**P**	**09 20 28.0**	**+3.2**
comp=E,5.9nm,0.3s							
KURK	**Kurchatov**	**15.41**	**19**	P	**Pn**	**09 20 22.5**	**-1.5**
KURK	**Kurchatov**	**15.41**	**19**	IAmb	IAmb	09 20 24.6	
comp=Z,2.8nm,1.2s							
BVAR	**Borovoye Array**	**16.62**	**359**	P	**Pn**	**09 20 38.8**	**+0.2**
comp=Z,0.2nm,0.3s,baz=194,slow=37,SNR=1.4							
AKTO	**Aktyubinsk**	**16.73**	**331**	⇓P	**Pn**	**09 20 40.1**	**+0.2**
comp=Z,2.3nm,0.8s							
ZAA0	**Zalesovo Array**	**20.11**	**25**		**P**	**09 21 14.6**	**-0.8**
ZAA0				IAmb	IAmb	09 21 19.1	
comp=Z,5.2nm,0.8s							
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**09 21 16.0**	**+0.7**
comp=

0.7nm,0.4s,baz=215,slow=9.3,SNR=3.5
CMAR Chiang Mai Arr 30.43 100 LR LR 10 02 41.2
comp=Z,29nm,18.0s,baz=30,slow=42
SONM Songino Array 36.84 45 P **P 09 48 20.9 +0.4**
0.5nm,0.4s,baz=260,slow=8.6,SNR=2.2
FINES FINESS Array B 43.95 333 P **P 09 49 18.7 -0.2**
1.6nm,0.8s,baz=89,slow=6.0,SNR=1.2
ARCES ARCESS Array B 48.84 342 P **P 09 49 56.8 -0.5**
3.3nm,0.9s,baz=125,slow=9.1,SNR=1.7
NOA NORSAR Array B 50.32 328 P **P 09 50 08.8 +0.1**
1.0nm,0.9s,baz=105,slow=9.5,SNR=2.3
TORD Torodi Ar. Bea 62.46 271 P **P 09 51 36.4 +0.6**
0.8nm,0.6s,baz=54,slow=6.1,SNR=6.0
ASAR Alice Springs 81.81 122 P **P 09 53 31.3 -0.1**
0.5nm,0.6s,baz=305,slow=5.5,SNR=5.7
YKA Yellowknife Ar 90.71 1 P **P 09 54 14.7 +0.1**
0.4nm,0.6s,baz=348,slow=4.7,SNR=9.0

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*TUL **26** 09:50:41.8±1.2, 35°.95N±0°.02×97°.39W±0°.02, h6km±7km, ML2.7, mb_Lg2.6/30(NEIC), Error ellipse: s-maj=2.3km s-min=2.0km az=144.0*

NEIC 26 09:50:41.7±0.6, 35°.965N±0°.006×97°.40W±0°.02, h8km±7km, Error ellipse: s-maj=2.3km s-min=0.8km az=77.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.35**	**210**		Pg	09 50 48.8	+0.1
OK033	**Mehan**	**0.38**	**78**		Pg	09 50 49.5	+0.3
OK025	**Westminster Rd**	**0.39**	**173**		Pg	09 50 49.4	+0.2
OK031	**S. Brethren Rd**	**0.45**	**91**		Pg	09 50 50.8	+0.2
OK030	**Cody Creek RV**	**0.50**	**94**		Pg	09 50 51.6	+0.2
OKCFA	**Oklahoma City**	**0.55**	**185**		Pg	09 50 52.3	-0.1
OKCSW	**OKLAHOMA CITY**	**0.56**	**184**	Pg	Pg	09 50 52.6	+0.1
QUOK	**Quay**	**0.59**	**69**		Pg	09 50 53.4	+0.2
FNO	**Franklin**	**0.71**	**180**		Pg	09 50 55.1	-0.3
CROK	**Carrier**	**0.72**	**319**		Pg	09 50 55.9	+0.3
W35A	**Tecumseh**	**0.91**	**152**		Pg	09 50 58.5	-0.8
GC02	**Grant County #**	**0.96**	**337**		Pg	09 51 00.2	0.0
KAN13	**South Haven SW**	**1.05**	**356**		Pg	09 51 01.8	-0.1
KAN14	**Manchester OK**	**1.09**	**335**		Pg	09 51 02.5	-0.2
KAN17	**Caldwell West**	**1.12**	**345**		Pg	09 51 03.0	-0.2
T35A	**Sooner Cattle**	**1.19**	**37**		Pb	09 51 04.0	-0.5
KAN05	**Bluff City Nor**	**1.21**	**342**		Pb	09 51 04.5	-0.2
KAN01	**Argonia South**	**1.22**	**346**		Pb	09 51 04.7	-0.4
KAN10	**Anthony SW Sta**	**1.29**	**334**		Pn	09 51 05.8	-0.2
OK035	**E0210 Rd and N**	**1.29**	**305**		Pn	09 51 05.8	-0.3
TUL1	**Leonard**	**1.30**	**92**		Pn	09 51 04.8	-1.3
TUL1				IAmb_Lg		09 51 24.9	
	comp=Z,34nm,0.8s						
KAN06	**Argonia West S**	**1.33**	**344**		Pn	09 51 06.5	-0.1
KAN08	**Anthony NE Sta**	**1.34**	**340**		Pn	09 51 06.3	-0.5
U32A	**Winter Ranch,**	**1.36**	**288**	Pn	Pn	09 51 07.0	-0.1
KAN16	**Harper SW Stat**	**1.37**	**337**		Pn	09 51 06.8	-0.3
X34A	**Smith Ranch, M**	**1.41**	**195**		Pn	09 51 07.9	+0.3
WMOK	**Wichita Mounta**	**1.67**	**223**		Pn	09 51 11.6	+0.3
LOOK	**Love County**	**1.98**	**175**	IAmb_Lg		09 51 46.7	
	comp=Z,22nm,0.9s						
X37A	**Clayton**	**2.15**	**129**		Pn	09 51 17.9	0.0
W39A	**Magazine**	**3.04**	**104**	IAmb_Lg		09 52 20.2	
	comp=Z,17nm,0.8s						
KSU1	**Kansas State U**	**3.19**	**11**	IAmb_Lg		09 52 31.8	
	comp=Z,19nm,0.8s						
S39A	**Bolivar**	**3.69**	**61**	IAmb_Lg		09 52 48.5	
	comp=Z,10nm,0.9s						
U40A	**Yellville**	**3.70**	**83**	IAmb_Lg		09 52 49.8	
	comp=Z,11nm,0.8s						
X40A	**Basin Creek Fa**	**4.01**	**110**	IAmb_Lg		09 52 53.7	
	comp=Z,21nm,0.8s						
WHAR	**Wooly Hollow**	**4.21**	**98**	IAmb_Lg		09 52 58.0	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.28**	**89**	IAmb_Lg		09 52 54.4	
	comp=Z,8.4nm,0.7s						
MGMO	**Mountain Grove**	**4.29**	**72**	IAmb_Lg		09 53 09.3	
	comp=Z,12nm,0.8s						
MSTX	**Muleshoe**	**4.84**	**247**	IAmb_Lg		09 53 28.2	
	comp=Z,8.0nm,1.1s						
LCAR	**Lake Charles**	**5.06**	**87**	IAmb_Lg		09 53 25.1	
	comp=Z,7.4nm,0.7s						
T25A	**Trinidad**	**5.77**	**284**	IAmb_Lg		09 53 49.1	
	comp=Z,15nm,1.1s						
SLM	**Saint Louis**	**6.30**	**63**	IAmb_Lg		09 54 00.2	
	comp=Z,7.2nm,0.7s						
W45A	**Hickory Valley**	**6.74**	**94**	IAmb_Lg		09 54 29.3	
	comp=Z,11nm,0.8s						
S44A	**Carbondale**	**6.75**	**73**	IAmb_Lg		09 54 18.7	
	comp=Z,13nm,0.8s						

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*IDC **26** 09:53:42.1±1.2, 35°.71N×3°.60W, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.3/40, mbtmp3.2/5, ML3.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/41, Error ellipse: s-maj=32.3km s-min=13.1km az=97.0*

*CNRM **26** 09:53:43.1, 35°.72N×3°.56W, h18km, ml3.0*

*IGIL **26** 09:53:45.5, 35°.69N×3°.70W, h12km*

ISC 26 09:53:45.8±1.4, 35°.67N±0°.04×3°.64W±0°.05, h26km±12km, n18, σ1s99/24, mb3.4/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**209**	P	**Pb**	**09 53 55.0**	**-1.4**
PALE				S	**Sb**	**09 54 02.2**	**-1.3**
AKLM	**AKL**	**1.18**	**189**	P	**Pn**	**09 54 05.4**	**-1.2**
AKLM				S	**Sb**	**09 54 22.4**	**+0.2**
TAF	**Taforalt**	**1.32**	**130**	P	**Pn**	**09 54 07.1**	**-1.5**
TAF				S	**Sb**	**09 54 31.5**	**+5.1**
CHEFC	**Chefchaouen**	**1.50**	**248**	P	**Pn**	**09 54 10.2**	**-0.9**
CHEFC				S	**Sb**	**09 54 36.6**	**+5.0**
JBK	**JBK**	**1.60**	**146**	P	**Pn**	**09 54 10.7**	**-1.8**
JBK				S	**Sn**	**09 54 29.9**	**-2.6**
TDRA	**Tendrara**	**2.94**	**153**	P	**Pn**	**09 54 30.8**	**-0.3**
MD31	**MD31**	**2.95**	**199**	P	**Pn**	**09 54 31.2**	**+0.2**
MDT	**Midelt**	**2.96**	**196**	Pn	**Pn**	**09 54 31.6**	**+0.4**
	0.6nm,0.3s,baz=22,slow=11,SNR=2.8						
MDT				Sn	**Sn**	**09 55 07.6**	**+1.6**
	2.2nm,0.3s,baz=56,slow=19,SNR=4.2						
MDT				Lg	Lg	09 55 16.6	
	2.2nm,0.3s,baz=240,slow=11,SNR=5.6						
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**09 54 31.2**	**0.0**
ZHG	**ZHG**	**3.33**	**229**	P	**Pn**	**09 54 35.3**	**-0.9**
PVAQ	**Vaqueiros**	**3.71**	**299**	P	**Pn**	**09 54 40.2**	**-1.2**
ESDC	**Sonseca Array**	**4.00**	**356**	Pn	**Pn**	**09 54 45.6**	**+0.2**
	0.9nm,0.3s,baz=179,slow=12,SNR=23						
ESDC				Sn	**Sn**	**09 55 30.9**	**-0.7**
	0.8nm,0.3s,baz=179,slow=26,SNR=6.1						
ESDC				Lg	Lg	09 55 47.1	
	1.1nm,0.3s,baz=171,slow=28,SNR=7.4						
MESJ	**Messejana**	**4.27**	**302**	*e*P	**Pn**	**09 54 47.7**	**-1.3**
MORF	**Marmelete**	**4.36**	**293**	*e*P	**Pn**	**09 54 48.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**22.94**	**167**	P	**P**	**09 58 49.1**	**+1.0**
	0.8nm,0.8s,baz=345,slow=11,SNR=4.2						
EIL	**Elat**	**32.88**	**89**	LR	LR	10 16 48.6	
	comp=Z,65nm,19.4s,baz=274,slow=42						
MKAR	**Makanchi Array**	**62.51**	**51**	P	**P**	**10 04 06.8**	**-0.3**
	0.3nm,0.6s,baz=299,slow=5.4,SNR=4.4						
YKA	**Yellowknife Ar**	**67.73**	**332**	P	**P**	**10 04 40.9**	**+0.3**
	0.2nm,0.6s,baz=61,slow=6.3,SNR=4.0						

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*JMA **26** 10:08:53.7±0.2, 24°.08N×122°.66E, h16km±4km, M2.2*

*TAP **26** 10:08:54.1, 24°.13N×122°.68E, h22km, ML2.6, C*

ISC 26 10:08:53.8±1.1, 24°.10N±0°.03×122°.67E±0°.02, h19km±3km, n53, σ0s51/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**36**	P	**Pg**	**10 09 02.7**	**0.0**
JYNG				*e*S	**Sb**	**10 09 09.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.47**	**41**	P	**Pg**	**10 09 03.4**	**-0.1**
YOJ				*e*S	**Sb**	**10 09 10.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.47**	**41**	*i* P	**Pg**	**10 09 03.5**	**-0.1**
	baz=47						
YOJ				*i* S	**Sb**	**10 09 10.3**	**0.0**
	baz=47						
EWUT	**Wuta**	**0.88**	**293**	*e*S	**Sg**	**10 09 22.6**	**-0.2**
	baz=300						
TWC	**Suao**	**0.90**	**304**	P	**Pb**	**10 09 10.3**	**-0.6**
	baz=303						
TWC				S	**Sb**	**10 09 22.9**	**+0.3**
	baz=303						
ENA	**Nanau**	**0.91**	**291**	*e*S	**Sg**	**10 09 23.7**	**+0.2**
	baz=298						
ETL	**Fush Village**	**0.96**	**274**	P	**Pg**	**10 09 13.4**	**+0.9**
	baz=272						
NACB	**Ninganchiao**	**0.98**	**274**	*i* P	**Pb**	**10 09 12.1**	**-0.2**
	baz=255						
NACB				*e*S	**Sn**	**10 09 26.7**	**+0.6**
	baz=255						
IRIF	**Iriomote-Funau**	**1.00**	**76**	P	**Pb**	**10 09 12.4**	**-0.1**
IRIF				*e*S	**Sn**	**10 09 26.0**	**-0.3**
NDS	**Dongshan**	**1.02**	**302**	P	**Pb**	**10 09 13.0**	**+0.1**
	baz=301						
NDS				*i* S	**Sn**	**10 09 26.5**	**-0.4**
	baz=301						
HATJ	**Hateruma jima**	**1.04**	**92**	P	**Pb**	**10 09 13.3**	**+0.1**
HATJ				*e*S	**Sn**	**10 09 27.6**	**+0.2**
NTC	**Toucheng**	**1.07**	**315**	*e*S	**Sn**	**10 09 28.0**	**-0.2**
	baz=313						
ETLH	**Xiulin Townshi**	**1.09**	**276**	P	**Pb**	**10 09 13.9**	**-0.2**
	baz=274						
ETLH				S	**Sg**	**10 09 29.6**	**+0.2**
	baz=274						
TWB1	**Santiao Chiao**	**1.10**	**326**	*e*P	**Pn**	**10 09 13.9**	**-0.3**
	baz=336						
TWB1				*e*S	**Sn**	**10 09 28.6**	**-0.2**
	baz=336						
TWE	**Neicheng**	**1.10**	**304**	*e*P	**Pn**	**10 09 14.2**	**-0.1**
	baz=304						
TWE				*e*S	**Sg**	**10 09 29.8**	**+0.1**
	baz=304						
LATG	**Datong**	**1.13**	**293**	P	**Pn**	**10 09 14.4**	**-0.3**
	baz=301						
LATG				*e*S	**Sn**	**10 09 29.5**	**-0.3**
	baz=301						
ENTT	**Nioudou**	**1.14**	**298**	P	**Pn**	**10 09 14.5**	**-0.3**
	baz=297						
ENTT				*e*S	**Sg**	**10 09 30.5**	**-0.5**
	baz=297						
TIPB	**Shuangxi**	**1.16**	**319**	*e*P	**Pg**	**10 09 15.9**	**-0.4**
	baz=318						
TIPB				S	**Sn**	**10 09 30.4**	**-0.1**
	baz=318						
NDT	**Datong Townshi**	**1.17**	**296**	P	**Pb**	**10 09 15.7**	**+0.3**
	baz=294						
NDT				S	**Sn**	**10 09 30.7**	**0.0**
	baz=294						
FUSB	**Fushanzhiwuyua**	**1.19**	**304**	P	**Pb**	**10 09 16.0**	**+0.3**
	baz=303						
FUSB				S	**Sg**	**10 09 31.9**	**-0.5**
	baz=303						
NNSB	**Datong**	**1.22**	**286**	P	**Pb**	**10 09 16.4**	**+0.1**
	baz=284						
NNSB				S	**Sg**	**10 09 33.1**	**-0.4**
	baz=284						
SXI1	**Grass Mountain**	**1.23**	**324**	P	**Pb**	**10 09 16.9**	**+0.4**
	baz=323						
SXI1				S	**Sn**	**10 09 32.3**	**+0.1**
	baz=323						
JKRS	**Kuro-shima**	**1.23**	**83**	P	**Pb**	**10 09 16.7**	**+0.2**
JKRS				*e*S	**Sg**	**10 09 33.5**	**-0.3**
NNS	**Nan Shan**	**1.23**	**286**	P	**Pb**	**10 09 16.8**	**+0.2**
	baz=285						
NNS				S	**Sg**	**10 09 33.2**	**-0.6**
	baz=285						
NWLT	**Wulai**	**1.26**	**303**	P	**Pb**	**10 09 17.4**	**+0.3**
	baz=302						
NWLT				S	**Sn**	**10 09 33.2**	**+0.3**
	baz=302						
WHF	**Hehuan Shan**	**1.28**	**272**	P	**Pn**	**10 09 17.0**	**-0.2**
	baz=271						
WHF				*e*S	**Sn**	**10 09 34.5**	**+0.4**
	baz=271						
HGSD	**Ruisui**	**1.29**	**242**	*e*P	**Pb**	**10 09 17.6**	**+0.1**
	baz=241						
HGSD				S	**Sb**	**10 09 33.8**	**0.0**
	baz=241						
YHNB	**Yeheng**	**1.31**	**296**	P	**Pb**	**10 09 18.3**	**+0.5**
	baz=295						
YHNB				*e*S	**Sb**	**10 09 35.0**	**+0.6**
	baz=295						
FUSS	**Fushou**	**1.31**	**277**	P	**Pb**	**10 09 17.8**	**-0.2**
	baz=275						
NSK	**Sanguang**	**1.33**	**296**	P	**Pb**	**10 09 18.5**	**+0.4**
	baz=280						
NSK				*e*S	**Sb**	**10 09 35.4**	**+0.6**
	baz=280						
CHGB	**Renai**	**1.37**	**269**	P	**Pn**	**10 09 18.2**	**+0.1**
	baz=253						
CHGB				*e*S	**Sb**	**10 09 36.5**	**+0.4**
	baz=253						
EHY	**Hungye**	**1.37**	**245**	P	**Pn**	**10 09 17.5**	**-0.4**
	baz=243						
EHY				*e*S	**Sn**	**10 09 35.5**	**-0.1**
	baz=243						
JIJ	**Ishigaki jima**	**1.37**	**79**	P	**Pn**	**10 09 18.2**	**+0.2**
JIJ				*e*S	**Sb**	**10 09 36.3**	**+0.3**
WUSB	**Renai**	**1.42**	**266**	P	**Pn**	**10 09 19.1**	**+0.2**
	baz=264						
WUSB				*e*S	**Sb**	**10 09 37.7**	**0.0**
	baz=264						
VWDT	**VWDT**	**1.44**	**256**	P	**Pn**	**10 09 19.1**	**+0.1**
	baz=255						
VWDT				*e*S	**Sn**	**10 09 37.3**	**-0.1**
	baz=255						
YULB	**Yu-li**	**1.44**	**241**	P	**Pn**	**10 09 18.1**	**-0.9**
	baz=227						
YULB				*e*S	**Sn**	**10 09 36.3**	**-1.2**
	baz=227						
YM01	**YM01**	**1.44**	**316**	*e*P	**Pb**	**10 09 20.4**	**+0.3**
	baz=328						
EYUL	**Yuli**	**1.45**	**239**	*e*P	**Pb**	**10 09 19.9**	**-0.3**
	baz=238						
NFF	**Wufeng Townshi**	**1.51**	**291**	P	**Pb**	**10 09 21.7**	**+0.4**
	baz=298						
NFF				*e*S	**Sb**	**10 09 40.1**	**0.0**
	baz=298						
FULB	**Fuli**	**1.55**	**235**	*e*P	**Pn**	**10 09 21.1**	**+0.6**
	baz=221						
FULB				*e*S	**Sn**	**10 09 40.2**	**+0.1**
	baz=221						
JISG	**Ishigakijimahi**	**1.57**	**72**	P	**Pn**	**10 09 20.9**	**+0.2**
JISG				*e*S	**Sn**	**10 09 40.6**	**0.0**
WHP	**Taichung City**	**1.58**	**277**	*e*P	**Pb**	**10 09 23.2**	**+0.6**
	baz=262						
WHP				*e*S	**Sb**	**10 09 42.2**	**-0.1**
	baz=262						
SSLB	**Suanglung**	**1.60**	**259**	*e*P	**Pn**	**10 09 21.9**	**+0.7**
	baz=258						
LIOB	**Emei**	**1.60**	**290**	P	**Pb**	**10 09 22.6**	**-0.3**
	baz=288						
WCS	**Beigang Elemen**	**1.61**	**269**	*e*S	**Sn**	**10 09 40.9**	**-0.5**
	baz=267						
ELDTW	**Lidau**	**1.77**	**239**	*e*S	**Sn**	**10 09 44.4**	**-1.2**
	baz=238						
ALS	**Alishan**	**1.81**	**251**	*e*P	**Pn**	**10 09 24.7**	**+0.4**
	baz=250						
LONT	**Longtian**	**1.85**	**230**	*e*S	**Sn**	**10 09 46.8**	**-0.6**
	baz=218						
CHN5	**Tsauling**	**1.89**	**255**	*e*P	**Pn**	**10 09 26.3**	**+1.1**
	baz=242						
CHN5				*e*S	**Sn**	**10 09 48.1**	**-0.5**
	baz=242						
TPUB	**Ta-pu**	**2.03**	**247**	*e*P	**Pn**	**10 09 28.4**	**+1.3**
	baz=246						
TPUB				*e*S	**Sb**	**10 09 53.8**	**-1.3**
	baz=246						
WTP	**Ta-pu**	**2.07**	**246**	*e*P	**Pb**	**10 09 29.8**	**-1.0**
	baz=245						
SLGT	**Liugui**	**2.16**	**240**	*e*P	**Pn**	**10 09 30.6**	**+1.8**
	baz=230						
SLGT				*e*S	**Sn**	**10 09 55.9**	**+0.8**
	baz=230						
MASBT	**Mashibuluo**	**2.39**	**232**	*e*P	**Pn**	**10 09 32.8**	**+0.8**
	baz=223						
MASBT				*e*S	**Sn**	**10 10 00.3**	**-0.4**
	baz=223						

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*IDC **26** 10:15:14.2±1.5, 30°.12S×72°.14W, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/52, Error ellipse: s-maj=55.8km s-min=31.5km az=122.0*

*GUC **26** 10:15:16.8±0.6, 30°.05S×72°.07W, h33km±5km, ML3.5*

ISC 26 10:15:16.4±0.9, 30°.04S±0°.05×72°.26W±0°.06, h35km, n21, σ2s38/31, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.83**	**140**	⇓*i* P	**Pn**	**10 15 30.3**	**-1.4**
CO06				*i* S	**Sn**	**10 15 40.1**	**-2.7**
CO06				IAML		10 15 46.7	
	comp=N,2μm,0.3s						
CO05	**La Serena**	**0.89**	**83**	⇓*i* P	**Pn**	**10 15 30.7**	**-1.8**
CO05				*i* S	**Sn**	**10 15 40.5**	**-3.6**
CO05				IAML		10 15 42.6	
	comp=E,5μm,0.4s						
GO04	**Tololo Observa**	**1.27**	**97**	⇓*i* P	**Pn**	**10 15 36.8**	**-1.2**
CO03	**El Pedregal**	**1.57**	**121**	⇓*i* P	**Pn**	**10 15 41.7**	**-0.3**
CO03				*i* S	**Sn**	**10 16 00.4**	**-0.7**
CO03				IAML		10 16 05.3	
	comp=E,2μm,0.4s						
LCO	**Las Campanas**	**1.70**	**53**	⇑*i* P	**Pn**	**10 15 44.0**	**+0.2**
LCO				*i* S	**Sn**	**10 16 04.8**	**+0.4**
AC04	**Llanos de Chal**	**2.10**	**30**	⇑*i* P	**Pn**	**10 15 49.1**	**0.0**
GO03	**Copiap**	**3.01**	**37**	⇑*e* P	**Pn**	**10 16 02.1**	**+0.4**
GO03				*e*S	**Sn**	**10 16 36.3**	**-0.3**
GO03				IAML		10 16 57.0	
	comp=N,151nm,0.4s						
VA03	**San Esteban**	**3.09**	**152**	*e*P	**Pn**	**10 16 04.8**	**+2.1**
MT02	**Curacav**	**3.35**	**164**	*e*P	**Pn**	**10 16 07.7**	**+1.4**
MT02				*e*S	**Sn**	**10 16 46.9**	**+2.0**
MT02				IAML		10 17 10.9	
	comp=E,77nm,0.5s						
PEL	**Peldehue**	**3.38**	**157**	*e*P	**Pn**	**10 16 08.6**	**+1.9**
H03N1	**Juan Fernandez**	**6.61**	**237**	Pn	**Pn**	**10 16 53.1**	**+2.3**
	baz=126,slow=20,SNR=48						
H03N1				Sn	**Sn**	**10 18 00.9**	**-3.8**
	baz=233,slow=75,SNR=6.8						
H03N1				T	T	10 24 04.4	
	baz=69,slow=72,SNR=268						
H03N2	**Juan Fernandez**	**6.62**	**237**	Pn	**Pn**	**10 16 53.0**	**+2.0**
	baz=126,slow=20,SNR=33						
H03N2				Sn	**Sn**	**10 18 01.9**	**-3.2**
	baz=233,slow=75,SNR=7.4						
H03N2				T	T	10 24 02.4	
	baz=69,slow=72,SNR=296						
H03N3	**Juan Fernandez**	**6.62**	**237**	Pn	**Pn**	**10 16 53.1**	**+2.1**
	baz=126,slow=20,SNR=43						
H03N3				Sn	**Sn**	**10 18 00.9**	**-4.3**
	baz=233,slow=75,SNR=5.9						
H03N3				T	T	10 24 03.6	
	baz=69,slow=72,SNR=290						
H03S3	**Juan Fernandez**	**6.80**	**235**	Pn	**Pn**	**10 16 55.0**	**+1.6**
	baz=99						
H03S3				Sn	**Sn**	**10 18 06.5**	**-3.0**
	baz=57						
H03S1	**Juan Fernandez**	**6.81**	**234**	Pn	**Pn**	**10 16 53.3**	**-0.2**
	baz=99						
H03S1				Sn	Sn	10 18 03.3	-6.3
	baz=57						
H03S2	**Juan Fernandez**	**6.82**	**235**	Pn	**Pn**	**10 16 53.3**	**-0.4**
	baz=99						
H03S2				Sn	**Sn**	**10 18 05.0**	**-4.9**
	baz=57						
PLCA	**Paso Flores**	**10.76**	**173**	Pn	**Pn**	**10 17 49.5**	**+1.4**
	comp=E,0.1nm,0.3s,baz=336,slow=13,SNR=6.1						
CPUP	**Villa Florida**	**13.67**	**78**	LR	LR	10 24 01.2	
	comp=E,59nm,19.8s,baz=157,slow=39						
LPAZ	**La Paz**	**14.20**	**16**	Pn	**P**	**10 18 39.6**	**-3.1**
	comp=E,0.2nm,0.3s,baz=195,slow=8.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**83.05**	**71**	P	**P**	**10 27 40.9**	**+2.2**
	comp=E,0.6nm,0.8s,baz=255,slow=5.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**150.90**	**28**	PKPbc	**PKiKP**	**10 35 08.3**	**+2.9**
	comp=E,1.2nm,0.4s,baz=313,slow=2.9,SNR=6.8						

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*IDC **26** 10:25:44.6±2.3, 35°.28N×141°.22E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.0/36, mbtmp3.3/5, ML2.7/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/51, Error ellipse: s-maj=48.4km s-min=22.8km az=63.0*

*JMA **26** 10:25:47.4±0.1, 35°.39N×141°.26E, h35km±1km, M2.9*

ISC 26 10:25:48.5±1.3, 35°.35N±0°.05×141°.2E±0°.1, h33km, n20, σ1s30/18, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.45**	**322**	P	**Pb**	**10 25 57.2**	**-1.2**
CHOJ				*e*S	**Sb**	**10 26 04.0**	**-1.1**
JSMT	**Sammumatsuo**	**0.68**	**296**	P	**Pn**	**10 26 01.4**	**-0.4**
BSO1	**Boso 1**	**0.71**	**195**	P	**Pn**	**10 26 01.7**	**-0.1**
BSO3	**Boso 3**	**0.78**	**226**	P	**Pn**	**10 26 03.1**	**+0.1**
BSO4	**Boso 4**	**0.79**	**244**	P	**Pn**	**10 26 03.4**	**+0.2**
JYT	**Yasato**	**1.20**	**317**	P	**Pn**	**10 26 08.4**	**-0.6**
JIM2	**Oshima 3**	**1.58**	**247**	*e*S	**Sn**	**10 26 35.0**	**+1.4**
JOD2	**Odawara 2**	**1.73**	**268**	P	**Pn**	**10 26 15.8**	**-0.5**
JHJ	**Hachijo jima 2**	**2.51**	**208**	**Pn**	**Pn**	**10 26 26.9**	**-0.2**
	9.5nm,0.3s,baz=297,slow=21,SNR=5.4						
JHJ				Sn	**Sn**	**10 26 56.2**	**-0.2**
	10nm,0.3s,baz=74,slow=24,SNR=1.1						
MJAR	**Matsushiro Arr**	**2.71**	**297**	Pn	**Pn**	**10 26 31.3**	**+1.6**
	0.4nm,0.3s,baz=116,slow=9.8,SNR=12						
MJAR				Sn	**Sn**	**10 27 03.3**	**+2.0**
	0.3nm,0.3s,baz=158,slow=13,SNR=2.9						
MJAR				LR	LR	10 27 52.8	
	comp=Z,93nm,18.2s,baz=112,slow=46						
MAT	**Matsushiro**	**2.71**	**297**	P	**Pn**	**10 26 31.9**	**+2.2**
MAT				*e*S	**Sb**	**10 27 06.4**	**-2.6**
H11N2	**WAKE ISLAND Hy**	**27.47**	**118**	T	T	11 00 25.5	
	baz=310,slow=75,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**27.48**	**118**	T	T	11 00 24.0	
	baz=310,slow=75,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**27.49**	**118**	T	T	11 00 34.8	
	baz=310,slow=75,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	11 01 08.8	
	baz=312,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	11 01 09.1	
	baz=312,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	11 01 07.0	
	baz=312,slow=75,SNR=28						
MKAR	**Makanchi Array**	**44.89**	**304**	P	**P**	**10 34 00.1**	**+0.4**
	0.1nm,0.4s,baz=88,slow=9.4,SNR=2.3						
WRA	**Warramunga Arr**	**55.37**	**188**	P	**P**	**10 35 19.4**	**+0.1**
	0.5nm,0.4s,baz=4.4,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**59.09**	**188**	P	**P**	**10 35 46.7**	**+1.1**
	0.4nm,1.1s,baz=7.5,slow=15,SNR=1.7						

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*NIED **26** 10:38:48.8, 34°.91N×139°.91E, h83km, MW3.6, Moment Tensor Solution. s3 Moment t

201nm,0.3s,baz=73,slow=19,SNR=19
MJAR Matsushiro Arr 2.11 319 P **Pn 10 39 23.2 +0.8**
11nm,0.3s,baz=157,slow=12,SNR=287
MJAR S **Sn 10 39 48.2 +0.1**
5.8nm,0.3s,baz=337,slow=28,SNR=4.5
MAT Matsushiro 2.11 319 P **Pn 10 39 23.6 +1.2**
MAT S **Sn 10 39 49.1 +1.0**
JNU Nakatsue 7.72 259 P **Pn 10 40 39.2 +0.7**
0.3nm,0.3s,baz=41,slow=17,SNR=1.7
KSRS Korea Array 10.01 288 P **Pn 10 41 11.1 +1.5**
0.1nm,0.3s,baz=110,slow=14,SNR=4.9
KSRS LR LR 10 45 06.9
comp=Z,23nm,19.8s,baz=45,slow=38
USRK Ussuriysk Ar. 11.08 329 P **Pn 10 41 24.7 +0.5**
baz=155,slow=15,SNR=2.6
KLR Kul'dur 15.49 340 P **Pn 10 42 21.4 -0.9**
0.1nm,0.3s,baz=124,slow=11,SNR=1.6
H11N2 WAKE ISLAND Hy 28.24 115 T T 11 14 23.8
baz=308,slow=75,SNR=45
H11N1 WAKE ISLAND Hy 28.24 115 T T 11 14 24.9
baz=308,slow=75,SNR=37
H11N3 WAKE ISLAND Hy 28.25 115 T T 11 14 25.6
baz=308,slow=75,SNR=36
H11S3 WAKE ISLAND Hy 28.86 118 T T 11 15 03.6
baz=311,slow=76,SNR=7.5
H11S1 WAKE ISLAND Hy 28.86 118 T T 11 15 07.0
baz=311,slow=76,SNR=7.7
H11S2 WAKE ISLAND Hy 28.87 118 T T 11 15 01.6
baz=311,slow=76,SNR=5.9
ZALV Zalesovo Beam 42.46 314 P **P 10 46 34.2 -0.8**
0.5nm,0.3s,baz=111,slow=7.9,SNR=2.9
MKAR Makanchi Array 44.23 304 P **P 10 46 49.2 -0.2**
0.5nm,0.7s,baz=96,slow=9.3,SNR=5.8
ILAR Eielson Array 51.90 31 P **P 10 47 48.8 +0.6**
0.7nm,1.0s,baz=272,slow=6.2,SNR=2.7
WRA Warramunga Arr 54.84 186 P **P 10 48 09.0 -1.2**
1.8nm,0.6s,baz=2.2,slow=7.6,SNR=34
ASAR Alice Springs 58.57 186 P **P 10 48 35.7 -0.8**
0.3nm,0.4s,baz=19,slow=11,SNR=15
YKA Yellowknife Ar 66.22 29 P **P 10 49 27.1 0.0**
0.2nm,0.8s,baz=287,slow=7.1,SNR=3.7
FINES FINESS Array B 70.09 332 P **P 10 49 51.5 +0.2**
2.0nm,0.9s,baz=84,slow=4.3,SNR=1.6
AKASG Malin Array Be 75.20 322 P **P 10 50 21.5 -0.3**
0.2nm,0.3s,baz=48,slow=4.8,SNR=1.8
NVAR Mina Array Bea 77.22 52 P **P 10 50 34.6 +0.8**
0.4nm,0.6s,baz=299,slow=5.7,SNR=5.9
PDAR Pinedale Array 80.00 44 P **P 10 50 47.4 -1.6**
0.2nm,0.5s,baz=329,slow=3.4,SNR=2.2
TXAR Lajitas Array 92.36 52 P **P 10 51 50.6 +0.6**
0.2nm,0.6s,baz=342,slow=5.7,SNR=1.6

*DJA **26** 10:49:13.6±0.6,6°S±6°×15°3E±°, h10km,M4.8/12,mB5.0/3, mb4.5/12,MLv4.9/1,Mw(mB)4.4/3*
*NEIC **26** 10:49:18.7±1.5,5°30S±0°05×153°09E±0°09,h35km±2km, mb4.7/28,Error ellipse: s-maj=15.8km s-min=5.3km az=64.0*
*IDC **26** 10:49:20.7±1.6,5°38S×153°12E,h61km±13km,mb4.0/20, mb1 4.2/23,mb1mx3.9/50,mbtmp4.3/23,MS3.7/31, Ms1 3.7/31,ms1mx3.6/62,Error ellipse: s-maj=15.9km s-min=9.4km az=83.0*
ISC 26 10:49:18.5±0.4,5°33S±0°05×153°15E±0°07,h37km,n87, σ1§06/70,mb4.6/37,MS3.6/31,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.50**	**319**		**Pn**	**10 49 43.9**	**+1.0**
KRVT	**Keravat (AS076**	**1.51**	**312**	P	**Pn**	**10 49 45.0**	**+1.9**
baz=233,slow=20							
KRVT				S	**Sn**	10 50 05.0	+3.5
baz=218,slow=19							
PMG	**Port Moresby**	**7.19**	**235**	P	**Pn**	**10 51 02.7**	**+1.6**
7.3nm,0.3s,baz=56,slow=7.2,SNR=21							
PMG				S	**Sn**	**10 52 22.6**	**+1.0**
13nm,0.3s,baz=86,slow=12,SNR=11							
PMG	**Port Moresby**	**7.19**	**235**		**Pn**	**10 51 02.3**	**+1.1**
HNR	**Honiara**	**7.88**	**122**	P	**Pn**	**10 51 13.3**	**+2.7**
8.7nm,0.3s,baz=160,slow=20,SNR=2.5							
CTA	**Charters Tower**	**16.13**	**204**	P	**Pn**	**10 53 03.5**	**+0.9**
0.3nm,0.3s,baz=24,slow=14,SNR=13							
CTA				LR	LR	10 58 23.0	
comp=Z,320nm,20.6s,baz=56,slow=34							
CTAO	**Charters Tower**	**16.13**	**204**		**Pn**	**10 53 03.0**	**+0.4**
SANVU	**Saraoutou**	**17.08**	**127**	Pn	**Pn**	**10 53 14.6**	**0.0**
EIDS	**Eidsvold**	**20.02**	**185**	P	**P**	**10 53 48.2**	**-0.1**
GUMO	**Guam**	**20.52**	**336**	LR	LR	11 02 28.9	
comp=Z,99nm,18.8s,baz=120,slow=38							
LIFNC	**LIFOU**	**20.57**	**140**	P	**P**	**10 53 53.9**	**-0.2**
DZM	**Mont Dzumac**	**21.04**	**144**	P	**P**	**10 53 59.9**	**+0.5**
23nm,0.7s,baz=309,slow=8.4,SNR=54							
DZM				LR	LR	11 01 04.8	
comp=Z,184nm,20.1s,baz=21,slow=34							
DZM	**Mont Dzumac**	**21.04**	**144**	*e*P	**P**	**10 54 00.5**	**+1.1**
46nm,0.8s							
DZM				*e*LR	LR	10 59 07.8	
comp=Z,337nm,23.8s							
DZM	**Mont Dzumac**	**21.04**	**144**	P	**P**	**10 53 59.6**	**+0.2**
DZM				IAmb	IAmb	10 54 02.4	
comp=Z,23nm,0.7s							
ONTNC	**Ouen Toro**	**21.22**	**144**	P	**P**	**10 54 01.9**	**+0.6**
ONTNC				IAmb	IAmb	10 54 18.8	
comp=Z,74nm,1.2s							
OUENC	**Ouen Island, N**	**21.54**	**143**	P	**P**	**10 54 05.5**	**+0.9**
SIJI	**Sorong**	**22.29**	**281**	P	**P**	**10 54 12.3**	**-0.5**
comp=Z,16nm,0.6s,baz=155,slow=18,SNR=5.7							
MTN	**Manton Dam**	**22.97**	**250**	P	**P**	**10 54 19.1**	**-0.9**
MTN				IAmb	IAmb	10 54 35.5	
comp=Z,26nm,1.1s							
WB0	**Warramunga Arr**	**23.22**	**230**	P	**P**	**10 54 21.7**	**-0.9**
WB0				IAmb	IAmb	10 54 24.4	
comp=Z,24nm,1.1s							
WR0	**Warramunga Arr**	**23.22**	**230**	P	**P**	**10 54 22.1**	**-0.4**
WR0				IAmb	IAmb	10 54 25.1	
comp=Z,18nm,0.8s							
WRAB	**Tennant Creek**	**23.35**	**230**	P	**P**	**10 54 22.7**	**-1.1**
WRAB				IAmb	IAmb	10 54 43.1	
comp=Z,21nm,0.9s							
WB2	**Warramunga Arr**	**23.36**	**230**	P	**P**	**10 54 23.1**	**-0.8**
WB2				IAmb	IAmb	10 54 43.2	
comp=Z,19nm,1.0s							
WRA	**Warramunga Arr**	**23.36**	**230**	P	**P**	**10 54 23.3**	**-0.6**
comp=Z,13nm,0.7s,baz=54,slow=9.9,SNR=81							
WRA				PcP	**PcP**	**10 58 08.8**	**-1.4**
comp=Z,0.6nm,0.8s,baz=57,slow=2.7,SNR=1.9							
WRA				LR	LR	11 03 19.0	
comp=Z,213nm,20.7s,baz=58,slow=36							
WRA	**Warramunga Arr**	**23.36**	**230**	P	**P**	**10 54 22.3**	**-1.6**
AS31	**Alice Springs**	**26.00**	**224**	P	**P**	**10 54 47.1**	**-1.1**
ASAR	**Alice Springs**	**26.00**	**224**	P	**P**	**10 54 47.7**	**-0.5**
comp=Z,4.8nm,0.7s,baz=56,slow=9.6,SNR=49							
ASAR				PcP	**PcP**	**10 58 14.9**	**-1.1**
comp=Z,0.4nm,0.6s,baz=41,slow=4.4,SNR=1.8							
ASAR				LR	LR	11 04 50.8	
comp=Z,172nm,21.3s,baz=56,slow=36							
ASAR	**Alice Springs**	**26.00**	**224**	P	**P**	**10 54 48.0**	**-0.2**
KNRA	**Kununurra**	**26.06**	**245**	P	**P**	**10 54 48.7**	**0.0**
MSVF	**Nonsavu**	**27.29**	**119**	LR	LR	11 05 13.4	
comp=Z,252nm,18.4s,baz=296,slow=35							
STKA	**Stephens Creek**	**28.54**	**201**	P	**P**	**10 55 09.7**	**-1.1**
comp=Z,4.8nm,0.7s,baz=24,slow=11,SNR=7.8							
STKA				LR	LR	11 06 03.5	
comp=Z,160nm,21.4s,baz=26,slow=35							
STKA	**Stephens Creek**	**28.54**	**201**	P	**P**	**10 55 09.6**	**-1.2**
BATI	**Baumata**	**29.61**	**259**	LR	LR	11 08 32.2	
comp=Z,216nm,19.6s,baz=98,slow=39							
FITZ	**Fitzroy Crossi**	**29.72**	**242**	P	**P**	**10 55 21.0**	**-0.4**
comp=Z,22nm,0.7s,baz=57,slow=8.0,SNR=62							
FITZ				LR	LR	11 07 22.1	
comp=Z,158nm,20.0s,baz=65,slow=36							
DAV	**Davao City (W)**	**30.15**	**294**	LR	LR	11 07 00.9	
comp=Z,83nm,18.8s,baz=88,slow=35							
KAPI	**Kappang**	**33.26**	**269**	LR	LR	11 12 04.5	
comp=Z,50nm,19.4s,baz=108,slow=41							
FORT	**Forrest**	**34.60**	**220**	P	**P**	**10 56 03.0**	**-1.2**
AFI	**Afiamalu**	**35.57**	**106**	LR	LR	11 08 12.0	
comp=Z,164nm,20.1s,baz=281,slow=32							
MBWA	**Marble Bar**	**36.02**	**241**	P	**P**	**10 56 15.5**	**-1.0**
MBWA				IAmb	IAmb	10 56 16.9	
comp=Z,13nm,0.9s							
URZ	**Urewera**	**39.35**	**150**	LR	LR	11 12 44.0	
comp=Z,129nm,18.2s,baz=12,slow=36							
QRZ	**Quartz Range**	**39.38**	**157**	P	**P**	**10 56 45.9**	**+1.3**
BKZ	**Black Stump Fm**	**39.76**	**151**	P	**P**	**10 56 48.6**	**+0.8**
BKZ				IAmb	IAmb	10 57 56.4	
comp=Z,34nm,1.6s							
TUWZ	**Tuamarina**	**40.46**	**156**	P	**P**	**10 56 53.8**	**+0.3**
JNU	**Nakatsue**	**43.69**	**333**	P	**P**	**10 57 19.2**	**-0.8**
comp=Z,22nm,1.2s,baz=329,slow=3.8,SNR=4.4							
MJAR	**Matsushiro Arr**	**43.94**	**343**	LR	LR	11 12 48.0	
comp=Z,66nm,19.8s,baz=170,slow=32							
LEM	**Lembang**	**45.29**	**266**	LR	LR	11 20 40.0	
comp=Z,46nm,18.5s,baz=128,slow=42							
KSRS	**Korea Array**	**48.63**	**333**	P	**P**	**10 57 59.1**	**+0.3**
comp=Z,0.7nm,0.6s,baz=144,slow=6.9,SNR=2.3							
ASAJ	**Asahikawa**	**50.13**	**350**	LR	LR	11 16 30.4	
comp=Z,56nm,22.0s,baz=152,slow=32							
USRK	**Ussuriysk Ar.**	**52.86**	**341**	P	**P**	**10 58 29.8**	**-0.7**
comp=Z,0.5nm,0.4s,baz=140,slow=6.9,SNR=4.3							
USRK				LR	LR	11 18 25.7	
comp=Z,52nm,21.8s,baz=112,slow=33							
KLR	**Kul'dur**	**57.45**	**344**	P	**P**	**10 59 03.7**	**+0.1**
comp=Z,1.4nm,0.7s,baz=149,slow=3.4,SNR=5.6							
PETK	**Petropavlovsk-**	**58.34**	**3**	LR	LR	11 19 42.2	
comp=Z,42nm,21.5s,baz=145,slow=31							
CMAR	**Chiang Mai Arr**	**58.42**	**295**	P	**P**	**10 59 10.4**	**-0.6**
comp=Z,1.4nm,0.7s,baz=103,slow=5.1,SNR=4.8							
CMAR				LR	LR	11 24 42.5	
comp=Z,26nm,18.8s,baz=205,slow=36							
TAOE	**Nuku Hiva Isla**	**66.21**	**97**	*e*LR	LR	11 20 12.0	
comp=Z,331nm,25.5s							
SONM	**Songino Array**	**66.96**	**328**	P	**P**	**11 00 07.9**	**+0.4**
comp=Z,1.0nm,0.5s,baz=146,slow=5.4,SNR=9.4							
SONM	**Songino Array**	**66.96**	**328**	IAmb	IAmb	11 00 22.8	
comp=Z,9.2nm,1.8s							
SEY	**Seymchan**	**68.07**	**360**	P	**P**	**11 00 14.1**	**+0.1**
comp=Z,0.7nm,0.4s,baz=179,slow=23,SNR=12							
SEY				LR	LR	11 32 22.0	
comp=Z,30nm,18.1s,baz=300,slow=38							
VNDA	**Vanda**	**72.29**	**178**	P	**P**	**11 00 39.2**	**-0.5**
comp=Z,4.4nm,0.8s,baz=29,slow=5.5,SNR=6.3							
GUN	**Gumba**	**72.69**	**301**	*e*P	**P**	**11 00 44.0**	**+0.5**
comp=Z,2.8nm,0.4s							
KKN	**Kakani**	**73.17**	**301**	*e*P	**P**	**11 00 47.6**	**+1.4**
comp=Z,9.9nm,0.2s							
KOLN	**Koldanda**	**74.60**	**301**	*e*P	**P**	**11 00 54.8**	**+0.3**
comp=Z,19nm,0.8s							
DANN	**Dangsing**	**74.61**	**301**	*e*P	**P**	**11 00 54.5**	**-0.2**
comp=Z,13nm,0.7s							
PYUN	**Piuthan**	**75.21**	**301**	*e*P	**P**	**11 00 58.1**	**+0.1**
comp=Z,28nm,0.9s							
KDAK	**Kodiak Island**	**76.49**	**27**	LR	LR	11 27 17.6	
comp=Z,120nm,21.2s,baz=259,slow=30							
MK31	**Makanchi Array**	**80.95**	**319**	P	**P**	**11 01 28.7**	**-0.5**
MKAR	**Makanchi Array**	**80.95**	**319**	P	**P**	**11 01 29.2**	**0.0**
comp=Z,1.0nm,0.6s,baz=99,slow=7.5,SNR=5.3							
MKAR	**Makanchi Array**	**80.95**	**319**	P	**P**	**11 01 29.0**	**-0.2**
MAKZ	**Makanchi**	**81.16**	**319**	P	**P**	**11 01 30.0**	**-0.4**
MAKZ				IAmb	IAmb	11 01 44.4	
comp=Z,8.1nm,1.1s							
ZAA0	**Zalesovo Array**	**81.78**	**326**	P	**P**	**11 01 32.1**	**-1.3**
ZAA0				IAmb	IAmb	11 01 45.8	
comp=Z,5.5nm,0.8s							
ZALV	**Zalesovo Beam**	**81.78**	**326**	P	**P**	**11 01 32.4**	**-1.1**
comp=Z,1.4nm,0.5s,baz=110,slow=6.1,SNR=4.3							
ZALV				LR	LR	11 39 46.2	
comp=Z,24nm,18.1s,baz=220,slow=37							
ZALV	**Zalesovo Beam**	**81.78**	**326**	P	**P**	**11 01 32.9**	**-0.6**
ILAR	**Eielson Array**	**82.52**	**22**	P	**P**	**11 01 35.4**	**-1.7**
comp=Z,0.6nm,1.0s,baz=246,slow=5.2,SNR=5.0							
ILAR				LR	LR	11 37 01.3	
comp=Z,55nm,18.6s,baz=223,slow=35							
KSH	**Kashi**	**83.54**	**311**	P	**P**	**11 01 45.5**	**+2.4**
KSH				pP	pwP	11 01 57.8	+0.6
KSH				pmax	pmax		
comp=Z,4.0nm,1.1s							
QSPA	**South Pole Qui**	**84.63**	**180**	P	**P**	**11 01 48.1**	**0.0**
QSPA				IAmb	IAmb	11 01 48.9	
comp=Z,7.5nm,0.7s							
NRIK	**Noril'sk**	**86.58**	**341**	P	**P**	**11 01 57.0**	**-0.4**
comp=Z,3.0nm,0.6s,baz=55,slow=13,SNR=5.5							
NRIK	**Noril'sk**	**86.58**	**341**	IAmb	IAmb	11 02 20.9	
comp=Z,12nm,1.6s							
INK	**Inuvik**	**88.82**	**21**	P	**P**	**11 02 07.5**	**-0.7**
comp=Z,1.1nm,0.9s,baz=280,slow=5.2,SNR=4.8							
YBH	**Yreka Blue Hor**	**89.14**	**48**	LR	LR	11 35 39.3	
comp=Z,127nm,19.7s,baz=313,slow=31							
NVAR	**Mina Array Bea**	**92.14**	**52**	LR	LR	11 36 14.4	
comp=Z,82nm,21.0s,baz=308,slow=30							
PFO	**Pinyon Flats O**	**93.24**	**57**	LR	LR	11 39 22.3	
comp=Z,40nm,18.8s,baz=325,slow=32							
ELK	**Elko**	**94.66**	**50**	LR	LR	11 39 48.8	
comp=Z,94nm,19.7s,baz=307,slow=32							
YKA	**Yellowknife Ar**	**95.73**	**28**	P	**P**	**11 02 38.4**	**-1.9**
comp=Z,0.2nm,0.7s,baz=284,slow=5.5,SNR=2.9							
YKA				LR	LR	11 39 48.2	
comp=Z,58nm,20.3s,baz=302,slow=32							
AKTO	**Aktyubinsk**	**97.35**	**320**	LR	LR	11 47 40.8	
comp=Z,22nm,19.9s,baz=20,slow=36							
LPIG	**La Paz**	**98.11**	**67**	LR	LR	11 38 29.6	
comp=Z,67nm,21.9s,baz=303,slow=30							
PDAR	**Pinedale Array**	**98.94**	**48**	LR	LR	11 44 33.0	
comp=Z,105nm,18.2s,baz=299,slow=34							
CLL	**Collm**	**123.48**	**331**	*e*PKPdf	**PKiKP**	**11 08 13.0**	**+0.9**
GERES	**GERESS Array B**	**124.69**	**329**	PKP	**PKPdf**	**11 08 14.9**	**+0.4**
comp=Z,0.3nm,0.4s,baz=42,slow=1.6,SNR=2.1							
BDFB	**Brasilia**	**150.45**	**135**	PKPbc	**PKPbc**	**11 09 07.6**	**+0.3**
comp=Z,3.6nm,0.5s,baz=156,slow=1.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**150.80**	**287**	PKPbc	**PKPbc**	**11 09 07.8**	**-0.2**
comp=Z,6.0nm,0.8s,baz=55,slow=2.6,SNR=23							
TORD				PKPab	**pPKPdf**	**11 09 14.2**	**+0.3**
comp=Z,2.4nm,0.5s,baz=77,slow=2.2,SNR=9.2							

*IDC **26** 10:49:32.3±2.0,14°11N×144°73E,h147km±11km,mb3.2/6, mb1 3.5/6,mb1mx3.2/52,mbtmp3.6/6,Error ellipse: s-maj=123.0km s-min=19.6km az=110.0*
ISC 26 10:49:32.2±1.2,14°2N±0°1×144°5E±0°3,h150km,n7, σ1§24/8,mb3.4/6,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.69**	**144**	P	**Pn**	**10 49 55.8**	**+1.1**
245nm,0.3s,baz=102,slow=4.4,SNR=32							
GUMO				S	**Sn**	**10 50 10.7**	**-1.1**
437nm,0.3s,baz=55,slow=23,SNR=38							
WRA	**Warramunga Arr**	**35.31**	**197**	P	**P**	**10 56 12.9**	**-0.3**
1.2nm,0.7s,baz=18,slow=9.1,SNR=1.4							
ASAR	**Alice Springs**	**38.98**	**195**	P	**P**	**10 56 45.6**	**+1.5**
0.5nm,0.6s,baz=19,slow=12,SNR=1.1							
STKA	**Stephens Creek**	**45.85**	**183**	P	**P**	**10 57 38.1**	**-1.2**
1.1nm,0.4s,baz=18,slow=16,SNR=1.5							
ILAR	**Eielson Array**	**68.24**	**25**	P	**P**	**11 00 15.7**	**-0.8**
0.2nm,0.4s,baz=250,slow=6.1,SNR=6.5							
YKA	**Yellowknife Ar**	**82.55**	**27**	P	**P**	**11 01 37.8**	**-0.3**
0.2nm,0.6s,baz=284,slow=5.0,SNR=5.1							
NVAR	**Mina Array Bea**	**86.89**	**51**	P	**P**	**11 02 01.6**	**+0.9**
0.2nm,0.5s,baz=275,slow=4.4,SNR=2.1							

*NEIC **26** 10:50:25.6±1.0,59°77N±0°03×153°06W±0°07, h103km±4km,Error ellipse: s-maj=5.8km s-min=4.2km az=126.0*
*AEIC **26** 10:50:26±1.4,59°76N±0°03×153°09W±0°08,h100km±4km, ML2.6,ML3.1/62(NEIC),Error ellipse: s-maj=6.1km s-min=4.4km az=107.0*
*IDC **26** 10:50:27.7±8.6,60°17N×153°24W,h113km±75km,mb3.0/1, mb1 2.9/3,mb1mx2.4/63,mbtmp3.2/3,ML3.0/2,Error ellipse: s-maj=69.3km s-min=38.4km az=16.0*
ISC 26 10:50:25.3±1.0,59°79N±0°04×153°07W±0°04,h100km, n94,σ0§96/92,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.16**	**211**		**Pn**	**10 50 40.0**	**+0.5**
O20K	**Slope Mountain**	**0.36**	**37**		**Pn**	**10 50 41.1**	**+0.8**
O20K					**Sn**	**10 50 53.2**	**+1.6**
AUL	**Augustine Lava**	**0.45**	**205**		**Pn**	**10 50 41.5**	**+0.7**
AUL					**Sn**	**10 50 53.4**	**+1.0**
AUH	**Augustine H**	**0.47**	**204**		**Pn**	**10 50 41.7**	**+0.7**
RED	**Redoubt Volcan**	**0.65**	**13**		**Pn**	**10 50 42.9**	**+0.5**
RED					**Sn**	**10 50 55.9**	**+0.7**
RSO	**Redoubt South**	**0.69**	**13**		**Pn**	**10 50 43.5**	**+0.6**
HOM	**Homer**	**0.73**	**100**		**Pn**	**10 50 43.6**	**+0.6**
HOM				IAML		10 50 59.0	
comp=E,1μm,0.5s							
HOM				IAML		10 51 00.0	
comp=N,642nm,0.4s							
O19K	**Port Alsworth**	**0.75**	**303**		**Pn**	**10 50 43.4**	**+0.3**
O19K	**Port Alsworth**	**0.75**	**303**	IAML		10 50 57.7	
comp=E,526nm,0.4s							
NCT	**North Crescent**	**0.77**	**5**		**Pn**	**10 50 44.1**	**+0.6**
NCT					**Sn**	**10 50 58.5**	**+1.3**
DFR	**Drift River**	**0.82**	**13**		**Pn**	**10 50 44.5**	**+0.5**
Q19K	**Cape Douglas,**	**0.92**	**199**		**Pn**	**10 50 45.0**	**+0.1**
Q19K	**Cape Douglas,**	**0.92**	**199**	IAML		10 50 52.9	
comp=E,230nm,1.6s							
Q19K				IAML		10 51 03.5	
comp=N,141nm,1.0s							
CNPM	**China Poot**	**0.97**	**105**		**Pn**	**10 50 45.7**	**+0.3**
CNPM					**Sn**	**10 51 01.0**	**+0.4**
Q18K	**Koktuh Hills**	**1.08**	**274**		**Pn**	**10 50 46.6**	**0.0**
BRLK	**Bradley Lake**	**1.10**	**91**		**Pn**	**10 50 47.0**	**+0.1**
BRLK	**Bradley Lake**	**1.10**	**91**	IAML		10 51 04.7	
comp=N,410nm,0.1s							
BRLK				IAML		10 51 04.8	
comp=E,275nm,0.3s							
P18K	**Big Mountain,**	**1.17**	**251**	Pn	**Pn**	**10 50 46.9**	**-0.8**
BRSE	**Bradley Lake S**	**1.18**	**92**		**Pn**	**10 50 48.0**	**+0.3**
BRSE					**Sn**	**10 51 04.8**	**+0.1**
N19K	**Bonanza Creek**	**1.24**	**326**		**Pn**	**10 50 48.9**	**+0.3**
CAPN	**Captain Cook N**	**1.36**	**43**		**Pn**	**10 50 52.1**	**+2.2**
CAPN	**Captain Cook N**	**1.36**	**43**	IAML		10 51 02.1	
comp=N,354nm,3.6s							
CAPN				IAML		10 51 13.3	
comp=E,255nm,4.2s							
SPU	**Mount Spurr**	**1.48**	**19**		**Pn**	**10 50 51.9**	**+0.6**
SPCN	**Chakachatna No**	**1.50**	**17**		**Pn**	**10 50 52.3**	**+0.7**
SPNN	**North Nagishla**	**1.59**	**6**		**Pn**	**10 50 53.5**	**+0.6**
SPCG	**Spurr Capps Gl**	**1.59**	**19**		**Pn**	**10 50 53.4**	**+0.6**
SLKM	**Skilak Lake**	**1.59**	**62**		**Pn**	**10 50 53.4**	**+0.7**
SLKM					**Sn**	**10 51 13.8**	**+0.2**
O22K	**Cooper Landing**	**1.81**	**66**		**Pn**	**10 50 56.1**	**+0.7**
O22K					**Sn**	**10 51 18.5**	**+0.2**
STLK	**Strandline Lak**	**1.82**	**19**		**Pn**	**10 50 56.4**	**+0.8**
KCG	**Knife Ck. Glac**	**1.83**	**216**		**Pn**	**10 50 55.7**	**0.0**
SEW	**Seward**	**1.84**	**79**		**Pn**	**10 50 55.9**	**+0.1**
SEW					**Sn**	**10 51 18.5**	**-0.6**
KDAK	**Kodiak Island**	**2.03**	**173**		**Pn**	**10 50 58.1**	**-0.2**
KDAK	**Kodiak Island**	**2.03**	**173**	IAML		10 51 40.5	
comp=E,97nm,4.3s							
KDAK				IAML		10 51 45.7	
comp=E,99nm,3.2s							
CAHL	**Cahill**	**2.10**	**215**		**Pn**	**10 50 59.6**	**+0.4**
RC01	**Rabbit Creek A**	**2.10**	**50**		**Pn**	**10 50 59.7**	**+0.5**
RC01	**Rabbit Creek A**	**2.10**	**50**	IAML		10 51 27.2	
comp=E,156nm,0.4s							
RC01				IAML		10 51 28.1	
comp=N,116nm,0.4s							
M22K	**Willow**	**2.44**	**35**		**Pn**	**10 51 04.5**	**+1.0**
M22K					**Sn**	**10 51 34.6**	**+1.8**
M22K	**Willow**	**2.44**	**35**	IAML		10 51 41.8	
comp=N,95nm,1.7s							
M22K				IAML		10 52 29.2	
comp=E,73nm,3.1s							
L19K	**White Mountain**	**2.55**	**341**	Pn	**Pn**	**10 51 06.4**	**+1.3**
OHAK	**Old Harbor**	**2.58**	**183**		**Pn**	**10 51 04.1**	**-1.3**
OHAK	**Old Harbor**	**2.58**	**183**	IAML		10 51 40.5	
comp=N,88nm,4.6s							
OHAK				IAML		10 51 42.4	
comp=E,87nm,3.7s							
PWL	**Port Wells**	**2.58**	**64**		**Pn**	**10 51 04.9**	**-0.6**
PMR	**Palmer**	**2.65**	**45**		**Pn**	**10 51 05.9**	**-0.4**
PMR					**Sn**	**10 51 36.7**	**-1.0**
PMR	**Palmer**	**2.65**	**45**	IAML		10 52 00.6	
comp=N,45nm,4.5s							
KNK	**Knik Glacier**	**2.79**	**52**		**Pn**	**10 51 07.8**	**-0.5**
KNK	**Knik Glacier**	**2.79**	**52**	IAML		10 51 42.1	
comp=N,67nm,0.4s							
KNK				IAML		10 51 42.4	
comp=E,73nm,0.5s							
GHO	**Glory Hole Cre**	**2.84**	**44**		**Pn**	**10 51 08.9**	**0.0**
GHO				IAML		10 51 35.2	
comp=E,45nm,4.5s							
GHO				IAML		10 51 44.0	
comp=N,36nm,1.1s							
CUT	**Chulitna**	**2.95**	**26**		**Pn**	**10 51 10.8**	**+0.5**
CUT	**Chulitna**	**2.95**	**26**	IAML		10 51 51.4	
comp=N,70nm,2.7s							
CUT				IAML		10 52 00.2	
comp=E,58nm,4.2s							
SML	**Sawmill**	**3.08**	**47**		**Pn**	**10 51 11.7**	**-0.4**
SML				IAML		10 51 40.4	
comp=N,51nm,4.4s							
SML				IAML		10 52 04.8	
comp=E,49nm,3.6s							
PPLA	**Purkeypile**	**3.14**	**7**		**Pn**	**10 51 14.5**	**+1.5**
TT01	**Tatalina**	**3.43**	**337**		**Pn**	**10 51 16.8**	**0.0**
SCM	**Sheep Creek Mo**	**3.48**	**51**		**Pn**	**10 51 17.2**	**-0.2**
CAST	**Castle Rocks**	**3.67**	**7**		**Pn**	**10 51 20.6**	**+0.6**
CAST	**Castle Rocks**	**3.67**	**7**	IAML		10 53 41.0	
comp=E,22nm,4.5s							
TRF	**Thorofare Moun**	**3.90**	**19**		**Pn**	**10 51 24.0**	**+0.8**
TRF				IAML		10 52 32.3	
comp=E,34nm,3.8s				

PRZ	**Przheval'sk**	**0.63 319**	PG	**Pb**	**10 53 46.8**	**-1.8**
PRZ		*i* S		**Sg**	**10 53 57.8**	**+2.5**
PRZ	**Przheval'sk**	**0.63 319**	⇑*i*P	**Pb**	**10 53 46.8**	**-1.8**
	baz=21					
PRZ		⇑*i*S		**Sb**	**10 53 57.1**	**-0.8**
	baz=21					
TARG	**Taragay, Kyrgy**	**0.91 253**	*i* PG	**Pb**	**10 53 49.5**	**-3.9**
TARG		*i* S		**Sb**	**10 54 02.5**	**-3.5**
TARG	**Taragay, Kyrgy**	**0.91 253**	⇑*i*P	**Pb**	**10 53 49.5**	**-3.9**
	baz=59					
TARG		⇑*i*S		**Sb**	**10 54 03.0**	**-3.0**
	baz=59					
SATY	**Saty**	**1.13 339**	⇓*i*PG	**Pn**	**10 53 55.5**	**-2.0**
SATY		*e*S		**Sn**	**10 54 11.8**	**-1.8**
SATY	**Saty**	**1.13 339**	*e*P	**Pn**	**10 53 55.6**	**-2.0**
	76nm,0.2s					
SATY		*e*S		**Sn**	**10 54 12.3**	**-1.4**
	292nm,0.2s					
SATY	**Saty**	**1.13 339**	⇓*i*P	**Pn**	**10 53 55.5**	**-2.0**
	baz=337					
SATY		*e*S		**Sn**	**10 54 11.8**	**-1.8**
	baz=337					
SATY	**Saty**	**1.13 339**	P	**Pn**	**10 53 55.6**	**-2.0**
	76nm,0.2s					
SATY		S		**Sn**	**10 54 12.3**	**-1.4**
	292nm,0.2s					
SATY	**Saty**	**1.13 339**	*e*P	**Pn**	**10 53 55.6**	**-2.0**
	baz=38					
SATY		*e*S		**Sn**	**10 54 12.2**	**-1.4**
	baz=38					
UZB	**Uzynbulak**	**1.14 2**	⇓*i*PG	**Pn**	**10 53 55.3**	**-2.4**
UZB		*e*S		**Sb**	**10 54 11.6**	**-0.8**
UZB	**Uzynbulak**	**1.14 2**	*e*P	**Pn**	**10 53 55.4**	**-2.4**
	152nm,0.3s					
UZB		*e*S		**Sn**	**10 54 12.1**	**-1.8**
	202nm,0.3s					
UZB	**Uzynbulak**	**1.14 2**	⇓*i*P	**Pn**	**10 53 55.4**	**-2.4**
	baz=360					
UZB		*e*S		**Sb**	**10 54 11.7**	**-0.8**
	baz=360					
UZB	**Uzynbulak**	**1.14 2**	P	**Pn**	**10 53 55.4**	**-2.4**
	152nm,0.3s					
UZB		S		**Sn**	**10 54 12.1**	**-1.8**
	202nm,0.3s					
UZB	**Uzynbulak**	**1.14 2**	*e*P	**Pn**	**10 53 55.4**	**-2.4**
	baz=59					
UZB		*e*S		**Sn**	**10 54 12.1**	**-1.8**
	baz=59					
ZHN	**Zhinishke**	**1.23 342**	*i* PG	**Pn**	**10 53 57.2**	**-1.6**
ZHN		*e*S		**Sn**	**10 54 14.7**	**-1.2**
ZHN	**Zhinishke**	**1.23 342**	*e*P	**Pn**	**10 53 57.4**	**-1.4**
	144nm,0.3s					
ZHN		*e*S		**Sg**	**10 54 15.4**	**+1.2**
	594nm,0.2s					
ZHN	**Zhinishke**	**1.23 342**	*i* P	**Pn**	**10 53 57.3**	**-1.6**
	baz=340					
ZHN		*e*S		**Sn**	**10 54 14.8**	**-1.2**
	baz=340					
ZHN	**Zhinishke**	**1.23 342**	P	**Pn**	**10 53 57.4**	**-1.4**
	144nm,0.3s					
ZHN		S		**Sg**	**10 54 15.4**	**+1.2**
	594nm,0.2s					
ZHN	**Zhinishke**	**1.23 342**	*e*P	**Pn**	**10 53 57.4**	**-1.4**
	baz=41					
ZHN		*e*S		**Sg**	**10 54 15.4**	**+1.2**
	baz=41					
ANVS	**Anan'yevo**	**1.23 309**	*i* PG	**Pn**	**10 53 57.7**	**-1.4**
ANVS		*i* S		**Sg**	**10 54 16.4**	**+1.9**
ANVS	**Anan'yevo**	**1.23 309**	⇑*i*P	**Pn**	**10 53 57.4**	**-1.7**
	baz=11					
ANVS		⇑*i*S		**Sg**	**10 54 16.0**	**+1.5**
	baz=11					
KDJ	**Kajisay**	**1.33 276**	*i* PG	**Pn**	**10 53 58.0**	**-2.4**
KDJ		*i* S		**Sb**	**10 54 17.2**	**-0.8**
KDJ	**Kajisay**	**1.33 276**	⇑*i*P	**Pn**	**10 53 58.0**	**-2.4**
	baz=79					
KDJ		⇑*i*S		**Sb**	**10 54 17.2**	**-0.8**
	baz=79					
PDGK	**Podgornoye**	**1.38 16**	PG	**Pn**	**10 53 59.9**	**-1.1**
PDGK		S		**Sb**	**10 54 18.3**	**-1.0**
PDGK	**Podgornoye**	**1.38 16**	⇓P	**Pn**	**10 53 59.1**	**-1.9**
	49nm,0.5s					
PDGK		⇑S		**Sb**	**10 54 18.3**	**-1.0**
	185nm,0.2s					
KURS	**Kuram**	**1.59 339**	*e*P	**Pb**	**10 54 04.0**	**-0.9**
	78nm,0.3s					
KURS		*e*S		**Sg**	**10 54 26.6**	**+0.6**
	152nm,0.4s					
KURS	**Kuram**	**1.59 339**	P	**Pb**	**10 54 04.0**	**-0.9**
	78nm,0.3s					
KURS		S		**Sg**	**10 54 26.6**	**+0.6**
	152nm,0.4s					
KURS	**Kuram**	**1.59 339**	*e*P	**Pb**	**10 54 04.0**	**-0.9**
	baz=38					
KURS		*e*S		**Sg**	**10 54 26.6**	**+0.6**
	baz=38					
KTMS	**Ketmen**	**1.77 35**	*e*P	**Pb**	**10 54 07.4**	**-0.4**
	86nm,0.2s					
KTMS		*e*S		**Sg**	**10 54 32.5**	**+0.9**
	537nm,0.4s					
KTMS	**Ketmen**	**1.77 35**	P	**Pb**	**10 54 07.4**	**-0.4**
	86nm,0.2s					
KTMS		S		**Sg**	**10 54 32.5**	**+0.9**
	537nm,0.4s					
TNSS	**Tian-Shan**	**1.81 305**	*e*P	**Pb**	**10 54 07.9**	**-0.9**
	294nm,0.3s					
TNSS		*e*S		**Sg**	**10 54 33.8**	**+0.7**
	295nm,0.3s					
TNSS	**Tian-Shan**	**1.81 305**	⇓*i*Pg	**Pb**	**10 54 07.7**	**-1.1**
	baz=306					
TNSS	**Tian-Shan**	**1.81 305**	Pg	**Pb**	**10 54 07.9**	**-0.9**
	294nm,0.3s					
TNSS		Lg		Lg	10 54 33.8	
	295nm,0.3s					
TNSS	**Tian-Shan**	**1.81 305**	*e*P	**Pb**	**10 54 07.9**	**-0.9**
	baz=7.0					
TNSS		*e*S		**Sg**	**10 54 33.8**	**+0.7**
	baz=7.0					
MDOK	**Medeo**	**1.83 310**	*i* PN	**Pb**	**10 54 08.1**	**-0.8**
MDOK		*e*			10 54 30.7	
MDOK	**Medeo**	**1.83 310**	*e*P	**Pb**	**10 54 08.2**	**-0.8**
	241nm,0.2s					
MDOK		*e*S		**Sg**	**10 54 33.8**	**+0.3**
	486nm,0.5s					
MDOK	**Medeo**	**1.83 310**	*i* Pg	**Pb**	**10 54 08.2**	**-0.8**
	baz=310					
MDOK		*e*Sn		**Sb**	**10 54 30.7**	**-1.5**
	baz=310					
MDOK	**Medeo**	**1.83 310**	⇓P	**Pb**	**10 54 08.0**	**-0.8**
	125nm,0.4s					
MDOK		⇓S		**Sb**	**10 54 33.2**	**+1.0**
	528nm,0.4s					
MDOK	**Medeo**	**1.83 310**	Pg	**Pb**	**10 54 08.2**	**-0.8**
	241nm,0.2s					
MDOK		Lg		Lg	10 54 33.7	
	486nm,0.5s					
MDOK	**Medeo**	**1.83 310**	*e*P	**Pb**	**10 54 08.2**	**-0.7**
	baz=11					
MDOK		*e*S		**Sg**	**10 54 33.8**	**+0.3**
	baz=11					
KOTS	**Kotyrbulak**	**1.84 313**	*e*P	**Pb**	**10 54 08.7**	**-0.4**
	135nm,0.3s					
KOTS		*e*S		**Sg**	**10 54 34.6**	**+0.8**
	927nm,0.2s					
KOTS	**Kotyrbulak**	**1.84 313**	Pg	**Pb**	**10 54 08.7**	**-0.4**
	135nm,0.3s					
KOTS		Lg		Lg	10 54 34.6	
	927nm,0.2s					
KOTS	**Kotyrbulak**	**1.84 313**	*e*P	**Pb**	**10 54 08.7**	**-0.4**
	baz=13					
KOTS		*e*S		**Sg**	**10 54 34.6**	**+0.8**
	baz=13					
KNDC	**Almaty**	**1.91 310**	PN	**Pb**	**10 54 09.3**	**-0.9**
KNDC		S		**Sg**	**10 54 36.6**	**+0.5**
KNDC	**Almaty**	**1.91 310**	⇑P	**Pb**	**10 54 09.3**	**-0.9**
	106nm,0.5s					
KNDC		⇑S		**Sg**	**10 54 36.6**	**+0.5**
	839nm,0.5s					
AAA	**Alma-Ata**	**1.93 309**	*e*PN	**Pb**	**10 54 09.9**	**-0.7**
AAA	**Alma-Ata**	**1.93 309**	*e*P	**Pb**	**10 54 10.4**	**-0.3**
	529nm,0.2s					
AAA		*e*S		**Sg**	**10 54 37.8**	**+1.0**
	2μm,0.3s					
AAA	**Alma-Ata**	**1.93 309**	*e*Pg	**Pb**	**10 54 09.9**	**-0.7**
	baz=309					
AAA	**Alma-Ata**	**1.93 309**	Pg	**Pb**	**10 54 10.4**	**-0.3**
	529nm,0.2s					
AAA		Lg		Lg	10 54 37.8	
	2μm,0.3s					
IZV	**Izvestkoviy**	**2.02 301**	*e*P	**Pb**	**10 54 11.6**	**-0.6**
	161nm,0.3s					
IZV		*e*S		**Sg**	**10 54 39.6**	**-0.1**
	968nm,0.5s					
IZV	**Izvestkoviy**	**2.02 301**	Pg	**Pb**	**10 54 11.6**	**-0.6**
	161nm,0.3s					
IZV		Lg		Lg	10 54 39.6	
	968nm,0.5s					
ULHL	**Ulahol**	**2.04 278**	P	**Pb**	**10 54 10.9**	**-1.7**
	SNR=1357					
ULHL	**Ulahol**	**2.04 278**	*i* PN	**Pn**	**10 54 10.3**	**+0.2**
ULHL		*i* S		**Sb**	**10 54 38.3**	**-0.1**
ULHL	**Ulahol**	**2.04 278**	⇑*i*P	**Pb**	**10 54 10.6**	**-2.0**
	baz=80					
ULHL		⇑*i*S		**Sb**	**10 54 38.6**	**+0.2**
	baz=80					
BLB	**Baldybastay**	**2.12 350**	*e*P	**Pb**	**10 54 13.2**	**-0.7**
	514nm,0.4s					
BLB		*e*S		**Sg**	**10 54 43.0**	**+0.1**
	599nm,0.4s					
BLB	**Baldybastay**	**2.12 350**	Pg	**Pb**	**10 54 13.2**	**-0.7**
	514nm,0.4s					
BLB		Lg		Lg	10 54 43.0	
	599nm,0.4s					
MTBS	**Maitube**	**2.18 302**	*e*P	**Pb**	**10 54 14.1**	**-0.9**
	144nm,0.3s					
MTBS		*e*S		**Sb**	**10 54 43.9**	**+1.5**
	655nm,0.4s					
MTBS	**Maitube**	**2.18 302**	Pg	**Pb**	**10 54 14.1**	**-0.9**
	144nm,0.3s					
MTBS		Lg		Lg	10 54 43.9	
	655nm,0.4s					
BOOM	**Boomskoye usch**	**2.30 283**	⇓*i*PN	**Pn**	**10 54 14.1**	**+0.5**
BOOM		*i* S		**Sb**	**10 54 44.9**	**-0.8**
BOOM	**Boomskoye usch**	**2.30 283**	⇑*i*P	**Pn**	**10 54 14.1**	**+0.5**
	baz=85					
BOOM		⇑*i*S		**Sb**	**10 54 44.9**	**-0.8**
	baz=85					
CHKK	**Chushkaly**	**2.35 323**	*e*P	**Pb**	**10 54 17.8**	**+0.1**
	83nm,0.3s					
CHKK		*e*S		**Sg**	**10 54 50.3**	**0.0**
	2μm,0.4s					
CHKK	**Chushkaly**	**2.35 323**	*i* Pg	**Pb**	**10 54 17.3**	**-0.4**
	baz=322					
CHKK	**Chushkaly**	**2.35 323**	Pg	**Pb**	**10 54 17.8**	**+0.1**
	83nm,0.3s					
CHKK		Lg		Lg	10 54 50.3	
	2μm,0.4s					
ARXS	**Arharly**	**2.36 340**	*e*P	**Pb**	**10 54 18.2**	**+0.3**
	96nm,0.6s					
ARXS		*e*S		**Sg**	**10 54 50.2**	**-0.4**
	460nm,0.4s					
ARXS	**Arharly**	**2.36 340**	Pg	**Pb**	**10 54 18.2**	**+0.3**
	96nm,0.6s					
ARXS		Lg		Lg	10 54 50.2	
	460nm,0.4s					
KTBS	**Karatobe**	**2.39 316**	*e*P	**Pb**	**10 54 18.3**	**-0.2**
	112nm,0.3s					
KTBS		*e*S		**Sg**	**10 54 51.1**	**-0.5**
	603nm,0.5s					
KTBS	**Karatobe**	**2.39 316**	Pg	**Pb**	**10 54 18.3**	**-0.2**
	112nm,0.3s					
KTBS		Lg		Lg	10 54 51.1	
	603nm,0.5s					
DJR	**Jarkent**	**2.40 14**	*e*P	**Pb**	**10 54 17.6**	**-1.1**
	83nm,0.3s					
DJR		*e*S		**Sb**	**10 54 50.2**	**+1.5**
	385nm,0.4s					
DJR	**Jarkent**	**2.40 14**	Pg	**Pb**	**10 54 17.6**	**-1.1**
	83nm,0.3s					
DJR		Lg		Lg	10 54 50.2	
	385nm,0.4s					
KST	**Kastek**	**2.45 296**	*e*P	**Pb**	**10 54 18.1**	**-1.4**
	129nm,0.6s					
KST		*e*S		**Sb**	**10 54 51.9**	**+1.9**
	734nm,0.6s					
KST	**Kastek**	**2.45 296**	Pg	**Pb**	**10 54 18.1**	**-1.4**
	129nm,0.6s					
KST		Lg		Lg	10 54 51.9	
	734nm,0.6s					
TKM2	**Tokmak 2**	**2.65 291**	P	**Pb**	**10 54 21.0**	**-2.1**
	SNR=57					
TKM2	**Tokmak 2**	**2.65 291**	*e*PN	**Pn**	**10 54 19.4**	**+0.8**
TKM2	**Tokmak 2**	**2.65 291**	⇑Pn	**Pb**	**10 54 20.9**	**-2.1**
	103nm,0.6s					
TKM2		⇓Sn		**Sb**	**10 54 57.7**	**+1.7**
	224nm,0.5s					
TKM2	**Tokmak 2**	**2.65 291**	⇑*i*P	**Pn**	**10 54 19.4**	**+0.8**
	baz=93					
TKM2		⇑*i*S		**Sb**	**10 54 53.9**	**-2.2**
	baz=93					
DGS	**Degeres**	**2.66 299**	*e*P	**Pb**	**10 54 22.2**	**-0.9**
	98nm,0.5s					
DGS		*e*S		**Sb**	**10 54 58.3**	**+2.1**
	266nm,0.5s					
DGS	**Degeres**	**2.66 299**	Pg	**Pb**	**10 54 22.2**	**-0.9**
	98nm,0.5s					
DGS		Lg		Lg	10 54 58.3	
	266nm,0.5s					
KUU	**Kurty**	**2.70 315**	*i* PN	**Pb**	**10 54 23.2**	**-0.4**
KUU	**Kurty**	**2.70 315**	*e*P	**Pb**	**10 54 23.2**	**-0.4**
	35nm,0.3s					
KUU		*e*S		**Sg**	**10 55 00.1**	**-1.3**
	397nm,0.4s					
KUU	**Kurty**	**2.70 315**	Pg	**Pb**	**10 54 23.2**	**-0.4**
	35nm,0.3s					
KUU		Lg		Lg	10 55 00.1	
	397nm,0.4s					
KRBS	**Karabastau**	**2.95 306**	*e*P	**Pb**	**10 54 27.2**	**-0.8**
	23nm,0.2s					
KRBS		*e*S		**Sb**	**10 55 06.3**	**+1.9**
	620nm,0.3s					
KRBS	**Karabastau**	**2.95 306**	Pg	**Pb**	**10 54 27.2**	**-0.8**
	23nm,0.2s					
KRBS		Lg		Lg	10 55 06.3	
	620nm,0.3s					
TDK	**Taldyqorghan**	**3.02 352**	*i* PN	**Pb**	**10 54 28.8**	**-0.4**
TDK	**Taldyqorghan**	**3.02 352**	*e*P	**Pb**	**10 54 28.6**	**-0.6**
	114nm,0.3s					
TDK		*e*S		**Sb**	**10 55 08.8**	**+2.4**
	260nm,0.5s					
TDK	**Taldyqorghan**	**3.02 352**	*i* Pg	**Pb**	**10 54 28.9**	**-0.4**
	baz=352					
TDK	**Taldyqorghan**	**3.02 352**	Pg	**Pb**	**10 54 28.6**	**-0.6**
	114nm,0.3s					
TDK		Lg		Lg	10 55 08.8	
	260nm,0.5s					
KBK	**Karagaybulak**	**3.05 284**	P	**Pb**	**10 54 26.5**	**-3.2**
	SNR=20					
KBK	**Karagaybulak**	**3.05 284**	⇓*i*PN	**Pn**	**10 54 24.4**	**+0.4**
KBK		*i* S		**Sb**	**10 55 02.9**	**-4.5**
KBK	**Karagaybulak**	**3.05 284**	⇑*i*P	**Pn**	**10 54 24.4**	**+0.4**
	baz=85					
KBK		⇑*i*S		**Sb**	**10 55 02.9**	**-4.5**
	baz=85					
CHMS	**Chumysh**	**3.27 289**	P	**Pn**	**10 54 29.3**	**+2.4**
	SNR=6.6					
CHMS	**Chumysh**	**3.27 289**	⇓*i*PN	**Pn**	**10 54 27.6**	**+0.7**
CHMS		*i* S		**Sn**	**10 55 08.2**	**+2.0**
CHMS	**Chumysh**	**3.27 289**	⇑*i*P	**Pn**	**10 54 27.6**	**+0.7**
	baz=90					
CHMS		⇑*i*S		**Sn**	**10 55 08.2**	**+2.0**
	baz=90					
KAPS	**Kapalarasan**	**3.29 5**	*e*P	**Pb**	**10 54 32.7**	**-1.1**
	45nm,0.3s					
KAPS		*e*S		**Sb**	**10 55 15.7**	**+1.5**
	131nm,0.5s					
KAPS	**Kapalarasan**	**3.29 5**	Pg	**Pb**	**10 54 32.7**	**-1.1**
	45nm,0.3s					
KAPS		Lg		Lg	10 55 15.7	
	131nm,0.5s					
UCH	**Uchtor**	**3.32 275**	P	**Pb**	**10 54 32.6**	**-1.9**
	SNR=64					
UCH	**Uchtor**	**3.32 275**	⇓*e*PN	**Pn**	**10 54 28.1**	**+0.2**
UCH		*i* S		**Sn**	**10 55 09.4**	**+1.3**
UCH	**Uchtor**	**3.32 275**	⇑*e*P	**Pn**	**10 54 28.1**	**+0.2**
	baz=77					
UCH		⇑*e*S		**Sn**	**10 55 09.4**	**+1.3**
	baz=77					
KSH	**Kashi**	**3.37 223**	Pn	**Pg**	**10 54 39.3**	**0.0**
KSH		Sn		**Sg**	**10 55 27.5**	**+4.5**
KSH		pmax		pmax		
	comp=Z,4.0nm,0.7s					
KSH		smax		smax		
	comp=N,73nm,0.6s					
KSH		smax		smax		
	comp=E,98nm,0.9s					
AAK	**Ala-Archa**	**3.37 282**	P	**Pn**	**10 54 31.0**	**+2.5**
	SNR=44					
AAK	**Ala-Archa**	**3.37 282**	*d* PN	**Pn**	**10 54 30.9**	**+2.5**
AAK	**Ala-Archa**	**3.37 282**	⇑Pn	**Pn**	**10 54 30.8**	**+2.4**
	comp=E,42nm,0.8s					
AAK		⇑Sn		**Sb**	**10 55 16.8**	**0.0**
	comp=E,110nm,0.8s					
AAK	**Ala-Archa**	**3.37 282**	⇑*i*P	**Pn**	**10 54 29.0**	**+0.6**
	baz=84					
AAK		⇑*i*S		**Sn**	**10 55 10.8**	**+1.8**
	baz=84					
ARLS	**Aral**	**3.46 269**	⇓*e*PN	**Pn**	**10 54 29.8**	**+0.1**
ARLS		*i* S		**Sn**	**10 55 12.0**	**+0.7**
ARLS	**Aral**	**3.46 269**	⇑*e*P	**Pn**	**10 54 29.8**	**+0.1**
	baz=71					
ARLS		⇑*i*S		**Sn**	**10 55 12.0**	**+0.7**
	baz=71					
SGDS	**Sogindy**	**3.50 296**	*e*P	**Pb**	**10 54 36.8**	**-0.7**
	comp=E,28nm,0.8s					
SGDS		*e*S		**Sb**	**10 55 23.8**	**+3.4**
	comp=E,142nm,0.6s					
SGDS	**Sogindy**	**3.50 296**	*e*Pg	**Pb**	**10 54 37.9**	**+0.5**
	baz=296					
SGDS	**Sogindy**	**3.50 296**	Pg	**Pb**	**10 54 36.8**	**-0.7**
	comp=E,28nm,0.8s					
SGDS		Lg		Lg	10 55 23.8	
	comp=E,142nm,0.6s					
USP	**Ospenovka**	**3.53 292**	P	**Pn**	**10 54 32.7**	**+2.3**
	SNR=12					
USP	**Ospenovka**	**3.53 292**	⇓*e*PN	**Pn**	**10 54 31.2**	**+0.8**
USP		*i* S		**Sn**	**10 55 14.7**	**+2.1**
USP	**Ospenovka**	**3.53 292**	⇑*e*P	**Pn**	**10 54 31.2**	**+0.8**
	baz=93					
USP		⇑*i*S		**Sn**	**10 55 14.7**	**+2.1**
	baz=93					
EKS2	**Erkin-Say**	**3.90 281**	P	**Pb**	**10 54 44.3**	**+0.1**
	SNR=26					
EKS2	**Erkin-Say**	**3.90 281**	⇓*e*PN	**Pn**	**10 54 36.3**	**+0.7**
EKS2		*i* S		**Sn**	**10 55 23.2**	**+1.2**
EKS2	**Erkin-Say**	**3.90 281**	⇑*e*P	**Pn**	**10 54 36.3**	**+0.7**
	baz=83					
EKS2		⇑*i*S		**Sn**	**10 55 23.2**	**+1.2**
	baz=83					
AML	**Almayashu**	**3.92 274**	P	**Pb**	**10 54 41.9**	**-2.9**
	SNR=38					
AML	**Almayashu**	**3.92 274**	⇓*e*PN	**Pn**	**10 54 36.6**	**+0.4**
AML		*i* S		**Sn**	**10 55 24.0**	**+1.1**
MRKS	**Merke**	**4.31 282**	*e*P	**Pb**	**10 54 52.6**	**+1.3**
	comp=E,74nm,0.5s					
MRKS		*e*S		**Sg**	**10 55 49.9**	**-3.4**
	comp=E,34nm,0.3s					
MRKS	**Merke**	**4.31 282**	Pg	**Pb**	**10 54 52.6**	**+1.3**
	comp=E,74nm,0.5s					
MRKS		Lg		Lg	10 55 49.9	
	comp=E,34nm,0.3s					
BTLS	**Baital**	**4.69 312**	*e*PN	**Pb**	**10 54 59.8**	**+2.2**
BTLS	**Baital**	**4.69 312**	*e*P	**Pb**	**10 54 59.9**	**+2.3**
	comp=E,8.9nm,0.3s					
BTLS		*e*S		**Sg**	**10 56 02.4**	**-2.9**
	comp=E,7.0nm,0.5s					
BTLS	**Baital**	**4.69 312**	*e*Pg	**Pb**	**10 54 59.8**	**+2.3**
	baz=312					
BTLS	**Baital**	**4.69 312**	Pg	**Pb**	**10 54 59.9**	**+2.3**
	comp=E,8.9nm,0.3s					
BTLS		Lg		Lg	10 56 02.4	
	comp=E,7.0nm,0.5s					
MAKZ	**Makanchi**	**5.26 23**	PN	**Pn**	**10 54 55.1**	**+0.9**
MAKZ		S		**Sn**	**10 55 55.8**	**+0.4**
MAKZ	**Makanchi**	**5.26 23**	⇓Pn	**Pn**	**10 54 55.2**	**+0.9**
	comp=E,2.9nm,0.3s					
MAKZ		⇓Sn		**Sn**	**10 55 55.8**	**+0.4**
	comp=E,9.0nm,0.8s					
MAKZ		⇓Lg		Lg	10 56 17.6	
	comp=E,12nm,0.6s					
MK31	**Makanchi Array**	**5.35 25**	*c i* PN	**Pn**	**10 54 56.2**	**+0.8**
MK31	**Makanchi Array**	**5.35 25**	Pn	**Pn**	**10 54 55.8**	**+0.4**
	comp=E,1.7nm,0.3s,baz=201,slow=12,SNR=106					
MK31		⇑Sn		**Sn**	**10 55 57.9**	**+0.4**
	comp=E,7.3nm,0.4s					
MK31		⇑Lg		Lg	10 56 19.3	
	comp=E,11nm,0.5s					
MKAR	**Makanchi Array**	**5.35 25**	Pn	**Pn**	**10 54 56.2**	**+0.8**
	comp=E,3.0nm,0.3s,baz=209,slow=12,SNR=66					
MKAR		Sn		**Sn**	**10 55 58.0**	**+0.5**
	comp=E,3.0nm,0.3s,baz=209,slow=26,SNR=6.7					
MKAR		Lg		Lg	10 56 19.6	
	comp=E,4.6nm,0.3s,baz=206,slow=26,SNR=4.4					
DZA	**Taraz**	**5.72 281**	*e*PN	**Pb**	**10 55 17.8**	**+2.7**
DZA	**Taraz**	**5.72 281**	*e*Pg	**Pb**	**10 55 17.9**	**+2.7**
	baz=282					
KK02	**Karatay Array**	**6.34 283**	⇓Pg	**Pb**	**10 55 29.4**	**+3.7**
	comp=E,10nm,0.7s,baz=92,slow=15					
KK02		⇓Lg		Lg	10 56 55.9	
	comp=E,18nm,0.7s,baz=99,slow=27					
IUG	**Iuzhnay**	**6.65 274**	*e*P	Pg	10 55 38.2	-4.0
	comp=E,190nm,0.6s					
IUG		*e*S		**Sg**	**10 57 08.0**	**-0.2**
	comp=E,26nm,1.2s					
IUG	**Iuzhnay**	**6.65 274**	*e*Pg	**Pb**	**10 55 34.9**	**+3.9**
	baz=275					
IUG	**Iuzhnay**	**6.65 274**	Pg	Pg	10 55 38.2	-4.0
	comp=E,190nm,0.6s					
IUG		Lg		Lg	10 57 08.0	
	comp=E,26nm,1.2s					
WMQ	**Urumqi**	**6.66 71**	*e*Pn	**Pn**	**10 55 11.3**	**-2.2**
WMQ		Sn		**Sn**	**10 56 27.5**	**-2.4**
WMQ		smax		smax		
	comp=N,39nm,0.9s					
WMQ		smax		smax		
	comp=E,40nm,0.9s					
BRLS	**Borolday**	**6.82 282**	*e*P	Pg	10 55 41.4	-4.0
	comp=E,3.8nm,0.5s					
BRLS		*e*S		**Sg**	**10 57 13.2**	**-0.6**
	comp=E,8.0nm,0.5s					
BRLS	**Borolday**	**6.82 282**	*e*Pg	Pg	10 55 40.6	-4.9
	baz=280					
BRLS	**Borolday**	**6.82 282**	Pg	Pg	10 55 41.4	-4.0
	comp=E,3.8nm,0.5s					
BRLS		Lg		Lg	10 57 13.1	
	comp=E,8.0nm,0.5s					
ZSN	**Zaisan**	**6.88 36**	*e*PN	**Pn**	**10 55 13.7**	**-2.7**
ZSN	**Zaisan**	**6.88 36**	*e*Pn	**Pn**	**10 55 13.7**	**-2.7**
	baz=35					
KURK	**Kurchatov**	**8.71 359**	⇓*e*P	**Pn**	**10 55 43.0**	**+1.4**
DGZ	**Jazzator, Alta**	**9.70 35**	⇓*e*P	**Pn**	**10 55 55.6**	**+0.4**
ZALV	**Zalesovo Beam**	**12.57 16**	Pn	**Pn**	**10 56 33.1**	**-1.2**
	comp=E,0.5nm,0.3s,baz=203,slow=14,SNR=3.6					
ZALV		Sn		**Sn**	**10 58 52.2**	**-2.4**
	comp=E,0.5nm,0.3s,baz=196,slow=24,SNR=5.3					
ZALV	**Zalesovo Beam**	**12.57 16**	*i* P	**Pn**	**10 56 35.5**	**+1.2**
ZALV		pmax		pmax		
	comp=Z,1.0nm,0.4s					
SONM	**Songino Array**	**20.22 64**	P	**P**	**10 58 08.4**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=263,slow=11,SNR=7.0					
ULN	**Ulaanbaatar**	**20.66 64**	⇑*e*P	Pn	10 58 16.2	-1.7
ULN		pmax		pmax		
	comp=Z,8.0nm,2.7s					
KBZ	**Khabaz**	**26.36 286**	⇑*e*P	**P**	**10 59 14.9**	**+3.0**
KBZ		pmax		pmax		
	comp=Z,6.0nm,1.5s					
YAK	**Yakutsk**	**35.86 39**	⇑*e*P	**P**	**11 00 37.5**	**+2.2**

*IDC **26** 10:59:21.4±0.6, 19°.66N×75°.97W, h0km, mb3.9/13, mb1 4.1/15, m

LMGC IAML 10 59 56.2
comp=N,9μm,0.3s
GTBY Guantanamo Bay 0.97 79 Pb 10 59 41.2 -0.3
GTBY Guantanamo Bay 0.97 79 *eP* **Pb 10 59 41.3 -0.3**
GTBY Guantanamo Bay 0.97 79 *i P* **Pb 10 59 41.4 -0.2**
GTBY *eS* **Sb 10 59 55.3 +0.8**
GTBY IAML 10 59 58.2
comp=Z,9μm,0.8s
GTMO Guantanamo 0.98 69 *i P* **Pn 10 59 42.3 -0.3**
GTMO *eS* **Sn 10 59 58.0 +1.4**
HLGC Holguin 1.15 3 *eP* **Pb 10 59 44.7 0.0**
HLGC *eS* **Sn 11 00 01.7 +0.9**
HLGC IAML 11 00 04.7
comp=E,11μm,0.6s
HLGC IAML 11 00 05.0
comp=N,7μm,0.4s
MOAC Moa 1.42 50 *eP* **Pn 10 59 47.2 -1.4**
MOAC *eS* **Sb 11 00 05.2 -2.4**
MOAC IAML 11 00 14.7
comp=N,2μm,0.5s
MOAC IAML 11 00 16.1
comp=E,2μm,0.6s
CMJ Castle Mountai 1.61 189 *i P* **Pn 10 59 50.3 -1.0**
BBJ Bamboo Saint A 1.73 219 *i P* **Pn 10 59 52.4 -0.5**
GWJ Greenwich 1.75 199 ⇑*iP* **Pn 10 59 52.3 -1.0**
STH Stony Hill 1.78 202 ⇑*iP* **Pn 10 59 52.6 -1.0**
HOJ Hope 1.82 199 ⇑*iP* **Pn 10 59 53.4 -0.8**
MASC Masc 1.83 76 ⇑*eP* **Pn 10 59 53.1 -1.2**
MASC *eS* **Sn 11 00 13.9 -3.6**
MASC IAML 11 00 26.8
comp=N,911nm,0.5s
MASC IAML 11 00 27.8
comp=E,925nm,0.7s
CVJ Coleyville 2.01 222 ⇓*iP* **Pn 10 59 56.1 -0.8**
MTDJ Mount Denham 2.01 222 Pn 10 59 56.2 -0.7
MTDJ Mount Denham 2.01 222 ⇓*eP* **Pn 10 59 55.8 -1.1**
CCCC Cccc 2.12 314 *eP* **Pn 10 59 55.5 -2.8**
CCCC *eS* **Sn 11 00 18.9 -5.9**
CCCC IAML 11 00 24.5
comp=N,584nm,0.5s
CCCC IAML 11 00 24.6
comp=E,957nm,0.4s
MCJ Malvern 2.33 220 ⇓*iP* **Pn 11 00 01.2 -0.1**
MCJ *i* S **Sn 11 00 28.2 -2.0**
LGNH Logne 3.54 110 Pn 11 00 18.7 +1.0
LGNH Logne 3.54 110 *eP* **Pn 11 00 17.9 +0.2**
LGNH Logne 3.54 110 *i P* **Pn 11 00 18.2 +0.4**
JAKH Jacmel 3.72 113 Pn 11 00 20.3 +0.1
JAKH Jacmel 3.72 113 *i P* **Pn 11 00 20.2 0.0**
JAKH IAML 11 01 34.6
comp=Z,249nm,0.9s
LCCY Blossom Villag 3.73 270 Pn **Pn 11 00 22.4 +1.9**
MGV Manicaragua 4.31 304 *eP* **Pn 11 00 30.1 +1.7**
SDDR Presa de Saban 4.62 99 *eP* **Pn 11 00 32.4 -0.4**
SDDR Presa de Saban 4.62 99 Pn 11 00 33.4 +0.6
SDDR Presa de Saban 4.62 99 *eP* **Pn 11 00 32.3 -0.4**
SDDR Presa de Saban 4.62 99 *i P* **Pn 11 00 32.3 -0.4**
SDDR IAML 11 01 52.2
comp=Z,179nm,1.0s
SC01 Santiago de lo 5.09 93 Pn 11 00 38.4 -0.7
DR12 Loma Pena Alta 6.43 97 Pn 11 00 58.6 +0.9
SOR Soroa 7.11 297 Pn **Pn 11 01 09.0 +2.1**
SMLC San Martn de 11.05 169 *eP* **Pn 11 02 02.2 +1.2**
UREC San Jos de Ur 11.93 177 *eP* **Pn 11 02 14.1 +1.1**
SDV Santo Domingo 12.02 153 Pn **Pn 11 02 13.0 -1.4**
comp=Z,0.5nm,0.3s,baz=348,slow=9.3,SNR=1.3
ZARC Zaragoza, Cauc 12.23 174 *eP* **Pn 11 02 20.9 +3.7**
ZARC Zaragoza, Cauc 12.23 174 Pn 11 02 18.0 +0.8
SOCV Socops 12.47 155 *eP* **Pn 11 02 20.9 +0.4**
JTS Las Juntas de 12.68 224 LR LR 11 08 01.1
comp=Z,260nm,18.4s,slow=41
PTBC PUERTO BERRIO, 13.22 173 *eP* **Pn 11 02 31.8 +1.2**
BAUV El Baul 13.27 143 Pn 11 02 32.4 +1.0
CBOC Ciudad Bolivar 13.79 180 *eP* **Pn 11 02 42.3 +3.7**
NORC Norcasia 14.14 175 *eP* **Pn 11 02 45.1 +1.8**
GUY2C Guyana, Caldas 14.44 177 *eP* **P 11 02 52.1 -2.6**
PLMC San Jos del P 14.74 181 *eP* **Pn 11 02 52.1 +0.6**
ROSC El Rosal 14.91 173 LR LR 11 09 14.7
comp=Z,132nm,19.2s,baz=326,slow=40
CHIC Chingaza 15.20 171 *eP* **P 11 03 01.0 -2.1**
TKL Tuckaleechee C 17.24 339 P **P 11 03 25.3 +0.1**
comp=Z,0.1nm,0.3s,baz=215,slow=13,SNR=2.2
TKL LR LR 11 09 24.1
comp=Z,65nm,18.6s,baz=142,slow=35
CMIG Matias Romero 18.00 265 LR LR 11 09 59.8
comp=Z,101nm,20.4s,baz=66,slow=35
M57A Sunshine Farm, 21.55 358 P **P 11 04 12.8 +0.5**
M57A IAmb IAmb 11 04 19.3
comp=Z,21nm,1.2s
JCT Junction City 23.92 301 P **P 11 04 38.2 +1.1**
JCT IAmb IAmb 11 04 52.7
comp=Z,18nm,1.4s
WMOK Wichita Mounta 25.00 311 P **P 11 04 47.8 +0.8**
PTGA Pitinga 25.78 140 P **P 11 04 52.7 -1.4**
comp=Z,0.6nm,0.5s,baz=286,slow=24,SNR=1.3
TXAR Lajitas Array 26.76 296 P **P 11 05 05.8 +2.8**
comp=Z,0.9nm,0.8s,baz=102,slow=12,SNR=5.9
TXAR Lajitas Array 26.76 296 P **P 11 05 03.9 +0.8**
ATAH Atahualpa 26.80 185 LR LR 11 18 50.3
comp=Z,81nm,18.9s,baz=12,slow=44
K31A O'Neill 29.75 325 P **P 11 05 30.8 +1.3**
ANMO Albuquerque 30.77 306 LR LR 11 20 00.6
comp=Z,55nm,18.1s,baz=61,slow=40
ETMB Extrema 30.95 161 P **P 11 05 40.1 -0.1**
ETMB IAmb IAmb 11 05 42.1
comp=Z,8.3nm,1.2s
NNA Nana 31.53 181 LR LR 11 20 33.1
comp=Z,55nm,18.1s,baz=354,slow=40
LPIG La Paz 31.97 284 LR LR 11 19 37.5
comp=Z,73nm,19.4s,baz=102,slow=38
ISCO Idaho Springs 32.26 315 P **P 11 05 54.2 +2.2**
ISCO IAmb IAmb 11 06 10.3
comp=Z,5.8nm,1.3s
SMCO Snowmass 32.89 313 P **P 11 05 58.7 +1.1**
SMCO IAmb IAmb 11 06 16.9
comp=Z,9.6nm,1.5s
ULM Lac du Bonnet 34.26 337 LR LR 11 21 34.1
comp=Z,142nm,20.1s,baz=234,slow=39
PDAR Pinedale Array 36.30 317 P **P 11 06 27.7 +0.8**
comp=Z,0.3nm,0.7s,baz=121,slow=8.8,SNR=2.4
PDAR LR LR 11 22 14.2
comp=Z,96nm,18.1s,baz=77,slow=38
LPAZ La Paz 36.65 167 P **P 11 06 29.8 -0.7**
comp=Z,1.2nm,0.8s,baz=17,slow=10.0,SNR=4.4
LPAZ LR LR 11 23 29.4
comp=Z,61nm,18.7s,baz=304,slow=40
LPAZ La Paz 36.65 167 IAmb IAmb 11 06 32.0
comp=Z,5.8nm,1.3s
NVAR Mina Array Bea 40.89 306 P **P 11 07 07.7 +2.2**
comp=Z,0.9nm,0.9s,baz=92,slow=5.4,SNR=5.2
YERR Yerington 41.74 307 P **P 11 07 14.5 +2.1**
YERR IAmb IAmb 11 07 20.0
comp=Z,7.4nm,1.2s
YKA Yellowknife Ar 50.23 338 P **P 11 08 19.7 +0.9**
comp=Z,1.3nm,1.1s,baz=132,slow=7.0,SNR=8.4
PLCA Paso Flores 60.38 175 P **P 11 09 32.6 +0.3**
comp=Z,1.3nm,0.9s,baz=337,slow=8.1,SNR=3.6
PLCA Paso Flores 60.38 175 IAmb IAmb 11 09 37.9
comp=Z,7.0nm,1.4s
ILAR Eielson Array 64.13 333 P **P 11 09 57.6 +0.5**
comp=Z,0.8nm,1.0s,baz=64,slow=4.1,SNR=5.1
ESDC Sonseca Array 64.14 55 P **P 11 09 57.8 +0.1**
comp=Z,1.1nm,0.9s,baz=286,slow=4.8,SNR=3.1
DAVOX Davos/Dischmat 73.20 46 LR LR 11 36 06.2
comp=Z,60nm,21.1s,baz=258,slow=30
TORD Torodi Ar. Bea 74.36 81 P **P 11 11 00.1 -1.3**
comp=Z,1.7nm,0.9s,baz=298,slow=4.0,SNR=4.0
TORD Torodi Ar. Bea 74.36 81 IAmb IAmb 11 11 02.5
comp=Z,3.9nm,1.1s
KEST Kesra 75.18 57 P **P 11 11 06.3 +0.4**
comp=Z,1.1nm,0.4s,baz=198,slow=8.0,SNR=2.4
ARCES ARCESS Array B 75.67 21 P **P 11 11 08.6 +0.6**
comp=Z,4.6nm,1.0s,baz=297,slow=6.0,SNR=2.1
FINES FINESS Array B 78.53 29 P **P 11 11 25.1 +0.9**
comp=Z,3.2nm,1.0s,baz=247,slow=3.9,SNR=6.0
YAK Yakutsk 95.96 348 LR LR 12 00 30.3
comp=Z,23nm,18.5s,baz=102,slow=38
WRA Warramunga Arr 151.37 264 PKP **PKPdf 11 19 11.4 -0.3**
comp=Z,0.9nm,1.0s,baz=88,slow=2.4,SNR=4.3
WRA PKPbc **PKPbc 11 19 17.2 -0.5**
comp=Z,1.5nm,0.9s,baz=86,slow=2.6,SNR=9.3
ASAR Alice Springs 151.86 257 PKP **PKPdf 11 19 12.2 -0.2**
comp=Z,0.8nm,1.0s,baz=115,slow=2.0,SNR=5.2
ASAR PKPbc **PKPbc 11 19 18.0 -0.8**
comp=Z,1.3nm,1.0s,baz=99,slow=1.7,SNR=6.7

HEL ***26*** *10:59:30.0±0.2, 64°.68N×30°.75E, h0km, ML2.0, Explosion*
IDC ***26*** *10:59:32.0±3.1, 64°.62N×30°.88E, h0km, mb1 3.0/2, mb1mx2.9/49, mbtmp3.0/2, ML1.7/2, Error ellipse: s-maj=50.0km s-min=9.2km az=103.0*
ISC 26 10:59:29.2±1.2, 64.76N±0.03×31.14E±0.07, h0km, n20, σ1§43/30, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.38**	**338**	PG	**Pg**	**10 59 55.7**	**+0.3**
KU6	comp=Z,7.9nm,0.2s			MSG		11 00 12.2	
KU6				SB	**Sb**	**11 00 14.0**	**+0.2**
MSF	**Maaselka**	**1.45**	**324**	PN	**Pn**	**10 59 56.1**	**-0.6**
MSF	baz=152			SB	**Sg**	**11 00 14.8**	**-1.0**
JOF	**Joensuu**	**1.85**	**178**	PG	**Pn**	**11 00 02.1**	**0.0**
JOF				SG	**Sb**	**11 00 27.7**	**+0.3**
OUL	**Oulu**	**2.26**	**281**	PG	**Pn**	**11 00 08.0**	**+0.3**
OUL				SG	**Sn**	**11 00 34.8**	**-1.3**
OUF	**Merijarvi**	**2.79**	**265**	PG	**Pn**	**11 00 15.7**	**+0.7**
OUF	baz=80			MSG		11 00 47.2	
OUF	comp=Z,16nm,0.2s			SG	**Sn**	**11 00 49.9**	**+0.5**
RNF	**Rovaniemi**	**2.82**	**314**	PG	**Pb**	**11 00 19.4**	**-0.9**
RNF				SG	**Sb**	**11 00 55.1**	**-0.1**
OBF0	**Syolatti, Pyha**	**2.98**	**268**	PG	**Pn**	**11 00 19.5**	**+1.9**
OBF0				SG	**Sb**	**11 00 58.0**	**-2.0**
SUF	**Sumiainen**	**3.02**	**230**	PG	**Pn**	**11 00 19.7**	**+1.6**
SUF	comp=Z,4.9nm,0.2s			MSG		11 00 53.4	
SUF				SG	**Sn**	**11 00 57.0**	**+2.0**
VRF	**Varrio**	**3.06**	**349**	PB	**Pb**	**11 00 22.6**	**-1.9**
VRF	comp=Z,2.3nm,0.2s			MSG		11 01 01.5	
TOF	**Tornio**	**3.14**	**298**	PG	**Pb**	**11 00 24.2**	**-1.5**
TOF	comp=Z,4.6nm,0.2s			MSG		11 00 59.1	
TOF				SG	**Sb**	**11 01 04.5**	**0.0**
KEF	**Keuruu**	**3.83**	**230**	PB	**Pn**	**11 00 30.6**	**+1.3**
FIA0	**FINESS Array S**	**4.04**	**217**	PB	**Pn**	**11 00 33.7**	**+1.5**
FINES	baz=34 **FINESS Array B**	**4.04**	**217**	Pn	**Pn**	**11 00 31.6**	**-0.6**
FINES	comp=Z,0.1nm,0.3s,baz=40,slow=13,SNR=1.5			Pg	**Pb**	**11 00 40.4**	**-0.8**
FINES	comp=Z,0.4nm,0.3s,baz=34,slow=15,SNR=8.2			Lg	Lg	11 01 32.4	
VAF	**Ylistaro**	**4.12**	**249**	PB	**Pn**	**11 00 34.1**	**+0.9**
ERTU	**Ertsjaerv**	**4.12**	**300**	PB	**Pn**	**11 00 35.7**	**+2.5**
BURU	baz=117 **Burvik**	**4.20**	**272**	PN	**Pn**	**11 00 33.5**	**-0.8**
VJF	**Virojoki**	**4.55**	**203**	PN	**Pn**	**11 00 38.1**	**-1.0**
HEF	**Hetta**	**4.72**	**324**	SG	**Sb**	**11 01 53.8**	**+3.7**
ARCES	**ARCESS Array B**	**5.27**	**338**	Pn	**Pn**	**11 00 50.8**	**+1.7**
ARCES	baz=153,slow=14,SNR=9.8			Sn	**Sn**	**11 01 51.0**	**+0.6**
ARCES	baz=158,slow=22,SNR=1.7			Lg	Lg	11 02 14.1	
I43RU	baz=156,slow=27,SNR=7.3 **DUBNA INFRASON**	**8.59**	**157**	*i*		11 49 00.0	
	baz=348,slow=318,SNR=1.6						

KRNET ***26*** *11:08:04.1±0.1, 41°.89N×78°.97E, h10km, mb3.0*
SOME ***26*** *11:08:04.1, 41°.97N×78°.97E, h5km*
NNC ***26*** *11:08:05.8±1.1, 42°.00N×79°.05E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=7.1km s-min=4.3km az=149.0*
ISC 26 11:08:03.3±2.0, 41°.81N±0°.06×78°.89E±0°.05, h12km±10km, n61, σ1§36/101, 19C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.77**	**332**	⇑*iP*	**Pb**	**11 08 18.7**	**0.0**
PRZ	baz=25			⇑*iS*	**Sg**	**11 08 29.2**	**+0.9**
TARG	**Taragay, Kyrgy**	**0.82**	**265**	⇓*iP*	**Pn**	**11 08 21.3**	**+0.2**
TARG	baz=60			⇓*iS*	**Sn**	**11 08 34.0**	**+0.7**
SATY	**Saty**	**1.30**	**344**	*eP*	**Pg**	**11 08 28.1**	**-0.3**
SATY	9.4nm,0.1s			*eS*	**Sb**	**11 08 45.2**	**+0.7**
SATY	**Saty**	**1.30**	**344**	P	**Pg**	**11 08 28.1**	**-0.3**
SATY	9.4nm,0.1s			S	**Sb**	**11 08 45.2**	**+0.7**
KDJ	**Kajisay**	**1.32**	**285**	⇑*iP*	**Pg**	**11 08 29.8**	**+1.1**
KDJ	baz=81			⇑*iS*	**Sg**	**11 08 48.5**	**+2.7**
ANVS	**Anan'yevo**	**1.33**	**317**	⇑*iP*	**Pg**	**11 08 29.4**	**+0.5**
ANVS	baz=13			⇑*iS*	**Sg**	**11 08 47.8**	**+1.5**
UZB	**Uzynbulak**	**1.34**	**4**	*eP*	**Pn**	**11 08 27.1**	**-1.0**
UZB	14nm,0.1s			*eS*	**Sb**	**11 08 43.8**	**-1.9**
UZB	**Uzynbulak**	**1.34**	**4**	P	**Pn**	**11 08 27.1**	**-1.0**
UZB	14nm,0.1s			S	**Sb**	**11 08 43.8**	**-1.9**
ZHN	**Zhinishke**	**1.40**	**346**	*eP*	**Pb**	**11 08 29.2**	**-0.3**
ZHN	9.6nm,0.2s			*eS*	**Sn**	**11 08 47.3**	**0.0**
ZHN	**Zhinishke**	**1.40**	**346**	P	**Pb**	**11 08 29.2**	**-0.3**
ZHN	9.6nm,0.2s			S	**Sn**	**11 08 47.3**	**0.0**
PDGK	**Podgornoye**	**1.58**	**16**	⇑P	**Pn**	**11 08 30.9**	**-0.5**
PDGK	2.1nm,0.3s			⇑S	**Sn**	**11 08 50.6**	**-1.2**
TNSS	**Tian-Shan**	**1.89**	**311**	*eP*	**Pg**	**11 08 39.7**	**+0.1**
TNSS	46nm,0.2s			*eS*	**Sg**	**11 09 05.3**	**+1.0**
TNSS	**Tian-Shan**	**1.89**	**311**	Pg	**Pg**	**11 08 39.7**	**+0.1**
TNSS	46nm,0.2s			Lg	Lg	11 09 05.3	
MDOK	**Medeo**	**1.92**	**315**	*eP*	**Pg**	**11 08 40.0**	**-0.2**
MDOK	34nm,0.3s			*eS*	**Sg**	**11 09 05.5**	**+0.4**
MDOK	**Medeo**	**1.92**	**315**	⇑P	**Pg**	**11 08 39.9**	**-0.3**
MDOK	11nm,0.3s			S	**Sg**	**11 09 05.3**	**+0.2**
MDOK	**Medeo**	**1.92**	**315**	Pg	**Pg**	**11 08 40.0**	**-0.2**
MDOK	34nm,0.3s			Lg	Lg	11 09 05.5	
KOTS	**Kotyrbulak**	**1.94**	**318**	*eP*	**Pg**	**11 08 40.4**	**-0.1**
KOTS	30nm,0.3s			*eS*	**Sg**	**11 09 06.3**	**+0.6**
KOTS	**Kotyrbulak**	**1.94**	**318**	Pg	**Pg**	**11 08 40.4**	**-0.1**
KOTS	30nm,0.3s			Lg	Lg	11 09 06.3	
ULHL	**Ulahol**	**2.02**	**283**	⇓*iP*	**Pg**	**11 08 42.3**	**+0.2**
ULHL	baz=81			⇓*iS*	**Sg**	**11 09 10.1**	**+1.7**
AAA	**Alma-Ata**	**2.02**	**314**	*eP*	**Pg**	**11 08 42.4**	**+0.3**
AAA	95nm,0.2s			*eS*	**Sg**	**11 09 09.9**	**+1.5**
AAA	**Alma-Ata**	**2.02**	**314**	Pg	**Pg**	**11 08 42.4**	**+0.3**
AAA	95nm,0.2s			Lg	Lg	11 09 09.9	
IZV	**Izvestkoviy**	**2.09**	**307**	*eP*	**Pg**	**11 08 43.3**	**-0.1**
IZV	20nm,0.2s			*eS*	**Sg**	**11 09 11.2**	**+0.7**
IZV	**Izvestkoviy**	**2.09**	**307**	Pg	**Pg**	**11 08 43.3**	**-0.1**
IZV	20nm,0.2s			Lg	Lg	11 09 11.2	
MTBS	66nm,0.4s **Maitube**	**2.25**	**307**	*eP*	**Pg**	**11 08 46.0**	**-0.5**
MTBS	19nm,0.2s			*eS*	**Sg**	**11 09 15.9**	**+0.3**
MTBS	61nm,0.4s **Maitube**	**2.25**	**307**	Pg	**Pg**	**11 08 46.0**	**-0.5**
MTBS	19nm,0.2s			Lg	Lg	11 09 15.9	
BOOM	61nm,0.4s **Boomskoye usch**	**2.30**	**288**	⇑*iP*	**Pg**	**11 08 46.0**	**-1.4**
BOOM	baz=86			⇑*iS*	**Sg**	**11 09 16.6**	**-0.6**
BLB	baz=86 **Baldybastay**	**2.31**	**353**	*eP*	**Pb**	**11 08 44.9**	**-0.1**
BLB	31nm,0.3s			*eS*	**Sb**	**11 09 13.8**	**+0.4**
BLB	47nm,0.2s **Baldybastay**	**2.31**	**353**	Pg	**Pb**	**11 08 44.9**	**-0.1**
BLB	31nm,0.3s			Lg	Lg	11 09 13.8	
CHKK	47nm,0.2s **Chushkaly**	**2.48**	**326**	*eP*	**Pg**	**11 08 49.5**	**-1.3**
CHKK	17nm,0.2s			*eS*	**Sb**	**11 09 21.8**	**+3.6**
CHKK	134nm,0.4s **Chushkaly**	**2.48**	**326**	Pg	**Pg**	**11 08 49.5**	**-1.3**
CHKK	17nm,0.2s			Lg	Lg	11 09 21.8	
KST	134nm,0.4s **Kastek**	**2.50**	**301**	*eP*	**Pg**	**11 08 50.0**	**-1.2**
KST	15nm,0.2s			*eS*	**Sg**	**11 09 22.6**	**-0.9**
KST	50nm,0.4s **Kastek**	**2.50**	**301**	Pg	**Pg**	**11 08 50.0**	**-1.2**
KST	15nm,0.2s			Lg	Lg	11 09 22.6	
KTBS	50nm,0.4s **Karatobe**	**2.50**	**320**	*eP*	**Pg**	**11 08 50.0**	**-1.3**
KTBS	12nm,0.4s			*eS*	**Sb**	**11 09 22.7**	**+3.7**
KTBS	101nm,0.2s **Karatobe**	**2.50**	**320**	Pg	**Pg**	**11 08 50.0**	**-1.3**
KTBS	12nm,0.4s			Lg	Lg	11 09 22.7	
ARXS	101nm,0.2s **Arharly**	**2.53**	**342**	*eP*	**Pb**	**11 08 49.5**	**+0.8**
ARXS	5.3nm,0.4s			*eS*	**Sb**	**11 09 21.7**	**+1.9**
ARXS	69nm,0.4s **Arharly**	**2.53**	**342**	Pg	**Pb**	**11 08 49.5**	**+0.8**
ARXS	5.3nm,0.4s			Lg	Lg	11 09 21.7	
DJR	69nm,0.4s **Jarkent**	**2.61**	**14**	*eP*	**Pb**	**11 08 49.4**	**-0.7**
DJR	6.3nm,0.2s			*eS*	**Sb**	**11 09 21.9**	**-0.1**
DJR	20nm,0.3s **Jarkent**	**2.61**	**14**	Pg	**Pb**	**11 08 49.4**	**-0.7**
DJR	6.3nm,0.2s			Lg	Lg	11 09 21.9	
TKM2	20nm,0.3s **Tokmak 2**	**2.68**	**296**	⇓Pn	**Pb**	**11 08 52.5**	**+1.1**
TKM2	4.7nm,0.3s			⇓Sn	**Sg**	**11 09 30.1**	**+0.5**
TKM2	9.3nm,0.3s **Tokmak 2**	**2.68**	**296**	⇑*iP*	**Pb**	**11 08 51.2**	**-0.2**
TKM2	baz=94			⇑*iS*	**Sb**	**11 09 25.6**	**+1.2**
DGS	baz=94 **Degeres**	**2.72**	**303**	*eP*	**Pg**	**11 08 54.1**	**-1.3**
DGS	8.6nm,0.4s			*eS*	**Sg**	**11 09 30.5**	**0.0**
DGS	21nm,0.5s **Degeres**	**2.72**	**303**	Pg	**Pg**	**11 08 54.1**	**-1.3**
DGS	8.6nm,0.4s			Lg	Lg	11 09 30.5	
KUU	21nm,0.5s **Kurty**	**2.81**	**319**	*eP*	**Pg**	**11 08 55.4**	**-1.7**
KUU	5.7nm,0.1s			*eS*	**Sg**	**11 09 31.9**	**-1.5**
KUU	41nm,0.3s **Kurty**	**2.81**	**319**	Pg	**Pg**	**11 08 55.4**	**-1.7**
KUU	5.7nm,0.1s			Lg	Lg	11 09 31.9	
KRBS	41nm,0.3s **Karabastau**	**3.03**	**310**	*eP*	**Pg**	**11 08 59.2**	**-2.2**
KRBS	3.9nm,0.2s			*eS*	**Sg**	**11 09 39.1**	**-1.5**
KRBS	51nm,0.3s **Karabastau**	**3.03**	**310**	Pg	**Pg**	**11 08 59.2**	**-2.2**
KRBS	3.9nm,0.2s			Lg	Lg	11 09 39.1	
KBK	51nm,0.3s **Karagaybulak**	**3.05**	**287**	⇑*iP*	**Pb**	**11 08 56.4**	**-1.2**
KBK	baz=86			⇑*iS*	**Sb**	**11 09 34.7**	**-0.2**
TDK	baz=86 **Taldyqorghan**	**3.21**	**354**	*eP*	**Pb**	**11 09 00.7**	**+0.4**
TDK	31nm,0.3s			*eS*	**Sb**	**11 09 41.1**	**+1.8**
TDK	41nm,0.3s **Taldyqorghan**	**3.21**	**354**	Pg	**Pb**	**11 09 00.7**	**+0.4**
TDK	31nm,0.3s			Lg	Lg	11 09 41.1	
UCH	41nm,0.3s **Uchtor**	**3.29**	**279**	⇑*iP*	**Pb**	**11 08 59.9**	**-2.0**
UCH	baz=77			⇑*iS*	**Sb**	**11 09 40.8**	**-1.3**
AAK	baz=77 **Ala-Archa**	**3.37**	**286**	⇓Pn	**Pb**	**11 09 03.1**	**+0.1**
AAK	1.5nm,0.3s			⇓Lg	Lg	11 09 50.8	
AAK	2.7nm,0.4s **Ala-Archa**	**3.37**	**286**	⇓*iP*	**Pb**	**11 09 00.9**	**-2.2**
AAK	baz=84			⇓*iS*	**Sb**	**11 09 42.4**	**-1.7**
KAPS	baz=84 **Kapalarasan**	**3.49**	**5**	*eP*	**Pb**	**11 09 05.2**	**+0.1**
KAPS	3.2nm,0.3s			*eS*	**Sb**	**11 09 48.7**	**+1.3**
KAPS	12nm,0.2s **Kapalarasan**	**3.49**	**5**	Pg	**Pb**	**11 09 05.2**	**+0.1**
KAPS	3.2nm,0.3s			Lg	Lg	11 09 48.7	
SGDS	12nm,0.2s **Sogindy**	**3.55**	**299**	*eP*	**Pg**	**11 09 09.3**	**-2.0**
SGDS	2.4nm,0.3s			*eS*	**Sg**	**11 09 56.0**	**-1.3**
SGDS	11nm,0.5s **Sogindy**	**3.55**	**299**	Pg	**Pg**	**11 09 09.3**	**-2.0**
SGDS	2.4nm,0.3s			Lg	Lg	11 09 56.0	
MRKS	11nm,0.5s **Merke**	**4.31**	**284**	*eP*	**Pg**	**11 09 25.6**	**-0.2**
MRKS	6.8nm,0.6s			*eS*	**Sg**	**11 10 23.7**	**+2.1**
MRKS	4.3nm,0.3s **Merke**	**4.31**	**284**	Pg	**Pg**	**11 09 25.6**	**-0.2**
MRKS	6.8nm,0.6s			Lg	Lg	11 10 23.7	
BTLS	4.3nm,0.3s **Baital**	**4.79**	**314**	*eP*	**Pg**	**11 09 31.6**	**-3.4**
BTLS	1.2nm,0.3s			*eS*	**Sg**	**11 10 33.9**	**-3.0**
BTLS	1.8nm,0.3s **Baital**	**4.79**	**314**	Pg	**Pg**	**11 09 31.5**	**-3.4**
BTLS	1.2nm,0.3s			Lg	Lg	11 10 33.8	
MK31	1.8nm,0.3s **Makanchi Array**	**5.55**	**25**	⇓Pn	**Pn**	**11 09 28.6**	**+3.0**
MK31	0.2nm,0.3s,baz=203,slow=14,SNR=5.5			⇑Sn	**Sn**	**11 10 31.1**	**+1.7**
MK31	0.2nm,0.3s			⇑Lg	Lg	11 10 51.2	
	0.9nm,0.6s,baz=206,slow=27,SNR=4.1						

IDC 26 11:16:31.8±2.2, 19°.75N×145°.00E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.3/56, mbtmp3.5/3, Error ellipse: s-maj=186.6km s-min=32.0km az=114.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.81**	**195**	P	P	11 24 15.2	-0.1
YKA	0.2nm,0.4s,baz=16,slow=8.9,SNR=6.3 **Yellowknife Ar**	**77.37**	**28**	P	P	11 28 29.0	+0.6

0.2nm,0.6s,baz=290,slow=5.8,SNR=4.4
NVAR Mina Array Bea 83.01 52 P P 11 28 58.9 -0.7
0.4nm,0.7s,baz=271,slow=6.2,SNR=4.1

IDC 26 11:18:00.8±1.9, 47°.90S×85°.58E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/45, mbtmp4.0/4, Error ellipse: s-maj=59.5km s-min=30.0km az=127.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**42.25**	**180**	P	P	11 25 55.5	-0.1
	3.5nm,1.1s,baz=303,slow=4.7,SNR=12						
STKA	**Stephens Creek**	**44.86**	**90**	P	P	11 26 16.4	-0.4
	2.3nm,0.8s,baz=208,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**45.13**	**75**	P	P	11 26 19.0	-0.1
	1.6nm,0.8s,baz=222,slow=6.9,SNR=17						
WRA	**Warramunga Arr**	**48.08**	**72**	P	P	11 26 42.2	0.0
	1.6nm,1.0s,baz=218,slow=7.4,SNR=7.5						
ILAR	**Eielson Array**	**147.57**	**39**	PKPbc	PKPbc	11 37 44.8	-0.9
	0.5nm,0.9s,baz=270,slow=3.2,SNR=2.5						
INK	**Inuvik**	**151.74**	**30**	PKPbc	PKPbc	11 37 55.8	-0.1
	1.4nm,0.8s,baz=243,slow=3.9,SNR=3.7						

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*EAF **26** 11:19:30.8±1.7, 25°.86S×29°.87E, h0km±17km, MD3.9*
BUL 26 11:19:28.9±1.1, 25°.98S×29°.74E, h0km±12km, MD4.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.23**	**99**	*i* P	Pn	11 20 06.9	-0.2
CNG				*i* Sg	Sb	11 20 37.7	-0.4
CNG	**Changalane**	**2.23**	**99**	*i* P	Pn	11 20 06.9	-0.2
CNG				*i* Sg	Sb	11 20 37.7	-0.4
MOPA	**Mopani**	**2.88**	**32**	*i* P	Pn	11 20 14.5	-1.6
MOPA				*i* Sg	Sn	11 20 54.1	+2.6
MOPA	**Mopani**	**2.88**	**32**	*i* P	Pn	11 20 14.5	-1.6
MOPA				*i* Sg	Sn	11 20 54.1	+2.6
MSNA	**Messina**	**3.63**	**4**	*i* P	Pn	11 20 25.7	-0.7
MSNA				*i* S	Sn	11 21 07.3	-2.7
MSNA	**Messina**	**3.63**	**4**	*i* P	Pn	11 20 25.7	-0.7
MSNA				*i* S	Sn	11 21 07.3	-2.7
MATP	**Matopo**	**5.65**	**348**	*i* S	Sn	11 21 55.5	-4.4
MATP	**Matopo**	**5.65**	**348**	*i* S	Sn	11 21 55.5	-4.4
BLWY	**Bulawayo**	**5.91**	**350**	*i* P	Pn	11 20 56.1	-1.8
BLWY				*i* S	Sn	11 22 01.5	-4.8
BLWY	**Bulawayo**	**5.91**	**350**	*i* P	Pn	11 20 56.1	-1.8
BLWY				*i* S	Sn	11 22 01.5	-4.8
KRI	**Karoi**	**9.11**	**359**	*i* P	Pn	11 21 32.3	-10
KRI				*i* S	Sn	11 23 01.4	-24
KRI	**Karoi**	**9.11**	**359**	*i* P	Pn	11 21 32.3	-10
KRI				*i* S	Sn	11 23 01.4	-24

IDC 26 11:22:52.2±11.0, 20°.28S×178°.58W, h545km±41km, mb2.8/3, mb1 2.9/5, mb1mx2.8/28, mbtmp3.7/5, Error ellipse: s-maj=206.2km s-min=103.0km az=101.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.07**	**308**	P	P	11 24 14.4	-0.1
	0.4nm,0.3s,baz=101,slow=16,SNR=4.1						
DZM	**Mont Dzumac**	**14.09**	**260**	P	P	11 25 52.9	+0.4
	0.3nm,0.3s,baz=95,slow=17,SNR=1.8						
STKA	**Stephens Creek**	**37.40**	**244**	P	P	11 29 18.6	-0.6
	0.8nm,0.5s,baz=84,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**44.04**	**257**	P	P	11 30 12.2	0.0
	0.8nm,0.5s,baz=93,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**44.09**	**262**	P	P	11 30 12.5	-0.1
	0.3nm,0.3s,baz=97,slow=7.3,SNR=24						

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*RHSSO **26** 11:32:46.7±0.4, 44°.68N×15°.72E, h4km±2km, ML2.6/10*
*VIE **26** 11:32:48.4±0.6, 44°.78N×15°.71E, h6km, mb2.4/8, ml2.4/10, Error ellipse: s-maj=5.2km s-min=4.4km az=118.0 79 km S of Karlovac*
ISC 26 11:32:44.7±1.1, 44°.64N±0°.02×15°.67E±0°.02, h1km±9km, n47, σ1§33/86, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDBI	**Udbina**	**0.13**	**148**	*i* Pg	**Pg**	**11 32 48.0**	**+0.8**
UDBI				Sg	**Sg**	**11 32 50.0**	**+1.0**
PLIT	**Plitvice**	**0.24**	**353**	*e*Pg	**Pg**	**11 32 49.7**	**+0.3**
PLIT				Sg	**Sg**	**11 32 53.2**	**+0.7**
NVLJ	**Novalja**	**0.57**	**263**	*e*Pg	**Pb**	**11 32 56.3**	**-1.2**
NVLJ				Sg	**Sb**	**11 33 04.7**	**-1.4**
RABC	**Rab**	**0.64**	**280**	*e*Pg	**Pb**	**11 32 57.7**	**-1.0**
RABC				Sg	**Sb**	**11 33 07.7**	**-0.4**
A251A	**Rujevac**	**0.65**	**41**	*e*Pg	**Pg**	**11 32 57.4**	**+0.2**
A251A				Sg	**Sg**	**11 33 05.2**	**-0.4**
MORI	**Morici**	**0.77**	**178**	*i* Pg	**Pb**	**11 32 59.9**	**-1.1**
MORI				Sg	**Sb**	**11 33 11.1**	**-0.8**
DUGI	**Dugi Otok**	**0.78**	**214**	*e*Pg	**Pb**	**11 32 60.0**	**-1.1**
DUGI				Sg	**Sn**	**11 33 11.7**	**-3.4**
PRIJ	**Prijedor**	**0.82**	**65**	*e*Pg	**Pg**	**11 33 00.7**	**+0.3**
PRIJ				*e*Sg	**Sg**	**11 33 11.4**	**+0.4**
KIJV	**Kijevo**	**0.83**	**140**	*e*Pg	**Pb**	**11 33 00.8**	**-1.0**
KIJV				Sg	**Sg**	**11 33 11.8**	**+0.5**
MRAK	**Mrakovica**	**0.95**	**67**	⇑*i*Pg	**Pg**	**11 33 02.9**	**-0.1**
MRAK				*e*Sg	**Sg**	**11 33 16.1**	**+0.7**
OZLJ	**Ozalj**	**0.98**	**352**	*e*Pg	**Pb**	**11 33 03.6**	**-1.0**
OZLJ				Sg	**Sg**	**11 33 16.7**	**+0.3**
ZIRJ	**Zirje**	**0.99**	**181**	*e*Pg	**Pb**	**11 33 03.8**	**-0.8**
ZIRJ				Sg	**Sn**	**11 33 18.6**	**-1.6**
MGRS	**Mrkonjic Grad**	**1.04**	**102**	*e*Pg	**Pg**	**11 33 04.2**	**-0.4**
MGRS				*e*Sg	**Sg**	**11 33 18.8**	**+0.7**
BLY	**Banja Luka**	**1.09**	**84**	*e*Pg	**Pg**	**11 33 05.1**	**-0.5**
BLY				*e*Sg	**Sg**	**11 33 19.8**	**+0.1**
CRES	**Cresnjev**	**1.20**	**353**	*e*Pg	**Pn**	**11 33 08.0**	**-0.6**
CRES				*e*Sg	**Sb**	**11 33 23.7**	**-0.4**
MOSL	**Moslavina**	**1.24**	**38**	*e*Pg	**Pg**	**11 33 08.4**	**-0.1**
MOSL				Sg	**Sg**	**11 33 24.6**	**0.0**
PTJ	**Puntijarka**	**1.28**	**9**	*e*Pg	**Pn**	**11 33 09.9**	**0.0**
PTJ				Sg	**Sb**	**11 33 26.4**	**-0.3**
BRJN	**Brijuni**	**1.39**	**282**	*e*Pg	**Pb**	**11 33 12.0**	**+0.5**
BRJN				Sg	**Sn**	**11 33 31.8**	**+1.6**
CEY	**Cerknica**	**1.41**	**322**	⇓*i*Pg	**Pb**	**11 33 12.4**	**+0.6**
CEY				*e*Sg	**Sn**	**11 33 31.1**	**+0.4**
LOBO	**Lobor**	**1.54**	**10**	*e*Pg	**Pg**	**11 33 14.1**	**-0.2**
LOBO				Sg	**Sg**	**11 33 34.6**	**+0.3**
RICI	**Ricice**	**1.56**	**137**	*e*Pn	**Pg**	**11 33 14.5**	**-0.1**
RICI				Sg	**Sg**	**11 33 37.2**	**+2.4**
HVAR	**Hvar**	**1.57**	**159**	*e*Pg	**Pg**	**11 33 15.1**	**+0.3**
HVAR				Sg	**Sg**	**11 33 36.1**	**+1.1**
KALN	**Kalnik**	**1.59**	**20**	*e*Pg	**Pb**	**11 33 14.3**	**-0.7**
KALN				Sg	**Sg**	**11 33 36.0**	**+0.2**
LJU	**Ljubljana**	**1.62**	**331**	*e*Pn	**Pg**	**11 33 15.6**	**-0.1**
LJU				*e*Sn	**Sg**	**11 33 36.5**	**-0.2**
MAKA	**Makarska**	**1.67**	**144**	*e*Pn	**Pg**	**11 33 16.4**	**-0.3**
MAKA				Sg	**Sg**	**11 33 39.3**	**+1.0**
A252A	**Venje**	**1.74**	**62**	*e*Pn	**Pn**	**11 33 16.5**	**+0.4**
A252A				Sg	**Sb**	**11 33 40.5**	**+0.7**
BEHE	**Becsehely**	**1.99**	**23**	*e*Pn	**Pb**	**11 33 20.8**	**-0.9**
BEHE				*e*Sn	**Sn**	**11 33 45.3**	**+0.3**
OBKA	**Obir**	**2.03**	**338**	*e*Pn	**Pg**	**11 33 22.1**	**-1.5**
	6.7nm,0.3s						
OBKA				*e*Sn	**Sb**	**11 33 47.5**	**-0.7**
	28nm,0.5s						
LSTV	**Lastovo**	**2.07**	**154**	*e*Pn	**Pb**	**11 33 21.9**	**-1.2**
LSTV				Sn	**Sg**	**11 33 49.8**	**-1.4**
SOKA	**Soboth**	**2.09**	**348**	*e*Pn	**Pb**	**11 33 21.8**	**-1.6**
	0.6nm,0.2s						
SOKA				*e*Sn	**Sb**	**11 33 49.3**	**-0.5**
	5.7nm,0.4s						
STON	**Ston**	**2.30**	**139**	*e*Pn	**Pb**	**11 33 25.3**	**-1.7**
STON				Sn	**Sb**	**11 33 55.1**	**-0.8**
MYKA	**Terra Mystica**	**2.44**	**325**	*e*Pn	**Pb**	**11 33 28.1**	**-1.4**
	2.4nm,0.4s						
MYKA				*e*Sn	**Sb**	**11 33 58.1**	**-2.0**
	5.8nm,0.5s						
ARSA	**Arzberg**	**2.61**	**358**	Pn	**Pn**	**11 33 28.9**	**+0.8**
	2.0nm,0.5s						
MORH	**Mrgy, Hungar**	**2.62**	**52**	*e*Pn	**Pn**	**11 33 29.1**	**+1.0**
MORH				*e*Sn	**Sn**	**11 34 00.9**	**+0.3**
BRY	**Bratogost**	**2.71**	**129**	*e*Sn	**Sn**	**11 34 04.6**	**+1.6**
TREB	**Trebinje**	**2.74**	**134**	*e*Pn	**Pb**	**11 33 32.0**	**-2.4**
TREB				*e*Sn	**Sn**	**11 34 05.4**	**+2.0**
BBLS	**Lazići**	**2.80**	**105**	*e*Pn	**Pn**	**11 33 32.0**	**+1.4**
BBLS				*e*Sn	**Sn**	**11 34 06.4**	**+1.4**
RUDO	**Rudo**	**2.86**	**110**	*e*Pn	**Pn**	**11 33 32.3**	**+0.9**
RUDO				*e*Sn	**Sn**	**11 34 06.9**	**+0.5**
KBA	**Koelnbreinsper**	**2.93**	**327**	*e*Pn	**Pb**	**11 33 34.7**	**-3.1**
	0.4nm,0.1s						
KBA				*e*Sn	**Sn**	**11 34 09.8**	**+1.4**
	1.0nm,0.2s						
FRGS	**Fruska Gora**	**2.99**	**79**	*e*Sn	**Sn**	**11 34 09.9**	**+0.2**
ABTA	**Abfaltersbach**	**3.05**	**315**	*e*Pn	**Pb**	**11 33 36.1**	**-3.8**
	2.5nm,0.3s						
ABTA				Sg	**Sg**	**11 34 27.1**	**+4.3**
	16nm,0.6s						
DIVS	**Divibare**	**3.15**	**98**	*e*Pn	**Pn**	**11 33 36.1**	**+0.6**
DIVS				*e*Sn	**Sn**	**11 34 14.3**	**+0.6**
MOA	**Molln**	**3.35**	**344**	*i* Pn	**Pn**	**11 33 40.0**	**+1.8**
	0.6nm,0.1s						
PDG	**Podgorica**	**3.42**	**129**	*e*Sn	**Sn**	**11 34 20.9**	**+0.7**
WTTA	**Wattenberg**	**3.84**	**314**	*e*Pn	**Pn**	**11 33 46.7**	**+1.6**
	2.2nm,0.3s						
WATA	**Walderalm**	**3.92**	**315**	*e*Pn	**Pn**	**11 33 48.5**	**+2.4**
	3.5nm,0.4s						
MOTA	**Moosalm**	**4.17**	**312**	*i* Pn	**Pn**	**11 33 52.1**	**+2.5**
	0.5nm,0.2s						

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*SFS **26** 11:32:51.0, 35°.61N×3°.82W, ML3.2, ALBORAN SUR*
*MDD **26** 11:32:51.7±0.7, 35°.62N×3°.82W, h0km, mbLg3.2/8, Error ellipse: s-maj=6.2km s-min=4.0km az=26.0*
MDD EMS: II INTENSIDAD MAXIMA.
*CNRM **26** 11:32:52.1, 35°.62N×3°.67W, h24km, ml3.0*
*IGIL **26** 11:32:53.9, 35°.44N×3°.89W, h18km, ML2.5*
*LDG **26** 11:32:53.6±0.6, 35°.68N×3°.67W, h10km, Ml3.7/2, Error ellipse: s-maj=11.7km s-min=8.1km az=1.0*
ISC 26 11:32:50.9±1.1, 35°.63N±0°.02×3°.75W±0°.02, h16km±10km, n27, σ1§25/39, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.44**	**201**	P	**Pn**	**11 33 01.0**	**-1.5**
PALE				S	**Sb**	**11 33 07.3**	**-0.7**
EALB	**Alboran**	**0.66**	**62**	Pg	**Pn**	**11 33 05.0**	**-0.5**
	380nm,0.3s,SNR=56						
EALB				Lg	Lg	11 33 15.0	
	1μm,0.2s,SNR=17						
EMEL	**Melilla**	**0.73**	**117**	Pg	**Pn**	**11 33 05.9**	**-0.5**
	320nm,0.2s,SNR=17						
EMEL				Lg	Lg	11 33 14.9	
	2μm,0.1s,SNR=32						
GOG	**Mont Gurugu**	**0.74**	**123**	P	**Pb**	**11 33 05.8**	**+0.4**
GOG				S	**Sg**	**11 33 14.9**	**-0.2**
AKLM	**AKL**	**1.12**	**185**	P	**Pg**	**11 33 12.5**	**0.0**
CHAS	**Isla Isabel II**	**1.17**	**112**	*e*P	**Pn**	**11 33 11.6**	**-0.9**
CHAS				*e*S	**Sb**	**11 33 25.6**	**-1.9**
ELGU	**Los Guajares,**	**1.24**	**5**	Pg	**Pg**	**11 33 13.8**	**-1.0**
	SNR=7.9						
ELGU				Lg	Lg	11 33 29.8	
	689nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.25**	**319**	Pg	**Pg**	**11 33 14.2**	**-0.7**
	41nm,0.4s,SNR=20						
EMIJ				Lg	Lg	11 33 29.9	
	312nm,0.3s,SNR=14						
EMAL	**Malaga-Limoner**	**1.26**	**334**	*e*P	**Pg**	**11 33 14.2**	**-0.9**
EMAL				*e*S	**Sn**	**11 33 29.7**	**-0.6**
CEU	**Ceuta**	**1.35**	**282**	*e*P	**Pn**	**11 33 13.8**	**-1.1**
CEU				*e*S	**Sb**	**11 33 29.7**	**-2.9**
ECEU	**Ceuta**	**1.35**	**282**	Pg	**Pb**	**11 33 15.1**	**-0.6**
	15nm,0.3s,SNR=4.8						
ECEU				Lg	Lg	11 33 32.5	
	26nm,0.1s,SNR=6.2						
TAF	**Taforalt**	**1.36**	**126**	P	**Pn**	**11 33 15.0**	**-0.3**
TAF				S	**Sn**	**11 33 30.9**	**-2.1**
CHEFC	**Chefchaouen**	**1.40**	**249**	P	**Pg**	**11 33 17.8**	**-0.1**
CHEFC				S	**Sg**	**11 33 35.7**	**-0.4**
EBER	**Berja**	**1.44**	**29**	Pg	**Pb**	**11 33 17.1**	**-0.4**
	12nm,0.4s,SNR=6.8						
EBER				Lg	Lg	11 33 41.2	
	259nm,0.5s,SNR=6.4						
EQUE	**Quentar**	**1.59**	**9**	Pg	**Pg**	**11 33 20.7**	**-0.8**
	14nm,0.3s,SNR=22						
EQUE				Lg	Lg	11 33 41.4	
	168nm,0.7s,SNR=14						
EJIF	**Jimena Fronter**	**1.62**	**301**	Pg	**Pg**	**11 33 20.7**	**-1.3**
	SNR=7.9						
JBK	**JBK**	**1.62**	**143**	P	**Pn**	**11 33 19.1**	**+0.2**
JBK				S	**Sn**	**11 33 38.2**	**-1.2**
ENIJ	**Nijar**	**1.83**	**43**	Pg	**Pg**	**11 33 26.7**	**+0.7**
	SNR=7.9						
ENIJ				Lg	Lg	11 33 44.6	
	62nm,0.2s,SNR=7.9						
LCRM	**LCR**	**2.14**	**206**	P	**Pg**	**11 33 31.2**	**-0.8**
EQES	**Quesada**	**2.24**	**14**	Pn	**Pb**	**11 33 31.2**	**+0.3**
	18nm,0.4s,SNR=18						
EQES				Sn	**Sb**	**11 33 59.2**	**+0.8**
	57nm,0.3s,SNR=7.7						
IFR	**Ifrane**	**2.39**	**209**	*e*P	**Pb**	**11 33 33.1**	**-0.5**
IFR				*e*S	**Sn**	**11 33 58.4**	**-0.2**
MD31	**MD31**	**2.88**	**197**	P	**Pn**	**11 33 38.3**	**+2.2**
ZHG	**ZHG**	**3.23**	**228**	P	**Pn**	**11 33 42.3**	**+1.4**
PVAQ	**Vaqueiros**	**3.65**	**300**	P	**Pn**	**11 33 49.3**	**+2.7**
PVAQ				S	**Sn**	**11 34 30.4**	**+1.0**
MESJ	**Messejana**	**4.21**	**303**	*e*P	**Pn**	**11 33 55.8**	**+1.4**
MESJ				*e*S	**Sn**	**11 34 40.9**	**-2.3**
MESJ				IAML		11 34 47.7	
	comp=N,8.8nm,0.6s						
ETSF	**Etsaut**	**7.67**	**18**	*e*Pn	**Pn**	**11 34 41.5**	**-0.4**
ETSF				*e*Sg		11 36 53.9	
	comp=N,7.8nm,0.4s						
SJPF	**Ste Jean**	**7.72**	**14**	*e*Pn	**Pn**	**11 34 43.3**	**+0.7**
SJPF				*e*Sg		11 36 53.8	
	comp=N,12nm,0.4s						

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*NIED **26** 11:37:42.5, 38°.27N×141°.88E, h51km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.35; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-2.16; $M_{r\theta}$0.41; $M_{\theta\phi}$-1.30; $M_{\phi r}$-2.24; Fault plane solution: $M_0$3.46000×10^{15} NP1: ϕ_s183.00000°, δ67.00000°, λ68.00000°. NP2:ϕ_s49.00000°, δ32.00000°, λ131.00000°.*
*JMA **26** 11:37:42.5, 38°.27N×141°.88E, h51km±1km, M4.5*
JMA Felt III J1.
*IDC **26** 11:37:43.5±1.9, 38°.25N×141°.87E, h60km±17km, mb4.1/33, mb1 4.2/39, mb1mx4.0/74, mbtmp4.4/39, MS3.3/12, Ms1 3.3/12, ms1mx3.0/91, Error ellipse: s-maj=12.8km s-min=9.8km az=91.0*
*NEIC **26** 11:37:43.1±1.7, 38°.24N±0°.06×141°.89E±0°.08, h49km±6km, mb4.6/116, Error ellipse: s-maj=10.0km s-min=7.1km az=123.0*
ISC 26 11:37:42.6±0.8, 38°.25N±0°.04×141°.90E±0°.05, h50km±6km, n239, σ1§10/248, mb4.6/102, MS3.6/7, 5C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.35**	**280**	⇓P	**Pn**	**11 37 52.0**	**-0.2**
JIKH				S	**Sn**	**11 37 58.8**	**-0.2**
JIO	**Ouri**	**0.48**	**296**	⇓P	**Pn**	**11 37 53.4**	**-0.2**
JIO				S	**Sn**	**11 38 01.0**	**-0.5**
JKMT	**Kesennumamotoy**	**0.65**	**329**	⇓P	**Pn**	**11 37 55.5**	**-0.2**
JKMT				S	**Sn**	**11 38 04.8**	**-0.4**
OFUJ	**Ofunato**	**0.85**	**348**	⇓P	**Pn**	**11 37 58.0**	**-0.3**
OFUJ				S	**Sn**	**11 38 09.1**	**-0.7**
JMK	**Ichinoseki**	**0.88**	**323**	⇓P	**Pn**	**11 37 58.7**	**0.0**
JMK				S	**Sn**	**11 38 10.2**	**-0.3**
JMM	**Marumori**	**0.95**	**247**	⇑P	**Pn**	**11 37 59.3**	**-0.4**
JMM				S	**Sn**	**11 38 11.6**	**-0.6**
JMM	**Marumori**	**0.95**	**247**		**Pn**	**11 37 59.3**	**-0.4**
JMM				Sn	**Sn**	**11 38 11.7**	**-0.5**
JOU	**Okura**	**0.98**	**277**	⇓P	**Pn**	**11 38 00.1**	**+0.1**
JOU				S	**Sn**	**11 38 13.1**	**+0.2**
JFK	**Kawauchi**	**1.20**	**223**	⇑P	**Pn**	**11 38 02.6**	**-0.4**
JFK				S	**Sn**	**11 38 17.5**	**-0.7**
JOM	**Ohasama**	**1.31**	**339**	⇓P	**Pn**	**11 38 04.6**	**+0.1**
JYK	**Kaneyama**	**1.38**	**299**	⇓P	**Pn**	**11 38 05.5**	**0.0**
JFT	**Otama**	**1.44**	**240**	⇑P	**Pn**	**11 38 06.7**	**+0.5**
JFT				S	**Sn**	**11 38 24.4**	**+0.4**
JYS	**Shirataka**	**1.45**	**269**	P	**Pn**	**11 38 06.6**	**+0.3**
JRG	**Rokugo**	**1.51**	**320**	⇓P	**Pn**	**11 38 07.6**	**+0.3**
JYT	**Yasato**	**2.43**	**215**		**Pn**	**11 38 19.3**	**-0.5**
JTM	**Tenmabayashi**	**2.62**	**346**		**Pn**	**11 38 22.7**	**+0.4**
JSD	**Sado**	**2.88**	**267**		**Pn**	**11 38 25.9**	**0.0**
MJAR	**Matsushiro Arr**	**3.40**	**241**	P	**Pn**	**11 38 35.0**	**+1.9**
	5.0nm,0.3s,baz=24,slow=7.2,SNR=111						
MJAR				S	**Sn**	**11 39 16.4**	**+4.2**
	3.3nm,0.3s,baz=44,slow=19,SNR=1.7						
MJAR				LR	LR	11 40 11.6	
	comp=Z,604nm,20.4s,baz=58,slow=44						
MJAR	**Matsushiro Arr**	**3.40**	**241**	Pn	**Pn**	**11 38 35.2**	**+2.1**
MAJO	**Matsushiro**	**3.40**	**241**	Pn	**Pn**	**11 38 35.2**	**+2.1**
MAT	**Matsushiro**	**3.40**	**241**	P	**Pn**	**11 38 34.6**	**+1.5**
MAT				*e*S	**Sn**	**11 39 16.5**	**+4.3**
MJB9	**Matsu-Tunnel**	**3.40**	**241**		**Pn**	**11 38 35.2**	**+2.1**
ERM	**Erimo**	**3.88**	**14**	Pn	**Pn**	**11 38 39.2**	**-0.5**
JGF	**Kuroka**	**4.50**	**235**		**Pn**	**11 38 50.5**	**+2.3**
JEW	**Eniwo**	**4.60**	**356**	Pn	**Pn**	**11 38 48.9**	**-0.6**
JSG	**Sagara**	**4.66**	**221**		**Pn**	**11 38 52.4**	**+2.1**
INU	**Inuyama**	**4.87**	**235**		**Pn**	**11 38 55.4**	**+2.1**
JHJ2	**Mitsune**	**5.40**	**199**	Pn	**Pn**	**11 39 00.5**	**0.0**
JHJ	**Hachijo jima 2**	**5.40**	**199**	P	**Pn**	**11 39 00.4**	**-0.1**
	86nm,0.3s,baz=68,slow=19,SNR=20						
JHJ				S	**Sn**	**11 39 57.6**	**-3.8**
	81nm,0.3s,baz=258,slow=23,SNR=2.3						
ASAJ	**Asahikawa**	**5.89**	**5**	P	**Pn**	**11 39 06.1**	**-1.0**
	9.2nm,0.3s,baz=222,slow=12,SNR=38						
ASAJ				S	**Sn**	**11 40 11.0**	**-2.3**
	5.2nm,0.3s,baz=196,slow=16,SNR=2.1						
JKA	**Kamikawa-asahi**	**5.89**	**5**		**Pn**	**11 39 06.5**	**-0.7**
JHS	**Saijyo**	**7.77**	**248**		**Pn**	**11 39 34.9**	**+1.8**
JMN	**Monobe**	**7.91**	**238**	Pn	**Pn**	**11 39 36.1**	**+1.1**
USA0B	**Ussuriysk Arra**	**9.54**	**312**	Pn	**Pn**	**11 39 58.6**	**+1.4**
USRK	**Ussuriysk Ar.**	**9.54**	**312**	P	**Pn**	**11 39 58.4**	**+1.2**
	baz=133,slow=15,SNR=41						
USRK				LR	LR	11 43 21.6	
	comp=Z,187nm,21.3s,baz=119,slow=36						
USRK	**Ussuriysk Ar.**	**9.54**	**312**	Pn	**Pn**	**11 39 58.0**	**+0.7**
JNU	**Nakatsue**	**10.32**	**244**	P	**Pn**	**11 40 09.6**	**+1.7**
	0.9nm,0.3s,baz=79,slow=16,SNR=7.3						
JNU	**Nakatsue**	**10.32**	**244**	Pn	**Pn**	**11 40 10.2**	**+2.2**
KSRS	**Korea Array**	**11.08**	**270**	P	**Pn**	**11 40 21.6**	**+3.3**
	0.8nm,0.3s,baz=80,slow=14,SNR=11						
KSRS				LR	LR	11 44 19.4	
	comp=Z,111nm,21.1s,baz=85,slow=36						
KSAR	**Wonju Array Be**	**11.11**	**270**	Pn	**Pn**	**11 40 18.9**	**+0.2**
KS19	**Wonju Array Si**	**11.12**	**270**	Pn	**Pn**	**11 40 19.0**	**+0.2**
JCJ	**Chichijima**	**11.12**	**179**	Pn	**Pn**	**11 40 17.5**	**-1.5**
MDJ	**Mudanjiang**	**11.21**	**308**	P	**Pn**	**11 40 21.5**	**+1.4**
MDJ				sP		11 40 38.8	
MDJ				pmax	pmax		
	comp=Z,34nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,180nm,6.6s						
MDJ				LR	LR		
	comp=Z,240nm,19.9s						
KLR	**Kul'dur**	**13.19**	**330**	P	**Pn**	**11 40 51.2**	**+4.2**
	comp=Z,0.5nm,0.3s,baz=130,slow=15,SNR=5.3						
KLR				LR	LR	11 45 50.7	
	comp=Z,117nm,18.5s,baz=154,slow=37						
JOW	**Kunigami**	**16.15**	**229**	LR	LR	11 47 32.8	
	comp=Z,56nm,18.2s,baz=96,slow=36						
PEA0B	**Petropavlovsk-**	**18.45**	**31**	P	**Pn**	**11 41 55.1**	**+0.8**
PEA0B				IAmb	IAmb	11 41 57.9	
	comp=Z,43nm,1.2s						
PETK	**Petropavlovsk-**	**18.45**	**31**	P	**P**	**11 41 54.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=242,slow=5.5,SNR=6.6						
PETK				LR	LR	11 48 33.6	
	comp=Z,47nm,21.9s,baz=211,slow=35						
PETK	**Petropavlovsk-**	**18.45**	**31**	P	**P**	**11 41 53.8**	**-0.1**
NJ2	**Nanjing**	**19.81**	**259**	*e*P	**P**	**11 42 09.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
TIA	**Tai'an**	**19.82**	**272**	*e*P	**P**	**11 42 08.8**	**-0.2**
TIA				pmax	pmax		
	comp=Z,24nm,0.9s						
BJI	**Beijing**	**20.02**	**283**	P	**P**	**11 42 09.0**	**-2.0**
BJI				pP	**pP**	**11 42 22.5**	**-0.1**
BJI				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	**Baijiatuau**	**20.02**	**283**	P	**P**	**11 42 11.3**	**+0.2**
XLT	**XiLinHaoTe**	**20.23**	**294**	*e*P	**P**	**11 42 13.5**	**+0.1**
XLT				S	**S**	**11 45 54.3**	**-3.3**
XLT				SS	SnSn	11 46 35.0	+17
XLT				pmax	pmax		
	comp=Z,36nm,0.7s						
XLT				pmax	pmax		
	comp=Z,92nm,3.5s						
HNS	**HongShan**	**21.47**	**276**	⇑P	**P**	**11 42 24.3**	**-2.5**
HNS				pmax	pmax		

comp=Z,120nm,6.0s
ANM Nome 40.36 32 P **P 11 45 14.4 -0.7**
WMQ Urumqi 40.65 296 *eP* **P 11 45 18.5 +0.7**
WMQ pmax pmax
comp=Z,22nm,0.9s
ZAA0 Zalesovo Array 41.39 311 P **P 11 45 23.3 -0.4**
ZALV Zalesovo Beam 41.39 311 P **P 11 45 23.4 -0.2**
comp=Z,2.9nm,0.4s,baz=90,slow=8.3,SNR=16
ZALV PcP **PcP 11 47 20.2 -0.6**
comp=Z,0.9nm,0.3s,baz=114,slow=1.1,SNR=2.6
ZALV Zalesovo Beam 41.39 311 P **P 11 45 23.2 -0.4**
CHTO Chiang Mai 41.97 255 P **P 11 45 27.4 -1.5**
CHTO IAmb IAmb 11 45 39.6
comp=Z,5.6nm,0.6s
CMAR Chiang Mai Arr 42.19 254 P **P 11 45 30.2 -0.4**
comp=Z,0.7nm,0.5s,baz=46,slow=9.6,SNR=4.2
CMAR LR LR 12 02 38.1
comp=Z,18nm,19.9s,baz=60,slow=35
CMAR Chiang Mai Arr 42.19 254 P **P 11 45 30.8 +0.2**
MK31 Makanchi Array 43.81 301 P **P 11 45 43.4 -0.1**
MKAR Makanchi Array 43.81 301 P **P 11 45 43.7 +0.3**
comp=Z,4.3nm,0.6s,baz=84,slow=9.7,SNR=38
MKAR Makanchi Array 43.81 301 P **P 11 45 43.9 +0.4**
L19K White Mountain 44.71 37 P **P 11 45 51.8 +1.5**
L19K IAmb IAmb 11 45 56.7
comp=Z,9.9nm,1.4s
K20K Telida 45.11 35 P **P 11 45 54.5 +1.0**
J20K Nowinta River 45.12 34 P **P 11 45 54.5 +0.9**
J20K IAmb IAmb 11 45 55.4
comp=Z,11nm,1.2s
A21K Barrow 45.19 24 P **P 11 45 54.6 +0.6**
A21K IAmb IAmb 11 46 13.0
comp=Z,14nm,1.1s
IMAR Indian Mountai 45.41 31 P **P 11 45 54.5 -1.4**
KURK Kurchatov 45.50 307 P **P 11 45 56.6 -0.1**
KURBB Kurchatov Arra 45.57 307 P **P 11 45 56.6 -0.6**
comp=Z,8.4nm,0.4s,baz=80,slow=8.0,SNR=43
OHAK Old Harbor 45.61 44 P **P 11 45 57.4 -0.1**
H21K Melozitna Rive 45.78 32 P **P 11 46 00.1 +1.3**
KDAK Kodiak Island 45.94 43 P **P 11 46 00.3 +0.2**
CAST Castle Rocks 46.01 35 P **P 11 46 02.0 +1.4**
KTH Kantishna Hill 46.53 35 P **P 11 46 05.9 +1.1**
KTH IAmb IAmb 11 46 13.6
comp=Z,5.6nm,0.9s
TRF Thorofare Moun 46.81 35 P **P 11 46 09.5 +2.4**
TRF IAmb IAmb 11 46 10.1
comp=Z,11nm,1.0s
RC01 Rabbit Creek A 47.16 38 P **P 11 46 09.7 +0.1**
BWN Browne 47.17 34 P **P 11 46 11.3 +1.6**
I23K Minto, Yukon-K 47.20 32 P **P 11 46 11.1 +1.2**
I23K IAmb IAmb 11 46 13.4
comp=Z,12nm,1.4s
TOLK Toolik Lake Re 47.22 28 P **P 11 46 11.1 +1.1**
MCK McKinley 47.41 34 P **P 11 46 12.5 +0.9**
MCK IAmb IAmb 11 46 12.7
comp=Z,7.7nm,0.9s
PMR Palmer 47.42 37 P **P 11 46 12.2 +0.5**
PMR IAmb IAmb 11 46 12.5
comp=Z,13nm,1.3s
GUN Gumba 47.43 275 *eP* **P 11 46 12.4 -0.2**
comp=Z,14nm,0.6s
RND Reindeer 47.46 35 P **P 11 46 12.4 +0.3**
RND IAmb IAmb 11 46 12.9
comp=Z,7.2nm,0.8s
GHO Glory Hole Cre 47.51 37 P **P 11 46 12.7 +0.2**
GHO IAmb IAmb 11 46 15.3
comp=Z,10nm,0.8s
MDM Murphy Dome 47.69 33 P **P 11 46 14.9 +1.2**
MDM IAmb IAmb 11 46 15.5
comp=Z,4.7nm,0.9s
KNK Knik Glacier 47.76 38 P **P 11 46 15.4 +1.1**
SML Sawmill 47.79 37 P **P 11 46 15.3 +0.7**
SML IAmb IAmb 11 46 15.6
comp=Z,9.2nm,0.8s
H24K Noodor Dome 47.82 32 P **P 11 46 16.2 +1.5**
CCB Clear Creek Bu 47.88 33 P **P 11 46 16.7 +1.6**
CCB IAmb IAmb 11 46 30.9
comp=Z,5.4nm,1.3s
KKN Kakani 47.95 275 *eP* **P 11 46 16.2 -0.3**
PKI Pulchoki 47.96 275 *eP* **P 11 46 16.4 -0.3**
comp=Z,8.1nm,0.4s
PKIN Phulchoki 47.96 275 *eP* **P 11 46 16.1 -0.6**
comp=Z,7.5nm,0.4s
POKR Poker Plat Res 48.02 32 P **P 11 46 17.9 +1.6**
DMN Daman 48.18 275 *eP* **P 11 46 18.1 -0.2**
TARG Taragay, Kyrgy 48.22 295 P **P 11 46 17.9 -0.8**
TARG IAmb IAmb 11 46 32.3
comp=Z,6.3nm,0.8s
SCM Sheep Creek Mo 48.26 37 P **P 11 46 19.1 +0.8**
SCM IAmb IAmb 11 46 44.7
comp=Z,8.1nm,1.0s
IL31 48.27 33 P **P 11 46 18.6 +0.5**
IL31 IAmb IAmb 11 46 18.8
comp=Z,3.4nm,0.7s
ILAR Eielson Array 48.27 33 P **P 11 46 18.1 0.0**
comp=Z,3.9nm,0.7s,baz=268,slow=6.2,SNR=42
M24K Tolsona, Glenn 48.78 36 P **P 11 46 23.6 +1.4**
FYU Fort Yukon 48.87 30 P **P 11 46 24.8 +2.1**
FYU IAmb IAmb 11 46 27.8
comp=Z,4.9nm,0.9s
DANN Dangsing 48.89 276 *eP* **P 11 46 23.8 0.0**
comp=Z,69nm,0.6s
KLU Klutina 48.96 37 P **P 11 46 24.6 +0.9**
BMAR Burnt Mountain 49.09 29 P **P 11 46 25.6 +1.2**
KOLN Koldanda 49.28 276 *eP* **P 11 46 26.1 -0.6**
BOOM Boomskoye usch 49.30 297 P **P 11 46 27.1 +0.4**
BOOM IAmb IAmb 11 46 31.5
comp=Z,4.7nm,0.6s
PYUN Piuthan 49.61 277 *eP* **P 11 46 29.0 -0.2**
comp=Z,14nm,0.5s
GLB Gilahina Butte 49.98 37 P **P 11 46 32.0 +0.7**
GLB IAmb IAmb 11 46 36.1
comp=Z,5.7nm,0.9s
L26K Log Cabin Wild 49.98 35 P **P 11 46 32.7 +1.4**
L26K IAmb IAmb 11 46 33.3
comp=Z,4.6nm,0.7s
BVAR Borovoye Array 50.05 312 P **P 11 46 31.8 -0.1**
comp=Z,1.0nm,0.4s,baz=72,slow=14,SNR=8.7
BVAR PcP **PcP 11 47 51.1 0.0**
comp=Z,2.0nm,0.5s,baz=98,slow=6.0,SNR=5.0
VRDI Verde Repeater 50.18 37 P **P 11 46 34.0 +1.0**
BERG Berg Lake 50.19 39 P **P 11 46 34.2 +1.3**
M26K Nabesna, AK 50.22 36 P **P 11 46 33.5 +0.3**
M26K IAmb IAmb 11 47 02.0
comp=Z,6.6nm,1.4s
AAK Ala-Archa 50.26 298 P **P 11 46 34.3 +0.3**
comp=Z,1.7nm,0.4s,baz=90,slow=6.2,SNR=7.1
AAK LR LR 12 08 18.0
comp=Z,48nm,20.8s,baz=88,slow=36
KSH Kashi 50.27 293 P P 11 46 39.8 +5.8
KSH pmax pmax
comp=Z,4.0nm,0.7s
L27K Beaver Creek, 50.66 35 P **P 11 46 37.5 +1.0**
L27K IAmb IAmb 11 46 57.2
comp=Z,15nm,1.4s
BCAR Beaver Creek A 50.68 35 P **P 11 46 38.0 +1.4**
EGAK Eagle 50.71 33 P **P 11 46 36.8 +0.1**
ISLE Juniper Island 50.82 38 P **P 11 46 38.7 +0.9**
MTN Manton Dam 51.81 193 P **P 11 46 45.1 -0.4**
MTN IAmb IAmb 11 46 58.9
comp=Z,14nm,1.2s
EPYK Eagle Plains 52.28 30 P **P 11 46 49.8 +1.3**
EPYK IAmb IAmb 11 46 50.5
comp=Z,8.2nm,0.8s
KKAR Karatay Array 52.86 299 P **P 11 46 53.2 +0.1**
INK Inuvik 53.13 28 P **P 11 46 55.2 +0.6**
INK IAmb IAmb 11 46 55.8
comp=Z,3.8nm,0.8s
N31M Braeburn, Yuko 53.74 36 P **P 11 47 01.0 +1.6**
N31M IAmb IAmb 11 47 21.4
comp=Z,7.4nm,1.1s
M31M Drury Creek, Y 54.20 35 P **P 11 47 03.9 +1.2**
A36M Sachs Harbour 54.99 22 P **P 11 47 09.8 +1.6**
A36M IAmb IAmb 11 47 10.5
comp=Z,12nm,1.1s
KNRA Kununurra 55.04 195 P **P 11 47 09.2 +0.1**
P33M Teslin, Yukon 55.49 37 P **P 11 47 13.3 +1.1**
P33M IAmb IAmb 11 47 14.8
comp=Z,11nm,1.2s
CHGR Chuyangaron 55.50 295 P **P 11 47 12.6 0.0**
ARU Arti 55.71 318 P **P 11 47 13.0 -0.6**
comp=Z,1.5nm,0.5s,baz=65,slow=9.7,SNR=5.8
ARU LR LR 12 11 48.4
comp=Z,43nm,18.0s,baz=354,slow=37
ARU Arti 55.71 318 P **P 11 47 13.8 +0.2**
ARU IAmb IAmb 11 47 20.1
comp=Z,7.2nm,0.7s
C36M Paulatuk 56.17 25 P **P 11 47 17.3 +0.6**
C36M IAmb IAmb 11 47 17.8
comp=Z,8.8nm,0.8s
ABKAR Akbulak array 57.46 310 P **P 11 47 26.1 0.0**
ABKAR IAmb IAmb 11 47 32.1
comp=Z,3.4nm,0.6s
FITZ Fitzroy Crossi 58.09 198 P **P 11 47 30.7 -0.1**
comp=Z,1.8nm,0.6s,baz=354,slow=9.2,SNR=6.3
WB0 Warramunga Arr 58.14 188 P **P 11 47 30.6 -0.5**
AKTO Aktyubinsk 58.16 312 P **P 11 47 30.6 -0.4**
comp=Z,1.4nm,0.5s,baz=67,slow=7.4,SNR=5.8
CTA Charters Tower 58.17 175 P **P 11 47 30.6 -0.8**
comp=Z,1.8nm,0.8s,baz=24,slow=8.4,SNR=1.6
CTAO Charters Tower 58.17 175 P **P 11 47 31.4 0.0**
WRAB Tennant Creek 58.30 188 P **P 11 47 31.5 -0.8**
WRAB IAmb IAmb 11 47 32.8
comp=Z,6.8nm,1.1s
WR0 Warramunga Arr 58.31 188 P **P 11 47 31.8 -0.5**
WR0 IAmb IAmb 11 47 32.3
comp=Z,5.4nm,0.6s
WB2 Warramunga Arr 58.31 188 P **P 11 47 31.8 -0.6**
WRA Warramunga Arr 58.31 188 P **P 11 47 31.4 -1.0**
comp=Z,4.6nm,0.5s,baz=5.7,slow=7.1,SNR=83
WRA LR LR 12 12 39.6
comp=Z,38nm,19.4s,baz=128,slow=36
WRA Warramunga Arr 58.31 188 P **P 11 47 31.3 -1.0**
SANVU Saraoutou 58.45 151 P **P 11 47 32.4 -0.9**
EUNU Eureka 58.93 9 IAmb IAmb 11 47 36.4
comp=Z,3.7nm,0.7s
EUNU P **P 11 47 36.5 +0.4**
SPITS Spitsbergen Ar 59.41 349 P **P 11 47 39.4 +0.1**
comp=Z,5.8nm,0.8s,baz=35,slow=11,SNR=1.5
RES Resolute Bay 61.33 15 P **P 11 47 52.1 -0.3**
RES IAmb IAmb 11 47 52.6
comp=Z,4.7nm,0.5s
AS31 Alice Springs 62.04 188 P **P 11 47 57.8 0.0**
ASAR Alice Springs 62.04 188 P **P 11 47 57.4 -0.4**
comp=Z,3.5nm,0.7s,baz=7.0,slow=4.9,SNR=65
ASAR Alice Springs 62.04 188 P **P 11 47 57.8 0.0**
YKA Yellowknife Ar 62.57 31 P **P 11 48 00.6 -0.3**
comp=Z,1.9nm,0.7s,baz=302,slow=6.7,SNR=35
YKA PcP **PcP 11 48 39.7 +0.1**
comp=Z,0.9nm,0.6s,baz=299,slow=3.8,SNR=9.3
ARCES ARCESS Array B 63.00 339 P **P 11 48 03.4 -0.3**
comp=Z,1.3nm,0.4s,baz=51,slow=8.7,SNR=17
ARCES ARCESS Array B 63.00 339 P **P 11 48 03.6 -0.1**
TULEG Thule 63.85 8 P **P 11 48 08.8 -0.4**
TULEG IAmb IAmb 11 48 09.1
comp=Z,6.8nm,0.7s
EIDS Eidsvold 63.87 171 P **P 11 48 10.4 +0.6**
DZM Mont Dzumac 64.28 155 P **P 11 48 13.5 +0.8**
comp=Z,4.4nm,0.7s,baz=282,slow=14,SNR=2.6
LTY Liberty 67.54 47 P **P 11 48 34.4 +0.8**
LTY IAmb IAmb 11 48 49.4
comp=Z,11nm,1.3s
B08A Colville Reser 67.71 45 P **P 11 48 35.2 +0.6**
FINES FINESS Array B 67.92 332 P **P 11 48 34.6 -1.0**
comp=Z,3.5nm,0.7s,baz=38,slow=9.6,SNR=12
FINES FINESS Array B 67.92 332 P **P 11 48 35.2 -0.3**
NEW Newport 68.99 45 P **P 11 48 43.7 +1.1**
PINE Pine Mountain 69.26 50 P **P 11 48 46.0 +1.5**
PINE IAmb IAmb 11 48 46.4
comp=Z,8.7nm,1.0s
SUMG Summit 69.47 0 *i* P **P 11 48 45.0 -0.6**
SUMG Summit 69.47 0 P **P 11 48 46.1 +0.5**
SUMG IAmb IAmb 11 48 46.5
comp=Z,8.5nm,0.7s
STKA Stephens Creek 69.77 180 P **P 11 48 46.9 -0.4**
comp=Z,1.4nm,0.5s,baz=356,slow=8.0,SNR=5.7
STKA Stephens Creek 69.77 180 P **P 11 48 47.1 -0.2**
M04C Macdoel 69.82 52 P **P 11 48 49.5 +1.6**
M04C IAmb IAmb 11 48 49.9
comp=Z,5.6nm,0.9s
FORT Forrest 69.88 193 P **P 11 48 48.1 +0.1**
K05A Summer Lake 69.88 51 P **P 11 48 49.9 +1.5**
KBZ Khabaz 70.41 311 LR LR 12 22 05.7
comp=Z,34nm,18.7s,baz=128,slow=38
MOD Modoc Plateau 70.70 52 P **P 11 48 54.2 +0.9**
MOD IAmb IAmb 11 49 11.3
comp=Z,9.7nm,1.4s
JTMT Jette 70.85 44 P **P 11 48 55.1 +1.0**
JTMT IAmb IAmb 11 48 55.7
comp=Z,4.5nm,0.9s
WVOR Wild Horse Val 71.42 50 P **P 11 48 58.8 +1.1**
FFC Flin Flon 72.48 33 P **P 11 49 03.7 +0.1**
MFID Camas Ranch 72.53 48 P **P 11 49 05.2 +0.9**
FCC Fort Churchill 72.74 27 P **P 11 49 04.8 -0.2**
CMB Columbia Colle 72.85 55 P **P 11 49 06.5 +0.3**
LRM Limekiln Ridge 73.01 45 P **P 11 49 08.3 +1.0**
EGMT Eagleton 73.11 42 P **P 11 49 08.0 +0.4**
EGMT IAmb IAmb 11 49 09.6
comp=Z,5.6nm,0.8s
HFS Hagfors 73.14 336 P **P 11 49 06.9 -0.5**
comp=Z,3.1nm,0.6s,baz=55,slow=7.8,SNR=8.4
HFS LR LR 12 22 46.3
comp=Z,53nm,19.8s,baz=2.0,slow=37
NC204 NORSAR Array S 73.17 338 P **P 11 49 07.8 +0.2**
NB201 NORSAR Array S 73.19 337 P **P 11 49 07.8 0.0**
DLMT Dillon 73.21 45 P **P 11 49 09.2 +0.9**
NB2 NORSAR Subarra 73.22 337 P **P 11 49 08.0 +0.1**
comp=Z,1.8nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 73.22 337 P **P 11 49 07.8 -0.2**
comp=Z,2.6nm,0.7s,baz=39,slow=5.9,SNR=9.7
AKASG Malin Array Be 73.57 322 P **P 11 49 09.4 -0.7**
comp=Z,1.0nm,0.4s,baz=46,slow=6.1,SNR=8.7
AKBB Malin Array Si 73.57 322 P **P 11 49 09.8 -0.3**
AKBB IAmb IAmb 11 49 30.0
comp=Z,9.7nm,1.2s
BOZ Bozeman (W) 73.60 45 P **P 11 49 11.2 +0.5**
KVN Kaiserville 73.72 53 P **P 11 49 12.4 +1.0**
KVN IAmb IAmb 11 49 13.1
comp=Z,4.9nm,1.0s
LHV Little Huntoon 73.93 54 P **P 11 49 14.1 +1.7**
LHV IAmb IAmb 11 49 14.8
comp=Z,7.1nm,1.0s
NVAR Mina Array Bea 73.95 54 P **P 11 49 13.4 +0.5**
comp=Z,2.0nm,0.8s,baz=282,slow=6.2,SNR=18
NVAR Mina Array Bea 73.95 54 P **P 11 49 13.9 +1.0**
NV11 Mina Array Sit 74.05 54 P **P 11 49 13.3 0.0**
BW06 Boulder Array 76.54 46 P **P 11 49 27.8 +0.1**
BW06 IAmb IAmb 11 49 28.6
comp=Z,3.7nm,0.6s
PD31 Pinedale Array 76.54 46 P **P 11 49 27.9 +0.2**
PD31 IAmb IAmb 11 49 28.6
comp=Z,3.2nm,0.6s
PDAR Pinedale Array 76.54 46 P **P 11 49 27.8 +0.1**
comp=Z,3.4nm,0.5s,baz=263,slow=1.2,SNR=50
PDAR Pinedale Array 76.54 46 P **P 11 49 27.5 -0.2**
P17A Butcher Ranch, 77.97 49 P **P 11 49 36.6 +0.9**
P17A IAmb IAmb 11 49 37.3
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 78.28 34 P **P 11 49 36.4 -0.5**
comp=Z,2.4nm,0.5s,baz=318,slow=3.4,SNR=3.0
BRTR Keskin Array B 78.34 312 P **P 11 49 37.5 -0.2**
comp=Z,0.4nm,0.4s,baz=19,slow=9.2,SNR=5.6
BRTR Keskin Array B 78.34 312 P **P 11 49 37.8 +0.1**
PV23 Carpenter Ridg 79.65 49 P **P 11 49 46.0 +1.0**
PV23 IAmb IAmb 11 49 46.8
comp=Z,20nm,1.5s
GERES GERESS Array B 81.88 328 P **P 11 49 56.1 -0.5**
comp=Z,0.4nm,0.5s,baz=32,slow=4.6,SNR=4.4
SCHQ Schefferville 84.06 16 P **P 11 50 07.1 -0.5**
comp=Z,2.4nm,0.6s,baz=21,slow=8.6,SNR=4.8
IDI Anoyia 86.44 313 P **P 11 50 18.5 -1.4**
comp=Z,6.0nm,0.9s,baz=31,slow=12,SNR=1.3
TX31 Lajitas Ar. Si 89.08 53 P **P 11 50 32.7 0.0**
TX31 IAmb IAmb 11 50 51.9
comp=Z,1.3nm,0.7s
TX32 Lajitas Array 89.08 53 P **P 11 50 32.7 0.0**
TXAR Lajitas Array 89.08 53 P **P 11 50 32.9 +0.2**
comp=Z,2.6nm,0.6s,baz=301,slow=3.2,SNR=23
LPAZ La Paz 145.74 59 PKPbc **PKPdf 11 57 16.6 0.0**
comp=Z,6.6nm,0.7s,baz=17,slow=6.1,SNR=23

*IDC **26** 11:38:30.7±1.6, 63°.06N×27°.91E, h0km, mb1 3.1/3, mb1mx2.6/58, mbtmp3.1/3, ML2.2/3, Error ellipse: s-maj=20.9km s-min=5.5km az=103.0*
*HEL **26** 11:38:30.4±0.1, 63°.10N×27°.77E, h0km, ML1.9, Explosion*
ISC 26 11:38:30.1±0.8, 63°.04N±0°.04×27°.75E±0°.04, h0km, n22, σ1§22/36, Finland

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.80**	**247**	PG	**Pg**	**11 38 45.3**	**-0.1**
KAF	**Kangasniemi**	**1.14**	**216**	PG	**Pg**	**11 38 52.1**	**+0.2**
KAF				SG	**Sb**	**11 39 08.5**	**+0.5**
KEF	**Keuruu**	**1.59**	**238**	PG	**Pn**	**11 38 59.9**	**+0.4**
KEF				MSG		11 39 19.4	
comp=Z,5.8nm,0.2s							
KEF				SN	**Sg**	**11 39 21.9**	**+0.8**
JOF	**Joensuu**	**1.63**	**93**	PG	**Pn**	**11 38 59.7**	**-0.3**
baz=274							
JOF				SN	**Sb**	**11 39 21.8**	**-0.4**
FIA0	**FINESS Array S**	**1.78**	**207**	PG	**Pb**	**11 39 03.5**	**0.0**
baz=24							
FIA0				SG	**Sg**	**11 39 27.8**	**+0.7**
FINES	**FINESS Array B**	**1.78**	**207**	Pg	**Pb**	**11 39 03.5**	**0.0**
comp=Z,0.7nm,0.3s,baz=26,slow=17,SNR=26							
FINES				Lg	Lg	11 39 28.1	
comp=Z,2.0nm,0.3s,baz=23,slow=29,SNR=32							
OUF	**Merijarvi**	**1.90**	**316**	PG	**Pn**	**11 39 02.9**	**-0.7**
baz=131							
OUF				MSG		11 39 25.6	
comp=Z,10.0nm,0.2s							
OUF				SG	**Sn**	**11 39 28.2**	**0.0**
OBF0	**Syolatti, Pyha**	**2.14**	**315**	PB	**Pn**	**11 39 07.6**	**+0.6**
OBF0				SG	**Sb**	**11 39 36.8**	**0.0**
OUL	**Oulu**	**2.21**	**339**	PB	**Pn**	**11 39 08.1**	**+0.1**
OUL				SG	**Sn**	**11 39 36.6**	**+0.6**
VAF	**Ylistaro**	**2.31**	**272**	PB	**Pn**	**11 39 10.8**	**+1.5**
VAF				MSG		11 39 39.1	
comp=Z,8.3nm,0.2s							
VAF				SG	**Sb**	**11 39 41.9**	**+0.2**
VJF	**Virojoki**	**2.51**	**182**	PB	**Pb**	**11 39 14.6**	**-1.3**
VJF				MSG		11 39 46.3	
comp=Z,4.1nm,0.2s							
VJF				SG	**Sb**	**11 39 48.3**	**+1.1**
PVF	**Pernaja**	**2.65**	**201**	PG	**Pb**	**11 39 18.6**	**+0.2**
PVF				MSG		11 39 50.5	
comp=Z,3.2nm,0.2s							
PVF				SG	**Sg**	**11 39 53.9**	**-1.4**
MSF	**Maaselka**	**2.94**	**10**	PN	**Pn**	**11 39 18.1**	**+0.1**
baz=195							
MSF				SB	**Sn**	**11 39 54.6**	**+0.6**
KU6	**Riekki**	**3.14**	**16**	PN	**Pn**	**11 39 21.1**	**+0.4**
baz=203							
KU6				MSG		11 40 00.8	
comp=Z,3.6nm,0.2s							
KU6				SB	**Sn**	**11 40 02.0**	**+3.0**
TOF	**Tornio**	**3.40**	**336**	PN	**Pn**	**11 39 24.9**	**+0.7**
KALU	**Kalix**	**3.42**	**328**	PN	**Pn**	**11 39 26.4**	**+1.9**
RNF	**Rovaniemi**	**3.67**	**349**	PN	**Pn**	**11 39 29.5**	**+1.6**
ERTU	**Ertsjaerv**	**4.26**	**329**	PN	**Pn**	**11 39 36.8**	**+0.8**
baz=143							
SGF	**Sodankyl**	**4.46**	**354**	PN	**Pn**	**11 39 39.7**	**+0.9**
baz=168							
ARCES	**ARCESS Array B**	**6.59**	**353**	Pn	**Pn**	**11 40 07.0**	**-1.2**
baz=172,slow=14,SNR=5.4							
ARCES				Sn	**Sn**	**11 41 19.8**	**-4.1**
baz=173,slow=22,SNR=6.1							
ARCES				Lg	Lg	11 41 56.2	
baz=170,slow=28,SNR=5.3							
HFS	**Hagfors**	**7.31**	**253**	Pn	**Pn**	**11 40 18.6**	**+0.7**
comp=Z,0.2nm,0.3s,baz=66,slow=14,SNR=1.5							
HFS				Sn	**Sn**	**11 41 39.8**	**-1.7**
comp=Z,0.2nm,0.3s,baz=67,slow=23,SNR=1.2							
NOA	**NORSAR Array B**	**8.02**	**263**	Pn	**Pn**	**11 40 27.3**	**-0.4**
comp=Z,0.0nm,0.3s,baz=47,slow=10,SNR=1.5							

*DJA **26** 11:43:34.4±2.5, 3°.S±30°.×15°.5E±1°.0, h39km±13km, M5.8/7, mB5.1/2, mb4.8/7, MLv6.3/1, Mw(mB)4.4/2*
*IDC **26** 11:44:00.4±2.9, 4°.64S×153°.74E, h100km±22km, mb3.9/16, mb1 4.1/17, mb1mx4.0/45, mbtmp4.3/17, MS3.3/15, Ms1 3.3/15, ms1mx3.0/61, Error ellipse: s-maj=29.5km s-min=13.0km az=100.0*
*NEIC **26** 11:44:01.9±1.3, 4°.57S±0°.09×153°.53E±0°.10, h103km±5km, mb4.5/16, Error ellipse: s-maj=16.3km s-min=10.3km az=132.0*
ISC 26 11:43:59.1±0.5, 4°.59S±0°.06×153°.67E±0°.07, h85km, n50, σ1§29/47, mb4.3/21, New Ireland region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.55**	**285**		**Pn**	**11 44 27.2**	**+2.0**
KRVT	**Keravat (AS076**	**1.66**	**280**	P	**Pn**	**11 44 29.0**	**+2.4**
baz=197,slow=19							
KRVT				S	**Sn**	**11 44 49.5**	**+2.0**
baz=197,slow=20							
HNR	**Honiara**	**7.87**	**128**	S	**Sn**	**11 47 20.8**	**+2.3**
3.5nm,0.3s,baz=180,slow=15,SNR=1.3							
HNR				LR	LR	11 48 29.5	
comp=Z,135nm,21.5s,baz=318,slow=35							
PMG	**Port Moresby**	**8.04**	**233**	P	**Pn**	**11 45 56.2**	**+3.1**
14nm,0.3s,baz=40,slow=6.1,SNR=78							
PMG				S	**Sn**	**11 47 23.9**	**+1.5**
5.6nm,0.3s,baz=126,slow=17,SNR=5.9							
PMG				LR	LR	11 49 05.9	
comp=Z,149nm,21.5s,baz=88,slow=38							
PMG	**Port Moresby**	**8.04**	**233**	Pn	**Pn**	**11 45 55.6**	**+2.5**
PATS	**Pohnpei**	**12.26**	**22**	Pn	**Pn**	**11 46 51.5**	**+0.9**
JAY	**Jayapura**	**13.10**	**279**	LR	LR	11 50 60.0	
comp=Z,118nm,20.8s,baz=346,slow=32							
CTA	**Charters Tower**	**17.01**	**204**	LR	LR	11 53 19.5	
comp=Z,78nm,20.9s,baz=80,slow=33							
EIDS	**Eidsvold**	**20.81**	**187**	P	**P**	**11 48 35.1**	**+1.4**
EIDS				IAmb	IAmb	11 48 36.4	
comp=Z,18nm,1.1s							
SIJI	**Sorong**	**22.67**	**279**	LR	LR	11 58 38.4	
comp=Z,120nm,19.9s,baz=122,slow=39							
MTN	**Manton Dam**	**23.72**	**248**	P	**P**	**11 49 02.1**	**-1.5**
MTN				IAmb	IAmb	11 49 27.5	
comp=Z,20nm,1.2s							
WB0	**Warramunga Arr**	**24.09**	**230**	P	**P**	**11 49 06.6**	**-0.3**
WR0	**Warramunga Arr**	**24.09**	**229**	P	**P**	**11 49 06.9**	**0.0**
WR0				IAmb	IAmb	11 49 08.8	
comp=Z,27nm,0.9s							
WRA	**Warramunga Arr**	**24.23**	**229**	P	**P**	**11 49 08.7**	**+0.5**
comp=Z,25nm,0.7s,baz=54,slow=9.9,SNR=62							
WRA				PcP	**PcP**	**11 52 46.2**	**-0.5**
comp=Z,0.8nm,0.9s,baz=42,slow=1.4,SNR=1.9							
WRA				LR	LR	11 59 40.0	
comp=Z,50nm,18.1s,baz=77,slow=39							
WRA	**Warramunga Arr**	**24.23**	**229**	P	**P**	**11 49 07.5**	**-0.7**
ARMA	**Armidale**	**25.76**	**184**	P	**P**	**11 49 23.0**	**+0.9**
TNTI	**Ternate**	**26.81**	**281**	P	**P**	**11 49 29.2**	**-2.4**
TNTI				IAmb	IAmb	11 49 33.4	
comp=Z,22nm,0.9s							
KNRA	**Kununurra**	**26.84**	**244**	P	**P**	**11 49 31.2**	**-0.6**
KNRA				IAmb	IAmb	11 49 37.1	
comp=Z,22nm,1.2s							
AS31	**Alice Springs**	**26.89**	**223**	P	**P**	**11 49 31.6**	**-0.6**
ASAR	**Alice Springs**	**26.89**	**223**	P	**P**	**11 49 32.4**	**+0.1**
comp=Z,2.8nm,0.6s,baz=56,slow=9.0,SNR=20							
ASAR				PcP	**PcP**	**11 52 51.8**	**-0.9**
comp=Z,0.9nm,0.8s,baz=55,slow=3.9,SNR=4.0							
ASAR				S	**S**	**11 54 00.1**	**-3.0**
comp=Z,0.5nm,0.9s,baz=45,slow=16,SNR=4.2							
ASAR				LR	LR	12 01 49.1	
comp=Z,38nm,18.9s,baz=70,slow=40							
MSVF	**Nonsavu**	**27.20**	**121**	LR	LR	11 59 36.4	
comp=Z,54nm,19.1s,baz=191,slow=34							
STKA	**Stephens Creek**	**29.41**	**201**	P	**P**	**11 49 54.2**	**-0.4**
comp=Z,5.1nm,0.7s,baz=7.9,slow=8.4,SNR=9.5							
STKA	**Stephens Creek**	**29.41**	**201**	P	**P**	**11 49 54.1**	**-0.5**
BATI	**Baumata**	**30.26**	**258**	LR	LR	12 04 00.8	
comp=Z,116nm,18.3s,baz=94,slow=40							
KAPI	**Kappang**	**33.80**	**268**	LR	LR	12 08 02.5	
comp=Z,17nm,18.7s,baz=86,slow=43							
FORT	**Forrest**	**35.50**	**220**	P	**P**	**11 50 47.5**	**-0.3**
MBWA	**Marble Bar**	**36.82**	**240**	P	**P**	**11 50 58.0**	**-1.2**
MBWA				IAmb	IAmb	11 50 59.4	
comp=Z,9.1nm,0.9s							
PSA00	**Pilbara Seismi**	**36.88**	**240**	P	**P**	**11 50 58.8**	**-0.9**
JOW	**Kunigami**	**39.74**	**323**	LR	LR	12 07 44.0	
comp=Z,35nm,19.1s,baz=286,slow=36							
JNU	**Nakatsue**	**43.28**	**332**	P	**P**	**11 51 52.8**	**+0.3**
comp=Z,11nm,0.9s,baz=125,slow=4.0,SNR=5.2							
JNU	**Nakatsue**	**43.28**	**332**	IAmb	IAmb	11 51 54.2	
comp=Z,18nm,0.9s							
KSRS	**Korea Array**	**48.21**	**332**	P	**P**	**11 52 31.1**	**0.0**
comp=Z,2.2nm,0.9s,baz=148,slow=8.7,SNR=5.3							
KSRS				LR	LR	12 11 17.1	
comp=Z,12nm,19.9s,baz=80,slow=34							
PETK	**Petropavlovsk-**	**57.58**	**3**	P	**P**	**11 53 40.8**	**+0.9**
comp=Z,2.4nm,0.8s,baz=152,slow=6.5,SNR=5.1							

PETK LR LR 12 18 25.5
comp=Z,25nm,18.3s,baz=114,slow=36
CMAR Chiang Mai Arr 58.57 295 P P 11 53 48.5 +1.1
comp=Z,1.2nm,0.4s,baz=109,slow=5.1,SNR=10.0
SHEM Shemya Is, Ala 59.67 14 LR LR 12 15 06.8
comp=Z,68nm,19.9s,baz=106,slow=31
SONM Songino Array 66.61 327 P P 11 54 40.5 -0.1
comp=Z,0.9nm,0.4s,baz=136,slow=5.6,SNR=10.0
SEY Seymchan 67.34 359 P **P 11 54 45.3 +0.6**
comp=Z,0.6nm,0.4s,baz=160,slow=12,SNR=5.6
MKAR Makanchi Array 80.74 319 P **P 11 56 03.4 +0.2**
comp=Z,2.8nm,0.9s,baz=100,slow=5.9,SNR=14
ZALV Zalesovo Beam 81.46 326 P **P 11 56 05.8 -1.0**
comp=Z,0.9nm,0.5s,baz=107,slow=5.1,SNR=5.2
ILAR Eielson Array 81.64 22 P **P 11 56 06.5 -1.1**
comp=Z,0.7nm,0.8s,baz=246,slow=6.2,SNR=6.4
ILAR pP **pwP 11 56 34.4 +1.2**
comp=Z,0.4nm,0.6s,baz=233,slow=5.2,SNR=3.4
KURBB Kurchatov Arra 84.17 322 P **P 11 56 20.6 -0.3**
comp=Z,2.3nm,0.9s,baz=105,slow=4.4,SNR=13
QSPA South Pole Qui 85.37 180 P **P 11 56 26.2 -0.6**
comp=Z,1.7nm,0.5s,baz=14,slow=7.8,SNR=15
QSPA South Pole Qui 85.37 180 P **P 11 56 26.2 -0.6**
QSPA IAmb IAmb 11 56 53.5
comp=Z,5.5nm,1.2s
NRIK Noril'sk 86.05 341 P **P 11 56 30.2 +0.3**
comp=Z,1.0nm,0.4s,baz=46,slow=4.8,SNR=3.9
NRIK Noril'sk 86.05 341 IAmb IAmb 11 56 30.7
comp=Z,5.1nm,1.2s
MAW Mawson 86.09 203 P **P 11 56 29.2 -1.0**
YKA Yellowknife Ar 94.84 28 P **P 11 57 10.4 -0.8**
comp=Z,0.3nm,0.7s,baz=269,slow=4.5,SNR=5.7
PDAR Pinedale Array 98.07 48 LR LR 12 32 53.5
comp=Z,23nm,21.7s,baz=326,slow=30
TORD Torodi Ar. Bea 151.06 289 PKPbc **PKPbc 12 03 42.0 -1.3**
comp=Z,3.3nm,0.8s,baz=52,slow=2.4,SNR=14
TORD PKPab **PKPab 12 03 50.5 -0.7**
comp=Z,3.6nm,0.8s,baz=78,slow=4.6,SNR=9.0
TORD pPKP **pPKPbc 12 04 05.9 +0.2**
comp=Z,1.6nm,0.9s,baz=103,slow=2.2,SNR=3.2
DBIC Dimbokro 158.53 277 PKPab **PKPab 12 04 22.8 -0.3**
comp=Z,2.0nm,0.9s,baz=64,slow=2.8,SNR=3.6

IDC 26 11:46:18.4±2.1, 15°.58S×175°.06W, h228km±79km, mb3.2/3, mb1 3.5/4, mb1mx3.1/38, mbtmp3.8/4, Error ellipse: s-maj=297.6km s-min=27.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.58**	**63**	P	Pn	11 47 17.7	+1.4
	5.1nm,0.3s,baz=270,slow=14,SNR=14						
AFI				S	S	11 48 01.8	0.0
	7.2nm,0.3s,baz=187,slow=23,SNR=9.2						
WRA	**Warramunga Arr**	**48.25**	**257**	P	P	11 54 36.4	-0.4
	0.4nm,0.4s,baz=90,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**48.54**	**252**	P	P	11 54 38.9	-0.1
	1.5nm,0.4s,baz=90,slow=7.5,SNR=38						
ILAR	**Eielson Array**	**82.94**	**12**	P	P	11 58 17.5	+0.2
	0.1nm,0.4s,baz=212,slow=5.1,SNR=0.8						

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*IDC **26** 11:48:55.2±1.3, 32°.88S×178°.43W, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.0/31, mbtmp4.2/5, ML4.0/1, Error ellipse: s-maj=35.6km s-min=31.0km az=54.0*
*WEL **26** 11:49:00.1±1.2, 33°.S±20°.×17°.8W±2°.5, h200km±40km, M4.1/12, mB4.4/8, ML4.8/13, MLv4.7/12, Mw(mB)3.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=127.4*
ISC 26 11:48:56.2±1.2, 33°.16S±0°.10×178°.3W±0°.2, h10km, n37, σ1°.23/56, mb4.3/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.38**	**209**	P	**Pn**	**11 50 18.1**	**+1.6**
WMGZ				S	**Sn**	**11 51 18.8**	**+0.2**
PKGZ	**Pakihiroa**	**5.59**	**211**	P	**Pn**	**11 50 20.2**	**+0.9**
PKGZ				S	**Sn**	**11 51 24.3**	**+0.6**
HAZ	**Te Kaha**	**5.61**	**214**	P	**Pn**	**11 50 20.7**	**+1.1**
HAZ				S	**Sn**	**11 51 25.6**	**+1.5**
PUZ	**Puketiti**	**5.67**	**209**	P	**Pn**	**11 50 20.7**	**+0.3**
PUZ				S	**Sn**	**11 51 26.6**	**+1.1**
RUGZ	**Raukumara Rang**	**5.83**	**214**	P	**Pn**	**11 50 23.1**	**+0.3**
RUGZ				S	**Sn**	**11 51 31.1**	**+1.4**
TWGZ	**Tauwhareparae**	**5.87**	**210**	P	**Pn**	**11 50 23.8**	**+0.6**
TWGZ				S	**Sn**	**11 51 30.4**	**-0.2**
MWZ	**Matawai**	**6.20**	**212**	P	**Pn**	**11 50 27.6**	**-0.2**
MWZ				S	**Sn**	**11 51 37.5**	**-1.1**
URZ	**Urewera**	**6.33**	**215**	Pn	**Pn**	**11 50 29.6**	**+0.1**
	3.4nm,0.3s,baz=124,slow=11,SNR=28						
URZ				Sn	**Sn**	**11 51 40.8**	**-1.1**
	9.4nm,0.3s,baz=92,slow=20,SNR=15						
URZ	**Urewera**	**6.33**	**215**	P	**Pn**	**11 50 29.6**	**+0.1**
URZ				S	**Sn**	**11 51 41.3**	**-0.6**
RAGZ	**Rawiri**	**6.38**	**212**	P	**Pn**	**11 50 30.4**	**+0.1**
RAGZ				S	**Sn**	**11 51 43.7**	**+0.5**
SNGZ	**Shannon Statio**	**6.65**	**211**	P	**Pn**	**11 50 35.1**	**+1.1**
SNGZ				S	**Sn**	**11 51 49.7**	**-0.1**
MUGZ	**Murupara**	**6.67**	**216**	P	**Pn**	**11 50 33.7**	**-0.5**
MUGZ				S	**Sn**	**11 51 49.4**	**-0.9**
RTZ	**Ruatahuna**	**6.68**	**214**	P	**Pn**	**11 50 34.1**	**-0.2**
RTZ				S	**Sn**	**11 51 48.9**	**-1.6**
KNZ	**Kokohu**	**6.71**	**208**	P	**Pn**	**11 50 33.6**	**-1.1**
KNZ				S	**Sn**	**11 51 50.3**	**-1.0**
MHGZ	**Mahia Peninsul**	**6.74**	**206**	P	**Pn**	**11 50 34.5**	**-0.6**
MHGZ				S	**Sn**	**11 51 50.8**	**-1.1**
TOZ	**Tahuroa Road**	**6.84**	**226**	P	**Pn**	**11 50 40.6**	**+4.1**
MTHZ	**Maungataniwha**	**6.93**	**214**	P	**Pn**	**11 50 38.3**	**+0.5**
MTHZ				S	**Sn**	**11 51 56.3**	**-0.5**
OUZ	**Omahuta**	**7.06**	**251**	P	Pn	11 50 44.9	+5.3
MRHZ	**Matea Rd**	**7.12**	**216**	P	**Pn**	**11 50 40.7**	**+0.2**
MRHZ				S	**Sn**	**11 51 59.9**	**-1.5**
NMHZ	**Naumai**	**7.15**	**213**	P	**Pn**	**11 50 41.6**	**+0.8**
NMHZ				S	**Sn**	**11 52 01.3**	**-0.8**
ARHZ	**Aropaoanui**	**7.20**	**211**	P	**Pn**	**11 50 40.9**	**-0.5**
ARHZ				S	**Sn**	**11 52 02.3**	**-1.0**
MCHZ	**McNeill Hill**	**7.48**	**212**	P	**Pn**	**11 50 45.4**	**+0.1**
MCHZ				S	**Sn**	**11 52 09.1**	**-1.1**
KAHZ	**Kahuranaki**	**7.69**	**209**	P	**Pn**	**11 50 46.2**	**-2.0**
KAHZ				S	**Sn**	**11 52 13.1**	**-2.5**
TMVZ	**Te Maari**	**7.69**	**218**	P	**Pn**	**11 50 48.3**	**-0.1**
NTVZ	**North Tongariro**	**7.70**	**218**	P	**Pn**	**11 50 48.4**	**+0.1**
ETVZ	**East Tongariro**	**7.71**	**218**	P	**Pn**	**11 50 48.8**	**+0.2**
OTVZ	**Oturere**	**7.75**	**218**	P	**Pn**	**11 50 49.3**	**+0.1**
OTVZ				S	**Sn**	**11 52 14.4**	**-2.7**
CTA	**Charters Tower**	**34.13**	**283**	P	**P**	**11 55 41.6**	**+0.2**
	2.3nm,0.5s,baz=116,slow=8.4,SNR=9.5						
ASAR	**Alice Springs**	**42.82**	**270**	P	**P**	**11 56 53.6**	**-0.9**
	1.8nm,0.6s,baz=111,slow=7.6,SNR=26						
ASAR				PcP	**PcP**	**11 58 44.8**	**-0.9**
	0.4nm,0.8s,baz=116,slow=4.9,SNR=3.0						
WRA	**Warramunga Arr**	**44.06**	**275**	P	**P**	**11 57 03.3**	**-1.2**
	2.0nm,0.3s,baz=115,slow=7.8,SNR=59						
QSPA	**South Pole Qui**	**56.95**	**180**	P	**P**	**11 58 44.9**	**+3.4**
	3.5nm,1.1s,baz=242,slow=1.4,SNR=5.9						
H03N3	**Juan Fernandez**	**79.33**	**123**	T	T	13 29 44.8	
	baz=240,slow=72,SNR=9.5						
H03N2	**Juan Fernandez**	**79.33**	**123**	T	T	13 29 46.8	
	baz=240,slow=72,SNR=8.9						
H03N1	**Juan Fernandez**	**79.35**	**123**	T	T	13 29 52.6	
	baz=240,slow=72,SNR=9.1						
FINES	**FINESS Array B**	**147.64**	**338**	PKPbc	**PKPbc**	**12 08 39.0**	**-1.1**
	3.3nm,0.6s,baz=50,slow=4.5,SNR=15						
NOA	**NORSAR Array B**	**151.44**	**350**	PKPbc	**PKiKP**	**12 08 49.8**	**-0.3**
	2.0nm,1.0s,baz=23,slow=4.1,SNR=3.1						
BRTR	**Keskin Array B**	**153.62**	**294**	PKPbc	**PKiKP**	**12 08 54.5**	**-0.9**
	0.7nm,0.5s,baz=132,slow=4.5,SNR=4.7						

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*REN **26** 11:53:45.4±1.0, 39°.59N±0°.01×119°.09W±0°.01, h9km±5km, ML2.6/11, ML2.4/45(NEIC), Error ellipse: s-maj=2.2km s-min=0.7km az=135.0*
NEIC 26 11:53:45.0±0.8, 39°.61N±0°.01×119°.06W±0°.03, h6km±6km, Error ellipse: s-maj=3.3km s-min=1.5km az=61.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAHR	**Pah Rah Range**	**0.27**	**290**	Pg	Pg	11 53 50.6	+0.2
PAHR				Sg	Sg	11 53 54.8	+0.8
PAHR				IAML		11 53 55.7	
	comp=N,414nm,0.3s						
VCNR	**Virginia City**	**0.56**	**236**		Pg	11 53 55.6	-0.2
VCNR				Sg	Sg	11 54 03.1	0.0
VCNR				IAML		11 54 03.4	
	comp=E,285nm,0.4s						
VCNR				IAML		11 54 03.6	
	comp=N,369nm,0.5s						
YERR	**Yerington**	**0.64**	**193**		Pg	11 53 57.3	0.0
YERR				Sg	Sg	11 54 06.4	+0.7
YERR				IAML		11 54 07.0	
	comp=E,301nm,0.4s						
YERR				IAML		11 54 07.2	
	comp=N,222nm,0.3s						
PNTR	**Pine Nut**	**0.67**	**219**	Pg	Pg	11 53 57.6	-0.3
WVA	**Winnemucca Val**	**0.68**	**299**		Pg	11 53 58.1	+0.1
PEAR	**Peavine Mounta**	**0.70**	**270**		Pg	11 53 58.4	0.0
BABR	**Babbit Peak**	**0.81**	**270**		Pg	11 54 00.7	+0.1
MPK	**Martis Peak**	**0.82**	**248**		Pg	11 54 00.8	+0.1
MPK				Sg	Sg	11 54 11.6	+0.3
MPK				IAML		11 54 14.4	
	comp=N,92nm,0.7s						
MPK				IAML		11 54 19.8	
	comp=E,136nm,0.6s						
BFC	**Buffalo Canyon**	**0.84**	**211**		Pg	11 54 00.7	-0.4
KBF	**Kyburz Flat**	**0.90**	**264**		Pg	11 54 02.1	-0.2
LOY	**Loyalton**	**0.91**	**273**		Pg	11 54 02.2	-0.3
GNO	**Genoa**	**0.92**	**222**		Pg	11 54 02.4	-0.3
KVN	**Kaiserville**	**0.93**	**127**		Pg	11 54 03.1	+0.3
KVN				IAML		11 54 19.3	
	comp=N,168nm,0.6s						
IND	**Independence**	**0.97**	**260**		Pg	11 54 03.7	0.0
DONR	**Donner Summit**	**1.01**	**256**		Pg	11 54 04.6	+0.2
RUBR	**Rubicon Trail**	**1.02**	**237**	Pg	Pg	11 54 04.3	-0.3
EMB	**Emerald Bay**	**1.03**	**232**		Pg	11 54 04.3	-0.5
RYN	**Ryan**	**1.07**	**157**		Pg	11 54 05.5	+0.1
NVAR	**Mina Array Bea**	**1.32**	**153**		Pn	11 54 09.7	-0.5
NV11	**Mina Array Sit**	**1.37**	**149**	Pn	Pn	11 54 10.4	-0.4
NV11				IAML		11 54 30.8	
	comp=N,51nm,1.0s						
NV11				IAML		11 54 32.6	
	comp=E,76nm,0.6s						
LHV	**Little Huntoon**	**1.43**	**162**		Pb	11 54 11.8	-0.1
LUL	**Lundy Lake**	**1.56**	**184**		Pb	11 54 14.3	-0.1
BMN	**Battle Mountai**	**1.63**	**59**		Pn	11 54 14.1	-0.3
Q09A	**Carvers**	**1.65**	**118**		Pn	11 54 15.2	+0.5
CMB	**Columbia Colle**	**1.89**	**214**	Pn	Pn	11 54 17.8	0.0
ORV	**Oroville**	**1.89**	**269**	Pn	Pn	11 54 17.9	0.0
ORV				IAML		11 54 44.8	
	comp=N,29nm,0.4s						
BENR	**Benton**	**1.93**	**169**		Pb	11 54 21.1	+0.4
MLNR	**Milner Canyon**	**2.09**	**164**		Pb	11 54 23.6	+0.2
TPH	**Tonopah**	**2.10**	**136**	Pn	Pb	11 54 22.7	-0.9
O03E	**Paynes Creek**	**2.22**	**289**	Pn	Pb	11 54 24.4	-1.2
O03E				IAML		11 54 58.3	
	comp=N,22nm,1.1s						
DSP	**Deep Springs**	**2.40**	**159**		Pb	11 54 27.9	-0.6
MOD	**Modoc Plateau**	**2.48**	**338**	Pn	Pb	11 54 28.8	-1.2
MOD				IAML		11 55 16.3	
	comp=E,18nm,0.8s						
MOD				IAML		11 55 21.0	
	comp=N,12nm,1.0s						
WVOR	**Wild Horse Val**	**2.84**	**6**	Pn	Pn	11 54 30.8	-0.1
WVOR				IAML		11 55 31.9	
	comp=N,12nm,4.8s						
WVOR				IAML		11 55 35.6	
	comp=N,11nm,5.0s						
ELK	**Elko**	**3.13**	**68**	Pn	Pn	11 54 35.6	+0.4
K05A	**Summer Lake**	**3.41**	**337**	Pn	Pn	11 54 39.7	+0.8
SAO	**San Andreas Ge**	**3.41**	**214**	Pn	Pn	11 54 39.6	+0.8
YBH	**Yreka Blue Hor**	**3.49**	**308**	Pn	Pn	11 54 37.7	-2.3
YBH				IAML		11 55 37.6	
	comp=N,12nm,5.0s						
YBH				IAML		11 55 51.8	
	comp=E,11nm,4.9s						
L04D	**Klamath Falls**	**3.58**	**318**	Pn	Pn	11 54 40.3	-0.9
SPR3	**Spring Creek 3**	**3.71**	**98**		Pn	11 54 43.7	+0.5
PINE	**Pine Mountain**	**4.41**	**342**	Pn	Pn	11 54 50.3	-2.4

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*SFS **26** 11:55:57.0, 35°.45N×3°.85W, ML3.2, ALBORAN SUR*
*MDD **26** 11:55:57.0±0.8, 35°.45N×3°.86W, h0km, mbLg3.2/10, Error ellipse: s-maj=7.2km s-min=4.6km az=19.0*
MDD EMS: II INTENSIDAD MAXIMA.
*IDC **26** 11:55:57.7±1.1, 35°.56N×3°.88W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/39, mbtmp3.6/5, ML3.3/2, MS3.1/4, Ms1 3.2/4, ms1mx2.7/89, Error ellipse: s-maj=34.7km s-min=13.6km az=95.0*
*INMG **26** 11:55:58.2±2.4, 35°.49N×3°.80W, h0km±11km, MD3.3, ML3.0, Error ellipse: s-maj=9.1km s-min=6.8km az=72.0*
*LDG **26** 11:55:59.9±0.5, 35°.45N×3°.57W, h10km, Ml3.5/4, Error ellipse: s-maj=11.4km s-min=6.1km az=5.0*
*IGIL **26** 11:55:59.2, 35°.45N×3°.86W, h0km, ML2.9*
*CNRM **26** 11:55:59.4, 35°.50N×3°.73W, h20km, ml3.6*
ISC 26 11:55:57.6±1.0, 35°.57N±0°.02×3°.68W±0°.03, h13km±8km, n72, σ1°.87/100, mb3.9/3, MS3.1/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.41**	**212**	P	**Pg**	**11 56 05.2**	**-0.6**
PALE				S	**Sg**	**11 56 10.6**	**-0.7**
EALB	**Alboran**	**0.64**	**54**	Pg	**Pn**	**11 56 13.2**	**+0.8**
	33nm,0.3s,SNR=28						
EALB				Lg	Lg	11 56 24.0	
	678nm,0.2s,SNR=5.0						
EMEL	**Melilla**	**0.64**	**114**	Pg	**Pg**	**11 56 10.2**	**0.0**
	40nm,0.3s,SNR=6.5						
EMEL				Lg	Lg	11 56 21.1	
	3μm,0.2s,SNR=34						
GOG	**Mont Gurugu**	**0.65**	**121**	P	**Pn**	**11 56 12.4**	**-0.3**
GOG				S	**Sb**	**11 56 20.4**	**+0.4**
AKLM	**AKL**	**1.06**	**188**	P	**Pb**	**11 56 17.6**	**-0.4**
AKLM				S	**Sn**	**11 56 33.1**	**+0.1**
CHAS	**Isla Isabel II**	**1.09**	**110**	*e*P	**Pb**	**11 56 18.1**	**-0.2**
CHAS				*e*S	**Sg**	**11 56 32.6**	**-0.1**
TAF	**Taforalt**	**1.28**	**126**	P	**Pb**	**11 56 21.8**	**+0.2**
TAF				S	**Sg**	**11 56 38.9**	**+0.1**
ELGU	**Los Guajares,**	**1.30**	**2**	Pn	**Pg**	**11 56 22.2**	**-0.5**
	SNR=7.9						
ELGU				Lg	Lg	11 56 42.6	
	569nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**1.34**	**319**	Pg	**Pn**	**11 56 21.9**	**-0.1**
	49nm,0.3s,SNR=33						
EMIJ				Lg	Lg	11 56 39.6	
	432nm,0.4s,SNR=8.7						
EMAL	**Malaga-Limoner**	**1.34**	**333**	*e*P	**Pn**	**11 56 21.8**	**-0.3**
EMAL				*e*S	**Sb**	**11 56 39.6**	**-0.1**
CEU	**Ceuta**	**1.42**	**284**	*e*P	**Pn**	**11 56 20.3**	**-2.8**
CEU				*e*S	**Sn**	**11 56 38.4**	**-3.3**
ECEU	**Ceuta**	**1.42**	**284**	Pg	**Pn**	**11 56 21.6**	**-1.6**
	21nm,0.3s,SNR=10						
ECEU				Lg	Lg	11 56 38.4	
	29nm,0.1s,SNR=7.5						
CHEFC	**Chefchaouen**	**1.44**	**252**	P	**Pg**	**11 56 25.0**	**-0.2**
EBER	**Berja**	**1.47**	**25**	Pg	**Pg**	**11 56 26.5**	**+0.6**
	2.6nm,0.3s,SNR=7.5						
EBER				Lg	Lg	11 56 49.4	
	898nm,0.9s,SNR=14						
JBK	**JBK**	**1.53**	**143**	P	**Pb**	**11 56 25.8**	**-0.1**
JBK				S	**Sn**	**11 56 44.5**	**-0.2**
EGOR	**Sierra Gorda,**	**1.58**	**347**	Pg	**Pb**	**11 56 27.0**	**+0.2**
	SNR=7.9						
EGOR				Lg	Lg	11 56 50.2	
	211nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**1.65**	**7**	Pg	**Pg**	**11 56 29.1**	**-0.2**
	1.3nm,0.2s,SNR=5.7						
EQUE				Lg	Lg	11 56 53.8	
	165nm,0.6s,SNR=33						
ENIJ	**Nijar**	**1.84**	**40**	Pn	**Pb**	**11 56 30.8**	**-0.3**
	SNR=7.9						
ENIJ				Lg	Lg	11 57 01.9	
	63nm,0.4s,SNR=7.9						
LCRM	**LCR**	**2.11**	**208**	P	**Pb**	**11 56 37.0**	**+1.1**
EQES	**Quesada**	**2.29**	**12**	Pg	**Pb**	**11 56 39.7**	**+0.9**
	51nm,0.4s,SNR=37						
EQES				Sn	**Sg**	**11 57 09.3**	**-1.8**
	101nm,0.7s,SNR=8.1						
IFR	**Ifrane**	**2.37**	**211**	*e*S	**Sn**	**11 57 06.6**	**+1.2**
IFR	**Ifrane**	**2.37**	**211**	*e*P	**Pn**	**11 56 36.1**	**-0.3**
MD31	**MD31**	**2.84**	**199**	P	**Pn**	**11 56 44.3**	**+1.6**
MD31				S	**Sn**	**11 57 16.9**	**+0.1**
MDT	**Midelt**	**2.85**	**196**	Pn	**Pn**	**11 56 45.6**	**+2.7**
	1.7nm,0.3s,baz=7.2,slow=11,SNR=17						
MDT				Lg	Lg	11 57 26.7	
	7.1nm,0.3s,baz=209,slow=10,SNR=4.9						
MDT	**Midelt**	**2.85**	**196**	P	**Pn**	**11 56 45.2**	**+2.2**
ZHG	**ZHG**	**3.23**	**230**	P	**Pn**	**11 56 48.3**	**+0.1**
ZHG				S	**Sn**	**11 57 25.6**	**-1.0**
PVAQ	**Vaqueiros**	**3.74**	**301**	*e*Pn	**Pn**	**11 56 55.8**	**+0.8**
PVAQ				*e*Sn	**Sn**	**11 57 38.4**	**-0.5**
PVAQ				A	A	11 57 41.9	
	26nm,0.4s						
PVAQ	**Vaqueiros**	**3.74**	**301**	P	**Pn**	**11 56 55.8**	**+0.8**
PBDV	**Barranco-do-Ve**	**3.82**	**297**	*e*Pn	**Pn**	**11 56 56.2**	**0.0**
PBDV				*e*Sn	**Sn**	**11 57 39.4**	**-1.6**
PBDV				A	A	11 57 56.0	
	20nm,0.6s						
PCVE	**Castro Verde**	**4.07**	**302**	*e*Pn	**Pn**	**11 57 00.5**	**+0.9**
PCVE				*e*Sn	**Sn**	**11 57 46.3**	**-0.8**
PCVE				A	A	11 57 51.2	
	15nm,0.5s						
ESDC	**Sonseca Array**	**4.11**	**357**	Pn	**Pn**	**11 57 03.2**	**+3.0**
	1.7nm,0.3s,baz=180,slow=12,SNR=46						
ESDC				Sn	**Sn**	**11 57 48.9**	**+0.8**
	0.7nm,0.3s,baz=174,slow=28,SNR=5.3						
ESDC				Lg	Lg	11 58 07.9	
	1.4nm,0.3s,baz=182,slow=29,SNR=7.4						
PBEJ	**Beja**	**4.16**	**307**	*e*Pn	**Pn**	**11 57 02.3**	**+1.4**
PBEJ				*e*Sn	**Sn**	**11 57 48.4**	**-1.0**
PBEJ				A	A	11 57 56.3	
	11nm,0.7s						
MESJ	**Messejana**	**4.30**	**303**	*e*P	**Pn**	**11 57 03.0**	**+0.2**
MESJ				*e*S	**Sn**	**11 57 49.8**	**-2.9**
MESJ				IAML		11 57 59.3	
	comp=N,23nm,0.4s						
MESJ	**Messejana**	**4.30**	**303**	*e*Pn	**Pn**	**11 57 04.2**	**+1.5**
MESJ				*e*Sn	**Sn**	**11 57 52.3**	**-0.4**
MESJ				A	A	11 57 57.7	
	comp=N,19nm,0.6s						
MORF	**Marmelete**	**4.37**	**295**	*e*Pn	**Pn**	**11 57 05.1**	**+1.3**
MORF				*e*Sn	**Sn**	**11 57 53.4**	**-1.2**
MORF				A	A	11 58 00.6	
	comp=N,9.1nm,0.5s						
PFVI	**Vila Bisbo**	**4.44**	**292**	*e*Sn	**Sn**	**11 57 56.0**	**-0.3**
PFVI				A	A	11 58 00.6	
	comp=N,19nm,0.6s						
PTEO	**Sao Teotonio**	**4.52**	**297**	*e*Pn	**Pn**	**11 57 08.8**	**+3.1**
PESTR	**Estremoz**	**4.54**	**318**	*e*Pn	**Pn**	**11 57 08.9**	**+2.8**
PESTR				*e*Sn	**Sn**	**11 57 58.6**	**-0.1**
PESTR				A	A	11 58 15.1	
	comp=N,12nm,0.6s						
PESTR	**Estremoz**	**4.54**	**318**	P	**Pn**	**11 57 08.9**	**+2.8**
EVO	**Evora**	**4.56**	**312**	*e*P	**Pn**	**11 57 07.5**	**+1.1**
EVO				*e*S	**Sn**	**11 57 57.7**	**-1.5**
EVO	**Evora**	**4.56**	**312**	*e*Pn	**Pn**	**11 57 08.4**	**+2.1**
EVO				*e*Sn	**Sn**	**11 57 58.5**	**-0.7**
EVO				A	A	11 58 06.1	
	comp=N,15nm,0.6s						
PNCL	**Nicolau / Gran**	**4.65**	**305**	*e*Pn	**Pn**	**11 57 08.3**	**+0.8**
PNCL				*e*Sn	**Sn**	**11 58 02.0**	**+0.6**
PNCL				A	A	11 58 04.3	
	comp=N,11nm,0.5s						
PMRV	**Marv??o**	**4.86**	**324**	*e*Pn	**Pn**	**11 57 12.3**	**+1.9**
PMRV				*e*Sn	**Sn**	**11 58 10.3**	**+3.7**
PMRV				A	A	11 58 48.7	
	comp=N,16nm,0.7s						
PMTG	**Montargil**	**5.04**	**315**	*e*Pn	**Pn**	**11 57 15.0**	**+2.1**
PMTG				*e*Sn	**Sn**	**11 58 10.9**	**0.0**
PMTG				A	A	11 58 15.7	
	comp=N,11nm,0.9s						
PCBR	**Castelo Branco**	**5.22**	**326**	*e*Pn	**Pn**	**11 57 18.0**	**+2.6**
PCBR				*e*Sn	**Sn**	**11 58 15.4**	**-0.1**
PCBR				A	A	11 58 17.3	
	comp=N,8.0nm,0.4s						
OUZM	**OUZ**	**5.31**	**210**	P	Pn	11 57 22.0	+5.2
OUK	**Oukaimeden**	**5.58**	**220**	P	**Pn**	**11 57 22.0**	**+1.3**
MTE	**Manteigas**	**5.71**	**329**	*e*Pn	**Pn**	**11 57 25.9**	**+3.7**
MTE				*e*Sn	**Sn**	**11 58 28.9**	**+1.2**
MTE				A	A	11 58 59.0	
	comp=N,25nm,0.7s						
PCAS	**Casmilo, Conde**	**5.88**	**321**	*e*Pn	Pn	11 57 29.4	+4.9
PCAS				*e*Sn	**Sn**	**11 58 30.4**	**-1.5**
PCAS				A	A	11 59 12.0	
	comp=N,17nm,0.6s						
PVIS	**Viseu**	**6.12**	**328**	*e*Pn	**Pn**	**11 57 31.4**	**+3.6**
PVIS				*e*Sn	**Sn**	**11 58 37.9**	**+0.1**
PVIS				A	A	11 58 44.7	
	comp=N,12nm,0.2s						
MVO	**Moncorvo**	**6.18**	**336**	*e*Pn	**Pn**	**11 57 31.4**	**+2.8**
MVO				*e*Sn	**Sn**	**11 58 38.0**	**-1.2**
MVO				A	A	11 59 19.3	
	comp=N,16nm,0.6s						
PVRL	**Vila Real**	**6.52**	**332**	*e*Pn	**Pn**	**11 57 35.9**	**+2.6**
PVRL				*e*Sn	**Sn**	**11 58 47.3**	**-0.3**
PVRL				A	A	11 58 53.5	
	comp=N,16nm,0.5s						
POLO	**Lamas de Olo**	**6.64**	**332**	*e*Pn	**Pn**	**11 57 37.7**	**+2.7**
POLO				*e*Sn	**Sn**	**11 58 49.8**	**-0.7**
POLO				A	A	11 58 55.3	
	comp=N,6.5nm,0.6s						
PBRG	**Braganca**	**6.67**	**340**	*e*Pn	**Pn**	**11 57 38.6**	**+3.2**
PBRG				*e*Sn	**Sn**	**11 58 53.8**	**+2.4**
PBRG				A	A	11 59 15.4	
	comp=N,4.4nm,0.7s						
PGAV	**Gavieira, Arco**	**7.33**	**332**	*e*Pn	**Pn**	**11 57 47.9**	**+3.5**
PGAV				*e*Sn	**Sn**	**11 59 04.6**

TMZ	Timaru	4.40	55	P	Pn	12 04 11.2	-1.9
FOZ	Fox Glacier	4.42	39	P	Pn	12 04 13.7	+0.3
ARCZ	Arundel	4.77	52	P	Pn	12 04 16.0	-2.3
RPZ	Rata Peaks	4.87	49	P	Pn	12 04 16.7	-2.9
WACZ	Wakanui South	5.14	55	P	Pn	12 04 21.1	-2.2
WVZ	Waitaha Valley	5.19	42	P	Pn	12 04 25.3	+1.3
OXZ	Oxford	5.65	51	P	Pn	12 04 28.8	-1.6
MQZ	McQueen's Vall	5.75	57	P	Pn	12 04 29.5	-2.1
INZ	Inchbonnie	5.79	44	P	Pn	12 04 30.7	-1.5
OKCZ	Okains Bay	5.97	59	P	Pn	12 04 34.6	-0.2
LTZ	Lake Taylor	6.16	49	P	Pn	12 04 34.8	-2.5
DSZ	Denniston Nort	6.72	40	P	Pn	12 04 43.7	-1.4
THZ	Tophouse	7.22	46	P	Pn	12 04 51.5	-0.6
MRNZ	Matariki Terra	7.43	43	P	Pn	12 04 53.9	-0.9
QRZ	Quartz Range	7.79	40	P	Pn	12 04 57.9	-1.8
DUWZ	D'Urville Isla	8.45	45	P	Pn	12 05 09.2	+0.4
PAWZ	Paruwai Farm	8.81	54	P	Pn	12 05 13.1	-0.7
NEZ	North Egmont	9.75	40	P	Pn	12 05 27.0	+0.3
PKE	Pukeiti	9.77	40	P	Pn	12 05 28.9	+2.1

*IDC **26** 12:10:48.5±3.6, 51°.24N×178°.86W, h0km, mb3.2/3, mb1 3.9/5, mb1mx3.5/38, mbtmp3.7/5, ML3.0/2, Error ellipse: s-maj=84.9km s-min=27.0km az=3.0*
*AEIC **26** 12:10:53±1.9, 51°.25N±0°.06×178°.90W±0°.06, h23km±6km, ML3.1/15, mb3.8/14(NEIC), Error ellipse: s-maj=8.6km s-min=5.1km az=183.0*
*NEIC **26** 12:10:53.8±1.5, 51°.23N±0°.04×178°.98W±0°.04, h35km±7km, Error ellipse: s-maj=5.2km s-min=3.2km az=199.0*
ISC 26 12:10:50.8±1.3, 51°.12N±0°.09×178°.78W±0°.05, h10km, n38, σ1§49/37, mb3.7/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	Gareloi-Kavalg	0.44	357		Pb	12 11 01.2	+0.5
GALAA	Gareloi Lava P	0.65	1		Pb	12 11 04.9	+0.7
GASW	Gareloi Southw	0.66	356		Pb	12 11 04.7	+0.2
GASW					Sb	12 11 13.9	+0.1
GAEA	Gareloi East	0.67	2		Pb	12 11 05.2	+0.6
TASE	Tanaga Southea	0.86	33		Pb	12 11 09.0	+1.2
TASE					Sb	12 11 20.1	+0.8
TAFP	Tanaga Falls P	0.93	32		Pb	12 11 10.0	+1.0
TAFP					Sn	12 11 23.2	-0.1
KIMD	Kanaga Island	1.16	56		Pb	12 11 14.0	+1.0
KIMD					Sb	12 11 29.9	+1.8
KIWB	Kanaga Island	1.26	54		Pn	12 11 15.4	+0.9
KIKV	Kanaga Island	1.26	52		Pn	12 11 15.5	+1.0
ADK	Adak	1.52	59		Pn	12 11 19.6	+1.6
GSMY	Great Sitkin M	1.94	60		Pn	12 11 25.8	+2.0
GSTR	Great Sitkin T	1.96	59	Pn	Pn	12 11 24.5	+0.4
ATKA	Atka Island	3.06	67		Pn	12 11 41.6	+2.5
SHEM	Shemya Is, Ala	4.69	293	Pn	Pn	12 12 06.2	+4.6
	2.0nm,0.3s,baz=81,slow=19,SNR=3.7						
SHEM				Sn	Sb	12 13 06.8	-2.8
	2.3nm,0.3s,baz=306,slow=19,SNR=2.0						
KDAK	Kodiak Island	16.56	56	Pn	Pn	12 14 41.3	-1.6
	0.0nm,0.3s,baz=161,slow=23,SNR=1.4						
CAST	Castle Rocks	18.79	39	P	P	12 15 10.4	+0.4
CAST				IAmb	IAmb	12 15 13.9	
	comp=Z,12nm,1.5s						
CUT	Chulitna	19.10	43	P	P	12 15 13.5	+0.1
KTH	Kantishna Hill	19.32	39	P	P	12 15 16.0	+0.2
KTH				IAmb	IAmb	12 15 34.3	
	comp=Z,9.3nm,1.3s						
SCM	Sheep Creek Mo	20.19	46	P	P	12 15 24.8	-0.6
MDM	Murphy Dome	21.00	37	P	P	12 15 34.2	+0.1
MDM				IAmb	IAmb	12 15 45.2	
	comp=Z,6.6nm,1.4s						
CCB	Clear Creek Bu	21.03	38	P	P	12 15 34.3	-0.1
CCB				IAmb	IAmb	12 16 00.5	
	comp=Z,3.9nm,1.2s						
BMRM	Bremner River	21.24	49	P	P	12 15 37.1	+0.4
BMRM				IAmb	IAmb	12 15 59.4	
	comp=Z,12nm,1.1s						
IL31		21.44	38	P	P	12 15 37.6	-1.1
IL31				IAmb	IAmb	12 15 38.0	
	comp=Z,5.0nm,1.2s						
ILAR	Eielson Array	21.44	38	P	P	12 15 37.1	-1.6
	comp=Z,0.4nm,0.9s,baz=230,slow=8.3,SNR=6.0						
H24K	Noodor Dome	21.54	35	P	P	12 15 39.6	-0.3
H24K				IAmb	IAmb	12 15 43.1	
	comp=Z,3.8nm,1.2s						
SCRK	Sand Creek	22.32	42	P	P	12 15 46.8	-1.6
TOLK	Toolik Lake Re	22.49	28	P	P	12 15 48.6	-1.5
J26L	Joseph Creek	22.67	40	P	P	12 15 49.4	-2.7
J26L				IAmb	IAmb	12 16 00.9	
	comp=Z,3.9nm,1.3s						
L27K	Beaver Creek,	22.99	45	P	P	12 15 55.0	-0.4
BCAR	Beaver Creek A	23.01	45	P	P	12 15 55.2	-0.4
H11N2	WAKE ISLAND Hy	33.30	205	T	T	12 52 42.9	
	baz=16,slow=76,SNR=8.8						
H11N3	WAKE ISLAND Hy	33.31	205	T	T	12 52 44.5	
	baz=16,slow=76,SNR=8.5						
H11N1	WAKE ISLAND Hy	33.32	205	T	T	12 52 44.4	
	baz=16,slow=76,SNR=6.6						
H11S1	WAKE ISLAND Hy	34.52	205	T	T	12 54 14.2	
	baz=18						
H11S2	WAKE ISLAND Hy	34.53	205	T	T	12 54 14.9	
	baz=18						
H11S3	WAKE ISLAND Hy	34.53	205	T	T	12 54 17.7	
	baz=18						
YKA	Yellowknife Ar	35.40	46	P	P	12 17 44.2	-2.2
	comp=Z,0.3nm,0.7s,baz=280,slow=8.8,SNR=4.5						
PDAR	Pinedale Array	46.38	72	P	P	12 19 16.9	-0.4
	comp=Z,0.6nm,0.5s,baz=284,slow=3.6,SNR=8.0						

*SKHL **26** 12:12:45.2±0.3, 42°.70N×146°.20E, h22km±1km, mb4.2/5*
*JMA **26** 12:12:45.7±0.2, 42°.73N×146°.19E, h36km±3km, M3.0*
ISC 26 12:12:46.3±2.5, 42°.8N±0°.1×146°.15E±0°.07, h27km±14km, n16, σ0§50/28, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.69	334	P	Pb	12 12 59.4	-0.3
NEM2				eS	Sb	12 13 09.1	+0.3
NMR	Nemuro--Hokkai	0.69	334	i P	Pb	12 12 59.4	-0.4
NMR				eS	Sb	12 13 09.4	+0.4
JKHN	Kushirohamanak	0.80	295	P	Pn	12 13 01.2	-0.6
JKHN				eS	Sb	12 13 12.6	+0.5
AKK	Akkeshi	1.00	286	eP	Pn	12 13 03.9	-0.7
AKK				eS	Sn	12 13 17.6	-0.2
GLVR	Golovnino	1.09	335	i P	Pn	12 13 05.9	+0.1
GLVR				AMB	AMB	12 13 06.6	
	190nm,0.4s						
GLVR				eS	Sb	12 13 21.2	+0.8
GLVR				A	A	12 13 22.9	
	990nm,0.2s						
GLVR				A	A	12 13 22.9	
	280nm,0.2s						
JAK	Akkeshi	1.10	283	P	Pn	12 13 05.4	-0.5
JAK				eS	Sn	12 13 20.2	0.0
SHO	Shikotan	1.23	24	i P	Pn	12 13 07.3	-0.4
SHO				AMB	AMB	12 13 08.5	
	60nm,0.3s						
SHO				eS	Sb	12 13 23.8	-0.4
SHO				A	A	12 13 31.1	
	550nm,0.3s						
SHO				A	A	12 13 31.1	
	280nm,0.3s						
GRPR	Tuman	1.27	348	eP	Pn	12 13 08.2	-0.2
GRPR				AMB	AMB	12 13 09.6	
	80nm,0.2s						
GRPR				eS	Sb	12 13 25.6	0.0
GRPR				A	A	12 13 26.8	
	350nm,0.2s						
GRPR				A	A	12 13 26.8	
	210nm,0.2s						
YUK	Yuzh-Kuril'sk	1.30	351	eP	Pn	12 13 08.8	+0.1
YUK				AMB	AMB	12 13 10.8	
	100nm,0.2s						
YUK				eS	Sb	12 13 26.8	+0.4
YUK				A	A	12 13 32.9	
	240nm,0.2s						
YUK				A	A	12 13 32.9	
	400nm,0.2s						
JNK	Nakash	1.34	309	P	Pn	12 13 08.8	-0.5
JNK				eS	Sn	12 13 25.8	-0.4
JRA	Rausu	1.41	328	P	Pn	12 13 10.5	+0.3
JOB	Onbets	1.71	276	P	Pn	12 13 14.3	-0.1
JAR	Ashorobuto	1.83	288	P	Pn	12 13 16.0	0.0
JAR				eS	Sn	12 13 38.2	-0.1
JTKR	Abashiri--Toko	2.04	308	P	Pn	12 13 19.9	+1.0
JCH	Churui	2.06	267	P	Pn	12 13 20.2	+1.0
KUR	Kuril'sk	2.77	26	eP	Pn	12 13 29.6	+0.6
KUR				AMB	AMB	12 13 32.0	
	10.0nm,0.3s						
KUR				eS	Sn	12 14 01.8	+0.2
KUR				A	A	12 14 06.3	
	70nm,0.5s						
KUR				A	A	12 14 06.3	
	20nm,0.5s						

CNRM 26 12:31:10.0, 35°.42N×3°.82W, h21km, ml2.1, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.23	205	P	Pb	12 31 15.2	-0.8
PALE				S	Sb	12 31 19.2	-0.9
GOG	Mont Gurugu	0.70	106	P	Pb	12 31 22.7	-0.9
GOG				S	Sn	12 31 34.5	-0.6
CHAS	Isla Isabel II	1.16	101	eP	Pn	12 31 29.1	-1.9
CHAS				eS	Sb	12 31 43.3	-2.6
CHEFC	Chefchaouen	1.28	256	P	Pb	12 31 33.6	+0.1
CHEFC				S	Sn	12 31 48.9	-0.5
TAF	Taforalt	1.30	117	P	Pb	12 31 33.9	+0.1
TAF				S	Sb	12 31 51.2	+1.1
JBK	JBK	1.50	136	P	Pn	12 31 33.6	-2.2
JBK				S	Sn	12 31 52.6	-2.2
MD31	MD31	2.67	197	P	Pn	12 31 53.5	+1.7
MD31				S	Sn	12 32 24.3	+0.7
MDT	Midelt	2.68	194	P	Pn	12 31 54.0	+2.0
MDT				S	Sn	12 32 26.0	+2.0
PVAQ	Vaqueiros	3.71	303	P	Pn	12 32 07.0	+0.9
PVAQ				S	Sn	12 32 49.0	-0.2

*IDC **26** 12:48:15.1±4.5, 38°.12N×72°.20E, h35km±33km, mb3.5/10, mb1 3.8/16, mb1mx3.5/59, mbtmp3.8/16, ML3.4/6, Error ellipse: s-maj=30.3km s-min=18.1km az=172.0*
*NNC **26** 12:48:25.2±2.8, 38°.72N×72°.05E, h123km±54km, mb3.2, mpv3.7, Error ellipse: s-maj=27.8km s-min=15.4km az=8.0*
ISC 26 12:48:23.8±0.9, 38°.64N±0°.09×72°.04E±0°.08, h100km, n31, σ1§75/35, mb3.6/10, 4C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.71	19	P	Pn	12 49 20.0	+0.6
	SNR=388						
UCH	Uchtor	4.05	27	P	Pn	12 49 24.4	+0.4
	SNR=20						
EKS2	Erkin-Say	4.23	18	P	Pn	12 49 27.7	+1.5
	SNR=31						
AAK	Ala-Archa	4.41	24	Pn	Pn	12 49 29.3	+0.7
	2.6nm,0.3s,baz=203,slow=9.8,SNR=41						
AAK				Sn	Sn	12 50 19.8	+0.9
	2.1nm,0.3s,baz=94,slow=17,SNR=12						
AAK				Lg	Lg	12 50 50.7	
	2.1nm,0.3s,baz=25,slow=22,SNR=2.4						
AAK	Ala-Archa	4.41	24	P	Pn	12 49 29.5	+0.9
	SNR=20						
AAK	Ala-Archa	4.41	24	⇑Pn	Pn	12 49 29.3	+0.7
	8.9nm,0.7s						
AAK				⇓Sn	Sn	12 50 20.2	+1.2
	44nm,0.8s						
KBK	Karagaybulak	4.58	28	P	Pn	12 49 31.7	+0.7
	SNR=9.7						
KK08	Karatay Array	4.62	346	⇑Pn	Pn	12 49 32.1	+0.8
	2.0nm,0.3s						
KK08				⇑Sn	Sn	12 50 24.3	+0.6
	6.2nm,0.3s						
CHMS	Chumysh	4.82	24	P	Pn	12 49 34.8	+0.8
	SNR=13						
ULHL	Ulahol	4.82	40	P	Pn	12 49 35.1	+0.8
	SNR=16						
USP	Ospenovka	4.99	21	P	Pn	12 49 36.9	+0.6
	SNR=9.3						
TKM2	Tokmak 2	5.06	31	P	Pn	12 49 38.9	+1.5
	SNR=11						
TKM2	Tokmak 2	5.06	31	⇓Pn	Pn	12 49 38.2	+0.7
	26nm,0.7s						
TKM2				⇑Sn	Sn	12 50 35.1	+0.4
	16nm,0.7s						
GEYT	Alibeck	10.97	271	Pn	Pn	12 50 53.3	-4.3
	1.2nm,0.3s,baz=94,slow=13,SNR=13						
GEYT				Sn	Sn	12 52 50.5	-7.9
	0.9nm,0.3s,baz=70,slow=42,SNR=4.2						
MKAR	Makanchi Array	11.10	39	Pn	Pn	12 50 58.1	-1.2
	0.3nm,0.3s,baz=224,slow=14,SNR=46						
KURBB	Kurchatov Arra	12.84	19	Pn	Pn	12 51 19.9	-2.4
	0.0nm,0.3s,baz=214,slow=13,SNR=8.6						
AB31	Akbulak array	13.71	325	⇓P	Pn	12 51 31.8	-2.0
	1.0nm,0.4s,baz=133,slow=15,SNR=37						
BVAR	Borovoye Array	14.44	356	Pn	Pn	12 51 42.5	-0.7
	0.1nm,0.3s,baz=154,slow=24,SNR=4.3						
AKTO	Aktyubinsk	15.43	324	Pn	Pn	12 51 56.0	+0.2
	0.4nm,0.3s,baz=118,slow=13,SNR=16						
AKTO				Sn	Sn	12 54 38.8	-7.3
	0.1nm,0.3s,baz=29,slow=8.7,SNR=2.3						
AKTO	Aktyubinsk	15.43	324	⇓P	Pn	12 51 57.4	+1.7
	10nm,0.8s						
ZALV	Zalesovo Beam	17.63	26	P	P	12 52 21.9	-0.4
	0.3nm,0.3s,baz=226,slow=10,SNR=14						
SONM	Songino Array	26.48	59	P	P	12 53 51.7	+0.1
	0.2nm,0.4s,baz=242,slow=12,SNR=2.2						
BRTR	Keskin Array B	29.64	284	P	P	12 54 21.3	+1.4
	1.0nm,0.7s,baz=60,slow=7.3,SNR=5.5						
AKASG	Malin Array Be	32.30	306	P	P	12 54 44.2	+1.2
	0.3nm,0.3s,baz=111,slow=8.8,SNR=4.5						
FINES	FINESS Array B	36.20	324	P	P	12 55 17.9	+1.4
	1.2nm,0.7s,baz=119,slow=6.7,SNR=4.7						
ARCES	ARCESS Array B	39.50	336	P	P	12 55 45.5	+1.3
	1.6nm,0.8s,baz=118,slow=11,SNR=3.9						
NOA	NORSAR Array B	43.20	322	P	P	12 56 15.1	+0.6
	1.0nm,0.7s,baz=94,slow=8.0,SNR=2.6						
ESDC	Sonseca Array	57.21	297	P	P	12 58 01.2	+0.6
	0.5nm,0.7s,baz=54,slow=9.7,SNR=3.3						
TORD	Torodi Ar. Bea	66.60	268	P	P	12 59 02.5	-1.1
	0.9nm,0.6s,baz=50,slow=5.3,SNR=4.8						
YKA	Yellowknife Ar	79.07	3	P	P	13 00 17.1	+0.5
	0.5nm,0.7s,baz=349,slow=5.5,SNR=15						
WRA	Warramunga Arr	82.44	123	P	P	13 00 32.3	-2.9
	0.6nm,0.8s,baz=322,slow=5.1,SNR=3.8						

IDC 26 12:53:04.7±1.8, 1°.73N×127°.28E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/43, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=105.5km s-min=24.6km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.77	185	P	Pn	12 57 38.4	+0.4
	0.1nm,0.3s,baz=346,slow=8.3,SNR=2.0						
WRA	Warramunga Arr	22.63	163	P	P	12 58 07.8	+0.4
	2.5nm,0.5s,baz=340,slow=11,SNR=36						
ASAR	Alice Springs	26.05	166	P	P	12 58 39.2	-0.8
	0.3nm,0.4s,baz=343,slow=7.6,SNR=10.0						
STKA	Stephens Creek	36.08	159	P	P	13 00 07.7	-0.6
	1.4nm,0.5s,baz=354,slow=9.2,SNR=5.3						
MKAR	Makanchi Array	59.50	326	P	P	13 03 09.9	+0.2
	0.3nm,0.4s,baz=122,slow=7.5,SNR=4.4						

*NEIC **26** 13:03:01.7±1.2, 38°.31N±0°.06×22°.08E±0°.08, h5km±6km, mb4.3/8, ML3.9(CSEM), Error ellipse: s-maj=10.0km s-min=8.0km az=220.0*
*ATH **26** 13:03:02.5, 38°.35N×21°.92E, h11km±1km, ML3.7/19, Error ellipse: s-maj=1.2km s-min=0.7km az=44.0*
*ISK **26** 13:03:02.8, 38°.38N×22°.13E, h4km, ML3.8/20*
*THE **26** 13:03:02.6, 38°.35N×21°.90E, h8km±1km, ML3.9/15, Error ellipse: s-maj=1.3km s-min=0.5km az=1.0*
*UPSL **26** 13:03:02.5, 38°.35N×21°.92E, h11km, Mw3.8, Moment Tensor Solution. s5 Moment tensor: M_{rr}-3.29; $M_{\theta\theta}$4.76; $M_{\phi\phi}$-1.48; $M_{r\theta}$-3.21; $M_{\theta\phi}$-1.10; $M_{\phi r}$-2.72; Fault plane solution: NP1:ϕ_s310.00000°, δ37.00000°, λ-34.00000°. NP2:ϕ_s68.00000°, δ70.00000°, λ-122.00000°.*
*IASPEI **26** 13:03:02.2±0.8, 38°.36N±0°.02×21°.90E±0°.02, h11km±4km, mb4.0/15, MS3.5/13 Error ellipse: s-maj=2.5km s-min=2.3km az=142.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*IDC **26** 13:03:07.2±1.2, 38°.41N×21°.97E, h46km±13km, mb3.7/13, mb1 3.8/21, mb1mx3.7/52, mbtmp3.8/21, ML3.6/8, MS3.5/17, Ms1 3.5/17, ms1mx3.1/96, Error ellipse: s-maj=12.6km s-min=10.7km az=45.0*
*TIR **26** 13:03:10.3, 38°.67N×21°.96E, h52km±98km, Md4.9, Ml3.9*
ISC 26 13:03:02.5±0.7, 38°.36N±0°.01×21°.90E±0°.01, h11km±4km, n222, σ1§56/267, mb4.0/15, MS3.5/13, 17C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.07	5	P	Pg	13 03 04.3	-0.6
EFP				S	Sg	13 03 05.9	-0.7
	241μm,0.3s						
EFP	Efpalio	0.07	5	P	Pg	13 03 04.3	-0.6
EFP				S	Sg	13 03 05.9	-0.7
EFP				AML	AML	13 03 06.3	
EFP				AML	AML	13 03 07.4	
UPR	University Cam	0.11	230	P	Pg	13 03 04.8	-0.6
UPR				S	Sg	13 03 07.7	+0.2
LAKA	Lakka	0.13	151	P	Pg	13 03 05.5	-0.2
LAKA				S	Sg	13 03 07.9	0.0
	106μm,0.8s						
LAKA	Lakka	0.13	151	P	Pg	13 03 05.5	-0.2
LAKA				S	Sg	13 03 08.0	0.0
LAKA				AML	AML	13 03 12.1	
LAKA				AML	AML	13 03 18.4	
SERG	Sergoula	0.14	66	P	Pg	13 03 05.5	-0.3
SERG				S	Sg	13 03 08.2	+0.1
	139μm,0.3s						
SERG	Sergoula	0.14	66	P	Pg	13 03 05.5	-0.3
SERG				S	Sg	13 03 07.8	-0.3
SERG				AML	AML	13 03 09.0	
SERG				AML	AML	13 03 09.2	
ALIK	Aliki, Aigiali	0.19	120	P	Pg	13 03 06.6	-0.1
ALIK				S	Sg	13 03 10.1	+0.6
ANX	Ano Chora	0.24	4	P	Pg	13 03 07.2	-0.3
ANX				S	Sg	13 03 11.4	+0.5
	114μm,0.7s						
ANX	Ano Chora	0.24	4	P	Pg	13 03 07.2	-0.3
ANX				S	Sg	13 03 11.5	+0.6
ANX				AML	AML	13 03 11.6	
ANX				AML	AML	13 03 14.8	
KLV	Kalavryta, Ach	0.37	147	P	Pg	13 03 09.4	-0.5
KLV				S	Sg	13 03 14.3	-0.6
	6μm,0.2s						
KLV	Kalavryta, Ach	0.37	147	P	Pg	13 03 09.5	-0.4
KLV				S	Sg	13 03 14.3	-0.6
KLV				AML	AML	13 03 17.8	
	comp=N,13950μm,0.3s						
KLV				AML	AML	13 03 18.7	
	comp=E,11231μm,0.3s						
DRO	Drossia	0.43	200	P	Pg	13 03 10.8	-0.3
DRO				S	Sb	13 03 17.7	-1.0
	comp=E,23μm,0.2s						
DRO	Drossia	0.43	200	P	Pg	13 03 10.7	-0.3
DRO				S	Sb	13 03 17.6	-1.1
DRO				AML	AML	13 03 18.2	
	comp=N,34484μm,0.2s						
DRO				AML	AML	13 03 18.7	
	comp=E,56095μm,0.2s						
RLS	Riolos of Patr	0.45	229	P	Pg	13 03 11.3	-0.1
RLS				S	Sb	13 03 18.7	-0.6
	comp=E,4μm,0.3s						
RLS	Riolos of Patr	0.45	229	P	Pg	13 03 11.3	-0.1
RLS				S	Sg	13 03 18.0	+0.6
RLS				AML	AML	13 03 20.6	
	comp=E,6676μm,0.5s						
RLS				AML	AML	13 03 21.0	
	comp=N,9707μm,0.3s						
DLFA	Delphi	0.48	75	P	Pg	13 03 11.2	-0.9
DLFA				S	Sg	13 03 18.6	+0.1
DLFA				AML	AML	13 03 21.4	
	comp=E,19114μm,0.6s						
DLFA				AML	AML	13 03 26.4	
	comp=N,22128μm,0.7s						
EVR	Evrytania	0.56	353	P	Pg	13 03 12.9	-0.7
EVR				S	Sb	13 03 22.3	-0.4
	comp=N,12μm,1.0s						
EVR	Evrytania	0.56	353	P	Pg	13 03 13.2	-0.4
EVR				S	Sb	13 03 22.4	-0.2
EVR				AML	AML	13 03 26.3	
	comp=E,21088μm,0.5s						
EVR				AML	AML	13 03 27.1	
	comp=N,21781μm,0.6s						
MAKR	Makrakomi, Fth	0.68	16	P	Pg	13 03 15.2	-0.6
MAKR				S	Sb	13 03 26.1	+0.1
	comp=N,28μm,0.6s						
MAKR	Makrakomi, Fth	0.68	16	P	Pg	13 03 15.6	-0.1
MAKR				AML	AML	13 03 27.9	
	comp=N,23430μm,1.0s						
MAKR				AML	AML	13 03 29.8	
	comp=E,24908μm,0.8s						
THAL	Thalero	0.68	118	P	Pg	13 03 15.3	-0.5
THAL				S	Sb	13 03 25.5	-0.4
	comp=E,14μm,0.6s						
THAL	Thalero	0.68	118	P	Pg	13 03 15.3	-0.5
VTN	Vitineika	0.71	232	P	Pb	13 03 16.9	0.0
VTN				S	Sg	13 03 25.9	+0.2
VTN	Vitineika	0.71	232	P	Pb	13 03 17.0	0.0
AGG	Agios Georgios	0.75	27	P	Pg	13 03 15.6	-1.4
AGG				S	Sb	13 03 28.0	+0.2
	comp=E,11μm,0.5s						
AGG	Agios Georgios	0.75	27	P	Pg	13 03 16.3	-0.7
AGG				AML	AML	13 03 33.0	
	comp=N,32345μm,0.6s						
AGG				AML	AML	13 03 33.5	
	comp=E,12355μm,0.6s						
AGG	Agios Georgios	0.75	27	PG	Pg	13 03 15.5	-1.4
AGG				SG	Sg	13 03 26.5	-0.3
AGG	Agios Georgios	0.75	27	Pg	Pg	13 03 15.9	-1.0
LTK	Loutraki	0.91	111	P	Pg	13 03 19.2	-0.8
LTK				S	Sb	13 03 32.3	-0.1
LTK	Loutraki	0.91	111	P	Pg	13 03 19.5	-0.5
LTK				AML	AML	13 03 38.2	
	comp=N,6339μm,0.4s						
LTK				AML	AML	13 03 41.7	
	comp=E,5234μm,0.5s						
LKR	Lokris	0.91	71	P	Pg	13 03 18.3	-1.8
LKR				S	Sb	13 03 33.2	+0.6
	comp=E,5μm,0.2s						
LKR	Lokris	0.91	71	P	Pg	13 03 19.4	-0.7
LKR				S	Sb	13 03 32.9	+0.3
LKR				AML	AML	13 03 36.3	
	comp=N,9360μm,0.2s						
LKR				AML	AML	13 03 37.9	
	comp=E,11144μm,0.3s						
ATAL	Atalanti	0.94	69	P	Pg	13 03 19.0	-1.7
ATAL				S	Sb	13 03 33.8	+0.3
	comp=E,4μm,1.1s						
ATAL	Atalanti	0.94	69	P	Pg	13 03 18.9	-1.7
ATAL				S	Sg	13 03 33.2	+0.2
ATAL				AML	AML	13 03 41.0	
	comp=N,7854μm,0.9s						
ATAL				AML	AML	13 03 46.4	
	comp=E,3586μm,0.8s						
NYDR	Nydri-Lefkada	1.01	291	P	Pg	13 03 21.1	-0.8
NYDR				S	Sn	13 03 37.5	+0.7
EVGI	Lefkada island	1.01	286	P	Pg	13 03 21.1

ITM	**Ithomi**	**1.18 179**	P	**Pb**	**13 03 24.0**	**-0.9**
ITM			AML	AML	13 03 50.2	
	comp=E,2799μm,0.5s					
ITM			AML	AML	13 03 52.6	
	comp=N,3212μm,0.4s					
ITM	**Ithomi**	**1.18 179**	PN	**Pb**	**13 03 23.4**	**-1.5**
ITM			SN	**Sn**	**13 03 43.8**	**+2.8**
ITM	**Ithomi**	**1.18 179**		**Pb**	**13 03 23.5**	**-1.4**
DMLN	**Damoulianata-K**	**1.21 265**	P	**Pn**	**13 03 25.1**	**-0.3**
DMLN	**Damoulianata-K**	**1.21 265**	P	**Pn**	**13 03 25.0**	**-0.4**
EPID	**Epidavros**	**1.22 127**	P	**Pn**	**13 03 24.6**	**-0.9**
EPID	**Epidavros**	**1.22 127**	P	**Pn**	**13 03 24.7**	**-0.9**
KEF3	**Kipouria, Keph**	**1.23 263**	P	**Pn**	**13 03 24.5**	**-1.2**
KEF3	**Kipouria, Keph**	**1.23 263**	P	**Pn**	**13 03 24.8**	**-0.9**
KEF3			S	**Sn**	**13 03 42.8**	**+0.4**
KRND	**KRANIDI**	**1.39 134**	P	**Pn**	**13 03 27.8**	**-0.1**
NEO	**Neokhori**	**1.40 47**	P	**Pn**	**13 03 28.5**	**+0.4**
PYL	**PYLOS**	**1.46 185**	P	**Pn**	**13 03 28.9**	**-0.1**
PYL	**PYLOS**	**1.46 185**	P	**Pn**	**13 03 28.9**	**-0.1**
ATH	**Athens Observa**	**1.48 104**	P	**Pb**	**13 03 29.8**	**-0.3**
JAN	**Janina**	**1.53 328**	P	**Pb**	**13 03 31.3**	**+0.3**
ATHU	**Athens Univers**	**1.54 104**	P	**Pn**	**13 03 30.3**	**+0.3**
ATHU	**Athens Univers**	**1.54 104**	P	**Pn**	**13 03 29.8**	**-0.2**
ATHU			S	**Sn**	**13 03 49.6**	**-0.3**
ATHU			AML	AML	13 03 53.0	
	comp=N,1794μm,0.5s					
ATHU			AML	AML	13 04 00.2	
	comp=E,794μm,0.7s					
PTL	**Penteli**	**1.58 101**	P	**Pn**	**13 03 30.9**	**+0.4**
PTL			S	**Sn**	**13 03 51.2**	**+0.2**
PTL			AML	AML	13 03 53.9	
	comp=E,3501μm,0.8s					
PTL			AML	AML	13 04 02.6	
	comp=N,1992μm,0.7s					
DION	**Dionisos Attik**	**1.63 99**	P	**Pn**	**13 03 31.9**	**+0.7**
IGT	**Igoumenitsa**	**1.69 314**	P	**Pn**	**13 03 33.0**	**+0.9**
	baz=305					
IGT			S	**Sg**	**13 03 59.0**	**+2.0**
	baz=305					
KYMI	**Kymi, Euboea I**	**1.75 80**	P	**Pn**	**13 03 33.2**	**+0.3**
LIT	**Litokhoron**	**1.80 15**	Pn	**Pn**	**13 03 33.1**	**-0.5**
VLI	**Veliai**	**1.83 153**	P	**Pn**	**13 03 34.6**	**+0.6**
KZN	**Kozani**	**1.95 357**	P	**Pb**	**13 03 37.5**	**-0.6**
KARY	**Karystos**	**2.03 98**	P	**Pn**	**13 03 37.4**	**+0.7**
KARY	**Karystos**	**2.03 98**	P	**Pn**	**13 03 37.3**	**+0.7**
LSK	**Leskovik**	**2.06 331**	P	**Pb**	**13 03 41.1**	**+1.1**
	baz=326					
LSK			S	**Sn**	**13 04 02.4**	**-0.4**
	baz=326					
LSK			AMP			
	comp=N,9.4nm,1.2s,baz=326					
SRN	**Sarande**	**2.12 316**	P	**Pn**	**13 03 36.9**	**-1.0**
	baz=310					
SRN			S	**Sg**	**13 04 09.7**	**-1.0**
	baz=310					
SRN			AMP			
	comp=E,2.4nm,0.9s,baz=310					
KEK	**Kerkira**	**2.12 310**	P	**Pb**	**13 03 39.8**	**-1.3**
KTHA	**Kythira Island**	**2.29 156**	P	**Pb**	**13 03 42.0**	**-2.0**
KBN	**Korca**	**2.42 340**		**Pb**	**13 03 44.9**	**-1.3**
KBN	**Korca**	**2.42 340**	P	**Pb**	**13 03 47.2**	**+1.0**
	baz=336					
KBN			S	**Sg**	**13 04 20.8**	**+0.4**
	baz=336					
KBN			AMP			
	comp=E,2.9nm,1.1s,baz=336					
HORT	**Hortiatis**	**2.42 22**	PN	**Pn**	**13 03 43.7**	**+1.5**
HORT			SN	**Sn**	**13 04 12.8**	**+0.9**
FNA	**Florina**	**2.46 351**	PN	**Pb**	**13 03 45.2**	**-1.6**
FNA			SN	**Sb**	**13 04 16.1**	**-1.0**
FNA	**Florina**	**2.46 351**	Pn	**Pn**	**13 03 44.0**	**+1.4**
FNA	**Florina**	**2.46 351**	P	**Pn**	**13 03 44.7**	**+2.0**
	baz=349					
FNA			S	**Sb**	**13 04 16.2**	**-1.0**
	baz=349					
OUR	**Ouranopolis**	**2.55 39**	PN	**Pn**	**13 03 44.7**	**+0.8**
OUR			SN	**Sn**	**13 04 14.7**	**-0.2**
GRG	**Griva**	**2.63 8**	PN	**Pn**	**13 03 46.9**	**+1.9**
KNT	**Kendrikon**	**2.91 15**	PN	**Pn**	**13 03 50.7**	**+1.9**
KNT			SN	**Sn**	**13 04 25.3**	**+1.6**
VAY	**Valandovo**	**3.01 10**	*e*Pn	**Pn**	**13 03 52.8**	**+2.7**
SCTE	**Santa Cesarea**	**3.17 304**	Pn	**Pn**	**13 03 53.8**	**+1.4**
CHOS	**Chios island**	**3.27 88**	Pn	**Pn**	**13 03 53.9**	**+0.1**
IMMV	**Iera Moni Meta**	**3.34 149**	PN	**Pn**	**13 03 56.5**	**+1.8**
STIP	**Stip**	**3.34 4**	*i* Pn	**Pn**	**13 03 57.6**	**+2.9**
TIR	**Tirane**	**3.37 333**	Pn	**Pn**	**13 03 58.3**	**+3.1**
TIR	**Tirane**	**3.37 333**	P	**Pb**	**13 04 04.2**	**+1.9**
	baz=330					
TIR			AMP			
	comp=E,0.9nm,1.0s,baz=330					
KNDR	**Palaiochora Ch**	**3.43 155**	PN	**Pn**	**13 03 57.7**	**+1.7**
SANT	**Santorini**	**3.46 124**	PN	**Pn**	**13 03 57.3**	**+0.9**
SANT	**Santorini**	**3.46 124**	Pn	**Pn**	**13 03 53.5**	**-2.9**
PHP	**Peshkopia**	**3.51 342**	P	**Pb**	**13 04 03.4**	**-1.3**
	baz=340					
PHP			S	**Sn**	**13 04 40.2**	**+1.5**
	baz=340					
PHP			AMP			
	comp=N,1.2nm,1.6s,baz=340					
MMB	**Musomiste**	**3.52 23**	P	**Pn**	**13 03 58.3**	**+1.0**
BOZC	**Bozcaada**	**3.56 64**	PN	**Pn**	**13 03 58.2**	**+0.5**
GADA	**Gvkgeada**	**3.60 58**	PN	**Pn**	**13 03 59.2**	**+0.8**
URLA	**Izmir**	**3.69 88**	PN	**Pn**	**13 04 00.0**	**+0.4**
EZN	**Ezine**	**3.74 66**	PN	**Pn**	**13 04 00.8**	**+0.5**
IDI	**Anoyia**	**3.89 141**	P	**Pn**	**13 04 02.9**	**+0.5**
	comp=N,4.4nm,0.3s,baz=324,slow=14,SNR=24					
IDI			S	**Sn**	**13 04 49.5**	**+1.3**
	comp=N,7.2nm,0.3s,baz=258,slow=22,SNR=7.0					
GVD	**Gavdhos**	**3.93 153**	PN	**Pn**	**13 04 05.1**	**+2.3**
RZN	**Rozhen**	**3.97 32**	P	**Pn**	**13 04 06.2**	**+2.6**
HRKL	**Herakleio**	**3.98 139**	PN	**Pn**	**13 04 05.0**	**+1.5**
DKL	**Dikili**	**3.98 78**	PN	**Pn**	**13 04 04.1**	**+0.6**
ALN	**Alexandroupoli**	**4.09 50**	Pn	**Pn**	**13 04 03.4**	**-1.5**
TIP	**Timpagrande**	**4.10 283**	⇑P	**Pn**	**13 04 07.1**	**+1.9**
TIP	**Timpagrande**	**4.10 283**	Pn	**Pn**	**13 04 06.7**	**+1.4**
PRVS	**Prvonek**	**4.15 2**	*e*Pn	**Pn**	**13 04 08.6**	**+2.7**
BOSS	**Bosilegrad**	**4.16 6**	*e*Pn	**Pn**	**13 04 07.4**	**+1.4**
KDZ	**Kurdzhali**	**4.26 38**	*e*P	**Pn**	**13 04 08.9**	**+1.5**
GCAM	**G?zelcaml?**	**4.26 97**	PN	**Pn**	**13 04 08.3**	**+0.9**
VTS	**Vitosha**	**4.38 13**	⇑P	**Pn**	**13 04 11.6**	**+2.5**
VTS	**Vitosha**	**4.38 13**	Pn	**Pn**	**13 04 09.9**	**+0.8**
VTS	**Vitosha**	**4.38 13**	*e*Pn	**Pn**	**13 04 10.4**	**+1.3**
VTS	**Vitosha**	**4.38 13**	P	**Pn**	**13 04 11.4**	**+2.3**
BARS	**Barje**	**4.46 359**	*e*Pn	**Pn**	**13 04 13.6**	**+3.5**
BODT	**Bodrum**	**4.48 105**	PN	**Pn**	**13 04 11.4**	**+0.9**
PDG	**Podgorica**	**4.54 334**	⇑P	**Pn**	**13 04 13.5**	**+2.3**
PDG	**Podgorica**	**4.54 334**	Pn	**Pn**	**13 04 13.6**	**+2.3**
PDG	**Podgorica**	**4.54 334**	*e*Pn	**Pn**	**13 04 15.7**	**+4.5**
MATE	**Matera**	**4.62 301**	⇑P	**Pn**	**13 04 14.0**	**+1.7**
ZKR	**Zakros**	**4.74 132**	PN	**Pn**	**13 04 15.9**	**+1.9**
SELS	**Selova**	**4.89 353**	*e*Pn	**Pn**	**13 04 17.8**	**+1.7**
ZAPS	**Zavoj**	**4.94 6**	*e*Pn	**Pn**	**13 04 20.5**	**+3.7**
SJES	**Sjenica**	**5.11 344**	*e*Pn	**Pn**	**13 04 21.9**	**+2.7**
BOVS	**Bovan**	**5.28 358**	⇑P	**Pn**	**13 04 23.2**	**+1.9**
BOVS	**Bovan**	**5.28 358**	*e*Pn	**Pn**	**13 04 23.6**	**+2.3**
IVAS	**Ivanjica**	**5.38 346**	*e*Pn	**Pn**	**13 04 24.6**	**+1.8**
ZAGS	**Zajecar**	**5.46 3**	*e*Pn	**Pn**	**13 04 24.7**	**+0.9**
STON	**Ston**	**5.53 326**	*e*Pn	**Pn**	**13 04 24.4**	**-0.4**
STON			Sn	**Sn**	**13 05 25.3**	**-3.0**
GRUS	**Gruza**	**5.60 351**	*e*Pn	**Pn**	**13 04 27.9**	**+2.1**
SGRT	**San Giovanni R**	**5.81 308**	Pn	**Pn**	**13 04 29.7**	**+0.9**
BBLS	**Lazići**	**5.82 342**	*e*Pn	**Pn**	**13 04 30.3**	**+1.5**
LSTV	**Lastovo**	**5.83 321**	*e*Pn	**Pn**	**13 04 28.5**	**-0.4**
LSTV			Sn	**Sn**	**13 05 32.8**	**-2.9**
DIVS	**Divibare**	**5.91 347**	Pn	**Pn**	**13 04 31.3**	**+1.2**
DIVS	**Divibare**	**5.91 347**	*e*Pn	**Pn**	**13 04 31.5**	**+1.3**
TRUS	**Trudelj**	**5.97 350**	*e*Pn	**Pn**	**13 04 32.7**	**+1.9**
VAE	**Valguarnera**	**5.98 264**	P	**Pn**	**13 04 33.2**	**+2.1**
	comp=N,1.3nm,0.3s,baz=9.6,slow=21,SNR=1.6					
VAE			S	**Sn**	**13 05 45.3**	**+5.6**
	comp=N,3.9nm,0.3s,baz=27,slow=11,SNR=2.1					
RAFF	**Raffo Rosso**	**6.08 262**	Pn	**Pn**	**13 04 34.8**	**+2.4**
MAKA	**Makarska**	**6.16 325**	*e*Pn	**Pn**	**13 04 33.0**	**-0.4**
MAKA			Sn	**Sn**	**13 05 41.0**	**-2.9**
PAOL	**Paolisi**	**6.25 298**		**Pn**	**13 04 36.8**	**+2.0**
RICI	**Ricice**	**6.27 326**	*e*Pn	**Pn**	**13 04 35.0**	**-0.1**
RICI			Sn	**Sn**	**13 05 43.9**	**-2.9**
HVAR	**Hvar**	**6.35 321**	*e*Pn	**Pn**	**13 04 36.3**	**+0.3**
HVAR			Sn	**Sn**	**13 05 45.8**	**-2.7**
HERR	**Herculane**	**6.53 3**	⇑P	**Pn**	**13 04 41.9**	**+3.3**
FRGS	**Fruska Gora**	**6.97 348**	⇑P	**Pn**	**13 04 47.2**	**+2.6**
KIJV	**Kijevo**	**7.00 325**	*e*Pn	**Pn**	**13 04 45.0**	**0.0**
KIJV			Sn	**Sn**	**13 06 02.3**	**-2.3**
ZIRJ	**Zirje**	**7.10 320**	*e*Pn	**Pn**	**13 04 46.2**	**-0.1**
ZIRJ			Sn	**Sn**	**13 06 03.4**	**-3.5**
MORI	**Morici**	**7.22 322**	*e*Pn	**Pn**	**13 04 48.1**	**+0.2**
MORI			Sn	**Sn**	**13 06 07.6**	**-2.3**
LOT	**Lotru**	**7.22 11**	⇑P	**Pn**	**13 04 50.4**	**+2.3**
BZS	**Buzias**	**7.26 358**	⇑P	**Pn**	**13 04 50.5**	**+2.0**
ARR	**Arges**	**7.30 15**	⇓P	**Pn**	**13 04 51.1**	**+2.0**
VOIR		**7.46 17**	⇑P	**Pn**	**13 04 52.9**	**+1.6**
DUGI	**Dugi Otok**	**7.63 320**	*e*Pn	**Pn**	**13 04 53.3**	**-0.4**
DUGI			Sn	**Sn**	**13 06 17.2**	**-3.0**
MLR	**Muntele Rosu**	**7.74 22**	⇓P	**Pn**	**13 04 58.6**	**+3.4**
MLR	**Muntele Rosu**	**7.74 22**	P	**Pn**	**13 04 57.8**	**+2.5**
	comp=N,0.2nm,0.3s,baz=162,slow=8.0,SNR=3.8					
MLR			LR	LR	13 08 40.5	
	comp=N,254nm,20.6s,baz=188,slow=44					
BISRR	**Bisoca**	**8.03 25**	⇑P	**Pn**	**13 05 01.5**	**+2.3**
DOPR	**Dopca**	**8.03 18**	⇑P	**Pn**	**13 05 02.9**	**+3.7**
NRCA	**Norcia**	**8.04 307**	Pn	**Pn**	**13 05 00.7**	**+1.3**
COVR	**Voineasa-Covas**	**8.14 22**	⇑P	**Pn**	**13 05 04.2**	**+3.6**
MORH	**Mrgy, Hungar**	**8.21 344**	⇑P	**Pn**	**13 05 02.8**	**+1.2**
KOVH	**Kovagotottos**	**8.22 341**	PG	Pb	13 05 17.3	-7.7
PLOR	**Plostina**	**8.28 24**	⇑P	**Pn**	**13 05 06.2**	**+3.6**
VRI	**Vrincioaia**	**8.32 24**	⇑P	**Pn**	**13 05 07.1**	**+4.0**
MURB	**Monte Urbino**	**8.63 308**	Pn	**Pn**	**13 05 09.3**	**+1.8**
BRJN	**Brijuni**	**8.94 320**	*e*Pn	**Pn**	**13 05 12.0**	**+0.4**
BRJN			Sn	**Sn**	**13 06 48.7**	**-3.6**
BR131	**Keskin Array S**	**9.24 78**	Pn	**Pn**	**13 05 13.8**	**-2.1**
BRTR	**Keskin Array B**	**9.24 78**	P	**Pn**	**13 05 18.1**	**+2.2**
	comp=N,0.4nm,0.3s,baz=262,slow=12,SNR=9.2					
PSZ	**Piszkesteto**	**9.67 352**	⇑P	**Pn**	**13 05 24.7**	**+3.0**
OBKA	**Obir**	**9.79 329**	*e*Pn	Pn	13 05 28.3	+5.0
	comp=N,2.1nm,0.5s					
VRAC	**Vranov**	**11.59 342**	P	**Pn**	**13 05 50.6**	**+2.6**
	comp=N,0.5nm,0.3s,baz=187,slow=7.2,SNR=3.3					
VRAC			LR	LR	13 11 01.3	
	comp=N,134nm,20.3s,baz=175,slow=41					
WTTA	**Wattenberg**	**11.65 323**	*e*Pn	Pn	13 05 54.1	+5.2
	comp=N,3.1nm,0.6s					
FETA	**Feichten**	**11.93 320**	*e*Pn	**Pn**	**13 05 56.9**	**+4.3**
	comp=N,1.0nm,0.5s					
GERES	**GERESS Array B**	**12.04 333**	P	**Pn**	**13 05 55.1**	**+0.9**
	comp=N,0.1nm,0.3s,baz=144,slow=16,SNR=2.0					
GERES			LR	LR	13 11 29.5	
	comp=N,326nm,19.3s,baz=122,slow=42					
MMAI	**Mount Meron Ar**	**12.20 112**	P	**Pn**	**13 05 57.8**	**+1.5**
	comp=N,0.6nm,0.3s,baz=306,slow=9.8,SNR=1.9					
AKASG	**Malin Array Be**	**13.39 20**	P	**Pn**	**13 06 13.0**	**+0.5**
	comp=N,0.3nm,0.3s,baz=210,slow=12,SNR=2.3					
AKASG			LR	LR	13 12 28.7	
	comp=N,171nm,18.0s,baz=196,slow=42					
CLL	**Collm**	**14.39 337**	*e*PP	**P**	**13 06 34.0**	**+0.9**
NACGM	**Naroch**	**16.88 10**	*i* P	**Pn**	**13 06 59.4**	**+0.7**
ESDC	**Sonseca Array**	**20.12 282**	P	**P**	**13 07 37.4**	**+0.9**
	comp=N,3.8nm,1.1s,baz=84,slow=11,SNR=5.4					
ESDC	**Sonseca Array**	**20.12 282**	IAmb	IAmb	13 07 42.2	
	comp=Z,3.6nm,1.2s					
HFS	**Hagfors**	**22.41 349**	P	**P**	**13 08 00.1**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=149,slow=12,SNR=9.6					
HFS			LR	LR	13 18 34.7	
	comp=Z,74nm,21.3s,baz=77,slow=42					
FINES	**FINESS Array B**	**23.26 5**	P	**P**	**13 08 08.6**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=175,slow=9.4,SNR=5.5					
FINES			LR	LR	13 18 40.7	
	comp=Z,141nm,18.2s,baz=211,slow=40					
FINES	**FINESS Array B**	**23.26 5**	P	**P**	**13 08 09.0**	**-0.7**
NC602	**NORSAR Array S**	**23.33 347**	P	**P**	**13 08 10.4**	**-0.1**
NC602			IAmb	IAmb	13 08 16.4	
	comp=Z,31nm,1.2s					
NAO01	**NORSAR Array S**	**23.55 346**	P	**P**	**13 08 12.2**	**-0.5**
NB201	**NORSAR Array S**	**23.67 347**	P	**P**	**13 08 13.5**	**-0.3**
NB2	**NORSAR Subarra**	**23.67 347**	P	**P**	**13 08 13.5**	**-0.4**
	comp=Z,17nm,1.2s,baz=154,slow=10					
NOA	**NORSAR Array B**	**23.67 347**	P	**P**	**13 08 12.9**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=167,slow=10,SNR=8.8					
NOA			LR	LR	13 19 42.1	
	comp=Z,45nm,18.9s,baz=290,slow=42					
KLMR	**Klimovskoe**	**25.08 20**	*e*	**P**	**13 08 26.0**	**-0.9**
KLMR			AMP		13 08 30.5	
	comp=Z,25nm,1.5s					
KIRV	**Kirov**	**26.92 32**	LR	LR	13 19 32.5	
	comp=Z,111nm,19.1s,baz=253,slow=37					
AKTO	**Aktyubinsk**	**28.21 53**	LR	LR	13 22 10.3	
	comp=Z,34nm,18.6s,baz=271,slow=41					
ARU	**Arti**	**30.21 41**	LR	LR	13 21 31.1	
	comp=Z,55nm,19.3s,baz=265,slow=37					
TORD	**Torodi Ar. Bea**	**30.86 221**	P	**P**	**13 09 20.0**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=31,slow=9.1,SNR=8.6					
ARCES	**ARCESS Array B**	**31.30 2**	P	**P**	**13 09 21.7**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=198,slow=10,SNR=6.0					
ARCES			LR	LR	13 22 28.1	
	comp=Z,104nm,18.2s,baz=222,slow=37					
ARCES	**ARCESS Array B**	**31.30 2**	P	**P**	**13 09 22.4**	**+0.1**
BORG	**Borgarnes**	**36.49 330**	LR	LR	13 27 11.1	
	comp=Z,62nm,20.8s,baz=103,slow=40					
DBIC	**Dimbokro**	**39.77 224**	P	**P**	**13 10 37.2**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=74,slow=6.8,SNR=3.7					
MK31	**Makanchi Array**	**44.28 59**	P	**P**	**13 11 11.4**	**-0.8**
MK31			IAmb	IAmb	13 11 14.1	
	comp=Z,2.5nm,0.7s					
MKAR	**Makanchi Array**	**44.28 59**	P	**P**	**13 11 12.0**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=283,slow=6.6,SNR=41					
MKAR	**Makanchi Array**	**44.28 59**	P	**P**	**13 11 11.4**	**-0.8**
ZAA0	**Zalesovo Array**	**44.76 48**	P	**P**	**13 11 15.1**	**-0.7**
ZAA0			IAmb	IAmb	13 11 24.8	
	comp=Z,2.4nm,0.8s					
ZALV	**Zalesovo Beam**	**44.76 48**	P	**P**	**13 11 15.7**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=273,slow=9.0,SNR=7.3					
ZALV	**Zalesovo Beam**	**44.76 48**	P	**P**	**13 11 15.1**	**-0.7**
SFJD	**Kangerlussuaq**	**48.62 330**	LR	LR	13 34 09.4	
	comp=Z,88nm,21.3s,baz=57,slow=38					
SONM	**Songino Array**	**59.51 51**	P	**P**	**13 13 05.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=286,slow=5.8,SNR=2.3					
LBTB	**Lobatse**	**63.13 176**	LR	LR	13 42 54.9	
	comp=Z,58nm,19.0s,baz=176,slow=38					
SADO	**Sadowa**	**70.94 312**	LR	LR	13 46 35.1	
	comp=Z,32nm,20.4s,baz=342,slow=37					
YKA	**Yellowknife Ar**	**73.59 341**	P	**P**	**13 14 35.9**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=38,slow=5.4,SNR=21					
ILAR	**Eielson Array**	**76.83 355**	P	**P**	**13 14 54.3**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=2.5,slow=4.5,SNR=11					
DAWY	**Dawson**	**76.84 352**	P	**P**	**13 14 55.4**	**+1.2**
BCAR	**Beaver Creek A**	**78.08 352**	P	**P**	**13 15 01.9**	**+0.8**
PDAR	**Pinedale Array**	**88.00 326**	P	**P**	**13 15 50.6**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=54,slow=11,SNR=3.0					
ELK	**Elko**	**92.06 329**	LR	LR	13 58 21.2	
	comp=Z,76nm,18.3s,baz=328,slow=36					
NVAR	**Mina Array Bea**	**95.27 330**	LR	LR	14 03 19.2	
	comp=Z,78nm,19.1s,baz=330,slow=38					
WRA	**Warramunga Arr**	**119.46 93**	PKP	**PKPdf**	**13 21 50.8**	**-1.8**
	comp=Z,0.3nm,0.9s,baz=290,slow=3.3,SNR=2.1					
ASAR	**Alice Springs**	**121.12 97**	PKP	**PKPdf**	**13 21 53.0**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=298,slow=1.5,SNR=3.3					

*EAF **26** 13:04:29.7±2.0, 26°.11S×28°.97E, h11km±20km, MD3.6*
*BUL **26** 13:04:30.2±1.6, 26°.13S×28°.95E, h13km±16km, MD3.7*
ISC 26 13:04:28.4±1.1, 26°.01S±0°.05×28°.98E±0°.04, h3km, n12, σ1°69/24, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.90**	**96**	*i* P	**Pn**	**13 05 15.8**	**+0.3**
CNG				*i* S	**Sn**	**13 05 49.4**	**-1.4**
CNG	**Changalane**	**2.90**	**96**	*i* P	**Pn**	**13 05 15.8**	**+0.3**
CNG				*i* S	**Sn**	**13 05 49.4**	**-1.4**
LBTB	**Lobatse**	**3.21**	**287**	*i* P	**Pn**	**13 05 20.5**	**+0.6**
LBTB				*i* Sg	**Sg**	**13 06 10.6**	**-1.0**
LBTB	**Lobatse**	**3.21**	**287**	*i* P	**Pn**	**13 05 20.5**	**+0.6**
LBTB				*i* Sg	**Sg**	**13 06 10.6**	**-1.0**
MOPA	**Mopani**	**3.31**	**42**	*i* P	**Pn**	**13 05 22.4**	**+1.2**
MOPA				*i* S	**Sn**	**13 05 59.3**	**-1.9**
MOPA	**Mopani**	**3.31**	**42**	*i* P	**Pn**	**13 05 22.4**	**+1.2**
MOPA				*i* S	**Sn**	**13 05 59.3**	**-1.9**
MSNA	**Messina**	**3.77**	**15**	*i* P	**Pn**	**13 05 30.1**	**+2.6**
MSNA				*i* S	**Sn**	**13 06 11.6**	**-0.8**
MSNA	**Messina**	**3.77**	**15**	*i* P	**Pn**	**13 05 30.1**	**+2.6**
MSNA				*i* S	**Sn**	**13 06 11.6**	**-0.8**
BOSA	**Boshof**	**4.21**	**231**	*i* P	**Pn**	**13 05 33.8**	**+0.1**
BOSA				*i* Sg	**Sb**	**13 06 36.6**	**+2.1**
BOSA	**Boshof**	**4.21**	**231**	*i* P	**Pn**	**13 05 33.8**	**+0.1**
BOSA				*i* Sg	**Sb**	**13 06 36.6**	**+2.1**
BLWY	**Bulawayo**	**5.85**	**357**	*i* P	**Pn**	**13 05 57.4**	**+1.2**
BLWY				*i* S	**Sn**	**13 07 01.1**	**-2.8**
BLWY	**Bulawayo**	**5.85**	**357**	*i* P	**Pn**	**13 05 57.4**	**+1.2**
BLWY				*i* S	**Sn**	**13 07 01.1**	**-2.8**

*IDC **26** 13:37:50.6±4.8, 22°.81N×121°.52E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/50, mbtmp3.4/3, Error ellipse: s-maj=354.4km s-min=29.6km az=60.0*
*TAP **26** 13:38:05.7, 22°.94N×121°.57E, h131km, ML4.2, C*
ISC 26 13:38:05.4±1.3, 22°.96N±0°.03×121°.55E±0°.04, h132km±6km, n161, σ0°82/303, mb3.1/3, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.22**	**311**	*i* P	**Pn**	**13 38 23.4**	**-0.1**
	baz=311						
CHKT				*i* S	**Sn**	**13 38 37.3**	**+0.1**
	baz=311						
EDH	**Donghe**	**0.22**	**274**	*i* P	**Pn**	**13 38 23.3**	**-0.2**
	baz=277						
EDH				*i* S	**Sn**	**13 38 37.1**	**-0.1**
	baz=277						
LDUT	**Ludao**	**0.29**	**194**	*i* P	**Pn**	**13 38 23.4**	**-0.3**
	baz=198						
LDUT				*i* S	**Sn**	**13 38 37.0**	**-0.6**
	baz=198						
ECS	**Chishang**	**0.33**	**295**	P	**Pn**	**13 38 23.8**	**-0.1**
	baz=295						
ECS				S	**Sn**	**13 38 37.7**	**-0.2**
	baz=295						
FULB	**Fuli**	**0.34**	**316**	*i* P	**Pn**	**13 38 23.9**	**0.0**
	baz=315						
FULB				S	**Sn**	**13 38 38.0**	**0.0**
	baz=315						
ECBN	**Changbin**	**0.37**	**346**	P	**Pn**	**13 38 24.1**	**+0.1**
	baz=344						
ECBN				S	**Sn**	**13 38 38.0**	**-0.2**
	baz=344						
LONT	**Longtian**	**0.39**	**263**	*i* P	**Pn**	**13 38 23.8**	**-0.3**
	baz=265						
LONT				*i* S	**Sn**	**13 38 36.9**	**-1.3**
	baz=265						
TTN	**Taitung**	**0.42**	**241**	*i* P	**Pn**	**13 38 24.6**	**+0.3**
	baz=243						
TTN				*i* S	**Sn**	**13 38 39.2**	**+0.8**
	baz=243						
EYUL	**Yuli**	**0.44**	**332**	*i* P	**Pn**	**13 38 24.1**	**-0.3**
	baz=330						
EYUL				S	**Sn**	**13 38 38.6**	**-0.2**
	baz=330						
TWGBT	**Beinan**	**0.45**	**252**	P	**Pn**	**13 38 23.9**	**-0.6**
	baz=254						
TWGBT				S	**Sn**	**13 38 37.5**	**-1.3**
	baz=254						
TWF1	**Yuli**	**0.46**	**330**	*i* P	**Pn**	**13 38 24.1**	**-0.4**
	baz=329						
TWF1				S	**Sn**	**13 38 37.4**	**-1.5**
	baz=329						
TWG	**Pinlang**	**0.46**	**253**	*i* P	**Pn**	**13 38 23.9**	**-0.6**
	baz=254						
TWG				*i* S	**Sn**	**13 38 37.5**	**-1.4**
	baz=254						
YULB	**Yu-li**	**0.49**	**332**	P	**Pn**	**13 38 24.2**	**-0.5**
	baz=331						
YULB				*i* S	**Sn**	**13 38 38.0**	**-1.3**
	baz=331						
ELDTW	**Lidau**	**0.54**	**296**	*i* P	**Pn**	**13 38 25.2**	**+0.1**
	baz=296						
ELDTW				*i* S	**Sn**	**13 38 39.8**	**-0.1**
	baz=296						
HGSD	**Ruisui**	**0.55**	**348**	P	**Pn**	**13 38 25.1**	**+0.1**
	baz=346						
HGSD				S	**

SNST	**Tainan City**	**1.00 285**	*i* P	**Pn**	**13 38 28.9**	**+0.4**
	baz=285					
SNST			*i* S	**Sn**	**13 38 45.5**	**-0.5**
	baz=285					
ETM	**Tongmen**	**1.01 357**	P	**Pn**	**13 38 28.4**	**-0.2**
	baz=356					
ETM			S	**Sn**	**13 38 44.7**	**-1.5**
	baz=356					
TSPT	**Pingtung City**	**1.01 254**	P	**Pn**	**13 38 30.2**	**+1.7**
	baz=255					
TSPT			*e*S	**Sn**	**13 38 46.3**	**+0.3**
	baz=255					
SLIU	**Shizi**	**1.01 223**	*i* P	**Pn**	**13 38 29.3**	**+0.8**
	baz=224					
SLIU			*i* S	**Sn**	**13 38 45.4**	**-0.7**
	baz=224					
SSPT	**Xinbi**	**1.02 243**	*i* P	**Pn**	**13 38 29.6**	**+1.0**
	baz=243					
SSPT			S	**Sn**	**13 38 45.6**	**-0.6**
	baz=243					
HWA	**Hwalien**	**1.02 3**	*i* P	**Pn**	**13 38 29.1**	**+0.5**
	baz=2.0					
HWA			*i* S	**Sn**	**13 38 46.1**	**-0.2**
	baz=2.0					
CHN5	**Tsauling**	**1.02 309**	*i* P	**Pn**	**13 38 29.0**	**+0.2**
	baz=308					
CHN5			*i* S	**Sn**	**13 38 45.7**	**-0.8**
	baz=308					
TWK	**Hsinying**	**1.02 288**	*i* P	**Pn**	**13 38 29.0**	**+0.2**
	baz=288					
TWK			*i* S	**Sn**	**13 38 45.7**	**-0.7**
	baz=288					
SCZT	**Fangliau**	**1.03 236**	*i* P	**Pn**	**13 38 29.2**	**+0.4**
	baz=236					
SCZT			*i* S	**Sn**	**13 38 45.1**	**-1.4**
	baz=236					
TWM1	**Shoushan**	**1.04 263**	*i* P	**Pn**	**13 38 30.4**	**+1.5**
	baz=263					
TWM1			*e*S	**Sn**	**13 38 46.9**	**+0.2**
	baz=263					
CHN3	**Shinhua**	**1.09 277**	*i* P	**Pn**	**13 38 30.7**	**+1.3**
	baz=276					
CHN3			*e*S	**Sn**	**13 38 47.7**	**+0.1**
	baz=276					
SMLT	**Sun Moon Lake**	**1.10 327**	*i* P	**Pn**	**13 38 29.8**	**+0.3**
	baz=327					
SMLT			*i* S	**Sn**	**13 38 48.2**	**+0.3**
	baz=327					
WUSB	**Renai**	**1.10 339**	P	**Pn**	**13 38 30.5**	**+0.9**
	baz=338					
WUSB			S	**Sn**	**13 38 48.1**	**+0.1**
	baz=338					
SHHT	**Tainan City**	**1.10 274**	P	**Pn**	**13 38 30.6**	**+1.1**
	baz=274					
SHHT			*e*S	**Sn**	**13 38 47.8**	**0.0**
	baz=274					
TWD	**Chiawan**	**1.12 2**	*i* P	**Pn**	**13 38 29.6**	**0.0**
	baz=1.0					
TWD			*i* S	**Sn**	**13 38 46.5**	**-1.6**
	baz=1.0					
SNJT	**Kaohsiung City**	**1.13 260**	*i* P	**Pn**	**13 38 30.9**	**+1.2**
	baz=260					
SMST	**Manzhou Townsh**	**1.14 215**	P	**Pn**	**13 38 30.7**	**+0.9**
	baz=216					
SMST			S	**Sn**	**13 38 48.4**	**0.0**
	baz=216					
CHN2	**Minshiung**	**1.14 300**	*i* P	**Pn**	**13 38 30.2**	**+0.4**
	baz=300					
CHN2			*i* S	**Sn**	**13 38 47.4**	**-1.0**
	baz=300					
WJS	**Zhushan**	**1.14 319**	*i* P	**Pn**	**13 38 30.3**	**+0.4**
	baz=318					
WJS			*i* S	**Sn**	**13 38 48.1**	**-0.4**
	baz=318					
CHGB	**Renai**	**1.15 343**	P	**Pn**	**13 38 31.1**	**+1.0**
	baz=342					
CHGB			S	**Sn**	**13 38 49.0**	**0.0**
	baz=342					
WGK	**Gukeng**	**1.16 309**	*i* P	**Pn**	**13 38 30.6**	**+0.6**
	baz=308					
WGK			*i* S	**Sn**	**13 38 48.7**	**-0.1**
	baz=308					
CHY	**Chiayi**	**1.16 298**	*i* P	**Pn**	**13 38 30.2**	**+0.1**
	baz=297					
CHY			*i* S	**Sn**	**13 38 48.5**	**-0.3**
	baz=297					
SSHA	**Shanhua**	**1.17 279**	P	**Pn**	**13 38 31.5**	**+1.4**
	baz=279					
SSHA			*e*S	**Sn**	**13 38 48.6**	**-0.3**
	baz=279					
WDLH	**Douliu**	**1.18 308**	*i* P	**Pn**	**13 38 30.6**	**+0.4**
	baz=308					
WDLH			*i* S	**Sn**	**13 38 48.5**	**-0.6**
	baz=308					
WPL	**Puli Township**	**1.18 333**	P	**Pn**	**13 38 30.9**	**+0.7**
	baz=332					
WPL			S	**Sn**	**13 38 49.5**	**+0.3**
	baz=332					
ETL	**Fush Village**	**1.20 3**	P	**Pn**	**13 38 30.9**	**+0.4**
	baz=2.0					
ETL			S	**Sn**	**13 38 48.3**	**-1.3**
	baz=2.0					
HEN	**Hengchun**	**1.20 218**	*i* P	**Pn**	**13 38 31.3**	**+0.8**
	baz=219					
HEN			*i* S	**Sn**	**13 38 49.5**	**0.0**
	baz=219					
KAU	**Kaohsiung**	**1.21 252**	*e*P	**Pn**	**13 38 31.9**	**+1.4**
	baz=252					
KAU			*e*S	**Sn**	**13 38 50.2**	**+0.7**
	baz=252					
TSEB	**Hengchuen, Pin**	**1.21 210**	*i* P	**Pn**	**13 38 29.3**	**-1.2**
	baz=212					
TSEB			*i* S	**Sn**	**13 38 50.1**	**+0.5**
	baz=212					
WHF	**Hehuan Shan**	**1.21 348**	*i* P	**Pn**	**13 38 31.7**	**+0.7**
	baz=347					
WHF			S	**Sn**	**13 38 49.0**	**-1.6**
	baz=347					
WNT	**Mingjian**	**1.21 319**	*i* P	**Pn**	**13 38 30.9**	**+0.4**
	baz=319					
WNT			*i* S	**Sn**	**13 38 49.8**	**+0.1**
	baz=319					
DPDB	**Guoxing**	**1.21 332**	P	**Pn**	**13 38 31.3**	**+0.6**
	baz=331					
DPDB			S	**Sn**	**13 38 50.0**	**+0.2**
	baz=331					
NACB	**Ninganchiao**	**1.21 2**	P	**Pn**	**13 38 30.2**	**-0.4**
	baz=1.0					
NACB			S	**Sn**	**13 38 48.1**	**-1.7**
	baz=1.0					
TWKBT	**Hengchun**	**1.22 214**	P	**Pn**	**13 38 31.3**	**+0.7**
	baz=215					
TWKBT			S	**Sn**	**13 38 49.4**	**-0.3**
	baz=215					
TAI1	**Yung-k'ang**	**1.22 274**	*i* P	**Pn**	**13 38 31.5**	**+1.0**
	baz=274					
TAI1			*i* S	**Sn**	**13 38 50.8**	**+1.2**
	baz=274					
TWK1	**Hengchun**	**1.22 214**	*i* P	**Pn**	**13 38 31.2**	**+0.6**
	baz=215					
TWK1			*i* S	**Sn**	**13 38 49.4**	**-0.3**
	baz=215					
WSSB	**Gushan**	**1.23 255**	P	**Pn**	**13 38 31.9**	**+1.2**
	baz=256					
WSSB			S	**Sn**	**13 38 48.3**	**-1.7**
	baz=256					
ICHU	**Yijhu**	**1.23 289**	*i* P	**Pn**	**13 38 31.1**	**+0.4**
	baz=289					
ICHU			*i* S	**Sn**	**13 38 50.2**	**+0.2**
	baz=289					
SNW	**Nanwan**	**1.23 217**	P	**Pn**	**13 38 32.1**	**+1.3**
	baz=217					
SNW			S	**Sn**	**13 38 50.9**	**+0.8**
	baz=217					
WLCH	**Liuqiu**	**1.23 241**	*i* P	**Pn**	**13 38 33.0**	**+2.2**
	baz=241					
WLCH			*e*S	**Sn**	**13 38 50.1**	**+0.1**
	baz=241					
WNT1	**Nantou City**	**1.24 320**	P	**Pn**	**13 38 31.4**	**+0.6**
	baz=319					
WNT1			S	**Sn**	**13 38 50.2**	**+0.1**
	baz=319					
WCS	**Beigang Elemen**	**1.24 332**	P	**Pn**	**13 38 30.0**	**-0.9**
	baz=331					
WCS			S	**Sn**	**13 38 49.1**	**-1.2**
	baz=331					
TAI	**Tainan**	**1.24 272**	*i* S	**Sn**	**13 38 51.0**	**+0.8**
	baz=272					
ETLH	**Xiulin Townshi**	**1.25 357**	P	**Pn**	**13 38 30.9**	**-0.1**
	baz=356					
ETLH			S	**Sn**	**13 38 48.9**	**-1.7**
	baz=356					
TWP	**Hsiaoliuchiu**	**1.25 241**	*e*P	**Pn**	**13 38 32.8**	**+1.8**
	baz=241					
TWP			*e*S	**Sn**	**13 38 51.0**	**+0.6**
	baz=241					
SCLT	**Jiali**	**1.26 280**	*i* P	**Pn**	**13 38 31.5**	**+0.4**
	baz=280					
SCLT			*i* S	**Sn**	**13 38 50.8**	**+0.2**
	baz=280					
WTK	**Tuku**	**1.29 305**	*i* P	**Pn**	**13 38 31.5**	**+0.2**
	baz=304					
WTK			*i* S	**Sn**	**13 38 51.0**	**-0.1**
	baz=304					
FUSS	**Fushou**	**1.32 348**	*i* P	**Pn**	**13 38 33.0**	**+1.1**
	baz=347					
FUSS			*i* S	**Sn**	**13 38 53.3**	**+1.2**
	baz=347					
WWF	**Wufeng**	**1.33 324**	P	**Pn**	**13 38 32.4**	**+0.6**
	baz=323					
WWF			S	**Sn**	**13 38 52.5**	**+0.6**
	baz=323					
TWT	**Tachien**	**1.34 345**	*i* P	**Pn**	**13 38 33.3**	**+1.2**
	baz=344					
TWT			S	**Sn**	**13 38 52.4**	**+0.1**
	baz=344					
WSL	**Shuilin Townsh**	**1.34 295**	P	**Pn**	**13 38 32.3**	**+0.4**
	baz=295					
WSL			S	**Sn**	**13 38 51.0**	**-1.0**
	baz=295					
WYL	**Yuanlin Townsh**	**1.34 319**	S	**Sn**	**13 38 52.7**	**+0.7**
	baz=318					
TDCB	**Techi**	**1.34 345**	P	**Pn**	**13 38 33.3**	**+1.2**
	baz=343					
TDCB			S	**Sn**	**13 38 52.4**	**0.0**
	baz=343					
WSF	**Szhu**	**1.39 299**	*i* P	**Pn**	**13 38 32.6**	**+0.2**
	baz=299					
WSF			*i* S	**Sn**	**13 38 52.5**	**-0.5**
	baz=299					
WHP	**Taichung City**	**1.43 337**	*i* P	**Pn**	**13 38 33.2**	**+0.3**
	baz=336					
WHP			*i* S	**Sn**	**13 38 54.0**	**+0.1**
	baz=336					
WRL	**Guolierlin Hig**	**1.43 312**	P	**Pn**	**13 38 32.9**	**+0.1**
	baz=311					
WRL			S	**Sn**	**13 38 53.0**	**-0.8**
	baz=311					
TCU	**Taichung**	**1.43 326**	*i* P	**Pn**	**13 38 33.4**	**+0.6**
	baz=325					
TCU			*i* S	**Sn**	**13 38 54.1**	**+0.3**
	baz=325					
WCHH	**Zhanghua**	**1.44 321**	*i* P	**Pn**	**13 38 33.7**	**+0.7**
	baz=320					
WCHH			*i* S	**Sn**	**13 38 54.0**	**0.0**
	baz=320					
WTCT	**Ta-ch'eng**	**1.47 308**	*i* P	**Pn**	**13 38 33.7**	**+0.4**
	baz=308					
WTCT			*i* S	**Sn**	**13 38 54.4**	**-0.1**
	baz=308					
NNSB	**Datong**	**1.47 354**	P	**Pn**	**13 38 34.4**	**+0.9**
	baz=353					
NNSB			S	**Sn**	**13 38 54.5**	**-0.4**
	baz=353					
ENA	**Nanau**	**1.48 7**	*i* P	**Pn**	**13 38 33.5**	**+0.2**
	baz=6.0					
ENA			*i* S	**Sn**	**13 38 54.5**	**-0.2**
	baz=6.0					
WMLT	**Mailiao**	**1.48 305**	*e*S	**Sn**	**13 38 54.9**	**+0.2**
	baz=304					
NNS	**Nan Shan**	**1.49 354**	*i* P	**Pn**	**13 38 34.5**	**+0.8**
	baz=353					
NNS			*i* S	**Sn**	**13 38 54.8**	**-0.4**
	baz=353					
EWUT	**Wuta**	**1.50 8**	P	**Pn**	**13 38 33.8**	**+0.2**
	baz=7.0					
EWUT			S	**Sn**	**13 38 54.9**	**-0.3**
	baz=7.0					
TWQ1	**Liyutan**	**1.56 333**	*i* P	**Pn**	**13 38 34.6**	**+0.3**
	baz=332					
TWQ1			*i* S	**Sn**	**13 38 55.8**	**-0.6**
	baz=332					
LATG	**Datong**	**1.57 359**	P	**Pn**	**13 38 34.8**	**+0.3**
	baz=358					
LATG			S	**Sn**	**13 38 55.7**	**-1.2**
	baz=358					
WDJ	**Dajia District**	**1.62 329**	P	**Pn**	**13 38 35.1**	**+0.2**
	baz=328					
WDJ			*i* S	**Sn**	**13 38 56.8**	**-0.8**
	baz=328					
NDT	**Datong Townshi**	**1.64 359**	*i* P	**Pn**	**13 38 36.1**	**+0.8**
	baz=358					
NDT			*i* S	**Sn**	**13 38 57.0**	**-1.0**
	baz=358					
TWC	**Suao**	**1.67 10**	*i* P	**Pn**	**13 38 36.2**	**+0.6**
	baz=9.0					
TWC			*i* S	**Sn**	**13 38 58.8**	**+0.2**
	baz=9.0					
ENTT	**Nioudou**	**1.68 1**	*i* P	**Pn**	**13 38 36.4**	**+0.7**
ENTT			*i* S	**Sn**	**13 38 59.0**	**+0.1**
NDS	**Dongshan**	**1.68 5**	P	**Pn**	**13 38 36.3**	**+0.6**
	baz=4.0					
NDS			S	**Sn**	**13 38 58.4**	**-0.4**
	baz=4.0					
NFF	**Wufeng Townshi**	**1.71 347**	P	**Pn**	**13 38 36.5**	**+0.4**
	baz=346					
NFF			S	**Sn**	**13 38 58.5**	**-1.2**
	baz=346					
YHNB	**Yeheng**	**1.71 355**	P	**Pn**	**13 38 36.9**	**+0.7**
	baz=354					
YHNB			S	**Sn**	**13 38 59.8**	**+0.1**
	baz=354					
NMLH	**Miaoli**	**1.72 336**	*i* P	**Pn**	**13 38 36.0**	**-0.1**
	baz=335					
NMLH			*i* S	**Sn**	**13 38 58.8**	**-0.8**
	baz=335					
NSK	**Sanguang**	**1.72 354**	*i* P	**Pn**	**13 38 37.4**	**+1.1**
	baz=353					
NSK			*i* S	**Sn**	**13 39 00.1**	**+0.3**
	baz=353					
NSTT	**Nanjuang**	**1.74 343**	*i* P	**Pn**	**13 38 36.6**	**+0.2**
	baz=343					
NSTT			*i* S	**Sn**	**13 39 0.0**	**-1.2**
	baz=343					
LIOB	**Emei**	**1.75 344**	*i* P	**Pn**	**13 38 36.7**	**+0.1**
	baz=343					
LIOB			*i* S	**Sn**	**13 38 59.9**	**-0.5**
	baz=343					
TWE	**Neicheng**	**1.76 4**	*i* P	**Pn**	**13 38 37.4**	**+0.8**
	baz=3.0					
TWE			*i* S	**Sn**	**13 38 59.8**	**-0.7**
	baz=3.0					
WDGT	**Dungji**	**1.76 280**	*i* P	**Pn**	**13 38 36.6**	**0.0**
	baz=280					
WDGT			*i* S	**Sn**	**13 38 58.8**	**-1.7**
	baz=280					
FUSB	**Fushanzhiwuyua**	**1.80 1**	P	**Pn**	**13 38 38.0**	**+0.9**
FUSB			S	**Sn**	**13 39 00.1**	**-1.3**
NWLT	**Wulai**	**1.81 359**	*i* P	**Pn**	**13 38 38.2**	**+0.9**
	baz=358					
NWLT			*i* S	**Sn**	**13 39 02.0**	**+0.3**
	baz=358					
NJD	**Zhudong**	**1.82 347**	S	**Sn**	**13 39 01.7**	**-0.1**
	baz=346					
HSN1	**Hsinchu**	**1.88 345**	P	**Pn**	**13 38 38.2**	**+0.2**
	baz=344					
HSN1			S	**Sn**	**13 39 02.7**	**-0.3**
	baz=344					
PHUB	**P'eng-hu**	**1.90 287**	P	**Pn**	**13 38 38.4**	**+0.2**
	baz=287					
PHUB			S	**Sn**	**13 39 01.6**	**-1.8**
	baz=287					
SBCB	**Hsinchu**	**1.90 344**	P	**Pn**	**13 38 38.5**	**+0.2**
	baz=343					
SBCB			S	**Sn**	**13 39 03.0**	**-0.5**
	baz=343					
NTC	**Toucheng**	**1.91 8**	*i* P	**Pn**	**13 38 39.3**	**+0.9**
	baz=7.0					
NTC			*i* S	**Sn**	**13 39 04.6**	**+0.9**
	baz=7.0					
HSN	**Hsinchu**	**1.91 344**	*e*P	**Pn**	**13 38 38.8**	**+0.4**
	baz=344					
HSN			S	**Sn**	**13 39 02.1**	**-1.6**
	baz=344					
EGS		**1.91 11**	*i* P	**Pn**	**13 38 39.6**	**+1.2**
	baz=10.0					
EGS			S	**Sn**	**13 39 03.7**	**-0.1**
	baz=10.0					
PNG	**Penghu**	**1.93 289**	*i* P	**Pn**	**13 38 38.7**	**+0.2**
	baz=288					
PNG			*i* S	**Sn**	**13 39 02.6**	**-1.4**
	baz=288					
VCHM	**Qimei**	**1.96 278**	P	**Pn**	**13 38 39.0**	**0.0**
	baz=277					
VCHM			S	**Sn**	**13 39 03.2**	**-1.6**
	baz=277					
NHDH	**Xindian Distri**	**2.00 359**	*i* P	**Pn**	**13 38 40.3**	**+0.9**
	baz=358					
NHDH			*i* S	**Sn**	**13 39 06.2**	**+0.6**
	baz=358					
TATO	**Taipei**	**2.01 359**	*e*P	**Pn**	**13 38 40.6**	**+1.0**
	baz=358					
TATO			*e*S	**Sn**	**13 39 06.8**	**+0.9**
	baz=358					
YOJ	**Yonaguni jima**	**2.01 42**	P	**Pn**	**13 38 40.3**	**+0.7**
	baz=40					
YOJ			S	**Sn**	**13 39 07.1**	**+1.2**
	baz=40					
TWA	**Mucha**	**2.02 1**	*i* P	**Pn**	**13 38 41.0**	**+1.3**
TWA			*i* S	**Sn**	**13 39 06.4**	**+0.4**
TIPB	**Shuangxi**	**2.02 7**	*i* P	**Pn**	**13 38 41.0**	**+1.2**
	baz=6.0					
TIPB			*i* S	**Sn**	**13 39 07.3**	**+1.1**
	baz=6.0					
NCUH	**Zhongli**	**2.03 351**	*i* P	**Pn**	**13 38 39.5**	**-0.4**
	baz=350					
NCUH			S	**Sn**	**13 39 05.8**	**-0.5**
	baz=350					
NCU	**National Centr**	**2.03 351**	P	**Pn**	**13 38 40.3**	**+0.4**
	baz=350					
TWB1	**Santiao Chiao**	**2.08 11**	*i* P	**Pn**	**13 38 41.1**	**+0.6**
	baz=10.0					
TWB1			S	**Sn**	**13 39 07.2**	**-0.2**
	baz=10.0					
NHW	**Xinwu Township**	**2.09 348**	P	**Pn**	**13 38 40.9**	**+0.3**
	baz=346					
NHW			S	**Sn**	**13 39 07.9**	**+0.3**
	baz=346					
NWF	**Wu-fen Shan**	**2.12 6**	*i* P	**Pn**	**13 38 41.7**	**+0.7**
	baz=5.0					
NWF			*i* S	**Sn**	**13 39 09.3**	**+1.0**
	baz=5.0					
WFSB	**Wu-fen Shan**	**2.12 6**	P	**Pn**	**13 38 42.1**	**+1.2**
	baz=5.0					
WFSB			S	**Sn**	**13 39 07.8**	**-0.4**
	baz=5.0					
TWS1	**Kuangyinshan**	**2.14 357**	*i* P	**Pn**	**13 38 41.6**	**+0.4**
	baz=356					
TWS1			*i* S	**Sn**	**13 39 09.0**	**+0.3**
	baz=356					
SXI1	**Grass Mountain**	**2.15 8**	P	**Pn**	**13 38 41.8**	**+0.4**
	baz=7.0					
SXI1			S	**Sn**	**13 39 09.0**	**-0.1**
	baz=7.0					
YM01	**YM01**	**2.18 1**	P	**Pn**	**13 38 42.7**	**+0.9**
YM01			S	**Sn**	**13 39 10.2**	**+0.6**
TNOU	**National Taiwa**	**2.19 5**	P	**Pn**	**13 38 43.2**	**+1.4**
	baz=4.0					
TNOU			S	**Sn**	**13 39 09.4**	**-0.4**
	baz=4.0					
NTST	**Danshui**	**2.20 358**	P	**Pn**	**13 38 42.0**	**+0.1**
	baz=357					
NTST			S	**Sn**	**13 39 10.1**	**+0.1**
	baz=357					
ANP	**Anpu**	**2.22 359**	*i* P	**Pn**	**13 38 42.8**	**+0.6**
	baz=359					
ANP			*e*S	**Sn**	**13 39 10.5**	**-0.1**
	baz=359					
TWY	**Chenhua**	**2.31 1**	P	**Pn**	**13 38 44.9**	**+1.6**
PCYT	**Pengchaiyu**	**2.71 10**	*e*P	**Pn**	**13 38 47.2**	**-1.1**
	baz=9.0					
PTMZ	**Houxiangcun**	**3.04 314**	P	**Pn**	**13 38 52.4**	**-0.2**
	baz=313					
PTMZ			S	**Sn**	**13 39 26.8**	**-2.2**
	baz=313					
KNM	**Kinmen**	**3.20 298**	*e*P	**Pn**	**13 38 56.0**	**+1.3**
	baz=295					
KNMB	**Chin-men Tao**	**3.26 298**	*e*P	**Pn**	**13 38 55.7**	**+0.3**
	baz=297					
MATB	**Ma-tsu**	**3.50 336**	P	**Pn**	**13 38 58.1**	**-0.4**
	baz=334					
MATB			S	**Sn**	**13 39 37.6**	**-2.2**
	baz=334					
ZPLA	**Ao Xicun**	**3.62 286**	*e*P	**Pn**	**13 39 00.0**	**-0.1**
	baz=285					
AXDP	**Jialang**	**3.80 301**	*e*P	**Pn**	**13 39 02.3**	**-0.2**
	baz=300					
DSXP	**Dongshan**	**3.86 282**	*e*P	**Pn**	**13 39 04.0**	**+0.7**
	baz=281					
MHZQ	**Yeshan**	**3.88 324**	P	**Pn**	**13 39 02.9**	**-0.7**
	baz=323					
MHZQ			S	**Sn**	**13 39 47.6**	**-1.1**
	baz=323					
LYJJ	**Jianjiangzhen**	**3.93 336**	P	**Pn**	**13 39 04.0**	**-0.3**
	baz=335					
LYJJ			*e*S	**Sn**	**13 39 48.0**	**-1.9**
	baz=335					
XPSS	**Dashiqiu**	**4.14 343**	P	**Pn**	**13 39 06.1**	**-1.0**
	baz=342					
XPSS			*e*S	**Sn**	**13 39 52.5**	**-2.5**
	baz=342					
MKAR	**Makanchi Array**	**39.45 317**	P	P	13 45 23.2	+0.5
	0.2nm,0.6s,baz=105,slow=9.0,SNR=2.4					
WRA	**Warramunga Arr**	**44.43 163**	P	P	13 46 02.1	-1.2
	0.5nm,0.5s,baz=345,slow=8.7,SNR=7.6					
ASAR	**Alice Springs**	**47.87 165**	P	P	13 46 29.6	-0.6
	0.1nm,0.3s,baz=341,slow=6.7,SNR=8.2					

*IDC **26** 13:40:29.1±2.7,5.°42S×153.°09E,h63km±23km,mb3.5/7, mb1 3.6/8,mb1mx3.3/48,mbtmp3.8/8,ML1.6/1,MS2.8/1, Ms1 2.8/1,ms1mx2.4/35,Error ellipse: s-maj=27.0km s-min=15.3km az=89.0*

ISC 26 13:40:26.4±1.2,5.°37S±0.°08×153.°2E±0.°1,h37km,n9, σ1§40/11,mb3.8/6,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.61**	**311**	P	**Pn**	**13 40 52.4**	**+0.2**
	baz=127,slow=20						
KRVT				S	**Sn**	**13 41 13.6**	**+1.9**
	baz=107,slow=19						
PMG	**Port Moresby**	**7.24**	**236**	P	**Pn**	**13 42 11.7**	**+1.9**
	0.6nm,0.3s,baz=315,slow=20,SNR=1.5						
PMG				S	**Sn**	**13 43 29.9**	**-0.9**
	0.7nm,0.3s,baz=115,slow=19,SNR=2.3						
PMG				LR	LR	13 44 51.6	
	comp=Z,77nm,19.6s,baz=180,slow=37						
DZM	**Mont Dzumac**	**20.95**	**144**	P	**P**	**13 45 07.9**	**+1.5**
	4.0nm,1.0s,baz=314,slow=18,SNR=1.3						
WRA	**Warramunga Arr**	**23.41**	**230**	P	**P**	**13 45 31.1**	**-1.1**
	0.9nm,0.5s,baz=53,slow=9.8,SNR=19						
ASAR	**Alice Springs**	**26.04**	**224**	P	**P**	**13 45 55.6**	**-0.8**
	0.5nm,0.7s,baz=62,slow=9.1,SNR=7.5						
FITZ	**Fitzroy Crossi**	**29.78**	**243**	P	**P**	**13 46 28.5**	**-1.4**
	3.7nm,0.8s,baz=80,slow=9.1,SNR=7.3						
MKAR	**Makanchi Array**	**81.04**	**319**	P	**P**	**13 52 37.7**	**0.0**
	0.2nm,0.7s,baz=117,slow=5.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**81.87**	**326**	P	**P**	**13 52 40.5**	**-1.3**
	0.6nm,0.3s,baz=111,slow=5.0,SNR=2.6						
QSPA	**South Pole Qui**	**84.59**	**180**	P	**P**	**13 52 55.8**	**0.0**
	1.0nm,0.6s,baz=312,slow=0.6,SNR=12						

IDC 26 13:43:00.1±1.6,2.°75N×126.°90E,h0km,mb3.3/5, mb1 3.5/5,mb1mx3.2/46,mbtmp3.3/5,Error ellipse: s-maj=112.7km s-min=21.6km az=73.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.76**	**183**	P	P	13 47 43.2	+0.6
	2.0nm,0.9s,baz=6.1,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**23.71**	**162**	P	P	13 48 13.9	+0.1
	0.4nm,0.4s,baz=339,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**27.13**	**166**	P	P	13 48 44.6	-0.5
	0.3nm,0.7s,baz=338,slow=7.3,SNR=6.3						
SONM	**Songino Array**	**48.27**	**342**	P	P	13 51 41.5	-1.6
	0.1nm,0.3s,baz=140,slow=4.9,SNR=1.3						
MKAR	**Makanchi Array**	**58.45**	**326**	P	P	13 52 59.3	+1.4
	0.1nm,0.4s,baz=138,slow=5.1,SNR=1.6						

*IDC **26** 13:49:59.5±0.6, 49°.31S×125°.42E, h0km, mb4.7/17, mb1 4.7/17, mb1mx4.6/30, mbtmp4.7/17, MS4.1/41, Ms1 4.1/41, ms1mx4.1/52, Error ellipse: s-maj=23.1km s-min=13.4km az=97.0*

*NEIC **26** 13:50:01.0±2.6, 49°.35S±0°.08×125°.2E±0°.2, h9km±4km, mb4.8/28, Error ellipse: s-maj=16.0km s-min=10.2km az=55.0*

*BJI **26** 13:50:00.0±0.0, 49°.40S×125°.30E, h8km, mb4.7/20, mB5.1/11, Ms4.8/2, Ms7 4.6/2*

*GCMT **26** 13:50:02.0±0.2, 49°.19S±0°.02×125°.10E±0°.03, h16km±1km, MW5.1/93, Moment Tensor Solution. s33,c41; s93,c143; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.28±.24; Mθθ1.54±.16; Mφφ1.74±.16; Mrθ1.18±.46; Mφφ-3.39±.10; Mθφ2.45±.49; Best double couple: M0 5.19200×10^16 NP1:φs285.00000°, δ49.00000°, λ-140.00000°. NP2: φs167.00000°, δ61.00000°, λ-48.00000°. Principal axes: T 5.1480, Plg7.0000°, Azm228.0000°; N 0.0880, Plg36.0000°, Azm324.0000°; P -5.2360, Plg54.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 13:50:01.5±0.5, 49°.39S±0°.07×125°.06E±0°.08, h10km, n143, σ1§64/111, mb4.8/33, MS4.2/42, 1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.56**	**327**	T	T	14 10 41.3	
	baz=152,slow=74,SNR=84						
H01W2	**Cape Leeuwin H**	**16.57**	**327**	T	T	14 10 47.3	
	baz=152,slow=74,SNR=83						
H01W3	**Cape Leeuwin H**	**16.58**	**327**	T	T	14 10 45.1	
	baz=152,slow=74,SNR=61						
TAU	**Tasmania Unive**	**16.70**	**76**	Pn	**Pn**	**13 53 53.4**	**-2.0**
TAU				IAmb	IAmb	13 53 58.6	
	comp=Z,138nm,1.4s						
TAU	**Tasmania Unive**	**16.70**	**76**	P	**P**	**13 53 57.8**	**+0.1**
NWAO	**Narrogin (SRO)**	**17.45**	**338**		**Pn**	**13 54 04.0**	**-1.0**
NWAO	**Narrogin (SRO)**	**17.45**	**338**	P	**P**	**13 54 06.6**	**+0.5**
ARPS	**Mount Arapiles**	**17.53**	**50**	P	**P**	**13 54 07.5**	**+0.5**
	baz=18,SNR=15						
ARPS	**Mount Arapiles**	**17.53**	**50**	P	**P**	**13 54 06.3**	**-0.7**
BBOO	**Buckleboo**	**18.49**	**30**	P	**Pn**	**13 54 17.3**	**-0.3**
	baz=18,SNR=5.9						
BBOO	**Buckleboo**	**18.49**	**30**	P	**P**	**13 54 14.5**	**-3.0**
BBOO	**Buckleboo**	**18.49**	**30**	P	**P**	**13 54 14.8**	**-2.7**
FORT	**Forrest**	**18.73**	**8**	P	**P**	**13 54 19.7**	**-0.4**
TOO	**Toolangi**	**18.89**	**59**	P	**Pn**	**13 54 23.0**	**+0.6**
	baz=19,SNR=4.0						
TOO	**Toolangi**	**18.89**	**59**	P	**P**	**13 54 19.4**	**-2.6**
TOO	**Toolangi**	**18.89**	**59**	P	**Pn**	**13 54 23.7**	**+1.2**
HTT	**Hallett**	**18.98**	**38**	P	**P**	**13 54 21.3**	**-1.7**
	baz=19,SNR=4.2						
HTT	**Hallett**	**18.98**	**38**	P	**Pn**	**13 54 22.8**	**-0.9**
BLDU	**Ballidu**	**19.79**	**338**	P	**Pn**	**13 54 33.0**	**-0.3**
MULG	**Mulgathing**	**20.27**	**23**	P	**P**	**13 54 35.6**	**-1.4**
MILA	**Mila**	**21.35**	**64**	P	**P**	**13 54 49.6**	**+0.9**
	baz=21,SNR=3.0						
LCRK	**Leigh Creek**	**21.38**	**33**	P	**P**	**13 54 48.8**	**-0.2**
MORW	**Morawa**	**21.43**	**338**	P	**P**	**13 54 46.9**	**-2.7**
	baz=21,SNR=8.9						
MORW	**Morawa**	**21.43**	**338**	P	**P**	**13 54 48.9**	**-0.7**
MORW				IAmb	IAmb	13 54 51.2	
	comp=Z,61nm,1.1s						
MORW	**Morawa**	**21.43**	**338**	P	**P**	**13 54 50.5**	**+0.9**
STKA	**Stephens Creek**	**21.45**	**41**	P	**P**	**13 54 46.5**	**-3.2**
	comp=Z,27nm,1.0s,baz=192,slow=12,SNR=28						
STKA				LR	LR	14 01 35.9	
	comp=Z,1μm,20.8s,baz=207,slow=33						
STKA	**Stephens Creek**	**21.45**	**41**	P	**P**	**13 54 49.0**	**-0.7**
	baz=21,SNR=17						
STKA	**Stephens Creek**	**21.45**	**41**	P	**P**	**13 54 48.6**	**-1.1**
STKA	**Stephens Creek**	**21.45**	**41**	P	**P**	**13 54 49.6**	**-0.1**
CAN	**Canberra**	**22.47**	**60**	P	**P**	**13 55 00.1**	**-0.7**
CAN				IAmb	IAmb	13 55 03.0	
	comp=Z,70nm,1.5s						
OOD	**Oodnadatta**	**23.06**	**25**	P	**P**	**13 55 05.9**	**-1.0**
MEEK	**Meekatharra**	**23.26**	**345**	P	**P**	**13 55 07.3**	**-1.7**
	baz=23,SNR=4.0						
MEEK	**Meekatharra**	**23.26**	**345**	P	**P**	**13 55 08.5**	**-0.5**
CMSA	**Cobar Meteorol**	**23.63**	**49**	P	**P**	**13 55 12.4**	**-0.2**
	baz=24,SNR=18						
CMSA	**Cobar Meteorol**	**23.63**	**49**	P	**P**	**13 55 12.6**	**0.0**
WRKA	**Warakurna**	**24.44**	**7**	P	**P**	**13 55 18.3**	**-2.0**
	baz=24,SNR=4.5						
WRKA	**Warakurna**	**24.44**	**7**	P	**P**	**13 55 19.3**	**-1.0**
INKA	**Innaminka**	**24.75**	**35**	P	**P**	**13 55 23.0**	**-0.1**
ASAR	**Alice Springs**	**26.60**	**18**	P	**P**	**13 55 37.1**	**-2.7**
	comp=Z,21nm,1.0s,baz=190,slow=9.2,SNR=83						
ASAR				PcP	**PcP**	**13 59 02.2**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=149,slow=0.7,SNR=4.7						
ASAR				LR	LR	14 04 51.2	
	comp=Z,1μm,21.7s,baz=200,slow=34						
ASAR	**Alice Springs**	**26.60**	**18**	P	**P**	**13 55 36.9**	**-3.0**
AS31	**Alice Springs**	**26.60**	**18**	P	**P**	**13 55 36.7**	**-3.2**
QLP	**Quilpie**	**27.18**	**40**	P	**P**	**13 55 45.3**	**+0.3**
	baz=27,SNR=3.6						
QLP	**Quilpie**	**27.18**	**40**	P	**P**	**13 55 45.6**	**+0.6**
WHZ	**Wether Hill Ro**	**28.82**	**100**	P	**P**	**13 55 59.1**	**-0.4**
WHZ				IAmb	IAmb	13 56 15.4	
	comp=Z,27nm,1.3s						
RMQ	**Roma**	**29.30**	**47**	P	**P**	**13 56 04.5**	**+0.5**
	baz=29,SNR=9.7						
RMQ	**Roma**	**29.30**	**47**	P	**P**	**13 56 04.6**	**+0.6**
WRA	**Warramunga Arr**	**30.30**	**17**	P	**P**	**13 56 09.4**	**-3.5**
	comp=Z,7.6nm,1.0s,baz=195,slow=9.1,SNR=23						
WRA				PcP	**PcP**	**13 59 11.5**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=210,slow=1.9,SNR=4.8						
WRA				LR	LR	14 07 06.7	
	comp=Z,1μm,21.4s,baz=185,slow=34						
WRA	**Warramunga Arr**	**30.30**	**17**	P	**P**	**13 56 10.2**	**-2.7**
WB2	**Warramunga Arr**	**30.31**	**18**	P	**P**	**13 56 10.3**	**-2.6**
WB2				IAmb	IAmb	13 56 12.5	
	comp=Z,14nm,1.2s						
WRAB	**Tennant Creek**	**30.32**	**18**	P	**P**	**13 56 10.3**	**-2.7**
WRAB				IAmb	IAmb	13 56 12.6	
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**30.32**	**18**	P	**P**	**13 56 11.7**	**-1.3**
WR0	**Warramunga Arr**	**30.33**	**18**	P	**P**	**13 56 09.8**	**-3.3**
WR0				IAmb	IAmb	13 56 12.9	
	comp=Z,24nm,1.3s						
WB0	**Warramunga Arr**	**30.49**	**18**	P	**P**	**13 56 12.0**	**-2.5**
WB0				IAmb	IAmb	13 56 13.9	
	comp=Z,13nm,1.2s						
QIS	**Mount Isa**	**31.02**	**27**	P	**P**	**13 56 18.5**	**-0.7**
	baz=31,SNR=12						
QIS	**Mount Isa**	**31.02**	**27**	P	**P**	**13 56 19.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**31.22**	**1**	P	**P**	**13 56 19.8**	**-1.1**
	comp=Z,6.4nm,1.1s,baz=187,slow=12,SNR=5.5						
FITZ				LR	LR	14 07 55.2	
	comp=Z,406nm,21.1s,baz=178,slow=34						
FITZ	**Fitzroy Crossi**	**31.22**	**1**	P	**P**	**13 56 21.2**	**+0.2**
	baz=31,SNR=4.4						
VNDA	**Vanda**	**31.50**	**166**	P	**P**	**13 56 23.4**	**+0.6**
	comp=Z,18nm,0.8s,baz=313,slow=7.7,SNR=20						
VNDA	**Vanda**	**31.50**	**166**	P	**P**	**13 56 23.5**	**+0.6**
CTA	**Charters Tower**	**33.79**	**38**	P	**P**	**13 56 41.6**	**-1.9**
	comp=Z,11nm,1.2s,baz=190,slow=5.1,SNR=4.3						
CTA				LR	LR	14 10 14.6	
	comp=Z,974nm,18.1s,baz=202,slow=36						
CTA	**Charters Tower**	**33.79**	**38**	P	**P**	**13 56 43.8**	**+0.3**
CTAO	**Charters Tower**	**33.79**	**38**	P	**P**	**13 56 42.5**	**-1.0**
CTAO				IAmb	IAmb	13 56 44.0	
	comp=Z,20nm,1.3s						
CTAO	**Charters Tower**	**33.79**	**38**	P	**P**	**13 56 43.8**	**+0.3**
THZ	**Tophouse**	**33.86**	**96**	P	**P**	**13 56 41.9**	**-2.1**
KHZ	**Kahutara**	**33.95**	**97**	P	**P**	**13 56 42.0**	**-2.7**
QRZ	**Quartz Range**	**34.09**	**94**	P	**P**	**13 56 43.9**	**-2.1**
QRZ				IAmb	IAmb	13 56 47.1	
	comp=Z,7.6nm,0.8s						
MTSU	**Mount Surprise**	**34.84**	**33**	P	**P**	**13 56 52.9**	**+0.3**
	baz=35,SNR=4.8						
MTSU	**Mount Surprise**	**34.84**	**33**	P	**P**	**13 56 52.7**	**+0.1**
MAW	**Mawson**	**35.31**	**216**	LR	LR	14 09 07.1	
	comp=Z,311nm,19.3s,baz=60,slow=32						
BHW	**Baring Head**	**35.31**	**96**	P	**P**	**13 56 56.0**	**-0.6**
MTN	**Manton Dam**	**36.78**	**10**	P	**P**	**13 57 08.9**	**-0.4**
MTN				IAmb	IAmb	13 57 09.5	
	comp=Z,28nm,1.2s						
KDU	**Kakadu**	**37.10**	**12**	P	**P**	**13 57 11.7**	**-0.2**
	baz=37,SNR=4.0						
KDU	**Kakadu**	**37.10**	**12**	P	**P**	**13 57 11.3**	**-0.7**
URZ	**Urewera**	**38.45**	**93**	P	**P**	**13 57 21.2**	**-2.0**
	comp=Z,12nm,0.8s,baz=266,slow=3.2,SNR=5.5						
URZ				LR	LR	14 10 51.5	
	comp=Z,367nm,18.7s,baz=234,slow=33						
URZ	**Urewera**	**38.45**	**93**	P	**P**	**13 57 22.4**	**-0.8**
BATI	**Baumata**	**39.08**	**358**	LR	LR	14 13 56.9	
	comp=Z,360nm,18.4s,baz=198,slow=37						
QSPA	**South Pole Qui**	**40.73**	**180**	P	**P**	**13 57 42.0**	**-0.1**
	comp=Z,21nm,1.0s,baz=337,slow=5.2,SNR=27						
QSPA				LR	LR	14 13 38.7	
	comp=Z,392nm,20.6s,baz=340,slow=35						
QSPA	**South Pole Qui**	**40.73**	**180**	P	**P**	**13 57 42.3**	**+0.1**
QSPA				IAmb	IAmb	13 57 46.1	
	comp=Z,33nm,1.1s						
KOUNC	**Koumac, New Ca**	**42.39**	**62**	P	**P**	**13 57 58.2**	**+2.2**
DZM	**Mont Dzumac**	**42.47**	**65**	LR	LR	14 12 40.6	
	comp=Z,543nm,18.3s,baz=222,slow=32						
DZM	**Mont Dzumac**	**42.47**	**65**	*e*S	**S**	**14 04 26.5**	**+7.8**
	comp=Z,109nm,27.6s						
DZM				*e*LR	LR	14 09 48.0	
	comp=Z,1μm,28.8s						
COCO	**West Island**	**43.80**	**318**	P	P	13 58 12.4	+5.0
PMG	**Port Moresby**	**43.92**	**32**	P	**P**	**13 58 07.1**	**-1.2**
	comp=Z,5.1nm,0.8s,baz=114,slow=3.3,SNR=3.8						
PMG				LR	LR	14 17 28.6	
	comp=Z,377nm,19.1s,baz=180,slow=38						
KAPI	**Kappang**	**44.45**	**352**	LR	LR	14 16 38.1	
	comp=Z,50nm,18.0s,baz=196,slow=36						
LEM	**Lembang**	**44.90**	**335**	P	**P**	**13 58 18.0**	**+1.6**
	comp=Z,22nm,0.6s,baz=218,slow=3.8,SNR=8.3						
SPSI	**Sidrap Palu**	**45.48**	**353**	P	**P**	**13 58 22.4**	**+1.6**
	comp=Z,38nm,1.4s						
RAO	**Raoul Island**	**47.25**	**87**	LR	LR	14 14 14.7	
	comp=Z,252nm,20.3s,baz=306,slow=31						
KLSI		**47.77**	**332**	P	**P**	**13 58 40.3**	**+1.6**
	comp=Z,12nm,1.7s						
MDSI	**Maura Dua**	**48.13**	**331**	P	**P**	**13 58 43.1**	**+1.6**
JAY	**Jayapura**	**48.58**	**21**	LR	LR	14 19 26.0	
	comp=Z,450nm,19.8s,baz=200,slow=36						
SIJI	**Sorong**	**48.63**	**8**	LR	LR	14 21 04.8	
	comp=Z,126nm,19.6s,baz=189,slow=38						
HNR	**Honiara**	**49.30**	**48**	LR	LR	14 17 54.9	
	comp=Z,512nm,19.9s,baz=190,slow=34						
MSVF	**Nonsavu**	**52.84**	**73**	LR	LR	14 17 46.7	
	comp=Z,222nm,19.2s,baz=213,slow=32						
SNAA	**Sanae**	**53.77**	**198**	P	**P**	**13 59 23.8**	**+0.3**
	comp=Z,16nm,0.9s,baz=148,slow=8.3,SNR=18						
SNAA				LR	LR	14 21 12.0	
	comp=Z,662nm,20.1s,baz=111,slow=35						
SNAA	**Sanae**	**53.77**	**198**	P	**P**	**13 59 23.6**	**+0.2**
SNAA	**Sanae**	**53.77**	**198**	P	**P**	**13 59 23.6**	**+0.2**
VNA2	**Neumayer--Watz**	**55.26**	**197**	P	**P**	**13 59 34.3**	**+0.1**
	baz=154,slow=6.0						
VNA3	**Neumayer Olymp**	**55.42**	**196**	P	**P**	**13 59 35.0**	**-0.4**
DAV	**Davao City (W)**	**56.22**	**1**	LR	LR	14 25 05.1	
	comp=Z,95nm,19.3s,baz=126,slow=38						
RPSI	**Rantau Prapat**	**56.59**	**328**	P	**P**	**13 59 44.5**	**+0.2**
PSI	**Prapat**	**56.69**	**328**	P	**P**	**13 59 44.5**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=233,slow=8.3,SNR=3.6						
PSI				LR	LR	14 23 47.4	
	comp=Z,58nm,18.0s,baz=157,slow=36						
AFI	**Afiamalu**	**62.14**	**79**	LR	LR	14 21 48.0	
	comp=Z,182nm,21.6s,baz=214,slow=31						
RAR	**Rarotonga**	**64.63**	**93**	LR	LR	14 23 27.2	
	comp=Z,70nm,21.8s,baz=230,slow=31						
GUMO	**Guam**	**65.10**	**21**	LR	LR	14 29 16.3	
	comp=Z,89nm,20.5s,baz=78,slow=36						
PMSA	**Palmer Station**	**65.95**	**176**	LR	LR	14 28 25.0	
	comp=Z,178nm,19.3s,baz=140,slow=35						
PALK	**Pallekele**	**68.39**	**312**	LR	LR	14 25 14.6	
	comp=Z,45nm,21.2s,baz=250,slow=31						
CMAR	**Chiang Mai Arr**	**71.42**	**334**	P	**P**	**14 01 21.2**	**-0.5**
	comp=Z,6.3nm,1.1s,baz=186,slow=5.6,SNR=20						
CMAR				LR	LR	14 31 58.3	
	comp=Z,34nm,19.9s,baz=130,slow=35						
CMAR	**Chiang Mai Arr**	**71.42**	**334**	P	**P**	**14 01 20.8**	**-0.9**
CHTO	**Chiang Mai**	**71.75**	**334**	P	**P**	**14 01 22.9**	**-0.9**
PPT2	**Papeete2**	**73.87**	**98**	*e*LR	LR	14 24 21.6	
	comp=Z,258nm,29.8s						
PPT	**Papeete**	**73.89**	**98**	LR	LR	14 27 49.3	
	comp=Z,112nm,21.2s,baz=182,slow=31						
SUR	**Sutherland**	**74.49**	**238**	LR	LR	14 29 44.8	
	comp=Z,160nm,18.1s,baz=166,slow=32						
SUR	**Sutherland**	**74.49**	**238**	P	**P**	**14 01 39.6**	**-0.7**
BOSA	**Boshof**	**74.76**	**244**	P	**P**	**14 01 41.8**	**0.0**
	comp=Z,3.3nm,1.0s,baz=140,slow=6.6,SNR=4.1						
BOSA				LR	LR	14 29 06.1	
	comp=Z,189nm,18.3s,baz=176,slow=31						
BOSA	**Boshof**	**74.76**	**244**	P	**P**	**14 01 41.8**	**0.0**
BOSA				IAmb	IAmb	14 01 53.1	
	comp=Z,12nm,1.4s						
JOW	**Kunigami**	**75.93**	**3**	LR	LR	14 36 28.2	
	comp=Z,40nm,20.5s,baz=108,slow=37						
LBTB	**Lobatse**	**77.24**	**247**	LR	LR	14 30 47.5	
	comp=Z,180nm,18.8s,baz=146,slow=32						
NJ2	**Nanjing**	**81.27**	**355**	*e*P	**P**	**14 02 19.5**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
LSZ	**Lusaka**	**82.95**	**255**	LR	LR	14 32 34.7	
	comp=Z,219nm,21.5s,baz=144,slow=31						
JHJ	**Hachijo jima 2**	**83.18**	**12**	LR	LR	14 36 58.5	
	comp=Z,89nm,20.6s,baz=104,slow=34						
XAN	**Xi'an**	**84.29**	**347**	P	**P**	**14 02 34.8**	**+1.7**
XAN				pP	pwP	14 02 41.8	+1.5
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MJAR	**Matsushiro Arr**	**86.35**	**11**	P	**P**	**14 02 42.5**	**-0.8**
	comp=Z,5.7nm,1.0s,baz=187,slow=6.3,SNR=6.2						
MJAR				LR	LR	14 39 01.4	
	comp=Z,50nm,20.6s,baz=185,slow=34						
MJAR	**Matsushiro Arr**	**86.35**	**11**	P	**P**	**14 02 43.8**	**+0.5**
MJAR				IAmb	IAmb	14 02 43.9	
	comp=Z,6.0nm,1.4s						
MAT	**Matsushiro**	**86.35**	**11**	P	**P**	**14 02 43.6**	**+0.3**
KSRS	**Korea Array**	**86.50**	**2**	P	**P**	**14 02 43.6**	**-0.3**
	comp=Z,3.3nm,1.0s,baz=165,slow=4.3,SNR=6.5						
KSRS				LR	LR	14 39 30.2	
	comp=Z,42nm,21.9s,baz=145,slow=34						
HNS	**HongShan**	**86.90**	**352**	‖P	**P**	**14 02 48.0**	**+2.1**
HNS				pmax	pmax		
	comp=Z,11nm,1.5s						
LZH	**Lanzhou**	**87.16**	**343**	*e*P	**P**	**14 02 49.5**	**+2.0**
LZH				pP	pwP	14 02 53.3	-1.4
LZH				sP	sP	14 02 55.0	+4.8
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
PLCA	**Paso Flores**	**89.21**	**168**	LR	LR	14 40 48.8	
	comp=Z,67nm,19.4s,baz=178,slow=34						
HHC	**Hu-ho-hao-te**	**90.64**	**350**	*e*P	**P**	**14 03 05.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,180nm,6.4s						
GTA	**Gaotai**	**91.19**	**341**	*e*P	**P**	**14 03 08.0**	**+1.7**
GTA				pP	pwP	14 03 13.0	-0.6
GTA				sP	sP	14 03 15.8	+6.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.9s						
MBAR	**Mbarara**	**92.37**	**266**	LR	LR	14 37 20.6	
	comp=Z,137nm,21.3s,baz=129,slow=31						
WSAR	**Wadi Sarin**	**93.25**	**302**	LR	LR	14 39 16.2	
	comp=Z,101nm,18.6s,baz=155,slow=32						
USRK	**Ussuriysk Ar.**	**93.40**	**5**	LR	LR	14 42 48.9	
	comp=Z,66nm,21.7s,baz=159,slow=34						
ATD	**Arta Tunnel**	**93.65**	**283**	LR	LR	14 38 40.7	
	comp=Z,34nm,20.2s,baz=88,slow=31						
SONM	**Songino Array**	**98.18**	**347**	P	Pdif	14 03 39.3	+1.2
	comp=Z,0.2nm,0.3s,baz=157,slow=7.8,SNR=2.2						
KLR	**Kul'dur**	**98.41**	**4**	LR	LR	14 46 45.9	
	comp=Z,53nm,20.2s,baz=166,slow=35						
WMQ	**Urumqi**	**98.42**	**334**	*e*P	Pdif	14 03 40.3	+1.1
MKAR	**Makanchi Array**	**102.74**	**331**	P	**Pdif**	**14 03 59.7**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=193,slow=5.9,SNR=3.0						
ILAR	**Eielson Array**	**132.41**	**35**	PKP	**PKPdf**	**14 09 13.8**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=272,slow=2.8,SNR=2.1						
NVAR	**Mina Array Bea**	**134.32**	**79**	PKP	**PKPdf**	**14 09 19.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=216,slow=3.6,SNR=6.0						
FINES	**FINESS Array B**	**135.47**	**317**	PKP	**PKPdf**	**14 09 20.4**	**+0.1**
	comp=Z,4.0nm,1.0s,baz=33,slow=5.3,SNR=1.8						
YKA	**Yellowknife Ar**	**145.45**	**45**	PKPbc	**PKPbc**	**14 09 36.9**	**-1.5**
	comp=Z,6.8nm,0.8s,baz=268,slow=3.4,SNR=72						
YKA	**Yellowknife Ar**	**145.45**	**45**		**PKPbc**	**14 09 37.2**	**-1.2**

KRSC 26 13:55:53.3±1.8, 51°.02N×157°.78E, h43km±24km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.76**	**307**	*e*P	Pn	13 56 08.9	+1.4
PAU				*e*S	Sn	13 56 19.9	+2.1
KDTR	**Khodutka, Kamc**	**0.81**	**13**	*e*P	Pn	13 56 10.3	+2.0
KDTR				*e*S	Sn	13 56 21.7	+2.5
SKR	**Severo-Kuril's**	**1.11**	**253**	*e*P	Pn	13 56 13.0	+0.7
SKR				*e*S	Sn	13 56 26.6	+0.3
MTVR	**Mutnovka**	**1.49**	**10**	*e*P	Pn	13 56 19.5	+1.8
MTVR				*e*S	Sn	13 56 37.7	+1.8
RUS	**Russkaya**	**1.49**	**18**	*e*P	Pn	13 56 19.0	+1.5
RUS				*e*S	Sn	13 56 36.4	+0.7
GRL	**Gorelyy**	**1.54**	**7**	*e*P	Pn	13 56 20.5	+2.1
GRL				*e*S	Sn	13 56 39.6	+2.3
KRMR	**Karymshinskiy**	**1.83**	**7**	*e*P	Pn	13 56 24.6	+2.4
KRMR				*e*S	Sn	13 56 48.4	+4.4
APC	**Apacha**	**1.95**	**349**	*e*P	Pn	13 56 25.3	+1.5
APC				*e*S	Sn	13 56 48.0	+1.0
PET	**Petropavlovsk**	**2.08**	**15**	*e*P	Pn	13 56 27.7	+2.1
PET				*e*S	Sn	13 56 52.5	+2.3
DALK	**Dalny**	**2.10**	**16**	*e*P	Pn	13 56 28.5	+2.6
DALK				*e*S	Sn	13 56 52.3	+1.5
UGLR	**Uglovaya**	**2.29**	**16**	*e*P	Pn	13 56 32.3	+3.7
UGLR				*e*S	Sn	13 57 00.6	+5.1
AVH	**Avacha**	**2.33**	**14**	*e*P	Pn	13 56 33.1	+4.0
SMAR	**Somma**	**2.33**	**15**	*e*P	Pn	13 56 33.1	+3.8
KOK	**Koryaka**	**2.34**	**13**	*e*P	Pn	13 56 33.2	+3.9
NLC	**Nalytchevo**	**2.36**	**24**	*e*S	Sn	13 56 56.2	-1.0
SDLR	**Sedlovina**	**2.36**	**16**	*e*P	Pn	13 56 31.7	+2.1
KRER	**Koryakskii**	**2.37**	**14**	*e*P	Pn	13 56 33.7	+4.0
KRER				*e*S	Sn	13 57 01.7	+4.1
SPN	**Mys Shipunski**	**2.50**	**33**	*e*P	Pn	13 56 34.0	+2.6
SPN				*e*S	Sn	13 57 02.2	+1.6
GNL	**Ganaly**	**2.68**	**2**	*e*P	Pn	13 56 37.2	+3.2
KII	**Karymskiy**	**3.19**	**18**	*e*P	Pn	13 56 46.5	+5.6
KII				*e*S	Sn	13 57 23.6	+5.9
TUMD	**Tumrok D**	**4.48**	**20**	*e*P	Pn	13 57 03.8	+5.2
TUMD				*e*S	Sn	13 57 54.8	+5.4
TUMR	**Tumrok**	**4.50**	**18**	*e*P	Pn	13 57 04.6	+5.6
KMNR	**Kamenistaya**	**4.97**	**16**	*e*P	Pn	13 57 09.9	+4.5
KBTR	**Krutoberegovo**	**6.00**	**28**	*e*P	Pn	13 57 21.1	+1.7

*NEIC **26** 14:10:34.0±1.9, 17°.8S±0°.1×178°.7W±0°.1, h542km±7km, mb4.3/83, Error ellipse: s-maj=19.1km s-min=13.9km az=146.0*

*NOU **26** 14:10:34.7, 17°.92S×178°.47W, h563km, mb4.4/40, Fiji Islands Region*

*IDC **26** 14:10:36.7±0.9, 17°.70S×178°.77W, h574km±8km, mb3.6/19, mb1 3.8/21, mb1mx3.7/33, mbtmp4.5/21, Error ellipse: s-maj=21.0km s-min=9.7km az=150.0*

*BGR **26** 14:10:37.8±0.0, 18°.44S×177°.97W, h600km*

ISC 26 14:10:33.8±0.4, 17°.81S±0°.09×178°.57W±0°.07, h550km, n254, σ1§20/254, mb4.2/59, 24C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**1.69**	**310**	P	**P**	**14 11 44.8**	**+2.5**
DGTI	**Dogotuki**	**2.21**	**313**	P	**P**	**14 11 46.6**	**+2.0**
MSVF	**Nonsavu**	**3.22**	**271**	P	**P**	**14 11 52.7**	**+2.3**
	12nm,0.3s,baz=117,slow=3.5,SNR=117						
MSVF				S	**S**	**14 12 58.2**	**+5.5**
	0.6nm,0.3s,baz=128,slow=19,SNR=9.8						
MSVF	**Nonsavu**	**3.22**	**271**		**P**	**14 11 52.8**	**+2.4**
MSVF	**Nonsavu**	**3.22**	**271**	P	**P**	**14 11 53.3**	**+2.9**
AFI	**Afiamalu**	**7.60**	**60**	P	**P**	**14 12 26.4**	**-1.4**
	11nm,0.3s,baz=81,slow=5.2,SNR=22						
AFI				S	**S**	**14 13 57.0**	**-4.2**
	2.6nm,0.3s,baz=89,slow=23,SNR=1.3						
NIUE	**Niue**	**8.30**	**100**	P	**P**	**14 12 36.0**	**+1.4**
NIUE	**Niue**	**8.30**	**100**	P	**P**	**14 12 36.9**	**+2.3**
MARNC	**Mare, Loyalty**	**13.14**	**252**	P	**P**	**14 13 22.7**	**-1.5**
MARNC	**Mare, Loyalty**	**13.14**	**252**	P	**P**	**14 13 23.3**	**-0.9**
PINNC	**Pines Island,**	**13.97**	**248**	P	**P**	**14 13 31.3**	**-1.4**
PINNC	**Pines Island,**	**13.97**	**248**	P	**P**	**14 13 36.0**	**+3.3**

WB0	Warramunga Arr	44.47	260	P	P	14 17 55.9	-0.9
WB2	Warramunga Arr	44.49	259	P	P	14 17 56.0	-0.9
WRAB	Tennant Creek	44.49	259	P	P	14 17 55.9	-1.0
WRA	Warramunga Arr	44.50	259	P	P	14 17 56.1	-0.9
	comp=Z,0.3nm,0.3s,baz=97,slow=7.7,SNR=2.5						
WRA				PcP	PcP	14 19 29.1	+0.6
	comp=Z,1.3nm,0.7s,baz=93,slow=4.2,SNR=6.8						
WRA				S	S	14 23 52.6	-0.2
	comp=Z,0.8nm,0.9s,baz=97,slow=13,SNR=4.8						
AS31	Alice Springs	44.67	254	P	P	14 17 58.1	-0.2
ASAR	Alice Springs	44.67	254	P	P	14 17 58.2	-0.1
	comp=Z,5.7nm,0.5s,baz=88,slow=8.3,SNR=140						
ASAR				PcP	PcP	14 19 29.1	+0.1
	comp=Z,2.0nm,0.7s,baz=102,slow=4.0,SNR=9.8						
ASAR				S	S	14 23 52.0	-3.1
	comp=Z,1.9nm,0.9s,baz=89,slow=16,SNR=14						
ASAR	Alice Springs	44.67	254	P	P	14 17 57.6	-0.7
MULG	Mulgathing	44.71	245	P	P	14 17 58.5	0.0
KDU	Kakadu	47.41	269	P	P	14 18 19.1	0.0
FORT	Forrest	49.91	245	P	P	14 18 36.8	-0.7
FORT				IAmb	IAmb	14 18 59.6	
	comp=Z,8.9nm,0.9s						
KNRA	Kununurra	50.35	264	P	P	14 18 40.1	-0.7
KNRA				IAmb	IAmb	14 18 41.5	
	comp=Z,21nm,1.2s						
KNRA	Kununurra	50.35	264	P	P	14 18 40.0	-0.9
SIJI	Sorong	52.07	283	P	P	14 18 52.7	-0.7
	comp=Z,16nm,0.7s,baz=81,slow=7.9,SNR=6.0						
MBWA	Marble Bar	57.95	256	P	P	14 19 33.8	-0.6
JHJ2	Mitsune	64.38	322	P	P	14 20 17.7	+1.6
JGF	Kuroka	67.57	322	P	P	14 20 36.1	+0.1
JGF				IAmb	IAmb	14 20 58.3	
	comp=Z,26nm,1.4s						
INU	Inuyama	67.59	322	P	P	14 20 36.4	+0.4
MJAR	Matsushiro Arr	67.74	323	P	P	14 20 36.7	-0.3
	comp=Z,7.6nm,0.7s,baz=163,slow=5.6,SNR=12						
MJAR	Matsushiro Arr	67.74	323	P	P	14 20 36.7	-0.3
MJAR				IAmb	IAmb	14 20 37.7	
	comp=Z,3.1nm,0.6s						
MAJO	Matsushiro	67.74	323	P	P	14 20 36.5	-0.5
MAJO				IAmb	IAmb	14 20 55.8	
	comp=Z,17nm,1.3s						
MAT	Matsushiro	67.74	323	P	P	14 20 37.1	+0.1
MJB9	Matsu-Tunnel	67.75	323	P	P	14 20 36.4	-0.6
MJB9				IAmb	IAmb	14 20 36.5	
	comp=Z,16nm,1.2s						
KKM	Kota Kinabalu	68.57	284	P	P	14 20 42.8	+0.2
UGM	Wanagama	69.50	268	P	P	14 20 47.1	-1.0
JHS	Saijyo	69.73	319	P	P	14 20 49.9	+0.9
SSLB	Suanglung	72.06	303	P	P	14 21 02.0	-1.0
SSLB				IAmb	IAmb	14 21 13.0	
	comp=Z,28nm,1.2s						
TPUB	Ta-pu	72.08	302	P	P	14 21 02.3	-0.8
QSPA	South Pole Qui	72.24	180	P	P	14 21 04.1	+0.8
	comp=Z,0.9nm,0.9s,baz=72,slow=20,SNR=1.9						
QSPA	South Pole Qui	72.24	180	P	P	14 21 03.8	+0.5
QSPA				IAmb	IAmb	14 21 06.3	
	comp=Z,6.7nm,1.4s						
PEA0B	Petropavlovsk-	73.55	345	P	P	14 21 11.0	+0.2
PETK	Petropavlovsk-	73.55	345	P	P	14 21 10.6	-0.2
	comp=Z,5.2nm,0.6s,baz=132,slow=8.8,SNR=18						
PETK	Petropavlovsk-	73.55	345	P	P	14 21 11.1	+0.3
KSRS	Korea Array	74.53	318	P	P	14 21 16.9	+0.2
	comp=Z,1.1nm,0.6s,baz=131,slow=6.0,SNR=4.8						
OHAK	Old Harbor	77.68	14	P	P	14 21 33.8	+0.3
CMB	Columbia Colle	77.88	43	P	P	14 21 35.6	+0.4
KDAK	Kodiak Island	78.35	14	P	P	14 21 37.1	0.0
	comp=Z,15nm,1.0s,baz=188,slow=7.1,SNR=2.1						
YBH	Yreka Blue Hor	78.55	39	P	P	14 21 40.3	+1.6
MPK	Martis Peak	78.81	42	P	P	14 21 42.0	+1.6
MPK				IAmb	IAmb	14 21 42.4	
	comp=Z,8.1nm,0.6s						
HUMO	Hull Mountain	78.92	38	P	P	14 21 42.4	+1.8
PNTR	Pine Nut	78.97	43	P	P	14 21 42.7	+1.4
PNTR				IAmb	IAmb	14 21 43.7	
	comp=Z,8.2nm,0.9s						
L04D	Klamath Falls	79.08	39	P	P	14 21 43.1	+1.4
L04D				IAmb	IAmb	14 21 43.5	
	comp=Z,5.1nm,0.7s						
M04C	Macdoel	79.10	40	P	P	14 21 41.5	-0.3
YERR	Yerington	79.15	43	P	P	14 21 43.5	+1.3
YERR				IAmb	IAmb	14 21 44.0	
	comp=Z,5.3nm,0.7s						
LHV	Little Huntoon	79.23	44	P	P	14 21 43.8	+1.5
LHV				IAmb	IAmb	14 21 49.2	
	comp=Z,7.8nm,1.2s						
LCH	Last Change Ra	79.26	45	P	P	14 21 44.1	+1.3
RYN	Ryan	79.42	44	P	P	14 21 44.8	+1.3
PAHR	Pah Rah Range	79.45	42	P	P	14 21 45.0	+1.3
NVAR	Mina Array Bea	79.46	44	P	P	14 21 45.0	+1.2
	comp=Z,2.5nm,0.7s,baz=225,slow=9.1,SNR=20						
NV11	Mina Array Sit	79.56	44	P	P	14 21 45.4	+1.1
O18K	Koktuh Hills	79.69	12	P	P	14 21 44.6	+0.3
J04D	Umpqua Nationa	79.80	38	P	P	14 21 46.9	+1.4
J04D				IAmb	IAmb	14 21 47.8	
	comp=Z,14nm,0.8s						
KVN	Kaiserville	79.93	43	P	P	14 21 46.6	+0.4
MOD	Modoc Plateau	80.11	40	P	P	14 21 45.7	-1.3
MOD				IAmb	IAmb	14 21 49.3	
	comp=Z,4.1nm,0.7s						
PINE	Pine Mountain	80.81	38	P	P	14 21 52.5	+1.7
PINE				IAmb	IAmb	14 21 53.2	
	comp=Z,6.9nm,0.9s						
PRN	Pahroc Range	81.12	46	P	P	14 21 54.2	+1.8
PRN				IAmb	IAmb	14 21 55.2	
	comp=Z,7.1nm,0.9s						
BMN	Battle Mountai	81.24	43	P	P	14 21 54.4	+1.4
BMN				IAmb	IAmb	14 21 55.2	
	comp=Z,5.9nm,1.0s						
WVOR	Wild Horse Val	81.43	40	P	P	14 21 55.2	+1.4
WVOR				IAmb	IAmb	14 21 56.2	
	comp=Z,9.5nm,1.1s						
I07A	Izee	81.83	39	P	P	14 21 57.2	+1.3
I07A				IAmb	IAmb	14 21 58.2	
	comp=Z,4.3nm,0.8s						
LCMT	Little Creek M	82.18	47	P	P	14 21 58.7	+0.9
SPR3	Spring Creek 3	82.41	45	P	P	14 21 59.8	+0.6
U15A	North Rim	82.57	48	P	P	14 22 01.4	+1.5
U15A				IAmb	IAmb	14 22 02.8	
	comp=Z,6.5nm,0.8s						
ELK	Elko	82.69	43	P	P	14 22 01.7	+1.2
CAST	Castle Rocks	83.57	12	P	P	14 22 03.0	-1.0
CAST				IAmb	IAmb	14 22 04.2	
	comp=Z,9.6nm,0.8s						
TRF	Thorofare Moun	83.95	12	P	P	14 22 05.4	-0.7
TRF				IAmb	IAmb	14 22 06.7	
	comp=Z,13nm,0.8s						
ENH	Enshi	84.09	304	P	P	14 22 06.5	-0.9
ENH				IAmb	IAmb	14 22 09.4	
	comp=Z,8.7nm,0.8s						
RND	Reindeer	84.21	13	P	P	14 22 06.9	-0.4
RND				IAmb	IAmb	14 22 08.6	
	comp=Z,13nm,1.0s						
F10A	Beach Ranch, E	84.22	38	P	P	14 22 07.8	+0.1
F10A				IAmb	IAmb	14 22 09.4	
	comp=Z,6.2nm,1.0s						
HLID	Hailey	84.66	41	P	P	14 22 10.6	+0.5
HLID				IAmb	IAmb	14 22 12.5	
	comp=Z,3.0nm,0.8s						
IL31		85.83	13	P	P	14 22 14.3	-0.6
IL31				IAmb	IAmb	14 22 14.8	
	comp=Z,4.4nm,1.1s						
ILAR	Eielson Array	85.83	13	P	P	14 22 14.1	-0.9
	comp=Z,1.6nm,0.4s,baz=221,slow=5.2,SNR=48						
TX31	Lajitas Ar. Si	86.07	58	P	P	14 22 18.4	+1.3
TX32	Lajitas Array	86.07	58	P	P	14 22 18.9	+1.8
TX32				IAmb	IAmb	14 22 20.2	
	comp=Z,5.5nm,0.9s						
TXAR	Lajitas Array	86.07	58	P	P	14 22 19.2	+2.1
	comp=Z,2.6nm,0.7s,baz=212,slow=6.9,SNR=16						
TXAR	Lajitas Array	86.07	58	P	P	14 22 19.0	+1.9
XAN	Xi'an	86.08	307	P	P	14 22 18.8	+1.9
XAN				pP	PcP	14 22 22.8	+4.1
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
MCMT	McKenzie Canyo	86.27	41	P	P	14 22 19.0	+1.2
BILL	Bilibino	86.32	354	P	P	14 22 17.3	+0.1
BILL				IAmb	IAmb	14 22 18.6	
	comp=Z,4.2nm,0.9s						
REDW	Red Top Meadow	86.82	43	P	P	14 22 20.9	+0.4
REDW				IAmb	IAmb	14 22 22.7	
	comp=Z,5.0nm,1.1s						
S22A	4UR Ranch, Cre	87.06	49	P	P	14 22 22.6	+0.8
HHC	Hu-ho-hao-te	87.10	315	eP	P	14 22 22.3	+0.6
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
BW06	Boulder Array	87.39	43	P	P	14 22 23.6	+0.4
BW06				IAmb	IAmb	14 22 24.7	
	comp=Z,2.1nm,0.6s						
PD31	Pinedale Array	87.39	43	P	P	14 22 23.4	+0.3
PD31				IAmb	IAmb	14 22 24.7	
	comp=Z,1.9nm,0.6s						
PDAR	Pinedale Array	87.39	43	P	P	14 22 24.1	+1.0
	comp=Z,1.6nm,0.5s,baz=218,slow=3.3,SNR=23						
CMAR	Chiang Mai Arr	88.71	290	P	P	14 22 30.1	+0.5
	comp=Z,1.3nm,0.3s,baz=87,slow=2.4,SNR=8.7						
EPYK	Eagle Plains	89.55	16	P	P	14 22 32.4	0.0
EPYK				IAmb	IAmb	14 22 42.9	
	comp=Z,9.0nm,1.4s						
INK	Inuvik	91.83	15	P	P	14 22 42.1	-0.6
	comp=Z,2.3nm,0.7s,baz=212,slow=3.1,SNR=8.6						
INK	Inuvik	91.83	15	IAmb	IAmb	14 22 47.0	
	comp=Z,4.2nm,1.1s						
SONM	Songino Array	93.38	319	P	P	14 22 49.9	-0.7
	comp=Z,0.3nm,0.3s,baz=108,slow=4.7,SNR=2.3						
YKA	Yellowknife Ar	94.31	25	P	P	14 22 54.3	+0.1
	comp=Z,1.1nm,0.8s,baz=246,slow=4.4,SNR=17						
A36M	Sachs Harbour	96.43	15	P	P	14 23 03.5	-0.1
ZALV	Zalesovo Beam	108.06	322	PKiKP	PKiKP	14 27 57.7	-1.4
	comp=Z,0.8nm,0.6s,baz=5.2,slow=1.6,SNR=4.8						
MKAR	Makanchi Array	108.96	314	PKiKP	PKiKP	14 28 00.2	-0.9
	comp=Z,0.7nm,0.5s,baz=164,slow=0.7,SNR=18						
ARCES	ARCESS Array B	126.19	350	PKP	PKPdf	14 28 33.3	-0.1
	comp=Z,2.5nm,0.7s,baz=12,slow=1.3,SNR=10						
FINES	FINESS Array B	133.06	344	PKP	PKPdf	14 28 45.7	-0.9
	comp=Z,4.3nm,1.0s,baz=80,slow=1.7,SNR=6.0						
AKASG	Malin Array Be	140.41	332	PKhKP	PKPpre	14 28 53.8	
	comp=Z,0.4nm,0.3s,baz=44,slow=3.8,SNR=6.9						
AKASG				PKP	PKiKP	14 29 02.7	-0.5
	comp=Z,0.7nm,0.3s,baz=40,slow=2.9,SNR=5.6						
SORM	Soroca	142.63	330	⇓P	PKPdf	14 29 01.7	-2.8
BSEG	Bad Segeberg	143.30	351	ePKPbc	PKPbc	14 29 03.9	0.0
	baz=15,slow=2.9						
BNN	Bunyan	143.48	312	PKPdf	PKPab	14 29 04.8	-0.2
LODK	Lodwar	143.81	251	PKPdf	PKPab	14 29 07.2	+0.2
VASR	Vaslui	143.95	329	⇑P	PKPdf	14 29 06.9	0.0
VLDR	Vladesti	144.35	327	⇑P	PKPab	14 29 08.6	+0.7
BUR08	Bucovina Ar. S	144.44	332	PKPbc	PKPab	14 29 08.8	+0.5
BURAR	Bucovina Array	144.46	332	⇑P	PKPab	14 29 08.7	+0.3
RETH	Rethem/Aller,	144.60	352	ePKPbc	PKPbc	14 29 08.2	+0.2
	baz=15,slow=2.9						
BR131	Keskin Array S	144.61	315	PKPdf	PKPdf	14 29 08.6	+0.1
BRTR	Keskin Array B	144.61	315	PKP	PKPdf	14 29 08.4	-0.1
	comp=Z,3.2nm,0.5s,baz=102,slow=1.7,SNR=23						
BRTR	Keskin Array B	144.61	315	PKPdf	PKPdf	14 29 08.3	-0.2
FLTG	Flechtingen	144.70	350	ePKPbc	PKPbc	14 29 08.4	0.0
	baz=15,slow=2.9						
TPGR	Topolog	144.84	326	⇑P	PKPbc	14 29 09.4	+0.4
CRVS	Cervenica-Dubn	144.99	337	ePKP	PKPab	14 29 10.0	-0.3
VRI	Vrincioaia	145.02	329	⇑P	PKPbc	14 29 09.5	0.0
PLOR	Plostina	145.07	329	⇑P	PKPbc	14 29 09.7	0.0
TRPA	Tarpa	145.20	335	⇑P	PKPbc	14 29 10.3	+0.3
OSTC	Ostas	145.26	343	ePKP	PKPbc	14 29 10.7	+0.6
CHVC	Chvalec	145.27	344	ePKP	PKPab	14 29 11.6	+0.3
OZUR		145.31	330	⇑P	PKPab	14 29 11.2	-0.4
CLL	Collm	145.34	347	⇑/PKPbc	PKPbc	14 29 10.6	+0.3
	comp=Z,20nm,1.1s						
CLL				*i* PKPab	PKPab	14 29 12.1	+0.6
CLL	Collm	145.34	347	ePKPbc	PKPbc	14 29 10.6	+0.3
	baz=15,slow=2.9						
CLL	Collm	145.34	347	PKPdf	PKPbc	14 29 09.9	-0.3
UPC	Upice	145.36	344	ePKP	PKPab	14 29 11.2	-0.4
DPC	Dobruska-Polom	145.41	343	ePKP	PKPbc	14 29 11.3	+0.7
LANS	Liptovska Anna	145.50	339	ePKP	PKPab	14 29 12.4	+0.1
KRLC	Kraliky	145.53	342	ePKP	PKPbc	14 29 11.4	+0.4
BRG	Berggiesshubel	145.54	346	ePKP	PKPab	14 29 11.6	-0.7
BRG				Amp		14 29 13.0	
	comp=Z,13nm,1.2s						
BRG	Berggiesshubel	145.54	346	ePKPbc	PKPbc	14 29 11.3	+0.4
	baz=15,slow=2.9						
MORC	Moravsky Berou	145.57	341	⇑P	PKPbc	14 29 11.4	+0.3
MORC	Moravsky Berou	145.57	341	ePKP	PKPbc	14 29 11.6	+0.5
DOPR	Dopca	145.60	330	⇑P	PKPab	14 29 12.4	-0.4
FBE	Freiberg	145.62	347	ePKPbc	PKPbc	14 29 11.9	+0.8
	baz=15,slow=2.9						
ISR	Istrita	145.63	328	⇑P	PKPbc	14 29 11.7	+0.3
MLR	Muntele Rosu	145.67	329	⇑P	PKPbc	14 29 12.3	+0.6
PVCC	Panska Ves	145.71	345	ePKP	PKPbc	14 29 11.9	+0.5
VOIR		146.15	330	⇑P	PKPbc	14 29 13.1	+0.2
DRGR		146.19	333	⇑P	PKPbc	14 29 12.8	-0.2
PRU	Pruhonice	146.21	345	ePKP	PKPbc	14 29 13.2	+0.4
VRAC	Vranov	146.27	342	ePKP	PKPbc	14 29 13.5	+0.5
VYHS	Vyhne	146.28	339	ePKP	PKPab	14 29 14.4	-1.0
TANN	Tannenbergstha	146.29	347	ePKPbc	PKPbc	14 29 13.6	+0.5
	baz=15,slow=2.9						
WERD	Werda	146.30	347	ePKPbc	PKPbc	14 29 13.6	+0.6
	baz=15,slow=2.9						
JAVC	Velka Javorina	146.34	341	ePKP	PKiKP	14 29 14.9	-0.7
GUNZ	Gunzen	146.37	347	ePKPbc	PKPbc	14 29 14.0	+0.7
	baz=15,slow=2.9						
ARR	Arges	146.40	330	⇑P	PKPbc	14 29 14.1	+0.5
WERN	Wernitzgruen	146.43	347	ePKPbc	PKPbc	14 29 14.2	+0.7
	baz=15,slow=2.9						
NKC	Novy Kostel	146.47	347	ePKP	PKPbc	14 29 14.0	+0.4
MANZ	Manzenberg	146.77	347	ePKPbc	PKPbc	14 29 14.7	+0.3
	baz=15,slow=2.9						
MODS	Modra-Piesok	146.89	341	ePKP	PKiKP	14 29 17.0	+0.3
ROTZ	Rotzenmuhle	146.96	347	ePKPbc	PKPbc	14 29 15.6	+0.7
	baz=15,slow=2.9						
SIRR	Siria	147.04	334	⇑P	PKPbc	14 29 15.1	-0.1
GZR	Gura Zlata	147.24	332	⇑P	PKPbc	14 29 15.5	-0.3
KHC	Kasperske Hory	147.25	345	ePKP	PKPbc	14 29 15.8	+0.1
KHC	Kasperske Hory	147.25	345		PKPbc	14 29 16.1	+0.4
CKRC	Cesky Krumlov	147.35	344	ePKP	PKPbc	14 29 16.5	+0.5
GEC2	GERESS Array S	147.48	345	ePKPbc	PKPbc	14 29 16.6	+0.2
	baz=15,slow=2.9						
GEC2	GERESS Array S	147.48	345		PKPbc	14 29 16.5	+0.2
GERES	GERESS Array B	147.48	345	PKPbc	PKPbc	14 29 16.8	+0.4
	comp=Z,5.0nm,0.5s,baz=32,slow=3,1,SNR=44						
BZS	Buzias	147.58	333	⇑P	PKPbc	14 29 15.7	-0.9
CONA	Conrad Observa	147.73	342	eP	PKPbc	14 29 17.8	+0.8
	comp=Z,4.6nm,0.6s,SNR=5.8						
HERR	Herculane	147.80	331	⇑P	PKPbc	14 29 16.6	-0.6
WLF	Walferdange	148.00	354	ePKPbc	PKiKP	14 29 18.6	-0.3
	baz=15,slow=2.9						
MOA	Molln	148.25	343	eP	PKPbc	14 29 17.5	-0.8
	comp=Z,5.3nm,0.4s,SNR=5.4						
MORH	Mrgy, Hungar	148.28	337	⇑P	PKPbc	14 29 17.7	-0.6
FRGS	Fruska Gora	148.71	335	⇑P	PKPbc	14 29 18.6	-0.9
BOVS	Bovan	149.08	331	⇑P	PKPbc	14 29 18.1	-2.3
VTS	Vitosha	149.09	328	⇑P	PKPdf	14 29 17.3	+1.4
KBA	Koelnbreinsper	149.21	344	eP	PKPbc	14 29 20.4	-0.4
	comp=Z,3.9nm,0.4s,SNR=8.0						
UBR	Ueberruh	149.37	348	ePKPbc	PKPbc	14 29 21.5	+0.4
	baz=15,slow=2.9						
OBKA	Obir	149.39	342	eP	PKPbc	14 29 21.1	-0.1
	comp=Z,1.4nm,0.5s						
WATA	Walderalm	149.40	346	*i* P	PKPbc	14 29 21.3	0.0
	comp=Z,4.7nm,0.5s						
RETA	Reutte	149.43	348	*i* P	PKPbc	14 29 21.4	+0.1
	comp=Z,2.6nm,0.6s						
WTTA	Wattenberg	149.45	346	eP	PKPbc	14 29 21.7	+0.2
	comp=Z,8.8nm,0.5s						
DIVS	Divibare	149.49	333		PKPbc	14 29 21.4	-0.1
MOTA	Moosalm	149.49	347	*i* P	PKPbc	14 29 21.6	+0.1
	comp=Z,14nm,1.2s						
MYKA	Terra Mystica	149.54	343	eP	PKPbc	14 29 21.1	-0.4
	comp=Z,3.3nm,0.4s						
SQTA	Sankt Quirin	149.59	347	eP	PKPbc	14 29 22.1	+0.4
	comp=Z,8.1nm,0.6s						
ABTA	Abfaltersbach	149.73	345	eP	PKPbc	14 29 21.7	-0.3
	comp=Z,9.1nm,0.6s						
FETA	Feichten	149.88	347	eP	PKPbc	14 29 22.6	+0.2
	comp=Z,5.0nm,0.7s						
STAL	STALIGIAL	150.13	344		PKPbc	14 29 22.3	-0.5
TUE	Stuetta	150.68	349		PKiKP	14 29 25.0	+0.2

*CNRM **26** 14:25:17.0, 35°.47N×3°.76W, h24km, ml3.5*
*MDD **26** 14:25:16.9±0.7, 35°.54N×3°.86W, h0km, mbLg2.9/9, Error ellipse: s-maj=6.6km s-min=4.0km az=17.0*
MDD EMS: II INTENSIDAD MAXIMA.
*SFS **26** 14:25:16.0, 35°.53N×3°.85W, ML2.9, ALBORAN SUR*
*IGIL **26** 14:25:18.8, 35°.54N×3°.86W, h0km, ML2.5*

ISC 26 14:25:14.1±1.4, 35°.49N±0°.02×3°.78W±0°.02, h2km±12km, n34, σ1§37/51, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.30	206	P	Pb	14 25 23.3	+1.1
PALE				S	Sb	14 25 27.6	+0.1
GOG	Mont Gurugu	0.69	112	P	Pn	14 25 30.6	-0.3
GOG				S	Sb	14 25 39.8	+0.9
EMEL	Melilla	0.70	105	Pg	Pn	14 25 31.0	+0.1
	SNR=7.9						
EMEL				Lg	Lg	14 25 41.1	
	7μm,0.2s,SNR=7.9						
EALB	Alboran	0.76	53	Pg	Pn	14 25 32.3	+0.6
	310nm,0.3s,SNR=352						
EALB				Lg	Lg	14 25 42.8	
	611nm,0.2s,SNR=11						
CHAS	Isla Isabel II	1.14	105	eP	Pb	14 25 36.8	+0.3
CHAS				eS	Sg	14 25 51.2	+0.4
TAF	Taforalt	1.30	121	P	Pb	14 25 39.6	+0.3
TAF				S	Sn	14 25 57.7	+0.3
CHEFC	Chefchaouen	1.33	254	P	Pb	14 25 41.0	+1.2
CHEFC				S	Sn	14 25 58.9	+0.8
EMIJ	Mijas	1.34	323	Pg	Pb	14 25 41.3	+1.3
	9.5nm,0.3s,SNR=16						
EMIJ				Lg	Lg	14 25 58.1	
	47nm,0.2s,SNR=5.9						
CEU	Ceuta	1.36	288	eP	Pn	14 25 38.5	-1.6
CEU				eS	Sg	14 25 53.8	-3.9
ECEU	Ceuta	1.36	288	Pg	Pn	14 25 39.8	-0.3
	16nm,0.3s,SNR=17						
ECEU				Lg	Lg	14 25 56.3	
	58nm,0.1s,SNR=5.7						
EMAL	Malaga-Limoner	1.38	338	eP	Pb	14 25 41.7	+1.2
EMAL				eS	Sb	14 25 58.9	+0.3
ELGU	Los Guajares,	1.38	5	Pg	Pn	14 25 40.8	+0.3
	SNR=7.9						
ELGU				Lg	Lg	14 25 59.5	
	154nm,0.2s,SNR=7.9						
JBK	JBK	1.52	139	P	Pn	14 25 42.4	0.0
JBK				S	Sb	14 26 01.4	-1.5
EBER	Berja	1.58	27	Pg	Pn	14 25 44.1	+0.8
	SNR=7.9						
EBER				Lg	Lg	14 26 05.8	
	94nm,0.3s,SNR=7.9						
EGOR	Sierra Gorda,	1.64	351	Pg	Pb	14 25 46.7	+1.6
	SNR=7.9						
EGOR				Lg	Lg	14 26 08.5	
	72nm,0.4s,SNR=7.9						
EJIF	Jimena Fronter	1.67	306	Pg	Pb	14 25 46.3	+0.7
	SNR=7.9						
EJIF				Lg	Lg	14 26 07.8	
	SNR=7.9						
EQUE	Quentar	1.74	9	Pg	Pb	14 25 47.5	+0.8
	8.8nm,0.3s,SNR=27						
EQUE				Lg	Lg	14 26 10.4	
	13nm,0.3s,SNR=7.5						
SICH	Sidi Chahed	1.87	223	P	Pb	14 25 49.1	+0.1
ENIJ	Nijar	1.95	40	Pn	Pn	14 25 49.0	+0.7
	SNR=7.9						
ENIJ				Sn	Sn	14 26 12.4	-0.9
	SNR=7.9						
LCRM	LCR	2.00	207	P	Pg	14 25 52.6	+0.1
LCRM				S	Sb	14 26 16.0	-0.8
IFR	Ifrane	2.26	210	eP	Pn	14 25 53.7	+1.2
IFR				eS	Sn	14 26 19.3	-1.7
EQES	Quesada	2.38	14	Pg	Pb	14 25 58.3	+0.6
	9.8nm,0.3s,SNR=29						
EQES				Lg	Lg	14 26 28.3	
	40nm,0.2s,SNR=5.3						
MD31	MD31	2.74	198	P	Pn	14 26 01.0	+2.0
MD31				S	Sn	14 26 31.7	-1.0
EADA	Adamuz	2.75	347	Pn	Pn	14 26 01.4	+2.2
	3.5nm,0.3s,SNR=17						
EADA				Sn	Sn	14 26 33.0	0.0
	SNR=7.9						
EADA				Lg	Lg	14 26 40.4	
	11nm,0.3s,SNR=5.0						
MDT	Midelt	2.75	195	P	Pn	14 26 00.7	+1.4
MDT				S	Sn	14 26 31.7	-1.4
TDRA	Tendrara	2.84	149	P	Pn	14 26 02.8	+2.3
CART	Cartagena	3.07	46	P	Pn	14 26 02.5	-1.0
CART				S	Sn	14 26 38.3	-2.5
ZHG	ZHG	3.12	230	P	Pn	14 26 04.8	+0.5
PVAQ	Vaqueiros	3.71	302	P	Pn	14 26 14.1	+1.8
PVAQ				S	Sn	14 26 56.5	0.0
MESJ	Messejana	4.27	305	eS	Sn	14 27 08.4	-2.1
MESJ

NACB Ninganchiao 17.42 353 P P 14 40 24.8 -0.2
NACB IAmb IAmb 14 40 52.0
comp=Z,28nm,1.3s
YHNB Yeheng 17.94 353 P P 14 40 31.1 +1.3
MYKOM Kota Tinggi 20.43 257 P P 14 40 52.2 -0.3
MTN Manton Dam 20.83 159 P P 14 40 55.5 -0.5
MTN IAmb IAmb 14 41 04.8
comp=Z,12nm,1.0s
MTN Manton Dam 20.83 159 P P 14 40 56.5 +0.5
comp=Z,12nm,0.6s
KDU Kakadu 21.20 156 P P 14 40 58.9 -0.4
comp=Z,10nm,1.1s
KNRA Kununurra 22.86 167 P P 14 41 14.0 -0.1
KNRA IAmb IAmb 14 41 40.6
comp=Z,16nm,1.3s
KNRA Kununurra 22.86 167 P P 14 41 14.3 +0.3
comp=Z,10nm,2.3s
KULM Kulim 23.00 268 P P 14 41 15.2 -0.2
FITZ Fitzroy Crossi 24.79 176 P P 14 41 31.1 0.0
comp=Z,1.7nm,0.3s,baz=2.0,slow=7.2,SNR=21
PSI Prapat 25.03 262 P P 14 41 33.8 +0.3
comp=Z,3.6nm,0.5s,baz=103,slow=9.9,SNR=4.1
RPSI Rantau Prapat 25.05 262 P P 14 41 33.8 +0.3
GSI Gunungsitoli 26.64 259 P P 14 41 46.4 -1.1
CMAR Chiang Mai Arr 26.79 298 P P 14 41 49.9 +1.1
comp=Z,2.3nm,0.6s,baz=109,slow=7.0,SNR=14
CHTO Chiang Mai 26.93 299 P P 14 41 50.5 +0.6
CHTO IAmb IAmb 14 41 51.4
comp=Z,4.7nm,0.6s
COEN Coen 28.23 137 P P 14 42 00.8 -0.5
COEN IAmb IAmb 14 42 01.5
comp=Z,12nm,0.5s
COEN Coen 28.23 137 P P 14 42 01.0 -0.3
comp=Z,17nm,1.2s
PMG Port Moresby 28.34 124 P P 14 42 02.5 +0.2
PMG IAmb IAmb 14 42 07.0
comp=Z,10nm,1.0s
WB0 Warramunga Arr 28.39 159 P P 14 42 02.2 -0.5
WB0 IAmb IAmb 14 42 03.0
comp=Z,10nm,0.7s
WRAB Tennant Creek 28.52 159 P P 14 42 03.5 -0.3
WRAB Tennant Creek 28.52 159 P P 14 42 03.8 0.0
comp=Z,20nm,0.8s
WRA Warramunga Arr 28.53 159 P P 14 42 03.4 -0.4
comp=Z,11nm,0.4s,baz=332,slow=11,SNR=238
WRA S **S 14 46 07.2 -3.9**
comp=Z,0.9nm,0.6s,baz=334,slow=15,SNR=10
WRA ScP **ScP 14 47 40.7 0.0**
comp=Z,1.0nm,0.5s,baz=344,slow=3.1,SNR=13
WB2 Warramunga Arr 28.53 159 P P 14 42 03.7 -0.2
WR0 Warramunga Arr 28.62 158 P P 14 42 04.2 -0.4
WR0 IAmb IAmb 14 42 04.8
comp=Z,5.3nm,0.5s
QIS Mount Isa 31.32 150 P P 14 42 28.6 +0.8
AS31 Alice Springs 31.84 162 P P 14 42 32.9 +0.6
ASAR Alice Springs 31.84 162 P P 14 42 32.6 +0.4
comp=Z,10nm,0.3s,baz=340,slow=7.4,SNR=788
ASAR S **S 14 47 00.7 -1.3**
comp=Z,2.8nm,0.8s,baz=350,slow=21,SNR=16
ASAR ScP **ScP 14 47 51.4 -0.3**
comp=Z,0.6nm,0.5s,baz=346,slow=3.5,SNR=8.3
ASAR Alice Springs 31.84 162 P P 14 42 32.8 +0.5
WRKA Warakurna 31.93 172 P P 14 42 33.6 +0.6
comp=Z,11nm,0.9s
MTSU Mount Surprise 32.02 141 P P 14 42 34.9 +1.1
comp=Z,1.4nm,0.4s
LZH Lanzhou 34.40 331 ⇑P P 14 42 57.8 +4.1
LZH pP PP 14 44 40.3 +3.1
LZH pmax pmax
comp=Z,16nm,1.3s
CTA Charters Tower 34.69 141 P P 14 42 56.9 +0.7
comp=Z,3.8nm,0.6s,baz=325,slow=11,SNR=12
CTA Charters Tower 34.69 141 P P 14 42 57.6 +1.4
comp=Z,8.6nm,0.8s
CTAO Charters Tower 34.69 141 P P 14 42 56.9 +0.7
CTAO IAmb IAmb 14 42 58.3
comp=Z,4.3nm,0.7s
CTAO Charters Tower 34.69 141 P P 14 42 57.6 +1.4
comp=Z,7.4nm,0.9s
HHC Hu-ho-hao-te 35.63 344 *eP* **P 14 43 06.5 +2.8**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,130nm,6.0s
SHL Shillong 35.69 305 P P 14 43 04.7 +0.2
OOD Oodnadatta 36.26 162 P P 14 43 09.6 +0.7
comp=Z,9.9nm,0.8s
FORT Forrest 37.57 174 P P 14 43 20.0 +0.4
FORT IAmb IAmb 14 43 20.7
comp=Z,14nm,0.6s
FORT Forrest 37.57 174 P P 14 43 19.9 +0.4
comp=Z,20nm,0.7s
INKA Innaminka 38.05 155 P P 14 43 25.2 +1.7
comp=Z,24nm,0.7s
MULG Mulgathing 38.15 165 P P 14 43 25.2 +0.9
LCRK Leigh Creek 39.53 160 P P 14 43 36.3 +0.9
comp=Z,7.3nm,1.7s
BBOO Buckleboo 41.08 164 P P 14 43 48.0 +0.4
BBOO IAmb IAmb 14 43 49.0
comp=Z,9.9nm,0.9s
BBOO Buckleboo 41.08 164 P P 14 43 48.3 +0.7
comp=Z,16nm,0.7s
EIDS Eidsvold 41.58 141 P P 14 43 52.1 +0.5
EIDS IAmb IAmb 14 44 07.0
comp=Z,14nm,1.4s
STKA Stephens Creek 42.05 157 P P 14 43 55.9 +0.7
comp=Z,5.0nm,0.4s,baz=338,slow=7.7,SNR=38
STKA Stephens Creek 42.05 157 P P 14 43 56.0 +0.7
HTT Hallett 42.51 161 P P 14 44 00.2 +1.3
comp=Z,5.3nm,1.4s
ULN Ulaanbaatar 43.35 344 P P 14 44 06.2 +0.9
CMSA Cobar Meteorol 43.49 152 P P 14 44 07.8 +1.3
comp=Z,8.3nm,1.1s
SONM Songino Array 43.51 343 P P 14 44 07.3 +0.8
comp=Z,0.9nm,0.6s,baz=156,slow=5.9,SNR=5.8
SONM Songino Array 43.51 343 P P 14 44 07.4 +0.8
ARMA Armidale 45.64 146 P P 14 44 23.0 -0.1
ARMA IAmb IAmb 14 44 47.5
comp=Z,15nm,1.4s
CAN Canberra 48.17 152 P P 14 44 40.9 -1.0
CAN IAmb IAmb 14 44 47.6
comp=Z,19nm,1.3s
WMQ Urumqi 48.54 325 *eP* **P 14 44 46.0 +1.4**
TOO Toolangi 48.57 157 P P 14 44 44.2 -0.7
TOO IAmb IAmb 14 45 07.2
comp=Z,19nm,1.4s
DZM Mont Dzumac 50.72 126 P P 14 45 02.5 +1.6
comp=Z,2.5nm,0.4s,baz=261,slow=13,SNR=12
DZM Mont Dzumac 50.72 126 P P 14 45 02.7 +1.8
DZM IAmb IAmb 14 45 24.1
comp=Z,9.4nm,1.3s
LIFNC LIFOU 50.75 124 P P 14 45 02.9 +1.9
LIFNC IAmb IAmb 14 45 04.4
comp=Z,36nm,0.9s
MK31 Makanchi Array 53.37 325 P P 14 45 19.9 +0.5
MK31 IAmb IAmb 14 45 20.5
comp=Z,3.4nm,0.5s
MKAR Makanchi Array 53.37 325 P P 14 45 20.2 +0.8
comp=Z,3.6nm,0.4s,baz=121,slow=7.6,SNR=113
MKAR PcP **PcP 14 46 16.6 -0.2**
comp=Z,0.5nm,0.4s,baz=127,slow=3.4,SNR=5.0
MKAR ScP **ScP 14 49 17.1 -0.7**
comp=Z,0.2nm,0.5s,baz=116,slow=5.5,SNR=2.5
MKAR Makanchi Array 53.37 325 P P 14 45 19.9 +0.5
MAKZ Makanchi 53.55 325 P P 14 45 21.0 +0.3
AAK Ala-Archa 56.11 318 P P 14 45 38.2 -0.5
ZAA0 Zalesovo Array 56.55 334 P P 14 45 40.9 -0.3
ZALV Zalesovo Beam 56.55 334 P P 14 45 40.9 -0.3
comp=Z,1.0nm,0.4s,baz=144,slow=5.3,SNR=4.5
KBL Kabul 57.32 307 P P 14 45 47.0 -0.1
KURBB Kurchatov Arra 57.58 328 P P 14 45 48.3 -0.1
comp=Z,5.3nm,0.6s,baz=131,slow=6.4,SNR=79
KURK Kurchatov 57.59 328 P P 14 45 48.7 +0.3
KURK IAmb IAmb 14 45 49.6
comp=Z,9.9nm,0.7s
BTK Batken 57.67 314 P P 14 45 49.1 -0.2
KKAR Karatay Array 58.98 317 P P 14 45 58.6 +0.7
BVAR Borovoye Array 63.16 327 P P 14 46 25.4 +0.4
comp=Z,1.4nm,0.6s,baz=96,slow=7.6,SNR=6.5
SNZO South Karori 66.79 140 P P 14 46 46.9 -1.0
BKZ Black Stump Fm 66.83 138 P P 14 46 49.2 +0.9
BKZ IAmb IAmb 14 47 08.0
comp=Z,28nm,1.5s
ABKAR Akbulak array 67.92 321 P P 14 46 54.5 -0.2
SOCY Socotra 68.85 280 P P 14 46 59.7 -1.4
AKTO Aktyubinsk 69.44 321 P P 14 47 04.0 +0.3
comp=Z,0.8nm,0.5s,baz=101,slow=9.1,SNR=6.3
ARU Arti 70.78 328 P P 14 47 11.1 -0.5
comp=Z,0.6nm,0.3s,baz=121,slow=11,SNR=3.5
ARU Arti 70.78 328 P P 14 47 11.0 -0.6
ARU IAmb IAmb 14 47 21.1
comp=Z,12nm,1.5s
BRTR Keskin Array B 85.79 309 P P 14 48 30.8 -1.2
comp=Z,2.2nm,0.4s,baz=172,slow=2.3,SNR=1.5
ARCES ARCESS Array B 86.58 340 P P 14 48 34.3 -0.7
comp=Z,5.5nm,0.9s,baz=79,slow=4.9,SNR=2.0
FINES FINESS Array B 87.75 332 P P 14 48 39.4 -1.2
comp=Z,1.9nm,0.8s,baz=90,slow=0.2,SNR=4.5
TXAR Lajitas Array 122.00 49 PKP PKiKP 14 54 44.9 +2.0
comp=Z,0.2nm,0.4s,baz=345,slow=3.2,SNR=2.1

*EAF **26** 14:43:45.0±3.7, 18°.51S×26°.21E, h10km, MD3.5*
BUL 26 14:43:42.0±7.0, 18°.58S×26°.09E, h10km, MD3.6, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	**Bulawayo**	**2.84**	**123**	*i* P	Pn	14 44 29.9	+2.3
BLWY				*i* Sg	Sg	14 45 12.4	-1.0
BLWY	**Bulawayo**	**2.84**	**123**	*i* P	Pn	14 44 29.9	+2.3
BLWY				*i* Sg	Sg	14 45 12.4	-1.0
MATP	**Matopo**	**2.92**	**129**	*i* P	Pn	14 44 30.5	+1.8
MATP				*i* Sg	Sg	14 45 14.7	-1.3
MATP	**Matopo**	**2.92**	**129**	*i* P	Pn	14 44 30.5	+1.8
MATP				*i* Sg	Sg	14 45 14.7	-1.3
KRI	**Karoi**	**3.79**	**63**	*i* P	Pb	14 44 46.7	-2.4
KRI				*i* Sg	Sg	14 45 41.3	-2.5
KRI	**Karoi**	**3.79**	**63**	*i* P	Pb	14 44 46.7	-2.4
KRI				*i* Sg	Sg	14 45 41.3	-2.5
LSZ	**Lusaka**	**3.85**	**32**	*i* Sg	Sb	14 45 41.0	+4.0
LSZ	**Lusaka**	**3.85**	**32**	*i* Sg	Sb	14 45 41.0	+4.0
MOPA	**Mopani**	**6.98**	**136**	*i* P	Pn	14 45 21.0	-3.3
MOPA				*i* S	Sn	14 46 40.5	-3.4
MOPA	**Mopani**	**6.98**	**136**	*i* P	Pn	14 45 21.0	-3.3
MOPA				*i* S	Sn	14 46 40.5	-3.4

*IDC **26** 14:59:54.7±3.2, 36°.13N×70°.66E, h110km±27km, mb3.6/9, mb1 3.6/15, mb1mx3.3/57, mbtmp4.0/15, Error ellipse: s-maj=23.2km s-min=18.2km az=175.0*
*BJI **26** 14:59:57.9±0.0, 36°.56N×70°.44E, h148km, mb4.2/17, mB4.8/7*
*NEIC **26** 14:59:59.4±1.0, 36°.37N±0°.03×70°.54E±0°.08, h146km±6km, mb4.5/16, Error ellipse: s-maj=9.5km s-min=3.5km az=72.0*
*NNC **26** 15:00:02.0±2.0, 36°.64N×70°.51E, h120km±36km, mb3.8, mpv4.1, Error ellipse: s-maj=16.5km s-min=15.5km az=157.0*
ISC 26 14:59:58.4±0.5, 36°.31N±0°.05×70°.58E±0°.05, h150km, n83, σ1°.86/93, mb4.1/18, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.17**	**216**	Pn	**Pn**	**15 00 36.8**	**+1.1**
CHGR	**Chuyangaron**	**2.60**	**335**		**Pn**	**15 00 40.4**	**-0.4**
DRK	**Karamyk**	**3.31**	**17**		**Pn**	**15 00 50.3**	**+0.4**
CHCP	**Chirah Chowk**	**3.44**	**139**	P	**Pn**	**15 00 52.6**	**+1.1**
NIL	**Nilore**	**3.44**	**140**	Pn	**Pn**	**15 00 52.5**	**+1.0**
THW	**Thamme Wali**	**3.64**	**164**	P	**Pn**	**15 00 55.0**	**+1.0**
BTK	**Batken**	**3.75**	**3**		**Pn**	**15 00 55.8**	**+0.5**
SARP	**Sargodha**	**4.71**	**158**	P	**Pn**	**15 01 08.0**	**0.0**
KSH	**Kashi**	**5.33**	**52**	P	**Pn**	**15 01 12.8**	**-3.5**
KSH				S	Sn	15 02 05.3	-12
KSH				pmax	pmax		
KSH				smax	smax		
KSH				smax	smax		
DHRM	**DHARAMSHALA**	**6.23**	**129**	*e*P	**Pn**	**15 01 27.9**	**-0.6**
DHRM				*e*S	**Sn**	**15 02 35.9**	**-2.9**
DHRM				IAML		15 02 38.1	
DHRM				IAML		15 02 38.5	
AML	**Almayashu**	**6.29**	**22**	P	**Pn**	**15 01 29.1**	**-0.2**
UCH	**Uchtor**	**6.65**	**26**	P	**Pn**	**15 01 34.0**	**-0.2**
KKAR	**Karatay Array**	**6.79**	**360**	Pn	**Pn**	**15 01 35.0**	**-0.5**
KK08	**Karatay Array**	**6.79**	**359**	⇑P	**Pn**	**15 01 35.0**	**-0.5**
KK08				⇓S	**Sn**	**15 02 47.1**	**-4.5**
EKS2	**Erkin-Say**	**6.81**	**20**	P	**Pn**	**15 01 36.2**	**+0.3**
AAK	**Ala-Archa**	**7.01**	**24**	P	**Pn**	**15 01 38.6**	**+0.1**
AAK				S	**Sn**	**15 02 55.2**	**-1.9**
AAK	**Ala-Archa**	**7.01**	**24**	⇑P	**Pn**	**15 01 38.9**	**+0.3**
AAK	**Ala-Archa**	**7.01**	**24**	⇑P	**Pn**	**15 01 38.5**	**-0.1**
AAK				S	**Sn**	**15 02 55.0**	**-2.2**
KBK	**Karagaybulak**	**7.18**	**27**	P	**Pn**	**15 01 41.7**	**+0.8**
CHMS	**Chumysh**	**7.41**	**24**	P	**Pn**	**15 01 44.0**	**+0.1**
BOOM	**Boomskoye usch**	**7.44**	**32**	Pn	**Pn**	**15 01 44.5**	**+0.2**
SMLA	**Simla**	**7.54**	**131**	*e*P	**Pn**	**15 01 44.3**	**-1.3**
SMLA				*i* x	x	15 01 45.7	
SMLA				*e*S	**Sn**	**15 03 05.8**	**-3.9**
SMLA				IAML		15 03 08.5	
SMLA				IAML		15 03 09.1	
USP	**Ospenovka**	**7.57**	**22**	P	**Pn**	**15 01 46.3**	**+0.3**
TKM2	**Tokmak 2**	**7.65**	**29**	P	**Pn**	**15 01 47.0**	**-0.3**
TKM2	**Tokmak 2**	**7.65**	**29**	⇑P	**Pn**	**15 01 46.8**	**-0.4**
TKM2				⇓S	**Sn**	**15 03 10.1**	**-2.7**
PRZ	**Przheval'sk**	**8.64**	**42**	Pn	**Pn**	**15 02 00.7**	**+0.3**
GEYT	**Alibeck**	**10.08**	**283**	P	**Pn**	**15 02 17.6**	**-1.9**
GEYT				S	**Sn**	**15 04 06.9**	**-4.2**
GEYT	**Alibeck**	**10.08**	**283**	Pn	**Pn**	**15 02 19.1**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**10.08**	**283**	Pn	**Pn**	**15 02 19.1**	**-0.3**
PYUN	**Piuthan**	**13.31**	**124**	*e*P	**Pn**	**15 02 58.9**	**-2.9**
MAKZ	**Makanchi**	**13.51**	**36**	Pn	**Pn**	**15 03 03.9**	**0.0**
MAKZ					**P**	**15 03 08.6**	**+0.7**
MK31	**Makanchi Array**	**13.64**	**36**	Pn	**Pn**	**15 03 05.8**	**+0.2**
MKAR	**Makanchi Array**	**13.64**	**36**	P	**Pn**	**15 03 04.3**	**-1.3**
MKAR	**Makanchi Array**	**13.64**	**36**	Pn	**Pn**	**15 03 05.4**	**-0.3**
MKAR				P	**P**	**15 03 10.0**	**+0.6**
DANN	**Dangsing**	**13.67**	**122**	*e*P	**Pn**	**15 03 03.8**	**-2.7**
KOLN	**Koldanda**	**13.94**	**124**	*e*P	**Pn**	**15 03 07.4**	**-2.3**
BHPL	**Bhopal**	**14.31**	**154**	*e*P	**Pn**	**15 03 13.8**	**-0.4**
BHPL				*e*S	**Sn**	**15 05 47.1**	**-5.9**
GKN	**Gorkha**	**14.49**	**121**	*e*P	**Pn**	**15 03 13.9**	**-2.8**
DMN	**Daman**	**15.06**	**121**	*e*P	**Pn**	**15 03 21.2**	**-2.7**
KKN	**Kakani**	**15.07**	**120**	*e*P	**Pn**	**15 03 21.8**	**-2.1**
WMQ	**Urumqi**	**15.09**	**55**	*e*P	**P**	**15 03 25.8**	**+0.3**
AB31	**Akbulak array**	**15.09**	**332**	⇑P	**P**	**15 03 24.8**	**-0.6**
ABKAR	**Akbulak array**	**15.09**	**332**	P	**P**	**15 03 24.9**	**-0.4**
ABKAR	**Akbulak array**	**15.09**	**332**	P	**P**	**15 03 25.0**	**-0.4**
ABKAR				IAmb	IAmb	15 03 26.0	
PKI	**Pulchoki**	**15.30**	**121**	*e*P	**Pn**	**15 03 24.9**	**-1.9**
KURBB	**Kurchatov Arra**	**15.41**	**19**	P	**Pn**	**15 03 26.2**	**-1.4**
GUN	**Gumba**	**15.42**	**119**	*e*P	**Pn**	**15 03 26.6**	**-1.8**
KURK	**Kurchatov**	**15.52**	**19**	P	**P**	**15 03 30.9**	**+0.8**
BVAR	**Borovoye Array**	**16.71**	**360**	P	**Pn**	**15 03 43.8**	**+0.3**
BRVK	**Borovoye**	**16.75**	**359**	P	**P**	**15 03 44.0**	**+0.3**
AKTO	**Aktyubinsk**	**16.78**	**331**	P	**Pn**	**15 03 46.0**	**+1.6**
AKTO				S	**S**	**15 06 42.7**	**-8.1**
AKTO	**Aktyubinsk**	**16.78**	**331**	⇑P	**Pn**	**15 03 46.0**	**+1.6**
ZAA0	**Zalesovo Array**	**20.23**	**25**	P	**P**	**15 04 22.0**	**+0.5**
ZALV	**Zalesovo Beam**	**20.23**	**25**	P	**P**	**15 04 22.4**	**+0.9**
ZALV	**Zalesovo Beam**	**20.23**	**25**	P	**P**	**15 04 22.1**	**+0.6**
SHL	**Shillong**	**21.14**	**114**	P	**P**	**15 04 33.4**	**+1.7**
SHL				IAmb	IAmb	15 04 37.4	
GTA	**Gaotai**	**23.25**	**73**	*e*P	**P**	**15 04 54.5**	**+2.1**
GTA				pP	pP	15 05 25.0	+2.5
GTA				sP	sP	15 05 38.5	-3.1
GTA				pmax	pmax		
SONM	**Songino Array**	**28.72**	**55**	P	**P**	**15 05 43.0**	**+1.4**
SONM	**Songino Array**	**28.72**	**55**	IAmb	IAmb	15 05 44.4	
HHC	**Hu-ho-hao-te**	**32.15**	**69**	*e*P	**P**	**15 06 13.5**	**+1.7**
HHC				pmax	pmax		
HHC				pmax	pmax		
ENH	**Enshi**	**32.92**	**89**	P	**P**	**15 06 19.8**	**+1.3**
ENH				IAmb	IAmb	15 06 30.4	
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**15 06 58.7**	**+1.9**
NJ2	**Nanjing**	**39.84**	**82**	*e*P	**P**	**15 07 18.0**	**+0.9**
NJ2				pmax	pmax		
ARCES	**ARCESS Array B**	**41.19**	**338**	P	**P**	**15 07 30.0**	**+2.2**
CLL	**Collm**	**43.05**	**309**	*e*P	**P**	**15 07 44.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**65.37**	**268**	P	**P**	**15 10 25.6**	**+0.5**
TOLK	**Toolik Lake Re**	**71.19**	**14**	P	**P**	**15 11 01.7**	**+1.2**
TOLK				IAmb	IAmb	15 11 27.2	
IMAR	**Indian Mountai**	**72.46**	**17**	P	**P**	**15 11 09.2**	**+1.2**
BMAR	**Burnt Mountain**	**73.20**	**13**	P	**P**	**15 11 12.2**	**-0.2**
INK	**Inuvik**	**74.14**	**9**	P	**P**	**15 11 19.9**	**+2.2**
INK	**Inuvik**	**74.14**	**9**	P	**P**	**15 11 19.3**	**+1.5**
KTH	**Kantishna Hill**	**75.15**	**18**	P	**P**	**15 11 25.3**	**+1.5**
KTH				IAmb	IAmb	15 11 26.4	
PPLA	**Purkeypile**	**75.37**	**19**	P	**P**	**15 11 26.3**	**+1.1**
PPLA				IAmb	IAmb	15 11 54.7	
SCRK	**Sand Creek**	**76.37**	**15**	P	**P**	**15 11 32.5**	**+1.7**
DOT	**Dot Lake**	**76.64**	**15**	P	**P**	**15 11 32.8**	**+0.7**
DOT				IAmb	IAmb	15 11 36.1	
CLES	**Cleveland East**	**76.88**	**33**	P	**P**	**15 11 33.4**	**-0.3**
SML	**Sawmill**	**77.27**	**18**	P	**P**	**15 11 36.9**	**+1.2**
SML				IAmb	IAmb	15 12 03.0	
SCM	**Sheep Creek Mo**	**77.49**	**17**	P	**P**	**15 11 38.2**	**+1.2**
BCAR	**Beaver Creek A**	**77.63**	**14**	P	**P**	**15 11 39.0**	**+1.3**
YKA	**Yellowknife Ar**	**81.45**	**2**	P	**P**	**15 11 59.5**	**+1.2**
WRA	**Warramunga Arr**	**82.18**	**122**	P	**P**	**15 12 02.3**	**-0.4**
ASAR	**Alice Springs**	**84.43**	**125**	P	**P**	**15 12 14.3**	**+0.2**
RAO	**Raoul Island**	**123.05**	**104**	PKP	**PKiKP**	**15 18 38.7**	**+1.4**

*IDC **26** 15:36:52.5±0.8, 0°.57N×28°.81W, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.9/39, mbtmp4.1/10, MS3.6/12, Ms1 3.6/12, ms1mx3.2/84, Error ellipse: s-maj=53.3km s-min=14.7km az=143.0*
*NEIC **26** 15:36:54.7±1.3, 0°.5N±0°.2×28°.79W±0°.08, h10km±1km, mb4.5/14, Error ellipse: s-maj=28.8km s-min=10.3km az=338.0*
ISC 26 15:36:54.2±0.6, 0°.8N±0°.1×28°.96W±0°.09, h10km, n54, σ1°.79/38, mb4.3/15, MS3.6/12, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.57**	**226**	*e*P	**Pn**	**15 39 11.6**	**-0.6**
RCBR	**Riachuelo**	**9.57**	**226**		**Pn**	**15 39 10.9**	**-1.3**
NBCL	**Cascavel-CE**	**10.58**	**242**	*e*P	**Pn**	**15 39 24.2**	**-1.8**
NBMO	**Morrinhos-CE**	**11.81**	**250**	*e*P	**Pn**	**15 39 39.9**	**-2.9**
NBPB	**Pedra_Branca-C**	**12.35**	**239**	*e*P	**Pn**	**15 39 48.3**	**-2.0**
NBAN	**Anadia - AL**	**12.71**	**215**	*e*P	**Pn**	**15 39 55.6**	**+0.4**
NBMA	**Muriti-CE**	**12.72**	**230**	*e*P	**Pn**	**15 39 53.9**	**-1.4**
NBLA	**Lagarto - SE**	**14.65**	**217**	*e*P	**Pn**	**15 40 21.5**	**-0.2**
SACV	**Santiago Islan**	**15.02**	**20**	Pn	**Pn**	**15 40 24.0**	**-2.8**
ROSB	**Rosrio**	**15.60**	**256**	*e*P	**Pn**	**15 40 32.6**	**-1.7**
NBPN	**Ponto Novo - B**	**16.10**	**224**	*e*P	**Pn**	**15 40 41.5**	**+0.6**
H10N3	**ASCENSION HYDR**	**16.79**	**121**	T	T	15 58 00.7	
baz=300,slow=74,SNR=125							
H10N2	**ASCENSION HYDR**	**16.80**	**121**	T	T	15 57 50.6	
baz=300,slow=74,SNR=104							
H10N1	**ASCENSION HYDR**	**16.81**	**121**	T	T	15 58 00.5	
baz=300,slow=74,SNR=118							
ASCN	**Ascension**	**16.96**	**121**	Pn	**Pn**	**15 40 47.8**	**-4.0**
ASCN				IAmb	IAmb	15 40 49.2	
MBO	**M'Bour**	**17.97**	**41**		**P**	**15 41 05.9**	**+1.0**
MBO				IAmb	IAmb	15 41 19.7	
CMC01	**Camacan, BA**	**19.17**	**213**	*e*P	**Pn**	**15 41 24.1**	**+5.2**
GUA01	**Guaratinga, BA**	**20.34**	**211**	*e*P	Pn	15 41 36.1	+3.2
SDBA	**SAO DESIDERIO**	**20.57**	**230**	*e*P	Pn	15 41 35.9	+0.3
PEXB	**Peixe**	**23.10**	**236**	*e*P	**P**	**15 42 01.2**	**+0.7**
LIC	**Lamto**	**24.48**	**77**	*e*P	**P**	**15 42 15.8**	**+2.0**
comp=Z,39nm,1.1s							
TIC	**Toumodi**	**24.57**	**76**	*e*P	**P**	**15 42 16.8**	**+2.1**
DBIC	**Dimbokro**	**24.74**	**76**	P	**P**	**15 42 15.4**	**-0.8**
comp=Z,4.4nm,0.6s,baz=270,slow=11,SNR=9.5							
DBIC	**Dimbokro**	**24.74**	**76**	P	**P**	**15 42 15.2**	**-1.0**
DBIC				IAmb	IAmb	15 42 20.0	
KIC	**Kosan Boka**	**24.78**	**77**	*e*P	**P**	**15 42 18.1**	**+1.5**
comp=Z,5.8nm,0.6s							
BDFB	**Brasilia**	**24.94**	**228**	P	**P**	**15 42 17.6**	**-0.5**
comp=Z,1.5nm,0.4s,baz=48,slow=9.9,SNR=7.0							
BDFB	**Brasilia**	**24.94**	**228**	IAmb	IAmb	15 42 18.6	
comp=Z,8.1nm,0.8s							
BOAV	**Boa Vista**	**31.58**	**273**	P	**P**	**15 43 18.3**	**+0.9**
BOAV				IAmb	IAmb	15 43 21.6	
comp=Z,12nm,1.1s							
TORD	**Torodi Ar. Bea**	**32.74**	**67**	P	**P**	**15 43 26.0**	**-1.6**
comp=Z,1.2nm,0.6s,baz=257,slow=9.5,SNR=6.9							
SIV	**San Ignacio**	**35.84**	**241**	P	**P**	**15 43 54.7**	**+0.3**
comp=Z,0.6nm,0.3s,baz=61,slow=16,SNR=4.9							
SIV				LR	LR	15 57 55.8	
comp=Z,187nm,18.9s,baz=118,slow=35							
CPUP	**Villa Florida**	**38.43**	**223**	P	**P**	**15 44 14.9**	**-1.4**
comp=Z,3.1nm,0.8s,baz=26,slow=4.4,SNR=3.5							
CPUP				LR	LR	16 00 02.1	
comp=Z,214nm,18.4s,baz=72,slow=36							
CPUP	**Villa Florida**	**38.43**	**223**	IAmb	IAmb	15 44 18.1	
comp=Z,15nm,1.3s							
LPAZ	**La Paz**	**42.22**	**245**	P	**P**	**15 44 48.6**	**0.0**
comp=Z,2.2nm,0.7s,baz=33,slow=2.5,SNR=10							
LPAZ				LR	LR	16 01 53.7	
comp=Z,74nm,18.6s,baz=58,slow=36							
LPAZ	**La Paz**	**42.22**	**245**	P	**P**	**15 44 49.1**	**+0.5**
PB16	**IPOC Station P**	**44.17**	**242**	P	**P**	**15 45 03.8**	**-0.5**
PB16				IAmb	IAmb	15 45 23.4	
comp=Z,6.6nm,1.5s							
GO01	**Chusmiza**	**44.39**	**240**	P	**P**	**15 45 05.3**	**-0.6**
GO01				IAmb	IAmb	15 45 05.5	
comp=Z,8.1nm,1.5s							
ESDC	**Sonseca Array**	**44.89**	**28**	P	**P**	**15 45 09.3**	**+0.2**
comp=Z,1.2nm,0.9s,baz=224,slow=9.4,SNR=6.8							
ESDC				LR	LR	16 04 19.6	
comp=Z,50nm,18.7s,baz=126,slow=37							
ESDC	**Sonseca Array**	**44.89**	**28**	IAmb	IAmb	15 45 10.7	
comp=Z,1.3nm,1.0s							
LVC	**Limon Verde**	**45.34**	**237**	LR	LR	16 03 58.8	
comp=Z,58nm,19.1s,baz=182,slow=36							
TA01	**Diego Aracena**	**45.59**	**240**	P	**P**	**15 45 15.0**	**+0.1**

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KEST Kesra              49.71 41  LR        LR        16 06 55.4
     comp=Z,86nm,18.8s,baz=206,slow=36
ATAH Atahualpa          49.94 260 LR        LR        16 08 27.2
     comp=Z,75nm,18.4s,baz=19,slow=38
PLCA Paso Flores        56.01 217 LR        LR        16 10 05.7
     comp=Z,42nm,19.0s,baz=114,slow=36
DAVOX Davos/Dischmat    56.94 31  LR        LR        16 09 02.7
     comp=Z,37nm,19.6s,baz=262,slow=34
SUR  Sutherland         57.40 130 LR        LR        16 05 55.5
     comp=Z,70nm,20.6s,baz=176,slow=30
BOSA Boshof             59.52 124 LR        LR        16 06 43.5
     comp=Z,47nm,21.1s,baz=203,slow=30
GERES GERESS Array B    60.24 31  P         P         15 47 02.4 -0.4
     comp=Z,1.2nm,0.8s,baz=203,slow=7.2,SNR=7.7
GERES GERESS Array B    60.24 31  P         P         15 47 05.1 +2.4
KHC  Kasperske Hory     60.35 31  eP        P         15 47 02.5 -1.0
NOA  NORSAR Array B     67.40 20  LR        LR        16 13 48.9
     comp=Z,17nm,19.8s,baz=335,slow=33
BRTR Keskin Array B     68.66 47  P         P         15 48 00.2 +2.0
     comp=Z,0.7nm,0.6s,baz=231,slow=7.4,SNR=3.8
BRTR Keskin Array B     68.66 47  P         P         15 47 59.7 +1.5
AKASG Malin Array Be    69.75 35  P         P         15 48 06.7 +2.2
     comp=Z,2.3nm,0.7s,baz=243,slow=6.6,SNR=5.5
AKASG Malin Array Be    69.75 35  P         P         15 48 04.9 +0.4
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*BJI **26** 15:38:49.7±0.0,22°.42N×144°.58E,h30km,mb4.5/44, mB5.0/21,Ms4.5/5,Ms7 4.4/5*
*NEIC **26** 15:38:56.7±1.7,22°.71N±0°.08×144°.1E±0°.1,h35km±1km, mb4.8/104,Error ellipse: s-maj=18.1km s-min=13.4km az=262.0*
*IDC **26** 15:38:57.5±2.0,22°.67N×144°.07E,h45km±18km,mb4.0/27, mb1 4.2/29,mb1mx4.1/45,mbtmp4.3/29,ML4.0/2,MS3.4/11, Ms1 3.4/11,ms1mx3.1/87,Error ellipse: s-maj=17.5km s-min=10.0km az=87.0*

ISC 26 15:38:58.1±0.3,22°.69N±0°.05×144°.09E±0°.07,h53km,n215, σ1⁹05/205,mb4.7/90,MS3.4/9,2C,Volcano Islands region

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Code Station Name       Δ°   AZ°  Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
JCJ  Chichijima         4.71 339  Pn    Pn          15 40 06.1 -0.6
JCJ  Chichijima         4.71 339  P     Pn          15 40 08.6 +1.9
GUMO Guam               9.08 175  LR    LR          15 44 10.7
     comp=Z,202nm,21.8s,baz=76,slow=34
JHJ  Hachijo jima 2    11.06 341  P     Pn          15 41 32.4 -1.2
     9.6nm,0.3s,baz=57,slow=14,SNR=1.4
JHJ                             S     Sn          15 43 24.7  -11
     6.5nm,0.3s,baz=123,slow=21,SNR=1.9
JYT  Yasato            13.91 347          Pn        15 42 10.9 -1.5
INU  Inuyama           14.04 335  Pn      Pn        15 42 12.8 -1.5
JGF  Kuroka            14.14 337  Pn      Pn        15 42 13.9 -1.6
MJAR Matsushiro Arr    14.71 341  P       Pn        15 42 21.0 -2.1
     0.3nm,0.3s,baz=164,slow=11,SNR=8.5
MJAR                            LR    LR          15 48 10.2
     comp=Z,100nm,19.2s,baz=186,slow=38
MJAR Matsushiro Arr    14.71 341  Pn    Pn          15 42 17.9  -5.2
MAJO Matsushiro        14.72 341  Pn    Pn          15 42 17.8  -5.4
MAJO Matsushiro        14.72 341  P     Pn          15 42 23.9 +0.8
MAT  Matsushiro        14.72 341  P     Pn          15 42 20.6  -2.5
MAT                             eS    Sn          15 44 54.3  -11
MJB9 Matsu-Tunnel      14.72 341  Pn    Pn          15 42 17.7  -5.5
JOW  Kunigami          14.95 289  P     P           15 42 31.1 +0.4
     1.5nm,0.3s,baz=69,slow=17,SNR=4.8
JOW                             LR    LR          15 47 29.5
     comp=Z,160nm,21.2s,baz=130,slow=34
JOW  Kunigami          14.95 289  P     P           15 42 30.0 -0.7
JOW  Kunigami          14.95 289  P     P           15 42 28.9 -1.8
JMM  Marumori          15.39 350          Pn        15 42 29.9 -2.0
JMM                             IAmb  IAmb        15 42 33.5
     comp=Z,66nm,1.3s
JTM  Tenmabayashi      18.22 353  P     P           15 43 06.1 -0.7
KSRS Korea Array       20.26 320  P     P           15 43 29.1  0.0
     comp=Z,1.4nm,0.6s,baz=137,slow=11,SNR=24
KSRS                            LR    LR          15 50 39.9
     comp=Z,66nm,21.8s,baz=140,slow=35
KSAR Wonju Array Be    20.27 320  P     P           15 43 29.1 -0.2
NACB Ninganchiao       20.70 279  P     P           15 43 35.1 +1.1
NACB                            IAmb  IAmb        15 43 53.9
     comp=Z,44nm,1.5s
YHNB Yeheng            20.90 280  P     P           15 43 36.5 +0.2
YHNB                            IAmb  IAmb        15 44 00.8
     comp=Z,93nm,1.5s
SSLB Suanglung         21.29 277  P     P           15 43 42.4 +2.0
ASAJ Asahikawa         21.41 357  P     P           15 43 43.2 +1.8
     comp=Z,14nm,1.1s,baz=310,slow=26,SNR=2.4
ASAJ                            LR    LR          15 51 21.7
     comp=Z,26nm,20.6s,baz=129,slow=35
H11N1 WAKE ISLAND Hy 21.46 94  T     T           16 06 02.5
     baz=282,slow=74,SNR=11
H11N2 WAKE ISLAND Hy 21.46 94  T     T           16 06 12.3
     baz=282,slow=74,SNR=15
H11N3 WAKE ISLAND Hy 21.47 94  T     T           16 06 09.2
     baz=282,slow=74,SNR=12
H11S3 WAKE ISLAND Hy 21.55 97  T     T           16 07 18.2
     baz=284,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 21.56 97  T     T           16 07 18.9
     baz=284,slow=75,SNR=16
H11S2 WAKE ISLAND Hy 21.57 97  T     T           16 07 19.4
     baz=284,slow=75,SNR=18
TPUB Ta-pu             21.61 276  P     P           15 43 44.2 +0.5
TPUB                            IAmb  IAmb        15 44 00.1
     comp=Z,72nm,1.4s
KNMB Chin-men Tao      23.62 279  P     P           15 44 04.6 +0.2
USRK Ussuriysk Ar.     23.66 338  P     P           15 44 05.4 +0.8
     comp=Z,2.1nm,0.6s,baz=129,slow=8.9,SNR=3.3
USRK                            LR    LR          15 52 49.5
     comp=Z,47nm,21.5s,baz=70,slow=35
USRK Ussuriysk Ar.     23.66 338  P     P           15 44 03.7 -0.9
NJ2  Nanjing           24.23 298  eP    P           15 44 10.8 +0.8
NJ2                             pmax  pmax
     comp=Z,11nm,0.5s
MANU Manus Island      24.79 172  P     P           15 44 15.3 +0.1
MANU                            IAmb  IAmb        15 44 16.4
     comp=Z,18nm,0.8s
SIJI Sorong            26.54 210  P     P           15 44 31.3 +0.1
     comp=Z,5.2nm,0.7s,baz=323,slow=20,SNR=1.9
TIA  Tai'an            26.97 306  eP    P           15 44 37.5 +2.7
TIA                             pmax  pmax
     comp=Z,8.0nm,1.1s
TIA                             LR    LR
     comp=Z,580nm,10.6s
TIA                             LR    LR
     comp=Z,320nm,11.4s
TIA                             LR    LR
     comp=Z,750nm,12.8s
FAKI Fak Fak           27.96 206  P     P           15 44 41.5 -2.3
FAKI                            IAmb  IAmb        15 44 53.8
     comp=Z,18nm,0.9s
FAKI Fak Fak           27.96 206  P     P           15 44 44.1 +0.3
KLR  Kul'dur           28.23 343  P     P           15 44 47.1 +1.2
     comp=Z,2.2nm,0.5s,baz=163,slow=7.5,SNR=12
KLR                             LR    LR          15 55 29.4
     comp=Z,72nm,20.4s,baz=158,slow=35
HNS  HongShan          29.21 307  ⇑P    P           15 44 56.0 +1.2
HNS                             pmax  pmax
     comp=Z,6.0nm,0.7s
SANI Sanana            30.27 218  P     P           15 45 04.3 -0.1
TOLI2 Tolitoli         31.20 230  P     P           15 45 12.8 +0.3
TOLI2                           IAmb  IAmb        15 45 14.8
     comp=Z,12nm,0.7s
TOLI2 Tolitoli         31.20 230  P     P           15 45 13.4 +0.9
PMG  Port Moresby      32.04 174  P     P           15 45 19.7 -0.2
     comp=Z,4.5nm,0.5s,baz=344,slow=11,SNR=3.2
PMG  Port Moresby      32.04 174  P     P           15 45 18.7 -1.2
PMG                             IAmb  IAmb        15 45 21.4
     comp=Z,9.4nm,0.9s
PETK Petropavlovsk-    32.10 15   LR    LR          15 55 56.7
     comp=Z,94nm,21.6s,baz=179,slow=32
HHC  Hu-ho-hao-te      32.80 311  eP    P           15 45 27.5 +1.0
HHC                             pmax  pmax
     comp=Z,9.0nm,1.1s
HHC                             pmax  pmax
     comp=Z,230nm,6.1s
XAN  Xi'an             32.80 298  P     P           15 45 30.8 +4.3
XAN                             pP    pP          15 45 41.0 +2.2
XAN                             pmax  pmax
     comp=Z,6.0nm,0.7s
GYA  Guiyang           34.17 284  ⇑P    P           15 45 47.5 +8.9
GYA                             pmax  pmax
     comp=Z,10.0nm,0.6s
DLV  T Lat             35.54 259  P     P           15 45 51.3 +0.6
COEN Coen              36.43 182  P     P           15 45 58.3 +0.4
COEN                            IAmb  IAmb        15 45 58.8
     comp=Z,12nm,0.7s
CD2  Chengdu           36.76 292  P     P           15 46 00.5 -0.3
CD2                             pmax  pmax
     comp=Z,10.0nm,0.6s
SLVN Son La            37.20 276  P     P           15 46 04.8 +0.2
LZH  Lanzhou           37.26 300  eP    P           15 46 05.3 +0.2
LZH                             pP    pP          15 46 11.0  -6.5
LZH                             sP    pwP         15 46 15.5  -7.5
LZH                             pmax  pmax
     comp=Z,23nm,1.2s
MTN  Manton Dam        37.53 201  P     P           15 46 05.4 -1.8
MTN                             IAmb  IAmb        15 46 08.2
     comp=Z,21nm,1.4s
SHEM Shemya Is, Ala    37.74 30   LR    LR          15 59 36.1
     comp=Z,61nm,21.4s,baz=110,slow=33
ULN  Ulaanbaatar       38.74 320  P     P           15 46 17.1 -0.3
SONM Songino Array     39.13 319  P     P           15 46 21.4 +0.9
     comp=Z,1.4nm,0.6s,baz=127,slow=6.1,SNR=11
SONM                            LR    LR          16 02 30.8
     comp=Z,58nm,19.8s,baz=338,slow=36
SONM Songino Array     39.13 319  P     P           15 46 21.0 +0.4
YAK  Yakutsk           40.54 350  P     P           15 46 31.3 -0.6
YAK                             IAmb  IAmb        15 46 50.5
     comp=Z,13nm,0.8s
SEY  Seymchan          40.61 6    P     P           15 46 33.1 +0.6
     comp=Z,1.9nm,0.8s,baz=207,slow=11,SNR=7.6
KNRA Kununurra         40.98 203  P     P           15 46 35.4 -0.6
KNRA                            IAmb  IAmb        15 46 57.4
     comp=Z,29nm,1.4s
KNRA Kununurra         40.98 203  P     P           15 46 35.5 -0.5
GTA  Gaotai            40.99 304  eP    P           15 46 32.8 -3.4
GTA                             pP    pP          15 46 42.0  -6.9
GTA                             sP    pwP         15 46 46.3  -7.2
GTA                             pmax  pmax
     comp=Z,1.0nm,0.6s
CM31 Chiang Mai Arr    42.36 273  P     P           15 46 47.2 -0.2
CMAR Chiang Mai Arr    42.36 273  P     P           15 46 47.5  0.0
     comp=Z,0.6nm,0.3s,baz=58,slow=7.8,SNR=17
CMAR Chiang Mai Arr    42.36 273  P     P           15 46 48.0 +0.6
CTA  Charters Tower    42.57 177  P     P           15 46 48.8 -0.1
     comp=Z,2.2nm,0.3s,baz=9.4,slow=6.7,SNR=3.8
CTAO Charters Tower    42.57 177  P     P           15 46 48.6 -0.3
CTAO                            IAmb  IAmb        15 46 50.9
     comp=Z,19nm,1.4s
JAGI Jajag, Banyuwa    42.65 227  P     P           15 46 48.6 -1.1
JAGI                            IAmb  IAmb        15 46 49.1
     comp=Z,27nm,1.0s
JAGI Jajag, Banyuwa    42.65 227  P     P           15 46 49.1 -0.6
QIS  Mount Isa         43.21 186  P     P           15 46 54.2 +0.1
WB0  Warramunga Arr    43.25 193  P     P           15 46 53.6 -0.9
WR0  Warramunga Arr    43.40 193  P     P           15 46 54.7 -1.0
WRAB Tennant Creek     43.42 193  P     P           15 46 54.9 -0.9
WRAB                            IAmb  IAmb        15 46 58.6
     comp=Z,6.5nm,0.5s
WRAB Tennant Creek     43.42 193  P     P           15 46 55.9 +0.1
WB2  Warramunga Arr    43.43 193  P     P           15 46 55.3 -0.6
WRA  Warramunga Arr    43.43 193  P     P           15 46 55.7 -0.3
     comp=Z,2.1nm,0.3s,baz=15,slow=8.4,SNR=126
WRA                             PcP   PcP         15 48 45.2 +1.6
     comp=Z,0.9nm,0.7s,baz=2.9,slow=3.3,SNR=3.2
WRA                             ScP   ScP         15 52 30.6  0.0
     comp=Z,2.2nm,1.1s,baz=12,slow=4.3,SNR=6.0
WRA  Warramunga Arr    43.43 193  P     P           15 46 55.2 -0.7
SANVU Saraoutou        44.15 147  P     P           15 47 01.1 -0.5
SANVU                           IAmb  IAmb        15 47 04.7
     comp=Z,19nm,1.1s
FITZ Fitzroy Crossi    44.37 205  LR    LR          16 06 23.7
     comp=Z,369nm,20.9s,baz=62,slow=37
GOMU GeErMu            44.53 299  P     P           15 47 07.0 +1.9
GOMU                            sP    pP          15 47 17.0  -1.2
GOMU                            pmax  pmax
     comp=Z,13nm,0.5s
GOMU                            pmax  pmax
     comp=Z,95nm,4.8s
UGM  Wanagama          44.78 231  P     P           15 47 06.3 -0.6
UGM  Wanagama          44.78 231  P     P           15 47 07.0 +0.1
KULM Kulim             45.34 254  P     P           15 47 11.6 +0.2
KULM                            IAmb  IAmb        15 47 26.2
     comp=Z,20nm,1.1s
NIKH Nikolski High     46.69 37   P     P           15 47 19.1 -2.4
AS31 Alice Springs     47.13 193  P     P           15 47 24.2 -1.1
ASAR Alice Springs     47.13 193  P     P           15 47 24.5 -0.7
     comp=Z,1.6nm,0.6s,baz=12,slow=6.9,SNR=47
ASAR                            PcP   PcP         15 48 57.6 +1.3
     comp=Z,0.6nm,0.6s,baz=21,slow=3.1,SNR=2.4
ASAR                            ScP   ScP         15 52 46.6 +0.8
     comp=Z,0.9nm,0.9s,baz=15,slow=4.9,SNR=6.5
ASAR Alice Springs     47.13 193  P     P           15 47 23.8 -1.4
KOUNC Koumac, New Ca   47.28 154  P     P           15 47 25.5 -0.9
BILL Bilibino          47.39 11   P     P           15 47 27.1 +0.4
BILL                            IAmb  IAmb        15 47 28.2
     comp=Z,6.1nm,0.6s
AKUT Akutan            48.82 37   P     P           15 47 38.3 +0.4
DZM  Mont Dzumac       49.53 152  P     P           15 47 44.1 +0.3
     comp=Z,3.9nm,0.6s,baz=117,slow=22,SNR=2.9
DZM  Mont Dzumac       49.53 152  P     P           15 47 44.5 +0.7
DZM                             IAmb  IAmb        15 47 54.8
     comp=Z,10.0nm,0.9s
DZM  Mont Dzumac       49.53 152  P     P           15 47 43.8  0.0
MBWA Marble Bar        49.64 210  P     P           15 47 44.5 -0.1
WRKA Warakurna         49.86 199  P     P           15 47 45.8 -0.4
GSI  Gunungsitoli      49.91 251  P     P           15 47 45.8 -1.0
GSI  Gunungsitoli      49.91 251  P     P           15 47 46.2 -0.6
INKA Innaminka         50.24 184  P     P           15 47 48.3 -0.7
WMQ  Urumqi            50.61 309  eP    P           15 47 53.5 +1.7
WMQ                             pP    pP          15 48 04.8  -0.1
WMQ                             sP    pwP         15 48 09.8   0.0
WMQ                             pmax  pmax
     comp=Z,16nm,0.7s
WMQ                             pmax  pmax
     comp=Z,190nm,4.3s
OOD  Oodnadatta        50.84 190  P     P           15 47 52.9 -0.6
SDPT Sand Point        52.11 37   P     P           15 48 02.3 -0.4
GUN  Gumba             52.47 288  eP    P           15 48 07.0 +0.7
     comp=Z,9.3nm,0.3s
PKI  Pulchoki          52.94 288  eP    P           15 48 09.3 -0.4
     comp=Z,5.5nm,0.5s
KKN  Kakani            53.02 288  eP    P           15 48 09.8 -0.4
     comp=Z,5.4nm,0.3s
LCRK Leigh Creek       53.13 186  P     P           15 48 10.5  0.0
ANM  Nome              53.17 25   P     P           15 48 11.0 +0.5
DMN  Daman             53.20 288  eP    P           15 48 11.1 -0.5
     comp=Z,2.1nm,0.2s
ARMA Armidale          53.30 172  P     P           15 48 14.0 +2.1
ARMA                            IAmb  IAmb        15 48 29.0
     comp=Z,11nm,1.2s
MULG Mulgathing        53.54 191  P     P           15 48 13.1 -0.4
GKN  Gorkha            53.55 289  eP    P           15 48 14.2 +0.2
     comp=Z,5.5nm,0.4s
CMSA Cobar Meteorol    53.94 178  P     P           15 48 16.4  0.0
ZAA0 Zalesovo Array    53.96 321  P     P           15 48 15.2 -1.3
ZAA0                            IAmb  IAmb        15 48 22.3
     comp=Z,3.6nm,0.5s
ZALV Zalesovo Beam     53.96 321  P     P           15 48 15.9 -0.5
     comp=Z,3.1nm,0.5s,baz=106,slow=8.1,SNR=14
ZALV Zalesovo Beam     53.96 321  P     P           15 48 15.3 -1.1
DANN Dangsing          54.26 289  eP    P           15 48 19.6 +0.2
     comp=Z,35nm,0.4s
STKA Stephens Creek    54.31 183  P     P           15 48 18.4 -0.6
     comp=Z,7.2nm,0.6s,baz=347,slow=8.9,SNR=15
STKA Stephens Creek    54.31 183  P     P           15 48 18.6 -0.5
STKA Stephens Creek    54.31 183  P     P           15 48 18.5 -0.6
KOLN Koldanda          54.49 289  eP    P           15 48 19.7 -1.3
     comp=Z,3.3nm,0.3s
MK31 Makanchi Array    54.65 312  P     P           15 48 21.6  0.0
MKAR Makanchi Array    54.65 312  P     P           15 48 21.8 +0.1
     comp=Z,1.7nm,0.5s,baz=88,slow=8.9,SNR=54
MKAR Makanchi Array    54.65 312  P     P           15 48 21.4 -0.2
MAKZ Makanchi          54.87 312  P     P           15 48 23.2  0.0
MAKZ                            IAmb  IAmb        15 48 40.8
     comp=Z,9.6nm,0.9s
MEEK Meekatharra       54.89 208  P     P           15 48 23.6 +0.1
PYUN Piuthan           54.97 289  eP    P           15 48 24.5 +0.1
     comp=Z,15nm,0.5s
FORT Forrest           55.35 197  P     P           15 48 26.5 -0.1
FORT                            IAmb  IAmb        15 48 26.8
     comp=Z,9.0nm,0.6s
FORT Forrest           55.35 197  P     P           15 48 26.5 -0.1
BBOO Buckleboo         55.72 188  P     P           15 48 28.4 -0.9
BBOO Buckleboo         55.72 188  P     P           15 48 28.9 -0.4
SII  Sitkinak Islan    55.83 36   P     P           15 48 28.1 -1.8
KDAK Kodiak Island     56.91 35   P     P           15 48 37.5  0.0
KURK Kurchatov         57.33 317  P     P           15 48 40.1 -0.5
KURK                            IAmb  IAmb        15 49 03.6
     comp=Z,4.7nm,0.8s
NRIK Noril'sk          57.36 339  P     P           15 48 41.2 +0.6
     comp=Z,2.5nm,0.7s,baz=108,slow=8.6,SNR=6.2
NRIK Noril'sk          57.36 339  IAmb  IAmb        15 48 58.7
     comp=Z,5.0nm,0.7s
K20K Telida            57.39 28   P     P           15 48 41.1 +0.2
K20K                            IAmb  IAmb        15 48 55.5
     comp=Z,10nm,1.4s
J20K Nowinta River     57.58 27   P     P           15 48 42.9 +0.8
J20K                            IAmb  IAmb        15 49 04.9
     comp=Z,6.0nm,1.0s
CAN  Canberra          57.88 175  P     P           15 48 44.7 +0.1
CAN  Canberra          57.88 175  P     P           15 48 44.9 +0.3
     comp=Z,25nm,1.8s
PPLA Purkeypile        58.11 29   P     P           15 48 47.2 +1.1
PPLA                            IAmb  IAmb        15 48 47.5
     comp=Z,15nm,1.4s
MORW Morawa            58.12 209  P     P           15 48 45.8 -0.5
MORW Morawa            58.12 209  P     P           15 48 46.6 +0.2
IMAR Indian Mountai    58.23 25   P     P           15 48 47.4 +0.7
CAST Castle Rocks      58.28 28   P     P           15 48 47.9 +0.8
CAST                            IAmb  IAmb        15 49 08.9
     comp=Z,5.7nm,0.9s
KDJ  Kajisay           58.28 306  P     P           15 48 48.2 +0.5
KDJ                             IAmb  IAmb        15 48 49.0
     comp=Z,4.0nm,0.7s
H21K Melozitna Rive    58.52 26   P     P           15 48 48.0 -0.7
H21K                            IAmb  IAmb        15 49 03.5
     comp=Z,10nm,1.4s
BPAW Bear Paw Mtn.     58.90 28   P     P           15 48 50.5 -0.9
BPAW                            IAmb  IAmb        15 49 13.8
     comp=Z,3.9nm,0.8s
A21K Barrow            59.00 19   P     P           15 48 51.8 -0.1
BLDU Ballidu           59.16 208  P     P           15 48 53.5 -0.1
BOOM Boomskoye usch    59.18 307  P     P           15 48 52.9 -1.0
KSH  Kashi             59.38 303  P     P           15 48 59.0 +3.7
KSH                             pP    pP          15 49 09.5 +0.7
KSH                             sP    pwP         15 49 13.3 +0.2
KSH                             PcP   PcP         15 49 46.0 +3.2
KSH                             pmax  pmax
     comp=Z,8.0nm,0.7s
PWL  Port Wells        59.54 32   P     P           15 48 55.8 -0.1
SML  Sawmill           59.68 31   P     P           15 48 56.7 -0.1
RND  Reindeer          59.70 29   P     P           15 48 57.1 +0.1
I23K Minto, Yukon-K    59.80 27   P     P           15 48 58.6 +1.1
TOO  Toolangi          59.95 179  P     P           15 48 59.7 +0.8
TOO                             IAmb  IAmb        15 49 00.6
     comp=Z,14nm,1.2s
SCM  Sheep Creek Mo    60.16 31   P     P           15 49 00.3 +0.1
AAK  Ala-Archa         60.24 307  P     P           15 49 01.1  0.0
CCB  Clear Creek Bu    60.37 27   P     P           15 49 01.1 -0.3
TOLK Toolik Lake Re    60.48 23   P     P           15 49 02.7 +0.5
TOLK                            IAmb  IAmb        15 49 24.5
     comp=Z,13nm,1.4s
H24K Noodor Dome       60.54 26   P     P           15 49 03.4 +0.7
IL31                   60.77 27   P     P           15 49 03.3 -0.9
ILAR Eielson Array     60.77 27   P     P           15 49 03.4 -0.9
     comp=Z,0.9nm,0.7s,baz=259,slow=5.4,SNR=17
SCRK Sand Creek        61.92 28   P     P           15 49 12.1 -0.1
SCRK                            IAmb  IAmb        15 49 35.9
     comp=Z,7.3nm,1.2s
BMAR Burnt Mountain    62.10 24   P     P           15 49 14.6 +1.4
NIL  Nilore            62.33 297  P     P           15 49 14.9 -0.4
NIL                             IAmb  IAmb        15 49 28.3
     comp=Z,11nm,0.9s
ISLE Juniper Island    62.45 32   P     P           15 49 15.7 -0.1
BRVK Borovoye          62.53 319  P     P           15 49 16.2 -0.1
M27K Edge Creek, AK    62.76 30   P     P           15 49 16.7 -1.1
M27K                            IAmb  IAmb        15 49 22.3
     comp=Z,8.7nm,1.2s
BCAR Beaver Creek A    62.84 29   P     P           15 49 18.7 +0.5
KKAR Karatay Array     63.11 308  P     P           15 49 20.4  0.0
DAWY Dawson            63.95 28   P     P           15 49 26.0 +0.5
CHGR Chuyangaron       64.75 303  P     P           15 49 30.5 -0.8
KBL  Kabul             65.60 299  P     P           15 49 36.0 -1.0
KBL                             IAmb  IAmb        15 50 01.3
     comp=Z,9.3nm,0.8s
M31M Drury Creek, Y    66.26 30   P     P           15 49 41.0 +0.5
M31M                            IAmb  IAmb        15 49 49.4
     comp=Z,10.0nm,1.5s
INK  Inuvik            66.32 24   P     P           15 49 40.6 -0.1
     comp=Z,0.6nm,0.5s,baz=101,slow=1.7,SNR=4.0
INK  Inuvik            66.32 24   P     P           15 49 40.4 -0.4
INK                             IAmb  IAmb        15 50 01.1
     comp=Z,6.9nm,1.4s
QRZ  Quartz Range      68.50 157  P     P           15 49 55.3 +0.5
BKZ  Black Stump Fm    68.60 153  P     P           15 49 54.7 -0.8
BKZ                             IAmb  IAmb        15 50 03.2
     comp=Z,18nm,1.3s
ARU  Arti              68.97 324  P     P           15 49 56.5 -1.2
ARU                             IAmb  IAmb        15 49 57.8
     comp=Z,7.0nm,0.6s
ABKAR Akbulak array    69.42 316  P     P           15 49 59.8 -0.8
THZ  Tophouse          69.46 157  P     P           15 50 00.7 -0.1
BFZ  Birch Farm        69.78 154  P     P           15 50 02.7  0.0
EUNU Eureka            74.00 8    P     P           15 50 27.6 -0.1
YKA  Yellowknife Ar    75.19 28   P     P           15 50 34.8 +0.1
     comp=Z,0.7nm,0.5s,baz=292,slow=5.9,SNR=13
YKA  Yellowknife Ar    75.19 28   P     P           15 50 34.0 -0.7
LLLB Lillooet          75.27 41   P     P           15 50 36.4 +1.0
LLLB                            IAmb  IAmb        15 50 51.0
     comp=Z,11nm,1.5s
KLMR Klimovskoe        77.25 331  eP    P           15 50 50.6 +4.2
KLMR                            AMP               15 50 55.6
     comp=Z,16nm,1.3s
ARCES ARCESS Array B   78.25 342  P     P           15 50 52.0 +0.1
     comp=Z,5.7nm,0.9s,baz=64,slow=8.1,SNR=6.2
K05A Summer Lake       78.47 49   P     P           15 50 54.5 +0.6
K05A                            IAmb  IAmb        15 51 03.1
     comp=Z,16nm,1.5s
TULEG Thule            78.97 7    P     P           15 50 56.2 +0.5
CMB  Columbia Colle    80.49 53   P     P           15 51 05.2 +0.4
CMB                             IAmb  IAmb        15 51 06.3
     comp=Z,5.2nm,0.7s
PNTR Pine Nut          80.68 52   P     P           15 51 05.5 -0.5
PNTR                            IAmb  IAmb        15 51 07.8
     comp=Z,6.0nm,0.9s
MFID Camas Ranch       81.67 46   P     P           15 51 11.4 +0.4
NVAR Mina Array Bea    81.87 52   P     P           15 51 13.4 +1.1
     comp=Z,3.2nm,0.7s,baz=275,slow=5.4,SNR=33
NVAR Mina Array Bea    81.87 52   P     P           15 51 12.4 +0.1
KBZ  Khabaz            82.29 314  P     P           15 51 14.8 +0.7
     comp=Z,2.7nm,0.8s,baz=121,slow=5.8,SNR=7.9
FINES FINESS Array B   82.65 335  P     P           15 51 14.7  -0.9
     comp=Z,1.0nm,0.3s,baz=74,slow=4.7,SNR=21
GWY  Greenwater Val    83.94 53   P     P           15 51 23.3 +0.3
GWY                             IAmb  IAmb        15 51 24.4
     comp=Z,5.3nm,0.7s
TPNV Topopah Spring    83.95 53   P     P           15 51 23.2 +0.2
FFC  Flin Flon         84.54 32   P     P           15 51 25.8 +0.3
FFC                             IAmb  IAmb        15 51 35.8
     comp=Z,3.6nm,0.8s
DUG  Dugway, Tooele    85.05 48   P     P           15 51 28.7 +0.2
DUG                             IAmb  IAmb        15 51 30.0
     comp=Z,2.7nm,0.7s
RLMT Red Lodge         85.20 43   P     P           15 51 29.7 +0.4
RLMT                            IAmb  IAmb        15 51 32.3
     comp=Z,5.0nm,0.8s
PDAR Pinedale Array    86.10 45   P     P           15 51 33.8  0.0
     comp=Z,0.6nm,0.6s,baz=220,slow=1.9,SNR=6.9
U15A North Rim         87.05 52   P     P           15 51 39.5 +0.8
U15A                            IAmb  IAmb        15 51 40.4
     comp=Z,3.3nm,0.8s
AKASG Malin Array Be   87.19 325  P     P           15 51 37.0 -1.6
     comp=Z,0.4nm,0.4s,baz=52,slow=5.0,SNR=4.3
BRTR Keskin Array B    90.27 314  P     P           15 51 55.6 +2.0
     comp=Z,1.1nm,1.0s,baz=53,slow=3.1,SNR=2.4
LBTB Lobatse           124.13 254 PKP   PKPdf       15 57 50.2 -1.2
     comp=Z,1.8nm,0.8s,baz=229,slow=2.9
TORD Torodi Ar. Bea    128.76 310 PKP   PKPdf       15 58 00.1 -0.4
     comp=Z,0.3nm,0.5s,baz=58,slow=3.3,SNR=2.1
PLCA Paso Flores       145.76 130 PKPbc PKPab       15 58 32.3 +0.4
     comp=Z,2.5nm,0.4s,baz=243,slow=4.0,SNR=20
LPAZ La Paz            149.01 84  PKPbc PKiKP       15 58 42.8 -0.4
     comp=Z,2.8nm,0.5s,baz=327,slow=4.3,SNR=9.2
LPAZ La Paz            149.01 84  PKPbc PKPbc       15 58 42.0 +0.1
```

*NNC **26** 15:43:13.6±5.2,37°.43N×71°.36E,h114km±150km,mb2.9, mpv3.6,Error ellipse: s-maj=45.2km s-min=35.3km az=0.0*

ISC 26 15:43:11.8±3.7,37°.3N±0°.2×71°.4E±0°.1,h100km,n11, σ0⁹60/14,2C-4D,Afghanistan-Tajikistan border region

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Code Station Name       Δ°   AZ°  Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
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AML	**Almayashu**	**5.14**	**19**	P	**Pn**	**15 44 27.1**	**+0.4**
	SNR=51						
UCH	**Uchtor**	**5.47**	**25**	P	**Pn**	**15 44 31.8**	**+0.4**
	SNR=9.2						
EKS2	**Erkin-Say**	**5.66**	**18**	P	**Pn**	**15 44 34.5**	**+1.0**
	SNR=9.5						
AAK	**Ala-Archa**	**5.84**	**23**	P	**Pn**	**15 44 36.2**	**+0.2**
	SNR=17						
AAK	**Ala-Archa**	**5.84**	**23**	⇓Pn	**Pn**	**15 44 36.4**	**+0.4**
	5.3nm,0.4s						
AAK				⇑Sn	**Sn**	**15 45 41.2**	**-0.4**
	3.0nm,0.5s						
KK08	**Karatay Array**	**5.85**	**353**	⇑Pn	**Pn**	**15 44 37.1**	**+1.1**
	0.8nm,0.3s,baz=178,slow=13						
KK08				⇓Sn	**Sn**	**15 45 41.0**	**-0.7**
	1.3nm,0.3s						
CHMS	**Chumysh**	**6.24**	**23**	P	**Pn**	**15 44 41.7**	**+0.3**
	SNR=6.6						
USP	**Ospenovka**	**6.41**	**21**	P	**Pn**	**15 44 43.9**	**+0.2**
	SNR=6.0						
TKM2	**Tokmak 2**	**6.47**	**28**	P	**Pn**	**15 44 44.8**	**+0.2**
	SNR=8.0						
TKM2	**Tokmak 2**	**6.47**	**28**	⇓Pn	**Pn**	**15 44 44.4**	**-0.2**
	3.1nm,0.5s						
TKM2				⇓Sn	**Sn**	**15 45 57.5**	**+0.5**
	2.3nm,0.8s						
AB31	**Akbulak array**	**14.56**	**329**	P	**Pn**	**15 46 32.2**	**-0.6**
	0.1nm,0.3s,baz=167,slow=10,SNR=8.3						

*IDC **26** 15:47:53.5±0.4, 5˚.27S×153˚.22E, h0km, mb4.8/25, mb1 4.9/27, mb1mx4.8/35, mbtmp4.7/27, ML3.5/2, MS4.1/28, Ms1 4.1/28, ms1mx3.9/54, Error ellipse: s-maj=14.9km s-min=11.3km az=87.0*

*BJI **26** 15:47:56.0±0.0, 4˚.95S×153˚.46E, h24km, mb4.8/58, mB5.2/33, Ms5.0/24, Ms7 4.7/21*

*MOS **26** 15:47:56.8±0.8, 5˚.30S×153˚.23E, h35km, mb5.2/39, Error ellipse: s-maj=9.4km s-min=6.8km az=108.9*

*NEIC **26** 15:47:58.8±1.8, 5˚.30S±0˚.06×153˚.20E±0˚.06, h33km±4km, mb5.0/74, Error ellipse: s-maj=10.7km s-min=5.7km az=222.0*

*GCMT **26** 15:47:59.8±0.4, 5˚.59S±0˚.03×153˚.19E±0˚.02, h28km±1km, MW4.9/70, Moment Tensor Solution. s16,c17; s70,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.60±.21; Mθθ-0.59±.12; Mφφ2.19±.13; Mrθ1.62±.24; Mθφ-0.29±.08; Mφr-0.88±.16; Best double couple: M0=2.69600×10^16 NP1:φs202.00000°, δ39.00000°, λ-36.00000°. NP2: φs322.00000°, δ68.00000°, λ-123.00000°. Principal axes: T 2.5420, Plg17.0000°, Azm76.0000°; N 0.3090, Plg30.0000°, Azm335.0000°; P -2.8510, Plg55.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **26** 15:48:02.4±0.4, 5˚.S±3˚×15˚.3E±˚, h80km±5km, M4.8/24, mB5.2/9, mb5.0/24, MLv5.0/4, Mw(mB)4.5/9*

ISC 26 15:47:59.3±0.5, 5˚.30S±0˚.04×153˚.21E±0˚.05, h40km±4km, **h42**km:**pP-P, n364,** σ1§**28**/373, **mb5.0**/107, **MS4.3**/36, **21C-65D, Fault plane solution: NP1:**φs356.18442°, δ67.30733°, λ-99.42867°. **NP2:**φs199.47392°, δ24.47757°, λ-68.60655°. **Principal axes:** T Plg21.7626°, Azm93.3494°; N Plg8.6929°, Azm359.8501°; P Plg66.3979°, Azm249.3673°; **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.52**	**317**		**Pn**	**15 48 23.7**	**-0.3**
RABL	**Rabaul**	**1.52**	**317**	P	**Pn**	**15 48 26.2**	**+2.2**
PMG	**Port Moresby**	**7.25**	**235**	Pn	**Pn**	**15 49 42.5**	**-0.4**
	9.8nm,0.3s,baz=53,slow=9.2,SNR=30						
PMG				Sn	**Sn**	**15 51 03.3**	**-0.8**
	16nm,0.3s,baz=49,slow=16,SNR=3.5						
PMG				LR	LR	15 52 24.1	
	comp=Z,2μm,21.8s,baz=17,slow=37						
PMG	**Port Moresby**	**7.25**	**235**	P	**Pn**	**15 49 43.5**	**+0.6**
PMG	**Port Moresby**	**7.25**	**235**	P	**Pn**	**15 49 43.3**	**+0.4**
HNR	**Honiara**	**7.84**	**122**	Pn	**Pn**	**15 49 55.2**	**+4.2**
	7.2nm,0.3s,baz=200,slow=5.3,SNR=7.5						
HNR	**Honiara**	**7.84**	**122**	P	**Pn**	**15 49 50.8**	**-0.2**
HNR	**Honiara**	**7.84**	**122**		**Pn**	**15 49 50.8**	**-0.2**
HNR	**Honiara**	**7.84**	**122**	P	**Pn**	**15 49 53.9**	**+2.9**
JAY	**Jayapura**	**12.78**	**282**	Pn	**Pn**	**15 51 01.9**	**+3.3**
	0.4nm,0.3s,baz=107,slow=13,SNR=1.3						
JAY				LR	LR	15 55 31.9	
	comp=Z,831nm,19.8s,baz=34,slow=36						
PATS	**Pohnpei**	**13.09**	**23**	Pn	**Pn**	**15 51 02.5**	**-0.3**
COEN	**Coen**	**13.10**	**228**	Pn	**Pn**	**15 51 02.3**	**-0.7**
SMPI	**Sarmi**	**14.84**	**282**	P	**Pn**	**15 51 28.4**	**+1.9**
	69nm,0.9s						
MTSU	**Mount Surprise**	**15.43**	**214**	P	**Pn**	**15 51 33.8**	**-0.6**
	baz=15,SNR=31						
CTA	**Charters Tower**	**16.18**	**204**	Pn	**Pn**	**15 51 43.6**	**-0.4**
	0.6nm,0.3s,baz=28,slow=11,SNR=17						
CTA				LR	LR	15 57 04.1	
	comp=Z,844nm,21.4s,baz=24,slow=34						
CTA	**Charters Tower**	**16.18**	**204**	P	**Pn**	**15 51 44.3**	**+0.3**
CTAO	**Charters Tower**	**16.18**	**204**	P	**Pn**	**15 51 44.6**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,32nm,1.0s						
CTAO	**Charters Tower**	**16.18**	**204**	P	**Pn**	**15 51 44.6**	**+0.6**
CTAO	**Charters Tower**	**16.18**	**204**	P	**Pn**	**15 51 44.3**	**+0.3**
SANVU	**Saraoutou**	**17.05**	**127**	P	**P**	**15 51 56.9**	**+0.6**
BAKI	**Biak**	**17.55**	**283**	P	**Pn**	**15 52 01.3**	**+0.1**
	comp=Z,78nm,1.1s						
KOUNC	**Koumac, New Ca**	**18.59**	**146**	P	**Pn**	**15 52 14.3**	**+0.5**
DVP	**Devils Point**	**19.16**	**131**	P	**Pn**	**15 52 21.5**	**+0.8**
EIDS	**Eidsvold**	**20.06**	**186**	P	**P**	**15 52 29.7**	**+0.4**
	baz=20,SNR=22						
EIDS	**Eidsvold**	**20.06**	**186**	P	**P**	**15 52 28.4**	**-0.9**
EIDS	**Eidsvold**	**20.06**	**186**	P	**P**	**15 52 29.7**	**+0.4**
QIS	**Mount Isa**	**20.12**	**220**	P	**P**	**15 52 29.8**	**-0.3**
	baz=20,SNR=28						
QIS	**Mount Isa**	**20.12**	**220**	P	**P**	**15 52 30.1**	**+0.1**
GUMO	**Guam**	**20.51**	**336**	LR	LR	16 01 26.6	
	comp=Z,299nm,18.3s,baz=141,slow=40						
LIFNC	**LIFOU**	**20.55**	**140**	P	**P**	**15 52 33.8**	**-0.9**
DZM	**Mont Dzumac**	**21.02**	**144**	P	**P**	**15 52 40.3**	**+0.3**
	comp=Z,44nm,0.9s,baz=318,slow=8.7,SNR=35						
DZM				LR	LR	15 59 46.9	
	comp=Z,439nm,21.2s,baz=324,slow=34						
DZM	**Mont Dzumac**	**21.02**	**144**	*e*P	**P**	**15 52 40.2**	**+0.3**
	comp=Z,161nm,1.4s						
DZM				*e*LR	LR	15 57 48.7	
	comp=Z,941nm,24.4s						
DZM	**Mont Dzumac**	**21.02**	**144**	P	**P**	**15 52 40.2**	**+0.3**
DZM				IAmb	IAmb	15 52 55.6	
	comp=Z,42nm,0.8s						
DZM	**Mont Dzumac**	**21.02**	**144**	P	**P**	**15 52 41.1**	**+1.2**
FAKI	**Fak Fak**	**21.04**	**276**	P	**P**	**15 52 39.7**	**-0.3**
FAKI				IAmb	IAmb	15 52 55.7	
	comp=Z,45nm,0.9s						
FAKI	**Fak Fak**	**21.04**	**276**	P	**P**	**15 52 39.7**	**-0.3**
ONTNC	**Ouen Toro**	**21.21**	**144**	P	**P**	**15 52 40.7**	**-1.1**
ONTNC				IAmb	IAmb	15 52 59.8	
	comp=Z,57nm,0.9s						
RMQ	**Roma**	**21.49**	**191**	P	**P**	**15 52 44.9**	**+0.1**
	baz=22,SNR=42						
RMQ	**Roma**	**21.49**	**191**	P	**P**	**15 52 44.9**	**+0.1**
OUENC	**Ouen Island, N**	**21.53**	**144**	P	**P**	**15 52 43.9**	**-1.3**
OUENC				IAmb	IAmb	15 52 50.4	
	comp=Z,52nm,1.1s						
OUENC	**Ouen Island, N**	**21.53**	**144**	P	**P**	**15 52 46.9**	**+1.7**
MARNC	**Mare, Loyalty**	**21.57**	**140**	P	**P**	**15 52 45.2**	**-0.4**
KDU	**Kakadu**	**21.74**	**249**	P	**P**	**15 52 46.4**	**-1.1**
	baz=22,SNR=34						
KDU	**Kakadu**	**21.74**	**249**	P	**P**	**15 52 47.8**	**+0.2**
SIJI	**Sorong**	**22.34**	**281**	P	**P**	**15 52 54.0**	**-0.1**
	comp=Z,31nm,0.6s,baz=157,slow=7.2,SNR=19						
SWI	**Sorong**	**22.35**	**281**	P	**P**	**15 52 50.1**	**-4.0**
	comp=Z,57nm,0.8s						
QLP	**Quilpie**	**22.83**	**201**	P	**P**	**15 52 58.6**	**-0.5**
	baz=23,SNR=16						
QLP	**Quilpie**	**22.83**	**201**	P	**P**	**15 52 59.1**	**0.0**
MTN	**Manton Dam**	**23.04**	**250**	P	**P**	**15 52 59.4**	**-1.9**
	baz=23,SNR=9.6						
MTN	**Manton Dam**	**23.04**	**250**	P	**P**	**15 52 59.5**	**-1.9**
MTN				IAmb	IAmb	15 53 14.0	
	comp=Z,46nm,0.9s						
MTN	**Manton Dam**	**23.04**	**250**	P	**P**	**15 52 59.7**	**-1.6**
WB0	**Warramunga Arr**	**23.28**	**230**	P	**P**	**15 53 02.0**	**-1.7**
WB0				IAmb	IAmb	15 53 18.2	
	comp=Z,52nm,1.0s						
WR0	**Warramunga Arr**	**23.28**	**230**	P	**P**	**15 53 02.1**	**-1.7**
WR0				IAmb	IAmb	15 53 18.3	
	comp=Z,89nm,1.4s						
WRAB	**Tennant Creek**	**23.41**	**230***d*	*i*P	**P**	**15 53 03.6**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,41nm,1.0s						
WRAB	**Tennant Creek**	**23.41**	**230**	P	**P**	**15 53 03.4**	**-1.6**
WRAB				IAmb	IAmb	15 53 26.3	
	comp=Z,36nm,0.9s						
WRAB	**Tennant Creek**	**23.41**	**230**	P	**P**	**15 53 04.1**	**-0.9**
WB2	**Warramunga Arr**	**23.42**	**230**	P	**P**	**15 53 03.6**	**-1.5**
WB2				IAmb	IAmb	15 53 26.5	
	comp=Z,48nm,0.9s						
WRA	**Warramunga Arr**	**23.43**	**230**	P	**P**	**15 53 03.8**	**-1.4**
	comp=Z,22nm,0.6s,baz=53,slow=9.7,SNR=64						
WRA				S	**S**	**15 57 24.4**	**+8.6**
	comp=Z,1.5nm,0.7s,baz=51,slow=18,SNR=2.7						
WRA				ScP	**ScP**	**16 00 31.2**	**+5.2**
	comp=Z,3.0nm,0.9s,baz=47,slow=3.5,SNR=6.2						
WRA				LR	LR	16 01 58.7	
	comp=Z,636nm,20.4s,baz=38,slow=36						
WRA	**Warramunga Arr**	**23.43**	**230**	P	**P**	**15 53 03.4**	**-1.8**
ARMA	**Armidale**	**25.03**	**183**	P	**P**	**15 53 20.9**	**+0.9**
	baz=25,SNR=6.1						
ARMA	**Armidale**	**25.03**	**183**	P	**P**	**15 53 19.8**	**-0.2**
ARMA				IAmb	IAmb	15 53 21.6	
	comp=Z,47nm,1.2s						
ARMA	**Armidale**	**25.03**	**183**	P	**P**	**15 53 20.8**	**+0.9**
INKA	**Innaminka**	**25.27**	**207**	P	**P**	**15 53 22.4**	**+0.4**
AS31	**Alice Springs**	**26.06**	**224**	P	**P**	**15 53 28.2**	**-1.1**
ASAR	**Alice Springs**	**26.06**	**224**	P	**P**	**15 53 28.2**	**-1.1**
	comp=Z,8.4nm,0.7s,baz=54,slow=8.6,SNR=76						
ASAR				PcP	**PcP**	**15 56 56.6**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=47,slow=2.9,SNR=5.3						
ASAR				S	S	15 58 10.9	+13
	comp=Z,1.0nm,0.8s,baz=30,slow=21,SNR=2.7						
ASAR				ScP	**ScP**	**16 00 39.0**	**+5.7**
	comp=Z,1.5nm,0.9s,baz=24,slow=3.2,SNR=5.0						
ASAR				LR	LR	16 03 19.8	
	comp=Z,612nm,21.7s,baz=56,slow=36						
LBMI	**Labuha**	**26.08**	**279**	P	**P**	**15 53 27.9**	**-1.6**
	comp=Z,51nm,0.8s						
KNRA	**Kununurra**	**26.12**	**245**	P	**P**	**15 53 28.8**	**-1.0**
	baz=26,SNR=50						
KNRA	**Kununurra**	**26.12**	**245**	P	**P**	**15 53 29.2**	**-0.6**
KNRA	**Kununurra**	**26.12**	**245**	P	**P**	**15 53 30.5**	**+0.6**
CMSA	**Cobar Meteorol**	**27.04**	**194**	P	**P**	**15 53 37.0**	**-1.0**
	baz=27,SNR=12						
CMSA	**Cobar Meteorol**	**27.04**	**194**	P	**P**	**15 53 37.0**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**27.12**	**29**	T	T	16 22 03.3	
	baz=209,slow=74,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**27.13**	**29**	T	T	16 22 01.6	
	baz=209,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**27.14**	**29**	T	T	16 22 04.1	
	baz=209,slow=74,SNR=8.4						
MSVF	**Nonsavu**	**27.25**	**119**	P	**P**	**15 53 40.0**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=105,slow=22,SNR=2.1						
MGCD	**Mangrove Creek**	**27.84**	**184**	P	**P**	**15 53 45.4**	**+0.3**
OOD	**Oodnadatta**	**27.89**	**215**	P	**P**	**15 53 45.1**	**-0.6**
STKA	**Stephens Creek**	**28.59**	**201**	P	**P**	**15 53 50.7**	**-1.2**
	comp=Z,22nm,1.0s,baz=7.2,slow=9.7,SNR=22						
STKA				LR	LR	16 05 15.1	
	comp=Z,478nm,19.8s,baz=25,slow=36						
STKA	**Stephens Creek**	**28.59**	**201**	P	**P**	**15 53 50.5**	**-1.3**
	baz=29,SNR=18						
STKA	**Stephens Creek**	**28.59**	**201**	P	**P**	**15 53 50.2**	**-1.7**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
STKA	**Stephens Creek**	**28.59**	**201**	P	**P**	**15 53 50.2**	**-1.7**
LCRK	**Leigh Creek**	**28.73**	**208**	P	**P**	**15 53 52.6**	**-0.5**
BATI	**Baumata**	**29.67**	**259**	P	**P**	**15 54 01.8**	**+0.2**
	comp=Z,67nm,0.9s,baz=267,slow=6.1,SNR=3.0						
FITZ	**Fitzroy Crossi**	**29.78**	**242**	P	**P**	**15 54 01.6**	**-0.9**
	comp=Z,58nm,0.7s,baz=76,slow=7.5,SNR=125						
FITZ	**Fitzroy Crossi**	**29.78**	**242**	P	**P**	**15 54 01.7**	**-0.9**
	baz=30,SNR=56						
CAN	**Canberra**	**30.13**	**187**	P	**P**	**15 54 05.1**	**-0.4**
CAN				pmax	pmax		
	comp=Z,41nm,1.5s						
CAN	**Canberra**	**30.13**	**187**	P	**P**	**15 54 05.1**	**-0.4**
CAN				IAmb	IAmb	15 54 31.3	
	comp=Z,41nm,1.5s						
DAV	**Davao City (W)**	**30.19**	**294**	LR	LR	16 06 08.5	
	comp=Z,236nm,18.9s,baz=118,slow=36						
MULG	**Mulgathing**	**30.71**	**214**	P	**P**	**15 54 09.1**	**-1.6**
WRKA	**Warakurna**	**30.92**	**228**	P	**P**	**15 54 10.9**	**-1.8**
	baz=31,SNR=22						
WRKA	**Warakurna**	**30.92**	**228**	P	**P**	**15 54 11.1**	**-1.6**
HTT	**Hallett**	**30.99**	**204**	P	**P**	**15 54 12.3**	**-0.8**
	baz=31,SNR=11						
HTT	**Hallett**	**30.99**	**204**	P	**P**	**15 54 12.4**	**-0.7**
BBOO	**Buckleboo**	**31.70**	**208**	P	**P**	**15 54 17.7**	**-1.7**
	baz=32,SNR=5.7						
BBOO	**Buckleboo**	**31.70**	**208**	P	**P**	**15 54 17.9**	**-1.5**
BBOO				IAmb	IAmb	15 54 18.9	
	comp=Z,22nm,1.0s						
ARPS	**Mount Arapiles**	**33.01**	**197**	P	**P**	**15 54 30.3**	**-0.4**
	baz=33,SNR=7.2						
ARPS	**Mount Arapiles**	**33.01**	**197**	P	**P**	**15 54 30.5**	**-0.3**
KAPI	**Kappang**	**33.32**	**269**	LR	LR	16 11 21.6	
	comp=Z,84nm,19.2s,baz=104,slow=42						
WBSI	**Waikabubak, Su**	**33.79**	**261**	P	**P**	**15 54 35.9**	**-2.0**
	comp=Z,93nm,1.2s						
FORT	**Forrest**	**34.66**	**220**	P	**P**	**15 54 44.2**	**-1.0**
	baz=35,SNR=37						
FORT	**Forrest**	**34.66**	**220**	P	**P**	**15 54 43.8**	**-1.4**
FORT	**Forrest**	**34.66**	**220**	P	**P**	**15 54 45.1**	**-0.1**
MBWA	**Marble Bar**	**36.08**	**241**	P	**P**	**15 54 55.9**	**-1.6**
MBWA	**Marble Bar**	**36.08**	**241**	P	**P**	**15 54 58.3**	**+0.8**
	comp=Z,24nm,1.0s						
JAGI	**Jajag, Banyuwa**	**38.89**	**263**	P	**P**	**15 55 19.2**	**-2.2**
JAGI				IAmb	IAmb	15 55 32.0	
	comp=Z,23nm,1.0s						
MEEK	**Meekatharra**	**39.23**	**233**	P	**P**	**15 55 23.0**	**-1.1**
	baz=39,SNR=11						
MEEK	**Meekatharra**	**39.23**	**233**	P	**P**	**15 55 23.6**	**-0.6**
URZ	**Urewera**	**39.35**	**150**	P	**P**	**15 55 25.6**	**+0.7**
	comp=Z,11nm,0.9s,baz=71,slow=6.0,SNR=6.1						
URZ	**Urewera**	**39.35**	**150**	P	**P**	**15 55 25.1**	**+0.2**
URZ				IAmb	IAmb	15 55 46.5	
	comp=Z,31nm,1.1s						
QRZ	**Quartz Range**	**39.39**	**157**	P	**P**	**15 55 26.2**	**+1.0**
QRZ				IAmb	IAmb	15 55 27.4	
	comp=Z,25nm,0.9s						
QRZ	**Quartz Range**	**39.39**	**157**	P	**P**	**15 55 27.1**	**+1.9**
BKZ	**Black Stump Fm**	**39.76**	**151**	P	**P**	**15 55 28.5**	**+0.1**
BKZ	**Black Stump Fm**	**39.76**	**151**	P	**P**	**15 55 30.1**	**+1.7**
JOW	**Kunigami**	**40.03**	**324**	P	**P**	**15 55 30.0**	**-0.8**
JOW				IAmb	IAmb	15 55 55.4	
	comp=Z,34nm,1.1s						
THZ	**Tophouse**	**40.34**	**157**	P	**P**	**15 55 32.4**	**-0.7**
THZ				IAmb	IAmb	15 55 34.1	
	comp=Z,25nm,0.8s						
TUWZ	**Tuamarina**	**40.47**	**156**	P	**P**	**15 55 33.8**	**-0.4**
BFZ	**Birch Farm**	**40.85**	**153**	P	**P**	**15 55 39.1**	**+1.8**
LTZ	**Lake Taylor**	**40.97**	**158**	P	**P**	**15 55 38.9**	**+0.5**
LTZ				IAmb	IAmb	15 55 40.8	
	comp=Z,24nm,0.8s						
MSWZ	**Moikau Station**	**41.00**	**155**	P	**P**	**15 55 38.3**	**-0.3**
PLWZ	**Palliser**	**41.13**	**155**	P	**P**	**15 55 39.2**	**-0.5**
KHZ	**Kahutara**	**41.14**	**157**	P	**P**	**15 55 39.2**	**-0.4**
	comp=Z,52nm,1.7s						
OXZ	**Oxford**	**41.37**	**159**	P	**P**	**15 55 40.8**	**-0.7**
RPZ	**Rata Peaks**	**41.37**	**160**	P	**P**	**15 55 42.3**	**+0.7**
MORW	**Morawa**	**42.35**	**232**	P	**P**	**15 55 48.2**	**-1.7**
WHZ	**Wether Hill Ro**	**42.42**	**165**	P	**P**	**15 55 51.0**	**+0.9**
BLDU	**Ballidu**	**42.56**	**229**	P	**P**	**15 55 50.1**	**-1.4**
JMN	**Monobe**	**42.91**	**336**	P	**P**	**15 55 54.5**	**+0.2**
JMN				IAmb	IAmb	15 55 55.6	
	comp=Z,21nm,0.9s						
JNU	**Nakatsue**	**43.69**	**333**	P	**P**	**15 56 00.2**	**-0.4**
MJAR	**Matsushiro Arr**	**43.93**	**343**	P	**P**	**15 56 00.9**	**-1.5**
	comp=Z,5.8nm,1.0s,baz=172,slow=7.7,SNR=6.3						
MJAR				PcP	**PcP**	**15 57 49.1**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=150,slow=3.1,SNR=4.6						
MJAR				LR	LR	16 12 25.7	
	comp=Z,157nm,21.1s,baz=182,slow=34						
MJAR	**Matsushiro Arr**	**43.93**	**343**	P	**P**	**15 56 01.8**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,13nm,1.5s						
MJAR	**Matsushiro Arr**	**43.93**	**343**	P	**P**	**15 56 01.8**	**-0.6**
MAJO	**Matsushiro**	**43.93**	**343**⇓	*e*P	**P**	**15 56 01.1**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,50nm,3.3s						
MAT	**Matsushiro**	**43.93**	**343**	P	**P**	**15 56 01.2**	**-1.2**
RKGY	**Rocky Gully**	**44.41**	**224**	P	**P**	**15 56 06.6**	**+0.3**
	baz=44,SNR=6.0						
LEM	**Lembang**	**45.35**	**266**	LR	LR	16 19 16.9	
	comp=Z,105nm,18.6s,baz=76,slow=42						
JTM	**Tenmabayashi**	**47.20**	**347**	P	**P**	**15 56 27.5**	**-0.7**
XMIS	**Christmas Isla**	**47.35**	**261**	P	**P**	**15 56 28.9**	**-1.0**
SSE	**Sheshan**	**47.38**	**322**	P	**P**	**15 56 29.5**	**-0.3**
SSE				S	**S**	**16 03 22.8**	**+1.6**
SSE				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SSE				pmax	pmax		
	comp=Z,77nm,6.5s						
SSE				LR	LR		
	comp=Z,230nm,14.0s						
SSE				LR	LR		
	comp=Z,170nm,14.2s						
KSRS	**Korea Array**	**48.63**	**333**	P	**P**	**15 56 39.3**	**0.0**
	comp=Z,3.8nm,1.0s,baz=148,slow=11,SNR=7.3						
NJ2	**Nanjing**	**49.49**	**321**	*e*P	**P**	**15 56 48.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
ASAJ	**Asahikawa**	**50.11**	**350**	LR	LR	16 15 21.8	
	comp=Z,219nm,21.5s,baz=158,slow=33						
USRK	**Ussuriysk Ar.**	**52.85**	**341**	P	**P**	**15 57 10.8**	**-0.2**
	comp=Z,8.5nm,0.8s,baz=140,slow=5.5,SNR=6.8						
USRK				LR	LR	16 20 00.2	
	comp=Z,70nm,18.1s,baz=151,slow=36						
USRK	**Ussuriysk Ar.**	**52.85**	**341**	P	**P**	**15 57 09.6**	**-1.4**
USRK	**Ussuriysk Ar.**	**52.85**	**341**	P	**P**	**15 57 09.6**	**-1.4**
USA0B	**Ussuriysk Arra**	**52.85**	**341**	P	**P**	**15 57 09.5**	**-1.5**
USA0B				pmax	pmax		
	comp=Z,18nm,1.0s						
USA0B	**Ussuriysk Arra**	**52.85**	**341**	P	**P**	**15 57 09.5**	**-1.5**
USA0B				IAmb	IAmb	15 57 11.9	
	comp=Z,18nm,0.9s						
MDJ	**Mudanjiang**	**54.03**	**339**	P	**P**	**15 57 19.5**	**-0.2**
MDJ				sP	sP	15 57 36.8	+1.7
MDJ				pmax	pmax		
	comp=Z,15nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.3s						
MDJ				LR	LR		
	comp=Z,250nm,13.6s						
MDJ				LR	LR		
	comp=Z,370nm,18.5s						
ENH	**Enshi**	**54.79**	**313**	P	**P**	**15 57 25.1**	**-0.5**
ENH				IAmb	IAmb	15 57 26.9	
	comp=Z,19nm,0.9s						
PSI	**Prapat**	**54.82**	**277**	LR	LR	16 23 47.7	
	comp=Z,70nm,19.7s,baz=104,slow=39						
CN2	**Changchun**	**54.92**	**336**	*e*P	**P**	**15 57 23.3**	**-2.8**
CN2				PP	**PP**	**15 59 28.0**	**-1.5**
CN2				*e*S	**S**	**16 05 00.3**	**-4.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
BNX	**BinXian**	**55.78**	**338**	⇑P	**P**	**15 57 32.5**	**+0.2**
BNX				pmax	pmax		
	comp=Z,12nm,1.3s						
BNX				pmax	pmax		
	comp=Z,120nm,4.7s						
XAN	**Xi'an**	**57.26**	**316**	P	**P**	**15 57 43.3**	**+0.1**
XAN				pP	pP	15 57 50.0	-4.2
XAN				pmax	pmax		
	comp=Z,17nm,0.8s						
XAN				LR	LR		
	comp=Z,820nm,10.2s						
XAN				LR	LR		
	comp=Z,540nm,9.8s						
XAN				LR	LR		
	comp=Z,600nm,11.3s						
KLR	**Kul'dur**	**57.44**	**343**	P	**P**	**15 57 44.2**	**+0.1**
	comp=Z,18nm,0.9s,baz=162,slow=4.3,SNR=55						
KLR				LR	LR	16 22 58.4	
	comp=Z,57nm,18.4s,baz=186,slow=37						
KLR	**Kul'dur**	**57.44**	**343***d*	*i*P	**P**	**15 57 44.1**	**+0.1**
KLR				pmax	pmax		
	comp=Z,30nm,1.1s						
KMI	**Kunming**	**57.60**	**304**	⇑P	**P**	**15 57 48.8**	**+2.9**
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI				LR	LR		
	comp=Z,380nm,15.2s						
KMI				LR	LR		
	comp=Z,440nm,11.2s						
KMI				LR	LR		
	comp=Z,470nm,11.1s						
PEA0B	**Petropavlovsk-**	**58.31**	**3**	P	**P**	**15 57 50.3**	**+0.2**
PEA0B				pmax	pmax		
	comp=Z,87nm,1.5s						
PEA0B	**Petropavlovsk-**	**58.31**	**3**	P	**P**	**15 57 50.3**	**+0.2**
PETK	**Petropavlovsk-**	**58.31**	**3**	P	**P**	**15 57 50.1**	**0.0**
	comp=Z,8.4nm,0.7s,baz=163,slow=7.3,SNR=20						
PETK				LR	LR	16 18 56.4	
	comp=Z,104nm,21.6s,baz=194,slow=32						
PETK

LZH LR LR
comp=Z,480nm,17.3s
LZH LR LR
comp=Z,610nm,15.7s
LZH LR LR
comp=Z,590nm,15.7s
ZEA Zeya 62.74 343 *e*P **P 15 58 20.6 +0.3**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,0.8s
MA2 Magadan 64.70 359*d i*P **P 15 58 33.1 0.0**
MA2 pmax pmax
comp=Z,28nm,0.7s
MA2 Magadan 64.70 359 P **P 15 58 32.7 -0.4**
GTA Gaotai 66.30 317 ⇓P **P 15 58 44.8 +0.8**
GTA pP pP 15 58 54.5 -0.8
GTA sP sP 15 58 59.0 -0.6
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,61nm,7.6s
GTA LR LR
comp=Z,160nm,12.7s
GTA LR LR
comp=Z,250nm,11.9s
GTA LR LR
comp=Z,230nm,15.1s
ULN Ulaanbaatar 66.63 328*de*P **P 15 58 46.7 +0.7**
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 66.63 328 P **P 15 58 46.1 +0.1**
ULN IAmb IAmb 15 58 48.8
comp=Z,9.4nm,0.8s
SONM Songino Array 66.96 328 P **P 15 58 48.8 +0.7**
comp=Z,4.3nm,0.7s,baz=146,slow=5.4,SNR=11
SONM LR LR 16 26 15.8
comp=Z,140nm,20.7s,baz=120,slow=34
SONM Songino Array 66.96 328 P **P 15 58 47.8 -0.3**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 66.96 328 P **P 15 58 47.8 -0.3**
GOMU GeErMu 68.40 312 P **P 15 58 57.5 -0.2**
GOMU S **S 16 08 00.0 +3.2**
GOMU pmax pmax
comp=Z,3.0nm,0.9s
GOMU pmax pmax
comp=Z,55nm,4.5s
GOMU LR LR
comp=Z,190nm,7.2s
GOMU LR LR
comp=Z,210nm,9.3s
GOMU LR LR
comp=Z,260nm,10.3s
YAK Yakutsk 69.54 348 *e*P **P 15 59 03.7 0.0**
YAK *e**PP **pP 15 59 10.1 -4.8**
YAK *e* 16 01 43.0
YAK *e*S **S 16 08 09.4 +0.9**
YAK *e**SS **sS 16 08 33.5 +6.2**
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,128nm,3.6s
YAK pmax pmax
comp=N,44nm,3.2s
YAK pmax pmax
comp=E,64nm,3.4s
YAK smax smax
comp=E,161nm,4.2s
YAK smax smax
comp=N,50nm,4.2s
YAK Yakutsk 69.54 348 P **P 15 59 02.5 -1.3**
ZAK Zakamensk 70.13 329 *e*P **P 15 59 08.0 +0.2**
ZAK pmax pmax
comp=Z,22nm,0.9s
BOD Bodaibo 70.40 339 *e*P **P 15 59 09.3 +0.2**
BOD pmax pmax
comp=Z,14nm,1.3s
MOY Mondy 72.05 329 *e*P **P 15 59 20.0 +0.6**
CHLP Challavanipeta 72.10 291 *e*P **P 15 59 19.6 -0.6**
VNDA Vanda 72.32 178 P **P 15 59 21.1 +0.7**
comp=Z,16nm,0.8s,baz=327,slow=6.9,SNR=26
VNDA Vanda 72.32 178 P **P 15 59 21.1 +0.7**
VNDA pmax pmax
comp=Z,19nm,0.9s
VNDA Vanda 72.32 178 P **P 15 59 21.1 +0.6**
VNDA IAmb IAmb 15 59 22.1
comp=Z,19nm,0.8s
GUN Gumba 72.73 301 *e*P **P 15 59 24.5 +0.3**
comp=Z,83nm,0.9s
PKI Pulchoki 73.04 301 *e*P **P 15 59 26.0 0.0**
comp=Z,51nm,1.0s
KKN Kakani 73.20 301 *e*P **P 15 59 27.1 +0.2**
comp=Z,49nm,0.9s
DMN Daman 73.31 301 *e*P **P 15 59 27.8 +0.3**
comp=Z,108nm,0.9s
PALK Pallekele 73.42 279 LR LR 16 34 53.9
comp=Z,94nm,18.7s,baz=201,slow=38
BILL Bilibino 73.75 5*de*P **P 15 59 29.7 +0.7**
BILL *e* 16 02 12.2
BILL *e*S **SKSac 16 09 30.5 -1.8**
BILL pmax pmax
comp=Z,11nm,1.0s
BILL Bilibino 73.75 5 P **P 15 59 29.3 +0.4**
BILL IAmb IAmb 15 59 37.3
comp=Z,9.7nm,0.7s
GKN Gorkha 73.81 301 *e*P **P 15 59 30.4 0.0**
comp=Z,92nm,0.9s
PVM Polavaram 74.12 290 *e*P **P 15 59 32.0 -0.1**
KOLN Koldanda 74.64 301 *e*P **P 15 59 35.3 0.0**
comp=Z,89nm,0.8s
DANN Dangsing 74.65 301 *e*P **P 15 59 35.2 -0.2**
comp=Z,62nm,0.8s
MYLAV Mylavaram 74.96 289 *e*P **P 15 59 36.5 -0.6**
PYUN Piuthan 75.24 301 *e*P **P 15 59 38.5 -0.3**
comp=Z,127nm,0.8s
SKHT Srikalahasti 75.33 286 *e*P **P 15 59 39.2 0.0**
ADKI Addanki 75.44 288 *e*P **P 15 59 39.3 -0.5**
ANM Nome 76.13 17 P **P 15 59 43.6 +0.8**
ANM pmax pmax
comp=Z,23nm,1.4s
ANM Nome 76.13 17 P **P 15 59 43.6 +0.8**
ANM IAmb IAmb 16 00 08.3
comp=Z,22nm,1.4s
NJS Nagarjunasagar 76.18 288 *e*P **P 15 59 43.1 -0.9**
RCLA Racherla 76.33 287 *e*P **P 15 59 44.5 -0.4**
WMQ Urumqi 76.38 317 *e*P **P 15 59 46.0 +1.2**
WMQ sP pwP 15 59 58.0 -0.8
WMQ pmax pmax
comp=Z,15nm,1.1s
KDAK Kodiak Island 76.44 27 LR LR 16 27 36.6
comp=Z,362nm,21.4s,baz=249,slow=31
SRLM Srisailam 76.50 288 *e*P **P 15 59 45.7 -0.2**
RPR Rampur 76.60 291 *e*P **P 15 59 46.7 +0.4**
HYBB Hyderabad (bro 77.04 289 *e*P **P 15 59 48.8 -0.2**
HYBB *es*P **pwP 16 00 02.9 -0.8**
HYBB *e*S **S 16 09 35.7 +0.4**
SRSP Sriramsagar 77.50 291 *e*P **P 15 59 51.3 -0.1**
URV Uravakonda 77.87 286 *e*P **P 15 59 53.6 0.0**
L19K White Mountain 78.06 22 P **P 15 59 54.8 +1.1**
baz=233
TTA Tatalina 78.08 21 P **P 15 59 54.7 +0.8**
TTA pmax pmax
comp=Z,12nm,1.1s
TTA Tatalina 78.08 21 P **P 15 59 54.7 +0.8**
TIXI Tiksi 78.44 352⇑*e*P **P 15 59 55.5 -0.1**
TIXI pmax pmax
comp=Z,16nm,1.3s
TIXI Tiksi 78.44 352 P **P 15 59 55.5 -0.1**
DGZ Jazzator, Alta 78.73 323*d i*P **P 15 59 58.3 +0.5**
DGZ pmax pmax
comp=Z,23nm,0.9s
KLRI Killari 78.98 289 *e*P **P 15 59 59.5 -0.2**
KLRI *e*PcP **PcP 16 00 07.2 -1.0**
KLRI *es*P **pwP 16 00 13.8 -0.8**
K20K Telida 79.05 21 P **P 15 59 59.4 +0.3**
J20K Nowinta River 79.51 21 P **P 16 00 01.8 +0.2**
J20K IAmb IAmb 16 00 28.2
comp=Z,15nm,1.2s
J20K Nowinta River 79.51 21 P **P 16 00 02.7 +1.1**
baz=234

ZSN Zaisan 79.51 320 *e*P **P 16 00 01.4 -0.6**
ZSN Zaisan 79.51 320 *e*P **P 16 00 01.4 -0.6**
baz=320
CAST Castle Rocks 79.81 22 P **P 16 00 02.7 -0.6**
CAST IAmb IAmb 16 00 28.1
comp=Z,11nm,0.8s
CAST Castle Rocks 79.81 22 P **P 16 00 03.2 -0.1**
baz=236
IMAR Indian Mountai 80.72 19 P **P 16 00 08.1 0.0**
H21K Melozitna Rive 80.84 20 P **P 16 00 09.5 +0.7**
baz=235
MK31 Makanchi Array 80.97 319⇓*e*P **P 16 00 10.3 +0.4**
MKAR Makanchi Array 80.97 319 P **P 16 00 10.4 +0.5**
comp=Z,7.0nm,0.8s,baz=108,slow=5.4,SNR=55
MKAR PKKPbc **PKKPbc 16 18 48.0 -1.4**
comp=Z,0.8nm,0.8s,baz=301,slow=1.6,SNR=7.2
MKAR Makanchi Array 80.97 319 P **P 16 00 10.2 +0.3**
MCK McKinley 81.17 22 P **P 16 00 09.6 -0.9**
MCK pmax pmax
comp=Z,26nm,1.0s
MCK McKinley 81.17 22 P **P 16 00 09.6 -0.9**
MCK IAmb IAmb 16 00 34.7
comp=Z,26nm,1.0s
MCK McKinley 81.17 22 P **P 16 00 10.0 -0.6**
baz=239
MAKZ Makanchi 81.18 319 P **P 16 00 11.4 +0.4**
MAKZ pmax pmax
comp=Z,13nm,0.9s
MAKZ Makanchi 81.18 319 P **P 16 00 11.4 +0.4**
MAKZ IAmb IAmb 16 00 12.4
comp=Z,13nm,0.8s
MLY Manley 81.20 21 P **P 16 00 10.2 -0.5**
MLY IAmb IAmb 16 00 35.6
comp=Z,9.7nm,0.8s
MLY Manley 81.20 21 P **P 16 00 11.0 +0.3**
baz=237
ZAA0 Zalesovo Array 81.79 326 P **P 16 00 12.9 -1.1**
ZAA0 IAmb IAmb 16 00 14.5
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 81.79 326 P **P 16 00 13.6 -0.4**
comp=Z,13nm,0.8s,baz=110,slow=5.3,SNR=50
ZALV Zalesovo Beam 81.79 326 P **P 16 00 13.0 -1.0**
CCB Clear Creek Bu 82.06 22 P **P 16 00 14.2 -1.1**
CCB IAmb IAmb 16 00 39.1
comp=Z,14nm,1.0s
COLA College 82.16 22⇑*e*P **P 16 00 15.0 -0.7**
COLA pmax pmax
comp=Z,35nm,2.8s
POKR Poker Plat Res 82.44 22 P **P 16 00 16.0 -1.2**
baz=240
IL31 82.47 22 P **P 16 00 16.3 -1.0**
IL31 IAmb IAmb 16 00 41.5
comp=Z,15nm,1.4s
ILAR Eielson Array 82.47 22 P **P 16 00 15.7 -1.7**
comp=Z,3.5nm,0.8s,baz=244,slow=5.9,SNR=20
ILAR LR LR 16 30 35.6
comp=Z,153nm,21.8s,baz=226,slow=31
COLD Coldfoot 82.59 19 P **P 16 00 18.8 +0.8**
baz=237
SATY Saty 82.59 314 *e*P **P 16 00 18.1 -0.5**
SATY Saty 82.59 314 *e*P **P 16 00 18.1 -0.5**
baz=314
ZHN Zhinishke 82.60 315 *e*P **P 16 00 18.4 -0.2**
ZHN Zhinishke 82.60 315 *e*P **P 16 00 18.5 -0.2**
baz=315
H24K Noodor Dome 82.64 21 P **P 16 00 18.8 +0.4**
baz=239
TDK Taldyqorghan 83.08 316 *e*P **P 16 00 21.1 +0.1**
TDK pmax pmax
comp=Z,8.0nm,0.8s
TDK Taldyqorghan 83.08 316 *e*P **P 16 00 21.1 +0.1**
comp=Z,8.1nm,0.8s,baz=316
M27K Edge Creek, AK 83.35 25 P **P 16 00 22.3 +0.1**
TOLK Toolik Lake Re 83.56 18 P **P 16 00 23.3 +0.3**
TOLK Toolik Lake Re 83.56 18 P **P 16 00 22.9 -0.1**
baz=237
KSH Kashi 83.57 311 P **P 16 00 26.0 +2.2**
KSH pP pP 16 00 33.0 -2.4
KSH sP pwP 16 00 36.5 -1.3
KSH pmax pmax
comp=Z,8.0nm,1.0s
MDOK Medeo 83.58 314 *e*P **P 16 00 23.5 -0.3**
MDOK Medeo 83.58 314 *e*P **P 16 00 23.6 -0.3**
baz=314
J26L Joseph Creek 83.60 23 P **P 16 00 23.5 +0.2**
baz=243
TNSS Tian-Shan 83.63 314 *e*P **P 16 00 23.8 -0.5**
baz=314
CHKK Chushkaly 83.79 315 *e*P **P 16 00 24.5 -0.2**
baz=315
BOOM Boomskoye usch 84.23 314 P **P 16 00 26.4 -0.8**
BOOM pmax pmax
comp=Z,12nm,1.0s
BOOM Boomskoye usch 84.23 314 P **P 16 00 26.4 -0.8**
BOOM IAmb IAmb 16 00 29.3
comp=Z,12nm,0.9s
KUU Kurty 84.25 315 *e*P **P 16 00 26.9 -0.1**
KUU pmax pmax
comp=Z,26nm,0.9s
KUU Kurty 84.25 315 *e*P **P 16 00 27.0 -0.1**
comp=Z,26nm,0.9s,baz=315
KURK Kurchatov 84.41 322*d i*P **P 16 00 27.4 -0.2**
KURK pmax pmax
comp=Z,29nm,1.3s
KURK Kurchatov 84.41 322 P **P 16 00 27.2 -0.4**
TKM2 Tokmak 2 84.57 314 P **P 16 00 29.7 +0.8**
SNR=26
NIL Nilore 84.59 304 P **P 16 00 28.7 -0.3**
NIL pmax pmax
comp=Z,23nm,0.9s
NIL Nilore 84.59 304 P **P 16 00 28.7 -0.3**
EGAK Eagle 84.66 23 P **P 16 00 28.7 +0.1**
baz=246
QSPA South Pole Qui 84.66 180 P **P 16 00 28.8 0.0**
HYT Haines Junctio 84.69 27 P **P 16 00 30.2 +1.2**
baz=249
KBK Karagaybulak 84.98 314 P **P 16 00 31.9 +0.9**
SNR=17
DAWY Dawson 85.08 24 P **P 16 00 31.5 +0.8**
baz=247
CHMS Chumysh 85.19 314 P **P 16 00 32.6 +0.8**
SNR=24
UCH Uchtor 85.21 313 P **P 16 00 33.9 +1.4**
SNR=26
FRU1 Bishkek 85.24 314 P **P 16 00 31.3 -0.8**
FRU1 pmax pmax
comp=Z,18nm,0.9s
FRU1 Bishkek 85.24 314 P **P 16 00 31.3 -0.8**
MAW Mawson 85.27 203 P **P 16 00 31.7 +0.1**
comp=Z,19nm,1.0s,baz=358,slow=1.0,SNR=4.5
MAW LR LR 16 35 12.5
comp=Z,116nm,20.9s,baz=82,slow=33
MAW Mawson 85.27 203 P **P 16 00 31.7 +0.1**
MAW pmax pmax
comp=Z,10.0nm,1.3s
MAW Mawson 85.27 203 IAmb IAmb 16 00 33.2
comp=Z,10.0nm,1.2s
AAK Ala-Archa 85.30 313 P **P 16 00 33.5 +1.0**
SNR=20
AAK Ala-Archa 85.30 313*d i*P **P 16 00 33.2 +0.7**
AAK pmax pmax
comp=Z,17nm,0.7s
AAK Ala-Archa 85.30 313 P **P 16 00 32.9 +0.3**
SGDS Sogindy 85.37 314 *e*P **P 16 00 32.8 +0.1**
comp=Z,4.2nm,0.7s,baz=314
USP Ospenovka 85.42 314 P **P 16 00 33.9 +0.9**
SNR=26
AML Almayashu 85.79 313 P **P 16 00 36.7 +1.4**
SNR=38
EKS2 Erkin-Say 85.83 313 P **P 16 00 36.3 +1.2**
SNR=21
I29M Ogilvie Camp, 86.00 23 P **P 16 00 35.5 +0.2**
baz=248
BTLS Baital 86.10 316 *e*P **P 16 00 36.1 -0.1**
BTLS pmax pmax
comp=Z,6.0nm,0.8s
BTLS Baital 86.10 316 *e*P **P 16 00 36.1 -0.1**
comp=Z,6.4nm,0.8s,baz=316
NRIK Noril'sk 86.56 341 P **P 16 00 38.1 +0.1**
comp=Z,4.9nm,0.7s,baz=126,slow=5.0,SNR=11
NRIK Noril'sk 86.56 341⇓*e*P **P 16 00 38.7 +0.7**
NRIK pmax pmax
comp=Z,5.0nm,0.7s
NRIK Noril'sk 86.56 341 P **P 16 00 36.9 -1.1**
NRIK IAmb IAmb 16 00 48.5
comp=Z,5.9nm,0.8s

EPYK Eagle Plains 86.97 22 P **P 16 00 40.6 +0.6**
baz=250
FARO Faro, Yukon 87.03 27 P **P 16 00 41.8 +1.3**
baz=253
DLBC Dease Lake 87.60 31 LR LR 16 33 06.5
comp=Z,264nm,21.5s,baz=318,slow=31
KBL Kabul 88.18 305 P **P 16 00 45.3 -1.5**
KBL pmax pmax
comp=Z,3.0nm,0.7s
KBL Kabul 88.18 305 P **P 16 00 45.3 -1.5**
KKAR Karatay Array 88.27 313 P **P 16 00 46.4 -0.4**
KKAR Karatay Array 88.27 313 P **P 16 00 46.4 -0.4**
IUG Iuzhnay 88.47 312 *e*P **P 16 00 47.5 -0.4**
IUG Iuzhnay 88.47 312 *e*P **P 16 00 47.6 -0.4**
baz=312
BRLS Borolday 88.75 313 *e*P **P 16 00 49.4 +0.3**
BRLS Borolday 88.75 313 *e*P **P 16 00 49.4 +0.3**
baz=313
INK Inuvik 88.77 21 LR LR 16 35 31.3
comp=Z,234nm,20.9s,baz=198,slow=32
BRVK Borovoye 89.95 323*d i*P **P 16 00 53.7 -0.7**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 89.95 323 P **P 16 00 53.4 -1.0**
NVAR Mina Array Bea 92.07 52 P **P 16 01 04.4 -0.5**
comp=Z,0.4nm,0.7s,baz=263,slow=7.2,SNR=3.0
NEW Newport 93.69 42 LR LR 16 37 19.1
comp=Z,190nm,20.4s,baz=284,slow=32
YKA Yellowknife Ar 95.68 28 P **P 16 01 20.0 -0.6**
comp=Z,1.1nm,1.0s,baz=269,slow=5.1,SNR=10.0
YKA PKiKP **PKiKP 16 06 00.3 +0.1**
comp=Z,0.3nm,0.8s,baz=261,slow=1.4,SNR=3.9
ARU Arti 96.96 326 LR LR 16 47 57.5
comp=Z,45nm,19.2s,baz=80,slow=37
ARU Arti 96.96 326*c i*P **P 16 01 25.3 -1.3**
ARU *PP **pP 16 01 37.2 -1.1**
ARU 16 05 21.8
ARU S **SKSac 16 11 58.9 -1.5**
ARU SS **SS 16 19 20.5 -2.1**
ARU pmax pmax
comp=Z,13nm,1.4s
ARU Arti 96.96 326 P **P 16 01 24.9 -1.6**
LPIG La Paz 98.05 66 LR LR 16 41 29.3
comp=Z,119nm,18.4s,baz=218,slow=33
PDAR Pinedale Array 98.88 48 P Pdif 16 01 36.1 +0.2
comp=Z,0.2nm,0.7s,baz=194,slow=3.4,SNR=1.6
AKASG Malin Array Be 115.14 324 PKP **PKiKP 16 06 35.8 -0.5**
comp=Z,1.3nm,0.6s,baz=52,slow=2.4,SNR=9.1
AKASG Malin Array Be 115.14 324 *i* PKIKP **PKiKP 16 06 35.7 -0.7**
AKASG Malin Array Be 115.14 324 **PKiKP 16 06 35.7 -0.7**
BRTR Keskin Array B 115.94 312 PKP **PKiKP 16 06 39.3 +0.8**
comp=Z,1.0nm,1.0s,baz=327,slow=29,SNR=2.5
PLCA Paso Flores 119.14 143 PKP **PKiKP 16 06 45.5 +0.9**
comp=Z,2.6nm,0.8s,baz=235,slow=2.2,SNR=9.4
PLCA PKKPbc **PKKPbc 16 16 59.2 -0.1**
comp=Z,1.8nm,0.9s,baz=282,slow=8.0,SNR=3.3
BOSA Boshof 119.65 233 PKP **PKiKP 16 06 46.8 +0.8**
comp=Z,3.5nm,0.8s,baz=185,slow=4.2,SNR=4.5
CRVS Cervenica-Dubn 120.43 325 *e*PKiKP **PKiKP 16 06 48.8 +2.1**
CRVS Cervenica-Dubn 120.43 325 *e*PKP **PKiKP 16 06 48.8 +2.1**
BRG Berggiesshubel 123.30 330 *e*PKP **PKiKP 16 06 54.1 +1.7**
BRG Amp 16 06 54.8
comp=Z,5.0nm,0.9s
BRG *ex* x 16 07 01.3
BRG Amp 16 07 02.1
comp=Z,4.3nm,1.0s
BRG Berggiesshubel 123.30 330 *e*PKiKP **PKiKP 16 06 54.0 +1.7**
BRG *e* 16 07 01.3
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 123.48 331 *i* PKIKP **PKiKP 16 06 53.9 +1.3**
CLL *i* 16 07 04.4
CLL Collm 123.48 331 *i* PKPdf **PKiKP 16 06 53.9 +1.3**
CLL *i* pPKPdf **pPKPdf 16 07 04.4 +0.2**
CONA Conrad Observa 124.09 327 *e*P **PKiKP 16 06 54.8 +0.7**
comp=Z,2.6nm,0.8s
GERES GERESS Array B 124.69 329 PKP **PKPdf 16 06 55.1 +0.1**
comp=Z,3.4nm,0.8s,baz=78,slow=1.9,SNR=22
KBA Koelnbreinsper 125.96 327 *e*P **PKiKP 16 06 58.3 +0.4**
comp=Z,4.2nm,1.1s
ABTA Abfaltersbach 126.62 327 *e*P **PKiKP 16 06 59.0 -0.2**
comp=Z,2.5nm,0.6s
WTTA Wattenberg 126.76 328 *e*P **PKiKP 16 07 00.0 +0.5**
comp=Z,10nm,0.9s
MOTA Moosalm 126.99 328 *e*P **PKiKP 16 06 59.8 -0.2**
comp=Z,8.3nm,1.0s
SQTA Sankt Quirin 127.01 328 *e*P **PKiKP 16 07 00.6 +0.6**
comp=Z,12nm,1.4s
FETA Feichten 127.39 328 *e*P **PKiKP 16 07 01.4 +0.6**
comp=Z,5.4nm,0.9s
DAVA Damuels 127.66 329 *e*P **PKiKP 16 07 01.6 +0.3**
comp=Z,8.0nm,0.9s
TSUM Tsumeb 129.99 240 PKP **PKiKP 16 07 06.4 -0.3**
comp=Z,2.2nm,0.7s,baz=155,slow=4.1,SNR=5.9
LVC Limon Verde 130.35 126 PKP **PKiKP 16 07 07.8 +0.1**
comp=Z,5.3nm,0.8s,baz=265,slow=8.1,SNR=3.7
LPAZ La Paz 133.82 118 PKP **PKiKP 16 07 14.7 -0.5**
comp=Z,3.4nm,0.7s,baz=111,slow=0.4,SNR=14
CPUP Villa Florida 136.82 138 PKP **PKiKP 16 07 19.5 -0.7**
comp=Z,4.5nm,0.8s,baz=264,slow=2.8,SNR=8.3
CPUP Villa Florida 136.82 138 PKiKP **PKPdf 16 07 18.2 -0.3**
CPUP Villa Florida 136.82 138 **PKPdf 16 07 18.2 -0.3**
SIV San Ignacio 140.02 123 PKP **PKPdf 16 07 24.8 +0.2**
comp=Z,3.2nm,0.8s,baz=232,slow=1.9,SNR=9.3
SIV SKPbc **SKiKP 16 11 00.9 +0.7**
comp=Z,10nm,1.0s,baz=233,slow=2.7,SNR=16
ESDC Sonseca Array 140.06 332 PKhKP PKPpre 16 07 15.9
comp=Z,0.5nm,0.7s,baz=13,slow=1.8,SNR=1.8
PMRV Marv??o 141.77 335 *e*PKPdf **PKPdf 16 07 23.1 -4.0**
PTLB Pontes e Lacer 141.90 123 PKPdf **PKPdf 16 07 26.3 -1.7**
EVO Evora 142.78 335 *e*PKPdf **PKPdf 16 07 26.2 -2.7**
PNCL Nicolau / Gran 143.35 336 *e*PKPdf PKPbc 16 07 28.1 +1.1
BDFB Brasilia 150.43 135 PKPbc **PKiKP 16 07 48.5 -0.1**
comp=Z,28nm,0.7s,baz=215,slow=6.6,SNR=29
BDFB Brasilia 150.43 135 PKIKP **PKPbc 16 07 47.0 -0.8**
BDFB Brasilia 150.43 135 **PKPbc 16 07 47.0 -0.8**
TORD Torodi Ar. Bea 150.85 288 PKPbc **PKPbc 16 07 48.2 -0.5**
comp=Z,32nm,0.8s,baz=63,slow=2.6,SNR=115
DBIC Dimbokro 158.14 275 PKP **PKPdf 16 07 54.0 +0.8**
comp=Z,1.8nm,0.7s,baz=180,slow=2.1,SNR=3.2
DBIC PKPab **PKPab 16 08 26.9 -0.2**
comp=Z,2.4nm,0.7s,baz=117,slow=3.4,SNR=3.6

IDC ***26*** *15:55:15.6±2.8, 21°.80S×175°.66W, h31km±20km, mb4.4/20, mb1 4.6/22, mb1mx4.4/42, mbtmp4.6/22, ML4.7/3, MS3.7/5, Ms1 3.7/5, ms1mx3.2/56 Error ellipse: s-maj=17.9km s-min=13.1km az=149.0*

NEIC ***26*** *15:55:18.2±2.1, 21°.92S±0°.10×175°.36W±0°.09, h55km±6km, mb4.8/49, Error ellipse: s-maj=14.5km s-min=11.4km az=163.0*

NOU ***26*** *15:55:20.4, 21°.75S×174°.88W, h118km, mb5.0/41, Tonga Islands*

ISC 26 15:55:19.2±0.3, 22°.09S±0°.06×175°.37W±0°.06, h70km, n200, σ2°00/192, mb4.8/55, 22C-14D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.92**	**61**	Pn	**Pn**	**15 56 40.5**	**-3.7**
TAVE	**Taveuni**	**6.85**	**321**	P	**Pn**	**15 56 59.0**	**+1.9**
DGTI	**Dogotuki**	**7.38**	**320**	P	**Pn**	**15 57 06.3**	**+1.9**
RAO	**Raoul Island**	**7.49**	**197**	Sn	**Sn**	**15 58 31.2**	**+2.0**
98nm,0.3s,baz=63,slow=21,SNR=2.4							
MSVF	**Nonsavu**	**7.56**	**304**	Pn	**Pn**	**15 57 10.5**	**+3.8**
15nm,0.3s,baz=137,slow=10,SNR=182							
MSVF				LR	LR	15 58 37.3	
comp=Z,48nm,21.3s,baz=111,slow=28							
MSVF	**Nonsavu**	**7.56**	**304**	Pn	**Pn**	**15 57 07.6**	**+0.9**
MSVF	**Nonsavu**	**7.56**	**304**	P	**Pn**	**15 57 11.0**	**+4.2**
AFI	**Afiamalu**	**8.82**	**23**	Pn	Pn	15 57 16.9	-7.2
68nm,0.3s,baz=169,slow=1.8,SNR=91							
AFI				Sn	Sn	15 58 44.7	-17
17nm,0.3s,baz=53,slow=22,SNR=1.6							
RAR	**Rarotonga**	**14.53**	**89**	Pn	**Pn**	**15 58 41.1**	**0.0**
7.2nm,0.3s,baz=259,slow=8.8,SNR=14							
RAR				Sn	Sn	16 01 08.2	-13
5.9nm,0.3s,baz=107,slow=18,SNR=2.8							
RAR				LR	LR	16 04 01.1	
comp=Z,82nm,18.8s,baz=258,slow=36							
RAR	**Rarotonga**	**14.53**	**89**	Pn	**Pn**	**15 58 39.7**	**-1.5**
RAR	**Rarotonga**	**14.53**	**89**	P	Pn	15 58 34.9	-6.3

MARNC	Mare, Loyalty	15.43	269	P		P	15 58 57.6 +1.7
PINNC	Pines Island,	15.91	265	P		P	15 59 03.7 +2.5
LIFNC	LIFOU	16.25	271	P		P	15 59 09.1 +4.2
OUZ	Omahuta	16.26	214	P		P	15 59 09.6 +4.6
	19nm,1.2s						
OUENC	Ouen Island, N	16.47	266	P		P	15 59 10.5 +3.0
WMGZ	Waiomatatini S	16.57	197	P		Pn	15 59 07.3 +0.4
HAZ	Te Kaha	16.69	199	P		Pn	15 59 04.9 -3.7
PKGZ	Pakihiroa	16.73	198	P		Pn	15 59 02.6 -6.4
DZM	Mont Dzumac	16.86	267	Pn		P	15 59 14.3 +2.5
	3.3nm,0.3s,baz=82,slow=18,SNR=50						
DZM	Mont Dzumac	16.86	267	*e*P		P	15 59 14.7 +2.9
	112nm,0.9s						
DZM				*e*LR		LR	16 03 09.1
	comp=Z,528nm,25.9s						
DZM	Mont Dzumac	16.86	267	P		P	15 59 15.5 +3.7
RUGZ	Raukumara Rang	16.92	199	P		Pn	15 59 11.7 +0.2
TWGZ	Tauwhareparae	17.02	198	P		Pn	15 59 10.6 -2.0
TKGZ	Te Karaka	17.31	198	P		P	15 59 16.9 +0.3
URZ	Urewera	17.36	200	P		P	15 59 17.7 +0.5
	2.0nm,0.3s,baz=273,slow=5.3,SNR=17						
URZ				S		Sn	16 02 16.9 -13
	2.5nm,0.3s,baz=317,slow=24,SNR=10.0						
URZ	Urewera	17.36	200	P		Pn	15 59 16.2 -0.6
URZ	Urewera	17.36	200	P		P	15 59 18.3 +1.1
	103nm,1.1s						
SANVU	Saraoutou	17.77	289	P		Pn	15 59 24.8 +2.9
BKZ	Black Stump Fm	18.39	200	P		P	15 59 27.1 -1.5
BKZ	Black Stump Fm	18.39	200	P		Pn	15 59 32.8 +3.5
KOUNC	Koumac, New Ca	19.02	271	P		Pn	15 59 39.5 +2.6
PRWZ	Pori Road	19.82	200	P		P	15 59 43.4 -0.7
PRWZ				S		S	16 03 09.3 -14
BFZ	Birch Farm	19.85	199	P		P	15 59 43.2 -1.2
BFZ				S		S	16 03 07.4 -17
BFZ	Birch Farm	19.85	199	P		Pn	15 59 46.9 +0.3
MRZ	Mangatainoka R	20.04	200	P		P	15 59 46.1 -0.4
MRZ				S		S	16 03 12.9 -15
TIWZ	Tintock	20.05	200	P		Pn	15 59 48.5 -0.5
TIWZ				S		S	16 03 13.5 -15
HOWZ	Holdsworth Sta	20.27	200	P		P	15 59 47.5 -1.5
HOWZ				S		S	16 03 16.0 -16
OGWZ	Otaki Gorge	20.31	201	P		P	15 59 50.1 +0.7
OGWZ				S		S	16 03 20.4 -13
TMWZ	Te Maipa	20.35	199	P		P	15 59 50.4 +0.5
TMWZ				S		S	16 03 20.6 -13
KIW	Kapiti Island	20.44	202	P		P	15 59 47.9 -3.0
KIW				P		S	16 03 23.2 -13
MTW	Mount Morrison	20.51	200	P		P	15 59 52.4 +0.8
MTW				S		S	16 03 23.5 -14
TRWZ	Traveller	20.67	199	P		Pn	15 59 55.0 -1.3
TRWZ				S		S	16 03 29.5 -11
DUWZ	D'Urville Isla	20.74	203	P		Pn	15 59 57.8 +0.7
PAWZ	Paruwai Farm	20.74	200	P		P	15 59 54.0 -0.1
PAWZ				S		S	16 03 27.7 -14
MSWZ	Moikau Station	20.83	200	P		P	15 59 54.7 -0.3
MSWZ				S		S	16 03 29.2 -14
PLWZ	Palliser	20.96	200	P		P	15 59 58.0 +1.5
PLWZ				S		S	16 03 35.1 -11
TCW	Tory Channel	20.97	202	P		P	15 59 53.6 -2.9
TCW				P		S	16 03 36.7 -10
TUWZ	Tuamarina	21.28	203	P		P	15 59 59.4 -0.4
QRZ	Quartz Range	21.30	206	P		P	16 00 02.3 +2.2
QRZ				S		S	16 03 47.9 -4.9
QRZ	Quartz Range	21.30	206	P		P	16 00 01.7 +1.6
QRZ				IAmb		IAmb	16 00 11.2
	comp=Z,47nm,1.3s						
QRZ	Quartz Range	21.30	206	P		P	16 00 03.2 +3.2
NNZ	Nelson	21.30	204	P		P	15 59 57.0 -3.1
THZ	Tophouse	21.95	204	P		P	16 00 07.6 +0.5
KHZ	Kahutara	22.29	202	P		P	16 00 11.7 +1.1
	comp=Z,32nm,1.9s						
LTZ	Lake Taylor	23.07	204	P		P	16 00 20.6 +1.7
LHI	Lord Howe Isla	24.63	242	P		P	16 00 33.4 +0.3
PAE	Paea	24.64	84	*e*T		T	16 25 59.0
	comp=Z,42nm,0.3s						
PPT2	Papeete2	24.66	84	*e*LR		LR	16 06 24.6
	comp=Z,672nm,31.8s						
PPT2	Papeete2	24.66	84	*e*T		T	16 26 01.9
	comp=Z,47nm,0.3s						
PPT	Papeete	24.66	84	P		P	16 00 35.4 +1.8
	comp=Z,34nm,0.8s,baz=229,slow=7.0,SNR=3.8						
PPT				LR		LR	16 07 59.2
	comp=Z,87nm,22.0s,baz=256,slow=31						
FOZ	Fox Glacier	24.67	206	P		P	16 00 34.8 +1.4
FOZ				IAmb		IAmb	16 00 40.6
	comp=Z,50nm,1.2s						
MEH	Mehetia	25.98	86	*e*T		T	16 27 29.6
	comp=Z,39nm,0.3s						
VAH	Vaihoa	27.12	80	*e*T		T	16 29 03.7
	comp=Z,6.6nm,0.3s						
ARMA	Armidale	30.65	247	P		P	16 01 27.6 +0.4
ARMA				IAmb		IAmb	16 01 29.5
	comp=Z,13nm,0.7s						
ARMA	Armidale	30.65	247	P		P	16 01 28.7 +1.5
	comp=Z,21nm,0.9s						
EIDS	Eidsvold	30.84	257	P		P	16 01 29.1 +0.3
EIDS				IAmb		IAmb	16 01 30.2
	comp=Z,8.0nm,0.7s						
MGCD	Mangrove Creek	31.57	242	P		P	16 01 36.2 +1.1
RMQ	Roma	32.92	255	P		P	16 01 48.2 +1.1
	comp=Z,30nm,0.8s						
CAN	Canberra	33.73	239	P		P	16 01 54.9 +0.8
CAN				IAmb		IAmb	16 01 57.0
	comp=Z,12nm,0.7s						
CAN	Canberra	33.73	239	P		P	16 01 55.4 +1.3
	comp=Z,25nm,1.3s						
CTA	Charters Tower	35.80	266	P		P	16 02 11.4 -0.6
	comp=Z,41nm,0.6s,baz=96,slow=10,SNR=56						
CTA	Charters Tower	35.80	266	P		P	16 02 11.2 -0.8
	comp=Z,63nm,0.7s						
CTAO	Charters Tower	35.80	266	P		P	16 02 10.9 -1.1
CTAO	Charters Tower	35.80	266	P		P	16 02 11.2 -0.8
	comp=Z,54nm,0.7s						
CMSA	Cobar Meteorol	35.85	246	P		P	16 02 12.2 -0.1
	comp=Z,31nm,0.7s						
TAOE	Nuku Hiva Isla	36.30	74	*e*T		T	16 40 22.9
	comp=Z,36nm,0.3s						
TOO	Toolangi	37.00	236	P		P	16 02 22.3 +0.2
TOO				IAmb		IAmb	16 02 35.7
	comp=Z,10nm,1.1s						
TOO	Toolangi	37.00	236	P		P	16 02 23.3 +1.2
	comp=Z,13nm,1.8s						
TAU	Tasmania Unive	37.29	227	P		P	16 02 24.5 +0.2
TAU	Tasmania Unive	37.29	227	P		P	16 02 26.9 +2.6
	comp=Z,48nm,1.6s						
PMG	Port Moresby	38.09	283	P		P	16 02 29.4 -2.0
	comp=Z,12nm,0.8s,baz=137,slow=4.3,SNR=4.5						
PMG	Port Moresby	38.09	283	P		P	16 02 29.1 -2.4
PMG				IAmb		IAmb	16 02 57.2
	comp=Z,12nm,0.8s						
STKA	Stephens Creek	39.35	246	P		P	16 02 40.4 -1.5
	comp=Z,7.7nm,0.6s,baz=89,slow=9.6,SNR=24						
STKA				LR		LR	16 17 18.3
	comp=Z,159nm,18.3s,baz=38,slow=34						
STKA	Stephens Creek	39.35	246	P		P	16 02 41.5 -0.4
STKA	Stephens Creek	39.35	246	P		P	16 02 43.2 +1.3
	comp=Z,2.7nm,0.9s						
ARPS	Mount Arapiles	39.70	239	P		P	16 02 46.3 +1.6
	comp=Z,13nm,0.8s						
INKA	Innaminka	40.04	253	P		P	16 02 48.3 +0.7
	comp=Z,22nm,1.0s						
HTT	Hallett	41.70	244	P		P	16 03 01.3 0.0
	comp=Z,26nm,1.0s						
QIS	Mount Isa	41.86	263	P		P	16 03 02.5 -0.2
	comp=Z,6.3nm,0.8s						
LCRK	Leigh Creek	42.21	249	P		P	16 03 05.0 -0.4
	comp=Z,39nm,0.8s						
BBOO	Buckleboo	44.07	245	P		P	16 03 19.0 -1.4
BBOO				IAmb		IAmb	16 03 21.9
	comp=Z,15nm,0.8s						
OOD	Oodnadatta	44.51	252	P		P	16 03 23.7 -0.3
	comp=Z,43nm,1.0s						
AS31	Alice Springs	46.56	258	P		P	16 03 38.2 -2.1
AS31				IAmb		IAmb	16 03 41.9
	comp=Z,10.0nm,0.7s						
ASAR	Alice Springs	46.56	258	P		P	16 03 38.5 -1.8
	comp=Z,37nm,0.8s,baz=98,slow=7.3,SNR=143						
ASAR				PcP		PcP	16 05 13.5 -0.1
	comp=Z,2.6nm,0.7s,baz=114,slow=4.0,SNR=2.9						
ASAR				ScP		ScP	16 09 04.1 +3.0
	comp=Z,0.7nm,0.8s,baz=111,slow=4.1,SNR=3.6						
ASAR				S		S	16 10 16.6 -7.6
	comp=Z,0.7nm,0.9s,baz=88,slow=16,SNR=5.6						
ASAR	Alice Springs	46.56	258	P		P	16 03 38.3 -2.0
WR0	Warramunga Arr	46.64	263	P		P	16 03 38.4 -2.5
WR0				IAmb		IAmb	16 03 41.3
	comp=Z,9.5nm,0.9s						
WB0	Warramunga Arr	46.81	263	P		P	16 03 39.7 -2.6
WB2	Warramunga Arr	46.81	263	P		P	16 03 39.8 -2.5
WB2				IAmb		IAmb	16 03 42.8
	comp=Z,27nm,0.8s						
WRAB	Tennant Creek	46.82	263	P		P	16 03 39.7 -2.6
WRAB				IAmb		IAmb	16 03 42.7
	comp=Z,22nm,0.8s						
WRA	Warramunga Arr	46.83	263	P		P	16 03 39.9 -2.5
	comp=Z,23nm,0.9s,baz=97,slow=8.1,SNR=81						
WRA				ScP		ScP	16 09 04.7 +2.6
	comp=Z,1.4nm,0.9s,baz=94,slow=4.4,SNR=7.6						
WRA				S		S	16 10 21.9 -6.1
	comp=Z,0.7nm,1.0s,baz=102,slow=14,SNR=3.6						
WRA	Warramunga Arr	46.83	263	P		P	16 03 39.7 -2.7
FORT	Forrest	50.94	248	P		P	16 04 11.8 -2.0
MTN	Manton Dam	51.63	271	P		P	16 04 15.8 -3.3
MTN				IAmb		IAmb	16 04 18.8
	comp=Z,9.7nm,0.7s						
KNRA	Kununurra	53.01	267	P		P	16 04 27.1 -2.2
FITZ	Fitzroy Crossi	55.26	263	P		P	16 04 44.1 -1.5
	comp=Z,12nm,1.0s,baz=162,slow=2.7,SNR=8.1						
BATI	Baumata	59.41	271	LR		LR	16 30 27.4
	comp=Z,146nm,18.3s,baz=301,slow=36						
MBWA	Marble Bar	59.91	258	P		P	16 05 16.7 -1.5
MORW	Morawa	61.50	248	P		P	16 05 29.3 +0.3
MORW				IAmb		IAmb	16 05 33.3
	comp=Z,23nm,1.4s						
TOLI2	Tolitoli	66.33	282	P		P	16 06 00.9 0.0
TOLI2				IAmb		IAmb	16 06 08.8
	comp=Z,9.9nm,1.0s						
QSPA	South Pole Qui	67.99	180	P		P	16 06 14.4 +3.6
	comp=Z,8.9nm,0.7s,baz=37,slow=1.5,SNR=16						
QSPA	South Pole Qui	67.99	180	P		P	16 06 14.8 +4.1
QSPA				IAmb		IAmb	16 06 15.8
	comp=Z,9.0nm,0.7s						
PCJI	Pacitan	71.67	268	P		P	16 06 33.2 -0.8
MJAR	Matsushiro Arr	72.95	322	P		P	16 06 38.7 -2.4
	comp=Z,2.7nm,0.8s,baz=164,slow=6.0,SNR=4.1						
JMN	Monobe	73.60	318	P		P	16 06 44.1 -1.0
ADK	Adak	73.66	359	P		P	16 06 43.8 -1.1
KSM	Kuching	76.05	277	P		P	16 07 00.5 +0.9
KSM				IAmb		IAmb	16 07 12.6
	comp=Z,34nm,1.4s						
SDPT	Sand Point	78.17	9	P		P	16 07 09.6 -0.9
PETK	Petropavlovsk-	78.45	344	P		P	16 07 11.0 -1.1
	comp=Z,7.6nm,0.9s,baz=101,slow=7.5,SNR=9.4						
RMX	La Rumorosa	78.50	48	P		P	16 07 12.4 -0.7
CHIR	Chirikof Islan	79.40	11	P		P	16 07 16.3 -0.9
LCH	Last Change Ra	80.21	43			P	16 07 22.3 0.0
LHV	Little Huntoon	80.29	42	P		P	16 07 22.9 +0.5
LHV				IAmb		IAmb	16 07 47.0
	comp=Z,8.5nm,1.1s						
NVAR	Mina Array Bea	80.53	42	P		P	16 07 25.6 +1.5
	comp=Z,2.2nm,0.7s,baz=223,slow=8.8,SNR=28						
MAW	Mawson	80.89	199	P		P	16 07 27.8 +2.4
	comp=Z,7.4nm,0.8s,baz=284,slow=21,SNR=1.6						
MAW	Mawson	80.89	199	IAmb		IAmb	16 07 40.4
	comp=Z,16nm,1.4s						
USRK	Ussuriysk Ar.	81.66	325	P		P	16 07 29.6 0.0
	comp=Z,3.8nm,0.9s,baz=95,slow=2.8,SNR=4.0						
TUC	Tucson	82.06	51	P		P	16 07 33.2 +1.0
NJ2	Nanjing	82.78	309	*e*P		P	16 07 37.5 +1.7
NJ2				pmax		pmax	
	comp=Z,9.0nm,0.5s						
WVOR	Wild Horse Val	82.80	39	P		P	16 07 36.7 +0.8
ELK	Elko	83.81	42	P		P	16 07 41.7 +0.4
MTPU	Mount Pierson	84.21	45	P		P	16 07 43.7 +0.2
BMO	Blue Mountains	85.06	37	P		P	16 07 47.2 -0.1
BNX	BinXian	85.14	324	⇓P		P	16 07 47.5 0.0
BNX				pmax		pmax	
	comp=Z,5.0nm,0.6s						
BNX				pmax		pmax	
	comp=Z,140nm,4.7s						
KLR	Kul'dur	85.15	328	P		P	16 07 48.0 +0.5
	comp=Z,1.6nm,0.8s,baz=115,slow=4.1,SNR=4.8						
MNTX	Cornudas Mount	85.70	53	P		P	16 07 51.6 +0.9
MNTX				IAmb		IAmb	16 07 53.7
	comp=Z,10.0nm,1.0s						
TX32	Lajitas Array	85.87	56	P		P	16 07 52.7 +1.0
TX32				IAmb		IAmb	16 07 54.9
	comp=Z,8.8nm,1.1s						
TXAR	Lajitas Array	85.87	56	P		P	16 07 53.7 +2.1
	comp=Z,5.2nm,0.8s,baz=210,slow=7.2,SNR=20						
BNM	Barren Site	85.99	51	P		P	16 07 53.1 +0.8
SNAA	Sanae	86.34	178	P		P	16 07 53.9 +0.7
	comp=Z,3.5nm,1.1s,baz=256,slow=4.3,SNR=3.7						
SNAA	Sanae	86.34	178	IAmb		IAmb	16 07 56.7
	comp=Z,5.9nm,1.1s						
VNA3	Neumayer Olymp	86.39	175	P		P	16 07 56.2 +2.8
ANMO	Albuquerque	86.51	50	LR		LR	16 45 01.5
	comp=Z,64nm,18.1s,baz=313,slow=34						
ANMO	Albuquerque	86.51	50	P		P	16 07 55.5 +0.7
ANMO				IAmb		IAmb	16 07 57.8
	comp=Z,6.4nm,1.0s						
VNA2	Neumayer-Watz	86.85	176	P		P	16 07 58.7 +3.0
	baz=173,slow=5.2						
PDAR	Pinedale Array	88.46	42	P		P	16 08 04.6 +0.6
	comp=Z,0.8nm,0.9s,baz=199,slow=2.5,SNR=3.6						
CCB	Clear Creek Bu	89.05	11	P		P	16 08 05.8 -0.1
CCB				IAmb		IAmb	16 08 10.0
	comp=Z,7.5nm,1.5s						
H21K	Melozitna Rive	89.16	9	P		P	16 08 06.3 -0.1
H21K				IAmb		IAmb	16 08 10.8
	comp=Z,11nm,1.5s						
ILAR	Eielson Array	89.34	12	P		P	16 08 07.0 -0.4
	comp=Z,0.7nm,0.5s,baz=218,slow=5.5,SNR=11						
HHC	Hu-ho-hao-te	92.22	313	*e*P		P	16 08 21.5 +0.1
HHC				pmax		pmax	
	comp=Z,10.0nm,0.9s						
HHC				pmax		pmax	
	comp=Z,140nm,5.9s						
CMAR	Chiang Mai Arr	92.95	289	P		P	16 08 25.0 -0.2
	comp=Z,0.8nm,0.7s,baz=131,slow=3.7,SNR=5.7						
PZH	PanZhiHua	93.61	297	P		P	16 08 24.5 -3.7
PZH				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PZH				pmax		pmax	
	comp=Z,100nm,5.0s						
YKA	Yellowknife Ar	96.94	24	P		P	16 08 42.2 -0.2
	comp=Z,0.2nm,0.6s,baz=263,slow=29,SNR=3.4						
SUR	Sutherland	123.67	196	PKP		PKiKP	16 14 10.5 +0.7
	comp=Z,5.2nm,0.9s,baz=228,slow=20,SNR=2.1						
ARCES	ARCESS Array B	130.90	350	PKP		PKPdf	16 14 21.4 -0.5
	comp=Z,2.3nm,0.6s,baz=339,slow=1.3,SNR=11						
FINES	FINESS Array B	137.96	345	PKP		PKPdf	16 14 35.8 +0.5
	comp=Z,1.3nm,0.7s,baz=98,slow=4.2,SNR=7.7						
AKASG	Malin Array Be	145.57	332	PKPbc		PKPdf	16 14 48.4 -0.8
	comp=Z,4.2nm,0.4s,baz=40,slow=4.3,SNR=40						
AKASG	Malin Array Be	145.57	332			PKPdf	16 14 48.2 -1.0
MBAR	Mbarara	145.99	232	PKPbc		PKPab	16 14 53.4 +0.7
	comp=Z,3.7nm,0.2s,baz=120,slow=6.5,SNR=9.6						
SORM	Soroca	147.82	330	⇑P		PKPbc	16 14 55.3 -0.7
VLDR	Vladesti	149.56	327	⇓P		PKiKP	16 15 01.1 -0.5
TLCR		149.62	325	⇓P		PKiKP	16 15 01.4 -0.3
BURAR	Bucovina Array	149.63	332	⇑P		PKPbc	16 15 00.7 -0.1
BRTR	Keskin Array B	149.72	312	PKPbc		PKPbc	16 15 01.1 -0.3
	comp=Z,4.9nm,0.6s,baz=139,slow=5.3,SNR=26						
TATR	Tatarca	149.74	326	⇓P		PKPbc	16 15 01.1 +0.1
CFR	Carcaliu	149.98	326	⇑P		PKiKP	16 15 03.8 +1.3
TPGR	Topolog	150.05	325	⇑P		PKiKP	16 15 02.4 -0.2
CRVS	Cervenica-Dubn	150.08	337	*e*PKP		PKPbc	16 15 02.0 +0.2
OSTC	Ostas	150.17	345	⇑*e*PKP		PKiKP	16 15 03.2 +0.4
VRI	Vrincioaia	150.22	328	⇓P		PKiKP	16 15 02.8 -0.2
UPC	Upice	150.26	345	⇑*e*PKP		PKiKP	16 15 03.0 +0.1
PLOR	Plostina	150.27	328	⇑P		PKPbc	16 15 01.8 -0.6
TRPA	Tarpa	150.32	335	⇓P		PKPbc	16 15 01.8 -0.6
DPC	Dobruska-Polom	150.34	345	⇑*e*PKP		PKiKP	16 15 03.1 0.0
BRG	Berggiesshubel	150.36	348	*i* PKP		PKiKP	16 15 03.0 -0.1
BRG				Amp			16 15 04.2
	comp=Z,16nm,1.2s						
KRLC	Kraliky	150.47	344	⇑*e*PKP		PKPbc	16 15 02.6 -0.1
COVR	Voineasa-Covas	150.49	329	⇑P		PKPbc	16 15 02.8 -0.1
MORC	Moravsky Berou	150.55	343	⇑P		PKiKP	16 15 04.0 +0.4
NEHR	Nehoiu	150.75	328	⇑P		PKPbc	16 15 03.5 0.0
DOPR	Dopca	150.79	330	⇓P		PKiKP	16 15 04.1 -0.1
MLR	Muntele Rosu	150.87	328	⇓P		PKPbc	16 15 03.8 -0.1
PRU	Pruhonice	151.08	347	⇑*e*PKP		PKiKP	16 15 04.8 +0.2
SECR		151.14	328	⇓P		PKiKP	16 15 04.8 -0.1
VOIR		151.34	329	⇑P		PKPbc	16 15 05.2 +0.2
PSZ	Piszkesteto	151.47	338	⇑P		PKiKP	16 15 05.7 +0.1
MTUR	Matau	151.49	329	⇓P		PKiKP	16 15 06.8 +1.1
ARR	Arges	151.59	330	⇑P		PKiKP	16 15 06.7 +0.8
MODS	Modra-Piesok	151.89	342	*e*PKP		PKiKP	16 15 08.3 +1.9
KHC	Kasperske Hory	152.09	347	⇑*e*PKP		PKPbc	16 15 06.6 +0.1
SIRR	Siria	152.19	334	⇑P		PKiKP	16 15 07.5 +0.5
CKRC	Cesky Krumlov	152.23	346	⇑*e*PKP		PKiKP	16 15 07.4 +0.3
GERES	GERESS Array B	152.34	347	PKPbc		PKiKP	16 15 07.3 -0.1
	comp=Z,1.9nm,0.7s,baz=36,slow=2.5,SNR=12						
GZR	Gura Zlata	152.41	332	⇑P		PKiKP	16 15 07.5 -0.1
AMBH	Ambrzfalva	152.49	335	⇓P		PKiKP	16 15 09.9 +2.3
BZS	Buzias	152.73	333	⇑P		PKiKP	16 15 08.2 0.0
HERR	Herculane	152.97	331	⇓P		PKPbc	16 15 08.2 -0.3
MORH	Mrgy, Hungar	153.37	338	⇓P		PKiKP	16 15 09.9 +0.5
BOVS	Bovan	154.27	331	⇓P		PKPbc	16 15 09.6 -1.8
VTS	Vitosha	154.30	327	⇑P		PKPbc	16 15 11.6 -0.1
TORD	Torodi Ar. Bea	170.68	162	PKPab		PKPab	16 16 40.2 +2.5
	comp=Z,1.1nm,0.8s,baz=196,slow=2.6,SNR=4.8						

TAP ***26*** *16:05:36.9,21°.50N×121°.38E,h57km±1km,ML4.5,D*
IDC ***26*** *16:05:38.3±0.5,21°.63N×121°.40E,h0km,mb4.3/21,*
mb1 4.4/24,mb1mx4.3/46,mbtmp4.3/24,ML3.7/3,MS4.1/4,
Ms1 4.1/4,ms1mx3.1/87,Error ellipse: s-maj=18.1km
s-min=13.3km az=78.0
NEIC ***26*** *16:05:41.2±2.2,21°.79N±0°.05×121°.30E±0°.06,h10km±1km,*
mb4.8/54,Error ellipse: s-maj=10.0km s-min=7.7km
az=124.0
MOS ***26*** *16:05:41.9±0.9,21°.60N×121°.37E,h35km,mb4.7/37,Error*
ellipse: s-maj=10.4km s-min=6.0km az=101.4
JMA ***26*** *16:05:41.3±0.4,21°.83N×121°.04E,h65km±4km,M4.7*
BJI ***26*** *16:05:41.5±0.0,21°.95N×121°.26E,h9km,mb4.3/45,*
mB4.6/26,ML3.8/4,Ms4.2/31,Ms7 4.1/28
ISC 26 16:05:42.0±1.0,21°.73N±0°.03×121°.32E±0°.03,h17km±5km,
n318,σ1°44/345,mb4.5/75,MS4.0/10,9C-12D,Taiwan
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	Lan-yu	0.36	43	*i* P	Pg	16 05 49.2	-0.3
	baz=21						
LYUB				S	Sn	16 05 58.1	-1.2
	baz=21						
LAY	Lan-yu	0.37	35	*e*P	Pg	16 05 49.6	-0.1
	baz=17						
TSEB	Hengchuen, Pin	0.42	293	*e*P	Pg	16 05 51.0	+0.4
	baz=303						
TSEB				*e*S	Sn	16 05 59.4	-1.4
	baz=303						
TWKBT	Hengchun	0.51	294	*e*P	Pb	16 05 51.6	-1.0
	baz=304						
TWK1	Hengchun	0.52	294	*e*P	Pb	16 05 51.5	-1.2
	baz=304						
TWK1				*e*S	Sg	16 06 00.9	+1.5
	baz=304						
SMST	Manzhou Townsh	0.53	303	*e*P	Pb	16 05 51.8	-1.1
	baz=316						
SMST				*e*S	Sn	16 06 01.8	-1.6
	baz=316						
SNW	Nanwan	0.57	293	*e*P	Pb	16 05 53.7	+0.1
	baz=304						
HEN	Hengchun	0.60	297	*e*P	Pb	16 05 53.1	-1.0
	baz=307						
SLIU	Shizi	0.68	315	*e*P	Pb	16 05 53.8	-1.7
	baz=328						
SLIU				*e*S	Sn	16 06 05.9	-1.3
	baz=328						
TAWH	Dawu Township	0.72	327	*e*P	Pb	16 05 54.2	-2.0
	baz=340						
TAW	Tawu	0.74	328	*e*P	Pb	16 05 54.4	-1.9
	baz=340						
TAW				*e*S	Sg	16 06 07.4	+1.3
	baz=340						
EAST	Anshuo	0.78	326	*e*P	Pb	16 05 55.2	-2.0
	baz=340						
SCZT	Fangliau	0.91	315	*e*P	Pb	16 05 57.7	-1.6
	baz=312						
LDUT	Ludao	0.95	8	*e*P	Pb	16 05 58.1	-1.8
	baz=4.0						
LDUT				*e*S	Sb	16 06 12.7	+0.5
	baz=4.0						
SSPT	Xinbi	1.02	317	*e*P	Pb	16 06 00.0	-1.2
	baz=332						
TTN	Taitung	1.03	351	*e*P	Pb	16 06 00.3	-1.0
	baz=351						
TTN				*e*S	Sb	16 06 15.0	+0.4
	baz=351						
TWP	Hsiaoliuchiu	1.08	305	*e*P	Pb	16 06 02.0	-0.1
	baz=302						
MASBT	Mashibuluo	1.08	324	*e*P	Pb	16 05 59.7	-2.6
	baz=336						
TWGBT	Beinan	1.10	348	*e*P	Pn	16 05 59.8	-2.9
	baz=348						
TWG	Pinlang	1.11	348	*e*P	Pn	16 05 59.7	-3.1
	baz=348						
TWG	Pinlang	1.11	348		Pn	16 05 59.3	-3.5
TSMG	Majia	1.15	327	*e*

baz=338
VWDT VWDT 2.02 355 *e*P **Pn 16 06 14.2 -1.1**
baz=357
WSL Shuilin Townsh 2.05 331 *e*P **Pn 16 06 14.6 -1.0**
baz=332
WGK Gukeng 2.07 340 *e*P **Pn 16 06 15.6 -0.4**
baz=341
SSLB Suanglung 2.07 351 *e*P **Pn 16 06 15.6 -0.4**
baz=338
SSLB Suanglung 2.07 351 Pn **Pn 16 06 15.2 -0.8**
ESL Shilin 2.07 3 *e*P **Pn 16 06 14.2 -1.8**
baz=354
WDLH Douliu 2.08 340 *e*P **Pn 16 06 15.8 -0.2**
baz=340
WTK Tuku 2.13 336 *e*P **Pn 16 06 16.1 -0.7**
baz=337
TEYL Yanliau Villag 2.14 7 *e*P **Pn 16 06 17.4 +0.5**
baz=13
WJS Zhushan 2.15 345 *e*P **Pn 16 06 17.2 +0.1**
baz=346
WSF Szhu 2.15 332 *e*P **Pn 16 06 16.0 -1.1**
baz=334
WDGT Dungji 2.16 315 *e*P **Pn 16 06 15.5 -1.7**
baz=318
TYC Yuchr 2.20 349 *e*P **Pn 16 06 18.0 +0.2**
baz=338
WNT Mingjian 2.21 345 *e*P **Pn 16 06 18.2 +0.3**
baz=345
ETM Tongmen 2.23 4 *e*P **Pn 16 06 16.1 -2.0**
baz=356
HWA Hwalien 2.25 7 *e*P **Pn 16 06 17.2 -1.2**
baz=12
WUSB Renai 2.26 355 *e*P **Pn 16 06 18.0 -0.7**
baz=2.0
VCHM Qimei 2.28 310 *e*P **Pn 16 06 15.7 -3.3**
baz=314
WPL Puli Township 2.29 352 *e*P **Pn 16 06 18.6 -0.4**
baz=340
DPDB Guoxing 2.32 351 *e*P **Pn 16 06 19.7 +0.2**
baz=339
CHGB Renai 2.32 357 *e*P **Pn 16 06 18.5 -1.2**
baz=5.0
WRL Guolierlin Hig 2.33 338 *e*P **Pn 16 06 18.8 -0.8**
baz=339
WCS Beigang Elemen 2.34 351 *e*P **Pn 16 06 20.0 +0.2**
baz=340
TWD Chiawan 2.35 6 *e*P **Pn 16 06 18.9 -1.0**
baz=356
WWF Wufeng 2.37 346 *e*P **Pn 16 06 20.7 +0.6**
baz=336
PHUB P'eng-hu 2.40 318 *e*P **Pn 16 06 18.3 -2.2**
baz=320
WHF Hehuan Shan 2.40 359 *e*P **Pn 16 06 19.6 -1.3**
baz=6.0
NACB Ninganchiao 2.44 6 *e*P **Pn 16 06 19.5 -1.6**
baz=356
NACB Ninganchiao 2.44 6 Pn 16 06 19.5 -1.6
PNG Penghu 2.45 319 *e*P **Pn 16 06 19.2 -2.0**
baz=321
ETLH Xiulin Townshi 2.47 3 *e*P **Pn 16 06 19.9 -1.7**
baz=2.0
TCU Taichung 2.48 346 *e*P **Pn 16 06 21.5 -0.1**
baz=336
FUSS Fushou 2.50 358 *e*P **Pn 16 06 21.1 -1.1**
baz=4.0
TDCB Techi 2.51 357 *e*P **Pn 16 06 22.2 0.0**
baz=344
TWT Tachien 2.51 357 *e*P **Pn 16 06 22.1 -0.2**
baz=343
WHP Taichung City 2.56 352 *e*P **Pn 16 06 23.1 +0.3**
baz=340
TWQ1 Liyutan 2.65 349 *e*P **Pn 16 06 23.6 -0.4**
baz=338
NNSB Datong 2.68 1 *e*P **Pn 16 06 23.6 -1.0**
baz=8.0
ENA Nanau 2.71 8 *e*P **Pn 16 06 24.1 -0.7**
baz=7.0
NSY Sanyi 2.72 349 *e*P **Pn 16 06 25.5 +0.6**
baz=339
EWUT Wuta 2.73 9 *e*P **Pn 16 06 24.3 -0.8**
baz=13
LATG Datong 2.80 4 *e*P **Pn 16 06 24.8 -1.3**
baz=3.0
NMLH Miaoli 2.83 350 *e*P **Pn 16 06 26.2 -0.3**
baz=340
NFF Wufeng Townshi 2.89 356 *e*P **Pn 16 06 27.9 +0.5**
baz=344
ENTT Nioudou 2.90 4 *e*P **Pn 16 06 26.9 -0.6**
baz=3.0
TWC Suao 2.91 10 *e*P **Pn 16 06 27.4 -0.1**
baz=8.0
NDS Dongshan 2.91 7 *e*P **Pn 16 06 28.2 +0.6**
baz=359
YHNB Yeheng 2.92 1 *e*P **Pn 16 06 27.4 -0.4**
baz=7.0
YHNB Yeheng 2.92 1 Pn **Pn 16 06 27.4 -0.4**
NSK Sanguang 2.93 1 *e*P **Pn 16 06 27.6 -0.3**
baz=7.0
TWE Neicheng 2.99 6 *e*P **Pn 16 06 28.9 +0.2**
baz=359
FUSB Fushanzhiwuyua 3.02 5 *e*P **Pn 16 06 28.4 -0.8**
baz=3.0
NWLT Wulai 3.04 3 *e*P **Pn 16 06 29.3 0.0**
baz=10.0
JYNG Yonagunijimaku 3.09 29 P **Pn 16 06 30.3 +0.3**
JYNG S **Sn 16 07 05.9 -0.8**
YOJ Yonaguni jima 3.13 30 P **Pn 16 06 31.0 +0.5**
YOJ *e*S **Sn 16 07 07.8 +0.2**
YOJ Yonaguni jima 3.13 30 P **Pn 16 06 31.1 +0.5**
YOJ Yonaguni jima 3.13 30 Sn 16 06 31.1 +0.5
NTC Toucheng 3.14 8 *e*P **Pn 16 06 31.2 +0.5**
baz=359
TATO Taipei 3.23 3 Pn 16 06 30.9 -1.0
HATJ Hateruma jima 3.26 44 P **Pn 16 06 32.8 +0.5**
HATJ S **Sn 16 07 11.2 +0.5**
TIPB Shuangxi 3.26 8 *e*P **Pn 16 06 32.8 +0.5**
baz=359
IRIF Iriomote-Funau 3.41 40 P **Pn 16 06 34.9 +0.5**
IRIF S **Sn 16 07 16.5 +2.0**
JKRS Kuro-shima 3.52 44 P **Pn 16 06 36.1 +0.2**
JKRS S **Sn 16 07 17.7 +0.6**
SGCP Gonzaga 3.54 169 *e*P **Pn 16 06 38.1 +1.9**
JIJ Ishigaki jima 3.69 44 P **Pn 16 06 38.5 +0.2**
JIJ *e*S **Sn 16 07 21.2 -0.2**
KNMB Chin-men Tao 3.83 316 Pn 16 06 38.4 -1.8
JISG Ishigakijimahi 3.96 44 P **Pn 16 06 42.0 +0.1**
JISG *e*S **Sn 16 07 28.8 +0.8**
QZH Quanzhou 4.06 322 Pn **Pn 16 06 41.8 -1.6**
QZH Sn **Sn 16 07 30.3 -0.3**
QZH LR LR
comp=E,650nm,4.7s
QZH LR LR
comp=Z,690nm,6.6s
JTJ Tarama 4.25 46 P **Pn 16 06 46.5 +0.5**
JTJ *e*S **Sn 16 07 36.3 +1.1**
JIRB Irabujima 4.70 48 P **Pn 16 06 52.1 0.0**
JIRB S **Sn 16 07 46.9 +0.7**
JMJ2 Miyako jima3 4.75 50 P **Pn 16 06 53.2 +0.4**
JMJ2 *e*S **Sn 16 07 49.1 +1.6**
JIKM Ikemajima 4.81 48 P **Pn 16 06 54.5 +0.9**
JIKM S **Sn 16 07 49.9 +0.9**
JOGS Gusukube 4.82 50 P **Pn 16 06 54.5 +0.7**
JOGS S **Sn 16 07 51.2 +2.0**
HKPS Hong Kong Po S 6.68 276 Pn **Pn 16 07 18.5 -0.9**
JKE Kume jima 2 6.77 46 P **Pn 16 07 20.4 -0.2**
JOW Kunigami 8.12 50 Pn **Pn 16 07 38.1 -1.1**
4.4nm,0.3s,baz=135,slow=10,SNR=16
CNSH ChangSha 9.95 312 ⇑P **Pn 16 08 05.8 +1.5**
CNSH S **Sn 16 09 59.3 +3.6**
CNSH smax smax
comp=N,24nm,1.3s
CNSH smax smax
comp=E,31nm,1.1s
NJ2 Nanjing 10.51 348 *e*P **Pn 16 08 12.3 +0.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 LR LR
comp=N,790nm,8.6s
NJ2 LR LR
comp=E,690nm,10.6s
NJ2 LR LR
comp=Z,970nm,11.8s
WHN Wuhan 10.78 326 ⇑P **Pn 16 08 14.3 -1.2**
QIZ Qiongzhong 11.09 258 P **Pn 16 08 20.0 0.0**
QIZ S **Sn 16 10 24.8 +1.1**
QIZ LR LR
comp=N,920nm,12.9s
QIZ LR LR
comp=E,640nm,18.2s
QIZ LR LR
comp=Z,500nm,9.1s
JNU Nakatsue 14.16 35 Pn **Pn 16 09 01.9 0.0**
0.2nm,0.3s,baz=173,slow=16,SNR=3.8
GYA Guiyang 14.18 292 ⇑P **Pn 16 09 02.3 0.0**
GYA S **Sn 16 11 44.5 +5.1**
GYA pmax pmax
comp=Z,13nm,0.9s
GYA LR LR
comp=N,760nm,13.5s
GYA LR LR
comp=E,700nm,14.4s
GYA LR LR
comp=Z,1μm,12.6s
LYN LuoYang 14.96 331 ⇓*i*P **P 16 09 20.8 +2.7**
LYN pmax pmax
comp=Z,20nm,0.7s
XAN Xi'an 16.43 321 P **Pn 16 09 31.8 0.0**
XAN pP P 16 09 35.3 +0.8
XAN S **Sn 16 12 36.5 +2.7**
XAN pmax pmax
comp=Z,17nm,1.0s
XAN LR LR
comp=Z,820nm,9.7s
XAN LR LR
comp=Z,540nm,10.9s
XAN LR LR
comp=Z,600nm,11.4s
HNS HongShan 16.63 341 ⇓P **P 16 09 39.3 +2.6**
HNS S **Sn 16 12 43.5 +4.9**
HNS pmax pmax
comp=Z,25nm,1.1s
HNS LR LR
comp=N,670nm,13.7s
HNS LR LR
comp=E,620nm,14.7s
HNS LR LR
comp=Z,640nm,12.8s
KSAR Wonju Array Be 16.66 19 P **Pn 16 09 34.4 -0.2**
KSAR Wonju Array Be 16.66 19 Pn **Pn 16 09 34.4 -0.2**
KSRS Korea Array 16.68 19 Pn **Pn 16 09 35.8 +0.9**
comp=Z,0.3nm,0.3s,baz=200,slow=13,SNR=13
KS19 Wonju Array Si 16.71 18 Pn **Pn 16 09 35.1 -0.1**
CD2 Chengdu 18.18 304 P **P 16 09 54.5 +0.5**
CD2 S **Sn 16 13 14.3 -2.2**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,140nm,5.1s
CD2 LR LR
comp=Z,710nm,12.2s
CD2 LR LR
comp=Z,600nm,11.2s
PZH PanZhiHua 18.48 289 P **Pn 16 10 00.8 +3.2**
PZH S **Sn 16 13 22.8 -1.2**
PZH pmax pmax
comp=Z,10.0nm,1.8s
PZH pmax pmax
comp=Z,140nm,5.4s
PZH LR LR
comp=Z,460nm,12.4s
PZH LR LR
comp=Z,450nm,12.9s
PZH LR LR
comp=Z,410nm,14.7s
INU Inuyama 19.31 42 P **Pn 16 10 07.5 +0.2**
INU IAmb IAmb 16 10 19.7
comp=Z,28nm,0.9s
HHC Hu-ho-hao-te 20.77 339 *e*P Pn 16 10 23.8 -0.9
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.6s
MAJO Matsushiro 20.82 41 ⇑*e*P Pn 16 10 25.8 +0.6
MAJO pmax pmax
comp=Z,28nm,1.0s
MAT Matsushiro 20.82 41 P Pn 16 10 26.0 +0.8
MJAR Matsushiro Arr 20.82 41 P Pn 16 10 24.5 -0.7
comp=Z,25nm,0.9s,baz=232,slow=10,SNR=31
MJA0 Matsu Arr-Jizo 20.84 41 *e*P Pn 16 10 26.2 +0.7
MJA0 pmax pmax
comp=Z,25nm,0.9s
LZH Lanzhou 20.89 317 *e*P Pn 16 10 26.0 -0.2
LZH pP pwP 16 10 30.5 +2.4
LZH sP sP 16 10 34.5 +5.0
LZH *e*S **S 16 14 13.8 -2.4**
LZH SS **SnSn 16 14 43.3 +6.3**
LZH pmax pmax
comp=Z,30nm,1.2s
LZH LR LR
comp=Z,450nm,11.6s
LZH LR LR
comp=Z,610nm,12.0s
LZH LR LR
comp=Z,590nm,14.1s
GTOI Gorontalo 21.03 175 P **P 16 10 28.3 +3.2**
comp=Z,18nm,1.3s
BTO Baotou 21.12 336 *e*P **P 16 10 28.5 +2.5**
MRSI Marisa 21.14 178 P **P 16 10 31.4 +5.2**
comp=Z,34nm,0.9s
CHTO Chiang Mai 21.19 266 P **P 16 10 27.5 +0.7**
CHTO pmax pmax
comp=Z,15nm,1.4s
CHTO Chiang Mai 21.19 266 P **P 16 10 27.5 +0.7**
CMAR Chiang Mai Arr 21.26 265 P **P 16 10 28.9 +1.3**
comp=Z,3.3nm,0.7s,baz=98,slow=12,SNR=5.2
CMAR PcP **PcP 16 14 32.6 +0.2**
comp=Z,0.5nm,0.7s,baz=27,slow=1.1,SNR=6.1
MPSI Mapaga 21.31 184 P **P 16 10 31.4 +3.3**
comp=Z,2μmcomp=Z,19nm,1.4s
APSI Ampana 22.51 179 P **P 16 10 46.3 +5.3**
comp=Z,40nm,1.1s
XLT XiLinHaoTe 22.53 350 *e*P **P 16 10 39.8 -1.3**
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,170nm,4.3s
XLT LR LR
comp=Z,300nm,13.1s
XLT LR LR
comp=Z,390nm,16.0s
XLT LR LR
comp=Z,380nm,12.6s
JMM Marumori 23.25 42 P **P 16 10 49.1 +0.5**
JMM IAmb IAmb 16 11 08.0
comp=Z,35nm,1.2s
MTKI Muara Teweh, K 23.39 196 P **P 16 10 50.3 +0.2**
comp=Z,4μmcomp=Z,12nm,1.3s
USA0B Ussuriysk Arra 24.09 19 P **P 16 10 57.8 +1.3**
USA0B pmax pmax
comp=Z,7.0nm,0.8s
USA0B Ussuriysk Arra 24.09 19 P **P 16 10 57.8 +1.3**
USRK Ussuriysk Ar. 24.09 19 P **P 16 10 58.0 +1.5**
comp=Z,2.6nm,0.7s,baz=212,slow=12,SNR=6.2
USRK Ussuriysk Ar. 24.09 19 P **P 16 10 57.6 +1.1**
USRK Ussuriysk Ar. 24.09 19 P **P 16 10 57.6 +1.1**
JTM Tenmabayashi 25.31 37 P **P 16 11 05.8 -1.9**
GTA Gaotai 25.45 319 *e*P **P 16 11 09.5 +0.3**
GTA pP pP 16 11 14.0 +0.5
GTA sP sP 16 11 17.3 +2.0
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,6.0s
GTA LR LR
comp=Z,160nm,10.0s
GTA LR LR
comp=Z,250nm,11.2s
GTA LR LR
comp=Z,190nm,12.0s
JEW Eniwo 26.94 34 P **P 16 11 24.2 +1.7**
GOMU GeErMu 27.19 308 P **P 16 11 26.0 +0.7**
GOMU pP pP 16 11 29.5 0.0
GOMU sP sP 16 11 33.8 +2.5
GOMU S **S 16 16 01.0 -2.7**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,120nm,4.3s
GOMU LR LR
comp=Z,330nm,14.2s
GOMU LR LR
comp=Z,160nm,13.2s
GOMU LR LR
comp=Z,99nm,12.4s
ASAJ Asahikawa 28.43 33 P **P 16 11 37.0 +1.2**
comp=Z,13nm,0.7s,baz=212,slow=12,SNR=9.1
ULN Ulaanbaatar 28.49 340 ⇓*e*P **P 16 11 36.6 +0.1**
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 28.49 340 P **P 16 11 35.8 -0.7**
KLR Kul'dur 28.67 14 P **P 16 11 36.7 -1.1**
comp=Z,1.1nm,0.6s,baz=228,slow=9.1,SNR=5.2
KLR Kul'dur 28.67 14 ⇑*e*P **P 16 11 38.4 +0.6**
KLR pmax pmax
comp=Z,11nm,2.2s
SONM Songino Array 28.68 339 P **P 16 11 38.0 -0.1**
comp=Z,2.7nm,0.7s,baz=154,slow=9.1,SNR=16
SONM PcP **PcP 16 14 49.4 +0.8**
comp=Z,0.6nm,0.9s,baz=157,slow=4.7,SNR=2.0
SONM Songino Array 28.68 339 P **P 16 11 37.6 -0.5**
YSS Yuzh-Sakhalins 30.57 29 *e*P P 16 12 07.0 +12
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,400nm,16.0s
ZAK Zakamensk 31.92 338 *e*P **P 16 12 03.1 -3.6**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZEA Zeya 32.27 7 *e*P P 16 12 14.6 +5.0
WMQ Urumqi 35.47 316 *e*P **P 16 12 39.5 +1.8**
DGZ Jazzator, Alta 38.64 325 ⇑*e*P **P 16 13 05.2 +0.6**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 40.20 318 *d i*P **P 16 13 18.6 +1.0**
MK31 Makanchi Array 40.20 318 P **P 16 13 17.9 +0.3**
MKAR Makanchi Array 40.20 318 P **P 16 13 18.4 +0.8**
comp=Z,7.1nm,0.7s,baz=116,slow=10,SNR=73
MKAR PcP **PcP 16 15 21.1 -0.4**
comp=Z,0.4nm,0.5s,baz=85,slow=5.1,SNR=6.6
MKAR ScP **ScP 16 19 10.6 +0.5**
comp=Z,0.3nm,0.7s,baz=91,slow=5.8,SNR=2.7
MKAR Makanchi Array 40.20 318 P **P 16 13 18.0 +0.4**
MAKZ Makanchi 40.41 318 P **P 16 13 20.0 +0.7**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 40.41 318 P **P 16 13 20.0 +0.7**
MAKZ IAmb IAmb 16 13 21.0
comp=Z,8.7nm,0.8s
YAK Yakutsk 40.68 6 ⇓*e*P **P 16 13 20.3 -0.9**
YAK pmax pmax
comp=Z,9.0nm,0.9s
KSH Kashi 42.37 305 P **P 16 13 40.0 +4.4**
KSH sP sP 16 13 47.0 +5.3
KSH pmax pmax
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 42.38 329 P **P 16 13 35.2 -0.1**
ZAA0 IAmb IAmb 16 13 43.9
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 42.38 329 P **P 16 13 35.3 +0.1**
comp=Z,5.0nm,0.7s,baz=121,slow=7.7,SNR=14
ZALV PcP **PcP 16 15 27.7 -0.7**
comp=Z,0.8nm,0.5s,baz=122,slow=5.2,SNR=2.3
ZALV Zalesovo Beam 42.38 329 P **P 16 13 35.0 -0.3**
H11N1 WAKE ISLAND Hy 42.56 84 T T 16 59 15.8
baz=282,slow=74,SNR=5.7
H11N2 WAKE ISLAND Hy 42.56 84 T T 16 59 15.8
baz=282,slow=74,SNR=9.9
H11N3 WAKE ISLAND Hy 42.57 84 T T 16 59 18.0
baz=282,slow=74,SNR=8.1
WB0 Warramunga Arr 43.18 162 P **P 16 13 39.6 -2.6**
WB0 IAmb IAmb 16 13 45.5
comp=Z,22nm,1.4s
WRAB Tennant Creek 43.33 162 ⇓*e*P **P 16 13 40.8 -2.5**
WRAB Tennant Creek 43.33 162 P **P 16 13 40.8 -2.5**
WRAB IAmb IAmb 16 13 46.8
comp=Z,27nm,1.5s
WRA Warramunga Arr 43.33 162 P **P 16 13 41.0 -2.4**
comp=Z,2.6nm,0.7s,baz=343,slow=8.9,SNR=20
WRA PcP **PcP 16 15 29.2 -2.9**
comp=Z,0.7nm,0.9s,baz=358,slow=3.8,SNR=2.6
WRA Warramunga Arr 43.33 162 P **P 16 13 40.8 -2.5**
WB2 Warramunga Arr 43.34 162 P **P 16 13 40.9 -2.5**
WR0 Warramunga Arr 43.41 162 P **P 16 13 41.5 -2.5**
WR0 IAmb IAmb 16 13 47.9
comp=Z,6.2nm,0.7s
KURK Kurchatov 44.06 322 ⇑*e*P **P 16 13 49.4 +0.5**
KURK pmax pmax
comp=Z,19nm,2.5s
KURK Kurchatov 44.06 322 P **P 16 13 48.9 -0.1**
KURK IAmb IAmb 16 13 50.4
comp=Z,8.8nm,0.8s
AAK Ala-Archa 44.12 309 LR LR 16 35 08.4
comp=Z,135nm,19.4s,baz=98,slow=40
AAK Ala-Archa 44.12 309 ⇓*e*P **P 16 13 51.2 +1.5**
AAK pmax pmax
comp=Z,7.0nm,2.5s
ASAR Alice Springs 46.76 164 P **P 16 14 09.2 -1.4**
comp=Z,1.9nm,0.8s,baz=344,slow=7.2,SNR=14
ASAR ScP **ScP 16 19 35.0 -1.9**
comp=Z,0.6nm,0.9s,baz=0.7,slow=3.7,SNR=5.0
ASAR Alice Springs 46.76 164 P **P 16 14 09.0 -1.6**
ASAR Alice Springs 46.76 164 P **P 16 14 09.0 -1.6**
KKAR Karatay Array 47.08 309 P **P 16 14 13.3 +0.3**
KKAR Karatay Array 47.08 309 P **P 16 14 13.3 +0.3**
KBL Kabul 47.36 297 P **P 16 14 16.1 +0.5**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 47.36 297 P **P 16 14 16.1 +0.5**
KBL IAmb IAmb 16 14 18.3
comp=Z,15nm,0.8s
CHGR Chuyangaron 47.50 303 P **P 16 14 17.0 +0.5**
CHGR pmax pmax
comp=Z,15nm,0.9s
CHGR Chuyangaron 47.50 303 P **P 16 14 17.0 +0.5**
CHGR IAmb IAmb 16 14 18.2
comp=Z,15nm,0.9s
BRVK Borovoye 49.73 322 ⇓*i*P **P 16 14 34.2 +1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 49.73 322 P **P 16 14 33.5 +0.2**
TIXI Tiksi 50.12 3 ⇑*e*P **P 16 14 34.6 -1.3**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
NRIK Noril'sk 51.79 345 P **P 16 14 47.8 -0.7**
comp=Z,6.9nm,0.9s,baz=129,slow=8.0,SNR=12
NRIK Noril'sk 51.79 345 *de*P **P 16 14 48.2 -0.3**
NRIK pmax pmax
comp=Z,19nm,1.5s
NRIK Noril'sk 51.79 345 P **P 16 14 48.2 -0.3**
NRIK IAmb IAmb 16 14 57.1
comp=Z,15nm,1.2s
ABKAR Akbulak array 55.25 316 P **P 16 15 15.0 +0.7**
SVE Sverdlovsk 56.10 325 *e*P **P 16 15 20.6 +0.4**
SVE pmax pmax
comp=Z,9.0nm,0.8s
GEYT Alibeck 56.16 302 P **P 16 15 21.5 +0.4**
comp=Z,5.5nm,0.8s,baz=183,slow=7.4,SNR=7.3
GEYT LR LR 16 43 01.3
comp=Z,127nm,18.8s,baz=46,slow=40
STKA Stephens Creek 56.73 159 P **P 16 15 23.9 -1.0**
comp=Z,2.1nm,0.7s,baz=317,slow=6.0,SNR=5.6
STKA Stephens Creek 56.73 159 *e*P **P 16 15 24.3 -0.6**
STKA pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 57.14 324 *c i*P **P 16 15 27.6 0.0**
ARU S **S 16 23 26.2 +4.1**
ARU SS **SS 16 27 14.9 +4.1**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 57.14 324 P **P 16 15 27.6 0.0**
ARU IAmb IAmb 16 15 28.4
comp=Z,9.5nm,0.6s
KIRV Kirov 62.30 326 *de*P **P 16 16 03.1 +0.1**
SOCY Socotra 64.69 274 P **P 16 16 18.7 -1.0**
SOCY IAmb IAmb 16 16 21.3
comp=Z,4.7nm,0.8s
VRH Novokhopyorsk 66.94 318 *e*P **P 16 16 32.6 -0.9**
VRH pmax pmax
comp=Z,9.0nm,0.5s
KBZ Khabaz 67.12 310 P **P 16 16 33.5 -1.3**
comp=Z,1.7nm,0.8s,baz=102,slow=5.2,SNR=4.8
KBZ Khabaz 67.12 310 ⇓*e*P **P 16 16 34.7 -0.1**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 67.23 310 *e*P **P 16 16 36.4 +0.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s

KLMR	**Klimovskoe**	**67.30**	**328**	*e*P	**P**	**16 16 34.1**	**-1.5**
KLMR				pmax	pmax		
comp=Z,16nm,1.2s							
KLMR	**Klimovskoe**	**67.30**	**328**	*e*P	**P**	**16 16 34.1**	**-1.5**
KLMR				AMP		16 16 43.1	
comp=Z,16nm,1.2s							
TTA	**Tatalina**	**67.57**	**29**	P	**P**	**16 16 37.1**	**-0.3**
TTA				pmax	pmax		
comp=Z,9.0nm,1.4s							
TTA	**Tatalina**	**67.57**	**29**	P	**P**	**16 16 37.1**	**-0.3**
TTA				IAmb	IAmb	16 16 39.6	
comp=Z,8.9nm,1.4s							
J20K	**Nowinta River**	**68.30**	**28**	P	**P**	**16 16 41.7**	**-0.2**
J20K				IAmb	IAmb	16 16 51.1	
comp=Z,5.4nm,1.1s							
IMAR	**Indian Mountai**	**68.31**	**26**	P	**P**	**16 16 41.4**	**-0.5**
K20K	**Telida**	**68.41**	**29**	P	**P**	**16 16 43.0**	**+0.3**
K20K				IAmb	IAmb	16 16 50.2	
comp=Z,4.0nm,1.0s							
LPSR	**Galich'ya Gora**	**68.48**	**319**	*e*P	**P**	**16 16 41.9**	**-1.3**
LPSR				pmax	pmax		
comp=Z,10.0nm,1.0s							
H21K	**Melozitna Rive**	**68.73**	**26**	P	**P**	**16 16 44.6**	**0.0**
CAST	**Castle Rocks**	**69.29**	**29**	P	**P**	**16 16 47.7**	**-0.4**
CAST				IAmb	IAmb	16 17 07.8	
comp=Z,9.0nm,1.3s							
PPLA	**Purkeypile**	**69.31**	**29**	P	**P**	**16 16 47.8**	**-0.6**
OBN	**Obninsk**	**69.50**	**322⇓**	*e*P	**P**	**16 16 49.2**	**-0.3**
OBN				*e*		16 17 12.0	
OBN				*e*		16 19 25.7	
OBN				pmax	pmax		
comp=Z,5.0nm,0.8s							
OBN				MLR	MLR		
comp=Z,89nm,14.0s							
COLD	**Coldfoot**	**69.59**	**25**	P	**P**	**16 16 50.4**	**+0.5**
TOLK	**Toolik Lake Re**	**69.64**	**23**	P	**P**	**16 16 50.1**	**-0.1**
TOLK				IAmb	IAmb	16 16 58.8	
comp=Z,8.2nm,1.3s							
CUT	**Chulitna**	**70.26**	**30**	P	**P**	**16 16 53.7**	**-0.3**
MCK	**McKinley**	**70.64**	**28**	P	**P**	**16 16 55.8**	**-0.6**
MCK				pmax	pmax		
comp=Z,10.0nm,1.3s							
MCK	**McKinley**	**70.64**	**28**	P	**P**	**16 16 55.8**	**-0.6**
MCK				IAmb	IAmb	16 17 08.3	
comp=Z,10.0nm,1.3s							
H24K	**Noodor Dome**	**70.72**	**26**	P	**P**	**16 16 56.3**	**-0.6**
H24K				IAmb	IAmb	16 17 08.8	
comp=Z,15nm,1.5s							
MDM	**Murphy Dome**	**70.73**	**27**	P	**P**	**16 16 56.8**	**-0.2**
MDM				IAmb	IAmb	16 17 07.2	
comp=Z,16nm,1.4s							
RND	**Reindeer**	**70.73**	**28**	P	**P**	**16 16 55.9**	**-1.1**
RND				pmax	pmax		
comp=Z,14nm,1.3s							
RND	**Reindeer**	**70.73**	**28**	P	**P**	**16 16 55.9**	**-1.1**
RND				IAmb	IAmb	16 17 04.0	
comp=Z,14nm,1.3s							
ILAR	**Eielson Array**	**71.33**	**27**	P	**P**	**16 16 58.4**	**-2.1**
comp=Z,0.7nm,0.8s,baz=270,slow=5.3,SNR=7.4							
BMAR	**Burnt Mountain**	**71.70**	**24**	P	**P**	**16 17 02.9**	**+0.1**
SCM	**Sheep Creek Mo**	**71.72**	**30**	P	**P**	**16 17 02.3**	**-0.8**
SCM				pmax	pmax		
comp=Z,23nm,1.2s							
SCM	**Sheep Creek Mo**	**71.72**	**30**	P	**P**	**16 17 02.3**	**-0.8**
PRP	**Porcupine Dome**	**71.74**	**26**	P	**P**	**16 17 02.8**	**-0.4**
PRP				IAmb	IAmb	16 17 09.7	
comp=Z,6.9nm,1.4s							
SPB2	**Spitsbergen Ar**	**71.89**	**348**	P	**P**	**16 17 03.7**	**-0.1**
SPITS	**Spitsbergen Ar**	**71.89**	**348**	P	**P**	**16 17 03.1**	**-0.7**
SPITS				pmax	pmax		
comp=Z,81nm,1.4s							
M24K	**Tolsona, Glenn**	**72.20**	**30**	P	**P**	**16 17 05.8**	**-0.1**
BMRM	**Bremner River**	**73.19**	**31**	P	**P**	**16 17 12.0**	**+0.2**
FIA1	**FINESS Array S**	**73.62**	**330**	P	**P**	**16 17 14.4**	**+0.2**
FIA1				IAmb	IAmb	16 17 14.9	
comp=Z,21nm,1.1s							
FINES	**FINESS Array B**	**73.62**	**330**	P	**P**	**16 17 13.3**	**-0.8**
comp=Z,5.1nm,0.8s,baz=48,slow=5.1,SNR=14							
FINES	**FINESS Array B**	**73.62**	**330**	P	**P**	**16 17 14.2**	**0.0**
FINES	**FINESS Array B**	**73.62**	**330**	P	**P**	**16 17 14.2**	**0.0**
L27K	**Beaver Creek,**	**73.91**	**28**	P	**P**	**16 17 16.3**	**+0.4**
L27K				IAmb	IAmb	16 17 40.0	
comp=Z,9.7nm,1.4s							
BCAR	**Beaver Creek A**	**73.92**	**28**	P	**P**	**16 17 16.4**	**+0.4**
BRTR	**Keskin Array B**	**74.73**	**307**	P	**P**	**16 17 21.3**	**0.0**
comp=Z,1.1nm,0.7s,baz=92,slow=3.8,SNR=3.6							
BRTR	**Keskin Array B**	**74.73**	**307**	P	**P**	**16 17 21.5**	**+0.1**
BRTR	**Keskin Array B**	**74.73**	**307**	P	**P**	**16 17 21.5**	**+0.1**
AKASG	**Malin Array Be**	**74.78**	**319**	P	**P**	**16 17 20.7**	**-0.5**
comp=Z,3.0nm,0.7s,baz=61,slow=6.0,SNR=6.7							
AKASG	**Malin Array Be**	**74.78**	**319**	P	**P**	**16 17 20.7**	**-0.5**
AKASG				pmax	pmax		
comp=Z,6.0nm,1.4s							
IDID	**Didziasalis**	**74.95**	**324**	*e*P	**P**	**16 17 21.9**	**-0.2**
NACGM	**Naroch**	**75.05**	**323**	*i* P	**P**	**16 17 21.9**	**-0.8**
IIGN	**Ignalina**	**75.23**	**324**	*e*P	**P**	**16 17 23.5**	**-0.2**
INK	**Inuvik**	**75.44**	**22**	P	**P**	**16 17 23.4**	**-1.2**
comp=Z,1.6nm,0.6s,baz=282,slow=7.5,SNR=5.5							
INK	**Inuvik**	**75.44**	**22**	P	**P**	**16 17 23.5**	**-1.2**
INK				pmax	pmax		
comp=Z,7.0nm,1.5s							
PABE	**Paberze**	**76.40**	**325**	*e*P	**P**	**16 17 30.2**	**-0.2**
PABE	**Paberze**	**76.40**	**325**	P	**P**	**16 17 30.5**	**+0.1**
SUW	**Suwalki**	**77.32**	**323**	*e*P	**P**	**16 17 35.5**	**-0.2**
SUW	**Suwalki**	**77.32**	**323**	P	**P**	**16 17 35.4**	**-0.2**
SUW				pmax	pmax		
comp=Z,27nm,0.8s							
SUW	**Suwalki**	**77.32**	**323**	*e*P	**P**	**16 17 35.3**	**-0.3**
SUW	**Suwalki**	**77.32**	**323**	P	**P**	**16 17 35.4**	**-0.3**
EUNU	**Eureka**	**77.32**	**5**	P	**P**	**16 17 34.7**	**-0.6**
EUNU				IAmb	IAmb	16 17 52.7	
comp=Z,5.3nm,0.9s							
UPP	**Uppsala**	**78.07**	**330**	*e*P	**P**	**16 17 39.4**	**-0.2**
ELL	**Elmali**	**78.41**	**305**	P	**P**	**16 17 42.3**	**+0.1**
ELL				pmax	pmax		
comp=Z,16nm,0.8s							
ELL	**Elmali**	**78.41**	**305**	P	**P**	**16 17 42.3**	**+0.1**
HFS	**Hagfors**	**79.76**	**331**	LR	LR	16 58 35.0	
comp=Z,196nm,18.1s,baz=50,slow=40							
NB2	**NORSAR Subarra**	**80.44**	**332**	P	**P**	**16 17 51.8**	**-0.9**
comp=Z,0.6nm,0.5s,baz=58,slow=5.9							
NOA	**NORSAR Array B**	**80.44**	**332**	P	**P**	**16 17 51.9**	**-0.9**
comp=Z,2.1nm,0.8s,baz=63,slow=5.4,SNR=5.2							
NOA				LR	LR	16 59 33.6	
comp=Z,65nm,18.4s,baz=25,slow=40							
NOA	**NORSAR Array B**	**80.44**	**332**	*e*P	**P**	**16 17 52.4**	**-0.3**
NOA				pmax	pmax		
comp=Z,2.0nm,0.8s							
OJC	**Ojcow**	**80.63**	**320**	*e*P	**P**	**16 17 54.0**	**+0.1**
OJC	**Ojcow**	**80.63**	**320**	P	**P**	**16 17 53.6**	**-0.3**
OJC				pmax	pmax		
comp=Z,13nm,0.9s							
OJC	**Ojcow**	**80.63**	**320**	P	**P**	**16 17 53.6**	**-0.3**
OJC				IAmb	IAmb	16 17 55.0	
comp=Z,12nm,0.9s							
CLL	**Collm**	**84.08**	**323**	*e*P	**P**	**16 18 12.0**	**+0.2**
CLL	**Collm**	**84.08**	**323**	*e*P	**P**	**16 18 12.0**	**+0.2**
CKRC	**Cesky Krumlov**	**84.46**	**321**	*e*P	**P**	**16 18 14.4**	**+0.5**
KHC	**Kasperske Hory**	**84.75**	**321**	*e*P	**P**	**16 18 15.8**	**+0.4**
KHC	**Kasperske Hory**	**84.75**	**321**	*e*P	**P**	**16 18 15.8**	**+0.4**
GERES	**GERESS Array B**	**84.81**	**321**	P	**P**	**16 18 15.3**	**-0.4**
comp=Z,1.7nm,0.7s,baz=70,slow=5.8,SNR=12							
GERES	**GERESS Array B**	**84.81**	**321**	*e*P	**P**	**16 18 15.9**	**+0.1**
GERES				pmax	pmax		
comp=Z,2.0nm,0.7s							
SUMG	**Summit**	**84.94**	**354**	P	**P**	**16 18 15.5**	**-0.8**
SUMG				pmax	pmax		
comp=Z,9.0nm,0.9s							
SUMG	**Summit**	**84.94**	**354**	*i* P	**P**	**16 18 15.0**	**-1.3**
SUMG	**Summit**	**84.94**	**354**	P	**P**	**16 18 15.5**	**-0.8**
SUMG				IAmb	IAmb	16 18 23.2	
comp=Z,9.3nm,0.9s							
YKA	**Yellowknife Ar**	**85.17**	**23**	P	**P**	**16 18 16.2**	**-1.0**
comp=Z,1.2nm,0.7s,baz=316,slow=4.6,SNR=30							
YKA	**Yellowknife Ar**	**85.17**	**23**	*e*P	**P**	**16 18 16.0**	**-1.1**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
DBIC	**Dimbokro**	**120.18**	**292**	PKP	**PKPdf**	**16 24 30.1**	**-2.9**
comp=Z,1.5nm,0.6s,baz=27,slow=3.3,SNR=3.5							

*IDC **26** 16:06:12.9±1.9, 17°.59S×172°.82E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/32, mbtmp3.7/4, ML4.6/1, MS3.7/17, Ms1 3.7/17, ms1mx3.4/61, Error ellipse: s-maj=94.3km s-min=28.4km az=170.0*

*NEIC **26** 16:06:14.8±0.8, 17°.9S±0°.2×172°.95E±0°.09, h10km±2km, mb4.6/8, Error ellipse: s-maj=29.0km s-min=14.6km az=349.0*

ISC 26 16:06:17.4±1.0, 17°.9S±0°.2×172°.9E±0°.1, h35km, n26, σ1°.06/12, mb4.3/6, MS3.8/12, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.94**	**89**	Pn	**Pn**	**16 07 29.4**	**+0.2**
0.9nm,0.3s,baz=270,slow=20,SNR=13							
MSVF				LR	LR	16 08 41.4	
comp=Z,88nm,19.5s,baz=229,slow=30							
DZM	**Mont Dzumac**	**7.33**	**234**	Pn	**Pn**	**16 08 02.8**	**+0.7**
0.2nm,0.3s,baz=108,slow=20,SNR=1.6							
DZM				LR	LR	16 10 26.1	
comp=Z,390nm,18.5s,baz=74,slow=34							
RAO	**Raoul Island**	**14.10**	**145**	LR	LR	16 13 46.5	
comp=Z,399nm,18.3s,baz=304,slow=32							
HNR	**Honiara**	**15.11**	**302**	LR	LR	16 14 40.2	
comp=Z,160nm,18.2s,baz=194,slow=34							
HNR	**Honiara**	**15.11**	**302**	Pn	**Pn**	**16 09 49.3**	**+1.0**
HNR				IAmb	IAmb	16 09 51.6	
comp=Z,50nm,1.2s							
AFI	**Afiamalu**	**15.29**	**77**	LR	LR	16 14 38.1	
comp=Z,233nm,18.8s,baz=228,slow=33							
URZ	**Urewera**	**20.62**	**170**	LR	LR	16 16 56.6	
comp=Z,381nm,19.9s,baz=22,slow=31							
CTA	**Charters Tower**	**25.25**	**261**	LR	LR	16 20 19.1	
comp=Z,136nm,19.3s,baz=88,slow=34							
MQZ	**McQueen's Vall**	**25.73**	**180**	P	**P**	**16 11 45.1**	**+0.7**
PPT	**Papeete**	**35.73**	**95**	LR	LR	16 25 00.3	
comp=Z,42nm,18.2s,baz=255,slow=32							
WB2	**Warramunga Arr**	**36.45**	**261**	P	**P**	**16 13 19.7**	**+0.5**
WB2				IAmb	IAmb	16 13 47.4	
comp=Z,5.8nm,0.7s							
WRA	**Warramunga Arr**	**36.46**	**260**	P	**P**	**16 13 20.0**	**+0.7**
comp=Z,0.7nm,0.9s,baz=91,slow=8.2,SNR=5.6							
WRA				LR	LR	16 26 22.7	
comp=Z,86nm,21.8s,baz=96,slow=33							
WRA	**Warramunga Arr**	**36.46**	**260**	IAmb	IAmb	16 13 46.9	
comp=Z,0.9nm,1.4s							
AS31	**Alice Springs**	**36.80**	**254**	P	**P**	**16 13 22.8**	**+0.6**
AS31				IAmb	IAmb	16 13 28.9	
comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**36.80**	**254**	P	**P**	**16 13 23.1**	**+0.9**
comp=Z,1.6nm,0.8s,baz=82,slow=8.9,SNR=12							
ASAR				LR	LR	16 27 40.8	
comp=Z,160nm,20.1s,baz=101,slow=35							
MTN	**Manton Dam**	**40.50**	**271**	P	**P**	**16 13 53.3**	**0.0**
KNRA	**Kununurra**	**42.22**	**266**	P	**P**	**16 14 06.1**	**-1.3**
KNRA				IAmb	IAmb	16 14 19.6	
comp=Z,26nm,1.3s							
FORT	**Forrest**	**42.53**	**244**	P	**P**	**16 14 07.6**	**-2.2**
FORT				IAmb	IAmb	16 14 24.6	
comp=Z,10nm,0.9s							
VNDA	**Vanda**	**59.90**	**183**	LR	LR	16 38 20.2	
comp=Z,141nm,18.5s,baz=350,slow=32							
JOW	**Kunigami**	**62.05**	**315**	LR	LR	16 40 27.5	
comp=Z,36nm,21.4s,baz=107,slow=33							
PETK	**Petropavlovsk-**	**71.92**	**350**	LR	LR	16 45 34.2	
comp=Z,55nm,18.6s,baz=114,slow=33							
KLR	**Kul'dur**	**76.14**	**334**	LR	LR	16 50 10.4	
comp=Z,37nm,18.4s,baz=126,slow=35							
SEY	**Seymchan**	**82.16**	**351**	LR	LR	16 48 41.9	
comp=Z,96nm,22.0s,baz=244,slow=31							
YAK	**Yakutsk**	**86.68**	**341**	LR	LR	16 51 39.0	
comp=Z,60nm,20.7s,baz=78,slow=32							
TIXI	**Tiksi**	**94.17**	**347**	LR	LR	17 04 18.5	
comp=Z,32nm,18.3s,baz=345,slow=37							
GERES	**GERESS Array B**	**144.81**	**336**	PKP	**PKPdf**	**16 25 50.5**	**-0.3**
comp=Z,0.8nm,0.9s,baz=59,slow=2.5,SNR=4.7							

NNC 26 16:07:40.6±2.5, 36°.44N×70°.99E, h93km±48km, mb3.1, mpv3.5, 2C-5D, Error ellipse: s-maj=21.6km s-min=18.0km az=133.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK08	**Karatay Array**	**6.67**	**357**	⇑P	Pn	16 09 16.2	+0.3
2.8nm,0.3s,baz=175,slow=13							
KK08				⇓S	Sn	16 10 30.9	+0.5
2.6nm,0.4s,baz=189,slow=24							
AAK	**Ala-Archa**	**6.76**	**23**	⇓P	Pn	16 09 17.4	+0.1
1.2nm,0.4s							
AAK				S	Sn	16 10 32.9	+0.1
1.1nm,0.5s							
TKM2	**Tokmak 2**	**7.39**	**27**	⇓P	Pn	16 09 25.5	-0.3
1.2nm,0.6s							
TKM2				⇓S	Sn	16 10 49.7	+1.5
0.3nm,0.5s							
AB31	**Akbulak array**	**15.13**	**331**	⇓P	Pn	16 11 08.0	-1.2
0.4nm,0.3s,baz=163,slow=11,SNR=46							
AKTO	**Aktyubinsk**	**16.83**	**330**	⇑P	P	16 11 31.2	+0.2
0.9nm,0.6s							

PRU 26 16:26:55.2±0.0, 50°.23N×18°.71E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.54**	**223**	*e*PG	Pg	16 27 05.8	+0.4
OKC				*e*SG	Sg	16 27 12.0	-0.3
comp=Z,10nm,0.4s							
OJC	**Ojcow**	**0.70**	**90**	*e*Pg	Pg	16 27 07.1	-1.5
OJC				*e*Sg	Sg	16 27 16.9	-0.8
MORC	**Moravsky Berou**	**0.88**	**239**	*e*PG	Pg	16 27 12.0	0.0
MORC				*e*SG	Sg	16 27 24.5	+1.1
LANS	**Liptovska Anna**	**1.19**	**155**	*e*PG	Pg	16 27 17.3	-0.6
LANS				*e*SG	Sg	16 27 33.3	0.0
LANS				*e*LG	Lg	16 27 34.1	
KRLC	**Kraliky**	**1.25**	**264**	*e*PG	Pg	16 27 18.2	-0.9
KRLC				*e*SG	Sg	16 27 35.5	+0.2
comp=Z,6.0nm,0.4s							
NIE	**Niedzica**	**1.31**	**128**	*e*Pg	Pb	16 27 20.7	0.0
NIE				*e*Sg	Sb	16 27 38.2	+0.1
JAVC	**Velka Javorina**	**1.53**	**207**	*e*PN	Pn	16 27 23.6	-0.2
DPC	**Dobruska-Polom**	**1.54**	**275**	*e*PG	Pn	16 27 22.9	-1.0
DPC				*e*SG	Sn	16 27 44.9	+0.3
comp=Z,7.1nm,0.6s							
OSTC	**Ostas**	**1.63**	**283**	*e*PG	Pn	16 27 25.2	0.0
OSTC				*e*SG	Sg	16 27 47.4	-0.1
VRAC	**Vranov**	**1.65**	**237**	*e*PN	Pn	16 27 25.4	-0.1
VRAC				*e*SG	Sb	16 27 47.8	-0.1
KSP	**Ksiaz**	**1.66**	**293**	*e*Pg	Pb	16 27 26.5	-0.2
KSP				*e*Sg	Sg	16 27 48.7	+0.2
CHVC	**Chvalec**	**1.74**	**283**	*e*PG	Pn	16 27 26.9	+0.3
CHVC				*e*SG	Sb	16 27 50.0	-0.3
VYHS	**Vyhne**	**1.74**	**177**	*e*SN	Sn	16 27 48.5	-1.0
KRUC	**Moravsky**	**1.91**	**233**	*e*PN	Pn	16 27 28.5	-0.4
KRUC				*e*SG	Sb	16 27 55.0	-0.1
CKRC	**Cesky Krumlov**	**3.19**	**245**	*e*SG	Sg	16 28 36.5	-1.3
KHC	**Kasperske Hory**	**3.51**	**254**	*e*PG	Pb	16 28 00.0	+1.8
KHC				*e*SG	Sg	16 28 47.0	-0.9
KHC	**Kasperske Hory**	**3.51**	**254**	*e*	Sg	16 28 47.0	-0.9

*NOU **26** 16:34:23.6, 34°.17S×178°.11W, h22km, mb4.8/39, South of Kermadec Islands*

*IDC **26** 16:34:24.5±0.8, 33°.77S×178°.93W, h0km, mb4.5/7, mb1 4.7/10, mb1mx4.2/31, mbtmp4.6/10, ML5.4/3, MS3.7/9, Ms1 3.7/9, ms1mx3.2/60, Error ellipse: s-maj=24.7km s-min=19.5km az=111.0*

*NEIC **26** 16:34:26.1±2.4, 33°.82S±0°.06×178°.8W±0°.1, h10km±1km, mb4.8/23, Error ellipse: s-maj=21.2km s-min=5.6km az=113.0*

*WEL **26** 16:34:30.1±0.8, 34°.S±12°×17°.9W±1°.3, h223km±26km, M4.6/20, mB5.1/18, ML5.1/19, MLv5.0/20, Mw(mB)4.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=129.0*

ISC 26 16:34:28.0±0.5, 33°.99S±0°.05×178°.54W±0°.08, h37km, n196, σ2°.16/211, mb4.7/18, MS3.8/7, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.39**	**215**		**Pn**	**16 35 31.7**	**-0.4**
RAO	**Raoul Island**	**4.75**	**7**	Pn	**Pn**	**16 35 34.3**	**-2.7**
133nm,0.3s,baz=253,slow=22,SNR=2.7							
RAO				Sn	**Sn**	**16 36 25.8**	**-5.0**
58nm,0.3s,baz=215,slow=22,SNR=1.1							
RAO	**Raoul Island**	**4.75**	**7**		**Pn**	**16 35 34.6**	**-2.4**
RAO	**Raoul Island**	**4.75**	**7**	P	**Pn**	**16 35 35.3**	**-1.7**
RUGZ	**Raukumara Rang**	**5.02**	**217**	P	**Pn**	**16 35 40.2**	**-0.6**
RUGZ				S	**Sn**	**16 36 37.7**	**+0.1**
TWGZ	**Tauwhareparae**	**5.04**	**213**	P	**Pn**	**16 35 40.4**	**-0.6**
TWGZ				S	**Sn**	**16 36 38.5**	**+0.4**
TKGZ	**Te Karaka**	**5.32**	**212**	P	**Pn**	**16 35 44.3**	**-0.4**
TKGZ				S	**Sn**	**16 36 44.0**	**-0.7**
MWZ	**Matawai**	**5.38**	**215**	P	**Pn**	**16 35 44.3**	**-1.3**
MWZ				S	**Sn**	**16 36 45.6**	**-0.7**
KUZ	**Kuaotunu**	**5.44**	**238**	P	**Pn**	**16 35 45.0**	**-1.4**
URZ	**Urewera**	**5.53**	**218**	Pn	**Pn**	**16 35 46.4**	**-1.3**
57nm,0.3s,baz=276,slow=3.4,SNR=282							
URZ				Sn	**Sn**	**16 36 47.2**	**-2.7**
56nm,0.3s,baz=155,slow=22,SNR=10							
URZ	**Urewera**	**5.53**	**218**	P	**Pn**	**16 35 46.2**	**-1.5**
URZ				S	**Sn**	**16 36 48.1**	**-1.8**
URZ	**Urewera**	**5.53**	**218**	P	**Pn**	**16 35 48.3**	**+0.6**
RAGZ	**Rawiri**	**5.56**	**215**	P	**Pn**	**16 35 46.8**	**-1.4**
RAGZ				S	**Sn**	**16 36 49.5**	**-1.4**
MARZ	**Manawahe**	**5.57**	**223**	P	**Pn**	**16 35 48.5**	**+0.3**
MARZ				S	**Sn**	**16 36 52.1**	**+1.2**
RIGZ	**Rimuhau**	**5.58**	**211**	P	**Pn**	**16 35 47.2**	**-1.2**
RIGZ				S	**Sn**	**16 36 51.3**	**+0.1**
PRGZ	**Paritu Road**	**5.71**	**209**	P	**Pn**	**16 35 49.0**	**-1.2**
PRGZ				S	**Sn**	**16 36 52.0**	**-2.5**
OMRZ	**Omania**	**5.82**	**224**	P	**Pn**	**16 35 52.9**	**+1.2**
SNGZ	**Shannon Statio**	**5.83**	**214**	P	**Pn**	**16 35 50.6**	**-1.2**
SNGZ				S	**Sn**	**16 36 56.8**	**-0.5**
TARZ	**Mount Tarawera**	**5.84**	**222**	P	**Pn**	**16 35 52.9**	**+0.9**
KARZ	**Kaharoa**	**5.84**	**225**	P	**Pn**	**16 35 52.0**	**+0.1**
RTZ	**Ruatahuna**	**5.87**	**217**	P	**Pn**	**16 35 51.0**	**-1.4**
RTZ				S	**Sn**	**16 36 56.6**	**-1.8**
MUGZ	**Murupara**	**5.87**	**219**	P	**Pn**	**16 35 51.3**	**-1.1**
MUGZ				S	**Sn**	**16 36 56.3**	**-2.1**
KNZ	**Kokohu**	**5.88**	**210**	P	**Pn**	**16 35 50.6**	**-1.8**
KNZ				S	**Sn**	**16 36 54.9**	**-3.6**
MHGZ	**Mahia Peninsul**	**5.90**	**208**	P	**Pn**	**16 35 52.0**	**-0.7**
MHGZ				S	**Sn**	**16 36 56.9**	**-2.1**
RRRZ	**Republican Roa**	**5.91**	**221**	P	**Pn**	**16 35 53.3**	**+0.4**
HLRZ	**Highlands Stat**	**5.93**	**223**	P	**Pn**	**16 35 54.0**	**+0.8**
UTU	**Utuhina**	**5.97**	**224**	P	**Pn**	**16 35 56.6**	**+2.9**
HSRZ	**Hossack Road**	**6.04**	**223**	P	**Pn**	**16 35 56.6**	**+2.0**
RAHZ	**Arahi**	**6.05**	**214**	P	**Pn**	**16 35 55.6**	**+0.7**
HRRZ	**Handcock Road**	**6.07**	**222**	P	**Pn**	**16 35 52.0**	**-3.1**
PRRZ	**Plateau Road**	**6.09**	**221**	P	**Pn**	**16 35 55.4**	**+0.1**
MTHZ	**Maungataniwha**	**6.12**	**216**	P	**Pn**	**16 35 55.3**	**-0.5**
MTHZ				S	**Sn**	**16 37 03.3**	**-1.3**
GRRZ	**Galatos Road**	**6.14**	**223**	P	**Pn**	**16 35 57.5**	**+1.4**
ALRZ	**Allen Road**	**6.16**	**221**	P	**Pn**	**16 35 56.2**	**-0.2**
ALRZ				S	**Sn**	**16 37 04.3**	**-1.2**
WPRZ	**Whakapapatarin**	**6.23**	**222**	P	**Pn**	**16 35 58.0**	**+0.7**
MRHZ	**Matea Rd**	**6.32**	**219**	P	**Pn**	**16 35 57.3**	**-1.3**
NMHZ	**Naumai**	**6.33**	**215**	P	**Pn**	**16 35 58.8**	**+0.1**
NMHZ				S	**Sn**	**16 37 08.1**	**-1.7**
ARHZ	**Aropaoanui**	**6.37**	**213**	P	**Pn**	**16 35 57.5**	**-1.8**
ARHZ				S	**Sn**	**16 37 09.1**	**-1.6**
KUTZ	**Kaahu Road**	**6.40**	**224**	P	**Pn**	**16 36 00.0**	**+0.4**
WHTZ	**Whakaora**	**6.45**	**222**	P	**Pn**	**16 36 00.8**	**+0.5**
TLZ	**Tolley Road**	**6.46**	**226**	P	**Pn**	**16 36 01.1**	**+0.6**
HATZ	**Hinemaiaia**	**6.53**	**220**	P	**Pn**	**16 36 00.9**	**-0.6**
BKZ	**Black Stump Fm**	**6.53**	**216**	P	**Pn**	**16 35 59.3**	**-2.2**
BKZ				S	**Sn**	**16 37 12.5**	**-2.3**
BKZ	**Black Stump Fm**	**6.53**	**216**		**Pn**	**16 35 59.3**	**-2.2**
BKZ	**Black Stump Fm**	**6.53**	**216**	P	**Pn**	**16 36 01.0**	**-0.5**
WATZ	**Wairara**	**6.60**	**223**	P	**Pn**	**16 36 02.4**	**-0.1**
OUZ	**Omahuta**	**6.60**	**257**	P	**Pn**	**16 36 03.6**	**+1.2**
MCHZ	**McNeill Hill**	**6.66**	**214**	P	**Pn**	**16 36 01.9**	**-1.2**
MCHZ				S	**Sn**	**16 37 14.7**	**-3.1**
RATZ	**Rangitukua**	**6.69**	**222**	P	**Pn**	**16 36 03.5**	**-0.1**
RITZ	**Rihia Road**	**6.72**	**221**	P	**Pn**	**16 36 03.8**	**-0.2**
RITZ				S	**Sn**	**16 37 17.5**	**-1.9**
KWHZ	**Kaweka Forest**	**6.77**	**215**	P	**Pn**	**16 36 03.2**	**-1.6**
KWHZ				S	**Sn**	**16 37 17.8**	**-2.8**
KATZ	**Kakaramea**	**6.81**	**221**	P	**Pn**	**16 36 05.5**	**+0.2**
KAHZ	**Kahuranaki**	**6.86**	**211**	P	**Pn**	**16 36 02.9**	**-3.1**
KAHZ				S	**Sn**	**16 37 19.4**	**-3.4**
NTVZ	**North Tongarir**	**6.91**	**221**	P	**Pn**	**16 36 05.5**	**-1.2**
ETVZ	**East Tongariro**	**

SANVU Saraoutou 22.50 322 P **P 16 39 24.9 +0.5**
SANVU IAmb IAmb 16 39 39.0
comp=Z,26nm,0.9s
SANVU Saraoutou 22.50 322 P **P 16 39 25.6 +1.2**
comp=Z,37nm,0.9s
EIDS Eidsvold 27.68 280 P **P 16 40 12.9 +0.4**
EIDS IAmb IAmb 16 40 28.7
comp=Z,14nm,1.4s
RMQ Roma 29.14 276 P **P 16 40 26.5 +1.0**
CMSA Cobar Meteorol 30.09 265 P **P 16 40 34.5 +0.6**
ARPS Mount Arapiles 32.27 254 P **P 16 40 55.1 +2.0**
STKA Stephens Creek 33.38 262 LR LR 16 52 56.8
comp=Z,108nm,20.2s,baz=153,slow=34
CTA Charters Tower 34.10 285 P **P 16 41 09.5 +0.4**
comp=Z,5.3nm,0.5s,baz=125,slow=11,SNR=23
CTA Charters Tower 34.10 285 P **P 16 41 10.2 +1.0**
CTAO Charters Tower 34.10 285 P **P 16 41 09.4 +0.2**
CTAO IAmb IAmb 16 41 29.3
comp=Z,10.0nm,1.1s
CTAO Charters Tower 34.10 285 P **P 16 41 10.0 +0.8**
HTT Hallett 35.21 259 P **P 16 41 20.1 +1.4**
INKA Innaminka 35.33 269 P **P 16 41 21.2 +1.5**
LCRK Leigh Creek 36.56 263 P **P 16 41 29.9 -0.3**
BBOO Buckleboo 37.69 259 P **P 16 41 39.4 -0.4**
QIS Mount Isa 39.27 279 P **P 16 41 54.2 +1.0**
OOD Oodnadatta 39.51 266 P **P 16 41 55.9 +0.8**
COEN Coen 39.95 290 P **P 16 41 59.3 +0.3**
COEN IAmb IAmb 16 42 00.6
comp=Z,25nm,1.4s
COEN Coen 39.95 290 P **P 16 41 59.8 +0.8**
MULG Mulgathing 40.03 262 P **P 16 41 58.3 -1.2**
RABL Rabaul 40.26 311 P **P 16 42 00.6 -0.9**
RABL Rabaul 40.26 311 P **P 16 42 02.5 +1.0**
comp=Z,46nm,0.5s
AS31 Alice Springs 42.59 271 P **P 16 42 19.6 -0.9**
ASAR Alice Springs 42.59 271 P **P 16 42 19.5 -1.1**
comp=Z,1.5nm,0.4s,baz=109,slow=7.9,SNR=55
ASAR PcP **PcP 16 44 13.0 +0.5**
comp=Z,0.4nm,0.5s,baz=114,slow=5.0,SNR=1.6
ASAR Alice Springs 42.59 271 P **P 16 42 19.3 -1.3**
PTCN Pitcairn Islan 42.75 91 P **P 16 42 23.2 +1.4**
WR0 Warramunga Arr 43.73 276 P **P 16 42 28.3 -1.5**
WB2 Warramunga Arr 43.89 276 P **P 16 42 29.9 -1.2**
WB2 IAmb IAmb 16 42 32.6
comp=Z,28nm,1.5s
WRAB Tennant Creek 43.90 276 P **P 16 42 29.6 -1.6**
WRAB IAmb IAmb 16 42 32.5
comp=Z,4.8nm,0.7s
WRAB Tennant Creek 43.90 276 P **P 16 42 30.2 -0.9**
WRA Warramunga Arr 43.90 276 P **P 16 42 30.0 -1.2**
comp=Z,3.6nm,0.3s,baz=118,slow=7.8,SNR=123
WRA LR LR 17 00 10.2
comp=Z,59nm,18.6s,baz=162,slow=36
WRA Warramunga Arr 43.90 276 P **P 16 42 29.9 -1.2**
WB0 Warramunga Arr 43.94 276 P **P 16 42 29.9 -1.6**
WB0 IAmb IAmb 16 42 33.3
comp=Z,6.7nm,0.5s
FORT Forrest 44.79 259 P **P 16 42 37.0 -1.1**
FORT IAmb IAmb 16 42 54.1
comp=Z,10nm,1.0s
FORT Forrest 44.79 259 P **P 16 42 37.9 -0.3**
WRKA Warakurna 46.68 266 P **P 16 42 51.6 -1.6**
MTN Manton Dam 50.19 282 P **P 16 43 19.3 -1.0**
MTN IAmb IAmb 16 43 42.1
comp=Z,23nm,1.4s
MTN Manton Dam 50.19 282 P **P 16 43 20.1 -0.2**
KNRA Kununurra 50.62 278 P **P 16 43 22.4 -1.1**
KNRA IAmb IAmb 16 43 30.2
comp=Z,35nm,1.4s
CASY Casey 51.78 209 P **P 16 43 33.5 +2.0**
FITZ Fitzroy Crossi 51.99 273 P **P 16 43 32.3 -1.5**
comp=Z,0.9nm,0.3s,baz=123,slow=5.7,SNR=23
MORW Morawa 55.15 256 P **P 16 43 56.7 -0.1**
MORW IAmb IAmb 16 44 20.0
comp=Z,25nm,1.4s
QSPA South Pole Qui 56.13 180 P P 16 44 08.7 +5.2
comp=Z,4.1nm,0.9s,baz=347,slow=1.1,SNR=8.5
QSPA LR LR 17 03 38.9
comp=Z,135nm,21.9s,baz=216,slow=31
QSPA South Pole Qui 56.13 180 P P 16 44 08.7 +5.2
QSPA IAmb IAmb 16 44 35.2
comp=Z,7.1nm,0.9s
GIRL Giralia 59.33 262 P **P 16 44 26.6 +0.2**
JAGI Jajag, Banyuwa 66.52 276 P **P 16 45 13.6 -0.7**
TOLI2 Tolitoli 66.67 288 P **P 16 45 15.9 +0.6**
TOLI2 IAmb IAmb 16 45 30.4
comp=Z,15nm,1.1s
MAW Mawson 68.80 201 LR LR 17 12 40.0
comp=Z,67nm,21.8s,baz=232,slow=33
LEM Lembang 72.83 273 LR LR 17 20 00.9
comp=Z,34nm,18.2s,baz=116,slow=38
SYO Syowa Base 73.53 193|*eP* **P 16 45 59.0 +2.6**
VNA3 Neumayer Olymp 74.77 176 P **P 16 46 07.6 +3.9**
VNA2 Neumayer--Watz 75.19 177 P P 16 46 10.4 +4.2
baz=174,slow=5.6
VNA1 Neumayer--Stat 75.43 177 P P 16 46 11.6 +4.2
H03N3 Juan Fernandez 79.09 123 T T 18 15 33.0
baz=240,slow=72,SNR=8.9
H03N2 Juan Fernandez 79.09 123 T T 18 15 35.1
baz=240,slow=72,SNR=7.1
H03N1 Juan Fernandez 79.11 123 T T 18 15 42.0
baz=240,slow=72,SNR=13
PSI Prapat 85.37 276 LR LR 17 29 31.6
comp=Z,35nm,18.1s,baz=131,slow=39
ASAJ Asahikawa 85.41 333 LR LR 17 18 23.8
comp=Z,39nm,19.7s,baz=120,slow=31
PETK Petropavlovsk- 89.17 346 P **P 16 47 20.8 +1.7**
comp=Z,5.0nm,1.1s,baz=97,slow=25,SNR=6.4
MKAR Makanchi Array 119.69 309 PKP **PKiKP 16 53 14.8 +1.1**
comp=Z,0.5nm,0.5s,baz=204,slow=1.4,SNR=9.1
ARCES ARCESS Array B 141.97 347 PKhKP PKPpre 16 53 52.5
comp=Z,3.8nm,0.9s,baz=69,slow=1.4,SNR=11
FINES FINESS Array B 148.31 338 PKPbc **PKPab 16 54 11.0 -1.6**
comp=Z,4.3nm,0.5s,baz=50,slow=3.1,SNR=40
LIC Lamto 151.73 166 *e*PKP2 **PKPab 16 54 29.7 +1.8**
comp=Z,21nm,1.1s
KIC Kosan Boka 151.92 167 *e*PKP2 **PKPab 16 54 30.6 +1.9**
comp=Z,4.0nm,0.5s
TIC Toumodi 152.14 166 *e*PKP2 **PKPab 16 54 29.2 -0.4**
DBIC Dimbokro 152.20 166 PKPbc **PKiKP 16 54 21.6 +1.1**
comp=Z,1.5nm,0.5s,baz=168,slow=6.2,SNR=2.6
NB2 NORSAR Subarra152.20 350 PKP **PKiKP 16 54 21.2 +2.1**
comp=Z,11nm,1.1s,baz=18,slow=4.1
NOA NORSAR Array B152.20 350 PKPbc **PKiKP 16 54 20.3 +1.1**
comp=Z,1.0nm,0.5s,baz=13,slow=4.1,SNR=7.6
BRTR Keskin Array B 153.71 292 PKPbc **PKiKP 16 54 23.9 +0.9**
comp=Z,0.7nm,0.5s,baz=154,slow=4.5,SNR=6.2
AKASG Malin Array Be 153.76 318 PKPbc **PKiKP 16 54 23.8 +1.2**
comp=Z,0.6nm,0.4s,baz=44,slow=2.6,SNR=9.9
AKASG PKPab **sPKPbc 16 54 36.8 +0.7**
comp=Z,0.6nm,0.5s,baz=55,slow=2.7,SNR=4.1
TORD Torodi Ar. Bea 159.25 181 PKPab **PKPab 16 55 02.9 +3.0**
comp=Z,1.9nm,0.9s,baz=160,slow=4.4,SNR=5.8

*IDC **26** 16:38:49.6±1.5, 35°.57N×4°.10W, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/34, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=40.0km s-min=21.4km az=86.0*
*SFS **26** 16:38:51.0, 35°.63N×3°.83W, ML3.2, ALBORAN SUR*
*MDD **26** 16:38:51.2±0.6, 35°.63N×3°.83W, h0km, mbLg3.2/11, Error ellipse: s-maj=5.4km s-min=3.7km az=23.0*
MDD EMS: II INTENSIDAD MAXIMA.
*CNRM **26** 16:38:52.4, 35°.65N×3°.68W, h25km, ml3.7*
*INMG **26** 16:38:52.9±2.0, 35°.67N×3°.82W, h0km±6km, ML3.1, Error ellipse: s-maj=4.6km s-min=4.3km az=170.0*
*IGIL **26** 16:38:53.1, 35°.63N×3°.83W, h0km, ML3.0*
*LDG **26** 16:38:53.7±0.4, 35°.70N×3°.64W, h10km, Ml2.9/5, Error ellipse: s-maj=9.0km s-min=5.7km az=179.0*
ISC 26 16:38:52.9±1.1,**35°.62N**±0°.03×**3°.72W**±0°.02,**h25**km±10km,
n74,σ1**90**/120,**mb3.3**/3,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.44**	**204**	P	**Pb**	**16 39 01.5**	**-0.7**
PALE				S	**Sb**	**16 39 08.2**	**-0.3**
EALB	**Alboran**	**0.64**	**60**	Pg	**Pb**	**16 39 05.2**	**-0.3**
	1μm,0.3s,SNR=502						
EALB				Lg	Lg	16 39 14.9	
	3μm,0.3s,SNR=8.8						
EMEL	**Melilla**	**0.70**	**117**	Pg	**Pb**	**16 39 05.9**	**-0.5**
	1μm,0.3s,SNR=68						
EMEL				Lg	Lg	16 39 15.1	
	3μm,0.1s,SNR=30						
GOG	**Mont Gurugu**	**0.71**	**124**	P	**Pb**	**16 39 05.8**	**-0.9**
GOG				S	**Sb**	**16 39 15.0**	**-1.1**
AKLM	**AKL**	**1.11**	**186**	P	**Pb**	**16 39 13.4**	**-0.1**
AKLM				S	**Sn**	**16 39 27.9**	**+0.4**
CHAS	**Isla Isabel II**	**1.14**	**112**	*e*P	**Pn**	**16 39 11.7**	**-1.5**
CHAS				*e*S	**Sn**	**16 39 25.4**	**-2.6**
ELGU	**Los Guajares,**	**1.25**	**3**	Pg	**Pn**	**16 39 14.1**	**-0.7**
	SNR=7.9						
ELGU				Lg	Lg	16 39 31.3	
	852nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.27**	**318**	Pg	**Pn**	**16 39 14.2**	**-0.9**
	105nm,0.4s,SNR=63						
EMIJ				Lg	Lg	16 39 29.8	
	205nm,0.2s,SNR=18						
EMAL	**Malaga-Limoner**	**1.28**	**333**	*e*P	**Pn**	**16 39 14.2**	**-0.9**
EMAL				*e*S	**Sn**	**16 39 30.8**	**-0.7**
CEU	**Ceuta**	**1.38**	**282**	*e*P	**Pn**	**16 39 14.0**	**-2.5**
CEU				*e*S	**Sn**	**16 39 29.3**	**-4.6**
ECEU	**Ceuta**	**1.38**	**282**	Pg	**Pn**	**16 39 15.4**	**-1.1**
	39nm,0.3s,SNR=18						
ECEU				Lg	Lg	16 39 31.0	
	47nm,0.1s,SNR=9.3						
CHEFC	**Chefchaouen**	**1.42**	**249**	P	**Pn**	**16 39 17.8**	**+0.6**
EBER	**Berja**	**1.44**	**27**	Pg	**Pn**	**16 39 17.1**	**-0.5**
	27nm,0.3s,SNR=35						
EBER				Lg	Lg	16 39 37.3	
	158nm,0.3s,SNR=13						
EGOR	**Sierra Gorda,**	**1.52**	**348**	Pg	**Pn**	**16 39 18.7**	**+0.1**
	SNR=7.9						
EGOR				Lg	Lg	16 39 40.3	
	77nm,0.3s,SNR=7.9						
JBK	**JBK**	**1.59**	**143**	P	**Pn**	**16 39 19.0**	**-0.7**
JBK				S	**Sn**	**16 39 38.1**	**-1.4**
EQUE	**Quentar**	**1.60**	**8**	Pg	**Pn**	**16 39 20.3**	**+0.6**
	38nm,0.3s,SNR=39						
EQUE				Lg	Lg	16 39 42.0	
	52nm,0.3s,SNR=5.0						
EJIF	**Jimena Fronter**	**1.65**	**301**	Pg	**Pn**	**16 39 18.6**	**-1.7**
	SNR=7.9						
EJIF				Lg	Lg	16 39 40.6	
	414μm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**1.82**	**42**	Pn	**Pn**	**16 39 21.6**	**-1.0**
	SNR=7.9						
ENIJ				Lg	Lg	16 39 51.7	
	74nm,0.3s,SNR=7.9						
SICH	**Sidi Chahed**	**2.00**	**222**	P	**Pb**	**16 39 27.0**	**-1.8**
SICH				S	**Sb**	**16 39 54.8**	**+1.6**
LCRM	**LCR**	**2.15**	**206**	P	**Pn**	**16 39 28.0**	**+0.7**
LCRM				S	**Sb**	**16 39 56.5**	**-1.0**
EQES	**Quesada**	**2.24**	**13**	Pg	**Pb**	**16 39 31.4**	**-1.4**
	76nm,0.7s,SNR=40						
EQES				Sn	**Sn**	**16 39 56.7**	**+1.3**
	96nm,0.4s,SNR=7.0						
EQES				Lg	Lg	16 40 03.6	
	167nm,0.4s,SNR=7.9						
IFR	**Ifrane**	**2.40**	**209**	*e*P	**Pn**	**16 39 30.9**	**+0.1**
IFR				*e*S	**Sn**	**16 39 59.1**	**-0.3**
MD31	**MD31**	**2.88**	**198**	P	**Pn**	**16 39 38.5**	**+1.2**
MD31				S	**Sn**	**16 40 12.4**	**+1.3**
MDT	**Midelt**	**2.89**	**195**	P	**Pn**	**16 39 38.9**	**+1.4**
MDT				S	**Sn**	**16 40 13.3**	**+1.8**
TDRA	**Tendrara**	**2.93**	**151**	P	**Pn**	**16 39 38.4**	**+0.3**
CART	**Cartagena**	**2.94**	**47**	P	**Pn**	**16 39 37.8**	**-0.1**
CART				S	**Sn**	**16 40 09.8**	**-2.6**
ZHG	**ZHG**	**3.25**	**229**	P	**Pn**	**16 39 42.6**	**+0.3**
ZHG				S	**Sn**	**16 40 19.9**	**-0.2**
PVAQ	**Vaqueiros**	**3.68**	**300**	*e*Pn	**Pn**	**16 39 48.4**	**+0.2**
PVAQ				*e*Sn	**Sn**	**16 40 29.2**	**-1.6**
PVAQ				A	A	16 40 36.0	
	44nm,0.4s						
PVAQ	**Vaqueiros**	**3.68**	**300**	P	**Pn**	**16 39 48.4**	**+0.2**
PVAQ				S	**Sn**	**16 40 29.0**	**-1.8**
PBAR	**Barrancos**	**3.69**	**315**	*e*Sn	**Sn**	**16 40 30.4**	**-0.6**
PBDV	**Barranco-do-Ve**	**3.77**	**297**	*e*Pn	**Pn**	**16 39 49.6**	**+0.2**
PBDV				*e*Sn	**Sn**	**16 40 31.3**	**-1.6**
PBDV				A	A	16 40 44.6	
	26nm,0.5s						
PCVE	**Castro Verde**	**4.02**	**301**	*e*Pn	**Pn**	**16 39 53.1**	**+0.3**
PCVE				*e*Sn	**Sn**	**16 40 37.1**	**-2.0**
PCVE				A	A	16 40 42.6	
	28nm,0.4s						
FIGM	**Figuig**	**4.03**	**149**	P	**Pn**	**16 39 54.1**	**+0.9**
ESDC	**Sonseca Array**	**4.05**	**357**	Pn	**Pn**	**16 39 55.3**	**+1.9**
	1.7nm,0.3s,baz=179,slow=13,SNR=23						
ESDC				Sn	**Sn**	**16 40 38.6**	**-1.5**
	1.1nm,0.3s,baz=178,slow=17,SNR=2.8						
ESDC				Lg	Lg	16 40 57.9	
	2.8nm,0.3s,baz=178,slow=28,SNR=10.0						
PBEJ	**Beja**	**4.11**	**307**	*e*Pn	**Pn**	**16 39 54.5**	**+0.4**
PBEJ				*e*Sn	**Sn**	**16 40 40.3**	**-1.0**
PBEJ				A	A	16 40 42.5	
	17nm,0.3s						
MESJ	**Messejana**	**4.24**	**303**	*e*P	**Pn**	**16 39 55.9**	**-0.1**
MESJ				*e*S	**Sn**	**16 40 41.9**	**-2.7**
MESJ				IAML		16 40 50.0	
	comp=N,33nm,0.2s						
MESJ	**Messejana**	**4.24**	**303**	*e*Pn	**Pn**	**16 39 56.3**	**+0.4**
MESJ				*e*Sn	**Sn**	**16 40 43.6**	**-1.0**
MESJ				A	A	16 40 47.7	
	comp=N,25nm,0.3s						
MORF	**Marmelete**	**4.32**	**294**	*e*P	**Pn**	**16 39 56.8**	**-0.2**
MORF				*e*S	**Sn**	**16 40 43.7**	**-2.9**
MORF				IAML		16 40 48.4	
	comp=N,36nm,0.2s						
MORF	**Marmelete**	**4.32**	**294**	*e*Pn	**Pn**	**16 39 58.4**	**+1.4**
MORF				*e*Sn	**Sn**	**16 40 46.6**	**0.0**
MORF				A	A	16 40 48.3	
	comp=N,21nm,0.2s						
PFVI	**Vila Bisbo**	**4.39**	**292**	*e*Pn	**Pn**	**16 39 58.8**	**+0.8**
PFVI				*e*Sn	**Sn**	**16 40 47.3**	**-1.0**
PFVI				A	A	16 41 06.9	
	comp=N,24nm,0.5s						
PFVI	**Vila Bisbo**	**4.39**	**292**	P	**Pn**	**16 39 58.3**	**+0.3**
PTEO	**Sao Teotonio**	**4.46**	**297**	*e*Pn	**Pn**	**16 40 00.1**	**+1.1**
PTEO				*e*Sn	**Sn**	**16 40 49.1**	**-1.0**
PTEO				A	A	16 40 53.8	
	comp=N,23nm,0.5s						
PESTR	**Estremoz**	**4.48**	**318**	*e*Pn	**Pn**	**16 40 00.3**	**+1.1**
PESTR				*e*Sn	**Sn**	**16 40 49.8**	**-0.7**
PESTR				A	A	16 41 20.5	
	comp=N,17nm,0.6s						
PESTR	**Estremoz**	**4.48**	**318**	P	**Pn**	**16 40 00.2**	**+1.1**
EVO	**Evora**	**4.50**	**312**	*e*P	**Pn**	**16 39 59.8**	**+0.3**
EVO				*e*S	**Sn**	**16 40 48.5**	**-2.5**
EVO	**Evora**	**4.50**	**312**	*e*Pn	**Pn**	**16 40 00.5**	**+1.0**
EVO				*e*Sn	**Sn**	**16 40 49.1**	**-1.9**
EVO				A	A	16 40 54.3	
	comp=N,17nm,0.5s						
PNCL	**Nicolau / Gran**	**4.59**	**304**	*e*Pn	**Pn**	**16 40 01.0**	**+0.3**
PNCL				*e*Sn	**Sn**	**16 40 52.0**	**-1.2**
PNCL				A	A	16 41 01.6	
	comp=N,23nm,0.4s						
UCM	**Universidad Co**	**4.70**	**4**	*e*P	**Pn**	**16 40 04.8**	**+2.6**
UCM				*e*S	**Sn**	**16 40 56.1**	**+0.3**
PMRV	**Marv??o**	**4.79**	**324**	*e*Pn	**Pn**	**16 40 04.7**	**+1.2**
PMTG	**Montargil**	**4.98**	**315**	*e*Pn	**Pn**	**16 40 07.4**	**+1.4**
PMTG				*e*Sn	**Sn**	**16 41 01.9**	**-0.8**
PMTG				A	A	16 41 38.9	
	comp=N,15nm,0.5s						
TZRR	**Tazzarine**	**5.07**	**198**	P	**Pn**	**16 40 10.1**	**+2.7**
PCBR	**Castelo Branco**	**5.16**	**326**	*e*Pn	**Pn**	**16 40 10.6**	**+2.0**
PCBR				*e*Sn	**Sn**	**16 41 06.7**	**-0.6**
PCBR				A	A	16 41 16.7	
	comp=N,14nm,0.4s						
OUZM	**OUZ**	**5.34**	**209**	P	**Pn**	**16 40 11.9**	**+0.7**
PMAFR	**Mafra**	**5.55**	**309**	*e*Pn	**Pn**	**16 40 15.9**	**+2.0**
PMAFR				*e*Sn	**Sn**	**16 41 15.5**	**-1.3**
PMAFR				A	A	16 41 34.6	
	comp=N,22nm,0.4s						
OUK	**Oukaimeden**	**5.60**	**219**	P	**Pn**	**16 40 14.9**	**-0.1**
MTE	**Manteigas**	**5.65**	**329**	*e*Pn	**Pn**	**16 40 17.1**	**+1.8**
MTE				*e*Sn	**Sn**	**16 41 19.5**	**+0.1**
MTE				A	A	16 41 59.8	
	comp=N,29nm,0.7s						
PCAS	**Casmilo, Conde**	**5.82**	**321**	A	A	16 41 31.1	
	comp=N,15nm,0.6s						
COI	**Coimbra**	**5.90**	**322**	*e*Pn	**Pn**	**16 40 21.3**	**+2.7**
PVIS	**Viseu**	**6.06**	**328**	*e*Pn	**Pn**	**16 40 23.3**	**+2.4**
PVIS				*e*Sn	**Sn**	**16 41 28.3**	**-1.2**
PVIS				A	A	16 42 06.7	
	comp=N,16nm,0.7s						
MVO	**Moncorvo**	**6.12**	**336**	*e*Pn	**Pn**	**16 40 23.4**	**+1.7**
MVO				*e*Sn	**Sn**	**16 41 27.6**	**-3.3**
MVO				A	A	16 41 37.4	
	comp=N,16nm,0.6s						
PVRL	**Vila Real**	**6.46**	**332**	*e*Pn	**Pn**	**16 40 28.0**	**+1.6**
PVRL				*e*Sn	**Sn**	**16 41 38.9**	**-0.5**
PVRL				A	A	16 41 41.5	
	comp=N,18nm,0.2s						
POLO	**Lamas de Olo**	**6.58**	**332**	*e*Pn	**Pn**	**16 40 29.7**	**+1.6**
POLO				*e*Sn	**Sn**	**16 41 40.3**	**-1.9**
POLO				A	A	16 42 35.4	
	comp=N,5.7nm,0.6s						
PBRG	**Braganca**	**6.61**	**340**	*e*Pn	**Pn**	**16 40 30.5**	**+2.0**
PBRG				*e*Sn	**Sn**	**16 41 42.6**	**-0.5**
PBRG				A	A	16 42 24.5	
	comp=N,7.5nm,0.5s						
PTO	**Porto**	**6.71**	**327**	*e*Pn	**Pn**	**16 40 31.7**	**+1.8**
PTO				*e*Sn	**Sn**	**16 41 44.4**	**-1.1**
PCAB	**Cabril**	**6.95**	**332**	*e*Pn	**Pn**	**16 40 35.2**	**+2.0**
PCAB				*e*Sn	**Sn**	**16 41 49.2**	**-2.3**
PGAV	**Gavieira, Arco**	**7.26**	**332**	*e*Pn	**Pn**	**16 40 39.0**	**+1.5**
PGAV				*e*Sn	**Sn**	**16 41 57.8**	**-1.4**
PGAV				A	A	16 42 10.9	
	comp=N,9.8nm,0.6s						
ETSF	**Etsaut**	**7.67**	**18**	*e*P	**Pn**	**16 40 46.9**	**+3.8**
ETSF				*e*Sn	**Sn**	**16 42 05.2**	**-3.9**
	comp=N,0.5nm,0.2s						
SJPF	**Ste Jean**	**7.73**	**14**	*e*P	**Pn**	**16 40 47.2**	**+3.4**
SJPF				*e*Sn	**Sn**	**16 42 04.0**	**-6.5**
	comp=N,1.1nm,0.3s						
EPF	**Esparros**	**8.04**	**22**	*e*P	**Pn**	**16 40 51.9**	**+3.8**
EPF				*e*Sn	**Sn**	**16 42 13.9**	**-4.3**
	comp=N,0.7nm,0.3s						
MTLF	**Montolieu**	**8.97**	**29**	*e*P	Pn	16 41 06.5	+5.7
PGF	**Pioggiola**	**12.05**	**51**	*e*P	**Pn**	**16 41 46.8**	**+3.7**
PGF				*e*Sn	**Sn**	**16 43 49.7**	**-7.1**
	comp=N,0.2nm,0.2s						
TORD	**Torodi Ar. Bea**	**22.90**	**166**	P	**P**	**16 43 55.0**	**+0.1**
	comp=N,0.2nm,0.5s,baz=346,slow=11,SNR=1.3						
MKAR	**Makanchi Array**	**62.59**	**51**	P	**P**	**16 49 18.1**	**+3.2**
	comp=N,0.6nm,0.7s,baz=287,slow=6.1,SNR=5.4						
PDAR	**Pinedale Array**	**76.79**	**313**	P	**P**	**16 50 41.4**	**-1.3**
	comp=N,0.1nm,0.3s,baz=88,slow=5.5,SNR=2.0						

*IDC **26** 16:57:28.1±1.2, 29°.58N×88°.05E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.6/48, mbtmp3.8/9, ML3.0/1, MS3.2/6, Ms1 3.2/6, ms1mx2.9/90, Error ellipse: s-maj=51.3km s-min=18.1km az=63.0*
*NEIC **26** 16:57:30.8±1.7, 29°.5N±0°.1×87°.9E±0°.1, h25km±5km, mb4.2/18, Error ellipse: s-maj=20.1km s-min=11.1km az=55.0*
*NDI **26** 16:57:35.1±1.3, 29°.70N×88°.23E, h34km±37km, ML3.5, mb4.2(NEIC)*
ISC 26 16:57:32.8±0.6,**29°.70N**±0°.06×**88°.20E**±0°.08,**h35**km,**n51**,
σ2**09**/47,**mb4.1**/14,**MS3.2**/3,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**2.40**	**171**	*e*P	**Pn**	**16 58 13.3**	**+3.6**
GTK				*e*S	**Sn**	**16 58 39.6**	**+1.7**
GTK				*ex*	x	16 58 50.0	
GTK				IAML		16 58 54.4	
	comp=N,123nm,1.1s						
GTK				IAML		16 58 55.4	
	comp=E,114nm,1.1s						
GUN	**Gumba**	**2.71**	**229**	*e*P	**Pn**	**16 58 17.4**	**+3.3**
	comp=E,176nm,0.5s						
KKN	**Kakani**	**3.19**	**234**	*e*P	**Pn**	**16 58 24.1**	**+3.4**
	comp=E,22nm,0.3s						
PKI	**Pulchoki**	**3.25**	**230**	*e*P	**Pn**	**16 58 24.4**	**+2.9**
	comp=E,21nm,0.3s						
DMN	**Daman**	**3.43**	**233**	*e*P	**Pn**	**16 58 27.4**	**+3.5**
	comp=E,30nm,0.4s						
GKN	**Gorkha**	**3.56**	**242**	*e*P	**Pn**	**16 58 27.9**	**+2.3**
DANN	**Dangsing**	**4.12**	**252**	*e*P	**Pn**	**16 58 35.0**	**+1.5**
	comp=E,13nm,0.3s						
KOLN	**Koldanda**	**4.47**	**246**	*e*P	**Pn**	**16 58 40.5**	**+2.2**
	comp=E,9.3nm,0.2s						
PYUN	**Piuthan**	**4.84**	**252**	*e*P	**Pn**	**16 58 44.2**	**+0.9**
SHL	**Shillong**	**5.25**	**141**	*e*P	**Pn**	**16 58 50.5**	**+1.4**
SHL				IAML		17 00 23.9	
	comp=E,53nm,1.1s						
SHL				IAML		17 00 27.9	
	comp=N,178nm,1.3s						
SHL	**Shillong**	**5.25**	**141**		**Pn**	**16 58 48.4**	**-0.7**
BOK	**Bokaro**	**6.24**	**200**	*e*P	**Pn**	**16 59 03.9**	**+1.5**
BOK				*ex*	x	17 00 13.2	
LGTI	**Lohaghat**	**6.93**	**270**	*e*P	**Pn**	**16 59 16.5**	**+4.6**
LGTI				*i* x	x	16 59 20.8	
PTH	**Pithoragarh**	**6.95**	**271**	*e*P	**Pn**	**16 59 14.5**	**+2.2**
PTH				*ex*	x	17 00 33.0	
SMLA	**Simla**	**9.63**	**281**	*ex*	**Pn**	**16 59 48.4**	**-0.5**
SMLA				IAML		17 01 44.5	
	comp=N,9.1nm,0.0s						
SMLA				IAML		17 01 48.3	
	comp=E,11nm,1.3s						
DHRM	**DHARAMSHALA**	**10.53**	**287**	*ex*	**Pn**	**17 00 01.2**	**-0.1**
DHRM				IAML		17 02 01.7	
	comp=E,120nm,1.3s						
BHPL	**Bhopal**	**11.60**	**239**	*ex*	**Pn**	**17 00 14.9**	**-1.0**
NIL	**Nilore**	**13.33**	**291**		**Pn**	**17 00 35.1**	**-4.4**
CM31	**Chiang Mai Arr**	**14.87**	**136**	Pn	**Pn**	**17 01 01.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**14.87**	**136**	Pn	**Pn**	**17 00 57.8**	**-2.7**
	baz=318,slow=12,SNR=2.0						
CMAR				LR	LR	17 07 27.4	
	comp=E,61nm,21.8s,baz=330,slow=40						
KBL	**Kabul**	**16.93**	**291**	P	**Pn**	**17 01 23.6**	**-3.5**
AAK	**Ala-Archa**	**16.98**	**323**	LR	LR	17 07 57.8	
	comp=E,62nm,20.2s,baz=110,slow=37						
BTK	**Batken**	**17.58**	**311**		**Pn**	**17 01 32.8**	**-2.3**
BTK				IAmb	IAmb	17 01 38.2	
	comp=Z,7.6nm,0.6s						
MKAR	**Makanchi Array**	**17.68**	**347**	P	**P**	**17 01 37.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=161,slow=10,SNR=3.4						
MKAR				LR	LR	17 09 40.7	
	comp=Z,107nm,19.8s,baz=84,slow=41						
MKAR	**Makanchi Array**	**17.68**	**347**		**P**	**17 01 36.9**	**+0.1**
CHGR	**Chuyangaron**	**18.09**	**305**	P	**Pn**	**17 01 37.9**	**-3.5**
CHGR				IAmb	IAmb	17 01 48.9	
	comp=Z,8.7nm,0.7s						
PBA	**Port Blair**	**18.45**	**166**	P	**P**	**17 01 43.6**	**-1.8**
UBPT	**Khong Chiam**	**21.42**	**128**	P	**P**	**17 02 17.7**	**-0.1**
UBPT				IAmb	IAmb	17 02 28.6	
	comp=Z,9.6nm,1

comp=Z,0.2nm,0.5s,baz=349,slow=5.2,SNR=5.2

*IDC **26** 17:01:13.4±4.6,3.°10S×140.°00E, h0km, mb2.8/2, mb1 3.2/3, mb1mx3.1/29, mbtmp3.0/3, ML3.4/1, Error ellipse: s-maj=171.8km s-min=32.6km az=88.0*
*DJA **26** 17:01:24.3±0.8,3.°S±7.°×14.°0E±.°, h33km±10km, M3.6/4, MLv3.6/4*
ISC 26 17:01:22.3±1.1,3.°28S±0.°09×139.°91E±0.°08, h56km, n8, σ1°27/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.73**	**21**	P	**Pn**	**17 01 37.6**	**+0.9**
GENI				S	**Sn**	**17 01 47.4**	**+0.2**
JAY	**Jayapura**	**1.10**	**46**	P	**Pn**	**17 01 42.6**	**+1.1**
JAY				S	**Sn**	**17 01 56.8**	**+1.0**
WAMI	**Wamena**	**1.34**	**243**	P	**Pn**	**17 01 46.6**	**+1.9**
SMPI	**Sarmi**	**1.76**	**317**	P	**Pn**	**17 01 51.2**	**+0.8**
BAKI	**Biak**	**4.33**	**299**	P	**Pn**	**17 02 26.5**	**+0.9**
WRA	**Warramunga Arr**	**17.43**	**198**	P	**Pn**	**17 05 21.1**	**-0.6**
	0.1nm,0.3s,baz=20,slow=13,SNR=11						
ASAR	**Alice Springs**	**21.08**	**195**	P	**P**	**17 06 01.4**	**-0.8**
	0.2nm,0.6s,baz=24,slow=9.6,SNR=8.6						
MKAR	**Makanchi Array**	**70.97**	**322**	P	**P**	**17 12 32.6**	**-1.4**
	0.1nm,0.4s,baz=104,slow=9.6,SNR=1.3						

GUC 26 17:26:23.7±0.7,30.°20S×71.°79W, h20km±4km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.49**	**164**	*e*P	Pb	17 26 33.5	-0.2
CO06				*i* S	Sb	17 26 40.4	-0.2
CO06				IAML		17 26 41.5	
	comp=E,6μm,0.1s						
CO05	**La Serena**	**0.55**	**60**	*e*P	Pb	17 26 34.6	-0.1
CO05				*i* S	Sb	17 26 42.0	-0.1
CO05				IAML		17 26 42.8	
	comp=E,3μm,0.5s						
GO04	**Tololo Observa**	**0.86**	**89**	*e*P	Pb	17 26 39.8	-0.3
GO04				*i* S	Sb	17 26 51.8	+0.5
GO04				IAML		17 26 54.0	
	comp=N,4μm,0.4s						
CO03	**El Pedregal**	**1.15**	**124**	*e*P	Pn	17 26 44.3	-0.4
CO03				*i* S	Sb	17 26 59.0	-0.4
CO03				IAML		17 27 00.4	
	comp=E,3μm,0.1s						
LCO	**Las Campanas**	**1.51**	**39**	*e*P	Pn	17 26 50.2	+0.3
LCO				*i* S	Sn	17 27 09.3	+0.2
AC04	**Llanos de Chal**	**2.08**	**18**	*e*P	Pn	17 26 58.1	+0.6
AC04				*i* S	Sb	17 27 25.6	-0.5
VA06	**Catapilco**	**2.40**	**170**	*e*P	Pn	17 27 03.6	+1.8
VA06				*i* S	Sb	17 27 33.6	-1.7
VA06				IAML		17 27 42.8	
	comp=N,292nm,0.6s						
VA03	**San Esteban**	**2.77**	**158**	*e*P	Pn	17 27 08.8	+1.8
VA03				*i* S	Sb	17 27 43.4	-2.7
VA03				IAML		17 27 55.1	
	comp=N,323nm,0.6s						
ROCH	**El Roble**	**2.85**	**167**	*e*P	Pn	17 27 10.2	+2.0
ROCH				*i* S	Sb	17 27 45.5	-3.0
ROCH				*i* S	Sn	17 27 45.6	+3.6
ROCH				IAML		17 27 57.6	
	comp=N,178nm,0.2s						
MT02	**Curacav**	**3.10**	**170**	*e*P	Pn	17 27 13.3	+1.7
MT02				*i* S	Sn	17 27 51.3	+3.2
MT02				IAML		17 28 06.6	
	comp=E,65nm,0.5s						
BO02	**Sierra Bellavi**	**4.66**	**170**	*i* S	Sn	17 28 29.3	+2.7

*TAP **26** 17:27:13.3,21.°55N×121.°36E, h36km, ML3.8, D*
*JMA **26** 17:27:15.7±0.3,21.°81N×121.°23E, h23km±5km, M4.1*
*IDC **26** 17:27:23.9±5.6,21.°59N×121.°36E, h92km±53km, mb3.3/11, mb1 3.5/11, mb1mx3.1/58, mbtmp3.6/11, MS2.7/1, Ms1 2.9/1, ms1mx2.4/37, Error ellipse: s-maj=26.2km s-min=16.1km az=67.0*
ISC 26 17:27:16.5±1.3,21.°65N±0.°06×121.°32E±0.°03, h24km±8km, n126, σ1°39/172, mb3.4/10, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.42**	**35**	P	**Pb**	**17 27 24.0**	**-1.4**
	baz=25						
LYUB				S	**Sb**	**17 27 32.3**	**+0.8**
	baz=25						
LAY	**Lan-yu**	**0.44**	**29**	*i* P	**Pb**	**17 27 24.4**	**-1.3**
	baz=21						
TSEB	**Hengchuen, Pin**	**0.47**	**302**	*i* P	**Pb**	**17 27 25.7**	**-0.4**
	baz=307						
TSEB				*i* S	**Sb**	**17 27 34.1**	**+1.5**
	baz=307						
TWKBT	**Hengchun**	**0.56**	**301**	P	**Pn**	**17 27 26.3**	**-2.6**
	baz=308						
TWKBT				S	**Sb**	**17 27 36.4**	**+1.2**
	baz=308						
TWK1	**Hengchun**	**0.56**	**301**	*i* P	**Pn**	**17 27 26.4**	**-2.6**
	baz=308						
TWK1				*i* S	**Sb**	**17 27 36.0**	**+0.6**
	baz=308						
SMST	**Manzhou Townsh**	**0.58**	**309**	P	**Pn**	**17 27 26.7**	**-2.6**
	baz=324						
SMST				S	**Sn**	**17 27 35.8**	**-2.3**
	baz=324						
HEN	**Hengchun**	**0.65**	**303**	*i* P	**Pn**	**17 27 28.5**	**-1.7**
	baz=309						
SLIU	**Shizi**	**0.74**	**319**	*i* P	**Pn**	**17 27 28.5**	**-3.0**
	baz=331						
TAWH	**Dawu Township**	**0.80**	**330**	P	**Pn**	**17 27 28.8**	**-3.4**
	baz=342						
TAW	**Tawu**	**0.81**	**331**	*i* P	**Pn**	**17 27 29.8**	**-2.6**
	baz=343						
TAW				*e*S	**Sn**	**17 27 41.9**	**-1.7**
	baz=343						
EAST	**Anshuo**	**0.85**	**329**	*i* P	**Pn**	**17 27 30.1**	**-3.0**
	baz=341						
SCZT	**Fangliau**	**0.97**	**318**	*i* P	**Pn**	**17 27 32.6**	**-2.1**
	baz=321						
ECL	**Taimali**	**1.00**	**340**	*i* P	**Pn**	**17 27 31.7**	**-3.4**
	baz=341						
LDUT	**Ludao**	**1.03**	**8**	*i* P	**Pn**	**17 27 32.6**	**-2.8**
	baz=5.0						
LDUT				S	**Sn**	**17 27 48.0**	**-1.0**
	baz=5.0						
SSPT	**Xinbi**	**1.08**	**320**	*i* P	**Pn**	**17 27 35.7**	**-0.5**
	baz=335						
TTN	**Taitung**	**1.11**	**352**	P	**Pn**	**17 27 33.4**	**-3.1**
	baz=351						
TTN				S	**Sn**	**17 27 52.9**	**+1.8**
	baz=351						
WLCH	**Liuqiu**	**1.12**	**309**	*i* P	**Pn**	**17 27 36.6**	**-0.1**
	baz=299						
MASBT	**Mashibuluo**	**1.15**	**326**	P	**Pn**	**17 27 35.2**	**-1.9**
	baz=339						
TWGBT	**Beinan**	**1.18**	**349**	P	**Pn**	**17 27 34.7**	**-2.9**
	baz=349						
TSMG	**Majia**	**1.22**	**329**	*i* P	**Pn**	**17 27 36.0**	**-2.1**
	baz=339						
LONT	**Longtian**	**1.26**	**352**	*i* P	**Pn**	**17 27 35.5**	**-3.1**
	baz=341						
SSD	**Sandimen**	**1.27**	**330**	*i* P	**Pn**	**17 27 36.9**	**-1.8**
	baz=340						
EDH	**Donghe**	**1.32**	**359**	*i* P	**Pn**	**17 27 36.7**	**-2.7**
	baz=348						
EDH				*e*S	**Sn**	**17 27 56.5**	**+0.3**
	baz=348						
TWM1	**Shoushan**	**1.44**	**325**	*i* P	**Pn**	**17 27 42.2**	**+1.1**
	baz=326						
CHKT	**Chengkung**	**1.44**	**2**	*i* P	**Pn**	**17 27 39.0**	**-2.1**
	baz=8.0						
CHKT				*e*S	**Sn**	**17 27 58.4**	**-0.9**
	baz=8.0						
SLGT	**Liugui**	**1.48**	**335**	*i* P	**Pn**	**17 27 41.3**	**-0.3**
	baz=336						
SLGT				S	**Sn**	**17 28 00.9**	**+0.7**
	baz=336						
FULB	**Fuli**	**1.54**	**359**	*i* P	**Pn**	**17 27 40.3**	**-2.2**
	baz=347						
FULB				*e*S	**Sn**	**17 28 01.4**	**-0.4**
	baz=347						
ELDTW	**Lidau**	**1.56**	**350**	*i* P	**Pn**	**17 27 39.7**	**-3.1**
	baz=357						
SGST	**Jiashian**	**1.58**	**334**	*i* P	**Pn**	**17 27 42.1**	**-1.0**
	baz=335						
SGST				S	**Sb**	**17 28 06.1**	**+1.5**
	baz=335						
STYH	**Taoyuan**	**1.59**	**342**	P	**Pn**	**17 27 43.0**	**-0.2**
	baz=350						
SHHT	**Tainan City**	**1.64**	**327**	P	**Pn**	**17 27 44.0**	**+0.2**
	baz=313						
CHN3	**Shinhua**	**1.67**	**328**	*e*P	**Pn**	**17 27 45.2**	**+0.9**
	baz=329						
EYUL	**Yuli**	**1.69**	**360**	*i* P	**Pn**	**17 27 43.0**	**-1.6**
	baz=349						
CHN1	**Nanshi**	**1.69**	**334**	*i* P	**Pn**	**17 27 44.7**	**0.0**
	baz=335						
WTP	**Ta-pu**	**1.72**	**338**	*i* P	**Pn**	**17 27 44.9**	**-0.1**
	baz=338						
YULB	**Yu-li**	**1.73**	**359**	P	**Pn**	**17 27 42.2**	**-2.9**
	baz=350						
SNST	**Tainan City**	**1.74**	**334**	*i* P	**Pn**	**17 27 45.4**	**+0.2**
	baz=335						
TPUB	**Ta-pu**	**1.76**	**339**	P	**Pn**	**17 27 45.1**	**-0.4**
	baz=339						
TWK	**Hsinying**	**1.78**	**335**	*i* P	**Pn**	**17 27 45.9**	**0.0**
	baz=335						
HGSD	**Ruisui**	**1.83**	**3**	P	**Pn**	**17 27 45.0**	**-1.5**
	baz=11						
HGSD				*e*S	**Sn**	**17 28 09.6**	**+0.5**
	baz=11						
EHY	**Hungye**	**1.85**	**360**	*i* P	**Pn**	**17 27 44.2**	**-2.5**
	baz=351						
ALS	**Alishan**	**1.91**	**346**	*i* P	**Pn**	**17 27 47.2**	**-0.7**
	baz=346						
ICHU	**Yijhu**	**1.96**	**331**	*i* P	**Pn**	**17 27 47.7**	**-0.5**
	baz=331						
ICHU				S	**Sn**	**17 28 13.6**	**+1.6**
	baz=331						
CHY	**Chiayi**	**2.02**	**336**	*i* P	**Pn**	**17 27 48.0**	**-1.1**
	baz=336						
CHN5	**Tsauling**	**2.03**	**343**	*i* P	**Pn**	**17 27 49.4**	**+0.1**
	baz=343						
CHN5				*e*S	**Sn**	**17 28 14.8**	**+0.9**
	baz=343						
CHN2	**Minshiung**	**2.03**	**337**	*e*P	**Pn**	**17 27 48.8**	**-0.4**
	baz=338						
CHN2				*e*S	**Sn**	**17 28 15.6**	**+1.8**
	baz=338						
VWDT	**VWDT**	**2.10**	**355**	P	**Pn**	**17 27 48.7**	**-1.5**
	baz=344						
VWDT				*e*S	**Sn**	**17 28 16.6**	**+1.0**
	baz=344						
WSL	**Shuilin Townsh**	**2.12**	**332**	P	**Pn**	**17 27 49.9**	**-0.5**
	baz=332						
SSLB	**Suanglung**	**2.15**	**351**	P	**Pn**	**17 27 50.6**	**-0.4**
	baz=351						
SSLB				*e*S	**Sn**	**17 28 18.3**	**+1.4**
	baz=351						
WDLH	**Douliu**	**2.15**	**340**	*i* P	**Pn**	**17 27 50.1**	**-0.8**
	baz=341						
WDLH				*e*S	**Sn**	**17 28 18.0**	**+1.2**
	baz=341						
ESL	**Shilin**	**2.16**	**3**	*i* P	**Pn**	**17 27 50.5**	**-0.4**
	baz=353						
WTK	**Tuku**	**2.20**	**337**	*i* P	**Pn**	**17 27 51.1**	**-0.5**
	baz=337						
WDGT	**Dungji**	**2.22**	**316**	*i* P	**Pn**	**17 27 50.6**	**-1.2**
	baz=318						
WSF	**Szhu**	**2.22**	**333**	*i* P	**Pn**	**17 27 50.9**	**-1.0**
	baz=334						
WSF				S	**Sn**	**17 28 20.2**	**+1.6**
	baz=334						
WJS	**Zhushan**	**2.23**	**346**	*i* P	**Pn**	**17 27 52.5**	**+0.5**
	baz=346						
SMLT	**Sun Moon Lake**	**2.26**	**350**	*i* P	**Pn**	**17 27 52.6**	**+0.2**
	baz=350						
SMLT				S	**Sn**	**17 28 21.5**	**+1.9**
	baz=350						
TYC	**Yuchr**	**2.28**	**349**	*i* P	**Pn**	**17 27 53.3**	**+0.6**
	baz=349						
WNT	**Mingjian**	**2.29**	**345**	*e*P	**Pn**	**17 27 52.0**	**-0.8**
	baz=345						
WNT				S	**Sn**	**17 28 21.2**	**+0.8**
	baz=345						
HWA	**Hwalien**	**2.33**	**6**	*e*P	**Pn**	**17 27 52.4**	**-0.9**
	baz=15						
WUSB	**Renai**	**2.34**	**355**	P	**Pn**	**17 27 52.6**	**-1.0**
	baz=4.0						
WUSB				S	**Sn**	**17 28 21.5**	**-0.1**
	baz=4.0						
VCHM	**Qimei**	**2.34**	**312**	P	**Pn**	**17 27 51.4**	**-2.1**
	baz=313						
CHGB	**Renai**	**2.40**	**357**	P	**Pn**	**17 27 53.5**	**-1.0**
	baz=341						
CHGB				S	**Sn**	**17 28 23.7**	**+0.4**
	baz=341						
WRL	**Guolierlin Hig**	**2.40**	**339**	P	**Pn**	**17 27 53.0**	**-1.4**
	baz=339						
WCS	**Beigang Elemen**	**2.42**	**351**	P	**Pn**	**17 27 55.1**	**+0.4**
	baz=351						
WCS				*e*S	**Sn**	**17 28 24.5**	**+0.9**
	baz=351						
TWD	**Chiawan**	**2.43**	**6**	*i* P	**Pn**	**17 27 54.1**	**-0.6**
	baz=14						
PHUB	**P'eng-hu**	**2.46**	**319**	P	**Pn**	**17 27 53.5**	**-1.6**
	baz=320						
PHUB				S	**Sn**	**17 28 24.0**	**-0.4**
	baz=320						
WHF	**Hehuan Shan**	**2.48**	**359**	*i* P	**Pn**	**17 27 54.2**	**-1.7**
	baz=8.0						
WHF				S	**Sn**	**17 28 25.2**	**-0.4**
	baz=8.0						
PNG	**Penghu**	**2.51**	**320**	*i* P	**Pn**	**17 27 54.5**	**-1.4**
	baz=321						
NACB	**Ninganchiao**	**2.52**	**6**	P	**Pn**	**17 27 53.8**	**-2.2**
	baz=356						
NACB				*e*S	**Sn**	**17 28 24.6**	**-1.4**
	baz=356						
ETLH	**Xiulin Townshi**	**2.55**	**3**	P	**Pn**	**17 27 56.4**	**-0.1**
	baz=2.0						
ETLH				*e*S	**Sn**	**17 28 26.7**	**-0.1**
	baz=2.0						
TCU	**Taichung**	**2.56**	**347**	*e*P	**Pn**	**17 27 56.9**	**+0.5**
	baz=347						
TCU				*e*S	**Sn**	**17 28 27.2**	**+0.4**
	baz=347						
FUSS	**Fushou**	**2.59**	**358**	*i* P	**Pn**	**17 27 55.9**	**-1.2**
	baz=6.0						
TWT	**Tachien**	**2.59**	**357**	P	**Pn**	**17 27 58.4**	**+1.3**
	baz=356						
WHP	**Taichung City**	**2.64**	**352**	*i* P	**Pn**	**17 27 58.1**	**+0.4**
	baz=352						
WHP				*i* S	**Sn**	**17 28 32.3**	**+3.3**
	baz=352						
TWQ1	**Liyutan**	**2.73**	**349**	*i* P	**Pn**	**17 27 59.5**	**+0.6**
	baz=336						
TWQ1				*e*S	**Sn**	**17 28 32.9**	**+1.7**
	baz=336						
NNSB	**Datong**	**2.77**	**1**	P	**Pn**	**17 27 59.1**	**-0.3**
	baz=11						
NNSB				*e*S	**Sn**	**17 28 31.9**	**-0.2**
	baz=11						
NNS	**Nan Shan**	**2.78**	**1**	*i* P	**Pn**	**17 28 00.1**	**+0.5**
	baz=11						
ENA	**Nanau**	**2.79**	**8**	*i* P	**Pn**	**17 27 58.6**	**-1.0**
	baz=7.0						
EWUT	**Wuta**	**2.81**	**8**	P	**Pn**	**17 27 60.0**	**0.0**
	baz=8.0						
LATG	**Datong**	**2.88**	**4**	P	**Pn**	**17 28 00.2**	**-0.8**
	baz=3.0						
LATG				*e*S	**Sn**	**17 28 34.2**	**-0.7**
	baz=3.0						
NMLH	**Miaoli**	**2.92**	**350**	*e*P	**Pn**	**17 28 02.5**	**+1.2**
	baz=350						
NMLH				*e*S	**Sn**	**17 28 36.9**	**+1.2**
	baz=350						
NDT	**Datong Townshi**	**2.94**	**3**	P	**Pn**	**17 28 02.6**	**+0.8**
	baz=3.0						
NDT				*e*S	**Sn**	**17 28 36.0**	**-0.4**
	baz=3.0						
NFF	**Wufeng Townshi**	**2.97**	**356**	P	**Pn**	**17 28 02.3**	**+0.1**
	baz=342						
NSTT	**Nanjuang**	**2.98**	**354**	P	**Pn**	**17 28 02.4**	**+0.1**
	baz=340						
ENTT	**Nioudou**	**2.98**	**4**	*i* P	**Pn**	**17 28 02.4**	**0.0**
	baz=4.0						
TWC	**Suao**	**2.98**	**9**	P	**Pn**	**17 28 02.5**	**+0.2**
	baz=8.0						
NDS	**Dongshan**	**2.99**	**7**	P	**Pn**	**17 28 02.8**	**+0.4**
	baz=358						
NDS				*e*S	**Sn**	**17 28 36.0**	**-1.6**
	baz=358						
LIOB	**Emei**	**3.00**	**355**	*i* P	**Pn**	**17 28 02.8**	**+0.3**
	baz=341						
YHNB	**Yeheng**	**3.01**	**1**	P	**Pn**	**17 28 02.1**	**-0.6**
	baz=9.0						
YHNB				*e*S	**Sn**	**17 28 38.3**	**+0.2**
	baz=9.0						
NSK	**Sanguang**	**3.01**	**1**	*i* P	**Pn**	**17 28 02.8**	**0.0**
	baz=9.0						
NSK				*e*S	**Sn**	**17 28 37.6**	**-0.6**
	baz=9.0						
TWE	**Neicheng**	**3.07**	**6**	*i* P	**Pn**	**17 28 03.5**	**0.0**
	baz=357						
TWE				*e*S	**Sn**	**17 28 39.6**	**0.0**
	baz=357						
FUSB	**Fushanzhiwuyua**	**3.10**	**4**	P	**Pn**	**17 28 03.5**	**-0.6**
	baz=4.0						
NWLT	**Wulai**	**3.12**	**3**	*i* P	**Pn**	**17 28 04.8**	**+0.6**
	baz=2.0						
JYNG	**Yonagunijimaku**	**3.16**	**28**	P	**Pn**	**17 28 04.7**	**-0.1**
JYNG				*e*S	**Sn**	**17 28 38.8**	**-3.0**
YOJ	**Yonaguni jima**	**3.20**	**29**	P	**Pn**	**17 28 05.8**	**+0.4**
YOJ	**Yonaguni jima**	**3.20**	**29**	P	**Pn**	**17 28 05.7**	**+0.4**
	baz=27						
YOJ				*e*S	**Sn**	**17 28 40.8**	**-1.9**
	baz=27						
NTC	**Toucheng**	**3.22**	**8**	*i* P	**Pn**	**17 28 06.6**	**+1.0**
	baz=358						
HATJ	**Hateruma jima**	**3.31**	**43**	P	**Pn**	**17 28 07.5**	**+0.7**
HATJ				*e*S	**Sn**	**17 28 44.9**	**-0.6**
TIPB	**Shuangxi**	**3.34**	**8**	*i* P	**Pn**	**17 28 07.7**	**+0.4**
	baz=358						
TIPB				*e*S	**Sn**	**17 28 45.5**	**-0.6**
	baz=358						
TWB1	**Santiao Chiao**	**3.40**	**10**	P	**Pn**	**17 28 09.4**	**+1.4**
	baz=10.0						
IRIF	**Iriomote-Funau**	**3.47**	**39**	P	**Pn**	**17 28 09.2**	**+0.2**
IRIF				*e*S	**Sn**	**17 28 50.3**	**+0.9**
JKRS	**Kuro-shima**	**3.57**	**43**	P	**Pn**	**17 28 10.7**	**+0.3**
JKRS				*e*S	**Sn**	**17 28 51.2**	**-0.7**
JIJ	**Ishigaki jima**	**3.75**	**43**	P	**Pn**	**17 28 13.2**	**+0.4**
JIJ				*e*S	**Sn**	**17 28 55.9**	**-0.3**
JISG	**Ishigakijimahi**	**4.01**	**43**	P	**Pn**	**17 28 16.9**	**+0.4**
JISG				*e*S	**Sn**	**17 29 03.7**	**+0.9**
JTJ	**Tarama**	**4.30**	**46**	P	**Pn**	**17 28 21.2**	**+0.7**
JTJ				*e*S	**Sn**	**17 29 09.2**	**-0.7**
JIRB	**Irabujima**	**4.75**	**47**	P	**Pn**	**17 28 27.4**	**+0.8**
JIRB				*e*S	**Sn**	**17 29 20.8**	**-0.1**
JMJ2	**Miyako jima3**	**4.80**	**49**	P	**Pn**	**17 28 29.5**	**+2.2**
JMJ2				*e*S	**Sn**	**17 29 23.1**	**+0.9**
JIKM	**Ikemajima**	**4.86**	**47**	P	**Pn**	**17 28 29.2**	**+1.1**
KSRS	**Korea Array**	**16.75**	**18**	P	**Pn**	**17 31 10.2**	**+0.6**
	0.2nm,0.3s,baz=196,slow=12,SNR=1.9						
MJAR	**Matsushiro Arr**	**20.88**	**41**	P	Pn	17 32 00.3	+0.8
	4.2nm,0.9s,baz=229,slow=9.1,SNR=6.2						
CMAR	**Chiang Mai Arr**	**21.26**	**265**	P	**P**	**17 32 04.0**	**+2.8**
	0.9nm,0.8s,baz=72,slow=9.7,SNR=7.0						
CMAR				LR	LR	17 40 01.9	
	comp=Z,20nm,19.1s,baz=35,slow=36						
SONM	**Songino Array**	**28.75**	**339**	P	**P**	**17 33 12.7**	**+0.4**
	0.5nm,0.7s,baz=152,slow=9.6,SNR=5.1						
MKAR	**Makanchi Array**	**40.27**	**318**	P	**P**	**17 34 52.7**	**+1.1**
	1.3nm,0.7s,baz=115,slow=10.0,SNR=15						
MKAR				PcP	**PcP**	**17 36 55.5**	**+0.5**
	0.1nm,0.5s,baz=119,slow=2.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**42.45**	**329**	P	**P**	**17 35 09.2**	**-0.1**
	1.2nm,0.6s,baz=120,slow=8.8,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**42.56**	**84**	T	T	18 20 42.5	
	baz=278						
H11N2	**WAKE ISLAND Hy**	**42.56**	**84**	T	T	18 20 41.9	
	baz=278						
H11N3	**WAKE ISLAND Hy**	**42.58**	**84**	T	T	18 20 37.8	
	baz=278						
H11S3	**WAKE ISLAND Hy**	**42.61**	**86**	T	T	18 20 57.0	
	baz=283,slow=74,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**42.62**	**86**	T	T	18 20 52.7	
	baz=283,slow=74,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**42.63**	**86**	T	T	18 20 53.2	
	baz=283,slow=74,SNR=3.9						
WRA	**Warramunga Arr**	**43.25**	**162**	P	**P**	**17 35 14.4**	**-1.8**
	0.3nm,0.6s,baz=333,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**46.68**	**164**	P	**P**	**17 35 43.9**	**+0.4**
	0.2nm,0.5s,baz=344,slow=7.6,SNR=9.1						
FINES	**FINESS Array B**	**73.69**	**330**	P	**P**	**17 38 48.2**	**+0.2**
	1.4nm,0.9s,baz=46,slow=5.5,SNR=6.7						
AKASG	**Malin Array Be**	**74.85**	**319**	P	**P**	**17 38 54.5**	**-0.4**
	0.1nm,0.3s,baz=64,slow=5.3,SNR=1.8						
GERES	**GERESS Array B**	**84.88**	**321**	P	**P**	**17 39 48.6**	**-0.8**
	0.5nm,0.7s,baz=57,slow=4.9,SNR=4.2						
YKA	**Yellowknife Ar**	**85.25**	**23**	P	**P**	**17 39 49.9**	**-1.0**
	0.1nm,0.4s,baz=319,slow=4.7,SNR=4.7						

*TUL **26** 17:30:03.8±1.1,36.°09N±0.°01×97.°45W±0.°01, h5km±6km, ML2.5, mb_Lg2.7/3(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=46.0*
NEIC 26 17:30:03.8±0.9,36.°102N±0.°008×97.°44W±0.°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.7km az=142.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.30**	**182**	Pg	Pg	17 30 09.8	+0.1
OK029				Sg	Sg	17 30 14.1	+0.3
OK033	**Mehan**	**0.41**	**98**	Pg	Pg	17 30 12.2	+0.4
OK033				Sg	Sg	17 30 17.9	+0.8
BCOK	**Bluff Creek, N**	**0.47**	**197**	Pg	Pg	17 30 12.7	-0.1
BCOK				Sg	Sg	17 30 18.9	+0.1
OK031	**S. Brethren Rd**	**0.51**	**107**	Pg	Pg	17 30 13.9	+0.2
OK031				Sg	Sg	17 30 20.3	+0.1
OK025	**Westminster Rd**	**0.53**	**171**	Pg	Pg	17 30 13.9	-0.1
OK025				Sg	Sg	17 30 21.2	+0.4
OK030	**Cody Creek RV**	**0.56**	**108**	Pg	Pg	17 30 14.8	+0.3
OK030					Sg	17 30 22.4	+0.5
CROK	**Carrier**	**0.59**	**313**	Pg	Pg	17 30 15.3	+0.1
CROK				Sg	Sg	17 30 23.4	+0.4
OK034	**N. Norfolk Rd.**	**0.60**	**99**		Pg	17 30 15.5	+0.2
OK034				Sg	Sg	17 30 23.5	+0.4
QUOK	**Quay**	**0.60**	**83**	Pg	Pg	17 30 15.5	+0.2
QUOK				Sg	Sg	17 30 23.3	+0.2
BLOK	**Blackwell**	**0.68**	**15**	Pg	Pg	17 30 17.2	+0.2
BLOK				Sg	Sg	17 30 26.6	+0.8
OKCFA	**Oklahoma City**	**0.69**	**181**	Pg	Pg	17 30 16.6	-0.4
GC02	**Grant County #**	**0.82**	**336**	Pg	Pg	17 30 19.7	+0.1
FNO	**Franklin**	**0.84**	**178**	Pg	Pg	17 30 19.6	-0.4
FNO				Sg	Sg	17 30 31.2	+0.2
KAN13	**South Haven SW**	**0.91**	**358**	Pg	Pg	17 30 21.3	0.0
KAN13				Sg	Sg	17 30 33.4	+0.3
KAN14	**Manchester OK**	**0.95**	**334**	Pg	Pg	17 30 21.9	-0.2
KAN14				Sg	Sg	17 30 35.0	+0.5
KAN17	**Caldwell West**	**0.98**	**345**	Pg	Pg	17 30 22.5	-0.1
KAN17				Sg	Sg	17 30 35.0	-0.2
W35A	**Tecumseh**	**1.05**	**154**	Pg	Pg	17 30 23.1	-0.9
KAN05	**Bluff City Nor**	**1

NEIC ***26*** *17:51:29.5±1.9, 9.38S±0.08×158.09E±0.05, h33km±4km, mb5.2/156, Error ellipse: s-maj=11.2km s-min=7.7km az=190.0*
BJI ***26*** *17:51:30.3±0.0, 8.91S×158.13E, h39km, mb4.6/45, mB5.1/22, Ms4.6/9, Ms7 4.4/10*
GCMT ***26*** *17:51:30.5±0.2, 9.35S±0.01×157.83E±0.01, h24km±1km, MW5.0/102, Moment Tensor Solution. s40,c53; s102,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.06±.12; Mθθ=0.07±.12; Mφφ0.13±.12; Mrθ0.31±.23; Mθφ3.41±.09; Mφr-1.07±.22; Best double couple: M0 3.58800×10^16 NP1:φs268.00000°, δ73.00000°, λ-5.00000°. NP2:φs360.00000°, δ86.00000°, λ-163.00000°. Principal axes: T 3.5300, Plg9.0000°, Azm133.0000°; N 0.1160, Plg72.0000°, Azm13.0000°; P -3.6460, Plg15.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 17:51:29.1±0.3, 9.33S±0.05×157.99E±0.04, h27km, n412, σ1§62/375, mb5.2/130, MS4.0/54, 5C-10D,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.94**	**93**	Pn	**Pn**	**17 52 00.2**	**-0.1**
	637nm,0.3s,baz=241,slow=4.2,SNR=387						
HNR				Sn	**Sn**	**17 52 23.9**	**+0.1**
	2μm,0.3s,baz=53,slow=20,SNR=8.0						
HNR	**Honiara**	**1.94**	**93**	P	**Pn**	**17 51 59.4**	**-0.9**
HNR						17 52 19.8	
HNR	**Honiara**	**1.94**	**93**	Pn	**Pn**	**17 51 59.4**	**-0.9**
HNR				Sn	**Sn**	**17 52 19.8**	**-4.0**
HNR	**Honiara**	**1.94**	**93**	P	**Pn**	**17 52 00.7**	**+0.4**
RABL	**Rabaul**	**7.71**	**311**	Pn	**Pn**	**17 53 19.4**	**-0.4**
PMG	**Port Moresby**	**10.68**	**269**	Pn	**Pn**	**17 54 00.9**	**+0.4**
	0.2nm,0.3s,baz=210,slow=11,SNR=2.3						
PMG				LR	LR	17 57 33.9	
	comp=Z,834nm,20.6s,baz=86,slow=35						
PMG	**Port Moresby**	**10.68**	**269**	P	**Pn**	**17 54 00.5**	**0.0**
PMG	**Port Moresby**	**10.68**	**269**	Pn	**Pn**	**17 54 00.5**	**0.0**
SANVU	**Saraoutou**	**10.86**	**125**	Pn	**Pn**	**17 54 04.3**	**+1.5**
SANVU	**Saraoutou**	**10.86**	**125**	P	**Pn**	**17 54 05.8**	**+2.9**
DVP	**Devils Point**	**12.96**	**131**	P	**Pn**	**17 54 35.0**	**+3.5**
LIFNC	**LIFOU**	**14.46**	**143**	Pn	**Pn**	**17 54 53.2**	**+1.1**
DZM	**Mont Dzumac**	**15.05**	**148**	Pn	**Pn**	**17 55 02.5**	**+2.3**
	0.5nm,0.3s,baz=0.8,slow=13,SNR=23						
DZM				LR	LR	17 59 58.1	
	comp=Z,999nm,19.2s,baz=327,slow=34						
DZM	**Mont Dzumac**	**15.05**	**148**	*e*Pn	**P**	**17 55 03.2**	**-2.0**
	156nm,1.1s						
DZM				*e*LQ	LQ	17 57 57.5	
	1μm,26.2s						
DZM				*e*LR	LR	17 58 35.7	
	comp=Z,2μm,27.1s						
DZM	**Mont Dzumac**	**15.05**	**148**	P	**Pn**	**17 55 01.9**	**+1.8**
DZM	**Mont Dzumac**	**15.05**	**148**	P	**P**	**17 55 04.0**	**-1.2**
COEN	**Coen**	**15.21**	**251**	Pn	**Pn**	**17 55 04.2**	**+1.9**
COEN				IAmb	IAmb	17 55 06.8	
	comp=Z,154nm,1.4s						
ONTNC	**Ouen Toro**	**15.25**	**149**		**Pn**	**17 55 03.4**	**+0.7**
ONTNC				IAmb	IAmb	17 55 11.3	
	comp=Z,106nm,1.0s						
MARNC	**Mare, Loyalty**	**15.47**	**142**	Pn	**Pn**	**17 55 03.4**	**-2.2**
OUENC	**Ouen Island, N**	**15.54**	**148**		**Pn**	**17 55 07.5**	**+1.0**
OUENC	**Ouen Island, N**	**15.54**	**148**	P	**P**	**17 55 09.8**	**-0.8**
CTA	**Charters Tower**	**15.58**	**225**	Pn	**Pn**	**17 55 05.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=48,slow=14,SNR=11						
CTA				LR	LR	18 01 03.5	
	comp=Z,547nm,18.6s,baz=50,slow=37						
CTAO	**Charters Tower**	**15.58**	**225**	P	**Pn**	**17 55 06.2**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,58nm,1.3s						
CTAO	**Charters Tower**	**15.58**	**225**	Pn	**Pn**	**17 55 06.2**	**-0.8**
MTSU	**Mount Surprise**	**15.89**	**235**	P	**P**	**17 55 14.8**	**+0.3**
	baz=16,SNR=23						
MTSU	**Mount Surprise**	**15.89**	**235**	P	**Pn**	**17 55 12.3**	**+1.2**
PINNC	**Pines Island,**	**16.02**	**147**	P	**Pn**	**17 55 12.9**	**+0.2**
PATS	**Pohnpei**	**16.07**	**1**	Pn	**Pn**	**17 55 13.5**	**+0.2**
PATS				IAmb	IAmb	17 55 22.1	
	comp=Z,267nm,1.2s						
EIDS	**Eidsvold**	**17.25**	**202**	P	**P**	**17 55 29.0**	**-0.5**
TARA	**Tarawa**	**18.28**	**55**	P	**P**	**17 55 40.9**	**-0.1**
JAY	**Jayapura**	**18.46**	**290**	P	**Pn**	**17 55 43.1**	**-0.2**
	baz=185,slow=20,SNR=2.6						
JAY	**Jayapura**	**18.46**	**290**	P	**Pn**	**17 55 46.2**	**+2.9**
	comp=Z,32nm,1.2s						
GENI	**Genyem**	**18.93**	**290**	P	**Pn**	**17 55 50.5**	**+1.5**
	comp=Z,62nm,1.0s						
RMQ	**Roma**	**19.17**	**206**	P	**Pn**	**17 55 54.0**	**+2.3**
	baz=20,SNR=31						
KWAJ	**Kwajalein Atol**	**20.41**	**28**	P	Pn	17 56 06.9	+0.5
KWAJ				pmax	pmax		
	comp=Z,462nm,1.1s						
KWAJ	**Kwajalein Atol**	**20.41**	**28**	P	Pn	17 56 06.9	+0.4
SMPI	**Sarmi**	**20.51**	**290**	P	**P**	**17 56 06.2**	**+0.8**
	comp=Z,83nm,1.2s						
QIS	**Mount Isa**	**20.95**	**236**	P	Pn	17 56 11.8	-0.9
	baz=21,SNR=81						
QIS	**Mount Isa**	**20.95**	**236**	P	Pn	17 56 12.5	-0.3
FUNA	**Funafuti**	**20.97**	**89**	P	**P**	**17 56 08.5**	**-1.9**
MSVF	**Nonsavu**	**21.20**	**115**	P	**P**	**17 56 16.6**	**+3.6**
	comp=Z,12nm,0.7s,baz=272,slow=16,SNR=14						
MSVF				LR	LR	18 04 34.4	
	comp=Z,200nm,18.0s,baz=302,slow=37						
MSVF	**Nonsavu**	**21.20**	**115**	*de*P	**P**	**17 56 19.9**	**+7.0**
MSVF				pmax	pmax		
	comp=Z,80nm,1.2s						
MSVF	**Nonsavu**	**21.20**	**115**	P	**P**	**17 56 11.3**	**-1.6**
MSVF	**Nonsavu**	**21.20**	**115**	P	**P**	**17 56 15.9**	**+3.0**
QLP	**Quilpie**	**21.54**	**215**	P	**P**	**17 56 18.7**	**+2.3**
	baz=22,SNR=3.9						
ARMA	**Armidale**	**21.80**	**195**	P	**P**	**17 56 22.3**	**+3.0**
	baz=22,SNR=12						
ARMA	**Armidale**	**21.80**	**195**	P	**P**	**17 56 17.9**	**-1.4**
ARMA	**Armidale**	**21.80**	**195**	P	**P**	**17 56 24.2**	**+4.9**
LHI	**Lord Howe Isla**	**22.10**	**178**		**P**	**17 56 20.3**	**-2.0**
LHI				IAmb	IAmb	17 56 48.2	
	comp=Z,144nm,1.4s						
INKA	**Innaminka**	**24.49**	**219**	P	**P**	**17 56 47.8**	**+1.6**
CMSA	**Cobar Meteorol**	**24.87**	**206**	P	**P**	**17 56 51.1**	**+1.5**
	baz=25,SNR=10						
CMSA	**Cobar Meteorol**	**24.87**	**206**	P	**P**	**17 56 51.6**	**+2.0**
WR0	**Warramunga Arr**	**24.99**	**242**	P	**P**	**17 56 50.7**	**-0.1**
WR0				IAmb	IAmb	17 56 53.8	
	comp=Z,100nm,1.1s						
WB0	**Warramunga Arr**	**25.05**	**243**	P	**P**	**17 56 51.2**	**-0.1**
WB0				IAmb	IAmb	17 56 54.3	
	comp=Z,117nm,1.2s						
WRAB	**Tennant Creek**	**25.14**	**243**	*d*iP	**P**	**17 56 52.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,139nm,1.7s						
WRAB	**Tennant Creek**	**25.14**	**243**	P	**P**	**17 56 52.2**	**0.0**
WRAB				IAmb	IAmb	17 56 55.2	
	comp=Z,86nm,1.1s						
WRAB	**Tennant Creek**	**25.14**	**243**	P	**P**	**17 56 52.8**	**+0.5**
WB2	**Warramunga Arr**	**25.15**	**243**	P	**P**	**17 56 52.3**	**0.0**
WB2				IAmb	IAmb	17 56 55.3	
	comp=Z,85nm,1.1s						
WRA	**Warramunga Arr**	**25.16**	**243**	P	**P**	**17 56 52.7**	**+0.3**
	comp=Z,41nm,0.9s,baz=68,slow=9.3,SNR=108						
WRA				PcP	**PcP**	**18 00 27.9**	**+1.7**
	comp=Z,1.2nm,1.0s,baz=51,slow=1.5,SNR=2.9						
WRA				LR	LR	18 06 13.1	
	comp=Z,599nm,20.2s,baz=76,slow=35						
WRA	**Warramunga Arr**	**25.16**	**243**	P	**P**	**17 56 51.4**	**-1.0**
KDU	**Kakadu**	**25.26**	**260**	P	**P**	**17 56 53.5**	**+0.3**
	baz=25,SNR=5.6						
KDU	**Kakadu**	**25.26**	**260**	P	**P**	**17 56 53.6**	**+0.3**
GUMO	**Guam**	**26.23**	**330**	LR	LR	18 06 20.2	
	comp=Z,295nm,21.4s,baz=136,slow=34						
MTN	**Manton Dam**	**26.57**	**260**	P	**P**	**17 57 04.5**	**-0.8**
AS31	**Alice Springs**	**27.07**	**235**	P	**P**	**17 57 09.4**	**-0.3**
ASAR	**Alice Springs**	**27.07**	**235**	P	**P**	**17 57 09.2**	**-0.4**
	comp=Z,17nm,0.9s,baz=63,slow=9.3,SNR=137						
ASAR				PcP	**PcP**	**18 00 31.8**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=46,slow=2.7,SNR=1.7						
ASAR				LR	LR	18 07 43.2	
	comp=Z,426nm,19.4s,baz=64,slow=36						
STKA	**Stephens Creek**	**27.10**	**212**	P	**P**	**17 57 11.6**	**+1.8**
	comp=Z,33nm,0.9s,baz=35,slow=13,SNR=39						
STKA				LR	LR	18 07 17.4	
	comp=Z,471nm,19.3s,baz=32,slow=35						
STKA	**Stephens Creek**	**27.10**	**212**	P	**P**	**17 57 11.2**	**+1.3**
	baz=27,SNR=45						
STKA	**Stephens Creek**	**27.10**	**212**	P	**P**	**17 57 10.1**	**+0.3**
STKA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
STKA	**Stephens Creek**	**27.10**	**212**	P	**P**	**17 57 10.1**	**+0.3**
STKA	**Stephens Creek**	**27.10**	**212**	P	**P**	**17 57 11.7**	**+1.9**
CAN	**Canberra**	**27.14**	**196**	P	**P**	**17 57 07.2**	**-3.0**
CAN				pmax	pmax		
	comp=Z,86nm,1.9s						
CAN	**Canberra**	**27.14**	**196**	P	**P**	**17 57 07.2**	**-3.0**
CAN				IAmb	IAmb	17 57 38.6	
	comp=Z,86nm,1.9s						
OOD	**Oodnadatta**	**27.91**	**226**	P	**P**	**17 57 18.3**	**+1.2**
LCRK	**Leigh Creek**	**27.96**	**219**	P	**P**	**17 57 19.2**	**+1.7**
KNRA	**Kununurra**	**29.20**	**255**	P	**P**	**17 57 29.1**	**+0.5**
	baz=29,SNR=3.6						
KNRA	**Kununurra**	**29.20**	**255**	P	**P**	**17 57 28.9**	**+0.2**
KNRA	**Kununurra**	**29.20**	**255**	P	**P**	**17 57 28.5**	**-0.2**
OUZ	**Omahuta**	**29.45**	**153**	P	**P**	**17 57 28.7**	**-2.0**
OUZ				IAmb	IAmb	17 57 37.3	
	comp=Z,123nm,1.8s						
HTT	**Hallett**	**29.73**	**213**	P	**P**	**17 57 34.8**	**+1.5**
	baz=30,SNR=3.8						
AFI	**Afiamalu**	**29.95**	**102**	P	**P**	**17 57 37.0**	**+1.6**
	comp=Z,54nm,0.9s,baz=252,slow=6.8,SNR=5.8						
AFI				LR	LR	18 07 53.9	
	comp=Z,337nm,18.1s,baz=272,slow=33						
TOO	**Toolangi**	**30.30**	**200**	P	**P**	**17 57 39.4**	**+1.2**
TOO				pmax	pmax		
	comp=Z,71nm,1.9s						
TOO	**Toolangi**	**30.30**	**200**	P	**P**	**17 57 39.4**	**+1.2**
TOO				IAmb	IAmb	17 58 15.1	
	comp=Z,71nm,1.9s						
MULG	**Mulgathing**	**30.55**	**224**	P	**P**	**17 57 41.2**	**+0.7**
BBOO	**Buckleboo**	**30.92**	**218**	P	**P**	**17 57 44.9**	**+1.1**
	baz=31,SNR=16						
BBOO	**Buckleboo**	**30.92**	**218**	P	**P**	**17 57 44.1**	**+0.4**
BBOO				IAmb	IAmb	17 57 45.7	
	comp=Z,36nm,1.0s						
BBOO	**Buckleboo**	**30.92**	**218**	P	**P**	**17 57 44.8**	**+1.1**
ARPS	**Mount Arapiles**	**30.99**	**206**	P	**P**	**17 57 46.6**	**+2.3**
TNTI	**Ternate**	**32.10**	**287**	P	**P**	**17 57 55.1**	**+0.7**
TNTI				IAmb	IAmb	17 58 31.0	
	comp=Z,32nm,1.1s						
WRKA	**Warakurna**	**32.27**	**237**	P	**P**	**17 57 55.3**	**-0.5**
	baz=32,SNR=26						
WRKA	**Warakurna**	**32.27**	**237**	P	**P**	**17 57 55.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**32.56**	**251**	P	**P**	**17 57 58.2**	**-0.2**
	baz=33,SNR=4.8						
SANI	**Sanana**	**32.63**	**281**	P	**P**	**17 58 01.1**	**+2.1**
	comp=Z,31nm,1.3s						
HIZ	**Hauiti**	**32.77**	**155**	P	**P**	**17 57 59.7**	**-0.3**
HIZ				IAmb	IAmb	17 58 04.2	
	comp=Z,58nm,1.3s						
SOEI	**Soe**	**33.25**	**266**	P	**P**	**17 58 03.5**	**-1.0**
SOEI				IAmb	IAmb	17 58 30.6	
	comp=Z,36nm,1.1s						
URZ	**Urewera**	**33.55**	**152**	LR	LR	18 10 31.1	
	comp=Z,439nm,18.6s,baz=330,slow=34						
URZ	**Urewera**	**33.55**	**152**	P	**P**	**17 58 05.3**	**-1.4**
BATI	**Baumata**	**33.83**	**266**	LR	LR	18 14 00.6	
	comp=Z,485nm,18.7s,baz=110,slow=40						
QRZ	**Quartz Range**	**33.91**	**160**	P	**P**	**17 58 08.6**	**-1.3**
BKZ	**Black Stump Fm**	**34.01**	**154**	P	**P**	**17 58 06.9**	**-3.9**
THZ	**Tophouse**	**34.88**	**160**	P	**P**	**17 58 14.7**	**-3.6**
THZ				IAmb	IAmb	17 58 43.5	
	comp=Z,39nm,1.3s						
TUWZ	**Tuamarina**	**34.94**	**159**	P	**P**	**17 58 15.4**	**-3.3**
FORT	**Forrest**	**35.10**	**228**	P	**P**	**17 58 21.6**	**+1.3**
	baz=35,SNR=9.3						
FORT	**Forrest**	**35.10**	**228**	P	**P**	**17 58 19.6**	**-0.7**
FORT	**Forrest**	**35.10**	**228**	P	**P**	**17 58 21.3**	**+1.0**
	comp=Z,50nm,1.1s						
BSWZ	**Blackbirch Sta**	**35.17**	**159**	P	**P**	**17 58 18.2**	**-2.5**
BFZ	**Birch Farm**	**35.18**	**156**	P	**P**	**17 58 18.4**	**-2.4**
BHW	**Baring Head**	**35.26**	**158**	P	**P**	**17 58 19.1**	**-2.4**
MMRI	**Maumere**	**35.31**	**268**	P	**P**	**17 58 21.0**	**-1.3**
MSWZ	**Moikau Station**	**35.41**	**157**	P	**P**	**17 58 20.7**	**-2.2**
PLWZ	**Palliser**	**35.54**	**157**	P	**P**	**17 58 21.0**	**-3.0**
LTZ	**Lake Taylor**	**35.59**	**162**	P	**P**	**17 58 22.2**	**-2.2**
LTZ				IAmb	IAmb	17 58 28.0	
	comp=Z,52nm,1.6s						
FOZ	**Fox Glacier**	**35.60**	**165**	P	**P**	**17 58 20.6**	**-3.8**
KHZ	**Kahutara**	**35.67**	**160**	P	**P**	**17 58 21.7**	**-3.4**
DAV	**Davao City (W)**	**36.17**	**296**	LR	LR	18 13 29.9	
	comp=Z,221nm,18.1s,baz=100,slow=37						
MQZ	**McQueen's Vall**	**36.55**	**162**	P	**P**	**17 58 31.8**	**-0.8**
WKZ	**Wanaka**	**36.63**	**167**	P	**P**	**17 58 31.0**	**-2.3**
BNSI	**Bone**	**37.91**	**275**	P	**P**	**17 58 45.0**	**+0.5**
	comp=Z,29nm,1.2s						
KAPI	**Kappang**	**38.16**	**274**	LR	LR	18 16 37.1	
	comp=Z,70nm,19.1s,baz=120,slow=40						
KAPI	**Kappang**	**38.16**	**274**	P	**P**	**17 58 46.0**	**-0.6**
KAPI				pmax	pmax		
	comp=Z,26nm,1.0s						
KAPI	**Kappang**	**38.16**	**274**	P	**P**	**17 58 46.0**	**-0.6**
KAPI				IAmb	IAmb	17 58 55.3	
	comp=Z,26nm,0.9s						
SPSI	**Sidrap Palu**	**38.31**	**275**	P	P	17 58 56.6	+8.7
TOLI2	**Tolitoli**	**38.48**	**284**	P	**P**	**17 58 46.5**	**-2.8**
MBWA	**Marble Bar**	**38.63**	**248**	P	**P**	**17 58 48.0**	**-2.4**
MEEK	**Meekatharra**	**41.00**	**240**	P	**P**	**17 59 10.8**	**+0.7**
	baz=41,SNR=6.4						
RAR	**Rarotonga**	**42.30**	**111**	LR	LR	18 16 12.5	
	comp=Z,62nm,20.4s,baz=286,slow=35						
BBKI	**Banjar Baru**	**43.24**	**275**	P	**P**	**17 59 29.5**	**+0.9**
	comp=Z,36nm,1.4s						
JAGI	**Jajag, Banyuwa**	**43.29**	**268**	P	**P**	**17 59 27.9**	**-1.1**
	comp=Z,75nm,1.1s						
JAGI	**Jajag, Banyuwa**	**43.29**	**268**	P	**P**	**17 59 27.5**	**-1.5**
JAGI				IAmb	IAmb	17 59 28.4	
	comp=Z,58nm,0.8s						
MORW	**Morawa**	**43.90**	**238**	P	**P**	**17 59 32.9**	**-0.9**
NWAO	**Narrogin (SRO)**	**44.28**	**232**	P	**P**	**17 59 35.1**	**-1.6**
NWAO				pmax	pmax		
	comp=Z,36nm,1.3s						
NWAO	**Narrogin (SRO)**	**44.28**	**232**	P	**P**	**17 59 35.1**	**-1.6**
NWAO				IAmb	IAmb	17 59 38.4	
	comp=Z,36nm,1.2s						
KKM	**Kota Kinabalu**	**44.34**	**289**	P	**P**	**17 59 37.9**	**+0.4**
KKM				IAmb	IAmb	17 59 59.0	
	comp=Z,47nm,1.2s						
JOW	**Kunigami**	**46.08**	**322**	LR	LR	18 16 48.4	
	comp=Z,138nm,18.9s,baz=81,slow=33						
JOW	**Kunigami**	**46.08**	**322**	P	**P**	**17 59 50.7**	**-0.3**
JOW				IAmb	IAmb	18 00 06.0	
	comp=Z,44nm,1.2s						
PCJI	**Pacitan**	**46.25**	**268**	P	**P**	**17 59 52.8**	**+0.2**
	comp=Z,93nm,1.0s						
UGM	**Wanagama**	**46.92**	**268**	P	**P**	**17 59 57.6**	**-0.3**
YULB	**Yu-li**	**48.43**	**313**	P	**P**	**18 00 08.5**	**-0.9**
YULB				IAmb	IAmb	18 01 22.1	
	comp=Z,60nm,1.5s						
JMN	**Monobe**	**48.57**	**333**	P	**P**	**18 00 10.7**	**+0.4**
KSM	**Kuching**	**48.69**	**280**	P	**P**	**18 00 11.2**	**-0.3**
KSM				IAmb	IAmb	18 00 41.4	
	comp=Z,26nm,1.2s						
TPUB	**Ta-pu**	**48.86**	**312**	P	**P**	**18 00 11.1**	**-1.6**
SSLB	**Suanglung**	**48.92**	**313**	P	**P**	**18 00 11.6**	**-1.6**
YHNB	**Yeheng**	**49.16**	**314**	P	**P**	**18 00 15.8**	**+0.7**
MJAR	**Matsushiro Arr**	**49.27**	**339**	P	**P**	**18 00 13.6**	**-2.0**
	comp=Z,1.6nm,0.8s,baz=149,slow=7.0,SNR=1.7						
MJAR				LR	LR	18 21 45.6	
	comp=Z,44nm,18.9s,baz=166,slow=37						
MAJO	**Matsushiro**	**49.28**	**339**	P	**P**	**18 00 16.7**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,86nm,2.0s						
MAJO	**Matsushiro**	**49.28**	**339**	P	**P**	**18 00 16.7**	**+1.0**
MJB9	**Matsu-Tunnel**	**49.28**	**339**	P	**P**	**18 00 16.7**	**+1.0**
MJB9				IAmb	IAmb	18 01 47.7	
	comp=Z,80nm,1.9s						
LEM	**Lembang**	**49.90**	**269**	LR	LR	18 25 29.3	
	comp=Z,62nm,18.4s,baz=103,slow=41						
LEM	**Lembang**	**49.90**	**269**	P	**P**	**18 00 21.8**	**+0.8**
	comp=Z,20nm,0.9s						
PPT	**Papeete**	**51.52**	**105**	LR	LR	18 18 45.1	
	comp=Z,108nm,20.1s,baz=264,slow=32						
PPT2	**Papeete2**	**51.52**	**105**	*e*LQ	LQ	18 13 28.1	
	comp=Z,594nm,28.9s						
PPT2				*e*LR	LR	18 15 39.4	
	comp=Z,216nm,23.8s						
CGJI	**Cibinong**	**51.82**	**269**	P	**P**	**18 00 34.2**	**-1.1**
	comp=Z,42nm,0.8s						
AIN	**Ainahou**	**54.02**	**58**	P	**P**	**18 00 51.8**	**+0.2**
KSRS	**Korea Array**	**54.39**	**331**	P	**P**	**18 00 53.1**	**-0.7**
	comp=Z,2.0nm,1.0s,baz=152,slow=7.8,SNR=3.2						
KSRS				LR	LR	18 23 03.0	
	comp=Z,83nm,20.2s,baz=125,slow=35						
KSAR	**Wonju Array Be**	**54.40**	**331**	P	**P**	**18 00 53.3**	**-0.6**
KSAR	**Wonju Array Be**	**54.40**	**331**	P	**P**	**18 00 53.3**	**-0.6**
ASAJ	**Asahikawa**	**55.00**	**347**	LR	LR	18 24 22.4	
	comp=Z,266nm,19.2s,baz=108,slow=36						
NJ2	**Nanjing**	**55.60**	**319**	*e*P	**P**	**18 01 05.0**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
YSS	**Yuzh-Sakhalins**	**57.66**	**348**	*e*P	P	18 01 24.9	+7.9
YSS				*e*		18 09 17.8	
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
USRK	**Ussuriysk Ar.**	**58.26**	**338**	P	**P**	**18 01 21.5**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=86,slow=9.9,SNR=7.6						
USRK				LR	LR	18 26 21.0	
	comp=Z,60nm,19.2s,baz=125,slow=36						
PSI	**Prapat**	**60.07**	**279**	LR	LR	18 30 49.4	
	comp=Z,64nm,18.5s,baz=114,slow=39						
CN2	**Changchun**	**60.57**	**333**	*e*P	**P**	**18 01 38.5**	**+1.3**
CN2				*e*pP	pwP	18 01 54.5	+5.6
CN2				*e*S	**S**	**18 09 50.8**	**-0.8**
CN2				LR	LR		
	comp=Z,200nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
ENH	**Enshi**	**60.99**	**312**	P	**P**	**18 01 39.7**	**-0.7**
GSI	**Gunungsitoli**	**61.08**	**277**	P	**P**	**18 01 39.5**	**-1.9**
SLVN	**Son La**	**61.22**	**301**	P	**P**	**18 01 42.3**	**+0.1**
LYN	**LuoYang**	**61.33**	**318**	*e*P	**P**	**18 01 45.0**	**+2.4**
LYN				pmax	pmax		
	comp=Z,180nm,7.1s						
LYN				LR	LR		
	comp=Z,200nm,14.3s						
LYN				LR	LR		
	comp=Z,200nm,16.7s						
HNS	**HongShan**	**61.65**	**322**	⇓P	**P**	**18 01 45.0**	**+0.3**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.4s						
PET	**Petropavlovsk**	**62.11**	**0**	*e*P	**P**	**18 01 50.0**	**+2.6**
PET				*e*S	**S**	**18 10 13.0**	**+2.3**
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PEA0B	**Petropavlovsk-**	**62.20**	**360**	P	**P**	**18 01 48.4**	**+0.4**
PEA0B				pmax	pmax		
	comp=Z,89nm,1.3s						
PEA0B	**Petropavlovsk-**	**62.20**	**360**	P	**P**	**18 01 48.4**	**+0.4**
PETK	**Petropavlovsk-**	**62.20**	**360**	P	**P**	**18 01 47.6**	**-0.4**
	comp=Z,11nm,1.0s,baz=139,slow=4.0,SNR=9.9						
PETK				LR	LR	18 27 28.4	
	comp=Z,76nm,19.4s,baz=174,slow=35						
PETK	**Petropavlovsk-**	**62.20**	**360**	P	**P**	**18 01 46.9**	**-1.1**
PETK	**Petropavlovsk-**	**62.20**	**360**	P	**P**	**18 01 46.9**	**-1.1**
KLR	**Kul'dur**	**62.70**	**341**	LR	LR	18 26 53.1	
	comp=Z,139nm,21.4s,baz=142,slow=34						
KLR	**Kul'dur**	**62.70**	**341**	⇑*e*P	**P**	**18 01 51.2**	**-0.3**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
SHEM	**Shemya Is, Ala**	**63.34**	**11**	LR	LR	18 23 07.4	
	comp=Z,113nm,20.6s,baz=192,slow=30						
XAN	**Xi'an**	**63.44**	**315**	P	**P**	**18 01 56.8**	**0.0**
XAN				pP	pwP	18 02 09.8	+0.8
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				LR	LR		
	comp=Z,230nm,18.6s						
XAN				LR	LR		
	comp=Z,330nm,22.7s						
CM31	**Chiang Mai Arr**	**64.46**	**296**	P	**P**	**18 02 01.4**	**-2.3**
CM31				IAmb	IAmb	18 03 17.7	
	comp=Z,38nm,1.9s						
CMAR	**Chiang Mai Arr**	**64.46**	**296**	P	**P**	**18 02 04.7**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=115,slow=4.9,SNR=26						
CMAR				LR	LR	18 27 58.8	
	comp=Z,29nm,22.0s,baz=90,slow=34						
CMAR	**Chiang Mai Arr**	**64.46**	**296**	P	**P**	**18 02 03.0**	**-0.8**
CHTO	**Chiang Mai**	**64.58**	**296**	P	**P**	**18 02 03.0**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,15nm,1.4s						
CHTO	**Chiang Mai**	**64.58**	**296**	P	**P**	**18 02 03.0**	**-1.5**
KIWB	**Kanaga Island**	**64.59**	**17**	P	**P**	**18 02 03.0**	**-0.9**
PZH	**PanZhiHua**	**65.17**	**305**	P	**P**	**18 02 11.3**	**+2.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,170nm,5.0s						
CASY	**Casey**	**65.33**	**199**	P	**P**	**18 02 09.1**	**+0.5**
CD2	**Chengdu**	**65.57**	**310**	P	**P**	**18 02 12.0**	**+1.2**
CD2

BOD pmax pmax
comp=Z,14nm,1.5s
ZAK Zakamensk 76.04 327 *e*P **P 18 03 14.3 +0.2**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
GAMB Gambell 76.46 13 P **P 18 03 14.3 -1.8**
GAMB Gambell 76.46 13 P **P 18 03 14.2 -1.8**
baz=211
OHAK Old Harbor 77.35 25 P **P 18 03 21.1 -0.2**
BILL Bilibino 77.40 3*d i*P **P 18 03 21.5 +0.2**
BILL *e* 18 03 29.7
BILL *i* 18 06 15.3
BILL *e*PPP PPP 18 08 05.0
BILL *e*S **SKSac 18 13 30.1 -2.1**
BILL pmax pmax
comp=Z,33nm,1.7s
BILL Bilibino 77.40 3 P **P 18 03 21.0 -0.3**
BILL IAmb IAmb 18 03 30.4
comp=Z,33nm,1.3s
KDAK Kodiak Island 78.01 25 LR LR 18 30 49.9
comp=Z,189nm,21.6s,baz=246,slow=30
P18K Big Mountain, 78.03 22 P **P 18 03 24.0 -1.0**
O18K Koktuh Hills 78.35 22 P **P 18 03 26.5 -0.3**
ANM Nome 78.66 15 P **P 18 03 28.6 +0.3**
ANM pmax pmax
comp=Z,23nm,1.2s
ANM Nome 78.66 15 P **P 18 03 28.6 +0.3**
ANM IAmb IAmb 18 03 30.5
comp=Z,23nm,1.2s
ANM Nome 78.66 15 P **P 18 03 29.6 +1.2**
baz=217
PALK Pallekele 78.74 279 LR LR 18 41 23.9
comp=Z,42nm,18.6s,baz=211,slow=38
GUN Gumba 78.85 301 *e*P **P 18 03 31.3 +0.6**
comp=Z,12nm,0.9s
PKI Pulchoki 79.15 300 *e*P **P 18 03 33.0 +0.7**
PKIN Phulchoki 79.17 300 *e*P **P 18 03 32.7 +0.4**
KKN Kakani 79.33 301 *e*P **P 18 03 33.4 +0.3**
DMN Daman 79.42 300 *e*P **P 18 03 34.2 +0.5**
GKN Gorkha 79.93 301 *e*P **P 18 03 36.6 +0.3**
M19K Big River Lodg 80.04 21 P **P 18 03 36.5 +0.6**
M19K IAmb IAmb 18 03 38.6
comp=Z,32nm,1.0s
M19K Big River Lodg 80.04 21 P **P 18 03 37.7 +1.7**
baz=228
L19K White Mountain 80.06 20 P **P 18 03 36.2 +0.1**
L19K IAmb IAmb 18 03 38.9
comp=Z,20nm,0.8s
L19K White Mountain 80.06 20 P **P 18 03 37.5 +1.4**
baz=227
TTA Tatalina 80.19 20 P **P 18 03 37.1 +0.2**
TTA pmax pmax
comp=Z,13nm,0.9s
TTA Tatalina 80.19 20 P **P 18 03 37.1 +0.2**
TTA Tatalina 80.19 20 P **P 18 03 38.2 +1.3**
baz=226
L20K Farewell, AK 80.60 21 P **P 18 03 40.3 +1.3**
baz=228
QSPA South Pole Qui 80.66 180 P **P 18 03 39.1 -0.3**
KOLN Koldanda 80.75 300 *e*P **P 18 03 40.4 -0.4**
comp=Z,19nm,1.0s
DANN Dangsing 80.77 301 *e*P **P 18 03 40.5 -0.5**
K20K Telida 81.13 20 P **P 18 03 42.6 +0.8**
K20K Telida 81.13 20 P **P 18 03 43.3 +1.5**
baz=228
PYUN Piuthan 81.36 300 *e*P **P 18 03 43.5 -0.6**
comp=Z,22nm,1.1s
M22K Willow 81.49 22 P **P 18 03 44.2 +0.6**
PWL Port Wells 81.63 23 P **P 18 03 44.1 -0.4**
PWL IAmb IAmb 18 03 46.7
comp=Z,41nm,1.1s
PWL Port Wells 81.63 23 P **P 18 03 45.8 +1.3**
baz=233
J20K Nowinta River 81.66 19 P **P 18 03 44.9 +0.3**
J20K IAmb IAmb 18 03 54.3
comp=Z,33nm,1.4s
J20K Nowinta River 81.66 19 P **P 18 03 45.8 +1.3**
baz=229
PMR Palmer 81.76 23 P **P 18 03 45.1 0.0**
PMR pmax pmax
comp=Z,20nm,1.1s
PMR Palmer 81.76 23 P **P 18 03 45.1 0.0**
PMR IAmb IAmb 18 03 46.5
comp=Z,20nm,1.1s
PMR Palmer 81.76 23 P **P 18 03 45.9 +0.8**
baz=233
CAST Castle Rocks 81.84 20 P **P 18 03 45.3 -0.3**
CAST Castle Rocks 81.84 20 P **P 18 03 46.0 +0.4**
baz=230
GHO Glory Hole Cre 81.95 23 P **P 18 03 44.3 -2.0**
CHUM Lake Minchumin 82.06 20 P **P 18 03 48.1 +1.5**
baz=229
SML Sawmill 82.19 23 P **P 18 03 47.4 -0.1**
SML IAmb IAmb 18 03 51.4
comp=Z,47nm,1.4s
SML Sawmill 82.19 23 P **P 18 03 49.0 +1.5**
baz=233
KTH Kantishna Hill 82.33 21 P **P 18 03 47.1 -1.1**
KTH IAmb IAmb 18 03 48.8
comp=Z,24nm,1.1s
TRF Thorofare Moun 82.48 21 P **P 18 03 48.4 -0.8**
TRF IAmb IAmb 18 03 51.5
comp=Z,16nm,0.9s
TRF Thorofare Moun 82.48 21 P **P 18 03 49.3 +0.2**
baz=231
WMQ Urumqi 82.54 317 *e*P **P 18 03 50.8 +1.0**
WMQ pP pwP 18 04 02.3 0.0
WMQ sP sP 18 04 11.5 +12
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ LR LR
comp=Z,170nm,22.5s
BPAW Bear Paw Mtn. 82.65 20 P **P 18 03 49.0 -0.9**
BPAW IAmb IAmb 18 03 49.5
comp=Z,52nm,2.0s
BPAW Bear Paw Mtn. 82.65 20 P **P 18 03 49.7 -0.1**
baz=231
RND Reindeer 82.97 21 P **P 18 03 50.6 -0.9**
RND pmax pmax
comp=Z,90nm,1.8s
RND Reindeer 82.97 21 P **P 18 03 50.6 -0.9**
IMAR Indian Mountai 83.00 18 P **P 18 03 51.6 +0.1**
I21K Tanana 83.02 19 P **P 18 03 52.3 +0.6**
I21K Tanana 83.02 19 P **P 18 03 53.0 +1.3**
baz=230
H21K Melozitna Rive 83.07 18 P **P 18 03 52.5 +0.6**
H21K IAmb IAmb 18 03 55.6
comp=Z,21nm,1.4s
H21K Melozitna Rive 83.07 18 P **P 18 03 53.2 +1.3**
baz=229
TIXI Tiksi 83.09 351 LR LR 18 43 39.0
comp=Z,49nm,18.3s,baz=207,slow=38
TIXI Tiksi 83.09 351⇑ *e*P **P 18 03 52.1 +0.2**
TIXI pmax pmax
comp=Z,13nm,1.7s
TIXI Tiksi 83.09 351 P **P 18 03 51.6 -0.3**
TIXI IAmb IAmb 18 04 00.8
comp=Z,26nm,1.7s
MCK McKinley 83.14 21 P **P 18 03 51.7 -0.6**
MCK pmax pmax
comp=Z,53nm,1.0s
MCK McKinley 83.14 21 P **P 18 03 51.7 -0.6**
MCK McKinley 83.14 21 P **P 18 03 52.7 +0.4**
baz=232
MLY Manley 83.33 19 P **P 18 03 53.0 -0.3**
MAW Mawson 83.39 203 LR LR 18 38 14.4
comp=Z,71nm,18.3s,baz=224,slow=34
NEA2 Nenana 83.61 20 P **P 18 03 53.9 -0.8**
NEA2 IAmb IAmb 18 03 55.5
comp=Z,18nm,0.9s
WRH Wood River Hil 83.88 21 P **P 18 03 54.8 -1.2**
WRH IAmb IAmb 18 03 59.2
comp=Z,32nm,1.4s
CCB Clear Creek Bu 84.08 21 P **P 18 03 56.0 -1.1**
MDM Murphy Dome 84.12 20 P **P 18 03 56.8 -0.6**
MDM IAmb IAmb 18 03 58.1
comp=Z,18nm,1.1s
TCOL CIGO, UAF Yank 84.20 20 P **P 18 03 56.9 -0.8**
TCOL IAmb IAmb 18 03 58.4
comp=Z,26nm,1.1s
COLA College 84.20 20*ce*P **P 18 03 57.4 -0.3**
COLA pmax pmax
comp=Z,22nm,0.9s
COLA College 84.20 20 P **P 18 03 56.6 -1.1**
COLA IAmb IAmb 18 03 58.4
comp=Z,20nm,0.8s
HDA Harding Lake 84.24 21 P **P 18 03 56.4 -1.6**
IL31 84.47 21 P **P 18 03 57.7 -1.3**
IL31 IAmb IAmb 18 04 00.5
comp=Z,18nm,1.2s
ILAR Eielson Array 84.47 21 P **P 18 03 58.8 -0.3**
comp=Z,6.8nm,1.0s,baz=264,slow=4.4,SNR=34
ILAR LR LR 18 38 48.7
comp=Z,90nm,21.1s,baz=228,slow=34
ILAR Eielson Array 84.47 21 P **P 18 03 58.0 -1.1**
ILAR Eielson Array 84.47 21 P **P 18 03 58.0 -1.1**
M26K Nabesna, AK 84.60 24 P **P 18 04 01.7 +1.8**
baz=238
MENT Mentasta 84.61 23 P **P 18 03 58.7 -1.2**
MENT IAmb IAmb 18 04 01.9
comp=Z,21nm,1.4s
RIDG Independent Ri 84.62 22 P **P 18 03 58.7 -1.2**
RIDG IAmb IAmb 18 04 01.8
comp=Z,22nm,1.0s
RIDG Independent Ri 84.62 22 P **P 18 04 00.6 +0.6**
baz=236
H24K Noodor Dome 84.77 20 P **P 18 04 00.1 -0.6**
H24K IAmb IAmb 18 06 14.7
comp=Z,33nm,2.0s
H24K Noodor Dome 84.77 20 P **P 18 04 01.0 +0.4**
baz=233
DGZ Jazzator, Alta 84.79 322*ce*P **P 18 04 01.1 -0.1**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
DOT Dot Lake 84.86 22 P **P 18 04 00.8 -0.4**
DOT IAmb IAmb 18 04 03.0
comp=Z,17nm,1.0s
COLD Coldfoot 84.89 18 P **P 18 04 00.7 -0.5**
COLD IAmb IAmb 18 04 06.6
comp=Z,27nm,1.7s
M27K Edge Creek, AK 85.03 24 P **P 18 04 01.5 -0.7**
M27K Edge Creek, AK 85.03 24 P **P 18 04 04.0 +1.8**
baz=239
SCRK Sand Creek 85.07 22 P **P 18 04 02.0 -0.3**
SCRK IAmb IAmb 18 04 06.5
comp=Z,24nm,1.4s
SCRK Sand Creek 85.07 22 P **P 18 04 03.3 +1.0**
baz=237
PRP Porcupine Dome 85.38 20 P **P 18 04 05.7 +1.9**
baz=236
L27K Beaver Creek, 85.41 23 P **P 18 04 03.9 0.0**
L27K IAmb IAmb 18 04 08.0
comp=Z,19nm,1.4s
L27K Beaver Creek, 85.41 23 P **P 18 04 05.5 +1.6**
baz=239
BCAR Beaver Creek A 85.43 23 P **P 18 04 04.2 +0.2**
TOLK Toolik Lake Re 85.96 17 P **P 18 04 07.3 +0.7**
TOLK Toolik Lake Re 85.96 17 P **P 18 04 07.7 +1.1**
baz=232
HYT Haines Junctio 86.12 26 P **P 18 04 09.7 +2.2**
baz=243
EGAK Eagle 86.54 22 P **P 18 04 10.9 +1.5**
baz=240
BMAR Burnt Mountain 86.76 19 P **P 18 04 09.9 -0.6**
DAWY Dawson 86.86 23 P **P 18 04 10.5 -0.5**
DAWY IAmb IAmb 18 04 24.2
comp=Z,23nm,1.4s
DAWY Dawson 86.86 23 P **P 18 04 12.7 +1.7**
baz=241
MK31 Makanchi Array 87.11 318 P **P 18 04 11.8 -0.8**
MK31 pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 87.11 318 P **P 18 04 11.8 -0.8**
MKAR Makanchi Array 87.11 318 P **P 18 04 12.9 +0.4**
comp=Z,3.1nm,0.8s,baz=107,slow=5.4,SNR=38
MKAR LR LR 18 41 33.2
comp=Z,48nm,21.7s,baz=88,slow=35
MKAR Makanchi Array 87.11 318 *i* P **P 18 04 13.0 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 87.11 318 P **P 18 04 12.0 -0.6**
N31M Braeburn, Yuko 87.16 26 P **P 18 04 11.7 -0.9**
M30M Minto, Yukon 87.21 25 P **P 18 04 14.7 +1.9**
baz=244
GDXM Geysers 87.50 50 P **P 18 04 12.3 -2.5**
BBB Bella Bella 87.62 36 LR LR 18 43 17.4
comp=Z,114nm,18.1s,baz=262,slow=36
ZALV Zalesovo Beam 87.77 326 P **P 18 04 14.7 -0.8**
comp=Z,1.6nm,0.6s,baz=106,slow=5.3,SNR=8.8
ZALV LR LR 18 43 05.1
comp=Z,55nm,20.8s,baz=168,slow=35
ZALV Zalesovo Beam 87.77 326 *i* P **P 18 04 14.6 -1.0**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
I29M Ogilvie Camp, 87.88 22 P **P 18 04 14.6 -1.3**
M31M Drury Creek, Y 88.06 26 P **P 18 04 16.1 -0.7**
M31M IAmb IAmb 18 04 19.4
comp=Z,23nm,1.4s
M02C Callahan 88.08 48 P **P 18 04 19.5 +2.0**
baz=256
RPN Rapa Nui 88.17 117 LR LR 18 35 15.2
comp=Z,43nm,20.5s,baz=68,slow=30
FARO Faro, Yukon 88.52 26 P **P 18 04 20.4 +1.4**
baz=247
O03E Paynes Creek 88.59 49 P **P 18 04 17.3 -2.6**
O03E IAmb IAmb 18 04 29.7
comp=Z,27nm,1.4s
ORV Oroville 88.65 50 P **P 18 04 18.0 -2.1**
ORV pmax pmax
comp=Z,10.0nm,1.3s
ORV Oroville 88.65 50 P **P 18 04 18.0 -2.1**
DLBC Dease Lake 88.65 30 LR LR 18 36 23.1
comp=Z,185nm,21.3s,baz=324,slow=30
EPYK Eagle Plains 88.92 21 P **P 18 04 19.9 -0.9**
EPYK Eagle Plains 88.92 21 P **P 18 04 22.2 +1.3**
baz=244
J04D Umpqua Nationa 89.06 46 P **P 18 04 21.8 -0.4**
J04D IAmb IAmb 18 04 27.9
comp=Z,15nm,1.0s
J05D Fort Rock, OR 89.69 46 P **P 18 04 26.8 +1.7**
baz=257
MPK Martis Peak 89.70 50 P **P 18 04 23.6 -1.8**
MPK IAmb IAmb 18 04 28.8
comp=Z,14nm,1.1s
KSH Kashi 89.77 310 P **P 18 04 28.0 +2.4**
KSH pP pwP 18 04 39.5 +1.4
KSH pmax pmax
comp=Z,3.0nm,1.6s
PNTR Pine Nut 89.99 50 P **P 18 04 24.0 -2.7**
PNTR IAmb IAmb 18 04 30.0
comp=Z,11nm,0.9s
PINE Pine Mountain 90.01 46 P **P 18 04 25.1 -1.5**
PINE IAmb IAmb 18 04 30.0
comp=Z,12nm,1.1s
ISA Isabella, Lake 90.18 54 P **P 18 04 25.3 -2.2**
ISA pmax pmax
comp=Z,30nm,1.8s
ISA Isabella, Lake 90.18 54 P **P 18 04 25.3 -2.2**
ISA IAmb IAmb 18 04 38.3
comp=Z,30nm,1.8s
ISA Isabella, Lake 90.18 54 P **P 18 04 29.6 +2.1**
baz=259
MWC Mount Wilson 90.23 55 P **P 18 04 25.0 -2.9**
MWC pmax pmax
comp=Z,32nm,1.3s
MWC Mount Wilson 90.23 55 P **P 18 04 25.0 -2.9**
PAHR Pah Rah Range 90.28 50 P **P 18 04 25.6 -2.3**
PAHR IAmb IAmb 18 04 38.0
comp=Z,23nm,1.5s
EDW2 Edwards Air Fo 90.41 55 P **P 18 04 30.9 +2.3**
baz=259
KURK Kurchatov 90.49 321⇓ *e*P **P 18 04 27.6 -0.8**
KURK pmax pmax
comp=Z,7.0nm,1.4s
KURBB Kurchatov Arra 90.52 321 LR LR 18 43 34.3
comp=Z,46nm,22.0s,baz=66,slow=35
CWC Cottonwood Cre 90.64 53 P **P 18 04 32.0 +2.2**
baz=259
LHV Little Huntoon 90.66 51 P **P 18 04 27.8 -1.7**
LHV IAmb IAmb 18 04 33.2
comp=Z,17nm,1.0s
RYN Ryan 90.72 51 P **P 18 04 28.0 -2.1**
RYN IAmb IAmb 18 04 33.2
comp=Z,10nm,1.0s
LRMC Laurel Mtn Rad 90.78 54 P **P 18 04 32.7 +2.4**
baz=259
NVAR Mina Array Bea 90.85 51 P **P 18 04 33.0 +2.3**
comp=Z,9.7nm,0.8s,baz=241,slow=7.4,SNR=61
NVAR LR LR 18 42 30.5
comp=Z,77nm,18.5s,baz=286,slow=34
NVAR Mina Array Bea 90.85 51 P **P 18 04 27.9 -2.9**
INK Inuvik 90.86 20 P **P 18 04 30.8 +1.0**
baz=247
NV11 Mina Array Sit 90.96 51 P **P 18 04 28.7 -2.5**
NV11 IAmb IAmb 18 04 34.1
comp=Z,17nm,1.0s
MPMC Manual Prospec 91.04 54 P **P 18 04 33.4 +1.7**
baz=259
SYO Syowa Base 91.08 198⇓ *e*P **P 18 04 28.2 -2.7**
I07A Izee 91.09 46 IAmb IAmb 18 04 34.2
comp=Z,9.0nm,1.1s
KVN Kaiserville 91.12 51 P **P 18 04 31.4 -0.6**
KVN pmax pmax
comp=Z,20nm,1.2s
KVN Kaiserville 91.12 51 P **P 18 04 31.4 -0.6**
KVN IAmb IAmb 18 04 42.1
comp=Z,20nm,1.2s
WVOR Wild Horse Val 91.38 47 IAmb IAmb 18 04 36.0
comp=Z,12nm,1.2s
PFO Pinyon Flats O 91.43 56 LR LR 18 37 57.9
comp=Z,131nm,20.2s,baz=278,slow=30
GSC Goldstone, Bar 91.45 55 P **P 18 04 35.9 +2.5**
baz=260
AAK Ala-Archa 91.50 313 LR LR 18 47 29.0
comp=Z,32nm,18.9s,baz=72,slow=37
AAK Ala-Archa 91.50 313⇓ *e*P **P 18 04 34.2 +0.6**
AAK pmax pmax
comp=Z,11nm,3.0s
QSM Queen of Sheba 91.52 54 IAmb IAmb 18 04 43.6
comp=Z,19nm,1.6s
FURC Furnace Creek, 91.61 53 P **P 18 04 36.9 +2.9**
baz=260
TPH Tonopah 91.62 52 P **P 18 04 33.7 -0.6**
TPH pmax pmax
comp=Z,41nm,0.9s
TPH Tonopah 91.62 52 P **P 18 04 33.7 -0.6**
J08A Circle Bar Ran 91.67 46 IAmb IAmb 18 04 36.9
comp=Z,12nm,1.0s
GWY Greenwater Val 91.72 54 P **P 18 04 33.1 -1.6**
GWY IAmb IAmb 18 04 40.8
comp=Z,15nm,1.4s
HEC Hector,Ludlow 91.74 55 P **P 18 04 37.4 +2.6**
baz=260
BELC Belle Mtn. Jos 91.88 56 P **P 18 04 37.9 +2.4**
baz=260
NRIK Noril'sk 91.91 340 LR LR 18 44 50.9
comp=Z,126nm,21.8s,baz=98,slow=35
TPNV Topopah Spring 92.18 53 P **P 18 04 39.0 +2.1**
baz=260
GMRC Granite Mounta 92.28 55 P **P 18 04 39.8 +2.5**
baz=260
IRM Iron Mountain 92.60 56 P **P 18 04 41.5 +2.7**
baz=260
BMO Blue Mountains 92.78 45 IAmb IAmb 18 04 42.2
comp=Z,17nm,1.6s
R11A Troy Canyon, C 92.94 52 P **P 18 04 43.0 +2.6**
baz=260
PRN Pahroc Range 93.20 53 P **P 18 04 40.3 -1.3**
PRN IAmb IAmb 18 04 45.1
comp=Z,11nm,1.2s
NEW Newport 93.51 42 LR LR 18 40 37.6
comp=Z,118nm,19.5s,baz=286,slow=32
ELK Elko 93.59 49 LR LR 18 47 37.3
comp=Z,41nm,18.5s,baz=329,slow=36
ELK Elko 93.59 49 P **P 18 04 42.1 -1.3**
ELK pmax pmax
comp=Z,5.0nm,1.1s
ELK Elko 93.59 49 P **P 18 04 42.1 -1.3**
SPR3 Spring Creek 3 94.01 51 IAmb IAmb 18 04 56.4
comp=Z,13nm,1.2s
C36M Paulatuk 94.44 20 IAmb IAmb 18 04 48.4
comp=Z,16nm,1.5s
HLID Hailey 94.62 47 P **P 18 04 47.4 -0.6**
HLID IAmb IAmb 18 04 58.7
comp=Z,17nm,1.9s
HLID Hailey 94.62 47 P **P 18 04 50.2 +2.2**
baz=262
A36M Sachs Harbour 94.75 18 P **P 18 04 48.5 +0.8**
baz=254
LPIG La Paz 95.30 67 LR LR 18 39 58.2
comp=Z,88nm,20.2s,baz=243,slow=31
BRVK Borovoye 96.00 323⇓ *e*P **P 18 04 52.9 -0.9**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
BOZ Bozeman (W) 96.86 45 P **P 18 04 59.2 +1.1**
baz=264
YKA Yellowknife Ar 97.01 28 P Pdif 18 04 58.6 +0.4
comp=Z,2.1nm,0.9s,baz=259,slow=4.5,SNR=19
BW06 Boulder Array 98.06 48 IAmb IAmb 18 08 21.6
comp=Z,16nm,2.0s
PD31 Pinedale Array 98.06 48 P **P 18 05 01.4 -2.2**
PDAR Pinedale Array 98.06 48 P Pdif 18 05 04.5 +0.8
comp=Z,1.8nm,0.9s,baz=253,slow=2.1,SNR=11
PDAR LR LR 18 45 15.0
comp=Z,76nm,18.4s,baz=311,slow=33
ANMO Albuquerque 99.81 56 LR LR 18 42 33.5
comp=Z,69nm,20.8s,baz=308,slow=31
KIV Kislovodsk 114.58 314 *i* PKIKP PKPdf 18 10 04.7 -2.5
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,75nm,22.0s
AKASG Malin Array Be 121.15 325 PKP **PKPdf 18 10 19.0 -0.5**
comp=Z,0.6nm,0.7s,baz=62,slow=2.5,SNR=4.0
LPAZ La Paz 127.74 119 PKP **PKiKP 18 10 34.9 +0.5**
comp=Z,2.2nm,1.0s,baz=297,slow=4.5,SNR=4.4
BRG Berggiesshubel 129.11 331 *e*PKP **PKiKP 18 10 36.4 +0.9**
BRG Amp 18 10 38.3
comp=Z,8.8nm,1.4s
BRG Berggiesshubel 129.11 331 *e*PKIKP **PKiKP 18 10 36.3 +0.9**
BRG pmax pmax
comp=Z,9.0nm,1.4s
GERES GERESS Array B 130.56 329 PKP **PKPdf 18 10 38.0 +0.3**
comp=Z,0.2nm,0.4s,baz=24,slow=2.7,SNR=1.8
DAVOX Davos/Dischmat 133.86 330 PKP **PKPdf 18 10 44.1 -0.1**
comp=Z,1.1nm,0.6s,baz=344,slow=19,SNR=2.0
BDFB Brasilia 144.24 134 PKP **PKPdf 18 11 03.2 -0.6**
comp=Z,11nm,0.7s,baz=222,slow=4.5,SNR=15
BDFB Brasilia 144.24 134 PKIKP **PKPdf 18 11 03.6 -0.2**
BDFB Brasilia 144.24 134 PKPdf **PKPdf 18 11 03.6 -0.2**
ESDC Sonseca Array 145.76 335 PKPbc **PKPab 18 11 06.6 +0.1**
comp=Z,1.4nm,1.1s,baz=348,slow=3.5,SNR=5.2
MDT Midelt 151.63 328 PKPbc **PKPbc 18 11 20.8 -0.9**
comp=Z,2.0nm,0.8s,baz=262,slow=4.2,SNR=4.4
TORD Torodi Ar. Bea 156.44 281 PKPbc **PKPdf 18 11 29.7 +7.1**
comp=Z,1.1nm,0.8s,baz=345,slow=1.3,SNR=4.8

*IDC **26** 18:19:17.9±1.4, 35°.52N×3°.99W, h0km, mb3.1/3, mb1 3.2/5, mb1mx3.2/41, mbtmp3.1/5, ML2.8/2, Error ellipse: s-maj=40.9km s-min=18.4km az=89.0*
*SFS **26** 18:19:17.0, 35°.45N×3°.86W, ML2.6, ALBORAN SUR*
ISC 26 18:19:17.2±0.9,**35°.40N**±0°.07×**3°.89W**±0°.06,**h11**km,**n8**, σ**2**s**71**/**11**,**mb3.4**/**3**,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAS	**Isla Isabel II**	**1.21**	**100**	*e*P	**Pn**	**18 19 37.7**	**-2.4**
CHAS				*e*S	**Sb**	**18 19 52.2**	**-3.6**
CEU	**Ceuta**	**1.30**	**293**	*e*P	**Pn**	**18 19 39.1**	**-2.2**
CEU				*e*S	**Sb**	**18 19 55.6**	**-2.9**
EMAL	**Malaga-Limoner**	**1.43**	**342**	*e*P	**Pn**	**18 19 42.1**	**-0.9**
EMAL				*e*S	**Sn**	**18 19 59.5**	**-2.3**
MDT	**Midelt**	**2.65**	**193**	Pn	**Pb**	**18 20 04.6**	**-0.1**
	0.4nm,0.3s,baz=13,slow=21,SNR=5.2						
ESDC	**Sonseca Array**	**4.27**	**359**	Pn	**Pn**	**18 20 23.2**	**+1.1**
	0.6nm,0.3s,baz=179,slow=12,SNR=24						
ESDC				Lg	Lg	18 21 31.8	
	0.9nm,0.3s,baz=181,slow=28,SNR=2.1						
TORD	**Torodi Ar. Bea**	**22.72**	**166**	P	**P**	**18 24 23.0**	**+3.8**
	0.4nm,0.8s,baz=331,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**62.84**	**50**	P	**P**	**18 29 45.1**	**+2.2**
	0.3nm,0.8s,baz=308,slow=4.9,SNR=2.1						
YKA	**Yellowknife Ar**	**67.88**	**332**	P	**P**	**18 30 16.1**	**+0.9**
	0.2nm,0.8s,baz=66,slow=6.3,SNR=1.4						

*IDC **26** 18:19:41.0±1.9, 35°.57N×4°.05W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/42, mbtmp3.4/4, ML3.1/2, MS4.0/2, Ms1 4.0/2, ms1mx2.7/88, Error ellipse: s-maj=59.5km s-min=15.0km az=94.0*
*CNRM **26** 18:19:42.3, 35°.50N×3°.69W, h20km, ml3.5*
*MDD **26** 18:19:42.7±0.8, 35°.52N×3°.84W, h0km, mbLg3.1/8, Error ellipse: s-maj=7.3km s-min=4.5km az=26.0*
MDD EMS: II INTENSIDAD MAIXMA.
ISC 26 18:19:41.7±1.0,**35°.53N**±0°.03×**3°.74W**±0°.03,**h16**km±8km,

n27,σ1ˢ69/35, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**208**	P	**Pg**	**18 19 48.7**	**-0.4**
PALE				S	**Sg**	**18 19 53.4**	**-0.7**
EMEL	**Melilla**	**0.68**	**110**	Pg	**Pn**	**18 19 56.9**	**+0.3**
	205nm,0.4s,SNR=15						
EMEL				Lg	Lg	18 20 05.0	
	4μm,0.2s,SNR=8.2						
GOG	**Mont Gurugu**	**0.68**	**117**	P	**Pn**	**18 19 57.0**	**+0.3**
GOG				S	**Sg**	**18 20 04.3**	**+0.3**
EALB	**Alboran**	**0.70**	**54**	Pg	**Pn**	**18 19 57.1**	**+0.2**
	76nm,0.3s,SNR=26						
EALB				Lg	Lg	18 20 07.6	
	2μm,0.4s,SNR=11						
CHAS	**Isla Isabel II**	**1.12**	**108**	*e*P	**Pb**	**18 20 02.1**	**-0.6**
CHAS				*e*S	**Sb**	**18 20 15.9**	**-1.1**
EMIJ	**Mijas**	**1.33**	**321**	Pg	**Pb**	**18 20 06.8**	**+0.6**
	14nm,0.3s,SNR=14						
EMIJ				Lg	Lg	18 20 24.4	
	136nm,0.3s,SNR=5.0						
ELGU	**Los Guajares,**	**1.34**	**4**	Pg	**Pb**	**18 20 07.0**	**+0.7**
	SNR=7.9						
ELGU				Lg	Lg	18 20 25.3	
	182nm,0.2s,SNR=7.9						
CHEFC	**Chefchaouen**	**1.38**	**253**	P	**Pb**	**18 20 07.9**	**+0.8**
CHEFC				S	**Sn**	**18 20 16.6**	**-7.7**
ECEU	**Ceuta**	**1.39**	**286**	Pg	**Pn**	**18 20 05.9**	**-0.4**
	16nm,0.5s,SNR=8.0						
ECEU				Lg	Lg	18 20 23.6	
	50nm,0.2s,SNR=5.0						
EBER	**Berja**	**1.52**	**26**	Pg	**Pg**	**18 20 11.3**	**+0.3**
	8.5nm,0.4s,SNR=12						
EBER				Lg	Lg	18 20 31.0	
	164nm,0.4s,SNR=5.0						
JBK	**JBK**	**1.53**	**141**	S	**Sn**	**18 20 26.7**	**-1.5**
EQUE	**Quentar**	**1.69**	**8**	Pg	**Pg**	**18 20 14.3**	**+0.2**
	22nm,0.6s,SNR=16						
EQUE				Lg	Lg	18 20 37.3	
	64nm,0.4s,SNR=5.0						
SICH	**Sidi Chahed**	**1.93**	**223**	P	**Pb**	**18 20 16.7**	**+0.3**
SICH				S	**Sb**	**18 20 39.9**	**-0.4**
LCRM	**LCR**	**2.06**	**207**	P	**Pb**	**18 20 18.5**	**-0.3**
LCRM				S	**Sn**	**18 20 42.1**	**+0.9**
EQES	**Quesada**	**2.33**	**13**	Pg	**Pg**	**18 20 25.6**	**-0.7**
	11nm,0.4s,SNR=19						
EQES				Lg	Lg	18 20 52.7	
	55nm,0.2s,SNR=5.0						
MD31	**MD31**	**2.79**	**198**	P	**Pn**	**18 20 27.0**	**+1.2**
MD31				S	**Sn**	**18 20 59.3**	**+0.1**
MDT	**Midelt**	**2.81**	**195**	Pn	**Pn**	**18 20 27.5**	**+1.6**
	2.2nm,0.3s,baz=29,slow=19,SNR=5.8						
MDT				Sn	**Sn**	**18 20 59.2**	**-0.3**
	5.5nm,0.3s,baz=85,slow=18,SNR=6.0						
MDT				Lg	Lg	18 21 08.5	
	3.8nm,0.3s,baz=311,slow=21,SNR=2.6						
MDT	**Midelt**	**2.81**	**195**	P	**Pn**	**18 20 27.4**	**+1.4**
MDT				S	**Sn**	**18 20 59.3**	**-0.3**
CART	**Cartagena**	**3.01**	**46**	P	**Pn**	**18 20 28.0**	**-0.6**
CART				S	**Sn**	**18 21 02.8**	**-1.5**
ZHG	**ZHG**	**3.18**	**230**	P	**Pn**	**18 20 31.3**	**+0.3**
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	**18 20 39.7**	**+1.3**
ESDC	**Sonseca Array**	**4.14**	**358**	Pn	**Pn**	**18 20 47.2**	**+2.9**
	0.6nm,0.3s,baz=180,slow=13,SNR=6.1						
ESDC				Lg	Lg	18 21 49.1	
	1.2nm,0.3s,baz=180,slow=28,SNR=5.1						
OUK	**Oukaimeden**	**5.53**	**220**	P	**Pn**	**18 21 04.6**	**+1.0**
GEYT	**Alibeck**	**48.82**	**68**	LR	LR	18 51 10.3	
	comp=Z,85nm,18.1s,baz=148,slow=38						
YKA	**Yellowknife Ar**	**67.82**	**332**	P	**P**	**18 30 39.4**	**+0.9**
	0.5nm,0.7s,baz=61,slow=6.5,SNR=5.5						
OPO	**Ambohidratompo**	**72.27**	**129**	LR	LR	19 04 38.1	
	comp=Z,182nm,19.9s,baz=300,slow=37						
PDAR	**Pinedale Array**	**76.84**	**313**	P	**P**	**18 31 33.7**	**+0.6**
	0.3nm,0.6s,baz=46,slow=2.6,SNR=3.8						

*TIF **26** 18:29:11.7,41.°43N×45.°45E,h14km±1km*
*DDA **26** 18:29:12.3±0.0,41.°70N×45.°32E,h9km±2km,ML2.7*
*NORS **26** 18:29:12.7±0.0,41.°34N×45.°54E,h19km,MPVA3.4*
*DRS **26** 18:29:16.6±0.0,41.°54N×45.°53E,h18km*
ISC 26 18:29:12.1±1.2,41.°42N±0.°03×45.°46E±0.°02,h7km±10km, n32,σ0ˢ83/62, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.50**	**87**	P	**Pn**	**18 29 25.3**	**-0.3**
DDFL				S	**Sb**	**18 29 34.9**	**+4.3**
DDFL				*i* AML	AML	18 29 36.0	
	comp=N,289nm,0.6s						
DDFL				*i* AML	AML	18 29 37.0	
	comp=E,357nm,0.3s						
BTNK	**Botanikuri**	**0.56**	**298**	P	**Pg**	**18 29 22.3**	**-0.6**
BTNK				S	**Sg**	**18 29 31.2**	**+0.9**
BTNK	**Botanikuri**	**0.56**	**298**	P	**Pg**	**18 29 22.4**	**-0.6**
BTNK				S	**Sg**	**18 29 30.8**	**+0.5**
BTNK				*i* AML	AML	18 29 31.0	
	comp=Z,986nm,0.2s						
BTNK				*i* AML	AML	18 29 31.0	
	comp=E,2μm,0.1s						
SEAG	**Tbilisi Sea**	**0.60**	**305**	P	**Pb**	**18 29 25.1**	**+0.2**
SEAG				S	**Sb**	**18 29 34.3**	**+0.7**
LGD	**Lagodekhi**	**0.72**	**55**	P	**Pg**	**18 29 26.1**	**+0.2**
LGD				S	**Sb**	**18 29 36.4**	**-0.6**
KZRT	**Kazreti**	**0.80**	**268**	P	**Pg**	**18 29 27.6**	**+0.2**
KZRT				S	**Sb**	**18 29 38.9**	**-0.4**
KZRT	**Kazreti**	**0.80**	**268**	P	**Pg**	**18 29 27.6**	**+0.2**
KZRT				S	**Sg**	**18 29 38.0**	**+0.2**
DMNI	**Dmanisi**	**0.96**	**265**	P	**Pg**	**18 29 30.2**	**-0.3**
DMNI				S	**Sb**	**18 29 43.6**	**-0.4**
TRLG	**Trialeti**	**1.03**	**277**	P	**Pg**	**18 29 31.4**	**-0.4**
TRLG				S	**Sg**	**18 29 45.4**	**+0.2**
BTLR	**Botlikh**	**1.36**	**24**	*e*Pg	**Pn**	**18 29 37.1**	**-0.5**
	8.0nm,0.7s						
BTLR				*e*Sg	**Sb**	**18 29 55.2**	**-0.5**
	112nm,0.2s						
PNSH	**Pansheti**	**1.37**	**333**	P	**Pn**	**18 29 37.8**	**+0.1**
PNSH				S	**Sn**	**18 29 56.3**	**+0.1**
BGD	**Bogdanovka**	**1.41**	**264**	P	**Pb**	**18 29 38.5**	**-0.3**
BGD				S	**Sg**	**18 29 57.5**	**+0.1**
KMKR	**Kumukh**	**1.42**	**59**	*e*Pg	**Pn**	**18 29 38.1**	**-0.4**
	2.0nm,0.6s						
KMKR				*e*Sg	**Sn**	**18 29 56.6**	**-0.8**
	21nm,0.3s						
XNZR	**Khunzakh**	**1.45**	**39**	*e*Pg	**Pb**	**18 29 39.2**	**-0.4**
	10.0nm,0.1s						
XNZR				*e*Sg	**Sb**	**18 29 58.5**	**+0.2**
	67nm,0.5s						
AKH	**Akhalkalaki**	**1.48**	**270**	P	**Pb**	**18 29 39.6**	**-0.4**
AKH				S	**Sb**	**18 29 59.1**	**0.0**
GNBR	**Gunib**	**1.48**	**49**	*e*Pg	**Pn**	**18 29 39.4**	**+0.2**
	9.0nm,0.3s						
GNBR				*e*Sg	**Sb**	**18 29 59.3**	**+0.3**
EAK	**Akyaka**	**1.58**	**243**	P	**Pb**	**18 29 41.0**	**-0.7**
DVE	**Vedeno**	**1.61**	**18**	*e*Pg	**Pb**	**18 29 42.4**	**+0.2**
DVE				*e*Sg	**Sb**	**18 30 03.4**	**+0.7**
UNCR	**Uncukul**	**1.63**	**37**	*e*Pg	**Pn**	**18 29 41.3**	**+0.1**
	6.0nm,0.4s						
UNCR				*e*Sg	**Sb**	**18 30 03.5**	**+0.2**
	26nm,0.3s						
LACR	**Lac**	**1.65**	**329**	*e*Pg	**Pb**	**18 29 42.7**	**-0.1**
LACR				*e*Sg	**Sb**	**18 30 05.0**	**+1.1**
AKT	**Akhty**	**1.71**	**87**	*e*Pg	**Pn**	**18 29 42.1**	**-0.3**
	14nm,0.2s						
AKT				*e*Sg	**Sb**	**18 30 04.6**	**-0.9**
	10.0nm,0.3s						
KRNR	**Karanay**	**1.77**	**37**	*e*Pg	**Pb**	**18 29 44.5**	**-0.4**
	3.0nm,0.3s						
KRNR				*e*Sg	**Sb**	**18 30 08.2**	**+0.8**
ZEI	**Tsey**	**1.79**	**320**	*e*Pg	**Pb**	**18 29 45.3**	**-0.1**
ZEI				*e*Sg	**Sb**	**18 30 09.2**	**+1.2**
GROC	**Groznyy**	**1.80**	**8**	*i* Pg	**Pb**	**18 29 44.5**	**-0.8**
GROC				*e*Pg	**Pg**	**18 29 45.8**	**-0.7**
GROC				*e*Sg	**Sb**	**18 30 09.0**	**+0.9**
	10.0nm,0.6s						
GROC				*e*Sg	**Sg**	**18 30 11.9**	**+2.0**
DIGO	**Kars**	**1.87**	**238**	P	**Pb**	**18 29 47.1**	**+0.3**
IGDI	**IGDIR**	**1.87**	**215**	P	**Pb**	**18 29 46.8**	**+0.2**
DBC	**Dubki**	**1.89**	**32**	*e*Pg	**Pb**	**18 29 46.3**	**-0.7**
	2.0nm,0.1s						
DBC				*e*Sg	**Sg**	**18 30 12.3**	**-0.6**
ONI	**Oni**	**1.90**	**309**	P	**Pb**	**18 29 47.1**	**0.0**
ONI				S	**Sg**	**18 30 12.5**	**-0.6**
ABS	**Abastumani**	**2.01**	**280**	P	**Pb**	**18 29 48.7**	**-0.4**
ABS				S	**Sg**	**18 30 15.9**	**-0.8**
DIGR	**Digorskoe uzhe**	**2.03**	**317**	*e*Pg	**Pb**	**18 29 49.3**	**-0.2**
DIGR				*e*Sg	**Sb**	**18 30 16.0**	**+1.0**
EPOS	**Posof**	**2.06**	**273**	S	**Pn**	**18 29 47.9**	**+0.8**
TKB	**Tkibuli**	**2.06**	**298**	P	**Pb**	**18 29 49.4**	**-0.4**
TKB				S	**Sb**	**18 30 16.5**	**+0.8**

*CNRM **26** 18:33:25.8,35.°53N×3.°74W,h14km,ml3.2*
*IGIL **26** 18:33:26.4,35.°20N×3.°80W,h23km,ML2.5*
*SFS **26** 18:33:26.0,35.°50N×3.°84W,ML2.6,ALBORAN SUR*
ISC 26 18:33:25.0±1.5,35.°53N±0.°03×3.°76W±0.°03,h14km±12km, n16,σ1ˢ27/27, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**205**	P	**Pb**	**18 33 33.0**	**+0.1**
PALE				S	**Sb**	**18 33 37.6**	**-0.7**
GOG	**Mont Gurugu**	**0.70**	**116**	P	**Pb**	**18 33 39.7**	**+0.7**
GOG				S	**Sb**	**18 33 48.6**	**+0.1**
CHAS	**Isla Isabel II**	**1.14**	**107**	*e*P	**Pn**	**18 33 46.3**	**-0.2**
CHAS				*e*S	**Sb**	**18 34 00.2**	**-1.0**
EMAL	**Malaga-Limoner**	**1.34**	**337**	*e*P	**Pb**	**18 33 50.6**	**+0.7**
EMAL				*e*S	**Sb**	**18 34 08.5**	**+1.6**
CHEFC	**Chefchaouen**	**1.36**	**252**	P	**Pg**	**18 33 51.2**	**+0.1**
CHEFC				S	**Sg**	**18 34 08.2**	**-0.5**
CEU	**Ceuta**	**1.36**	**286**	*e*P	**Pn**	**18 33 48.4**	**-1.1**
CEU				*e*S	**Sn**	**18 34 04.8**	**-2.5**
JBK	**JBK**	**1.55**	**140**	P	**Pn**	**18 33 52.3**	**0.0**
JBK				S	**Sn**	**18 34 12.8**	**+0.6**
SICH	**Sidi Chahed**	**1.91**	**222**	P	**Pb**	**18 34 00.1**	**+0.4**
SICH				S	**Sb**	**18 34 24.0**	**+0.6**
LCRM	**LCR**	**2.05**	**206**	P	**Pb**	**18 34 02.1**	**0.0**
LCRM				S	**Sg**	**18 34 29.1**	**-1.8**
MD31	**MD31**	**2.78**	**198**	P	**Pn**	**18 34 10.7**	**+1.5**
MDT	**Midelt**	**2.80**	**195**	P	**Pn**	**18 34 11.9**	**+2.5**
CART	**Cartagena**	**3.03**	**46**	P	**Pn**	**18 34 12.4**	**0.0**
ZHG	**ZHG**	**3.16**	**230**	P	**Pn**	**18 34 15.9**	**+1.5**
PVAQ	**Vaqueiros**	**3.69**	**302**	P	**Pn**	**18 34 23.1**	**+1.5**
MESJ	**Messejana**	**4.26**	**304**	*e*P	**Pn**	**18 34 30.9**	**+1.5**
MESJ				*e*S	**Sn**	**18 35 17.9**	**-0.9**
MESJ				IAML		18 35 20.4	
	comp=N,4.3nm,0.3s						
MORF	**Marmelete**	**4.32**	**296**	*e*P	**Pn**	**18 34 31.1**	**+0.8**
MORF				*e*S	**Sn**	**18 35 18.6**	**-1.9**
MORF				IAML		18 35 23.8	
	comp=N,15nm,0.2s						

*SFS **26** 18:48:25.0,35.°56N×3.°83W,ML2.6,ALBORA SUR*
*CNRM **26** 18:48:27.3,35.°51N×3.°68W,h15km,ml3.0*
*IGIL **26** 18:48:28.1,35.°57N×3.°83W,h0km,ML2.5*
ISC 26 18:48:25.9±1.4,35.°62N±0.°04×3.°69W±0.°03,h21km±4km, n16,σ1ˢ56/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.45**	**207**	P	**Pb**	**18 48 34.0**	**-1.0**
PALE				S	**Sb**	**18 48 39.7**	**-1.5**
GOG	**Mont Gurugu**	**0.69**	**124**	P	**Pb**	**18 48 39.7**	**+0.3**
GOG				S	**Sb**	**18 48 49.0**	**+0.5**
AKLM	**AKL**	**1.11**	**187**	P	**Pb**	**18 48 47.0**	**+0.6**
CHAS	**Isla Isabel II**	**1.12**	**112**	*e*P	**Pn**	**18 48 46.3**	**-0.1**
CHAS				*e*S	**Sb**	**18 49 00.7**	**+0.2**
EMAL	**Malaga-Limoner**	**1.29**	**333**	*e*P	**Pb**	**18 48 49.7**	**+0.2**
EMAL				*e*S	**Sb**	**18 49 06.7**	**+1.2**
CEU	**Ceuta**	**1.40**	**282**	*e*P	**Pn**	**18 48 48.4**	**-1.7**
CEU				*e*S	**Sn**	**18 49 03.4**	**-4.5**
CHEFC	**Chefchaouen**	**1.44**	**250**	P	**Pb**	**18 48 51.7**	**-0.3**
CHEFC				S	**Sb**	**18 49 11.5**	**+1.6**
JBK	**JBK**	**1.58**	**144**	P	**Pn**	**18 48 52.7**	**-0.1**
JBK				S	**Sb**	**18 49 13.4**	**-0.7**
SICH	**Sidi Chahed**	**2.01**	**222**	P	**Pb**	**18 49 02.4**	**+0.6**
SICH				S	**Sb**	**18 49 28.2**	**+1.7**
LCRM	**LCR**	**2.15**	**207**	P	**Pb**	**18 49 03.0**	**-1.2**
LCRM				S	**Sn**	**18 49 26.9**	**0.0**
MD31	**MD31**	**2.88**	**198**	P	**Pn**	**18 49 12.3**	**+1.7**
MDT	**Midelt**	**2.90**	**195**	P	**Pn**	**18 49 12.1**	**+1.2**
ZHG	**ZHG**	**3.26**	**229**	P	**Pn**	**18 49 17.9**	**+2.1**
PVAQ	**Vaqueiros**	**3.70**	**300**	P	**Pn**	**18 49 23.5**	**+1.6**
MESJ	**Messejana**	**4.26**	**303**	*e*P	**Pn**	**18 49 31.2**	**+1.7**
MESJ				*e*S	**Sn**	**18 50 17.6**	**-1.0**
MESJ				IAML		18 50 21.1	
	comp=N,9.9nm,0.5s						
MORF	**Marmelete**	**4.34**	**294**	*e*S	**Sn**	**18 50 19.1**	**-1.5**
MORF				IAML		18 50 24.1	
	comp=N,10nm,0.3s						

*TUL **26** 18:48:33.2±1.5,36.°09N±0.°01×97.°44W±0.°02,h7km±6km, ML2.9,mb_Lg2.6/28(NEIC),Error ellipse: s-maj=2.1km s-min=1.5km az=68.0*
NEIC 26 18:48:33.2±1.3,36.°10N±0.°01×97.°44W±0.°01,h7km±5km, Error ellipse: s-maj=1.7km s-min=1.2km az=198.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.30**	**182**	Pg	Pg	18 48 39.1	0.0
OK029				Sg	Sg	18 48 43.3	+0.3
OK033	**Mehan**	**0.41**	**97**	Pg	Pg	18 48 41.4	+0.2
OK033				Sg	Sg	18 48 47.1	+0.5
BCOK	**Bluff Creek, N**	**0.46**	**197**	Pg	Pg	18 48 41.9	-0.2
BCOK				Sg	Sg	18 48 48.4	+0.3
OK031	**S. Brethren Rd**	**0.51**	**106**	Pg	Pg	18 48 43.1	0.0
OK031				Sg	Sg	18 48 50.1	+0.4
OK025	**Westminster Rd**	**0.52**	**171**	Pg	Pg	18 48 43.2	0.0
OK025				Sg	Sg	18 48 50.5	+0.4
OK030	**Cody Creek RV**	**0.56**	**107**	Pg	Pg	18 48 44.1	+0.1
OK030				Sg	Sg	18 48 51.7	+0.4
OK034	**N. Norfolk Rd.**	**0.60**	**98**	Pg	Pg	18 48 44.8	+0.1
OK034				Sg	Sg	18 48 53.0	+0.5
CROK	**Carrier**	**0.60**	**313**	Pg	Pg	18 48 44.8	+0.1
CROK				Sg	Sg	18 48 53.2	+0.7
QUOK	**Quay**	**0.60**	**83**	Pg	Pg	18 48 44.9	+0.1
QUOK				Sg	Sg	18 48 52.9	+0.3
OKCFA	**Oklahoma City**	**0.68**	**181**	Pg	Pg	18 48 46.2	0.0
OKCFA				Sg	Sg	18 48 55.5	+0.4
OKCSW	**OKLAHOMA CITY**	**0.69**	**180**	Pg	Pg	18 48 45.0	-1.4
OKCSW				Sg	Sg	18 48 55.4	0.0
BLOK	**Blackwell**	**0.69**	**15**	Pg	Pg	18 48 46.5	+0.1
BLOK				Sg	Sg	18 48 55.8	+0.4
GC02	**Grant County #**	**0.83**	**336**	Pg	Pg	18 48 48.7	-0.4
GC02				Sg	Sg	18 49 00.3	+0.5
FNO	**Franklin**	**0.84**	**178**	Pg	Pg	18 48 48.7	-0.6
FNO				Sg	Sg	18 49 00.4	+0.2
KAN13	**South Haven SW**	**0.92**	**358**	Pg	Pg	18 48 50.7	-0.1
KAN13				Sg	Sg	18 49 03.0	+0.3
KAN14	**Manchester OK**	**0.96**	**334**		Pg	18 48 51.3	-0.3
KAN14				Sg	Sg	18 49 04.3	+0.3
KAN17	**Caldwell West**	**0.98**	**345**	Pg	Pg	18 48 51.9	-0.2
KAN17				Sg	Sg	18 49 04.5	-0.3
W35A	**Tecumseh**	**1.05**	**154**	Pg	Pg	18 48 52.3	-1.0
KAN05	**Bluff City Nor**	**1.07**	**341**	Pg	Pg	18 48 53.3	-0.4
KAN05				Sg	Sg	18 49 07.9	+0.3
KAN01	**Argonia South**	**1.09**	**347**		Pg	18 48 53.4	-0.6
T35A	**Sooner Cattle**	**1.11**	**42**		Pg	18 48 53.8	-0.8
T35A				Sg	Sg	18 49 08.6	-0.4
KAN10	**Anthony SW Sta**	**1.15**	**333**		Pg	18 48 54.8	-0.5
OK035	**E0210 Rd and N**	**1.19**	**301**		Pg	18 48 55.3	-0.8
OK035				Sg	Sg	18 49 11.5	0.0
KAN06	**Argonia West S**	**1.20**	**344**		Pg	18 48 55.8	-0.4
KAN06				Sg	Sg	18 49 11.5	-0.3
KAN08	**Anthony NE Sta**	**1.21**	**340**	Pg	Pg	18 48 55.9	-0.5
KAN08				Sg	Sb	18 49 12.2	+0.1
KAN16	**Harper SW Stat**	**1.23**	**336**		Pb	18 48 56.3	-0.5
KAN16				Sg	Sg	18 49 12.8	-0.1
KAN12	**Harper NE Stat**	**1.28**	**340**		Pn	18 48 57.0	-0.5
KAN12				Sn	Sn	18 49 15.8	+0.9
U32A	**Winter Ranch,**	**1.29**	**283**	Pn	Pn	18 48 57.3	-0.3
U32A				Sn	Sb	18 49 14.5	-0.1
TUL1	**Leonard**	**1.35**	**97**	Pn	Pn	18 48 57.6	-0.8
TUL1				Sn	Sb	18 49 15.2	-1.1
X34A	**Smith Ranch, M**	**1.52**	**192**		Pb	18 49 01.3	-0.4
X34A				Sn	Sg	18 49 23.0	+0.8
WMOK	**Wichita Mounta**	**1.74**	**219**		Pn	18 49 04.4	+0.6
WMOK				Sn	Sb	18 49 27.0	-0.5
LOOK	**Love County**	**2.11**	**174**		Pn	18 49 07.9	-1.0
LOOK				Sn	Sg	18 49 39.5	-1.4
X37A	**Clayton**	**2.26**	**131**	Pn	Pn	18 49 11.4	+0.5
X37A				Sn	Sb	18 49 41.1	-1.4
X37A				IAmb_Lg		18 49 45.4	
	comp=Z,20nm,0.7s						
U38A	**Gravette**	**2.49**	**81**	Pn	Pn	18 49 15.4	+1.2
R32A	**Long Quarter,**	**2.53**	**337**		Pn	18 49 14.5	-0.2
Z35A	**Perchaven, San**	**2.76**	**177**	Pn	Pn	18 49 16.2	-1.7
HHAR	**Hobbs**	**2.84**	**85**		Pn	18 49 19.6	+0.7
KSU1	**Kansas State U**	**3.07**	**12**	Pn	Pn	18 49 23.3	+1.2
KSU1				IAmb_Lg		18 50 14.7	
	comp=Z,16nm,0.8s						
W39A	**Magazine**	**3.11**	**106**	Pn	Pn	18 49 23.6	+0.9
W39A				IAmb_Lg		18 50 14.1	
	comp=Z,13nm,0.9s						
CBKS	**Cedar Bluff**	**3.27**	**327**		Pn	18 49 24.2	-0.7
MIAR	**Mount Ida**	**3.52**	**115**		Pn	18 49 29.2	+1.0
MIAR				IAmb_Lg		18 50 34.0	
	comp=Z,12nm,0.8s						
AMTX	**Amarillo**	**3.66**	**252**		Pn	18 49 29.3	-1.0
AMTX				IAmb_Lg		18 50 33.8	
	comp=Z,12nm,0.7s						
S39A	**Bolivar**	**3.67**	**63**		Pn	18 49 30.4	+0.2
S39A				IAmb_Lg		18 50 29.3	
	comp=Z,15nm,1.1s						
U40A	**Yellville**	**3.72**	**85**		Pn	18 49 30.7	-0.3
ABTX	**Abilene, Hawle**	**3.91**	**208**	Pn	Pn	18 49 32.1	-1.5
X40A	**Basin Creek Fa**	**4.10**	**112**	Pn	Pn	18 49 37.1	+0.9
X40A				IAmb_Lg		18 50 43.6	
	comp=Z,20nm,0.7s						
WHAR	**Wooly Hollow**	**4.27**	**99**	Pn	Pn	18 49 38.6	+0.1
WHAR				IAmb_Lg		18 50 51.8	
	comp=Z,17nm,0.8s						
MGMO	**Mountain Grove**	**4.29**	**74**	Pn	Pn	18 49 37.0	-1.9
MGMO				IAmb_Lg		18 50 53.6	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.32**	**91**	Pn	Pn	18 49 40.1	+0.9
FCAR				IAmb_Lg		18 50 53.1	
	comp=Z,18nm,0.9s						
W41B	**Gary Mavity, V**	**4.33**	**101**	Pn	Pn	18 49 40.2	+0.8
W41B				IAmb_Lg		18 50 54.7	
	comp=Z,13nm,0.8s						
R40A	**Maddies Statio**	**4.68**	**61**	Pn	Pn	18 49 44.1	0.0
R40A				IAmb_Lg		18 50 58.3	
	comp=Z,11nm,0.7s						
P38A	**Dawn**	**4.69**	**40**		Pn	18 49 44.5	+0.2
MSTX	**Muleshoe**	**4.86**	**246**		Pn	18 49 46.4	-0.4
MSTX				IAmb_Lg		18 51 08.5	
	comp=Z,8.2nm,1.1s						
N35A	**Tabor**	**4.96**	**16**	Pn	Pn	18 49 47.1	-1.0
LCAR	**Lake Charles**	**5.09**	**88**	Pn	Pn	18 49 49.1	-0.7
CCM	**Cathedral Cave**	**5.33**	**67**	Pn	Pn	18 49 49.5	-3.6
PBMO	**Poplar Bluff**	**5.70**	**81**	Pn	Pn	18 49 55.7	-2.4
T25A	**Trinidad**	**5.70**	**283**	IAmb_Lg		18 51 42.0	
	comp=Z,13nm,0.9s						
N38A	**Joes South For**	**5.74**	**34**	Pn	Pn	18 49 57.5	-1.2
FVM	**French Village**	**5.92**	**69**	Pn	Pn	18 49 59.3	-2.0
L34A	**Svendsen Farm,**	**5.92**	**8**	Pn	Pn	18 49 59.7	-1.6
GNAR	**Gosnell**	**6.02**	**89**	Pn	Pn	18 50 00.7	-1.9
OGNE	**Ogallala**	**6.03**	**325**	Pn	Pn	18 50 01.1	-1.8
SDCO	**Great Sand Dun**	**6.66**	**287**	Pn	Pn	18 50 11.5	-0.2
S44A	**Carbondale**	**6.75**	**74**	Pn	Pn	18 50 11.1	-1.6

IDC 26 19:01:27.1±2.1,3.°92N×126.°81E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/27,mbtmp3.3/4,Error ellipse: s-maj=124.6km s-min=26.9km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	P	19 06 22.5	+0.4
	0.7nm,0.4s,baz=10,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**24.84**	**163**	P	P	19 06 51.5	+0.1
	0.7nm,0.8s,baz=341,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**28.27**	**166**	P	P	19 07 22.0	-0.4
	0.1nm,0.7s,baz=345,slow=10,SNR=1.7						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	19 11 17.9	0.0
	0.1nm,0.3s,baz=119,slow=7.7,SNR=4.1						

*NEIC **26** 19:22:01.7±2.1,5.°33S±0.°06×153.°26E±0.°03,h39km±6km, mb4.6/44,Error ellipse: s-maj=9.2km s-min=3.3km az=191.0*
*IDC **26** 19:22:03.4±1.7,5.°36S×153.°19E,h47km±14km,mb4.0/15, mb1 4.2/18,mb1mx4.0/37,mbtmp4.3/18,ML3.1/2,MS3.3/12, Ms1 3.3/12,ms1mx3.1/63,Error ellipse: s-maj=16.6km s-min=10.0km az=76.0*
*DJA **26** 19:22:03.1±1.4,5.°S±8.°×15.°3E±1.°5,h76km±10km,M4.5/8, mB4.2/2,mb4.2/8,MLv4.7/2,Mw(mB)3.3/2*
**ISC 26 19:22:01.2±0.4,5.°37S±0.°05×153.°25E±0.°06,

ARMA	**Armdale**	**24.97 183**	P	**P**	**19 27 21.9**	**+0.2**
ARMA			IAmb	IAmb	19 27 40.5	
comp=Z,25nm,1.6s						
AS31	**Alice Springs**	**26.05 224**	P	**P**	**19 27 30.4**	**-1.1**
ASAR	**Alice Springs**	**26.05 224**	P	**P**	**19 27 31.5**	**0.0**
comp=Z,1.3nm,0.7s,baz=56,slow=9.3,SNR=21						
ASAR			PcP	**PcP**	**19 30 59.8**	**+0.8**
comp=Z,0.8nm,0.6s,baz=47,slow=1.6,SNR=4.5						
ASAR			LR	LR	19 37 09.5	
comp=Z,94nm,21.7s,baz=95,slow=35						
ASAR	**Alice Springs**	**26.05 224**	P	**P**	**19 27 30.1**	**-1.4**
KNRA	**Kununurra**	**26.13 245**	P	**P**	**19 27 30.3**	**-1.9**
KNRA			IAmb	IAmb	19 27 50.2	
comp=Z,15nm,0.8s						
TNTI	**Ternate**	**26.56 283**	P	**P**	**19 27 34.6**	**-1.6**
TNTI			IAmb	IAmb	19 28 09.5	
comp=Z,30nm,1.2s						
LHI	**Lord Howe Isla**	**26.59 169**	P	**P**	**19 27 35.3**	**-0.9**
H11S3	**WAKE ISLAND Hy 27.16 29**		T	T	19 56 01.5	
baz=209,slow=75,SNR=3.6						
H11S2	**WAKE ISLAND Hy 27.16 29**		T	T	19 56 01.8	
baz=209,slow=75,SNR=3.7						
H11S1	**WAKE ISLAND Hy 27.18 29**		T	T	19 56 02.9	
baz=209,slow=75,SNR=3.9						
MSVF	**Nonsavu**	**27.18 119**	LR	LR	19 37 49.8	
comp=Z,115nm,19.0s,baz=8.4,slow=35						
MSVF	**Nonsavu**	**27.18 119**	P	**P**	**19 27 40.3**	**-1.4**
STKA	**Stephens Creek**	**28.55 201**	P	**P**	**19 27 53.5**	**-0.3**
comp=Z,11nm,1.3s,baz=358,slow=9.1,SNR=5.3						
STKA			LR	LR	19 37 46.1	
comp=Z,67nm,20.2s,baz=20,slow=33						
STKA	**Stephens Creek**	**28.55 201**	P	**P**	**19 27 52.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**29.79 243**	P	**P**	**19 28 04.8**	**-0.1**
comp=Z,8.1nm,0.7s,baz=75,slow=8.9,SNR=22						
DAV	**Davao City (W)**	**30.25 294**	LR	LR	19 39 43.6	
comp=Z,53nm,18.3s,baz=116,slow=35						
FORT	**Forrest**	**34.64 220**	P	**P**	**19 28 46.4**	**-0.9**
OUZ	**Omahuta**	**35.15 150**	P	**P**	**19 28 51.8**	**+0.2**
MBWA	**Marble Bar**	**36.09 241**	P	**P**	**19 28 58.5**	**-1.4**
HIZ	**Hauiti**	**38.39 152**	P	**P**	**19 29 18.0**	**-1.2**
URZ	**Urewera**	**39.27 150**	LR	LR	19 44 53.8	
comp=Z,77nm,18.2s,baz=224,slow=35						
NNZ	**Nelson**	**39.98 156**	P	**P**	**19 29 31.4**	**-1.0**
THZ	**Tophouse**	**40.26 157**	P	**P**	**19 29 35.0**	**+0.2**
JHJ2	**Mitsune**	**40.33 342**	P	**P**	**19 29 33.3**	**-2.1**
TUWZ	**Tuamarina**	**40.39 156**	P	**P**	**19 29 33.7**	**-2.2**
BSWZ	**Blackbirch Sta**	**40.60 156**	P	**P**	**19 29 36.6**	**-1.0**
LTZ	**Lake Taylor**	**40.90 159**	P	**P**	**19 29 40.3**	**+0.2**
LTZ			IAmb	IAmb	19 29 57.7	
comp=Z,12nm,1.1s						
MSWZ	**Moikau Station**	**40.93 155**	P	**P**	**19 29 40.4**	**+0.1**
PLWZ	**Palliser**	**41.05 155**	P	**P**	**19 29 41.1**	**-0.3**
LBZ	**Lake Benmore**	**41.61 162**	P	**P**	**19 29 45.7**	**-0.2**
LBZ			IAmb	IAmb	19 30 11.8	
comp=Z,29nm,1.4s						
SBUM	**Sibu**	**41.71 280**	P	**P**	**19 29 46.3**	**-0.8**
MJAR	**Matsushiro Arr**	**44.00 342**	LR	LR	19 45 35.3	
comp=Z,43nm,21.5s,baz=90,slow=32						
JTM	**Tenmabayashi**	**47.27 347**	P	**P**	**19 30 31.0**	**0.0**
ASAJ	**Asahikawa**	**50.18 350**	LR	LR	19 52 25.0	
comp=Z,31nm,18.6s,baz=122,slow=36						
PETK	**Petropavlovsk-**	**58.37 3**	P	**P**	**19 31 52.1**	**-0.8**
comp=Z,1.7nm,0.6s,baz=174,slow=9.0,SNR=4.9						
PETK	**Petropavlovsk-**	**58.37 3**	P	**P**	**19 31 53.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**58.52 295**	P	**P**	**19 31 55.2**	**+0.6**
comp=Z,2.2nm,0.7s,baz=127,slow=5.6,SNR=13						
CMAR	**Chiang Mai Arr**	**58.52 295**	P	**P**	**19 31 52.7**	**-1.9**
MA2	**Magadan**	**64.77 359**	P	**P**	**19 32 35.5**	**-0.3**
MA2			IAmb	IAmb	19 32 37.7	
comp=Z,7.2nm,0.8s						
GTA	**Gaotai**	**66.37 317**	*eP*	**P**	**19 32 48.5**	**+1.6**
GTA			pP	pP	19 32 52.8	-4.0
GTA			sP	pwP	19 32 56.0	-4.4
GTA			pmax	pmax		
comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**66.71 328**	P	**P**	**19 32 48.5**	**-0.3**
ULN			IAmb	IAmb	19 32 52.1	
comp=Z,3.1nm,1.1s						
SHL	**Shillong**	**66.98 301**	P	**P**	**19 32 51.2**	**+0.1**
SHL			IAmb	IAmb	19 32 53.0	
comp=Z,4.8nm,0.8s						
SONM	**Songino Array**	**67.04 328**	P	**P**	**19 32 52.0**	**+1.1**
comp=Z,1.0nm,0.6s,baz=145,slow=5.2,SNR=7.8						
SONM	**Songino Array**	**67.04 328**	P	**P**	**19 32 51.5**	**+0.5**
YAK	**Yakutsk**	**69.61 348**	P	**P**	**19 33 07.3**	**+0.8**
VNDA	**Vanda**	**72.25 178**	P	**P**	**19 33 23.8**	**+1.4**
comp=Z,4.3nm,0.8s,baz=322,slow=6.7,SNR=10.0						
VNDA	**Vanda**	**72.25 178**	P	**P**	**19 33 23.3**	**+0.8**
VNDA			IAmb	IAmb	19 33 25.1	
comp=Z,4.1nm,0.8s						
GUN	**Gumba**	**72.80 301**	*eP*	**P**	**19 33 28.0**	**+1.0**
comp=Z,19nm,0.9s						
PKI	**Pulchoki**	**73.11 301**	*eP*	**P**	**19 33 29.6**	**+0.8**
PKIN	**Phulchoki**	**73.12 301**	*eP*	**P**	**19 33 29.6**	**+0.8**
KKN	**Kakani**	**73.27 301**	*eP*	**P**	**19 33 30.5**	**+0.8**
DMN	**Daman**	**73.38 301**	*eP*	**P**	**19 33 31.6**	**+1.3**
GKN	**Gorkha**	**73.88 301**	*eP*	**P**	**19 33 33.8**	**+0.6**
comp=Z,20nm,0.9s						
KOLN	**Koldanda**	**74.71 301**	*eP*	**P**	**19 33 38.7**	**+0.7**
comp=Z,20nm,0.8s						
DANN	**Dangsing**	**74.72 301**	*eP*	**P**	**19 33 37.7**	**-0.5**
PYUN	**Piuthan**	**75.31 301**	*eP*	**P**	**19 33 41.9**	**+0.4**
comp=Z,22nm,0.9s						
TIXI	**Tiksi**	**78.51 352**	P	**P**	**19 33 57.6**	**-0.8**
TIXI			IAmb	IAmb	19 34 01.3	
comp=Z,9.3nm,1.4s						
MK31	**Makanchi Array**	**81.04 319**	P	**P**	**19 34 13.4**	**+0.8**
MKAR	**Makanchi Array**	**81.04 319**	P	**P**	**19 34 13.6**	**+0.9**
comp=Z,1.5nm,0.8s,baz=102,slow=5.6,SNR=11						
MKAR	**Makanchi Array**	**81.04 319**	P	**P**	**19 34 12.7**	**0.0**
ZAA0	**Zalesovo Array**	**81.87 326**	P	**P**	**19 34 16.6**	**-0.2**
ZAA0			IAmb	IAmb	19 34 17.7	
comp=Z,3.3nm,0.7s						
ZALV	**Zalesovo Beam**	**81.87 326**	P	**P**	**19 34 17.1**	**+0.3**
comp=Z,2.3nm,0.6s,baz=110,slow=5.8,SNR=12						
ZALV	**Zalesovo Beam**	**81.87 326**	P	**P**	**19 34 16.6**	**-0.2**
ILAR	**Eielson Array**	**82.51 22**	P	**P**	**19 34 19.0**	**-0.9**
comp=Z,1.2nm,0.9s,baz=256,slow=4.6,SNR=3.9						
KSH	**Kashi**	**83.64 311**	P	**P**	**19 34 29.5**	**+3.0**
KSH			sP	sP	19 34 42.0	+1.6
KSH			pmax	pmax		
comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**84.49 322**	P	**P**	**19 34 30.3**	**-0.1**
KURK			IAmb	IAmb	19 34 32.5	
comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**84.60 180**	P	**P**	**19 34 31.6**	**+0.7**
AAK	**Ala-Archa**	**85.38 313**	P	**P**	**19 34 34.8**	**-0.5**
AAK			IAmb	IAmb	19 34 37.7	
comp=Z,3.3nm,0.8s						
NRIK	**Noril'sk**	**86.64 341**	P	**P**	**19 34 40.6**	**-0.1**
comp=Z,1.4nm,0.5s,baz=105,slow=3.3,SNR=4.3						
NRIK	**Noril'sk**	**86.64 341**	IAmb	IAmb	19 34 41.7	
comp=Z,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**92.08 52**	P	**P**	**19 35 08.0**	**+0.7**
comp=Z,0.2nm,0.4s,baz=310,slow=3.2,SNR=2.3						
BDFB	**Brasilia**	**150.35 135**	PKPbc	**PKiKP**	**19 41 51.4**	**+0.6**
comp=Z,8.0nm,0.7s,baz=206,slow=1.6,SNR=11						
BDFB	**Brasilia**	**150.35 135**	PKiKP	**PKiKP**	**19 41 51.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**150.91 287**	PKPbc	**PKPbc**	**19 41 51.5**	**+0.3**
comp=Z,8.2nm,0.8s,baz=54,slow=2.2,SNR=51						

NEIC ***26*** *19:27:47.0± 1.2, 20°.3S± 0°.3×177°.85W± 0°.09, h494km± 17km, mb4.2/14, Error ellipse: s-maj=37.1km s-min=9.8km az=191.0*

IDC ***26*** *19:27:48.9± 5.3, 19°.91S×177°.95W, h526km± 37km, mb3.0/4, mb1 3.1/5, mb1mx2.9/27, mbtmp3.9/5, Error ellipse: s-maj=116.8km s-min=44.3km az=145.0*

ISC 26 19:27:46.6± 0.7, 20°.2S± 0°.2×177°.81W± 0°.08, h500km, n22, σ1§24/23, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.64**	**302**	P	**P**	**19 29 12.2**	**+1.7**
4.2nm,0.3s,baz=145,slow=5.0,SNR=34							
MSVF	**Nonsavu**	**4.64**	**302**	P	**P**	**19 29 11.5**	**+1.0**
NIUE	**Niue**	**7.51**	**83**	P	**P**	**19 29 37.2**	**-0.8**
NIUE				S	**S**	**19 31 08.3**	**-1.1**
QRZ	**Quartz Range**	**22.12**	**200**	P	**P**	**19 32 04.2**	**-0.1**
CTA	**Charters Tower**	**33.70**	**264**	P	**P**	**19 33 45.5**	**-0.2**
1.4nm,0.4s,baz=89,slow=10,SNR=1.5							
CTAO	**Charters Tower**	**33.70**	**264**	P	**P**	**19 33 46.0**	**+0.3**
CTAO				IAmb	IAmb	19 34 14.2	
comp=Z,17nm,1.5s							
STKA	**Stephens Creek**	**38.07**	**244**	P	**P**	**19 34 21.9**	**0.0**
comp=Z,1.0nm,0.4s,baz=95,slow=12,SNR=4.2							
STKA	**Stephens Creek**	**38.07**	**244**	IAmb	IAmb	19 34 23.2	
comp=Z,1.2nm,1.2s							
BBOO	**Buckleboo**	**42.83**	**243**	P	**P**	**19 34 59.5**	**-0.5**
BBOO				IAmb	IAmb	19 35 13.0	
comp=Z,13nm,1.3s							
PTCN	**Pitcairn Islan**	**44.12**	**105**	P	**P**	**19 35 13.0**	**+2.8**
WR0	**Warramunga Arr**	**44.63**	**262**	P	**P**	**19 35 14.3**	**+0.1**
WR0				IAmb	IAmb	19 35 33.7	
comp=Z,9.6nm,1.4s							
AS31	**Alice Springs**	**44.76**	**256**	P	**P**	**19 35 15.0**	**-0.2**
ASAR	**Alice Springs**	**44.76**	**256**	P	**P**	**19 35 15.1**	**-0.1**
comp=Z,1.1nm,0.5s,baz=94,slow=8.3,SNR=35							
ASAR				PcP	**PcP**	**19 36 47.6**	**+0.8**
comp=Z,0.2nm,0.9s,baz=95,slow=4.5,SNR=4.6							
WB0	**Warramunga Arr**	**44.79**	**262**	P	**P**	**19 35 14.8**	**-0.7**
WB0				IAmb	IAmb	19 35 23.2	
comp=Z,5.5nm,1.1s							
WB2	**Warramunga Arr**	**44.80**	**262**	P	**P**	**19 35 15.3**	**-0.2**
WB2				IAmb	IAmb	19 35 22.5	
comp=Z,15nm,1.6s							
WRAB	**Tennant Creek**	**44.81**	**262**	P	**P**	**19 35 14.9**	**-0.6**
WRAB				IAmb	IAmb	19 35 21.6	
comp=Z,9.0nm,1.4s							
WRA	**Warramunga Arr**	**44.82**	**262**	P	**P**	**19 35 15.2**	**-0.4**
comp=Z,0.4nm,0.3s,baz=97,slow=7.4,SNR=22							
WRA	**Warramunga Arr**	**44.82**	**262**	P	**P**	**19 35 13.6**	**-2.1**
FORT	**Forrest**	**49.57**	**246**	P	**P**	**19 35 50.8**	**-0.5**
FORT				IAmb	IAmb	19 35 50.9	
comp=Z,12nm,1.1s							
SAUI	**Saumlaki**	**50.65**	**276**	P	**P**	**19 35 59.9**	**+0.4**
MBWA	**Marble Bar**	**58.09**	**257**	P	**P**	**19 36 51.2**	**-0.6**
MBWA				IAmb	IAmb	19 37 14.2	
comp=Z,17nm,1.4s							
AKASG	**Malin Array Be**	**142.86**	**331**	PKP	**PKPdf**	**19 46 19.5**	**-3.1**
comp=Z,0.1nm,0.3s,baz=41,slow=3.8,SNR=4.1							

TUL ***26*** *19:44:23.0± 1.9, 36°.64N± 0°.01×97°.70W± 0°.01, h5km± 6km, ML2.8, mb_Lg2.3/16(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=194.0*

NEIC 26 19:44:23.0± 1.3, 36°.63N± 0°.01×97°.70W± 0°.01, h7km± 6km, Error ellipse: s-maj=1.7km s-min=1.4km az=195.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.25**	**329**	Pg	Pg	19 44 28.4	+0.4
GC02				Sg	Sg	19 44 32.1	+0.7
CROK	**Carrier**	**0.26**	**241**	Pg	Pg	19 44 28.6	+0.4
CROK				Sg	Sg	19 44 32.1	+0.4
KAN14	**Manchester OK**	**0.39**	**327**		Pg	19 44 30.8	+0.2
KAN14				Sg	Sg	19 44 36.0	+0.4
BLOK	**Blackwell**	**0.41**	**72**	Pg	Pg	19 44 31.2	+0.3
BLOK				Sg	Sg	19 44 37.0	+0.6
KAN17	**Caldwell West**	**0.41**	**353**	Pg	Pg	19 44 31.4	+0.3
KAN17				Sg	Sg	19 44 37.0	+0.5
KAN13	**South Haven SW**	**0.42**	**25**	Pg	Pg	19 44 31.5	+0.4
KAN13				Sg	Sg	19 44 37.2	+0.5
KAN05	**Bluff City Nor**	**0.49**	**344**		Pg	19 44 32.8	+0.2
KAN05				Sg	Sg	19 44 39.6	+0.6
KAN01	**Argonia South**	**0.52**	**355**		Pg	19 44 33.3	+0.2
KAN01				Sg	Sg	19 44 40.3	+0.4
KAN10	**Anthony SW Sta**	**0.58**	**327**	Pg	Pg	19 44 34.4	+0.2
KAN10				Sg	Sg	19 44 42.5	+0.6
KAN06	**Argonia West S**	**0.63**	**348**		Pg	19 44 35.2	+0.1
KAN06				Sg	Sg	19 44 43.7	+0.4
KAN08	**Anthony NE Sta**	**0.63**	**340**	Pg	Pg	19 44 35.4	+0.2
KAN08				Sg	Sg	19 44 44.0	+0.6
KAN16	**Harper SW Stat**	**0.66**	**334**	Pg	Pg	19 44 35.8	+0.1
KAN16				Sg	Sg	19 44 44.5	+0.1
KAN12	**Harper NE Stat**	**0.71**	**340**	Pg	Pg	19 44 36.5	0.0
KAN12				Sg	Sg	19 44 45.5	-0.3
OK035	**E0210 Rd and N**	**0.82**	**276**		Pg	19 44 38.5	-0.2
OK035				Sg	Sg	19 44 49.6	+0.3
OK033	**Mehan**	**0.85**	**133**		Pg	19 44 39.4	+0.1
OK033				IAmb_Lg		19 44 49.8	
comp=Z,16nm,0.8s							
OK033				Sg	Sg	19 44 50.9	+0.6
OK029	**Liberty Lake**	**0.86**	**167**		Pg	19 44 39.5	+0.1
OK029				Sg	Sg	19 44 49.3	-1.3
QUOK	**Quay**	**0.92**	**120**		Pg	19 44 40.6	-0.1
QUOK				Sg	Sg	19 44 52.9	+0.2
OK031	**S. Brethren Rd**	**0.97**	**134**	Pg	Pg	19 44 41.6	0.0
OK031				Sg	Sg	19 44 54.5	+0.3
BCOK	**Bluff Creek, N**	**0.98**	**176**	Pg	Pg	19 44 41.5	-0.2
BCOK				Sg	Sg	19 44 54.7	+0.3
T35A	**Sooner Cattle**	**0.99**	**73**	Pg	Pg	19 44 41.4	-0.7
T35A				Sg	Sg	19 44 54.8	-0.2
OK034	**N. Norfolk Rd.**	**1.01**	**128**	Pg	Pg	19 44 42.3	0.0
OK034				Sg	Sb	19 44 55.9	-0.4
OK030	**Cody Creek RV**	**1.02**	**133**	Pg	Pg	19 44 42.3	-0.2
OK030				IAmb_Lg		19 44 55.1	
comp=Z,13nm,0.8s							
OK030				Sg	Sb	19 44 56.2	-0.4
U32A	**Winter Ranch,**	**1.08**	**257**	Pg	Pg	19 44 43.4	-0.3
U32A				Sg	Sg	19 44 56.2	-1.5
OK025	**Westminster Rd**	**1.09**	**164**	Pg	Pg	19 44 43.6	-0.3
OK025				Sg	Sg	19 44 58.1	+0.1
OKCFA	**Oklahoma City**	**1.23**	**171**	Pn	Pb	19 44 46.2	-0.4
OKCSW	**OKLAHOMA CITY**	**1.24**	**170**	Pn	Pb	19 44 46.4	-0.4
FNO	**Franklin**	**1.39**	**170**	Pn	Pn	19 44 48.7	-0.1
FNO				Sn	Sg	19 45 08.2	+0.5
W35A	**Tecumseh**	**1.62**	**155**		Pn	19 44 52.4	+0.4
W35A				Sn	Sg	19 45 14.5	-0.5
TUL1	**Leonard**	**1.70**	**114**	Pn	Pb	19 44 54.1	-0.4
TUL1				Sn	Sb	19 45 16.9	+0.7
TUL1				IAmb_Lg		19 45 17.4	
comp=Z,19nm,0.7s							
R32A	**Long Quarter,**	**1.96**	**336**		Pn	19 44 56.5	-0.2
X34A	**Smith Ranch, M**	**2.03**	**183**	Pn	Pn	19 44 58.8	+1.2
WMOK	**Wichita Mounta**	**2.09**	**205**	Pn	Pn	19 44 59.1	+0.8
KSU1	**Kansas State U**	**2.61**	**19**	Pn	Pn	19 45 05.0	-0.6
LOOK	**Love County**	**2.67**	**171**	Pn	Pn	19 45 05.0	-1.4
U38A	**Gravette**	**2.67**	**93**	Pn	Pn	19 45 05.1	-1.4
CBKS	**Cedar Bluff**	**2.71**	**324**		Pn	19 45 05.4	-1.7
CBKS				IAmb_Lg		19 45 49.1	
comp=Z,6.5nm,1.0s							
X37A	**Clayton**	**2.78**	**136**		Pn	19 45 07.2	-0.8
HHAR	**Hobbs**	**3.05**	**95**	Pn	Pn	19 45 11.0	-0.7
W39A	**Magazine**	**3.49**	**113**	Pn	Pn	19 45 17.7	+0.1
W39A				IAmb_Lg		19 46 21.7	
comp=Z,15nm,0.9s							
S39A	**Bolivar**	**3.65**	**72**		Pn	19 45 18.3	-1.6
S39A				IAmb_Lg		19 46 21.0	
comp=Z,7.2nm,0.8s							
AMTX	**Amarillo**	**3.68**	**243**	Pn	Pn	19 45 18.1	-2.2
U40A	**Yellville**	**3.91**	**93**	Pn	Pn	19 45 22.4	-1.2
MIAR	**Mount Ida**	**3.95**	**121**	Pn	Pn	19 45 23.4	-0.7
MIAR				IAmb_Lg		19 46 37.3	
comp=Z,8.8nm,0.9s							
MGMO	**Mountain Grove**	**4.38**	**82**		Pn	19 45 27.3	-2.6
P38A	**Dawn**	**4.44**	**46**	Pn	Pn	19 45 28.8	-2.0
X40A	**Basin Creek Fa**	**4.51**	**117**	Pn	Pn	19 45 30.2	-1.4
N35A	**Tabor**	**4.52**	**20**	Pn	Pn	19 45 30.5	-1.3
FCAR	**Ozark Folk Cen**	**4.56**	**98**	Pn	Pn	19 45 30.9	-1.6
WHAR	**Wooly Hollow**	**4.59**	**105**	Pn	Pn	19 45 30.2	-2.6
R40A	**Maddies Statio**	**4.63**	**67**	Pn	Pn	19 45 30.9	-2.4
LCAR	**Lake Charles**	**5.31**	**94**	Pn	Pn	19 45 41.5	-1.2
P40A	**Paris**	**5.31**	**55**	Pn	Pn	19 45 41.6	-1.1
CCM	**Cathedral Cave**	**5.33**	**73**	Pn	Pn	19 45 41.8	-1.2
T25A	**Trinidad**	**5.40**	**277**		Pn	19 45 41.6	-2.6
T25A				IAmb_Lg		19 47 17.4	
comp=Z,6.0nm,0.8s							
SDCO	**Great Sand Dun**	**6.33**	**282**	Pn	Pn	19 45 55.1	-1.8

BJI ***26*** *20:03:42.3± 0.0, 5°.06S× 153°.48E, h13km, mb5.0/77, mB5.3/56, Ms5.2/76, Ms7 5.0/73*

NEIC ***26*** *20:03:42.7, 5°.31S× 153°.18E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-0.81; Mθθ-0.39; Mφφ 1.20; Mrθ 0.68; Mrφ 0.16; Mθr-0.21; Fault plane solution: M0 1.29000×10^17 NP1:φs216.23000°, δ51.38000°, λ-40.71000°. NP2:φs334.47000°, δ59.37000°, λ-133.50000°. Principal axes: T 1.2261, Plg5.0000°, Azm94.0000°; N 0.1109, Plg36.0000°, Azm0.0000°; P -1.3370, Plg53.0000°, Azm190.0000°;*

IDC ***26*** *20:03:42.1± 0.3, 5°.28S× 153°.25E, h0km, mb5.1/26, mb1 5.3/30, mb1mx5.1/39, mbtmp5.2/30, ML4.2/4, MS5.0/56, Ms1 5.0/56, ms1mx4.9/64 Error ellipse: s-maj=11.0km s-min=9.5km az=56.0*

MOS ***26*** *20:03:45.4± 1.1, 5°.26S× 153°.28E, h37km, mb5.6/34, MS5.0/16, Error ellipse: s-maj=7.6km s-min=5.3km az=103.3*

NEIC ***26*** *20:03:47.4± 2.3, 5°.31S± 0°.06× 153°.25E± 0°.05, h35km± 1km, mb5.6/220, Ms_20 5.5/216, Mwb5.3/16, Mww5.5, Error ellipse: s-maj=10.6km s-min=8.0km az=38.0*

GCMT ***26*** *20:03:49.4± 0.1, 5°.45S± 0°.01× 153°.19E± 0°.01, h26km, MW5.5/139, Moment Tensor Solution. s121,c204; s139,c263; Duration: 1§4 Moment tensor: Scale 10^17 Nm; Mrr-1.15± .02; Mθθ-0.74± .02; Mφφ 1.88± .02; Mrθ 1.61± .05; Mθφ-0.30± .02; Mφr-0.53± .04; Best double couple: M0 2.34600×10^17 NP1:φs204.00000°, δ43.00000°, λ-30.00000°. NP2:φs317.00000°, δ70.00000°, λ-129.00000°. Principal axes: T 2.1170, Plg16.0000°, Azm75.0000°; N 0.4510, Plg37.0000°, Azm333.0000°; P -2.5750, Plg49.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***26*** *20:03:50, 5°.41S× 153°.25E, h24km, Moment Tensor Solution. Duration: 6§0 Moment tensor: Scale 10^17 Nm; Mrr-0.65; Mθθ-1.10; Mφφ 1.75; Mrθ 0.82; Mθφ-0.44; Mθr-1.03; Fault plane solution: M0 2.07000×10^17 NP1: φs214.00000°, δ43.00000°, λ-16.00000°. NP2: φs316.00000°, δ79.00000°, λ-132.00000°. Principal axes: T 2.2826, Plg22.0000°, Azm77.0000°; N -0.5323, Plg41.0000°, Azm326.0000°; P -1.7503, Plg41.0000°, Azm187.0000°;*

DJA ***26*** *20:03:50.3± 0.4, 5°.5± 2°× 15°.3E± °, h47km± 4km, M5.4/84, mB5.9/49, mb5.4/84, MLv5.6/4, Mw(mB)5.5/49, MwMwp5.2/20, Mwp5.4/20*

ISC 26 20:03:47.3± 0.4, 5°.29S± 0°.03× 153°.26E± 0°.03, h35km± 1km, h34km: pP-P, n1025, σ1§46/988, mb5.5/238, MS5.4/199, 33C-94D, Fault plane solution: NP1:φs213.79515°, δ52.78751°, λ-50.62800°. NP2:φs340.18524°, δ52.00080°, λ-129.87372°. Principal axes: T Plg0.4407°, Azm277.1433°; N Plg30.3445°, Azm7.4013°; P Plg59.6517°, Azm186.3905°; New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.54**	**315**		**Pn**	**20 04 12.7**	**+0.4**
RABL	**Rabaul**	**1.54**	**315**	P	**Pb**	**20 04 16.1**	**+0.7**
KRVT	**Keravat (AS076**	**1.57**	**308**	Pn	**Pn**	**20 04 12.4**	**-0.3**
baz=163,slow=20							
KRVT				Sn	**Sb**	**20 04 34.2**	**-1.2**
baz=142,slow=19							
MANU	**Manus Island**	**6.71**	**299**		**Pn**	**20 05 24.2**	**+0.8**
PMG	**Port Moresby**	**7.30**	**236**	Pn	**Pn**	**20 05 31.9**	**+0.3**
48nm,0.3s,baz=56,slow=9.4,SNR=113							
PMG				Sn	**Sn**	**20 06 51.5**	**-1.9**
52nm,0.3s,baz=20,slow=15,SNR=12							
PMG				LR	LR	20 08 13.4	
comp=Z,17μm,21.8s,baz=21,slow=37							
PMG	**Port Moresby**	**7.30**	**236**	*c iP*	**Pn**	**20 05 31.7**	**+0.1**
PMG				pmax	pmax		
comp=Z,274nm,0.8s							
PMG	**Port Moresby**	**7.30**	**236**	Pn	**Pn**	**20 05 31.6**	**0.0**
PMG				Sn	**Sn**	**20 06 52.3**	**-1.1**
PMG	**Port Moresby**	**7.30**	**236**	P	**Pn**	**20 05 33.3**	**+1.7**
PMG	**Port Moresby**	**7.30**	**236**	P	**Pn**	**20 05 31.7**	**+0.1**
HNR	**Honiara**	**7.80**	**122**	Pn	**Pn**	**20 05 38.6**	**+0.2**
comp=Z,14nm,0.3s,baz=234,slow=14,SNR=1.8							
HNR				Sn	**Sn**	**20 07 06.9**	**+1.3**
comp=Z,32nm,0.3s,baz=89,slow=20,SNR=1.5							
HNR	**Honiara**	**7.80**	**122**	Pn	**Pn**	**20 05 38.4**	**0.0**
HNR	**Honiara**	**7.80**	**122**	P	Pn	20 05 45.7	+7.2
JAY	**Jayapura**	**12.83**	**282**	Pn	**Pn**	**20 06 47.8**	**+0.5**
comp=Z,0.9nm,0.3s,baz=190,slow=1.5,SNR=9.4							
JAY				LR	LR	20 11 21.2	
comp=Z,6μm,20.3s,baz=72,slow=36							
JAY	**Jayapura**	**12.83**	**282**	P	**Pn**	**20 06 48.7**	**+1.4**
comp=Z,3μmcomp=Z,77nm,2.0s							
PATS	**Pohnpei**	**13.06**	**23**	P	**Pn**	**20 06 51.9**	**+1.5**
baz=13,SNR=8.0							
PATS	**Pohnpei**	**13.06**	**23**	Pn	**Pn**	**20 06 49.6**	**-0.8**
PATS	**Pohnpei**	**13.06**	**23**	P	**Pn**	**20 06 51.9**	**+1.5**
COEN	**Coen**	**13.15**	**228**	Pn	**Pn**	**20 06 50.0**	**-1.7**
COEN	**Coen**	**13.15**	**228**	P	**Pn**	**20 06 50.8**	**-0.

DZM *e*LR LR 20 13 32.8
comp=Z,10µm,23.9s
DZM Mont Dzumac 21.00 144 P **P** **20 08 28.6 +0.6**
DZM IAmb IAmb 20 08 34.2
comp=Z,401nm,0.9s
DZM S **S** **20 12 18.4 -1.9**
DZM **ScP** **20 16 12.2 +3.2**
DZM Mont Dzumac 21.00 144 P **P** **20 08 29.7 +1.7**
DZM Mont Dzumac 21.00 144 P **P** **20 08 29.1 +1.1**
FAKI Fak Fak 21.09 276 **P** **20 08 26.8 -2.1**
ONTNC Ouen Toro 21.19 144 P **P** **20 08 29.7 -0.3**
ONTNC IAmb IAmb 20 08 33.4
comp=Z,360nm,0.9s
ONTNC S **S** **20 12 20.5 -3.3**
ONTNC **ScP** **20 16 10.8 +1.5**
ONTNC Ouen Toro 21.19 144 P **P** **20 08 32.8 +2.9**
OUENC Ouen Island, N 21.50 144 P **P** **20 08 33.0 -0.2**
OUENC IAmb IAmb 20 08 36.8
comp=Z,294nm,0.9s
OUENC **S** **20 12 31.5 +1.5**
OUENC **ScP** **20 16 12.4 +2.4**
OUENC Ouen Island, N 21.50 144 P **P** **20 08 35.1 +1.8**
RMQ Roma 21.51 191 P **P** **20 08 33.8 +0.4**
baz=22,SNR=42
RMQ Roma 21.51 191 P **P** **20 08 34.3 +0.9**
MARNC Mare, Loyalty 21.54 140 P **P** **20 08 33.8 +0.1**
MARNC Mare, Loyalty 21.54 140 P **P** **20 08 35.4 +1.7**
KDU Kakadu 21.80 249 P **P** **20 08 35.4 -1.1**
baz=22,SNR=106
KDU Kakadu 21.80 249 P **P** **20 08 36.6 +0.1**
SAUI Saumlaki 21.98 262 P **P** **20 08 37.8 -0.6**
PINNC Pines Island, 22.01 143 P **P** **20 08 37.5 -1.3**
PINNC IAmb IAmb 20 08 44.2
comp=Z,336nm,1.1s
PINNC Pines Island, 22.01 143 P **P** **20 08 41.5 +2.8**
SIJI Sorong 22.39 281 P **P** **20 08 42.4 -0.6**
comp=Z,48nm,0.5s,baz=187,slow=23,SNR=20
SWI Sorong 22.40 281 P **P** **20 08 43.2 +0.2**
comp=Z,4µmcomp=Z,165nm,1.1s
QLP Quilpie 22.86 201 P **P** **20 08 47.2 -0.6**
baz=23,SNR=11
QLP Quilpie 22.86 201 P **P** **20 08 47.8 0.0**
MTN Manton Dam 23.09 250 P **P** **20 08 48.9 -1.3**
baz=23,SNR=26
MTN Manton Dam 23.09 250 P **P** **20 08 47.6 -2.6**
MTN IAmb IAmb 20 09 03.5
comp=Z,440nm,1.6s
MTN Manton Dam 23.09 250 P **P** **20 08 50.9 +0.7**
WB0 Warramunga Arr 23.33 230 P **P** **20 08 50.3 -2.3**
WB0 IAmb IAmb 20 08 53.5
comp=Z,266nm,1.2s
WR0 Warramunga Arr 23.33 230 P **P** **20 08 50.7 -1.9**
WR0 IAmb IAmb 20 08 53.5
comp=Z,223nm,1.1s
WRAB Tennant Creek 23.46 230 *d i*P **P** **20 08 52.3 -1.6**
WRAB pmax pmax
comp=Z,599nm,2.5s
WRAB Tennant Creek 23.46 230 P **P** **20 08 51.8 -2.0**
WRAB IAmb IAmb 20 08 54.6
comp=Z,294nm,1.2s
WRAB Tennant Creek 23.46 230 P **P** **20 08 53.2 -0.7**
WRAB Tennant Creek 23.46 230 P **P** **20 08 52.7 -1.1**
WB2 Warramunga Arr 23.47 230 P **P** **20 08 52.0 -2.0**
WB2 IAmb IAmb 20 08 54.8
comp=Z,369nm,1.3s
WRA Warramunga Arr 23.48 230 P **P** **20 08 52.5 -1.5**
comp=Z,137nm,1.0s,baz=54,slow=9.7,SNR=58
WRA PcP **PcP** **20 12 40.2 +0.7**
comp=Z,9.6nm,0.8s,baz=59,slow=2.3,SNR=4.9
WRA S **S** **20 13 04.4 -1.1**
comp=Z,24nm,1.2s,baz=53,slow=18,SNR=5.6
WRA ScP **ScP** **20 16 19.8 +4.6**
comp=Z,15nm,0.9s,baz=52,slow=3.3,SNR=11
WRA LR LR 20 17 48.2
WRA Warramunga Arr 23.48 230 *i* P **P** **20 08 51.2 -2.8**
WRA pmax pmax
comp=Z,137nm,1.0s
WRA Warramunga Arr 23.48 230 P **P** **20 08 52.6 -1.5**
ARMA Armidale 25.05 183 P **P** **20 09 09.0 +0.6**
baz=25,SNR=33
ARMA Armidale 25.05 183 P **P** **20 09 08.0 -0.5**
ARMA IAmb IAmb 20 09 10.7
comp=Z,368nm,1.2s
ARMA Armidale 25.05 183 P **P** **20 09 09.7 +1.2**
INKA Innaminka 25.31 207 P **P** **20 09 10.8 +0.1**
FUNA Funafuti 25.94 99 P **P** **20 09 16.9 +0.2**
AS31 Alice Springs 26.11 224 P **P** **20 09 16.1 -2.0**
ASAR Alice Springs 26.11 224 P **P** **20 09 17.1 -1.1**
comp=Z,28nm,0.8s,baz=55,slow=8.7,SNR=168
ASAR PcP **PcP** **20 12 44.4 -0.9**
comp=Z,5.2nm,0.7s,baz=38,slow=2.8,SNR=2.8
ASAR S **S** **20 13 52.1 +4.6**
comp=Z,2.6nm,0.9s,baz=35,slow=13,SNR=1.9
ASAR ScP **ScP** **20 16 27.6 +5.1**
comp=Z,9.4nm,0.9s,baz=47,slow=3.3,SNR=8.9
ASAR LR LR 20 19 09.3
comp=Z,6µm,21.6s,baz=55,slow=36
ASAR Alice Springs 26.11 224 P **P** **20 09 16.9 -1.2**
LBMI Labuha 26.13 279 P **P** **20 09 18.4 0.0**
comp=Z,2µmcomp=Z,2µmcomp=Z,138nm,1.1s
KNRA Kununurra 26.18 245 P **P** **20 09 18.2 -0.6**
baz=26,SNR=78
KNRA Kununurra 26.18 245 P **P** **20 09 17.0 -1.8**
KNRA Kununurra 26.18 245 P **P** **20 09 19.1 +0.3**
TNTI Ternate 26.55 282 P **P** **20 09 24.4 +2.2**
comp=Z,1µmcomp=Z,76nm,1.5s
TNTI Ternate 26.55 282 P **P** **20 09 20.3 -1.9**
TNTI IAmb IAmb 20 09 42.3
comp=Z,313nm,1.9s
TNTI Ternate 26.55 282 P **P** **20 09 24.8 +2.6**
comp=Z,76nm,1.5s
LHI Lord Howe Isla 26.66 169 P **P** **20 09 23.1 +0.2**
baz=27,SNR=6.9
LHI Lord Howe Isla 26.66 169 P **P** **20 09 22.2 -0.7**
LHI Lord Howe Isla 26.66 169 P **P** **20 09 26.9 +4.0**
CMSA Cobar Meteorol 27.06 194 P **P** **20 09 25.9 -0.7**
baz=27,SNR=26
CMSA Cobar Meteorol 27.06 194 P **P** **20 09 26.2 -0.4**
H11S3 WAKE ISLAND Hy 27.09 29 T T 20 37 49.0
baz=209,slow=75,SNR=196
H11S2 WAKE ISLAND Hy 27.09 29 T T 20 37 52.7
baz=209,slow=75,SNR=196
H11S1 WAKE ISLAND Hy 27.11 29 T T 20 38 01.8
baz=209,slow=75,SNR=119
MSVF Nonsavu 27.21 119 P **P** **20 09 29.1 +0.9**
comp=Z,11nm,0.8s,baz=259,slow=11,SNR=11
MSVF ScP **ScP** **20 16 30.2 +4.3**
comp=Z,30nm,1.1s,baz=158,slow=4.0,SNR=10
MSVF LR LR 20 19 35.9
comp=Z,4µm,19.1s,baz=300,slow=35
MSVF Nonsavu 27.21 119 P **P** **20 09 27.6 -0.5**
MSVF **ScP** **20 16 29.5 +3.5**
MSVF Nonsavu 27.21 119 P **P** **20 09 31.0 +2.8**
SANI Sanana 27.40 276 P **P** **20 09 31.3 +1.4**
comp=Z,3µmcomp=Z,101nm,0.8s
SANI Sanana 27.40 276 P **P** **20 09 31.0 +1.1**
NFK Norfolk Island 27.41 151 P **P** **20 09 32.3 +2.5**
comp=Z,296nm,1.4s
WAKE Wake Island 27.75 28 P **P** **20 09 32.2 -0.6**
WAKE Wake Island 27.75 28 IAMs_20 IAMs_20 20 20 07.9
comp=Z,9µm,18.0s
MGCD Mangrove Creek 27.85 184 P **P** **20 09 34.5 +0.8**
baz=28,SNR=14
MGCD Mangrove Creek 27.85 184 P **P** **20 09 34.4 +0.8**
comp=Z,82nm,0.7s
OOD Oodnadatta 27.93 215 P **P** **20 09 33.8 -0.7**
DGTI Dogotuki 28.17 115 P **P** **20 09 38.5 +1.8**
RIV Riverview 28.47 184 P **P** **20 09 39.8 +0.7**
baz=29,SNR=4.9
STKA Stephens Creek 28.62 201 P **P** **20 09 39.1 -1.4**
comp=Z,96nm,1.0s,baz=8.4,slow=9.3,SNR=86
STKA ScP **ScP** **20 16 33.3 +3.4**
comp=Z,27nm,1.1s,baz=70,slow=4.4,SNR=9.4
STKA LR LR 20 21 33.0
comp=Z,4µm,18.1s,baz=21,slow=37
STKA Stephens Creek 28.62 201 P **P** **20 09 40.0 -0.5**
baz=29,SNR=28
STKA Stephens Creek 28.62 201 P **P** **20 09 38.6 -1.9**
STKA pmax pmax
comp=Z,26nm,1.1s
STKA Stephens Creek 28.62 201 P **P** **20 09 38.6 -1.9**
STKA **ScP** **20 16 33.9 +4.0**
STKA Stephens Creek 28.62 201 P **P** **20 09 39.5 -1.0**
TAVE Taveuni 28.63 115 P P 20 09 46.5 +5.7
comp=Z,75nm,1.0s
LCRK Leigh Creek 28.76 208 P **P** **20 09 41.1 -0.7**
SOEI Soe 29.08 259 P **P** **20 09 43.9 -1.0**
SOEI IAmb IAmb 20 10 44.4
comp=Z,170nm,1.1s
BATI Baumata 29.72 259 P **P** **20 09 50.9 +0.3**
comp=Z,46nm,0.8s,baz=115,slow=9.4,SNR=4.2
BATI LR LR 20 24 40.8
comp=Z,4µm,21.1s,baz=106,slow=42
KMSI Cibinong 29.82 280 P **P** **20 09 52.4 +1.0**
comp=Z,1µmcomp=Z,126nm,0.7s
FITZ Fitzroy Crossi 29.84 242 P **P** **20 09 50.5 -1.0**
comp=Z,171nm,1.0s,baz=74,slow=8.3,SNR=136
FITZ ScP **ScP** **20 16 37.1 +3.0**
comp=Z,14nm,1.0s,baz=124,slow=3.6,SNR=1.9
FITZ LR LR 20 22 23.2
comp=Z,3µm,21.5s,baz=64,slow=38
FITZ Fitzroy Crossi 29.84 242 P **P** **20 09 50.5 -1.0**
baz=30,SNR=126
CNB Canberra Magne 30.10 186 P **P** **20 09 54.5 +0.8**
comp=Z,114nm,1.4s
CAN Canberra 30.14 187 P **P** **20 09 54.0 -0.1**
CAN pmax pmax
comp=Z,187nm,1.3s
CAN MLR MLR
comp=Z,4µm,20.0s
CAN Canberra 30.14 187 P **P** **20 09 54.0 -0.1**
CAN IAmb IAmb 20 09 55.7
comp=Z,187nm,1.3s
CAN Canberra 30.14 187 P **P** **20 09 54.5 +0.4**
comp=Z,188nm,1.3s
CAN Canberra 30.14 187 P **P** **20 09 54.0 -0.1**
DAV Davao City (W) 30.23 294 LR LR 20 21 58.0
comp=Z,2µm,18.6s,baz=105,slow=36
MULG Mulgathing 30.75 214 P **P** **20 09 58.2 -1.2**
MMRI Maumere 30.97 262 P **P** **20 09 59.7 -1.8**
WRKA Warakurna 30.97 228 P **P** **20 09 59.7 -1.8**
baz=31,SNR=41
WRKA Warakurna 30.97 228 P **P** **20 10 00.1 -1.4**
HTT Hallett 31.02 204 P **P** **20 10 00.9 -0.9**
baz=31,SNR=17
HTT Hallett 31.02 204 P **P** **20 10 01.0 -0.9**
BBOO Buckleboo 31.74 208 P **P** **20 10 06.7 -1.4**
baz=32,SNR=16
BBOO Buckleboo 31.74 208 P **P** **20 10 05.9 -2.2**
BBOO IAmb IAmb 20 10 08.0
comp=Z,128nm,1.1s
BBOO Buckleboo 31.74 208 P **P** **20 10 06.8 -1.3**
MILA Mila 31.84 186 P **P** **20 10 09.2 +0.2**
baz=32,SNR=6.0
APSI Ampana 31.86 277 P **P** **20 10 09.3 -0.1**
comp=Z,812nmcomp=Z,64nm,0.9s
BASI Baing, Sumba 32.74 259 P **P** **20 10 18.1 +1.0**
comp=Z,3µmcomp=Z,213nm,1.6s
TOO Toolangi 32.91 191 P **P** **20 10 18.8 +0.5**
baz=33,SNR=5.4
TOO Toolangi 32.91 191 P **P** **20 10 17.8 -0.5**
TOO pmax pmax
comp=Z,112nm,1.5s
TOO Toolangi 32.91 191 P **P** **20 10 17.8 -0.5**
TOO IAmb IAmb 20 10 19.8
comp=Z,112nm,1.5s
TOO Toolangi 32.91 191 P **P** **20 10 19.0 +0.7**
comp=Z,48nm,1.7s
BKSI Bulukumba 33.00 268 P **P** **20 10 20.9 +1.5**
comp=Z,26nm,1.3s
ARPS Mount Arapiles 33.04 197 P **P** **20 10 18.9 -0.5**
baz=33,SNR=35
ARPS Mount Arapiles 33.04 197 P **P** **20 10 19.1 -0.3**
BNSI Bone 33.05 270 P **P** **20 10 21.6 +1.8**
comp=Z,38nm,1.2s
TOLI2 Tolitoli 33.06 280 P **P** **20 10 16.8 -3.2**
TOLI2 Tolitoli 33.06 280 P **P** **20 10 23.6 +3.7**
comp=Z,18nm,0.9s
KAPI Kappang 33.37 269 LR LR 20 27 21.1
comp=Z,644nm,18.7s,baz=110,slow=42
KAPI Kappang 33.37 269 P **P** **20 10 21.6 -1.1**
KAPI pmax pmax
comp=Z,53nm,1.1s
KAPI MLR MLR
comp=Z,1µm,20.0s
KAPI Kappang 33.37 269 P **P** **20 10 21.6 -1.1**
KAPI Kappang 33.37 269 P **P** **20 10 25.0 +2.3**
SPSI Sidrap Palu 33.41 271 P **P** **20 10 23.1 +0.1**
comp=Z,1µmcomp=Z,28nm,1.2s
TTSI Tana Toraja 33.42 272 P P 20 10 31.3 +8.2
MPSI Mapaga 33.78 279 P **P** **20 10 24.5 -1.7**
comp=Z,781nmcomp=Z,22nm,0.7s
WBSI Waikabubak, Su 33.85 261 P P 20 10 31.9 +5.0
comp=Z,134nm,0.9s
JCJ Chichijima 33.93 342 P **P** **20 10 27.1 -0.2**
FORT Forrest 34.71 220 P **P** **20 10 33.0 -1.0**
baz=35,SNR=60
FORT Forrest 34.71 220 P **P** **20 10 32.3 -1.7**
FORT Forrest 34.71 220 P **P** **20 10 33.7 -0.3**
OUZ Omahuta 35.21 150 P **P** **20 10 39.7 +1.5**
OUZ IAMs_20 IAMs_20 20 25 49.0
comp=Z,4µm,18.0s
AFI Afiamalu 35.48 107 LR LR 20 24 26.0
comp=Z,9.5nm,18.3s,baz=278,slow=35
MBWA Marble Bar 36.13 241 P **P** **20 10 44.4 -2.0**
MBWA Marble Bar 36.13 241 P **P** **20 10 45.9 -0.5**
MBWA Marble Bar 36.13 241 P **P** **20 10 45.1 -1.3**
MBWA pP **pP** **20 10 57.1 +1.4**
RAO Raoul Island 36.20 135 LR LR 20 22 48.1
comp=Z,2µm,21.7s,baz=313,slow=32
MYLDM Lahad Datu 36.24 286 P **P** **20 10 46.1 -1.3**
MYLDM IAmb IAmb 20 11 13.9
comp=Z,100nm,1.3s
MOO Moorlands 37.39 187 P **P** **20 10 58.6 +1.8**
baz=38,SNR=6.7
MOO Moorlands 37.39 187 P **P** **20 10 59.0 +2.2**
comp=Z,94nm,1.3s
TGY Tagaytay City 37.41 301 LR LR 20 24 22.9
comp=Z,2µm,20.9s,baz=116,slow=33
TAU Tasmania Unive 37.83 187 P **P** **20 11 01.1 +0.5**
TAU pmax pmax
comp=Z,297nm,1.3s
TAU MLR MLR
comp=Z,2µm,19.0s
TAU Tasmania Unive 37.83 187 P **P** **20 11 01.1 +0.5**
TAU Tasmania Unive 37.83 187 P **P** **20 11 02.4 +1.9**
BBKI Banjar Baru 38.35 271 P **P** **20 11 06.9 +1.6**
HIZ Hauiti 38.45 152 P **P** **20 11 06.4 +0.6**
HIZ ScP **ScP** **20 17 06.6 +2.4**
MTKI Muara Teweh, K 38.54 275 P **P** **20 11 07.1 +0.1**
comp=Z,9.5nm,0.7s
KKM Kota Kinabalu 38.66 286 P **P** **20 11 04.5 -3.5**
JAGI Jajag, Banyuwa 38.94 263 P **P** **20 11 10.3 0.0**
comp=Z,54nm,1.1s
JAGI Jajag, Banyuwa 38.94 263 P **P** **20 11 07.6 -2.7**
JAGI IAmb IAmb 20 11 46.2
comp=Z,84nm,1.1s
JAGI Jajag, Banyuwa 38.94 263 P **P** **20 11 10.3 0.0**
comp=Z,55nm,1.1s
MEEK Meekatharra 39.28 233 P **P** **20 11 11.0 -2.0**
baz=39,SNR=17
MEEK Meekatharra 39.28 233 P **P** **20 11 12.5 -0.5**
URZ Urewera 39.34 150 P **P** **20 11 14.2 +0.9**
comp=Z,96nm,1.1s,baz=360,slow=5.4,SNR=15
URZ LR LR 20 26 13.8
comp=Z,2µm,18.4s,baz=342,slow=34
URZ Urewera 39.34 150 P **P** **20 11 14.1 +0.9**
URZ IAmb IAmb 20 11 15.6
comp=Z,234nm,1.3s
QRZ Quartz Range 39.38 157 P **P** **20 11 14.5 +0.9**
QRZ IAmb IAmb 20 11 16.4
comp=Z,170nm,1.0s
MXZ Matakaoa Point 39.42 148 P **P** **20 11 13.9 -0.1**
MXZ IAmb IAmb 20 11 39.4
comp=Z,202nm,1.2s
BKZ Black Stump Fm 39.74 151 P **P** **20 11 17.0 +0.3**
BKZ Black Stump Fm 39.74 151 P **P** **20 11 19.0 +2.3**
NNZ Nelson 40.05 156 P **P** **20 11 19.1 -0.1**
NNZ IAmb IAmb 20 11 21.1
comp=Z,90nm,1.0s
JOW Kunigami 40.06 324 LR LR 20 24 52.5
comp=Z,2µm,21.8s,baz=148,slow=32
JOW Kunigami 40.06 324 P **P** **20 11 19.9 +0.5**
JOW IAmb IAmb 20 11 43.8
comp=Z,87nm,1.1s
JOW Kunigami 40.06 324 P **P** **20 11 21.9 +2.5**
JHJ Hachijo jima 2 40.28 342 LR LR 20 27 33.5
comp=Z,1µm,18.4s,baz=104,slow=36
THZ Tophouse 40.33 157 P **P** **20 11 21.4 -0.2**
THZ IAmb IAmb 20 11 25.5
comp=Z,134nm,0.9s
TUWZ Tuamarina 40.45 156 P **P** **20 11 22.7 +0.2**
BSWZ Blackbirch Sta 40.67 156 P **P** **20 11 24.2 -0.1**
SNZO South Karori 40.67 155 P **P** **20 11 23.7 -0.6**
SNZO IAmb IAmb 20 11 55.7
comp=Z,138nm,1.1s
FOZ Fox Glacier 40.79 162 P **P** **20 11 25.3 0.0**
FOZ IAmb IAmb 20 11 27.7
comp=Z,139nm,1.3s
FOZ IAMs_20 IAMs_20 20 25 41.8
comp=Z,7µm,21.0s
BHW Baring Head 40.82 155 P **P** **20 11 25.4 -0.2**
BFZ Birch Farm 40.83 153 P **P** **20 11 25.0 -0.6**
BFZ Birch Farm 40.83 153 P **P** **20 11 27.3 +1.7**
CMWZ Cape Campbell 40.83 156 P **P** **20 11 25.1 -0.5**
LTZ Lake Taylor 40.97 159 P **P** **20 11 26.9 +0.1**
LTZ IAmb IAmb 20 11 29.5
comp=Z,161nm,1.0s
MSWZ Moikau Station 40.99 155 P **P** **20 11 26.6 -0.4**
PLWZ Palliser 41.12 155 P **P** **20 11 27.9 -0.1**
KHZ Kahutara 41.13 157 P **P** **20 11 26.9 -1.1**
KHZ IAmb IAmb 20 11 29.1
comp=Z,215nm,1.1s
KHZ Kahutara 41.13 157 P **P** **20 11 30.6 +2.6**
comp=Z,221nm,1.1s
OXZ Oxford 41.36 159 P **P** **20 11 29.0 -1.0**
OXZ IAmb IAmb 20 11 31.0
comp=Z,248nm,1.5s
OXZ IAMs_20 IAMs_20 20 28 49.7
comp=Z,4µm,19.0s
RPZ Rata Peaks 41.36 160 P **P** **20 11 28.9 -1.0**
RPZ IAmb IAmb 20 11 31.9
comp=Z,164nm,0.9s
RPZ IAMs_20 IAMs_20 20 26 45.7
comp=Z,6µm,20.0s
GIRL Giralia 41.44 242 P **P** **20 11 31.1 +0.2**
baz=41,SNR=4.3
GIRL Giralia 41.44 242 **P** **20 11 30.2 -0.6**
GIRL Giralia 41.44 242 P **P** **20 11 32.0 +1.1**
comp=Z,384nm,1.7s
PBKI Pangkalan Bun 41.56 272 P **P** **20 11 32.7 +0.6**
comp=Z,2µmcomp=Z,145nm,1.3s
LBZ Lake Benmore 41.68 162 P **P** **20 11 31.9 -0.7**
LBZ IAmb IAmb 20 11 34.8
comp=Z,115nm,1.2s
LBZ IAMs_20 IAMs_20 20 26 30.2
comp=Z,7µm,20.0s
SBUM Sibu 41.71 280 P **P** **20 11 32.0 -1.3**
WKZ Wanaka 41.73 163 P **P** **20 11 32.6 -0.4**
WKZ IAmb IAmb 20 11 37.3
comp=Z,200nm,1.5s
WKZ IAMs_20 IAMs_20 20 27 14.5
comp=Z,4µm,20.0s
DCZ Deep Cove 41.81 165 P **P** **20 11 33.1 -0.5**
DCZ IAmb IAmb 20 11 35.4
comp=Z,214nm,1.5s
PCJI Pacitan 41.88 264 P **P** **20 11 35.0 +0.4**
comp=Z,2µmcomp=Z,167nm,1.2s
MQZ McQueen's Vall 41.91 159 P **P** **20 11 32.7 -1.7**
MQZ IAmb IAmb 20 11 36.2
comp=Z,210nm,1.2s
MLZ Mavora Lakes 41.97 164 P **P** **20 11 34.6 -0.4**
MLZ IAMs_20 IAMs_20 20 27 16.9
comp=Z,4µm,20.0s
STKI Sintang 42.06 276 P **P** **20 11 36.1 0.0**
comp=Z,3µmcomp=Z,15nm,0.9s
TWG Pinlang 42.08 313 P **P** **20 11 34.6 -1.5**
JSG Sagara 42.22 341 P **P** **20 11 36.5 -0.5**
JSG IAmb IAmb 20 11 47.8
comp=Z,231nm,1.3s
YULB Yu-li 42.27 314 P **P** **20 11 36.0 -1.6**
YULB IAmb IAmb 20 12 06.4
comp=Z,162nm,1.8s
PYZ Puysegur Point 42.35 166 P **P** **20 11 37.4 -0.6**
PYZ IAmb IAmb 20 11 39.8
comp=Z,281nm,1.4s
MORW Morawa 42.40 232 P **P** **20 11 37.1 -1.6**
baz=42,SNR=8.9
MORW Morawa 42.40 232 P **P** **20 11 36.8 -1.9**
MORW Morawa 42.40 232 P **P** **20 11 38.0 -0.7**
ODZ Otahua Downs 42.41 162 P **P** **20 11 37.1 -1.5**
ODZ IAmb IAmb 20 11 40.0
comp=Z,160nm,1.4s
ODZ IAMs_20 IAMs_20 20 27 01.6
comp=Z,5µm,21.0s
WHZ Wether Hill Ro 42.41 165 P **P** **20 11 38.0 -0.5**
WHZ IAmb IAmb 20 11 39.6
comp=Z,145nm,1.5s
NACB Ninganchiao 42.54 315 P **P** **20 11 37.7 -2.1**
JSU Suzuyama 42.57 331 P **P** **20 11 38.6 -1.4**
SMRI Semarang 42.60 265 P **P** **20 11 39.4 -1.1**
BLDU Ballidu 42.61 229 P **P** **20 11 38.5 -1.8**
baz=43,SNR=7.0
BLDU Ballidu 42.61 229 P **P** **20 11 41.3 +1.0**
SSLB Suanglung 42.76 314 P **P** **20 11 40.6 -1.1**
JOHN Johnston Islan 42.80 59 P **P** **20 11 41.3 -0.7**
JMN Monobe 42.92 336 P **P** **20 11 41.8 -1.0**
JMN IAmb IAmb 20 13 09.2
comp=Z,142nm,1.6s
YHNB Yeheng 43.01 315 P **P** **20 11 42.6 -1.1**
JYT Yasato 43.08 344 P **P** **20 11 42.8 -1.1**
TATO Taipei 43.12 316 P **P** **20 11 43.4 -1.2**
TATO IAmb IAmb 20 12 41.5
comp=Z,211nm,1.4s
INU Inuyama 43.21 340 P **P** **20 11 42.6 -2.5**
JGF Kuroka 43.33 341 P **P** **20 11 45.6 -0.5**
NWAO Narrogin (SRO) 43.38 226 P **P** **20 11 43.6 -2.9**
NWAO pmax pmax
comp=Z,88nm,1.3s
NWAO MLR MLR
comp=Z,5µm,20.0s
NWAO Narrogin (SRO) 43.38 226 P **P** **20 11 43.6 -2.9**
NWAO Narrogin (SRO) 43.38 226 IAMs_20 IAMs_20 20 29 46.3
comp=Z,5µm,20.0s
NWAO Narrogin (SRO) 43.38 226 P **P** **20 11 45.7 -0.9**
comp=Z,68nm,1.5s
KSM Kuching 43.43 278 P **P** **20 11 43.8 -3.4**
KSM Kuching 43.43 278 P **P** **20 11 50.8 +3.6**
comp=Z,45nm,1.1s
JNU Nakatsue 43.70 332 LR LR 20 27 13.1
comp=Z,835nm,22.0s,baz=98,slow=32
JNU Nakatsue 43.70 332 P **P** **20 11 46.8 -2.4**
JNU Nakatsue 43.70 332 P **P** **20 11 50.3 +1.1**
MIDW Midway 43.72 39 P **P** **20 11 48.0 -1.2**
MJAR Matsushiro Arr 43.93 342 P **P** **20 11 49.3 -1.6**
comp=Z,2.1nm,0.3s,baz=165,slow=8.1,SNR=11
MJAR PcP **PcP** **20 13 37.4 +0.9**
comp=Z,12nm,0.9s,baz=174,slow=3.1,SNR=7.1
MJAR ScP **ScP** **20 17 28.0 +2.1**
comp=Z,2.3nm,0.7s,baz=182,slow=3.5,SNR=4.2
MJAR LR LR 20 28 16.2
comp=Z,2µm,21.8s,baz=174,slow=34
MJAR Matsushiro Arr 43.93 342 P **P** **20 11 49.0 -1.9**
MJAR pmax pmax
comp=Z,45nm,1.9s
MJAR Matsushiro Arr 43.93 342 P **P** **20 11 49.0 -1.9**
MJAR ScP **ScP** **20 17 27.0 +1.2**
MAJO Matsushiro 43.93 342 ⇑ *i*P **P** **20 11 49.1 -1.8**
MAJO pmax pmax
comp=Z,72nm,2.0s
MAJO Matsushiro 43.93 342 P **P** **20 11 48.9 -2.0**
MAT Matsushiro 43.93 342 P **P** **20 11 49.3 -1.6**
MJB9 Matsu-Tunnel 43.94 342 P **P** **20 11 48.9 -2.1**
JHS Saijyo 44.34 336 P **P** **20 11 52.6 -1.6**
JHS IAmb IAmb 20 12 01.1
comp=Z,285nm,2.0s
RKGY Rocky Gully 44.45 224 P **P** **20 11 54.7 -0.4**
baz=44,SNR=7.9
RKGY Rocky Gully 44.45 224 P **P** **20 11 55.7 +0.6**
JMM Marumori 44.47 346 P **P** **20 11 53.7 -1.5**
CMJI Cimerak 44.58 264 P **P** **20 11 55.5 -0.9**
comp=Z,1µmcomp=Z,52nm,0.8s
KNMB Chin-men Tao 45.03 313 P **P** **20 11 58.1 -1.7**
KNMB IAmb IAmb 20 12 44.8
comp=Z,73nm,1.1s
JSD Sado 45.31 343 P **P** **20 12 01.3 -0.5**
LEM Lembang 45.40 266 LR LR 20 34 57.0
comp=Z,814nm,18.9s,baz=88,slow=41
CNJI Cibinong 45.88 265 P **P** **20 12 06.0 -0.8**
comp=Z,1µmcomp=Z,4µmcomp=Z,377nm,1.1s
CBJI Citeko 46.17 266 P **P** **20 12 08.9 -0.2**
comp=Z,77nm,1.5s
DBJI Dramaga 46.27 266 P **P** **20 12 13.0 +3.1**
comp=Z,2µmcomp=Z,33nm,0.6s
SKJI Sukabumi 46.45 265 P P 20 12 23.2 +12

HKPS	**Hong Kong Po S**	**47.07 307**	P	**P**	**20 12 14.5 -1.5**
PPBI	**Pangkal Pinang**	**47.12 272**	P	**P**	**20 12 18.6 +2.1**
	comp=Z,38nm,0.4s				
JTM	**Tenmabayashi**	**47.20 347**	P	**P**	**20 12 16.0 -0.6**
JTM			IAmb	IAmb	20 13 03.4
	comp=Z,134nm,1.2s				
CGJI	**Cibinong**	**47.32 266**	P	**P**	**20 12 16.9 -1.2**
	comp=Z,1μmcomp=Z,116nm,1.1s				
XMI	**Christmas Isla**	**47.37 261**	P	**P**	**20 12 18.7 +0.2**
	comp=Z,121nm,1.3s				
XMIS	**Christmas Isla**	**47.40 261**	P	**P**	**20 12 16.8 -2.0**
XMIS			IAmb	IAmb	20 12 35.5
	comp=Z,65nm,0.8s				
XMIS	**Christmas Isla**	**47.40 261**	P	**P**	**20 12 19.9 +1.2**
SSE	**Sheshan**	**47.41 322**	P	**P**	**20 12 19.3 +0.9**
SSE			S	**S**	**20 19 10.5 +0.1**
SSE			pmax	pmax	
	comp=Z,11nm,1.4s				
SSE			pmax	pmax	
	comp=Z,130nm,3.6s				
SSE			LR	LR	
	comp=Z,240nm,18.6s				
SSE			LR	LR	
	comp=Z,440nm,18.6s				
DLV	**T Lat**	**47.70 291**	P	**P**	**20 12 18.0 -3.3**
DLV	**T Lat**	**47.70 291**	P	**P**	**20 12 22.8 +1.5**
ERM	**Erimo**	**47.97 350**	P	**P**	**20 12 19.9 -2.7**
ERM			pmax	pmax	
	comp=Z,85nm,1.4s				
ERM			MLR	MLR	
	comp=Z,3μm,22.0s				
ERM	**Erimo**	**47.97 350**	P	**P**	**20 12 19.9 -2.7**
ERM			IAmb	IAmb	20 14 01.7
	comp=Z,85nm,1.4s				
JEM	**Erimo**	**47.97 350**	P	P	20 12 38.6 +16
JEM			IAmb	IAmb	20 14 01.7
	comp=Z,93nm,1.4s				
TJN	**Taejon**	**48.02 332***c*	*i*P	**P**	**20 12 23.9 +0.8**
TJN	**Taejon**	**48.02 332**	P	**P**	**20 12 21.1 -2.0**
TJN	**Taejon**	**48.02 332**	P	**P**	**20 12 26.1 +3.0**
RAR	**Rarotonga**	**48.16 114**	P	**P**	**20 12 25.3 +0.8**
	comp=Z,36nm,0.7s,baz=241,slow=8.7,SNR=6.6				
RAR			LR	LR	20 31 16.1
	comp=Z,671nm,19.6s,baz=298,slow=34				
RAR	**Rarotonga**	**48.16 114**	P	**P**	**20 12 22.7 -1.8**
RAR			pmax	pmax	
	comp=Z,54nm,0.9s				
RAR	**Rarotonga**	**48.16 114**	P	**P**	**20 12 22.6 -1.8**
RAR			IAmb	IAmb	20 12 26.9
	comp=Z,54nm,0.9s				
KLSI		**48.34 268**	P	**P**	**20 12 25.5 -0.5**
	comp=Z,18nm,1.4s				
PMBI	**Palembang**	**48.41 271**	P	**P**	**20 12 24.4 -2.1**
KASI	**Kota Agung**	**48.54 267**	P	**P**	**20 12 25.5 -2.0**
	comp=Z,1μmcomp=Z,131nm,1.1s				
KSRS	**Korea Array**	**48.64 333**	P	**P**	**20 12 28.6 +0.7**
	comp=Z,6.5nm,0.9s,baz=147,slow=8.0,SNR=9.3				
KSRS			PcP	**PcP**	**20 13 54.5 +1.6**
	comp=Z,4.9nm,0.8s,baz=138,slow=2.7,SNR=5.5				
KSRS			ScP	**ScP**	**20 17 48.0 +2.6**
	comp=Z,5.7nm,0.9s,baz=137,slow=4.6,SNR=8.6				
KSAR	**Wonju Array Be**	**48.65 333**	P	**P**	**20 12 26.3 -1.6**
KSAR	**Wonju Array Be**	**48.65 333**	P	**P**	**20 12 26.2 -1.6**
KSAR			ScP	**ScP**	**20 17 47.1 +1.6**
KS19	**Wonju Array Si**	**48.70 333**	P	**P**	**20 12 26.1 -2.3**
KS19			IAmb	IAmb	20 12 40.8
	comp=Z,116nm,1.8s				
DSRI	**Dabo**	**48.84 274**	P	**P**	**20 12 32.9 +3.1**
	comp=Z,34nm,0.9s				
MDSI	**Maura Dua**	**48.90 269**	P	**P**	**20 12 29.2 -1.1**
	comp=Z,800nmcomp=Z,58nm,1.4s				
LWLI	**Liwa**	**48.99 268**	P	**P**	**20 12 31.5 +0.3**
	comp=Z,119nm,0.9s				
JEW	**Eniwo**	**49.09 349**	P	**P**	**20 12 29.9 -1.3**
QIZ	**Qiongzhong**	**49.11 301**	P	**P**	**20 12 31.5 -0.3**
QIZ			S	**S**	**20 19 38.3 +3.3**
QIZ			LR	LR	
	comp=Z,470nm,11.6s				
QIZ			LR	LR	
	comp=Z,1μm,21.8s				
QIZ			LR	LR	
	comp=Z,1μm,18.9s				
INCN	**Inchon**	**49.26 332**	P	**P**	**20 12 30.2 -2.4**
INCN			pmax	pmax	
	comp=Z,224nm,1.3s				
INCN			MLR	MLR	
	comp=Z,1μm,22.0s				
INCN	**Inchon**	**49.26 332**	P	**P**	**20 12 30.2 -2.4**
INCN	**Inchon**	**49.26 332**	P	**P**	**20 12 36.1 +3.4**
MCQ	**Macquarie Isla**	**49.28 176**	P	**P**	**20 12 32.2 -0.3**
	baz=49,SNR=3.1				
MCQ	**Macquarie Isla**	**49.28 176**	P	**P**	**20 12 30.3 -2.2**
MCQ			pmax	pmax	
	comp=Z,307nm,1.1s				
MCQ	**Macquarie Isla**	**49.28 176**	P	**P**	**20 12 30.3 -2.2**
MCQ	**Macquarie Isla**	**49.28 176**	P	**P**	**20 12 33.4 +0.9**
NJ2	**Nanjing**	**49.51 321**	*e*P	**P**	**20 12 35.5 +0.9**
NJ2			S	**S**	**20 19 43.8 +3.7**
NJ2			pmax	pmax	
	comp=Z,12nm,0.5s				
NJ2			LR	LR	
	comp=Z,1μm,18.9s				
NJ2			LR	LR	
	comp=Z,1μm,17.1s				
NJ2			LR	LR	
	comp=Z,1μm,21.1s				
XMAS	**Kiritimati**	**49.77 83**	P	**P**	**20 12 36.1 -0.9**
XMAS	**Kiritimati**	**49.77 83**	IAMs_20	IAMs_20	20 31 54.7
	comp=Z,5μm,20.0s				
MYKOM	**Kota Tinggi**	**49.85 277**	P	**P**	**20 12 35.4 -2.2**
JKA	**Kamikawa-asahi**	**50.11 350**	P	**P**	**20 12 38.0 -0.9**
ASAJ	**Asahikawa**	**50.11 350**	LR	LR	20 31 11.6
	comp=Z,2μm,21.4s,baz=140,slow=33				
ASAJ	**Asahikawa**	**50.11 350**	P	**P**	**20 12 38.0 -1.0**
ASAJ			pmax	pmax	
	comp=Z,241nm,1.9s				
MASI	**Maura Aman, Be**	**50.92 270**	P	**P**	**20 12 46.8 +1.1**
	comp=Z,69nm,0.8s				
WHN	**Wuhan**	**51.52 316**	⇓P	**P**	**20 12 50.5 +0.6**
WHN			S	**S**	**20 20 10.8 +2.7**
WHN			LR	LR	
	comp=Z,2μm,14.6s				
WHN			LR	LR	
	comp=Z,780nm,8.5s				
WHN			LR	LR	
	comp=Z,4μm,22.1s				
KRJI	**Kerinci**	**51.78 271**	P	**P**	**20 12 51.8 -0.4**
	comp=Z,2μmcomp=Z,124nm,1.1s				
TEY	**Ternei**	**52.28 345**	*e*P	**P**	**20 12 59.0 +3.8**
BKNI	**Bangkinang**	**52.45 274**	P	**P**	**20 12 55.6 -1.4**
BKNI			IAmb	IAmb	20 13 34.9
	comp=Z,52nm,0.6s				
DL2	**Dalian**	**52.83 329**	*e*P	**P**	**20 12 59.8 +0.4**
DL2			S	**S**	**20 20 26.5 +0.8**
DL2			pmax	pmax	
	comp=Z,31nm,1.5s				
DL2			pmax	pmax	
	comp=Z,450nm,4.1s				
DL2			LR	LR	
	comp=Z,890nm,18.1s				
DL2			LR	LR	
	comp=Z,650nm,20.6s				
DL2			LR	LR	
	comp=Z,1μm,19.5s				
YSS	**Yuzh-Sakhalins**	**52.84 351**	*e*P	**P**	**20 12 59.0 -0.3**
YSS			*e*S	**S**	**20 20 25.8 +0.2**
YSS			*e*SS	**ScS**	**20 22 46.6 +0.3**
YSS			pmax	pmax	
	comp=Z,20nm,1.2s				
YSS			pmax	pmax	
	comp=Z,200nm,3.6s				
YSS			MLR	MLR	
	comp=N,500nm,17.0s				
YSS			MLR	MLR	
	comp=Z,1μm,17.0s				
YSS	**Yuzh-Sakhalins**	**52.84 351**	P	**P**	**20 12 57.2 -2.1**
USA0B	**Ussuriysk Arra**	**52.86 341**	P	**P**	**20 12 57.8 -1.7**
USA0B			pmax	pmax	
	comp=Z,73nm,1.4s				
USA0B	**Ussuriysk Arra**	**52.86 341**	P	**P**	**20 12 57.8 -1.7**
USA0B			IAmb	IAmb	20 13 13.0
	comp=Z,73nm,1.4s				
USRK	**Ussuriysk Ar.**	**52.86 341**	P	**P**	**20 12 60.0 +0.4**
	comp=Z,16nm,0.8s,baz=168,slow=8.6,SNR=24				
USRK			LR	LR	20 35 49.5
	comp=Z,518nm,18.2s,baz=148,slow=36				
USRK	**Ussuriysk Ar.**	**52.86 341**	P	**P**	**20 12 58.6 -0.9**
USRK	**Ussuriysk Ar.**	**52.86 341**	P	**P**	**20 12 58.6 -0.9**
PPI	**Padang Panjang**	**53.00 273**	P	**P**	**20 13 01.6 +0.5**
	comp=Z,616nmcomp=Z,23nm,1.1s				
TIA	**Tai'an**	**53.38 324**	*e*P	**P**	**20 13 03.3 -0.3**
TIA			S	**S**	**20 20 27.0 -6.4**
TIA			pmax	pmax	
	comp=Z,12nm,1.0s				
TIA			pmax	pmax	
	comp=Z,250nm,3.7s				
TIA			LR	LR	
	comp=Z,480nm,18.4s				
TIA			LR	LR	
	comp=Z,410nm,19.4s				
TIA			LR	LR	
	comp=Z,1μm,25.0s				
KULM	**Kulim**	**53.58 280**	P	**P**	**20 13 03.9 -1.5**
KULM			IAmb	IAmb	20 13 43.0
	comp=Z,103nm,1.7s				
MNSI	**Mandailing Nat**	**53.95 275**	P	**P**	**20 13 12.3 +4.1**
	comp=Z,43nm,1.3s				
MDJ	**Mudanjiang**	**54.04 339**	P	**P**	**20 13 09.1 +0.9**
	comp=Z,31nm,1.3s				
OPA	**Opana**	**54.74 59**	P	**P**	**20 13 13.0 -0.7**
OPA			pmax	pmax	
	comp=Z,283nm,1.2s				
OPA	**Opana**	**54.74 59**	P	**P**	**20 13 13.0 -0.7**
ENH	**Enshi**	**54.82 313**	P	**P**	**20 13 14.1 -0.2**
WMR	**Waimanalo Ridg**	**54.88 59**	P	**P**	**20 13 13.6 -1.1**
CN2	**Changchun**	**54.93 336**	*e*P	**P**	**20 13 14.0 -0.7**
CN2			*e*pP	pwP	20 13 27.0 -0.4
CN2			PP	**PP**	**20 15 19.0 +0.9**
CN2			*e*S	**S**	**20 20 51.3 -2.8**
CN2			SS	**SS**	**20 24 35.0 -3.2**
CN2			pmax	pmax	
	comp=Z,20nm,1.9s				
CN2			LR	LR	
	comp=Z,700nm,18.0s				
CN2			LR	LR	
	comp=Z,600nm,18.0s				
CN2			LR	LR	
	comp=Z,1μm,18.0s				
GYA	**Guiyang**	**55.05 307**	⇑P	**P**	**20 13 19.0 +2.9**
GYA			S	**S**	**20 20 58.3 +1.7**
GYA			ScS	**ScS**	**20 23 07.0 +3.8**
GYA			pmax	pmax	
	comp=Z,15nm,0.8s				
GYA			LR	LR	
	comp=Z,970nm,18.0s				
GYA			LR	LR	
	comp=Z,950nm,20.7s				
GYA			LR	LR	
	comp=Z,1μm,18.4s				
SLVN	**Son La**	**55.14 300**	P	**P**	**20 13 16.6 -0.2**
LYN	**LuoYang**	**55.21 319**	⇑P	**P**	**20 13 17.5 +0.6**
LYN			S	**S**	**20 20 57.0 -1.1**
LYN			pmax	pmax	
	comp=Z,10.0nm,1.8s				
LYN			pmax	pmax	
	comp=Z,210nm,7.8s				
LYN			LR	LR	
	comp=Z,710nm,19.8s				
LYN			LR	LR	
	comp=Z,940nm,18.4s				
LYN			LR	LR	
	comp=Z,1μm,19.2s				
HNS	**HongShan**	**55.61 323**	⇓P	**P**	**20 13 20.0 +0.3**
HNS			S	**S**	**20 21 04.5 +1.1**
HNS			ScS	**ScS**	**20 23 04.5 -1.9**
HNS			pmax	pmax	
	comp=Z,37nm,1.7s				
HNS			LR	LR	
	comp=Z,610nm,18.3s				
HNS			LR	LR	
	comp=Z,920nm,16.8s				
HNS			LR	LR	
	comp=Z,870nm,24.3s				
KHLU	**Kahalu`u**	**55.78 62**	P	**P**	**20 13 19.9 -1.5**
BNX	**BinXian**	**55.79 338**	⇑P	**P**	**20 13 21.0 +0.1**
BNX			PP	**PP**	**20 15 28.8 +3.1**
BNX			S	**S**	**20 21 02.5 -3.0**
BNX			pmax	pmax	
	comp=Z,19nm,1.2s				
BNX			pmax	pmax	
	comp=Z,250nm,3.9s				
BNX			LR	LR	
	comp=Z,460nm,16.5s				
BNX			LR	LR	
	comp=Z,380nm,16.1s				
BNX			LR	LR	
	comp=Z,630nm,18.2s				
GSI	**Gunungsitoli**	**56.00 275**	P	P	20 13 38.4 +15
GSI	**Gunungsitoli**	**56.00 275**	P	**P**	**20 13 22.9 -0.1**
GSI			IAmb	IAmb	20 13 38.6
	comp=Z,61nm,1.2s				
HPAH	**Hawaii Prepara**	**56.11 62**	P	**P**	**20 13 22.3 -1.4**
HMH	**Humu'ula Sheep**	**56.15 62**	P	**P**	**20 13 23.0 -1.3**
POHA	**Pohakuloa**	**56.16 62**	P	**P**	**20 13 23.4 -0.9**
MLH	**Mauna Loa**	**56.20 62**	P	**P**	**20 13 22.8 -1.8**
BJI	**Beijing**	**56.55 326**	P	**P**	**20 13 27.0 +0.6**
BJI			PcP	**PcP**	**20 14 24.0 +1.3**
BJI			S	**S**	**20 21 12.3 -3.5**
BJI			pmax	pmax	
	comp=Z,10.0nm,2.1s				
BJI			pmax	pmax	
	comp=Z,290nm,5.4s				
BJI			LR	LR	
	comp=Z,690nm,21.0s				
BJI			LR	LR	
	comp=Z,850nm,23.1s				
BJI			LR	LR	
	comp=Z,1μm,22.9s				
TYV	**Tymovskoe**	**56.67 352**	*e*P	**P**	**20 13 27.6 +0.6**
TYV			*e*S	**S**	**20 21 20.4 +3.5**
TYV			pmax	pmax	
	comp=Z,16nm,0.8s				
TYV			pmax	pmax	
	comp=Z,100nm,3.4s				
TYV			smax	smax	
	comp=N,500nm,5.9s				
PPT2	**Papeete2**	**57.14 107**	*e*LR	LR	20 30 24.4
	comp=N,788nm,21.5s				
PAE	**Paea**	**57.15 108**	*e*P	**P**	**20 13 32.4 +1.4**
	comp=N,9.4nm,0.9s				
XAN	**Xi'an**	**57.29 316**	P	**P**	**20 13 31.8 0.0**
XAN			pP	pP	20 13 34.0 -7.6
XAN			S	**S**	**20 21 23.5 -2.4**
XAN			ScS	**ScS**	**20 23 18.3 -0.6**
XAN			pmax	pmax	
	comp=N,45nm,1.3s				
XAN			pmax	pmax	
	comp=N,510nm,5.3s				
XAN			LR	LR	
	comp=N,790nm,21.3s				
XAN			LR	LR	
	comp=N,1μm,19.9s				
XAN			LR	LR	
	comp=N,2μm,22.0s				
XAN	**Xi'an**	**57.29 316**	P	**P**	**20 13 31.7 -0.2**
TIAR	**Tiarei**	**57.36 107**	*e*P	**P**	**20 13 33.8 +1.2**
	comp=N,0.7nm,0.8s				
KLR	**Kul'dur**	**57.44 343**	LR	LR	20 36 48.0
	comp=N,449nm,21.6s,baz=164,slow=35				
KLR	**Kul'dur**	**57.44 343***d*	*i*P	**P**	**20 13 32.8 +0.3**
KLR			pmax	pmax	
	comp=Z,36nm,0.9s				
KMI	**Kunming**	**57.64 304**	⇑P	**P**	**20 13 36.0 +1.3**
KMI			PcP	**PcP**	**20 14 26.3 -1.3**
KMI			S	**S**	**20 21 33.0 +1.9**
KMI			SS	**SS**	**20 25 26.8 +4.9**
KMI			pmax	pmax	
	comp=Z,18nm,1.8s				
KMI			pmax	pmax	
	comp=Z,150nm,3.5s				
KMI			LR	LR	
	comp=Z,400nm,17.1s				
KMI			LR	LR	
	comp=Z,760nm,20.7s				
KMI			LR	LR	
	comp=Z,1μm,22.5s				
GRNR	**Gornyy**	**57.69 347**	⇑*i*P	**P**	**20 13 33.8 -0.5**
GRNR			pmax	pmax	
	comp=Z,5.0nm,0.9s				
PEA0B	**Petropavlovsk-**	**58.30 3**	⇓*i*P	**P**	**20 13 38.5 0.0**
PEA0B	**Petropavlovsk-**	**58.30 3**	P	**P**	**20 13 38.8 +0.3**
PETK	**Petropavlovsk-**	**58.30 3**	P	**P**	**20 13 39.1 +0.6**
	comp=Z,15nm,0.7s,baz=172,slow=8.1,SNR=27				
PETK			LR	LR	20 34 46.2
	comp=Z,1μm,21.9s,baz=195,slow=32				
PETK	**Petropavlovsk-**	**58.30 3**	P	**P**	**20 13 38.3 -0.2**
PETK	**Petropavlovsk-**	**58.30 3**	P	**P**	**20 13 38.3 -0.2**
CM31	**Chiang Mai Arr**	**58.50 295**	P	**P**	**20 13 39.4 -1.1**
CM31			IAmb	IAmb	20 14 10.7
	comp=Z,60nm,1.1s				
CMAR	**Chiang Mai Arr**	**58.50 295**	P	**P**	**20 13 41.8 +1.2**
	comp=Z,25nm,0.8s,baz=117,slow=4.9,SNR=68				
CMAR			LR	LR	20 37 46.5
	comp=Z,644nm,20.2s,baz=110,slow=35				
CMAR			PKPPKP	**P'P'df**	**20 43 21.0 +1.0**
	comp=Z,1.9nm,1.0s,baz=265,slow=4.4,SNR=7.5				
CMAR	**Chiang Mai Arr**	**58.50 295**	P	**P**	**20 13 39.4 -1.1**
PMOR	**Pomariorio Ree**	**58.57 104**	*e*P	**P**	**20 13 42.4 +1.3**
	comp=Z,108nm,0.9s				
MEH	**Mehetia**	**58.60 108**	*e*P	**P**	**20 13 42.4 +1.1**
	comp=Z,18nm,0.8s				
CHTO	**Chiang Mai**	**58.61 296**	P	**P**	**20 13 40.4 -1.0**
CHTO			pmax	pmax	
	comp=Z,49nm,1.2s				
CHTO			MLR	MLR	
	comp=Z,900nm,19.0s				
CHTO	**Chiang Mai**	**58.61 296**	P	**P**	**20 13 40.4 -1.0**
CHTO			IAmb	IAmb	20 14 11.7
	comp=Z,49nm,1.2s				
CHTO	**Chiang Mai**	**58.61 296**	P	**P**	**20 13 43.2 +1.9**
VAH	**Vaihoa**	**58.84 105**	*e*P	**P**	**20 13 44.0 +1.0**
	comp=Z,77nm,1.1s				
PZH	**PanZhiHua**	**59.03 305**	P	**P**	**20 13 44.0 -0.2**
PZH			ScP	**ScP**	**20 18 35.8 +4.6**
PZH			S	**S**	**20 21 49.8 +0.8**
PZH			SS	**SS**	**20 25 47.5 +4.0**
PZH			pmax	pmax	
	comp=Z,10.0nm,1.7s				
PZH			pmax	pmax	
	comp=Z,260nm,7.5s				
PZH			LR	LR	
	comp=Z,710nm,19.8s				
PZH			LR	LR	
	comp=Z,900nm,18.8s				
PZH			LR	LR	
	comp=Z,1μm,18.1s				
XLT	**XiLinHaoTe**	**59.32 329**	⇓*i*P	**P**	**20 13 46.3 +0.4**
XLT			S	**S**	**20 21 54.0 +1.9**
XLT			ScS	**ScS**	**20 23 33.5 0.0**
XLT			SS	**SS**	**20 25 52.5 +5.1**
XLT			pmax	pmax	
	comp=Z,35nm,1.4s				
XLT			pmax	pmax	
	comp=Z,370nm,3.5s				
XLT			LR	LR	
	comp=Z,850nm,18.5s				
XLT			LR	LR	
	comp=Z,1μm,17.3s				
XLT			LR	LR	
	comp=Z,2μm,18.1s				
CD2	**Chengdu**	**59.40 311**	⇑*i*P	**P**	**20 13 47.3 +0.6**
CD2			S	**S**	**20 21 57.0 +3.4**
CD2			pmax	pmax	
	comp=Z,30nm,0.8s				
CD2			pmax	pmax	
	comp=Z,200nm,4.2s				
CD2			LR	LR	
	comp=Z,1μm,23.3s				
CD2			LR	LR	
	comp=Z,1μm,21.3s				
HHC	**Hu-ho-hao-te**	**59.71 324**	*e*P	**P**	**20 13 48.8 +0.1**
HHC			sP	pP	20 13 56.0 -2.5
HHC			S	**S**	**20 21 54.3 -3.0**
HHC			sS	pS	20 22 06.3 -3.1
HHC			SS	**SS**	**20 25 56.8 +3.1**
HHC			pmax	pmax	
	comp=Z,21nm,0.8s				
HHC			LR	LR	
	comp=Z,610nm,17.2s				
HHC			LR	LR	
	comp=Z,650nm,17.8s				
HHC			LR	LR	
	comp=Z,2μm,18.4s				
SHEM	**Shemya Is, Ala**	**60.44 14**	LR	LR	20 35 35.5
	comp=Z,3μm,21.7s,baz=174,slow=32				
BTO	**Baotou**	**60.47 323**	*e*P	**P**	**20 13 54.3 +0.5**
LZH	**Lanzhou**	**61.90 316**	⇓P	**P**	**20 14 04.8 +1.1**
LZH			sP	pP	20 14 10.3 -3.2
LZH			S	**S**	**20 22 27.0 +1.5**
LZH			sS	pS	20 22 35.0 -2.8
LZH			SS	**SS**	**20 26 30.8 +2.5**
LZH			pmax	pmax	
	comp=Z,31nm,1.3s				
LZH			pmax	pmax	
	comp=Z,310nm,7.0s				
LZH			LR	LR	
	comp=Z,1μm,17.9s				
LZH			LR	LR	
	comp=Z,1μm,16.8s				
LZH			LR	LR	
	comp=Z,1μm,19.0s				
DRV	**Dumont d'Urvil**	**61.96 186**	P	P	20 14 10.9 +7.6
KIWB	**Kanaga Island**	**62.27 20**	P	**P**	**20 14 05.0 -0.6**
ADK	**Adak**	**62.46 20**	P	**P**	**20 14 07.3 +0.4**
ADK			pmax	pmax	
	comp=Z,130nm,1.1s				
ADK	**Adak**	**62.46 20**	P	**P**	**20 14 07.3 +0.4**
ZEA	**Zeya**	**62.74 343**	*e*P	**P**	**20 14 09.2 +0.4**
ZEA			pmax	pmax	
	comp=N,10.0nm,0.7s				
ZEA			pmax	pmax	
	comp=Z,30nm,0.8s				
ZEA			pmax	pmax	
	comp=Z,200nm,2.9s				
MA2	**Magadan**	**64.69 359***c*	*i*P	**P**	**20 14 21.5 0.0**
MA2			pmax	pmax	
	comp=Z,48nm,0.7s				
MA2	**Magadan**	**64.69 359**	P	**P**	**20 14 19.8 -1.7**
MA2			IAmb	IAmb	20 14 24.0
	comp=Z,50nm,0.8s				
MA2	**Magadan**	**64.69 359**	P	**P**	**20 14 22.1 +0.6**
MA2	**Magadan**	**64.69 359**	P	**P**	**20 14 21.6 +0.1**
MA2			pP	**pP**	**20 14 31.4 +0.2**
TAOE	**Nuku Hiva Isla**	**66.11 97**	*e*LR	LR	20 34 26.4
	comp=Z,617nm,22.1s				
NIKH	**Nikolski High**	**66.27 24**	P	**P**	**20 14 32.5 +0.7**
GTA	**Gaotai**	**66.33 317**	⇓P	**P**	**20 14 33.5 +0.8**
GTA			pP	pP	20 14 38.0 -4.6
GTA			sP	pwP	20 14 41.0 -5.0
GTA			S	**S**	**20 23 21.5 +1.3**
GTA			pmax	pmax	
	comp=Z,25nm,1.5s				
GTA			pmax	pmax	
	comp=Z,190nm,7.2s				
GTA			LR	LR	
	comp=Z,530nm,16.7s				
GTA			LR	LR	
	comp=Z,750nm,18.7s				
GTA			LR	LR	
	comp=Z,980nm,20.7s				
CIT	**Chita**	**66.33 334**	*e*P	**P**	**20 14 33.3 +0.9**
CIT			*e*		20 14 45.7
CIT			*e*		20 15 04.6
CIT			*e*		20 18 34.6
CIT			pmax	pmax	
	comp=Z,76nm,2.6s				
ULN	**Ulaanbaatar**	**66.65 328***d*	*i*P	**P**	**20 14 35.5 +0.9**
ULN			pmax	pmax	
	comp=Z,62nm,2.5s				
ULN	**Ulaanbaatar**	**66.65 328**	P	**P**	**20 14 34.8 +0.1**
ULN			IAmb	IAmb	20 14 54.6
	comp=Z,85nm,1.6s				
ULN	**Ulaanbaatar**	**66.65 328**	P	**P**	**20 14 35.4 +0.7**
ULN			pP	**sP**	**20 14 50.5 +2.5**
SHL	**Shillong**	**66.95 300**	P	**P**	**20 14 36.6 -0.4**
SHL			pmax	pmax	
	comp=Z,69nm,1.0s				
SHL	**Shillong**	**66.95 300**	P	**P**	**20 14 36.6 -0.4**
SHL			IAmb	IAmb	20 14 40.6
	comp=Z,69nm,1.0s				
SONM	**Songino Array**	**66.98 328**	P	**P**	**20 14 37.5 +0.8**
	comp=Z,3.3nm,0.5s,baz=145,slow=6.3,SNR=38				
SONM			LR	LR	20 42 04.8
	comp=Z,1μm,21.8s,baz=122,slow=34				
SONM			PKP2bc		20 43 07.5
	comp=Z,7.0nm,1.2s,baz=302,slow=3.2,SNR=12				

SONM Songino Array 66.98 328 P **P** **20 14 36.9 +0.2**
SONM **P'P'df** **20 43 03.9 0.0**
CASY Casey 67.69 197 P **P** **20 14 40.0 -0.6**
CASY IAmb IAmb 20 14 41.9
comp=Z,118nm,1.4s
SEY Seymchan 68.03 360 PKP2bc 20 43 03.7
comp=Z,3.8nm,1.1s,baz=323,slow=2.1,SNR=8.7
SEY LR LR 20 47 56.0
comp=Z,416nm,18.0s,baz=174,slow=39
GOMU GeErMu 68.43 312 P **P** **20 14 47.0 +0.6**
GOMU pP pP 20 14 50.3 -6.0
GOMU sP pwP 20 14 54.5 -5.3
GOMU S **S** **20 23 48.5 +2.4**
GOMU SS **SS** **20 28 13.0 +2.6**
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU pmax pmax
comp=Z,200nm,5.7s
GOMU LR LR
comp=Z,470nm,19.9s
GOMU LR LR
comp=Z,410nm,20.1s
GOMU LR LR
comp=Z,380nm,19.0s
LSA Lhasa 68.89 304 P **P** **20 14 50.3 +0.8**
LSA pP **pP** **20 14 56.5 -3.2**
LSA S **S** **20 23 52.8 +0.7**
LSA pmax pmax
comp=Z,57nm,1.0s
LSA LR LR
comp=Z,310nm,6.4s
LSA LR LR
comp=Z,260nm,8.5s
LSA LR LR
comp=Z,510nm,7.1s
YAK Yakutsk 69.54 348 LR LR 20 44 29.3
comp=Z,330nm,20.0s,baz=146,slow=35
YAK Yakutsk 69.54 348 *e*P **P** **20 14 52.8 +0.6**
YAK *e**PP **sP** **20 15 06.7 +1.0**
YAK *e* 20 15 20.1
YAK *e*S **S** **20 23 57.3 -0.2**
YAK *e**SS **sS** **20 24 18.7 +5.1**
YAK *e* 20 24 45.0
YAK *e*SS **SS** **20 28 24.4 -1.4**
YAK pmax pmax
comp=Z,72nm,1.0s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK smax smax
comp=E,120nm,2.4s
YAK smax smax
comp=N,85nm,2.5s
YAK Yakutsk 69.54 348 P **P** **20 14 51.5 -0.7**
YAK IAmb IAmb 20 14 55.7
comp=Z,78nm,1.0s
YAK Yakutsk 69.54 348 P **P** **20 14 52.8 +0.6**
ZAK Zakamensk 70.15 329 *e*P **P** **20 14 56.2 -0.2**
ZAK pmax pmax
comp=Z,50nm,1.2s
BOD Bodaibo 70.41 339 *e*P **P** **20 14 57.7 0.0**
BOD pmax pmax
comp=Z,17nm,1.8s
IRK Irkutsk 70.76 331 *e*P **P** **20 14 59.3 -0.6**
IRK pmax pmax
comp=Z,67nm,0.5s
SDPT Sand Point 71.45 26 P **P** **20 15 07.0 +3.0**
baz=229
CCD Concordia, Ant 71.84 188 P **P** **20 15 07.2 +0.6**
MOY Mondy 72.07 329 *e*P **P** **20 15 09.0 +1.0**
MOY pmax pmax
comp=Z,72nm,3.3s
CHLP Challavanipeta 72.15 291 *e*P **P** **20 15 09.1 +0.1**
VNDA Vanda 72.33 178 P **P** **20 15 09.9 +0.9**
comp=Z,69nm,0.9s,baz=333,slow=7.0,SNR=100
VNDA Vanda 72.33 178 P **P** **20 15 09.4 +0.4**
VNDA pmax pmax
comp=Z,128nm,1.1s
VNDA Vanda 72.33 178 P **P** **20 15 09.4 +0.4**
GUN Gumba 72.77 301 *e*P **P** **20 15 13.3 +0.3**
comp=Z,167nm,1.0s
SBA Scott Base 72.87 177 P **P** **20 15 13.2 +1.0**
SBA pmax pmax
comp=Z,156nm,1.2s
SBA Scott Base 72.87 177 P **P** **20 15 13.2 +1.0**
PKI Pulchoki 73.08 301 *e*P **P** **20 15 14.7 -0.1**
comp=Z,267nm,1.5s
PKIN Phulchoki 73.09 301 *e*P **P** **20 15 14.7 -0.1**
comp=Z,230nm,1.5s
KKN Kakani 73.25 301 *e*P **P** **20 15 16.0 +0.4**
comp=Z,92nm,0.9s
DMN Daman 73.35 301 *e*P **P** **20 15 16.6 +0.3**
comp=Z,379nm,1.3s
PALK Pallekele 73.47 279 LR LR 20 50 53.9
comp=Z,322nm,19.9s,baz=223,slow=39
PALK Pallekele 73.47 279 P **P** **20 15 15.9 -1.1**
PALK pmax pmax
comp=Z,160nm,2.0s
PALK Pallekele 73.47 279 P **P** **20 15 15.9 -1.1**
PALK IAmb IAmb 20 15 18.5
comp=Z,160nm,2.0s
GAMB Gambell 73.73 15 IAms_20 IAms_20 20 43 13.6
comp=Z,2μm,21.0s
BILL Bilibino 73.73 5*d i*P **P** **20 15 17.9 +0.5**
BILL *e* 20 15 33.5
BILL *e* 20 18 01.0
BILL pmax pmax
comp=Z,32nm,1.3s
BILL Bilibino 73.73 5 P **P** **20 15 17.3 -0.1**
BILL IAmb IAmb 20 15 43.5
comp=Z,81nm,1.4s
BILL Bilibino 73.73 5 P **P** **20 15 18.0 +0.6**
GKN Gorkha 73.85 301 *e*P **P** **20 15 19.3 +0.2**
comp=Z,418nm,1.4s
KOLN Koldanda 74.68 301 *e*P **P** **20 15 24.2 +0.2**
comp=Z,99nm,0.9s
DANN Dangsing 74.69 301 *e*P **P** **20 15 24.0 -0.2**
comp=Z,190nm,1.1s
PYUN Piuthan 75.28 301 *e*P **P** **20 15 27.3 -0.2**
comp=Z,214nm,0.9s
SKHT Srikalahasti 75.38 286 *e*P **P** **20 15 27.3 -0.7**
ADKI Addanki 75.48 288 *e*P **P** **20 15 28.1 -0.5**
ANM Nome 76.10 17 IAms_20 IAms_20 20 44 36.5
comp=Z,2μm,19.0s
ANM Nome 76.10 17 P **P** **20 15 32.0 +0.9**
baz=223
TNA Tin City 76.14 16 P **P** **20 15 29.9 -1.4**
baz=220
P18K Big Mountain, 76.20 24 IAms_20 IAms_20 20 44 55.3
comp=Z,3μm,21.0s
P18K Big Mountain, 76.20 24 P **P** **20 15 30.5 -1.4**
baz=233
NJS Nagarjunasagar 76.23 288 *e*P **P** **20 15 32.5 -0.4**
KDAK Kodiak Island 76.40 27 LR LR 20 43 59.4
comp=Z,2μm,21.9s,baz=259,slow=32
WMQ Urumqi 76.41 317 *e*P **P** **20 15 35.0 +1.6**
WMQ pP pP 20 15 40.8 -2.7
WMQ PcP **sP** **20 15 47.5 +0.6**
WMQ S **S** **20 25 19.5 +3.0**
WMQ SKS **SKSac** **20 25 40.8 -1.6**
WMQ pmax pmax
comp=Z,53nm,1.5s
WMQ pmax pmax
comp=Z,310nm,3.9s
WMQ LR LR
comp=Z,650nm,22.7s
WMQ LR LR
comp=Z,340nm,22.7s
O18K Koktuh Hills 76.49 24 IAms_20 IAms_20 20 46 47.9
comp=Z,3μm,20.0s
SRLM Srisailam 76.55 288 *e*P **P** **20 15 33.8 -0.9**
Q19K Cape Douglas, 76.59 25 IAms_20 IAms_20 20 43 16.7
comp=Z,3μm,21.0s
RPR Rampur 76.64 291 *e*P **P** **20 15 34.5 -0.7**
CUPL Choutuppal 76.72 289 *e*P **P** **20 15 34.9 -0.7**
O19K Port Alsworth 77.05 24 **P** **20 15 35.6 -0.9**
O19K IAms_20 IAms_20 20 47 15.7
comp=Z,3μm,20.0s
O19K Port Alsworth 77.05 24 P **P** **20 15 36.5 0.0**
baz=234
HYBB Hyderabad (bro 77.09 289 *e*P **P** **20 15 37.2 -0.6**
HYBB *es*P **sP** **20 15 52.2 +1.0**
HYBB *e*S **S** **20 25 23.5 -1.3**
N19K Bonanza Creek 77.35 23 IAms_20 IAms_20 20 47 28.6
comp=Z,3μm,20.0s
N19K Bonanza Creek 77.35 23 P **P** **20 15 38.3 -0.1**
baz=234
SRSP Sriramsagar 77.54 291 *e*P **P** **20 15 39.7 -0.5**
URV Uravakonda 77.92 286 *e*P **P** **20 15 42.1 -0.3**
CNPM China Poot 77.95 25 P **P** **20 15 41.2 -0.5**
L19K White Mountain 78.02 22 P **P** **20 15 42.2 +0.1**
L19K IAmb IAmb 20 16 08.2
comp=Z,92nm,1.1s
L19K White Mountain 78.02 22 P **P** **20 15 43.4 +1.4**
baz=233
M19K Big River Lodg 78.03 23 P **P** **20 15 43.2 +1.2**
baz=234
TTA Tatalina 78.05 21 P **P** **20 15 41.5 -0.8**
TTA pmax pmax
comp=Z,55nm,1.2s
TTA Tatalina 78.05 21 P **P** **20 15 41.5 -0.8**
TTA IAmb IAmb 20 16 08.2
comp=Z,55nm,1.2s
TTA Tatalina 78.05 21 P **P** **20 15 43.0 +0.8**
baz=232
TIXI Tiksi 78.44 352 LR LR 20 53 38.9
comp=Z,194nm,18.0s,baz=154,slow=38
TIXI Tiksi 78.44 352‖ *e*P **P** **20 15 43.8 -0.3**
TIXI pmax pmax
comp=Z,28nm,1.7s
TIXI Tiksi 78.44 352 P **P** **20 15 43.1 -1.0**
L20K Farewell, AK 78.57 22 P **P** **20 15 45.7 +0.7**
baz=234
CAPN Captain Cook N 78.67 24 **P** **20 15 45.6 +0.1**
CAPN Captain Cook N 78.67 24 P **P** **20 15 46.6 +1.1**
baz=237
DGZ Jazzator, Alta 78.75 323*d i*P **P** **20 15 47.1 +0.6**
DGZ pmax pmax
comp=Z,83nm,1.5s
GCSA Galena City Sc 78.89 20 P **P** **20 15 46.9 +0.2**
baz=231,SNR=6.7
K20K Telida 79.02 21 IAMs_20 IAMs_20 20 47 39.6
comp=Z,1μm,20.0s
K20K Telida 79.02 21 P **P** **20 15 48.5 +1.1**
baz=234
SEW Seward 79.03 25 **P** **20 15 46.6 -0.9**
SEW IAmb IAmb 20 16 19.0
comp=Z,102nm,1.1s
KLRI Killari 79.03 289 *e*P **P** **20 15 47.5 -1.0**
RDOG Red Dog Mine 79.33 15 IAMs_20 IAMs_20 20 48 13.6
comp=Z,2μm,21.0s
RDOG Red Dog Mine 79.33 15 P P 20 16 01.3 +12
baz=225,SNR=5.1
RC01 Rabbit Creek A 79.42 24 P **P** **20 15 49.4 -0.4**
RC01 IAmb IAmb 20 16 15.0
comp=Z,106nm,1.1s
RC01 Rabbit Creek A 79.42 24 P **P** **20 15 49.1 -0.6**
baz=238,SNR=5.9
PPLA Purkeypile 79.45 22 P **P** **20 15 50.3 +0.3**
baz=236
J20K Nowinta River 79.48 21 IAMs_20 IAMs_20 20 46 46.7
comp=Z,2μm,21.0s
J20K Nowinta River 79.48 21 P **P** **20 15 50.5 +0.6**
baz=234
ZSN Zaisan 79.54 320 *e*P **P** **20 15 50.1 -0.6**
ZSN *es*S **S** **20 25 50.6 +0.7**
ZSN pmax pmax
comp=Z,32nm,1.6s
ZSN Zaisan 79.54 320 *e*P **P** **20 15 50.2 -0.5**
comp=Z,32nm,1.6s,baz=320
ZSN *es*S **S** **20 25 50.7 +0.7**
baz=320
M22K Willow 79.62 24 IAMs_20 IAMs_20 20 47 25.7
comp=Z,2μm,20.0s
M22K Willow 79.62 24 P **P** **20 15 50.2 -0.5**
baz=238
CAST Castle Rocks 79.78 22 P **P** **20 15 50.1 -1.5**
CAST IAmb IAmb 20 16 16.6
comp=Z,59nm,1.1s
CAST IAMs_20 IAMs_20 20 48 27.8
comp=Z,2μm,18.0s
CAST Castle Rocks 79.78 22 P **P** **20 15 50.5 -1.2**
baz=236,SNR=9.0
PWL Port Wells 79.89 25 P **P** **20 15 52.0 -0.2**
PWL Port Wells 79.89 25 P **P** **20 15 52.2 -0.1**
baz=240,SNR=5.9
CUT Chulitna 79.91 23 P **P** **20 15 51.4 -0.9**
baz=238
PMR Palmer 79.94 24 IAmb IAmb 20 16 17.6
comp=Z,75nm,1.2s
PMR Palmer 79.94 24 P **P** **20 15 51.9 -0.6**
baz=239
CHUM Lake Minchumin 79.96 21 P **P** **20 15 52.5 -0.1**
baz=235,SNR=13
KNK Knik Glacier 80.12 25 IAmb IAmb 20 16 27.8
comp=Z,81nm,1.1s
KNK Knik Glacier 80.12 25 P **P** **20 15 53.5 -0.1**
baz=239
KTH Kantishna Hill 80.29 22 IAmb IAmb 20 16 19.0
comp=Z,63nm,1.1s
KTH IAMs_20 IAMs_20 20 48 21.3
comp=Z,2μm,19.0s
NDI New Delhi 80.37 300 *e*P **P** **20 15 53.0 -2.6**
SML Sawmill 80.38 24 IAMs_20 IAMs_20 20 45 31.6
comp=Z,3μm,22.0s
SML Sawmill 80.38 24 P **P** **20 15 54.7 -0.2**
baz=239,SNR=6.4
TRF Thorofare Moun 80.47 22 IAMs_20 IAMs_20 20 50 20.1
comp=Z,2μm,20.0s
TRF Thorofare Moun 80.47 22 P **P** **20 15 54.9 -0.7**
baz=237
BPAW Bear Paw Mtn. 80.57 22 P **P** **20 15 55.8 0.0**
baz=237
IMAR Indian Mountai 80.69 19 P **P** **20 15 56.3 -0.1**
SCM Sheep Creek Mo 80.80 24 IAmb IAmb 20 16 22.9
comp=Z,71nm,1.1s
SCM Sheep Creek Mo 80.80 24 P **P** **20 15 57.8 +0.5**
baz=240
H21K Melozitna Rive 80.81 20 P **P** **20 15 57.9 +0.8**
baz=235
I21K Tanana 80.82 20 IAMs_20 IAMs_20 20 48 09.2
comp=Z,2μm,20.0s
I21K Tanana 80.82 20 P **P** **20 15 57.6 +0.5**
baz=236
MK31 Makanchi Array 80.99 319*d i*P **P** **20 15 59.1 +0.6**
MK31 Makanchi Array 80.99 319 P **P** **20 15 58.1 -0.4**
MKAR Makanchi Array 80.99 319 P **P** **20 15 59.1 +0.6**
comp=Z,12nm,0.9s,baz=105,slow=5.5,SNR=82
MKAR PKKPbc **PKKPbc** **20 34 37.0 -0.9**
comp=Z,2.2nm,0.9s,baz=279,slow=2.2,SNR=13
MKAR PKPPKP **P'P'df** **20 42 46.1 +6.3**
comp=Z,2.5nm,1.0s,baz=316,slow=3.3,SNR=8.6
MKAR LR LR 20 52 38.9
comp=Z,648nm,19.7s,baz=98,slow=36
MKAR Makanchi Array 80.99 319 P **P** **20 15 58.5 0.0**
RND Reindeer 81.00 23 IAmb IAmb 20 16 23.0
comp=Z,80nm,1.1s
RND IAMs_20 IAMs_20 20 49 24.9
comp=Z,2μm,20.0s
DIV Divide 81.11 25 IAmb IAmb 20 16 24.7
comp=Z,55nm,1.0s
MCK McKinley 81.14 22 IAMs_20 IAMs_20 20 51 36.6
comp=Z,2μm,18.0s
MCK McKinley 81.14 22 P **P** **20 15 58.1 -0.8**
baz=239,SNR=16
BWN Browne 81.17 22 IAMs_20 IAMs_20 20 49 50.1
comp=Z,2μm,19.0s
MLY Manley 81.17 21 IAMs_20 IAMs_20 20 47 58.5
comp=Z,2μm,20.0s
MLY Manley 81.17 21 P **P** **20 15 58.6 -0.6**
baz=237
MAKZ Makanchi 81.20 319 P **P** **20 15 59.7 0.0**
MAKZ pmax pmax
comp=Z,77nm,1.4s
MAKZ MLR MLR
comp=Z,900nm,20.0s
MAKZ Makanchi 81.20 319 P **P** **20 15 59.7 0.0**
MAKZ IAmb IAmb 20 16 14.0
comp=Z,77nm,1.4s
MAKZ Makanchi 81.20 319 P **P** **20 16 00.1 +0.4**
KLU Klutina 81.22 25 IAmb IAmb 20 16 25.5
comp=Z,113nm,1.1s
KLU Klutina 81.22 25 P **P** **20 15 59.7 +0.3**
baz=242
M24K Tolsona, Glenn 81.41 24 P **P** **20 16 01.2 +0.7**
M24K Tolsona, Glenn 81.41 24 P **P** **20 16 01.1 +0.7**
baz=241,SNR=5.2
NEA2 Nenana 81.54 22 P **P** **20 15 59.7 -1.3**
NEA2 IAmb IAmb 20 16 25.6
comp=Z,67nm,1.1s
NEA2 Nenana 81.54 22 P **P** **20 15 59.8 -1.2**
baz=238,SNR=5.4
POO Poona 81.68 290 *e*P **P** **20 15 59.0 -3.8**
I23K Minto, Yukon-K 81.73 21 P **P** **20 16 02.6 +0.7**
baz=238
ZALV Zalesovo Beam 81.81 326 P **P** **20 16 02.3 -0.3**
comp=Z,17nm,0.8s,baz=109,slow=5.7,SNR=61
ZALV PKKPbc **PKKPbc** **20 34 35.0 -1.3**
comp=Z,2.7nm,1.0s,baz=282,slow=2.9,SNR=8.3
ZALV PKPPKP **P'P'df** **20 42 43.1 +5.3**
comp=Z,2.2nm,0.9s,baz=299,slow=3.1,SNR=7.3
ZALV LR LR 20 51 41.5
comp=Z,580nm,21.8s,baz=120,slow=35
ZALV Zalesovo Beam 81.81 326 P **P** **20 16 01.8 -0.8**
N25K Chitina, Valde 81.83 25 sP 20 16 20.1 +3.8
N25K Chitina, Valde 81.83 25 P **P** **20 16 02.9 +0.1**
baz=243
WRH Wood River Hil 81.84 22 IAmb IAmb 20 16 27.2
comp=Z,62nm,1.1s
HARP HAARP 81.97 24 P **P** **20 16 03.4 +0.1**
baz=242
CCB Clear Creek Bu 82.03 22 IAmb IAmb 20 16 28.0
comp=Z,46nm,1.1s
CCB IAMs_20 IAMs_20 20 51 21.3
comp=Z,2μm,19.0s
MDM Murphy Dome 82.04 21 IAmb IAmb 20 16 34.4
comp=Z,52nm,1.2s
MDM IAMs_20 IAMs_20 20 50 28.4
comp=Z,2μm,20.0s
GLB Gilahina Butte 82.10 26 IAmb IAmb 20 16 29.9
comp=Z,88nm,1.1s
GLB IAMs_20 IAMs_20 20 48 02.2
comp=Z,2μm,20.0s
PAX Paxson 82.11 24 P **P** **20 16 03.9 -0.2**
baz=242
TCOL CIGO, UAF Yank 82.13 22 IAmb IAmb 20 16 28.6
comp=Z,79nm,1.1s
TCOL IAMs_20 IAMs_20 20 49 57.8
comp=Z,1μm,21.0s
TCOL CIGO, UAF Yank 82.13 22 P **P** **20 16 03.7 -0.4**
baz=239
COLA College 82.13 22‖ *i*P **P** **20 16 03.1 -1.0**
COLA pmax pmax
comp=Z,21nm,1.1s
COLA College 82.13 22 P **P** **20 16 02.8 -1.3**
COLA IAmb IAmb 20 16 28.6
comp=Z,85nm,1.2s
COLA College 82.13 22 IAMs_20 IAMs_20 20 52 12.8
comp=Z,1μm,19.0s
COLA College 82.13 22 P **P** **20 16 03.8 -0.3**
baz=239
VRDI Verde Repeater 82.16 26 IAmb IAmb 20 16 30.3
comp=Z,69nm,1.1s
UZB Uzynbulak 82.21 315 *e*P **P** **20 16 04.8 -0.4**
UZB pmax pmax
comp=Z,35nm,1.7s
UZB Uzynbulak 82.21 315 *e*P **P** **20 16 04.8 -0.4**
comp=Z,35nm,1.7s,baz=315
HDA Harding Lake 82.23 22 IAMs_20 IAMs_20 20 51 13.7
comp=Z,2μm,20.0s
HDA Harding Lake 82.23 22 P **P** **20 16 04.4 -0.3**
baz=240
ISLE Juniper Island 82.38 27 IAMs_20 IAMs_20 20 45 35.6
comp=Z,3μm,22.0s
POKR Poker Plat Res 82.41 22 IAMs_20 IAMs_20 20 50 48.2
comp=Z,2μm,19.0s
ILAR Eielson Array 82.44 22 P **P** **20 16 04.4 -1.3**
comp=Z,7.2nm,0.9s,baz=252,slow=5.2,SNR=34
ILAR LR LR 20 51 24.9
comp=Z,1μm,19.2s,baz=240,slow=35
ILAR Eielson Array 82.44 22 P **P** **20 16 03.7 -2.0**
ILAR Eielson Array 82.44 22 P **P** **20 16 03.7 -2.0**
PRZ Przheval'sk 82.49 314 IAmb IAmb 20 16 22.3
comp=Z,90nm,1.2s
COLD Coldfoot 82.56 19 IAmb IAmb 20 16 32.8
comp=Z,54nm,1.4s
COLD Coldfoot 82.56 19 P **P** **20 16 06.5 +0.2**
baz=237
H24K Noodor Dome 82.61 21 P **P** **20 16 06.3 -0.4**
baz=239
SATY Saty 82.62 314 *e*P **P** **20 16 07.0 -0.3**
SATY pmax pmax
comp=Z,32nm,2.0s
SATY Saty 82.62 314 *e*P **P** **20 16 07.1 -0.3**
comp=Z,32nm,2.0s,baz=314
ZHN Zhinishke 82.63 315 *e*P **P** **20 16 06.7 -0.6**
ZHN Zhinishke 82.63 315 *e*P **P** **20 16 06.8 -0.6**
baz=315
RIDG Independent Ri 82.72 23 IAMs_20 IAMs_20 20 54 39.6
comp=Z,2μm,19.0s
RIDG Independent Ri 82.72 23 P **P** **20 16 06.9 -0.4**
baz=242
TABL Table Mountain 82.85 27 IAMs_20 IAMs_20 20 45 59.1
comp=Z,2μm,19.0s
M26K Nabesna, AK 82.87 25 IAMs_20 IAMs_20 20 46 17.5
comp=Z,2μm,22.0s
M26K Nabesna, AK 82.87 25 P **P** **20 16 08.2 +0.1**
baz=244
DOT Dot Lake 82.99 24 IAmb IAmb 20 16 34.2
comp=Z,71nm,1.1s
L26K Log Cabin Wild 83.00 24 P **P** **20 16 08.8 +0.1**
L26K IAmb IAmb 20 16 40.0
comp=Z,47nm,1.2s
L26K Log Cabin Wild 83.00 24 P **P** **20 16 08.5 -0.2**
baz=244
TDK Taldyqorghan 83.11 316 *e*P **P** **20 16 09.3 -0.4**
TDK *es*S **S** **20 26 27.4 +0.3**
TDK pmax pmax
comp=Z,118nm,1.7s
TDK Taldyqorghan 83.11 316 *e*P **P** **20 16 09.3 -0.4**
comp=Z,118nm,1.7s,baz=316
TDK *es*S **S** **20 26 27.5 +0.3**
baz=316
A21K Barrow 83.16 14 IAMs_20 IAMs_20 20 49 13.0
comp=Z,2μm,20.0s
SCRK Sand Creek 83.17 23 IAMs_20 IAMs_20 20 55 56.4
comp=Z,2μm,18.0s
SCRK Sand Creek 83.17 23 P **P** **20 16 09.7 +0.1**
baz=243
PRP Porcupine Dome 83.30 22 IAMs_20 IAMs_20 20 50 42.9
comp=Z,2μm,19.0s
M27K Edge Creek, AK 83.32 25 P **P** **20 16 10.5 0.0**
baz=245
PNL Peninsula 83.35 28 P **P** **20 16 11.3 +0.8**
baz=248
TOLK Toolik Lake Re 83.53 18 P **P** **20 16 11.6 +0.2**
baz=237
J26L Joseph Creek 83.57 23 IAMs_20 IAMs_20 20 56 40.0
comp=Z,2μm,21.0s
J26L Joseph Creek 83.57 23 P **P** **20 16 11.8 +0.1**
baz=244
KSH Kashi 83.60 311 P **P** **20 16 14.5 +2.0**
KSH S **S** **20 26 33.0 +0.4**
KSH pmax pmax
comp=Z,44nm,1.5s
KSH pmax pmax
comp=Z,460nm,5.5s
KSH LR LR
comp=Z,560nm,19.6s
KSH LR LR
comp=Z,380nm,18.0s
KSH LR LR
comp=Z,690nm,20.3s
MDOK Medeo 83.61 314 *e*P **P** **20 16 12.1 -0.4**
MDOK Medeo 83.61 314 *e*P **P** **20 16 12.1 -0.4**
baz=314
L27K Beaver Creek, 83.64 25 IAMs_20 IAMs_20 20 48 28.9
comp=Z,2μm,20.0s
L27K Beaver Creek, 83.64 25 P **P** **20 16 12.8 +0.8**
baz=245
BCAR Beaver Creek A 83.66 25 P **P** **20 16 12.4 +0.3**
TNSS Tian-Shan 83.66 314 *e*P **P** **20 16 12.1 -1.0**
baz=314
YUK3 Moose Creek 83.69 26 P **P** **20 16 13.2 +0.7**
baz=247,SNR=6.0
BVCY Beaver Creek 83.78 25 P **P** **20 16 13.2 +0.5**
baz=246
CHKK Chushkaly 83.82 315 *e*P **P** **20 16 13.0 -0.4**
baz=315
ULHL Ulahol 83.99 313 P **P** **20 16 15.6 +1.1**
SNR=20
BOOM Boomskoye usch 84.26 314 IAmb IAmb 20 16 54.4
comp=Z,42nm,0.9s
KUU Kurty 84.28 315 *e*P **P** **20 16 14.9 -0.8**
KUU *es*S **S** **20 26 35.6 -3.4**
KUU Kurty 84.28 315 *e*P **P** **20 16 15.0 -0.8**
baz=315
KUU *es*S **S** **20 26 35.6 -3.4**

baz=315
KURK Kurchatov 84.43 322 *d iP* **P 20 16 16.2 -0.1**
KURK pmax pmax
comp=Z,92nm,1.3s
KURK Kurchatov 84.43 322 P P 20 16 16.2 -0.1
KURK Kurchatov 84.43 322 P **P 20 16 16.5 +0.2**
KURBB Kurchatov Arra 84.47 322 LR LR 20 53 47.1
comp=Z,615nm,20.5s,baz=83,slow=36
TKM2 Tokmak 2 84.60 314 P **P 20 16 18.5 +0.9**
SNR=46
TKM2 Tokmak 2 84.60 314 *i* P **P 20 16 17.6 0.0**
TKM2 pmax pmax
comp=Z,44nm,1.0s
EGAK Eagle 84.62 23 IAMs_20 IAMs_20 20 52 08.9
comp=Z,2μm,21.0s
NIL Nilore 84.63 304 P **P 20 16 17.4 -0.3**
NIL pmax pmax
comp=Z,230nm,1.6s
NIL Nilore 84.63 304 P **P 20 16 17.4 -0.3**
NIL Nilore 84.63 304 P **P 20 16 17.6 -0.1**
QSPA South Pole Qui 84.67 180 P **P 20 16 17.8 +0.4**
KBK Karagaybulak 85.01 314 P **P 20 16 20.6 +1.0**
SNR=29
DAWY Dawson 85.04 24 P **P 20 16 19.8 +0.6**
baz=247
CHMS Chumysh 85.22 314 P **P 20 16 21.3 +0.8**
SNR=38
UCH Uchtor 85.24 313 P **P 20 16 22.6 +1.5**
SNR=66
FRU1 Bishkek 85.27 314 IAmb IAmb 20 16 35.7
comp=Z,54nm,1.1s
MAW Mawson 85.30 203 P **P 20 16 20.6 +0.3**
comp=Z,75nm,1.1s,baz=81,slow=6.4,SNR=7.0
MAW LR LR 20 50 49.5
comp=Z,766nm,21.5s,baz=70,slow=33
MAW Mawson 85.30 203 P **P 20 16 20.6 +0.3**
MAW pmax pmax
comp=Z,33nm,1.2s
MAW Mawson 85.30 203 IAmb IAmb 20 16 21.9
comp=Z,33nm,1.2s
AAK Ala-Archa 85.33 313 LR LR 20 57 25.7
comp=Z,447nm,18.1s,baz=101,slow=38
AAK Ala-Archa 85.33 313 P **P 20 16 22.3 +1.0**
SNR=38
AAK Ala-Archa 85.33 313 *d iP* **P 20 16 22.0 +0.8**
AAK pmax pmax
comp=Z,81nm,1.7s
AAK Ala-Archa 85.33 313 P **P 20 16 21.7 +0.4**
AAK Ala-Archa 85.33 313 P **P 20 16 22.2 +1.0**
SGDS Sogindy 85.40 314 *eP* **P 20 16 21.1 -0.3**
comp=Z,44nm,1.9s,baz=314
USP Ospenovka 85.46 314 P **P 20 16 22.6 +0.9**
SNR=60
M30M Minto, Yukon 85.59 26 P **P 20 16 22.0 +0.1**
baz=250
J29M Klondike Camp 85.66 24 IAmb IAmb 20 17 23.4
comp=Z,42nm,1.0s
N31M Braeburn, Yuko 85.67 27 P **P 20 16 22.7 +0.5**
baz=251
AML Almayashu 85.82 313 P **P 20 16 25.4 +1.5**
SNR=93
EKS2 Erkin-Say 85.86 313 P **P 20 16 24.9 +1.2**
SNR=42
BTLS Baital 86.13 316 *eP* **P 20 16 24.6 -0.3**
BTLS pmax pmax
comp=Z,46nm,1.6s
BTLS Baital 86.13 316 *eP* **P 20 16 24.7 -0.2**
comp=Z,46nm,1.6s,baz=316
M31M Drury Creek, Y 86.52 27 P **P 20 16 26.6 +0.1**
baz=252
NRIK Noril'sk 86.57 341 P **P 20 16 27.0 +0.5**
comp=Z,12nm,0.7s,baz=119,slow=4.1,SNR=18
NRIK LR LR 20 54 32.3
comp=Z,798nm,20.9s,baz=112,slow=35
NRIK Noril'sk 86.57 341 *deP* **P 20 16 26.1 -0.4**
NRIK pmax pmax
comp=Z,31nm,1.1s
NRIK Noril'sk 86.57 341 P **P 20 16 26.1 -0.4**
NRIK IAmb IAmb 20 16 29.0
comp=Z,33nm,1.1s
P33M Teslin, Yukon 86.65 29 P **P 20 16 27.5 +0.2**
baz=254
DRK Karamyk 86.76 310 IAmb IAmb 20 16 30.9
comp=Z,96nm,1.4s
EPYK Eagle Plains 86.94 22 IAMs_20 IAMs_20 20 54 01.1
comp=Z,2μm,20.0s
EPYK Eagle Plains 86.94 22 P **P 20 16 28.8 +0.4**
baz=250,SNR=13
FARO Faro, Yukon 86.99 27 P **P 20 16 29.1 +0.3**
baz=253
BBB Bella Bella 87.20 37 LR LR 20 53 52.2
comp=Z,569nm,18.0s,baz=266,slow=34
DLBC Dease Lake 87.56 31 LR LR 20 48 34.9
comp=Z,2μm,21.9s,baz=307,slow=31
DZA Taraz 87.67 313 *eP* **P 20 16 32.1 -0.4**
DZA Taraz 87.67 313 *eP* **P 20 16 32.2 -0.4**
baz=313
KBL Kabul 88.22 305 P **P 20 16 34.3 -1.2**
KBL pmax pmax
comp=Z,32nm,1.6s
KBL Kabul 88.22 305 P **P 20 16 34.3 -1.2**
IUG Iuzhnay 88.51 312 *eP* **P 20 16 35.9 -0.7**
IUG Iuzhnay 88.51 312 *eP* **P 20 16 35.9 -0.7**
baz=312
CHGR Chuyangaron 88.67 309 P **P 20 16 36.9 -0.6**
INK Inuvik 88.74 21 P **P 20 16 36.8 -0.2**
comp=Z,8.6nm,1.0s,baz=226,slow=7.9,SNR=7.4
INK PKKP **PKKPdf 20 34 16.1 +1.1**
comp=Z,2.0nm,0.7s,baz=322,slow=3.3,SNR=4.3
INK LR LR 20 52 51.1
comp=Z,2μm,21.5s,baz=228,slow=33
INK Inuvik 88.74 21 P **P 20 16 36.1 -0.8**
INK pmax pmax
comp=Z,30nm,1.2s
INK Inuvik 88.74 21 P **P 20 16 36.1 -0.8**
INK IAmb IAmb 20 17 03.3
comp=Z,30nm,1.1s
INK Inuvik 88.74 21 P **P 20 16 36.9 0.0**
baz=252,SNR=8.1
BRLS Borolday 88.78 313 *eP* **P 20 16 37.6 -0.1**
BRLS Borolday 88.78 313 *eP* **P 20 16 37.7 -0.1**
baz=313
HUMO Hull Mountain 88.97 47 P **P 20 16 37.9 -0.7**
HUMO IAMs_20 IAMs_20 20 48 37.3
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 89.03 48 LR LR 20 51 00.7
comp=Z,2μm,19.7s,baz=292,slow=32
H04D Lebanon 89.40 45 IAMs_20 IAMs_20 20 47 39.4
comp=Z,2μm,21.0s
O03E Paynes Creek 89.53 50 IAMs_20 IAMs_20 20 50 29.0
comp=Z,2μm,19.0s
ORV Oroville 89.67 50 IAMs_20 IAMs_20 20 49 07.7
comp=Z,2μm,20.0s
J04D Umpqua Nationa 89.68 47 P **P 20 16 42.0 -0.2**
baz=262
BRVK Borovoye 89.97 323 *d iP* **P 20 16 42.2 -0.8**
BRVK pmax pmax
comp=Z,32nm,1.1s
BRVK Borovoye 89.97 323 P **P 20 16 41.8 -1.3**
BRVK IAmb IAmb 20 17 10.4
comp=Z,31nm,1.0s
BRVK Borovoye 89.97 323 P **P 20 16 42.2 -0.8**
J05D Fort Rock, OR 90.32 47 P **P 20 16 45.8 +0.7**
baz=263
CMB Columbia Colle 90.35 52 IAMs_20 IAMs_20 20 49 03.0
comp=Z,2μm,22.0s
PINE Pine Mountain 90.59 46 P **P 20 16 45.0 -1.4**
PINE IAmb IAmb 20 17 12.8
comp=Z,43nm,1.3s
LTY Liberty 91.17 43 IAmb IAmb 20 17 15.6
comp=Z,48nm,1.8s
ISA Isabella, Lake 91.64 55 P **P 20 16 50.1 -1.2**
ISA pmax pmax
comp=Z,19nm,1.4s
ISA Isabella, Lake 91.64 55 P **P 20 16 50.1 -1.2**
PASC Pasadena Art C 91.74 56 IAMs_20 IAMs_20 20 51 36.9
comp=Z,1μm,19.0s
LHV Little Huntoon 91.85 52 P **P 20 16 51.6 -0.5**
LHV IAmb IAmb 20 17 34.7
comp=Z,42nm,1.2s
EDW2 Edwards Air Fo 91.96 55 P **P 20 16 52.9 0.0**
baz=265
NVAR Mina Array Bea 92.02 52 P **P 20 16 53.9 +0.6**
comp=Z,3.6nm,1.0s,baz=262,slow=6.2,SNR=12
NVAR LR LR 20 50 56.4
comp=Z,2μm,21.7s,baz=274,slow=31
NV11 Mina Array Sit 92.14 52 P **P 20 16 53.1 -0.6**
NV11 IAmb IAmb 20 17 29.2
comp=Z,44nm,1.2s
LRMC Laurel Mtn Rad 92.26 55 P **P 20 16 54.2 -0.2**
baz=265
C36M Paulatuk 92.32 21 IAMs_20 IAMs_20 20 56 45.2
comp=Z,2μm,21.0s
D08A Wollman Farm, 92.34 43 P **P 20 16 53.6 -0.7**
D08A IAmb IAmb 20 17 20.4
comp=Z,36nm,1.6s
A36M Sachs Harbour 92.36 18 IAmb IAmb 20 17 16.4
comp=Z,17nm,0.9s
A36M Sachs Harbour 92.36 18 P **P 20 16 53.8 +0.1**
baz=260
MPMC Manual Prospec 92.47 54 P **P 20 16 53.8 -1.5**
baz=265
109C Camp Elliot, M 92.53 57 IAMs_20 IAMs_20 20 53 22.9
comp=Z,2μm,20.0s
E09A Wood Farm, Sta 92.83 44 P **P 20 16 54.8 -1.6**
E09A IAmb IAmb 20 17 31.9
comp=Z,42nm,1.4s
QSM Queen of Sheba 92.96 54 **P 20 16 55.6 -1.7**
QSM IAmb IAmb 20 17 33.1
comp=Z,27nm,1.1s
PFO Pinyon Flats O 93.12 57 LR LR 20 54 03.2
comp=Z,1μm,18.8s,baz=272,slow=32
PFO Pinyon Flats O 93.12 57 IAMs_20 IAMs_20 20 54 25.7
comp=Z,2μm,19.0s
BMO Blue Mountains 93.29 45 P **P 20 16 57.4 -1.4**
BMO pmax pmax
comp=Z,69nm,1.8s
BMO MLR MLR
comp=Z,1μm,20.0s
BMO Blue Mountains 93.29 45 P **P 20 16 57.4 -1.4**
BMO IAmb IAmb 20 17 27.8
comp=Z,69nm,1.8s
BMO IAMs_20 IAMs_20 20 51 22.2
comp=Z,1μm,20.0s
SYO Syowa Base 93.36 199 ‖ *eP* **P 20 16 58.2 -0.2**
F10A Beach Ranch, E 93.42 44 IAmb IAmb 20 17 24.9
comp=Z,22nm,1.2s
TPNV Topopah Spring 93.53 53 P **P 20 17 00.6 +0.5**
baz=266
NEW Newport 93.65 42 LR LR 20 53 19.4
comp=Z,1μm,20.3s,baz=270,slow=32
NEW Newport 93.65 42 IAMs_20 IAMs_20 20 53 18.6
comp=Z,2μm,19.0s
NEW Newport 93.65 42 P **P 20 17 00.0 -0.2**
baz=266
HRA Herat 93.79 304 P **P 20 16 59.5 -2.0**
HRA IAmb IAmb 20 17 02.0
comp=Z,21nm,1.1s
GMRC Granite Mounta 93.87 56 P **P 20 17 02.6 +0.9**
baz=266
R11A Troy Canyon, C 94.15 52 IAmb IAmb 20 17 38.9
comp=Z,22nm,1.1s
R11A Troy Canyon, C 94.15 52 P **P 20 17 02.9 -0.1**
baz=267
RPN Rapa Nui 94.18 118 LR LR 20 51 53.7
comp=Z,470nm,20.9s,baz=271,slow=31
PLID Pearl Lake 94.23 45 IAMs_20 IAMs_20 21 02 58.1
comp=Z,1μm,19.0s
MFID Camas Ranch 94.26 47 P **P 20 17 00.9 -2.4**
MFID IAmb IAmb 20 17 29.4
comp=Z,40nm,1.6s
ELK Elko 94.55 50 LR LR 20 53 19.5
comp=Z,2μm,20.7s,baz=292,slow=32
SPR3 Spring Creek 3 95.16 51 P **P 20 17 05.9 -1.9**
SPR3 IAmb IAmb 20 18 00.3
comp=Z,30nm,1.3s
HLID Hailey 95.29 47 IAMs_20 IAMs_20 20 52 09.4
comp=Z,2μm,20.0s
YKA Yellowknife Ar 95.64 28 P **P 20 17 08.5 -0.5**
comp=Z,3.9nm,0.9s,baz=269,slow=4.7,SNR=42
YKA PKKPbc **PKKPbc 20 33 58.9 -3.3**
comp=Z,0.8nm,0.9s,baz=91,slow=2.9,SNR=6.7
YKA LR LR 20 56 08.9
comp=Z,1μm,20.0s,baz=272,slow=33
YKA Yellowknife Ar 95.64 28 P **P 20 17 08.1 -0.9**
YKA Yellowknife Ar 95.64 28 P **P 20 17 08.1 -0.9**
SVE Sverdlovsk 95.83 326 *eP* **P 20 17 07.8 -2.2**
SVE pmax pmax
comp=Z,28nm,1.8s
SVE MLR MLR
comp=Z,989nm,20.0s
ABKAR Akbulak array 96.14 319 P **P 20 17 09.0 -2.5**
DUG Dugway, Tooele 96.38 50 IAMs_20 IAMs_20 20 52 48.3
comp=Z,2μm,20.0s
DLMT Dillon 96.64 45 IAMs_20 IAMs_20 20 52 58.9
comp=Z,1μm,22.0s
ARU Arti 96.98 326 LR LR 21 01 29.6
comp=Z,578nm,21.1s,baz=86,slow=36
ARU Arti 96.98 326 *c iP* **P 20 17 13.4 -1.8**
ARU 20 21 11.1
ARU S **SKSac 20 27 48.0 -1.6**
ARU SS **SS 20 35 15.4 +3.6**
ARU pmax pmax
comp=Z,29nm,1.8s
ARU MLR MLR
comp=Z,674nm,20.0s
ARU Arti 96.98 326 P **P 20 17 12.9 -2.3**
ARU IAmb IAmb 20 17 14.9
comp=Z,20nm,1.2s
ARU **PKKPbc 20 33 55.4 -3.0**
GEYT Alibeck 97.28 307 LR LR 21 02 38.1
comp=Z,303nm,21.4s,baz=80,slow=36
AKTO Aktyubinsk 97.39 320 LR LR 21 00 39.9
comp=Z,369nm,21.6s,baz=84,slow=35
WUAZ Wupatki 97.41 55 P **P 20 17 15.9 -1.9**
WUAZ IAmb IAmb 20 17 46.9
comp=Z,24nm,1.5s
WUAZ IAMs_20 IAMs_20 20 55 55.9
comp=Z,1μm,21.0s
TUC Tucson 97.83 58 IAMs_20 IAMs_20 20 57 56.2
comp=Z,1μm,18.0s
FLWY Flagg Ranch 97.99 46 IAMs_20 IAMs_20 20 54 22.7
comp=Z,2μm,21.0s
LPIG La Paz 98.00 66 LR LR 20 57 18.9
comp=Z,1μm,18.6s,baz=238,slow=33
SLBS Sierra La Lagu 98.31 67 IAMs_20 IAMs_20 20 53 39.6
comp=Z,1μm,19.0s
EGMT Eagleton 98.58 42 IAMs_20 IAMs_20 20 57 60.0
comp=Z,2μm,20.0s
PDAR Pinedale Array 98.83 48 P Pdif 20 17 25.8 +1.6
comp=Z,0.5nm,0.7s,baz=214,slow=3.1,SNR=3.7
PDAR LR LR 20 58 26.1
comp=Z,2μm,18.8s,baz=280,slow=33
MVCO Mesa Verde 99.73 53 Pdif **Pdif 20 17 25.5 -2.9**
MVCO IAMs_20 IAMs_20 20 53 08.4
comp=Z,994nm,21.0s
SMCO Snowmass 100.89 51 IAMs_20 IAMs_20 20 56 33.8
comp=Z,2μm,20.0s
Y22D IRIS PASSCAL I 101.07 56 IAMs_20 IAMs_20 20 59 11.0
comp=Z,1μm,19.0s
ANMO Albuquerque 101.43 56 IAMs_20 IAMs_20 20 57 14.5
comp=Z,946nm,19.0s
EPT El Paso 101.46 59 IAMs_20 IAMs_20 20 58 43.4
comp=Z,1μm,20.0s
SNAA Sanae 101.61 188 Pdiff **Pdif 20 17 35.0 -0.8**
SNAA Sanae 101.61 188 ‖ *eP* **Pdif 20 17 34.8 -1.0**
SNAA Sanae 101.61 188 Pdif **Pdif 20 17 35.1 -0.6**
ISCO Idaho Springs 101.91 51 IAMs_20 IAMs_20 20 58 39.8
comp=Z,1μm,20.0s
PHWY Pilot Hill 101.94 49 IAMs_20 IAMs_20 21 00 13.6
comp=Z,1μm,20.0s
SDCO Great Sand Dun 102.10 53 IAMs_20 IAMs_20 21 03 43.0
comp=Z,1μm,20.0s
MNTX Cornudas Mount 102.42 59 IAMs_20 IAMs_20 21 00 34.8
comp=Z,1μm,19.0s
RSSD Black Hills 102.78 46 IAMs_20 IAMs_20 20 56 17.5
comp=Z,2μm,22.0s
VNA3 Neumayer Olymp 102.79 186 Pdiff **Pdif 20 17 40.6 -0.3**
PRGR Permogore 102.97 332 *eP* **Pdif 20 17 41.4 -0.4**
PRGR pmax pmax
comp=Z,47nm,1.1s
TXAR Lajitas Array 103.96 61 PP **PP 20 22 05.1 +0.2**
comp=Z,0.4nm,0.7s,baz=244,slow=7.9,SNR=1.8
MAK Makhachkala 105.11 313 *i P* **Pdif 20 17 51.2 -0.6**
MAK *e* 20 22 10.0
MAK *e* 20 28 33.9
MAK *e* 20 29 13.2
MAK *e*SS SS 20 37 06.6 +1.1
MAK pmax pmax
comp=Z,110nm,1.5s
AMTX Amarillo 105.36 55 IAMs_20 IAMs_20 21 01 06.4
comp=Z,990nm,19.0s
APA Apatity 105.95 340 ‖ *iP* **Pdif 20 17 57.6 +2.6**
APA pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 106.03 332 *eP* **Pdif 20 17 54.2 -1.2**
KLMR pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 106.03 332 *e*Pdif **Pdif 20 17 54.3 -1.2**
KLMR AMP 20 17 56.6
comp=Z,20nm,1.2s
KLMR *e*PKiKP **PKiKP 20 22 03.7 -3.7**
KLMR *e*PKKPbc **PKKPbc 20 33 27.6 -4.5**
KLMR *e*SKKP 20 37 07.0
KLMR LQ LQ 20 57 44.7
KLMR LQ LQ 20 57 44.7
KLMR LR LR 21 04 50.6
ARCES ARCESS Array B 107.47 343 PKiKP **PKiKP 20 22 10.8 +0.9**
comp=Z,6.7nm,1.1s,baz=90,slow=2.4,SNR=3.7
ARCES PKKPbc **PKKPbc 20 33 24.6 -3.3**
comp=Z,6.7nm,1.0s,baz=270,slow=2.4,SNR=7.5
WMOK Wichita Mounta 107.74 55 IAMs_20 IAMs_20 21 03 35.7
comp=Z,1μm,20.0s
UNM Universidad Na 108.29 71 IAMs_20 IAMs_20 21 02 39.2
comp=Z,1μm,20.0s
OK029 Liberty Lake 108.70 54 IAMs_20 IAMs_20 21 10 56.9
comp=Z,1μm,19.0s
OK025 Westminster Rd 108.82 54 IAMs_20 IAMs_20 21 01 04.1
comp=Z,2μm,20.0s
OK033 Mehan 109.09 54 IAMs_20 IAMs_20 21 04 09.1
comp=Z,1μm,19.0s
OK030 Cody Creek RV 109.23 54 IAMs_20 IAMs_20 21 04 11.8
comp=Z,1μm,20.0s
TUL1 Leonard 110.03 54 IAMs_20 IAMs_20 21 04 58.9
comp=Z,1μm,19.0s
SOC Sochi 110.61 315 *i* PKiKP **PKiKP 20 22 17.2 +0.7**
SOC *e*PPP PPP 20 25 09.6
SOC *e*SS SS 20 38 20.6 +0.9
SOC *e*SSS SSS 20 42 24.8
SOC MLR MLR
comp=Z,305nm,20.0s
FINES FINESS Array B 111.68 336 Pdiff **Pdif 20 18 19.6 -1.0**
comp=Z,1.2nm,0.8s,baz=88,slow=3.2,SNR=1.5
FINES PKiKP **PKiKP 20 22 18.0 0.0**
comp=Z,3.2nm,0.9s,baz=98,slow=3.1,SNR=2.5
FINES PKKPbc **PKKPbc 20 33 11.2 -2.9**
comp=Z,1.6nm,0.8s,baz=180,slow=1.4,SNR=4.2
MIAR Mount Ida 112.02 55 IAMs_20 IAMs_20 21 07 16.9
comp=Z,1μm,20.0s
U40A Yellville 112.30 53 IAMs_20 IAMs_20 21 08 03.1
comp=Z,969nm,18.0s
CCM Cathedral Cave 113.24 51 PKKPab PKKPab 20 33 12.1 -2.6
CCM Cathedral Cave 113.24 51 IAMs_20 IAMs_20 21 05 02.7
comp=Z,1μm,19.0s
HDIL Hopedale 114.14 48 IAMs_20 IAMs_20 21 02 59.3
comp=Z,1μm,21.0s
MNK Minsk 114.25 329 *i* PKiKP PKPdf 20 22 20.1 -3.0
MNK *i* 20 23 16.0
MNK *i* PPP PPP 20 25 40.1
MNK *i* 20 29 29.0
MNK *i* SS SS 20 39 07.1 0.0
MNK *i* SSS SSS 20 43 23.5
MNK pmax pmax
comp=E,2.0nm,1.2s
MNK pmax pmax
comp=Z,7.0nm,1.2s
MNK pmax pmax
comp=N,12nm,0.7s
MNK MLR MLR
comp=Z,653nm,17.0s
MNK MLR MLR
comp=N,583nm,22.0s
MNK Minsk 114.25 329 *i* PKP PKPdf 20 22 20.1 -2.9
comp=E,2.0nm,1.2s,baz=63
MNK *i* PKP PKPdf 20 22 20.1 -2.9
comp=N,12nm,0.7s
MNK *i* PKP PKPdf 20 22 20.1 -2.9
comp=Z,7.0nm,1.2s
MNK *i* PP **PP 20 23 16.0 -2.3**
MNK *i* PPP PPP 20 25 40.2
MNK *i* SKS **SKSdf 20 29 29.6 -3.0**
MNK *i* SS **SS 20 39 07.2 +0.1**
MNK *i* SSS SSS 20 43 23.5
MNK *i* LR LR 21 10 10.2
MNK *i* LRM MLR 21 13 40.1
comp=Z,653nm,17.2s
MNK *i* LRM MLR 21 13 41.4
comp=N,583nm,21.7s
MNK *i* LRM MLR 21 13 52.9
comp=E,96nm,21.7s
AKASG Malin Array Be 115.16 324 PKP **PKiKP 20 22 24.8 -0.2**
comp=E,4.6nm,0.7s,baz=64,slow=1.9,SNR=20
AKASG PKKPbc **PKKPbc 20 33 00.4 -1.6**
comp=E,1.0nm,0.4s,baz=262,slow=3.5,SNR=4.7
AKBB Malin Array Si 115.16 324 ‖ *i*PKiKP **PKiKP 20 22 22.8 -2.2**
OXF Oxford 115.41 54 IAMs_20 IAMs_20 21 10 41.6
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 115.77 266 PKP **PKiKP 20 22 27.9 +0.4**
comp=Z,0.8nm,0.3s,baz=144,slow=2.9,SNR=3.2
KMBO Kilima Mbogo 115.77 266 PKiKP **PKiKP 20 22 28.0 +0.4**
BR131 Keskin Array S 115.97 312 ‖ *i*PKiKP **PKPdf 20 22 25.9 -1.2**
BRTR Keskin Array B 115.97 312 PKP **PKiKP 20 22 27.4 +0.3**
comp=Z,1.7nm,0.8s,baz=93,slow=2.5,SNR=7.3
PLAL Pickwick Lake 116.39 54 IAMs_20 IAMs_20 21 09 56.3
comp=Z,1μm,20.0s
T47A Sharon Grove 116.68 51 PKPdf **PKPdf 20 22 26.6 -1.8**
NB2 NORSAR Subarra 117.53 340 PKPdf **PKPdf 20 22 28.2 -1.1**
comp=Z,6.3nm,1.1s,baz=44,slow=2.0
NB2 NORSAR Subarra 117.53 340 PKPdf **PKPdf 20 22 28.2 -1.1**
baz=44,slow=2.0
NOA NORSAR Array B 117.53 340 PKP **PKPdf 20 22 29.0 -0.3**
comp=Z,0.7nm,0.8s,baz=204,slow=14,SNR=3.9
NOA NORSAR Array B 117.53 340 PKiKP **PKPdf 20 22 29.0 -0.3**
P49A Miami Univ. Ec 117.80 48 IAMs_20 IAMs_20 21 06 10.1
comp=Z,1μm,22.0s
SNET Serv Nac Est T 117.94 77 IAMs_20 IAMs_20 21 06 07.2
comp=Z,1μm,20.0s
ACSO Alum Creek Sta 118.85 47 IAMs_20 IAMs_20 21 11 45.8
comp=Z,1μm,19.0s
BUR08 Bucovina Ar. S 118.85 323 PKPdf **PKPdf 20 22 30.6 -1.8**
PLCA Paso Flores 119.11 143 PKP **PKiKP 20 22 33.5 +0.4**
comp=Z,7.2nm,0.9s,baz=238,slow=2.6,SNR=9.4
PLCA SKP 20 26 12.1
comp=Z,2.9nm,1.0s,baz=63,slow=2.7,SNR=3.2
PLCA Paso Flores 119.11 143 PKiKP **PKPdf 20 22 30.8 -2.3**
PLCA Paso Flores 119.11 143 PKPdf **PKPdf 20 22 30.8 -2.3**
TKL Tuckaleechee C 119.63 52 PKiKP **PKPdf 20 22 31.4 -2.7**
TKL Tuckaleechee C 119.63 52 PKPdf **PKPdf 20 22 31.4 -2.7**
BOSA Boshof 119.70 233 PKP **PKPdf 20 22 34.5 0.0**
comp=Z,4.6nm,0.7s,baz=99,slow=2.7,SNR=13
CRVS Cervenica-Dubn 120.45 325 *e*PKiKP **PKiKP 20 22 37.4 +2.0**
CRVS Cervenica-Dubn 120.45 325 *e*PKP **PKiKP 20 22 37.4 +2.0**
LANS Liptovska Anna 121.44 326 *e*PKiKP **PKiKP 20 22 38.7 +1.4**
LANS Liptovska Anna 121.44 326 *e*PKP **PKiKP 20 22 38.7 +1.4**
MORC Moravsky Berou 122.13 328 PKiKP **PKPdf 20 22 36.5 -2.0**
MORC Moravsky Berou 122.13 328 *e*PKP **PKiKP 20 22 39.3 +0.6**
MORC Moravsky Berou 122.13 328 PKPdf **PKPdf 20 22 36.5 -2.0**
JTS Las Juntas de 122.17 81 IAMs_20 IAMs_20 21 05 31.4
comp=Z,876nm,21.0s
VTS Vitosha 122.31 318 *eP* **PKPdf 20 22 39.0 -0.2**
SSPA Standing Stone 122.33 45 P **PKPdf 20 22 38.7 -0.4**
baz=294
KRLC Kraliky 122.36 328 *e*PKiKP **PKiKP 20 22 39.6 +0.5**
KRLC Kraliky 122.36 328 *e*PKPDF **PKiKP 20 22 39.6 +0.5**
ZAPS Zavoj 122.42 319 *eP* **PKiKP 20 22 40.1 +0.7**
ZAGS Zajecar 122.44 320 *eP* **PKPdf 20 22 36.1 -3.1**
DPC Dobruska-Polom 122.44 329 *e*PKiKP **PKiKP 20 22 40.1 +0.8**
DPC Dobruska-Polom 122.44 329 *e*PKPDF **PKiKP 20 22 40.1 +0.8**
JAVC Velka Javorina 122.58 327 *e*PKP **PKiKP 20 22 41.2 +1.6**
MT01 Popeta 122.69 136 PKPdf **PKPdf 20 22 37.8 -2.2**
BOVS Bovan 122.86 320 *eP* **PKPdf 20 22 39.3 -0.7**
BOSS Bosilegrad 122.87 318 *eP* **PKPdf 20 22 38.9 -1.2**
VRAC Vranov 122.91 328 *e*PKP **PKiKP 20 22 40.6 +0.4**
HDC Heredia 123.00 82 IAMs_20 IAMs_20 21 04 36.4
comp=Z,775nm,20.0s
MODS Modra-Piesok 123.07 326 *e*PKiKP **PKiKP 20 22 42.4 +1.9**
MODS Modra-Piesok 123.07 326 *e*PKP **PKiKP 20 22 42.4 +1.9**
PRVS Prvonek 123.13 318 *eP* **PKPdf 20 22 40.1 -0.5**
KRUC Moravsky 123.16 328 *e*PKP **PKiKP 20 22 41.1 +0.4**
BARS Barje 123.16 319 *eP* **PKiKP 20 22 40.8 -0.1**
NHSC New Hope 123.20 54 IAMs_20 IAMs_20 21 10 44.8
comp=Z,1μm,20.0s
PVCC Panska Ves 123.22 330 *e*PKiKP **PKiKP 20 22 42.5 +1.8**
PVCC Panska Ves 123.22 330 *e*PKPDF **PKiKP 20 22 42.5 +1.8**
FRGS Fruska Gora 123.32 322 *eP* **PKPdf 20 22 40.5 -0.4**
BRG Berggiesshubel 123.32 330 *e*PKP **PKiKP 20 22 41.5 +0.6**
BRG Amp 20 22 43.2
comp=Z,17nm,1.3s
BRG Berggiesshubel 123.32 330 *e*PKIKP **PKiKP 20 22 41.5 +0.6**

BRG pmax pmax
comp=Z,17nm,1.3s
BRG Berggiesshubel 123.32 330 *e*PKPdf **PKiKP 20 22 41.3 +0.4**
baz=50,slow=1.9
GRUS Gruza 123.37 320 *e*P **PKPdf 20 22 40.5 -0.5**
TRUS Trudelj 123.41 321 *e*P **PKiKP 20 22 41.3 0.0**
TRUS Trudelj 123.41 321 *e*P **PKiKP 20 22 41.4 +0.1**
CLL Collm 123.50 331 *e*PKIKP **PKiKP 20 22 42.0 +0.8**
CLL *e* 20 22 59.0
CLL pmax pmax
comp=Z,48nm,1.8s
CLL MLR MLR
comp=Z,800nm,19.8s
CLL Collm 123.50 331 *e*PKPdf **PKiKP 20 22 42.0 +0.8**
comp=Z,48nm,1.8s
CLL LmH 21 19 00.0
comp=N,500nm,21.2s
CLL LmH 21 19 00.0
comp=E,400nm,21.4s
CLL LmH 21 19 00.0
comp=Z,700nm,21.0s
CLL LmV 21 21 00.0
comp=Z,800nm,19.8s
CLL Collm 123.50 331 *e*PKPdf **PKiKP 20 22 41.4 +0.1**
baz=50,slow=1.9
TREC Trest 123.50 328 *e*PKIKP **PKiKP 20 22 41.6 +0.2**
TREC Trest 123.50 328 *e*PKPDF **PKiKP 20 22 41.6 +0.2**
PRU Pruhonice 123.57 329 *e*PKIKP **PKiKP 20 22 41.7 +0.3**
PRU Pruhonice 123.57 329 *e*PKPDF **PKiKP 20 22 41.7 +0.3**
FBE Freiberg 123.58 331 *e*PKPdf **PKiKP 20 22 42.2 +0.8**
baz=50,slow=1.9
CBN Corbin Frederi 123.64 47 IAMs_20 IAMs_20 21 13 32.6
comp=Z,1µm,19.0s
N59A State Game Lan 123.68 43 P **PKPdf 20 22 41.5 -0.2**
baz=296
DIVS Divibare 123.73 321 *e*P **PKPdf 20 22 41.7 -0.1**
IVAS Ivanjica 123.88 320 *e*P **PKPdf 20 22 41.3 -0.8**
CONA Conrad Observa 124.11 327 *e*P **PKiKP 20 22 42.7 0.0**
comp=Z,12nm,1.1s
SJES Sjenica 124.15 320 *e*P **PKiKP 20 22 43.4 +0.5**
RETH Rethem/Aller, 124.19 334 *e*PKPdf **PKiKP 20 22 43.3 +0.8**
baz=50,slow=1.9
BBLS Lazići 124.21 321 *e*P **PKPdf 20 22 42.7 0.0**
TANN Tannenbergstha 124.34 331 *e*PKPdf **PKiKP 20 22 43.4 +0.4**
baz=50,slow=1.9
FNA Florina 124.36 317 PKPpre PKPpre 20 22 25.3
FNA PKPdf **PKPdf 20 22 41.1 -1.9**
CLZ Clausthal 124.37 333 *e*PKPdf **PKiKP 20 22 43.7 +0.7**
baz=50,slow=1.9
CKRC Cesky Krumlov 124.41 328 *e*PKPDF **PKiKP 20 22 43.1 -0.1**
PLN Plauen 124.44 331 *e*PKPdf **PKiKP 20 22 43.5 +0.3**
baz=50,slow=1.9
NKC Novy Kostel 124.46 331 *e*PKIKP **PKiKP 20 22 44.7 +1.5**
NKC Novy Kostel 124.46 331 *e*PKPDF **PKiKP 20 22 44.7 +1.5**
WERN Wernitzgruen 124.46 331 *e*PKPdf **PKiKP 20 22 43.7 +0.4**
baz=50,slow=1.9
KHC Kasperske Hory 124.59 329 *e*PKIKP **PKiKP 20 22 43.9 +0.3**
KHC Kasperske Hory 124.59 329 *e*PKPDF **PKiKP 20 22 43.9 +0.3**
MOX Moxa 124.59 331 *e*PKPdf **PKiKP 20 22 44.0 +0.5**
baz=50,slow=1.9
MOX *e*L L 21 22 27.8
comp=Z,873nm,19.5s
LBNH Lisbon 124.62 38 P **PKPdf 20 22 41.5 -1.9**
baz=301
ARSA Arzberg 124.69 326 *e*P **PKiKP 20 22 43.8 0.0**
comp=Z,5.6nm,1.2s
GEC2 GERESS Array S 124.71 329 *e*PKPdf **PKiKP 20 22 44.0 +0.1**
baz=50,slow=1.9
GEC2 GERESS Array B 124.71 329 PKPpre PKPpre 20 22 27.4
GEC2 PKPdf **PKPdf 20 22 41.6 -2.0**
GERES GERESS Array B 124.71 329 PKP **PKiKP 20 22 44.0 +0.1**
comp=Z,5.1nm,0.7s,baz=77,slow=1.7,SNR=38
GERES PKKPbc **PKKPab 20 32 25.4 +0.7**
comp=Z,0.7nm,0.9s,baz=228,slow=3.2,SNR=6.1
GERES SKKPbc SKKPbc 20 36 21.0 +5.5
comp=Z,0.6nm,0.7s,baz=244,slow=5.8,SNR=4.2
GTTG Gottingen 124.75 333 *e*PKPdf **PKiKP 20 22 44.4 +0.7**
baz=50,slow=1.9
MANZ Manzenberg 124.79 330 *e*PKPdf **PKiKP 20 22 44.6 +0.7**
baz=50,slow=1.9
ROTZ Rotzenmuhle 124.88 330 *e*PKPdf **PKiKP 20 22 44.5 +0.5**
baz=50,slow=1.9
WET Wettzell 124.94 329 *e*PKPdf **PKiKP 20 22 44.8 +0.5**
baz=50,slow=1.9
MOA Molln 125.02 327 *e*P **PKPdf 20 22 44.1 +0.1**
comp=Z,0.1nm,0.1s
GROS Grobnik 125.15 325 *e*PKPdf **PKPdf 20 22 44.4 0.0**
SOKA Soboth 125.29 326 *e*P **PKPdf 20 22 44.4 -0.3**
comp=Z,12nm,1.6s,SNR=6.2
GRF Grafenberg Arr 125.42 331 *e*PKPdf **PKiKP 20 22 45.2 +0.1**
baz=50,slow=1.9
GRF *e*L L 21 21 07.9
comp=Z,468nm,18.7s
PKME Peaks-Kenny Pk 125.65 36 P **PKPdf 20 22 44.1 -1.2**
baz=304
OBKA Obir 125.66 326 *e*P **PKPdf 20 22 45.1 -0.3**
comp=Z,7.4nm,1.2s
LCO Las Campanas 125.71 132 PKIKP **PKiKP 20 22 47.9 +1.2**
LCO Las Campanas 125.71 132 PKPdf **PKiKP 20 22 47.9 +1.2**
KBA Koelnbreinsper 125.98 327 *e*P **PKPdf 20 22 45.8 -0.3**
comp=Z,11nm,1.1s
BUG Bochum--Univer 126.02 334 *e*PKPdf **PKiKP 20 22 46.8 +0.5**
baz=50,slow=1.9
GBAS Gorenja Brezov 126.06 325 *e*PKPdf **PKiKP 20 22 46.6 +0.1**
CADS Cadrg 126.28 326 *e*PKPdf **PKPdf 20 22 46.5 -0.1**
ABTA Abfaltersbach 126.64 327 *e*P **PKPdf 20 22 47.0 -0.3**
comp=Z,18nm,1.5s,SNR=5.3
WATA Walderalm 126.77 328 *e*P **PKiKP 20 22 47.9 -0.2**
comp=Z,20nm,1.4s,SNR=5.3
WTTA Wattenberg 126.78 328 *e*P **PKiKP 20 22 48.1 -0.1**
comp=Z,36nm,1.5s,SNR=11
GO03 Copiap 126.79 130 PKPpre PKPpre 20 22 30.1
GO03 PKPdf **PKPdf 20 22 46.4 -1.8**
ATAH Atahualpa 127.00 103 PKP **PKiKP 20 22 51.2 +1.4**
comp=Z,12nm,1.0s,baz=263,slow=4.5,SNR=11
MOTA Moosalm 127.01 329 *e*P **PKiKP 20 22 48.4 -0.2**
comp=Z,22nm,1.0s,SNR=6.8
STU Stuttgart 127.02 331 *e*PKPdf **PKiKP 20 22 48.8 +0.4**
baz=50,slow=1.9
STU Stuttgart 127.02 331 IAMs_20 IAMs_20 21 18 19.0
comp=Z,725nm,21.0s
SQTA Sankt Quirin 127.03 328 *e*P **PKiKP 20 22 48.4 -0.1**
comp=Z,24nm,1.5s
RETA Reutte 127.09 329 *e*P **PKPdf 20 22 47.8 -0.4**
comp=Z,11nm,1.5s
BCIP Isla Barro Col 127.22 83 IAMs_20 IAMs_20 21 13 32.2
comp=Z,669nm,18.0s
UBR Ueberruh 127.30 329 *e*PKPdf **PKiKP 20 22 48.8 -0.2**
baz=50,slow=1.9
NNA Nana 127.31 109 PKP **PKiKP 20 22 51.6 +1.7**
comp=Z,4.2nm,0.3s,baz=342,slow=4.0,SNR=4.6
FETA Feichten 127.41 328 *e*P **PKiKP 20 22 49.7 +0.3**
comp=Z,21nm,1.5s,SNR=7.4
SGRT San Giovanni R 127.61 320 PKPpre PKPpre 20 22 31.8
SGRT PKPdf **PKPdf 20 22 48.5 -0.8**
DAVA Damuels 127.67 329 *e*P **PKiKP 20 22 49.7 -0.2**
comp=Z,18nm,1.5s
OTAV Otavalo 128.12 94 *e*P **PKPdf 20 22 50.7 -0.9**
OTAV Otavalo 128.12 94 IAMs_20 IAMs_20 21 12 52.2
comp=Z,856nm,18.0s
TUE Stuetta 128.49 329 PKPpre PKPpre 20 22 32.5
TUE PKPdf **PKPdf 20 22 50.6 -0.4**
AQU L'Aquila 128.74 322 PKIKP **PKPdf 20 22 50.2 -1.2**
AQU L'Aquila 128.74 322 PKPdf **PKPdf 20 22 50.2 -1.2**
VLC Villacollemand 129.42 326 IAMs_20 IAMs_20 21 23 40.1
comp=Z,982nm,21.0s
TSUM Tsumeb 130.04 240 IAMs_20 IAMs_20 21 18 17.9
comp=Z,891nm,19.0s
TA01 Diego Aracena 130.21 122 PKPpre 20 22 35.0
TA01 PKPdf **PKPdf 20 22 52.9 -1.8**
TA01 SKPbc **SKPbc 20 26 15.7 +0.5**
LVC Limon Verde 130.31 126 PKP **PKiKP 20 22 56.8 +0.6**
comp=Z,21nm,1.1s,baz=216,slow=2.6,SNR=10
LVC SKPbc **SKPbc 20 26 19.0 +2.9**
comp=Z,7.4nm,0.7s,baz=231,slow=2.8,SNR=12
LVC Limon Verde 130.31 126 *e*P **PKPdf 20 22 55.0 -0.3**
LVC Limon Verde 130.31 126 PKPdf **PKPdf 20 22 55.1 -0.3**
LVC SKPbc **SKPbc 20 26 16.8 +0.6**
BNI Bardonecchia 130.82 329 PKIKP **PKPdf 20 22 53.9 -1.5**
BNI Bardonecchia 130.82 329 PKPdf **PKPdf 20 22 53.9 -1.5**
BNI SKPbc **SKPab 20 26 18.1 +0.9**
PB11 IPOC Station P 131.00 122 PKPdf **PKPdf 20 22 55.5 -0.9**
PB11 SKPbc **SKPab 20 26 20.1 +1.4**
SJCC San Jacinto, C 131.80 81 PKPdf **PKPdf 20 22 53.4 -4.6**
SJCC SKPbc **SKPbc 20 26 21.0 -0.3**
ROSC El Rosal 132.61 88 PKP **PKiKP 20 23 01.4 +0.3**
comp=Z,7.8nm,0.5s,baz=131,slow=16,SNR=4.1
ROSC SKPbc **SKPab 20 26 27.1 +1.1**
comp=Z,25nm,0.9s,baz=94,slow=20,SNR=5.9
VSL Villasalto 132.88 322 PKPpre PKPpre 20 22 45.2
VSL PKPdf **PKPdf 20 22 57.8 -1.5**
VSL SKPbc **SKPbc 20 26 24.9 +0.5**
LPAZ La Paz 133.78 118 PKP **PKiKP 20 23 04.0 +0.3**
comp=Z,6.5nm,0.6s,baz=310,slow=1.8,SNR=24
LPAZ SKPbc **SKPab 20 26 31.4 +0.1**
comp=Z,21nm,1.0s,baz=292,slow=1.7,SNR=21
LPAZ La Paz 133.78 118 *e*P **PKiKP 20 23 03.2 -0.4**
SDDR Presa de Saban 134.52 69 IAMs_20 IAMs_20 21 17 05.9
comp=Z,937nm,18.0s
KEST Kesra 135.07 317 PKP **PKiKP 20 23 05.0 -0.1**
comp=Z,6.7nm,1.1s,baz=222,slow=5.8,SNR=4.8
KEST SKPbc **SKPab 20 26 34.4 -1.3**
comp=Z,11nm,1.1s,baz=18,slow=3.3,SNR=5.4
KEST Kesra 135.07 317 PKPdf **PKPdf 20 23 03.0 -0.6**
CMAH Djebel Manchou 135.83 320 P **SKPbc 20 26 35.3 +1.2**
TBTG Tabatinga, AM 135.87 101 *e*P **PKPdf 20 23 05.2 -0.4**
ABSA Djebel Abadsia 136.00 319 P **SKPbc 20 26 36.8 +2.1**
SDV Santo Domingo 136.31 83 PKP **PKiKP 20 23 08.3 0.0**
comp=Z,29nm,0.9s,baz=86,slow=1.5,SNR=18
SDV SKPbc **SKPbc 20 26 38.5 +2.1**
comp=Z,18nm,1.1s,baz=263,slow=4.6,SNR=9.7
SDV Santo Domingo 136.31 83 *e*P **PKPdf 20 23 06.4 -0.3**
SDV Santo Domingo 136.31 83 PKPpre PKPpre 20 22 55.6
SDV PKPdf **PKPdf 20 23 06.2 -0.4**
SDV **SKPbc 20 26 35.9 -0.5**
SDV Santo Domingo 136.31 83 IAMs_20 IAMs_20 21 14 08.2
comp=Z,776nm,19.0s
CKFL Kef-Lekhel 136.42 320 P **SKPbc 20 26 37.3 +1.3**
CPUP Villa Florida 136.79 138 PKP **PKiKP 20 23 07.9 -0.8**
comp=Z,12nm,1.0s,baz=215,slow=1.8,SNR=14
CPUP SKPbc **SKPbc 20 26 39.7 +2.4**
comp=Z,8.2nm,1.0s,baz=241,slow=3.9,SNR=7.1
CPUP Villa Florida 136.79 138 *e*P **PKPdf 20 23 06.4 -0.6**
DFRA Djebel Bou Aff 136.87 321 P **SKPbc 20 26 39.1 +1.8**
ETMB Extrema 137.91 111 PKPpre PKPpre 20 22 57.0
ETMB PKPdf **PKPdf 20 23 07.8 -1.6**
ETMB SKPbc **SKPbc 20 26 40.0 -0.8**
ITAB Concordia 139.40 144 *e*P **PKPdf 20 23 11.5 -0.3**
PBRG Braganca 139.50 337 *i* LQ LQ 20 26 45.2
PGAV Gavieira, Arco 139.94 338 *i* LQ LQ 20 26 47.4
SIV San Ignacio 139.98 122 PKhKP PKPpre 20 23 06.9
comp=Z,2.8nm,0.9s,baz=222,slow=4.5,SNR=6.5
SIV PKP **PKPdf 20 23 14.0 +0.9**
comp=Z,17nm,1.1s,baz=243,slow=3.0,SNR=17
SIV SKPbc **SKiKP 20 26 49.5 +0.2**
comp=Z,78nm,1.0s,baz=236,slow=2.4,SNR=60
ESDC Sonseca Array 140.07 332 PKhKP PKPpre 20 23 06.0
comp=Z,0.7nm,0.7s,baz=33,slow=2.8,SNR=4.1
ESDC PKP **PKPdf 20 23 13.1 +0.4**
comp=Z,1.2nm,0.7s,baz=30,slow=1.7,SNR=5.9
ESDC PP **PP 20 26 09.2 +0.3**
comp=Z,1.4nm,0.8s,baz=18,slow=5.6,SNR=4.6
ESDC SKPbc **SKiKP 20 26 49.1 +0.2**
comp=Z,1.4nm,0.8s,baz=40,slow=3.5,SNR=5.0
ESDC SKKPbc **SKKPab 20 35 20.2 +0.2**
comp=Z,2.3nm,1.0s,baz=247,slow=4.5,SNR=7.0
ESDC Sonseca Array 140.07 332 PKPdf **PKPdf 20 23 11.2 -1.5**
PCAB Cabril 140.07 338 *i* LQ LQ 20 26 49.9
MVO Moncorvo 140.16 337 *e*PKPdf **PKPdf 20 23 10.4 -2.4**
MVO *i* LQ LQ 20 26 49.3
POLO Lamas de Olo 140.28 338 *i* LQ LQ 20 26 49.5
PVRL Vila Real 140.33 337 *i* LQ LQ 20 26 50.3
PVIS Viseu 140.88 337 *e*PKPdf **PKPdf 20 23 09.9 -4.2**
PVIS *i* LQ LQ 20 26 52.1
MTE Manteigas 141.01 336 *e*PKPdf **PKiKP 20 23 16.5 -0.6**
MTE *i* LQ LQ 20 26 51.8
PCBR Castelo Branco 141.46 336 *i* LQ LQ 20 26 53.5
PMRV Marv??o 141.78 336 *e*PKPdf **PKPdf 20 23 13.4 -2.3**
PMRV *i* LQ LQ 20 26 54.2
PTLB Pontes e Lacer 141.87 123 PKPdf **PKPdf 20 23 13.7 -2.8**
PTLB SKPbc **SKiKP 20 26 53.0 -0.1**
VILB Vilhena 142.14 119 PKPdf **PKPdf 20 23 14.4 -2.6**
SMRT St. Maarten 142.31 67 IAMs_20 IAMs_20 21 36 12.4
comp=Z,992nm,21.0s
PMTG Montargil 142.42 336 *e*PKPdf **PKPdf 20 23 13.8 -3.0**
PMTG *i* LQ LQ 20 26 55.5
EVO Evora 142.79 335 *i* LQ LQ 20 26 56.1
PBEJ Beja 143.16 335 *e*PKPdf PKPbc 20 23 16.6 +1.5
PNCL Nicolau / Gran 143.36 336 *e*PKPdf PKPbc 20 23 16.3 +0.7
MESJ Messejana 143.47 335 *e*PKPdf **PKPdf 20 23 17.8 -1.0**
MESJ IAMs_20 IAMs_20 21 29 01.6
comp=Z,780nm,11.9s
MESJ Messejana 143.47 335 *e*PKPdf **PKPdf 20 23 17.6 -1.1**
MESJ *i* LQ LQ 20 26 58.5
MESJ Messejana 143.47 335 *e*PKIKP **PKPdf 20 23 17.7 -1.0**
PCVE Castro Verde 143.56 335 *e*PKPdf **PKPdf 20 23 18.2 -0.7**
PCVE *i* LQ LQ 20 26 59.2
PVAQ Vaqueiros 143.62 334 *e*PKPdf **PKPdf 20 23 18.4 -0.6**
PTEO Sao Teotonio 143.93 335 *e*PKPdf **PKPdf 20 23 19.4 -0.1**
PCMB Pacaembu 144.05 139 *e*P **PKPdf 20 23 19.6 -0.6**
PP1B Ponte de Pedra 144.09 130 *e*P **PKPdf 20 23 19.8 -0.6**
MORF Marmelete 144.10 335 *e*PKPdf **PKPdf 20 23 18.9 -1.0**
MORF Marmelete 144.10 335 *e*PKPdf **PKPdf 20 23 20.6 +0.7**
MORF *i* LQ LQ 20 27 20.6
MORF Marmelete 144.10 335 *e*PKIKP PKPbc 20 23 18.9 +1.0
PET01 Itanhaem-SP 144.44 147 *e*P **PKPdf 20 23 20.5 -0.3**
SALV Santo Antonio 144.44 127 *e*P **PKPdf 20 23 20.4 -0.6**
VAO Valinhos 145.63 146 *e*P **PKPdf 20 23 23.1 +0.1**
PDRB Porto dos Gac 145.76 119 *e*P **PKPdf 20 23 23.2 -0.1**
PARB Paraibuna 146.09 148 *e*P **PKPab 20 23 25.7 +0.4**
BOAV Boa Vista 146.17 94 *e*P **PKPbc 20 23 24.6 -0.5**
PTGA Pitinga 146.28 99 PKPbc **PKPdf 20 23 24.3 0.0**
comp=Z,29nm,1.1s,baz=240,slow=2.9,SNR=16
PTGA SKPbc **SKiKP 20 27 04.6 +2.2**
comp=Z,18nm,1.0s,baz=256,slow=2.0,SNR=5.5
MAN01 Angra dos Reis 147.34 150 *e*P **PKPdf 20 23 25.4 -0.5**
ARAG Araguaiana, MT 147.57 130 *e*P **PKPbc 20 23 28.1 -0.9**
BSCB Bom Sucesso 148.44 146 *e*P **PKPdf 20 23 29.0 +1.2**
DUB01 Friburgo-RJ 148.79 151 *e*P **PKPdf 20 23 27.8 -0.5**
NPGB Novo Progresso 148.92 113 *e*P **PKPdf 20 23 29.6 +0.9**
BDFB Brasilia 150.40 135 PKP **PKPdf 20 23 30.7 -0.3**
comp=Z,27nm,1.1s,baz=300,slow=0.3,SNR=18
BDFB PKPbc **PKiKP 20 23 36.9 -0.2**
comp=Z,106nm,1.0s,baz=186,slow=1.6,SNR=40
BDFB Brasilia 150.40 135 PKIKP **PKPbc 20 23 36.4 +0.1**
BDFB Brasilia 150.40 135 PKPdf **PKPdf 20 23 30.6 -0.4**
BDFB PKPbc **PKPbc 20 23 36.4 +0.1**
PMPST Porto Santo, M 150.70 342 *i* LQ LQ 20 27 01.4
ALF01 Guarapari-ES 150.82 152 *e*P **PKPdf 20 23 30.8 -0.6**
TORD Torodi Ar. Bea 150.89 288 PKP **PKPdf 20 23 30.5 -1.2**
comp=Z,63nm,0.9s,baz=7.8,slow=1.3,SNR=14
TORD PKPbc **PKPbc 20 23 37.2 -0.2**
comp=Z,46nm,0.7s,baz=57,slow=2.4,SNR=129
TORD PP **PP 20 27 14.0 -0.9**
comp=Z,1.9nm,0.8s,baz=80,slow=3.8,SNR=2.8
PMAR Madeira 151.20 343 *e*PKPbc **PKiKP 20 23 39.9 +1.5**
DIAM Diamantina, MG 151.22 145 *e*P **PKPdf 20 23 33.2 +0.9**
MALB Monte Alegre 151.60 104 *e*P **PKPdf 20 23 32.0 -0.8**
RIB01 Linhares ES 152.10 152 *e*P **PKPdf 20 23 34.4 +1.0**
SJMB Sao Joao De Ma 152.23 149 *e*P **PKPdf 20 23 33.2 -0.4**
JANB Januaria 153.32 139 *e*P **PKPdf 20 23 34.4 -1.0**
MCPB Macapa, AP 154.10 102 *e*P **PKPdf 20 23 36.2 -0.3**
PRPB Parauapebas 154.30 116 *e*P **PKPdf 20 23 36.2 -0.6**
GUA01 Guaratinga, BA 154.72 149 *e*P **PKPdf 20 23 36.5 -0.7**
SDBA SAO DESIDERIO 154.80 134 *e*P **PKPdf 20 23 36.5 -1.0**
SMTB Santa Maria do 154.91 124 *e*P **PKPdf 20 23 37.1 -0.5**
CMC01 Camacan, BA 155.89 148 *e*P **PKPdf 20 23 38.0 -0.8**
NBIT Itapeh - BA 156.29 148 *e*P **PKPdf 20 23 40.4 +1.1**
GDU01 Guandu, BA 157.22 146 *e*P **PKPdf 20 23 40.7 +0.1**
TMAB Tom-Au,PA,Br 157.35 109 *e*P **PKPdf 20 23 41.0 +0.2**
KIC Kosan Boka 158.09 274 *e*PKP2 **PKPab 20 24 14.3 -1.1**
comp=Z,31nm,1.2s
KIC Kosan Boka 158.09 274 *e*PKP2 **PKPab 20 24 14.4 -1.0**
comp=Z,31nm,1.2s
DBIC Dimbokro 158.19 275 PKP **PKPdf 20 23 41.4 -0.5**
comp=Z,2.5nm,0.8s,baz=332,slow=2.1,SNR=5.8
DBIC PKPab **PKPab 20 24 15.5 -0.3**
comp=Z,8.7nm,1.0s,baz=111,slow=2.1,SNR=5.9
DBIC Dimbokro 158.19 275 PKP2 **PKPab 20 24 14.4 -1.4**
DBIC 21 23 40.4
DBIC Dimbokro 158.19 275 PKPdf **PKPdf 20 23 40.4 -1.5**
DBIC **PKPab 20 24 14.4 -1.4**
TIC Toumodi 158.36 275 *e*PKP2 **PKPab 20 24 15.2 -1.4**
LIC Lamto 158.38 274 *e*PKP2 **PKPab 20 24 15.6 -1.0**
comp=Z,79nm,1.4s
NBPN Ponto Novo - B 159.11 140 *e*P **PKPdf 20 23 43.8 +0.8**
NBLA Lagarto - SE 160.44 146 *e*P **PKPdf 20 23 44.4 -0.1**
NBAN Anadia - AL 162.36 147 *e*P **PKPdf 20 23 47.1 +0.6**
NBPS Pedro II - PI 162.44 123 *e*P **PKPdf 20 23 46.5 -0.2**
NBPB Pedra_Branca-C 163.26 130 *e*P **PKPdf 20 23 46.8 -0.6**
NBRF Rio Formoso - 163.80 149 *e*P **PKPdf 20 23 48.9 +1.0**
NBMO Morrinhos-CE 164.20 122 *e*P **PKPdf 20 23 48.0 -0.3**
NBCL Cascavel-CE 165.09 129 *e*P **PKPdf 20 23 48.9 -0.1**
RCBR Riachuelo 165.66 140 *e*P **PKPdf 20 23 49.2 -0.4**

TUL ***26*** *20:21:24.7±1.9, 36°.858N±0°.010×97°.99W±0°.02, h4km±5km, ML2.6, mb_Lg2.5/11(NEIC) Error ellipse: s-maj=2.0km s-min=1.5km az=88.0*

NEIC 26 20:21:24.8±1.1, 36°.85N±0°.01×97°.99W±0°.02, h10km±3km, Error ellipse: s-maj=2.4km s-min=1.8km az=75.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.10**	**86**	Pg	Pg	20 21 27.5	+0.1
GC02				Sg	Sg	20 21 29.3	0.0
KAN14	**Manchester OK**	**0.11**	**10**		Pg	20 21 27.4	-0.2
KAN14				Sg	Sg	20 21 28.6	-0.9
KAN17	**Caldwell West**	**0.27**	**42**	Pg	Pg	20 21 30.3	0.0
KAN17				Sg	Sg	20 21 34.1	+0.2
KAN05	**Bluff City Nor**	**0.28**	**19**		Pg	20 21 30.4	0.0
KAN05				Sg	Sg	20 21 33.6	-0.6
KAN10	**Anthony SW Sta**	**0.29**	**343**	Pg	Pg	20 21 30.6	0.0
KAN10				Sg	Sg	20 21 33.1	-1.5
CROK	**Carrier**	**0.34**	**179**	Pg	Pg	20 21 31.9	+0.4
CROK				Sg	Sg	20 21 36.9	+0.9
KAN01	**Argonia South**	**0.36**	**31**		Pg	20 21 31.9	0.0
KAN01				Sg	Sg	20 21 36.4	-0.3
KAN08	**Anthony NE Sta**	**0.38**	**2**	Pg	Pg	20 21 32.1	-0.2
KAN08				Sg	Sg	20 21 37.3	-0.1
KAN16	**Harper SW Stat**	**0.39**	**351**		Pg	20 21 32.3	-0.1
KAN16				Sg	Sg	20 21 37.8	+0.2
KAN06	**Argonia West S**	**0.41**	**14**		Pg	20 21 32.9	-0.1
KAN06				Sg	Sg	20 21 38.4	-0.1
KAN13	**South Haven SW**	**0.44**	**68**	Pg	Pg	20 21 33.4	-0.1
KAN13				Sg	Sg	20 21 39.5	+0.2
KAN12	**Harper NE Stat**	**0.45**	**359**	Pg	Pg	20 21 33.5	-0.2
OK035	**E0210 Rd and N**	**0.59**	**257**		Pg	20 21 35.8	-0.6
OK035				Sg	Sg	20 21 44.3	+0.1
BLOK	**Blackwell**	**0.63**	**98**		Pg	20 21 36.9	0.0
BLOK				Sg	Sg	20 21 45.6	+0.5
U32A	**Winter Ranch,**	**0.94**	**241**	Pg	Pg	20 21 42.9	0.0
U32A				Sg	Sb	20 21 55.5	-0.3
OK029	**Liberty Lake**	**1.13**	**157**	Pg	Pb	20 21 44.4	-2.1
OK033	**Mehan**	**1.16**	**133**		Pb	20 21 47.0	-0.1
OK033				Sg	Sb	20 22 02.2	0.0
T35A	**Sooner Cattle**	**1.19**	**86**		Pb	20 21 47.0	-0.4
T35A				Sg	Sb	20 22 02.2	-0.6
BCOK	**Bluff Creek, N**	**1.23**	**165**	Pg	Pn	20 21 47.8	-0.2
BCOK				Sg	Sg	20 22 04.2	-0.1
QUOK	**Quay**	**1.23**	**123**		Pn	20 21 48.1	0.0
QUOK					Sg	20 22 04.3	-0.1
OK031	**S. Brethren Rd**	**1.28**	**134**		Pg	20 21 49.4	-0.1
OK031				Sg	Sn	20 22 06.5	+0.3
OK034	**N. Norfolk Rd.**	**1.32**	**129**	Pn	Pn	20 21 49.5	+0.1
OK034					Sn	20 22 07.0	-0.1
OK030	**Cody Creek RV**	**1.33**	**133**		Pn	20 21 49.4	-0.2
OK030				Sn	Sg	20 22 08.0	+0.2
OK025	**Westminster Rd**	**1.37**	**157**		Pn	20 21 50.0	0.0
OK025				Sn	Sb	20 22 07.8	-0.3
OKCFA	**Oklahoma City**	**1.49**	**163**	Pn	Pn	20 21 51.7	-0.1
OKCFA				Sn	Sg	20 22 13.1	+0.3
OKCSW	**OKLAHOMA CITY**	**1.50**	**163**	Pn	Pn	20 21 50.8	-1.1
OKCSW				Sn	Sg	20 22 13.4	+0.2
FNO	**Franklin**	**1.66**	**163**	Pn	Pn	20 21 53.1	-0.9
FNO				Sn	Sg	20 22 17.2	-0.8
R32A	**Long Quarter,**	**1.68**	**340**	Pn	Pn	20 21 54.9	+0.6
R32A				Sn	Sb	20 22 17.4	+0.3
R32A				IAmb_Lg		20 22 20.8	
	comp=Z,39nm,1.0s						
W35A	**Tecumseh**	**1.92**	**152**		Pn	20 21 58.0	+0.4
W35A					Sb	20 22 24.7	+0.8
TUL1	**Leonard**	**2.00**	**117**	Pn	Pn	20 21 59.0	+0.2
TUL1				IAmb_Lg		20 22 29.6	
	comp=Z,44nm,0.9s						
WMOK	**Wichita Mounta**	**2.20**	**197**		Pn	20 22 02.2	+0.7
WMOK				IAmb_Lg		20 22 34.7	
	comp=Z,16nm,0.8s						
X34A	**Smith Ranch, M**	**2.24**	**177**		Pn	20 22 01.1	-1.0
X34A				IAmb_Lg		20 22 39.9	
	comp=Z,19nm,0.9s						
CBKS	**Cedar Bluff**	**2.40**	**325**	Pn	Pn	20 22 03.0	-1.4
CBKS				IAmb_Lg		20 22 46.8	
	comp=Z,14nm,0.7s						
KSU1	**Kansas State U**	**2.50**	**25**	Pn	Pn	20 22 05.6	0.0
KSU1				IAmb_Lg		20 22 45.6	
	comp=Z,20nm,0.8s						
LOOK	**Love County**	**2.92**	**167**	Pn	Pn	20 22 10.1	-1.3
X37A	**Clayton**	**3.10**	**136**	Pn	Pn	20 22 13.0	-0.8
AMTX	**Amarillo**	**3.58**	**238**	Pn	Pn	20 22 18.5	-2.1
AMTX					Pb	20 22 21.0	-7.4
S39A	**Bolivar**	**3.82**	**76**	Pn	Pn	20 22 24.4	+0.7
N33A	**J Bar K, Exete**	**3.91**	**6**	Pn	Pn	20 22 26.5	+1.5
U40A	**Yellville**	**4.16**	**95**	Pn	Pn	20 22 28.7	+0.3
MIAR	**Mount Ida**	**4.26**	**121**	Pn	Pn	20 22 29.7	-0.1
N35A	**Tabor**	**4.41**	**24**	Pn	Pn	20 22 30.4	-1.4
P38A	**Dawn**	**4.47**	**50**	Pn	Pn	20 22 31.2	-1.5
BGNE	**Belgrade**	**4.56**	**358**	Pn	Pn	20 22 33.4	-0.5
MGMO	**Mountain Grove**	**4.59**	**84**	Pn	Pn	20 22 34.2	-0.1
MGMO				IAmb_Lg		20 24 02.5	
	comp=Z,6.8nm,0.9s						
R40A	**Maddies Statio**	**4.77**	**71**	Pn	Pn	20 22 35.3	-1.4
X40A	**Basin Creek Fa**	**4.81**	**118**	Pn	Pn	20 22 36.4	-0.9
WHAR	**Wooly Hollow**	**4.87**	**107**	Pn	Pn	20 22 36.1	-2.1
W41B	**Gary Mavity, V**	**4.94**	**108**	Pn	Pn	20 22 38.5	-0.6
OGNE	**Ogallala**	**5.17**	**324**	Pn	Pn	20 22 42.0	-0.4

EAF ***26*** *20:23:12.6±1.3, 21°.35S×33°.44E, h0km±19km, MD3.7*

BUL 26 20:23:12.7±1.0, 21°.50S×33°.47E, h4km±13km, MD3.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.78**	**223**	*i* P	Pn	20 23 58.4	+0.4
MOPA				*i* Sg	Sg	20 24 42.5	+0.5
MOPA	**Mopani**	**2.78**	**223**	*i* P	Pn	20 23 58.4	+0.4
MOPA				*i* Sg	Sg	20 24 42.5	+0.5
MSNA	**Messina**	**3.31**	**255**	*i* P	Pn	20 24 05.6	+0.3
MSNA				*i*

az=191.0

ISC 26 20:24:27.1±0.6, 25°.5S±0°.1×70°.11E±0°.09, h21km, n45, σ0s82/36, mb4.1/21, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	13.87	285	Pn	Pn	20 27 43.1	+0.5
H08S1	Diego Carcia H	17.86	8	T	T	20 46 39.8	
	baz=188,slow=76,SNR=40						
H08S2	Diego Garcia H	17.86	8	T	T	20 46 47.6	
	baz=188,slow=76,SNR=56						
H08S3	Diego Garcia H	17.88	8	T	T	20 46 50.6	
	baz=188,slow=76,SNR=43						
OPO	Ambohidratompo	22.31	283	P	P	20 29 23.3	-0.2
	4.2nm,0.9s,baz=129,slow=13,SNR=2.9						
XMIS	Christmas Isla	36.80	73	P	P	20 31 34.3	+0.5
XMIS				IAmb	IAmb	20 31 37.9	
	comp=Z,20nm,1.1s						
H01W2	Cape Leeuwin H	38.94	115	T	T	21 13 22.9	
	baz=271,slow=75,SNR=4.9						
H01W3	Cape Leeuwin H	38.95	115	T	T	21 13 23.9	
	baz=271,slow=75,SNR=3.6						
H01W1	Cape Leeuwin H	38.96	115	T	T	21 13 16.3	
	baz=271,slow=75,SNR=3.6						
KMBO	Kilima Mbogo	39.86	302	P	P	20 32 00.5	+0.7
	comp=Z,0.5nm,0.5s,baz=72,slow=9.1,SNR=1.9						
BOSA	Boshof	39.90	255	P	P	20 32 00.2	+0.3
	comp=Z,2.6nm,0.8s,baz=68,slow=3.9,SNR=3.7						
BOSA	Boshof	39.90	255	P	P	20 31 59.9	0.0
BOSA				IAmb	IAmb	20 32 02.8	
	comp=Z,21nm,1.4s						
CM31	Chiang Mai Arr	51.90	36	P	P	20 33 34.9	+0.6
CMAR	Chiang Mai Arr	51.90	36	P	P	20 33 35.4	+1.0
	comp=Z,1.6nm,0.8s,baz=229,slow=6.9,SNR=14						
CMAR	Chiang Mai Arr	51.90	36	P	P	20 33 34.7	+0.3
SHL	Shillong	54.92	24	P	P	20 33 57.5	+0.8
SHL				IAmb	IAmb	20 34 04.9	
	comp=Z,6.3nm,1.0s						
ASAR	Alice Springs	57.55	103	P	P	20 34 16.3	+0.8
	comp=Z,1.5nm,0.7s,baz=249,slow=6.6,SNR=22						
ASAR	Alice Springs	57.55	103	P	P	20 34 14.9	-0.6
AS31	Alice Springs	57.55	103	P	P	20 34 13.8	-1.7
WRA	Warramunga Arr	59.02	99	P	P	20 34 26.7	+0.8
	comp=Z,1.2nm,0.8s,baz=254,slow=6.7,SNR=4.8						
WRA	Warramunga Arr	59.02	99	IAmb	IAmb	20 34 31.1	
	comp=Z,0.4nm,1.6s						
WB2	Warramunga Arr	59.04	99	P	P	20 34 26.0	+0.1
WB2				IAmb	IAmb	20 34 55.2	
	comp=Z,8.3nm,1.4s						
WRAB	Tennant Creek	59.04	99	P	P	20 34 25.8	-0.1
QSPA	South Pole Qui	64.67	180	P	P	20 35 03.5	+0.3
	comp=Z,2.8nm,0.7s,baz=300,slow=3.8,SNR=5.2						
QSPA	South Pole Qui	64.67	180	IAmb	IAmb	20 35 07.0	
	comp=Z,10nm,1.4s						
VNDA	Vanda	65.71	166	P	P	20 35 10.1	+0.5
	comp=Z,2.1nm,0.8s,baz=282,slow=3.4,SNR=2.5						
KNMB	Chin-men Tao	68.16	47	P	P	20 35 26.1	+0.2
KKAR	Karatay Array	68.23	0	P	P	20 35 26.2	+0.2
MCQ	Macquarie Isla	69.03	141	P	P	20 35 30.2	-0.8
MAKZ	Makanchi	72.73	9	P	P	20 35 52.7	-0.7
MAKZ				IAmb	IAmb	20 36 08.4	
	comp=Z,2.6nm,1.0s						
MK31	Makanchi Array	72.76	9	P	P	20 35 53.3	-0.3
MKAR	Makanchi Array	72.76	9	P	P	20 35 53.7	+0.1
	comp=Z,1.4nm,0.8s,baz=190,slow=6.3,SNR=11						
MKAR	Makanchi Array	72.76	9	P	P	20 35 53.2	-0.4
BRTR	Keskin Array B	73.23	331	P	P	20 35 56.6	-0.1
	comp=Z,1.2nm,0.8s,baz=157,slow=6.5,SNR=6.2						
ABKAR	Akbulak array	74.93	353	P	P	20 36 04.1	-2.2
ABKAR				IAmb	IAmb	20 36 08.4	
	comp=Z,2.1nm,0.8s						
ABKAR	Akbulak array	74.93	353	P	P	20 36 04.2	-2.0
TORD	Torodi Ar. Bea	76.86	292	P	P	20 36 18.1	+0.1
	comp=Z,1.0nm,0.9s,baz=118,slow=4.5,SNR=3.8						
SONM	Songino Array	79.92	24	P	P	20 36 35.2	+0.8
	comp=Z,1.5nm,1.0s,baz=201,slow=5.0,SNR=7.7						
SONM	Songino Array	79.92	24	IAmb	IAmb	20 36 42.6	
	comp=Z,2.6nm,1.0s						
ZAA0	Zalesovo Array	80.10	9	P	P	20 36 34.2	-0.8
ZAA0				IAmb	IAmb	20 36 41.8	
	comp=Z,2.8nm,0.8s						
ZALV	Zalesovo Beam	80.10	9	P	P	20 36 35.1	+0.1
	comp=Z,1.0nm,0.6s,baz=191,slow=4.5,SNR=4.2						
ZALV	Zalesovo Beam	80.10	9	P	P	20 36 33.8	-1.2
KSRS	Korea Array	82.86	43	P	P	20 36 50.0	-0.1
	comp=Z,0.9nm,0.7s,baz=226,slow=5.8,SNR=2.0						
AKASG	Malin Array Be	83.99	335	P	P	20 36 55.3	-0.2
	comp=Z,0.2nm,0.3s,baz=142,slow=4.2,SNR=4.5						
YKA	Yellowknife Ar	142.84	4	PKP	PKPdf	20 43 57.5	-0.9
	comp=Z,0.4nm,0.9s,baz=17,slow=2.8,SNR=5.0						

*IDC **26** 20:29:38.5±0.7, 25°.48S×69°.99E, h0km, mb4.1/13, mb1 4.3/13, mb1mx3.9/50, mbtmp4.1/13, MS4.3/10, Ms1 4.3/10, ms1mx3.7/78, Error ellipse: s-maj=25.3km s-min=19.1km az=68.0*

*NEIC **26** 20:29:40.1±1.4, 25°.5S±0°.1×69°.9E±0°.2, h14km±4km, mb4.8/52, Error ellipse: s-maj=22.3km s-min=17.4km az=56.0*

ISC 26 20:29:41.2±0.6, 25°.4S±0°.1×70°.0E±0°.1, h21km, n82, σ0s90/68, mb4.7/31, MS4.2/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	17.82	8	T	T	20 52 12.5	
	baz=189,slow=76,SNR=60						
H08S2	Diego Garcia H	17.83	8	T	T	20 52 06.0	
	baz=189,slow=76,SNR=104						
H08S3	Diego Garcia H	17.84	8	T	T	20 52 14.8	
	baz=189,slow=76,SNR=68						
H01W2	Cape Leeuwin H	39.03	115	T	T	21 18 40.4	
	baz=271,slow=75,SNR=14						
H01W3	Cape Leeuwin H	39.03	115	T	T	21 18 42.7	
	baz=271,slow=75,SNR=9.3						
H01W1	Cape Leeuwin H	39.04	115	T	T	21 18 40.7	
	baz=271,slow=75,SNR=9.8						
NWAO	Narrogin (SRO)	41.62	112	P	P	20 37 29.4	+1.4
NWAO				IAmb	IAmb	20 37 36.8	
	comp=Z,18nm,1.1s						
FITZ	Fitzroy Crossi	51.86	94	LR	LR	20 59 08.9	
	comp=Z,189nm,18.1s,baz=130,slow=34						
CM31	Chiang Mai Arr	51.90	36	P	P	20 38 48.5	0.0
CM31				IAmb	IAmb	20 38 53.9	
	comp=Z,37nm,1.9s						
CMAR	Chiang Mai Arr	51.90	36	P	P	20 38 50.7	+2.2
	comp=Z,2.6nm,0.9s,baz=229,slow=6.7,SNR=16						
CMAR				LR	LR	20 56 40.7	
	comp=Z,115nm,21.6s,baz=200,slow=31						
CMAR	Chiang Mai Arr	51.90	36	P	P	20 38 48.6	+0.2
SHL	Shillong	54.91	24	P	P	20 39 10.8	+0.2
SHL				IAmb	IAmb	20 39 14.3	
	comp=Z,9.1nm,1.2s						
KNRA	Kununurra	55.48	92	P	P	20 39 16.9	+2.1
ASAR	Alice Springs	57.62	103	P	P	20 39 30.9	+0.7
	comp=Z,2.0nm,0.8s,baz=250,slow=6.5,SNR=22						
ASAR	Alice Springs	57.62	103	P	P	20 39 30.0	-0.1
AS31	Alice Springs	57.63	103	P	P	20 39 29.8	-0.4
MTN	Manton Dam	58.64	90	P	P	20 39 37.0	-0.2
WRA	Warramunga Arr	59.10	99	P	P	20 39 40.6	+0.1
	comp=Z,1.7nm,0.9s,baz=252,slow=6.9,SNR=6.6						
WRA				LR	LR	21 02 59.8	
	comp=Z,205nm,18.3s,baz=148,slow=34						
WRA	Warramunga Arr	59.10	99	P	P	20 39 40.5	+0.1
WB2	Warramunga Arr	59.11	99	P	P	20 39 40.2	-0.3
WB2				IAmb	IAmb	20 39 54.1	
	comp=Z,6.7nm,1.2s						
WRAB	Tennant Creek	59.12	99	P	P	20 39 41.1	+0.6
WR0	Warramunga Arr	59.28	99	P	P	20 39 41.6	-0.1
WR0				IAmb	IAmb	20 39 54.8	
	comp=Z,15nm,1.6s						
HRA	Herat	59.93	353	P	P	20 39 46.0	0.0
SNAA	Sanae	60.71	200	LR	LR	21 02 29.1	
	comp=Z,1μm,19.6s,baz=169,slow=32						
STKA	Stephens Creek	62.12	114	P	P	20 40 00.3	-0.6
CHGR	Chuyangaron	63.74	359	P	P	20 40 11.0	-0.5
CHGR				IAmb	IAmb	20 40 12.5	
	comp=Z,25nm,1.7s						
SIJI	Sorong	63.80	78	LR	LR	21 07 00.5	
	comp=Z,133nm,18.9s,baz=359,slow=35						
DRK	Karamyk	64.58	2	P	P	20 40 16.5	-0.7
DRK				IAmb	IAmb	20 40 29.8	
	comp=Z,7.3nm,1.4s						
QSPA	South Pole Qui	64.72	180	P	P	20 40 18.4	+0.7
	comp=Z,5.2nm,0.9s,baz=284,slow=3.3,SNR=9.5						
QSPA	South Pole Qui	64.72	180	P	P	20 40 17.5	-0.1
QSPA				IAmb	IAmb	20 40 19.4	
	comp=Z,5.5nm,0.9s						
BTK	Batken	65.14	1	P	P	20 40 20.4	-0.1
BTK				IAmb	IAmb	20 40 30.2	
	comp=Z,16nm,1.9s						
VNDA	Vanda	65.77	166	P	P	20 40 24.6	+0.4
	comp=Z,2.0nm,0.8s,baz=273,slow=7.3,SNR=4.1						
VNDA				LR	LR	21 06 32.3	
	comp=Z,328nm,18.1s,baz=332,slow=34						
VNDA	Vanda	65.77	166	IAmb	IAmb	20 40 37.1	
	comp=Z,9.2nm,1.4s						
SIRT	Sirnak	67.75	337	P	P	20 40 36.3	-1.0
BOOM	Boomskoye usch	67.78	5	P	P	20 40 37.5	0.0
AAK	Ala-Archa	67.84	4	P	P	20 40 38.2	+0.4
PRZ	Przheval'sk	68.00	7	P	P	20 40 39.5	+0.6
FRU1	Bishkek	68.02	4	P	P	20 40 38.4	-0.5
FRU1				IAmb	IAmb	20 40 49.9	
	comp=Z,5.7nm,0.5s						
KKAR	Karatay Array	68.18	0	P	P	20 40 38.4	-1.4
MARD	Mardin	68.19	335	P	P	20 40 40.8	+0.6
MARD				IAmb	IAmb	20 40 55.2	
	comp=Z,6.2nm,1.1s						
GURO	Guroymak-BITLI	68.83	337		P	20 40 43.5	-0.6
TWG	Pinlang	68.90	50	P	P	20 40 44.0	-0.7
CTA	Charters Tower	69.63	103	LR	LR	21 06 57.9	
	comp=Z,145nm,21.8s,baz=244,slow=32						
NACB	Ninganchiao	70.15	50	P	P	20 40 51.8	-0.6
KARS	Kars	70.32	339	P	P	20 40 51.9	-1.4
TATO	Taipei	70.60	49	P	P	20 40 54.3	-0.8
ARMA	Armidale	70.78	115	P	P	20 40 54.7	-1.8
ARMA				IAmb	IAmb	20 41 01.1	
	comp=Z,30nm,1.8s						
YOJ	Yonaguni jima	71.31	50	P	P	20 40 58.5	-1.0
BNN	Bunyan	71.49	332	P	P	20 40 59.6	-0.8
BNN				IAmb	IAmb	20 41 16.2	
	comp=Z,13nm,1.0s						
MAKZ	Makanchi	72.69	9	P	P	20 41 07.5	+0.3
MAKZ				IAmb	IAmb	20 41 20.6	
	comp=Z,11nm,1.7s						
MK31	Makanchi Array	72.72	9	P	P	20 41 06.7	-0.7
MKAR	Makanchi Array	72.72	9	P	P	20 41 08.2	+0.7
	comp=Z,1.9nm,0.8s,baz=197,slow=6.4,SNR=14						
MKAR	Makanchi Array	72.72	9		P	20 41 07.8	+0.3
BR131	Keskin Array S	73.16	331	P	P	20 41 09.7	-0.6
BR131				IAmb	IAmb	20 41 24.5	
	comp=Z,11nm,1.2s						
BRTR	Keskin Array B	73.16	331	P	P	20 41 11.8	+1.4
	comp=Z,1.4nm,0.9s,baz=156,slow=6.2,SNR=6.9						
BRTR	Keskin Array B	73.16	331	P	P	20 41 09.2	-1.1
ANTO	Ankara	73.64	331	P	P	20 41 12.4	-0.7
ANTO				IAmb	IAmb	20 41 13.8	
	comp=Z,7.4nm,1.1s						
SNOP	Sinop	74.42	334	P	P	20 41 16.5	-1.1
PMG	Port Moresby	74.45	93	P	P	20 41 17.2	-1.2
BORA	Eskisehir	74.70	329	P	P	20 41 18.3	-1.0
ABKAR	Akbulak array	74.88	353	P	P	20 41 20.0	0.0
ABKAR				IAmb	IAmb	20 41 33.3	
	comp=Z,14nm,1.8s						
ABKAR	Akbulak array	74.88	353	P	P	20 41 20.4	+0.4
KURK	Kurchatov	76.17	6	P	P	20 41 28.2	+0.8
TORD	Torodi Ar. Bea	76.78	292	P	P	20 41 32.6	+1.0
	comp=Z,2.0nm,1.1s,baz=104,slow=4.8,SNR=6.8						
TORD	Torodi Ar. Bea	76.78	292	IAmb	IAmb	20 41 36.0	
	comp=Z,22nm,0.9s						
SONM	Songino Array	79.91	24	P	P	20 41 50.2	+1.8
	comp=Z,1.9nm,0.9s,baz=221,slow=3.7,SNR=12						
SONM	Songino Array	79.91	24	P	P	20 41 48.9	+0.5
ZAA0	Zalesovo Array	80.06	9	P	P	20 41 48.8	-0.1
ZALV	Zalesovo Beam	80.06	9	P	P	20 41 49.4	+0.5
	comp=Z,1.4nm,0.6s,baz=222,slow=2.0,SNR=7.8						
ZALV	Zalesovo Beam	80.06	9	P	P	20 41 48.6	-0.2
ULN	Ulaanbaatar	80.18	24	P	P	20 41 50.8	+0.9
ULN				IAmb	IAmb	20 42 03.6	
	comp=Z,9.1nm,1.2s						
MLR	Muntele Rosu	81.17	330	LR	LR	21 15 11.4	
	comp=Z,635nm,21.7s,baz=50,slow=34						
MLR	Muntele Rosu	81.17	330	P	P	20 41 54.5	-0.7
MLR				IAmb	IAmb	20 42 00.1	
	comp=Z,17nm,1.4s						
ARU	Arti	82.10	354	P	P	20 42 00.1	+0.4
PDG	Podgorica	82.16	325	P	P	20 41 59.9	-0.5
PDG				IAmb	IAmb	20 42 06.8	
	comp=Z,24nm,1.5s						
KS19	Wonju Array Si	82.87	43	P	P	20 42 03.9	-0.3
KSRS	Korea Array	82.88	43	P	P	20 42 05.2	+1.0
	comp=Z,0.7nm,0.6s,baz=222,slow=5.6,SNR=2.4						
KSRS				LR	LR	21 16 58.8	
	comp=Z,34nm,20.1s,baz=125,slow=34						
AKASG	Malin Array Be	83.92	335	P	P	20 42 09.7	+0.5
	comp=Z,0.4nm,0.5s,baz=148,slow=4.8,SNR=4.7						
GERES	GERESS Array B	89.38	327	LR	LR	21 21 38.6	
	comp=Z,501nm,19.6s,baz=52,slow=35						
DAVOX	Davos/Dischmat	90.04	323	P	P	20 42 39.7	+0.3
	comp=Z,2.5nm,0.9s,baz=102,slow=9.3,SNR=4.0						
YKA	Yellowknife Ar	142.80	4	PKP	PKiKP	20 49 12.9	-2.7
	comp=Z,0.3nm,0.6s,baz=351,slow=2.8,SNR=5.0						
YKA	Yellowknife Ar	142.80	4		PKPdf	20 49 11.9	-0.5

*NOU **26** 20:40:14.3, 37°.51S×176°.94E, h225km, MLv4.4/7, North Island, New Zealand*

*WEL **26** 20:40:24.0±0.8, 38°.S±4°.×17°.7E±°, h143km±9km, M3.3/57, ML2.8/10, MLv3.3/57, Error ellipse: s-maj=0.0km s-min=0.0km az=145.9*

ISC 26 20:40:19.1±1.8, 37°.79S±0°.06×176°.66E±0°.05, h192km±10km, n142, σ1s30/151, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.10	237	P	Pn	20 40 43.8	-0.5
MARZ	Manawahe	0.20	176	P	Pn	20 40 44.4	0.0
OMRZ	Omania	0.39	216	P	Pn	20 40 44.8	-0.1
KARZ	Kaharoa	0.40	235	P	Pn	20 40 44.6	-0.2
TARZ	Mount Tarawera	0.46	195	P	Pn	20 40 45.6	+0.4
NGRZ	Ngongotaha	0.49	230	P	Pn	20 40 45.4	+0.2
HLRZ	Highlands Stat	0.52	208	P	Pn	20 40 45.7	+0.3
RRRZ	Republican Roa	0.56	192	P	Pn	20 40 45.7	+0.2
KMRZ	Kaimai	0.57	264	P	Pn	20 40 44.6	-0.9
URZ	Urewera	0.59	143	P	Pn	20 40 45.6	0.0
URZ	Urewera	0.59	143	P	Pn	20 40 45.7	+0.1
HSRZ	Hossack Road	0.61	212	P	Pn	20 40 46.7	+0.9
HRRZ	Handcock Road	0.67	206	P	Pn	20 40 46.4	+0.4
MUGZ	Murupara	0.69	173	P	Pn	20 40 46.3	+0.2
GRRZ	Galatos Road	0.71	218	P	Pn	20 40 46.6	+0.4
ALRZ	Allen Road	0.81	198	P	Pn	20 40 47.2	+0.4
RUGZ	Raukumara Rang	0.82	103	P	Pn	20 40 46.8	-0.2
WPRZ	Whakapapatarin	0.83	208	P	Pn	20 40 47.7	+0.9
RTZ	Ruatahuna	0.86	163	P	Pn	20 40 47.7	+0.6
MWZ	Matawai	0.87	129	P	Pn	20 40 47.7	+0.5
HAZ	Te Kaha	0.89	88	P	Pn	20 40 47.5	+0.3
TOZ	Tahuroa Road	0.92	273	P	Pn	20 40 47.6	+0.2
RAGZ	Rawiri	0.92	140	P	Pn	20 40 48.7	+1.1
KUTZ	Kaahu Road	0.96	223	P	Pn	20 40 48.4	+0.7
WHTZ	Whakaora	1.03	212	P	Pn	20 40 49.6	+1.4
TLZ	Tolley Road	1.04	238	P	Pn	20 40 48.9	+0.6
MRHZ	Matea Rd	1.06	198	P	Pn	20 40 49.1	+0.7
MTHZ	Maungataniwha	1.07	172	P	Pn	20 40 49.5	+0.9
TWGZ	Tauwhareparae	1.11	111	P	Pn	20 40 50.4	+1.5
SNGZ	Shannon Statio	1.12	152	P	Pn	20 40 50.3	+1.4
PKGZ	Pakihiroa	1.13	95	P	Pn	20 40 50.1	+1.1
TKGZ	Te Karaka	1.14	125	P	Pn	20 40 50.6	+1.7
WATZ	Wairara	1.17	218	P	Pn	20 40 50.3	+1.0
RAHZ	Arahi	1.17	164	P	Pn	20 40 51.0	+1.7
HATZ	Hinemaiaia	1.19	202	P	Pn	20 40 50.4	+1.1
RIGZ	Rimuhau	1.26	137	P	Pn	20 40 52.0	+2.0
RATZ	Rangitukua	1.28	213	P	Pn	20 40 51.3	+1.1
KUZ	Kuaotunu	1.28	324	P	Pn	20 40 50.3	+0.1
PUZ	Puketiti	1.29	103	P	Pn	20 40 52.0	+1.7
NMHZ	Naumai	1.31	175	P	Pn	20 40 52.7	+2.3
MXZ	Matakaoa Point	1.33	81	P	Pn	20 40 52.4	+1.9
RITZ	Rihia Road	1.34	208	P	Pn	20 40 52.2	+1.5
WMGZ	Waiomatatini S	1.39	92	P	Pn	20 40 52.6	+1.6
WMGZ				S	Sn	20 41 14.9	-0.9
KATZ	Kakaramea	1.41	212	P	Pn	20 40 52.5	+1.1
KNZ	Kokohu	1.47	147	P	Pn	20 40 53.4	+1.7
KNZ				S	Sn	20 41 15.7	-1.4
PRGZ	Paritu Road	1.48	140	P	Pn	20 40 53.9	+2.0
PRGZ				S	Sn	20 41 16.7	-0.9
ARHZ	Aropaoanui	1.49	170	P	Pn	20 40 53.6	+1.7
ARHZ				S	Sn	20 41 17.8	+0.1
NTVZ	North Tongarir	1.52	210	P	Pn	20 40 53.6	+1.3
TMVZ	Te Maari	1.52	209	P	Pn	20 40 53.7	+1.3
KRVZ	Karewarewa	1.53	211	P	Pn	20 40 53.8	+1.4
ETVZ	East Tongariro	1.54	209	P	Pn	20 40 53.9	+1.4
WTVZ	West Tongariro	1.57	212	P	Pn	20 40 54.2	+1.4
NNVZ	North Ngauruho	1.57	211	P	Pn	20 40 54.4	+1.6
WIAZ	Waiheke Island	1.57	309	P	Pn	20 40 53.5	+0.8
OTVZ	Oturere	1.58	209	P	Pn	20 40 54.4	+1.5
HIZ	Hauiti	1.59	243	P	Pn	20 40 54.3	+1.5
HIZ	Hauiti	1.59	243	P	Pn	20 40 54.4	+1.5
TWVZ	Taurewa	1.60	217	P	Pn	20 40 54.4	+1.4
SNVZ	South Ngauruho	1.61	210	P	Pn	20 40 54.8	+1.6
NGZ	Ngauruhoe	1.61	211	P	Pn	20 40 54.9	+1.7
KWHZ	Kaweka Forest	1.64	186	P	Pn	20 40 54.8	+1.4
KWHZ				S	Sn	20 41 18.9	-1.4
MCHZ	McNeill Hill	1.65	179	P	Pn	20 40 55.4	+1.9
MCHZ				S	Sn	20 41 20.4	+0.1
TUVZ	Tukino	1.67	208	P	Pn	20 40 55.3	+1.5
MHGZ	Mahia Peninsul	1.68	145	P	Pn	20 40 56.1	+2.4
FWVZ	Far West T-bar	1.70	210	P	Pn	20 40 55.6	+1.4
FWVZ				S	Sn	20 41 21.5	-0.1
WHVZ	Whangaehu Hut	1.71	209	P	Pn	20 40 55.7	+1.4
DRZ	Dome Shelter	1.71	210	P	Pn	20 40 56.0	+1.6
TRVZ	Turoa	1.74	210	P	Pn	20 40 56.0	+1.5
WNVZ	Wahianoa	1.75	208	P	Pn	20 40 55.9	+1.3
WNVZ				S	Sn	20 41 22.3	0.0
BHHZ	Black Hill Sta	1.76	195	P	Pn	20 40 55.6	+1.1
BHHZ				S	Sn	20 41 20.7	-1.7
AWAZ	Awhitu Peninsu	1.76	294	P	Pn	20 40 55.4	+0.9
MOVZ	Moawhango	1.76	203	P	Pn	20 40 55.5	+0.9
PKVZ	Pokaka	1.82	214	P	Pn	20 40 56.6	+1.5
MTVZ	Mangateitei	1.84	210	P	Pn	20 40 57.0	+1.6
KRHZ	Kereru	1.86	187	P	Pn	20 40 56.7	+1.1
CKHZ	Cape Kidnapper	1.89	170	P	Pn	20 40 57.7	+1.9
VRZ	Vera Road	2.00	228	P	Pn	20 40 59.2	+2.3
KAHZ	Kahuranaki	2.01	175	P	Pn	20 40 59.3	+1.9
PNHZ	Pukenui	2.15	189	P	Pn	20 40 59.7	+1.1
PXZ	Pawanui	2.24	176	P	Pn	20 41 01.2	+1.7
WPHZ	Waipukurau	2.28	184	P	Pn	20 41 01.2	+1.3
TSZ	Takapari Road	2.33	193	P	Pn	20 41 01.5	+0.9
WAZ	Wanganui	2.36	213	P	Pn	20 41 02.4	+1.6
LREZ	Lake Rotokare	2.43	226	P	Pn	20 41 05.1	+3.5
PRHZ	Porangahau	2.47	180	P	Pn	20 41 03.5	+1.4
NEZ	North Egmont	2.50	233	P	Pn	20 41 05.6	+3.1
PREZ	Palmer Road	2.50	231	P	Pn	20 41 05.8	+3.4
PKE	Pukeiti	2.52	235	P	Pn	20 41 05.3	+2.6
DVHZ	Dannevirke	2.54	189	P	Pn	20 41 03.6	+0.8
KHEZ	Kahui Hut	2.56	233	P	Pn	20 41 06.0	+2.8
WCZ	Waipu Caves	2.62	314	P	Pn	20 41 05.6	+1.8
OHWZ	Ohakea	2.63	203	P	Pn	20 41 05.3	+1.5
NBEZ	Newall Road No	2.64	235	P	Pn	20 41 06.9	+2.9
ANWZ	Angora Road	2.67	183	P	Pn	20 41 08.0	+1.5
POWZ	Post Office Ro	2.69	195	P	Pn	20 41 05.5	+0.9
NMEZ	Namu Road	2.72	233	P	Pn	20 41 08.0	+3.2
PRWZ	Pori Road	2.81	191	P	Pn	20 41 07.3	+1.3
BFZ	Birch Farm	2.91	186	P	Pn	20 41 08.1	+1.0
BFZ	Birch Farm	2.91	186	P	Pn	20 41 08.2	+1.0
MRZ	Mangatainoka R	2.99	196	P	Pn	20 41 08.6	+0.5
TIWZ	Tintock	3.04	191	P	Pn	20 41 09.7	+0.9
CPWZ	Castlepoint	3.14	186	P	Pn	20 41 11.5	+1.7
HOWZ	Holdsworth Sta	3.23	196	P	Pn	20 41 11.3	+0.3
OGWZ	Otaki Gorge	3.24	200	P	Pn	20 41 11.6	+0.5
KIW	Kapiti Island	3.35	203	P	Pn	20 41 12.6	+0.1
TMWZ	Te Maipa	3.37	190	P	Pn	20 41 13.3	+0.6
MTW	Mount Morrison	3.48	195	P	Pn	20 41 14.2	+0.1
CAW	Cannon Point	3.54	200	P	Pn	20 41 14.9	+0.2
OUZ	Omahuta	3.56	315	P	Pn	20 41 17.7	+2.6
TRWZ	Traveller	3.68	191	P	Pn	20 41 16.9	+0.4
DUWZ	D'Urville Isla	3.68	214	P	Pn	20 41 16.7	+0.1
PAWZ	Paruwai Farm	3.71	194	P	Pn	20 41 16.9	0.0
MSWZ	Moikau Station	3.78	196	P	Pn	20 41 17.5	-0.1
WEL	Wellington	3.78	202	P	Pn	20 41 17.8	+0.1
SNZO	South Karori	3.83	203	P	Pn	20 41 18.7	+0.4
BHW	Baring Head	3.87	200	P	Pn	20 41 18.5	-0

CMAR Chiang Mai Arr 26.11 154 P **P** **20 59 27.3 +0.2**
0.7nm,0.7s,baz=332,slow=9.4,SNR=4.7
YKA Yellowknife Ar 73.71 10 P **P** **21 05 27.1 +0.8**
0.2nm,0.6s,baz=337,slow=5.3,SNR=2.6
WRA Warramunga Arr 75.92 135 P **P** **21 05 39.2 -0.3**
0.6nm,1.0s,baz=318,slow=3.4,SNR=5.4

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*IDC **26** 21:34:06.2±0.4,5˚.32S×153˚.17E,h0km,mb4.7/24,*
mb1 4.8/26,mb1mx4.7/38,mbtmp4.7/26,ML3.1/2,MS4.3/37,
Ms1 4.3/37,ms1mx4.1/63,Error ellipse: s-maj=14.6km
s-min=10.8km az=78.0
*BJI **26** 21:34:09.4±0.0,4˚.99S×153˚.42E,h33km,mb4.7/58,*
mB5.2/28,Ms4.8/14,Ms7 4.5/16
*MOS **26** 21:34:09.4±0.9,5˚.28S×153˚.15E,h34km,mb5.2/24,Error*
ellipse: s-maj=9.5km s-min=6.5km az=111.8
*NEIC **26** 21:34:09.8±1.6,5˚.29S±0˚.07×153˚.18E±0˚.07,h22km±4km,*
mb5.1/78,Error ellipse: s-maj=11.6km s-min=8.5km
az=51.0
*DJA **26** 21:34:13.2±0.5,5˚S±3˚×15˚3E±˚,h50km±5km,M5.0/31,*
mB5.4/11,mb5.0/31,MLv5.1/3,Mw(mB)4.8/11
ISC 26 21:34:10.9±0.5,5˚27S±0˚.04×153˚11E±0˚.05,h32km±3km,
h32km:pP-P,n352,σ1°23/337,mb5.0/115,MS4.2/44,
7C-16D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.43**	**319**		**Pb**	**21 34 36.2**	**-0.8**
KRVT	**Keravat (AS076**	**1.45**	**312**	Pn	**Pb**	**21 34 36.9**	**-0.4**
	baz=270,slow=20						
KRVT				Sn	**Sb**	**21 34 56.6**	**+1.3**
	baz=218,slow=19						
PMG	**Port Moresby**	**7.19**	**235**	Pn	**Pn**	**21 35 54.1**	**+0.2**
	4.6nm,0.3s,baz=40,slow=11,SNR=22						
PMG				Sn	**Sn**	**21 37 16.6**	**+2.1**
	12nm,0.3s,baz=134,slow=16,SNR=8.9						
PMG				LR	LR	21 38 35.1	
	comp=Z,2μm,21.3s,baz=22,slow=37						
PMG	**Port Moresby**	**7.19**	**235**	*d iP*	**Pn**	**21 35 54.8**	**+0.9**
PMG				pmax	pmax		
	comp=Z,193nm,1.7s						
PMG	**Port Moresby**	**7.19**	**235**	Pn	**Pn**	**21 35 54.6**	**+0.7**
HNR	**Honiara**	**7.94**	**122**	Pn	Pn	21 36 09.6	+5.5
	comp=Z,14nm,0.3s,baz=270,slow=13,SNR=6.3						
HNR				Sn	**Sn**	**21 37 37.7**	**+4.8**
	comp=Z,9.6nm,0.3s,baz=327,slow=12,SNR=1.8						
HNR	**Honiara**	**7.94**	**122**	P	**Pn**	**21 36 04.0**	**-0.1**
HNR	**Honiara**	**7.94**	**122**		**Pn**	**21 36 04.0**	**-0.1**
COEN	**Coen**	**13.05**	**228**	Pn	**Pn**	**21 37 15.0**	**+0.8**
PATS	**Pohnpei**	**13.10**	**23**	P	**Pn**	**21 37 15.1**	**+0.2**
	baz=13,SNR=4.2						
PATS	**Pohnpei**	**13.10**	**23**	Pn	**Pn**	**21 37 14.9**	**0.0**
SMPI	**Sarmi**	**14.74**	**282**	P	**Pn**	**21 37 39.2**	**+2.0**
	comp=Z,80nm,1.1s						
MTSU	**Mount Surprise**	**15.40**	**213**	P	**Pn**	**21 37 47.4**	**+1.4**
	baz=16,SNR=28						
CTA	**Charters Tower**	**16.17**	**204**	Pn	**Pn**	**21 37 56.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=17						
CTA				LR	LR	21 43 04.1	
	comp=Z,1μm,21.9s,baz=30,slow=33						
CTAO	**Charters Tower**	**16.17**	**204**	P	**Pn**	**21 37 56.5**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,36nm,1.1s						
CTAO	**Charters Tower**	**16.17**	**204**		**Pn**	**21 37 56.5**	**+0.6**
SANVU	**Saraoutou**	**17.14**	**127**		**Pn**	**21 38 07.1**	**-1.1**
EIDS	**Eidsvold**	**20.08**	**185**	P	**P**	**21 38 42.1**	**+0.3**
	baz=20,SNR=5.7						
EIDS	**Eidsvold**	**20.08**	**185**	P	**P**	**21 38 40.9**	**-0.9**
QIS	**Mount Isa**	**20.08**	**220**	P	**P**	**21 38 42.2**	**+0.3**
	baz=20,SNR=14						
GUMO	**Guam**	**20.45**	**336**	LR	LR	21 47 38.9	
	comp=Z,462nm,18.4s,baz=128,slow=40						
LIFNC	**LIFOU**	**20.63**	**140**	P	**P**	**21 38 45.9**	**-1.9**
FAKI	**Fak Fak**	**20.94**	**276**	P	**P**	**21 38 51.4**	**+0.2**
FAKI				IAmb	IAmb	21 39 47.5	
	comp=Z,96nm,1.4s						
DZM	**Mont Dzumac**	**21.10**	**144**	P	**P**	**21 38 52.9**	**-0.1**
	comp=Z,62nm,0.8s,baz=242,slow=5.9,SNR=65						
DZM	**Mont Dzumac**	**21.10**	**144**	*eP*	**P**	**21 38 52.4**	**-0.6**
	comp=Z,162nm,1.2s						
DZM				*e*LR	LR	21 43 54.0	
	comp=Z,1μm,22.7s						
DZM	**Mont Dzumac**	**21.10**	**144**	P	**P**	**21 38 52.8**	**-0.3**
DZM				IAmb	IAmb	21 38 56.1	
	comp=Z,55nm,0.6s						
ONTNC	**Ouen Toro**	**21.29**	**144**	P	**P**	**21 38 54.0**	**-0.9**
ONTNC				IAmb	IAmb	21 39 24.8	
	comp=Z,71nm,0.9s						
RMQ	**Roma**	**21.50**	**191**	P	**P**	**21 38 57.4**	**+0.2**
	baz=22,SNR=10.0						
OUENC	**Ouen Island, N**	**21.60**	**143**	P	**P**	**21 38 57.4**	**-0.9**
OUENC				IAmb	IAmb	21 39 00.6	
	comp=Z,64nm,1.0s						
MARNC	**Mare, Loyalty**	**21.65**	**139**	P	**P**	**21 38 57.2**	**-1.5**
KDU	**Kakadu**	**21.66**	**249**	P	**P**	**21 38 58.7**	**-0.3**
	baz=22,SNR=20						
PINNC	**Pines Island,**	**22.11**	**143**	P	**P**	**21 39 04.2**	**+0.4**
PINNC				IAmb	IAmb	21 39 06.5	
	comp=Z,178nm,1.5s						
SIJI	**Sorong**	**22.24**	**281**	P	**P**	**21 39 05.6**	**+0.3**
	comp=Z,39nm,0.8s,baz=88,slow=7.8,SNR=9.4						
SWI	**Sorong**	**22.25**	**281**	P	**P**	**21 39 06.3**	**+0.9**
	comp=Z,52nm,1.1s						
QLP	**Quilpie**	**22.82**	**201**	P	**P**	**21 39 11.1**	**-0.2**
	baz=23,SNR=5.3						
MTN	**Manton Dam**	**22.96**	**249**	P	**P**	**21 39 12.3**	**-0.5**
	baz=23,SNR=3.9						
MTN	**Manton Dam**	**22.96**	**249**	P	**P**	**21 39 11.4**	**-1.4**
WB0	**Warramunga Arr**	**23.23**	**230**	P	**P**	**21 39 14.9**	**-0.7**
WB0				IAmb	IAmb	21 39 34.1	
	comp=Z,83nm,1.4s						
WR0	**Warramunga Arr**	**23.23**	**229**	P	**P**	**21 39 14.6**	**-0.9**
WRAB	**Tennant Creek**	**23.36**	**230**	*d iP*	**P**	**21 39 15.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,103nm,2.5s						
WRA	**Warramunga Arr**	**23.37**	**230**	P	**P**	**21 39 16.1**	**-0.8**
	comp=Z,18nm,0.9s,baz=54,slow=9.8,SNR=55						
WRA				PcP	**PcP**	**21 43 04.4**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=48,slow=2.7,SNR=6.4						
WRA				ScP	**ScP**	**21 46 44.3**	**+5.0**
	comp=Z,2.7nm,1.0s,baz=52,slow=3.1,SNR=7.1						
WRA				LR	LR	21 48 09.9	
	comp=Z,883nm,20.9s,baz=40,slow=36						
WRA	**Warramunga Arr**	**23.37**	**230**	P	**P**	**21 39 15.6**	**-1.4**
ARMA	**Armidale**	**25.05**	**183**	P	**P**	**21 39 33.2**	**+0.7**
	baz=25,SNR=5.9						
ARMA	**Armidale**	**25.05**	**183**	P	**P**	**21 39 31.5**	**-1.1**
ARMA				IAmb	IAmb	21 39 34.2	
	comp=Z,52nm,1.4s						
LBMI	**Labuha**	**25.98**	**279**	P	**P**	**21 39 41.3**	**+0.2**
	comp=Z,79nm,1.1s						
AS31	**Alice Springs**	**26.02**	**223**	P	**P**	**21 39 39.6**	**-1.7**
ASAR	**Alice Springs**	**26.02**	**223**	P	**P**	**21 39 40.5**	**-0.8**
	comp=Z,5.5nm,0.9s,baz=52,slow=8.6,SNR=48						
ASAR				PcP	**PcP**	**21 43 09.9**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=55,slow=2.7,SNR=4.5						
ASAR				ScP	**ScP**	**21 46 52.1**	**+5.5**
	comp=Z,1.2nm,0.9s,baz=33,slow=2.9,SNR=4.3						
ASAR				LR	LR	21 49 20.1	
	comp=Z,819nm,21.9s,baz=63,slow=35						
ASAR	**Alice Springs**	**26.02**	**223**	P	**P**	**21 39 39.6**	**-1.7**
ASAR	**Alice Springs**	**26.02**	**223**	P	**P**	**21 39 39.6**	**-1.7**
KNRA	**Kununurra**	**26.05**	**245**	P	**P**	**21 39 41.4**	**-0.2**
	baz=26,SNR=14						
KNRA	**Kununurra**	**26.05**	**245**	P	**P**	**21 39 40.7**	**-0.9**
TNTI	**Ternate**	**26.41**	**282**	P	**P**	**21 39 44.8**	**0.0**
CMSA	**Cobar Meteorol**	**27.04**	**194**	P	**P**	**21 39 49.7**	**-0.7**
	baz=27,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**27.15**	**29**	T	T	22 08 14.9	
	baz=209,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**27.15**	**29**	T	T	22 08 19.0	
	baz=209,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.16**	**29**	T	T	22 08 21.1	
	baz=209,slow=74,SNR=11						
MSVF	**Nonsavu**	**27.35**	**119**	P	**P**	**21 39 52.3**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=212,slow=19,SNR=2.2						
MSVF				LR	LR	21 50 07.2	
	comp=Z,571nm,18.3s,baz=312,slow=35						
MSVF	**Nonsavu**	**27.35**	**119**	P	**P**	**21 39 52.1**	**-1.3**
MSVF				pmax	pmax		
	comp=Z,17nm,1.2s						
MSVF	**Nonsavu**	**27.35**	**119**	P	**P**	**21 39 52.1**	**-1.3**
STKA	**Stephens Creek**	**28.58**	**201**	P	**P**	**21 40 02.8**	**-1.4**
	comp=Z,16nm,1.0s,baz=355,slow=8.5,SNR=19						
STKA				ScP	**ScP**	**21 47 00.1**	**+6.0**
	comp=Z,3.0nm,0.9s,baz=240,slow=3.2,SNR=4.5						
STKA				LR	LR	21 51 55.4	
	comp=Z,656nm,18.2s,baz=23,slow=37						
STKA	**Stephens Creek**	**28.58**	**201**	P	**P**	**21 40 03.0**	**-1.1**
	baz=29,SNR=12						
STKA	**Stephens Creek**	**28.58**	**201**	P	**P**	**21 40 02.6**	**-1.6**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
STKA	**Stephens Creek**	**28.58**	**201**	P	**P**	**21 40 02.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**29.71**	**242**	P	**P**	**21 40 13.9**	**-0.4**
	comp=Z,61nm,1.0s,baz=77,slow=7.9,SNR=45						
FITZ				LR	LR	21 52 45.1	
	comp=Z,486nm,20.1s,baz=64,slow=38						
DAV	**Davao City (W)**	**30.09**	**294**	LR	LR	21 52 19.7	
	comp=Z,424nm,18.7s,baz=108,slow=36						
WRKA	**Warakurna**	**30.87**	**228**	P	**P**	**21 40 23.6**	**-1.0**
	baz=31,SNR=8.8						
HTT	**Hallett**	**30.97**	**203**	P	**P**	**21 40 24.6**	**-0.8**
	baz=31,SNR=3.6						
BBOO	**Buckleboo**	**31.68**	**208**	P	**P**	**21 40 30.2**	**-1.4**
BBOO				IAmb	IAmb	21 40 31.3	
	comp=Z,27nm,1.1s						
ARPS	**Mount Arapiles**	**33.01**	**197**	P	**P**	**21 40 43.7**	**+0.5**
	baz=33,SNR=5.7						
FORT	**Forrest**	**34.62**	**220**	P	**P**	**21 40 56.5**	**-0.8**
	baz=35,SNR=21						
FORT	**Forrest**	**34.62**	**220**	P	**P**	**21 40 56.4**	**-0.8**
AFI	**Afiamalu**	**35.62**	**106**	LR	LR	21 53 16.7	
	comp=Z,368nm,18.1s,baz=318,slow=32						
MBWA	**Marble Bar**	**36.01**	**241**	P	**P**	**21 41 08.6**	**-0.8**
MEEK	**Meekatharra**	**39.17**	**233**	P	**P**	**21 41 35.6**	**-0.5**
	baz=39,SNR=3.7						
URZ	**Urewera**	**39.42**	**150**	P	**P**	**21 41 37.9**	**-0.1**
	comp=Z,20nm,1.1s,baz=72,slow=7.8,SNR=3.3						
URZ				LR	LR	21 56 35.5	
	comp=Z,347nm,18.5s,baz=344,slow=34						
URZ	**Urewera**	**39.42**	**150**	P	**P**	**21 41 37.0**	**-0.9**
URZ				IAmb	IAmb	21 41 39.1	
	comp=Z,39nm,1.2s						
QRZ	**Quartz Range**	**39.45**	**157**	P	**P**	**21 41 37.4**	**-0.8**
QRZ				IAmb	IAmb	21 41 40.0	
	comp=Z,60nm,1.1s						
JOW	**Kunigami**	**39.96**	**324**	LR	LR	21 55 37.3	
	comp=Z,214nm,19.4s,baz=134,slow=32						
JOW	**Kunigami**	**39.96**	**324**	P	**P**	**21 41 42.9**	**+0.3**
THZ	**Tophouse**	**40.40**	**157**	P	**P**	**21 41 45.7**	**-0.4**
THZ				IAmb	IAmb	21 42 00.4	
	comp=Z,102nm,1.6s						
TUWZ	**Tuamarina**	**40.53**	**156**	P	**P**	**21 41 46.4**	**-0.7**
LTZ	**Lake Taylor**	**41.03**	**158**	P	**P**	**21 41 51.0**	**-0.3**
PBKI	**Pangkalan Bun**	**41.41**	**272**	P	**P**	**21 41 55.2**	**+0.4**
	comp=Z,54nm,1.2s						
RPZ	**Rata Peaks**	**41.42**	**160**	P	**P**	**21 41 54.7**	**+0.2**
RPZ				IAmb	IAmb	21 42 06.1	
	comp=Z,51nm,1.2s						
MLZ	**Mavora Lakes**	**42.03**	**164**	P	**P**	**21 41 59.0**	**-0.4**
MLZ				IAmb	IAmb	21 42 01.1	
	comp=Z,70nm,1.3s						
JNU	**Nakatsue**	**43.62**	**333**	P	**P**	**21 42 12.5**	**0.0**
JNU				IAmb	IAmb	21 42 13.8	
	comp=Z,36nm,0.9s						
MJAR	**Matsushiro Arr**	**43.88**	**343**	P	**P**	**21 42 13.5**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=172,slow=7.2,SNR=2.7						
MJAR				LR	LR	22 00 30.8	
	comp=Z,246nm,18.5s,baz=172,slow=36						
MAT	**Matsushiro**	**43.88**	**343**	P	**P**	**21 42 12.9**	**-1.6**
CNJI	**Cibinong**	**45.74**	**265**	P	**P**	**21 42 28.8**	**-0.8**
	comp=Z,1μmcomp=Z,120nm,1.1s						
JTM	**Tenmabayashi**	**47.15**	**348**	P	**P**	**21 42 40.0**	**-0.3**
CGJI	**Cibinong**	**47.17**	**266**	P	**P**	**21 42 39.9**	**-1.0**
	comp=Z,46nm,1.2s						
XMIS	**Christmas Isla**	**47.26**	**261**	P	**P**	**21 42 41.5**	**-0.1**
TJN	**Taejon**	**47.94**	**332**	⇓*eP*	**P**	**21 42 46.9**	**+0.4**
RAR	**Rarotonga**	**48.30**	**114**	LR	LR	22 01 48.4	
	comp=Z,94nm,19.4s,baz=304,slow=34						
KASI	**Kota Agung**	**48.39**	**267**	P	**P**	**21 42 49.1**	**-1.3**
	comp=Z,28nm,1.0s						
KSRS	**Korea Array**	**48.56**	**333**	P	**P**	**21 42 51.7**	**+0.5**
	comp=Z,4.1nm,1.0s,baz=151,slow=9.3,SNR=8.6						
KSRS				PcP	**PcP**	**21 44 18.3**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=168,slow=4.1,SNR=4.1						
KSRS				LR	LR	22 03 13.6	
	comp=Z,115nm,18.4s,baz=160,slow=36						
KSAR	**Wonju Array Be**	**48.57**	**333**	P	**P**	**21 42 50.5**	**-0.8**
KSAR	**Wonju Array Be**	**48.57**	**333**	P	**P**	**21 42 50.5**	**-0.8**
MDSI	**Maura Dua**	**48.75**	**269**	P	**P**	**21 42 52.8**	**-0.4**
	comp=Z,17nm,1.3s						
INCN	**Inchon**	**49.17**	**332**	P	**P**	**21 42 55.6**	**-0.4**
INCN				pmax	pmax		
	comp=Z,47nm,1.0s						
INCN	**Inchon**	**49.17**	**332**	P	**P**	**21 42 55.6**	**-0.4**
NJ2	**Nanjing**	**49.41**	**321**	*eP*	**P**	**21 42 59.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ASAJ	**Asahikawa**	**50.07**	**350**	P	**P**	**21 43 03.1**	**+0.5**
	comp=Z,15nm,0.9s,baz=247,slow=20,SNR=4.2						
ASAJ				LR	LR	22 01 44.9	
	comp=Z,269nm,21.2s,baz=160,slow=33						
VLA	**Vladivostok**	**51.87**	**340**	⇓*eP*	**P**	**21 43 17.3**	**+1.1**
VLA				pmax	pmax		
	comp=Z,99nm,1.7s						
USRK	**Ussuriysk Ar.**	**52.79**	**341**	P	**P**	**21 43 23.2**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=165,slow=9.0,SNR=7.3						
USRK				LR	LR	22 06 13.1	
	comp=Z,83nm,18.5s,baz=113,slow=36						
USRK	**Ussuriysk Ar.**	**52.79**	**341**	P	**P**	**21 43 22.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**52.79**	**341**	P	**P**	**21 43 22.9**	**-0.1**
TIA	**Tai'an**	**53.28**	**324**	*eP*	**P**	**21 43 26.5**	**-0.3**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ENH	**Enshi**	**54.70**	**313**	P	**P**	**21 43 37.0**	**-0.3**
ENH				IAmb	IAmb	21 43 38.8	
	comp=Z,14nm,0.9s						
CN2	**Changchun**	**54.86**	**336**	*eP*	**P**	**21 43 36.5**	**-1.7**
CN2				*e*pP	pwP	21 43 49.5	+2.0
CN2				PP	**PP**	**21 45 41.5**	**+0.1**
CN2				*e*S	**S**	**21 51 13.8**	**-3.5**
CN2				sS	sS	21 51 35.0	+2.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
HNS	**HongShan**	**55.51**	**323**	⇓P	**P**	**21 43 43.5**	**+0.5**
HNS				pmax	pmax		
	comp=Z,16nm,1.5s						
BNX	**BinXian**	**55.72**	**338**	⇓P	**P**	**21 43 44.3**	**-0.1**
BNX				pmax	pmax		
	comp=Z,15nm,1.4s						
BNX				pmax	pmax		
	comp=Z,210nm,6.9s						
XAN	**Xi'an**	**57.18**	**316**	P	**P**	**21 43 54.8**	**-0.3**
XAN				pP	pwP	21 44 05.0	-1.8
XAN				pmax	pmax		
	comp=Z,16nm,1.3s						
XAN				LR	LR		
	comp=Z,210nm,15.1s						
XAN				LR	LR		
	comp=Z,260nm,18.6s						
XAN				LR	LR		
	comp=Z,430nm,20.8s						
PPT	**Papeete**	**57.29**	**107**	LR	LR	22 06 19.5	
	comp=Z,111nm,18.9s,baz=342,slow=34						
PPT2	**Papeete2**	**57.29**	**107**	*e*LR	LR	22 00 41.4	
	comp=Z,102nm,21.2s						
KLR	**Kul'dur**	**57.38**	**344**	LR	LR	22 07 10.0	
	comp=Z,80nm,20.9s,baz=161,slow=34						
KLR	**Kul'dur**	**57.38**	**344**	*d iP*	**P**	**21 43 56.3**	**+0.2**
KLR				pmax	pmax		
	comp=Z,47nm,1.6s						
KMI	**Kunming**	**57.51**	**304**	⇑P	**P**	**21 43 59.5**	**+1.7**
KMI				pP	pwP	21 44 11.0	+1.6
KMI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KMI				LR	LR		
	comp=Z,230nm,16.7s						
GRNR	**Gornyy**	**57.65**	**348**	⇓*iP*	**P**	**21 43 57.9**	**-0.1**
GRNR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,70nm,10.0s						
PEA0B	**Petropavlovsk-**	**58.29**	**3**	⇑*eP*	**P**	**21 44 02.5**	**+0.1**
PEA0B	**Petropavlovsk-**	**58.29**	**3**	P	**P**	**21 44 02.9**	**+0.4**
PETK	**Petropavlovsk-**	**58.29**	**3**	P	**P**	**21 44 03.4**	**+1.0**
	comp=E,6.9nm,0.7s,baz=165,slow=5.5,SNR=12						
PETK				LR	LR	22 05 20.1	
	comp=E,151nm,21.7s,baz=180,slow=32						
PETK	**Petropavlovsk-**	**58.29**	**3**	P	**P**	**21 44 03.3**	**+0.9**
CM31	**Chiang Mai Arr**	**58.36**	**295**	P	**P**	**21 44 03.7**	**+0.1**
CM31				IAmb	IAmb	21 44 17.6	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**58.36**	**295**	P	**P**	**21 44 05.1**	**+1.5**
	comp=Z,11nm,1.1s,baz=112,slow=5.2,SNR=34						
CMAR				PKP2bc		22 13 54.6	
	comp=Z,0.4nm,0.3s,baz=258,slow=4.5,SNR=1.1						
CMAR	**Chiang Mai Arr**	**58.36**	**295**	P	**P**	**21 44 04.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**58.36**	**295**	P	**P**	**21 44 04.3**	**+0.7**
CHTO	**Chiang Mai**	**58.47**	**296**	P	**P**	**21 44 04.2**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,17nm,1.2s						
CHTO	**Chiang Mai**	**58.47**	**296**	P	**P**	**21 44 04.2**	**-0.2**
CHTO				IAmb	IAmb	21 44 17.1	
	comp=Z,17nm,1.2s						
PZH	**PanZhiHua**	**58.90**	**305**	P	**P**	**21 44 08.0**	**+0.6**
PZH				S	**S**	**21 52 10.5**	**-1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,160nm,4.9s						
PZH				LR	LR		
	comp=Z,340nm,17.1s						
PZH				LR	LR		
	comp=Z,410nm,18.0s						
PZH				LR	LR		
	comp=Z,680nm,17.6s						
XLT	**XiLinHaoTe**	**59.23**	**330**	*eP*	**P**	**21 44 10.0**	**+0.7**
XLT				S	**S**	**21 52 14.3**	**-0.9**
XLT				sS	sS	21 52 33.3	+2.7
XLT				pmax	pmax		
	comp=Z,25nm,1.0s						
XLT				pmax	pmax		
	comp=Z,240nm,5.5s						
XLT				LR	LR		
	comp=Z,230nm,13.1s						
XLT				LR	LR		
	comp=Z,270nm,15.6s						
XLT				LR	LR		
	comp=Z,340nm,17.7s						
CD2	**Chengdu**	**59.28**	**311**	P	**P**	**21 44 10.8**	**+1.0**
CD2				S	**S**	**21 52 16.0**	**-0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,170nm,5.4s						
CD2				LR	LR		
	comp=Z,260nm,19.4s						
CD2				LR	LR		
	comp=Z,340nm,18.9s						
HHC	**Hu-ho-hao-te**	**59.61**	**324**	*eP*	**P**	**21 44 13.0**	**+1.0**
HHC				pmax	pmax		
	comp=Z,13nm,1.2s						
HHC				pmax	pmax		
	comp=Z,130nm,5.0s						
SHEM	**Shemya Is, Ala**	**60.47**	**14**	LR	LR	22 06 51.4	
	comp=Z,368nm,20.6s,baz=160,slow=32						
HIA	**Hailar**	**61.59**	**336**	P	**P**	**21 44 25.4**	**+0.2**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HIA	**Hailar**	**61.59**	**336**	P	**P**	**21 44 25.4**	**+0.2**
LZH	**Lanzhou**	**61.78**	**316**	*eP*	**P**	**21 44 27.0**	**0.0**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,7.4s						
ZEA	**Zeya**	**62.69**	**343**	*eP*	**P**	**21 44 32.5**	**+0.1**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MA2	**Magadan**	**64.67**	**359**	*c iP*	**P**	**21 44 45.8**	**+0.4**
MA2				pmax	pmax		
	comp=Z,52nm,1.7s						
MA2	**Magadan**	**64.67**	**359**	P	**P**	**21 44 45.0**	**-0.4**
GTA	**Gaotai**	**66.21**	**317**	⇓P	**P**	**21 44 57.0**	**+1.0**
GTA				pP	pP	21 45 04.3	-1.0
GTA				sP	sP	21 45 08.8	-0.2
GTA				pmax	pmax		
	comp=Z,11nm,1.2s						
ULN	**Ulaanbaatar**	**66.56**	**328**	*d iP*	**P**	**21 44 58.7**	**+0.6**
ULN				pmax	pmax		
	comp=Z,13nm,1.3s						
ULN	**Ulaanbaatar**	**66.56**	**328**	P	**P**	**21 44 58.1**	**0.0**
SHL	**Shillong**	**66.81**	**301**	P	**P**	**21 45 00.3**	**+0.1**
SHL				pmax	pmax		
	comp=Z,21nm,1.0s						
SHL	**Shillong**	**66.81**	**301**	P	**P**	**21 45 00.3**	**+0.1**
SHL				IAmb	IAmb	21 45 01.6	
	comp=Z,21nm,1.0s						
SONM	**Songino Array**	**66.89**	**328**	P	**P**	**21 45 01.3**	**+1.2**
	comp=Z,4.5nm,1.0s,baz=139,slow=5.5,SNR=21						
SONM				PKP2bc		22 13 29.9	
	comp=Z,1.9nm,1.1s,baz=282,slow=2.8,SNR=4.5						
SONM	**Songino Array**	**66.89**	**328**	P	**P**	**21 45 01.1**	**+0.9**
SONM				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SONM	**Songino Array**	**66.89**	**328**	P	**P**	**21 45 01.1**	**+0.9**
SEY	**Seymchan**	**68.02**	**360**	LR	LR	22 18 18.6	
	comp=Z,85nm,18.0s,baz=274,slow=39						
GOMU	**GeErMu**	**68.31**	**312**	P	**P**	**21 45 11.0**	**+1.4**
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
YAK	**Yakutsk**	**69.50**	**348**	LR	LR	22 18 33.0	
	comp=Z,55nm,18.0s,baz=164,slow=38						
YAK	**Yakutsk**	**69.50**	**348**	*eP*	**P**	**21 45 16.5**	**+0.5**
YAK				*e**PP	**pwP**	**21 45 28.8**	**+0.8**
YAK				*e*

BILL e 21 45 55.5
BILL e 21 48 28.4
BILL eS **SKiKP** **21 55 01.2 -7.5**
BILL eSS **SS** **21 59 58.1 +4.0**
BILL pmax pmax
comp=Z,5.0nm,0.7s
BILL Bilibino 73.73 5 P **P** **21 45 41.6 +0.2**
BILL IAmb IAmb 21 45 49.4
comp=Z,20nm,0.9s
KOLN Koldanda 74.54 301 eP **P** **21 45 47.4 +0.1**
comp=Z,82nm,1.0s
DANN Dangsing 74.55 301 eP **P** **21 45 47.3 -0.1**
comp=Z,42nm,0.7s
PYUN Piuthan 75.15 301 eP **P** **21 45 50.6 -0.2**
comp=Z,97nm,0.9s
SKHT Srikalahasti 75.23 286 eP **P** **21 45 51.1 -0.1**
ADKI Addanki 75.34 288 eP **P** **21 45 51.9 +0.2**
NJS Nagarjunasagar 76.08 288 eP **P** **21 45 56.1 0.0**
NJS epP **pP** **21 46 03.7 -1.9**
WMQ Urumqi 76.30 317 eP **P** **21 45 58.3 +1.5**
WMQ pP pP 21 46 04.8 -1.5
WMQ sP PcP 21 46 12.5 +3.8
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ pmax pmax
comp=Z,250nm,4.7s
SRLM Srisailam 76.40 288 eP **P** **21 45 57.7 -0.2**
SRLM ePcP **pwP** **21 46 09.0 -0.6**
KDAK Kodiak Island 76.46 27 LR LR 22 14 12.1
comp=Z,328nm,21.9s,baz=250,slow=32
RPR Rampur 76.50 291 eP **P** **21 45 58.6 +0.2**
CUPL Choutuppal 76.57 289 eP **P** **21 45 59.0 +0.2**
CUPL ePcP **PcP** **21 46 10.8 +0.4**
Q19K Cape Douglas, 76.64 25 P **P** **21 45 57.7 -0.7**
Q19K Cape Douglas, 76.64 25 P P 21 46 04.3 +5.9
baz=235
HYBB Hyderabad (bro 76.94 289 eP **P** **21 46 01.2 +0.2**
HYBB epP **pP** **21 46 08.2 -2.3**
HYBB ePcP **pwP** **21 46 11.7 -1.0**
N19K Bonanza Creek 77.40 23 P P 21 46 08.9 +6.2
baz=234
SRSP Sriramsagar 77.40 291 eP **P** **21 46 03.4 0.0**
SRSP esP **pwP** **21 46 13.5 -1.8**
URV Uravakonda 77.77 286 eP **P** **21 46 05.9 +0.3**
URV epP **pP** **21 46 12.5 -2.7**
CNPM China Poot 78.01 25 P **P** **21 46 06.0 0.0**
L19K White Mountain 78.07 22 P P 21 46 13.3 +7.0
baz=233
M19K Big River Lodg 78.08 23 P P 21 46 13.7 +7.4
baz=234
TTA Tatalina 78.09 21 P P 21 46 13.4 +6.9
baz=232
TIXI Tiksi 78.41 352 *ce*P **P** **21 46 08.9 +1.0**
TIXI pmax pmax
comp=Z,27nm,1.7s
TIXI Tiksi 78.41 352 P **P** **21 46 07.2 -0.7**
L20K Farewell, AK 78.61 22 P P 21 46 16.3 +7.0
baz=234
DGZ Jazzator, Alta 78.65 323 *d iP* **P** **21 46 10.3 +0.4**
DGZ pmax pmax
comp=Z,32nm,1.1s
KLRI Killari 78.89 289 eP **P** **21 46 11.9 +0.1**
K20K Telida 79.06 21 P **P** **21 46 11.7 0.0**
K20K IAmb IAmb 21 46 46.8
comp=Z,34nm,1.6s
K20K Telida 79.06 21 P P 21 46 18.6 +6.9
baz=234
ZSN Zaisan 79.43 320 eP **P** **21 46 13.9 -0.2**
ZSN pmax pmax
comp=Z,17nm,1.4s
ZSN Zaisan 79.43 320 eP **P** **21 46 13.9 -0.2**
comp=Z,17nm,1.4s,baz=320
RC01 Rabbit Creek A 79.47 25 P P 21 46 20.4 +6.4
baz=238
J20K Nowinta River 79.52 21 P **P** **21 46 14.1 -0.1**
J20K IAmb IAmb 21 47 14.0
comp=Z,26nm,1.4s
J20K Nowinta River 79.52 21 P P 21 46 21.8 +7.6
baz=234
CAST Castle Rocks 79.82 22 P **P** **21 46 15.6 -0.3**
CAST Castle Rocks 79.82 22 P P 21 46 21.5 +5.6
baz=236
PWL Port Wells 79.94 25 P P 21 46 22.9 +6.3
baz=240
PMR Palmer 79.99 24 P P 21 46 22.7 +6.0
baz=239
CHUM Lake Minchumin 80.00 21 P P 21 46 23.8 +7.0
baz=235
IMAR Indian Mountai 80.72 19 P **P** **21 46 20.1 -0.5**
MK31 Makanchi Array 80.89 319 *c iP* **P** **21 46 23.1 +1.1**
MK31 Makanchi Array 80.89 319 P **P** **21 46 22.2 +0.2**
MK31 IAmb IAmb 21 46 35.0
comp=Z,15nm,0.9s
MKAR Makanchi Array 80.89 319 P **P** **21 46 22.9 +0.9**
comp=Z,6.9nm,1.0s,baz=100,slow=6.7,SNR=42
MKAR PKKPbc **PKKPbc** **22 05 00.6 -1.6**
comp=Z,0.5nm,0.7s,baz=323,slow=1.8,SNR=6.3
MKAR Makanchi Array 80.89 319 P **P** **21 46 22.3 +0.3**
MKAR Makanchi Array 80.89 319 P **P** **21 46 22.2 +0.3**
MAKZ Makanchi 81.09 319 P **P** **21 46 23.5 +0.4**
MAKZ pmax pmax
comp=Z,21nm,1.0s
MAKZ Makanchi 81.09 319 P **P** **21 46 23.5 +0.4**
MAKZ IAmb IAmb 21 46 36.0
comp=Z,21nm,0.9s
MCK McKinley 81.18 22 P **P** **21 46 21.9 -1.3**
MCK pmax pmax
comp=Z,40nm,1.3s
MCK McKinley 81.18 22 P **P** **21 46 21.9 -1.3**
MCK IAmb IAmb 21 47 23.4
comp=Z,40nm,1.3s
MLY Manley 81.21 21 P P 21 46 29.8 +6.4
baz=237
POO Poona 81.54 290 eP **P** **21 46 23.0 -3.0**
NEA2 Nenana 81.58 22 P P 21 46 31.1 +5.8
baz=238
ZAA0 Zalesovo Array 81.72 326 P **P** **21 46 24.9 -1.2**
ZALV Zalesovo Beam 81.72 326 P **P** **21 46 26.1 0.0**
comp=Z,9.6nm,0.8s,baz=104,slow=6.3,SNR=40
ZALV Zalesovo Beam 81.72 326 P **P** **21 46 25.8 -0.4**
PDGK Podgornoye 81.81 315 *i P* **P** **21 46 26.8 -0.3**
PDGK pmax pmax
comp=Z,7.0nm,0.9s
UZB Uzynbulak 82.09 315 eP **P** **21 46 28.1 -0.5**
UZB pmax pmax
comp=Z,13nm,1.4s
UZB Uzynbulak 82.09 315 eP **P** **21 46 28.1 -0.5**
comp=Z,13nm,1.4s,baz=315
COLA College 82.17 22 ||eP **P** **21 46 28.4 +0.1**
COLA pmax pmax
comp=Z,13nm,1.0s
PRZ Przheval'sk 82.37 314 P **P** **21 46 31.4 +1.3**
PRZ pmax pmax
comp=Z,25nm,1.2s
PRZ Przheval'sk 82.37 314 P **P** **21 46 31.4 +1.3**
PRZ IAmb IAmb 21 46 33.2
comp=Z,25nm,1.2s
IL31 82.48 22 P **P** **21 46 29.2 -0.7**
ILAR Eielson Array 82.48 22 P **P** **21 46 28.6 -1.4**
comp=Z,1.2nm,0.7s,baz=247,slow=5.3,SNR=12
ILAR LR LR 22 22 16.4
comp=Z,218nm,18.3s,baz=214,slow=35
SATY Saty 82.51 315 eP **P** **21 46 30.1 -0.7**
SATY Saty 82.51 315 eP **P** **21 46 30.1 -0.7**
baz=314
ZHN Zhinishke 82.51 315 eP **P** **21 46 30.3 -0.4**
ZHN Zhinishke 82.51 315 eP **P** **21 46 30.4 -0.4**
baz=315
TARG Taragay, Kyrgy 82.62 313 P **P** **21 46 31.5 -0.3**
H24K Noodor Dome 82.66 21 P P 21 46 38.1 +7.2
baz=239
TDK Taldyqorghan 82.99 316 eP **P** **21 46 33.0 -0.1**
TDK pmax pmax
comp=Z,19nm,1.2s
TDK Taldyqorghan 82.99 316 eP **P** **21 46 33.0 -0.1**
comp=Z,19nm,1.2s,baz=316
DOT Dot Lake 83.04 24 P **P** **21 46 32.0 -1.0**
DOT IAmb IAmb 21 47 33.9
comp=Z,19nm,1.3s
M27K Edge Creek, AK 83.37 25 P P 21 46 41.9 +7.1
baz=245
KSH Kashi 83.48 311 P **P** **21 46 38.5 +2.6**
KSH pP pwP 21 46 48.3 +0.5
KSH sP sP 21 46 51.0 +1.9
KSH pmax pmax
comp=Z,14nm,1.4s
MDOK Medeo 83.50 314 eP **P** **21 46 35.6 -0.3**
MDOK Medeo 83.50 314 eP **P** **21 46 35.7 -0.3**
baz=314
TOLK Toolik Lake Re 83.57 18 P **P** **21 46 35.3 -0.3**
TOLK IAmb IAmb 21 47 34.1
comp=Z,44nm,2.0s
J26L Joseph Creek 83.61 23 P P 21 46 42.4 +6.4
baz=244
CHKK Chushkaly 83.70 315 eP **P** **21 46 36.6 -0.1**
baz=315
BCAR Beaver Creek A 83.71 25 P **P** **21 46 36.5 +0.1**
BOOM Boomskoye usch 84.14 314 P **P** **21 46 39.7 +0.5**
BOOM pmax pmax
comp=Z,30nm,1.5s
BOOM Boomskoye usch 84.14 314 P **P** **21 46 39.7 +0.5**
BOOM IAmb IAmb 21 46 41.8
comp=Z,30nm,1.4s
KUU Kurty 84.17 315 eP **P** **21 46 38.7 -0.4**
KUU pmax pmax
comp=Z,29nm,1.0s
KUU Kurty 84.17 315 eP **P** **21 46 38.7 -0.4**
comp=Z,29nm,1.0s,baz=315
KURK Kurchatov 84.33 322 *d iP* **P** **21 46 39.9 +0.1**
KURK pmax pmax
comp=Z,37nm,1.3s
KURK Kurchatov 84.33 322 P **P** **21 46 39.6 -0.2**
TKM2 Tokmak 2 84.48 314 P **P** **21 46 42.0 +0.9**
SNR=16
TKM2 Tokmak 2 84.48 314 *i* P **P** **21 46 41.5 +0.5**
TKM2 pmax pmax
comp=Z,14nm,0.9s
NIL Nilore 84.50 304 P **P** **21 46 41.1 0.0**
NIL pmax pmax
comp=Z,45nm,1.3s
NIL Nilore 84.50 304 P **P** **21 46 41.1 0.0**
BMAR Burnt Mountain 84.58 20 P **P** **21 46 40.7 -0.1**
QSPA South Pole Qui 84.69 180 P **P** **21 46 41.6 +0.1**
comp=Z,16nm,0.7s,baz=339,slow=1.4,SNR=46
QSPA South Pole Qui 84.69 180 P **P** **21 46 40.9 -0.6**
HYT Haines Junctio 84.71 27 P P 21 46 49.9 +8.3
baz=249
KBK Karagaybulak 84.89 314 P **P** **21 46 43.8 +0.8**
SNR=11
CHMS Chumysh 85.10 314 P **P** **21 46 44.8 +0.9**
SNR=11
UCH Uchtor 85.12 313 P **P** **21 46 46.0 +1.4**
SNR=28
FRU1 Bishkek 85.15 314 P **P** **21 46 44.9 +0.7**
FRU1 pmax pmax
comp=Z,25nm,1.1s
FRU1 Bishkek 85.15 314 P **P** **21 46 44.9 +0.7**
AAK Ala-Archa 85.22 313 P **P** **21 46 45.8 +1.1**
SNR=14
AAK Ala-Archa 85.22 313 *d iP* **P** **21 46 45.5 +0.8**
AAK pmax pmax
comp=Z,32nm,1.7s
AAK Ala-Archa 85.22 313 P **P** **21 46 44.9 +0.2**
AAK IAmb IAmb 21 46 46.9
comp=Z,16nm,0.9s
SGDS Sogindy 85.28 314 eP **P** **21 46 44.3 -0.6**
comp=Z,6.9nm,0.9s,baz=314
USP Osenovka 85.34 314 P **P** **21 46 46.1 +1.0**
SNR=13
AML Almayashu 85.70 313 P **P** **21 46 48.6 +1.2**
SNR=37
EKS2 Erkin-Say 85.74 313 P **P** **21 46 48.1 +0.9**
SNR=20
BTLS Baital 86.01 316 eP **P** **21 46 47.8 -0.5**
BTLS pmax pmax
comp=Z,13nm,1.2s
BTLS Baital 86.01 316 eP **P** **21 46 47.8 -0.5**
comp=Z,13nm,1.2s,baz=316
NRIK Noril'sk 86.51 341 P **P** **21 46 50.8 +0.5**
comp=Z,5.9nm,0.6s,baz=131,slow=3.2,SNR=9.7
NRIK LR LR 22 24 53.6
comp=Z,123nm,21.4s,baz=100,slow=35
NRIK Noril'sk 86.51 341 ||*iP* **P** **21 46 50.6 +0.4**
NRIK pmax pmax
comp=Z,21nm,1.7s
NRIK Noril'sk 86.51 341 P **P** **21 46 50.3 0.0**
NRIK IAmb IAmb 21 46 53.0
comp=Z,7.3nm,0.8s
DRK Karamyk 86.64 310 P **P** **21 46 51.8 -0.2**
DRK IAmb IAmb 21 46 54.2
comp=Z,18nm,1.2s
EPYK Eagle Plains 86.98 22 P **P** **21 46 52.1 -0.6**
BBB Bella Bella 87.28 37 LR LR 22 27 29.2
comp=Z,139nm,18.2s,baz=244,slow=37
BTK Batken 87.48 310 P **P** **21 46 55.9 +0.1**
BTK pmax pmax
comp=Z,19nm,1.3s
BTK Batken 87.48 310 P **P** **21 46 55.9 +0.1**
BTK IAmb IAmb 21 46 57.6
comp=Z,19nm,1.3s
DLBC Dease Lake 87.63 31 LR LR 22 21 48.4
comp=Z,342nm,18.6s,baz=284,slow=33
KBL Kabul 88.09 305 P **P** **21 46 58.1 -0.8**
KBL pmax pmax
comp=Z,3.0nm,0.7s
KBL Kabul 88.09 305 P **P** **21 46 58.1 -0.8**
KKAR Karatay Array 88.18 313 P **P** **21 46 58.8 -0.1**
KKAR Karatay Array 88.18 313 P **P** **21 46 58.8 -0.1**
IUG Iuzhnay 88.39 312 eP **P** **21 46 59.5 -0.5**
IUG Iuzhnay 88.39 312 eP **P** **21 46 59.5 -0.5**
baz=312
CHGR Chuyangaron 88.55 309 P **P** **21 47 00.3 -0.6**
CHGR IAmb IAmb 21 47 32.7
comp=Z,12nm,0.8s
INK Inuvik 88.78 21 LR LR 22 23 15.0
comp=Z,322nm,21.9s,baz=206,slow=33
INK Inuvik 88.78 21 P **P** **21 47 00.6 -0.5**
INK pmax pmax
comp=Z,21nm,1.6s
INK Inuvik 88.78 21 P **P** **21 47 00.6 -0.5**
INK IAmb IAmb 21 47 49.4
comp=Z,21nm,1.6s
YBH Yreka Blue Hor 89.14 48 LR LR 22 20 43.7
comp=Z,401nm,19.9s,baz=296,slow=31
BRVK Borovoye 89.87 323 P **P** **21 47 05.9 -0.7**
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 89.87 323 P **P** **21 47 05.9 -0.7**
BRVK IAmb IAmb 21 47 07.1
comp=Z,11nm,0.8s
NVAR Mina Array Bea 92.13 52 P **P** **21 47 19.6 +1.8**
comp=Z,0.9nm,0.7s,baz=269,slow=4.5,SNR=3.5
NVAR LR LR 22 22 12.4
comp=Z,280nm,20.5s,baz=323,slow=31
A36M Sachs Harbour 92.39 18 P **P** **21 47 18.2 +0.3**
A36M IAmb IAmb 21 47 25.2
comp=Z,7.3nm,0.9s
PFO Pinyon Flats O 93.24 57 LR LR 22 24 53.2
comp=Z,173nm,18.0s,baz=274,slow=33
SYO Syowa Base 93.33 199 ||*eP* **P** **21 47 22.8 +0.5**
HRA Herat 93.66 304 P **P** **21 47 24.2 -0.6**
HRA IAmb IAmb 21 47 25.4
comp=Z,7.5nm,1.1s
NEW Newport 93.74 42 LR LR 22 26 17.7
comp=Z,229nm,18.6s,baz=192,slow=33
RPN Rapa Nui 94.32 118 LR LR 22 23 52.8
comp=Z,75nm,18.8s,baz=50,slow=32
PRN Pahroc Range 94.63 53 P **P** **21 47 29.1 -0.1**
PRN IAmb IAmb 21 47 33.9
comp=Z,16nm,1.7s
ELK Elko 94.65 50 LR LR 22 25 50.9
comp=Z,337nm,19.0s,baz=256,slow=33
YKA Yellowknife Ar 95.70 28 P **P** **21 47 33.0 -0.3**
comp=Z,0.4nm,0.7s,baz=272,slow=4.6,SNR=7.7
ARU Arti 96.88 326 P **P** **21 47 36.4 -2.4**
ARU 21 51 32.3
ARU S S 21 58 10.8 -48
ARU SS **SS** **22 05 30.7 -4.0**
LPIG La Paz 98.13 66 LR LR 22 27 33.2
comp=Z,198nm,18.7s,baz=257,slow=33
PDAR Pinedale Array 98.94 48 P Pdif 21 47 50.7 +2.0
comp=Z,0.1nm,0.3s,baz=282,slow=4.5,SNR=1.5
PDAR LR LR 22 28 01.2
comp=Z,348nm,19.1s,baz=301,slow=33
AKASG Malin Array Be 115.06 324 PKP **PKiKP** **21 52 48.3 -0.5**
comp=Z,1.2nm,0.6s,baz=65,slow=2.0,SNR=7.6
AKBB Malin Array Si 115.06 324 ||*i*PKIKP **PKiKP** **21 52 49.3 +0.5**
BRTR Keskin Array B 115.85 312 PKP **PKPdf** **21 52 52.5 +1.6**
comp=Z,0.4nm,0.7s,baz=106,slow=14,SNR=1.9
PLCA Paso Flores 119.22 143 PKP **PKPdf** **21 52 57.7 +0.4**
comp=Z,2.9nm,0.9s,baz=303,slow=3.9,SNR=3.5
PLCA Paso Flores 119.22 143 PKIKP **PKPdf** **21 52 57.2 -0.1**
PLCA Paso Flores 119.22 143 **PKPdf** **21 52 57.2 -0.1**
BOSA Boshof 119.59 233 PKP **PKPdf** **21 52 58.5 0.0**
comp=Z,2.1nm,0.7s,baz=114,slow=2.1,SNR=4.7
KRLC Kraliky 122.27 328 *e*PKIKP **PKPdf** **21 53 02.8 0.0**
KRLC Kraliky 122.27 328 *e*PKPDF **PKPdf** **21 53 02.8 0.0**
CHVC Chvalec 122.35 329 *e*PKPDF **PKPdf** **21 52 56.3 -6.6**
CLL Collm 123.41 331 *e*PKIKP **PKPdf** **21 53 02.0 -2.9**
CLL *e* 21 53 18.0
CLL Collm 123.41 331 *e*PKPdf **PKiKP** **21 53 06.0 +0.9**
CONA Conrad Observa 124.01 327 eP **PKPdf** **21 53 05.5 -0.8**
comp=Z,2.3nm,0.9s
FNA Florina 124.25 317 PKIKP **PKPdf** **21 53 06.7 -0.2**
FNA Florina 124.25 317 PKPdf **PKPdf** **21 53 06.7 -0.2**
CKRC Cesky Krumlov 124.32 328 *e*PKPDF **PKPdf** **21 53 07.0 +0.3**
KHC Kasperske Hory 124.50 329 *e*PKIKP **PKPdf** **21 53 07.3 +0.2**
KHC Kasperske Hory 124.50 329 *e*PKPDF **PKPdf** **21 53 07.3 +0.2**
GERES GERESS Array B 124.62 329 PKP **PKPdf** **21 53 07.6 +0.2**
comp=Z,2.4nm,0.8s,baz=72,slow=1.7,SNR=19
GERES GERESS Array B 124.62 329 PKIKP **PKPdf** **21 53 07.1 -0.3**
GERES GERESS Array B 124.62 329 **PKPdf** **21 53 07.1 -0.3**
SOKA Soboth 125.20 326 eP **PKPdf** **21 53 08.4 -0.2**
comp=Z,2.5nm,1.1s
ABTA Abfaltersbach 126.55 327 eP **PKPdf** **21 53 10.4 -0.7**
comp=Z,2.7nm,0.9s
WATA Walderalm 126.67 328 eP **PKPdf** **21 53 12.1 +0.6**
comp=Z,6.7nm,1.1s
WTTA Wattenberg 126.69 328 eP **PKPdf** **21 53 11.9 +0.3**
comp=Z,8.0nm,1.0s
STAL STALIGIAL 126.74 327 **PKPdf** **21 53 12.1 +0.7**
MOTA Moosalm 126.92 328 eP **PKPdf** **21 53 11.8 -0.1**
comp=Z,3.6nm,0.8s
SQTA Sankt Quirin 126.94 328 eP **PKiKP** **21 53 12.8 +0.4**
comp=Z,5.4nm,0.9s
RETA Reutte 127.00 329 eP **PKPdf** **21 53 11.8 -0.2**
comp=Z,4.2nm,1.2s
FETA Feichten 127.32 328 eP **PKPdf** **21 53 12.8 +0.1**
comp=Z,2.7nm,0.8s
DAVA Damuels 127.59 329 eP **PKPdf** **21 53 13.3 0.0**
comp=Z,2.5nm,0.9s
LPAZ La Paz 133.92 118 PKP **PKPdf** **21 53 26.5 -0.2**
comp=Z,3.8nm,0.8s,baz=230,slow=3.7,SNR=13
LPAZ La Paz 133.92 118 PKIKP **PKPdf** **21 53 25.9 -0.7**
LPAZ La Paz 133.92 118 PKPdf **PKPdf** **21 53 25.9 -0.7**
CPUP Villa Florida 136.90 138 PKP **PKPdf** **21 53 31.4 +0.1**
comp=Z,3.8nm,0.8s,baz=287,slow=2.9,SNR=7.0
ESDC Sonseca Array 139.99 332 PKP **PKPdf** **21 53 36.1 -0.5**
comp=Z,0.6nm,0.8s,baz=8.3,slow=2.3,SNR=2.9
PTLB Pontes e Lacer 142.00 123 PKPdf **PKPdf** **21 53 37.9 -2.8**
BDFB Brasilia 150.51 135 PKPbc **PKPbc** **21 54 00.5 -0.1**
comp=Z,28nm,0.8s,baz=185,slow=4.1,SNR=20
BDFB Brasilia 150.51 135 PKIKP **PKPdf** **21 53 54.9 -0.3**
BDFB 21 54 01.1
BDFB Brasilia 150.51 135 PKPdf **PKPdf** **21 53 54.9 -0.3**
BDFB PKPbc **PKPbc** **21 54 01.1 +0.5**
TORD Torodi Ar. Bea 150.75 288 PKPbc **PKPbc** **21 54 00.7 -0.3**
comp=Z,22nm,0.8s,baz=60,slow=2.2,SNR=100
TORD Torodi Ar. Bea 150.75 288 **PKPdf** **21 53 54.5 -0.9**
TORD PKPbc **PKPbc** **21 54 00.9 -0.2**

IDC 26 21:47:16.8±6.5, 19°.66S×176°.14W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/30, mbtmp4.0/2, Error ellipse: s-maj=304.4km s-min=100.5km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.41**	**256**	P	P	21 55 45.5	-0.1
	1.5nm,0.5s,baz=96,slow=8.0,SNR=25						
WRA	**Warramunga Arr**	**46.45**	**261**	P	P	21 55 45.6	-0.2
	1.1nm,0.6s,baz=96,slow=7.2,SNR=18						
AKASG	**Malin Array Be**	**143.09**	**333**	PKP	PKPdf	22 06 52.3	-0.3
	0.4nm,0.5s,baz=47,slow=4.1,SNR=5.9						

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*BJI **26** 21:59:46.5±0.0, 11°.39S×119°.93E, h35km, mb5.2/67, mB5.2/33, Ms4.7/9, Ms7 4.3/12*
*IDC **26** 21:59:52.5±0.4, 10°.22S×119°.48E, h0km, mb4.8/23, mb1 4.9/27, mb1mx4.7/37, mbtmp4.8/27, ML4.7/4, MS3.9/21, Ms1 3.9/21, ms1mx3.6/68, Error ellipse: s-maj=15.4km s-min=10.8km az=51.0*
*MOS **26** 21:59:53.7±0.9, 10°.16S×119°.50E, h21km, mb5.1/24, Error ellipse: s-maj=10.4km s-min=5.3km az=119.3*
*NEIC **26** 21:59:56.3±2.2, 10°.33S±0°.06×119°.42E±0°.06, h20km±3km, mb5.2/88, Error ellipse: s-maj=8.9km s-min=7.8km az=207.0*
*DJA **26** 21:59:58.2±0.2, 10°S±1°×11°9E±°, h41km±2km, M5.2/94, mb5.4/94, mB5.7/55, MLv5.3/25, Mw(mB)5.2/55, MwMwp5.8/2, Mwp5.9/2*
*GCMT **26** 21:59:59.3±0.3, 10°.31S±0°.02×119°.37E±0°.03, h58km±2km, MW4.9/52, Moment Tensor Solution. s35,c43; s52,c67; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.28±. 15; Mθθ0.46±.15; Mφφ1.83±.18; Mrθ0.85±.07; Mφφ1.39±.08; Mθφ0.98±.12; Best double couple: M0=2.80900×10^16 NP1:φs26.00000°, δ32.00000°, λ-99.00000°. NP2: φs217.00000°, δ59.00000°, λ-84.00000°. Principal axes: T 3.0070, Plg14.0000°, Azm303.0000°; N -0.3910, Plg5.0000°, Azm34.0000°; P -2.6110, Plg75.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 21:59:57.4±0.2, 10°.39S±0°.04×119°.42E±0°.03, h35km, n459, σ1§51/482, mb5.1/120, MS4.0/18, 13C-14D, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.74**	**358**	P	**Pn**	**22 00 14.1**	**+2.7**
WBSI				S	**Sn**	**22 00 25.2**	**+3.7**
BASI	**Baing, Sumba**	**1.15**	**82**	P	**Pn**	**22 00 18.9**	**+2.0**
BASI				S	**Sn**	**22 00 35.2**	**+3.7**
MMRI	**Maumere**	**3.28**	**58**	P	**Pn**	**22 00 48.0**	**+1.7**
MMRI	**Maumere**	**3.28**	**58**	Pn	**Pn**	**22 00 47.3**	**+1.0**
MMRI				Sn	**Sn**	**22 01 21.9**	**-2.1**
MMRI	**Maumere**	**3.28**	**58**	P	**Pn**	**22 00 48.2**	**+1.9**
BATI	**Baumata**	**4.18**	**88**	Pn	**Pn**	**22 01 00.6**	**+1.9**
	118nm,0.3s,baz=112,slow=4.8,SNR=145						
BATI				Sn	**Sn**	**22 01 45.2**	**-1.0**
	229nm,0.3s,baz=33,slow=22,SNR=20						
BATI	**Baumata**	**4.18**	**88**	P	**Pn**	**22 01 01.0**	**+2.3**
BATI				S	**Sn**	**22 01 46.9**	**+0.6**
BSSI	**Bau Bau, Buton**	**4.35**	**14**	P	**Pn**	**22 01 03.1**	**+2.1**
BSSI				S	**Sn**	**22 01 53.6**	**+3.1**
DNP	**Denpasar**	**4.49**	**292**	P	**Pn**	**22 01 05.1**	**+2.2**
DNP				S	**Sn**	**22 01 56.8**	**+2.8**
IGBI	**Denpasar**	**4.50**	**290**	P	**Pn**	**22 01 03.9**	**+0.8**
IGBI				S	**Sn**	**22 01 55.0**	**+0.8**
SRBI	**Singaraja**	**4.75**	**298**	P	**Pn**	**22 01 08.5**	**+2.0**
SRBI				S	**Sn**	**22 02 02.3**	**+2.0**
SOEI	**Soe**	**4.81**	**83**	P	**Pn**	**22 01 09.8**	**+2.3**
SOEI	**Soe**	**4.81**	**83**		**Pn**	**22 01 08.9**	**+1.4**
SOEI				Sn	**Sn**	**22 02 02.5**	**+0.4**
BKSI	**Bulukumba**	**5.08**	**8**	P	**Pn**	**22 01 13.8**	**+2.7**
	5.4nm12μm1μm,0.6s						
BKSI				S	**Sn**	**22 02 10.3**	**+1.7**
	5.4nm12μm1μm,0.6s						
KAPI	**Kappang**	**5.35**	**4**	Pn	**Pn**	**22 01 16.7**	**+1.9**
	19nm,0.3s,baz=196,slow=7.9,SNR=43						
KAPI				Sn	**Sn**	**22 02 15.8**	**+0.6**
	47nm,0.3s,baz=43,slow=22,SNR=12						
KAPI	**Kappang**	**5.35**	**4**	P	**Pn**	**22 01 16.7**	**+1.9**
KAPI						22 02 15.1	
KAPI	**Kappang**	**5.35**	**4**	P	**Pn**	**22 01 17.5**	**+2.8**
KAPI				S	**Sn**	**22 02 15.2**	**0.0**
KAPI	**Kappang**	**5.35**	**4**	Pn	**Pn**	**22 01 16.7**	**+1.9**
KAPI				Sn	**Sn**	**22 02 15.1**	**-0.1**
KAPI	**Kappang**	**5.35**	**4**	P	**Pn**	**22 01 18.2**	**+3.4**
JAGI	**Jajag, Banyuwa**	**5.54**	**290**	P	**Pn**	**22 01 17.1**	**-0.3**
	5.9nm25μm855nm,0.7s						
JAGI				S	**Sn**	**22 02 18.7**	**-1.2**
	5.9nm25μm855nm,0.7s						
JAGI	**Jajag, Banyuwa**	**5.54**	**290**	Pn	**Pn**	**22 01 16.9**	**-0.5**
ABJI	**Asem Bagus**	**5.74**	**296**	P	**Pn**	**22 01 21.9**	**+1.8**
	3.0nm9μm836nm,0.6s						
BBSI	**Bau Bau**	**5.78**	**33**	P	**Pn**	**22 01 23.4**	**+2.7**
	0.1nm350nm35nm,0.9s						
BNSI	**Bone**	**5.99**	**7**	P	**Pn**	**22 01 27.3**	**+3.8**
	1.8nm3μm360nm,0.8s						
BNSI				S	**Sn**	**22 02 37.6**	**+6.7**
	1.8nm3μm360nm,0.8s						
GMJI	**Gumukmas**	**6.26**	**289**	P	**Pn**	**22 01 27.1**	**-0.2**

2.2nm9μm373nm,0.6s
GMJI S **Sn** **22 02 37.0 -0.8**
2.2nm9μm373nm,0.6s
BLJI Banyuglugur 6.33 294 P **Pn** **22 01 29.2 +1.0**
1.7nm8μm421nm,0.6s
BLJI S **Sn** **22 02 40.9 +1.6**
1.7nm8μm421nm,0.6s
KMMI Kalianget 6.33 301 P **Pn** **22 01 30.9 +2.6**
0.7nm2μm211nm,0.8s
SPSI Sidrap Palu 6.39 3 P **Pn** **22 01 33.2 +4.1**
0.7nm2μm125nm,0.6s
TTSI Tana Toraja 7.31 3 P **Pn** **22 01 44.3 +2.6**
0.6nm2μm207nm,0.9s
KBKI Kotabaru 7.75 335 P **Pn** **22 01 50.2 +2.5**
0.4nm104nm,0.6s
BWJI Bawean 8.07 303 P **Pn** **22 01 55.3 +3.1**
5μm589nm,0.7s
BBKI Banjar Baru 8.25 326 P **Pn** **22 01 59.0 +4.4**
3μm285nm,1.2s
PCJI Pacitan 8.43 284 P **Pn** **22 01 56.9 -0.1**
7μm541nm,0.5s
UGM Wanagama 9.13 285 P **Pn** **22 02 06.3 -0.4**
7μm479nm,0.5s
UGM Wanagama 9.13 285 Pn **Pn** **22 02 06.3 -0.4**
UGM Wanagama 9.13 285 P **Pn** **22 02 07.9 +1.2**
UWJI Ujung Watu 9.27 295 P **Pn** **22 02 09.5 +0.9**
3μm198nm,0.9s
YOGI Yogyakarta 9.37 285 P **Pn** **22 02 09.3 -0.7**
3μm198nm,0.7s
SMRI Semarang 9.48 290 P **Pn** **22 02 11.3 -0.2**
6μm679nm,0.7s
SMRI Semarang 9.48 290 Pn **Pn** **22 02 13.0 +1.4**
SMRI Semarang 9.48 290 P **Pn** **22 02 14.3 +2.8**
APSI Ampana 9.67 13 P **Pn** **22 02 18.1 +4.0**
58nm,0.9s
FITZ Fitzroy Crossi 9.75 143 Pn **Pn** **22 02 15.3 +0.2**
5.1nm,0.3s,baz=328,slow=10,SNR=152
FITZ Sn **Sn** **22 03 55.4 -8.1**
22nm,0.3s,baz=184,slow=22,SNR=12
FITZ LR LR 22 06 41.4
comp=Z,455nm,18.5s,baz=320,slow=42
SMKI Samarinda 10.12 347 P Pn 22 02 26.0 +5.7
195nm,1.1s
MTKI Muara Teweh, K 10.41 334 P **Pn** **22 02 26.1 +1.9**
176nm,0.9s
KNRA Kununurra 10.51 121 Pn **Pn** **22 02 25.3 -0.3**
KNRA Kununurra 10.51 121 P **Pn** **22 02 25.9 +0.3**
MPSI Mapaga 10.67 3 P **Pn** **22 02 30.9 +3.1**
15nm,0.9s
MBWA Marble Bar 10.71 178 P **Pn** **22 02 28.2 -0.1**
MBWA Marble Bar 10.71 178 Pn **Pn** **22 02 27.9 -0.4**
MBWA Marble Bar 10.71 178 P **Pn** **22 02 28.3 -0.1**
PBKI Pangkalan Bun 10.84 314 P **Pn** **22 02 34.3 +4.1**
2μm205nm,0.9s
MRSI Marisa 11.08 13 P **Pn** **22 02 36.6 +3.2**
57nm,1.1s
CMJI Cimerak 11.14 283 P **Pn** **22 02 30.5 -3.8**
2μm118nm,0.9s
TOLI2 Tolitoli 11.50 7 Pn **Pn** **22 02 40.6 +1.3**
TOLI2 Tolitoli 11.50 7 P **Pn** **22 02 42.5 +3.3**
MTN Manton Dam 11.73 103 Pn **Pn** **22 02 40.4 -1.9**
MTN Manton Dam 11.73 103 P **Pn** **22 02 40.5 -1.8**
LEM Lembang 12.20 286 Pn **Pn** **22 02 49.3 +0.4**
17nm,0.3s,baz=94,slow=18,SNR=22
LEM Sn **Sn** **22 05 04.0 +0.1**
9.2nm,0.3s,baz=274,slow=23,SNR=1.5
LEM LR LR 22 08 02.0
comp=Z,486nm,21.1s,baz=100,slow=40
LEM Lembang 12.20 286 P **Pn** **22 02 48.5 -0.4**
1μm133nm,0.7s
CNJI Cibinong 12.53 283 P **Pn** **22 02 51.7 -1.5**
3μm281nm,0.7s
KDU Kakadu 12.99 101 P **Pn** **22 02 58.4 -1.1**
STKI Sintang 13.05 322 P **Pn** **22 03 05.1 +4.7**
136nm,1.5s
DBJI Dramaga 13.10 286 P **Pn** **22 03 00.7 -0.4**
19μm307nm,0.7s
SKJI Sukabumi 13.16 284 P **Pn** **22 03 01.0 -0.8**
2μm204nm,0.6s
GIRL Giralia 13.16 202 **Pn** **22 03 01.9 +0.1**
XMIS Christmas Isla 13.55 268 **Pn** **22 03 04.4 -2.8**
TNTI Ternate 13.62 36 Pn **Pn** **22 03 07.5 -0.7**
SBJI Serang 13.82 287 P **Pn** **22 03 10.6 -0.3**
2μm242nm,0.9s
TPI Tanjungpandan 13.93 302 P **Pn** **22 03 13.0 +0.6**
CGJI Cibinong 14.09 284 P **Pn** **22 03 12.1 -2.5**
3μm259nm,0.5s
SBUM Sibu 14.63 330 Pn **Pn** **22 03 23.2 +1.2**
FAKI Fak Fak 14.73 61 Pn **Pn** **22 03 21.9 -1.5**
KSM Kuching 14.87 322 **Pn** **22 03 26.3 +1.1**
KSM Kuching 14.87 322 P **Pn** **22 03 29.4 -1.1**
BLSI Bandar Lampung 14.90 288 P **Pn** **22 03 24.7 -0.9**
216nm,0.8s
SWI Sorong 15.10 52 P **P** **22 03 31.3 -1.7**
62nm,0.9s
SIJI Sorong 15.10 52 Pn **Pn** **22 03 26.3 -2.0**
0.7nm,0.3s,baz=265,slow=22,SNR=1.6
SIJI Sn **Sn** **22 06 12.2 -2.3**
0.3nm,0.3s,baz=220,slow=22,SNR=1.5
KLI Kotabumi 15.44 290 P **Pn** **22 03 31.6 -1.1**
10μm1μm,0.8s
MYLDM Lahad Datu 15.49 357 P **P** **22 03 36.4 -1.0**
PPBI Pangkal Pinang 15.52 301 P **Pn** **22 03 34.0 +0.2**
7μm3μm41nm,1.1s
KASI Kota Agung 15.55 287 P **Pn** **22 03 31.8 -2.3**
7μm697nm,0.6s
KLSI 15.62 290 P **Pn** **22 03 33.7 -1.4**
3μm317nm,1.1s
LWLI Liwa 16.13 288 P **Pn** **22 03 39.8 -1.9**
101μm943nm,0.6s
MEEK Meekatharra 16.18 183 P **Pn** **22 03 41.5 -0.7**
MDSI Maura Dua 16.21 290 P **Pn** **22 03 41.6 -1.0**
706nm54nm,1.0s
PMBI Palembang 16.32 296 **P** **22 03 46.2 -0.5**
PMBI IAmb IAmb 22 03 51.5
comp=Z,177nm,0.8s
PMBI Palembang 16.32 296 P **P** **22 03 49.2 +2.5**
KKM Kota Kinabalu 16.64 349 P **Pn** **22 03 49.1 +1.0**
KKM IAmb IAmb 22 03 51.4
comp=Z,160nm,0.7s
KKM Kota Kinabalu 16.64 349 P **P** **22 03 50.9 +0.7**
WRKA Warakurna 16.83 151 P **Pn** **22 03 49.8 -0.6**
LHSI Lahat 17.07 291 P **Pn** **22 03 53.9 +0.5**
comp=Z,9μmcomp=Z,1μm,0.9s
WRA Warramunga Arr 17.23 125 P **Pn** **22 03 52.6 -2.9**
comp=Z,1.7nm,0.3s,baz=300,slow=13,SNR=73
WRA S Sn 22 06 53.6 -13
comp=Z,3.8nm,0.3s,baz=301,slow=26,SNR=7.6
WRA LR LR 22 10 45.8
comp=Z,701nm,21.9s,baz=276,slow=38
WRAB Tennant Creek 17.24 125 *c iP* **Pn** **22 03 52.3 -3.2**
WRAB pmax pmax
comp=Z,62nm,1.7s
WRAB Tennant Creek 17.24 125 P **Pn** **22 03 53.5 -2.0**
MNAI Manna 17.39 289 P **Pn** **22 03 55.3 -2.1**
comp=Z,11μmcomp=Z,1μm,1.0s
MNAI Manna 17.39 289 Pn **Pn** **22 03 54.9 -2.5**
DSRI Dabo 17.74 303 P **P** **22 04 03.3 +0.9**
comp=Z,757nmcomp=Z,104nm,0.8s
JMBI JAMBI 17.93 298 P **P** **22 04 04.9 +0.4**
comp=Z,166nm,0.7s
DAV Davao City (W) 18.39 20 LR LR 22 13 07.8
comp=Z,123nm,19.4s,baz=186,slow=44
MASI Maura Aman, Be 18.51 292 P **P** **22 04 10.3 -0.6**
comp=Z,10μmcomp=Z,1μm,1.0s
TPRI Tanjung Pinang 18.60 306 P **Pn** **22 04 13.2 +0.9**
comp=Z,125nm,0.6s
MORW Morawa 18.85 189 P **Pn** **22 04 15.2 0.0**
MORW Morawa 18.85 189 P **Pn** **22 04 16.1 +0.9**
ASAR Alice Springs 19.11 136 P **Pn** **22 04 18.4 -0.1**
comp=Z,2.2nm,0.3s,baz=319,slow=12,SNR=159
ASAR S Sn 22 07 40.5 -11
comp=Z,1.6nm,0.3s,baz=303,slow=22,SNR=11
ASAR LR LR 22 12 36.1
comp=Z,209nm,19.1s,baz=298,slow=40
ASAR Alice Springs 19.11 136 P **P** **22 04 17.9 +0.5**
AS31 Alice Springs 19.11 136 P **P** **22 04 17.8 +0.4**
KRJI Kerinci 19.65 294 P **Pn** **22 04 24.7 -0.3**
comp=Z,24μmcomp=Z,3μm,0.7s
MYKOM Kota Tinggi 19.66 307 P **P** **22 04 23.0 -0.4**
BLDU Ballidu 20.28 187 P Pn 22 04 31.7 -0.6
PPSI Pulau Pagai 20.71 290 P **P** **22 04 36.0 +1.2**
comp=Z,8μmcomp=Z,898nm,0.8s
BKNI Bangkinang 21.16 299 P **P** **22 04 41.1 +1.4**
comp=Z,3μmcomp=Z,287nm,0.7s
BKNI Bangkinang 21.16 299 P **P** **22 04 39.7 -0.1**
BKNI Bangkinang 21.16 299 P **P** **22 04 41.1 +1.4**
comp=Z,290nm,0.7s
PPI Padang Panjang 21.34 296 P **P** **22 04 40.1 -1.5**
comp=Z,105nm,1.1s
FORT Forrest 21.82 160 P **P** **22 04 46.3 -0.4**
FORT IAmb IAmb 22 04 50.1
comp=Z,95nm,1.1s
FORT Forrest 21.82 160 P **P** **22 04 47.6 +0.9**
QIS Mount Isa 21.89 120 P **P** **22 04 48.6 +1.0**
SISI Saibi 22.12 293 P **P** **22 04 52.0 +1.9**
comp=Z,104nm,0.7s
NWAO Narrogin (SRO) 22.52 185 P **P** **22 04 54.3 +0.1**
NWAO pmax pmax
comp=Z,65nm,1.1s
NWAO Narrogin (SRO) 22.52 185 P **P** **22 04 54.8 +0.6**
NWAO Narrogin (SRO) 22.52 185 P **P** **22 04 54.3 +0.1**
NWAO IAmb IAmb 22 04 56.4
comp=Z,65nm,1.1s
NWAO Narrogin (SRO) 22.52 185 P **P** **22 04 55.0 +0.8**
JAY Jayapura 22.53 71 P **P** **22 04 55.0 +0.5**
comp=Z,17nm,0.8s,baz=223,slow=14,SNR=4.0
JAY Jayapura 22.53 71 P **P** **22 04 56.8 +2.3**
MNSI Mandailing Nat 22.66 298 P **P** **22 04 53.2 -2.6**
comp=Z,58nm,1.1s
OOD Oodnadatta 23.10 141 P **P** **22 05 00.3 0.0**
COEN Coen 23.48 101 P **P** **22 05 03.5 -0.7**
COEN Coen 23.48 101 P **P** **22 05 03.8 -0.4**
IPM Ipoh 23.54 308 P **P** **22 05 04.5 -0.2**
IPM Ipoh 23.54 308 P **P** **22 05 08.6 +3.9**
MULG Mulgathing 24.03 148 P **P** **22 05 09.9 +0.7**
RKGY Rocky Gully 24.21 185 P **P** **22 05 12.8 +2.0**
PSI Prapat 24.25 302 P **P** **22 05 11.1 -0.5**
comp=Z,45nm,0.8s,baz=142,slow=8.1,SNR=24
PSI LR LR 22 16 16.9
comp=Z,243nm,19.6s,baz=138,slow=41
KULM Kulim 24.34 309 P **P** **22 05 11.2 -0.9**
KULM IAmb IAmb 22 05 28.1
comp=Z,117nm,1.9s
TGY Tagaytay City 24.38 4 P **P** **22 05 12.4 -0.1**
comp=Z,306nm,0.6s,baz=240,slow=2.9,SNR=6.7
GSI Gunungsitoli 24.65 297 P **P** **22 05 15.3 +0.3**
comp=Z,3μmcomp=Z,66nm,0.7s
GSI Gunungsitoli 24.65 297 P **P** **22 05 14.8 -0.2**
GSI IAmb IAmb 22 05 21.6
comp=Z,42nm,0.7s
GSI Gunungsitoli 24.65 297 P **P** **22 05 18.4 +3.4**
DLV T Lat 24.70 334 P **P** **22 05 15.7 0.0**
DLV IAmb IAmb 22 05 46.7
comp=Z,77nm,1.2s
DLV T Lat 24.70 334 P **P** **22 05 19.6 +3.9**
TSI Tuntungan 24.94 303 P **P** **22 05 18.0 +0.4**
comp=Z,6μmcomp=Z,716nm,0.8s
MTSU Mount Surprise 25.30 111 P **P** **22 05 22.5 +1.6**
KCSI Kotacane, Aceh 25.61 302 P **P** **22 05 23.5 -0.2**
comp=Z,93nm,0.9s
INKA Innamka 26.46 134 P **P** **22 05 33.0 +1.8**
LCRK Leigh Creek 26.54 141 P **P** **22 05 32.5 +0.6**
BBOO Buckleboo 27.07 148 P **P** **22 05 36.8 +0.1**
BBOO Buckleboo 27.07 148 P **P** **22 05 37.1 +0.3**
PMG Port Moresby 27.34 90 P **P** **22 05 39.4 +0.1**
comp=Z,8.8nm,0.4s,baz=288,slow=3.8,SNR=4.1
CTA Charters Tower 27.59 114 P **P** **22 05 42.1 +0.5**
comp=Z,9.3nm,0.8s,baz=279,slow=10,SNR=10
CTA PcP **PcP** **22 08 59.7 +0.9**
comp=Z,10nm,0.9s,baz=238,slow=4.5,SNR=5.1
CTA Charters Tower 27.59 114 P **P** **22 05 42.5 +1.0**
CTAO Charters Tower 27.59 114 P **P** **22 05 41.9 +0.4**
CTAO pmax pmax
comp=Z,27nm,1.3s
CTAO Charters Tower 27.59 114 P **P** **22 05 41.9 +0.4**
CTAO Charters Tower 27.59 114 P **P** **22 05 42.6 +1.0**
QLP Quilpie 28.43 128 P **P** **22 05 50.3 +1.4**
comp=Z,40nm,0.9s
MANU Manus Island 28.96 75 P **P** **22 05 54.4 +0.5**
UBPT Khong Chiam 29.01 331 P **P** **22 05 54.2 +0.1**
UBPT IAmb IAmb 22 05 56.2
comp=Z,23nm,0.7s
STKA Stephens Creek 29.63 139 P **P** **22 06 00.1 +0.5**
comp=Z,12nm,0.8s,baz=308,slow=9.7,SNR=26
STKA PcP **PcP** **22 09 04.2 +0.4**
comp=Z,9.3nm,0.7s,baz=345,slow=4.0,SNR=5.1
STKA Stephens Creek 29.63 139 P **P** **22 05 59.9 +0.4**
STKA Stephens Creek 29.63 139 P **P** **22 06 00.3 +0.8**
QIZ Qiongzhong 30.72 342 P **P** **22 06 09.4 +0.1**
RMQ Roma 31.99 124 P **P** **22 06 22.4 +1.9**
CMSA Cobar Meteorol 32.16 135 P **P** **22 06 23.5 +1.6**
ARPS Mount Arapiles 33.17 146 P **P** **22 06 32.3 +1.7**
TPUB Ta-pu 33.50 2 P **P** **22 06 34.4 +0.7**
SSLB Suanglung 34.00 3 P **P** **22 06 36.5 -1.5**
SLVN Son La 35.02 334 P **P** **22 06 47.0 +0.2**
SLVN IAmb IAmb 22 06 48.5
comp=Z,15nm,0.7s
CM31 Chiang Mai Arr 35.07 325 P **P** **22 06 47.1 -0.3**
CMAR Chiang Mai Arr 35.07 325 P **P** **22 06 47.9 +0.5**
comp=Z,7.3nm,0.5s,baz=151,slow=7.0,SNR=38
CMAR PcP **PcP** **22 09 20.3 +1.5**
comp=Z,0.8nm,0.3s,baz=159,slow=2.8,SNR=1.7
CMAR LR LR 22 22 21.6
comp=Z,279nm,20.7s,baz=130,slow=39
CMAR Chiang Mai Arr 35.07 325 P **P** **22 06 47.1 -0.2**
CHTO Chiang Mai 35.36 325 P **P** **22 06 49.7 -0.1**
CHTO pmax pmax
comp=Z,28nm,1.0s
CHTO Chiang Mai 35.36 325 P **P** **22 06 50.4 +0.6**
CHTO P **P** **22 06 50.4 +0.6**
CHTO Chiang Mai 35.36 325 P **P** **22 06 49.7 -0.1**
CHTO IAmb IAmb 22 06 54.2
comp=Z,28nm,1.0s
TOO Toolangi 35.81 143 P **P** **22 06 55.2 +1.6**
TOO pmax pmax
comp=Z,29nm,0.8s
TOO Toolangi 35.81 143 P **P** **22 06 55.2 +1.6**
TOO IAmb IAmb 22 06 56.6
comp=Z,29nm,0.8s
TOO Toolangi 35.81 143 P **P** **22 06 55.9 +2.3**
ARMA Armidale 35.97 128 P **P** **22 06 56.7 +1.6**
ARMA IAmb IAmb 22 06 58.3
comp=Z,15nm,0.7s
ARMA Armidale 35.97 128 P **P** **22 06 57.5 +2.4**
CAN Canberra 36.60 137 P **P** **22 07 01.5 +1.1**
CAN pmax pmax
comp=Z,16nm,0.8s
CAN Canberra 36.60 137 P **P** **22 07 01.5 +1.1**
GYA Guiyang 38.67 342 *iP* **P** **22 07 17.8 -0.2**
GYA pP sP 22 07 32.0 +0.6
GYA pmax pmax
comp=Z,60nm,0.7s
KMI Kunming 38.87 335 ⇑P **P** **22 07 20.8 +1.0**
KMI pmax pmax
comp=Z,24nm,1.0s
PZH PanZhiHua 40.50 335 P **P** **22 07 33.0 -0.2**
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,300nm,10.0s
WHN Wuhan 40.99 353 ⇓P **P** **22 07 37.5 +0.5**
WHN pmax pmax
comp=Z,78nm,1.0s
ENH Enshi 41.54 347 P **P** **22 07 41.0 -0.6**
NJ2 Nanjing 42.20 359 ⇓*iP* **P** **22 07 47.0 +0.1**
NJ2 pP **pwP** **22 07 58.3 -1.0**
NJ2 pmax pmax
comp=Z,30nm,0.7s
PALK Pallekele 42.36 293 LR LR 22 25 04.3
comp=Z,115nm,21.9s,baz=225,slow=36
PALK Pallekele 42.36 293 P **P** **22 07 48.8 +0.2**
PALK pmax pmax
comp=Z,44nm,1.1s
PALK Pallekele 42.36 293 P **P** **22 07 48.9 +0.3**
PALK P **P** **22 07 48.9 +0.3**
PALK Pallekele 42.36 293 P **P** **22 07 48.8 +0.2**
PALK IAmb IAmb 22 07 50.1
comp=Z,44nm,1.1s
CD2 Chengdu 43.73 340 P **P** **22 07 59.0 -0.4**
SHL Shillong 44.68 324 P **P** **22 08 06.4 -0.9**
SHL pmax pmax
comp=Z,79nm,0.8s
SHL Shillong 44.68 324 P **P** **22 08 07.1 -0.3**
SHL Shillong 44.68 324 P **P** **22 08 06.4 -0.9**
CHLP Challavanipeta 45.19 309 *eP* **P** **22 08 11.5 +0.3**
XAN Xi'an 45.30 348 P **P** **22 08 10.8 -1.1**
XAN pP pP 22 08 20.3 -1.3
XAN pmax pmax
comp=Z,120nm,0.8s
XAN LR LR
comp=Z,300nm,19.9s
XAN LR LR
comp=Z,240nm,15.8s
XAN LR LR
comp=Z,220nm,20.6s
SKHT Srikalahasti 46.12 301 *eP* **P** **22 08 18.1 -0.6**
PVM Polavaram 46.37 306 *eP* **P** **22 08 20.2 -0.3**
H08S2 Diego Garcia H 46.40 269 T T 22 58 15.1
baz=96,slow=76,SNR=56
H08S3 Diego Garcia H 46.41 269 T T 22 58 08.0
baz=96,slow=76,SNR=60
H08S1 Diego Carcia H 46.42 269 T T 22 58 13.8
baz=96,slow=76,SNR=62
MYLAV Mylavaram 46.89 305 *eP* **P** **22 08 24.6 -0.1**
ADKI Addanki 46.96 303 *eP* **P** **22 08 25.2 0.0**
JHS Saijyo 46.97 15 P **P** **22 08 25.4 +0.4**
HNS HongShan 47.74 355 ⇓P **P** **22 08 29.8 -1.1**
HNS pmax pmax
comp=Z,12nm,1.3s
NJS Nagarjunasagar 47.87 304 *eP* **P** **22 08 32.4 +0.1**
SRLM Srisailam 47.98 303 *eP* **P** **22 08 33.1 -0.1**
KSAR Wonju Array Be 48.23 9 P **P** **22 08 34.1 -0.7**
KSAR Wonju Array Be 48.23 9 P **P** **22 08 34.1 -0.7**
KSRS Korea Array 48.25 9 P **P** **22 08 34.0 -0.8**
comp=Z,6.4nm,0.8s,baz=184,slow=8.3,SNR=18
KSRS LR LR 22 28 48.6
comp=Z,37nm,21.3s,baz=190,slow=36
LZH Lanzhou 48.51 343 *eP* **P** **22 08 37.0 -0.1**
LZH pP sP 22 08 51.0 +0.2
LZH sP pwP 22 08 55.3 +5.7
LZH pmax pmax
comp=Z,58nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.4s
URV Uravakonda 48.78 300 *eP* **P** **22 08 38.8 -0.6**
HYBB Hyderabad (bro 48.93 304 *eP* **P** **22 08 40.4 -0.1**
HYBB *ep*P **pP** **22 08 46.5 -3.6**
RPR Rampur 49.10 306 *eP* **P** **22 08 41.6 -0.1**
SRSP Sriramsagar 49.89 306 *eP* **P** **22 08 47.5 -0.3**
MAJO Matsushiro 49.92 20⇑*eP* **P** **22 08 45.4 -2.3**
MAJO pmax pmax
comp=Z,19nm,1.1s
MAT Matsushiro 49.92 20 P **P** **22 08 45.7 -2.0**
MJAR Matsushiro Arr 49.92 20 P **P** **22 08 45.8 -1.9**
comp=Z,12nm,0.9s,baz=194,slow=7.4,SNR=14
GUN Gumba 50.04 320 *eP* **P** **22 08 48.5 -0.7**
comp=Z,173nm,0.8s
PKI Pulchoki 50.10 320 *eP* **P** **22 08 48.5 -1.2**
comp=Z,70nm,0.9s
PKIN Phulchoki 50.11 320 *eP* **P** **22 08 48.5 -1.2**
comp=Z,34nm,0.5s
BJT Baijiatuau 50.24 357 P **P** **22 08 48.9 -1.2**
BJT pmax pmax
comp=Z,29nm,0.7s
BJT Baijiatuau 50.24 357 P **P** **22 08 48.9 -1.2**
BJT IAmb IAmb 22 08 49.8
comp=Z,29nm,0.7s
BJI Beijing 50.26 357 P **P** **22 08 49.0 -1.2**
BJI sP **pP** **22 09 00.8 +0.8**
BJI pmax pmax
comp=Z,40nm,0.7s
DMN Daman 50.32 319 *eP* **P** **22 08 50.5 -0.7**
comp=Z,129nm,0.9s
KKN Kakani 50.34 320 *eP* **P** **22 08 50.4 -0.9**
KLRI Killari 50.86 304 *eP* **P** **22 08 54.8 -0.4**
GKN Gorkha 50.89 319 *eP* **P** **22 08 54.5 -0.9**
comp=Z,106nm,0.9s
KOLN Koldanda 51.41 318 *eP* **P** **22 08 58.4 -0.9**
comp=Z,128nm,0.9s
HHC Hu-ho-hao-te 51.49 352 *eP* **P** **22 08 58.0 -1.6**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,170nm,6.0s
DANN Dangsing 51.69 319 *eP* **P** **22 09 00.8 -0.8**
comp=Z,209nm,0.8s
GOMU GeErMu 51.82 335 P **P** **22 09 01.5 -1.0**
GOMU pmax pmax
comp=Z,13nm,0.9s
GOMU pmax pmax
comp=Z,74nm,4.8s
PYUN Piuthan 52.02 318 *eP* **P** **22 09 03.0 -1.0**
comp=Z,130nm,0.9s
GTA Gaotai 52.79 341 ⇑P **P** **22 09 09.3 -0.1**
GTA pP pP 22 09 19.3 +0.4
GTA sP pwP 22 09 24.0 +0.9
GTA pmax pmax
comp=Z,19nm,1.1s
POO Poona 53.36 302 *eP* **P** **22 09 10.0 -3.8**
XLT XiLinHaoTe 54.11 357⇑*iP* **P** **22 09 17.8 -1.1**
XLT sP sP 22 09 34.3 +1.6
XLT pmax pmax
comp=Z,51nm,0.8s
XLT pmax pmax
comp=Z,400nm,6.5s
MLZ Mavora Lakes 54.21 139 P **P** **22 09 20.4 +0.8**
MLZ IAmb IAmb 22 09 21.8
comp=Z,26nm,0.9s
CN2 Changchun 54.21 5 *eP* **P** **22 09 16.8 -2.7**
CN2 *es*P sP 22 09 34.8 +1.5
CN2 *eS* **S** **22 16 50.0 -4.3**
CN2 sS sS 22 17 11.5 +0.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,300nm,8.0s
CN2 LR LR
comp=Z,200nm,10.0s
MDJ Mudanjiang 55.52 9 P **P** **22 09 27.5 -1.4**
MDJ pmax pmax
comp=Z,39nm,0.8s
MDJ pmax pmax
comp=Z,160nm,5.9s
MDJ Mudanjiang 55.52 9 P **P** **22 09 28.1 -0.8**
MDJ IAmb IAmb 22 09 28.8
comp=Z,26nm,0.7s
RPZ Rata Peaks 55.52 136 P **P** **22 09 27.9 -1.1**
USA0B Ussuriysk Arra 55.52 11 P **P** **22 09 27.8 -1.1**
USA0B pmax pmax
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 55.52 11 P **P** **22 09 27.8 -1.1**
USRK Ussuriysk Ar. 55.52 11 P **P** **22 09 27.4 -1.5**
comp=Z,9.2nm,0.7s,baz=192,slow=6.8,SNR=15
USRK Ussuriysk Ar. 55.52 11 P **P** **22 09 27.8 -1.2**
CASY Casey 56.15 184 P **P** **22 09 33.6 +0.4**
THZ Tophouse 56.16 134 P **P** **22 09 34.7 +0.9**
THZ IAmb IAmb 22 09 35.4
comp=Z,26nm,0.7s
BNX BinXian 56.33 7 ⇑P **P** **22 09 38.3 +3.6**
BNX pmax pmax
comp=Z,6.0nm,0.4s
BNX pmax pmax
comp=Z,180nm,5.9s
MSVF Nonsavu 57.15 104 P **P** **22 09 42.0 +0.8**
comp=Z,3.5nm,0.5s,baz=277,slow=12,SNR=9.4
MSVF Nonsavu 57.15 104⇓*eP* **P** **22 09 42.5 +1.3**
MSVF pmax pmax
comp=Z,63nm,4.3s
MSVF Nonsavu 57.15 104 P **P** **22 09 42.6 +1.3**
ASAJ Asahikawa 58.19 19 P **P** **22 09 46.7 -1.2**
comp=Z,4.1nm,0.4s,baz=148,slow=9.5
URZ Urewera 58.37 129 P **P** **22 09 48.9 -0.5**
comp=Z,5.6nm,0.6s,baz=247,slow=7.7,SNR=2.3
URZ LR LR 22 34 35.6
comp=Z,158nm,20.2s,baz=326,slow=36
ULN Ulaanbaatar 59.03 350 *c iP* **P** **22 09 53.0 -0.9**
ULN pmax pmax
comp=Z,25nm,1.7s
ULN Ulaanbaatar 59.03 350 P **P** **22 09 53.4 -0.4**
ULN Ulaanbaatar 59.03 350 P **P** **22 09 53.3 -0.6**
ULN IAmb IAmb 22 09 54.4
comp=Z,21nm,1.3s
SONM Songino Array 59.11 350 P **P** **22 09 53.6 -0.8**
comp=Z,13nm,0.5s,baz=167,slow=8.1,SNR=83
SONM Songino Array 59.11 350 P **P** **22 09 53.8 -0.6**
SONM pmax pmax
comp=Z,14nm,0.6s
SONM Songino Array 59.11 350 P **P** **22 09 53.8 -0.6**
SONM IAmb IAmb 22 09 55.4
comp=Z,14nm,0.6s
KLR Kul'dur 60.34 9 LR LR 22 39 13.6
comp=Z,59nm,18.6s,baz=204,slow=39

KLR	**Kul'dur**	**60.34**	**9**	*iP*	**P**	**22 10 00.9**	**-1.8**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WMQ	**Urumqi**	**61.18 334**		*e*P	**P**	**22 10 08.8**	**+0.2**
WMQ				pP	sP	22 10 20.5	-1.5
WMQ				sP	pwP	22 10 25.5	+3.1
WMQ				pmax	pmax		
	comp=Z,38nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.5s						
NIL	**Nilore**	**62.00 317**		P	**P**	**22 10 13.1**	**-1.2**
NIL				pmax	pmax		
	comp=Z,34nm,0.6s						
NIL	**Nilore**	**62.00 317**		P	**P**	**22 10 13.2**	**-1.2**
NIL				P	**P**	**22 10 13.2**	**-1.2**
NIL	**Nilore**	**62.00 317**		P	**P**	**22 10 13.1**	**-1.2**
ZAK	**Zakamensk**	**62.13 348**		*e*P	**P**	**22 10 13.6**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MOY	**Mondy**	**63.82 347**		*e*P	**P**	**22 10 25.1**	**-1.1**
KSH	**Kashi**	**63.96 324**		P	**P**	**22 10 26.8**	**-0.6**
KSH				pP	pP	22 10 38.0	+0.9
KSH				pmax	pmax		
	comp=Z,60nm,0.9s						
ZEA	**Zeya**	**64.22**	**5**	*e*P	**P**	**22 10 27.6**	**-1.0**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TARG	**Taragay, Kyrgy**	**64.42 327**		P	**P**	**22 10 30.3**	**-0.4**
TARG				IAmb	IAmb	22 10 40.0	
	comp=Z,17nm,0.9s						
PRZ	**Przheval'sk**	**64.63 327**		P	**P**	**22 10 31.5**	**-0.2**
PRZ				pmax	pmax		
	comp=Z,31nm,1.1s						
PRZ	**Przheval'sk**	**64.63 327**		P	**P**	**22 10 31.5**	**-0.2**
PRZ				IAmb	IAmb	22 10 33.5	
	comp=Z,31nm,1.1s						
UZB	**Uzynbulak**	**64.77 328**		*e*P	**P**	**22 10 31.5**	**-1.1**
UZB				pmax	pmax		
	comp=Z,12nm,1.0s						
UZB	**Uzynbulak**	**64.77 328**		*e*P	**P**	**22 10 31.5**	**-1.1**
	comp=Z,12nm,1.0s,baz=328						
SATY	**Saty**	**65.03 328**		*e*P	**P**	**22 10 33.2**	**-1.0**
SATY				pmax	pmax		
	comp=Z,14nm,1.0s						
SATY	**Saty**	**65.03 328**		*e*P	**P**	**22 10 33.2**	**-1.0**
	comp=Z,14nm,1.0s,baz=328						
KDJ	**Kajisay**	**65.04 327**		P	**P**	**22 10 33.9**	**-0.5**
KDJ	**Kajisay**	**65.04 327**		P	**P**	**22 10 33.9**	**-0.5**
ZHN	**Zhinishke**	**65.09 328**		*e*P	**P**	**22 10 33.5**	**-1.1**
ZHN	**Zhinishke**	**65.09 328**		*e*P	**P**	**22 10 33.5**	**-1.1**
	baz=328						
ZSN	**Zaisan**	**65.27 335**		*e*P	**P**	**22 10 34.3**	**-1.3**
ZSN	**Zaisan**	**65.27 335**		*e*P	**P**	**22 10 34.3**	**-1.3**
	baz=335						
KBL	**Kabul**	**65.37 316**		P	**P**	**22 10 35.9**	**-0.9**
KBL				pmax	pmax		
	comp=Z,42nm,0.7s						
KBL	**Kabul**	**65.37 316**		P	**P**	**22 10 35.7**	**-1.1**
KBL				P	**P**	**22 10 35.7**	**-1.1**
KBL	**Kabul**	**65.37 316**		P	**P**	**22 10 35.9**	**-0.9**
MDOK	**Medeo**	**65.82 327**		*e*P	**P**	**22 10 38.3**	**-1.1**
MDOK	**Medeo**	**65.82 327**		*e*P	**P**	**22 10 38.3**	**-1.1**
	baz=327						
MK31	**Makanchi Array**	**65.88 333**		*ce*P	**P**	**22 10 38.8**	**-0.7**
MK31	**Makanchi Array**	**65.88 333**		P	**P**	**22 10 38.8**	**-0.7**
MKAR	**Makanchi Array**	**65.88 333**		P	**P**	**22 10 38.9**	**-0.6**
	comp=Z,25nm,0.6s,baz=146,slow=7.3,SNR=191						
AAA	**Alma-Ata**	**65.92 327**		*e*P	**P**	**22 10 38.8**	**-1.1**
AAA	**Alma-Ata**	**65.92 327**		*e*P	**P**	**22 10 38.9**	**-1.1**
	baz=327						
BOOM	**Boomskoye usch**	**65.96 326**		P	**P**	**22 10 39.7**	**-0.6**
BOOM				pmax	pmax		
	comp=Z,23nm,0.9s						
BOOM	**Boomskoye usch**	**65.96 326**		P	**P**	**22 10 39.7**	**-0.6**
BOOM				IAmb	IAmb	22 10 41.8	
	comp=Z,23nm,0.8s						
MAKZ	**Makanchi**	**66.03 333**		P	**P**	**22 10 39.4**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAKZ	**Makanchi**	**66.03 333**		P	**P**	**22 10 39.4**	**-1.1**
MAKZ				IAmb	IAmb	22 10 41.0	
	comp=Z,8.9nm,0.8s						
DGZ	**Jazzator, Alta**	**66.08 338**		*c iP*	**P**	**22 10 40.5**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,12nm,0.6s						
CHKK	**Chushkaly**	**66.32 328**		*e*P	**P**	**22 10 40.8**	**-1.6**
	baz=328						
TDK	**Taldyqorghan**	**66.40 329**		*e*P	**P**	**22 10 41.2**	**-1.7**
TDK				pmax	pmax		
	comp=Z,31nm,0.9s						
TDK	**Taldyqorghan**	**66.40 329**		*e*P	**P**	**22 10 41.3**	**-1.7**
	comp=Z,31nm,0.9s,baz=329						
TKM2	**Tokmak 2**	**66.43 326**		P	**P**	**22 10 42.7**	**-0.7**
	SNR=17						
DRK	**Karamyk**	**66.44 321**		P	**P**	**22 10 43.6**	**0.0**
UCH	**Uchtor**	**66.58 325**		P	**P**	**22 10 44.3**	**-0.4**
	SNR=19						
KBK	**Karagaybulak**	**66.61 326**		P	**P**	**22 10 44.6**	**+0.1**
	SNR=28						
KUU	**Kurty**	**66.69 327**		*e*P	**P**	**22 10 43.2**	**-1.6**
KUU				pmax	pmax		
	comp=Z,29nm,1.2s						
KUU	**Kurty**	**66.69 327**		*e*P	**P**	**22 10 43.2**	**-1.6**
	comp=Z,29nm,1.2s,baz=327						
AAK	**Ala-Archa**	**66.86 325**		LR	LR	22 43 12.4	
	comp=Z,113nm,19.9s,baz=128,slow=39						
AAK	**Ala-Archa**	**66.86 325**		P	**P**	**22 10 45.8**	**-0.2**
	SNR=29						
AAK	**Ala-Archa**	**66.86 325**		*ce*P	**P**	**22 10 45.7**	**-0.4**
AAK				pmax	pmax		
	comp=Z,26nm,0.8s						
AAK	**Ala-Archa**	**66.86 325**		P	**P**	**22 10 46.0**	**-0.1**
AAK				P	**P**	**22 10 46.0**	**-0.1**
AAK	**Ala-Archa**	**66.86 325**		P	**P**	**22 10 45.5**	**-0.5**
AAK				IAmb	IAmb	22 10 47.8	
	comp=Z,25nm,0.8s						
FRU1	**Bishkek**	**66.89 326**		P	**P**	**22 10 45.8**	**-0.4**
FRU1				pmax	pmax		
	comp=Z,16nm,1.2s						
FRU1	**Bishkek**	**66.89 326**		P	**P**	**22 10 45.8**	**-0.4**
FRU1				IAmb	IAmb	22 10 47.8	
	comp=Z,16nm,1.1s						
CHMS	**Chumysh**	**66.95 326**		P	**P**	**22 10 45.0**	**-1.5**
	SNR=8.0						
AML	**Almayashu**	**66.98 325**		P	**P**	**22 10 46.9**	**-0.3**
	SNR=55						
AML	**Almayashu**	**66.98 325**		P	**P**	**22 10 46.8**	**-0.3**
USP	**Ospenovka**	**67.27 326**		P	**P**	**22 10 47.8**	**-0.7**
	SNR=26						
EKS2	**Erkin-Say**	**67.27 325**		P	**P**	**22 10 48.5**	**-0.2**
	SNR=38						
SGDS	**Sogindy**	**67.31 326**		*e*P	**P**	**22 10 47.5**	**-1.4**
	baz=326						
BTK	**Batken**	**67.39 321**		P	**P**	**22 10 49.0**	**-0.4**
BTK				pmax	pmax		
	comp=Z,30nm,1.3s						
BTK	**Batken**	**67.39 321**		P	**P**	**22 10 49.0**	**-0.4**
BTK				IAmb	IAmb	22 10 50.7	
	comp=Z,30nm,1.3s						
CHGR	**Chuyangaron**	**67.61 319**		P	**P**	**22 10 49.7**	**-1.1**
WBK	**Wadi Bani Khal**	**67.68 300**		P	**P**	**22 10 51.1**	**-0.4**
BOD	**Bodaibo**	**68.11 357**		*e*P	**P**	**22 10 52.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.5s						
WSAR	**Wadi Sarin**	**68.20 300**		LR	LR	22 41 52.7	
	comp=Z,68nm,18.5s,baz=141,slow=37						
WSAR	**Wadi Sarin**	**68.20 300**		P	**P**	**22 10 55.4**	**+0.6**
	SNR=5.3						
JMDO	**Jabal Madar**	**68.33 299**		P	**P**	**22 10 56.2**	**+0.6**
JMDO				P	**P**	**22 10 56.2**	**+0.6**
SMDO	**Samad**	**68.63 300**		P	**P**	**22 10 57.6**	**+0.1**
	SNR=6.8						
SMDO				P	**P**	**22 10 57.6**	**+0.1**
	SNR=6.8						
BTLS	**Baital**	**68.68 327**		*e*P	**P**	**22 10 56.0**	**-1.3**
BTLS	**Baital**	**68.68 327**		*e*P	**P**	**22 10 56.0**	**-1.3**
	baz=327						
BIDO	**Bidbid**	**68.74 300**		P	**P**	**22 10 58.9**	**+0.8**
SOCY	**Socotra**	**68.76 287**		P	**P**	**22 10 59.9**	**+1.4**
	SNR=13						
SOCY	**Socotra**	**68.76 287**		P	**P**	**22 10 58.7**	**+0.2**
SOCY				IAmb	IAmb	22 11 17.8	
	comp=Z,19nm,0.8s						
DZA	**Taraz**	**68.81 324**		*e*P	**P**	**22 10 57.2**	**-1.0**
DZA	**Taraz**	**68.81 324**		*e*P	**P**	**22 10 57.2**	**-1.0**
	baz=324						
TAS	**Tashkent**	**69.07 322**		P	**P**	**22 10 59.2**	**-0.7**
TAS				pmax	pmax		
	comp=Z,51nm,0.6s						
TAS	**Tashkent**	**69.07 322**		P	**P**	**22 10 59.1**	**-0.7**
IUG	**Iuzhnay**	**69.12 323**		*e*P	**P**	**22 10 59.0**	**-1.2**
IUG	**Iuzhnay**	**69.12 323**		*e*P	**P**	**22 10 59.0**	**-1.2**
	baz=323						
BSY	**Bisya**	**69.25 299**		P	**P**	**22 11 00.9**	**-0.4**
BSY				P	**P**	**22 11 00.9**	**-0.4**
KKAR	**Karatay Array**	**69.42 324**		P	**P**	**22 11 00.5**	**-1.4**
KKAR	**Karatay Array**	**69.42 324**		P	**P**	**22 11 00.5**	**-1.4**
HOQ	**Hoqain**	**69.46 300**		P	**P**	**22 11 02.5**	**-0.1**
HOQ				P	**P**	**22 11 02.5**	**-0.1**
SEM	**Semipalatinsk**	**69.49 334**		*e*P	**P**	**22 11 00.7**	**-1.8**
SEM				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SEM	**Semipalatinsk**	**69.49 334**		*e*P	**P**	**22 11 00.7**	**-1.8**
	comp=Z,8.5nm,0.6s,baz=334						
DMTO	**DMTO**	**69.52 293**		P	**P**	**22 11 04.0**	**+0.9**
BRLS	**Borolday**	**69.77 323**		*e*P	**P**	**22 11 02.4**	**-1.7**
BRLS	**Borolday**	**69.77 323**		*e*P	**P**	**22 11 02.5**	**-1.7**
	baz=323						
HRA	**Herat**	**70.11 312**		P	**P**	**22 11 06.0**	**-0.7**
VOI	**Vohitsoka**	**70.17 250**		P	**P**	**22 11 08.7**	**+1.5**
VOI				IAmb	IAmb	22 12 16.0	
	comp=Z,36nm,1.5s						
KURK	**Kurchatov**	**70.42 334**		*c iP*	**P**	**22 11 06.9**	**-1.0**
KURK				pmax	pmax		
	comp=Z,17nm,0.8s						
KURK	**Kurchatov**	**70.42 334**		P	**P**	**22 11 07.1**	**-0.8**
KURK	**Kurchatov**	**70.42 334**		P	**P**	**22 11 07.3**	**-0.6**
KURK				IAmb	IAmb	22 11 09.0	
	comp=Z,24nm,1.1s						
ZAA0	**Zalesovo Array**	**70.48 339**		P	**P**	**22 11 06.5**	**-1.7**
ZAA0				IAmb	IAmb	22 11 07.8	
	comp=Z,15nm,0.6s						
ZALV	**Zalesovo Beam**	**70.48 339**		P	**P**	**22 11 06.6**	**-1.6**
	comp=Z,19nm,0.6s,baz=141,slow=4.6,SNR=92						
ZALV	**Zalesovo Beam**	**70.48 339**		P	**P**	**22 11 06.4**	**-1.8**
ZALV	**Zalesovo Beam**	**70.48 339**		P	**P**	**22 11 06.4**	**-1.8**
DOK	**Doka**	**70.54 294**		P	**P**	**22 11 09.3**	**0.0**
	SNR=11						
VNDA	**Vanda**	**70.56 171**		P	**P**	**22 11 09.5**	**+1.1**
	comp=Z,6.9nm,0.6s,baz=311,slow=8.0,SNR=31						
VNDA				LR	LR	22 38 36.9	
	comp=Z,101nm,21.8s,baz=184,slow=33						
VNDA	**Vanda**	**70.56 171**		P	**P**	**22 11 09.5**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,24nm,1.3s						
VNDA	**Vanda**	**70.56 171**		P	**P**	**22 11 09.5**	**+1.1**
VNDA				IAmb	IAmb	22 11 10.8	
	comp=Z,24nm,1.3s						
WHFO	**Wadi Hawf**	**70.65 293**		P	**P**	**22 11 10.0**	**0.0**
	SNR=24						
UOSS	**Minazif**	**70.90 301**		P	**P**	**22 11 11.2**	**-0.1**
UOSS				IAmb	IAmb	22 11 28.9	
	comp=Z,39nm,1.5s						
ABTO	**Aybut**	**70.90 292**		P	**P**	**22 11 12.2**	**+0.6**
	SNR=7.8						
ABTO				P	**P**	**22 11 12.2**	**+0.6**
	SNR=7.8						
HATD	**Hatta, Dubai**	**70.91 301**		P	**P**	**22 11 12.0**	**+0.5**
HATD				P	**P**	**22 11 12.0**	**+0.5**
ASHO	**Ashiyiah**	**70.92 301**		P	**P**	**22 11 10.9**	**-0.7**
PEA0B	**Petropavlovsk-**	**71.17 23**		P	**P**	**22 11 12.0**	**-0.4**
PEA0B				pmax	pmax		
	comp=Z,17nm,1.8s						
PEA0B	**Petropavlovsk-**	**71.17 23**		P	**P**	**22 11 12.0**	**-0.4**
PETK	**Petropavlovsk-**	**71.17 23**		P	**P**	**22 11 12.0**	**-0.4**
	comp=Z,5.0nm,0.9s,baz=180,slow=4.3,SNR=5.2						
SBA	**Scott Base**	**71.56 171**		P	**P**	**22 11 16.1**	**+1.6**
SBA				pmax	pmax		
	comp=Z,43nm,1.5s						
SBA	**Scott Base**	**71.56 171**		P	**P**	**22 11 16.1**	**+1.6**
SBA				IAmb	IAmb	22 12 10.2	
	comp=Z,43nm,1.5s						
YAK	**Yakutsk**	**72.64**	**5**	LR	LR	22 47 07.9	
	comp=Z,84nm,18.1s,baz=109,slow=39						
YAK	**Yakutsk**	**72.64**	**5**	*e*P	**P**	**22 11 21.0**	**0.0**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BRZS	**Berezniki**	**72.64 330**		*e*P	**P**	**22 11 20.2**	**-1.1**
BRZS				pmax	pmax		
	comp=Z,11nm,0.6s						
BRZS	**Berezniki**	**72.64 330**		*e*P	**P**	**22 11 20.3**	**-1.1**
	comp=Z,11nm,0.6s,baz=330						
MA2	**Magadan**	**74.13**	**16**	*d iP*	**P**	**22 11 30.2**	**+0.3**
MA2				pmax	pmax		
	comp=Z,12nm,1.7s						
MA2	**Magadan**	**74.13**	**16**	P	**P**	**22 11 30.0**	**+0.1**
GEYT	**Alibeck**	**74.70 314**		P	**P**	**22 11 33.5**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=130,slow=16,SNR=4.3						
GEYT				LR	LR	22 48 40.3	
	comp=Z,40nm,18.5s,baz=136,slow=39						
GEYT	**Alibeck**	**74.70 314**		P	**P**	**22 11 33.6**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**74.70 314**		P	**P**	**22 11 34.0**	**+0.2**
BRVK	**Borovoye**	**75.78 332**		*e*P	**P**	**22 11 39.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,11nm,1.3s						
BRVK	**Borovoye**	**75.78 332**		P	**P**	**22 11 40.0**	**+0.4**
BRVK	**Borovoye**	**75.78 332**		P	**P**	**22 11 39.3**	**-0.2**
BRVK				IAmb	IAmb	22 11 55.7	
	comp=Z,38nm,1.9s						
SYO	**Syowa Base**	**76.72 201**		*e*P	**P**	**22 11 47.4**	**+2.7**
SEY	**Seymchan**	**77.39**	**15**	LR	LR	22 49 13.9	
	comp=Z,86nm,18.0s,baz=347,slow=38						
ABKAR	**Akbulak array**	**78.93 325**		P	**P**	**22 11 56.7**	**-0.6**
ABKAR	**Akbulak array**	**78.93 325**		P	**P**	**22 11 56.7**	**-0.6**
ABKAR				IAmb	IAmb	22 11 59.2	
	comp=Z,12nm,0.7s						
QSPA	**South Pole Qui**	**79.61 180**		LR	LR	22 46 03.7	
	comp=Z,282nm,18.8s,baz=228,slow=35						
QSPA	**South Pole Qui**	**79.61 180**		P	**P**	**22 12 01.6**	**+0.7**
QSPA				IAmb	IAmb	22 12 02.9	
	comp=Z,14nm,0.8s						
RAYN	**Ar Rayn**	**79.69 296**		P	**P**	**22 12 02.3**	**+0.2**
RAYN				pmax	pmax		
	comp=Z,12nm,1.1s						
RAYN	**Ar Rayn**	**79.69 296**		P	**P**	**22 12 02.3**	**+0.2**
AKTO	**Aktyubinsk**	**80.60 325**		LR	LR	22 51 39.0	
	comp=Z,167nm,18.7s,baz=103,slow=39						
KMBO	**Kilima Mbogo**	**82.10 270**		P	**P**	**22 12 17.6**	**+2.2**
	comp=Z,3.3nm,0.9s,baz=62,slow=5.4,SNR=12						
KMBO	**Kilima Mbogo**	**82.10 270**		P	**P**	**22 12 15.2**	**-0.2**
KMBO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KMBO	**Kilima Mbogo**	**82.10 270**		P	**P**	**22 12 17.9**	**+2.5**
KMBO	**Kilima Mbogo**	**82.10 270**		P	**P**	**22 12 15.2**	**-0.2**
TIXI	**Tiksi**	**82.10**	**3**	*e*P	**P**	**22 12 13.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.7s						
TIXI	**Tiksi**	**82.10**	**3**	P	**P**	**22 12 13.4**	**-0.3**
SVE	**Sverdlovsk**	**82.49 332**		*e*P	**P**	**22 12 16.3**	**+0.1**
SVE				pmax	pmax		
	comp=Z,14nm,1.4s						
NRIK	**Noril'sk**	**82.59 349**		P	**P**	**22 12 16.2**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=141,slow=3.9,SNR=1.7						
NRIK	**Noril'sk**	**82.59 349**		*e*P	**P**	**22 12 16.9**	**+0.5**
NRIK				pmax	pmax		
	comp=Z,19nm,2.7s						
ARU	**Arti**	**83.27 331**		*c iP*	**P**	**22 12 20.6**	**+0.4**
ARU				S	**S**	**22 22 39.8**	**+1.7**
ARU				SS	**SS**	**22 28 06.9**	**+3.1**
ARU				pmax	pmax		
	comp=Z,46nm,3.6s						
ARU	**Arti**	**83.27 331**		P	**P**	**22 12 19.4**	**-0.8**
GNI	**Garni**	**85.17 312**		LR	LR	22 55 56.9	
	comp=Z,51nm,18.4s,baz=84,slow=40						
GURO	**Guroymak-BITLI**	**86.72 310**		P	**P**	**22 12 38.4**	**+0.2**
GURO				IAmb	IAmb	22 12 58.0	
	comp=Z,16nm,1.0s						
ONI	**Oni**	**86.83 314**		P	**P**	**22 12 39.2**	**+0.7**
ONI				pmax	pmax		
	comp=Z,16nm,1.4s						
ONI	**Oni**	**86.83 314**		P	**P**	**22 12 39.2**	**+0.7**
ONI				IAmb	IAmb	22 13 26.8	
	comp=Z,16nm,1.4s						
MARD	**Mardin**	**87.35 309**		P	**P**	**22 12 41.8**	**+0.6**
MARD				IAmb	IAmb	22 12 51.3	
	comp=Z,12nm,0.8s						
KBZ	**Khabaz**	**87.55 315**		P	**P**	**22 12 42.7**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=60,slow=2.8,SNR=7.8						
KBZ	**Khabaz**	**87.55 315**		*e*P	**P**	**22 12 42.5**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSZ	**Lusaka**	**88.48 255**		P	**P**	**22 12 47.9**	**+0.8**
LSZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LSZ	**Lusaka**	**88.48 255**		P	**P**	**22 12 47.9**	**+0.8**
LSZ				IAmb	IAmb	22 12 49.4	
	comp=Z,8.7nm,0.8s						
MBAR	**Mbarara**	**88.60 270**		P	**P**	**22 12 47.8**	**0.0**
MBAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MBAR	**Mbarara**	**88.60 270**		P	**P**	**22 12 47.8**	**0.0**
MBAR				IAmb	IAmb	22 15 36.9	
	comp=Z,7.7nm,0.6s						
KIRV	**Kirov**	**88.65 331**		*e*P	**P**	**22 12 46.9**	**+0.2**
BOSA	**Boshof**	**88.71 241**		P	**P**	**22 12 49.7**	**+1.8**
	comp=Z,4.3nm,0.6s,baz=122,slow=2.7,SNR=15						
BOSA	**Boshof**	**88.71 241**		P	**P**	**22 12 49.0**	**+1.0**
BOSA				pmax	pmax		
	comp=Z,31nm,1.7s						
BOSA	**Boshof**	**88.71 241**		P	**P**	**22 12 49.0**	**+1.0**
BOSA				IAmb	IAmb	22 14 14.5	
	comp=Z,31nm,1.7s						
LBTB	**Lobatse**	**89.10 245**		P	**P**	**22 12 51.3**	**+1.5**
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LBTB	**Lobatse**	**89.10 245**		P	**P**	**22 12 51.3**	**+1.5**
LBTB				IAmb	IAmb	22 12 52.6	
	comp=Z,7.6nm,0.8s						
SOC	**Sochi**	**89.73 314**		*e*P	**P**	**22 12 49.3**	**-2.8**
SOC				*e*		22 16 19.4	
SOC				*e*PPP	PPP	22 18 18.1	
SOC				*e*S	**SKSac**	**22 23 16.6**	**-3.6**
SOC				*e*SS	**SS**	**22 29 32.5**	**-6.5**
SOC				*e*SSS	SSS	22 33 12.9	
SNAA	**Sanae**	**89.78 196**		P	**P**	**22 12 53.8**	**+1.8**
SNAA	**Sanae**	**89.78 196**		*de*P	**P**	**22 12 53.2**	**+1.2**
SNAA				pmax	pmax		
	comp=Z,2μm,1.3s						
SNAA	**Sanae**	**89.78 196**		P	**P**	**22 12 53.3**	**+1.2**
SNAA				IAmb	IAmb	22 12 54.8	
	comp=Z,20nm,1.0s						
VRH	**Novokhopyorsk**	**90.43 322**		*e*P	**P**	**22 12 55.4**	**+0.2**
VRH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MMAI	**Mount Meron Ar**	**90.63 303**		LR	LR	22 57 30.0	
	comp=Z,37nm,20.5s,baz=246,slow=38						
VNA2	**Neumayer--Watz**	**91.41 195**		P	**P**	**22 13 01.2**	**+1.7**
	baz=133,slow=4.2						
VNA3	**Neumayer Olymp**	**91.79 195**		P	**P**	**22 13 02.7**	**+1.5**
VNA1	**Neumayer--Stat**	**91.81 195**		P	**P**	**22 13 03.1**	**+1.8**
AKASG	**Malin Array Be**	**98.07 320**		P	**P**	**22 13 28.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=86,slow=3.9,SNR=2.4						
FINES	**FINESS Array B**	**100.64 331**		P	**Pdif**	**22 13 40.1**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=70,slow=11,SNR=5.7						
YKA	**Yellowknife Ar**	**115.28**	**25**	PKP	**PKPdf**	**22 18 34.9**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=304,slow=1.9,SNR=22						
TORD	**Torodi Ar. Bea**	**119.11 279**		PKP	**PKiKP**	**22 18 44.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=61,slow=1.4,SNR=7.2						
DBIC	**Dimbokro**	**124.83 271**		PKP	**PKiKP**	**22 18 55.5**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=155,slow=7.0,SNR=3.7						
SCHQ	**Schefferville**	**135.39**	**5**	PKP	**PKPdf**	**22 19 14.2**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=357,slow=3.6,SNR=5.1						
CPUP	**Villa Florida**	**143.37 185**		PKP	PKPbc	22 19 27.2	+1.2
	comp=Z,3.2nm,0.9s,baz=162,slow=3.2,SNR=3.9						
WVT	**Waverly**	**144.41**	**40**	PKIKP	PKPbc	22 19 29.0	+0.1
WVT	**Waverly**	**144.41**	**40**		PKPbc	22 19 29.0	+0.1
Y45A	**Yeager Farm, C**	**144.64**	**44**	PKPdf	PKPbc	22 19 30.1	+0.4
P51A	**Williamsport**	**144.78**	**31**		**PKPab**	**22 19 29.3**	**-0.6**
Q51A	**Peebles**	**144.98**	**32**		**PKPab**	**22 19 30.4**	**-0.2**
TZTN	**Tazewell**	**146.68**	**35**		**PKPdf**	**22 19 34.3**	**0.0**
V51A	**Loudon**	**146.74**	**37**		**PKPdf**	**22 19 33.6**	**-0.8**
LRAL	**Lakeview Retre**	**146.86**	**43**		**PKPbc**	**22 19 36.5**	**0.0**
PB01	**IPOC Station P**	**147.56 164**		PKPbc	**PKPbc**	**22 19 39.7**	**+0.8**
V53A	**Saluda**	**147.73**	**35**		**PKPbc**	**22 19 39.3**	**+0.3**
TA01	**Diego Aracena**	**147.82 163**			**PKPbc**	**22 19 40.4**	**+0.9**
BG3	**Lake Jocassee**	**148.14**	**36**		**PKPbc**	**22 19 40.8**	**+0.7**
Y52A	**Lilburn**	**148.23**	**39**		**PKPbc**	**22 19 40.5**	**+0.2**
R58B	**Mineral**	**148.45**	**27**		**PKPbc**	**22 19 40.8**	**+0.1**
V55A	**Taylorsville**	**148.48**	**33**		**PKPbc**	**22 19 41.4**	**+0.5**
PB08	**IPOC Station P**	**148.51 164**			**PKiKP**	**22 19 42.8**	**-0.7**
T57A	**Hurt**	**148.60**	**29**		**PKPbc**	**22 19 41.5**	**+0.4**
KMSC	**Kings Mountain**	**148.94**	**34**		**PKPbc**	**22 19 41.7**	**-0.4**
GO01	**Chusmiza**	**148.95 164**			**PKPdf**	**22 19 41.0**	**+1.9**
MNMC	**Minye Minye**	**149.35 163**			**PKPdf**	**22 19 38.6**	**-0.9**
BDFB	**Brasilia**	**151.30 206**		PKPbc	**PKiKP**	**22 19 49.5**	**+0.6**
	comp=Z,6.4nm,0.7s,baz=114,slow=1.5,SNR=8.8						
LPAZ	**La Paz**	**152.46 164**		PKPbc	**PKiKP**	**22 19 52.6**	**+0.6**
	comp=Z,8.3nm,1.0s,baz=144,slow=1.6,SNR=16						
ETMB	**

NOUC **Port Laguerre 21.04 144** P **P 22 10 48.1 +0.6**
DZM **Mont Dzumac 21.10 144** P **P 22 10 47.9 -0.4**
comp=Z,31nm,0.6s,baz=303,slow=7.0,SNR=31
DZM **Mont Dzumac 21.10 144** *e*P **P 22 10 48.0 -0.2**
comp=Z,156nm,1.4s
DZM *e*LR LR 22 15 54.4
comp=Z,1μm,23.6s
DZM **Mont Dzumac 21.10 144** **P 22 10 47.0 -1.2**
DZM **Mont Dzumac 21.10 144** P **P 22 10 48.9 +0.7**
ONTNC **Ouen Toro 21.29 144** **P 22 10 49.4 -0.8**
ONTNC IAmb IAmb 22 11 05.9
comp=Z,67nm,1.2s
ONTNC **Ouen Toro 21.29 144** P **P 22 10 53.1 +3.0**
RMQ **Roma 21.55 191** P **P 22 10 53.4 +0.5**
baz=22,SNR=4.7
RMQ **Roma 21.55 191** P **P 22 10 57.8 +4.8**
OUENC **Ouen Island, N 21.60 144** P **P 22 10 52.8 -0.7**
OUENC IAmb IAmb 22 10 57.3
comp=Z,188nm,1.8s
OUENC **Ouen Island, N 21.60 144** P **P 22 10 54.8 +1.3**
KDU **Kakadu 21.74 249** P **P 22 10 54.4 -0.7**
baz=22,SNR=42
KDU **Kakadu 21.74 249** P P 22 10 41.4 -14
SIJI **Sorong 22.30 280** P **P 22 11 01.0 -0.2**
comp=Z,20nm,0.4s,baz=161,slow=8.8,SNR=21
QLP **Quilpie 22.89 201** P **P 22 11 06.8 -0.4**
MTN **Manton Dam 23.03 249** P **P 22 11 07.6 -1.3**
baz=23,SNR=6.2
MTN **Manton Dam 23.03 249** **P 22 11 09.0 +0.2**
MTN IAmb IAmb 22 11 14.9
comp=Z,104nm,1.4s
WB0 **Warramunga Arr 23.30 230** P **P 22 11 10.9 -0.6**
WRAB **Tennant Creek 23.43 230**⇓ *e*P **P 22 11 14.1 +1.4**
WRAB pmax pmax
comp=Z,21nm,0.6s
WRA **Warramunga Arr 23.45 230** P **P 22 11 11.9 -1.0**
comp=Z,5.1nm,0.6s,baz=54,slow=9.8,SNR=5.3
WRA PcP **PcP 22 15 00.6 +2.3**
comp=Z,2.3nm,0.4s,baz=50,slow=2.6,SNR=8.4
WRA S **S 22 15 23.7 +0.2**
comp=Z,1.4nm,0.9s,baz=55,slow=16,SNR=1.7
WRA LR LR 22 21 30.1
comp=Z,289nm,18.1s,baz=28,slow=40
WRA **Warramunga Arr 23.45 230** *i* P **P 22 11 12.8 -0.1**
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRA **Warramunga Arr 23.45 230** P **P 22 11 13.1 +0.3**
ARMA **Armidale 25.10 183** P **P 22 11 28.0 -0.1**
ARMA IAmb IAmb 22 12 16.1
comp=Z,52nm,1.6s
AS31 **Alice Springs 26.09 223** P **P 22 11 36.8 -0.3**
ASAR **Alice Springs 26.09 223** P **P 22 11 36.4 -0.7**
comp=Z,2.7nm,0.6s,baz=57,slow=9.2,SNR=5.2
ASAR PcP **PcP 22 15 04.3 +0.2**
comp=Z,2.1nm,0.6s,baz=60,slow=3.0,SNR=4.7
ASAR LR LR 22 21 12.6
comp=Z,255nm,19.6s,baz=43,slow=35
ASAR **Alice Springs 26.09 223** P **P 22 11 36.5 -0.5**
KNRA **Kununurra 26.12 245** P **P 22 11 36.6 -0.8**
baz=26,SNR=5.2
KNRA **Kununurra 26.12 245** P **P 22 11 36.5 -0.8**
KNRA IAmb IAmb 22 11 51.3
comp=Z,42nm,0.7s
H11S3 **WAKE ISLAND Hy 27.08 29** T T 22 40 12.1
baz=209,slow=75,SNR=13
H11S2 **WAKE ISLAND Hy 27.08 29** T T 22 40 08.5
baz=209,slow=75,SNR=13
H11S1 **WAKE ISLAND Hy 27.10 29** T T 22 40 08.3
baz=209,slow=75,SNR=8.0
MSVF **Nonsavu 27.31 119** P **P 22 11 47.3 -0.8**
comp=Z,0.9nm,0.4s,baz=308,slow=23,SNR=1.6
MSVF LR LR 22 21 56.3
comp=Z,618nm,18.8s,baz=344,slow=35
MSVF **Nonsavu 27.31 119** P **P 22 11 47.3 -0.8**
MSVF pmax pmax
comp=Z,16nm,1.5s
MSVF **Nonsavu 27.31 119** P **P 22 11 47.3 -0.8**
STKA **Stephens Creek 28.64 201** P **P 22 11 58.6 -1.1**
comp=Z,7.4nm,0.9s,baz=52,slow=11,SNR=4.7
STKA **Stephens Creek 28.64 201** P **P 22 11 56.0 -3.8**
baz=29,SNR=3.7
STKA **Stephens Creek 28.64 201** P **P 22 11 58.0 -1.8**
BATI **Baumata 29.65 259** P **P 22 12 08.9 0.0**
comp=Z,16nm,0.7s,baz=159,slow=14,SNR=1.9
FITZ **Fitzroy Crossi 29.79 242** P **P 22 12 09.3 -0.8**
comp=Z,12nm,0.6s,baz=96,slow=7.3,SNR=11
FITZ **Fitzroy Crossi 29.79 242** P **P 22 12 09.3 -0.8**
baz=30,SNR=7.0
DAV **Davao City (W) 30.13 294** LR LR 22 23 36.2
comp=Z,179nm,19.4s,baz=99,slow=35
KAPI **Kappang 33.29 269** LR LR 22 27 42.2
comp=Z,110nm,21.9s,baz=120,slow=39
MBWA **Marble Bar 36.09 241** P **P 22 13 04.2 -0.9**
JAGI **Jajag, Banyuwa 38.87 263** P **P 22 13 28.1 -0.7**
JAGI IAmb IAmb 22 13 29.8
comp=Z,42nm,1.2s
MEEK **Meekatharra 39.25 233** P **P 22 13 30.1 -1.6**
baz=39,SNR=9.0
URZ **Urewera 39.43 150** P **P 22 13 33.0 0.0**
comp=Z,14nm,1.1s,baz=131,slow=8.6,SNR=3.3
URZ **Urewera 39.43 150** P **P 22 13 32.6 -0.4**
THZ **Tophouse 40.41 157** P **P 22 13 40.5 -0.8**
BFZ **Birch Farm 40.92 153** P **P 22 13 44.4 -1.0**
LTZ **Lake Taylor 41.05 158** P **P 22 13 46.1 -0.3**
LTZ IAmb IAmb 22 13 47.8
comp=Z,28nm,1.0s
SSLB **Suanglung 42.66 314** P **P 22 13 59.0 -0.9**
SSLB IAmb IAmb 22 14 47.4
comp=Z,80nm,1.5s
JNU **Nakatsue 43.62 333** P **P 22 14 07.7 +0.2**
comp=Z,14nm,0.8s,baz=114,slow=3.2,SNR=7.3
JNU **Nakatsue 43.62 333** P **P 22 14 08.0 +0.5**
MJAR **Matsushiro Arr 43.85 343** LR LR 22 32 06.9
comp=Z,175nm,18.1s,baz=166,slow=36
LEM **Lembang 45.32 266** LR LR 22 37 13.4
comp=Z,113nm,18.1s,baz=184,slow=41
RAR **Rarotonga 48.26 114** LR LR 22 33 37.8
comp=Z,85nm,18.5s,baz=304,slow=34
KSRS **Korea Array 48.55 333** P **P 22 14 47.0 +0.8**
comp=Z,2.3nm,1.0s,baz=142,slow=9.1,SNR=4.1
KSRS **Korea Array 48.55 333** P **P 22 14 47.0 +0.8**
NJ2 **Nanjing 49.41 321** *e*P **P 22 14 55.0 +2.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
UBPT **Khong Chiam 51.46 294** P **P 22 15 09.1 +0.5**
USRK **Ussuriysk Ar. 52.78 341** P **P 22 15 18.0 +0.1**
comp=Z,2.8nm,0.8s,baz=180,slow=9.5,SNR=5.1
USRK **Ussuriysk Ar. 52.78 341** P **P 22 15 17.6 -0.3**
USRK **Ussuriysk Ar. 52.78 341** P **P 22 15 17.6 -0.3**
HNS **HongShan 55.52 323** ⇓P **P 22 15 39.5 +1.5**
HNS pmax pmax
comp=Z,7.0nm,1.2s
XAN **Xi'an 57.19 316** P **P 22 15 49.5 -0.6**
XAN pP pP 22 15 59.5 -2.5
XAN S **S 22 23 44.8 +1.9**
XAN pmax pmax
comp=Z,7.0nm,1.4s
XAN LR LR
comp=Z,210nm,15.8s
XAN LR LR
comp=Z,280nm,17.9s
XAN LR LR
comp=Z,430nm,16.9s
KLR **Kul'dur 57.36 343** *d i*P **P 22 15 51.0 +0.1**
KLR pmax pmax
comp=Z,31nm,1.6s
PEA0B **Petropavlovsk- 58.25 3** P **P 22 15 56.8 -0.3**
PEA0B pmax pmax
comp=Z,79nm,1.5s
PEA0B **Petropavlovsk- 58.25 3** P **P 22 15 56.8 -0.3**
PETK **Petropavlovsk- 58.25 3** P **P 22 15 56.9 -0.2**
comp=Z,4.3nm,0.7s,baz=171,slow=7.9,SNR=18
PETK **Petropavlovsk- 58.25 3** P **P 22 15 56.6 -0.5**
PETK **Petropavlovsk- 58.25 3** P **P 22 15 56.5 -0.5**
CM31 **Chiang Mai Arr 58.40 295** P **P 22 15 59.5 +0.7**
CM31 IAmb IAmb 22 17 15.7
comp=Z,29nm,1.5s
CMAR **Chiang Mai Arr 58.40 295** P **P 22 16 00.2 +1.4**
comp=Z,5.0nm,0.6s,baz=122,slow=5.7,SNR=20
CMAR LR LR 22 40 11.0
comp=Z,79nm,19.7s,baz=155,slow=35
CMAR **Chiang Mai Arr 58.40 295** *i* P **P 22 16 01.1 +2.3**
CMAR pmax pmax
comp=Z,6.0nm,0.5s
CMAR **Chiang Mai Arr 58.40 295** P **P 22 15 59.5 +0.6**
PZH **PanZhiHua 58.93 305** P **P 22 16 05.5 +3.0**

PZH S **S 22 24 03.8 -2.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,220nm,4.7s
PZH LR LR
comp=Z,370nm,16.5s
PZH LR LR
comp=Z,350nm,17.0s
PZH LR LR
comp=Z,540nm,18.1s
XLT **XiLinHaoTe 59.23 330** *e*P **P 22 16 04.5 +0.3**
XLT pP pP 22 16 16.0 -0.1
XLT pmax pmax
comp=Z,14nm,1.2s
XLT pmax pmax
comp=Z,270nm,5.7s
HHC **Hu-ho-hao-te 59.62 324** *e*P **P 22 16 09.0 +2.0**
HHC S **S 22 24 13.5 -0.8**
HHC ScS **ScS 22 25 55.3 +1.3**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,120nm,5.0s
HHC LR LR
comp=Z,150nm,14.0s
HHC LR LR
comp=Z,220nm,14.0s
HHC LR LR
comp=Z,230nm,14.0s
SHEM **Shemya Is, Ala 60.41 14** LR LR 22 38 06.4
comp=Z,182nm,20.3s,baz=296,slow=32
HIA **Hailar 61.58 336**⇑ *i*P **P 22 16 20.6 +0.5**
HIA pmax pmax
comp=Z,4.0nm,0.6s
HIA **Hailar 61.58 336** P **P 22 16 21.2 +1.1**
HIA IAmb IAmb 22 16 22.2
comp=Z,5.8nm,0.5s
LZH **Lanzhou 61.80 316** *e*P **P 22 16 24.3 +2.3**
LZH pP pP 22 16 33.0 -1.0
LZH sP sP 22 16 41.0 +2.2
LZH pmax pmax
comp=Z,21nm,1.3s
LZH LR LR
comp=Z,280nm,15.7s
LZH LR LR
comp=Z,360nm,15.4s
LZH LR LR
comp=Z,340nm,17.8s
ZEA **Zeya 62.66 343** *e*P **P 22 16 27.8 +0.6**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
MA2 **Magadan 64.63 359** *c i*P **P 22 16 40.0 -0.1**
MA2 pmax pmax
comp=Z,41nm,1.7s
MA2 **Magadan 64.63 359** P **P 22 16 40.0 -0.1**
GTA **Gaotai 66.23 317** *e*P **P 22 16 52.3 +1.3**
GTA pP pP 22 17 01.3 -1.8
GTA sP sP 22 17 06.5 -1.3
GTA pmax pmax
comp=Z,5.0nm,1.3s
ULN **Ulaanbaatar 66.56 328** *c e*P **P 22 16 54.3 +1.3**
ULN pmax pmax
comp=Z,6.0nm,1.1s
ULN **Ulaanbaatar 66.56 328** P **P 22 16 53.6 +0.6**
SHL **Shillong 66.85 301** P **P 22 16 55.1 -0.2**
SHL pmax pmax
comp=Z,9.0nm,0.9s
SHL **Shillong 66.85 301** P **P 22 16 55.1 -0.2**
SHL IAmb IAmb 22 16 56.9
comp=Z,8.9nm,0.9s
SONM **Songino Array 66.89 328** P **P 22 16 56.2 +1.1**
comp=Z,2.1nm,0.5s,baz=140,slow=6.1,SNR=27
SONM **Songino Array 66.89 328** P **P 22 16 55.2 +0.1**
SONM pmax pmax
comp=Z,13nm,1.6s
SONM **Songino Array 66.89 328** P **P 22 16 55.2 +0.1**
SEY **Seymchan 67.98 360** LR LR 22 40 49.0
comp=Z,66nm,21.3s,baz=348,slow=31
YAK **Yakutsk 69.47 348** *e*P **P 22 17 11.1 +0.4**
YAK *e**PP **pP 22 17 22.4 -0.3**
YAK *e* 22 17 34.4
YAK *e* 22 19 39.5
YAK *e*S **S 22 26 16.3 +1.5**
YAK *e**SS sS 22 26 42.9 +8.0
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,116nm,3.2s
YAK smax smax
comp=E,87nm,4.0s
YAK smax smax
comp=N,52nm,3.8s
YAK **Yakutsk 69.47 348** P **P 22 17 10.8 +0.1**
ZAK **Zakamensk 70.06 329** *e*P **P 22 17 14.9 +0.2**
ZAK pmax pmax
comp=Z,11nm,1.0s
CHLP **Challavanipeta 72.05 291** *e*P **P 22 17 27.3 0.0**
VNDA **Vanda 72.39 178** P **P 22 17 28.4 +0.2**
comp=Z,5.6nm,0.7s,baz=336,slow=5.9,SNR=16
VNDA **Vanda 72.39 178** P **P 22 17 28.1 -0.2**
VNDA pmax pmax
comp=Z,7.0nm,0.8s
VNDA **Vanda 72.39 178** P **P 22 17 28.1 -0.2**
GUN **Gumba 72.67 301** *e*P **P 22 17 31.6 +0.3**
comp=Z,12nm,0.2s
PKI **Pulchoki 72.97 301** *e*P **P 22 17 33.4 +0.3**
PKIN **Phulchoki 72.99 301** *e*P **P 22 17 33.5 +0.4**
KKN **Kakani 73.14 301** *e*P **P 22 17 34.9 +0.9**
DMN **Daman 73.25 301** *e*P **P 22 17 35.3 +0.7**
BILL **Bilibino 73.68 5**⇑ *e*P **P 22 17 35.2 -0.8**
BILL *e* 22 17 50.1
BILL *e* 22 20 21.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL **Bilibino 73.68 5** P **P 22 17 36.5 +0.5**
GKN **Gorkha 73.75 301** *e*P **P 22 17 37.9 +0.4**
comp=Z,15nm,0.6s
KOLN **Koldanda 74.58 301** *e*P **P 22 17 42.7 +0.3**
comp=Z,27nm,0.9s
DANN **Dangsing 74.59 301** *e*P **P 22 17 42.7 +0.2**
comp=Z,16nm,0.6s
PYUN **Piuthan 75.18 301** *e*P **P 22 17 45.9 +0.1**
comp=Z,36nm,0.9s
ADKI **Addanki 75.39 288** *e*P **P 22 17 47.6 +0.7**
WMQ **Urumqi 76.31 317** *e*P **P 22 17 52.8 +1.0**
WMQ pP pwP 22 18 05.3 -1.2
WMQ sP sP 22 18 08.5 -0.1
WMQ pmax pmax
comp=Z,15nm,1.3s
CUPL **Choutuppal 76.62 289** *e*P **P 22 17 53.2 -0.8**
HYBB **Hyderabad (bro 76.99 289** *e*P **P 22 17 57.2 +1.1**
HYBB *es*P **pP 22 18 08.1 -0.1**
L19K **White Mountain 78.00 22** P **P 22 18 00.5 -0.3**
L19K IAmb IAmb 22 19 59.5
comp=Z,24nm,1.6s
TIXI **Tiksi 78.37 352** *c e*P **P 22 18 02.7 +0.1**
TIXI pmax pmax
comp=Z,21nm,1.7s
TIXI **Tiksi 78.37 352** P **P 22 18 02.3 -0.3**
TIXI IAmb IAmb 22 18 05.2
comp=Z,22nm,1.4s
DGZ **Jazzator, Alta 78.65 323** *d i*P **P 22 18 04.8 -0.1**
DGZ pmax pmax
comp=Z,19nm,1.3s
K20K **Telida 78.99 21** P **P 22 18 06.5 +0.2**
K20K IAmb IAmb 22 19 24.1
comp=Z,20nm,1.6s
RC01 **Rabbit Creek A 79.41 25** P **P 22 18 07.7 -0.8**
ZSN **Zaisan 79.44 320** *e*P **P 22 18 09.0 0.0**
ZSN **Zaisan 79.44 320** *e*P **P 22 18 09.0 0.0**
baz=320
J20K **Nowinta River 79.45 21** P **P 22 18 09.1 +0.4**
J20K IAmb IAmb 22 19 00.1
comp=Z,41nm,1.9s
PWL **Port Wells 79.88 25** P **P 22 18 10.4 -0.7**
PWL IAmb IAmb 22 18 15.9
comp=Z,36nm,1.4s
IMAR **Indian Mountai 80.66 19** P **P 22 18 15.5 +0.3**

MK31 **Makanchi Array 80.90 319**⇑ *i*P **P 22 18 17.4 +0.5**
MK31 **Makanchi Array 80.90 319** P **P 22 18 17.4 +0.5**
MKAR **Makanchi Array 80.90 319** P **P 22 18 17.5 +0.6**
comp=Z,3.2nm,0.9s,baz=99,slow=7.5,SNR=21
MKAR **Makanchi Array 80.90 319** *i* P **P 22 18 17.7 +0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR **Makanchi Array 80.90 319** P **P 22 18 17.4 +0.4**
RND **Reindeer 80.98 23** P **P 22 18 16.2 -0.8**
RND pmax pmax
comp=Z,13nm,1.2s
RND **Reindeer 80.98 23** P **P 22 18 16.2 -0.8**
RND IAmb IAmb 22 18 53.0
comp=Z,13nm,1.2s
MAKZ **Makanchi 81.11 319** P **P 22 18 18.5 +0.4**
MAKZ pmax pmax
comp=Z,12nm,1.1s
MAKZ **Makanchi 81.11 319** P **P 22 18 18.5 +0.4**
MAKZ IAmb IAmb 22 18 32.0
comp=Z,12nm,1.1s
MCK **McKinley 81.11 22** P **P 22 18 16.8 -0.9**
MCK pmax pmax
comp=Z,17nm,1.2s
MCK **McKinley 81.11 22** P **P 22 18 16.8 -0.9**
MCK IAmb IAmb 22 18 47.9
comp=Z,18nm,1.2s
ZAA0 **Zalesovo Array 81.72 326** P **P 22 18 21.0 -0.1**
ZALV **Zalesovo Beam 81.72 326** P **P 22 18 20.6 -0.4**
comp=Z,4.0nm,0.6s,baz=111,slow=6.2,SNR=21
ZALV **Zalesovo Beam 81.72 326** *i* P **P 22 18 21.2 +0.1**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
COLA **College 82.11 22**⇑ *e*P **P 22 18 22.2 -0.7**
COLA pmax pmax
comp=Z,31nm,3.2s
ILAR **Eielson Array 82.42 22** P **P 22 18 22.9 -1.6**
comp=Z,1.5nm,0.7s,baz=238,slow=5.7,SNR=16
ILAR LR LR 22 52 57.4
comp=Z,107nm,19.1s,baz=170,slow=34
ILAR **Eielson Array 82.42 22** P **P 22 18 23.4 -1.1**
ILAR **Eielson Array 82.42 22** P **P 22 18 23.4 -1.1**
SATY **Saty 82.52 314** *e*P **P 22 18 25.2 -0.5**
SATY **Saty 82.52 314** *e*P **P 22 18 25.2 -0.5**
baz=314
TARG **Taragay, Kyrgy 82.64 313** P **P 22 18 27.1 +0.4**
TDK **Taldyqorghan 83.01 316** *e*P **P 22 18 27.7 -0.3**
TDK pmax pmax
comp=Z,5.0nm,0.9s
TDK **Taldyqorghan 83.01 316** *e*P **P 22 18 27.7 -0.3**
comp=Z,5.0nm,0.9s,baz=316
KSH **Kashi 83.50 311** P **P 22 18 33.8 +2.9**
KSH pP pP 22 18 44.3 +1.2
KSH pmax pmax
comp=Z,6.0nm,1.3s
MDOK **Medeo 83.52 314** *e*P **P 22 18 30.2 -0.7**
MDOK **Medeo 83.52 314** *e*P **P 22 18 30.2 -0.7**
baz=314
CHKK **Chushkaly 83.72 315** *e*P **P 22 18 31.3 -0.5**
baz=315
BOOM **Boomskoye usch 84.16 314** P **P 22 18 34.4 +0.2**
BOOM pmax pmax
comp=Z,14nm,1.3s
BOOM **Boomskoye usch 84.16 314** P **P 22 18 34.4 +0.2**
BOOM IAmb IAmb 22 18 36.4
comp=Z,14nm,1.3s
KUU **Kurty 84.18 315** *e*P **P 22 18 33.6 -0.5**
KUU pmax pmax
comp=Z,25nm,1.2s
KUU **Kurty 84.18 315** *e*P **P 22 18 33.7 -0.5**
comp=Z,25nm,1.2s,baz=315
KURK **Kurchatov 84.34 322** *c e*P **P 22 18 35.0 +0.3**
KURK pmax pmax
comp=Z,27nm,1.7s
KURK **Kurchatov 84.34 322** P **P 22 18 34.7 +0.1**
TKM2 **Tokmak 2 84.50 314** P **P 22 18 37.0 +1.0**
SNR=6.8
BMAR **Burnt Mountain 84.52 20** P **P 22 18 35.8 +0.5**
NIL **Nilore 84.53 304** P **P 22 18 35.8 -0.3**
NIL pmax pmax
comp=Z,10.0nm,0.8s
NIL **Nilore 84.53 304** P **P 22 18 35.8 -0.3**
NIL IAmb IAmb 22 18 54.6
comp=Z,9.6nm,0.8s
QSPA **South Pole Qui 84.73 180** P **P 22 18 36.2 -0.4**
KBK **Karagaybulak 84.91 314** P **P 22 18 38.9 +0.8**
SNR=6.5
CHMS **Chumysh 85.12 314** P **P 22 18 39.8 +0.9**
SNR=7.8
UCH **Uchtor 85.14 313** P **P 22 18 40.7 +1.2**
SNR=13
FRU1 **Bishkek 85.17 314** P **P 22 18 39.6 +0.4**
FRU1 pmax pmax
comp=Z,13nm,1.0s
FRU1 **Bishkek 85.17 314** P **P 22 18 39.5 +0.4**
FRU1 IAmb IAmb 22 18 41.0
comp=Z,13nm,0.9s
AAK **Ala-Archa 85.23 313** P **P 22 18 40.4 +0.8**
SNR=8.4
AAK **Ala-Archa 85.23 313** *c e*P **P 22 18 41.0 +1.4**
AAK pmax pmax
comp=Z,15nm,1.7s
AAK **Ala-Archa 85.23 313** P **P 22 18 39.7 +0.1**
AAK IAmb IAmb 22 18 41.6
comp=Z,6.7nm,0.8s
SGDS **Sogindy 85.30 314** *e*P **P 22 18 39.5 -0.3**
comp=Z,4.2nm,1.0s,baz=314
USP **Ospenovka 85.36 314** P **P 22 18 41.1 +1.0**
SNR=11
AML **Almayashu 85.72 313** P **P 22 18 43.9 +1.6**
SNR=19
EKS2 **Erkin-Say 85.76 313** P **P 22 18 43.5 +1.3**
SNR=9.3
NRIK **Noril'sk 86.49 341** P **P 22 18 44.0 -1.1**
comp=Z,4.1nm,0.6s,baz=110,slow=4.9,SNR=8.0
NRIK **Noril'sk 86.49 341**⇑ *e*P **P 22 18 45.5 +0.5**
NRIK pmax pmax
comp=Z,12nm,1.4s
DRK **Karamyk 86.66 310** P **P 22 18 46.5 -0.4**
DRK IAmb IAmb 22 19 01.5
comp=Z,12nm,1.4s
EPYK **Eagle Plains 86.92 22** P **P 22 18 47.5 +0.3**
BTK **Batken 87.50 310** P **P 22 18 51.0 +0.3**
BTK pmax pmax
comp=Z,5.0nm,0.8s
BTK **Batken 87.50 310** P **P 22 18 51.0 +0.3**
BTK IAmb IAmb 22 19 12.9
comp=Z,5.2nm,0.8s
BRZS **Berezniki 87.88 320** *e*P **P 22 18 52.0 -0.2**
BRZS **Berezniki 87.88 320** *e*P **P 22 18 52.1 -0.2**
baz=320
KKAR **Karatay Array 88.20 313** P **P 22 18 53.6 -0.3**
KKAR **Karatay Array 88.20 313** P **P 22 18 53.6 -0.3**
CHGR **Chuyangaron 88.57 309** P **P 22 18 56.0 +0.1**
CHGR IAmb IAmb 22 19 15.2
comp=Z,12nm,0.9s
INK **Inuvik 88.72 21** LR LR 22 55 24.2
comp=Z,122nm,21.4s,baz=227,slow=33
YBH **Yreka Blue Hor 89.06 48** LR LR 22 51 52.4
comp=Z,202nm,20.6s,baz=274,slow=31
BRVK **Borovoye 89.88 323**⇑ *e*P **P 22 19 01.1 -0.4**
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK **Borovoye 89.88 323** P **P 22 19 00.7 -0.8**
BRVK IAmb IAmb 22 19 01.7
comp=Z,6.1nm,0.8s
NVAR **Mina Array Bea 92.05 52** LR LR 22 53 28.5
comp=Z,166nm,20.3s,baz=295,slow=31
PFO **Pinyon Flats O 93.16 57** LR LR 22 57 01.3
comp=Z,140nm,18.2s,baz=286,slow=33
NEW **Newport 93.66 42** LR LR 22 59 55.3
comp=Z,112nm,18.1s,baz=275,slow=35
ELK **Elko 94.58 50** LR LR 22 57 58.3
comp=Z,193nm,18.4s,baz=297,slow=33
YKA **Yellowknife Ar 95.63 28** P **P 22 19 28.5 +0.7**
comp=Z,0.3nm,0.6s,baz=266,slow=4.7,SNR=4.2
YKA **Yellowknife Ar 95.63 28** *i* P **P 22 19 28.1 +0.3**
ARU **Arti 96.88 326** P **P 22 19 32.7 -0.9**
ARU 22 23 28.1
ARU S **SKSac 22 30 06.9 -0.2**
PDAR **Pinedale Array 98.86 48** LR LR 23 00 38.1
comp=Z,219nm,18.5s,baz=288,slow=33
ARCES **ARCESS Array B 107.39 343** PKiKP **PKiKP 22 24 29.0 +0.4**
comp=Z,5.8nm,1.0s,baz=40,slow=1.5,SNR=5.3
FINES **FINESS Array B 111.60 336** Pdiff **Pdif 22 20 38.2 -0.9**
comp=Z,1.8nm,0.9s,baz=72,slow=6.2,SNR=3.5
FINES PKiKP **PKiKP 22 24 36.4 -0.2**

comp=Z,1.5nm,0.8s,baz=101,slow=4.4,SNR=5.2
AKASG **Malin Array Be 115.06 324** PKP **PKiKP 22 24 43.3 -0.3**
comp=Z,1.2nm,0.4s,baz=52,slow=2.7,SNR=8.0
PLCA **Paso Flores 119.21 143** PKP **PKiKP 22 24 52.5 +0.3**
comp=Z,1.0nm,0.6s,baz=225,slow=2.6,SNR=5.3
PLCA **Paso Flores 119.21 143** PKIKP **PKiKP 22 24 52.3 +0.1**
PLCA **Paso Flores 119.21 143** **PKiKP 22 24 52.2 +0.1**
BOSA **Boshof 119.67 233** PKP **PKiKP 22 24 55.6 +2.2**
comp=Z,2.2nm,0.7s,baz=147,slow=1.7,SNR=7.0
CONA **Conrad Observa 124.01 327** *eP* **PKiKP 22 25 01.7 +0.4**
comp=Z,2.0nm,0.6s
GERES **GERESS Array B 124.62 329** PKP **PKiKP 22 25 02.8 +0.2**
comp=Z,1.1nm,0.4s,baz=88,slow=2.3,SNR=14
GERES **GERESS Array B 124.62 329** PKIKP **PKPdf 22 25 02.2 0.0**
GERES **GERESS Array B 124.62 329** **PKPdf 22 25 02.2 0.0**
SOKA **Soboth 125.20 326** *eP* **PKiKP 22 25 04.0 +0.3**
comp=Z,0.7nm,0.5s
ABTA **Abfaltersbach 126.54 327** *eP* **PKiKP 22 25 06.5 +0.1**
comp=Z,4.5nm,1.1s
WTTA **Wattenberg 126.69 328** *eP* **PKiKP 22 25 07.1 +0.3**
comp=Z,2.2nm,0.3s
STAL **STALIGIAL 126.74 327** **PKPdf 22 25 05.8 -0.5**
MOTA **Moosalm 126.92 328** *eP* **PKiKP 22 25 07.7 +0.5**
comp=Z,7.0nm,1.1s
RETA **Reutte 127.00 329** *eP* **PKiKP 22 25 07.8 +0.5**
comp=Z,0.5nm,0.3s
FETA **Feichten 127.32 328** *eP* **PKiKP 22 25 08.9 +0.8**
comp=Z,5.5nm,1.1s
LPAZ **La Paz 133.88 118** PKP **PKiKP 22 25 22.6 -0.1**
comp=Z,2.6nm,0.5s,baz=194,slow=0.5,SNR=8.1
CPUP **Villa Florida 136.89 138** PKP **PKiKP 22 25 27.4 -0.3**
comp=Z,4.0nm,0.8s,baz=312,slow=2.3,SNR=6.7
ESDC **Sonseca Array 139.98 332** PKhKP PKPpre 22 25 25.2
comp=Z,0.3nm,0.6s,baz=19,slow=4.0,SNR=2.7
BDFB **Brasilia 150.50 135** PKPbc **PKPbc 22 25 55.0 -0.4**
comp=Z,12nm,0.4s,baz=223,slow=1.6,SNR=4.7
BDFB **Brasilia 150.50 135** PKIKP **PKPbc 22 25 54.8 -0.6**
BDFB **Brasilia 150.50 135** **PKPbc 22 25 54.8 -0.6**
TORD **Torodi Ar. Bea 150.80 288** PKPbc **PKPbc 22 25 55.3 -0.7**
comp=Z,14nm,0.8s,baz=49,slow=2.4,SNR=67
DBIC **Dimbokro 158.11 275** PKPab **PKPab 22 26 35.4 +1.1**
comp=Z,1.1nm,0.4s,baz=113,slow=4.4,SNR=2.4

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*DDA **26** 22:10:30.7±0.0, 35°.96N×29°.54E, h7km±5km, ML3.0*
*ATH **26** 22:10:32.6, 36°.15N×29°.66E, h8km±1km, ML3.5/2, Error ellipse: s-maj=7.2km s-min=1.7km az=320.0*
*NIC **26** 22:10:33.6±0.0, 36°.15N×29°.63E, h1km, Ml3.0/1*
*ISK **26** 22:10:33.7, 36°.17N×29°.60E, h5km, ML3.1/39*
*THE **26** 22:10:36.3, 36°.24N×29°.56E, h0km±4km, ML2.8/1, Error ellipse: s-maj=10.6km s-min=1.8km az=97.0*
ISC 26 22:10:33.6±0.8, 36°.09N±0°.03×29°.63E±0°.02, h10km, n100, σ1.8 81/140, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.07**	**327**	P	**Pg**	**22 10 34.5**	**-1.3**
KSL	**Kastellorizon**	**0.07**	**327**	P	**Pg**	**22 10 34.6**	**-1.3**
KSL				S	**Sg**	**22 10 35.3**	**-2.1**
KSL				AML	AML	22 10 35.6	
KSL				AML	AML	22 10 35.7	
KSL	**Kastellorizon**	**0.07**	**327**	P	**Pg**	**22 10 34.3**	**-1.5**
KSL				S	**Sg**	**22 10 35.2**	**-2.2**
AKAS	**Kas**	**0.14**	**352**	PG	**Pg**	**22 10 35.3**	**-1.6**
AKAS				SG	**Sg**	**22 10 36.2**	**-3.1**
AKAS	**Kas**	**0.14**	**352**	P	**Pg**	**22 10 35.3**	**-1.6**
AKAS				S	**Sg**	**22 10 36.8**	**-2.5**
DEMR	**Demre-Antalya**	**0.27**	**57**	PG	**Pg**	**22 10 38.3**	**-0.7**
AKUM	**Antalya-Kumluc**	**0.62**	**68**	P	**Pg**	**22 10 45.2**	**-0.4**
AKUM				S	**Sb**	**22 10 56.3**	**+1.1**
ELL	**Elmali**	**0.69**	**19**	PG	**Pg**	**22 10 45.3**	**-1.7**
ELL				SG	**Sb**	**22 10 56.7**	**-0.8**
ELL	**Elmali**	**0.69**	**19**	P	**Pg**	**22 10 45.3**	**-1.7**
ELL				S	**Sb**	**22 10 57.3**	**-0.2**
FETY	**Fethiye**	**0.70**	**321**	P	**Pg**	**22 10 46.5**	**-0.6**
FETY				S	**Sb**	**22 10 57.5**	**-0.1**
FETY	**Fethiye**	**0.70**	**321**	PG	**Pg**	**22 10 46.6**	**-0.6**
FETY				SG	**Sb**	**22 10 56.5**	**-1.1**
FETY	**Fethiye**	**0.70**	**321**	P	**Pg**	**22 10 46.4**	**-0.7**
FETY				S	**Sb**	**22 10 56.9**	**-0.7**
FETY				*i* AML	AML	22 11 04.0	
	comp=E,636nm,0.4s						
FETY				*i* AML	AML	22 11 06.0	
	comp=N,546nm,0.4s						
KEMT	**Kemer-ANTALYA**	**0.91**	**55**	PG	**Pn**	**22 10 51.9**	**-0.4**
CAEL	**Denizli, Camel**	**1.06**	**346**	P	**Pg**	**22 10 52.1**	**-1.9**
CAEL				S	**Sn**	**22 11 16.0**	**+6.5**
CAEL				*i* AML	AML	22 11 19.0	
	comp=N,536nm,1.0s						
CAEL				*i* AML	AML	22 11 23.0	
	comp=E,578nm,0.9s						
DALY	**Dalyan (Mula)**	**1.07**	**313**	PG	**Pn**	**22 10 54.0**	**-0.6**
DALY				SG	**Sn**	**22 11 08.8**	**-0.7**
KORT	**Korkueli**	**1.08**	**32**	PG	**Pn**	**22 10 54.6**	**-0.3**
KORT	**Korkueli**	**1.08**	**32**	P	**Pg**	**22 10 53.3**	**-1.0**
KORT				S	**Sn**	**22 11 13.0**	**+3.0**
KORT				*i* AML	AML	22 11 19.0	
	comp=E,288nm,0.6s						
KORT				*i* AML	AML	22 11 22.0	
	comp=N,268nm,0.6s						
GOLH	**Golhisar**	**1.15**	**357**	P	**Pb**	**22 10 54.4**	**-1.2**
GOLH				S	**Sn**	**22 11 15.6**	**+4.0**
GOLH				*i* AML	AML	22 11 19.0	
	comp=N,375nm,0.7s						
GOLH				*i* AML	AML	22 11 24.0	
	comp=E,368nm,0.6s						
ANTB	**Antalya**	**1.15**	**45**	PN	**Pn**	**22 10 56.4**	**+0.6**
ARG	**Arkhangelos**	**1.22**	**276**	P	**Pg**	**22 10 57.5**	**+0.5**
ARG				S	**Sn**	**22 11 15.7**	**+2.3**
	438nm,0.8s						
ARG	**Arkhangelos**	**1.22**	**276**	P	**Pg**	**22 10 56.9**	**-0.2**
ARG				AML	AML	22 11 19.0	
	comp=N,735μm,0.9s						
ARG				AML	AML	22 11 20.2	
	comp=E,1006μm,0.6s						
ARG	**Arkhangelos**	**1.22**	**276**	PN	**Pg**	**22 10 57.6**	**+0.5**
ARG	**Arkhangelos**	**1.22**	**276**	P	**Pg**	**22 10 57.5**	**+0.5**
ARG				S	**Sn**	**22 11 15.7**	**+2.3**
TURN	**Turunc**	**1.31**	**302**	PN	**Pg**	**22 10 58.7**	**0.0**
TURN	**Turunc**	**1.31**	**302**	P	**Pg**	**22 10 58.5**	**-0.2**
TURN				S	**Sg**	**22 11 16.6**	**+0.9**
BUCA	**Burdur, Bucak-**	**1.44**	**31**	P	**Pg**	**22 11 01.7**	**+0.4**
BUCA				S	**Sg**	**22 11 23.5**	**+3.5**
TAVA	**DENIZLI_Tavas**	**1.49**	**337**	P	**Pb**	**22 10 00.7**	**-0.7**
TAVA				S	**Sg**	**22 11 23.2**	**+1.7**
TAVA				*i* AML	AML	22 11 26.0	
	comp=E,194nm,0.5s						
TAVA				*i* AML	AML	22 11 26.0	
	comp=E,220nm,0.8s						
YER	**Yerkesik**	**1.50**	**314**	P	**Pb**	**22 11 01.0**	**-0.6**
YER				S	**Sn**	**22 11 19.1**	**-1.3**
YER	**Yerkesik**	**1.50**	**314**	PN	**Pg**	**22 11 01.7**	**-0.7**
BCK	**Bucak**	**1.57**	**29**	PN	**Pg**	**22 11 03.1**	**-0.6**
MULA	**Mugla, Merkez-**	**1.57**	**318**	P	**Pb**	**22 11 02.3**	**-0.5**
MULA				S	**Sg**	**22 11 25.6**	**+1.5**
MULA				*i* AML	AML	22 11 27.0	
	comp=E,189nm,0.6s						
MULA				*i* AML	AML	22 11 31.0	
	comp=E,242nm,0.6s						
BRDR	**BURDUR-Merkez**	**1.64**	**12**	P	**Pg**	**22 11 04.5**	**-0.5**
BRDR				S	**Sg**	**22 11 29.5**	**+3.2**
SUTC	**Sutluce-Ispart**	**1.77**	**38**	PN	**Pb**	**22 11 06.1**	**0.0**
DAT	**Datca**	**1.77**	**292**	P	**Pb**	**22 11 05.5**	**-0.8**
DAT				S	**Sb**	**22 11 27.2**	**-1.4**
DAT	**Datca**	**1.77**	**292**	PN	**Pg**	**22 11 06.4**	**-1.2**
DAT	**Datca**	**1.77**	**292**	P	**Pb**	**22 11 05.4**	**-0.8**
DAT				S	**Sg**	**22 11 30.2**	**-0.5**
KEPZ	**Antalya-Kepez**	**1.78**	**62**	P	**Pg**	**22 11 07.5**	**-0.3**
KEPZ				S	**Sg**	**22 11 32.2**	**+1.2**
BASM	**Basmaki-Afyon**	**1.86**	**10**	PN	**Pb**	**22 11 06.8**	**-0.8**
ISP	**Isparta**	**1.87**	**22**	P	**Pb**	**22 11 06.7**	**-1.2**
ISP	**Isparta**	**1.87**	**22**	PN	**Pb**	**22 11 07.3**	**-0.6**
MLSB	**Milas**	**1.92**	**309**	PN	**Pb**	**22 11 08.1**	**-0.5**
NIS1	**Nisyros Isl.**	**2.04**	**285**	PN	**Pb**	**22 11 09.9**	**-0.9**
BODT	**Bodrum**	**2.10**	**298**	P	**Pb**	**22 11 10.1**	**-1.7**
BODT				S	**Sb**	**22 11 36.2**	**-1.8**
BODT	**Bodrum**	**2.10**	**298**	PN	**Pb**	**22 11 10.2**	**-1.6**
BAGO	**Egridir - ISPA**	**2.11**	**26**	P	**Pg**	**22 11 12.6**	**-1.4**
BAGO				S	**Sg**	**22 11 40.7**	**-0.7**
GAZI	**Gazipasa**	**2.18**	**85**	PN	**Pn**	**22 11 11.2**	**+1.3**
GAZI	**Gazipasa**	**2.18**	**85**	P	**Pn**	**22 11 10.5**	**+0.6**
GAZI				S	**Sn**	**22 11 38.7**	**+1.8**
SEDI	**Konya, Seydise**	**2.18**	**51**	P	**Pb**	**22 11 13.7**	**+0.5**
SEDI				S	**Sg**	**22 11 46.5**	**+2.9**
KZIL	**AFYON_Kizioren**	**2.20**	**11**	P	**Pb**	**22 11 12.0**	**-1.6**
KZIL				S	**Sg**	**22 11 43.0**	**-1.3**
SEYD	**Seydisehir-KON**	**2.21**	**53**	PN	**Pb**	**22 11 12.9**	**-0.7**
PASA	**Karahalli, USA**	**2.26**	**357**	P	**Pn**	**22 11 10.3**	**-0.7**
PASA				S	**Sb**	**22 11 42.3**	**-0.2**
AKMS	**Akamas**	**2.45**	**115**	P	**Pn**	**22 11 15.5**	**+1.8**
AKMS				AML	AML	22 11 58.3	
	comp=E,0.2nm,0.5s						
AKMS				AML	AML	22 12 00.6	
	comp=E,0.2nm,1.2s						
HDMB	**Hadim**	**2.46**	**68**	PN	**Pb**	**22 11 16.2**	**-1.8**
GCAM	**G?zelcaml?**	**2.50**	**311**	PN	**Pb**	**22 11 16.2**	**-2.4**
GCAM	**G?zelcaml?**	**2.50**	**311**	P	**Pb**	**22 11 16.2**	**-2.4**
GCAM				S	**Sn**	**22 11 45.8**	**+0.8**
GCAM				*i* AML	AML	22 12 04.0	
	comp=E,104nm,1.1s						
YVAC	**Isparta, Yalva**	**2.53**	**30**	P	**Pb**	**22 11 17.8**	**-1.3**
YVAC				S	**Sb**	**22 11 51.4**	**+1.1**
KULA	**Kula-Manisa**	**2.54**	**343**	P	**Pn**	**22 11 16.1**	**+1.2**
KULA	**Kula-Manisa**	**2.54**	**343**	PN	**Pn**	**22 11 16.2**	**+1.3**
SHUT	**Suhut-Afyon**	**2.56**	**16**	PN	**Pb**	**22 11 17.4**	**-2.3**
DOGA	**KONYA_Doganhis**	**2.59**	**38**	P	**Pb**	**22 11 19.6**	**-0.6**
DOGA				S	**Sg**	**22 11 54.7**	**-2.0**
DOGA				*i* AML	AML	22 12 00.0	
	comp=E,62nm,0.8s						
USAK	**Uak-Merkez**	**2.66**	**350**	P	**Pn**	**22 11 17.6**	**+1.0**
USAK				S	**Sb**	**22 11 51.2**	**-3.0**
NATA	**Nata**	**2.73**	**118**	P	**Pn**	**22 11 19.0**	**+1.5**
NATA				S	**Sb**	**22 11 54.2**	**-1.9**
KMER	**Konya-Meram**	**2.76**	**52**	P	**Pb**	**22 11 22.4**	**-0.7**
KMER				S	**Sg**	**22 12 00.7**	**-1.5**
SMG	**Samos**	**2.76**	**307**	P	**Pn**	**22 11 19.1**	**+1.2**
TEKE	**Tekeli-Mersin**	**2.82**	**88**	PN	**Pb**	**22 11 21.5**	**-2.5**
KONT	**Konya--Tatoy**	**2.86**	**49**	PN	**Pb**	**22 11 23.1**	**-1.7**
KONT	**Konya--Tatoy**	**2.86**	**49**	P	**Pb**	**22 11 23.6**	**-1.2**
KONT				S	**Sg**	**22 12 04.8**	**-0.8**
KKBE	**Karaman, Kazim**	**2.89**	**66**	P	**Pb**	**22 11 23.2**	**-2.1**
KKBE				S	**Sb**	**22 11 59.4**	**-1.3**
DGB	**zmir**	**2.94**	**313**	P	**Pn**	**22 11 20.7**	**+0.4**
DGB				S	**Sn**	**22 11 57.1**	**+1.3**
ZKR	**Zakros**	**2.95**	**252**	P	**Pn**	**22 11 22.9**	**+2.4**
ZKR	**Zakros**	**2.95**	**252**	PN	**Pb**	**22 11 23.7**	**-2.5**
ZKR	**Zakros**	**2.95**	**252**	P	**Pn**	**22 11 22.3**	**+1.9**
SZAC	**Souni**	**2.97**	**116**	P	**Pn**	**22 11 21.6**	**+0.8**
SIMA	**Simav-Kutahya**	**3.03**	**350**	PN	**Pn**	**22 11 22.3**	**+0.6**
LADK	**Ladik-KONYA**	**3.03**	**45**	PN	**Pn**	**22 11 24.4**	**+2.7**
DEMI	**Demirci**	**3.04**	**346**	P	**Pn**	**22 11 22.3**	**+0.5**
TEVE	**Tevekalti-Mers**	**3.10**	**82**	PN	**Pb**	**22 11 26.0**	**-2.8**
KDHN	**Kadinhani**	**3.13**	**38**	P	**Pb**	**22 11 26.2**	**-3.2**
AKKU	**Akkuyu-Mersin**	**3.17**	**88**	PN	**Pb**	**22 11 27.3**	**-2.7**
CSS	**Mathiatis**	**3.22**	**109**	PN	**Pb**	**22 11 28.2**	**-2.6**
CSS	**Mathiatis**	**3.22**	**109**	P	**Pn**	**22 11 26.8**	**+2.6**
ASGA	**Asgata**	**3.23**	**113**	P	**Pn**	**22 11 26.7**	**+2.4**
LFK	**Lefkose**	**3.28**	**103**	PN	**Pb**	**22 11 28.9**	**-2.9**
KIZT	**Kizilcal**	**3.31**	**32**	PN	**Pn**	**22 11 27.9**	**+2.4**
URLA	**Izmir**	**3.32**	**314**	PN	**Pn**	**22 11 27.7**	**+2.2**
KEBE	**Keben-Mersin**	**3.32**	**83**	PN	**Pb**	**22 11 29.3**	**-3.2**
TVSB	**Tavsanli**	**3.36**	**358**	PN	**Pn**	**22 11 27.2**	**+1.0**
NPS	**Neapolis**	**3.37**	**257**	P	**Pn**	**22 11 28.0**	**+1.7**
ALIN	**Konya, Altinte**	**3.40**	**49**	P	**Pb**	**22 11 30.7**	**-3.3**
ANDZ	**Kutahya, Merke**	**3.42**	**3**	P	**Pn**	**22 11 28.2**	**+1.2**
MVOU	**Mavrovouni**	**3.43**	**107**	P	**Pn**	**22 11 28.7**	**+1.6**
CIFT	**Cifteler, Eski**	**3.46**	**19**	PN	**Pn**	**22 11 29.7**	**+2.2**
ZEDA	**zmir-Bergama**	**3.52**	**326**	P	**Pn**	**22 11 29.3**	**+1.1**
CHBY	**Cihanbeyli**	**3.60**	**45**	PN	**Pn**	**22 11 32.1**	**+2.6**
CHOS	**Chios island**	**3.66**	**310**	P	**Pn**	**22 11 31.0**	**+0.7**
CHOS	**Chios island**	**3.66**	**310**	PN	**Pn**	**22 11 32.5**	**+2.2**
SVRH	**Sivrihisar-ESK**	**3.67**	**24**	PN	**Pn**	**22 11 32.9**	**+2.4**
IDI	**Anoyia**	**3.94**	**260**	P	**Pn**	**22 11 35.5**	**+1.4**
IMMV	**Iera Moni Meta**	**4.64**	**264**	P	**Pn**	**22 11 47.9**	**+4.3**
VLI	**Veliai**	**5.44**	**279**	P	**Pn**	**22 11 56.8**	**+2.1**

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*IDC **26** 22:31:45.0±1.8, 59°.78N×153°.27W, h85km±28km, mb3.6/2, mb1 3.7/7, mb1mx3.1/62, mbtmp3.9/7, MS4.1/2, Ms1 4.1/2, ms1mx3.0/93, Error ellipse: s-maj=33.6km s-min=11.1km az=108.0*
*NEIC **26** 22:31:46.0±1.1, 59°.73N±0°.04×153°.18W±0°.06, h112km±4km, Error ellipse: s-maj=5.4km s-min=4.5km az=173.0*
*AEIC **26** 22:31:47±1.3, 59°.71N±0°.03×153°.16W±0°.07, h107km±4km, ML3.4, ML3.7/106(NEIC), Error ellipse: s-maj=5.3km s-min=4.7km az=125.0*
ISC 26 22:31:46.2±0.9, 59°.73N±0°.04×153°.13W±0°.04, h111km±6km, n234, σ0.66/224, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.10**	**213**		**Pn**	**22 32 01.3**	**-0.2**
OPT	**Oil Point**	**0.10**	**213**	P	**Pn**	**22 32 01.3**	**-0.2**
	baz=33						
AU22	**Augustine Moun**	**0.38**	**198**		**Pn**	**22 32 02.3**	**-0.1**
AU22					**Sn**	**22 32 14.2**	**-0.3**
AUL	**Augustine Lava**	**0.38**	**204**		**Pn**	**22 32 02.5**	**0.0**
AUL					**Sn**	**22 32 14.4**	**-0.2**
AGU	**Augustine-Summ**	**0.40**	**202**		**Pn**	**22 32 02.7**	**0.0**
AGU					**Sn**	**22 32 15.1**	**-0.1**
AUQ	**Augustine Qik'**	**0.41**	**201**		**Pn**	**22 32 02.6**	**0.0**
AUQ					**Sn**	**22 32 14.7**	**-0.2**
O20K	**Slope Mountain**	**0.43**	**36**		**Pn**	**22 32 02.7**	**-0.1**
O20K					**Sn**	**22 32 15.1**	**-0.3**
O20K	**Slope Mountain**	**0.43**	**36**	P	**Pn**	**22 32 02.7**	**-0.1**
	baz=216						
O20K				S	**Sn**	**22 32 15.0**	**-0.3**
	baz=216						
RED	**Redoubt Volcan**	**0.71**	**15**		**Pn**	**22 32 04.6**	**-0.2**
RED					**Sn**	**22 32 18.1**	**-0.8**
RSO	**Redoubt South**	**0.76**	**14**		**Pn**	**22 32 05.2**	**-0.2**
O19K	**Port Alsworth**	**0.76**	**308**		**Pn**	**22 32 04.7**	**-0.4**
O19K	**Port Alsworth**	**0.76**	**308**	IAML		22 32 19.0	
	comp=E,2μm,0.5s						
O19K				IAML		22 32 19.6	
	comp=N,2μm,0.4s						
O19K	**Port Alsworth**	**0.76**	**308**	P	**Pn**	**22 32 04.7**	**-0.4**
	baz=129						
HOM	**Homer**	**0.76**	**95**		**Pn**	**22 32 05.2**	**+0.1**
HOM					**Sn**	**22 32 20.0**	**+0.7**
HOM	**Homer**	**0.76**	**95**	IAML		22 32 21.3	
	comp=N,4μm,0.4s						
HOM	**Homer**	**0.76**	**95**	P	**Pn**	**22 32 05.2**	**+0.1**
	baz=275						
HOM				S	**Sn**	**22 32 20.0**	**+0.7**
	baz=275						
NCT	**North Crescent**	**0.84**	**7**		**Pn**	**22 32 05.7**	**-0.3**
Q19K	**Cape Douglas,**	**0.85**	**198**		**Pn**	**22 32 05.8**	**-0.2**
Q19K	**Cape Douglas,**	**0.85**	**198**	IAML		22 32 25.6	
	comp=N,1μm,0.7s						
Q19K	**Cape Douglas,**	**0.85**	**198**	P	**Pn**	**22 32 05.8**	**-0.2**
	baz=17						
DFR	**Drift River**	**0.89**	**14**		**Pn**	**22 32 06.3**	**-0.2**
DFR					**Sn**	**22 32 21.2**	**-0.6**
CNPM	**China Poot**	**0.98**	**101**		**Pn**	**22 32 07.1**	**-0.2**
CNPM	**China Poot**	**0.98**	**101**	IAML		22 32 23.6	
	comp=N,2μm,0.4s						
CNPM				IAML		22 32 24.6	
	comp=E,876nm,0.4s						
O18K	**Koktuh Hills**	**1.06**	**278**		**Pn**	**22 32 07.6**	**-0.5**
O18K					**Sn**	**22 32 23.6**	**-1.0**
O18K	**Koktuh Hills**	**1.06**	**278**	P	**Pn**	**22 32 07.6**	**-0.5**
	baz=97						
O18K				S	**Sn**	**22 32 23.6**	**-1.0**
	baz=97						
P18K	**Big Mountain,**	**1.12**	**253**		**Pn**	**22 32 08.1**	**-0.7**
P18K	**Big Mountain,**	**1.12**	**253**	P	**Pn**	**22 32 08.1**	**-0.7**
	baz=72						
BRLK	**Bradley Lake**	**1.14**	**87**		**Pn**	**22 32 08.5**	**-0.4**
BRLK	**Bradley Lake**	**1.14**	**87**	IAML		22 32 28.5	
	comp=E,728nm,0.3s						
BRLK				IAML		22 32 29.6	
	comp=N,870nm,0.1s						
BRSE	**Bradley Lake S**	**1.21**	**89**		**Pn**	**22 32 09.5**	**-0.2**
BRSE	**Bradley Lake S**	**1.21**	**89**	P	**Pn**	**22 32 09.5**	**-0.2**
	baz=270						
N19K	**Bonanza Creek**	**1.28**	**329**		**Pn**	**22 32 10.3**	**-0.2**
N19K					**Sn**	**22 32 28.1**	**-0.8**
N19K	**Bonanza Creek**	**1.28**	**329**	P	**Pn**	**22 32 10.3**	**-0.2**
	baz=149						
N19K				S	**Sn**	**22 32 28.1**	**-0.8**
	baz=149						
CAPN	**Captain Cook N**	**1.43**	**43**		**Pn**	**22 32 14.0**	**+1.8**
CAPN	**Captain Cook N**	**1.43**	**43**	IAML		22 32 38.6	
	comp=E,1μm,0.4s						
CAPN	**Captain Cook N**	**1.43**	**43**	P	**Pn**	**22 32 14.0**	**+1.8**
	baz=224						
SPU	**Mount Spurr**	**1.55**	**20**		**Pn**	**22 32 13.7**	**0.0**
SPCP	**Crater Peak Br**	**1.61**	**17**		**Pn**	**22 32 14.7**	**+0.2**
SPCP					**Sn**	**22 32 37.2**	**+1.1**
SLKM	**Skilak Lake**	**1.65**	**61**		**Pn**	**22 32 14.6**	**-0.3**
SPCG	**Spurr Capps Gl**	**1.66**	**19**		**Pn**	**22 32 15.2**	**+0.1**
KCG	**Knife Ck. Glac**	**1.76**	**216**		**Pn**	**22 32 16.2**	**0.0**
SVW2	**Sparrevohn**	**1.83**	**319**	Pn	**Pn**	**22 32 17.1**	**+0.1**
O22K	**Cooper Landing**	**1.86**	**65**		**Pn**	**22 32 17.6**	**+0.1**
O22K					**Sn**	**22 32 40.0**	**-1.3**
O22K	**Cooper Landing**	**1.86**	**65**	IAML		22 32 51.7	
	comp=E,1μm,0.6s						
O22K	**Cooper Landing**	**1.86**	**65**	P	**Pn**	**22 32 17.6**	**+0.1**
	baz=247						
O22K				S	**Sn**	**22 32 40.0**	**-1.3**
	baz=247						
SEW	**Seward**	**1.89**	**77**		**Pn**	**22 32 17.5**	**-0.3**
SEW	**Seward**	**1.89**	**77**	P	**Pn**	**22 32 17.5**	**-0.3**
	baz=260						
KDAK	**Kodiak Island**	**1.98**	**171**	P	**Pn**	**22 32 18.0**	**-0.8**
	comp=E,44nm,0.3s,baz=36,slow=8.4,SNR=173						
KDAK				S	**Sn**	**22 32 42.6**	**-1.2**
	comp=E,31nm,0.3s,baz=324,slow=23,SNR=23						
KDAK	**Kodiak Island**	**1.98**	**171**	IAML		22 32 44.7	
	comp=E,325nm,0.2s						
KDAK	**Kodiak Island**	**1.98**	**171**	P	**Pn**	**22 32 18.1**	**-0.8**
	baz=352						
FIS	**Fire Island**	**2.02**	**44**		**Pn**	**22 32 20.9**	**+1.5**
FIS	**Fire Island**	**2.02**	**44**	IAML		22 32 49.4	
	comp=N,485nm,0.7s						
FIS				IAML		22 32 53.3	
	comp=E,528nm,0.5s						
CAHL	**Cahill**	**2.03**	**215**		**Pn**	**22 32 20.1**	**+0.5**
RC01	**Rabbit Creek A**	**2.17**	**50**		**Pn**	**22 32 21.5**	**+0.2**
RC01					**Sn**	**22 32 47.0**	**-1.2**
RC01	**Rabbit Creek A**	**2.17**	**50**	IAML		22 32 48.6	
	comp=N,888nm,0.3s						
RC01	**Rabbit Creek A**	**2.17**	**50**	P	**Pn**	**22 32 21.5**	**+0.2**
	baz=232						
RC01				S	**Sn**	**22 32 47.0**	**-1.2**
	baz=232						
M19K	**Big River Lodg**	**2.26**	**345**		**Pn**	**22 32 22.5**	**-0.1**
M19K	**Big River Lodg**	**2.26**	**345**	P	**Pn**	**22 32 22.5**	**-0.1**
	baz=164						
M22K	**Willow**	**2.51**	**35**		**Pn**	**22 32 26.2**	**+0.6**
M22K	**Willow**	**2.51**	**35**	P	**Pn**	**22 32 26.2**	**+0.6**
	baz=217						
OHAK	**Old Harbor**	**2.52**	**182**		**Pn**	**22 32 24.6**	**-1.3**
OHAK	**Old Harbor**	**2.52**	**182**	P	**Pn**	**22 32 24.6**	**-1.3**
	baz=1.5						
L19K	**White Mountain**	**2.60**	**342**	Pn	**Pn**	**22 32 26.7**	**-0.2**
PWL	**Port Wells**	**2.64**	**63**		**Pn**	**22 32 26.7**	**-0.8**
PWL	**Port Wells**	**2.64**	**63**	P	**Pn**	**22 32 26.7**	**-0.8**
	baz=246						
PMR	**Palmer**	**2.71**	**45**		**Pn**	**22 32 27.7**	**-0.7**
PMR	**Palmer**	**2.71**	**45**	IAML		22 32 60.0	
	comp=N,224nm,0.2s						
PMR				IAML		22 33 00.9	
	comp=E,223nm,0.2s						
PMR	**Palmer**	**2.71**	**45**	P	**Pn**	**22 32 27.7**	**-0.7**
	baz=228						
L20K	**Farewell, AK**	**2.78**	**353**		**Pn**	**22 32 29.5**	**+0.2**
L20K	**Farewell, AK**	**2.78**	**353**	P	**Pn**	**22 32 29.5**	**+0.2**
	baz=172						
KNK	**Knik Glacier**	**2.86**	**52**		**Pn**	**22 32 29.7**	**-0.6**
KNK	**Knik Glacier**	**2.86**	**52**	P	**Pn**	**22 32 29.7**	**-0.6**
	baz=236						
GHO	**Glory Hole Cre**	**2.91**	**43**		**Pn**	**22 32 30.3**	**-0.7**
GHO	**Glory Hole Cre**	**2.91**	**43**	IAML		22 33 06.2	
	comp=E,321nm,0.6s						
GHO				IAML		22 33 07.6	
	comp=N,280nm,0.6s						
SML	**Sawmill**	**3.14**	**46**		**Pn**	**22 32 33.2**	**-0.9**
SML	**Sawmill**	**3.14**	**46**	IAML		22 33 11.5	
	comp=N,190nm,0.4s						
SML				IAML		22 33 17.8	
	comp=E,164nm,0.7s						
SML	**Sawmill**	**3.14**	**46**	P	**Pn**	**22 32 33.2**	**-0.9**
	baz=230						
PPLA	**Purkeypile**	**3.21**	**8**		**Pn**	**22 32 35.9**	**+0.9**
PPLA	**Purkeypile**	**3.21**	**8**	P	**Pn**	**22 32 35.9**	**+0.9**

comp=N,29nm,0.7s
MCK McKinley 4.48 25 P Pn 22 32 52.2 +0.2
baz=208
J20K Nowinta River 4.49 354 Pn 22 32 52.1 +0.2
HMT Hamilton 4.49 78 Pn 22 32 51.7 -0.4
HMT IAML 22 33 43.3
comp=N,120nm,0.5s
BPAW Bear Paw Mtn. 4.50 12 Pn 22 32 51.5 -0.7
BPAW Bear Paw Mtn. 4.50 12 P Pn 22 32 51.5 -0.7
baz=194
N25K Chitina, Valde 4.60 62 Pn 22 32 53.8 +0.2
N25K Chitina, Valde 4.60 62 IAML 22 33 45.8
comp=E,113nm,0.6s
N25K IAML 22 33 47.1
comp=N,105nm,0.8s
N25K Chitina, Valde 4.60 62 P Pn 22 32 53.8 +0.2
baz=249
NICHA Nichawak Mount 4.63 80 Pn 22 32 54.0 +0.1
HARP HAARP 4.71 52 Pn 22 32 55.1 +0.1
HARP HAARP 4.71 52 P Pn 22 32 55.1 +0.1
baz=239
SUCK Suckling Hills 4.72 82 Pn **Pn 22 32 55.3 +0.1**
BERG Berg Lake 4.77 78 Pn 22 32 55.9 0.0
BERG Berg Lake 4.77 78 IAML 22 33 50.7
comp=N,97nm,0.4s
BWN Browne 4.78 20 Pn 22 32 56.2 +0.3
BWN Browne 4.78 20 IAML 22 33 56.7
comp=N,44nm,2.5s
BWN IAML 22 34 08.2
comp=E,50nm,4.2s
GLB Gilahina Butte 4.91 66 Pn 22 32 57.5 -0.2
GLB Gilahina Butte 4.91 66 IAML 22 33 53.9
comp=N,90nm,0.8s
GLB IAML 22 33 54.3
comp=E,65nm,0.6s
PAX Paxson 4.91 45 Pn 22 32 57.5 -0.3
PAX Paxson 4.91 45 P Pn 22 32 57.5 -0.3
baz=232
GRIN Grindle Hills 4.96 79 Pn 22 32 58.7 +0.3
KHIT Khitrov Hills 5.00 78 Pn 22 32 58.9 -0.1
VRDI Verde Repeater 5.02 68 Pn 22 32 59.5 +0.2
VRDI Verde Repeater 5.02 68 IAML 22 33 56.2
comp=N,47nm,0.5s
VRDI IAML 22 34 09.4
comp=E,45nm,5.0s
SNH Sunshine Point 5.19 81 Pn 22 33 01.9 +0.3
WAX Waxell Ridge 5.20 78 Pn 22 33 01.4 -0.2
NEA2 Nenana 5.24 20 Pn 22 33 01.5 -0.6
NEA2 Nenana 5.24 20 IAML 22 33 58.6
comp=N,22nm,4.6s
NEA2 IAML 22 34 07.3
comp=E,16nm,3.4s
NEA2 Nenana 5.24 20 P Pn 22 33 01.5 -0.6
baz=203
WRH Wood River Hil 5.31 24 Pn 22 33 02.5 -0.6
WRH Wood River Hil 5.31 24 IAML 22 33 58.0
comp=N,20nm,4.7s
WRH IAML 22 34 25.6
comp=E,20nm,4.5s
MLY Manley 5.43 11 Pn 22 33 04.2 -0.6
ISLE Juniper Island 5.46 76 Pn 22 33 05.3 +0.1
KIAG Kiagna River 5.49 73 Pn 22 33 05.9 +0.3
I21K Tanana 5.49 5 Pn 22 33 05.5 -0.1
BALM Baldy 5.51 72 Pn 22 33 06.1 +0.2
HDA Harding Lake 5.52 29 Pn 22 33 05.4 -0.5
HDA Harding Lake 5.52 29 P Pn 22 33 05.4 -0.5
baz=214
CCB Clear Creek Bu 5.53 25 Pn 22 33 05.2 -0.8
MENT Mentasta 5.55 51 Pn 22 33 06.5 +0.1
BAGL Bagley Icefiel 5.58 77 Pn 22 33 07.5 +0.9
M26K Nabesna, AK 5.60 57 Pn 22 33 07.4 +0.3
RIDG Independent Ri 5.62 41 Pn 22 33 07.7 +0.3
RIDG Independent Ri 5.62 41 P Pn 22 33 07.7 +0.3
baz=228
MESA MESA 5.64 81 Pn 22 33 08.1 +0.4
MESA MESA 5.64 81 P Pn 22 33 08.1 +0.4
baz=270
PS08 TAPS Pump Stn8 5.66 29 Pn 22 33 07.2 -0.6
I23K Minto, Yukon-K 5.71 16 Pn 22 33 08.2 -0.2
I23K Minto, Yukon-K 5.71 16 P Pn 22 33 08.3 -0.2
baz=200
TCOL CIGO, UAF Yank 5.71 23 Pn 22 33 08.2 -0.3
TCOL CIGO, UAF Yank 5.71 23 P Pn 22 33 08.2 -0.3
baz=208
COLA College 5.72 23 Pn 22 33 08.0 -0.5
MDM Murphy Dome 5.72 21 Pn 22 33 08.1 -0.6
YAH Yahtse 5.74 79 Pn 22 33 09.8 +0.6
DOT Dot Lake 5.83 44 Pn 22 33 10.0 -0.2
IL31 5.83 27 Pn 22 33 09.4 -0.7
ILAR Eielson Array 5.83 27 P Pn 22 33 09.2 -1.0
comp=E,5.5nm,0.3s,baz=214,slow=13,SNR=223
ILAR S **Sn 22 34 12.9 -2.8**
comp=E,2.1nm,0.3s,baz=195,slow=16,SNR=4.3
ILAR Eielson Array 5.83 27 Pn 22 33 09.4 -0.8
BARN Barnard Glacie 5.84 72 Pn 22 33 11.1 +0.7
SDPT Sand Point 5.91 225 Pn **Pn 22 33 10.3 -1.0**
H21K Melozitna Rive 5.95 1 Pn 22 33 11.8 +0.1
POKR Poker Plat Res 6.01 24 Pn 22 33 12.5 -0.1
POKR Poker Plat Res 6.01 24 P Pn 22 33 12.5 -0.1
baz=209
CNBA Chernabura Isl 6.04 218 Pn **Pn 22 33 11.6 -1.4**
TABL Table Mountain 6.04 78 Pn 22 33 13.6 +0.4
CHX Chaix Hills 6.06 82 Pn 22 33 14.1 +0.8
M27K Edge Creek, AK 6.07 59 Pn 22 33 14.5 +1.0
SCRK Sand Creek 6.07 42 Pn 22 33 12.8 -0.6
SCRK Sand Creek 6.07 42 P Pn 22 33 12.8 -0.6
baz=230
SAMH Samovar Hills 6.22 81 Pn 22 33 16.4 +0.9
IM03 6.28 358 Pn 22 33 16.6 +0.4
IMAR Indian Mountai 6.28 358 Pn 22 33 16.6 +0.4
YUK2 White River 6.36 66 Pn 22 33 18.4 +1.0
L27K Beaver Creek, 6.37 54 Pn 22 33 18.5 +1.0
L27K Beaver Creek, 6.37 54 P Pn 22 33 18.5 +1.0
baz=243
BC03 6.39 54 Pn 22 33 18.9 +1.3
BCAR Beaver Creek A 6.39 54 Pn **Pn 22 33 18.1 +0.4**
PCA Pinnacle 6.49 81 Pn 22 33 19.6 +0.6
PINM Pinnacle 6.49 81 P Pn 22 33 19.6 +0.5
baz=272
YUK3 Moose Creek 6.54 66 Pn 22 33 20.7 +0.8
YUK3 Moose Creek 6.54 66 P Pn 22 33 20.7 +0.8
baz=257
J26L Joseph Creek 6.55 39 Pn 22 33 19.5 -0.5
H24K Noodor Dome 6.58 19 Pn 22 33 19.9 -0.4
H24K Noodor Dome 6.58 19 P Pn 22 33 19.9 -0.4
baz=204
PRP Porcupine Dome 6.78 28 Pn 22 33 22.5 -0.6
PRP Porcupine Dome 6.78 28 P Pn 22 33 22.5 -0.6
baz=215
BCPM Bancas Point 6.81 82 Pn 22 33 23.9 +0.6
PNL Peninsula 6.95 85 Pn 22 33 25.1 -0.2
PNL Peninsula 6.95 85 P Pn 22 33 25.1 -0.2
baz=276
COLD Coldfoot 7.64 9 Pn 22 33 34.6 +0.1
COLD Coldfoot 7.64 9 P Pn 22 33 34.6 +0.1
baz=191
FYU Fort Yukon 7.73 24 Pn 22 33 35.1 -0.6
DAWY Dawson 7.80 50 Pn 22 33 37.5 +0.7
DAWY Dawson 7.80 50 P Pn 22 33 37.5 +0.7
baz=242
M30M Minto, Yukon 8.39 63 Pn **Pn 22 33 44.7 -0.1**
BM03 Burnt Mountain 8.59 23 Pn 22 33 46.0 -1.5
BMAR Burnt Mountain 8.60 23 Pn **Pn 22 33 46.0 -1.6**
BM01 Burnt Mountain 8.63 23 Pn 22 33 46.6 -1.4
N31M Braeburn, Yuko 8.71 71 Pn **Pn 22 33 49.6 +0.5**
I29M Ogilvie Camp, 8.86 44 Pn **Pn 22 33 51.5 +0.4**
TOLK Toolik Lake Re 9.08 8 Pn **Pn 22 33 54.6 +0.5**
WHY Whitehorse 9.13 76 Pn **Pn 22 33 55.3 +0.4**
M31M Drury Creek, Y 9.43 67 Pn **Pn 22 33 59.3 +0.3**
P33M Teslin, Yukon 10.19 79 Pn **Pn 22 34 10.1 +0.9**
DLBC Dease Lake 11.94 86 P Pn 22 34 34.6 +2.0
comp=E,1.5nm,0.3s,baz=263,slow=8.4,SNR=20
INK Inuvik 12.09 37 P Pn 22 34 35.1 +0.7
comp=E,0.2nm,0.3s,baz=227,slow=9.1,SNR=6.1
INK Inuvik 12.09 37 Pn 22 34 35.0 +0.5
YKA Yellowknife Ar 18.62 65 P Pn 22 35 56.0 -0.3
comp=E,0.2nm,0.3s,baz=277,slow=9.8,SNR=14
TXAR Lajitas Array 44.95 110 LR LR 23 01 00.4
comp=E,162nm,18.3s,baz=288,slow=39
SONM Songino Array 54.89 306 P P 22 41 06.1 +1.1
comp=E,0.5nm,0.4s,baz=44,slow=5.7,SNR=8.6
ZALV Zalesovo Beam 57.55 324 P P 22 41 23.8 +0.2
comp=E,1.1nm,0.5s,baz=38,slow=5.6,SNR=5.5
JAY Jayapura 80.39 248 LR LR 23 13 51.6

comp=E,122nm,20.9s,baz=176,slow=31

IDC 26 22:56:18.3±3.9, 7°21S×150°97E, h0km, mb3.3/2, mb1 3.7/2, mb1mx2.9/40, mbtmp3.5/2, Error ellipse: s-maj=142.2km s-min=51.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.50**	**230**	P	P	23 00 57.4	-0.8
	1.7nm,0.6s,baz=56,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.16**	**223**	P	P	23 01 26.5	0.0
	0.4nm,0.5s,baz=56,slow=8.8,SNR=7.1						
TORD	**Torodi Ar. Bea**	**149.21**	**284**	PKPbc	PKPbc	23 16 10.0	+0.1
	0.1nm,0.3s,baz=95,slow=2.6,SNR=1.3						

*CNRM **26** 23:00:32.4, 29°89N×15°20W, h0km, ml3.9*
*INMG **26** 23:00:38.5±1.4, 29°67N×15°12W, h10km, ML3.0, Error ellipse: s-maj=3.0km s-min=2.4km az=144.0*

ISC 26 23:00:34.3±2.0, 30°0N±0°1×14°99W±0°08, h10km, n21, σ1°98/26, 2C, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAR	**Madeira**	**3.17**	**329⇑**	*e*P	**Pn**	**23 01 25.7**	**+1.3**
PMAR				*e*S	**Sn**	**23 01 59.6**	**-2.7**
PMAR				A	A	23 02 02.5	
	56nm,0.4s						
PMAR	**Madeira**	**3.17**	**329**	P	**Pn**	**23 01 25.6**	**+1.3**
PMAR				S	**Sn**	**23 02 00.6**	**-1.7**
PMPS	**Porto Santo**	**3.25**	**340⇑**	*i*P	**Pn**	**23 01 26.8**	**+1.5**
PMPS				*e*S	**Sn**	**23 02 03.0**	**-1.0**
PMPS				A	A	23 02 06.8	
	20nm,0.1s						
PMPST	**Porto Santo, M**	**3.27**	**340**	*e*S	**Sn**	**23 02 03.3**	**-1.2**
PMPST				A	A	23 02 09.7	
	38nm,0.3s						
PMOZ	**Porto Moniz, M**	**3.38**	**327**	*e*P	**Pn**	**23 01 28.7**	**+1.5**
PMOZ				*e*S	**Sn**	**23 02 05.2**	**-2.2**
PMOZ				A	A	23 02 15.8	
	81nm,0.4s						
PMOZ	**Porto Moniz, M**	**3.38**	**327**	P	**Pn**	**23 01 28.7**	**+1.5**
TANT	**Tantan**	**3.65**	**115**	P	**Pn**	**23 01 31.0**	**+0.1**
EAH	**EAH**	**4.93**	**69**	P	**Pn**	**23 01 50.6**	**+2.1**
TTIG	**Tnine Tigouga,**	**5.69**	**83**	P	**Pn**	**23 01 58.4**	**-0.6**
OUK	**Oukaimeden**	**6.26**	**77**	P	**Pn**	**23 02 09.0**	**+2.0**
SRHM	**Skhour des Reh**	**6.55**	**66**	P	**Pn**	**23 02 13.2**	**+2.4**
AVE	**Averroes**	**7.25**	**61**	P	**Pn**	**23 02 22.7**	**+2.4**
ZHG	**ZHG**	**7.89**	**62**	P	**Pn**	**23 02 30.7**	**+1.5**
ZGR	**Zagora**	**8.12**	**87**	P	**Pn**	**23 02 32.8**	**+0.4**
TZRR	**Tazzarine**	**8.18**	**82**	P	**Pn**	**23 02 34.3**	**+1.2**
PFVI	**Vila Bisbo**	**8.77**	**34**	*e*S	**Sn**	**23 04 17.7**	**-2.3**
PFVI				A	A	23 04 21.4	
	5.8nm,0.6s						
MD31	**MD31**	**9.20**	**69**	P	**Pn**	**23 02 49.1**	**+2.0**
MDT	**Midelt**	**9.30**	**70**	P	**Pn**	**23 02 50.7**	**+2.1**
PBDV	**Barranco-do-Ve**	**9.31**	**37**	*e*P	**Pn**	**23 02 51.2**	**+2.6**
PBDV				*e*S	**Sn**	**23 04 31.1**	**-2.3**
PBDV				A	A	23 04 45.9	
	2.5nm,0.7s						
LCRM	**LCR**	**9.37**	**64**	P	**Pn**	**23 02 51.3**	**+1.8**
PVAQ	**Vaqueiros**	**9.54**	**37**	*e*S	**Sn**	**23 04 36.1**	**-2.9**
PVAQ				A	A	23 04 44.9	
	2.0nm,0.6s						

*IDC **26** 23:02:11.5±2.3, 7°03S×130°00E, h111km±25km, mb3.4/2, mb1 3.8/7, mb1mx3.5/30, mbtmp4.1/7, Error ellipse: s-maj=39.4km s-min=20.8km az=94.0*

ISC 26 23:02:09.5±0.8, 7°13S±0°06×130°2E±0°1, h104km, n7, σ3°82/12, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.32**	**10**	P	**Pn**	**23 03 41.1**	**+0.9**
	3.3nm,0.3s,baz=200,slow=21,SNR=12						
SIJI				S	**Sn**	**23 04 45.4**	**-5.6**
	8.7nm,0.3s,baz=118,slow=23,SNR=9.5						
BATI	**Baumata**	**7.10**	**244**	P	**Pn**	**23 03 52.9**	**+2.0**
	10nm,0.3s,baz=180,slow=0.6,SNR=9.7						
BATI				S	**Sn**	**23 05 08.4**	**-1.7**
	7.9nm,0.3s,baz=94,slow=23,SNR=2.5						
FITZ	**Fitzroy Crossi**	**11.76**	**202**	P	**Pn**	**23 04 54.8**	**+0.8**
	1.1nm,0.3s,baz=32,slow=13,SNR=45						
FITZ				S	**Sn**	**23 06 56.6**	**-6.6**
	1.4nm,0.3s,baz=80,slow=21,SNR=4.8						
WRA	**Warramunga Arr**	**13.37**	**163**	P	**Pn**	**23 05 17.4**	**+2.1**
	1.2nm,0.3s,baz=329,slow=13,SNR=33						
WRA				S	**Sn**	**23 07 38.5**	**-4.0**
	2.7nm,0.3s,baz=342,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.84**	**168**	P	**P**	**23 06 03.9**	**+4.5**
	0.9nm,0.3s,baz=342,slow=9.0,SNR=35						
ASAR				S	**Sn**	**23 09 03.5**	**-2.7**
	0.9nm,0.3s,baz=326,slow=15,SNR=9.4						
SONM	**Songino Array**	**58.61**	**341**	P	**P**	**23 11 55.8**	**+0.1**
	0.3nm,0.4s,baz=156,slow=6.5,SNR=4.6						
MKAR	**Makanchi Array**	**68.41**	**327**	P	**P**	**23 13 00.4**	**+0.3**
	1.0nm,0.5s,baz=124,slow=7.4,SNR=17						

*IDC **26** 23:10:01.7±2.1, 59°73N×153°27W, h93km±35km, mb3.1/1, mb1 3.1/3, mb1mx2.8/67, mbtmp3.2/3, Error ellipse: s-maj=38.6km s-min=20.3km az=107.0*
*NEIC **26** 23:10:02.5±1.1, 59°73N±0°04×153°18W±0°06, h109km±5km, Error ellipse: s-maj=5.8km s-min=4.2km az=170.0*
*ANF **26** 23:10:02.5±0.2, 59°71N×153°11W, h104km±3km, ML3.2/22, Error ellipse: s-maj=2.2km s-min=2.0km az=168.0*
*AEIC **26** 23:10:03±1.5, 59°71N±0°03×153°16W±0°07, h105km±4km, ML2.8, ML3.2/94(NEIC), Error ellipse: s-maj=5.0km s-min=3.9km az=81.0*

ISC 26 23:10:02.4±1.0, 59°73N±0°03×153°15W±0°03, h113km±6km, n163, σ0°83/193, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.09**	**209**		**Pn**	**23 10 17.7**	**-0.2**
OPT					**Sn**	**23 10 29.0**	**-0.5**
AU22	**Augustine Moun**	**0.37**	**196**		**Pn**	**23 10 18.7**	**-0.1**
AU22					**Sn**	**23 10 30.5**	**-0.5**
AUL	**Augustine Lava**	**0.38**	**203**		**Pn**	**23 10 19.0**	**+0.2**
AUL					**Sn**	**23 10 30.7**	**-0.4**
AGU	**Augustine-Summ**	**0.40**	**201**		**Pn**	**23 10 19.2**	**+0.2**
AGU					**Sn**	**23 10 30.2**	**-1.3**
AUQ	**Augustine Qik'**	**0.40**	**200**		**Pn**	**23 10 19.0**	**0.0**
AUQ					**Sn**	**23 10 30.4**	**-1.0**
O20K	**Slope Mountain**	**0.44**	**37**		**Pn**	**23 10 19.0**	**-0.2**
O20K					**Sn**	**23 10 31.1**	**-0.9**
O20K	**Slope Mountain**	**0.44**	**37**	P	**Pn**	**23 10 19.0**	**-0.2**
	baz=216,SNR=9.5						
O20K				S	**Sn**	**23 10 31.0**	**-0.9**
	baz=216						
RED	**Redoubt Volcan**	**0.72**	**15**		**Pn**	**23 10 20.9**	**-0.3**
O19K	**Port Alsworth**	**0.75**	**309**		**Pn**	**23 10 21.0**	**-0.3**
O19K				IAML		23 10 35.3	
	comp=N,603nm,0.4s						
O19K				IAML		23 10 35.4	
	comp=E,605nm,0.5s						
O19K	**Port Alsworth**	**0.75**	**309**	P	**Pn**	**23 10 21.1**	**-0.2**
	baz=129						
O19K				S	**Sn**	**23 10 34.5**	**-1.2**
	baz=129						
RSO	**Redoubt South**	**0.76**	**15**		**Pn**	**23 10 21.5**	**-0.3**
HOM	**Homer**	**0.77**	**95**		**Pn**	**23 10 21.7**	**+0.2**
HOM					**Sn**	**23 10 35.9**	**-0.1**
HOM				IAML		23 10 37.4	
	comp=N,846nm,0.4s						
HOM	**Homer**	**0.77**	**95**	P	**Pn**	**23 10 21.7**	**+0.2**
	baz=275,SNR=5.7						
HOM				S	**Sn**	**23 10 36.2**	**+0.2**
	baz=275						
Q19K	**Cape Douglas,**	**0.84**	**198**	Pn	**Pn**	**23 10 21.9**	**-0.3**
Q19K				Sn	**Sn**	**23 10 36.7**	**-0.5**
Q19K	**Cape Douglas,**	**0.84**	**198**	P	**Pn**	**23 10 22.2**	**0.0**
	baz=17,SNR=9.6						
Q19K				S	**Sn**	**23 10 36.8**	**-0.5**
	baz=17						
NCT	**North Crescent**	**0.84**	**7**		**Pn**	**23 10 22.2**	**-0.2**
DFR	**Drift River**	**0.90**	**15**		**Pn**	**23 10 22.7**	**-0.2**
CNPM	**China Poot**	**0.99**	**101**		**Pn**	**23 10 23.5**	**-0.2**
O18K	**Koktuh Hills**	**1.05**	**278**	Pn	**Pn**	**23 10 23.8**	**-0.4**
O18K				Sn	**Sn**	**23 10 39.7**	**-1.1**
O18K	**Koktuh Hills**	**1.05**	**278**	P	**Pn**	**23 10 23.9**	**-0.3**
	baz=97						
O18K				S	**Sn**	**23 10 39.6**	**-1.2**
	baz=97						
P18K	**Big Mountain,**	**1.11**	**253**	Pn	**Pn**	**23 10 24.2**	**-0.8**
P18K	**Big Mountain,**	**1.11**	**253**	P	**Pn**	**23 10 24.4**	**-0.5**
	baz=72						
P18K				S	**Sn**	**23 10 40.9**	**-1.2**
	baz=72						
BRLK	**Bradley Lake**	**1.15**	**87**	Pn	**Pn**	**23 10 24.8**	**-0.5**
BRLK				IAML		23 10 42.5	
	comp=N,414nm,0.1s						
BRLK				IAML		23 10 44.1	
	comp=E,300nm,0.1s						
BRSE	**Bradley Lake S**	**1.22**	**88**		**Pn**	**23 10 25.9**	**-0.2**
BRSE	**Bradley Lake S**	**1.22**	**88**	P	**Pn**	**23 10 25.9**	**-0.2**
	baz=270						
BRSE				S	**Sn**	**23 10 43.2**	**-0.9**
	baz=270						
N19K	**Bonanza Creek**	**1.28**	**329**	Pn	**Pn**	**23 10 26.5**	**-0.3**
N19K	**Bonanza Creek**	**1.28**	**329**	P	**Pn**	**23 10 26.6**	**-0.2**
	baz=149						
N19K				S	**Sn**	**23 10 43.8**	**-1.5**
	baz=149						
CAPN	**Captain Cook N**	**1.44**	**43**	Pn	**Pn**	**23 10 29.9**	**+1.3**
CAPN				IAML		23 10 52.4	
	comp=N,655nm,0.8s						
CAPN				IAML		23 10 52.5	
	comp=E,377nm,0.6s						
CAPN	**Captain Cook N**	**1.44**	**43**	P	**Pn**	**23 10 30.2**	**+1.6**
	baz=224						
CAPN				S	**Sn**	**23 10 51.3**	**+2.8**
	baz=224						
SPU	**Mount Spurr**	**1.56**	**20**	Pn	**Pn**	**23 10 29.9**	**-0.1**
SPNN	**North Nagishla**	**1.66**	**8**		**Pn**	**23 10 31.6**	**+0.3**
SPNN					**Sn**	**23 10 54.1**	**+0.7**
SLKM	**Skilak Lake**	**1.66**	**61**		**Pn**	**23 10 31.6**	**+0.4**
SLKM					**Sn**	**23 10 52.4**	**-0.9**
SPCG	**Spurr Capps Gl**	**1.67**	**19**		**Pn**	**23 10 31.6**	**+0.2**
KCG	**Knife Ck. Glac**	**1.75**	**216**		**Pn**	**23 10 32.7**	**+0.4**
KEL A	**Mount Kelaz**	**1.86**	**227**		**Pn**	**23 10 34.0**	**+0.3**
O22K	**Cooper Landing**	**1.88**	**65**	Pn	**Pn**	**23 10 33.7**	**-0.1**
O22K				Sn	**Sn**	**23 10 56.5**	**-1.3**
O22K				IAML		23 11 05.9	
	comp=N,346nm,0.7s						
O22K				IAML		23 11 08.2	
	comp=E,224nm,0.6s						
O22K	**Cooper Landing**	**1.88**	**65**	P	**Pn**	**23 10 34.0**	**+0.2**
	baz=247,SNR=5.7						
O22K				S	**Sn**	**23 10 56.8**	**-1.1**
	baz=247						
SEW	**Seward**	**1.90**	**77**	Pn	**Pn**	**23 10 33.7**	**-0.4**
SEW	**Seward**	**1.90**	**77**	P	**Pn**	**23 10 34.0**	**-0.1**
	baz=260						
SEW				S	**Sn**	**23 10 57.1**	**-1.2**
	baz=260						
KDAK	**Kodiak Island**	**1.97**	**171**	P	**Pn**	**23 10 34.6**	**-0.5**
	comp=E,23nm,0.3s,baz=20,slow=12,SNR=53						
KDAK				S	**Sn**	**23 10 58.7**	**-1.4**
	comp=E,8.7nm,0.3s,baz=345,slow=20,SNR=22						
KDAK	**Kodiak Island**	**1.97**	**171**	Pn	**Pn**	**23 10 34.3**	**-0.7**
KDAK	**Kodiak Island**	**1.97**	**171**	IAML		23 11 01.4	
	comp=E,125nm,0.2s						
KDAK	**Kodiak Island**	**1.97**	**171**	P	**Pn**	**23 10 34.6**	**-0.5**
	baz=351						
KDAK				S	**Sn**	**23 10 59.2**	**-0.8**
	baz=351						
FIS	**Fire Island**	**2.03**	**44**	Pn	**Pn**	**23 10 36.2**	**+0.5**
FIS				IAML		23 11 07.4	
	comp=N,203nm,0.5s						
FIS				IAML		23 11 09.8	
	comp=E,187nm,1.4s						
SUA	**Susitna One**	**2.11**	**33**		**Pn**	**23 10 37.7**	**+0.8**
SUA					**Sn**	**23 11 03.5**	**+0.2**
RC01	**Rabbit Creek A**	**2.18**	**50**	Pn	**Pn**	**23 10 37.6**	**0.0**
RC01				IAML		23 11 04.9	
	comp=N,279nm,0.3s						
RC01	**Rabbit Creek A**	**2.18**	**50**	P	**Pn**	**23 10 37.8**	**+0.2**
	baz=232,SNR=9.4						
RC01				S	**Sn**	**23 11 03.5**	**-1.2**
	baz=232						
M19K	**Big River Lodg**	**2.27**	**345**	Pn	**Pn**	**23 10 38.6**	**-0.2**
OHAK	**Old Harbor**	**2.51**	**182**	Pn	**Pn**	**23 10 41.0**	**-1.0**
OHAK				IAML		23 11 06.3	
	comp=E,70nm,4.0s						
OHAK	**Old Harbor**	**2.51**	**182**	P	**Pn**	**23 10 41.1**	**-0.9**
	baz=1.5						
M22K	**Willow**	**2.52**	**35**	Pn	**Pn**	**23 10 42.3**	**+0.3**
M22K	**Willow**	**2.52**	**35**	S	**Sn**	**23 11 12.5**	**0.0**
	baz=217						
L19K	**White Mountain**	**2.60**	**342**	Pn	**Pn**	**23 10 42.8**	**-0.4**
PWL	**Port Wells**	**2.65**	**63**	Pn	**Pn**	**23 10 42.9**	**-0.9**
PWL				IAML		23 11 15.0	
	comp=E,190nm,0.4s						
PWL	**Port Wells**	**2.65**	**63**	P	**Pn**	**23 10 43.1**	**-0.7**
	baz=246,SNR=5.6						
PWL				S	**Sn**	**23 11 13.7**	**-2.0**
	baz=246						
PMR	**Palmer**	**2.72**	**45**	Pn	**Pn**	**23 10 44.4**	**-0.3**
PMR				IAML		23 11 15.9	
	comp=E,60nm,0.2s						
PMR				IAML		23 11 16.6	
	comp=N,103nm,0.2s						
PMR	**Palmer**	**2.72**	**45**	P	**Pn**	**23 10 44.4**	**-0.3**
	baz=228						
PMR				S	**Sn**	**23 11 14.7**	**-2.6**
	baz=228						
L20K	**Farewell, AK**	**2.78**	**353**		**Pn**	**23 10 46.0**	**+0.4**
L20K	**Farewell, AK**	**2.78**	**353**	P	**Pn**	**23 10 45.9**	**+0.4**
	baz=172						
KNK	**Knik Glacier**	**2.87**	**52**	Pn	**Pn**	**23 10 46.5**	**-0.1**
KNK				IAML		23 11 21.3	
	comp=E,166nm,0.3s						
KNK	**Knik Glacier**	**2.87**	**52**	P	**Pn**	**23 10 46.0**	**-0.6**
	baz=236						
KNK				S	**Sn**	**23 11 18.6**	**-2.2**
	baz=236						
GHO	**Glory Hole Cre**	**2.92**	**44**		**Pn**	**23 10 46.9**	**-0.4**
GHO				IAML		23 11 21.8	
	comp=E,92nm,0.6s						
GHO				IAML		23 11 21.8	
	comp=N,95nm,0.4s						
CUT	**Chulitna**	**3.03**	**26**	S	**Sn**	**23 11 23.9**	**-0.6**
	baz=209						
SML	**Sawmill**	**3.15**	**47**	Pn	**Pn**	**23 10 49.9**	**-0.5**
SML				IAML		23 11 27.0	
	comp=E,60nm,0.6s						
SML				IAML		23 11 30.1	
	comp=N,53nm,1.1s						
SML	**Sawmill**	**3.15**	**47**	P	**Pn**	**23 10 49.8**	**-0.5**
	baz=230						
PPLA	**Purkeypile**	**3.21**	**8**		**Pn**	**23 10 52.6**	**+1.3**
PPLA	**Purkeypile**	**3.21**	**8**	P	**Pn**	**23 10 52.5**	**+1.3**
	baz=189						
TT01	**Tatalina**	**3.48**	**338**		**Pn**	**23 10 54.5**	**-0.1**
TTA	**Tatalina**	**3.50**	**338**		**Pn**	**23 10 54.6**	**-0.4**
TTA	**Tatalina**	**3.50**	**338**	P	**Pn**	**23 10 54.7**	**-0.3**
	baz=156,SNR=8.4						
SCM	**Sheep Creek Mo**	**3.55**	**51**		**Pn**	**23 10 55.8**	**+0.1**
SCM				IAML		23 11 38.2	
	comp=E,78nm,1.9s						
SCM				IAML		23 11 40.5	
	comp=N,64nm,0.6s						
SCM	**Sheep Creek Mo**	**3.55**	**51**	P	**Pn**	**23 10 55.4**	**-0.3**
	baz=236						
K20K	**Telida**	**3.67**	**354**		**Pn**	**23 10 57.3**	**0.0**
K20K	**Telida**	**3.67**	**354**	P	**Pn**	**23 10 57.2**	**0.0**
	baz=173						
CAST	**Castle Rocks**	**3.74**	**7**		**Pn**	**23 10 58.8**	**+0.6**
CAST	**Castle Rocks**	**3.74**	**7**	P	**Pn**	**23 10 58.5**	**+0.3**
	baz=188						
EYAK	**Cordova Ski Ar**	**3.79**	**74**	Pn	**Pn**	**23 10 58.1**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.79**	**74**	P	**Pn**	**23 10 57.9**	**-0.9**
	baz=260						
DIV	**Divide**	**3.92**	**66**	Pn	**Pn**	**23 11 00.8**	**+0.2**
KLU

TRF	**Thorofare Moun**	**3.98**	**19**	P	**Pn**	**23 11 01.6 +0.1**
	baz=201					
KTH	**Kantishna Hill**	**3.98**	**15**	Pn	**Pn**	**23 11 01.5 0.0**
KTH				IAML		23 12 01.3
	comp=E,21nm,3.6s					
M24K	**Tolsona, Glenn**	**4.16**	**52**	Pn	**Pn**	**23 11 03.3 -0.5**
M24K	**Tolsona, Glenn**	**4.16**	**52**	P	**Pn**	**23 11 04.1 +0.3**
	baz=238					
CHUM	**Lake Minchumin**	**4.19**	**5**		**Pn**	**23 11 04.5 +0.4**
CHUM	**Lake Minchumin**	**4.19**	**5**	P	**Pn**	**23 11 04.5 +0.4**
	baz=186					
RND	**Reindeer**	**4.22**	**27**		**Pn**	**23 11 04.9 +0.2**
RND				IAML		23 11 38.7
	comp=E,20nm,4.1s					
RND				IAML		23 12 29.4
	comp=N,40nm,5.0s					
KAIM	**Kayak Island**	**4.41**	**84**	Pn	**Pn**	**23 11 08.0 +0.8**
KAIM	**Kayak Island**	**4.41**	**84**	P	**Pn**	**23 11 07.3 +0.1**
	baz=271					
BMRM	**Bremner River**	**4.42**	**70**		**Pn**	**23 11 07.1 -0.3**
BMRM				IAML		23 11 45.3
	comp=E,33nm,4.0s					
BMRM				IAML		23 11 51.4
	comp=N,42nm,4.5s					
BMRM	**Bremner River**	**4.42**	**70**	P	**Pn**	**23 11 06.5 -0.9**
	baz=257					
CHGN	**Chignik**	**4.43**	**221**	Pn	**Pn**	**23 11 07.0 -0.5**
CHGN				IAML		23 11 47.7
	comp=E,50nm,3.8s					
J20K	**Nowinta River**	**4.49**	**354**		**Pn**	**23 11 08.3 +0.2**
J20K				IAML		23 12 04.8
	comp=E,19nm,4.2s					
J20K				IAML		23 12 19.3
	comp=N,17nm,4.7s					
J20K	**Nowinta River**	**4.49**	**354**	P	**Pn**	**23 11 08.4 +0.2**
	baz=174					
MCK	**McKinley**	**4.49**	**25**	Pn	**Pn**	**23 11 08.6 +0.3**
MCK				IAML		23 12 32.5
	comp=E,29nm,4.7s					
MCK				IAML		23 13 25.8
	comp=N,22nm,3.6s					
MCK	**McKinley**	**4.49**	**25**	P	**Pn**	**23 11 08.4 +0.1**
	baz=208					
HMT	**Hamilton**	**4.50**	**78**	Pn	**Pn**	**23 11 07.0 -1.4**
BPAW	**Bear Paw Mtn.**	**4.50**	**12**	Pn	**Pn**	**23 11 07.9 -0.6**
BPAW				IAML		23 12 37.0
	comp=N,17nm,3.9s					
BPAW				IAML		23 13 29.4
	comp=E,16nm,4.3s					
N25K	**Chitina, Valde**	**4.61**	**62**	Pn	**Pn**	**23 11 09.5 -0.4**
N25K				IAML		23 12 02.7
	comp=E,28nm,0.6s					
N25K				IAML		23 12 11.8
	comp=N,28nm,2.7s					
N25K	**Chitina, Valde**	**4.61**	**62**	P	**Pn**	**23 11 09.5 -0.4**
	baz=250					
BERG	**Berg Lake**	**4.78**	**78**	Pn	**Pn**	**23 11 12.3 +0.2**
BWN	**Browne**	**4.79**	**20**	Pn	**Pn**	**23 11 12.7 +0.5**
GLB	**Gilahina Butte**	**4.92**	**66**		**Pn**	**23 11 13.5 -0.5**
GLB				IAML		23 12 43.9
	comp=E,26nm,4.8s					
PAX	**Paxson**	**4.92**	**45**	Pn	**Pn**	**23 11 14.2 +0.1**
VRDI	**Verde Repeater**	**5.03**	**68**	Pn	**Pn**	**23 11 15.5 -0.2**
VRDI				IAML		23 12 46.2
	comp=E,23nm,3.8s					
SNH	**Sunshine Point**	**5.20**	**81**	Pn	**Pn**	**23 11 18.6 +0.7**
WAX	**Waxell Ridge**	**5.21**	**78**	Pn	**Pn**	**23 11 18.4 +0.4**
NEA2	**Nenana**	**5.24**	**20**	Pn	**Pn**	**23 11 18.0 -0.4**
NEA2				IAML		23 12 59.0
	comp=E,13nm,4.8s					
NEA2				IAML		23 13 15.1
	comp=N,16nm,4.6s					
NEA2	**Nenana**	**5.24**	**20**	P	**Pn**	**23 11 17.9 -0.4**
	baz=203					
WRH	**Wood River Hil**	**5.32**	**24**		**Pn**	**23 11 19.1 -0.2**
WRH				IAML		23 12 17.0
	comp=E,16nm,4.7s					
WRH				IAML		23 12 50.0
	comp=N,19nm,4.5s					
GCSA	**Galena City Sc**	**5.33**	**343**	P	**Pn**	**23 11 19.0 -0.4**
	baz=159					
MLY	**Manley**	**5.44**	**11**	Pn	**Pn**	**23 11 22.2 +1.1**
ISLE	**Juniper Island**	**5.47**	**76**		**Pn**	**23 11 22.0 +0.4**
KIAG	**Kiagna River**	**5.50**	**73**		**Pn**	**23 11 22.6 +0.7**
I21K	**Tanana**	**5.50**	**5**	Pn	**Pn**	**23 11 22.4 +0.6**
I21K	**Tanana**	**5.50**	**5**	P	**Pn**	**23 11 22.2 +0.4**
	baz=186					
BALM	**Baldy**	**5.52**	**72**		**Pn**	**23 11 22.6 +0.5**
HDA	**Harding Lake**	**5.53**	**29**	Pn	**Pn**	**23 11 21.8 -0.4**
CCB	**Clear Creek Bu**	**5.53**	**25**	Pn	**Pn**	**23 11 21.7 -0.5**
BAGL	**Bagley Icefiel**	**5.59**	**77**		**Pn**	**23 11 24.0 +1.1**
M26K	**Nabesna, AK**	**5.61**	**57**	Pn	**Pn**	**23 11 22.8 -0.6**
RIDG	**Independent Ri**	**5.63**	**41**	Pn	**Pn**	**23 11 24.2 +0.5**
MESA	**MESA**	**5.65**	**81**	P	**Pn**	**23 11 24.6 +0.6**
	baz=270					
PS08	**TAPS Pump Stn8**	**5.67**	**29**		**Pn**	**23 11 23.7 -0.3**
I23K	**Minto, Yukon-K**	**5.72**	**16**	Pn	**Pn**	**23 11 24.7 0.0**
I23K	**Minto, Yukon-K**	**5.72**	**16**	P	**Pn**	**23 11 24.8 +0.1**
	baz=200					
TCOL	**CIGO, UAF Yank**	**5.72**	**23**	P	**Pn**	**23 11 24.6 -0.2**
	baz=208					
COLA	**College**	**5.72**	**23**	P	**Pn**	**23 11 24.6 -0.2**
	baz=208					
MDM	**Murphy Dome**	**5.73**	**21**	Pn	**Pn**	**23 11 24.3 -0.6**
DOT	**Dot Lake**	**5.84**	**44**	Pn	**Pn**	**23 11 27.3 +0.8**
IL31		**5.84**	**27**		**Pn**	**23 11 25.8 -0.6**
ILAR	**Eielson Array**	**5.84**	**27**	P	**Pn**	**23 11 25.8 -0.6**
	comp=N,1.3nm,0.3s,baz=216,slow=13,SNR=54					
ILAR				S	**Sn**	**23 12 26.6 -5.4**
	comp=N,0.6nm,0.3s,baz=98,slow=18,SNR=1.9					
BARN	**Barnard Glacie**	**5.85**	**72**		**Pn**	**23 11 27.7 +1.0**
H21K	**Melozitna Rive**	**5.95**	**1**	Pn	**Pn**	**23 11 27.9 0.0**
H21K	**Melozitna Rive**	**5.95**	**1**	P	**Pn**	**23 11 28.0 +0.1**
	baz=182					
POKR	**Poker Plat Res**	**6.02**	**24**	Pn	**Pn**	**23 11 29.0 +0.2**
POKR	**Poker Plat Res**	**6.02**	**24**	P	**Pn**	**23 11 28.7 -0.2**
	baz=209					
TABL	**Table Mountain**	**6.05**	**78**		**Pn**	**23 11 30.1 +0.6**
M27K	**Edge Creek, AK**	**6.08**	**59**	Pn	**Pn**	**23 11 31.0 +1.3**
SCRK	**Sand Creek**	**6.08**	**42**		**Pn**	**23 11 29.2 -0.5**
SCRK	**Sand Creek**	**6.08**	**42**	P	**Pn**	**23 11 29.4 -0.3**
	baz=230					
IM03		**6.29**	**358**		**Pn**	**23 11 33.1 +0.7**
IMAR	**Indian Mountai**	**6.29**	**358**	Pn	**Pn**	**23 11 33.1 +0.7**
L27K	**Beaver Creek,**	**6.38**	**54**	Pn	**Pn**	**23 11 35.2 +1.5**
BCAR	**Beaver Creek A**	**6.40**	**54**	Pn	**Pn**	**23 11 35.0 +1.0**
PCA	**Pinnacle**	**6.50**	**81**	Pn	**Pn**	**23 11 35.9 +0.5**
J26L	**Joseph Creek**	**6.56**	**39**	Pn	**Pn**	**23 11 35.4 -0.9**
H24K	**Noodor Dome**	**6.59**	**19**		**Pn**	**23 11 36.3 -0.3**
H24K	**Noodor Dome**	**6.59**	**19**	P	**Pn**	**23 11 36.5 -0.1**
	baz=204					
PRP	**Porcupine Dome**	**6.79**	**28**	Pn	**Pn**	**23 11 39.2 -0.1**
PRP	**Porcupine Dome**	**6.79**	**28**	P	**Pn**	**23 11 39.4 +0.1**
	baz=215					
PNL	**Peninsula**	**6.96**	**85**	P	**Pn**	**23 11 41.6 0.0**
	baz=276					
COLD	**Coldfoot**	**7.64**	**9**	Pn	**Pn**	**23 11 50.8 0.0**
COLD	**Coldfoot**	**7.64**	**9**	P	**Pn**	**23 11 50.8 0.0**
	baz=191					
M30M	**Minto, Yukon**	**8.40**	**63**	Pn	**Pn**	**23 12 01.3 +0.1**
BMAR	**Burnt Mountain**	**8.61**	**23**	Pn	**Pn**	**23 12 03.0 -0.9**
WHY	**Whitehorse**	**9.14**	**76**	Pn	**Pn**	**23 12 13.2 +2.0**
M31M	**Drury Creek, Y**	**9.45**	**67**	Pn	**Pn**	**23 12 16.4 +1.2**
P33M	**Teslin, Yukon**	**10.20**	**79**	Pn	**Pn**	**23 12 26.7 +1.2**
YKA	**Yellowknife Ar**	**18.64**	**65**	P	**P**	**23 14 12.1 +1.3**
	comp=N,0.1nm,0.3s,baz=276,slow=9.8,SNR=4.8					
SONM	**Songino Array**	**54.89**	**306**	P	**P**	**23 19 21.9 +1.0**
	comp=N,0.2nm,0.3s,baz=48,slow=5.7,SNR=4.1					

*CRAAG **26** 23:15:23.0, 35.˙54N×3.˙84W, Mb3.6*
*SFS **26** 23:15:23.0, 35.˙54N×3.˙84W, ML3.6, ALBORAN SUR*
*MDD **26** 23:15:23.6±0.7, 35.˙55N×3.˙84W, h0km, mbLg3.6/8, Error ellipse: s-maj=6.6km s-min=4.3km az=33.0*
MDD EMS: III INTENSIDAD MAXIMA.
*IDC **26** 23:15:24.0±0.9, 35.˙40N×3.˙60W, h0km, mb4.1/7, mb1 4.1/11, mb1mx3.8/71, mbtmp4.0/11, ML3.8/4, MS3.5/12, Ms1 3.5/12, ms1mx3.2/99, Error ellipse: s-maj=29.3km s-min=16.7km az=90.0*
*CNRM **26** 23:15:24.2, 35.˙52N×3.˙74W, h15km, ml4.4*
*INMG **26** 23:15:24.7±2.0, 35.˙56N×3.˙80W, h6km±7km, MD3.8, ML3.6, Error ellipse: s-maj=5.4km s-min=4.2km az=101.0*
*LDG **26** 23:15:25.6±0.3, 35.˙56N×3.˙66W, h10km, Ml3.2/8, Error*

ellipse: s-maj=7.8km s-min=4.5km az=177.0
*IGIL **26** 23:15:25.0, 35.˙55N×3.˙84W, h0km, ML3.8*
ISC 26 23:15:23.9±1.1, 35.˙58N±0.˙03×3.˙77W±0.˙02, h5km±8km, n117, σ2.9 66/159, mb4.2/7, MS3.6/7, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**201**	P	**Pg**	**23 15 30.9**	**-0.5**
PALE				S	**Sg**	**23 15 36.2**	**-0.3**
EMEL	**Melilla**	**0.72**	**112**	Pg	**Pg**	**23 15 38.0**	**+0.3**
	3μm,0.3s,SNR=281						
EMEL				Lg	Lg	23 15 47.0	
	19μm,0.2s,SNR=23						
GOG	**Mont Gurugu**	**0.72**	**119**	P	**Pg**	**23 15 38.0**	**+0.2**
GOG				S	**Sg**	**23 15 47.4**	**+0.2**
CHAS	**Isla Isabel II**	**1.16**	**109**	*e*P	**Pb**	**23 15 44.4**	**-2.0**
CHAS				*e*S	**Sb**	**23 15 59.1**	**-2.7**
EMIJ	**Mijas**	**1.28**	**321**	Pg	**Pn**	**23 15 46.7**	**-1.8**
	166nm,0.3s,SNR=169						
EMIJ				Lg	Lg	23 16 03.6	
	525nm,0.2s,SNR=15						
ELGU	**Los Guajares,**	**1.29**	**5**	Pg	**Pn**	**23 15 48.0**	**-0.7**
	SNR=7.9						
ELGU				Lg	Lg	23 16 06.5	
	897nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.30**	**336**	*e*P	**Pn**	**23 15 47.6**	**-1.1**
EMAL				*e*S	**Sb**	**23 16 05.2**	**-0.6**
CEU	**Ceuta**	**1.34**	**284**	*e*P	**Pn**	**23 15 45.5**	**-3.8**
CEU				*e*S	**Sb**	**23 16 00.6**	**-6.5**
ECEU	**Ceuta**	**1.35**	**284**	Pg	**Pn**	**23 15 46.9**	**-2.5**
	64nm,0.3s,SNR=111						
ECEU				Lg	Lg	23 16 04.1	
	339nm,0.2s,SNR=12						
CHEFC	**Chefchaouen**	**1.37**	**250**	P	**Pn**	**23 15 48.9**	**-0.9**
CHEFC				S	**Sg**	**23 16 12.5**	**+4.6**
EBER	**Berja**	**1.50**	**28**	Pn	**Pn**	**23 15 50.6**	**-1.0**
	71nm,0.4s,SNR=84						
EBER				Lg	Lg	23 16 12.3	
	421nm,0.3s,SNR=11						
EGOR	**Sierra Gorda,**	**1.56**	**350**	Pn	**Pn**	**23 15 52.2**	**-0.2**
	SNR=7.9						
EGOR				Lg	Lg	23 16 14.2	
	418nm,0.3s,SNR=7.9						
JBK	**JBK**	**1.58**	**141**	P	**Pn**	**23 15 50.5**	**-2.3**
JBK				S	**Sn**	**23 16 10.6**	**-3.1**
EQUE	**Quentar**	**1.65**	**9**	Pn	**Pn**	**23 15 53.8**	**+0.2**
	63nm,0.3s,SNR=207						
EQUE				Lg	Lg	23 16 17.7	
	176nm,0.4s,SNR=11						
CPS	**Cap Spartel**	**1.75**	**278**	P	**Pg**	**23 15 57.3**	**-0.3**
ENIJ	**Nijar**	**1.88**	**42**	Pn	**Pn**	**23 15 56.4**	**-0.4**
	SNR=7.9						
ENIJ				Sn	**Sn**	**23 16 20.1**	**-0.7**
	SNR=7.9						
SICH	**Sidi Chahed**	**1.94**	**221**	P	**Pn**	**23 15 57.5**	**-0.1**
LCRM	**LCR**	**2.09**	**206**	P	**Pn**	**23 15 59.0**	**-0.7**
LCRM				S	**Sn**	**23 16 26.1**	**-0.1**
EQES	**Quesada**	**2.29**	**14**	Pg	**Pb**	**23 16 04.6**	**-1.2**
	125nm,0.5s,SNR=402						
EQES				Sn	**Sn**	**23 16 32.1**	**+0.9**
	SNR=7.9						
IFR	**Ifrane**	**2.34**	**209**	*e*P	**Pn**	**23 16 01.7**	**-1.5**
IFR				*e*S	**Sn**	**23 16 28.9**	**-3.5**
USTO	**Oran**	**2.62**	**86**	P	Pg	23 16 27.0	+13
MD31	**MD31**	**2.82**	**197**	P	**Pn**	**23 16 09.3**	**-0.5**
MDT	**Midelt**	**2.84**	**194**	Pn	**Pn**	**23 16 09.2**	**-0.8**
	4.0nm,0.3s,baz=204,slow=8.4,SNR=147						
MDT				Sn	**Sn**	**23 16 36.8**	**-7.9**
	17nm,0.3s,baz=295,slow=12,SNR=6.5						
MDT	**Midelt**	**2.84**	**194**	P	**Pn**	**23 16 09.1**	**-0.9**
CART	**Cartagena**	**3.00**	**47**	P	**Pn**	**23 16 09.9**	**-2.2**
ZHG	**ZHG**	**3.19**	**229**	P	**Pn**	**23 16 13.1**	**-1.6**
PVAQ	**Vaqueiros**	**3.67**	**301**	*e*Pn	**Pn**	**23 16 20.6**	**-0.7**
PVAQ				*e*Sn	**Sn**	**23 17 01.9**	**-3.0**
PVAQ				A	A	23 17 09.9	
	120nm,0.3s						
PVAQ	**Vaqueiros**	**3.67**	**301**	P	**Pn**	**23 16 20.5**	**-0.7**
PVAQ				S	**Sn**	**23 17 03.5**	**-1.5**
PBAR	**Barrancos**	**3.69**	**316**	*e*Pn	**Pn**	**23 16 21.7**	**+0.1**
PBAR				*e*Sn	**Sn**	**23 17 03.7**	**-1.7**
PBAR				A	A	23 17 08.2	
	87nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.75**	**298**	*e*Pn	**Pn**	**23 16 21.8**	**-0.6**
PBDV				*e*Sn	**Sn**	**23 17 04.0**	**-2.9**
PBDV				A	A	23 17 05.6	
	90nm,0.2s						
AVE	**Averroes**	**3.77**	**234**	P	**Pn**	**23 16 22.1**	**-0.7**
GOLM	**Goulmima**	**3.98**	**195**	P	**Pn**	**23 16 26.5**	**+0.7**
PCVE	**Castro Verde**	**4.00**	**302**	*e*Pn	**Pn**	**23 16 25.4**	**-0.5**
PCVE				*e*Sn	**Sn**	**23 17 10.3**	**-2.9**
PCVE				A	A	23 17 16.6	
	76nm,0.4s						
FIGM	**Figuig**	**4.02**	**148**	P	**Pn**	**23 16 26.7**	**+0.4**
ESDC	**Sonseca Array**	**4.09**	**358**	Pn	**Pn**	**23 16 28.8**	**+1.6**
	8.7nm,0.3s,baz=183,slow=12,SNR=426						
ESDC				Sn	**Sn**	**23 17 14.6**	**-1.0**
	3.7nm,0.3s,baz=180,slow=16,SNR=7.1						
ESDC				LR	LR	23 18 35.4	
	comp=Z,217nm,20.5s,baz=196,slow=45						
PBEJ	**Beja**	**4.10**	**308**	*e*Pn	**Pn**	**23 16 27.0**	**-0.2**
PBEJ				*e*Sn	**Sn**	**23 17 13.1**	**-2.5**
PBEJ				A	A	23 17 15.3	
	45nm,0.4s						
MESJ	**Messejana**	**4.23**	**304**	*e*P	**Pn**	**23 16 28.4**	**-0.6**
MESJ				*e*S	**Sn**	**23 17 14.6**	**-4.2**
MESJ				IAML		23 17 22.3	
	comp=N,147nm,0.2s						
MESJ	**Messejana**	**4.23**	**304**	*e*Pn	**Pn**	**23 16 28.6**	**-0.4**
MESJ				*e*Sn	**Sn**	**23 17 15.6**	**-3.2**
MESJ				A	A	23 17 25.1	
	comp=N,101nm,0.7s						
MORF	**Marmelete**	**4.30**	**295**	*e*P	**Pn**	**23 16 29.1**	**-0.9**
MORF				*e*S	**Sn**	**23 17 16.0**	**-4.5**
MORF				IAML		23 17 21.4	
	comp=E,208nm,0.4s						
MORF	**Marmelete**	**4.30**	**295**	*e*Pn	**Pn**	**23 16 29.2**	**-0.8**
MORF				*e*Sn	**Sn**	**23 17 16.1**	**-4.5**
MORF				A	A	23 17 21.7	
	comp=E,58nm,0.2s						
PFVI	**Vila Bisbo**	**4.37**	**292**	*e*Pn	**Pn**	**23 16 30.1**	**-0.8**
PFVI				*e*Sn	**Sn**	**23 17 18.5**	**-3.7**
PFVI				A	A	23 17 25.3	
	comp=E,86nm,0.4s						
PFVI	**Vila Bisbo**	**4.37**	**292**	P	**Pn**	**23 16 30.1**	**-0.8**
PTEO	**Sao Teotonio**	**4.45**	**298**	*e*Pn	**Pn**	**23 16 31.9**	**-0.1**
PTEO				*e*Sn	**Sn**	**23 17 21.2**	**-2.9**
PTEO				A	A	23 17 25.9	
	comp=E,69nm,0.5s						
PESTR	**Estremoz**	**4.48**	**318**	*e*Pn	**Pn**	**23 16 33.2**	**+0.7**
PESTR				*e*Sn	**Sn**	**23 17 23.0**	**-2.1**
PESTR				A	A	23 17 29.0	
	comp=E,55nm,0.4s						
PESTR	**Estremoz**	**4.48**	**318**	P	**Pn**	**23 16 33.1**	**+0.6**
EVO	**Evora**	**4.50**	**312**	*e*P	**Pn**	**23 16 32.9**	**+0.2**
EVO				*e*S	**Sn**	**23 17 22.4**	**-3.0**
EVO	**Evora**	**4.50**	**312**	*e*Pn	**Pn**	**23 16 32.9**	**+0.2**
EVO				*e*Sn	**Sn**	**23 17 22.6**	**-2.8**
EVO				A	A	23 17 28.6	
	comp=E,87nm,0.4s						
PNCL	**Nicolau / Gran**	**4.58**	**305**	*e*Pn	**Pn**	**23 16 33.4**	**-0.4**
PNCL				*e*Sn	**Sn**	**23 17 24.6**	**-2.8**
PNCL				A	A	23 17 27.4	
	comp=E,65nm,0.2s						
SRHM	**Skhour des Reh**	**4.62**	**229**	P	**Pn**	**23 16 33.6**	**-0.9**
UCM	**Universidad Co**	**4.74**	**5**	*e*P	**Pn**	**23 16 37.6**	**+1.5**
UCM				*e*S	**Sn**	**23 17 31.0**	**-0.5**
PMRV	**Marv??o**	**4.80**	**324**	*e*Pn	**Pn**	**23 16 37.2**	**+0.2**
PMRV				*e*Sn	**Sn**	**23 17 30.6**	**-2.4**
PMRV				A	A	23 17 44.8	
	comp=E,35nm,0.6s						
PMTG	**Montargil**	**4.98**	**316**	*e*Pn	**Pn**	**23 16 39.3**	**0.0**
PMTG				*e*Sn	**Sn**	**23 17 35.0**	**-2.2**
PMTG				A	A	23 17 41.3	
	comp=E,63nm,0.5s						
TZRR	**Tazzarine**	**5.01**	**198**	P	**Pn**	**23 16 39.3**	**-0.5**
PCBR	**Castelo Branco**	**5.17**	**326**	*e*Pn	**Pn**	**23 16 42.8**	**+0.8**
PCBR				*e*Sn	**Sn**	**23 17 40.0**	**-2.0**
PCBR				A	A	23 17 47.5	
	comp=E,49nm,0.6s						
OUZM	**OUZ**	**5.29**	**209**	P	**Pn**	**23 16 42.6**	**-1.1**
LIS	**Lisbon**	**5.32**	**308**	*e*Pn	**Pn**	**23 16 44.2**	**+0.2**
LIS				*e*Sn	**Sn**	**23 17 44.5**	**-1.1**
PMST	**Lisbon--Monsan**	**5.35**	**308**	*e*Pn	**Pn**	**23 16 44.8**	**+0.3**
PMST				*e*Sn	**Sn**	**23 17 44.2**	**-2.3**
PMST				A	A	23 17 56.5	
	comp=E,50nm,0.5s						
OUK	**Oukaimeden**	**5.54**	**219**	P	**Pn**	**23 16 45.8**	**-1.6**
PMAFR	**Mafra**	**5.54**	**309**	*e*Pn	**Pn**	**23 16 47.5**	**+0.4**
PMAFR				*e*Sn	**Sn**	**23 17 48.2**	**-3.0**
PMAFR				A	A	23 17 51.4	
	comp=E,74nm,0.4s						
PSBE	**So Bento**	**5.61**	**316**	*e*Pn	**Pn**	**23 16 48.6**	**+0.7**
PSBE				*e*Sn	**Sn**	**23 17 49.9**	**-2.8**
PSBE				A	A	23 18 03.1	
	comp=E,44nm,0.8s						
ZGR	**Zagora**	**5.66**	**196**	P	**Pn**	**23 16 48.2**	**-0.6**
MTE	**Manteigas**	**5.67**	**329**	*e*Pn	**Pn**	**23 16 49.8**	**+1.0**
MTE				*e*Sn	**Sn**	**23 17 52.8**	**-1.4**
MTE				A	A	23 18 26.6	
	comp=E,76nm,0.7s						
PCAS	**Casmilo, Conde**	**5.83**	**321**	*e*Pn	**Pn**	**23 16 51.5**	**+0.5**
PCAS				*e*Sn	**Sn**	**23 17 55.3**	**-2.9**
PCAS				A	A	23 18 41.9	
	comp=E,85nm,0.7s						
COI	**Coimbra**	**5.91**	**323**	*e*Pn	**Pn**	**23 16 53.1**	**+1.1**
COI				*e*Sn	**Sn**	**23 17 59.5**	**-0.5**
COI				A	A	23 18 03.7	
	comp=E,76nm,0.6s						
PVIS	**Viseu**	**6.08**	**329**	*e*Pn	**Pn**	**23 16 55.3**	**+0.9**
PVIS				*e*Sn	**Sn**	**23 18 02.0**	**-2.3**
PVIS				A	A	23 18 08.4	
	comp=E,39nm,0.4s						
MVO	**Moncorvo**	**6.14**	**336**	*e*Pn	**Pn**	**23 16 56.6**	**+1.3**
MVO				*e*Sn	**Sn**	**23 18 03.7**	**-2.3**
MVO				A	A	23 18 11.8	
	comp=E,54nm,0.6s						
EAH	**EAH**	**6.24**	**233**	P	**Pn**	**23 16 55.0**	**-1.6**
TTIG	**Tnine Tigouga,**	**6.37**	**219**	P	**Pn**	**23 16 55.0**	**-3.5**
PVRL	**Vila Real**	**6.48**	**333**	*e*Pn	**Pn**	**23 17 00.8**	**+0.8**
PVRL				*e*Sn	**Sn**	**23 18 12.7**	**-1.6**
PVRL				A	A	23 18 20.7	
	comp=E,56nm,0.9s						
POLO	**Lamas de Olo**	**6.59**	**333**	*e*Pn	**Pn**	**23 17 02.7**	**+1.1**
POLO				*e*Sn	**Sn**	**23 18 13.5**	**-3.7**
POLO				A	A	23 18 21.7	
	comp=E,16nm,0.6s						
PBRG	**Braganca**	**6.64**	**340**	*e*Pn	**Pn**	**23 17 03.2**	**+1.0**
PBRG				*e*Sn	**Sn**	**23 18 16.7**	**-1.5**
PBRG				A	A	23 18 25.1	
	comp=E,32nm,0.6s						
PTO	**Porto**	**6.73**	**327**	*e*Pn	**Pn**	**23 17 04.0**	**+0.7**
PTO				*e*Sn	**Sn**	**23 18 17.3**	**-3.0**
PCAB	**Cabril**	**6.97**	**333**	*e*Pn	**Pn**	**23 17 07.8**	**+1.1**
PCAB				*e*Sn	**Sn**	**23 18 23.8**	**-2.6**
PCAB				A	A	23 18 34.7	
	comp=E,31nm,0.7s						
PGAV	**Gavieira, Arco**	**7.28**	**333**	*e*Pn	**Pn**	**23 17 12.2**	**+1.1**
PGAV				*e*Sn	**Sn**	**23 18 31.5**	**-2.7**
PGAV				A	A	23 18 40.0	
	comp=E,27nm,0.7s						
ETSF	**Etsaut**	**7.72**	**18**	*e*P	**Pn**	**23 17 20.1**	**+3.0**
ETSF				*e*Sn	**Sn**	**23 18 39.1**	**-5.9**
ETSF				*e*Sg	**Sg**	**23 19 27.0**	**-4.9**
	comp=E,0.9nm,0.3s						
SJPF	**Ste Jean**	**7.78**	**14**	*e*P	**Pn**	**23 17 20.2**	**+2.4**
SJPF				*e*Sn	**Sn**	**23 18 40.6**	**-5.7**
SJPF				*e*Sg	**Sg**	**23 19 27.3**	**-6.4**
	comp=E,4.1nm,0.6s						
EPF	**Esparros**	**8.10**	**22**	*e*P	**Pn**	**23 17 23.8**	**+1.6**
EPF				*e*Sn	**Sn**	**23 18 47.0**	**-7.1**
	comp=E,2.6nm,0.3s						
MTLF	**Montolieu**	**9.03**	**29**	*e*P	**Pn**	**23 17 38.6**	**+3.7**
LFF	**La Frestale**	**9.96**	**19**	*e*P	**Pn**	**23 17 50.1**	**+2.4**
LASF	**Ste Croix**	**10.31**	**32**	*e*P	**Pn**	**23 17 56.5**	**+4.0**
CAF	**Calviac**	**10.35**	**24**	*e*Pn	**Pn**	**23 17 51.2**	**-1.8**
RJF	**Les Rejaudoux**	**10.52**	**21**	*e*Pn	**Pn**	**23 17 53.6**	**-1.7**
KEST	**Kesra**	**10.67**	**85**	Pn	**Pn**	**23 17 58.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=75,slow=4.5,SNR=6.3						
KEST				LR	LR	23 22 04.0	
	comp=E,240nm,21.6s,baz=324,slow=38						
LMR	**La Mourre**	**11.09**	**43**	*e*P	**Pn**	**23 18 06.5**	**+3.4**
MFF	**Saint Martin d**	**11.35**	**13**	*e*P	**Pn**	**23 18 07.4**	**+0.8**
PGF	**Pioggiola**	**12.11**	**51**	*e*P	**Pn**	**23 18 20.8**	**+3.6**
PGF				*e*Sn	**Sn**	**23 20 25.3**	**-7.4**
	comp=E,0.4nm,0.2s						
QUIF	**Quistinic**	**12.34**	**2**	*e*P	**Pn**	**23 18 21.7**	**+1.5**
SGMF	**Saint Gilles**	**12.70**	**4**	*e*P	**Pn**	**23 18 28.0**	**+2.9**
ROSF	**Rostrenen**	**12.76**	**1**	*e*P	**Pn**	**23 18 26.3**	**+0.4**
GRR	**Gorron**	**12.98**	**9**	*e*P	**Pn**	**23 18 30.3**	**+1.3**
VAE	**Valguarnera**	**14.74**	**77**	LR	LR	23 24 43.4	
	comp=E,243nm,18.4s,baz=305,slow=

BGR ***26*** *23:19:07.0±0.0, 35°.98N×70°.18E, h320km±7km, mb5.7*
BJI ***26*** *23:19:08.9±0.0, 36°.78N×70°.00E, h316km, mb5.4/67, mB4.8/41*
NEIC ***26*** *23:19:08.9±1.7, 36°.75N±0°.06×69°.87E±0°.07, h307km±4km, mb5.2/272, Error ellipse: s-maj=8.5km s-min=7.7km az=143.0*
MOS ***26*** *23:19:08.3±1.0, 36°.76N×69°.93E, h319km, mb5.2/40, Error ellipse: s-maj=4.1km s-min=3.1km az=90.3*
GCMT ***26*** *23:19:08.9±0.4, 36°.65N±0°.04×69°.95E±0°.06, h309km±3km, MW5.2/63, Moment Tensor Solution. s63,c80; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-1.40±.39; Mθθ2.61±.63; Mφφ-1.21±.54; Mrθ-0.09±.56; Mθφ3.34±.49; Mφr8.83±.43; Best double couple: M0 9.53700×10^16 NP1:φs92.00000°, δ24.00000°, λ-7.00000°. NP2: φs188.00000°, δ87.00000°, λ-113.00000°. Principal axes: T 8.4880, Plg38.0000°, Azm299.0000°; N 2.0970, Plg23.0000°, Azm189.0000°; P -10.5850, Plg43.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
IDC ***26*** *23:19:09.4±0.3, 36°.69N×69°.97E, h318km±2km, mb5.0/62, mb1 5.0/68, mb1mx5.0/77, mbtmp5.7/68 Error ellipse: s-maj=6.1km s-min=4.3km az=16.0*
DSN ***26*** *23:19:09.4±0.4, 36°.69N×69°.96E, h314km, mb6.1/19, Error ellipse: s-maj=7.8km s-min=6.1km az=128.0*
NNC ***26*** *23:19:12.1±3.4, 37°.16N×69°.90E, h300km±32km, mb4.5, mpv5.6, Error ellipse: s-maj=40.4km s-min=22.7km az=161.0*

ISC 26 23:19:09.0±0.2, 36°.71N±0°.03×69°.90E±0°.02, h316km±1km, h316km:pP-P, n1567, σ1s23/1809, mb5.2/418, 618C-250D, Fault plane solution: NP1:φs85.97449°, δ29.65369°, λ-4.94723°. NP2:φs180.27640°, δ87.55463°, λ-119.56183°. Principal axes: T Plg35.7555°, Azm295.7367°; N Plg29.5322°, Azm181.6627°; P Plg40.1408°, Azm63.1248°; Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.04**	**343**	P	**Pn**	**23 19 56.3**	**-1.3**
CHGR	**Chuyangaron**	**2.04**	**343**		**Pn**	**23 19 56.3**	**-1.3**
KBL	**Kabul**	**2.27**	**198**	P	**Pn**	**23 19 59.4**	**-0.3**
KBL	**Kabul**	**2.27**	**198**	P	**Pn**	**23 19 59.6**	**-0.1**
KBL	SNR=1506			S	**S**	**23 20 37.5**	**-2.7**
KBL	**Kabul**	**2.27**	**198**		**Pn**	**23 19 59.4**	**-0.3**
DRK	**Karamyk**	**3.15**	**28**		**Pn**	**23 20 07.5**	**-0.2**
BTK	**Batken**	**3.42**	**12**	P	**Pn**	**23 20 10.0**	**-0.1**
BTK	**Batken**	**3.42**	**12**		**Pn**	**23 20 10.0**	**-0.1**
CHCP	**Chirah Chowk**	**4.10**	**137**	P	**Pn**	**23 20 18.3**	**+0.9**
NIL	**Nilore**	**4.10**	**137**	P	**Pn**	**23 20 18.2**	**+0.8**
NIL	**Nilore**	**4.10**	**137**		**Pn**	**23 20 18.2**	**+0.8**
THW	**Thamme Wali**	**4.19**	**158**	P	**Pn**	**23 20 18.4**	**+0.1**
TAS	**Tashkent**	**4.64**	**354**	P	**Pn**	**23 20 22.4**	**-0.6**
TAS	**Tashkent**	**4.64**	**354**	Pn	**Pn**	**23 20 22.4**	**-0.6**
SARP	**Sargodha**	**5.29**	**154**	P	**Pn**	**23 20 30.4**	**-0.3**
IUG	**Iuzhnay**	**5.44**	**1**	⇓*iP*	**Pn**	**23 20 31.6**	**-0.6**
IUG				*eS*	**S**	**23 21 36.0**	**-3.2**
IUG	**Iuzhnay**	**5.44**	**1**	⇓*iP*	**Pn**	**23 20 31.7**	**-0.6**
IUG	baz=2.5			*eS*	**S**	**23 21 36.1**	**-3.2**
KSH	**Kashi**	**5.55**	**58**	P	Pn	23 20 28.3	-5.3
KSH				S	S	23 21 28.3	-14
JMU	**Jammu**	**5.73**	**133**	*eP*	Pn	23 20 27.5	-8.1
JMU				*eP*	**Pn**	**23 20 35.1**	**-0.5**
JMU				*eS*	S	23 21 35.0	-10
JMU				*eS*	S	23 21 42.1	-3.4
AML	**Almayashu**	**6.16**	**27**	P	**Pn**	**23 20 40.3**	**-0.7**
AML	SNR=205 **Almayashu**	**6.16**	**27**	P	**Pn**	**23 20 40.0**	**-1.0**
AML	comp=Z,606nm,0.6s			pmax	pmax		
AML	**Almayashu**	**6.16**	**27**	*i* P	**Pn**	**23 20 40.3**	**-0.7**
DZA	SNR=221 **Taraz**	**6.28**	**10**	⇓*iP*	**Pn**	**23 20 41.1**	**-0.9**
DZA	comp=Z,203nm,0.7s			pmax	pmax		
DZA	**Taraz**	**6.28**	**10**	⇓*iP*	**Pn**	**23 20 41.1**	**-0.9**
BRLS	comp=Z,203nm,0.7s,baz=11 **Borolday**	**6.32**	**360**	*i* P	**Pn**	**23 20 38.4**	**-4.0**
BRLS	**Borolday**	**6.32**	**360**	*i* P	**Pn**	**23 20 38.5**	**-4.0**
KK08	baz=360 **Karatay Array**	**6.41**	**4**	⇓P	**Pn**	**23 20 42.3**	**-1.3**
KK08	comp=Z,77nm,0.6s,baz=181,slow=12			⇓S	**S**	**23 21 53.9**	**-6.1**
KKAR	comp=Z,222nm,0.8s,baz=181,slow=12 **Karatay Array**	**6.41**	**4**	P	**Pn**	**23 20 42.2**	**-1.3**
KKAR						23 21 55.9	
KKAR	**Karatay Array**	**6.41**	**4**	Pn	**Pn**	**23 20 42.2**	**-1.3**
KKAR				Sn	**S**	**23 21 55.9**	**-4.1**
THN	**Thein Dam**	**6.42**	**130**	*eP*	**Pn**	**23 20 44.5**	**+0.7**
THN				*eS*	**S**	**23 21 58.2**	**-2.2**
UCH	**Uchtor**	**6.57**	**31**	P	**Pn**	**23 20 45.5**	**-0.4**
UCH	SNR=407 **Uchtor**	**6.57**	**31**	P	**Pn**	**23 20 45.0**	**-0.9**
HRA	**Herat**	**6.65**	**252**	Pn	**Pn**	**23 20 46.6**	**-0.2**
EKS2	**Erkin-Say**	**6.66**	**25**	P	**Pn**	**23 20 46.4**	**-0.2**
EKS2	SNR=346 **Erkin-Say**	**6.66**	**25**	P	**Pn**	**23 20 46.0**	**-0.6**
EKS2	comp=Z,1μm,0.8s			pmax	pmax		
AAK	**Ala-Archa**	**6.90**	**29**	P	**Pn**	**23 20 49.4**	**-0.2**
AAK	comp=Z,112nm,0.3s,baz=183,slow=4.1,SNR=940			S	**S**	**23 22 03.1**	**-7.9**
AAK	comp=Z,12nm,0.3s,baz=216,slow=17,SNR=4.6 **Ala-Archa**	**6.90**	**29**	P	**Pn**	**23 20 49.4**	**-0.2**
AAK	SNR=663 **Ala-Archa**	**6.90**	**29**	P	**Pn**	**23 20 49.4**	**-0.2**
AAK	**Ala-Archa**	**6.90**	**29**	P	**Pn**	**23 20 49.3**	**-0.2**
AAK	**Ala-Archa**	**6.90**	**29**	⇑P	**Pn**	**23 20 49.2**	**-0.4**
AAK	comp=Z,275nm,0.6s			⇑S	**S**	**23 22 02.7**	**-8.3**
AAK	comp=Z,534nm,1.1s **Ala-Archa**	**6.90**	**29**	*i* P	**Pn**	**23 20 49.4**	**-0.2**
DHRM	SNR=229 **DHARAMSHALA**	**6.91**	**128**	⇑*iP*	**Pn**	**23 20 50.2**	**+0.4**
DHRM				*eS*	**S**	**23 22 08.5**	**-3.0**
DHRM				IAML		23 22 13.1	
FRU1	comp=N,13μm,1.0s **Bishkek**	**7.10**	**29**	P	**Pn**	**23 20 51.7**	**-0.2**
FRU1	**Bishkek**	**7.10**	**29**	Pn	**Pn**	**23 20 51.7**	**-0.2**
KBK	**Karagaybulak**	**7.11**	**32**	P	**Pn**	**23 20 51.9**	**-0.1**
KBK	SNR=424 **Karagaybulak**	**7.11**	**32**	P	**Pn**	**23 20 51.6**	**-0.4**
CHMS	**Chumysh**	**7.31**	**29**	P	**Pn**	**23 20 53.5**	**-0.8**
ULHL	SNR=148 **Ulahol**	**7.39**	**40**	P	**Pn**	**23 20 55.9**	**+0.3**
ULHL	SNR=441 **Ulahol**	**7.39**	**40**	P	**Pn**	**23 20 55.5**	**0.0**
BOOM	**Boomskoye usch**	**7.42**	**37**	P	**Pn**	**23 20 55.8**	**-0.1**
BOOM	**Boomskoye usch**	**7.42**	**37**	Pn	**Pn**	**23 20 55.8**	**-0.1**
USP	**Ospenovka**	**7.44**	**27**	P	**Pn**	**23 20 54.6**	**-1.3**
USP	SNR=186 **Ospenovka**	**7.44**	**27**	P	**Pn**	**23 20 54.4**	**-1.6**
BHK	**Bhakra**	**7.55**	**132**	⇑*iP*	**Pn**	**23 20 57.9**	**+0.5**
TKM2	**Tokmak 2**	**7.60**	**33**	P	**Pn**	**23 20 57.4**	**-0.7**
TKM2	SNR=351 **Tokmak 2**	**7.60**	**33**	⇑P	**Pn**	**23 20 56.8**	**-1.2**
TKM2	comp=N,180nm,0.6s			⇓S	S	23 22 17.4	-9.0
SGDS	comp=N,218nm,1.0s **Sogindy**	**7.65**	**27**	*eP*	**Pn**	**23 20 55.4**	**-3.1**
SGDS	**Sogindy**	**7.65**	**27**	⇓*iP*	**Pn**	**23 20 57.4**	**-1.1**
KDJ	comp=N,67nm,0.7s,baz=28 **Kajisay**	**7.82**	**44**	P	**Pn**	**23 21 00.8**	**+0.2**
KDJ	**Kajisay**	**7.82**	**44**	Pn	**Pn**	**23 21 00.8**	**+0.2**
SMLA	**Simla**	**8.21**	**131**	*eP*	**Pn**	**23 21 05.8**	**+0.5**
SMLA				*eS*	**S**	**23 22 34.9**	**-5.0**
SMLA				IAML		23 22 40.5	
TNSS	comp=E,3μm,0.7s **Tian-Shan**	**8.33**	**38**	*i* P	**Pn**	**23 21 07.1**	**+0.1**
AAA	baz=40 **Alma-Ata**	**8.44**	**38**	*eP*	**Pn**	**23 21 08.5**	**+0.5**
AAA	**Alma-Ata**	**8.44**	**38**	*eP*	**Pn**	**23 21 08.6**	**+0.5**
KNDC	baz=39 **Almaty**	**8.47**	**38**	P	**Pn**	**23 21 08.0**	**-0.4**
KNDC	**Almaty**	**8.47**	**38**	⇓P	**Pn**	**23 21 08.7**	**+0.3**
MDOK	comp=E,699nm,0.9s **Medeo**	**8.47**	**38**	*i* P	**Pn**	**23 21 08.8**	**+0.3**
MDOK				*eS*	**S**	**23 22 45.9**	**+0.2**
MDOK	**Medeo**	**8.47**	**38**	*i* P	**Pn**	**23 21 08.8**	**+0.3**
	baz=39						
MDOK	**Medeo**	**8.47**	**38**	⇑P	**Pn**	**23 21 08.4**	**-0.1**
	comp=E,1μm,0.9s						
KUU	**Kurty**	**8.70**	**32**	⇓*iP*	**Pn**	**23 21 10.1**	**-1.0**
KUU				pmax	pmax		
	comp=Z,287nm,1.2s						
KUU	**Kurty**	**8.70**	**32**	⇓*iP*	**Pn**	**23 21 10.2**	**-1.0**
	comp=Z,287nm,1.2s,baz=34						
PRZ	**Przheval'sk**	**8.74**	**46**	P	**Pn**	**23 21 12.7**	**+0.9**
PRZ	**Przheval'sk**	**8.74**	**46**	Pn	**Pn**	**23 21 12.7**	**+0.9**
KKR	**Kurukshetra**	**8.87**	**137**	*eP*	**Pn**	**23 21 14.1**	**+0.7**
BTLS	**Baital**	**8.90**	**19**	*i* P	**Pn**	**23 21 12.0**	**-1.5**
BTLS				*eS*	**S**	**23 22 52.6**	**-2.4**
BTLS	**Baital**	**8.90**	**19**	*i* P	**Pn**	**23 21 12.1**	**-1.5**
	baz=20						
BTLS				*eS*	**S**	**23 22 52.6**	**-2.4**
	baz=20						
CHKK	**Chushkaly**	**8.96**	**35**	⇓*iP*	**Pn**	**23 21 13.3**	**-1.0**
	baz=36						
SATY	**Saty**	**9.11**	**43**	⇓*iP*	**Pn**	**23 21 16.3**	**+0.1**
SATY				*eS*	**S**	**23 23 00.0**	**+0.1**
SATY				pmax	pmax		
	comp=Z,171nm,0.9s						
SATY	**Saty**	**9.11**	**43**	⇓*iP*	**Pn**	**23 21 16.3**	**+0.1**
	comp=Z,171nm,0.9s,baz=44						
SATY				*eS*	**S**	**23 23 00.0**	**+0.1**
	baz=44						
ZHN	**Zhinishke**	**9.20**	**43**	⇓*iP*	**Pn**	**23 21 17.5**	**+0.2**
ZHN	**Zhinishke**	**9.20**	**43**	⇓*iP*	**Pn**	**23 21 17.6**	**+0.2**
	baz=44						
DDI	**Dehra Dun**	**9.32**	**131**	⇑*iP*	**Pn**	**23 21 19.1**	**+0.1**
DDI				IAmb	IAmb	23 21 20.7	
	comp=Z,581nm,0.6s						
GEYT	**Alibeck**	**9.46**	**281**	P	**Pn**	**23 21 19.2**	**-1.3**
	comp=Z,23nm,0.3s,baz=119,slow=8.6,SNR=123						
GEYT				S	**S**	**23 23 02.2**	**-5.7**
	baz=202,slow=43,SNR=0.7						
GYA0B	**ALIBECK ARRAY**	**9.46**	**281**	⇑P	**Pn**	**23 21 18.6**	**-2.0**
GYA0B	**ALIBECK ARRAY**	**9.46**	**281**	Pn	**Pn**	**23 21 19.3**	**-1.3**
UZB	**Uzynbulak**	**9.51**	**45**	⇓*eP*	**Pn**	**23 21 21.1**	**0.0**
UZB	**Uzynbulak**	**9.51**	**45**	⇓*eP*	**Pn**	**23 21 21.2**	**0.0**
	baz=46						
ARXS	**Arharly**	**9.63**	**36**	*eP*	**Pn**	**23 21 20.3**	**-2.2**
SHLS	**Shalkode**	**9.77**	**46**	⇓*eP*	**P**	**23 21 27.3**	**0.0**
SHLS	**Shalkode**	**9.77**	**46**	⇓*eP*	**P**	**23 21 27.4**	**0.0**
	baz=48						
PDGK	**Podgornoye**	**9.89**	**45**	P	**Pn**	**23 21 24.0**	**-1.7**
NDI	**New Delhi**	**10.10**	**140**	*eP*	**Pn**	**23 21 28.0**	**-0.3**
NDI				*eP*	**P**	**23 21 28.2**	**-2.9**
NDI				*eS*	**S**	**23 23 18.0**	**-4.3**
KUDL	**Kundal**	**10.19**	**145**	*eP*	**Pn**	**23 21 29.1**	**-0.4**
AYAN	**Aya Nagar**	**10.21**	**141**	*eP*	**Pn**	**23 21 30.0**	**+0.3**
BISR	**Bishrakh**	**10.30**	**140**	*eP*	**Pn**	**23 21 31.6**	**+0.9**
SONA	**Sohna**	**10.38**	**142**	*eP*	**Pn**	**23 21 31.7**	**0.0**
TDK	**Taldyqorghan**	**10.49**	**35**	*i* P	**Pn**	**23 21 32.1**	**-0.8**
TDK				pmax	pmax		
	comp=Z,158nm,0.6s						
TDK	**Taldyqorghan**	**10.49**	**35**	*i* P	**Pn**	**23 21 32.1**	**-0.8**
	comp=Z,158nm,0.6s,baz=36						
AJM	**Ajmer**	**10.96**	**157**	*eP*	**Pn**	**23 21 39.1**	**+0.2**
PTH	**Pithoragarh**	**11.21**	**127**	*eP*	**Pn**	**23 21 41.8**	**-0.1**
LGTI	**Lohaghat**	**11.29**	**127**	*eP*	**Pn**	**23 21 42.0**	**-0.8**
OTUK	**Ortayu**	**11.67**	**8**	⇓P	**Pn**	**23 21 45.6**	**-1.5**
	comp=Z,89nm,0.8s						
BHUJ	**Bhuj**	**13.41**	**181**	*eP*	**Pn**	**23 22 09.2**	**+1.0**
JHNI	**Jhansi**	**13.42**	**144**	*eP*	**Pn**	**23 22 08.9**	**+0.6**
BRZS	**Berezniki**	**13.42**	**8**	⇓*eP*	**P**	**23 22 06.8**	**-0.9**
BRZS				*eS*	**S**	**23 24 33.4**	**-2.1**
BRZS				pmax	pmax		
	comp=Z,38nm,0.5s						
BRZS	**Berezniki**	**13.42**	**8**	⇓*eP*	**P**	**23 22 06.8**	**-0.9**
	comp=Z,38nm,0.5s,baz=8.3						
BRZS				*eS*	**S**	**23 24 33.5**	**-2.1**
	baz=8.3						
BRCI	**Bahraich**	**13.45**	**129**	⇓*iP*	**Pn**	**23 22 10.4**	**+1.8**
MAKZ	**Makanchi**	**13.52**	**38**	P	**P**	**23 22 08.6**	**-0.2**
MAKZ	**Makanchi**	**13.52**	**38**	⇓P	**P**	**23 22 08.6**	**-0.2**
	comp=Z,274nm,0.6s						
MAKZ	**Makanchi**	**13.52**	**38**	P	**P**	**23 22 08.6**	**-0.2**
MK31	**Makanchi Array**	**13.66**	**39**	P	**P**	**23 22 10.3**	**-0.1**
MK31	**Makanchi Array**	**13.66**	**39**	P	**P**	**23 22 10.3**	**-0.1**
	comp=Z,103nm,0.4s,baz=214,slow=7.6,SNR=5218						
MK31	**Makanchi Array**	**13.66**	**39**		**P**	**23 22 10.3**	**-0.1**
MKAR	**Makanchi Array**	**13.66**	**39**	P	**P**	**23 22 10.2**	**-0.3**
	comp=Z,80nm,0.3s,baz=230,slow=9.4,SNR=983						
MKAR				S	**S**	**23 24 37.2**	**-3.6**
	baz=35,slow=24,SNR=1.0						
MKAR				ScP	**ScP**	**23 30 11.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=270,slow=0.2,SNR=3.7						
MKAR	**Makanchi Array**	**13.66**	**39**	P	**P**	**23 22 10.2**	**-0.3**
PYUN	**Piuthan**	**13.99**	**124**	*eP*	**Pn**	**23 22 16.2**	**+0.9**
	comp=Z,761nm,0.4s						
DANN	**Dangsing**	**14.35**	**122**	*eP*	**Pn**	**23 22 20.4**	**+0.8**
	comp=Z,797nm,0.3s						
AB31	**Akbulak array**	**14.49**	**333**	⇓P	**P**	**23 22 18.8**	**-0.7**
	comp=Z,335nm,0.8s,baz=143,slow=11,SNR=1993						
ABKAR	**Akbulak array**	**14.49**	**333**	P	**P**	**23 22 18.9**	**-0.5**
ABKAR	**Akbulak array**	**14.49**	**333**	P	**P**	**23 22 18.8**	**-0.6**
KOLN	**Koldanda**	**14.61**	**124**	*eP*	**Pn**	**23 22 23.1**	**+0.5**
	comp=Z,280nm,0.3s						
BHPL	**Bhopal**	**14.91**	**152**	⇓*iP*	**Pn**	**23 22 26.8**	**+0.8**
VLK	**Valmikinagar**	**15.09**	**124**	⇓*iP*	**Pn**	**23 22 28.1**	**+0.2**
GKN	**Gorkha**	**15.17**	**121**	*eP*	**Pn**	**23 22 29.0**	**-0.1**
	comp=Z,633nm,0.3s						
KURBB	**Kurchatov Arra**	**15.23**	**21**	P	**P**	**23 22 27.3**	**-0.2**
	comp=Z,26nm,0.3s,baz=211,slow=12,SNR=1935						
KURBB				S	**S**	**23 25 07.0**	**-5.3**
	baz=211,slow=17,SNR=5.1						
KURBB	**Kurchatov Arra**	**15.23**	**21**	⇑P	**P**	**23 22 27.4**	**-0.2**
	comp=Z,702nm,0.6s						
ALBI	**Allahabad**	**15.26**	**135**	⇓*iP*	**P**	**23 22 28.8**	**+0.6**
WMQ	**Urumqi**	**15.32**	**57**	*eP*	**Pn**	**23 22 30.3**	**-0.3**
WMQ				S	**S**	**23 25 15.0**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,930nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,3μm,5.3s						
KURK	**Kurchatov**	**15.34**	**21**	*d iP*	**P**	**23 22 28.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,591nm,1.3s						
KURK	**Kurchatov**	**15.34**	**21**	P	**P**	**23 22 28.5**	**-0.3**
KURK				S	**S**	**23 25 13.3**	**-1.2**
KURK	**Kurchatov**	**15.34**	**21**	P	**P**	**23 22 28.4**	**-0.3**
ZSN	**Zaisan**	**15.42**	**41**	*eP*	**P**	**23 22 29.5**	**-0.2**
ZSN	**Zaisan**	**15.42**	**41**	*eP*	**P**	**23 22 29.6**	**-0.2**
	baz=42						
SEM	**Semipalatinsk**	**15.60**	**25**	⇓*iP*	**P**	**23 22 31.8**	**0.0**
SEM				*eS*	**S**	**23 25 19.5**	**-0.5**
SEM				pmax	pmax		
	comp=Z,42nm,0.4s						
SEM	**Semipalatinsk**	**15.60**	**25**	⇓*iP*	**P**	**23 22 31.9**	**0.0**
	comp=Z,42nm,0.4s,baz=26						
SEM				*eS*	**S**	**23 25 19.5**	**-0.5**
	baz=26						
DMN	**Daman**	**15.74**	**121**	*eP*	**Pn**	**23 22 35.1**	**-0.7**
	comp=Z,860nm,0.4s						
KKN	**Kakani**	**15.74**	**120**	*eP*	**Pn**	**23 22 35.0**	**-0.9**
	comp=Z,471nm,0.2s						
BANOM	**Banah**	**15.81**	**231**	P	**P**	**23 22 35.0**	**+0.8**
	SNR=74						
BANOM				S	**S**	**23 25 23.0**	**-1.5**
BANOM	**Banah**	**15.81**	**231**	*i* P	**P**	**23 22 35.0**	**+0.8**
	SNR=74						
SHME	**Shamm**	**15.82**	**232**	P	**Pn**	**23 22 35.8**	**-0.7**
	SNR=24						
SHME				S	**S**	**23 25 24.5**	**-0.2**
SHME	**Shamm**	**15.82**	**232**	*i* P	**Pn**	**23 22 35.4**	**-1.1**
	SNR=24						
PKIN	**Phulchoki**	**15.96**	**120**	*eP*	**Pn**	**23 22 37.5**	**-0.9**
	comp=Z,1μm,0.3s						
PKI	**Pulchoki**	**15.97**	**120**	*eP*	**Pn**	**23 22 37.7**	**-0.9**
	comp=Z,959nm,0.4s						
VAR	**Varanasi**	**15.97**	**132**	*eP*	**P**	**23 22 36.8**	**+0.8**
JBP	**Jabalpur**	**16.06**	**144**	*eP*	**Pn**	**23 22 38.6**	**-0.7**
JBP				IAmb	IAmb	23 22 41.8	
	comp=Z,280nm,0.6s						
JBP				*eS*	**S**	**23 25 28.3**	**-1.1**
GUN	**Gumba**	**16.09**	**118**	*eP*	**Pn**	**23 22 38.9**	**-1.1**
	comp=Z,627nm,0.3s						
AKTO	**Aktyubinsk**	**16.17**	**332**	P	**P**	**23 22 37.9**	**+0.1**
	comp=Z,100nm,0.3s,baz=147,slow=10,SNR=1027						
AKTO				S	**S**	**23 25 29.4**	**-1.8**
	comp=Z,4.4nm,0.3s,baz=22,slow=16,SNR=9.6						
AKTO	**Aktyubinsk**	**16.17**	**332**	P	**P**	**23 22 37.9**	**+0.1**
AKTO	**Aktyubinsk**	**16.17**	**332**	⇑P	**P**	**23 22 37.7**	**-0.1**
	comp=Z,458nm,0.6s						
MASF	**Masafi**	**16.30**	**230**	P	**P**	**23 22 40.7**	**+1.1**
	SNR=22						
MASF				S	**S**	**23 25 33.1**	**-1.1**
MSFE	**Esma-Masafi**	**16.30**	**230**	*i* P	**P**	**23 22 40.6**	**+0.9**
	SNR=39						
BVAR	**Borovoye Array**	**16.32**	**1**	P	**P**	**23 22 39.4**	**-0.1**
	comp=Z,20nm,0.3s,baz=130,slow=7.3,SNR=230						
BVAR				S	**S**	**23 25 32.4**	**-1.7**
	comp=Z,3.8nm,0.3s,baz=154,slow=21,SNR=12						
BVAR	**Borovoye Array**	**16.32**	**1**	P	**P**	**23 22 39.4**	**-0.1**
BRVK	**Borovoye**	**16.36**	**1**	*c iP*	**P**	**23 22 39.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,140nm,1.3s						
BRVK	**Borovoye**	**16.36**	**1**	P	**P**	**23 22 39.8**	**0.0**
BRVK				S	**S**	**23 25 34.6**	**-0.1**
BRVK	**Borovoye**	**16.36**	**1**	⇑P	**P**	**23 22 39.4**	**-0.4**
	comp=Z,69nm,0.7s						
BRVK	**Borovoye**	**16.36**	**1**	P	**P**	**23 22 39.6**	**-0.2**
BRVK				IAmb	IAmb	23 22 43.6	
	comp=Z,77nm,0.7s						
UMQ	**Umm Al-Quwin**	**16.50**	**231**	P	**Pn**	**23 22 44.1**	**-0.3**
UMQ	**Umm Al-Quwin**	**16.50**	**231**	*i* P	**Pn**	**23 22 43.5**	**-0.9**
	SNR=8.7						
WSAR	**Wadi Sarin**	**16.57**	**219**	P	**P**	**23 22 43.5**	**+1.0**
	comp=Z,16nm,0.3s,baz=64,slow=7.9,SNR=149						
WSAR				S	**S**	**23 25 38.2**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=72,slow=10,SNR=1.7						
WSAR	**Wadi Sarin**	**16.57**	**219**	P	**P**	**23 22 43.8**	**+1.2**
	SNR=18						
WSAR				S	**S**	**23 25 42.8**	**+3.1**
UOSS	**Minazif**	**16.58**	**229**	P	**P**	**23 22 42.0**	**-0.6**
UOSS	**Minazif**	**16.58**	**229**	P	**P**	**23 22 41.7**	**-0.9**
UOSS	**Minazif**	**16.58**	**229**	*i* P	**P**	**23 22 42.4**	**-0.2**
	SNR=6.9						
BIDO	**Bidbid**	**16.60**	**221**	P	**P**	**23 22 43.4**	**+0.6**
	SNR=6.7						
HATD	**Hatta, Dubai**	**16.71**	**229**	P	**P**	**23 22 43.8**	**-0.3**
	SNR=18						
HATD	**Hatta, Dubai**	**16.71**	**229**	*i* P	**P**	**23 22 43.5**	**-0.5**
	SNR=49						
LKRN	**Lenkeran, Azer**	**16.83**	**283**	P	**P**	**23 22 45.5**	**+0.4**
ASHO	**Ashiyiah**	**16.86**	**229**	P	**P**	**23 22 46.8**	**+1.1**
	SNR=267						
ASHO				S	**S**	**23 25 46.1**	**+0.6**
ASHO	**Ashiyiah**	**16.86**	**229**	*i* P	**P**	**23 22 46.8**	**+1.1**
	SNR=267						
NAZ	**Nazwa, Dubai**	**16.88**	**230**	P	**P**	**23 22 46.6**	**+0.8**
	SNR=5.8						
NAZ				S	**S**	**23 25 46.6**	**+0.8**
NAZ	**Nazwa, Dubai**	**16.88**	**230**	*i* P	**P**	**23 22 46.2**	**+0.4**
	SNR=20						
WBK	**Wadi Bani Khal**	**16.94**	**217**	P	**Pn**	**23 22 48.2**	**-1.4**
	SNR=145						
WBK				S	**S**	**23 25 49.4**	**+2.5**
HOQ	**Hoqain**	**16.99**	**223**	P	**P**	**23 22 47.1**	**0.0**
	SNR=18						
HOQ				S	**S**	**23 25 48.3**	**+0.3**
SMDO	**Samad**	**17.02**	**220**	P	**P**	**23 22 48.4**	**+1.0**
	SNR=12						
SMDO				S	**S**	**23 25 50.7**	**+1.9**
FAQ	**Al Faqa, Dubai**	**17.10**	**230**	P	**P**	**23 22 48.7**	**+0.5**
	SNR=19						
FAQ				S	**S**	**23 25 49.0**	**-1.1**
FAQ	**Al Faqa, Dubai**	**17.10**	**230**	*i* P	**P**	**23 22 48.2**	**-0.1**
	SNR=19						
AKL	**Akola**	**17.11**	**157**	⇓*iP*	**Pn**	**23 22 50.5**	**-1.1**
JLN	**Jalan Bani Buh**	**17.12**	**215**	P	**Pn**	**23 22 50.2**	**-1.5**
	SNR=49						
JLN				S	**S**	**23 25 52.6**	**+2.1**
ASUD	**Al Ashush, Dub**	**17.35**	**230**	P	**P**	**23 22 52.1**	**+1.2**
	SNR=93						
ASUD				S	**S**	**23 25 55.2**	**+0.1**
ASUD	**Al Ashush, Dub**	**17.35**	**230**	*i* P	**P**	**23 22 51.7**	**+0.8**
	SNR=93						
ALNE	**Al Ain**	**17.52**	**228**	P	**P**	**23 22 53.6**	**+0.8**
	SNR=27						
ALNE				S	**S**	**23 25 56.6**	**-1.7**
ALNE	**Al Ain**	**17.52**	**228**	*i* P	**P**	**23 22 53.4**	**+0.7**
	SNR=60						
JMDO	**Jabal Madar**	**17.57**	**219**	P	**P**	**23 22 55.0**	**+1.8**
	SNR=48						
JMDO				S	**S**	**23 26 00.2**	**+1.0**
AJN	**Ajban**	**17.61**	**231**	P	**P**	**23 22 54.2**	**+0.6**
	SNR=11						
AJN				S	**S**	**23 25 58.2**	**-1.9**
AJN	**Ajban**	**17.61**	**231**	*i* P	**P**	**23 22 54.0**	**+0.3**
	SNR=24						
ARQ	**Araqi**	**17.63**	**225**	P	**P**	**23 22 54.9**	**+1.0**
	SNR=19						
ARQ				S	**S**	**23 26 00.8**	**+0.4**
BSY

ZALV Zalesovo Beam 20.11 26 P **P** **23 23 19.1 -0.8**
comp=Z,216nm,0.4s,baz=222,slow=9.9,SNR=1084
ZALV S **S** **23 26 46.5 +0.3**
comp=Z,105nm,1.0s,baz=222,slow=17,SNR=5.9
ZALV PcP **PcP** **23 27 20.1 +0.2**
comp=Z,22nm,1.0s,baz=169,slow=4.9,SNR=1.3
ZALV ScS **ScS** **23 34 04.9 -3.3**
comp=Z,3.4nm,0.9s,baz=235,slow=5.2,SNR=4.1
ZALV Zalesovo Beam 20.11 26 *i* P **P** **23 23 19.1 -0.8**
ZALV pmax pmax
comp=Z,216nm,0.4s
ZALV Zalesovo Beam 20.11 26 P **P** **23 23 19.0 -0.8**
KZRT Kazreti 20.32 291 P **P** **23 23 22.4 +0.3**
HYBB Hyderabad (bro 20.68 156 *e*P **P** **23 23 27.0 +1.2**
HYBB *es*P **sP** **23 24 53.6 -1.2**
HYBB *e*S **S** **23 26 58.5 +2.2**
HYB Hyderabad 20.68 156 IAmb IAmb 23 23 28.1
comp=Z,65nm,0.6s
HYB *e*P **P** **23 23 26.5 +0.7**
HYB *e*P **P** **23 23 26.6 +0.8**
HYB *e*S **S** **23 26 59.0 +2.7**
ZEI Tsey 20.85 295 *e*P **P** **23 23 26.5 -0.9**
ZEI pmax pmax
comp=Z,57nm,0.7s
BGD Bogdanovka 20.91 291 P **P** **23 23 29.8 +1.8**
CUPL Choutuppal 20.92 155 *e*pP **pP** **23 24 16.5 -0.2**
CUPL ⇑*e*P **P** **23 23 27.6 -0.5**
CUPL *e*P **P** **23 23 28.8 +0.8**
AKH Akhalkalaki 21.00 291 ⇓P **P** **23 23 31.5 +2.7**
SVE Sverdlovsk 21.07 346*d i*P **P** **23 23 29.1 +0.1**
SVE *e*S **S** **23 27 02.8 +1.1**
SVE pmax pmax
comp=Z,134nm,0.9s
RAGD RAYAGADA 21.07 142 ⇓*i*P **P** **23 23 30.5 +1.1**
ARU Arti 21.16 342 P **P** **23 23 29.8 0.0**
comp=Z,195nm,0.6s,baz=138,slow=5.6,SNR=552
ARU S **S** **23 27 04.9 +1.7**
comp=Z,4.2nm,0.6s,baz=222,slow=22,SNR=1.2
ARU Arti 21.16 342*c i*P **P** **23 23 30.0 +0.2**
ARU S **S** **23 27 06.9 +3.7**
ARU pmax pmax
comp=Z,355nm,0.6s
ARU Arti 21.16 342 P **P** **23 23 29.7 -0.1**
NCK Nalchik 21.18 297*ce*P **P** **23 23 30.6 +0.4**
NCK pmax pmax
comp=Z,294nm,0.6s
BWNR Bhubaneshwar 21.46 135 *e*P **P** **23 23 34.4 +1.4**
KBZ Khabaz 21.72 297 P **P** **23 23 35.4 +0.3**
comp=Z,83nm,0.6s,baz=117,slow=5.5,SNR=396
KBZ S **S** **23 27 15.2 +2.7**
comp=Z,12nm,0.9s,baz=93,slow=19,SNR=1.5
KBZ Khabaz 21.72 297*c i*P **P** **23 23 35.2 +0.2**
KBZ pmax pmax
comp=Z,118nm,0.8s
NJS Nagarjunasagar 21.74 155 *e*P **P** **23 23 36.5 +1.0**
NEY Neytrino 21.77 296*c i*P **P** **23 23 37.7 +1.9**
NEY pmax pmax
comp=Z,34nm,0.6s
SHL Shillong 21.80 114 P **P** **23 23 36.4 +0.2**
SHL pmax pmax
comp=Z,2μm,0.7s
SHL Shillong 21.80 114 ⇓*i*P **P** **23 23 36.5 +0.2**
SHL Shillong 21.80 114 P **P** **23 23 36.6 +0.4**
SNR=400
SHL Shillong 21.80 114 P **P** **23 23 36.4 +0.2**
GOF Gofitskoye 21.88 301 ⇑*i*P **P** **23 23 37.3 +0.8**
GOF pmax pmax
comp=Z,813nm,0.8s
KVAR Kislovodsk Arr 21.90 298 P **P** **23 23 37.7 +0.9**
comp=Z,32nm,0.4s,baz=108,slow=23,SNR=33
KIV Kislovodsk 21.91 298 *e*P **P** **23 23 37.3 +0.4**
KIV *e*S **S** **23 27 16.2 +0.4**
KIV pmax pmax
comp=Z,139nm,1.0s
KIV MLR MLR
comp=Z,111nm,14.0s
KIV Kislovodsk 21.91 298 P **P** **23 23 37.3 +0.4**
PVM Polavaram 21.98 149 *e*P **P** **23 23 39.5 +1.8**
CHLP Challavanipeta 22.00 142 *e*P **P** **23 23 38.8 +0.9**
CHLP *e*pP **pP** **23 24 28.1 -0.4**
MYLAV Mylavaram 22.04 152 *e*P **P** **23 23 39.6 +1.5**
CHVG Ch'k'valeri 22.17 294 ⇓P **P** **23 23 41.6 +2.4**
CHVG Ch'k'valeri 22.17 294 ⇓P **ScP** **23 30 32.5 +1.6**
VJD Vijayawada 22.25 152 *e*P **P** **23 23 41.6 +1.4**
ITAN ITANAGAR 22.31 108 *e*P **P** **23 23 41.9 +1.3**
VIS Vishakhapatnam 22.32 144 *e*P **P** **23 23 42.0 +1.3**
SHAO Shalim 22.47 218 P **P** **23 23 43.6 +1.5**
SHAO Shalim 22.47 218 *i* P **P** **23 23 44.0 +1.9**
SNR=40
ADKI Addanki 22.62 154 *e*P **P** **23 23 44.4 +0.8**
ADKI *e*pP **pP** **23 24 35.5 +0.1**
ADKI *e*PcP **PcP** **23 27 27.1 +1.7**
DOK Doka 22.74 222 P **P** **23 23 45.9 +1.3**
SNR=22
BELO BELONIA 22.92 120 ⇓*i*P **P** **23 23 48.1 +1.9**
JORH JORHAT 22.92 109 *e*P **P** **23 23 47.2 +1.1**
DMTO DMTO 23.06 219 P **P** **23 23 48.2 +0.6**
MARD Mardin 23.23 280 P **P** **23 23 50.2 +1.2**
MARD IAmb IAmb 23 23 51.9
comp=Z,100nm,0.8s
MOKO MOKOCHONG 23.34 109 *e*P **P** **23 23 51.5 +1.3**
KOHI KOHIMA 23.36 111 *e*P **P** **23 23 51.3 +1.0**
WHFO Wadi Hawf 23.50 222 P **P** **23 23 52.2 +0.6**
SNR=38
RBK Rabkut 23.62 220 P **P** **23 23 53.3 +0.6**
SNR=11
GTA Gaotai 23.66 74 ⇓P **P** **23 23 54.5 +1.6**
GTA ScP **ScP** **23 30 35.3 +0.2**
GTA ScS **ScS** **23 34 20.8 -1.5**
GTA pmax pmax
comp=Z,450nm,0.6s
IMP Imphal 23.74 113 *e*P **P** **23 23 55.5 +1.8**
IMP *i* x x 23 23 58.7
KTUT Trabzon 23.79 290 ⇓P **P** **23 23 54.5 +0.6**
LKP Lekhapani 23.84 106 *e*P **P** **23 23 55.5 +1.0**
SOC Sochi 23.98 296 *e*P **P** **23 23 54.8 -0.8**
SOC *e*S **S** **23 27 47.8 -0.8**
SOC pmax pmax
comp=Z,81nm,0.6s
ABTO Aybut 24.22 222 P **P** **23 23 58.6 +0.5**
SNR=41
VRH Novokhopyorsk 24.73 315 *e*P **P** **23 24 01.4 -0.8**
VRH pmax pmax
comp=Z,140nm,0.8s
RAYN Ar Rayn 24.77 245 P **P** **23 24 03.6 +0.6**
RAYN pmax pmax
comp=Z,283nm,1.0s
RAYN Ar Rayn 24.77 245 P **P** **23 24 03.9 +0.8**
RAYN Ar Rayn 24.77 245 P **P** **23 24 03.6 +0.6**
RAYN Ar Rayn 24.77 245 *i* P **P** **23 24 03.8 +0.8**
SNR=124
KIRV Kirov 25.67 335 P **P** **23 24 11.0 +0.4**
comp=Z,442nm,0.4s,baz=321,slow=1.8,SNR=235
KIRV pP **pP** **23 25 08.2 +0.1**
comp=Z,69nm,0.8s,baz=180,slow=6.2,SNR=2.5
KIRV Kirov 25.67 335*c i*P **P** **23 24 10.8 +0.3**
VORD Divnogorie 26.05 313 *e*P **P** **23 24 13.5 -0.5**
VORD pmax pmax
comp=Z,300nm,1.4s
GAZ Gaziantep 26.06 281 IAmb IAmb 23 24 16.1
comp=Z,116nm,1.1s
VSR Storozhevoye 26.22 313 *e*P **P** **23 24 14.4 -1.1**
VSR pmax pmax
comp=Z,300nm,1.2s
TOKA Tokat 26.31 288 IAmb IAmb 23 24 18.9
comp=Z,50nm,0.7s
VORR Voronezh 26.36 314 *e*P **P** **23 24 15.4 -1.4**
VORR pmax pmax
comp=Z,311nm,1.2s
MOY Mondy 26.59 46 *e*P **P** **23 24 20.7 +1.7**
MOY pmax pmax
comp=Z,123nm,1.8s
LPSR Galich'ya Gora 26.89 316 *e*P **P** **23 24 21.1 -0.3**
LPSR pmax pmax
comp=Z,280nm,0.8s
BNN Bunyan 26.91 285 P **P** **23 24 23.5 +1.5**
BNN IAmb IAmb 23 24 24.8
comp=Z,125nm,1.0s
BNN PcP **PcP** **23 27 34.0 -0.9**
SNOP Sinop 27.22 292 IAmb IAmb 23 24 26.4
comp=Z,132nm,1.0s
LZH Lanzhou 27.25 81 ⇓P **P** **23 24 26.5 +1.4**
LZH pP pP 23 25 27.0 +0.8
LZH sP sP 23 25 59.3 -4.1
LZH sS sS 23 30 31.3 +0.7
LZH ScP **ScP** **23 30 46.3 +0.7**
LZH ScS **ScS** **23 34 37.0 -0.7**
LZH pmax pmax
comp=Z,110nm,1.2s
LZH pmax pmax
comp=Z,350nm,4.9s
ASF Jabal al Asfar 27.51 270 P **P** **23 24 29.4 +2.1**
comp=Z,24nm,0.8s,baz=80,slow=5.6,SNR=22
ASF pP **pP** **23 25 28.4 +1.3**
comp=Z,13nm,0.8s,baz=342,slow=5.5,SNR=2.1
ASF ScP **ScP** **23 30 45.7 -0.6**
comp=Z,13nm,0.9s,baz=115,slow=3.1,SNR=6.9
ASF Jabal al Asfar 27.51 270 P **P** **23 24 29.4 +2.1**
ASF *PP **pP** **23 25 28.4 +1.3**
ZAK Zakamensk 27.53 50 *e*P **P** **23 24 28.4 +1.1**
ZAK pmax pmax
comp=Z,87nm,1.2s
SIM Simferopol' 28.12 298*c i*P **P** **23 24 31.8 -0.7**
SIM *e* 23 25 30.0
SIM pmax pmax
comp=Z,63nm,0.6s
SOCY Socotra 28.30 214 P **P** **23 24 32.7 -1.7**
SNR=6.6
SOCY Socotra 28.30 214 P **P** **23 24 32.3 -2.1**
MMAI Mount Meron Ar 28.45 273 P **P** **23 24 37.6 +2.0**
comp=Z,8.4nm,0.5s,baz=75,slow=9.6,SNR=41
MMAI PcP **PcP** **23 27 40.3 +1.6**
comp=Z,7.8nm,0.5s,baz=76,slow=7.8,SNR=13
MMAI ScP **ScP** **23 30 49.1 -0.2**
comp=Z,25nm,0.7s,baz=56,slow=4.4,SNR=30
BR131 Keskin Array S 28.53 287*c i*P **P** **23 24 37.1 +0.8**
BR131 Keskin Array S 28.53 287 P **P** **23 24 37.2 +1.0**
SNR=28
BR131 Keskin Array S 28.53 287 P **P** **23 24 37.1 +0.8**
BR131 PcP **PcP** **23 27 38.6 -0.3**
BRTR Keskin Array B 28.53 287 P **P** **23 24 37.2 +0.9**
comp=Z,64nm,0.6s,baz=104,slow=9.1,SNR=455
BRTR pP **pP** **23 25 36.9 +0.6**
comp=Z,21nm,0.9s,baz=101,slow=6.5,SNR=3.9
BRTR PcP **PcP** **23 27 39.0 +0.1**
comp=Z,5.8nm,0.5s,baz=139,slow=3.2,SNR=11
BRTR ScP **ScP** **23 30 48.3 -1.1**
comp=Z,4.9nm,0.8s,baz=116,slow=3.5,SNR=7.5
BRTR Keskin Array B 28.53 287 P **P** **23 24 37.3 +0.9**
BRTR *PP **pP** **23 25 33.2 -3.1**
BRTR 23 27 38.9
BRTR Keskin Array B 28.53 287 P **P** **23 24 37.3 +0.9**
BRTR pP **pP** **23 25 33.2 -3.1**
BRTR PcP **PcP** **23 27 38.9 0.0**
CD2 Chengdu 28.63 92 P **P** **23 24 38.0 +0.8**
CD2 pP pP 23 25 38.0 -0.6
CD2 S **S** **23 29 03.3 +1.3**
CD2 sS ScP 23 30 47.5 -2.3
CD2 pmax pmax
comp=Z,150nm,0.5s
CD2 pmax pmax
comp=Z,220nm,6.5s
IRK Irkutsk 28.70 46 *e*P **P** **23 24 38.7 +1.2**
IRK pmax pmax
comp=Z,157nm,0.7s
PZH PanZhiHua 28.85 102 ⇓P **P** **23 24 40.0 +0.7**
PZH pP **pP** **23 25 39.3 -1.1**
PZH PcP **PcP** **23 27 40.0 +0.1**
PZH S **S** **23 29 06.0 +0.2**
PZH sS **ScP** **23 30 51.0 +0.3**
PZH pmax pmax
comp=Z,80nm,0.8s
PZH pmax pmax
comp=Z,360nm,4.9s
MOS Moscow 28.95 321 *e*P **P** **23 24 38.2 -1.4**
MOS *e**PP **pP** **23 25 41.2 +1.1**
MOS *e*S **S** **23 29 04.0 -2.3**
MOS pmax pmax
comp=Z,208nm,0.8s
MOS pmax pmax
comp=Z,500nm,1.1s
SONM Songino Array 28.95 56 P **P** **23 24 41.5 +1.6**
comp=Z,60nm,0.6s,baz=265,slow=9.2,SNR=572
SONM pP **pP** **23 25 40.6 -0.6**
comp=Z,5.5nm,0.8s,baz=136,slow=11,SNR=1.5
SONM ScP **ScP** **23 30 49.6 -1.0**
comp=Z,5.5nm,0.9s,baz=237,slow=2.3,SNR=6.6
SONM P3KPbc 23 56 44.8
comp=Z,2.1nm,0.8s,baz=94,slow=3.2,SNR=14
SONM Songino Array 28.95 56 P **P** **23 24 41.2 +1.2**
SONM *PP **pP** **23 25 42.8 +1.6**
SONM pmax pmax
comp=Z,76nm,0.8s
SONM Songino Array 28.95 56 P **P** **23 24 41.1 +1.2**
SONM IAmb IAmb 23 24 42.6
comp=Z,76nm,0.8s
SONM pP **pP** **23 25 42.8 +1.6**
SONM ScP **ScP** **23 30 50.5 -0.1**
ANTO Ankara 29.16 288 P **P** **23 24 43.0 +1.2**
ANTO 23 27 40.0
ANTO pmax pmax
comp=Z,73nm,1.0s
ANTO Ankara 29.16 288 P **P** **23 24 43.0 +1.2**
ANTO IAmb IAmb 23 24 44.3
comp=Z,74nm,0.9s
ANTO PcP **PcP** **23 27 40.0 -0.4**
BR231 Keskin MP Arra 29.18 288 P **P** **23 24 43.0 +1.0**
BR231 IAmb IAmb 23 24 44.5
comp=Z,55nm,0.8s
BR231 PcP **PcP** **23 27 40.8 +0.3**
OBN Obninsk 29.21 320 ⇑P **P** **23 24 42.0 +0.2**
OBN Obninsk 29.21 320 P **P** **23 24 41.8 -0.1**
comp=Z,100nm,0.4s,baz=135,slow=1.4
OBN PcP **PcP** **23 27 40.1 0.0**
comp=Z,9.8nm,0.4s,baz=169,slow=1.3,SNR=3.0
OBN ScP **ScP** **23 30 50.1 -1.0**
comp=Z,4.6nm,0.6s,baz=181,slow=2.0,SNR=3.6
OBN Obninsk 29.21 320*c i*P **P** **23 24 41.9 +0.1**
OBN *i **PP **pP** **23 25 42.3 -0.2**
OBN pmax pmax
comp=Z,268nm,0.5s
OBN Obninsk 29.21 320 P **P** **23 24 41.4 -0.4**
OBN PcP **PcP** **23 27 40.0 0.0**
PRGR Permogore 29.22 336 *e*P **P** **23 24 42.0 +0.1**
PRGR *e**PP **pP** **23 25 42.6 -0.4**
PRGR pmax pmax
comp=Z,389nm,0.6s
ULN Ulaanbaatar 29.39 56*d i*P **P** **23 24 45.1 +1.2**
ULN pmax pmax
comp=Z,89nm,0.8s
ULN Ulaanbaatar 29.39 56 P **P** **23 24 44.4 +0.5**
ULN IAmb IAmb 23 24 46.3
comp=Z,98nm,1.0s
CSS Mathiatis 29.59 278 P **P** **23 24 45.4 -0.2**
CSS PcP **PcP** **23 27 40.6 -0.9**
CSS ScP **ScP** **23 30 52.9 +0.2**
LEF Lefka 29.90 278 ⇓P **P** **23 24 50.1 +1.9**
LEF Lefka 29.90 278 ⇑P **ScP** **23 30 55.0 +1.3**
EIL Elat 29.96 267 P **P** **23 24 50.5 +1.6**
comp=Z,95nm,0.9s,baz=76,slow=4.9,SNR=55
EIL ScP **ScP** **23 30 54.2 +0.2**
comp=Z,18nm,1.1s,baz=39,slow=2.7,SNR=5.1
KMI Kunming 30.31 103 ⇓P **P** **23 24 52.5 +0.3**
KMI PP **PP** **23 26 09.8 +1.7**
KMI S **S** **23 29 31.0 +2.3**
KMI ScP **ScP** **23 30 55.3 -0.2**
KMI SS **SS** **23 31 40.0 -8.9**
KMI pmax pmax
comp=Z,92nm,1.1s
KMI pmax pmax
comp=Z,330nm,4.5s
KLMR Klimovskoe 30.87 331 *e*P **P** **23 24 54.9 -1.5**
KLMR *e**PP **pP** **23 25 57.9 +0.2**
KLMR *e* 23 27 43.1
KLMR pmax pmax
comp=Z,110nm,0.6s
KLMR Klimovskoe 30.87 331 *e*P **P** **23 24 54.9 -1.5**
KLMR AMP 23 24 56.5
comp=Z,110nm,0.6s
KLMR *e*pP **pP** **23 25 58.0 +0.2**
KLMR *e*PcP **PcP** **23 27 43.1 -1.3**
PALK Pallekele 30.91 159 P **P** **23 24 58.4 +1.1**
comp=Z,22nm,0.6s,baz=84,slow=9.1,SNR=25
PALK pP **pP** **23 25 57.4 -0.6**
comp=Z,7.8nm,0.6s,baz=79,slow=12,SNR=2.0
PALK Pallekele 30.91 159 P **P** **23 24 57.9 +0.6**
PALK *PP **pP** **23 25 57.4 -0.6**
PALK pmax pmax
comp=Z,25nm,0.6s
PALK Pallekele 30.91 159 P **P** **23 24 57.9 +0.6**
BORA Eskisehir 30.95 288 P **P** **23 24 57.5 +0.1**
BORA IAmb IAmb 23 24 59.4
comp=Z,90nm,0.9s
BORA **PcP** **23 27 44.3 -0.8**
CHTO Chiang Mai 31.10 117 P **P** **23 24 58.4 -0.5**
CHTO Chiang Mai 31.10 117 P **P** **23 24 58.4 -0.5**
CHTO Chiang Mai 31.10 117 P **P** **23 24 59.2 +0.3**
PURM Purcari 31.20 301 ⇑P **P** **23 25 01.0 +1.6**
PURM Purcari 31.20 301 ⇑P **ScP** **23 30 58.0 +0.2**
CM31 Chiang Mai Arr 31.33 118 P **P** **23 25 02.1 +1.1**
SNR=84
CM31 Chiang Mai Arr 31.33 118 P **P** **23 25 01.1 +0.2**
CMAR Chiang Mai Arr 31.33 118 P **P** **23 25 01.6 +0.6**
comp=Z,230nm,0.8s,baz=294,slow=7.9,SNR=594
CMAR PcP **PcP** **23 27 47.2 +0.8**
comp=Z,14nm,0.7s,baz=296,slow=4.7,SNR=4.5
CMAR S **S** **23 29 43.9 -0.4**
comp=Z,1.1nm,0.4s,baz=314,slow=47,SNR=2.0
CMAR ScP **ScP** **23 30 58.7 0.0**
comp=Z,19nm,0.9s,baz=293,slow=4.6,SNR=20
CMAR Chiang Mai Arr 31.33 118 P **P** **23 25 01.5 +0.6**
CMAR 23 27 47.1
BTO Baotou 31.38 70 *e*P **P** **23 25 02.0 +0.7**
BTO S **S** **23 29 50.5 +5.6**
BTO LR LR
comp=Z,950nm,5.3s
BTO LR LR
comp=Z,820nm,5.9s
XAN Xi'an 31.79 83 P **P** **23 25 04.8 0.0**
XAN ScP **ScP** **23 31 02.8 +2.7**
XAN PcS **PcS** **23 31 31.0 -1.6**
XAN ScS **ScS** **23 34 58.0 -1.2**
XAN pmax pmax
comp=Z,200nm,0.6s
XAN pmax pmax
comp=Z,170nm,3.6s
JURR Jurilovca 31.83 298 ⇑P **P** **23 25 06.2 +1.3**
JURR Jurilovca 31.83 298 ⇑P **ScP** **23 30 59.9 -0.1**
TLCR 31.88 298 ⇓P **P** **23 25 05.9 +0.5**
TLCR 31.88 298 ⇑P **ScP** **23 31 00.8 +0.6**
MILM Milestii Mici 31.95 302 ⇓P **P** **23 25 06.0 +0.1**
MILM Milestii Mici 31.95 302 ⇑*i*P **P** **23 25 06.0 +0.1**
comp=Z,310nm,0.4s
MILM *i* pP **PP** **23 26 27.0 +1.4**
MILM Milestii Mici 31.95 302*c i*P **P** **23 25 06.0 +0.1**
MILM *e* 23 26 06.0
MILM *i **PP **PP** **23 26 27.0 +1.4**
MILM pmax pmax
comp=Z,310nm,0.4s
MILM pmax pmax
comp=E,250nm,1.2s
KIS Kishinev 31.95 302 ⇓P **P** **23 25 06.6 +0.6**
KIS Kishinev 31.95 302 ⇑*i*P **P** **23 25 06.0 0.0**
comp=E,210nm,0.9s
KIS ⇓*i*pP **PP** **23 26 27.0 +1.4**
KIS Kishinev 31.95 302*c i*P **P** **23 25 06.0 0.0**
KIS *i **PP **PP** **23 26 27.0 +1.4**
KIS pmax pmax
comp=Z,210nm,0.9s
KIS pmax pmax
comp=E,310nm,1.0s
EFOR EFORIE 32.02 296 ⇑P **P** **23 25 08.5 +1.9**
MANR Mangalia 32.05 296 ⇑P **P** **23 25 08.3 +1.4**
AKASG Malin Array Be 32.13 309 P **P** **23 25 07.3 -0.1**
comp=E,62nm,0.4s,baz=83,slow=6.8,SNR=753
AKASG pP **pP** **23 26 08.3 -0.3**
comp=E,6.3nm,0.6s,baz=84,slow=9.0,SNR=1.2
AKASG PP **PP** **23 26 26.4 -1.1**
comp=E,58nm,0.8s,baz=82,slow=9.6,SNR=9.9
AKASG ScP **ScP** **23 31 00.5 -0.4**
comp=E,9.2nm,0.7s,baz=79,slow=3.1,SNR=18
AKASG Malin Array Be 32.13 309 P **P** **23 25 07.3 -0.1**
AKASG *PP **pP** **23 26 08.3 -0.3**
AKASG Malin Array Be 32.13 309 P **P** **23 25 07.3 -0.1**
AKASG ScP **ScP** **23 31 00.7 -0.2**
AKBB Malin Array Si 32.13 309*c i*P **P** **23 25 07.2 -0.2**
AKBB pmax pmax
comp=Z,137nm,0.6s
TPGR Topolog 32.16 298 ⇓P **P** **23 25 08.5 +0.7**
MFTR Murfatlar 32.16 296 ⇓P **P** **23 25 09.4 +1.5**
TIRR Tirgusor 32.17 297 ⇑P **P** **23 25 08.6 +0.7**
TIRR Tirgusor 32.17 297 IAmb IAmb 23 25 09.0
comp=Z,82nm,0.7s
KALB Balgarevo 32.19 295 ⇑P **P** **23 25 09.8 +1.7**
AKAS Kas 32.24 281 IAmb IAmb 23 25 10.1
comp=Z,123nm,0.8s
KSL Kastellorizon 32.28 281 P **P** **23 25 08.4 -0.5**
GIUM Giurgiulesti 32.31 299 ⇓P **P** **23 25 10.5 +1.4**
LEOM Leova 32.31 301 ⇓P **P** **23 25 10.1 +1.0**
PBA Port Blair 32.33 135 P **P** **23 25 11.1 +1.6**
SORM Soroca 32.35 304 ⇑P **P** **23 25 09.3 -0.2**
SORM Soroca 32.35 304 ⇓P **ScP** **23 31 01.9 +0.2**
CFR Carcaliu 32.36 298 ⇑P **P** **23 25 10.3 +0.8**
CFR Carcaliu 32.36 298 ⇓P **ScP** **23 31 01.7 -0.1**
VLDR Vladesti 32.41 300 ⇑P **P** **23 25 11.1 +1.2**
VLDR Vladesti 32.41 300 ⇓P **ScP** **23 31 02.5 +0.5**
GISR Galati 32.42 299 ⇑P **P** **23 25 11.7 +1.7**
TATR Tatarca 32.43 299 ⇑P **P** **23 25 11.3 +1.2**
TLBR Topalu 32.43 297 ⇓P **P** **23 25 10.7 +0.5**
TLBR Topalu 32.43 297 ⇑P **ScP** **23 31 03.2 +1.1**
SCTR Scanteiesti 32.47 299 ⇑P **P** **23 25 11.9 +1.4**
HARR Harsova 32.51 297 ⇓P **P** **23 25 11.9 +1.1**
HARR Harsova 32.51 297 ⇓P **ScP** **23 31 03.3 +0.9**
HHC Hu-ho-hao-te 32.52 70 *e*P **P** **23 25 13.0 +1.8**
HHC S **S** **23 29 59.8 -2.7**
HHC sS sS 23 31 53.5 -0.1
HHC SS **SS** **23 32 24.5 -13**
HHC ScS **ScS** **23 35 03.5 +0.6**
HHC pmax pmax
comp=Z,120nm,0.9s
HHC pmax pmax
comp=Z,230nm,6.5s
KULA Kula-Manisa 32.53 286 P **P** **23 25 11.8 +0.6**
VARL Varlezi 32.57 300 ⇑P **P** **23 25 12.6 +1.3**
SCHL Schela 32.58 299 ⇓P **P** **23 25 12.3 +0.9**
ICOR Ion Corvin 32.61 296 ⇑P **P** **23 25 13.1 +1.4**
SLCR Slobozia Conac 32.62 299 ⇓P **P** **23 25 13.0 +1.2**
IZVR Izvoarele 32.62 299 ⇑P **P** **23 25 12.6 +0.8**
VASR Vaslui 32.64 301 ⇑P **P** **23 25 12.6 +0.7**
BIR Birlad 32.74 300 ⇑P **P** **23 25 14.2 +1.4**
GYA Guiyang 32.77 98 ⇓*i*P **P** **23 25 14.0 +0.5**
GYA ScP **ScP** **23 31 03.5 -0.2**
GYA ScS **ScS** **23 35 01.5 -3.2**
GYA pmax pmax
comp=Z,120nm,0.6s
IAS Iasi 32.82 302 ⇑P **P** **23 25 13.9 +0.4**
GHRR 32.88 300 ⇓P **P** **23 25 16.1 +2.1**
AMRR Amara 32.94 297 ⇑P **P** **23 25 16.3 +1.8**
PRD Provadia 32.94 295 P **P** **23 25 15.7 +1.1**
RASA Rasa 33.08 297 ⇑P **P** **23 25 17.0 +1.3**
ODBI Odobesti 33.12 299 ⇑P **P** **23 25 18.4 +2.3**
ODBI Odobesti 33.12 299 ⇑P **ScP** **23 31 06.7 +2.2**
PGOR Pogoanele 33.18 298 ⇓P **P** **23 25 19.0 +2.4**
GRER 33.18 299 ⇓P **P** **23 25 19.1 +2.4**
SLVN Son La 33.24 108 P **P** **23 25 18.8 +1.3**
SLVN PcP **PcP** **23 27 52.6 +0.9**
SLVN ScP **ScP** **23 31 05.2 -0.1**
LEHL Lehliu 33.31 297 ⇑P **P** **23 25 19.4 +1.7**
VRI Vrincioaia 33.36 300 ⇑P **P** **23 25 19.5 +1.3**
VRI Vrincioaia 33.36 300 ⇓P **ScP** **23 31 05.1 -0.2**
BISRR Bisoca 33.37 299 ⇓P **P** **23 25 20.7 +2.4**
BISRR Bisoca 33.37 299 ⇑P **ScP** **23 31 08.1 +2.7**
ARG Arkhangelos 33.41 282 P **P** **23 25 19.0 +0.3**
PLOR Plostina 33.41 300 ⇑P **P** **23 25 20.5 +1.9**
PLOR Plostina 33.41 300 ⇑P **ScP** **23 31 05.9 +0.4**
TESR Tescani 33.42 301 ⇑P **P** **23 25 19.6 +1.0**
TESR Tescani 33.42 301 ⇓P **ScP** **23 31 06.3 +0.8**
ENH Enshi 33.46 89 IAmb IAmb 23 25 20.8
comp=Z,92nm,0.7s
RAZG Razgrad 33.57 295 ⇑P **P** **23 25 21.3 +1.3**
JMB Yambol 33.59 293 P **P** **23 25 21.8 +1.6**
NEHR Nehoiu 33.66 299 ⇑P **P** **23 25 23.6 +2.9**
NEHR Nehoiu 33.66 299 ⇑P **ScP** **23 31 07.0 +0.6**
TIY Taiyuan 33.68 75 ⇓P **P** **23 25 22.3 +1.2**
TIY PP **PnPn** **23 26 49.8 +2.7**
TIY S **S** **23 30 26.0 +5.7**
TIY pmax pmax
comp=Z,140nm,0.6s
SULR 33.70 297 ⇑P **P** **23 25 23.3 +2.2**
COVR Voineasa-Covas 33.72 300 ⇓P **P** **23 25 23.3 +2.0**

COVR **Voineasa-Covas** 33.72 300 ⇓P **ScP** **23 31 06.5 -0.2**
MNK **Minsk** 33.73 315 *i* P **P** **23 25 21.4 +0.2**
MNK *i* *PP **pP** **23 26 24.3 +1.4**
MNK *i* 23 26 44.8
MNK *i* 23 27 51.1
MNK *i* S **S** **23 30 20.6 +0.2**
MNK *i* *SS **sS** **23 32 15.9 +4.0**
MNK pmax pmax
comp=Z,284nm,1.1s
MNK pmax pmax
comp=E,30nm,1.1s
MNK pmax pmax
comp=N,42nm,1.1s
MNK MLR MLR
comp=E,7.0nm,6.0s
MNK MLR MLR
comp=Z,37nm,7.0s
MNK MLR MLR
comp=N,24nm,7.0s
MNK Minsk 33.73 315 *i* P **P** **23 25 21.4 +0.2**
comp=E,30nm,1.1s
MNK *i* P **P** **23 25 21.4 +0.2**
comp=N,42nm,1.1s
MNK *i* P **P** **23 25 21.4 +0.2**
comp=Z,284nm,1.1s,baz=104
MNK *i* pP **pP** **23 26 24.3 +1.4**
MNK *i* PP **PP** **23 26 44.8 -0.2**
MNK *i* S **S** **23 30 20.6 +0.2**
MNK *i* sS **sS** **23 32 16.0 +4.1**
MNK *i* SS **SS** **23 33 04.1 +2.3**
MNK *i* LRM MLR 23 41 05.1
comp=E,7.0nm,6.4s
MNK *i* LRM MLR 23 41 07.3
comp=Z,37nm,7.3s
MNK *i* LRM MLR 23 41 10.2
comp=N,24nm,7.3s
PRAR RASCA 33.73 302 ⇑P **P** **23 25 23.3 +2.0**
SECR 33.83 298 ⇓P **P** **23 25 24.8 +2.6**
PLAR PLOIESTI 33.86 298 ⇑P **P** **23 25 25.0 +2.6**
BUC1 Bucharest 33.88 297 ⇓P **P** **23 25 24.6 +2.0**
MLR Muntele Rosu 33.91 299 ⇑P **P** **23 25 25.9 +2.9**
MLR Muntele Rosu 33.91 299 ⇓P **ScP** **23 31 07.9 +0.5**
MLR Muntele Rosu 33.91 299 P **P** **23 25 25.1 +2.1**
comp=N,382nm,0.8s,baz=64,slow=1.8,SNR=415
MLR pP **pP** **23 26 25.2 +1.0**
comp=N,31nm,0.9s,baz=63,slow=2.8,SNR=1.2
MLR PP **PnPn** **23 26 49.6 -0.1**
comp=N,49nm,0.9s,baz=82,slow=13,SNR=2.5
MLR ScP **ScP** **23 31 06.1 -1.3**
comp=N,8.9nm,0.6s,baz=157,slow=4.6,SNR=5.0
MLR Muntele Rosu 33.91 299 P **P** **23 25 25.1 +2.1**
MLR *PP **pP** **23 26 25.2 +1.0**
SGRR Singureni 33.92 297 ⇓P **P** **23 25 24.0 +1.0**
SZH Strazhica 34.01 295 P **P** **23 25 24.5 +0.8**
OZUR 34.01 300 ⇑P **P** **23 25 25.1 +1.4**
SMG Samos 34.09 285 P **P** **23 25 25.2 +0.7**
NRIK Noril'sk 34.09 11 P **P** **23 25 25.1 +1.1**
comp=N,51nm,0.5s,baz=202,slow=5.7,SNR=116
NRIK S **S** **23 30 26.5 +0.9**
comp=N,6.9nm,0.9s,baz=85,slow=22,SNR=6.0
NRIK Noril'sk 34.09 11*d* *i* P **P** **23 25 25.1 +1.1**
NRIK pmax pmax
comp=Z,87nm,1.3s
NRIK Noril'sk 34.09 11 P **P** **23 25 24.7 +0.7**
NRIK IAmb IAmb 23 25 25.9
comp=Z,52nm,0.6s
ENEZ Enez 34.10 290 P **P** **23 25 25.7 +1.1**
ALN Alexandroupoli 34.16 291 P **P** **23 25 25.9 +0.8**
ALN Alexandroupoli 34.16 291 IAmb IAmb 23 25 27.1
comp=Z,81nm,0.9s
PUL Pulkovo 34.24 325*c* *i* P **P** **23 25 25.7 +0.3**
PUL pmax pmax
comp=Z,365nm,0.6s
PUL Pulkovo 34.24 325 *e*P **P** **23 25 25.9 +0.4**
DOPR Dopca 34.29 300 ⇑P **P** **23 25 27.7 +1.6**
DOPR Dopca 34.29 300 ⇑P **ScP** **23 31 09.0 +0.3**
BUR01 Bucovina Ar. S 34.43 303 ⇑P **P** **23 25 28.3 +0.9**
BURAR Bucovina Array 34.43 303 ⇑P **ScP** **23 31 11.1 +1.9**
BURAR Bucovina Array 34.43 303 P **P** **23 25 28.2 +0.8**
BURAR ScP **ScP** **23 31 09.1 -0.1**
BUR08 Bucovina Ar. S 34.44 303 P **P** **23 25 27.6 +0.1**
BUR08 IAmb IAmb 23 25 28.7
comp=Z,80nm,0.5s
NACGM Naroch 34.45 316 *i* P **P** **23 25 27.8 +0.5**
LYN LuoYang 34.47 81 ⇓*i* P **P** **23 25 29.5 +1.8**
LYN pP pP 23 26 33.0 +2.6
LYN PP **PP** **23 26 52.8 -0.6**
LYN sP sP 23 27 09.3 +1.9
LYN pmax pmax
comp=Z,70nm,0.9s
LYN pmax pmax
comp=Z,140nm,9.4s
COPA Copaceanca 34.47 297 ⇑P **P** **23 25 30.0 +2.3**
COPA Copaceanca 34.47 297 ⇑P **ScP** **23 31 10.2 +1.0**
RDO Rodhopi 34.51 291 P **P** **23 25 28.8 +0.8**
MTUR Matau 34.53 298 ⇑P **P** **23 25 29.7 +1.4**
MTUR Matau 34.53 298 ⇓P **ScP** **23 31 10.0 +0.4**
IDID Didziasalis 34.57 316 *e*P **P** **23 25 29.3 +1.0**
SMTH Samothraki Isl 34.61 290 P **P** **23 25 29.6 +0.7**
STFAR Stefanesti-Arg 34.62 298 ⇓P **P** **23 25 31.0 +2.0**
STFAR Stefanesti-Arg 34.62 298 ⇓P **ScP** **23 31 10.7 +0.9**
HUMR Humele 34.62 297 ⇑P **P** **23 25 30.3 +1.4**
HUMR Humele 34.62 297 ⇑P **ScP** **23 31 09.7 -0.1**
ARR Arges 34.83 299 ⇓P **P** **23 25 32.4 +1.5**
ARR Arges 34.83 299 ⇓P **ScP** **23 31 11.5 +0.8**
IIGN Ignalina 34.87 316 *e*P **P** **23 25 32.1 +1.2**
TGMR Targu Mures 34.89 301 ⇑P **P** **23 25 32.3 +1.1**
TGMR ⇑P **P** **23 25 33.7 +2.5**
ATD Arta Tunnel 34.95 231 P **P** **23 25 34.6 +2.5**
ATD Arta Tunnel 34.95 231 P **P** **23 25 34.1 +1.9**
ATD IAmb IAmb 23 25 35.8
comp=Z,112nm,1.0s
MDB Medias 34.99 300 ⇑P **P** **23 25 34.4 +2.3**
ARCR ARCALIA 35.01 302 ⇓P **P** **23 25 35.0 +2.8**
ARCR ARCALIA 35.01 302 ⇑P **ScP** **23 31 12.0 +0.8**
RZN Rozhen 35.06 292 P **P** **23 25 33.8 +0.9**
VLAD Vladila 35.06 296 ⇑P **P** **23 25 33.6 +0.9**
VLAD Vladila 35.06 296 ⇓P **ScP** **23 31 12.3 +0.9**
LVV L'vov 35.33 306 *e*P **P** **23 25 34.2 -0.7**
LVV *e* 23 27 08.4
LVV *e* 23 28 05.7
LVV *e*S **S** **23 30 49.4 +4.5**
LVV pmax pmax
comp=Z,340nm,1.1s
PGB Panagyurishte 35.36 294 P **P** **23 25 36.8 +1.4**
LOT Lotru 35.44 299 ⇓P **ScP** **23 31 14.0 +1.0**
VSU Vasula 35.47 322*c* *i* P **P** **23 25 35.8 -0.1**
VSU pmax pmax
comp=Z,627nm,0.7s
VSU Vasula 35.47 322 *e*P **P** **23 25 36.2 +0.2**
HNS HongShan 35.51 75 ⇓P **P** **23 25 38.0 +1.4**
HNS pmax pmax
comp=Z,89nm,0.9s
CJR Cluj-Napoca 35.52 301 ⇑P **P** **23 25 38.7 +2.0**
CJR Cluj-Napoca 35.52 301 ⇓P **ScP** **23 31 14.7 +1.6**
CBBR Cluj-Babes-Bol 35.56 301 ⇑P **P** **23 25 38.6 +1.7**
CBBR Cluj-Babes-Bol 35.56 301 ⇓P **ScP** **23 31 14.5 +1.3**
XLT XiLinHaoTe 35.57 64 ⇓*i* P **P** **23 25 39.0 +1.9**
XLT pP pP 23 26 42.5 +2.5
XLT S **S** **23 30 51.8 +2.9**
XLT ScP **ScP** **23 31 14.3 +0.9**
XLT pmax pmax
comp=Z,67nm,1.3s
XLT pmax pmax
comp=Z,190nm,5.1s
BMR Baia Mare 35.59 303 ⇑P **P** **23 25 38.7 +1.5**
BMR Baia Mare 35.59 303 ⇑P **ScP** **23 31 14.7 +1.4**
NPS Neapolis 35.63 281 P **P** **23 25 37.3 -0.3**
NVR Nevrokopi 35.74 292 P **P** **23 25 39.8 +1.3**
BOD Bodaibo 35.75 40 *e*P **P** **23 25 39.2 +0.9**
BOD pmax pmax
comp=Z,144nm,1.0s
OUR Ouranopolis 35.80 290 P **P** **23 25 39.1 +0.1**
MMB Musomiste 35.80 292 P **P** **23 25 39.9 +0.8**
BAIL Bailesti 35.83 297 ⇑P **P** **23 25 40.6 +1.5**
SRE Strehaia 35.88 298 ⇓P **P** **23 25 40.7 +1.1**
SRE Strehaia 35.88 298 ⇓P **ScP** **23 31 15.5 +1.0**
MESR Meseseni 35.96 302 ⇓P **P** **23 25 42.3 +2.1**
SRS Serrai 35.97 292 P **P** **23 25 41.0 +0.6**
DEV Deva 36.03 300 ⇑P **P** **23 25 42.3 +1.5**
VTS Vitosha 36.04 294 ⇑P **P** **23 25 42.4 +1.2**
VTS Vitosha 36.04 294 ⇓P **ScP** **23 31 15.7 +0.5**
VTS Vitosha 36.04 294 P **P** **23 25 42.4 +1.2**

VTS IAmb IAmb 23 25 43.4
comp=Z,72nm,0.9s
VTS PcP **PcP** **23 27 59.9 +0.2**
VTS ScP **ScP** **23 31 15.2 0.0**
VTS Vitosha 36.04 294 ⇑*i* P **P** **23 25 42.3 +1.1**
VTS Vitosha 36.04 294 P **P** **23 25 42.4 +1.2**
PAIG Paliouri 36.10 290 P **P** **23 25 42.3 +0.8**
PUNG Punghina 36.10 297 ⇓P **P** **23 25 42.7 +1.3**
BJT Baijiatuan 36.12 70 IAmb IAmb 23 25 44.2
comp=Z,96nm,0.6s
BJI Beijing 36.12 70 P **P** **23 25 43.3 +1.6**
BJI pmax pmax
comp=Z,130nm,0.7s
DRGR 36.13 301 ⇑P **P** **23 25 43.4 +1.6**
DRGR 36.13 301 P **P** **23 25 43.3 +1.6**
GZR Gura Zlata 36.14 299 ⇑P **P** **23 25 42.6 +0.7**
GZR Gura Zlata 36.14 299 ⇓P **ScP** **23 31 16.5 +1.0**
PABE Paberze 36.16 316 *e*P **P** **23 25 42.3 +0.5**
KWP Kalwaria Pacla 36.17 306 *i* P **P** **23 25 43.0 +1.0**
KWP *e*pP **pP** **23 26 45.7 +1.7**
IDI Anoyia 36.19 282 P **P** **23 25 42.0 -0.3**
comp=Z,51nm,0.5s,baz=42,slow=8.7,SNR=42
IDI Anoyia 36.19 282 P **P** **23 25 42.1 -0.3**
SOH Sokhos 36.19 291 P **P** **23 25 43.0 +0.6**
PLG Polygyros 36.20 290 P **P** **23 25 43.3 +0.9**
TRPA Tarpa 36.24 304 ⇑P **P** **23 25 43.7 +1.2**
TRPA Tarpa 36.24 304 P **P** **23 25 43.3 +0.7**
DION Dionisos Attik 36.26 286 P **P** **23 25 43.7 +0.8**
CEI Carei 36.29 303 ⇓P **P** **23 25 44.9 +1.9**
PTL Penteli 36.32 286 P **P** **23 25 44.3 +0.9**
SUW Suwalki 36.33 314 *i* P **P** **23 25 43.1 -0.2**
SUW *e*PP **PP** **23 27 14.8 +1.3**
SUW Suwalki 36.33 314 *e*P **P** **23 25 43.0 -0.2**
DJES Djerdap 36.37 298 ⇑P **P** **23 25 44.4 +0.7**
DJES Djerdap 36.37 298 *e*P **P** **23 25 43.5 -0.2**
ATHU Athens Univers 36.40 286 P **P** **23 25 44.7 +0.6**
ZAPS Zavoj 36.41 295 *e*P **P** **23 25 45.3 +1.2**
UZH Uzhgorod 36.41 304*de*P **P** **23 25 44.5 +0.5**
VLY Voula,Athens 36.42 286 P **P** **23 25 44.7 +0.5**
HORT Hortiatis 36.42 291 P **P** **23 25 44.6 +0.3**
HERR Herculane 36.42 298 ⇑P **P** **23 25 44.3 +0.1**
HERR Herculane 36.42 298 ⇓P **ScP** **23 31 17.0 +0.6**
ATH Athens Observa 36.45 286 P **P** **23 25 44.9 +0.4**
KNT Kendriron 36.48 292 P **P** **23 25 45.1 +0.4**
NEO Neokhori 36.55 289 P **P** **23 25 45.7 +0.3**
XOR Xorichti 36.57 289 P **P** **23 25 45.9 +0.4**
BOSS Bosilegrad 36.61 294 ⇓*i* P **P** **23 25 46.8 +1.0**
ZAGS Zajecar 36.64 296 ⇑*i* P **P** **23 25 46.4 +0.4**
LTVH Ltavrtes, Hu 36.67 302 ⇑P **P** **23 25 48.3 +2.1**
LTVH Ltavrtes, Hu 36.67 302 ⇓P **ScP** **23 31 18.8 +1.5**
LTVH Ltavrtes, Hu 36.67 302 P **P** **23 25 48.0 +1.8**
VAM Vamos 36.70 282 P **P** **23 25 46.7 +0.1**
VAY Valandovo 36.70 292 *i* P **P** **23 25 47.0 +0.4**
BORR Bors 36.76 302 ⇓P **P** **23 25 49.0 +2.0**
FIA1 FINESS Array S 36.82 326 P **P** **23 25 46.8 -0.4**
FINES FINESS Array B 36.82 326 P **P** **23 25 47.4 +0.2**
comp=Z,135nm,0.6s,baz=113,slow=9.1,SNR=736
FINES PP **PP** **23 27 16.0 -2.7**
comp=Z,24nm,0.7s,baz=126,slow=12,SNR=4.5
FINES PcP **PcP** **23 28 02.0 +0.6**
comp=Z,11nm,0.6s,baz=101,slow=4.4,SNR=1.5
FINES S **S** **23 31 06.2 -0.9**
comp=Z,12nm,0.9s,baz=120,slow=13,SNR=4.2
FINES FINESS Array B 36.82 326 P **P** **23 25 47.4 +0.2**
FINES 23 28 02.0
FINES FINESS Array B 36.82 326 P **P** **23 25 47.2 0.0**
IMMV Iera Moni Meta 36.86 282 P **P** **23 25 48.8 +0.9**
SIRR Siria 36.88 300 ⇑P **P** **23 25 49.7 +1.7**
SIRR Siria 36.88 300 ⇓P **ScP** **23 31 18.9 +0.8**
GRG Griva 36.89 292 P **P** **23 25 47.2 -0.9**
MDVR Moldovita 36.93 286 ⇑P **P** **23 25 49.8 +1.3**
STIP Stip 36.93 293 *i* P **P** **23 25 47.5 -0.9**
BZS Buzias 36.94 299 ⇓P **P** **23 25 49.7 +1.2**
BZS Buzias 36.94 299 ⇑P **ScP** **23 31 18.6 +0.3**
GVDS Gavdos 36.94 281 P **P** **23 25 48.7 +0.1**
LVZ Lovozero 36.94 339*c* *i* P **P** **23 25 48.1 -0.1**
LVZ pmax pmax
comp=Z,122nm,0.7s
LVZ Lovozero 36.94 339 P **P** **23 25 47.9 -0.4**
LVZ IAmb IAmb 23 25 49.1
comp=Z,136nm,0.8s
LIT Litokhoron 36.97 290 P **P** **23 25 48.9 +0.1**
LIT Litokhoron 36.97 290 IAmb IAmb 23 25 49.9
comp=Z,82nm,0.8s
CRVS Cervenica-Dubn 36.97 305 *e*P **P** **23 25 49.2 +0.5**
CRVS pmax pmax
comp=Z,62nm,0.7s
CRVS Cervenica-Dubn 36.97 305 *e*P **P** **23 25 49.2 +0.5**
KUBS Kucevo 36.99 297 *e*P **P** **23 25 48.9 0.0**
MTSE Matsula 37.01 321 *e*P **P** **23 25 49.4 +0.5**
KRND KRANIDI 37.02 286 P **P** **23 25 47.9 -1.4**
BOVS Bovan 37.04 296 ⇑P **ScP** **23 31 19.0 +0.2**
BOVS Bovan 37.04 296 ⇑*i* P **P** **23 25 49.8 +0.4**
CNSH ChangSha 37.05 91 ⇑P **P** **23 25 49.0 -0.6**
BARS Barje 37.06 295 ⇑*i* P **P** **23 25 50.3 +0.8**
APA Apatity 37.11 338 ⇓*i* P **P** **23 25 48.1 -1.5**
APA pmax pmax
comp=Z,62nm,0.7s
APA MLR MLR
comp=Z,2μm,10.0s
STHS Stebnicka Huta 37.12 306 *e*P **P** **23 25 49.6 -0.4**
STHS *e* 23 27 24.3
STHS Stebnicka Huta 37.12 306 *e*P **P** **23 25 49.6 -0.4**
STHS *e*PP **PP** **23 27 24.3 +2.2**
KTI Kastanea 37.19 291 P **P** **23 25 51.2 +0.4**
TIM Timisoara 37.21 300 ⇑P **P** **23 25 52.5 +1.8**
TYRN Tyrnavos 37.23 290 P **P** **23 25 51.2 +0.2**
WHN Wuhan 37.27 86 ⇓P **P** **23 25 52.3 +0.9**
WHN pmax pmax
comp=Z,150nm,0.6s
AGG Agios Georgios 37.29 288 P **P** **23 25 51.4 -0.2**
AGG Agios Georgios 37.29 288 IAmb IAmb 23 25 52.8
comp=Z,54nm,0.7s
BANR Banloc 37.29 299 ⇓P **P** **23 25 53.2 +1.8**
VLI Veliai 37.35 285 P **P** **23 25 50.3 -1.7**
KTHA Kythira Island 37.37 284 P **P** **23 25 51.4 -0.8**
PBUR Paburge 37.39 317 *e*P **P** **23 25 52.6 +0.6**
KTHR Kythira 37.41 284 P **P** **23 25 52.0 -0.6**
THL Klokotos Trika 37.42 289 P **P** **23 25 52.3 -0.3**
KZN Kozani 37.47 291 P **P** **23 25 53.0 -0.1**
SELS Selova 37.51 295 *e*P **P** **23 25 53.4 +0.1**
AMBH Ambrzfalva 37.52 301 ⇓P **P** **23 25 55.6 +2.4**
AMBH Ambrzfalva 37.52 301 ⇑P **ScP** **23 31 21.3 +0.8**
AMBH Ambrzfalva 37.52 301 P **P** **23 25 55.1 +1.9**
SLIT Slitere, Latvi 37.52 319 *e*P **P** **23 25 53.0 -0.1**
BEL Belsk 37.52 310 *i* P **P** **23 25 53.6 +0.4**
KECS Kecovo 37.61 304 *e*P **P** **23 25 54.9 +0.8**
KECS pmax pmax
comp=Z,45nm,0.7s
KECS Kecovo 37.61 304 *e*P **P** **23 25 54.9 +0.8**
KECS *e*PP **PP** **23 27 28.2 +0.7**
SERG Sergoula 37.63 287 P **P** **23 25 53.5 -0.9**
KLV Kalavryta, Ach 37.64 287 P **P** **23 25 53.5 -1.0**
FNA Florina 37.68 291 P **P** **23 25 55.0 +0.2**
FNA Florina 37.68 291 IAmb IAmb 23 25 56.0
comp=Z,109nm,0.7s
TIA Tai'an 37.68 76 ⇓P **P** **23 25 56.0 +1.2**
TIA pmax pmax
comp=Z,160nm,0.6s
ANX Ano Chora 37.70 288 P **P** **23 25 54.5 -0.5**
EVR Evrytania 37.71 288 P **P** **23 25 55.1 0.0**
GRUS Gruza 37.73 297⇑*e*P **P** **23 25 55.9 +0.8**
NIE Niedzica 37.73 306 *i* P **P** **23 25 57.3 +2.2**
NIE *e*pP **pP** **23 26 59.6 +2.0**
EFP Efpalio 37.74 288 P **P** **23 25 54.5 -0.8**
BSZH Besenyszg 37.79 302 ⇓P **P** **23 25 57.7 +2.2**
BSZH Besenyszg 37.79 302 P **P** **23 25 57.4 +1.9**
KPRO Kipourio 37.84 290 P **P** **23 25 56.0 -0.2**
HIA Hailar 37.90 55 IAmb IAmb 23 25 59.0
comp=Z,59nm,0.9s
PENT Pentalofos 37.97 291 P **P** **23 25 57.4 +0.2**
NEST Nestorio 37.99 291 P **P** **23 25 57.5 +0.1**
DRO Drossia 38.00 287 P **P** **23 25 56.8 -0.6**
ITM Ithomi 38.02 286 P **P** **23 25 56.3 -1.3**
ITM Ithomi 38.02 286 IAmb IAmb 23 25 58.4
comp=Z,65nm,1.0s
PSZ Piszkesteto 38.02 303 ⇑P **P** **23 25 59.0 +1.5**
PSZ Piszkesteto 38.02 303 ⇓P **ScP** **23 31 22.2 -0.3**
PSZ Piszkesteto 38.02 303 P **P** **23 25 58.3 +0.8**
PSZ pmax pmax
comp=Z,84nm,0.9s
PSZ Piszkesteto 38.02 303 P **P** **23 25 58.3 +0.8**

PSZ IAmb IAmb 23 25 59.7
comp=Z,84nm,0.9s
PSZ Piszkesteto 38.02 303 P **P** **23 25 58.4 +0.9**
OJC Ojcow 38.07 307 *i* P **P** **23 25 58.4 +0.5**
OJC *e*pP **pP** **23 27 00.8 +0.4**
IZAB Izabela 38.12 304 *e*P **P** **23 25 59.2 +0.9**
KLNR Kaliningrad 38.14 314*c* *i* P **P** **23 25 58.2 -0.1**
KLNR pmax pmax
comp=Z,368nm,0.7s
KBN Korca 38.15 291 P **P** **23 25 58.2 -0.5**
IVAS Ivanjica 38.17 296 ⇑*i* P **P** **23 25 58.8 0.0**
DIVS Divibare 38.22 297 ⇑*i* P **P** **23 26 00.0 +0.7**
DIVS Divibare 38.22 297 IAmb IAmb 23 26 01.1
comp=Z,120nm,1.1s
DIVS Divibare 38.22 297 *e*P **P** **23 25 59.8 +0.5**
FRGS Fruska Gora 38.24 299 ⇓P **P** **23 25 59.9 +0.5**
FRGS Fruska Gora 38.24 299 ⇑P **ScP** **23 31 22.9 -0.4**
FRGS Fruska Gora 38.24 299 ⇑*i* P **P** **23 25 59.4 0.0**
FRGS Fruska Gora 38.24 299 ⇑*i* P **P** **23 25 59.3 -0.1**
LANS Liptovska Anna 38.28 305 *e*P **P** **23 26 01.1 +1.5**
LANS pmax pmax
comp=Z,36nm,0.6s
LANS Liptovska Anna 38.28 305 *e*P **P** **23 26 01.1 +1.5**
JAN Janina 38.29 290 P **P** **23 25 58.9 -0.9**
SJES Sjenica 38.34 296 ⇑*i* P **P** **23 26 01.3 +1.0**
LSK Leskovik 38.38 291 P **P** **23 26 00.0 -0.6**
PVY Plav 38.44 295 *e*P **P** **23 26 00.8 -0.4**
IVA Berane 38.45 295 *e*P **P** **23 26 01.6 +0.4**
NYDR Nydri-Lefkada 38.60 288 P **P** **23 26 01.4 -0.9**
TSLK Tsoukalades, L 38.61 289 P **P** **23 26 02.3 -0.1**
LKD2 Lefkada island 38.62 288 P **P** **23 26 01.7 -0.8**
BUD Budapest 38.62 303 P **P** **23 26 03.5 +1.1**
EVGI Lefkada island 38.66 288 P **P** **23 26 02.0 -0.8**
BBLS Lazići 38.67 297 ⇑*i* P **P** **23 26 03.8 +0.8**
BBLS Lazići 38.67 297 ⇑*i* P **P** **23 26 03.6 +0.6**
IGT Igoumenitsa 38.70 290 P **P** **23 26 02.4 -0.8**
VYHS Vyhne 38.71 304 *e*P **P** **23 26 04.0 +0.8**
VYHS pmax pmax
comp=Z,65nm,1.1s
VYHS Vyhne 38.71 304 *e*P **P** **23 26 04.0 +0.8**
TIR Tirane 38.71 293 ⇑P **P** **23 26 02.4 -0.9**
TIR Tirane 38.71 293 P **P** **23 26 01.7 -1.5**
TIR Tirane 38.71 293 P **P** **23 26 02.0 -1.2**
TIR pmax pmax
comp=Z,54nm,0.6s
TIR Tirane 38.71 293 P **P** **23 26 02.0 -1.2**
TIR IAmb IAmb 23 26 08.5
comp=Z,54nm,0.6s
KOME Kolasin 38.73 295 *e*P **P** **23 26 03.9 +0.4**
RUDO Rudo 38.73 296 *e*P **P** **23 26 03.3 -0.1**
LTHK Lithakia 38.73 287 P **P** **23 26 02.0 -1.4**
PLE Pljevlja 38.75 296 *e*P **P** **23 26 04.4 +0.7**
VLS Valsamata 38.81 288 P **P** **23 26 02.8 -1.3**
SRIT Nakonsritamara 38.86 129 P **P** **23 26 05.6 +0.8**
SRIT IAmb IAmb 23 26 06.7
comp=Z,174nm,1.6s
SRN Sarande 38.88 290 P **P** **23 26 03.6 -1.1**
DMLN Damoulianata-K 38.96 288 P **P** **23 26 04.4 -0.9**
PDG Podgorica 38.98 294 ⇑P **P** **23 26 06.0 +0.6**
PDG Podgorica 38.98 294 ⇓P **ScP** **23 31 26.5 +0.3**
PDG Podgorica 38.98 294 ⇑*i* P **P** **23 26 05.3 -0.1**
PDG Podgorica 38.98 294 ScP **ScP** **23 31 25.9 -0.3**
TTG Podgorica 38.98 294 *e*P **P** **23 26 05.1 -0.3**
KEF3 Kipouria, Keph 38.99 288 P **P** **23 26 04.2 -1.3**
KOLL Kolacno 38.99 304 *e*P **P** **23 26 06.5 +1.0**
ULC Ulcinj 39.06 294 *e*P **P** **23 26 05.5 -0.7**
KEK Kerkira 39.07 290 P **P** **23 26 04.9 -1.3**
SRO Srobarova 39.09 303 *e*P **P** **23 26 07.9 +1.7**
SRO pmax pmax
comp=Z,305nm,0.9s
SRO Srobarova 39.09 303 *e*P **P** **23 26 07.9 +1.7**
SRO *e*PP **PP** **23 27 43.3 -0.1**
UPM Unac-Piva 39.12 296 *e*P **P** **23 26 07.6 +0.8**
UPM Unac-Piva 39.12 296 *e*P **P** **23 26 06.8 0.0**
QIZ Qiongzhong 39.13 106 IAmb IAmb 23 26 51.6
comp=Z,218nm,1.7s
QIZ Qiongzhong 39.13 106 P **P** **23 26 06.9 0.0**
OKC Ostrava-Krasne 39.13 306 *e*P **P** **23 26 07.1 +0.5**
OKC Ostrava-Krasne 39.13 306 *e*P **P** **23 26 07.1 +0.5**
CSKK Cskako 39.15 302 P **P** **23 26 08.1 +1.3**
NKME Niksic 39.15 295 *e*P **P** **23 26 06.5 -0.4**
CEME Cevo 39.21 295 *e*P **P** **23 26 07.2 -0.2**
BUM Brajici-Budva 39.27 294 *e*P **P** **23 26 07.2 -0.7**
AAL Aland 39.27 323 *e*P **P** **23 26 07.2 -0.3**
KOVH Kovagotottos 39.35 300 P **P** **23 26 09.0 +0.5**
BRY Bratogost 39.43 295 ⇑*i* P **P** **23 26 09.5 +0.2**
BRY Bratogost 39.43 295 *e*P **P** **23 26 08.9 -0.4**
TIH Tihany 39.43 302 P **P** **23 26 08.5 -0.5**
JAVC Velka Javorina 39.47 305 ⇑*i* P **P** **23 26 11.1 +1.7**
JAVC *e*SCP **ScP** **23 31 29.1 +1.1**
MORC Moravsky Berou 39.53 306 ⇓P **P** **23 26 11.4 +1.5**
MORC Moravsky Berou 39.53 306 ⇓P **ScP** **23 31 29.7 +1.5**
MORC Moravsky Berou 39.53 306 ⇑*i* P **P** **23 26 10.7 +0.8**
MORC *e*SCP **ScP** **23 31 28.8 +0.6**
MORC Moravsky Berou 39.53 306 IAmb IAmb 23 26 11.8
comp=Z,129nm,0.8s
HCY Herceg Novi 39.53 295 *e*P **P** **23 26 09.7 -0.3**
HCY Herceg Novi 39.53 295 *e*P **P** **23 26 09.5 -0.5**
TREB Trebinje 39.60 295 ⇑*i* P **P** **23 26 10.3 -0.2**
TREB Trebinje 39.60 295 *e*P **P** **23 26 10.3 -0.2**
SMOL Smolenice 39.64 304 *e*P **P** **23 26 11.7 +0.9**
SMOL pmax pmax
comp=Z,39nm,0.6s
SMOL Smolenice 39.64 304 *e*P **P** **23 26 11.7 +0.9**
MPLH Magyarpolny 39.65 302 P **P** **23 26 11.4 +0.5**
MODS Modra-Piesok 39.75 304 *e*P **P** **23 26 13.6 +1.9**
MODS pmax pmax
comp=Z,72nm,1.0s
MODS Modra-Piesok 39.75 304 *e*P **P** **23 26 13.6 +1.9**
EGYH Egyhazaskeszo 39.77 303 P **P** **23 26 12.7 +0.8**
GKP Gorka Klasztor 39.77 312 *i* P **P** **23 26 12.1 +0.4**
GKP *e*pP **pP** **23 27 15.3 +0.3**
GKP Gorka Klasztor 39.77 312 *e*P **P** **23 26 12.7 +1.0**
ZST Bratislava 39.88 304 *e*P **P** **23 26 13.4 +0.7**
ZST pmax pmax
comp=Z,125nm,0.8s
ZST Bratislava 39.88 304 *e*P **P** **23 26 13.4 +0.7**
ZST *e*PP **PP** **23 27 53.9 +2.0**
LHMI Lhok Sumawe 39.94 135 P **P** **23 26 14.6 +1.0**
comp=Z,384nm,0.7s
LHMI Lhok Sumawe 39.94 135 P **P** **23 26 13.4 -0.3**
LHMI Lhok Sumawe 39.94 135 P **P** **23 26 13.7 +0.1**
SCTE Santa Cesarea 40.00 291 IAmb IAmb 23 26 12.8
comp=Z,63nm,0.7s
KRLC Kraliky 40.01 307 *e*P **P** **23 26 14.6 +0.7**
KRLC Kraliky 40.01 307 *e*P **P** **23 26 14.6 +0.7**
KRLC *e*SCP **ScP** **23 31 30.7 +0.6**
STON Ston 40.04 295 P **P** **23 26 13.1 -1.0**
BLY Banja Luka 40.14 298 ⇑*i* P **P** **23 26 15.6 +0.7**
VRAC Vranov 40.16 306 ⇑P **P** **23 26 16.1 +1.1**
VRAC Vranov 40.16 306 ⇓P **ScP** **23 31 31.6 +1.0**
VRAC Vranov 40.16 306 P **P** **23 26 16.2 +1.1**
comp=Z,151nm,0.9s,baz=96,slow=8.5,SNR=138
VRAC pP **pP** **23 27 18.8 +0.7**
comp=Z,24nm,0.9s,baz=91,slow=7.1,SNR=2.7
VRAC ScP **ScP** **23 31 29.7 -1.0**
comp=Z,8.7nm,0.9s,baz=175,slow=2.8,SNR=6.9
VRAC Vranov 40.16 306 P **P** **23 26 16.2 +1.1**
VRAC *PP **pP** **23 27 18.8 +0.7**
VRAC Vranov 40.16 306 ⇑*i* P **P** **23 26 16.1 +1.1**
VRAC *e*pP **pP** **23 27 19.4 +1.2**
VRAC *e*SCP **ScP** **23 31 31.2 +0.5**
BEHE Becsehely 40.23 301 ⇑*i* P **P** **23 26 16.5 +0.9**
BEHE Becsehely 40.23 301 P **P** **23 26 16.7 +1.1**
MGRS Mrkonjic Grad 40.26 298 ⇑*i* P **P** **23 26 16.8 +0.9**
SOP Sopron 40.28 303 P **P** **23 26 16.4 +0.4**
KEV Kevo 40.28 339 P **P** **23 26 15.2 -0.5**
KEV pmax pmax
comp=Z,150nm,1.0s
KEV Kevo 40.28 339 P **P** **23 26 15.2 -0.5**
KEV IAmb IAmb 23 26 16.7
comp=Z,150nm,1.0s
KRUC Moravsky 40.30 305 ⇑*i* P **P** **23 26 17.0 +0.8**
KRUC *e*pP **pP** **23 27 20.3 +1.0**
KRUC *e*SCP **ScP** **23 31 31.7 +0.5**
DPC Dobruska-Polom 40.30 307 *e*P **P** **23 26 17.2 +1.0**
DPC Dobruska-Polom 40.30 307 *e*P **P** **23 26 17.2 +1.0**
DPC *e*SCP **ScP** **23 31 31.8 +0.6**
MRAK Mrakovica 40.31 299 ⇑*i* P **P** **23 26 16.5 +0.1**
KSP Ksiaz 40.31 308 *i* P **P** **23 26 16.8 +0.6**
NJ2 Nanjing 40.32 82 ⇓*i* P **P** **23 26 17.5 +0.9**

NJ2 pP **pP** **23 27 22.8 +2.0**
NJ2 PP **PP** **23 27 59.0 +2.1**
NJ2 PcP **PcP** **23 28 13.3 +0.2**
NJ2 ScP **ScP** **23 31 31.8 +0.2**
NJ2 pmax pmax
comp=Z,77nm,0.7s
MOSL Moslavina 40.34 300 P **P** **23 26 16.3 -0.3**
RICI Ricice 40.35 297 P **P** **23 26 16.2 -0.5**
UPP Uppsala 40.36 322 *eP* **P** **23 26 16.3 -0.1**
OSTC Ostas 40.37 307 *eP* **P** **23 26 16.9 +0.2**
OSTC *ex* x 23 31 30.9
CHVC Chvalec 40.47 308 *eP* **P** **23 26 18.2 +0.7**
CHVC *ex* x 23 31 31.9
MAKA Makarska 40.47 296 P **P** **23 26 16.7 -0.9**
KALN Kalnik 40.49 301 P **P** **23 26 17.9 +0.1**
UPC Upice 40.50 307 *eP* **P** **23 26 18.2 +0.5**
UPC Upice 40.50 307 *eP* **P** **23 26 18.2 +0.5**
UPC *e*SCP **ScP** **23 31 32.5 +0.5**
KOGS Kog 40.60 301 *i* P **P** **23 26 19.1 +0.6**
ARA0 ARCESS Array S 40.62 338⇑ *i* P **P** **23 26 18.9 +0.5**
ARCES ARCESS Array B 40.62 338 P **P** **23 26 18.9 +0.5**
comp=Z,90nm,0.5s,baz=107,slow=8.0,SNR=726
ARCES ARCESS Array B 40.62 338 P **P** **23 26 18.9 +0.5**
ARCES ARCESS Array B 40.62 338 P **P** **23 26 18.7 +0.2**
ARCES IAmb IAmb 23 26 19.8
comp=Z,152nm,0.8s
LSTV Lastovo 40.65 295 P **P** **23 26 18.1 -0.9**
CONA Conrad Observa 40.73 303 *i* P **P** **23 26 20.6 +0.8**
comp=Z,177nm,0.8s,SNR=75
CONA Conrad Observa 40.73 303 *e*S **ScP** **23 31 32.8 -0.2**
LOBO Lobor 40.75 301 P **P** **23 26 19.5 -0.4**
KIJV Kijevo 40.80 297 P **P** **23 26 18.6 -1.6**
TREC Trest 40.88 306 *eP* **P** **23 26 21.9 +1.0**
TREC Trest 40.88 306 *eP* **P** **23 26 21.9 +1.0**
TREC *e*SCP **ScP** **23 31 33.9 +0.4**
HVAR Hvar 40.90 296 P **P** **23 26 20.3 -0.8**
ARSA Arzberg 41.01 302 *i* P **P** **23 26 22.5 +0.5**
comp=Z,50nm,1.0s,SNR=26
ARSA Arzberg 41.01 302 *e*S **ScP** **23 31 34.2 +0.1**
KTK1 Kautokeino 41.07 336⇑ *i*P **P** **23 26 22.2 +0.1**
UDBI Udbina 41.18 298 P **P** **23 26 22.6 -0.8**
CRES Cresnjev 41.22 300⇑ *i*P **P** **23 26 24.3 +0.7**
PLIT Plitvice 41.23 299 P **P** **23 26 23.0 -0.8**
BSD Bornholm Skovb 41.23 314 *i* P **P** **23 26 21.6 -2.0**
BSD IAmb IAmb 23 26 22.7
comp=Z,85nm,0.5s
BSD Bornholm Skovb 41.23 314 *eP* **P** **23 26 23.0 -0.5**
OZLJ Ozalj 41.23 300 P **P** **23 26 23.6 -0.1**
MORI Morici 41.32 297 P **P** **23 26 23.6 -0.9**
PERS Pernice 41.35 302 *i* P **P** **23 26 25.7 +0.9**
PERS *i* ScP **ScP** **23 31 35.9 +0.4**
ZIRJ Zirje 41.40 297 P **P** **23 26 24.3 -0.8**
SOKA Soboth 41.41 302 *eP* **P** **23 26 26.2 +0.9**
comp=Z,88nm,0.5s,SNR=101
SOKA Soboth 41.41 302 *e*S **ScP** **23 31 35.8 +0.1**
comp=Z,9.3nm,1.0s
PVCC Panska Ves 41.42 307 *eP* **P** **23 26 25.9 +0.7**
PVCC Panska Ves 41.42 307 *eP* **P** **23 26 25.9 +0.7**
PVCC *e*SCP **ScP** **23 31 36.1 +0.5**
PRU Pruhonice 41.46 307 *eP* **P** **23 26 26.3 +0.8**
PRU Pruhonice 41.46 307 *eP* **P** **23 26 26.3 +0.8**
PRU *e*SCP **ScP** **23 31 35.9 +0.1**
TIP Timpagrande 41.48 290⇓ P **ScP** **23 31 36.3 +0.1**
TIP Timpagrande 41.48 290 P **P** **23 26 25.6 -0.3**
TIP IAmb IAmb 23 26 27.1
comp=Z,160nm,1.4s
SGRT San Giovanni R 41.67 294 P **P** **23 26 27.3 -0.2**
SGRT IAmb IAmb 23 26 28.4
comp=Z,176nm,0.6s
CKRC Cesky Krumlov 41.69 305 *eP* **P** **23 26 28.0 +0.6**
CKRC *ex* x 23 31 36.8
HAMF Hammerfest 41.71 339⇑ *i*P **P** **23 26 28.1 +0.9**
OBKA Obir 41.76 301 *i* P **P** **23 26 28.9 +0.8**
comp=Z,32nm,0.7s,SNR=33
OBKA Obir 41.76 301 *i* S **ScP** **23 31 37.1 -0.1**
comp=Z,12nm,1.2s
DUGI Dugi Otok 41.76 298 P **P** **23 26 27.4 -0.7**
BRG Berggiesshubel 41.80 308⇑ *i*P **P** **23 26 29.1 +0.9**
BRG Amp 23 26 29.7
comp=Z,147nm,0.6s
BRG *ex* x 23 26 44.3
BRG Amp 23 26 45.8
comp=Z,19nm,0.9s
BRG pP **pP** **23 27 28.8 -3.2**
BRG Amp 23 27 29.4
comp=Z,14nm,0.8s
BRG *ex* x 23 27 32.9
BRG Amp 23 27 33.7
comp=Z,66nm,1.1s
BRG sP **PP** **23 28 12.5 +0.3**
BRG Amp 23 28 13.8
comp=Z,26nm,1.1s
BRG ⇑SP **ScP** **23 31 37.6 +0.5**
BRG Amp 23 31 38.8
comp=Z,23nm,0.9s
BRG Berggiesshubel 41.80 308⇑ *i*P **P** **23 26 29.1 +0.9**
BRG *e* 23 27 32.8
BRG SP 23 28 12.5
BRG pmax pmax
comp=Z,147nm,0.6s
BRG pmax pmax
comp=Z,19nm,0.9s
BRG pmax pmax
comp=Z,14nm,0.8s
BRG pmax pmax
comp=Z,66nm,1.1s
BRG pmax pmax
comp=Z,26nm,1.1s
BRG pmax pmax
comp=Z,23nm,0.9s
BRG Berggiesshubel 41.80 308 *eP* **P** **23 26 29.1 +0.9**
comp=Z,147nm,0.6s,baz=85,slow=7.9
MOA Molln 41.80 303 *i* P **P** **23 26 28.8 +0.5**
comp=Z,128nm,0.8s,SNR=28
MOA Molln 41.80 303 *e*S **ScP** **23 31 37.3 +0.1**
comp=Z,3.1nm,0.7s
NVLJ Novalja 41.80 299 P **P** **23 26 27.1 -1.3**
KCSI Kotacane, Aceh 41.81 136 P **P** **23 26 26.8 -1.9**
comp=Z,2μmcomp=Z,82nm,0.5s
PBCC Pribram 41.83 306 *eP* **P** **23 26 29.0 +0.5**
PBCC *ex* x 23 31 37.8
LJU Ljubljana 41.83 301⇑ *i*P **P** **23 26 29.5 +1.0**
LJU Ljubljana 41.83 301 *i* P **P** **23 26 29.6 +1.0**
LJU *i* ScP **ScP** **23 31 38.2 +0.8**
RABC Rab 41.84 299 P **P** **23 26 26.2 -2.4**
RUE Ruedersdorf 41.85 310 *eP* **P** **23 26 28.9 +0.2**
RUE Ruedersdorf 41.85 310 *eP* **P** **23 26 28.8 +0.2**
comp=Z,186nm,0.8s,baz=85,slow=7.9
RUE *ep*P **pP** **23 27 32.2 -0.2**
baz=85,slow=8.2
DEL Delary 41.90 316 *i* P **P** **23 26 28.0 -1.0**
SNSI Sinabang, Aceh 41.94 138 P **P** **23 26 31.2 +1.4**
comp=Z,17μmcomp=Z,2μm,0.8s
CEY Cerknica 41.94 300⇑ *i*P **P** **23 26 30.2 +0.7**
KULM Kulim 42.08 131 P **P** **23 26 30.7 -0.1**
KULM IAmb IAmb 23 26 32.5
comp=Z,152nm,1.5s
KULM PcP **PcP** **23 28 18.6 -0.5**
GEC2 GERESS Array S 42.09 305 *eP* **P** **23 26 31.3 +0.6**
comp=Z,47nm,0.9s,baz=85,slow=7.9
GERES GERESS Array B 42.09 305 P **P** **23 26 31.1 +0.4**
comp=Z,18nm,0.5s,baz=79,slow=7.5,SNR=191
GERES sP **sP** **23 28 12.3 +1.9**
comp=Z,7.7nm,0.7s,baz=78,slow=9.1,SNR=5.2
GERES ScP **ScP** **23 31 38.1 -0.4**
comp=Z,7.9nm,0.8s,baz=99,slow=4.5,SNR=15
GERES GERESS Array B 42.09 305 P **P** **23 26 31.1 +0.4**
RGN Rugen 42.13 314 *eP* **P** **23 26 31.0 +0.2**
RGN Rugen 42.13 314 *eP* **P** **23 26 30.7 -0.1**
comp=Z,492nm,0.9s,baz=85,slow=7.9
KHC Kasperske Hory 42.14 305 *eP* **P** **23 26 31.3 +0.2**
KHC *e* 23 28 13.0
KHC Kasperske Hory 42.14 305 *eP* **P** **23 26 31.3 +0.2**
KHC *ex* x 23 26 42.0
KHC *e*PP **PP** **23 28 13.0 -3.0**
KHC *e*SCP **ScP** **23 31 38.8 +0.2**
FBE Freiberg 42.17 308 *eP* **P** **23 26 32.2 +1.1**
comp=Z,157nm,0.8s,baz=85,slow=7.9
FBE *ep*P **pP** **23 27 35.9 +1.0**
baz=85,slow=8.2
JETT Jettan, Norway 42.22 337⇑ *i*P **P** **23 26 32.7 +1.4**
CN2 Changchun 42.30 63 *eP* **P** **23 26 30.8 -1.5**
CN2 *ep*P pP 23 27 35.5 -1.7

CN2 *e*sP sP 23 28 10.8 -2.7
CN2 *e*S **S** **23 32 25.0 -3.8**
CN2 sS sS 23 34 19.3 -4.4
CN2 SS SS 23 35 37.8 -13
CN2 LR LR
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,200nm,10.0s
CADS Cadrg 42.35 301 *i* P **P** **23 26 33.2 +0.4**
HFS Hagfors 42.36 322 P **P** **23 26 32.5 -0.1**
comp=Z,261nm,0.5s,baz=99,slow=9.6,SNR=906
HFS pP **pP** **23 27 36.8 +0.3**
comp=Z,20nm,0.7s,baz=97,slow=10,SNR=1.6
HFS Hagfors 42.36 322 P **P** **23 26 32.5 -0.1**
HFS *PP **pP** **23 27 36.8 +0.3**
MYKA Terra Mystica 42.36 302 *i* P **P** **23 26 33.4 +0.5**
comp=Z,30nm,0.6s,SNR=28
CEL Celeste 42.37 289 IAmb IAmb 23 26 34.8
comp=Z,214nm,1.5s
CLL Collm 42.37 309⇑ *i*P **P** **23 26 33.0 +0.2**
CLL *i* *PP **pP** **23 27 36.8 +0.2**
CLL pmax pmax
comp=Z,83nm,0.7s
CLL Collm 42.37 309⇑ *i*P **P** **23 26 33.0 +0.2**
comp=Z,83nm,0.7s
CLL *i* pP **pP** **23 27 36.8 +0.2**
CLL *e*PP **PP** **23 28 15.0 -3.3**
CLL *ex* x 23 28 29.0
CLL Collm 42.37 309 *eP* **P** **23 26 33.1 +0.2**
comp=Z,83nm,0.7s,baz=85,slow=7.9
CLL Collm 42.37 309 IAmb IAmb 23 26 34.1
comp=Z,84nm,0.8s
KBA Koelnbreinsper 42.51 302 *i* P **P** **23 26 34.6 +0.4**
comp=Z,39nm,0.5s,SNR=28
KBA Koelnbreinsper 42.51 302 *e*S **ScP** **23 31 38.8 -1.5**
comp=Z,7.9nm,0.9s
DLV T Lat 42.52 115 P **P** **23 26 35.2 +0.6**
DLV IAmb IAmb 23 26 37.1
comp=Z,182nm,0.7s
DLV T Lat 42.52 115 P **P** **23 26 35.8 +1.2**
BRJN Brijuni 42.54 299 P **P** **23 26 33.6 -0.6**
ZEA Zeya 42.59 48 *eP* **P** **23 26 36.5 +2.0**
ZEA pmax pmax
comp=E,60nm,0.7s
ZEA pmax pmax
comp=N,40nm,0.6s
ZEA pmax pmax
comp=Z,120nm,0.8s
WET Wettzell 42.60 306 *eP* **P** **23 26 35.4 +0.7**
comp=Z,44nm,1.5s,baz=85,slow=7.9
PAOL Paolisi 42.69 293 IAmb IAmb 23 26 36.9
comp=Z,78nm,0.7s
TRO Tromso 42.72 336⇑ *i*P **P** **23 26 35.3 0.0**
TANN Tannenbergstha 42.77 307 *eP* **P** **23 26 36.9 +0.8**
comp=Z,69nm,1.0s,baz=85,slow=7.9
TANN *ep*P **pP** **23 27 40.6 +0.7**
baz=85,slow=8.2
NKC Novy Kostel 42.79 307 *eP* **P** **23 26 36.8 +0.6**
NKC Novy Kostel 42.79 307 *eP* **P** **23 26 36.8 +0.6**
NKC *e*SCP **ScP** **23 31 42.1 +0.9**
RJOB Jochberg 42.80 303 *eP* **P** **23 26 36.7 +0.3**
comp=Z,52nm,0.8s,baz=85,slow=7.9
WERN Wernitzgruen 42.83 307 *eP* **P** **23 26 37.4 +0.9**
comp=Z,38nm,0.9s,baz=85,slow=7.9
GUNZ Gunzen 42.85 307 *eP* **P** **23 26 37.6 +0.9**
comp=Z,75nm,0.9s,baz=85,slow=7.9
WERD Werda 42.86 307 *eP* **P** **23 26 37.5 +0.7**
comp=Z,74nm,0.9s,baz=85,slow=7.9
WERD *ep*P **pP** **23 27 41.5 +0.8**
baz=85,slow=8.2
IPM Ipoh 42.94 131 P **P** **23 26 37.2 -0.6**
IPM IAmb IAmb 23 26 39.7
comp=Z,178nm,1.1s
IPM Ipoh 42.94 131 P **P** **23 26 38.0 +0.2**
PLN Plauen 42.96 308 *eP* **P** **23 26 38.2 +0.7**
comp=Z,47nm,1.3s,baz=85,slow=7.9
ROTZ Rotzenmuhle 42.98 307 *eP* **P** **23 26 39.1 +1.4**
baz=85,slow=7.9
ROTZ *ep*P **pP** **23 27 42.8 +1.1**
baz=85,slow=8.2
MANZ Manzenberg 43.03 307 *eP* **P** **23 26 39.3 +1.2**
comp=Z,21nm,0.9s,baz=85,slow=7.9
PSI Prapat 43.05 135 P **P** **23 26 38.2 -0.6**
comp=Z,47nm,0.6s,baz=326,slow=8.3,SNR=46
PSI ScP **ScP** **23 31 41.6 -1.2**
comp=Z,9.9nm,0.7s,baz=312,slow=6.2,SNR=8.0
PSI S **S** **23 32 41.0 +0.6**
comp=Z,5.4nm,0.7s,baz=335,slow=23,SNR=2.2
PSI ScS **ScS** **23 36 02.3 -1.9**
comp=Z,19nm,1.2s,baz=300,slow=17,SNR=7.2
PSI Prapat 43.05 135 P **P** **23 26 38.2 -0.6**
STAL STALIGIAL 43.05 301 P **P** **23 26 38.0 -0.4**
STAL IAmb IAmb 23 26 39.2
comp=Z,163nm,0.9s
STAL PcP **PcP** **23 28 20.6 -1.4**
STAL ScP **ScP** **23 31 41.8 -0.5**
ABTA Abfaltersbach 43.12 302 *i* P **P** **23 26 38.6 -0.4**
comp=Z,70nm,1.0s,SNR=26
ABTA Abfaltersbach 43.12 302 *e*S **ScP** **23 31 41.7 -0.9**
comp=Z,14nm,1.0s
NEUB Neuenburg 43.15 309 *eP* **P** **23 26 39.5 +0.6**
comp=Z,207nm,0.9s,baz=85,slow=7.9
NEUB *ep*P **pP** **23 27 43.0 -0.1**
baz=85,slow=8.2
MOR8 Moi Rana 43.20 331⇑ *i*P **P** **23 26 38.7 -0.6**
FAUS Fauske 43.21 333⇑ *i*P **P** **23 26 39.4 +0.2**
AQU L'Aquila 43.26 296⇑ *i*P **P** **23 26 40.8 +0.7**
MOX Moxa 43.29 308 *eP* **P** **23 26 41.0 +0.8**
comp=Z,83nm,0.7s,baz=85,slow=7.9
MOX *ep*P **pP** **23 27 45.2 +1.0**
baz=85,slow=8.2
MSEY Mahe Island 43.31 201 P **P** **23 26 41.6 +0.9**
BNX BinXian 43.35 59⇓ *i*P **P** **23 26 41.5 +0.8**
BNX pmax pmax
comp=Z,27nm,0.8s
BNX pmax pmax
comp=Z,220nm,4.1s
STEI Steigen 43.39 333⇑ *i*P **P** **23 26 40.8 +0.1**
FLTG Flechtingen 43.42 310 *eP* **P** **23 26 41.1 +0.1**
comp=Z,323nm,0.8s,baz=85,slow=7.9
FLTG *ep*P **pP** **23 27 45.2 0.0**
baz=85,slow=8.2
NC602 NORSAR Array S 43.49 323⇑ *i*P **P** **23 26 41.0 -0.6**
GSI Gunungsitoli 43.53 138 P **P** **23 26 44.1 +1.6**
comp=Z,7μmcomp=Z,743nm,0.6s
GSI Gunungsitoli 43.53 138 P **P** **23 26 44.0 +1.6**
GRA1 Grafenberg Arr 43.62 306 IAmb IAmb 23 26 44.8
comp=Z,91nm,0.6s
GRF Grafenberg Arr 43.62 306 *eP* **P** **23 26 44.4 +1.6**
comp=Z,112nm,0.8s,baz=85,slow=7.9
GRF *ep*P **pP** **23 27 48.6 +1.6**
baz=85,slow=8.2
GRFO Grafenberg 43.63 306 P **P** **23 26 43.8 +1.0**
GRFO pmax pmax
comp=Z,83nm,0.7s
GRFO Grafenberg 43.63 306 P **P** **23 26 43.8 +1.0**
GRFO IAmb IAmb 23 26 44.8
comp=Z,83nm,0.7s
WTTA Wattenberg 43.64 303 *i* P **P** **23 26 42.9 -0.3**
comp=Z,106nm,0.8s,SNR=57
WTTA *e*S **ScP** **23 31 44.5 -0.4**
comp=Z,29nm,1.1s,SNR=6.3
WATA Walderalm 43.67 303 *i* P **P** **23 26 42.9 -0.5**
comp=Z,90nm,0.9s,SNR=41
WATA *e*S **ScP** **23 31 44.2 -0.7**
comp=Z,27nm,1.2s,SNR=6.4
NB2 NORSAR Subarra 43.68 323 P **P** **23 26 42.4 -0.7**
comp=Z,112nm,0.5s,baz=99,slow=7.9
NB2 NORSAR Subarra 43.68 323 P **P** **23 26 42.4 -0.7**
baz=99,slow=7.9
NOA NORSAR Array B 43.68 323 P **P** **23 26 42.7 -0.5**
comp=Z,85nm,0.6s,baz=98,slow=7.2,SNR=400
NOA sP **PcP** **23 28 24.2 +0.3**
comp=Z,2.9nm,0.5s,baz=97,slow=7.6,SNR=1.5
NOA NORSAR Array B 43.68 323 P **P** **23 26 42.7 -0.5**
NOA *SP **PcP** **23 28 24.2 +0.3**
VAE Valguarnera 43.71 288 P **P** **23 26 45.9 +2.1**
comp=Z,45nm,0.8s,baz=257,slow=2.5,SNR=27
FUR Furstenfeldbru 43.76 304 *eP* **P** **23 26 44.8 +0.9**
comp=Z,143nm,0.7s,baz=85,slow=7.9
ASSE Asse, Remlinge 43.77 310 *eP* **P** **23 26 44.0 +0.1**
comp=Z,35nm,0.8s,baz=85,slow=7.9
KONS Konsvik 43.80 331⇑ *i*P **P** **23 26 43.8 -0.1**
STOK Stokkvaagen 43.80 331 *eP* **P** **23 26 44.2 +0.3**

CTI Castel Tesino 43.81 301 IAmb IAmb 23 26 45.5
comp=Z,133nm,0.6s
OSL Oslo 43.82 321⇑ *i*P **P** **23 26 43.9 -0.3**
NSS Namsos 43.85 328⇑ *i*P **P** **23 26 43.9 -0.5**
BSEG Bad Segeberg 43.90 313 *eP* **P** **23 26 45.7 +0.9**
comp=Z,151nm,0.8s,baz=85,slow=7.9
BSEG *ep*P **pP** **23 27 49.7 +0.6**
baz=85,slow=8.2
TEOL Teolo 43.91 300 IAmb IAmb 23 26 46.4
comp=Z,174nm,0.9s
SQTA Sankt Quirin 43.94 303 *i* P **P** **23 26 44.1 -1.4**
comp=Z,53nm,0.5s,SNR=48
SQTA *e*S **ScP** **23 31 45.6 -0.4**
comp=Z,23nm,0.9s,SNR=7.7
OVD Ostervraa, Den 43.95 318 *i* P **P** **23 26 44.5 -0.7**
OVD IAmb IAmb 23 26 45.9
comp=Z,573nm,0.5s
CLZ Clausthal 43.98 310 *eP* **P** **23 26 46.3 +0.7**
comp=Z,292nm,1.5s,baz=85,slow=7.9
MOTA Moosalm 43.99 303 *i* P **P** **23 26 45.4 -0.6**
comp=Z,152nm,0.9s,SNR=54
MOTA *e*S **ScP** **23 31 45.8 -0.4**
comp=Z,33nm,1.0s,SNR=6.4
LOF Lofoten 44.06 333⇑ *i*P **P** **23 26 45.2 -0.7**
NRDL Niedersach Rie 44.10 311 *eP* **P** **23 26 47.3 +1.0**
comp=Z,134nm,0.8s,baz=85,slow=7.9
NRDL *ep*P **pP** **23 27 51.2 +0.5**
baz=85,slow=8.2
RETA Reutte 44.20 303 *i* P **P** **23 26 47.1 -0.4**
comp=Z,66nm,0.8s,SNR=15
GTTG Gottingen 44.26 309 *eP* **P** **23 26 48.5 +0.8**
comp=Z,252nm,0.9s,baz=85,slow=7.9
GTTG *ep*P **pP** **23 27 52.7 +0.6**
baz=85,slow=8.2
FETA Feichten 44.29 303 *i* P **P** **23 26 47.9 -0.4**
comp=Z,44nm,0.5s,SNR=42
FETA *e*S **ScP** **23 31 47.6 +0.1**
comp=Z,21nm,1.0s,SNR=7.0
UBBA Unterbreizbach 44.30 308 *eP* **P** **23 26 48.6 +0.7**
comp=Z,64nm,0.6s,baz=85,slow=7.9
YAK Yakutsk 44.32 36 P **P** **23 26 48.2 +0.2**
comp=Z,92nm,0.3s,baz=217,slow=0.8,SNR=66
YAK S **S** **23 32 56.5 -0.8**
comp=Z,6.9nm,0.4s,baz=169,slow=20,SNR=14
YAK Yakutsk 44.32 36 *eP* **P** **23 26 48.0 0.0**
YAK *e**PP **pP** **23 27 53.4 -0.2**
YAK *e* 23 28 29.6
YAK *e*S **S** **23 32 56.5 -0.8**
YAK pmax pmax
comp=Z,195nm,0.6s
YAK pmax pmax
comp=N,16nm,0.8s
YAK pmax pmax
comp=E,34nm,1.0s
YAK pmax pmax
comp=Z,60nm,1.8s
YAK smax smax
comp=N,86nm,1.3s
YAK smax smax
comp=E,73nm,1.1s
YAK Yakutsk 44.32 36 P **P** **23 26 47.5 -0.6**
LATE Laterza 44.36 296 IAmb IAmb 23 26 49.7
comp=Z,143nm,0.9s
KONO Kongsberg 44.37 321*c* *i*P **P** **23 26 48.0 -0.5**
KONO pmax pmax
comp=Z,90nm,0.6s
KONO Kongsberg 44.37 321⇑ *i*P **P** **23 26 48.2 -0.3**
KONO Kongsberg 44.37 321 P **P** **23 26 47.9 -0.6**
TBLU Trondheim 44.40 326⇑ *i*P **P** **23 26 48.1 -0.6**
MUD Monsted U'grnd 44.51 316 *i* P **P** **23 26 49.3 -0.3**
MUD IAmb IAmb 23 26 50.9
comp=Z,34nm,0.9s
RETH Rethem/Aller, 44.54 311 *eP* **P** **23 26 50.6 +0.7**
comp=Z,76nm,0.8s,baz=85,slow=7.9
OSSC Osservatorio P 44.56 298 IAmb IAmb 23 26 52.2
comp=Z,92nm,0.8s
ZCCA Zocca 44.59 299 IAmb IAmb 23 26 59.0
comp=Z,77nm,0.8s
CLTB Caltabellotta 44.59 289 IAmb IAmb 23 26 51.4
comp=Z,91nm,0.7s
UBR Ueberruh 44.61 304 *eP* **P** **23 26 50.8 +0.2**
comp=Z,180nm,0.6s,baz=85,slow=7.9
INCN Inchon 44.66 71 P **P** **23 26 51.0 -0.2**
INCN pmax pmax
comp=Z,45nm,0.9s
INCN Inchon 44.66 71 P **P** **23 26 51.0 -0.2**
SALO Salr 44.66 301 P **P** **23 26 51.6 +0.5**
BJO1 Bjornoya 44.81 343⇑ *i*P **P** **23 26 52.2 +0.5**
DOMB Dombas 44.81 324⇑ *i*P **P** **23 26 51.7 -0.3**
DAVA Damuels 44.82 303 *i* P **P** **23 26 52.4 -0.1**
comp=Z,318nm,0.5s,SNR=139
DAVA *e*S **ScP** **23 31 49.7 0.0**
comp=Z,22nm,0.9s,SNR=6.0
HOMB Homborsund 44.88 319 *i* P **P** **23 26 51.0 -1.5**
HOMB Homborsund 44.88 319⇑ *i*P **P** **23 26 52.3 -0.2**
DAVOX Davos/Dischmat 44.90 303 P **P** **23 26 52.9 -0.2**
comp=Z,125nm,0.7s,baz=105,slow=6.4,SNR=271
DAVOX PcP **PcP** **23 28 28.8 +0.2**
comp=Z,14nm,0.5s,baz=252,slow=3.2,SNR=2.5
DAVOX ScP **ScP** **23 31 50.0 -0.1**
comp=Z,25nm,0.9s,baz=118,slow=2.4,SNR=13
DAVOX Davos/Dischmat 44.90 303 P **P** **23 26 52.9 -0.2**
DAVOX 23 28 28.8
PRMA PARMA 44.97 300 IAmb IAmb 23 26 55.7
comp=Z,174nm,1.1s
VLC Villacollemand 45.04 299 IAmb IAmb 23 26 56.3
comp=Z,106nm,0.8s
STU Stuttgart 45.05 305 *eP* **P** **23 26 54.7 +0.7**
comp=Z,280nm,0.8s,baz=85,slow=7.9
STU Stuttgart 45.05 305 IAmb IAmb 23 26 55.7
comp=Z,110nm,0.8s
MNSI Mandailing Nat 45.06 136 P **P** **23 26 55.1 +0.6**
comp=Z,4μmcomp=Z,245nm,0.4s
SKAR Skarslia 45.07 322⇑ *i*P **P** **23 26 54.3 +0.3**
MDJ Mudanjiang 45.08 61 P **P** **23 26 56.2 +1.9**
TUE Stuetta 45.32 302 IAmb IAmb 23 26 57.4
comp=Z,73nm,0.7s
TNS Taunus Mts 45.35 308 *eP* **P** **23 26 57.1 +0.7**
comp=Z,82nm,1.0s,baz=85,slow=7.9
YHNB Yeheng 45.38 90 P **P** **23 26 57.9 +0.9**
YHNB IAmb IAmb 23 26 59.2
comp=Z,264nm,1.7s
YHNB PcP **PcP** **23 28 31.0 +0.6**
TPUB Ta-pu 45.43 92 P **P** **23 26 57.5 +0.1**
SSLB Suanglung 45.46 92 P **P** **23 26 58.5 +0.9**
SSLB IAmb IAmb 23 26 59.9
comp=Z,90nm,0.8s
IBBN Ibbenburen 45.55 310 *eP* **P** **23 26 58.4 +0.6**
comp=Z,229nm,0.7s,baz=85,slow=7.9
TJN Taejon 45.56 72*d* *i*P **P** **23 26 57.9 -0.2**
TJN Taejon 45.56 72 P **P** **23 26 58.1 +0.1**
TJN Taejon 45.56 72 P **P** **23 26 58.2 +0.1**
MOL Molde 45.56 325⇑ *i*P **P** **23 26 57.9 +0.2**
SNART Snartemo 45.57 319 *i* P **P** **23 26 57.0 -0.8**
SNART Snartemo 45.57 319⇑ *i*P **P** **23 26 58.1 +0.3**
KS19 Wonju Array Si 45.59 71 IAmb IAmb 23 27 00.2
comp=Z,118nm,1.2s
MSSA Maissana 45.62 299 IAmb IAmb 23 26 59.5
comp=Z,109nm,0.7s
KSAR Wonju Array Be 45.62 71 P **P** **23 26 59.1 +0.5**
KSAR pP **pP** **23 28 05.2 +0.6**
KSRS Korea Array 45.65 71 P **P** **23 26 59.2 +0.4**
comp=Z,44nm,0.6s,baz=277,slow=6.7,SNR=123
KSRS pP **pP** **23 28 03.2 -1.5**
comp=Z,9.0nm,0.9s,baz=276,slow=6.7,SNR=2.3
KSRS ScP **ScP** **23 31 52.1 -1.0**
comp=Z,12nm,0.9s,baz=290,slow=4.0,SNR=14
KSRS Korea Array 45.65 71 P **P** **23 26 59.2 +0.4**
KSRS *PP **pP** **23 28 03.3 -1.5**
BFO Black Forest 45.69 305 P **P** **23 26 58.7 -0.4**
BFO pmax pmax
comp=Z,91nm,1.2s
BFO Black Forest 45.69 305 *eP* **P** **23 26 59.1 +0.1**
comp=Z,71nm,1.1s,baz=85,slow=7.9
BFO *ep*P **pP** **23 28 03.8 -0.1**
baz=85,slow=8.2
BFO Black Forest 45.69 305 P **P** **23 26 58.7 -0.4**
KLR Kul'dur 45.74 54 ScP **ScP** **23 31 52.4 -0.9**
baz=234,slow=3.0
KLR Kul'dur 45.74 54*d* *i*P **P** **23 27 00.1 +0.7**
KLR pmax pmax
comp=Z,55nm,0.8s
AKN Aaknes 45.79 324 *eP* **P** **23 26 59.9 +0.3**
ODD1 Odda 45.88 321⇑ *i*P **P** **23 27 00.7 +0.4**
LODK Lodwar 45.88 232 P **P** **23 27 02.9 +1.9**
SNR=14

TIXI Tiksi 45.92 22 P **P 23 27 00.8 +0.4**
comp=Z,68nm,0.3s,baz=272,slow=4.5,SNR=228
TIXI pP **pP 23 28 05.9 -0.3**
comp=Z,18nm,0.8s,baz=264,slow=4.6,SNR=1.3
TIXI ScP **ScP 23 31 53.1 -0.4**
comp=Z,3.6nm,0.5s,baz=264,slow=5.6,SNR=3.2
TIXI S **S 23 33 20.4 +0.5**
comp=Z,11nm,0.7s,baz=20,slow=22,SNR=23
TIXI Tiksi 45.92 22 P **P 23 27 00.8 +0.4**
TIXI *PP **pP 23 28 05.9 -0.3**
TIXI 23 31 53.1
TIXI Tiksi 45.92 22 P **P 23 27 00.1 -0.2**
TIXI IAmb IAmb 23 27 01.6
comp=Z,82nm,0.6s
YULB Yu-li 45.92 92 IAmb IAmb 23 27 03.7
comp=Z,65nm,0.7s
BUG Bochum--Univer 45.94 309 *e*P **P 23 27 01.5 +0.6**
comp=Z,146nm,0.9s,baz=85,slow=7.9
BLS5 Blasjo 45.96 320⇑ *i*P **P 23 27 01.6 +0.7**
HYA Hoyanger 46.13 323⇑ *i*P **P 23 27 02.3 +0.2**
AHRW Bad Neuenahr-A 46.18 308 *e*P **P 23 27 03.5 +0.8**
comp=Z,136nm,0.9s,baz=85,slow=7.9
BKNI Bangkinang 46.28 134 P **P 23 27 03.8 -0.1**
comp=Z,3μmcomp=Z,290nm,1.1s
BKNI Bangkinang 46.28 134 P **P 23 27 03.8 -0.1**
BKNI Bangkinang 46.28 134 P **P 23 27 04.7 +0.8**
BER Bergen 46.53 322⇑ *i*P **P 23 27 05.5 +0.3**
PPI Padang Panjang 46.55 136 P **P 23 27 06.2 +0.2**
SISI Saibi 46.55 138 P **P 23 27 06.7 +0.7**
comp=Z,122nm,1.0s
ASK Askoy 46.60 322⇑ *i*P **P 23 27 06.0 +0.2**
MSHR Mys Shultsa 46.64 63 *de*P **P 23 27 07.7 +1.3**
MSHR pmax pmax
comp=Z,40nm,0.7s
FOO Floro 46.69 324⇑ *i*P **P 23 27 06.5 +0.1**
HSPB Hornsund (broa 46.71 345⇑ *i*P **P 23 27 08.5 +2.0**
BTNL Ternell 46.77 308 P **P 23 27 07.5 +0.2**
comp=Z,87nm,0.9s
MYKOM Kota Tinggi 46.78 130 IAmb IAmb 23 27 10.2
comp=Z,230nm,1.2s
SUE Sulen 46.82 323⇑ *i*P **P 23 27 03.3 -4.1**
MEM Membach 46.84 308 P **P 23 27 08.3 +0.4**
comp=Z,91nm,0.9s
USRK Ussuriysk Ar. 46.84 61 P **P 23 27 08.3 +0.4**
comp=Z,24nm,0.7s,baz=281,slow=6.8,SNR=31
USRK Ussuriysk Ar. 46.84 61 P **P 23 27 08.3 +0.4**
USRK Ussuriysk Ar. 46.84 61 P **P 23 27 08.0 0.0**
BHOU Houvegnez 46.88 308 ⇑P **P 23 27 08.9 +0.7**
comp=Z,25nm,1.1s
WLF Walferdange 46.89 307 *e*P **P 23 27 09.3 +1.1**
comp=Z,231nm,0.9s,baz=85,slow=7.9
WLF *e*pP **pP 23 28 14.6 +1.2**
baz=85,slow=8.2
WLF Walferdange 46.89 307 IAmb IAmb 23 27 10.3
comp=Z,183nm,0.8s
WLF Walferdange 46.89 307 P **P 23 27 08.9 +0.6**
comp=Z,145nm,1.0s
BEBN Eben Emael 47.02 309 ⇑P **P 23 27 09.5 +0.3**
comp=Z,51nm,0.8s
VLA Vladivostok 47.02 62 *d i*P **P 23 27 10.0 +0.7**
VLA pmax pmax
comp=Z,168nm,1.0s
SPB2 Spitsbergen Ar 47.09 347 P **P 23 27 09.8 +0.5**
SPB2 IAmb IAmb 23 27 11.2
comp=Z,65nm,0.8s
SPB2 PcP **PcP 23 28 36.4 +0.9**
SPA0 Spitsbergen Ar 47.09 347⇑ *i*P **P 23 27 10.4 +1.0**
SPITS Spitsbergen Ar 47.09 347 P **P 23 27 10.4 +1.0**
comp=Z,30nm,0.4s,baz=118,slow=10,SNR=145
SPITS PcP **PcP 23 28 36.3 +0.8**
comp=Z,11nm,0.5s,baz=95,slow=7.2,SNR=5.6
SPITS Spitsbergen Ar 47.09 347 P **P 23 27 10.4 +1.0**
SPITS pmax pmax
comp=Z,55nm,0.9s
BSTI Sart Tilman 47.12 308 P **P 23 27 10.6 +0.6**
comp=Z,13nm,0.7s
BCLA Clavier 47.31 308 P **P 23 27 11.9 +0.4**
comp=Z,25nm,0.9s
RCHB Rochefort 47.40 308 ⇑P **P 23 27 12.4 +0.3**
comp=Z,62nm,0.7s
BNI Bardonecchia 47.43 301 IAmb IAmb 23 27 13.8
comp=Z,79nm,0.9s
BGES Gesves 47.46 308 ⇑P **P 23 27 12.8 +0.2**
comp=Z,27nm,0.9s
BMRD Maredsous 47.67 308 P **P 23 27 14.8 +0.6**
comp=Z,98nm,0.9s
DOU Dourbes 47.82 308 ⇑P **P 23 27 15.9 +0.6**
comp=Z,62nm,1.0s
UCC Uccle 47.85 309 P **P 23 27 15.3 -0.2**
TPRI Tanjung Pinang 47.88 130 P **P 23 27 17.1 +0.9**
comp=Z,166nm,1.0s
SNF Seneffe 47.94 308 P **P 23 27 16.9 +0.7**
comp=Z,100nm,1.0s
KEST Kesra 48.13 288 P **P 23 27 19.1 +1.1**
comp=Z,73nm,0.6s,baz=15,slow=1.2,SNR=281
KEST Kesra 48.13 288 P **P 23 27 19.1 +1.1**
SNR=23
KEST Kesra 48.13 288 IAmb IAmb 23 27 19.7
comp=Z,85nm,0.7s
KBS Kingsbay 48.22 347 P **P 23 27 18.4 +0.5**
KBS 23 28 40.1
KBS pmax pmax
comp=Z,103nm,0.9s
KBS Kingsbay 48.22 347⇑ *i*P **P 23 27 18.9 +0.9**
KBS Kingsbay 48.22 347 P **P 23 27 18.4 +0.5**
KBS IAmb IAmb 23 27 19.8
comp=Z,103nm,0.8s
KBS PcP **PcP 23 28 40.0 +0.5**
PPSI Pulau Pagai 48.25 138 P **P 23 27 20.3 +1.3**
comp=Z,3μmcomp=Z,259nm,1.2s
KMBO Kilima Mbogo 48.32 226 P **P 23 27 21.6 +1.7**
comp=Z,19nm,0.5s,baz=34,slow=11,SNR=80
KMBO Kilima Mbogo 48.32 226 P **P 23 27 20.6 +0.7**
KMBO pmax pmax
comp=Z,27nm,0.6s
KMBO Kilima Mbogo 48.32 226 P **P 23 27 20.6 +0.7**
KMBO Kilima Mbogo 48.32 226 *i* P **P 23 27 21.4 +1.5**
SNR=57
GRNR Gornyy 48.47 51⇓ *i*P **P 23 27 21.4 +1.1**
GRNR pmax pmax
comp=E,20nm,1.0s
GRNR pmax pmax
comp=N,4.0nm,0.6s
GRNR pmax pmax
comp=Z,60nm,1.1s
KRJI Kerinci 48.49 136 P **P 23 27 20.9 -0.1**
comp=Z,9μmcomp=Z,492nm,1.1s
SSB Saint Sauveur 48.85 302 IAmb IAmb 23 27 24.5
comp=Z,104nm,0.7s
KIBK Kibwezi 48.86 224 P **P 23 27 25.4 +1.7**
SNR=22
KIBK Kibwezi 48.86 224 P **P 23 27 25.0 +1.2**
KIBK IAmb IAmb 23 27 27.2
comp=Z,112nm,0.6s
DSRI Dabo 49.01 131 P **P 23 27 25.4 +0.6**
comp=Z,2μmcomp=Z,145nm,1.2s
CMAH Djebel Manchou 49.29 290 P **P 23 27 29.3 +2.6**
ABSA Djebel Ababsia 49.37 289 P **P 23 27 29.7 +2.3**
JNU Nakatsue 49.40 75 P **P 23 27 28.8 +1.2**
comp=Z,57nm,0.6s,baz=276,slow=4.3,SNR=48
JNU Nakatsue 49.40 75 IAmb IAmb 23 27 29.5
comp=Z,272nm,1.4s
JNU Nakatsue 49.40 75 P **P 23 27 28.8 +1.2**
ELMS Elmsett, Ipswi 49.70 311 *e*P **P 23 27 29.5 +0.1**
ELMS IAmb IAmb 23 27 30.3
comp=Z,311nm,0.8s
CLF Chambon-Foret 49.73 306 P **P 23 27 29.9 +0.1**
CLF IAmb IAmb 23 27 30.8
comp=Z,180nm,1.1s
CLF PcP **PcP 23 28 46.2 +0.7**
LRW Lerwick 49.78 322⇑ *e*P **P 23 27 29.6 -0.4**
ELSH Elham, Standar 49.79 310⇑ *e*P **P 23 27 30.1 -0.1**
ELSH IAmb IAmb 23 27 31.2
comp=Z,386nm,0.7s
MASI Maura Aman, Be 49.79 136 P **P 23 27 30.1 -0.6**
comp=Z,4μmcomp=Z,421nm,0.9s
WACR West Acre 49.80 312⇑ *e*P **P 23 27 30.3 +0.1**
WACR IAmb IAmb 23 27 31.3
comp=Z,553nm,0.9s
CKFL Kef-Lekhel 49.90 290 P **P 23 27 33.7 +2.3**
JOW Kunigami 49.93 84 P **P 23 27 31.7 +0.1**
comp=Z,92nm,0.4s,baz=304,slow=5.4,SNR=43
JOW Kunigami 49.93 84 IAmb IAmb 23 27 32.2
comp=Z,90nm,0.5s
JOW Kunigami 49.93 84 P **P 23 27 31.8 +0.2**
CASM Ain Smara 50.12 290 P **P 23 27 34.7 +1.8**

JHS Saijyo 50.43 72 IAmb IAmb 23 27 36.9
comp=Z,119nm,1.3s
DFRA Djebel Bou Aff 50.48 290 P **P 23 27 37.5 +1.8**
TGY Tagaytay City 50.63 103 P **P 23 27 37.6 +0.6**
comp=Z,129nm,0.4s,baz=329,slow=8.0,SNR=4.9
TGY Tagaytay City 50.63 103 P **P 23 27 37.6 +0.6**
DRUM Mains of Drumt 50.88 318 *e*P **P 23 27 37.7 -0.4**
HPK Haverah Park 50.91 314⇑ *e*P **P 23 27 38.3 -0.1**
HPK IAmb IAmb 23 27 38.9
comp=Z,244nm,0.7s
EDMD Edmundbyers 50.94 315⇑ *e*P **P 23 27 38.5 -0.2**
EDMD IAmb IAmb 23 27 38.8
comp=Z,146nm,0.6s
SET Setif 50.96 290 P P 23 27 26.0 -13
LBWR Ladybower, Pea 51.07 313 *e*P **P 23 27 39.0 -0.6**
LBWR IAmb IAmb 23 27 40.0
comp=Z,90nm,0.8s
LHSI Lahat 51.08 135 P **P 23 27 37.9 -2.3**
ESY Stoneypath 51.11 316⇑ *e*P **P 23 27 39.5 -0.4**
KSM Kuching 51.18 124 IAmb IAmb 23 27 42.6
comp=Z,106nm,0.9s
MCD Coleburn Disti 51.18 319⇑ *e*P **P 23 27 40.3 -0.1**
MNAI Manna 51.20 136 P **P 23 27 39.4 -1.6**
comp=Z,159nm,0.6s
MNAI Manna 51.20 136 P **P 23 27 39.5 -1.6**
PPBI Pangkal Pinang 51.29 131 P **P 23 27 41.7 0.0**
comp=Z,162nm,1.2s
EBL Broad Law 51.38 316 *e*P **P 23 27 41.5 -0.4**
EDI Edinburgh 51.43 316⇑ *e*P **P 23 27 41.8 -0.4**
EDI IAmb IAmb 23 27 42.6
comp=Z,108nm,0.8s
SWN1 Swindon 51.52 311 *e*P **P 23 27 42.6 -0.3**
SWN1 IAmb IAmb 23 27 43.8
comp=Z,342nm,0.8s
EKA Eskdalemuir Ar 51.52 316 P **P 23 27 42.5 -0.4**
comp=Z,42nm,0.6s,baz=78,slow=7.4,SNR=98
EKA pP **pP 23 28 49.6 0.0**
comp=Z,18nm,0.8s,baz=88,slow=9.5,SNR=4.0
EKA Eskdalemuir Ar 51.52 316 P **P 23 27 42.5 -0.4**
EKA *PP **pP 23 28 49.6 0.0**
ESK Eskdalemuir 51.55 316⇑ *e*P **P 23 27 42.4 -0.8**
ESK IAmb IAmb 23 27 44.0
comp=Z,195nm,1.3s
ESK Eskdalemuir 51.55 316 P **P 23 27 42.2 -1.0**
ESK pmax pmax
comp=Z,181nm,1.3s
ESK Eskdalemuir 51.55 316 P **P 23 27 42.2 -1.0**
ESK IAmb IAmb 23 27 44.3
comp=Z,181nm,1.3s
KESW Keswick, Cumbr 51.64 315⇑ *e*P **P 23 27 43.6 -0.2**
KESW IAmb IAmb 23 27 44.5
comp=Z,97nm,0.8s
STRD Stroud 51.68 311⇑ *e*P **P 23 27 43.4 -0.7**
STRD IAmb IAmb 23 27 44.3
comp=Z,153nm,0.7s
SBUM Sibu 51.76 121 IAmb IAmb 23 27 47.3
comp=Z,57nm,0.8s
MDO Dochfour 51.80 319⇑ *e*P **P 23 27 44.4 -0.5**
INVG Invergeldie, C 51.81 317⇑ *e*P **P 23 27 44.1 -0.9**
MBAR Mbarara 51.91 233 P **P 23 27 47.1 +0.5**
MBAR pmax pmax
comp=Z,113nm,0.6s
MBAR Mbarara 51.91 233 P **P 23 27 47.0 +0.5**
HLM1 Long Mynd 51.94 312⇑ *e*P **P 23 27 45.5 -0.5**
MDSI Maura Dua 51.99 135 P **P 23 27 43.5 -3.4**
comp=Z,22nm,0.9s
FOEL Foel Wylfa 52.05 313⇑ *e*P **P 23 27 46.7 -0.1**
FOEL IAmb IAmb 23 27 47.5
comp=Z,132nm,1.1s
MONM Monmouth 52.05 311⇑ *e*P **P 23 27 46.3 -0.6**
MONM IAmb IAmb 23 27 47.0
comp=Z,273nm,1.4s
KKM Kota Kinabalu 52.10 114 P **P 23 27 49.0 +1.1**
MCH1 Michaelchurch 52.13 312⇑ *e*P **P 23 27 47.0 -0.5**
MCH1 IAmb IAmb 23 27 47.8
comp=Z,282nm,0.8s
NEWG New Galloway 52.17 316⇑ *e*P **P 23 27 47.5 -0.1**
NEWG IAmb IAmb 23 27 48.3
comp=Z,155nm,0.8s
PGBU Glenifferbraes 52.17 317 *e*P **P 23 27 46.9 -0.7**
PGBU IAmb IAmb 23 27 48.2
comp=Z,202nm,1.1s
TYV Tymovskoe 52.32 50 *e*P **P 23 27 50.3 +1.5**
TYV pmax pmax
comp=Z,300nm,4.3s
TYV pmax pmax
comp=Z,41nm,0.7s
LWLI Liwa 52.35 135 P **P 23 27 46.9 -2.8**
comp=Z,48μmcomp=Z,227nm,0.4s
KLSI Kota Agung 52.47 134 P **P 23 27 47.3 -3.1**
comp=Z,48nm,1.1s
KPL Plockton 52.50 319⇑ *e*P **P 23 27 49.6 -0.4**
KPL IAmb IAmb 23 27 50.8
comp=Z,92nm,0.8s
IOMK Kirk Michael 52.54 315⇑ *e*P **P 23 27 50.3 -0.1**
IOMK IAmb IAmb 23 27 50.8
comp=Z,246nm,0.7s
WME Myndd Eilian 52.58 313⇑ *e*P **P 23 27 50.4 -0.3**
WIM Isle of Man 52.63 314⇑ *e*P **P 23 27 51.0 -0.1**
WLF1 Llynfaes 52.66 313⇑ *e*P **P 23 27 51.0 -0.3**
WLF1 IAmb IAmb 23 27 51.8
comp=Z,164nm,0.9s
TPI Tanjungpandan 52.68 130 P **P 23 27 51.8 -0.1**
WPS Cemaes, Angles 52.70 314 *e*P **P 23 27 51.2 -0.3**
YRC Rhoscolyn 52.77 313⇑ *e*P **P 23 27 52.0 -0.1**
STKI Sintang 53.00 124 P **P 23 27 55.6 +1.3**
comp=Z,22μmcomp=Z,141nm,0.9s
KASI Kota Agung 53.02 135 P **P 23 27 51.3 -3.0**
comp=Z,2μmcomp=Z,122nm,0.4s
ROSF Rostrenen 53.24 307 *e*P **P 23 27 54.8 -0.8**
SBV Sambava 53.33 204 P **P 23 27 58.4 +1.8**
YSS Yuzh-Sakhalins 53.43 55 *de*P **P 23 27 57.4 +0.5**
YSS *e* 23 29 05.5
YSS *e* 23 29 41.2
YSS *e* 23 41 01.9
YSS pmax pmax
comp=Z,130nm,0.8s
YSS Yuzh-Sakhalins 53.43 55 P **P 23 27 56.4 -0.6**
YSS IAmb IAmb 23 27 58.5
comp=Z,105nm,0.8s
NOR Nord 53.44 349 *i* P **P 23 27 55.7 -0.8**
MJB9 Matsu-Tunnel 53.70 68 IAmb IAmb 23 27 60.0
comp=Z,221nm,1.9s
MAJO Matsushiro 53.70 68 *d i*P **P 23 27 58.7 -0.4**
MAJO pmax pmax
comp=Z,69nm,1.5s
MAJO Matsushiro 53.70 68 P **P 23 27 58.2 -0.9**
MAJO IAmb IAmb 23 27 60.0
comp=Z,232nm,1.9s
MAT Matsushiro 53.70 68 P **P 23 27 58.4 -0.7**
MJAR Matsushiro Arr 53.70 68 P **P 23 27 59.2 0.0**
comp=Z,12nm,0.8s,baz=294,slow=10,SNR=21
MJAR pP **pP 23 29 07.3 0.0**
comp=Z,11nm,0.8s,baz=293,slow=10,SNR=3.1
MJAR sP **sP 23 29 41.9 -1.0**
comp=Z,5.1nm,0.9s,baz=278,slow=8.4,SNR=2.2
MJAR ScP **ScP 23 32 26.4 -1.3**
comp=Z,0.9nm,0.3s,baz=289,slow=5.1,SNR=7.8
MJAR Matsushiro Arr 53.70 68 P **P 23 27 59.2 0.0**
MJAR *PP **pP 23 29 07.3 0.0**
MJAR *SP **sP 23 29 41.9 -1.0**
MJAR Matsushiro Arr 53.70 68 P **P 23 27 59.1 0.0**
MYLDM Lahad Datu 54.36 113 IAmb IAmb 23 28 06.9
comp=Z,122nm,1.1s
CGJI Cibinong 54.59 135 P **P 23 28 01.8 -3.8**
comp=Z,3μmcomp=Z,154nm,0.4s
SEY Semychan 54.74 34 P **P 23 28 07.1 +1.0**
comp=Z,29nm,0.6s,baz=275,slow=8.4,SNR=148
SEY ScP **ScP 23 32 30.5 -1.2**
comp=Z,3.6nm,0.7s,baz=72,slow=6.4,SNR=3.0
SEY S **S 23 35 22.8 +1.7**
comp=Z,0.6nm,0.3s,baz=142,slow=22,SNR=1.5
SEY Seymchan 54.74 34 P **P 23 28 07.1 +1.0**
MA2 Magadan 54.75 38 *d i*P **P 23 28 06.5 +0.2**
MA2 pmax pmax
comp=Z,61nm,1.2s
MA2 Magadan 54.75 38 P **P 23 28 06.4 +0.2**
DBG Daneborg 55.10 341 *i* P **P 23 28 08.7 +0.3**
DBG IAmb IAmb 23 28 09.5
comp=Z,20nm,0.5s
JMM Marumori 55.12 66 IAmb IAmb 23 28 10.2
comp=Z,74nm,0.8s
CART Cartagena 55.22 294 IAmb IAmb 23 28 10.9
comp=Z,94nm,0.8s
CART Cartagena 55.22 294 P **P 23 28 10.1 +0.2**

CART Cartagena 55.22 294 P **P 23 28 10.1 +0.2**
ERM Erimo 55.30 60 P **P 23 28 09.9 -0.5**
ERM pmax pmax
comp=Z,52nm,1.1s
ERM Erimo 55.30 60 P **P 23 28 09.9 -0.5**
ERM Erimo 55.30 60 P **P 23 28 11.1 +0.7**
comp=Z,69nm,0.7s
JYT Yasato 55.30 68 P **P 23 28 09.7 -0.8**
CNJI Cibinong 55.98 134 P **P 23 28 14.6 -0.9**
comp=Z,44nm,0.9s
MTKI Muara Teweh, K 56.05 122 P **P 23 28 16.6 +0.6**
comp=Z,78nm,0.8s
SCO Scoresbysund 56.51 336 *i* P **P 23 28 18.5 +0.1**
ESDC Sonseca Array 56.58 297 P **P 23 28 19.5 0.0**
comp=Z,44nm,0.8s,baz=56,slow=7.7,SNR=314
ESDC PcP **PcP 23 29 11.8 -0.2**
comp=Z,1.7nm,0.6s,baz=61,slow=2.6,SNR=4.6
ESDC ScP **ScP 23 32 39.1 -1.2**
comp=Z,2.5nm,0.8s,baz=48,slow=4.2,SNR=6.2
ESDC Sonseca Array 56.58 297 P **P 23 28 19.4 -0.2**
ESDC ScP **ScP 23 32 39.2 -1.1**
PAB San Pablo 56.90 297 P **P 23 28 21.5 -0.3**
PAB pmax pmax
comp=Z,87nm,1.4s
PAB San Pablo 56.90 297 P **P 23 28 21.5 -0.3**
PAB IAmb IAmb 23 28 23.1
comp=Z,87nm,1.4s
PAB San Pablo 56.90 297 P **P 23 28 21.9 +0.1**
CMJI Cimerak 57.13 133 P P 23 28 18.6 -4.9
comp=Z,45nm,0.5s
UWJI Ujung Watu 57.57 129 P **P 23 28 26.8 +0.2**
comp=Z,3μmcomp=Z,234nm,0.8s
GOG Mont Gurugu 57.64 292 P **P 23 28 27.0 0.0**
GOG Mont Gurugu 57.64 292 P **P 23 28 27.0 0.0**
FIGM Figuig 57.64 288 P **P 23 28 27.0 -0.2**
FIGM Figuig 57.64 288 P **P 23 28 27.0 -0.2**
JBK JBK 57.69 291 P **P 23 28 28.0 +0.5**
JBK JBK 57.69 291 P **P 23 28 28.0 +0.5**
PBRG Braganca 57.72 301 *e*P **P 23 28 27.5 +0.1**
XMIS Christmas Isla 57.73 137 IAmb IAmb 23 28 27.8
comp=Z,87nm,1.3s
XMIS Christmas Isla 57.73 137 P **P 23 28 26.4 -1.3**
SMRI Semarang 57.75 130 P **P 23 28 26.4 -1.5**
comp=Z,47nm,0.6s
BBKI Banjar Baru 57.85 124 P **P 23 28 29.2 +0.6**
comp=Z,5μmcomp=Z,165nm,0.9s
MVO Moncorvo 58.16 300 *e*P **P 23 28 31.0 +0.5**
comp=Z,66nm,1.1s
PALE Palemas 58.34 292 P **P 23 28 31.4 -0.4**
PALE Palemas 58.34 292 P **P 23 28 31.4 -0.4**
UGM Wanagama 58.48 131 P **P 23 28 32.0 -0.9**
PVRL Vila Real 58.60 300 *e*P **P 23 28 33.8 +0.3**
comp=Z,60nm,1.5s
POLO Lamas de Olo 58.62 301 *e*P **P 23 28 33.9 +0.3**
comp=Z,28nm,1.4s
KBKI Kotabaru 58.63 122 P **P 23 28 33.1 -0.8**
comp=Z,2μmcomp=Z,242nm,1.0s
PCAB Cabril 58.64 301 *e*P **P 23 28 34.5 +0.7**
comp=Z,151nm,1.1s
MPSI Mapaga 58.66 116 P **P 23 28 35.3 +1.1**
comp=Z,2μmcomp=Z,227nm,1.0s
PGAV Gavieira, Arco 58.71 301 *e*P **P 23 28 35.0 +0.7**
comp=Z,88nm,0.9s
TOLI2 Tolitoli 58.78 115 IAmb IAmb 23 28 35.5
comp=Z,45nm,0.6s
TOLI2 Tolitoli 58.78 115 P **P 23 28 34.8 -0.1**
BILL Bilibino 58.81 26 *c i*P **P 23 28 35.3 +0.9**
BILL *i* *PP **pP 23 29 49.2 +5.8**
BILL *e* 23 30 47.9
BILL *e*PPP PPP 23 32 16.9
BILL *e*S S 23 36 40.9 +27
BILL pmax pmax
comp=Z,27nm,0.6s
BILL Bilibino 58.81 26 P **P 23 28 34.4 0.0**
BILL IAmb IAmb 23 28 36.0
comp=Z,37nm,0.5s
MTE Manteigas 58.83 299 *e*P **P 23 28 35.8 +0.7**
comp=Z,110nm,1.2s
MTE Manteigas 58.83 299 IAmb IAmb 23 28 36.8
comp=Z,85nm,0.8s
PVIS Viseu 58.95 300 *e*P **P 23 28 36.4 +0.6**
comp=Z,117nm,0.9s
PCBR Castelo Branco 59.00 299 *e*P **P 23 28 36.6 +0.4**
comp=Z,45nm,1.2s
PMRV Marv??o 59.11 298 *e*P **P 23 28 37.2 +0.2**
comp=Z,54nm,1.3s
SMIR Smir Dam 59.21 294 P **P 23 28 37.3 -0.4**
SMIR Smir Dam 59.21 294 P **P 23 28 37.3 -0.4**
PTO Porto 59.27 301 *e*P **P 23 28 38.7 +0.8**
ABPO Ambohimpanom 59.41 205 P **P 23 28 39.8 +0.5**
ABPO pmax pmax
comp=Z,20nm,0.7s
ABPO Ambohimpanom 59.41 205 P **P 23 28 39.8 +0.5**
CHEFC Chefchaouen 59.43 293 P **P 23 28 39.0 -0.3**
CHEFC Chefchaouen 59.43 293 P **P 23 28 39.0 -0.3**
PESTR Estremoz 59.48 298 *e*P **P 23 28 39.8 +0.3**
comp=Z,66nm,1.2s
PESTR Estremoz 59.48 298 P **P 23 28 39.6 +0.1**
PESTR Estremoz 59.48 298 P **P 23 28 39.6 +0.1**
COI Coimbra 59.51 300 *e*P **P 23 28 40.5 +0.9**
comp=Z,121nm,0.8s
COI Coimbra 59.51 300 IAmb IAmb 23 28 41.2
comp=Z,112nm,0.8s
PCAS Casmilo, Conde 59.63 299 *e*P **P 23 28 41.2 +0.7**
comp=Z,56nm,1.1s
LCRM LCR 59.69 291 P **P 23 28 42.0 +0.8**
LCRM LCR 59.69 291 P **P 23 28 42.0 +0.8**
PMTG Montargil 59.85 298 *e*P **P 23 28 42.0 +0.1**
comp=Z,27nm,1.3s
MDT Midelt 59.88 290 P **P 23 28 42.8 +0.3**
EVO Evora 59.92 298 *e*P **P 23 28 42.8 +0.4**
comp=Z,64nm,1.2s
PBEJ Beja 60.03 297 *e*P **P 23 28 43.6 +0.4**
comp=Z,55nm,1.6s
MRSI Marisa 60.05 115 P **P 23 28 43.7 +0.1**
comp=Z,3μmcomp=Z,509nm,0.9s
PSBE So Bento 60.06 299 *e*P **P 23 28 44.0 +0.6**
comp=Z,133nm,0.8s
PVAQ Vaqueiros 60.18 296 *e*P **P 23 28 44.1 -0.1**
comp=Z,66nm,1.6s
PVAQ Vaqueiros 60.18 296 P **P 23 28 44.3 0.0**
PVAQ Vaqueiros 60.18 296 P **P 23 28 44.6 +0.4**
BLJI Banyuglugur 60.26 128 P **P 23 28 43.5 -1.4**
comp=Z,1μmcomp=Z,52nm,0.9s
PCVE Castro Verde 60.32 297 *e*P **P 23 28 45.5 +0.4**
comp=Z,40nm,1.3s
MESJ Messejana 60.36 297 *e*P **P 23 28 45.8 +0.3**
MESJ IAmb IAmb 23 28 47.1
comp=Z,58nm,1.0s
MESJ Messejana 60.36 297 *e*P **P 23 28 46.0 +0.6**
comp=Z,62nm,1.2s
MESJ Messejana 60.36 297 *e*P **P 23 28 45.7 +0.3**
PEA0B Petropavlovsk- 60.44 44⇑ *e*P **P 23 28 47.1 +1.4**
PETK Petropavlovsk- 60.44 44 P **P 23 28 44.2 -1.4**
comp=Z,7.2nm,0.8s,baz=270,slow=0.7,SNR=11
PETK Petropavlovsk- 60.44 44 P **P 23 28 44.5 -1.2**
PETK Petropavlovsk- 60.44 44 P **P 23 28 44.5 -1.2**
SOEG Soedalen 60.44 335 *i* P **P 23 28 45.2 -0.2**
PNCL Nicolau / Gran 60.47 297 *e*P **P 23 28 46.8 +0.7**
comp=Z,60nm,1.6s
SUMG Summit 60.58 341 P **P 23 28 47.7 +0.9**
SUMG pmax pmax
comp=Z,82nm,0.9s
SUMG Summit 60.58 341 *i* P **P 23 28 47.0 +0.2**
SUMG Summit 60.58 341 P **P 23 28 47.7 +0.9**
SUMG IAmb IAmb 23 28 48.8
comp=Z,82nm,0.9s
PMAFR Mafra 60.64 299 *e*P **P 23 28 48.0 +0.7**
comp=Z,176nm,1.0s
GOLM Goulmima 60.64 289 P **P 23 28 48.0 +0.4**
GOLM Goulmima 60.64 289 P **P 23 28 48.0 +0.4**
LIS Lisbon 60.65 298 *e*P **P 23 28 47.7 +0.3**
LIS IAmb IAmb 23 28 49.4
comp=Z,155nm,1.2s
LIS Lisbon 60.65 298 *e*P **P 23 28 48.4 +1.1**
comp=Z,147nm,1.3s
LIS Lisbon 60.65 298 *e*P **P 23 28 47.6 +0.3**
PMST Lisbon--Monsan 60.66 298 *e*P **P 23 28 48.1 +0.7**
comp=Z,99nm,1.3s
ABJI Asem Bagus 60.70 127 P **P 23 28 47.1 -0.8**
comp=Z,128nm,0.9s
APSI Ampana 60.79 116 P **P 23 28 48.7 +0.2**
comp=Z,2μmcomp=Z,197nm,1.2s
PTEO Sao Teotonio 60.85 297 *e*P **P 23 28 49.1 +0.4**
comp=Z,111nm,1.5s

TTSI	Tana Toraja	60.97	119	P	P	23 28 49.2	-0.5
	comp=Z,1µmcomp=Z,99nm,0.7s						
PET	Petropavlovsk	61.00	44⇓	eP	P	23 28 47.2	-2.2
PET				pmax	pmax		
	comp=Z,87nm,1.6s						
PFVI	Vila Bisbo	61.10	296	eP	P	23 28 50.7	+0.3
	comp=Z,89nm,1.3s						
PFVI	Vila Bisbo	61.10	296	P	P	23 28 50.5	+0.2
PFVI				IAmb	IAmb	23 28 51.5	
	comp=Z,58nm,1.0s						
ZHG	ZHG	61.13	292	P	P	23 28 51.0	+0.3
ZHG	ZHG	61.13	292	P	P	23 28 51.0	+0.3
JAGI	Jajag, Banyuwa	61.16	128	P	P	23 28 47.9	-3.1
	comp=Z,62nm,0.8s						
JAGI	Jajag, Banyuwa	61.16	128	IAmb	IAmb	23 28 49.7	
	comp=Z,46nm,0.8s						
KMSI	Cibinong	61.49	113	P	P	23 28 53.6	+0.4
	comp=Z,242nm,0.9s						
TZRR	Tazzarine	61.53	289	P	P	23 28 54.0	+0.5
TZRR	Tazzarine	61.53	289	P	P	23 28 54.0	+0.5
SRBI	Singaraja	61.55	127	P	P	23 28 52.1	-1.4
	comp=Z,79nm,0.9s						
SPSI	Sidrap Palu	61.59	120	P	P	23 28 53.5	-0.3
	comp=Z,59nm,0.9s						
AVE	Averroes	61.77	292	P	P	23 28 55.0	+0.1
ZGR	Zagora	61.88	288	P	P	23 28 56.1	+0.3
ZGR	Zagora	61.88	288	P	P	23 28 56.1	+0.3
BNSI	Bone	62.13	120	P	P	23 28 56.4	-1.0
	comp=Z,50nm,1.0s						
VOI	Vohitsoka	62.24	204	P	P	23 28 58.7	+0.6
VOI				IAmb	IAmb	23 29 00.5	
	comp=Z,103nm,1.3s						
VOI	Vohitsoka	62.24	204	P	P	23 28 59.4	+1.3
KAPI	Kappang	62.32	121	P	P	23 28 57.5	-1.2
	comp=Z,27nm,0.8s,baz=309,slow=6.6,SNR=11						
KAPI	Kappang	62.32	121	P	P	23 28 57.5	-1.2
KAPI	Kappang	62.32	121	P	P	23 28 57.0	-1.7
KAPI				IAmb	IAmb	23 28 59.8	
	comp=Z,52nm,1.0s						
OUZM	OUZ	62.38	289	P	P	23 28 60.0	+0.8
OUZM	OUZ	62.38	289	P	P	23 28 60.0	+0.8
SRHM	Skhour des Reh	62.51	291	P	P	23 29 00.0	+0.2
ICESG	Greenland Ices	62.68	338	iP	P	23 29 00.1	-0.6
EUNU	Eureka	62.74	355	P	P	23 29 01.1	+0.5
TETE	Tete	62.75	220⇑	iP	P	23 29 02.0	+0.6
TETE				IAmb	IAmb	23 29 03.6	
	comp=Z,54nm,0.6s						
TETE	Tete	62.75	220	iP	P	23 29 01.0	-0.4
TETE	Tete	62.75	220	iP	P	23 29 01.0	-0.4
BKSI	Bulukumba	62.80	121	P	P	23 29 01.4	-0.4
	comp=Z,747nmcomp=Z,65nm,1.2s						
OUK	Oukaimeden	63.08	290	P	P	23 29 05.0	+1.0
BSSI	Bau Bau, Buton	63.64	121	P	P	23 29 06.5	-0.8
	comp=Z,645nmcomp=Z,71nm,0.9s						
TTIG	Tnine Tigouga,	63.83	290	P	P	23 29 09.0	+0.4
ANGG	Ammassalik, Gr	63.84	334	iP	P	23 29 07.5	-0.4
ANGG	Ammassalik, Gr	63.84	334	IAmb	IAmb	23 29 09.4	
	comp=Z,60nm,0.8s						
TNTI	Ternate	63.89	110	P	P	23 29 08.7	-0.3
	comp=Z,2µmcomp=Z,242nm,1.1s						
TULEG	Thule	64.08	350	iP	P	23 29 08.0	-1.3
TULEG	Thule	64.08	350	IAmb	IAmb	23 29 10.4	
	comp=Z,30nm,0.7s						
BBSI	Bau Bau	64.62	119	P	P	23 29 12.9	-0.8
	comp=Z,200nmcomp=Z,23nm,0.7s						
UPNV	Upernavik	64.70	345	iP	P	23 29 12.9	-0.4
SANI	Sanana	64.73	113	P	P	23 29 13.8	-0.6
	comp=Z,3µmcomp=Z,295nm,0.8s						
SANI	Sanana	64.73	113	P	P	23 29 13.8	-0.6
TORD	Torodi Ar. Bea	64.84	268	P	P	23 29 14.2	-0.9
	comp=Z,273nm,0.6s,baz=48,slow=5.9,SNR=2160						
TORD				pP	pP	23 30 24.3	-1.0
	comp=Z,24nm,0.9s,baz=44,slow=5.8,SNR=2.8						
TORD				S	S	23 37 26.8	-3.7
	comp=Z,2.6nm,1.2s,baz=63,slow=10,SNR=5.4						
TORD	Torodi Ar. Bea	64.84	268	P	P	23 29 14.2	-0.9
TORD				pP	pP	23 30 24.1	-1.2
LBMI	Labuha	64.92	111	P	P	23 29 14.8	-0.8
	comp=Z,2µmcomp=Z,174nm,0.7s						
KRI	Karoi	65.42	223⇑	iP	P	23 29 19.0	+0.2
KRI	Karoi	65.42	223	iP	P	23 29 20.3	+1.5
KRI	Karoi	65.42	223	iP	P	23 29 20.3	+1.5
WBSI	Waikabubak, Su	65.44	124	P	P	23 29 16.0	-2.9
	comp=Z,328nm,0.9s						
ILULI	Ilulissat	65.91	340	iP	P	23 29 20.4	-0.6
DY2G	Dye2	66.25	337	iP	P	23 29 23.1	-0.4
SFJD	Kangerlussuaq	67.24	338	P	P	23 29 29.2	-0.3
SFJD				pmax	pmax		
	comp=Z,35nm,0.9s						
SFJD	Kangerlussuaq	67.24	338	iP	P	23 29 28.3	-1.1
SFJD	Kangerlussuaq	67.24	338	P	P	23 29 29.1	-0.3
SFJD				IAmb	IAmb	23 29 30.5	
	comp=Z,35nm,0.9s						
A21K	Barrow	67.34	15	P	P	23 29 30.6	+0.6
	baz=321						
SIJI	Sorong	67.91	109	P	P	23 29 33.5	-0.9
	comp=Z,109nm,0.7s,baz=318,slow=5.7,SNR=30						
RES	Resolute Bay	68.43	356	P	P	23 29 37.1	+0.4
	comp=Z,1.7nm,0.4s,baz=25,slow=7.8,SNR=16						
RES	Resolute Bay	68.43	356	P	P	23 29 37.1	+0.4
BLWY	Bulawayo	68.67	222⇑	iP	P	23 29 39.2	+0.1
BLWY				IAmb	IAmb	23 29 40.5	
	comp=Z,170nm,0.6s						
GAMB	Gambell	68.69	25	P	P	23 29 39.0	+0.5
	baz=311						
TNA	Tin City	68.71	22	P	P	23 29 39.3	+0.8
	baz=313						
BATI	Baumata	68.72	122	P	P	23 29 38.4	-1.0
	comp=Z,239nm,0.5s,baz=294,slow=1.9,SNR=39						
BATI				S	S	23 38 13.7	-3.0
	comp=Z,14nm,0.5s,baz=0.2,slow=14,SNR=3.9						
MATP	Matopo	68.97	222	iP	P	23 29 42.1	+1.2
MATP	Matopo	68.97	222	iP	P	23 29 42.1	+1.2
PMAR	Madeira	69.03	296	eP	P	23 29 42.0	+0.6
BNDI	Bandanaira	69.27	113	P	P	23 29 41.8	-1.0
MSNA	Messina	69.75	219⇑	iP	P	23 29 46.0	+0.5
MSNA				IAmb	IAmb	23 29 47.6	
	comp=Z,40nm,0.7s						
MSNA	Messina	69.75	219	iP	P	23 29 46.9	+1.4
MSNA	Messina	69.75	219	iP	P	23 29 46.9	+1.4
FAKI	Fak Fak	69.98	110	P	P	23 29 46.7	-0.3
FAKI	Fak Fak	69.98	110	P	P	23 29 46.8	-0.3
MOPA	Mopani	70.05	217⇑	iP	P	23 29 47.7	+0.5
MOPA				IAmb	IAmb	23 29 48.9	
	comp=Z,6.6nm,0.5s						
MOPA	Mopani	70.05	217	iP	P	23 29 49.4	+2.1
MOPA	Mopani	70.05	217	iP	P	23 29 49.4	+2.1
ANM	Nome	70.18	22	P	P	23 29 48.7	+1.2
	baz=316						
TOLK	Toolik Lake Re	70.94	14	IAmb	IAmb	23 29 53.8	
	comp=Z,42nm,0.6s						
TOLK	Toolik Lake Re	70.94	14	P	P	23 29 52.9	+0.8
	baz=327						
A36M	Sachs Harbour	71.08	5	IAmb	IAmb	23 29 55.9	
	comp=Z,45nm,0.8s						
A36M	Sachs Harbour	71.08	5	P	P	23 29 53.4	+0.6
	baz=347,SNR=34						
COLD	Coldfoot	72.01	15	P	P	23 29 58.7	+0.3
COLD	Coldfoot	72.01	15	P	P	23 29 59.1	+0.7
	baz=327						
CNG	Changalane	72.03	215	eP	P	23 29 59.5	+0.6
CNG				IAmb	IAmb	23 30 00.1	
	comp=Z,80nm,1.9s						
IMAR	Indian Mountai	72.24	17	P	P	23 29 59.8	0.0
IMAR				pP	pP	23 31 09.8	-2.2
MAGG	Maguga Dam	72.28	216	eP	P	23 30 01.0	+0.4
MAGG				IAmb	IAmb	23 30 02.5	
	comp=Z,69nm,1.3s						
GIRL	Giralia	72.35	137	P	P	23 30 01.9	+1.0
GCSA	Galena City Sc	72.45	19	P	P	23 30 01.8	+0.8
	baz=322,SNR=8.8						
SAUI	Saumlaki	72.61	114	P	P	23 30 02.9	+0.2
SAUI	Saumlaki	72.61	114	P	P	23 30 03.9	+1.2
CRLN	Carolina, Mapu	72.80	217⇑	iP	P	23 30 04.4	+0.6
BMAR	Burnt Mountain	72.95	13	P	P	23 30 05.0	+1.1
POGA	Pongola	73.15	215⇑	iP	P	23 30 06.0	+0.5
POGA				IAmb	IAmb	23 30 07.5	
	comp=Z,49nm,0.7s						
I21K	Tanana	73.33	17	P	P	23 30 06.8	+0.7
	baz=326						
SLR	Silverton	73.45	219	eP	P	23 30 08.5	+1.0
SLR				IAmb	IAmb	23 30 10.3	
	comp=Z,18nm,0.6s						
FYU	Fort Yukon	73.59	14	IAmb	IAmb	23 30 10.0	
	comp=Z,84nm,1.5s						
J20K	Nowinta River	73.62	19	P	P	23 30 08.5	+0.7
	baz=324						
H24K	Noodor Dome	73.69	15	P	P	23 30 09.3	+1.1
	baz=329,SNR=12						
C36M	Paulatuk	73.76	5	P	P	23 30 08.7	+0.2
	baz=348,SNR=26						
DBIC	Dimbokro	73.82	266	P	P	23 30 09.2	-0.5
	comp=Z,137nm,0.6s,baz=56,slow=6.3,SNR=244						
DBIC				S	S	23 39 12.2	-2.8
	comp=Z,4.6nm,1.1s,baz=159,slow=23,SNR=9.1						
DBIC	Dimbokro	73.82	266⇑	iP	P	23 30 09.3	-0.5
DBIC	Dimbokro	73.82	266	P	P	23 30 08.9	-0.9
DBIC				pmax	pmax		
	comp=Z,137nm,0.7s						
DBIC	Dimbokro	73.82	266	P	P	23 30 08.9	-0.9
INK	Inuvik	73.84	9	P	P	23 30 09.9	+1.0
	comp=Z,25nm,0.5s,baz=349,slow=6.5,SNR=117						
INK	Inuvik	73.84	9	P	P	23 30 09.6	+0.6
INK				pmax	pmax		
	comp=Z,28nm,0.6s						
INK	Inuvik	73.84	9	P	P	23 30 09.6	+0.6
INK				IAmb	IAmb	23 30 11.7	
	comp=Z,28nm,0.6s						
INK	Inuvik	73.84	9	P	P	23 30 10.0	+1.0
	baz=341,SNR=34						
HRAO	HartRAO	73.88	219⇑	iP	P	23 30 10.6	+0.6
HRAO				IAmb	IAmb	23 30 11.8	
	comp=Z,107nm,0.7s						
I23K	Minto, Yukon-K	73.95	16	P	P	23 30 10.5	+0.8
	baz=328,SNR=15						
TTA	Tatalina	74.14	20	P	P	23 30 11.6	+0.7
	baz=323,SNR=6.0						
LBTB	Lobatse	74.24	221⇑	iP	P	23 30 12.8	+0.8
LBTB				IAmb	IAmb	23 30 14.1	
	comp=Z,71nm,0.6s						
LBTB	Lobatse	74.24	221	P	P	23 30 12.3	+0.3
LBTB				pmax	pmax		
	comp=Z,70nm,0.7s						
LBTB	Lobatse	74.24	221	iP	P	23 30 12.3	+0.3
LBTB	Lobatse	74.24	221	iP	P	23 30 12.3	+0.3
LBTB	Lobatse	74.24	221	iP	P	23 30 12.3	+0.3
KSR	Koster	74.25	220	eP	P	23 30 12.6	+0.5
KSR				IAmb	IAmb	23 30 14.3	
	comp=Z,46nm,0.9s						
K20K	Telida	74.31	19	IAmb	IAmb	23 30 13.7	
	comp=Z,27nm,0.8s						
K20K	Telida	74.31	19	P	P	23 30 12.6	+0.7
	baz=325						
MBWA	Marble Bar	74.32	132	P	P	23 30 11.7	-0.7
MBWA	Marble Bar	74.32	132	P	P	23 30 12.2	-0.2
CHUM	Lake Minchumin	74.32	18	P	P	23 30 12.6	+0.8
	baz=326,SNR=16						
NWCL	Newcastle	74.33	216⇑	iP	P	23 30 12.8	+0.3
NWCL				IAmb	IAmb	23 30 14.1	
	comp=Z,62nm,0.6s						
TSUM	Tsumeb	74.35	231	iP	P	23 30 13.3	+0.5
POKR	Poker Plat Res	74.40	15	IAmb	IAmb	23 30 15.0	
	comp=Z,62nm,1.3s						
POKR	Poker Plat Res	74.40	15	P	P	23 30 13.3	+1.0
	baz=330,SNR=14						
WDLM	Western Deep L	74.45	219	eP	P	23 30 13.8	+0.5
WDLM				IAmb	IAmb	23 30 15.0	
	comp=Z,34nm,0.4s						
PRP	Porcupine Dome	74.45	15	P	P	23 30 13.7	+1.0
	baz=331,SNR=13						
BPAW	Bear Paw Mtn.	74.47	17	P	P	23 30 12.8	+0.1
	baz=327,SNR=11						
NEA2	Nenana	74.50	16	IAmb	IAmb	23 30 14.1	
	comp=Z,38nm,0.8s						
NEA2	Nenana	74.50	16	P	P	23 30 13.2	+0.3
	baz=328,SNR=19						
TCOL	CIGO, UAF Yank	74.52	16	IAmb	IAmb	23 30 14.5	
	comp=Z,41nm,0.8s						
TCOL	CIGO, UAF Yank	74.52	16	P	P	23 30 13.3	+0.4
	baz=329,SNR=8.5						
COLA	College	74.52	16	P	P	23 30 13.5	+0.6
COLA				pmax	pmax		
	comp=Z,40nm,0.8s						
COLA	College	74.52	16	P	P	23 30 13.5	+0.6
COLA				IAmb	IAmb	23 30 14.5	
	comp=Z,40nm,0.8s						
COLA	College	74.52	16	P	P	23 30 13.5	+0.6
	baz=329						
BWN	Browne	74.76	17	IAmb	IAmb	23 30 16.4	
	comp=Z,34nm,0.7s						
CAST	Castle Rocks	74.77	18	IAmb	IAmb	23 30 16.0	
	comp=Z,45nm,0.8s						
CAST	Castle Rocks	74.77	18	P	P	23 30 14.9	+0.5
	baz=326,SNR=35						
IL31		74.82	15	P	P	23 30 14.1	-0.5
ILAR	Eielson Array	74.82	15	P	P	23 30 14.4	-0.2
	comp=Z,4.8nm,0.4s,baz=314,slow=4.6,SNR=70						
ILAR				pP	pP	23 31 26.4	-1.1
	comp=Z,2.7nm,0.9s,baz=310,slow=4.6,SNR=2.2						
ILAR	Eielson Array	74.82	15	P	P	23 30 14.5	-0.2
ILAR				*PP	pP	23 31 26.4	-1.1
PRYS	Parys	74.89	219⇑	iP	P	23 30 15.9	+0.2
PRYS				IAmb	IAmb	23 30 17.0	
	comp=Z,15nm,0.6s						
KTH	Kantishna Hill	74.94	18	IAmb	IAmb	23 30 16.7	
	comp=Z,26nm,0.8s						
L20K	Farewell, AK	75.08	19	P	P	23 30 16.9	+0.6
	baz=325						
HDA	Harding Lake	75.12	16	P	P	23 30 15.7	-0.7
	baz=330,SNR=6.9						
PPLA	Purkeypile	75.18	19	IAmb	IAmb	23 30 18.8	
	comp=Z,27nm,0.6s						
PPLA	Purkeypile	75.18	19	P	P	23 30 17.1	+0.2
	baz=326,SNR=8.8						
TRF	Thorofare Moun	75.18	17	P	P	23 30 16.5	-0.5
	baz=328						
EPYK	Eagle Plains	75.23	11	P	P	23 30 17.2	+0.2
	baz=338,SNR=7.3						
MCK	McKinley	75.26	17	IAmb	IAmb	23 30 19.4	
	comp=Z,16nm,0.5s						
MCK	McKinley	75.26	17	P	P	23 30 17.5	+0.2
	baz=329,SNR=11						
FITZ	Fitzroy Crossi	75.73	126	P	P	23 30 20.1	-0.4
	comp=Z,38nm,0.6s,baz=341,slow=6.7,SNR=122						
FITZ				pP	pP	23 31 32.5	-1.4
	comp=Z,18nm,0.9s,baz=342,slow=10,SNR=3.3						
FITZ				sP	sP	23 32 06.8	-1.1
	comp=Z,9.7nm,1.0s,baz=313,slow=4.0,SNR=1.7						
MTN	Manton Dam	75.78	118	P	P	23 30 19.4	-1.4
MTN				IAmb	IAmb	23 30 20.5	
	comp=Z,30nm,0.6s						
MTN	Manton Dam	75.78	118	P	P	23 30 20.0	-0.8
I29M	Ogilvie Camp,	75.91	12	P	P	23 30 21.2	+0.3
	baz=337,SNR=16						
CUT	Chulitna	76.07	18	IAmb	IAmb	23 30 22.1	
	comp=Z,31nm,0.7s						
CUT	Chulitna	76.07	18	P	P	23 30 21.5	-0.3
	baz=328						
KNRA	Kununurra	76.09	122	P	P	23 30 22.4	-0.1
SCRK	Sand Creek	76.13	15	P	P	23 30 22.8	+0.5
	baz=333,SNR=20						
SWZ	Schweizer	76.14	220	eP	P	23 30 23.0	+0.3
SWZ				IAmb	IAmb	23 30 24.8	
	comp=Z,64nm,0.9s						
RIDG	Independent Ri	76.16	15	P	P	23 30 22.3	-0.1
	baz=332,SNR=6.6						
JAY	Jayapura	76.23	104	P	P	23 30 22.6	-0.9
	comp=Z,37nm,0.6s,baz=237,slow=5.7						
JAY	Jayapura	76.23	104	P	P	23 30 22.6	-0.9
N19K	Bonanza Creek	76.28	21	P	P	23 30 23.8	+0.7
	baz=325						
DOT	Dot Lake	76.40	15	P	P	23 30 23.9	+0.2
KDU	Kakadu	76.62	117	P	P	23 30 24.9	-0.6
M22K	Willow	76.67	18	IAmb	IAmb	23 30 25.7	
	comp=Z,33nm,0.7s						
M22K	Willow	76.67	18	P	P	23 30 24.7	-0.4
	baz=328,SNR=5.2						
PAX	Paxson	76.71	16	IAmb	IAmb	23 30 26.5	
	comp=Z,21nm,0.6s						
PAX	Paxson	76.71	16	P	P	23 30 25.6	+0.2
	baz=332,SNR=18						
J29M	Klondike Camp	76.77	12	P	P	23 30 26.5	+0.8
	baz=337						
O19K	Port Alsworth	76.83	21	P	P	23 30 26.5	+0.4
	baz=325						
DAWY	Dawson	76.92	13	IAmb	IAmb	23 30 28.6	
	comp=Z,43nm,1.4s						
DAWY	Dawson	76.92	13	P	P	23 30 27.1	+0.6
	baz=336,SNR=16						
PMR	Palmer	77.05	18	P	P	23 30 27.1	-0.1
	baz=329						
SML	Sawmill	77.06	18	IAmb	IAmb	23 30 28.5	
	comp=Z,50nm,0.7s						
SML	Sawmill	77.06	18	P	P	23 30 27.6	+0.2
	baz=329,SNR=16						
L26K	Log Cabin Wild	77.11	15	P	P	23 30 28.5	+0.9
	baz=333,SNR=5.6						
WIN	Windhoek	77.17	229⇑	iP	P	23 30 29.8	+1.2
WIN				IAmb	IAmb	23 30 30.9	
	comp=Z,12nm,0.9s						
WIN	Windhoek	77.17	229	P	P	23 30 29.4	+0.7
WIN				pmax	pmax		
	comp=Z,37nm,1.0s						
WIN	Windhoek	77.17	229	P	P	23 30 29.4	+0.7
WIN				IAmb	IAmb	23 30 31.1	
	comp=Z,37nm,1.0s						
NIKH	Nikolski High	77.18	32	P	P	23 30 28.9	+0.7
	baz=315						
P18K	Big Mountain,	77.22	22	P	P	23 30 28.5	+0.2
P18K				IAmb	IAmb	23 30 29.8	
	comp=Z,26nm,0.8s						
P18K	Big Mountain,	77.22	22	P	P	23 30 28.9	+0.6
	baz=324						
HARP	HAARP	77.28	16	P	P	23 30 29.6	+1.0
	baz=332,SNR=11						
SCM	Sheep Creek Mo	77.28	17	IAmb	IAmb	23 30 29.8	
	comp=Z,34nm,0.7s						
SCM	Sheep Creek Mo	77.28	17	P	P	23 30 28.7	+0.1
	baz=330,SNR=11						
M24K	Tolsona, Glenn	77.31	16	P	P	23 30 30.0	+1.2
	baz=331,SNR=13						
RC01	Rabbit Creek A	77.33	19	IAmb	IAmb	23 30 29.6	
	comp=Z,20nm,0.7s						
RC01	Rabbit Creek A	77.33	19	P	P	23 30 28.8	0.0
	baz=328,SNR=6.4						
BOSA	Boshof	77.34	219	P	P	23 30 29.7	+0.3
	comp=Z,39nm,0.7s,baz=20,slow=3.9,SNR=134						
BOSA	Boshof	77.34	219⇑	iP	P	23 30 29.6	+0.3
BOSA				IAmb	IAmb	23 30 31.3	
	comp=Z,35nm,0.7s						
BOSA	Boshof	77.34	219	P	P	23 30 29.7	+0.3
BOSA	Boshof	77.34	219	iP	P	23 30 29.9	+0.5
BOSA	Boshof	77.34	219	iP	P	23 30 29.9	+0.5
BOSA	Boshof	77.34	219	P	P	23 30 29.3	-0.1
BOSA				IAmb	IAmb	23 30 31.8	
	comp=Z,37nm,0.7s						
KNK	Knik Glacier	77.37	18	IAmb	IAmb	23 30 30.5	
	comp=Z,41nm,1.0s						
KNK	Knik Glacier	77.37	18	P	P	23 30 29.5	+0.5
	baz=329,SNR=8.7						
L27K	Beaver Creek,	77.38	14	P	P	23 30 30.0	+0.9
	baz=334						
BCAR	Beaver Creek A	77.39	14	P	P	23 30 30.1	+1.0
M26K	Nabesna, AK	77.74	15	P	P	23 30 31.8	+0.6
	baz=334						
O22K	Cooper Landing	77.85	19	P	P	23 30 32.1	+0.5
	baz=328						
PWL	Port Wells	77.88	18	P	P	23 30 32.2	+0.3
PWL	Port Wells	77.88	18	P	P	23 30 32.0	+0.2
	baz=330						
KLU	Klutina	77.91	17	P	P	23 30 32.2	+0.1
KLU	Klutina	77.91	17	P	P	23 30 32.8	+0.7
	baz=331,SNR=6.8						
MEEK	Meekatharra	77.92	137	P	P	23 30 32.1	-0.4
MAYO	Mayo, Yukon	77.95	11	P	P	23 30 33.1	+0.9
	baz=339						
M27K	Edge Creek, AK	78.01	15	P	P	23 30 33.8	+1.1
	baz=334						
Q19K	Cape Douglas,	78.07	21	P	P	23 30 33.3	+0.3
	baz=326						
N25K	Chitina, Valde	78.11	16	P	P	23 30 33.5	+0.3
	baz=332						
BVCY	Beaver Creek	78.16	14	P	P	23 30 34.4	+1.0
	baz=335						
BRSE	Bradley Lake S	78.21	20	P	P	23 30 33.5	-0.2
	baz=328						
SEW	Seward	78.24	19	P	P	23 30 33.7	-0.1
	baz=329						
DIV	Divide	78.26	17	IAmb	IAmb	23 30 35.4	
	comp=Z,22nm,0.6s						
MORW	Morawa	78.47	140	P	P	23 30 34.8	-0.7
BMRM	Bremner River	78.67	16	P	P	23 30 37.0	+0.8
BMRM				IAmb	IAmb	23 30 38.5	
	comp=Z,45nm,1.2s						
BMRM	Bremner River	78.67	16	P	P	23 30 37.0	+0.8
	baz=332,SNR=5.7						
CHGN	Chignik	78.69	25	P	P	23 30 36.8	+0.5
	baz=322						
SDPT	Sand Point	78.71	27	P	P	23 30 37.2	+0.8
	baz=321						
M30M	Minto, Yukon	78.75	12	P	P	23 30 37.1	+0.5
	baz=338						
EYAK	Cordova Ski Ar	78.78	17	P	P	23 30 37.3	+0.7
	baz=332						
YUK3	Moose Creek	78.82	14	P	P	23 30 38.0	+0.8
	baz=336,SNR=6.0						
UPI	Upington	79.24	222⇑	iP	P	23 30 40.2	+0.5
UPI				IAmb	IAmb	23 30 42.1	
	comp=Z,41nm,1.1s						
KDAK	Kodiak Island	79.34	22	P	P	23 30 39.6	-0.2
	comp=Z,29nm,0.7s,baz=23,slow=1.8,SNR=13						
KDAK	Kodiak Island	79.34	22	P	P	23 30 40.1	+0.3
KDAK				pmax	pmax		
	comp=Z,260nm,1.9s						
KDAK	Kodiak Island	79.34	22	P	P	23 30 40.1	+0.3
KDAK	Kodiak Island	79.34	22	P	P	23 30 40.1	+0.3
	baz=327						
BERG	Berg Lake	79.39	16	IAmb	IAmb	23 30 42.1	
	comp=Z,41nm,0.7s						
CHNA	Chernabura Isl	79.44	27	P	P	23 30 39.3	-1.0
	baz=322						
M31M	Drury Creek, Y	79.50	11	P	P	23 30 41.3	+0.7
M31M	Drury Creek, Y	79.50	11	P	P	23 30 41.2	+0.6
	baz=340						
OHAK	Old Harbor	79.59	22	P	P	23 30 41.4	+0.2
OHAK	Old Harbor	79.59	22	P	P	23 30 41.8	+0.7
	baz=326						
FARO	Faro, Yukon	79.63	11	P	P	23 30 42.0	+0.6
	baz=341						
KEIM	Keimoes	79.66	222⇑	iP	P	23 30 42.7	+0.8
KEIM				IAmb	IAmb	23 30 44.5	
	comp=Z,26nm,0.7s						
ARMS	Ukamas	79.81	224	eP	P	23 30 43.8	+1.0
ARMS				IAmb	IAmb	23 30 44.9	
	comp=Z,62nm,0.7s						
N31M	Braeburn, Yuko	79.95	12	IAmb	IAmb	23

comp=Z,6.7nm,0.7s,baz=324,slow=4.9,SNR=1.3
WRA PP **PP** **23 34 14.0 -0.3**
comp=Z,9.3nm,1.0s,baz=316,slow=8.6,SNR=9.2
WRA S **SKSac** **23 40 45.1 -4.5**
comp=Z,2.4nm,0.9s,baz=310,slow=5.3,SNR=6.9
WRA PKPKPbc **PKKPbc** **23 49 19.5 +0.3**
comp=Z,4.2nm,0.5s,baz=122,slow=2.5,SNR=82
WRA PKPPKP **P'P'df** **23 57 25.3 +3.6**
comp=Z,0.8nm,0.9s,baz=148,slow=1.7,SNR=5.3
WRA Warramunga Arr 82.85 121 *i P* **P** **23 30 57.7 -1.1**
WRA pmax pmax
comp=Z,83nm,0.4s
WRA Warramunga Arr 82.85 121 P **P** **23 30 57.5 -1.2**
WRAB Tennant Creek 82.86 121 *d iP* **P** **23 30 57.6 -1.2**
WRAB pmax pmax
comp=Z,121nm,0.6s
WRAB Tennant Creek 82.86 121 P **P** **23 30 57.5 -1.2**
WRAB Tennant Creek 82.86 121 P **P** **23 30 58.0 -0.7**
WR0 Warramunga Arr 83.00 121 P **P** **23 30 58.5 -0.9**
MATJ Matjiesfontein 83.45 220 ⇑*iP* **P** **23 31 02.4 +0.9**
MATJ IAmb IAmb 23 31 13.2
comp=Z,192nm,1.8s
DLBC Dease Lake 83.76 10 P **P** **23 31 03.2 +0.3**
comp=Z,9.3nm,0.7s,baz=328,slow=5.6,SNR=16
FCC Fort Churchill 83.95 352 P **P** **23 31 04.4 +0.7**
FCC pmax pmax
comp=Z,25nm,0.9s
FCC Fort Churchill 83.95 352 P **P** **23 31 04.3 +0.7**
FCC IAmb IAmb 23 31 05.3
comp=Z,25nm,0.9s
AS31 Alice Springs 85.10 124 P **P** **23 31 09.4 -0.6**
ASAR Alice Springs 85.10 124 P **P** **23 31 09.0 -0.9**
comp=Z,95nm,0.6s,baz=312,slow=4.9,SNR=1382
ASAR pP **pP** **23 32 23.1 -2.4**
comp=Z,4.5nm,0.6s,baz=308,slow=5.0,SNR=1.5
ASAR PP **PP** **23 34 33.0 +0.5**
comp=Z,3.2nm,0.8s,baz=324,slow=8.9,SNR=4.4
ASAR S **SKSac** **23 40 59.7 -4.3**
comp=Z,3.6nm,0.9s,baz=298,slow=6.0,SNR=13
ASAR PKKPbc **PKKPbc** **23 49 14.5 +0.3**
comp=Z,2.0nm,0.5s,baz=127,slow=2.7,SNR=29
ASAR PKPPKP **P'P'df** **23 57 21.5 +4.0**
comp=Z,0.4nm,0.8s,baz=154,slow=5.1,SNR=4.5
ASAR Alice Springs 85.10 124 P **P** **23 31 09.0 -0.9**
ASAR *PP **pP** **23 32 23.2 -2.4**
ASAR Alice Springs 85.10 124 P **P** **23 31 09.1 -0.9**
ASAR pP **pP** **23 32 24.4 -1.1**
COEN Coen 85.30 111 P **P** **23 31 10.5 -0.6**
COEN Coen 85.30 111 P **P** **23 31 10.3 -0.8**
PMG Port Moresby 85.51 105 P **P** **23 31 11.7 -0.4**
comp=Z,35nm,0.4s,baz=38,slow=2.7,SNR=10
PMG Port Moresby 85.51 105 P **P** **23 31 11.9 -0.3**
PMG pmax pmax
comp=Z,48nm,0.7s
PMG Port Moresby 85.51 105 P **P** **23 31 11.8 -0.3**
PMG Port Moresby 85.51 105 P **P** **23 31 12.2 0.0**
comp=Z,70nm,0.9s
FORT Forrest 86.45 133 P **P** **23 31 16.4 +0.1**
FORT Forrest 86.45 133 P **P** **23 31 16.1 -0.2**
QIS Mount Isa 86.94 118 P **P** **23 31 18.2 -0.7**
FFC Flin Flon 88.67 355 P **P** **23 31 26.5 -0.1**
FFC pmax pmax
comp=Z,47nm,1.6s
FFC Flin Flon 88.67 355 P **P** **23 31 26.5 -0.1**
FFC IAmb IAmb 23 31 28.5
comp=Z,47nm,1.6s
MTSU Mount Surprise 88.79 114 P **P** **23 31 27.3 -0.4**
OOD Oodnadatta 89.09 126 P **P** **23 31 28.2 -0.6**
MULG Mulgathing 89.75 129 P **P** **23 31 30.9 -0.9**
VLDQ Val d'Or 90.67 339 IAmb IAmb 23 31 37.7
comp=Z,24nm,1.0s
CTA Charters Tower 91.43 114 P **P** **23 31 39.4 -0.5**
comp=Z,54nm,0.6s,baz=318,slow=4.6,SNR=124
CTA Charters Tower 91.43 114 P **P** **23 31 39.4 -0.5**
CTA Charters Tower 91.43 114 P **P** **23 31 39.6 -0.3**
CTAO Charters Tower 91.43 114 P **P** **23 31 39.3 -0.6**
CTAO pmax pmax
comp=Z,59nm,0.6s
CTAO Charters Tower 91.43 114 P **P** **23 31 39.3 -0.5**
CTAO Charters Tower 91.43 114 P **P** **23 31 39.5 -0.5**
INKA Innaminka 92.40 123 P **P** **23 31 44.0 -0.2**
LCRK Leigh Creek 92.50 127 P **P** **23 31 43.7 -0.9**
ULM Lac du Bonnet 92.51 351 P **P** **23 31 44.5 +0.1**
comp=Z,9.7nm,0.6s,baz=14,slow=4.0,SNR=11
ULM Lac du Bonnet 92.51 351 P **P** **23 31 44.6 +0.1**
ULM Lac du Bonnet 92.51 351 IAmb IAmb 23 31 45.1
comp=Z,15nm,0.7s
BBOO Buckleboo 92.72 130 P **P** **23 31 44.5 -1.0**
BBOO IAmb IAmb 23 31 45.2
comp=Z,22nm,0.8s
BBOO Buckleboo 92.72 130 P **P** **23 31 44.6 -1.0**
QLP Quilpie 94.05 120 P **P** **23 31 51.7 -0.1**
AGMN Agassiz Nation 94.42 351 IAmb IAmb 23 31 54.2
comp=Z,13nm,1.0s
AGMN Agassiz Nation 94.42 351 P **P** **23 31 53.4 +0.2**
baz=11
B05A Bryant 94.73 8 P **P** **23 31 55.6 +0.9**
baz=350
HTT Hallett 94.92 128 P **P** **23 31 55.0 -0.7**
DGMT Dagmar 95.04 356 P **P** **23 31 57.0 +0.9**
baz=4.8
NEW Newport 95.17 5 P **P** **23 31 57.7 +0.9**
comp=Z,5.4nm,0.8s,baz=8.8,slow=5.8,SNR=2.8
NEW Newport 95.17 5 P **P** **23 31 57.7 +0.9**
NEW Newport 95.17 5 P **P** **23 31 57.6 +0.8**
baz=354
BINY Binghamton 95.52 335 P **P** **23 31 58.9 +0.5**
baz=27
STKA Stephens Creek 95.63 126 P **P** **23 31 57.3 -1.6**
comp=Z,5.3nm,0.4s,baz=334,slow=4.5,SNR=18
STKA Stephens Creek 95.63 126 P **P** **23 31 57.9 -0.9**
STKA pmax pmax
comp=Z,4.0nm,1.6s
STKA Stephens Creek 95.63 126 P **P** **23 31 57.9 -0.9**
STKA Stephens Creek 95.63 126 P **P** **23 31 58.0 -0.9**
CMSA Cobar Meteorol 98.13 123 P **P** **23 32 09.7 -0.4**
ECSD EROS Data Cent 99.00 350 P **Pdif** **23 32 14.2 +0.2**
baz=11
PDAR Pinedale Array 100.90 360 P **Pdif** **23 32 23.2 +0.5**
comp=Z,0.4nm,0.6s,baz=38,slow=2.9,SNR=4.6
NVAR Mina Array Bea 104.85 7 PKiKP **PKiKP** **23 36 54.7 +1.0**
comp=Z,0.3nm,0.5s,baz=316,slow=3.8,SNR=1.6
SYO Syowa Base 107.77 191 ⇓*e*Pdiff **Pdif** **23 32 57.0 +5.0**
JCT Junction City 112.47 350 P **PKiKP** **23 37 07.5 -0.5**
baz=8.9
SNAA Sanae 119.28 200 PKPdf **PKiKP** **23 37 19.9 +0.1**
VNA2 Neumayer--Watz 120.26 202 PKPdf **PKiKP** **23 37 21.8 +0.2**
baz=28,slow=3.3
FOZ Fox Glacier 120.61 124 **PKPdf** **23 37 22.5 -0.5**
ITTB Itaituba 120.79 289 *eP* **PKiKP** **23 37 24.5 +0.1**
VNA3 Neumayer Olymp 121.07 202 PKPdf **PKiKP** **23 37 23.2 0.0**
SDV Santo Domingo 121.45 313 *eP* **PKPdf** **23 37 24.7 -1.1**
SDV Santo Domingo 121.45 313 *eP* **PKPdf** **23 37 25.4 -0.3**
SDV Santo Domingo 121.45 313 **PKPdf** **23 37 25.1 -0.7**
BDFB Brasilia 121.46 274 PKP **PKPdf** **23 37 24.8 -0.8**
comp=Z,1.9nm,0.4s,baz=156,slow=0.3,SNR=5.6
BDFB Brasilia 121.46 274 PKIKP **PKPdf** **23 37 24.8 -0.8**
PTGA Pitinga 121.51 296 PKP **PKPdf** **23 37 25.3 -0.4**
comp=Z,5.6nm,0.4s
BSCB Bom Sucesso 121.70 266 *eP* **PKPdf** **23 37 25.9 0.0**
SNDB Serra Nova Dou 122.00 279 *eP* **PKPdf** **23 37 26.1 -0.4**
NPGB Novo Progresso 122.20 287 *eP* **PKPdf** **23 37 26.6 -0.4**
IPMB Ipameri, GO 122.89 271 *eP* **PKPdf** **23 37 28.1 -0.1**
SMLC San Martn de 123.50 316 *eP* **PKPdf** **23 37 29.4 -0.1**
PARB Paraibuna 123.55 264 *eP* **PKPdf** **23 37 29.3 0.0**
URZ Urewera 123.66 115 PKP **PKPdf** **23 37 27.1 -1.9**
comp=Z,15nm,0.9s,baz=157,slow=7.7,SNR=5.3
MACA Manacapuru-AM 123.68 294 *eP* **PKPdf** **23 37 29.9 0.0**
VAO Valinhos 124.46 266 *eP* **PKiKP** **23 37 31.8 +0.3**
CLDB Colider 124.90 283 *eP* **PKPdf** **23 37 32.2 +0.1**
RUSC La Rusia 125.28 313 *eP* **PKPdf** **23 37 32.3 -1.2**
ITRB Iturama 125.52 271 *eP* **PKPdf** **23 37 32.8 -0.4**
PTBC PUERTO BERRIO 125.56 315 *eP* **PKPdf** **23 37 33.2 -0.2**
SPBC San Pablo de B 126.06 314 *eP* **PKPdf** **23 37 34.6 +0.1**
PDRB Porto dos Gac 126.07 283 *eP* **PKPdf** **23 37 34.4 +0.1**
NORC Norcasia 126.59 314 *eP* **PKPdf** **23 37 35.6 +0.1**
CHIC Chingaza 126.68 313 *eP* **PKPdf** **23 37 35.2 -1.0**
ROSC El Rosal 126.85 313 PKP **PKiKP** **23 37 37.4 +0.4**
comp=Z,39nm,0.7s,baz=162,slow=9.8,SNR=13
ROSC El Rosal 126.85 313 PKIKP **PKiKP** **23 37 37.4 +0.4**
CBOC Ciudad Bolivar 126.99 316 *eP* **PKPdf** **23 37 35.2 -1.3**
PCMB Pacaembu 127.22 269 *eP* **PKiKP** **23 37 36.8 -0.1**
RIMA Rio Macho 127.61 327 **PKPdf** **23 37 37.1 -0.5**
SALV Santo Antonio 127.74 278 *eP* **PKiKP** **23 37 37.9 -0.2**
PP1B Ponte de Pedra 128.03 276 *eP* **PKiKP** **23 37 38.8 +0.2**
PRAC Prado 128.09 313 *eP* **PKPdf** **23 37 36.1 -2.2**
YOTC Yotoco, Valle 128.72 315 *eP* **PKPdf** **23 37 39.0 -0.6**
PTGB Pitanga 129.37 266 *eP* **PKPdf** **23 37 40.8 +0.3**
VILB Vilhena 129.58 285 *eP* **PKiKP** **23 37 42.0 +0.2**
POPC Popayan, Colom 130.08 314 *eP* **PKPdf** **23 37 42.8 +0.4**
AQDB Aquidauana 130.21 273 *eP* **PKPdf** **23 37 42.0 0.0**
PTLB Pontes e Lacer 130.21 281 *eP* **PKiKP** **23 37 43.0 0.0**
SOTA Rioblanco 130.37 314 *eP* **PKiKP** **23 37 45.1 +1.0**
TBTG Tabatinga, AM 130.95 302 *eP* **PKPdf** **23 37 43.9 +0.2**
SIV San Ignacio 132.04 282 PKP **PKPdf** **23 37 45.9 +0.2**
comp=Z,4.8nm,0.6s,baz=110,slow=2.0,SNR=21
SIV PP **PP** **23 40 09.7 -1.8**
comp=Z,3.5nm,1.0s,baz=70,slow=5.6,SNR=6.9
SIV SKPbc **SKPbc** **23 40 39.9 -1.8**
comp=Z,6.3nm,0.7s,baz=78,slow=4.5,SNR=12
ETMB Extrema 132.19 293 *eP* **PKPdf** **23 37 46.1 +0.2**
CPUP Villa Florida 134.34 267 PKP **PKPdf** **23 37 49.2 -0.5**
comp=Z,7.4nm,0.6s,baz=50,slow=2.3,SNR=17
CPUP PP **PP** **23 40 22.4 -3.7**
comp=Z,10nm,1.1s,baz=79,slow=8.0,SNR=4.4
CPUP SKPbc **SKPbc** **23 40 46.8 -2.2**
comp=Z,7.1nm,0.8s,baz=86,slow=5.6,SNR=4.7
CPUP Villa Florida 134.34 267 PKIKP **PKPdf** **23 37 49.5 -0.2**
CPUP Villa Florida 134.34 267 PKPdf **PKPdf** **23 37 49.5 -0.2**
ITQB Itaqui 135.18 263 *eP* **PKPdf** **23 37 49.7 -1.4**
LPAZ La Paz 137.71 287 PKP **PKPdf** **23 37 57.4 +0.5**
comp=Z,4.9nm,0.8s,baz=11,slow=3.0,SNR=19
LPAZ PP **PP** **23 40 45.8 -1.9**
comp=Z,2.8nm,0.9s,baz=58,slow=5.8,SNR=4.2
LPAZ SKPbc **SKPbc** **23 40 58.6 -1.6**
comp=Z,8.8nm,1.0s,baz=65,slow=5.4,SNR=11
LPAZ La Paz 137.71 287 PKIKP **PKPdf** **23 37 57.4 +0.5**
LPAZ La Paz 137.71 287 *eP* **PKPdf** **23 37 57.5 +0.5**
GO01 Chusmiza 140.49 284 PKPpre 23 37 54.9
NNA Nana 141.29 301 SKPbc **SKPbc** **23 41 07.3 -2.0**
comp=Z,8.3nm,0.7s,baz=326,slow=5.2,SNR=4.0
LVC Limon Verde 141.84 280 PKhKP PKPpre 23 37 59.3
comp=Z,4.8nm,0.5s,baz=307,slow=3.7,SNR=8.1
LVC PKP **PKiKP** **23 38 05.6 -1.4**
comp=Z,3.4nm,0.4s,baz=58,slow=2.5,SNR=8.9
LVC SKPbc **SKPbc** **23 41 10.0 -0.9**
comp=Z,24nm,0.8s,baz=69,slow=1.9,SNR=12
LVC Limon Verde 141.84 280 PKIKP **PKiKP** **23 38 05.6 -1.4**
USHA Ushuaia 146.38 224 PKPbc **PKPbc** **23 38 12.8 +0.6**
comp=Z,18nm,0.8s,baz=56,slow=4.4,SNR=6.0
DSPA Despedida 146.50 226 **PKPbc** **23 38 12.7 +0.1**
CO03 El Pedregal 146.89 268 **PKPdf** **23 38 12.8 +0.7**
CO06 Fray Jorge 147.59 269 PKPbc **PKPbc** **23 38 15.8 -0.6**
MT02 Curacav 148.04 264 **PKPdf** **23 38 14.7 +0.9**
MT02 PKPbc **PKPbc** **23 38 17.5 0.0**
MT02 PKPab **PKPab** **23 38 21.4 +0.1**
PLCA Paso Flores 149.06 250 PKP **PKPdf** **23 38 15.8 +0.4**
comp=Z,5.0nm,0.9s,baz=60,slow=3.7,SNR=4.6
PLCA PKPbc **PKiKP** **23 38 20.8 -0.1**
comp=Z,33nm,0.9s,baz=96,slow=2.4,SNR=40
PLCA PKPab **PKPab** **23 38 25.2 -0.2**
comp=Z,43nm,0.9s,baz=93,slow=7.4,SNR=18
PLCA pPKP **pPKPdf** **23 39 35.5 +0.6**
comp=Z,16nm,1.1s,baz=71,slow=11,SNR=2.8
PLCA Paso Flores 149.06 250 PKHKP **PKPdf** **23 38 15.8 +0.4**
PLCA 23 38 25.2
PLCA Paso Flores 149.06 250 PKPdf **PKPdf** **23 38 14.6 -0.8**
PLCA PKPbc **PKiKP** **23 38 20.7 -0.3**
PLCA PKPab **PKPab** **23 38 25.8 +0.4**
MG05 Puerto Natales 149.56 229 PKPdf **PKPdf** **23 38 15.6 -0.1**
MG05 **PKPbc** **23 38 20.6 0.0**
MG05 PKPab **PKPab** **23 38 26.8 -0.1**
LC01 Cunco 149.86 254 **PKPdf** **23 38 16.6 -0.1**
LC01 PKPbc **PKPbc** **23 38 22.0 +0.2**
LC01 **PKPab** **23 38 28.5 -0.1**
GO07 Milladeo Hill, 151.49 246 **PKPbc** **23 38 25.5 0.0**

*SOME **26** 23:29:32.9, 40.°12N×75.°30E, h5km*
*NNC **26** 23:29:34.2±2.0, 40.°10N×75.°37E, h0km, mb4.1, mpv3.8,*
Error ellipse: s-maj=13.7km s-min=11.0km az=166.0
ISC 26 23:29:36.0±2.6, 40.°2N±0.°1×75.°32E±0.°04, h19km, n46,
σ1s91/61, 4C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor** SNR=5.9	**2.12**	**344**	P	**Pg**	**23 30 16.0**	**-0.7**
ULHL	**Ulahol** SNR=7.0	**2.16**	**19**	P	**Pb**	**23 30 15.4**	**+0.8**
AML	**Almayashu** SNR=9.5	**2.29**	**328**	P	**Pb**	**23 30 18.0**	**+1.1**
KBK	**Karagaybulak** SNR=10	**2.47**	**354**	P	**Pg**	**23 30 22.0**	**-1.4**
AAK	**Ala-Archa** SNR=9.2	**2.51**	**346**	P	**Pb**	**23 30 20.5**	**-0.1**
AAK	**Ala-Archa** 21nm,0.6s	**2.51**	**346**	⇑Pg	**Pb**	**23 30 22.2**	**+1.6**
AAK	60nm,0.7s			⇑Lg	Lg	23 30 58.5	
TKM2	**Tokmak 2** SNR=27	**2.73**	**4**	P	**Pb**	**23 30 24.1**	**-0.2**
TKM2	**Tokmak 2** 8.8nm,0.2s	**2.73**	**4**	⇓Pn	**Pb**	**23 30 25.8**	**+1.5**
TKM2	34nm,0.6s			⇓Lg	Lg	23 31 04.3	
KST	**Kastek** 36nm,0.3s	**2.88**	**9**	*eP*	**Pb**	**23 30 28.9**	**+2.0**
KST	55nm,0.4s			*eS*	**Sg**	**23 31 08.9**	**+0.2**
KST	**Kastek** 36nm,0.3s	**2.88**	**9**	Pg	**Pb**	**23 30 26.2**	**-0.7**
KST	55nm,0.4s			Lg	Lg	23 31 07.4	
MRKS	**Merke** 2.3nm,0.2s	**2.99**	**329**	*eP*	**Pb**	**23 30 30.1**	**+1.4**
MRKS	23nm,0.4s			*eS*	**Sg**	**23 31 10.8**	**-1.2**
MRKS	**Merke** 2.1nm,0.2s	**2.99**	**329**	Pg	**Pb**	**23 30 28.2**	**-0.5**
MRKS	23nm,0.4s			Lg	Lg	23 31 10.8	
MTBS	**Maitube** 4.4nm,0.6s	**3.04**	**16**	*eP*	**Pb**	**23 30 32.2**	**+2.6**
MTBS	32nm,0.6s			*eS*	**Sg**	**23 31 14.6**	**+0.7**
MTBS	**Maitube** 7.8nm,0.3s	**3.04**	**16**	Pg	**Pb**	**23 30 31.5**	**+1.9**
MTBS	32nm,0.6s			Lg	Lg	23 31 15.4	
DGS	**Degeres** 11nm,0.4s	**3.06**	**6**	*eP*	**Pb**	**23 30 31.7**	**+1.8**
DGS	38nm,0.5s			*eS*	**Sg**	**23 31 14.3**	**0.0**
DGS	**Degeres** 18nm,0.4s	**3.06**	**6**	Pg	**Pb**	**23 30 30.5**	**+0.6**
DGS	38nm,0.5s			Lg	Lg	23 31 14.3	
TNSS	**Tian-Shan** 9.4nm,0.5s	**3.09**	**23**	*eP*	**Pb**	**23 30 32.1**	**+1.5**
TNSS	17nm,0.4s			*eS*	**Sg**	**23 31 15.1**	**-0.2**
TNSS	**Tian-Shan** 12nm,0.4s	**3.09**	**23**	Pg	**Pb**	**23 30 32.0**	**+1.5**
TNSS	17nm,0.4s			Lg	Lg	23 31 16.0	
USP	**Ospenovka** SNR=7.4	**3.12**	**349**	P	**Sg**	**23 31 18.1**	**+1.7**
MDOK	**Medeo** 8.2nm,0.4s	**3.23**	**23**	*eP*	**Pb**	**23 30 34.4**	**+1.6**
MDOK	20nm,0.6s			*eS*	**Sg**	**23 31 18.3**	**-1.5**
MDOK	**Medeo** 5.7nm,0.4s	**3.23**	**23**	Pg	**Pg**	**23 30 37.2**	**-0.7**
MDOK	17nm,0.7s			⇑Lg	Lg	23 31 19.5	
MDOK	**Medeo** 8.2nm,0.4s	**3.23**	**23**	Pg	**Pb**	**23 30 34.3**	**+1.4**
MDOK	20nm,0.6s			Lg	Lg	23 31 19.4	
KNDC	**Almaty** 32nm,0.5s	**3.26**	**22**	⇓Pg	**Pg**	**23 30 36.6**	**-1.8**
KNDC	60nm,0.6s			⇓Lg	Lg	23 31 22.1	
KOTS	**Kotyrbulak** 13nm,0.3s	**3.32**	**23**	*eP*	**Pb**	**23 30 36.9**	**+2.6**
KOTS	53nm,0.5s			*eS*	**Sg**	**23 31 22.5**	**-0.1**
KOTS	**Kotyrbulak** 13nm,0.3s	**3.32**	**23**	Pg	**Pb**	**23 30 35.9**	**+1.6**
KOTS	53nm,0.5s			Lg	Lg	23 31 22.5	
KRBS	**Karabastau** 7.4nm,0.6s	**3.50**	**4**	*eP*	**Pb**	**23 30 40.0**	**+2.5**
KRBS	23nm,0.6s			*eS*	**Sg**	**23 31 28.5**	**0.0**
KRBS	**Karabastau** 7.4nm,0.6s	**3.50**	**4**	Pg	**Pb**	**23 30 38.6**	**+1.2**
KRBS	23nm,0.6s			Lg	Lg	23 31 28.5	
KTBS	**Karatobe** 9.8nm,0.2s	**3.66**	**16**	*eP*	**Pb**	**23 30 43.2**	**+3.2**
KTBS	35nm,0.4s			*eS*	**Sg**	**23 31 33.4**	**+0.1**
KTBS	**Karatobe** 9.8nm,0.2s	**3.66**	**16**	Pg	**Pb**	**23 30 42.3**	**+2.3**
KTBS	35nm,0.4s			Lg	Lg	23 31 33.4	
SATY	**Saty** 15nm,0.5s	**3.68**	**38**	*eP*	**Pb**	**23 30 42.1**	**+1.7**
SATY	23nm,0.6s			*eS*	**Sg**	**23 31 31.8**	**-2.3**
SATY	**Saty** 15nm,0.5s	**3.68**	**38**	Pg	**Pb**	**23 30 40.7**	**+0.3**
SATY	23nm,0.6s			Lg	Lg	23 31 31.8	
KUU	**Kurty** 4.0nm,0.3s	**3.77**	**11**	*eP*	**Pb**	**23 30 44.4**	**+2.5**
KUU	25nm,0.3s			*eS*	**Sg**	**23 31 35.9**	**-1.1**
KUU	**Kurty** 4.0nm,0.3s	**3.77**	**11**	Pg	**Pb**	**23 30 42.6**	**+0.7**
KUU	25nm,0.3s			Lg	Lg	23 31 35.9	
ZHN	**Zhinishke** 10nm,0.2s	**3.77**	**37**	*eP*	**Pb**	**23 30 43.3**	**+1.2**
ZHN	24nm,0.2s			*eS*	**Sg**	**23 31 33.9**	**-3.3**
ZHN	**Zhinishke** 10nm,0.2s	**3.77**	**37**	Pg	**Pb**	**23 30 43.1**	**+1.0**
ZHN	24nm,0.2s			Lg	Lg	23 31 35.5	
CHKK	**Chushkaly** 9.1nm,0.5s	**3.86**	**18**	*eP*	**Pb**	**23 30 46.4**	**+2.9**
CHKK	14nm,0.5s			*eS*	**Sg**	**23 31 39.4**	**-0.5**
CHKK	**Chushkaly** 9.1nm,0.5s	**3.86**	**18**	Pg	**Pb**	**23 30 46.4**	**+2.9**
CHKK	14nm,0.5s			Lg	Lg	23 31 40.0	
UZB	**Uzynbulak** 11nm,0.3s	**4.05**	**42**	*eP*	**Pb**	**23 30 48.6**	**+1.9**
UZB	11nm,0.6s			*eS*	**Sg**	**23 31 43.2**	**-2.7**
UZB	**Uzynbulak** 11nm,0.3s	**4.05**	**42**	Pg	**Pb**	**23 30 47.4**	**+0.7**
UZB	11nm,0.6s			Lg	Lg	23 31 43.2	
SHLS	**Shalkode** 5.8nm,0.7s	**4.29**	**45**	*eP*	**Pg**	**23 30 57.7**	**-0.4**
SHLS	18nm,0.7s			*eS*	**Sg**	**23 31 58.6**	**+5.0**
SHLS	**Shalkode** 5.8nm,0.7s	**4.29**	**45**	Pg	**Pg**	**23 30 55.9**	**-2.2**
SHLS	18nm,0.7s			Lg	Lg	23 31 58.6	
PDGK	**Podgornoye** 20nm,0.7s	**4.42**	**44**	⇑Lg	Lg	23 31 54.0	
ARXS	**Arharly** 12nm,0.5s	**4.42**	**24**	*eP*	**Pb**	**23 30 55.8**	**+2.7**
ARXS	13nm,0.4s			*eS*	**Sg**	**23 31 55.4**	**-2.6**
ARXS	**Arharly** 12nm,0.5s	**4.42**	**24**	Pg	**Pb**	**23 30 55.8**	**+2.7**
ARXS	13nm,0.4s			Lg	Lg	23 31 55.4	
KK06	**Karatay Array** 5.6nm,0.6s,baz=129,slow=26	**4.61**	**310**	⇓Lg	Lg	23 32 03.8	
BTLS	**Baital** 5.8nm,1.5s	**4.93**	**349**	*eP*	**Pb**	**23 31 05.7**	**+4.0**
BTLS	5.9nm,0.8s			*eS*	**Sg**	**23 32 12.2**	**-1.9**

*IDC **26** 23:32:49.0±0.7, 5.°33S×153.°18E, h0km, mb4.1/13,*
mb1 4.3/13, mb1mx4.1/43, mbtmp4.1/13, MS3.5/8,
Ms1 3.5/8, ms1mx3.1/60, Error ellipse: s-maj=25.8km
s-min=17.5km az=88.0
*NEIC **26** 23:32:50.8±1.5, 5.°4S±0.°1×153.°2E±0.°1, h8km±4km,*
mb4.4/12, Error ellipse: s-maj=23.6km s-min=13.5km
az=59.0
ISC 26 23:32:54.8±0.6, 5.°36S±0.°08×153.°1E±0.°1, h37km, n43,
σ0s72/40, mb4.2/18, MS3.4/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.51**	**320**		**Pn**	**23 33 19.4**	**0.0**
PMG	**Port Moresby** 5.8nm,0.3s,baz=108,slow=5.2,SNR=8.3	**7.16**	**236**	Sn	**Sn**	**23 35 57.5**	**+0.4**
PMG	comp=Z,212nm,21.6s,baz=16,slow=38			LR	LR	23 37 20.0	
CTA	**Charters Tower** 0.1nm,0.3s,baz=41,slow=11,SNR=3.7	**16.10**	**204**	Pn	**P**	**23 36 40.9**	**-0.6**
CTA	comp=Z,120nm,21.3s,baz=68,slow=33			LR	LR	23 41 48.0	
EIDS	**Eidsvold**	**19.99**	**185**		**P**	**23 37 24.7**	**+0.4**
DZM	**Mont Dzumac** 7.4nm,0.9s,baz=246,slow=20,SNR=3.3	**21.02**	**143**	P	**P**	**23 37 34.8**	**-0.7**
DZM	comp=Z,120nm,18.4s,baz=144,slow=34			LR	LR	23 44 43.6	
WB0	**Warramunga Arr** 1.2nm	**23.19**	**230**	P	**P**	**23 37 56.8**	**-1.7**
WB0	comp=Z,12nm,1.2s			IAmb	IAmb	23 38 15.3	
WR0	**Warramunga Arr** 0.8s	**23.19**	**230**	P	**P**	**23 37 58.1**	**-0.5**
WR0	comp=Z,6.0nm,0.8s			IAmb	IAmb	23 38 01.3	
WB2	**Warramunga Arr** 0.9s	**23.32**	**230**	P	**P**	**23 37 59.6**	**-0.2**
WB2	comp=Z,8.3nm,0.9s			IAmb	IAmb	23 38 22.0	
WRA	**Warramunga Arr** comp=Z,3.5nm,0.6s,baz=53,slow=9.8,SNR=15	**23.33**	**230**	P	**P**	**23 37 59.7**	**-0.3**
WRA	comp=Z,0.6nm,0.8s,baz=55,slow=2.9,SNR=2.0			PcP	**PcP**	**23 41 48.6**	**+2.1**
WRA	comp=Z,100nm,21.6s,baz=20,slow=36			LR	LR	23 46 43.4	
ASAR	**Alice Springs** comp=Z,1.5nm,0.7s,baz=55,slow=9.2,SNR=8.8	**25.97**	**224**	P	**P**	**23 38 23.9**	**-0.3**
ASAR	comp=Z,85nm,21.7s,baz=106,slow=35			LR	LR	23 47 52.8	
KNRA	**Kununurra**	**26.03**	**245**	P	**P**	**23 38 24.4**	**-0.3**
H11S3	**WAKE ISLAND Hy** baz=209,slow=74,SNR=7.9	**27.21**	**29**	T	T	00 07 02.2	
H11S2	**WAKE ISLAND Hy** baz=209,slow=74,SNR=6.8	**27.22**	**29**	T	T	00 07 03.4	
H11S1	**WAKE ISLAND Hy** baz=209,slow=74,SNR=5.9	**27.23**	**29**	T	T	00 07 02.2	
STKA	**Stephens Creek** comp=Z,3.8nm,1.0s,baz=10,slow=6.6,SNR=3.7	**28.51**	**201**	P	**P**	**23 38 45.9**	**-0.9**
STKA	comp=Z,93nm,18.1s,baz=43,slow=38			LR	LR	23 50 38.8	
FITZ	**Fitzroy Crossi** comp=Z,12nm,0.8s,baz=72,slow=6.3,SNR=16	**29.69**	**242**	P	**P**	**23 38 57.1**	**-0.3**
DAV	**Davao City (W)** comp=Z,121nm,18.0s,baz=219,slow=36	**30.14**	**294**	LR	LR	23 50 46.1	
FORT	**Forrest**	**34.57**	**220**	P	**P**	**23 39 39.8**	**-0.4**
MBWA	**Marble Bar**	**35.99**	**241**	P	**P**	**23 39 52.8**	**+0.3**
TUWZ	**Tuamarina**	**40.44**	**156**	P	**P**	**23 40 30.6**	**+0.9**
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.6s,baz=119,slow=5.5,SNR=7.4	**58.42**	**295**	P	**P**	**23 42 48.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**58.42**	**295**	P	**P**	**23 42 47.5**	**+0.3**
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=144,slow=6.3,SNR=5.0	**66.97**	**328**	P	**P**	**23 43 44.3**	**+0.3**
SONM	**Songino Array**	**66.97**	**328**	P	**P**	**23 43 44.5**	**+0.6**
VNDA	**Vanda** comp=Z,2.4nm,0.8s,baz=310,slow=8.2,SNR=5.0	**72.26**	**178**	P	**P**	**23 44 16.5**	**+0.6**
VNDA	**Vanda** 0.8s	**72.26**	**178**	P	**P**	**23 44 16.7**	**+0.8**
VNDA	comp=Z,3.5nm,0.8s			IAmb	IAmb	23 44 17.5	
IMAR	**Indian Mountai**	**80.80**	**19**	P	**P**	**23 45 03.4**	**-0.9**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.8s,baz=106,slow=5.3,SNR=7.1	**80.97**	**319**	P	**P**	**23 45 05.7**	**0.0**
MKAR	**Makanchi Array**	**80.97**	**319**	P	**P**	**23 45 05.2**	**-0.5**
ZAA0	**Zalesovo Array**	**81.80**	**326**	P	**P**	**23 45 09.6**	**-0.2**
ZAA0	comp=Z,2.2nm,0.8s			IAmb	IAmb	23 45 10.3	
ZALV	**Zalesovo Beam** comp=Z,2.2nm,0.8s,baz=117,slow=5.3,SNR=8.0	**81.80**	**326**	P	**P**	**23 45 09.3**	**-0.5**

ZALV	**Zalesovo Beam**	**81.80**	**326**	P	**P**	**23 45 09.6**	**-0.2**
ILAR	**Eielson Array**	**82.55**	**22**	P	**P**	**23 45 13.3**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=232,slow=5.6,SNR=4.5						
ILAR				LR	LR	00 24 38.9	
	comp=Z,82nm,18.0s,baz=178,slow=38						
KURK	**Kurchatov**	**84.41**	**322**	P	**P**	**23 45 23.2**	**-0.2**
KURK				IAmb	IAmb	23 45 24.1	
	comp=Z,4.1nm,1.0s						
KURBB	**Kurchatov Arra**	**84.44**	**322**	P	**P**	**23 45 23.1**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=109,slow=4.2,SNR=12						
QSPA	**South Pole Qui**	**84.60**	**180**	P	**P**	**23 45 24.4**	**+0.1**
	comp=Z,4.5nm,0.6s,baz=3.9,slow=0.9,SNR=22						
QSPA	**South Pole Qui**	**84.60**	**180**	P	**P**	**23 45 24.6**	**+0.3**
BMAR	**Burnt Mountain**	**84.66**	**20**	P	**P**	**23 45 24.6**	**+0.2**
GERES	**GERESS Array B**	**124.70**	**328**	PKP	**PKPdf**	**23 51 50.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=116,slow=3.1,SNR=4.1						
GERES	**GERESS Array B**	**124.70**	**328**		**PKPdf**	**23 51 49.4**	**-1.4**
BDFB	**Brasilia**	**150.44**	**135**	PKPbc	**PKPbc**	**23 52 43.3**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=33,slow=20,SNR=5.1						
TORD	**Torodi Ar. Bea**	**150.79**	**287**	PKPbc	**PKPbc**	**23 52 43.8**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=61,slow=2.4,SNR=27						
TORD	**Torodi Ar. Bea**	**150.79**	**287**		**PKPbc**	**23 52 44.0**	**-0.4**

*IDC **26** 23:55:43.3±2.0, 59.°72N×153.°37W, h95km±32km, mb3.2/2, mb1 3.3/6, mb1mx2.8/53, mbtmp3.5/6, Error ellipse: s-maj=34.1km s-min=17.0km az=113.0*
*NEIC **26** 23:55:43.6±1.3, 59.°73N±0.°02×153.°14W±0.°07, h115km±5km, Error ellipse: s-maj=5.8km s-min=1.6km az=60.0*
*AEIC **26** 23:55:45±1.6, 59.°72N±0.°04×153.°16W±0.°06, h106km±3km, ML2.8, ML3.2/92(NEIC), Error ellipse: s-maj=5.4km s-min=3.9km az=161.0*

ISC 26 23:55:44.1±0.9, 59.°75N±0.°04×153.°11W±0.°05, h112km±7km, n116, σ0.89/126, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.12**	**212**		**Pn**	**23 55 59.3**	**-0.2**
AUL	**Augustine Lava**	**0.40**	**204**		**Pn**	**23 56 00.4**	**-0.2**
AUL					**Sn**	**23 56 12.5**	**-0.4**
O20K	**Slope Mountain**	**0.41**	**36**		**Pn**	**23 56 00.7**	**0.0**
O20K					**Sn**	**23 56 13.0**	**-0.1**
AUQ	**Augustine Qik'**	**0.42**	**201**		**Pn**	**23 56 00.7**	**0.0**
AUQ					**Sn**	**23 56 12.8**	**-0.4**
RED	**Redoubt Volcan**	**0.69**	**14**		**Pn**	**23 56 02.5**	**-0.1**
RSO	**Redoubt South**	**0.74**	**14**		**Pn**	**23 56 03.0**	**-0.1**
HOM	**Homer**	**0.75**	**96**	Pn	**Pn**	**23 56 02.7**	**-0.2**
HOM				IAML		23 56 18.8	
	comp=E,731nm,0.5s						
O19K	**Port Alsworth**	**0.76**	**307**		**Pn**	**23 56 02.6**	**-0.4**
NCT	**North Crescent**	**0.82**	**6**		**Pn**	**23 56 03.7**	**-0.1**
NCT					**Sn**	**23 56 18.2**	**-0.4**
Q19K	**Cape Douglas,**	**0.87**	**199**	Pn	**Pn**	**23 56 03.7**	**-0.4**
DFR	**Drift River**	**0.87**	**14**		**Pn**	**23 56 04.2**	**0.0**
DFR	**Drift River**	**0.87**	**14**		**Pn**	**23 56 04.1**	**0.0**
CNPM	**China Poot**	**0.98**	**102**		**Pn**	**23 56 05.1**	**-0.1**
CNPM					**Sn**	**23 56 20.8**	**-0.3**
BRLK	**Bradley Lake**	**1.13**	**88**	Pn	**Pn**	**23 56 06.4**	**-0.3**
BRLK				IAML		23 56 24.6	
	comp=E,441nm,0.1s						
BRLK				IAML		23 56 25.3	
	comp=N,388nm,0.2s						
P18K	**Big Mountain,**	**1.14**	**253**	Pn	**Pn**	**23 56 05.9**	**-1.0**
BRSE	**Bradley Lake S**	**1.20**	**89**		**Pn**	**23 56 07.5**	**0.0**
BRSE					**Sn**	**23 56 24.7**	**-0.6**
N19K	**Bonanza Creek**	**1.27**	**328**		**Pn**	**23 56 08.2**	**-0.2**
N19K				Sn	**Sn**	**23 56 25.6**	**-1.2**
CAPN	**Captain Cook N**	**1.41**	**43**	Pn	**Pn**	**23 56 11.4**	**+1.5**
CAPN				IAML		23 56 33.7	
	comp=N,614nm,0.7s						
CAPN				IAML		23 56 34.0	
	comp=E,288nm,0.5s						
SLKM	**Skilak Lake**	**1.63**	**61**		**Pn**	**23 56 13.1**	**+0.6**
SPNN	**North Nagishla**	**1.64**	**7**		**Pn**	**23 56 13.1**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.64**	**19**		**Pn**	**23 56 13.0**	**+0.3**
KCG	**Knife Ck. Glac**	**1.78**	**216**		**Pn**	**23 56 14.4**	**+0.1**
O22K	**Cooper Landing**	**1.85**	**65**	Pn	**Pn**	**23 56 15.6**	**+0.4**
O22K				Sn	**Sn**	**23 56 37.6**	**-1.3**
O22K				IAML		23 56 47.4	
	comp=N,430nm,0.6s						
STLK	**Strandline Lak**	**1.86**	**19**		**Pn**	**23 56 16.0**	**+0.6**
SEW	**Seward**	**1.88**	**77**	Pn	**Pn**	**23 56 15.0**	**-0.5**
KDAK	**Kodiak Island**	**1.99**	**172**	P	**Pn**	**23 56 16.0**	**-1.0**
	comp=N,17nm,0.3s,baz=17,slow=13,SNR=38						
KDAK				S	**Sn**	**23 56 40.2**	**-1.9**
	comp=N,14nm,0.3s,baz=333,slow=22,SNR=28						
KDAK	**Kodiak Island**	**1.99**	**172**	Pn	**Pn**	**23 56 15.3**	**-1.6**
KDAK				IAML		23 56 43.1	
	comp=N,153nm,0.2s						
RC01	**Rabbit Creek A**	**2.15**	**50**	Pn	**Pn**	**23 56 19.2**	**+0.3**
RC01				IAML		23 56 47.5	
	comp=E,277nm,0.2s						
RC01				IAML		23 56 48.0	
	comp=N,207nm,0.2s						
M19K	**Big River Lodg**	**2.25**	**344**	Pn	**Pn**	**23 56 20.1**	**-0.2**
M22K	**Willow**	**2.49**	**35**	Pn	**Pn**	**23 56 23.1**	**-0.2**
OHAK	**Old Harbor**	**2.54**	**182**	Pn	**Pn**	**23 56 22.5**	**-1.4**
OHAK				IAML		23 56 54.4	
	comp=N,70nm,1.6s						
OHAK				IAML		23 56 56.3	
	comp=E,83nm,2.6s						
L19K	**White Mountain**	**2.58**	**342**	Pn	**Pn**	**23 56 24.5**	**-0.1**
PWL	**Port Wells**	**2.62**	**63**	Pn	**Pn**	**23 56 24.8**	**-0.3**
PMR	**Palmer**	**2.69**	**45**	Pn	**Pn**	**23 56 25.3**	**-0.7**
PMR				IAML		23 56 58.0	
	comp=N,74nm,0.2s						
PMR				IAML		23 56 58.1	
	comp=E,51nm,0.1s						
L20K	**Farewell, AK**	**2.76**	**353**		**Pn**	**23 56 27.5**	**+0.5**
KNK	**Knik Glacier**	**2.84**	**52**	Pn	**Pn**	**23 56 27.4**	**-0.5**
GHO	**Glory Hole Cre**	**2.89**	**44**	Pn	**Pn**	**23 56 28.1**	**-0.6**
GHO				IAML		23 57 03.0	
	comp=N,75nm,0.3s						
GHO				IAML		23 57 05.6	
	comp=E,77nm,0.3s						
CUT	**Chulitna**	**3.00**	**26**	Pn	**Pn**	**23 56 30.3**	**+0.3**
CUT				IAML		23 57 01.8	
	comp=N,45nm,3.1s						
CUT				IAML		23 57 25.0	
	comp=E,62nm,2.7s						
SML	**Sawmill**	**3.12**	**47**	Pn	**Pn**	**23 56 30.9**	**-0.8**
SML				IAML		23 57 08.4	
	comp=E,42nm,0.7s						
SML				IAML		23 57 08.6	
	comp=N,53nm,0.7s						
PPLA	**Purkeypile**	**3.19**	**8**	Pn	**Pn**	**23 56 34.1**	**+1.4**
SII	**Sitkinak Islan**	**3.25**	**191**	Pn	**Pn**	**23 56 32.9**	**-0.5**
TTA	**Tatalina**	**3.48**	**338**	Pn	**Pn**	**23 56 35.9**	**-0.6**
SCM	**Sheep Creek Mo**	**3.52**	**51**	Pn	**Pn**	**23 56 36.4**	**-0.6**
SCM				IAML		23 57 27.6	
	comp=E,62nm,4.1s						
SCM				IAML		23 57 36.0	
	comp=N,57nm,3.5s						
K20K	**Telida**	**3.65**	**353**	Pn	**Pn**	**23 56 38.7**	**+0.1**
CAST	**Castle Rocks**	**3.71**	**7**	Pn	**Pn**	**23 56 39.9**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.77**	**75**	Pn	**Pn**	**23 56 40.4**	**+0.2**
DIV	**Divide**	**3.89**	**66**	Pn	**Pn**	**23 56 42.7**	**+0.7**
KLU	**Klutina**	**3.95**	**61**		**Pn**	**23 56 42.1**	**-0.6**
KLU				IAML		23 57 29.8	
	comp=E,44nm,0.2s						
TRF	**Thorofare Moun**	**3.95**	**19**	Pn	**Pn**	**23 56 43.1**	**+0.2**
TRF				IAML		23 58 47.2	
	comp=N,32nm,4.8s						
TRF				IAML		23 59 06.9	
	comp=E,24nm,4.0s						
KTH	**Kantishna Hill**	**3.96**	**14**	Pn	**Pn**	**23 56 42.5**	**-0.3**
KTH				IAML		23 58 04.5	
	comp=E,17nm,4.9s						
KTH				IAML		23 58 09.0	
	comp=N,20nm,4.2s						
M24K	**Tolsona, Glenn**	**4.13**	**52**	Pn	**Pn**	**23 56 45.1**	**0.0**
CHUM	**Lake Minchumin**	**4.17**	**5**		**Pn**	**23 56 46.1**	**+0.6**
RND	**Reindeer**	**4.20**	**27**		**Pn**	**23 56 46.4**	**+0.4**
RND				IAML		23 59 14.4	
	comp=E,15nm,4.9s						
RND				IAML		23 59 19.2	
	comp=N,18nm,4.9s						
KAIM	**Kayak Island**	**4.39**	**84**	Pn	**Pn**	**23 56 49.5**	**+1.0**
BMRM	**Bremner River**	**4.40**	**70**		**Pn**	**23 56 48.8**	**0.0**
BMRM				IAML		23 59 13.0	
	comp=N,48nm,4.3s						
BMRM				IAML		23 59 14.8	
	comp=E,34nm,3.7s						
CHGN	**Chignik**	**4.46**	**221**	Pn	**Pn**	**23 56 49.4**	**-0.1**
CHGN				IAML		23 57 42.3	
	comp=E,48nm,2.4s						
MCK	**McKinley**	**4.46**	**25**	Pn	**Pn**	**23 56 50.0**	**+0.5**
MCK				IAML		23 58 28.9	
	comp=N,25nm,4.4s						
MCK				IAML		23 58 49.5	
	comp=E,25nm,4.6s						
J20K	**Nowinta River**	**4.47**	**354**		**Pn**	**23 56 50.0**	**+0.4**
J20K				IAML		23 57 43.3	
	comp=N,21nm,4.6s						
HMT	**Hamilton**	**4.48**	**79**	Pn	**Pn**	**23 56 50.3**	**+0.6**
BPAW	**Bear Paw Mtn.**	**4.48**	**12**		**Pn**	**23 56 49.5**	**-0.3**
BPAW				IAML		23 57 27.3	
	comp=N,16nm,4.5s						
BPAW				IAML		23 58 23.0	
	comp=E,18nm,4.1s						
N25K	**Chitina, Valde**	**4.58**	**62**	Pn	**Pn**	**23 56 51.8**	**+0.6**
N25K				IAML		23 57 44.1	
	comp=E,27nm,0.6s						
N25K				IAML		23 57 44.7	
	comp=N,24nm,0.7s						
BERG	**Berg Lake**	**4.76**	**78**	Pn	**Pn**	**23 56 53.1**	**-0.5**
GLB	**Gilahina Butte**	**4.89**	**66**	Pn	**Pn**	**23 56 55.1**	**-0.3**
GLB				IAML		23 57 51.9	
	comp=N,29nm,0.9s						
GLB				IAML		23 57 52.2	
	comp=E,23nm,1.4s						
PAX	**Paxson**	**4.89**	**45**	Pn	**Pn**	**23 56 55.3**	**-0.1**
VRDI	**Verde Repeater**	**5.00**	**69**		**Pn**	**23 56 57.0**	**0.0**
VRDI				IAML		23 58 12.5	
	comp=N,23nm,4.0s						
VRDI				IAML		23 58 43.2	
	comp=E,24nm,4.8s						
SNH	**Sunshine Point**	**5.18**	**81**	Pn	**Pn**	**23 56 58.6**	**-0.7**
WAX	**Waxell Ridge**	**5.18**	**78**	Pn	**Pn**	**23 56 59.6**	**+0.3**
NEA2	**Nenana**	**5.22**	**20**	Pn	**Pn**	**23 56 59.3**	**-0.4**
NEA2				IAML		23 57 50.9	
	comp=N,14nm,4.3s						
NEA2				IAML		23 59 29.3	
	comp=E,18nm,5.0s						
WRH	**Wood River Hil**	**5.29**	**24**	Pn	**Pn**	**23 57 00.2**	**-0.5**
WRH				IAML		23 59 04.0	
	comp=E,19nm,5.0s						
WRH				IAML		23 59 31.0	
	comp=N,13nm,4.8s						
MLY	**Manley**	**5.41**	**11**	Pn	**Pn**	**23 57 03.2**	**+0.8**
ISLE	**Juniper Island**	**5.45**	**76**	Pn	**Pn**	**23 57 03.0**	**+0.1**
I21K	**Tanana**	**5.48**	**5**	Pn	**Pn**	**23 57 03.2**	**+0.1**
BALM	**Baldy**	**5.49**	**72**		**Pn**	**23 57 04.5**	**+1.0**
HDA	**Harding Lake**	**5.50**	**29**		**Pn**	**23 57 03.2**	**-0.2**
CCB	**Clear Creek Bu**	**5.50**	**25**		**Pn**	**23 57 03.3**	**-0.3**
M26K	**Nabesna, AK**	**5.58**	**57**		**Pn**	**23 57 05.8**	**+1.1**
RIDG	**Independent Ri**	**5.61**	**41**	Pn	**Pn**	**23 57 05.7**	**+0.7**
MESA	**MESA**	**5.62**	**81**	Pn	**Pn**	**23 57 06.0**	**+0.6**
I23K	**Minto, Yukon-K**	**5.69**	**16**	Pn	**Pn**	**23 57 06.1**	**+0.1**
TCOL	**CIGO, UAF Yank**	**5.69**	**23**	Pn	**Pn**	**23 57 06.3**	**+0.2**
COLA	**College**	**5.70**	**23**	Pn	**Pn**	**23 57 05.9**	**-0.2**
MDM	**Murphy Dome**	**5.70**	**21**	Pn	**Pn**	**23 57 05.8**	**-0.5**
YAH	**Yahtse**	**5.73**	**79**	Pn	**Pn**	**23 57 08.0**	**+1.2**
IL31		**5.81**	**27**		**Pn**	**23 57 07.4**	**-0.3**
ILAR	**Eielson Array**	**5.81**	**27**	P	**Pn**	**23 57 07.2**	**-0.5**
	comp=N,1.3nm,0.3s,baz=216,slow=13,SNR=28						
ILAR				S	**Sn**	**23 58 09.3**	**-3.7**
	comp=N,0.4nm,0.3s,baz=335,slow=28,SNR=3.2						
ILAR	**Eielson Array**	**5.81**	**27**	Pn	**Pn**	**23 57 06.9**	**-0.9**
BARN	**Barnard Glacie**	**5.83**	**72**	Pn	**Pn**	**23 57 09.0**	**+0.9**
H21K	**Melozitna Rive**	**5.93**	**1**	Pn	**Pn**	**23 57 09.1**	**-0.3**
POKR	**Poker Plat Res**	**6.00**	**24**	Pn	**Pn**	**23 57 10.4**	**+0.2**
TABL	**Table Mountain**	**6.03**	**78**	Pn	**Pn**	**23 57 11.8**	**+0.9**
M27K	**Edge Creek, AK**	**6.05**	**60**	Pn	**Pn**	**23 57 12.4**	**+1.4**
SCRK	**Sand Creek**	**6.05**	**42**	Pn	**Pn**	**23 57 10.3**	**-0.7**
IM03		**6.26**	**358**		**Pn**	**23 57 14.8**	**+1.0**
IMAR	**Indian Mountai**	**6.26**	**358**	Pn	**Pn**	**23 57 14.4**	**+0.6**
L27K	**Beaver Creek,**	**6.35**	**54**	Pn	**Pn**	**23 57 16.4**	**+1.3**
BCAR	**Beaver Creek A**	**6.37**	**54**	Pn	**Pn**	**23 57 16.2**	**+0.8**
PCA	**Pinnacle**	**6.47**	**81**	Pn	**Pn**	**23 57 17.8**	**+1.0**
J26L	**Joseph Creek**	**6.54**	**39**	Pn	**Pn**	**23 57 17.6**	**-0.1**
H24K	**Noodor Dome**	**6.56**	**19**	Pn	**Pn**	**23 57 17.8**	**-0.1**
PRP	**Porcupine Dome**	**6.76**	**28**		**Pn**	**23 57 20.4**	**-0.2**
BCPM	**Bancas Point**	**6.79**	**82**	Pn	**Pn**	**23 57 22.7**	**+1.6**
EGAK	**Eagle**	**7.51**	**43**	Pn	**Pn**	**23 57 29.6**	**-1.1**
FYU	**Fort Yukon**	**7.71**	**24**	Pn	**Pn**	**23 57 32.9**	**-0.4**
DAWV	**Dawson**	**7.78**	**50**	Pn	**Pn**	**23 57 35.7**	**+1.3**
BMAR	**Burnt Mountain**	**8.58**	**23**	Pn	**Pn**	**23 57 44.1**	**-1.1**
TOLK	**Toolik Lake Re**	**9.06**	**8**	Pn	**Pn**	**23 57 53.1**	**+1.5**
WHY	**Whitehorse**	**9.12**	**76**	Pn	**Pn**	**23 57 54.4**	**+1.7**
EPYK	**Eagle Plains**	**9.94**	**41**	Pn	**Pn**	**23 58 06.5**	**+2.9**
P33M	**Teslin, Yukon**	**10.17**	**79**	Pn	**Pn**	**23 58 07.8**	**+0.9**
DLBC	**Dease Lake**	**11.93**	**86**	P	**Pn**	**23 58 32.8**	**+2.4**
	comp=N,0.4nm,0.3s,baz=294,slow=20,SNR=2.1						
DLBC	**Dease Lake**	**11.93**	**86**	Pn	**Pn**	**23 58 32.4**	**+2.1**
INK	**Inuvik**	**12.07**	**37**	P	**Pn**	**23 58 34.3**	**+2.2**
	comp=N,0.1nm,0.3s,baz=233,slow=15,SNR=1.5						
INK	**Inuvik**	**12.07**	**37**	Pn	**Pn**	**23 58 30.8**	**-1.3**
YKA	**Yellowknife Ar**	**18.61**	**65**	P	**Pn**	**23 59 53.8**	**-0.1**
	comp=N,0.1nm,0.3s,baz=277,slow=9.8,SNR=5.7						
SONM	**Songino Array**	**54.89**	**306**	P	**P**	**00 05 03.3**	**+0.5**
	comp=N,0.2nm,0.6s,baz=75,slow=7.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**57.54**	**324**	P	**P**	**00 05 21.6**	**+0.3**
	comp=N,0.5nm,0.4s,baz=30,slow=6.7,SNR=2.3						

*CNRM **27** 00:05:28.9, 35.°51N×3.°71W, h19km, ml2.9*
*SFS **27** 00:05:29.0, 35.°56N×3.°78W, ML2.3, ALBORAN SUR*

ISC 27 00:05:28.7±1.4, 35.°52N±0.°03×3.°73W±0.°04, h20km±5km, n12, σ1.9/41/22, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**210**	P	**Pg**	**00 05 36.0**	**-0.2**
PALE				S	**Sg**	**00 05 40.6**	**-0.6**
CHAS	**Isla Isabel II**	**1.11**	**107**	*e*P	**Pn**	**00 05 49.1**	**0.0**
CHAS				*e*S	**Sb**	**00 06 03.2**	**-0.1**
EMAL	**Malaga-Limoner**	**1.36**	**336**	*e*P	**Pb**	**00 05 53.5**	**0.0**
EMAL				*e*S	**Sb**	**00 06 10.4**	**-0.1**
CEU	**Ceuta**	**1.39**	**286**	*e*P	**Pn**	**00 05 51.7**	**-1.2**
CEU				*e*S	**Sn**	**00 06 07.4**	**-3.3**
JBK	**JBK**	**1.52**	**141**	P	**Pn**	**00 05 54.8**	**-0.2**
JBK				S	**Sb**	**00 06 15.5**	**+0.2**
SICH	**Sidi Chahed**	**1.92**	**223**	P	**Pb**	**00 06 02.6**	**-0.5**
SICH				S	**Sb**	**00 06 27.6**	**+1.0**
LCRM	**LCR**	**2.05**	**207**	P	**Pn**	**00 06 03.7**	**+1.4**
LCRM				S	**Sb**	**00 06 30.2**	**-0.3**
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**00 06 14.7**	**+2.3**
MDT				S	**Sn**	**00 06 45.5**	**-0.1**
CART	**Cartagena**	**3.01**	**46**	P	**Pn**	**00 06 16.5**	**+1.3**
CART				S	**Sn**	**00 06 49.8**	**-1.0**
ZHG	**ZHG**	**3.17**	**230**	P	**Pn**	**00 06 18.4**	**+0.9**
PVAQ	**Vaqueiros**	**3.72**	**301**	P	**Pn**	**00 06 26.7**	**+1.7**
PVAQ				S	**Sn**	**00 07 07.8**	**-0.5**
PESTR	**Estremoz**	**4.54**	**318**	P	**Pn**	**00 06 39.2**	**+2.8**

*IPEC **27** 00:11:34.1±0.3, 51.°55N×16.°18E, h0km, ML1.9/3, Error ellipse: s-maj=3.1km s-min=1.4km az=57.0*
*VIE **27** 00:11:34.3±0.7, 51.°53N×16.°23E, h0km, mb2.5/3, ml2.5/3, Error ellipse: s-maj=8.3km s-min=2.8km az=65.0 73 km NW of Wroclaw Suspected Mining induced.*
*PRU **27** 00:11:35.3±0.0, 51.°50N×16.°10E, h0km*

ISC 27 00:11:33.8±1.3, 51.°58N±0.°06×16.°17E±0.°03, h0km, n27, σ1.9/04/51, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**174**	*e*Pg	**Pg**	**00 11 47.9**	**-0.1**
KSP				*e*Sg	**Sg**	**00 11 57.2**	**-0.3**
CHVC	**Chvalec**	**0.99**	**184**	*e*PG	**Pg**	**00 11 52.8**	**0.0**
CHVC				*e*SG	**Sg**	**00 12 05.4**	**-0.3**
	comp=Z,29nm,0.3s						
OSTC	**Ostas**	**1.02**	**179**	*e*PG	**Pg**	**00 11 53.4**	**0.0**
OSTC				*e*SG	**Sg**	**00 12 06.0**	**-0.6**
	comp=Z,19nm,0.3s						
UPC	**Upice**	**1.08**	**186**	*e*PG	**Pg**	**00 11 54.0**	**-0.4**
UPC				*e*SG	**Sg**	**00 12 07.1**	**-1.2**
	comp=Z,47nm,0.3s						
DPC	**Dobruska-Polom**	**1.23**	**176**	*e*PG	**Pg**	**00 11 56.8**	**-0.6**
DPC				*e*SG	**Sg**	**00 12 12.1**	**-1.3**
	comp=Z,15nm,0.2s						
PVCC	**Panska Ves**	**1.46**	**225**	*e*PG	**Pn**	**00 12 01.3**	**-0.1**
PVCC				*e*SG	**Sg**	**00 12 20.0**	**-0.7**
	comp=Z,56nm,0.5s						
KRLC	**Kraliky**	**1.55**	**165**	*e*PG	**Pn**	**00 12 02.7**	**0.0**
KRLC				*e*SG	**Sg**	**00 12 22.7**	**-0.9**
	comp=Z,17nm,0.5s						
BRG	**Berggiesshubel**	**1.57**	**244**	Pg	**Pn**	**00 12 03.0**	**0.0**
BRG				Sg	**Sn**	**00 12 23.2**	**-0.7**
BRG				Amp		00 12 24.4	
	comp=Z,39nm,0.9s						
PRU	**Pruhonice**	**1.90**	**214**	*e*PG	**Pb**	**00 12 08.4**	**-0.9**
PRU				*e*SG	**Sn**	**00 12 32.1**	**0.0**
	comp=Z,14nm,0.3s						
MORC	**Moravsky Berou**	**2.00**	**154**	*e*Pn	**Pn**	**00 12 08.6**	**-0.3**
	baz=334						
MORC				*e*Sg	**Sb**	**00 12 35.9**	**-0.7**
	comp=Z,9.3nm,0.3s,baz=334						
CLL	**Collm**	**2.00**	**263**	*e*Pg	**Pb**	**00 12 11.0**	**-0.1**
CLL				*e*x	x	00 12 13.0	
CLL				*e*Sg	**Sg**	**00 12 37.0**	**-1.1**
	comp=Z,12nm,0.6s						
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*SG	**Sb**	**00 12 41.0**	**+0.3**
VRAC	**Vranov**	**2.29**	**173**	*e*Pn	**Pn**	**00 12 12.6**	**-0.2**
	baz=353						
VRAC				*e*Sg	**Sb**	**00 12 44.7**	**0.0**
	comp=Z,6.1nm,0.3s,baz=353						
VRAC	**Vranov**	**2.29**	**173**	*e*PN	**Pn**	**00 12 12.7**	**-0.1**
VRAC				*e*SG	**Sb**	**00 12 44.8**	**0.0**
TREC	**Trest**	**2.33**	**191**	*e*PN	**Pn**	**00 12 13.1**	**-0.3**
TREC				*e*PG	**Pb**	**00 12 16.7**	**+0.1**
TREC				*e*SG	**Sb**	**00 12 46.5**	**+0.6**
KRUC	**Moravsky**	**2.52**	**177**	*e*Pn	**Pn**	**00 12 16.2**	**+0.2**
	baz=357						
KRUC				*e*Sg	**Sb**	**00 12 52.0**	**+0.5**
	comp=Z,4.8nm,0.3s,baz=357						
OJC	**Ojcow**	**2.67**	**119**	*e*Pg	**Pg**	**00 12 24.9**	**0.0**
OJC				*e*Sg	**Sg**	**00 13 00.6**	**+1.2**
NKC	**Novy Kostel**	**2.72**	**242**	*e*SG	**Sg**	**00 13 00.5**	**-0.5**
	comp=Z,27nm,0.3s						
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN	**Pn**	**00 12 22.2**	**+0.1**
KHC				*e*PG	**Pb**	**00 12 26.9**	**-0.5**
KHC				*e*SG	**Sb**	**00 13 05.2**	**+1.1**
	comp=Z,4.4nm,0.3s						
CKRC	**Cesky Krumlov**	**3.01**	**204**	*e*PN	**Pn**	**00 12 22.8**	**+0.1**
CKRC				*e*PG	**Pb**	**00 12 28.1**	**-0.2**
CKRC				*e*SG	**Sb**	**00 13 07.0**	**+1.5**
SMOL	**Smolenice**	**3.17**	**165**	*e*SG	**Sg**	**00 13 13.2**	**-2.5**
LANS	**Liptovska Anna**	**3.22**	**138**	*e*PN	**Pn**	**00 12 26.5**	**+0.9**
LANS				*e*PG	**Pg**	**00 12 35.7**	**+0.3**
LANS				*e*SG	**Sg**	**00 13 16.5**	**-0.6**
MODS	**Modra-Piesok**	**3.29**	**167**	*e*PG	**Pg**	**00 12 37.5**	**+0.8**
MODS				*e*SG	**Sg**	**00 13 19.0**	**-0.3**
VYHS	**Vyhne**	**3.53**	**150**	*e*PG	**Pg**	**00 12 42.1**	**+0.6**
CONA	**Conrad Observa**	**3.66**	**183**	*e*Pn	**Pn**	**00 12 31.9**	**+0.2**
	comp=Z,0.2nm,0.2s						
MOA	**Molln**	**3.93**	**199**	*i* Pn	**Pn**	**00 12 35.5**	**+0.1**
	comp=Z,0.5nm,0.3s						
KBA	**Koelnbreinsper**	**4.87**	**203**	Sg	**Sg**	**00 14 15.5**	**+5.4**
	comp=Z,2.4nm,0.5s						

IDC 27 00:28:12.5±5.3, 4.°40S×135.°40E, h60km±43km, mb3.0/1, mb1 3.6/4, mb1mx3.0/38, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=67.2km s-min=18.6km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.48**	**184**	P	Pn	00 31 46.3	-1.1
	0.2nm,0.3s,baz=3.6,slow=13,SNR=6.7						
WRA				S	Sn	00 34 36.5	-1.5
	0.2nm,0.3s,baz=16,slow=24,SNR=2.0						
FITZ	**Fitzroy Crossi**	**16.63**	**214**	P	P	00 32 03.1	-0.2
	0.2nm,0.3s,baz=29,slow=12,SNR=6.2						
FITZ				S	Sn	00 35 05.3	-0.4
	0.1nm,0.3s,baz=182,slow=15,SNR=2.3						
ASAR	**Alice Springs**	**19.21**	**184**	P	P	00 32 32.5	+0.6
	0.1nm,0.3s,baz=6.2,slow=11,SNR=7.0						
ASAR				S	Sn	00 36 07.5	-0.6
	0.1nm,0.3s,baz=2.0,slow=29,SNR=4.5						
MKAR	**Makanchi Array**	**69.15**	**324**	P	P	00 39 12.5	-0.2
	0.2nm,0.

NCT					Sn	01 14 12.4	-0.8
Q19K	**Cape Douglas,**	**0.85**	**199**	Pn	Pn	01 13 57.9	-0.3
Q19K				IAML		01 14 18.0	
	comp=N,536nm,0.7s						
Q19K	**Cape Douglas,**	**0.85**	**199**	P	Pn	01 13 58.1	-0.1
	baz=18,SNR=16						
Q19K				S	Sn	01 14 12.7	-0.6
	baz=18						
DFR	**Drift River**	**0.89**	**14**		Pn	01 13 58.6	0.0
DFR					Sn	01 14 13.4	-0.6
CNPM	**China Poot**	**0.98**	**101**		Pn	01 13 59.4	-0.1
CNPM				Sn	Sn	01 14 14.6	-0.9
P18K	**Big Mountain,**	**1.13**	**253**	Pn	Pn	01 14 00.3	-0.7
P18K	**Big Mountain,**	**1.13**	**253**	P	Pn	01 14 00.4	-0.6
	baz=72						
P18K				S	Sn	01 14 16.8	-1.4
	baz=72						
BRLK	**Bradley Lake**	**1.13**	**87**		Pn	01 14 00.7	-0.4
BRLK				IAML		01 14 19.5	
	comp=N,495nm,0.1s						
BRLK				IAML		01 14 22.0	
	comp=E,378nm,0.1s						
BRSE	**Bradley Lake S**	**1.21**	**89**		Pn	01 14 01.8	0.0
BRSE					Sn	01 14 19.1	-0.6
BRSE	**Bradley Lake S**	**1.21**	**89**	P	Pn	01 14 01.7	-0.2
	baz=270						
BRSE				S	Sn	01 14 19.1	-0.6
	baz=270						
N19K	**Bonanza Creek**	**1.28**	**328**	Pn	Pn	01 14 02.5	-0.3
N19K	**Bonanza Creek**	**1.28**	**328**	P	Pn	01 14 02.6	-0.1
	baz=148						
N19K				S	Sn	01 14 20.0	-1.3
	baz=148						
CAPN	**Captain Cook N**	**1.43**	**43**	Pn	Pn	01 14 06.2	+2.0
CAPN				IAML		01 14 29.6	
	comp=E,571nm,0.4s						
CAPN	**Captain Cook N**	**1.43**	**43**	P	Pn	01 14 06.4	+2.1
	baz=224						
CAPN				S	Sn	01 14 24.7	+0.6
	baz=224						
SPU	**Mount Spurr**	**1.55**	**20**	Pn	Pn	01 14 05.7	-0.1
SPCN	**Chakachatna No**	**1.57**	**17**		Pn	01 14 06.4	+0.4
SLKM	**Skilak Lake**	**1.65**	**61**		Pn	01 14 06.8	-0.2
SPNN	**North Nagishla**	**1.65**	**7**		Pn	01 14 07.6	+0.4
SPCG	**Spurr Capps Gl**	**1.66**	**19**		Pn	01 14 07.7	+0.5
O22K	**Cooper Landing**	**1.86**	**65**	Pn	Pn	01 14 09.6	+0.1
O22K				IAML		01 14 35.5	
	comp=E,395nm,0.3s						
O22K	**Cooper Landing**	**1.86**	**65**	P	Pn	01 14 09.9	+0.4
	baz=247,SNR=7.6						
O22K				S	Sn	01 14 32.0	-1.3
	baz=247						
SEW	**Seward**	**1.88**	**77**	Pn	Pn	01 14 09.7	-0.1
SEW	**Seward**	**1.88**	**77**	P	Pn	01 14 09.7	-0.1
	baz=260						
SEW				S	Sn	01 14 33.0	-0.9
	baz=260						
KDAK	**Kodiak Island**	**1.98**	**172**	Pn	Pn	01 14 09.7	-1.4
KDAK	**Kodiak Island**	**1.98**	**172**	P	Pn	01 14 10.3	-0.7
	baz=352						
KDAK				S	Sn	01 14 34.9	-1.1
	baz=352						
RC01	**Rabbit Creek A**	**2.16**	**50**	Pn	Pn	01 14 13.9	+0.6
RC01				IAML		01 14 41.6	
	comp=E,312nm,0.3s						
RC01	**Rabbit Creek A**	**2.16**	**50**	P	Pn	01 14 13.5	+0.1
	baz=232						
RC01				S	Sn	01 14 39.3	-0.9
	baz=232						
M19K	**Big River Lodg**	**2.27**	**345**	Pn	Pn	01 14 14.8	+0.1
M19K	**Big River Lodg**	**2.27**	**345**	P	Pn	01 14 14.8	+0.1
	baz=164						
M22K	**Willow**	**2.50**	**35**	Pn	Pn	01 14 18.4	+0.7
M22K	**Willow**	**2.50**	**35**	P	Pn	01 14 18.0	+0.3
	baz=217						
M22K				S	Sn	01 14 48.2	+0.1
	baz=217						
OHAK	**Old Harbor**	**2.52**	**182**	Pn	Pn	01 14 16.7	-1.3
OHAK				IAML		01 14 54.1	
	comp=E,69nm,3.2s						
OHAK				IAML		01 14 56.8	
	comp=N,65nm,2.8s						
OHAK	**Old Harbor**	**2.52**	**182**	P	Pn	01 14 16.9	-1.1
	baz=1.6						
OHAK				S	Sn	01 14 47.0	-1.5
	baz=1.6						
L19K	**White Mountain**	**2.60**	**342**	Pn	Pn	01 14 18.7	-0.3
L19K	**White Mountain**	**2.60**	**342**	P	Pn	01 14 19.0	-0.1
	baz=161						
PWL	**Port Wells**	**2.64**	**63**	Pn	Pn	01 14 19.1	-0.4
PWL	**Port Wells**	**2.64**	**63**	P	Pn	01 14 19.1	-0.4
	baz=246						
PWL				S	Sn	01 14 49.5	-1.7
	baz=246						
PMR	**Palmer**	**2.71**	**45**	Pn	Pn	01 14 20.0	-0.3
PMR				IAML		01 14 52.3	
	comp=N,84nm,0.2s						
PMR				IAML		01 14 53.2	
	comp=E,81nm,0.2s						
PMR	**Palmer**	**2.71**	**45**	P	Pn	01 14 20.1	-0.3
	baz=228						
PMR				S	Sn	01 14 51.0	-1.8
	baz=228						
L20K	**Farewell, AK**	**2.78**	**353**	P	Pn	01 14 21.8	+0.4
	baz=172						
KNK	**Knik Glacier**	**2.85**	**52**	Pn	Pn	01 14 22.3	0.0
KNK	**Knik Glacier**	**2.85**	**52**	P	Pn	01 14 21.9	-0.4
	baz=236						
KNK				S	Sn	01 14 54.3	-2.0
	baz=236						
GHO	**Glory Hole Cre**	**2.90**	**43**	Pn	Pn	01 14 22.6	-0.5
GHO				IAML		01 14 58.2	
	comp=N,100nm,0.3s						
GHO				IAML		01 14 58.5	
	comp=E,125nm,0.6s						
CUT	**Chulitna**	**3.02**	**26**	Pn	Pn	01 14 24.5	+0.1
CUT				IAML		01 15 04.8	
	comp=N,78nm,0.4s						
CUT				IAML		01 15 06.6	
	comp=E,95nm,0.3s						
CUT	**Chulitna**	**3.02**	**26**	P	Pn	01 14 25.1	+0.7
	baz=209						
CUT				S	Sn	01 14 59.9	-0.2
	baz=209						
SML	**Sawmill**	**3.14**	**46**	Pn	Pn	01 14 25.5	-0.6
SML				IAML		01 15 02.2	
	comp=E,60nm,0.2s						
SML				IAML		01 15 02.9	
	comp=N,64nm,0.7s						
SML	**Sawmill**	**3.14**	**46**	P	Pn	01 14 25.6	-0.6
	baz=230						
SML				S	Sn	01 15 00.7	-2.3
	baz=230						
PPLA	**Purkeypile**	**3.21**	**8**	Pn	Pn	01 14 28.6	+1.5
PPLA	**Purkeypile**	**3.21**	**8**	P	Pn	01 14 28.3	+1.2
	baz=189,SNR=6.6						
TT01	**Tatalina**	**3.48**	**338**		Pn	01 14 30.4	-0.1
TTA	**Tatalina**	**3.50**	**338**	Pn	Pn	01 14 30.6	-0.3
TTA	**Tatalina**	**3.50**	**338**	P	Pn	01 14 30.6	-0.3
	baz=156,SNR=7.6						
SCM	**Sheep Creek Mo**	**3.54**	**51**	Pn	Pn	01 14 31.1	-0.3
SCM				IAML		01 15 14.1	
	comp=E,90nm,0.5s						
SCM				IAML		01 15 16.4	
	comp=N,72nm,0.6s						
SCM	**Sheep Creek Mo**	**3.54**	**51**	P	Pn	01 14 31.3	-0.1
	baz=236						
K20K	**Telida**	**3.67**	**353**		Pn	01 14 33.2	+0.2
K20K	**Telida**	**3.67**	**353**	P	Pn	01 14 33.3	+0.2
	baz=173						
CAST	**Castle Rocks**	**3.73**	**7**		Pn	01 14 34.5	+0.5
CAST	**Castle Rocks**	**3.73**	**7**	P	Pn	01 14 34.2	+0.2
	baz=188,SNR=14						
EYAK	**Cordova Ski Ar**	**3.77**	**74**	Pn	Pn	01 14 34.4	-0.2
EYAK	**Cordova Ski Ar**	**3.77**	**74**	P	Pn	01 14 34.0	-0.5
	baz=260						
DIV	**Divide**	**3.90**	**66**	Pn	Pn	01 14 36.9	+0.6
KLU	**Klutina**	**3.96**	**60**	Pn	Pn	01 14 37.3	+0.2
KLU				IAML		01 15 20.4	
	comp=E,64nm,0.2s						
KLU	**Klutina**	**3.96**	**60**	P	Pn	01 14 36.7	-0.4
	baz=246,SNR=5.2						
KLU				S	Sn	01 15 19.8	-2.9
	baz=246						
TRF	**Thorofare Moun**	**3.97**	**19**		Pn	01 14 37.7	+0.4
TRF				IAML		01 15 33.7	
	comp=E,27nm,4.0s						
TRF				IAML		01 15 36.7	
	comp=N,29nm,4.3s						
TRF	**Thorofare Moun**	**3.97**	**19**	P	Pn	01 14 37.6	+0.4
	baz=201,SNR=7.4						
KTH	**Kantishna Hill**	**3.97**	**14**	Pn	Pn	01 14 37.2	0.0
KTH				IAML		01 15 57.5	
	comp=N,20nm,4.4s						
KTH				IAML		01 16 00.1	
	comp=E,18nm,4.2s						
M24K	**Tolsona, Glenn**	**4.14**	**52**	Pn	Pn	01 14 39.5	0.0
M24K				IAML		01 16 23.1	
	comp=N,60nm,3.7s						
M24K	**Tolsona, Glenn**	**4.14**	**52**	P	Pn	01 14 39.5	0.0
	baz=238						
CHUM	**Lake Minchumin**	**4.18**	**5**		Pn	01 14 40.6	+0.7
CHUM	**Lake Minchumin**	**4.18**	**5**	P	Pn	01 14 40.3	+0.3
	baz=186						
RND	**Reindeer**	**4.21**	**27**		Pn	01 14 40.6	+0.2
RND				IAML		01 15 48.9	
	comp=E,24nm,3.8s						
RND				IAML		01 16 35.7	
	comp=N,24nm,4.6s						
KAIM	**Kayak Island**	**4.40**	**84**	P	Pn	01 14 43.4	+0.5
	baz=271						
BMRM	**Bremner River**	**4.41**	**70**	Pn	Pn	01 14 43.5	+0.4
BMRM				IAML		01 15 37.5	
	comp=E,42nm,3.4s						
BMRM				IAML		01 17 19.2	
	comp=N,34nm,5.0s						
BMRM	**Bremner River**	**4.41**	**70**	P	Pn	01 14 42.7	-0.4
	baz=257						
CHGN	**Chignik**	**4.45**	**222**	Pn	Pn	01 14 43.7	+0.1
MCK	**McKinley**	**4.48**	**25**	Pn	Pn	01 14 44.0	0.0
MCK				IAML		01 15 58.3	
	comp=E,30nm,5.0s						
MCK				IAML		01 16 13.8	
	comp=N,24nm,4.7s						
MCK	**McKinley**	**4.48**	**25**	P	Pn	01 14 44.3	+0.3
	baz=208,SNR=8.8						
HMT	**Hamilton**	**4.49**	**78**	Pn	Pn	01 14 44.3	+0.2
J20K	**Nowinta River**	**4.49**	**354**		Pn	01 14 44.5	+0.5
J20K				IAML		01 15 55.4	
	comp=N,15nm,4.7s						
J20K	**Nowinta River**	**4.49**	**354**	P	Pn	01 14 44.3	+0.2
	baz=174						
BPAW	**Bear Paw Mtn.**	**4.50**	**12**	Pn	Pn	01 14 43.8	-0.4
BPAW				IAML		01 16 32.0	
	comp=E,18nm,4.8s						
BPAW				IAML		01 17 18.2	
	comp=N,18nm,4.7s						
BPAW	**Bear Paw Mtn.**	**4.50**	**12**	P	Pn	01 14 44.0	-0.2
	baz=194						
N25K	**Chitina, Valde**	**4.59**	**62**	Pn	Pn	01 14 46.5	+0.9
N25K				IAML		01 16 05.5	
	comp=N,38nm,4.7s						
N25K	**Chitina, Valde**	**4.59**	**62**	P	Pn	01 14 45.9	+0.3
	baz=249,SNR=5.7						
HARP	**HAARP**	**4.70**	**52**	P	Pn	01 14 47.2	+0.2
	baz=239						
GLB	**Gilahina Butte**	**4.90**	**66**	Pn	Pn	01 14 49.8	+0.1
GLB				IAML		01 15 58.5	
	comp=N,31nm,4.4s						
GLB				IAML		01 16 22.5	
	comp=E,28nm,4.9s						
PAX	**Paxson**	**4.91**	**45**	Pn	Pn	01 14 50.1	+0.2
PAX	**Paxson**	**4.91**	**45**	P	Pn	01 14 49.8	0.0
	baz=232						
VRDI	**Verde Repeater**	**5.01**	**68**	Pn	Pn	01 14 51.7	+0.3
VRDI				IAML		01 17 23.1	
	comp=E,26nm,4.2s						
VRDI				IAML		01 17 56.0	
	comp=N,29nm,3.6s						
SNH	**Sunshine Point**	**5.19**	**81**	Pn	Pn	01 14 53.8	+0.2
WAX	**Waxell Ridge**	**5.19**	**78**	Pn	Pn	01 14 54.2	+0.5
NEA2	**Nenana**	**5.23**	**20**	Pn	Pn	01 14 53.7	-0.4
NEA2				IAML		01 16 55.8	
	comp=E,17nm,4.7s						
NEA2				IAML		01 17 36.1	
	comp=N,14nm,4.7s						
NEA2	**Nenana**	**5.23**	**20**	P	Pn	01 14 53.7	-0.4
	baz=203,SNR=12						
WRH	**Wood River Hil**	**5.31**	**24**		Pn	01 14 54.9	-0.2
WRH				IAML		01 17 23.7	
	comp=E,19nm,4.8s						
GCSA	**Galena City Sc**	**5.33**	**342**	P	Pn	01 14 54.6	-0.8
	baz=159						
MLY	**Manley**	**5.43**	**11**	Pn	Pn	01 14 56.8	0.0
MLY	**Manley**	**5.43**	**11**	P	Pn	01 14 56.6	-0.3
	baz=193						
ISLE	**Juniper Island**	**5.45**	**76**	Pn	Pn	01 14 57.3	+0.1
KIAG	**Kiagna River**	**5.48**	**73**		Pn	01 14 57.9	+0.3
I21K	**Tanana**	**5.49**	**5**	Pn	Pn	01 14 57.9	+0.2
I21K	**Tanana**	**5.49**	**5**	P	Pn	01 14 57.5	-0.1
	baz=186						
BALM	**Baldy**	**5.50**	**72**		Pn	01 14 58.6	+0.7
HDA	**Harding Lake**	**5.51**	**29**	Pn	Pn	01 14 57.5	-0.4
HDA	**Harding Lake**	**5.51**	**29**	P	Pn	01 14 57.6	-0.4
	baz=214,SNR=6.3						
CCB	**Clear Creek Bu**	**5.52**	**24**	Pn	Pn	01 14 57.4	-0.6
BAGL	**Bagley Icefiel**	**5.57**	**77**		Pn	01 14 59.4	+0.7
M26K	**Nabesna, AK**	**5.59**	**57**	Pn	Pn	01 15 00.3	+1.3
M26K	**Nabesna, AK**	**5.59**	**57**	P	Pn	01 14 60.0	+0.9
	baz=246						
RIDG	**Independent Ri**	**5.62**	**41**	Pn	Pn	01 14 59.6	+0.2
RIDG	**Independent Ri**	**5.62**	**41**	P	Pn	01 14 59.6	+0.2
	baz=228						
MESA	**MESA**	**5.63**	**81**	Pn	Pn	01 15 00.5	+0.8
MESA	**MESA**	**5.63**	**81**	P	Pn	01 15 00.1	+0.4
	baz=270						
PS08	**TAPS Pump Stn8**	**5.66**	**29**		Pn	01 14 59.5	-0.3
I23K	**Minto, Yukon-K**	**5.71**	**16**	Pn	Pn	01 15 00.6	+0.1
I23K	**Minto, Yukon-K**	**5.71**	**16**	P	Pn	01 15 00.6	+0.1
	baz=200,SNR=11						
TCOL	**CIGO, UAF Yank**	**5.71**	**23**	Pn	Pn	01 15 00.5	0.0
TCOL	**CIGO, UAF Yank**	**5.71**	**23**	P	Pn	01 15 00.2	-0.3
	baz=208						
COLA	**College**	**5.71**	**23**	Pn	Pn	01 15 00.3	-0.3
COLA	**College**	**5.71**	**23**	P	Pn	01 15 00.4	-0.2
	baz=208						
MDM	**Murphy Dome**	**5.72**	**21**		Pn	01 15 00.4	-0.2
YAH	**Yahtse**	**5.74**	**79**		Pn	01 15 02.2	+1.0
DOT	**Dot Lake**	**5.83**	**44**	Pn	Pn	01 15 03.2	+1.0
IL31		**5.83**	**27**		Pn	01 15 01.8	-0.4
ILAR	**Eielson Array**	**5.83**	**27**	P	Pn	01 15 01.4	-0.8
	comp=E,2.1nm,0.3s,baz=214,slow=13,SNR=88						
ILAR				S	Sn	01 16 02.5	-5.2
	comp=E,1.1nm,0.3s,baz=194,slow=18,SNR=6.7						
ILAR	**Eielson Array**	**5.83**	**27**		Pn	01 15 01.6	-0.6
BARN	**Barnard Glacie**	**5.83**	**72**	Pn	Pn	01 15 03.1	+0.7
H21K	**Melozitna Rive**	**5.95**	**1**	Pn	Pn	01 15 04.0	+0.2
H21K	**Melozitna Rive**	**5.95**	**1**	P	Pn	01 15 03.8	0.0
	baz=182						
POKR	**Poker Plat Res**	**6.01**	**24**	Pn	Pn	01 15 04.0	-0.7
POKR	**Poker Plat Res**	**6.01**	**24**	P	Pn	01 15 04.4	-0.3
	baz=209						
TABL	**Table Mountain**	**6.04**	**78**	Pn	Pn	01 15 06.0	+0.8
M27K	**Edge Creek, AK**	**6.06**	**59**	Pn	Pn	01 15 06.8	+1.3
SCRK	**Sand Creek**	**6.06**	**42**	Pn	Pn	01 15 04.8	-0.7
SCRK	**Sand Creek**	**6.06**	**42**	P	Pn	01 15 05.2	-0.3
	baz=230						
IM03		**6.28**	**358**		Pn	01 15 08.9	+0.7
IMAR	**Indian Mountai**	**6.28**	**358**	Pn	Pn	01 15 08.8	+0.5
YUK2	**White River**	**6.36**	**66**		Pn	01 15 10.3	+0.8
L27K	**Beaver Creek,**	**6.37**	**54**	Pn	Pn	01 15 10.8	+1.3
BCAR	**Beaver Creek A**	**6.38**	**54**	Pn	Pn	01 15 10.1	+0.4
PCA	**Pinnacle**	**6.48**	**81**	Pn	Pn	01 15 12.1	+1.0
PINM	**Pinnacle**	**6.48**	**81**	P	Pn	01 15 11.9	+0.8
	baz=272						
YUK3	**Moose Creek**	**6.53**	**66**	P	Pn	01 15 12.8	+0.9
	baz=257						
J26L	**Joseph Creek**	**6.55**	**39**	Pn	Pn	01 15 11.9	-0.1
J26L	**Joseph Creek**	**6.55**	**39**	P	Pn	01 15 11.9	-0.1
	baz=227						
H24K	**Noodor Dome**	**6.58**	**19**	Pn	Pn	01 15 12.0	-0.4
H24K	**Noodor Dome**	**6.58**	**19**	P	Pn	01 15 12.2	-0.1
	baz=204						
PRP	**Porcupine Dome**	**6.78**	**28**	Pn	Pn	01 15 14.8	-0.3
PRP	**Porcupine Dome**	**6.78**	**28**	P	Pn	01 15 14.7	-0.3
	baz=215,SNR=12						
PNL	**Peninsula**	**6.95**	**85**	P	Pn	01 15 17.4	0.0
	baz=276						
EGAK	**Eagle**	**7.53**	**43**	Pn	Pn	01 15 23.9	-1.2
EGAK	**Eagle**	**7.53**	**43**	P	Pn	01 15 25.2	0.0
	baz=233						
COLD	**Coldfoot**	**7.63**	**9**	Pn	Pn	01 15 26.4	-0.2
COLD	**Coldfoot**	**7.63**	**9**	P	Pn	01 15 26.7	+0.1
	baz=191						
FYU	**Fort Yukon**	**7.72**	**24**	Pn	Pn	01 15 27.2	-0.6
DAWY	**Dawson**	**7.80**	**50**	Pn	Pn	01 15 29.1	+0.3
BMAR	**Burnt Mountain**	**8.60**	**23**	Pn	Pn	01 15 38.3	-1.4
TOLK	**Toolik Lake Re**	**9.07**	**8**	Pn	Pn	01 15 46.9	+0.8
WHY	**Whitehorse**	**9.13**	**76**	Pn	Pn	01 15 48.6	+1.7
BESE	**Bessie Mountai**	**9.45**	**89**	Pn	Pn	01 15 53.3	+2.0
P33M	**Teslin, Yukon**	**10.18**	**79**	Pn	Pn	01 16 02.9	+1.7
DLBC	**Dease Lake**	**11.93**	**86**	Pn	Pn	01 16 28.0	+3.4
YKA	**Yellowknife Ar**	**18.62**	**65**	P	Pn	01 17 47.9	-0.3
	comp=E,0.1nm,0.3s,baz=277,slow=9.8,SNR=8.8						
SONM	**Songino Array**	**54.90**	**306**	P	P	01 22 58.4	+1.4
	comp=E,0.1nm,0.3s,baz=53,slow=5.6,SNR=3.9						
ZALV	**Zalesovo Beam**	**57.55**	**324**	P	P	01 23 15.9	+0.4
	comp=E,0.8nm,0.5s,baz=39,slow=6.1,SNR=2.8						

CNRM ***27*** *01:20:27.7, 35.52N×3.67W, h14km, ml2.6*
SFS ***27*** *01:20:27.0, 35.54N×3.79W, ML2.2, ALBORAN SUR*
ISC 27 01:20:26.0±1.2, 35.58N±0.04×3.75W±0.04, h26km±13km, n14, σ2.905/21, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39**	**204**	P	Pn	01 20 34.6	-1.3
PALE				S	Sb	01 20 39.6	-0.6
AKLM	**AKL**	**1.07**	**185**	P	Pn	01 20 47.3	+2.1
AKLM				S	Sn	01 21 00.7	+1.4
CHAS	**Isla Isabel II**	**1.14**	**110**	*e*P	Pb	01 20 47.7	+0.7
CHAS				*e*S	Sn	01 21 01.8	+0.8
EMAL	**Malaga-Limoner**	**1.31**	**335**	*e*P	Pb	01 20 53.5	+3.7
EMAL				*e*S	Sb	01 21 09.7	+3.4
SMIR	**Smir Dam**	**1.34**	**275**	P	Pb	01 20 50.4	+0.1
CEU	**Ceuta**	**1.36**	**284**	*e*P	Pn	01 20 48.4	-0.8
CEU				*e*S	Sn	01 21 05.1	-1.3
CHEFC	**Chefchaouen**	**1.39**	**251**	P	Pb	01 20 52.8	+1.5
JBK	**JBK**	**1.57**	**142**	P	Pb	01 20 53.6	-0.8
JBK				S	Sb	01 21 12.9	-1.1
RSA	**Sarsar**	**1.83**	**249**	P	Pb	01 21 00.2	+1.4
SICH	**Sidi Chahed**	**1.96**	**222**	P	Pb	01 21 01.6	+0.7
SICH				S	Sb	01 21 27.5	+2.7
LCRM	**LCR**	**2.10**	**206**	P	Pb	01 21 04.1	+0.8
LCRM				S	Sb	01 21 29.2	+0.2
MD31	**MD31**	**2.83**	**198**	P	Pb	01 21 12.9	-2.9
MDT	**Midelt**	**2.84**	**195**	P	Pb	01 21 12.8	-3.3
PVAQ	**Vaqueiros**	**3.69**	**301**	P	Pb	01 21 26.6	-3.7

MOS ***27*** *01:24:28.1±0.8, 8.34N×137.70E, h10km, mb5.2/40, MS4.3/5, Error ellipse: s-maj=11.0km s-min=5.4km az=115.1*
IDC ***27*** *01:24:28.3±0.4, 8.31N×137.74E, h0km, mb4.6/31, mb1 4.7/31, mb1mx4.6/49, mbtmp4.6/31, MS4.3/43, Ms1 4.3/43, ms1mx4.2/76, Error ellipse: s-maj=19.0km s-min=10.2km az=90.0*
NEIC ***27*** *01:24:30.6±2.2, 8.31N±0.08×137.76E±0.09, h10km±1km, mb5.1/128, Error ellipse: s-maj=15.8km s-min=12.5km az=246.0*
GCMT ***27*** *01:24:33.5±0.2, 8.37N±0.02×137.54E±0.01, h14km, MW5.0/122, Moment Tensor Solution. s55,c75; s122,c200; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.40±.17; $M_{\theta\theta}$-1.30±.11; $M_{\phi\phi}$-3.10±.12; $M_{r\theta}$0.50±.26; $M_{\theta\phi}$-2.47±.08; $M_{r\phi}$0.37±.25; Best double couple: $M_0$4.65600×10^{16} NP1:ϕ_s212.00000°, δ41.00000°, λ86.00000°. NP2:ϕ_s38.00000°, δ49.00000°, λ94.00000°. Principal axes: T 4.4470, Plg85.0000°, Azm343.0000°; N 0.4190, Plg3.0000°, Azm215.0000°; P -4.8660, Plg4.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***27*** *01:24:38.4±0.7, 8.7N±4×13.8E±, h81km±6km, M4.8/52, mB5.3/23, mb4.9/52, Mw(mB)4.7/23, MwMwp5.4/3, Mwp5.6/3*
ISC 27 01:24:31.0±0.6, 8.27N±0.04×137.81E±0.05, h17km±3km, n449, σ1.980/425, mb5.0/157, MS4.4/65, 16C-14D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**10.23**	**175**	P	Pn	01 27 00.4	+3.2
405nm,0.6s							
GENI	**Genyem**	**11.04**	**168**	P	Pn	01 27 11.8	+3.5
339nm,0.8s							
JAY	**Jayapura**	**11.10**	**165**	Pn	Pn	01 27 12.1	+3.0
6.1nm,0.3s,baz=160,slow=21,SNR=14							
JAY				Sn	Sn	01 29 14.2	+1.2
6.5nm,0.3s,baz=360,slow=23,SNR=7.7							
JAY				LR	LR	01 31 13.0	
comp=Z,2μm,18.1s,baz=329,slow=36							
SWI	**Sorong**	**11.18**	**216**	P	Pn	01 27 21.6	+11
SIJI	**Sorong**	**11.18**	**216**	Pn	Pn	01 27 12.9	+2.7
2.2nm,0.3s,baz=20,slow=17,SNR=1.7							
SIJI				LR	LR	01 31 23.7	
comp=Z,1μm,18.1s,baz=24,slow=37							
DAV	**Davao City (W)**	**12.18**	**265**	Pn	Pn	01 27 26.2	+2.3
baz=114,slow=5.1,SNR=10							
DAV				LR	LR	01 31 08.8	
comp=Z,1μm,21.6s,baz=74,slow=33							
DAV	**Davao City (W)**	**12.18**	**265**		Pn	01 27 26.4	+2.5
FAKI	**Fak Fak**	**12.42**	**207**	Pn	Pn	01 27 29.6	+2.4
TNTI	**Ternate**	**12.80**	**235**	P	Pn	01 27 34.8	+2.5
66nm,1.2s							
TNTI	**Ternate**	**12.80**	**235**	Pn	Pn	01 27 32.5	+0.2
LBMI	**Labuha**	**13.56**	**230**	P	Pn	01 27 46.9	+4.1
2μm113nm,1.3s							
MANU	**Manus Island**	**13.99**	**137**		P	01 27 55.8	-0.8
MSAI	**Masohi**	**14.55**	**218**	P	P	01 27 59.6	-3.1
1μm8.0nm,1.1s							
AAI	**Ambon**	**15.27**	**219**	P	P	01 28 09.9	-0.8
160nm,0.7s							
SANI	**Sanana**	**15.62**	**229**	P	Pn	01 28 09.6	-1.0
53nm,1.1s							
KMSI	**Cibinong**	**15.76**	**242**	P	P	01 28 19.3	+3.1
GTOI	**Gorontalo**	**16.58**	**244**	P	Pn	01 28 23.8	+0.9
486nm25nm,1.3s							
TGY	**Tagaytay City**	**17.53**	**291**	P	P	01 28

SPSI	**Sidrap Palu**	**21.71 237**	P	**P**	**01 29 22.6**	**+1.1**
	comp=Z,1µmcomp=Z,98nm,0.8s					
YULB	**Yu-li**	**21.84 315**	P	**P**	**01 29 24.6**	**+1.8**
YULB			IAmb	IAmb	01 29 35.0	
	comp=Z,141nm,1.2s					
MTN	**Manton Dam**	**22.00 198**	P	**P**	**01 29 25.7**	**+1.1**
NACB	**Ninganchiao**	**22.15 317**	P	**P**	**01 29 25.7**	**-0.5**
NACB			IAmb	IAmb	01 29 42.4	
	comp=Z,85nm,1.3s					
BKSI	**Bulukumba**	**22.22 233**	P	**P**	**01 29 29.2**	**+2.3**
	comp=Z,858nmcomp=Z,62nm,1.1s					
TPUB	**Ta-pu**	**22.25 314**	P	**P**	**01 29 26.9**	**-0.3**
KAPI	**Kappang**	**22.33 234**	P	**P**	**01 29 28.8**	**+0.7**
	comp=Z,32nm,0.8s,baz=76,slow=12,SNR=15					
KAPI	**Kappang**	**22.33 234**	P	**P**	**01 29 28.3**	**+0.2**
KAPI			pmax	pmax		
	comp=Z,87nm,1.1s					
KAPI	**Kappang**	**22.33 234**	P	**P**	**01 29 28.3**	**+0.2**
KAPI			IAmb	IAmb	01 29 40.0	
	comp=Z,87nm,1.1s					
SSLB	**Suanglung**	**22.33 316**	P	**P**	**01 29 28.9**	**+0.8**
SSLB			IAmb	IAmb	01 29 43.0	
	comp=Z,93nm,1.1s					
SOEI	**Soe**	**22.42 217**	P	**P**	**01 29 25.6**	**-3.6**
	comp=Z,146nm,1.2s					
BSSI	**Bau Bau, Buton**	**22.43 231**	P	**P**	**01 29 29.9**	**+0.6**
	comp=Z,750nmcomp=Z,65nm,1.2s					
YHNB	**Yeheng**	**22.63 318**	P	**P**	**01 29 32.2**	**+0.8**
COEN	**Coen**	**22.72 166**	P	**P**	**01 29 32.9**	**+0.7**
MMRI	**Maumere**	**22.87 223**	P	**P**	**01 29 33.4**	**-0.5**
MMRI	**Maumere**	**22.87 223**	P	**P**	**01 29 32.2**	**-1.6**
BATI	**Baumata**	**23.14 218**	P	**P**	**01 29 36.4**	**-0.3**
	comp=Z,78nm,0.8s,baz=278,slow=1.1,SNR=6.8					
BATI	**Baumata**	**23.14 218**	P	**P**	**01 29 37.0**	**+0.3**
	comp=Z,824nmcomp=Z,46nm,1.1s					
MTKI	**Muara Teweh, K**	**24.61 249**	P	**P**	**01 29 49.2**	**-1.5**
JHJ	**Hachijo jima 2**	**24.79 4**	LR	LR	01 37 42.0	
	comp=Z,745nm,19.1s,baz=109,slow=32					
KNRA	**Kununurra**	**25.43 201**	P	**P**	**01 29 57.1**	**-0.9**
JNU	**Nakatsue**	**25.55 346**	P	**P**	**01 29 57.5**	**-1.6**
	comp=Z,14nm,1.0s,baz=54,slow=14,SNR=4.1					
JNU			LR	LR	01 40 01.5	
	comp=Z,663nm,19.0s,baz=157,slow=37					
JNU	**Nakatsue**	**25.55 346**	P	**P**	**01 29 59.4**	**+0.3**
JNU			IAmb	IAmb	01 30 09.1	
	comp=Z,61nm,1.4s					
WBSI	**Waikabubak, Su**	**25.56 226**	P	**P**	**01 29 58.3**	**-1.0**
	comp=Z,69nm,1.1s					
SBUM	**Sibu**	**26.11 259**	P	**P**	**01 30 04.2**	**-0.1**
SSE	**Sheshan**	**27.50 328**	P	**P**	**01 30 21.8**	**+5.1**
SSE			S	**S**	**01 35 03.0**	**+6.0**
SSE			pmax	pmax		
	comp=Z,5.0nm,0.7s					
SSE			pmax	pmax		
	comp=Z,110nm,4.8s					
SSE			LR	LR		
	comp=Z,310nm,18.2s					
SSE			LR	LR		
	comp=Z,210nm,18.0s					
WB0	**Warramunga Arr**	**28.06 187**	P	**P**	**01 30 20.5**	**-1.3**
WB0			IAmb	IAmb	01 30 29.4	
	comp=Z,24nm,0.9s					
MJAR	**Matsushiro Arr**	**28.14 1**	P	**P**	**01 30 21.4**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=180,slow=8.9,SNR=4.3					
MJAR			LR	LR	01 40 07.6	
	comp=Z,582nm,18.6s,baz=170,slow=33					
MJAR	**Matsushiro Arr**	**28.14 1**	P	**P**	**01 30 20.7**	**-1.7**
MJAR			pmax	pmax		
	comp=Z,21nm,1.9s					
MJAR	**Matsushiro Arr**	**28.14 1**	P	**P**	**01 30 20.6**	**-1.7**
HNR	**Honiara**	**28.20 128**	LR	LR	01 40 12.8	
	comp=Z,866nm,22.0s,baz=240,slow=33					
KSM	**Kuching**	**28.21 258**	P	**P**	**01 30 23.4**	**+0.2**
KSM			IAmb	IAmb	01 30 28.5	
	comp=Z,43nm,1.2s					
WRAB	**Tennant Creek**	**28.23 187**⇓	*e*P	**P**	**01 30 25.3**	**+2.0**
WRAB			pmax	pmax		
	comp=Z,13nm,0.9s					
WRAB	**Tennant Creek**	**28.23 187**	P	**P**	**01 30 24.6**	**+1.3**
WR0	**Warramunga Arr**	**28.24 187**	P	**P**	**01 30 22.8**	**-0.5**
WR0			IAmb	IAmb	01 31 06.9	
	comp=Z,34nm,1.3s					
WB2	**Warramunga Arr**	**28.24 187**	P	**P**	**01 30 23.6**	**+0.1**
WRA	**Warramunga Arr**	**28.24 187**	P	**P**	**01 30 22.9**	**-0.5**
	comp=Z,3.1nm,0.9s,baz=5.9,slow=10.0,SNR=13					
WRA			PcP	**PcP**	**01 33 37.6**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=8.2,slow=3.2,SNR=2.6					
WRA	**Warramunga Arr**	**28.24 187**	*i* P	**P**	**01 30 25.8**	**+2.4**
WRA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
WRA	**Warramunga Arr**	**28.24 187**	P	**P**	**01 30 23.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**28.83 205**	P	**P**	**01 30 27.3**	**-1.3**
	comp=Z,12nm,1.1s,baz=34,slow=8.9,SNR=6.5					
QIZ	**Qiongzhong**	**29.16 294**	P	**P**	**01 30 31.5**	**-0.1**
QIZ			S	**S**	**01 35 24.5**	**+1.1**
QIZ			LR	LR		
	comp=Z,530nm,16.2s					
QIZ			LR	LR		
	comp=Z,740nm,15.8s					
CTA	**Charters Tower**	**29.38 164**	P	**P**	**01 30 34.6**	**+1.1**
	comp=Z,4.4nm,0.7s,baz=336,slow=9.9,SNR=6.8					
NJ2	**Nanjing**	**29.50 326**	*e*P	**P**	**01 30 34.5**	**0.0**
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.6s					
NJ2			LR	LR		
	comp=Z,710nm,17.7s					
NJ2			LR	LR		
	comp=Z,800nm,14.5s					
NJ2			LR	LR		
	comp=Z,930nm,18.4s					
H11S3	**WAKE ISLAND Hy**	**29.83 67**	T	T	02 02 12.9	
	baz=254,slow=75					
H11S1	**WAKE ISLAND Hy**	**29.84 67**	T	T	02 02 16.4	
	baz=254,slow=75					
H11S2	**WAKE ISLAND Hy**	**29.84 67**	T	T	02 02 14.6	
	baz=254,slow=75					
H11N1	**WAKE ISLAND Hy**	**30.37 65**	T	T	02 02 52.2	
	baz=252,slow=74					
H11N2	**WAKE ISLAND Hy**	**30.38 65**	T	T	02 02 55.1	
	baz=252,slow=74					
H11N3	**WAKE ISLAND Hy**	**30.39 65**	T	T	02 03 14.2	
	baz=252					
KSRS	**Korea Array**	**30.40 344**	P	**P**	**01 30 41.4**	**-1.0**
	comp=Z,3.4nm,1.0s,baz=158,slow=9.9,SNR=3.2					
KSRS			LR	LR	01 44 01.6	
	comp=Z,365nm,18.1s,baz=155,slow=39					
WHN	**Wuhan**	**31.18 318**	⇓P	P	01 30 56.0	+6.7
AS31	**Alice Springs**	**31.97 187**	P	**P**	**01 30 56.8**	**+0.4**
ASAR	**Alice Springs**	**31.97 187**	P	**P**	**01 30 56.6**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=18,slow=12,SNR=40					
ASAR			PcP	**PcP**	**01 33 46.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=29,slow=2.1,SNR=1.5					
ASAR	**Alice Springs**	**31.97 187**	P	**P**	**01 30 56.4**	**0.0**
TPI	**Tanjungpandan**	**32.01 251**	P	**P**	**01 30 55.3**	**-1.5**
CNJI	**Cibinong**	**34.28 244**	P	P	01 31 23.7	+7.0
GYA	**Guiyang**	**34.65 305**	⇓P	**P**	**01 31 19.0**	**-0.9**
GYA			S	**S**	**01 36 52.0**	**+2.9**
GYA			pmax	pmax		
	comp=Z,14nm,0.5s					
GYA			LR	LR		
	comp=Z,450nm,17.3s					
GYA			LR	LR		
	comp=Z,760nm,14.4s					
GYA			LR	LR		
	comp=Z,800nm,18.7s					
VLA	**Vladivostok**	**35.10 352**⇓	*e*P	**P**	**01 31 24.2**	**+0.8**
VLA			pmax	pmax		
	comp=Z,31nm,0.7s					
CGJI	**Cibinong**	**35.27 246**	P	**P**	**01 31 22.4**	**-2.9**
KLSI		**35.42 250**	P	**P**	**01 31 24.9**	**-1.6**
	comp=Z,12nm,1.7s					
HNS	**HongShan**	**35.76 328**	⇑P	**P**	**01 31 29.8**	**+0.6**
HNS			pP	**pwP**	**01 31 38.0**	**-3.4**
HNS			*e*S	**S**	**01 37 05.0**	**-0.7**
HNS			sS	**sS**	**01 37 15.5**	**+3.9**
HNS			pmax	pmax		
	comp=Z,31nm,1.1s					
HNS			LR	LR		
	comp=Z,470nm,19.8s					
HNS			LR	LR		
	comp=Z,660nm,17.3s					
HNS			LR	LR		
	comp=Z,720nm,18.3s					
MDSI	**Maura Dua**	**35.86 250**	P	**P**	**01 31 27.6**	**-2.7**
	comp=Z,11nm,1.4s					
KASI	**Kota Agung**	**35.94 249**	P	**P**	**01 31 29.3**	**-1.7**
	comp=Z,21nm,1.1s					
ASAJ	**Asahikawa**	**35.95 6**	P	**P**	**01 31 31.5**	**+0.8**
	comp=Z,10nm,0.8s,baz=210,slow=19,SNR=4.2					
ASAJ			LR	LR	01 45 13.8	
	comp=Z,261nm,21.5s,baz=330,slow=35					
ASAJ	**Asahikawa**	**35.95 6**	P	**P**	**01 31 30.7**	**0.0**
ASAJ			pmax	pmax		
	comp=Z,130nm,1.9s					
JKA	**Kamikawa-asahi**	**35.95 6**	P	**P**	**01 31 30.7**	**0.0**
USRK	**Ussuriysk Ar.**	**36.15 353**	P	**P**	**01 31 32.8**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=167,slow=7.8,SNR=5.5					
USRK			LR	LR	01 44 21.5	
	comp=Z,617nm,19.3s,baz=156,slow=33					
USRK	**Ussuriysk Ar.**	**36.15 353**	P	**P**	**01 31 31.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**36.15 353**	P	**P**	**01 31 31.8**	**-0.6**
LHSI	**Lahat**	**36.25 252**	P	**P**	**01 31 32.4**	**-1.3**
XAN	**Xi'an**	**36.94 318**	P	**P**	**01 31 39.3**	**-0.1**
XAN			pP	sP	01 31 43.5	-0.1
XAN			S	**S**	**01 37 31.8**	**+7.8**
XAN			SS	**SnSn**	**01 39 51.3**	**-5.9**
XAN			pmax	pmax		
	comp=Z,24nm,1.2s					
XAN			pmax	pmax		
	comp=Z,280nm,8.0s					
XAN			LR	LR		
	comp=Z,470nm,17.9s					
XAN			LR	LR		
	comp=Z,420nm,18.6s					
XAN			LR	LR		
	comp=Z,890nm,17.5s					
CN2	**Changchun**	**37.01 345**	*e*P	**P**	**01 31 39.8**	**+0.1**
CN2			PcP	**PcP**	**01 34 01.0**	**+0.4**
CN2			*e*S	**S**	**01 37 25.0**	**+0.4**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=Z,500nm,15.0s					
CN2			LR	LR		
	comp=Z,400nm,15.0s					
CN2			LR	LR		
	comp=Z,500nm,15.0s					
XMIS	**Christmas Isla**	**37.03 240**	P	**P**	**01 31 41.2**	**+0.8**
XMIS			IAmb	IAmb	01 31 43.1	
	comp=Z,44nm,1.0s					
BJT	**Baijiatuau**	**37.06 332**	IAmb	IAmb	01 31 42.2	
	comp=Z,39nm,1.3s					
BJI	**Beijing**	**37.07 332**	P	**P**	**01 31 41.0**	**+0.7**
BJI			pP	**sP**	**01 31 44.0**	**-0.5**
BJI			PP	**PP**	**01 33 03.5**	**-1.5**
BJI			S	**S**	**01 37 30.3**	**+4.6**
BJI			pmax	pmax		
	comp=Z,22nm,1.4s					
BJI			LR	LR		
	comp=Z,510nm,19.4s					
BJI			LR	LR		
	comp=Z,520nm,19.7s					
BJI			LR	LR		
	comp=Z,580nm,19.1s					
KMI	**Kunming**	**37.38 301**	⇑P	**P**	**01 31 43.3**	**-0.2**
KMI			PP	**PnPn**	**01 33 11.0**	**+1.5**
KMI			S	**S**	**01 37 36.8**	**+5.6**
KMI			SS	**SnSn**	**01 40 07.3**	**-0.9**
KMI			pmax	pmax		
	comp=Z,12nm,1.1s					
KMI			pmax	pmax		
	comp=Z,360nm,4.8s					
KMI			LR	LR		
	comp=Z,360nm,14.8s					
KMI			LR	LR		
	comp=Z,920nm,16.2s					
KMI			LR	LR		
	comp=Z,980nm,17.7s					
BNX	**BinXian**	**38.40 348**	⇑P	**P**	**01 31 51.8**	**+0.4**
BNX			pmax	pmax		
	comp=Z,24nm,1.0s					
BNX			pmax	pmax		
	comp=Z,250nm,3.4s					
PZH	**PanZhiHua**	**38.71 302**	P	**P**	**01 31 54.5**	**-0.1**
PZH			PP	**PnPn**	**01 33 34.3**	**+8.9**
PZH			S	**S**	**01 37 51.8**	**+0.6**
PZH			SS	**SnSn**	**01 40 34.0**	**-6.1**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.9s					
PZH			pmax	pmax		
	comp=Z,160nm,6.1s					
PZH			LR	LR		
	comp=Z,790nm,16.1s					
PZH			LR	LR		
	comp=Z,1µm,15.8s					
PZH			LR	LR		
	comp=Z,2µm,16.2s					
YSS	**Yuzh-Sakhalins**	**38.78 5**	*e*P	**P**	**01 31 55.3**	**+0.7**
YSS			*e*		01 32 03.3	
YSS			pmax	pmax		
	comp=Z,30nm,1.0s					
YSS			MLR	MLR		
	comp=Z,300nm,18.0s					
CD2	**Chengdu**	**38.94 310**	P	**P**	**01 31 56.5**	**+0.2**
CD2			S	**S**	**01 37 56.8**	**+2.5**
CD2			pmax	pmax		
	comp=Z,20nm,0.9s					
CD2			pmax	pmax		
	comp=Z,220nm,5.0s					
CD2			LR	LR		
	comp=Z,510nm,19.6s					
CD2			LR	LR		
	comp=Z,590nm,19.6s					
CMAR	**Chiang Mai Arr**	**39.06 289**	P	**P**	**01 31 57.5**	**0.0**
	comp=Z,1.3nm,0.3s,baz=94,slow=6.5,SNR=2.8					
CMAR			LR	LR	01 46 41.4	
	comp=Z,490nm,21.7s,baz=105,slow=34					
CMAR	**Chiang Mai Arr**	**39.06 289**	P	**P**	**01 31 56.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**39.06 289**	P	**P**	**01 31 56.2**	**-1.3**
PSI	**Prapat**	**39.06 264**	LR	LR	01 49 17.2	
	comp=Z,97nm,19.9s,baz=94,slow=38					
CHTO	**Chiang Mai**	**39.13 290**	P	**P**	**01 31 57.9**	**-0.1**
CHTO			pmax	pmax		
	comp=Z,12nm,1.1s					
CHTO	**Chiang Mai**	**39.13 290**	P	**P**	**01 31 57.9**	**-0.1**
FORT	**Forrest**	**39.94 193**	P	**P**	**01 32 03.3**	**-1.2**
FORT			IAmb	IAmb	01 32 15.1	
	comp=Z,33nm,0.7s					
HHC	**Hu-ho-hao-te**	**39.96 329**	*e*P	**P**	**01 32 05.5**	**+0.7**
HHC			sP	pwP	01 32 12.5	-4.6
HHC			S	**S**	**01 38 17.0**	**+7.5**
HHC			pmax	pmax		
	comp=Z,17nm,1.0s					
HHC			pmax	pmax		
	comp=Z,220nm,4.8s					
HHC			LR	LR		
	comp=Z,550nm,16.3s					
HHC			LR	LR		
	comp=Z,310nm,14.7s					
HHC			LR	LR		
	comp=Z,710nm,17.2s					
STKA	**Stephens Creek**	**40.09 175**	P	**P**	**01 32 06.3**	**+0.6**
	comp=Z,9.2nm,0.8s,baz=351,slow=8.9,SNR=14					
STKA	**Stephens Creek**	**40.09 175**	P	**P**	**01 32 05.7**	**0.0**
STKA			pmax	pmax		
	comp=Z,2.0nm,0.8s					
STKA	**Stephens Creek**	**40.09 175**	P	**P**	**01 32 05.7**	**0.0**
KCSI	**Kotacane, Aceh**	**40.09 266**	P	**P**	**01 32 03.7**	**-2.4**
	comp=Z,786nmcomp=Z,53nm,1.0s					
XLT	**XiLinHaoTe**	**40.24 336**	*e*P	**P**	**01 32 07.0**	**0.0**
XLT			sP	sP	01 32 14.3	+3.0
XLT			PcS	**PcS**	**01 38 00.5**	**-0.7**
XLT			S	S	01 38 22.8	+9.2
XLT			sS	sS	01 38 29.0	+10
XLT			pmax	pmax		
	comp=Z,10.0nm,1.2s					
XLT			pmax	pmax		
	comp=Z,240nm,4.5s					
XLT			LR	LR		
	comp=Z,730nm,17.9s					
XLT			LR	LR		
	comp=Z,670nm,15.3s					
XLT			LR	LR		
	comp=Z,860nm,15.7s					
BTO	**Baotou**	**40.60 327**	*e*P	**P**	**01 32 10.8**	**+0.7**
BTO			S	**S**	**01 38 22.5**	**+3.4**
BTO			LR	LR		
	comp=Z,1µm,10.0s					
BTO			LR	LR		
	comp=Z,1µm,7.5s					
ARMA	**Armidale**	**40.69 162**	P	**P**	**01 32 09.9**	**-1.1**
BBOO	**Buckleboo**	**40.89 182**	P	**P**	**01 32 11.8**	**-0.5**
KLR	**Kul'dur**	**41.14 354**	P	**P**	**01 32 14.8**	**+0.6**
	comp=Z,26nm,1.0s,baz=172,slow=6.5,SNR=62					
KLR			LR	LR	01 47 45.9	
	comp=Z,497nm,18.4s,baz=160,slow=34					
KLR	**Kul'dur**	**41.14 354***c i*P		**P**	**01 32 15.1**	**+0.9**
KLR			pmax	pmax		
	comp=Z,50nm,1.3s					
DZM	**Mont Dzumac**	**41.20 138**	LR	LR	01 46 26.5	
	comp=Z,991nm,21.4s,baz=285,slow=32					
DZM	**Mont Dzumac**	**41.20 138**	*e*LR	LR	01 43 48.2	
	comp=Z,2µm,25.2s					
LZH	**Lanzhou**	**41.52 317**	⇑P	**P**	**01 32 18.5**	**+0.7**
LZH			sP	sP	01 32 25.0	+2.9
LZH			PP	**PnPn**	**01 34 01.8**	**+3.2**
LZH			S	**S**	**01 38 36.0**	**+2.9**
LZH			sS	sS	01 38 43.5	+4.5
LZH			pmax	pmax		
	comp=Z,50nm,1.3s					
LZH			pmax	pmax		
	comp=Z,310nm,5.4s					
LZH			LR	LR		
	comp=Z,470nm,13.6s					
LZH			LR	LR		
	comp=Z,500nm,13.4s					
LZH			LR	LR		
	comp=Z,570nm,16.5s					
MORW	**Morawa**	**42.65 209**	P	**P**	**01 32 25.7**	**-1.1**
SKR	**Severo-Kuril's**	**44.92 16**	*e*P	P	01 32 34.4	-10
SKR			pmax	pmax		
	comp=Z,34nm,0.8s					
SKR			pmax	pmax		
	comp=Z,600nm,5.4s					
SKR			MLR	MLR		
	comp=Z,600nm,13.0s					
GTA	**Gaotai**	**46.00 318**	⇑P	**P**	**01 32 53.5**	**-0.3**
GTA			pP	sP	01 32 57.5	-0.6
GTA			sP	pP	01 33 00.8	+4.0
GTA			PcP	**PcP**	**01 34 31.0**	**+0.7**
GTA			sS	sS	01 39 46.5	+2.0
GTA			pmax	pmax		
	comp=Z,14nm,1.4s					
GTA			pmax	pmax		
	comp=Z,92nm,6.8s					
GTA			LR	LR		
	comp=Z,240nm,16.3s					
GTA			LR	LR		
	comp=Z,230nm,17.1s					
GTA			LR	LR		
	comp=Z,340nm,17.9s					
ZEA	**Zeya**	**46.13 351**	*e*P	**P**	**01 32 54.9**	**+0.5**
ZEA			pmax	pmax		
	comp=E,10.0nm,0.4s					
ZEA			pmax	pmax		
	comp=N,10.0nm,1.3s					
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.3s					
ZEA			pmax	pmax		
	comp=Z,100nm,4.8s					
SHL	**Shillong**	**46.91 297**	P	**P**	**01 32 59.7**	**-1.5**
SHL			pmax	pmax		
	comp=Z,13nm,0.7s					
SHL	**Shillong**	**46.91 297**	P	**P**	**01 32 59.7**	**-1.5**
SHL			IAmb	IAmb	01 33 08.9	
	comp=Z,13nm,0.7s					
ULN	**Ulaanbaatar**	**47.28 332***c i*P		**P**	**01 33 04.6**	**+0.9**
ULN			pmax	pmax		
	comp=Z,12nm,1.3s					
ULN	**Ulaanbaatar**	**47.28 332**	P	**P**	**01 33 03.9**	**+0.2**
MSVF	**Nonsavu**	**47.41 123**	P	**P**	**01 33 05.5**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=245,slow=19,SNR=2.4					
MSVF			LR	LR	01 50 46.4	
	comp=Z,362nm,19.4s,baz=335,slow=33					
PETK	**Petropavlovsk-**	**47.54 16**	P	**P**	**01 33 05.5**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=210,slow=10.0,SNR=4.2					
SONM	**Songino Array**	**47.57 332**	P	**P**	**01 33 05.6**	**-0.3**
	comp=Z,9.1nm,1.0s,baz=144,slow=7.6,SNR=45					
SONM			PcP	**PcP**	**01 34 35.5**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=143,slow=5.0,SNR=4.6					
SONM			LR	LR	01 53 23.4	
	comp=Z,579nm,19.4s,baz=134,slow=36					
SONM	**Songino Array**	**47.57 332**	P	**P**	**01 33 05.9**	**0.0**
SONM			pmax	pmax		
	comp=Z,22nm,1.2s					
SONM	**Songino Array**	**47.57 332**	P	**P**	**01 33 05.9**	**0.0**
SONM			IAmb	IAmb	01 33 08.1	
	comp=Z,22nm,1.2s					
GOMU	**GeErMu**	**47.97 312**	P	**P**	**01 33 13.8**	**+4.3**
GOMU			sP	pwP	01 33 20.8	-1.1
GOMU			S	S	01 40 17.5	+10
GOMU			pmax	pmax		
	comp=Z,6.0nm,1.2s					
GOMU			pmax	pmax		
	comp=Z,170nm,4.9s					
GOMU			LR	LR		
	comp=Z,190nm,17.2s					
GOMU			LR	LR		
	comp=Z,360nm,18.5s					
GOMU			LR	LR		
	comp=Z,250nm,17.8s					
ZAK	**Zakamensk**	**50.82 332**	*e*P	**P**	**01 33 30.7**	**0.0**
ZAK			pmax	pmax		
	comp=Z,28nm,1.3s					
MA2	**Magadan**	**52.13 8***c i*P		**P**	**01 33 40.5**	**+0.3**
MA2			pmax	pmax		
	comp=Z,43nm,2.5s					
MA2	**Magadan**	**52.13 8**	P	**P**	**01 33 39.3**	**-0.9**
MA2			IAmb	IAmb	01 33 42.0	
	comp=Z,38nm,1.5s					
GUN	**Gumba**	**52.65 299**	*e*P	**P**	**01 33 44.6**	**-0.5**
	comp=Z,49nm,0.8s					
BOD	**Bodaibo**	**52.75 344**	*e*P	**P**	**01 33 44.5**	**-0.3**
BOD			pmax	pmax		
	comp=Z,15nm,1.8s					
PKI	**Pulchoki**	**53.00 298**	*e*P	**P**	**01 33 47.2**	**-0.4**
PKIN	**Phulchoki**	**53.01 298**	*e*P	**P**	**01 33 46.5**	**-1.1**
CHLP	**Challavanipeta**	**53.10 287**	*e*P	**P**	**01 33 47.6**	**-0.5**
KKN	**Kakani**	**53.15 299**	*e*P	**P**	**01 33 47.7**	**-0.9**
DMN	**Daman**	**53.27 298**	*e*P	**P**	**01 33 48.7**	**-0.8**
GKN	**Gorkha**	**53.75 299**	*e*P	**P**	**01 33 52.1**	**-0.9**
YAK	**Yakutsk**	**53.99 355**	LR	LR	01 55 31.8	
	comp=Z,449nm,19.1s,baz=168,slow=34					
YAK	**Yakutsk**	**53.99 355**	*e*P	**P**	**01 33 52.8**	**-1.0**
YAK			pmax	pmax		
	comp=Z,24nm,1.0s					
YAK			pmax	pmax		
	comp=N,18nm,1.6s					
YAK	**Yakutsk**	**53.99 355**	P	**P**	**01 33 54.1**	**+0.3**
DANN	**Dangsing**	**54.58 299**	*e*P	**P**	**01 33 58.3**	**-0.8**
	comp=N,50nm,1.0s					
KOLN	**Koldanda**	**54.61 298**	*e*P	**P**	**01 33 58.5**	**-0.8**
	comp=N,55nm,1.0s					
AFI	**Afiamalu**	**54.67 113**	LR	LR	01 56 22.0	
	comp=N,241nm,18.0s,baz=289,slow=35					
PYUN	**Piuthan**	**55.20 298**	*e*P	**P**	**01 34 02.9**	**-0.7**
	comp=N,60nm,0.9s					
PVM	**Polavaram**	**55.36 285**	*e*P	**P**	**01 34 04.2**	**-0.4**
WMQ	**Urumqi**	**56.08 318**	⇑P	**P**	**01 34 10.3**	**+0.8**
WMQ			pP	sP	01 34 15.0	+1.2
WMQ			sP	pwP	01 34 23.3	+1.4
WMQ			pmax	pmax		
	comp=N,32nm,1.3s					
WMQ			pmax	pmax		
	comp=N,290nm,4.1s					
WMQ			LR	LR		
	comp=N,190nm,21.3s					
MYLAV	**Mylavaram**	**56.29 285**	*e*P	**P**	**01 34 11.4**	**+0.2**
PALK	**Pallekele**	**56.55 273**	LR	LR	01 55 55.0	
	comp=N,121nm,22.0s,baz=195,slow=33					
RAO	**Raoul Island**	**56.65 133**	LR	LR	01 55 04.8	
	comp=N,259nm,20.1s,baz=321,slow=32					
ADKI	**Addanki**	**56.92 283**	*e*P	**P**	**01 34 14.8**	**-1.0**
SKHT	**Srikalahasti**	**57.18 281**	*e*P	**P**	**01 34 17.2**	**-0.4**
RPR	**Rampur**	**57.63 287**	*e*P	**P**	**01 34 20.0**	**-0.8**
CUPL	**Choutuppal**	**57.94 285**	*e*P	**P**	**01 34 22.7**	**-0.3**
SRLM	**Srisailam**	**57.96 284**	*e*P	**P**	**01 34 22.2**	**-0.9**
HYBB	**Hyderabad (bro**	**58.30 285**	*e*P	**P**	**01 34 24.9**	**-0.6**
HYBB			*e*PcP	**PcP**	**01 35 15.3**	**-1.3**
HYBB			*e*S	**S**	**01 42 29.0**	**+1.4**
HYBB			*e*ScS	**ScS**	**01 44 13.5**	**-1.8**
SRSP	**Sriramsagar**	**58.53 287**	*e*P	**P**	**01 34 26.8**	**-0.3**
DGZ	**Jazzator, Alta**	**58.77 324***c i*P		**P**	**01 34 29.0**	**+0.6**
DGZ			pmax	pmax		
	comp=Z,21nm,1.3s					

URZ Urewera 59.02 144 LR LR 01 56 14.7
comp=Z,458nm,20.5s,baz=5.5,slow=32
ZSN Zaisan 59.35 321 *e*P **P** **01 34 31.5 -0.8**
ZSN Zaisan 59.35 321 *e*P **P** **01 34 31.6 -0.8**
baz=321
ZSN *i* S **S** **01 42 38.1 -2.3**
baz=321
URV Uravakonda 59.54 282 *e*P **P** **01 34 33.7 -0.4**
KLRI Kilari 60.17 286 *e*P **P** **01 34 37.9 -0.6**
MK31 Makanchi Array 60.74 320*c i*P **P** **01 34 42.2 +0.3**
MK31 Makanchi Array 60.74 320 P **P** **01 34 41.1 -0.8**
MKAR Makanchi Array 60.74 320 P **P** **01 34 42.1 +0.2**
comp=Z,20nm,0.8s,baz=108,slow=8.4,SNR=142
MKAR LR LR 02 00 44.3
comp=Z,209nm,19.8s,baz=94,slow=36
MKAR Makanchi Array 60.74 320 *i* P **P** **01 34 42.2 +0.3**
MKAR pmax pmax
comp=Z,20nm,0.9s
MKAR Makanchi Array 60.74 320 P **P** **01 34 41.9 0.0**
MAKZ Makanchi 60.94 319 P **P** **01 34 43.0 -0.3**
MAKZ pmax pmax
comp=Z,46nm,1.2s
MAKZ Makanchi 60.94 319 P **P** **01 34 43.0 -0.3**
PDGK Podgornoye 61.51 315 P **P** **01 34 46.5 -0.8**
UZB Uzynbulak 61.79 315 *e*P **P** **01 34 48.1 -1.1**
UZB pmax pmax
comp=Z,20nm,1.3s
UZB Uzynbulak 61.79 315 *e*P **P** **01 34 48.1 -1.1**
comp=Z,20nm,1.3s,baz=315
PRZ Przheval'sk 62.05 314 P **P** **01 34 51.4 +0.4**
PRZ pmax pmax
comp=Z,49nm,1.2s
PRZ Przheval'sk 62.05 314 P **P** **01 34 51.4 +0.4**
ZAA0 Zalesovo Array 62.13 328 P **P** **01 34 50.1 -1.0**
ZAA0 IAmb IAmb 01 34 51.8
comp=Z,16nm,1.2s
ZALV Zalesovo Beam 62.13 328 P **P** **01 34 50.4 -0.8**
comp=Z,6.7nm,0.8s,baz=110,slow=6.0,SNR=24
ZALV LR LR 02 01 18.0
comp=Z,299nm,21.0s,baz=122,slow=36
ZALV Zalesovo Beam 62.13 328 *i* P **P** **01 34 50.7 -0.4**
ZALV pmax pmax
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 62.13 328 P **P** **01 34 49.6 -1.5**
SATY Saty 62.20 315 *e*P **P** **01 34 51.0 -0.9**
SATY pmax pmax
comp=Z,10.0nm,1.1s
SATY Saty 62.20 315 *e*P **P** **01 34 51.0 -0.9**
comp=Z,10nm,1.1s,baz=314
ZHN Zhinishke 62.20 315 *e*P **P** **01 34 51.3 -0.7**
ZHN Zhinishke 62.20 315 *e*P **P** **01 34 51.4 -0.7**
baz=315
TARG Taragay, Kyrgy 62.28 313 IAmb IAmb 01 35 10.4
comp=Z,15nm,1.0s
BILL Bilibino 62.63 12*d i*P **P** **01 34 54.2 0.0**
BILL *i* 01 35 01.5
BILL pmax pmax
comp=Z,9.0nm,0.7s
BILL MLR MLR
comp=Z,87nm,17.0s
BILL Bilibino 62.63 12 P **P** **01 34 54.3 0.0**
BILL IAmb IAmb 01 34 55.6
comp=Z,14nm,1.1s
TDK Taldyqorghan 62.73 317 *e*P **P** **01 34 55.2 -0.2**
TDK Taldyqorghan 62.73 317 *e*P **P** **01 34 55.2 -0.2**
baz=317
KSH Kashi 63.13 310 P **P** **01 35 00.0 +1.7**
KSH pP pwP 01 35 06.3 -4.4
KSH pmax pmax
comp=Z,10.0nm,1.5s
MDOK Medeo 63.18 314 *e*P **P** **01 34 57.3 -1.2**
MDOK Medeo 63.18 314 *e*P **P** **01 34 57.3 -1.2**
baz=314
TNSS Tian-Shan 63.22 314 *i* P **P** **01 34 55.6 -3.5**
baz=314
SEM Semipalatinsk 63.29 323 *e*P **P** **01 34 57.9 -1.2**
SEM Semipalatinsk 63.29 323 *e*P **P** **01 34 58.0 -1.2**
baz=323
AAA Alma-Ata 63.29 314 *i* P **P** **01 34 56.1 -3.1**
baz=314
CHKK Chushkaly 63.40 315 *e*P **P** **01 34 59.3 -0.6**
baz=315
TIXI Tiksi 63.56 357 LR LR 02 03 17.2
comp=Z,209nm,18.4s,baz=171,slow=37
TIXI Tiksi 63.56 357‖ *i*P **P** **01 35 00.5 +0.2**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 63.56 357 P **P** **01 34 59.6 -0.7**
BOOM Boomskoye usch 63.81 313 P **P** **01 35 02.7 0.0**
BOOM pmax pmax
comp=Z,13nm,1.1s
BOOM Boomskoye usch 63.81 313 P **P** **01 35 02.7 0.0**
BOOM IAmb IAmb 01 35 32.8
comp=Z,13nm,1.1s
KUU Kurty 63.87 315 *i* P **P** **01 34 59.9 -3.0**
comp=Z,32nm,1.2s,baz=315
TKM2 Tokmak 2 64.16 314 P **P** **01 35 05.1 +0.1**
SNR=8.4
TKM2 Tokmak 2 64.16 314 P **P** **01 35 04.2 -0.9**
NIL Nilore 64.31 303 P **P** **01 35 04.7 -1.3**
NIL pmax pmax
comp=Z,64nm,1.1s
NIL Nilore 64.31 303 P **P** **01 35 04.7 -1.3**
KURK Kurchatov 64.37 323*ce*P **P** **01 35 06.0 0.0**
KURK pmax pmax
comp=Z,86nm,1.2s
KURK Kurchatov 64.37 323 P **P** **01 35 04.6 -1.4**
KURBB Kurchatov Arra 64.39 323 LR LR 02 04 41.7
comp=Z,142nm,19.3s,baz=77,slow=38
KBK Karagaybulak 64.56 313 P **P** **01 35 08.5 +0.8**
SNR=6.6
CHMS Chumysh 64.78 314 P **P** **01 35 09.1 +0.2**
SNR=9.9
UCH Uchtor 64.78 313 P **P** **01 35 10.1 +0.6**
SNR=27
AAK Ala-Archa 64.89 313 LR LR 02 05 26.3
comp=Z,330nm,19.8s,baz=101,slow=38
AAK Ala-Archa 64.89 313‖ *e*P **P** **01 35 10.4 +0.6**
AAK pmax pmax
comp=Z,7.0nm,1.3s
AAK Ala-Archa 64.89 313 P **P** **01 35 09.0 -0.8**
SGDS Sogindy 64.97 314 *e*P **P** **01 35 09.4 -0.8**
baz=314
USP Ospenovka 65.02 314 P **P** **01 35 11.0 +0.5**
SNR=9.8
AML Almayashu 65.36 313 P **P** **01 35 13.8 +0.7**
SNR=18
EKS2 Erkin-Say 65.41 313 P **P** **01 35 13.3 +0.2**
SNR=7.8
BTLS Baital 65.73 316 *i* P **P** **01 35 12.1 -2.9**
comp=Z,12nm,1.2s,baz=316
BTK Batken 67.14 310 P **P** **01 35 23.5 -0.7**
BTK pmax pmax
comp=Z,46nm,1.7s
BTK Batken 67.14 310 P **P** **01 35 23.5 -0.7**
DZA Taraz 67.22 313 *i* P **P** **01 35 21.6 -3.0**
baz=313
BRZS Berezniki 67.80 321 *e*P **P** **01 35 27.6 -0.5**
BRZS pmax pmax
comp=Z,15nm,1.4s
BRZS Berezniki 67.80 321 *e*P **P** **01 35 27.6 -0.5**
comp=Z,15nm,1.4s,baz=321
KKAR Karatay Array 67.85 313 P **P** **01 35 27.9 -0.7**
KKAR Karatay Array 67.85 313 P **P** **01 35 27.9 -0.7**
KBL Kabul 67.88 304 P **P** **01 35 27.1 -2.1**
KBL pmax pmax
comp=Z,15nm,1.3s
KBL Kabul 67.88 304 P **P** **01 35 27.1 -2.1**
KBL IAmb IAmb 01 35 37.3
comp=Z,15nm,1.3s
RAR Rarotonga 67.90 117 LR LR 01 59 39.8
comp=Z,201nm,21.8s,baz=270,slow=31
IUG Iuzhnay 68.04 312 *i* P **P** **01 35 26.8 -3.1**
baz=312
CHGR Chuyangaron 68.22 308 P **P** **01 35 30.0 -1.1**
TNA Tin City 68.26 21 P **P** **01 35 32.1 +1.5**
baz=240
BRLS Borolday 68.33 313 *e*P **P** **01 35 31.4 -0.1**
BRLS Borolday 68.33 313 *e*P **P** **01 35 31.5 -0.1**
baz=313
TAS Tashkent 68.47 311 P **P** **01 35 32.5 0.0**
TAS Tashkent 68.47 311 P **P** **01 35 32.5 0.0**
ANM Nome 68.72 23 P **P** **01 35 33.7 +0.1**
baz=243
NRIK Noril'sk 69.01 343 P **P** **01 35 35.0 -0.3**
comp=Z,11nm,1.0s,baz=122,slow=5.9,SNR=14
NRIK LR LR 02 06 52.4
comp=Z,432nm,18.5s,baz=128,slow=37
NRIK Noril'sk 69.01 343*c i*P **P** **01 35 35.0 -0.3**
NRIK pmax pmax
comp=Z,31nm,1.3s
NRIK Noril'sk 69.01 343 P **P** **01 35 34.2 -1.1**
BRVK Borovoye 69.98 324 *i* P **P** **01 35 41.7 +0.1**
BRVK pmax pmax
comp=Z,28nm,1.0s
BRVK Borovoye 69.98 324 P **P** **01 35 40.9 -0.7**
TTA Tatalina 71.94 26 P **P** **01 35 53.4 0.0**
TTA Tatalina 71.94 26 P **P** **01 35 53.4 0.0**
TTA Tatalina 71.94 26 P **P** **01 35 55.1 +1.7**
baz=252
GCSA Galena City Sc 72.16 24 P **P** **01 35 56.3 +1.8**
baz=251
L19K White Mountain 72.23 27 IAmb IAmb 01 35 57.9
comp=Z,21nm,1.1s
L19K White Mountain 72.23 27 P **P** **01 35 56.9 +1.8**
baz=254
M19K Big River Lodg 72.37 27 IAmb IAmb 01 36 09.2
comp=Z,18nm,1.1s
M19K Big River Lodg 72.37 27 P **P** **01 35 58.1 +2.2**
baz=254
K20K Telida 72.91 26 IAmb IAmb 01 36 08.8
comp=Z,14nm,1.0s
K20K Telida 72.91 26 P **P** **01 36 01.8 +2.7**
baz=254
J20K Nowinta River 73.11 25 IAmb IAmb 01 36 09.3
comp=Z,14nm,0.9s
J20K Nowinta River 73.11 25 P **P** **01 36 02.3 +2.0**
baz=254
HRA Herat 73.48 303 IAmb IAmb 01 36 03.9
comp=Z,37nm,1.9s
IMAR Indian Mountai 73.78 23 P **P** **01 36 04.9 +0.7**
CAST Castle Rocks 73.79 26 P **P** **01 36 05.9 +1.6**
baz=256
CHUM Lake Minchumin 73.81 26 P **P** **01 36 06.3 +2.0**
baz=255
H21K Melozitna Rive 74.07 24 P **P** **01 36 07.9 +2.0**
baz=254
I21K Tanana 74.28 24 IAmb IAmb 01 36 09.8
comp=Z,16nm,1.1s
I21K Tanana 74.28 24 P **P** **01 36 09.1 +2.0**
baz=255
KTH Kantishna Hill 74.33 26 IAmb IAmb 01 36 09.4
comp=Z,22nm,1.1s
BPAW Bear Paw Mtn. 74.43 26 IAmb IAmb 01 36 10.3
comp=Z,16nm,1.1s
BPAW Bear Paw Mtn. 74.43 26 P **P** **01 36 09.9 +1.9**
baz=257
TRF Thorofare Moun 74.58 26 IAmb IAmb 01 36 21.1
comp=Z,16nm,1.0s
TRF Thorofare Moun 74.58 26 P **P** **01 36 09.9 +0.8**
baz=257
PMR Palmer 74.73 28 P **P** **01 36 10.2 +0.5**
PMR pmax pmax
comp=Z,10.0nm,0.8s
PMR Palmer 74.73 28 P **P** **01 36 10.2 +0.5**
PMR Palmer 74.73 28 P **P** **01 36 10.4 +0.7**
baz=259
MLY Manley 74.75 25 P **P** **01 36 11.6 +1.7**
baz=257
PWL Port Wells 74.97 29 P **P** **01 36 12.1 +0.9**
baz=260
KNK Knik Glacier 75.01 29 IAmb IAmb 01 36 22.5
comp=Z,32nm,1.1s
KNK Knik Glacier 75.01 29 P **P** **01 36 12.8 +1.3**
baz=260
SML Sawmill 75.14 28 P **P** **01 36 12.0 -0.2**
SML IAmb IAmb 01 36 22.2
comp=Z,28nm,1.1s
SML Sawmill 75.14 28 P **P** **01 36 13.6 +1.3**
baz=260
RND Reindeer 75.20 26 IAmb IAmb 01 36 14.0
comp=Z,14nm,1.0s
MCK McKinley 75.23 26 IAmb IAmb 01 36 14.3
comp=Z,19nm,0.9s
MCK McKinley 75.23 26 P **P** **01 36 13.9 +1.2**
baz=259
I23K Minto, Yukon-K 75.34 25 IAmb IAmb 01 36 26.1
comp=Z,26nm,1.5s
I23K Minto, Yukon-K 75.34 25 P **P** **01 36 15.0 +1.7**
baz=258
COLD Coldfoot 75.48 22 P **P** **01 36 15.8 +1.8**
baz=256
SCM Sheep Creek Mo 75.61 28 P **P** **01 36 16.5 +1.5**
baz=261
WRH Wood River Hil 75.74 25 P **P** **01 36 15.2 -0.3**
WRH IAmb IAmb 01 36 23.9
comp=Z,21nm,1.4s
AB31 Akbulak array 75.86 319 *i* P **P** **01 36 16.1 -0.4**
ABKAR Akbulak array 75.86 319 P **P** **01 36 15.6 -1.0**
ABKAR IAmb IAmb 01 36 17.3
comp=Z,22nm,1.2s
CCB Clear Creek Bu 75.89 25 P **P** **01 36 14.7 -1.7**
CCB IAmb IAmb 01 36 40.0
comp=Z,21nm,1.4s
COLA College 75.92 25‖ *e*P **P** **01 36 16.3 -0.2**
TOLK Toolik Lake Re 76.04 21 P **P** **01 36 18.9 +1.7**
baz=257
H24K Noodor Dome 76.09 24 P **P** **01 36 19.2 +1.6**
baz=259
SVE Sverdlovsk 76.10 326↑ *e*P **P** **01 36 18.2 +0.4**
SVE pmax pmax
comp=Z,24nm,1.3s
PPT Papeete 76.16 110 LR LR 02 02 57.3
comp=Z,241nm,21.4s,baz=348,slow=30
PPT2 Papeete2 76.16 110 *e*LR LR 01 59 59.9
comp=Z,515nm,23.8s,baz=285
KLU Klutina 76.22 29 P **P** **01 36 18.8 +0.3**
KLU IAmb IAmb 01 36 21.5
comp=Z,29nm,1.2s
KLU Klutina 76.22 29 P **P** **01 36 20.0 +1.5**
baz=262
IL31 76.31 25 P **P** **01 36 18.0 -0.7**
IL31 IAmb IAmb 01 37 17.2
comp=Z,22nm,1.7s
ILAR Eielson Array 76.31 25 P **P** **01 36 18.4 -0.3**
comp=Z,3.4nm,0.9s,baz=245,slow=5.6,SNR=22
PAX Paxson 76.64 27 P **P** **01 36 22.1 +1.3**
baz=262
BMRM Bremner River 76.79 29 P **P** **01 36 20.2 -1.5**
GEYT Alibeck 76.85 307 P **P** **01 36 22.4 0.0**
comp=Z,3.9nm,0.9s,baz=55,slow=48,SNR=3.5
N25K Chitina, Valde 76.87 29 P **P** **01 36 23.1 +1.0**
N25K Chitina, Valde 76.87 29 P **P** **01 36 24.0 +1.9**
baz=263
AKTO Aktyubinsk 77.17 320 LR LR 02 10 37.9
comp=Z,257nm,21.1s,baz=91,slow=36
ARU Arti 77.21 326*c i*P **P** **01 36 23.7 -0.3**
ARU PPP PPP 01 41 03.4
ARU S **S** **01 46 14.6 +1.8**
ARU pmax pmax
comp=Z,13nm,0.8s
ARU Arti 77.21 326 P **P** **01 36 22.4 -1.6**
ARU IAmb IAmb 01 36 24.0
comp=Z,11nm,0.8s
FYU Fort Yukon 77.27 24 IAmb IAmb 01 36 26.4
comp=Z,18nm,1.1s
DOT Dot Lake 77.36 27 IAmb IAmb 01 36 46.8
comp=Z,20nm,1.3s
MENT Mentasta 77.43 27 IAmb IAmb 01 37 24.0
comp=Z,40nm,1.6s
L26K Log Cabin Wild 77.61 27 IAmb IAmb 01 36 45.6
comp=Z,30nm,1.6s
L26K Log Cabin Wild 77.61 27 P **P** **01 36 27.8 +1.6**
baz=264
BMAR Burnt Mountain 77.65 23 P **P** **01 36 26.8 +0.5**
J26L Joseph Creek 77.68 26 IAmb IAmb 01 37 23.1
comp=Z,25nm,1.8s
J26L Joseph Creek 77.68 26 P **P** **01 36 27.6 +0.9**
baz=263
M27K Edge Creek, AK 78.22 28 IAmb IAmb 01 36 39.0
comp=Z,18nm,0.9s
M27K Edge Creek, AK 78.22 28 P **P** **01 36 31.6 +1.9**
baz=265
L27K Beaver Creek, 78.31 27 P **P** **01 36 31.8 +1.7**
baz=265
BCAR Beaver Creek A 78.33 27 P **P** **01 36 30.6 +0.4**
BVCY Beaver Creek 78.70 28 P **P** **01 36 34.9 +2.6**
baz=266
EGAK Eagle 78.74 26 P **P** **01 36 34.0 +1.6**
baz=266
YUK3 Moose Creek 78.85 29 P **P** **01 36 35.3 +2.0**
baz=267
DAWY Dawson 79.46 26 IAmb IAmb 01 36 39.0
comp=Z,16nm,1.1s
DAWY Dawson 79.46 26 P **P** **01 36 38.2 +1.8**
baz=267
YUK6 Outpost Mounta 79.82 30 P **P** **01 36 40.7 +2.0**
baz=269
I29M Ogilvie Camp, 79.98 25 IAmb IAmb 01 38 03.8
comp=Z,15nm,0.5s
I29M Ogilvie Camp, 79.98 25 P **P** **01 36 40.7 +1.5**
baz=268
HYT Haines Junctio 80.24 30 P **P** **01 36 43.0 +2.2**
baz=270
M30M Minto, Yukon 80.59 28 IAmb IAmb 01 37 06.1
comp=Z,25nm,1.4s
M30M Minto, Yukon 80.59 28 P **P** **01 36 44.5 +2.0**
baz=270
EPYK Eagle Plains 80.66 24 P **P** **01 36 43.9 +1.1**
baz=269
N31M Braeburn, Yuko 81.08 29 P **P** **01 36 47.6 +2.4**
baz=271
WHY Whitehorse 81.53 30 P **P** **01 36 48.8 +1.1**
WHY IAmb IAmb 01 36 51.2
comp=Z,28nm,1.4s
WHY Whitehorse 81.53 30 P **P** **01 36 49.8 +2.1**
baz=272
INK Inuvik 81.88 22 P **P** **01 36 48.3 -0.9**
comp=Z,6.8nm,1.0s,baz=257,slow=6.8,SNR=12
INK Inuvik 81.88 22 P **P** **01 36 49.8 +0.6**
baz=272
KIRV Kirov 82.17 328 LR LR 02 14 11.9
comp=Z,557nm,21.6s,baz=77,slow=36
KIRV Kirov 82.17 328*ce*P **P** **01 36 51.4 +0.5**
FARO Faro, Yukon 82.20 28 P **P** **01 36 53.2 +2.1**
baz=273
SOCY Socotra 82.29 281 IAmb IAmb 01 36 52.2
comp=Z,24nm,1.1s
TAOE Nuku Hiva Isla 83.48 100 *e*LR LR 02 03 14.3
comp=Z,706nm,29.9s
PRGR Permogore 83.83 331 *e*P **P** **01 36 58.2 -1.2**
PRGR pmax pmax
comp=Z,50nm,0.9s
A36M Sachs Harbour 84.34 18 IAmb IAmb 01 37 03.8
comp=Z,11nm,0.9s
A36M Sachs Harbour 84.34 18 P **P** **01 37 02.7 +0.8**
baz=279
C36M Paulatuk 85.18 21 P **P** **01 37 05.3 -0.8**
C36M IAmb IAmb 01 37 07.2
comp=Z,10nm,0.7s
C36M Paulatuk 85.18 21 P **P** **01 37 06.7 +0.6**
baz=281
VNDA Vanda 86.72 175 LR LR 02 16 17.0
comp=Z,148nm,18.3s,baz=356,slow=36
KLMR Klimovskoe 86.86 331 *e*P P 01 37 09.4 -5.2
KLMR *e*S **SKSac** **01 47 34.2 -6.6**
KLMR pmax pmax
comp=Z,34nm,1.3s
KLMR Klimovskoe 86.86 331 *e*P P 01 37 09.5 -5.1
KLMR AMP 01 37 14.4
comp=Z,34nm,1.3s
KLMR *e*S **SKSac** **01 47 34.3 -6.6**
KLMR *e*S **SKSac** **01 47 34.3 -6.6**
GNI Garni 87.07 310 LR LR 02 18 54.5
comp=Z,86nm,21.4s,baz=82,slow=38
ZEI Tsey 87.30 313 *e*P **P** **01 37 16.4 -1.0**
ZEI pmax pmax
comp=Z,13nm,1.4s
NCK Nalchik 87.42 313‖ *e*P **P** **01 37 17.1 -0.6**
NCK pmax pmax
comp=Z,27nm,1.2s
VRH Novokhopyorsk 87.42 321 *e*P **P** **01 37 14.5 -3.0**
VRH pmax pmax
comp=Z,9.0nm,0.6s
ONI Oni 87.66 313 IAmb IAmb 01 37 28.2
comp=Z,19nm,1.4s
KBZ Khabaz 87.88 314 P **P** **01 37 18.5 -1.4**
comp=Z,4.6nm,0.9s,baz=123,slow=7.8,SNR=6.6
KBZ Khabaz 87.88 314‖ *e*P **P** **01 37 21.8 +1.9**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
KVAR Kislovodsk Arr 87.99 314 LR LR 02 20 33.7
comp=Z,82nm,19.6s,baz=132,slow=38
KIV Kislovodsk 87.99 314 *e*P **P** **01 37 18.4 -2.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,97nm,20.0s
KIV Kislovodsk 87.99 314 P **P** **01 37 17.7 -2.9**
KIV IAmb IAmb 01 38 02.2
comp=Z,11nm,1.0s
SPITS Spitsbergen Ar 88.09 350 LR LR 02 17 26.2
comp=Z,285nm,19.4s,baz=267,slow=36
RAYN Ar Rayn 88.85 293 P **P** **01 37 24.1 -0.9**
RAYN pmax pmax
comp=Z,8.0nm,1.0s
RAYN Ar Rayn 88.85 293 P **P** **01 37 24.1 -0.9**
RAYN IAmb IAmb 01 37 25.8
comp=Z,8.4nm,1.0s
LPSR Galich'ya Gora 88.85 323 *e*P **P** **01 37 20.9 -3.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 89.65 326 LR LR 02 19 41.6
comp=Z,43nm,20.5s,baz=74,slow=37
OBN Obninsk 89.65 326‖ *e*P **P** **01 37 26.7 -1.3**
OBN *e* 01 40 57.5
OBN pmax pmax
comp=Z,21nm,1.4s
ARCES ARCESS Array B 89.90 341 P **P** **01 37 28.6 -0.3**
comp=Z,5.4nm,0.8s,baz=33,slow=3.7,SNR=5.1
ARCES LR LR 02 22 47.4
comp=Z,302nm,18.8s,baz=56,slow=39
SOC Sochi 90.18 314 *e*P **P** **01 37 29.7 -1.0**
SOC *e* 01 41 01.9
SOC *e*PPP PPP 01 42 59.2
SOC *e*S **SKSac** **01 48 00.6 -0.8**
SOC *e*SS **SS** **01 54 19.5 -3.3**
SOC *e*SSS SSS 01 57 53.3
YKA Yellowknife Ar 90.70 26 P **P** **01 37 33.0 +0.2**
comp=Z,3.2nm,0.9s,baz=293,slow=4.9,SNR=24
YKA Yellowknife Ar 90.70 26 P **P** **01 37 33.0 +0.2**
RES Resolute Bay 91.24 12 P **P** **01 37 34.6 -0.4**
comp=Z,1.9nm,0.9s,baz=300,slow=6.2,SNR=6.5
B08A Colville Reser 92.31 41 IAmb IAmb 01 37 42.8
comp=Z,7.2nm,1.0s
FINES FINESS Array B 92.91 333 P **P** **01 37 41.5 -1.4**
comp=Z,4.6nm,0.7s,baz=70,slow=5.7,SNR=22
ORV Oroville 92.94 50 IAmb IAmb 01 37 46.3
comp=Z,8.7nm,1.4s
CMB Columbia Colle 94.14 51 P **P** **01 37 49.2 -0.1**
CMB pmax pmax
comp=Z,6.0nm,1.2s
CMB Columbia Colle 94.14 51 P **P** **01 37 49.2 -0.1**
PNTR Pine Nut 94.48 50 P **P** **01 37 51.4 +0.3**
PAHR Pah Rah Range 94.49 49 P **P** **01 37 50.8 -0.1**
PAHR IAmb IAmb 01 39 34.8
comp=Z,22nm,1.8s
MNK Minsk 94.63 327 *i* P **P** **01 37 50.5 -0.5**
MNK *i* 01 41 37.4
MNK *i* PPP PPP 01 43 43.0
MNK *i* 01 48 23.4
MNK *i* S **SKKSac** **01 48 53.8 +6.3**
MNK *i* PS **PS** **01 50 19.6 -1.3**
MNK *i* SS **SS** **01 55 25.8 -0.1**
MNK *i* SSS SSS 01 59 10.8
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,14nm,1.0s
MNK pmax pmax
comp=N,16nm,1.2s
MNK MLR MLR
comp=Z,236nm,21.0s
MNK MLR MLR
comp=E,33nm,22.0s
MNK MLR MLR
comp=N,376nm,20.0s
MNK Minsk 94.63 327 *i* P **P** **01 37 50.5 -0.5**
comp=E,2.0nm,0.9s
MNK *i* P **P** **01 37 50.5 -0.5**
comp=N,16nm,1.2s
MNK *i* P **P** **01 37 50.5 -0.5**
comp=Z,14nm,1.0s,baz=69
MNK *i* PP **PP** **01 41 37.5 -1.3**
MNK *i* PPP PPP 01 43 43.1
MNK *i* SKS **SKSac** **01 48 23.5 -2.3**
MNK *i* S **SKKSac** **01 48 53.9 +6.4**
MNK *i* PS **PS** **01 50 19.6 -1.3**
MNK *i* SS **SS** **01 55 25.8 -0.1**

MNK *i* SSS SSS 01 59 10.8
MNK *i* LQ LQ 02 14 29.4
MNK *i* LR LR 02 18 54.4
MNK *i* LRM MLR 02 21 00.3
comp=Z,236nm,21.0s
MNK *i* LRM MLR 02 21 11.9
comp=E,33nm,21.7s
MNK *i* LRM MLR 02 21 28.5
comp=N,376nm,20.3s
AKASG Malin Array Be 95.18 323 P P 01 37 51.4 -2.2
comp=N,0.9nm,0.7s,baz=63,slow=4.4,SNR=2.8
AKASG LR LR 02 22 03.0
comp=N,192nm,21.8s,baz=58,slow=36
BR131 Keskin Array S 95.50 311‖ *e*P **P 01 37 54.1 -1.5**
BRTR Keskin Array B 95.50 311 P **P 01 37 53.8 -1.9**
comp=N,1.2nm,0.8s,baz=120,slow=3.9,SNR=7.7
NVAR Mina Array Bea 95.63 50 P **P 01 37 56.5 +0.2**
comp=N,2.4nm,0.9s,baz=263,slow=6.1,SNR=14
MMAI Mount Meron Ar 95.81 304 LR LR 02 25 23.7
comp=N,78nm,20.6s,baz=218,slow=38
HFS Hagfors 98.86 335 LR LR 02 27 03.5
comp=N,170nm,18.8s,baz=42,slow=38
NOA NORSAR Array B 99.34 337 LR LR 02 26 07.8
comp=N,206nm,19.9s,baz=60,slow=37
CRVS Cervenica-Dubn 100.51 323 *e*P **Pdif 01 38 17.7 -0.1**
CRVS Cervenica-Dubn 100.51 323 *e*PDIFF **Pdif 01 38 17.7 -0.1**
SYO Syowa Base 100.62 201‖ *e*Pdiff **Pdif 01 38 19.4 +1.8**
TORD Torodi Ar. Bea 131.50 296 PKP **PKPdf 01 43 43.5 -0.4**
comp=N,1.6nm,0.9s,baz=24,slow=1.4,SNR=8.5
OTAV Otavalo 142.89 79 *e*P **PKPdf 01 44 03.1 -2.4**
MT01 Popeta 143.05 138 PKPbc 01 44 02.5 +1.1
CBOC Ciudad Bolivar 143.47 68 *e*P **PKPdf 01 44 05.3 -0.8**
GCUF Volcan Galeras 143.71 77 *e*P **PKPdf 01 44 06.2 -0.7**
YOTC Yotoco, Valle 143.82 72 *e*P PKPbc 01 44 04.5 +0.2
ZARC Zaragoza, Cauc 143.87 65 *e*P **PKPdf 01 44 05.6 -1.0**
POPC Popayan, Colom 143.97 74 *e*P PKPbc 01 44 06.1 +1.2
SMLC San Martn de 143.99 63 *e*P PKPbc 01 44 05.1 +0.4
SOTA Rioblanco 144.16 75 *e*P **PKPdf 01 44 07.9 +0.2**
GUY2C Guyana, Caldas 144.30 69 *e*P **PKPdf 01 44 07.9 0.0**
PCON Cinco Dias 144.30 74 *e*P **PKPdf 01 44 08.4 +0.3**
ANIL Santa Ana 144.53 70 *e*P **PKPdf 01 44 08.5 +0.4**
PTBC PUERTO BERRIO 144.62 66 *e*P PKPbc 01 44 07.1 +0.4
NORC Norcasia 144.63 68 *e*P **PKPdf 01 44 08.2 +0.2**
ORTC Ortega, Tolima 144.88 71 *e*P **PKPdf 01 44 08.5 +0.1**
OCAC Ocana 144.91 63 *e*P **PKPdf 01 44 08.9 +0.3**
FLOC Florencia 145.23 75 *e*P **PKPdf 01 44 10.2 +1.2**
PRAC Prado 145.28 71 *e*P **PKPdf 01 44 10.8 +1.6**
SPBC San Pablo de B 145.33 68 *e*P **PKPbc 01 44 08.2 -0.8**
ROSC El Rosal 145.41 69 PKPbc **PKPab 01 44 10.0 +0.1**
comp=N,7.9nm,0.6s,baz=131,slow=20,SNR=2.1
ROSC El Rosal 145.41 69 PKPbc 01 44 08.3 -1.4
BARC Barichara 145.75 65 *e*P **PKPab 01 44 11.7 +0.8**
PAMC Pamplona, Colo 145.86 64 *e*P **PKPab 01 44 12.4 +0.8**
CHIC Chingaza 146.03 69 *e*P **PKPbc 01 44 12.0 +0.4**
RUSC La Rusia 146.13 66 *e*P **PKPdf 01 44 11.1 0.0**
VILC Villavicencio, 146.26 70 *e*P **PKPab 01 44 13.1 +0.4**
PTLC Puerto Leguiza 146.44 77 *e*P **PKPbc 01 44 12.3 -0.1**
SDV Santo Domingo 146.93 60 *e*P **PKPbc 01 44 13.4 -0.6**
SDV Santo Domingo 146.93 60 PKPbc 01 44 13.6 -0.4
SOCV Socops 147.04 61 *e*P **PKPdf 01 44 12.8 +0.7**
AC02 Maricunga 148.49 129 PKPbc 01 44 18.9 +0.6
ELOV Elorza 148.84 62 *e*P **PKiKP 01 44 20.5 +0.2**
BAUV El Baul 149.09 57 PKPdf 01 44 14.8 -0.5
CZSB Cruzeiro do Su 149.78 91 PKPdf 01 44 17.4 +0.9
LPAZ La Paz 153.45 110 PKPbc **PKiKP 01 44 31.0 +0.5**
comp=N,1.9nm,0.6s,baz=242,slow=2.8,SNR=6.7
LPAZ La Paz 153.45 110 PKIKP **PKPdf 01 44 18.8 -3.9**
LPAZ La Paz 153.45 110 *e*P **PKPdf 01 44 24.6 +1.9**
LPAZ La Paz 153.45 110 PKPdf 01 44 18.8 -3.9

BJI ***27*** *01:26:58.0±0.0, 20.°90S×173.°70W, h10km, mb5.1/30, mB5.7/18, Ms5.3/6, Ms7 4.8/7*
IDC ***27*** *01:27:01.4±0.5, 20.°65S×174.°24W, h0km, mb4.7/25, mb1 4.8/26, mb1mx4.7/48, mbtmp4.6/26, ML4.6/1, MS4.5/41, Ms1 4.5/41, ms1mx4.4/59, Error ellipse: s-maj=19.5km s-min=14.2km az=143.0*
NEIC ***27*** *01:27:02.9±2.9, 20.°6S±0.°1×173.°67W±0.°07, h10km±1km, mb5.2/97, Error ellipse: s-maj=17.7km s-min=9.7km az=162.0*
NOU ***27*** *01:27:04.3, 20.°53S×173.°51W, h12km, mb5.1/26, Tonga Islands*
BGR ***27*** *01:27:06.9±0.0, 20.°75S×174.°01W, h33km*
GCMT ***27*** *01:27:08.9±0.2, 20.°68S±0.°02×173.°70W±0.°01, h24km, MW5.2/119, Moment Tensor Solution. s76,c107; s119,c180; Duration: 1±0 Moment tensor: Scale 10^16 Nm; Mrr6.69±.23; Mθθ-0.86±.15; Mφφ-5.83±.15; Mrθ1.69±.25; Mθφ-2.80±.09; Mφr2.24±.19; Best double couple: M=7.44100×10^16 NP1:φs199.00000°, δ34.00000°, λ81.00000°. NP2:φs29.00000°, δ56.00000°, λ96.00000°. Principal axes: T 7.2680, Plg78.0000°, Azm320.0000°; N 0.3480, Plg5.0000°, Azm206.0000°; P -7.6130, Plg11.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 01:27:02.5±0.3, 20.°71S±0.°07×173.°82W±0.°05, h10km, n413, σ1.987/345, mb5.2/85, MS4.6/45, 31C-20D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.00**	**67**	P	**Pn**	**01 28 00.3**	**-3.6**
baz=3.7,SNR=114							
NIUE	**Niue**	**4.00**	**67**	Pn	**Pn**	**01 28 00.7**	**-3.2**
NIUE	**Niue**	**4.00**	**67**	P	**Pn**	**01 28 01.1**	**-2.8**
TAVE	**Taveuni**	**7.01**	**304**	P	Pn	01 28 49.9	+4.7
AFI	**Afiamalu**	**7.03**	**16**	Pn	**Pn**	**01 28 42.1**	**-3.5**
17nm,0.3s,baz=143,slow=5.1,SNR=5.8							
AFI				Sn	Sn	01 29 53.0	-13
11nm,0.3s,baz=109,slow=18,SNR=1.4							
AFI				LR	LR	01 31 22.9	
comp=Z,2μm,20.5s,baz=190,slow=37							
DGTI	**Dogotuki**	**7.52**	**305**	P	**Pn**	**01 28 56.5**	**+4.2**
MSVF	**Nonsavu**	**8.23**	**290**	Pn	Pn	01 29 07.0	+4.9
2.6nm,0.3s,baz=130,slow=16,SNR=87							
MSVF				LR	LR	01 31 49.8	
comp=Z,13μm,18.7s,baz=96,slow=37							
MSVF	**Nonsavu**	**8.23**	**290**	Pn	**Pn**	**01 29 06.6**	**+4.5**
MSVF	**Nonsavu**	**8.23**	**290**	P	Pn	01 29 07.5	+5.4
RAR	**Rarotonga**	**13.13**	**95**	Pn	**Pn**	**01 30 07.3**	**-1.9**
5.6nm,0.3s,baz=273,slow=9.3,SNR=11							
RAR				Sn	Sn	01 32 21.0	-14
2.2nm,0.3s,baz=120,slow=20,SNR=1.3							
RAR				LR	LR	01 35 59.9	
comp=Z,1μm,18.1s,baz=236,slow=40							
RAR	**Rarotonga**	**13.13**	**95**	Pn	**Pn**	**01 30 06.7**	**-2.4**
RAR	**Rarotonga**	**13.13**	**95**	P	**Pn**	**01 30 07.7**	**-1.4**
FUNA	**Funafuti**	**13.86**	**330**		**Pn**	**01 30 19.7**	**+0.5**
MARNC	**Mare, Loyalty**	**16.96**	**264**	P	**Pn**	**01 31 00.3**	**+0.4**
MARNC	**Mare, Loyalty**	**16.96**	**264**	P	**P**	**01 31 05.2**	**+3.3**
DVP	**Devils Point**	**17.25**	**277**	P	**P**	**01 31 08.3**	**+3.2**
PINNC	**Pines Island,**	**17.52**	**260**	P	**Pn**	**01 31 08.7**	**+1.7**
LIFNC	**LIFOU**	**17.72**	**266**	P	**Pn**	**01 31 11.8**	**+2.3**
LIFNC				IAmb	IAmb	01 31 32.0	
comp=Z,160nm,0.9s							
LIFNC	**LIFOU**	**17.72**	**266**	P	**P**	**01 31 15.3**	**+5.0**
YATNC	**Mamie plateau,**	**18.02**	**262**	P	**P**	**01 31 18.4**	**+4.8**
OUENC	**Ouen Island, N**	**18.07**	**261**	P	**Pn**	**01 31 14.8**	**+1.0**
OUENC	**Ouen Island, N**	**18.07**	**261**	P	**P**	**01 31 20.1**	**+5.9**
ONTNC	**Ouen Toro**	**18.43**	**261**	P	**P**	**01 31 17.8**	**-0.3**
DZM	**Mont Dzumac**	**18.43**	**262**	P	**P**	**01 31 18.5**	**+0.2**
comp=Z,1.7nm,0.3s,baz=79,slow=19,SNR=26							
DZM	**Mont Dzumac**	**18.43**	**262**	*e*P	**P**	**01 31 18.6**	**+0.3**
comp=Z,208nm,1.3s							
DZM				*e*S	**Sn**	**01 34 40.8**	**-3.7**
comp=Z,633nm,25.1s							
DZM				*e*LR	LR	01 35 34.7	
comp=Z,3μm,22.6s							
DZM	**Mont Dzumac**	**18.43**	**262**	P	**P**	**01 31 18.4**	**+0.2**
DZM	**Mont Dzumac**	**18.43**	**262**	P	**Pn**	**01 31 21.6**	**+3.3**
NOUC	**Port Laguerre**	**18.56**	**262**	P	**Pn**	**01 31 23.8**	**+4.0**
SANVU	**Saraoutou**	**18.78**	**283**	P	**P**	**01 31 21.6**	**-0.4**
SANVU				IAmb	IAmb	01 31 25.0	
comp=Z,208nm,1.2s							
URZ	**Urewera**	**19.17**	**202**	P	**P**	**01 31 27.2**	**+1.1**
comp=Z,2.0nm,0.3s,baz=360,slow=19,SNR=2.3							
URZ				S	Sn	01 34 44.3	-18
comp=Z,0.6nm,0.3s,baz=285,slow=20,SNR=1.8							
URZ				LR	LR	01 38 12.7	
comp=Z,1μm,21.5s,baz=14,slow=35							
URZ	**Urewera**	**19.17**	**202**	P	**P**	**01 31 27.5**	**+1.3**
URZ	**Urewera**	**19.17**	**202**	P	**Pn**	**01 31 29.5**	**+2.4**
MRHZ	**Matea Rd**	**19.93**	**203**	P	Pn	01 31 43.3	+7.1
BKZ	**Black Stump Fm**	**20.20**	**202**	P	Pn	01 31 41.0	+1.6
TMVZ	**Te Maari**	**20.44**	**204**	P	Pn	01 31 46.0	+3.7
KWHZ	**Kaweka Forest**	**20.45**	**202**	P	Pn	01 31 45.9	+3.6
SNVZ	**South Ngauruho**	**20.53**	**204**	P	Pn	01 31 46.6	+3.3
BHHZ	**Black Hill Sta**	**20.64**	**203**	P	**P**	**01 31 45.3**	**+3.1**
KRHZ	**Kereru**	**20.67**	**202**	P	Pn	01 31 47.2	+2.4
TSZ	**Takapari Road**	**21.18**	**202**	P	**P**	**01 31 53.2**	**+5.1**
DVHZ	**Dannevirke**	**21.32**	**201**	P	**P**	**01 31 55.6**	**+6.1**
BFZ	**Birch Farm**	**21.64**	**201**	P	**P**	**01 31 56.6**	**+3.7**
BFZ	**Birch Farm**	**21.64**	**201**	P	**P**	**01 31 56.7**	**+3.8**
MRZ	**Mangatainoka R**	**21.85**	**202**	P	**P**	**01 31 56.6**	**+1.4**
HOWZ	**Holdsworth Sta**	**22.08**	**202**	P	**P**	**01 31 59.7**	**+2.1**
OGWZ	**Otaki Gorge**	**22.13**	**203**	P	**P**	**01 31 56.8**	**-1.4**
MSWZ	**Moikau Station**	**22.63**	**202**	P	**P**	**01 32 04.8**	**+1.2**
SNZO	**South Karori**	**22.73**	**203**	P	**P**	**01 32 08.0**	**+3.4**
comp=Z,94nm,1.1s							
PLWZ	**Palliser**	**22.77**	**202**	P	**P**	**01 32 05.8**	**+0.8**
PAE	**Paea**	**23.09**	**87**	*e*T	T	01 56 00.1	
comp=Z,2.0nm,0.3s							
PPT2	**Papeete2**	**23.10**	**86**	*e*S	**S**	**01 36 18.0**	**-2.3**
comp=Z,576nm,24.5s							
PPT2				*e*LQ	LQ	01 36 46.7	
comp=Z,2μm,34.0s							
PPT2				*e*LR	LR	01 37 45.0	
comp=Z,3μm,26.0s,baz=255							
PPT	**Papeete**	**23.11**	**86**	LR	LR	01 40 35.0	
comp=Z,867nm,18.1s,baz=221,slow=35							
TUWZ	**Tuamarina**	**23.12**	**204**	P	**P**	**01 32 08.1**	**-0.6**
NNZ	**Nelson**	**23.16**	**205**	P	**P**	**01 32 15.2**	**+6.2**
NNZ	**Nelson**	**23.16**	**205**	P	**P**	**01 32 08.5**	**-0.5**
TKNZ	**Takaka Hill**	**23.17**	**206**	P	**P**	**01 32 15.3**	**+6.1**
QRZ	**Quartz Range**	**23.18**	**207**	P	**P**	**01 32 11.2**	**+2.0**
QRZ	**Quartz Range**	**23.18**	**207**	P	**P**	**01 32 15.0**	**+5.7**
MRNZ	**Matariki Terra**	**23.56**	**206**	P	**P**	**01 32 17.2**	**+4.0**
THZ	**Tophouse**	**23.81**	**205**	P	**P**	**01 32 17.8**	**+2.2**
THZ	**Tophouse**	**23.81**	**205**	P	**P**	**01 32 14.4**	**-1.1**
KHZ	**Kahutara**	**24.12**	**203**	P	P	01 32 25.9	+7.5
KHZ	**Kahutara**	**24.12**	**203**	P	**P**	**01 32 23.1**	**+4.7**
DSZ	**Denniston Nort**	**24.25**	**207**	P	**P**	**01 32 25.2**	**+5.6**
MEH	**Mehetia**	**24.46**	**88**	*e*T	T	01 57 46.0	
comp=Z,20nm,0.2s							
OXZ	**Oxford**	**25.47**	**204**	P	**P**	**01 32 30.6**	**-0.1**
OXZ				IAmb	IAmb	01 32 31.7	
comp=Z,43nm,0.8s							
RPZ	**Rata Peaks**	**26.19**	**205**	P	**P**	**01 32 38.3**	**+1.1**
RPZ				IAmb	IAmb	01 32 57.5	
comp=Z,39nm,0.9s							
RPZ	**Rata Peaks**	**26.19**	**205**	P	**P**	**01 32 41.7**	**+4.5**
ODZ	**Otahua Downs**	**27.46**	**204**	P	**P**	**01 32 53.7**	**+5.1**
ARMA	**Armidale**	**32.53**	**246**	P	**P**	**01 33 32.8**	**-1.0**
ARMA				IAmb	IAmb	01 33 37.1	
comp=Z,45nm,1.8s							
EIDS	**Eidsvold**	**32.57**	**255**	P	**P**	**01 33 32.6**	**-1.6**
TAOE	**Nuku Hiva Isla**	**34.54**	**75**	*e*S	**S**	**01 39 20.5**	**-0.2**
comp=Z,148nm,26.7s							
TAOE				*e*LR	LR	01 42 57.3	
comp=Z,1μm,27.4s							
RMQ	**Roma**	**34.69**	**253**	P	**P**	**01 33 52.0**	**-0.7**
baz=35,SNR=7.4							
CAN	**Canberra**	**35.68**	**238**	P	**P**	**01 34 00.0**	**-1.1**
CAN				IAmb	IAmb	01 34 37.8	
comp=Z,63nm,1.6s							
CTA	**Charters Tower**	**37.37**	**264**	P	**P**	**01 34 13.7**	**-1.9**
comp=Z,6.7nm,0.6s,baz=105,slow=11,SNR=12							
CTAO	**Charters Tower**	**37.37**	**264**	P	**P**	**01 34 13.5**	**-2.1**
CMSA	**Cobar Meteorol**	**37.73**	**245**	P	**P**	**01 34 16.9**	**-1.7**
baz=38,SNR=12							
TOO	**Toolangi**	**38.97**	**235**	P	**P**	**01 34 28.8**	**-0.2**
baz=39,SNR=5.4							
TOO	**Toolangi**	**38.97**	**235**	P	**P**	**01 34 26.9**	**-2.1**
PMG	**Port Moresby**	**39.22**	**281**	P	P	01 34 27.7	-3.5
comp=Z,11nm,0.4s,baz=166,slow=4.0,SNR=4.0							
PMG				LR	LR	01 49 22.7	
comp=Z,543nm,19.2s,baz=220,slow=34							
PMG	**Port Moresby**	**39.22**	**281**	P	**P**	**01 34 28.1**	**-3.1**
PMG				IAmb	IAmb	01 34 47.8	
comp=Z,33nm,0.9s							
TAU	**Tasmania Unive**	**39.28**	**227**		**P**	**01 34 30.4**	**-1.0**
TAU				IAmb	IAmb	01 35 49.3	
comp=Z,97nm,1.4s							
MTSU	**Mount Surprise**	**39.49**	**266**	P	**P**	**01 34 31.8**	**-1.7**
baz=40,SNR=11							
STKA	**Stephens Creek**	**41.24**	**245**	P	**P**	**01 34 45.3**	**-2.6**
comp=Z,5.9nm,0.6s,baz=89,slow=11,SNR=9.5							
STKA	**Stephens Creek**	**41.24**	**245**	P	**P**	**01 34 46.4**	**-1.5**
baz=42,SNR=7.6							
STKA	**Stephens Creek**	**41.24**	**245**	P	**P**	**01 34 45.9**	**-1.9**
COEN	**Coen**	**41.51**	**272**	P	**P**	**01 34 48.9**	**-1.3**
HTT	**Hallett**	**43.61**	**243**	P	**P**	**01 35 05.8**	**-1.4**
baz=44,SNR=5.4							
BBOO	**Buckleboo**	**45.97**	**244**	P	**P**	**01 35 23.7**	**-2.3**
baz=46,SNR=13							
BBOO	**Buckleboo**	**45.97**	**244**	P	**P**	**01 35 23.2**	**-2.8**
BBOO				IAmb	IAmb	01 35 27.2	
comp=Z,14nm,0.9s							
JAY	**Jayapura**	**47.84**	**286**	P	**P**	**01 35 38.0**	**-2.9**
comp=Z,42nm,1.1s,baz=169,slow=5.4,SNR=3.5							
AS31	**Alice Springs**	**48.28**	**256**	P	P	01 35 41.0	-3.2
ASAR	**Alice Springs**	**48.28**	**256**	P	**P**	**01 35 41.1**	**-3.1**
comp=Z,8.5nm,0.8s,baz=99,slow=8.0,SNR=28							
ASAR				PcP	**PcP**	**01 37 11.2**	**0.0**
comp=Z,3.2nm,0.6s,baz=102,slow=3.8,SNR=5.1							
ASAR	**Alice Springs**	**48.28**	**256**	P	P	01 35 41.0	-3.3
WB0	**Warramunga Arr**	**48.43**	**262**	P	P	01 35 41.2	-4.2
WB0				IAmb	IAmb	01 35 58.7	
comp=Z,11nm,0.8s							
WB2	**Warramunga Arr**	**48.44**	**261**	P	P	01 35 41.6	-3.8
WRAB	**Tennant Creek**	**48.44**	**261**	P	P	01 35 41.2	-4.3
WRA	**Warramunga Arr**	**48.45**	**261**	P	P	01 35 41.9	-3.6
comp=Z,1.5nm,0.3s,baz=96,slow=7.7,SNR=63							
WRA				PcP	**PcP**	**01 37 11.5**	**-0.3**
comp=Z,3.1nm,0.8s,baz=100,slow=2.9,SNR=3.3							
WRA				LR	LR	01 56 02.2	
comp=Z,699nm,18.0s,baz=29,slow=36							
WRA	**Warramunga Arr**	**48.45**	**261**	P	P	01 35 41.7	-3.8
KDU	**Kakadu**	**51.87**	**270**	P	**P**	**01 36 09.1**	**-2.3**
baz=52,SNR=9.9							
FORT	**Forrest**	**52.81**	**247**	P	**P**	**01 36 17.3**	**-0.9**
baz=53,SNR=7.8							
FORT	**Forrest**	**52.81**	**247**	P	P	01 36 14.1	-4.2
FORT				IAmb	IAmb	01 36 23.1	
comp=Z,32nm,0.8s							
GUMO	**Guam**	**53.01**	**307**	LR	LR	01 57 37.9	
comp=Z,261nm,18.3s,baz=106,slow=35							
MTN	**Manton Dam**	**53.08**	**269**	P	**P**	**01 36 18.8**	**-1.6**
baz=53,SNR=5.4							
MTN	**Manton Dam**	**53.08**	**269**	P	P	01 36 16.5	-3.9
MTN				IAmb	IAmb	01 36 31.6	
comp=Z,26nm,0.9s							
WRKA	**Warakurna**	**53.17**	**254**	P	**P**	**01 36 18.5**	**-2.6**
baz=54,SNR=50							
KNRA	**Kununurra**	**54.55**	**265**	P	**P**	**01 36 29.7**	**-1.5**
baz=55,SNR=9.9							
KNRA	**Kununurra**	**54.55**	**265**	P	**P**	**01 36 28.6**	**-2.6**
KNRA				IAmb	IAmb	01 36 42.0	
comp=Z,64nm,1.4s							
FITZ	**Fitzroy Crossi**	**56.88**	**261**	P	**P**	**01 36 45.8**	**-2.2**
comp=Z,1.9nm,0.4s,baz=45,slow=2.5,SNR=17							
FITZ	**Fitzroy Crossi**	**56.88**	**261**	P	**P**	**01 36 46.8**	**-1.1**
baz=57,SNR=3.8							
SIJI	**Sorong**	**57.09**	**283**	P	**P**	**01 36 47.4**	**-2.1**
comp=Z,26nm,0.5s,baz=79,slow=7.6,SNR=9.3							
SIJI				LR	LR	02 00 36.9	
comp=Z,526nm,18.6s,baz=97,slow=36							
SWI	**Sorong**	**57.10**	**283**	P	**P**	**01 36 48.5**	**-1.0**
VNDA	**Vanda**	**58.09**	**186**	P	**P**	**01 36 56.2**	**+0.7**
comp=Z,2.2nm,0.8s,baz=28,slow=5.2,SNR=3.7							
RPN	**Rapa Nui**	**58.75**	**110**	LR	LR	01 55 31.8	
comp=Z,360nm,20.6s,baz=250,slow=29							
SOEI	**Soe**	**60.42**	**270**	P	**P**	**01 37 12.1**	**-0.7**
BATI	**Baumata**	**60.85**	**270**	LR	LR	02 05 02.0	
comp=Z,517nm,18.0s,baz=107,slow=38							
KLBR	**Kellerberrin**	**61.51**	**245**	P	**P**	**01 37 18.7**	**-1.2**
baz=62,SNR=6.6							
MEEK	**Meekatharra**	**61.54**	**250**	P	**P**	**01 37 18.3**	**-1.9**
baz=62,SNR=4.8							
MBWA	**Marble Bar**	**61.62**	**257**	P	P	01 37 16.8	-4.0
BLDU	**Ballidu**	**62.54**	**245**	P	**P**	**01 37 26.7**	**-0.1**
baz=63,SNR=7.7							
MUN	**Mundaring**	**62.76**	**244**	P	**P**	**01 37 29.0**	**+0.8**
baz=63,SNR=4.3							
MORW	**Morawa**	**63.37**	**247**	P	**P**	**01 37 30.7**	**-1.6**
baz=64,SNR=3.7							
LUWI	**Luwuk**	**64.83**	**279**	P	**P**	**01 37 39.7**	**-2.5**
DAV	**Davao City (W)**	**65.60**	**288**	LR	LR	02 05 48.5	
comp=Z,219nm,18.5s,baz=138,slow=36							
KAPI	**Kappang**	**66.21**	**274**	LR	LR	02 06 13.2	
comp=Z,160nm,20.2s,baz=107,slow=36							
MPSI	**Mapaga**	**68.01**	**279**	P	**P**	**01 38 00.8**	**-1.7**
comp=Z,19nm,1.2s							
QSPA	**South Pole Qui**	**69.37**	**180**	P	**P**	**01 38 10.5**	**+0.2**
comp=Z,16nm,0.9s,baz=39,slow=3.3,SNR=4.1							
QSPA	**South Pole Qui**	**69.37**	**180**	P	**P**	**01 38 11.7**	**+1.4**
QSPA				IAmb	IAmb	01 38 17.6	
comp=Z,36nm,1.1s							
JYT	**Yasato**	**71.39**	**322**	P	**P**	**01 38 21.5**	**-1.3**
MJAR	**Matsushiro Arr**	**72.76**	**321**	P	**P**	**01 38 29.5**	**-1.5**
comp=Z,14nm,1.0s,baz=160,slow=6.3,SNR=12							
MJAR	**Matsushiro Arr**	**72.76**	**321**	P	**P**	**01 38 30.5**	**-0.6**
MJAR				IAmb	IAmb	01 38 40.9	
comp=Z,38nm,1.4s							
MAJO	**Matsushiro**	**72.76**	**321**	P	**P**	**01 38 30.4**	**-0.7**
MAJO				IAmb	IAmb	01 38 41.1	
comp=Z,28nm,1.0s							
MAT	**Matsushiro**	**72.76**	**321**	P	**P**	**01 38 30.2**	**-0.9**
MJB9	**Matsu-Tunnel**	**72.77**	**321**	IAmb	IAmb	01 38 41.1	
comp=Z,26nm,1.0s							
PCJI	**Pacitan**	**73.17**	**267**	P	**P**	**01 38 32.8**	**-1.2**
comp=Z,32nm,1.1s							
JOW	**Kunigami**	**73.34**	**308**	LR	LR	02 04 58.6	
comp=Z,152nm,19.9s,baz=162,slow=31							
SHEM	**Shemya Is, Ala**	**73.88**	**352**	LR	LR	02 06 43.3	
comp=Z,524nm,19.9s,baz=136,slow=32							
JHS	**Saijyo**	**74.86**	**317**	P	**P**	**01 38 42.2**	**-1.2**
JNU	**Nakatsue**	**75.17**	**314**	P	**P**	**01 38 43.8**	**-1.5**
comp=Z,33nm,1.2s,baz=60,slow=5.9,SNR=4.6							
JNU	**Nakatsue**	**75.17**	**314**	IAmb	IAmb	01 38 46.0	
comp=Z,36nm,1.1s							
ASAJ	**Asahikawa**	**75.84**	**329**	LR	LR	02 10 11.1	
comp=Z,354nm,18.4s,baz=157,slow=34							
LPIG	**La Paz**	**76.18**	**57**	LR	LR	02 07 34.7	
comp=Z,531nm,18.2s,baz=213,slow=32							
EDW2	**Edwards Air Fo**	**76.57**	**44**	P	**P**	**01 38 55.3**	**+2.0**
baz=233							
ISA	**Isabella, Lake**	**76.73**	**43**	P	**P**	**01 38 56.2**	**+2.0**
ISA	**Isabella, Lake**	**76.73**	**43**	P	**P**	**01 38 57.2**	**+3.0**
baz=232							
PFO	**Pinyon Flats O**	**76.84**	**46**	LR	LR	02 10 17.6	
comp=Z,222nm,18.4s,baz=260,slow=34							
CWC	**Cottonwood Cre**	**77.46**	**43**	P	**P**	**01 38 59.9**	**+1.5**
baz=232							
PETK	**Petropavlovsk-**	**77.55**	**343**	P	**P**	**01 38 57.8**	**-0.5**
comp=Z,3.2nm,0.5s,baz=118,slow=8.4,SNR=19							
PETK				LR	LR	02 06 34.3	
comp=Z,271nm,21.8s,baz=157,slow=31							
MPMC	**Manual Prospec**	**77.61**	**44**	P	**P**	**01 39 01.5**	**+2.3**
baz=233							
GRAC	**Grapevine Rang**	**78.25**	**43**	P	**P**	**01 39 05.5**	**+2.9**
baz=233							
NVAR	**Mina Array Bea**	**78.54**	**41**	P	**P**	**01 39 06.2**	**+1.8**
comp=Z,5.5nm,0.9s,baz=223,slow=8.7,SNR=8.6							
NVAR				LR	LR	02 10 03.2	
comp=Z,483nm,18.1s,baz=231,slow=33							
NVAR	**Mina Array Bea**	**78.54**	**41**	P	**P**	**01 39 05.1**	**+0.7**
CGJI	**Cibinong**	**78.82**	**267**	P	**P**	**01 39 04.5**	**-1.8**
comp=Z,45nm,0.9s							
TPNV	**Topopah Spring**	**78.94**	**44**	P	**P**	**01 39 09.2**	**+2.6**
baz=234							
TPH	**Tonopah**	**78.99**	**42**		**P**	**01 39 05.9**	**-1.0**
TPH				IAmb	IAmb	01 39 12.9	
comp=Z,28nm,0.8s							
J04D	**Umpqua Nationa**	**79.40**	**36**	P	**P**	**01 39 11.7**	**+2.7**
baz=228							
PMSA	**Palmer Station**	**79.52**	**156**	LR	LR	02 13 42.2	
comp=Z,139nm,18.3s,baz=290,slow=35							
KSRS	**Korea Array**	**79.68**	**317**	P	**P**	**01 39 10.2**	**-0.2**
comp=Z,8.2nm,1.0s,baz=136,slow=6.0,SNR=20							
KSRS				LR	LR	02 07 52.9	
comp=Z,184nm,22.0s,baz=110,slow=31							
KSAR	**Wonju Array Be**	**79.70**	**317**	P	**P**	**01 39 10.1**	**-0.4**
KDAK	**Kodiak Island**	**80.17**	**11**	LR	LR	02 05 56.1	
comp=Z,414nm,19.9s,baz=238,slow=29							
R11A	**Troy Canyon, C**	**80.19**	**43**	P	**P**	**01 39 14.2**	**+0.8**
KASI	**Kota Agung**

CUT	Chulitna	84.92	11	P	P	01 39 38.5	+1.3
	baz=202						
MA2	Magadan	85.08	343	P	P	01 39 36.4	-1.7
MA2				IAmb	IAmb	01 39 49.1	
	comp=Z,39nm,1.7s						
K20K	Telida	85.21	9	IAmb	IAmb	01 39 53.3	
	comp=Z,20nm,1.1s						
K20K	Telida	85.21	9	P	P	01 39 40.4	+1.7
	baz=198						
ANM	Nome	85.25	4	P	P	01 39 41.1	+2.3
	baz=188						
RDMU	Red Mountain	85.29	44	P	P	01 39 40.4	+0.4
RDMU				IAmb	IAmb	01 39 56.4	
	comp=Z,26nm,1.8s						
N25K	Chitina, Valde	85.31	14	IAmb	IAmb	01 39 54.3	
	comp=Z,23nm,1.0s						
N25K	Chitina, Valde	85.31	14	P	P	01 39 41.4	+2.1
	baz=207						
CAST	Castle Rocks	85.57	10	IAmb	IAmb	01 39 53.0	
	comp=Z,35nm,1.5s						
CAST	Castle Rocks	85.57	10	P	P	01 39 40.7	+0.2
	baz=200						
WHN	Wuhan	85.75	305	⇓P	P	01 39 43.3	+1.2
WHN				sP	pwP	01 39 52.5	+3.5
TRF	Thorofare Moun	85.89	10	P	P	01 39 42.8	+0.5
	baz=202						
CHUM	Lake Minchumin	85.97	9	P	P	01 39 43.2	+0.8
	baz=200						
J20K	Nowinta River	85.98	8	IAmb	IAmb	01 39 57.3	
	comp=Z,36nm,1.1s						
J20K	Nowinta River	85.98	8	P	P	01 39 43.8	+1.4
	baz=198						
REDW	Red Top Meadow	85.99	41	P	P	01 39 40.8	-2.5
CMIG	Matias Romero	86.03	70	LR	LR	02 11 11.1	
	comp=Z,224nm,18.9s,baz=249,slow=31						
RND	Reindeer	86.09	11	P	P	01 39 43.2	0.0
PLCA	Paso Flores	86.26	132	LR	LR	02 12 42.7	
	comp=Z,211nm,18.4s,baz=227,slow=32						
PAX	Paxson	86.34	13	P	P	01 39 45.4	+0.9
	baz=206						
M26K	Nabesna, AK	86.37	14	IAmb	IAmb	01 39 59.8	
	comp=Z,28nm,1.2s						
M26K	Nabesna, AK	86.37	14	P	P	01 39 46.4	+1.9
	baz=209						
MCK	McKinley	86.38	11	P	P	01 39 44.2	-0.3
MCK	McKinley	86.38	11	P	P	01 39 45.9	+1.4
	baz=203						
YUK3	Moose Creek	86.42	15	P	P	01 39 47.0	+2.0
	baz=211						
BW06	Boulder Array	86.47	42	P	P	01 39 47.6	+1.8
	baz=238						
PDAR	Pinedale Array	86.47	42	P	P	01 39 46.9	+1.1
	comp=Z,2.7nm,0.9s,baz=212,slow=3.1,SNR=16						
PDAR				LR	LR	02 15 33.3	
	comp=Z,277nm,18.0s,baz=277,slow=34						
PDAR	Pinedale Array	86.47	42	P	P	01 39 45.7	0.0
M27K	Edge Creek, AK	86.58	14	P	P	01 39 46.7	+1.0
M27K	Edge Creek, AK	86.58	14	P	P	01 39 48.1	+2.4
	baz=210						
L26K	Log Cabin Wild	86.84	13	P	P	01 39 48.6	+1.8
	baz=208						
RIDG	Independent Ri	87.16	12	P	P	01 39 50.0	+1.7
	baz=207						
L27K	Beaver Creek,	87.21	14	P	P	01 39 50.8	+2.2
	baz=210						
I21K	Tanana	87.24	9	IAmb	IAmb	01 40 03.1	
	comp=Z,21nm,1.1s						
I21K	Tanana	87.24	9	P	P	01 39 50.1	+1.5
	baz=200						
MLY	Manley	87.29	10	IAmb	IAmb	01 40 02.2	
	comp=Z,43nm,1.9s						
MLY	Manley	87.29	10	P	P	01 39 50.0	+1.0
	baz=201						
SYO	Syowa Base	87.35	191	⇓esP	sP	01 39 54.8	+3.0
HDA	Harding Lake	87.36	11	P	P	01 39 50.3	+1.0
	baz=205						
CCB	Clear Creek Bu	87.42	11	IAmb	IAmb	01 40 03.8	
	comp=Z,26nm,1.1s						
SEY	Seymchan	87.52	345	P	P	01 39 49.9	-0.1
	comp=Z,6.3nm,0.9s,baz=146,slow=5.3,SNR=14						
SEY				LR	LR	02 15 16.4	
	comp=Z,296nm,19.4s,baz=154,slow=33						
SCRK	Sand Creek	87.55	13	P	P	01 39 49.9	-0.4
SCRK	Sand Creek	87.55	13	P	P	01 39 51.7	+1.4
	baz=208						
H21K	Melozitna Rive	87.57	9	P	P	01 39 52.2	+1.9
	baz=200						
I23K	Minto, Yukon-K	87.62	10	P	P	01 39 51.7	+1.3
	baz=203						
TCOL	CIGO, UAF Yank	87.62	11	P	P	01 39 51.7	+1.3
	baz=204						
COLA	College	87.62	11	P	P	01 39 50.6	+0.2
VNA3	Neumayer Olymp	87.64	175	P	P	01 39 51.7	+1.0
SNAA	Sanae	87.66	177	P	P	01 39 53.1	+2.2
SNAA	Sanae	87.66	177	LR	LR	02 15 13.2	
	comp=Z,244nm,21.0s,baz=57,slow=33						
SNAA	Sanae	87.66	177	P	P	01 39 51.9	+1.0
SNAA				IAmb	IAmb	01 39 56.7	
	comp=Z,8.9nm,1.0s						
IL31		87.70	11	IAmb	IAmb	01 40 05.3	
	comp=Z,21nm,1.2s						
ILAR	Eielson Array	87.70	11	P	P	01 39 51.0	+0.1
	comp=Z,1.3nm,0.6s,baz=218,slow=5.6,SNR=8.7						
ILAR				LR	LR	02 15 50.4	
	comp=Z,142nm,19.2s,baz=214,slow=33						
M30M	Minto, Yukon	88.02	16	P	P	01 39 54.5	+1.9
	baz=214						
J26L	Joseph Creek	88.10	13	P	P	01 39 54.8	+1.9
	baz=208						
VNA2	Neumayer--Watz	88.12	176	P	P	01 39 52.6	-0.5
	baz=191,slow=4.1						
HNS	HongShan	88.61	311	⇓P	P	01 39 57.3	+1.5
HNS				pmax	pmax		
	comp=Z,14nm,1.6s						
PRP	Porcupine Dome	88.62	11	P	P	01 39 56.0	+0.5
PRP	Porcupine Dome	88.62	11	P	P	01 39 56.8	+1.3
	baz=206						
DAWY	Dawson	88.63	14	IAmb	IAmb	01 40 11.0	
	comp=Z,16nm,1.0s						
DAWY	Dawson	88.63	14	P	P	01 39 57.8	+2.4
	baz=212						
BJI	Beijing	88.83	314	P	P	01 39 52.5	-4.3
BJI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
EGAK	Eagle	88.85	13	P	P	01 39 57.4	+1.1
EGAK	Eagle	88.85	13	P	P	01 39 58.4	+2.1
	baz=210						
APG	El Apazote	89.18	74	LR	LR	02 13 28.8	
	comp=Z,166nm,18.5s,baz=273,slow=31						
ENH	Enshi	89.42	303	P	P	01 39 60.0	+0.1
BILL	Bilibino	89.69	353	P	P	01 39 59.5	-0.7
BILL				IAmb	IAmb	01 43 20.0	
	comp=Z,5.7nm,0.6s						
SLVN	Son La	90.56	292	IAmb	IAmb	01 40 08.2	
	comp=Z,21nm,1.4s						
RSSD	Black Hills	90.62	43	P	P	01 40 04.9	-0.5
XLT	XiLinHaoTe	90.72	317	eP	P	01 40 05.0	-0.7
XLT				S	S	01 50 58.3	-3.7
XLT				pmax	pmax		
	comp=Z,6.0nm,1.8s						
XLT				LR	LR		
	comp=Z,320nm,10.7s						
XLT				LR	LR		
	comp=Z,370nm,14.6s						
XLT				LR	LR		
	comp=Z,300nm,16.7s						
TOLK	Toolik Lake Re	90.82	9	P	P	01 40 07.6	+2.1
	baz=202						
XAN	Xi'an	91.40	306	P	P	01 40 10.0	+1.0
XAN				S	S	01 51 11.5	+2.9
XAN				pmax	pmax		
	comp=Z,36nm,1.4s						
XAN				pmax	pmax		
	comp=Z,330nm,5.5s						
XAN				LR	LR		
	comp=Z,180nm,15.8s						
XAN				LR	LR		
	comp=Z,300nm,17.2s						
XAN				LR	LR		
	comp=Z,240nm,16.5s						
NNA	Nana	92.22	104	LR	LR	02 11 49.9	
	comp=Z,111nm,21.5s,baz=239,slow=29						
HHC	Hu-ho-hao-te	92.33	313	eP	P	01 40 08.0	-5.3
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,230nm,5.7s						
JTS	Las Juntas de	92.53	80	LR	LR	02 12 05.1	
	comp=Z,154nm,21.0s,slow=29						
ATAH	Atahualpa	92.55	99	LR	LR	02 12 13.4	
	comp=Z,218nm,20.7s,baz=254,slow=29						
DGMT	Dagmar	92.60	39	P	P	01 40 14.6	+0.4
DGMT				IAmb	IAmb	01 40 19.6	
	comp=Z,20nm,1.1s						
DGMT	Dagmar	92.60	39	P	P	01 40 16.8	+2.5
	baz=241						
KMI	Kunming	92.95	296	⇓P	P	01 40 18.5	+1.8
KMI				pmax	pmax		
	comp=Z,18nm,1.4s						
K31A	O'Neill	93.39	46	P	P	01 40 18.8	+0.8
INK	Inuvik	93.49	14	P	P	01 40 18.0	+0.3
	comp=Z,2.4nm,0.9s,baz=186,slow=6.9,SNR=3.2						
INK				LR	LR	02 14 33.0	
	comp=Z,233nm,22.0s,baz=188,slow=30						
INK	Inuvik	93.49	14	P	P	01 40 19.4	+1.7
	baz=217						
CMAR	Chiang Mai Arr	93.89	288	P	P	01 40 19.3	-1.5
	comp=Z,3.9nm,0.7s,baz=112,slow=2.8,SNR=20						
CHTO	Chiang Mai	94.01	288	P	P	01 40 21.4	0.0
CHTO				IAmb	IAmb	01 40 23.4	
	comp=Z,7.9nm,0.8s						
PZH	PanZhiHua	94.29	297	P	P	01 40 15.8	-6.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,4.6s						
LVC	Limon Verde	95.06	116	LR	LR	02 13 52.0	
	comp=Z,232nm,20.9s,baz=254,slow=30						
YKA	Yellowknife Ar	95.10	24	P	P	01 40 26.2	+0.9
	comp=Z,1.2nm,0.8s,baz=236,slow=4.2,SNR=11						
ECSD	EROS Data Cent	95.27	45	P	P	01 40 26.7	+0.1
ECSD				IAmb	IAmb	01 41 02.7	
	comp=Z,18nm,1.5s						
ECSD	EROS Data Cent	95.27	45	P	P	01 40 27.5	+0.9
	baz=246						
LZH	Lanzhou	96.03	306	eP	P	01 40 24.0	-6.5
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
LZH				LR	LR		
	comp=Z,280nm,17.5s						
LZH				LR	LR		
	comp=Z,290nm,17.3s						
LZH				LR	LR		
	comp=Z,310nm,19.6s						
A36M	Sachs Harbour	98.12	14	IAmb	IAmb	01 40 55.0	
	comp=Z,6.3nm,0.9s						
A36M	Sachs Harbour	98.12	14	P	Pdif	01 40 40.5	+1.7
	baz=225						
ULM	Lac du Bonnet	98.28	39	LR	LR	02 21 46.3	
	comp=Z,258nm,19.3s,baz=272,slow=33						
SONM	Songino Array	98.51	318	P	P	01 40 39.9	-1.4
	comp=Z,0.2nm,0.3s,baz=106,slow=3.7,SNR=4.5						
TIXI	Tiksi	99.98	344	LR	LR	02 21 25.3	
	comp=Z,147nm,20.1s,baz=180,slow=33						
WMQ	Urumqi	110.03	310	ePKP	PKiKP	01 45 27.3	-7.1
WMQ				LR	LR		
	comp=Z,250nm,23.5s						
ZALV	Zalesovo Beam	113.11	321	PKiKP	PKiKP	01 45 39.0	-0.8
	comp=Z,0.5nm,0.5s,baz=19,slow=2.6,SNR=2.5						
ZALV	Zalesovo Beam	113.11	321		PKiKP	01 45 39.3	-0.6
MKAR	Makanchi Array	114.19	313	PKiKP	PKPdf	01 45 41.5	-0.6
	comp=Z,0.9nm,0.8s,baz=64,slow=3.0,SNR=8.0						
MKAR	Makanchi Array	114.19	313	PKiKP	PKPdf	01 45 40.5	-1.7
BRVK	Borovoye	121.81	320		PKPdf	01 45 55.6	-1.0
KBL	Kabul	123.43	298	PKPdf	PKPdf	01 46 00.5	-0.1
ARCES	ARCESS Array B	129.77	351	PKP	PKiKP	01 46 12.2	+0.1
	comp=Z,3.3nm,0.9s,baz=31,slow=2.8,SNR=8.2						
ARCES	ARCESS Array B	129.77	351	PKPdf	PKiKP	01 46 12.1	-0.1
FINES	FINESS Array B	136.99	346	PKP	PKPdf	01 46 25.6	+0.4
	comp=Z,2.4nm,0.9s,baz=82,slow=4.0,SNR=4.8						
FINES	FINESS Array B	136.99	346	PKPdf	PKPdf	01 46 23.9	-1.2
NOA	NORSAR Array B	139.55	356	PKP	PKPdf	01 46 30.7	+0.8
	comp=Z,1.6nm,1.0s,baz=225,slow=27,SNR=2.2						
HFS	Hagfors	140.25	354	PKP	PKiKP	01 46 33.0	-0.6
	comp=Z,8.3nm,1.0s,baz=24,slow=11,SNR=4.2						
MNK	Minsk	142.45	339	*i* PKP	PKiKP	01 46 38.3	0.0
	comp=E,3.0nm,1.1s						
MNK				*i* PKP	PKiKP	01 46 38.3	0.0
	comp=N,18nm,1.2s						
MNK				*i* PKP	PKiKP	01 46 38.3	0.0
	comp=Z,9.0nm,0.9s,baz=216						
MNK				*i* PP	PP	01 49 44.5	+2.5
MNK				*i* PPP	PPP	01 52 51.9	
MNK				*i* SKS	SKSdf	01 53 45.5	+0.4
MNK				*i* SS	SS	02 08 16.7	-0.4
MNK				*i* SSS	SSS	02 13 35.4	
MNK				*i* LR	LR	02 45 54.5	
MNK				*i* LRM	MLR	02 48 50.4	
	comp=E,17nm,15.9s						
MNK				*i* LRM	MLR	02 48 55.4	
	comp=Z,211nm,18.8s						
MNK				*i* LRM	MLR	02 49 24.4	
	comp=N,220nm,20.2s						
KMBO	Kilima Mbogo	142.64	238	PKP	PKPdf	01 46 35.9	-1.3
	comp=N,0.9nm,0.7s,baz=128,slow=6.8,SNR=2.4						
KMBO	Kilima Mbogo	142.64	238	PKPdf	PKPdf	01 46 34.1	-3.1
CHVG	Ch'k'valeri	142.79	314	⇑P	PKiKP	01 46 52.4	+13
GURO	Guroymak-BITLI	144.41	308	PKPdf	PKPab	01 46 38.2	+0.6
EKA	Eskdalemuir Ar	144.72	9	PKP	PKPbc	01 46 38.2	+0.1
	comp=N,3.2nm,0.7s,baz=342,slow=3.2,SNR=6.8						
AKASG	Malin Array Be	145.00	334	PKP	PKPab	01 46 38.6	-0.5
	comp=N,2.5nm,0.4s,baz=40,slow=4.4,SNR=16						
BSEG	Bad Segeberg	146.68	356	ePKPbc	PKPab	01 46 45.0	-0.3
	baz=8.3,slow=2.6						
SORM	Soroca	147.32	332	⇑P	PKPbc	01 46 47.3	+1.0
RUE	Ruedersdorf	147.74	351	ePKPbc	PKPbc	01 46 47.8	+0.6
	baz=8.3,slow=2.6						
MBAR	Mbarara	147.97	232		PKPdf	01 46 48.2	+1.9
MILM	Milestii Mici	148.02	330	⇑P	PKPbc	01 46 49.2	+1.1
FLTG	Flechtingen	148.19	354	ePKPbc	PKPbc	01 46 49.2	+0.8
	baz=8.3,slow=2.6						
IBBN	Ibbenburen	148.43	358	ePKPbc	PKPbc	01 46 49.9	+0.8
	baz=8.3,slow=2.6						
GAZ	Gaziantep	148.46	308	PKPbc	PKPdf	01 46 48.6	+2.3
LEOM	Leova	148.61	330	⇓P	PKiKP	01 46 51.1	-0.2
VASR	Vaslui	148.70	331	⇓P	PKPbc	01 46 51.1	+1.1
CLZ	Clausthal	148.75	355	ePKPbc	PKPbc	01 46 50.9	+0.9
	baz=8.3,slow=2.6						
PRAR	RASCA	148.83	333	⇑P	PKPbc	01 46 51.4	+1.1
CLL	Collm	148.99	352	ePKPdf	PKPdf	01 46 47.0	+0.5
CLL				*i* PKPbc	PKPbc	01 46 51.3	+0.7
	comp=Z,32nm,1.5s						
CLL				ePKPab	PKPab	01 46 55.0	+0.4
	comp=Z,12nm,0.8s						
CLL				*i* x	x	01 47 01.2	
CLL				Lm	MLR	02 53 00.0	
	comp=Z,300nm,19.0s						
BUR08	Bucovina Ar. S	149.03	335	PKPdf	PKPdf	01 46 46.2	-0.7
BURAR	Bucovina Array	149.05	335	⇓P	PKiKP	01 46 53.6	+1.3
VLDR	Vladesti	149.15	329	⇓P	PKiKP	01 46 52.9	+0.5
OSTC	Ostas	149.17	347	⇑ePKP	PKiKP	01 46 52.6	+0.3
CHVC	Chvalec	149.18	348	⇑ePKP	PKiKP	01 46 52.6	+0.2
NEUB	Neuenburg	149.24	353	ePKPbc	PKiKP	01 46 52.2	-0.2
	baz=8.3,slow=2.6						
BRG	Berggiesshubel	149.28	350	ePKP	PKiKP	01 46 52.3	-0.2
BRG				Amp		01 46 53.8	
	comp=Z,19nm,1.3s						
BRG				*ex*	x	01 47 04.8	
BRG				Amp		01 47 06.8	
	comp=Z,12nm,0.9s						
BRG	Berggiesshubel	149.28	350	ePKPbc	PKPbc	01 46 52.1	+0.8
	baz=8.3,slow=2.6						
GHRR		149.31	330	⇑P	PKiKP	01 46 53.2	+0.5
BUG	Bochum--Univer	149.31	359	ePKPbc	PKPbc	01 46 52.1	+0.7
	baz=8.3,slow=2.6						
CRVS	Cervenica-Dubn	149.32	340	ePKP	PKiKP	01 46 53.7	+1.0
FBE	Freiberg	149.32	351	ePKPbc	PKiKP	01 46 52.6	0.0
	baz=8.3,slow=2.6						
DPC	Dobruska-Polom	149.35	347	⇑ePKP	PKiKP	01 46 53.0	+0.3
KRLC	Kraliky	149.51	346	⇑ePKP	PKiKP	01 46 53.3	+0.2
PVCC	Panska Ves	149.51	349	⇑ePKP	PKiKP	01 46 53.3	+0.3
CFR	Carcaliu	149.61	328	⇑P	PKPbc	01 46 53.2	+0.9
MORC	Moravsky Berou	149.62	345	⇑P	PKiKP	01 46 53.2	-0.1
MORC	Moravsky Berou	149.62	345	ePKP	PKPbc	01 46 53.1	+0.8
TRPA	Tarpa	149.63	338	⇑P	PKiKP	01 46 53.2	-0.1
BMR	Baia Mare	149.67	337	⇑P	PKPbc	01 46 51.1	-1.3
TPGR	Topolog	149.70	328	⇓P	PKiKP	01 46 53.7	+0.1
VRI	Vrincioaia	149.77	331	⇑P	PKPbc	01 46 51.6	-1.2
PLOR	Plostina	149.81	331	⇑P	PKiKP	01 46 55.0	+1.2
MOX	Moxa	149.82	353	ePKPbc	PKPbc	01 46 53.4	+0.7
	baz=8.3,slow=2.6						
BRTR	Keskin Array B	149.82	315	PKPbc	PKPbc	01 46 53.4	+0.2
	comp=Z,1.3nm,0.6s,baz=143,slow=4.5,SNR=8.6						
BRTR	Keskin Array B	149.82	315	PKPdf	PKPdf	01 46 47.2	-1.2
BRTR					PKPbc	01 46 53.1	-0.1
ARCR	ARCALIA	149.82	335	⇓P	PKiKP	01 46 54.1	+0.3
ARCR				⇑P	pPKPbc	01 46 54.2	-0.4
PLN	Plauen	149.91	352	ePKPbc	PKiKP	01 46 53.9	+0.1
	baz=8.3,slow=2.6						
WERD	Werda	149.93	352	ePKPbc	PKiKP	01 46 54.0	+0.1
	baz=8.3,slow=2.6						
TANN	Tannenbergstha	149.94	352	ePKPbc	PKiKP	01 46 53.9	-0.1
	baz=8.3,slow=2.6						
GUNZ	Gunzen	150.01	352	ePKPbc	PKiKP	01 46 54.2	+0.1
	baz=8.3,slow=2.6						
COVR	Voineasa-Covas	150.02	331	⇑P	PKPbc	01 46 54.2	+0.8
PRU	Pruhonice	150.03	349	⇑ePKP	PKiKP	01 46 54.3	+0.2
HARR	Harsova	150.06	328	⇓P	PKiKP	01 46 55.4	+1.1
WERN	Wernitzgruen	150.08	352	ePKPbc	PKiKP	01 46 54.5	+0.3
	baz=8.3,slow=2.6						
TLBR	Topalu	150.11	328	⇓P	PKiKP	01 46 55.0	+0.6
VRAC	Vranov	150.27	346	⇓P	PKiKP	01 46 55.4	+0.7
VRAC	Vranov	150.27	346	ePKP	PKiKP	01 46 54.8	+0.2
DOPR	Dopca	150.29	332	⇓P	PKiKP	01 46 55.9	+1.1
MANZ	Manzenberg	150.41	352	ePKPbc	PKiKP	01 46 55.2	+0.2
	baz=8.3,slow=2.6						
MLR	Muntele Rosu	150.41	331	⇑P	PKiKP	01 46 55.5	+0.3
JAVC	Velka Javorina	150.44	345	ePKP	PKiKP	01 46 56.2	+1.1
VYHS	Vyhne	150.47	343	ePKP	PKPbc	01 46 55.0	+0.7
KOLL	Kolacno	150.51	343	ePKP	PKiKP	01 46 55.5	+0.4
KRUC	Moravsky	150.55	346	ePKP	PKiKP	01 46 55.4	+0.2
ROTZ	Rotzenmuhle	150.61	352	ePKPbc	PKiKP	01 46 55.6	+0.2
	baz=8.3,slow=2.6						
SECR		150.70	330	⇑P	PKiKP	01 46 56.5	+0.9
GRF	Grafenberg Arr	150.80	353	ePKPbc	PKiKP	01 46 56.2	+0.5
	baz=8.3,slow=2.6						
SMOL	Smolenice	150.82	345	ePKP	PKiKP	01 46 56.7	+0.9
VOIR		150.85	332	⇑P	PKiKP	01 46 56.7	+0.7
MODS	Modra-Piesok	150.99	345	ePKP	PKiKP	01 46 58.1	+1.9
KHC	Kasperske Hory	151.03	350	⇑ePKP	PKiKP	01 46 56.9	+0.7
KHC				*ex*	x	01 47 07.7	
ARR	Arges	151.09	333	⇑P	PKiKP	01 46 58.2	+1.7
WLF	Walferdange	151.10	0	ePKPbc	PKiKP	01 46 57.2	+0.9
	baz=8.3,slow=2.6						
WET	Wettzell	151.12	351	ePKPbc	PKiKP	01 46 57.1	+0.7
	baz=8.3,slow=2.6						
CKRC	Cesky Krumlov	151.20	349	⇑ePKP	PKiKP	01 46 56.9	+0.3
GEC2	GERESS Array S	151.28	350	ePKPbc	PKiKP	01 46 57.2	+0.3
	baz=8.3,slow=2.6						
GERES	GERESS Array B	151.28	350	PKP	PKPdf	01 46 50.2	-0.2
	comp=Z,4.5nm,0.9s,baz=343,slow=4.2,SNR=4.4						
GERES				PKPbc	PKPbc	01 46 56.9	+0.5
	comp=Z,6.2nm,1.0s,baz=42,slow=1.6,SNR=24						
GERES	GERESS Array B	151.28	350		PKPdf	01 46 49.6	-0.7
GERES					PKPbc	01 46 56.4	+0.1
LOT	Lotru	151.39	334	⇓P	PKiKP	01 46 57.9	+0.7
SIRR	Siria	151.53	337	⇓P	PKiKP	01 46 58.4	+1.0
HUMR	Humele	151.59	331	⇑P	PKPbc	01 46 57.2	+0.2
CONA	Conrad Observa	151.74	346	eP	PKiKP	01 46 58.4	+0.6
	comp=Z,13nm,1.1s						
GZR	Gura Zlata	151.84	335	⇑P	PKPbc	01 46 58.2	+0.5
BZS	Buzias	152.10	336	⇑P	PKiKP	01 46 59.7	+1.2
MOA	Molln	152.14	348	*i* P	PKiKP	01 46 59.4	+0.8
	comp=Z,6.0nm,1.0s						
FUR	Furstenfeldbru	152.30	353	ePKPbc	PKiKP	01 46 59.2	+0.3
	baz=8.3,slow=2.6						
BFO	Black Forest	152.39	357		PKPbc	01 46 58.7	-0.1
HERR	Herculane	152.40	335	⇓P	PKPbc	01 46 59.4	+0.5
BANR	Banloc	152.47	337	⇑P	PKiKP	01 47 00.0	+0.8
RJOB	Jochberg	152.51	350	ePKPbc	PKiKP	01 47 00.1	+0.7
	baz=8.3,slow=2.6						
KBA	Koelnbreinsper	153.05	349	eP	PKiKP	01 47 01.0	+0.4
	comp=Z,3.9nm,0.9s						
WATA	Walderalm	153.08	352	*i* P	PKPbc	01 47 00.7	+0.2
	comp=Z,4.3nm,0.9s						
SOKA	Soboth	153.10	346	*i* P	PKPbc	01 47 00.8	+0.3
	comp=Z,6.4nm,1.1s						
MOTA	Moosalm	153.13	353	eP	PKiKP	01 47 01.8	+1.0
	comp=Z,6.6nm,1.0s						
WTTA	Wattenberg	153.14	352	eP	PKPbc	01 47 00.7	0.0
	comp=Z,9.9nm,0.7s						
FRGS	Fruska Gora	153.14	338	⇑P	PKiKP	01 47 01.0	+0.3
SQTA	Sankt Quirin	153.24	352	eP	PKiKP	01 47 02.0	+1.1
	comp=Z,4.7nm,0.9s						
OBKA	Obir	153.37	347	eP	PKiKP	01 47 02.0	+0.7
	comp=Z,2.1nm,0.7s						
FETA	Feichten	153.49	353	eP	PKiKP	01 47 03.0	+1.5
	comp=Z,7.8nm,1.1s						
ABTA	Abfaltersbach	153.51	350	eP	PKPbc	01 47 01.3	-0.1
	comp=Z,9.5nm,1.2s						
BOVS	Bovan	153.72	334	⇑P	PKiKP	01 47 03.7	+1.8
VTS	Vitosha	153.87	331	⇓P	PKPdf	01 46 51.4	-3.1
VTS	Vitosha	153.87	331	PKPab	PKPab	01 47 14.0	-1.4
SANT	Santorini	157.04	317	P	PKPab	01 47 38.0	+8.9
MATE	Matera	158.19	338	⇓P	PKPdf	01 46 49.7	-10
ESDC	Sonseca Array	159.19	22	PKPab	PKPab	01 47 38.6	+0.4
	comp=Z,1.2nm,1.0s,baz=332,slow=3.4,SNR=3.2						
TORD	Torodi Ar. Bea	171.34	150	PKP	PKPdf	01 47 12.3	+0.2
	comp=Z,1.7nm,1.0s,baz=291,slow=0.6,SNR=4.3						
T

KMSI	**Cibinong**	**5.38 310**	P	**Pn**	**01 41 33.1**	**-0.7**
LUWI	**Luwuk**	**5.62 290**	Pn	**Pn**	**01 41 35.3**	**-1.8**
LUWI	**Luwuk**	**5.62 290**	P	**Pn**	**01 41 36.7**	**-0.4**
BBSI	**Bau Bau**	**6.04 245**	P	**Pn**	**01 41 42.8**	**0.0**
	0.1nm496nm24nm,1.0s					
GTOI	**Gorontalo**	**6.19 305**	P	**Pn**	**01 41 46.0**	**+1.2**
	2.2nm980nm92nm,0.7s					
APSI	**Ampana**	**6.73 287**	P	**Pn**	**01 41 52.1**	**-0.2**
	3.5nm10µm940nm,0.6s					
MRSI	**Marisa**	**7.01 299**	P	**Pn**	**01 41 54.9**	**-1.2**
	1.4nm1µm101nm,0.6s					
SOEI	**Soe**	**7.75 209**		**Pn**	**01 42 10.3**	**+3.9**
BNSI	**Bone**	**8.08 259**	P	**Pn**	**01 42 13.0**	**+2.2**
	58nm,1.4s					
MMRI	**Maumere**	**8.10 226**	Pn	**Pn**	**01 42 13.7**	**+2.5**
BSSI	**Bau Bau, Buton**	**8.20 247**	P	**Pn**	**01 42 14.4**	**+2.0**
	805nm68nm,1.0s					
BAKI	**Biak**	**8.22 78**	P	**Pn**	**01 42 11.4**	**-1.4**
TTSI	**Tana Toraja**	**8.24 269**	P	**Pn**	**01 42 13.6**	**+0.5**
	1µm91nm,0.8s					
BKSI	**Bulukumba**	**8.27 253**	P	**Pn**	**01 42 13.9**	**+0.4**
	2µm92nm,1.2s					
TOLI2	**Tolitoli**	**8.33 299**	Pn	**Pn**	**01 42 12.2**	**-2.1**
TOLI2	**Tolitoli**	**8.33 299**	P	**Pn**	**01 42 14.2**	**-0.1**
SPSI	**Sidrap Palu**	**8.35 263**	P	**Pn**	**01 42 16.8**	**+2.3**
	2µm97nm,0.5s					
BATI	**Baumata**	**8.44 211**	Pn	**Pn**	**01 42 14.6**	**-1.2**
	2.2nm,0.3s,baz=270,slow=1.0,SNR=1.4					
BATI			LR	LR	01 45 41.5	
	comp=Z,2µm,19.2s,baz=22,slow=39					
KAPI	**Kappang**	**8.55 256**	Pn	**Pn**	**01 42 18.2**	**+0.9**
	3.7nm,0.3s,baz=162,slow=5.6,SNR=14					
KAPI			LR	LR	01 46 04.4	
	comp=Z,1µm,18.1s,baz=90,slow=41					
KAPI	**Kappang**	**8.55 256**	Pn	**Pn**	**01 42 19.1**	**+1.8**
KAPI	**Kappang**	**8.55 256**	P	**Pn**	**01 42 21.0**	**+3.7**
MPSI	**Mapaga**	**8.80 292**	P	**Pn**	**01 42 19.5**	**-1.2**
	850nm73nm,0.7s					
DRS	**Darwin Rock St**	**9.83 164**	P	**Pn**	**01 42 39.1**	**+4.3**
DAV	**Davao City (W)**	**10.26 346**	LR	LR	01 47 10.3	
	comp=Z,542nm,20.9s,baz=24,slow=41					
MTN	**Manton Dam**	**10.29 163**	Pn	**Pn**	**01 42 43.6**	**+2.4**
GENI	**Genyem**	**12.09 89**	P	**Pn**	**01 43 06.2**	**+0.4**
	4µm268nm,1.2s					
JAY	**Jayapura**	**12.63 88**	Pn	**Pn**	**01 43 12.8**	**-0.3**
	0.9nm,0.3s,baz=216,slow=19,SNR=2.7					
KNRA	**Kununurra**	**12.67 177**	Pn	**Pn**	**01 43 15.9**	**+2.3**
KNRA	**Kununurra**	**12.67 177**	P	**Pn**	**01 43 16.9**	**+3.2**
KMMI	**Kalianget**	**14.63 253**	P	**Pn**	**01 43 42.8**	**+2.4**
	3µm156nm,1.2s					
JAGI	**Jajag, Banyuwa**	**14.89 248**	Pn	**Pn**	**01 43 44.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**15.24 189**	Pn	**Pn**	**01 43 48.5**	**-0.1**
	0.3nm,0.3s,baz=21,slow=14,SNR=14					
FITZ			LR	LR	01 51 01.0	
	comp=Z,608nm,18.6s,baz=74,slow=42					
PCJI	**Pacitan**	**17.60 252**	P	**P**	**01 44 20.4**	**+1.2**
	2µm95nm,0.9s					
WB0	**Warramunga Arr**	**17.82 160**	P	**Pn**	**01 44 20.2**	**-0.9**
WB0			IAmb	IAmb	01 44 21.9	
	comp=Z,36nm,0.8s					
WRAB	**Tennant Creek**	**17.96 161**	P	**Pn**	**01 44 21.7**	**-1.2**
WRAB			IAmb	IAmb	01 44 23.7	
	comp=Z,54nm,1.0s					
WRAB	**Tennant Creek**	**17.96 161**	P	**Pn**	**01 44 22.6**	**-0.3**
WRA	**Warramunga Arr**	**17.97 161**	P	**Pn**	**01 44 22.2**	**-0.7**
	comp=Z,6.1nm,0.3s,baz=340,slow=12,SNR=108					
WRA			S	**Sn**	**01 47 40.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=341,slow=20,SNR=5.4					
WRA	**Warramunga Arr**	**17.97 161**	P	**Pn**	**01 44 20.6**	**-2.4**
WB2	**Warramunga Arr**	**17.97 161**	P	**Pn**	**01 44 21.9**	**-1.1**
WB2			IAmb	IAmb	01 44 23.7	
	comp=Z,59nm,1.0s					
SMRI	**Semarang**	**18.03 256**	P	**P**	**01 44 25.9**	**+1.9**
WR0	**Warramunga Arr**	**18.05 160**	P	**Pn**	**01 44 22.5**	**-1.5**
UGM	**Wanagama**	**18.15 254**	P	**P**	**01 44 26.6**	**+1.3**
	comp=Z,112nm,1.2s					
UGM	**Wanagama**	**18.15 254**	P	**P**	**01 44 25.6**	**+0.4**
UGM	**Wanagama**	**18.15 254**	P	**P**	**01 44 25.5**	**+0.2**
KSM	**Kuching**	**18.29 284**	P	**Pn**	**01 44 27.0**	**0.0**
KSM			IAmb	IAmb	01 44 29.5	
	comp=Z,46nm,1.0s					
COEN	**Coen**	**18.50 127**	P	**P**	**01 44 28.4**	**-0.7**
COEN			IAmb	IAmb	01 44 44.2	
	comp=Z,54nm,0.9s					
COEN	**Coen**	**18.50 127**	P	**P**	**01 44 28.7**	**-0.4**
MBWA	**Marble Bar**	**19.84 204**	P	**P**	**01 44 42.9**	**-0.8**
MBWA	**Marble Bar**	**19.84 204**	P	**P**	**01 44 43.7**	**0.0**
CMJI	**Cimerak**	**20.11 255**	P	**P**	**01 44 45.5**	**-1.3**
	comp=Z,1µmcomp=Z,136nm,0.9s					
LEM	**Lembang**	**20.74 259**	P	**P**	**01 44 52.8**	**-0.9**
	comp=Z,44nm,0.6s,baz=73,slow=5.8,SNR=5.0					
LEM			LR	LR	01 54 22.7	
	comp=Z,1µm,19.3s,baz=108,slow=41					
QIS	**Mount Isa**	**20.80 148**	P	**P**	**01 44 54.1**	**-0.1**
CNJI	**Cibinong**	**21.30 257**	P	**P**	**01 44 58.9**	**-0.7**
	comp=Z,1µmcomp=Z,108nm,1.2s					
AS31	**Alice Springs**	**21.36 165**	P	**P**	**01 44 59.7**	**-0.4**
AS31			IAmb	IAmb	01 45 01.9	
	comp=Z,40nm,0.8s					
ASAR	**Alice Springs**	**21.36 165**	P	**P**	**01 44 59.9**	**-0.3**
	comp=Z,166nm,0.9s,baz=345,slow=11,SNR=428					
ASAR			S	**S**	**01 48 53.1**	**-2.3**
	comp=Z,17nm,0.9s,baz=346,slow=21,SNR=16					
ASAR			ScP	**ScP**	**01 52 38.8**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=347,slow=2.3,SNR=4.8					
WRKA	**Warakurna**	**21.96 179**	P	**P**	**01 45 07.3**	**+0.6**
KLSI		**23.35 265**	P	**P**	**01 45 21.6**	**+0.3**
	comp=Z,22nm,1.1s					
GIRL	**Giralia**	**23.74 213**	P	**P**	**01 45 23.9**	**-1.0**
GIRL	**Giralia**	**23.74 213**	P	**P**	**01 45 24.0**	**-0.8**
MDSI	**Maura Dua**	**23.89 266**	P	**P**	**01 45 26.6**	**+0.2**
	comp=Z,548nmcomp=Z,44nm,1.3s					
CTA	**Charters Tower**	**24.60 135**	P	**P**	**01 45 33.5**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=314,slow=14,SNR=2.8					
CTAO	**Charters Tower**	**24.60 135**	P	**P**	**01 45 32.9**	**0.0**
MEEK	**Meekatharra**	**25.24 200**	P	**P**	**01 45 37.3**	**-1.3**
OOD	**Oodnadatta**	**25.76 164**	P	**P**	**01 45 42.4**	**-0.8**
FORT	**Forrest**	**27.68 180**	P	**P**	**01 45 59.8**	**-0.8**
FORT	**Forrest**	**27.68 180**	P	**P**	**01 45 59.8**	**-0.8**
MULG	**Mulgathing**	**27.77 169**	P	**P**	**01 46 00.6**	**-0.8**
MORW	**Morawa**	**28.39 203**	P	**P**	**01 46 06.5**	**-0.4**
MORW			IAmb	IAmb	01 46 29.1	
	comp=Z,19nm,1.2s					
MORW	**Morawa**	**28.39 203**	P	**P**	**01 46 07.0**	**+0.1**
MNSI	**Mandailing Nat**	**28.72 277**	P	**P**	**01 46 06.6**	**-3.4**
LCRK	**Leigh Creek**	**28.99 162**	P	**P**	**01 46 12.0**	**-0.2**
BLDU	**Ballidu**	**29.54 200**	P	**P**	**01 46 16.6**	**-0.5**
RPSI	**Rantau Prapat**	**29.67 281**	P	**P**	**01 46 17.3**	**-1.1**
PSI	**Prapat**	**29.69 281**	P	**P**	**01 46 17.3**	**-1.5**
	comp=Z,5.7nm,0.7s,baz=96,slow=3.3,SNR=6.8					
PSI			LR	LR	01 58 32.6	
	comp=Z,372nm,18.8s,baz=112,slow=37					
KLBR	**Kellerberrin**	**30.11 198**	P	**P**	**01 46 20.9**	**-1.2**
BBOO	**Buckleboo**	**30.64 167**	P	**P**	**01 46 25.8**	**-0.9**
BBOO			IAmb	IAmb	01 46 27.1	
	comp=Z,13nm,0.8s					
BBOO	**Buckleboo**	**30.64 167**	P	**P**	**01 46 25.9**	**-0.9**
GSI	**Gunungsitoli**	**30.78 277**	P	**P**	**01 46 27.7**	**-0.5**
STKA	**Stephens Creek**	**31.47 158**	P	**P**	**01 46 33.9**	**-0.3**
	comp=Z,14nm,0.9s,baz=335,slow=8.9,SNR=23					
STKA	**Stephens Creek**	**31.47 158**	P	**P**	**01 46 33.8**	**-0.3**
STKA	**Stephens Creek**	**31.47 158**	P	**P**	**01 46 34.4**	**+0.3**
NWAO	**Narrogin (SRO)**	**31.51 198**	P	**P**	**01 46 33.2**	**-1.3**
NWAO			IAmb	IAmb	01 46 33.8	
	comp=Z,15nm,0.8s					
NWAO	**Narrogin (SRO)**	**31.51 198**	P	**P**	**01 46 34.5**	**+0.1**
HTT	**Hallett**	**31.98 163**	P	**P**	**01 46 38.6**	**-0.1**
CMSA	**Cobar Meteorol**	**32.93 152**	P	**P**	**01 46 46.3**	**-0.7**
ARMA	**Armidale**	**35.26 143**	P	**P**	**01 47 08.0**	**+0.7**
ARMA			IAmb	IAmb	01 47 23.0	
	comp=Z,11nm,1.1s					
CMAR	**Chiang Mai Arr**	**35.71 308**	P	**P**	**01 47 09.9**	**-1.3**
	comp=Z,2.0nm,0.4s,baz=135,slow=7.7,SNR=5.7					
CMAR			PcP	**PcP**	**01 49 40.0**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=173,slow=2.4,SNR=4.5					
CMAR	**Chiang Mai Arr**	**35.71 308**	P	**P**	**01 47 09.6**	**-1.6**
WHN	**Wuhan**	**35.79 340**	⇓P	**P**	**01 47 13.5**	**+1.8**
NJ2	**Nanjing**	**35.89 347**	*e*P	**P**	**01 47 14.0**	**+1.5**
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.5s					
CHTO	**Chiang Mai**	**35.91 308**	P	**P**	**01 47 11.1**	**-1.8**
CHTO			IAmb	IAmb	01 47 25.9	
	comp=Z,14nm,1.4s					
ARPS	**Mount Arapiles**	**35.97 161**	P	**P**	**01 47 13.7**	**+0.5**
CAN	**Canberra**	**37.61 151**	P	**P**	**01 47 27.1**	**-0.1**
TOO	**Toolangi**	**37.99 157**	P	**P**	**01 47 31.1**	**+0.7**
PZH	**PanZhiHua**	**38.79 321**	P	**P**	**01 47 36.3**	**-1.1**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,180nm,5.6s					
KSRS	**Korea Array**	**40.20 360**	P	**P**	**01 47 47.9**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=168,slow=8.8,SNR=5.5					
XAN	**Xi'an**	**40.98 335**	P	**P**	**01 47 55.0**	**-0.4**
XAN			pP	pP	01 48 04.3	-1.2
XAN			pmax	pmax		
	comp=Z,7.0nm,1.2s					
XAN			LR	LR		
	comp=N,250nm,14.4s					
XAN			LR	LR		
	comp=E,210nm,17.9s					
XAN			LR	LR		
	comp=Z,410nm,15.8s					
DZM	**Mont Dzumac**	**41.81 120**	P	**P**	**01 48 03.7**	**+1.3**
LZH	**Lanzhou**	**44.95 332**	*e*P	P	01 48 36.3	+8.7
LZH			pP	sP	01 48 45.8	+4.7
LZH			sP	pwP	01 48 51.5	+11
LZH			pmax	pmax		
	comp=Z,18nm,1.3s					
SHL	**Shillong**	**45.08 311**	P	**P**	**01 48 28.4**	**-0.5**
HHC	**Hu-ho-hao-te**	**46.12 343**	*e*P	**P**	**01 48 40.0**	**+3.2**
HHC			pmax	pmax		
	comp=Z,12nm,0.8s					
HHC			pmax	pmax		
	comp=Z,250nm,4.9s					
USRK	**Ussuriysk Ar.**	**47.07 4**	P	**P**	**01 48 43.6**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=183,slow=7.2,SNR=5.0					
USRK	**Ussuriysk Ar.**	**47.07 4**	P	**P**	**01 48 43.2**	**-0.7**
XLT	**XiLinHaoTe**	**47.87 348**	*e*P	P	01 48 55.8	+5.5
XLT			pmax	pmax		
	comp=Z,7.0nm,0.7s					
XLT			pmax	pmax		
	comp=Z,580nm,7.0s					
GTA	**Gaotai**	**49.52 331**	*e*P	**P**	**01 49 04.8**	**+1.7**
GTA			pP	pP	01 49 09.5	-4.2
GTA			sP	pwP	01 49 12.5	-3.7
GTA			pmax	pmax		
	comp=Z,3.0nm,1.4s					
GUN	**Gumba**	**50.87 310**	*e*P	**P**	**01 49 13.9**	**0.0**
	comp=Z,33nm,0.8s					
MSVF	**Nonsavu**	**51.13 110**	P	**P**	**01 49 16.7**	**+1.0**
DMN	**Daman**	**51.32 309**	*e*P	**P**	**01 49 17.3**	**+0.2**
	comp=Z,29nm,1.0s					
GKN	**Gorkha**	**51.87 309**	*e*P	**P**	**01 49 21.4**	**+0.3**
KLR	**Kul'dur**	**52.07 3**	P	**P**	**01 49 21.7**	**-0.3**
	comp=Z,3.1nm,1.1s,baz=190,slow=6.6,SNR=4.7					
KOLN	**Koldanda**	**52.57 309**	*e*P	**P**	**01 49 26.3**	**-0.1**
	comp=Z,42nm,0.8s					
DANN	**Dangsing**	**52.72 309**	*e*P	**P**	**01 49 27.4**	**-0.2**
	comp=Z,49nm,0.8s					
PYUN	**Piuthan**	**53.20 309**	*e*P	**P**	**01 49 30.8**	**-0.2**
	comp=Z,45nm,0.9s					
ULN	**Ulaanbaatar**	**53.84 343**	P	**P**	**01 49 34.9**	**-0.4**
ULN			IAmb	IAmb	01 49 57.1	
	comp=Z,8.2nm,1.2s					
SONM	**Songino Array**	**54.02 342**	P	**P**	**01 49 36.1**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=162,slow=8.3,SNR=10					
SONM	**Songino Array**	**54.02 342**	P	**P**	**01 49 36.9**	**+0.3**
WMQ	**Urumqi**	**58.97 327**	*e*P	**P**	**01 50 12.5**	**+0.7**
WMQ			pP	pP	01 50 20.5	-1.9
WMQ			pmax	pmax		
	comp=Z,13nm,0.7s					
AFI	**Afiamalu**	**60.34 104**	LR	LR	02 16 03.9	
	comp=Z,146nm,18.7s,baz=50,slow=36					
PETK	**Petropavlovsk-**	**61.14 20**	P	**P**	**01 50 26.4**	**-0.1**
	comp=Z,5.5nm,1.1s,baz=228,slow=1.7,SNR=2.3					
ZSN	**Zaisan**	**62.84 329**	*e*P	**P**	**01 50 37.6**	**-0.3**
	baz=328					
UZB	**Uzunbulak**	**63.62 322**	*e*P	**P**	**01 50 43.4**	**-0.1**
	comp=Z,12nm,1.3s,baz=322					
KSH	**Kashi**	**63.76 317**	P	**P**	**01 50 45.0**	**+0.7**
KSH			pP	sP	01 50 57.8	-0.4
KSH			PcP	**PcP**	**01 51 23.5**	**+3.3**
KSH			pmax	pmax		
	comp=Z,4.0nm,1.1s					
MK31	**Makanchi Array**	**63.80 327**	P	**P**	**01 50 44.2**	**-0.2**
MK31			IAmb	IAmb	01 50 45.4	
	comp=Z,4.7nm,0.9s					
MKAR	**Makanchi Array**	**63.80 327**	P	**P**	**01 50 44.3**	**-0.1**
	comp=Z,6.4nm,0.9s,baz=122,slow=7.1,SNR=38					
MKAR	**Makanchi Array**	**63.80 327**	P	**P**	**01 50 44.1**	**-0.3**
SATY	**Saty**	**63.96 322**	*e*P	**P**	**01 50 45.5**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=322					
MAKZ	**Makanchi**	**63.99 327**	P	**P**	**01 50 45.2**	**-0.4**
MAKZ			IAmb	IAmb	01 50 47.0	
	comp=Z,6.4nm,0.9s					
ZHN	**Zhinishke**	**64.00 322**	*e*P	**P**	**01 50 45.8**	**-0.1**
	baz=322					
TNSS	**Tian-Shan**	**64.86 321**	*e*P	**P**	**01 50 51.8**	**0.0**
	baz=321					
MDOK	**Medeo**	**64.86 321**	*e*P	**P**	**01 50 51.3**	**-0.3**
	baz=321					
AAA	**Alma-Ata**	**64.97 321**	*e*P	**P**	**01 50 52.0**	**-0.1**
	baz=321					
TDK	**Taldyqorghan**	**65.00 323**	*e*P	**P**	**01 50 52.4**	**+0.1**
	baz=323					
CHKK	**Chushkaly**	**65.25 322**	*e*P	**P**	**01 50 53.3**	**-0.6**
	baz=322					
TKM2	**Tokmak 2**	**65.66 320**	P	**P**	**01 50 56.7**	**-0.1**
	SNR=6.2					
KUU	**Kurty**	**65.68 321**	*e*P	**P**	**01 50 55.9**	**-0.8**
	comp=Z,13nm,0.9s,baz=321					
UCH	**Uchtor**	**66.02 319**	P	**P**	**01 51 00.1**	**+0.7**
	SNR=6.3					
AAK	**Ala-Archa**	**66.23 320**	P	**P**	**01 50 58.8**	**-1.6**
AML	**Almayashu**	**66.51 319**	P	**P**	**01 51 03.1**	**+0.5**
	SNR=7.5					
USP	**Ospenovka**	**66.53 320**	P	**P**	**01 51 02.2**	**0.0**
	SNR=7.8					
SGDS	**Sogindy**	**66.53 320**	*e*P	**P**	**01 51 01.3**	**-1.0**
	baz=320					
EKS2	**Erkin-Say**	**66.71 319**	P	**P**	**01 51 04.0**	**+0.6**
	SNR=6.7					
KBL	**Kabul**	**66.71 310**	P	**P**	**01 51 02.1**	**-1.6**
SEM	**Semipalatinsk**	**67.06 329**	*e*P	**P**	**01 51 04.9**	**-0.7**
	baz=329					
ZAA0	**Zalesovo Array**	**67.12 334**	P	**P**	**01 51 03.5**	**-2.1**
ZALV	**Zalesovo Beam**	**67.12 334**	P	**P**	**01 51 03.9**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=104,slow=6.3,SNR=8.0					
ZALV	**Zalesovo Beam**	**67.12 334**	P	**P**	**01 51 04.0**	**-1.7**
BTLS	**Baital**	**67.67 322**	*e*P	**P**	**01 51 08.0**	**-1.3**
	baz=322					
KURK	**Kurchatov**	**68.08 329**	P	**P**	**01 51 11.0**	**-0.8**
CHGR	**Chuyangaron**	**68.16 314**	P	**P**	**01 51 11.6**	**-1.1**
CHGR			IAmb	IAmb	01 51 13.4	
	comp=Z,11nm,1.0s					
SEY	**Seymchan**	**68.23 12**	P	**P**	**01 51 12.9**	**+0.5**
	comp=Z,9.8nm,1.0s,baz=197,slow=6.1,SNR=8.7					
DZA	**Taraz**	**68.42 319**	*e*P	**P**	**01 51 13.9**	**-0.2**
	baz=319					
IUG	**Iuzhnay**	**68.96 317**	*e*P	**P**	**01 51 16.9**	**-0.7**
	baz=317					
KKAR	**Karatay Array**	**69.05 319**	P	**P**	**01 51 16.8**	**-1.2**
BRLS	**Borolday**	**69.46 318**	*e*P	**P**	**01 51 19.7**	**-0.9**
	baz=318					
BRZS	**Berezniki**	**70.90 326**	*e*P	**P**	**01 51 28.1**	**-1.1**
	baz=326					
BRVK	**Borovoye**	**73.70 328**	P	**P**	**01 51 44.6**	**-1.3**
BRVK			IAmb	IAmb	01 51 47.2	
	comp=Z,8.6nm,1.1s					
TIXI	**Tiksi**	**74.46 0**	P	**P**	**01 51 49.8**	**-0.2**
TIXI			IAmb	IAmb	01 51 51.1	
	comp=Z,7.1nm,1.1s					
VNDA	**Vanda**	**76.68 173**	P	**P**	**01 52 00.7**	**-1.9**
	comp=Z,3.4nm,1.0s,baz=328,slow=4.4,SNR=5.5					
VNDA	**Vanda**	**76.68 173**	P	**P**	**01 52 01.8**	**-0.8**
VNDA			IAmb	IAmb	01 52 03.1	
	comp=Z,6.1nm,1.1s					
NRIK	**Noril'sk**	**77.19 346**	P	**P**	**01 52 05.3**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=128,slow=7.2,SNR=4.2					
NRIK	**Noril'sk**	**77.19 346**	P	**P**	**01 52 05.3**	**-0.3**
NRIK			IAmb	IAmb	01 52 10.3	
	comp=Z,10nm,1.4s					
ABKAR	**Akbulak array**	**78.16 322**	P	**P**	**01 52 09.7**	**-1.6**
VOI	**Vohitsoka**	**80.82 248**	P	**P**	**01 52 26.6**	**0.0**
VOI			IAmb	IAmb	01 52 54.6	
	comp=Z,8.5nm,1.1s					
ARU	**Arti**	**81.27 328**	P	**P**	**01 52 26.3**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=95,slow=4.3,SNR=4.1					
ARU	**Arti**	**81.27 328**	P	**P**	**01 52 26.6**	**-1.5**
ARU			IAmb	IAmb	01 52 36.0	
	comp=Z,17nm,1.5s					
RAYN	**Ar Rayn**	**84.36 294**	P	**P**	**01 52 44.4**	**-0.5**
RAYN			IAmb	IAmb	01 53 05.8	
	comp=Z,12nm,1.4s					
SYO	**Syowa Base**	**86.72 201**	⇑*e*P	**P**	**01 52 56.0**	**+0.4**
KDAK	**Kodiak Island**	**86.80 32**	LR	LR	02 32 28.4	
	comp=Z,132nm,19.4s,baz=242,slow=36					
GURO	**Guroymak-BITLI**	**88.72 309**	P	**P**	**01 53 05.5**	**-0.6**
ILAR	**Eielson Array**	**90.53 25**	P	**P**	**01 53 12.2**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=219,slow=6.6,SNR=5.4					
KMBO	**Kilima Mbogo**	**90.76 269**	P	**P**	**01 53 15.4**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=18,slow=9.0,SNR=4.1					
KMBO			LR	LR	02 29 57.1	
	comp=Z,134nm,21.5s,baz=94,slow=33					
KMBO	**Kilima Mbogo**	**90.76 269**	P	**P**	**01 53 15.8**	**-0.4**
KMBO			IAmb	IAmb	01 53 18.4	
	comp=Z,5.3nm,1.2s					
BRTR	**Keskin Array B**	**95.28 309**	P	**P**	**01 53 35.4**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=112,slow=6.4,SNR=3.7					
MNK	**Minsk**	**98.31 325**	*i* P	Pdif	01 53 54.5	+4.9
	comp=E,4.0nm,1.3s					
MNK			*i* P	Pdif	01 53 54.5	+4.9
	comp=N,9.0nm,1.2s					
MNK			*i* P	Pdif	01 53 54.5	+4.9
	comp=Z,6.0nm,1.0s,baz=264					
MNK			*i* PP	**PP**	**01 57 54.4**	**+4.9**
MNK			*i* PPP	PPP	02 00 00.1	
MNK			*i* SKS	**SKSac**	**02 04 24.3**	**-0.1**
MNK			*i* S	**S**	**02 05 10.6**	**-4.1**
MNK			*i* PS	**PS**	**02 06 49.6**	**+5.8**
MNK			*i* SS	**SS**	**02 12 05.8**	**+7.2**
MNK			*i* SSS	SSS	02 15 53.5	
MNK			*i* LR	LR	02 37 39.6	
MNK			*i* LRM	MLR	02 39 30.1	
	comp=Z,73nm,14.7s					
MNK			*i* LRM	MLR	02 39 36.5	
	comp=N,160nm,17.9s					
MNK			*i* LRM	MLR	02 39 51.2	
	comp=E,17nm,15.3s					
DLBC	**Dease Lake**	**98.73 31**	LR	LR	02 39 59.8	
	comp=E,86nm,19.0s,baz=280,slow=36					
TORD	**Torodi Ar. Bea**	**126.05 284**	PKP	**PKPdf**	**01 59 15.2**	**0.0**
	comp=E,0.9nm,0.7s,baz=63,slow=1.4,SNR=6.7					
PLCA	**Paso Flores**	**133.31 161**	PKP	**PKiKP**	**01 59 29.1**	**-0.6**
	comp=E,1.4nm,0.9s,baz=178,slow=9.5,SNR=2.9					
CPUP	**Villa Florida**	**150.43 170**	PKPbc	**PKPbc**	**02 00 04.5**	**+0.3**
	comp=E,10nm,1.1s,baz=188,slow=2.9,SNR=10					
LPAZ	**La Paz**	**155.06 141**	PKP	**PKPdf**	**02 00 08.1**	**+1.3**
	comp=E,1.4nm,1.0s,baz=300,slow=4.5,SNR=4.0					
LPAZ			PKPab	**PKPab**	**02 00 31.1**	**0.0**
	comp=E,2.0nm,0.7s,baz=173,slow=7.6,SNR=4.7					

CNRM ***27*** *01:40:55.0,35.°51N×3.°78W,h17km,ml2.7*
ISC 27 01:40:52.2±1.5,35.°57N±0.°05×3.°71W±0.°05,h5km±12km,
n10,σ0.°73/18,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.40**	**209**	P		**Pb**		**01 41 01.4**	**-0.4**
PALE				S		**Sg**		**01 41 05.1**	**0.0**
AKLM	**AKL**	**1.06**	**187**	P		**Pn**		**01 41 13.9**	**0.0**
AKLM				S		**Sg**		**01 41 26.2**	**-0.2**
CHAS	**Isla Isabel II**	**1.11**	**110**	*e*P		**Pg**		**01 41 14.0**	**+0.5**
CHEFC	**Chefchaouen**	**1.41**	**252**	P		**Pb**		**01 41 18.6**	**-0.6**
CHEFC				S		**Sg**		**01 41 36.9**	**-0.7**
JBK	**JBK**	**1.54**	**142**	P		**Pn**		**01 41 20.7**	**0.0**
JBK				S		**Sn**		**01 41 40.6**	**-0.6**
SICH	**Sidi Chahed**	**1.97**	**223**	P		**Pb**		**01 41 28.5**	**-0.1**
SICH				S		**Sn**		**01 41 52.4**	**+1.0**
LCRM	**LCR**	**2.10**	**207**	P		**Pb**		**01 41 30.0**	**-1.0**
LCRM				S		**Sn**		**01 41 55.6**	**+0.7**
MD31	**MD31**	**2.83**	**198**	P		**Pn**		**01 41 39.0**	**+0.7**
MD31				S		**Sn**		**01 42 12.6**	**-0.2**
PVAQ	**Vaqueiros**	**3.72**	**301**	P		**Pn**		**01 41 51.3**	**+0.9**
PVAQ				S		**Sn**		**01 42 33.1**	**-1.4**
PESTR	**Estremoz**	**4.52**	**318**	P		**Pn**		01 42 05.9	+4.4
PESTR				S		**Sn**		**01 42 54.7**	**+0.2**

CNRM ***27*** *01:51:42.3,35.°51N×3.°75W,h10km,ml2.7*
ISC 27 01:51:41.6±1.5,35.°55N±0.°06×3.°68W±0.°04,h10km±10km,
n9,σ0.°86/17,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39**	**213**	P		**Pg**		**01 51 49.3**	**-0.1**

CMIG	**Matias Romero**	**4.15 321**	Pn	**Pn**	**02 52 39.1**	**-2.4**
	1.2nm,0.3s,baz=173,slow=12,SNR=11					
CMIG			Sn	**Sn**	**02 53 29.3**	**+0.4**
	2.1nm,0.3s,baz=247,slow=11,SNR=4.5					
TXAR	**Lajitas Array**	**18.73 327**	P	**Pn**	**02 55 56.4**	**+0.4**
	baz=146,slow=12,SNR=3.9					
ANMO	**Albuquerque**	**24.65 331**	P	**P**	**02 56 59.3**	**+2.8**
	0.6nm,0.6s,baz=132,slow=12,SNR=3.6					
NVAR	**Mina Array Bea**	**33.69 321**	P	**P**	**02 58 17.7**	**+0.8**
	0.2nm,0.5s,baz=137,slow=8.1,SNR=2.5					
PTGA	**Pitinga**	**35.02 112**	LR	LR	03 14 09.9	
	comp=Z,108nm,20.9s,baz=135,slow=39					
YKA	**Yellowknife Ar**	**51.12 347**	P	**P**	**03 00 37.2**	**-0.5**
	0.3nm,0.6s,baz=150,slow=7.4,SNR=6.0					

*CNRM **27** 02:53:10.8, 35°.51N×3°.72W, h24km, ml2.9*
*SFS **27** 02:53:10.0, 35°.60N×3°.78W, ML2.3, ALBORAN SUR*
ISC 27 02:53:08.7±1.2, 35°.53N±0°.04×3°.75W±0°.03, h14km±11km, n15, σ1§38/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**207**	P	**Pb**	**02 53 17.0**	**+0.3**
PALE				S	**Sb**	**02 53 21.8**	**-0.3**
AKLM	**AKL**	**1.02**	**185**	P	**Pn**	**02 53 29.5**	**+0.8**
AKLM				S	**Sn**	**02 53 43.4**	**+0.5**
CHAS	**Isla Isabel II**	**1.13**	**107**	*eP*	**Pg**	**02 53 29.9**	**-0.6**
CHAS				*eS*	**Sb**	**02 53 44.1**	**-0.4**
SMIR	**Smir Dam**	**1.34**	**277**	P	**Pn**	**02 53 31.7**	**-1.3**
SMIR				S	**Sg**	**02 53 51.3**	**-0.7**
EMAL	**Malaga-Limoner**	**1.35**	**336**	*eP*	**Pg**	**02 53 35.7**	**+1.1**
EMAL				*eS*	**Sg**	**02 53 51.1**	**-1.1**
CHEFC	**Chefchaouen**	**1.37**	**253**	P	**Pg**	**02 53 35.1**	**+0.1**
CHEFC				S	**Sg**	**02 53 53.9**	**+1.0**
CEU	**Ceuta**	**1.38**	**286**	*eP*	**Pn**	**02 53 31.7**	**-1.8**
CEU				*eS*	**Sb**	**02 53 49.1**	**-2.5**
JBK	**JBK**	**1.54**	**141**	P	**Pb**	**02 53 37.0**	**-0.1**
JBK				S	**Sn**	**02 53 53.5**	**-2.3**
SICH	**Sidi Chahed**	**1.92**	**223**	P	**Pg**	**02 53 44.8**	**-0.8**
SICH				S	**Sb**	**02 54 07.6**	**+0.2**
LCRM	**LCR**	**2.06**	**207**	P	**Pn**	**02 53 44.1**	**+1.1**
LCRM				S	**Sb**	**02 54 10.8**	**-0.5**
MD31	**MD31**	**2.79**	**198**	P	**Pn**	**02 53 54.8**	**+1.8**
MD31				S	**Sn**	**02 54 26.4**	**0.0**
MDT	**Midelt**	**2.80**	**195**	P	**Pn**	**02 53 54.3**	**+1.1**
CART	**Cartagena**	**3.02**	**46**	P	**Pn**	**02 53 56.7**	**+0.6**
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	**02 54 07.6**	**+2.0**
PESTR	**Estremoz**	**4.53**	**318**	P	**Pn**	**02 54 19.8**	**+3.0**

*IDC **27** 03:37:29.2±0.8, 35°.53N×3°.93W, h0km, mb4.0/8, mb1 4.0/13, mb1mx3.7/48, mbtmp3.8/13, ML3.5/5, MS3.0/4, Ms1 3.0/4, ms1mx2.6/96, Error ellipse: s-maj=26.1km s-min=12.8km az=97.0*
*SFS **27** 03:37:29.0, 35°.48N×3°.85W, ML3.1, ALBORAN SUR*
*MDD **27** 03:37:29.7±0.7, 35°.49N×3°.85W, h0km, mbLg3.1/7, Error ellipse: s-maj=7.1km s-min=4.5km az=32.0*
MDD EMS: II INTENSIDAD MAXIMA.
*INMG **27** 03:37:30.0±2.3, 35°.47N×3°.84W, h0km±8km, MD3.5, ML3.1, Error ellipse: s-maj=6.4km s-min=5.5km az=72.0*
*LDG **27** 03:37:31.7, 35°.31N×3°.66W, h42km*
*IGIL **27** 03:37:31.7, 35°.49N×3°.85W, h0km, ML3.3*
*CNRM **27** 03:37:31.1, 35°.48N×3°.75W, h16km, ml4.0*
ISC 27 03:37:29.1±1.1, 35°.55N±0°.02×3°.80W±0°.02, h1km±8km, n88, σ1§96/130, mb4.1/8, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**200**	P	**Pg**	**03 37 37.2**	**+1.4**
PALE				S	**Sg**	**03 37 41.7**	**+1.3**
EMEL	**Melilla**	**0.73**	**110**	Pg	**Pg**	**03 37 43.8**	**+0.8**
	784nm,0.3s,SNR=21						
EMEL				Lg	Lg	03 37 53.3	
	9μm,0.2s,SNR=11						
AKLM	**AKL**	**1.04**	**183**	P	**Pb**	**03 37 49.8**	**-0.2**
AKLM				S	**Sg**	**03 38 01.7**	**-0.8**
CHAS	**Isla Isabel II**	**1.17**	**108**	*eP*	**Pg**	**03 37 50.6**	**-1.0**
CHAS				*eS*	**Sg**	**03 38 04.0**	**-2.8**
EMIJ	**Mijas**	**1.29**	**322**	Pg	**Pg**	**03 37 53.2**	**-0.5**
	14nm,0.3s,SNR=9.9						
EMIJ				Lg	Lg	03 38 12.4	
	105nm,0.2s						
EMAL	**Malaga-Limoner**	**1.31**	**337**	*eP*	**Pg**	**03 37 52.4**	**-2.0**
EMAL				*eS*	**Sg**	**03 38 11.7**	**+0.3**
ELGU	**Los Guajares,**	**1.32**	**6**	Pg	**Pg**	**03 37 54.7**	**+0.2**
	SNR=7.9						
ELGU				Lg	Lg	03 38 14.7	
	138nm,0.1s,SNR=7.9						
CEU	**Ceuta**	**1.33**	**286**	*eP*	**Pg**	**03 37 51.5**	**-3.1**
CEU				*eS*	**Sg**	**03 38 08.5**	**-3.4**
ECEU	**Ceuta**	**1.33**	**286**	Pg	**Pg**	**03 37 53.6**	**-1.1**
	38nm,0.3s,SNR=28						
ECEU				Lg	Lg	03 38 10.4	
	97nm,0.1s,SNR=13						
EBER	**Berja**	**1.53**	**28**	Pn	**Pb**	**03 37 58.3**	**-0.1**
	SNR=7.9						
EBER				Lg	Lg	03 38 20.0	
	454nm,0.3s,SNR=7.9						
JBK	**JBK**	**1.58**	**140**	P	**Pn**	**03 37 56.0**	**-2.3**
JBK				S	**Sn**	**03 38 18.4**	**-1.2**
EGOR	**Sierra Gorda,**	**1.58**	**351**	Pn	**Pn**	**03 37 58.4**	**0.0**
	SNR=7.9						
EGOR				Lg	Lg	03 38 21.6	
	49nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.68**	**10**	Pn	**Pn**	**03 38 00.3**	**+0.6**
	SNR=7.9						
EQUE				Pg	**Pg**	**03 38 02.1**	**+0.8**
	SNR=7.9						
EQUE				Lg	Lg	03 38 25.8	
	39nm,0.2s,SNR=7.9						
SICH	**Sidi Chahed**	**1.91**	**221**	P	**Pb**	**03 38 04.1**	**-0.7**
SICH				S	**Sb**	**03 38 29.3**	**+0.3**
ENIJ	**Nijar**	**1.92**	**42**	Pn	**Pn**	**03 38 03.3**	**+0.4**
	SNR=7.9						
ENIJ				Sn	**Sn**	**03 38 27.3**	**-0.4**
	SNR=7.9						
LCRM	**LCR**	**2.05**	**206**	P	**Pn**	**03 38 04.7**	**-0.2**
LCRM				S	**Sn**	**03 38 30.4**	**-0.9**
IFR	**Ifrane**	**2.31**	**209**	*eP*	**Pn**	**03 38 07.5**	**-0.9**
IFR				*eS*	**Pn**	**03 38 08.5**	**+0.1**
EQES	**Quesada**	**2.32**	**14**	Pg	**Pb**	**03 38 12.0**	**+0.1**
	34nm,0.3s,SNR=45						
EQES				Sn	**Sb**	**03 38 39.8**	**-1.4**
	37nm,0.3s,SNR=4.3						
MD31	**MD31**	**2.79**	**197**	P	**Pn**	**03 38 14.8**	**-0.2**
MDT	**Midelt**	**2.81**	**194**	Pn	**Pn**	**03 38 15.2**	**0.0**
	3.7nm,0.3s,baz=176,slow=6.5,SNR=14						
MDT				Pg	**Pb**	**03 38 20.6**	**+0.4**
	4.3nm,0.3s,baz=180,slow=12,SNR=25						
MDT				Sn	**Sn**	**03 38 48.3**	**-1.6**
	15nm,0.3s,baz=152,slow=21,SNR=7.9						
MDT				LR	LR	03 38 49.7	
	comp=Z,90nm,18.1s,baz=1.5,slow=29						
MDT	**Midelt**	**2.81**	**194**	P	**Pn**	**03 38 16.5**	**+1.3**
CART	**Cartagena**	**3.03**	**47**	P	**Pn**	**03 38 18.4**	**+0.1**
PVAQ	**Vaqueiros**	**3.66**	**302**	*ePn*	**Pn**	**03 38 27.6**	**+0.7**
PVAQ				*eSn*	**Sn**	**03 39 09.7**	**-1.1**
PVAQ				A	A	03 39 11.5	
	60nm,0.4s						
PVAQ	**Vaqueiros**	**3.66**	**302**	P	**Pn**	**03 38 27.6**	**+0.7**
PBAR	**Barrancos**	**3.69**	**316**	*eSn*	**Sn**	**03 39 11.5**	**0.0**
AVE	**Averroes**	**3.74**	**234**	*eP*	**Pn**	**03 38 29.8**	**+1.8**
AVE				*eS*	**Pb**	**03 38 34.3**	**-1.7**
PBDV	**Barranco-do-Ve**	**3.74**	**298**	*ePn*	**Pn**	**03 38 28.9**	**+0.9**
PBDV				*eSn*	**Sn**	**03 39 11.1**	**-1.6**
PBDV				A	A	03 39 15.4	
	38nm,0.4s						
PCVE	**Castro Verde**	**4.00**	**303**	*ePn*	**Pn**	**03 38 32.3**	**+0.8**
PCVE				*eSn*	**Sn**	**03 39 16.8**	**-2.2**
PCVE				A	A	03 39 22.5	
	23nm,0.3s						
PBEJ	**Beja**	**4.10**	**308**	*ePn*	**Pn**	**03 38 34.8**	**+1.9**
PBEJ				*eSn*	**Sn**	**03 39 20.6**	**-0.9**
PBEJ				A	A	03 39 22.7	
	12nm,0.2s						
ESDC	**Sonseca Array**	**4.12**	**358**	Pn	**Pn**	**03 38 35.3**	**+2.1**
	1.0nm,0.3s,baz=179,slow=12,SNR=43						
ESDC				Sn	**Sn**	**03 39 22.5**	**+0.3**
	1.1nm,0.3s,baz=183,slow=23,SNR=5.6						
ESDC				Lg	Lg	03 39 38.9	
	2.2nm,0.3s,baz=179,slow=28,SNR=1.4						
MESJ	**Messejana**	**4.23**	**304**	*eP*	**Pn**	**03 38 35.4**	**+0.8**
MESJ				*eS*	**Sn**	**03 39 21.9**	**-2.8**
MESJ				IAML		03 39 30.4	
	comp=N,52nm,0.2s						
MESJ	**Messejana**	**4.23**	**304**	*ePn*	**Pn**	**03 38 35.6**	**+0.9**
MESJ				*eSn*	**Sn**	**03 39 23.0**	**-1.7**
MESJ				A	A	03 39 31.1	
	comp=N,39nm,0.5s						
MORF	**Marmelete**	**4.29**	**296**	*eP*	**Pn**	**03 38 36.0**	**+0.5**
MORF				*eS*	**Sn**	**03 39 23.2**	**-3.1**
MORF				IAML		03 39 28.9	
	comp=N,70nm,0.2s						
MORF	**Marmelete**	**4.29**	**296**	*ePn*	**Pn**	**03 38 36.5**	**+0.9**
MORF				*eSn*	**Sn**	**03 39 24.4**	**-1.9**
MORF				A	A	03 39 29.5	
	comp=N,35nm,0.2s						
PFVI	**Vila Bisbo**	**4.36**	**293**	*ePn*	**Pn**	**03 38 38.3**	**+1.8**
PFVI				*eSn*	**Sn**	**03 39 25.6**	**-2.3**
PFVI				A	A	03 39 30.3	
	comp=N,36nm,0.6s						
PFVI	**Vila Bisbo**	**4.36**	**293**	P	**Pn**	**03 38 38.0**	**+1.6**
PTEO	**Sao Teotonio**	**4.44**	**298**	*ePn*	**Pn**	**03 38 38.7**	**+1.1**
PTEO				*eSn*	**Sn**	**03 39 27.5**	**-2.4**
PTEO				A	A	03 39 31.9	
	comp=N,38nm,0.5s						
PESTR	**Estremoz**	**4.49**	**319**	*ePn*	**Pn**	**03 38 40.0**	**+1.7**
PESTR				*eSn*	**Sn**	**03 39 31.1**	**0.0**
PESTR				A	A	03 39 42.2	
	comp=N,16nm,0.5s						
PESTR	**Estremoz**	**4.49**	**319**	P	**Pn**	**03 38 40.2**	**+2.0**
EVO	**Evora**	**4.50**	**313**	*eP*	**Pn**	**03 38 39.4**	**+1.0**
EVO				*eS*	Sn	03 39 11.6	-20
EVO	**Evora**	**4.50**	**313**	*ePn*	**Pn**	**03 38 39.6**	**+1.2**
EVO				*eSn*	**Sn**	**03 39 29.8**	**-1.6**
EVO				A	A	03 39 35.8	
	comp=N,18nm,0.2s						
PNCL	**Nicolau / Gran**	**4.58**	**305**	*ePn*	**Pn**	**03 38 40.6**	**+1.1**
PNCL				*eSn*	**Sn**	**03 39 32.5**	**-0.8**
PNCL				A	A	03 39 35.5	
	comp=N,29nm,0.5s						
SRHM	**Skhour des Reh**	**4.59**	**229**	P	**Pn**	**03 38 43.8**	**+4.1**
UCM	**Universidad Co**	**4.77**	**5**	*eP*	**Pn**	**03 38 44.3**	**+2.1**
UCM				*eS*	Sn	03 39 29.1	-9.1
PMRV	**Marv??o**	**4.81**	**325**	*ePn*	**Pn**	**03 38 44.7**	**+1.9**
PMRV				*eSn*	**Sn**	**03 39 38.3**	**-0.9**
PMRV				A	A	03 40 18.5	
	comp=N,16nm,0.6s						
TZRR	**Tazzarine**	**4.98**	**198**	P	**Pn**	**03 38 45.4**	**+0.4**
PMTG	**Montargil**	**4.98**	**316**	*ePn*	**Pn**	**03 38 46.4**	**+1.4**
PMTG				*eSn*	**Sn**	**03 39 42.2**	**-1.1**
PMTG				A	A	03 39 43.5	
	comp=N,22nm,0.5s						
PCBR	**Castelo Branco**	**5.18**	**327**	*ePn*	**Pn**	**03 38 49.9**	**+2.1**
PCBR				*eSn*	**Sn**	**03 39 47.0**	**-1.3**
PCBR				A	A	03 39 57.0	
	comp=N,10.0nm,0.4s						
OUZM	**OUZ**	**5.25**	**209**	P	**Pn**	**03 38 49.6**	**+0.8**
PMST	**Lisbon--Monsan**	**5.35**	**308**	*ePn*	**Pn**	**03 38 52.2**	**+2.1**
OUK	**Oukaimeden**	**5.51**	**219**	P	**Pn**	**03 38 51.6**	**-1.0**
PMAFR	**Mafra**	**5.54**	**309**	*ePn*	**Pn**	**03 38 54.9**	**+2.2**
PMAFR				*eSn*	**Sn**	**03 39 56.4**	**-0.7**
PMAFR				A	A	03 40 11.1	
	comp=N,27nm,0.6s						
PSBE	**So Bento**	**5.61**	**316**	*ePn*	**Pn**	**03 38 55.6**	**+1.9**
PSBE				*eSn*	**Sn**	**03 39 57.8**	**-1.0**
PSBE				A	A	03 40 14.2	
	comp=N,14nm,0.7s						
ZGR	**Zagora**	**5.63**	**196**	P	**Pn**	**03 38 54.5**	**+0.4**
MTE	**Manteigas**	**5.68**	**330**	*ePn*	**Pn**	**03 38 57.4**	**+2.8**
MTE				*eSn*	**Sn**	**03 40 02.6**	**+2.1**
MTE				A	A	03 40 43.4	
	comp=N,24nm,0.7s						
PCAS	**Casmilo, Conde**	**5.84**	**322**	*ePn*	**Pn**	**03 38 59.1**	**+2.3**
PCAS				*eSn*	**Sn**	**03 40 05.1**	**+0.7**
PCAS				A	A	03 40 43.3	
	comp=N,23nm,0.7s						
COI	**Coimbra**	**5.91**	**323**	*ePn*	**Pn**	**03 39 01.5**	**+3.7**
COI				*eSn*	**Sn**	**03 40 05.9**	**-0.3**
PVIS	**Viseu**	**6.09**	**329**	*ePn*	**Pn**	**03 39 02.4**	**+2.1**
PVIS				*eSn*	**Sn**	**03 40 09.3**	**-1.3**
PVIS				A	A	03 40 15.5	
	comp=N,7.9nm,0.9s						
MVO	**Moncorvo**	**6.16**	**337**	*ePn*	**Pn**	**03 39 03.7**	**+2.5**
TTIG	**Tnine Tigouga,**	**6.33**	**219**	P	**Pn**	**03 39 00.7**	**-3.0**
PVRL	**Vila Real**	**6.49**	**333**	*ePn*	**Pn**	**03 39 08.1**	**+2.3**
PVRL				*eSn*	**Sn**	**03 40 20.4**	**-0.2**
PVRL				A	A	03 40 27.0	
	comp=N,11nm,0.7s						
POLO	**Lamas de Olo**	**6.61**	**333**	*ePn*	**Pn**	**03 39 09.7**	**+2.2**
POLO				*eSn*	**Sn**	**03 40 22.8**	**-0.7**
POLO				A	A	03 41 03.8	
	comp=N,4.8nm,0.7s						
PBRG	**Braganca**	**6.66**	**341**	*ePn*	**Pn**	**03 39 10.2**	**+2.1**
PTO	**Porto**	**6.74**	**327**	*ePn*	**Pn**	**03 39 11.2**	**+2.1**
PCAB	**Cabril**	**6.99**	**333**	*ePn*	**Pn**	**03 39 14.9**	**+2.3**
PGAV	**Gavieira, Arco**	**7.30**	**333**	*ePn*	**Pn**	**03 39 21.0**	**+4.1**
PGAV				*eSn*	**Sn**	**03 40 40.3**	**-0.2**
PGAV				A	A	03 40 44.9	
	comp=N,11nm,0.6s						
ETSF	**Etsaut**	**7.76**	**18**	*ePn*	**Pn**	**03 39 22.7**	**-0.5**
ETSF	**Etsaut**	**7.76**	**18**	*eP*	**Pn**	**03 39 27.0**	**+3.8**
ETSF				*eSn*	**Sn**	**03 40 47.5**	**-4.2**
	comp=N,0.9nm,0.3s						
SJPF	**Ste Jean**	**7.81**	**14**	*ePn*	**Pn**	**03 39 23.1**	**-0.8**
SJPF	**Ste Jean**	**7.81**	**14**	*eP*	**Pn**	**03 39 27.2**	**+3.3**
SJPF				*eSn*	**Sn**	**03 40 50.4**	**-2.6**
	comp=N,1.0nm,0.3s						
EPF	**Esparros**	**8.13**	**22**	*eP*	**Pn**	**03 39 32.9**	**+4.6**
MTLF	**Montolieu**	**9.06**	**29**	*eP*	Pn	03 39 46.0	+4.9
MTLF				*eSn*	**Sn**	**03 41 18.6**	**-5.1**
	comp=N,0.4nm,0.3s						
CAF	**Calviac**	**10.38**	**24**	*eP*	**Pn**	**03 40 03.3**	**+4.2**
KEST	**Kesra**	**10.70**	**85**	Pn	**Pn**	**03 40 06.7**	**+3.2**
	comp=N,0.2nm,0.3s,baz=288,slow=20,SNR=4.3						
KEST				LR	LR	03 44 09.4	
	comp=N,134nm,18.5s,baz=179,slow=37						
LMR	**La Mourre**	**11.12**	**43**	*eP*	**Pn**	**03 40 12.3**	**+3.0**
LMR				*eSn*	**Sn**	**03 42 07.1**	**-7.2**
	comp=N,0.8nm,0.4s						
MFF	**Saint Martin d**	**11.38**	**13**	*eP*	**Pn**	**03 40 15.6**	**+2.9**
PGF	**Pioggiola**	**12.15**	**51**	*eP*	Pn	03 40 29.0	+5.6
PGF				*eSn*	Sn	03 42 30.3	-9.2
	comp=N,0.1nm,0.2s						
GERES	**GERESS Array B**	**18.50**	**39**	P	**Pn**	**03 41 48.2**	**+1.5**
	comp=N,0.1nm,0.3s,baz=223,slow=9.1,SNR=4.8						
GERES				LR	LR	03 48 23.9	
	comp=N,92nm,21.8s,baz=264,slow=35						
EKA	**Eskdalemuir Ar**	**19.79**	**1**	P	**Pn**	**03 42 02.7**	**+0.6**
	baz=169,slow=11,SNR=1.8						
TORD	**Torodi Ar. Bea**	**22.85**	**166**	P	**Pn**	**03 42 33.3**	**-0.6**
	comp=N,0.8nm,1.0s,baz=339,slow=11,SNR=3.5						
IDI	**Anoyia**	**23.35**	**82**	LR	LR	03 52 43.1	
	comp=N,30nm,18.6s,baz=274,slow=39						
HFS	**Hagfors**	**27.08**	**19**	P	**P**	**03 43 12.9**	**-0.2**
	comp=N,3.0nm,0.9s,baz=228,slow=21,SNR=1.6						
FINES	**FINESS Array B**	**32.07**	**27**	P	**P**	**03 43 57.8**	**+0.5**
	comp=N,2.2nm,0.9s,baz=219,slow=9.8,SNR=1.8						
ARCES	**ARCESS Array B**	**37.63**	**16**	P	**P**	**03 44 46.3**	**+1.1**
	comp=N,3.8nm,0.9s,baz=207,slow=9.6,SNR=2.2						
ZALV	**Zalesovo Beam**	**61.41**	**42**	P	**P**	**03 47 47.1**	**+0.4**
	comp=N,0.6nm,0.4s,baz=289,slow=6.5,SNR=3.6						
MKAR	**Makanchi Array**	**62.69**	**50**	P	**P**	**03 47 56.1**	**+0.7**
	comp=N,0.7nm,0.6s,baz=293,slow=5.8,SNR=9.2						
YKA	**Yellowknife Ar**	**67.78**	**332**	P	**P**	**03 48 28.1**	**-0.1**
	comp=N,1.4nm,0.7s,baz=60,slow=6.4,SNR=23						
PDAR	**Pinedale Array**	**76.79**	**313**	P	**P**	**03 49 22.6**	**-0.1**
	comp=N,1.2nm,0.7s,baz=58,slow=6.7,SNR=11						

*IDC **27** 03:44:53.7±8.2, 23°.95S×177°.47W, h200km±62km, mb3.2/6, mb1 3.5/7, mb1mx3.3/36, mbtmp3.7/7, MS3.4/1, Ms1 3.3/1, ms1mx2.6/11, Error ellipse: s-maj=89.1km s-min=19.4km az=144.0*
ISC 27 03:44:53.3±1.0, 24°.0S±0°.2×177°.4W±0°.2, h200km, n12, σ1§04/13, mb3.5/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.53**	**324**	P	**Pn**	**03 46 41.1**	**+0.6**
	0.6nm,0.3s,baz=141,slow=15,SNR=8.3						
STKA	**Stephens Creek**	**36.94**	**248**	P	**P**	**03 51 44.8**	**+1.5**
	0.5nm,0.3s,baz=84,slow=4.6,SNR=3.3						
STKA				LR	LR	04 04 45.9	
	comp=Z,52nm,20.3s,baz=208,slow=32						
ASAR	**Alice Springs**	**44.40**	**260**	P	**P**	**03 52 43.7**	**-0.7**
	0.4nm,0.7s,baz=102,slow=8.7,SNR=3.0						
ASAR				PcP	**PcP**	**03 54 24.5**	**-0.2**
	0.3nm,0.8s,baz=118,slow=3.9,SNR=1.7						
WRA	**Warramunga Arr**	**44.80**	**265**	P	**P**	**03 52 45.8**	**-1.8**
	0.5nm,0.3s,baz=92,slow=8.4,SNR=36						
WRA				PcP	**PcP**	**03 54 26.4**	**+0.3**
	0.4nm,0.8s,baz=98,slow=6.3,SNR=1.3						
NVAR	**Mina Array Bea**	**83.14**	**43**	P	**P**	**03 56 58.2**	**+1.0**
	0.5nm,0.6s,baz=225,slow=8.6,SNR=5.8						
PDAR	**Pinedale Array**	**91.07**	**43**	P	**P**	**03 57 35.8**	**+0.4**
	0.4nm,0.7s,baz=256,slow=3.6,SNR=5.8						
ILAR	**Eielson Array**	**91.54**	**13**	P	**P**	**03 57 35.3**	**-1.4**
	0.7nm,1.2s,baz=246,slow=7.7,SNR=5.4						
FINES	**FINESS Array B**	**139.23**	**343**	PKP	**PKPdf**	**04 03 56.8**	**+0.9**
	2.3nm,1.0s,baz=83,slow=6.0,SNR=4.9						
HFS	**Hagfors**	**143.03**	**351**	PKP	PKPbc	04 04 00.2	0.0
	1.9nm,0.7s,baz=77,slow=3.2,SNR=7.8						
AKASG	**Malin Array Be**	**146.28**	**329**	PKPbc	**PKPbc**	**04 04 09.9**	**-0.2**
	1.8nm,0.3s,baz=45,slow=4.3,SNR=14						
EKA	**Eskdalemuir Ar**	**148.37**	**6**	PKPbc	**PKiKP**	**04 04 16.8**	**-0.3**
	1.6nm,0.8s,baz=17,slow=13,SNR=4.0						
BRTR	**Keskin Array B**	**149.51**	**308**	PKPbc	**PKPbc**	**04 04 18.8**	**-0.5**
	0.5nm,0.8s,baz=131,slow=3.8,SNR=2.9						

*IDC **27** 03:55:05.8±2.1, 24°.39S×66°.71W, h173km±20km, mb3.5/3, mb1 3.5/7, mb1mx3.3/30, mbtmp3.8/7, Error ellipse: s-maj=27.9km s-min=21.4km az=152.0*
*GUC **27** 03:55:10.0±0.5, 23°.97S×67°.25W, h246km±6km, ML4.0*
ISC 27 03:55:08.4±0.8, 24°.05S±0°.06×66°.90W±0°.06, h210km±7km, n23, σ1§32/37, mb3.5/3, 8C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.44**	**118**	⇓*iP*	**Pn**	**03 55 42.6**	**0.0**
SLA				*i* S	**S**	**03 56 08.0**	**-1.0**
LVC	**Limon Verde**	**2.34**	**307**	P	**Pn**	**03 55 52.5**	**+0.9**
	26nm,0.3s,baz=141,slow=6.6,SNR=505						
LVC				S	**S**	**03 56 25.7**	**+0.9**
	10nm,0.3s,baz=245,slow=24,SNR=20						
LVC	**Limon Verde**	**2.34**	**307**	⇑*iP*	**Pn**	**03 55 52.4**	**+0.8**
LVC				*i* S	**S**	**03 56 25.4**	**+0.6**
PB15	**IPOC Station P**	**2.50**	**289**	⇑*iP*	**Pn**	**03 55 54.0**	**+0.9**
PB15				*i* S	**S**	**03 56 27.3**	**-0.3**
PB06	**IPOC Station P**	**2.80**	**298**	⇑*iP*	**Pn**	**03 55 57.2**	**+0.8**
PB06				*i* S	**S**	**03 56 32.7**	**-0.8**
PB06				IAML		03 56 35.5	
	comp=E,558nm,0.1s						
PB09	**IPOC Station P**	**3.12**	**316**	*eP*	**Pn**	**03 56 01.2**	**+1.1**
PB09				*i* S	**S**	**03 56 40.1**	**0.0**
PB09				IAML		03 56 44.9	
	comp=E,79nm,0.4s						
PB03	**IPOC Station P**	**3.30**	**307**	⇑*iP*	**Pn**	**03 56 02.7**	**+0.5**
PB03				*i* S	**S**	**03 56 42.5**	**-1.4**
PB10	**IPOC Station P**	**3.39**	**278**	⇑*eP*	**Pn**	**03 56 03.5**	**+0.3**
PB10				*i* S	**S**	**03 56 43.4**	**-2.2**
AC02	**Maricunga**	**3.43**	**216**	*eS*	**S**	**03 56 50.0**	**+2.7**
PB04	**IPOC Station P**	**3.44**	**299**	⇑*iP*	**Pn**	**03 56 04.3**	**+0.4**
PB04				*i* S	**S**	**03 56 45.5**	**-1.6**
PB07	**IPOC Station P**	**3.60**	**309**	⇑*iP*	**Pn**	**03 56 06.2**	**+0.3**
PB07				*i* S	**S**	**03 56 48.7**	**-1.8**
PB01	**IPOC Station P**	**3.83**	**321**	*eP*	**Pn**	**03 56 08.8**	**+0.1**
PB01				*i* S	**S**	**03 56 53.9**	**-1.6**
PB02	**IPOC Station P**	**3.88**	**314**	*eP*	**Pn**	**03 56 09.1**	**-0.1**
PB02				*i* S	**S**	**03 56 54.8**	**-1.8**
PB08	**IPOC Station P**	**4.42**	**331**	⇑*iP*	**Pn**	**03 56 16.7**	**+0.5**
PB08				*i* S	**S**	**03 57 09.0**	**-0.1**
LPAZ	**La Paz**	**7.81**	**351**	P	**Pn**	**03 57 00.6**	**+0.7**
	comp=E,0.9nm,0.3s,baz=127,slow=3.4,SNR=25						
LPAZ				S	**S**	**03 58 27.2**	**-1.4**
	baz=204,slow=25,SNR=2.2						
SIV	**San Ignacio**	**9.71**	**35**	P	**Pn**	**03 57 23.2**	**-0.7**
	comp=E,0.2nm,0.3s,baz=208,slow=21,SNR=1.8						
BDFB	**Brasilia**	**19.62**	**68**	P	**P**	**03 59 21.7**	**+0.4**
	comp=E,0.2nm,0.3s,baz=234,slow=8.7,SNR=4.8						
USHA	**Ushuaia**	**30.76**	**182**	P	**P**	**04 01 00.4**	**-3.5**
	comp=E,7.5nm,1.1s,baz=284,slow=16,SNR=1.7						
**T

ISC 27 04:08:44.1±1.2,**34°50N**±0°.06×**36°4E**±0°.1,**h10**km,**n8,** σ0°**65**/13,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.87**	**227**	*eP*	**Pb**	**04 09 01.3**	**-0.1**
BHL				*eS*	**Sb**	**04 09 13.2**	**+0.1**
DQRL	**Deir Qamar**	**1.06**	**222**	*eP*	**Pb**	**04 09 04.6**	**0.0**
RCY	**Rachaya**	**1.11**	**206**	*eP*	**Pg**	**04 09 05.5**	**-0.1**
SHBL	**Chebaa**	**1.28**	**206**	*eP*	**Pn**	**04 09 08.2**	**0.0**
KUZU	**Kuzuini**	**2.33**	**13**	P	**Pn**	**04 09 22.2**	**-0.3**
KUZU				S	**Sb**	**04 09 54.3**	**-0.7**
KUZU				*i* AML	AML	04 10 04.0	
	comp=Z,34nm,0.2s						
KUZU				*i* AML	AML	04 10 05.0	
	comp=E,66nm,0.3s						
KUZU				*i* AML	AML	04 10 09.0	
	comp=N,52nm,0.4s						
KAMA	**Osmaniye**	**2.69**	**4**	P	**Pn**	**04 09 27.4**	**-0.1**
KAMA				S	**Sn**	**04 10 01.1**	**+1.0**
KERG	**Konya-Eregli**	**3.45**	**328**	P	**Pn**	**04 09 38.9**	**+0.9**
KERG				S	**Sn**	**04 10 18.0**	**-1.1**
KERG				*i* AML	AML	04 10 19.0	
	comp=N,38nm,1.1s						
AKCD	**Akcadag**	**3.98**	**17**	P	**Pn**	**04 09 46.0**	**+0.8**
AKCD				S	**Sn**	**04 10 31.9**	**-0.1**
AKCD				*i* AML	AML	04 10 56.0	
	comp=E,8.5nm,0.5s						
AKCD				*i* AML	AML	04 11 00.0	
	comp=N,13nm,0.6s						

*IDC **27** 04:12:07.3*±*2.2, 36°.56S×97°.22W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.2/28, mbtmp4.2/8, MS3.8/17, Ms1 3.8/17, ms1mx3.6/52, Error ellipse: s-maj=60.2km s-min=25.0km az=25.0*

*NEIC **27** 04:12:17.4*±*1.7, 36°.07S*±*0°.10×96°.3W*±*0°.2, h16km*±*5km, mb4.6/29, Error ellipse: s-maj=29.2km s-min=9.7km az=67.0*

ISC 27 04:12:15.7±1.5,**36°1S**±0°.2×**96°3W**±0°.2,**h10**km,**n65,** σ1°**10**/35,**mb4.5**/17,**MS3.9**/16,**West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**14.27**	**305**	LR	LR	04 19 08.5	
	comp=Z,463nm,21.0s,baz=96,slow=30						
H03S2	**Juan Fernandez**	**14.41**	**86**	T	T	04 31 30.2	
	baz=253						
H03S1	**Juan Fernandez**	**14.42**	**86**	T	T	04 31 25.1	
	baz=253						
H03S3	**Juan Fernandez**	**14.42**	**86**	T	T	04 31 33.0	
	baz=253						
H03N2	**Juan Fernandez**	**14.50**	**84**	T	T	04 31 22.9	
	baz=257,slow=73,SNR=134						
H03N3	**Juan Fernandez**	**14.50**	**85**	T	T	04 31 30.4	
	baz=257,slow=73,SNR=116						
H03N1	**Juan Fernandez**	**14.52**	**84**	T	T	04 31 31.4	
	baz=257,slow=73,SNR=182						
GO05	**Huala**	**19.83**	**94**	P	**P**	**04 16 45.2**	**-1.3**
GO05				IAmb	IAmb	04 16 50.6	
	comp=Z,27nm,1.1s						
ML02	**Panimavida**	**20.12**	**96**	P	**P**	**04 16 49.3**	**-0.3**
VA05	**Santo Domingo**	**20.37**	**90**	P	Pn	04 16 54.2	-0.2
VA05				IAmb	IAmb	04 16 58.7	
	comp=Z,27nm,0.8s						
MT01	**Popeta**	**20.61**	**91**	P	Pn	04 16 56.5	-0.8
BO01	**Tunca**	**20.63**	**93**	P	**P**	**04 16 55.8**	**+0.5**
BO01				IAmb	IAmb	04 17 02.0	
	comp=Z,41nm,1.6s						
PLCA	**Paso Flores**	**20.64**	**111**	P	**P**	**04 16 56.3**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=270,slow=9.3,SNR=4.8						
PLCA	**Paso Flores**	**20.64**	**111**	P	**P**	**04 16 56.8**	**+1.4**
BO02	**Sierra Bellavi**	**20.80**	**94**	P	**P**	**04 16 56.8**	**-0.3**
MT09	**Talagante**	**20.84**	**91**	P	**P**	**04 16 58.1**	**+0.3**
MT09				IAmb	IAmb	04 17 03.1	
	comp=Z,19nm,0.9s						
MT05	**Renca**	**21.14**	**90**	P	**P**	**04 16 58.2**	**-2.7**
MT05				IAmb	IAmb	04 17 06.4	
	comp=Z,16nm,0.8s						
VA03	**San Esteban**	**21.46**	**89**	P	**P**	**04 17 04.1**	**-0.2**
VA03				IAmb	IAmb	04 17 09.2	
	comp=Z,25nm,1.1s						
GO03	**Copiap**	**23.64**	**76**	P	**P**	**04 17 28.9**	**+1.7**
GO10	**Punta Arenas**	**24.55**	**142**	P	**P**	**04 17 35.9**	**+0.5**
AC02	**Maricunga**	**24.86**	**76**	P	**P**	**04 17 38.8**	**-0.3**
AC02				IAmb	IAmb	04 17 43.9	
	comp=Z,14nm,0.9s						
USHA	**Ushuaia**	**26.76**	**143**	LR	LR	04 26 21.0	
	comp=Z,162nm,21.7s,baz=264,slow=32						
LVC	**Limon Verde**	**27.27**	**68**	LR	LR	04 26 21.0	
	comp=Z,253nm,20.9s,baz=243,slow=30						
PB09	**IPOC Station P**	**27.51**	**66**	P	**P**	**04 18 02.2**	**-0.4**
NNA	**Nana**	**29.74**	**41**	LR	LR	04 27 21.6	
	comp=Z,392nm,21.6s,baz=206,slow=30						
LPAZ	**La Paz**	**31.87**	**59**	P	**P**	**04 18 42.3**	**+0.5**
	comp=Z,6.8nm,0.8s,baz=216,slow=8.0,SNR=28						
LPAZ				LR	LR	04 28 46.6	
	comp=Z,104nm,21.5s,baz=230,slow=30						
LPAZ	**La Paz**	**31.87**	**59**	P	**P**	**04 18 42.6**	**+0.8**
LPAZ				IAmb	IAmb	04 18 44.7	
	comp=Z,9.0nm,0.8s						
ATAH	**Atahualpa**	**33.16**	**34**	P	**P**	**04 18 54.3**	**+1.5**
	comp=Z,5.2nm,0.8s,baz=262,slow=6.7,SNR=4.3						
ATAH				LR	LR	04 29 13.6	
	comp=Z,243nm,21.8s,baz=220,slow=30						
CPUP	**Villa Florida**	**34.51**	**85**	P	**P**	**04 19 03.9**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=297,slow=4.9,SNR=3.1						
CPUP				LR	LR	04 31 37.2	
	comp=Z,54nm,18.0s,baz=234,slow=33						
SIV	**San Ignacio**	**37.15**	**67**	P	**P**	**04 19 26.7**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=227,slow=7.8,SNR=7.6						
SIV				LR	LR	04 33 02.9	
	comp=Z,108nm,20.6s,baz=296,slow=33						
ETMB	**Extrema**	**37.81**	**54**	P	**P**	**04 19 32.3**	**-0.1**
ETMB				IAmb	IAmb	04 19 33.8	
	comp=Z,9.0nm,1.2s						
AQDB	**Aquidauana**	**38.67**	**77**	P	**P**	**04 19 40.4**	**+0.8**
AQDB				IAmb	IAmb	04 19 41.0	
	comp=Z,17nm,0.9s						
PTLB	**Pontes e Lacer**	**38.94**	**68**	P	**P**	**04 19 42.6**	**+0.7**
ROSC	**El Rosal**	**45.64**	**31**	LR	LR	04 37 19.9	
	comp=Z,120nm,18.7s,baz=230,slow=33						
MACA	**Manacapuru-AM**	**46.40**	**53**	P	**P**	**04 20 42.0**	**-0.5**
DUNO	**Dulce Nombre,**	**47.06**	**15**	P	**P**	**04 20 47.1**	**-0.4**
JTS	**Las Juntas de**	**47.37**	**15**	LR	LR	04 35 59.0	
	comp=Z,188nm,19.0s,slow=30						
BDFB	**Brasilia**	**47.42**	**77**	P	**P**	**04 20 50.0**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=233,slow=9.2,SNR=3.9						
BDFB	**Brasilia**	**47.42**	**77**	P	**P**	**04 20 50.1**	**-0.6**
PTGA	**Pitinga**	**48.71**	**52**	LR	LR	04 39 44.8	
	comp=Z,119nm,18.4s,baz=281,slow=33						
BOAV	**Boa Vista**	**50.79**	**49**	P	**P**	**04 21 15.6**	**-0.7**
SDV	**Santo Domingo**	**50.85**	**33**	LR	LR	04 42 06.9	
	comp=Z,88nm,18.3s,baz=98,slow=35						
APG	**El Apazote**	**51.13**	**7**	LR	LR	04 37 53.6	
	comp=Z,40nm,21.2s,baz=166,slow=30						
VNA3	**Neumayer Olymp**	**55.20**	**157**	P	P	04 21 43.3	-4.9
VNA1	**Neumayer--Stat**	**55.76**	**156**	P	P	04 21 44.4	-7.8
VNA2	**Neumayer--Watz**	**55.99**	**157**	P	P	04 21 49.1	-4.7
	baz=243,slow=7.1						
MDP	**Montagnes des**	**57.86**	**54**	LR	LR	04 45 08.4	
	comp=Z,128nm,19.1s,baz=242,slow=34						
Y14A	**Wickenburg**	**71.42**	**345**	P	**P**	**04 23 35.6**	**-0.4**
Y14A				IAmb	IAmb	04 23 38.5	
	comp=Z,3.7nm,1.0s						
CCUT	**Cedar City**	**74.99**	**346**	P	**P**	**04 23 55.4**	**-1.8**
SMCO	**Snowmass**	**75.57**	**351**	P	**P**	**04 24 01.9**	**+1.2**
SMCO				IAmb	IAmb	04 24 06.5	
	comp=Z,5.9nm,1.1s						
TMUT	**Trail Mountain**	**76.29**	**348**	P	**P**	**04 24 05.5**	**+0.7**
TMUT				IAmb	IAmb	04 24 07.6	
	comp=Z,6.7nm,1.2s						
NVAR	**Mina Array Bea**	**76.92**	**342**	P	P	04 24 03.4	-4.8
	comp=Z,1.3nm,0.7s,baz=173,slow=6.9,SNR=12						
KVN	**Kaiserville**	**77.46**	**343**	P	**P**	**04 24 12.2**	**+0.9**
PDAR	**Pinedale Array**	**79.44**	**350**	P	P	04 24 16.6	-5.6
	comp=Z,0.9nm,0.6s,baz=156,slow=5.9,SNR=14						
PDAR	**Pinedale Array**	**79.44**	**350**	P	P	04 24 17.9	-4.2
J08A	**Circle Bar Ran**	**81.64**	**344**	P	**P**	**04 24 33.7**	**-0.1**
J08A				IAmb	IAmb	04 24 36.7	
	comp=Z,6.0nm,1.0s						
I07A	**Izee**	**82.56**	**343**	P	**P**	**04 24 40.3**	**+1.7**
I07A				IAmb	IAmb	04 24 42.1	
	comp=Z,3.4nm,0.9s						
PLID	**Pearl Lake**	**82.78**	**346**	P	**P**	**04 24 41.4**	**+1.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**86.04**	**346**	LR	LR	04 59 50.5	
	comp=Z,85nm,19.1s,baz=24,slow=33						
STKA	**Stephens Creek**	**93.33**	**226**	LR	LR	04 58 45.8	
	comp=Z,78nm,20.2s,baz=199,slow=30						
CTA	**Charters Tower**	**98.67**	**238**	LR	LR	05 06 23.7	
	comp=Z,60nm,18.1s,baz=92,slow=33						
H01W1	**Cape Leeuwin H**	**103.87**	**205**	T	T	06 22 32.7	
	baz=153						
H01W2	**Cape Leeuwin H**	**103.88**	**205**	T	T	06 22 31.3	
	baz=153						
H01W3	**Cape Leeuwin H**	**103.89**	**205**	T	T	06 22 32.6	
	baz=153						
KBZ	**Khabaz**	**148.03**	**64**	PKPbc	**PKPdf**	**04 31 55.5**	**-2.4**
	comp=Z,2.7nm,1.1s,baz=296,slow=3.3,SNR=2.2						

*CNRM **27** 04:24:26.9, 35°.54N×3°.69W, h15km, ml2.8*

ISC 27 04:24:26.6±1.6,**35°52N**±0°.05×**3°66W**±0°.04,**h11**km±10km,**n9,** σ1°**16**/18,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**218**	P	**Pg**	**04 24 33.6**	**-0.6**
PALE				S	**Sg**	**04 24 40.1**	**+0.9**
AKLM	**AKL**	**1.02**	**190**	P	**Pb**	**04 24 46.0**	**-0.3**
AKLM				S	**Sb**	**04 24 59.7**	**-0.1**
CHAS	**Isla Isabel II**	**1.05**	**108**	*eP*	**Pb**	**04 24 46.9**	**+0.1**
CHAS				*eS*	**Sb**	**04 25 00.9**	**+0.2**
JBK	**JBK**	**1.48**	**143**	P	**Pb**	**04 24 54.5**	**+0.2**
JBK				S	**Sn**	**04 25 12.1**	**-0.8**
SICH	**Sidi Chahed**	**1.97**	**225**	P	**Pb**	**04 25 02.3**	**-0.1**
SICH				S	**Sn**	**04 25 24.4**	**-0.1**
LCRM	**LCR**	**2.08**	**209**	P	**Pn**	**04 25 00.3**	**-1.2**
LCRM				S	**Sb**	**04 25 30.9**	**+0.6**
MD31	**MD31**	**2.80**	**199**	P	**Pn**	**04 25 11.4**	**0.0**
MD31				S	**Sn**	**04 25 45.9**	**+0.7**
MDT	**Midelt**	**2.81**	**197**	P	**Pn**	**04 25 10.7**	**-0.8**
MDT				S	**Sn**	**04 25 47.9**	**+2.4**
PVAQ	**Vaqueiros**	**3.77**	**301**	P	**Pn**	**04 25 26.4**	**+1.7**
PVAQ				S	**Sn**	**04 26 06.8**	**-2.3**

*NEIC **27** 04:31:24.0*±*1.4, 83°.79N*±*0°.09×3°.0W*±*0°.9, h15km*±*5km, mb4.3/8, Error ellipse: s-maj=16.5km s-min=9.7km az=222.0*

*IDC **27** 04:31:23.0*±*0.6, 84°.05N×0°.17W, h0km, mb3.8/19, mb1 4.0/22, mb1mx3.8/50, mbtmp3.8/22, ML3.7/3, MS3.5/42, Ms1 3.5/42, ms1mx3.4/93, Error ellipse: s-maj=16.2km s-min=12.2km az=46.0*

*IEPN **27** 04:31:26.0, 84°.05N×1°.08E, h10km*

ISC 27 04:31:24.8±0.5,**83°90N**±0°.05×**0°01E**±0°.05,**h16**km,**n85,** σ2°**41**/68,**mb3.9**/22,**MS3.5**/39,**North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**3.12**	**231**	Pn	**Pn**	**04 32 14.1**	**+0.9**
NOR	**Nord**	**3.12**	**231**	*i* P	**Pn**	**04 32 14.0**	**+0.9**
NOR	**Nord**	**3.12**	**231**	Pn	**Pn**	**04 32 14.1**	**+0.9**
KBS	**Kingsbay**	**5.29**	**154**	Pn	**Pn**	**04 32 43.4**	**+0.5**
KBS				Sn	**Sn**	**04 33 39.6**	**-3.9**
KBS	**Kingsbay**	**5.29**	**154**	Pn	**Pn**	**04 32 43.4**	**+0.5**
KBS				Sn	**Sn**	**04 33 39.6**	**-3.9**
KBS	**Kingsbay**	**5.29**	**154**	*eP*	**Pn**	**04 32 43.0**	**0.0**
KBS				*eS*	**Sn**	**04 33 38.9**	**-4.6**
BRBB	**Barentsburg B**	**6.21**	**152**	Pn	**Pn**	**04 32 57.8**	**+2.2**
BRBB				Sn	**Sn**	**04 34 03.9**	**-2.3**
BRBA	**Barentsburg A**	**6.25**	**152**	Pn	**Pn**	**04 32 58.1**	**+2.1**
SPA0	**Spitsbergen Ar**	**6.25**	**148**	Pn	**Pn**	**04 32 56.4**	**+0.2**
	baz=8.3,slow=16						
SPA0				Sn	**Sn**	**04 34 03.4**	**-3.7**
	baz=358,slow=37						
SPA0	**Spitsbergen Ar**	**6.25**	**148**	Pn	**Pn**	**04 32 56.0**	**-0.1**
	baz=8.3,slow=16						
SPA0				Sn	**Sn**	**04 34 03.4**	**-3.7**
	baz=358,slow=37						
SPA0	**Spitsbergen Ar**	**6.25**	**148**	*eP*	**Pn**	**04 32 55.8**	**-0.3**
SPA0				*eS*	**Sn**	**04 34 04.5**	**-2.6**
SPITS	**Spitsbergen Ar**	**6.25**	**148**	Pn	**Pn**	**04 32 55.7**	**-0.5**
	baz=357,slow=11,SNR=25						
SPITS				Sn	Sn	04 33 59.1	-8.0
	baz=123,slow=9.0,SNR=1.2						
SPB2	**Spitsbergen Ar**	**6.25**	**148**	Pn	**Pn**	**04 32 56.7**	**+0.6**
ZFI	**Zemlya Franca-**	**6.83**	**91**	*eP*	**Pn**	**04 33 02.4**	**-1.6**
ZFI				*eS*	**Sn**	**04 34 13.3**	**-7.9**
	76nm,1.3s						
HSPB	**Hornsund (broa**	**7.35**	**152**	Pn	**Pn**	**04 33 14.3**	**+3.1**
HSPB	**Hornsund (broa**	**7.35**	**152**	Pn	**Pn**	**04 33 14.6**	**+3.5**
HSPB	**Hornsund (broa**	**7.35**	**152**	*eP*	**Pn**	**04 33 14.3**	**+3.1**
HSPB				S	**Sn**	**04 34 33.3**	**-0.7**
DBG	**Daneborg**	**10.25**	**212**	Pn	**Pn**	**04 33 50.7**	**-0.2**
DBG	**Daneborg**	**10.25**	**212**	Pn	**Pn**	**04 33 51.5**	**+0.6**
EUNU	**Eureka**	**11.40**	**299**		**Pn**	**04 34 02.9**	**-3.7**
TULEG	**Thule**	**12.67**	**275**	Pn	**Pn**	**04 34 19.9**	**-4.1**
SUMG	**Summit**	**13.27**	**235**	Pn	Pn	04 34 27.1	-5.4
ARA0	**ARCESS Array S**	**15.27**	**145**	P	**Pn**	**04 34 59.9**	**+0.6**
	baz=3.2,slow=18						
ARA0	**ARCESS Array S**	**15.27**	**145**	P	**Pn**	**04 34 59.6**	**+0.4**
	baz=3.2,slow=18						
ARCES	**ARCESS Array B**	**15.27**	**145**	Pn	**Pn**	**04 34 59.6**	**+0.3**
	baz=2.1,slow=13,SNR=6.2						
ARCES				LR	LR	04 40 32.0	
	comp=Z,152nm,19.1s,baz=314,slow=36						
RES	**Resolute Bay**	**17.04**	**295**	Pn	**Pn**	**04 35 16.4**	**-5.5**
	0.1nm,0.3s,baz=26,slow=14,SNR=3.7						
RES				LR	LR	04 41 49.3	
	comp=Z,215nm,19.3s,baz=78,slow=37						
RES	**Resolute Bay**	**17.04**	**295**	P	**Pn**	**04 35 17.6**	**-4.3**
SFJD	**Kangerlussuaq**	**19.79**	**244**	P	**P**	**04 35 54.6**	**+0.7**
	0.4nm,0.3s,baz=344,slow=19,SNR=1.6						
SFJD				LR	LR	04 43 51.6	
	comp=Z,77nm,20.9s,baz=2.5,slow=38						
SFJD	**Kangerlussuaq**	**19.79**	**244**	P	**P**	**04 35 49.4**	**-4.5**
NRIK	**Noril'sk**	**21.38**	**77**	LR	LR	04 44 26.4	
	comp=Z,54nm,20.3s,baz=342,slow=37						
NRIK	**Noril'sk**	**21.38**	**77**	P	**P**	**04 36 14.0**	**+3.0**
NRIK				IAmb	IAmb	04 36 18.6	
	comp=Z,17nm,1.2s						
LSH	**Leshukonskoye**	**21.41**	**123**	*eP*	**P**	**04 36 11.7**	**+0.3**
A36M	**Sachs Harbour**	**22.22**	**318**	P	**P**	**04 36 17.9**	**-2.1**
A36M				IAmb	IAmb	04 36 36.7	
	comp=Z,9.4nm,1.1s						
TIXI	**Tiksi**	**22.81**	**40**	LR	LR	04 45 07.0	
	comp=Z,54nm,20.8s,baz=338,slow=36						
NOA	**NORSAR Array B**	**23.13**	**166**	P	**P**	**04 36 31.4**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=358,slow=9.0,SNR=3.6						
NOA				LR	LR	04 44 04.4	
	comp=Z,78nm,18.5s,baz=350,slow=33						
FINES	**FINESS Array B**	**23.35**	**148**	P	**P**	**04 36 34.2**	**+2.4**
	comp=Z,3.5nm,1.0s,baz=345,slow=10,SNR=2.6						
FINES				LR	LR	04 45 23.7	
	comp=Z,84nm,19.7s,baz=39,slow=36						
HFS	**Hagfors**	**24.11**	**163**	P	**P**	**04 36 41.6**	**+2.5**
	comp=Z,4.4nm,1.1s,baz=339,slow=12,SNR=1.3						
HFS				LR	LR	04 44 56.2	
	comp=Z,125nm,18.4s,baz=3.5,slow=34						
FRB	**Frobisher Bay**	**24.78**	**261**	P	**P**	**04 36 46.3**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=17,slow=10,SNR=11						
FRB				LR	LR	04 45 33.1	
	comp=Z,92nm,19.1s,baz=7.0,slow=34						
KLMR	**Klimovskoe**	**24.85**	**132**	*eP*	**P**	**04 36 42.8**	**-3.2**
INK	**Inuvik**	**26.41**	**323**	P	**P**	**04 36 59.1**	**-0.9**
	comp=Z,4.2nm,1.1s,baz=13,slow=11,SNR=5.8						
INK				LR	LR	04 50 07.8	
	comp=Z,46nm,18.2s,baz=38,slow=43						
INK	**Inuvik**	**26.41**	**323**	P	**P**	**04 36 58.9**	**-1.1**
INK				IAmb	IAmb	04 37 09.7	
	comp=Z,13nm,1.5s						
EKA	**Eskdalemuir Ar**	**28.72**	**184**	P	**P**	**04 37 23.0**	**+2.3**
	comp=Z,2.1nm,0.8s,baz=357,slow=7.4,SNR=1.7						
ILAR	**Eielson Array**	**30.69**	**333**	P	**P**	**04 37 37.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=5.0,slow=7.4,SNR=9.9						
ILAR				LR	LR	04 49 33.5	
	comp=Z,71nm,19.7s,baz=311,slow=36						
ILAR	**Eielson Array**	**30.69**	**333**	P	**P**	**04 37 39.0**	**+0.9**
YKA	**Yellowknife Ar**	**30.69**	**304**	P	**P**	**04 37 36.7**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=7.5,slow=8.4,SNR=11						
YKA				PcP	**PcP**	**04 40 35.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=357,slow=2.2,SNR=5.7						
YKA				LR	LR	04 50 56.8	
	comp=Z,108nm,18.4s,baz=22,slow=38						
YKA	**Yellowknife Ar**	**30.69**	**304**	P	**P**	**04 37 36.4**	**-1.7**
ARU	**Arti**	**30.94**	**113**	LR	LR	04 52 32.2	
	comp=Z,128nm,18.4s,baz=342,slow=41						
YAK	**Yakutsk**	**32.37**	**43**	LR	LR	04 50 54.9	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,72nm,18.1s,baz=78,slow=36						
AKASG	**Malin Array Be**	**34.24**	**147**	LR	LR	04 51 53.5	
	comp=Z,70nm,19.8s,baz=350,slow=36						
VRAC	**Vranov**	**35.03**	**161**	LR	LR	04 51 48.4	
	comp=Z,81nm,20.4s,baz=338,slow=35						
GERES	**GERESS Array B**	**35.40**	**164**	P	**P**	**04 38 20.8**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=357,slow=6.9,SNR=1.6						
ZALV	**Zalesovo Beam**	**36.13**	**87**	P	**P**	**04 38 26.1**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=340,slow=7.8,SNR=2.0						
ZALV				LR	LR	04 55 49.5	
	comp=Z,78nm,19.6s,baz=328,slow=41						
AKTO	**Aktyubinsk**	**36.81**	**115**	LR	LR	04 56 06.2	
	comp=Z,158nm,18.5s,baz=2.2,slow=40						
KURBB	**Kurchatov Arra**	**38.74**	**94**	LR	LR	04 58 39.5	
	comp=Z,61nm,18.1s,baz=296,slow=42						
MLR	**Muntele Rosu**	**39.25**	**151**	LR	LR	04 55 40.3	
	comp=Z,137nm,18.7s,baz=350,slow=37						
ULM	**Lac du Bonnet**	**40.95**	**283**	LR	LR	04 54 46.2	
	comp=Z,94nm,18.3s,baz=82,slow=34						
BBB	**Bella Bella**	**42.03**	**314**	LR	LR	04 56 42.6	
	comp=Z,63nm,18.8s,baz=50,slow=36						
KBZ	**Khabaz**	**42.12**	**133**	LR	LR	04 55 33.3	
	comp=Z,42nm,20.8s,baz=282,slow=34						
MKAR	**Makanchi Array**	**42.92**	**91**	P	**P**	**04 39 23.0**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=357,slow=7.3,SNR=5.0						
MKAR				LR	LR	04 58 29.5	
	comp=Z,58nm,19.0s,baz=3.5,slow=38						
MKAR	**Makanchi Array**	**42.92**	**91**	P	**P**	**04 39 24.3**	**+2.1**
SONM	**Songino Array**	**44.41**	**67**	P	**P**	**04 39 34.9**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=336,slow=6.9,SNR=6.8						
SONM				LR	LR	04 59 15.8	
	comp=Z,75nm,18.1s,baz=308,slow=38						
SONM	**Songino Array**	**44.41**	**67**	P	**P**	**04 39 35.9**	**+1.7**
ULN	**Ulaanbaatar**	**44.44**	**67**	P	**P**	**04 39 37.1**	**+2.6**
ULN				IAmb	IAmb	04 39 39.4	
	comp=Z,2.5nm,0.8s						
NEW	**Newport**	**45.00**	**303**	P	**P**	**04 39 40.0**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=206,slow=4.4,SNR=3.6						
KLR	**Kul'dur**	**45.24**	**44**	LR	LR	04 59 13.1	
	comp=Z,40nm,18.2s,baz=256,slow=37						
BRTR	**Keskin Array B**	**45.45**	**143**	P	**P**	**04 39 43.7**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=12,slow=10,SNR=1.6						
BRTR				LR	LR	04 59 37.2	
	comp=Z,64nm,18.4s,baz=338,slow=37						
GNI	**Garni**	**45.83**	**131**	LR	LR	04 59 31.4	
	comp=Z,48nm,22.0s,baz=22,slow=37						
AAK	**Ala-Archa**	**46.20**	**100**	LR	LR	05 01 35.7	
	comp=Z,42nm,18.4s,baz=10,slow=39						
AAK	**Ala-Archa**	**46.20**	**100**	P	**P**	**04 39 49.5**	**+1.0**
IDI	**Anoyia**	**49.37**	**153**	LR	LR	05 02 31.1	
	comp=Z,54nm,20.5s,baz=96,slow=38						
PDAR	**Pinedale Array**	**49.74**	**295**	P	**P**	**04 40 16.8**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=0.0,slow=5.8,SNR=2.8						
PDAR				LR	LR	05 01 43.7	
	comp=Z,105nm,19.0s,baz=16,slow=37						
YBH	**Yreka Blue Hor**	**51.97**	**307**	LR	LR	05 03 04.5	
	comp=Z,85nm,18.2s,baz=345,slow=37						
ELK	**Elko**	**52.28**	**300**	LR	LR	05 04 02.4	
	comp=Z,89nm,18.4s,baz=12,slow=38						
TKL	**Tuckaleechee C**	**54.09**	**268**	LR	LR	05 05 31.2	
	comp=Z,34nm,18.4s,baz=32,slow=38						
KSRS	**Korea Array**	**56.65**	**49**	P	**P**	**04 41 06.6**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=16,slow=10,SNR=4.6						
ANMO	**Albuquerque**	**57.18**	**290**	LR	LR	05 06 15.2	
	comp=Z,116nm,19.1s,baz=20,slow=37						
MJAR	**Matsushiro Arr**	**58.32**	**39**	P	**P**	**04 41 18.5**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=17,slow=7.3,SNR=4.2						
TXAR	**Lajitas Array**	**62.45**	**287**	LR	LR	05 09 36.4	
	comp=Z,94nm,21.6s,baz=352,slow=37						
WSAR	**Wadi Sarin**	**63.81**	**119**	LR	LR	05 15 02.6	
	comp=Z,26nm,19.1s,baz=15,slow=41						
LPIG	**La Paz**	**68.30**	**293**	LR	LR	05 13 47.9	
	comp=Z,68nm,18.2s,baz=12,slow=37						
TORD	**Torodi Ar. Bea**	**70.80**	**178**	P	**P**	**04 42 41.3**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=349,slow=6.0,SNR=2.4						
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Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
YJA	Yavi	2.46	114	P	Pn	04 40 27.0	+0.7
PB15	IPOC Station P	2.48	215	eP	Pn	04 40 28.2	+1.8
PB15				i S	Sn	04 40 59.9	+1.0
PB15	IPOC Station P	2.48	215	P	Pn	04 40 27.6	+1.2
MNMC	Minye Minye	2.56	322	P	Pn	04 40 28.6	+1.1
PB16	IPOC Station P	3.19	332	P	Pn	04 40 37.0	+1.5
PB16				S	Sn	04 41 11.6	-3.5
PB10	IPOC Station P	3.37	226	i S	Sn	04 41 16.6	-1.5
PB12	IPOC Station P	3.40	318	eP	Pn	04 40 36.7	-1.0
BBOE	La Paz, Chanca	4.34	359	P	Pn	04 40 52.0	+1.9
BBOD	La Paz, Gloria	4.55	352	P	Pn	04 40 55.0	+2.1
LPAZ	La Paz	4.86	358	P	Pn	04 40 58.1	+1.2
	comp=N,1.0nm,0.3s,baz=192,slow=1.4,SNR=24						
LPAZ				S	Sn	04 41 54.7	+1.1
	comp=N,0.1nm,0.3s,baz=201,slow=12,SNR=1.3						
LPAZ	La Paz	4.86	358	P	Pn	04 40 58.4	+1.4
TXAR	Lajitas Array	60.89	324	P	P	04 49 38.9	-0.7
	comp=N,0.6nm,0.6s,baz=149,slow=7.2,SNR=3.6						
TORD	Torodi Ar. Bea	76.38	70	P	P	04 51 15.2	-0.6
	comp=N,0.3nm,0.4s,baz=252,slow=4.7,SNR=6.2						
YKA	Yellowknife Ar	91.19	340	P	P	04 52 30.8	+0.9
	comp=N,0.1nm,0.5s,baz=133,slow=4.3,SNR=2.5						
ZALV	Zalesovo Beam	141.26	26	PKP	PKPdf	04 58 54.5	-0.3
	comp=N,0.5nm,0.5s,baz=321,slow=1.8,SNR=2.1						
MKAR	Makanchi Array	144.83	36	PKP	PKPdf	04 59 01.4	0.0
	comp=N,0.2nm,0.6s,baz=299,slow=3.0,SNR=2.9						

*IDC **27** 04:43:43.0±3.1, 21°.07S×179°.42W, h633km±25km, mb3.2/8, mb1 3.4/10, mb1mx3.0/45, mbtmp4.2/10, Error ellipse: s-maj=78.9km s-min=16.0km az=148.0*

ISC 27 04:43:39.0±1.3, 21°.6S±0°.3×179°.0W±0°.2, h600km, n15, σ1§47/15, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
MSVF	Nonsavu	4.77	324	P	P	04 45 11.7	+1.4
	4.7nm,0.3s,baz=214,slow=15,SNR=30						
DZM	Mont Dzumac	13.52	265	P	P	04 46 32.3	-0.9
	0.6nm,0.3s,baz=78,slow=20,SNR=8.5						
CTA	Charters Tower	32.46	266	P	P	04 49 21.6	-0.2
	5.0nm,0.4s,baz=91,slow=9.6,SNR=15						
STKA	Stephens Creek	36.45	245	P	P	04 49 56.1	+1.2
	2.0nm,0.4s,baz=86,slow=11,SNR=7.7						
ASAR	Alice Springs	43.35	258	P	P	04 50 50.1	+0.2
	3.7nm,0.5s,baz=95,slow=7.8,SNR=48						
WRA	Warramunga Arr	43.52	263	P	P	04 50 50.2	-1.1
	1.1nm,0.3s,baz=97,slow=7.6,SNR=76						
FITZ	Fitzroy Crossi	51.95	264	P	P	04 51 53.9	-0.1
	1.2nm,0.5s,baz=93,slow=6.1,SNR=8.1						
NVAR	Mina Array Bea	82.49	44	P	P	04 55 01.1	+0.9
	0.9nm,0.8s,baz=228,slow=9.0,SNR=5.5						
ILAR	Eielson Array	89.63	13	P	P	04 55 31.9	-1.4
	0.3nm,0.4s,baz=215,slow=5.2,SNR=12						
PDAR	Pinedale Array	90.43	44	P	P	04 55 38.4	+0.5
	0.5nm,0.8s,baz=188,slow=5.2,SNR=4.1						
MKAR	Makanchi Array	111.28	313	PKiKP	PKiKP	05 01 03.5	-2.1
	0.5nm,1.0s,baz=127,slow=2.2,SNR=2.8						
ARCES	ARCESS Array B	129.85	349	PKP	PKPdf	05 01 40.4	-0.1
	4.8nm,0.9s,baz=354,slow=2.1,SNR=5.5						
FINES	FINESS Array B	136.58	343	PKP	PKPdf	05 01 54.1	+0.8
	2.1nm,1.0s,baz=5.7,slow=1.4,SNR=4.5						
AKASG	Malin Array Be	143.53	330	PKP	PKPdf	05 02 03.7	-2.4
	2.6nm,0.6s,baz=47,slow=4.6,SNR=24						
BRTR	Keskin Array B	146.88	310	PKPbc	PKPdf	05 02 14.9	+2.5
	0.4nm,0.5s,baz=152,slow=3.7,SNR=4.7						

*IDC **27** 05:13:45.8±1.2, 44°.82S×14°.94W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/23, mbtmp4.2/4, MS4.1/40, Ms1 4.1/40, ms1mx4.0/51, Error ellipse: s-maj=113.4km s-min=31.6km az=99.0*

*GCMT **27** 05:13:49.0±0.3, 45°.11S±0°.04×15°.17W±0°.03, h14km±1km, MW4.9/83, Moment Tensor Solution. s26,c28; s83,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.76±.19; $M_{\theta\theta}$=1.14±.15; $M_{\phi\phi}$=1.62±.12; $M_{r\theta}$=0.48±.39; $M_{r\phi}$=-1.02±.09; $M_{\theta\phi}$=0.22±.28; Best double couple: M_0=2.63900×10^{16} NP1:ϕ_S=151.00000°, δ44.00000°, λ-77.00000°. NP2: ϕ_S=312.00000°, δ47.00000°, λ-103.00000°. Principal axes: T 2.4310, Plg1.0000°, Azm51.0000°; N 0.4150, Plg9.0000°, Azm321.0000°; P -2.8460, Plg81.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 27 05:13:47.0±0.9, 44°.8S±0°.1×15°.3W±0°.5, h10km, n58, σ1§07/10, mb4.3/4, MS4.1/40, 2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
VNA2	Neumayer--Watz	26.52	174	P	P	05 19 25.9	+1.6
	baz=324,slow=10						
VNA3	Neumayer Olymp	26.69	176	P	P	05 19 26.0	+0.1
SNAA	Sanae	27.64	172	P	P	05 19 42.0	+7.5
SNAA	Sanae	27.64	172	LR	LR	05 27 37.7	
	comp=Z,234nm,19.2s,baz=62,slow=30						
SUR	Sutherland	30.55	79	LR	LR	05 29 33.1	
	comp=Z,608nm,18.7s,baz=222,slow=31						
PMSA	Palmer Station	33.35	216	LR	LR	05 32 16.2	
	comp=Z,183nm,18.2s,baz=6.0,slow=33						
USHA	Ushuaia	34.96	234	LR	LR	05 34 04.5	
	comp=Z,155nm,21.7s,baz=58,slow=35						
H10S2	ASCENSION HYDR	35.68	1	T	T	05 58 38.9	
	baz=180,slow=74						
H10S3	ASCENSION HYDR	35.68	1	T	T	05 58 39.3	
	baz=40,slow=74						
BOSA	Boshof	35.86	77	LR	LR	05 32 07.9	
	comp=Z,294nm,21.2s,baz=215,slow=31						
SYO	Syowa Base	36.64	150	eP	P	05 20 52.6	-0.6
SYO	Syowa Base	36.64	150	ePP	pP	05 20 56.4	+1.0
H10N1	ASCENSION HYDR	36.79	1	T	T	06 00 09.2	
	baz=180						
H10N3	ASCENSION HYDR	36.79	1	T	T	06 00 04.9	
	baz=180,slow=74						
H10N2	ASCENSION HYDR	36.80	1	T	T	06 00 11.3	
	baz=180,slow=74						
TSUM	Tsumeb	37.35	58	LR	LR	05 32 32.0	
	comp=Z,296nm,20.8s,baz=158,slow=30						
CPUP	Villa Florida	38.35	284	LR	LR	05 35 59.3	
	comp=Z,126nm,19.3s,baz=148,slow=35						
LBTB	Lobatse	38.38	73	LR	LR	05 33 19.4	
	comp=Z,266nm,20.0s,baz=222,slow=31						
BDFB	Brasilia	40.07	306	LR	LR	05 34 47.3	
	comp=Z,324nm,21.2s,baz=126,slow=31						
PLCA	Paso Flores	40.14	256	LR	LR	05 35 48.0	
	comp=Z,362nm,20.1s,baz=132,slow=33						
MATP	Matopo	43.45	71	LR	LR	05 37 44.3	
	comp=Z,145nm,21.3s,baz=214,slow=33						
LSZ	Lusaka	46.94	65	LR	LR	05 38 51.9	
	comp=Z,319nm,21.7s,baz=218,slow=32						
SIV	San Ignacio	47.95	292	LR	LR	05 39 49.4	
	comp=Z,391nm,21.8s,baz=124,slow=32						
LVC	Limon Verde	48.81	279	LR	LR	05 41 45.6	
	comp=Z,110nm,19.3s,baz=140,slow=34						
DBIC	Dimbokro	52.05	13	LR	LR	05 39 20.3	
	comp=Z,106nm,20.6s,baz=181,slow=30						
LPAZ	La Paz	52.51	285	LR	LR	05 45 16.5	
	comp=Z,311nm,18.6s,baz=113,slow=36						
VNDA	Vanda	57.98	179	P	P	05 23 39.1	0.0
	1.6nm,0.8s,baz=180,slow=5.4,SNR=3.6						
VNDA				LR	LR	05 45 51.2	
	comp=Z,143nm,19.1s,baz=188,slow=33						
PTGA	Pitinga	58.99	305	LR	LR	05 47 00.0	
	comp=Z,233nm,18.0s,baz=116,slow=34						
TORD	Torodi Ar. Bea	59.66	19	P	P	05 23 51.6	+0.1
	4.2nm,0.9s,baz=193,slow=5.0,SNR=17						
MBAR	Mbarara	59.86	56	LR	LR	05 47 29.3	
	comp=Z,318nm,18.4s,baz=190,slow=34						
MDP	Montagnes des	59.87	316	LR	LR	05 47 18.0	
	comp=Z,176nm,20.0s,baz=151,slow=34						
NNA	Nana	61.53	282	LR	LR	05 50 12.1	
	comp=Z,155nm,21.1s,baz=138,slow=35						
ATAH	Atahualpa	66.04	284	LR	LR	05 53 37.0	
	comp=Z,124nm,21.4s,baz=147,slow=36						
ROSC	El Rosal	72.17	296	LR	LR	05 56 01.9	
	comp=Z,227nm,18.6s,baz=136,slow=35						
SDV	Santo Domingo	73.00	302	LR	LR	05 55 44.5	
	comp=Z,61nm,18.6s,baz=105,slow=34						
RPN	Rapa Nui	74.14	248	LR	LR	05 51 29.6	
	comp=Z,115nm,19.8s,baz=125,slow=30						
ATD	Arta Tunnel	76.74	59	LR	LR	05 57 33.5	
	comp=Z,217nm,19.6s,baz=214,slow=34						
MDT	Midelt	77.82	9	LR	LR	05 55 16.4	
	comp=Z,112nm,20.4s,baz=190,slow=32						
JTS	Las Juntas de	83.17	292	LR	LR	06 02 22.6	
	comp=Z,80nm,18.8s,slow=35						
KEST	Kesra	83.17	20	P	P	05 26 13.7	+0.6
	3.6nm,0.9s,baz=207,slow=4.5,SNR=3.5						
KEST				LR	LR	05 57 20.9	
	comp=Z,86nm,21.6s,baz=195,slow=32						
ESDC	Sonseca Array	84.67	9	P	P	05 26 21.2	+0.6
	1.3nm,1.0s,baz=188,slow=4.5,SNR=4.9						
EIL	Elat	87.08	42	LR	LR	06 03 37.9	
	comp=Z,158nm,18.1s,baz=222,slow=34						
IDI	Anoyia	87.61	32	LR	LR	06 05 03.7	
	comp=Z,17nm,19.4s,baz=260,slow=35						
H01W2	Cape Leeuwin H	88.39	141	T	T	07 05 38.2	
	baz=212						
H01W1	Cape Leeuwin H	88.41	141	T	T	07 05 39.1	
	baz=212						
H01W3	Cape Leeuwin H	88.41	141	T	T	07 05 40.3	
	baz=212						
MMAI	Mount Meron Ar	90.07	41	LR	LR	06 06 03.3	
	comp=Z,152nm,18.1s,baz=32,slow=35						
APG	El Apazote	90.27	291	LR	LR	06 05 19.5	
	comp=Z,62nm,21.7s,baz=170,slow=34						
DAVOX	Davos/Dischmat	93.82	17	LR	LR	06 07 04.6	
	comp=Z,64nm,21.0s,baz=250,slow=34						
CMIG	Matias Romero	94.71	289	LR	LR	06 10 40.4	
	comp=Z,33nm,18.8s,baz=142,slow=36						
BRTR	Keskin Array B	94.92	36	LR	LR	06 10 52.6	
	comp=Z,56nm,18.2s,baz=185,slow=36						
WSAR	Wadi Sarin	95.37	63	LR	LR	06 08 12.1	
	comp=Z,130nm,18.9s,baz=212,slow=34						
MLR	Muntele Rosu	97.00	28	LR	LR	06 11 00.9	
	comp=Z,45nm,21.2s,baz=324,slow=35						
VRAC	Vranov	97.74	20	LR	LR	06 10 34.3	
	comp=Z,42nm,21.9s,baz=225,slow=35						
PALK	Pallekele	99.31	89	LR	LR	06 05 42.9	
	comp=Z,76nm,19.1s,baz=307,slow=32						
SONM	Songino Array	140.41	64	PKP	PKPdf	05 33 14.2	-1.7
	0.3nm,0.7s,baz=236,slow=1.6,SNR=2.1						
INK	Inuvik	140.98	329	PKP	PKPdf	05 33 16.4	+0.4
	0.8nm,0.8s,baz=188,slow=3.7,SNR=3.3						
ILAR	Eielson Array	146.81	324	PKPbc	PKPab	05 33 28.4	-1.2
	2.7nm,0.9s,baz=72,slow=0.8,SNR=17						

IDC 27 05:44:34.4±3.4, 54°.24N×87°.30E, h0km, mb1 2.8/2, mb1mx2.7/70, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=31.1km s-min=19.1km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
I46RU	ZALESOVO INFRA	1.49	260	i		05 52 32.4	
	baz=80,slow=336,SNR=14						
ZALV	Zalesovo Beam	1.49	260	Pg	Pn	05 45 01.3	-1.2
	3.0nm,0.3s,baz=76,slow=18,SNR=35						
ZALV				Lg	Lg	05 45 22.3	
	1.4nm,0.3s,baz=74,slow=28,SNR=7.4						
KURBB	Kurchatov Arra	6.47	239	Pn	Pn	05 46 10.9	+0.1
	0.1nm,0.3s,baz=51,slow=14,SNR=1.8						
MKAR	Makanchi Array	8.11	205	Pn	Pn	05 46 34.8	+1.4
	0.1nm,0.3s,baz=26,slow=13,SNR=6.5						

*IDC **27** 05:46:43.0±0.5, 6°.00S×148°.86E, h62km±4km, mb4.1/10, mb1 4.3/13, mb1mx4.0/38, mbtmp4.4/13, MS3.6/22, Ms1 3.6/22, ms1mx3.4/59, Error ellipse: s-maj=16.3km s-min=8.5km az=103.0*

*DJA **27** 05:46:45.9±0.4, 6°.5±4°.4×19°.9E±°, h80km±6km, M5.0/15, mB5.2/3, mb4.7/15, MLv5.2/3, Mw(mB)4.6/3*

*NEIC **27** 05:46:45.1±1.4, 6°.11S±0°.06×148°.94E±0°.08, h66km±6km, mb4.8/28, Error ellipse: s-maj=11.5km s-min=7.9km az=120.0*

ISC 27 05:46:43.7±0.3, 6°.06S±0°.05×148°.80E±0°.05, h60km, n108, σ1§57/109, mb4.8/32, MS3.6/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PMG	Port Moresby	3.70	206	P	Pn	05 47 40.3	+1.9
	99nm,0.3s,baz=32,slow=7.3,SNR=60						
PMG				S	Sn	05 48 22.6	+1.8
	144nm,0.3s,baz=354,slow=21,SNR=27						
PMG	Port Moresby	3.70	206	Pn	Pn	05 47 40.2	+1.7
PMG	Port Moresby	3.70	206	P	Pn	05 47 41.3	+2.9
RABL	Rabaul	3.83	61		Pn	05 47 40.7	+0.5
RABL				Sn	Sn	05 48 30.9	+7.0
RABL	Rabaul	3.83	61	P	Pn	05 47 40.7	+0.5
MANU	Manus Island	4.24	340		Pn	05 47 49.9	+4.0
JAY	Jayapura	8.81	293	P	Pn	05 48 48.6	+0.1
	0.3nm,0.3s,baz=100,slow=16,SNR=1.4						
JAY				LR	LR	05 53 07.9	
	comp=Z,346nm,20.1s,baz=30,slow=44						
COEN	Coen	9.60	215	Pn	Pn	05 48 58.7	-0.6
COEN	Coen	9.60	215	P	Pn	05 49 01.6	+2.3
HNR	Honiara	11.54	108	LR	LR	05 53 33.7	
	comp=Z,204nm,18.3s,baz=112,slow=36						
BAKI	Biak	13.56	290	P	P	05 49 58.7	-1.7
CTA	Charters Tower	14.16	190	P	Pn	05 50 01.9	+0.6
	0.4nm,0.3s,baz=21,slow=16,SNR=4.5						
CTA				LR	LR	05 54 58.9	
	comp=Z,200nm,21.9s,baz=16,slow=35						
CTAO	Charters Tower	14.16	190	Pn	Pn	05 50 03.3	+2.0
QIS	Mount Isa	16.95	211	P	P	05 50 38.9	+0.8
MTN	Manton Dam	18.68	248	P	Pn	05 50 58.7	+0.7
EIDS	Eidsvold	19.32	174	P	P	05 51 04.2	+0.1
EIDS	Eidsvold	19.32	174	P	P	05 51 04.6	+0.5
WB0	Warramunga Arr	19.54	224	P	Pn	05 51 07.5	-0.8
WR0	Warramunga Arr	19.57	224	P	Pn	05 51 07.9	-0.8
WR0				IAmb	IAmb	05 51 09.2	
	comp=Z,64nm,0.7s						
WRAB	Tennant Creek	19.68	224	P	P	05 51 09.1	+1.0
WRAB	Tennant Creek	19.68	224	P	Pn	05 51 09.3	-0.7
WB2	Warramunga Arr	19.69	224	P	Pn	05 51 09.2	-0.9
WRA	Warramunga Arr	19.70	224	P	P	05 51 09.0	+0.7
	comp=Z,17nm,0.3s,baz=51,slow=11,SNR=268						
WRA				PcP	PcP	05 55 25.3	-0.1
	comp=Z,0.2nm,0.3s,baz=34,slow=1.9,SNR=4.8						
WRA				ScP	ScP	05 58 55.5	-1.0
	comp=Z,0.1nm,0.3s,baz=50,slow=2.3,SNR=4.7						
WRA				LR	LR	05 58 57.6	
	comp=Z,200nm,21.0s,baz=46,slow=37						
WRA	Warramunga Arr	19.70	224	P	Pn	05 51 09.3	-0.9
GUMO	Guam	19.91	349	LR	LR	05 57 57.9	
	comp=Z,41nm,18.6s,baz=96,slow=34						
RMQ	Roma	20.31	180	P	P	05 51 15.6	+0.7
	comp=Z,35nm,0.7s						
SANVU	Saraoutou	20.32	119	P	P	05 51 13.2	-1.9
SANVU				IAmb	IAmb	05 51 15.6	
	comp=Z,81nm,1.4s						
KNRA	Kununurra	21.86	242	P	P	05 51 32.8	+1.3
KNRA				IAmb	IAmb	05 51 52.3	
	comp=Z,20nm,0.7s						
KNRA	Kununurra	21.86	242	P	P	05 51 32.9	+1.3
	comp=Z,27nm,0.7s						
AS31	Alice Springs	22.62	218	P	P	05 51 40.7	+0.9
AS31				IAmb	IAmb	05 51 59.7	
	comp=Z,15nm,0.6s						
ASAR	Alice Springs	22.62	218	P	P	05 51 39.8	0.0
	comp=Z,21nm,0.5s,baz=51,slow=9.6,SNR=309						
ASAR				pP	pP	05 51 54.0	+2.4
	comp=Z,9.8nm,0.5s,baz=54,slow=9.2,SNR=8.6						
ASAR				PcP	PcP	05 55 29.8	-1.2
	comp=Z,2.4nm,0.8s,baz=35,slow=2.3,SNR=6.2						
ASAR				ScP	ScP	05 59 02.2	-1.6
	comp=Z,0.3nm,0.6s,baz=46,slow=4.0,SNR=2.2						
ASAR				LR	LR	06 00 47.9	
	comp=Z,228nm,19.6s,baz=42,slow=37						
ASAR	Alice Springs	22.62	218		PcP	05 55 29.4	-1.6
ASAR	Alice Springs	22.62	218	P	P	05 51 40.7	+0.9
INKA	Innaminka	22.88	199	P	P	05 51 44.4	+2.1
DZM	Mont Dzumac	23.32	135	P	P	05 51 45.4	-1.5
	comp=Z,7.9nm,0.5s,baz=277,slow=6.9,SNR=26						
DZM				pP	pP	05 51 59.9	+0.2
	comp=Z,7.8nm,0.5s,baz=179,slow=24,SNR=5.0						
DZM				LR	LR	05 59 35.0	
	comp=Z,286nm,21.5s,baz=316,slow=33						
DZM	Mont Dzumac	23.32	135	eP	P	05 51 45.1	-1.8
	comp=Z,17nm,0.8s						
DZM				eLR	LR	05 57 31.8	
	comp=Z,423nm,22.8s						
DZM	Mont Dzumac	23.32	135	P	P	05 51 45.5	-1.4
DZM	Mont Dzumac	23.32	135	P	P	05 51 46.8	-0.1
ARMA	Armidale	24.38	174	P	P	05 51 55.3	-1.2
ARMA				IAmb	IAmb	05 51 57.5	
	comp=Z,27nm,1.0s						
ARMA	Armidale	24.38	174	P	P	05 51 56.7	+0.3
OOD	Oodnadatta	24.95	208	P	P	05 52 02.9	+1.4
BATI	Baumata	25.22	259	LR	LR	06 04 21.7	
	comp=Z,213nm,18.0s,baz=36,slow=42						
FITZ	Fitzroy Crossi	25.57	240	P	P	05 52 08.1	+0.7
	comp=Z,17nm,0.5s,baz=63,slow=8.0,SNR=29						
FITZ				pP	pP	05 52 20.7	-0.2
	comp=Z,17nm,0.4s,baz=162,slow=4.9,SNR=5.4						
FITZ				LR	LR	06 02 34.8	
	comp=Z,169nm,21.9s,slow=37						
LCRK	Leigh Creek	26.22	201	P	P	05 52 13.8	+0.7
STKA	Stephens Creek	26.55	194	P	P	05 52 15.1	-1.0
	comp=Z,9.2nm,0.7s,baz=3.6,slow=9.9,SNR=20						
STKA				LR	LR	06 02 51.4	
	comp=Z,138nm,21.3s,baz=25,slow=36						
STKA	Stephens Creek	26.55	194	P	P	05 52 15.6	-0.5
STKA	Stephens Creek	26.55	194	P	P	05 52 18.1	+2.0
DAV	Davao City (W)	26.59	299	LR	LR	06 02 34.0	
	comp=Z,70nm,18.8s,baz=152,slow=36						
MULG	Mulgathing	27.80	208	P	P	05 52 27.8	+0.5
HTT	Hallett	28.74	197	P	P	05 52 36.2	+0.6
KAPI	Kappang	28.93	271	LR	LR	06 06 34.9	
	comp=Z,46nm,19.6s,baz=98,slow=41						
BBOO	Buckleboo	29.14	202	P	P	05 52 38.7	-0.5
BBOO	Buckleboo	29.14	202	P	P	05 52 39.6	+0.4
MPSI	Mapaga	29.55	281	P	P	05 52 40.6	-2.4
MSVF	Nonsavu	30.82	115	P	P	05 52 59.4	+5.1
	comp=Z,4.8nm,0.6s,baz=279,slow=8.4,SNR=6.2						
MSVF				LR	LR	06 03 23.1	
	comp=Z,68nm,19.4s,baz=249,slow=32						
MSVF	Nonsavu	30.82	115	P	P	05 52 57.5	+3.1
MSVF				IAmb	IAmb	05 53 14.8	
	comp=Z,8.7nm,0.8s						
FORT	Forrest	31.37	216	P	P	05 52 57.8	-1.0
FORT	Forrest	31.37	216	P	P	05 52 59.7	+0.8
TOO	Toolangi	31.51	185	P	P	05 52 59.8	-0.3
TOO				IAmb	IAmb	05 53 01.4	
	comp=Z,15nm,0.8s						
TOO	Toolangi	31.51	185	P	P	05 53 00.7	+0.6
MBWA	Marble Bar	31.90	239	P	P	05 53 04.1	+0.4
MBWA				IAmb	IAmb	05 53 05.4	
	comp=Z,12nm,0.8s						
MBWA	Marble Bar	31.90	239	P	P	05 53 05.2	+1.5
MEEK	Meekatharra	35.30	231	P	P	05 53 35.2	+2.0
GIRL	Giralia	37.19	240	P	P	05 53 51.1	+1.8
GIRL	Giralia	37.19	240	P	P	05 53 51.7	+2.4
	comp=Z,105nm,1.7s						
JOW	Kunigami	38.27	330	LR	LR	06 06 33.6	
	comp=Z,142nm,20.9s,baz=124,slow=31						
MORW	Morawa	38.48	230	P	P	05 54 00.7	+0.5
MORW				IAmb	IAmb	05 54 18.1	
	comp=Z,14nm,1.1s						
MORW	Morawa	38.48	230	P	P	05 54 00.5	+0.3
	comp=Z,19nm,1.7s						
KLBR	Kellerberrin	38.58	225	P	P	05 54 00.9	-0.1
NWAO	Narrogin (SRO)	39.70	224	P	P	05 54 10.4	0.0
NWAO				IAmb	IAmb	05 54 13.1	
	comp=Z,17nm,1.0s						
NWAO	Narrogin (SRO)	39.70	224	P	P	05 54 10.7	+0.4
	comp=Z,22nm,1.4s						
RPZ	Rata Peaks	42.30	156	P	P	05 54 31.2	-0.4
RPZ				IAmb	IAmb	05 54 40.7	
	comp=Z,19nm,1.2s						
BFZ	Birch Farm	42.33	149	P	P	05 54 30.8	-1.0
BFZ	Birch Farm	42.33	149	P	P	05 54 31.4	-0.4
	comp=Z,72nm,2.2s						
MJAR	Matsushiro Arr	43.53	348	LR	LR	06 10 56.9	
	comp=Z,48nm,21.2s,baz=164,slow=33						
NJ2	Nanjing	47.44	325	eP	P	05 55 16.0	+3.5
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSRS	Korea Array	47.47	337	P	P	05 55 12.0	-0.6
	comp=Z,0.7nm,0.4s,baz=151,slow=8.3,SNR=2.3						
KSRS				pP	pP	05 55 28.4	+0.2
	comp=Z,3.6nm,0.8s,baz=146,slow=8.8,SNR=5.7						
RAR	Rarotonga	51.95	112	LR	LR	06 16 45.2	
	comp=Z,62nm,18.3s,baz=250,slow=35						
XAN	Xi'an	54.88	319	P	P	05 56 09.8	+1.4
XAN				pP	sP	05 56 30.3	-0.7
XAN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
XAN				pmax	pmax		
	comp=Z,270nm,7.8s						
PZH	PanZhiHua	55.91	308	P	P	05 56 18.0	+2.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,6.0s						
KLR	Kul'dur	57.04	347	P	P	05 56 22.1	-1.3
	comp=Z,0.9nm,0.6s,baz=93,slow=8.7,SNR=3.3						
KLR				pP	pP	05 56 39.2	-0.2
	comp=Z,2.8nm,0.6s,baz=182,slow=7.6,SNR=8.9						
HHC	Hu-ho-hao-te	57.84	327	eP	P	05 56 34.0	+4.6
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,180nm,5.9s						
PETK	Petropavlovsk-	59.42	6	P	P	05 56 38.7	-1.3
	comp=Z,1.7nm,0.5s,baz=101,slow=3.2,SNR=3.6						
PETK				pP	pP	05 56 55.7	-0.4
	comp=Z,5.5nm,0.5s,baz=170,slow=7.2,SNR=7.1						
PETK				LR	LR	06 18 17.6	
	comp=Z,40nm,20.7s,baz=159,slow=32						
LZH	Lanzhou	59.44	318	eP	P

BDFB Brasilia 152.75 142 PKPbc PKPbc 06 06 33.6 -1.4
DBIC Dimbokro 153.81 273 PKPbc **PKPbc 06 06 36.5 -0.8**
comp=Z,1.7nm,0.6s,baz=135,slow=3.2,SNR=4.6

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*NOU **27** 06:08:24.8, 39.60S×175.28E, h126km, MLv3.6/7, North Island, New Zealand*
*WEL **27** 06:08:28.8±0.4, 40.3°S±3.1°×17.5E±.1°, h53km±5km, M2.8/43, ML3.1/46, MLv2.8/43, Error ellipse: s-maj=0.0km s-min=0.0km az=117.6*
ISC 27 06:08:27.1±1.4, 39.64S±0.03×175.24E±0.04, h79km±8km, n104, σ0.88/113, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.23**	**238**	P	**Pn**	**06 08 39.4**	**+0.4**
WAZ				S	**Sn**	**06 08 48.3**	**+0.6**
MTVZ	**Mangateitei**	**0.31**	**36**	P	**Pn**	**06 08 39.6**	**+0.1**
MTVZ				S	**Sn**	**06 08 48.3**	**-0.3**
PKVZ	**Pokaka**	**0.36**	**14**	P	**Pn**	**06 08 39.9**	**+0.1**
PKVZ				S	**Sn**	**06 08 48.9**	**-0.2**
TRVZ	**Turoa**	**0.41**	**36**	P	**Pn**	**06 08 40.5**	**+0.1**
TRVZ				S	**Sn**	**06 08 49.2**	**-0.9**
WNVZ	**Wahianoa**	**0.42**	**42**	P	**Pn**	**06 08 40.5**	**+0.1**
WNVZ				S	**Sn**	**06 08 49.5**	**-0.5**
DRZ	**Dome Shelter**	**0.44**	**35**	P	**Pn**	**06 08 40.9**	**+0.2**
WHVZ	**Whangaehu Hut**	**0.45**	**38**	P	**Pn**	**06 08 40.8**	**+0.2**
WHVZ				S	**Sn**	**06 08 50.2**	**-0.4**
FWVZ	**Far West T-bar**	**0.45**	**33**	P	**Pn**	**06 08 40.8**	**+0.1**
FWVZ				S	**Sn**	**06 08 50.2**	**-0.5**
MOVZ	**Moawhango**	**0.46**	**60**	P	**Pn**	**06 08 41.4**	**-0.1**
MOVZ				S	**Sn**	**06 08 49.5**	**-1.0**
TUVZ	**Tukino**	**0.49**	**41**	P	**Pn**	**06 08 41.1**	**+0.2**
TUVZ				S	**Sn**	**06 08 50.6**	**-0.5**
NGZ	**Ngauruhoe**	**0.54**	**32**	P	**Pn**	**06 08 41.5**	**+0.1**
SNVZ	**South Ngauruho**	**0.55**	**35**	P	**Pn**	**06 08 41.8**	**+0.3**
OHWZ	**Ohakea**	**0.57**	**174**	P	**Pn**	**06 08 42.5**	**+1.0**
OTVZ	**Oturere**	**0.58**	**35**	P	**Pn**	**06 08 42.1**	**+0.4**
NNVZ	**North Ngauruho**	**0.58**	**30**	P	**Pn**	**06 08 41.9**	**+0.2**
TWVZ	**Taurewa**	**0.58**	**16**	P	**Pn**	**06 08 41.7**	**-0.1**
WTVZ	**West Tongariro**	**0.59**	**28**	P	**Pn**	**06 08 41.8**	**+0.1**
ETVZ	**East Tongariro**	**0.62**	**37**	P	**Pn**	**06 08 42.4**	**+0.3**
VRZ	**Vera Road**	**0.63**	**324**	P	**Pn**	**06 08 42.4**	**+0.4**
TMVZ	**Te Maari**	**0.63**	**35**	P	**Pn**	**06 08 42.6**	**+0.4**
NTVZ	**North Tongarir**	**0.64**	**33**	P	**Pn**	**06 08 42.7**	**+0.5**
BHHZ	**Black Hill Sta**	**0.66**	**77**	P	**Pn**	**06 08 42.1**	**-0.3**
TSZ	**Takapari Road**	**0.70**	**127**	P	**Pn**	**06 08 43.6**	**+0.8**
KATZ	**Kakaramea**	**0.75**	**28**	P	**Pn**	**06 08 43.6**	**+0.2**
PNHZ	**Pukenui**	**0.79**	**111**	P	**Pn**	**06 08 44.1**	**+0.3**
RITZ	**Rihia Road**	**0.81**	**36**	P	**Pn**	**06 08 44.2**	**+0.2**
POWZ	**Post Office Ro**	**0.86**	**152**	P	**Pn**	**06 08 44.8**	**+0.3**
RATZ	**Rangitukua**	**0.87**	**29**	P	**Pn**	**06 08 45.4**	**+0.7**
KRHZ	**Kereru**	**0.88**	**91**	P	**Pn**	**06 08 45.5**	**+0.8**
PREZ	**Palmer Road**	**0.88**	**289**	P	**Pn**	**06 08 46.0**	**+1.2**
DREZ	**Durham Road**	**0.92**	**299**	P	**Pn**	**06 08 44.8**	**-0.4**
KWHZ	**Kaweka Forest**	**0.94**	**77**	P	**Pn**	**06 08 46.2**	**+0.7**
NEZ	**North Egmont**	**0.96**	**292**	P	**Pn**	**06 08 46.9**	**+1.2**
DVHZ	**Dannevirke**	**0.97**	**133**	P	**Pn**	**06 08 47.3**	**+1.4**
WATZ	**Wairara**	**1.00**	**23**	P	**Pn**	**06 08 46.3**	**0.0**
KHEZ	**Kahui Hut**	**1.01**	**289**	P	**Pn**	**06 08 47.3**	**+1.1**
WPHZ	**Waipukurau**	**1.02**	**115**	P	**Pn**	**06 08 48.3**	**+1.9**
MRZ	**Mangatainoka R**	**1.06**	**166**	P	**Pn**	**06 08 46.8**	**0.0**
PKE	**Pukeiti**	**1.06**	**294**	P	**Pn**	**06 08 47.9**	**+0.9**
PRWZ	**Pori Road**	**1.08**	**149**	P	**Pn**	**06 08 48.9**	**+1.8**
BKZ	**Black Stump Fm**	**1.08**	**65**	P	**Pn**	**06 08 47.3**	**+0.2**
BKZ	**Black Stump Fm**	**1.08**	**65**	P	**Pn**	**06 08 47.3**	**+0.2**
MCHZ	**McNeill Hill**	**1.15**	**81**	P	**Pn**	**06 08 49.0**	**+1.1**
HIZ	**Hauiti**	**1.16**	**345**	P	**Pn**	**06 08 48.7**	**+0.6**
HIZ	**Hauiti**	**1.16**	**345**	P	**Pn**	**06 08 48.8**	**+0.7**
OGWZ	**Otaki Gorge**	**1.18**	**182**	P	**Pn**	**06 08 48.8**	**+0.5**
MRHZ	**Matea Rd**	**1.22**	**49**	P	**Pn**	**06 08 49.1**	**+0.2**
TIWZ	**Tintock**	**1.24**	**157**	P	**Pn**	**06 08 50.9**	**+1.7**
PRHZ	**Porangahau**	**1.25**	**121**	P	**Pn**	**06 08 50.6**	**+1.4**
KIW	**Kapiti Island**	**1.25**	**191**	P	**Pn**	**06 08 49.5**	**+0.2**
ANWZ	**Angora Road**	**1.26**	**131**	P	**Pn**	**06 08 50.6**	**+1.3**
KAHZ	**Kahuranaki**	**1.27**	**98**	P	**Pn**	**06 08 50.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.28**	**171**	P	**Pn**	**06 08 49.6**	**0.0**
BFZ	**Birch Farm**	**1.30**	**144**	P	**Pn**	**06 08 49.8**	**-0.1**
BFZ	**Birch Farm**	**1.30**	**144**	P	**Pn**	**06 08 50.8**	**+0.9**
PXZ	**Pawanui**	**1.31**	**108**	P	**Pn**	**06 08 50.7**	**+0.7**
TLZ	**Tolley Road**	**1.32**	**10**	P	**Pn**	**06 08 50.4**	**+0.2**
NMHZ	**Naumai**	**1.33**	**67**	P	**Pn**	**06 08 51.7**	**+1.4**
ALRZ	**Allen Road**	**1.38**	**39**	P	**Pn**	**06 08 51.5**	**+0.7**
ARHZ	**Aropaoanui**	**1.41**	**75**	P	**Pn**	**06 08 51.8**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.42**	**92**	P	**Pn**	**06 08 54.9**	**+3.5**
MTHZ	**Maungataniwha**	**1.47**	**58**	P	**Pn**	**06 08 52.5**	**+0.4**
CAW	**Cannon Point**	**1.48**	**185**	P	**Pn**	**06 08 52.2**	**+0.1**
MTW	**Mount Morrison**	**1.53**	**173**	P	**Pn**	**06 08 52.6**	**-0.3**
DUWZ	**D'Urville Isla**	**1.54**	**220**	P	**Pn**	**06 08 53.5**	**+0.6**
TMWZ	**Te Maipa**	**1.55**	**161**	P	**Pn**	**06 08 53.0**	**-0.2**
RAHZ	**Arahi**	**1.60**	**64**	P	**Pn**	**06 08 54.8**	**+1.0**
WEL	**Wellington**	**1.69**	**192**	P	**Pn**	**06 08 54.6**	**-0.2**
RTZ	**Ruatahuna**	**1.70**	**54**	P	**Pn**	**06 08 55.6**	**+0.5**
TARZ	**Mount Tarawera**	**1.71**	**36**	P	**Pn**	**06 08 57.4**	**+2.1**
SNZO	**South Karori**	**1.72**	**193**	P	**Pn**	**06 08 55.9**	**+0.6**
TCW	**Tory Channel**	**1.74**	**205**	P	**Pn**	**06 08 55.5**	**+0.1**
PAWZ	**Paruwai Farm**	**1.75**	**175**	P	**Pn**	**06 08 55.2**	**-0.5**
MSWZ	**Moikau Station**	**1.78**	**180**	P	**Pn**	**06 08 55.5**	**-0.6**
BHW	**Baring Head**	**1.79**	**189**	P	**Pn**	**06 08 55.8**	**-0.5**
TRWZ	**Traveller**	**1.79**	**169**	P	**Pn**	**06 08 56.7**	**+0.5**
TOZ	**Tahuroa Road**	**1.91**	**6**	P	**Pn**	**06 08 58.3**	**+0.5**
PLWZ	**Palliser**	**1.93**	**180**	P	**Pn**	**06 08 57.4**	**-0.8**
KNZ	**Kokohu**	**1.99**	**73**	P	**Pn**	**06 08 58.7**	**-0.1**
URZ	**Urewera**	**2.01**	**47**	P	**Pn**	**06 08 59.0**	**0.0**
URZ	**Urewera**	**2.01**	**47**	P	**Pn**	**06 08 58.2**	**-0.9**
RAGZ	**Rawiri**	**2.04**	**57**	P	**Pn**	**06 09 01.4**	**+1.7**
TUWZ	**Tuamarina**	**2.05**	**208**	P	**Pn**	**06 08 59.5**	**-0.1**
NNZ	**Nelson**	**2.12**	**221**	P	**Pn**	**06 09 02.3**	**+1.7**
MHGZ	**Mahia Peninsul**	**2.12**	**78**	P	**Pn**	**06 09 00.5**	**-0.1**
RIGZ	**Rimuhau**	**2.17**	**65**	P	**Pn**	**06 09 01.2**	**-0.1**
PRGZ	**Paritu Road**	**2.17**	**72**	P	**Pn**	**06 09 01.0**	**-0.4**
MWZ	**Matawai**	**2.21**	**55**	P	**Pn**	**06 09 01.5**	**-0.3**
TKNZ	**Takaka Hill**	**2.23**	**231**	P	**Pn**	**06 09 03.5**	**+1.4**
BSWZ	**Blackbirch Sta**	**2.32**	**206**	P	**Pn**	**06 09 03.6**	**+0.3**
QRZ	**Quartz Range**	**2.39**	**239**	P	**Pn**	**06 09 04.2**	**0.0**
QRZ	**Quartz Range**	**2.39**	**239**	P	**Pn**	**06 09 04.1**	**-0.1**
RUGZ	**Raukumara Rang**	**2.53**	**50**	P	**Pn**	**06 09 06.0**	**-0.2**
MRNZ	**Matariki Terra**	**2.58**	**226**	P	**Pn**	**06 09 06.8**	**0.0**
TWGZ	**Tauwhareparae**	**2.59**	**57**	P	**Pn**	**06 09 07.1**	**+0.1**
AWAZ	**Awhitu Peninsu**	**2.61**	**350**	P	**Pn**	**06 09 08.3**	**+1.2**
HAZ	**Te Kaha**	**2.74**	**48**	P	**Pn**	**06 09 08.1**	**-0.7**
THZ	**Tophouse**	**2.77**	**219**	P	**Pn**	**06 09 09.6**	**+0.3**
KHZ	**Kahutara**	**3.06**	**204**	P	**Pn**	**06 09 12.1**	**-1.1**
KHZ	**Kahutara**	**3.06**	**204**	P	**Pn**	**06 09 12.3**	**-0.9**
DSZ	**Denniston Nort**	**3.35**	**230**	P	**Pn**	**06 09 16.7**	**-0.6**
GVZ	**Greta Valley S**	**3.72**	**206**	P	**Pn**	**06 09 21.1**	**-1.1**
LTZ	**Lake Taylor**	**3.86**	**214**	P	**Pn**	**06 09 22.1**	**-2.0**
INZ	**Inchbonnie**	**4.21**	**222**	P	**Pn**	**06 09 31.7**	**+2.9**

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*IDC **27** 06:13:24.8±8.2, 7.83S×127.43E, h204km±88km, mb3.1/2, mb1 3.6/6, mb1mx2.9/46, mbtmp4.0/6, Error ellipse: s-maj=112.9km s-min=27.4km az=48.0*
ISC 27 06:13:24.0±1.4, 7.97S±0.10×127.6E±0.1, h200km, n6, σ2.55/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.45**	**240**	P	**Pn**	**06 14 32.5**	**+1.1**
BATI	8.1nm,0.3s,baz=72,slow=3.2,SNR=2.0			S	**Sn**	**06 15 22.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**10.24**	**190**	P	**Pn**	**06 15 48.0**	**+1.6**
FITZ	1.6nm,0.3s,baz=28,slow=15,SNR=27			S	**Sn**	**06 17 39.2**	**-1.6**
WRA	**Warramunga Arr**	**13.59**	**152**	P	**Pn**	**06 16 30.1**	**+1.1**
WRA	0.6nm,0.3s,baz=300,slow=20,SNR=4.1 1.5nm,0.3s,baz=328,slow=13,SNR=28			S	**S**	**06 18 56.2**	**-4.3**
ASAR	**Alice Springs**	**16.75**	**159**	P	**Pn**	**06 17 10.7**	**+3.3**
ASAR	0.7nm,0.3s,baz=334,slow=22,SNR=7.8 0.8nm,0.3s,baz=332,slow=11,SNR=48			S	**S**	**06 20 13.2**	**+2.1**
MKAR	**Makanchi Array**	**67.74**	**328**	P	**P**	**06 23 59.3**	**-0.7**
ZALV	0.3nm,0.3s,baz=344,slow=25,SNR=4.5 0.4nm,0.7s,baz=139,slow=7.9,SNR=4.1 **Zalesovo Beam**	**71.41**	**335**	P	**P**	**06 24 21.2**	**-1.0**
	0.5nm,0.5s,baz=126,slow=7.4,SNR=2.1						

IDC 27 06:19:53.4±7.9, 22.74S×178.49W, h628km±100km, mb2.9/3, mb1 3.1/5, mb1mx2.6/37, mbtmp4.0/5, Error ellipse: s-maj=225.4km s-min=43.9km az=67.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.95**	**326**	P	P	06 21 35.7	-0.2
	1.6nm,0.3s,baz=152,slow=17,SNR=8.8						
URZ	**Urewera**	**15.92**	**193**	P	P	06 23 09.2	+0.6
	0.9nm,0.3s,baz=272,slow=3.4,SNR=5.6						
STKA	**Stephens Creek**	**36.45**	**247**	P	P	06 26 07.5	-0.2
	1.5nm,0.5s,baz=77,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**43.60**	**259**	P	P	06 27 04.8	+0.2
	1.2nm,0.6s,baz=96,slow=7.8,SNR=18						
WRA	**Warramunga Arr**	**43.88**	**264**	P	P	06 27 06.6	-0.1
	1.1nm,0.6s,baz=104,slow=7.2,SNR=12						

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*IDC **27** 06:24:04.8±1.5, 46.48N×150.53E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/51, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=39.7km s-min=26.6km az=135.0*
*SKHL **27** 06:24:17.0±0.1, 47.30N×150.70E, h80km±2km, mb4.5/6, msha5.2/4*
ISC 27 06:24:15.8±0.9, 47.11N±0.09×150.9E±0.1, h100km, n21, σ1.83/19, mb3.3/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.83**	**230**	*e*P	**Pn**	**06 25 00.0**	**+0.8**
KUR				AMB	AMB	06 25 01.3	
	30nm,0.4s						
KUR				*e*S	**Sn**	**06 25 32.2**	**-0.5**
KUR				A	A	06 25 40.8	
	60nm,0.3s						
KUR				A	A	06 25 40.8	
	70nm,0.3s						
SHO	**Shikotan**	**4.33**	**223**	*e*P	**Pn**	**06 25 18.5**	**-0.9**
SHO				AMB	AMB	06 25 25.8	
	40nm,0.5s						
SHO				*e*S	**Sn**	**06 26 04.7**	**-4.0**
SHO				A	A	06 26 11.3	
	40nm,0.5s						
SHO				A	A	06 26 11.3	
	60nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.70**	**231**	*e*P	**Pn**	**06 25 26.4**	**+2.1**
YUK				AMB	AMB	06 25 28.6	
	20nm,0.3s						
SKR	**Severo-Kuril's**	**4.95**	**42**	*e*P	**Pn**	**06 25 28.9**	**+1.2**
SKR				AMB	AMB	06 25 33.2	
	30nm,0.4s						
SKR				*e*S	**Sn**	**06 26 22.4**	**-1.3**
SKR				A	A	06 26 25.2	
	90nm,0.5s						
SKR				A	A	06 26 25.2	
	30nm,0.5s						
NMR	**Nemuro--Hokkai**	**5.24**	**226**	*e*P	**Pn**	**06 25 34.1**	**+2.5**
NMR				*e*S	**Sn**	**06 26 32.3**	**+1.6**
YSS	**Yuzh-Sakhalins**	**5.59**	**271**	*e*P	**Pn**	**06 25 36.8**	**+0.4**
PAU	**Pauzhetka**	**5.82**	**39**	*e*P	**Pn**	**06 25 40.1**	**+0.7**
PAU				AMB	AMB	06 25 41.9	
	10.0nm,0.5s						
PAU				*e*S	**Sn**	**06 26 43.4**	**-1.3**
PAU				A	A	06 26 49.7	
	20nm,0.3s						
PAU				A	A	06 26 49.7	
	40nm,0.3s						
AKK	**Akkeshi**	**5.94**	**229**	*e*P	**Pn**	**06 25 40.9**	**-0.2**
TYV	**Tymovskoe**	**6.61**	**308**	*e*P	**Pn**	**06 25 48.8**	**-1.4**
TYV				AMB	AMB	06 25 50.5	
	30nm,0.5s						
PETK	**Petropavlovsk-**	**7.42**	**33**	Pn	**Pn**	**06 26 02.7**	**+1.5**
	0.4nm,0.3s,baz=220,slow=22,SNR=7.7						
PETK				Sn	Sn	06 27 35.2	+12
	0.1nm,0.3s,baz=270,slow=40,SNR=0.9						
KBG	**Krutoberegovo**	**11.70**	**34**	*e*P	**Pn**	**06 27 00.8**	**+1.6**
H11N2	**WAKE ISLAND Hy**	**30.26**	**149**	T	T	07 01 40.7	
	baz=339,slow=76,SNR=51						
H11N1	**WAKE ISLAND Hy**	**30.27**	**149**	T	T	07 01 41.6	
	baz=339,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**30.28**	**149**	T	T	07 01 47.1	
	baz=339,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**31.32**	**150**	T	T	07 03 03.2	
	baz=340,slow=76,SNR=61						
H11S3	**WAKE ISLAND Hy**	**31.33**	**150**	T	T	07 02 59.8	
	baz=340,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**31.34**	**150**	T	T	07 03 02.7	
	baz=340,slow=76,SNR=40						
MKAR	**Makanchi Array**	**45.44**	**296**	P	**P**	**06 32 25.7**	**+1.3**
	0.5nm,0.6s,baz=65,slow=7.3,SNR=8.7						
KURBB	**Kurchatov Array**	**46.01**	**302**	P	**P**	**06 32 30.0**	**+1.2**
	0.4nm,0.6s,baz=69,slow=8.4,SNR=4.1						
YKA	**Yellowknife Ar**	**51.53**	**36**	P	P	06 33 17.4	+6.6
	0.1nm,0.4s,baz=303,slow=7.0,SNR=4.2						
ASAR	**Alice Springs**	**72.10**	**196**	P	**P**	**06 35 26.5**	**-2.6**
	0.2nm,0.7s,baz=15,slow=7.7,SNR=1.9						

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*IDC **27** 06:32:05.7±0.4, 35.71N×3.64W, h0km, mb4.6/30, mb1 4.7/36, mb1mx4.5/51, mbtmp4.5/36, ML4.3/7, MS3.8/52, Ms1 3.8/52, ms1mx3.6/97, Error ellipse: s-maj=12.9km s-min=9.0km az=113.0*
*BJI **27** 06:32:07.1±0.0, 36.36N×3.63W, h6km, mb4.9/43, mB5.1/18, Ms4.8/1, Ms7 4.6/2*
*SFS **27** 06:32:07.0, 35.72N×3.67W, ML4.7, ALBORAN SUR*
*MDD **27** 06:32:07.0±0.5, 35.72N×3.67W, h0km, mbLg4.7/11, Error ellipse: s-maj=5.4km s-min=3.9km az=48.0*
MDD EMS: III INTENSIDAD MAXIMA.
*CNRM **27** 06:32:07.7, 35.69N×3.51W, h13km, ml5.0*
*NEIC **27** 06:32:08.0±1.8, 35.67N±0.06×3.57W±0.07, h10km±1km, mb4.9/270, Error ellipse: s-maj=10.5km s-min=8.2km az=317.0*
*IGIL **27** 06:32:08.5, 35.72N×3.67W, h0km, ML4.8*
*INMG **27** 06:32:08.4±2.8, 35.76N×3.64W, h8km±8km, MD4.0, ML4.6, Error ellipse: s-maj=6.4km s-min=5.0km az=105.0*
*MED_RC **27** 06:32:09.0±0.7, 35.58N×3.67W, h10km, MW4.6/18, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s18,c28; Duration: 1±2 Moment tensor: Scale 10^{16}Nm; M_{rr}0.88±.03; $M_{\theta\theta}$-0.56±.02; $M_{\phi\phi}$-0.32±.03; $M_{r\theta}$0.28±.09; $M_{\theta\phi}$-0.46±.02; $M_{r\phi}$0.42±.11; Best double couple: $M_0$1.03000×10^{16} NP1:ϕ_s43.00000°, δ60.00000°, λ80.00000°. NP2:ϕ_s242.00000°, δ31.00000°, λ106.00000°. Principal axes: T 1.0200, Plg73.0000°, Azm289.0000°; N 0.0100, Plg8.0000°, Azm48.0000°; P -1.0400, Plg14.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*CRAAG **27** 06:32:09.9, 35.71N×3.68W, Mb4.9*
*LDG **27** 06:32:09.7, 35.47N×3.67W, h30km*
*GCMT **27** 06:32:09.1±0.5, 35.63N±0.03×3.69W±0.05, h12km, MW4.6/58, Moment Tensor Solution. s9,c10; s58,c72; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.04±.05; $M_{\theta\theta}$-0.75±.05; $M_{\phi\phi}$-0.28±.06; $M_{r\theta}$0.20±.20; $M_{\theta\phi}$-0.55±.04; $M_{r\phi}$0.02±.22; Best double couple: $M_0$1.09600×10^{16} NP1:ϕ_s231.00000°, δ40.00000°, λ82.00000°. NP2: ϕ_s62.00000°, δ50.00000°, λ97.00000°. Principal axes: T 1.0640, Plg83.0000°, Azm15.0000°; N 0.0670, Plg5.0000°, Azm237.0000°; P -1.1280, Plg5.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 06:32:07.9±0.5, 35.75N±0.02×3.55W±0.02, h13km±3km, n723, σ1.79/669, mb4.9/164, MS3.9/47, 28C-16D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.62**	**211**	P	**Pb**	**06 32 19.7**	**-1.0**
PALE				S	**Sb**	**06 32 27.9**	**-1.5**
EMEL	**Melilla**	**0.66**	**133**	⇑Pg	**Pb**	**06 32 21.1**	**-0.2**
	15μm,0.2s,SNR=18						
EMEL				Lg	Lg	06 32 28.6	
	92μm,0.7s,SNR=29						
CHAS	**Isla Isabel II**	**1.07**	**122**	*e*P	**Pg**	**06 32 26.9**	**-1.7**
CHAS				*e*S	**Sg**	**06 32 40.5**	**-2.1**
ELGU	**Los Guajares,**	**1.11**	**357**	⇓Pg	**Pb**	**06 32 28.2**	**-0.9**
	457nm,0.5s,SNR=18						
ELGU				Lg	Lg	06 32 45.2	
	38μm,0.4s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.23**	**325**	*e*P	**Pn**	**06 32 29.6**	**-1.2**
EMAL				*e*S	**Sb**	**06 32 44.8**	**-2.1**
EBER	**Berja**	**1.26**	**25**	⇓Pg	**Pn**	**06 32 30.9**	**-0.5**
	118nm,0.4s,SNR=18						
EBER				Lg	Lg	06 32 49.4	
	15μm,0.6s,SNR=22						
AKLM	**AKL**	**1.27**	**192**	P	**Pb**	**06 32 30.4**	**-1.4**
AKLM				S	**Sn**	**06 32 46.8**	**-1.5**
EMIJ	**Mijas**	**1.28**	**310**	⇓Pg	**Pn**	**06 32 29.4**	**-2.2**
	339nm,0.3s,SNR=18						
EMIJ				Lg	Lg	06 32 46.4	
	18μm,0.4s,SNR=54						
EGOR	**Sierra Gorda,**	**1.43**	**342**	Pg	**Pn**	**06 32 33.1**	**-0.6**
	12nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	06 32 53.5	
	3μm,0.4s,SNR=7.9						
EQUE	**Quentar**	**1.45**	**3**	⇓Pg	**Pn**	**06 32 34.2**	**+0.2**
	162nm,0.6s,SNR=18						
EQUE				Lg	Lg	06 32 55.1	
	3μm,0.4s,SNR=7.3						
CEU	**Ceuta**	**1.49**	**276**	*e*P	**Pn**	**06 32 30.6**	**-3.8**
CEU				*e*S	**Sn**	**06 32 46.8**	**-6.9**
ECEU	**Ceuta**	**1.49**	**276**	Pg	**Pn**	**06 32 32.0**	**-2.5**
	103nm,0.4s,SNR=77						
ECEU				Lg	Lg	06 32 51.8	
	5μm,0.6s,SNR=16						
CHEFC	**Chefchaouen**	**1.60**	**247**	P	**Pn**	**06 32 34.9**	**-1.1**
CHEFC				S	**Sn**	**06 32 54.6**	**-2.0**
ENIJ	**Nijar**	**1.63**	**41**	⇑Pg	**Pn**	**06 32 35.5**	**-0.9**
	80nm,0.4s,SNR=18						
ENIJ				Lg	Lg	06 32 57.6	
	4μm,0.3s,SNR=7.9						
JBK	**JBK**	**1.63**	**150**	P	**Pn**	**06 32 35.1**	**-1.4**
JBK				S	**Sg**	**06 32 57.9**	**-2.4**
EJIF	**Jimena Fronter**	**1.70**	**295**	Pg	**Pn**	**06 32 36.2**	**-1.1**
	SNR=7.9						
CPS	**Cap Spartel**	**1.92**	**272**	P	**Pb**	**06 32 42.3**	**-0.5**
CPS				S	**Sg**	**06 33 10.6**	**+1.0**
EQES	**Quesada**	**2.08**	**10**	⇓Pg	**Pn**	**06 32 44.9**	**+2.3**
	416nm,0.5s,SNR=18						
EQES				Lg	Lg	06 33 12.3	
	3μm,0.3s,SNR=5.4						
SFS	**San Fernando**	**2.27**	**289**	*e*P	**Pn**	**06 32 45.9**	**+0.8**
SFS				*e*S	**Sn**	**06 33 15.0**	**+2.1**
SFS	**San Fernando**	**2.27**	**289**	Pn	**Pn**	**06 32 45.9**	**+0.8**
OTSS	**Djebel Tessala**	**2.29**	**101**	P	**Pn**	**06 32 45.0**	**-0.6**
LCRM	**LCR**	**2.33**	**208**	P	**Pn**	**06 32 45.2**	**-0.9**
LCRM				S	**Sb**	**06 33 15.4**	**-3.1**
TLOR	**Lorca, Murcia**	**2.42**	**38**	Pn	**Pn**	**06 32 47.3**	**+0.1**
	SNR=7.9						
TLOR				Sn	**Sn**	**06 33 17.1**	**+0.5**
	SNR=7.9						
USTO	**Oran**	**2.44**	**90**	P	**Pn**	**06 32 48.0**	**+0.6**
EADA	**Adamuz**	**2.55**	**341**	Pn	**Pn**	**06 32 49.7**	**+0.7**
	106nm,0.4s,SNR=276						
EADA				Lg	Lg	06 33 27.0	
	2μm,0.4s,SNR=7.7						
IFR	**Ifrane**	**2.58**	**211**	*e*P	**Pn**	**06 32 48.8**	**-0.9**
IFR				*e*S	**Sn**	**06 33 18.5**	**-2.5**
CART	**Cartagena**	**2.75**	**47**	*e*P	**Pn**	**06 32 50.5**	**-1.2**
CART				*e*S	**Sn**	**06 33 22.3**	**-2.5**
CART	**Cartagena**	**2.75**	**47**	Pn	**Pn**	**06 32 51.2**	**-0.5**
CART	**Cartagena**	**2.75**	**47**	P	**Pg**	**06 33 00.7**	**+0.2**
ODJA	**Bouhanifia**	**2.80**	**98**	P	**Pn**	**06 32 52.0**	**-0.5**
ARNO	**Arenosillo**	**2.90**	**299**	*e*P	**Pn**	**06 32 54.2**	**+0.5**
ARNO				*e*S	**Sn**	**06 33 28.7**	**+0.2**
MD31	**MD31**	**3.05**	**200**	P	**Pn**	**06 32 55.2**	**-0.7**
MDT	**Midelt**	**3.06**	**197**	Pn	**Pn**	**06 32 55.2**	**-0.8**
	20nm,0.3s,baz=196,slow=7.6,SNR=210						
MDT				Sn	**Sn**	**06 33 31.8**	**-0.9**
	57nm,0.3s,baz=43,slow=18,SNR=6.1						
MDT				Lg	Lg	06 33 41.5	
	56nm,0.3s,baz=172,slow=11,SNR=6.4						
MDT				LR	LR	06 34 07.7	
	comp=Z,574nm,21.6s,baz=52,slow=41						
MDT	**Midelt**	**3.06**	**197**	P	**Pn**	**06 32 55.3**	**-0.8**
OJBR	**Djebel Berber**	**3.17**	**92**	P	**Pn**	**06 32 58.0**	**+0.4**
OKGL	**Djebel Kef Gue**	**3.41**	**84**	P	**Pn**	**06 33 02.0**	**+1.1**
PBAR	**Barrancos**	**3.69**	**312**	⇑*e*Pn	**Pn**	**06 33 04.4**	**-0.3**
PBAR				*e*Sn	**Sn**	**06 33 46.5**

comp=N,405nm,0.7s
PMTG Montargil 4.98 313 *e*Pn **Pn 06 33 22.1 -0.3**
PMTG *e*Sn **Sn 06 34 17.4 -2.5**
PMTG A A 06 34 18.8
comp=N,519nm,0.5s
PCBR Castelo Branco 5.13 324 *e*Pn **Pn 06 33 25.1 +0.7**
PCBR *e*Sn **Sn 06 34 21.1 -2.4**
PCBR A A 06 34 23.5
comp=N,672nm,0.5s
TZRR Tazzarine 5.24 199 P **Pn 06 33 25.9 -0.2**
LIS Lisbon 5.36 305 *e*S **Sn 06 34 23.9 -5.2**
LIS IAML 06 34 29.7
comp=N,2µm,0.6s
LIS Lisbon 5.36 305 *e*Pn **Pn 06 33 28.1 +0.5**
LIS *e*Sn **Sn 06 34 24.2 -4.9**
LIS A A 06 34 37.1
comp=N,733nm,0.7s
PMST Lisbon--Monsan 5.39 305 *e*Pn **Pn 06 33 28.4 +0.4**
PMST *e*Sn **Sn 06 34 26.7 -3.3**
OUZM OUZ 5.53 210 P **Pn 06 33 30.1 0.0**
PMAFR Mafra 5.58 307 *e*Pn **Pn 06 33 30.5 -0.1**
PMAFR *e*Sn **Sn 06 34 30.6 -3.9**
PMAFR A A 06 34 34.2
comp=N,735nm,0.6s
PSBE So Bento 5.61 314 *e*Pn **Pn 06 33 31.4 +0.4**
PSBE *e*Sn **Sn 06 34 32.0 -3.3**
PSBE A A 06 35 11.9
comp=N,451nm,0.6s
MTE Manteigas 5.61 327 *e*Pn **Pn 06 33 31.9 +0.8**
MTE *e*Sn **Sn 06 34 32.5 -2.9**
MTE A A 06 35 08.1
comp=N,652nm,0.6s
MTE Manteigas 5.61 327 Pn **Pn 06 33 31.9 +0.8**
OUK Oukaimeden 5.79 220 P **Pn 06 33 32.7 -1.2**
PCAS Casmilo, Conde 5.81 319 *e*Pn **Pn 06 33 34.2 +0.4**
PCAS *e*Sn **Sn 06 34 36.6 -3.7**
PCAS A A 06 35 15.5
comp=N,467nm,0.6s
COI Coimbra 5.88 321 *e*Pn **Pn 06 33 35.3 +0.6**
COI *e*Sn **Sn 06 34 38.6 -3.3**
COI A A 06 34 43.0
comp=N,712nm,0.5s
COI Coimbra 5.88 321 **Pn 06 33 35.0 +0.3**
ZGR Zagora 5.88 198 P **Pn 06 33 34.8 -0.2**
PVIS Viseu 6.02 327 *e*Pn **Pn 06 33 37.5 +0.8**
PVIS *e*Sn **Sn 06 34 42.0 -3.5**
PVIS A A 06 34 46.2
comp=N,668nm,0.6s
MVO Moncorvo 6.05 334⇑ *e*Pn **Pn 06 33 38.4 +1.2**
MVO *e*Sn **Sn 06 34 43.4 -3.0**
MVO A A 06 35 26.8
comp=N,530nm,0.6s
PVRL Vila Real 6.41 331⇑ *e*Pn **Pn 06 33 43.0 +0.9**
PVRL *e*Sn **Sn 06 34 51.0 -4.1**
PVRL A A 06 34 59.0
comp=N,730nm,0.5s
POLO Lamas de Olo 6.52 331 *e*Pn **Pn 06 33 44.5 +0.8**
POLO *e*Sn **Sn 06 34 53.8 -4.2**
POLO A A 06 34 58.5
comp=N,194nm,0.5s
PBRG Braganca 6.54 339 *e*Pn **Pn 06 33 44.6 +0.8**
PBRG *e*Sn **Sn 06 34 55.0 -3.3**
PBRG A A 06 35 35.7
comp=N,230nm,0.6s
TTIG Tnine Tigouga, 6.62 220 P **Pn 06 33 41.9 -3.2**
PTO Porto 6.68 325 *e*Pn **Pn 06 33 46.5 +0.8**
PTO *e*Sn **Sn 06 34 56.8 -4.9**
PTO A A 06 34 59.9
comp=N,334nm,0.5s
PCAB Cabril 6.90 331 *e*Pn **Pn 06 33 49.7 +0.9**
PCAB *e*Sn **Sn 06 35 03.6 -3.6**
PCAB A A 06 35 09.2
comp=N,378nm,0.7s
PGAV Gavieira, Arco 7.21 331 *e*Pn **Pn 06 33 54.4 +1.3**
PGAV *e*Sn **Sn 06 35 11.3 -3.7**
PGAV A A 06 35 17.5
comp=N,274nm,0.7s
MAHO Mahon 7.44 54 *e*P **Pn 06 33 56.7 +0.6**
MAHO *e*S **Sn 06 35 18.1 -2.2**
ETSF Etsaut 7.50 17 *e*Pn **Pn 06 33 58.9 +1.8**
ETSF *e*Sn **Sn 06 35 18.8 -3.2**
ETSF *e*Sg **Sg 06 36 04.0 -4.5**
comp=N,5.6nm,0.3s
SJPF Ste Jean 7.57 13 *e*Pn **Pn 06 33 59.9 +2.0**
SJPF *e*Sn **Sn 06 35 20.7 -2.8**
SJPF *e*Sg **Sg 06 36 04.6 -6.0**
comp=N,14nm,0.4s
EPF Esparros 7.87 21 *e*Pn **Pn 06 34 03.8 +1.8**
EPF *e*Sn **Sn 06 35 26.8 -4.1**
EPF *e*Sg **Sg 06 36 15.8 -4.4**
comp=N,11nm,0.4s
MTLF Montolieu 8.79 29 *e*Pn **Pn 06 34 17.0 +2.4**
MTLF *e*Sn **Sn 06 35 50.5 -3.0**
comp=N,2.2nm,0.3s
CMAH Djebel Manchou 8.91 81 P Pn 06 34 11.0 -5.4
LFF La Frestale 9.74 18 *e*Pn **Pn 06 34 29.6 +1.9**
LFF *e*Sn **Sn 06 36 13.1 -3.8**
comp=N,8.8nm,0.3s
LASF Ste Croix 10.07 32 *e*Pn **Pn 06 34 35.1 +2.9**
LASF *e*Sn **Sn 06 36 20.6 -4.4**
comp=N,6.8nm,0.5s
LASF *e*Sg 06 37 24.6
comp=N,3.3nm,0.4s
CAF Calviac 10.11 23 *e*Pn **Pn 06 34 34.2 +1.4**
CAF *e*Sn **Sn 06 36 22.9 -3.2**
comp=N,5.7nm,0.4s
RJF Les Rejaudoux 10.29 20 *e*Pn **Pn 06 34 36.5 +1.3**
RJF *e*Sn **Sn 06 36 25.3 -5.0**
KEST Kesra 10.48 86 Pn **Pn 06 34 37.5 -0.5**
comp=N,0.5nm,0.3s,baz=138,slow=2.7,SNR=5.6
KEST Sn **Sn 06 36 32.3 -3.0**
baz=197,slow=23,SNR=0.8
KEST LR LR 06 39 24.4
comp=N,368nm,21.7s,baz=216,slow=42
KEST Kesra 10.48 86 Pn **Pn 06 34 40.4 +2.4**
SMRF Simiane la Rot 10.79 38 *e*Pn **Pn 06 34 45.2 +3.1**
SMRF Simiane la Rot 10.79 38 *e*P Pn 06 34 50.5 +8.4
SMRF *e*Sn **Sn 06 36 39.6 -3.2**
comp=N,0.9nm,0.4s
LMR La Mourre 10.84 43 *e*Pn **Pn 06 34 45.7 +3.0**
LMR *e*Sn **Sn 06 36 39.8 -4.0**
comp=N,2.4nm,0.3s
VSL Villasalto 10.91 66 Pn **Pn 06 34 44.6 +0.9**
VIVF Saint-Julien-l 11.04 32 *e*Pn **Pn 06 34 47.8 +2.3**
VIVF *e*Sn **Sn 06 36 45.0 -3.9**
comp=N,2.2nm,0.4s
MFF Saint Martin d 11.14 12 *e*Pn **Pn 06 34 47.9 +1.1**
MFF *e*Sn Sn 06 36 44.7 -6.4
comp=N,3.8nm,0.4s
TCF Toulx Ste Croi 11.38 21 *e*Pn **Pn 06 34 51.9 +1.7**
TCF *e*Sn **Sn 06 36 53.2 -4.0**
comp=N,1.0nm,0.2s
PMAR Madeira 11.47 259 *e*Pn **Pn 06 34 47.5 -4.1**
PMAR *e*Sn Sn 06 36 50.3 -9.3
PMAR A A 06 37 01.0
comp=N,50nm,0.5s
ORIF Oris-en-Rattie 11.63 35 *e*Pn **Pn 06 34 56.0 +2.3**
ORIF *e*Sn **Sn 06 37 00.1 -3.4**
comp=N,0.9nm,0.3s
PMOZ Porto Moniz, M 11.66 259 *e*Pn **Pn 06 34 54.5 +0.3**
SBF Sospel 11.69 43 *e*Pn **Pn 06 34 57.6 +3.1**
SBF *e*Sn **Sn 06 37 00.9 -4.0**
comp=N,1.1nm,0.2s
BGF Bois d'Agland 11.81 22 *e*Pn **Pn 06 34 57.5 +1.4**
BGF *e*Sn Sn 06 37 00.8 -7.0
comp=N,4.1nm,0.3s
PGF Pioggiola 11.86 51 *e*Pn **Pn 06 34 59.5 +2.6**
PGF *e*Sn **Sn 06 37 05.2 -3.9**
comp=N,1.3nm,0.2s
MBDF Montbardon 11.93 38 *e*Pn **Pn 06 35 00.4 +2.6**
MBDF Montbardon 11.93 38 *e*P Pn 06 35 06.2 +8.4
QUIF Quistinic 12.16 1 *e*Pn **Pn 06 35 01.4 +0.7**
QUIF *e*Sn Sn 06 37 09.2 -6.9
comp=N,27nm,0.5s
AVF Avril sur Loir 12.18 23 *e*Pn **Pn 06 35 03.3 +2.2**
AVF Avril sur Loir 12.18 23 *e*P Pn 06 35 08.9 +7.8
AVF *e*Sn **Sn 06 37 12.1 -4.6**
SMF Signal de Mont 12.21 25 *e*Pn **Pn 06 35 04.2 +2.7**
SMF Signal de Mont 12.21 25 *e*P Pn 06 35 08.8 +7.3
HYF Humbligny 12.40 20 *e*Pn **Pn 06 35 04.8 +0.7**
SSF Saint Saulge 12.47 23 *e*Pn **Pn 06 35 03.5 -1.5**
SSF *e*Sn **Sn 06 37 18.8 -5.0**
comp=N,0.6nm,0.2s
LPG La Plagne 12.48 36 *e*P Pn 06 35 13.9 +8.5
LPL La Plagne 12.48 35 *e*P Pn 06 35 13.6 +8.2
SGMF Saint Gilles 12.51 3 *e*Pn **Pn 06 35 05.5 -0.1**
SGMF *e*Sn Sn 06 37 17.7 -7.1
comp=N,11nm,0.4s
ROSF Rostrenen 12.57 1 *e*Pn **Pn 06 35 07.1 +0.6**
ROSF *e*Sn Sn 06 37 18.3 -8.0
comp=N,17nm,0.5s
LOR Lormes 12.77 23 *e*Pn **Pn 06 35 11.9 +2.8**
baz=205
GRR Gorron 12.78 8 *e*Pn **Pn 06 35 10.6 +1.3**
GRR *e*Sn Sn 06 37 24.3 -7.1
LDF La Druitiere 13.08 10 *e*Pn **Pn 06 35 14.7 +1.4**
CASP Castiglione de 13.18 53 Pn **Pn 06 35 17.8 +3.0**
FLN La Foiniere 13.20 9 *e*Pn **Pn 06 35 16.0 +1.1**
baz=191
VLC Villacollemand 13.58 48 Pn **Pn 06 35 23.9 +3.7**
SFTF Sexfontaines 13.97 24 *e*P **P 06 35 31.2 -2.4**
ZCCA Zocca 14.04 48 P **P 06 35 34.9 +0.5**
HINF Hinteralfeld 14.32 29 *e*Pn **Pn 06 35 32.8 +2.5**
TUE Stuetta 14.44 38 **P 06 35 37.4 -1.6**
MURB Monte Urbino 14.48 54 **Pn 06 35 36.3 +3.6**
PAGF Fort de Pagny 14.51 25 *e*Pn **Pn 06 35 36.5 +3.6**
VAE Valguarnera 14.53 78 Pn **Pn 06 35 34.4 +1.1**
comp=N,1.4nm,0.3s,baz=285,slow=21,SNR=1.4
VAE LR LR 06 40 57.7
comp=N,179nm,18.1s,baz=129,slow=36
NRCA Norcia 14.70 56 P **Pn 06 35 39.5 +3.9**
DAVOX Davos/Dischmat 14.92 38 Pn **Pn 06 35 39.5 +0.9**
comp=N,0.3nm,0.3s,baz=225,slow=16,SNR=7.4
DAVOX LR LR 06 41 21.2
comp=N,158nm,20.2s,baz=256,slow=37
CDF Champ du Feu 14.96 29 *e*P **P 06 35 45.4 +0.7**
DAVA Damuels 15.27 37 *e*P **P 06 35 50.4 +2.2**
comp=N,30nm,0.8s
BAIF Baives 15.37 19 *e*Pn **Pn 06 35 46.1 +1.7**
CTI Castel Tesino 15.39 43 P **Pn 06 35 48.1 +3.2**
FETA Feichten 15.51 39 *e*P **P 06 35 52.6 +1.8**
comp=N,66nm,0.8s,SNR=20
GIVF Givet 15.58 20 *e*Pn **Pn 06 35 48.7 +1.5**
WLF Walferdange 15.60 24 PnPn **P 06 35 57.0 +5.4**
BMRD Maredsous 15.74 20 PnPn **P 06 35 57.9 +4.6**
RCHB Rochefort 15.74 21 x **P 06 35 55.5 +2.3**
RCHB x **P 06 35 57.9 +4.7**
RETA Reutte 15.84 38 *e*P **P 06 35 56.3 +1.9**
comp=N,15nm,0.7s,SNR=5.7
SQTA Sankt Quirin 15.89 39 *e*P **P 06 35 57.4 +2.4**
comp=N,49nm,0.8s,SNR=8.3
MOTA Moosalm 15.92 39 *e*P **P 06 35 59.8 +4.5**
comp=N,20nm,0.8s,SNR=8.2
STAL STALIGIAL 16.12 44 P **Pn 06 35 56.3 +2.1**
WTTA Wattenberg 16.14 40 *e*P **P 06 35 59.1 +1.3**
comp=N,35nm,0.8s
WATA Walderalm 16.16 40 *e*P **P 06 35 59.1 +1.1**
comp=N,36nm,1.0s,SNR=6.4
ABTA Abfaltersbach 16.29 43 *e*P **P 06 36 02.3 +2.9**
comp=N,22nm,0.9s,SNR=9.9
BTNL Ternell 16.40 22 x **P 06 36 04.2 +3.7**
TIP Timpagrande 16.48 72 P **P 06 36 02.4 +0.9**
MYKA Terra Mystica 16.86 45 *e*P **P 06 36 12.0 +6.3**
comp=N,5.5nm,0.6s
KBA Koelnbreinsper 16.95 43 *e*P **P 06 36 11.6 +4.8**
comp=N,8.5nm,0.8s,SNR=5.1
OBKA Obir 17.32 46 *e*P P 06 36 18.1 +7.4
comp=N,5.7nm,0.6s
GRF Grafenberg Arr 17.61 33 *e*P **P 06 36 15.8 +1.9**
comp=N,22nm,1.1s,baz=224,slow=11
SOKA Soboth 17.69 46 *e*P **P 06 36 18.2 +3.3**
comp=N,11nm,0.7s,SNR=5.3
MOA Molln 17.91 42 *e*P **P 06 36 18.4 +1.2**
comp=N,4.2nm,0.5s
GEC2 GERESS Array S 18.22 39 **P 06 36 22.2 +1.5**
GERES GERESS Array B 18.22 39 P **Pn 06 36 20.6 0.0**
comp=N,0.4nm,0.3s,baz=228,slow=12,SNR=21
GERES PcP **PcP 06 40 52.8 -0.1**
comp=N,0.2nm,0.3s,baz=119,slow=1.2,SNR=9.2
GERES GERESS Array B 18.22 39 **Pn 06 36 20.7 +0.2**
ARSA Arzberg 18.28 45 *e*P **P 06 36 24.1 +2.9**
comp=N,9.8nm,0.9s
KHC Kasperske Hory 18.34 38 *e*P **Pn 06 36 25.5 +3.6**
KHC *e*pP sP 06 36 35.0 +8.3
CKRC Cesky Krumlov 18.51 40 *e*P **P 06 36 25.1 +1.2**
CKRC *e*x x 06 36 29.4
NKC Novy Kostel 18.55 34 *e*P **Pn 06 36 28.0 +3.5**
CONA Conrad Observa 18.84 44 *e*P **P 06 36 27.9 +0.4**
comp=N,3.5nm,0.5s
PDG Podgorica 18.89 62 ⇓P **P 06 36 29.0 +1.1**
PBCC Pribram 18.91 37 *e*P **Pn 06 36 32.9 +4.1**
BBLS Lazići 19.36 58 *e*P **Pn 06 36 37.6 +3.2**
PRU Pruhonice 19.37 37 *e*P **P 06 36 35.0 +1.7**
ESK Eskdalemuir 19.57 1 **P 06 36 37.2 +1.9**
CLL Collm 19.57 32 *i* P **Pn 06 36 37.8 +1.1**
comp=Z,26nm,1.0s
CLL *i* pP **pP 06 36 39.9 +1.1**
CLL *i* sP **sP 06 36 41.5 +1.4**
comp=Z,47nm,1.0s
CLL *e*PP **PnPn 06 36 51.0 +0.9**
CLL *e*x x 06 38 23.0
EKA Eskdalemuir Ar 19.58 1 P **P 06 36 36.4 +0.9**
baz=177,slow=10,SNR=34
EKA LR LR 06 44 26.8
comp=Z,317nm,20.8s,baz=194,slow=38
SJES Sjenica 19.60 60 *e*P **P 06 36 36.6 +0.7**
BRG Berggiesshubel 19.68 34 *e*P **Pn 06 36 39.1 +1.1**
BRG Amp 06 36 44.7
comp=Z,17nm,0.9s
KRUC Moravsky 19.76 42 *e*P **P 06 36 38.5 +0.9**
OHR Ohrid 19.78 67 *i* P **Pn 06 36 39.6 +0.2**
IVAS Ivanjica 19.80 60 *e*P **P 06 36 37.6 -0.5**
DIVS Divibare 19.84 58 *e*P **P 06 36 38.1 -0.4**
MODS Modra-Piesok 19.87 44 *e*P **Pn 06 36 42.0 +1.6**
VRAC Vranov 20.01 41 ⇓P **P 06 36 41.8 +1.5**
VRAC Vranov 20.01 41 P **P 06 36 41.4 +1.1**
comp=Z,15nm,0.8s,baz=238,slow=11,SNR=7.5
VRAC Vranov 20.01 41 *e*P **P 06 36 41.6 +1.3**
SMOL Smolenice 20.03 44 *e*P Pn 06 36 42.8 +0.5
FRGS Fruska Gora 20.05 55 ⇓P **P 06 36 41.5 +0.8**
FRGS Fruska Gora 20.05 55 *e*P **P 06 36 40.8 +0.1**
SRO Srobarova 20.19 47 *e*P Pn 06 36 44.6 +0.5
GRUS Gruza 20.28 59 *e*P **P 06 36 43.6 +0.4**
SELS Selova 20.40 61 *e*P **P 06 36 41.6 -3.0**
DPC Dobruska-Polom 20.49 38 *e*P **P 06 36 47.8 +2.3**
DPC *e*pP **sP 06 36 50.2 0.0**
CHVC Chvalec 20.50 38 *e*P **P 06 36 47.3 +1.7**
CHVC *e*x x 06 36 51.3
KRLC Kraliky 20.56 40 *e*P Pn 06 36 48.7 +0.2
KRLC *e*pP sP 06 36 52.2 +1.2
OSTC Ostas 20.56 38 *e*P Pn 06 36 49.0 +0.5
RUE Ruedersdorf 20.75 31 *e*P Pn 06 36 51.0 +0.4
KSP Ksiaz 20.78 37 *e*P **P 06 36 50.8 +2.2**
MORC Moravsky Berou 20.79 41 ⇑P **P 06 36 50.8 +2.1**
MORC Moravsky Berou 20.79 41 *e*P **P 06 36 50.0 +1.3**
AGG Agios Georgios 20.80 73 IAmb IAmb 06 36 54.5
comp=Z,58nm,1.4s
VYHS Vyhne 20.83 45 *e*P **P 06 36 50.1 +0.9**
STIP Stip 20.90 66 *i* P **P 06 36 52.0 +2.1**
BOVS Bovan 20.91 60 ⇑P **P 06 36 51.9 +1.9**
BOVS Bovan 20.91 60 *e*P Pn 06 36 52.4 -0.2
PSZ Piszkesteto 21.18 48 ⇓P **P 06 36 55.7 +2.7**
PSZ Piszkesteto 21.18 48 P **P 06 36 53.1 0.0**
MDVR Moldovita 21.21 57 ⇑P **P 06 36 54.8 +1.4**
BOSS Bosilegrad 21.24 64 *e*P **P 06 36 53.9 +0.3**
ZAGS Zajecar 21.32 60 *e*P **P 06 36 56.8 +2.3**
BZS Buzias 21.40 55 ⇓P **P 06 36 56.5 +1.2**
ZAPS Zavoj 21.49 62 *e*P **P 06 36 59.7 +3.3**
LANS Liptovska Anna 21.52 44 *e*P **P 06 36 58.6 +2.0**
SIRR Siria 21.64 53 ⇑P **P 06 36 59.9 +2.0**
HERR Herculane 21.72 57 ⇑P **P 06 36 59.0 +0.3**
KECS Kecovo 21.79 47 *e*P **P 06 37 02.1 +2.6**
VTS Vitosha 21.81 64 ⇓P **P 06 37 00.1 +0.2**
VTS Vitosha 21.81 64 P **P 06 37 00.8 +0.9**
VTS Vitosha 21.81 64 *e*P **P 06 36 59.1 -0.8**
GZR Gura Zlata 22.11 56 ⇑P **P 06 37 04.0 +1.0**
NIE Niedzica 22.12 45 *e*P **P 06 37 05.5 +2.4**
OJC Ojcow 22.25 42 *e*P **P 06 37 06.6 +2.2**
CRVS Cervenica-Dubn 22.56 47 *e*P **P 06 37 09.9 +2.2**
LOT Lotru 22.80 56 ⇑P **P 06 37 11.2 +0.8**
GKP Gorka Klasztor 22.80 33 *e*P **P 06 37 12.9 +2.7**
TRPA Tarpa 22.89 49 ⇑P **P 06 37 12.3 +1.2**
TORD Torodi Ar. Bea 23.00 167 P **P 06 37 11.8 -0.8**
comp=Z,20nm,0.8s,baz=344,slow=7.8,SNR=76
IDI Anoyia 23.12 83 P **P 06 37 14.8 +1.0**
comp=Z,11nm,0.8s,baz=6.3,slow=9.2,SNR=1.6
ARR Arges 23.36 57 ⇓P **P 06 37 16.9 +0.8**
ARCR ARCALIA 23.66 53 ⇑P **P 06 37 20.6 +1.6**
VOIR 23.66 57 ⇑P **P 06 37 20.6 +1.5**
DOPR Dopca 24.03 56 ⇓P **P 06 37 23.7 +1.2**
MLR Muntele Rosu 24.29 57 ⇑P **P 06 37 25.9 +0.9**
MLR Muntele Rosu 24.29 57 P **P 06 37 26.6 +1.5**
comp=Z,28nm,1.0s,baz=203,slow=3.8,SNR=12
MLR Muntele Rosu 24.29 57 P **P 06 37 25.8 +0.7**
MLR IAmb IAmb 06 37 44.5
comp=Z,22nm,0.8s
OZUR 24.33 56 ⇓P **P 06 37 26.7 +1.3**
BURAR Bucovina Array 24.39 52 ⇑P **P 06 37 27.3 +1.4**
BURAR Bucovina Array 24.39 52 P **P 06 37 27.0 +1.0**
NEHR Nehoiu 24.52 58 ⇓P **P 06 37 27.7 +0.6**
COVR Voineasa-Covas 24.55 57 ⇑P **P 06 37 28.8 +1.5**
PLOR Plostina 24.85 57 ⇓P **P 06 37 29.8 -0.3**
VRI Vrincioaia 24.91 57 ⇑P **P 06 37 30.6 +0.1**
TESR Tescani 25.01 55 ⇑P **P 06 37 31.8 +0.3**
CFR Carcaliu 25.74 59 ⇑P **P 06 37 37.8 -0.2**
TPGR Topolog 25.88 60 ⇑P **P 06 37 38.6 -0.8**
SUW Suwalki 26.06 37 *e*P **P 06 37 40.8 0.0**
SUW Suwalki 26.06 37 *e*P **P 06 37 41.2 +0.4**
SUW Suwalki 26.06 37 P **P 06 37 39.9 -0.9**
SORM Soroca 26.56 52 ⇑P **P 06 37 44.8 -0.6**
HFS Hagfors 26.82 19 P **P 06 37 48.4 +0.7**
comp=Z,12nm,0.7s,baz=218,slow=9.3,SNR=13
HFS PcP **PcP 06 41 09.0 -1.1**
comp=Z,4.0nm,0.8s,baz=226,slow=3.8,SNR=2.3
NB2 NORSAR Subarra 27.00 16 P **P 06 37 50.3 +0.9**
comp=Z,18nm,0.9s,baz=209,slow=8.6
NOA NORSAR Array B 27.00 16 P **P 06 37 49.5 +0.1**
comp=Z,9.8nm,0.8s,baz=205,slow=8.8,SNR=13
NOA PcP **PcP 06 41 10.5 0.0**
comp=Z,2.9nm,0.8s,baz=210,slow=2.6,SNR=4.3
NOA LR LR 06 49 11.2
comp=Z,156nm,18.5s,baz=205,slow=38
PABE Paberze 27.28 35 *e*P **P 06 37 55.1 +3.3**
AKASG Malin Array Be 27.89 47 P **P 06 37 54.5 -2.9**
comp=Z,2.9nm,0.8s,baz=246,slow=10.0,SNR=7.2
AKASG PcP **PcP 06 41 11.1 -1.6**
comp=Z,0.5nm,0.5s,baz=266,slow=2.9,SNR=4.7
IIGN Ignalina 28.27 37 *e*P **P 06 38 03.1 +2.5**
NACGM Naroch 28.31 38 *i* P P 06 38 07.7 +6.6
IDID Didziasalis 28.50 37 *e*P **P 06 38 05.2 +2.4**
MNK Minsk 28.68 39 *i* P P 06 38 00.6 -3.8
comp=E,3.0nm,0.9s
MNK *i* P P 06 38 00.6 -3.8
comp=N,27nm,0.9s
MNK *i* P P 06 38 00.6 -3.8
comp=Z,5.0nm,0.5s,baz=62
MNK *i* PP **PnPn 06 38 50.7 -3.9**
MNK *i* PPP PPP 06 38 58.9
MNK *i* S **S 06 42 49.5 -3.3**
MNK *i* SS **SnSn 06 44 11.6 -1.4**
MNK *i* SSS SSS 06 44 26.1
MNK *i* LR LR 06 48 42.3
MNK *i* LRM MLR 06 50 36.0
comp=N,47nm,10.8s
MNK *i* LRM MLR 06 50 36.9
comp=E,6.0nm,9.5s
MNK *i* LRM MLR 06 50 43.6
comp=Z,79nm,12.1s
DBIC Dimbokro 28.97 183 P **P 06 38 06.7 -0.5**
comp=Z,22nm,0.8s,baz=8.0,slow=9.9,SNR=34
DBIC LR LR 06 51 05.6
comp=Z,216nm,19.1s,baz=20,slow=39
DBIC Dimbokro 28.97 183 P **P 06 38 06.7 -0.5**
DBIC IAmb IAmb 06 38 07.9
comp=Z,29nm,0.9s
TIC Toumodi 29.00 183 *e*P **P 06 38 08.0 +0.4**
KIC Kosan Boka 29.27 182 *e*P **P 06 38 09.1 -0.9**
comp=Z,62nm,0.9s
LIC Lamto 29.42 183 *e*P **P 06 38 10.6 -0.6**
comp=Z,94nm,1.0s
BRTR Keskin Array B 29.54 71 P **P 06 38 12.5 +0.1**
comp=Z,0.5nm,0.8s,baz=275,slow=6.4,SNR=1.4
BORG Borgarnes 30.94 345 LR LR 06 49 44.3
comp=Z,188nm,21.2s,baz=183,slow=34
FINES FINESS Array B 31.80 27 P **P 06 38 31.6 -0.3**
comp=Z,3.7nm,0.8s,baz=217,slow=6.7,SNR=12
FINES PcP **PcP 06 41 21.8 -0.9**
comp=Z,7.1nm,0.6s,baz=219,slow=1.6,SNR=15
FINES LR LR 06 53 03.8
comp=Z,109nm,20.2s,baz=284,slow=40
JMIC Jan Mayen 35.40 357 LR LR 06 53 17.6
comp=Z,135nm,18.6s,baz=187,slow=36
KLMR Klimovskoe 37.05 34 *e*P **P 06 39 14.3 -3.0**
KLMR AMP 06 39 25.1
comp=Z,28nm,1.3s
KLMR *e*PcP **PcP 06 41 36.9 -0.8**
ARCES ARCESS Array B 37.38 16 P **P 06 39 20.4 +0.3**
comp=Z,3.3nm,0.6s,baz=198,slow=3.6,SNR=12
ARCES PcP **PcP 06 41 38.3 -0.3**
comp=Z,2.6nm,0.6s,baz=195,slow=2.4,SNR=6.7
ARCES LR LR 06 55 27.7
comp=Z,209nm,19.1s,baz=205,slow=37
SUMG Summit 40.92 345 P **P 06 39 51.4 +1.4**
SFJD Kangerlussuaq 41.18 334 LR LR 06 54 00.8
comp=Z,96nm,21.3s,baz=136,slow=32
ARU Arti 45.97 43 P **P 06 40 30.5 0.0**
ARU IAmb IAmb 06 40 34.8
comp=Z,15nm,0.6s
AKTO Aktyubinsk 45.98 51 P **P 06 40 31.0 +0.3**
comp=Z,6.8nm,1.0s,baz=284,slow=9.6,SNR=11
SCHQ Schefferville 46.68 315 P **P 06 40 36.0 -0.2**
comp=Z,3.9nm,0.7s,baz=43,slow=5.3,SNR=8.2
SCHQ LR LR 06 56 33.7
comp=Z,118nm,19.5s,baz=65,slow=32
SCHQ Schefferville 46.68 315 IAmb IAmb 06 40 37.6
comp=Z,12nm,1.2s
ABKAR Akbulak array 47.36 53 P **P 06 40 42.2 +0.7**
ABKAR IAmb IAmb 06 40 43.3
comp=Z,11nm,0.8s
FRB Frobisher Bay 47.63 327 LR LR 06 57 08.5
comp=Z,137nm,21.1s,baz=65,slow=32
MBAR Mbarara 48.24 131 LR LR 07 00 51.3
comp=Z,159nm,19.0s,baz=283,slow=36
ATD Arta Tunnel 48.29 108 LR LR 07 01 25.2
comp=Z,96nm,18.5s,baz=304,slow=36
D62A Allapoint, All 49.07 305 P **P 06 40 55.2 +0.5**
D62A IAmb IAmb 06 41 01.8
comp=Z,19nm,1.0s
LBNH Lisbon 51.69 302 P **P 06 41 15.8 +1.1**
baz=74
HRV Adam Dziewonsk 51.91 299 P **P 06 41 16.7 +0.4**
baz=73
L61B Northampton 52.73 300 P **P 06 41 23.3 +0.9**
baz=73
KMBO Kilima Mbogo 52.83 125 P **P 06 41 24.9 +1.2**
comp=Z,4.4nm,1.0s,baz=314,slow=10,SNR=7.8
KMBO Kilima Mbogo 52.83 125 P **P 06 41 23.8 +0.2**
BRVK Borovoye 53.09 46 P **P 06 41 25.8 +1.0**
BRVK IAmb IAmb 06 41 32.3
comp=Z,6.6nm,0.7s
NBPB Pedra_Branca-C 53.21 227 *e*P **P 06 41 26.4 +0.2**
LONY Lake Ozonia 53.42 303 P **P 06 41 27.9 +0.5**
baz=73
EUNU Eureka 53.81 348 P **P 06 41 31.7 +1.8**
WSAR Wadi Sarin 54.73 85 LR LR 07 08 51.2
comp=Z,35nm,19.9s,baz=150,slow=40
BINY Binghamton 55.13 300 P **P 06 41 40.2 +0.2**
baz=71
BRZS Berezniki 55.30 50 *e*P **P 06 41 41.2 +0.2**
comp=Z,13nm,0.9s,baz=50
BRLS Borolday 55.52 58 *e*P **P 06 41 42.1 -0.6**
baz=59
KKAR Karatay Array 55.97 58 P **P 06 41 45.9 0.0**
MVL Millersville 56.14 298 P **P 06 41 47.3 +0.1**
MVL IAmb IAmb 06 41 52.2
comp=Z,14nm,0.8s
RES Resolute Bay 56.24 341 LR LR 07 05 04.4
comp=Z,27nm,20.3s,baz=56,slow=35
RES Resolute Bay 56.24 341 P **P 06 41 47.7 +0.4**
RES IAmb IAmb 06 41 49.6
comp=Z,8.9nm,1.0s
SADO Sadowa 56.47 304 LR LR 07 03 27.1
comp=Z,110nm,20.5s,baz=27,slow=33
NBLA Lagarto - SE 56.63 221 *e*P **P 06 41 51.3 +0.4**
SSPA Standing Stone 57.01 299 P **P 06 41 53.7 +0.3**
baz=69
BTK Batken 57.24 62 IAmb IAmb 06 42 00.5
comp=Z,8.8nm,1.0s
NRIK Noril'sk 57.43 25 LR LR 07 08 03.7
comp=Z,107nm,20.8s,baz=330,slow=38
CBN Corbin Frederi 57.53 296 P **P 06 41 58.3 +1.3**
baz=68
O56A Blue Knob Stat 57.63 299 P **P 06 41 58.6 +0.8**

baz=68
BTLS Baital 57.71 55 *eP* **P 06 41 58.3 0.0**
comp=Z,5.5nm,1.0s,baz=55
NBPN Ponto Novo - B 57.84 224 *eP* **P 06 41 59.8 +0.4**
ERPA Erie 57.96 301 P **P 06 41 59.6 -0.4**
baz=69
TSUM Tsumeb 58.21 156 LR LR 07 08 10.8
comp=Z,130nm,18.4s,baz=323,slow=37
SGDS Sogindy 58.67 57 *eP* **P 06 42 04.7 -0.3**
baz=57
M53A WI Miller and 58.68 301 P **P 06 42 05.8 +0.7**
baz=68
KURK Kurchatov 58.70 47 P **P 06 42 05.3 +0.2**
AAK Ala-Archa 58.87 57 P **P 06 42 07.1 +0.5**
comp=Z,3.6nm,0.7s,baz=283,slow=0.3,SNR=8.9
AAK Ala-Archa 58.87 57 P **P 06 42 07.3 +0.7**
AAK IAmb IAmb 06 42 10.9
comp=Z,11nm,1.2s
LSZ Lusaka 58.98 144 LR LR 07 09 28.3
comp=Z,230nm,19.2s,baz=252,slow=38
KUU Kurty 59.66 56 *eP* **P 06 42 11.6 -0.2**
comp=Z,19nm,1.1s,baz=56
SEM Semipalatinsk 59.78 47 *eP* **P 06 42 12.7 -0.1**
comp=Z,5.1nm,1.1s,baz=47
GDU01 Guandu, BA 59.85 221 *eP* **P 06 42 13.8 +0.4**
CHKK Chushkaly 60.11 55 *eP* **P 06 42 15.0 +0.1**
baz=55
BLA Blacksburg 60.15 296 P **P 06 42 15.7 +0.3**
baz=66
PRPB Parauapebas 60.20 236 *eP* **P 06 42 17.0 +1.1**
MALB Monte Alegre 60.26 243 *eP* **P 06 42 17.2 +0.9**
AAA Alma-Ata 60.30 56 *eP* **P 06 42 16.5 +0.1**
baz=56
P52A Corning 60.40 299 P **P 06 42 17.0 0.0**
baz=66
MDOK Medeo 60.41 56 *eP* **P 06 42 16.9 -0.3**
baz=56
FCC Fort Churchill 60.50 323 IAmb IAmb 06 42 23.7
comp=Z,20nm,1.4s
TDK Taldyqorghan 60.61 54 *eP* **P 06 42 18.4 0.0**
comp=Z,6.0nm,0.6s,baz=54
SMTB Santa Maria do 60.74 232 *eP* **P 06 42 20.8 +1.2**
ACSO Alum Creek Sta 60.76 300 P **P 06 42 20.1 +0.7**
baz=66
NBIT Itapeh - BA 60.78 220 *eP* **P 06 42 20.8 +1.0**
KSH Kashi 61.11 60 P **P 06 42 22.5 +0.5**
KSH pP sP 06 42 26.5 -0.6
KSH PcP **PcP 06 43 05.8 +0.9**
KSH pmax pmax
comp=Z,19nm,1.2s
P51A Williamsport 61.12 300 IAmb IAmb 06 42 23.5
comp=Z,17nm,1.1s
ZAA0 Zalesovo Array 61.12 42 P **P 06 42 21.5 -0.2**
ZAA0 IAmb IAmb 06 42 27.6
comp=Z,5.5nm,0.7s
ZALV Zalesovo Beam 61.12 42 P **P 06 42 22.2 +0.5**
comp=Z,6.7nm,0.7s,baz=298,slow=6.3,SNR=18
ZALV LR LR 07 10 47.9
comp=Z,45nm,19.6s,baz=276,slow=38
ZALV Zalesovo Beam 61.12 42 P **P 06 42 21.5 -0.2**
CMC01 Camacan, BA 61.19 220 *eP* **P 06 42 23.5 +1.1**
ZHN Zhinishke 61.34 56 *eP* **P 06 42 23.2 -0.3**
baz=56
SATY Saty 61.37 56 *eP* **P 06 42 23.2 -0.5**
baz=56
TARG Taragay, Kyrgy 61.49 57 IAmb IAmb 06 42 28.9
comp=Z,14nm,1.1s
NIL Nilore 61.59 67 P **P 06 42 25.4 +0.2**
NIL IAmb IAmb 06 42 27.1
comp=Z,12nm,0.8s
NHSC New Hope 61.70 292 P **P 06 42 27.0 +1.1**
baz=64
UZB Uzynbulak 61.75 55 *eP* **P 06 42 25.9 -0.3**
baz=56
SDBA SAO DESIDERIO 61.82 227 *eP* **P 06 42 27.3 +0.5**
BOAV Boa Vista 62.16 251 *eP* **P 06 42 30.1 +0.9**
MAKZ Makanchi 62.20 51 P **P 06 42 29.5 +0.3**
O48B Farmland 62.27 301 P **P 06 42 30.1 +0.4**
baz=65
GUA01 Guaratinga, BA 62.36 220 *eP* **P 06 42 31.3 +1.0**
MKAR Makanchi Array 62.40 51 P **P 06 42 31.1 +0.6**
comp=Z,25nm,0.7s,baz=286,slow=5.9,SNR=156
MKAR Makanchi Array 62.40 51 P **P 06 42 29.8 -0.7**
TZTN Tazewell 62.70 297 P **P 06 42 33.2 +0.6**
baz=64
P48A Milroy 62.79 300 IAmb IAmb 06 42 33.7
comp=Z,9.5nm,0.7s
ITTB Itaituba 63.05 242 *eP* **P 06 42 35.9 +0.8**
EYMN Ely 63.24 311 P **P 06 42 36.2 +0.2**
baz=66
TKL Tuckaleechee C 63.25 296 LR LR 07 09 21.4
comp=Z,50nm,18.6s,baz=80,slow=35
SFIN Lafayette 63.56 302 P **P 06 42 38.4 +0.2**
baz=64
JANB Januaria 63.58 225 *eP* **P 06 42 39.1 +0.5**
MATP Matopo 63.59 146 LR LR 07 11 27.2
comp=Z,87nm,18.0s,baz=256,slow=37
PEXB Peixe 63.66 230 *eP* **P 06 42 39.9 +0.8**
ZSN Zaisan 63.74 49 *eP* **P 06 42 39.6 +0.3**
comp=Z,11nm,1.0s,baz=49
PTGA Pitinga 63.74 248 LR LR 07 07 38.0
comp=Z,42nm,18.3s,baz=99,slow=34
WCI Wyandotte Cave 63.94 300 P **P 06 42 41.0 +0.2**
baz=64
GOGA Godfrey 64.03 294 P **P 06 42 41.0 -0.4**
baz=63
BAUV El Baul 64.16 262 P **P 06 42 43.0 +0.5**
U49A Red Boiling Sp 64.33 298 IAmb IAmb 06 43 07.4
comp=Z,18nm,1.5s
JFWS Jewell Farm 64.59 306 P **P 06 42 45.2 +0.2**
baz=64
NPGB Novo Progresso 64.64 240 *eP* **P 06 42 45.9 +0.2**
SJMB Sao Joao De Ma 64.84 220 *eP* **P 06 42 48.0 +1.3**
ULM Lac du Bonnet 64.86 315 P **P 06 42 46.7 +0.1**
comp=Z,4.8nm,0.6s,baz=87,slow=5.6,SNR=4.8
ULM LR LR 07 07 30.4
comp=Z,48nm,18.3s,baz=98,slow=33
ULM Lac du Bonnet 64.86 315 IAmb IAmb 06 42 53.3
comp=Z,7.8nm,1.1s
A36M Sachs Harbour 65.17 343 P **P 06 42 50.2 +2.0**
baz=50
SPMN Marine on St. 65.23 309 P **P 06 42 49.0 -0.1**
baz=64
Z51A Franklin 65.34 294 IAmb IAmb 06 42 52.1
comp=Z,9.1nm,0.8s
V48A Smith Brothers 65.43 297 IAmb IAmb 06 42 51.3
comp=Z,7.4nm,0.9s
SNDB Serra Nova Dou 65.46 233 *eP* **P 06 42 52.0 +1.1**
AGMN Agassiz Nation 65.73 313 IAmb IAmb 06 42 54.1
comp=Z,6.2nm,0.9s
AGMN Agassiz Nation 65.73 313 P **P 06 42 51.9 -0.3**
baz=63
DIAM Diamantina, MG 65.83 222 *eP* **P 06 42 54.8 +1.5**
MACA Manacapuru-AM 65.87 247 *eP* **P 06 42 54.6 +1.1**
WVT Waverly 65.98 298 P **P 06 42 53.5 -0.5**
baz=62
FFC Flin Flon 66.13 321 P **P 06 42 54.3 -0.4**
FFC IAmb IAmb 06 42 56.2
comp=Z,9.6nm,1.1s
BDFB Brasilia 66.21 228 P **P 06 42 55.6 -0.2**
comp=Z,9.9nm,0.9s,baz=26,slow=13,SNR=10
BDFB Brasilia 66.21 228 P **P 06 42 55.7 -0.1**
SDV Santo Domingo 66.28 264 *eP* **P 06 42 57.3 +0.8**
SDV Santo Domingo 66.28 264 *eP* **P 06 42 57.8 +1.3**
SDV Santo Domingo 66.28 264 P **P 06 42 57.1 +0.5**
SDV IAmb IAmb 06 42 59.3
comp=Z,14nm,0.9s
LBTB Lobatse 66.43 151 LR LR 07 13 06.3
comp=Z,131nm,18.7s,baz=318,slow=37
C36M Paulatuk 66.59 341 P **P 06 42 58.3 +1.0**
baz=50,SNR=5.1
LRAL Lakeview Retre 66.82 295 IAmb IAmb 06 43 00.4
comp=Z,7.1nm,0.8s
LRAL Lakeview Retre 66.82 295 P **P 06 42 60.0 +0.4**
baz=61
FVM French Village 66.95 301 IAmb IAmb 06 43 00.8
comp=Z,10nm,0.7s
F33A 5 Mile Ranch, 67.12 311 IAmb IAmb 06 43 01.9
comp=Z,8.2nm,0.9s
WMQ Urumqi 67.13 52 *eP* **P 06 43 03.0 +1.6**
WMQ pP sP 06 43 06.8 +0.3
WMQ pmax pmax
comp=Z,38nm,1.1s
P40A Paris 67.34 303 IAmb IAmb 06 43 06.3
comp=Z,5.9nm,0.8s
CCM Cathedral Cave 67.49 301 P **P 06 43 02.9 -0.8**
CCM Cathedral Cave 67.49 301 P **P 06 43 03.6 0.0**
baz=62
PBMO Poplar Bluff 67.52 300 IAmb IAmb 06 43 07.1
comp=Z,6.6nm,0.8s
CLDB Colider 67.66 237 *eP* **P 06 43 05.6 +0.6**
YKA Yellowknife Ar 67.70 332 P **P 06 43 05.0 +0.4**
comp=Z,29nm,0.8s,baz=60,slow=6.4,SNR=318
YKA LR LR 07 09 25.2
comp=Z,108nm,21.5s,baz=32,slow=33
YKA Yellowknife Ar 67.70 332 P **P 06 43 04.8 +0.3**
YKA pP **sP 06 43 09.1 -0.5**
TIXI Tiksi 67.79 15 LR LR 07 17 24.1
comp=Z,53nm,18.3s,baz=322,slow=40
OXF Oxford 67.88 297 P **P 06 43 05.0 -1.2**
baz=61
R40A Maddies Statio 68.08 302 IAmb IAmb 06 43 11.2
comp=Z,8.9nm,0.7s
MDND Maddock 68.15 314 P **P 06 43 07.6 -0.1**
baz=61
IPMB Ipameri, GO 68.16 226 *eP* **P 06 43 08.0 -0.1**
DUB01 Friburgo-RJ 68.26 219 *eP* **P 06 43 09.6 +0.9**
ECSD EROS Data Cent 68.33 309 P **P 06 43 08.8 -0.1**
ECSD IAmb IAmb 06 43 12.2
comp=Z,11nm,1.4s
ECSD EROS Data Cent 68.33 309 P **P 06 43 08.8 -0.1**
baz=61
ARAG Araguaiana, MT 68.59 231 *eP* **P 06 43 12.0 +1.2**
BSCB Bom Sucesso 68.63 221 *eP* **P 06 43 11.8 +0.8**
PDRB Porto dos Gac 68.82 237 *eP* **P 06 43 13.0 +0.7**
X43A Marvell 68.94 298 P **P 06 43 12.1 -0.7**
baz=60
N35A Tabor 69.11 306 IAmb IAmb 06 43 14.5
comp=Z,17nm,1.1s
SMLC San Martn de 69.12 266 *eP* **P 06 43 13.6 -0.6**
FCAR Ozark Folk Cen 69.15 300 IAmb IAmb 06 43 14.7
comp=Z,12nm,0.9s
U40A Yellville 69.43 300 P **P 06 43 15.8 -0.1**
baz=60,SNR=9.1
SUSD Miller 69.45 310 P **P 06 43 16.2 +0.3**
baz=60
BOSA Boshof 69.54 153 P **P 06 43 16.2 -0.3**
comp=Z,2.6nm,0.7s,baz=322,slow=6.0,SNR=5.4
BOSA LR LR 07 14 52.8
comp=Z,141nm,19.3s,baz=185,slow=37
BOSA Boshof 69.54 153 IAmb IAmb 06 43 18.6
comp=Z,28nm,1.4s
WHAR Wooly Hollow 69.56 299 IAmb IAmb 06 43 17.2
comp=Z,10nm,0.9s
W41B Gary Mavity, V 69.59 299 IAmb IAmb 06 43 26.0
comp=Z,8.9nm,0.9s
W41B Gary Mavity, V 69.59 299 P **P 06 43 16.3 -0.5**
baz=60
INK Inuvik 69.77 342 P **P 06 43 17.4 +0.1**
comp=Z,8.0nm,1.0s,baz=29,slow=9.8,SNR=17
INK Inuvik 69.77 342 P **P 06 43 17.2 -0.1**
INK IAmb IAmb 06 43 19.0
comp=Z,12nm,1.1s
INK Inuvik 69.77 342 P **P 06 43 17.8 +0.4**
baz=42,SNR=9.8
X40A Basin Creek Fa 70.35 299 IAmb IAmb 06 43 22.0
comp=Z,18nm,1.1s
X40A Basin Creek Fa 70.35 299 P **P 06 43 21.0 -0.6**
baz=60,SNR=5.2
MOTC Monteria, Cord 70.42 267 *eP* **P 06 43 24.4 +2.2**
WRGLY Wrigley 70.43 335 P **P 06 43 22.8 +1.3**
baz=48
U38A Gravette 70.46 301 IAmb IAmb 06 43 22.9
comp=Z,13nm,0.8s
BGNE Belgrade 70.48 307 P **P 06 43 22.0 -0.3**
baz=59
DGMT Dagmar 70.48 316 P **P 06 43 23.2 +1.1**
baz=58
ZARC Zaragoza, Cauc 70.50 265 *eP* **P 06 43 22.4 -0.3**
KSU1 Kansas State U 70.64 305 IAmb IAmb 06 43 33.3
comp=Z,12nm,0.8s
KSU1 Kansas State U 70.64 305 P **P 06 43 23.1 -0.1**
baz=59
W39A Magazine 70.67 300 IAmb IAmb 06 43 24.0
comp=Z,12nm,0.8s
W39A Magazine 70.67 300 P **P 06 43 23.2 -0.3**
baz=59
PTBC PUERTO BERRIO, 70.72 264 *eP* **P 06 43 20.1 -4.0**
ITRB Iturama 70.76 227 *eP* **P 06 43 25.5 +1.4**
BB19B Bebedouro 70.76 224 *eP* **P 06 43 25.1 +1.0**
MIAR Mount Ida 70.85 299 P **P 06 43 24.7 +0.1**
MIAR Mount Ida 70.85 299 P **P 06 43 24.7 +0.1**
baz=59,SNR=9.9
UREC San Jos de Ur 70.90 266 *eP* **P 06 43 25.0 -0.1**
Z41A Richland Creek 70.95 298 P **P 06 43 25.5 +0.3**
baz=59
PARB Paiaibuna 70.99 221 *eP* **P 06 43 27.3 +1.9**
SALV Santo Antonio 71.22 233 *eP* **P 06 43 27.5 +0.6**
RCLB Rio Claro- Sao 71.28 223 *eP* **P 06 43 27.7 +0.5**
VAO Valinhos 71.44 222 *eP* **P 06 43 29.3 +1.1**
SUR Sutherland 71.52 158 LR LR 07 15 36.6
comp=Z,79nm,18.3s,baz=201,slow=36
PYUN Piuthan 71.58 68 *eP* **P 06 43 29.5 +0.1**
comp=Z,54nm,0.8s
ROSC El Rosal 71.60 263 LR LR 07 13 19.8
comp=Z,86nm,18.2s,baz=170,slow=35
NORC Norcasia 71.62 264 *eP* **P 06 43 28.7 -0.8**
T35A Sooner Cattle 71.69 303 **P 06 43 29.6 0.0**
TUL1 Leonard 71.71 301 P **P 06 43 29.7 0.0**
baz=59
HELC Santa Helena 71.79 264 *eP* **P 06 43 29.6 -1.4**
DBBC Dabeiba 71.87 266 *eP* **P 06 43 33.1 +2.0**
PP1B Ponte de Pedra 71.95 232 *eP* **P 06 43 32.5 +1.2**
DANN Dangsing 72.03 68 *eP* **P 06 43 32.2 0.0**
comp=Z,65nm,0.9s
EPYK Eagle Plains 72.06 342 IAmb IAmb 06 43 53.2
comp=Z,18nm,1.1s
EPYK Eagle Plains 72.06 342 P **P 06 43 32.2 +0.8**
baz=38,SNR=7.1
VILB Vilhena 72.16 239 *eP* **P 06 43 34.3 +1.6**
VILB Vilhena 72.16 239 P **P 06 43 33.8 +1.1**
KOLN Koldanda 72.21 68 *eP* **P 06 43 32.7 -0.5**
GUY2C Guyana, Caldas 72.22 264 *eP* **P 06 43 33.9 +0.3**
CBOC Ciudad Bolivar 72.37 264 *eP* **P 06 43 34.2 0.0**
LAO LASA Array 72.60 315 P **P 06 43 35.6 +0.6**
baz=56
RSSD Black Hills 72.73 312 P **P 06 43 36.4 +0.4**
RSSD IAmb IAmb 06 43 37.6
comp=Z,14nm,1.2s
RSSD Black Hills 72.73 312 P **P 06 43 36.4 +0.4**
baz=57
PCMB Pacaembu 72.76 226 *eP* **P 06 43 37.5 +1.4**
MACC Macarena, Meta 72.81 260 *eP* **P 06 43 35.7 -0.9**
W35A Tecumseh 72.86 301 IAmb IAmb 06 43 41.0
comp=Z,13nm,0.8s
CBKS Cedar Bluff 72.87 306 P **P 06 43 37.1 +0.4**
baz=58,SNR=6.7
GKN Gorkha 72.87 68 *eP* **P 06 43 36.8 -0.3**
ORTC Ortega, Tolima 72.89 262 *eP* **P 06 43 36.1 -1.0**
TOLK Toolik Lake Re 72.89 348 IAmb IAmb 06 44 03.9
comp=Z,9.4nm,1.1s
TOLK Toolik Lake Re 72.89 348 P **P 06 43 37.3 +0.9**
baz=28
FRTB Fartura 73.14 224 *eP* **P 06 43 39.8 +1.4**
PTLB Pontes e Lacer 73.19 236 *eP* **P 06 43 39.8 +1.2**
PTLB Pontes e Lacer 73.19 236 P **P 06 43 39.9 +1.2**
PTLB IAmb IAmb 06 43 40.6
comp=Z,15nm,0.9s
OGNE Ogallala 73.21 309 P **P 06 43 38.7 0.0**
baz=57
I29M Ogilvie Camp, 73.26 342 IAmb IAmb 06 43 46.7
comp=Z,13nm,0.8s
I29M Ogilvie Camp, 73.26 342 P **P 06 43 39.5 +0.9**
baz=37,SNR=8.3
TBTG Tabatinga, AM 73.56 252 *eP* **P 06 43 42.5 +1.5**
PKI Pulchoki 73.68 68 *eP* **P 06 43 41.5 -0.5**
YOTC Yotoco, Valle 73.73 263 *eP* **P 06 43 41.9 -0.3**
EGMT Eagleton 73.81 318 P **P 06 43 42.8 +0.6**
baz=54
X34A Smith Ranch, M 73.82 301 IAmb IAmb 06 43 44.1
comp=Z,18nm,0.9s
GUN Gumba 73.86 67 *eP* **P 06 43 43.0 -0.1**
comp=Z,44nm,1.1s
FYU Fort Yukon 73.86 345 IAmb IAmb 06 44 10.7
comp=Z,20nm,1.1s
MAYO Mayo, Yukon 74.02 340 P **P 06 43 44.7 +1.8**
baz=39
COLD Coldfoot 74.26 347 P **P 06 43 46.0 +1.7**
baz=28
FARO Faro, Yukon 74.33 338 P **P 06 43 46.0 +1.2**
baz=40
ETMB Extrema 74.36 245 *eP* **P 06 43 46.7 +1.1**
ETMB Extrema 74.36 245 P **P 06 43 45.6 0.0**
ETMB IAmb IAmb 06 43 48.0
comp=Z,11nm,1.0s
WMOK Wichita Mounta 74.40 302 IAmb IAmb 06 43 47.1
comp=Z,7.8nm,0.8s
WMOK Wichita Mounta 74.40 302 P **P 06 43 46.0 +0.3**
baz=57,SNR=8.5
EGAK Eagle 74.44 343 IAmb IAmb 06 43 53.9
comp=Z,11nm,1.1s
EGAK Eagle 74.44 343 P **P 06 43 46.3 +0.9**
baz=35
DAWY Dawson 74.58 341 IAmb IAmb 06 43 48.8
comp=Z,9.7nm,0.9s
DAWY Dawson 74.58 341 P **P 06 43 47.7 +1.4**
baz=36,SNR=6.6
FLOC Florencia 74.59 261 *eP* **P 06 43 47.0 -0.1**
KSCO Kaye Shedlock' 74.65 307 IAmb IAmb 06 43 48.9
comp=Z,16nm,0.9s
KSCO Kaye Shedlock' 74.65 307 P **P 06 43 47.7 +0.4**
baz=56
M31M Drury Creek, Y 74.67 338 IAmb IAmb 06 43 49.7
comp=Z,7.6nm,0.8s
M31M Drury Creek, Y 74.67 338 P **P 06 43 48.6 +1.8**
baz=40,SNR=6.0
PCON Cinco Dias 74.74 262 *eP* **P 06 43 50.9 +2.2**
PRP Porcupine Dome 74.82 345 IAmb IAmb 06 43 55.6
comp=Z,11nm,0.8s
PRP Porcupine Dome 74.82 345 P **P 06 43 49.5 +1.7**
baz=31
POPC Popayan, Colom 74.84 262 *eP* **P 06 43 47.8 -1.0**
WHTX Lake Whitney, 74.95 299 P **P 06 43 49.0 0.0**
baz=57
SOTA Rioblanco 75.03 262 *eP* **P 06 43 51.7 +1.5**
H24K Noodor Dome 75.04 346 P **P 06 43 50.5 +1.6**
baz=29
K22A Casper 75.05 312 IAmb IAmb 06 43 50.7
comp=Z,20nm,1.2s
K22A Casper 75.05 312 P **P 06 43 49.9 +0.3**
baz=55
M30M Minto, Yukon 75.07 340 P **P 06 43 49.9 +0.7**
baz=38
PHWY Pilot Hill 75.17 310 IAmb IAmb 06 43 52.2
comp=Z,13nm,0.9s
RLMT Red Lodge 75.24 315 P **P 06 43 51.3 +0.7**
baz=54
J26L Joseph Creek 75.25 343 IAmb IAmb 06 43 52.8
comp=Z,11nm,0.8s
J26L Joseph Creek 75.25 343 P **P 06 43 51.6 +1.4**
baz=33
YAK Yakutsk 75.50 21 LR LR 07 23 20.5
comp=Z,36nm,19.3s,baz=49,slow=41
POKR Poker Plat Res 75.58 345 IAmb IAmb 06 43 55.0
comp=Z,10nm,0.8s
POKR Poker Plat Res 75.58 345 P **P 06 43 53.3 +1.3**
baz=30
PTGB Pitanga 75.63 225 *eP* **P 06 43 54.5 +1.6**
N31M Braeburn, Yuko 75.64 338 P **P 06 43 53.6 +1.2**
baz=38
N23A Red Feather La 75.70 310 IAmb IAmb 06 43 55.5
comp=Z,12nm,1.1s
N23A Red Feather La 75.70 310 P **P 06 43 54.4 +1.0**
baz=55,SNR=6.3
435B Jarrell 75.70 298 IAmb IAmb 06 43 54.4
comp=Z,15nm,0.9s
P33M Teslin, Yukon 75.70 336 P **P 06 43 54.6 +1.8**
P33M Teslin, Yukon 75.70 336 P **P 06 43 54.2 +1.4**
baz=40,SNR=6.5
GOMU GeErMu 75.74 56 P P 06 44 00.8 +6.9
GOMU pP PcP 06 44 04.8 -1.8
GOMU sP sP 06 44 08.0 +9.0
GOMU pmax pmax
comp=Z,3.0nm,1.1s
GOMU pmax pmax
comp=Z,62nm,4.1s
ILAR Eielson Array 75.76 345 P **P 06 43 54.1 +1.1**
comp=Z,1.2nm,0.7s,baz=11,slow=5.3,SNR=14
ILAR LR LR 07 22 45.5
comp=Z,59nm,18.4s,baz=316,slow=40
SCRK Sand Creek 75.79 343 P **P 06 43 54.5 +1.2**
SCRK IAmb IAmb 06 43 56.2
comp=Z,9.2nm,0.9s
SCRK Sand Creek 75.79 343 P **P 06 43 55.1 +1.7**
baz=32,SNR=6.9
COLA College 75.88 345 P **P 06 43 55.3 +1.7**
baz=29
TCOL CIGO, UAF Yank 75.88 345 P **P 06 43 55.5 +1.8**
baz=29
SONM Songino Array 75.94 41 P **P 06 43 54.9 +0.3**
comp=Z,2.8nm,0.7s,baz=287,slow=7.1,SNR=16
I23K Minto, Yukon-K 75.94 346 P **P 06 43 54.5 +0.4**
baz=28
YMP Mirror Lake Pl 75.97 315 IAmb IAmb 06 43 56.9
comp=Z,8.6nm,1.0s
WHY Whitehorse 76.01 338 P **P 06 43 55.5 +0.8**
baz=39
BCAR Beaver Creek A 76.02 342 P **P 06 43 56.5 +2.0**
L27K Beaver Creek, 76.03 342 P **P 06 43 56.1 +1.5**
baz=34
DOT Dot Lake 76.09 343 IAmb IAmb 06 43 57.8
comp=Z,11nm,0.8s
DLBC Dease Lake 76.09 334 LR LR 07 15 16.3
comp=Z,105nm,18.7s,baz=57,slow=34
DLBC Dease Lake 76.09 334 IAmb IAmb 06 44 01.4
comp=Z,12nm,0.7s
HDA Harding Lake 76.09 345 IAmb IAmb 06 43 57.0
comp=Z,22nm,1.2s
HDA Harding Lake 76.09 345 P **P 06 43 55.8 +0.8**
baz=30,SNR=8.6
ISCO Idaho Springs 76.12 309 P **P 06 43 56.3 +0.4**
baz=55,SNR=8.6
H21K Melozitna Rive 76.14 347 IAmb IAmb 06 43 58.6
comp=Z,11nm,1.2s
H21K Melozitna Rive 76.14 347 P **P 06 43 56.1 +1.0**
baz=25
GCUF Volcan Galeras 76.16 261 *eP* **P 06 43 57.4 +0.7**
ABTX Abilene, Hawle 76.16 300 IAmb IAmb 06 43 57.0
comp=Z,12nm,0.8s
ABTX Abilene, Hawle 76.16 300 P **P 06 43 56.0 +0.1**
baz=56
RIDG Independent Ri 76.19 343 P **P 06 43 56.4 +0.8**
baz=32
ULN Ulaanbaatar 76.27 40 P **P 06 43 57.4 +0.9**
WRH Wood River Hil 76.28 345 IAmb IAmb 06 43 59.0
comp=Z,8.6nm,1.0s
BOZ Bozeman (W) 76.29 317 P **P 06 43 57.5 +0.9**
baz=53
Q24A Divide 76.30 308 IAmb IAmb 06 44 01.6
comp=Z,7.0nm,0.8s
Q24A Divide 76.30 308 P **P 06 43 57.6 +0.6**
baz=55
MLY Manley 76.32 346 P **P 06 43 57.1 +0.9**
baz=27
BVCY Beaver Creek 76.32 341 P **P 06 43 57.2 +0.9**
baz=34
NEA2 Nenana 76.38 345 P **P 06 43 57.1 +0.5**
baz=28
H17A Grant Village 76.42 315 P **P 06 43 59.5 +2.0**
baz=53
I21K Tanana 76.42 347 IAmb IAmb 06 43 59.3
comp=Z,20nm,1.3s
I21K Tanana 76.42 347 P **P 06 43 58.4 +1.6**
baz=26
L26K Log Cabin Wild 76.44 342 IAmb IAmb 06 44 17.5
comp=Z,13nm,1.1s
L26K Log Cabin Wild 76.44 342 P **P 06 43 59.0 +2.0**
baz=33,SNR=6.9
M27K Edge Creek, AK 76.63 341 P **P 06 43 59.8 +1.6**
baz=34
FLWY Flagg Ranch 76.68 315 IAmb IAmb 06 44 09.2
comp=Z,14nm,1.4s
YUK3 Moose Creek 76.74 341 P **P 06 44 00.3 +1.4**
baz=35
PD31 Pinedale Array 76.80 313 P **P 06 43 59.3 -0.3**
PD31 IAmb IAmb 06 44 00.4
comp=Z,8.1nm,0.9s
PDAR Pinedale Array 76.80 313 P **P 06 43 59.4 -0.3**
comp=Z,5.7nm,0.8s,baz=63,slow=6.4,SNR=45
PDAR LR LR 07 18 37.2
comp=Z,29nm,18.1s,baz=38,slow=36
PDAR Pinedale Array 76.80 313 P **P 06 43 58.9 -0.8**
BW06 Boulder Array 76.80 313 P **P 06 43 59.4 -0.2**
BW06 IAmb IAmb 06 44 00.4
comp=Z,8.9nm,0.9s
BW06 Boulder Array 76.80 313 P **P 06 43 59.2 -0.5**
baz=53,SNR=11
MSO Missoula 76.80 319 P **P 06 43 59.9 +0.5**
baz=52

T25A	Trinidad	76.87 306	P	P	06 44 00.5 +0.4
	baz=55				
M26K	Nabesna, AK	76.88 342	IAmb	IAmb	06 44 02.3
	comp=Z,9.2nm,0.8s				
M26K	Nabesna, AK	76.88 342	P	P	06 44 00.8 +1.3
	baz=33				
TGUH	Tegucigalpa,Un	76.90 278	P	P	06 44 01.4 +0.9
DLMT	Dillon	76.97 317	IAmb	IAmb	06 44 03.1
	comp=Z,16nm,1.1s				
MCK	McKinley	77.11 345	P	P	06 44 00.9 +0.2
	baz=28				
GTA	Gaotai	77.16 51	⇑P	P	06 44 02.5 +0.9
GTA			pP	sP	06 44 06.5 -0.2
GTA			sP	PcP	06 44 09.8 -2.6
GTA			pmax	pmax	
	comp=Z,12nm,0.8s				
REDW	Red Top Meadow	77.20 314	IAmb	IAmb	06 44 03.7
	comp=Z,10nm,1.2s				
SDCO	Great Sand Dun	77.23 307	P	P	06 44 02.5 +0.3
	baz=55,SNR=10				
SMCO	Snowmass	77.34 309	IAmb	IAmb	06 44 13.3
	comp=Z,7.6nm,1.1s				
PETF	Flores	77.40 282	IAmb	IAmb	06 44 03.4
	comp=Z,16nm,0.8s				
JCT	Junction City	77.46 298	P	P	06 44 03.7 +0.3
	baz=56				
NEW	Newport	77.56 321	LR	LR	07 14 48.9
	comp=Z,78nm,21.0s,baz=38,slow=33				
NEW	Newport	77.56 321	P	P	06 44 03.5 -0.1
	baz=50,SNR=6.5				
O20A	White River Ci	77.57 311	P	P	06 44 04.5 +0.6
	baz=54				
MSTX	Muleshoe	77.58 303	IAmb	IAmb	06 44 09.6
	comp=Z,5.4nm,0.7s				
MSTX	Muleshoe	77.58 303	P	P	06 44 04.6 +0.6
	baz=55				
ITAB	Concordia	77.63 223	eP	P	06 44 05.9 +1.9
OTAV	Otavalo	77.63 261	eP	P	06 44 06.1 +1.1
OTAV	Otavalo	77.63 261	eP	P	06 44 06.5 +1.5
OTAV	Otavalo	77.63 261	P	P	06 44 05.6 +0.6
OTAV			IAmb	IAmb	06 44 07.2
	comp=Z,17nm,0.9s				
TRF	Thorofare Moun	77.64 345	P	P	06 44 04.6 +0.7
	baz=27				
CHUM	Lake Minchumin	77.65 346	P	P	06 44 04.8 +1.1
	baz=26				
GCSA	Galena City Sc	77.66 349	P	P	06 44 05.0 +1.3
	baz=22				
KTH	Kantishna Hill	77.68 346	IAmb	IAmb	06 44 06.1
	comp=Z,24nm,1.2s				
AHID	Auburn Hatcher	77.71 314	IAmb	IAmb	06 44 07.3
	comp=Z,10.0nm,1.1s				
J20K	Nowinta River	77.72 347	P	P	06 44 05.5 +1.3
	baz=24				
CZSB	Cruzeiro do Su	77.93 251	eP	P	06 44 06.6 +0.5
S22A	4UR Ranch, Cre	78.08 308	IAmb	IAmb	06 44 15.0
	comp=Z,9.7nm,1.2s				
S22A	4UR Ranch, Cre	78.08 308	P	P	06 44 07.7 +0.7
	baz=54,SNR=6.2				
RDMU	Red Mountain	78.12 312	IAmb	IAmb	06 44 08.6
	comp=Z,20nm,1.0s				
833A	Chaparral WMA,	78.37 296	IAmb	IAmb	06 44 09.5
	comp=Z,16nm,0.9s				
833A	Chaparral WMA,	78.37 296	P	P	06 44 08.9 +0.6
	baz=56				
KLU	Klutina	78.39 343	P	P	06 44 08.3 +0.4
	baz=30				
SCM	Sheep Creek Mo	78.42 343	P	P	06 44 09.5 +1.4
	baz=29				
K20K	Telida	78.46 347	IAmb	IAmb	06 44 10.6
	comp=Z,23nm,1.4s				
K20K	Telida	78.46 347	P	P	06 44 09.4 +1.2
	baz=24				
BMRM	Bremner River	78.51 342	P	P	06 44 09.2 +0.6
	baz=31				
B08A	Colville Reser	78.61 322	P	P	06 44 09.4 0.0
B08A			IAmb	IAmb	06 44 11.4
	comp=Z,10nm,0.8s				
HWUT	Hardware Ranch	78.69 313	IAmb	IAmb	06 44 11.4
	comp=Z,18nm,1.3s				
APG	El Apazote	78.93 281	LR	LR	07 15 31.3
	comp=Z,22nm,20.8s,baz=86,slow=33				
ANM	Nome	78.99 352	P	P	06 44 11.9 +0.8
	baz=15				
PMR	Palmer	79.05 344	P	P	06 44 12.4 +0.9
	baz=28				
PV23	Carpenter Ridg	79.05 310	IAmb	IAmb	06 44 13.8
	comp=Z,17nm,1.1s				
KNK	Knik Glacier	79.05 344	P	P	06 44 12.8 +1.3
	baz=28				
PV11	David Mesa, Pa	79.05 309	IAmb	IAmb	06 44 13.8
	comp=Z,28nm,1.3s				
F10A	Beach Ranch, E	79.10 319	IAmb	IAmb	06 44 28.5
	comp=Z,8.2nm,0.9s				
P18A	Preston Nutter	79.10 311	IAmb	IAmb	06 44 14.1
	comp=Z,10nm,1.2s				
PV10	Paradox Valley	79.11 310	IAmb	IAmb	06 44 14.4
	comp=Z,19nm,1.0s				
HLID	Hailey	79.11 316	P	P	06 44 13.6 +1.2
	baz=51,SNR=8.6				
TTA	Tatalina	79.20 348	P	P	06 44 13.8 +1.3
	baz=22				
MVCO	Mesa Verde	79.47 308	P	P	06 44 15.6 +1.1
	baz=53				
ANMO	Albuquerque	79.49 305	LR	LR	07 18 44.2
	comp=Z,78nm,18.1s,baz=56,slow=35				
ANMO	Albuquerque	79.49 305	P	P	06 44 15.9 +1.3
	baz=54				
PWL	Port Wells	79.51 343	P	P	06 44 15.5 +1.4
	baz=28				
CCIG	Comitan	79.55 283	IAmb	IAmb	06 44 15.7
	comp=Z,12nm,0.8s				
SRU	San Rafael Swe	79.59 311	IAmb	IAmb	06 44 22.5
	comp=Z,7.0nm,0.7s				
RC01	Rabbit Creek A	79.63 344	P	P	06 44 15.3 +0.6
	baz=27				
M19K	Big River Lodg	79.86 346	P	P	06 44 17.0 +1.1
	baz=24				
TMUT	Trail Mountain	79.89 311	P	P	06 44 16.9 0.0
CPUP	Villa Florida	79.94 227	P	P	06 44 16.2 -0.5
	comp=Z,14nm,0.9s,baz=35,slow=4.3,SNR=16				
CPUP	Villa Florida	79.94 227	eP	P	06 44 17.1 +0.4
CPUP	Villa Florida	79.94 227	P	P	06 44 15.9 -0.8
BBB	Bella Bella	79.96 329	LR	LR	07 16 33.6
	comp=Z,121nm,18.1s,baz=236,slow=33				
LPAZ	La Paz	80.03 242	P	P	06 44 16.6 -1.6
	comp=Z,2.8nm,0.9s,baz=43,slow=4.7,SNR=9.0				
LPAZ			LR	LR	07 16 02.8
	comp=Z,39nm,21.8s,baz=66,slow=33				
LPAZ	La Paz	80.03 242	eP	P	06 44 19.1 +0.9
LPAZ	La Paz	80.03 242	eP	P	06 44 18.3 +0.2
LPAZ	La Paz	80.03 242	P	P	06 44 17.6 -0.6
CAPN	Captain Cook N	80.23 345	P	P	06 44 17.8 0.0
	baz=26				
DUG	Dugway, Tooele	80.31 313	P	P	06 44 19.4 +0.5
	baz=51				
MNTX	Cornudas Mount	80.68 302	P	P	06 44 20.9 0.0
	baz=54				
CPSB	Cacapava Do Su	80.81 222	eP	P	06 44 22.5 +1.2
TXAR	Lajitas Array	80.87 299	P	P	06 44 20.7 -1.3
	comp=Z,1.3nm,0.7s,baz=67,slow=5.0,SNR=1.9				
TXAR			LR	LR	07 18 38.3
	comp=Z,74nm,19.4s,baz=24,slow=35				
TX31	Lajitas Ar. Si	80.87 299	IAmb	IAmb	06 44 34.4
	comp=Z,22nm,1.5s				
N19K	Bonanza Creek	80.88 346	P	P	06 44 22.0 +0.5
	baz=24				
D03D	Eldon	81.02 323	P	P	06 44 23.2 +0.8
	baz=46				
TCRU	Three Creeks R	81.08 311	IAmb	IAmb	06 44 30.5
	comp=Z,7.3nm,0.9s				
PALK	Pallekele	81.14 87	LR	LR	07 22 35.3
	comp=Z,28nm,20.2s,baz=353,slow=37				
CMIG	Matias Romero	81.27 285	LR	LR	07 15 36.6
	comp=Z,30nm,20.7s,baz=34,slow=32				
MTPU	Mount Pierson	81.27 311	IAmb	IAmb	06 44 26.4
	comp=Z,10nm,1.2s				
ELK	Elko	81.39 314	LR	LR	07 18 14.5
	comp=Z,47nm,19.9s,baz=38,slow=34				
E04D	Cinebar	81.45 322	P	P	06 44 24.8 +0.1
	baz=46				
LZH	Lanzhou	81.71 51	eP	P	06 44 28.3 +1.8
LZH			pP	sP	06 44 31.5 -0.1
LZH			sP	PcP	06 44 33.8 +1.5
LZH			pmax	pmax	
	comp=Z,30nm,1.4s				
LZH			pmax	pmax	
	comp=Z,75nm,7.8s				
G05D	Wamic, OR	81.72 321	P	P	06 44 26.9 +0.7
	baz=47				
121A	Cookes Peak, D	81.82 304	P	P	06 44 28.7 +1.6
	baz=53				
PLTB	Pedras Altas	81.95 221	eP	P	06 44 28.7 +1.3
SPR3	Spring Creek 3	81.97 313	IAmb	IAmb	06 44 31.0
	comp=Z,7.6nm,1.0s				
ITQB	Itaqui	82.02 225	eP	P	06 44 28.7 +0.9
WUAZ	Wupatki	82.34 308	P	P	06 44 30.8 +1.0
	baz=51				
PB16	IPOC Station P	82.37 241	IAmb	IAmb	06 44 32.0
	comp=Z,13nm,0.9s				
Q19K	Cape Douglas,	82.44 345	P	P	06 44 30.8 +1.1
	baz=24				
MNMC	Minye Minye	82.95 241	IAmb	IAmb	06 44 38.2
	comp=Z,12nm,1.0s				
GO01	Chusmiza	83.02 240	IAmb	IAmb	06 44 37.8
	comp=Z,7.1nm,0.8s				
J05D	Fort Rock, OR	83.03 319	P	P	06 44 34.6 +1.3
	baz=46				
R11A	Troy Canyon, C	83.14 313	IAmb	IAmb	06 44 35.9
	comp=Z,11nm,1.4s				
R11A	Troy Canyon, C	83.14 313	P	P	06 44 34.5 +0.6
	baz=49,SNR=9.3				
HHC	Hu-ho-hao-te	83.27 44	eP	P	06 44 33.8 -0.7
HHC			pmax	pmax	
	comp=Z,9.0nm,1.0s				
HHC			pmax	pmax	
	comp=Z,140nm,4.9s				
PB08	IPOC Station P	83.31 239	IAmb	IAmb	06 44 37.9
	comp=Z,7.4nm,1.0s				
PRN	Pahroc Range	83.43 312	IAmb	IAmb	06 44 37.9
	comp=Z,14nm,1.3s				
XLT	XiLinHaoTe	83.61 39	eP	P	06 44 37.5 +1.4
XLT			pmax	pmax	
	comp=Z,10.0nm,1.1s				
NNA	Nana	83.76 251	P	P	06 44 37.2 0.0
TLIG	Tlapa	83.88 287	IAmb	IAmb	06 44 40.4
	comp=Z,12nm,1.2s				
TUC	Tucson	83.95 306	P	P	06 44 38.5 +0.4
TUC	Tucson	83.95 306	P	P	06 44 39.6 +1.5
	baz=51				
SHPR	Sheep Range	84.08 311	IAmb	IAmb	06 44 41.2
	comp=Z,7.3nm,1.3s				
Y14A	Wickenburg	84.38 308	IAmb	IAmb	06 44 43.1
	comp=Z,8.5nm,1.1s				
M04C	Madoel	84.39 319	P	P	06 44 40.6 +0.4
	baz=46				
NVAR	Mina Array Bea	84.69 314	P	P	06 44 41.1 -0.8
	comp=Z,0.4nm,0.7s,baz=54,slow=7.0,SNR=4.1				
K02D	Willamette Mer	84.71 320	P	P	06 44 42.5 +0.7
	baz=45				
LVC	Limon Verde	84.78 238	eP	P	06 44 43.4 +0.8
LVC	Limon Verde	84.78 238	P	P	06 44 43.4 +0.8
YERR	Yerington	84.86 315	IAmb	IAmb	06 44 51.1
	comp=Z,14nm,1.5s				
PDMCI	Parker Dam,Lak	84.86 309	P	P	06 44 43.5 +0.9
	baz=50				
MPK	Martis Peak	85.10 316	IAmb	IAmb	06 45 00.8
	comp=Z,18nm,1.4s				
FURC	Furnace Creek,	85.14 312	P	P	06 44 44.8 +1.0
	baz=48				
GWY	Greenwater Val	85.21 312	IAmb	IAmb	06 44 53.3
	comp=Z,14nm,1.4s				
QSM	Queen of Sheba	85.47 312	IAmb	IAmb	06 44 48.6
	comp=Z,10nm,1.4s				
214A	Organ Pipe Nat	85.51 306	P	P	06 44 46.5 +0.6
	baz=50				
IRM	Iron Mountain	85.59 309	P	P	06 44 47.5 +1.3
	baz=49				
CWC	Cottonwood Cre	85.89 313	P	P	06 44 48.8 +0.9
	baz=48				
HEC	Hector,Ludlow	85.90 311	P	P	06 44 49.0 +1.2
	baz=49				
PZH	PanZhiHua	86.22 60	P	P	06 44 50.0 +0.4
PZH			pmax	pmax	
	comp=Z,20nm,1.0s				
XAN	Xi'an	86.22 50	P	P	06 44 50.3 +0.9
XAN			pP	sP	06 44 54.5 0.0
XAN			pmax	pmax	
	comp=Z,17nm,1.1s				
BJT	Baijiatuan	86.39 42	IAmb	IAmb	06 44 51.7
	comp=Z,9.7nm,1.1s				
KLR	Kul'dur	86.54 28	P	P	06 44 49.1 -1.5
	comp=Z,1.6nm,0.8s,baz=306,slow=9.0,SNR=3.6				
KLR			LR	LR	07 27 00.9
	comp=Z,48nm,19.3s,baz=316,slow=38				
MONP2	Monument Peak	87.23 309	P	P	06 44 55.5 +0.9
	baz=48				
HNS	HongShan	87.41 45	⇑P	P	06 44 56.3 +1.2
HNS			pmax	pmax	
	comp=Z,21nm,0.9s				
CN2	Changchun	88.25 34	eP	P	06 44 58.3 -0.6
CN2			pmax	pmax	
	comp=Z,10.0nm,0.6s				
LPIG	La Paz	88.75 299	LR	LR	07 24 49.7
	comp=Z,90nm,18.3s,baz=18,slow=36				
CMAR	Chiang Mai Arr	89.08 68	P	P	06 45 02.5 -0.8
	comp=Z,1.8nm,0.4s,baz=306,slow=6.4,SNR=18				
NJ2	Nanjing	93.61 46	eP	P	06 45 24.5 +0.4
NJ2			pmax	pmax	
	comp=Z,9.0nm,0.6s				
KSRS	Korea Array	94.38 37	P	P	06 45 26.4 -1.2
	comp=Z,1.7nm,0.7s,baz=334,slow=5.1,SNR=6.1				
KSRS			LR	LR	07 33 35.8
	comp=Z,39nm,18.4s,baz=10.0,slow=39				
ASAJ	Asahikawa	94.76 24	LR	LR	07 34 14.8
	comp=Z,39nm,19.1s,baz=106,slow=39				
PLCA	Paso Flores	97.85 225	P	P	06 45 43.3 +0.2
	comp=Z,3.8nm,1.0s,baz=42,slow=6.8,SNR=3.9				
PLCA	Paso Flores	97.85 225	eP	Pdif	06 45 44.1 +0.9
MJAR	Matsushiro Arr	99.77 30	LR	LR	07 35 02.8
	comp=Z,43nm,19.7s,baz=344,slow=38				
WRA	Warramunga Arr	139.90 78	PKhKP	PKPpre	06 51 20.8
	comp=Z,0.4nm,0.9s,baz=314,slow=2.4,SNR=1.8				
ASAR	Alice Springs	141.41 84	PKhKP	PKPpre	06 51 30.6
	comp=Z,1.4nm,0.6s,baz=309,slow=2.8,SNR=17				
ASAR			PP	PP	06 54 41.2 -0.9
	comp=Z,0.5nm,0.8s,baz=308,slow=6.2,SNR=4.2				
STKA	Stephens Creek	150.88 93	PKPbc	PKPbc	06 51 60.0 -0.4
	comp=Z,14nm,0.8s,baz=334,slow=4.3,SNR=30				
STKA	Stephens Creek	150.88 93		PKPbc	06 51 59.4 -1.0

*CNRM **27** 06:36:29.7, 35.°49N×3.°71W, h17km, ml3.3*

ISC 27 06:36:28.8±1.5, 35.°52N±0.°05×3.°70W±0.°04, h15km±10km, n11, σ0°82/19, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.36	212	P	Pg	06 36 36.2	+0.1
PALE				S	Sg	06 36 40.7	-0.5
CHAS	Isla Isabel II	1.09	108	eP	Pb	06 36 49.6	+0.2
CHAS				eS	Sb	06 37 03.4	0.0
CHEFC	Chefchaouen	1.40	253	P	Pn	06 36 54.2	+0.3
JBK	JBK	1.51	141	P	Pn	06 36 55.0	-0.5
JBK				S	Sn	06 37 14.2	-0.8
RSA	Sarsar	1.85	250	P	Pb	06 37 01.7	-0.6
SICH	Sidi Chahed	1.94	224	P	Pb	06 37 04.6	+0.7
SICH				S	Sb	06 37 27.6	-0.3
LCRM	LCR	2.07	208	P	Pb	06 37 05.8	-0.3
LCRM				S	Sb	06 37 30.7	-1.0
MD31	MD31	2.79	199	P	Pn	06 37 14.1	+1.0
MD31				S	Sn	06 37 46.3	-0.2
MDT	Midelt	2.81	196	P	Pn	06 37 14.7	+1.5
MDT				S	Sn	06 37 47.4	+0.5
PVAQ	Vaqueiros	3.74	301	P	Pn	06 37 26.7	+0.7
PVAQ				S	Sn	06 38 08.6	-1.2
PFVI	Vila Bisbo	4.44	293	P	Pn	06 37 36.7	+1.1

IDC 27 06:59:24.6±2.7, 53.°98N×86.°52E, h0km, mb1 2.6/2, mb1mx2.1/65, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=21.1km s-min=13.1km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.01	269	i		07 05 18.3	
	baz=88,slow=339,SNR=7.3						
ZALV	Zalesovo Beam	1.01	269	Pg	Pg	06 59 42.9	-0.9
	0.5nm,0.3s,baz=92,slow=17,SNR=6.0						
ZALV				Lg	Lg	06 59 58.0	
	1.5nm,0.3s,baz=86,slow=28,SNR=11						
KURBB	Kurchatov Arra	5.94	239	Pn	Pn	07 00 55.2	+1.5
	0.1nm,0.3s,baz=55,slow=14,SNR=3.9						
KURBB				Lg	Lg	07 02 32.7	
	0.0nm,0.3s,baz=50,slow=30,SNR=2.6						
MKAR	Makanchi Array	7.69	202	Pn	Pn	07 01 18.4	+0.7
	0.1nm,0.3s,baz=26,slow=16,SNR=4.8						
MKAR				Lg	Lg	07 03 28.4	
	0.0nm,0.3s,baz=20,slow=31,SNR=2.0						

*IDC **27** 07:00:14.3±3.4, 51.°33N×176.°70W, h0km, mb3.3/4, mb1 3.8/6, mb1mx3.2/68, mbtmp3.6/6, ML2.2/1, Error ellipse: s-maj=73.4km s-min=40.8km az=176.0*

*AEIC **27** 07:00:25±1.1, 51.°5N±0.°1×175.°28W±0.°08, h28km±7km, ML3.4/13, Error ellipse: s-maj=15.2km s-min=6.2km az=165.0*

*NEIC **27** 07:00:26.5±1.3, 51.°59N±0.°09×175.°30W±0.°04, h35km±14km, Error ellipse: s-maj=13.1km s-min=4.1km az=176.0*

ISC 27 07:00:27.5±1.3, 51.°7N±0.°1×175.°35W±0.°05, h47km, n49, σ1°02/41, mb3.1/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	Great Sitkin M	0.58	311		Pn	07 00 39.4	-0.2
GSTD	Great Sitkin T	0.63	309		Pn	07 00 40.1	-0.2
GSTD					Sn	07 00 50.0	+0.5
ADK	Adak	0.86	285	Pn	Pn	07 00 42.3	-0.9
ATKA	Atka Island	0.90	52		Pn	07 00 42.2	-1.5
ATKA					Sn	07 00 53.9	-1.6
KOKL	Mount Kliuchef	0.97	46		Pn	07 00 44.1	-0.6
KOFP	Korovin Flat P	0.99	51		Pn	07 00 44.2	-0.8
KIWB	Kanaga Island	1.14	280		Pn	07 00 46.3	-0.7
KIKV	Kanaga Island	1.16	282		Pn	07 00 46.6	-0.6
KIMD	Kanaga Island	1.18	276		Pn	07 00 46.4	-1.1
TAFP	Tanaga Falls P	1.66	279		Pn	07 00 54.0	-0.1
TASE	Tanaga Southea	1.68	277		Pn	07 00 54.3	-0.1
NIKH	Nikolski High	4.19	69	Pn	Pn	07 01 30.1	+1.3
SPIA	Saint Paul Isl	6.27	26	Pn	Pn	07 01 57.0	-0.3
ANM	Nome	13.94	18	Pn	Pn	07 03 43.2	+1.1
OHAK	Old Harbor	13.96	58		Pn	07 03 40.9	-1.4
KDAK	Kodiak Island	14.47	56	Pn	Pn	07 03 51.9	+2.8
	1.3nm,0.3s,baz=297,slow=9.0,SNR=17						
CNPM	China Poot	15.66	50	Pn	Pn	07 04 05.7	+0.9
PETK	Petropavlovsk-	16.49	286	Pn	Pn	07 03 57.2	-18
	0.1nm,0.3s,baz=103,slow=17,SNR=1.7						
SEW	Seward	16.71	50	Pn	Pn	07 04 16.1	-1.7
CAST	Castle Rocks	17.04	37		Pn	07 04 22.3	+0.3
KTH	Kantishna Hill	17.55	38		Pn	07 04 29.4	+1.0
BPAW	Bear Paw Mtn.	17.82	36		Pn	07 04 32.3	+0.7
SML	Sawmill	17.82	45		Pn	07 04 30.6	-1.1
RND	Reindeer	18.28	40	P	P	07 04 37.5	+0.5
I23K	Minto, Yukon-K	18.98	35	P	P	07 04 42.9	-1.6
MDM	Murphy Dome	19.28	36	P	P	07 04 48.2	+0.2
CCB	Clear Creek Bu	19.28	37	P	P	07 04 48.1	+0.2
HDA	Harding Lake	19.50	38	P	P	07 04 50.6	+0.3
IL31		19.69	37	P	P	07 04 52.6	+0.3
ILAR	Eielson Array	19.69	37	P	P	07 04 53.3	+0.9
	0.4nm,0.4s,baz=225,slow=9.8,SNR=11						
H24K	Noodor Dome	19.87	34	P	P	07 04 56.0	+1.6
RIDG	Independent Ri	20.05	41	P	P	07 04 56.2	-0.2
DOT	Dot Lake	20.34	42	P	P	07 04 59.0	-0.5
SCRK	Sand Creek	20.49	41	P	P	07 05 00.4	-0.9
J26L	Joseph Creek	20.86	40	P	P	07 05 05.0	-0.2
TOLK	Toolik Lake Re	21.02	26	P	P	07 05 05.0	-1.8
DAWY	Dawson	22.43	43	P	P	07 05 21.9	0.0
INK	Inuvik	26.00	34	P	P	07 05 55.2	-0.2
	0.3nm,0.5s,baz=241,slow=7.1,SNR=1.8						
YKA	Yellowknife Ar	33.46	47	P	P	07 07 01.9	+0.4
	0.2nm,0.7s,baz=279,slow=7.7,SNR=2.0						
H11N2	WAKE ISLAND Hy	34.78	210	T	T	07 44 20.9	
	baz=20,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	34.79	210	T	T	07 44 21.3	
	baz=20,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	34.80	210	T	T	07 44 23.3	
	baz=20,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	35.99	210	T	T	07 45 50.6	
	baz=19,slow=76,SNR=32						
H11S2	WAKE ISLAND Hy	36.01	210	T	T	07 46 02.8	
	baz=19,slow=76,SNR=9.2						
H11S3	WAKE ISLAND Hy	36.01	210	T	T	07 45 58.8	
	baz=19,slow=76,SNR=6.7						
PDAR	Pinedale Array	44.16	75	P	P	07 08 31.9	+0.4
	1.0nm,0.7s,baz=305,slow=3.5,SNR=11						
H03N2	Juan Fernandez	119.16	108	T	T	09 29 41.5	
	baz=317,slow=77,SNR=11						
H03N1	Juan Fernandez	119.17	108	T	T	09 29 41.9	
	baz=317,slow=77,SNR=11						
H03N3	Juan Fernandez	119.18	108	T	T	09 29 45.2	
	baz=317,slow=77,SNR=9.9						

*NNC **27** 07:10:28.4±1.0, 50.°01N×78.°60E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=9.5km s-min=4.9km az=78.0, Suspected Mining explosion.*

*IDC **27** 07:10:29.8±1.0, 50.°07N×78.°75E, h0km, mb1 3.0/2, mb1mx2.4/56, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=13.6km s-min=6.0km az=66.0*

ISC 27 07:10:29.8±0.9, 50.°04N±0.°05×78.°76E±0.°05, h0km, n11, σ0°86/17, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.60	346	Pg	Pg	07 10 40.5	-0.8
	2.4nm,0.3s,baz=165,slow=17,SNR=20						
KURBB				Lg	Lg	07 10 49.4	
	2.0nm,0.3s,baz=164,slow=31,SNR=22						
KURBB	Kurchatov Arra	0.60	346	⇑P	Pg	07 10 40.1	-1.3
	23nm,0.3s						
KURBB				⇑S	Sg	07 10 49.7	+0.6
	27nm,0.4s						
KURK	Kurchatov	0.68	352	⇓P	Pg	07 10 41.7	-1.1
	6.8nm,0.3s						
KURK				⇓S	Sg	07 10 51.7	0.0
	3.4nm,0.3s						
SEM	Semipalatinsk	1.02	68	P	Pn	07 10 51.6	0.0
	8.1nm,0.1s						
SEM				S	Sn	07 11 07.4	+0.6
	23nm,0.2s						
MAKZ	Makanchi	3.88	145	⇓Pg	Pb	07 11 38.5	-0.5
	1.4nm,0.5s						
MAKZ				⇓Lg	Lg	07 12 28.6	
	3.5nm,0.7s						
BRZS	Berezniki	3.92	271	Pg	Pb	07 11 40.3	+0.5
	1.7nm,0.2s						
BRZS				Lg	Lg	07 12 30.5	
	3.1nm,0.7s						
MK31	Makanchi Array	4.01	143	⇑Pn	Pn	07 11 32.2	-0.3
	0.1nm,0.2s,baz=280,slow=22,SNR=21						
MK31				⇑Pg	Pb	07 11 41.2	-0.1
	0.7nm,0.3s,baz=326,slow=13,SNR=20						
MK31				⇑Lg	Lg	07 12 35.1	
	1.2nm,0.3s,baz=332,slow=28,SNR=11						
MKAR	Makanchi Array	4.01	143	Pn	Pn	07 11 32.5	0.0
	0.5nm,0.3s,baz=329,slow=11,SNR=27						
MKAR				Pg	Pb	07 11 41.3	0.0
	1.3nm,0.3s,baz=327,slow=15,SNR=20						
MKAR				Sn	Sn	07 12 21.7	+1.5
	0.7nm,0.3s,baz=331,slow=29,SNR=5.7						
MKAR				Lg	Lg	07 12 35.2	
	1.6nm,0.3s,baz=330,slow=27,SNR=8.5						
OTUK	Ortayu	4.58	249	⇑Pn	Pn	07 11 39.2	-1.2
	0.7nm,0.3s						
OTUK				⇑Pg	Pb	07 11 51.9	+0.8
	0.8nm,0.3s						
OTUK				⇑Lg	Lg	07 12 53.9	
	1.6nm,0.6s						
ZALV	Zalesovo Beam	5.41	41	Pn	Pn	07 11 52.8	+1.1
	0.9nm,0.3s,baz=229,slow=14,SNR=10						
ZALV			

2.9nm,0.6s,baz=101,slow=8.8,SNR=7.8
ASAR Alice Springs 45.31 259 P P 07 20 26.1 -0.2
1.0nm,0.8s,baz=101,slow=7.6,SNR=11
WRA Warramunga Arr 45.59 264 P P 07 20 27.4 -1.1
0.4nm,0.5s,baz=97,slow=8.1,SNR=6.3
AKASG Malin Array Be 145.41 331 PKPbc PKPdf 07 31 40.6 -0.4
0.9nm,0.5s,baz=49,slow=4.8,SNR=12

*CNRM **27** 07:18:57.0, 35.69N×3.49W, h15km, ml2.7*
ISC 27 07:18:54.3±2.4, 35.8N±0.1×3.47W±0.05, h10km±5km, n5, σ0.54/10, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.68**	**214**	P	**Pg**	**07 19 08.1**	**+0.6**
PALE				S	**Sb**	**07 19 17.3**	**-0.5**
CHAS	**Isla Isabel II**	**1.04**	**125**	*eP*	**Pg**	**07 19 14.3**	**0.0**
CHAS				*eS*	**Sb**	**07 19 28.5**	**+0.4**
JBK	**JBK**	**1.63**	**153**	P	**Pn**	**07 19 23.6**	**+0.4**
JBK				S	**Sn**	**07 19 44.3**	**0.0**
CHEFC	**Chefchaouen**	**1.67**	**247**	P	**Pn**	**07 19 23.8**	**+0.2**
CHEFC				S	**Sb**	**07 19 46.3**	**0.0**
MD31	**MD31**	**3.10**	**200**	P	**Pb**	**07 19 48.7**	**-0.9**
MD31				S	**Sn**	**07 20 21.0**	**+0.5**

*CNRM **27** 07:25:17.6, 35.52N×3.86W, h19km, ml2.5*
ISC 27 07:25:15.9±2.0, 35.6N±0.1×3.76W±0.05, h16km±10km, n5, σ1.13/10, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.40**	**201**	P	**Pg**	**07 25 24.2**	**0.0**
PALE				S	**Sg**	**07 25 28.8**	**-1.0**
CHAS	**Isla Isabel II**	**1.16**	**110**	*eP*	**Pg**	**07 25 38.7**	**+0.4**
CHAS				*eS*	**Sb**	**07 25 51.8**	**-0.6**
CHEFC	**Chefchaouen**	**1.38**	**250**	P	**Pb**	**07 25 42.1**	**+0.8**
CHEFC				S	**Sn**	**07 25 56.5**	**-2.0**
JBK	**JBK**	**1.59**	**142**	P	**Pn**	**07 25 43.1**	**-0.5**
JBK				S	**Sb**	**07 26 05.2**	**+0.1**
MD31	**MD31**	**2.84**	**197**	P	**Pn**	**07 26 01.8**	**+1.1**
MD31				S	**Sn**	**07 26 34.9**	**+0.3**

*NNC **27** 07:45:16.4±0.7, 49.99N×78.70E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=6.4km s-min=3.5km az=70.0, Suspected Mining explosion.*
*IDC **27** 07:45:17.4±0.7, 50.04N×78.74E, h0km, mb1 3.2/4, mb1mx2.8/61, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=11.0km s-min=5.7km az=65.0*
ISC 27 07:45:16.8±0.8, 49.96N±0.04×78.63E±0.04, h0km, n15, σ1.29/23, 8C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.66**	**355**	Pg	**Pg**	**07 45 29.0**	**-0.5**
	6.6nm,0.3s,baz=167,slow=18,SNR=122						
KURBB				Lg	Lg	07 45 37.5	
	6.8nm,0.3s,baz=144,slow=45,SNR=11						
KURBB	**Kurchatov Arra**	**0.66**	**355**	⇑P	**Pg**	**07 45 28.8**	**-0.7**
	33nm,0.3s						
KURBB				⇑S	**Sg**	**07 45 38.1**	**0.0**
	123nm,0.7s						
KURK	**Kurchatov**	**0.75**	**360**	⇑P	**Pg**	**07 45 30.4**	**-0.9**
	12nm,0.3s						
KURK				⇑S	**Sg**	**07 45 41.0**	**0.0**
	20nm,0.4s						
SEM	**Semipalatinsk**	**1.14**	**66**	P	**Pg**	**07 45 37.8**	**-0.8**
	5.9nm,0.2s						
SEM				S	**Sg**	**07 45 52.2**	**-1.1**
	21nm,0.3s						
BRZS	**Berezniki**	**3.84**	**273**	Pg	**Pg**	**07 46 28.8**	**-1.5**
	8.6nm,0.2s						
BRZS				Lg	Lg	07 47 19.0	
	4.6nm,0.8s						
MAKZ	**Makanchi**	**3.87**	**143**	⇓Pg	**Pb**	**07 46 25.7**	**-0.2**
	4.5nm,0.9s						
MAKZ				⇑Lg	Lg	07 47 16.7	
	11nm,0.6s						
MK31	**Makanchi Array**	**4.00**	**141**	⇑Pn	**Pn**	**07 46 20.9**	**+1.6**
	0.5nm,0.4s,baz=324,slow=11,SNR=32						
MK31				⇓Pg	**Pb**	**07 46 29.2**	**+1.1**
	1.1nm,0.4s,baz=323,slow=13,SNR=16						
MK31				⇓Lg	Lg	07 47 21.8	
	9.6nm,0.5s,baz=330,slow=27,SNR=20						
MKAR	**Makanchi Array**	**4.00**	**141**	Pn	**Pn**	**07 46 21.1**	**+1.7**
	0.8nm,0.3s,baz=330,slow=11,SNR=41						
MKAR				Pg	**Pb**	**07 46 27.5**	**-0.6**
	1.0nm,0.3s,baz=329,slow=16,SNR=11						
MKAR				Sn	**Sn**	**07 47 08.4**	**+1.5**
	0.6nm,0.3s,baz=327,slow=12,SNR=2.0						
MKAR				Lg	Lg	07 47 22.6	
	2.4nm,0.3s,baz=328,slow=32,SNR=20						
OTUK	**Ortayu**	**4.47**	**250**	⇓Pn	**Pn**	**07 46 27.5**	**+1.7**
	2.3nm,0.3s						
OTUK				⇑Lg	Lg	07 47 39.9	
	11nm,0.8s						
ZSN	**Zaisan**	**4.84**	**119**	Pg	**Pg**	**07 46 46.8**	**-2.6**
	2.8nm,0.5s						
ZSN				Lg	Lg	07 47 49.8	
	10nm,0.5s						
ZALV	**Zalesovo Beam**	**5.53**	**41**	Pn	**Pn**	**07 46 41.4**	**+1.1**
	1.9nm,0.3s,baz=231,slow=14,SNR=7.6						
ZALV				Sn	**Sn**	**07 47 44.7**	**+0.2**
	baz=227,slow=27,SNR=0.8						
ZALV				Lg	Lg	07 48 07.4	
	0.3nm,0.3s,baz=246,slow=26,SNR=2.2						
I46RU	**ZALESOVO INFRA**	**5.53**	**41**	*i*		08 16 56.1	
	baz=219,slow=343,SNR=1.5						
BVAR	**Borovoye Array**	**5.99**	**304**	Pn	**Pn**	**07 46 46.4**	**-0.2**
	0.3nm,0.3s,baz=85,slow=16,SNR=2.2						
BVAR				Sn	**Sn**	**07 47 54.6**	**-1.3**
	0.9nm,0.3s,baz=114,slow=28,SNR=12						
BVAR				Lg	Lg	07 48 27.2	
	0.6nm,0.3s,baz=110,slow=32,SNR=3.7						
BRVK	**Borovoye**	**6.06**	**304**	⇓Pn	**Pn**	**07 46 45.9**	**-1.7**
	1.2nm,0.9s						
BRVK				⇓Sn	**Sn**	**07 47 57.9**	**+0.3**
	3.2nm,0.6s						
BRVK				⇑Lg	Lg	07 48 29.9	
	1.8nm,0.5s						
AAK	**Ala-Archa**	**7.86**	**203**	Pn	**Pn**	**07 47 14.3**	**+1.8**
	0.4nm,0.3s,baz=22,slow=19,SNR=4.5						
AAK				Lg	Lg	07 49 29.9	
	0.4nm,0.3s,baz=72,slow=22,SNR=5.4						

*MAN **27** 07:48:36.2, 9.67N×126.47E, h12km, mb4.3, ML3.1, MS2.9*
*IDC **27** 07:48:39.1±8.1, 9.56N×126.35E, h75km±76km, mb3.7/15, mb1 3.8/16, mb1mx3.5/58, mbtmp4.0/16, ML4.2/1, MS3.3/3, Ms1 3.4/3, ms1mx2.7/79, Error ellipse: s-maj=40.0km s-min=17.8km az=66.0*
ISC 27 07:48:33.8±2.1, 9.56N±0.05×126.65E±0.09, h29km±14km, n31, σ1.98/33, mb4.1/15, MS3.3/3, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.16**	**281**	*eP*	**Pb**	**07 48 54.0**	**-1.3**
SCPH				*eS*	**Sn**	**07 49 10.1**	**+1.2**
BUTP	**Butuan**	**1.17**	**240**	⇑*eP*	**Pb**	**07 48 55.1**	**-0.3**
BUTP				*eS*	**Sb**	**07 49 12.1**	**+1.9**
BIPH	**Bislig**	**1.40**	**192**	⇓*iP*	**Pn**	**07 48 57.5**	**+0.2**
BIPH				*i* S	**Sn**	**07 49 12.7**	**-2.1**
MSLP	**Maasin**	**1.85**	**288**	*eP*	**Pb**	**07 49 05.5**	**-1.4**
MSLP				*i* S	**Sb**	**07 49 33.6**	**+3.8**
LLP	**Lapu-Lapu**	**2.75**	**286**	⇓*eP*	**Pb**	**07 49 18.5**	**-3.8**
LLP				*eS*	**Sb**	**07 49 56.1**	**+0.6**
TBP	**Tagbilaran**	**2.75**	**273**	*eP*	**Pn**	**07 49 16.9**	**+1.0**
TBP				*i* S	**Sb**	**07 49 53.4**	**-2.1**
KCP	**Kidapawan**	**2.96**	**211**	⇑*eP*	**Pb**	**07 49 23.5**	**-2.5**
KCP				*eS*	**Sn**	**07 49 56.4**	**+2.8**
CTBH	**Cotabato--PC H**	**3.32**	**226**	*eP*	**Pb**	**07 49 28.6**	**-3.5**
RCP	**Roxas**	**4.32**	**298**	⇓*eP*	**Pn**	**07 49 39.7**	**+2.2**
JAY	**Jayapura**	**18.44**	**130**	P	**Pn**	**07 52 52.0**	**+4.5**
	0.7nm,0.3s,baz=324,slow=15,SNR=2.3						
FITZ	**Fitzroy Crossi**	**27.50**	**182**	P	**P**	**07 54 18.9**	**+1.1**
	3.2nm,0.8s,baz=297,slow=18,SNR=3.5						
CMAR	**Chiang Mai Arr**	**28.26**	**291**	LR	LR	08 06 44.3	
	comp=Z,35nm,18.0s,baz=320,slow=39						
WRA	**Warramunga Arr**	**30.28**	**166**	P	**P**	**07 54 44.0**	**+1.4**
	0.3nm,0.6s,baz=348,slow=9.4,SNR=2.1						
ASAR	**Alice Springs**	**33.78**	**168**	P	**P**	**07 55 13.8**	**+0.5**
	0.5nm,0.9s,baz=354,slow=6.9,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**40.13**	**71**	T	T	08 39 38.9	
	baz=270						
H11N2	**WAKE ISLAND Hy**	**40.14**	**71**	T	T	08 39 44.6	
	baz=270						
H11N3	**WAKE ISLAND Hy**	**40.15**	**71**	T	T	08 39 43.5	
	baz=270						
SONM	**Songino Array**	**41.81**	**340**	P	**P**	**07 56 21.4**	**+0.4**
	0.4nm,0.4s,baz=166,slow=9.6,SNR=4.7						
YAK	**Yakutsk**	**52.42**	**2**	LR	LR	08 19 19.8	
	comp=Z,31nm,21.1s,baz=100,slow=35						
MKAR	**Makanchi Array**	**52.81**	**323**	P	**P**	**07 57 45.4**	**-1.2**
	0.8nm,0.7s,baz=125,slow=8.3,SNR=9.2						
ZALV	**Zalesovo Beam**	**55.42**	**331**	P	**P**	**07 58 04.0**	**-1.4**
	0.8nm,0.5s,baz=111,slow=8.1,SNR=3.5						
KURBB	**Kurchatov Arra**	**56.86**	**326**	P	**P**	**07 58 14.7**	**-1.1**
	0.9nm,0.5s,baz=127,slow=6.7,SNR=10						
NRIK	**Noril'sk**	**64.79**	**346**	P	**P**	**07 59 09.4**	**+0.1**
	2.6nm,0.6s,baz=133,slow=5.7,SNR=6.5						
NRIK				LR	LR	08 29 30.6	
	comp=Z,43nm,19.4s,baz=310,slow=38						
AKTO	**Aktyubinsk**	**69.10**	**320**	P	**P**	**07 59 35.8**	**-1.4**
	1.1nm,0.6s,baz=46,slow=5.2,SNR=4.1						
ARU	**Arti**	**70.02**	**327**	P	**P**	**07 59 40.7**	**-2.0**
	0.9nm,0.3s,baz=92,slow=7.2,SNR=3.6						
ILAR	**Eielson Array**	**79.91**	**26**	P	**P**	**08 00 39.3**	**-0.4**
	0.4nm,0.7s,baz=245,slow=4.7,SNR=5.0						
SPITS	**Spitsbergen Ar**	**84.78**	**349**	P	**P**	**08 01 04.4**	**-0.5**
	10nm,0.9s,baz=113,slow=11,SNR=2.1						
ARCES	**ARCESS Array B**	**84.98**	**340**	P	**P**	**08 01 05.8**	**-0.3**
	1.6nm,0.7s,baz=65,slow=7.1,SNR=4.8						
FINES	**FINESS Array B**	**86.69**	**332**	P	**P**	**08 01 14.4**	**-0.2**
	0.5nm,0.3s,baz=64,slow=4.5,SNR=6.7						
YKA	**Yellowknife Ar**	**94.25**	**24**	P	**P**	**08 01 50.5**	**+0.5**
	0.5nm,0.7s,baz=298,slow=4.4,SNR=11						
TORD	**Torodi Ar. Bea**	**120.87**	**292**	PKP	**PKPdf**	**08 07 23.8**	**-0.5**
	0.5nm,0.8s,baz=60,slow=3.5,SNR=2.7						

*IDC **27** 07:48:34.0±1.9, 59.91N×153.91W, h110km±29km, mb3.7/2, mb1 3.6/7, mb1mx3.0/66, mbtmp3.8/7, Error ellipse: s-maj=30.6km s-min=17.9km az=109.0*
*ANF **27** 07:48:35.8±0.3, 59.88N×153.38W, h136km±3km, ML3.5/34, Error ellipse: s-maj=3.0km s-min=2.5km az=64.0*
*NEIC **27** 07:48:35.5±1.4, 59.89N±0.03×153.56W±0.09, h144km±4km, Error ellipse: s-maj=7.3km s-min=2.6km az=65.0*
*AEIC **27** 07:48:36±1.4, 59.86N±0.05×153.5W±0.1, h144km±4km, ML3.3, ML3.5/91(NEIC), Error ellipse: s-maj=7.4km s-min=6.6km az=90.0*
ISC 27 07:48:35.3±0.8, 59.88N±0.03×153.44W±0.03, h148km±5km, n192, σ1.00/200, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.25**	**156**		**Pn**	**07 48 55.6**	**+0.1**
O20K	**Slope Mountain**	**0.46**	**63**		**Pn**	**07 48 56.5**	**+0.2**
O20K					**Sn**	**07 49 11.8**	**-0.5**
O20K	**Slope Mountain**	**0.46**	**63**	P	**Pn**	**07 48 56.4**	**+0.2**
	baz=243,SNR=13						
O20K				S	**Sn**	**07 49 11.6**	**-0.7**
	baz=243						
AUL	**Augustine Lava**	**0.50**	**180**		**Pn**	**07 48 56.6**	**+0.2**
AUL					**Sn**	**07 49 12.0**	**-0.5**
AUQ	**Augustine Qik'**	**0.53**	**179**		**Pn**	**07 48 56.9**	**+0.3**
O19K	**Port Alsworth**	**0.54**	**306**		**Pn**	**07 48 56.2**	**-0.4**
O19K	**Port Alsworth**	**0.54**	**306**		**Sn**	**07 49 10.6**	**-2.2**
O19K	**Port Alsworth**	**0.54**	**306**	IAML		07 49 02.0	
	comp=N,69nm,0.4s						
O19K				IAML		07 49 03.0	
	comp=E,62nm,0.5s						
O19K	**Port Alsworth**	**0.54**	**306**	P	**Pn**	**07 48 56.2**	**-0.4**
	baz=129,SNR=7.1						
O19K				S	**Sn**	**07 49 11.3**	**-1.5**
	baz=129						
RED	**Redoubt Volcan**	**0.63**	**31**		**Pn**	**07 48 57.1**	**-0.1**
RSO	**Redoubt South**	**0.68**	**30**		**Pn**	**07 48 57.5**	**-0.1**
NCT	**North Crescent**	**0.73**	**20**		**Pn**	**07 48 57.9**	**0.0**
NCT					**Sn**	**07 49 14.1**	**-1.0**
DFR	**Drift River**	**0.81**	**27**		**Pn**	**07 48 58.4**	**-0.1**
HOM	**Homer**	**0.93**	**103**		**Pn**	**07 48 59.7**	**+0.4**
HOM					**Sn**	**07 49 17.2**	**-0.4**
HOM	**Homer**	**0.93**	**103**	P	**Pn**	**07 48 59.7**	**+0.4**
	baz=283						
HOM				S	**Sn**	**07 49 16.9**	**-0.6**
	baz=283						
Q19K	**Cape Douglas,**	**0.96**	**186**		**Pn**	**07 48 59.5**	**-0.1**
Q19K	**Cape Douglas,**	**0.96**	**186**	IAML		07 48 59.8	
	comp=E,454nm,1.2s						
Q19K				IAML		07 49 22.9	
	comp=N,652nm,0.8s						
Q19K	**Cape Douglas,**	**0.96**	**186**	P	**Pn**	**07 48 59.5**	**-0.1**
	baz=4.9,SNR=9.7						
Q19K				S	**Sn**	**07 49 17.3**	**-0.8**
	baz=4.9						
P18K	**Big Mountain,**	**1.03**	**242**		**Pn**	**07 48 59.8**	**-0.4**
P18K	**Big Mountain,**	**1.03**	**242**	P	**Pn**	**07 48 59.8**	**-0.4**
	baz=62,SNR=8.2						
P18K				S	**Sn**	**07 49 17.4**	**-1.8**
	baz=62						
N19K	**Bonanza Creek**	**1.07**	**331**		**Pn**	**07 49 00.6**	**0.0**
N19K					**Sn**	**07 49 18.6**	**-1.3**
N19K	**Bonanza Creek**	**1.07**	**331**	P	**Pn**	**07 49 00.6**	**0.0**
	baz=152						
N19K				S	**Sn**	**07 49 18.5**	**-1.4**
	baz=152						
CNPM	**China Poot**	**1.17**	**107**		**Pn**	**07 49 01.6**	**+0.1**
CNPM					**Sn**	**07 49 19.7**	**-1.6**
CNPM	**China Poot**	**1.17**	**107**	IAML		07 49 22.0	
	comp=N,2μm,0.5s						
BRLK	**Bradley Lake**	**1.29**	**94**		**Pn**	**07 49 02.7**	**+0.1**
BRLK	**Bradley Lake**	**1.29**	**94**	IAML		07 49 23.6	
	comp=E,1μm,0.3s						
BRSE	**Bradley Lake S**	**1.37**	**95**		**Pn**	**07 49 03.5**	**+0.1**
BRSE	**Bradley Lake S**	**1.37**	**95**	P	**Pn**	**07 49 03.5**	**+0.1**
	baz=276,SNR=11						
BRSE				S	**Sn**	**07 49 23.2**	**-1.5**
	baz=276						
CAPN	**Captain Cook N**	**1.44**	**51**		**Pn**	**07 49 06.1**	**+2.1**
CAPN	**Captain Cook N**	**1.44**	**51**	IAML		07 49 30.0	
	comp=E,1μm,0.7s						
CAPN				IAML		07 49 30.8	
	comp=N,657nm,0.5s						
SPU	**Mount Spurr**	**1.47**	**27**		**Pn**	**07 49 04.7**	**+0.3**
SPCN	**Chakachatna No**	**1.48**	**24**		**Pn**	**07 49 05.2**	**+0.6**
SPNN	**North Nagishla**	**1.53**	**13**		**Pn**	**07 49 05.6**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.58**	**26**		**Pn**	**07 49 06.1**	**+0.5**
SLKM	**Skilak Lake**	**1.72**	**67**		**Pn**	**07 49 07.0**	**-0.2**
O22K	**Cooper Landing**	**1.95**	**70**		**Pn**	**07 49 10.0**	**+0.3**
O22K	**Cooper Landing**	**1.95**	**70**	IAML		07 49 44.0	
	comp=N,558nm,0.6s						
O22K				IAML		07 49 45.6	
	comp=E,516nm,0.5s						
O22K	**Cooper Landing**	**1.95**	**70**	P	**Pn**	**07 49 09.9**	**+0.3**
	baz=253,SNR=10.0						
SEW	**Seward**	**2.01**	**82**		**Pn**	**07 49 10.6**	**+0.2**
SEW	**Seward**	**2.01**	**82**	P	**Pn**	**07 49 10.6**	**+0.2**
	baz=265,SNR=19						
FIS	**Fire Island**	**2.03**	**50**		**Pn**	**07 49 11.9**	**+1.3**
FIS	**Fire Island**	**2.03**	**50**	IAML		07 49 45.0	
	comp=E,318nm,1.3s						
FIS				IAML		07 49 45.0	
	comp=N,332nm,2.5s						
SUA	**Susitna One**	**2.07**	**39**		**Pn**	**07 49 11.6**	**+0.5**
SUA	**Susitna One**	**2.07**	**39**	IAML		07 49 39.9	
	comp=N,296nm,0.8s						
M19K	**Big River Lodg**	**2.08**	**347**		**Pn**	**07 49 11.2**	**0.0**
M19K	**Big River Lodg**	**2.08**	**347**	P	**Pn**	**07 49 11.3**	**0.0**
	baz=168						
M19K				S	**Sn**	**07 49 38.0**	**-0.9**
	baz=168						
KDAK	**Kodiak Island**	**2.15**	**168**	P	**Pn**	**07 49 10.8**	**-1.2**
	comp=N,15nm,0.3s,baz=62,slow=8.2,SNR=152						
KDAK				S	**Sn**	**07 49 38.1**	**-2.1**
	comp=N,19nm,0.3s,baz=300,slow=20,SNR=13						
KDAK	**Kodiak Island**	**2.15**	**168**	P	**Pn**	**07 49 10.9**	**-1.2**
	baz=348						
KDAK				S	**Sn**	**07 49 38.5**	**-1.7**
	baz=348						
RC01	**Rabbit Creek A**	**2.20**	**55**		**Pn**	**07 49 12.5**	**0.0**
RC01	**Rabbit Creek A**	**2.20**	**55**	IAML		07 49 40.5	
	comp=N,294nm,0.2s						
RC01				IAML		07 49 41.2	
	comp=E,430nm,0.2s						
RC01	**Rabbit Creek A**	**2.20**	**55**	P	**Pn**	**07 49 12.3**	**-0.2**
	baz=238,SNR=9.0						
RC01				S	**Sn**	**07 49 39.9**	**-1.3**
	baz=238						
L19K	**White Mountain**	**2.41**	**344**		**Pn**	**07 49 15.2**	**0.0**
L19K	**White Mountain**	**2.41**	**344**	P	**Pn**	**07 49 15.2**	**0.0**
	baz=164						
L19K				S	**Sn**	**07 49 45.3**	**-0.7**
	baz=164						
M22K	**Willow**	**2.48**	**39**		**Pn**	**07 49 16.3**	**+0.3**
M22K	**Willow**	**2.48**	**39**	P	**Pn**	**07 49 16.1**	**+0.1**
	baz=222,SNR=5.3						
M22K				S	**Sn**	**07 49 46.8**	**-0.6**
	baz=222						
L20K	**Farewell, AK**	**2.62**	**355**		**Pn**	**07 49 18.2**	**+0.4**
L20K	**Farewell, AK**	**2.62**	**355**	P	**Pn**	**07 49 18.2**	**+0.4**
	baz=176						
L20K				S	**Sn**	**07 49 50.0**	**-0.5**
	baz=176						
OHAK	**Old Harbor**	**2.67**	**178**		**Pn**	**07 49 17.0**	**-1.3**
OHAK	**Old Harbor**	**2.67**	**178**	IAML		07 49 47.9	
	comp=N,125nm,3.4s						
OHAK				IAML		07 49 52.3	
	comp=E,95nm,0.4s						
OHAK	**Old Harbor**	**2.67**	**178**	P	**Pn**	**07 49 17.0**	**-1.3**
	baz=358						
OHAK				S	**Sn**	**07 49 48.9**	**-2.7**
	baz=358						
PWL	**Port Wells**	**2.72**	**67**	Pn	**Pn**	**07 49 18.3**	**-0.7**
PWL				IAML		07 49 54.1	
	comp=E,122nm,0.3s						
PWL				IAML		07 49 56.3	
	comp=N,143nm,0.4s						
PWL	**Port Wells**	**2.72**	**67**	P	**Pn**	**07 49 18.2**	**-0.7**
	baz=251						
PWL				S	**Sn**	**07 49 50.3**	**-2.4**
	baz=251						
PMR	**Palmer**	**2.72**	**49**		**Pn**	**07 49 17.9**	**-1.1**
PMR				IAML		07 49 52.2	
	comp=E,104nm,0.3s						
PMR				IAML		07 49 59.2	
	comp=N,116nm,0.3s						
PMR	**Palmer**	**2.72**	**49**	P	**Pn**	**07 49 18.0**	**-1.1**
	baz=233						
PMR				S	**Sn**	**07 49 49.9**	**-2.9**
	baz=233						
KNK	**Knik Glacier**	**2.89**	**56**		**Pn**	**07 49 20.2**	**-0.9**
KNK	**Knik Glacier**	**2.89**	**56**	IAML		07 49 55.5	
	comp=N,146nm,0.1s						
KNK				IAML		07 49 57.8	
	comp=E,140nm,0.5s						
KNK	**Knik Glacier**	**2.89**	**56**	P	**Pn**	**07 49 20.3**	**-0.9**
	baz=240						
KNK				S	**Sn**	**07 49 54.5**	**-2.1**
	baz=240						
GHO	**Glory Hole Cre**	**2.91**	**47**		**Pn**	**07 49 20.4**	**-1.1**
GHO				IAML		07 49 55.9	
	comp=N,124nm,0.3s						
GHO				IAML		07 49 57.2	
	comp=E,226nm,0.5s						
CUT	**Chulitna**	**2.96**	**30**	Pn	**Pn**	**07 49 22.6**	**+0.6**
CUT	**Chulitna**	**2.96**	**30**	P	**Pn**	**07 49 22.0**	**0.0**
	baz=213						
CUT				S	**Sn**	**07 49 57.0**	**-1.1**
	baz=213						
PPLA	**Purkeypile**	**3.08**	**11**		**Pn**	**07 49 25.0**	**+1.2**
PPLA	**Purkeypile**	**3.08**	**11**	P	**Pn**	**07 49 24.9**	**+1.2**
	baz=192						
SML	**Sawmill**	**3.16**	**50**		**Pn**	**07 49 23.6**	**-1.0**
SML	**Sawmill**	**3.16**	**50**	IAML		07 50 01.6	
	comp=E,104nm,0.4s						
SML				IAML		07 50 02.6	
	comp=N,118nm,0.3s						
SML	**Sawmill**	**3.16**	**50**	P	**Pn**	**07 49 23.6**	**-1.0**
	baz=234						
SML				S	**Sn**	**07 50 00.0**	**-2.7**
	baz=234						
TT01	**Tatalina**	**3.28**	**339**		**Pn**	**07 49 26.1**	**0.0**
TTA	**Tatalina**	**3.30**	**339**		**Pn**	**07 49 26.2**	**-0.2**
TTA	**Tatalina**	**3.30**	**339**	P	**Pn**	**07 49 26.2**	**-0.2**
	baz=157,SNR=9.1						
TTA				S	**Sn**	**07 50 04.6**	**-1.4**
	baz=157						
K20K	**Telida**	**3.50**	**355**		**Pn**	**07 49 29.6**	**+0.6**
K20K	**Telida**	**3.50**	**355**	P	**Pn**	**07 49 29.4**	**+0.5**
	baz=175,SNR=32						
SCM	**Sheep Creek Mo**	**3.57**	**54**		**Pn**	**07 49 29.2**	**-0.7**
SCM	**Sheep Creek Mo**	**3.57**	**54**	P	**Pn**	**07 49 29.3**	**-0.7**
	baz=239						
CAST	**Castle Rocks**	**3.61**	**10**		**Pn**	**07 49 30.6**	**+0.3**
CAST	**Castle Rocks**	**3.61**	**10**	P	**Pn**	**07 49 30.7**	**+0.3**
	baz=191,SNR=14						
KTH	**Kantishna Hill**	**3.87**	**17**		**Pn**	**07 49 34.1**	**+0.2**
KTH	**Kantishna Hill**	**3.87**	**17**	IAML		07 50 19.0	
	comp=E,39nm,0.5s						
KTH				IAML		07 50 19.0	
	comp=N,41nm,0.5s						
TRF	**Thorofare Moun**	**3.88**	**21**		**Pn**	**07 49 34.4**	**+0.3**
TRF	**Thorofare Moun**	**3.88**	**21**	IAML		07 50 20.8	
	comp=E,78nm,0.5s						
TRF				IAML		07 50 21.4	
	comp=N,107nm,0.5s						
TRF	**Thorofare Moun**	**3.88**	**21**	P	**Pn**	**07 49 34.2**	**+0.2**
	baz=204,SNR=5.2						
EYAK	**Cordova Ski Ar**	**3.89**	**77**		**Pn**	**07 49 34.1**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.89**	**77**	P	**Pn**	**07 49 33.9**	**-0.1**
	baz=263						
DIV	**Divide**	**3.99**	**68**		**Pn**	**07 49 34.9**	**-0.5**
KLU	**Klutina**	**4.03**	**63**		**Pn**	**07 49 35.6**	**-0.4**
KLU				IAML		07 50 23.0	
	comp=E,85nm,0.2s						
KLU	**Klutina**	**4.03**	**63**	P	**Pn**	**07 49 35.5**	**-0.4**
	baz=250,SNR=41						
CHUM	**Lake Minchumin**	**4.05**	**7**		**Pn**	**07 49 36.6**	**+0.5**
CHUM	**Lake Minchumin**	**4.05**	**7**	P	**Pn**	**07 49 36.5**	**+0.5**
	baz=188,SNR=5.6						
RND	**Reindeer**	**4.16**	**30**		**Pn**	**07 49 37.5**	**0.0**
RND	**Reindeer**	**4.16**	**30**	IAML		07 50 26.6	
	comp=

GLB	Gilahina Butte	4.99	68	IAML			07 50 47.0	
	comp=E,25nm,0.6s							
GLB				IAML			07 50 47.8	
	comp=N,34nm,0.5s							
PS10	TAPS Pump St10	5.10	43			Pn	07 49 50.9	+1.0
VRDI	Verde Repeater	5.11	70			Pn	07 49 50.6	+0.4
VRDI	Verde Repeater	5.11	70	IAML			07 51 07.4	
	comp=E,29nm,4.9s							
VRDI				IAML			07 51 59.2	
	comp=N,34nm,4.5s							
GCSA	Galena City Sc	5.14	343	P		Pn	07 49 50.5	+0.2
	baz=161,SNR=5.2							
NEA2	Nenana	5.15	21			Pn	07 49 50.1	-0.5
NEA2	Nenana	5.15	21	P		Pn	07 49 50.0	-0.6
	baz=206,SNR=8.3							
WRH	Wood River Hil	5.24	26			Pn	07 49 51.2	-0.5
MLY	Manley	5.32	12			Pn	07 49 52.6	-0.2
MLY				IAML			07 51 13.1	
	comp=E,12nm,5.0s							
MLY	Manley	5.32	12	P		Pn	07 49 52.5	-0.2
	baz=195							
SNH	Sunshine Point	5.32	82	Pn		Pn	07 49 54.3	+1.4
I21K	Tanana	5.36	7			Pn	07 49 54.1	+0.8
I21K				IAML			07 52 29.9	
	comp=N,24nm,4.4s							
I21K				IAML			07 53 22.6	
	comp=E,23nm,3.5s							
I21K	Tanana	5.36	7	P		Pn	07 49 53.7	+0.4
	baz=188							
CCB	Clear Creek Bu	5.46	26			Pn	07 49 53.9	-0.7
HDA	Harding Lake	5.47	31			Pn	07 49 54.5	-0.2
HDA	Harding Lake	5.47	31	P		Pn	07 49 54.5	-0.2
	baz=217,SNR=8.9							
ISLE	Juniper Island	5.58	78			Pn	07 49 56.9	+0.5
MENT	Mentasta	5.58	53			Pn	07 49 57.9	+1.5
KIAG	Kiagna River	5.59	74			Pn	07 49 57.5	+0.9
BALM	Baldy	5.61	73			Pn	07 49 57.4	+0.6
I23K	Minto, Yukon-K	5.61	18			Pn	07 49 56.5	-0.2
I23K	Minto, Yukon-K	5.61	18	P		Pn	07 49 56.5	-0.2
	baz=202,SNR=12							
RIDG	Independent Ri	5.62	43			Pn	07 49 57.1	+0.2
RIDG	Independent Ri	5.62	43	P		Pn	07 49 57.0	+0.2
	baz=230							
MDM	Murphy Dome	5.64	23			Pn	07 49 56.6	-0.5
TCOL	CIGO, UAF Yank	5.64	25			Pn	07 49 56.9	-0.2
TCOL	CIGO, UAF Yank	5.64	25	P		Pn	07 49 56.6	-0.4
	baz=210,SNR=6.1							
COLA	College	5.64	25			Pn	07 49 56.6	-0.4
COLA	College	5.64	25	P		Pn	07 49 56.6	-0.4
	baz=210							
M26K	Nabesna, AK	5.65	59			Pn	07 49 58.5	+1.2
M26K	Nabesna, AK	5.65	59	P		Pn	07 49 58.1	+0.9
	baz=248							
IL31		5.78	29			Pn	07 49 58.3	-0.5
ILAR	Eielson Array	5.78	29	P		Pn	07 49 58.2	-0.6
	comp=E,2.2nm,0.3s,baz=221,slow=13,SNR=64							
ILAR				S		Sn	07 50 58.4	-5.8
	comp=E,2.1nm,0.3s,baz=216,slow=26,SNR=5.9							
H21K	Melozitna Rive	5.81	3	P		Pn	07 49 59.3	0.0
	baz=183							
YAH	Yahtse	5.87	80			Pn	07 50 01.0	+0.7
BARN	Barnard Glacie	5.94	73			Pn	07 50 02.5	+1.2
POKR	Poker Plat Res	5.94	25			Pn	07 50 01.1	+0.1
POKR	Poker Plat Res	5.94	25	P		Pn	07 50 00.9	-0.2
	baz=211							
SCRK	Sand Creek	6.06	43			Pn	07 50 02.2	-0.6
SCRK	Sand Creek	6.06	43	P		Pn	07 50 02.1	-0.6
	baz=232							
M27K	Edge Creek, AK	6.13	61			Pn	07 50 05.4	+1.8
M27K	Edge Creek, AK	6.13	61	P		Pn	07 50 04.4	+0.7
	baz=251							
L27K	Beaver Creek,	6.41	55			Pn	07 50 07.6	+0.3
L27K	Beaver Creek,	6.41	55	P		Pn	07 50 07.5	+0.1
	baz=245							
YUK2	White River	6.45	67			Pn	07 50 09.0	+1.1
H24K	Noodor Dome	6.49	21			Pn	07 50 08.4	-0.1
H24K	Noodor Dome	6.49	21	P		Pn	07 50 08.2	-0.3
	baz=206							
J26L	Joseph Creek	6.54	41	P		Pn	07 50 09.2	+0.1
	baz=229							
BVCY	Beaver Creek	6.59	62			Pn	07 50 11.2	+1.4
BVCY	Beaver Creek	6.59	62	P		Pn	07 50 10.8	+1.0
	baz=253							
PCA	Pinnacle	6.62	82			Pn	07 50 11.3	+1.2
PINM	Pinnacle	6.62	82	P		Pn	07 50 11.1	+0.9
	baz=274							
YUK3	Moose Creek	6.62	68			Pn	07 50 11.5	+1.2
YUK3	Moose Creek	6.62	68	P		Pn	07 50 11.3	+0.9
	baz=259							
PNL	Peninsula	7.09	86	P		Pn	07 50 17.7	+1.2
	baz=278							
ANM	Nome	7.29	315	P		Pn	07 50 20.4	+1.4
	baz=125							
COLD	Coldfoot	7.51	10			Pn	07 50 22.1	0.0
COLD	Coldfoot	7.51	10	P		Pn	07 50 21.9	-0.1
	baz=193							
FYU	Fort Yukon	7.66	25			Pn	07 50 23.3	-0.6
DAWY	Dawson	7.83	52	Pn		Pn	07 50 27.5	+1.3
BM03	Burnt Mountain	8.51	24			Pn	07 50 35.0	-0.4
BM01	Burnt Mountain	8.56	24			Pn	07 50 35.5	-0.5
INK	Inuvik	12.06	37	P		Pn	07 51 22.9	+0.8
	comp=E,0.3nm,0.3s,baz=235,slow=15,SNR=12							
INK				S		S	07 53 51.0	-1.3
	comp=E,0.0nm,0.3s,baz=112,slow=31,SNR=8.8							
DLBC	Dease Lake	12.08	87	P		P	07 51 27.4	-1.7
	comp=E,0.3nm,0.3s,baz=256,slow=7.6,SNR=14							
DLBC				S		Sn	07 53 39.1	+3.2
	comp=E,0.1nm,0.3s,baz=231,slow=8.4,SNR=1.4							
A36M	Sachs Harbour	16.47	31	P		Pn	07 52 17.2	-0.2
	baz=237,SNR=14							
YKA	Yellowknife Ar	18.70	65	P		P	07 52 43.9	+2.0
	comp=E,0.2nm,0.3s,baz=278,slow=9.8,SNR=21							
ZALV	Zalesovo Beam	57.34	323	P		P	07 58 09.3	+2.0
	comp=E,1.2nm,0.5s,baz=34,slow=5.4,SNR=5.2							
BVAR	Borovoye Array	62.07	332	P		P	07 58 41.2	+1.6
	comp=E,0.9nm,0.5s,baz=41,slow=13,SNR=5.0							

*TUL **27** 07:56:51.5±1.1, 36°.51N±0°.01×97°.29W±0°.02, h7km±7km, ML2.8, mb_Lg2.5/28(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=58.0*

NEIC 27 07:56:51.6±1.3, 36°.48N±0°.01×97°.304W±0°.009, h5km±7km, Error ellipse: s-maj=1.5km s-min=1.1km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	Blackwell	0.28	14	Pg	Pg	07 56 57.1	-0.1
BLOK				Sg	Sg	07 57 00.9	-0.1
OK033	Mehan	0.53	146	Pg	Pg	07 57 02.1	+0.3
OK033				Sg	Sg	07 57 09.6	+1.0
KAN13	South Haven SW	0.55	345	Pg	Pg	07 57 02.0	-0.1
KAN13				Sg	Sg	07 57 09.6	+0.4
CROK	Carrier	0.55	272	Pg	Pg	07 57 02.3	+0.2
CROK				Sg	Sg	07 57 10.1	+0.8
QUOK	Quay	0.57	123	Pg	Pg	07 57 02.8	+0.2
QUOK				Sg	Sg	07 57 10.4	+0.3
GC02	Grant County #	0.58	310	Pg	Pg	07 57 02.6	-0.2
GC02				Sg	Sg	07 57 10.5	+0.3
OK031	S. Brethren Rd	0.65	145	Pg	Pg	07 57 04.3	+0.2
OK031				Sg	Sg	07 57 13.2	+0.7
KAN17	Caldwell West	0.67	327	Pg	Pg	07 57 04.4	-0.1
OK034	N. Norfolk Rd.	0.67	135	Pg	Pg	07 57 04.6	+0.1
OK034				Sg	Sg	07 57 13.6	+0.3
OK029	Liberty Lake	0.70	190	Pg	Pg	07 57 05.2	+0.2
OK029				Sg	Sg	07 57 14.8	+0.8
OK030	Cody Creek RV	0.70	143	Pg	Pg	07 57 05.1	+0.1
OK030				Sg	Sg	07 57 14.9	+0.9
KAN14	Manchester OK	0.71	312		Pg	07 57 05.2	0.0
KAN14					Pn	07 57 14.3	+5.9
KAN14				Sg	Sg	07 57 14.4	0.0
KAN01	Argonia South	0.76	331		Pg	07 57 06.1	-0.2
KAN01				Sg	Sg	07 57 15.9	-0.2
T35A	Sooner Cattle	0.77	56		Pg	07 57 06.1	-0.2
T35A				Sg	Sg	07 57 15.3	-1.0
KAN05	Bluff City Nor	0.77	324		Pg	07 57 06.3	-0.1
BCOK	Bluff Creek, N	0.86	197	Pg	Pg	07 57 07.9	-0.3
KAN06	Argonia West S	0.88	330	Pg	Pg	07 57 08.1	-0.5
KAN10	Anthony SW Sta	0.90	315	Pg	Pg	07 57 08.8	-0.1
OK025	Westminster Rd	0.90	182		Pg	07 57 08.5	-0.4
KAN08	Anthony NE Sta	0.91	324	Pg	Pg	07 57 08.6	-0.6
KAN16	Harper SW Stat	0.96	321		Pg	07 57 09.0	-1.0
KAN12	Harper NE Stat	0.98	326		Pg	07 57 09.9	-0.6
OKCFA	Oklahoma City	1.07	186		Pg	07 57 11.8	-0.4
OKCSW	OKLAHOMA CITY	1.08	186		Pg	07 57 11.5	-0.8
OK035	E0210 Rd and N	1.15	282		Pg	07 57 13.0	-0.8
FNO	Franklin	1.23	184	Pn	Pg	07 57 14.5	-0.6
TUL1	Leonard	1.35	115	Pn	Pn	07 57 15.9	-1.3
U32A	Winter Ranch,	1.37	266	Pn	Pn	07 57 15.3	-2.2
W35A	Tecumseh	1.37	165	Pn	Pn	07 57 15.9	-1.5
X34A	Smith Ranch, M	1.93	193		Pn	07 57 26.0	+0.9
X34A				IAmb_Lg		07 57 53.2	
	comp=Z,31nm,0.9s						
WMOK	Wichita Mounta	2.12	215		Pn	07 57 29.0	+1.3
R32A	Long Quarter,	2.23	330		Pn	07 57 29.0	-0.4
R32A				IAmb_Lg		07 58 05.2	
	comp=Z,20nm,0.8s						
U38A	Gravette	2.35	90		Pn	07 57 31.9	+0.9
U38A				IAmb_Lg		07 58 09.6	
	comp=Z,14nm,0.8s						
X37A	Clayton	2.46	140		Pn	07 57 33.5	+1.1
LOOK	Love County	2.49	178	Pn	Pn	07 57 34.5	+1.7
KSU1	Kansas State U	2.67	12	IAmb_Lg		07 58 20.6	
	comp=Z,16nm,0.9s						
HHAR	Hobbs	2.72	93		Pn	07 57 36.7	+0.6
CBKS	Cedar Bluff	3.02	321	Pn	Pn	07 57 41.8	+1.6
S39A	Bolivar	3.40	68	Pn	Pn	07 57 46.0	+0.7
U40A	Yellville	3.59	91	IAmb_Lg		07 58 53.2	
	comp=Z,10nm,0.8s						
Z38A	Mt. Pleasant	3.74	149	IAmb_Lg		07 58 54.1	
	comp=Z,17nm,0.8s						
AMTX	Amarillo	3.91	247	IAmb_Lg		07 59 05.6	
	comp=Z,10nm,0.8s						
X40A	Basin Creek Fa	4.16	117	IAmb_Lg		07 59 04.7	
	comp=Z,9.7nm,0.7s						
ABTX	Abilene, Hawle	4.31	207	IAmb_Lg		07 59 11.2	
	comp=Z,17nm,1.2s						
W41B	Gary Mavity, V	4.31	106	IAmb_Lg		07 59 06.9	
	comp=Z,14nm,0.8s						
P38A	Dawn	4.32	42	IAmb_Lg		07 59 11.2	
	comp=Z,10nm,0.8s						
PBMO	Poplar Bluff	5.54	85	IAmb_Lg		07 59 55.7	
	comp=Z,8.1nm,0.7s						
435B	Jarrell	5.69	182	IAmb_Lg		07 59 59.5	
	comp=Z,9.7nm,0.8s						
T25A	Trinidad	5.74	279	IAmb_Lg		07 59 57.0	
	comp=Z,8.1nm,0.9s						

IDC 27 07:58:42.4±2.5, 54°.13N×86°.50E, h0km, mb1 3.1/2, mb1mx2.4/55, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=19.6km s-min=12.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.01	260	*i*		08 04 20.0	
	baz=80,slow=337,SNR=9.7						
ZALV	Zalesovo Beam	1.01	260	Pg	Pg	07 58 59.9	-1.8
	1.3nm,0.3s,baz=81,slow=17,SNR=12						
ZALV				Lg	Lg	07 59 15.6	
	2.8nm,0.3s,baz=82,slow=32,SNR=13						
KURBB	Kurchatov Arra	6.01	237	Pn	Pn	08 00 13.4	+0.8
	0.2nm,0.3s,baz=54,slow=13,SNR=8.4						
KURBB				Sn	Sn	08 01 23.6	+1.5
	0.0nm,0.3s,baz=341,slow=22,SNR=1.9						
KURBB				Lg	Lg	08 01 54.2	
	0.0nm,0.3s,baz=142,slow=26,SNR=2.0						
MKAR	Makanchi Array	7.82	202	Pn	Pn	08 00 38.2	+0.8
	0.4nm,0.3s,baz=26,slow=14,SNR=16						
MKAR				Sn	Sn	08 02 07.7	+1.0
	0.1nm,0.3s,baz=19,slow=12,SNR=2.3						
MKAR				Lg	Lg	08 02 49.5	
	baz=21,slow=21,SNR=1.5						

IDC 27 08:14:52.0±2.8, 54°.13N×86°.52E, h0km, mb1 2.7/2, mb1mx2.7/45, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=23.4km s-min=13.9km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.02	260	*i*		08 20 26.9	
	baz=80,slow=337,SNR=6.8						
ZALV	Zalesovo Beam	1.02	260	Pg	Pg	08 15 11.5	0.0
	0.3nm,0.3s,baz=80,slow=16,SNR=5.7						
ZALV				Lg	Lg	08 15 25.9	
	0.7nm,0.3s,baz=77,slow=28,SNR=8.8						
KURBB	Kurchatov Arra	6.02	238	Pn	Pn	08 16 22.3	0.0
	0.0nm,0.3s,baz=54,slow=13,SNR=4.6						
MKAR	Makanchi Array	7.83	202	Pn	Pn	08 16 48.4	+1.3
	0.1nm,0.3s,baz=26,slow=14,SNR=7.7						

*NOU **27** 08:25:04.8, 14°.72S×167°.59E, h132km, mb3.9/13, Vanuatu Islands*
*IDC **27** 08:25:04.9±11.0, 15°.06S×165°.40E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/41, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=206.3km s-min=33.7km az=55.0*
*NEIC **27** 08:25:06.1±2.4, 14°.9S±0°.1×166°.2E±0°.2, h55km±19km, mb4.1/8, Error ellipse: s-maj=22.4km s-min=15.2km az=86.0*

ISC 27 08:25:04.4±1.4, 14°.8S±0°.1×166°.2E±0°.1, h50km, n27, σ1°53/26, mb4.1/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.17	127	Pn	Pn	08 25 26.6	+2.1
SANVU	Saraoutou	1.17	127	P	Pn	08 25 26.4	+1.9
DVP	Devils Point	3.51	148	P	Pn	08 25 52.6	-3.9
KOUNC	Koumac, New Ca	6.06	198	P	Pn	08 26 39.8	+8.3
LIFNC	LIFOU	6.08	171	Pn	Pn	08 26 29.9	-1.8
LIFNC	LIFOU	6.08	171	P	Pn	08 26 30.8	-0.9
MARNC	Mare, Loyalty	6.91	166	Pn	Pn	08 26 41.8	-1.4
DZM	Mont Dzumac	7.29	178	Pn	Pn	08 26 49.6	+1.1
	2.3nm,0.3s,baz=30,slow=12,SNR=38						
DZM				Sn	Sn	08 28 11.2	+1.2
	0.8nm,0.3s,baz=153,slow=23,SNR=5.8						
DZM	Mont Dzumac	7.29	178	P	Pn	08 26 50.0	+1.5
YATNC	Mamie plateau,	7.30	175	P	Pn	08 26 48.3	-0.2
NOUC	Port Laguerre	7.32	179	P	Pn	08 26 51.0	+2.3
ONTNC	Ouen Toro	7.52	178	Pn	Pn	08 26 52.3	+0.8
ONTNC	Ouen Toro	7.52	178	P	Pn	08 26 53.8	+2.2
OUENC	Ouen Island, N	7.65	176	Pn	Pn	08 26 54.7	+1.4
OUENC	Ouen Island, N	7.65	176	P	Pn	08 26 54.3	+0.9
PINNC	Pines Island,	7.91	172	Pn	Pn	08 26 56.3	-0.6
EIDS	Eidsvold	17.71	231		P	08 29 09.2	+1.3
EIDS				IAmb	IAmb	08 29 21.5	
	comp=Z,7.3nm,1.2s						
COEN	Coen	22.35	269	P	P	08 29 58.8	+0.4
COEN				IAmb	IAmb	08 30 01.9	
	comp=Z,8.5nm,1.1s						
STKA	Stephens Creek	28.22	229	P	P	08 30 52.5	-0.3
	comp=Z,1.3nm,0.4s,baz=64,slow=9.2,SNR=7.8						
STKA	Stephens Creek	28.22	229	IAmb	IAmb	08 30 53.2	
	comp=Z,1.0nm,1.1s						
WB0	Warramunga Arr	30.78	256	P	P	08 31 15.0	-0.6
WB0				IAmb	IAmb	08 31 35.1	
	comp=Z,5.5nm,1.2s						
WRAB	Tennant Creek	30.83	256	P	P	08 31 15.7	-0.3
WRAB				IAmb	IAmb	08 31 36.0	
	comp=Z,9.1nm,1.2s						
WRA	Warramunga Arr	30.84	256	P	P	08 31 15.7	-0.4
	comp=Z,0.6nm,0.6s,baz=87,slow=8.9,SNR=3.8						
ASAR	Alice Springs	31.73	249	P	P	08 31 23.2	-0.6
	comp=Z,0.7nm,0.3s,baz=78,slow=9.0,SNR=23						
BBOO	Buckleboo	32.78	231	P	P	08 31 32.0	-0.9
FORT	Forrest	38.42	239	P	P	08 32 20.2	-1.2
FITZ	Fitzroy Crossi	39.02	259	P	P	08 32 26.2	-0.4
	comp=Z,1.4nm,0.4s,baz=90,slow=5.6,SNR=8.8						

*NNC **27** 08:37:18.1±6.4, 37°.65N×71°.27E, h92km±134km, mb3.6, mpv3.9, Error ellipse: s-maj=49.1km s-min=36.4km az=4.0*
*IDC **27** 08:37:18.7±8.1, 37°.53N×71°.94E, h144km±52km, mb3.5/4, mb1 3.4/10, mb1mx3.0/53, mbtmp3.8/10, Error ellipse: s-maj=70.5km s-min=37.2km az=179.0*

ISC 27 08:37:15.5±1.1, 37°.41N±0°.09×71°.72E±0°.10, h150km, n27, σ2°77/32, mb3.9/3, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.96	17	P	Pn	08 38 29.4	+0.7
	SNR=48						
UCH	Uchtor	5.27	23	P	Pn	08 38 32.9	+0.1
	SNR=10						
EKS2	Erkin-Say	5.48	16	P	Pn	08 38 36.6	+1.3
	SNR=7.0						
AAK	Ala-Archa	5.64	21	P	Pn	08 38 38.6	+1.2
	2.9nm,0.3s,baz=177,slow=6.0,SNR=30						
AAK				S	Sn	08 39 40.9	-0.6
	2.1nm,0.3s,baz=345,slow=20,SNR=19						
AAK	Ala-Archa	5.64	21	P	Pn	08 38 38.7	+1.2
	SNR=12						
AAK	Ala-Archa	5.64	21	⇓P	Pn	08 38 38.4	+1.0
	3.7nm,0.5s						
AAK				⇑S	Sn	08 39 40.3	-1.2
	21nm,0.8s						
KK02	Karatay Array	5.76	351	⇑P	Pn	08 38 39.3	+0.3
	12nm,0.3s,baz=176,slow=13						
KK02				⇑S	Sn	08 39 40.8	-3.4
	13nm,0.3s,baz=180,slow=24						
CHMS	Chumysh	6.05	22	P	Pn	08 38 43.8	+1.0
	SNR=6.3						
TKM2	Tokmak 2	6.25	27	P	Pn	08 38 46.7	+1.0
	SNR=12						
TKM2	Tokmak 2	6.25	27	⇑P	Pn	08 38 46.0	+0.3
	5.7nm,0.6s						
TKM2				⇑S	Sn	08 39 57.4	+1.1
	5.3nm,0.8s						
MKAR	Makanchi Array	12.22	37	P	Pn	08 40 05.1	+0.7
	baz=215,slow=12,SNR=1.0						
PYUN	Piuthan	13.26	131	*e*P	Pn	08 40 13.6	-4.6
	7.5nm,0.3s						
DANN	Dangsing	13.55	128	*e*P	Pn	08 40 17.4	-4.6
	5.1nm,0.3s						
KURBB	Kurchatov Arra	14.08	18	P	Pn	08 40 27.8	-0.3
	0.1nm,0.3s,baz=206,slow=10,SNR=1.3						
GKN	Gorkha	14.35	127	*e*P	Pn	08 40 28.0	-3.9
	7.8nm,0.3s						
AB31	Akbulak array	14.60	328	⇑P	Pn	08 40 34.7	+0.1
	0.8nm,0.3s,baz=133,slow=14,SNR=64						
AB31				⇓S	Sn	08 43 09.4	-7.0
	2.8nm,0.6s,baz=153,slow=21,SNR=14						
PKIN	Phulchoki	15.12	126	*e*P	Pn	08 40 38.5	-3.2
	11nm,0.4s						
PKI	Pulchoki	15.14	126	*e*P	Pn	08 40 38.5	-3.4
	4.1nm,0.3s						
GUN	Gumba	15.21	124	*e*P	Pn	08 40 39.2	-3.6
	4.6nm,0.3s						
BVAR	Borovoye Array	15.65	357	P	P	08 40 50.1	+1.5
	0.3nm,0.3s,baz=149,slow=12,SNR=4.9						
AKTO	Aktyubinsk	16.31	327	P	P	08 40 58.3	+2.4
	0.7nm,0.3s,baz=130,slow=9.4,SNR=12						
AKTO				S	S	08 43 47.5	-9.2
	0.2nm,0.3s,baz=39,slow=15,SNR=4.2						
AKTO	Aktyubinsk	16.31	327	⇓P	P	08 40 58.3	+2.4
	4.1nm,0.7s						
AKTO				⇑S	S	08 43 52.4	-4.3
	4.1nm,1.1s						
ZALV	Zalesovo Beam	18.85	24	P	Pn	08 41 25.9	-0.1
	0.6nm,0.3s,baz=210,slow=9.9,SNR=7.8						
ARU	Arti	20.98	339	P	P	08 41 49.6	+3.0
	1.7nm,0.2s,baz=139,slow=11,SNR=1.1						
FINES	FINESS Array B	37.06	325	P	P	08 44 14.2	+3.6
	2.3nm,1.0s,baz=119,slow=11,SNR=6.9						
ARCES	ARCESS Array B	40.53	337	P	P	08 44 43.2	+3.7
	7.8nm,1.1s,baz=112,slow=9.8,SNR=5.5						
YKA	Yellowknife Ar	80.31	3	P	P	08 49 12.4	+3.1
	0.1nm,0.3s,baz=349,slow=5.5,SNR=4.6						

IDC 27 08:44:49.4±3.1, 53°.61N×87°.90E, h0km, mb1 2.9/2, mb1mx2.8/40, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=25.5km s-min=16.9km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.86	282	*i*		08 55 27.3	
	baz=98,slow=336,SNR=6.4						
ZALV	Zalesovo Beam	1.86	282	Pg	Pn	08 45 22.4	-0.1
	1.5nm,0.3s,baz=104,slow=12,SNR=17						
ZALV				Lg	Lg	08 45 49.3	
	2.6nm,0.3s,baz=101,slow=26,SNR=17						
KURBB	Kurchatov Arra	6.50	246	Pn	Pn	08 46 27.0	+0.7
	0.0nm,0.3s,baz=61,slow=14,SNR=2.4						
KURBB				Sn	Sn	08 47 40.1	-0.9
	0.0nm,0.3s,baz=27,slow=35,SNR=1.5						
KURBB				Lg	Lg	08 48 14.7	
	0.1nm,0.3s,baz=61,slow=32,SNR=8.4						
MKAR	Makanchi Array	7.71	210	Pn	Pn	08 46 44.1	+1.3
	0.1nm,0.3s,baz=28,slow=13,SNR=5.5						
MKAR				Lg	Lg	08 48 55.1	
	0.0nm,0.3s,baz=27,slow=29,SNR=2.8						

*SFS **27** 08:54:20.0, 35°.50N×3°.70W, ML2.1, ALBORAN SUR*
*CNRM **27** 08:54:23.4, 35°.25N×3°.88W, h21km, ml2.8*

ISC 27 08:54:19.0±1.3, 35°.47N±0°.04×3°.79W±0°.04, h33km±4km, n9, σ1°31/18, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.28	207	P	Pb	08 54 26.2	-0.4
PALE				S	Sb	08 54 31.1	-0.7
CHAS	Isla Isabel II	1.14	104	*e*P	Pn	08 54 38.6	-0.1
CHAS				*e*S	Sn	08 54 52.7	-0.5
CHEFC	Chefchaouen	1.32	255	P	Pb	08 54 44.3	+0.9
CHEFC				S	Sb	08 55 00.7	+0.6
EMAL	Malaga-Limoner	1.39	338	*e*P	Pn	08 54 41.5	-0.6
EMAL				*e*S	Sb	08 55 02.7	+0.7
JBK	JBK	1.51	138	P	Pb	08 54 47.0	+0.4
JBK				S	Sb	08 55 07.0	+1.5
SICH	Sidi Chahed	1.85	223	P	Pb	08 54 52.0	-0.4
SICH				S	Sb	08 55 15.6	+0.4
LCRM	LCR	1.98	207	P	Pb	08 54 53.5	-1.2
LCRM				S	Sb	08 55 19.0	0.0
MD31	MD31	2.72	198	P	Pn	08 55 02.7	+2.3
MD31	

0.4nm,0.3s,baz=61,slow=14,SNR=46
KURBB Sn **Sn** **09 23 12.1 +0.6**
0.1nm,0.3s,baz=54,slow=20,SNR=1.1
KURBB Lg Lg 09 23 47.0
0.1nm,0.3s,baz=66,slow=38,SNR=5.3
KURBB Kurchatov Arra 6.62 246 ⇑Pn **Pn** **09 21 55.4 0.0**
3.9nm,0.3s
KURBB ⇑Sn **Sn** **09 23 11.0 -0.5**
4.8nm,0.7s
KURBB ⇓Lg Lg 09 23 45.7
4.8nm,0.7s
MK31 Makanchi Array 7.87 210 ⇓Pn **Pn** **09 22 12.9 +0.3**
0.5nm,0.6s,baz=29,slow=13,SNR=10
MK31 ⇓Sn **Sn** **09 23 41.2 -0.9**
0.4nm,0.5s
MK31 ⇑Lg Lg 09 24 24.0
1.0nm,0.6s,baz=34,slow=30,SNR=3.6
MKAR Makanchi Array 7.87 210 Pn **Pn** **09 22 13.0 +0.5**
0.3nm,0.3s,baz=33,slow=13,SNR=11
MKAR Sn **Sn** **09 23 43.0 +0.8**
0.3nm,0.3s,baz=17,slow=33,SNR=5.6
MKAR Lg Lg 09 24 23.5
0.1nm,0.3s,baz=28,slow=28,SNR=5.5
MAKZ Makanchi 7.95 212 ⇑Pn **Pn** **09 22 13.0 -0.6**
0.7nm,0.6s
MAKZ ⇑Sn **Sn** **09 23 43.8 -0.4**
0.5nm,0.5s
MAKZ ⇑Lg Lg 09 24 25.3
1.9nm,1.1s

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*NNC **27** 09:38:02.8±3.6, 36°.81N×70°.79E, h103km±75km, mb3.4, mpv4.0, Error ellipse: s-maj=27.4km s-min=24.4km az=21.0*
ISC 27 09:38:02.9±3.0, 36°.8N±0°.2×70°.8E±0°.1, h100km, n12, σ1§20/17, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=27	**5.75**	**22**	P		**Pn**	**09 39 26.2**	**0.0**
UCH	**Uchtor** SNR=9.6	**6.12**	**27**	P		**Pn**	**09 39 30.7**	**-0.4**
EKS2	**Erkin-Say** SNR=21	**6.27**	**21**	P		**Pn**	**09 39 33.5**	**+0.6**
KK02	**Karatay Array** 4.6nm,0.3s	**6.27**	**358**	⇓P		**Pn**	**09 39 33.8**	**+0.9**
KK02	2.5nm,0.5s			⇑S		**Sn**	**09 40 44.7**	**+1.7**
AAK	**Ala-Archa** SNR=22	**6.47**	**25**	P		**Pn**	**09 39 35.8**	**+0.1**
AAK	**Ala-Archa** 5.8nm,0.3s	**6.47**	**25**	P		**Pn**	**09 39 35.5**	**-0.2**
AAK	2.3nm,0.8s			⇑S		**Sn**	**09 40 49.2**	**+1.1**
CHMS	**Chumysh** SNR=12	**6.88**	**25**	P		**Pn**	**09 39 41.2**	**+0.1**
USP	**Ospenovka** SNR=9.0	**7.03**	**23**	P		**Pn**	**09 39 43.4**	**+0.1**
TKM2	**Tokmak 2** SNR=10.0	**7.12**	**30**	P		**Pn**	**09 39 43.7**	**-0.9**
TKM2	**Tokmak 2** 2.5nm,0.4s	**7.12**	**30**	⇑P		**Pn**	**09 39 43.4**	**-1.2**
TKM2	2.0nm,0.8s			⇑S		**Sn**	**09 41 04.2**	**+0.1**
AB31	**Akbulak array** 0.9nm,0.7s,baz=144,slow=13,SNR=20	**14.71**	**331**	⇓P		**Pn**	**09 41 25.3**	**-0.4**
AB31	1.0nm,0.8s,baz=147,slow=24,SNR=4.6			⇓S		**Sn**	**09 44 04.8**	**-3.0**
AKTO	**Aktyubinsk** 2.7nm,1.1s	**16.40**	**330**	⇑P		**P**	**09 41 49.6**	**+1.5**
AKTO	2.7nm,0.8s			⇑S		**Sn**	**09 44 47.8**	**-0.9**

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*NNC **27** 09:47:00.3±1.8, 51°.77N×75°.38E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=24.4km s-min=11.3km az=17.0, Suspected Mining explosion.*
*IDC **27** 09:47:01.6±0.9, 51°.73N×75°.51E, h0km, mb1 2.7/4, mb1mx2.7/38, mbtmp2.7/4, ML2.3/4, Error ellipse: s-maj=23.3km s-min=7.3km az=29.0*
ISC 27 09:46:58.6±0.9, 51°.73N±0°.06×75°.27E±0°.05, h0km, n10, σ1§23/13, 6C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=307,slow=23,SNR=50	**2.33**	**117**	Pn		**Pn**	**09 47 38.9**	**+0.8**
KURBB	0.6nm,0.3s,baz=308,slow=31,SNR=11			Lg		Lg	09 48 08.7	
KURBB	**Kurchatov Arra** 4.3nm,0.5s,baz=306,slow=18	**2.33**	**117**	⇑Pn		**Pb**	**09 47 40.2**	**-1.2**
KURBB	34nm,0.6s,baz=299,slow=32			⇓Sn		**Sb**	**09 48 10.2**	**-0.5**
KURK	**Kurchatov** 1.9nm,0.5s	**2.34**	**114**	⇑Pn		**Pn**	**09 47 39.4**	**+1.2**
KURK	7.0nm,0.6s			⇑Sn		**Sn**	**09 48 07.7**	**0.0**
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=78,slow=13,SNR=2.6	**3.26**	**295**	Pn		**Pb**	**09 47 56.7**	**-0.5**
BVAR	0.6nm,0.3s,baz=95,slow=18,SNR=12			Pg		**Pg**	**09 48 01.1**	**0.0**
BVAR	2.3nm,0.3s,baz=108,slow=32,SNR=10			Lg		Lg	09 48 46.8	
BRVK	**Borovoye** 2.1nm,0.6s	**3.33**	**296**	⇑Pg		**Pg**	**09 48 01.5**	**-0.9**
BRVK	8.1nm,0.7s			⇓Lg		Lg	09 48 46.5	
OTUK	**Ortayu** 1.1nm,0.6s	**3.97**	**210**	⇓Pg		**Pg**	**09 48 14.4**	**-0.1**
OTUK	5.2nm,0.8s			⇑Lg		Lg	09 49 07.1	
I46RU	**ZALESOVO INFRA** baz=249,slow=334,SNR=1.9	**6.20**	**65**	*i*			10 25 20.0	
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=256,slow=14,SNR=6.7	**6.20**	**65**	Pn		**Pn**	**09 48 33.7**	**+2.4**
ZALV	0.1nm,0.3s,baz=249,slow=18,SNR=1.7			Sn		**Sn**	**09 49 41.2**	**-1.6**
ZALV	0.2nm,0.3s,baz=254,slow=21,SNR=2.4			Lg		Lg	09 50 15.2	
MK31	**Makanchi Array** 2.6nm,0.6s,baz=318,slow=29,SNR=7.0	**6.74**	**134**	⇑Lg		Lg	09 50 32.0	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=312,slow=12,SNR=5.1	**6.74**	**134**	Pn		**Pn**	**09 48 40.0**	**+1.2**
MKAR	0.2nm,0.3s,baz=326,slow=18,SNR=7.2			Sn		**Sn**	**09 49 56.8**	**+0.5**
MKAR	0.3nm,0.3s,baz=318,slow=26,SNR=5.6			Lg		Lg	09 50 28.1	

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*NNC **27** 09:58:19.4±3.8, 54°.38N×86°.26E, h0km, mb3.6, mpv2.9, Error ellipse: s-maj=42.5km s-min=18.0km az=166.0, Suspected Mining explosion.*
IDC 27 09:58:20.4±2.4, 54°.27N×86°.22E, h0km, mb1 3.2/2, mb1mx3.0/63, mbtmp3.2/2, ML3.0/2, 8C-4D, Error ellipse: s-maj=19.0km s-min=12.3km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=65,slow=335,SNR=18	**0.89**	**249**	*i*			10 03 05.4	
ZAA0	**Zalesovo Array** 0.2nm,0.3s	**0.89**	**249**	⇑P		Pg	09 58 37.4	0.0
ZAA0	2.8nm,0.5s			⇑S		Sb	09 58 50.9	-0.2
ZALV	**Zalesovo Beam** 1.2nm,0.3s,baz=65,slow=17,SNR=16	**0.89**	**249**	Pg		Pg	09 58 36.3	-1.1
ZALV	5.8nm,0.3s,baz=71,slow=28,SNR=14			Lg		Lg	09 58 50.5	
KURK	**Kurchatov** 1.1nm,0.6s	**5.85**	**236**	⇑Pn		Pn	09 59 48.6	+0.3
KURK	2.1nm,0.8s			⇑Lg		Lg	10 01 28.5	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=52,slow=14,SNR=15	**5.96**	**235**	Pn		Pn	09 59 50.8	+1.0
KURBB	0.1nm,0.3s,baz=56,slow=32,SNR=1.8			Lg		Lg	10 01 29.1	
KURBB	**Kurchatov Arra** 1.5nm,0.3s	**5.96**	**235**	⇑Pn		Pn	09 59 51.7	+2.0
KURBB	2.4nm,0.7s			⇓Lg		Lg	10 01 32.1	
MK31	**Makanchi Array** 1.1nm,0.7s,baz=31,slow=14,SNR=24	**7.89**	**200**	⇓Pn		Pn	10 00 17.5	+1.1
MK31	0.2nm,0.4s			⇓Sn		Sn	10 01 50.8	+4.4
MK31	1.8nm,0.9s,baz=24,slow=30			⇓Lg		Lg	10 02 29.6	
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=23,slow=13,SNR=19	**7.89**	**200**	Pn		Pn	10 00 17.2	+0.8
MKAR	baz=20,slow=26,SNR=2.4			Lg		Lg	10 02 27.1	
MAKZ	**Makanchi** 1.5nm,0.9s	**7.95**	**202**	⇑Pn		Pn	10 00 19.6	+2.5
MAKZ	0.7nm,0.8s			⇑Sn		Sn	10 01 51.8	+4.2
MAKZ	1.8nm,0.9s			⇑Lg		Lg	10 02 32.2	

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*DDA **27** 09:59:41.6±0.0, 35°.70N×26°.25E, h25km±4km, ML3.2*
*ATH **27** 09:59:42.0, 35°.71N×26°.35E, h60km±7km, ML3.3/8, Error ellipse: s-maj=8.2km s-min=1.8km az=155.0*
*ISK **27** 09:59:43.3, 35°.73N×26°.38E, h21km, ML3.3/24*
*THE **27** 09:59:45.6, 35°.68N×26°.42E, h26km±4km, ML3.3/8, Error ellipse: s-maj=5.0km s-min=0.7km az=149.0*
*IDC **27** 09:59:45.4±1.8, 35°.53N×26°.42E, h44km±34km, mb3.5/3, mb1 3.5/5, mb1mx3.1/47, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=43.3km s-min=14.5km az=174.0*
ISC 27 09:59:44.1±1.0, 35°.68N±0°.03×26°.42E±0°.03, h31km±10km, n74, σ1§44/90, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.58**	**197**	P		**Pn**	**09 59 56.9**	**+0.6**
ZKR	3μm,0.2s			S		**Sn**	**10 00 05.3**	**+0.6**
ZKR	**Zakros**	**0.58**	**197**	P		**Pb**	**09 59 56.5**	**+0.5**
ZKR				S		**Sn**	**10 00 05.6**	**+0.8**
ZKR				AML		AML	10 00 06.1	
ZKR	comp=E,8399μm,0.2s			AML		AML	10 00 06.2	
ZKR	**Zakros**	**0.58**	**197**	PG		**Pn**	**09 59 56.8**	**+0.5**
ZKR				SG		**Sn**	**10 00 05.5**	**+0.8**
NPS	**Neapolis**	**0.78**	**238**	P		**Pn**	**09 59 59.3**	**+0.3**
NPS	comp=N,3μm,0.2s			S		**Sb**	**10 00 09.7**	**+0.2**
NPS	**Neapolis**	**0.78**	**238**	P		**Pb**	**09 59 58.9**	**-0.3**
NPS				S		**Sb**	**10 00 09.1**	**-0.4**
NPS	comp=N,5593μm,0.3s			AML		AML	10 00 10.0	
NPS	comp=E,6034μm,0.2s			AML		AML	10 00 10.9	
FRMA	**Ierapetra Chan**	**0.86**	**221**	P		**Pb**	**10 00 00.5**	**-0.2**
FRMA	comp=E,1μm,0.3s			S		**Sb**	**10 00 11.9**	**0.0**
SANT	**Santorini**	**1.04**	**312**	P		**Pn**	**10 00 02.1**	**-0.5**
SANT	**Santorini**	**1.04**	**312**	PG		**Pn**	**10 00 02.7**	**0.0**
NISR	**Nisiros**	**1.10**	**31**	P		**Pn**	**10 00 03.6**	**+0.2**
NISR	comp=E,2μm,0.3s			S		**Sn**	**10 00 17.8**	**+0.4**
NISR	**Nisiros**	**1.10**	**31**	P		**Pn**	**10 00 03.6**	**+0.2**
NISR	comp=N,4067μm,0.4s			AML		AML	10 00 21.4	
NISR	comp=E,5556μm,0.3s			AML		AML	10 00 25.2	
NIS1	**Nisyros Isl.**	**1.11**	**33**	P		**Pb**	**10 00 04.3**	**-0.5**
NIS1	comp=E,1μm,0.7s			S		**Sb**	**10 00 18.9**	**-0.1**
NIS1	**Nisyros Isl.**	**1.11**	**33**	PN		**Pn**	**10 00 03.5**	**-0.1**
HRKL	**Herakleio**	**1.14**	**252**	PN		**Pn**	**10 00 04.4**	**+0.5**
CMBO	**Columbo, Santo**	**1.14**	**314**	P		**Pb**	**10 00 05.4**	**+0.1**
CMBO	comp=E,2μm,0.4s			S		**Sb**	**10 00 19.2**	**-0.7**
IACM	**Heraklion**	**1.16**	**252**	P		**Pn**	**10 00 03.9**	**-0.3**
KOSK	**Kos Island**	**1.17**	**23**	P		**Pn**	**10 00 04.6**	**+0.3**
KOSK	comp=E,1μm,0.4s			S		**Sb**	**10 00 20.6**	**+0.1**
KOSK	**Kos Island**	**1.17**	**23**	PN		**Pn**	**10 00 04.4**	**+0.1**
IDI	**Anoyia** comp=E,28nm,0.3s,baz=68,slow=6.0,SNR=161	**1.31**	**253**	P		**Pn**	**10 00 06.3**	**0.0**
IDI	comp=E,93nm,0.3s,baz=298,slow=22,SNR=17			S		**Sn**	**10 00 22.7**	**0.0**
IDI	**Anoyia**	**1.31**	**253**	P		**Pn**	**10 00 06.2**	**-0.1**
IDI	comp=N,1354μm,0.4s			AML		AML	10 00 27.6	
IDI	comp=E,896μm,0.5s			AML		AML	10 00 35.8	
DAT	**Datca**	**1.41**	**41**	P		**Pn**	**10 00 08.0**	**+0.2**
DAT				S		**Sn**	**10 00 25.6**	**+0.3**
DAT	**Datca**	**1.41**	**41**	PN		**Pn**	**10 00 07.9**	**+0.2**
SIVA	**Sivas**	**1.47**	**244**	P		**Pn**	**10 00 08.8**	**+0.4**
SIVA	comp=N,1833μm,0.7s			AML		AML	10 00 42.7	
SIVA	comp=E,2104μm,0.6s			AML		AML	10 00 43.9	
ARG	**Arkhangelos**	**1.49**	**68**	P		**Pn**	**10 00 09.7**	**+1.0**
ARG	comp=E,320nm,0.5s			S		**Sn**	**10 00 27.6**	**+0.6**
ARG	**Arkhangelos**	**1.49**	**68**	P		**Pn**	**10 00 09.6**	**+1.0**
ARG	comp=N,640μm,0.4s			AML		AML	10 00 36.2	
ARG	comp=E,738μm,0.3s			AML		AML	10 00 36.3	
ARG	**Arkhangelos**	**1.49**	**68**	PN		**Pn**	**10 00 09.7**	**+1.0**
BODT	**Bodrum**	**1.56**	**27**	P		**Pn**	**10 00 10.2**	**+0.5**
BODT				S		**Sn**	**10 00 29.2**	**+0.3**
BODT	**Bodrum**	**1.56**	**27**	PN		**Pn**	**10 00 10.1**	**+0.3**
BODT	**Bodrum**	**1.56**	**27**	SPECP			10 00 11.0	
BODT				P		**Pb**	**10 00 11.1**	**-1.4**
VAM	**Vamos**	**1.83**	**262**	P		**Pn**	**10 00 13.2**	**-0.2**
TURN	**Turunc**	**1.84**	**53**	PN		**Pn**	**10 00 14.3**	**+0.8**
DDIM	**Aydin, Didim**	**1.90**	**20**	P		**Pn**	**10 00 15.0**	**+0.6**
MHLO	**Agia Marina, M**	**1.92**	**302**	P		**Pn**	**10 00 15.6**	**+0.9**
MHLO				AML		AML	10 00 50.6	
MHLO	comp=E,1870μm,0.5s			AML		AML	10 00 51.7	
MHLO	comp=N,1522μm,0.4s			AML		AML	10 00 55.5	
MLSB	**Milas**	**1.95**	**34**	PN		**Pn**	**10 00 16.1**	**+0.9**
IMMV	**Iera Moni Meta**	**2.00**	**265**	P		**Pn**	**10 00 16.2**	**+0.4**
IMMV	**Iera Moni Meta**	**2.00**	**265**	PN		**Pn**	**10 00 16.5**	**+0.7**
SMG	**Samos**	**2.06**	**9**	P		**Pn**	**10 00 17.2**	**+0.6**
SMG	comp=E,605μm,0.4s			AML		AML	10 00 55.5	
SMG	comp=N,607μm,0.5s			AML		AML	10 00 58.1	
GVD	**Gavdhos**	**2.08**	**247**	P		**Pn**	**10 00 18.7**	**+1.8**
YER	**Yerkesik**	**2.09**	**45**	PN		**Pn**	**10 00 18.0**	**+0.9**
GCAM	**G?zelcaml?**	**2.12**	**18**	PN		**Pn**	**10 00 18.2**	**+0.7**
GCAM	**G?zelcaml?**	**2.12**	**18**	P		**Pn**	**10 00 18.6**	**+1.2**
DALY	**Dalyan (Mula)**	**2.14**	**57**	PN		**Pn**	**10 00 19.4**	**+1.8**
KNDR	**Palaiochora Ch**	**2.27**	**260**	PN		**Pn**	**10 00 20.5**	**+1.0**
FETY	**Fethiye**	**2.36**	**65**	PN		**Pn**	**10 00 22.1**	**+1.4**
AKAS	**Kas**	**2.64**	**77**	PN		**Pn**	**10 00 26.4**	**+1.6**
AKAS	**Kas**	**2.64**	**77**	P		**Pn**	**10 00 26.2**	**+1.4**
AKAS				S		Sb	10 01 12.2	+9.2
URLA	**Izmir**	**2.68**	**3**	PN		**Pn**	**10 00 25.9**	**+0.7**
TAVA	**DENIZLI_Tavas**	**2.69**	**48**	SPECP			10 00 28.0	
TAVA				P		**Pn**	**10 00 28.1**	**+2.8**
TAVA				S		**Sb**	**10 01 01.2**	**-3.0**
CHOS	**Chios island**	**2.72**	**354**	PN		**Pn**	**10 00 26.3**	**+0.5**
CAEL	**Denizli, Camel**	**2.75**	**57**	P		**Pn**	**10 00 29.3**	**+3.1**
CAEL				*i* AML		AML	10 01 31.0	
CAEL	comp=N,96nm,0.9s			*i* AML		AML	10 01 38.0	
GOLH	**Golhisar**	**2.97**	**57**	P		**Pn**	**10 00 32.3**	**+3.0**
ELL	**Elmali**	**3.02**	**68**	PN		**Pn**	**10 00 31.7**	**+1.8**
KULA	**Kula-Manisa**	**3.35**	**32**	PN		**Pn**	**10 00 36.4**	**+1.9**
KULA	**Kula-Manisa**	**3.35**	**32**	P		**Pn**	**10 00 38.0**	**+3.5**
KORT	**Korkueli**	**3.44**	**66**	PN		**Pn**	**10 00 37.8**	**+2.1**
KORT	**Korkueli**	**3.44**	**66**	SPECP			10 00 37.0	
KORT				P		**Pn**	**10 00 37.8**	**+2.1**
SIGR	**SIGRI**	**3.56**	**353**	PN		**Pn**	**10 00 37.8**	**+0.6**
KOCA	**Canakkale, Ayv**	**3.83**	**357**	P		**Pn**	**10 00 41.4**	**+0.5**
BUHA	**Balikesir, Bur**	**3.85**	**8**	SPECP			10 00 42.0	
BUHA				P		**Pn**	**10 00 42.2**	**+0.9**
ITM	**Ithomi**	**3.92**	**294**	PN		**Pn**	**10 00 44.1**	**+1.9**
BAYC	**CANAKKALE_Bayr**	**4.06**	**1**	SPECP			10 00 44.0	
BAYC				P		**Pn**	**10 00 44.8**	**+0.7**
BOZC	**Bozcaada**	**4.17**	**356**	SPECP			10 00 46.0	
BOZC				P		**Pn**	**10 00 46.1**	**+0.5**
SEDI	**Konya, Seydise**	**4.65**	**66**	SPECP			10 00 55.0	
SEDI				P		**Pn**	**10 00 55.6**	**+3.4**
AGG	**Agios Georgios**	**4.67**	**317**	P		**Pn**	**10 00 55.3**	**+2.8**
ANDZ	**Kutahya, Merke**	**4.72**	**35**	P		**Pn**	**10 00 56.1**	**+2.8**
ERIK	**Erikli-Kesan**	**4.99**	**1**	P		**Pn**	**10 00 57.9**	**+1.1**
ALN	**Alexandroupoli**	**5.22**	**357**	P		**Pn**	**10 01 00.7**	**+0.7**
KIZT	**Kizilcal**	**5.40**	**52**	SPECP			10 01 04.0	
KIZT				P		**Pn**	**10 01 04.7**	**+2.0**
KKBE	**Karaman, Kazim**	**5.48**	**72**	SPECP			10 01 05.0	
KKBE				P		**Pn**	**10 01 05.0**	**+1.4**
ARMN	**Kirklareli, Me**	**6.23**	**7**	P		**Pn**	**10 01 15.2**	**+1.3**
ARMN	comp=N,8.4nm,2.3s			*i* AML		AML	10 04 28.0	
BRTR	**Keskin Array B** comp=N,0.2nm,0.3s,baz=222,slow=14,SNR=8.6	**7.01**	**53**	P		**Pn**	**10 01 26.8**	**+2.1**
EIL	**Elat** comp=N,0.2nm,0.3s,baz=14,slow=19,SNR=1.8	**9.35**	**127**	P		**Pn**	**10 01 56.4**	**-0.5**
EIL	comp=N,0.3nm,0.3s,baz=69,slow=18,SNR=1.6			S		**Sn**	**10 03 35.0**	**-5.9**
FINES	**FINESS Array B** comp=N,0.5nm,0.4s,baz=194,slow=11,SNR=4.6	**25.79**	**360**	P		**P**	**10 05 12.9**	**+1.0**
MKAR	**Makanchi Array** comp=N,0.4nm,0.5s,baz=264,slow=8.4,SNR=8.9	**42.63**	**57**	P		**P**	**10 07 38.2**	**+0.7**
ZALV	**Zalesovo Beam** comp=N,0.6nm,0.4s,baz=269,slow=7.1,SNR=3.9	**43.91**	**47**	P		**P**	**10 07 48.0**	**+0.4**

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*MAN **27** 10:06:51.2, 9°.62N×126°.71E, h1km, mb4.6, ML3.5, MS3.4*
*IDC **27** 10:07:00.2±3.6, 9°.64N×126°.25E, h97km±35km, mb3.6/14, mb1 3.8/15, mb1mx3.6/48, mbtmp4.0/15, MS3.6/8, Ms1 3.6/8, ms1mx3.1/69, Error ellipse: s-maj=34.7km s-min=15.7km az=70.0*
ISC 27 10:06:51.2±1.1, 9°.68N±0°.03×126°.57E±0°.05, h19km±4km, n40, σ1§78/39, mb3.9/14, MS3.4/6, 2C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.07**	**276**	⇓*i*P		**Pg**	**10 07 12.1**	**+0.1**
SCPH				*i* S		**Sb**	**10 07 25.6**	**+0.9**
BUTP	**Butuan**	**1.17**	**233**	⇓*e*P		**Pg**	**10 07 13.8**	**-0.2**
BUTP				*e*S		**Sg**	**10 07 31.9**	**+2.6**
BIPH	**Bislig**	**1.50**	**188**	⇓*e*P		**Pb**	**10 07 18.1**	**-0.3**
BIPH				*i* S		**Sn**	**10 07 32.9**	**-3.1**
MSLP	**Maasin**	**1.75**	**285**	*e*P		**Pg**	**10 07 24.0**	**-0.9**
MSLP				*i* S		**Sg**	**10 07 50.0**	**+2.3**
BESP	**Borongan**	**2.21**	**330**	⇓*e*P		**Pg**	**10 07 31.6**	**-2.1**
BESP				*i* S		**Sg**	**10 08 01.3**	**-1.3**
BUKP	**Musuan**	**2.33**	**220**	*e*P		**Pb**	**10 07 30.6**	**-2.0**
BUKP	**Musuan**	**2.33**	**220**	⇑*e*P		**Pb**	**10 07 32.1**	**-0.5**
BUKP				*e*S		**Sb**	**10 08 02.5**	**+1.6**
LLP	**Lapu-Lapu**	**2.65**	**284**	*e*P		**Pb**	**10 07 37.3**	**-0.6**
LLP				*i* S		**Sg**	**10 08 14.1**	**-2.3**
TBP	**Tagbilaran**	**2.67**	**271**	*e*P		**Pn**	**10 07 35.1**	**+1.9**
TBP				*i* S		**Sb**	**10 08 12.1**	**+1.2**
DAV	**Davao City (W)** 89nm,0.3s,baz=87,slow=6.4,SNR=2.4	**2.77**	**201**	P		**Pb**	**10 07 40.9**	**+0.9**
DAV	26nm,0.3s,baz=93,slow=20,SNR=5.3			S		**Sg**	**10 08 18.2**	**-2.1**
DAV	comp=Z,1μm,19.8s,baz=32,slow=40			LR		LR	10 08 45.9	
KCP	**Kidapawan**	**3.03**	**209**	⇑*e*P		**Pb**	**10 07 44.0**	**-0.5**
KCP				*i* S		**Sn**	**10 08 11.1**	**-2.9**
CTBH	**Cotabato--PC H**	**3.35**	**224**	*e*P		**Pb**	**10 07 46.7**	**-3.3**
CTBH				*i* S		**Sb**	**10 08 29.2**	**-1.3**
RCP	**Roxas**	**4.20**	**297**	⇓*e*P		**Pn**	**10 07 58.1**	**+3.9**
GUMO	**Guam** comp=Z,125nm,20.0s,baz=82,slow=33	**18.34**	**76**	LR		LR	10 17 23.9	
BATI	**Baumata** 6.5nm,0.3s,baz=269,slow=4.3,SNR=5.5	**19.96**	**188**	P		**Pn**	**10 11 25.5**	**+1.3**
JHJ	**Hachijo jima 2** comp=Z,77nm,19.3s,baz=39,slow=34	**26.32**	**26**	LR		LR	10 22 11.4	
FITZ	**Fitzroy Crossi** 3.9nm,0.9s,baz=8.5,slow=11,SNR=4.4	**27.61**	**182**	P		**P**	**10 12 39.5**	**+1.9**
CMAR	**Chiang Mai Arr** 0.5nm,0.5s,baz=90,slow=9.0,SNR=1.4	**28.15**	**291**	P		**P**	**10 12 40.5**	**-2.0**
CMAR	comp=Z,68nm,18.2s,baz=100,slow=39			LR		LR	10 25 12.6	
MJAR	**Matsushiro Arr** comp=Z,69nm,18.6s,baz=178,slow=36	**28.75**	**20**	LR		LR	10 24 26.8	
WRA	**Warramunga Arr** 0.9nm,1.0s,baz=352,slow=9.4,SNR=3.0	**30.41**	**165**	P		**P**	**10 13 02.8**	**+0.4**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=348,slow=7.2,SNR=5.0	**33.91**	**168**	P		**P**	**10 13 33.2**	**+0.2**
H11S3	**WAKE ISLAND Hy** baz=268,slow=78,SNR=9.6	**39.81**	**73**	T		T	10 57 25.2	
H11S1	**WAKE ISLAND Hy** baz=268,slow=78,SNR=5.0	**39.82**	**73**	T		T	10 57 25.8	
H11S2	**WAKE ISLAND Hy** baz=268,slow=78,SNR=6.0	**39.82**	**73**	T		T	10 57 23.8	
H11N1	**WAKE ISLAND Hy** baz=264,slow=74,SNR=6.7	**40.16**	**71**	T		T	10 58 04.8	
H11N2	**WAKE ISLAND Hy** baz=264,slow=74,SNR=5.3	**40.17**	**71**	T		T	10 57 42.0	
H11N3	**WAKE ISLAND Hy** baz=264,slow=74,SNR=5.7	**40.18**	**71**	T		T	10 58 03.8	
SONM	**Songino Array** 0.4nm,0.5s,baz=157,slow=8.4,SNR=4.4	**41.68**	**340**	P		**P**	**10 14 39.1**	**+0.5**
PETK	**Petropavlovsk-** 4.0nm,1.0s,baz=207,slow=6.0,SNR=2.3	**50.05**	**24**	P		**P**	**10 15 46.7**	**+2.2**
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=123,slow=8.0,SNR=9.9	**52.68**	**323**	P		**P**	**10 16 03.6**	**-0.8**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=141,slow=7.6,SNR=3.8	**55.29**	**331**	P		**P**	**10 16 20.8**	**-2.4**
KURBB	**Kurchatov Arra** 3.1nm,0.2s,baz=128,slow=6.8,SNR=4.2	**56.73**	**325**	P		**P**	**10 16 33.1**	**-0.5**
MSVF	**Nonsavu** comp=Z,29nm,18.1s,baz=251,slow=35	**57.68**	**118**	LR		LR	10 40 54.9	
BVAR	**Borovoye Array** 0.4nm,0.4s,baz=130,slow=8.3,SNR=2.1	**62.32**	**325**	P		**P**	**10 17 12.1**	**-0.1**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=254,slow=6.5,SNR=1.5	**79.84**	**26**	P		**P**	**10 18 58.6**	**+0.4**
ARCES	**ARCESS Array B** 7.0nm,1.1s,baz=64,slow=10,SNR=1.5	**84.85**	**340**	P		**P**	**10 19 24.1**	**-0.2**
FINES	**FINESS Array B** 2.7nm,0.9s,baz=74,slow=5.1,SNR=3.8	**86.55**	**332**	P		**P**	**10 19 31.6**	**-1.2**
KMBO	**Kilima Mbogo** comp=Z,40nm,18.9s,baz=84,slow=35	**89.52**	**269**	LR		LR	10 59 35.9	
MLR	**Muntele Rosu** comp=Z,80nm,18.0s,baz=23,slow=38	**90.53**	**316**	LR		LR	11 04 10.4	
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=300,slow=4.6,SNR=7.6	**94.17**	**24**	P		**P**	**10 20 08.9**	**+0.4**

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*MEX **27** 10:25:39.5±0.5, 13°.72N×92°.23W, h66km±29km, MD4.0*
*GCG **27** 10:25:40.1±0.3, 14°.84N×92°.53W, h46km, MD3.9*
*IDC **27** 10:25:41.3±2.3, 14°.44N×92°.46W, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.6/48, mbtmp3.5/7, ML3.1/3, Error ellipse: s-maj=41.9km s-min=14.4km az=8.0*
ISC 27 10:25:43.1±1.2, 13°.93N±0°.09×92°.48W±0°.06, h46km, n18, σ1§84/28, mb3.6/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		**1.00**	**12**	*e*P	

1.4nm,0.9s,baz=132,slow=8.7,SNR=4.1
CMAR Chiang Mai Arr 145.91 340 PKPbc **PKiKP 10 45 20.9 -1.1**
1.1nm,0.7s,baz=343,slow=4.1,SNR=6.4

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*IDC **27** 10:40:59.0±0.6,33°.36N×68°.54E,h0km,mb4.2/24, mb1 4.3/30,mb1mx4.1/71,mbtmp4.2/30,ML4.1/6,MS3.5/17, Ms1 3.5/17,ms1mx3.3/82,Error ellipse: s-maj=14.8km s-min=13.6km az=177.0*
*NNC **27** 10:41:01.1±4.5,33°.10N×68°.64E,h56km±42km,mb4.3, Error ellipse: s-maj=37.8km s-min=32.3km az=143.0*
*MOS **27** 10:41:02.0±1.0,33°.50N×68°.64E,h27km,mb4.5/16,Error ellipse: s-maj=9.9km s-min=4.6km az=71.9*
*BJI **27** 10:41:05.0±0.0,33°.68N×68°.32E,h46km,mb4.5/22, mB4.8/8,ML4.4/1,Ms4.1/7,Ms7 4.1/2*
*NEIC **27** 10:41:06.7±2.3,33°.71N±0°.08×68°.78E±0°.08,h25km±2km, mb4.4/20,Error ellipse: s-maj=12.3km s-min=9.6km az=196.0*
ISC 27 10:41:04.8±0.4,33°.39N±0°.04×68°.63E±0°.05,h35km,n196, σ2°.26/194,mb4.3/44,MS3.5/17,17C-10D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.20**	**17**	P	**Pn**	**10 41 22.7**	**-2.6**
KBL	**Kabul**	**1.20**	**17**		**Pn**	**10 41 22.7**	**-2.6**
THW	**Thamme Wali**	**2.68**	**102**	P	**Pn**	**10 41 48.1**	**+2.6**
CEP	**Cherat**	**2.77**	**80**	P	**Pn**	**10 41 50.4**	**+3.5**
CEP				S	**Sn**	**10 42 27.0**	**+7.8**
NIL	**Nilore**	**3.87**	**85**	P	**Pn**	**10 42 05.4**	**+3.5**
NIL	**Nilore**	**3.87**	**85**		**Pn**	**10 42 05.4**	**+3.5**
CHCP	**Chirah Chowk**	**3.88**	**85**	P	**Pn**	**10 42 04.9**	**+2.9**
CHGR	**Chuyangaron**	**5.27**	**5**	Pn	**Pn**	**10 42 22.3**	**+1.2**
JMU	**Jammu**	**5.31**	**96**	*eP*	**Pn**	**10 42 24.0**	**+2.4**
HRA	**Herat**	**5.40**	**282**	Pn	Pn	10 42 29.0	+5.9
THN	**Thein Dam**	**6.04**	**97**	*eP*	**Pn**	**10 42 34.0**	**+2.4**
THN				*eP*	**Pn**	**10 42 35.5**	**+3.9**
DHRM	**DHARAMSHALA**	**6.56**	**98**	*eP*	**Pn**	**10 42 41.2**	**+2.2**
DHRM				*ex*	x	10 43 58.5	
DHRM				IAML		10 44 19.5	
	comp=N,299nm,1.8s						
DHRM				IAML		10 44 19.9	
	comp=E,434nm,0.0s						
BTK	**Batken**	**6.88**	**14**	P	**Pn**	**10 42 47.0**	**+3.8**
BTK	**Batken**	**6.88**	**14**	Pn	**Pn**	**10 42 47.0**	**+3.8**
SMLA	**Simla**	**7.58**	**105**	*eP*	**Pn**	**10 42 55.4**	**+2.7**
SMLA				*eS*	**Sn**	**10 44 17.7**	**+0.4**
SMLA				IAML		10 44 24.0	
	comp=N,138nm,0.0s						
SMLA				IAML		10 44 26.1	
	comp=E,109nm,0.4s						
TAS	**Tashkent**	**7.94**	**4**	P	**Pn**	**10 42 57.2**	**-0.5**
TAS	**Tashkent**	**7.94**	**4**	Pn	**Pn**	**10 42 57.2**	**-0.5**
KHET	**Khetri**	**8.14**	**129**	*eP*	**Pn**	**10 42 59.8**	**-0.7**
KSH	**Kashi**	**8.51**	**42**	P	**Pn**	**10 43 02.3**	**-3.3**
KSH				S	Sn	10 44 31.8	-8.5
KSH				smax	smax		
	comp=E,120nm,0.6s						
KSH				smax	smax		
	comp=E,100nm,0.9s						
KSH				LR	LR		
	comp=E,1μm,10.0s						
KSH				LR	LR		
	comp=E,1μm,9.5s						
KUDL	**Kundal**	**8.55**	**126**	*eP*	**Pn**	**10 43 05.6**	**-0.5**
AJM	**Ajmer**	**8.64**	**141**	*eP*	**Pn**	**10 43 08.0**	**+0.6**
NDI	**New Delhi**	**8.74**	**120**	*eP*	**Pn**	**10 43 05.0**	**-3.7**
NDI				*eS*	**Sn**	**10 44 43.0**	**-2.9**
AML	**Almayashu**	**9.60**	**23**	P	**Pn**	**10 43 20.9**	**+0.1**
	SNR=59						
BRLS	**Borolday**	**9.67**	**5**	*eP*	Pn	10 43 16.9	-4.5
BRLS	**Borolday**	**9.67**	**5**	*eP*	Pn	10 43 16.9	-4.5
	baz=4.7						
BRLS				*i* S	**Sn**	**10 45 02.6**	**-6.1**
	baz=4.7						
DZA	**Taraz**	**9.72**	**12**	*eP*	**Pn**	**10 43 21.2**	**-0.9**
DZA				*eS*	**Sn**	**10 45 10.1**	**+0.1**
DZA	**Taraz**	**9.72**	**12**	*eP*	**Pn**	**10 43 21.2**	**-0.9**
	baz=12						
DZA				*eS*	**Sn**	**10 45 10.1**	**+0.1**
	baz=12						
DZA				*i* S	**Sn**	**10 45 10.2**	**+0.1**
	baz=12						
KK02	**Karatay Array**	**9.81**	**8**	⇓P	**Pn**	**10 43 23.3**	**0.0**
	comp=E,17nm,0.7s,baz=183,slow=11						
KK02				⇑S	**Sn**	**10 45 14.2**	**+2.1**
	comp=E,12nm,0.7s,baz=191,slow=25						
KKAR	**Karatay Array**	**9.81**	**8**	P	**Pn**	**10 43 23.0**	**-0.3**
KKAR	**Karatay Array**	**9.81**	**8**	Pn	**Pn**	**10 43 23.0**	**-0.3**
UCH	**Uchtor**	**9.97**	**26**	P	**Pn**	**10 43 26.2**	**+0.3**
	SNR=24						
EKS2	**Erkin-Say**	**10.10**	**22**	P	**Pn**	**10 43 29.4**	**+1.9**
	SNR=19						
BHUJ	**Bhuj**	**10.14**	**175**	*eP*	**Pn**	**10 43 25.9**	**-2.0**
BHUJ				*eS*	**Sn**	**10 45 15.8**	**-4.6**
AAK	**Ala-Archa**	**10.32**	**25**	Pn	**Pn**	**10 43 30.0**	**-0.4**
	comp=E,5.3nm,0.3s,baz=196,slow=5.3,SNR=45						
AAK				Sn	**Sn**	**10 45 24.8**	**-0.1**
	comp=E,0.3nm,0.3s,baz=222,slow=18,SNR=1.1						
AAK	**Ala-Archa**	**10.32**	**25**	P	**Pn**	**10 43 31.1**	**+0.6**
	SNR=30						
AAK	**Ala-Archa**	**10.32**	**25**	*c i* P	**Pn**	**10 43 31.4**	**+0.9**
AAK				pmax	pmax		
	comp=Z,11nm,0.5s						
AAK	**Ala-Archa**	**10.32**	**25**	⇓P	**Pn**	**10 43 30.7**	**+0.2**
	comp=Z,16nm,0.6s						
AAK				⇓S	**Sn**	**10 45 28.9**	**+3.9**
	comp=Z,38nm,0.8s						
AAK	**Ala-Archa**	**10.32**	**25**	Pn	**Pn**	**10 43 29.4**	**-1.1**
KBK	**Karagaybulak**	**10.50**	**26**	P	**Pn**	**10 43 33.5**	**+0.6**
	SNR=11						
CHMS	**Chumysh**	**10.73**	**25**	P	**Pn**	**10 43 36.3**	**+0.4**
	SNR=14						
BOOM	**Boomskoye usch**	**10.76**	**30**	P	**Pn**	**10 43 36.0**	**-0.5**
BOOM	**Boomskoye usch**	**10.76**	**30**		**Pn**	**10 43 36.0**	**-0.5**
USP	**Ospenovka**	**10.88**	**23**	P	**Pn**	**10 43 37.4**	**-0.6**
	SNR=16						
TKM2	**Tokmak 2**	**10.98**	**28**	P	**Pn**	**10 43 39.4**	**0.0**
	SNR=20						
TKM2	**Tokmak 2**	**10.98**	**28**	⇓P	**Pn**	**10 43 39.2**	**-0.3**
	comp=Z,10nm,0.6s						
TKM2				⇑S	**Sn**	**10 45 44.8**	**+3.7**
	comp=Z,11nm,0.9s						
TARG	**Taragay, Kyrgy**	**11.05**	**39**	Pn	**Pn**	**10 43 39.9**	**-0.8**
SGDS	**Sogindy**	**11.09**	**23**	*eP*	**Pn**	**10 43 39.9**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=23						
TNSS	**Tian-Shan**	**11.63**	**32**	*i* P	**Pn**	**10 43 45.7**	**-3.0**
	baz=32						
AAA	**Alma-Ata**	**11.76**	**31**	*i* P	**Pn**	**10 43 47.4**	**-2.6**
	baz=31						
MDOK	**Medeo**	**11.78**	**32**	*eP*	**Pn**	**10 43 49.7**	**-0.7**
MDOK	**Medeo**	**11.78**	**32**	*eP*	**Pn**	**10 43 49.8**	**-0.7**
	baz=32						
MDOK	**Medeo**	**11.78**	**32**	P	**Pn**	**10 43 50.4**	**0.0**
	comp=Z,11nm,0.7s						
PRZ	**Przheval'sk**	**11.90**	**38**	P	**Pn**	**10 43 50.9**	**-1.2**
PRZ	**Przheval'sk**	**11.90**	**38**		**Pn**	**10 43 50.9**	**-1.2**
KUU	**Kurty**	**12.09**	**28**	*eP*	**Pn**	**10 43 54.1**	**-0.3**
KUU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KUU	**Kurty**	**12.09**	**28**	*eP*	**Pn**	**10 43 54.2**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=28						
CHKK	**Chushkaly**	**12.31**	**30**	*eP*	**Pn**	**10 43 56.9**	**-0.7**
	baz=30						
SATY	**Saty**	**12.33**	**36**	*eP*	**Pn**	**10 43 56.2**	**-1.6**
SATY	**Saty**	**12.33**	**36**	*eP*	**Pn**	**10 43 56.3**	**-1.6**
	baz=36						
BTLS	**Baital**	**12.36**	**18**	*eP*	**Pn**	**10 43 56.7**	**-1.5**
BTLS	**Baital**	**12.36**	**18**	*eP*	**Pn**	**10 43 56.8**	**-1.5**
	baz=18						
ZHN	**Zhinishke**	**12.42**	**35**	*eP*	**Pn**	**10 43 57.4**	**-1.8**
ZHN	**Zhinishke**	**12.42**	**35**	*eP*	**Pn**	**10 43 57.4**	**-1.8**
	baz=35						
UZB	**Uzynbulak**	**12.70**	**37**	*i* P	**Pn**	**10 44 00.2**	**-2.8**
	comp=Z,2.2nm,1.0s,baz=37						
BHPL	**Bhopal**	**12.73**	**140**	*eP*	**Pn**	**10 44 03.2**	**-0.3**
BHPL				*eS*	**Sn**	**10 46 18.9**	**-5.2**
PDGK	**Podgornoye**	**13.07**	**37**	⇑P	**Pn**	**10 44 05.9**	**-2.1**
	comp=Z,6.0nm,0.8s						
WSAR	**Wadi Sarin**	**13.40**	**224**	Pn	**Pn**	**10 44 09.0**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=32,slow=9.5,SNR=1.9						
WSAR				LR	LR	10 50 27.7	
	comp=Z,73nm,18.7s,baz=3.0,slow=43						
PYUN	**Piuthan**	**13.43**	**109**	*eP*	**Pn**	**10 44 11.1**	**-2.0**
	comp=Z,54nm,0.5s						
TDK	**Taldyqorghan**	**13.84**	**30**	*i* P	**Pn**	**10 44 15.8**	**-2.6**
	baz=30						
DANN	**Dangsing**	**13.93**	**107**	*eP*	**Pn**	**10 44 17.7**	**-2.3**
	comp=Z,73nm,0.7s						
KOLN	**Koldanda**	**14.06**	**110**	*eP*	**Pn**	**10 44 19.7**	**-2.0**
	comp=Z,33nm,0.7s						
GKN	**Gorkha**	**14.78**	**107**	*eP*	**Pn**	**10 44 28.5**	**-2.9**
	comp=Z,46nm,0.4s						
DMN	**Daman**	**15.32**	**108**	*eP*	**Pn**	**10 44 35.6**	**-3.1**
	comp=Z,105nm,0.7s						
KKN	**Kakani**	**15.39**	**107**	*eP*	**Pn**	**10 44 36.2**	**-3.3**
	comp=Z,236nm,0.6s						
PKIN	**Phulchoki**	**15.57**	**107**	*eP*	**Pn**	**10 44 38.6**	**-3.3**
	comp=Z,222nm,0.6s						
PKI	**Pulchoki**	**15.58**	**107**	*eP*	**Pn**	**10 44 38.7**	**-3.5**
	comp=Z,234nm,0.6s						
GUN	**Gumba**	**15.82**	**106**	*eP*	**Pn**	**10 44 41.5**	**-3.7**
	comp=Z,16nm,0.4s						
MAKZ	**Makanchi**	**16.81**	**33**	P	**Pn**	**10 44 55.5**	**-1.9**
MAKZ				pmax	pmax		
	comp=Z,14nm,0.7s						
MAKZ	**Makanchi**	**16.81**	**33**	⇓P	**Pn**	**10 44 53.5**	**-3.9**
	comp=Z,15nm,0.9s						
MAKZ	**Makanchi**	**16.81**	**33**	Pn	**Pn**	**10 44 55.5**	**-1.9**
MAKZ				IAmb	IAmb	10 45 05.0	
	comp=Z,14nm,0.7s						
SRSP	**Sriramsagar**	**16.82**	**146**	*e*Pn	**P**	**10 45 02.6**	**+3.0**
BRZS	**Berezniki**	**16.84**	**9**	*eP*	**Pn**	**10 44 56.9**	**-0.8**
BRZS	**Berezniki**	**16.84**	**9**	*eP*	**Pn**	**10 44 57.0**	**-0.8**
	baz=9.0						
MK31	**Makanchi Array**	**16.95**	**34**	P	**Pn**	**10 44 57.6**	**-1.5**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MK31	**Makanchi Array**	**16.95**	**34**	⇓P	**Pn**	**10 44 56.1**	**-3.0**
	comp=Z,5.6nm,0.6s,baz=225,slow=10,SNR=47						
MK31	**Makanchi Array**	**16.95**	**34**	Pn	**Pn**	**10 44 57.6**	**-1.5**
MKAR	**Makanchi Array**	**16.95**	**34**	Pn	**Pn**	**10 44 57.1**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=213,slow=11,SNR=22						
MKAR				LR	LR	10 52 27.7	
	comp=Z,160nm,20.5s,baz=206,slow=40						
MKAR	**Makanchi Array**	**16.95**	**34**	*eP*	**Pn**	**10 44 59.1**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AB31	**Akbulak array**	**17.12**	**340**	⇑P	**Pn**	**10 44 58.8**	**-2.4**
	comp=Z,7.3nm,1.1s,baz=352,slow=26,SNR=5.6						
RPR	**Rampur**	**17.34**	**144**	*e*Pn	**P**	**10 45 09.2**	**+4.0**
HYBB	**Hyderabad (bro**	**18.24**	**148**	*eP*	**Pn**	**10 45 20.5**	**+5.2**
HYB	**Hyderabad**	**18.24**	**148**	*eP*	**Pn**	**10 45 17.0**	**+1.7**
HYB				*eS*	**Sn**	**10 48 28.0**	**-10**
ZSN	**Zaisan**	**18.66**	**36**	*eP*	**P**	**10 45 18.6**	**-0.9**
ZSN	**Zaisan**	**18.66**	**36**	*eP*	**P**	**10 45 18.7**	**-0.9**
	baz=36						
KURBB	**Kurchatov Arra**	**18.69**	**20**	P	**P**	**10 45 18.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=210,slow=10,SNR=13						
KURBB	**Kurchatov Arra**	**18.69**	**20**	⇑P	**P**	**10 45 15.8**	**-4.1**
	comp=Z,8.9nm,0.7s						
AKTO	**Aktyubinsk**	**18.74**	**338**	P	**P**	**10 45 18.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=138,slow=13,SNR=2.5						
AKTO	**Aktyubinsk**	**18.74**	**338**	⇑P	**P**	**10 45 19.4**	**-1.0**
	comp=Z,10nm,1.1s						
KURK	**Kurchatov**	**18.80**	**20**	*ceP*	**Pn**	**10 45 22.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURK	**Kurchatov**	**18.80**	**20**	⇑P	**P**	**10 45 20.4**	**-0.6**
	comp=Z,13nm,1.3s						
KURK	**Kurchatov**	**18.80**	**20**	P	**P**	**10 45 18.9**	**-2.2**
SEM	**Semipalatinsk**	**19.04**	**23**	*eP*	**P**	**10 45 22.7**	**-1.2**
SEM	**Semipalatinsk**	**19.04**	**23**	*eP*	**P**	**10 45 22.7**	**-1.2**
	baz=23						
SEM				*i* S	**Sn**	**10 48 56.6**	**-0.5**
	baz=23						
SRLM	**Srisailam**	**19.56**	**149**	*eP*	**Pn**	**10 45 34.7**	**+3.6**
BVAR	**Borovoye Array**	**19.66**	**3**	P	**P**	**10 45 29.6**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=150,slow=10,SNR=15						
BRVK	**Borovoye**	**19.69**	**3**	⇑*eP*	**P**	**10 45 29.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRVK	**Borovoye**	**19.69**	**3**	P	**P**	**10 45 30.4**	**-0.4**
URV	**Uravakonda**	**19.96**	**155**	*eP*	**Pn**	**10 45 39.9**	**+4.0**
RCLA	**Racherla**	**20.16**	**150**	*eP*	Pn	10 45 41.7	+3.5
GNI	**Garni**	**20.25**	**296**	⇓*eP*	Pn	10 45 39.1	-0.3
GNI				pmax	pmax		
	comp=Z,24nm,0.9s						
GNI	**Garni**	**20.25**	**296**	P	Pn	10 45 39.5	+0.1
GNI				IAmb	IAmb	10 45 48.5	
	comp=Z,20nm,0.9s						
ADKI	**Addanki**	**20.26**	**147**	*eP*	Pn	10 45 42.3	+2.9
DGZ	**Jazzator, Alta**	**21.43**	**35**	*deP*	**P**	**10 45 50.1**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,21nm,1.3s						
SHL	**Shillong**	**21.67**	**105**	P	**P**	**10 45 53.3**	**+0.7**
SHL				pmax	pmax		
	comp=Z,43nm,0.8s						
SHL	**Shillong**	**21.67**	**105**	P	**P**	**10 45 53.3**	**+0.7**
GOMU	**GeErMu**	**21.67**	**75**	P	**P**	**10 45 54.5**	**+1.8**
GOMU				pmax	pmax		
	comp=Z,14nm,0.9s						
SIRT	**Sirnak**	**21.70**	**288**	P	**P**	**10 45 56.1**	**+3.3**
KBZ	**Khabaz**	**22.53**	**305**	P	**P**	**10 46 01.5**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=107,slow=18,SNR=1.0						
KBZ	**Khabaz**	**22.53**	**305**	⇑*eP*	**P**	**10 46 01.7**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
RAYN	**Ar Rayn**	**22.54**	**250**	P	**P**	**10 46 02.6**	**+0.7**
RAYN				pmax	pmax		
	comp=Z,28nm,0.8s						
RAYN	**Ar Rayn**	**22.54**	**250**	P	**P**	**10 46 02.6**	**+0.7**
KIV	**Kislovodsk**	**22.75**	**305**	*eP*	**P**	**10 46 01.3**	**-2.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,62nm,14.0s						
MARD	**Mardin**	**23.01**	**288**	P	**P**	**10 46 09.0**	**+2.3**
ZAA0	**Zalesovo Array**	**23.54**	**24**	P	**P**	**10 46 11.1**	**-0.6**
ZAA0				IAmb	IAmb	10 46 20.5	
	comp=Z,9.5nm,0.6s						
ZALV	**Zalesovo Beam**	**23.54**	**24**	P	**P**	**10 46 10.2**	**-1.5**
	comp=Z,2.2nm,0.3s,baz=216,slow=10,SNR=15						
ZALV				LR	LR	10 55 30.7	
	comp=Z,36nm,18.1s,baz=126,slow=37						
ZALV	**Zalesovo Beam**	**23.54**	**24**	*eP*	**P**	**10 46 10.7**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZALV	**Zalesovo Beam**	**23.54**	**24**	P	**P**	**10 46 10.8**	**-0.9**
ARU	**Arti**	**24.06**	**346**	P	**P**	**10 46 19.5**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=146,slow=13,SNR=3.1						
ARU	**Arti**	**24.06**	**346**	*c i* P	**P**	**10 46 18.2**	**+1.7**
ARU						10 46 44.3	
ARU				SS	S	10 51 19.0	+48
ARU				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GTA	**Gaotai**	**25.73**	**68**	⇑P	**P**	**10 46 35.0**	**+2.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PALK	**Pallekele**	**28.30**	**154**	LR	LR	11 00 09.1	
	comp=Z,125nm,18.4s,baz=97,slow=41						
BRTR	**Keskin Array B**	**28.68**	**293**	P	**P**	**10 46 58.0**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=103,slow=8.1,SNR=4.4						
EIL	**Elat**	**28.87**	**272**	LR	LR	11 00 21.1	
	comp=Z,177nm,19.4s,baz=102,slow=40						
ZAK	**Zakamensk**	**30.52**	**46**	*eP*	**P**	**10 47 10.1**	**-4.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CHTO	**Chiang Mai**	**30.72**	**111**	P	**P**	**10 47 18.4**	**+1.8**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**30.72**	**111**	P	**P**	**10 47 18.4**	**+1.8**
CHTO				IAmb	IAmb	10 47 18.6	
	comp=Z,7.2nm,0.8s						
CM31	**Chiang Mai Arr**	**30.92**	**111**	P	**P**	**10 47 20.4**	**+2.0**
CM31				IAmb	IAmb	10 47 20.5	
	comp=Z,7.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.92**	**111**	P	**P**	**10 47 19.2**	**+0.9**
	comp=Z,5.1nm,0.8s,baz=298,slow=8.9,SNR=26						
CMAR				LR	LR	11 01 17.8	
	comp=Z,31nm,18.1s,baz=85,slow=39						
CMAR	**Chiang Mai Arr**	**30.92**	**111**	*eP*	**P**	**10 47 19.6**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.92**	**111**	P	**P**	**10 47 20.1**	**+1.7**
SONM	**Songino Array**	**31.75**	**52**	P	**P**	**10 47 26.1**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=251,slow=9.6,SNR=7.7						
SONM	**Songino Array**	**31.75**	**52**	*eP*	**P**	**10 47 26.6**	**+1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**31.75**	**52**	P	**P**	**10 47 25.4**	**-0.1**
ATD	**Arta Tunnel**	**32.10**	**233**	LR	LR	11 01 45.8	
	comp=Z,66nm,18.9s,baz=296,slow=39						
ULN	**Ulaanbaatar**	**32.19**	**52**	⇑*eP*	**P**	**10 47 26.8**	**-2.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
XAN	**Xi'an**	**33.37**	**77**	P	**P**	**10 47 40.8**	**+0.9**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.5s						
SLVN	**Son La**	**33.40**	**102**	P	**P**	**10 47 41.6**	**+1.4**
SLVN				IAmb	IAmb	10 47 42.4	
	comp=Z,6.4nm,0.9s						
AKASG	**Malin Array Be**	**33.50**	**313**	P	**P**	**10 47 40.8**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=93,slow=7.5,SNR=12						
BURAR	**Bucovina Array**	**35.45**	**307**	P	**P**	**10 48 01.8**	**+4.0**
VTS	**Vitosha**	**36.56**	**298**	P	**P**	**10 48 10.3**	**+2.9**
VTS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VTS	**Vitosha**	**36.56**	**298**	P	**P**	**10 48 10.3**	**+2.9**
VTS				IAmb	IAmb	10 48 13.8	
	comp=Z,2.7nm,0.7s						
NRIK	**Noril'sk**	**37.53**	**11**	P	**P**	**10 48 15.1**	**0.0**
	comp=Z,2.1nm,0.4s,baz=212,slow=5.0,SNR=6.0						
NRIK				LR	LR	11 05 59.1	
	comp=Z,95nm,18.3s,baz=190,slow=40						
NRIK	**Noril'sk**	**37.53**	**11**	*eP*	**P**	**10 48 15.6**	**+0.5**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NRIK	**Noril'sk**	**37.53**	**11**	P	**P**	**10 48 14.9**	**-0.2**
NRIK				IAmb	IAmb	10 48 31.5	
	comp=Z,3.9nm,0.8s						
FINES	**FINESS Array B**	**39.05**	**329**	P	**P**	**10 48 27.9**	**0.0**
	comp=Z,5.1nm,1.0s,baz=151,slow=4.4,SNR=2.7						
FINES	**FINESS Array B**	**39.05**	**329**	P	**P**	**10 48 30.2**	**+2.2**
FINES	**FINESS Array B**	**39.05**	**329**	P	**P**	**10 48 30.2**	**+2.2**
HIA	**Hailar**	**40.72**	**51**	⇑*eP*	**P**	**10 48 40.3**	**-1.7**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VRAC	**Vranov**	**41.32**	**309**	LR	LR	11 08 08.2	
	comp=Z,67nm,18.3s,baz=63,slow=40						
PSI	**Prapat**	**41.58**	**131**	LR	LR	11 08 42.8	
	comp=Z,53nm,18.3s,baz=264,slow=40						
ARCES	**ARCESS Array B**	**43.32**	**339**	P	**P**	**10 49 02.1**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=125,slow=7.9,SNR=4.0						
ARCES				LR	LR	11 07 51.7	
	comp=Z,111nm,20.0s,baz=248,slow=37						
HFS	**Hagfors**	**44.37**	**324**	LR	LR	11 11 04.5	
	comp=Z,130nm,19.7s,baz=80,slow=41						
KMBO	**Kilima Mbogo**	**45.30**	**227**	⇓*eP*	**P**	**10 49 18.4**	**-1.2**
NB2	**NORSAR Subarra**	**45.74**	**325**	P	**P**	**10 49 22.8**	**+0.4**
	comp=Z,9.3nm,1.0s,baz=103,slow=7.9						
NOA	**NORSAR Array B**	**45.74**	**325**	P	**P**	**10 49 22.6**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=80,slow=7.4,SNR=3.6						
YAK	**Yakutsk**	**47.62**	**34**	LR	LR	11 11 01.4	
	comp=Z,105nm,18.5s,baz=238,slow=38						
YAK	**Yakutsk**	**47.62**	**34**	⇑*eP*	**P**	**10 49 36.1**	**-0.9**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSRS	**Korea Array**	**47.80**	**67**	P	**P**	**10 49 39.1**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=271,slow=6.5,SNR=12						
KSRS				LR	LR	11 11 49.1	
	comp=Z,45nm,18.9s,baz=105,slow=39						
KEST	**Kesra**	**48.22**	**290**	P	**P**	**10 49 46.5**	**+4.3**
	comp=Z,6.6nm,0.8s,baz=329,slow=4.4,SNR=8.6						
KEST	**Kesra**	**48.22**	**290**	P	**P**	**10 49 46.0**	**+3.8**
KLR	**Kul'dur**	**48.58**	**51**	P	**P**	**10 49 44.4**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=281,slow=8.2,SNR=5.5						
KLR	**Kul'dur**	**48.58**	**51**	⇓*eP*	**P**	**10 49 43.5**	**-1.1**
KLR				pmax	pmax		
	comp=Z,23nm,3.8s						
MBAR	**Mbarara**	**49.12**	**234**	LR	LR	11 12 30.5	
	comp=Z,64nm,19.4s,baz=279,slow=39						
TIXI	**Tiksi**	**49.37**	**21**	P	**P**	**10 49 49.7**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=295,slow=6.3,SNR=1.6						
TIXI	**Tiksi**	**49.37**	**21**	⇑*eP*	**P**	**10 49 49.8**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,24nm,3.7s						
USRK	**Ussuriysk Ar.**	**49.43**	**58**	P	**P**	**10 49 51.6**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=277,slow=5.8,SNR=5.2						
MJAR	**Matsushiro Arr**	**55.96**	**66**	LR	LR	11 17 48.2	
	comp=Z,37nm,18.7s,baz=70,slow=39						
YSS	**Yuzh-Sakhalins**	**56.23**	**52**	*eP*	P	10 50 48.2	+6.8
YSS				MLR

MDT	Midelt	2.86	195	P	Pn	10 52 44.8 -0.1
MDT				S	Sn	10 53 16.9 -2.2
CART	Cartagena	2.96	47	P	Pn	10 52 48.7 +2.6
CART				S	Sn	10 53 21.1 -0.4
PVAQ	Vaqueiros	3.71	301	eP	Pn	10 52 57.3 +0.9
PVAQ				eSn	Sn	10 53 37.6 -2.3
PVAQ				A	A	10 53 40.5
	51nm,0.5s					
PVAQ	Vaqueiros	3.71	301	P	Pn	10 52 57.0 +0.6
PBAR	Barrancos	3.72	315	eSn	Sn	10 53 40.7 +0.5
PBDV	Barranco-do-Ve	3.79	297	ePn	Pn	10 52 58.6 +1.0
PBDV				eSn	Sn	10 53 39.6 -2.3
PBDV				A	A	10 53 53.6
	23nm,0.4s					
FIGM	Figuig	4.00	149	P	Pn	10 53 01.0 +0.5
PCVE	Castro Verde	4.04	302	ePn	Pn	10 53 01.9 +0.9
PCVE				eSn	Sn	10 53 46.7 -1.4
PCVE				A	A	10 53 51.5
	29nm,0.7s					
ESDC	Sonseca Array	4.09	357	Pn	Pn	10 53 03.7 +1.9
	0.9nm,0.3s,baz=180,slow=12,SNR=19					
ESDC				Sn	Sn	10 53 51.4 +1.9
	0.7nm,0.3s,baz=177,slow=16,SNR=4.4					
ESDC				Lg	Lg	10 54 07.1
	1.3nm,0.3s,baz=173,slow=27,SNR=4.4					
ESDC				LR	LR	10 54 56.6
	comp=Z,96nm,20.5s,baz=228,slow=44					
PBEJ	Beja	4.13	307	ePn	Pn	10 53 04.4 +2.1
PBEJ				eSn	Sn	10 53 49.7 -0.7
PBEJ				A	A	10 53 58.8
	16nm,0.6s					
MESJ	Messejana	4.27	303	eP	Pn	10 53 04.8 +0.7
MESJ				eS	Sn	10 53 51.0 -2.7
MESJ				IAML		10 53 55.4
	comp=N,21nm,0.1s					
MESJ	Messejana	4.27	303	ePn	Pn	10 53 05.2 +1.0
MESJ				eSn	Sn	10 53 52.8 -0.9
MESJ				A	A	10 54 00.7
	comp=N,30nm,0.5s					
MORF	Marmelete	4.34	295	eP	Pn	10 53 05.7 +0.5
MORF				eS	Sn	10 53 52.8 -2.8
MORF				IAML		10 53 58.6
	comp=N,38nm,0.2s					
MORF	Marmelete	4.34	295	ePn	Pn	10 53 06.2 +1.0
MORF				eSn	Sn	10 53 53.4 -2.2
MORF				A	A	10 54 04.8
	comp=N,16nm,0.6s					
PFVI	Vila Bisbo	4.41	292	ePn	Pn	10 53 07.5 +1.4
PFVI				eSn	Sn	10 53 54.7 -2.6
PFVI				A	A	10 54 06.2
	comp=N,23nm,0.8s					
PTEO	Sao Teotonio	4.49	297	ePn	Pn	10 53 09.0 +1.8
PTEO				eSn	Sn	10 53 57.7 -1.4
PTEO				A	A	10 54 19.9
	comp=N,23nm,0.8s					
PESTR	Estremoz	4.51	318	ePn	Pn	10 53 10.0 +2.5
PESTR				eSn	Sn	10 53 59.4 -0.4
PESTR				A	A	10 54 25.5
	comp=N,19nm,0.5s					
EVO	Evora	4.53	312	ePn	Pn	10 53 09.3 +1.5
EVO				eSn	Sn	10 53 58.9 -1.3
PNCL	Nicolau / Gran	4.62	305	ePn	Pn	10 53 09.9 +1.0
PNCL				eSn	Sn	10 54 00.6 -1.7
PNCL				A	A	10 54 02.1
	comp=N,21nm,0.6s					
PMRV	Marv??o	4.83	324	ePn	Pn	10 53 13.8 +1.9
PMRV				eSn	Sn	10 54 07.2 -0.4
PMRV				A	A	10 54 34.3
	comp=N,20nm,0.5s					
PMTG	Montargil	5.01	315	ePn	Pn	10 53 16.1 +1.8
PMTG				eSn	Sn	10 54 11.5 -0.4
PMTG				A	A	10 54 13.1
	comp=N,18nm,0.5s					
TZRR	Tazzarine	5.03	199	P	Pn	10 53 15.1 +0.4
PCBR	Castelo Branco	5.20	326	ePn	Pn	10 53 19.6 +2.7
PCBR				eSn	Sn	10 54 16.8 +0.2
PCBR				A	A	10 54 23.0
	comp=N,13nm,0.6s					
OUZM	OUZ	5.31	210	P	Pn	10 53 19.5 +0.9
PMAFR	Mafra	5.58	309	ePn	Pn	10 53 24.0 +1.9
PMAFR				eSn	Sn	10 54 24.4 -1.6
PMAFR				A	A	10 54 43.9
	comp=N,31nm,0.5s					
OUK	Oukaimeden	5.58	220	P	Pn	10 53 21.5 -1.0
ZGR	Zagora	5.68	197	P	Pn	10 53 24.1 +0.4
MTE	Manteigas	5.68	329	ePn	Pn	10 53 25.8 +2.1
MTE				eSn	Sn	10 54 28.8 +0.1
MTE				A	A	10 55 00.6
	comp=N,25nm,0.6s					
PCAS	Casmilo, Conde	5.86	321	ePn	Pn	10 53 28.1 +2.1
PCAS				eSn	Sn	10 54 31.7 -1.2
PCAS				A	A	10 54 41.1
	comp=N,15nm,0.5s					
PVIS	Viseu	6.09	329	ePn	Pn	10 53 30.6 +1.3
PVIS				eSn	Sn	10 54 37.6 -1.2
PVIS				A	A	10 55 23.9
	comp=N,13nm,0.7s					
MVO	Moncorvo	6.15	336	ePn	Pn	10 53 33.0 +2.9
MVO				eSn	Sn	10 54 39.9 -0.4
MVO				A	A	10 54 52.4
	comp=N,24nm,0.7s					
TTIG	Tnine Tigouga,	6.40	220	P	Pn	10 53 31.5 -2.1
PVRL	Vila Real	6.50	332	ePn	Pn	10 53 37.1 +2.3
PVRL				eSn	Sn	10 54 48.1 -0.6
POLO	Lamas de Olo	6.61	332	ePn	Pn	10 53 38.9 +2.5
POLO				eSn	Sn	10 54 50.1 -1.5
POLO				A	A	10 55 03.2
	comp=N,5.4nm,0.7s					
PBRG	Braganca	6.65	340	ePn	Pn	10 53 40.4 +3.5
PBRG				eSn	Sn	10 54 53.1 +0.6
PBRG				A	A	10 55 00.9
	comp=N,8.3nm,0.5s					
PCAB	Cabril	6.99	332	eSn	Sn	10 54 59.4 -1.4
PCAB				A	A	10 55 03.2
	comp=N,11nm,0.7s					
PGAV	Gavieira, Arco	7.30	332	ePn	Pn	10 53 48.6 +2.7
PGAV				eSn	Sn	10 55 05.7 -2.9
PGAV				A	A	10 55 25.3
	comp=N,9.8nm,0.6s					
ETSF	Etsaut	7.71	18	eP	Pn	10 53 56.5 +5.1
SJPF	Ste Jean	7.76	14	ePn	Pn	10 53 51.4 -0.8
SJPF	Ste Jean	7.76	14	eP	Pn	10 53 57.7 +5.5
SJPF				eSn	Sn	10 55 14.1 -5.8
	comp=N,5.1nm,0.6s					
EPF	Esparros	8.07	22	ePn	Pn	10 53 55.3 -1.2
EPF	Esparros	8.07	22	eP	Pn	10 54 02.0 +5.5
EPF				eSn	Sn	10 55 19.7 -7.8
	comp=N,3.1nm,0.4s					
MTLF	Montolieu	9.00	29	eP	Pn	10 54 15.4 +6.3
LFF	La Frestale	9.95	19	ePn	Pn	10 54 23.2 +1.1
LFF				eSn	Sn	10 56 06.9 -6.5
	comp=N,3.9nm,0.3s					
LASF	Ste Croix	10.28	32	ePn	Pn	10 54 27.0 +0.3
LASF				eSn	Sn	10 56 16.1 -5.6
	comp=N,2.0nm,0.5s					
LMR	La Mourre	11.05	42	eP	Pn	10 54 42.9 +5.7
PGF	Pioggiola	12.07	51	eP	Pn	10 54 55.7 +4.4
DAVOX	Davos/Dischmat	15.14	38	LR	LR	11 00 53.7
	comp=N,114nm,20.3s,baz=259,slow=35					
TORD	Torodi Ar. Bea	22.86	166	P	P	10 57 03.2 +0.5
	comp=N,0.9nm,0.8s,baz=349,slow=11,SNR=5.6					
BRTR	Keskin Array B	29.72	71	P	P	10 58 06.1 +0.7
	comp=N,0.6nm,0.8s,baz=278,slow=10.0,SNR=2.2					
KURBB	Kurchatov Arra	58.89	47	P	P	11 01 59.1 +1.3
	comp=N,0.5nm,0.6s,baz=292,slow=7.6,SNR=4.5					
ZALV	Zalesovo Beam	61.34	42	P	P	11 02 15.6 +0.9
	comp=N,0.4nm,0.3s,baz=321,slow=13,SNR=1.8					
MKAR	Makanchi Array	62.62	51	P	P	11 02 24.0 +0.6
	comp=N,0.3nm,0.8s,baz=305,slow=5.1,SNR=4.6					
YKA	Yellowknife Ar	67.79	332	P	P	11 02 57.2 +0.6
	comp=N,0.7nm,0.7s,baz=61,slow=6.4,SNR=14					
PDAR	Pinedale Array	76.82	313	P	P	11 03 52.0 +0.7
	comp=N,0.3nm,0.6s,baz=81,slow=9.5,SNR=4.0					

*IDC **27** 10:54:57.9±1.9, 14°.21N×145°.35E, h111km±10km, mb3.2/4, mb1 3.4/4, mb1mx2.8/53, mbtmp3.5/4, Error ellipse: s-maj=62.4km s-min=23.5km az=97.0*
*NEIC **27** 10:55:00.4±0.8, 14°.2N±0°.1×144°.9E±0°.2, h117km±7km, mb4.4/8, Error ellipse: s-maj=34.5km s-min=8.5km az=114.0*
ISC 27 10:54:55.9±1.3, 14°.3N±0°.1×145°.7E±0°.2, h100km, n17, σ0.99/15, mb4.3/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.06	232	P	Pn	10 55 18.9	+1.8
	608nm,0.3s,baz=47,slow=19,SNR=411						
GUMO				S	Sn	10 55 32.1	-0.9
	720nm,0.3s,baz=44,slow=16,SNR=11						
GUMO				LR	LR	10 55 42.5	
	comp=Z,190nm,21.6s,baz=66,slow=58						
H11S3	WAKE ISLAND Hy	20.54	75	T	T	11 20 57.6	
	baz=256,slow=74						
H11S1	WAKE ISLAND Hy	20.56	75	T	T	11 20 59.4	
	baz=256,slow=74						
H11S2	WAKE ISLAND Hy	20.56	75	T	T	11 20 59.2	
	baz=256,slow=74						
MTN	Manton Dam	30.56	209	P	P	11 00 58.3	-2.0
MDJ	Mudanjiang	33.24	339	P	P	11 01 23.1	-0.3
WB0	Warramunga Arr	35.60	199	P	P	11 01 43.6	-0.4
WB0				IAmb	IAmb	11 01 44.3	
	comp=Z,3.1nm,0.6s						
WR0	Warramunga Arr	35.73	198	P	P	11 01 44.7	-0.5
WR0				IAmb	IAmb	11 02 00.9	
	comp=Z,6.5nm,1.2s						
WRAB	Tennant Creek	35.77	199	P	P	11 01 45.3	-0.2
WRAB				IAmb	IAmb	11 01 46.6	
	comp=Z,4.1nm,0.7s						
WB2	Warramunga Arr	35.77	199	P	P	11 01 45.6	0.0
WB2				IAmb	IAmb	11 01 57.8	
	comp=Z,6.0nm,1.2s						
WRA	Warramunga Arr	35.78	199	P	P	11 01 45.1	-0.6
	comp=Z,2.1nm,0.6s,baz=19,slow=9.5,SNR=22						
WRA	Warramunga Arr	35.78	199	P	P	11 01 44.1	-1.5
AS31	Alice Springs	39.42	197	P	P	11 02 16.1	-0.2
ASAR	Alice Springs	39.42	197	P	P	11 02 16.1	-0.2
	comp=Z,0.5nm,0.7s,baz=18,slow=9.2,SNR=16						
ASAR	Alice Springs	39.42	197	P	P	11 02 15.9	-0.5
MKAR	Makanchi Array	61.60	316	P	P	11 05 02.5	-0.4
	comp=Z,0.6nm,1.0s,baz=102,slow=7.7,SNR=3.0						
YKA	Yellowknife Ar	81.89	28	P	P	11 07 04.6	+0.5
	comp=Z,0.1nm,0.6s,baz=282,slow=5.3,SNR=2.4						

*IDC **27** 11:08:32.9±1.0, 23°.14N×92°.92E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.3/50, mbtmp3.3/6, ML3.3/1, Error ellipse: s-maj=20.6km s-min=13.4km az=162.0*
ISC 27 11:08:37.3±1.0, 23°.1N±0°.2×92°.95E±0°.10, h35km, n7, σ1.39/7, mb3.2/5, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	1.28	251	Pg	Pn	11 08 57.9	-0.7
	0.9nm,0.3s,baz=360,slow=24,SNR=39						
BRDH				Lg	Lg	11 09 13.2	
	9.4nm,0.3s,baz=0.0,slow=24,SNR=70						
CMAR	Chiang Mai Arr	7.26	128	Pn	Pn	11 10 19.6	-1.2
	0.1nm,0.3s,baz=303,slow=13,SNR=1.3						
CMAR				Lg	Lg	11 12 15.7	
	1.2nm,0.3s,baz=349,slow=21,SNR=7.9						
MKAR	Makanchi Array	25.16	343	P	P	11 13 59.9	+0.7
	0.2nm,0.3s,baz=162,slow=8.7,SNR=7.3						
SONM	Songino Array	26.93	20	P	P	11 14 15.7	+0.4
	0.2nm,0.4s,baz=208,slow=4.9,SNR=1.5						
KURBB	Kurchatov Arra	29.69	341	P	P	11 14 38.5	-1.2
	0.1nm,0.4s,baz=168,slow=7.9,SNR=2.1						
WRA	Warramunga Arr	58.82	133	P	P	11 18 33.2	+0.7
	0.2nm,0.5s,baz=322,slow=7.5,SNR=1.4						
ASAR	Alice Springs	61.19	137	P	P	11 18 50.5	+1.8
	0.4nm,0.5s,baz=317,slow=7.0,SNR=9.7						

TAP 27 11:30:59.3, 24°.15N×121°.70E, h45km, ML2.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	Fush Village	0.07	279	P	Pn	11 31 06.8	+0.3
	baz=277						
ETL				S	Sn	11 31 12.2	+0.7
	baz=277						
NACB	Ninganchiao	0.10	285	P	Pn	11 31 06.2	-0.3
	baz=285						
NACB				S	Sn	11 31 11.7	+0.1
	baz=285						
TWD	Chiawan	0.11	233	P	Pn	11 31 07.2	+0.7
	baz=230						
TWD				i S	Sn	11 31 12.2	+0.5
	baz=230						
HWA	Hwalien	0.19	206	P	Pn	11 31 07.2	+0.2
	baz=203						
HWA				S	Sn	11 31 13.1	+0.7
	baz=203						
ETLH	Xiulin Townshi	0.20	287	eP	Pn	11 31 07.9	+0.6
	baz=286						
ETLH				eS	Sn	11 31 13.8	+0.9
	baz=286						
ETM	Tongmen	0.26	225	eP	Pn	11 31 07.3	-0.3
	baz=225						
ETM				eS	Sn	11 31 13.9	+0.5
	baz=225						
ENA	Nanau	0.28	9	P	Pn	11 31 08.2	+0.4
	baz=10.0						
TEYL	Yanliau Villag	0.29	198	eP	Pn	11 31 07.7	-0.2
	baz=199						
TEYL				S	Sn	11 31 15.3	+1.3
	baz=199						
EWUT	Wuta	0.30	14	P	Pn	11 31 08.3	+0.3
	baz=14						
EWUT				S	Sn	11 31 15.1	+0.9
	baz=14						
WHF	Hehuan Shan	0.39	270	i P	Pn	11 31 09.5	+0.1
	baz=269						
WHF				i S	Sn	11 31 17.0	+0.5
	baz=269						
NNSB	Datong	0.40	314	P	Pn	11 31 09.5	+0.3
	baz=314						
NNSB				S	Sn	11 31 16.5	+0.3
	baz=314						
ESL	Shilin	0.41	216	eP	Pn	11 31 09.3	+0.1
	baz=214						
ESL				S	Sn	11 31 17.0	+0.8
	baz=214						
NNS	Nan Shan	0.41	315	i P	Pn	11 31 09.6	+0.2
	baz=315						
NNS				S	Sn	11 31 17.3	+0.8
	baz=315						
LATG	Datong	0.41	338	P	Pn	11 31 09.1	-0.2
	baz=338						
LATG				S	Sn	11 31 16.4	-0.1
	baz=338						
FUSS	Fushou	0.42	283	eP	Pn	11 31 09.7	+0.2
	baz=283						
FUSS				eS	Sn	11 31 18.3	+1.4
	baz=283						
TWC	Suao	0.48	17	i P	Pn	11 31 10.6	+0.6
	baz=18						
TWC				i S	Sn	11 31 19.6	+2.0
	baz=18						
NDT	Datong Townshi	0.48	340	P	Pn	11 31 10.3	+0.3
	baz=339						
NDS	Dongshan	0.48	2	eP	Pn	11 31 10.2	+0.2
	baz=2.0						
NDS				S	Sn	11 31 18.6	+0.9
	baz=2.0						
CHGB	Renai	0.48	260	P	Pn	11 31 10.9	+0.7
	baz=259						
CHGB				S	Sn	11 31 18.8	+0.7
	baz=259						
TDCB	Techi	0.50	282	eS	Sn	11 31 19.3	+1.0
	baz=281						
ENTT	Nioudou	0.50	346	i P	Pn	11 31 10.1	-0.2
	baz=347						
ENTT				i S	Sn	11 31 18.8	+0.6
	baz=347						
WUSB	Renai	0.55	254	P	Pn	11 31 11.3	+0.3
	baz=253						
WUSB				S	Sn	11 31 19.9	+0.5
	baz=253						
TWE	Neicheng	0.57	357	P	Pn	11 31 12.3	+1.1
	baz=358						
TWE				S	Sn	11 31 21.5	+1.9
	baz=358						
YHNB	Yeheng	0.59	331	P	Pn	11 31 11.9	+0.3
	baz=330						
YHNB				S	Sn	11 31 20.7	+0.4
	baz=330						
NSK	Sanguang	0.61	330	i P	Pn	11 31 12.1	+0.4
	baz=330						
NSK				i S	Sn	11 31 21.0	+0.4
	baz=330						
FUSB	Fushanzhiwuyua	0.62	351	P	Pn	11 31 12.4	+0.6
	baz=350						
FUSB				S	Sn	11 31 21.4	+0.6
	baz=350						
VWDT	VWDT	0.64	232	P	Pn	11 31 12.5	+0.4
	baz=232						
VWDT				S	Sn	11 31 21.5	+0.3
	baz=232						
NWLT	Wulai	0.65	344	eP	Pn	11 31 12.5	+0.2
	baz=344						
NWLT				eS	Sn	11 31 21.9	+0.4
	baz=344						
WHP	Taichung City	0.70	281	eP	Pn	11 31 14.5	+1.6
	baz=280						
WHP				eS	Sn	11 31 24.2	+1.5
	baz=280						
HGSD	Ruisui	0.70	201	P	Pn	11 31 13.4	+0.6
	baz=200						
HGSD				S	Sn	11 31 23.9	+1.3
	baz=200						
NFF	Wufeng Townshi	0.71	313	eP	Pn	11 31 14.9	+1.8
	baz=312						
NFF				eS	Sn	11 31 24.9	+1.8
	baz=312						
WCS	Beigang Elemen	0.72	263	eP	Pn	11 31 13.8	+0.6
	baz=262						
WCS				eS	Sn	11 31 24.9	+1.7
	baz=262						
EHY	Hungye	0.73	208	i P	Pn	11 31 13.0	-0.2
	baz=207						
EHY				eS	Sn	11 31 24.2	+0.9
	baz=207						
SSLB	Suanglung	0.77	242	P	Pn	11 31 15.6	+1.9
	baz=242						
SSLB				S	Sn	11 31 25.2	+0.9
	baz=242						
LIOB	Emei	0.79	309	P	Pn	11 31 15.6	+1.4
	baz=308						
LIOB				S	Sn	11 31 27.1	+2.2
	baz=308						
NSTT	Nanjuang	0.79	307	P	Pn	11 31 14.9	+0.8
	baz=307						
NSTT				S	Sn	11 31 26.7	+1.8
	baz=307						
TYC	Yuchr	0.80	253	eP	Pn	11 31 14.9	+0.6
	baz=252						
NHDH	Xindian Distri	0.82	349	eS	Sn	11 31 26.8	+1.2
	baz=349						
TIPB	Shuangxi	0.83	8	eP	Pn	11 31 15.4	+0.8
	baz=8.0						
TIPB				eS	Sn	11 31 26.8	+1.0
	baz=8.0						
TWA	Mucha	0.83	353	eP	Pn	11 31 16.0	+1.3
	baz=353						
TWA				eS	Sn	11 31 27.4	+1.5
	baz=353						
YULB	Yu-li	0.84	206	eP	Pn	11 31 14.3	-0.4
	baz=205						
YULB				S	Sn	11 31 27.5	+1.6
	baz=205						
TWQ1	Liyutan	0.86	283	P	Pn	11 31 15.6	+0.6
	baz=283						
TWQ1				S	Sn	11 31 27.9	+1.3
	baz=283						
EYUL	Yuli	0.87	203	eP	Pn	11 31 16.2	+1.1
	baz=203						
EYUL				eS	Sn	11 31 27.8	+1.1
	baz=203						
TAP	Taipei	0.90	349	eP	Pn	11 31 16.0	+0.4
	baz=349						
TAP				eS	Sn	11 31 28.3	+0.8
	baz=349						
SXI1	Grass Mountain	0.95	10	eP	Pn	11 31 17.4	+1.1
	baz=9.0						
SXI1				eS	Sn	11 31 30.1	+1.2
	baz=9.0						
TWS1	Kuangyinshan	0.98	345	eS	Sn	11 31 30.5	+1.1
	baz=345						
FULB	Fuli	1.01	201	eP	Pn	11 31 18.0	+0.9
	baz=201						
FULB				eS	Sn	11 31 31.4	+1.2
	baz=201						
ALS	Alishan	1.03	232	eP	Pn	11 31 18.5	+0.9
	baz=231						
ALS				eS	Sn	11 31 31.5	+0.4
	baz=231						
CHN5	Tsauling	1.08	240	eP	Pn	11 31 19.1	+1.0
	baz=239						
CHN5				eS	Sn	11 31 32.7	+0.8
	baz=239						
EDH	Donghe	1.23	197	eP	Pn	11 31 20.7	+0.7
	baz=197						
EDH				eS	Sn	11 31 36.6	+1.2
	baz=197						
CHN4	Tsaushan	1.28	232	eP	Pn	11 31 22.6	+1.9
	baz=231						
TPUB	Ta-pu	1.29	229	eP	Pn	11 31 22.2	+1.3
	baz=229						

NOU 27 11:50:01.7, 15°.84S×167°.55E, h30km, MLv4.3/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.51	319	P	Pn	11 50 13.0	0.0
DVP	Devils Point	1.97	162	P	Pn	11 50 33.2	+0.1
KOUNC	Koumac, New Ca	5.62	213	P	Pn	11 51 23.2	0.0
YATNC	Mamie plateau,	6.22	186	P	Pn	11 51 32.0	+0.5
DZM	Mont Dzumac	6.29	189	P	Pn	11 51 32.4	-0.1
NOUC	Port Laguerre	6.34	191	P	Pn	11 51 33.3	+0.2
OUENC	Ouen Island, N	6.58	186	P	Pn	11 51 36.2	-0.2

*MEX **27** 11:58:11.4±0.5, 15°.21N×92°.16W, h117km±4km, MD4.2*
*GCG **27** 11:58:15.9±0.7, 14°.80N×91°.62W, h160km±31km, MD4.0*
ISC 27 11:58:11.5±1.8, 15°.13N±0°.09×92°.29W±0°.06, h108km±10km, n11, σ0.91/22, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	El Naranjo	0.06	104	eP	Pn	11 58 26.0	-0.8
PATR				i S	Sn	11 58 38.1	0.0
PAVE	Pavencul	0.13	60	eP	Pn	11 58 26.6	-0.3
CHUJ	Union Juarez	0.18	102	eP	Pn	11 58 26.4	-0.5
CHUJ				i S	Sn	11 58 38.2	-0.3
THIG		0.22	174	i P	Pn	11 58 26.6	-0.2
THIG				i S	Sn	11 58 38.8	+0.7
THIG				i S	Sn	11 58 38.9	+0.7
PCIG		1.06	303	eP	Pn	11 58 33.1	-0.1
PCIG				eS	Sn	11 58 50.3	+0.7
CCIG	Comitan	1.16	7	eP	Pn	11 58 35.8	+1.4
CCIG				eS	Sn	11 58 51.9	+0.1
FUG	Fuego 3	1.56	116	eP	Pn	11 58 39.7	+0.6
FUG				eS	Sn	11 59 00.8	+0.8
TGIG		1.82	334	eP	Pn	11 58 42.4	+0.1
TGIG				eS	Sn	11 59 05.0	-0.7
NBG	Las Nubes	1.96	106	eP	Pn	11 58 45.5	+1.4
NBG				eS	Sn	11 59 07.6	-1.3
MRL	Marmol	2.52	91	eP	Pn	11 58 51.4	0.0
MRL				eS	Sn	11 59 19.8	-2.1
CMIG	Matias Romero	3.17	308	eP	Pn	11 58 59.9	+0.2
CMIG				i S	Sn	11 59 36.0	-0.9

*NEIC **27** 12:48:32.8±1.4, 6°.44S±0°.07×129°.92E±0°.09, h160km±8km, mb4.4/20, Error ellipse: s-maj=13.4km s-min=10.1km az=83.0*
*IDC **27** 12:48:33.4±1.7, 6°.53S×129°.85E, h170km±17km, mb3.8/4, mb1 3.9/8, mb1mx3.4/31, mbtmp4.4/8, Error ellipse: s-maj=19.3km s-min=13.6km az=63.0*
*DJA **27** 12:48:33.7±0.2, 7°.S±2°.×13°.0E±°, h155km±4km, M4.4/19, mb4.4/19, mB4.8/4, MLv4.5/13, Mw(mB)4.1/4, MwMwp4.8/1, Mwp5.2/1*
ISC 27 12:48:31.0±0.5, 6°.54S±0°.04×129°.96E±0°.05, h146km, n80, σ2.37/88, mb4.3/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.96	137	P	Pn	12 49 10.1	+4.7
SAUI				S	Sn	12 49 35.9	+4.0
SAUI	Saumlaki	1.96	137	Pn	Pn	12 49 09.0	+3.6
SAUI	Saumlaki	1.96	137	P	Pn	12 49 10.7	+5.3
BNDI	Bandanaira	2.00	359	P	Pn	12 49 10.3	+4.4

AAI	**Ambon**	**3.33 328**	P	**Pn**	**12 49 26.7**	**+4.3**
MSAI	**Masohi**	**3.33 342**	P	**Pn**	**12 49 26.5**	**+4.0**
FAKI	**Fak Fak**	**4.26 33**	P	**Pn**	**12 49 35.5**	**+0.9**
FAKI			S	**Sn**	**12 50 22.3**	**-1.7**
FAKI	**Fak Fak**	**4.26 33**	Pn	**Pn**	**12 49 35.7**	**+1.1**
FAKI			Sn	**Sn**	**12 50 22.4**	**-1.7**
SIJI	**Sorong**	**5.78 13**	P	**Pn**	**12 49 56.4**	**+1.6**
	2.0nm,0.3s,baz=345,slow=7.1,SNR=6.1					
SIJI			S	**Sn**	**12 50 56.3**	**-4.0**
	15nm,0.3s,baz=45,slow=22,SNR=20					
SWI	**Sorong**	**5.78 13**	P	**Pn**	**12 49 58.7**	**+3.9**
	0.6nm16nm,0.6s					
DRS	**Darwin Rock St**	**5.93 171**	P	**Pn**	**12 49 59.6**	**+2.8**
LBMI	**Labuha**	**6.35 337**	P	**Pn**	**12 50 06.6**	**+4.2**
	0.1nm30nm,1.4s					
MTN	**Manton Dam**	**6.37 170**	Pn	**Pn**	**12 50 05.3**	**+2.6**
MTN			Sn	**Sn**	**12 51 14.6**	**+0.1**
MTN	**Manton Dam**	**6.37 170**	P	**Pn**	**12 50 05.1**	**+2.4**
SOEI	**Soe**	**6.47 240**	P	**Pn**	**12 50 05.2**	**+1.0**
	0.5nm57nm,0.7s					
SOEI			S	**Sn**	**12 51 19.0**	**+1.9**
	0.5nm57nm,0.7s					
SOEI	**Soe**	**6.47 240**	Pn	**Pn**	**12 50 06.4**	**+2.3**
SOEI	**Soe**	**6.47 240**	P	**Pn**	**12 50 07.5**	**+3.3**
KDU	**Kakadu**	**6.60 158**	P	**Pn**	**12 50 07.5**	**+1.8**
BATI	**Baumata**	**7.21 239**	P	**Pn**	**12 50 16.0**	**+2.0**
	15nm,0.3s,baz=209,slow=1.4,SNR=15					
BATI			S	**Sn**	**12 51 35.1**	**+0.4**
	28nm,0.3s,baz=148,slow=20,SNR=12					
BATI	**Baumata**	**7.21 239**	P	**Pn**	**12 50 16.9**	**+2.9**
	0.3nm67nm,0.6s					
BATI			S	**Sn**	**12 51 35.1**	**+0.4**
	0.3nm67nm,0.6s					
BBSI	**Bau Bau**	**7.42 278**	P	**Pn**	**12 50 17.8**	**+1.1**
	0.0nm5.6nm,1.0s					
KNRA	**Kununurra**	**9.16 187**	Pn	**Pn**	**12 50 40.9**	**+1.0**
KNRA	**Kununurra**	**9.16 187**	P	**Pn**	**12 50 41.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**12.24 200**	P	**Pn**	**12 51 21.1**	**+0.5**
	0.5nm,0.3s,baz=29,slow=10,SNR=18					
FITZ			S	**Sn**	**12 53 28.6**	**-7.2**
	1.9nm,0.3s,baz=9.1,slow=18,SNR=3.9					
WB0	**Warramunga Arr**	**13.84 162**		**Pn**	**12 51 40.0**	**-1.1**
WRAB	**Tennant Creek**	**13.98 163**	Pn	**Pn**	**12 51 43.0**	**0.0**
WRA	**Warramunga Arr**	**13.99 163**	P	**Pn**	**12 51 41.4**	**-1.7**
	1.3nm,0.3s,baz=340,slow=12,SNR=25					
WRA			S	**Sn**	**12 54 09.6**	**-8.5**
	2.7nm,0.3s,baz=335,slow=22,SNR=13					
WRA	**Warramunga Arr**	**13.99 163**	Pn	**Pn**	**12 51 42.9**	**-0.2**
WB2	**Warramunga Arr**	**13.99 163**	Pn	**Pn**	**12 51 42.6**	**-0.5**
WR0	**Warramunga Arr**	**14.07 162**		**Pn**	**12 51 43.4**	**-0.6**
COEN	**Coen**	**14.95 121**		**P**	**12 51 56.9**	**-0.1**
COEN			IAmb	IAmb	12 51 60.0	
	comp=Z,21nm,0.7s					
COEN	**Coen**	**14.95 121**	P	**P**	**12 51 57.0**	**-0.1**
BBKI	**Banjar Baru**	**15.36 281**	P	**P**	**12 52 04.3**	**+2.7**
	comp=Z,37nm,1.0s					
JAGI	**Jajag, Banyuwa**	**15.79 262**	Pn	**Pn**	**12 52 04.2**	**-1.3**
JAGI	**Jajag, Banyuwa**	**15.79 262**	P	**Pn**	**12 52 05.3**	**-0.1**
	comp=Z,72nm,1.8s					
QIS	**Mount Isa**	**16.79 147**	P	**Pn**	**12 52 19.6**	**+2.0**
AS31	**Alice Springs**	**17.45 168**		**Pn**	**12 52 26.4**	**+0.9**
AS31			IAmb	IAmb	12 52 28.2	
	comp=Z,6.1nm,0.6s					
ASAR	**Alice Springs**	**17.45 168**	P	**Pn**	**12 52 26.4**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=347,slow=10,SNR=224					
ASAR			S	**S**	**12 55 34.2**	**-4.7**
	comp=Z,0.8nm,0.3s,baz=358,slow=28,SNR=7.5					
ASAR			ScP	**ScP**	**13 00 14.8**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=5.2,slow=2.5,SNR=6.0					
MBWA	**Marble Bar**	**17.59 213**	P	**Pn**	**12 52 27.4**	**+0.2**
MBWA	**Marble Bar**	**17.59 213**	P	**Pn**	**12 52 27.6**	**+0.4**
PSA00	**Pilbara Seismi**	**17.86 212**	P	**Pn**	**12 52 30.1**	**-0.4**
PSA00			IAmb	IAmb	12 52 31.1	
	comp=Z,13nm,0.6s					
MTSU	**Mount Surprise**	**18.14 131**	P	**Pn**	**12 52 34.2**	**+0.4**
WRKA	**Warakurna**	**18.47 185**	P	**Pn**	**12 52 37.6**	**0.0**
SBUM	**Sibu**	**19.83 296**	P	**P**	**12 52 48.1**	**-2.5**
CTA	**Charters Tower**	**20.78 132**	P	**P**	**12 53 02.6**	**+2.0**
	comp=Z,9.1nm,0.7s,baz=315,slow=10,SNR=13					
CTA	**Charters Tower**	**20.78 132**	P	Pn	12 53 04.0	-0.9
	comp=Z,16nm,0.7s					
CTAO	**Charters Tower**	**20.78 132**	P	**P**	**12 53 02.7**	**+2.0**
CTAO			IAmb	IAmb	12 53 05.0	
	comp=Z,8.8nm,0.8s					
CTAO	**Charters Tower**	**20.78 132**	P	Pn	12 53 04.0	-0.9
	comp=Z,14nm,0.7s					
OOD	**Oodnadatta**	**21.83 166**	P	**P**	**12 53 12.3**	**+0.5**
INKA	**Innaminka**	**23.45 155**	P	**P**	**12 53 29.0**	**+1.8**
MULG	**Mulgathing**	**23.93 171**	P	**P**	**12 53 33.1**	**+1.4**
QLP	**Quilpie**	**24.14 147**	P	**P**	**12 53 35.9**	**+2.4**
FORT	**Forrest**	**24.18 184**	P	**P**	**12 53 34.9**	**+1.1**
FORT			IAmb	IAmb	12 53 54.5	
	comp=Z,10nm,0.8s					
FORT	**Forrest**	**24.18 184**	P	**P**	**12 53 36.3**	**+2.4**
LCRK	**Leigh Creek**	**25.02 163**	P	**P**	**12 53 42.2**	**+0.7**
MDSI	**Maura Dua**	**25.74 273**	P	P	12 53 39.9	-8.3
BBOO	**Buckleboo**	**26.75 169**	P	**P**	**12 53 57.0**	**-0.1**
BBOO	**Buckleboo**	**26.75 169**	P	**P**	**12 53 57.3**	**+0.2**
STKA	**Stephens Creek**	**27.46 158**	P	**P**	**12 54 03.8**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=339,slow=8.5,SNR=17					
STKA	**Stephens Creek**	**27.46 158**	P	**P**	**12 54 03.7**	**+0.4**
STKA	**Stephens Creek**	**27.46 158**	P	**P**	**12 54 03.9**	**+0.4**
HTT	**Hallett**	**28.03 164**	P	**P**	**12 54 09.9**	**+1.4**
	comp=Z,6.7nm,1.8s					
ARPS	**Mount Arapiles**	**31.99 162**	P	**P**	**12 54 45.0**	**+1.6**
CAN	**Canberra**	**33.58 151**	P	**P**	**12 54 58.6**	**+1.3**
TOO	**Toolangi**	**33.98 158**	P	**P**	**12 55 03.0**	**+2.3**
CMAR	**Chiang Mai Arr**	**39.40 310**	P	**P**	**12 55 46.2**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=136,slow=7.3,SNR=12					
PZH	**PanZhiHua**	**42.74 321**	P	**P**	**12 56 13.3**	**-0.9**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,40nm,5.6s					
HHC	**Hu-ho-hao-te**	**50.09 342**	*e*P	**P**	**12 57 13.3**	**+2.1**
HHC			pmax	pmax		
	comp=Z,11nm,1.0s					
HHC			pmax	pmax		
	comp=Z,86nm,4.4s					
WMQ	**Urumqi**	**62.98 327**	*e*P	**P**	**12 58 44.8**	**+2.5**
MK31	**Makanchi Array**	**67.81 327**		**P**	**12 59 13.0**	**-0.3**
MKAR	**Makanchi Array**	**67.81 327**	P	**P**	**12 59 12.9**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=118,slow=8.2,SNR=53					
MAKZ	**Makanchi**	**68.00 327**	P	**P**	**12 59 13.8**	**-0.6**
MAKZ			IAmb	IAmb	12 59 14.6	
	comp=Z,5.1nm,1.2s					
BOOM	**Boomskoye usch**	**69.16 320**	P	**P**	**12 59 21.2**	**-0.8**
AAK	**Ala-Archa**	**70.16 320**	P	**P**	**12 59 27.0**	**-1.0**
KURK	**Kurchatov**	**72.10 329**	P	**P**	**12 59 38.5**	**-0.8**
KURK			IAmb	IAmb	13 02 17.2	
	comp=Z,12nm,1.9s					
VNDA	**Vanda**	**72.91 173**	P	**P**	**12 59 43.5**	**-0.2**
VNDA			IAmb	IAmb	13 02 23.0	
	comp=Z,13nm,1.6s					
KKAR	**Karatay Array**	**72.96 319**	P	**P**	**12 59 44.1**	**-0.6**
SOCY	**Socotra**	**77.77 284**	P	**P**	**13 00 11.5**	**-1.2**
SOCY			IAmb	IAmb	13 01 15.5	
	comp=Z,6.9nm,1.0s					
ABKAR	**Akbulak array**	**82.12 322**	P	**P**	**13 00 35.0**	**-0.3**
QSPA	**South Pole Qui**	**83.44 180**	P	**P**	**13 00 40.8**	**-1.2**
QSPA			IAmb	IAmb	13 03 53.4	
	comp=Z,23nm,1.9s					

*IDC **27** 13:07:59.5±4.6, 4°.52S×153°.56E, h113km±30km, mb3.6/5, mb1 3.9/6, mb1mx3.3/42, mbtmp4.1/6, Error ellipse: s-maj=52.5km s-min=18.5km az=96.0*

ISC 27 13:07:57.3±1.4, **4°.5S**±0°.1×**153°.8E**±0°.1, **h100**km, **n8**, σ0**94/10**, **mb3.6/5**, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.75**	**277**	P	**Pn**	**13 08 27.6**	**+0.9**
	baz=253,slow=19						
KRVT				S	**Sn**	**13 08 47.8**	**-1.2**
	baz=198,slow=20						
PMG	**Port Moresby**	**8.15**	**233**	P	**Pn**	**13 09 54.0**	**+1.0**
	10nm,0.3s,baz=37,slow=7.6,SNR=36						
PMG				S	**Sn**	**13 11 23.3**	**-0.2**
	6.1nm,0.3s,baz=324,slow=23,SNR=7.0						
WRA	**Warramunga Arr**	**24.35**	**229**	P	**P**	**13 13 06.2**	**+0.1**
	10nm,0.7s,baz=54,slow=10.0,SNR=75						
ASAR	**Alice Springs**	**27.00**	**223**	P	**P**	**13 13 29.9**	**-0.2**
	0.9nm,0.6s,baz=56,slow=9.0,SNR=18						
STKA	**Stephens Creek**	**29.51**	**201**	P	**P**	**13 13 51.7**	**-0.6**
	1.8nm,0.6s,baz=28,slow=14,SNR=5.7						
SONM	**Songino Array**	**66.61**	**327**	P	**P**	**13 18 38.3**	**+1.1**
	0.3nm,0.4s,baz=142,slow=6.6,SNR=5.2						
MKAR	**Makanchi Array**	**80.75**	**319**	P	**P**	**13 19 59.1**	**-0.7**
	0.4nm,0.6s,baz=105,slow=4.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**151.13**	**289**	PKPbc	**PKPbc**	**13 27 39.2**	**-0.8**
	0.8nm,0.7s,baz=68,slow=3.2,SNR=4.9						

*BUL **27** 13:13:11.0±2.8, 25°.94S×29°.18E, h0km±38km, MD4.4*
*EAF **27** 13:13:11.0±2.8, 25°.94S×29°.18E, h0km±38km, MD4.0*

ISC 27 13:13:06.4±1.5, **25°.40S**±0°.06×**29°.29E**±0°.09, **h10**km, **n10**, σ2**68/20**, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.36**	**276**	*i* P	**Pb**	**13 14 06.2**	**0.0**
LBTB				*i* Sg	**Sg**	**13 14 56.0**	**+1.5**
LBTB	**Lobatse**	**3.36**	**276**	*i* P	**Pb**	**13 14 06.2**	**0.0**
LBTB				*i* Sg	**Sg**	**13 14 56.0**	**+1.5**
BOSA	**Boshof**	**4.81**	**227**	*i* P	**Pn**	**13 14 20.1**	**+1.1**
BOSA				*i* Sg	**Sb**	**13 15 24.9**	**-4.0**
BOSA	**Boshof**	**4.81**	**227**	*i* P	**Pn**	**13 14 20.1**	**+1.1**
BOSA				*i* Sg	**Sb**	**13 15 24.9**	**-4.0**
MATP	**Matopo**	**5.01**	**352**	*i* P	**Pb**	**13 14 35.0**	**+0.7**
MATP				*i* S	**Sb**	**13 15 33.2**	**-1.4**
MATP	**Matopo**	**5.01**	**352**	*i* P	**Pb**	**13 14 35.0**	**+0.7**
MATP				*i* S	**Sb**	**13 15 33.2**	**-1.4**
BLWY	**Bulawayo**	**5.28**	**353**	*i* P	**Pb**	**13 14 36.6**	**-2.2**
BLWY				*i* S	**Sb**	**13 15 40.1**	**-2.2**
BLWY	**Bulawayo**	**5.28**	**353**	*i* P	**Pb**	**13 14 36.6**	**-2.2**
BLWY				*i* S	**Sb**	**13 15 40.1**	**-2.2**
KRI	**Karoi**	**8.54**	**2**	*e*P	**Pn**	**13 15 14.2**	**+3.9**
KRI				*i* S	**Sn**	**13 16 43.0**	**-3.8**
KRI	**Karoi**	**8.54**	**2**	*e*P	**Pn**	**13 15 14.2**	**+3.9**
KRI				*i* S	**Sn**	**13 16 43.0**	**-3.8**

*SJA **27** 13:16:29.4±0.7, 30°.61S×72°.10W, h9km±3km, ML4.6, MW4.2*
*IDC **27** 13:16:30.8±0.5, 30°.65S×71°.61W, h0km, mb4.6/15, mb1 4.6/20, mb1mx4.4/38, mbtmp4.5/20, ML4.1/5, MS3.9/26, Ms1 3.9/26, ms1mx3.7/56, Error ellipse: s-maj=20.6km s-min=13.9km az=82.0*
*GUC **27** 13:16:35.6±0.6, 30°.66S×71°.69W, h33km±1km, ML4.8*
*VAO **27** 13:16:35.4±0.4, 30°.65S×71°.64W, h27km, mb4.6*
*NEIC **27** 13:16:35.9±1.3, 30°.63S±0°.04×71°.62W±0°.09, h28km±3km, mb4.8/42, Mwr4.5/50, ML4.8(GUC), Error ellipse: s-maj=10.8km s-min=6.3km az=94.0*
*NEIC **27** 13:16:35, 30°.66S×71°.69W, h34km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.99; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-4.76; $M_{r\theta}$1.14; $M_{\phi\theta}$0.68; $M_{\phi r}$-3.48; Fault plane solution: $M_0$6.14000×10^{15} NP1:$\phi_1$165.92000°, δ63.35000°, λ84.97000°. NP2:$\phi_2$357.02000°, δ27.08000°, λ99.90000°. Principal axes: T 6.2229, Plg71.0000°, Azm65.0000°; N -0.1764, Plg4.0000°, Azm168.0000°; P -6.0465, Plg18.0000°, Azm260.0000°:*

ISC 27 13:16:35.6±0.7, **30°.60S**±0°.02×**71°.67W**±0°.04, **h30**km±5km, **n221**, σ1**963/230**, **mb4.7/32**, **MS4.0/23**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.08**	**156**	*e*P	**Pb**	**13 16 40.4**	**-0.5**
CO06				*i* S	**Sb**	**13 16 44.1**	**-0.4**
CO06				IAML		13 16 45.3	
	comp=N,259μm,0.2s						
CO06	**Fray Jorge**	**0.08**	**156**		**Pb**	**13 16 40.4**	**-0.5**
CO05	**La Serena**	**0.78**	**29**	*e*P	**Pn**	**13 16 50.5**	**0.0**
CO05				*i* S	**Sn**	**13 17 02.3**	**+1.3**
CO05				IAML		13 17 07.1	
	comp=E,48μm,0.7s						
CO05	**La Serena**	**0.78**	**29**		**Pn**	**13 16 50.7**	**+0.3**
GO04	**Tololo Observa**	**0.87**	**61**	*e*P	**Pn**	**13 16 52.2**	**+0.2**
GO04				*i* S	**Sn**	**13 17 05.0**	**+1.4**
GO04	**Tololo Observa**	**0.87**	**61**		**Pn**	**13 16 52.1**	**+0.2**
GO04	**Tololo Observa**	**0.87**	**61**	*e*P	**Pb**	**13 16 49.1**	**-3.2**
GO04				*e*P	**Pn**	**13 16 52.4**	**+0.5**
CO03	**El Pedregal**	**0.88**	**106**	*e*P	**Pn**	**13 16 51.5**	**-0.4**
CO03				*i* S	**Sn**	**13 17 03.5**	**-0.3**
CO03				IAML		13 17 04.0	
	comp=E,45μm,0.3s						
CO03	**El Pedregal**	**0.88**	**106**	Pn	**Pn**	**13 16 51.5**	**-0.4**
LCO	**Las Campanas**	**1.80**	**28**	*e*P	**Pn**	**13 17 06.0**	**+1.3**
LCO				*i* S	**Sb**	**13 17 31.2**	**+1.1**
LCO	**Las Campanas**	**1.80**	**28**		**Pn**	**13 17 06.1**	**+1.3**
LCO	**Las Campanas**	**1.80**	**28**	*e*P	**Pn**	**13 17 06.0**	**+1.3**
LCO				IAML		13 17 35.0	
	comp=Z,38μm,0.5s						
AROD	**Rodeo**	**1.95**	**78**	*e*P	**Pb**	**13 17 10.5**	**-0.1**
AROD				*e*S	**Sb**	**13 17 37.5**	**+2.9**
VA06	**Catapilco**	**1.98**	**171**	*e*P	**Pn**	**13 17 06.6**	**-0.4**
VA06				*i* S	**Sn**	**13 17 32.5**	**+1.7**
VA06				IAML		13 17 39.7	
	comp=N,12μm,0.4s						
ACDV	**Cuesta del Vie**	**2.25**	**80**	*e*P	**Pb**	**13 17 15.0**	**-0.6**
ACDV				*e*S	**Sb**	**13 17 48.1**	**+5.1**
ACDV				IAML		13 17 53.8	
	comp=Z,3μm,0.5s						
ACCO	**Cerro Coronel**	**2.25**	**90**	*e*P	**Pb**	**13 17 15.0**	**-0.7**
ACCO				IAML		13 17 56.2	
	comp=Z,2μm,1.6s						
VA03	**San Esteban**	**2.36**	**156**	*e*P	**Pn**	**13 17 13.2**	**+0.9**
VA03				*i* S	**Sn**	**13 17 42.4**	**+2.0**
VA03				IAML		13 17 53.9	
	comp=N,6μm,0.3s						
VA03	**San Esteban**	**2.36**	**156**		**Pn**	**13 17 13.3**	**+1.0**
VA03	**San Esteban**	**2.36**	**156**	*e*P	**Pn**	**13 17 13.0**	**+0.7**
VA03				*e*S	**Sn**	**13 17 40.1**	**-0.2**
VA03				IAML		13 17 53.8	
	comp=Z,5μm,0.4s						
RTLS	**Leoncito**	**2.36**	**121**	*e*P	**Pb**	**13 17 16.0**	**-1.6**
RTLS				IAML		13 17 57.7	
	comp=Z,2μm,0.8s						
VA01	**Torpederas**	**2.42**	**179**	*e*P	**Pn**	**13 17 14.1**	**+1.1**
VA01				*i* S	**Sn**	**13 17 43.3**	**+1.8**
VA01	**Torpederas**	**2.42**	**179**	*e*P	Pn	13 17 08.1	-4.8
VA01				*e*P	Pb	13 17 13.0	-5.3
VA01				*e*S	**Sn**	**13 17 40.6**	**-0.9**
VA01				IAML		13 17 52.3	
	comp=Z,1μm,0.5s						
ROCH	**El Roble**	**2.43**	**167**	*i* S	**Sb**	**13 17 44.6**	**-3.7**
ROCH				*i* S	**Sn**	**13 17 44.0**	**+1.8**
ROCH				IAML		13 17 57.8	
	comp=N,6μm,0.4s						
ROC1	**El Roble**	**2.43**	**167**	*e*P	Pn	13 17 07.1	-6.4
ROC1				*e*P	Pb	13 17 12.0	-6.8
AC04	**Llanos de Chal**	**2.44**	**12**	*e*P	**Pn**	**13 17 13.9**	**+0.5**
AC04				*i* S	**Sb**	**13 17 47.0**	**-1.6**
AC04				IAML		13 18 03.2	
	comp=E,3μm,0.4s						
AC04	**Llanos de Chal**	**2.44**	**12**	Pn	**Pn**	**13 17 14.2**	**+0.8**
AC04	**Llanos de Chal**	**2.44**	**12**	*e*P	**Pn**	**13 17 13.9**	**+0.5**
AC04				*e*S	**Sb**	**13 17 46.1**	**-2.4**
AC04				IAML		13 17 57.6	
	comp=Z,4μm,0.7s						
AUSP	**Uspallata**	**2.54**	**130**	*e*P	**Pb**	**13 17 18.0**	**-2.6**
AUSP				*e*S	**Sb**	**13 17 54.3**	**+2.8**
PEL	**Peldehue**	**2.67**	**162**	*e*P	**Pn**	**13 17 17.1**	**+0.5**
PEL				*i* S	**Sn**	**13 17 49.8**	**+1.8**
PEL				IAML		13 18 01.4	
	comp=N,4μm,0.4s						
PEL	**Peldehue**	**2.67**	**162**		**Pn**	**13 17 16.8**	**+0.2**
PEL	**Peldehue**	**2.67**	**162**	*e*P	**Pn**	**13 17 17.0**	**+0.5**
PEL				*e*S	**Sn**	**13 17 49.1**	**+1.2**
MT02	**Curacav**	**2.69**	**170**	*e*P	**Pn**	**13 17 17.1**	**+0.3**
MT02				*i* S	**Sn**	**13 17 49.8**	**+1.5**
MT02				IAML		13 18 04.7	
	comp=E,2μm,0.3s						
MT02	**Curacav**	**2.69**	**170**	*e*P	**Pn**	**13 17 16.0**	**-0.8**
MT02				*e*P	Pb	13 17 16.2	-6.8
MT02				*e*S	**Sn**	**13 17 47.6**	**-0.7**
MT02				IAML		13 18 01.9	
	comp=Z,2μm,0.7s						
MT05	**Renca**	**2.89**	**164**	*e*P	**Pn**	**13 17 20.5**	**+0.8**
MT05				*i* S	**Sn**	**13 17 55.2**	**+1.7**
MT05				IAML		13 18 05.7	
	comp=E,6μm,0.3s						
MT05	**Renca**	**2.89**	**164**		**Pn**	**13 17 20.0**	**+0.3**
MT05	**Renca**	**2.89**	**164**	*e*P	**Pn**	**13 17 21.0**	**+1.4**
MT05				*e*S	**Sb**	**13 17 57.1**	**-4.4**
MT05				IAML		13 18 13.1	
	comp=Z,3μm,0.8s						
RTCV	**Cerro Valdivia**	**2.96**	**116**	*e*P	Pn	13 17 07.6	-13
RTCV				*e*P	**Pb**	**13 17 25.0**	**-2.7**
RTCV				IAML		13 18 20.0	
	comp=Z,53nm,0.9s						
ASAL	**Salagasta**	**3.13**	**130**	*e*P	**Pb**	**13 17 27.0**	**-3.6**
ASAL				*e*S	**Sb**	**13 18 08.1**	**-0.2**
ASAL				IAML		13 18 18.9	
	comp=Z,1μm,1.2s						
MT09	**Talagante**	**3.22**	**170**	*e*P	**Pn**	**13 17 24.6**	**+0.4**
MT09				*i* S	**Sn**	**13 18 02.6**	**+1.0**
MT09				IAML		13 18 23.0	
	comp=N,2μm,0.6s						
MT09	**Talagante**	**3.22**	**170**		**Pn**	**13 17 24.0**	**-0.2**
ARCO	**CERRO ARCO**	**3.23**	**134**	*e*P	**Pb**	**13 17 29.0**	**-3.3**
ARCO				*e*S	**Sb**	**13 18 11.1**	**-0.2**
ARCO				IAML		13 18 16.6	
	comp=Z,1μm,0.6s						
GO03	**Copiap**	**3.25**	**23**	*e*P	**Pn**	**13 17 25.6**	**+1.0**
GO03				*i* S	**Sn**	**13 18 06.5**	**+4.2**
GO03				IAML		13 18 22.6	
	comp=E,3μm,0.6s						
GO03	**Copiap**	**3.25**	**23**		**Pn**	**13 17 25.8**	**+1.2**
GO03	**Copiap**	**3.25**	**23**	*e*P	**Pn**	**13 17 26.0**	**+1.5**
GO03				*e*S	**Sb**	**13 18 07.6**	**-4.2**
MT01	**Popeta**	**3.27**	**174**		**Pn**	**13 17 24.4**	**-0.4**
MT01	**Popeta**	**3.27**	**174**	*e*P	**Pn**	**13 17 24.6**	**-0.2**
MT01				*e*P	Pb	13 17 25.0	-8.0
MT01				*e*S	**Sn**	**13 18 07.1**	**+4.4**
MT01				IAML		13 18 23.1	
	comp=Z,774nm,0.3s						
AAGR	**Agrelo**	**3.46**	**136**	*e*P	**Pb**	**13 17 32.0**	**-4.3**
AAGR				*e*P	Pn	13 17 32.1	+4.6
AAGR				*e*S	**Sb**	**13 18 25.0**	**+7.1**
AAGR				IAML		13 18 43.8	
	comp=Z,1μm,0.9s						
LMEL	**Las Melosas**	**3.47**	**159**	*e*P	**Pn**	**13 17 29.0**	**+1.4**
LMEL				*i* S	**Sn**	**13 18 08.9**	**+1.2**
LMEL				IAML		13 18 19.8	
	comp=E,1μm,0.6s						
BO04	**La Punta**	**3.50**	**165**	*e*P	**Pn**	**13 17 28.5**	**+0.6**
BO04				*i* S	**Sn**	**13 18 09.1**	**+0.8**
BO04				IAML		13 18 23.8	
	comp=E,1μm,0.4s						
VCA	**Vinchina**	**3.54**	**59**	*e*P	**Pb**	**13 17 34.0**	**-3.7**
VCA				*e*S	**Sb**	**13 18 18.6**	**-1.7**
VCA				IAML		13 18 31.4	
	comp=Z,4μm,0.4s						
BO01	**Tunca**	**3.81**	**173**	*i* S	**Sn**	**13 18 16.7**	**+0.7**
BO01	**Tunca**	**3.81**	**173**	Pn	**Pn**	**13 17 33.4**	**+1.2**
BO01	**Tunca**	**3.81**	**173**	*e*P	**Pn**	**13 17 32.1**	**-0.1**
BO01				*e*S	**Sn**	**13 18 15.9**	**-0.1**
BO01				IAML		13 18 44.8	
	comp=Z,512nm,1.1s						
BO02	**Sierra Bellavi**	**4.25**	**170**	*i* S	**Sn**	**13 18 27.4**	**+0.6**
BO02	**Sierra Bellavi**	**4.25**	**170**	*e*P	**Pn**	**13 17 39.9**	**+1.6**
BO02				*e*S	**Sb**	**13 18 35.6**	**-4.8**
BO02				IAML		13 18 45.7	
	comp=Z,742nm,0.9s						
AC02	**Maricunga**	**4.37**	**31**	*e*P	**Pn**	**13 17 42.1**	**+1.8**
AC02				*e*S	**Sb**	**13 18 44.1**	**-0.2**
AC02				IAML		13 19 00.1	
	comp=Z,1μm,0.6s						
GO05	**Huala**	**4.40**	**183**		**Pn**	**13 17 39.9**	**-0.4**
GO05	**Huala**	**4.40**	**183**	*e*P	**Pn**	**13 17 39.0**	**-1.3**
GO05				*e*S	**Sb**	**13 18 48.6**	**+3.8**
APLL	**PUNTA DE LOS L**	**4.45**	**89**	*e*P	**Pn**	**13 17 44.0**	**+3.0**
RFA	**San Rafael**	**4.96**	**148**	*e*P	**Pn**	**13 17 44.1**	**-3.9**
RFA				*e*P	Pb	13 17 50.0	-12
RFA				*e*S	**Sb**	**13 19 07.1**	**+6.2**
RFA				IAML		13 19 21.7	
	comp=Z,306nm,0.8s						
FSA	**Cafayete**	**6.72**	**50**	*e*P	**Pn**	**13 18 16.0**	**+3.6**
AHML	**Horco Molle**	**6.74**	**57**	*e*P	**Pn**	**13 18 15.0**	**+2.5**
H03N1	**Juan Fernandez**	**6.77**	**243**	T	T	13 25 04.3	
	baz=71,slow=72						
H03N3	**Juan Fernandez**	**6.78**	**243**	T	T	13 25 01.4	
	baz=71,slow=72						
H03N2	**Juan Fernandez**	**6.78**	**243**	T	T	13 25 04.0	
	baz=71,slow=72						
LC01	**Cunco**	**8.28**	**181**	Pn	**Pn**	**13 18 32.0**	**-1.5**
LVC	**Limon Verde**	**8.33**	**18**	Pn	**Pn**	**13 18 33.1**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=290,slow=16,SNR=1.7						
LVC				LR	LR	13 21 51.1	
	comp=Z,807

DIAM Diamantina, MG 28.20 71 *eP* **P 13 22 26.3 +0.5**
PEXB Peixe 28.40 55 *eP* **P 13 22 27.9 +0.4**
JANB Januaria 29.48 64 *eP* **P 13 22 36.8 -0.3**
SJMB Sao Joao De Ma 30.04 74 *eP* **P 13 22 41.9 -0.1**
BSFB Barra de Sao F 30.26 74 *eP* **P 13 22 43.5 -0.5**
SDBA SAO DESIDERIO 30.66 60 *eP* **P 13 22 47.6 0.0**
SMTB Santa Maria do 31.20 51 *eP* **P 13 22 52.9 +0.7**
PTGA Pitinga 31.72 23 P **P 13 22 56.1 -0.7**
comp=Z,9.2nm,1.1s,baz=208,slow=8.8,SNR=4.8
PTGA LR LR 13 37 49.4
comp=Z,285nm,19.3s,baz=106,slow=40
PRPB Parauapebas 31.81 45 *eP* **P 13 22 57.3 -0.4**
GUA01 Guaratinga, BA 32.23 72 *eP* **P 13 23 03.0 +1.6**
RPN Rapa Nui 33.06 266 LR LR 13 32 51.0
comp=Z,254nm,18.2s,baz=98,slow=30
CMC01 Camacan, BA 33.12 70 *eP* **P 13 23 09.5 +0.4**
NBIT Itapeh - BA 33.42 69 *eP* **P 13 23 12.1 +0.4**
GDU01 Guandu, BA 33.98 68 *eP* **P 13 23 16.8 +0.2**
BOAV Boa Vista 34.49 20 *eP* **P 13 23 21.5 +0.4**
PMSA Palmer Station 34.52 174 LR LR 13 36 23.7
comp=Z,225nm,22.0s,baz=352,slow=35
NBPN Ponto Novo - B 35.20 63 *eP* **P 13 23 26.6 -0.6**
MCPB Macapa, AP 35.38 35 *eP* **P 13 23 29.0 +0.3**
NBLA Lagarto - SE 36.98 65 *eP* **P 13 23 42.7 +0.2**
ZARC Zaragoza, Cauc 38.00 355 P **P 13 23 50.7 -0.3**
NBMA Muriti-CE 38.51 60 *eP* **P 13 23 55.2 -0.2**
NBPS Pedro II - PI 38.61 54 *eP* **P 13 23 56.4 +0.1**
SDV Santo Domingo 39.27 2 P **P 13 24 00.8 -1.0**
comp=Z,7.6nm,0.9s,baz=244,slow=1.7,SNR=5.4
SDV LR LR 13 41 42.2
comp=Z,98nm,18.1s,baz=96,slow=38
SDV Santo Domingo 39.27 2 *eP* **P 13 24 01.7 -0.1**
SDV Santo Domingo 39.27 2 P **P 13 24 01.8 -0.1**
BAUV El Baul 39.47 6 P **P 13 24 03.0 -0.2**
BAUV IAmb IAmb 13 24 04.0
comp=Z,25nm,0.8s
MDP Montagnes des 39.90 30 LR LR 13 41 26.2
comp=Z,186nm,20.1s,baz=152,slow=38
NBCL Cascavel-CE 40.97 57 *eP* **P 13 24 15.9 +0.1**
CRPR Cabo Rojo, PR 48.52 6 P **P 13 25 16.4 +0.6**
CELP Cerrillos 48.64 6 P **P 13 25 17.6 +0.8**
CMIG Matias Romero 52.42 332 LR LR 13 42 45.4
comp=Z,60nm,21.0s,baz=165,slow=30
VNA2 Neumayer--Watz 53.03 158 P **P 13 25 49.3 0.0**
baz=290,slow=9.2
SNAA Sanae 54.62 159 P **P 13 26 00.8 -0.2**
SNAA Sanae 54.62 159 P **P 13 26 00.6 -0.3**
comp=Z,5.1nm,0.8s,baz=271,slow=7.1,SNR=15
SNAA Sanae 54.62 159 P **P 13 26 00.6 -0.3**
SNAA IAmb IAmb 13 26 09.9
comp=Z,6.9nm,0.8s
UNM Universidad Na 56.25 328 P **P 13 26 13.1 -0.4**
QSPA South Pole Qui 59.63 180 P **P 13 26 36.7 +0.2**
TXAR Lajitas Array 66.94 330 P **P 13 27 26.6 +1.3**
comp=Z,1.3nm,0.7s,baz=152,slow=5.7,SNR=4.5
TXAR LR LR 13 52 45.8
comp=Z,77nm,18.0s,baz=216,slow=32
LCAR Lake Charles 68.80 343 P **P 13 27 37.1 +0.4**
LCAR IAmb IAmb 13 27 38.3
comp=Z,7.0nm,1.0s
MEH Mehetia 69.65 261 *eT* T 14 43 35.5
comp=Z,22nm,0.2s
MNTX Cornudas Mount 69.72 330 P **P 13 27 42.9 +0.3**
CCM Cathedral Cave 70.71 344 P **P 13 27 49.0 +0.6**
CCM IAmb IAmb 13 27 49.9
comp=Z,9.2nm,0.8s
TIAR Tiarei 70.88 261 *eT* T 14 45 07.7
comp=Z,3.3nm,0.2s
PPT2 Papeete2 71.07 260 *eLR* LR 13 49 37.5
comp=Z,98nm,24.5s
R40A Maddies Statio 71.18 343 P **P 13 27 51.8 +0.6**
R40A IAmb IAmb 13 27 52.7
comp=Z,8.8nm,0.7s
P40A Paris 72.30 344 P **P 13 27 59.0 +1.0**
P40A IAmb IAmb 13 27 59.5
comp=Z,12nm,0.8s
ANMO Albuquerque 72.97 331 LR LR 13 56 05.3
comp=Z,80nm,18.8s,baz=162,slow=32
LIC Lamto 73.42 72 *eP* **P 13 28 04.6 -0.7**
comp=Z,54nm,1.2s
TIC Tuomodi 73.67 72 *eP* **P 13 28 06.2 -0.5**
KIC Kosan Boka 73.74 72 *eP* **P 13 28 06.8 -0.3**
comp=Z,29nm,0.9s
DBIC Dimbokro 73.82 72 P **P 13 28 07.4 -0.1**
DBIC comp=Z,11nm,0.7s,baz=231,slow=5.9,SNR=18
LR LR 13 58 12.6
comp=Z,117nm,19.4s,baz=221,slow=34
DBIC Dimbokro 73.82 72 P **P 13 28 07.8 +0.2**
SDCO Great Sand Dun 74.99 333 P **P 13 28 15.8 +1.6**
SDCO IAmb IAmb 13 29 12.9
comp=Z,15nm,1.9s
TKX Tecate 75.88 322 P **P 13 28 18.8 -0.3**
SUR Sutherland 76.21 119 P **P 13 28 21.5 +0.1**
comp=Z,12nm,0.9s,baz=258,slow=4.9,SNR=7.9
SUR Sutherland 76.21 119 P **P 13 28 22.1 +0.6**
MAW Mawson 76.34 164 P **P 13 28 21.7 +0.4**
comp=Z,16nm,0.9s,baz=320,slow=4.5,SNR=3.6
MAW LR LR 14 04 46.0
comp=Z,129nm,18.4s,baz=240,slow=38
MAW Mawson 76.34 164 P **P 13 28 21.6 +0.3**
MAW IAmb IAmb 13 30 35.4
comp=Z,17nm,1.6s
PV13 Radium Mtn., P 76.69 331 P **P 13 28 25.5 +1.6**
ECSD EROS Data Cent 77.42 342 P **P 13 28 28.2 +0.6**
ECSD IAmb IAmb 13 28 29.0
comp=Z,12nm,0.8s
RAR Rarotonga 77.94 252 LR LR 13 55 13.6
comp=Z,60nm,20.5s,baz=172,slow=30
CCUT Cedar City 78.21 327 P **P 13 28 34.5 +2.2**
P18A Preston Nutter 78.53 331 P **P 13 28 35.3 +1.1**
P18A IAmb IAmb 13 28 36.7
comp=Z,7.3nm,1.0s
P17A Butcher Ranch, 78.61 330 P **P 13 28 35.8 +1.3**
F36A Milaca 78.64 345 P **P 13 28 34.3 0.0**
F36A IAmb IAmb 13 28 35.0
comp=Z,6.7nm,0.9s
GWY Greenwater Val 78.72 324 P **P 13 28 35.8 +0.7**
GWY IAmb IAmb 13 28 36.8
comp=Z,16nm,1.9s
RDMU Red Mountain 79.04 332 P **P 13 28 37.7 +0.9**
RDMU IAmb IAmb 13 28 38.8
comp=Z,6.1nm,0.8s
TSUM Tsumeb 79.85 106 LR LR 13 59 24.1
comp=Z,74nm,21.3s,baz=168,slow=32
HWUT Hardware Ranch 80.73 331 P **P 13 28 45.9 -0.1**
HWUT IAmb IAmb 13 28 47.6
comp=Z,6.5nm,0.8s
PDAR Pinedale Array 80.88 333 P **P 13 28 47.3 +0.5**
comp=Z,0.7nm,0.6s,baz=140,slow=6.2,SNR=7.4
NVAR Mina Array Bea 81.29 325 P **P 13 28 50.5 +1.5**
comp=Z,1.4nm,0.8s,baz=156,slow=6.2,SNR=10
BOSA Boshof 81.38 118 P **P 13 28 49.4 -0.4**
comp=Z,8.5nm,0.9s,baz=239,slow=5.5,SNR=7.1
HVU Hansel Valley 81.39 330 P **P 13 28 50.5 +1.1**
ELK Elko 81.64 328 LR LR 14 00 25.9
comp=Z,67nm,20.4s,baz=220,slow=32
ELK Elko 81.64 328 P **P 13 28 52.6 +1.7**
PNTR Pine Nut 82.44 324 P **P 13 28 57.1 +2.0**
PNTR IAmb IAmb 13 28 58.1
comp=Z,6.3nm,0.8s
TORD Torodi Ar. Bea 82.77 70 P **P 13 28 57.1 +0.1**
comp=Z,4.0nm,0.5s,baz=280,slow=6.1,SNR=34
ULM Lac du Bonnet 83.31 345 P **P 13 28 59.1 +0.2**
comp=Z,7.5nm,0.8s,baz=128,slow=5.4,SNR=6.1
ULM Lac du Bonnet 83.31 345 IAmb IAmb 13 28 59.9
comp=Z,8.4nm,0.8s
LBTB Lobatse 83.45 115 LR LR 14 03 31.1
comp=Z,97nm,20.9s,baz=192,slow=34
LBTB Lobatse 83.45 115 P **P 13 29 01.0 +0.3**
HLID Hailey 83.54 330 P **P 13 29 01.9 +1.2**
PLID Pearl Lake 85.44 330 P **P 13 29 10.9 +0.7**
NEW Newport 88.44 332 LR LR 14 05 46.2
comp=Z,82nm,18.3s,baz=242,slow=33
MDT Midelt 89.44 51 LR LR 14 09 29.8
comp=Z,37nm,18.2s,baz=356,slow=36
FCC Fort Churchill 90.97 349 P **P 13 29 36.6 +0.6**
FCC IAmb IAmb 13 29 37.7
comp=Z,4.2nm,0.8s
AFI Afiamalu 91.48 253 LR LR 14 03 09.8
comp=Z,47nm,18.3s,baz=87,slow=31
FRB Frobisher Bay 94.06 1 LR LR 14 15 01.6
comp=Z,53nm,19.6s,baz=252,slow=37
YKA Yellowknife Ar 96.95 341 P **P 13 30 12.2 -0.2**
comp=Z,0.3nm,0.5s,baz=144,slow=4.6,SNR=8.4
DZM Mont Dzumac 103.49 234 *eLR* LR 14 04 34.7
comp=Z,96nm,23.8s
ASAR Alice Springs 120.72 207 PKP **PKPdf 13 35 23.6 -1.5**
comp=Z,0.4nm,0.5s,baz=138,slow=1.7,SNR=7.2
WRA Warramunga Arr 123.86 210 PKP **PKPdf 13 35 30.2 -1.1**
comp=Z,1.5nm,0.7s,baz=157,slow=1.5,SNR=22
H11S2 WAKE ISLAND Hyl26.06 271 T T 15 54 18.8
baz=115,slow=74,SNR=185
H11S1 WAKE ISLAND Hyl26.08 271 T T 15 54 19.8
baz=115,slow=74,SNR=156
H11S3 WAKE ISLAND Hyl26.08 271 T T 15 54 20.0
baz=115,slow=74,SNR=110
H11N3 WAKE ISLAND Hyl26.39 273 T T 15 54 41.3
baz=116,slow=75,SNR=12
H11N1 WAKE ISLAND Hyl26.41 273 T T 15 54 47.5
baz=116,slow=75,SNR=5.2
H11N2 WAKE ISLAND Hyl26.41 273 T T 15 54 48.6
baz=116,slow=75,SNR=18
ZALV Zalesovo Beam 151.15 29 PKPbc **PKPbc 13 36 25.3 0.0**
comp=Z,14nm,0.8s,baz=336,slow=3.3,SNR=6.0
ZALV Zalesovo Beam 151.15 29 **PKPdf 13 36 19.6 +0.2**
ZALV PKPbc **PKPbc 13 36 25.2 0.0**
MKAR Makanchi Array 154.20 44 PKPbc **PKPbc 13 36 31.4 -1.0**
comp=Z,1.6nm,0.9s,baz=11,slow=1.2,SNR=11
MJAR Matsushiro Arr 154.47 291 PKPab **PKPab 13 36 48.5 +0.8**
comp=Z,1.4nm,0.7s,baz=106,slow=2.3,SNR=4.3
SONM Songino Array 162.73 4 PKPab **PKPab 13 37 24.0 +0.9**
comp=Z,1.3nm,0.9s,baz=339,slow=7.9,SNR=6.2
CMAR Chiang Mai Arr 165.21 143 PKPab **PKPab 13 37 33.5 -1.1**
comp=Z,1.5nm,0.9s,baz=228,slow=6.0,SNR=10
PZH PanZhiHua 172.92 124 PKP **PKPdf 13 36 43.5 +1.3**
LZH Lanzhou 173.37 33 *e*PKP **PKPdf 13 36 41.8 -0.4**
LZH sPKP 13 36 53.0

*IDC **27** 13:31:38.9±2.5,20.°94S×178.°67W,h602km±20km, mb3.1/10,mb1 3.5/12,mb1mx3.2/30,mbtmp4.1/12,Error ellipse: s-maj=64.4km s-min=14.5km az=153.0*
ISC 27 13:31:36.3±1.3,21.°2S±0.°3×178.°4W±0.°2,h579km,n15,
σ1$32/15,mb3.6/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.81**	**315**	P	**P**	**13 33 08.8**	**+2.3**
	5.4nm,0.3s,baz=145,slow=12,SNR=90						
AFI	**Afiamalu**	**9.63**	**42**	P	**P**	**13 33 51.9**	**+0.7**
	4.1nm,0.3s,baz=43,slow=4.3,SNR=7.9						
AFI				S	**S**	**13 35 39.9**	**-1.9**
	5.3nm,0.3s,baz=85,slow=16,SNR=6.8						
CTA	**Charters Tower**	**33.04**	**265**	P	**P**	**13 37 24.4**	**-0.8**
	1.5nm,0.4s,baz=92,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**43.99**	**257**	P	**P**	**13 38 53.5**	**-0.1**
	1.1nm,0.5s,baz=94,slow=7.5,SNR=16						
WRA	**Warramunga Arr**	**44.13**	**263**	P	**P**	**13 38 53.7**	**-0.9**
	1.0nm,0.4s,baz=95,slow=4.7,SNR=12						
PETK	**Petropavlovsk-**	**76.86**	**345**	P	**P**	**13 42 27.7**	**-1.4**
	2.3nm,0.7s,baz=153,slow=3.7,SNR=2.4						
NVAR	**Mina Array Bea**	**81.80**	**43**	P	**P**	**13 42 57.6**	**+1.8**
	0.9nm,0.7s,baz=223,slow=7.7,SNR=7.3						
TXAR	**Lajitas Array**	**87.76**	**57**	P	**P**	**13 43 25.2**	**+0.4**
	0.3nm,0.8s,baz=238,slow=5.2,SNR=4.6						
ILAR	**Eielson Array**	**89.09**	**13**	P	**P**	**13 43 28.9**	**-1.1**
	1.4nm,1.0s,baz=223,slow=5.7,SNR=9.0						
PDAR	**Pinedale Array**	**89.74**	**43**	P	**P**	**13 43 35.3**	**+1.4**
	0.4nm,0.6s,baz=224,slow=3.9,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.99**	**290**	P	**P**	**13 43 35.7**	**+0.4**
	0.3nm,0.4s,baz=90,slow=2.7,SNR=5.3						
YKA	**Yellowknife Ar**	**97.32**	**25**	P	**P**	**13 44 07.0**	**-0.5**
	0.2nm,0.8s,baz=234,slow=4.3,SNR=2.9						
BVAR	**Borovoye Array**	**119.37**	**320**	PKP	**PKPdf**	**13 49 19.3**	**-1.0**
	0.4nm,0.4s,baz=72,slow=5.9,SNR=4.3						
FINES	**FINESS Array B**	**136.34**	**343**	PKP	**PKPdf**	**13 49 52.4**	**+0.2**
	0.7nm,0.7s,baz=2.6,slow=3.1,SNR=3.5						
AKASG	**Malin Array Be**	**143.44**	**330**	PKP	PKPab	13 50 02.0	-1.9
	0.7nm,0.4s,baz=46,slow=4.7,SNR=16						

*IDC **27** 13:33:55.5±1.4,5.°66S×128.°68E,h314km±16km,mb3.4/3, mb1 3.5/9,mb1mx3.2/41,mbtmp4.2/9,Error ellipse: s-maj=17.7km s-min=10.2km az=79.0*
*NEIC **27** 13:33:55.2±0.8,5.°65S±0.°08×128.°64E±0.°04,h300km±12km, mb4.2/10,Error ellipse: s-maj=12.4km s-min=4.9km az=166.0*
ISC 27 13:33:56.3±0.7,5.°63S±0.°06×128.°67E±0.°08,h337km,n26,
σ1$79/29,mb3.8/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.51**	**132**	Pn	**Pn**	**13 34 55.8**	**-3.7**
FAKI	**Fak Fak**	**4.47**	**53**		**Pn**	**13 35 06.6**	**-3.0**
SIJI	**Sorong**	**5.40**	**29**	P	**Pn**	**13 35 17.1**	**-2.8**
	8.0nm,0.3s,baz=103,slow=23,SNR=31						
SIJI				S	S	13 36 19.0	-8.4
	12nm,0.3s,baz=76,slow=22,SNR=21						
SOEI	**Soe**	**5.98**	**227**		**Pn**	**13 35 23.8**	**-2.8**
BATI	**Baumata**	**6.72**	**227**	P	**Pn**	**13 35 34.7**	**-0.5**
	27nm,0.3s,baz=49,slow=3.3,SNR=27						
BATI				S	**S**	**13 36 52.2**	**-3.2**
	11nm,0.3s,baz=288,slow=22,SNR=8.4						
MTN	**Manton Dam**	**7.57**	**161**		**Pn**	**13 35 43.2**	**-1.9**
KNRA	**Kununurra**	**9.98**	**179**	Pn	**Pn**	**13 36 13.0**	**-1.1**
TOLI2	**Tolitoli**	**10.34**	**310**	Pn	**Pn**	**13 36 16.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**12.74**	**193**	P	**Pn**	**13 36 47.5**	**+0.5**
	0.7nm,0.3s,baz=24,slow=9.6,SNR=17						
FITZ				S	**S**	**13 39 07.8**	**+0.3**
	0.2nm,0.3s,baz=123,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**15.26**	**159**	P	**P**	**13 37 15.4**	**+1.1**
	0.7nm,0.3s,baz=334,slow=12,SNR=28						
WRA				S	**S**	**13 39 57.4**	**-1.3**
	0.2nm,0.3s,baz=338,slow=21,SNR=4.1						
WRA	**Warramunga Arr**	**15.26**	**159**		**P**	**13 37 13.8**	**-0.6**
WB2	**Warramunga Arr**	**15.26**	**159**		**P**	**13 37 14.7**	**+0.2**
WB2				IAmb	IAmb	13 37 15.6	
	comp=Z,13nm,1.5s						
COEN	**Coen**	**16.51**	**121**	P	**P**	**13 37 29.2**	**+1.2**
COEN				IAmb	IAmb	13 37 30.6	
	comp=Z,7.9nm,0.8s						
MBWA	**Marble Bar**	**17.70**	**208**	P	**P**	**13 37 40.5**	**-0.2**
MBWA				IAmb	IAmb	13 37 59.1	
	comp=Z,22nm,1.4s						
PSA00	**Pilbara Seismi**	**18.00**	**208**	P	**P**	**13 37 44.4**	**+0.3**
AS31	**Alice Springs**	**18.63**	**165**	P	**P**	**13 37 51.3**	**+0.6**
AS31				IAmb	IAmb	13 37 53.2	
	comp=Z,2.5nm,0.3s						
ASAR	**Alice Springs**	**18.63**	**165**	P	**P**	**13 37 52.1**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=342,slow=11,SNR=126						
ASAR				S	**S**	**13 41 05.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=346,slow=21,SNR=25						
ASAR	**Alice Springs**	**18.63**	**165**	P	**P**	**13 37 51.9**	**+1.2**
PMG	**Port Moresby**	**18.71**	**103**	P	**P**	**13 37 52.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=298,slow=15,SNR=1.9						
PMG	**Port Moresby**	**18.71**	**103**	IAmb	IAmb	13 38 00.6	
	comp=Z,16nm,1.1s						
FORT	**Forrest**	**25.02**	**181**	P	**P**	**13 38 52.2**	**+1.4**
FORT				IAmb	IAmb	13 39 01.0	
	comp=Z,9.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.84**	**310**	P	**P**	**13 40 42.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=126,slow=7.3,SNR=5.8						
PETK	**Petropavlovsk-**	**63.46**	**19**	P	**P**	**13 43 51.8**	**+0.9**
	comp=Z,4.4nm,1.0s,baz=205,slow=6.4,SNR=2.0						
MK31	**Makanchi Array**	**66.36**	**327**	P	**P**	**13 44 11.8**	**+2.1**
MKAR	**Makanchi Array**	**66.36**	**327**	P	**P**	**13 44 12.0**	**+2.3**
	comp=Z,0.4nm,0.4s,baz=130,slow=8.2,SNR=13						
VOI	**Vohitsoka**	**80.40**	**249**	P	**P**	**13 45 33.7**	**+2.1**

*IDC **27** 13:41:10.4±2.6,22.°78S×171.°04E,h45km±22km,mb3.8/9, mb1 4.0/11,mb1mx3.7/43,mbtmp4.1/11,ML4.5/2,MS3.3/5, Ms1 3.3/5,ms1mx3.0/56,Error ellipse: s-maj=26.9km s-min=16.6km az=163.0*
*NEIC **27** 13:41:11.4±1.8,22.°6S±0.°1×170.°97E±0.°08,h37km±5km, mb4.5/8,Error ellipse: s-maj=19.7km s-min=10.5km az=169.0*
ISC 27 13:41:10.4±0.6,22.°7S±0.°1×171.°03E±0.°07,h42km,n51,
σ0$95/52,mb4.2/11,MS3.5/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.04**	**294**		**Pn**	**13 41 54.8**	**-1.2**
PINNC	**Pines Island,**	**3.31**	**271**		**Pn**	**13 42 00.1**	**+0.5**
OUENC	**Ouen Island, N**	**3.88**	**274**		**Pn**	**13 42 07.6**	**+0.1**
LIFNC	**LIFOU**	**4.02**	**298**	Pn	**Pn**	**13 42 08.5**	**-0.9**
ONTNC	**Ouen Toro**	**4.25**	**275**		**Pn**	**13 42 12.7**	**+0.2**
DZM	**Mont Dzumac**	**4.29**	**278**	P	**Pn**	**13 42 13.3**	**+0.1**
	10nm,0.3s,baz=111,slow=13,SNR=752						
DZM				S	**Sn**	**13 43 02.2**	**0.0**
	15nm,0.3s,baz=21,slow=24,SNR=7.9						
DZM				LR	LR	13 43 46.4	
	comp=Z,274nm,18.4s,baz=50,slow=36						
DZM	**Mont Dzumac**	**4.29**	**278**	*e*Pn	**Pn**	**13 42 12.4**	**-0.8**
	45nm,0.8s						
DZM				*e*Sn	**Sn**	**13 43 02.1**	**0.0**
	134nm,0.9s						
DZM	**Mont Dzumac**	**4.29**	**278**		**Pn**	**13 42 12.9**	**-0.3**
MSVF	**Nonsavu**	**8.26**	**54**	P	**Pn**	**13 43 08.9**	**+1.2**
	0.4nm,0.3s,baz=212,slow=10,SNR=15						
MSVF	**Nonsavu**	**8.26**	**54**		**Pn**	**13 43 08.6**	**+0.9**
RAO	**Raoul Island**	**11.87**	**125**	LR	LR	13 47 02.0	
	comp=Z,92nm,19.4s,baz=323,slow=30						
CTA	**Charters Tower**	**23.21**	**272**	P	**P**	**13 46 12.4**	**-1.3**
	1.6nm,0.7s,baz=120,slow=16,SNR=1.6						
CTA				LR	LR	13 54 58.7	
	comp=Z,40nm,19.9s,baz=92,slow=36						
CTAO	**Charters Tower**	**23.21**	**272**	P	**P**	**13 46 15.7**	**+1.9**
CTAO				IAmb	IAmb	13 46 19.6	
	comp=Z,14nm,1.3s						
STKA	**Stephens Creek**	**27.62**	**244**	P	**P**	**13 46 54.7**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=85,slow=11,SNR=3.3						
COEN	**Coen**	**27.80**	**283**	P	**P**	**13 46 56.8**	**+1.1**
COEN				IAmb	IAmb	13 46 58.6	
	comp=Z,10nm,0.9s						
AS31	**Alice Springs**	**34.07**	**261**	P	**P**	**13 47 51.2**	**+0.1**
ASAR	**Alice Springs**	**34.07**	**261**	P	**P**	**13 47 51.6**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=96,slow=9.9,SNR=27						
ASAR				PcP	**PcP**	**13 50 27.4**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=120,slow=3.4,SNR=4.3						
ASAR	**Alice Springs**	**34.07**	**261**	P	**P**	**13 47 50.7**	**-0.3**
WB0	**Warramunga Arr**	**34.22**	**268**	P	**P**	**13 47 52.0**	**-0.3**
WB0				IAmb	IAmb	13 48 01.9	
	comp=Z,9.0nm,1.4s						
WRA	**Warramunga Arr**	**34.23**	**268**	P	**P**	**13 47 51.9**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=97,slow=8.3,SNR=12						
WRA				LR	LR	14 01 47.7	
	comp=Z,100nm,18.5s,baz=111,slow=36						
JAY	**Jayapura**	**35.62**	**300**	LR	LR	14 00 41.8	
	comp=Z,81nm,18.9s,baz=172,slow=33						
PSA00	**Pilbara Seismi**	**47.22**	**261**	P	**P**	**13 49 39.7**	**+0.2**
MBWA	**Marble Bar**	**47.41**	**262**	P	**P**	**13 49 41.5**	**+0.5**
QSPA	**South Pole Qui**	**67.34**	**180**	P	**P**	**13 52 00.2**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=23,slow=1.3,SNR=6.7						
QSPA	**South Pole Qui**	**67.34**	**180**	IAmb	IAmb	13 52 01.8	
	comp=Z,13nm,1.5s						
PETK	**Petropavlovsk-**	**76.40**	**352**	P	**P**	**13 52 56.7**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=104,slow=6.3,SNR=4.9						
CMAR	**Chiang Mai Arr**	**81.45**	**294**	P	**P**	**13 53 25.4**	**+1.8**
	comp=Z,2.3nm,0.7s,baz=133,slow=4.1,SNR=16						
NVAR	**Mina Array Bea**	**89.87**	**48**	P	**P**	**13 54 04.3**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=226,slow=8.1,SNR=9.9						
SONM	**Songino Array**	**91.00**	**322**	P	**P**	**13 54 08.7**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=140,slow=4.7,SNR=4.6						
ARU	**Arti**	**121.03**	**323**	PKP	**PKPdf**	**13 59 57.0**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=336,slow=2.0,SNR=3.5						
ARCES	**ARCESS Array B**	**128.85**	**345**	PKP	**PKPdf**	**14 00 10.8**	**-1.8**
	comp=Z,4.8nm,1.0s,baz=343,slow=2.2,SNR=3.9						
KRLC	**Kraliky**	**146.06**	**330**	*e*PKP	**PKPdf**	**14 00 45.6**	**+0.8**
DPC	**Dobruska-Polom**	**146.07**	**331**	*e*PKP	**PKPdf**	**14 00 45.6**	**+0.8**
CLL	**Collm**	**146.77**	**335**	*i* PKPbc	**PKPdf**	**14 00 47.1**	**+1.3**
	comp=Z,9.0nm,1.1s						
PRU	**Pruhonice**	**147.13**	**332**	*e*PKP	**PKPbc**	**14 00 48.6**	**-0.1**
EKA	**Eskdalemuir Ar**	**147.15**	**354**	PKPbc	**PKPdf**	**14 00 46.7**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=3.7,slow=2.6,SNR=5.0						
CONA	**Conrad Observa**	**147.98**	**328**	*i* P	**PKPbc**	**14 00 51.4**	**+0.2**
	comp=Z,0.7nm,0.3s						
CKRC	**Cesky Krumlov**	**148.09**	**330**	*e*PKP	**PKPbc**	**14 00 51.0**	**-0.4**
KHC	**Kasperske Hory**	**148.19**	**331**	*e*PKP	**PKPbc**	**14 00 51.3**	**-0.3**
GERES	**GERESS Array B**	**148.34**	**331**	PKPbc	**PKPbc**	**14 00 51.7**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=45,slow=2.6,SNR=17						
KBA	**Koelnbreinsper**	**149.79**	**329**	*e*P	**PKPbc**	**14 00 54.5**	**-1.5**
	comp=Z,4.7nm,0.7s						
MYKA	**Terra Mystica**	**149.97**	**328**	*e*P	**PKPbc**	**14 00 55.2**	**-1.0**
	comp=Z,4.0nm,0.5s						
WATA	**Walderalm**	**150.42**	**331**	P	**PKPbc**	**14 00 56.5**	**-0.9**
	comp=Z,6.4nm,1.1s						
WTTA	**Wattenberg**	**150.44**	**331**	*e*P	**PKPbc**	**14 00 57.2**	**-0.4**
	comp=Z,7.4nm,0.8s						
MOTA	**Moosalm**	**150.62**	**332**	*e*P	**PKPbc**	**14 00 56.8**	**-1.1**
	comp=Z,10nm,1.0s						
RETA	**Reutte**	**150.66**	**332**	*e*P	**PKPbc**	**14 00 57.4**	**-0.4**
	comp=Z,5.2nm,0.9s						
SQTA	**Sankt Quirin**	**150.67**	**331**	*i* P	**PKPbc**	**14 00 57.5**	**-0.5**
	comp=Z,10nm,0.7s						
FETA	**Feichten**	**151.03**	**332**	*e*P	**PKPbc**	**14 00 58.0**	**-0.9**
	comp=Z,4.4nm,0.7s						
DAVA	**Damuels**	**151.19**	**333**	*e*P	**PKPbc**	**14 00 58.7**	**-0.5**
	comp=Z,12nm,1.2s						
DAVOX	**Davos/Dischmat**	**151.59**	**332**	PKPbc	**PKPbc**	**14 00 57.8**	**-2.4**
	comp=Z,2.6nm,0.5s,baz=172,slow=4.6,SNR=9.7						
TORD	**Torodi Ar. Bea**	**166.08**	**229**	PKP	**PKPdf**	**14 01 11.0**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=329,slow=1.3,SNR=3.9						
TORD				PKPab	**PKPab**	**14 02 11.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=111,slow=5.8,SNR=3.3						

*SOME **27** 13:48:52.3,43.°35N×84.°77E,h5km*
*IDC **27** 13:48:54.0±2.7,43.°38N×84.°67E,h0km,mb1 3.2/6, mb1mx2.8/92,mbtmp3.2/6,ML2.9/6,Error ellipse: s-maj=25.8km s-min=21.3km az=121.0*
*NNC **27** 13:48:58.4±1.1,43.°58N×84.°49E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=9.3km s-min=4.8km az=137.0*
ISC 27 13:48:57.0±1.5,43.°47N±0.°07×84.°97E±0.°07,h10km,n51,
σ2$62/75,5C-9D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.83**	**331**	Pn	**Pn**	**13 49 55.2**	**-0.8**
	0.6nm,0.3s,baz=150,slow=14,SNR=416						
MK31				⇑Lg	Lg	13 50 53.3	
	19nm,0.5s,baz=146,slow=29,SNR=11	

ZHN	**Zhinishke**	**4.77 269**	Pg	**Pb**	**13 50 18.4**	**-2.4**
	26nm,0.2s					
ZHN			Lg	Lg	13 51 18.4	
	59nm,0.2s					
SATY	**Saty**	**4.81 267**	*e*P	**Pb**	**13 50 19.6**	**-1.8**
	9.1nm,0.2s					
SATY			*e*S	**Sb**	**13 51 21.0**	**+1.7**
	35nm,0.1s					
SATY	**Saty**	**4.81 267**	Pg	**Pb**	**13 50 19.6**	**-1.8**
	16nm,0.4s					
SATY			Lg	Lg	13 51 21.0	
	41nm,0.4s					
KURS	**Kuram**	**4.95 273**	*e*P	**Pb**	**13 50 22.2**	**-1.5**
	5.7nm,0.1s					
KURS			*e*S	**Sb**	**13 51 25.2**	**+2.0**
	22nm,0.1s					
KURS	**Kuram**	**4.95 273**	Pg	**Pb**	**13 50 22.2**	**-1.5**
	9.1nm,0.5s					
KURS			Lg	Lg	13 51 25.2	
	23nm,0.6s					
TDK	**Taldyqorghan**	**4.96 290**	*e*P	**Pb**	**13 50 22.4**	**-1.5**
	29nm,0.1s					
TDK			*e*S	**Sb**	**13 51 25.9**	**+2.4**
	48nm,0.1s					
TDK	**Taldyqorghan**	**4.96 290**	Pg	**Pb**	**13 50 22.4**	**-1.5**
	42nm,0.6s					
TDK			Lg	Lg	13 51 25.9	
	101nm,0.5s					
ARXS	**Arharly**	**5.22 281**	*e*P	**Pb**	**13 50 26.2**	**-2.2**
	9.0nm,0.1s					
ARXS			*e*S	**Sb**	**13 51 31.8**	**+0.8**
	28nm,0.1s					
ARXS	**Arharly**	**5.22 281**	Pg	**Pb**	**13 50 26.2**	**-2.2**
	9.7nm,0.5s					
ARXS			Lg	Lg	13 51 31.8	
	25nm,0.6s					
KOTS	**Kotyrbulak**	**5.73 270**	*e*P	**Pb**	**13 50 37.4**	**+0.3**
	10nm,0.2s					
KOTS			*e*S	**Sb**	**13 51 51.1**	**+5.2**
	49nm,0.2s					
KOTS	**Kotyrbulak**	**5.73 270**	Pg	**Pb**	**13 50 37.4**	**+0.3**
	10nm,0.4s					
KOTS			Lg	Lg	13 51 51.1	
	49nm,0.4s					
MDOK	**Medeo**	**5.78 270**	*e*P	**Pb**	**13 50 36.1**	**-1.9**
	3.0nm,0.2s					
MDOK			*e*S	**Sb**	**13 51 48.6**	**+1.1**
	11nm,0.2s					
MDOK	**Medeo**	**5.78 270**	Pn	**Pn**	**13 50 22.4**	**-0.6**
	1.9nm,0.4s					
MDOK			Pg	**Pb**	**13 50 37.8**	**-0.3**
	6.0nm,0.6s					
MDOK			Lg	Lg	13 51 56.1	
	22nm,0.6s					
MDOK	**Medeo**	**5.78 270**	Pg	**Pb**	**13 50 36.1**	**-1.9**
	4.4nm,0.4s					
MDOK			Lg	Lg	13 51 48.6	
	8.9nm,0.6s					
CHKK	**Chushkaly**	**5.80 277**	*e*P	**Pb**	**13 50 36.6**	**-1.6**
	3.6nm,0.1s					
CHKK			*e*S	**Sb**	**13 51 49.4**	**+1.6**
	18nm,0.1s					
CHKK	**Chushkaly**	**5.80 277**	Pg	**Pb**	**13 50 36.6**	**-1.6**
	3.9nm,0.4s					
CHKK			Lg	Lg	13 51 49.4	
	26nm,0.4s					
KTBS	**Karatobe**	**6.02 275**	*e*P	**Pb**	**13 50 42.0**	**0.0**
	2.6nm,0.3s					
KTBS			*e*S	**Sb**	**13 51 58.8**	**+4.6**
	20nm,0.5s					
KTBS	**Karatobe**	**6.02 275**	Pg	**Pb**	**13 50 42.0**	**0.0**
	2.6nm,0.4s					
KTBS			Lg	Lg	13 51 58.7	
	20nm,0.5s					
MTBS	**Maitube**	**6.24 270**	*e*P	**Pb**	**13 50 46.3**	**+0.6**
	3.3nm,0.3s					
MTBS			*e*S	**Sb**	**13 52 06.4**	**+5.9**
	14nm,0.3s					
MTBS	**Maitube**	**6.24 270**	Pg	**Pb**	**13 50 46.3**	**+0.6**
	3.3nm,0.3s					
MTBS			Lg	Lg	13 52 06.4	
	14nm,0.3s					
KUU	**Kurty**	**6.27 277**	*e*P	**Pb**	**13 50 46.5**	**+0.2**
	1.2nm,0.3s					
KUU			*e*S	**Sb**	**13 52 06.3**	**+5.0**
	9.0nm,0.5s					
KUU	**Kurty**	**6.27 277**	Pg	**Pb**	**13 50 46.5**	**+0.2**
	1.2nm,0.3s					
KUU			Lg	Lg	13 52 06.3	
	9.0nm,0.5s					
KST	**Kastek**	**6.59 269**	*e*P	**Pb**	**13 50 52.8**	**+1.0**
	6.8nm,0.0s					
KST			*e*S	**Sb**	**13 52 17.4**	**+6.9**
	19nm,0.9s					
KST	**Kastek**	**6.59 269**	Pg	**Pb**	**13 50 52.8**	**+1.0**
	6.9nm,0.7s					
KST			Lg	Lg	13 52 17.4	
	19nm,0.9s					
DGS	**Degeres**	**6.71 271**	*e*P	**Pb**	**13 50 54.6**	**+0.9**
	4.7nm,0.1s					
DGS			*e*S	**Sb**	**13 52 20.9**	**+7.0**
	15nm,0.4s					
DGS	**Degeres**	**6.71 271**	Pg	**Pb**	**13 50 54.6**	**+0.9**
	4.7nm,0.5s					
DGS			Lg	Lg	13 52 20.9	
	15nm,0.4s					
KRBS	**Karabastau**	**6.75 275**	*e*P	**Pb**	**13 50 55.2**	**+0.7**
	2.1nm,0.1s					
KRBS			*e*S	**Sb**	**13 52 21.7**	**+6.5**
	8.2nm,0.4s					
KRBS	**Karabastau**	**6.75 275**	Pg	**Pb**	**13 50 55.2**	**+0.7**
	1.7nm,0.3s					
KRBS			Lg	Lg	13 52 21.7	
	8.2nm,0.4s					
TKM2	**Tokmak 2**	**6.87 269**	⇓Pn	**Pn**	**13 50 38.5**	**+0.5**
	1.5nm,0.7s					
TKM2			⇑Pg	**Pb**	**13 50 57.6**	**+1.0**
	3.8nm,0.8s					
TKM2			⇑Lg	Lg	13 52 24.3	
	8.3nm,0.7s					
AAK	**Ala-Archa**	**7.71 267**	Pn	Pn	13 50 46.2	-3.3
	0.1nm,0.3s,baz=90,slow=7.1,SNR=1.2					
AAK			Pg	**Pb**	**13 51 09.5**	**-1.4**
	0.3nm,0.3s,baz=96,slow=15,SNR=3.0					
AAK			Lg	Lg	13 52 51.9	
	0.2nm,0.3s,baz=159,slow=23,SNR=2.1					
AAK	**Ala-Archa**	**7.71 267**	⇑Pg	**Pb**	**13 51 13.0**	**+2.0**
	3.9nm,0.9s					
AAK			⇓Lg	Lg	13 52 54.1	
	8.1nm,0.8s					
KURBB	**Kurchatov Arra**	**8.39 331**	Pn	**Pn**	**13 50 56.8**	**-1.9**
	0.1nm,0.3s,baz=147,slow=12,SNR=5.9					
KURBB			Sn	**Sn**	**13 52 30.2**	**-3.2**
	0.2nm,0.3s,baz=153,slow=17,SNR=2.9					
KURBB			Lg	Lg	13 53 18.0	
	0.3nm,0.3s,baz=147,slow=31,SNR=10					
KURBB	**Kurchatov Arra**	**8.39 331**	⇓Pn	**Pn**	**13 50 59.0**	**+0.4**
	1.5nm,0.6s					
KURBB			⇓Lg	Lg	13 53 20.3	
	42nm,0.6s					
KURK	**Kurchatov**	**8.44 331**	⇑Pn	**Pn**	**13 50 59.5**	**+0.3**
	0.8nm,0.5s					
KURK			⇓Lg	Lg	13 53 19.3	
	18nm,0.7s					
ZALV	**Zalesovo Beam**	**10.49 360**	Pn	**Pn**	**13 51 27.4**	**+0.1**
	0.3nm,0.3s,baz=184,slow=16,SNR=3.9					
ZALV			Sn	**Sn**	**13 53 19.6**	**-5.2**
	0.4nm,0.3s,baz=176,slow=25,SNR=3.3					
BVAR	**Borovoye Array**	**13.60 320**	Pn	**Pn**	**13 52 07.0**	**-2.9**
	0.1nm,0.3s,baz=240,slow=36,SNR=1.8					
SONM	**Songino Array**	**15.60 66**	Pn	**Pn**	**13 52 37.4**	**+0.4**
	0.2nm,0.3s,baz=265,slow=16,SNR=1.9					

*IDC **27** 13:57:22.4±1.4, 2°.59N×95°.47E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.7/76, mbtmp3.9/10, ML3.6/2, MS3.7/20, Ms1 3.8/20, ms1mx3.4/88, Error ellipse: s-maj=42.9km s-min=19.0km az=53.0*

*DJA **27** 13:57:27.6±0.8, 3°.N±3°.×9°.6E±°, h30km±7km, M4.6/14, mB5.4/4, mb4.5/14, MLv4.5/13, Mw(mB)4.9/4, MwMwp8.1/1, Mwp7.7/1*

*NEIC **27** 13:57:28.0±1.4, 2°.63N±0°.08×95°.65E±0°.09, h28km±7km, mb4.4/17, Error ellipse: s-maj=14.4km s-min=9.9km az=53.0*

ISC 27 13:57:26.7±0.7, 2°.63N±0°.07×95°.61E±0°.07, h25km, n74, σ1§02/57, mb4.3/15, MS3.9/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.75**	**107**	P	**Pb**	**13 57 40.6**	**-0.5**
SNSI				S	**Sn**	**13 57 52.8**	**+0.6**
KCSI	**Kotacane, Aceh**	**2.33**	**68**	P	**Pn**	**13 58 03.8**	**+0.3**
KCSI				S	**Sn**	**13 58 31.8**	**+0.4**
GSI	**Gunungsitoli**	**2.37**	**124**	P	**Pn**	**13 58 04.2**	**+0.3**
GSI				S	**Sn**	**13 58 29.6**	**-2.6**
GSI	**Gunungsitoli**	**2.37**	**124**	Pn	**Pn**	**13 58 04.1**	**+0.2**
LHMI	**Lhok Sumawe**	**2.91**	**27**	P	**Pn**	**13 58 11.2**	**-0.2**
LHMI	**Lhok Sumawe**	**2.91**	**27**		**Pn**	**13 58 11.9**	**+0.5**
TSI	**Tuntungan**	**3.08**	**74**	P	**Pn**	**13 58 14.5**	**+0.8**
RPSI	**Rantau Prapat**	**3.31**	**89**		**Pn**	**13 58 17.6**	**+0.6**
RPSI					**Sn**	**13 58 55.3**	**-0.2**
PSI	**Prapat**	**3.32**	**87**	Pn	**Pn**	**13 58 17.6**	**+0.4**
	1.8nm,0.3s,baz=315,slow=11,SNR=9.4						
PSI				Sn	**Sn**	**13 58 55.3**	**-0.5**
	5.5nm,0.3s,baz=307,slow=12,SNR=6.3						
PSI				LR	LR	13 59 51.9	
	comp=Z,815nm,18.3s,baz=260,slow=43						
MNSI	**Mandailing Nat**	**4.37**	**115**	P	**Pn**	**13 58 31.3**	**-0.1**
SISI	**Saibi**	**5.25**	**138**	P	**Pn**	**13 58 43.0**	**-0.6**
	0.2nm23nm,0.6s						
KULM	**Kulim**	**5.68**	**62**	Pn	**Pn**	**13 58 48.6**	**-0.9**
PPI	**Padang Panjang**	**5.68**	**123**	P	**Pn**	**13 58 50.9**	**+1.3**
	0.1nm21nm,0.7s						
IPM	**Ipoh**	**5.71**	**71**	Pn	**Pn**	**13 58 49.6**	**-0.3**
BKNI	**Bangkinang**	**5.89**	**113**	P	**Pn**	**13 58 55.2**	**+2.8**
	0.4nm46nm,0.9s						
PPSI	**Pulau Pagai**	**6.93**	**141**	P	**Pn**	**13 59 08.5**	**+1.8**
	0.4nm110nm,1.7s						
SRIT	**Nakonsritamara**	**7.14**	**34**	Pn	**Pn**	**13 59 10.2**	**+0.6**
MYKOM	**Kota Tinggi**	**8.28**	**96**	Pn	**Pn**	**13 59 25.7**	**+0.5**
MASI	**Maura Aman, Be**	**8.76**	**131**	P	**Pn**	**13 59 33.8**	**+1.9**
	52nm,0.8s						
MDSI	**Maura Dua**	**11.10**	**130**	P	**Pn**	**14 00 04.1**	**+0.1**
	371nm8.4nm,0.5s						
LWLI	**Liwa**	**11.36**	**132**	P	**Pn**	**14 00 07.8**	**+0.3**
	99μm42nm,0.8s						
KLSI		**11.66**	**129**	P	**Pn**	**14 00 12.9**	**+1.3**
	5.2nm,1.1s						
KASI	**Kota Agung**	**12.02**	**132**	P	**Pn**	**14 00 20.0**	**+3.5**
	25nm,0.6s						
LEM	**Lembang**	**15.23**	**128**	LR	LR	14 07 32.8	
	comp=Z,392nm,19.6s,baz=291,slow=40						
PALK	**Pallekele**	**15.55**	**288**	LR	LR	14 06 24.6	
	comp=Z,263nm,19.9s,baz=213,slow=35						
PALK	**Pallekele**	**15.55**	**288**	Pn	**Pn**	**14 01 04.7**	**+0.2**
PALK				IAmb	IAmb	14 01 35.3	
	comp=Z,34nm,1.4s						
UBPT	**Khong Chiam**	**15.89**	**37**	Pn	**Pn**	**14 01 08.1**	**-0.8**
CM31	**Chiang Mai Arr**	**16.07**	**12**		**Pn**	**14 01 10.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.07**	**12**	Pn	**Pn**	**14 01 12.2**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=199,slow=11,SNR=40						
CMAR				LR	LR	14 07 41.7	
	comp=Z,195nm,19.9s,baz=200,slow=38						
SLVN	**Son La**	**20.27**	**23**		**P**	**14 02 00.8**	**+0.2**
SLVN				IAmb	IAmb	14 02 36.8	
	comp=Z,34nm,2.0s						
SHL	**Shillong**	**23.09**	**351**	P	**P**	**14 02 30.4**	**-0.5**
SHL				IAmb	IAmb	14 02 31.8	
	comp=Z,8.1nm,0.6s						
H08S2	**Diego Garcia H**	**25.22**	**246**	T	T	14 29 02.0	
	baz=67,slow=76,SNR=350						
H08S3	**Diego Garcia H**	**25.22**	**246**	T	T	14 29 05.1	
	baz=67,slow=76,SNR=273						
H08S1	**Diego Garcia H**	**25.24**	**246**	T	T	14 29 06.3	
	baz=67,slow=76,SNR=280						
DAV	**Davao City (W)**	**30.18**	**80**	LR	LR	14 17 14.4	
	comp=Z,72nm,18.1s,baz=166,slow=39						
FITZ	**Fitzroy Crossi**	**36.05**	**126**	LR	LR	14 22 05.8	
	comp=Z,100nm,18.4s,baz=288,slow=41						
NIL	**Nilore**	**37.27**	**328**	P	**P**	**14 04 37.0**	**+0.3**
NIL				IAmb	IAmb	14 04 41.8	
	comp=Z,4.5nm,0.8s						
H01W3	**Cape Leeuwin H**	**41.17**	**157**	T	T	14 48 50.4	
	baz=332,slow=76,SNR=125						
H01W2	**Cape Leeuwin H**	**41.18**	**157**	T	T	14 48 47.9	
	baz=332,slow=76,SNR=142						
H01W1	**Cape Leeuwin H**	**41.19**	**157**	T	T	14 48 47.0	
	baz=332,slow=76,SNR=106						
TARG	**Taragay, Kyrgy**	**42.09**	**340**	P	**P**	**14 05 18.0**	**+0.9**
BTK	**Batken**	**43.51**	**332**	P	**P**	**14 05 30.1**	**+1.8**
BTK				IAmb	IAmb	14 05 32.0	
	comp=Z,3.9nm,0.8s						
AAK	**Ala-Archa**	**44.08**	**338**	LR	LR	14 26 16.7	
	comp=Z,110nm,19.1s,baz=142,slow=39						
WRA	**Warramunga Arr**	**44.14**	**122**	P	**P**	**14 05 33.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=302,slow=9.1,SNR=7.1						
WRA				LR	LR	14 24 49.7	
	comp=Z,144nm,20.1s,baz=301,slow=37						
JAY	**Jayapura**	**45.37**	**96**	LR	LR	14 30 28.1	
	comp=Z,92nm,18.8s,baz=179,slow=44						
MK31	**Makanchi Array**	**45.49**	**347**	P	**P**	**14 05 44.0**	**0.0**
MK31				IAmb	IAmb	14 05 57.4	
	comp=Z,3.8nm,0.9s						
MKAR	**Makanchi Array**	**45.49**	**347**	P	**P**	**14 05 44.5**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=163,slow=8.2,SNR=43						
MKAR	**Makanchi Array**	**45.49**	**347**	P	**P**	**14 05 44.3**	**+0.3**
ASAR	**Alice Springs**	**45.52**	**127**	P	**P**	**14 05 45.0**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=304,slow=8.0,SNR=9.7						
MAKZ	**Makanchi**	**45.58**	**347**	P	**P**	**14 05 45.0**	**+0.3**
MAKZ				IAmb	IAmb	14 05 52.5	
	comp=Z,4.1nm,0.9s						
KS19	**Wonju Array Si**	**45.62**	**36**	P	**P**	**14 05 44.2**	**-0.9**
KSRS	**Korea Array**	**45.62**	**37**	P	**P**	**14 05 44.5**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=228,slow=9.8,SNR=6.0						
SONM	**Songino Array**	**45.99**	**10**	P	**P**	**14 05 47.4**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=187,slow=8.3,SNR=17						
SONM				PcP	**PcP**	**14 07 24.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=195,slow=1.4,SNR=3.7						
SONM	**Songino Array**	**45.99**	**10**	P	**P**	**14 05 47.4**	**-0.6**
KKAR	**Karatay Array**	**46.09**	**334**	P	**P**	**14 05 49.5**	**+0.7**
KURBB	**Kurchatov Arra**	**49.96**	**346**	LR	LR	14 29 58.0	
	comp=Z,104nm,20.4s,baz=131,slow=39						
MJAR	**Matsushiro Arr**	**51.74**	**44**	LR	LR	14 33 08.4	
	comp=Z,39nm,18.4s,baz=223,slow=41						
ZAA0	**Zalesovo Array**	**51.92**	**352**	P	**P**	**14 06 32.8**	**-0.4**
ZAA0				IAmb	IAmb	14 06 45.7	
	comp=Z,13nm,1.4s						
ZALV	**Zalesovo Beam**	**51.92**	**352**	P	**P**	**14 06 33.5**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=181,slow=7.1,SNR=21						
ZALV	**Zalesovo Beam**	**51.92**	**352**	P	**P**	**14 06 33.3**	**+0.2**
CTA	**Charters Tower**	**54.56**	**117**	LR	LR	14 33 40.0	
	comp=Z,56nm,20.4s,baz=268,slow=40						
ABKAR	**Akbulak array**	**55.52**	**332**	P	**P**	**14 07 00.0**	**+0.4**
ABKAR	**Akbulak array**	**55.52**	**332**	P	**P**	**14 07 00.2**	**+0.5**
ABKAR				IAmb	IAmb	14 07 08.2	
	comp=Z,2.7nm,0.8s						
GNI	**Garni**	**59.17**	**316**	LR	LR	14 34 37.5	
	comp=Z,51nm,19.8s,baz=156,slow=38						
LSZ	**Lusaka**	**69.01**	**253**	LR	LR	14 35 38.4	
	comp=Z,99nm,19.2s,baz=164,slow=33						
TIXI	**Tiksi**	**72.07**	**11**	P	**P**	**14 08 47.4**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=250,slow=2.3,SNR=6.4						
TIXI	**Tiksi**	**72.07**	**11**	P	**P**	**14 08 48.4**	**0.0**
SEY	**Seymchan**	**73.09**	**24**	LR	LR	14 45 22.7	
	comp=Z,86nm,18.4s,baz=299,slow=39						
AKASG	**Malin Array Be**	**73.16**	**323**	P	**P**	**14 08 53.6**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=84,slow=6.1,SNR=4.3						
DZM	**Mont Dzumac**	**73.31**	**114**	LR	LR	14 43 00.8	
	comp=Z,75nm,20.0s,baz=218,slow=37						
BOSA	**Boshof**	**74.12**	**239**	LR	LR	14 37 12.3	
	comp=Z,80nm,18.7s,baz=192,slow=32						
ARCES	**ARCESS Array B**	**80.67**	**340**	LR	LR	14 46 45.5	
	comp=Z,59nm,20.7s,baz=166,slow=37						
URZ	**Urewera**	**84.94**	**129**	LR	LR	14 50 44.5	
	comp=Z,45nm,19.2s,baz=214,slow=38						
SPITS	**Spitsbergen Ar**	**85.24**	**348**	LR	LR	14 56 31.8	
	comp=Z,47nm,18.3s,baz=162,slow=42						

IDC 27 13:59:30.8±4.7, 6°.66S×155°.17E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.3/41, mbtmp3.6/5, Error ellipse: s-maj=144.7km s-min=32.1km az=113.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.15**	**235**	P	P	14 04 47.2	-1.6
	0.5nm,0.8s,baz=62,slow=9.6,SNR=3.2						
ASAR	**Alice Springs**	**26.52**	**228**	P	P	14 05 12.3	+1.9
	0.2nm,0.7s,baz=65,slow=7.1,SNR=1.6						
SONM	**Songino Array**	**69.15**	**327**	P	P	14 10 40.0	+0.9
	0.4nm,0.7s,baz=142,slow=7.3,SNR=2.6						
MKAR	**Makanchi Array**	**83.27**	**319**	P	P	14 11 59.5	+0.1
	1.2nm,0.7s,baz=102,slow=5.8,SNR=14						
ZALV	**Zalesovo Beam**	**84.00**	**326**	P	P	14 12 01.7	-1.3
	0.9nm,0.5s,baz=98,slow=6.0,SNR=3.4						

*EAF **27** 14:00:49.5±3.3, 26°.04S×28°.99E, h0km±52km, MD4.0*

BUL 27 14:00:49.5±3.3, 26°.04S×28°.99E, h0km±52km, MD4.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.23**	**288**	*i* P	Pn	14 01 42.8	+1.2
LBTB				*i* Sg	Sb	14 02 30.0	+2.2
LBTB	**Lobatse**	**3.23**	**288**	*i* P	Pn	14 01 42.8	+1.2
LBTB				*i* Sg	Sb	14 02 30.0	+2.2
BOSA	**Boshof**	**4.20**	**231**	*i* P	Pn	14 01 55.9	+1.0
BOSA				*i* Sg	Sb	14 02 57.5	+1.8
BOSA	**Boshof**	**4.20**	**231**	*i* P	Pn	14 01 55.9	+1.0
BOSA				*i* Sg	Sb	14 02 57.5	+1.8
MATP	**Matopo**	**5.60**	**355**	*i* P	Pn	14 02 14.4	+0.1
MATP				*i* S	Sn	14 03 13.8	-5.6
MATP	**Matopo**	**5.60**	**355**	*i* P	Pn	14 02 14.4	+0.1
MATP				*i* S	Sn	14 03 13.8	-5.6
KRI	**Karoi**	**9.18**	**4**	*i* P	Pn	14 02 53.8	-10
KRI				*i* S	Sn	14 04 22.7	-25
KRI	**Karoi**	**9.18**	**4**	*i* P	Pn	14 02 53.8	-10
KRI				*i* S	Sn	14 04 22.7	-25

*IDC **27** 14:03:19.7±2.3, 17°.48S×178°.75W, h601km±21km, mb3.1/5, mb1 3.2/7, mb1mx3.0/35, mbtmp4.0/7, Error ellipse: s-maj=110.4km s-min=26.9km az=157.0*

ISC 27 14:03:15.2±1.7, 17°.5S±0°.8×178°.6W±0°.4, h547km, n7, σ1§01/6, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.24**	**264**	P	P	14 04 39.4	+7.8
	2.3nm,0.3s,baz=113,slow=2.3,SNR=25						
DZM	**Mont Dzumac**	**14.84**	**250**	P	**P**	**14 06 24.5**	**+1.3**
	0.2nm,0.3s,baz=52,slow=17,SNR=1.9						
CTA	**Charters Tower**	**33.38**	**260**	P	**P**	**14 09 08.8**	**0.0**
	2.2nm,0.7s,baz=66,slow=9.7,SNR=1.7						
STKA	**Stephens Creek**	**38.72**	**241**	P	**P**	**14 09 52.1**	**-0.7**
	1.1nm,0.7s,baz=80,slow=8.6,SNR=4.7						
WRA	**Warramunga Arr**	**44.57**	**259**	P	**P**	**14 10 38.3**	**-0.8**
	0.9nm,0.5s,baz=93,slow=7.4,SNR=23						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**14 10 40.2**	**-0.5**
	6.9nm,0.6s,baz=87,slow=8.7,SNR=167						
TXAR	**Lajitas Array**	**85.88**	**58**	P	**P**	**14 14 58.1**	**+0.3**
	0.4nm,0.8s,baz=200,slow=9.1,SNR=3.9						

*CNRM **27** 14:12:45.8, 35°.42N×3°.92W, h26km, ml2.5*

ISC 27 14:12:43.4±1.6, 35°.49N±0°.05×3°.79W±0°.04, h17km±11km, n10, σ1§48/19, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.30**	**204**	P	**Pb**	**14 12 50.9**	**+0.7**
PALE				S	**Sb**	**14 12 55.4**	**+0.6**
CHAS	**Isla Isabel II**	**1.15**	**105**	*e*P	**Pb**	**14 13 03.7**	**-1.1**
CHAS				*e*S	**Sb**	**14 13 18.2**	**-1.2**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pn**	**14 13 06.1**	**-0.8**
SMIR				S	**Sb**	**14 13 22.2**	**-1.8**
CHEFC	**Chefchaouen**	**1.32**	**254**	P	**Pg**	**14 13 09.2**	**+0.2**
CHEFC				S	**Sg**	**14 13 26.1**	**-0.2**
JBK	**JBK**	**1.53**	**139**	P	**Pb**	**14 13 11.4**	**+0.1**
JBK				S	**Sn**	**14 13 29.4**	**-0.2**
MD31	**MD31**	**2.74**	**197**	P	**Pn**	**14 13 27.5**	**+0.9**
MD31				S	**Sn**	**14 13 59.2**	**-0.1**
MDT	**Midelt**	**2.75**	**194**	P	**Pb**	**14 13 30.1**	**-2.1**
MDT				S	**Sn**	**14 14 00.4**	**+0.7**
ZHG	**ZHG**	**3.12**	**230**	P	**Pn**	**14 13 33.0**	**+1.3**
ZHG				S	**Sn**	**14 14 08.0**	**-0.5**
PVAQ	**Vaqueiros**	**3.70**	**302**	P	**Pn**	**14 13 41.2**	**+1.6**
PVAQ				S	**Sn**	**14 14 21.3**	**-1.5**
PESTR	**Estremoz**	**4.54**	**319**	P	**Pn**	**14 13 54.8**	**+3.6**

*ECX **27** 14:15:32.1±0.6, 32°.18N×115°.78W, h0km±9km, MD2.3, ML2.5*

*MEX **27** 14:15:33.5±0.4, 32°.26N×115°.70W, h17km±5km, MD3.7*

ISC 27 14:15:30.9±1.0, 32°.20N±0°.04×115°.75W±0°.03, h12km±12km, n14, σ0§69/20, 2C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAMX	**Rancho Alamar**	**0.19**	**170**	⇓*i* P	**Pg**	**14 15 35.6**	**+0.4**
ALAMX				*e*S	**Sg**	**14 15 38.3**	**+0.2**
ALAMX				IAML		14 15 38.7	
	comp=N,934nm,0.4s						
CPBX	**Cerro Prieto**	**0.43**	**60**	*e*P	**Pb**	**14 15 40.8**	**+0.3**
CPBX				IAML		14 15 51.8	
	comp=N,1μm,0.1s						
CPBX				*e*		14 15 51.8	
CPBX				IAML		14 15 53.3	
	comp=E,1μm,0.2s						
CPBX				⇑*e*		14 15 53.3	
YUH2	**Yuha Desert**	**0.47**	**342**	*e*P	**Pb**	**14 15 40.8**	**-0.3**
RMX	**La Rumorosa**	**0.49**	**325**	⇑*e*P	**Pg**	**14 15 40.2**	**-0.4**
MBIG	**Mexicali**	**0.51**	**66**	*e*P	**Pg**	**14 15 40.8**	**-0.1**
MBIG				*i* S	**Sg**	**14 15 46.5**	**-1.2**
IKP	**In-Ko-Pah, Jac**	**0.54**	**326**	*e*P	**Pb**	**14 15 42.2**	**-0.2**
RITX	**Riito Sonora**	**0.67**	**93**	*e*P	**Pb**	**14 15 45.1**	**+0.6**
RITX				*e*S	**Sb**	**14 15 55.0**	**+1.2**
CBX	**Cerro Bola**	**0.79**	**279**	*i* P	**Pg**	**14 15 46.5**	**+0.3**
CBX				*i* S	**Sg**	**14 15 56.5**	**+0.1**
CBX	**Cerro Bola**	**0.79**	**279**

3.9nm,0.2s
KAPS eS **Sn** **14 23 01.0 +3.2**
18nm,0.1s
MDOK Medeo 8.46 274 Pn **Pn** **14 21 58.5 -1.5**
3.5nm,0.8s
MDOK ⇑Lg Lg 14 24 26.8
14nm,0.7s
TKM2 Tokmak 2 9.54 273 ⇑Pn **Pn** **14 22 13.1 -1.8**
1.3nm,0.6s
TKM2 ⇑Lg Lg 14 25 00.0
5.2nm,0.7s
KURBB Kurchatov Arra 10.15 321 Pn **Pn** **14 22 21.6 -1.4**
0.5nm,0.3s,baz=130,slow=13,SNR=13
KURBB Sn **Sn** **14 24 11.0 -4.6**
0.2nm,0.3s,baz=123,slow=28,SNR=1.5
KURBB Lg Lg 14 25 13.8
0.2nm,0.3s,baz=275,slow=23,SNR=4.9
KURBB Kurchatov Arra 10.15 321 ⇓Pn **Pn** **14 22 20.3 -2.7**
1.5nm,0.3s
KURBB ⇓Lg Lg 14 25 16.5
45nm,0.7s
AAK Ala-Archa 10.38 272 Pn **Pn** **14 22 24.5 -1.8**
0.2nm,0.3s,baz=151,slow=10,SNR=2.5
AAK Sn **Sn** **14 24 23.4 +2.0**
0.2nm,0.3s,baz=122,slow=20,SNR=1.9
AAK Lg Lg 14 25 19.9
0.1nm,0.3s,baz=3.9,slow=19,SNR=2.0
ZALV Zalesovo Beam 11.07 348 Pn **Pn** **14 22 34.2 -1.4**
0.7nm,0.3s,baz=169,slow=14,SNR=9.1
ZALV Sn **Sn** **14 24 36.3 -1.8**
2.3nm,0.3s,baz=166,slow=26,SNR=20
SONM Songino Array 13.31 63 Lg Lg 14 27 00.9
0.0nm,0.3s,baz=108,slow=18,SNR=2.9
BVAR Borovoye Array 15.63 315 Pn **Pn** **14 23 36.1 -1.2**
0.3nm,0.3s,baz=86,slow=20,SNR=5.1
AKTO Aktyubinsk 22.06 300 P **P** **14 24 52.0 +0.6**
1.4nm,0.6s,baz=94,slow=14,SNR=5.6
ARU Arti 23.27 315 P **P** **14 25 03.1 -1.0**
1.5nm,0.8s,baz=171,slow=3.9,SNR=6.6
CMAR Chiang Mai Arr 26.14 157 P **P** **14 25 32.3 +1.6**
0.3nm,0.3s,baz=338,slow=12,SNR=1.4
AKASG Malin Array Be 40.27 302 P **P** **14 27 32.7 -0.5**
0.3nm,0.5s,baz=69,slow=8.5,SNR=4.1
FINES FINESS Array B 40.54 319 P **P** **14 27 35.1 -0.2**
1.9nm,0.9s,baz=96,slow=8.5,SNR=1.3
BRTR Keskin Array B 40.73 285 P **P** **14 27 37.7 +0.3**
0.5nm,0.7s,baz=77,slow=8.1,SNR=3.2
WRA Warramunga Arr 75.56 136 P **P** **14 31 42.2 +1.4**
0.4nm,0.7s,baz=331,slow=6.8,SNR=1.9
ASAR Alice Springs 78.47 138 P **P** **14 31 56.5 -0.7**
0.3nm,0.6s,baz=323,slow=4.2,SNR=2.1
TORD Torodi Ar. Bea 78.91 278 P **P** **14 31 58.5 -1.4**
0.3nm,0.4s,baz=37,slow=5.8,SNR=4.7

IDC 27 14:24:28.2±2.0, 8°.42S×130°.09E, h0km, mb3.3/1, mb1 3.4/3, mb1mx2.8/30, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=98.5km s-min=31.9km az=68.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.18**	**161**	Pn	Pn		Pn	14 27 22.7	-0.5
	0.2nm,0.3s,baz=340,slow=14,SNR=13								
WRA				Sn	Sn		Sn	14 29 28.4	-11
	0.2nm,0.3s,baz=343,slow=22,SNR=1.9								
ASAR	**Alice Springs**	**15.60**	**167**	Pn	Pn		Pn	14 28 10.3	+0.6
	0.1nm,0.3s,baz=342,slow=8.7,SNR=20								
ASAR				Sn	Sn		Sn	14 30 56.6	-6.8
	0.1nm,0.3s,baz=351,slow=28,SNR=2.5								
MKAR	**Makanchi Array**	**69.45**	**327**	P	P		P	14 35 38.5	0.0
	0.2nm,0.4s,baz=116,slow=6.6,SNR=5.7								

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*SFS **27** 14:34:03.0, 35°.64N×3°.81W, ML2.6, ALBORAN SUR*
*CNRM **27** 14:34:04.4, 35°.60N×3°.77W, h33km, ml2.5*
ISC 27 14:34:03.3±1.3, 35°.67N±0°.04×3°.73W±0°.04, h26km±12km, n13, σ0°.99/23, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.48**	**201**	P			**Pb**	**14 34 13.1**	**-0.3**
PALE				S			**Sb**	**14 34 20.2**	**0.0**
GOG	**Mont Gurugu**	**0.74**	**127**	P			**Pb**	**14 34 17.7**	**-0.1**
CHAS	**Isla Isabel II**	**1.16**	**114**	*eP*			**Pn**	**14 34 23.2**	**-0.7**
CHAS				*eS*			**Sn**	**14 34 39.6**	**+0.7**
EMAL	**Malaga-Limoner**	**1.23**	**333**	*eP*			**Pb**	**14 34 25.9**	**0.0**
EMAL				*eS*			**Sn**	**14 34 40.5**	**0.0**
SMIR	**Smir Dam**	**1.35**	**271**	P			**Pn**	**14 34 26.0**	**-0.4**
CEU	**Ceuta**	**1.36**	**280**	*eP*			**Pn**	**14 34 25.4**	**-1.1**
CEU				*eS*			**Sn**	**14 34 41.3**	**-2.4**
TAF	**Taforalt**	**1.37**	**128**	P			**Pn**	**14 34 27.3**	**+0.4**
CHEFC	**Chefchaouen**	**1.43**	**247**	P			**Pb**	**14 34 29.7**	**+0.2**
CHEFC				S			**Sn**	**14 34 45.1**	**-0.6**
JBK	**JBK**	**1.64**	**144**	P			**Pn**	**14 34 30.3**	**-0.3**
JBK				S			**Sn**	**14 34 49.8**	**-1.1**
MD31	**MD31**	**2.92**	**197**	P			**Pn**	**14 34 49.2**	**+1.0**
MD31				S			**Sn**	**14 35 21.2**	**-1.3**
MDT	**Midelt**	**2.94**	**195**	P			**Pn**	**14 34 49.0**	**+0.6**
MDT				S			**Sn**	**14 35 23.7**	**+0.8**
ZHG	**ZHG**	**3.27**	**228**	P			**Pn**	**14 34 53.6**	**+0.6**
ZHG				S			**Sn**	**14 35 31.6**	**+0.5**
PVAQ	**Vaqueiros**	**3.65**	**299**	P			**Pn**	**14 35 00.1**	**+2.1**
PVAQ				S			**Sn**	**14 35 40.1**	**-0.1**

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*IDC **27** 14:35:32.3±2.5, 19°.31S×69°.80W, h99km±21km, mb3.8/2, mb1 4.0/4, mb1mx3.5/33, mbtmp4.1/4, Error ellipse: s-maj=50.0km s-min=17.2km az=91.0*
*NEIC **27** 14:35:33.7±0.9, 19°.25S±0°.05×69°.49W±0°.05, h100km±5km, mb4.1/4, ML4.0(GUC), Error ellipse: s-maj=7.3km s-min=6.2km az=49.0*
*GUC **27** 14:35:33.1±0.7, 19°.19S×69°.37W, h105km±3km, ML4.0*
*VAO **27** 14:35:34.6±0.7, 19°.16S×69°.21W, h122km, mb4.0*
ISC 27 14:35:32.6±0.6, 19°.22S±0°.03×69°.39W±0°.07, h104km±6km, n59, σ1°.29/70, mb4.0/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.22**	**293**				**Pn**	**14 35 48.3**	**+0.6**
GO01	**Chusmiza**	**0.48**	**158**	*eP*			**Pn**	**14 35 49.9**	**+0.6**
GO01				*i S*			**Sn**	**14 36 02.7**	**+1.0**
GO01				IAML				14 36 03.1	
	comp=E,19μm,0.1s								
GO01	**Chusmiza**	**0.48**	**158**				**Pn**	**14 35 50.0**	**+0.8**
PB11	**IPOC Station P**	**0.60**	**205**				**Pn**	**14 35 49.9**	**+0.2**
PB16	**IPOC Station P**	**0.88**	**352**	*eP*			**Pn**	**14 35 53.6**	**+0.8**
PB16				*i S*			**Sn**	**14 36 09.3**	**+1.5**
PB16	**IPOC Station P**	**0.88**	**352**				**Pn**	**14 35 53.6**	**+0.8**
PB08	**IPOC Station P**	**0.95**	**167**	*eP*			**Pn**	**14 35 54.0**	**+0.9**
PB08				*i S*			**Sn**	**14 36 09.7**	**+1.1**
PB08				IAML				14 36 11.7	
	comp=E,3μm,0.2s								
PB08	**IPOC Station P**	**0.95**	**167**				**Pn**	**14 35 54.1**	**+0.9**
PB12	**IPOC Station P**	**1.07**	**304**	*eP*			**Pn**	**14 35 54.3**	**+0.1**
PB12				*i S*			**Sn**	**14 36 10.3**	**-0.2**
PB12				IAML				14 36 10.9	
	comp=N,4μm,0.5s								
PB12	**IPOC Station P**	**1.07**	**304**	Pn			**Pn**	**14 35 54.4**	**+0.1**
AP01	**Chacalluta**	**1.24**	**313**	Pn			**Pn**	**14 35 56.0**	**+0.1**
TA02	**Huaiquique**	**1.26**	**214**	*eP*			**Pn**	**14 35 56.6**	**+0.3**
TA02				*i S*			**Sn**	**14 36 14.6**	**+0.4**
TA02				IAML				14 36 16.1	
	comp=N,5μm,0.1s								
TA02	**Huaiquique**	**1.26**	**214**				**Pn**	**14 35 56.4**	**+0.2**
TA01	**Diego Aracena**	**1.54**	**209**	*eP*			**Pn**	**14 35 59.2**	**-0.3**
TA01				*i S*			**Sn**	**14 36 19.9**	**0.0**
TA01				IAML				14 36 21.4	
	comp=E,865nm,0.2s								
TA01	**Diego Aracena**	**1.54**	**209**				**Pn**	**14 35 59.2**	**-0.3**
PB01	**IPOC Station P**	**1.82**	**183**	*eP*			**Pn**	**14 36 03.6**	**+0.4**
PB01				*i S*			**Sn**	**14 36 27.1**	**+0.7**
PB01				IAML				14 36 28.0	
	comp=N,2μm,0.2s								
PB01	**IPOC Station P**	**1.82**	**183**	Pn			**Pn**	**14 36 03.8**	**+0.7**
PB02	**IPOC Station P**	**2.15**	**193**	*eP*			**Pn**	**14 36 07.7**	**+0.4**
PB02				*i S*			**Sn**	**14 36 34.6**	**+0.7**
PB02				IAML				14 36 45.5	
	comp=E,1μm,0.2s								
PB07	**IPOC Station P**	**2.54**	**191**	*eP*			**Pn**	**14 36 13.5**	**+0.9**
PB07				IAML				14 36 55.1	
	comp=E,436nm,0.4s								
PB07	**IPOC Station P**	**2.54**	**191**				**Pn**	**14 36 13.1**	**+0.6**
PB09	**IPOC Station P**	**2.57**	**177**	*eP*			**Pn**	**14 36 13.9**	**+0.9**
PB09				*i S*			**Sn**	**14 36 39.3**	**-4.6**
PB09				IAML				14 36 51.9	
	comp=N,441nm,0.4s								
PB09	**IPOC Station P**	**2.57**	**177**				**Pn**	**14 36 14.0**	**+1.1**
PB03	**IPOC Station P**	**2.84**	**187**	*eP*			**Pn**	**14 36 16.4**	**-0.1**
LPAZ	**La Paz**	**3.15**	**23**	P			**Pn**	**14 36 23.1**	**+2.1**
	comp=N,8.5nm,0.3s,baz=196,slow=7.8,SNR=128								
LPAZ	**La Paz**	**3.15**	**23**	*eP*			**Pn**	**14 36 23.1**	**+2.1**
LPAZ	**La Paz**	**3.15**	**23**				**Pn**	**14 36 22.3**	**+1.3**
PB04	**IPOC Station P**	**3.18**	**193**	*eP*			**Pn**	**14 36 21.5**	**+0.4**
PB04				IAML				14 37 21.8	
	comp=N,321nm,0.3s								
PB04	**IPOC Station P**	**3.18**	**193**				**Pn**	**14 36 21.3**	**+0.3**
LVC	**Limon Verde**	**3.41**	**173**	P			**Pn**	**14 36 25.3**	**+1.1**
	comp=N,11nm,0.3s,baz=353,slow=11,SNR=60								
LVC				S			**Sn**	**14 37 03.0**	**-1.0**
	comp=N,24nm,0.3s,baz=294,slow=4.4,SNR=6.6								
LVC	**Limon Verde**	**3.41**	**173**	*eP*			**Pn**	**14 36 26.5**	**+2.3**
LVC	**Limon Verde**	**3.41**	**173**				**Pn**	**14 36 25.7**	**+1.5**
PB06	**IPOC Station P**	**3.48**	**183**	*eP*			**Pn**	**14 36 25.2**	**+0.3**
PB06	**IPOC Station P**	**3.48**	**183**				**Pn**	**14 36 25.1**	**+0.1**
SIV	**San Ignacio**	**8.55**	**69**	P			**Pn**	**14 37 31.2**	**-2.5**
	comp=N,2.8nm,0.3s,baz=254,slow=12,SNR=29								
ETMB	**Extrema**	**9.84**	**19**	*eP*			**Pn**	**14 37 51.2**	**+0.2**
VILB	**Vilhena**	**10.80**	**56**	*eP*			**Pn**	**14 38 03.6**	**-0.6**
PDRB	**Porto dos Gac**	**14.35**	**60**	*eP*			**Pn**	**14 38 49.4**	**-1.5**
CLDB	**Colider**	**15.52**	**60**	*eP*			**Pn**	**14 39 05.2**	**-0.6**
ITAB	**Concordia**	**17.74**	**120**	*eP*			**P**	**14 39 32.2**	**-0.1**
NPGB	**Novo Progresso**	**18.23**	**50**	*eP*			**P**	**14 39 35.9**	**-1.9**
CPSB	**Cacapava Do Su**	**18.24**	**131**	*eP*			**P**	**14 39 38.2**	**+0.4**
SNDB	**Serra Nova Dou**	**18.84**	**70**	*eP*			**P**	**14 39 43.3**	**-1.2**
ITTB	**Itaituba**	**19.88**	**44**	*eP*			**P**	**14 39 53.9**	**-2.0**
IPMB	**Ipameri, GO**	**20.11**	**90**	*eP*			**P**	**14 39 57.4**	**-0.9**
PLCA	**Paso Flores**	**21.47**	**182**	P			**P**	**14 40 15.5**	**+2.7**
MALB	**Monte Alegre**	**22.74**	**42**	*eP*			**P**	**14 40 24.6**	**-1.5**
BOAV	**Boa Vista**	**23.18**	**23**	*eP*			**P**	**14 40 29.2**	**-1.1**
BOAV	**Boa Vista**	**23.18**	**23**	P			**P**	**14 40 29.4**	**-0.9**
SMTB	**Santa Maria do**	**23.49**	**67**	*eP*			**P**	**14 40 32.0**	**-1.3**
JANB	**Januaria**	**24.30**	**84**	*eP*			**P**	**14 40 39.0**	**-1.7**
SDBA	**SAO DESIDERIO**	**24.49**	**78**	*eP*			**P**	**14 40 40.9**	**-1.5**
MCPB	**Macapa, AP**	**25.30**	**44**	*eP*			**P**	**14 40 49.4**	**-0.2**
NBAN	**Anadia - AL**	**33.38**	**78**	*eP*			**P**	**14 42 00.6**	**-0.8**
SNAA	**Sanae**	**64.57**	**161**	P			**P**	**14 45 59.5**	**+1.1**
SNAA				IAmb			IAmb	14 46 14.1	
	comp=Z,2.3nm,1.0s								
QSPA	**South Pole Qui**	**70.96**	**180**	P			**P**	**14 46 39.5**	**+0.8**
QSPA				IAmb			IAmb	14 47 03.0	
	comp=Z,5.2nm,1.4s								
TORD	**Torodi Ar. Bea**	**77.02**	**71**	P			**P**	**14 47 17.8**	**+3.2**
	comp=Z,0.8nm,0.4s,baz=246,slow=5.5,SNR=6.9								
YKA	**Yellowknife Ar**	**88.89**	**341**	P			**P**	**14 48 15.1**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=136,slow=4.7,SNR=17								
YKA				pP			**pP**	**14 48 42.8**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=135,slow=4.8,SNR=5.9								
ASAR	**Alice Springs**	**131.70**	**209**	PKP			**PKPdf**	**14 54 32.3**	**-1.9**
	comp=Z,0.3nm,0.9s,baz=144,slow=1.7,SNR=4.6								
SONM	**Songino Array**	**151.25**	**6**	PKPbc			**PKPbc**	**14 55 14.2**	**+0.2**
	comp=Z,1.5nm,1.1s,baz=43,slow=0.6,SNR=4.1								

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*ECX **27** 14:56:42.6±0.6, 32°.23N×115°.30W, h13km±5km, MD2.8, ML3.0*
*MEX **27** 14:56:45.7±0.6, 32°.29N×115°.20W, h20km±23km, MD4.0*
ISC 27 14:56:43.2±1.0, 32°.22N±0°.03×115°.31W±0°.03, h17km±8km, n16, σ0°.76/29, 6C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.20**	**2**	⇓*iP*			**Pb**	**14 56 48.8**	**+0.5**
CPBX				⇓*e*				14 57 09.6	
CPBX				IAML				14 57 09.6	
	comp=N,6μm,0.4s								
CPBX				IAML				14 57 10.9	
	comp=E,7μm,0.3s								
CPBX				*e*				14 57 10.9	
MBIG	**Mexicali**	**0.21**	**28**	*i P*			**Pb**	**14 56 48.6**	**+0.1**
MBIG				*i P*			**Pg**	**14 56 49.1**	**+0.9**
MBIG				*i S*			**Sg**	**14 56 50.6**	**-0.9**
MBIG				*eS*			**Sb**	**14 56 50.8**	**-1.2**
CTLX	**Tlaxcala, TLX**	**0.28**	**30**	*i P*			**Pb**	**14 56 50.3**	**+0.4**
CTLX				*eS*			**Sb**	**14 56 55.6**	**+1.2**
RITX	**Riito Sonora**	**0.30**	**101**	*i P*			**Pb**	**14 56 50.5**	**+0.4**
RITX				*i S*			**Sb**	**14 56 55.6**	**+0.8**
PESCX	**Ej. Pescaderos**	**0.36**	**55**	*i P*			**Pb**	**14 56 51.3**	**+0.2**
PESCX				*i S*			**Sb**	**14 56 57.2**	**+0.7**
ALAMX	**Rancho Alamar**	**0.40**	**237**	⇑*iP*			**Pb**	**14 56 52.8**	**+1.0**
ALAMX				*eS*			**Sb**	**14 56 58.9**	**+1.2**
ALAMX				IAML				14 57 00.4	
	comp=E,1μm,0.4s								
ALAMX				⇑*e*				14 57 00.4	
ALAMX				⇑*e*				14 57 01.3	
ALAMX				IAML				14 57 01.3	
	comp=N,1μm,0.3s								
YUH2	**Yuha Desert**	**0.67**	**309**	⇑*iP*			**Pb**	**14 56 57.0**	**+0.6**
YUH2				*i S*			**Sb**	**14 57 06.4**	**+1.1**
YMD	**Yuma Desert**	**0.73**	**63**	*i P*			**Pb**	**14 56 57.0**	**-0.4**
RMX	**La Rumorosa**	**0.75**	**300**	⇑*iP*			**Pb**	**14 56 57.6**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.80**	**302**	⇑*iP*			**Pn**	**14 56 59.4**	**-0.3**
IKP				*i S*			**Sb**	**14 57 10.4**	**+1.2**
SWSC	**Sam W. Stewart**	**0.83**	**330**	*eP*			**Pg**	**14 56 58.8**	**-0.6**
CBX	**Cerro Bola**	**1.15**	**275**	*i P*			**Pg**	**14 57 04.8**	**-0.6**
CBX				*i S*			**Sb**	**14 57 19.3**	**0.0**
CBX	**Cerro Bola**	**1.15**	**275**	*eP*			**Pg**	**14 57 05.0**	**-0.5**
TJIG	**Tijuana**	**1.17**	**281**	*i P*			**Pb**	**14 57 05.1**	**+0.1**
TJIG				*i S*			**Sg**	**14 57 20.6**	**-0.7**
SPIG	**San Pedro Mart**	**1.18**	**186**	*i P*			**Pb**	**14 57 05.0**	**-0.3**
SPIG				*i S*			**Sg**	**14 57 20.9**	**-0.7**
BAR	**Barrett**	**1.24**	**292**	*eP*			**Pb**	**14 57 06.2**	**+0.1**
BAR				*eS*			**Sg**	**14 57 23.4**	**+0.1**

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*IDC **27** 14:57:42.4±1.1, 27°.65N×85°.69E, h0km, mb4.0/9, mb1 4.0/12, mb1mx3.7/43, mbtmp3.9/12, ML3.6/3, Error ellipse: s-maj=39.3km s-min=16.7km az=57.0*
ISC 27 14:57:44.3±0.7, 27°.67N±0°.06×85°.75E±0°.09, h10km, n19, σ1°.23/19, mb4.1/10, 1D, Nepal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOK	**Bokaro**	**3.87**	**178**	*eP*			**Pn**	**14 58 45.0**	**+1.1**
BOK				*eS*			**Sn**	**14 59 30.0**	**+0.6**
LSA	**Lhasa**	**5.16**	**66**	Pn			**Pn**	**14 59 04.3**	**+2.3**
LSA				Pg			Pb	14 59 08.5	-6.4
LSA				Sn			Sn	14 59 54.8	-7.1
LSA				Sg			**Sn**	**14 59 59.8**	**-2.1**
LSA				smax			smax		
	comp=N,26nm,0.7s								
LSA				smax			smax		
	comp=E,30nm,0.9s								
KSH	**Kashi**	**14.33**	**328**	P			Pn	15 01 03.0	-4.5
KSH				pP			P	15 01 11.8	-2.8
KSH				sP				15 01 17.5	
KSH				S			Sn	15 03 34.5	-12
KSH				pmax			pmax		
	comp=Z,4.0nm,0.9s								
KSH				LR			LR		
	comp=N,180nm,6.9s								
KSH				LR			LR		
	comp=E,200nm,7.0s								
CMAR	**Chiang Mai Arr**	**15.21**	**124**	Pn			**Pn**	**15 01 17.1**	**-2.2**
	comp=E,0.0nm,0.3s,baz=78,slow=25,SNR=1.5								
WMQ	**Urumqi**	**16.19**	**5**	*eP*			**P**	**15 01 37.0**	**+1.9**
GTA	**Gaotai**	**16.55**	**41**	⇓pP			**Pn**	**15 01 37.8**	**+1.2**
GTA				pP			P	15 01 42.3	+3.1
GTA				sP			pP	15 01 45.0	+2.6
GTA				pmax			pmax		
	comp=Z,5.0nm,0.7s								
GTA				pmax			pmax		
	comp=Z,110nm,6.4s								
GTA				LR			LR		
	comp=N,140nm,15.1s								
GTA				LR			LR		
	comp=E,180nm,11.5s								
GTA				LR			LR		
	comp=Z,240nm,15.1s								
LZH	**Lanzhou**	**17.49**	**57**	*eP*			Pn	15 01 36.5	-12
LZH				pP			P	15 01 43.3	-6.4
LZH				sP			pP	15 01 46.5	-6.4
LZH				pmax			pmax		
	comp=Z,21nm,1.5s								
AAK	**Ala-Archa**	**17.51**	**331**	P			**Pn**	**15 01 49.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=161,slow=5.0,SNR=4.1								
MKAR	**Makanchi Array**	**19.28**	**353**	P			**P**	**15 02 08.5**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=181,slow=11,SNR=48								
KURBB	**Kurchatov Arra**	**23.57**	**348**	P			**P**	**15 02 54.3**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=164,slow=10,SNR=13								
SONM	**Songino Array**	**25.77**	**33**	P			**P**	**15 03 15.2**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=220,slow=9.9,SNR=16								
ZALV	**Zalesovo Beam**	**26.26**	**359**	P			**P**	**15 03 19.6**	**0.0**
	comp=Z,1.5nm,0.4s,baz=186,slow=9.9,SNR=8.2								
BVAR	**Borovoye Array**	**27.78**	**340**	P			**P**	**15 03 33.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=118,slow=11,SNR=6.0								
NRIK	**Noril'sk**	**41.71**	**1**	P			**P**	**15 05 32.8**	**-0.2**
	comp=Z,5.1nm,0.5s,baz=162,slow=5.7,SNR=7.7								
AKASG	**Malin Array Be**	**48.11**	**315**	P			**P**	**15 06 23.0**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=82,slow=7.8,SNR=6.1								
FINES	**FINESS Array B**	**51.66**	**328**	P			**P**	**15 06 50.5**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=114,slow=7.6,SNR=15								
ARCES	**ARCESS Array B**	**54.03**	**338**	P			**P**	**15 07 08.0**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=78,slow=8.8,SNR=12								
WRA	**Warramunga Arr**	**66.72**	**130**	P			**P**	**15 08 36.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=323,slow=6.7,SNR=9.7								
ASAR	**Alice Springs**	**69.02**	**133**	P			**P**	**15 08 50.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=316,slow=5.2,SNR=3.8								

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*NEIC **27** 15:09:03.7±1.9, 32°.660S±0°.010×71°.76W±0°.08, h24km±8km, mb4.2/3, ML3.9(GUC), Error ellipse: s-maj=9.7km s-min=1.4km az=91.0*
*GUC **27** 15:09:03.8±0.8, 32°.715×71°.76W, h22km±3km, ML3.9*
ISC 27 15:09:03.8±1.0, 32°.69S±0°.04×71°.81W±0°.06, h22km±5km, n41, σ0°.91/57, 1C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.36**	**158**	*eP*			**Pb**	**15 09 11.7**	**0.0**
VA01				*i S*			**Sb**	**15 09 17.0**	**0.0**
VA01				IAML				15 09 17.9	
	comp=N,36μm,0.1s								
VA01	**Torpederas**	**0.36**	**158**				**Pb**	**15 09 11.6**	**-0.1**
VA01							**Sb**	**15 09 17.0**	**0.0**
VA06	**Catapilco**	**0.45**	**74**	⇓*iP*			**Pb**	**15 09 12.9**	**-0.2**
VA06				*i S*			**Sb**	**15 09 19.7**	**+0.3**
VA06				IAML				15 09 20.1	
	comp=N,22μm,0.3s								
ROCH	**El Roble**	**0.73**	**113**	⇓*iP*			**Pn**	**15 09 17.9**	**-1.2**
ROCH				*i S*			**Sn**	**15 09 28.4**	**-1.4**
ROCH				IAML				15 09 29.6	
	comp=N,7μm,0.5s								
MT02	**Curacav**	**0.81**	**135**	⇓*iP*			**Pb**	**15 09 18.7**	**-0.5**
MT02				*i S*			**Sn**	**15 09 29.6**	**-1.6**
MT02	**Curacav**	**0.81**	**135**	Pn			**Pb**	**15 09 18.7**	**-0.5**
MT02				Sn			**Sn**	**15 09 29.4**	**-1.9**
VA05	**Santo Domingo**	**0.98**	**170**	*eP*			**Pb**	**15 09 21.7**	**-0.5**
VA05	**Santo Domingo**	**0.98**	**170**	Pn			**Pb**	**15 09 21.5**	**-0.7**
PEL	**Peldehue**	**1.05**	**116**	*eP*			**Pn**	**15 09 22.8**	**-0.5**
PEL				*i S*			**Sn**	**15 09 37.4**	**0.0**
PEL				IAML				15 09 41.6	
	comp=E,9μm,0.2s								
PEL	**Peldehue**	**1.05**	**116**	Pn			**Pn**	**15 09 22.9**	**-0.4**
PEL				Sn			**Sn**	**15 09 37.6**	**+0.2**
VA03	**San Esteban**	**1.07**	**95**	⇓*iP*			**Pn**	**15 09 22.8**	**-0.8**
VA03				*i S*			**Sn**	**15 09 37.3**	**-0.5**
VA03				IAML				15 09 37.9	
	comp=E,7μm,0.1s								
VA03	**San Esteban**	**1.07**	**95**	Pn			**Pn**	**15 09 22.5**	**-1.1**
MT05	**Renca**	**1.15**	**128**	⇓*iP*			**Pb**	**15 09 24.5**	**-0.5**
MT05				*i S*			**Sn**	**15 09 40.2**	**+0.5**
MT05				IAML				15 09 45.7	
	comp=E,6μm,0.2s								
MT05	**Renca**	**1.15**	**128**	Pn			**Pb**	**15 09 24.2**	**-0.8**
MT01	**Popeta**	**1.27**	**158**	*i P*			**Pn**	**15 09 25.9**	**-0.4**
MT01				*eS*			**Sb**	**15 09 43.4**	**+0.5**
MT01	**Popeta**	**1.27**	**158**	Pn			**Pn**	**15 09 25.7**	**-0.5**
MT09	**Talagante**	**1.29**	**148**	⇓*iP*			**Pb**	**15 09 26.6**	**-0.9**
MT09				*i S*			**Sb**	**15 09 43.8**	**+0.1**
MT09				IAML				15 09 52.4	
	comp=N,2μm,0.5s								
MT09	**Talagante**	**1.29**	**148**	Pn			**Pn**	**15 09 26.2**	**-0.5**
BO04	**La Punta**	**1.65**	**143**	*eP*			**Pb**	**15 09 32.8**	**-0.7**
BO04				*eS*			**Sb**	**15 09 54.3**	**+0.4**
BO04				IAML				15 09 59.1	
	comp=E,2μm,0.4s								
LMEL	**Las Melosas**	**1.78**	**131**	*eP*			**Pb**	**15

3.9492, Plg15.0000°, Azm220.0000°; N -0.0413, Plg75.0000°, Azm36.0000°; P -3.9078, Plg1.0000°, Azm130.0000°;

ISC 27 15:11:17.9±0.7,0.88N±0.05×28.11W±0.05,h12km±4km, h12km:pP-P,n674,σ2.12/600,mb5.2/181,MS5.2/174, 45C-25D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.24**	**229**	P		**Pn**	**15 11 41.6**	**-3.2**
RCBR	**Riachuelo**	**10.24**	**229**	Pn		**Pn**	**15 13 41.6**	**-3.2**
NBCL	**Cascavel-CE**	**11.36**	**243**	*e*P		**Pn**	**15 13 56.7**	**-3.5**
NBRF	**Rio Formoso -**	**11.79**	**216**	*e*P		**Pn**	**15 14 03.5**	**-2.6**
NBPB	**Pedra_Branca-C**	**13.11**	**241**	*e*P		**Pn**	**15 14 21.1**	**-3.0**
NBAN	**Anadia - AL**	**13.26**	**218**	*e*P		**Pn**	**15 14 23.9**	**-2.2**
NBMA	**Muriti-CE**	**13.42**	**232**	*e*P		**Pn**	**15 14 25.4**	**-2.9**
NBPS	**Pedro II - PI**	**14.31**	**248**	*e*P		**Pn**	**15 14 38.6**	**-2.0**
SACV	**Santiago Islan**	**14.69**	**17**	Pn		**Pn**	**15 14 41.9**	**-3.8**
NBLA	**Lagarto - SE**	**15.22**	**219**	*e*P		**Pn**	**15 14 51.7**	**-1.2**
H10N3	**ASCENSION HYDR**	**16.10**	**123**	Pn		**Pn**	**15 15 05.1**	**+1.1**
	baz=238,slow=20,SNR=48							
H10N3				T		T	15 31 25.6	
	baz=302,slow=75,SNR=2898							
H10N2	**ASCENSION HYDR**	**16.11**	**123**	Pn		**Pn**	**15 15 05.5**	**+1.3**
	baz=238,slow=20,SNR=30							
H10N2				T		T	15 31 30.2	
	baz=302,slow=75,SNR=1317							
H10N1	**ASCENSION HYDR**	**16.12**	**123**	Pn		**P**	**15 15 07.1**	**-0.5**
	baz=238,slow=20,SNR=50							
H10N1				T		T	15 31 31.5	
	baz=302,slow=75,SNR=4291							
ASCN	**Ascension**	**16.27**	**123**	Pn		**Pn**	**15 15 06.5**	**0.0**
ROSB	**Rosrio**	**16.44**	**257**	*e*P		**Pn**	**15 15 08.5**	**-0.2**
H10S3	**ASCENSION HYDR**	**16.58**	**126**	T		T	15 31 58.5	
	baz=276,slow=74,SNR=19							
H10S2	**ASCENSION HYDR**	**16.60**	**126**	T		T	15 31 58.5	
	baz=304,slow=74,SNR=5.6							
NBPN	**Ponto Novo - B**	**16.74**	**226**	*e*P		**Pn**	**15 15 12.3**	**-0.2**
MBO	**M'Bour**	**17.38**	**39**	Pn		**Pn**	**15 15 16.5**	**-3.9**
GDU01	**Guandu, BA**	**18.43**	**218**	*e*P		**Pn**	**15 15 33.4**	**0.0**
NBIT	**Itapeh - BA**	**19.29**	**215**	*e*P		**Pn**	**15 15 43.8**	**-0.1**
CMC01	**Camacan, BA**	**19.69**	**214**	*e*P		**Pn**	**15 15 48.3**	**-0.3**
TMAB	**Tom-Au,PA,Br**	**20.24**	**261**	*e*P		Pn	15 15 56.3	+1.2
GUA01	**Guaratinga, BA**	**20.84**	**213**	*e*P		**P**	**15 16 00.8**	**+1.1**
SDBA	**SAO DESIDERIO**	**21.26**	**231**	*e*P		**P**	**15 16 04.6**	**+0.2**
SMTB	**Santa Maria do**	**21.68**	**243**	*e*P		**P**	**15 16 08.5**	**-0.4**
PRPB	**Parauapebas**	**22.77**	**252**	*e*P		**P**	**15 16 21.4**	**+0.9**
BSFB	**Barra de Sao F**	**23.24**	**212**	*e*P		**P**	**15 16 27.0**	**+1.7**
SJMB	**Sao Joao De Ma**	**23.32**	**213**	*e*P		**P**	**15 16 28.6**	**+2.5**
RIB01	**Linhares ES**	**23.41**	**210**	*e*P		**P**	**15 16 28.7**	**+1.7**
LIC	**Lamto**	**23.64**	**76**	*e*P		**P**	**15 16 29.4**	**+0.1**
	631nm,1.0s							
TIC	**Toumodi**	**23.73**	**75**	*e*P		**P**	**15 16 31.0**	**+0.7**
DBIC	**Dimbokro**	**23.90**	**76**	P		**P**	**15 16 29.7**	**-2.1**
	122nm,0.8s,baz=268,slow=10,SNR=78							
DBIC				S		**S**	**15 20 41.6**	**-6.5**
	5.4nm,0.9s,baz=250,slow=17,SNR=1.7							
DBIC				LR		LR	15 24 23.5	
	comp=Z,3μm,18.4s,baz=263,slow=33							
DBIC	**Dimbokro**	**23.90**	**76**	P		**P**	**15 16 28.5**	**-3.3**
KIC	**Kosan Boka**	**23.94**	**76**	*e*P		**P**	**15 16 30.7**	**-1.6**
	180nm,0.8s							
DIAM	**Diamantina, MG**	**24.44**	**218**	*e*P		**P**	**15 16 37.1**	**+0.1**
ALF01	**Guarapari-ES**	**24.68**	**209**	*e*P		**P**	**15 16 41.5**	**+2.6**
BDFB	**Brasilia**	**25.62**	**229**	P		**P**	**15 16 46.2**	**-1.4**
	11nm,0.8s,baz=65,slow=10,SNR=8.3							
BDFB				LR		LR	15 25 57.9	
	comp=Z,12μm,19.4s,baz=55,slow=34							
BDFB	**Brasilia**	**25.62**	**229**	P		**P**	**15 16 46.2**	**-1.4**
BDFB				pmax		pmax		
	comp=Z,42nm,1.3s							
BDFB	**Brasilia**	**25.62**	**229**	P		**P**	**15 16 46.2**	**-1.4**
CAM01	**Campos-RJ**	**26.16**	**210**	*e*P		**P**	**15 16 54.4**	**+2.1**
MALB	**Monte Alegre**	**26.29**	**264**	*e*P		**P**	**15 16 56.5**	**+2.9**
SNDB	**Serra Nova Dou**	**26.33**	**240**	*e*P		**P**	**15 16 55.8**	**+1.9**
BSCB	**Bom Sucesso**	**27.17**	**216**	*e*P		**P**	**15 17 03.6**	**+2.0**
IPMB	**Ipameri, GO**	**27.25**	**226**	*e*P		**P**	**15 17 04.2**	**+2.0**
NPGB	**Novo Progresso**	**28.30**	**253**	*e*P		**P**	**15 17 14.2**	**+2.5**
ARAG	**Araguaiana, MT**	**28.63**	**234**	*e*P		**P**	**15 17 16.1**	**+1.4**
PARB	**Paraibuna**	**29.49**	**214**	*e*P		**P**	**15 17 24.3**	**+2.1**
CLDB	**Colider**	**29.90**	**246**	*e*P		**P**	**15 17 27.5**	**+1.6**
ITRB	**Iturama**	**29.91**	**226**	*e*P		**P**	**15 17 28.7**	**+2.7**
VAO	**Valinhos**	**30.01**	**217**	*e*P		**P**	**15 17 29.2**	**+2.4**
PDRB	**Porto dos Gac**	**31.02**	**246**	*e*P		**P**	**15 17 37.8**	**+2.0**
PET01	**Itanhaem-SP**	**31.17**	**215**	*e*P		**P**	**15 17 39.5**	**+2.5**
PCMB	**Pacaembu**	**31.79**	**224**	*e*P		**P**	**15 17 44.9**	**+2.4**
PTGA	**Pitinga**	**31.89**	**267**	LR		LR	15 30 07.0	
	comp=Z,1μm,19.6s,baz=78,slow=35							
TORD	**Torodi Ar. Bea**	**31.94**	**66**	P		**P**	**15 17 41.6**	**-2.3**
	comp=Z,91nm,0.9s,baz=255,slow=9.5,SNR=126							
TORD	**Torodi Ar. Bea**	**31.94**	**66**	P		**P**	**15 17 41.4**	**-2.5**
TORD				IAmb		IAmb	15 17 44.7	
	comp=Z,61nm,0.9s							
PP1B	**Ponte de Pedra**	**32.13**	**234**	*e*P		**P**	**15 17 48.2**	**+2.7**
BOAV	**Boa Vista**	**32.43**	**273**	*e*P		**P**	**15 17 51.2**	**+2.9**
BOAV	**Boa Vista**	**32.43**	**273**	P		**P**	**15 17 46.4**	**-1.8**
MACA	**Manacapuru-AM**	**32.80**	**263**	*e*P		**P**	**15 17 54.5**	**+3.0**
TIJ01	**Guaruva-PR**	**32.97**	**216**	*e*P		**P**	**15 17 53.8**	**+0.9**
PMOZ	**Porto Moniz, M**	**33.39**	**17**	*e*LR		LR	15 26 34.9	
	comp=Z,3μm,20.0s							
PTGB	**Pitanga**	**34.44**	**221**	*e*P		**P**	**15 18 07.7**	**+2.0**
VILB	**Vilhena**	**34.67**	**246**	*e*P		**P**	**15 18 10.0**	**+2.2**
PTLB	**Pontes e Lacer**	**34.69**	**241**	*e*P		**P**	**15 18 09.3**	**+1.5**
PTLB	**Pontes e Lacer**	**34.69**	**241**	P		**P**	**15 18 06.8**	**-1.0**
TTIG	**Tnine Tigouga,**	**34.92**	**30**	P		**P**	**15 18 12.0**	**+2.2**
TER01	**Tubaro-SC**	**35.51**	**213**	*e*P		**P**	**15 18 17.7**	**+2.9**
OUK	**Oukaimeden**	**35.74**	**31**	P		**P**	**15 18 19.0**	**+1.9**
ZGR	**Zagora**	**36.09**	**34**	P		**P**	**15 18 21.0**	**+1.1**
ITAB	**Concordia**	**36.27**	**218**	*e*P		**P**	**15 18 24.5**	**+3.2**
ITAB	**Concordia**	**36.27**	**218**	P		**P**	**15 18 21.2**	**-0.1**
ITAB				IAmb		IAmb	15 18 26.1	
	comp=Z,39nm,1.2s							
SIV	**San Ignacio**	**36.61**	**241**	P		**P**	**15 18 25.3**	**+0.8**
	comp=Z,8.7nm,0.8s,baz=84,slow=10,SNR=22							
SIV				PcP		**PcP**	**15 20 51.3**	**+3.6**
	comp=Z,0.9nm,0.2s,baz=114,slow=0.9,SNR=1.8							
SIV				LR		LR	15 32 32.9	
	comp=Z,8μm,18.6s,baz=80,slow=35							
TZRR	**Tazzarine**	**36.63**	**34**	P		**P**	**15 18 26.0**	**+1.5**
ZHG	**ZHG**	**38.15**	**30**	P		**P**	**15 18 39.0**	**+1.6**
MDT	**Midelt**	**38.71**	**32**	P		**P**	**15 18 41.0**	**-1.1**
	comp=Z,14nm,0.8s,baz=278,slow=5.2,SNR=16							
MDT				LR		LR	15 34 01.7	
	comp=Z,4μm,18.3s,baz=244,slow=36							
MDT	**Midelt**	**38.71**	**32**	P		**P**	**15 18 44.1**	**+2.1**
CPUP	**Villa Florida**	**39.06**	**224**	P		**P**	**15 18 46.6**	**+1.6**
	comp=Z,26nm,1.1s,baz=54,slow=7.9,SNR=14							
CPUP				LR		LR	15 34 35.7	
	comp=Z,12μm,19.0s,baz=54,slow=36							
CPUP	**Villa Florida**	**39.06**	**224**	*e*P		**P**	**15 18 47.6**	**+2.6**
CPUP	**Villa Florida**	**39.06**	**224**	P		**P**	**15 18 44.8**	**-0.2**
LCRM	**LCR**	**39.25**	**31**	P		**P**	**15 18 49.0**	**+2.3**
CPSB	**Cacapava Do Su**	**39.37**	**216**	*e*P		**P**	**15 18 50.8**	**+3.3**
ETMB	**Extrema**	**39.39**	**253**	*e*P		**P**	**15 18 49.9**	**+2.0**
ETMB	**Extrema**	**39.39**	**253**	P		**P**	**15 18 45.6**	**-2.2**
FIGM	**Figuig**	**40.10**	**37**	P		**P**	**15 18 55.0**	**+1.3**
MORF	**Marmelete**	**40.45**	**24**	*e*P		**P**	**15 18 56.9**	**+0.4**
MORF				IAmb		IAmb	15 19 01.1	
	comp=Z,40nm,1.0s							
MORF				*e*S		**S**	**15 25 06.4**	**+1.4**
MORF	**Marmelete**	**40.45**	**24**	*e*P		**P**	**15 18 57.6**	**+1.1**
	comp=Z,53nm,1.3s							
MORF	**Marmelete**	**40.45**	**24**	*e*P		**P**	**15 18 56.9**	**+0.4**
MORF				*e*S		**S**	**15 25 06.4**	**+1.4**
PLTB	**Pedras Altas**	**40.47**	**214**	*e*P		**P**	**15 19 00.2**	**+3.6**
PLTB	**Pedras Altas**	**40.47**	**214**	P		**P**	**15 18 57.8**	**+1.2**
PLTB				IAmb		IAmb	15 19 01.7	
	comp=Z,54nm,1.1s							
H09N1	**TRISTAN DA CUN**	**40.50**	**160**	T		T	16 02 09.1	
	SNR=31							
H09W1	**TRISTAN DA CUN**	**40.52**	**160**	T		T	16 02 14.4	
	SNR=17							
BAUV	**El Baul**	**40.54**	**283**	P		**P**	**15 18 56.7**	**-0.8**
PTEO	**Sao Teotonio**	**40.63**	**24**	*e*P		**P**	**15 18 59.4**	**+1.6**
	comp=Z,78nm,1.4s							
ITQB	**Itaqui**	**40.79**	**219**	*e*P		**P**	**15 19 02.1**	**+2.9**
ITQB	**Itaqui**	**40.79**	**219**	P		**P**	**15 18 58.8**	**-0.5**
ITQB				IAmb		IAmb	15 19 03.2	
	comp=Z,74nm,1.1s							
PVAQ	**Vaqueiros**	**40.92**	**25**	*e*P		**P**	**15 19 01.8**	**+1.5**
	comp=Z,52nm,1.4s							
PVAQ				*e*S		**S**	**15 25 20.2**	**+8.3**
PVAQ				*e*LR		LR	15 30 09.0	
	comp=Z,2μm,18.0s							
PVAQ	**Vaqueiros**	**40.92**	**25**	P		**P**	**15 19 00.1**	**-0.2**
JBK	**JBK**	**40.97**	**33**	P		**P**	**15 19 03.0**	**+2.1**
PCVE	**Castro Verde**	**40.98**	**25**	*e*P		**P**	**15 19 01.4**	**+0.6**
	comp=Z,63nm,1.5s							
MESJ	**Messejana**	**41.09**	**24**	*e*P		**P**	**15 19 02.3**	**+0.7**
MESJ				IAmb		IAmb	15 19 10.9	
	comp=Z,22nm,1.1s							
MESJ	**Messejana**	**41.09**	**24**	*e*P		**P**	**15 19 02.1**	**+0.5**
	comp=Z,30nm,2.2s							
MESJ	**Messejana**	**41.09**	**24**	*e*P		**P**	**15 19 02.3**	**+0.7**
PNCL	**Nicolau / Gran**	**41.19**	**24**	*e*P		**P**	**15 19 03.3**	**+0.8**
	comp=Z,34nm,1.6s							
PBEJ	**Beja**	**41.39**	**24**	*e*P		**P**	**15 19 05.5**	**+1.4**
	comp=Z,26nm,1.5s							
CELP	**Cerrillos**	**41.46**	**297**	P		**P**	**15 19 03.3**	**-1.7**
EVO	**Evora**	**41.76**	**24**	*e*P		**P**	**15 19 07.7**	**+0.5**
	comp=Z,36nm,1.2s							
TBTG	**Tabatinga, AM**	**42.07**	**263**	*e*P		**P**	**15 19 14.1**	**+4.0**
PMTG	**Montargil**	**42.14**	**23**	*e*P		**P**	**15 19 11.9**	**+1.7**
	comp=Z,44nm,1.1s							
PESTR	**Estremoz**	**42.22**	**24**	*e*P		**P**	**15 19 12.7**	**+1.8**
	comp=Z,46nm,1.7s							
PMRV	**Marv??o**	**42.78**	**24**	*e*P		**P**	**15 19 17.2**	**+1.7**
	comp=Z,68nm,1.3s							
PMRV	**Marv??o**	**42.78**	**24**	*e*LR		LR	15 31 04.3	
	comp=Z,2μm,18.0s							
LPAZ	**La Paz**	**43.02**	**245**	P		**P**	**15 19 20.6**	**+2.1**
	comp=Z,19nm,1.0s,baz=77,slow=4.3,SNR=26							
LPAZ				LR		LR	15 37 02.3	
	comp=Z,4μm,18.4s,baz=67,slow=36							
LPAZ	**La Paz**	**43.02**	**245**	*e*P		**P**	**15 19 21.2**	**+2.7**
LPAZ	**La Paz**	**43.02**	**245**	P		**P**	**15 19 17.4**	**-1.0**
COI	**Coimbra**	**43.05**	**22**	IAms_20		IAms_20	15 32 53.7	
	comp=Z,3μm,20.0s							
SDV	**Santo Domingo**	**43.07**	**282**	P		**P**	**15 19 20.0**	**+1.6**
	comp=Z,5.1nm,0.8s,baz=114,slow=5.0,SNR=5.0							
SDV				LR		LR	15 38 20.2	
	comp=Z,664nm,18.6s,baz=102,slow=38							
SDV	**Santo Domingo**	**43.07**	**282**	*e*P		**P**	**15 19 23.1**	**+4.7**
PCBR	**Castelo Branco**	**43.10**	**23**	*e*P		**P**	**15 19 19.4**	**+1.4**
	comp=Z,38nm,1.7s							
MTE	**Manteigas**	**43.55**	**23**	*e*P		**P**	**15 19 23.1**	**+1.4**
MTE				*e*S		**S**	**15 25 56.0**	**+5.3**
MTE				*e*LQ		LQ	15 29 08.7	
MTE				*e*LR		LR	15 31 19.5	
	comp=Z,2μm,18.0s							
PVIS	**Viseu**	**43.69**	**22**	*e*P		**P**	**15 19 24.0**	**+1.2**
PAB	**San Pablo**	**44.17**	**27**	P		**P**	**15 19 24.8**	**-2.0**
PAB				pmax		pmax		
	comp=Z,21nm,1.2s							
PAB	**San Pablo**	**44.17**	**27**	P		**P**	**15 19 24.8**	**-2.0**
PVRL	**Vila Real**	**44.24**	**22**	*e*P		**P**	**15 19 29.4**	**+2.1**
POLO	**Lamas de Olo**	**44.30**	**22**	*e*P		**P**	**15 19 29.0**	**+1.2**
MVO	**Moncorvo**	**44.41**	**23**	*e*P		**P**	**15 19 30.2**	**+1.6**
MVO				*e*S		**S**	**15 26 10.3**	**+7.1**
MVO				*e*LQ		LQ	15 29 29.4	
MVO				*e*LR		LR	15 31 47.5	
	comp=Z,2μm,20.0s							
ESDC	**Sonseca Array**	**44.45**	**27**	P		**P**	**15 19 27.4**	**-1.6**
	comp=Z,15nm,0.9s,baz=217,slow=7.5,SNR=34							
ESDC				LR		LR	15 35 36.0	
	comp=Z,1μm,21.0s,baz=227,slow=33							
ESDC	**Sonseca Array**	**44.45**	**27**	P		**P**	**15 19 27.3**	**-1.7**
ESBB	**Sonseca Array**	**44.45**	**27**	P		**P**	**15 19 27.0**	**-2.0**
PGAV	**Gavieira, Arco**	**44.64**	**21**	*e*S		**S**	**15 26 12.1**	**+5.5**
PGAV				*e*LQ		LQ	15 29 40.8	
PGAV				*e*LR		LR	15 31 59.6	
	comp=Z,2μm,20.0s							
PB16	**IPOC Station P**	**44.95**	**243**	P		**P**	**15 19 33.3**	**-0.6**
PBRG	**Braganca**	**45.07**	**23**	*e*P		**P**	**15 19 35.4**	**+1.5**
GO01	**Chusmiza**	**45.16**	**241**	P		**P**	**15 19 34.3**	**-1.1**
LPA	**La Plata**	**45.23**	**215**	*e*P		**P**	**15 19 32.2**	**-3.0**
LPA				sP		**pP**	**15 19 37.1**	**-1.0**
LPA				PCP		**PcP**	**15 21 11.2**	**-4.0**
LPA				PP		**PP**	**15 21 20.1**	**-1.0**
LPA				pPP			15 21 33.6	
LPA				PPP		PPP	15 22 03.3	
LPA				S		**S**	**15 26 20.4**	**+5.3**
LPA				PS			15 26 26.5	
LPA				PKIKP		**PKiKP**	**15 28 12.1**	**-1.5**
LPA				SCS		**ScS**	**15 29 29.2**	**-3.1**
LPA				SS		**SnSn**	**15 29 53.4**	**-11**
LPA				SSS		SSS	15 30 27.9	
LPA				SKIKP			15 31 44.9	
LPA				PKIKS			15 31 50.7	
LPA				SKIKS			15 35 17.2	
CZSB	**Cruzeiro do Su**	**45.28**	**258**	*e*P		**P**	**15 19 37.3**	**+1.4**
CZSB	**Cruzeiro do Su**	**45.28**	**258**	P		**P**	**15 19 35.2**	**-0.8**
CZSB				IAmb		IAmb	15 19 41.7	
	comp=Z,53nm,1.4s							
PB11	**IPOC Station P**	**45.60**	**241**	IAms_20		IAms_20	15 38 24.5	
	comp=Z,3μm,20.0s							
LVC	**Limon Verde**	**46.08**	**237**	P		**P**	**15 19 43.0**	**+0.4**
	comp=Z,7.8nm,0.9s,baz=73,slow=7.7,SNR=5.0							
LVC				LR		LR	15 40 20.4	
	comp=Z,2μm,18.3s,baz=62,slow=38							
LVC	**Limon Verde**	**46.08**	**237**	P		**P**	**15 19 43.0**	**+0.4**
LVC	**Limon Verde**	**46.08**	**237**	*e*P		**P**	**15 19 43.9**	**+1.4**
LVC	**Limon Verde**	**46.08**	**237**	P		**P**	**15 19 41.0**	**-1.6**
ROSC	**El Rosal**	**46.30**	**276**	P		**P**	**15 19 46.7**	**+2.2**
	comp=Z,7.4nm,0.5s,baz=116,slow=8.1,SNR=4.2							
ROSC				LR		LR	15 37 43.4	
	comp=Z,4μm,19.6s,baz=114,slow=34							
ROSC	**El Rosal**	**46.30**	**276**	P		**P**	**15 19 40.9**	**-3.6**
ROSC				pmax		pmax		
	comp=Z,25nm,0.9s							
ROSC	**El Rosal**	**46.30**	**276**	P		**P**	**15 19 40.9**	**-3.6**
ROSC				IAmb		IAmb	15 20 07.7	
	comp=Z,25nm,0.9s							
PB07	**IPOC Station P**	**46.55**	**239**	P		**P**	**15 19 44.2**	**-1.8**
PB07				IAmb		IAmb	15 19 57.6	
	comp=Z,27nm,1.0s							
PB06	**IPOC Station P**	**46.68**	**237**	P		**P**	**15 19 47.6**	**+0.6**
PB06				IAmb		IAmb	15 20 15.9	
	comp=Z,39nm,1.2s							
PB15	**IPOC Station P**	**46.80**	**237**	P		**P**	**15 19 46.1**	**-2.0**
ZARC	**Zaragoza, Cauc**	**47.05**	**279**	P		**P**	**15 19 49.3**	**-0.6**
TSUM	**Tsumeb**	**49.08**	**116**	P		**P**	**15 20 07.1**	**+1.4**
	comp=Z,9.3nm,0.8s,baz=289,slow=9.1,SNR=3.8							
TSUM				LR		LR	15 35 57.0	
	comp=Z,795nm,21.7s,baz=297,slow=30							
TSUM	**Tsumeb**	**49.08**	**116**	P		**P**	**15 20 03.9**	**-1.8**
KEST	**Kesra**	**49.11**	**41**	P		**P**	**15 20 04.9**	**-0.7**
	comp=Z,23nm,0.8s,baz=254,slow=2.7,SNR=14							
KEST				LR		LR	15 40 34.4	
	comp=Z,3μm,21.8s,baz=208,slow=36							
KEST	**Kesra**	**49.11**	**41**	P		**P**	**15 20 04.1**	**-1.5**
KEST				IAmb		IAmb	15 20 18.7	
	comp=Z,37nm,0.8s							
NNA	**Nana**	**50.04**	**254**	LR		LR	15 41 15.6	
	comp=Z,2μm,19.1s,baz=66,slow=36							
OTAV	**Otavalo**	**50.34**	**270**	*e*P		**P**	**15 20 20.2**	**+4.5**
LCO	**Las Campanas**	**50.40**	**230**	IAms_20		IAms_20	15 41 57.1	
	comp=Z,2μm,20.0s							
ATAH	**Atahualpa**	**50.79**	**260**	LR		LR	15 41 53.8	
	comp=Z,2μm,18.4s,baz=81,slow=36							
VSL	**Villasalto**	**51.42**	**37**	P		**P**	**15 20 21.1**	**-1.8**
VA03	**San Esteban**	**52.16**	**226**	P		**P**	**15 20 26.1**	**-2.6**
PEL	**Peldehue**	**52.45**	**226**	P		**P**	**15 20 30.5**	**-0.3**
PEL				pmax		pmax		
	comp=Z,14nm,0.9s							
PEL				MLR		MLR		
	comp=Z,6μm,18.0s							
PEL	**Peldehue**	**52.45**	**226**	P		**P**	**15 20 30.4**	**-0.3**
CLTB	**Caltabellotta**	**52.71**	**41**	P		**P**	**15 20 31.6**	**-1.1**
CLTB				IAmb		IAmb	15 20 50.2	
	comp=Z,56nm,1.1s							
SSB	**Saint Sauveur**	**52.76**	**29**	IAMs_20		IAMs_20	15 40 34.1	
	comp=Z,2μm,19.0s							
MT02	**Curacav**	**52.83**	**226**	P		**P**	**15 20 31.7**	**-1.9**
MT09	**Talagante**	**52.99**	**225**	P		**P**	**15 20 32.9**	**-2.0**
MT09				IAmb		IAmb	15 20 43.1	
	comp=Z,28nm,1.1s							
RAFF	**Raffo Rosso**	**53.28**	**42**	P		**P**	**15 20 36.0**	**-0.9**
RAFF				IAmb		IAmb	15 20 47.6	
	comp=Z,32nm,1.0s							
BO01	**Tunca**	**53.39**	**225**	P		**P**	**15 20 35.8**	**-1.9**
BO01				IAmb		IAmb	15 20 46.0	
	comp=Z,26nm,1.0s							
BO02	**Sierra Bellavi**	**53.39**	**224**	P		**P**	**15 20 37.0**	**-0.7**
BO02				IAmb		IAmb	15 20 46.4	
	comp=Z,22nm,0.9s							
VAE	**Valguarnera**	**53.45**	**42**	LR		LR	15 44 05.3	
	comp=Z,3μm,18.2s,baz=189,slow=37							
BNI	**Bardonecchia**	**53.64**	**30**	P		**P**	**15 20 39.3**	**-0.2**
BNI				pmax		pmax		
	comp=Z,35nm,1.2s							
BNI	**Bardonecchia**	**53.64**	**30**	P		**P**	**15 20 39.3**	**-0.2**
BNI				IAmb		IAmb	15 20 51.5	
	comp=Z,35nm,1.2s							
GO05	**Huala**	**54.30**	**224**	P		**P**	**15 20 45.7**	**+1.4**
GO05				IAmb		IAmb	15 20 52.9	
	comp=Z,45nm,1.1s							
ML02	**Panimavida**	**54.35**	**223**	P		**P**	**15 20 45.7**	**+1.1**
CASP	**Castiglione de**	**54.37**	**35**	P		**P**	**15 20 44.0**	**-0.7**
CASP				IAmb		IAmb	15 20 54.8	
	comp=Z,48nm,1.2s							
SENIN	**Lac Senin/Sane**	**54.88**	**29**	P		**P**	**15 20 46.5**	**-2.1**
SENIN				IAmb		IAmb	15 20 59.1	
	comp=Z,30nm,1.2s							
OSSC	**Osservatorio P**	**55.05**	**34**	P		**P**	**15 20 47.9**	**-1.7**
OSSC				IAmb		IAmb	15 21 03.3	
	comp=Z,19nm,0.9s							
AQU	**L'Aquila**	**55.58**	**37**	P		**P**	**15 20 53.4**	**-0.1**
AQU				pmax		pmax		
	comp=Z,66nm,1.0s							
AQU	**L'Aquila**	**55.58**	**37**	P		**P**	**15 20 53.4**	**-0.1**
AQU				IAMs_20		IAMs_20	15 42 10.5	
	comp=Z,2μm,22.0s							
MURB	**Monte Urbino**	**55.62**	**35**	P		**P**	**15 20 52.1**	**-1.6**
MURB				IAmb		IAmb	15 21 12.1	
	comp=Z,78nm,1.4s							
NRCA	**Norcia**	**55.70**	**36**	P		**P**	**15 20 53.0**	**-1.4**
NRCA				IAmb		IAmb	15 21 04.1	
	comp=Z,33nm,1.0s							
TIP	**Timpagrande**	**55.92**	**41**	⇓P		**P**	**15 20 56.0**	**-0.1**
TIP	**Timpagrande**	**55.92**	**41**	IAMs_20		IAMs_20	15 44 31.6	
	comp=Z,2μm,22.0s							
TUE	**Stuetta**	**55.97**	**30**	IAMs_20		IAMs_20	15 42 58.3	
	comp=Z,2μm,20.0s							
DOU	**Dourbes**	**56.39**	**25**	P		**P**	**15 20 60.0**	**+0.9**
DAVOX	**Davos/Dischmat**	**56.45**	**31**	LR		LR	15 43 36.4	
	comp=Z,1μm,19.1s,baz=240,slow=34							
TEOL	**Teolo**	**56.46**	**33**	P		**P**	**15 20 57.6**	**-2.1**
TEOL				IAmb		IAmb	15 21 09.5	
	comp=Z,42nm,0.9s							
PLCA	**Paso Flores**	**56.58**	**218**	P		**P**	**15 21 02.4**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=58,slow=5.3,SNR=4.1							
PLCA				LR		LR	15 45 32.7	
	comp=Z,3μm,18.3s,baz=58,slow=36							
PLCA	**Paso Flores**	**56.58**	**218**	*e*P		**P**	**15 21 04.0**	**+3.3**
PLCA	**Paso Flores**	**56.58**	**218**	P		**P**	**15 21 01.9**	**+1.3**
WLF	**Walferdange**	**56.73**	**26**	*e*P		**P**	**15 21 01.8**	**+0.2**
	comp=Z,36nm,1.3s,baz=226,slow=7.0							
WLF				*e*X			15 21 10.7	
BFO	**Black Forest**	**56.76**	**28**	*e*P		**P**	**15 21 01.9**	**+0.1**
	comp=Z,48nm,1.7s,baz=226,slow=7.0							
BFO				*e*X			15 21 11.2	
SUR	**Sutherland**

GRF *eL* L 15 44 04.5
comp=Z,1μm,20.7s
SOKA Soboth 59.11 33 *i* P **P 15 21 19.6 +1.2**
comp=Z,15nm,1.1s,SNR=9.8
ANX Ano Chora 59.15 44 P **P 15 21 17.8 -1.1**
PDG Podgorica 59.23 39 ⇑P **P 15 21 20.2 +1.1**
PDG Podgorica 59.23 39 P **P 15 21 19.4 +0.2**
PDG IAMs_20 IAMs_20 15 47 29.2
comp=Z,2μm,21.0s
UBBA Unterbreizbach 59.28 27 *e*P **P 15 21 20.0 +0.7**
comp=Z,42nm,1.8s,baz=226,slow=7.0
UBBA *e*X 15 21 29.0
MATP Matopo 59.29 114 LR LR 15 42 42.9
comp=Z,650nm,19.2s,baz=281,slow=32
KBN Korca 59.32 42 P **P 15 21 19.4 -0.6**
KBN pmax pmax
comp=Z,60nm,1.2s
KBN Korca 59.32 42 P **P 15 21 19.4 -0.6**
IBBN Ibbenburen 59.37 25 *e*P **P 15 21 20.2 +0.3**
comp=Z,48nm,1.2s,baz=226,slow=7.0
IBBN *e*X 15 21 29.5
MOA Molln 59.42 32 *e*P **P 15 21 20.7 +0.3**
comp=Z,12nm,1.1s
MAKR Makrakomi, Fth 59.49 44 P **P 15 21 20.2 -0.9**
WET Wettzell 59.53 30 *e*P **P 15 21 21.3 +0.1**
comp=Z,30nm,1.3s,baz=226,slow=7.0
WET *e*X 15 21 30.1
ROTZ Rotzenmuhle 59.60 29 *e*P **P 15 21 21.7 +0.1**
comp=Z,7.9nm,1.2s,baz=226,slow=7.0
ROTZ *e*X 15 21 30.6
PHP Peshkopia 59.61 41 P **P 15 21 24.3 +2.4**
AGG Agios Georgios 59.63 44 P **P 15 21 21.8 -0.3**
AGG Agios Georgios 59.63 44 P **P 15 21 21.5 -0.6**
AGG pmax pmax
comp=Z,68nm,1.3s
AGG Agios Georgios 59.63 44 P **P 15 21 21.5 -0.6**
MANZ Manzenberg 59.70 29 *e*P **P 15 21 22.4 0.0**
comp=Z,7.7nm,1.4s,baz=226,slow=7.0
MANZ *e*X 15 21 31.4
ARSA Arzberg 59.72 33 *e*P **P 15 21 23.2 +0.6**
comp=Z,9.9nm,1.1s
GEC2 GERESS Array S 59.75 31 *e*P **P 15 21 22.5 -0.3**
comp=Z,41nm,1.2s,baz=226,slow=7.0
GEC2 *e*X 15 21 31.7
GEC2 GERESS Array S 59.75 31 P **P 15 21 21.8 -1.1**
GEC2 IAmb IAmb 15 21 32.8
comp=Z,32nm,1.1s
GERES GERESS Array B 59.75 31 P **P 15 21 21.2 -1.6**
comp=Z,4.9nm,0.8s,baz=224,slow=5.6,SNR=26
GERES LR LR 15 45 54.9
comp=Z,880nm,20.2s,baz=242,slow=35
GERES GERESS Array B 59.75 31 P **P 15 21 20.8 -2.0**
GERES GERESS Array B 59.75 31 P **P 15 21 20.8 -2.0**
GTTG Gottingen 59.77 26 *e*P **P 15 21 23.6 +0.8**
comp=Z,57nm,1.1s,baz=226,slow=7.0
GTTG *e*X 15 21 32.6
FNA Florina 59.79 42 P **P 15 21 22.8 -0.4**
FNA Florina 59.79 42 P **P 15 21 22.0 -1.2**
FNA pmax pmax
comp=Z,60nm,1.0s
FNA Florina 59.79 42 P **P 15 21 22.0 -1.2**
LONY Lake Ozonia 59.84 323 IAMs_20 IAMs_20 15 41 29.7
comp=Z,2μm,21.0s
KHC Kasperske Hory 59.87 30 *e*P **P 15 21 24.5 +0.9**
KHC *e**PP **pwP 15 21 32.3 +1.5**
KHC *e*S **S 15 29 36.9 +1.7**
KHC MLR MLR
comp=Z,2μm,14.7s
KHC Kasperske Hory 59.87 30 *e*P **P 15 21 24.5 +0.9**
KHC *e*x x 15 21 32.3
KHC *e*S **S 15 29 36.9 +1.7**
KHC AMS AMS 15 46 40.0
comp=Z,2μm,14.7s
KHC Kasperske Hory 59.87 30 P **P 15 21 22.6 -1.0**
KHC IAmb IAmb 15 21 33.7
comp=Z,38nm,1.2s
TYRN Tyrnavos 59.87 43 P **P 15 21 22.3 -1.4**
MOX Moxa 59.91 28 *e*P **P 15 21 24.4 +0.7**
comp=Z,44nm,1.4s,baz=226,slow=7.0
MOX *e*X 15 21 33.3
MOX *e*L L 15 45 39.5
comp=Z,1μm,20.1s
IDI Anoyia 59.93 49 LR LR 15 48 49.4
comp=Z,2μm,19.9s,baz=253,slow=38
BEHE Becsehely 59.96 34 P **P 15 21 26.0 +1.9**
NKC Novy Kostel 60.03 29 AMS AMS 15 44 40.0
comp=Z,1μm,20.6s
WERN Wernitzgruen 60.03 29 *e*P **P 15 21 25.0 +0.4**
baz=226,slow=7.0
WERN *e*X 15 21 33.9
CKRC Cesky Krumlov 60.05 31 *e*P **P 15 21 25.4 +0.7**
CKRC *e*S **S 15 29 37.5 +0.1**
CKRC AMS AMS 15 43 10.0
comp=Z,1μm,19.8s
PLN Plauen 60.06 28 *e*P **P 15 21 25.1 +0.4**
comp=Z,39nm,1.3s,baz=226,slow=7.0
PLN *e*X 15 21 34.1
GUNZ Gunzen 60.06 29 *e*P **P 15 21 25.0 +0.2**
comp=Z,44nm,1.5s,baz=226,slow=7.0
GUNZ *e*X 15 21 34.2
BBLS Lazići 60.07 38 *e*P **P 15 21 26.5 +1.4**
WERD Werda 60.10 29 *e*P **P 15 21 25.4 +0.2**
comp=Z,32nm,1.3s,baz=226,slow=7.0
WERD *e*X 15 21 34.3
SJES Sjenica 60.11 39 *e*P **P 15 21 25.8 +0.4**
TANN Tannenbergstha 60.16 29 *e*P **P 15 21 25.8 +0.3**
comp=Z,8.6nm,0.9s,baz=226,slow=7.0
TANN *e*X 15 21 34.8
CLZ Clausthal 60.16 26 *e*P **P 15 21 26.0 +0.5**
comp=Z,22nm,1.2s,baz=226,slow=7.0
CLZ *e*X 15 21 34.9
O56A Blue Knob Stat 60.20 317 IAMs_20 IAMs_20 15 40 54.9
comp=Z,2μm,21.0s
LIT Litokhoron 60.23 43 P **P 15 21 26.3 +0.1**
LIT Litokhoron 60.23 43 P **P 15 21 25.4 -0.8**
LIT pmax pmax
comp=Z,32nm,0.7s
LIT Litokhoron 60.23 43 P **P 15 21 25.4 -0.8**
CONA Conrad Observa 60.31 33 *e*P **P 15 21 27.4 +0.7**
comp=Z,17nm,1.4s,SNR=7.0
RETH Rethem/Aller, 60.35 25 *e*P **P 15 21 27.6 +0.9**
comp=Z,40nm,1.1s,baz=226,slow=7.0
RETH *e*X 15 21 36.7
NEUB Neuenburg 60.37 28 *e*P **P 15 21 27.1 +0.3**
comp=Z,28nm,0.8s,baz=226,slow=7.0
NEUB *e*X 15 21 36.2
IVAS Ivanjica 60.38 39 *e*P **P 15 21 27.3 +0.1**
KOVH Kovagotottos 60.49 35 P **P 15 21 26.5 -1.3**
ASSE Asse, Remlinge 60.50 26 *e*P **P 15 21 28.5 +0.9**
comp=Z,141nm,3.2s,baz=226,slow=7.0
NRDL Niedersach Rie 60.50 26 *e*P **P 15 21 28.6 +1.0**
comp=Z,123nm,1.9s,baz=226,slow=7.0
NRDL *e*X 15 21 37.5
SOP Sopron 60.55 33 P **P 15 21 29.5 +1.3**
DIVS Divibare 60.55 38 P **P 15 21 28.4 0.0**
DIVS IAmb IAmb 15 21 39.0
comp=Z,33nm,1.1s
DIVS Divibare 60.55 38 *e*P **P 15 21 29.4 +1.0**
TRQ Mont Tremblant 60.70 325 P **P 15 21 28.3 -1.1**
TRQ IAmb IAmb 15 21 44.8
comp=Z,28nm,1.0s
MPLH Magyarpolny 60.79 34 P **P 15 21 30.4 +0.5**
MCWV Mont Chateau 60.81 316 IAMs_20 IAMs_20 15 41 23.8
comp=Z,2μm,19.0s
VAY Valandovo 60.84 42 *i* P **P 15 21 31.3 +1.0**
MORH Mrgy, Hungar 60.88 35 ⇑P **P 15 21 30.6 +0.1**
MORH Mrgy, Hungar 60.88 35 P **P 15 21 30.0 -0.4**
FLTG Flechtingen 60.89 26 *e*P **P 15 21 30.7 +0.4**
baz=226,slow=7.0
FLTG *e*X 15 21 39.7
GRUS Gruza 60.89 39 *e*P **P 15 21 30.9 +0.3**
PRU Pruhonice 60.90 30 *e*P **P 15 21 31.6 +1.1**
PRU *e**PP **pwP 15 21 40.4 +2.6**
PRU *e*S **S 15 29 53.9 +5.6**
PRU MLR MLR
comp=Z,2μm,18.4s
PRU Pruhonice 60.90 30 *e*P **P 15 21 31.6 +1.1**
PRU *e*x x 15 21 40.4
PRU *e*S **S 15 29 53.9 +5.6**
PRU AMS AMS 15 45 10.0
comp=Z,2μm,18.4s
FBE Freiberg 60.92 29 *e*P **P 15 21 31.1 +0.5**
comp=Z,70nm,1.3s,baz=226,slow=7.0
FBE *e*X 15 21 40.2

TREC Trest 60.95 31 AMS AMS 15 43 30.0
comp=Z,2μm,22.3s
FRGS Fruska Gora 61.00 37 ⇑P **P 15 21 32.3 +1.0**
FRGS Fruska Gora 61.00 37 *e*P **P 15 21 31.4 +0.1**
CLL Collm 61.01 28 *e*P **P 15 21 28.0 -3.2**
CLL *e* 15 21 32.0
CLL *e*S **S 15 29 48.0 -1.5**
CLL Collm 61.01 28 *i* P **P 15 21 31.6 +0.4**
comp=Z,31nm,1.6s
CLL *i* x x 15 21 40.9
comp=Z,77nm,2.1s
CLL *e*PP **PP 15 23 42.0 -3.7**
CLL *e*PPP PPP 15 25 06.0
CLL *e*S **S 15 29 48.0 -1.5**
comp=N,1μm,27.5s
CLL *e*S **S 15 29 48.0 -1.5**
comp=E,1μm,26.2s
CLL *e*S **S 15 29 48.0 -1.5**
comp=Z,600nm,22.8s
CLL *e*x x 15 32 48.0
CLL *e*SS **SS 15 33 42.0 -7.2**
CLL *e*SSS SSS 15 36 36.0
CLL LmH 15 44 00.0
comp=Z,800nm,21.6s
CLL Collm 61.01 28 *e*P **P 15 21 31.6 +0.4**
comp=Z,31nm,1.4s,baz=226,slow=7.0
CLL *e*X 15 21 40.6
BARS Barje 61.06 40 *e*P **P 15 21 32.3 +0.6**
GOGA Godfrey 61.06 308 IAMs_20 IAMs_20 15 41 42.0
comp=Z,2μm,20.0s
ZST Bratislava 61.14 33 *e*P **P 15 21 33.2 +1.0**
ZST *e* 15 21 41.5
ZST pmax pmax
comp=Z,137nm,1.2s
ZST Bratislava 61.14 33 *e*P **P 15 21 33.2 +1.0**
ZST *e* 15 21 41.5
BRG Berggiesshubel 61.17 29 *e*P **P 15 21 33.9 +1.6**
BRG Amp 15 21 37.1
comp=Z,102nm,2.2s
BRG *e*x x 15 21 41.7
BRG Amp 15 21 44.0
comp=Z,20nm,1.2s
BRG *e*x x 15 21 55.8
BRG Amp 15 21 56.9
comp=Z,25nm,1.4s
BRG Amp 15 47 37.0
comp=N,0.7nm,10.2s
BRG Amp 15 47 44.0
comp=Z,1.2nm,11.1s
BRG Amp 15 47 47.0
comp=E,0.9nm,10.2s
BRG Berggiesshubel 61.17 29 *e*P **P 15 21 33.9 +1.6**
BRG *e* 15 21 41.7
BRG pmax pmax
comp=Z,102nm,2.3s
BRG pmax pmax
comp=Z,20nm,1.2s
BRG pmax pmax
comp=Z,25nm,1.4s
BRG MLR MLR
comp=N,660nm,10.2s
BRG MLR MLR
comp=Z,1μm,11.1s
BRG MLR MLR
comp=E,870nm,10.2s
BRG Berggiesshubel 61.17 29 *e*P **P 15 21 32.6 +0.3**
comp=E,20nm,1.2s,baz=226,slow=7.0
BRG *e*X 15 21 41.7
WVNY West Valley, N 61.22 319 P **P 15 21 31.3 -1.6**
KRUC Moravsky 61.28 32 *e*P **P 15 21 32.8 -0.3**
BOSS Bosilegrad 61.33 41 *e*P **P 15 21 33.9 +0.3**
MODS Modra-Piesok 61.34 33 *e*P **P 15 21 36.0 +2.4**
MODS *e* 15 21 44.1
MODS pmax pmax
comp=Z,61nm,1.1s
MODS Modra-Piesok 61.34 33 *e*P **P 15 21 36.0 +2.4**
MODS *e* 15 21 44.1
BOVS Bovan 61.39 39 ⇑P **P 15 21 35.1 +1.2**
SVIS Svilajnac 61.39 38 *e*P **P 15 21 34.7 +0.7**
KKB Krupnik 61.44 42 P P 15 21 40.6 +6.3
SMOL Smolenice 61.51 33 *e*P **P 15 21 36.0 +1.3**
SMOL *e* 15 21 44.4
SMOL Smolenice 61.51 33 *e*P **P 15 21 36.0 +1.3**
SMOL *e* 15 21 44.4
VRAC Vranov 61.53 32 ⇑P **P 15 21 36.0 +1.1**
VRAC Vranov 61.53 32 LR LR 15 46 18.4
comp=Z,642nm,20.3s,baz=240,slow=34
VRAC Vranov 61.53 32 ⇑P **P 15 21 36.0 +1.1**
VRAC Vranov 61.53 32 *e*P **P 15 21 34.4 -0.4**
SRO Srobarova 61.59 34 *e*P **P 15 21 36.8 +1.6**
SRO *e* 15 21 45.7
SRO pmax pmax
comp=Z,34nm,0.9s
SRO Srobarova 61.59 34 *e*P **P 15 21 36.8 +1.6**
SRO *e* 15 21 45.7
SRO2 Moca 61.60 34 *e*P **P 15 21 35.7 +0.4**
SRO2 Moca 61.60 34 *e*P **P 15 21 35.7 +0.4**
BSEG Bad Segeberg 61.61 25 *e*P **P 15 21 35.7 +0.5**
comp=Z,59nm,1.4s,baz=226,slow=7.0
BSEG *e*X 15 21 44.6
MMB Musomiste 61.74 42 P **P 15 21 37.3 +0.9**
ZAPS Zavoj 61.80 40 *e*P **P 15 21 36.8 0.0**
ZAGS Zajecar 61.81 39 *e*P **P 15 21 34.3 -2.5**
VTS Vitosha 61.88 41 ⇓P **P 15 21 37.5 0.0**
VTS Vitosha 61.88 41 ⇓P **P 15 21 37.5 0.0**
VTS Vitosha 61.88 41 P **P 15 21 36.4 -1.1**
VTS IAmb IAmb 15 21 48.3
comp=Z,26nm,1.0s
VTS Vitosha 61.88 41 *e*P **P 15 21 36.0 -1.5**
VTS Vitosha 61.88 41 P **P 15 21 36.4 -1.1**
MDVR Moldovita 61.96 38 ⇑P **P 15 21 38.9 +1.0**
UPC Upice 61.96 30 *e*P **P 15 21 39.2 +1.5**
UPC *e*S S 15 30 13.3 +12
UPC Upice 61.96 30 *e*P **P 15 21 39.2 +1.5**
UPC *e*S S 15 30 13.3 +12
O53A New Philadelph 62.01 316 IAMs_20 IAMs_20 15 41 37.6
comp=Z,2μm,21.0s
DPC Dobruska-Polom 62.02 31 *e*P **P 15 21 38.9 +0.7**
DPC *e**PP **pwP 15 21 47.6 +2.1**
DPC *e*S **S 15 30 06.7 +4.1**
DPC MLR MLR
comp=Z,1μm,16.2s
DPC Dobruska-Polom 62.02 31 *e*P **P 15 21 38.9 +0.7**
DPC *e*x x 15 21 47.6
DPC *e*S **S 15 30 06.7 +4.1**
DPC AMS AMS 15 46 10.0
comp=Z,1μm,16.2s
CHVC Chvalec 62.03 30 *e*P **P 15 21 39.5 +1.3**
CHVC *e*pP **pwP 15 21 47.7 +2.2**
TKL Tuckaleechee C 62.08 310 LR LR 15 42 38.1
comp=Z,992nm,21.8s,baz=118,slow=30
KRLC Kraliky 62.09 31 *e*P **P 15 21 40.0 +1.4**
KRLC *e**PP **pwP 15 21 48.4 +2.5**
KRLC *e*S S 15 30 14.4 +11
KRLC MLR MLR
comp=Z,1μm,22.9s
KRLC Kraliky 62.09 31 *e*P **P 15 21 40.0 +1.4**
KRLC *e*x x 15 21 48.4
KRLC *e*S S 15 30 14.4 +11
KRLC AMS AMS 15 45 00.0
comp=Z,1μm,22.9s
OSTC Ostas 62.10 30 *e*P **P 15 21 40.1 +1.5**
OSTC *e*x x 15 21 48.6
OSTC *e*S **S 15 30 11.6 +8.1**
VYHS Vyhne 62.26 33 *e*P **P 15 21 41.0 +1.2**
VYHS *e* 15 21 49.2
VYHS pmax pmax
comp=Z,46nm,1.3s
VYHS Vyhne 62.26 33 *e*P **P 15 21 41.0 +1.2**
VYHS *e* 15 21 49.2
MORC Moravsky Berou 62.31 32 ⇓P **P 15 21 41.4 +1.3**
MORC Moravsky Berou 62.31 32 ⇓P **P 15 21 41.4 +1.3**
MORC Moravsky Berou 62.31 32 *e*P **P 15 21 40.7 +0.6**
MORC Moravsky Berou 62.31 32 P **P 15 21 40.4 +0.3**
MORC IAmb IAmb 15 21 50.6
comp=Z,40nm,1.2s
BZS Buzias 62.32 37 ⇓P **P 15 21 41.0 +0.8**
BZS Buzias 62.32 37 ⇓P **P 15 21 41.0 +0.8**
SCHQ Schefferville 62.37 336 P **P 15 21 40.6 +0.2**
comp=Z,3.6nm,0.7s,baz=101,slow=7.9,SNR=6.5
SCHQ LR LR 15 44 02.7
comp=Z,773nm,21.3s,baz=134,slow=32
SCHQ Schefferville 62.37 336 P **P 15 21 39.0 -1.3**

SCHQ IAmb IAmb 15 21 52.0
comp=Z,26nm,1.0s
P52A Corning 62.40 315 IAMs_20 IAMs_20 15 42 12.9
comp=Z,2μm,21.0s
HERR Herculane 62.44 38 ⇓P **P 15 21 42.3 +1.3**
RZN Rozhen 62.45 42 P **P 15 21 41.8 +0.4**
PGB Panagyurishte 62.46 41 P **P 15 21 42.0 +0.7**
PSZ Piszkesteto 62.53 34 ⇑P **P 15 21 43.6 +1.9**
PSZ Piszkesteto 62.53 34 ⇑P **P 15 21 43.6 +1.9**
PSZ Piszkesteto 62.53 34 P **P 15 21 40.0 -1.6**
PSZ IAMs_20 IAMs_20 15 47 20.1
comp=Z,2μm,20.0s
PSZ Piszkesteto 62.53 34 P **P 15 21 43.3 +1.7**
OKC Ostrava-Krasne 62.66 32 *e*S **S 15 30 15.7 +5.1**
SIRR Siria 62.68 37 ⇑P **P 15 21 43.9 +1.2**
SADO Sadowa 62.70 321 LR LR 15 43 21.0
comp=Z,987nm,20.1s,baz=162,slow=31
KDZ Kurdzhali 62.90 43 P **P 15 21 43.9 -0.3**
GZR Gura Zlata 62.92 38 ⇓P **P 15 21 44.6 +0.3**
GZR Gura Zlata 62.92 38 ⇓P **P 15 21 44.6 +0.3**
LANS Liptovska Anna 62.98 33 *e*P **P 15 21 46.4 +1.8**
LANS *e* 15 21 55.0
LANS pmax pmax
comp=Z,14nm,1.0s
LANS Liptovska Anna 62.98 33 *e*P **P 15 21 46.4 +1.8**
LANS *e* 15 21 55.0
ALN Alexandroupoli 63.01 44 P **P 15 21 43.0 -1.9**
ALN pmax pmax
comp=Z,48nm,1.2s
ALN Alexandroupoli 63.01 44 P **P 15 21 43.0 -1.9**
APG El Apazote 63.11 286 LR LR 15 48 09.2
comp=Z,784nm,21.7s,baz=110,slow=35
ACSO Alum Creek Sta 63.24 315 P **P 15 21 44.8 -1.6**
ACSO IAmb IAmb 15 21 53.6
comp=Z,35nm,1.1s
ACSO IAMs_20 IAMs_20 15 42 39.1
comp=Z,2μm,22.0s
LODK Lodwar 63.47 87 P **P 15 21 47.8 -0.8**
LOT Lotru 63.56 38 ⇓P **P 15 21 49.1 +0.5**
DRGR 63.57 36 ⇑P **P 15 21 50.0 +1.4**
DRGR 63.57 36 ⇑P **P 15 21 50.0 +1.4**
OJC Ojcow 63.75 32 P **P 15 21 48.3 -1.3**
OJC pmax pmax
comp=Z,50nm,1.1s
OJC Ojcow 63.75 32 P **P 15 21 48.3 -1.3**
COPA Copaceanca 63.86 40 ⇓P **P 15 21 50.0 -0.4**
CRVS Cervenica-Dubn 63.94 34 *e*P **P 15 21 52.3 +1.4**
CRVS *e* 15 21 56.7
CRVS pmax pmax
comp=Z,36nm,1.4s
CRVS Cervenica-Dubn 63.94 34 *e*P **P 15 21 52.3 +1.4**
CRVS *e* 15 21 56.6
SZH Strazhica 63.94 41 P **P 15 21 51.2 +0.2**
JMB Yambol 64.03 42 P **P 15 21 51.9 +0.3**
ARR Arges 64.06 39 ⇑P **P 15 21 53.4 +1.6**
TRPA Tarpa 64.15 35 ⇑P **P 15 21 52.7 +0.5**
TRPA Tarpa 64.15 35 P **P 15 21 51.0 -1.2**
UZH Uzhgorod 64.27 35 *e*P **P 15 21 53.4 +0.4**
UZH *e* 15 22 01.3
VOIR 64.35 39 ⇑P **P 15 21 52.9 -0.8**
VOIR 64.35 39 ⇑P **P 15 21 52.9 -0.8**
AAM Ann Arbor 64.54 317 IAMs_20 IAMs_20 15 43 42.4
comp=Z,2μm,21.0s
USHA Ushuala 64.62 204 LR LR 15 45 35.8
comp=Z,2μm,20.7s,baz=52,slow=32
DOPR Dopca 64.80 38 ⇓P **P 15 21 57.2 +0.6**
WCI Wyandotte Cave 64.88 312 IAMs_20 IAMs_20 15 44 41.7
comp=Z,1μm,20.0s
PRD Provadia 64.89 42 P **P 15 21 58.5 +1.3**
MLR Muntele Rosu 64.93 39 ⇑P **P 15 21 56.7 -0.9**
MLR Muntele Rosu 64.93 39 P **P 15 21 55.8 -1.8**
comp=Z,20nm,0.9s,baz=224,slow=1.5,SNR=12
MLR LR LR 15 51 29.3
comp=Z,1μm,19.8s,baz=240,slow=37
MLR Muntele Rosu 64.93 39 ⇑P **P 15 21 56.7 -0.9**
MLR Muntele Rosu 64.93 39 P **P 15 21 56.2 -1.4**
MLR IAMs_20 IAMs_20 15 50 23.0
comp=Z,2μm,20.0s
ISP Isparta 65.07 48 IAMs_20 IAMs_20 15 51 27.3
comp=Z,2μm,22.0s
OZUR 65.11 38 ⇑P **P 15 21 57.9 -0.8**
PLAL Pickwick Lake 65.18 308 IAMs_20 IAMs_20 15 43 58.1
comp=Z,2μm,21.0s
COVR Voineasa-Covas 65.25 39 ⇑P **P 15 21 58.2 -1.4**
KMBO Kilima Mbogo 65.39 92 P **P 15 22 02.0 +0.6**
comp=Z,0.5nm,0.3s,baz=265,slow=7.4,SNR=9.5
KMBO LR LR 15 46 50.8
comp=Z,1μm,19.8s,baz=256,slow=33
KMBO Kilima Mbogo 65.39 92 *i* P **P 15 22 04.2 +2.8**
KMBO Kilima Mbogo 65.39 92 P **P 15 22 01.4 0.0**
KMBO IAmb IAmb 15 22 09.0
comp=Z,28nm,1.4s
BURAR Bucovina Array 65.47 37 ⇑P **P 15 22 00.7 -0.3**
BURAR Bucovina Array 65.47 37 ⇑P **P 15 22 00.7 -0.3**
BURAR Bucovina Array 65.47 37 P **P 15 21 59.6 -1.4**
PLOR Plostina 65.53 39 ⇓P **P 15 22 00.3 -1.1**
PLOR Plostina 65.53 39 ⇓P **P 15 22 00.3 -1.1**
VRI Vrincioaia 65.59 39 ⇓P **P 15 22 01.8 +0.1**
VRI Vrincioaia 65.59 39 ⇓P **P 15 22 01.8 +0.1**
BORA Eskisehir 65.73 46 P **P 15 22 01.8 -1.1**
BORA IAmb IAmb 15 22 13.2
comp=Z,28nm,1.1s
TESR Tescani 65.83 38 ⇓P **P 15 22 03.6 +0.4**
LVV L'vov 65.85 34 *e*P **P 15 22 03.4 +0.1**
LVV *e* 15 25 58.0
LVV *e*S **S 15 30 50.4 +0.3**
LVV pmax pmax
comp=Z,110nm,1.2s
LVV MLR MLR
comp=E,800nm,18.0s
LVV MLR MLR
comp=N,600nm,19.0s
LVV MLR MLR
comp=Z,800nm,20.0s
HARR Harsova 65.85 40 ⇑P **P 15 22 01.8 -1.6**
HARR Harsova 65.85 40 ⇑P **P 15 22 01.8 -1.6**
TIRR Tirgusor 66.07 41 P **P 15 22 03.4 -1.4**
TIRR pmax pmax
comp=Z,164nm,1.5s
TIRR MLR MLR
comp=Z,3μm,18.0s
TIRR Tirgusor 66.07 41 P **P 15 22 03.4 -1.4**
OXF Oxford 66.10 308 IAMs_20 IAMs_20 15 44 26.4
comp=Z,2μm,22.0s
CFR Carcaliu 66.19 40 ⇑P **P 15 22 04.5 -1.0**
CFR Carcaliu 66.19 40 ⇑P **P 15 22 04.5 -1.0**
TPGR Topolog 66.24 40 ⇑P **P 15 22 06.1 +0.1**
EIL Elat 66.31 58 P **P 15 22 05.7 -1.1**
comp=Z,2.4nm,0.5s,baz=63,slow=9.5,SNR=4.1
EIL LR LR 15 52 09.7
comp=Z,4μm,18.1s,baz=260,slow=37
CSS Mathiatis 66.34 52 IAMs_20 IAMs_20 15 54 19.2
comp=Z,1μm,20.0s
VBMS Vicksburg 66.38 305 IAMs_20 IAMs_20 15 46 34.0
comp=Z,2μm,20.0s
OLIL Olney 66.38 312 P **P 15 22 05.8 -1.2**
NB2 NORSAR Subarra 67.06 20 P **P 15 22 12.3 +1.4**
comp=Z,49nm,1.4s,baz=224,slow=6.5
NB2 NORSAR Subarra 67.06 20 P **P 15 22 12.3 +1.4**
baz=224,slow=6.5
NOA NORSAR Array B 67.06 20 P **P 15 22 09.1 -1.8**
comp=Z,1.7nm,0.9s,baz=222,slow=6.3,SNR=3.8
NOA LR LR 15 46 30.0
comp=Z,800nm,21.8s,baz=230,slow=32
HFS Hagfors 67.28 21 LR LR 15 47 12.0
comp=Z,1μm,21.8s,baz=228,slow=32
MILM Milestii Mici 67.35 38 *e*P **P 15 22 16.0 +3.1**
MILM *e*LR LR 15 45 21.0
comp=Z,900nm,18.0s
MILM Milestii Mici 67.35 38 *e*P **P 15 22 16.0 +3.1**
MILM MLR MLR
comp=E,800nm,18.0s
MILM MLR MLR
comp=Z,900nm,18.0s
L44A Lake County Fo 67.41 316 IAMs_20 IAMs_20 15 46 08.6
comp=Z,2μm,21.0s
ANTO Ankara 67.42 47 P **P 15 22 11.7 -2.0**
ANTO pmax pmax
comp=Z,36nm,0.9s
ANTO MLR MLR
comp=Z,2μm,20.0s
ANTO Ankara 67.42 47 P **P 15 22 11.7 -2.0**
MMAI Mount Meron Ar 67.48 54 P **P 15 22 13.3 -0.9**
comp=Z,10nm,0.8s,baz=264,slow=4.9,SNR=8.0

CMIG Matias Romero 67.57 288 LR LR 15 50 19.6
comp=Z,315nm,21.9s,baz=100,slow=35
SORM Soroca 67.58 37 ⇑P P 15 22 11.8 -2.6
SORM Soroca 67.58 37 ⇑P P 15 22 11.8 -2.6
SUW Suwalki 67.58 30 P P 15 22 13.8 -0.5
SUW pmax pmax
comp=Z,118nm,1.1s
SUW Suwalki 67.58 30 eP P 15 22 16.2 +1.9
SUW Suwalki 67.58 30 P P 15 22 13.8 -0.5
SFJD Kangerlussuaq 67.85 351 P P 15 22 13.4 -2.3
comp=Z,5.7nm,0.7s,baz=203,slow=13,SNR=4.3
SFJD LR LR 15 45 40.2
comp=Z,724nm,19.0s,baz=160,slow=30
SFJD Kangerlussuaq 67.85 351 P P 15 22 13.2 -2.5
SFJD pmax pmax
comp=Z,24nm,1.1s
SFJD Kangerlussuaq 67.85 351 P P 15 22 13.2 -2.5
SFJD IAmb IAmb 15 22 34.9
comp=Z,24nm,1.1s
PURM Purcari 67.85 39 ⇑P P 15 22 15.4 -0.7
FVM French Village 67.89 311 P P 15 22 14.2 -2.4
FVM pmax pmax
comp=Z,16nm,1.1s
FVM French Village 67.89 311 P P 15 22 14.2 -2.4
FVM IAmb IAmb 15 22 37.7
comp=Z,16nm,1.1s
BR131 Keskin Array S 68.00 47c iP P 15 22 15.5 -1.9
BR131 Keskin Array S 68.00 47 P P 15 22 15.1 -2.3
BR131 IAmb IAmb 15 22 23.1
comp=Z,31nm,0.8s
BRTR Keskin Array B 68.00 47 P P 15 22 16.1 -1.3
comp=Z,18nm,0.8s,baz=230,slow=5.8,SNR=29
BRTR LR LR 15 52 59.0
comp=Z,2µm,21.0s,baz=246,slow=37
BRTR Keskin Array B 68.00 47 i P P 15 22 18.2 +0.8
BRTR pmax pmax
comp=Z,18nm,0.8s
BRTR Keskin Array B 68.00 47 P P 15 22 15.1 -2.3
T42A Van Buren 68.12 310 P P 15 22 16.7 -1.3
ASF Jabal al Asfar 68.51 56 P P 15 22 19.3 -1.4
comp=Z,10nm,0.8s,baz=206,slow=3.5,SNR=8.7
CCM Cathedral Cave 68.52 311 P P 15 22 19.4 -1.2
CCM pmax pmax
comp=Z,27nm,1.1s
CCM Cathedral Cave 68.52 311 P P 15 22 19.4 -1.2
CCM IAmb IAmb 15 22 33.2
comp=Z,27nm,1.1s
CCM Cathedral Cave 68.52 311 IAMs_20 IAMs_20 15 45 43.4
comp=Z,1µm,21.0s
X40A Basin Creek Fa 68.82 307 IAMs_20 IAMs_20 15 46 22.9
comp=Z,2µm,22.0s
MGMO Mountain Grove 69.06 310 P P 15 22 22.7 -1.2
AKASG Malin Array Be 69.21 35 P P 15 22 22.6 -1.9
comp=Z,4.7nm,0.5s,baz=242,slow=6.8,SNR=21
AKASG LR LR 15 52 10.7
comp=Z,455nm,20.8s,baz=216,slow=36
AKASG Malin Array Be 69.21 35 P P 15 22 22.0 -2.5
AKASG Malin Array Be 69.21 35 P P 15 22 22.0 -2.5
AKBB Malin Array Si 69.21 35⇑eP P 15 22 22.4 -2.1
AKBB Malin Array Si 69.21 35 P P 15 22 22.5 -2.1
U40A Yellville 69.30 309 IAMs_20 IAMs_20 15 46 23.4
comp=Z,1µm,21.0s
BNN Bunyan 69.37 49 P P 15 22 26.2 +0.2
FRB Frobisher Bay 69.38 342 P P 15 22 24.9 -0.3
comp=Z,5.6nm,0.9s,baz=145,slow=6.8,SNR=4.6
FRB LR LR 15 47 58.3
comp=Z,457nm,21.3s,baz=146,slow=32
FRB Frobisher Bay 69.38 342 P P 15 22 25.0 -0.3
MIAR Mount Ida 69.43 307 IAMs_20 IAMs_20 15 46 53.6
comp=Z,2µm,22.0s
NATX Nacogdoches 69.70 304 IAMs_20 IAMs_20 15 48 55.0
comp=Z,2µm,20.0s
IIGN Ignalina 69.79 30 eP P 15 22 29.8 +1.8
NACGM Naroch 69.85 30 i P P 15 22 34.5 +6.1
GAZ Gaziantep 69.96 51 P P 15 22 28.1 -1.5
GAZ IAmb IAmb 15 22 34.6
comp=Z,26nm,0.8s
IDID Didziasalis 70.03 30 eP P 15 22 31.4 +1.9
MNK Minsk 70.21 31 i P P 15 22 31.6 +1.0
MNK i 15 22 53.3
MNK i 15 25 06.6
MNK i PPP PPP 15 26 48.5
MNK i S S 15 31 44.6 +2.6
MNK i 15 32 34.1
MNK i SS SS 15 36 14.5 +2.3
MNK pmax pmax
comp=Z,43nm,0.9s
MNK pmax pmax
comp=N,31nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=N,1µm,23.0s
MNK MLR MLR
comp=Z,629nm,20.0s
MNK MLR MLR
comp=E,108nm,19.0s
MNK Minsk 70.21 31 i P P 15 22 31.7 +1.1
comp=E,3.0nm,0.9s
MNK i P P 15 22 31.7 +1.1
comp=N,31nm,0.9s
MNK i P P 15 22 31.7 +1.1
comp=Z,43nm,0.9s,baz=61
MNK i PcP PcP 15 22 53.4 +1.0
MNK i PP PP 15 25 06.7 +0.6
MNK i PPP PPP 15 26 48.6
MNK i S S 15 31 44.7 +2.7
MNK i SS SS 15 36 14.5 +2.3
MNK i SSS SSS 15 39 32.6
MNK i LQ LQ 15 45 35.2
MNK i LR LR 15 52 38.0
MNK i LRM MLR 15 55 14.0
comp=N,1µm,22.9s
MNK i LRM MLR 15 55 35.2
comp=Z,629nm,19.5s
MNK i LRM MLR 15 56 07.5
comp=E,108nm,18.7s
TOKA Tokat 70.25 47 P P 15 22 30.8 -0.5
TOKA IAmb IAmb 15 22 36.9
comp=Z,29nm,0.8s
PMSA Palmer Station 70.54 195 LR LR 15 48 11.7
comp=Z,872nm,20.0s,baz=25,slow=31
JMIC Jan Mayen 71.15 7 LR LR 15 48 28.5
comp=Z,426nm,18.5s,baz=184,slow=32
ATD Arta Tunnel 71.17 78 P P 15 22 36.5 -0.9
comp=Z,4.0nm,0.4s,baz=216,slow=19,SNR=2.2
ATD Arta Tunnel 71.17 78 P P 15 22 35.8 -1.6
ATD IAmb IAmb 15 22 50.7
comp=Z,27nm,0.9s
TUL1 Leonard 71.51 308 IAMs_20 IAMs_20 15 47 54.5
comp=Z,1µm,22.0s
SPMN Marine on St. 71.77 318 P P 15 22 39.6 -0.7
SPMN IAmb IAmb 15 22 51.9
comp=Z,23nm,0.9s
SUMG Summit 71.89 357 i P P 15 22 44.0 +3.0
435B Jarrell 71.97 302 IAMs_20 IAMs_20 15 50 06.2
comp=Z,1µm,21.0s
W35A Tecumseh 72.21 307 P P 15 22 41.2 -1.9
W35A IAmb IAmb 15 22 53.5
comp=Z,27nm,1.3s
OK034 N. Norfolk Rd. 72.26 308 IAMs_20 IAMs_20 15 48 18.4
comp=Z,1µm,21.0s
OK030 Cody Creek RV 72.30 307 IAMs_20 IAMs_20 15 48 19.5
comp=Z,1µm,21.0s
OK031 S. Brethren Rd 72.34 307 IAMs_20 IAMs_20 15 48 21.8
comp=Z,1µm,20.0s
OK033 Mehan 72.44 308 IAMs_20 IAMs_20 15 48 34.4
comp=Z,1µm,21.0s
N35A Tabor 72.55 313 P P 15 22 44.1 -1.0
VNA1 Neumayer--Stat 72.60 173 P P 15 22 50.5 +5.8
OK025 Westminster Rd 72.67 307 IAMs_20 IAMs_20 15 48 19.3
comp=Z,1µm,21.0s
MARD Mardin 72.76 51 P P 15 22 45.6 -1.0
MARD IAmb IAmb 15 22 58.5
comp=Z,26nm,0.9s
OK029 Liberty Lake 72.80 307 IAMs_20 IAMs_20 15 48 57.9
comp=Z,1µm,20.0s
KTUT Trabzon 72.84 47 ⇓P P 15 22 44.6 -2.2
KSU1 Kansas State U 72.86 311 IAMs_20 IAMs_20 15 48 06.0
comp=Z,1µm,22.0s
FINES FINESS Array B 72.87 24 P P 15 22 45.4 -1.1
comp=Z,5.0nm,0.8s,baz=213,slow=5.9,SNR=8.0
FINES LR LR 15 51 49.4
comp=Z,1µm,20.3s,baz=238,slow=34
FINES FINESS Array B 72.87 24 P P 15 22 43.8 -2.7

VNA2 Neumayer--Watz 72.96 173 P P 15 22 49.4 +2.5
baz=337,slow=5.4
VNA3 Neumayer Olymp 73.00 174 P P 15 22 51.2 +4.1
SOC Sochi 73.46 45 eP P 15 22 44.6 -5.8
SOC e 15 25 29.5
SOC ePPP PPP 15 27 14.5
SOC eS S 15 32 13.2 -6.7
SOC MLR MLR
comp=Z,327nm,17.0s
ECSD EROS Data Cent 73.97 315 P P 15 22 52.2 -1.2
ECSD IAmb IAmb 15 23 05.2
comp=Z,20nm,0.9s
ECSD EROS Data Cent 73.97 315 IAMs_20 IAMs_20 15 49 08.6
comp=Z,1µm,20.0s
OK035 E0210 Rd and N 73.98 308 IAMs_20 IAMs_20 15 49 19.9
comp=Z,1µm,21.0s
GURO Guroymak-BITLI 73.99 50 P P 15 22 53.4 -0.5
GURO IAmb IAmb 15 23 05.5
comp=Z,60nm,1.2s
SIRT Sirnak 74.10 51 P P 15 22 51.4 -3.1
SNAA Sanae 74.24 172 P P 15 22 56.9 +2.4
SNAA Sanae 74.24 172 P P 15 22 56.5 +2.0
comp=Z,13nm,1.2s,baz=308,slow=8.9,SNR=7.1
SNAA Sanae 74.24 172 P P 15 22 55.2 +0.7
RAYN Ar Rayn 74.64 66 P P 15 22 56.7 -1.1
RAYN Ar Rayn 74.64 66 P P 15 22 56.7 -1.1
RAYN IAmb IAmb 15 23 04.7
comp=Z,32nm,1.2s
AGMN Agassiz Nation 74.68 320 P P 15 22 55.9 -1.6
AGMN IAmb IAmb 15 23 09.2
comp=Z,22nm,0.9s
OBN Obninsk 75.04 33 LR LR 15 54 11.7
comp=Z,220nm,22.0s,baz=239,slow=34
OBN Obninsk 75.04 33⇑eP P 15 23 00.2 +0.9
OBN eS S 15 32 43.7 +6.6
OBN eSS SS 15 37 21.6 -4.3
OBN pmax pmax
comp=Z,5.0nm,0.7s
CBKS Cedar Bluff 75.18 310 IAMs_20 IAMs_20 15 50 29.6
comp=Z,988nm,21.0s
VSR Storozhevoye 75.24 37 eP P 15 23 04.8 +4.2
VSR pmax pmax
comp=Z,60nm,1.4s
ULM Lac du Bonnet 75.25 322 P P 15 23 00.7 0.0
comp=Z,7.1nm,0.8s,baz=128,slow=5.0,SNR=3.6
ULM LR LR 15 50 57.6
comp=Z,950nm,21.0s,baz=102,slow=32
ULM Lac du Bonnet 75.25 322 P P 15 22 59.3 -1.4
ULM IAmb IAmb 15 23 16.3
comp=Z,24nm,1.1s
NEY Neytrino 75.51 45deP P 15 23 04.4 +1.8
NEY pmax pmax
comp=Z,4.0nm,0.9s
LPSR Galich'ya Gora 75.52 35 eP P 15 23 02.6 +0.4
LPSR pmax pmax
comp=Z,50nm,1.4s
KIV Kislovodsk 75.64 45 ⇑P P 15 23 01.8 -1.4
KIV Kislovodsk 75.64 45 eP P 15 23 04.6 +1.4
KIV eS S 15 32 46.6 +2.1
KIV eSS SS 15 37 38.6 +2.8
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,611nm,18.0s
KIV Kislovodsk 75.64 45 P P 15 23 03.7 +0.5
KIV IAmb IAmb 15 23 14.1
comp=Z,48nm,1.3s
KVAR Kislovodsk Arr 75.64 45 LR LR 15 58 21.2
comp=Z,677nm,21.2s,baz=122,slow=38
KBZ Khabaz 75.74 45 P P 15 23 03.9 +0.3
comp=Z,20nm,0.9s,baz=249,slow=5.9,SNR=8.1
KBZ LR LR 15 57 56.1
comp=Z,789nm,21.7s,baz=252,slow=37
KBZ Khabaz 75.74 45⇓eP P 15 23 05.0 +1.4
KBZ pmax pmax
comp=Z,23nm,0.9s
MOS Moscow 75.82 32 eP P 15 23 00.7 -3.1
MOS e 15 23 09.2
MOS pmax pmax
comp=Z,44nm,0.7s
MOS MLR MLR
comp=Z,1.0nm,18.0s
PYA1 Pyatigorsk 75.95 45⇓eP P 15 23 06.3 +1.4
GOF Gofitskoye 76.13 44⇑eP P 15 23 11.0 +5.1
GOF pmax pmax
comp=Z,51nm,1.3s
NCK Nalchik 76.18 45ceP P 15 23 07.5 +1.3
NCK pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 76.36 49 P P 15 23 07.5 0.0
comp=Z,14nm,0.8s,baz=104,slow=3.8,SNR=4.3
GNI LR LR 15 58 15.6
comp=Z,795nm,20.7s,baz=261,slow=37
GNI Garni 76.36 49⇑eP P 15 23 08.4 +0.9
GNI pmax pmax
comp=Z,24nm,1.7s
GNI Garni 76.36 49 P P 15 23 07.5 0.0
GNI IAmb IAmb 15 23 18.6
comp=Z,58nm,1.3s
GNI Garni 76.36 49 IAMs_20 IAMs_20 15 58 03.3
comp=Z,910nm,20.0s
VRH Novokhopyorsk 76.78 37 eP P 15 23 02.4 -7.0
VRH pmax pmax
comp=Z,40nm,0.9s
TXAR Lajitas Array 76.98 300 P P 15 23 12.5 +1.4
comp=Z,1.0nm,0.8s,baz=121,slow=8.9,SNR=4.3
TXAR Lajitas Array 76.98 300 P P 15 23 11.1 0.0
FCC Fort Churchill 76.98 331 P P 15 23 08.8 -1.6
FCC pmax pmax
comp=Z,47nm,1.1s
FCC Fort Churchill 76.98 331 P P 15 23 08.8 -1.6
FCC IAmb IAmb 15 23 27.1
comp=Z,47nm,1.1s
ARCES ARCESS Array B 77.12 17 P P 15 23 10.4 -0.6
comp=Z,3.2nm,0.8s,baz=338,slow=1.3,SNR=2.3
ARCES LR LR 15 52 43.2
comp=Z,1µm,20.2s,baz=240,slow=32
KSCO Kaye Shedlock' 77.43 310 P P 15 23 11.3 -2.2
KLMR Klimovskoe 78.49 28 eP P 15 23 14.6 -4.1
KLMR e 15 26 12.0
KLMR eS S 15 33 11.8 -2.8
KLMR pmax pmax
comp=Z,65nm,1.5s
KLMR Klimovskoe 78.49 28 eP P 15 23 14.6 -4.1
KLMR AMP 15 23 30.8
comp=Z,65nm,1.5s
KLMR ePP PP 15 26 12.0 -4.2
KLMR eS S 15 33 11.9 -2.7
KLMR eS S 15 33 11.9 -2.7
KLMR LQ LQ 15 47 46.2
KLMR LQ LQ 15 47 46.2
KLMR LR LR 15 51 13.4
APA Apatity 78.63 20⇓iP P 15 23 20.0 +0.6
APA i 15 23 30.8
APA pmax pmax
comp=Z,11nm,1.0s
MAK Makhachkala 78.89 46 eP P 15 23 14.7 -6.6
MAK eS S 15 33 08.9 -11
MAK eSS SS 15 38 20.8 -3.9
MAK pmax pmax
comp=Z,106nm,1.2s
MAK MLR MLR
comp=Z,769nm,18.0s
RSSD Black Hills 79.30 315 IAMs_20 IAMs_20 15 52 20.1
comp=Z,1µm,21.0s
SDCO Great Sand Dun 79.49 308 IAMs_20 IAMs_20 15 52 25.9
comp=Z,1µm,22.0s
EPT El Paso 79.67 302 IAMs_20 IAMs_20 15 56 33.1
comp=Z,947nm,19.0s
ISCO Idaho Springs 79.84 310 IAMs_20 IAMs_20 15 52 37.9
comp=Z,1µm,22.0s
PHWY Pilot Hill 79.92 312 IAMs_20 IAMs_20 15 53 59.3
comp=Z,942nm,20.0s
ANMO Albuquerque 79.94 305 LR LR 15 53 42.8
comp=Z,2µm,21.3s,baz=94,slow=32
ANMO Albuquerque 79.94 305⇓eP P 15 23 26.0 -1.5
ANMO pmax pmax
comp=Z,14nm,1.8s
FFC Flin Flon 80.00 326 eP P 15 23 23.6 -3.5
DGMT Dagmar 80.13 319 IAMs_20 IAMs_20 15 55 19.8
comp=Z,1µm,20.0s
SPITS Spitsbergen Ar 80.67 8 LR LR 15 51 57.9
comp=Z,486nm,18.7s,baz=78,slow=30
SMCO Snowmass 80.81 309 IAMs_20 IAMs_20 15 53 37.6
comp=Z,1µm,22.0s

PRGR Permogore 81.54 28 eP P 15 23 41.0 +5.8
PRGR pmax pmax
comp=Z,86nm,1.3s
LPIG La Paz 82.51 294 LR LR 15 59 14.9
comp=Z,385nm,18.9s,baz=42,slow=35
KIRV Kirov 82.75 31 LR LR 15 58 32.3
comp=Z,1µm,20.9s,baz=263,slow=34
KIRV Kirov 82.75 31⇑eP P 15 23 40.6 -1.0
SYO Syowa Base 82.97 160⇓eP P 15 23 41.2 -1.3
PDAR Pinedale Array 83.12 313 P P 15 23 46.4 +2.1
comp=Z,1.1nm,0.8s,baz=96,slow=5.1,SNR=7.3
PDAR LR LR 15 55 48.2
comp=Z,1µm,21.1s,baz=117,slow=32
PDAR Pinedale Array 83.12 313 P P 15 23 41.0 -3.2
RES Resolute Bay 83.14 346 LR LR 15 54 41.7
comp=Z,444nm,21.7s,baz=116,slow=31
RES Resolute Bay 83.14 346 P P 15 23 43.9 +0.6
RES pmax pmax
comp=Z,36nm,1.1s
RES Resolute Bay 83.14 346 P P 15 23 43.9 +0.6
RES IAmb IAmb 15 23 54.8
comp=Z,36nm,1.1s
TUC Tucson 83.33 302 IAMs_20 IAMs_20 15 57 20.1
comp=Z,903nm,20.0s
WUAZ Wupatki 84.00 305 IAMs_20 IAMs_20 15 55 52.5
comp=Z,1µm,21.0s
HRY Holter Researc 85.05 317 P P 15 23 51.4 -2.4
DUG Dugway, Tooele 85.38 310 P P 15 23 53.2 -2.4
DUG pmax pmax
comp=Z,22nm,1.4s
DUG Dugway, Tooele 85.38 310 P P 15 23 53.2 -2.4
DUG IAmb IAmb 15 24 09.4
comp=Z,22nm,1.4s
DUG IAMs_20 IAMs_20 15 56 21.6
comp=Z,1µm,21.0s
LRM Limekiln Ridge 85.42 316 P P 15 23 53.9 -2.0
GEYT Alibeck 86.48 52 P P 15 24 03.1 +2.1
comp=Z,4.1nm,0.8s
WSAR Wadi Sarin 86.66 67 P P 15 24 03.2 +1.0
comp=Z,4.4nm,0.8s,baz=277,slow=7.6,SNR=2.3
WSAR LR LR 16 03 46.5
comp=Z,784nm,19.6s,baz=296,slow=36
AKTO Aktyubinsk 86.85 40 P P 15 24 03.6 +1.1
comp=Z,3.4nm,0.9s,baz=256,slow=6.7,SNR=7.8
AKTO LR LR 16 05 48.6
comp=Z,628nm,20.6s,baz=271,slow=38
ELK Elko 87.25 311 LR LR 15 57 54.3
comp=Z,641nm,21.8s,baz=93,slow=32
ELK Elko 87.25 311 IAMs_20 IAMs_20 15 53 45.0
comp=Z,891nm,21.0s
ARU Arti 87.42 34 P P 15 24 06.5 +1.3
comp=Z,1.6nm,0.7s,baz=245,slow=6.7,SNR=6.6
ARU Arti 87.42 34⇑eP P 15 24 04.6 -0.5
ARU pmax pmax
comp=Z,4.0nm,1.3s
ARU Arti 87.42 34 P P 15 24 03.9 -1.3
ARU IAmb IAmb 15 24 21.4
comp=Z,13nm,1.0s
YKA Yellowknife Ar 87.60 332 P P 15 24 06.5 +0.7
comp=Z,0.6nm,0.7s,baz=92,slow=5.2,SNR=9.5
YKA LR LR 16 00 12.4
comp=Z,1µm,20.1s,baz=94,slow=34
YKA Yellowknife Ar 87.60 332 i P P 15 24 06.9 +1.1
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 87.60 332 P P 15 24 03.1 -2.7
ABKAR Akbulak array 88.06 41 P P 15 24 08.7 +0.3
PFO Pinyon Flats O 88.14 303 LR LR 15 59 47.1
comp=Z,770nm,19.3s,baz=103,slow=33
SVE Sverdlovsk 88.58 33 eP P 15 24 13.3 +2.7
NEW Newport 88.69 318 LR LR 15 58 25.7
comp=Z,1µm,21.7s,baz=82,slow=32
NVAR Mina Array Bea 89.61 308 P P 15 24 17.2 +1.1
comp=Z,0.8nm,0.9s,baz=104,slow=5.4,SNR=7.9
NVAR LR LR 15 58 56.7
comp=Z,450nm,21.3s,baz=98,slow=32
QSPA South Pole Qui 90.95 180 LR LR 15 59 04.3
comp=Z,362nm,20.5s,baz=186,slow=32
QSPA South Pole Qui 90.95 180 P P 15 24 19.8 -1.9
MAW Mawson 91.19 157 LR LR 15 56 28.1
comp=Z,859nm,21.7s,baz=262,slow=30
YBH Yreka Blue Hor 92.86 312 LR LR 16 05 38.3
comp=Z,281nm,18.1s,baz=84,slow=35
BVAR Borovoye Array 94.42 37 P P 15 24 40.0 +2.1
comp=Z,1.1nm,0.7s,baz=232,slow=32,SNR=3.7
INK Inuvik 94.85 339 P P 15 24 40.7 +1.2
comp=Z,2.0nm,1.1s,baz=50,slow=7.1,SNR=4.3
INK LR LR 16 03 29.6
comp=Z,1µm,21.3s,baz=75,slow=33
BBB Bella Bella 95.44 322 LR LR 16 03 18.3
comp=Z,839nm,20.5s,baz=74,slow=33
DLBC Dease Lake 95.48 329 LR LR 16 03 12.0
comp=Z,991nm,21.9s,baz=69,slow=33
NRIK Noril'sk 98.02 19 LR LR 16 06 18.7
comp=Z,754nm,21.8s,baz=298,slow=34
AAK Ala-Archa 98.67 47 LR LR 16 14 01.0
comp=Z,440nm,18.2s,baz=296,slow=38
AAK Ala-Archa 98.67 47⇑eP P 15 24 56.1 -1.5
AAK pmax pmax
comp=Z,1.0nm,1.1s
AAK Ala-Archa 98.67 47 IAMs_20 IAMs_20 16 16 05.4
comp=Z,674nm,20.0s
KURBB Kurchatov Arra 99.83 38 P Pdif 15 25 00.9 -1.4
comp=Z,0.2nm,0.6s,baz=178,slow=30,SNR=1.5
KURBB LR LR 16 10 24.1
comp=Z,454nm,20.6s,baz=264,slow=36
KURK Kurchatov 99.86 38 P Pdif 15 25 00.9 -1.5
KURK Kurchatov 99.86 38 IAMs_20 IAMs_20 16 09 31.9
comp=Z,765nm,22.0s
KSH Kashi 100.29 50 P Pdif 15 25 08.3 +3.5
KSH sP pwP 15 25 15.5 +3.4
KSH LR LR
comp=Z,560nm,16.2s
KSH LR LR
comp=Z,730nm,19.9s
KSH LR LR
comp=Z,1µm,27.5s
ILAR Eielson Array 101.10 337 P Pdif 15 25 06.0 -1.7
comp=Z,0.5nm,1.0s,baz=54,slow=6.8,SNR=2.2
ILAR Eielson Array 101.10 337 P Pdif 15 25 06.0 -1.7
MAKZ Makanchi 102.99 41 IAMs_20 IAMs_20 16 13 22.1
comp=Z,635nm,21.0s
MKAR Makanchi Array 103.20 41 P Pdif 15 25 18.5 +1.0
comp=Z,0.1nm,0.4s,baz=201,slow=17,SNR=2.6
PALK Pallekele 108.54 82 IAMs_20 IAMs_20 16 17 25.1
comp=Z,512nm,20.0s
TAOE Nuku Hiva Isla 111.90 261 eLR LR 16 03 05.7
comp=Z,322nm,23.3s
YAK Yakutsk 115.02 11 IAMs_20 IAMs_20 16 27 59.4
comp=Z,480nm,20.0s
GOMU GeErMu 115.51 49 Pdif Pdif 15 26 14.8 +1.9
GOMU LR LR
comp=Z,240nm,24.1s
GOMU LR LR
comp=Z,280nm,24.9s
GOMU LR LR
comp=Z,380nm,24.7s
SONM Songino Array 117.45 33 PKP PKiKP 15 30 05.0 +1.0
comp=Z,0.2nm,0.4s,baz=248,slow=1.3,SNR=2.3
SONM Songino Array 117.45 33 PKIKP PKiKP 15 30 05.0 +1.0
PPT2 Papeete2 120.16 250 ePS PS 15 41 22.3 -3.5
comp=Z,127nm,25.2s
PPT2 eSS SS 15 47 58.8 -4.1
comp=Z,354nm,28.0s
PPT2 Papeete2 120.16 250 eLQ LQ 16 01 43.0
comp=Z,2µm,30.8s
PPT2 eLR LR 16 06 52.6
comp=Z,707nm,24.8s
LZH Lanzhou 122.18 45 ePKP PKiKP 15 30 18.5 +4.9
LZH sPKP 15 30 23.5
LZH SS SS 15 48 27.3 0.0
LZH LR LR
comp=Z,660nm,17.9s
LZH LR LR
comp=Z,500nm,18.2s
LZH LR LR
comp=Z,880nm,20.1s
HIA Hailar 122.89 25 IAMs_20 IAMs_20 16 22 41.9
comp=Z,641nm,20.0s
CMAR Chiang Mai Arr 124.55 67 PKP PKiKP 15 30 19.6 +1.1
comp=Z,1.6nm,0.9s,baz=282,slow=3.9,SNR=14
PZH PanZhiHua 124.57 57 PKP PKPdf 15 30 14.8 -3.5
PZH sPKP 15 30 21.8
PZH AMB AMB
comp=Z,90nm,5.5s
PZH LR LR
comp=Z,890nm,24.1s

PZH					LR	LR		
	comp=Z,770nm,23.3s							
PZH					LR	LR		
	comp=Z,1μm,22.9s							
HHC	**Hu-ho-hao-te**	**124.64**	**37**	*e*P	**PKPdf**	**15 30 12.0**	**-6.0**	
XLT	**XiLinHaoTe**	**125.14**	**31**	*e*PKP	**PKiKP**	**15 30 26.5**	**+7.3**	
XLT				PP	PP	15 31 54.8	-13	
XAN	**Xi'an**	**126.80**	**45**	P	PKiKP	15 30 33.0	+10	
XAN				pP	sPKPdf	15 30 37.5	+11	
XAN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KLR	**Kul'dur**	**127.15**	**16**	⇑*i*PKIKP	**PKiKP**	**15 30 23.7**	**+0.8**	
BJT	**Baijiatuau**	**127.85**	**35**	IAMs_20	IAMs_20	16 30 23.0		
	comp=Z,526nm,18.0s							
HNS	**HongShan**	**128.70**	**38**	⇑PKP	**PKiKP**	**15 30 31.0**	**+4.7**	
HNS				*e*PP	**PP**	**15 32 33.3**	**+2.3**	
HNS				*e*SS	SS	15 49 49.0	+0.8	
HNS				LR	LR			
	comp=Z,480nm,21.0s							
HNS				LR	LR			
	comp=Z,820nm,19.5s							
HNS				LR	LR			
	comp=Z,1μm,22.2s							
ENH	**Enshi**	**129.13**	**49**	IAMs_20	IAMs_20	16 28 51.2		
	comp=Z,562nm,21.0s							
BKNI	**Bangkinang**	**129.14**	**89**	IAMs_20	IAMs_20	16 19 34.7		
	comp=Z,503nm,21.0s							
CN2	**Changchun**	**129.62**	**25**	*e*PKP	**PKiKP**	**15 30 28.5**	**+0.5**	
CN2				PP	**PP**	**15 32 42.8**	**+6.2**	
CN2				SS	SS	15 50 00.5	+1.7	
CN2				LR	LR			
	comp=Z,500nm,19.0s							
CN2				LR	LR			
	comp=Z,400nm,19.0s							
CN2				LR	LR			
	comp=Z,400nm,20.0s							
MDJ	**Mudanjiang**	**130.54**	**21**	IAMs_20	IAMs_20	16 25 08.9		
	comp=Z,528nm,20.0s							
NJ2	**Nanjing**	**134.73**	**41**	*e*P	**PKPdf**	**15 30 36.0**	**-1.2**	
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
NJ2	**Nanjing**	**134.73**	**41**	*e*PKP	**PKPdf**	**15 30 35.5**	**-1.7**	
NJ2				LR	LR			
	comp=Z,710nm,17.7s							
NJ2				LR	LR			
	comp=Z,320nm,11.8s							
NJ2				LR	LR			
	comp=Z,1μm,19.8s							
INCN	**Inchon**	**135.25**	**29**	IAMs_20	IAMs_20	16 33 08.6		
	comp=Z,539nm,22.0s							
STKI	**Sintang**	**139.58**	**89**	PKP	**PKPdf**	**15 30 39.7**	**-7.0**	
MBWA	**Marble Bar**	**142.71**	**125**	IAMs_20	IAMs_20	16 22 21.5		
	comp=Z,488nm,22.0s							
STKA	**Stephens Creek**	**147.67**	**163**	PKPbc	**PKPbc**	**15 31 04.1**	**+1.0**	
	comp=Z,2.2nm,0.7s,baz=14,slow=4.2,SNR=4.3							
STKA	**Stephens Creek**	**147.67**	**163**	PKP2	**PKPdf**	**15 31 01.7**	**+1.3**	
STKA	**Stephens Creek**	**147.67**	**163**		**PKPdf**	**15 31 01.7**	**+1.3**	
SPSI	**Sidrap Palu**	**147.77**	**96**	PKP	**PKPab**	**15 31 13.5**	**+7.3**	
BKSI	**Bulukumba**	**147.99**	**99**	PKP	PKPab	15 31 16.4	+9.3	
MPSI	**Mapaga**	**147.99**	**88**	PKP	**PKPab**	**15 31 12.4**	**+5.3**	
TOLI2	**Tolitoli**	**148.83**	**86**	IAMs_20	IAMs_20	16 32 57.4		
	comp=Z,317nm,21.0s							
MSVF	**Nonsavu**	**149.31**	**235**	PKPbc	**PKiKP**	**15 31 10.2**	**+1.2**	
	comp=Z,4.1nm,0.8s,baz=172,slow=14,SNR=4.5							
MSVF	**Nonsavu**	**149.31**	**235**	PKIKP	**PKPdf**	**15 31 05.5**	**+2.0**	
MSVF	**Nonsavu**	**149.31**	**235**		**PKPdf**	**15 31 05.5**	**+2.0**	
MMRI	**Maumere**	**149.49**	**106**	IAMs_20	IAMs_20	16 35 26.1		
	comp=Z,384nm,20.0s							
ASAR	**Alice Springs**	**151.41**	**144**	PKPbc	**PKPbc**	**15 31 12.3**	**-0.4**	
	comp=Z,1.0nm,0.6s,baz=197,slow=1.5,SNR=7.9							
WRA	**Warramunga Arr**	**154.43**	**139**	PKP	**PKPdf**	**15 31 13.5**	**+2.4**	
	comp=Z,0.4nm,0.3s,baz=269,slow=29,SNR=5.1							
WRA				PKPbc	**PKPbc**	**15 31 19.2**	**-0.2**	
	comp=Z,1.7nm,0.9s,baz=250,slow=1.9,SNR=5.6							
WRA	**Warramunga Arr**	**154.43**	**139**		**PKPbc**	**15 31 17.5**	**-1.9**	
DZM	**Mont Dzumac**	**154.61**	**213**	*e*LR	LR	16 22 58.0		
	comp=Z,1μm,23.4s							

NEIC ***27*** *15:27:37.0±2.8, 23°.9S±0°.2×171°.70W±0°.05, h10km±2km, mb4.6/15, Error ellipse: s-maj=31.4km s-min=7.3km az=353.0*
IDC ***27*** *15:27:49.6±26.0, 23°.44S×173°.86W, h0km, mb4.6/4, mb1 4.8/4, mb1mx4.1/23, mbtmp4.6/4, Error ellipse: s-maj=471.2km s-min=141.1km az=78.0*
ISC 27 15:27:36.8±2.4, 23°.8S±0°.2×171°.8W±0°.3, h10km, n23, σ1§12/23, mb4.6/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.72**	**224**	Pn	**Pn**	**15 29 29.4**	**+0.1**
MARNC	**Mare, Loyalty**	**18.80**	**273**		**P**	**15 31 56.6**	**+0.1**
PINNC	**Pines Island,**	**19.15**	**269**	P	**P**	**15 32 00.3**	**-0.1**
PINNC				IAmb	IAmb	15 32 20.3	
	comp=Z,31nm,1.1s						
DZM	**Mont Dzumac**	**20.15**	**271**	P	**P**	**15 32 10.5**	**-0.9**
DZM				IAmb	IAmb	15 32 12.2	
	comp=Z,28nm,1.2s						
ARMA	**Armidale**	**33.13**	**250**	P	**P**	**15 34 12.2**	**-1.3**
ARMA				IAmb	IAmb	15 34 19.9	
	comp=Z,19nm,1.4s						
EIDS	**Eidsvold**	**33.75**	**260**	P	**P**	**15 34 16.8**	**-2.0**
EIDS				IAmb	IAmb	15 34 40.3	
	comp=Z,9.8nm,1.4s						
CTA	**Charters Tower**	**39.02**	**267**	P	**P**	**15 35 02.5**	**-1.3**
	comp=Z,6.6nm,0.4s,baz=91,slow=10,SNR=19						
CTA	**Charters Tower**	**39.02**	**267**	P	**P**	**15 35 02.5**	**-1.3**
CTAO	**Charters Tower**	**39.02**	**267**	P	**P**	**15 35 02.6**	**-1.3**
CTAO				IAmb	IAmb	15 35 03.0	
	comp=Z,7.5nm,0.6s						
STKA	**Stephens Creek**	**41.76**	**248**	P	**P**	**15 35 27.4**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=89,slow=12,SNR=6.6						
STKA	**Stephens Creek**	**41.76**	**248**	P	**P**	**15 35 27.4**	**+1.0**
BBOO	**Buckleboo**	**46.41**	**247**	P	**P**	**15 36 05.1**	**+1.3**
BBOO				IAmb	IAmb	15 36 12.0	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**49.47**	**259**	P	**P**	**15 36 27.5**	**-0.1**
ASAR	**Alice Springs**	**49.47**	**259**	P	**P**	**15 36 27.6**	**0.0**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.9,SNR=9.7						
ASAR	**Alice Springs**	**49.47**	**259**	P	**P**	**15 36 28.1**	**+0.5**
WB2	**Warramunga Arr**	**49.91**	**263**	P	**P**	**15 36 30.8**	**-0.3**
WB2				IAmb	IAmb	15 36 31.1	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**49.92**	**264**	P	**P**	**15 36 30.6**	**-0.5**
WB0				IAmb	IAmb	15 36 31.3	
	comp=Z,4.7nm,0.7s						
WRA	**Warramunga Arr**	**49.92**	**263**	P	**P**	**15 36 30.7**	**-0.4**
	comp=Z,2.8nm,0.4s,baz=104,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**49.92**	**263**	P	**P**	**15 36 30.6**	**-0.6**
FORT	**Forrest**	**53.38**	**248**	P	**P**	**15 36 58.9**	**+2.1**
MTN	**Manton Dam**	**54.99**	**271**	P	**P**	**15 37 09.3**	**+0.6**
KNRA	**Kununurra**	**56.23**	**267**	P	**P**	**15 37 19.4**	**+1.7**
QSPA	**South Pole Qui**	**66.26**	**180**	P	**P**	**15 38 24.2**	**-0.8**
QSPA				IAmb	IAmb	15 38 36.9	
	comp=Z,1.3nm,0.9s						

EAF ***27*** *16:15:33.4±0.9, 27°.30S×22°.35E, h7km±10km, MD4.4*
BUL 27 16:15:33.4±0.9, 27°.30S×22°.35E, h7km±10km, MD5.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**2.89**	**118**	*i* P	Pn	16 16 19.4	-0.5
BOSA	**Boshof**	**2.89**	**118**	*i* P	Pn	16 16 19.4	-0.5
LBTB	**Lobatse**	**3.71**	**53**	*i* P	Pn	16 16 31.4	+0.2
LBTB				*i* Sg	Sb	16 17 28.4	+3.9
LBTB	**Lobatse**	**3.71**	**53**	*i* P	Pn	16 16 31.4	+0.2
LBTB				*i* Sg	Sb	16 17 28.4	+3.9
MATP	**Matopo**	**8.86**	**41**	*i* P	Pn	16 17 40.2	-1.8
MATP				*i* S	Sn	16 19 12.7	-10
MATP	**Matopo**	**8.86**	**41**	*i* P	Pn	16 17 40.2	-1.8
MATP				*i* S	Sn	16 19 12.7	-10
BLWY	**Bulawayo**	**9.15**	**40**	*i* P	Pn	16 17 43.0	-3.0
BLWY	**Bulawayo**	**9.15**	**40**	*i* P	Pn	16 17 43.0	-3.0
KRI	**Karoi**	**12.40**	**34**	*i* S	Sn	16 20 27.5	-22

RSNC 27 16:35:49.6±0.8, 8°.48N×73°.08W, h137km±4km, ML3.3, Mw3.5, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.34**	**225**	⇓*i* P	Pn	16 36 08.6	-0.3
OCAC				*e*S	Sn	16 36 23.0	-0.4
OCAC				*i*		16 36 25.5	
	comp=Z,856nm,0.3s						
SMLC	**San Martn de**	**1.03**	**288**	*e*P	Pn	16 36 12.7	-0.8
SMLC				*e*S	Sn	16 36 30.1	-1.5
SMLC				*i*		16 36 33.1	
	comp=Z,762nm,0.2s						
PAMC	**Pamplona, Colo**	**1.19**	**162**	⇓*i* P	Pn	16 36 15.5	0.0
PAMC				*e*S	Sn	16 36 35.1	0.0
PAMC				*i*		16 36 36.1	
	comp=Z,503nm,0.2s						
LL6C	**La Loma 6 Bece**	**1.26**	**351**	*e*P	Pn	16 36 15.4	-0.3
LL6C				*e*S	Sn	16 36 34.9	-0.7
ARGC	**Ariguani, Magd**	**1.79**	**320**	*i* P	Pn	16 36 22.6	+1.1
ARGC				*e*S	Sn	16 36 46.0	+0.1
ARGC				*i*		16 36 51.8	
	comp=Z,113nm,0.3s						
BARC	**Barichara**	**1.88**	**183**	*i* P	Pn	16 36 22.4	-0.4
BARC				*e*S	Sn	16 36 47.9	-0.2
BARC				*i*		16 36 48.7	
	comp=Z,292nm,0.2s						
ZARC	**Zaragoza, Cauc**	**2.02**	**241**	*e*P	Pn	16 36 23.9	-0.3
ZARC				*e*S	Sn	16 36 49.5	-1.2
ZARC				*i*		16 36 50.6	
	comp=Z,200nm,0.3s						
CVALL	**Valledupar, Ce**	**2.02**	**355**	*e*P	Pn	16 36 23.5	-0.7
CVALL				*e*S	Sn	16 36 49.8	-1.1
CVALL				*i*		16 36 52.5	
	comp=Z,236nm,0.2s						
SOCV	**Socops**	**2.21**	**95**	*e*P	Pn	16 36 25.8	-0.7
SOCV				*e*S	Sn	16 36 54.0	-0.8
PTBC	**PUERTO BERRIO,**	**2.36**	**215**	*e*P	Pn	16 36 27.2	-1.2
PTBC				*e*S	Sn	16 36 56.6	-1.7
PTBC				*i*		16 37 02.4	
	comp=Z,120nm,0.2s						
SDV	**Santo Domingo**	**2.45**	**80**	*e*P	Pn	16 36 29.9	+0.3
SDV				*e*S	Sn	16 36 59.5	-0.9
SJCC	**San Jacinto, C**	**2.51**	**304**	⇑*i* P	Pn	16 36 29.5	-0.8
SJCC				*e*S	Sn	16 36 59.2	-2.3
SJCC				*i*		16 37 00.9	
	comp=Z,53nm,0.3s						
CRJC	**Cerrejon, Guaj**	**2.53**	**4**	*e*P	Pn	16 36 29.6	-1.0
CRJC				*e*S	Sn	16 36 59.9	-2.3
CRJC				*i*		16 37 04.6	
	comp=Z,211nm,0.2s						
UREC	**San Jos de Ur**	**2.54**	**254**	*e*P	Pn	16 36 28.9	-1.6
UREC				*e*S	Sn	16 36 58.6	-3.5
UREC				*i*		16 37 08.4	
	comp=Z,176nm,0.3s						
RUSC	**La Rusia**	**2.57**	**180**	*e*P	Pn	16 36 30.5	-1.0
RUSC				*e*S	Sn	16 37 03.6	-0.1
RUSC				*i*		16 37 14.5	
	comp=Z,35nm,0.4s						
MOTC	**Monteria, Cord**	**2.58**	**277**	⇑*i* P	Pn	16 36 29.0	-2.1
MOTC				*e*S	Sn	16 37 00.8	-2.2
MOTC				*i*		16 37 18.9	
	comp=Z,32nm,0.6s						
SMRC	**Santa Marta, M**	**2.90**	**337**	*e*P	Pn	16 36 34.5	-0.6
SMRC				*e*S	Sn	16 37 07.7	-2.7
SMRC				*i*		16 37 10.1	
	comp=Z,82nm,0.3s						
SPBC	**San Pablo de B**	**2.98**	**199**	*e*P	Pn	16 36 35.7	-0.6
SPBC				*e*S	Sn	16 37 12.0	-0.3
SPBC				*i*		16 37 17.9	
	comp=Z,91nm,0.2s						
HELC	**Santa Helena**	**3.33**	**227**	*e*P	Pn	16 36 42.1	+1.0
HELC				*e*S	Sn	16 37 19.2	-1.6
HELC				*i*		16 37 31.9	
	comp=Z,88nm,0.4s						
NORC	**Norcasia**	**3.40**	**212**	*e*P	Pn	16 36 41.3	-0.4
NORC				*e*S	Sn	16 37 21.4	-0.6
NORC				*i*		16 37 31.4	
	comp=Z,35nm,0.2s						
DABV	**Dabajuro**	**3.42**	**45**	*e*P	Pn	16 36 42.3	+0.4
DABV				*e*S	Sn	16 37 21.5	-0.9
CHIC	**Chingaza**	**3.88**	**190**	*e*P	Pn	16 36 48.0	-0.4
CHIC				*e*S	Sn	16 37 34.4	+0.5
CHIC				*i*		16 37 45.5	
	comp=Z,27nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.90**	**228**	*e*P	Pn	16 36 48.4	-0.1
CBOC				*i*		16 37 46.6	
	comp=Z,23nm,0.7s						
GUY2C	**Guyana, Caldas**	**3.95**	**215**	*e*P	Pn	16 36 50.8	+1.4
GUY2C				*e*S	Sn	16 37 39.1	+3.4
GUY2C				*i*		16 37 51.2	
	comp=Z,32nm,0.3s						
ANIL	**Santa Ana**	**4.59**	**210**	*e*P	Pn	16 36 59.7	+2.1
ANIL				*e*S	Sn	16 37 56.0	+5.6
ANIL				*i*		16 38 02.3	
	comp=Z,80nm,0.3s						

NOU ***27*** *17:00:13.1, 41°.33S×173°.89E, h65km, MLv4.0/9, South Island, New Zealand*
WEL ***27*** *17:00:13.6±0.4, 41°.5S±5°.×17°.4E±°, h36km±5km, M3.3/11, ML3.5/11, MLv3.3/11, Error ellipse: s-maj=0.0km s-min=0.0km az=179.8*
ISC 27 17:00:14.2±1.7, 41°.35S±0°.03×173°.79E±0°.03, h36km±1km, n118, σ1§26/122, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUWZ	**Tuamarina**	**0.14**	**126**	P	**Pn**	**17 00 22.2**	**-2.2**
TUWZ				S	Sn	17 00 28.3	-5.7
NNZ	**Nelson**	**0.34**	**292**	P	**Pn**	**17 00 23.0**	**+0.5**
NNZ				S	**Sn**	**17 00 30.2**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.38**	**170**	P	**Pn**	**17 00 24.4**	**+1.5**
BSWZ				S	**Sn**	**17 00 32.0**	**+2.5**
TCW	**Tory Channel**	**0.39**	**70**	P	**Pn**	**17 00 24.0**	**+0.9**
TCW				S	**Sn**	**17 00 31.0**	**+1.3**
DUWZ	**D'Urville Isla**	**0.55**	**10**	P	**Pn**	**17 00 25.1**	**-0.6**
SNZO	**South Karori**	**0.69**	**87**	P	**Pn**	**17 00 27.9**	**+0.5**
TKNZ	**Takaka Hill**	**0.70**	**296**	P	**Pn**	**17 00 27.2**	**-0.4**
TKNZ				S	**Sn**	**17 00 37.3**	**+0.2**
WEL	**Wellington**	**0.74**	**86**	P	**Pn**	**17 00 28.2**	**+0.1**
MRNZ	**Matariki Terra**	**0.78**	**266**	P	**Pn**	**17 00 28.6**	**-0.1**
MRNZ				S	**Sn**	**17 00 40.3**	**+1.2**
THZ	**Tophouse**	**0.78**	**238**	P	**Pn**	**17 00 28.7**	**-0.1**
THZ				S	**Sn**	**17 00 41.1**	**+1.7**
BHW	**Baring Head**	**0.82**	**95**	P	**Pn**	**17 00 28.9**	**-0.3**
KIW	**Kapiti Island**	**0.97**	**61**	P	**Pn**	**17 00 31.3**	**-0.1**
KIW				S	**Sn**	**17 00 44.5**	**+0.6**
CAW	**Cannon Point**	**0.99**	**77**	P	**Pn**	**17 00 31.1**	**-0.4**
QRZ	**Quartz Range**	**1.08**	**298**	P	**Pn**	**17 00 32.6**	**-0.3**
QRZ	**Quartz Range**	**1.08**	**298**	P	**Pn**	**17 00 32.9**	**+0.1**
KHZ	**Kahutara**	**1.09**	**190**	P	**Pn**	**17 00 33.1**	**+0.3**
KHZ	**Kahutara**	**1.09**	**190**	P	**Pn**	**17 00 33.2**	**+0.4**
MSWZ	**Moikau Station**	**1.10**	**94**	P	**Pn**	**17 00 32.2**	**-0.9**
PLWZ	**Palliser**	**1.12**	**102**	P	**Pn**	**17 00 32.5**	**-1.0**
OGWZ	**Otaki Gorge**	**1.17**	**64**	P	**Pn**	**17 00 33.5**	**-0.5**
PAWZ	**Paruwai Farm**	**1.23**	**92**	P	**Pn**	**17 00 33.6**	**-1.3**
MTW	**Mount Morrison**	**1.30**	**82**	P	**Pn**	**17 00 34.5**	**-1.3**
HOWZ	**Holdsworth Sta**	**1.38**	**72**	P	**Pn**	**17 00 35.6**	**-1.3**
TRWZ	**Traveller**	**1.43**	**93**	P	**Pn**	**17 00 36.3**	**-1.3**
MRZ	**Mangatainoka R**	**1.52**	**64**	P	**Pn**	**17 00 37.5**	**-1.3**
DSZ	**Denniston Nort**	**1.54**	**254**	P	**Pn**	**17 00 38.9**	**-0.2**
TMWZ	**Te Maipa**	**1.60**	**82**	P	**Pn**	**17 00 38.2**	**-1.7**
OHWZ	**Ohakea**	**1.62**	**46**	P	**Pn**	**17 00 41.5**	**+1.3**
TIWZ	**Tintock**	**1.68**	**71**	P	**Pn**	**17 00 39.4**	**-1.7**
GVZ	**Greta Valley S**	**1.71**	**199**	P	**Pn**	**17 00 40.9**	**-0.6**
POWZ	**Post Office Ro**	**1.78**	**58**	P	**Pn**	**17 00 42.2**	**-0.1**
LTZ	**Lake Taylor**	**1.83**	**218**	P	**Pn**	**17 00 42.7**	**-0.3**
PRWZ	**Pori Road**	**1.83**	**65**	P	**Pn**	**17 00 41.5**	**-1.6**
WAZ	**Wanganui**	**1.83**	**30**	P	**Pn**	**17 00 43.8**	**+0.7**
CPWZ	**Castlepoint**	**1.87**	**77**	P	**Pn**	**17 00 42.0**	**-1.6**
NMEZ	**Namu Road**	**1.93**	**2**	P	**Pn**	**17 00 45.2**	**+0.7**
LREZ	**Lake Rotokare**	**1.94**	**14**	P	**Pn**	**17 00 45.9**	**+1.3**
BFZ	**Birch Farm**	**1.97**	**71**	P	**Pn**	**17 00 42.8**	**-2.2**
BFZ	**Birch Farm**	**1.97**	**71**	P	**Pn**	**17 00 42.8**	**-2.2**
AMCZ	**Amberley**	**2.02**	**204**	P	**Pn**	**17 00 44.5**	**-1.1**
PREZ	**Palmer Road**	**2.02**	**8**	P	**Pn**	**17 00 46.5**	**+0.8**
KHEZ	**Kahui Hut**	**2.06**	**5**	P	**Pn**	**17 00 46.5**	**+0.2**
NBEZ	**Newall Road No**	**2.08**	**2**	P	**Pn**	**17 00 46.8**	**+0.3**
DVHZ	**Dannevirke**	**2.08**	**61**	P	**Pn**	**17 00 44.3**	**-2.3**
NEZ	**North Egmont**	**2.09**	**7**	P	**Pn**	**17 00 47.2**	**+0.5**
TSZ	**Takapari Road**	**2.09**	**53**	P	**Pn**	**17 00 45.1**	**-1.6**
PKE	**Pukeiti**	**2.15**	**4**	P	**Pn**	**17 00 47.7**	**+0.2**
DREZ	**Durham Road**	**2.18**	**8**	P	**Pn**	**17 00 48.3**	**+0.4**
ANWZ	**Angora Road**	**2.22**	**67**	P	**Pn**	**17 00 46.1**	**-2.4**
INZ	**Inchbonnie**	**2.23**	**231**	P	**Pn**	**17 00 49.4**	**+0.9**
MHEZ	**Mangahewa**	**2.30**	**10**	P	**Pn**	**17 00 50.1**	**+0.5**
PNHZ	**Pukenui**	**2.33**	**53**	P	**Pn**	**17 00 48.0**	**-2.0**
VRZ	**Vera Road**	**2.34**	**19**	P	**Pn**	**17 00 50.5**	**+0.4**
MTVZ	**Mangateitei**	**2.34**	**34**	P	**Pn**	**17 00 51.1**	**+0.9**
OXZ	**Oxford**	**2.37**	**213**	P	**Pn**	**17 00 48.9**	**-1.5**
PKVZ	**Pokaka**	**2.37**	**31**	P	**Pn**	**17 00 51.4**	**+0.8**
WPHZ	**Waipukurau**	**2.39**	**58**	P	**Pn**	**17 00 50.1**	**-0.6**
PRHZ	**Porangahau**	**2.41**	**64**	P	**Pn**	**17 00 50.5**	**-0.6**
OKCZ	**Okains Bay**	**2.44**	**193**	P	**Pn**	**17 00 49.7**	**-1.8**
WNVZ	**Wahianoa**	**2.44**	**35**	P	**Pn**	**17 00 51.4**	**-0.3**
TRVZ	**Turoa**	**2.45**	**34**	P	**Pn**	**17 00 51.5**	**-0.3**
MOVZ	**Moawhango**	**2.45**	**38**	P	**Pn**	**17 00 50.8**	**-0.9**
WHVZ	**Whangaehu Hut**	**2.48**	**34**	P	**Pn**	**17 00 53.4**	**+1.2**
FWVZ	**Far West T-bar**	**2.49**	**33**	P	**Pn**	**17 00 52.7**	**+0.4**
MQZ	**McQueen's Vall**	**2.50**	**199**	P	**Pn**	**17 00 49.8**	**-2.6**
TUVZ	**Tukino**	**2.52**	**35**	P	**Pn**	**17 00 52.3**	**-0.4**
BHHZ	**Black Hill Sta**	**2.54**	**44**	P	**Pn**	**17 00 51.7**	**-1.2**
NGZ	**Ngauruhoe**	**2.57**	**33**	P	**Pn**	**17 00 53.5**	**0.0**
SNVZ	**South Ngauruho**	**2.58**	**34**	P	**Pn**	**17 00 53.3**	**-0.2**
TWVZ	**Taurewa**	**2.60**	**30**	P	**Pn**	**17 00 54.4**	**+0.6**
KRHZ	**Kereru**	**2.60**	**50**	P	**Pn**	**17 00 51.9**	**-1.8**
AKCZ	**Akaroa Harbour**	**2.61**	**194**	P	**Pn**	**17 00 52.0**	**-1.8**
OTVZ	**Oturere**	**2.61**	**34**	P	**Pn**	**17 00 53.5**	**-0.4**
NNVZ	**North Ngauruho**	**2.62**	**33**	P	**Pn**	**17 00 54.0**	**0.0**
WTVZ	**West Tongariro**	**2.62**	**32**	P	**Pn**	**17 00 54.5**	**+0.5**
ETVZ	**East Tongariro**	**2.65**	**34**	P	**Pn**	**17 00 56.9**	**+2.4**
KRVZ	**Karewarewa**	**2.66**	**33**	P	**Pn**	**17 00 54.8**	**+0.2**
TMVZ	**Te Maari**	**2.67**	**34**	P	**Pn**	**17 00 54.3**	**-0.4**
NTVZ	**North Tongarir**	**2.67**	**33**	P	**Pn**	**17 00 54.5**	**-0.2**
RACZ	**Rakaia**	**2.67**	**207**	P	**Pn**	**17 00 52.5**	**-2.2**
MHCZ	**Mount Hutt**	**2.73**	**216**	P	**Pn**	**17 00 54.3**	**-1.3**
KWHZ	**Kaweka Forest**	**2.78**	**47**	P	**Pn**	**17 00 56.4**	**+0.2**
KATZ	**Kakaramea**	**2.78**	**32**	P	**Pn**	**17 00 57.9**	**+1.6**
KAHZ	**Kahuranaki**	**2.82**	**58**	P	**Pn**	**17 00 56.1**	**-0.6**
RITZ	**Rihia Road**	**2.85**	**34**	P	**Pn**	**17 00 58.2**	**+1.1**
WVZ	**Waitaha Valley**	**2.85**	**232**	P	**Pn**	**17 00 57.6**	**+0.5**
RATZ	**Rangitukua**	**2.91**	**32**	P	**Pn**	**17 01 00.3**	**+2.4**
MCHZ	**McNeill Hill**	**2.92**	**50**	P	Pn	17 01 04.3	+6.2
HIZ	**Hauiti**	**2.94**	**17**	P	**Pn**	**17 00 58.2**	**-0.2**
HIZ	**Hauiti**	**2.94**	**17**	P	**Pn**	**17 00 57.3**	**-1.1**
WACZ	**Wakanui South**	**2.97**	**208**	P	**Pn**	**17 00 57.5**	**-1.2**
BKZ	**Black Stump Fm**	**3.00**	**44**	P	**Pn**	**17 00 56.9**	**-2.4**
BKZ	**Black Stump Fm**	**3.00**	**44**	P	**Pn**	**17 00 57.6**	**-1.7**
RPZ	**Rata Peaks**	**3.11**	**220**	P	**Pn**	**17 01 01.3**	**+0.6**
RPZ	**Rata Peaks**	**3.11**	**220**	P	**Pn**	**17 01 00.6**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**3.23**	**231**	P	**Pn**	**17 01 02.8**	**+0.4**
ARCZ	**Arundel**	**3.24**	**216**	P	**Pn**	**17 01 02.1**	**-0.4**
TLZ	**Tolley Road**	**3.30**	**25**	P	**Pn**	**17 01 03.5**	**+0.2**
MTHZ	**Maungataniwha**	**3.42**	**44**	P	Pn	17 01 09.1	+4.1
RAHZ	**Arahi**	**3.50**	**47**	P	Pn	17 01 12.2	+6.1
TMZ	**Timaru**	**3.66**	**213**	P	**Pn**	**17 01 06.7**	**-1.5**
FOZ	**Fox Glacier**	**3.66**	**232**	P	**Pn**	**17 01 07.4**	**-0.9**
TOZ	**Tahuroa Road**	**3.84**	**21**	P	**Pn**	**17 01 11.0**	**+0.2**
URZ	**Urewera**	**4.00**	**41**	P	**Pn**	**17 01 10.1**	**-2.9**
URZ	**Urewera**	**4.00**	**41**	P	**Pn**	**17 01 10.9**	**-2.1**
MWZ	**Matawai**	**4.16**	**45**	P	**Pn**	**17 01 12.2**	**-3.0**
AWAZ	**Awhitu Peninsu**	**4.33**	**9**	P	**Pn**	**17 01 17.2**	**-0.2**
ODZ	**Otahua Downs**	**4.35**	**211**	P	**Pn**	**17 01 15.8**	**-1.9**
ODZ	**Otahua Downs**	**4.35**	**211**	P	**Pn**	**17 01 17.2**	**-0.5**
WTAZ	**Waiatarua**	**4.45**	**8**	P	**Pn**	**17 01 19.2**	**+0.1**
ETAZ	**East Tamaki Re**	**4.47**	**12**	P	**Pn**	**17 01 19.5**	**+0.1**
JCZ	**Jackson Bay**	**4.58**	**232**	P	**Pn**	**17 01 19.7**	**-1.3**
MBAZ	**Motutapu North**	**4.65**

KIW	**Kapiti Island**	**4.02**	**219**	P	Pn	17 28 19.1	-2.9
CAW	**Cannon Point**	**4.13**	**215**	P	Pn	17 28 19.9	-3.7
PAWZ	**Paruwai Farm**	**4.21**	**210**	P	Pn	17 28 20.9	-3.8
PLWZ	**Palliser**	**4.43**	**210**	P	Pn	17 28 23.2	-4.5
TCW	**Tory Channel**	**4.60**	**220**	P	Pn	17 28 26.2	-3.8
BSWZ	**Blackbirch Sta**	**5.17**	**219**	P	Pn	17 28 34.2	-3.7
TKNZ	**Takaka Hill**	**5.22**	**230**	P	Pn	17 28 35.3	-3.2
QRZ	**Quartz Range**	**5.37**	**233**	P	Pn	17 28 37.3	-3.2
MRNZ	**Matariki Terra**	**5.56**	**228**	P	Pn	17 28 39.8	-3.4
THZ	**Tophouse**	**5.72**	**224**	P	Pn	17 28 41.7	-3.6
KHZ	**Kahutara**	**5.87**	**216**	P	Pn	17 28 43.1	-4.3
GVZ	**Greta Valley S**	**6.53**	**216**	P	Pn	17 28 53.4	-3.1
LTZ	**Lake Taylor**	**6.76**	**220**	P	Pn	17 28 54.5	-5.2
OKCZ	**Okains Bay**	**7.12**	**212**	P	Pn	17 28 59.9	-4.8
MOZ	**McQueen's Vall**	**7.28**	**214**	P	Pn	17 29 01.1	-5.7
ARCZ	**Arundel**	**8.16**	**219**	P	Pn	17 29 14.4	-4.4
TMZ	**Timaru**	**8.56**	**217**	P	Pn	17 29 19.1	-5.3
ODZ	**Otahua Downs**	**9.23**	**216**	P	Pn	17 29 28.1	-5.4

*GUC **27** 18:08:11.7±0.6, 21°52S×68°46W, h134km±4km, ML3.2*
*IDC **27** 18:08:35.9±20.0, 19°12S×67°26W, h267km±97km, mb3.1/2, mb1 3.0/4, mb1mx2.9/22, mbtmp3.4/4, Error ellipse: s-maj=408.3km s-min=35.2km az=14.0*

ISC 27 18:08:11.2±1.1, 21°50S±0°05×68°5W±0°1, h132km±10km, n17, σ0=98/30, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.78**	**247**	*e*P	**Pn**	**18 08 32.6**	**0.0**
PB09				*i* S	**Sn**	**18 08 49.3**	**+0.5**
PB09				IAML		18 08 50.9	
	comp=N,244nm,0.1s						
PB01	**IPOC Station P**	**1.05**	**295**	*e*P	**Pn**	**18 08 34.9**	**-0.1**
PB01				*i* S	**Sn**	**18 08 53.0**	**+0.1**
PB01				IAML		18 08 54.8	
	comp=E,500nm,0.3s						
PB03	**IPOC Station P**	**1.31**	**245**	*e*P	**Pn**	**18 08 37.4**	**-0.2**
PB03				*i* S	**Sn**	**18 08 57.4**	**-0.3**
PB03				IAML		18 08 59.4	
	comp=E,350nm,0.5s						
PB07	**IPOC Station P**	**1.34**	**260**	*e*P	**Pn**	**18 08 38.0**	**+0.1**
PB07				*i* S	**Sn**	**18 08 58.1**	**0.0**
PB07				IAML		18 08 59.3	
	comp=E,478nm,0.1s						
PB02	**IPOC Station P**	**1.34**	**277**	*e*P	**Pn**	**18 08 37.9**	**+0.1**
PB02				*i* S	**Sn**	**18 08 58.0**	**-0.1**
PB02				IAML		18 08 59.7	
	comp=E,822nm,0.3s						
PB08	**IPOC Station P**	**1.50**	**334**	*e*P	**Pn**	**18 08 40.5**	**+0.7**
PB08				*i* S	**Sn**	**18 09 02.4**	**+0.8**
PB08				IAML		18 09 05.2	
	comp=E,110nm,0.2s						
PB06	**IPOC Station P**	**1.58**	**220**	*e*P	**Pn**	**18 08 40.6**	**+0.1**
PB06				*i* S	**Sn**	**18 09 03.0**	**+0.1**
PB06				IAML		18 09 03.4	
	comp=E,305nm,0.1s						
PB04	**IPOC Station P**	**1.77**	**242**	*e*P	**Pn**	**18 08 42.7**	**-0.1**
PB04				*i* S	**Sn**	**18 09 06.1**	**-0.6**
PB04				IAML		18 09 10.9	
	comp=N,204nm,0.1s						
TA01	**Diego Aracena**	**1.85**	**300**	*e*P	**Pn**	**18 08 43.0**	**-0.5**
TA01				*i* S	**Sn**	**18 09 07.7**	**-0.5**
TA01				IAML		18 09 09.1	
	comp=E,274nm,0.2s						
PB15	**IPOC Station P**	**1.94**	**208**	*e*P	**Pn**	**18 08 45.1**	**+0.3**
PB15				*i* S	**Sn**	**18 09 10.7**	**+0.2**
GO01	**Chusmiza**	**1.94**	**339**	*e*P	**Pn**	**18 08 45.4**	**+0.3**
GO01				*i* S	**Sn**	**18 09 11.8**	**+0.8**
GO01				IAML		18 09 15.0	
	comp=E,250nm,0.2s						
PB11	**IPOC Station P**	**2.06**	**327**	*e*P	**Pn**	**18 08 46.0**	**-0.1**
PB11				*i* S	**Sn**	**18 09 12.6**	**-0.3**
PB11				IAML		18 09 14.7	
	comp=E,190nm,0.2s						
PB16	**IPOC Station P**	**3.29**	**343**	*e*P	**Pn**	**18 09 03.0**	**+0.7**
PB16				*i* S	**Sn**	**18 09 42.4**	**+0.6**
LPAZ	**La Paz**	**5.19**	**4**	P	**Pn**	**18 09 29.5**	**+1.9**
	comp=E,0.4nm,0.3s,baz=159,slow=5.7,SNR=6.9						
SIV	**San Ignacio**	**8.89**	**53**	P	**Pn**	**18 10 12.8**	**-4.0**
	comp=E,0.5nm,0.3s,baz=246,slow=10.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P	**P**	**18 19 49.2**	**-0.7**
	comp=E,0.5nm,0.7s,baz=246,slow=5.4,SNR=2.2						
YKA	**Yellowknife Ar**	**91.32**	**340**	P	**P**	**18 21 02.3**	**+0.8**
	comp=E,0.3nm,0.7s,baz=135,slow=5.3,SNR=5.1						

IDC 27 18:14:17.7±1.8, 4°55S×153°17E, h89km±12km, mb3.2/2, mb1 3.6/3, mb1mx3.1/26, mbtmp3.7/3, Error ellipse: s-maj=44.1km s-min=14.7km az=130.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.67**	**231**	P	Pn	18 16 06.9	+0.1
	2.0nm,0.3s,baz=62,slow=5.4,SNR=13						
PMG				S	Sn	18 17 32.7	+0.6
	3.2nm,0.3s,baz=309,slow=6.5,SNR=5.3						
WRA	**Warramunga Arr**	**23.88**	**229**	P	P	18 19 24.4	+1.0
	0.8nm,0.4s,baz=51,slow=9.8,SNR=4.6						
ASAR	**Alice Springs**	**26.58**	**223**	P	P	18 19 47.5	-0.2
	10nm,0.4s,baz=50,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**80.38**	**319**	P	P	18 26 19.9	+0.4
	0.2nm,0.5s,baz=89,slow=7.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**150.58**	**289**	PKPbc	PKPbc	18 33 59.8	-0.7
	1.7nm,0.8s,baz=88,slow=2.7,SNR=8.8						

*KRSC **27** 18:36:40.0±2.4, 49°37N×156°58E, h103km±39km, ML4.5*
*NEIC **27** 18:36:40.9±1.8, 49°7N±0°1×155°3E±0°2, h133km±10km, mb4.2/13, Error ellipse: s-maj=23.0km s-min=11.5km az=131.0*
*MOS **27** 18:36:40.5±1.2, 49°96N×154°69E, h110km, mb4.1/7, Error ellipse: s-maj=13.8km s-min=4.1km az=66.1*
*IDC **27** 18:36:44.4±2.8, 50°03N×155°20E, h150km±23km, mb3.4/19, mb1 3.5/21, mb1mx3.4/47, mbtmp3.8/21, Error ellipse: s-maj=24.4km s-min=11.9km az=168.0*

ISC 27 18:36:38.2±0.5, 49°49N±0°07×155°44E±0°07, h100km, n129, σ0=25/135, mb3.9/26, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.27**	**20**	*e*PN	Pn	18 37 05.6	+4.0
SKR				*e*S	**Sn**	**18 37 22.7**	**+3.3**
SKR				pmax	pmax		
	comp=Z,148nm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.4s						
SKR				smax	smax		
	comp=E,2μm,0.4s						
PAU	**Pauzhetka**	**2.17**	**23**	PN	**Pn**	**18 37 15.8**	**+3.0**
PAU				S	**Sn**	**18 37 41.4**	**+2.0**
PAU	**Pauzhetka**	**2.17**	**23**	*e*P	**Pn**	**18 37 15.8**	**+3.0**
PAU				*e*S	**Sn**	**18 37 41.4**	**+2.0**
KDTR	**Khodutka, Kamc**	**2.87**	**35**	PN	**Pn**	**18 37 23.6**	**+1.5**
KDTR				S	**Sn**	**18 37 54.6**	**-1.2**
KDTR	**Khodutka, Kamc**	**2.87**	**35**	*e*P	**Pn**	**18 37 23.6**	**+1.5**
KDTR				*e*S	**Sn**	**18 37 54.6**	**-1.2**
MTVR	**Mutnovka**	**3.46**	**29**	PN	**Pn**	**18 37 32.4**	**+2.2**
MTVR				S	**Sn**	**18 38 10.7**	**+0.3**
MTVR	**Mutnovka**	**3.46**	**29**	*e*P	**Pn**	**18 37 32.4**	**+2.2**
MTVR				*e*S	**Sn**	**18 38 10.7**	**+0.3**
GRL	**Gorelyy**	**3.49**	**27**	PN	**Pn**	**18 37 33.2**	**+2.7**
GRL				S	**Sn**	**18 38 12.2**	**+1.2**
GRL	**Gorelyy**	**3.49**	**27**	*e*P	**Pn**	**18 37 33.2**	**+2.7**
GRL				*e*S	**Sn**	**18 38 12.2**	**+1.2**
RUS	**Russkaya**	**3.53**	**32**	PN	**Pn**	**18 37 32.2**	**+1.3**
RUS				S	**Sn**	**18 38 10.0**	**-1.8**
RUS	**Russkaya**	**3.53**	**32**	*e*P	**Pn**	**18 37 32.2**	**+1.3**
RUS				*e*S	**Sn**	**18 38 10.0**	**-1.8**
APC	**Apacha**	**3.61**	**17**	PN	**Pn**	**18 37 33.7**	**+1.7**
APC	**Apacha**	**3.61**	**17**	*e*P	**Pn**	**18 37 33.7**	**+1.7**
KRMR	**Karymshinskiy**	**3.75**	**26**	PN	**Pn**	**18 37 36.0**	**+2.1**
KRMR	**Karymshinskiy**	**3.75**	**26**	*e*P	**Pn**	**18 37 36.0**	**+2.1**
PEA0B	**Petropavlovsk-**	**3.89**	**20**	*d i*PN	**Pn**	**18 37 38.4**	**+2.6**
PEA0B	**Petropavlovsk-**	**3.89**	**20**		**Pn**	**18 37 38.5**	**+2.7**
PETK	**Petropavlovsk-**	**3.89**	**20**	P	**Pn**	**18 37 37.8**	**+2.0**
	comp=E,39nm,0.3s,baz=181,slow=12,SNR=336						
PETK	**Petropavlovsk-**	**3.89**	**20**		**Pn**	**18 37 37.5**	**+1.7**
PET	**Petropavlovsk**	**4.08**	**28**	*e*PN	**Pn**	**18 37 40.3**	**+2.0**
PET				*e*S	**Sn**	**18 38 25.6**	**+0.7**
PET				pmax	pmax		
	comp=Z,112nm,0.6s						
PET				smax	smax		
	comp=N,130nm,0.6s						
PET				smax	smax		
	comp=E,102nm,1.0s						
PET	**Petropavlovsk**	**4.08**	**28**	Pn	**Pn**	**18 37 39.5**	**+1.3**
PET				Sn	**Sn**	**18 38 25.8**	**+0.9**
PET	**Petropavlovsk**	**4.08**	**28**	*e*P	**Pn**	**18 37 40.1**	**+1.8**
PET				*e*S	**Sn**	**18 38 25.1**	**+0.2**
DALK	**Dalny**	**4.11**	**29**	PN	**Pn**	**18 37 40.8**	**+2.0**
DALK				S	**Sn**	**18 38 25.7**	**-0.1**
DALK	**Dalny**	**4.11**	**29**	*e*P	**Pn**	**18 37 40.8**	**+2.0**
DALK				*e*S	**Sn**	**18 38 25.7**	**-0.1**
UGLR	**Uglovaya**	**4.29**	**28**	PN	**Pn**	**18 37 43.6**	**+2.3**
UGLR	**Uglovaya**	**4.29**	**28**	*e*P	**Pn**	**18 37 43.6**	**+2.3**
KOK	**Koryaka**	**4.30**	**26**	PN	**Pn**	**18 37 44.2**	**+2.7**
KOK	**Koryaka**	**4.30**	**26**	*e*P	**Pn**	**18 37 44.2**	**+2.7**
AVH	**Avacha**	**4.31**	**27**	PN	**Pn**	**18 37 44.4**	**+2.9**
AVH	**Avacha**	**4.31**	**27**	*e*P	**Pn**	**18 37 44.4**	**+2.9**
SMAR	**Somma**	**4.33**	**28**	PN	**Pn**	**18 37 44.3**	**+2.4**
SMAR	**Somma**	**4.33**	**28**	*e*P	**Pn**	**18 37 44.3**	**+2.4**
KRER	**Koryakskii**	**4.35**	**27**	PN	**Pn**	**18 37 44.6**	**+2.5**
KRER	**Koryakskii**	**4.35**	**27**	*e*P	**Pn**	**18 37 44.6**	**+2.5**
SDLR	**Sedlovina**	**4.37**	**28**	PN	**Pn**	**18 37 44.4**	**+2.1**
SDLR	**Sedlovina**	**4.37**	**28**	*e*P	**Pn**	**18 37 44.4**	**+2.1**
NLC	**Nalytchevo**	**4.43**	**32**	PN	**Pn**	**18 37 43.5**	**+0.5**
NLC				S	**Sn**	**18 38 28.8**	**-4.6**
NLC	**Nalytchevo**	**4.43**	**32**	*e*P	**Pn**	**18 37 43.5**	**+0.5**
NLC				*e*S	**Sn**	**18 38 28.8**	**-4.6**
GNL	**Ganaly**	**4.49**	**19**	PN	**Pn**	**18 37 46.3**	**+2.3**
GNL	**Ganaly**	**4.49**	**19**	*e*P	**Pn**	**18 37 46.3**	**+2.3**
SPN	**Mys Shipunski**	**4.62**	**37**	PN	**Pn**	**18 37 46.5**	**+0.9**
SPN	**Mys Shipunski**	**4.62**	**37**	*e*P	**Pn**	**18 37 46.5**	**+0.9**
SPN				*e*S	**Sn**	**18 38 33.1**	**-4.9**
KII	**Karymskiy**	**5.19**	**27**	PN	**Pn**	**18 37 55.7**	**+2.3**
KII	**Karymskiy**	**5.19**	**27**	*e*P	**Pn**	**18 37 55.7**	**+2.3**
TUMR	**Tumrok**	**6.48**	**25**	PN	**Pn**	**18 38 12.7**	**+1.8**
TUMR	**Tumrok**	**6.48**	**25**	*e*P	**Pn**	**18 38 12.7**	**+1.8**
ESO	**Esso**	**6.75**	**16**	PN	Pn	18 38 17.9	+3.4
ESO	**Esso**	**6.75**	**16**	*e*P	Pn	18 38 17.9	+3.4
KMNR	**Kamenistaya**	**6.92**	**23**	PN	**Pn**	**18 38 18.9**	**+1.9**
KMNR	**Kamenistaya**	**6.92**	**23**	*e*P	**Pn**	**18 38 18.9**	**+1.9**
KLY	**Klyuchi**	**7.53**	**23**	PN	**Pn**	**18 38 26.7**	**+1.7**
KLY	**Klyuchi**	**7.53**	**23**	*e*P	**Pn**	**18 38 26.7**	**+1.7**
BDR	**Baidarnaya**	**7.90**	**24**	PN	**Pn**	**18 38 31.1**	**+0.9**
BDR	**Baidarnaya**	**7.90**	**24**	*e*P	**Pn**	**18 38 31.1**	**+0.9**
KBTR	**Krutoberegovo**	**8.07**	**31**	PN	**Pn**	**18 38 32.1**	**-0.4**
KBTR	**Krutoberegovo**	**8.07**	**31**	*e*P	**Pn**	**18 38 32.1**	**-0.4**
KBG	**Krutoberegovo**	**8.07**	**30**	PN	**Pn**	**18 38 32.6**	**+0.1**
KBG				S	**Sn**	**18 40 00.3**	**-1.7**
KBG	**Krutoberegovo**	**8.07**	**30**	*e*P	**Pn**	**18 38 32.6**	**+0.1**
KBG				*e*S	**Sn**	**18 40 00.3**	**-1.7**
SHO	**Shikotan**	**8.16**	**230**	⇑*i*PN	**Pn**	**18 38 36.5**	**+2.8**
SHO				*e*S	**Sn**	**18 40 03.9**	**-0.3**
SHO				pmax	pmax		
	comp=N,10.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,12nm,0.3s						
SHO				pmax	pmax		
	comp=Z,17nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**8.54**	**234**	*e*PN	**Pn**	**18 38 43.3**	**+4.4**
YUK				S	**Sn**	**18 40 15.8**	**+2.4**
GRPR	**Tuman**	**8.62**	**234**	*e*PN	Pn	18 38 44.9	+5.0
GRPR				*e*S	**Sn**	**18 40 18.9**	**+3.6**
GRPR				pmax	pmax		
	comp=Z,66nm,0.4s						
BKI	**Bering**	**8.62**	**44**	PN	**Pn**	**18 38 39.6**	**-0.2**
BKI	**Bering**	**8.62**	**44**	*e*P	**Pn**	**18 38 39.6**	**-0.2**
BKI				*e*S	Sn	18 40 03.2	-12
RUSJ	**Misakicho**	**8.82**	**236**	*e*PN	Pn	18 38 49.6	+6.9
GLVR	**Golovnino**	**8.92**	**234**	PN	**Pn**	**18 38 48.5**	**+4.4**
NMR	**Nemuro--Hokkai**	**9.07**	**231**	*e*PN	**Pn**	**18 38 47.3**	**+1.1**
MA2	**Magadan**	**10.46**	**347**	PN	**Pn**	**18 39 06.8**	**+1.8**
MA2	**Magadan**	**10.46**	**347**	Pn	**Pn**	**18 39 06.8**	**+1.8**
ERM	**Erimo**	**11.37**	**234**	PN	**Pn**	**18 39 20.8**	**+3.5**
ERM	**Erimo**	**11.37**	**234**	Pn	**Pn**	**18 39 20.8**	**+3.5**
JTM	**Tenmabayashi**	**13.35**	**235**	Pn	**Pn**	**18 39 42.1**	**-1.3**
KLR	**Kul'dur**	**15.43**	**278**	P	**Pn**	**18 40 11.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=63,slow=14,SNR=3.4						
JMM	**Marumori**	**15.69**	**228**		**Pn**	**18 40 15.3**	**+1.9**
JMM				IAmb	IAmb	18 40 29.7	
	comp=Z,25nm,1.1s						
BILL	**Bilibino**	**19.38**	**12**	⇓*e*P	**P**	**18 40 56.7**	**+1.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
IMAR	**Indian Mountai**	**30.64**	**38**	P	**P**	**18 42 42.0**	**-0.5**
JOW	**Kunigami**	**30.82**	**233**	P	P	18 42 42.0	-2.5
H11N2	**WAKE ISLAND Hy**	**31.07**	**159**	T	T	19 17 08.8	
	baz=348,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**31.09**	**159**	T	T	19 17 10.9	
	baz=348,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**31.09**	**159**	T	T	19 17 08.8	
	baz=348,slow=76,SNR=5.0						
SONM	**Songino Array**	**31.98**	**286**	P	**P**	**18 42 51.8**	**-2.8**
	comp=Z,0.2nm,0.6s,baz=61,slow=11,SNR=1.6						
H11S1	**WAKE ISLAND Hy**	**32.21**	**160**	T	T	19 18 23.6	
	baz=348,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**32.22**	**160**	T	T	19 18 27.9	
	baz=348,slow=76,SNR=64						
H11S2	**WAKE ISLAND Hy**	**32.23**	**160**	T	T	19 18 23.3	
	baz=348,slow=76,SNR=20						
TOLK	**Toolik Lake Re**	**32.60**	**34**	P	**P**	**18 42 59.0**	**-0.7**
TOLK				IAmb	IAmb	18 43 05.5	
	comp=Z,8.7nm,1.5s						
COLA	**College**	**33.03**	**41**	⇑*e*P	**P**	**18 43 04.0**	**+0.6**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
FYU	**Fort Yukon**	**34.12**	**38**	P	P	18 43 08.4	-4.4
EGAK	**Eagle**	**35.90**	**41**	P	P	18 43 23.0	-5.1
YULB	**Yu-li**	**37.33**	**238**	P	P	18 43 33.9	-6.9
INK	**Inuvik**	**38.51**	**34**	P	**P**	**18 43 48.4**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=310,slow=8.7,SNR=3.2						
INK	**Inuvik**	**38.51**	**34**	P	**P**	**18 43 48.4**	**-1.7**
INK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
INK	**Inuvik**	**38.51**	**34**	IAmb	IAmb	18 43 50.4	
	comp=Z,3.5nm,1.2s						
ZALV	**Zalsovo Beam**	**42.32**	**304**	P	P	18 44 18.1	-3.6
	comp=Z,0.5nm,0.4s,baz=74,slow=5.3,SNR=2.0						
MK31	**Makanchi Array**	**47.10**	**296**	P	**P**	**18 44 57.3**	**-2.5**
MK31	**Makanchi Array**	**47.10**	**296**	P	**P**	**18 44 57.3**	**-2.5**
MKAR	**Makanchi Array**	**47.10**	**296**	P	**P**	**18 44 57.5**	**-2.4**
	comp=Z,1.1nm,0.8s,baz=58,slow=6.7,SNR=8.4						
MKAR	**Makanchi Array**	**47.10**	**296**	P	**P**	**18 44 57.8**	**-2.0**
MKAR	**Makanchi Array**	**47.10**	**296**	P	**P**	**18 44 57.8**	**-2.0**
KURK	**Kurchatov**	**47.18**	**302**	P	**P**	**18 44 59.3**	**-1.0**
KURK						18 46 29.2	
KURK	**Kurchatov**	**47.18**	**302**	P	**P**	**18 44 58.2**	**-2.1**
KURK				IAmb	IAmb	18 44 59.1	
	comp=Z,4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**47.27**	**302**	P	**P**	**18 44 59.2**	**-1.8**
	comp=Z,2.5nm,0.5s,baz=65,slow=8.2,SNR=18						
KURBB				PcP	**PcP**	**18 46 29.2**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=56,slow=3.6,SNR=4.4						
MAKZ	**Makanchi**	**47.28**	**296**	P	**P**	**18 44 59.1**	**-2.1**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MAKZ	**Makanchi**	**47.28**	**296**	P	**P**	**18 44 59.1**	**-2.1**
RES	**Resolute Bay**	**47.74**	**20**	P	**P**	**18 45 01.1**	**-3.2**
	comp=Z,0.5nm,0.4s,baz=278,slow=2.2,SNR=4.3						
YKA	**Yellowknife Ar**	**47.80**	**39**	P	**P**	**18 45 03.5**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=296,slow=7.5,SNR=7.1						
YKA	**Yellowknife Ar**	**47.80**	**39**	*e*P	**P**	**18 45 04.9**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.35**	**309**	P	**P**	**18 45 22.8**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=53,slow=14,SNR=18						
BRVK	**Borovoye**	**50.38**	**309**	P	**P**	**18 45 21.8**	**-2.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRVK	**Borovoye**	**50.38**	**309**	P	**P**	**18 45 21.8**	**-2.9**
BRVK				IAmb	IAmb	18 45 39.2	
	comp=Z,2.3nm,1.1s						
AAK	**Ala-Archa**	**54.03**	**296**	P	**P**	**18 45 50.7**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=172,slow=9.8,SNR=4.6						
ARU	**Arti**	**54.06**	**317**	P	**P**	**18 45 49.3**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=99,slow=3.3,SNR=7.0						
ARU	**Arti**	**54.06**	**317**	*c i*P	**P**	**18 45 49.1**	**-2.8**
ARU				*PP	**pP**	**18 46 11.5**	**-4.3**
ARU						18 46 55.6	
ARU						18 47 48.1	
ARU				S	**S**	**18 53 12.8**	**-7.3**
ARU				SS	**SKiKP**	**18 56 50.1**	**-2.9**
ARU				pmax	pmax		
	comp=Z,33nm,4.5s						
ARU	**Arti**	**54.06**	**317**	P	**P**	**18 45 49.1**	**-2.8**
ARU				IAmb	IAmb	18 45 50.4	
	comp=Z,2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.53**	**256**	P	**P**	**18 45 57.8**	**+1.9**
	comp=Z,1.2nm,0.8s,baz=29,slow=7.0,SNR=9.3						
KKAR	**Karatay Array**	**56.06**	**298**	P	**P**	**18 46 05.0**	**-1.5**
KKAR	**Karatay Array**	**56.06**	**298**	P	**P**	**18 46 05.0**	**-1.5**
ABKAR	**Akbulak array**	**57.88**	**310**	P	**P**	**18 46 17.2**	**-2.0**
ABKAR				IAmb	IAmb	18 46 18.3	
	comp=Z,2.0nm,0.6s						
NVAR	**Mina Array Bea**	**59.82**	**65**	P	**P**	**18 46 33.1**	**0.0**
	comp=Z,0.2nm,0.4s,baz=311,slow=8.2,SNR=2.4						
PDAR	**Pinedale Array**	**61.90**	**56**	P	**P**	**18 46 47.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=321,slow=2.1,SNR=5.1						
FINES	**FINESS Array B**	**62.22**	**335**	P	**P**	**18 46 46.4**	**-2.2**
	comp=Z,1.3nm,0.8s,baz=56,slow=5.2,SNR=1.5						
FINES	**FINESS Array B**	**62.22**	**335**	P	P	18 46 44.7	-3.9
NOA	**NORSAR Array B**	**66.12**	**342**	P	**P**	**18 47 11.3**	**-3.0**
	comp=Z,0.7nm,0.8s,baz=25,slow=4.7,SNR=2.0						
KBZ	**Khabaz**	**70.07**	**315**	P	**P**	**18 47 37.2**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=124,slow=3.6,SNR=4.6						
AKASG	**Malin Array Be**	**70.12**	**327**	P	P	18 47 35.8	-3.5
	comp=Z,0.6nm,0.5s,baz=34,slow=6.2,SNR=6.0						
SCHQ	**Schefferville**	**70.17**	**24**	P	**P**	**18 47 37.5**	**-2.1**
	comp=Z,1.2nm,0.4s,baz=353,slow=6.0,SNR=5.7						
TXAR	**Lajitas Array**	**74.82**	**63**	P	**P**	**18 48 08.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=298,slow=4.7,SNR=8.3						
ASAR	**Alice Springs**	**75.31**	**200**	P	**P**	**18 48 12.2**	**+2.0**
	comp=Z,15nm,0.4s,baz=13,slow=5.2,SNR=1.6						
H03N2	**Juan Fernandez**	**137.18**	**89**	T	T	21 28 17.4	
	baz=312,slow=74,SNR=7.7						
H03N1	**Juan Fernandez**	**137.19**	**89**	T	T	21 28 12.6	
	SNR=12						
H03N3	**Juan Fernandez**	**137.19**	**89**	T	T	21 28 21.9	
	baz=196,slow=74,SNR=7.0						

*SNET **27** 18:58:10.4±0.8, 13°16N×89°18W, h54km±6km, ML3.6*
*UCR **27** 18:58:10.5±1.0, 13°15N×89°18W, h54km±7km, ML3.6*

ISC 27 18:58:10.7±1.7, 13°09N±0°10×89°20W±0°05, h41km±26km, n61, σ0=50/104, 8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.55**	**14**	*e*P	**Pn**	**18 58 21.9**	**-0.4**
LFRS	**El Faro**	**0.55**	**14**	*e*P	**Pn**	**18 58 21.9**	**-0.4**
SJTE	**Alcalda de S**	**0.56**	**20**	⇓*e*P	**Pn**	**18 58 21.8**	**-0.6**
SJTE				*e*S	**Sn**	**18 58 30.6**	**0.0**
SJTE	**Alcalda de S**	**0.56**	**20**	⇓*e*P	**Pn**	**18 58 21.8**	**-0.6**
SJTE				*e*S	**Sn**	**18 58 30.6**	**0.0**
SNET	**Serv Nac Est T**	**0.60**	**357**	*e*P	**Pn**	**18 58 22.5**	**-0.4**
SNET				IAML		18 58 23.0	
	comp=Z,2μm,0.3s						
SNET				*e*S	**Sn**	**18 58 32.0**	**+0.4**
SNET	**Serv Nac Est T**	**0.60**	**357**	*e*P	**Pn**	**18 58 22.5**	**-0.4**
SNET				IAML		18 58 23.0	
	comp=Z,2μm,0.3s						
SNET				*e*S	**Sn**	**18 58 32.0**	**+0.4**
TECO	**Alcaldia de Te**	**0.61**	**42**	*e*P	**Pn**	**18 58 22.1**	**-0.8**
TECO				*e*S	**Sn**	**18 58 31.5**	**-0.2**
TECO	**Alcaldia de Te**	**0.61**	**42**	*e*P	**Pn**	**18 58 22.1**	**-0.8**
TECO				*e*S	**Sn**	**18 58 31.5**	**-0.2**
JAYA	**Jayaque - finc**	**0.61**	**337**	⇓*e*P	**Pn**	**18 58 22.8**	**-0.4**
JAYA				*e*S	**Sn**	**18 58 32.4**	**+0.3**
JAYA				IAML		18 58 33.4	
	comp=Z,12μm,0.2s	

JUCU				*e*S		**Sn**	**18 58 40.4**	**+0.5**
JUCU				IAML			18 58 44.2	
	comp=Z,701nm,0.2s							
JUCU	**Jucuarı̨n**	**0.94**	**80**	*e*P		**Pn**	**18 58 26.6**	**-1.0**
JUCU				*e*S		**Sn**	**18 58 40.4**	**+0.5**
JUCU				IAML			18 58 44.2	
	comp=Z,701nm,0.2s							
LCY	**Lacayo**	**0.94**	**69**	*e*P		**Pn**	**18 58 27.4**	**-0.2**
LCY				*e*S		**Sn**	**18 58 40.5**	**+0.6**
LCY	**Lacayo**	**0.94**	**69**	*e*P		**Pn**	**18 58 27.4**	**-0.2**
LCY				*e*S		**Sn**	**18 58 40.5**	**+0.6**
VSM	**San Miguel**	**0.96**	**69**	*e*P		**Pn**	**18 58 27.9**	**-0.2**
VSM	**San Miguel**	**0.96**	**69**	*e*P		**Pn**	**18 58 27.9**	**-0.2**
NUBE	**Las Nubes**	**0.99**	**325⇓**	*e*P		**Pn**	**18 58 27.7**	**-0.6**
NUBE	**Las Nubes**	**0.99**	**325⇓**	*e*P		**Pn**	**18 58 27.7**	**-0.6**
SLOZ	**Alcaldia de Sa**	**1.09**	**329**	*e*P		**Pn**	**18 58 29.4**	**-0.3**
SLOZ				*e*S		**Sn**	**18 58 43.7**	**+0.1**
LCND	**La Caada**	**1.29**	**80**	*e*P		**Pn**	**18 58 32.1**	**-0.2**
LCND				*e*S		**Sn**	**18 58 48.8**	**+0.3**
LCND				IAML			18 58 53.4	
	comp=Z,1μm,0.3s							
LCND	**La Caada**	**1.29**	**80**	*e*P		**Pn**	**18 58 32.1**	**-0.2**
LCND				*e*S		**Sn**	**18 58 48.8**	**+0.3**
LCND				IAML			18 58 53.4	
	comp=Z,1μm,0.3s							
MTO3	**Montecristo**	**1.31**	**353⇓**	*e*P		**Pn**	**18 58 32.4**	**-0.4**
MTO3				*e*S		**Sn**	**18 58 48.8**	**-0.4**
MTO3	**Montecristo**	**1.31**	**353⇓**	*e*P		**Pn**	**18 58 32.4**	**-0.4**
MTO3				*e*S		**Sn**	**18 58 48.8**	**-0.4**
CNCH	**Conchagua**	**1.34**	**82**	*e*P		**Pn**	**18 58 32.8**	**-0.4**
CNCH	**Conchagua**	**1.34**	**82**	*e*P		**Pn**	**18 58 32.8**	**-0.4**

*PGC **27** 19:03:19.1±3.0, 47°.63N×129°.19W, h10km, MLSn3.3/12, Mw3.9/12, 295km Wsw of Tofino, Bc Off Coast Of Washington*
*IDC **27** 19:03:19.4±2.2, 47°.76N×129°.24W, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.1/59, mbtmp3.3/5, ML3.4/4, MS3.2/8, Ms1 3.1/8, ms1mx2.9/45, Error ellipse: s-maj=44.1km s-min=6.8km az=68.0*
*NEIC **27** 19:03:22.1±1.1, 47°.85N±0°.09×128°.93W±0°.06, h10km±2km, mb3.6/1, ML3.3/10, Error ellipse: s-maj=15.3km s-min=5.9km az=194.0*
ISC 27 19:03:21.8±1.2, 47°.79N±0°.08×128°.93W±0°.07, h10km, n36, σ0§87/39, MS3.0/5, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**0.20**	**323**	P	**Pg**	**19 03 24.7**	**-1.1**
KEMF				S	**Sg**	**19 03 29.1**	**+0.7**
GDR	**Gold River**	**2.76**	**43**	Pn	**Pn**	**19 04 05.5**	**-0.6**
GDR				Sn	**Sn**	**19 04 38.8**	**-0.6**
BTB	**Buttle Lake**	**2.81**	**52**	Pn	**Pn**	**19 04 06.2**	**-0.8**
BTB				Sn	**Sn**	**19 04 41.4**	**+0.4**
WOSB	**Woss**	**2.83**	**32**	Pn	**Pn**	**19 04 06.5**	**-0.6**
MAYB	**Maynard**	**2.86**	**23**	Pn	**Pn**	**19 04 06.8**	**-0.7**
MAYB				Sn	**Sn**	**19 04 41.7**	**-0.3**
SPLB	**Strathcona Par**	**3.02**	**45**	Pn	**Pn**	**19 04 09.4**	**-0.1**
SPLB				Sn	**Sn**	**19 04 45.0**	**-0.7**
MGB	**Mount Grey**	**3.07**	**65**	Pn	**Pn**	**19 04 09.1**	**-1.3**
TLCB	**Telegraph Cove**	**3.08**	**26**	Pn	**Pn**	**19 04 09.6**	**-0.8**
TLCB				IAML		19 04 37.0	
	comp=N,73nm,4.6s						
TLCB				IAML		19 06 06.5	
	comp=E,76nm,4.1s						
TLCB	**Telegraph Cove**	**3.08**	**26**	Pn	**Pn**	**19 04 09.9**	**-0.5**
PFB	**Port Renfrew**	**3.10**	**74**	Pn	**Pn**	**19 04 08.8**	**-1.9**
NCRB	**Newcastle Ridg**	**3.22**	**35**	Pn	**Pn**	**19 04 12.0**	**-0.5**
CBB	**Campbell River**	**3.25**	**45**	Pn	**Pn**	**19 04 12.4**	**-0.3**
CBB					**Sn**	**19 04 52.3**	**+0.9**
CBB				IAML		19 05 17.4	
	comp=E,79nm,4.7s						
CBB	**Campbell River**	**3.25**	**45**	Pn	**Pn**	**19 04 12.2**	**-0.6**
CBB				Sn	**Sn**	**19 04 51.9**	**+0.5**
B926	**Mesachie Lake**	**3.36**	**70**	Sn	**Sn**	**19 04 53.9**	**-0.4**
CLRS	**Cowichan Lake**	**3.36**	**70**	Pn	**Pn**	**19 04 12.6**	**-1.7**
CLRS				IAML		19 06 15.3	
	comp=E,60nm,3.9s						
CLRS	**Cowichan Lake**	**3.36**	**70**	Pn	**Pn**	**19 04 13.3**	**-1.0**
CLRS				Sn	**Sn**	**19 04 53.4**	**-0.9**
TXB	**Texada**	**3.53**	**56**	Pn	**Pn**	**19 04 16.1**	**-0.6**
TXB				Sn	**Sn**	**19 04 57.7**	**-0.8**
SHB	**Sechelt**	**3.80**	**60**	Pn	**Pn**	**19 04 19.8**	**-0.7**
BIB	**Bowen Island**	**4.06**	**64**	Pn	**Pn**	**19 04 23.5**	**-0.4**
BBB	**Bella Bella**	**4.43**	**6**	Pn	**Pn**	**19 04 28.6**	**-0.4**
	comp=E,6.7nm,0.3s,baz=204,slow=12,SNR=20						
BBB	**Bella Bella**	**4.43**	**6**	Pn	**Pn**	**19 04 28.5**	**-0.4**
LLLB	**Lillooet**	**5.41**	**56**	Pn	**Pn**	**19 04 43.0**	**+0.6**
LLLB				IAML		19 05 34.3	
	comp=N,23nm,5.0s						
LLLB				IAML		19 06 43.8	
	comp=E,27nm,4.7s						
LLLB	**Lillooet**	**5.41**	**56**	Pn	**Pn**	**19 04 42.2**	**-0.2**
YBH	**Yreka Blue Hor**	**7.50**	**142**	LR	LR	19 07 53.6	
	comp=E,137nm,21.9s,baz=308,slow=36						
ELK	**Elko**	**12.07**	**121**	LR	LR	19 10 37.0	
	comp=E,120nm,20.6s,baz=337,slow=36						
NVAR	**Mina Array Bea**	**12.14**	**137**	Pn	**Pn**	**19 06 15.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=302,slow=8.4,SNR=1.5						
NVAR				LR	LR	19 11 09.0	
	comp=E,66nm,19.5s,baz=322,slow=38						
BW06	**Boulder Array**	**14.52**	**103**		**Sn**	**19 09 28.8**	**+0.3**
PDAR	**Pinedale Array**	**14.52**	**103**	Pn	**Pn**	**19 06 49.6**	**+2.2**
	comp=E,0.0nm,0.3s,baz=287,slow=13,SNR=1.7						
YKA	**Yellowknife Ar**	**16.79**	**23**	Pn	**Pn**	**19 07 16.1**	**-0.6**
	comp=E,0.1nm,0.3s,baz=218,slow=11,SNR=5.1						
PHWY	**Pilot Hill**	**17.90**	**103**		**Sn**	**19 10 49.7**	**-1.1**
FFC	**Flin Flon**	**18.16**	**58**	P	**P**	**19 07 34.9**	**+0.8**
FFC				IAmb	IAmb	19 07 43.0	
	comp=Z,5.2nm,0.9s						
ANMO	**Albuquerque**	**21.10**	**119**	LR	LR	19 16 56.5	
	comp=Z,37nm,20.2s,baz=293,slow=38						
ULM	**Lac du Bonnet**	**21.71**	**71**	LR	LR	19 16 50.9	
	comp=Z,133nm,20.9s,baz=284,slow=37						
TXAR	**Lajitas Array**	**26.82**	**124**	P	**P**	**19 09 02.7**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=334,slow=8.0,SNR=3.9						
TXAR				LR	LR	19 21 13.2	
	comp=Z,27nm,18.7s,baz=333,slow=40						
PETK	**Petropavlovsk-**	**45.13**	**305**	LR	LR	19 29 17.4	
	comp=Z,21nm,20.9s,baz=96,slow=35						
KLR	**Kul'dur**	**60.92**	**312**	LR	LR	19 39 30.9	
	comp=Z,37nm,19.3s,baz=36,slow=36						

*IDC **27** 19:03:35.1±1.3, 17°.75S×178°.60W, h561km±14km, mb3.6/11, mb1 3.8/14, mb1mx3.4/40, mbtmp4.5/14, Error ellipse: s-maj=39.5km s-min=12.2km az=149.0*
*NEIC **27** 19:03:35.3±1.6, 17°.8S±0°.1×178°.6W±0°.1, h564km±8km, mb4.6/42, Error ellipse: s-maj=24.2km s-min=14.5km az=141.0*
*NOU **27** 19:03:41.2, 17°.80S×179°.12W, h598km, mb4.6/29, Fiji Islands Region*
ISC 27 19:03:35.8±0.5, 17°.90S±0°.10×178°.59W±0°.09, h579km, n110, σ1§27/106, mb4.5/37, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.21**	**272**	P	**P**	**19 04 54.0**	**-0.5**
	13nm,0.3s,baz=112,slow=3.5,SNR=143						
MSVF	**Nonsavu**	**3.21**	**272**	P	**P**	**19 04 53.1**	**-1.5**
AFI	**Afiamalu**	**7.66**	**60**	P	**P**	**19 05 27.9**	**-3.4**
	17nm,0.3s,baz=75,slow=3.3,SNR=15						
AFI	**Afiamalu**	**7.66**	**60**	P	**P**	**19 05 28.8**	**-2.5**
NIUE	**Niue**	**8.30**	**99**	P	P	19 05 34.1	-3.2
DVP	**Devils Point**	**12.60**	**269**	P	**P**	**19 06 21.5**	**+0.9**
MARNC	**Mare, Loyalty**	**13.10**	**252**	P	**P**	**19 06 23.6**	**-2.1**
LIFNC	**LIFOU**	**13.68**	**256**	P	**P**	**19 06 29.0**	**-2.6**
SANVU	**Saraoutou**	**13.83**	**278**	P	**P**	**19 06 29.3**	**-4.0**
PINNC	**Pines Island,**	**13.92**	**248**	P	**P**	**19 06 31.6**	**-2.5**
OUENC	**Ouen Island, N**	**14.40**	**249**	P	**P**	**19 06 36.9**	**-1.9**
OUENC	**Ouen Island, N**	**14.40**	**249**	P	**P**	**19 06 40.8**	**+2.0**
DZM	**Mont Dzumac**	**14.67**	**251**	P	**P**	**19 06 40.1**	**-1.5**
	1.4nm,0.3s,baz=106,slow=20,SNR=17						
DZM	**Mont Dzumac**	**14.67**	**251**	P	**P**	**19 06 38.1**	**-3.4**
DZM	**Mont Dzumac**	**14.67**	**251**	P	**P**	**19 06 43.5**	**+2.0**
	21nm,1.7s						
ONTNC	**Ouen Toro**	**14.72**	**250**	P	**P**	**19 06 38.7**	**-3.2**
NOUC	**Port Laguerre**	**14.80**	**251**	P	**P**	**19 06 41.7**	**-1.0**
KOUNC	**Koumac, New Ca**	**16.39**	**258**	P	**P**	**19 06 57.6**	**-0.1**
LTZ	**Lake Taylor**	**25.99**	**195**	P	**P**	**19 08 21.2**	**-2.5**
LTZ				IAmb	IAmb	19 08 23.1	
	comp=Z,13nm,1.0s						
FOZ	**Fox Glacier**	**27.37**	**199**	P	**P**	**19 08 35.0**	**-0.6**
EIDS	**Eidsvold**	**29.11**	**250**	P	**P**	**19 08 50.3**	**-0.8**
EIDS				IAmb	IAmb	19 08 51.7	
	comp=Z,12nm,0.7s						
EIDS	**Eidsvold**	**29.11**	**250**	P	**P**	**19 08 51.0**	**-0.1**
MLZ	**Mavora Lakes**	**29.55**	**199**	P	**P**	**19 08 54.7**	**+0.2**
MLZ				IAmb	IAmb	19 08 55.3	
	comp=Z,17nm,0.9s						
ARMA	**Armidale**	**29.80**	**240**	P	**P**	**19 08 58.0**	**+0.9**
ARMA				IAmb	IAmb	19 08 58.9	
	comp=Z,15nm,0.8s						
RMQ	**Roma**	**31.35**	**248**	P	**P**	**19 09 10.9**	**+0.6**
CTA	**Charters Tower**	**33.28**	**261**	P	**P**	**19 09 27.1**	**+0.4**
CTAO	**Charters Tower**	**33.28**	**261**	P	**P**	**19 09 26.3**	**-0.4**
CTAO				IAmb	IAmb	19 09 27.5	
	comp=Z,11nm,0.8s						
CTAO	**Charters Tower**	**33.28**	**261**	P	**P**	**19 09 27.1**	**+0.4**
CNB	**Canberra Magne**	**33.30**	**232**	P	**P**	**19 09 27.9**	**+1.2**
CAN	**Canberra**	**33.57**	**232**	P	**P**	**19 09 28.4**	**-0.6**
CAN				IAmb	IAmb	19 09 30.4	
	comp=Z,13nm,0.8s						
PMG	**Port Moresby**	**34.29**	**280**	P	**P**	**19 09 34.2**	**-1.0**
CMSA	**Cobar Meteorol**	**35.01**	**240**	P	**P**	**19 09 41.6**	**+0.7**
MTSU	**Mount Surprise**	**35.24**	**264**	P	**P**	**19 09 43.2**	**+0.1**
QLP	**Quilpie**	**35.38**	**249**	P	**P**	**19 09 44.2**	**+0.1**
COEN	**Coen**	**36.93**	**270**	P	**P**	**19 09 56.9**	**-0.1**
COEN				IAmb	IAmb	19 09 58.4	
	comp=Z,15nm,0.8s						
COEN	**Coen**	**36.93**	**270**	P	**P**	**19 09 57.5**	**+0.5**
TOO	**Toolangi**	**37.04**	**231**	P	**P**	**19 09 58.6**	**+0.9**
TOO				IAmb	IAmb	19 09 59.5	
	comp=Z,22nm,0.7s						
TOO	**Toolangi**	**37.04**	**231**	P	**P**	**19 09 58.8**	**+1.1**
BRAT	**Ballarat**	**38.19**	**231**	P	**P**	**19 10 08.3**	**+1.4**
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**19 10 10.4**	**+1.0**
	comp=Z,17nm,0.5s,baz=92,slow=10,SNR=60						
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**19 10 10.3**	**+0.8**
STKA				IAmb	IAmb	19 10 11.3	
	comp=Z,8.1nm,1.1s						
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**19 10 10.6**	**+1.2**
INKA	**Innaminka**	**38.59**	**248**	P	**P**	**19 10 11.3**	**+1.0**
MCQ	**Macquarie Isla**	**40.41**	**200**	P	**P**	**19 10 25.4**	**+1.0**
MCQ				IAmb	IAmb	19 10 44.7	
	comp=Z,32nm,1.0s						
HTT	**Hallett**	**41.00**	**239**	P	**P**	**19 10 30.4**	**+0.8**
LCRK	**Leigh Creek**	**41.11**	**244**	P	**P**	**19 10 30.9**	**+0.5**
	comp=Z,70nm,0.7s						
NAPP	**Napperby**	**41.59**	**240**	P	**P**	**19 10 35.7**	**+1.5**
WHYH	**Whyalla**	**42.04**	**240**	P	**P**	**19 10 38.7**	**+1.0**
	comp=Z,50nm,0.7s						
OOD	**Oodnadatta**	**43.06**	**248**	P	**P**	**19 10 46.7**	**+0.9**
BBOO	**Buckleboo**	**43.26**	**241**	P	**P**	**19 10 47.6**	**+0.4**
BBOO	**Buckleboo**	**43.26**	**241**	P	**P**	**19 10 47.5**	**+0.3**
MLH	**Mauna Loa**	**43.59**	**33**	P	**P**	**19 10 50.5**	**+0.3**
HMH	**Humu'ula Sheep**	**43.63**	**32**	P	**P**	**19 10 50.8**	**+0.2**
WB0	**Warramunga Arr**	**44.43**	**260**	P	**P**	**19 10 55.7**	**-0.8**
WB0				IAmb	IAmb	19 10 56.7	
	comp=Z,8.6nm,0.7s						
WB2	**Warramunga Arr**	**44.45**	**260**	P	**P**	**19 10 56.0**	**-0.7**
WB2				IAmb	IAmb	19 10 56.9	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**44.46**	**260**	P	**P**	**19 10 56.4**	**-0.3**
WRA	**Warramunga Arr**	**44.47**	**260**	P	**P**	**19 10 56.4**	**-0.4**
	comp=Z,7.8nm,0.7s,baz=92,slow=6.8,SNR=86						
WRA	**Warramunga Arr**	**44.47**	**260**	P	**P**	**19 10 55.9**	**-0.9**
AS31	**Alice Springs**	**44.63**	**254**	P	**P**	**19 10 57.9**	**0.0**
AS31				IAmb	IAmb	19 10 58.7	
	comp=Z,22nm,0.6s						
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**19 10 58.2**	**+0.2**
	comp=Z,72nm,0.6s,baz=99,slow=9.3,SNR=7.6						
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**19 10 57.2**	**-0.8**
MULG	**Mulgathing**	**44.66**	**245**	P	**P**	**19 10 58.3**	**+0.2**
MTN	**Manton Dam**	**48.63**	**268**	P	**P**	**19 11 27.9**	**-0.3**
MTN				IAmb	IAmb	19 11 35.6	
	comp=Z,33nm,1.5s						
FORT	**Forrest**	**49.86**	**245**	P	**P**	**19 11 36.6**	**-0.3**
KNRA	**Kununurra**	**50.32**	**264**	P	**P**	**19 11 40.4**	**-0.2**
KNRA				IAmb	IAmb	19 11 41.1	
	comp=Z,16nm,0.7s						
FAKI	**Fak Fak**	**50.41**	**281**	P	**P**	**19 11 41.0**	**-0.2**
FAKI				IAmb	IAmb	19 11 41.8	
	comp=Z,27nm,1.4s						
SOEI	**Soe**	**55.90**	**270**	P	**P**	**19 12 20.5**	**+0.3**
SOEI				IAmb	IAmb	19 12 26.3	
	comp=Z,21nm,0.6s						
MBWA	**Marble Bar**	**57.91**	**256**	P	**P**	**19 12 33.4**	**-0.4**
MORW	**Morawa**	**60.33**	**246**	P	**P**	**19 12 49.0**	**-0.8**
MORW				IAmb	IAmb	19 13 00.9	
	comp=Z,27nm,1.4s						
TOLI2	**Tolitoli**	**62.55**	**281**	P	**P**	**19 13 03.4**	**-1.1**
TOLI2				IAmb	IAmb	19 13 31.3	
	comp=Z,10nm,1.1s						
GIRL	**Giralia**	**62.73**	**253**	P	**P**	**19 13 06.2**	**+0.7**
SSLB	**Suanglung**	**72.09**	**303**	P	**P**	**19 14 00.3**	**-2.3**
SSLB				IAmb	IAmb	19 14 09.7	
	comp=Z,26nm,1.4s						
PEA0B	**Petropavlovsk-**	**73.63**	**345**	P	**P**	**19 14 11.2**	**+0.5**
PETK	**Petropavlovsk-**	**73.63**	**345**	P	**P**	**19 14 10.8**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=121,slow=7.4,SNR=9.7						
PETK	**Petropavlovsk-**	**73.63**	**345**	P	**P**	**19 14 11.5**	**+0.8**
OHAK	**Old Harbor**	**77.76**	**14**	P	**P**	**19 14 33.8**	**+0.3**
NJ2	**Nanjing**	**77.80**	**310**	*e*P	**P**	**19 14 35.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ISA	**Isabella, Lake**	**77.93**	**46**	P	**P**	**19 14 36.0**	**+1.0**
CMB	**Columbia Colle**	**77.95**	**43**	P	**P**	**19 14 35.5**	**+0.5**
YBH	**Yreka Blue Hor**	**78.62**	**39**	P	**P**	**19 14 39.2**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=165,slow=2.0,SNR=6.0						
YBH	**Yreka Blue Hor**	**78.62**	**39**	IAmb	IAmb	19 14 40.3	
	comp=Z,2.4nm,0.7s						
Q19K	**Cape Douglas,**	**79.24**	**13**	P	**P**	**19 14 43.3**	**+1.9**
LHV	**Little Huntoon**	**79.31**	**44**	P	**P**	**19 14 41.9**	**-0.2**
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**19 14 44.5**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=222,slow=7.5,SNR=14						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**19 14 42.9**	**-0.7**
NV11	**Mina Array Sit**	**79.63**	**44**	P	**P**	**19 14 44.0**	**0.0**
MOD	**Modoc Plateau**	**80.19**	**40**	P	**P**	**19 14 47.4**	**+0.5**
WVOR	**Wild Horse Val**	**81.51**	**40**	P	**P**	**19 14 54.5**	**+0.9**
SEY	**Seymchan**	**83.73**	**347**	P	**P**	**19 15 04.2**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=132,slow=7.6,SNR=14						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**19 15 13.9**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=222,slow=5.2,SNR=24						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**19 15 13.4**	**-1.3**
TX31	**Lajitas Ar. Sí**	**86.13**	**58**	P	**P**	**19 15 16.9**	**+0.2**
TX31				IAmb	IAmb	19 15 19.2	
	comp=Z,7.7nm,0.8s						
TX32	**Lajitas Array**	**86.13**	**58**	P	**P**	**19 15 18.1**	**+1.4**
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	**19 15 17.3**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=218,slow=5.8,SNR=13						
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	**19 15 17.1**	**+0.4**
HHC	**Hu-ho-hao-te**	**87.14**	**315**	*e*P	**P**	**19 15 24.5**	**+3.3**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,4.6s						
CMAR	**Chiang Mai Arr**	**88.72**	**290**	P	**P**	**19 15 30.8**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=117,slow=3.1,SNR=9.7						
PZH	**PanZhiHua**	**89.00**	**298**	P	**P**	**19 15 33.0**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,4.8s						
SNAA	**Sanae**	**90.61**	**179**	P	**P**	**19 15 36.9**	**+0.1**
VNA3	**Neumayer Olymp**	**90.76**	**176**	P	**P**	**19 15 37.6**	**+0.2**
INK	**Inuvik**	**91.92**	**15**	P	**P**	**19 15 42.2**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=152,slow=2.3,SNR=5.2						
INK	**Inuvik**	**91.92**	**15**	IAmb	IAmb	19 16 03.7	
	comp=Z,4.8nm,1.5s						
YKA	**Yellowknife Ar**	**94.39**	**25**	P	**P**	**19 15 53.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=248,slow=4.6,SNR=7.1						
BNN	**Bunyan**	**143.52**	**312**		PKPbc	19 22 05.4	+0.9
BRTR	**Keskin Array B**	**144.65**	**315**	PKP	**PKPdf**	**19 22 07.7**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=150,slow=6.1,SNR=4.3						
BRTR	**Keskin Array B**	**144.65**	**315**		**PKPdf**	**19 22 07.4**	**-0.2**
CLL	**Collm**	**145.42**	**347**	*e*PKPbc	**PKPbc**	**19 22 10.0**	**+0.4**
GERES	**GERESS Array B**	**147.56**	**345**	PKPbc	**PKPbc**	**19 22 16.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=45,slow=4.0,SNR=6.0						
GERES	**GERESS Array B**	**147.56**	**345**		**PKPbc**	**19 22 15.9**	**+0.2**
DAVOX	**Davos/Dischmat**	**150.36**	**348**	PKPbc	**PKPbc**	**19 22 23.4**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=270,slow=4.0,SNR=3.5						

*IDC **27** 19:11:39.1±1.6, 43°.88N×105°.38W, h0km, mb3.9/3, mb1 3.9/8, mb1mx3.6/54, mbtmp3.7/8, ML3.6/5, MS3.6/3, Ms1 3.6/3, ms1mx2.8/90, Error ellipse: s-maj=52.9km s-min=7.6km az=148.0*
*NEIC **27** 19:11:40.9±1.0, 44°.05N±0°.05×105°.33W±0°.03, h0km±2km, ML3.5/56, Error ellipse: s-maj=9.3km s-min=3.3km az=357.0*
*ANF **27** 19:11:41.7±1.0, 44°.06N×105°.32W, h9km±9km, ML3.7/12, Error ellipse: s-maj=4.5km s-min=2.1km az=71.0*
ISC 27 19:11:39.9±0.7, 44°.04N±0°.04×105°.29W±0°.04, h0km, n93, σ1§18/97, mb4.0/3, MS3.5/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**84**		**Pb**	**19 11 59.2**	**+0.5**
RSSD	**Black Hills**	**0.91**	**84**	P	**Pb**	**19 11 59.3**	**+0.7**
	baz=267						
RSSD				S	**Sn**	**19 12 13.5**	**-0.5**
	baz=267						
K22A	**Casper**	**1.65**	**213**		**Pn**	**19 12 09.7**	**-0.7**
K22A				IAML		19 12 37.7	
	comp=E,674nm,0.3s						
K22A	**Casper**	**1.65**	**213**	P	**Pn**	**19 12 09.6**	**-0.7**
	baz=32,SNR=261						
K22A				S	**Sn**	**19 12 30.9**	**-1.5**
	baz=32						
LAO	**LASA Array**	**2.73**	**346**		**Pn**	**19 12 25.3**	**+0.2**
LAO	**LASA Array**	**2.73**	**346**	P	**Pn**	**19 12 25.5**	**+0.5**
	baz=166						
LAO				Sb	**Sg**	**19 13 05.8**	**-1.8**
	baz=166						
PHWY	**Pilot Hill**	**2.74**	**183**	Pn	**Pn**	**19 12 26.0**	**+0.6**
PHWY				IAML		19 13 07.0	
	comp=E,170nm,0.6s						
RWWY	**Rawlins**	**2.74**	**212**		**Pn**	**19 12 26.1**	**+0.7**
RWWY				IAML		19 13 05.2	
	comp=E,157nm,0.6s						
RWWY				IAML		19 13 10.6	
	comp=E,167nm,0.6s						
RLMT	**Red Lodge**	**3.04**	**292**		**Pn**	**19 12 30.2**	**+0.7**
RLMT				IAML		19 13 17.1	
	comp=E,104nm,0.6s						
RLMT				IAML		19 13 19.2	
	comp=E,103nm,0.6s						
RLMT	**Red Lodge**	**3.04**	**292**	P	**Pn**	**19 12 29.9**	**+0.4**
	baz=109						
N23A	**Red Feather La**	**3.18**	**189**		**Pn**	**19 12 32.6**	**+1.2**
N23A				IAML		19 13 21.8	
	comp=E,137nm,0.6s						
N23A				IAML		19 13 21.8	
	comp=N,123nm,0.5s						
N23A	**Red Feather La**	**3.18**	**189**	P	**Pn**	**19 12 32.7**	**+1.2**
	baz=8.1,SNR=21						
N23A				Sb	**Sb**	**19 13 18.5**	**+1.7**
	baz=8.1						
BW06	**Boulder Array**	**3.36**	**249**		**Pn**	**19 12 34.3**	**+0.4**
BW06				IAML		19 13 23.3	
	comp=N,84nm,0.6s						
BW06				IAML		19 13 25.5	
	comp=N,101nm,0.6s						
BW06	**Boulder Array**	**3.36**	**249**	P	**Pn**	**19 12 34.3**	**+0.4**
	baz=66,SNR=38						
PD31	**Pinedale Array**	**3.36**	**249**		**Pn**	**19 12 33.8**	**-0.1**
PDAR	**Pinedale Array**	**3.36**	**249**	Pn	**Pn**	**19 12 34.0**	**+0.1**
	comp=N,6.7nm,0.3s,baz=68,slow=16,SNR=43						
PDAR				Lg	Lg	19 13 20.9	
	comp=N,40nm,0.3s,baz=67,slow=31,SNR=13						
PDAR	**Pinedale Array**	**3.36**	**249**		**Pn**	**19 12 33.6**	**-0.3**
YMP	**Mirror Lake Pl**	**3.56**	**283**		**Pn**	**19 12 36.9**	**+0.2**
YMP				IAML		19 13 40.5	
	comp=N,123nm,0.5s						
YMP				IAML		19 13 47.0	
	comp=E,106nm,0.6s						
GCMT	**Greycliff**	**3.57**	**301**		**Pn**	**19 12 37.8**	**+1.1**
LKWY	**Lake**	**3.71**	**280**		**Pn**	**19 12 40.1**	**+1.5**
H17A	**Grant Village**	**3.82**	**277**		**Pn**	**19 12 41.5**	**+1.3**
H17A	**Grant Village**	**3.82**	**277**	P	**Pn**	**19 12 41.1**	**+0.9**
	baz=93,SNR=14	

SDCO	Great Sand Dun	6.29 182	P	Pn	19 13 15.0	+0.8
	baz=1.2,SNR=9.0					
PV11	David Mesa, Pa	6.34 206		Pn	19 13 15.6	+0.8
S22A	4UR Ranch, Cre	6.39 191		Pn	19 13 16.0	+0.4
TMUT	Trail Mountain	6.49 225		Pn	19 13 15.9	-1.0
NLU	North Lily Min	6.50 233		Pn	19 13 15.9	-1.0
HLID	Hailey	6.62 269		Pn	19 13 20.1	+1.5
HLID	Hailey	6.62 269	P	Pn	19 13 20.3	+1.7
	baz=82					
F33A	5 Mile Ranch,	6.63 71	Pn	Pn	19 13 18.3	-0.3
CBKS	Cedar Bluff	6.68 139		Pn	19 13 18.4	-0.9
CBKS	Cedar Bluff	6.68 139	P	Pn	19 13 19.8	+0.6
	baz=323					
MSO	Missoula	6.70 298		Pn	19 13 19.5	-0.1
MSO	Missoula	6.70 298	P	Pn	19 13 19.9	+0.3
	baz=112,SNR=8.9					
Q16A	Castle Valley	6.76 223	Pn	Pn	19 13 19.8	-0.7
DUG	Dugway, Tooele	6.78 238		Pn	19 13 20.6	-0.2
DUG	Dugway, Tooele	6.78 238	P	Pn	19 13 21.4	+0.5
	baz=53,SNR=13					
T25A	Trinidad	6.92 174	P	Pn	19 13 23.6	+0.8
	baz=355					
JTMT	Jette	7.29 304		Pn	19 13 27.4	-0.3
MSU	Marysvale	7.57 226	Pn	Pn	19 13 30.6	-1.2
AGMN	Agassiz Nation	7.81 54	Pn	Pn	19 13 34.1	-0.6
MTPU	Mount Pierson	7.94 223	Pn	Pn	19 13 36.3	-0.6
ELK	Elko	8.07 249	Pn	Pn	19 13 38.7	+0.2
	comp=N,0.5nm,0.3s,baz=75,slow=7.5,SNR=8.6					
I10CA	LAC DU BONNET	8.82 42	*i*		20 13 40.0	
	baz=223,slow=330,SNR=1.3					
ULM	Lac du Bonnet	8.93 43	Pn	Pn	19 13 49.1	-1.0
	comp=N,3.7nm,0.3s,baz=230,slow=11,SNR=14					
ULM			Pg	Pg	19 14 24.0	-6.8
	comp=N,1.4nm,0.3s,baz=233,slow=14,SNR=4.3					
ULM			Lg	Lg	19 16 22.5	
	comp=N,1.1nm,0.3s,baz=127,slow=22,SNR=1.8					
NVAR	Mina Array Bea	11.28 245	Pn	Pn	19 14 23.4	+0.8
	comp=N,0.2nm,0.3s,baz=52,slow=12,SNR=9.6					
YKA	Yellowknife Ar	19.27 347	P	P	19 16 05.4	-0.4
	comp=N,0.2nm,0.3s,baz=158,slow=12,SNR=6.7					
DLBC	Dease Lake	20.98 322	LR	LR	19 25 51.2	
	comp=N,208nm,19.9s,baz=326,slow=40					
TIXI	Tiksi	58.45 342	LR	LR	19 48 40.6	
	comp=N,34nm,18.0s,baz=260,slow=38					
FINES	FINESS Array B	67.76 23	P	P	19 22 39.1	+0.2
	comp=N,0.7nm,0.7s,baz=300,slow=3.8,SNR=3.3					
AKASG	Malin Array Be	77.70 28	P	P	19 23 38.0	-0.1
	comp=N,0.1nm,0.3s,baz=330,slow=5.5,SNR=4.3					
MKAR	Makanchi Array	89.31 355	P	P	19 24 38.0	+0.2
	comp=N,0.7nm,0.6s,baz=10,slow=4.9,SNR=10.0					
DBIC	Dimbokro	92.85 78	LR	LR	20 03 09.7	
	comp=N,33nm,20.4s,baz=151,slow=33					

*CNRM **27** 19:12:32.0, 35.°76N×3.°60W, h24km, ml2.7*
*SFS **27** 19:12:32.0, 35.°67N×3.°73W, ML2.3, ALBORAN SUR*
ISC 27 19:12:32.2±1.3, 35.°78N±0.°05×3.°56W±0.°04, h23km±14km, n11, σ1§25/22, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.64	209	P	Pb	19 12 44.0	-0.7
PALE				S	Sb	19 12 52.3	-0.9
GOG	Mont Gurugu	0.72	140	P	Pn	19 12 47.0	-0.1
GOG				S	Sb	19 12 55.7	+0.1
CHAS	Isla Isabel II	1.10	122	*e*P	Pb	19 12 52.1	-0.3
CHAS				*e*S	Sn	19 13 05.8	-0.7
EMAL	Malaga-Limoner	1.21	325	*e*P	Pb	19 12 54.7	+0.3
EMAL				*e*S	Sb	19 13 11.8	+2.3
CEU	Ceuta	1.48	275	*e*P	Pn	19 12 55.7	-1.7
CEU				*e*S	Sn	19 13 13.3	-2.6
SMIR	Smir Dam	1.48	267	P	Pn	19 12 56.1	-1.3
SMIR				S	Sn	19 13 16.8	+0.7
CHEFC	Chefchaouen	1.60	246	P	Pn	19 12 59.5	+0.4
CHEFC				S	Sn	19 13 18.8	-0.2
JBK	JBK	1.65	150	P	Pn	19 12 59.9	-0.1
JBK				S	Sn	19 13 19.2	-1.4
MD31	MD31	3.07	199	P	Pn	19 13 20.2	+0.9
MD31				S	Sn	19 13 56.4	+1.0
MDT	Midelt	3.08	197	P	Pn	19 13 20.9	+1.4
MDT				S	Sn	19 13 57.1	+1.4
ZHG	ZHG	3.44	228	P	Pn	19 13 24.7	+0.2
ZHG				S	Sn	19 14 05.6	+1.0

*NEIC **27** 19:15:48.7±1.1, 18.°9S±0.°1×172.°99W±0.°07, h9km±6km, mb4.5/13, Error ellipse: s-maj=16.3km s-min=8.9km az=170.0*
*IDC **27** 19:15:54.5±3.4, 20.°35S×172.°95W, h40km±31km, mb3.7/4, mb1 4.2/7, mb1mx3.7/34, mbtmp4.2/7, ML4.1/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/63, Error ellipse: s-maj=58.8km s-min=20.5km az=165.0*
ISC 27 19:15:48.7±0.7, 18.°9S±0.°1×172.°97W±0.°08, h10km, n30, σ1§36/24, mb4.4/11, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.88	94		Pn	19 16 35.0	+0.3
AFI	Afiamalu	5.09	13	LR	LR	19 20 13.8	
	comp=Z,117nm,20.2s,baz=177,slow=40						
AFI	Afiamalu	5.09	13		Pn	19 17 04.7	-0.5
MSVF	Nonsavu	8.61	276	P	Pn	19 18 00.9	+7.3
	0.1nm,0.3s,baz=123,slow=13,SNR=13						
MSVF				LR	LR	19 20 54.9	
	comp=Z,310nm,18.1s,baz=176,slow=34						
MSVF	Nonsavu	8.61	276		Pn	19 18 00.2	+6.6
RAR	Rarotonga	12.61	103	P	Pn	19 18 47.4	-0.9
	5.7nm,0.3s,baz=248,slow=11,SNR=9.4						
RAR				LR	LR	19 22 36.1	
	comp=Z,58nm,21.3s,baz=304,slow=32						
RAR	Rarotonga	12.61	103	Pn	Pn	19 18 47.9	-0.5
PINNC	Pines Island,	18.68	255	P	Pn	19 20 07.4	-0.2
PINNC				IAmb	IAmb	19 20 14.7	
	comp=Z,52nm,1.4s						
DZM	Mont Dzumac	19.54	257	P	P	19 20 16.8	+0.1
	comp=Z,0.3nm,0.3s,baz=74,slow=18,SNR=11						
DZM	Mont Dzumac	19.54	257	*e*P	Pn	19 20 17.6	-0.4
	comp=Z,21nm,1.0s						
DZM				*e*LR	LR	19 24 52.8	
	comp=Z,102nm,21.5s						
DZM	Mont Dzumac	19.54	257	P	P	19 20 16.7	-0.1
QRZ	Quartz Range	25.14	207	P	P	19 21 13.6	-0.4
THZ	Tophouse	25.77	205	P	P	19 21 21.3	+1.5
CTA	Charters Tower	38.39	261	LR	LR	19 37 33.2	
	comp=Z,72nm,18.4s,baz=84,slow=34						
CTAO	Charters Tower	38.39	261	P	P	19 23 10.1	-0.5
CTAO				IAmb	IAmb	19 23 11.7	
	comp=Z,10nm,1.1s						
TOO	Toolangi	40.66	234	P	P	19 23 28.7	-0.6
TOO				IAmb	IAmb	19 23 57.7	
	comp=Z,24nm,1.4s						
COEN	Coen	42.27	270	P	P	19 23 43.3	+0.5
COEN				IAmb	IAmb	19 24 07.5	
	comp=Z,5.9nm,0.9s						
WR0	Warramunga Arr	49.34	260	P	P	19 24 37.9	-0.8
WR0				IAmb	IAmb	19 24 54.9	
	comp=Z,9.7nm,1.4s						
AS31	Alice Springs	49.50	255	P	P	19 24 38.3	-1.6
ASAR	Alice Springs	49.50	255	P	P	19 24 38.5	-1.4
	comp=Z,6.8nm,0.9s,baz=94,slow=8.3,SNR=45						
WB0	Warramunga Arr	49.51	260	P	P	19 24 38.6	-1.3
WB0				IAmb	IAmb	19 24 54.1	
	comp=Z,4.8nm,1.1s						
WB2	Warramunga Arr	49.52	260	P	P	19 24 40.0	0.0
WB2				IAmb	IAmb	19 24 43.5	
	comp=Z,7.9nm,1.2s						
WRA	Warramunga Arr	49.53	260	P	P	19 24 38.9	-1.3
	comp=Z,0.9nm,0.4s,baz=98,slow=7.4,SNR=15						
WRA	Warramunga Arr	49.53	260	P	P	19 24 38.8	-1.3
FORT	Forrest	54.27	245	P	P	19 25 13.9	-1.4
NVAR	Mina Array Bea	76.66	41	P	P	19 27 48.7	+8.5
	comp=Z,0.7nm,0.9s,baz=240,slow=9.0,SNR=4.4						
ILAR	Eielson Array	85.78	11	P	P	19 28 34.0	+6.2
	comp=Z,0.8nm,1.0s,baz=224,slow=6.1,SNR=6.4						
CMAR	Chiang Mai Arr	94.09	288	P	P	19 29 12.7	+4.6
	comp=Z,0.2nm,0.3s,baz=120,slow=3.6,SNR=4.5						
BRTR	Keskin Array B	149.07	318	PKPbc	PKPab	19 35 41.2	-0.6
	comp=Z,1.1nm,0.8s,baz=92,slow=4.8,SNR=6.4						
GERES	GERESS Array B	149.65	351	PKPbc	PKPab	19 35 43.2	-0.6
	comp=Z,0.5nm,0.7s,baz=306,slow=2.3,SNR=2.0						

*IDC **27** 19:28:14.5±1.7, 58.°25S×25.°27W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.6/16, mbtmp4.0/1, Error ellipse: s-maj=101.5km s-min=65.4km az=144.0*
ISC 27 19:28:20.4±1.2, 58.°1S±0.°2×25.°4W±0.°5, h35km, n10, σ0§65/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.57	157	P	Pn	19 31 44.2	+0.6
VNA3	Neumayer Olymp	14.77	160	P	Pn	19 31 46.7	+0.3
VNA2	Neumayer--Watz	14.96	157	P	Pn	19 31 49.3	+0.3
	baz=324,slow=14						
SNAA	Sanae	16.51	155	P	P	19 32 10.5	-0.8
TORD	Torodi Ar. Bea	74.36	27	P	P	19 39 54.7	+0.4
	0.7nm,0.5s,baz=198,slow=5.3,SNR=8.4						
FINES	FINESS Array B	125.71	28	PKP	PKPdf	19 47 15.7	-0.8
	1.5nm,0.8s,baz=177,slow=5.6,SNR=4.2						
YKA	Yellowknife Ar	138.30	316	PKP	PKPdf	19 47 41.0	+0.7
	0.4nm,0.7s,baz=132,slow=2.2,SNR=5.8						
INK	Inuvik	147.96	318	PKPbc	PKPbc	19 48 00.2	0.0
	1.2nm,0.6s,baz=126,slow=3.0,SNR=5.5						
SONM	Songino Array	149.85	89	PKPbc	PKPbc	19 48 05.2	-0.6
	0.5nm,0.7s,baz=210,slow=1.8,SNR=3.7						
ILAR	Eielson Array	152.15	309	PKPbc	PKPbc	19 48 10.2	-0.3
	0.8nm,0.9s,baz=132,slow=1.3,SNR=6.4						

*TIF **27** 19:34:19.8, 42.°83N×43.°25E, h12km±1km*
*MOS **27** 19:34:20.2±0.0, 42.°83N×43.°22E, h4km, MPVA3.3*
*DDA **27** 19:34:21.0±0.0, 42.°79N×42.°89E, h6km, ML2.1*
ISC 27 19:34:20.1±1.0, 42.°83N±0.°02×43.°23E±0.°02, h5km±9km, n28, σ0§75/56, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	Digorskoe uzhe	0.27	76	*e*Pg	Pg	19 34 25.7	+0.3
DIGR				*e*Sg	Sg	19 34 29.2	+0.2
ONI	Oni	0.29	145	P	Pg	19 34 26.4	+0.5
ONI				S	Sg	19 34 30.4	+0.7
ONI	Oni	0.29	145	*e*Pg	Pg	19 34 26.4	+0.5
ONI				*e*Sg	Sg	19 34 30.4	+0.7
ZEI	Tsey	0.50	95	*e*Pg	Pg	19 34 29.8	0.0
ZEI				*e*Sg	Sg	19 34 36.0	-0.2
NEY	Neytrino	0.56	318	*e*Pg	Pg	19 34 31.2	+0.4
NEY				*e*Sg	Sg	19 34 38.0	-0.1
LSNR	Lesken	0.62	44	*e*Pg	Pb	19 34 33.2	-0.4
LSNR				*e*Sg	Sb	19 34 41.9	-0.8
KORR	Kora	0.67	67	*e*Pg	Pg	19 34 33.5	+0.5
KORR				*e*Sg	Sb	19 34 43.2	-0.7
LACR	Lac	0.79	90	*e*Pg	Pg	19 34 35.3	0.0
LACR				*e*Sg	Sg	19 34 45.2	-0.3
STDR	Stavd-Durt	0.81	49	*i* Pg	Pn	19 34 38.0	-0.2
STDR				*e*Sg	Sn	19 34 50.6	-0.1
ARNR	Ardon	0.85	66	*e*Pg	Pn	19 34 38.2	-0.6
ARNR				*e*Sg	Sn	19 34 50.8	-0.8
KBZ	Khabaz	0.93	345	*e*Pg	Pg	19 34 38.1	+0.2
KBZ				*e*Sg	Sb	19 34 51.0	-0.3
SHA1	Shidzhatmaz	0.99	336	*e*Pg	Pg	19 34 39.6	+0.4
SHA1				*e*Sg	Sg	19 34 52.5	+0.3
PNSH	Pansheti	1.04	100	P	Pg	19 34 39.8	-0.4
PNSH				S	Sg	19 34 52.8	-0.9
ABS	Abastumani	1.12	196	P	Pg	19 34 41.7	+0.1
ABS				S	Sb	19 34 57.2	+0.2
KIV0	Kislovodsk Arr	1.19	341	*e*Pg	Pg	19 34 43.0	+0.1
KIV0				*e*Sg	Sb	19 34 58.9	0.0
KIV	Kislovodsk	1.19	341	*e*Pg	Pg	19 34 43.1	+0.1
KIV				*e*Sg	Sg	19 34 58.7	+0.3
PRTR	Priterechnaya	1.20	40	*e*Pg	Pn	19 34 45.2	+1.6
PRTR				*e*Sg	Sn	19 35 03.4	+3.2
BEYR	Belyy Ugol+	1.22	346	*e*Pg	Pg	19 34 43.4	-0.1
BEYR				*e*Sg	Sg	19 34 59.2	0.0
PYA1	Pyatigorsk	1.23	356	*e*Pg	Pg	19 34 43.8	0.0
PYA1				*e*Sg	Sg	19 35 00.0	+0.2
EPOS	Posof	1.38	196	P	Pn	19 34 45.6	-0.6
EPOS				S	Sb	19 35 04.2	-0.3
EPOS				*i* AML	AML	19 35 10.0	
	comp=N,20nm,0.4s						
DMNI	Dmanisi	1.67	154	P	Pb	19 34 50.8	-0.5
DMNI				S	Sb	19 35 12.8	+0.1
DBOC	Borcka	1.89	219	P	Pn	19 34 53.5	+0.5
DBOC				S	Sn	19 35 17.6	+0.3
DBOC				*i* AML	AML	19 35 20.0	
	comp=E,26nm,0.3s						
GROC	Groznyy	1.92	78	*e*Pg	Pn	19 34 53.5	+0.1
GROC				*e*Sg	Sb	19 35 20.7	+0.8
DAGI	Agillar	2.01	210	P	Pb	19 34 56.4	-0.8
DAGI				S	Sb	19 35 22.1	-0.5
DAGI				*i* AML	AML	19 35 26.0	
	comp=E,13nm,0.6s						
DVE	Vedeno	2.13	86	*e*Pg	Pn	19 34 56.9	+0.4
DVE				*e*Sg	Sb	19 35 26.7	+0.6
DBAD	Bademkaya	2.14	213	P	Pn	19 34 57.7	+1.0
DBAD				S	Sb	19 35 25.9	-0.6
DBAD				*i* AML	AML	19 35 31.0	
	comp=E,13nm,0.4s						
DBAD				*i* AML	AML	19 35 31.0	
	comp=N,16nm,0.7s						
GOF	Gofitskoye	2.23	357	*e*Pg	Pb	19 34 59.7	-1.2
GOF				*e*Sg	Sb	19 35 27.9	-0.9
DDEM	Demirkent	2.23	210	P	Pb	19 34 59.5	-1.5
DDEM				S	Sb	19 35 29.9	+0.9
DDEM				*i* AML	AML	19 35 31.0	
	comp=N,37nm,0.3s						
DDEM				*i* AML	AML	19 35 32.0	
	comp=E,25nm,0.3s						

*NNC **27** 19:34:24.8±0.7, 44.°83N×80.°72E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=7.1km s-min=3.8km az=128.0*
*SOME **27** 19:34:25.3, 44.°85N×80.°80E, h10km*
ISC 27 19:34:25.6±1.4, 44.°83N±0.°04×80.°74E±0.°04, h8km±12km, n46, σ1§01/68, 9C-9D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.84	234	*e*P	Pg	19 34 41.3	-0.4
	32nm,0.2s						
DJR				*e*S	Sg	19 34 52.9	+0.2
	76nm,0.2s						
DJR	Jarkent	0.84	234	P	Pg	19 34 41.3	-0.4
	32nm,0.2s						
DJR				S	Sg	19 34 52.9	+0.2
	76nm,0.2s						
KAPS	Kapalarasan	1.08	295	*e*P	Pg	19 34 46.1	-0.3
	24nm,0.1s						
KAPS				*e*S	Sb	19 35 00.9	-0.1
	71nm,0.2s						
KAPS	Kapalarasan	1.08	295	P	Pg	19 34 46.1	-0.3
	24nm,0.1s						
KAPS				S	Sb	19 35 00.9	-0.1
	71nm,0.2s						
TDK	Taldyqorghan	1.67	277	*e*P	Pb	19 34 56.7	+0.1
	44nm,0.0s						
TDK				*e*S	Sg	19 35 19.3	0.0
	248nm,0.2s						
TDK	Taldyqorghan	1.67	277	P	Pb	19 34 56.7	+0.1
	61nm,0.3s						
TDK				S	Sg	19 35 19.3	0.0
	248nm,0.2s						
PDGK	Podgornoye	1.75	212	⇑Pg	Pb	19 34 58.1	0.0
	4.5nm,0.4s						
PDGK				⇓Lg	Lg	19 35 19.2	
	23nm,0.4s						
UZB	Uzynbulak	2.09	217	*e*P	Pb	19 35 03.1	-0.7
	3.6nm,0.1s						
UZB				*e*S	Sb	19 35 29.7	-0.3
	66nm,0.2s						
UZB	Uzynbulak	2.09	217	Pg	Pb	19 35 03.1	-0.7
	3.5nm,0.2s						
UZB				Lg	Lg	19 35 29.7	
	66nm,0.2s						
MAKZ	Makanchi	2.16	23	⇓Pn	Pn	19 35 02.2	+0.2
	1.3nm,0.5s						
MAKZ				⇑Lg	Lg	19 35 30.8	
	33nm,0.7s						
ARXS	Arharly	2.17	255	*e*P	Pb	19 35 04.9	-0.3
	6.0nm,0.1s						
ARXS				*e*S	Sb	19 35 33.2	+0.8
	129nm,0.2s						
ARXS	Arharly	2.17	255	Pg	Pb	19 35 04.9	-0.3
	12nm,0.5s						
ARXS				Lg	Lg	19 35 33.2	
	129nm,0.2s						
MK31	Makanchi Array	2.25	28	⇓Pn	Pn	19 35 03.0	-0.1
	0.9nm,0.3s,baz=208,slow=12,SNR=147						
MK31				⇓Lg	Lg	19 35 32.3	
	36nm,0.6s,baz=207,slow=30,SNR=4.0						
KURS	Kuram	2.29	235	*e*P	Pb	19 35 07.2	+0.1
	3.6nm,0.0s						
KURS				*e*S	Sb	19 35 36.7	+1.2
	14nm,0.1s						
KURS	Kuram	2.29	235	Pg	Pb	19 35 07.2	+0.1
	7.9nm,0.3s						
KURS				Lg	Lg	19 35 36.7	
	14nm,0.5s						
ZHN	Zhinishke	2.35	226	*e*P	Pb	19 35 08.0	-0.2
	10nm,0.0s						
ZHN				*e*S	Sb	19 35 38.2	+0.7
	90nm,0.2s						
ZHN	Zhinishke	2.35	226	Pg	Pb	19 35 08.0	-0.2
	17nm,0.2s						
ZHN				Lg	Lg	19 35 38.2	
	90nm,0.2s						
SATY	Saty	2.44	224	*e*P	Pb	19 35 09.7	-0.2
	4.9nm,0.2s						
SATY				*e*S	Sb	19 35 40.9	+0.7
	60nm,0.2s						
SATY	Saty	2.44	224	Pg	Pb	19 35 09.7	-0.2
	4.9nm,0.2s						
SATY				Lg	Lg	19 35 40.9	
	60nm,0.2s						
CHKK	Chushkaly	2.86	251	*e*P	Pb	19 35 16.9	0.0
	1.0nm,0.0s						
CHKK				*e*S	Sb	19 35 53.7	+1.5
	51nm,0.1s						
CHKK	Chushkaly	2.86	251	Pg	Pb	19 35 16.9	0.0
	2.6nm,0.3s						
CHKK				Lg	Lg	19 35 53.7	
	49nm,0.4s						
KTBS	Karatobe	3.12	250	*e*P	Pb	19 35 21.3	-0.1
	1.8nm,0.0s						
KTBS				*e*S	Sb	19 36 01.0	+1.4
	52nm,0.1s						
KTBS	Karatobe	3.12	250	Pg	Pb	19 35 21.3	-0.1
	3.6nm,0.4s						
KTBS				Lg	Lg	19 36 01.0	
	42nm,0.5s						
MDOK	Medeo	3.14	239	*e*P	Pb	19 35 21.6	-0.2
	1.7nm,0.2s						
MDOK				*e*S	Sb	19 36 01.4	+1.1
	36nm,0.5s						
MDOK	Medeo	3.14	239	⇑Pg	Pb	19 35 23.2	+1.4
	4.1nm,0.6s						
MDOK				⇓Lg	Lg	19 36 01.4	
	22nm,0.7s						
MDOK	Medeo	3.14	239	Pg	Pb	19 35 21.6	-0.2
	4.3nm,0.4s						
MDOK				Lg	Lg	19 36 01.4	
	36nm,0.5s						
KNDC	Almaty	3.16	241	⇑Pg	Pg	19 35 24.3	-1.9
	9.8nm,0.4s						
KNDC				⇑Lg	Lg	19 36 02.5	
	47nm,0.5s						
AAA	Alma-Ata	3.20	241	*e*P	Pb	19 35 23.0	+0.3
	12nm,0.3s						
AAA				*e*S	Sb	19 36 03.7	+1.8
	29nm,0.3s						
AAA	Alma-Ata	3.20	241	Pg	Pb	19 35 23.0	+0.3
	12nm,0.3s						
AAA				Lg	Lg	19 36 03.7	
	29nm,0.3s						
TNSS	Tian-Shan	3.27	238	*e*P	Pb	19 35 24.1	-0.1
	1.7nm,0.2s						
TNSS				*e*S	Sb	19 36 06.0	+1.7
	8.0nm,0.1s						
TNSS	Tian-Shan	3.27	238	Pg	Pb	19 35 24.1	-0.1
	1.7nm,0.2s						
TNSS				Lg	Lg	19 36 06.1	
	8.1nm,0.4s						
KUU	Kurty	3.29	255	*e*P	Pb	19 35 24.4	+0.1
	1.0nm,0.1s						
KUU				*e*S	Sb	19 36 06.2	+1.6
	26nm,0.1s						
KUU	Kurty	3.29	255	Pg	Pb	19 35 24.4	+0.1
	2.1nm,0.3s						
KUU				Lg	Lg	19 36 06.2	
	19nm,0.3s						
MTBS	Maitube	3.55	243	*e*P	Pb	19 35 28.6	0.0
	1.4nm,0.1s						
MTBS				*e*S	Sb	19 36 13.4	+1.5
	65nm,0.2s						
MTBS	Maitube	3.55	243	Pg	Pb	19 35 28.6	0.0
	2.4nm,0.3s						
MTBS				Lg	Lg	19 36 13.4	
	65nm,0.4s						
KRBS	Karabastau	3.81	255	*e*P	Pb	19 35 33.2	0.0
	1.0nm,0.3s						
KRBS				*e*S	Sb	19 36 21.3	+1.8
	14nm,0.3s						
KRBS	Karabastau	3.81	255	Pg	Pb	19 35 33.2	0.0
	1.0nm,0.3s						
KRBS				Lg	Lg	19 36 21.3	
	14nm,0.3s						
ZSN	Zaisan	3.88	46	*e*P	Pb	19 35 34.4	+0.1
	1.6nm,0.3s						
ZSN				*e*S	Sb	19 36 23.8	+2.3
	20nm,0.3s						
ZSN	Zaisan	3.88	46	Pg	Pb	19 35 34.9	+0.5
	3.6nm,0.5s						
ZSN				Lg	Lg	19 36 24.1	
	17nm,0.5s						
KST	Kastek	3.89	244	*e*P	Pb	19 35 34.0	-0.4
	1.7nm,0.0s						
KST				*e*S	Sb	19 36 22.9	+1.2
	13nm,0.9s						
KST	Kastek	3.89	244	Pg	Pb	19 35 34.0	-0.4
	2.0nm,0.3s						
KST				Lg	Lg	19 36 22.8	
	13nm,0.9s						
DGS	Degeres	3.92	248	*e*P	Pb	19 35 34.7	-0.3
	0.3nm,0.0s						
DGS				*e*S	Sb	19 36 23.7	+1.1
	3.3nm,0.2s						
TKM2	Tokmak 2	4.18	245	⇑Pg	Pb	19 35 41.7	+2.2
	1.9nm,0.6s						
TKM2				⇓Lg	Lg	19 36 36.6	
	4.9nm,0.5s						
AAK	Ala-Archa	5.03	246	⇑Pg	Pb	19 35 57.6	+3.7
	1.5nm,0.5s						
AAK				⇓Lg	Lg	19 37 01.9	
	7.5nm,0.6s						
KURBB	Kurchatov Arra	5.99	346	⇑Pn	Pn	19 35 54.6	+0.2
	3.0nm,0.6s						
KURBB				⇓Sn	Sn	19 37 00.4	-2.8
	2.9nm,0.6s						
KURBB				⇓Lg	Lg	19 37 33.8	
	9.2nm,0.6s						
OTUK	Ortayu	6.73	304	⇑Lg	Lg	19 37 57.5	
	4.3nm,0.8s						

*CNRM **27** 19:46:42.0, 35.°56N×3.°77W, h23km, ml2.7*
*SFS **27** 19:46:41.0, 35.°47N×3.°85W, ML2.3, ALBORAN SUR*
ISC 27 19:46:40.1±1.2, 35.°48N±0.°03×3.°77W±0.°03, h17km±10km, n13, σ1§22/26, Strait of Gibraltar

| Code | Station Name | Δ° |

ZHG S **Sb** **19 48 12.0 -1.0**
PVAQ Vaqueiros 3.72 302 P **Pn** **19 47 38.0 +1.2**
PVAQ S **Sn** **19 48 21.0 +0.7**

*NNC **27** 20:01:60.0±5.0, 37°49′N×71°43′E, h201km±85km, mb2.7, mpv3.9, Error ellipse: s-maj=50.7km s-min=27.8km az=13.0*
ISC 27 20:01:57.4±3.5, **37°3′N**±0′2×**71°2′E**±0′1, **h100**km, **n10**, σ1§**82**/14, **1C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.18**	**21**	P	**Pn**	**20 03 13.8**	**+0.9**
	SNR=29						
UCH	**Uchtor**	**5.53**	**26**	P	**Pn**	**20 03 18.0**	**+0.3**
	SNR=5.7						
EKS2	**Erkin-Say**	**5.69**	**19**	P	**Pn**	**20 03 21.0**	**+1.4**
	SNR=10						
KK02	**Karatay Array**	**5.81**	**355**	P	**Pn**	**20 03 22.9**	**+1.9**
	4.8nm,0.3s,baz=178,slow=13						
KK02				⇓S	**Sn**	**20 04 29.5**	**+3.2**
	3.1nm,0.7s,baz=174,slow=21						
AAK	**Ala-Archa**	**5.88**	**24**	P	**Pn**	**20 03 22.9**	**+0.8**
	SNR=19						
AAK	**Ala-Archa**	**5.88**	**24**	P	**Pn**	**20 03 22.5**	**+0.3**
	7.1nm,0.5s						
AAK				S	**Sn**	**20 04 28.2**	**-0.1**
	8.6nm,1.1s						
CHMS	**Chumysh**	**6.29**	**24**	P	**Pn**	**20 03 28.1**	**+0.5**
	SNR=11						
TKM2	**Tokmak 2**	**6.53**	**30**	P	**Pn**	**20 03 31.5**	**+0.5**
	SNR=10.0						
TKM2	**Tokmak 2**	**6.53**	**30**	P	**Pn**	**20 03 30.7**	**-0.3**
	3.7nm,0.5s						
TKM2				⇓S	**Sn**	**20 04 43.7**	**-0.4**
	3.3nm,0.9s						
AB31	**Akbulak array**	**14.46**	**329**	⇓P	**Pn**	**20 05 17.0**	**-0.1**
	0.3nm,0.4s,baz=75,slow=11,SNR=20						
AB31				⇑S	**Sn**	**20 07 52.1**	**-4.2**
	0.3nm,0.6s						

*CNRM **27** 20:09:59.4, 35°66′N×3°49′W, h24km, ml2.7*
ISC 27 20:09:59.5±1.8, **35°68′N**±0′09×**3°52′W**±0′05, **h23**km±16km, **n6**, σ1§**16**/12, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.58**	**217**	P	**Pb**	**20 10 10.4**	**-0.6**
PALE				S	**Sb**	**20 10 19.3**	**+0.5**
CHAS	**Isla Isabel II**	**1.02**	**119**	*e*P	**Pb**	**20 10 19.2**	**+0.8**
CHAS				*e*S	**Sn**	**20 10 31.7**	**-0.2**
SMIR	**Smir Dam**	**1.52**	**270**	P	**Pn**	**20 10 24.7**	**-0.4**
SMIR				S	**Sb**	**20 10 46.2**	**+0.5**
JBK	**JBK**	**1.56**	**150**	P	**Pb**	**20 10 26.2**	**-1.4**
JBK				S	**Sn**	**20 10 43.7**	**-1.8**
MD31	**MD31**	**2.99**	**200**	P	**Pn**	**20 10 47.2**	**+1.6**
MD31				S	**Sn**	**20 11 20.7**	**-0.1**
MDT	**Midelt**	**3.00**	**198**	P	**Pn**	**20 10 45.7**	**0.0**
MDT				S	**Sn**	**20 11 22.2**	**+1.1**

*IDC **27** 20:23:35.4±1.3, 53°17N×160°35W, h0km, mb3.5/6, mb1 3.8/9, mb1mx3.3/66, mbtmp3.5/9, ML3.5/3, MS3.8/2, Ms1 3.8/2, ms1mx2.8/70, Error ellipse: s-maj=28.9km s-min=22.6km az=175.0*
*NEIC **27** 20:23:39.1±1.6, 53°36N±0′09×160°32W±0′06, h24km±6km, ML3.3/8, ML3.2/11(AEIC), Error ellipse: s-maj=13.5km s-min=4.0km az=162.0*
*AEIC **27** 20:23:39±1.8, 53°38N±0′09×160°44W±0′08, h31km±6km, Error ellipse: s-maj=13.4km s-min=6.4km az=165.0*
ISC 27 20:23:40.6±0.9, **53°39N**±0′08×**160°25W**±0′06, **h35**km, **n31**, σ1§**50**/29, **mb3.6/6, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.48**	**15**		**Pn**	**20 24 04.6**	**-0.1**
CNBA					**Sn**	**20 24 24.8**	**+1.9**
SDPT	**Sand Point**	**1.96**	**356**		**Sn**	**20 24 36.4**	**+1.7**
SDPT	**Sand Point**	**1.96**	**356**		**Pn**	**20 24 11.6**	**+0.2**
SDPT				IAML		20 25 01.6	
	comp=N,142nm,3.5s						
SDPT	**Sand Point**	**1.96**	**356**	IAML		20 24 33.1	
	comp=E,251nm,3.1s						
DT1	**Dutton Round H**	**2.09**	**326**		**Pn**	**20 24 12.9**	**-0.2**
PS4A	**Pavlof South-4**	**2.17**	**335**		**Pn**	**20 24 14.4**	**+0.2**
FALS	**False Pass**	**2.37**	**309**		**Pn**	**20 24 16.0**	**-0.9**
ISLZ	**Isanotski Laza**	**2.44**	**305**		**Pn**	**20 24 16.6**	**-1.4**
ISLZ					**Sn**	**20 24 44.9**	**-1.6**
SSLS	**Shishaldin Sou**	**2.58**	**302**		**Pn**	**20 24 18.9**	**-1.0**
AKSA	**Akutan Strait**	**3.32**	**285**		**Pn**	**20 24 28.1**	**-1.8**
AKUT	**Akutan**	**3.36**	**285**	Pn	**Pn**	**20 24 29.2**	**-1.3**
AKUT				IAML		20 25 24.9	
	comp=N,98nm,4.8s						
AKUT				IAML		20 26 14.6	
	comp=E,79nm,2.8s						
CHIR	**Chirikof Islan**	**3.63**	**46**		**Pn**	**20 24 33.9**	**-0.3**
OHAK	**Old Harbor**	**5.53**	**43**	Pn	**Pn**	**20 24 59.8**	**-0.5**
KDAK	**Kodiak Island**	**6.18**	**42**	Pn	**Pn**	**20 25 08.3**	**-1.0**
	comp=E,1.0nm,0.3s,baz=205,slow=8.3,SNR=6.5						
KDAK				Sn	**Sn**	**20 26 14.3**	**-4.4**
	comp=E,1.8nm,0.3s,baz=52,slow=21,SNR=7.2						
PWL	**Port Wells**	**9.88**	**36**	Pn	**Pn**	**20 26 00.3**	**+0.2**
SCM	**Sheep Creek Mo**	**10.91**	**34**	Pn	**Pn**	**20 26 14.8**	**+0.6**
KLU	**Klutina**	**11.18**	**38**	Pn	**Pn**	**20 26 17.4**	**-0.4**
VRDI	**Verde Repeater**	**11.97**	**42**	Pn	**Pn**	**20 26 28.7**	**-0.1**
ILAR	**Eielson Array**	**13.28**	**26**	Pn	**Pn**	**20 26 44.6**	**-1.7**
	comp=E,0.1nm,0.3s,baz=221,slow=14,SNR=1.5						
ILAR				Sn	**Sn**	**20 29 09.0**	**-3.5**
	comp=E,0.1nm,0.3s,baz=218,slow=20,SNR=1.8						
INK	**Inuvik**	**19.56**	**30**	P	**Pn**	**20 28 07.7**	**+1.3**
	comp=E,0.2nm,0.3s,baz=239,slow=12,SNR=5.5						
YKA	**Yellowknife Ar**	**25.36**	**51**	P	**P**	**20 29 04.2**	**+0.3**
	comp=E,0.4nm,0.8s,baz=263,slow=7.9,SNR=5.4						
NVAR	**Mina Array Bea**	**32.27**	**100**	P	**P**	**20 30 06.3**	**+0.3**
	comp=E,0.5nm,0.7s,baz=302,slow=7.1,SNR=2.5						
KLR	**Kul'dur**	**41.25**	**293**	LR	LR	20 49 25.6	
	comp=E,52nm,18.7s,baz=32,slow=38						
H11S1	**WAKE ISLAND Hy**	**43.19**	**229**	T	T	21 17 36.4	
	baz=28,slow=76,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**43.21**	**229**	T	T	21 17 39.0	
	baz=28,slow=76,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**43.21**	**229**	T	T	21 17 42.7	
	baz=28,slow=76,SNR=5.2						
TXAR	**Lajitas Array**	**47.29**	**97**	P	**P**	**20 32 10.9**	**+0.4**
	comp=E,0.6nm,0.7s,baz=295,slow=5.7,SNR=6.5						
BVAR	**Borovoye Array**	**65.87**	**329**	P	**P**	**20 34 23.8**	**+1.6**
	comp=E,0.5nm,0.5s,baz=47,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**66.91**	**318**	P	**P**	**20 34 29.7**	**+0.7**
	comp=E,0.3nm,0.7s,baz=63,slow=3.5,SNR=4.6						
KVAR	**Kislovodsk Arr**	**81.05**	**343**	LR	LR	21 16 56.4	
	comp=E,117nm,18.6s,baz=82,slow=39						
CMAR	**Chiang Mai Arr**	**81.64**	**290**	P	**P**	**20 35 55.5**	**+0.3**
	comp=E,0.6nm,0.8s,baz=22,slow=5.4,SNR=4.7						

IDC 27 20:32:38.3±48.0, **16°56S×177°75W, h0**km, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/25, **mbtmp3.9**/3, **Error ellipse: s-maj=890.5km s-min=161.3km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.84**	**240**	P	P	20 40 14.0	+0.3
	0.7nm,0.3s,baz=101,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**45.51**	**258**	P	P	20 40 59.3	-0.6
	0.5nm,0.8s,baz=95,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	**45.77**	**253**	P	P	20 41 01.9	-0.1
	2.5nm,0.5s,baz=87,slow=8.2,SNR=50						

IDC 27 20:37:43.3±15.0, **21°58N×143°09E, h416**km±153km, **mb2.9**/5, **mb1 3.2**/5, **mb1mx2.7**/38, **mbtmp3.7**/5, **Error ellipse: s-maj=187.0km s-min=34.9km az=7.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**54.71**	**313**	P	P	20 46 31.6	-0.1
	0.1nm,0.3s,baz=89,slow=7.9,SNR=4.7						
YKA	**Yellowknife Ar**	**76.60**	**28**	P	P	20 48 49.0	-0.3
	0.2nm,0.5s,baz=291,slow=5.7,SNR=2.6						
ARCES	**ARCESS Array B**	**79.01**	**341**	P	P	20 49 03.0	+0.8
	1.1nm,0.7s,baz=66,slow=9.0,SNR=0.9						
FINES	**FINESS Array B**	**83.25**	**334**	P	P	20 49 24.2	-0.2
	0.8nm,0.4s,baz=59,slow=4.5,SNR=7.8						
NVAR	**Mina Array Bea**	**83.29**	**51**	P	P	20 49 25.6	+0.2
	0.1nm,0.3s,baz=263,slow=7.7,SNR=1.9						

IDC 27 20:40:40.3±6.9, **7°76S×160°54E, h0**km, **mb3.7**/3, **mb1 4.0**/3, **mb1mx3.5**/27, **mbtmp3.7**/3, **Error ellipse: s-maj=204.6km s-min=47.3km az=116.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.12**	**242**	P	P	20 46 34.5	+0.2
	0.8nm,0.3s,baz=70,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**30.03**	**235**	P	P	20 46 51.0	-0.3
	0.2nm,0.4s,baz=60,slow=9.6,SNR=6.3						
MKAR	**Makanchi Array**	**87.64**	**318**	P	P	20 53 30.7	0.0
	0.4nm,0.7s,baz=94,slow=5.8,SNR=4.4						

*IDC **27** 20:56:44.4±1.1, 33°34N×68°44E, h0km, mb3.7/7, mb1 3.8/11, mb1mx3.6/57, mbtmp3.7/11, ML3.7/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/90, Error ellipse: s-maj=27.6km s-min=20.1km az=97.0*
*NNC **27** 20:56:48.2±6.8, 33°39N×68°91E, h0km, mb4.2, Error ellipse: s-maj=72.8km s-min=53.8km az=115.0*
ISC 27 20:56:49.5±1.0, **33°24N**±0′08×**68°6E**±0′1, **h35**km, **n28**, σ1§**33**/32, **mb3.6/7, 2C-4D, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**9.75**	**23**	P	**Pn**	**20 59 07.0**	**-0.6**
	SNR=18						
KK02	**Karatay Array**	**9.96**	**8**	⇓P	**Pn**	**20 59 09.2**	**-0.8**
	3.3nm,0.7s,baz=187,slow=13						
KK02				⇑S	**Sn**	**21 01 00.1**	**-0.5**
	3.2nm,0.7s,baz=185,slow=24						
UCH	**Uchtor**	**10.12**	**26**	P	**Pn**	**20 59 12.2**	**-0.4**
	SNR=7.5						
EKS2	**Erkin-Say**	**10.25**	**22**	P	**Pn**	**20 59 15.1**	**+0.9**
	SNR=6.0						
AAK	**Ala-Archa**	**10.47**	**25**	Pn	**Pn**	**20 59 16.1**	**-1.0**
	1.4nm,0.3s,baz=197,slow=6.6,SNR=30						
AAK				Sn	**Sn**	**21 01 15.3**	**+2.1**
	0.2nm,0.3s,baz=331,slow=23,SNR=6.3						
AAK				LR	LR	21 03 37.1	
	comp=Z,86nm,19.8s,baz=294,slow=40						
AAK	**Ala-Archa**	**10.47**	**25**	P	**Pn**	**20 59 17.6**	**+0.5**
	SNR=12						
AAK	**Ala-Archa**	**10.47**	**25**	⇓P	**Pn**	**20 59 17.2**	**+0.1**
	2.9nm,0.5s						
AAK				⇑S	**Sn**	**21 01 15.1**	**+1.8**
	9.5nm,0.8s						
CHMS	**Chumysh**	**10.88**	**25**	P	**Pn**	**20 59 22.4**	**-0.2**
	SNR=7.2						
TKM2	**Tokmak 2**	**11.12**	**28**	⇓P	**Pn**	**20 59 25.1**	**-1.1**
	3.5nm,0.8s						
TKM2				⇓S	**Sn**	**21 01 29.6**	**+0.2**
	4.5nm,1.2s						
PYUN	**Piuthan**	**13.41**	**109**	*e*P	**Pn**	**20 59 57.0**	**-0.5**
	16nm,0.4s						
DANN	**Dangsing**	**13.92**	**106**	*e*P	**Pn**	**21 00 03.5**	**-1.0**
	9.1nm,0.5s						
KOLN	**Koldanda**	**14.04**	**109**	*e*P	**Pn**	**21 00 06.1**	**0.0**
	5.5nm,0.4s						
GKN	**Gorkha**	**14.77**	**106**	*e*P	**Pn**	**21 00 13.7**	**-2.2**
	15nm,0.4s						
DMN	**Daman**	**15.31**	**107**	*e*P	**Pn**	**21 00 21.3**	**-1.9**
	25nm,0.7s						
KKN	**Kakani**	**15.37**	**106**	*e*P	**Pn**	**21 00 22.1**	**-1.9**
	61nm,0.6s						
PKIN	**Phulchoki**	**15.56**	**107**	*e*P	**Pn**	**21 00 24.5**	**-1.9**
	55nm,0.6s						
PKI	**Pulchoki**	**15.57**	**107**	*e*P	**Pn**	**21 00 24.6**	**-2.1**
	60nm,0.6s						
GUN	**Gumba**	**15.81**	**105**	*e*P	**Pn**	**21 00 27.6**	**-2.1**
	9.8nm,0.5s						
MKAR	**Makanchi Array**	**17.09**	**34**	P	**Pn**	**21 00 43.7**	**-1.8**
	0.2nm,0.3s,baz=212,slow=13,SNR=12						
MKAR				LR	LR	21 08 15.3	
	comp=Z,78nm,20.4s,baz=230,slow=40						
KURBB	**Kurchatov Arra**	**18.84**	**20**	P	**P**	**21 01 04.9**	**-1.3**
	0.1nm,0.3s,baz=211,slow=9.7,SNR=7.7						
BVAR	**Borovoye Array**	**19.82**	**3**	P	**P**	**21 01 17.3**	**+0.5**
	0.3nm,0.3s,baz=157,slow=8.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**23.69**	**24**	P	**P**	**21 01 57.0**	**-0.8**
	1.0nm,0.4s,baz=216,slow=11,SNR=7.8						
CMAR	**Chiang Mai Arr**	**30.90**	**111**	P	**P**	**21 03 04.7**	**+1.8**
	1.3nm,0.6s,baz=296,slow=9.0,SNR=14						
SONM	**Songino Array**	**31.87**	**51**	P	**P**	**21 03 11.6**	**+0.3**
	0.2nm,0.6s,baz=260,slow=7.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**63.66**	**269**	P	**P**	**21 07 17.2**	**-0.3**
	2.4nm,1.0s,baz=72,slow=4.8,SNR=3.8						
WRA	**Warramunga Arr**	**82.02**	**120**	P	**P**	**21 09 07.3**	**+1.1**
	0.3nm,0.4s,baz=323,slow=4.8,SNR=5.8						
ASAR	**Alice Springs**	**84.08**	**123**	P	**P**	**21 09 18.1**	**+1.3**
	0.3nm,0.7s,baz=325,slow=4.9,SNR=4.3						
YKA	**Yellowknife Ar**	**84.56**	**1**	P	**P**	**21 09 18.0**	**-0.6**
	0.2nm,0.7s,baz=346,slow=4.7,SNR=2.5						

*NAO **27** 21:05:38.2±3.4, 76°11N×6°76E, h4km±22km, ML2.7*
*BER **27** 21:05:40.0±1.9, 76°08N×6°93E, h15km, ML2.3, ML2.7(NAO), Confirmed Earthquake*
*IDC **27** 21:05:41.8±1.2, 76°13N×8°37E, h0km, mb3.3/4, mb1 3.6/6, mb1mx3.3/59, mbtmp3.3/6, ML2.9/2, Error ellipse: s-maj=21.4km s-min=15.3km az=92.0*
ISC 27 21:05:41.2±1.0, **76°09N**±0′06×**8°05E**±0′07, **h10**km, **n24**, σ2§**15**/33, **mb3.3/4, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.97**	**59**	Pn	**Pn**	**21 06 15.1**	**+0.5**
HSPB				Pg	**Pg**	**21 06 20.8**	**+1.8**
HSPB				Sn	**Sn**	**21 06 38.8**	**-0.6**
HSPB	**Hornsund (broa**	**1.97**	**59**	*e*P	**Pn**	**21 06 15.0**	**+0.5**
BRBA	**Barentsburg A**	**2.41**	**32**	Pn	**Pn**	**21 06 20.5**	**-0.2**
BRBA				Sn	**Sn**	**21 06 48.1**	**-2.1**
BRBA	**Barentsburg A**	**2.41**	**32**	*e*P	**Pn**	**21 06 20.3**	**-0.4**
BRBB	**Barentsburg B**	**2.44**	**32**	Pn	**Pn**	**21 06 20.8**	**-0.2**
BRBB	**Barentsburg B**	**2.44**	**32**	*e*P	**Pn**	**21 06 19.2**	**-1.9**
SPA0	**Spitsbergen Ar**	**2.80**	**38**	Pn	**Pn**	**21 06 25.3**	**-0.7**
	baz=224,slow=14						
SPA0				Pg	**Pb**	**21 06 31.0**	**-0.3**
	baz=224,slow=16						
SPA0				Sn	**Sn**	**21 06 57.0**	**-2.8**
SPA0	**Spitsbergen Ar**	**2.80**	**38**	Pn	**Pn**	**21 06 25.3**	**-0.7**
	baz=224,slow=14						
SPA0				Pg	**Pb**	**21 06 31.0**	**-0.3**
	baz=224,slow=16						
SPA0				Sn	**Sn**	**21 06 57.0**	**-2.8**
SPITS	**Spitsbergen Ar**	**2.80**	**38**	Pn	**Pn**	**21 06 25.4**	**-0.7**
	baz=215,slow=12,SNR=84						
SPITS				Sn	**Sn**	**21 06 56.6**	**-3.2**
	baz=223,slow=29,SNR=1.2						
KBS	**Kingsbay**	**2.97**	**15**	Pn	**Pn**	**21 06 26.6**	**-1.7**
KBS				Pg	**Pb**	**21 06 32.2**	**-2.0**
KBS	**Kingsbay**	**2.97**	**15**	*e*P	**Pn**	**21 06 26.6**	**-1.7**
KBS				IAML		21 07 08.5	
	comp=Z,6.4nm,1.1s						
HOPEN	**Hopen**	**4.05**	**76**	*e*P	**Pn**	**21 06 41.8**	**-1.3**
HOPEN				*e*S	**Sn**	**21 07 31.6**	**+1.1**
HOPEN				IAML		21 07 36.5	
	comp=Z,39nm,1.1s						
NOR	**Nord**	**7.22**	**331**	Pn	**Pn**	**21 07 22.7**	**-3.9**
NOR	**Nord**	**7.22**	**331**	*i* P	**Pn**	**21 07 24.0**	**-2.6**
NOR	**Nord**	**7.22**	**331**	*e*P	Pn	21 07 20.3	-6.3
DBG	**Daneborg**	**7.41**	**270**	Pn	Pn	21 07 22.6	-6.5
DBG				Sn	Sn	21 08 36.3	-17
DBG	**Daneborg**	**7.41**	**270**	*e*S	Sn	21 08 35.1	-18
ARA0	**ARCESS Array S**	**8.32**	**133**	Pn	**Pn**	**21 07 41.6**	**-0.1**
	baz=330,slow=14						
ARA0				Sn	**Sn**	**21 09 10.9**	**-4.7**
	baz=330,slow=22						
ARA0	**ARCESS Array S**	**8.32**	**133**	Pn	**Pn**	**21 07 41.6**	**-0.1**
	baz=330,slow=14						
ARA0				Sn	**Sn**	**21 09 10.9**	**-4.7**
	baz=330,slow=22						
ARCES	**ARCESS Array B**	**8.32**	**133**	Pn	**Pn**	**21 07 41.3**	**-0.4**
	baz=329,slow=14,SNR=1.7						
GERES	**GERESS Array B**	**27.45**	**172**	P	**P**	**21 11 28.3**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=355,slow=11,SNR=3.5						
YKA	**Yellowknife Ar**	**36.99**	**319**	P	**P**	**21 12 52.2**	**+2.1**
	comp=Z,0.6nm,1.0s,baz=6.1,slow=8.2,SNR=6.4						
ILAR	**Eielson Array**	**38.48**	**343**	P	**P**	**21 13 04.7**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=18,slow=6.0,SNR=1.8						
MKAR	**Makanchi Array**	**41.40**	**90**	P	**P**	**21 13 30.1**	**+2.9**
	comp=Z,0.1nm,0.5s,baz=349,slow=6.6,SNR=1.6						

*NOU **27** 21:17:43.1, 17°14S×168°16E, h28km, MLv5.0/11, Vanuatu Islands*
ISC 27 21:17:41.9±1.9, **17°13S**±0′07×**168°1E**±0′1, **h21**km, **n6**, σ1§**19**/7, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.59**	**174**	P	**Pn**	**21 17 55.6**	**+0.5**
RTV	**Rentapao**	**0.72**	**156**	P	**Pn**	**21 17 57.1**	**+0.3**
SANVU	**Saraoutou**	**1.90**	**332**	P	**Pn**	**21 18 13.2**	**+0.2**
KOUNC	**Koumac, New Ca**	**4.97**	**226**	P	**Pn**	**21 18 56.1**	**+0.7**
DZM	**Mont Dzumac**	**5.16**	**198**	*e*Pn	**Pn**	**21 18 59.0**	**+1.0**
	14nm,0.2s						
DZM				*e*Sn	**Sn**	**21 19 55.2**	**-1.8**
	16nm,0.2s						
DZM	**Mont Dzumac**	**5.16**	**198**	P	**Pn**	**21 18 58.7**	**+0.7**

IDC 27 21:28:51.5±54.0, **18°02S×178°97W, h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.6**/33, **mbtmp3.8**/3, **Error ellipse: s-maj=979.4km s-min=162.0km az=79.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.12**	**241**	P	P	21 36 12.6	+0.2
	0.5nm,0.4s,baz=94,slow=14,SNR=1.9						
WRA	**Warramunga Arr**	**44.09**	**260**	P	P	21 37 01.6	-0.2
	0.5nm,0.4s,baz=97,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**44.25**	**254**	P	P	21 37 02.8	-0.3
	0.8nm,0.5s,baz=83,slow=8.6,SNR=13						

*SOF **27** 21:31:00.3, 43°35N×28°59E, h13km, MD3.5*
*ISK **27** 21:31:00.3, 43°36N×28°48E, h4km, ML3.5/31*
*IDC **27** 21:31:02.2±1.2, 43°56N×29°07E, h0km, mb1 3.3/4, mb1mx3.0/43, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=25.4km s-min=9.0km az=59.0*
*THE **27** 21:31:05.6, 43°28N×28°38E, h31km±41km, ML3.0/9, Error ellipse: s-maj=41.8km s-min=2.0km az=82.0*
ISC 27 21:31:01.3±1.1, **43°35N**±0′02×**28°53E**±0′03, **h10**km±8km, **n133**, σ1§**20**/174, **46C-30D, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSN	**Preselentsi**	**0.42**	**324**	*i* P	**Pg**	**21 31 09.5**	**-0.1**
TSMN	**Mangalia Port-**	**0.46**	**6**	⇑P	**Pg**	**21 31 10.5**	**+0.2**
TSMN				⇑S	**Sg**	**21 31 16.6**	**+0.3**
MANR	**Mangalia**	**0.47**	**5**	⇓P	**Pg**	**21 31 10.7**	**+0.2**
MANR				⇑S	**Sg**	**21 31 17.0**	**+0.1**
EFOR	**EFORIE**	**0.74**	**6**	⇑P	**Pg**	**21 31 15.9**	**+0.3**
EFOR				⇑S	**Sg**	**21 31 25.3**	**+0.1**
TSCT	**Constanta Port**	**0.82**	**7**	⇓P	**Pg**	**21 31 17.2**	**+0.1**
TSCT				⇓S	**Sg**	**21 31 27.5**	**-0.4**
PRD	**Provadia**	**0.83**	**260**	*i* P	**Pg**	**21 31 17.8**	**+0.4**
MFTR	**Murfatlar**	**0.84**	**355**	⇑S	**Sg**	**21 31 27.8**	**-0.6**
ROIA	**ROIAK**	**0.88**	**254**	*i* P	**Pb**	**21 31 19.0**	**+0.4**
ICOR	**Ion Corvin**	**0.93**	**326**	⇑P	**Pb**	**21 31 20.1**	**+0.5**
CVDA	**Cernavoda**	**1.05**	**341**	⇓P	**Pg**	**21 31 21.3**	**-0.2**
TIRR	**Tirgusor**	**1.12**	**356**	⇑S	**Sg**	**21 31 36.6**	**-0.7**
TLBR	**Topalu**	**1.25**	**344**	⇓P	**Pn**	**21 31 24.8**	**0.0**
HARR	**Harsova**	**1.41**	**343**	⇑P	**Pn**	**21 31 27.4**	**+0.4**
JURR	**Jurilovca**	**1.44**	**10**	⇓P	**Pb**	**21 31 28.1**	**-0.1**
TPGR	**Topolog**	**1.51**	**357**	⇑P	**Pn**	**21 31 28.7**	**+0.2**
TPGR				⇑S	**Sn**	**21 31 48.6**	**+0.4**
AMRR	**Amara**	**1.53**	**326**	⇓P	**Pb**	**21 31 29.9**	**+0.2**
AMRR				⇑S	**Sb**	**21 31 49.8**	**+0.7**
LEHL	**Lehliu**	**1.67**	**313**	⇓P	**Pn**	**21 31 31.6**	**+1.0**
LEHL				⇓S	**Sb**	**21 31 54.4**	**+1.2**
JMB	**Yambol**	**1.68**	**239**	*i* P	**Pb**	**21 31 31.9**	**-0.3**
TLCR		**1.85**	**6**	⇓P	**Pb**	**21 31 34.4**	**-0.8**
TLCR				⇓S	**Sb**	**21 31 58.0**	**-0.5**
CFR	**Carcaliu**	**1.85**	**351**	⇑P	**Pn**	**21 31 33.3**	**+0.2**
CFR				⇑S	**Sn**	**21 31 57.0**	**+0.4**
PHSR	**Pinarhisar**	**1.87**	**204**	PN	**Pn**	**21 31 34.4**	**+1.1**
PHSR				SN	**Sb**	**21 31 58.3**	**-0.6**
CTYL	**Yalikoy Yolu**	**1.88**	**185**	PN	**Pn**	**21 31 34.0**	**+0.6**
SZH	**Strazhica**	**1.89**	**269**	*i* P	**Pb**	**21 31 35.6**	**-0.3**
PGOR	**Pogoanele**	**1.92**	**325**	⇑P	**Pb**	**21 31 36.1**	**-0.3**
EDRB	**Edirne**	**1.99**	**222**	P	**Pn**	**21 31 35.8**	**+0.8**
EDRB	**Edirne**	**1.99**	**222**	PN	**Pn**	**21 31 35.8**	**+0.8**
EDRB				SN	**Sn**	**21 32 00.6**	**+0.6**
INCR	**INCERC-Sediu C**	**2.03**	**303**	⇑S	**Sb**	**21 32 05.1**	**+1.6**
SGRR	**Singureni**	**2.04**	**296**	⇑P	**Pb**	**21 31 37.7**	**-0.8**
SGRR				⇓S	**Sb**	**21 32 05.4**	**+1.4**
BUC1	**Bucharest**	**2.07**	**300**	⇑P	**Pb**	**21 31 38.4**	**-0.5**
BUC1				⇓S	**Sb**	**21 32 06.1**	**+1.5**
CTKS	**Kestanelik-??a**	**2.11**	**180**	PN	**Pn**	**21 31 36.9**

ENEZ Enez 3.15 215 P Pn 21 31 51.1 +0.2
ENEZ S Sn 21 32 26.1 -2.4
135nm,0.4s
ENEZ Enez 3.15 215 PN **Pn 21 31 51.2 +0.3**
RZN Rozhen 3.27 241 *i* P **Pn 21 31 53.3 +0.6**
CAVI Cavuskoy 3.29 162 PN **Pn 21 31 54.5 +1.6**
PGB Panagyurishte 3.30 258 *i* P **Pn 21 31 54.6 +1.6**
GELI Tayfur-Gelibol 3.32 208 PN **Pn 21 31 54.3 +1.0**
PURM Purcari 3.33 16 ⇓P **Pn 21 31 54.7 +1.3**
VASR Vaslui 3.34 351 ⇑P **Pn 21 31 55.4 +1.9**
OZUR 3.37 326 ⇓P **Pn 21 31 55.6 +1.6**
TESR Tescani 3.44 338 ⇓P **Pn 21 31 55.5 +0.6**
ARR Arges 3.45 307 ⇑P **Pn 21 31 56.4 +1.3**
DOPR Dopca 3.45 321 ⇑P **Pn 21 31 57.0 +1.9**
MDUB Mudurnu 3.50 144 PN **Pn 21 31 58.4 +2.6**
MILM Milestii Mici 3.58 3⇑*iP* **Pn 21 31 57.9 +1.1**
5.0nm,0.3s
MILM *e*S **Sn 21 32 39.6 +0.5**
33nm,0.3s
SMTH Samothraki Isl 3.64 219 P **Pn 21 31 58.5 +0.8**
SMTH S **Sn 21 32 39.5 -1.2**
42nm,0.6s
KIS Kishinev 3.66 3 *e* **Sg 21 32 56.0 -2.8**
GADA Gvkgeada 3.71 213 PN **Pn 21 31 59.5 +0.8**
KAVA Kavala 3.79 233 P **Pn 21 32 00.3 +0.5**
KAVA S **Sn 21 32 42.2 -2.3**
52nm,0.5s
GIRR Girov 3.88 339 ⇓P **Pn 21 32 01.6 +0.5**
SEV Sevastopol' 3.90 70⇓*eP* **Pn 21 32 01.9 +0.6**
SEV Pm 21 32 04.8
comp=Z,4.0nm,0.2s
SEV *e*S **Sn 21 32 47.9 +0.8**
SEV Sm 21 32 54.0
comp=N,36nm,0.4s,comp=E,18nm,0.4s
THAS Thassos island 3.94 227 P **Pn 21 32 01.7 -0.1**
THAS S **Sn 21 32 45.6 -2.5**
comp=E,55nm,0.3s
VTS Vitosha 3.95 261 *e*Pn **Pn 21 32 03.1 +1.0**
VTS Vitosha 3.95 261 *i* P **Pn 21 32 03.0 +1.0**
MMB Musomiste 3.96 245 *i* P **Pn 21 32 02.7 +0.6**
NVR Nevrokopi 3.99 242 P **Pn 21 32 03.5 +1.0**
NVR S **Sn 21 32 48.0 -1.4**
comp=E,28nm,0.3s
LOT Lotru 4.00 303 PN **Pn 21 32 03.8 +1.0**
PUNG Punghina 4.15 285 ⇑P **Pn 21 32 07.6 +2.8**
KOKK Kokkinochori, 4.21 235 P **Pn 21 32 05.3 -0.2**
KOKK S **Sn 21 32 52.7 -2.0**
comp=E,85nm,0.7s
BZK Bozkurt 4.27 107 PN **Pn 21 32 07.4 +1.1**
SRS Serrai 4.29 240 P **Pn 21 32 07.3 +0.7**
SRS S **Sn 21 32 55.2 -1.4**
ZAPS Zavoj 4.30 271 *e*Pn **Pn 21 32 07.1 +0.3**
SIM Simferopol' 4.33 66 *e*P **Pn 21 32 07.3 +0.1**
SIM Pm 21 32 12.2
comp=Z,10.0nm,0.3s
SIM *e*S **Sn 21 32 58.2 +0.5**
SIM Sm 21 32 59.8
comp=N,5.0nm,0.3s
SIM Sm 21 32 59.8
comp=E,14nm,0.3s
BOSS Bosilegrad 4.52 261 *e*Pn **Pn 21 32 10.6 +0.8**
SIGR SIGRI 4.59 207 P **Pn 21 32 11.5 +0.7**
SIGR S **Sn 21 33 03.1 -1.1**
comp=E,22nm,0.7s
ZAGS Zajecar 4.60 278 *e*Pn **Pn 21 32 08.6 -2.2**
KNT Kendrikon 4.71 244 P **Pn 21 32 13.2 +0.8**
KNT S **Sn 21 33 05.0 -2.1**
KNT Kendrikon 4.71 244 PN **Pn 21 32 13.5 +1.1**
SORM Soroca 4.79 359 ⇑P **Pn 21 32 13.5 0.0**
BUR01 Bucovina Ar. S 4.86 333 ⇑P **Pn 21 32 15.2 +0.6**
HORT Hortiatis 4.89 238 PN **Pn 21 32 15.3 +0.4**
SUDU Sudak 4.91 69 *e*P **Pn 21 32 16.1 +1.0**
SUDU Pm 21 32 16.4
comp=Z,17nm,0.3s
SUDU *e*S **Sn 21 33 12.7 +0.7**
SUDU Sm 21 33 15.2
comp=N,36nm,0.4s
SUDU Sm 21 33 15.2
comp=E,6.0nm,0.3s
BARS Barje 4.94 266 *e*Pn Pn 21 32 10.6 -5.0
BARS Barje 4.94 266 *e*Pn **Pn 21 32 16.3 +0.7**
STIP Stip 4.97 253 *i* Pn **Pn 21 32 14.0 -2.0**
BOVS Bovan 4.97 276 *e*Pn **Pn 21 32 16.2 +0.2**
GRG Griva 5.14 244 PN **Pn 21 32 19.9 +1.6**
FEO Feodosiya 5.21 69 *e*P **Pn 21 32 19.3 0.0**
FEO Pm 21 32 21.6
comp=Z,7.0nm,0.2s
FEO *e*S **Sn 21 33 20.0 +0.6**
FEO Sm 21 33 27.8
comp=N,13nm,0.3s
FEO Sm 21 33 27.8
comp=E,4.0nm,0.2s
BRTR Keskin Array B 5.27 132 Pn **Pn 21 32 21.1 +0.9**
comp=E,0.2nm,0.3s,baz=312,slow=11,SNR=6.9
BRTR Sn **Sn 21 33 19.7 -1.5**
comp=E,0.7nm,0.3s,baz=4.7,slow=21,SNR=12
SELS Selova 5.41 271 *e*Pn **Pn 21 32 22.5 +0.5**
GRUS Gruza 5.70 278 *e*Pn **Pn 21 32 25.8 -0.1**
IVAS Ivanjica 6.10 275 *e*Pn **Pn 21 32 31.5 0.0**
DIVS Divibare 6.23 280 *e*Pn **Pn 21 32 33.1 -0.2**
SJES Sjenica 6.24 272 *e*Pn **Pn 21 32 33.0 -0.5**
AKASG Malin Array Be 7.38 3 Pn **Pn 21 32 48.6 -0.3**
comp=E,0.5nm,0.3s,baz=190,slow=11,SNR=3.8
AKASG Sn **Sn 21 34 07.2 -5.3**
comp=E,1.2nm,0.3s,baz=164,slow=29,SNR=5.2
AKASG Lg Lg 21 34 46.8
comp=E,1.7nm,0.3s,baz=180,slow=30,SNR=8.1
FINES FINESS Array B 18.19 356 P **P 21 35 14.3 +0.4**
comp=E,0.1nm,0.3s,baz=161,slow=15,SNR=5.0

*PGC **27** 21:44:28.1±8.5, 47°.55N×129°.13W, h10km, MLSn3.4/16, Mw4.0/16, 296km Wsw of Tofino, Bc Off Coast Of Washington*
*IDC **27** 21:44:31.8±3.9, 47°.85N×128°.71W, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.3/46, mbtmp3.5/7, ML3.3/4, Error ellipse: s-maj=80.6km s-min=17.6km az=69.0*
*NEIC **27** 21:44:32.2±2.3, 47°.84N±0°.06×128°.83W±0°.09, h10km±2km, mb3.9/5, ML3.3/16, Mwr4.0(OTT), Error ellipse: s-maj=12.8km s-min=7.7km az=219.0*
ISC 27 21:44:32.0±0.8, **47°.83N**±0°.06×**128°.88W**±0°.06, **h13**km, **n80**, σ**1**§**18**/**80**, **mb3.7**/**4**, **Off coast of Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**0.19**	**310**		**Pg**	**21 44 34.8**	**-1.3**
KEMF					**Sg**	**21 44 39.5**	**+0.7**
KEMF	**NEPTUNE Canada**	**0.19**	**310**		**Pg**	**21 44 34.8**	**-1.3**
KEMF				S	**Sg**	**21 44 39.5**	**+0.7**
BFSB	**Bamfield**	**2.69**	**67**	Pn	**Pn**	**21 45 14.0**	**-1.0**
BFSB	**Bamfield**	**2.69**	**67**	Pn	**Pn**	**21 45 14.0**	**-1.0**
B928	**Bamfield**	**2.70**	**67**	Pn	**Pn**	**21 45 13.3**	**-1.6**
B928	**Bamfield**	**2.70**	**67**	Pn	**Pn**	**21 45 13.3**	**-1.6**
GDR	**Gold River**	**2.72**	**43**	Pn	**Pn**	**21 45 15.2**	**0.0**
GDR	**Gold River**	**2.72**	**43**	Pn	**Pn**	**21 45 15.2**	**0.0**
BTB	**Buttle Lake**	**2.77**	**52**	Pn	**Pn**	**21 45 15.6**	**-0.5**
BTB				Sn	**Sn**	**21 45 50.5**	**+1.0**
BTB	**Buttle Lake**	**2.77**	**52**	Pn	**Pn**	**21 45 15.6**	**-0.5**
BTB				Sn	**Sn**	**21 45 50.5**	**+1.0**
WOSB	**Woss**	**2.79**	**32**	Pn	**Pn**	**21 45 16.4**	**+0.1**
WOSB	**Woss**	**2.79**	**32**	Pn	**Pn**	**21 45 16.4**	**+0.1**
MAYB	**Maynard**	**2.81**	**23**	Pn	**Pn**	**21 45 17.0**	**+0.2**
MAYB	**Maynard**	**2.81**	**23**	Pn	**Pn**	**21 45 17.0**	**+0.2**
MGB	**Mount Grey**	**3.03**	**66**	Pn	**Pn**	**21 45 18.9**	**-0.8**
MGB	**Mount Grey**	**3.03**	**66**	Pn	**Pn**	**21 45 18.9**	**-0.8**
TLCB	**Telegraph Cove**	**3.04**	**25**	Pn	**Pn**	**21 45 19.8**	**+0.1**
TLCB				IAML		21 46 45.3	
comp=E,68nm,4.8s
TLCB	**Telegraph Cove**	**3.04**	**25**	Pn	**Pn**	**21 45 19.7**	**+0.1**
PFB	**Port Renfrew**	**3.06**	**74**	Pn	**Pn**	**21 45 18.2**	**-1.8**
PFB	**Port Renfrew**	**3.06**	**74**	Pn	**Pn**	**21 45 18.2**	**-1.8**
NCRB	**Newcastle Ridg**	**3.18**	**35**	Pn	**Pn**	**21 45 22.3**	**+0.5**
NCRB	**Newcastle Ridg**	**3.18**	**35**	Pn	**Pn**	**21 45 22.3**	**+0.5**
CBB	**Campbell River**	**3.20**	**45**	Pn	**Pn**	**21 45 22.3**	**+0.3**
CBB	**Campbell River**	**3.20**	**45**	Pn	**Pn**	**21 45 22.3**	**+0.3**
CBB				Sn	**Sn**	**21 46 01.9**	**+1.9**
B926	**Mesachie Lake**	**3.32**	**71**	Pn	**Pn**	**21 45 22.6**	**-1.0**
B926	**Mesachie Lake**	**3.32**	**71**	Pn	**Pn**	**21 45 22.6**	**-1.0**
B926				Sn	**Sn**	**21 46 02.8**	**-0.1**
CLRS	**Cowichan Lake**	**3.32**	**71**	Pn	**Pn**	**21 45 22.5**	**-1.1**
CLRS	**Cowichan Lake**	**3.32**	**71**	Pn	**Pn**	**21 45 22.4**	**-1.2**
CLRS				Sn	**Sn**	**21 46 02.8**	**-0.1**
NLWA	**Neilton Lookou**	**3.42**	**95**	Pn	**Pn**	**21 45 25.5**	**+0.6**
NLWA				IAML		21 45 55.6	
comp=E,53nm,4.2s
NLWA IAML 21 46 18.1
comp=E,54nm,4.8s
GHNB	**Nanoose**	**3.42**	**63**	Pn	**Pn**	**21 45 25.2**	**+0.2**
GHNB	**Nanoose**	**3.42**	**63**	Pn	**Pn**	**21 45 25.2**	**+0.2**
TXB	**Texada**	**3.49**	**56**	Pn	**Pn**	**21 45 25.9**	**0.0**
NLLB	**Nanaimo Lost L**	**3.54**	**65**	Pn	**Pn**	**21 45 26.5**	**-0.1**
PGC	**Sidney**	**3.72**	**75**	Pn	**Pn**	**21 45 28.1**	**-1.0**
PGC				IAML		21 47 29.3	
comp=N,46nm,4.7s
PGC IAML 21 47 44.0
comp=E,48nm,5.0s
SHB	**Sechelt**	**3.76**	**60**	Pn	**Pn**	**21 45 29.5**	**-0.2**
BIB	**Bowen Island**	**4.02**	**65**	Pn	**Pn**	**21 45 33.3**	**+0.1**
BBB	**Bella Bella**	**4.39**	**6**	Pn	**Pn**	**21 45 38.5**	**+0.1**
comp=E,4.5nm,0.3s,baz=158,slow=2.7,SNR=12
BBB	**Bella Bella**	**4.39**	**6**		**Pn**	**21 45 38.4**	**+0.1**
BBB	**Bella Bella**	**4.39**	**6**	Pn	**Pn**	**21 45 38.7**	**+0.5**
HNBB	**Haney**	**4.44**	**68**	Pn	**Pn**	**21 45 38.5**	**-0.4**
LLLB	**Lillooet**	**5.37**	**56**		**Pn**	**21 45 52.5**	**+0.8**
LLLB				IAML		21 48 04.0	
comp=E,42nm,4.9s
LLLB IAML 21 48 19.6
comp=N,33nm,4.7s
LLLB	**Lillooet**	**5.37**	**56**	Pn	**Pn**	**21 45 52.6**	**+0.8**
LLLB	**Lillooet**	**5.37**	**56**	IAML		21 48 19.6	
comp=N,33nm,4.7s
H04D	**Lebanon**	**5.39**	**125**	Pn	**Pn**	**21 45 51.9**	**-0.2**
HOOD	**Mount Hood Mea**	**5.58**	**114**	Pn	**Pn**	**21 45 56.0**	**+1.2**
LTY	**Liberty**	**5.59**	**93**	Pn	**Pn**	**21 45 55.4**	**+0.6**
H04A	**Detroit Lake**	**5.61**	**122**	Pn	**Pn**	**21 45 55.0**	**0.0**
DBO	**Dodson Butte**	**6.15**	**138**	Pn	**Pn**	**21 46 02.6**	**+0.1**
J04D	**Umpqua Nationa**	**6.60**	**131**	Pn	**Pn**	**21 46 09.8**	**+0.9**
KSXB	**Camp Six Broad**	**6.97**	**148**	Pn	**Pn**	**21 46 15.0**	**+1.2**
I07A	**Izee**	**7.53**	**116**	Pn	**Pn**	**21 46 23.1**	**+1.6**
K05A	**Summer Lake**	**7.60**	**129**	Pn	**Pn**	**21 46 23.8**	**+1.3**
M02C	**Callahan**	**7.73**	**144**	Pn	**Pn**	**21 46 25.0**	**+0.7**
NEW	**Newport**	**7.89**	**82**	Pn	**Pn**	**21 46 26.0**	**-0.4**
N02D	**Trinity Center**	**8.15**	**145**	Pn	**Pn**	**21 46 30.9**	**+1.0**
F10A	**Beach Ranch, E**	**8.19**	**99**	Pn	**Pn**	**21 46 30.5**	**-0.1**
PLID	**Pearl Lake**	**9.30**	**102**	Pn	**Pn**	**21 46 47.0**	**+1.1**
HOPS	**Hopland Field**	**9.78**	**152**	Pn	**Pn**	**21 46 54.7**	**+2.4**
PAHR	**Pah Rah Range**	**10.62**	**136**	Pn	**Pn**	**21 47 05.8**	**+1.9**
YERR	**Yerington**	**11.27**	**138**	Pn	**Pn**	**21 47 14.7**	**+1.8**
NVAR	**Mina Array Bea**	**12.15**	**137**	Pn	**Pn**	**21 47 27.6**	**+2.8**
comp=N,0.1nm,0.3s,baz=308,slow=14,SNR=2.8
NVAR	**Mina Array Bea**	**12.15**	**137**		**Pn**	**21 47 26.9**	**+2.0**
BW06	**Boulder Array**	**14.50**	**103**	Pn	**P**	**21 48 00.7**	**-3.0**
PDAR	**Pinedale Array**	**14.50**	**103**	Pn	**Pn**	**21 47 59.2**	**+2.3**
comp=N,0.1nm,0.3s,baz=298,slow=15,SNR=3.0
PDAR	**Pinedale Array**	**14.50**	**103**	Pn	**Pn**	**21 48 00.1**	**+3.2**
U15A	**North Rim**	**16.73**	**127**		**Pn**	**21 48 27.5**	**+1.3**
YKA	**Yellowknife Ar**	**16.75**	**23**	Pn	**Pn**	**21 48 24.9**	**-1.0**
comp=N,0.0nm,0.3s,baz=219,slow=10,SNR=3.2
PV23	**Carpenter Ridg**	**17.22**	**116**	P	**Pn**	**21 48 33.3**	**+0.9**
PV23				IAmb	IAmb	21 48 42.1	
comp=Z,12nm,1.0s
MVCO	**Mesa Verde**	**18.34**	**118**		**Pn**	**21 48 46.0**	**-0.1**
MVCO				IAmb	IAmb	21 48 54.6	
comp=Z,11nm,1.2s
ANMO	**Albuquerque**	**21.09**	**119**	P	**P**	**21 49 17.8**	**+1.6**
comp=Z,2.3nm,1.0s,baz=303,slow=9.1,SNR=3.9
121A	**Cookes Peak, D**	**22.10**	**126**	P	**P**	**21 49 26.1**	**-0.9**
121A				IAmb	IAmb	21 49 35.4	
comp=Z,5.1nm,1.1s
TXAR	**Lajitas Array**	**26.82**	**124**	P	**P**	**21 50 13.8**	**+1.9**
comp=Z,0.5nm,0.8s,baz=317,slow=8.7,SNR=4.1
TXAR	**Lajitas Array**	**26.82**	**124**	P	**P**	**21 50 13.2**	**+1.3**
RES	**Resolute Bay**	**30.60**	**17**	P	**P**	**21 50 45.1**	**0.0**
comp=Z,0.5nm,0.3s,baz=229,slow=10,SNR=2.3
H11N2	**WAKE ISLAND Hy**	**58.40**	**265**	T	T	22 57 25.1	
baz=45,slow=75,SNR=9.3
H11N3	**WAKE ISLAND Hy**	**58.40**	**265**	T	T	22 57 21.4	
baz=45,slow=75,SNR=12
H11N1	**WAKE ISLAND Hy**	**58.41**	**265**	T	T	22 57 23.6	
baz=45,slow=75,SNR=9.5
H11S1	**WAKE ISLAND Hy**	**59.39**	**264**	T	T	22 58 35.4	
baz=286,slow=74,SNR=3.6
H11S2	**WAKE ISLAND Hy**	**59.40**	**264**	T	T	22 58 37.8	
baz=44,slow=74,SNR=4.4
H11S3	**WAKE ISLAND Hy**	**59.41**	**264**	T	T	22 58 33.9	

*PGC **27** 21:46:09.7±2.7, 47°.66N×129°.18W, h10km, MLSn3.3/13, Mw3.9/13, 292km Wsw of Tofino, Bc Off Coast Of Washington*
*IDC **27** 21:46:11.9±2.2, 47°.83N×128°.86W, h0km, mb3.8/4, mb1 3.9/11, mb1mx3.5/52, mbtmp3.7/11, ML3.3/7, MS3.7/22, Ms1 3.7/22, ms1mx3.4/83, Error ellipse: s-maj=49.8km s-min=13.2km az=65.0*
*NEIC **27** 21:46:13.9±2.2, 47°.94N±0°.06×128°.91W±0°.08, h10km±2km, mb4.2/24, ML3.4/14, Mwr3.9(OTT), Error ellipse: s-maj=11.3km s-min=8.4km az=206.0*
ISC 27 21:46:12.8±0.9, **47°.88N**±0°.07×**129°.03W**±0°.08, **h15**km±6km, **n126**, σ**1**§**43**/**115**, **mb4.2**/**6**, **MS3.7**/**13**, **Off coast of Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**0.08**	**324**		**Pg**	**21 46 14.4**	**-1.1**
KEMF					**Sg**	**21 46 18.4**	**+1.2**
KEMF	**NEPTUNE Canada**	**0.08**	**324**	P	**Pg**	**21 46 14.4**	**-1.1**
KEMF				S	**Sg**	**21 46 18.4**	**+1.2**
GDR	**Gold River**	**2.74**	**45**	Pn	**Pn**	**21 46 54.6**	**-1.7**
GDR	**Gold River**	**2.74**	**45**	Pn	**Pn**	**21 46 54.6**	**-1.7**
WOSB	**Woss**	**2.79**	**34**	Pn	**Pn**	**21 46 56.7**	**-0.4**
WOSB	**Woss**	**2.79**	**34**	Pn	**Pn**	**21 46 56.7**	**-0.4**
MAYB	**Maynard**	**2.80**	**25**	Pn	**Pn**	**21 46 57.3**	**+0.1**
MAYB	**Maynard**	**2.80**	**25**	Pn	**Pn**	**21 46 57.3**	**+0.1**
BTB	**Buttle Lake**	**2.81**	**54**	Pn	**Pn**	**21 46 56.5**	**-0.9**
BTB				Sn	**Sn**	**21 47 31.0**	**-0.2**
BTB	**Buttle Lake**	**2.81**	**54**	Pn	**Pn**	**21 46 56.5**	**-0.9**
BTB				Sn	**Sn**	**21 47 31.0**	**-0.2**
SPLB	**Strathcona Par**	**3.00**	**47**	Pn	**Pn**	**21 46 59.5**	**-0.3**
SPLB	**Strathcona Par**	**3.00**	**47**	Pn	**Pn**	**21 46 59.5**	**-0.3**
TLCB	**Telegraph Cove**	**3.03**	**28**	Pn	**Pn**	**21 47 00.6**	**+0.3**
TLCB	**Telegraph Cove**	**3.03**	**28**	Pn	**Pn**	**21 47 00.5**	**+0.3**
MGB	**Mount Grey**	**3.10**	**67**	Pn	**Pn**	**21 47 00.7**	**-0.6**
MGB	**Mount Grey**	**3.10**	**67**	Pn	**Pn**	**21 47 00.7**	**-0.6**
PFB	**Port Renfrew**	**3.14**	**76**	Pn	**Pn**	**21 46 59.4**	**-2.4**
PFB	**Port Renfrew**	**3.14**	**76**	Pn	**Pn**	**21 46 59.4**	**-2.4**
NCRB	**Newcastle Ridg**	**3.19**	**37**	Pn	**Pn**	**21 47 02.1**	**-0.5**
NCRB				Sn	**Sn**	**21 47 41.4**	**+1.0**
NCRB	**Newcastle Ridg**	**3.19**	**37**	Pn	**Pn**	**21 47 02.1**	**-0.5**
NCRB				Sn	**Sn**	**21 47 41.4**	**+1.0**
CBB	**Campbell River**	**3.23**	**47**	Pn	**Pn**	**21 47 02.9**	**-0.2**
CBB				IAML		21 47 46.5	
comp=N,59nm,4.3s
CBB	**Campbell River**	**3.23**	**47**	Pn	**Pn**	**21 47 03.3**	**+0.2**
CBB				Sn	**Sn**	**21 47 42.5**	**+1.2**
B926	**Mesachie Lake**	**3.40**	**72**	Pn	**Pn**	**21 47 03.1**	**-2.2**
B926				Sn	**Sn**	**21 47 44.5**	**-0.8**
B926	**Mesachie Lake**	**3.40**	**72**	Pn	**Pn**	**21 47 03.1**	**-2.2**
B926				Sn	**Sn**	**21 47 44.5**	**-0.8**
CLRS	**Cowichan Lake**	**3.40**	**72**	Pn	**Pn**	**21 47 03.2**	**-2.1**
CLRS				IAML		21 47 46.3	
comp=E,62nm,5.0s
CLRS IAML 21 48 27.6
comp=N,58nm,4.6s
CLRS	**Cowichan Lake**	**3.40**	**72**	Pn	**Pn**	**21 47 03.2**	**-2.1**
CLRS				Sn	**Sn**	**21 47 44.2**	**-1.1**
TXB	**Texada**	**3.54**	**57**	Pn	**Pn**	**21 47 06.2**	**-1.1**
TXB	**Texada**	**3.54**	**57**	Pn	**Pn**	**21 47 06.2**	**-1.1**
PGC	**Sidney**	**3.80**	**76**	Pn	**Pn**	**21 47 11.7**	**+0.8**
PGC				IAML		21 48 05.8	
comp=N,44nm,5.0s
PGC IAML 21 49 16.6
comp=E,52nm,4.6s
SHB	**Sechelt**	**3.82**	**61**	Pn	**Pn**	**21 47 09.8**	**-1.4**
SHB	**Sechelt**	**3.82**	**61**	Pn	**Pn**	**21 47 09.8**	**-1.4**
BIB	**Bowen Island**	**4.09**	**66**	Pn	**Pn**	**21 47 14.1**	**-0.7**
BBB	**Bella Bella**	**4.35**	**7**	Pn	**Pn**	**21 47 18.6**	**+0.3**
comp=E,6.6nm,0.3s,baz=207,slow=10,SNR=11
BBB	**Bella Bella**	**4.35**	**7**		**Pn**	**21 47 18.0**	**-0.3**
BBB				IAML		21 48 38.6	
comp=N,82nm,3.4s
BBB	**Bella Bella**	**4.35**	**7**	Pn	**Pn**	**21 47 18.6**	**+0.3**
LLLB	**Lillooet**	**5.42**	**57**	Pn	**Pn**	**21 47 32.6**	**-0.4**
LLLB				IAML		21 50 11.1	
comp=E,30nm,4.9s
LLLB	**Lillooet**	**5.42**	**57**	Pn	**Pn**	**21 47 33.4**	**+0.3**
H04D	**Lebanon**	**5.51**	**125**	Pn	**Pn**	**21 47 34.1**	**-0.2**
LTY	**Liberty**	**5.69**	**93**	Pn	**Pn**	**21 47 36.4**	**-0.5**
YBH	**Yreka Blue Hor**	**7.61**	**142**	Pn	**Pn**	**21 48 04.6**	**+1.3**
comp=E,0.1nm,0.3s,baz=329,slow=15,SNR=4.3
YBH				LR	LR	21 50 34.9	
comp=E,708nm,19.6s,baz=319,slow=35
N02D	**Trinity Center**	**8.26**	**144**		**Pn**	**21 48 13.7**	**+1.6**
WDC	**Whiskeytown Da**	**8.66**	**145**	Pn	**Pn**	**21 48 18.9**	**+1.3**
PLID	**Pearl Lake**	**9.41**	**102**	Pn	**Pn**	**21 48 29.3**	**+1.2**
ORV	**Oroville**	**9.95**	**144**		**Pn**	**21 48 36.5**	**+1.4**
MFID	**Camas Ranch**	**10.26**	**111**	Pn	**Pn**	**21 48 42.0**	**+2.4**
DLBC	**Dease Lake**	**10.59**	**357**	LR	LR	21 52 54.9	
comp=E,330nm,19.9s,baz=164,slow=38
PAHR	**Pah Rah Range**	**10.73**	**136**	Pn	**Pn**	**21 48 47.3**	**+1.2**
MPK	**Martis Peak**	**10.78**	**140**		**Pn**	**21 48 47.9**	**+1.1**
VCNR	**Virginia City**	**10.94**	**138**		**Pn**	**21 48 51.6**	**+2.6**
YERR	**Yerington**	**11.38**	**138**		**Pn**	**21 48 56.9**	**+1.9**
KVN	**Kaiserville**	**11.86**	**134**	Pn	**Pn**	**21 49 04.0**	**+2.4**
RYN	**Ryan**	**12.00**	**137**		**Pn**	**21 49 05.7**	**+2.2**
ELK	**Elko**	**12.17**	**121**	Pn	**Pn**	**21 49 08.8**	**+2.9**
comp=E,0.1nm,0.3s,baz=304,slow=15,SNR=3.1
ELK				LR	LR	21 53 50.4	
comp=E,388nm,20.8s,baz=321,slow=38
ELK	**Elko**	**12.17**	**121**	Pn	**Pn**	**21 49 08.0**	**+2.1**
NVAR	**Mina Array Bea**	**12.26**	**137**	Pn	**Pn**	**21 49 08.6**	**+1.5**
comp=E,0.1nm,0.3s,baz=309,slow=9.8,SNR=12
NVAR				LR	LR	21 53 50.5	
comp=E,587nm,18.4s,baz=335,slow=38
NVAR	**Mina Array Bea**	**12.26**	**137**	Pn	**Pn**	**21 49 08.8**	**+1.8**
NV11	**Mina Array Sit**	**12.33**	**136**		**Pn**	**21 49 09.5**	**+1.6**
QLMT	**Earthquake Lak**	**12.54**	**98**	Pn	**Pn**	**21 49 13.7**	**+3.0**
YHH	**Holmes Hill**	**12.94**	**97**	Pn	**Pn**	**21 49 18.9**	**+2.6**
HVU	**Hansel Valley**	**13.04**	**112**		**Pn**	**21 49 19.9**	**+2.3**
TPH	**Tonopah**	**13.05**	**134**	Pn	**Pn**	**21 49 19.0**	**+1.1**
MOOW	**Moose Ponds**	**13.40**	**101**		**Pn**	**21 49 24.6**	**+2.0**
AHID	**Auburn Hatcher**	**13.60**	**105**		**Pn**	**21 49 28.2**	**+2.8**
R11A	**Troy Canyon, C**	**13.66**	**129**		**Pn**	**21 49 27.8**	**+1.6**
SPR3	**Spring Creek 3**	**13.87**	**124**		**Pn**	**21 49 31.1**	**+2.1**
HWUT	**Hardware Ranch**	**13.89**	**110**	Pn	**Pn**	**21 49 30.9**	**+1.5**
DUG	**Dugway, Tooele**	**13.95**	**117**		**P**	**21 49 34.6**	**-3.6**
TPNV	**Topopah Spring**	**14.42**	**135**	Pn	**Pn**	**21 49 37.6**	**+1.1**
YAH	**Yahtse**	**14.52**	**334**	Pn	**Pn**	**21 49 35.3**	**-2.5**
JLU	**Jordanelle**	**14.53**	**114**		**Pn**	**21 49 39.3**	**+1.2**
NLU	**North Lily Min**	**14.54**	**117**	Pn	**Pn**	**21 49 41.5**	**+3.2**
BW06	**Boulder Array**	**14.61**	**103**	Pn	**Pn**	**21 49 41.2**	**+2.1**
PDAR	**Pinedale Array**	**14.61**	**103**	Pn	**Pn**	**21 49 41.6**	**+2.4**
comp=E,0.1nm,0.3s,baz=303,slow=14,SNR=5.1
PDAR				LR	LR	21 55 42.7	
comp=E,297nm,20.4s,baz=319,slow=39
PDAR	**Pinedale Array**	**14.61**	**103**	Pn	**Pn**	**21 49 40.8**	**+1.6**
PRN	**Pahroc Range**	**14.65**	**131**		**Pn**	**21 49 41.6**	**+1.9**
SHPR	**Sheep Range**	**15.30**	**133**	Pn	**Pn**	**21 49 48.9**	**+0.6**
SHPR				IAmb	IAmb	21 49 50.5	
comp=Z,8.4nm,1.3s
CCUT	**Cedar City**	**15.44**	**126**		**Pn**	**21 49 51.1**	**+0.9**
GSC	**Goldstone, Bar**	**15.52**	**140**		**Pn**	**21 49 51.7**	**+0.5**
GSC				IAmb	IAmb	21 50 01.5	
comp=Z,9.2nm,1.3s
MTPU	**Mount Pierson**	**15.74**	**123**		**Pn**	**21 49 55.5**	**+1.2**
MTPU				IAmb	IAmb	21 50 01.4	
comp=Z,14nm,1.5s
SRU	**San Rafael Swe**	**16.00**	**116**	P	**P**	**21 50 00.6**	**-0.4**
KNB	**Kanab**	**16.12**	**126**		**P**	**21 50 01.9**	**-0.4**
DGMT	**Dagmar**	**16.56**	**79**		**P**	**21 50 06.4**	**-0.5**
YKA	**Yellowknife Ar**	**16.73**	**24**	Pn	**Pn**	**21 50 05.7**	**-0.7**
comp=Z,0.0nm,0.3s,baz=210,slow=12,SNR=9.4
YKA				LR	LR	21 55 16.2	
comp=Z,178nm,21.0s,baz=334,slow=32
U15A	**North Rim**	**16.84**	**127**		**P**	**21 50 09.5**	**-0.9**
U15A				IAmb	IAmb	21 50 13.5	
comp=Z,17nm,1.2s
PFO	**Pinyon Flats O**	**17.11**	**142**	LR	LR	21 56 57.9	
comp=Z,244nm,19.8s,baz=338,slow=38
KDAK	**Kodiak Island**	**17.25**	**314**	LR	LR	21 54 57.7	
comp=Z,409nm,21.9s,baz=183,slow=30
PV23	**Carpenter Ridg**	**17.34**	**116**		**P**	**21 50 15.3**	**-0.5**
PHWY	**Pilot Hill**	**17.99**	**103**		**Pn**	**21 50 22.5**	**-0.1**
FFC	**Flin Flon**	**18.17**	**58**	P	**P**	**21 50 24.8**	**+0.2**
FFC				IAmb	IAmb	21 50 41.5	
comp=Z,12nm,1.2s
MVCO	**Mesa Verde**	**18.45**	**118**	P	**Pn**	**21 50 28.8**	**+0.6**
MVCO				IAmb	IAmb	21 50 31.9	
comp=Z,33nm,1.3s
ILAR	**Eielson Array**	**19.48**	**337**	P	**Pn**	**21 50 42.1**	**+1.9**
comp=Z,0.0nm,0.3s,baz=132,slow=7.8,SNR=3.2
ILAR				LR	LR	21 57 16.4	
comp=Z,165nm,21.2s,baz=149,slow=34
INK	**Inuvik**	**20.61**	**355**	P	Pn	21 50 53.0	-0.4
comp=Z,1.1nm,0.6s,baz=166,slow=5.7,SNR=3.2
INK				LR	LR	21 59 05.6

*IDC **27** 21:57:47.8±0.8, 35°.54N×3°.80W, h0km, mb4.0/9, mb1 4.1/13, mb1mx3.9/45, mbtmp3.9/13, ML3.7/4, MS3.5/20, Ms1 3.5/20, ms1mx3.3/93, Error ellipse: s-maj=25.7km s-min=16.8km az=91.0*
*CRAAG **27** 21:57:47.0, 35°.48N×3°.82W, Mb3.8*
*SFS **27** 21:57:47.0, 35°.48N×3°.82W, ML3.8, ALBORAN SUR*
*INMG **27** 21:57:48.1±2.3, 35°.50N×3°.84W, h0km±7km, MD3.7, ML3.5, Error ellipse: s-maj=5.9km s-min=5.6km az=23.0*
*IGIL **27** 21:57:48.7, 35°.48N×3°.82W, h0km, ML3.4*
*LDG **27** 21:57:49.7±0.4, 35°.40N×3°.69W, h10km, Ml2.9/6, Error ellipse: s-maj=7.9km s-min=4.0km az=174.0*
*NEIC **27** 21:57:49.6±2.8, 35°.58N±0°.05×3°.79W±0°.04, h10km±1km, mb4.3/14, mb_Lg3.8(MDD), Error ellipse: s-maj=8.4km s-min=5.4km az=177.0*
ISC 27 21:57:48.1±1.1, 35°.54N±0°.02×3°.77W±0°.02, h4km±7km, n167, σ2°.07/202, mb4.3/14, MS3.6/15, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**203**	P	**Pg**	**21 57 55.0**	**+0.1**
PALE				S	**Sg**	**21 58 00.3**	**+0.7**
EMEL	**Melilla**	**0.71**	**110**	∥Pg	**Pg**	**21 58 01.1**	**-0.6**
EMEL				Lg	Lg	21 58 10.1	
	8μm,0.2s,SNR=24						
GOG	**Mont Gurugu**	**0.71**	**117**	P	**Pg**	**21 58 00.8**	**-0.9**
GOG				S	**Sg**	**21 58 10.0**	**-0.9**
EMLI	**Melilla**	**0.71**	**110**	Pg	**Pg**	**21 58 01.1**	**-0.6**
EALB	**Alboran**	**0.72**	**56**	Pg	**Pg**	**21 58 02.0**	**+0.1**
EALB	**Alboran**	**0.72**	**56**	Pg	**Pg**	**21 58 02.0**	**+0.1**
	134nm,0.2s,SNR=280						
EALB				Lg	Lg	21 58 12.9	
	5μm,0.5s,SNR=24						
AKLM	**AKL**	**1.03**	**184**	P	**Pg**	**21 58 07.6**	**-0.3**
AKLM				S	**Sb**	**21 58 22.0**	**-0.6**
CHAS	**Isla Isabel II**	**1.15**	**108**	*e*P	**Pg**	**21 58 07.6**	**-2.5**
CHAS				*e*S	**Sg**	**21 58 22.2**	**-2.9**
EMIJ	**Mijas**	**1.30**	**322**		**Pn**	**21 58 11.4**	**-1.7**
EMIJ	**Mijas**	**1.30**	**322**	Pg	**Pn**	**21 58 11.4**	**-1.7**
	32nm,0.1s,SNR=170						
EMIJ				Lg	Lg	21 58 29.0	
	1μm,0.4s,SNR=5.0						
SMIR	**Smir Dam**	**1.32**	**276**	P	**Pn**	**21 58 10.1**	**-3.3**
SMIR				S	**Sg**	**21 58 29.2**	**-1.4**
ELGU	**Los Guajares,**	**1.33**	**5**		**Pn**	**21 58 11.6**	**-1.8**
ELGU	**Los Guajares,**	**1.33**	**5**	Pg	**Pn**	**21 58 11.6**	**-1.8**
	SNR=7.9						
ELGU				Lg	Lg	21 58 30.8	
	2μm,0.4s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.33**	**336**	*e*P	**Pn**	**21 58 11.7**	**-1.8**
EMAL				*e*S	**Sg**	**21 58 28.9**	**-1.9**
CEU	**Ceuta**	**1.35**	**286**	*e*P	**Pn**	**21 58 10.0**	**-3.8**
CEU				*e*S	**Sb**	**21 58 26.1**	**-5.6**
ECEU	**Ceuta**	**1.36**	**286**		**Pn**	**21 58 11.2**	**-2.7**
ECEU	**Ceuta**	**1.36**	**286**	Pg	**Pn**	**21 58 11.2**	**-2.7**
	41nm,0.2s,SNR=50						
ECEU				Lg	Lg	21 58 28.7	
	199nm,0.3s,SNR=11						
CHEFC	**Chefchaouen**	**1.36**	**252**	P	**Pn**	**21 58 12.9**	**-1.0**
CHEFC				S	**Sn**	**21 58 33.2**	**+0.8**
EBER	**Berja**	**1.53**	**27**	Pn	**Pn**	**21 58 14.4**	**-1.9**
EBER	**Berja**	**1.53**	**27**	Pn	**Pn**	**21 58 14.4**	**-1.9**
	76nm,0.4s,SNR=68						
EBER				Lg	Lg	21 58 40.7	
	1μm,0.6s,SNR=11						
JBK	**JBK**	**1.56**	**140**	P	**Pn**	**21 58 13.8**	**-2.9**
JBK				S	**Sn**	**21 58 34.9**	**-2.6**
EGOR	**Sierra Gorda,**	**1.59**	**350**	Pn	**Pb**	**21 58 17.5**	**-0.6**
EGOR	**Sierra Gorda,**	**1.59**	**350**	Pn	**Pb**	**21 58 17.5**	**-0.6**
	SNR=7.9						
EGOR				Pn	**Pb**	**21 58 17.5**	**-0.6**
	15nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	21 58 39.2	
	979nm,0.5s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.65**	**304**	Pn	**Pn**	**21 58 17.6**	**-0.2**
EJIF	**Jimena Fronter**	**1.65**	**304**	Pn	**Pn**	**21 58 17.6**	**-0.2**
	413μm,0.5s,SNR=7.9						
EQUE	**Quentar**	**1.68**	**9**	Pn	**Pn**	**21 58 17.7**	**-0.7**
	89nm,0.5s,SNR=67						
EQUE				Lg	Lg	21 58 42.1	
	891nm,0.8s,SNR=10						
ENIJ	**Nijar**	**1.90**	**41**	Pn	**Pn**	**21 58 20.6**	**-0.7**
ENIJ				Sn	**Sn**	**21 58 46.4**	**+0.5**
ENIJ	**Nijar**	**1.90**	**41**	Pn	**Pn**	**21 58 20.6**	**-0.7**
	SNR=7.9						
ENIJ				Sn	**Sn**	**21 58 46.4**	**+0.5**
	SNR=7.9						
SICH	**Sidi Chahed**	**1.92**	**222**	P	**Pb**	**21 58 22.6**	**-1.1**
SICH				S	**Sb**	**21 58 48.2**	**+0.2**
LCRM	**LCR**	**2.06**	**206**	P	**Pn**	**21 58 22.9**	**-0.7**
LCRM				S	**Sb**	**21 58 50.6**	**-1.5**
SFS	**San Fernando**	**2.18**	**296**	*e*P	**Pg**	**21 58 28.6**	**-1.2**
SFS				*e*S	**Sg**	**21 59 00.7**	**+2.5**
SFS	**San Fernando**	**2.18**	**296**		**Pn**	**21 58 23.3**	**-1.8**
IFR	**Ifrane**	**2.31**	**209**	*e*P	**Pn**	**21 58 26.4**	**-0.8**
IFR				*e*S	**Sn**	**21 58 54.7**	**-1.4**
EQES	**Quesada**	**2.32**	**14**	Pn	**Pn**	**21 58 28.4**	**+1.2**
	225nm,0.7s,SNR=148						
EQES				Sn	**Sb**	**21 58 58.9**	**-0.8**
	434nm,1.1s,SNR=6.5						
EQES				Lg	Lg	21 59 04.5	
	984nm,1.0s,SNR=6.7						
EADA	**Adamuz**	**2.70**	**346**	Pn	**Pn**	**21 58 33.6**	**+1.3**
	48nm,0.3s,SNR=57						
MD31	**MD31**	**2.79**	**197**	P	**Pn**	**21 58 33.2**	**-0.4**
MD31				S	**Sn**	**21 59 06.9**	**-1.0**
MDT	**Midelt**	**2.81**	**195**	Pn	**Pn**	**21 58 34.1**	**+0.2**
	1.6nm,0.3s,baz=203,slow=8.3,SNR=30						
MDT				Sn	**Sn**	**21 59 09.2**	**+0.9**
	14nm,0.3s,baz=171,slow=19,SNR=7.0						
MDT				LR	LR	21 59 49.2	
	comp=Z,175nm,19.9s,baz=42,slow=43						
MDT	**Midelt**	**2.81**	**195**	P	**Pn**	**21 58 33.2**	**-0.7**
ZHG	**ZHG**	**3.16**	**229**	P	**Pn**	**21 58 37.4**	**-1.3**
PVAQ	**Vaqueiros**	**3.69**	**301**	*e*Pn	**Pn**	**21 58 45.2**	**-0.6**
PVAQ				*e*Sn	**Sn**	**21 59 26.3**	**-3.4**
PVAQ				A	A	21 59 29.1	
	82nm,0.4s						
PVAQ	**Vaqueiros**	**3.69**	**301**	Pn	**Pn**	**21 58 45.0**	**-0.9**
PVAQ	**Vaqueiros**	**3.69**	**301**	P	**Pn**	**21 58 44.9**	**-0.9**
PVAQ				S	**Sn**	**21 59 26.8**	**-2.9**
PBAR	**Barrancos**	**3.71**	**316**	*e*Sn	**Sn**	**21 59 28.5**	**-1.9**
AVE	**Averroes**	**3.75**	**234**	*e*P	**Pn**	**21 58 45.6**	**-1.1**
AVE				*e*S	**Sn**	**21 59 30.4**	**-1.0**
PBDV	**Barranco-do-Ve**	**3.76**	**298**	*e*Pn	**Pn**	**21 58 46.0**	**-0.9**
PBDV				*e*Sn	**Sn**	**21 59 28.6**	**-3.1**
PBDV				A	A	21 59 33.1	
	50nm,0.7s						
EANR	**'Ain N'Sour**	**3.98**	**83**	P	**Pg**	**21 59 03.0**	**-1.4**
FIGM	**Figuig**	**3.99**	**148**	P	**Pn**	**21 58 50.2**	**+0.1**
PCVE	**Castro Verde**	**4.02**	**302**	*e*Pn	**Pn**	**21 58 50.1**	**-0.3**
PCVE				*e*Sn	**Sn**	**21 59 35.1**	**-2.9**
PCVE				A	A	21 59 41.6	
	60nm,0.5s						
PAB	**San Pablo**	**4.02**	**354**		**Pn**	**21 58 50.6**	**0.0**
PBEJ	**Beja**	**4.12**	**308**	*e*Pn	**Pn**	**21 58 51.5**	**-0.3**
PBEJ				*e*Sn	**Sn**	**21 59 36.9**	**-3.5**
PBEJ				A	A	21 59 41.7	
	25nm,0.4s						
ESDC	**Sonseca Array**	**4.13**	**358**	Pn	**Pn**	**21 58 52.8**	**+0.8**
	3.3nm,0.3s,baz=181,slow=12,SNR=125						
ESDC				Sn	**Sn**	**21 59 41.1**	**+0.4**
	2.7nm,0.3s,baz=176,slow=22,SNR=5.5						
ESDC				LR	LR	22 00 35.7	
	comp=Z,360nm,20.0s,baz=214,slow=41						
ESDC	**Sonseca Array**	**4.13**	**358**		**Pn**	**21 58 52.6**	**+0.7**
ESBB	**Sonseca Array**	**4.13**	**358**	Pn	**Pn**	**21 58 52.8**	**+0.8**
MESJ	**Messejana**	**4.25**	**304**	*e*P	**Pn**	**21 58 52.7**	**-0.9**
MESJ				*e*S	**Sn**	**21 59 39.4**	**-4.2**
MESJ				IAML		21 59 45.2	
	comp=N,77nm,0.6s						
MESJ	**Messejana**	**4.25**	**304**	*e*Pn	**Pn**	**21 58 53.2**	**-0.4**
MESJ				*e*Sn	**Sn**	**21 59 39.9**	**-3.7**
MESJ				A	A	21 59 47.8	
	comp=N,65nm,0.5s						
MORF	**Marmelete**	**4.31**	**296**	*e*P	**Pn**	**21 58 53.4**	**-1.1**
MORF				*e*S	**Sn**	**21 59 40.8**	**-4.5**
MORF				IAML		21 59 48.0	
	comp=N,79nm,0.3s						
MORF	**Marmelete**	**4.31**	**296**	*e*Pn	**Pn**	**21 58 53.9**	**-0.6**
MORF				*e*Sn	**Sn**	**21 59 41.6**	**-3.7**
MORF				A	A	21 59 54.6	
	comp=N,37nm,0.4s						
PFVI	**Vila Bisbo**	**4.38**	**293**	*e*Pn	**Pn**	**21 58 55.7**	**+0.3**
PFVI				*e*Sn	**Sn**	**21 59 43.3**	**-3.6**
PFVI				A	A	21 59 53.9	
	comp=N,46nm,0.4s						
PFVI	**Vila Bisbo**	**4.38**	**293**	Pn	**Pn**	**21 58 54.4**	**-1.0**
PFVI	**Vila Bisbo**	**4.38**	**293**	P	**Pn**	**21 58 56.0**	**+0.6**
PTEO	**Sao Teotonio**	**4.46**	**298**	*e*Pn	**Pn**	**21 58 56.4**	**-0.1**
PTEO				*e*Sn	**Sn**	**21 59 46.5**	**-2.4**
PTEO				A	A	22 00 05.9	
	comp=N,62nm,0.5s						
PESTR	**Estremoz**	**4.51**	**319**	*e*Pn	**Pn**	**21 58 57.8**	**+0.6**
PESTR				*e*Sn	**Sn**	**21 59 47.8**	**-2.2**
PESTR				A	A	22 00 03.8	
	comp=N,46nm,0.7s						
PESTR	**Estremoz**	**4.51**	**319**	Pn	**Pn**	**21 58 56.5**	**-0.6**
PESTR	**Estremoz**	**4.51**	**319**	P	**Pn**	**21 58 59.9**	**+2.8**
EVO	**Evora**	**4.52**	**313**	*e*P	**Pn**	**21 58 56.9**	**-0.4**
EVO				*e*S	**Sn**	**21 59 48.6**	**-1.7**
EVO	**Evora**	**4.52**	**313**	*e*Pn	**Pn**	**21 58 57.3**	**0.0**
EVO	**Evora**	**4.52**	**313**	*e*Sn	**Sn**	**21 59 47.9**	**-2.4**
EVO				A	A	21 59 50.8	
	comp=N,48nm,0.4s						
PNCL	**Nicolau / Gran**	**4.60**	**305**	*e*Pn	**Pn**	**21 58 57.7**	**-0.7**
PNCL				*e*Sn	**Sn**	**21 59 50.0**	**-2.3**
PNCL				A	A	21 59 53.5	
	comp=N,36nm,0.4s						
PMRV	**Marv??o**	**4.83**	**324**	*e*Pn	**Pn**	**21 59 01.5**	**-0.1**
PMRV				*e*Sn	**Sn**	**21 59 55.9**	**-2.1**
PMRV				A	A	22 00 07.6	
	comp=N,31nm,0.6s						
TZRR	**Tazzarine**	**4.98**	**198**	P	**Pn**	**21 59 04.5**	**+0.8**
PMTG	**Montargil**	**5.00**	**316**	*e*Pn	**Pn**	**21 59 03.7**	**-0.2**
PMTG				*e*Sn	**Sn**	**21 59 59.8**	**-2.3**
PMTG				A	A	22 00 15.1	
	comp=N,32nm,0.5s						
PCBR	**Castelo Branco**	**5.20**	**327**	*e*Pn	**Pn**	**21 59 07.1**	**+0.4**
PCBR				*e*Sn	**Sn**	**22 00 04.8**	**-2.3**
PCBR				A	A	22 00 09.4	
	comp=N,38nm,0.6s						
OUZM	**OUZ**	**5.26**	**209**	P	**Pn**	**21 59 11.0**	**+3.4**
PMST	**Lisbon--Monsan**	**5.37**	**308**	*e*Pn	**Pn**	**21 59 09.3**	**+0.3**
OUK	**Oukaimeden**	**5.52**	**220**	P	**Pn**	**21 59 09.6**	**-1.7**
PMAFR	**Mafra**	**5.56**	**309**	*e*Pn	**Pn**	**21 59 11.6**	**0.0**
PMAFR				*e*Sn	**Sn**	**22 00 12.5**	**-3.5**
PMAFR				A	A	22 00 28.4	
	comp=N,56nm,0.6s						
PSBE	**So Bento**	**5.63**	**316**	*e*Pn	**Pn**	**21 59 13.0**	**+0.4**
PSBE				*e*Sn	**Sn**	**22 00 16.1**	**-1.6**
PSBE				A	A	22 01 10.4	
	comp=N,35nm,0.7s						
MTE	**Manteigas**	**5.69**	**330**	*e*Pn	**Pn**	**21 59 14.3**	**+0.8**
MTE				*e*Sn	**Sn**	**22 00 18.2**	**-1.1**
MTE				A	A	22 00 55.8	
	comp=N,68nm,0.7s						
MTE	**Manteigas**	**5.69**	**330**	Pn	**Pn**	**21 59 13.8**	**+0.3**
PCAS	**Casmilo, Conde**	**5.86**	**322**	*e*Pn	**Pn**	**21 59 16.3**	**+0.6**
PCAS				*e*Sn	**Sn**	**22 00 20.8**	**-2.4**
PCAS				A	A	22 01 17.1	
	comp=N,62nm,0.7s						
COI	**Coimbra**	**5.93**	**323**	*e*Pn	**Pn**	**21 59 17.4**	**+0.7**
COI				*e*Sn	**Sn**	**22 00 21.4**	**-3.6**
COI	**Coimbra**	**5.93**	**323**		**Pn**	**21 59 15.7**	**-1.0**
PVIS	**Viseu**	**6.10**	**329**	*e*Pn	**Pn**	**21 59 19.4**	**+0.3**
PVIS				*e*Sn	**Sn**	**22 00 27.5**	**-1.9**
PVIS				A	A	22 00 33.6	
	comp=N,24nm,0.9s						
MVO	**Moncorvo**	**6.17**	**336**	*e*Pn	**Pn**	**21 59 20.8**	**+0.8**
MVO				*e*Sn	**Sn**	**22 00 28.1**	**-2.9**
MVO				A	A	22 01 10.6	
	comp=N,56nm,0.6s						
PVRL	**Vila Real**	**6.51**	**333**	*e*Pn	**Pn**	**21 59 25.0**	**+0.3**
PVRL				*e*Sn	**Sn**	**22 00 36.5**	**-2.9**
PVRL				A	A	22 00 46.4	
	comp=N,47nm,0.6s						
POLO	**Lamas de Olo**	**6.62**	**333**	*e*Pn	**Pn**	**21 59 27.3**	**+1.0**
POLO				*e*Sn	**Sn**	**22 00 39.0**	**-3.3**
POLO				A	A	22 00 44.5	
	comp=N,14nm,0.7s						
PBRG	**Braganca**	**6.67**	**340**	*e*Pn	**Pn**	**21 59 27.6**	**+0.7**
PBRG				*e*Sn	**Sn**	**22 00 41.2**	**-2.2**
PBRG				A	A	22 01 29.3	
	comp=N,26nm,0.7s						
PTO	**Porto**	**6.75**	**327**	*e*Pn	**Pn**	**21 59 28.6**	**+0.6**
PTO				*e*Sn	**Sn**	**22 00 42.1**	**-3.2**
PTO				A	A	22 01 38.1	
	comp=N,42nm,0.6s						
PCAB	**Cabril**	**7.00**	**333**	*e*Pn	**Pn**	**21 59 32.3**	**+0.9**
PCAB				*e*Sn	**Sn**	**22 00 46.6**	**-4.9**
PCAB				A	A	22 01 42.5	
	comp=N,38nm,0.8s						
PGAV	**Gavieira, Arco**	**7.31**	**333**	*e*Pn	**Pn**	**21 59 36.3**	**+0.5**
PGAV				*e*Sn	**Sn**	**22 00 55.2**	**-4.0**
PGAV				A	A	22 01 04.1	
	comp=N,26nm,0.6s						
ETSF	**Etsaut**	**7.75**	**18**	*e*Pn	**Pn**	**21 59 43.2**	**+1.4**
ETSF	**Etsaut**	**7.75**	**18**	*e*P	Pn	21 59 46.9	+5.1
ETSF				*e*Sn	**Sn**	**22 01 06.7**	**-3.4**
	comp=N,0.6nm,0.2s						
ETSF				*e*Sg	**Sg**	**22 01 59.2**	**+2.2**
	comp=N,0.4nm,0.3s						
SJPF	**Ste Jean**	**7.81**	**14**	*e*Pn	**Pn**	**21 59 43.8**	**+1.3**
SJPF	**Ste Jean**	**7.81**	**14**	*e*P	Pn	21 59 48.1	+5.6
SJPF	**Ste Jean**	**7.81**	**14**	*e*Pg	**Pg**	**22 00 17.0**	**-0.7**
SJPF				*e*Sn	**Sn**	**22 01 08.0**	**-3.4**
	comp=N,2.6nm,0.4s						
EPF	**Esparros**	**8.13**	**22**	*e*Pn	**Pn**	**21 59 46.9**	**0.0**
EPF	**Esparros**	**8.13**	**22**	*e*P	Pn	21 59 51.6	+4.7
EPF				*e*Sn	**Sn**	**22 01 14.2**	**-5.0**
	comp=N,0.5nm,0.3s						
MTLF	**Montolieu**	**9.06**	**29**	*e*Pn	**Pn**	**21 59 59.9**	**+0.3**
MTLF	**Montolieu**	**9.06**	**29**	*e*P	Pn	22 00 04.8	+5.2
MTLF				*e*Sn	**Sn**	**22 01 36.2**	**-5.8**
	comp=N,0.3nm,0.3s						
LFF	**La Frestale**	**9.99**	**19**	*e*Pn	**Pn**	**22 00 14.3**	**+1.9**
LASF	**Ste Croix**	**10.34**	**32**	*e*Pn	**Pn**	**22 00 17.1**	**-0.1**
LASF				*e*Sn	**Sn**	**22 02 07.8**	**-5.7**
CAF	**Calviac**	**10.37**	**24**	*e*Pn	**Pn**	**22 00 17.6**	**-0.1**
RJF	**Les Rejaudoux**	**10.55**	**21**	*e*Pn	**Pn**	**22 00 19.5**	**-0.5**
KEST	**Kesra**	**10.68**	**85**	LR	LR	22 04 25.8	
	comp=N,196nm,21.8s,baz=296,slow=37						
LMR	**La Mourre**	**11.11**	**42**	*e*Pn	**Pn**	**22 00 27.6**	**-0.1**
VSL	**Villasalto**	**11.16**	**65**	Pn	**Pn**	**22 00 29.6**	**+1.2**
MFF	**Saint Martin d**	**11.38**	**13**	*e*Pn	**Pn**	**22 00 32.0**	**+0.6**
SBF	**Sospel**	**11.97**	**43**	*e*Pn	**Pn**	**22 00 40.7**	**+1.2**
PGF	**Pioggiola**	**12.13**	**51**	*e*P	**Pn**	**22 00 44.4**	**+2.6**
PGF				*e*Sn	**Sn**	**22 02 49.2**	**-8.4**
	comp=N,0.3nm,0.2s						
QUIF	**Quistinic**	**12.37**	**2**	*e*Pn	**Pn**	**22 00 45.5**	**+0.6**
QUIF	**Quistinic**	**12.37**	**2**	*e*P	**Pn**	**22 00 49.2**	**+4.3**
SGMF	**Saint Gilles**	**12.73**	**4**	*e*Pn	**Pn**	**22 00 50.8**	**+0.9**
ROSF	**Rostrenen**	**12.79**	**1**	*e*Pn	**Pn**	**22 00 50.5**	**-0.1**
DAVOX	**Davos/Dischmat**	**15.20**	**38**	LR	LR	22 07 31.0	
	comp=N,184nm,20.2s,baz=269,slow=38						
FETA	**Feichten**	**15.79**	**39**	*e*P	**P**	**22 01 38.8**	**+3.5**
RETA	**Reutte**	**16.12**	**38**	*e*P	**P**	**22 01 41.6**	**+2.7**
WTTA	**Wattenberg**	**16.42**	**40**	*e*P	P	22 01 50.7	+8.4
	comp=N,3.2nm,0.7s						
ABTA	**Abfaltersbach**	**16.57**	**43**	*i* P	**P**	**22 01 49.0**	**+5.1**
	comp=N,1.3nm,0.7s						
GERES	**GERESS Array B**	**18.49**	**39**	P	**Pn**	**22 02 06.4**	**+1.2**
	comp=N,0.1nm,0.3s,baz=227,slow=16,SNR=3.0						
GERES				LR	LR	22 08 47.9	
	comp=N,164nm,19.9s,baz=271,slow=36						
GERES	**GERESS Array B**	**18.49**	**39**	P	**Pn**	**22 02 06.0**	**+0.8**
KHC	**Kasperske Hory**	**18.61**	**38**	*e*P	**Pn**	**22 02 11.5**	**+4.8**
ESK	**Eskdalemuir**	**19.78**	**1**	P	**Pn**	**22 02 20.6**	**+0.1**
ESK				IAmb	IAmb	22 02 44.6	
	comp=Z,19nm,1.2s						
EKA	**Eskdalemuir Ar**	**19.80**	**1**	P	**Pn**	**22 02 20.3**	**-0.5**
	baz=175,slow=11,SNR=5.1						
CLL	**Collm**	**19.84**	**32**	*e*P	**Pn**	**22 02 21.0**	**-0.3**
CLL	**Collm**	**19.84**	**32**	P	**Pn**	**22 02 20.9**	**-0.5**
CLL				IAmb	IAmb	22 02 28.3	
	comp=Z,27nm,1.5s						
BRG	**Berggiesshubel**	**19.95**	**34**	*e*P	**Pn**	**22 02 27.2**	**+4.5**
BRG				Amp		22 02 29.6	
	comp=Z,17nm,1.6s						
MODS	**Modra-Piesok**	**20.15**	**44**	*e*P	Pn	22 02 27.7	+2.7
VRAC	**Vranov**	**20.29**	**41**	LR	LR	22 09 30.0	
	comp=Z,141nm,18.6s,baz=273,slow=35						
SMOL	**Smolenice**	**20.31**	**44**	*e*P	Pn	22 02 28.5	+1.6
TORD	**Torodi Ar. Bea**	**22.84**	**166**	P	**P**	**22 02 52.9**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=345,slow=11,SNR=11						
IDI	**Anoyia**	**23.33**	**82**	LR	LR	22 14 55.8	
	comp=Z,33nm,18.1s,baz=62,slow=44						
BUR08	**Bucovina Ar. S**	**24.66**	**52**	P	**P**	**22 03 09.7**	**-0.2**
BURAR	**Bucovina Array**	**24.66**	**52**	P	**P**	**22 03 10.1**	**+0.1**
NOA	**NORSAR Array B**	**27.25**	**16**	LR	LR	22 16 52.4	
	comp=Z,90nm,18.8s,baz=280,slow=42						
BORG	**Borgarnes**	**31.10**	**345**	LR	LR	22 16 00.6	
	comp=Z,86nm,19.4s,baz=159,slow=35						
FINES	**FINESS Array B**	**32.07**	**27**	P	**P**	**22 04 17.6**	**+1.9**
	comp=Z,3.7nm,1.0s,baz=240,slow=15,SNR=4.1						
OBN	**Obninsk**	**33.82**	**42**	LR	LR	22 19 02.4	
	comp=Z,10nm,20.6s,baz=348,slow=38						
SFJD	**Kangerlussuaq**	**41.29**	**334**	LR	LR	22 19 41.6	
	comp=Z,79nm,18.3s,baz=80,slow=32						
ARU	**Arti**	**46.24**	**43**	LR	LR	22 26 16.6	
	comp=Z,56nm,19.9s,baz=300,slow=37						
ARU	**Arti**	**46.24**	**43**	P	**P**	**22 06 14.6**	**+0.4**
ARU				IAmb	IAmb	22 06 41.9	
	comp=Z,3.2nm,1.0s						
ABKAR	**Akbulak array**	**47.63**	**53**	P	**P**	**22 06 26.7**	**+1.5**
ABKAR				IAmb	IAmb	22 06 28.6	
	comp=Z,1.8nm,0.7s						
ABKAR	**Akbulak array**	**47.63**	**53**	P	**P**	**22 06 27.0**	**+1.8**
FRB	**Frobisher Bay**	**47.71**	**327**	LR	LR	22 22 29.9	
	comp=Z,103nm,20.4s,baz=80,slow=31						
MBAR	**Mbarara**	**48.24**	**131**	LR	LR	22 28 28.3	
	comp=Z,101nm,18.2s,baz=168,slow=38						
EUNU	**Eureka**	**53.98**	**348**	P	**P**	**22 07 14.2**	**+1.5**
EUNU				IAmb	IAmb	22 07 21.4	
	comp=Z,7.0nm,1.4s						
KKAR	**Karatay Array**	**56.23**	**58**	P	**P**	**22 07 27.5**	**-1.9**
SADO	**Sadowa**	**56.44**	**304**	LR	LR	22 29 01.6	
	comp=Z,68nm,18.9s,baz=88,slow=33						
LSZ	**Lusaka**	**58.92**	**143**	LR	LR	22 34 46.6	
	comp=Z,162nm,19.4s,baz=204,slow=38						
KURBB	**Kurchatov Arra**	**58.95**	**47**	LR	LR	22 34 10.5	
	comp=Z,44nm,19.2s,baz=297,slow=37						
KURK	**Kurchatov**	**58.98**	**47**	P	**P**	**22 07 47.2**	**-1.4**
ZALV	**Zalesovo Beam**	**61.40**	**42**	P	**P**	**22 08 04.4**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=292,slow=7.6,SNR=2.4						
ZALV	**Zalesovo Beam**	**61.40**	**42**	P	**P**	**22 08 05.2**	**0.0**
MAKZ	**Makanchi**	**62.47**	**51**	P	**P**	**22 08 12.9**	**+0.4**
MAKZ				IAmb	IAmb	22 08 16.0	
	comp=Z,2.6nm,0.8s						
MK31	**Makanchi Array**	**62.68**	**50**	P	**P**	**22 08 13.7**	**-0.2**
MK31				IAmb	IAmb	22 08 16.9	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**62.68**	**50**	P	**P**	**22 08 13.1**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=278,slow=6.4,SNR=25						
A36M	**Sachs Harbour**	**65.32**	**343**	P	**P**	**22 08 32.3**	**+1.5**
YKA	**Yellowknife Ar**	**67.80**	**332**	P	**P**	**22 08 46.0**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=59,slow=6.5,SNR=34						
BOSA	**Boshof**	**69.44**	**153**	P	**P**	**22 08 58.0**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=355,slow=9.1,SNR=4.4						
BOSA	**Boshof**	**69.44**	**153**	P	**P**	**22 08 57.9**	**+0.5**
SONM	**Songino Array**	**76.22**	**41**	P	**P**	**22 09 39.9**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=280,slow=4.9,SNR=4.4						
SONM	**Songino Array**	**76.22**	**41**	P	**P**	**22 09 39.4**	**+1.7**
PD31	**Pinedale Array**	**76.81**	**313**	P	**P**	**22 09 41.5**	**+0.2**
PD31				IAmb	IAmb	22 09 46.7	
	comp=Z,4.6nm,1.2s						
PDAR	**Pinedale Array**	**76.81**	**313**	P	**P**	**22 09 41.5**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=67,slow=6.9,SNR=15						
PDAR	**Pinedale Array**	**76.81**	**313**	P	**P**	**22 09 41.4**	**0.0**
NEW	**Newport**	**77.61**	**321**	LR	LR	22 40 31.6	
	comp=Z,58nm,18.3s,baz=334,slow=33						
ANMO	**Albuquerque**	**79.47**	**305**	LR	LR	22 43 58.0	
	comp=Z,43nm,19.3s,baz=44,slow=35						
TXAR

comp=Z,15nm,0.7s
MK31 Makanchi Array 34.34 346 P **P 22 16 35.7 -0.2**
MKAR Makanchi Array 34.34 346 P **P 22 16 35.9 +0.1**
comp=Z,0.4nm,0.7s,baz=162,slow=8.8,SNR=5.6
MKAR Makanchi Array 34.34 346 P **P 22 16 34.2 -1.6**
SONM Songino Array 35.55 15 P **P 22 16 46.3 0.0**
comp=Z,0.6nm,0.3s,baz=191,slow=8.6,SNR=11
SONM Songino Array 35.55 15 P **P 22 16 46.7 +0.4**
KSRS Korea Array 38.40 46 LR LR 22 33 00.7
comp=Z,15nm,21.7s,baz=290,slow=36
KURBB Kurchatov Arra 38.83 344 P **P 22 17 13.8 -0.2**
comp=Z,0.9nm,0.2s,baz=161,slow=8.5,SNR=2.2
KURK Kurchatov 38.89 345 P **P 22 17 12.9 -1.5**
KURK IAmb IAmb 22 17 15.7
comp=Z,3.8nm,1.4s
ZALV Zalesovo Beam 40.73 352 P **P 22 17 29.6 -0.1**
comp=Z,0.7nm,0.4s,baz=170,slow=12,SNR=5.3
ZALV Zalesovo Beam 40.73 352 P **P 22 17 28.0 -1.7**
GIRL Giralia 41.31 151 P **P 22 17 33.3 -1.5**
MBWA Marble Bar 43.00 143 P **P 22 17 46.8 -1.9**
MBWA IAmb IAmb 22 17 51.2
comp=Z,15nm,1.2s
PSA00 Pilbara Seismi 43.39 144 P P 22 17 48.6 -3.2
KNRA Kununurra 45.23 129 P P 22 18 04.5 -2.1
KNRA IAmb IAmb 22 18 06.6
comp=Z,37nm,1.5s
MORW Morawa 47.66 153 P **P 22 18 23.8 -1.7**
MORW IAmb IAmb 22 18 28.2
comp=Z,18nm,1.2s
NWAO Narrogin (SRO) 51.51 155 P **P 22 18 52.8 -1.9**
WB0 Warramunga Arr 51.97 129 P P 22 18 56.1 -2.2
WB0 IAmb IAmb 22 18 57.0
comp=Z,7.6nm,1.1s
WRA Warramunga Arr 52.03 129 P P 22 18 57.0 -1.8
comp=Z,1.8nm,0.3s,baz=304,slow=9.8,SNR=47
WRA PcP **PcP 22 20 08.4 -2.2**
comp=Z,0.7nm,0.4s,baz=324,slow=3.3,SNR=8.4
AS31 Alice Springs 54.00 133 P **P 22 19 11.6 -1.8**
AS31 IAmb IAmb 22 19 12.0
comp=Z,1.6nm,0.6s
ASAR Alice Springs 54.00 133 P **P 22 19 11.6 -1.8**
comp=Z,3.5nm,0.4s,baz=310,slow=6.9,SNR=53
ASAR Alice Springs 54.00 133 P P 22 19 11.3 -2.0
YAK Yakutsk 54.56 20 LR LR 22 46 17.3
comp=Z,67nm,18.0s,baz=120,slow=40
FORT Forrest 55.15 144 P **P 22 19 20.1 -1.4**
FORT IAmb IAmb 22 19 37.9
comp=Z,18nm,1.0s
COEN Coen 56.05 117 P P 22 19 26.0 -2.3
COEN IAmb IAmb 22 19 51.4
comp=Z,4.4nm,0.9s
BRTR Keskin Array B 58.50 308 P **P 22 19 43.5 -1.9**
comp=Z,0.7nm,0.7s,baz=118,slow=6.4,SNR=4.7
BRTR Keskin Array B 58.50 308 P **P 22 19 43.3 -2.1**
STKA Stephens Creek 64.41 136 P P 22 20 22.9 -2.3
comp=Z,2.3nm,0.7s,baz=8.1,slow=5.7,SNR=4.2
STKA Stephens Creek 64.41 136 P P 22 20 22.6 -2.6
BURAR Bucovina Array 65.58 316 P **P 22 20 31.1 -1.6**
BOSA Boshof 78.52 237 P **P 22 21 48.3 -2.1**
comp=Z,2.2nm,0.6s,baz=42,slow=4.6,SNR=6.1
BOSA Boshof 78.52 237 P P 22 21 47.0 -3.4
BOSA IAmb IAmb 22 22 07.0
comp=Z,6.8nm,1.1s
TORD Torodi Ar. Bea 88.99 283 P **P 22 22 42.1 -2.0**
comp=Z,0.8nm,1.0s,baz=96,slow=4.8,SNR=2.3
PLCA Paso Flores 149.86 204 PKPbc **PKPdf 22 29 38.9 +4.7**
comp=Z,2.1nm,0.9s,baz=175,slow=4.4,SNR=3.5

*IDC **27** 22:10:35.2±1.2, 35°.50N×3°.82W, h0km, mb3.8/5, mb1 3.8/9, mb1mx3.5/48, mbtmp3.6/9, ML3.6/3, MS3.3/5, Ms1 3.4/5, ms1mx2.9/95, Error ellipse: s-maj=39.0km s-min=19.0km az=96.0*
*SFS **27** 22:10:35.0, 35°.53N×3°.82W, ML3.5, ALBORAN SUR*
*MDD **27** 22:10:35.8±0.7, 35°.53N×3°.82W, h0km, mbLg3.5/21, Error ellipse: s-maj=5.9km s-min=3.7km az=20.0*
MDD EMS: II INTENSIDAD MAXIMA.
*CRAAG **27** 22:10:35.0, 35°.53N×3°.82W, Mb3.5*
*CNRM **27** 22:10:36.6, 35°.58N×3°.68W, h23km, ml4.1*
*INMG **27** 22:10:36.7±1.9, 35°.54N×3°.76W, h1km±6km, ML3.2, Error ellipse: s-maj=4.4km s-min=4.1km az=5.0*
*LDG **27** 22:10:37.4, 35°.32N×3°.52W, h30km*
*IGIL **27** 22:10:37.6, 35°.53N×3°.82W, h0km, ML3.1*
ISC 27 22:10:36.8±1.0, 35°.55N±0°.03×3°.70W±0°.02, h14km±8km, n118, σ9°18/167, mb3.9/5, MS3.1/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**211**	P	**Pg**	**22 10 43.9**	**-0.6**
PALE				S	**Sg**	**22 10 49.6**	**-0.1**
EMEL	**Melilla**	**0.66**	**112**	Pg	**Pg**	**22 10 49.5**	**-0.1**
EMEL	1μm,0.3s,SNR=67			Lg	Lg	22 10 58.6	
GOG	**Mont Gurugu**	**0.66**	**119**	P	**Pg**	**22 10 49.3**	**-0.4**
GOG				S	**Sg**	**22 10 58.5**	**+0.1**
EALB	**Alboran**	**0.67**	**54**	Pg	**Pg**	**22 10 50.0**	**+0.2**
EALB	1μm,0.4s,SNR=319			Lg	Lg	22 11 00.8	
AKLM	**AKL**	**1.04**	**187**	P	**Pb**	**22 10 56.4**	**-0.2**
AKLM				S	**Sn**	**22 11 12.5**	**+1.2**
CHAS	**Isla Isabel II**	**1.10**	**109**	*e*P	**Pb**	**22 10 55.8**	**-1.7**
CHAS				*e*S	**Sb**	**22 11 10.0**	**-1.7**
ELGU	**Los Guajares,**	**1.32**	**3**	Pg	**Pn**	**22 11 00.2**	**-0.6**
ELGU	SNR=7.9			Lg	Lg	22 11 18.7	
EMIJ	**Mijas**	**1.34**	**320**	Pg	**Pn**	**22 10 59.3**	**-1.7**
EMIJ	2μm,0.4s,SNR=7.9 60nm,0.3s,SNR=98			Lg	Lg	22 11 16.7	
EMAL	**Malaga-Limoner**	**1.35**	**334**	*e*P	**Pn**	**22 10 59.5**	**-1.5**
EMAL				*e*S	**Sn**	**22 11 17.1**	**-1.7**
SMIR	**Smir Dam**	**1.38**	**276**	P	**Pn**	**22 10 58.5**	**-3.0**
SMIR				S	**Sn**	**22 11 19.4**	**0.0**
CEU	**Ceuta**	**1.40**	**285**	*e*P	**Pn**	**22 10 57.3**	**-4.6**
CEU				*e*S	**Sn**	**22 11 15.6**	**-4.5**
ECEU	**Ceuta**	**1.41**	**285**	Pg	**Pn**	**22 10 59.8**	**-2.1**
ECEU	918nm,0.5s,SNR=16 47nm,0.5s,SNR=46 93nm,0.2s,SNR=11			Lg	Lg	22 11 17.8	
CHEFC	**Chefchaouen**	**1.41**	**252**	P	**Pn**	**22 11 01.9**	**-0.1**
CHEFC				S	**Sg**	**22 11 22.1**	**-0.1**
EBER	**Berja**	**1.50**	**26**	Pg	**Pn**	**22 11 02.4**	**-1.0**
EBER	47nm,0.4s,SNR=65 380nm,0.4s,SNR=13			Lg	Lg	22 11 25.3	
JBK	**JBK**	**1.53**	**142**	P	**Pn**	**22 11 02.3**	**-1.4**
JBK				S	**Sn**	**22 11 20.3**	**-3.1**
EGOR	**Sierra Gorda,**	**1.59**	**348**	Pg	**Pn**	**22 11 04.1**	**-0.6**
EGOR	SNR=7.9 1μm,0.7s,SNR=7.9			Lg	Lg	22 11 28.4	
EQUE	**Quentar**	**1.67**	**7**	Pg	**Pn**	**22 11 05.6**	**0.0**
EQUE	57nm,0.4s,SNR=58 286nm,0.6s,SNR=12			Lg	Lg	22 11 30.4	
EJIF	**Jimena Fronter**	**1.69**	**303**	Pg	**Pn**	**22 11 06.2**	**+0.3**
EJIF	SNR=7.9 SNR=7.9			Lg	Lg	22 11 29.5	
ENIJ	**Nijar**	**1.87**	**40**	Pn	**Pn**	**22 11 07.2**	**-1.1**
ENIJ	SNR=7.9 SNR=7.9			Pg	**Pg**	**22 11 12.8**	**+0.2**
SICH	**Sidi Chahed**	**1.96**	**223**	P	**Pb**	**22 11 10.9**	**-1.2**
SICH				S	**Sb**	**22 11 37.4**	**+0.9**
EQES	**Quesada**	**2.31**	**13**	Pn	**Pn**	**22 11 16.6**	**+2.2**
EQES	80nm,0.4s,SNR=135 214nm,0.6s,SNR=6.6			Sn	**Sb**	**22 11 45.8**	**-0.9**
IFR	**Ifrane**	**2.34**	**211**	*e*P	**Pn**	**22 11 14.3**	**-0.6**
IFR				*e*S	**Sn**	**22 11 43.4**	**-0.2**
EADA	**Adamuz**	**2.71**	**345**	P	**Pn**	**22 11 22.0**	**+2.2**
EADA	32nm,0.4s,SNR=39						
MD31	**MD31**	**2.81**	**198**	P	**Pn**	**22 11 21.7**	**+0.4**
MD31				S	**Sn**	**22 11 56.4**	**+1.4**
MDT	**Midelt**	**2.83**	**196**	Pn	**Pn**	**22 11 21.9**	**+0.4**
MDT	2.6nm,0.3s,baz=208,slow=9.7,SNR=54			P	**Pn**	**22 11 22.0**	**+0.4**
MDT				S	**Sn**	**22 11 54.0**	**-1.4**
ECAB	**El Cabril**	**2.88**	**332**	P	**Pn**	**22 11 23.3**	**+1.1**
ECAB	14nm,0.4s,SNR=25 36nm,0.5s,SNR=7.4			S	**Sn**	**22 11 56.3**	**-0.2**
ECAB	141nm,0.9s,SNR=7.6			Lg	Lg	22 12 12.8	
ODJA	**Bouhanifia**	**2.91**	**93**	P	**Pb**	**22 11 28.0**	**-0.4**
EMUR	**La Murta**	**3.03**	**40**	P	**Pn**	**22 11 25.1**	**+0.9**
EMUR	8.8nm,0.3s,SNR=22 45nm,0.5s,SNR=6.4			Sn	**Sn**	**22 11 59.1**	**-1.2**
EMUR	60nm,0.5s,SNR=7.3			S	**Sb**	**22 12 04.1**	**-3.1**
ZHG	**ZHG**	**3.21**	**230**	P	**Pn**	**22 11 26.1**	**-0.7**
ZHG				S	**Sn**	**22 12 03.3**	**-1.5**
EMIN	**Mina Concepcio**	**3.26**	**314**	P	**Pn**	**22 11 27.1**	**-0.3**
EMIN	12nm,0.4s,SNR=24 25nm,0.5s,SNR=7.1			S	**Sn**	**22 12 08.6**	**+2.7**
ETOB	**Tobarra**	**3.54**	**28**	P	**Pn**	**22 11 33.2**	**+1.9**
ETOB	18nm,0.3s,SNR=83 53nm,0.7s,SNR=4.5			Lg	Lg	22 12 38.4	
EGRO	**El Granado**	**3.63**	**304**	P	**Pn**	**22 11 32.2**	**-0.3**
EGRO	22nm,0.3s,SNR=66 68nm,0.6s,SNR=11			S	**Sn**	**22 12 16.6**	**+1.4**
PVAQ	**Vaqueiros**	**3.73**	**301**	*e*Pn	**Pn**	**22 11 33.5**	**-0.3**
PVAQ				*e*Sn	**Sn**	**22 12 16.2**	**-1.3**
PVAQ	51nm,0.8s			A	A	22 12 21.3	
PVAQ	**Vaqueiros**	**3.73**	**301**	P	**Pn**	**22 11 35.5**	**+1.6**
PBAR	**Barrancos**	**3.75**	**315**	*e*Sn	**Sn**	**22 12 16.7**	**-1.3**
AVE	**Averroes**	**3.80**	**235**	*e*P	**Pn**	**22 11 36.0**	**+1.1**
AVE				*e*S	**Sn**	**22 12 13.8**	**-5.5**
PBDV	**Barranco-do-Ve**	**3.81**	**298**	*e*Pn	**Pn**	**22 11 34.3**	**-0.7**
PBDV				*e*Sn	**Sn**	**22 12 16.6**	**-2.9**
PBDV	34nm,1.1s			A	A	22 12 25.2	
EANR	**'Ain N'Sour**	**3.93**	**83**	P	Pg	22 12 06.0	+14
FIGM	**Figuig**	**3.96**	**148**	P	**Pn**	**22 11 37.5**	**+0.3**
GOLM	**Goulmima**	**3.97**	**196**	P	**Pn**	**22 11 38.6**	**+1.2**
AFON	**Font Roja**	**4.01**	**38**	P	**Pn**	**22 11 42.5**	**+4.8**
PCVE	**Castro Verde**	**4.06**	**302**	*e*Pn	**Pn**	**22 11 38.3**	**-0.1**
PCVE				*e*Sn	**Sn**	**22 12 23.9**	**-1.9**
PCVE	29nm,0.5s			A	A	22 12 30.2	
ESDC	**Sonseca Array**	**4.13**	**357**	Pn	**Pn**	**22 11 40.6**	**+1.2**
ESDC	2.1nm,0.3s,baz=180,slow=12,SNR=79 1.4nm,0.3s,baz=176,slow=15,SNR=5.2			Sn	**Sn**	**22 12 28.1**	**+0.7**
ESDC	comp=Z,344nm,18.6s,baz=221,slow=46			LR	LR	22 13 45.4	
ESDC	**Sonseca Array**	**4.13**	**357**	Pn	**Pn**	**22 11 40.6**	**+1.2**
EBAD	**Badajoz**	**4.15**	**321**	P	**Pn**	**22 11 39.8**	**+0.2**
EBAD	3.6nm,0.3s,baz=180,slow=12,SNR=80 8.2nm,0.3s,SNR=38			S	**Sn**	**22 12 27.4**	**-0.6**
EBAD	25nm,0.5s,SNR=5.7			Sx	Sx	22 12 32.3	
EBAD	SNR=6.0			Lg	Lg	22 12 45.6	
PBEJ	**Beja**	**4.16**	**308**	*e*Pn	**Pn**	**22 11 40.2**	**+0.4**
PBEJ				*e*Sn	**Sn**	**22 12 26.7**	**-1.4**
PBEJ	24nm,0.4s,SNR=4.0 22nm,0.7s			A	A	22 12 31.2	
MESJ	**Messejana**	**4.29**	**304**	*e*P	**Pn**	**22 11 41.2**	**-0.4**
MESJ				*e*S	**Sn**	**22 12 27.8**	**-3.6**
MESJ				IAML		22 12 34.6	
MESJ	**Messejana**	**4.29**	**304**	*e*Pn	**Pn**	**22 11 41.5**	**-0.1**
MESJ				*e*Sn	**Sn**	**22 12 29.5**	**-1.9**
MESJ	comp=N,41nm,0.4s comp=N,31nm,0.4s			A	A	22 12 31.4	
MORF	**Marmelete**	**4.36**	**295**	*e*P	**Pn**	**22 11 42.1**	**-0.5**
MORF	**Marmelete**	**4.36**	**295**	*e*Pn	**Pn**	**22 11 42.5**	**-0.1**
MORF				*e*Sn	**Sn**	**22 12 32.5**	**-0.7**
MORF				A	A	22 12 42.7	
PFVI	**Vila Bisbo**	**4.43**	**292**	*e*Pn	**Pn**	**22 11 44.0**	**+0.5**
PFVI	comp=N,19nm,0.6s			*e*Sn	**Sn**	**22 12 33.6**	**-1.2**
PFVI				A	A	22 12 38.4	
PFVI	**Vila Bisbo**	**4.43**	**292**	P	**Pn**	**22 11 44.8**	**+1.3**
PTEO	**Sao Teotonio**	**4.51**	**298**	*e*Pn	**Pn**	**22 11 45.2**	**+0.7**
PTEO	comp=N,33nm,0.7s comp=N,14nm,0.5s,SNR=12			*e*Sn	**Sn**	**22 12 35.4**	**-1.3**
PTEO				A	A	22 12 54.8	
PESTR	**Estremoz**	**4.54**	**318**	*e*Pn	**Pn**	**22 11 45.4**	**+0.4**
PESTR	comp=N,35nm,0.6s			*e*Sn	**Sn**	**22 12 36.2**	**-1.4**
PESTR				A	A	22 13 12.3	
PESTR	**Estremoz**	**4.54**	**318**	P	**Pn**	**22 11 46.5**	**+1.5**
EVO	**Evora**	**4.56**	**312**	*e*P	**Pn**	**22 11 45.0**	**-0.2**
EVO	comp=N,22nm,0.6s,SNR=6.0			*e*S	**Sn**	**22 12 36.3**	**-1.6**
EVO	**Evora**	**4.56**	**312**	*e*Pn	**Pn**	**22 11 45.3**	**+0.1**
EVO				*e*Sn	**Sn**	**22 12 36.0**	**-2.0**
EVO				A	A	22 12 52.7	
PNCL	**Nicolau / Gran**	**4.64**	**305**	*e*Pn	**Pn**	**22 11 46.2**	**-0.2**
PNCL	comp=N,26nm,0.9s			*e*Sn	**Sn**	**22 12 37.7**	**-2.3**
PNCL				A	A	22 12 43.1	
UCM	**Universidad Co**	**4.77**	**4**	*e*P	**Pn**	**22 11 51.6**	**+3.4**
PMRV	**Marv??o**	**4.86**	**324**	*e*Pn	**Pn**	**22 11 49.8**	**+0.4**
PMRV	comp=N,24nm,0.6s			*e*Sn	**Sn**	**22 12 44.2**	**-1.2**
PMRV				A	A	22 13 12.7	
EPLA	**Plasencia**	**4.89**	**338**	P	**Pn**	**22 11 51.9**	**+2.1**
EPLA	comp=N,32nm,0.5s comp=N,5.0nm,0.3s,SNR=26			S	**Sn**	**22 12 47.2**	**+1.0**
EPLA	comp=N,22nm,0.6s,SNR=6.0			LgX		22 13 18.0	
TZRR	**Tazzarine**	**5.00**	**199**	P	**Pn**	**22 11 52.4**	**+1.0**
PMTG	**Montargil**	**5.04**	**316**	*e*Pn	**Pn**	**22 11 51.9**	**+0.1**
PMTG	comp=N,145nm,1.1s			*e*Sn	**Sn**	**22 12 47.8**	**-1.9**
PMTG				A	A	22 12 52.4	
GUD	**Guadarrama**	**5.10**	**356**	P	**Pn**	**22 11 55.8**	**+3.0**
GUD	comp=N,23nm,0.6s comp=N,3.9nm,0.4s,SNR=6.9			LgX		22 13 32.3	
PCBR	**Castelo Branco**	**5.23**	**326**	*e*Pn	**Pn**	**22 11 55.0**	**+0.6**
PCBR	comp=N,19nm,0.5s			*e*Sn	**Sn**	**22 12 51.8**	**-2.7**
PCBR				A	A	22 12 59.1	
OUZM	**OUZ**	**5.29**	**210**	P	**Pn**	**22 11 58.0**	**+2.6**
EIBI	**Ibiza**	**5.32**	**48**	P	**Pn**	**22 11 56.0**	**+0.4**
EIBI	comp=N,6nm,0.6s comp=N,5.2nm,0.4s,SNR=14			LgX		22 13 27.4	
PMST	**Lisbon--Monsan**	**5.41**	**308**	*e*Pn	**Pn**	**22 11 58.1**	**+1.1**
ETOR	**Torete**	**5.42**	**13**	P	**Pn**	**22 11 59.6**	**+2.4**
ETOR	comp=N,42nm,0.4s comp=N,12nm,0.4s,SNR=18			LgX		22 13 47.4	
EMOS	**Mosqueruela**	**5.44**	**27**	P	**Pn**	**22 12 00.4**	**+2.8**
EMOS	comp=N,42nm,0.6s comp=N,3.8nm,0.4s,SNR=18			LgX		22 13 38.8	
OUK	**Oukaimeden**	**5.55**	**220**	P	**Pn**	**22 11 58.7**	**-0.6**
PMAFR	**Mafra**	**5.60**	**309**	*e*Pn	**Pn**	**22 12 02.1**	**+2.5**
PMAFR				*e*Sn	**Sn**	**22 13 02.6**	**-1.1**
PMAFR				A	A	22 13 19.1	
PSBE	**So Bento**	**5.66**	**316**	*e*Pn	**Pn**	**22 12 01.1**	**+0.7**
PSBE	comp=N,27nm,0.5s			*e*Sn	**Sn**	**22 13 04.7**	**-0.5**
PSBE				A	A	22 13 24.0	
MTE	**Manteigas**	**5.72**	**329**	*e*Pn	**Pn**	**22 12 02.9**	**+1.7**
MTE	comp=N,19nm,0.6s			*e*Sn	**Sn**	**22 13 04.9**	**-1.7**
PCAS	**Casmilo, Conde**	**5.89**	**321**	*e*Pn	**Pn**	**22 12 04.1**	**+0.6**
PCAS				*e*Sn	**Sn**	**22 13 07.9**	**-2.8**
PCAS				A	A	22 13 47.6	
PVIS	**Viseu**	**6.13**	**329**	*e*Pn	**Pn**	**22 12 07.4**	**+0.6**
PVIS	comp=N,21nm,0.6s			*e*Sn	**Sn**	**22 13 15.0**	**-1.7**
PVIS				A	A	22 13 26.6	
MVO	**Moncorvo**	**6.19**	**336**	*e*Pn	**Pn**	**22 12 09.0**	**+1.3**
MVO	comp=N,19nm,0.8s comp=N,24nm,0.6s			*e*Sn	**Sn**	**22 13 15.4**	**-2.8**
MVO				A	A	22 13 55.6	
MVO	**Moncorvo**	**6.19**	**336**	P	**Pn**	**22 12 09.0**	**+1.3**
MVO	comp=N,23nm,0.4s,SNR=28			LgX		22 14 01.7	
ERTA	**Horta de San J**	**6.26**	**29**	P	**Pn**	**22 12 11.1**	**+2.4**
ERTA	comp=N,57nm,0.9s comp=N,3.0nm,0.4s,SNR=9.2			LgX		22 14 14.3	
TTIG	**Tnine Tigouga,**	**6.38**	**220**	P	**Pn**	**22 12 08.9**	**-1.5**
PVRL	**Vila Real**	**6.53**	**332**	*e*Pn	**Pn**	**22 12 13.7**	**+1.3**
PVRL				*e*Sn	**Sn**	**22 13 23.7**	**-2.9**
PVRL				A	A	22 13 25.8	
POLO	**Lamas de Olo**	**6.64**	**332**	*e*Pn	**Pn**	**22 12 15.0**	**+1.0**
POLO	comp=N,24nm,0.9s			*e*Sn	**Sn**	**22 13 26.6**	**-2.9**
POLO				A	A	22 13 28.4	
ETOS	**Mallorca**	**6.67**	**49**	P	**Pn**	**22 12 15.4**	**+1.1**
ETOS	comp=N,8.1nm,0.6s comp=N,4.5nm,0.4s,SNR=19			LgX		22 14 22.1	
PBRG	**Braganca**	**6.69**	**340**	*e*Pn	**Pn**	**22 12 15.8**	**+1.3**
PBRG				*e*Sn	**Sn**	**22 13 27.2**	**-3.2**
PBRG				A	A	22 13 41.8	
PTO	**Porto**	**6.78**	**327**	*e*Pn	**Pn**	**22 12 17.7**	**+2.0**
PTO	comp=N,11nm,0.6s			*e*Sn	**Sn**	**22 13 30.6**	**-2.1**
PCAB	**Cabril**	**7.02**	**332**	*e*Pn	**Pn**	**22 12 21.5**	**+2.4**
PCAB				*e*Sn	**Sn**	**22 13 35.1**	**-3.6**
PCAB				A	A	22 14 28.7	
ELOB	**Lobios**	**7.17**	**333**	P	**Pn**	**22 12 22.0**	**+0.8**
ELOB	comp=N,22nm,0.7s comp=N,7.0nm,0.4s,SNR=11			LgX		22 14 32.2	
PGAV	**Gavieira, Arco**	**7.33**	**332**	*e*Pn	**Pn**	**22 12 25.9**	**+2.4**
PGAV	comp=N,68nm,1.1s			*e*Sn	**Sn**	**22 13 42.8**	**-3.7**
PGAV				A	A	22 14 01.2	
EORO	**Oroz-Betelu**	**7.57**	**13**	P	**Pn**	**22 12 29.4**	**+2.8**
EORO	comp=N,14nm,0.6s comp=N,6.6nm,0.5s,SNR=14			LgX		22 14 56.2	
ETSF	**Etsaut**	**7.74**	**17**	*e*P	**Pn**	**22 12 31.9**	**+3.0**
ETSF				*e*Sn	**Sn**	**22 13 50.6**	**-5.7**
CSOR	**Sort**	**7.79**	**27**	P	**Pn**	**22 12 34.2**	**+4.5**
CSOR	comp=N,28nm,1.0s comp=N,2.7nm,0.4s,SNR=6.7			LgX		22 14 43.9	
SJPF	**Ste Jean**	**7.80**	**13**	*e*P	**Pn**	**22 12 32.2**	**+2.5**
SJPF				*e*Sn	**Sn**	**22 13 52.6**	**-5.1**
EALK	**Alkurruntz**	**7.85**	**12**	P	**Pn**	**22 12 34.5**	**+4.0**
EALK	comp=N,0.5nm,0.2s comp=N,22nm,0.4s,SNR=12			LgX		22 15 04.0	
EPF	**Esparros**	**8.10**	**22**	*e*P	**Pn**	**22 12 36.9**	**+2.9**
EPF				*e*Sn	**Sn**	**22 13 58.2**	**-7.1**
MTLF	**Montolieu**	**9.03**	**29**	*e*P	**Pn**	**22 12 50.0**	**+3.4**
MTLF				*e*Sn	**Sn**	**22 14 21.6**	**-6.4**
LFF	**La Frestale**	**9.98**	**19**	*e*P	**Pn**	**22 13 03.8**	**+4.3**
CAF	**Calviac**	**10.35**	**23**	*e*P	**Pn**	**22 13 08.6**	**+3.9**
KEST	**Kesra**	**10.62**	**85**	LR	LR	22 18 04.5	
LMR	**La Mourre**	**11.07**	**42**	*e*P	**Pn**	**22 13 17.8**	**+3.2**
MFF	**Saint Martin d**	**11.37**	**13**	*e*Pn	**Pn**	**22 13 15.4**	**-3.2**
SBF	**Sospel**	**11.93**	**43**	*e*P	**Pn**	**22 13 28.9**	**+2.5**
PGF	**Pioggiola**	**12.09**	**51**	*e*P	**Pn**	**22 13 31.6**	**+3.0**
QUIF	**Quistinic**	**12.37**	**2**	*e*Pn	**Pn**	**22 13 32.5**	**+0.3**
SGMF	**Saint Gilles**	**12.73**	**3**	*e*P	Pn	22 13 42.9	+5.7
ROSF	**Rostrenen**	**12.79**	**1**	*e*P	Pn	22 13 43.4	+5.4
GRR	**Gorron**	**13.00**	**8**	*e*P	**Pn**	**22 13 45.0**	**+4.1**
LDF	**La Druitiere**	**13.30**	**10**	*e*P	Pn	22 13 50.0	+5.0
GERES	**GERESS Array B**	**18.46**	**39**	P	**Pn**	**22 14 54.0**	**+1.9**
	baz=211,slow=11,SNR=2.1						
EKA	**Eskdalemuir Ar**	**19.79**	**1**	P	**Pn**	**22 15 09.0**	**+1.1**
	baz=182,slow=12,SNR=2.1						
TORD	**Torodi Ar. Bea**	**22.83**	**166**	P	**P**	**22 15 39.8**	**+0.4**
	comp=N,3.4nm,0.9s,baz=338,slow=10,SNR=7.9						
IDI	**Anoyia**	**23.27**	**82**	LR	LR	22 26 08.0	
	comp=N,1.4nm,0.8s,baz=220,slow=11,SNR=1.3						
HFS	**Hagfors**	**27.06**	**19**	P	**P**	**22 16 21.6**	**+3.2**
	comp=N,124nm,18.9s,baz=230,slow=40						
NOA	**NORSAR Array B**	**27.24**	**16**	LR	LR	22 28 49.2	
DBIC	**Dimbokro**	**28.76**	**182**	LR	LR	22 28 20.3	
	comp=N,51nm,19.1s,baz=342,slow=37						
KURBB	**Kurchatov Arra**	**58.91**	**47**	P	**P**	**22 20 36.2**	**+1.1**
	comp=N,0.8nm,0.2s,baz=293,slow=8.1,SNR=6.1						
MKAR	**Makanchi Array**	**62.63**	**51**	P	**P**	**22 21 01.2**	**+0.6**
	comp=N,0.6nm,0.7s,baz=297,slow=5.3,SNR=6.8						
YKA	**Yellowknife Ar**	**67.82**	**332**	P	**P**	**22 21 33.7**	**-0.2**
	comp=N,0.4nm,0.7s,baz=59,slow=6.6,SNR=5.1						

*CNRM **27** 22:15:55.6, 35°.55N×3°.76W, h0km, ml2.6*
ISC 27 22:15:54.2±3.6, 35°.6N±0°.2×3°.79W±0°.10, h11km, n4, σ0°92/8, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**200**	P	**Pg**	**22 16 02.2**	**+0.6**
PALE				S	**Sg**	**22 16 07.1**	**+0.5**
GOG	**Mont Gurugu**	**0.73**	**118**	P	**Pg**	**22 16 09.3**	**+1.0**
GOG				S	**Sg**	**22 16 18.8**	**+0.8**
AKLM	**AKL**	**1.06**	**183**	P	**Pg**	**22 16 14.9**	**+0.3**
AKLM				S	**Sg**	**22 16 28.2**	**-0.2**
CHAS	**Isla Isabel II**	**1.17**	**109**	*e*P	**Pb**	**22 16 15.9**	**-0.6**
CHAS				*e*S	**Sb**	**22 16 30.3**	**-1.3**

*IDC **27** 22:16:58.8±14.0, 20°.54S×174°.07W, h132km±50km, mb3.6/3, mb1 3.7/6, mb1mx3.2/44, mbtmp4.1/6, MS3.7/1, Ms1 3.7/1, ms1mx2.6/51, Error ellipse: s-maj=202.7km s-min=38.0km az=63.0*
ISC 27 22:16:37.3±9.0, 19°.9S±0°.6×173°.2W±0°.9, h10km, n6, σ0°82/5, mb4.1/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.59**	**283**	P	Pn	22 18 52.0	+10
	1.1nm,0.3s,baz=204,slow=23,SNR=12						
DZM	**Mont Dzumac**	**19.18**	**260**	P	**P**	**22 21 01.5**	**+0.2**
	0.4nm,0.3s,baz=238,slow=21,SNR=5.4						
URZ	**Urewera**	**20.20**	**203**	P	**P**	**22 21 12.4**	**+0.2**
	1.6nm,0.3s,baz=308,slow=4.3,SNR=8.4						
STKA	**Stephens Creek**	**42.17**	**244**	P	**P**	**22 24 29.4**	**-0.9**
	1.2nm,0.5s,baz=73,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**49.09**	**256**	P	**P**	**22 25 25.9**	**+0.7**
	1.7nm,0.8s,baz=84,slow=8.6,SNR=18						
ASAR				LR	LR	22 45 26.9	
	comp=Z,78nm,18.5s,baz=144,slow=36						
WRA	**Warramunga Arr**	**49.20**	**260**	P	**P**	**22 25 26.2**	**+0.2**
	0.7nm,0.3s,baz=90,slow=8.6,SNR=28						

NEIC 27 22:23:33.7±0.6, 35°.67N±0°.01×97°.42W±0°.01, h7km±3km, ML2.2/34, Error ellipse: s-maj=1.8km s-min=1.5km az=127.0, Oklahoma

| Code | Station Name | Δ° | AZ° | Phase ID Op | IS

FNO			Sg	Sg	22 23 47.7	+0.5
OK031	**S. Brethren Rd**	**0.55 59**	Pg	Pg	22 23 43.9	-0.4
OK031			Sg	Sg	22 23 51.5	+0.1
OK031			IAML		22 23 51.7	
	comp=E,147nm,0.1s					
OK031			IAML		22 23 51.8	
	comp=E,173nm,0.2s					
OK030	**Cody Creek RV**	**0.57 63**	Pg	Pg	22 23 44.3	-0.5
OK030			Sg	Sg	22 23 52.4	+0.1
OK030			IAML		22 23 52.6	
	comp=E,152nm,0.2s					
OK030			IAML		22 23 52.7	
	comp=E,150nm,0.1s					
OK034	**N. Norfolk Rd.**	**0.66 59**	Pg	Pg	22 23 45.9	-0.6
OK034			IAML		22 23 55.3	
	comp=E,127nm,0.1s					
OK034			IAML		22 23 55.4	
	comp=E,142nm,0.2s					
W35A	**Tecumseh**	**0.68 139**		Pg	22 23 46.2	-0.6
W35A			IAML		22 23 55.9	
	comp=E,120nm,1.3s					
QUOK	**Quay**	**0.76 49**	Pg	Pg	22 23 47.7	-0.6
QUOK			IAML		22 23 58.6	
	comp=E,121nm,0.3s					
QUOK			IAML		22 23 58.6	
	comp=N,118nm,0.3s					
CROK	**Carrier**	**0.95 331**	Pg	Pg	22 23 51.3	-0.7
CROK			IAML		22 24 14.2	
	comp=N,94nm,0.3s					
BLOK	**Blackwell**	**1.10 8**	Pg	Pg	22 23 53.6	-1.2
X34A	**Smith Ranch, M**	**1.12 198**	Pg	Pg	22 23 54.6	-0.7
X34A			IAML		22 24 11.4	
	comp=E,58nm,1.7s					
X34A			IAML		22 24 11.4	
	comp=N,54nm,0.3s					
GC02	**Grant County #**	**1.23 343**		Pb	22 23 56.1	-1.3
KAN13	**South Haven SW**	**1.34 358**		Pn	22 23 58.2	-0.7
KAN14	**Manchester OK**	**1.36 341**		Pn	22 23 58.4	-0.7
KAN17	**Caldwell West**	**1.40 348**		Pn	22 23 58.5	-1.1
T35A	**Sooner Cattle**	**1.44 30**		Pn	22 23 59.5	-0.8
WMOK	**Wichita Mounta**	**1.46 231**		Pn	22 23 59.6	-0.9
U32A	**Winter Ranch,**	**1.47 299**		Pn	22 23 59.8	-0.9
KAN01	**Argonia South**	**1.50 349**		Pn	22 24 00.9	-0.2
KAN06	**Argonia West S**	**1.61 347**	Pn	Pn	22 24 02.4	-0.3
LOOK	**Love County**	**1.69 173**	Pn	Pn	22 24 03.8	+0.1
X37A	**Clayton**	**1.99 122**	Pn	Pn	22 24 08.4	+0.5
MIAR	**Mount Ida**	**3.34 109**	Pn	Pn	22 24 26.6	+0.2

*IDC **27** 22:26:58.1±2.5, 34°.89N×141°.36E, h0km, mb3.4/2, mb1 3.5/4, mb1mx2.9/60, mbtmp3.4/4, ML2.7/2, Error ellipse: s-maj=47.0km s-min=24.2km az=70.0*
*JMA **27** 22:27:00.2±0.4, 34°.95N×141°.36E, h47km±5km, M2.9*
ISC 27 22:27:01.6±1.4, 34°.93N±0°.05×141°.31E±0°.10, h27km, n12, σ1§40/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.39**	**225**	P	**Pn**	**22 27 10.4**	**-0.5**
BSO1				X		22 27 17.3	
BSO3	**Boso 3**	**0.67**	**259**	P	**Pb**	**22 27 14.3**	**-0.2**
BSO4	**Boso 4**	**0.80**	**275**	P	**Pb**	**22 27 16.2**	**-0.6**
CHOJ	**Chosi**	**0.85**	**335**	P	**Pb**	**22 27 16.1**	**-1.7**
JKUC	**kamogawauchiur**	**0.94**	**285**	P	**Pn**	**22 27 17.7**	**-1.2**
JKUC				eS	**Sb**	**22 27 30.1**	**-1.1**
JIM2	**Oshima 3**	**1.56**	**263**	P	**Pn**	**22 27 25.9**	**-1.6**
JOD2	**Odawara 2**	**1.85**	**281**	P	**Pn**	**22 27 30.1**	**-1.4**
JHJ	**Hachijo jima 2**	**2.21**	**215**	Pn	**Pn**	**22 27 36.2**	**-0.2**
	12nm,0.3s,baz=339,slow=20,SNR=6.3						
JHJ				Sn	**Sn**	**22 28 03.8**	**+1.0**
	28nm,0.3s,baz=122,slow=24,SNR=5.7						
MJAR	**Matsushiro Arr**	**2.99**	**303**	Pn	**Pn**	**22 27 48.0**	**+0.8**
	0.5nm,0.3s,baz=101,slow=14,SNR=13						
MJAR				Sn	**Sn**	**22 28 25.2**	**+3.0**
	0.3nm,0.3s,baz=130,slow=14,SNR=4.4						
MAT	**Matsushiro**	**2.99**	**303**	P	**Pn**	**22 27 49.0**	**+1.8**
MAT				eS	**Sn**	**22 28 23.1**	**+0.9**
MKAR	**Makanchi Array**	**45.19**	**304**	P	**P**	**22 35 16.5**	**+0.4**
	0.1nm,0.4s,baz=88,slow=7.4,SNR=1.7						
WRA	**Warramunga Arr**	**54.97**	**188**	P	**P**	**22 36 30.6**	**+0.3**
	0.5nm,0.5s,baz=3.1,slow=7.4,SNR=11						

*CNRM **27** 22:32:25.5, 35°.52N×3°.75W, h14km, ml3.1*
*MDD **27** 22:32:26.0±0.8, 35°.42N×3°.87W, h0km, mbLg3.1/9, Error ellipse: s-maj=7.6km s-min=4.3km az=23.0*
*SFS **27** 22:32:26.0, 35°.41N×3°.86W, ML3.1, ALBORAN SUR*
ISC 27 22:32:24.5±1.1, 35°.47N±0°.02×3°.80W±0°.02, h10km±10km, n34, σ1§30/51, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**205**	P	**Pb**	**22 32 31.8**	**+0.2**
PALE				S	**Sb**	**22 32 35.9**	**-0.5**
GOG	**Mont Gurugu**	**0.70**	**111**	P	**Pb**	**22 32 39.5**	**+0.7**
GOG				S	**Sb**	**22 32 48.9**	**+0.4**
EMEL	**Melilla**	**0.71**	**104**	Pg	**Pb**	**22 32 39.9**	**+1.0**
	496nm,0.3s,SNR=56						
EMEL				Lg	Lg	22 32 49.3	
	2μm,0.1s,SNR=17						
EALB	**Alboran**	**0.78**	**53**	Pg	**Pn**	**22 32 41.9**	**+0.4**
	336nm,0.3s,SNR=558						
EALB				Lg	Lg	22 32 53.3	
	708nm,0.2s,SNR=5.0						
AKLM	**AKL**	**0.96**	**183**	P	**Pn**	**22 32 44.3**	**+0.2**
AKLM				S	**Sb**	**22 32 55.9**	**-0.2**
CHAS	**Isla Isabel II**	**1.15**	**104**	eP	**Pg**	**22 32 46.2**	**-0.4**
CHAS				eS	**Sg**	**22 33 00.4**	**-1.2**
SMIR	**Smir Dam**	**1.31**	**280**	P	**Pn**	**22 32 48.1**	**-0.7**
CHEFC	**Chefchaouen**	**1.32**	**254**	P	**Pg**	**22 32 50.5**	**+0.7**
EMIJ	**Mijas**	**1.35**	**324**	Pg	**Pg**	**22 32 50.7**	**+0.3**
	10nm,0.4s,SNR=23						
EMIJ				Lg	Lg	22 33 08.7	
	56nm,0.2s,SNR=12						
CEU	**Ceuta**	**1.35**	**289**	eP	**Pn**	**22 32 47.7**	**-1.7**
CEU				eS	**Sb**	**22 33 03.8**	**-3.5**
ECEU	**Ceuta**	**1.36**	**289**	Pg	**Pn**	**22 32 49.6**	**+0.1**
	7.6nm,0.3s,SNR=20						
ECEU				Lg	Lg	22 33 06.0	
	37nm,0.2s,SNR=5.5						
EMAL	**Malaga-Limoner**	**1.39**	**338**	eP	**Pg**	**22 32 51.4**	**+0.3**
EMAL				eS	**Sg**	**22 33 09.2**	**+0.1**
ELGU	**Los Guajares,**	**1.40**	**6**	Pn	**Pn**	**22 32 51.0**	**+0.8**
	SNR=7.9						
ELGU				Lg	Lg	22 33 11.5	
	369nm,0.3s,SNR=7.9						
JBK	**JBK**	**1.52**	**138**	P	**Pn**	**22 32 52.2**	**+0.3**
JBK				S	**Sb**	**22 33 13.0**	**+0.8**
EBER	**Berja**	**1.60**	**27**	Pn	**Pb**	**22 32 54.5**	**+0.3**
	23nm,0.4s,SNR=53						
EBER				Sn	**Sg**	**22 33 16.1**	**+0.1**
	132nm,0.5s,SNR=16						
EGOR	**Sierra Gorda,**	**1.65**	**351**	Pn	**Pb**	**22 32 55.6**	**+0.4**
	SNR=7.9						
EGOR				Lg	Lg	22 33 20.6	
	134nm,0.5s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.67**	**306**	Pg	**Pb**	**22 32 55.9**	**+0.6**
	SNR=7.9						
EQUE	**Quentar**	**1.75**	**9**	Pn	**Pg**	**22 32 57.9**	**-0.2**
	6.9nm,0.3s,SNR=26						
EQUE				Sn	**Sg**	**22 33 21.3**	**+0.4**
	21nm,0.3s,SNR=8.0						
EQUE				Lg	Lg	22 33 26.6	
	29nm,0.3s,SNR=6.6						
SICH	**Sidi Chahed**	**1.85**	**223**	P	**Pg**	**22 32 59.6**	**-0.4**
SICH				S	**Sg**	**22 33 24.2**	**+0.2**
ENIJ	**Nijar**	**1.97**	**40**	Pn	**Pn**	**22 32 58.7**	**+0.7**
	SNR=7.9						
ENIJ				Sn	**Sn**	**22 33 22.4**	**-0.4**
	SNR=7.9						
LCRM	**LCR**	**1.99**	**207**	P	**Pb**	**22 33 00.4**	**-0.5**
LCRM				S	**Sg**	**22 33 27.3**	**-1.1**
IFR	**Ifrane**	**2.24**	**210**	eP	**Pn**	**22 33 02.9**	**+1.1**
IFR				eS	**Sn**	**22 33 30.2**	**+0.6**
EQES	**Quesada**	**2.40**	**14**	Pn	**Pb**	**22 33 07.9**	**+0.1**
	9.9nm,0.3s,SNR=53						
EQES				Sn	**Sb**	**22 33 37.7**	**+0.2**
	26nm,0.4s,SNR=8.3						
MD31	**MD31**	**2.72**	**197**	P	**Pn**	**22 33 10.4**	**+2.1**
MDT	**Midelt**	**2.74**	**194**	P	**Pb**	**22 33 11.3**	**-2.3**
EADA	**Adamuz**	**2.76**	**347**	Pn	**Pb**	**22 33 12.3**	**-1.6**
	5.0nm,0.4s,SNR=22						
CART	**Cartagena**	**3.08**	**46**	P	**Pn**	**22 33 12.8**	**-0.5**
CART				S	**Sn**	**22 33 47.0**	**-3.1**
ZHG	**ZHG**	**3.10**	**230**	P	**Pn**	**22 33 15.1**	**+1.5**
PVAQ	**Vaqueiros**	**3.70**	**303**	P	**Pn**	**22 33 24.2**	**+2.4**
PVAQ				S	**Sn**	**22 34 05.3**	**-0.1**
FIGM	**Figuig**	**3.94**	**147**	P	**Pn**	**22 33 26.7**	**+1.5**
PFVI	**Vila Bisbo**	**4.39**	**294**	P	**Pn**	**22 33 33.7**	**+2.5**
PESTR	**Estremoz**	**4.55**	**319**	P	**Pn**	**22 33 35.7**	**+2.3**
EVO	**Evora**	**4.55**	**313**	eP	**Pn**	**22 33 35.7**	**+2.3**
EVO				eS	**Sn**	**22 34 26.2**	**-0.1**
OUK	**Oukaimeden**	**5.45**	**220**	P	**Pn**	**22 33 47.9**	**+1.8**

*IDC **27** 22:47:06.9±2.2, 34°.88N×141°.36E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.1/43, mbtmp3.4/5, ML2.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/62, Error ellipse: s-maj=44.6km s-min=23.1km az=66.0*
*JMA **27** 22:47:09.5±0.4, 34°.94N×141°.33E, h45km±4km, M2.9*
ISC 27 22:47:11.5±1.5, 34°.92N±0°.06×141°.3E±0°.1, h35km, n14, σ1§50/17, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.38**	**226**	P	**Pn**	**22 47 19.2**	**-0.7**
BSO1				X		22 47 25.8	
BSO3	**Boso 3**	**0.66**	**260**	P	**Pn**	**22 47 23.2**	**-1.0**
BSO3				eX		22 47 32.1	
BSO4	**Boso 4**	**0.80**	**276**	P	**Pn**	**22 47 25.1**	**-1.1**
BSO4				X		22 47 36.0	
CHOJ	**Chosi**	**0.87**	**335**	P	**Pn**	**22 47 25.0**	**-2.2**
JKUC	**kamogawauchiur**	**0.94**	**285**	P	**Pn**	**22 47 26.5**	**-1.7**
JKUC				eS	**Sn**	**22 47 39.0**	**-1.4**
JIM2	**Oshima 3**	**1.55**	**263**	P	**Pn**	**22 47 35.0**	**-1.7**
JTHY	**Toshimahigashi**	**1.71**	**257**	P	**Pn**	**22 47 37.7**	**-1.1**
JHJ	**Hachijo jima 2**	**2.19**	**216**	Pn	**Pn**	**22 47 45.5**	**0.0**
	12nm,0.3s,baz=242,slow=7.7,SNR=2.3						
JHJ				Sn	**Sn**	**22 48 11.3**	**-0.1**
	16nm,0.3s,baz=242,slow=23,SNR=1.3						
MJAR	**Matsushiro Arr**	**3.00**	**304**	Pn	**Pn**	**22 47 57.0**	**+0.5**
	0.5nm,0.3s,baz=101,slow=13,SNR=12						
MJAR				Sn	**Sn**	**22 48 34.7**	**+3.5**
	0.4nm,0.3s,baz=122,slow=14,SNR=4.4						
MJAR				LR	LR	22 49 01.9	
	comp=Z,27nm,21.1s,baz=57,slow=38						
MAT	**Matsushiro**	**3.00**	**304**	P	**Pn**	**22 47 57.8**	**+1.2**
MAT				eS	**Sn**	**22 48 31.9**	**+0.6**
MKAR	**Makanchi Array**	**45.20**	**304**	P	**P**	**22 55 25.0**	**0.0**
	0.3nm,0.9s,baz=97,slow=8.4,SNR=2.5						
WRA	**Warramunga Arr**	**54.95**	**188**	P	**P**	**22 56 39.7**	**+0.6**
	0.8nm,0.6s,baz=4.8,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**58.68**	**188**	P	**P**	**22 57 05.8**	**+0.2**
	0.2nm,0.3s,baz=0.6,slow=8.3,SNR=2.2						
KIRV	**Kirov**	**61.89**	**324**	LR	LR	23 25 24.3	
	comp=Z,62nm,18.8s,baz=302,slow=37						

*MDD **27** 22:52:56.8±0.8, 35°.44N×3°.86W, h0km, mbLg3.6/6, Error ellipse: s-maj=8.0km s-min=4.2km az=20.0*
MDD EMS: III INTENSIDAD MAXIMA.
*IDC **27** 22:52:56.1±1.2, 35°.52N×3°.77W, h0km, mb3.6/4, mb1 3.7/8, mb1mx3.5/48, mbtmp3.5/8, ML3.4/4, Error ellipse: s-maj=34.0km s-min=19.2km az=94.0*
*SFS **27** 22:52:56.0, 35°.44N×3°.85W, ML3.6, ALBORAN SUR*
*CRAAG **27** 22:52:56.0, 35°.44N×3°.85W, Mb3.5*
*CNRM **27** 22:52:57.1, 35°.53N×3°.73W, h22km, ml3.9*
*IGIL **27** 22:52:58.1, 35°.44N×3°.85W, h0km, ML3.2*
*INMG **27** 22:52:58.0±1.9, 35°.49N×3°.79W, h4km±6km, MD3.4, ML3.1, Error ellipse: s-maj=4.4km s-min=3.9km az=51.0*
*LDG **27** 22:52:59.0, 35°.31N×3°.63W, h30km*
ISC 27 22:52:56.7±1.1, 35°.50N±0°.03×3°.78W±0°.02, h11km±8km, n90, σ1§96/136, mb3.7/4, 2C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.31**	**204**	P	**Pb**	**22 53 03.8**	**-0.5**
PALE				S	**Sb**	**22 53 08.5**	**-0.9**
GOG	**Mont Gurugu**	**0.70**	**113**	P	**Pb**	**22 53 11.3**	**+0.3**
GOG				S	**Sg**	**22 53 19.6**	**+0.1**
EMEL	**Melilla**	**0.70**	**106**	⇑Pg	**Pg**	**22 53 10.9**	**+0.6**
	2μm,0.1s,SNR=18						
EMEL				Lg	Lg	22 53 20.2	
	19μm,0.2s,SNR=26						
EALB	**Alboran**	**0.75**	**54**	⇑Pg	**Pg**	**22 53 12.3**	**+1.1**
	1μm,0.2s,SNR=18						
EALB				Lg	Lg	22 53 23.1	
	2μm,0.2s,SNR=6.2						
AKLM	**AKL**	**0.99**	**184**	P	**Pb**	**22 53 16.1**	**+0.1**
AKLM				S	**Sb**	**22 53 28.5**	**-0.5**
CHAS	**Isla Isabel II**	**1.15**	**106**	eP	**Pg**	**22 53 17.0**	**-1.8**
CHAS				eS	**Sg**	**22 53 31.0**	**-2.8**
SMIR	**Smir Dam**	**1.31**	**278**	P	**Pn**	**22 53 19.3**	**-1.7**
SMIR				S	**Sg**	**22 53 37.4**	**-1.7**
EMIJ	**Mijas**	**1.33**	**323**	Pg	**Pn**	**22 53 22.2**	**+1.0**
	12nm,0.2s,SNR=72						
EMIJ				Lg	Lg	22 53 40.9	
	171nm,0.2s,SNR=12						
CHEFC	**Chefchaouen**	**1.33**	**253**	P	**Pg**	**22 53 21.7**	**-0.6**
CHEFC				S	**Sn**	**22 53 41.1**	**+2.0**
CEU	**Ceuta**	**1.35**	**288**	eP	**Pn**	**22 53 19.3**	**-2.2**
CEU				eS	**Sg**	**22 53 34.7**	**-5.6**
ECEU	**Ceuta**	**1.36**	**287**	Pg	**Pn**	**22 53 20.4**	**-1.2**
	26nm,0.1s,SNR=40						
ECEU				Lg	Lg	22 53 37.0	
	67nm,0.1s,SNR=12						
EMAL	**Malaga-Limoner**	**1.36**	**338**	eP	**Pn**	**22 53 21.3**	**-0.4**
EMAL				eS	**Sb**	**22 53 38.9**	**-0.8**
ELGU	**Los Guajares,**	**1.37**	**5**	Pg	**Pn**	**22 53 23.0**	**+1.1**
	23nm,0.1s,SNR=7.9						
ELGU				Lg	Lg	22 53 40.1	
	612nm,0.2s,SNR=7.9						
JBK	**JBK**	**1.53**	**139**	P	**Pn**	**22 53 23.0**	**-1.2**
JBK				S	**Sb**	**22 53 42.0**	**-2.8**
EBER	**Berja**	**1.57**	**27**	Pn	**Pn**	**22 53 24.3**	**-0.4**
	73nm,0.3s,SNR=123						
EBER				Lg	Lg	22 53 44.2	
	299nm,0.2s,SNR=19						
EGOR	**Sierra Gorda,**	**1.63**	**351**	Pn	**Pn**	**22 53 26.7**	**+1.2**
	SNR=7.9						
EGOR				Lg	Lg	22 53 49.9	
	212nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.66**	**305**	Pn	**Pn**	**22 53 26.2**	**+0.3**
	SNR=7.9						
EJIF				Sn	**Sn**	**22 53 49.7**	**+2.5**
	928μm,0.6s,SNR=7.9						
EQUE	**Quentar**	**1.72**	**9**	Pn	**Pn**	**22 53 27.7**	**+0.9**
	33nm,0.4s,SNR=64						
EQUE				Sn	**Sn**	**22 53 50.0**	**+1.2**
	98nm,0.4s,SNR=11						
SICH	**Sidi Chahed**	**1.88**	**223**	P	**Pb**	**22 53 30.4**	**-0.6**
SICH				S	**Sg**	**22 53 55.4**	**-1.7**
ENIJ	**Nijar**	**1.94**	**41**	Pn	**Pn**	**22 53 29.3**	**-0.4**
	SNR=7.9						
ENIJ				Sn	**Sn**	**22 53 52.2**	**-2.0**
	SNR=7.9						
LCRM	**LCR**	**2.02**	**206**	P	**Pb**	**22 53 33.5**	**+0.1**
LCRM				S	**Sb**	**22 53 57.8**	**-0.8**
IFR	**Ifrane**	**2.27**	**210**	eP	**Pn**	**22 53 34.3**	**0.0**
IFR				eS	**Sn**	**22 54 01.9**	**-0.5**
EQES	**Quesada**	**2.37**	**14**	Pn	**Pn**	**22 53 38.3**	**+2.7**
	39nm,0.4s,SNR=167						
EQES				Sn	**Sn**	**22 54 07.0**	**+2.2**
	206nm,0.4s,SNR=5.0						
MD31	**MD31**	**2.75**	**197**	P	**Pn**	**22 53 41.6**	**+0.8**
MD31				S	**Sn**	**22 54 12.9**	**-1.2**
MDT	**Midelt**	**2.77**	**195**	Pn	**Pn**	**22 53 42.3**	**+1.2**
	3.5nm,0.3s,baz=179,slow=13,SNR=77						
MDT				Sn	**Sn**	**22 54 14.8**	**+0.2**
	12nm,0.3s,baz=38,slow=22,SNR=4.2						
MDT	**Midelt**	**2.77**	**195**	P		**22 53 41.3**	**+0.2**
MDT				S	**Sn**	**22 54 15.6**	**+1.1**
ODJA	**Bouhanifia**	**2.97**	**92**	P	**Pg**	**22 53 55.0**	**+1.3**
CART	**Cartagena**	**3.06**	**46**	P	**Pn**	**22 53 43.5**	**-1.5**
CART				S	**Sn**	**22 54 17.9**	**-3.7**
ZHG	**ZHG**	**3.13**	**230**	P	**Pn**	**22 53 45.9**	**-0.2**
PVAQ	**Vaqueiros**	**3.70**	**302**	ePn	**Pn**	**22 53 54.4**	**+0.6**
PVAQ				eSn	**Sn**	**22 54 35.4**	**-1.9**
PVAQ				A	A	22 54 38.6	
	34nm,0.3s						
PVAQ	**Vaqueiros**	**3.70**	**302**	P	**Pn**	**22 53 54.1**	**+0.3**
PVAQ				S	**Sn**	**22 54 37.0**	**-0.3**
AVE	**Averroes**	**3.72**	**235**	eP	**Pn**	**22 53 55.5**	**+1.4**
AVE				eS	**Sn**	**22 54 34.9**	**-3.1**
AVE	**Averroes**	**3.72**	**235**	P	**Pn**	**22 53 54.5**	**+0.4**
PBDV	**Barranco-do-Ve**	**3.77**	**299**	ePn	**Pn**	**22 53 55.2**	**+0.4**
PBDV				eSn	**Sn**	**22 54 37.1**	**-2.1**
PBDV				A	A	22 54 41.2	
	25nm,0.3s						
FIGM	**Figuig**	**3.96**	**147**	P	**Pn**	**22 53 57.8**	**+0.3**
PCVE	**Castro Verde**	**4.03**	**303**	ePn	**Pn**	**22 53 59.1**	**+0.7**
PCVE				eSn	**Sn**	**22 54 44.4**	**-1.2**
PCVE				A	A	22 54 54.4	
	25nm,0.4s						
PBEJ	**Beja**	**4.13**	**309**	ePn	**Pn**	**22 54 01.0**	**+1.2**
PBEJ				eSn	**Sn**	**22 54 47.0**	**-1.2**
PBEJ				A	A	22 54 52.0	
	14nm,0.3s						
ESDC	**Sonseca Array**	**4.17**	**358**	Pn	**Pn**	**22 54 02.4**	**+2.1**
	1.6nm,0.3s,baz=180,slow=12,SNR=86						
ESDC				Sn	**Sn**	**22 54 48.9**	**-0.2**
	1.5nm,0.3s,baz=174,slow=16,SNR=4.7						
MESJ	**Messejana**	**4.26**	**305**	eP	**Pn**	**22 54 02.0**	**+0.5**
MESJ				eS	**Sn**	**22 54 49.1**	**-2.2**
MESJ				IAML		22 54 55.0	
	comp=N,40nm,0.3s						
MESJ	**Messejana**	**4.26**	**305**	ePn	**Pn**	**22 54 02.1**	**+0.5**
MESJ				eSn	**Sn**	**22 54 49.4**	**-1.9**
MESJ				A	A	22 54 52.8	
	comp=N,23nm,0.4s						
MORF	**Marmelete**	**4.32**	**296**	eS	**Sn**	**22 54 49.9**	**-2.9**
MORF				IAML		22 54 52.9	
	comp=N,52nm,0.3s						
MORF	**Marmelete**	**4.32**	**296**	ePn	**Pn**	**22 54 03.4**	**+1.0**
MORF				eSn	**Sn**	**22 54 50.4**	**-2.4**
MORF				A	A	22 55 01.6	
	comp=N,19nm,0.2s						
PFVI	**Vila Bisbo**	**4.39**	**293**	ePn	**Pn**	**22 54 05.0**	**+1.8**
PFVI				eSn	**Sn**	**22 54 51.4**	**-2.9**
PFVI				A	A	22 54 58.2	
	comp=N,26nm,0.5s						
PFVI	**Vila Bisbo**	**4.39**	**293**	P	**Pn**	**22 54 04.4**	**+1.2**
PTEO	**Sao Teotonio**	**4.47**	**299**	ePn	**Pn**	**22 54 05.3**	**+0.9**
PTEO				eSn	**Sn**	**22 54 55.3**	**-1.1**
PTEO				A	A	22 55 02.1	
	comp=N,25nm,0.4s						
PESTR	**Estremoz**	**4.53**	**319**	ePn	**Pn**	**22 54 06.7**	**+1.4**
PESTR				eSn	**Sn**	**22 54 56.7**	**-1.2**
PESTR				A	A	22 55 19.2	
	comp=N,18nm,0.7s						
PESTR	**Estremoz**	**4.53**	**319**	P	**Pn**	**22 54 06.0**	**+0.8**
EVO	**Evora**	**4.54**	**313**	eP	**Pn**	**22 54 06.2**	**+0.8**
EVO				eS	**Sn**	**22 54 56.4**	**-1.7**
EVO	**Evora**	**4.54**	**313**	ePn	**Pn**	**22 54 06.5**	**+1.1**
EVO				eSn	**Sn**	**22 54 56.3**	**-1.8**
EVO				A	A	22 55 14.9	
	comp=N,19nm,0.4s						
PNCL	**Nicolau / Gran**	**4.61**	**306**	ePn	**Pn**	**22 54 07.1**	**+0.7**
PNCL				eSn	**Sn**	**22 54 58.3**	**-1.6**
PNCL				A	A	22 55 00.1	
	comp=N,16nm,0.6s						
UCM	**Universidad Co**	**4.82**	**5**	eP	**Pn**	**22 54 11.5**	**+2.2**
UCM				eS	**Sn**	**22 55 01.5**	**-3.6**
PMRV	**Marv??o**	**4.86**	**325**	ePn	**Pn**	**22 54 11.3**	**+1.5**
PMRV				eSn	**Sn**	**22 55 05.3**	**-0.7**
PMRV				A	A	22 55 49.7	
	comp=N,15nm,0.6s						
PMTG	**Montargil**	**5.02**	**316**	ePn	**Pn**	**22 54 13.3**	**+1.3**
PMTG				eSn	**Sn**	**22 55 08.8**	**-1.2**
PMTG				A	A	22 55 32.3	
	comp=N,15nm,0.6s						
OUZM	**OUZ**	**5.21**	**209**	P	**Pn**	**22 54 16.3**	**+1.5**
PCBR	**Castelo Branco**	**5.23**	**327**	ePn	**Pn**	**22 54 16.5**	**+1.7**
PCBR				eSn	**Sn**	**22 55 14.2**	**-0.9**
PCBR				A	A	22 55 59.1	
	comp=N,11nm,0.7s						
PMST	**Lisbon--Monsan**	**5.39**	**308**	ePn	**Pn**	**22 54 19.6**	**+2.6**
OUK	**Oukaimeden**	**5.48**	**220**	P	**Pn**	**22 54 18.1**	**-0.4**
PMAFR	**Mafra**	**5.58**	**310**	ePn	**Pn**	**22 54 22.1**	**+2.4**
PMAFR				eSn	**Sn**	**22 55 21.9**	**-1.9**
PMAFR				A	A	22 55 42.8	
	comp=N,32nm,0.6s						
PSBE	**So Bento**	**5.65**	**317**	ePn	**Pn**	**22 54 22.2**	**+1.6**
MTE	**Manteigas**	**5.72**	**330**	ePn	**Pn**	**22 54 24.6**	**+2.9**
MTE				eSn	**Sn**	**22 55 27.3**	**-0.1**
MTE				A	A	22 56 11.1	
	comp=N,25nm,0.7s						
PCAS	**Casmilo, Conde**	**5.88**	**322**	ePn	**Pn**	**22 54 26.0**	**+2.2**
COI	**Coimbra**	**5.96**	**323**	eSn	**Sn**	**22 55 32.5**	**-0.5**
PVIS	**Viseu**	**6.13**	**329**	ePn	**Pn**	**22 54 29.8**	**+2.5**
PVIS				eSn	**Sn**	**22 55 36.1**	**-1.4**
PVIS				A	A	22 55 45.4	
	comp=N,9.8nm,0.5s						
MVO	**Moncorvo**	**6.20**	**337**	ePn	**Pn**	**22 54 30.5**	**+2.2**
MVO				eSn	**Sn**	**22 55 36.9**	**-2.3**
MVO				A	A	22 55 43.8	
	comp=N,16nm,0.6s						
TTIG	**Tnine Tigouga,**	**6.30**	**220**	P	**Pn**	**22 54 27.7**	**-2.0**
PVRL	**Vila Real**	**6.54**	**333**	ePn	**Pn**	**22 54 34.8**	**+1.9**
PVRL				eSn	**Sn**	**22 55 46.5**	**-1.0**
PVRL				A	A	22 55 50.5	
	comp=N,14nm,0.6s						
POLO	**Lamas de Olo**	**6.65**	**333**	ePn	**Pn**	**22 54 36.3**	**+1.8**
POLO				eSn	**Sn**	**22 55 51.9**	**+1.5**
POLO				A	A	22

AFI	Afiamalu	2.42 24		Pn	23 21 57.4	-2.2
NIUE	Niue	4.00 137	P	Pn	23 22 19.3	-2.0
	baz=3.5,SNR=32					
NIUE	Niue	4.00 137	Pn	Pn	23 22 19.1	-2.2
NIUE	Niue	4.00 137	P	Pn	23 22 19.5	-1.8
TAVE	Taveuni	6.85 264	P	Pn	23 23 09.0	+8.5
	240nm,1.1s					
DGTI	Dogotuki	7.18 268	P	Pn	23 23 12.8	+7.7
	89nm,1.1s					
MSVF	Nonsavu	8.91 258	Pn	Pn	23 23 34.7	+5.8
	1.2nm,0.3s,baz=101,slow=12,SNR=28					
MSVF			LR	LR	23 26 20.3	
	comp=Z,1μm,19.4s,baz=49,slow=35					
MSVF	Nonsavu	8.91 258	P	Pn	23 23 36.2	+7.3
	83nm,1.1s					
RAR	Rarotonga	13.33 114	Pn	Pn	23 24 26.9	-2.3
	5.0nm,0.3s,baz=299,slow=9.8,SNR=6.8					
RAR			LR	LR	23 28 15.4	
	comp=Z,364nm,19.8s,baz=302,slow=31					
RAR	Rarotonga	13.33 114	P	Pn	23 24 28.0	-1.2
MARNC	Mare, Loyalty	18.92 251	P	P	23 25 39.6	-1.4
SANVU	Saraoutou	19.27 269		P	23 25 43.9	-0.9
LIFNC	LIFOU	19.50 253	P	P	23 25 45.5	-1.7
LIFNC			IAmb	IAmb	23 26 13.2	
	comp=Z,55nm,1.0s					
PINNC	Pines Island,	19.72 248	P	P	23 25 48.5	-1.2
PINNC			IAmb	IAmb	23 26 04.7	
	comp=Z,67nm,1.4s					
OUENC	Ouen Island, N	20.21 249	P	P	23 25 53.5	-1.6
OUENC			IAmb	IAmb	23 26 12.1	
	comp=Z,24nm,0.9s					
DZM	Mont Dzumac	20.48 250	P	P	23 25 57.7	-0.5
	comp=Z,16nm,0.9s,baz=85,slow=18,SNR=13					
DZM			LR	LR	23 32 37.2	
	comp=Z,637nm,19.5s,baz=101,slow=33					
DZM	Mont Dzumac	20.48 250	*e*P	P	23 25 57.3	-0.9
	comp=Z,41nm,0.8s					
DZM			*e*LR	LR	23 30 34.7	
	comp=Z,683nm,22.7s					
DZM	Mont Dzumac	20.48 250	P	P	23 25 57.5	-0.7
DZM			IAmb	IAmb	23 26 08.3	
	comp=Z,20nm,0.8s					
ONTNC	Ouen Toro	20.53 249	P	P	23 25 58.5	-0.1
ONTNC			IAmb	IAmb	23 26 24.1	
	comp=Z,25nm,0.8s					
PAE	Paea	22.26 97	*e*T	T	23 49 20.8	
	comp=Z,2.0nm,0.2s					
PPT2	Papeete2	22.26 97	*e*LR	LR	23 31 38.0	
	comp=Z,410nm,25.8s					
PPT	Papeete	22.26 97	LR	LR	23 33 11.1	
	comp=Z,135nm,18.8s,baz=248,slow=32					
URZ	Urewera	23.77 200	P	P	23 26 34.6	+2.0
	comp=Z,11nm,0.6s,baz=243,slow=7.1,SNR=6.2					
URZ			LR	LR	23 35 12.0	
	comp=Z,165nm,18.0s,baz=15,slow=35					
HNR	Honiara	27.39 281	LR	LR	23 36 18.2	
	comp=Z,609nm,21.0s,baz=136,slow=33					
TAOE	Nuku Hiva Isla	32.64 81	*e*LR	LR	23 36 21.4	
	comp=Z,225nm,27.7s					
TAOE	Nuku Hiva Isla	32.64 81	*e*T	T	00 02 23.5	
	comp=Z,28nm,0.2s					
EIDS	Eidsvold	34.92 249	P	P	23 28 10.7	-1.3
EIDS			IAmb	IAmb	23 28 11.5	
	comp=Z,13nm,1.4s					
ARMA	Armidale	35.48 240	P	P	23 28 16.4	-0.5
	baz=36,SNR=5.5					
ARMA	Armidale	35.48 240	P	P	23 28 16.5	-0.4
ARMA			IAmb	IAmb	23 28 22.0	
	comp=Z,18nm,1.2s					
PATS	Pohnpei	36.59 306	P	P	23 28 25.7	-0.8
CTA	Charters Tower	39.06 258	LR	LR	23 43 50.9	
	comp=Z,200nm,18.6s,baz=86,slow=35					
CTAO	Charters Tower	39.06 258	P	P	23 28 45.9	-1.5
PMG	Port Moresby	39.58 275	LR	LR	23 42 41.4	
	comp=Z,122nm,20.0s,baz=328,slow=33					
H11S2	WAKE ISLAND Hy	39.89 329	T	T	00 11 12.2	
	baz=149,slow=75,SNR=14					
H11S3	WAKE ISLAND Hy	39.90 329	T	T	00 10 46.7	
	baz=149,slow=75,SNR=9.0					
H11S1	WAKE ISLAND Hy	39.91 329	T	T	00 11 13.6	
	baz=149,slow=75,SNR=11					
CMSA	Cobar Meteorol	40.70 240	P	P	23 28 59.9	-1.0
	baz=41,SNR=12					
MTSU	Mount Surprise	40.97 261	P	P	23 29 03.9	+0.6
	baz=41,SNR=8.0					
QLP	Quilpie	41.19 248	P	P	23 29 03.7	-1.2
	baz=41,SNR=6.8					
TOO	Toolangi	42.47 232	P	P	23 29 14.8	-0.6
TOO			IAmb	IAmb	23 29 27.6	
	comp=Z,14nm,1.1s					
COEN	Coen	42.52 267	P	P	23 29 14.8	-1.2
TAU	Tasmania Unive	43.19 224	P	P	23 29 19.8	-1.3
TAU			IAmb	IAmb	23 29 34.9	
	comp=Z,56nm,1.3s					
STKA	Stephens Creek	44.19 241	P	P	23 29 28.2	-1.1
	comp=Z,12nm,1.0s,baz=72,slow=6.7,SNR=12					
STKA	Stephens Creek	44.19 241	P	P	23 29 28.7	-0.5
	baz=44,SNR=8.9					
STKA	Stephens Creek	44.19 241	P	P	23 29 28.7	-0.5
HTT	Hallett	46.67 239	P	P	23 29 48.5	-0.5
	baz=47,SNR=3.6					
BBOO	Buckleboo	48.96 240	P	P	23 30 06.3	-0.4
	baz=49,SNR=12					
BBOO	Buckleboo	48.96 240	P	P	23 30 05.9	-0.8
BBOO			IAmb	IAmb	23 30 07.9	
	comp=Z,11nm,0.7s					
WB0	Warramunga Arr	50.22 258	P	P	23 30 14.9	-1.6
WB0			IAmb	IAmb	23 30 17.1	
	comp=Z,8.6nm,0.8s					
WB2	Warramunga Arr	50.24 257	P	P	23 30 15.4	-1.3
WB2			IAmb	IAmb	23 30 17.4	
	comp=Z,6.9nm,0.8s					
WRA	Warramunga Arr	50.25 257	P	P	23 30 15.1	-1.7
	comp=Z,4.5nm,0.7s,baz=91,slow=6.6,SNR=34					
WRA			LR	LR	23 50 12.4	
	comp=Z,273nm,19.6s,baz=105,slow=35					
WRA	Warramunga Arr	50.25 257	P	P	23 30 14.9	-1.9
AS31	Alice Springs	50.45 252	P	P	23 30 17.2	-1.1
ASAR	Alice Springs	50.45 252	P	P	23 30 17.1	-1.1
	comp=Z,13nm,0.6s,baz=87,slow=8.1,SNR=123					
ASAR			LR	LR	23 50 54.7	
	comp=Z,239nm,18.1s,baz=106,slow=35					
KDU	Kakadu	53.01 266	P	P	23 30 35.2	-2.1
	baz=53,SNR=13					
MTN	Manton Dam	54.26 266	P	P	23 30 46.0	-0.6
	baz=54,SNR=7.6					
WRKA	Warakurna	55.50 250	P	P	23 30 54.9	-0.7
	baz=56,SNR=34					
FORT	Forrest	55.62 244	P	P	23 30 55.1	-1.1
FORT			IAmb	IAmb	23 30 56.1	
	comp=Z,18nm,0.9s					
KNRA	Kununurra	56.04 262	P	P	23 31 00.1	+0.7
	baz=56,SNR=3.4					
KNRA	Kununurra	56.04 262	P	P	23 30 58.6	-0.8
FITZ	Fitzroy Crossi	58.64 258	LR	LR	23 56 30.7	
	comp=Z,155nm,18.0s,baz=112,slow=36					
FITZ	Fitzroy Crossi	58.64 258	P	P	23 31 18.0	+0.2
	baz=59,SNR=4.1					
RPN	Rapa Nui	59.47 112	LR	LR	23 50 44.9	
	comp=Z,44nm,21.6s,baz=258,slow=30					
VNDA	Vanda	62.71 186	P	P	23 31 45.8	+1.2
VNDA			IAmb	IAmb	23 31 52.5	
	comp=Z,11nm,1.5s					
MBWA	Marble Bar	63.73 254	P	P	23 31 51.9	-0.4
MEEK	Meekatharra	64.08 248	P	P	23 31 54.3	-0.3
	baz=64,SNR=4.7					
KLBR	Kellerberrin	64.42 242	P	P	23 31 56.7	0.0
	baz=64,SNR=7.7					
GIRL	Giralia	68.55 252	P	P	23 32 22.8	-0.5
SHEM	Shemya Is, Ala	69.51 352	LR	LR	23 56 55.1	
	comp=Z,79nm,19.1s,baz=1.0,slow=31					
MJAR	Matsushiro Arr	69.87 320	LR	LR	23 56 53.6	
	comp=Z,58nm,21.0s,baz=158,slow=31					
ASAJ	Asahikawa	72.47 328	LR	LR	23 56 41.0	
	comp=Z,21nm,21.8s,baz=126,slow=29					
LPIG	La Paz	72.92 58	LR	LR	23 56 42.2	
	comp=Z,86nm,19.3s,baz=350,slow=29					
PFO	Pinyon Flats O	72.99 47	LR	LR	23 58 39.8	
	comp=Z,96nm,20.6s,baz=296,slow=31					
PEA0B	Petropavlovsk-	73.50 342	P	P	23 32 52.9	+0.4
PETK	Petropavlovsk-	73.50 342	P	P	23 32 54.8	+2.2
	comp=Z,5.5nm,0.7s,baz=120,slow=8.8,SNR=5.6					
PETK			LR	LR	23 59 37.3	
	comp=Z,30nm,22.0s,baz=101,slow=31					
PETK	Petropavlovsk-	73.50 342	P	P	23 32 53.6	+1.1
YBH	Yreka Blue Hor	73.83 37	P	P	23 32 57.2	+2.3
	comp=Z,3.5nm,0.9s,baz=230,slow=4.9,SNR=5.4					
YBH			LR	LR	23 59 06.9	
	comp=Z,110nm,20.0s,baz=269,slow=31					
QSPA	South Pole Qui	73.92 180	P	P	23 32 57.6	+2.4
QSPA			IAmb	IAmb	23 32 58.4	
	comp=Z,8.3nm,0.9s					
NVAR	Mina Array Bea	74.48 42	LR	LR	23 59 29.1	
	comp=Z,106nm,18.8s,baz=286,slow=31					
UGM	Wanagama	75.11 266	P	P	23 33 03.1	+0.3
YULB	Yu-li	75.44 300	P	P	23 33 03.9	-0.6
SSLB	Suanglung	75.89 300	P	P	23 33 06.7	-0.4
SSLB			IAmb	IAmb	23 33 17.6	
	comp=Z,9.8nm,1.0s					
KSRS	Korea Array	77.09 315	LR	LR	00 02 27.3	
	comp=Z,24nm,20.4s,baz=120,slow=32					
ELK	Elko	77.74 41	P	P	23 33 20.4	+2.9
	comp=Z,1.4nm,0.7s,baz=269,slow=5.9,SNR=4.2					
ELK			LR	LR	00 01 00.9	
	comp=Z,124nm,20.2s,baz=292,slow=31					
LEM	Lembang	78.17 266	LR	LR	00 08 23.9	
	comp=Z,41nm,18.2s,baz=176,slow=36					
USRK	Ussuriysk Ar.	78.32 323	LR	LR	00 04 36.5	
	comp=Z,80nm,18.9s,baz=77,slow=33					
TTA	Tatalina	79.89 8	P	P	23 33 27.3	-1.3
SCM	Sheep Creek Mo	80.29 12	P	P	23 33 29.8	-0.9
TXAR	Lajitas Array	80.53 56	P	P	23 33 35.8	+2.9
	comp=Z,0.9nm,1.1s,baz=190,slow=6.2,SNR=5.1					
TXAR			LR	LR	00 04 02.3	
	comp=Z,64nm,18.8s,baz=270,slow=32					
TXAR	Lajitas Array	80.53 56	P	P	23 33 29.6	-3.2
GLB	Gilahina Butte	80.69 14	P	P	23 33 32.6	-0.3
GLB			IAmb	IAmb	23 33 35.5	
	comp=Z,28nm,1.4s					
ANMO	Albuquerque	80.82 50	P	P	23 33 37.5	+3.1
	comp=Z,0.7nm,0.4s,baz=192,slow=9.0,SNR=4.0					
ANMO			LR	LR	00 04 13.8	
	comp=Z,82nm,19.7s,baz=297,slow=32					
KLR	Kul'dur	81.45 327	LR	LR	00 06 42.4	
	comp=Z,35nm,19.2s,baz=92,slow=34					
CN2	Changchun	82.02 320	*e*P	P	23 33 43.0	+2.7
CN2			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PDAR	Pinedale Array	82.42 42	P	P	23 33 44.5	+1.8
	comp=Z,1.6nm,0.7s,baz=216,slow=3.1,SNR=12					
PDAR			LR	LR	00 05 47.0	
	comp=Z,65nm,18.3s,baz=299,slow=32					
WRH	Wood River Hil	82.56 11	P	P	23 33 41.8	-0.8
BCAR	Beaver Creek A	82.57 14	P	P	23 33 43.0	+0.2
CCB	Clear Creek Bu	82.77 11	P	P	23 33 43.8	+0.1
CCB			IAmb	IAmb	23 33 46.4	
	comp=Z,9.5nm,0.9s					
ILAR	Eielson Array	83.05 11	P	P	23 33 46.6	+1.5
	comp=Z,1.6nm,0.8s,baz=215,slow=5.8,SNR=10					
ILAR	Eielson Array	83.05 11	P	P	23 33 45.1	-0.1
IMAR	Indian Mountai	83.11 8	P	P	23 33 45.6	+0.1
SEY	Seymchan	83.38 345	P	P	23 33 48.6	+1.8
	comp=Z,6.9nm,0.9s,baz=140,slow=6.5,SNR=18					
CMIG	Matias Romero	83.57 70	LR	LR	00 05 18.6	
	comp=Z,52nm,18.2s,baz=217,slow=32					
BILL	Bilibino	85.31 352	P	P	23 33 56.2	-0.4
BILL			IAmb	IAmb	23 33 59.7	
	comp=Z,12nm,1.3s					
BJI	Beijing	86.40 313	P	P	23 34 05.3	+2.7
BJI			pmax	pmax		
	comp=Z,6.0nm,1.1s					
APG	El Apazote	86.96 74	LR	LR	00 05 54.6	
	comp=Z,50nm,18.0s,baz=264,slow=31					
XLT	XiLinHaoTe	88.06 317	*e*P	P	23 34 10.3	-0.4
XLT			pmax	pmax		
	comp=Z,8.0nm,1.1s					
XLT			pmax	pmax		
	comp=Z,110nm,5.6s					
PLCA	Paso Flores	88.59 132	LR	LR	00 05 19.7	
	comp=Z,89nm,19.4s,baz=248,slow=30					
INK	Inuvik	88.83 14	P	P	23 34 14.9	+1.2
	comp=Z,2.4nm,1.1s,baz=228,slow=5.0,SNR=4.2					
HHC	Hu-ho-hao-te	89.95 313	*e*P	P	23 34 20.3	+0.6
HHC			pmax	pmax		
	comp=Z,13nm,1.0s					
HHC			pmax	pmax		
	comp=Z,150nm,7.4s					
YAK	Yakutsk	90.02 337	LR	LR	00 10 17.5	
	comp=Z,25nm,20.5s,baz=82,slow=33					
YKA	Yellowknife Ar	90.53 23	P	P	23 34 23.0	+1.3
	comp=Z,0.8nm,0.9s,baz=232,slow=4.5,SNR=7.0					
ATAH	Atahualpa	92.23 98	LR	LR	00 07 59.3	
	comp=Z,89nm,18.1s,baz=255,slow=30					
CD2	Chengdu	92.69 301	P	P	23 34 33.0	+0.4
PZH	PanZhiHua	93.13 297	P	P	23 34 35.8	+1.0
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,50nm,4.0s					
CMAR	Chiang Mai Arr	93.40 288	P	P	23 34 38.2	+2.2
	comp=Z,2.0nm,0.6s,baz=100,slow=2.5,SNR=11					
CMAR			LR	LR	00 16 41.9	
	comp=Z,15nm,18.0s,baz=105,slow=36					
CMAR	Chiang Mai Arr	93.40 288	P	P	23 34 36.8	+0.7
ULM	Lac du Bonnet	94.13 39	LR	LR	00 10 50.3	
	comp=Z,116nm,19.7s,baz=330,slow=32					
SONM	Songino Array	95.78 318	P	P	23 34 48.7	+2.2
	comp=Z,0.5nm,0.7s,baz=116,slow=5.1,SNR=4.4					
TIXI	Tiksi	95.86 344	LR	LR	00 14 18.2	
	comp=Z,32nm,20.5s,baz=252,slow=33					
LVC	Limon Verde	96.17 116	LR	LR	00 08 30.1	
	comp=Z,41nm,20.5s,baz=232,slow=29					
LPAZ	La Paz	99.01 110	LR	LR	00 13 20.6	
	comp=Z,30nm,18.2s,baz=223,slow=31					
ROSC	El Rosal	99.45 88	LR	LR	00 12 54.2	
	comp=Z,57nm,18.3s,baz=214,slow=31					
ARCES	ARCESS Array B	125.41 352	PKP	PKiKP	23 40 23.2	+2.2
	comp=Z,3.4nm,1.0s,baz=51,slow=6.4,SNR=4.5					
BCA	Borcka	141.10 317	⇓P	PKiKP	23 40 52.6	-1.0
OSTC	Ostas	144.90 350	*e*PKP	PKiKP	23 40 58.9	-2.2
DPC	Dobruska-Polom	145.08 350	*e*PKP	PKiKP	23 40 59.2	-2.3
DPC			*ex*	x	23 41 10.3	
KRLC	Kraliky	145.27 349	*e*PKP	PKPdf	23 40 59.0	+1.0
CRVS	Cervenica-Dubn	145.30 343	*e*PKP	PKiKP	23 41 00.3	-1.6
MORC	Moravsky Berou	145.41 348	⇓P	PKiKP	23 41 00.4	-1.8
MORC	Moravsky Berou	145.41 348	*e*PKP	PKPab	23 40 59.5	+1.2
LANS	Liptovska Anna	145.58 346	*e*PKP	PKiKP	23 41 01.7	-0.9
PRU	Pruhonice	145.71 352	*e*PKP	PKiKP	23 41 01.2	-1.5
VRAC	Vranov	146.04 349	⇑P	PKiKP	23 41 02.7	-0.7
VRAC	Vranov	146.04 349	*e*PKP	PKiKP	23 41 01.7	-1.8
JAVC	Velka Javorina	146.26 348	*e*PKP	PKiKP	23 41 03.5	-0.5
KRUC	Moravsky	146.31 349	*e*PKP	PKiKP	23 41 02.7	-1.3
VYHS	Vyhne	146.35 346	*e*PKP	PKiKP	23 41 03.0	-1.1
KOLL	Kolacno	146.37 347	*e*PKP	PKiKP	23 41 03.8	-0.3
TIRR	Tirgusor	146.56 332	⇑P	PKPbc	23 41 00.9	-0.8
SMOL	Smolenice	146.64 348	*e*PKP	PKiKP	23 41 04.3	-0.4
KHC	Kasperske Hory	146.68 352	*e*PKP	PKiKP	23 41 04.3	-0.5
KHC			*ex*	x	23 41 13.6	
MODS	Modra-Piesok	146.80 348	*e*PKP	PKiKP	23 41 05.8	+0.7
GERES	GERESS Array B	146.94 352	PKPbc	PKiKP	23 41 04.7	-0.7
	comp=Z,2.1nm,0.8s,baz=31,slow=3.1,SNR=13					
BRTR	Keskin Array B	147.09 321	PKPbc	PKiKP	23 41 05.8	-0.3
	comp=Z,6.9nm,1.0s,baz=130,slow=2.1,SNR=16					
CONA	Conrad Observa	147.50 349	*e*P	PKiKP	23 41 06.8	+0.2
	comp=Z,9.9nm,1.1s					
MOA	Molln	147.84 351	*e*P	PKPab	23 41 07.1	-0.5
	comp=Z,8.9nm,1.3s					
RETA	Reutte	148.60 355	*e*P	PKiKP	23 41 09.1	+0.2
	comp=Z,11nm,1.3s					
HERR	Herculane	148.60 339	⇓P	PKiKP	23 41 07.7	-1.1
WATA	Walderalm	148.68 354	*e*P	PKPab	23 41 10.2	-1.0
	comp=Z,12nm,1.7s					
MOTA	Moosalm	148.71 355	*e*P	PKPab	23 41 10.3	-1.0
	comp=Z,8.3nm,1.1s					
KBA	Koelnbreinsper	148.73 352	*e*P	PKiKP	23 41 09.1	-0.1
	comp=Z,5.6nm,1.4s					
WTTA	Wattenberg	148.74 354	*e*P	PKiKP	23 41 09.5	+0.1
	comp=Z,7.4nm,0.7s					
SOKA	Soboth	148.85 350	*e*P	PKiKP	23 41 09.9	+0.5
	comp=Z,11nm,1.4s					
FETA	Feichten	149.06 355	*e*P	PKPab	23 41 11.1	-1.7
	comp=Z,11nm,1.3s					
OBKA	Obir	149.10 350	*e*P	PKiKP	23 41 09.5	-0.4
	comp=Z,4.9nm,1.3s					
ABTA	Abfaltersbach	149.16 353	*e*P	PKiKP	23 41 10.1	+0.1
	comp=Z,12nm,1.4s					
BOVS	Bovan	149.94 339	⇑P	PKiKP	23 41 11.6	-0.1
VTS	Vitosha	150.25 336	⇑P	PKiKP	23 41 13.2	+0.7

WEL ***27*** *23:24:00, 43.°55S×172.°51E, h5km, ML4.1, Mw3.9, Moment Tensor Solution. s6 Moment tensor: Scale 10^{14} Nm; M_{rr}2.99; $M_{\theta\theta}$2.70; $M_{\phi\phi}$-5.69; $M_{r\theta}$4.25; $M_{\theta\phi}$-6.85; $M_{\phi r}$0.18; Fault plane solution: $M_0$9.41000×10^{14} NP1: ϕ_s168.00000°, δ59.00000°, λ17.00000°. NP2:ϕ_s69.00000°, δ75.00000°, λ148.00000°. Principal axes: T -99.4500, Plg33.0000°, Azm25.0000°; N 88.7800, Plg55.0000°, Azm226.0000°; P 10.6700, Plg10.0000°, Azm121.0000°;*

NEIC ***27*** *23:24:40.9±0.8, 43.°60S±0.°06×172.°67E±0.°07, h13km±7km Error ellipse: s-maj=9.8km s-min=5.3km az=141.0*

WEL ***27*** *23:24:41.9±0.3, 44.°S±2.°×17.°3E±.°, h6km±2km, M4.1/13, ML4.3/13, MLv4.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=155.1*

NEIC ***27*** *23:24:41.9, 43.°55S×172.°51E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.33; $M_{\theta\theta}$1.20; $M_{\phi\phi}$-1.53; $M_{r\theta}$2.42; $M_{\theta\phi}$-7.95; $M_{\phi r}$0.97; Fault plane solution: $M_0$8.48000×10^{14} NP1:ϕ_s265.49000°, δ86.57000°, λ-163.17000°. NP2:ϕ_s174.45000°, δ73.20000°, λ-3.59000°. Principal axes: T 8.1011, Plg9.0000°, Azm39.0000°; N 0.7140, Plg73.0000°, Azm277.0000°; P -8.8151, Plg14.0000°, Azm131.0000°;*

NOU ***27*** *23:24:43.5, 43.°57S×172.°56E, h45km, MLv4.7/8, South Island, New Zealand*

ISC 27 23:24:42.1±0.8, **43.°55S**±0.°03×**172.°52E**±0.°02, **h16**km±7km, **n109**, σ1**°02**/125, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.18**	**148**	P	**Pg**	**23 24 46.4**	**-0.2**
MQZ				S	**Sg**	**23 24 49.5**	**+0.1**
MQZ	**McQueen's Vall**	**0.18**	**148**		**Pg**	**23 24 46.3**	**-0.2**
MQZ				Sg	**Sg**	**23 24 49.6**	**+0.1**
RACZ	**Rakaia**	**0.33**	**238**	P	**Pg**	**23 24 49.0**	**0.0**
RACZ				S	**Sb**	**23 24 53.9**	**-0.8**
AMCZ	**Amberley**	**0.39**	**14**	P	**Pb**	**23 24 50.5**	**-0.1**
AMCZ				S	**Sb**	**23 24 56.9**	**+0.5**
OXZ	**Oxford**	**0.42**	**303**	P	**Pg**	**23 24 50.0**	**-0.6**
OXZ				S	**Sg**	**23 24 56.2**	**-0.2**
OXZ	**Oxford**	**0.42**	**303**		**Pg**	**23 24 49.9**	**-0.7**
OXZ				Sg	**Sg**	**23 24 56.4**	**0.0**
AKCZ	**Akaroa Harbour**	**0.42**	**139**	P	**Pg**	**23 24 50.9**	**+0.2**
OKCZ	**Okains Bay**	**0.42**	**114**	P	**Pg**	**23 24 51.2**	**+0.5**
OKCZ				S	**Sb**	**23 24 58.0**	**+0.5**
WACZ	**Wakanui South**	**0.63**	**232**	P	**Pb**	**23 24 54.8**	**0.0**
WACZ				S	**Sb**	**23 25 04.0**	**+0.6**
GVZ	**Greta Valley S**	**0.69**	**33**	P	**Pb**	**23 24 56.2**	**+0.3**
GVZ				S	**Sb**	**23 25 07.1**	**+1.8**
MHCZ	**Mount Hutt**	**0.70**	**272**	P	**Pb**	**23 24 55.6**	**-0.4**
MHCZ				S	**Sb**	**23 25 05.5**	**+0.1**
LTZ	**Lake Taylor**	**0.79**	**346**	P	**Pb**	**23 24 57.6**	**0.0**
LTZ				S	**Sb**	**23 25 08.3**	**+0.1**
LTZ	**Lake Taylor**	**0.79**	**346**		**Pb**	**23 24 57.6**	**0.0**
ARCZ	**Arundel**	**1.05**	**248**	P	**Pg**	**23 25 01.5**	**-1.0**
RPZ	**Rata Peaks**	**1.08**	**261**	P	**Pg**	**23 25 02.0**	**-1.0**
RPZ	**Rata Peaks**	**1.08**	**261**		**Pg**	**23 25 01.9**	**-1.0**
RPZ	**Rata Peaks**	**1.08**	**261**	P	**Pb**	**23 25 02.6**	**+0.1**
INZ	**Inchbonnie**	**1.15**	**316**	P	**Pn**	**23 25 04.1**	**+0.6**
INZ				S	**Sb**	**23 25 19.2**	**+1.0**
KHZ	**Kahutara**	**1.36**	**34**	P	**Pn**	**23 25 05.7**	**-0.7**
KHZ				S	**Sb**	**23 25 24.2**	**-0.1**
KHZ	**Kahutara**	**1.36**	**34**		**Pn**	**23 25 05.6**	**-0.8**
KHZ	**Kahutara**	**1.36**	**34**	P	**Pn**	**23 25 05.8**	**-0.7**
TMZ	**Timaru**	**1.37**	**232**	P	**Pn**	**23 25 06.3**	**-0.5**
TMZ				S	**Sg**	**23 25 25.8**	**-0.7**
WVZ	**Waitaha Valley**	**1.39**	**290**	P	**Pn**	**23 25 07.6**	**+0.7**
WVZ				S	**Sb**	**23 25 24.8**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**1.62**	**278**	P	**Pn**	**23 25 10.4**	**+0.3**
GCSZ				S	**Sn**	**23 25 31.0**	**+0.4**
THZ	**Tophouse**	**1.81**	**9**	P	**Pn**	**23 25 12.1**	**-0.7**
THZ	**Tophouse**	**1.81**	**9**		**Pn**	**23 25 12.1**	**-0.7**
LBZ	**Lake Benmore**	**1.88**	**243**	P	**Pn**	**23 25 13.6**	**-0.1**
LBZ	**Lake Benmore**	**1.88**	**243**		**Pn**	**23 25 14.4**	**+0.6**
DSZ	**Denniston Nort**	**1.89**	**343**	P	**Pn**	**23 25 11.5**	**-2.3**
FOZ	**Fox Glacier**	**1.97**	**270**	P	**Pn**	**23 25 16.0**	**+1.1**
FOZ	**Fox Glacier**	**1.97**	**270**		**Pn**	**23 25 15.4**	**+0.5**
ODZ	**Otahua Downs**	**2.01**	**222**	P	**Pn**	**23 25 15.2**	**-0.3**
ODZ	**Otahua Downs**	**2.01**	**222**		**Pn**	**23 25 15.1**	**-0.3**
ODZ	**Otahua Downs**	**2.01**	**222**	P	**Pn**	**23 25 14.9**	**-0.6**
BSWZ	**Blackbirch Sta**	**2.09**	**29**	P	**Pn**	**23 25 16.2**	**-0.4**
BSWZ	**Blackbirch Sta**	**2.09**	**29**		**Pn**	**23 25 16.1**	**-0.4**
MRNZ	**Matariki Terra**	**2.16**	**5**	P	**Pn**	**23 25 17.7**	**+0.2**
TUWZ	**Tuamarina**	**2.37**	**27**	P	**Pn**	**23 25 19.5**	**-0.8**
TUWZ	**Tuamarina**	**2.37**	**27**		**Pn**	**23 25 19.3**	**-1.1**
NNZ	**Nelson**	**2.42**	**15**	P	**Pn**	**23 25 21.0**	**-0.1**
NNZ	**Nelson**	**2.42**	**15**		**Pn**	**23 25 20.5**	**-0.5**
TKNZ	**Takaka Hill**	**2.54**	**7**	P	**Pn**	**23 25 22.8**	**0.0**
TCW	**Tory Channel**	**2.68**	**30**	P	**Pn**	**23 25 23.8**	**-0.8**
HHSZ	**Highcliff Hill**	**2.70**	**210**	P	**Pn**	**23 25 25.7**	**+0.7**
QRZ	**Quartz Range**	**2.73**	**0**	P	**Pn**	**23 25 24.7**	**-0.7**
QRZ	**Quartz Range**	**2.73**	**0**		**Pn**	**23 25 24.6**	**-0.7**
QRZ	**Quartz Range**	**2.73**	**0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.25**	**165**	P	P	23 52 40.0	-0.7
	0.6nm,0.7s,baz=345,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**28.74**	**168**	P	P	23 53 13.6	+1.5
	0.2nm,0.3s,baz=347,slow=11,SNR=1.4						
MKAR	**Makanchi Array**	**57.44**	**324**	P	P	23 57 03.4	-0.1
	0.5nm,0.6s,baz=131,slow=7.5,SNR=5.8						
MKAR				LR	LR	00 23 01.3	
	comp=Z,52nm,19.2s,baz=351,slow=37						
AKTO	**Aktyubinsk**	**73.63**	**321**	LR	LR	00 33 10.6	
	comp=Z,75nm,19.1s,baz=330,slow=38						

IDC 27 23:51:54.3±5.2,15°.10S×173°.08W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.6/33,mbtmp3.9/3,ML4.6/1,MS3.5/7, Ms1 3.5/7,ms1mx3.2/63,Error ellipse: s-maj=288.2km s-min=23.3km az=147.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.73**	**47**	Pn	Pn	23 52 24.6	-1.1
	39nm,0.3s,baz=90,slow=4.4,SNR=11						
AFI				LR	LR	23 52 40.9	
	comp=Z,208nm,20.2s,baz=122,slow=27						
AFI				Sn	Sn	23 52 43.0	-5.5
	99nm,0.3s,baz=62,slow=23,SNR=5.4						
MSVF	**Nonsavu**	**8.91**	**252**	Pn	Pn	23 54 03.3	-1.2
	0.2nm,0.3s,baz=127,slow=17,SNR=4.3						
RAR	**Rarotonga**	**14.03**	**118**	LR	LR	23 59 26.5	
	comp=Z,106nm,21.6s,baz=296,slow=32						
DZM	**Mont Dzumac**	**20.60**	**247**	eLR	LR	00 01 06.1	
	comp=Z,177nm,24.4s						
PPT	**Papeete**	**22.69**	**99**	LR	LR	00 03 26.5	
	comp=Z,62nm,20.5s,baz=238,slow=30						
PPT2	**Papeete2**	**22.69**	**100**	eLR	LR	00 02 14.0	
	comp=Z,137nm,24.8s						
HNR	**Honiara**	**26.94**	**279**	LR	LR	00 06 41.9	
	comp=Z,98nm,19.6s,baz=16,slow=33						
TAOE	**Nuku Hiva Isla**	**32.78**	**83**	eLR	LR	00 06 47.8	
	comp=Z,165nm,24.8s						
CTA	**Charters Tower**	**39.01**	**257**	LR	LR	00 13 25.5	
	comp=Z,87nm,18.7s,baz=86,slow=33						
WRA	**Warramunga Arr**	**50.21**	**256**	P	P	00 00 52.2	-0.3
	0.5nm,0.4s,baz=90,slow=8.3,SNR=14						
WRA				LR	LR	00 20 29.3	
	comp=Z,67nm,19.8s,baz=242,slow=34						
ASAR	**Alice Springs**	**50.50**	**252**	P	P	00 00 54.1	-0.5
	2.2nm,0.7s,baz=87,slow=8.6,SNR=5.2						
FITZ	**Fitzroy Crossi**	**58.57**	**258**	LR	LR	00 25 44.2	
	comp=Z,77nm,18.2s,baz=172,slow=35						
JTS	**Las Juntas de**	**90.85**	**80**	LR	LR	00 35 54.2	
	comp=Z,39nm,18.7s,slow=29						
BRTR	**Keskin Array B**	**146.11**	**322**	PKPbc	PKPab	00 11 37.8	+0.2
	2.2nm,1.1s,baz=60,slow=1.4,SNR=5.3						

*IDC **28** 00:09:50.7±1.2,4°.28N×127°.11E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.5/38,mbtmp3.8/5,Error ellipse: s-maj=115.5km s-min=19.9km az=71.0*
*NEIC **28** 00:09:52.3±2.4,4°.19N±0°.07×126°.9E±0°.1,h10km±2km, mb4.3/8,Error ellipse: s-maj=25.4km s-min=6.2km az=64.0*
ISC 28 00:09:56.0±0.8,4°.06N±0°.09×126°.9E±0°.2,h36km,n18, σ1§40/18,mb4.0/7,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.41**	**329**	‖eP	**Pn**	**00 10 49.4**	**+2.6**
TOLI2	**Tolitoli**	**6.73**	**244**	Pn	**Pn**	**00 11 33.8**	**+1.4**
KNRA	**Kununurra**	**19.70**	**175**	P	**Pn**	**00 14 23.3**	**-0.7**
KNRA				IAmb	IAmb	00 14 40.6	
	comp=Z,28nm,1.3s						
UBPT	**Khong Chiam**	**23.81**	**299**	P	**P**	**00 15 04.6**	**-1.1**
UBPT				IAmb	IAmb	00 15 06.8	
	comp=Z,11nm,1.2s						
WB0	**Warramunga Arr**	**24.81**	**163**	P	**P**	**00 15 15.0**	**0.0**
WB0				IAmb	IAmb	00 15 17.3	
	comp=Z,9.4nm,1.3s						
WRA	**Warramunga Arr**	**24.96**	**163**	P	**P**	**00 15 15.8**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=345,slow=11,SNR=13						
WRA	**Warramunga Arr**	**24.96**	**163**	P	**P**	**00 15 15.4**	**-0.9**
ASAR	**Alice Springs**	**28.40**	**166**	P	**P**	**00 15 50.5**	**+3.1**
	comp=Z,0.3nm,0.4s,baz=337,slow=9.1,SNR=4.8						
SONM	**Songino Array**	**47.02**	**341**	P	**P**	**00 18 23.8**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=157,slow=8.3,SNR=5.4						
SONM	**Songino Array**	**47.02**	**341**	P	**P**	**00 18 24.2**	**+0.2**
SONM				IAmb	IAmb	00 18 50.0	
	comp=Z,2.1nm,1.4s						
MK31	**Makanchi Array**	**57.35**	**325**	P	**P**	**00 19 39.7**	**-1.0**
MKAR	**Makanchi Array**	**57.35**	**325**	P	**P**	**00 19 39.7**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=127,slow=8.2,SNR=16						
MKAR	**Makanchi Array**	**57.35**	**325**	P	**P**	**00 19 39.5**	**-1.2**
KURK	**Kurchatov**	**61.53**	**327**	P	**P**	**00 20 08.2**	**-1.1**
NRIK	**Noril'sk**	**70.14**	**346**	P	**P**	**00 21 04.4**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=117,slow=6.8,SNR=4.9						
ABKAR	**Akbulak array**	**71.97**	**321**	P	**P**	**00 21 14.2**	**-1.7**
H24K	**Noodor Dome**	**84.38**	**24**	P	**P**	**00 22 24.6**	**+0.2**
BMAR	**Burnt Mountain**	**85.73**	**23**	P	**P**	**00 22 31.4**	**+0.3**

*TUL **28** 00:19:04.1±1.2,36°.48N±0°.01×98°.231W±0°.008,h7km±6km, ML2.6,ML2.5/46(NEIC),Error ellipse: s-maj=1.9km s-min=0.8km az=200.0*
NEIC 28 00:19:04.1±0.8,36°.47N±0°.01×98°.23W±0°.02,h13km±6km, Error ellipse: s-maj=2.0km s-min=1.9km az=200.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.20**	**80**	Pg	Pg	00 19 08.4	-0.1
CROK				Sg	Sg	00 19 11.6	+0.1
CROK				IAML		00 19 11.8	
	comp=N,797nm,0.2s						
OK035	**E0210 Rd and N**	**0.46**	**302**	Pg	Pg	00 19 13.0	-0.1
OK035				Sg	Sg	00 19 19.5	+0.3
OK035				IAML		00 19 19.7	
	comp=N,432nm,0.4s						
OK035				IAML		00 19 19.7	
	comp=N,568nm,0.3s						
GC02	**Grant County #**	**0.48**	**38**	Pg	Pg	00 19 13.5	-0.1
GC02				Sg	Sg	00 19 20.2	+0.2
U32A	**Winter Ranch,**	**0.63**	**262**	Pg	Pg	00 19 16.0	-0.4
U32A				Sg	Sg	00 19 24.8	+0.1
U32A				IAML		00 19 25.9	
	comp=N,224nm,0.1s						
KAN10	**Anthony SW Sta**	**0.66**	**9**	Pg	Pg	00 19 16.7	-0.2
KAN10				Sg	Sg	00 19 26.0	+0.2
KAN10				IAML		00 19 26.2	
	comp=E,257nm,0.2s						
KAN17	**Caldwell West**	**0.68**	**33**		Pg	00 19 17.0	-0.4
KAN17				Sg	Sg	00 19 26.4	-0.1
KAN17				IAML		00 19 35.7	
	comp=N,170nm,0.2s						
KAN05	**Bluff City Nor**	**0.70**	**24**	Pg	Pg	00 19 17.5	-0.1
KAN05				Sg	Sg	00 19 26.8	0.0
KAN05				IAML		00 19 27.3	
	comp=E,299nm,0.2s						
KAN05				IAML		00 19 28.2	
	comp=N,239nm,0.2s						
KAN01	**Argonia South**	**0.78**	**29**	Pg	Pg	00 19 18.7	-0.5
KAN01				IAML		00 19 34.0	
	comp=E,122nm,0.1s						
KAN08	**Anthony NE Sta**	**0.78**	**15**	Pg	Pg	00 19 19.0	-0.3
KAN08				IAML		00 19 29.8	
	comp=E,173nm,0.2s						
KAN08				IAML		00 19 31.0	
	comp=N,155nm,0.1s						
KAN13	**South Haven SW**	**0.81**	**48**	Pg	Pg	00 19 19.3	-0.4
KAN06	**Argonia West S**	**0.83**	**21**	Pg	Pg	00 19 19.8	-0.3
KAN06				IAML		00 19 31.2	
	comp=N,183nm,0.2s						
KAN06				IAML		00 19 31.3	
	comp=E,200nm,0.1s						
KAN12	**Harper NE Stat**	**0.85**	**12**		Pg	00 19 20.1	-0.3
BLOK	**Blackwell**	**0.86**	**70**	Pg	Pg	00 19 20.4	-0.4
BLOK				IAML		00 19 37.5	
	comp=N,156nm,0.2s						
BLOK				IAML		00 19 39.4	
	comp=E,197nm,0.2s						
OK029	**Liberty Lake**	**0.92**	**137**	Pg	Pg	00 19 21.3	-0.4
OK029				IAML		00 19 34.1	
	comp=E,116nm,0.3s						
OK029				IAML		00 19 34.2	
	comp=E,105nm,0.2s						
BCOK	**Bluff Creek, N**	**0.95**	**148**	Pg	Pg	00 19 21.9	-0.5
OK033	**Mehan**	**1.12**	**112**	Pg	Pb	00 19 25.2	-0.2
OK033				IAML		00 19 42.2	
	comp=E,131nm,0.2s						
OK025	**Westminster Rd**	**1.14**	**141**	Pg	Pb	00 19 25.5	-0.2
OK025				IAML		00 19 45.9	
	comp=E,152nm,0.3s						
OKCFA	**Oklahoma City**	**1.23**	**149**	Pn	Pn	00 19 26.7	-0.2
OK031	**S. Brethren Rd**	**1.23**	**114**	Pn	Pn	00 19 27.1	0.0
QUOK	**Quay**	**1.26**	**103**	Pn	Pn	00 19 27.5	+0.1
OK030	**Cody Creek RV**	**1.29**	**114**		Pb	00 19 28.1	-0.1
OK034	**N. Norfolk Rd.**	**1.31**	**110**	Pn	Pn	00 19 27.9	-0.2
OK034				IAML		00 19 47.4	
	comp=E,121nm,0.1s						
FNO	**Franklin**	**1.38**	**151**	Pn	Pn	00 19 29.4	+0.3
T35A	**Sooner Cattle**	**1.45**	**72**		Pb	00 19 30.8	-0.1
W35A	**Tecumseh**	**1.71**	**140**	Pn	Pn	00 19 34.5	+0.9
WMOK	**Wichita Mounta**	**1.79**	**195**	Pn	Pn	00 19 35.6	+1.0
X34A	**Smith Ranch, M**	**1.89**	**170**	Pn	Pb	00 19 37.7	-0.8
X37A	**Clayton**	**2.99**	**128**	Pn	Pn	00 19 51.9	+0.7

IDC 28 00:25:17.2±6.9,24°.51S×179°.41E,h534km±44km,mb3.2/3, mb1 3.3/4,mb1mx2.7/34,mbtmp4.1/4,Error ellipse: s-maj=129.0km s-min=28.7km az=136.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.86**	**349**	P	P	00 27 03.4	0.0
	1.5nm,0.3s,baz=160,slow=9.4,SNR=11						
STKA	**Stephens Creek**	**34.00**	**249**	P	P	00 31 16.2	-0.4
	1.3nm,0.4s,baz=104,slow=13,SNR=6.3						
ASAR	**Alice Springs**	**41.41**	**261**	P	P	00 32 17.1	-0.1
	1.0nm,0.5s,baz=91,slow=6.8,SNR=17						
WRA	**Warramunga Arr**	**41.83**	**267**	P	P	00 32 20.4	-0.1
	3.4nm,0.5s,baz=104,slow=7.9,SNR=31						
AKASG	**Malin Array Be**	**145.18**	**326**	PKPbc	PKPdf	00 43 53.8	+0.1
	0.7nm,0.4s,baz=45,slow=4.4,SNR=6.9						

*IDC **28** 00:35:34.6±0.2,59°.78N×153°.66W,h82km±3km,mb3.7/3, mb1 3.7/8,mb1mx3.2/39,mbtmp3.8/8,Error ellipse: s-maj=3.6km s-min=1.3km az=100.0*
*ANF **28** 00:35:36.3±0.3,59°.70N×153°.09W,h109km±4km,ML3.7/31, Error ellipse: s-maj=2.7km s-min=2.1km az=119.0*
*NEIC **28** 00:35:36.3±1.3,59°.73N±0°.03×153°.12W±0°.07, h117km±4km,Error ellipse: s-maj=5.2km s-min=4.8km az=128.0*
*AEIC **28** 00:35:37±1.5,59°.71N±0°.03×153°.13W±0°.07,h112km±4km, ML3.4,mb3.9/6(NEIC),ML3.6/94(NEIC),Error ellipse: s-maj=5.2km s-min=4.9km az=136.0*
ISC 28 00:35:36.4±0.7,59°.70N±0°.03×153°.10W±0°.03, h120km±5km,n229,σ1§00/243,mb3.9/7,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.08**	**236**		**Pn**	**00 35 52.3**	**-0.5**
AUL	**Augustine Lava**	**0.36**	**209**		**Pn**	**00 35 53.3**	**-0.3**
AUL					**Sn**	**00 36 05.6**	**-0.9**
AGU	**Augustine-Summ**	**0.38**	**207**		**Pn**	**00 35 53.5**	**-0.3**
AUQ	**Augustine Qik'**	**0.38**	**205**		**Pn**	**00 35 53.4**	**-0.3**
O20K	**Slope Mountain**	**0.45**	**32**		**Pn**	**00 35 53.7**	**-0.4**
O20K					**Sn**	**00 36 06.1**	**-1.4**
O20K	**Slope Mountain**	**0.45**	**32**	P	**Pn**	**00 35 53.7**	**-0.4**
	baz=214,SNR=7.1						
O20K				S	**Sn**	**00 36 06.4**	**-1.1**
	baz=214						
HOM	**Homer**	**0.74**	**93**		**Pn**	**00 35 55.8**	**-0.1**
HOM					**Sn**	**00 36 10.6**	**-0.2**
HOM	**Homer**	**0.74**	**93**	IAML		00 36 12.0	
	comp=N,4μm,0.4s						
HOM				IAML		00 36 12.4	
	comp=E,3μm,0.5s						
HOM	**Homer**	**0.74**	**93**	P	**Pn**	**00 35 55.9**	**-0.1**
	baz=274						
HOM				S	**Sn**	**00 36 10.4**	**-0.3**
	baz=274						
RED	**Redoubt Volcan**	**0.74**	**13**		**Pn**	**00 35 55.5**	**-0.6**
RED					**Sn**	**00 36 09.1**	**-1.9**
RSO	**Redoubt South**	**0.79**	**12**		**Pn**	**00 35 56.2**	**-0.4**
O19K	**Port Alsworth**	**0.79**	**309**		**Pn**	**00 35 55.7**	**-0.7**
O19K					**Sn**	**00 36 09.9**	**-1.7**
O19K	**Port Alsworth**	**0.79**	**309**	IAML		00 36 10.4	
	comp=E,2μm,0.4s						
O19K				IAML		00 36 10.7	
	comp=N,3μm,0.5s						
O19K	**Port Alsworth**	**0.79**	**309**	P	**Pn**	**00 35 55.8**	**-0.6**
	baz=129,SNR=38						
O19K				S	**Sn**	**00 36 09.9**	**-1.7**
	baz=129						
Q19K	**Cape Douglas,**	**0.82**	**200**		**Pn**	**00 35 56.5**	**-0.2**
Q19K					**Sn**	**00 36 11.3**	**-0.8**
Q19K	**Cape Douglas,**	**0.82**	**200**	IAML		00 36 12.1	
	comp=E,2μm,0.6s						
Q19K				IAML		00 36 17.0	
	comp=N,2μm,0.8s						
Q19K	**Cape Douglas,**	**0.82**	**200**	P	**Pn**	**00 35 56.5**	**-0.2**
	baz=18,SNR=24						
Q19K				S	**Sn**	**00 36 11.2**	**-0.9**
	baz=18						
NCT	**North Crescent**	**0.87**	**5**		**Pn**	**00 35 56.8**	**-0.5**
RDT	**Redoubt**	**0.94**	**21**		**Pn**	**00 35 57.4**	**-0.5**
CNPM	**China Poot**	**0.96**	**100**		**Pn**	**00 35 57.8**	**-0.3**
CNPM					**Sn**	**00 36 13.4**	**-1.0**
CNPM	**China Poot**	**0.96**	**100**	IAML		00 36 15.2	
	comp=E,2μm,0.4s						
O18K	**Koktuh Hills**	**1.08**	**279**		**Pn**	**00 35 58.5**	**-0.6**
O18K					**Sn**	**00 36 14.9**	**-1.6**
O18K	**Koktuh Hills**	**1.08**	**279**	P	**Pn**	**00 35 58.5**	**-0.6**
	baz=97						
O18K				S	**Sn**	**00 36 14.9**	**-1.6**
	baz=97						
BRLK	**Bradley Lake**	**1.12**	**86**		**Pn**	**00 35 59.1**	**-0.5**
BRLK	**Bradley Lake**	**1.12**	**86**	IAML		00 36 16.8	
	comp=N,2μm,0.3s						
BRLK				IAML		00 36 17.6	
	comp=E,2μm,0.3s						
P18K	**Big Mountain,**	**1.13**	**255**		**Pn**	**00 35 59.0**	**-0.8**
P18K	**Big Mountain,**	**1.13**	**255**	P	**Pn**	**00 35 58.9**	**-0.8**
	baz=73						
P18K				S	**Sn**	**00 36 15.4**	**-2.0**
	baz=73						
BRSE	**Bradley Lake S**	**1.19**	**87**		**Pn**	**00 35 59.9**	**-0.4**
BRSE					**Sn**	**00 36 17.2**	**-1.3**
BRSE	**Bradley Lake S**	**1.19**	**87**	P	**Pn**	**00 35 60.0**	**-0.4**
	baz=269,SNR=7.6						
BRSE				S	**Sn**	**00 36 17.4**	**-1.2**
	baz=269						
N19K	**Bonanza Creek**	**1.31**	**329**		**Pn**	**00 36 01.3**	**-0.5**
N19K	**Bonanza Creek**	**1.31**	**329**	P	**Pn**	**00 36 01.3**	**-0.5**
	baz=148,SNR=100						
N19K				S	**Sn**	**00 36 19.3**	**-1.8**
	baz=148						
CAPN	**Captain Cook N**	**1.45**	**41**		**Pn**	**00 36 04.7**	**+1.6**
CAPN	**Captain Cook N**	**1.45**	**41**	P	**Pn**	**00 36 04.7**	**+1.6**
	baz=224,SNR=5.6						
CAPN				S	**Sn**	**00 36 25.9**	**+2.5**
	baz=224						
SPU	**Mount Spurr**	**1.57**	**19**		**Pn**	**00 36 04.4**	**-0.3**
SPCN	**Chakachatna No**	**1.60**	**16**		**Pn**	**00 36 04.9**	**-0.1**
SLKM	**Skilak Lake**	**1.65**	**59**		**Pn**	**00 36 05.3**	**-0.3**
SLKM					**Sn**	**00 36 25.7**	**-2.2**
SPCG	**Spurr Capps Gl**	**1.69**	**18**		**Pn**	**00 36 05.9**	**-0.1**
SPNN	**North Nagishla**	**1.69**	**6**		**Pn**	**00 36 05.9**	**-0.2**
KABU	**Katmai Buttres**	**1.83**	**219**		**Pn**	**00 36 08.1**	**+0.4**
KABU					**Sn**	**00 36 31.2**	**-0.4**
O22K	**Cooper Landing**	**1.86**	**64**		**Pn**	**00 36 08.2**	**+0.2**
O22K	**Cooper Landing**	**1.86**	**64**	P	**Pn**	**00 36 08.2**	**+0.2**
	baz=247,SNR=7.2						
O22K				S	**Sn**	**00 36 30.3**	**-1.9**
	baz=247						
SVW2	**Sparrevohn**	**1.87**	**320**	Pn	**Pn**	**00 36 07.4**	**-0.8**
SEW	**Seward**	**1.88**	**76**		**Pn**	**00 36 08.0**	**-0.3**
SEW	**Seward**	**1.88**	**76**	P	**Pn**	**00 36 07.9**	**-0.4**
	baz=259						
SEW				S	**Sn**	**00 36 30.9**	**-1.8**
	baz=259						
STLK	**Strandline Lak**	**1.91**	**18**		**Pn**	**00 36 08.6**	**-0.1**
KDAK	**Kodiak Island**	**1.94**	**172**	P	**Pn**	**00 36 08.3**	**-0.7**
	comp=E,11nm,0.3s,baz=25,slow=12,SNR=64						
KDAK				S	**Sn**	**00 36 32.5**	**-1.5**
	comp=E,29nm,0.3s,baz=116,slow=24,SNR=29						
KDAK	**Kodiak Island**	**1.94**	**172**		**Pn**	**00 36 08.0**	**-1.0**
KDAK	**Kodiak Island**	**1.94**	**172**	IAML		00 36 34.0	
	comp=E,301nm,0.4s						
KDAK				IAML		00 36 34.7	
	comp=E,411nm,0.5s						
KDAK	**Kodiak Island**	**1.94**	**172**	P	**Pn**	**00 36 08.3**	**-0.7**
	baz=352						
KDAK				S	**Sn**	**00 36 32.5**	**-1.5**
	baz=352						
FIS	**Fire Island**	**2.03**	**43**		**Pn**	**00 36 10.3**	**+0.2**
FIS				IAML		00 36 40.7	
	comp=N,499nm,0.8s						
FIS				IAML		00 36 42.5	
	comp=E,538nm,0.9s						
RC01	**Rabbit Creek A**	**2.17**	**49**		**Pn**	**00 36 11.8**	**-0.2**
RC01	**Rabbit Creek A**	**2.17**	**49**	IAML		00 36 40.2	
	comp=E,586nm,0.3s						
RC01				IAML		00 36 40.7	
	comp=N,639nm,0.2s						
RC01	**Rabbit Creek A**	**2.17**	**49**	P	**Pn**	**00 36 11.7**	**-0.2**
	baz=232,SNR=12						
RC01				S	**Sn**	**00 36 37.7**	**-1.5**
	baz=232						
M19K	**Big River Lodg**	**2.30**	**345**		**Pn**	**00 36 13.2**	**-0.4**
M19K	**Big River Lodg**	**2.30**	**345**	P	**Pn**	**00 36 13.2**	**-0.4**
	baz=164						
M19K				S	**Sn**	**00 36 40.7**	**-1.4**
	baz=164						
OHAK	**Old Harbor**	**2.49**	**182**		**Pn**	**00 36 14.8**	**-1.1**
OHAK	**Old Harbor**	**2.49**	**182**	IAML		00 36 44.5	
	comp=E,214nm,0.2s						
OHAK				IAML		00 36 45.1	
	comp=N,316nm,0.2s						
OHAK	**Old Harbor**	**2.49**	**182**	P	**Pn**	**00 36 14.8**	**-1.1**
	baz=1.9						
OHAK				S	**Sn**	**00 36 43.6**	**-2.7**
	baz=1.9						
M22K	**Willow**	**2.53**	**34**	S	**Sn**	**00 36 46.7**	**-0.4**
	baz=217						
PLK3	**Peulik 3**	**2.61**	**221**		**Pn**	**00 36 18.2**	**+0.6**
PWL	**Port Wells**	**2.64**	**62**		**Pn**	**00 36 17.2**	**-0.7**
PWL	**Port Wells**	**2.64**	**62**	P	**Pn**	**00 36 17.1**	**-0.9**
	baz=246						
PWL				S	**Sn**	**00 36 47.7**	**-2.2**
	baz=246						
PMR	**Palmer**	**2.72**	**44**		**Pn**	**00 36 18.1**	**-0.9**
PMR	**Palmer**	**2.72**	**44**	IAML		00 36 51.0	
	comp=E,124nm,0.3s						
PMR	**Palmer**	**2.72**	**44**	P	**Pn**	**00 36 18.0**	**-0.9**
	baz=228,SNR=15						
PMR				S	**Sn**	**00 36 48.6**	**-3.1**
	baz=228						
L20K	**Farewell, AK**	**2.82**	**353**		**Pn**	**00 36 20.1**	**0.0**
L20K	**Farewell, AK**	**2.82**	**353**	P	**Pn**	**00 36 20.2**	**0.0**
	baz=172						
KNK	**Knik Glacier**	**2.86**	**51**		**Pn**	**00 36 20.0**	**-0.8**
KNK	**Knik Glacier**	**2.86**	**51**	IAML		00 36 54.6	
	comp=N,284nm,0.4s						
KNK	**Knik Glacier**	**2.86**	**51**	P	**Pn**	**00 36 19.9**	**-0.8**
	baz=235						
KNK				S	**Sn**	**00 36 52.7**	**-2.4**
	baz=235						
GHO	**Glory Hole Cre**	**2.92**	**43**		**Pn**	**00 36 20.7**	**-0.9**
GHO	**Glory Hole Cre**	**2.92**	**43**	IAML		00 36 57.0	
	comp=N,158nm,0.5s						
GHO				IAML		00 36 57.2	
	comp=E,219nm,0.4s						
CUT	**Chulitna**	**3.04**	**26**		**Pn**	**00 36 23.6**	**+0.5**
CUT	**Chulitna**	**3.04**	**26**	IAML		00 37 03.6	
	comp=N,166nm,0.3s						
CUT				IAML		00 37 14.1	
	comp=E,173nm,0.7s						
CUT	**Chulitna**	**3.04**	**26**	P	**Pn**	**00 36 23.1**	**0.0**
	baz=208						
CUT				S	**Sn**	**00 36 58.3**	**-0.9**
	baz=208						
SML	**Sawmill**	**3.15**	**46**		**Pn**	**00 36 23.7**	**-0.9**
SML	**Sawmill**	**3.15**	**46**	IAML		00 37 01.3	
	comp=N,114nm,0.7s						
SML				IAML		00 37 12.2	
	comp=E,102nm,0.9s						
SML	**Sawmill**	**3.15**	**46**	P	**Pn**	**00 36 23.7**	**-0.9**
	baz=230						
SML				S	**Sn**	**00 36 59.2**	**-2.7**
	baz=230						
SII	**Sitkinak Islan**	**3.20**	**191**		**Pn**	**00 36 24.0**	**-1.2**
SII	**Sitkinak Islan**	**3.20**	**191**	IAML		00 37 01.9	
	comp=N,249nm,1.7s						
SII	**Sitkinak Islan**	**3.20**	**191**	P	**Pn**	**00 36 24.1**	**-1.2**
	baz=9.6						
SII				S	**Sn**	**00 36 59.5**	**-3.5**
	baz=9.6						
PPLA	**Purkeypile**	**3.24**	**7**		**Pn**	**00 36 26.5**	**+0.7**
PPLA	**Purkeypile**	**3.24**	**7**	P	**Pn**	**00 36 26.4**	**+0.5**
	baz=188						
PPLA				S	**Sn**	**00 37 04.1**	**0.0**
	baz=188						
Q23K	**Middleton Isla**	**3.44**	**92**	Pn	**Pn**	**00 36 28.4**	**0.0**
MID	**Middleton Isla**	**3.45**	**92**	Pn	**Pn**	**00 36 28.4**	**-0.1**
FID	**Port Fidalgo**	**3.46**	**69**		**Pn**	**00 36 27.1**	**-1.6**
TT01	**Tatalina**	**3.51**	**338**		**Pn**	**00 36 28.8**	**-0.5**
TTA	**Tatalina**	**3.53**	**338**		**Pn**	**00 36 29.0**	**-0.7**
TTA	**Tatalina**	**3.53**	**338**	P	**Pn**	**00 36 28.9**	**-0.7**
	baz=156,SNR=6.2						
SCM	**Sheep Creek Mo**	**3.55**	**50**		**Pn**	**00 36 29.1**	**-0.7**
SCM	**Sheep Creek Mo**	**3.55**	**50**	IAML		00 37 11.4	
	comp=N,118nm,0.6s						
SCM				IAML		00 37 12.0	
	comp=E,137nm,0.5s						
SCM	**Sheep Creek Mo**	**3.55**	**50**	P	**Pn**	**00 36 29.2**	**-0.7**
	baz=236						
SCM				S	**Sn**	**00 37 09.3**	**-2.0**
	baz=236						
K20K	**Telida**	**3.70**	**353**		**Pn**	**00 36 31.5**	**-0.3**
K20K	**Telida**	**3.70**	**353**	P	**Pn**	**00 36 31.6**	**-0.2**
	baz=173,SNR=11						
CAST	**Castle Rocks**	**3.77**	**7**		**Pn**	**00 36 32.3**	**-0.4**
CAST	**Castle Rocks**	**3.77**	**7**	P	**Pn**	**00 36 32.5**	**-0.2**
	baz=188,SNR=10.0						
EYAK	**Cordova Ski Ar**	**3.77**	**74**		**Pn**	**00 36 32.3**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.77**	**74**	P	**Pn**	**00 36 32.1**	**-0.6**
	baz=260						
EYAK				S	**Sn**	**00

comp=N,30nm,2.7s
MCK McKinley 4.50 24 P **Pn 00 36 42.4 -0.2**
baz=208,SNR=12
J20K Nowinta River 4.52 354 Pn 00 36 42.5 -0.2
J20K Nowinta River 4.52 354 P **Pn 00 36 42.6 -0.2**
baz=173
BPAW Bear Paw Mtn. 4.53 12 Pn 00 36 41.8 -1.1
BPAW Bear Paw Mtn. 4.53 12 P **Pn 00 36 41.9 -0.9**
baz=194
N25K Chitina, Valde 4.60 62 Pn 00 36 43.4 -0.4
N25K Chitina, Valde 4.60 62 IAML 00 37 38.0
comp=E,76nm,0.4s
N25K IAML 00 37 38.7
comp=N,80nm,0.5s
N25K Chitina, Valde 4.60 62 P **Pn 00 36 43.5 -0.4**
baz=249,SNR=7.1
HARP HAARP 4.71 52 Pn 00 36 45.1 -0.2
HARP HAARP 4.71 52 P **Pn 00 36 45.1 -0.2**
baz=239
BWN Browne 4.80 19 Pn **Pn 00 36 46.4 -0.1**
BWN IAML 00 37 40.3
comp=E,72nm,3.9s
BWN IAML 00 38 56.6
comp=N,60nm,3.7s
GLB Gilahina Butte 4.90 65 Pn 00 36 47.4 -0.5
GLB Gilahina Butte 4.90 65 IAML 00 37 45.0
comp=N,74nm,0.5s
GLB IAML 00 38 19.8
comp=E,45nm,4.9s
PAX Paxson 4.92 45 Pn 00 36 48.0 -0.2
PAX Paxson 4.92 45 P **Pn 00 36 47.7 -0.6**
baz=232,SNR=10
KHIT Khitrov Hills 4.99 77 Pn 00 36 48.7 -0.5
VRDI Verde Repeater 5.01 68 Pn 00 36 49.3 -0.2
VRDI IAML 00 37 45.2
comp=E,38nm,0.6s
PS10 TAPS Pump St10 5.12 40 Pn 00 36 51.2 +0.3
SNH Sunshine Point 5.18 80 Pn **Pn 00 36 52.2 +0.6**
WAX Waxell Ridge 5.18 77 Pn 00 36 51.5 -0.2
NEA2 Nenana 5.26 19 Pn **Pn 00 36 51.7 -0.9**
NEA2 IAML 00 38 19.3
comp=N,18nm,4.7s
NEA2 IAML 00 38 46.2
comp=E,23nm,4.7s
NEA2 Nenana 5.26 19 P **Pn 00 36 51.8 -0.9**
baz=203,SNR=6.3
WRH Wood River Hil 5.33 24 Pn 00 36 53.0 -0.7
WRH Wood River Hil 5.33 24 IAML 00 37 58.8
comp=N,27nm,4.5s
WRH IAML 00 38 17.1
comp=E,26nm,4.5s
ISLE Juniper Island 5.45 76 Pn 00 36 55.9 +0.6
MLY Manley 5.46 11 Pn 00 36 55.5 0.0
MLY Manley 5.46 11 P **Pn 00 36 55.3 -0.1**
baz=193
KIAG Kiagna River 5.48 72 Pn 00 36 55.7 -0.1
BALM Baldy 5.50 71 Pn 00 36 55.4 -0.6
HDA Harding Lake 5.54 29 Pn 00 36 55.7 -0.7
HDA Harding Lake 5.54 29 P **Pn 00 36 55.5 -0.9**
baz=214,SNR=9.6
CCB Clear Creek Bu 5.55 24 Pn 00 36 55.0 -1.5
MENT Mentasta 5.56 50 Pn **Pn 00 36 57.6 +0.8**
M26K Nabesna, AK 5.60 57 Pn 00 36 58.5 +1.1
M26K Nabesna, AK 5.60 57 P **Pn 00 36 58.6 +1.2**
baz=246
MESA MESA 5.62 80 P **Pn 00 36 58.5 +0.7**
baz=270
RIDG Independent Ri 5.64 41 Pn 00 36 58.1 +0.3
RIDG Independent Ri 5.64 41 P **Pn 00 36 57.3 -0.5**
baz=228,SNR=7.1
YAH Yahtse 5.73 78 Pn 00 36 59.8 +0.6
I23K Minto, Yukon-K 5.74 16 Pn 00 36 58.5 -0.5
I23K Minto, Yukon-K 5.74 16 P **Pn 00 36 58.5 -0.5**
baz=199,SNR=8.5
TCOL CIGO, UAF Yank 5.74 23 P **Pn 00 36 58.4 -0.6**
baz=208
COLA College 5.74 23 Pn 00 36 58.2 -0.9
COLA College 5.74 23 P **Pn 00 36 58.5 -0.6**
baz=208
MDM Murphy Dome 5.74 21 Pn 00 36 58.3 -0.9
L26K Log Cabin Wild 5.75 50 Pn 00 37 00.1 +0.8
BARN Barnard Glacie 5.83 72 Pn 00 37 01.5 +0.9
DOT Dot Lake 5.84 43 Pn 00 37 01.2 +0.6
IL31 5.86 27 Pn 00 36 59.5 -1.1
ILAR Eielson Array 5.86 27 P **Pn 00 36 59.4 -1.3**
comp=E,2.9nm,0.3s,baz=216,slow=14,SNR=135
ILAR S **Sn 00 38 02.3 -4.2**
comp=E,1.2nm,0.3s,baz=200,slow=15,SNR=4.6
H21K Melozitna Rive 5.98 1 Pn 00 37 01.9 -0.5
H21K Melozitna Rive 5.98 1 P **Pn 00 37 01.9 -0.5**
baz=182
TABL Table Mountain 6.03 78 Pn 00 37 03.6 +0.4
POKR Poker Plat Res 6.04 23 Pn 00 37 02.5 -0.7
POKR Poker Plat Res 6.04 23 P **Pn 00 37 02.5 -0.7**
baz=208
M27K Edge Creek, AK 6.07 59 Pn 00 37 04.0 +0.3
M27K Edge Creek, AK 6.07 59 P **Pn 00 37 04.5 +0.9**
baz=249
SCRK Sand Creek 6.08 41 Pn 00 37 03.5 -0.3
SCRK Sand Creek 6.08 41 P **Pn 00 37 03.3 -0.5**
baz=229
IM03 6.32 358 Pn 00 37 07.5 +0.6
IMAR Indian Mountai 6.32 358 Pn **Pn 00 37 07.3 +0.4**
YUK2 White River 6.36 66 Pn 00 37 08.0 +0.4
L27K Beaver Creek, 6.38 53 Pn 00 37 07.3 -0.4
L27K Beaver Creek, 6.38 53 P **Pn 00 37 07.3 -0.4**
baz=243
BC03 6.39 53 Pn 00 37 07.6 -0.3
BCAR Beaver Creek A 6.39 53 Pn **Pn 00 37 07.6 -0.4**
PCA Pinnacle 6.47 81 Pn 00 37 09.9 +0.8
PINM Pinnacle 6.48 81 P **Pn 00 37 09.9 +0.8**
baz=272
BVCY Beaver Creek 6.53 60 Pn 00 37 10.8 +0.9
BVCY Beaver Creek 6.53 60 P **Pn 00 37 10.6 +0.7**
baz=251
YUK3 Moose Creek 6.54 66 Pn 00 37 10.6 +0.6
YUK3 Moose Creek 6.54 66 P **Pn 00 37 10.7 +0.6**
baz=257
H24K Noodor Dome 6.61 19 Pn 00 37 09.8 -1.0
H24K Noodor Dome 6.61 19 P **Pn 00 37 10.0 -0.9**
baz=204
BCPM Bancas Point 6.79 82 Pn **Pn 00 37 12.1 -1.3**
PNL Peninsula 6.94 84 Pn 00 37 15.4 +0.1
PNL Peninsula 6.94 84 P **Pn 00 37 15.1 -0.2**
baz=276
ANM Nome 7.54 316 Pn **Pn 00 37 24.1 +0.7**
EGAK Eagle 7.54 42 Pn 00 37 22.2 -1.2
EGAK Eagle 7.54 42 P **Pn 00 37 23.1 -0.3**
baz=233
ISLZ Isanotski Laza 7.62 234 Pn 00 37 25.0 +0.5
COLD Coldfoot 7.67 8 Pn 00 37 24.3 -0.7
COLD Coldfoot 7.67 8 P **Pn 00 37 24.4 -0.7**
baz=191
FYU Fort Yukon 7.75 24 Pn **Pn 00 37 25.0 -1.2**
DAWY Dawson 7.81 50 Pn 00 37 27.4 +0.3
HYT Haines Junctio 7.84 75 Pn **Pn 00 37 28.2 +0.7**
BMAR Burnt Mountain 8.63 22 Pn **Pn 00 37 37.4 -0.7**
N31M Braeburn, Yuko 8.70 71 Pn **Pn 00 37 39.7 +0.5**
SKAG Skagway 9.02 84 Pn **Pn 00 37 44.8 +1.4**
P33M Teslin, Yukon 10.18 78 Pn **Pn 00 38 00.2 +1.1**
DLBC Dease Lake 11.92 86 P **Pn 00 38 25.7 +3.4**
comp=E,0.8nm,0.3s,baz=313,slow=6.1,SNR=17
DLBC Dease Lake 11.92 86 Pn 00 38 24.5 +2.2
INK Inuvik 12.11 36 P **Pn 00 38 24.4 -0.1**
comp=E,0.1nm,0.3s,baz=232,slow=16,SNR=4.8
INK Inuvik 12.11 36 Pn 00 38 24.7 +0.1
A36M Sachs Harbour 16.54 31 P 00 39 22.0 +0.8
YKA Yellowknife Ar 18.62 65 P **Pn 00 39 46.0 +0.1**
comp=E,0.1nm,0.3s,baz=276,slow=10.0,SNR=9.2
SONM Songino Array 54.93 306 P **P 00 44 55.8 +1.4**
comp=E,0.8nm,0.6s,baz=42,slow=7.0,SNR=6.9
ZAA0 Zalesovo Array 57.59 324 P **P 00 45 13.7 +0.7**
ZALV Zalesovo Beam 57.59 324 P **P 00 45 13.7 +0.7**
comp=E,2.1nm,0.4s,baz=34,slow=6.2,SNR=13
KURK Kurchatov 62.25 326 P **P 00 45 45.1 +0.2**
KURK IAmb IAmb 00 45 46.0
comp=Z,1.9nm,0.9s
BRVK Borovoye 62.31 332 P **P 00 45 45.0 -0.2**
BRVK IAmb IAmb 00 45 46.0
comp=Z,1.4nm,0.6s
MK31 Makanchi Array 64.64 321 P **P 00 46 01.0 +0.3**
MK31 IAmb IAmb 00 46 01.3
comp=Z,1.0nm,1.2s
MKAR Makanchi Array 64.64 321 P **P 00 46 01.0 +0.3**
comp=Z,0.6nm,0.6s,baz=37,slow=6.9,SNR=14
MKAR Makanchi Array 64.64 321 P **P 00 46 01.0 +0.3**
MAKZ Makanchi 64.72 321 P **P 00 46 01.4 +0.2**
MAKZ IAmb IAmb 00 46 02.7
comp=Z,1.7nm,1.3s
KKAR Karatay Array 71.46 328 P **P 00 46 43.8 +0.4**

*IDC **28** 00:50:25.6±1.3,29°.82N×88°.19E,h0km,mb3.7/7,*
mb1 3.9/9,mb1mx3.5/54,mbtmp3.7/9,ML3.7/2,MS3.3/1,
Ms1 3.3/1,ms1mx2.6/91,Error ellipse: s-maj=51.9km
s-min=19.5km az=62.0
ISC 28 00:50:30.9±1.3,29°.8N±0°.2×88°.3E±0°.3,h37km,n10,
σ1$18/9,mb3.9/7,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.93**	**137**	Pn	**Pn**	**00 53 58.5**	**-0.8**
	0.3nm,0.3s,baz=327,slow=13,SNR=1.8						
MKAR	**Makanchi Array**	**17.57**	**346**	P	**Pn**	**00 54 33.0**	**+0.2**
	0.1nm,0.3s,baz=161,slow=11,SNR=7.6						
KURBB	**Kurchatov Arra**	**22.02**	**343**	P	**P**	**00 55 20.9**	**-1.0**
	0.5nm,0.3s,baz=158,slow=10,SNR=4.7						
SONM	**Songino Array**	**22.78**	**33**	P	**P**	**00 55 30.4**	**+0.3**
	1.6nm,0.9s,baz=219,slow=9.7,SNR=7.6						
KSRS	**Korea Array**	**33.70**	**66**	LR	LR	01 12 13.9	
	comp=Z,47nm,18.8s,baz=220,slow=39						
FINES	**FINESS Array B**	**51.03**	**327**	P	**P**	**00 59 29.1**	**+0.2**
	1.4nm,0.7s,baz=87,slow=6.5,SNR=5.4						
ARCES	**ARCESS Array B**	**52.90**	**337**	P	**P**	**00 59 43.4**	**+0.6**
	2.1nm,0.9s,baz=78,slow=8.4,SNR=1.5						
WRA	**Warramunga Arr**	**66.47**	**132**	P	**P**	**01 01 19.1**	**+2.3**
	1.7nm,1.0s,baz=327,slow=6.5,SNR=4.5						
ASAR	**Alice Springs**	**68.94**	**135**	P	**P**	**01 01 31.8**	**-0.6**
	1.1nm,0.9s,baz=329,slow=6.2,SNR=6.7						
YKA	**Yellowknife Ar**	**86.19**	**10**	P	**P**	**01 03 07.3**	**-0.7**
	0.5nm,0.9s,baz=345,slow=5.0,SNR=3.8						

*TUL **28** 00:50:33.3±0.4,36°.76N±0°.01×98°.07W±0°.03,h6km±4km,*
ML3.2,mb_Lg2.8/57(NEIC),Error ellipse: s-maj=3.6km
s-min=1.7km az=72.0
NEIC 28 00:50:33.9±0.5,36°.75N±0°.01×98°.07W±0°.03,h7km±4km,
Error ellipse: s-maj=3.6km s-min=1.1km az=67.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.20**	**59**	Pg	Pg	00 50 37.6	-0.3
GC02				Sg	Sg	00 50 40.6	+0.1
KAN14	**Manchester OK**	**0.22**	**23**		Pg	00 50 38.0	-0.4
KAN14				Sg	Sg	00 50 41.3	-0.1
CROK	**Carrier**	**0.26**	**164**	Pg	Pg	00 50 38.7	-0.3
CROK				Sg	Sg	00 50 42.6	+0.2
KAN10	**Anthony SW Sta**	**0.37**	**357**	Pg	Pg	00 50 40.8	-0.4
KAN10				Sg	Sg	00 50 46.0	-0.1
KAN17	**Caldwell West**	**0.38**	**40**	Pg	Pg	00 50 40.9	-0.5
KAN17				Sg	Sg	00 50 46.2	-0.2
KAN05	**Bluff City Nor**	**0.39**	**24**		Pg	00 50 41.1	-0.5
KAN05				Sg	Sg	00 50 46.5	-0.2
KAN01	**Argonia South**	**0.47**	**32**		Pg	00 50 42.6	-0.5
KAN01				Sg	Sg	00 50 48.9	-0.4
KAN16	**Harper SW Stat**	**0.47**	**1**		Pg	00 50 42.7	-0.4
KAN08	**Anthony NE Sta**	**0.48**	**10**	Pg	Pg	00 50 42.9	-0.4
OK035	**E0210 Rd and N**	**0.52**	**265**	Pg	Pg	00 50 43.4	-0.5
KAN06	**Argonia West S**	**0.52**	**19**		Pg	00 50 43.6	-0.5
KAN06				Sg	Sg	00 50 50.7	-0.2
KAN13	**South Haven SW**	**0.54**	**61**	Pg	Pg	00 50 43.8	-0.6
KAN13				Sg	Sg	00 50 51.2	-0.2
KAN12	**Harper NE Stat**	**0.55**	**6**	Pg	Pg	00 50 44.1	-0.5
KAN12				Sg	Sg	00 50 51.6	-0.1
BLOK	**Blackwell**	**0.69**	**89**	Pg	Pg	00 50 46.4	-0.8
U32A	**Winter Ranch,**	**0.84**	**244**		Pg	00 50 49.2	-0.8
OK029	**Liberty Lake**	**1.07**	**152**	Pg	Pg	00 50 53.5	-1.1
BCOK	**Bluff Creek, N**	**1.15**	**161**		Pg	00 50 54.8	-1.3
OK033	**Mehan**	**1.15**	**127**		Pg	00 50 54.9	-1.2
QUOK	**Quay**	**1.24**	**117**		Pb	00 50 56.6	-1.2
T35A	**Sooner Cattle**	**1.26**	**82**		Pn	00 50 56.8	-1.3
OK031	**S. Brethren Rd**	**1.27**	**128**		Pn	00 50 57.0	-1.2
OK009	**Oakdale Elemen**	**1.28**	**156**		Pn	00 50 57.0	-1.3
OK025	**Westminster Rd**	**1.31**	**153**		Pn	00 50 57.7	-1.0
OK034	**N. Norfolk Rd.**	**1.32**	**124**		Pn	00 50 57.9	-0.9
OK030	**Cody Creek RV**	**1.32**	**128**		Pn	00 50 57.9	-1.0
OKCFA	**Oklahoma City**	**1.43**	**159**		Pn	00 50 59.4	-0.9
OKCSW	**OKLAHOMA CITY**	**1.44**	**159**		Pn	00 50 59.0	-1.5
FNO	**Franklin**	**1.59**	**160**		Pn	00 51 02.1	-0.4
R32A	**Long Quarter,**	**1.74**	**343**		Pn	00 51 04.3	-0.4
W35A	**Tecumseh**	**1.87**	**148**		Pn	00 51 06.2	-0.2
TUL1	**Leonard**	**2.02**	**114**	IAmb_Lg		00 51 38.3	
	comp=Z,44nm,0.8s						
WMOK	**Wichita Mounta**	**2.09**	**196**		Pn	00 51 09.7	+0.2
X34A	**Smith Ranch, M**	**2.15**	**175**		Pn	00 51 11.0	+0.7
X34A				IAmb_Lg		00 51 43.9	
	comp=Z,35nm,0.8s						
CBKS	**Cedar Bluff**	**2.45**	**328**		Pn	00 51 14.2	-0.2
KSU1	**Kansas State U**	**2.62**	**26**	IAmb_Lg		00 51 58.9	
	comp=Z,31nm,0.9s						
LOOK	**Love County**	**2.85**	**165**		Pn	00 51 19.8	-0.1
U38A	**Gravette**	**2.98**	**95**	Pn	Pn	00 51 21.6	-0.1
X37A	**Clayton**	**3.08**	**134**		Pn	00 51 23.4	+0.4
X37A				IAmb_Lg		00 52 17.2	
	comp=Z,30nm,0.7s						
HHAR	**Hobbs**	**3.36**	**97**		Pn	00 51 26.4	-0.5
HHAR				IAmb_Lg		00 52 21.7	
	comp=Z,20nm,0.7s						
W39A	**Magazine**	**3.81**	**113**	IAmb_Lg		00 52 41.3	
	comp=Z,39nm,0.7s						
S39A	**Bolivar**	**3.90**	**75**		Pn	00 51 33.6	-0.7
S39A				IAmb_Lg		00 52 37.2	
	comp=Z,20nm,0.8s						
U40A	**Yellville**	**4.22**	**94**		Pn	00 51 37.2	-1.5
U40A				IAmb_Lg		00 52 52.8	
	comp=Z,18nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.25**	**303**	IAmb_Lg		00 52 56.4	
	comp=Z,27nm,0.7s						
MIAR	**Mount Ida**	**4.27**	**120**	IAmb_Lg		00 52 53.1	
	comp=Z,20nm,0.7s						
P38A	**Dawn**	**4.58**	**50**		Pn	00 51 43.5	-0.2
P38A				IAmb_Lg		00 53 05.0	
	comp=Z,13nm,0.8s						
MGMO	**Mountain Grove**	**4.66**	**83**	IAmb_Lg		00 53 07.0	
	comp=Z,14nm,0.8s						
R40A	**Maddies Statio**	**4.86**	**70**	IAmb_Lg		00 53 09.0	
	comp=Z,20nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.88**	**98**	IAmb_Lg		00 53 13.7	
	comp=Z,12nm,0.8s						
WHAR	**Wooly Hollow**	**4.91**	**106**	IAmb_Lg		00 53 14.1	
	comp=Z,22nm,1.0s						
W41B	**Gary Mavity, V**	**4.98**	**107**	IAmb_Lg		00 53 17.2	
	comp=Z,23nm,0.9s						
T25A	**Trinidad**	**5.09**	**276**	IAmb_Lg		00 53 17.3	
	comp=Z,23nm,0.8s						
P40A	**Paris**	**5.50**	**58**	IAmb_Lg		00 53 33.4	
	comp=Z,20nm,0.8s						
Z41A	**Richland Creek**	**5.55**	**127**	IAmb_Lg		00 53 37.4	
	comp=Z,18nm,0.8s						
CCM	**Cathedral Cave**	**5.59**	**74**	IAmb_Lg		00 53 34.9	
	comp=Z,20nm,0.8s						
LCAR	**Lake Charles**	**5.62**	**95**	IAmb_Lg		00 53 42.2	
	comp=Z,11nm,1.0s						
K31A	**O'Neill**	**5.89**	**355**	IAmb_Lg		00 53 44.5	
	comp=Z,24nm,0.8s						
Q24A	**Divide**	**6.02**	**294**	IAmb_Lg		00 53 50.3	
	comp=Z,16nm,0.8s						
PBMO	**Poplar Bluff**	**6.13**	**87**	IAmb_Lg		00 53 56.3	
	comp=Z,13nm,0.7s						
FVM	**French Village**	**6.21**	**76**	IAmb_Lg		00 53 53.5	
	comp=Z,13nm,0.8s						
SCIA	**State Center**	**6.38**	**35**	IAmb_Lg		00 54 09.1	
	comp=Z,24nm,0.8s						
JCT	**Junction City**	**6.42**	**193**	IAmb_Lg		00 54 10.5	
	comp=Z,16nm,1.0s						
ISCO	**Idaho Springs**	**6.67**	**299**	IAmb_Lg		00 54 10.3	
	comp=Z,8.0nm,0.7s						
PHWY	**Pilot Hill**	**7.33**	**311**	IAmb_Lg		00 54 41.2	
	comp=Z,11nm,0.9s						

IDC 28 01:03:07.6±2.4,6°.12S×126°.43E,h0km,mb3.2/1,
mb1 3.5/3,mb1mx3.3/31,mbtmp3.3/3,ML3.5/2,Error
ellipse: s-maj=327.7km s-min=31.9km az=63.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.75**	**152**	Pn	Pn	01 06 52.5	+1.6
	0.3nm,0.3s,baz=331,slow=12,SNR=9.1						
ASAR	**Alice Springs**	**18.88**	**158**	P	P	01 07 28.9	-0.8
	0.1nm,0.3s,baz=339,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**65.58**	**328**	P	P	01 13 53.3	0.0
	0.2nm,0.8s,baz=125,slow=7.4,SNR=1.9						

*IDC **28** 01:04:16.4±1.2,17°.84N×95°.04W,h0km,mb3.5/2,*
mb1 3.8/5,mb1mx3.5/39,mbtmp3.5/5,ML3.3/3,MS2.8/2,
Ms1 2.8/2,ms1mx2.5/46,Error ellipse: s-maj=41.8km
s-min=9.1km az=74.0
*NEIC **28** 01:04:18.7±1.6,17°.40N±0°.04×95°.50W±0°.04,h42km±16km,*
mb4.2/14,Md4.2/56(MEX),Error ellipse: s-maj=6.5km
s-min=4.0km az=145.0
*MEX **28** 01:04:19.8±1.4,17°.53N×95°.43W,h10km±65km,MD4.2*
ISC 28 01:04:19.2±0.9,17°.44N±0°.03×95°.48W±0°.02,h43km±14km,
n65,σ1$55/102,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.66**	**122**	Pg	**Pn**	**01 04 31.7**	**-0.6**
	219nm,0.3s,baz=292,slow=10,SNR=1959						
CMIG				Lg	Lg	01 04 40.8	
	677nm,0.3s,baz=204,slow=20,SNR=51						
CMIG				LR	LR	01 05 08.3	
	comp=Z,144nm,21.0s,baz=344,slow=69						
CMIG	**Matias Romero**	**0.66**	**122**	*eP*	**Pn**	**01 04 31.7**	**-0.6**
CMIG				*eS*	**Sn**	**01 04 41.0**	**-0.6**
TUIG	**Tuzandepetl**	**1.16**	**59**		**Pn**	**01 04 38.6**	**-0.4**
TUIG	**Tuzandepetl**	**1.16**	**59**	*eP*	**Pn**	**01 04 38.6**	**-0.4**
TUIG				*e*		01 05 02.1	
OXLC	**Oaxaca**	**1.23**	**252**	*eP*	**Pn**	**01 04 40.0**	**-0.2**
OXLC				*eS*	**Sn**	**01 04 55.7**	**-0.1**
OXBJ	**Oaxaca**	**1.25**	**253**		**Pn**	**01 04 40.2**	**-0.2**
OXBJ					**Sn**	**01 04 56.0**	**-0.2**
OXBJ	**Oaxaca**	**1.25**	**253**	*eP*	**Pn**	**01 04 40.2**	**-0.2**
OXBJ				*eS*	**Sn**	**01 04 56.0**	**-0.2**
VHO	**Vista Hermosa**	**1.26**	**253**	*eP*	**Pn**	**01 04 40.4**	**-0.2**
VHO				*eS*	**Sn**	**01 04 57.2**	**+0.8**
TOIG	**Toxpalan**	**1.65**	**293**	*eP*	**Pn**	**01 04 45.6**	**-0.3**
TOIG				*eS*	**Sn**	**01 05 05.1**	**-0.8**
HUIG	**Huatulco**	**1.77**	**200**		**Pn**	**01 04 45.9**	**-1.5**
HUIG					**Sn**	**01 05 08.8**	**0.0**
HUIG	**Huatulco**	**1.77**	**200**	*eP*	**Pn**	**01 04 45.9**	**-1.5**
HUIG				*eS*	**Sn**	**01 05 08.8**	**0.0**
YOIG	**Yosondua**	**2.06**	**254**	*eP*	**Pn**	**01 04 52.0**	**+0.3**
YOIG				*eS*	**Sn**	**01 05 19.0**	**+2.6**
PEIG	**Puerto Escondi**	**2.15**	**228**	*eP*	**Pn**	**01 04 50.9**	**-1.7**
PEIG				*eS*	**Sn**	**01 05 22.1**	**+3.9**
TXIG	**Tlaxiaco**	**2.20**	**265**	*eP*	**Pn**	**01 04 54.5**	**+0.9**
TXIG				*eS*	**Sn**	**01 05 21.5**	**+1.8**
HLIG	**Huajuapan de L**	**2.25**	**280**	*eP*	**Pn**	**01 04 54.6**	**+0.4**
HLIG				*eS*	**Sn**	**01 05 21.1**	**+0.1**
TGIG		**2.34**	**106**		**Pn**	**01 04 56.2**	**+0.8**
TGIG					**Sn**	**01 05 22.3**	**-0.7**
TGIG		**2.34**	**106**	*eP*	**Pn**	**01 04 56.2**	**+0.8**
TGIG				*eS*	**Sn**	**01 05 22.3**	**-0.7**
LVIG	**Laguna Verde**	**2.44**	**339**		**Pn**	**01 04 55.8**	**-0.8**
LVIG					**Sn**	**01 05 24.7**	**-0.5**
LVIG	**Laguna Verde**	**2.44**	**339**	*eP*	**Pn**	**01 04 55.8**	**-0.8**
LVIG				*eS*	**Sn**	**01 05 24.7**	**-0.5**
FTIG	**Fresnillo de T**	**2.58**	**281**	*eP*	**Pn**	**01 05 00.0**	**+1.4**
FTIG				*eS*	**Sn**	**01 05 29.5**	**+0.7**
PNIG	**Pinotepa**	**2.75**	**248**		**Pn**	**01 04 59.0**	**-1.8**
PNIG	**Pinotepa**	**2.75**	**248**	*eP*	**Pn**	**01 04 59.0**	**-1.8**
PNIG				*eS*	Sn	01 05 41.9	+9.1
PCIG		**2.77**	**128**		**Pn**	**01 05 02.0**	**+0.9**
PCIG					**Sn**	**01 05 34.2**	**+0.9**
PCIG		**2.77**	**128**	*eP*	**Pn**	**01 05 02.0**	**+0.9**
PCIG				*eS*	**Sn**	**01 05 34.2**	**+0.9**
TLIG	**Tlapa**	**2.95**	**273**	Pn	**Pn**	**01 05 04.6**	**+0.9**
TLIG				Sn	**Sn**	**01 05 36.6**	**-1.5**
TLIG	**Tlapa**	**2.95**	**273**	*eP*	**Pn**	**01 05 04.4**	**+0.7**
TLIG				*eS*	**Sn**	**01 05 39.5**	**+1.4**
MGIG	**Malinaltepec**	**3.02**	**267**	*eP*	**Pn**	**01 05 05.1**	**+0.3**
MGIG				*eS*	**Sn**	**01 05 40.2**	**+0.3**
CCIG	**Comitan**	**3.40**	**109**		**Pn**	**01 05 12.2**	**+2.3**
PPM	**Popocatepetl**	**3.40**	**299**	*eP*	**Pn**	**01 05 12.1**	**+1.8**
PPM				*eS*	**Sn**	**01 05 52.2**	**+2.5**
CRIG	**Cruz Grande**	**3.57**	**259**		**Pn**	**01 05 10.5**	**-1.6**
CRIG					**Sn**	**01 05 51.1**	**-1.9**
CRIG	**Cruz Grande**	**3.57**	**259**	*eP*	**Pn**	**01 05 10.5**	**-1.6**
CRIG				*i* S	**Sn**	**01 05 51.1**	**-1.9**
YAIG	**Yautepec**	**3.70**	**293**		**Pn**	**01 05 14.3**	**+0.3**
YAIG					**Sn**	**01 05 51.8**	**-4.6**
YAIG	**Yautepec**	**3.70**	**293**	*eP*	**Pn**	**01 05 14.3**	**+0.3**
YAIG				*i* S	**Sn**	**01 05 51.8**	**-4.6**
PLIG	**Platanillo**	**3.95**	**284**		**Pn**	**01 05 18.4**	**+1.0**
PLIG					**Sn**	**01 06 04.2**	**+1.6**
PLIG	**Platanillo**	**3.95**	**284**	*eP*	**Pn**	**01 05 18.2**	**+0.8**
PLIG				*eP*	**Pn**	**01 05 18.4**	**+1.0**
PLIG				*eS*	**Sn**	**01 06 03.5**	**+0.9**
PLIG				*eS*	**Sn**	**01 06 04.2**	**+1.6**
MEIG	**Mezcala**	**3.98**	**278**	*eP*	Pn	01 05 27.8	+10
MEIG				*i* S	**Sn**	**01 05 57.9**	**-5.4**
DAIG	**Los Arroyos**	**4.01**	**265**		**Pn**	**01 05 17.1**	**-1.1**
DAIG					**Sn**	**01 06 05.8**	**+1.8**
DAIG	**Los Arroyos**	**4.01**	**265**	*eP*	**Pn**	**01 05 17.1**	**-1.1**
DAIG				*i* S	**Sn**	**01 06 05.8**	**+1.8**
SCIG	**Sabancuy**	**4.35**	**69**		**Pn**	**01 05 22.5**	**-0.4**
SCIG					**Sn**	**01 06 12.3**	**0.0**
SCIG	**Sabancuy**	**4.35**	**69**	*eP*	**Pn**	**01 05 22.5**	**-0.4**
SCIG				*eS*	**Sn**	**01 06 12.3**	**0.0**
CAIG	**El Cayaco**	**4.60**	**266**		**Pn**	**01 05 24.9**	**-1.3**
CAIG					**Sn**	**01 06 21.0**	**+2.6**
CAIG	**El Cayaco**	**4.60**	**266**	*eP*	**Pn**	**01 05 24.9**	**-1.3**
CAIG				*eS*	**Sn**	**01 06 21.0**	**+2.6**
PETF	**Flores**	**5.39**	**95**		**Pn**	**01 05 38.2**	**+1.1**
APG	**El Apazote**	**5.39**	**116**	Pn	**Pn**	**01 05 37.0**	**-0.3**
	1.4nm,0.3s,baz=309,slow=11,SNR=41						
APG				Sn	**Sn**	**01 06 37.5**	**-0.8**
	7.4nm,0.3s,baz=107,slow=16,SNR=5.8						
APG				LR	LR	01 07 28.2	
	comp=Z,50nm,19.1s,baz=288,slow=37						
833A	**Chaparral WMA,**	**11.42**	**342**		**Pn**	**01 07 01.7**	**+2.0**
435B	**Jarrell**	**13.42**	**352**		**Pn**	**01 07 28.0**	**+0.9**
TXAR	**Lajitas Array**	**14.02**	**329**	Pn	**P**	**01 07 39.5**	**-2.8**
	0.0nm,0.3s,baz=148,slow=10,SNR=1.8						
WHTX	**Lake Whitney,**	**14.60**	**353**		**Pn**	**01 07 44.2**	**+1.2**

ML2.9, mb_Lg2.6/23(NEIC), Error ellipse: s-maj=2.5km s-min=1.8km az=117.0

NEIC 28 01:12:23.0±0.4, 36°48N±0°01×98°72W±0°02, h7km±4km, Error ellipse: s-maj=2.4km s-min=2.0km az=119.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.23**	**1**	Pg	Pg	01 12 27.1	-0.5
OK035				Sg	Sg	01 12 30.8	0.0
U32A	**Winter Ranch,**	**0.25**	**247**	Pg	Pg	01 12 27.2	-0.7
U32A				Sg	Sg	01 12 31.0	-0.2
CROK	**Carrier**	**0.59**	**87**	Pg	Pg	01 12 33.8	-0.6
CROK				Sg	Sg	01 12 42.3	+0.2
GC02	**Grant County #**	**0.78**	**61**	Pg	Pg	01 12 37.2	-0.8
GC02					Sg	01 12 48.0	-0.3
KAN10	**Anthony SW Sta**	**0.82**	**37**	Pg	Pg	01 12 37.7	-1.0
KAN16	**Harper SW Stat**	**0.91**	**35**		Pg	01 12 39.4	-1.2
KAN05	**Bluff City Nor**	**0.93**	**47**		Pg	01 12 39.8	-1.0
KAN05					Sg	01 12 52.1	-0.7
KAN17	**Caldwell West**	**0.95**	**53**		Pg	01 12 40.2	-1.1
KAN08	**Anthony NE Sta**	**0.96**	**38**		Pg	01 12 40.2	-1.1
KAN12	**Harper NE Stat**	**1.00**	**35**	Pg	Pg	01 12 41.1	-1.1
KAN01	**Argonia South**	**1.02**	**48**		Pg	01 12 41.5	-1.1
KAN06	**Argonia West S**	**1.03**	**41**		Pg	01 12 41.8	-1.0
KAN13	**South Haven SW**	**1.13**	**61**	Pg	Pg	01 12 43.3	-1.3
BCOK	**Bluff Creek, N**	**1.21**	**132**		Pg	01 12 44.6	-1.7
OK029	**Liberty Lake**	**1.23**	**123**		Pb	01 12 44.7	-1.8
BLOK	**Blackwell**	**1.24**	**76**	Pg	Pb	01 12 45.3	-1.4
OK025	**Westminster Rd**	**1.43**	**128**		Pn	01 12 48.3	-1.0
OKCFA	**Oklahoma City**	**1.47**	**136**		Pn	01 12 49.1	-0.8
OKCSW	**OKLAHOMA CITY**	**1.49**	**135**		Pn	01 12 49.5	-0.6
OK031	**S. Brethren Rd**	**1.60**	**108**		Pn	01 12 51.1	-0.6
FNO	**Franklin**	**1.62**	**138**		Pn	01 12 51.6	-0.3
QUOK	**Quay**	**1.65**	**100**		Pn	01 12 52.1	-0.2
OK030	**Cody Creek RV**	**1.66**	**109**		Pn	01 12 51.9	-0.5
OK034	**N. Norfolk Rd.**	**1.68**	**105**		Pn	01 12 52.5	-0.4
WMOK	**Wichita Mounta**	**1.73**	**182**		Pn	01 12 52.9	-0.7
T35A	**Sooner Cattle**	**1.82**	**75**	Pn	Pn	01 12 55.0	+0.2
R32A	**Long Quarter,**	**1.94**	**0**		Pn	01 12 56.9	+0.4
W35A	**Tecumseh**	**2.00**	**131**		Pn	01 12 56.9	-0.2
X34A	**Smith Ranch, M**	**2.00**	**159**		Pn	01 12 58.2	+0.9
X34A				IAmb_Lg		01 13 26.0	
	comp=Z,36nm,0.8s						
TUL1	**Leonard**	**2.43**	**103**		Pn	01 13 02.7	-0.5
TUL1				IAmb_Lg		01 13 44.2	
	comp=Z,21nm,1.0s						
CBKS	**Cedar Bluff**	**2.47**	**341**	Pn	Pn	01 13 03.5	-0.3
X37A	**Clayton**	**3.31**	**124**	IAmb_Lg		01 14 12.9	
	comp=Z,20nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.00**	**310**	IAmb_Lg		01 14 29.5	
	comp=Z,14nm,1.0s						
W39A	**Magazine**	**4.21**	**106**	IAmb_Lg		01 14 43.5	
	comp=Z,15nm,0.8s						
S39A	**Bolivar**	**4.48**	**73**	IAmb_Lg		01 14 46.5	
	comp=Z,17nm,0.8s						
MGMO	**Mountain Grove**	**5.22**	**81**	IAmb_Lg		01 15 09.4	
	comp=Z,11nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.36**	**94**	IAmb_Lg		01 15 19.9	
	comp=Z,9.6nm,0.8s						
W41B	**Gary Mavity, V**	**5.41**	**102**	IAmb_Lg		01 15 26.8	
	comp=Z,9.9nm,0.9s						
JCT	**Junction City**	**6.05**	**189**	IAmb_Lg		01 15 41.3	
	comp=Z,9.5nm,0.9s						
LCAR	**Lake Charles**	**6.12**	**92**	IAmb_Lg		01 15 41.1	
	comp=Z,7.0nm,0.8s						
CCM	**Cathedral Cave**	**6.16**	**73**	IAmb_Lg		01 15 36.6	
	comp=Z,11nm,0.9s						
PBMO	**Poplar Bluff**	**6.67**	**85**	IAmb_Lg		01 15 55.9	
	comp=Z,11nm,0.8s						

MAN 28 01:27:06.7, 4°61N×124°04E, h535km, mb4.5, ML3.3, MS3.2

IDC 28 01:27:10.9±1.1, 4°78N×123°70E, h512km±13km, mb3.5/20, mb1 3.7/23, mb1mx3.4/45, mbtmp4.4/23, Error ellipse: s-maj=19.7km s-min=8.2km az=72.0

NEIC 28 01:27:11.1±1.3, 4°8N±0°1×123°76E±0°05, h507km±10km, mb4.2/27, Error ellipse: s-maj=17.6km s-min=4.5km az=201.0

DJA 28 01:27:11.9±0.6, 5°N±6°×12°4E±°, h476km±9km, M4.4/13, mb4.5/6, mB4.8/6, MLv4.7/13, Mw(mB)4.1/6

ISC 28 01:27:10.2±0.4, 4.79N±0°05×123.70E±0°07, h500km, n104, σ1§35/115, mb4.1/40, 2C-4D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.13**	**121**	P	**P**	**01 28 14.5**	**-1.5**
DDMP	**Don Marcelino,**	**2.39**	**57**	‖eP	**P**	**01 28 17.2**	**-0.2**
KCP	**Kidapawan**	**2.60**	**32**	‖eP	**P**	**01 28 20.6**	**+1.9**
KCP				eS	**S**	**01 29 15.5**	**+1.1**
DAV	**Davao City (W)**	**2.94**	**39**	P	**P**	**01 28 21.8**	**+1.0**
	58nm,0.3s,baz=266,slow=3.1,SNR=5.3						
DAV				S	**S**	**01 29 19.3**	**+1.1**
	160nm,0.3s,baz=289,slow=23,SNR=6.9						
DAV	**Davao City (W)**	**2.94**	**39**	P	**P**	**01 28 21.6**	**+0.9**
PAGZ	**Pagadian**	**3.06**	**354**	‖eP	**P**	**01 28 22.2**	**+0.7**
PAGZ				eS	**S**	**01 29 11.7**	**-7.8**
MATI	**Mati**	**3.33**	**50**	‖eP	**P**	**01 28 23.2**	**-0.3**
MATI				eS	**S**	**01 29 22.4**	**-0.7**
BUKP	**Musuan**	**3.36**	**24**	‖eP	**P**	**01 28 28.5**	**+4.8**
BUKP				eS	S	01 29 34.7	+11
GTOI	**Gorontalo**	**4.18**	**189**	P	**P**	**01 28 29.4**	**-0.8**
KMSI	**Cibinong**	**4.20**	**176**	P	**P**	**01 28 29.1**	**-1.2**
MRSI	**Marisa**	**4.63**	**202**	P	**P**	**01 28 34.6**	**+0.7**
TOLI2	**Tolitoli**	**4.67**	**219**		**P**	**01 28 34.7**	**+0.5**
TOLI2	**Tolitoli**	**4.67**	**219**	P	**P**	**01 28 34.8**	**+0.5**
TBP	**Tagbilaran**	**4.87**	**2**	↑P	**P**	**01 28 36.5**	**+0.4**
MYLDM	**Lahad Datu**	**5.19**	**275**	P	**P**	**01 28 41.0**	**+2.1**
TNTI	**Ternate**	**5.42**	**137**	P	**P**	**01 28 40.3**	**-0.8**
TNTI	**Ternate**	**5.42**	**137**		**P**	**01 28 40.9**	**-0.2**
TNTI					**S**	**01 29 54.5**	**-0.7**
TNTI	**Ternate**	**5.42**	**137**	P	**P**	**01 28 41.8**	**+0.7**
MPSI	**Mapaga**	**5.83**	**221**	P	**P**	**01 28 45.2**	**+0.3**
	0.1nm6.5nm,0.9s						
APSI	**Ampana**	**6.02**	**200**	P	**P**	**01 28 47.3**	**+0.5**
LBMI	**Labuha**	**6.60**	**145**	P	**P**	**01 28 54.5**	**+2.1**
SANI	**Sanana**	**7.17**	**161**	P	**P**	**01 28 57.3**	**-0.9**
	0.8nm3μm166nm,0.7s						
SANI	**Sanana**	**7.17**	**161**	P	**P**	**01 28 57.9**	**-0.3**
KKM	**Kota Kinabalu**	**7.55**	**280**	P	**P**	**01 29 03.0**	**+0.8**
KKM	**Kota Kinabalu**	**7.55**	**280**	P	**P**	**01 29 03.3**	**+1.1**
SIJI	**Sorong**	**9.42**	**126**	P	**P**	**01 29 21.9**	**+0.3**
	4.1nm,0.3s,baz=326,slow=18,SNR=4.4						
BNDI	**Bandanaira**	**11.14**	**146**	P	**P**	**01 29 41.0**	**+1.3**
FAKI	**Fak Fak**	**11.47**	**132**	P	**P**	**01 29 43.8**	**+0.5**
FAKI	**Fak Fak**	**11.47**	**132**	P	**P**	**01 29 43.3**	**0.0**
FAKI	**Fak Fak**	**11.47**	**132**	P	**P**	**01 29 43.8**	**+0.5**
BATI	**Baumata**	**14.90**	**180**	P	**P**	**01 30 19.5**	**+0.1**
	9.0nm,0.3s,baz=256,slow=4.5,SNR=5.0						
JAY	**Jayapura**	**18.48**	**113**	P	**P**	**01 30 55.7**	**+0.6**
	2.8nm,0.3s,baz=212,slow=5.1,SNR=6.2						
DRS	**Darwin Rock St**	**18.55**	**157**	P	**P**	**01 30 56.1**	**+0.5**
TPUB	**Ta-pu**	**18.64**	**351**	P	**P**	**01 30 57.5**	**+1.0**
TPUB	**Ta-pu**	**18.64**	**351**	P	**P**	**01 30 57.6**	**+1.1**
MTN	**Manton Dam**	**19.01**	**157**	P	**P**	**01 31 00.2**	**+0.3**
MTN	**Manton Dam**	**19.01**	**157**	P	**P**	**01 31 00.0**	**+0.1**
SSLB	**Suanglung**	**19.07**	**352**	P	**P**	**01 31 01.6**	**+1.2**
SSLB	**Suanglung**	**19.07**	**352**	P	**P**	**01 31 01.7**	**+1.2**
KDU	**Kakadu**	**19.43**	**153**	P	**P**	**01 31 03.4**	**-0.3**
YHNB	**Yeheng**	**19.89**	**354**	P	**P**	**01 31 09.6**	**+1.7**
KNRA	**Kununurra**	**20.94**	**166**	P	**P**	**01 31 17.6**	**+0.1**
KNRA	**Kununurra**	**20.94**	**166**	P	**P**	**01 31 17.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**22.82**	**175**	P	**P**	**01 31 34.4**	**0.0**
	12nm,1.0s,baz=7.5,slow=6.0,SNR=20						
WB0	**Warramunga Arr**	**26.57**	**157**	P	**P**	**01 32 06.9**	**-0.8**
WB0				IAmb	IAmb	01 32 07.2	
	comp=Z,8.7nm,0.5s						
WRAB	**Tennant Creek**	**26.71**	**157**	P	**P**	**01 32 08.3**	**-0.6**
WRAB				IAmb	IAmb	01 32 08.5	
	comp=Z,10nm,0.5s						
WRAB	**Tennant Creek**	**26.71**	**157**	P	**P**	**01 32 08.3**	**-0.6**
WRA	**Warramunga Arr**	**26.71**	**157**	P	**P**	**01 32 08.1**	**-0.8**
	comp=Z,8.4nm,0.5s,baz=338,slow=9.9,SNR=94						
WRA				PcP	**PcP**	**01 35 19.8**	**+3.4**
	comp=Z,0.7nm,0.8s,baz=314,slow=3.6,SNR=4.6						
WRA	**Warramunga Arr**	**26.71**	**157**	P	**P**	**01 32 07.1**	**-1.9**
WB2	**Warramunga Arr**	**26.72**	**157**	P	**P**	**01 32 08.3**	**-0.6**
WR0	**Warramunga Arr**	**26.81**	**157**	P	**P**	**01 32 09.1**	**-0.7**
WR0				IAmb	IAmb	01 32 09.2	
	comp=Z,3.9nm,0.6s						
COEN	**Coen**	**26.84**	**134**	P	**P**	**01 32 08.9**	**-1.2**
COEN				IAmb	IAmb	01 32 11.2	
	comp=Z,8.4nm,1.1s						
COEN	**Coen**	**26.84**	**134**	P	**P**	**01 32 09.0**	**-1.2**
CMAR	**Chiang Mai Arr**	**27.73**	**301**	P	**P**	**01 32 18.9**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=122,slow=6.7,SNR=10						
CHTO	**Chiang Mai**	**27.89**	**302**	P	**P**	**01 32 20.9**	**+1.5**
CHTO				IAmb	IAmb	01 32 21.4	
	comp=Z,6.5nm,0.6s						
CHTO	**Chiang Mai**	**27.89**	**302**	P	**P**	**01 32 20.9**	**+1.5**
QIS	**Mount Isa**	**29.64**	**149**	P	**P**	**01 32 34.4**	**-0.2**
WRKA	**Warakurna**	**29.98**	**172**	P	**P**	**01 32 37.8**	**+0.3**
AS31	**Alice Springs**	**29.98**	**161**	P	**P**	**01 32 37.6**	**+0.1**
AS31				IAmb	IAmb	01 32 38.5	
	comp=Z,3.6nm,0.8s						
ASAR	**Alice Springs**	**29.98**	**161**	P	**P**	**01 32 37.5**	**0.0**
	comp=Z,8.1nm,0.6s,baz=340,slow=7.3,SNR=146						
ASAR				S	**S**	**01 36 57.9**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=337,slow=12,SNR=5.9						
ASAR				ScP	**ScP**	**01 38 18.3**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=342,slow=3.2,SNR=12						
KSRS	**Korea Array**	**32.74**	**6**	P	**P**	**01 33 01.6**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=186,slow=11,SNR=5.9						
MJAR	**Matsushiro Arr**	**34.30**	**21**	P	**P**	**01 33 13.3**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=194,slow=8.9,SNR=2.4						
XLT	**XiLinHaoTe**	**39.53**	**351**	eP	**P**	**01 33 58.0**	**+0.8**
XLT				pmax	pmax		
	comp=Z,12nm,0.7s						
XLT				pmax	pmax		
	comp=Z,120nm,5.5s						
USRK	**Ussuriysk Ar.**	**39.92**	**9**	P	**P**	**01 34 00.7**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=198,slow=7.3,SNR=6.3						
USRK	**Ussuriysk Ar.**	**39.92**	**9**	P	**P**	**01 34 00.3**	**+0.1**
STKA	**Stephens Creek**	**40.25**	**156**	P	**P**	**01 34 03.9**	**+0.7**
	comp=Z,8.0nm,0.4s,baz=341,slow=7.6,SNR=32						
STKA	**Stephens Creek**	**40.25**	**156**	P	**P**	**01 34 04.0**	**+0.9**
STKA				IAmb	IAmb	01 34 04.2	
	comp=Z,2.4nm,0.5s						
GTA	**Gaotai**	**40.68**	**331**	eP	**P**	**01 34 07.8**	**+1.2**
GTA				pP	pP	01 34 13.3	-83
GTA				sP	sP	01 34 16.5	-135
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GOMU	**GeErMu**	**41.01**	**323**	P	**P**	**01 34 11.5**	**+1.9**
GOMU				S	S	01 39 57.3	+12
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,71nm,4.0s						
GOMU				LR	LR		
	comp=N,66nm,11.2s						
GOMU				LR	LR		
	comp=E,75nm,10.9s						
GOMU				LR	LR		
	comp=Z,64nm,10.5s						
GUN	**Gumba**	**42.67**	**307**	eP	**P**	**01 34 23.5**	**+0.7**
PKI	**Pulchoki**	**42.90**	**306**	eP	**P**	**01 34 24.9**	**+0.3**
	comp=Z,4.8nm,0.4s						
KOLN	**Koldanda**	**44.44**	**305**	eP	**P**	**01 34 37.6**	**+1.1**
	comp=Z,4.3nm,0.2s						
DANN	**Dangsing**	**44.55**	**306**	eP	**P**	**01 34 38.2**	**+0.8**
	comp=Z,54nm,0.6s						
PYUN	**Piuthan**	**45.07**	**306**	eP	**P**	**01 34 42.4**	**+1.0**
	comp=Z,10nm,0.4s						
SONM	**Songino Array**	**45.38**	**344**	P	**P**	**01 34 43.9**	**+0.6**
	comp=Z,5.4nm,0.9s,baz=159,slow=9.3,SNR=39						
SONM				PcP	**PcP**	**01 36 12.2**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=181,slow=3.7,SNR=3.5						
SONM	**Songino Array**	**45.38**	**344**	P	**P**	**01 34 44.1**	**+0.8**
SONM				IAmb	IAmb	01 34 45.0	
	comp=Z,5.6nm,0.9s						
MK31	**Makanchi Array**	**54.98**	**326**	P	**P**	**01 35 54.7**	**+1.0**
MKAR	**Makanchi Array**	**54.98**	**326**	P	**P**	**01 35 54.5**	**+0.7**
	comp=Z,3.6nm,0.4s,baz=122,slow=7.3,SNR=207						
MKAR				PcP	**PcP**	**01 36 47.6**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=112,slow=4.3,SNR=12						
MKAR				ScP	**ScP**	**01 39 57.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=119,slow=5.0,SNR=7.3						
MAKZ	**Makanchi**	**55.16**	**326**	P	**P**	**01 35 55.7**	**+0.8**
KSH	**Kashi**	**55.17**	**316**	P	**P**	**01 35 57.3**	**+2.0**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DRK	**Karamyk**	**58.10**	**314**	P	**P**	**01 36 16.2**	**+0.5**
DRK				IAmb	IAmb	01 36 18.1	
	comp=Z,5.6nm,0.7s						
ZAA0	**Zalesovo Array**	**58.30**	**334**	P	**P**	**01 36 16.0**	**-0.3**
ZALV	**Zalesovo Beam**	**58.30**	**334**	P	**P**	**01 36 15.8**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=134,slow=6.1,SNR=14						
KBL	**Kabul**	**58.48**	**308**	P	**P**	**01 36 18.4**	**+0.1**
KBL				IAmb	IAmb	01 36 19.4	
	comp=Z,5.5nm,0.8s						
KURK	**Kurchatov**	**59.24**	**328**	P	**P**	**01 36 23.3**	**+0.5**
CHGR	**Chuyangaron**	**59.72**	**312**	P	**P**	**01 36 26.6**	**+0.3**
CHGR				IAmb	IAmb	01 36 28.2	
	comp=Z,8.5nm,0.9s						
KKAR	**Karatay Array**	**60.41**	**318**	P	**P**	**01 36 31.4**	**+0.6**
BRVK	**Borovoye**	**64.87**	**328**	P	**P**	**01 36 59.7**	**+0.2**
BRVK				IAmb	IAmb	01 37 00.4	
	comp=Z,9.3nm,0.9s						
NRIK	**Noril'sk**	**68.70**	**347**	P	**P**	**01 37 22.9**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=128,slow=5.9,SNR=11						
NRIK	**Noril'sk**	**68.70**	**347**	P	**P**	**01 37 23.0**	**+0.2**
NRIK				IAmb	IAmb	01 37 23.8	
	comp=Z,5.8nm,0.9s						
ABKAR	**Akbulak array**	**69.43**	**321**	P	**P**	**01 37 27.6**	**+0.1**
ABKAR	**Akbulak array**	**69.43**	**321**	P	**P**	**01 37 27.7**	**+0.1**
ABKAR				IAmb	IAmb	01 37 28.3	
	comp=Z,6.0nm,0.7s						
ARU	**Arti**	**72.44**	**328**	P	**P**	**01 37 44.9**	**-0.3**
ARU				IAmb	IAmb	01 37 45.3	
	comp=Z,8.6nm,0.6s						
RAYN	**Ar Rayn**	**77.29**	**293**	P	**P**	**01 38 13.1**	**-0.1**
KBZ	**Khabaz**	**80.06**	**313**	P	**P**	**01 38 27.4**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=139,slow=11,SNR=2.0						
KLMR	**Klimovskoe**	**83.00**	**331**	eP	**P**	**01 38 38.6**	**-3.6**
KLMR				AMP		01 38 42.6	
	comp=Z,15nm,1.0s						
ILAR	**Eielson Array**	**85.45**	**25**	P	**P**	**01 38 53.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=245,slow=5.1,SNR=7.2						
KMBO	**Kilima Mbogo**	**86.55**	**269**	P	**P**	**01 39 00.1**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=62,slow=7.7,SNR=4.5						
BRTR	**Keskin Array B**	**87.02**	**309**	P	**P**	**01 39 01.2**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=129,slow=6.8,SNR=7.1						
ARCES	**ARCESS Array B**	**88.41**	**340**	P	**P**	**01 39 06.7**	**-1.4**
	comp=Z,4.7nm,1.0s,baz=83,slow=5.3,SNR=8.5						
AKASG	**Malin Array Be**	**89.16**	**321**	P	**P**	**01 39 10.3**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=75,slow=5.6,SNR=4.5						
FINES	**FINESS Array B**	**89.47**	**332**	P	**P**	**01 39 11.4**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=67,slow=5.2,SNR=20						
NOA	**NORSAR Array B**	**96.49**	**333**	P	**P**	**01 39 43.4**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=66,slow=4.5,SNR=2.0						
TORD	**Torodi Ar. Bea**	**119.72**	**288**	PKP	**PKPdf**	**01 45 03.5**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=72,slow=1.5,SNR=19						

IDC 28 01:44:44.1±3.1, 6°56S×151°52E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.3/41, mbtmp3.5/6, ML1.4/1, Error ellipse: s-maj=99.6km s-min=18.9km az=116.0

ISC 28 01:44:49.3±2.0, 6°5S±0°2×151°4E±0°3, h30km, n8, σ1§43/10, mb3.4/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.27**	**17**	Pn	**Pn**	**01 45 23.8**	**-0.9**
KRVT				Sn	**Sn**	**01 45 53.2**	**+1.5**
PMG	**Port Moresby**	**5.06**	**235**	Pn	**Pn**	**01 46 04.9**	**+1.7**
	1.0nm,0.3s,baz=307,slow=22,SNR=1.5						
PMG				Sn	**Sb**	**01 47 15.3**	**-2.4**
	5.7nm,0.3s,baz=339,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**21.26**	**229**	P	**P**	**01 49 33.8**	**+0.5**
	0.8nm,0.8s,baz=54,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**23.94**	**223**	P	**P**	**01 49 59.9**	**-1.1**
	1.2nm,0.9s,baz=53,slow=8.7,SNR=7.0						
FITZ	**Fitzroy Crossi**	**27.60**	**243**	P	**P**	**01 50 33.5**	**-0.7**
	0.9nm,0.6s,baz=49,slow=9.3,SNR=2.0						
SONM	**Songino Array**	**66.99**	**329**	P	**P**	**01 55 40.1**	**+0.7**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=2.6						
MKAR	**Makanchi Array**	**80.65**	**319**	P	**P**	**01 56 59.6**	**+0.2**
	0.1nm,0.4s,baz=107,slow=5.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.40**	**285**	PKPbc	**PKPbc**	**02 04 36.3**	**-0.2**
	0.3nm,0.9s,baz=75,slow=2.8,SNR=2.0						

CNRM 28 01:45:28.4, 35°85N×3°31W, h6km, ml2.5

ISC 28 01:45:29.1±2.7, 35.8N±0°2×3°35W±0°07, h8km, n6, σ0§68/8, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.77**	**219**	P	**Pg**	**01 45 44.0**	**0.0**
PALE				S	**Sg**	**01 45 55.0**	**+1.0**
CHAS	**Isla Isabel II**	**0.98**	**130**	eP	**Pn**	**01 45 49.6**	**+0.5**
CHAS				eS	**Sn**	**01 46 02.5**	**-0.7**
AKLM	**AKL**	**1.38**	**198**	P	**Pn**	**01 45 54.0**	**-0.6**
JBK	**JBK**	**1.61**	**156**	P	**Pn**	**01 45 57.8**	**-0.3**
CHEFC	**Chefchaouen**	**1.78**	**247**	P	**Pn**	**01 46 00.0**	**-0.1**
MDT	**Midelt**	**3.18**	**200**	P	**Pn**	**01 46 19.2**	**-0.2**

IDC 28 01:50:13.1±1.5, 5°45S×151°71E, h50km±12km, mb4.1/17, mb1 4.3/19, mb1mx3.9/43, mbtmp4.4/19, ML3.3/2, MS3.7/25, Ms1 3.7/25, ms1mx3.5/61, Error ellipse: s-maj=19.3km s-min=9.4km az=125.0

NEIC 28 01:50:13.8±1.4, 5°57S±0°08×152°0E±0°1, h61km±8km, mb4.4/19, Error ellipse: s-maj=18.0km s-min=9.7km az=109.0

DJA 28 01:50:15.1±0.5, 5°S±4°×15°2E±°, h78km±6km, M4.9/11, mB5.0/2, mb4.6/11, MLv5.1/2, Mw(mB)4.3/2

ISC 28 01:50:12.3±0.5, 5°54S±0°06×151°87E±0°09, h45km, n87, σ1§08/79, mb4.4/27, MS3.6/21, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.24**	**7**	P	**Pn**	**01 50 33.8**	**+0.6**
KRVT				S	**Sn**	**01 50 51.3**	**+2.6**
RABL	**Rabaul**	**1.37**	**12**	Pn	**Pn**	**01 50 35.7**	**+0.7**
RABL				Sn	**Sn**	**01 50 54.9**	**+2.8**
MANU	**Manus Island**	**5.68**	**308**		**Pn**	**01 51 37.0**	**+2.7**
PMG	**Port Moresby**	**6.05**	**230**	P	**Pn**	**01 51 39.7**	**+0.5**
	8.3nm,0.3s,baz=30,slow=11,SNR=17						
PMG				S	**Sn**	**01 52 48.5**	**+1.3**
	17nm,0.3s,baz=2.3,slow=14,SNR=9.3						
PMG				LR	LR	01 53 15.1	
	comp=Z,98nm,19.7s,baz=28,slow=30						
PMG	**Port Moresby**	**6.05**	**230**	Pn	**Pn**	**01 51 40.9**	**+1.7**
HNR	**Honiara**	**8.89**	**116**	LR	LR	01 56 05.8	
	comp=Z,167nm,18.1s,baz=288,slow=39						
JAY	**Jayapura**	**11.54**	**285**	LR	LR	01 56 53.0	
	comp=Z,324nm,19.0s,baz=134,slow=35						
CTA	**Charters Tower**	**15.46**	**200**	P	**Pn**	**01 53 49.8**	**+2.4**
	0.4nm,0.3s,baz=13,slow=12,SNR=6.9						
CTA				LR	LR	01 59 25.4	
	comp=Z,329nm,19.3s,baz=68,slow=36						
EIDS	**Eidsvold**	**19.73**	**182**	P	**P**	**01 54 39.1**	**+0.8**
DZM	**Mont Dzumac**	**21.65**	**141**	P	**P**	**01 55 00.4**	**+1.2**
	2.9nm,0.8s,baz=333,slow=18,SNR=3.6						
DZM				LR	LR	02 02 46.7	
	comp=Z,342nm,19.3s,baz=268,slow=34						
DZM	**Mont Dzumac**	**21.65**	**141**	P	**P**	**01 54 59.8**	**+0.6**
MTN	**Manton Dam**	**21.71**	**249**	P	**P**	**01 54 59.6**	**-0.2**
WB0	**Warramunga Arr**	**22.12**	**229**	P	**P**	**01 55 04.2**	**0.0**
WB0				IAmb	IAmb	01 55 07.4	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**22.12**	**228**	P	**P**	**01 55 03.6**	**-0.6**
WR0				IAmb	IAmb	01 55 07.5	
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**22.25**	**228**	P	**P**	**01 55 04.7**	**-0.9**
WRAB				IAmb	IAmb	01 55 08.6	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**22.25**	**228**	P	**P**	**01 55 05.4**	**-0.2**
WB2				IAmb	IAmb	01 55 08.8	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**22.26**	**228**	P	**P**	**01 55 05.6**	**-0.1**
	comp=Z,7.7nm,0.6s,baz=53,slow=9.9,SNR=48						
WRA				S	**S**	**01 59 06.7**	**-1.5**
	comp=Z,4.4nm,1.1s,baz=52,slow=18,SNR=5.7						
WRA				ScP	**ScP**	**02 02 35.7**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=50,slow=2.9,SNR=5.9						
WRA				LR	LR	02 03 58.2	
	comp=Z,127nm,19.6s,baz=104,slow

DLBC	Dease Lake	88.49	31	LR	LR	02 34 08.7	
	comp=Z,104nm,20.4s,baz=281,slow=30						
INK	Inuvik	89.47	21	P	P	02 03 03.7	-0.4
	comp=Z,1.1nm,0.8s,baz=265,slow=3.9,SNR=4.2						
YBH	Yreka Blue Hor	90.23	48	P	P	02 03 09.7	+1.2
	comp=Z,2.1nm,0.8s,baz=308,slow=3.6,SNR=4.9						
NVAR	Mina Array Bea	93.27	52	P	P	02 03 24.2	+1.4
	comp=Z,3.1nm,0.8s,baz=252,slow=6.9,SNR=24						
NVAR				LR	LR	02 40 22.1	
	comp=Z,98nm,18.7s,baz=318,slow=32						
NVAR	Mina Array Bea	93.27	52	P	P	02 03 23.4	+0.7
NEW	Newport	94.76	42	LR	LR	02 41 23.0	
	comp=Z,91nm,18.8s,baz=304,slow=32						
ELK	Elko	95.77	50	P	P	02 03 35.7	+1.5
	comp=Z,1.0nm,0.7s,baz=162,slow=2.8,SNR=4.1						
ELK	Elko	95.77	50	P	P	02 03 33.5	-0.7
ARU	Arti	96.42	326	LR	LR	02 48 14.9	
	comp=Z,80nm,19.5s,baz=50,slow=36						
YKA	Yellowknife Ar	96.51	28	P	P	02 03 36.8	0.0
	comp=Z,0.4nm,0.7s,baz=268,slow=4.6,SNR=9.0						
YKA	Yellowknife Ar	96.51	28	P	P	02 03 37.0	+0.3
PDAR	Pinedale Array	100.03	48	P	Pdif	02 03 53.5	+0.2
	comp=Z,1.3nm,0.8s,baz=247,slow=1.9,SNR=9.7						
AKASG	Malin Array Be	114.55	324	PKP	PKiKP	02 08 46.6	-0.9
	comp=Z,0.5nm,0.4s,baz=66,slow=2.3,SNR=7.0						
DPC	Dobruska-Polom	121.93	328	*e*PKP	PKiKP	02 09 10.7	+8.7
CONA	Conrad Observa	123.55	326	*e*P	PKiKP	02 09 05.1	-0.2
	comp=Z,1.1nm,0.5s						
CKRC	Cesky Krumlov	123.89	328	*e*PKP	PKPdf	02 09 04.6	-1.0
KHC	Kasperske Hory	124.09	328	*e*PKP	PKPdf	02 09 04.7	-1.3
GERES	GERESS Array B	124.19	328	PKP	PKPdf	02 09 06.0	-0.4
	comp=Z,2.2nm,0.6s,baz=80,slow=2.2,SNR=14						
KBA	Koelnbreinsper	125.44	326	*e*P	PKiKP	02 09 11.8	+2.6
	comp=Z,0.3nm,0.3s						
ABTA	Abfaltersbach	126.09	326	*e*P	PKPdf	02 09 09.0	-1.0
	comp=Z,1.0nm,0.5s						
WTTA	Wattenberg	126.25	327	*e*P	PKPdf	02 09 10.2	-0.2
	comp=Z,2.9nm,0.4s						
EKA	Eskdalemuir Ar	126.47	343	PKP	PKPdf	02 09 10.1	-0.2
	comp=Z,0.8nm,0.5s,baz=19,slow=2.4,SNR=5.2						
MOTA	Moosalm	126.49	328	*e*P	PKPdf	02 09 10.7	-0.2
	comp=Z,1.9nm,0.4s						
SQTA	Sankt Quirin	126.51	327	*e*P	PKPdf	02 09 10.8	0.0
	comp=Z,0.6nm,0.2s						
RETA	Reutte	126.58	328	*e*P	PKPdf	02 09 10.7	-0.2
	comp=Z,0.4nm,0.2s						
FETA	Feichten	126.89	328	*e*P	PKPdf	02 09 11.6	0.0
	comp=Z,1.3nm,0.5s						
KEST	Kesra	134.31	316	PKP	PKiKP	02 09 27.2	-0.1
	comp=Z,2.6nm,0.8s,baz=103,slow=3.0,SNR=7.1						
TORD	Torodi Ar. Bea	149.65	287	PKP	PKPdf	02 09 53.0	-0.5
	comp=Z,20nm,0.9s,baz=54,slow=2.4,SNR=83						
TORD				PKPbc	PKPbc	02 09 57.1	-1.0
	comp=Z,15nm,0.7s,baz=68,slow=2.9,SNR=73						
BDFB	Brasilia	151.17	137	PKPbc	PKiKP	02 10 02.2	-0.2
	comp=Z,4.7nm,0.7s,baz=226,slow=5.0,SNR=7.6						
DBIC	Dimbokro	156.84	274	PKPab	PKPab	02 10 32.8	-0.9
	comp=Z,8.3nm,1.2s,baz=154,slow=4.2,SNR=3.4						

*IDC **28** 01:51:18.9±1.0, 34°.99S×15°.54W, h0km, mb4.2/9, mb1 4.3/9, mb1mx3.9/36, mbtmp4.2/9, MS4.1/33, Ms1 4.0/33, ms1mx3.9/60, Error ellipse: s-maj=40.5km s-min=19.1km az=161.0*

*NEIC **28** 01:51:22.7±1.1, 35.0°S±0.2°×15.7°W±0.1°, h16km±4km, mb4.8/22, Error ellipse: s-maj=34.6km s-min=12.2km az=165.0*

*GCMT **28** 01:51:24.7±0.4, 35°.31S±0°.06×15°.39W±0°.03, h19km±1km, MW4.8/78, Moment Tensor Solution. s12,c13; s78,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.40±.22; $M_{\theta\theta}$=0.83±.14; $M_{\phi\phi}$=1.57±.13; $M_{r\theta}$=-0.89±.37; $M_{\phi\theta}$=0.66±.07; $M_{\phi r}$=0.35±.24; Best double couple: M_0=2.32700×10^{16} NP1:φs=195.00000°, δ45.00000°, λ-114.00000°. NP2: φs=47.00000°, δ50.00000°, λ-68.00000°. Principal axes: T 1.9650, Plg2.0000°, Azm122.0000°; N 0.7260, Plg17.0000°, Azm213.0000°; P -2.6880, Plg73.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 01:51:20.1±0.6, 35°.1S±0°.2×15°.60W±0°.09, h10km, n77, σ0**77**/39**, mb4.7**/18**, MS4.1**/33**, 1D, Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H09N1	TRISTAN DA CUN	3.31	128	T	T	01 55 17.3	
	SNR=134						
H09W1	TRISTAN DA CUN	3.32	128	T	T	01 55 23.6	
	SNR=777						
H10S2	ASCENSION HYDR	26.02	2	T	T	02 23 57.9	
	baz=181,slow=74,SNR=212						
H10S3	ASCENSION HYDR	26.02	2	T	T	02 23 57.9	
	baz=39,slow=74,SNR=581						
H10N1	ASCENSION HYDR	27.13	2	T	T	02 25 21.4	
	baz=180,slow=73,SNR=78						
H10N3	ASCENSION HYDR	27.13	2	T	T	02 25 20.6	
	baz=180,slow=73,SNR=659						
H10N2	ASCENSION HYDR	27.15	2	T	T	02 25 21.3	
	baz=180,slow=73,SNR=178						
SUR	Sutherland	30.30	95	LR	LR	02 06 50.2	
	comp=Z,382nm,20.0s,baz=258,slow=31						
PLTB	Pedras Altas	31.77	265	P	P	01 57 45.9	+1.3
TSUM	Tsumeb	33.31	70	LR	LR	02 08 49.6	
	comp=Z,102nm,18.1s,baz=230,slow=32						
BDFB	Brasilia	34.88	295	P	P	01 58 12.5	+0.5
	6.1nm,1.1s,baz=100,slow=11,SNR=4.5						
BDFB				LR	LR	02 09 57.2	
	comp=Z,409nm,20.6s,baz=133,slow=32						
BDFB	Brasilia	34.88	295	P	P	01 58 12.5	+0.5
BDFB				IAmb	IAmb	01 58 17.4	
	comp=Z,14nm,1.3s						
ITQB	Itaqui	34.89	267	P	P	01 58 13.0	+1.2
ITQB				IAmb	IAmb	01 58 16.9	
	comp=Z,19nm,1.0s						
BOSA	Boshof	35.12	91	LR	LR	02 10 02.9	
	comp=Z,259nm,20.1s,baz=230,slow=32						
CPUP	Villa Florida	36.71	272	LR	LR	02 11 12.7	
	comp=Z,228nm,19.9s,baz=116,slow=32						
LBTB	Lobatse	36.82	86	LR	LR	02 11 05.1	
	comp=Z,258nm,22.0s,baz=235,slow=32						
SNAA	Sanae	37.26	173	LR	LR	02 10 36.2	
	comp=Z,258nm,18.2s,baz=49,slow=31						
MATP	Matopo	41.33	81	LR	LR	02 13 30.1	
	comp=Z,105nm,20.1s,baz=243,slow=32						
DBIC	Dimbokro	42.75	16	P	P	01 59 17.5	-0.2
	comp=Z,2.4nm,0.7s,baz=228,slow=7.0,SNR=3.6						
DBIC				LR	LR	02 12 26.6	
	comp=Z,136nm,20.0s,baz=168,slow=30						
DBIC	Dimbokro	42.75	16	P	P	01 59 17.7	0.0
PLCA	Paso Flores	43.13	246	P	P	01 59 22.4	+1.6
	comp=Z,5.0nm,1.1s,baz=241,slow=4.5,SNR=4.6						
PLCA	Paso Flores	43.13	246	P	P	01 59 21.5	+0.7
PLCA				IAmb	IAmb	01 59 23.2	
	comp=Z,12nm,1.4s						
PTLB	Pontes e Lacer	43.55	285	P	P	01 59 23.8	-0.5
LSZ	Lusaka	43.84	75	P	P	01 59 27.2	+0.4
	comp=Z,3.7nm,1.0s,baz=232,slow=5.8,SNR=6.2						
LSZ				LR	LR	02 16 39.2	
	comp=Z,218nm,18.5s,baz=214,slow=35						
LSZ	Lusaka	43.84	75	P	P	01 59 28.1	+1.3
SIV	San Ignacio	44.78	283	P	P	01 59 35.0	+0.8
	comp=Z,1.9nm,0.2s,baz=118,slow=8.9,SNR=11						
SIV				LR	LR	02 16 41.2	
	comp=Z,346nm,18.0s,baz=128,slow=34						
BO01	Tunca	45.09	254	P	P	01 59 37.0	+0.5
PEL	Peldehue	45.16	256	P	P	01 59 37.6	+0.5
PEL				IAmb	IAmb	01 59 38.7	
	comp=Z,18nm,1.0s						
MT09	Talagante	45.20	255	P	P	01 59 37.9	+0.4
SYO	Syowa Base	45.38	155	⇓*e*P	P	01 59 37.4	-0.8
MT01	Popeta	45.38	255	P	P	01 59 39.0	+0.2
MT01				IAmb	IAmb	01 59 39.8	
	comp=Z,12nm,0.9s						
MT02	Curacav	45.48	256	P	P	01 59 39.9	+0.3
MT02				IAmb	IAmb	01 59 41.3	
	comp=Z,14nm,0.8s						
GO05	Huala	45.57	253	P	P	01 59 40.0	-0.4
GO05				IAmb	IAmb	01 59 41.1	
	comp=Z,12nm,0.8s						
LVC	Limon Verde	47.82	270	LR	LR	02 18 23.6	
	comp=Z,110nm,21.6s,baz=139,slow=34						
GO01	Chusmiza	49.45	273	P	P	02 00 10.1	-1.1
GO01				IAmb	IAmb	02 00 12.2	
	comp=Z,9.2nm,0.7s						
LPAZ	La Paz	50.31	278	P	P	02 00 17.9	0.0
	comp=Z,1.0nm,0.8s,baz=178,slow=6.5,SNR=4.2						
LPAZ				LR	LR	02 21 10.2	
	comp=Z,183nm,19.0s,baz=50,slow=36						
TORD	Torodi Ar. Bea	50.70	22	P	P	02 00 19.1	-0.9
	comp=Z,3.2nm,0.9s,baz=200,slow=6.9,SNR=16						
ETMB	Extrema	52.43	286	P	P	02 00 33.0	0.0
MDP	Montagnes des	53.02	311	LR	LR	02 21 51.0	
	comp=Z,202nm,18.6s,baz=136,slow=35						
PTGA	Pitinga	53.60	300	LR	LR	02 21 56.3	
	comp=Z,107nm,18.5s,baz=147,slow=34						
MAW	Mawson	53.75	152	LR	LR	02 18 11.1	
	comp=Z,241nm,21.6s,baz=244,slow=30						
MBAR	Mbarara	55.10	62	LR	LR	02 22 14.4	
	comp=Z,219nm,18.6s,baz=198,slow=34						
MBAR	Mbarara	55.10	62	P	P	02 00 53.3	+0.5
MBAR				IAmb	IAmb	02 01 05.6	
	comp=Z,21nm,1.8s						
CZSB	Cruzeiro do Su	58.81	283	P	P	02 01 17.8	-1.2
NNA	Nana	59.73	277	LR	LR	02 27 29.4	
	comp=Z,88nm,18.1s,baz=154,slow=36						
ATAH	Atahualpa	63.73	280	LR	LR	02 29 22.2	
	comp=Z,184nm,21.8s,baz=137,slow=36						
VNDA	Vanda	67.65	179	LR	LR	02 31 05.5	
	comp=Z,140nm,18.2s,baz=216,slow=35						
SDV	Santo Domingo	67.88	299	LR	LR	02 30 56.3	
	comp=Z,175nm,18.5s,baz=105,slow=35						
SDV	Santo Domingo	67.88	299	P	P	02 02 19.2	0.0
SDV				IAmb	IAmb	02 02 22.7	
	comp=Z,13nm,1.2s						
ROSC	El Rosal	67.89	293	LR	LR	02 31 08.6	
	comp=Z,506nm,18.0s,baz=118,slow=35						
MDT	Midelt	68.33	10	LR	LR	02 28 18.9	
	comp=Z,114nm,20.1s,baz=184,slow=32						
ZARC	Zaragoza, Cauc	70.03	295	P	P	02 02 31.7	-0.7
MOTC	Monteria, Cord	71.47	295	P	P	02 02 41.5	+0.4
ATD	Arta Tunnel	72.12	61	LR	LR	02 32 27.3	
	comp=Z,121nm,18.4s,baz=174,slow=34						
KEST	Kesra	74.20	21	P	P	02 02 57.5	+0.6
	comp=Z,4.5nm,1.0s,baz=236,slow=2.0,SNR=5.4						
RIOS	Rincon, Osa	77.36	290	P	P	02 03 14.0	-1.4
SRBA	San Rafael, Bu	77.57	291	P	P	02 03 17.5	+0.7
SRBA				IAmb	IAmb	02 03 19.1	
	comp=Z,9.0nm,1.1s						
RPN	Rapa Nui	77.77	246	LR	LR	02 33 47.2	
	comp=Z,52nm,18.6s,baz=174,slow=33						
JTS	Las Juntas de	79.45	290	LR	LR	02 36 48.3	
	comp=Z,78nm,20.5s,slow=34						
MMAI	Mount Meron Ar	82.92	41	LR	LR	02 40 27.9	
	comp=Z,52nm,18.3s,baz=44,slow=36						
DIVS	Divibare	85.20	25	P	P	02 03 57.1	+0.6
APG	El Apazote	86.58	291	LR	LR	02 43 12.2	
	comp=Z,67nm,19.3s,baz=100,slow=36						
BRTR	Keskin Array B	87.21	36	P	P	02 04 06.3	-0.2
	comp=Z,0.9nm,0.9s,baz=224,slow=5.2,SNR=4.2						
VRAC	Vranov	88.76	20	LR	LR	02 42 06.6	
	comp=Z,257nm,18.5s,baz=310,slow=34						
WSAR	Wadi Sarin	91.12	62	LR	LR	02 44 16.4	
	comp=Z,58nm,18.8s,baz=216,slow=35						
CMIG	Matias Romero	91.22	290	LR	LR	02 43 25.8	
	comp=Z,78nm,20.3s,baz=172,slow=34						
H01W2	Cape Leeuwin H	96.03	141	T	T	03 52 10.6	
	baz=220,slow=75,SNR=6.5						
H01W3	Cape Leeuwin H	96.04	141	T	T	03 52 11.6	
	baz=220,slow=75,SNR=7.8						
H01W1	Cape Leeuwin H	96.04	141	T	T	03 52 11.7	
	baz=220,slow=75,SNR=7.1						
NOA	NORSAR Array B	98.26	13	LR	LR	02 48 11.8	
	comp=Z,28nm,18.5s,baz=275,slow=35						
PALK	Pallekele	99.28	88	LR	LR	02 42 03.7	
	comp=Z,74nm,21.2s,baz=321,slow=31						
ZALV	Zalesovo Beam	123.31	44	PKP	PKPdf	02 10 15.7	-1.0
	comp=Z,0.3nm,0.4s,baz=242,slow=3.2,SNR=3.6						
YKA	Yellowknife Ar	124.50	326	PKP	PKPdf	02 10 17.9	-0.8
	comp=Z,0.6nm,0.6s,baz=97,slow=2.0,SNR=13						
INK	Inuvik	132.38	334	PKP	PKiKP	02 10 33.9	-0.7
	comp=Z,1.2nm,0.9s,baz=65,slow=3.7,SNR=3.5						
SONM	Songino Array	135.69	55	PKP	PKPdf	02 10 40.9	+0.4
	comp=Z,0.8nm,0.8s,baz=180,slow=3.0,SNR=5.7						
ILAR	Eielson Array	138.50	331	PKP	PKPdf	02 10 45.7	+0.6
	comp=Z,0.7nm,0.7s,baz=353,slow=1.6,SNR=8.6						
KSRS	Korea Array	150.61	75	PKPbc	PKPbc	02 11 11.9	-0.2
	comp=Z,0.6nm,0.4s,baz=263,slow=4.7,SNR=1.5						

*KRNET **28** 01:57:51.0±0.1, 40°.78N×69°.90E, h18km, mb2.6*

ISC 28 01:57:48.1±1.4, 40°.79N±0°.04×69°.77E±0°.07, h10km, n8, σ0**54**/11**, 9C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTK	Batken	1.08	132	⇑*i*P	Pn	01 58 10.0	+0.5
	baz=35						
BTK				⇑*i*S	Sn	01 58 23.8	-0.8
	baz=35						
TRKS	Terek-Say	1.27	54	⇑*i*P	Pg	01 58 13.2	+0.6
	baz=54						
TRKS				⇑*i*S	Sn	01 58 29.4	0.0
	baz=54						
ARK	Arkit	1.94	58	⇓*i*P	Pg	01 58 25.5	+0.2
	baz=56						
ARK				⇓*i*S	Sg	01 58 50.4	-0.1
	baz=56						
DRK	Karamyk	2.03	129	⇓*i*P	Pg	01 58 26.9	-0.2
	baz=31						
DRK				⇓*i*S	Sg	01 58 52.9	-0.6
	baz=31						
CHGR	Chuyangaron	2.18	193	⇑*i*P	Pg	01 58 29.9	0.0
	baz=95						
CHGR				⇑*i*S	Sg	01 58 58.5	+0.4
	baz=95						
KK09	Karatay Array	2.40	13	⇓Pg	Pg	01 58 33.4	-0.7
	1.1nm,0.5s,baz=198,slow=16						
KK09				⇓Lg	Lg	01 59 04.8	
	3.7nm,0.4s,baz=195,slow=29						
MAKZ	Makanchi	10.68	52	⇑Pn	Pn	02 00 29.7	+8.6
	0.3nm,0.6s						
MAKZ				⇑Lg	Lg	02 01 16.6	
	0.2nm,0.4s						
MK31	Makanchi Array	10.86	52	Pn	Pn	02 00 29.9	+6.3
	0.1nm,0.7s,baz=28,slow=12,SNR=4.6						
MK31				Pg		02 00 35.3	
	0.1nm,0.4s,baz=25,slow=18,SNR=5.8						
MK31				⇑Lg	Lg	02 01 13.5	
	0.1nm,0.2s,baz=24,slow=33,SNR=5.3						

*CNRM **28** 02:16:52.8, 35°.53N×3°.56W, h1km, ml2.6*

ISC 28 02:16:53.4±1.9, 35°.5N±0°.1×3°.55W±0°.05, h14km, n7, σ1**08**/8**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.43	228	P	Pg	02 17 01.0	-1.0
CHAS	Isla Isabel II	0.97	109	*e*P	Pb	02 17 11.1	-0.9
CHAS				*e*S	Sb	02 17 25.5	+0.8
AKLM	AKL	1.03	194	P	Pb	02 17 12.0	-1.0
JBK	JBK	1.42	145	P	Pn	02 17 20.0	+1.0
CHEFC	Chefchaouen	1.52	255	P	Pn	02 17 21.0	+0.8
LCRM	LCR	2.11	211	P	Pb	02 17 32.0	+0.4
MDT	Midelt	2.83	198	P	Pn	02 17 39.0	+0.7

*IDC **28** 02:47:21.3±2.0, 59°.86N×153°.49W, h70km±31km, mb3.4/3, mb1 3.7/8, mb1mx3.2/45, mbtmp3.8/8, ML4.0/5, MS3.6/1, Ms1 3.6/1, ms1mx2.7/52, Error ellipse: s-maj=33.8km s-min=10.5km az=105.0*

*ANF **28** 02:47:23.4±0.2, 59°.76N×153°.06W, h104km±2km, ML3.7/38, Error ellipse: s-maj=2.2km s-min=1.8km az=145.0*

*NEIC **28** 02:47:23.2±1.2, 59°.78N±0°.03×153°.11W±0°.07, h110km±4km, Error ellipse: s-maj=5.1km s-min=4.6km az=127.0*

*AEIC **28** 02:47:24±1.1, 59°.77N±0°.03×153°.12W±0°.07, h107km±4km, ML3.5, ML3.7/96(NEIC), Error ellipse: s-maj=5.0km s-min=4.5km az=131.0*

ISC 28 02:47:23.5±0.8, 59°.77N±0°.03×153°.08W±0°.03, h110km±5km, n222, σ0**75**/228**, mb3.6**/3**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPT	Oil Point	0.14	214		Pn	02 47 38.6	-0.2
O20K	Slope Mountain	0.39	36		Pn	02 47 39.6	-0.2
O20K					Sn	02 47 51.6	-0.4
O20K	Slope Mountain	0.39	36	P	Pn	02 47 39.6	-0.2
	baz=219,SNR=6.7						
O20K				S	Sn	02 47 51.6	-0.4
	baz=219						
AUL	Augustine Lava	0.43	205		Pn	02 47 40.1	+0.2
AUL					Sn	02 47 51.8	-0.4
RED	Redoubt Volcan	0.67	13		Pn	02 47 41.3	-0.4
RED					Sn	02 47 54.4	-1.0
RSO	Redoubt South	0.71	13		Pn	02 47 42.0	-0.2
HOM	Homer	0.73	98		Pn	02 47 42.2	+0.2
HOM					Sn	02 47 56.6	+0.5
HOM	Homer	0.73	98	IAML		02 47 57.8	
	comp=E,3μm,0.8s						
HOM	Homer	0.73	98	P	Pn	02 47 42.3	+0.2
	baz=279,SNR=10						
HOM				S	Sn	02 47 56.7	+0.5
	baz=279						
O19K	Port Alsworth	0.76	305		Pn	02 47 41.9	-0.3
O19K					Sn	02 47 55.6	-0.9
O19K	Port Alsworth	0.76	305	IAML		02 47 56.1	
	comp=E,5μm,0.5s						
O19K	Port Alsworth	0.76	305	P	Pn	02 47 41.9	-0.3
	baz=125,SNR=39						
O19K				S	Sn	02 47 55.5	-0.9
	baz=125						
DFR	Drift River	0.85	13		Pn	02 47 43.0	-0.3
DFR					Sn	02 47 57.2	-1.0
RDT	Redoubt	0.88	22		Pn	02 47 43.2	-0.3
Q19K	Cape Douglas,	0.89	199		Pn	02 47 43.4	-0.2
Q19K	Cape Douglas,	0.89	199		Sn	02 47 58.0	-0.7
Q19K	Cape Douglas,	0.89	199	P	Pn	02 47 43.4	-0.2
	baz=17,SNR=18						
Q19K				S	Sn	02 47 58.1	-0.7
	baz=17						
CNPM	China Poot	0.96	104		Pn	02 47 44.1	-0.2
CNPM					Sn	02 47 59.4	-0.7
CNPM	China Poot	0.96	104	IAML		02 48 02.9	
	comp=N,1μm,0.5s						
O18K	Koktuh Hills	1.08	276		Pn	02 47 45.2	-0.3
O18K					Sn	02 48 00.8	-1.3
O18K	Koktuh Hills	1.08	276	P	Pn	02 47 45.2	-0.3
	baz=94						
O18K				S	Sn	02 48 00.9	-1.3
	baz=94						
BRLK	Bradley Lake	1.11	89		Pn	02 47 45.5	-0.3
BRLK	Bradley Lake	1.11	89	IAML		02 48 03.9	
	comp=E,1μm,0.2s						
BRLK				IAML		02 48 04.7	
	comp=N,1μm,0.2s						
P18K	Big Mountain,	1.16	252		Pn	02 47 45.8	-0.6
P18K					Sn	02 48 02.3	-1.4
P18K	Big Mountain,	1.16	252	P	Pn	02 47 45.8	-0.6
	baz=70,SNR=7.0						
P18K				S	Sn	02 48 02.3	-1.4
	baz=70						
BRSE	Bradley Lake S	1.18	90		Pn	02 47 46.4	-0.3
BRSE					Sn	02 48 03.2	-0.9
BRSE	Bradley Lake S	1.18	90	P	Pn	02 47 46.3	-0.3
	baz=272,SNR=15						
BRSE				S	Sn	02 48 03.4	-0.7
	baz=272						
N19K	Bonanza Creek	1.26	327		Pn	02 47 47.3	-0.2
N19K					Sn	02 48 04.5	-1.3
N19K	Bonanza Creek	1.26	327	P	Pn	02 47 47.4	-0.2
	baz=147,SNR=50						
N19K				S	Sn	02 48 04.6	-1.3
	baz=147						
CAPN	Captain Cook N	1.39	43		Pn	02 47 50.5	+1.7
CAPN	Captain Cook N	1.39	43	IAML		02 48 12.5	
	comp=E,2μm,0.7s						
CAPN	Captain Cook N	1.39	43	P	Pn	02 47 50.4	+1.6
	baz=225						
SPU	Mount Spurr	1.51	19		Pn	02 47 50.3	0.0
SPCN	Chakachatna No	1.53	16		Pn	02 47 50.7	+0.1
SLKM	Skilak Lake	1.61	61		Pn	02 47 51.7	+0.1
SPNN	North Nagishla	1.61	6		Pn	02 47 51.9	+0.1
SPCG	Spurr Capps Gl	1.62	18		Pn	02 47 51.8	+0.1
SVW2	Sparrevohn	1.82	318		Pn	02 47 53.8	-0.3
O22K	Cooper Landing	1.82	65		Pn	02 47 54.3	+0.2
O22K	Cooper Landing	1.82	65	P	Pn	02 47 54.3	+0.2
	baz=249,SNR=9.4						
O22K				S	Sn	02 48 16.5	-1.1
	baz=249						
STLK	Strandline Lak	1.84	19		Pn	02 47 54.5	0.0
SEW	Seward	1.85	78		Pn	02 47 54.1	-0.4
SEW	Seward	1.85	78	P	Pn	02 47 54.1	-0.4
	baz=261						
SEW				S	Sn	02 48 17.1	-1.2
	baz=261						
KABU	Katmai Buttres	1.89	218		Pn	02 47 55.5	+0.5
FIS	Fire Island	1.98	44		Pn	02 47 54.9	-1.2
FIS				IAML		02 48 29.4	
	comp=E,680nm,0.5s						
FIS				IAML		02 48 30.5	
	comp=N,750nm,0.7s						
KDAK	Kodiak Island	2.01	172	P	Pn	02 47 56.0	-0.5
	comp=N,72nm,0.3s,baz=36,slow=8.7,SNR=209						
KDAK				S	Sn	02 48 20.7	-1.0
	comp=N,66nm,0.3s,baz=171,slow=23,SNR=23						
KDAK	Kodiak Island	2.01	172	IAML		02 48 22.1	
	comp=N,567nm,0.5s						
KDAK				IAML		02 48 22.3	
	comp=N,409nm,0.3s						
KDAK	Kodiak Island	2.01	172	P	Pn	02 47 56.0	-0.5
	baz=352						
KDAK				S	Sn	02 48 20.8	-1.0
	baz=352						
RC01	Rabbit Creek A	2.12	50		Pn	02 47 58.1	+0.1
RC01					Sn	02 48 23.0	-1.4
RC01	Rabbit Creek A	2.12	50	P	Pn	02 47 57.9	-0.1
	baz=233,SNR=20						
RC01				S	Sn	02 48 23.3	-1.1
	baz=233						
M19K	Big River Lodg	2.24	344		Pn	02 47 59.3	-0.1
M19K	Big River Lodg	2.24	344	P	Pn	02 47 59.4	-0.1
	baz=163						
M19K				S	Sn	02 48 26.8	-0.2
	baz=163						
M22K	Willow	2.46	35		Pn	02 48 02.7	+0.4
M22K	Willow

GLI	Glacier Island	3.18	67	P	Pn	02 48 11.1	-0.6
	baz=252						
GLI				S	Sn	02 48 45.6	-3.4
	baz=252						
SII	Sitkinak Islan	3.27	191		Pn	02 48 11.9	-1.1
SII	Sitkinak Islan	3.27	191	IAML		02 48 41.1	
	comp=N,257nm,4.8s						
SII				IAML		02 49 59.0	
	comp=E,221nm,2.9s						
SII	Sitkinak Islan	3.27	191	P	Pn	02 48 11.9	-1.1
	baz=9.4						
FID	Port Fidalgo	3.43	70		Pn	02 48 13.3	-1.8
TT01	Tatalina	3.45	337		Pn	02 48 15.1	-0.3
TTA	Tatalina	3.47	337		Pn	02 48 15.3	-0.5
TTA	Tatalina	3.47	337	P	Pn	02 48 15.2	-0.5
	baz=155,SNR=18						
SCM	Sheep Creek Mo	3.50	51		Pn	02 48 15.4	-0.7
SCM	Sheep Creek Mo	3.50	51	IAML		02 48 56.1	
	comp=E,255nm,0.5s						
SCM				IAML		02 48 59.0	
	comp=N,190nm,0.6s						
SCM	Sheep Creek Mo	3.50	51	P	Pn	02 48 15.4	-0.7
	baz=236						
K20K	Telida	3.63	353		Pn	02 48 17.9	+0.1
K20K	Telida	3.63	353	P	Pn	02 48 17.8	-0.1
	baz=172,SNR=18						
CAST	Castle Rocks	3.69	7		Pn	02 48 19.0	+0.4
CAST	Castle Rocks	3.69	7	P	Pn	02 48 18.6	0.0
	baz=188,SNR=38						
EYAK	Cordova Ski Ar	3.75	75	P	Pn	02 48 18.3	-0.9
	baz=261						
DIV	Divide	3.87	66		Pn	02 48 20.1	-0.9
KLU	Klutina	3.92	61		Pn	02 48 21.0	-0.8
KLU	Klutina	3.92	61	IAML		02 49 08.9	
	comp=E,214nm,0.5s						
KLU	Klutina	3.92	61	P	Pn	02 48 21.0	-0.8
	baz=247						
TRF	Thorofare Moun	3.93	19		Pn	02 48 22.6	+0.7
TRF				IAML		02 49 09.3	
	comp=N,73nm,0.5s						
TRF				IAML		02 49 29.3	
	comp=E,53nm,0.9s						
TRF	Thorofare Moun	3.93	19	P	Pn	02 48 22.1	+0.2
	baz=201,SNR=9.9						
KTH	Kantishna Hill	3.94	14		Pn	02 48 21.3	-0.6
KTH	Kantishna Hill	3.94	14	IAML		02 49 42.5	
	comp=E,48nm,0.8s						
M24K	Tolsona, Glenn	4.10	52		Pn	02 48 24.1	0.0
M24K	Tolsona, Glenn	4.10	52	IAML		02 49 12.4	
	comp=N,191nm,0.9s						
M24K	Tolsona, Glenn	4.10	52	P	Pn	02 48 24.1	0.0
	baz=238						
CHUM	Lake Minchumin	4.15	5		Pn	02 48 25.0	+0.4
CHUM	Lake Minchumin	4.15	5	P	Pn	02 48 25.0	+0.4
	baz=186,SNR=22						
RND	Reindeer	4.17	27		Pn	02 48 24.9	-0.2
RND	Reindeer	4.17	27	IAML		02 49 13.7	
	comp=N,38nm,1.1s						
RND				IAML		02 49 32.6	
	comp=E,50nm,0.9s						
CHIR	Chirikof Islan	4.18	200		Pn	02 48 23.9	-1.3
GOAT	Goat Mountain	4.25	75		Pn	02 48 25.1	-1.0
RAGM	Ragged Mountai	4.25	78	Pn	Pn	02 48 25.9	-0.2
BMRM	Bremner River	4.38	70		Pn	02 48 26.5	-1.3
BMRM	Bremner River	4.38	70	IAML		02 49 16.7	
	comp=E,142nm,0.3s						
BMRM				IAML		02 49 19.7	
	comp=N,145nm,0.4s						
BMRM	Bremner River	4.38	70	P	Pn	02 48 27.5	-0.2
	baz=258,SNR=5.9						
MCK	McKinley	4.44	25		Pn	02 48 28.9	+0.3
MCK	McKinley	4.44	25	IAML		02 49 21.5	
	comp=N,43nm,1.5s						
MCK				IAML		02 49 44.0	
	comp=E,40nm,2.4s						
MCK	McKinley	4.44	25	P	Pn	02 48 28.9	+0.3
	baz=208,SNR=18						
J20K	Nowinta River	4.45	354		Pn	02 48 28.9	+0.1
J20K	Nowinta River	4.45	354	P	Pn	02 48 28.8	0.0
	baz=173,SNR=23						
BPAW	Bear Paw Mtn.	4.46	12		Pn	02 48 28.2	-0.6
BPAW	Bear Paw Mtn.	4.46	12	P	Pn	02 48 28.3	-0.6
	baz=194,SNR=7.3						
CHGN	Chignik	4.49	222		Pn	02 48 29.4	+0.2
CHGN	Chignik	4.49	222	IAML		02 49 24.4	
	comp=E,80nm,2.1s						
CHGN				IAML		02 50 12.0	
	comp=N,76nm,4.6s						
CHGN	Chignik	4.49	222	P	Pn	02 48 29.0	-0.2
	baz=37						
N25K	Chitina, Valde	4.56	62		Pn	02 48 29.6	-0.7
N25K	Chitina, Valde	4.56	62	IAML		02 49 21.9	
	comp=E,130nm,0.6s						
N25K				IAML		02 49 23.0	
	comp=N,125nm,0.5s						
N25K	Chitina, Valde	4.56	62	P	Pn	02 48 30.0	-0.3
	baz=250,SNR=10						
HARP	HAARP	4.66	52		Pn	02 48 31.2	-0.4
HARP	HAARP	4.66	52	P	Pn	02 48 31.3	-0.4
	baz=239						
BWN	Browne	4.74	20		Pn	02 48 33.1	+0.6
BWN	Browne	4.74	20	IAML		02 50 17.7	
	comp=E,67nm,3.7s						
BWN				IAML		02 50 34.9	
	comp=N,71nm,4.8s						
GLB	Gilahina Butte	4.87	66		Pn	02 48 33.5	-0.9
GLB	Gilahina Butte	4.87	66	IAML		02 49 30.1	
	comp=E,108nm,0.7s						
PAX	Paxson	4.87	45		Pn	02 48 33.6	-0.8
PAX	Paxson	4.87	45	P	Pn	02 48 34.0	-0.4
	baz=232,SNR=16						
KHIT	Khitrov Hills	4.96	78		Pn	02 48 34.4	-1.3
VRDI	Verde Repeater	4.98	69		Pn	02 48 36.1	+0.1
VRDI	Verde Repeater	4.98	69	IAML		02 49 32.3	
	comp=N,58nm,0.5s						
VRDI				IAML		02 50 10.4	
	comp=E,40nm,4.1s						
PS10	TAPS Pump St10	5.06	40		Pn	02 48 37.2	+0.2
NEA2	Nenana	5.19	19		Pn	02 48 38.0	-0.7
NEA2	Nenana	5.19	19	IAML		02 51 22.1	
	comp=E,21nm,4.6s						
NEA2	Nenana	5.19	19	P	Pn	02 48 38.1	-0.7
	baz=203,SNR=14						
WRH	Wood River Hil	5.27	24		Pn	02 48 39.2	-0.5
WRH	Wood River Hil	5.27	24	IAML		02 49 42.7	
	comp=N,19nm,1.9s						
WRH				IAML		02 51 09.1	
	comp=E,36nm,5.0s						
GCSA	Galena City Sc	5.30	342		Pn	02 48 40.0	-0.2
GCSA	Galena City Sc	5.30	342	P	Pn	02 48 39.9	-0.2
	baz=159						
MLY	Manley	5.39	11		Pn	02 48 41.6	+0.1
MLY	Manley	5.39	11	P	Pn	02 48 41.5	0.0
	baz=193						
ISLE	Juniper Island	5.42	77		Pn	02 48 41.9	-0.1
KIAG	Kiagna River	5.45	73		Pn	02 48 42.7	+0.3
I21K	Tanana	5.46	5		Pn	02 48 42.6	+0.3
I21K	Tanana	5.46	5	P	Pn	02 48 42.4	+0.2
	baz=186						
BALM	Baldy	5.47	72		Pn	02 48 41.4	-1.2
HDA	Harding Lake	5.47	29		Pn	02 48 42.1	-0.4
HDA	Harding Lake	5.47	29	P	Pn	02 48 42.0	-0.6
	baz=215,SNR=12						
CCB	Clear Creek Bu	5.48	24		Pn	02 48 42.0	-0.6
MENT	Mentasta	5.51	51		Pn	02 48 43.3	+0.2
M26K	Nabesna, AK	5.56	57		Pn	02 48 43.9	+0.2
M26K	Nabesna, AK	5.56	57	P	Pn	02 48 43.7	0.0
	baz=246						
RIDG	Independent Ri	5.58	41		Pn	02 48 43.2	-0.8
RIDG	Independent Ri	5.58	41	P	Pn	02 48 44.0	-0.1
	baz=228,SNR=11						
MESA	MESA	5.60	81		Pn	02 48 44.8	+0.3
MESA	MESA	5.60	81	P	Pn	02 48 44.8	+0.3
	baz=271						
I23K	Minto, Yukon-K	5.67	16		Pn	02 48 44.7	-0.4
I23K	Minto, Yukon-K	5.67	16	P	Pn	02 48 44.8	-0.3
	baz=200,SNR=15						
TCOL	CIGO, UAF Yank	5.67	23		Pn	02 48 44.8	-0.4
TCOL	CIGO, UAF Yank	5.67	23	P	Pn	02 48 44.8	-0.4
	baz=208,SNR=8.7						
COLA	College	5.67	23		Pn	02 48 44.6	-0.5
COLA	College	5.67	23	P	Pn	02 48 44.8	-0.3
	baz=208						
MDM	Murphy Dome	5.68	21		Pn	02 48 44.9	-0.4
L26K	Log Cabin Wild	5.70	51		Pn	02 48 45.3	-0.3
L26K	Log Cabin Wild	5.70	51	P	Pn	02 48 45.4	-0.3
	baz=240						
YAH	Yahtse	5.71	79		Pn	02 48 46.5	+0.5
IL31		5.79	27		Pn	02 48 46.0	-0.8
ILAR	Eielson Array	5.79	27	P	Pn	02 48 45.9	-0.9
	comp=E,5.8nm,0.3s,baz=215,slow=13,SNR=194						
ILAR				S	Sn	02 49 49.8	-2.0
	comp=E,3.7nm,0.3s,baz=221,slow=29,SNR=9.7						
ILAR	Eielson Array	5.79	27	Pn	Pn	02 48 46.0	-0.9
BARN	Barnard Glacie	5.80	72		Pn	02 48 47.7	+0.5
H21K	Melozitna Rive	5.91	1		Pn	02 48 48.3	-0.2
H21K	Melozitna Rive	5.91	1	P	Pn	02 48 48.1	-0.3
	baz=182						
POKR	Poker Plat Res	5.97	24		Pn	02 48 48.8	-0.5
POKR	Poker Plat Res	5.97	24	P	Pn	02 48 48.3	-0.9
	baz=209,SNR=7.1						
PS07	TAPS Pump Stn7	5.99	20		Pn	02 48 49.1	-0.4
TABL	Table Mountain	6.01	78		Pn	02 48 50.1	+0.2
SCRK	Sand Creek	6.02	42		Pn	02 48 48.8	-1.3
SCRK	Sand Creek	6.02	42	P	Pn	02 48 49.0	-1.1
	baz=230,SNR=11						
M27K	Edge Creek, AK	6.02	60		Pn	02 48 50.4	+0.2
M27K	Edge Creek, AK	6.02	60	P	Pn	02 48 50.9	+0.8
	baz=250						
IM03		6.25	357		Pn	02 48 53.5	+0.5
IMAR	Indian Mountai	6.25	357	Pn	Pn	02 48 53.4	+0.4
PS06	TAPS Pump Stn6	6.30	13		Pn	02 48 53.8	+0.1
YUK2	White River	6.32	66		Pn	02 48 54.7	+0.5
L27K	Beaver Creek,	6.33	54		Pn	02 48 54.6	+0.4
L27K	Beaver Creek,	6.33	54	P	Pn	02 48 54.4	+0.3
	baz=244						
BC03		6.35	54		Pn	02 48 53.8	-0.5
PINM	Pinnacle	6.46	82	P	Pn	02 48 56.5	+0.6
	baz=273						
BVCY	Beaver Creek	6.49	61		Pn	02 48 57.3	+1.0
BVCY	Beaver Creek	6.49	61	P	Pn	02 48 57.1	+0.8
	baz=251						
YUK3	Moose Creek	6.50	67		Pn	02 48 57.2	+0.6
YUK3	Moose Creek	6.50	67	P	Pn	02 48 57.0	+0.4
	baz=258						
H24K	Noodor Dome	6.54	19		Pn	02 48 55.3	-1.7
H24K	Noodor Dome	6.54	19	P	Pn	02 48 56.1	-0.9
	baz=204,SNR=12						
PRP	Porcupine Dome	6.73	28	Pn	Pn	02 48 59.6	-0.1
PRP	Porcupine Dome	6.73	28	P	Pn	02 48 59.4	-0.3
	baz=215,SNR=20						
PNL	Peninsula	6.92	85		Pn	02 49 02.2	0.0
PNL	Peninsula	6.92	85	P	Pn	02 49 01.8	-0.4
	baz=277,SNR=7.6						
YUK4	Talbot Arm	7.29	71	P	Pn	02 49 08.5	+1.2
	baz=263						
YUK6	Outpost Mounta	7.39	74		Pn	02 49 09.0	+0.2
YUK6	Outpost Mounta	7.39	74	P	Pn	02 49 09.3	+0.5
	baz=267						
EGAK	Eagle	7.49	43		Pn	02 49 09.0	-0.7
COLD	Coldfoot	7.60	8		Pn	02 49 10.9	-0.4
COLD	Coldfoot	7.60	8	P	Pn	02 49 10.5	-0.8
	baz=191,SNR=6.6						
FYU	Fort Yukon	7.68	24		Pn	02 49 11.7	-0.7
DAWY	Dawson	7.76	50		Pn	02 49 13.5	0.0
DLBC	Dease Lake	11.91	86	P	Pn	02 50 12.1	+2.6
	comp=E,1.9nm,0.3s,baz=322,slow=3.8,SNR=25						
DLBC	Dease Lake	11.91	86		Pn	02 50 09.5	0.0
INK	Inuvik	12.05	37	P	Pn	02 50 10.7	-0.4
	comp=E,0.2nm,0.3s,baz=233,slow=18,SNR=8.1						
INK	Inuvik	12.05	37		Pn	02 50 11.1	-0.1
A36M	Sachs Harbour	16.48	31		Pn	02 51 08.1	+0.5
YKA	Yellowknife Ar	18.58	65	P	Pn	02 51 33.0	-0.1
	comp=E,0.1nm,0.3s,baz=277,slow=9.9,SNR=12						
YKA				LR	LR	02 58 59.0	
	comp=E,210nm,21.4s,baz=272,slow=37						
YKA	Yellowknife Ar	18.58	65	P	P	02 51 31.7	+0.1
SONM	Songino Array	54.90	306	P	P	02 56 43.5	+1.2
	comp=E,0.3nm,0.5s,baz=51,slow=6.1,SNR=4.8						
ZALV	Zalesovo Beam	57.54	324	P	P	02 57 01.2	+0.4
	comp=E,1.3nm,0.5s,baz=32,slow=6.2,SNR=5.4						
ZALV	Zalesovo Beam	57.54	324	P	P	02 57 01.7	+0.9
MKAR	Makanchi Array	64.59	321	P	P	02 57 48.8	+0.2
	comp=E,0.2nm,0.5s,baz=32,slow=5.7,SNR=2.1						

IDC 28 02:56:47.8±5.2, 4°.26S×132°.44E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.6/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/38, Error ellipse: s-maj=336.6km s-min=14.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.70	173	Pn	Pn	03 00 28.4	-2.0
	0.2nm,0.3s,baz=356,slow=13,SNR=9.1						
WRA				Sn	Sn	03 03 17.0	-8.2
	0.2nm,0.3s,baz=360,slow=23,SNR=4.9						
ASAR	Alice Springs	19.34	176	P	Pn	03 01 15.7	-0.3
	0.3nm,0.3s,baz=351,slow=9.4,SNR=14						
ASAJ	Asahikawa	49.02	10	LR	LR	03 24 54.0	
	comp=Z,42nm,22.0s,baz=27,slow=34						
RAO	Raoul Island	53.12	124	LR	LR	03 26 59.5	
	comp=Z,46nm,20.6s,baz=356,slow=34						
MKAR	Makanchi Array	67.33	325	P	P	03 07 42.8	-1.9
	0.3nm,0.6s,baz=114,slow=8.1,SNR=2.6						

IDC 28 03:12:51.7±6.0, 29°.26N×89°.19E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.1/59, mbtmp3.2/4, ML3.1/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/44, Error ellipse: s-maj=418.7km s-min=26.1km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.31	345	P	P	03 17 08.8	+1.5
	0.1nm,0.3s,baz=163,slow=10,SNR=2.0						
KURBB	Kurchatov Arra	22.80	342	P	P	03 17 54.8	-1.0
	0.2nm,0.6s,baz=169,slow=9.4,SNR=2.7						
SONM	Songino Array	22.82	31	LR	LR	03 28 31.3	
	comp=Z,60nm,18.8s,baz=201,slow=41						
JNU	Nakatsue	35.70	73	LR	LR	03 35 10.3	
	comp=Z,43nm,19.8s,baz=310,slow=38						
LEM	Lembang	40.02	151	LR	LR	03 38 53.2	
	comp=Z,52nm,19.8s,baz=228,slow=39						
JHJ	Hachijo jima 2	43.12	72	LR	LR	03 39 42.3	
	comp=Z,94nm,20.5s,baz=126,slow=37						
WRA	Warramunga Arr	65.49	133	P	P	03 23 36.9	0.0
	0.2nm,0.5s,baz=325,slow=6.5,SNR=5.6						
ASAR	Alice Springs	67.96	136	P	P	03 23 52.8	+0.1
	0.3nm,0.4s,baz=314,slow=5.8,SNR=4.5						

IDC 28 03:21:23.0±4.6, 29°.65N×90°.31E, h0km, mb3.7/2, mb1 3.7/3, mb1mx2.9/68, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=339.4km s-min=15.4km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.22	342	P	Pn	03 25 37.3	0.0
	0.1nm,0.3s,baz=158,slow=12,SNR=1.9						
WRA	Warramunga Arr	65.04	134	P	P	03 32 05.9	+0.5
	0.4nm,0.5s,baz=328,slow=6.6,SNR=7.2						
ASAR	Alice Springs	67.57	137	P	P	03 32 20.9	-0.6
	0.4nm,0.5s,baz=319,slow=6.4,SNR=7.0						

*IDC **28** 03:27:02.6±1.8, 7°.18S×155°.03E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/44, mbtmp3.7/6, Error ellipse: s-maj=73.2km s-min=26.3km az=127.0*

ISC 28 03:27:08.6±1.7, 7°.2S±0°.3×155°.0E±0°.4, h41km, n7, σ0§66/7, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.71	236	P	P	03 32 16.3	-0.7
	2.3nm,1.0s,baz=61,slow=9.8,SNR=7.6						
ASAR	Alice Springs	26.04	229	P	P	03 32 38.6	+0.4
	0.6nm,0.8s,baz=59,slow=9.7,SNR=4.4						
SONM	Songino Array	69.55	327	P	P	03 38 13.3	-0.1
	0.8nm,0.8s,baz=132,slow=7.7,SNR=4.9						
ILAR	Eielson Array	83.58	21	P	P	03 39 31.5	-0.8
	0.2nm,0.5s,baz=231,slow=5.5,SNR=1.4						
MKAR	Makanchi Array	83.60	319	P	P	03 39 33.2	+0.4
	0.4nm,0.6s,baz=93,slow=5.2,SNR=5.6						
YKA	Yellowknife Ar	96.53	28	P	P	03 40 34.0	+0.4
	0.3nm,0.5s,baz=266,slow=4.6,SNR=12						
TORD	Torodi Ar. Bea	153.12	285	PKPbc	PKiKP	03 47 03.4	+0.3
	0.3nm,0.5s,baz=93,slow=2.8,SNR=1.8						

*IDC **28** 03:34:21.9±1.5, 14°.91S×177°.35W, h373km±21km, mb3.4/10, mb1 3.7/13, mb1mx3.4/41, mbtmp4.2/13, Error ellipse: s-maj=58.4km s-min=12.0km az=153.0*

*NOU **28** 03:34:23.8, 15°.08S×177°.13W, h354km, MLv4.7/9, Fiji Islands Region*

ISC 28 03:34:23.2±0.8, 15°.3S±0°.2×177°.1W±0°.1, h400km, n20, σ1§49/21, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	Taveuni	3.03	242	P	Pn	03 35 25.0	-1.7
DGTI	Dogotuki	3.19	251	P	Pn	03 35 25.5	-2.5
LKBA	Tubou, Lakemba	3.35	209	P	Pn	03 35 28.5	-0.9
MSVF	Nonsavu	5.24	242	P	Pn	03 35 46.7	-1.1
	3.4nm,0.3s,baz=232,slow=23,SNR=24						
AFI	Afiamalu	5.35	76	P	Pn	03 35 46.2	-2.8
	39nm,0.3s,baz=39,slow=0.4,SNR=46						
DVP	Devils Point	14.30	258	P	P	03 37 31.1	+2.9
DZM	Mont Dzumac	16.96	244	P	P	03 37 57.5	+0.5
	0.4nm,0.3s,baz=66,slow=17,SNR=7.6						
CTA	Charters Tower	35.17	257	P	P	03 40 41.5	0.0
	2.0nm,0.3s,baz=98,slow=10,SNR=6.7						
WRA	Warramunga Arr	46.38	257	P	P	03 42 11.3	-0.6
	0.6nm,0.4s,baz=98,slow=6.3,SNR=22						
ASAR	Alice Springs	46.74	252	P	P	03 42 14.2	-0.3
	5.6nm,0.3s,baz=84,slow=8.4,SNR=96						
ASAR				S	S	03 48 33.1	-0.8
	0.6nm,0.9s,baz=93,slow=15,SNR=5.6						
YBH	Yreka Blue Hor	75.72	39	P	P	03 45 27.6	+1.4
	4.3nm,0.9s,baz=327,slow=3.1,SNR=6.1						
NVAR	Mina Array Bea	76.68	44	P	P	03 45 33.1	+1.3
	1.0nm,0.7s,baz=225,slow=9.2,SNR=5.3						
SEY	Seymchan	81.52	346	P	P	03 45 56.1	-0.8
	1.3nm,0.5s,baz=140,slow=6.1,SNR=6.2						
ILAR	Eielson Array	83.07	13	P	P	03 46 04.2	-0.5
	2.3nm,0.8s,baz=215,slow=5.4,SNR=26						
TXAR	Lajitas Array	83.55	57	P	P	03 46 10.4	+2.2
	1.3nm,0.7s,baz=219,slow=6.6,SNR=16						
PDAR	Pinedale Array	84.61	43	P	P	03 46 13.7	+0.4
	0.5nm,0.6s,baz=217,slow=3.2,SNR=7.1						
YKA	Yellowknife Ar	91.44	24	P	P	03 46 44.5	-0.2
	0.1nm,0.5s,baz=242,slow=4.8,SNR=3.0						
ARCES	ARCESS Array B	123.95	351	PKP	PKPdf	03 52 33.6	-0.4
	4.4nm,1.0s,baz=49,slow=5.5,SNR=5.1						
BRTR	Keskin Array B	143.74	318	PKP	PKPdf	03 53 11.1	-0.8
	2.1nm,0.7s,baz=325,slow=2.7,SNR=14						
GERES	GERESS Array B	145.37	347	PKP	PKPbc	03 53 15.0	-0.1
	0.7nm,0.5s,baz=28,slow=3.2,SNR=6.6						

*MOS **28** 03:46:49.7±0.9, 1°.00N×28°.04W, h10km, mb5.1/24, Error ellipse: s-maj=15.5km s-min=5.9km az=53.2*

*IDC **28** 03:46:49.7±0.5, 0°.97N×28°.05W, h0km, mb4.5/27, mb1 4.6/27, mb1mx4.4/48, mbtmp4.5/27, MS4.1/64, Ms1 4.1/64, ms1mx4.0/84, Error ellipse: s-maj=17.2km s-min=11.2km az=145.0*

*NEIC **28** 03:46:53.0±1.2, 1°.05N±0°.08×28°.1W±0°.1, h10km±1km, mb5.0/40, Error ellipse: s-maj=21.0km s-min=9.7km az=303.0*

*GCMT **28** 03:46:56.0±0.3, 1°.12N±0°.02×27°.91W±0°.02, h22km±1km, MW4.9/104, Moment Tensor Solution. s29,c33; s104,c142; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.71±.13; Mθθ1.12±.13; Mφφ-0.41±.10; Mrθ0.52±.16; Mθφ-2.35±.09; Mφr-1.26±.18; Best double couple: M0=2.82000×10^16 NP1:φ=81.00000°, δ=59.00000°, λ=-174.00000°. NP2:φ=348.00000°, δ=84.00000°, λ=-31.00000°. Principal axes: T 3.1810, Plg17.0000°, Azm38.0000°; N -0.7230, Plg59.0000°, Azm159.0000°; P -2.4600, Plg25.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 03:46:52.9±0.3, 1°.05N±0°.07×28°.15W±0°.06, h17km, n317, σ1§21/286, mb4.9/84, MS4.1/69, 15C-22D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	10.32	228	P	Pn	03 49 18.7	-1.7
RCBR	Riachuelo	10.32	228	eP	Pn	03 49 19.2	-1.1
RCBR	Riachuelo	10.32	228	Pn	Pn	03 49 18.7	-1.7
NBCL	Cascavel-CE	11.41	243	eP	Pn	03 49 34.3	-0.9
NBRF	Rio Formoso -	11.91	216	eP	Pn	03 49 40.2	-1.8
NBMO	Morrinhos-CE	12.65	250	eP	Pn	03 49 50.3	-1.9
NBPB	Pedra_Branca-C	13.16	240	eP	Pn	03 49 57.6	-1.6
NBMA	Muriti-CE	13.49	232	eP	Pn	03 50 02.5	-1.2
NBPS	Pedro II - PI	14.34	248	eP	Pn	03 50 14.4	-1.1
SACV	Santiago Islan	14.54	18	Pn	Pn	03 50 16.8	-1.3
H10N3	ASCENSION HYDR	16.23	123	T	T	04 07 03.9	
	baz=302,slow=75,SNR=117						
H10N2	ASCENSION HYDR	16.23	123	T	T	04 07 04.3	
	baz=302,slow=75,SNR=146						
H10N1	ASCENSION HYDR	16.25	123	T	T	04 07 05.5	
	baz=302,slow=75,SNR=119						
ASCN	Ascension	16.39	123	Pn	Pn	03 50 41.9	-0.6
ASCN				IAmb	IAmb	03 50 50.5	
	comp=Z,75nm,0.8s						
ROSB	Rosrio	16.44	256	eP	Pn	03 50 42.6	-0.4
H10S3	ASCENSION HYDR	16.71	127	T	T	04 07 40.2	
	baz=276,slow=74,SNR=37						
H10S2	ASCENSION HYDR	16.73	127	T	T	04 07 40.2	
	baz=304,slow=74,SNR=24						
NBPN	Ponto Novo - B	16.83	225	eP	Pn	03 50 48.5	+0.5
MBO	M'Bour	17.27	39	P	Pn	03 50 53.0	-0.4
MBO				IAmb	IAmb	03 50 56.5	
	comp=Z,206nm,1.3s						
GDU01	Guandu, BA	18.54	217	eP	P	03 51 08.0	-0.8
NBIT	Itapeh - BA	19.41	215	eP	Pn	03 51 21.3	+1.7
CMC01	Camacan, BA	19.80	214	eP	Pn	03 51 26.1	+1.8
TMAB	Tom-Au,PA,Br	20.23	260	eP	P	03 51 27.4	0.0
GUA01	Guaratinga, BA	20.96	213	eP	P	03 51 36.3	+1.0
SDBA	SAO DESIDERIO	21.34	231	eP	P	03 51 38.6	-0.8
SMTB	Santa Maria do

comp=Z,6.1nm,0.8s,baz=253,slow=4.8,SNR=7.8
MDT LR LR 04 09 30.0
BIRV Birongo 39.02 285 P **P 03 54 18.0 -1.0**
BIRV IAmb IAmb 03 54 33.1
comp=Z,48nm,1.4s
CPUP Villa Florida 39.16 224 P **P 03 54 20.6 +0.6**
comp=Z,3.8nm,0.9s,baz=41,slow=12,SNR=3.8
CPUP LR LR 04 10 05.6
comp=Z,874nm,19.2s,baz=57,slow=36
CPUP Villa Florida 39.16 224 P **P 03 54 21.7 +1.7**
CPUP pmax pmax
comp=Z,11nm,1.2s
CPUP Villa Florida 39.16 224 *eP* **P 03 54 21.4 +1.4**
CPUP Villa Florida 39.16 224 P **P 03 54 21.6 +1.7**
ETMB Extrema 39.40 253 *eP* **P 03 54 22.4 +0.2**
ETMB Extrema 39.40 253 P **P 03 54 22.7 +0.5**
MORF Marmelete 40.32 24 *eP* **P 03 54 30.1 +0.5**
MORF IAmb IAmb 03 54 30.9
comp=Z,21nm,1.1s
MORF Marmelete 40.32 24 *eP* **P 03 54 30.4 +0.8**
comp=Z,35nm,1.3s
MORF Marmelete 40.32 24 *eP* **P 03 54 30.1 +0.5**
PTEO Sao Teotonio 40.49 24 *eP* **P 03 54 32.5 +1.6**
PLTB Pedras Altas 40.58 214 *eP* **P 03 54 33.6 +1.8**
PVAQ Vaqueiros 40.79 25 *eP* **P 03 54 34.0 +0.6**
PCVE Castro Verde 40.85 25 *eP* **P 03 54 34.7 +0.8**
comp=Z,41nm,1.2s
ITQB Itaqui 40.89 219 *eP* **P 03 54 35.8 +1.4**
PBEJ Beja 41.25 25 *eP* **P 03 54 38.1 +0.9**
comp=Z,20nm,1.6s
CELP Cerrillos 41.35 296 P **P 03 54 38.9 +0.6**
CELP IAmb IAmb 03 54 39.6
comp=Z,39nm,1.0s
EVO Evora 41.62 24 *eP* **P 03 54 41.4 +1.1**
comp=Z,44nm,1.4s
TBTG Tabatinga, AM 42.05 263 *eP* **P 03 54 44.3 +0.1**
TBTG Tabatinga, AM 42.05 263 P **P 03 54 44.5 +0.4**
TBTG IAmb IAmb 03 54 44.7
comp=Z,46nm,1.0s
PMRV Marv??o 42.64 24 *eP* **P 03 54 50.5 +1.9**
PCBR Castelo Branco 42.96 24 *eP* **P 03 54 52.2 +1.1**
SDV Santo Domingo 42.99 282 P **P 03 54 52.2 +0.2**
comp=Z,11nm,1.0s,baz=67,slow=6.3,SNR=8.4
SDV LR LR 04 12 43.4
comp=Z,164nm,19.6s,baz=98,slow=36
SDV Santo Domingo 42.99 282 *eP* **P 03 54 52.9 +0.8**
SDV Santo Domingo 42.99 282 P **P 03 54 52.8 +0.8**
LPAZ La Paz 43.05 245 P **P 03 54 53.7 +0.8**
comp=Z,11nm,1.0s,baz=60,slow=6.5,SNR=32
LPAZ LR LR 04 12 30.5
comp=Z,700nm,18.6s,baz=68,slow=36
LPAZ La Paz 43.05 245 *eP* **P 03 54 53.8 +0.8**
LPAZ La Paz 43.05 245 P **P 03 54 53.5 +0.5**
ESDC Sonseca Array 44.32 27 P **P 03 55 02.9 +0.7**
comp=Z,6.8nm,0.9s,baz=222,slow=8.9,SNR=34
ESDC LR LR 04 11 10.6
comp=Z,124nm,19.1s,baz=275,slow=33
ESDC Sonseca Array 44.32 27 P **P 03 55 03.2 +1.0**
ESBB Sonseca Array 44.32 27 P **P 03 55 02.9 +0.7**
PBRG Braganca 44.93 23 *eP* **P 03 55 05.7 -1.3**
CZSB Cruzeiro do Su 45.28 258 *eP* **P 03 55 09.5 -0.6**
CZSB Cruzeiro do Su 45.28 258 P **P 03 55 09.6 -0.6**
LVC Limon Verde 46.14 237 LR LR 04 15 59.5
comp=Z,240nm,18.7s,baz=55,slow=38
LVC Limon Verde 46.14 237 *eP* **P 03 55 16.6 -0.6**
ROSC El Rosal 46.25 276 LR LR 04 14 10.1
comp=Z,782nm,18.5s,baz=96,slow=35
KEST Kesra 49.01 41 P **P 03 55 39.4 +0.4**
comp=Z,10nm,0.9s,baz=197,slow=2.3,SNR=11
KEST LR LR 04 16 20.6
comp=Z,169nm,20.6s,baz=262,slow=36
KEST Kesra 49.01 41 P **P 03 55 39.2 +0.2**
KEST IAmb IAmb 03 55 43.3
comp=Z,16nm,1.0s
TSUM Tsumeb 49.19 117 LR LR 04 11 51.7
comp=Z,243nm,21.7s,baz=329,slow=31
NNA Nana 50.05 253 LR LR 04 16 22.7
comp=Z,191nm,20.3s,baz=52,slow=35
OTAV Otavalo 50.30 269 *eP* **P 03 55 49.7 0.0**
ATAH Atahualpa 50.78 260 LR LR 04 17 16.5
comp=Z,566nm,19.9s,baz=75,slow=36
CLTB Caltabellotta 52.61 41 P **P 03 56 07.1 +0.9**
CLTB IAmb IAmb 03 56 08.3
comp=Z,21nm,1.0s
VAE Valguarnera 53.35 42 LR LR 04 19 05.5
comp=Z,283nm,18.2s,baz=216,slow=36
BO01 Tunca 53.48 224 P **P 03 56 12.7 +0.1**
BO01 IAmb IAmb 03 56 18.0
comp=Z,44nm,1.9s
BNI Bardonecchia 53.52 30 P **P 03 56 14.3 +1.5**
BNI pmax pmax
comp=Z,14nm,1.1s
BNI Bardonecchia 53.52 30 P **P 03 56 14.3 +1.5**
GO05 Huala 54.40 224 P **P 03 56 19.6 +0.3**
GO05 IAmb IAmb 03 56 21.9
comp=Z,18nm,1.1s
SENIN Lac Senin/Sane 54.75 29 P **P 03 56 22.8 +0.9**
SENIN IAmb IAmb 03 56 23.6
comp=Z,14nm,1.1s
ZCCA Zocca 55.31 33 P **P 03 56 26.2 +0.4**
ZCCA IAmb IAmb 03 56 28.2
comp=Z,24nm,1.0s
PAOL Paolisi 55.41 39 P **P 03 56 27.0 +0.4**
AQU L'Aquila 55.47 37 P **P 03 56 27.1 +0.2**
AQU pmax pmax
comp=Z,18nm,1.0s
AQU L'Aquila 55.47 37 P **P 03 56 27.1 +0.2**
AQU IAmb IAmb 03 56 28.6
comp=Z,18nm,1.0s
MURB Monte Urbino 55.50 35 P **P 03 56 27.2 0.0**
MURB IAmb IAmb 03 56 27.9
comp=Z,18nm,1.1s
NRCA Norcia 55.59 36 P **P 03 56 27.8 0.0**
NRCA IAmb IAmb 03 56 32.3
comp=Z,17nm,1.1s
DAVOX Davos/Dischmat 56.33 31 LR LR 04 19 36.3
comp=Z,156nm,19.1s,baz=274,slow=35
TEOL Teolo 56.34 33 P **P 03 56 32.5 -0.5**
DAVA Damuels 56.67 30 *eP* **P 03 56 35.7 +0.2**
comp=Z,16nm,1.3s
PLCA Paso Flores 56.68 218 P **P 03 56 35.0 -0.6**
comp=Z,1.2nm,0.7s,baz=46,slow=7.0,SNR=3.7
PLCA LR LR 04 20 52.6
comp=Z,249nm,19.1s,baz=54,slow=36
CTI Castel Tesino 56.77 32 P **P 03 56 36.4 +0.2**
CTI pmax pmax
comp=Z,13nm,0.9s
CTI Castel Tesino 56.77 32 P **P 03 56 36.4 +0.2**
CTI IAmb IAmb 03 56 37.1
comp=Z,13nm,0.9s
FETA Feichten 56.92 31 *i* P **P 03 56 37.3 -0.1**
comp=Z,17nm,1.1s,SNR=5.5
SUR Sutherland 56.93 130 LR LR 04 15 30.3
comp=Z,134nm,19.8s,baz=286,slow=30
JTS Las Juntas de 57.18 282 LR LR 04 21 53.2
comp=Z,100nm,18.7s,slow=37
MEM Membach 57.24 25 P **P 03 56 40.3 +1.0**
RETA Reutte 57.25 30 *eP* **P 03 56 39.4 -0.2**
comp=Z,8.3nm,1.1s
SQTA Sankt Quirin 57.30 31 *i* P **P 03 56 39.8 -0.2**
comp=Z,26nm,1.2s,SNR=7.8
MOTA Moosalm 57.33 31 *eP* **P 03 56 40.0 -0.3**
comp=Z,14nm,1.2s
STAL STALIGIAL 57.47 33 P **P 03 56 41.5 +0.4**
STAL IAmb IAmb 03 56 42.3
comp=Z,24nm,1.2s
WTTA Wattenberg 57.55 31 *eP* **P 03 56 41.8 0.0**
comp=Z,14nm,1.3s
WATA Walderalm 57.56 31 *eP* **P 03 56 41.6 -0.3**
comp=Z,12nm,1.4s
ABTA Abfaltersbach 57.67 32 *i* P **P 03 56 42.9 +0.3**
comp=Z,27nm,1.2s,SNR=13
SKDS Skadanscina 57.74 34 *i* P **P 03 56 43.3 +0.3**
ROBS Robic 57.89 33 *i* P **P 03 56 44.3 +0.3**
LSZ Lusaka 57.99 109 LR LR 04 16 38.9
comp=Z,184nm,21.4s,baz=288,slow=31
LBTB Lobatse 58.08 120 P **P 03 56 44.6 -1.2**
comp=Z,8.4nm,1.1s,baz=267,slow=7.9,SNR=5.7
LBTB LR LR 04 17 48.8
comp=Z,217nm,18.8s,baz=271,slow=32
MYKA Terra Mystica 58.20 33 *i* P **P 03 56 47.0 +0.7**
comp=Z,21nm,1.3s,SNR=6.8
NYDR Nydri-Lefkada 58.26 44 P **P 03 56 46.4 -0.3**
KBA Koelnbreinsper 58.33 32 *eP* **P 03 56 48.9 +1.7**
comp=Z,14nm,1.5s

BOJS Bojanci 58.41 35 *i* P **P 03 56 48.2 +0.6**
ITM Ithomi 58.44 46 P **P 03 56 48.6 +0.6**
DRO Drossia 58.62 45 P **P 03 56 50.1 +0.8**
OBKA Obir 58.62 33 *eP* **P 03 56 49.3 +0.1**
comp=Z,8.0nm,1.3s
LSK Leskovik 58.87 42 P **P 03 56 51.6 +0.5**
MBAR Mbarara 58.91 91 LR LR 04 19 51.7
comp=Z,204nm,18.8s,baz=246,slow=34
MBAR Mbarara 58.91 91 ⇓*iP* **P 03 56 52.0 +0.1**
LAKA Lakka 58.94 45 P **P 03 56 52.4 +0.9**
GRF Grafenberg Arr 58.95 29 *eP* **P 03 56 51.7 +0.4**
comp=Z,15nm,1.3s,baz=228,slow=6.9
VLI Veliai 58.97 47 P **P 03 56 52.6 +0.8**
KLV Kalavryta, Ach 58.98 45 P **P 03 56 52.8 +1.0**
BOSA Boshof 58.98 125 P **P 03 56 50.2 -1.8**
comp=Z,5.8nm,1.0s,baz=312,slow=6.3,SNR=6.8
BOSA LR LR 04 17 27.0
comp=Z,237nm,19.3s,baz=277,slow=31
SOKA Soboth 58.99 33 *i* P **P 03 56 52.2 +0.4**
comp=Z,18nm,1.3s,SNR=7.7
ANX Ano Chora 59.06 44 P **P 03 56 53.5 +1.1**
PDG Podgorica 59.12 39 ⇑P **P 03 56 53.2 +0.6**
PDG Podgorica 59.12 39 P **P 03 56 53.7 +1.1**
MOA Molln 59.30 32 *i* P **P 03 56 53.4 -0.5**
comp=Z,12nm,1.2s,SNR=5.1
MATP Matopo 59.39 114 LR LR 04 19 38.9
comp=Z,129nm,18.0s,baz=268,slow=33
MAKR Makrakomi, Fth 59.39 44 P **P 03 56 55.5 +0.8**
PHP Peshkopia 59.51 41 P **P 03 56 56.1 +0.7**
AGG Agios Georgios 59.54 44 P **P 03 56 55.9 +0.3**
AGG pmax pmax
comp=Z,33nm,1.3s
AGG Agios Georgios 59.54 44 P **P 03 56 55.9 +0.3**
LTK Loutraki 59.55 45 P **P 03 56 55.5 -0.2**
GERES GERESS Array B 59.63 31 P **P 03 56 55.4 -0.8**
comp=Z,2.7nm,0.7s,baz=225,slow=5.5,SNR=23
GERES LR LR 04 20 21.0
comp=Z,129nm,19.3s,baz=275,slow=34
FNA Florina 59.69 42 P **P 03 56 57.0 +0.3**
FNA Florina 59.69 42 P **P 03 56 57.5 +0.8**
FNA pmax pmax
comp=Z,33nm,1.0s
FNA Florina 59.69 42 P **P 03 56 57.5 +0.8**
KHC Kasperske Hory 59.75 30 ⇓*eP* **P 03 56 56.8 -0.2**
KHC pmax pmax
comp=Z,16nm,1.2s
KHC Kasperske Hory 59.75 30 *eP* **P 03 56 57.0 +0.1**
KHC *ex* x 03 57 05.6
KHC Kasperske Hory 59.75 30 P **P 03 56 56.7 -0.2**
LKR Lokris 59.84 45 P **P 03 56 57.5 -0.2**
IDI Anoyia 59.85 49 LR LR 04 24 43.9
comp=Z,128nm,18.7s,baz=260,slow=38
VILL Villia 59.85 45 P **P 03 56 57.4 -0.5**
ATAL Atalanti 59.88 45 P **P 03 56 57.9 -0.1**
CKRC Cesky Krumlov 59.92 31 *eP* **P 03 56 57.6 -0.5**
VLY Voula,Athens 60.07 46 P **P 03 56 58.9 -0.4**
CONA Conrad Observa 60.19 33 *eP* **P 03 57 00.0 0.0**
comp=Z,11nm,1.4s
DION Dionisos Attik 60.26 46 P **P 03 57 00.5 -0.2**
NEO Neokhori 60.28 44 P **P 03 57 00.4 -0.4**
SKO Skopje 60.30 41 *i* P **P 03 57 01.1 +0.3**
KOVH Kovagotottos 60.38 35 P **P 03 57 02.0 +0.8**
SOP Sopron 60.43 33 P **P 03 57 02.8 +1.3**
DIVS Divibare 60.44 38 P **P 03 57 02.2 +0.3**
KYMI Kymi, Euboea I 60.61 45 P **P 03 57 03.2 +0.2**
STIP Stip 60.66 41 *i* P **P 03 57 04.6 +1.4**
MPLH Magyarpolny 60.67 34 P **P 03 57 04.4 +1.2**
SANT Santorini 60.69 48 P P 03 56 55.6 -8.1
SANT Santorini 60.69 48 P **P 03 57 02.9 -0.8**
TREC Trest 60.83 31 *eP* **P 03 57 04.3 0.0**
TREC Trest 60.83 31 *eP* **P 03 57 04.3 0.0**
FRGS Fruska Gora 60.88 37 ⇑P **P 03 57 04.3 -0.4**
ZST Bratislava 61.02 33 *eP* **P 03 57 05.9 +0.3**
ZST pmax pmax
comp=Z,50nm,1.3s
ZST Bratislava 61.02 33 *eP* **P 03 57 05.9 +0.3**
BRG Berggiesshubel 61.04 29 *eP* **P 03 57 05.8 +0.1**
BRG Amp 03 57 07.9
comp=Z,11nm,1.4s
BRG Berggiesshubel 61.04 29 *eP* **P 03 57 05.8 +0.1**
BRG pmax pmax
comp=Z,11nm,1.5s
PVCC Panska Ves 61.13 30 *eP* **P 03 57 06.7 +0.4**
PVCC Panska Ves 61.13 30 *eP* **P 03 57 06.7 +0.4**
KRUC Moravsky 61.16 32 *eP* **P 03 57 05.8 -0.7**
MODS Modra-Piesok 61.22 33 *eP* **P 03 57 07.9 +0.9**
MODS pmax pmax
comp=Z,20nm,1.2s
MODS Modra-Piesok 61.22 33 *eP* **P 03 57 07.9 +0.9**
BOVS Bovan 61.28 39 ⇑P **P 03 57 07.4 -0.1**
SMOL Smolenice 61.39 33 *eP* **P 03 57 08.6 +0.5**
SMOL pmax pmax
comp=Z,6.0nm,1.2s
SMOL Smolenice 61.39 33 *eP* **P 03 57 08.6 +0.5**
VRAC Vranov 61.41 32 ⇓P **P 03 57 07.1 -1.1**
VRAC Vranov 61.41 32 LR LR 04 21 18.0
comp=Z,192nm,18.3s,baz=292,slow=34
VRAC Vranov 61.41 32 ⇓P **P 03 57 07.1 -1.1**
VRAC Vranov 61.41 32 *eP* **P 03 57 07.8 -0.4**
SRO Srobarova 61.47 34 *eP* **P 03 57 09.6 +1.0**
SRO Srobarova 61.47 34 *eP* **P 03 57 09.6 +1.0**
VTS Vitosha 61.78 41 ⇓P **P 03 57 11.5 +0.5**
VTS Vitosha 61.78 41 ⇓P **P 03 57 11.5 +0.5**
VTS Vitosha 61.78 41 P **P 03 57 11.9 +0.8**
VTS IAmb IAmb 03 57 12.8
comp=Z,18nm,1.4s
UPC Upice 61.84 30 *eP* **P 03 57 11.5 +0.4**
UPC Upice 61.84 30 *eP* **P 03 57 11.5 +0.4**
DPC Dobruska-Polom 61.90 31 *eP* **P 03 57 11.6 +0.1**
DPC Dobruska-Polom 61.90 31 *eP* **P 03 57 11.6 +0.1**
TKL Tuckaleechee C 61.95 310 LR LR 04 18 16.2
comp=Z,118nm,20.8s,baz=117,slow=30
VYHS Vyhne 62.14 33 *eP* **P 03 57 13.6 +0.4**
VYHS pmax pmax
comp=Z,28nm,1.5s
VYHS Vyhne 62.14 33 *eP* **P 03 57 13.6 +0.4**
MORC Moravsky Berou 62.19 32 ⇓P **P 03 57 14.3 +0.8**
MORC Moravsky Berou 62.19 32 ⇓P **P 03 57 14.3 +0.8**
MORC Moravsky Berou 62.19 32 *eP* **P 03 57 13.6 +0.1**
SCHQ Schefferville 62.20 336 LR LR 04 19 48.2
comp=Z,81nm,21.0s,baz=112,slow=32
BZS Buzias 62.21 37 ⇓P **P 03 57 13.9 +0.2**
BZS Buzias 62.21 37 ⇓P **P 03 57 13.9 +0.2**
HERR Herculane 62.34 38 ⇓P **P 03 57 13.6 -1.0**
PSZ Piszkesteto 62.41 34 ⇓P **P 03 57 15.9 +0.8**
PSZ Piszkesteto 62.41 34 ⇓P **P 03 57 15.9 +0.8**
PSZ Piszkesteto 62.41 34 P **P 03 57 16.1 +1.0**
PSZ Piszkesteto 62.41 34 P **P 03 57 15.4 +0.4**
SADO Sadowa 62.54 321 LR LR 04 19 47.9
comp=Z,57nm,18.4s,baz=65,slow=32
LANS Liptovska Anna 62.86 33 *eP* **P 03 57 19.3 +1.3**
LANS pmax pmax
comp=Z,5.0nm,1.2s
LANS Liptovska Anna 62.86 33 *eP* **P 03 57 19.3 +1.3**
APG El Apazote 63.02 286 LR LR 04 23 45.4
comp=Z,113nm,21.0s,baz=106,slow=35
OJC Ojcow 63.63 32 P **P 03 57 23.8 +0.8**
OJC pmax pmax
comp=Z,15nm,1.0s
OJC Ojcow 63.63 32 P **P 03 57 23.8 +0.8**
OJC IAmb IAmb 03 57 24.7
comp=Z,15nm,1.0s
CRVS Cervenica-Dubn 63.82 34 *eP* **P 03 57 25.5 +1.1**
CRVS pmax pmax
comp=Z,31nm,1.5s
CRVS Cervenica-Dubn 63.82 34 *eP* **P 03 57 25.5 +1.1**
ARR Arges 63.95 39 ⇑P **P 03 57 25.4 +0.1**
TRPA Tarpa 64.03 35 ⇑P **P 03 57 26.1 +0.4**
UZH Uzhgorod 64.15 35 *c iP* **P 03 57 25.7 -0.8**
UZH *i* 03 57 30.3
UZH *i i* 03 58 02.2
VOIR 64.24 39 ⇑P **P 03 57 27.4 +0.2**
VOIR 64.24 39 ⇑P **P 03 57 27.4 +0.2**
DOPR Dopca 64.69 38 ⇑P **P 03 57 30.4 +0.3**
USHA Ushuaia 64.76 204 LR LR 04 23 33.5
comp=Z,95nm,20.6s,baz=62,slow=34
MLR Muntele Rosu 64.83 39 P **P 03 57 31.2 +0.1**
MLR Muntele Rosu 64.83 39 P **P 03 57 31.2 +0.1**
COVR Voineasa-Covas 65.15 39 ⇑P **P 03 57 32.4 -0.7**
KMBO Kilima Mbogo 65.44 92 LR LR 04 22 50.4
comp=Z,119nm,19.4s,baz=244,slow=33
VRI Vrincioaia 65.48 39 ⇓P **P 03 57 34.1 -1.2**
VRI Vrincioaia 65.48 39 ⇓P **P 03 57 34.1 -1.2**

LVV L'vov 65.73 34 *eP* **P 03 57 36.9 +0.1**
LVV *eS* **S 04 06 20.4 -1.9**
LVV MLR MLR
comp=E,200nm,18.0s
LVV MLR MLR
comp=N,100nm,17.0s
LVV MLR MLR
comp=Z,200nm,18.0s
CFR Carcaliu 66.09 40 ⇑P **P 03 57 37.2 -1.9**
CFR Carcaliu 66.09 40 ⇑P **P 03 57 37.2 -1.9**
EIL Elat 66.26 58 LR LR 04 27 54.3
comp=Z,431nm,18.0s,baz=266,slow=37
CSS Mathiatis 66.27 52 P **P 03 57 39.9 -0.6**
NB2 NORSAR Subarra 66.91 20 P **P 03 57 44.3 +0.2**
comp=Z,1.0nm,0.7s,baz=223,slow=6.5
NOA NORSAR Array B 66.91 20 P **P 03 57 44.4 +0.2**
comp=Z,1.9nm,0.8s,baz=224,slow=6.3,SNR=4.6
NOA LR LR 04 24 36.5
comp=Z,52nm,18.1s,baz=265,slow=34
HFS Hagfors 67.14 21 LR LR 04 25 57.7
comp=Z,122nm,18.3s,baz=248,slow=35
ANTO Ankara 67.34 47 P **P 03 57 47.9 +0.6**
ANTO pmax pmax
comp=Z,21nm,1.0s
ANTO Ankara 67.34 47 P **P 03 57 47.9 +0.6**
MMAI Mount Meron Ar 67.42 55 LR LR 04 28 35.4
comp=Z,98nm,18.7s,baz=54,slow=37
SORM Soroca 67.47 37 ⇓P **P 03 57 46.6 -1.3**
SORM Soroca 67.47 37 ⇓P **P 03 57 46.6 -1.3**
CMIG Matias Romero 67.48 288 LR LR 04 29 18.5
comp=Z,30nm,18.1s,baz=68,slow=38
BR131 Keskin Array S 67.91 47 *c iP* **P 03 57 50.6 -0.4**
BRTR Keskin Array B 67.91 47 P **P 03 57 50.8 -0.2**
comp=Z,8.4nm,0.8s,baz=236,slow=6.2,SNR=36
BRTR LR LR 04 29 48.3
comp=Z,158nm,18.7s,baz=273,slow=38
AKASG Malin Array Be 69.09 35 P **P 03 57 57.8 -0.2**
comp=Z,19nm,0.9s,baz=243,slow=6.3,SNR=31
AKASG LR LR 04 30 22.1
comp=Z,116nm,18.0s,baz=277,slow=38
FRB Frobisher Bay 69.21 342 P **P 03 57 58.5 0.0**
comp=Z,4.2nm,1.0s,baz=168,slow=4.8,SNR=5.6
FRB LR LR 04 23 10.1
comp=Z,62nm,21.4s,baz=198,slow=32
NACGM Naroch 69.72 30 *i* P **P 03 58 02.5 +0.7**
MNK Minsk 70.09 31 *i* P **P 03 58 01.6 -2.5**
MNK *i* 03 58 28.2
MNK *i* S **S 04 07 12.7 -1.5**
MNK *i* 04 07 52.4
MNK *i* SS **SS 04 11 49.4 +5.3**
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=Z,160nm,18.0s
MNK Minsk 70.09 31 *i* P **P 03 58 01.7 -2.4**
comp=E,2.0nm,0.8s
MNK *i* P **P 03 58 01.7 -2.4**
comp=N,8.0nm,0.8s
MNK *i* P **P 03 58 01.7 -2.4**
comp=Z,14nm,0.8s,baz=242
MNK *i* PcP **PcP 03 58 28.2 +2.2**
MNK *i* PP PP 04 00 10.9 -28
MNK *i* PPP PPP 04 01 37.8
MNK *i* S **S 04 07 12.7 -1.5**
MNK *i* SS **SS 04 11 49.4 +5.4**
MNK *i* SSS SSS 04 15 06.8
MNK *i* LQ LQ 04 20 28.5
MNK *i* LR LR 04 25 02.6
MNK *i* LRM MLR 04 33 51.6
comp=Z,160nm,18.3s
MNK *i* LRM MLR 04 34 21.1
comp=N,296nm,18.3s
MNK *i* LRM MLR 04 35 48.7
comp=E,43nm,18.6s
ATD Arta Tunnel 71.18 78 LR LR 04 27 14.4
comp=E,74nm,20.3s,baz=243,slow=34
FINES FINESS Array B 72.73 24 P **P 03 58 19.3 -0.6**
comp=E,5.1nm,0.8s,baz=211,slow=2.2,SNR=11
FINES LR LR 04 29 28.1
comp=E,99nm,18.1s,baz=270,slow=35
SOC Sochi 73.37 45 *eP* **P 03 58 22.6 -1.5**
SOC *e* 04 01 02.5
SOC *e*PPP PPP 04 02 50.8
SOC *e*S **S 04 07 52.2 -0.3**
SOC MLR MLR
comp=Z,79nm,13.0s
ULM Lac du Bonnet 75.09 322 P **P 03 58 33.6 -0.3**
comp=Z,1.6nm,0.3s,baz=94,slow=6.4,SNR=3.5
ULM LR LR 04 26 42.6
comp=Z,89nm,19.2s,baz=83,slow=32
VSR Storozhevoye 75.13 37 *eP* **P 03 58 33.3 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 75.13 37 *eP* **P 03 58 33.7 -0.5**
VORD pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 75.41 35 *eP* **P 03 58 35.3 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 75.55 45 *eP* **P 03 58 37.5 +0.6**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 75.64 45 P **P 03 58 37.2 0.0**
comp=Z,4.8nm,0.9s,baz=252,slow=4.1,SNR=7.2
KBZ LR LR 04 35 53.1
comp=Z,108nm,18.0s,baz=303,slow=39
KBZ Khabaz 75.64 45 *c iP* **P 03 58 37.8 +0.5**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
MOS Moscow 75.70 32 *eP* **P 03 58 36.0 -1.3**
MOS *e* 03 58 45.7
NCK Nalchik 76.09 45 ⇓*eP* **P 03 58 41.0 +1.1**
NCK pmax pmax
comp=Z,4.0nm,0.6s
GNI Garni 76.28 49 LR LR 04 34 12.3
comp=Z,88nm,19.3s,baz=274,slow=37
TXAR Lajitas Array 76.86 300 P **P 03 58 44.1 -0.5**
comp=Z,0.9nm,1.0s,baz=111,slow=6.9,SNR=6.0
TXAR LR LR 04 34 18.8
comp=Z,28nm,18.2s,baz=64,slow=37
ARCES ARCESS Array B 76.97 17 P **P 03 58 44.3 0.0**
comp=Z,6.0nm,1.0s,baz=243,slow=4.0,SNR=4.0
ARCES LR LR 04 30 54.1
comp=Z,82nm,18.0s,baz=256,slow=34
KLMR Klimovskoe 78.36 28 *eP* **P 03 58 50.6 -1.6**
KLMR pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 78.36 28 *eP* **P 03 58 50.7 -1.5**
KLMR AMP 03 58 53.4
comp=Z,16nm,1.2s
ANMO Albuquerque 79.81 305 LR LR 04 29 18.5
comp=Z,182nm,21.4s,baz=96,slow=32
ANMO Albuquerque 79.81 305 ⇑*iP* **P 03 59 01.3 +0.3**
ANMO pmax pmax
comp=Z,20nm,3.8s
SPITS Spitsbergen Ar 80.51 8 LR LR 04 25 40.0
comp=Z,49nm,21.6s,baz=78,slow=29
RPN Rapa Nui 82.63 243 LR LR 04 32 47.6
comp=Z,128nm,18.2s,baz=80,slow=33
KIRV Kirov 82.63 31 LR LR 04 34 19.6
comp=Z,104nm,20.4s,baz=294,slow=34
KIRV Kirov 82.63 31 ⇓*iP* **P 03 59 15.0 -0.1**
RES Resolute Bay 82.97 346 P **P 03 59 16.9 +0.3**
comp=Z,2.9nm,1.0s,baz=58,slow=6.7,SNR=7.2
PDAR Pinedale Array 82.97 313 P **P 03 59 18.2 +0.5**
comp=Z,0.6nm,0.8s,baz=68,slow=8.2,SNR=4.0
PDAR LR LR 04 31 55.7
comp=Z,137nm,20.1s,baz=91,slow=33
SYO Syowa Base 83.14 160 ⇓*eP* **P 03 59 18.6 +1.0**
WSAR Wadi Sarin 86.63 67 LR LR 04 39 24.1
comp=Z,215nm,18.0s,baz=288,slow=36
AKTO Aktyubinsk 86.75 40 LR LR 04 43 15.9
comp=Z,63nm,18.7s,baz=299,slow=39
ELK Elko 87.11 311 LR LR 04 36 30.6
comp=Z,71nm,18.3s,baz=98,slow=34
ARU Arti 87.31 34 ⇓*eP* **P 03 59 39.4 +0.7**
ARU pmax pmax
comp=Z,4.0nm,1.4s
YKA Yellowknife Ar 87.43 332 P **P 03 59 37.9 -1.3**
comp=Z,0.6nm,0.9s,baz=95,slow=4.5,SNR=5.2
YKA LR LR 04 34 56.5
comp=Z,81nm,20.3s,baz=327,slow=33

PFO	Pinyon Flats O	88.01	303	LR	LR	04 36 32.5	
	comp=Z,109nm,19.3s,baz=38,slow=34						
NVAR	Mina Array Bea	89.47	308	P	P	03 59 49.0	-0.8
	comp=Z,0.2nm,0.4s,baz=107,slow=4.6,SNR=3.9						
YBH	Yreka Blue Hor	92.72	312	LR	LR	04 39 24.7	
	comp=Z,50nm,19.0s,baz=5.5,slow=34						
BBB	Bella Bella	95.29	322	LR	LR	04 38 54.1	
	comp=Z,112nm,18.1s,baz=20,slow=33						
AAK	Ala-Archa	98.58	47	LR	LR	04 51 53.2	
	comp=Z,137nm,18.1s,baz=308,slow=40						
KURBB	Kurchatov Arra	99.72	38	LR	LR	04 50 44.0	
	comp=Z,47nm,18.2s,baz=287,slow=38						
KURK	Kurchatov	99.75	38	‖ eP	Pdif	04 00 34.4	-1.7
KURK				pmax	pmax		
	comp=Z,6.0nm,2.2s						
KSH	Kashi	100.21	50	P	Pdif	04 00 38.5	-0.1
KSH				sP	sP	04 00 46.0	+1.2
KSH				PP	PP	04 04 45.3	+0.9
KSH				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BILL	Bilibino	110.33	354	i PKIKP	PKiKP	04 05 25.9	+2.2
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PZH	PanZhiHua	124.51	57	PKP	PKiKP	04 05 52.5	-0.1
HHC	Hu-ho-hao-te	124.52	37	eP	PKPdf	04 05 49.0	-2.9
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CN2	Changchun	129.49	25	e PKP	PKPdf	04 05 58.8	-2.3
CN2				PP	PP	04 08 12.3	+2.4
CN2				SKS	SKSdf	04 13 09.0	-3.2
CN2				SKKS	SKKSac	04 15 02.5	-4.8
CN2				AMB	AMB		
	comp=Z,110nm,4.0s						
CN2				LR	LR		
	comp=N,160nm,22.0s						
CN2				LR	LR		
	comp=E,180nm,22.0s						
CN2				LR	LR		
	comp=Z,150nm,24.0s						
NJ2	Nanjing	134.63	41	eP	PKPdf	04 06 11.8	+0.6
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ASAR	Alice Springs	151.57	144	PKPbc	PKPbc	04 06 45.0	-2.2
	comp=Z,1.1nm,0.8s,baz=209,slow=2.1,SNR=7.3						
WRA	Warramunga Arr	154.58	139	PKPbc	PKPbc	04 06 52.6	-1.3
	comp=Z,0.7nm,1.0s,baz=204,slow=1.8,SNR=2.4						
WRA				PKPab	PKPab	04 07 06.9	-1.4
	comp=Z,0.8nm,0.8s,baz=225,slow=3.4,SNR=5.5						

*NAO **28** 04:11:27.9±4.4, 73°.61N×9°.03E, ML3.6*
*IDC **28** 04:11:27.4±1.0, 73°.54N×8°.58E, h0km, mb3.6/7, mb1 3.8/12, mb1mx3.5/43, mbtmp3.6/12, ML2.7/4, MS3.2/3, Ms1 3.3/3, ms1mx2.7/87, Error ellipse: s-maj=22.9km s-min=11.6km az=70.0*
*BER **28** 04:11:30.5±2.2, 73°.62N×8°.38E, h20km±31km, ML2.2, ML3.6(NAO), Confirmed Earthquake*
ISC 28 04:11:28.7±0.8, 73°.57N±0°.06×9°.08E±0°.10, h10km, n50, σ1°59/53, mb3.3/7, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	Bjornoya	2.90	66	Pn	Pn	04 12 15.1	+0.4
BJO1	Bjornoya	2.90	66	eP	Pn	04 12 16.5	+1.7
BJO1				IAML		04 13 15.8	
	comp=Z,35nm,0.9s						
HSPB	Hornsund (broa	3.82	22	Pn	Pn	04 12 26.6	-0.8
HSPB	Hornsund (broa	3.82	22	eP	Pn	04 12 26.9	-0.5
HSPB				eS	Sn	04 13 10.0	-2.2
HSPB				IAML		04 13 24.3	
	comp=Z,4.6nm,0.1s						
BRBA	Barentsburg A	4.68	13	Pn	Pn	04 12 38.0	-1.3
BRBA	Barentsburg A	4.68	13	eP	Pn	04 12 37.8	-1.4
BRBB	Barentsburg B	4.71	13	Pn	Pn	04 12 38.2	-1.5
BRBB	Barentsburg B	4.71	13	eP	Pn	04 12 38.2	-1.5
SPA0	Spitsbergen Ar	4.96	18	Pn	Pn	04 12 42.3	-0.8
	baz=195,slow=12						
SPA0	Spitsbergen Ar	4.96	18	Pn	Pn	04 12 42.3	-0.8
	baz=195,slow=12						
SPITS	Spitsbergen Ar	4.96	18	Pn	Pn	04 12 42.5	-0.5
	baz=184,slow=11,SNR=238						
TRO	Tromso	5.04	137	eP	Pn	04 12 44.9	+0.8
TRO				eS	Sn	04 13 40.2	-2.0
TRO				IAML		04 13 46.0	
	comp=Z,11nm,0.8s						
JETT	Jettan, Norway	5.40	133	eP	Pn	04 12 51.1	+2.0
JETT				eS	Sn	04 13 49.3	-1.9
JETT				IAML		04 13 57.2	
	comp=Z,7.7nm,0.5s						
KBS	Kingsbay	5.42	6	Pn	Pn	04 12 48.7	-0.8
KBS	Kingsbay	5.42	6	eP	Pn	04 12 48.9	-0.6
KBS				IAML		04 14 36.4	
	comp=Z,5.2nm,0.2s						
LOF	Lofoten	5.66	163	eP	Pn	04 12 51.9	-0.9
KIF	Kilpisjarvi	5.93	135	Pn	Pn	04 12 56.9	+0.5
KIF	Kilpisjarvi	5.93	135	eP	Pn	04 12 57.5	+1.1
STEI	Steigen	6.02	157	eP	Pn	04 12 57.7	0.0
STEI				eS	Sn	04 14 01.4	-5.2
STEI				IAML		04 14 04.9	
	comp=Z,4.6nm,0.8s						
KTK1	Kautokeino	6.44	128	eP	Pn	04 13 05.4	+1.9
FAUS	Fauske	6.56	159	eP	Pn	04 13 06.1	+1.1
ARA0	ARCESS Array S	6.58	120	Pn	Pn	04 13 06.0	+0.6
	baz=315,slow=12						
ARA0	ARCESS Array S	6.58	120	eP	Pn	04 13 06.0	+0.6
ARA0				Pn	Pn	04 13 06.0	+0.6
	baz=315,slow=12						
ARCES	ARCESS Array B	6.58	120	Pn	Pn	04 13 06.1	+0.7
	baz=322,slow=12,SNR=22						
ARCES				Sn	Sn	04 14 15.1	-5.3
	baz=319,slow=22,SNR=1.6						
ARCES				LR	LR	04 15 18.2	
	comp=Z,100nm,18.8s,baz=283,slow=34						
KEV	Kevo	6.81	115	eP	Pn	04 13 10.1	+1.6
HEF	Hetta	7.02	130	eP	Pn	04 13 12.2	+0.8
KONS	Konsvik	7.24	167	eP	Pn	04 13 12.7	-1.6
MOR8	Moi Rana	7.66	163	eP	Pn	04 13 18.4	-1.7
MOR8				eS	Sn	04 14 37.2	-10
APA0	Apatity Array	9.88	115	Pn	Pn	04 13 50.0	-0.5
	baz=332,slow=11						
APA0	Apatity Array	9.88	115	Pn	Pn	04 13 50.0	-0.5
	baz=332,slow=11						
ZFI	Zemlya Franca-	10.90	32	eP	Pn	04 14 03.7	-0.7
	comp=Z,55nm,1.5s						
SLVR	Solovky	12.58	119	P	Pn	04 14 21.5	-6.0
	comp=Z,45nm,2.2s						
NOA	NORSAR Array B	12.62	175	Pn	Pn	04 14 28.5	+0.5
	comp=Z,0.0nm,0.3s,baz=354,slow=13,SNR=1.3						
HFS	Hagfors	13.62	170	Pn	Pn	04 14 42.3	+0.8
	comp=Z,0.1nm,0.3s,baz=350,slow=7.9,SNR=1.5						
FIA0	FINESS Array S	13.71	144	P	Pn	04 14 42.1	-0.8
	baz=348,slow=16						
FIA0	FINESS Array S	13.71	144	P	Pn	04 14 42.1	-0.8
	baz=348,slow=16						
FINES	FINESS Array B	13.71	144	Pn	Pn	04 14 42.4	-0.5
	comp=Z,0.1nm,0.3s,baz=0,0,slow=9.9,SNR=5.3						
BORG	Borgarnes	13.77	246	LR	LR	04 19 02.2	
	comp=Z,187nm,21.1s,baz=157,slow=33						
LSH	Leshukonskoye	15.34	106	P	P	04 15 11.8	+2.2
	comp=Z,61nm,2.5s						
KLMR	Klimovskoe	17.05	122	eP	Pn	04 15 26.9	+0.1
	comp=Z,27nm,1.4s						
KLMR	Klimovskoe	17.05	122	e	P	04 15 29.1	+0.5
KLMR				AMP		04 15 43.1	
	comp=Z,27nm,1.4s						
PRGR	Permogore	17.93	112	P	Pn	04 15 37.6	0.0
KIRV	Kirov	21.53	112	P	P	04 16 17.1	-0.4
	comp=Z,6.0nm,0.6s,baz=347,slow=1.7,SNR=2.7						
AKASG	Malin Array Be	24.53	148	P	P	04 16 47.6	-0.3
	comp=Z,0.3nm,0.4s,baz=345,slow=9.0,SNR=3.8						
GERES	GERESS Array B	24.90	173	P	P	04 16 51.8	+0.4
	comp=Z,0.2nm,0.3s,baz=352,slow=12,SNR=2.2						
BRTR	Keskin Array B	35.92	147	P	P	04 18 31.3	+2.4
	comp=Z,1.2nm,0.9s,baz=350,slow=7.7,SNR=3.1						
YKA	Yellowknife Ar	39.12	322	P	P	04 18 54.6	-1.0
	comp=Z,1.5nm,0.3s,baz=22,slow=8.8,SNR=13						
ILAR	Eielson Array	40.99	345	P	P	04 19 11.6	+0.5
	comp=Z,0.4nm,0.8s,baz=4.4,slow=8.2,SNR=5.3						
MKAR	Makanchi Array	41.15	89	P	P	04 19 15.0	+2.4
	comp=Z,0.2nm,0.6s,baz=346,slow=0.5,SNR=4.1						
CMAR	Chiang Mai Arr	72.40	85	LR	LR	05 03 48.8	
	comp=Z,19nm,19.3s,baz=265,slow=43						

*TUL **28** 04:38:56.2±1.3, 36°.007N±0°.009×97°.32W±0°.01, h6km±7km, ML2.8, mb_Lg2.4/24(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=224.0*
NEIC 28 04:38:56.3±0.8, 36°.01N±0°.01×97°.33W±0°.01, h8km±1km, Error ellipse: s-maj=1.9km s-min=1.5km az=174.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.24	205	Pg	Pg	04 39 01.1	0.0
OK029				Sg	Sg	04 39 04.8	+0.5
OK033	Mehan	0.32	84	Pg	Pg	04 39 02.8	+0.1
OK033				Sg	Sg	04 39 07.2	+0.3
OK031	S. Brethren Rd	0.40	98	Pg	Pg	04 39 04.2	0.0
OK031				Sg	Sg	04 39 09.8	+0.2
BCOK	Bluff Creek, N	0.42	212	Pg	Pg	04 39 04.5	0.0
BCOK				Sg	Sg	04 39 10.4	+0.4
OK025	Westminster Rd	0.43	181	Pg	Pg	04 39 04.8	+0.1
OK030	Cody Creek RV	0.45	101	Pg	Pg	04 39 05.0	-0.1
OK034	N. Norfolk Rd.	0.50	90	Pg	Pg	04 39 06.0	0.0
QUOK	Quay	0.53	72	Pg	Pg	04 39 06.3	-0.2
OKCFA	Oklahoma City	0.60	189		Pg	04 39 07.7	-0.3
OKCSW	OKLAHOMA CITY	0.61	188	Pg	Pg	04 39 08.1	0.0
CROK	Carrier	0.72	313	Pg	Pg	04 39 10.3	+0.1
BLOK	Blackwell	0.75	7	Pg	Pg	04 39 10.6	-0.2
FNO	Franklin	0.76	184	Pg	Pg	04 39 10.6	-0.3
W35A	Tecumseh	0.94	156	Pg	Pg	04 39 13.4	-0.8
GC02	Grant County #	0.94	333		Pg	04 39 14.1	-0.2
KAN13	South Haven SW	1.00	353	Pg	Pg	04 39 15.2	-0.4
KAN14	Manchester OK	1.07	332		Pg	04 39 16.4	-0.5
KAN17	Caldwell West	1.09	341	Pg	Pg	04 39 16.7	-0.4
T35A	Sooner Cattle	1.12	36	Pn	Pg	04 39 17.2	-0.6
KAN05	Bluff City Nor	1.18	338		Pg	04 39 18.4	-0.5
KAN01	Argonia South	1.19	343		Pb	04 39 18.4	-0.7
TUL1	Leonard	1.25	94	Pn	Pn	04 39 18.8	-1.4
TUL1				IAmb_Lg		04 39 37.4	
	comp=Z,22nm,0.9s						
KAN10	Anthony SW Sta	1.27	331	Pn	Pn	04 39 20.0	-0.4
KAN06	Argonia West S	1.30	341		Pn	04 39 20.7	-0.2
KAN08	Anthony NE Sta	1.32	337	Pn	Pn	04 39 20.7	-0.4
KAN16	Harper SW Stat	1.35	334		Pn	04 39 21.2	-0.3
KAN12	Harper NE Stat	1.39	338	Pn	Pn	04 39 22.0	-0.1
U32A	Winter Ranch,	1.40	286	Pn	Pn	04 39 22.0	-0.1
X34A	Smith Ranch, M	1.47	196		Pb	04 39 23.8	-0.1
WMOK	Wichita Mounta	1.74	223		Pn	04 39 27.1	+0.3
LOOK	Love County	2.02	176	IAmb_Lg		04 40 04.4	
	comp=Z,19nm,0.8s						
X37A	Clayton	2.14	131	IAmb_Lg		04 40 08.6	
	comp=Z,24nm,0.8s						
U38A	Gravette	2.42	79		Pn	04 39 37.5	+1.3
R32A	Long Quarter,	2.65	336		Pn	04 39 39.7	+0.4
HHAR	Hobbs	2.76	83		Pn	04 39 41.5	+0.7
W39A	Magazine	3.00	105	IAmb_Lg		04 40 38.0	
	comp=Z,14nm,0.8s						
KSU1	Kansas State U	3.14	10	Pn	Pn	04 39 45.9	-0.1
CBKS	Cedar Bluff	3.39	326	IAmb_Lg		04 40 48.2	
	comp=Z,9.2nm,0.7s						
S39A	Bolivar	3.63	61	Pn	Pn	04 39 53.1	+0.4
S39A				IAmb_Lg		04 40 53.4	
	comp=Z,11nm,0.8s						
U40A	Yellville	3.64	83	IAmb_Lg		04 40 58.9	
	comp=Z,13nm,0.7s						
AMTX	Amarillo	3.73	254	IAmb_Lg		04 40 57.6	
	comp=Z,7.6nm,0.7s						
X40A	Basin Creek Fa	3.98	111	IAmb_Lg		04 41 09.6	
	comp=Z,12nm,1.0s						
W41B	Gary Mavity, V	4.23	100	IAmb_Lg		04 41 19.4	
	comp=Z,10nm,1.2s						
P38A	Dawn	4.70	39	IAmb_Lg		04 41 33.6	
	comp=Z,5.9nm,0.7s						
N35A	Tabor	5.02	15	IAmb_Lg		04 41 34.0	
	comp=Z,9.6nm,0.8s						

*VIE **28** 04:52:50.1, 51°.79N×16°.55E, h0km, mb4.2/1, ML2.7/1 74 km SSW of Poznan Suspected Mining induced.*
*PRU **28** 04:52:51.2±0.0, 51°.49N×16°.10E, h0km*
ISC 28 04:52:51.8±1.7, 51°.47N±0°.08×16°.09E±0°.04, h0km, n19, σ0°68/35, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	168	ePg	Pg	04 53 03.3	-0.8
KSP				eSg	Sg	04 53 13.0	+0.6
CHVC	Chvalec	0.89	181	ePG	Pg	04 53 08.3	-0.4
CHVC				eSG	Sg	04 53 19.8	-0.4
	comp=Z,13nm,0.7s						
UPC	Upice	0.97	183	ePG	Pg	04 53 10.0	-0.3
UPC				eSG	Sg	04 53 22.5	-0.3
	comp=Z,19nm,0.4s						
DPC	Dobruska-Polom	1.13	172	ePG	Pg	04 53 11.9	-1.6
DPC				eSG	Sg	04 53 27.4	-0.7
	comp=Z,13nm,0.9s						
PVCC	Panska Ves	1.35	226	ePG	Pg	04 53 16.9	-0.7
PVCC				eSG	Sb	04 53 35.6	-0.1
	comp=Z,33nm,0.2s						
BRG	Berggiesshubel	1.48	247	Pg	Pn	04 53 19.1	-0.5
BRG				Sg	Sb	04 53 39.4	-0.1
BRG				Amp		04 53 40.8	
	comp=Z,8.2nm,0.3s						
PRU	Pruhonice	1.78	214	ePG	Pn	04 53 24.1	+0.3
PRU				eSG	Sg	04 53 49.2	+0.2
	comp=Z,6.5nm,0.7s						
MORC	Moravsky Berou	1.93	151	ePN	Pn	04 53 25.1	-0.9
MORC				eSG	Sn	04 53 51.6	+0.6
CLL	Collm	1.94	266	ePg	Pn	04 53 26.0	0.0
CLL				eSg	Sb	04 53 53.0	+0.3
OKC	Ostrava-Krasne	2.10	141	eSG	Sb	04 53 57.3	+0.1
	comp=Z,10nm,0.6s						
VRAC	Vranov	2.19	171	ePN	Pn	04 53 29.3	-0.2
VRAC				eSG	Sb	04 54 00.7	+0.8
KRUC	Moravsky	2.42	175	ePN	Pn	04 53 33.4	+0.8
NKC	Novy Kostel	2.62	243	ePN	Pn	04 53 35.4	0.0
NKC				ePG	Pb	04 53 40.5	+0.9
NKC				eSG	Sg	04 54 15.8	-0.1
	comp=Z,8.4nm,0.3s						
KHC	Kasperske Hory	2.84	215	ePN	Pn	04 53 38.5	0.0
KHC				ePG	Pb	04 53 43.0	-0.4
KHC				eSG	Sg	04 53 23.9	+0.8
	comp=Z,2.7nm,0.6s						
CKRC	Cesky Krumlov	2.89	204	ePG	Pb	04 53 44.6	+0.4
CKRC				eSG	Sg	04 54 23.5	-1.1
LANS	Liptovska Anna	3.18	136	eSG	Sg	04 54 34.8	+1.0
MODS	Modra-Piesok	3.19	166	eSG	Sg	04 54 35.0	+0.6
CONA	Conrad Observa	3.55	182	ePn	Pn	04 53 48.6	+0.4
	comp=Z,0.2nm,0.2s						
CONA				eSg	Sg	04 54 45.2	-0.6
	comp=Z,2.3nm,0.4s						
MOA	Molln	3.81	199	eSg	Sg	04 54 55.7	+1.4
	comp=Z,2.7nm,0.5s						

*MDD **28** 04:57:13.6±0.7, 35°.58N×3°.84W, h0km, mbLg3.1/11, Error ellipse: s-maj=6.4km s-min=4.1km az=29.0*
MDD EMS: II INTENSIDAD MAXIMA.
*SFS **28** 04:57:13.0, 35°.57N×3°.84W, ML3.1, ALBORAN SUR*
*CNRM **28** 04:57:14.3, 35°.56N×3°.65W, h14km, ml3.2*
*IGIL **28** 04:57:15.4, 35°.57N×3°.84W, h0km, ML2.6*
*LDG **28** 04:57:16.6±0.3, 35°.61N×3°.63W, h10km, Ml2.6/3, Error ellipse: s-maj=8.1km s-min=4.2km az=2.0*
ISC 28 04:57:14.9±1.1, 35°.60N±0°.03×3°.74W±0°.03, h26km±11km, n44, σ1°98/56, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.41	203	P	Pb	04 57 22.1	-1.5
PALE				S	Sb	04 57 27.7	-2.0
EALB	Alboran	0.67	59	Pg	Pb	04 57 28.2	+0.2
	629nm,0.3s,SNR=434						
EALB				Lg	Lg	04 57 37.9	
	467nm,0.1s,SNR=5.0						
EMEL	Melilla	0.71	115	Pg	Pb	04 57 28.0	-0.5
	606nm,0.3s,SNR=162						
EMEL				Lg	Lg	04 57 37.2	
	8μm,0.2s,SNR=43						
AKLM	AKL	1.09	185	P	Pn	04 57 34.4	-0.1
AKLM				S	Sn	04 57 48.2	-0.6
CHAS	Isla Isabel II	1.15	111	eP	Pn	04 57 34.1	-1.1
CHAS				eS	Sn	04 57 48.8	-1.3
ELGU	Los Guajares,	1.27	4	Pg	Pn	04 57 37.5	+0.4
	SNR=7.9						
ELGU				Lg	Lg	04 57 56.4	
	355nm,0.2s,SNR=7.9						
EMIJ	Mijas	1.28	320	Pg	Pn	04 57 37.1	0.0
	22nm,0.3s,SNR=161						
EMIJ				Lg	Lg	04 57 54.2	
	309nm,0.4s,SNR=20						
EMAL	Malaga-Limoner	1.29	335	eP	Pn	04 57 37.4	+0.2
EMAL				eS	Sn	04 57 53.3	-0.4
CEU	Ceuta	1.36	283	eP	Pn	04 57 36.1	-2.1
CEU				eS	Sn	04 57 51.6	-3.7
ECEU	Ceuta	1.36	283	Pg	Pn	04 57 37.4	-0.8
	8.6nm,0.3s,SNR=23						
ECEU				Lg	Lg	04 57 52.0	
	30nm,0.1s,SNR=10.0						
CHEFC	Chefchaouen	1.39	250	P	Pn	04 57 39.4	+0.6
CHEFC				S	Sb	04 57 60.0	+2.3
EBER	Berja	1.47	28	Pg	Pn	04 57 40.1	+0.2
	18nm,0.3s,SNR=39						
EBER				Lg	Lg	04 58 00.1	
	135nm,0.4s,SNR=7.8						
EGOR	Sierra Gorda,	1.54	349	Pg	Pn	04 57 41.6	+0.8
	SNR=7.9						
EGOR				Lg	Lg	04 58 03.7	
	41nm,0.3s,SNR=7.9						
JBK	JBK	1.59	142	P	Pn	04 57 40.9	-0.6
JBK				S	Sn	04 57 59.8	-1.5
EQUE	Quentar	1.62	9	Pg	Pb	04 57 43.6	-0.6
	12nm,0.4s,SNR=45						
EQUE				Lg	Lg	04 58 03.7	
	36nm,0.3s,SNR=5.8						
EJIF	Jimena Fronter	1.64	302	Pg	Pn	04 57 40.7	-1.3
	SNR=7.9						
ENIJ	Nijar	1.85	42	Pn	Pn	04 57 45.8	+0.9
	SNR=7.9						
ENIJ				Lg	Lg	04 58 13.1	
	27nm,0.3s,SNR=7.9						
SICH	Sidi Chahed	1.97	221	P	Pb	04 57 48.4	-1.6
SICH				S	Sb	04 58 14.2	-0.1
LCRM	LCR	2.12	206	P	Pb	04 57 51.3	-1.4
LCRM				S	Sb	04 58 25.9	+7.4
EQES	Quesada	2.27	14	Pg	Pb	04 57 54.5	-0.7
	17nm,0.3s,SNR=127						
EQES				Lg	Lg	04 58 23.8	
	34nm,0.4s,SNR=6.0						
IFR	Ifrane	2.37	209	eP	Pn	04 57 52.5	+0.2
IFR				eS	Sn	04 58 20.4	-0.1
MD31	MD31	2.85	197	P	Pn	04 57 59.5	+0.8
MDT	Midelt	2.87	195	P	Pn	04 58 00.1	+1.1
PVAQ	Vaqueiros	3.67	301	P	Pn	04 58 10.9	+0.8
FIGM	Figuig	4.02	148	P	Pn	04 58 15.5	+0.6
MESJ	Messejana	4.24	303	eP	Pn	04 58 18.4	+0.7
MORF	Marmelete	4.31	295	eP	Pn	04 58 19.5	+0.7
MORF				eS	Sn	04 59 06.3	-1.9
MORF				IAML		04 59 11.6	
	comp=N,13nm,0.4s						
PFVI	Vila Bisbo	4.38	292	P	Pn	04 58 21.6	+1.9
PESTR	Estremoz	4.48	318	P	Pn	04 58 23.5	+2.3
EVO	Evora	4.50	312	eP	Pn	04 58 23.1	+1.8
EVO				eS	Sn	04 59 12.5	-0.3
ETSF	Etsaut	7.70	18	ePn	Pn	04 59 07.7	+2.4
ETSF				eSn	Sn	05 00 27.7	-4.0
	comp=N,0.4nm,0.2s						
SJPF	Ste Jean	7.75	14	ePn	Pn	04 59 07.1	+1.0
SJPF				eSn	Sn	05 00 28.7	-4.3
	comp=N,0.3nm,0.2s						
EPF	Esparros	8.07	22	ePn	Pn	04 59 11.3	+0.9
EPF				eSn	Sn	05 00 36.4	-4.4
	comp=N,0.3nm,0.2s						
MTLF	Montolieu	9.00	29	ePn	Pn	04 59 22.6	-0.5
MTLF	Montolieu	9.00	29	eP	Pn	04 59 28.6	+5.5
LFF	La Frestale	9.94	19	ePg	Pg	05 00 17.5	
RJF	Les Rejaudoux	10.49	21	ePn	Pn	04 59 43.8	+0.3
LMR	La Mourre	11.06	43	ePn	Pn	04 59 52.9	+1.6
MFF	Saint Martin d	11.32	13	ePn	Pn	04 59 55.0	+0.1
SBF	Sospel	11.92	43	eP	Pn	05 00 09.3	+6.2
PGF	Pioggiola	12.09	51	ePn	Pn	05 00 06.0	+0.5
PGF	Pioggiola	12.09	51	eP	Pn	05 00 09.6	+4.1
QUIF	Quistinic	12.32	2	ePn	Pn	05 00 08.7	+0.2
SGMF	Saint Gilles	12.68	4	ePn	Pn	05 00 12.4	-1.0

IDC 28 05:16:27.6±2.8, 54°.22N×86°.49E, h0km, mb1 2.6/2, mb1mx2.5/38, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=22.0km s-min=13.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.02	255	i		05 22 05.0	
	baz=74,slow=335,SNR=14						
ZALV	Zalesovo Beam	1.02	255	Pg	Pg	05 16 46.2	-0.9
	0.7nm,0.3s,baz=77,slow=17,SNR=11						
ZALV				Lg	Lg	05 17 01.1	
	1.2nm,0.3s,baz=73,slow=29,SNR=12						
ZALV				Rg	Rg	05 17 06.6	
	4.2nm,0.8s,baz=76,slow=32,SNR=12						
KURBB	Kurchatov Arra	6.05	237	Pn	Pn	05 17 59.3	+1.1
	0.0nm,0.3s,baz=54,slow=14,SNR=6.2						
KURBB				Lg	Lg	05 19 42.9	
	0.0nm,0.3s,baz=61,slow=35,SNR=4.1						
MKAR	Makanchi Array	7.90	201	Pn	Pn	05 18 24.4	+0.7
	0.1nm,0.3s,baz=24,slow=13,SNR=4.6						
MKAR				Lg	Lg	05 20 38.3	
	0.0nm,0.3s,baz=28,slow=28,SNR=3.8						

*BJI **28** 05:30:17.9±0.0, 59°.57N×153°.30W, h112km, mb5.0/50, mB5.0/27*
*MOS **28** 05:30:19.5±0.7, 59°.72N×153°.21W, h113km, mb4.8/20, Error ellipse: s-maj=12.2km s-min=6.3km az=91.8*
*ANF **28** 05:30:20.7±0.2, 59°.68N×153°.13W, h109km±3km, ML4.6/46, Error ellipse: s-maj=2.0km s-min=1.7km az=115.0*
*IDC **28** 05:30:20.5±0.6, 59°.70N×153°.36W, h105km±6km, mb4.1/20, mb1 4.2/23, mb1mx3.9/57, mbtmp4.5/23, MS3.8/2, Ms1 3.8/2, ms1mx2.8/94, Error ellipse: s-maj=10.1km s-min=8.3km az=71.0*
*NEIC **28** 05:30:21.1±1.3, 59°.71N±0°.03×153°.19W±0°.06, h111km±4km, Error ellipse: s-maj=4.7km s-min=4.4km az=192.0*
*AEIC **

comp=N,27µm,0.9s
Q19K Cape Douglas, 0.82 196 P Pn 05 30 40.8 0.0
baz=17,SNR=578
Q19K S Sn 05 30 55.3 -0.3
baz=17
RDT Redoubt 0.95 24 Pn 05 30 42.0 -0.1
CNPM China Poot 1.02 100 Pn Pn 05 30 42.5 -0.3
CNPM Sn 05 30 58.4 -0.6
O18K Koktuh Hills 1.02 279 Pn 05 30 42.6 -0.2
O18K Koktuh Hills 1.02 279 P Pn 05 30 42.7 -0.1
baz=98,SNR=57
O18K S Sn 05 30 58.6 -0.5
baz=98
P18K Big Mountain, 1.08 254 Pn Pn 05 30 43.1 -0.4
P18K Sn 05 30 59.5 -0.8
P18K Big Mountain, 1.08 254 P Pn 05 30 43.1 -0.4
baz=73,SNR=81
P18K S Sn 05 30 59.3 -0.9
baz=73
BRLK Bradley Lake 1.17 87 Pn 05 30 43.7 -0.7
BRLK IAML 05 31 02.9
comp=E,6µm,0.5s
BRSE Bradley Lake S 1.25 88 Pn 05 30 44.5 -0.7
BRSE Sn 05 31 02.4 -1.0
BRSE Bradley Lake S 1.25 88 P Pn 05 30 44.6 -0.7
baz=269,SNR=112
BRSE S Sn 05 31 02.6 -0.8
baz=269
N19K Bonanza Creek 1.27 330 Pn 05 30 45.7 +0.1
N19K Sn 05 31 03.6 -0.5
N19K Bonanza Creek 1.27 330 P Pn 05 30 45.7 +0.1
baz=149
N19K S Sn 05 31 03.3 -0.8
baz=149
CAPN Captain Cook N 1.47 43 Pn 05 30 49.3 +1.6
CAPN Captain Cook N 1.47 43 P Pn 05 30 49.3 +1.6
baz=224,SNR=11
SPU Mount Spurr 1.58 21 Pn 05 30 49.0 -0.1
SPNN North Nagishla 1.68 8 Pn 05 30 50.7 +0.2
SPNN Sn 05 31 13.0 +0.3
SPCG Spurr Capps Gl 1.69 20 Pn 05 30 50.6 +0.1
SLKM Skilak Lake 1.69 61 Pn 05 30 49.9 -0.5
KABU Katmai Buttres 1.81 218 Pn 05 30 52.4 +0.4
KABU Sn 05 31 15.6 +0.3
SVW2 Sparrevohn 1.82 321 Pn 05 30 51.9 -0.1
SVW2 IAML 05 31 54.1
comp=N,3µm,0.7s
O22K Cooper Landing 1.90 65 Pn 05 30 53.0 -0.1
O22K Cooper Landing 1.90 65 P Pn 05 30 52.9 -0.1
baz=247,SNR=201
O22K S Sn 05 31 15.5 -1.8
baz=247
STLK Strandline Lak 1.91 20 Pn 05 30 53.4 +0.1
SEW Seward 1.93 77 Pn 05 30 52.8 -0.5
SEW Seward 1.93 77 P Pn 05 30 52.6 -0.7
baz=259,SNR=74
SEW S Sn 05 31 15.7 -2.1
baz=259
KDAK Kodiak Island 1.96 170 P Pn 05 30 52.8 -1.0
comp=N,177nm,0.3s,baz=33,slow=8.4,SNR=1088
KDAK S Sn 05 31 16.7 -2.0
comp=N,173nm,0.3s,baz=17,slow=20,SNR=8.3
KDAK Kodiak Island 1.96 170 P Pn 05 30 52.7 -1.1
KDAK Kodiak Island 1.96 170 Pn 05 30 52.7 -1.1
KDAK IAML 05 31 17.6
comp=N,3µm,0.4s
KDAK IAML 05 31 19.8
comp=N,3µm,0.4s
KDAK Kodiak Island 1.96 170 P Pn 05 30 52.8 -1.0
baz=351
KDAK S Sn 05 31 17.1 -1.6
baz=351
FIS Fire Island 2.06 45 Pn 05 30 56.1 +1.1
FIS IAML 05 31 26.5
comp=N,7µm,0.7s
FIS IAML 05 31 43.2
comp=E,6µm,0.7s
RC01 Rabbit Creek A 2.21 50 Pn 05 30 57.0 +0.2
RC01 IAML 05 31 24.2
comp=N,7µm,0.6s
RC01 IAML 05 31 24.6
comp=E,7µm,0.5s
RC01 Rabbit Creek A 2.21 50 P Pn 05 30 56.6 -0.3
baz=232,SNR=163
RC01 S Sn 05 31 22.8 -1.4
baz=232
M19K Big River Lodg 2.27 346 Pn 05 30 57.7 0.0
M19K Big River Lodg 2.27 346 P Pn 05 30 57.8 0.0
baz=164,SNR=801
OHAK Old Harbor 2.50 181 Pn Pn 05 30 59.3 -1.3
OHAK IAML 05 31 29.8
comp=E,1µm,0.3s
OHAK IAML 05 31 31.5
comp=N,2µm,0.5s
OHAK Old Harbor 2.50 181 P Pn 05 30 59.3 -1.3
baz=1.4,SNR=46
OHAK S Sn 05 31 27.9 -3.1
baz=1.4
M22K Willow 2.54 35 Pn 05 31 01.6 +0.4
M22K Willow 2.54 35 P Pn 05 31 01.4 +0.1
baz=217,SNR=111
M22K S Sn 05 31 31.5 -0.4
baz=217
PLK3 Peulik 3 2.59 220 Pn 05 31 02.5 +0.6
PWL Port Wells 2.68 63 Pn 05 31 03.2 +0.2
PWL Port Wells 2.68 63 P Pn 05 31 02.1 -1.0
baz=246,SNR=104
PMR Palmer 2.75 45 P Pn 05 31 03.0 -0.9
PMR Palmer 2.75 45 Pn 05 31 03.0 -0.9
PMR IAML 05 31 36.9
comp=N,2µm,0.6s
PMR IAML 05 31 39.4
comp=E,2µm,0.4s
PMR Palmer 2.75 45 P Pn 05 31 02.9 -1.0
baz=228,SNR=138
L20K Farewell, AK 2.79 354 Pn 05 31 04.9 +0.3
L20K Farewell, AK 2.79 354 P Pn 05 31 04.9 +0.3
baz=173
KNK Knik Glacier 2.90 52 Pn 05 31 05.0 -0.9
KNK Knik Glacier 2.90 52 P Pn 05 31 05.0 -0.9
baz=236,SNR=61
GHO Glory Hole Cre 2.94 44 Pn 05 31 06.1 -0.5
GHO IAML 05 31 41.8
comp=N,3µm,0.3s
CUT Chulitna 3.05 27 Pn 05 31 07.9 0.0
CUT IAML 05 31 47.8
comp=E,2µm,0.6s
CUT IAML 05 31 50.4
comp=N,3µm,0.4s
CUT Chulitna 3.05 27 P Pn 05 31 07.6 -0.3
baz=209,SNR=205
SML Sawmill 3.18 47 Pn Pn 05 31 08.8 -0.9
SML IAML 05 31 46.6
comp=N,2µm,1.0s
SML IAML 05 31 53.6
comp=E,2µm,0.6s
SML Sawmill 3.18 47 P Pn 05 31 08.7 -0.9
baz=230,SNR=70
SII Sitkinak Islan 3.21 190 Pn 05 31 08.9 -1.1
SII IAML 05 31 46.6
comp=N,1µm,0.7s
SII IAML 05 31 47.3
comp=E,1µm,0.4s
SII Sitkinak Islan 3.21 190 P Pn 05 31 08.6 -1.4
baz=9.3
PPLA Purkeypile 3.23 8 Pn 05 31 11.1 +0.7
PPLA Purkeypile 3.23 8 P Pn 05 31 11.1 +0.7
baz=189,SNR=143
TT01 Tatalina 3.48 338 Pn 05 31 13.3 -0.2
Q23K Middleton Isla 3.50 92 Pn 05 31 13.6 -0.2
Q23K IAML 05 31 56.8
comp=E,741nm,0.5s
Q23K IAML 05 31 59.8
comp=N,805nm,0.5s
Q23K Middleton Isla 3.50 92 P Pn 05 31 13.3 -0.5
baz=277,SNR=7.9
TTA Tatalina 3.50 338 P Pn 05 31 13.6 -0.3
TTA Tatalina 3.50 338 Pn Pn 05 31 13.6 -0.3
TTA Tatalina 3.50 338 P Pn 05 31 13.5 -0.3
baz=156,SNR=334
MID Middleton Isla 3.50 92 P Pn 05 31 13.4 -0.4
MID Middleton Isla 3.50 92 Pn Pn 05 31 13.4 -0.4
MID IAML 05 31 55.2
comp=N,726nm,0.5s
MID IAML 05 31 59.5
comp=E,721nm,0.5s

FID Port Fidalgo 3.51 70 Pn 05 31 12.9 -1.1
SCM Sheep Creek Mo 3.58 51 P Pn 05 31 14.3 -0.7
SCM Sheep Creek Mo 3.58 51 Pn 05 31 14.3 -0.7
SCM IAML 05 31 57.5
comp=E,2µm,0.8s
SCM Sheep Creek Mo 3.58 51 P Pn 05 31 14.1 -0.9
baz=236,SNR=30
VMT TAPS Tl Valdez 3.66 65 Pn 05 31 15.1 -0.9
VMT Sn 05 31 55.5 -2.8
K20K Telida 3.68 354 Pn 05 31 16.4 +0.1
K20K Telida 3.68 354 P Pn 05 31 16.3 +0.1
baz=173
CAST Castle Rocks 3.76 8 Pn 05 31 17.5 +0.2
CAST Castle Rocks 3.76 8 P Pn 05 31 17.4 +0.1
baz=188,SNR=500
EYAK Cordova Ski Ar 3.82 74 Pn Pn 05 31 17.0 -1.1
EYAK Cordova Ski Ar 3.82 74 P Pn 05 31 16.8 -1.3
baz=260,SNR=12
DIV Divide 3.95 66 Pn Pn 05 31 19.1 -0.8
TRF Thorofare Moun 4.00 19 Pn 05 31 20.8 +0.1
TRF IAML 05 32 30.2
comp=N,680nm,0.5s
TRF IAML 05 32 31.1
comp=E,499nm,0.8s
TRF Thorofare Moun 4.00 19 P Pn 05 31 19.9 -0.8
baz=201,SNR=187
KTH Kantishna Hill 4.00 15 Pn 05 31 20.3 -0.4
KTH IAML 05 32 31.5
comp=N,414nm,0.9s
KTH IAML 05 32 32.8
comp=E,425nm,0.8s
KLU Klutina 4.01 60 Pn 05 31 19.9 -0.8
KLU IAML 05 32 08.0
comp=E,2µm,0.5s
KLU Klutina 4.01 60 P Pn 05 31 19.7 -1.1
baz=246,SNR=89
CHIR Chirikof Islan 4.11 199 Pn 05 31 20.5 -1.5
CHIR IAML 05 32 07.1
comp=N,502nm,0.4s
CHIR IAML 05 32 18.8
comp=E,335nm,1.3s
CHIR Chirikof Islan 4.11 199 P Pn 05 31 20.5 -1.5
baz=18
M24K Tolsona, Glenn 4.19 52 Pn 05 31 22.9 -0.2
M24K Tolsona, Glenn 4.19 52 P Pn 05 31 22.5 -0.6
baz=238,SNR=50
CHUM Lake Minchumin 4.21 5 Pn 05 31 23.2 0.0
CHUM Lake Minchumin 4.21 5 P Pn 05 31 23.3 0.0
baz=186,SNR=432
RND Reindeer 4.25 27 P Pn 05 31 23.7 -0.2
RND Reindeer 4.25 27 Pn 05 31 23.7 -0.2
GOAT Goat Mountain 4.32 75 Pn 05 31 23.8 -1.2
CHGN Chignik 4.40 221 Pn 05 31 26.0 0.0
CHGN IAML 05 32 16.0
comp=N,342nm,0.7s
CHGN IAML 05 32 16.1
comp=E,387nm,0.7s
CHGN Chignik 4.40 221 P Pn 05 31 25.7 -0.3
baz=37,SNR=17
KAIM Kayak Island 4.44 83 Pn 05 31 26.7 +0.3
KAIM IAML 05 32 19.2
comp=E,949nm,1.1s
KAIM Kayak Island 4.44 83 P Pn 05 31 26.3 -0.1
baz=271
BMRM Bremner River 4.45 70 Pn Pn 05 31 26.2 -0.5
BMRM IAML 05 32 18.6
comp=N,1µm,0.5s
BMRM IAML 05 32 26.1
comp=E,692nm,0.5s
BMRM Bremner River 4.45 70 P Pn 05 31 25.2 -1.4
baz=257,SNR=34
PS11 TAPS Pump St11 4.46 55 Pn 05 31 26.3 -0.4
J20K Nowinta River 4.50 355 Pn 05 31 27.2 0.0
J20K Nowinta River 4.50 355 P Pn 05 31 27.2 0.0
baz=174
MCK McKinley 4.51 25 P Pn 05 31 27.4 0.0
MCK McKinley 4.51 25 Pn Pn 05 31 27.4 0.0
MCK IAML 05 32 52.1
comp=N,276nm,0.9s
MCK IAML 05 32 57.7
comp=E,239nm,1.0s
MCK McKinley 4.51 25 P Pn 05 31 26.8 -0.6
baz=208,SNR=232
BPAW Bear Paw Mtn. 4.52 12 Pn 05 31 26.7 -0.9
BPAW Bear Paw Mtn. 4.52 12 P Pn 05 31 26.7 -0.9
baz=194,SNR=80
HMT Hamilton 4.53 78 Pn 05 31 27.0 -0.7
N25K Chitina, Valde 4.64 62 Pn 05 31 28.8 -0.4
N25K IAML 05 32 22.0
comp=N,845nm,0.6s
N25K Chitina, Valde 4.64 62 P Pn 05 31 28.3 -0.9
baz=249,SNR=94
NICHA Nichawak Mount 4.67 80 Pn 05 31 28.9 -0.7
HARP HAARP 4.75 52 Pn 05 31 29.9 -0.6
HARP HAARP 4.75 52 P Pn 05 31 29.9 -0.6
baz=239,SNR=28
BWN Browne 4.81 20 Pn 05 31 31.2 -0.1
BWN IAML 05 33 23.0
comp=N,375nm,1.2s
BWN IAML 05 33 23.3
comp=E,411nm,1.2s
BERG Berg Lake 4.81 78 Pn 05 31 30.4 -1.1
BERG IAML 05 32 25.2
comp=N,854nm,0.4s
GLB Gilahina Butte 4.95 65 Pn 05 31 32.8 -0.5
GLB IAML 05 32 29.6
comp=E,698nm,0.7s
PAX Paxson 4.95 45 P Pn 05 31 32.9 -0.5
PAX Paxson 4.95 45 Pn 05 31 32.9 -0.5
GRIN Grindle Hills 4.99 79 Pn 05 31 33.9 -0.1
KHIT Khitrov Hills 5.04 77 Pn 05 31 33.8 -0.8
VRDI Verde Repeater 5.06 68 Pn 05 31 34.4 -0.6
VRDI IAML 05 32 30.3
comp=N,576nm,0.4s
VRDI IAML 05 32 30.7
comp=E,363nm,0.6s
PS10 TAPS Pump St10 5.14 40 Pn 05 31 36.1 +0.2
SNH Sunshine Point 5.23 80 Pn 05 31 37.5 +0.3
SNH IAML 05 32 35.9
comp=E,512nm,0.6s
SNH IAML 05 32 36.6
comp=N,429nm,0.5s
WAX Waxell Ridge 5.23 77 Pn 05 31 36.6 -0.6
NEA2 Nenana 5.26 20 Pn 05 31 36.6 -1.0
GCSA Galena City Sc 5.33 343 Pn 05 31 38.2 -0.2
WRH Wood River Hil 5.34 24 Pn 05 31 37.6 -0.9
WRH IAML 05 33 18.6
comp=N,127nm,1.2s
MLY Manley 5.46 11 Pn 05 31 39.5 -0.7
ISLE Juniper Island 5.50 76 Pn 05 31 40.6 -0.2
I21K Tanana 5.52 5 Pn 05 31 40.6 -0.3
KIAG Kiagna River 5.52 73 Pn 05 31 40.6 -0.6
BALM Baldy 5.55 72 Pn 05 31 40.5 -1.0
HDA Harding Lake 5.55 29 Pn 05 31 40.7 -0.7
CCB Clear Creek Bu 5.56 25 Pn 05 31 40.4 -1.1
MENT Mentasta 5.59 51 Pn 05 31 41.3 -0.7
BAGL Bagley Icefiel 5.61 77 Pn 05 31 42.4 +0.2
M26K Nabesna, AK 5.64 57 Pn 05 31 43.4 +0.7
RIDG Independent Ri 5.66 41 Pn Pn 05 31 42.8 -0.1
MESA MESA 5.67 80 Pn 05 31 43.5 +0.2
PS08 TAPS Pump Stn8 5.69 29 Pn 05 31 42.2 -1.1
I23K Minto, Yukon-K 5.74 16 Pn 05 31 43.4 -0.5
TCOL CIGO, UAF Yank 5.74 23 Pn 05 31 43.3 -0.6
COLA College 5.75 23*d iP* Pn 05 31 42.7 -1.3
COLA pmax pmax
comp=Z,189nm,0.8s
COLA College 5.75 23 Pn 05 31 43.3 -0.7
MDM Murphy Dome 5.75 22 Pn 05 31 43.4 -0.7
YAH Yahtse 5.78 79 Pn 05 31 45.2 +0.4
L26K Log Cabin Wild 5.78 51 Pn 05 31 44.4 -0.2
IL31 5.87 27 Pn 05 31 45.0 -0.6
ILAR Eielson Array 5.87 27 P Pn 05 31 44.4 -1.3
comp=Z,61nm,0.3s,baz=214,slow=14,SNR=1428
ILAR S Sn 05 32 47.8 -3.7
comp=Z,28nm,0.3s,baz=335,slow=27,SNR=4.8
ILAR LR LR 05 34 09.0
comp=Z,236nm,21.5s,baz=170,slow=39
ILAR ScP ScP 05 41 58.6 -0.5
comp=Z,0.1nm,0.3s,baz=227,slow=3.2,SNR=4.7
ILAR Eielson Array 5.87 27 P Pn 05 31 44.3 -1.4
DOT Dot Lake 5.87 44 Pn 05 31 45.3 -0.4
SDPT Sand Point 5.87 225 Pn 05 31 45.0 -0.8
BARN Barnard Glacie 5.88 72 Pn 05 31 46.1 +0.1
H21K Melozitna Rive 5.97 2 Pn 05 31 46.6 -0.4

CNBA Chernabura Isl 6.00 218 Pn 05 31 46.1 -1.5
POKR Poker Plat Res 6.05 24 Pn 05 31 47.1 -0.9
PS07 TAPS Pump Stn7 6.06 20 Pn 05 31 47.7 -0.5
TABL Table Mountain 6.08 78 Pn 05 31 48.9 +0.1
CHX Chaix Hills 6.09 82 Pn 05 31 49.5 +0.6
M27K Edge Creek, AK 6.11 59 Pn 05 31 49.4 +0.4
SCRK Sand Creek 6.11 42 Pn 05 31 47.8 -1.2
SAMH Samovar Hills 6.26 81 Pn 05 31 51.7 +0.6
IM03 6.30 358 Pn 05 31 51.7 +0.2
IMAR Indian Mountai 6.30 358 Pn 05 31 52.0 +0.5
PS06 TAPS Pump Stn6 6.37 13 Pn 05 31 52.2 -0.2
PS4A Pavlof South-4 6.39 231 Pn 05 31 53.2 +0.4
YUK2 White River 6.40 66 Pn 05 31 52.9 -0.1
L27K Beaver Creek, 6.41 54 Pn 05 31 52.6 -0.4
BC03 6.43 54 Pn 05 31 52.6 -0.6
BCAR Beaver Creek A 6.43 54 Pn 05 31 52.6 -0.7
PCA Pinnacle 6.52 81 Pn 05 31 54.2 -0.4
BVCY Beaver Creek 6.57 60 Pn 05 31 55.9 +0.6
YUK3 Moose Creek 6.58 66 Pn 05 31 55.5 0.0
H24K Noodor Dome 6.61 19 Pn 05 31 54.8 -0.9
PRP Porcupine Dome 6.81 28 Pn 05 31 57.8 -0.8
YUK8 Steele Glacier 6.82 71 Pn 05 31 59.6 +0.7
BCPM Bancas Point 6.84 82 Pn 05 31 59.0 +0.1
PNL Peninsula 6.99 84 Pn 05 32 00.4 -0.5
PS05 TAPS Pump Stn5 7.22 8 Pn 05 32 03.1 -0.8
FALS False Pass 7.37 233 Pn Pn 05 32 06.6 +0.6
ANM Nome 7.49 316 P Pn 05 32 08.7 +1.1
ANM Nome 7.49 316 Pn 05 32 08.7 +1.1
EGAK Eagle 7.57 43 Pn 05 32 07.2 -1.5
ISLZ Isanotski Laza 7.58 233 Pn 05 32 09.1 +0.2
COLD Coldfoot 7.66 9 Pn 05 32 09.4 -0.5
SSLS Shishaldin Sou 7.71 234 Pn 05 32 10.7 0.0
YUK5 Granite Creek 7.72 73 Pn 05 32 11.1 +0.2
FYU Fort Yukon 7.76 24 Pn 05 32 10.1 -1.1
DAWY Dawson 7.84 50 Pn 05 32 12.5 0.0
HYT Haines Junctio 7.88 75 Pn 05 32 13.1 0.0
WECS Westdahl Cape 8.16 236 Pn 05 32 17.8 +1.1
M30M Minto, Yukon 8.43 63 Pn 05 32 20.9 +0.4
J29M Klondike Camp 8.47 50 Pn 05 32 21.4 +0.3
BM03 Burnt Mountain 8.62 23 Pn 05 32 19.9 -3.0
BMAR Burnt Mountain 8.63 23 Pn Pn 05 32 21.8 -1.4
N31M Braeburn, Yuko 8.75 71 Pn 05 32 25.1 +0.4
AKUT Akutan 8.85 236 Pn Pn 05 32 26.9 +0.8
I29M Ogilvie Camp, 8.90 44 Pn 05 32 26.3 -0.4
AKBBA Akutan Broad B 8.95 237 Pn 05 32 28.0 +0.6
TNA Tin City 8.95 317 Pn 05 32 28.3 +1.0
SKAG Skagway 9.07 84 Pn 05 32 29.3 +0.3
TOLK Toolik Lake Re 9.10 8 Pn 05 32 29.9 +0.5
MSW Makushin Switc 9.44 238 Pn 05 32 33.4 -0.7
M31M Drury Creek, Y 9.47 67 Pn 05 32 34.9 +0.3
BESE Bessie Mountai 9.49 89 Pn 05 32 34.6 -0.2
SIT Sitka 9.75 98 P Pn 05 32 37.4 -0.8
SIT Sitka 9.75 98 Pn 05 32 37.4 -0.8
JIS Juneau Island 9.81 90 Pn 05 32 40.5 +1.4
P33M Teslin, Yukon 10.23 78 Pn Pn 05 32 45.2 +0.4
WRAK Wrangell Islan 11.51 98 Pn 05 33 02.2 +0.3
CRAG Craig 11.56 103 Pn Pn 05 33 02.5 -0.1
DLBC Dease Lake 11.97 86 P Pn 05 33 08.8 +0.7
comp=Z,6.6nm,0.3s,baz=229,slow=11,SNR=50
DLBC S Sn 05 35 18.0 -1.7
comp=Z,2.3nm,0.3s,baz=181,slow=25,SNR=2.7
DLBC Dease Lake 11.97 86 Pn Pn 05 33 09.3 +1.1
INK Inuvik 12.13 37 P Pn 05 33 09.1 -0.9
comp=Z,1.3nm,0.3s,baz=234,slow=16,SNR=48
INK ScP ScP 05 42 05.7 -0.2
comp=Z,0.1nm,0.3s,baz=280,slow=1.2,SNR=4.3
INK Inuvik 12.13 37 P Pn 05 33 08.5 -1.5
INK Inuvik 12.13 37 Pn Pn 05 33 08.5 -1.5
MOBC Moresby Island 13.43 110 Pn Pn 05 33 27.4 +0.3
A36M Sachs Harbour 16.55 31 Pn Pn 05 34 04.2 -2.1
A36M IAmb IAmb 05 34 08.5
comp=Z,48nm,0.8s
YKA Yellowknife Ar 18.66 65 P P 05 34 30.8 +0.7
comp=Z,2.4nm,0.3s,baz=277,slow=9.9,SNR=389
YKA pP pP 05 34 50.8 +0.2
comp=Z,0.6nm,0.3s,baz=279,slow=10.0,SNR=5.8
YKA PcP PcP 05 38 53.5 +0.2
comp=Z,0.3nm,0.3s,baz=277,slow=1.4,SNR=15
YKA ScP ScP 05 42 18.8 +0.6
comp=Z,0.1nm,0.3s,baz=286,slow=2.2,SNR=14
YKA Yellowknife Ar 18.66 65 P P 05 34 30.2 +0.1
YKA Yellowknife Ar 18.66 65 P P 05 34 30.2 +0.1
BILL Bilibino 19.33 312 *i* P P 05 34 37.9 +0.6
BILL pmax pmax
comp=Z,14nm,1.3s
BILL Bilibino 19.33 312 P P 05 34 37.6 +0.3
RES Resolute Bay 25.60 32 P P 05 35 39.0 -0.5
comp=Z,1.4nm,0.6s,baz=234,slow=9.0,SNR=6.7
RES ScP ScP 05 42 35.3 -0.4
comp=Z,2.0nm,0.9s,baz=312,slow=4.2,SNR=4.1
RES Resolute Bay 25.60 32 P P 05 35 39.7 +0.2
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 25.60 32 P P 05 35 39.7 +0.2
SEY Seymchan 25.65 301 P P 05 35 38.7 -1.4
comp=Z,3.0nm,0.5s,baz=77,slow=7.0,SNR=10.0
YBH Yreka Blue Hor 26.03 120 pP pP 05 36 09.7 +1.6
comp=Z,2.3nm,0.7s,baz=356,slow=6.3,SNR=3.7
PET Petropavlovsk 26.97 277 *eP* P 05 35 50.3 -1.6
PET pmax pmax
comp=Z,138nm,2.4s
PEA0B Petropavlovsk- 27.40 278 P P 05 35 55.9 0.0
PEA0B pmax pmax
comp=Z,39nm,1.2s
PEA0B Petropavlovsk- 27.40 278 P P 05 35 55.9 0.0
PEA0B IAmb IAmb 05 35 59.5
comp=Z,39nm,1.1s
PETK Petropavlovsk- 27.40 278 P P 05 35 55.4 -0.5
comp=Z,9.6nm,0.8s,baz=77,slow=12,SNR=20
PETK Petropavlovsk- 27.40 278 P P 05 35 55.2 -0.7
PETK Petropavlovsk- 27.40 278 P P 05 35 55.2 -0.7
GCMT Greycliff 29.19 99 P P 05 36 11.6 -0.4
FCC Fort Churchill 29.39 66 P P 05 36 14.7 +1.3
FCC pmax pmax
comp=Z,12nm,1.5s
FCC Fort Churchill 29.39 66 P P 05 36 14.7 +1.3
FCC IAmb IAmb 05 36 23.9
comp=Z,12nm,1.5s
ELK Elko 30.22 112 pP pP 05 36 47.1 +1.3
comp=Z,1.1nm,0.6s,baz=319,slow=12,SNR=3.2
NVAR Mina Array Bea 30.67 118 P P 05 36 27.7 +2.4
comp=Z,0.4nm,0.7s,baz=317,slow=9.9,SNR=4.2
NVAR pP pP 05 36 50.0 +0.2
comp=Z,1.5nm,0.8s,baz=310,slow=9.1,SNR=6.4
NVAR PcP PcP 05 39 21.1 +0.6
comp=Z,0.5nm,0.5s,baz=310,slow=2.8,SNR=4.7
NVAR ScP ScP 05 42 53.4 +1.1
comp=Z,0.3nm,0.8s,baz=284,slow=1.2,SNR=3.6
PDAR Pinedale Array 31.43 103 P P 05 36 33.9 +2.1
comp=Z,0.1nm,0.5s,baz=310,slow=4.4,SNR=1.3
PDAR PcP PcP 05 39 22.2 -0.1
comp=Z,0.5nm,0.7s,baz=114,slow=3.6,SNR=4.3
TIXI Tiksi 31.66 324 P P 05 36 32.1 -1.1
comp=Z,1.5nm,0.4s,baz=92,slow=14,SNR=5.6
TIXI Tiksi 31.66 324 P P 05 36 33.6 +0.4
TIXI pmax pmax
comp=Z,2.0nm,0.5s
TIXI Tiksi 31.66 324 P P 05 36 33.6 +0.4
FRB Frobisher Bay 37.52 47 P P 05 37 23.8 0.0
comp=Z,4.4nm,0.6s,baz=304,slow=9.8,SNR=14
ZEA Zeya 41.58 298 *eP* P 05 37 57.0 -0.5
ZEA pmax pmax
comp=Z,10.0nm,0.6s
KLR Kul'dur 42.55 291*d iP* P 05 38 05.3 -0.1
KLR pmax pmax
comp=Z,18nm,1.6s
SCHQ Schefferville 43.81 57 P P 05 38 15.8 +0.3
comp=Z,2.8nm,0.4s,baz=311,slow=7.4,SNR=18
SCHQ Schefferville 43.81 57 IAmb IAmb 05 38 20.8
comp=Z,7.3nm,1.1s
NRIK Noril'sk 44.11 334 P P 05 38 17.8 +0.1
comp=Z,7.6nm,0.5s,baz=49,slow=6.3,SNR=15
NRIK Noril'sk 44.11 334 P P 05 38 17.8 +0.1
NRIK pmax pmax
comp=Z,11nm,0.7s
NRIK Noril'sk 44.11 334 P P 05 38 17.8 +0.1
NRIK IAmb IAmb 05 38 18.3
comp=Z,11nm,0.7s
BOD Bodaibo 44.36 310 *eP* P 05 38 19.2 -0.6
BOD pmax pmax
comp=Z,17nm,0.8s
TXAR Lajitas Array 44.98 110 P P 05 38 27.2 +2.0
comp=Z,0.3nm,0.8s,baz=352,slow=4.8,SNR=2.2
TXAR pP pP 05 38 50.9 -0.1

comp=Z,1.2nm,0.9s,baz=320,slow=5.2,SNR=6.9
TXAR ScP **ScP** **05 43 46.9 +0.7**
comp=Z,0.4nm,0.7s,baz=273,slow=1.1,SNR=4.6
BNX BinXian 47.10 290 ⇓P **P** **05 38 41.5 0.0**
BNX pmax pmax
comp=Z,9.0nm,0.8s
BNX pmax pmax
comp=Z,120nm,6.6s
MSHR Mys Shultsa 47.62 284⇓ *e*P **P** **05 38 45.5 -0.1**
MSHR pmax pmax
comp=Z,25nm,2.5s
MAT Matsushiro 48.70 274 P **P** **05 38 53.5 -0.5**
MJAR Matsushiro Arr 48.70 274 P **P** **05 38 54.2 +0.2**
comp=Z,3.1nm,0.5s,baz=16,slow=7.1,SNR=8.7
MJAR Matsushiro Arr 48.70 274 P **P** **05 38 53.8 -0.2**
MJAR pmax pmax
comp=Z,6.0nm,0.9s
MJAR Matsushiro Arr 48.70 274 P **P** **05 38 53.8 -0.2**
MJAR IAmb IAmb 05 38 54.8
comp=Z,5.5nm,0.9s
CN2 Changchun 49.48 290 *e*P **P** **05 38 59.5 -0.3**
CN2 S **S** **05 45 55.5 -2.9**
CN2 sS sS 05 46 41.0 -2.6
CN2 SS **SS** **05 49 24.0 -7.0**
CN2 pmax pmax
comp=Z,60nm,4.0s
CN2 LR LR
comp=Z,120nm,10.0s
CN2 LR LR
comp=Z,120nm,10.0s
CN2 LR LR
comp=Z,150nm,12.0s
ARCES ARCESS Array B 51.04 1 pP pP 05 39 37.6 -0.2
comp=Z,5.8nm,1.0s,baz=356,slow=8.1,SNR=2.1
KS19 Wonju Array Si 53.13 283 P **P** **05 39 27.8 +0.6**
KSRS Korea Array 53.14 283 P **P** **05 39 28.1 +0.9**
comp=Z,9.1nm,0.5s,baz=39,slow=6.8,SNR=32
KSAR Wonju Array Be 53.17 283 P **P** **05 39 27.6 +0.2**
KSAR Wonju Array Be 53.17 283 P **P** **05 39 27.6 +0.2**
XLT XiLinHaoTe 53.77 296 *e*P **P** **05 39 32.0 +0.2**
XLT pmax pmax
comp=Z,21nm,0.6s
XLT pmax pmax
comp=Z,130nm,4.7s
ZAK Zakamensk 54.10 310 *e*P **P** **05 39 33.8 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
TJN Taejon 54.27 282 *de*P **P** **05 39 35.8 +0.4**
ULN Ulaanbaatar 54.58 305 P **P** **05 39 38.2 +0.5**
ULN pmax pmax
comp=Z,11nm,0.7s
ULN Ulaanbaatar 54.58 305 P **P** **05 39 38.2 +0.5**
SONM Songino Array 54.88 306 P **P** **05 39 40.8 +1.0**
comp=Z,19nm,0.7s,baz=43,slow=6.7,SNR=151
SONM PcP **PcP** **05 40 40.9 +0.3**
comp=Z,1.8nm,0.7s,baz=62,slow=1.0,SNR=4.0
SONM Songino Array 54.88 306 P **P** **05 39 40.5 +0.7**
SONM pmax pmax
comp=Z,20nm,0.7s
SONM Songino Array 54.88 306 P **P** **05 39 40.5 +0.7**
BJI Beijing 56.76 293 P **P** **05 39 52.5 -0.7**
BJI pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuau 56.78 293 P **P** **05 39 53.2 -0.1**
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuau 56.78 293 P **P** **05 39 53.1 -0.1**
ZAA0 Zalesovo Array 57.54 324 P **P** **05 39 58.8 +0.3**
ZALV Zalesovo Beam 57.54 324 P **P** **05 39 58.6 +0.1**
comp=Z,31nm,0.5s,baz=33,slow=6.8,SNR=143
HHC Hu-ho-hao-te 58.23 297 *e*P **P** **05 40 03.5 -0.1**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,140nm,7.2s
BTO Baotou 59.11 298 *e*P **P** **05 40 08.8 -0.9**
FINES FINESS Array B 59.17 0 P **P** **05 40 09.6 -0.1**
comp=Z,1.8nm,0.8s,baz=360,slow=9.1,SNR=7.1
FINES FINESS Array B 59.17 0 P **P** **05 40 09.7 +0.1**
FINES FINESS Array B 59.17 0 P **P** **05 40 09.7 +0.1**
KLMR Klimovskoe 59.36 353 *e*P **P** **05 40 09.6 -1.4**
KLMR pmax pmax
comp=Z,12nm,1.4s
KLMR Klimovskoe 59.36 353 *e*P **P** **05 40 09.6 -1.4**
KLMR AMP 05 40 14.1
comp=Z,12nm,1.4s
HNS HongShan 59.56 293 ⇓P **P** **05 40 12.8 +0.1**
HNS pmax pmax
comp=Z,20nm,1.0s
DGZ Jazzator, Alta 60.38 319 *d i*P **P** **05 40 19.0 +0.6**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 61.49 341 P **P** **05 40 24.9 -0.5**
comp=Z,3.1nm,0.5s,baz=75,slow=3.4,SNR=11
ARU Arti 61.49 341 *d i*P **P** **05 40 24.6 -0.9**
ARU *PP **pP** **05 40 50.8 -2.3**
ARU 05 41 03.6
ARU 05 42 38.9
ARU S **S** **05 48 39.5 +1.9**
ARU SS **SS** **05 52 35.8 -3.4**
ARU pmax pmax
comp=Z,6.0nm,0.5s
ARU Arti 61.49 341 P **P** **05 40 25.1 -0.4**
NJ2 Nanjing 61.92 286 *e*P **P** **05 40 28.5 -0.2**
NJ2 pmax pmax
comp=Z,17nm,0.5s
KURK Kurchatov 62.21 326 *de*P **P** **05 40 30.2 -0.2**
KURK pmax pmax
comp=Z,28nm,2.5s
KURK Kurchatov 62.21 326 P **P** **05 40 30.4 0.0**
BRVK Borovoye 62.27 332 *ce*P **P** **05 40 30.1 -0.7**
BRVK pmax pmax
comp=Z,10.0nm,0.6s
BRVK Borovoye 62.27 332 P **P** **05 40 30.7 -0.1**
BVAR Borovoye Array 62.27 332 P **P** **05 40 30.2 -0.6**
comp=Z,14nm,0.6s,baz=40,slow=10,SNR=88
LYN LuoYang 62.93 292 ⇓P **P** **05 40 36.0 +0.5**
LYN pmax pmax
comp=Z,20nm,0.5s
GTA Gaotai 64.51 305 ⇓P **P** **05 40 45.8 -0.1**
GTA pmax pmax
comp=Z,17nm,0.9s
MK31 Makanchi Array 64.59 321 *d i*P **P** **05 40 45.3 -0.9**
MK31 Makanchi Array 64.59 321 P **P** **05 40 45.9 -0.4**
MKAR Makanchi Array 64.59 321 P **P** **05 40 45.6 -0.6**
comp=Z,4.1nm,0.5s,baz=38,slow=6.6,SNR=95
MKAR Makanchi Array 64.59 321 P **P** **05 40 45.3 -0.9**
MAKZ Makanchi 64.68 321 P **P** **05 40 46.3 -0.5**
MAKZ pmax pmax
comp=Z,7.0nm,0.5s
MAKZ Makanchi 64.68 321 P **P** **05 40 46.3 -0.5**
MAKZ IAmb IAmb 05 40 47.2
comp=Z,6.8nm,0.5s
WMQ Urumqi 65.40 316 *e*P **P** **05 40 52.8 +1.3**
WMQ pmax pmax
comp=Z,14nm,0.7s
LZH Lanzhou 65.58 300 ⇑P **P** **05 40 52.8 -0.1**
LZH pmax pmax
comp=Z,57nm,1.3s
AKTO Aktyubinsk 67.32 339 P **P** **05 41 03.0 -0.5**
comp=Z,2.9nm,0.5s,baz=18,slow=6.6,SNR=14
ABKAR Akbulak array 68.09 337 P **P** **05 41 08.4 0.0**
ABKAR IAmb IAmb 05 41 08.9
comp=Z,5.3nm,0.6s
CLL Collm 68.77 9 *e*P **P** **05 41 16.0 +3.4**
GOMU GeErMu 69.30 307 P **P** **05 41 16.0 -0.6**
GOMU S S 05 50 04.5 -10
GOMU pmax pmax
comp=Z,7.0nm,0.8s
GOMU pmax pmax
comp=Z,40nm,6.8s
GOMU LR LR
comp=Z,110nm,16.3s
GOMU LR LR
comp=Z,78nm,15.1s
GOMU LR LR
comp=Z,82nm,16.3s
AKASG Malin Array Be 69.92 358 P **P** **05 41 18.1 -1.6**
comp=Z,1.0nm,0.6s,baz=7.4,slow=6.4,SNR=6.8
AKASG Malin Array Be 69.92 358 *i* P **P** **05 41 19.2 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
CD2 Chengdu 69.98 297 P **P** **05 41 20.3 -0.2**
FRU1 Bishkek 70.53 325 P **P** **05 41 22.7 -1.0**
FRU1 pmax pmax
comp=Z,50nm,0.4s
FRU1 Bishkek 70.53 325 P **P** **05 41 22.7 -1.0**
TARG Taragay, Kyrgy 70.55 322 P **P** **05 41 25.3 +1.0**
TARG pmax pmax
comp=Z,4.0nm,1.0s
TARG Taragay, Kyrgy 70.55 322 P **P** **05 41 25.2 +1.0**
AAK Ala-Archa 70.73 325 P **P** **05 41 24.5 -0.4**
comp=Z,3.7nm,0.7s,baz=124,slow=1.3,SNR=15
AAK Ala-Archa 70.73 325 *de*P **P** **05 41 25.1 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 70.73 325 P **P** **05 41 25.4 +0.4**
AAK IAmb IAmb 05 41 26.2
comp=Z,5.0nm,0.8s
KKAR Karatay Array 71.42 328 P **P** **05 41 29.0 +0.1**
KKAR Karatay Array 71.42 328 P **P** **05 41 29.0 +0.1**
KSH Kashi 73.14 322 P **P** **05 41 43.0 +3.6**
KSH PcP **PcP** **05 41 59.3 +3.8**
KSH ScS **SKSac** **05 51 37.8 +3.1**
KSH pmax pmax
comp=Z,6.0nm,0.9s
PZH PanZhiHua 74.66 296 P **P** **05 41 47.8 -0.6**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.4s
KIV Kislovodsk 75.87 348 *e*P **P** **05 41 56.2 +1.2**
KIV pmax pmax
comp=Z,5.0nm,1.1s
CHGR Chuyangaron 75.93 327 P **P** **05 41 55.3 -0.2**
CHGR pmax pmax
comp=Z,16nm,0.7s
CHGR Chuyangaron 75.93 327 P **P** **05 41 55.3 -0.2**
ESDC Sonseca Array 77.76 24 P **P** **05 42 05.2 -0.4**
comp=Z,1.5nm,1.0s,baz=332,slow=6.0,SNR=4.8
SLVN Son La 78.09 292 P **P** **05 42 07.4 -0.3**
SLVN IAmb IAmb 05 42 09.1
comp=Z,14nm,0.7s
KKN Kakani 80.50 310 *e*P P 05 42 10.0 -11
comp=Z,1.9nm,0.2s
PCRV Puerto La Cruz 80.57 86 LR LR 06 20 08.2
comp=Z,280nm,21.4s,slow=37
DANN Dangsing 80.58 311 *e*P **P** **05 42 20.4 -1.1**
comp=Z,50nm,0.6s
PKIN Phulchoki 80.64 310 *e*P P 05 42 08.4 -13
comp=Z,4.1nm,0.2s
PKI Pulchoki 80.65 310 *e*P P 05 42 08.6 -13
comp=Z,2.8nm,0.2s
DMN Daman 80.73 310 *e*P P 05 42 10.9 -11
comp=Z,2.2nm,0.3s
PYUN Piuthan 81.10 312 *e*P **P** **05 42 24.1 0.0**
comp=Z,18nm,0.6s
CMAR Chiang Mai Arr 82.89 294 P **P** **05 42 32.1 -1.3**
comp=Z,3.7nm,0.6s,baz=12,slow=6.0,SNR=18
CMAR Chiang Mai Arr 82.89 294 P **P** **05 42 32.5 -0.9**
CMAR Chiang Mai Arr 82.89 294 P **P** **05 42 32.5 -0.9**
BOSA Boshof 148.89 3 PKPbc **PKPbc** **05 49 54.6 -0.8**
comp=Z,4.8nm,0.5s,baz=355,slow=3.0,SNR=22
BOSA Boshof 148.89 3 PKP2 **PKPbc** **05 49 55.1 -0.4**
BOSA Boshof 148.89 3 **PKPbc** **05 49 55.1 -0.4**

NEIC ***28*** *05:49:32.6±1.6, 10°.82S±0°.09×166°.1E±0°.2, h35km±1km, mb4.6/10, Error ellipse: s-maj=28.2km s-min=11.4km az=67.0*
IDC ***28*** *05:49:33.3±1.1, 10°.88S×165°.97E, h43km±8km, mb4.0/11, mb1 4.2/12, mb1mx3.8/40, mbtmp4.2/12, ML4.4/1, MS3.7/25, Ms1 3.7/25, ms1mx3.5/59, Error ellipse: s-maj=27.6km s-min=19.2km az=123.0*

ISC 28 05:49:34.6±0.5, 11°.01S±0°.07×166°.0E±0°.1, h61km, n62, σ1§43/48, mb4.2/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.55**	**166**	Pn	**Pn**	**05 50 41.7**	**+0.8**
LIFNC	**LIFOU**	**9.78**	**173**	Pn	**Pn**	**05 51 52.3**	**-0.2**
DZM	**Mont Dzumac**	**11.00**	**178**	P	**Pn**	**05 52 11.8**	**+2.4**
	2.4nm,0.3s,baz=292,slow=19,SNR=53						
DZM				S	**Sn**	**05 54 10.4**	**-0.5**
	0.5nm,0.3s,baz=139,slow=21,SNR=1.6						
DZM	**Mont Dzumac**	**11.00**	**178**	*e*Pn	**Pn**	**05 52 12.2**	**+2.9**
	9.5nm,0.2s						
DZM				*e*Sn	**Sn**	**05 54 07.4**	**-3.5**
	4.0nm,0.3s						
DZM				*e*LR	LR	05 54 45.8	
	comp=Z,449nm,24.6s						
DZM	**Mont Dzumac**	**11.00**	**178**	Pn	**Pn**	**05 52 08.6**	**-0.7**
ONTNC	**Ouen Toro**	**11.24**	**178**	Pn	**Pn**	**05 52 13.8**	**+1.4**
OUENC	**Ouen Island, N**	**11.37**	**176**	Pn	**Pn**	**05 52 16.6**	**+2.4**
PINNC	**Pines Island,**	**11.61**	**173**	Pn	**Pn**	**05 52 18.8**	**+1.2**
MSVF	**Nonsavu**	**13.42**	**121**	P	**P**	**05 52 48.3**	**-1.4**
	0.1nm,0.3s,baz=177,slow=23,SNR=1.3						
MSVF				LR	LR	05 57 04.6	
	comp=Z,515nm,18.2s,baz=338,slow=33						
PMG	**Port Moresby**	**18.64**	**273**	LR	LR	06 01 11.5	
	comp=Z,405nm,18.3s,baz=136,slow=38						
CTA	**Charters Tower**	**21.06**	**242**	LR	LR	06 01 02.2	
	comp=Z,214nm,21.4s,baz=81,slow=33						
AFI	**Afiamalu**	**21.86**	**100**	LR	LR	06 01 10.7	
	comp=Z,241nm,19.7s,baz=278,slow=32						
RAO	**Raoul Island**	**23.54**	**143**	LR	LR	06 01 33.0	
	comp=Z,121nm,19.5s,baz=346,slow=30						
URZ	**Urewera**	**28.89**	**162**	LR	LR	06 04 58.0	
	comp=Z,158nm,21.6s,baz=340,slow=32						
STKA	**Stephens Creek**	**30.66**	**224**	LR	LR	06 07 48.3	
	comp=Z,184nm,18.9s,baz=26,slow=36						
WB2	**Warramunga Arr**	**31.74**	**250**	P	**P**	**05 55 53.9**	**+0.8**
WB2				IAmb	IAmb	05 56 17.0	
	comp=Z,16nm,1.3s						
WRA	**Warramunga Arr**	**31.75**	**250**	P	**P**	**05 55 53.4**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=81,slow=9.3,SNR=18						
WRA				pP	**pP**	**05 56 04.4**	**-3.0**
	comp=Z,2.7nm,0.8s,baz=80,slow=9.3,SNR=6.2						
WRA				LR	LR	06 09 02.3	
	comp=Z,202nm,18.1s,baz=96,slow=37						
WRA	**Warramunga Arr**	**31.75**	**250**	P	**P**	**05 55 53.5**	**+0.3**
GUMO	**Guam**	**32.22**	**319**	LR	LR	06 07 19.0	
	comp=Z,80nm,21.9s,baz=112,slow=33						
ASAR	**Alice Springs**	**33.05**	**243**	P	**P**	**05 56 04.7**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=63,slow=10,SNR=12						
ASAR				pP	**pP**	**05 56 16.6**	**-1.8**
	comp=Z,2.9nm,0.8s,baz=73,slow=9.3,SNR=14						
ASAR				PcP	**PcP**	**05 58 48.3**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=102,slow=3.4,SNR=4.9						
ASAR				LR	LR	06 08 47.7	
	comp=Z,137nm,18.4s,baz=82,slow=35						
RAR	**Rarotonga**	**34.31**	**112**	LR	LR	06 08 13.4	
	comp=Z,42nm,19.2s,baz=274,slow=32						
FITZ	**Fitzroy Crossi**	**39.66**	**255**	LR	LR	06 12 42.6	
	comp=Z,110nm,19.1s,baz=92,slow=35						
PPT2	**Papeete2**	**43.43**	**104**	*e*LR	LR	06 09 47.8	
	comp=Z,137nm,22.2s						
KAPI	**Kappang**	**46.17**	**274**	LR	LR	06 19 19.8	
	comp=Z,29nm,18.0s,baz=122,slow=39						
JOW	**Kunigami**	**52.52**	**316**	LR	LR	06 20 12.8	
	comp=Z,59nm,19.2s,baz=94,slow=35						
ASAJ	**Asahikawa**	**58.86**	**340**	LR	LR	06 19 35.8	
	comp=Z,38nm,20.6s,baz=358,slow=31						
PETK	**Petropavlovsk-**	**64.26**	**354**	LR	LR	06 21 58.5	
	comp=Z,39nm,20.7s,baz=120,slow=30						
VNDA	**Vanda**	**66.53**	**181**	P	**P**	**06 00 19.5**	**+1.9**
VNDA				IAmb	IAmb	06 00 28.0	
	comp=Z,9.3nm,1.4s						
CMAR	**Chiang Mai Arr**	**72.36**	**293**	P	**P**	**06 00 56.0**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=126,slow=4.2,SNR=8.4						
CMAR				LR	LR	06 30 33.7	
	comp=Z,8.4nm,21.7s,baz=30,slow=34						
CMAR	**Chiang Mai Arr**	**72.36**	**293**	P	**P**	**06 00 55.0**	**+0.4**
YAK	**Yakutsk**	**78.15**	**343**	LR	LR	06 30 24.3	
	comp=Z,29nm,21.9s,baz=10,slow=31						
SONM	**Songino Array**	**78.81**	**324**	P	**P**	**06 01 31.5**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=137,slow=5.6,SNR=4.6						
SONM	**Songino Array**	**78.81**	**324**	P	**P**	**06 01 30.6**	**-0.4**
BILL	**Bilibino**	**78.85**	**0**	P	**P**	**06 01 31.3**	**+0.6**
BILL				IAmb	IAmb	06 01 32.2	
	comp=Z,7.5nm,0.9s						
QSPA	**South Pole Qui**	**78.99**	**180**	P	**P**	**06 01 33.1**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=321,slow=1.6,SNR=7.8						
QSPA	**South Pole Qui**	**78.99**	**180**	P	**P**	**06 01 33.6**	**+1.9**
QSPA				IAmb	IAmb	06 01 58.2	
	comp=Z,4.6nm,0.9s						
RPN	**Rapa Nui**	**80.34**	**116**	LR	LR	06 28 57.5	
	comp=Z,62nm,20.8s,baz=252,slow=29						
HDA	**Harding Lake**	**83.12**	**19**	P	**P**	**06 01 54.3**	**+0.8**
ILAR	**Eielson Array**	**83.40**	**18**	P	**P**	**06 01 55.3**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=236,slow=5.1,SNR=24						
ILAR	**Eielson Array**	**83.40**	**18**	P	**P**	**06 01 55.6**	**+0.7**
EGAK	**Eagle**	**85.25**	**20**	P	**P**	**06 02 05.3**	**+1.1**
NVAR	**Mina Array Bea**	**85.79**	**50**	P	**P**	**06 02 09.2**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=236,slow=7.5,SNR=6.9						
NVAR				LR	LR	06 32 05.1	
	comp=Z,71nm,19.7s,baz=296,slow=30						
NVAR	**Mina Array Bea**	**85.79**	**50**	P	**P**	**06 02 07.2**	**-0.6**
PFO	**Pinyon Flats O**	**85.84**	**55**	LR	LR	06 33 50.4	
	comp=Z,49nm,18.4s,baz=320,slow=31						
BMAR	**Burnt Mountain**	**85.89**	**17**	P	**P**	**06 02 07.7**	**+0.2**
TIXI	**Tiksi**	**86.11**	**349**	P	**P**	**06 02 08.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=164,slow=1.5,SNR=5.2						
TIXI	**Tiksi**	**86.11**	**349**	P	**P**	**06 02 08.5**	**+0.1**
TIXI				IAmb	IAmb	06 02 09.3	
	comp=Z,5.9nm,1.2s						
PALK	**Pallekele**	**86.82**	**278**	LR	LR	06 44 45.3	
	comp=Z,32nm,19.2s,baz=268,slow=38						
MK31	**Makanchi Array**	**93.69**	**317**	P	**P**	**06 02 44.3**	**-0.4**
MK31				IAmb	IAmb	06 02 45.7	
	comp=Z,1.9nm,0.9s						
MKAR	**Makanchi Array**	**93.69**	**317**	P	**P**	**06 02 45.0**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=99,slow=6.3,SNR=20						
MKAR				pP	**pP**	**06 02 58.3**	**-3.5**
	comp=Z,1.0nm,0.8s,baz=92,slow=4.7,SNR=5.0						
MKAR	**Makanchi Array**	**93.69**	**317**	P	**P**	**06 02 44.4**	**-0.2**
ZALV	**Zalesovo Beam**	**93.69**	**324**	P	**P**	**06 02 42.7**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=94,slow=5.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**93.69**	**324**	P	**P**	**06 02 42.8**	**-1.5**
ANMO	**Albuquerque**	**94.20**	**55**	LR	LR	06 36 14.6	
	comp=Z,32nm,21.1s,baz=328,slow=30						
YKA	**Yellowknife Ar**	**94.82**	**27**	P	**P**	**06 02 48.4**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=258,slow=5.0,SNR=7.0						
YKA				LR	LR	06 41 13.6	
	comp=Z,76nm,18.2s,baz=286,slow=33						
TXAR	**Lajitas Array**	**95.57**	**61**	LR	LR	06 37 15.9	
	comp=Z,40nm,19.3s,baz=319,slow=30						
ARCES	**ARCESS Array B**	**116.37**	**346**	PKP	**PKPdf**	**06 08 10.6**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=41,slow=1.1,SNR=7.3						
ARCES	**ARCESS Array B**	**116.37**	**346**		**PKPdf**	**06 08 10.4**	**-0.4**
AP01	**Chacalluta**	**117.19**	**117**		**PKPdf**	**06 08 12.9**	**-0.9**
VSL	**Villasalto**	**144.86**	**328**		**PKPab**	**06 09 04.1**	**-0.1**
KEST	**Kesra**	**147.56**	**323**	PKPbc	**PKPbc**	**06 09 13.7**	**+1.1**
	comp=Z,5.2nm,0.7s,baz=233,slow=2.3,SNR=7.5						
ESDC	**Sonseca Array**	**150.10**	**344**	PKPbc	**PKPbc**	**06 09 18.1**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=26,slow=2.8,SNR=6.8						

ASRS ***28*** *05:53:48.1±0.8, 47°N±4°×9°4E±°, h5km, MLh3.7/5, Error ellipse: s-maj=8.3km s-min=4.3km az=169.6*

ISC 28 05:53:48.0±1.5, 46°.83N±0°.08×93°.63E±0°.04, h10km, n19, σ2§88/30, 2C-2D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**4.57**	**33**	Pg	**Pg**	**05 55 14.1**	**-1.5**
KNGR				Sg	**Sg**	**05 56 17.9**	**+3.2**
CUR	**Chagan-Uzun**	**4.80**	**315**	Pg	**Pg**	**05 55 16.7**	**-3.2**
CUR				Sg	**Sg**	**05 56 25.2**	**+3.2**
KZLR	**Kyzyl**	**4.91**	**6**	Pg	**Pg**	**05 55 19.6**	**-2.4**
KZLR				Sg	**Sg**	**05 56 27.5**	**+1.9**
DGZ	**Jazzator, Alta**	**5.04**	**307**	Pg	**Pg**	**05 55 23.2**	**-1.2**
DGZ				Sg	**Sg**	**05 56 34.3**	**+4.7**
AKAR	**Aktash**	**5.30**	**313**	Pg	**Pg**	**05 55 27.2**	**-2.3**
AKAR				Sg	**Sg**	**05 56 39.1**	**+1.0**
ULGR	**Ulagan, Altay**	**5.33**	**317**	Pg	**Pg**	**05 55 27.1**	**-3.1**
ULGR				Sg	**Sg**	**05 56 42.5**	**+3.3**
CHBI	**Chibit, Altay**	**5.35**	**313**	Pg	**Pg**	**05 55 30.0**	**-0.6**
CHBI				Sg	**Sg**	**05 56 40.0**	**+0.2**
ARDR	**Aradan**	**5.76**	**359**	Pg	**Pg**	**05 55 34.2**	**-4.0**
ARDR				Sg	**Sg**	**05 56 50.5**	**-2.2**
CERR	**Cheremushki**	**6.20**	**347**	Sg	**Sg**	**05 57 09.1**	**+2.2**
ARTR	**Artybash**	**6.47**	**322**	Pg	**Pg**	**05 55 50.5**	**-1.5**
ARTR				Sg	**Sg**	**05 57 18.9**	**+3.2**
MOY	**Mondy**	**6.83**	**42**	Pg	**Pg**	**05 55 56.7**	**-2.0**
MOY				Sg	**Sg**	**05 57 25.2**	**-2.0**
TASR	**Tashtagol**	**7.00**	**330**	Sg	**Sg**	**05 57 36.8**	**+4.2**
UKR	**Ust'-Kan**	**7.14**	**308**	Sg	**Sg**	**05 57 33.9**	**-3.1**
ZAK	**Zakamensk**	**7.32**	**57**	Sg	**Sg**	**05 57 46.4**	**+3.6**
LUZB	**Luzhba, Kemero**	**7.48**	**338**	Sg	**Sg**	**05 57 48.9**	**+1.0**
MK31	**Makanchi Array**	**7.78**	**274**	Pn	**Pn**	**05 55 44.7**	**+3.4**
	0.1nm,0.5s,baz=97,slow=14,SNR=12						
MK31				⇑Pg	**Pb**	**05 55 59.9**	**-3.1**
	0.7nm,0.7s,baz=92,slow=17,SNR=4.0						
MK31				⇓Lg	Lg	05 57 14.0	
	1.4nm,0.4s,baz=82,slow=30,SNR=2.8						
MAKZ	**Makanchi**	**7.99**	**274**	⇑Pn	**Pn**	**05 55 48.8**	**+4.6**
	0.6nm,0.6s						
MAKZ				⇓Lg	Lg	05 57 20.8	
	2.0nm,0.5s						
ELT	**Eltsovka**	**8.00**	**326**	Sg	**Sg**	**05 58 06.0**	**+1.4**
MINR	**Mina**	**8.09**	**2**	Sg	**Sg**	**05 58 08.4**	**+1.0**

RSNC 28 06:07:58.1±0.9, 6°.81N×73°.19W, h145km±5km, ML1.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**177**	*e*P	Pn	06 08 17.9	-0.2
BARC				*e*S	Sn	06 08 33.5	+0.1
BARC				*i*		06 08 34.5	
	comp=Z,5.1nm,0.3s						
BARC	**Barichara**	**0.22**	**177**	*e*P	Pn	06 08 17.7	-0.4
BARC				*e*S	Sn	06 08 33.4	0.0
BARC				*i*		06 08 34.5	
	comp=Z,4.9nm,0.3s						
PAMC	**Pamplona, Colo**	**0.72**	**43**	*i* P	Pn	06 08 20.5	-0.3
PAMC				*e*S	Sn	06 08 37.9	-0.1
PAMC				*i*		06 08 39.9	
	comp=Z,4.5nm,0.5s						
PAMC	**Pamplona, Colo**	**0.72**	**43**	*e*P	Pn	06 08 20.6	-0.2
PAMC				*e*S	Sn	06 08 37.5	-0.5
PAMC				*i*		06 08 39.9	
	comp=Z,4.4nm,0.5s						
RUSC	**La Rusia**	**0.92**	**173**	*e*P	Pn	06 08 21.7	-0.6
RUSC				*e*S	Sn	06 08 40.3	-0.5
RUSC				*i*		06 08 41.4	
	comp=Z,2.7nm,0.4s						
RUSC	**La Rusia**	**0.92**	**173**	*e*P	Pn	06 08 21.9	-0.5
RUSC				*e*S	Sn	06 08 40.6	-0.1
RUSC				*i*		06 08 41.4	
	comp=Z,2.7nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.28**	**258**	*e*P	Pn	06 08 24.7	-0.4
PTBC				*e*S	Sn	06 08 45.7	0.0
PTBC				*i*		06 08 53.2	
	comp=Z,6.5nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.28**	**258**	*e*P	Pn	06 08 24.7	-0.4
PTBC				*e*S	Sn	06 08 45.6	-0.1
PTBC				*i*		06 08 53.1	
	comp=Z,6.5nm,0.5s						
OCAC	**Ocana**	**1.42**	**355**	*e*P	Pn	06 08 26.8	+0.1
OCAC				*e*S	Sn	06 08 48.3	-0.3
OCAC				*i*		06 08 53.6	
	comp=Z,14nm,0.2s						
OCAC	**Ocana**	**1.42**	**355**	*e*P	Pn	06 08 26.2	-0.5
OCAC				*e*S	Sn	06 08 48.1	-0.5
OCAC				*i*		06 08 53.6	
	comp=Z,14nm,0.2s						
SPBC	**San Pablo de B**	**1.45**	**217**	*e*P	Pn	06 08 26.5	-0.3
SPBC				*e*S	Sn	06 08 49.6	+0.8
SPBC				*i*		06 08 55.7	
	comp=Z,8.6nm,0.2s						
SPBC	**San Pablo de B**	**1.45**	**217**	*e*P	Pn	06 08 26.5	-0.4
SPBC				*e*S	Sn	06 08 48.1	-0.7
SPBC				*i*		06 08 55.7	
	comp=Z,8.6nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.79**	**292**	*e*S	Sn	06 08 56.2	+0.9
ZARC				*i*		06 09 01.2	
	comp=Z,6.9nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.79**	**292**	*e*P	Pn	06 08 31.2	+0.7
ZARC				*e*S	Sn	06 08 54.0	-1.2
ZARC				*i*		06 09 03.2	
	comp=Z,3.7nm,0.1s						
SMLC	**San Martn de**	**2.16**	**336**	*e*P	Pn	06 08 34.1	-0.7
SMLC		

comp=Z,1.9nm,0.4s
CHIC Chingaza 2.23 194 *e*P Pn 06 08 35.5 -0.7
CHIC *e*S Sn 06 09 05.0 -0.4
CHIC *i* 06 09 14.7
comp=Z,1.9nm,0.4s
GUY2C Guyana, Caldas 2.67 234 *e*P Pn 06 08 42.7 +1.1
GUY2C *e*S Sn 06 09 21.1 +5.9
GUY2C *i* 06 09 26.5
comp=Z,1.8nm,0.5s
GUY2C Guyana, Caldas 2.67 234 *e*P Pn 06 08 42.7 +1.0
GUY2C *e*S Sn 06 09 19.6 +4.5
GUY2C *i* 06 09 26.5
comp=Z,1.8nm,0.5s

*IDC **28** 06:20:05.1±1.2,42°.89N×86°.96E,h0km,mb3.8/3, mb1 3.8/7,mb1mx3.3/61,mbtmp3.7/7,ML3.4/4,MS3.2/2, Ms1 3.2/2,ms1mx2.7/93,Error ellipse: s-maj=83.3km s-min=13.6km az=51.0*
*NNC **28** 06:20:10.5±3.2,44°.06N×87°.95E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=24.1km s-min=19.1km az=89.0*
*SOME **28** 06:20:17.4,44°.15N×86°.03E,h20km*
ISC 28 06:20:06.6±1.3,43°.95N±0°.08×88°.20E±0°.10,h10km,n17, σ2.71/22,mb3.8/3,11C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.21**	**327**	*e*P	**Pb**	**06 21 18.4**	**-2.4**
	11nm,0.3s						
ZSN				*e*S	**Sn**	**06 22 04.5**	**+4.4**
	91nm,0.4s						
MK31	**Makanchi Array**	**5.04**	**306**	⇑Pn	**Pn**	**06 21 25.7**	**+3.3**
	1.0nm,0.3s,baz=123,slow=14,SNR=217						
MK31				⇑Sn	**Sn**	**06 22 23.4**	**+2.8**
	9.0nm,0.3s,baz=116,slow=21,SNR=15						
MK31				⇑Lg	Lg	06 22 45.7	
	31nm,0.6s,baz=116,slow=29,SNR=4.2						
MKAR	**Makanchi Array**	**5.04**	**306**	Pn	**Pn**	**06 21 25.6**	**+3.3**
	2.1nm,0.3s,baz=122,slow=15,SNR=206						
MKAR				Sn	**Sn**	**06 22 23.4**	**+2.8**
	11nm,0.3s,baz=127,slow=24,SNR=18						
MKAR				Lg	Lg	06 22 48.3	
	5.0nm,0.3s,baz=113,slow=30,SNR=4.5						
MAKZ	**Makanchi**	**5.23**	**305**	⇑Pn	**Pn**	**06 21 28.0**	**+3.1**
	5.8nm,0.5s						
MAKZ				⇑Sn	**Sn**	**06 22 27.4**	**+2.1**
	32nm,0.6s						
MAKZ				⇑Lg	Lg	06 22 50.4	
	27nm,0.8s						
DJR	**Jarkent**	**6.06**	**277**	*e*P	Pn	06 21 41.6	+5.2
	3.4nm,0.3s						
DJR				*e*S	**Sn**	**06 22 45.8**	**-0.1**
	8.9nm,0.4s						
PDGK	**Podgornoye**	**6.35**	**267**	⇓Pn	**Pn**	**06 21 41.8**	**+1.4**
	3.2nm,0.3s						
PDGK				⇑Sn	**Sn**	**06 22 55.0**	**+2.0**
	15nm,0.6s						
PDGK				⇑Lg	Lg	06 23 26.8	
	14nm,0.7s						
KAPS	**Kapalarasan**	**6.45**	**285**	*e*P	Pn	06 21 47.4	+5.7
	3.8nm,0.4s						
KAPS				*e*S	**Sn**	**06 22 56.4**	**+1.1**
	7.7nm,0.3s						
KURBB	**Kurchatov Arra**	**9.36**	**319**	Pn	**Pn**	**06 22 22.7**	**+1.2**
	0.3nm,0.3s,baz=128,slow=12,SNR=19						
KURBB				Sn	**Sn**	**06 24 05.8**	**-1.0**
	0.5nm,0.3s,baz=118,slow=27,SNR=9.7						
KURBB				Lg	Lg	06 25 13.0	
	0.1nm,0.3s,baz=146,slow=33,SNR=4.5						
KURBB	**Kurchatov Arra**	**9.36**	**319**	⇑Pn	**Pn**	**06 22 23.2**	**+1.7**
	0.6nm,0.2s						
KURBB				⇑Sn	**Sn**	**06 24 06.1**	**-0.7**
	6.1nm,0.3s						
KURK	**Kurchatov**	**9.38**	**320**	⇑Sn	**Sn**	**06 24 05.4**	**-1.9**
	4.8nm,0.3s						
AAK	**Ala-Archa**	**10.08**	**267**	LR	LR	06 26 17.7	
	comp=Z,81nm,18.3s,baz=326,slow=41						
ZALV	**Zalesovo Beam**	**10.25**	**349**	Pn	Pn	06 22 45.0	+11
	0.6nm,0.3s,baz=165,slow=13,SNR=8.0						
BVAR	**Borovoye Array**	**14.86**	**314**	Pn	**Pn**	**06 23 36.2**	**-0.5**
	0.2nm,0.3s,baz=95,slow=17,SNR=3.1						
BVAR				Sn	**Sn**	**06 26 14.5**	**-6.7**
	0.4nm,0.3s,baz=100,slow=26,SNR=2.7						
FINES	**FINESS Array B**	**39.75**	**318**	P	**P**	**06 27 39.8**	**+0.7**
	2.2nm,1.1s,baz=90,slow=6.5,SNR=3.3						
LEM	**Lembang**	**53.50**	**156**	LR	LR	06 53 40.1	
	comp=Z,43nm,19.1s,baz=168,slow=38						
WRA	**Warramunga Arr**	**76.33**	**136**	P	**P**	**06 31 55.0**	**-0.8**
	1.4nm,1.2s,baz=344,slow=5.7,SNR=4.6						
ASAR	**Alice Springs**	**79.25**	**138**	P	**P**	**06 32 11.8**	**-0.3**
	0.2nm,0.3s,baz=332,slow=5.8,SNR=7.3						

TAP 28 06:27:34.2,24°.88N×121°.96E,h90km,ML3.6,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.04**	**211**	*e*P	Pn	06 27 47.2	+0.4
	baz=192						
EGS				S	Sn	06 27 56.3	+0.1
	baz=192						
NTC	**Toucheng**	**0.12**	**257**	*e*P	Pn	06 27 46.7	-0.2
	baz=255						
NTC				*e*S	Sn	06 27 55.7	-0.6
	baz=255						
TWB1	**Santiao Chiao**	**0.13**	**13**	P	Pn	06 27 47.2	+0.2
	baz=17						
TWB1				S	Sn	06 27 56.0	-0.4
	baz=17						
TIPB	**Shuangxi**	**0.15**	**307**	P	Pn	06 27 47.0	0.0
	baz=295						
TIPB				S	Sn	06 27 56.0	-0.6
	baz=295						
ILA	**Ilan**	**0.22**	**239**	P	Pn	06 27 47.8	+0.5
	baz=233						
ILA				S	Sn	06 27 57.5	+0.6
	baz=233						
SXI1	**Grass Mountain**	**0.23**	**341**	P	Pn	06 27 47.6	+0.2
	baz=333						
SXI1				S	Sn	06 27 56.6	-0.6
	baz=333						
NWF	**Wu-fen Shan**	**0.25**	**320**	*i* P	Pn	06 27 47.6	+0.1
	baz=314						
NWF				S	Sn	06 27 57.1	-0.2
	baz=314						
WFSB	**Wu-fen Shan**	**0.25**	**320**	*e*P	Pn	06 27 47.7	+0.3
	baz=314						
WFSB				*e*S	Sn	06 27 56.5	-0.6
	baz=314						
TWC	**Suao**	**0.29**	**200**	*i* P	Pn	06 27 47.7	+0.1
	baz=197						
TWE	**Neicheng**	**0.31**	**239**	*i* P	Pn	06 27 49.0	+1.3
	baz=235						
TWE				S	Sn	06 27 58.7	+1.1
	baz=235						
TNOU	**National Taiwa**	**0.32**	**328**	P	Pn	06 27 47.5	-0.2
	baz=324						
TNOU				S	Sn	06 27 57.1	-0.6
	baz=324						
NDS	**Dongshan**	**0.33**	**222**	P	Pn	06 27 49.0	+1.2
	baz=220						
NDS				S	Sn	06 27 58.5	+0.6
	baz=220						
TWA	**Mucha**	**0.35**	**286**	*e*P	Pn	06 27 48.4	+0.4
	baz=289						
TWA				*e*S	Sn	06 27 58.5	+0.4
	baz=289						
FUSB	**Fushanzhiwuyua**	**0.36**	**250**	*i* P	Pn	06 27 48.2	+0.2
	baz=251						
FUSB				*i* S	Sn	06 27 58.4	+0.1
	baz=251						
NHDH	**Xindian Distri**	**0.40**	**282**	P	Pn	06 27 48.4	+0.2
	baz=284						
NHDH				S	Sn	06 27 59.2	+0.6
	baz=284						
NWLT	**Wulai**	**0.42**	**256**	*i* P	Pn	06 27 48.9	+0.4
	baz=257						
NWLT				S	Sn	06 27 59.2	+0.2
	baz=257						
ENTT	**Nioudou**	**0.43**	**236**	*i* P	Pn	06 27 49.3	+0.8
	baz=232						
ENTT				S	Sn	06 27 59.9	+0.9
	baz=232						
TAP	**Taipei**	**0.44**	**291**	*e*P	Pn	06 27 48.9	+0.4
	baz=290						
TAP				*e*S	Sn	06 28 00.2	+1.1
	baz=290						
YM01	**YM01**	**0.44**	**307**	P	Pn	06 27 48.9	+0.4
	baz=307						
YM01				S	Sn	06 27 58.9	-0.2
	baz=307						
EWUT	**Wuta**	**0.46**	**200**	P	Pn	06 27 49.3	+0.7
	baz=200						
EWUT				S	Sn	06 28 00.5	+1.1
	baz=200						
NDT	**Datong Townshi**	**0.49**	**236**	*i* P	Pn	06 27 49.7	+0.9
	baz=243						
NDT				*i* S	Sn	06 28 00.9	+1.2
	baz=243						
ENA	**Nanau**	**0.49**	**203**	*i* P	Pn	06 27 49.6	+0.7
	baz=202						
ENA				*i* S	Sn	06 28 01.1	+1.3
	baz=202						
ANP	**Anpu**	**0.50**	**308**	*e*P	Pn	06 27 47.8	-1.3
	baz=307						
TWY	**Chenhua**	**0.51**	**321**	*e*P	Pn	06 27 48.9	-0.2
	baz=321						
TWY				*e*S	Sn	06 27 59.6	-0.4
	baz=321						
LATG	**Datong**	**0.52**	**229**	*i* P	Pn	06 27 50.1	+0.9
	baz=229						
LATG				*i* S	Sn	06 28 01.5	+1.1
	baz=229						
TWS1	**Kuangyinshan**	**0.54**	**294**	P	Pn	06 27 49.9	+0.7
	baz=293						
TWS1				S	Sn	06 28 01.8	+1.4
	baz=293						
NTST	**Danshui**	**0.54**	**302**	*e*P	Pn	06 27 49.3	0.0
	baz=304						
NTST				*e*S	Sn	06 28 01.5	+1.0
	baz=304						
YHNB	**Yeheng**	**0.57**	**248**	*i* P	Pn	06 27 50.0	+0.4
	baz=247						
YHNB				S	Sn	06 28 01.0	0.0
	baz=247						
NSK	**Sanguang**	**0.58**	**250**	*i* P	Pn	06 27 50.1	+0.4
	baz=248						
NSK				*i* S	Sn	06 28 01.2	0.0
	baz=248						
NNS	**Nan Shan**	**0.69**	**231**	*i* P	Pn	06 27 51.5	+0.7
	baz=232						
NNS				*i* S	Sn	06 28 03.8	+0.7
	baz=232						
NNSB	**Datong**	**0.69**	**229**	P	Pn	06 27 51.4	+0.6
	baz=231						
NNSB				S	Sn	06 28 03.7	+0.7
	baz=231						
NCUH	**Zhongli**	**0.70**	**277**	S	Sn	06 28 03.9	+0.8
	baz=276						
PCYT	**Pengchaiyu**	**0.75**	**8**	*e*P	Pn	06 27 52.0	+0.8
	baz=2.0						
PCYT				*e*S	Sn	06 28 03.4	-0.5
	baz=2.0						
NACB	**Ninganchiao**	**0.78**	**205**	P	Pn	06 27 51.3	-0.2
	baz=213						
NACB				*e*S	Sn	06 28 04.5	+0.1
	baz=213						
ETL	**Fush Village**	**0.78**	**203**	P	Pn	06 27 51.4	-0.2
	baz=211						
ETL				S	Sn	06 28 04.6	+0.1
	baz=211						
NFF	**Wufeng Townshi**	**0.80**	**252**	P	Pn	06 27 52.2	+0.3
	baz=250						
NFF				S	Sn	06 28 04.9	0.0
	baz=250						
TWD	**Chiawan**	**0.86**	**202**	P	Pn	06 27 52.0	-0.4
	baz=209						
TWD				S	Sn	06 28 05.1	-0.8
	baz=209						
LIOB	**Emei**	**0.89**	**255**	P	Pn	06 27 53.3	+0.7
	baz=246						
LIOB				S	Sn	06 28 06.9	+0.4
	baz=246						
SBCB	**Hsinchu**	**0.89**	**264**	*e*P	Pn	06 27 53.4	+0.8
	baz=262						
SBCB				*e*S	Sn	06 28 07.2	+0.8
	baz=262						
HSN	**Hsinchu**	**0.90**	**265**	*e*P	Pn	06 27 53.2	+0.5
	baz=265						
HSN				*e*S	Sn	06 28 06.8	+0.2
	baz=265						
NSTT	**Nanjuang**	**0.90**	**254**	*i* P	Pn	06 27 53.4	+0.6
	baz=245						
NSTT				*i* S	Sn	06 28 06.7	0.0
	baz=245						
FUSS	**Fushou**	**0.91**	**226**	*i* P	Pn	06 27 54.3	+1.2
	baz=224						
FUSS				*i* S	Sn	06 28 08.0	+0.8
	baz=224						
HWA	**Hwalien**	**0.95**	**200**	*e*P	Pn	06 27 53.6	+0.1
	baz=208						
HWA				*e*S	Sn	06 28 08.9	+1.1
	baz=208						
TDCB	**Techi**	**0.96**	**229**	P	Pn	06 27 54.6	+1.0
	baz=221						
TDCB				S	Sn	06 28 08.7	+0.6
	baz=221						
WHF	**Hehuan Shan**	**0.97**	**221**	P	Pn	06 27 55.8	+1.8
	baz=212						
WHF				S	Sn	06 28 09.2	+0.5
	baz=212						
YOJ	**Yonaguni jima**	**1.05**	**113**	P	Pn	06 27 54.9	+0.4
	baz=117						
YOJ				S	Sn	06 28 09.6	0.0
	baz=117						
CHGB	**Renai**	**1.08**	**221**	P	Pn	06 27 56.0	+0.9
	baz=212						
CHGB				S	Sn	06 28 11.7	+0.9
	baz=212						
WHP	**Taichung City**	**1.10**	**237**	*i* P	Pn	06 27 56.4	+1.3
	baz=235						
WHP				*i* S	Sn	06 28 11.2	+0.4
	baz=235						
NMLH	**Miaoli**	**1.11**	**252**	*e*P	Pn	06 27 55.9	+0.6
	baz=250						
NMLH				*e*S	Sn	06 28 11.1	+0.1
	baz=250						
ESL	**Shilin**	**1.16**	**204**	P	Pn	06 27 55.8	0.0
	baz=203						
WUSB	**Renai**	**1.17**	**221**	P	Pn	06 27 56.8	+0.8
	baz=213						
WUSB				S	Sn	06 28 12.3	-0.1
	baz=213						
NSY	**Sanyi**	**1.18**	**247**	P	Pn	06 27 56.8	+0.8
	baz=244						
NSY				S	Sn	06 28 13.2	+0.7
	baz=244						
TWQ1	**Liyutan**	**1.20**	**244**	*i* P	Pn	06 27 56.9	+0.6
	baz=250						
TWQ1				S	Sn	06 28 13.2	+0.4
	baz=250						
WCS	**Beigang Elemen**	**1.26**	**229**	*e*P	Pn	06 27 58.0	+1.1
	baz=234						
WCS				*e*S	Sn	06 28 14.4	+0.4
	baz=234						
WDJ	**Dajia District**	**1.31**	**246**	P	Pn	06 27 58.4	+0.8
	baz=250						
WDJ				S	Sn	06 28 15.4	+0.2
	baz=250						
VWDT	**VWDT**	**1.35**	**214**	P	Pn	06 27 58.5	+0.5
	baz=206						
VWDT				S	Sn	06 28 16.8	+0.8
	baz=206						
TCU	**Taichung**	**1.38**	**238**	*e*S	Sn	06 28 17.0	+0.3
	baz=235						
SMLT	**Sun Moon Lake**	**1.38**	**224**	*e*P	Pn	06 27 59.5	+0.9
	baz=229						
SMLT				*e*S	Sn	06 28 19.0	+2.0
	baz=229						
TYC	**Yuchr**	**1.40**	**226**	P	Pn	06 27 60.0	+1.3
	baz=223						
TYC				S	Sn	06 28 18.4	+1.3
	baz=223						
SSLB	**Suanglung**	**1.42**	**220**	P	Pn	06 27 59.8	+0.8
	baz=227						
SSLB				S	Sn	06 28 18.6	+0.8
	baz=227						
HGSD	**Ruisui**	**1.47**	**199**	*e*P	Pn	06 27 59.6	0.0
	baz=204						
HGSD				*e*S	Sn	06 28 19.5	+0.8
	baz=204						
EHY	**Hungye**	**1.49**	**203**	P	Pn	06 28 00.3	+0.5
	baz=191						
EHY				*e*S	Sn	06 28 18.2	-1.0
	baz=191						
WCHH	**Zhanghua**	**1.50**	**238**	*e*S	Sn	06 28 20.0	+0.5
	baz=235						
WNT	**Mingjian**	**1.53**	**230**	P	Pn	06 28 01.2	+0.8
	baz=226						
WNT				S	Sn	06 28 20.9	+0.7
	baz=226						
WJS	**Zhushan**	**1.54**	**227**	*e*S	Sn	06 28 21.4	+1.0
	baz=233						
YULB	**Yu-li**	**1.60**	**202**	*e*P	Pn	06 28 00.6	-0.7
	baz=192						
YULB				*e*S	Sn	06 28 21.3	-0.5
	baz=192						
EYUL	**Yuli**	**1.63**	**201**	*e*P	Pn	06 28 02.4	+0.7
	baz=199						
EYUL				*e*S	Sn	06 28 23.6	+1.1
	baz=199						
ALS	**Alishan**	**1.72**	**218**	P	Pn	06 28 04.6	+1.5
	baz=223						
ALS				*e*S	Sn	06 28 27.4	+2.4
	baz=223						
CHN5	**Tsauling**	**1.73**	**223**	P	Pn	06 28 04.3	+1.3
	baz=219						
CHN5				S	Sn	06 28 25.8	+0.9
	baz=219						
WRL	**Guolierlin Hig**	**1.74**	**236**	*e*P	Pn	06 28 03.4	+0.4
	baz=233						
WRL				*e*S	Sn	06 28 24.2	-0.7
	baz=233						
WDLH	**Douliu**	**1.76**	**228**	*e*P	Pn	06 28 04.1	+0.8
	baz=233						
WDLH				*e*S	Sn	06 28 25.4	+0.1
	baz=233						
FULB	**Fuli**	**1.78**	**200**	P	Pn	06 28 04.3	+0.7
	baz=203						
FULB				*e*S	Sn	06 28 26.2	+0.2
	baz=203						
CHKT	**Chengkung**	**1.85**	**197**	P	Pn	06 28 03.9	-0.6
	baz=188						
CHKT				*e*S	Sn	06 28 26.1	-1.5
	baz=188						
WTK	**Tuku**	**1.86**	**231**	*e*P	Pn	06 28 05.3	+0.7
	baz=227						
WTK				*e*S	Sn	06 28 27.6	-0.1
	baz=227						
ELDTW	**Lidau**	**1.89**	**207**	*e*P	Pn	06 28 06.5	+1.4
	baz=196						
ELDTW				*e*S	Sn	06 28 28.8	+0.1
	baz=196						
CHY	**Chiayi**	**1.96**	**226**	*e*S	Sn	06 28 30.9	+0.8
	baz=230						
CHN4	**Tsaushan**	**1.97**	**220**	P	Pn	06 28 08.0	+1.9
	baz=216						
CHN4				*e*S	Sn	06 28 33.3	+3.1
	baz=216						
TPUB	**Ta-pu**	**1.99**	**218**	*e*P	Pn	06 28 08.4	+2.1
	baz=214						
TPUB				*e*S	Sn	06 28 31.8	+1.1
	baz=214						
EDH	**Donghe**	**1.99**	**198**	P	Pn	06 28 05.5	-0.8
	baz=195						
EDH				S	Sn	06 28 29.2	-1.6
	baz=195						
WSF	**Szhu**	**2.01**	**232**	*e*S	Sn	06 28 31.7	+0.5
	baz=228						
STYH	**Taoyuan**	**2.02**	**213**	*e*P	Pn	06 28 09.2	+2.5
	baz=219						
STYH				*e*S	Sn	06 28 33.7	+2.4
	baz=219						
WTP	**Ta-pu**	**2.04**	**217**	*e*P	Pn	06 28 08.9	+1.9
	baz=214						
WTP				*e*S	Sn	06 28 34.9	+2.9
	baz=214						
WSL	**Shuilin Townsh**	**2.08**	**230**	*e*S	Sn	06 28 33.4	+0.6
	baz=226						
TWK	**Hsinying**	**2.09**	**220**	*e*P	Pn	06 28 08.7	+0.9
	baz=216						
TWK				*e*S	Sn	06 28 35.0	+1.7
	baz=216						
LONT	**Longtian**	**2.11**	**201**	*e*P	Pn	06 28 07.6	-0.2
	baz=189						
LONT				*e*S	Sn	06 28 32.0	-1.5
	baz=189						
CHN1	**Nanshi**	**2.13**	**218**	*e*P	Pn	06 28 10.7	+2.5
	baz=214						
CHN1				*e*S	Sn	06 28 35.9	+1.7
	baz=214						
ICHU	**Yijhu**	**2.15**	**226**	*e*P	Pn	06 28 09.2	+0.7
	baz=231						
ICHU				*e*S	Sn	06 28 35.3	+0.7
	baz=231						
TWG	**Pinlang**	**2.21**	**202**	*e*P	Pn	06 28 10.0	+0.8
	baz=190						
TWG				*e*S	Sn	06 28 34.3	-1.5
	baz=190						
TWGBT	**Beinan**	**2.21**	**202**	*e*P	Pn	06 28 09.3	+0.2
	baz=190						
TWGBT				*e*S	Sn	06 28 33.4	-2.4
	baz=190						
MATB	**Ma-tsu**	**2.21**	**305**	*e*P	Pn	06 28 09.1	-0.1
	baz=306						
MATB				*e*S	Sn	06 28 35.9	-0.2
	baz=306						
SLGT	**Liugui**	**2.23**	**213**	*e*P	Pn	06 28 11.5	+2.0
	baz=219						
SLGT				*e*S	Sn	06 28 38.0	+1.5
	baz=219						
LDUT	**Ludao**	**2.24**	**192**	P	Pn	06 28 08.2	-1.4
	baz=185						
LDUT				*e*S	Sn	06 28 33.6	-3.1
	baz=185						
MASBT	**Mashibuluo**	**2.56**	**208**	*e*P	Pn	06 28 14.6	+0.7
	baz=205						
MASBT				*e*S	Sn	06 28 45.0	+0.7
	baz=205						
PTMZ	**Houxiangcun**	**2.58**	**274**	*e*P	Pn	06 28 14.1	0.0
	baz=270						
PTMZ				*e*S	Sn	06 28 44.7	0.0
	baz=270						
XPSS	**Dashiqiu**	**2.59**	**322**	*e*P	Pn	06 28 13.9	-0.3
	baz=323						
SLIU	**Shizi**	**2.86**	**202**	*e*P	Pn	06 28 17.8	-0.1
	baz=199						
SLIU				*e*S	Sn	06 28 50.7	-0.7
	baz=199						
MHZQ	**Yeshan**	**2.91**	**295**	*e*P	Pn	06 28 18.1	-0.4
	baz=296						
MHZQ				*e*S	Sn	06 28 52.1	-0.5
	baz=296						
KNM	**Kinmen**	**3.24**	**263**	*e*P	Pn	06 28 24.1	+1.2
	baz=260						
KNMB	**Chin-men Tao**	**3.27**	**263**	*e*P	Pn	06 28 23.1	-0.3
	baz=258						
KNMB				*e*S	Sn	06 28 59.9	-1.5
	baz=258						
AXDP	**Jialang**	**3.62**	**271**	*e*P	Pn	06 28 28.3	+0.2
	baz=269						

IDC 28 06:30:38.4±2.5,54°.19N×86°.38E,h0km,mb1 3.1/2, mb1mx3.0/42,mbtmp3.1/2,ML2.8/2,Error ellipse: s-maj=19.9km s-min=12.8km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**256**	*i*		06 36 00.0	
	baz=75,slow=333,SNR=17						
ZALV	**Zalesovo Beam**	**0.95**	**256**	Pg	Pg	06 30 55.1	-1.6
	5.5nm,0.3s,baz=72,slow=16,SNR=64						
ZALV				Lg	Lg	06 31 10.5	
	10nm,0.3s,baz=79,slow=31,SNR=26						
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn	Pn	06 32 09.1	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=7.5						
KURBB				Lg	Lg	06 33 50.5	
	0.1nm,0.3s,baz=54,slow=29,SNR=5.2						
MKAR	**Makanchi Array**	**7.85**	**201**	Pn	Pn	06 32 35.0	+1.2
	0.3nm,0.3s,baz=20,slow=13,SNR=24						
MKAR				Lg	Lg	06 34 48.2	
	0.1nm,0.3s,baz=18,slow=24,SNR=3.6						

IDC 28 06:43:59.0±2.7,54°.33N×85°.99E,h0km,mb1 2.5/2, mb1mx2.5/47,mbtmp2.5/2,ML2.3/2,Error ellipse: s-maj=19.8km s-min=11.1km az=53.0,Southwestern Siberia

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

I46RU ZALESOVO INFRA 0.79 241 *i* 06 48 33.6
baz=60,slow=335,SNR=14
ZALV Zalesovo Beam 0.79 241 Pg Pg 06 44 12.3 -1.8
0.5nm,0.3s,baz=65,slow=17,SNR=8.0
ZALV Lg Lg 06 44 25.9
4.2nm,0.3s,baz=61,slow=29,SNR=32
ZALV Rg Rg 06 44 29.8
12nm,0.9s,baz=67,slow=34,SNR=8.4
KURBB Kurchatov Arra 5.88 234 Pn Pn 06 45 28.6 +1.3
0.1nm,0.3s,baz=49,slow=14,SNR=4.3
MKAR Makanchi Array 7.90 199 Pn Pn 06 45 56.2 +1.1
0.1nm,0.3s,baz=23,slow=12,SNR=4.6

*IDC **28** 07:04:17.8±0.9, 35°.47N×3°.86W, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.7/40, mbtmp3.7/9, ML3.6/3, MS2.7/3, Ms1 2.8/3, ms1mx2.6/96, Error ellipse: s-maj=25.5km s-min=20.0km az=86.0*
*SFS **28** 07:04:18.0, 35°.47N×3°.80W, ML3.2, ALBORAN SUR*
*INMG **28** 07:04:18.4±2.0, 35°.45N×3°.82W, h0km±5km, ML3.3, Error ellipse: s-maj=5.1km s-min=4.1km az=8.0*
*IGIL **28** 07:04:18.9, 35°.47N×3°.80W, h0km, ML3.1*
*CNRM **28** 07:04:18.3, 35°.54N×3°.74W, h12km, ml3.7*
*LDG **28** 07:04:20.4, 35°.30N×3°.66W, h30km*
*CRAAG **28** 07:04:20.0, 35°.52N×3°.79W, Mb3.2*
ISC 28 07:04:19.1±1.2, 35°.50N±0°.03×3°.74W±0°.03, h12km±8km, n74, σ2°38/117, mb4.0/6, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**210**	P	**Pg**	**07 04 24.8**	**-0.9**
PALE				S	**Sg**	**07 04 29.8**	**-0.3**
AKLM	**AKL**	**0.99**	**186**	P	**Pb**	**07 04 37.5**	**-0.8**
AKLM				S	**Sb**	**07 04 51.7**	**+0.3**
CHAS	**Isla Isabel II**	**1.12**	**106**	*e*P	**Pn**	**07 04 37.8**	**-2.8**
CHAS				*e*S	**Sb**	**07 04 52.6**	**-2.2**
CHEFC	**Chefchaouen**	**1.37**	**254**	P	**Pn**	**07 04 43.1**	**-1.0**
CHEFC				S	**Sn**	**07 05 02.0**	**-0.2**
EMAL	**Malaga-Limoner**	**1.38**	**336**	*e*P	**Pn**	**07 04 42.5**	**-1.7**
EMAL				*e*S	**Sn**	**07 05 02.3**	**-0.1**
CEU	**Ceuta**	**1.39**	**287**	*e*P	Pn	07 04 40.0	-4.3
CEU				*e*S	**Sn**	**07 04 56.4**	**-6.2**
JBK	**JBK**	**1.51**	**140**	P	**Pn**	**07 04 44.0**	**-2.2**
JBK				S	**Sb**	**07 05 06.4**	**0.0**
CPS	**Cap Spartel**	**1.79**	**280**	P	**Pg**	**07 04 55.1**	**+1.7**
SICH	**Sidi Chahed**	**1.90**	**223**	P	**Pn**	**07 04 52.4**	**+1.0**
SICH				S	**Sb**	**07 05 19.0**	**+1.5**
LCRM	**LCR**	**2.03**	**207**	P	**Pn**	**07 04 55.0**	**+1.6**
IFR	**Ifrane**	**2.29**	**210**	*e*P	**Pn**	**07 04 56.1**	**-0.8**
IFR				*e*S	**Sn**	**07 05 25.9**	**+0.9**
OTSS	**Djebel Tessala**	**2.42**	**94**	P	**Pn**	**07 04 57.0**	**-1.6**
USTO	**Oran**	**2.61**	**84**	P	Pg	07 05 18.0	+8.9
MD31	**MD31**	**2.76**	**198**	P	**Pn**	**07 05 03.2**	**0.0**
MD31				S	**Sn**	**07 05 36.4**	**-0.2**
MDT	**Midelt**	**2.77**	**195**	Pn	**Pn**	**07 05 02.5**	**-1.0**
2.9nm,0.3s,baz=73,slow=4.4,SNR=64							
MDT				Sn	**Sn**	**07 05 36.8**	**-0.2**
8.7nm,0.3s,baz=208,slow=23,SNR=5.6							
MDT				LR	LR	07 05 45.5	
comp=Z,31nm,19.8s,baz=83,slow=32							
MDT	**Midelt**	**2.77**	**195**	P	**Pn**	**07 05 04.7**	**+1.2**
MDT				S	**Sn**	**07 05 36.4**	**-0.6**
ODJA	**Bouhanifia**	**2.94**	**92**	P	**Pb**	**07 05 10.0**	**-1.4**
PVAQ	**Vaqueiros**	**3.73**	**302**	*e*Pn	**Pn**	**07 05 15.3**	**-1.2**
PVAQ				*e*Sn	**Sn**	**07 05 56.3**	**-4.0**
PVAQ				A	A	07 06 01.8	
44nm,0.6s							
PVAQ	**Vaqueiros**	**3.73**	**302**	P	**Pn**	**07 05 15.4**	**-1.1**
PVAQ				S	**Sn**	**07 06 03.8**	**+3.5**
AVE	**Averroes**	**3.75**	**235**	*e*P	**Pn**	**07 05 15.4**	**-1.4**
AVE				*e*S	**Sn**	**07 05 53.7**	**-7.2**
PBDV	**Barranco-do-Ve**	**3.80**	**298**	*e*Pn	**Pn**	**07 05 16.3**	**-1.3**
PBDV				*e*Sn	**Sn**	**07 05 58.8**	**-3.5**
PBDV				A	A	07 06 06.9	
30nm,0.5s							
FIGM	**Figuig**	**3.94**	**148**	P	**Pn**	**07 05 20.1**	**+0.5**
PCVE	**Castro Verde**	**4.06**	**303**	*e*Pn	**Pn**	**07 05 19.9**	**-1.2**
PCVE				*e*Sn	**Sn**	**07 06 05.3**	**-3.3**
PCVE				A	A	07 06 15.0	
32nm,0.5s							
PBEJ	**Beja**	**4.16**	**308**	*e*Pn	**Pn**	**07 05 21.8**	**-0.7**
PBEJ				*e*Sn	**Sn**	**07 06 06.8**	**-4.3**
PBEJ				A	A	07 06 43.1	
20nm,0.7s							
ESDC	**Sonseca Array**	**4.17**	**358**	Pn	**Pn**	**07 05 23.6**	**+1.0**
2.5nm,0.3s,baz=179,slow=13,SNR=75							
ESDC				Sn	**Sn**	**07 06 12.5**	**+1.1**
1.1nm,0.3s,baz=186,slow=24,SNR=5.2							
ESDC				LR	LR	07 06 31.5	
comp=Z,156nm,18.9s,baz=240,slow=32							
MESJ	**Messejana**	**4.29**	**304**	*e*P	**Pn**	**07 05 23.1**	**-1.1**
MESJ				*e*S	**Sn**	**07 06 10.1**	**-4.2**
MESJ				IAML		07 06 16.6	
comp=E,43nm,0.7s							
MESJ	**Messejana**	**4.29**	**304**	*e*Pn	**Pn**	**07 05 23.8**	**-0.4**
MESJ				*e*Sn	**Sn**	**07 06 10.7**	**-3.6**
MESJ				A	A	07 06 14.9	
comp=E,28nm,0.6s							
MORF	**Marmelete**	**4.35**	**296**	*e*P	**Pn**	**07 05 23.8**	**-1.4**
MORF				*e*S	**Sn**	**07 06 11.5**	**-4.3**
MORF				IAML		07 06 16.1	
comp=E,38nm,0.5s							
MORF	**Marmelete**	**4.35**	**296**	*e*Pn	**Pn**	**07 05 24.7**	**-0.4**
MORF				*e*Sn	**Sn**	**07 06 13.1**	**-2.7**
MORF				A	A	07 06 24.4	
comp=E,17nm,0.5s							
PFVI	**Vila Bisbo**	**4.42**	**293**	*e*Pn	**Pn**	**07 05 24.9**	**-1.1**
PFVI				*e*Sn	**Sn**	**07 06 13.8**	**-3.6**
PFVI				A	A	07 06 30.6	
comp=E,33nm,0.7s							
PFVI	**Vila Bisbo**	**4.42**	**293**	P	**Pn**	**07 05 25.2**	**-0.8**
PTEO	**Sao Teotonio**	**4.50**	**298**	*e*Pn	**Pn**	**07 05 27.4**	**+0.2**
PTEO				*e*Sn	**Sn**	**07 06 17.9**	**-1.6**
PTEO				A	A	07 06 37.0	
comp=E,32nm,0.6s							
PESTR	**Estremoz**	**4.55**	**319**	*e*Pn	**Pn**	**07 05 28.9**	**+1.0**
PESTR				*e*Sn	**Sn**	**07 06 19.1**	**-1.7**
PESTR				A	A	07 06 39.0	
comp=E,30nm,0.5s							
PESTR	**Estremoz**	**4.55**	**319**	P	**Pn**	**07 05 29.6**	**+1.7**
EVO	**Evora**	**4.57**	**313**	*e*P	**Pn**	**07 05 27.8**	**-0.3**
EVO				*e*S	**Sn**	**07 06 18.7**	**-2.3**
EVO	**Evora**	**4.57**	**313**	*e*Pn	**Pn**	**07 05 27.4**	**-0.6**
EVO				*e*Sn	**Sn**	**07 06 18.2**	**-2.8**
EVO				A	A	07 06 22.7	
comp=E,37nm,0.7s							
PNCL	**Nicolau / Gran**	**4.64**	**306**	*e*Pn	**Pn**	**07 05 28.4**	**-0.7**
PNCL				*e*Sn	**Sn**	**07 06 19.5**	**-3.4**
PNCL				A	A	07 06 48.0	
comp=E,23nm,0.7s							
PMRV	**Marv??o**	**4.88**	**325**	*e*Pn	**Pn**	**07 05 32.6**	**+0.2**
PMRV				*e*Sn	**Sn**	**07 06 29.4**	**+0.6**
PMRV				A	A	07 07 07.5	
comp=E,31nm,0.6s							
TZRR	**Tazzarine**	**4.95**	**199**	P	**Pn**	**07 05 37.0**	**+3.6**
PMTG	**Montargil**	**5.05**	**316**	*e*Pn	**Pn**	**07 05 34.5**	**-0.1**
PMTG				*e*Sn	**Sn**	**07 06 29.8**	**-3.1**
PMTG				A	A	07 06 34.9	
comp=E,27nm,0.6s							
OUZM	**OUZ**	**5.23**	**210**	P	**Pn**	**07 05 38.0**	**+0.7**
PCBR	**Castelo Branco**	**5.25**	**327**	*e*Pn	**Pn**	**07 05 37.5**	**+0.1**
PCBR				*e*Sn	**Sn**	**07 06 36.8**	**-1.1**
PCBR				A	A	07 06 46.2	
comp=E,19nm,0.6s							
PMST	**Lisbon--Monsan**	**5.42**	**308**	*e*Pn	**Pn**	**07 05 42.0**	**+2.3**
OUK	**Oukaimeden**	**5.50**	**220**	P	**Pn**	**07 05 39.1**	**-2.0**
PMAFR	**Mafra**	**5.61**	**310**	*e*Pn	**Pn**	**07 05 41.9**	**-0.4**
PMAFR				*e*Sn	**Sn**	**07 06 46.5**	**-0.2**
PMAFR				A	A	07 07 04.2	
comp=E,32nm,0.7s							
PSBE	**So Bento**	**5.67**	**316**	*e*Pn	**Pn**	**07 05 43.5**	**+0.2**
PSBE				*e*Sn	**Sn**	**07 06 46.6**	**-1.8**
PSBE				A	A	07 07 06.7	
comp=E,31nm,0.6s							
MTE	**Manteigas**	**5.74**	**330**	*e*Pn	**Pn**	**07 05 45.5**	**+1.3**
MTE				*e*Sn	**Sn**	**07 06 50.5**	**+0.4**
MTE				A	A	07 07 38.1	
comp=E,46nm,0.7s							
PCAS	**Casmilo, Conde**	**5.90**	**322**	*e*Pn	**Pn**	**07 05 48.4**	**+2.0**
PCAS				*e*Sn	**Sn**	**07 06 52.9**	**-1.1**
PCAS				A	A	07 07 38.6	
comp=E,32nm,0.7s							
COI	**Coimbra**	**5.98**	**323**	*e*Pn	**Pn**	**07 05 49.3**	**+1.9**
COI				*e*Sn	**Sn**	**07 06 55.0**	**-0.8**
PVIS	**Viseu**	**6.15**	**329**	*e*Pn	**Pn**	**07 05 51.0**	**+1.2**
PVIS				*e*Sn	**Sn**	**07 06 59.9**	**-0.3**
PVIS				A	A	07 07 11.6	
comp=E,21nm,0.7s							
MVO	**Moncorvo**	**6.22**	**336**	*e*Pn	**Pn**	**07 05 51.7**	**+0.9**
MVO				*e*Sn	**Sn**	**07 07 00.5**	**-1.3**
MVO				A	A	07 07 10.1	
comp=E,30nm,0.7s							
PVRL	**Vila Real**	**6.56**	**333**	*e*Pn	**Pn**	**07 05 55.7**	**+0.3**
PVRL				*e*Sn	**Sn**	**07 07 08.4**	**-1.7**
PVRL				A	A	07 07 57.1	
comp=E,15nm,0.6s							
POLO	**Lamas de Olo**	**6.67**	**333**	*e*Pn	**Pn**	**07 05 57.3**	**+0.3**
POLO				*e*Sn	**Sn**	**07 07 08.1**	**-4.9**
POLO				A	A	07 07 19.7	
comp=E,10nm,0.7s							
PBRG	**Braganca**	**6.72**	**340**	*e*Pn	**Pn**	**07 05 58.1**	**+0.5**
PBRG				*e*Sn	**Sn**	**07 07 12.2**	**-1.9**
PBRG				A	A	07 07 58.7	
comp=E,15nm,0.7s							
PTO	**Porto**	**6.80**	**327**	*e*Pn	**Pn**	**07 05 58.2**	**-0.5**
PCAB	**Cabril**	**7.05**	**333**	*e*Pn	**Pn**	**07 06 02.8**	**+0.6**
PCAB				*e*Sn	**Sn**	**07 07 14.7**	**-7.6**
PCAB				A	A	07 08 16.4	
comp=E,20nm,0.7s							
PGAV	**Gavieira, Arco**	**7.36**	**333**	*e*Pn	**Pn**	**07 06 07.1**	**+0.6**
PGAV				*e*Sn	**Sn**	**07 07 26.0**	**-4.0**
PGAV				A	A	07 07 49.1	
comp=E,15nm,0.7s							
ETSF	**Etsaut**	**7.79**	**18**	*e*Pn	**Pn**	**07 06 12.1**	**-0.2**
ETSF	**Etsaut**	**7.79**	**18**	*e*P	**Pn**	**07 06 16.6**	**+4.3**
ETSF				*e*Sn	**Sn**	**07 07 35.3**	**-5.2**
comp=E,1.2nm,0.3s							
SJPF	**Ste Jean**	**7.85**	**14**	*e*Pn	**Pn**	**07 06 12.3**	**-0.8**
SJPF	**Ste Jean**	**7.85**	**14**	*e*P	**Pn**	**07 06 16.0**	**+2.9**
SJPF				*e*Sn	**Sn**	**07 07 36.0**	**-5.9**
comp=E,0.7nm,0.3s							
EPF	**Esparros**	**8.16**	**22**	*e*Pn	**Pn**	**07 06 16.4**	**-1.0**
EPF	**Esparros**	**8.16**	**22**	*e*P	**Pn**	**07 06 21.7**	**+4.3**
EPF				*e*Sn	**Sn**	**07 07 44.1**	**-5.4**
comp=E,0.9nm,0.2s							
LMR	**La Mourre**	**11.13**	**42**	*e*P	Pn	07 07 03.7	+5.7
PGF	**Pioggiola**	**12.14**	**51**	*e*Pn	**Pn**	**07 07 10.0**	**-2.0**
PGF	**Pioggiola**	**12.14**	**51**	*e*P	**Pn**	**07 07 15.5**	**+3.5**
GERES	**GERESS Array B**	**18.51**	**39**	P	**Pn**	**07 08 37.3**	**+1.8**
comp=E,0.1nm,0.3s,baz=228,slow=10,SNR=4.2							
TORD	**Torodi Ar. Bea**	**22.79**	**166**	P	**P**	**07 09 22.3**	**+0.6**
comp=E,3.7nm,0.8s,baz=341,slow=11,SNR=15							
IDI	**Anoyia**	**23.31**	**82**	P	**P**	**07 09 29.0**	**+1.9**
comp=E,4.5nm,0.8s,baz=275,slow=16,SNR=2.7							
NOA	**NORSAR Array B**	**27.29**	**16**	LR	LR	07 22 41.9	
comp=E,46nm,21.4s,baz=270,slow=40							
MKAR	**Makanchi Array**	**62.69**	**50**	P	**P**	**07 14 44.2**	**+0.5**
comp=E,1.3nm,0.8s,baz=288,slow=4.3,SNR=9.0							
YKA	**Yellowknife Ar**	**67.85**	**332**	P	**P**	**07 15 17.3**	**+0.5**
comp=E,1.2nm,0.7s,baz=60,slow=6.4,SNR=15							
PDAR	**Pinedale Array**	**76.86**	**313**	P	**P**	**07 16 11.1**	**-0.3**
comp=E,0.9nm,0.7s,baz=61,slow=5.4,SNR=9.5							
TXAR	**Lajitas Array**	**80.85**	**299**	P	**P**	**07 16 34.7**	**+1.4**
comp=E,0.3nm,0.7s,baz=65,slow=6.5,SNR=4.6							

*IDC **28** 07:25:59.0±1.3, 59°.82N×153°.11W, h88km±18km, mb3.7/8, mb1 3.9/13, mb1mx3.5/60, mbtmp4.1/13, Error ellipse: s-maj=20.8km s-min=10.2km az=112.0*
*ANF **28** 07:26:00.4±0.2, 59°.74N×153°.09W, h104km±2km, ML4.1/42, Error ellipse: s-maj=1.9km s-min=1.7km az=106.0*
*NEIC **28** 07:26:00.4±1.1, 59°.76N±0°.03×153°.16W±0°.06, h108km±2km, Error ellipse: s-maj=5.1km s-min=4.1km az=130.0*
*AEIC **28** 07:26:01±1.2, 59°.72N±0°.03×153°.16W±0°.06, h108km±2km, ML3.9, mb4.1/3(NEIC), ML4.1/100(NEIC), Error ellipse: s-maj=5.1km s-min=4.0km az=148.0*
ISC 28 07:26:00.5±0.7, 59°.75N±0°.03×153°.10W±0°.03, h111km±5km, n276, σ0°79/278, mb4.4/9, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.12**	**215**		**Pn**	**07 26 15.6**	**-0.3**
ILS	**Iliamna Low So**	**0.21**	**5**		**Pn**	**07 26 15.9**	**-0.3**
AU22	**Augustine Moun**	**0.40**	**199**		**Pn**	**07 26 16.6**	**-0.2**
AU22					**Sn**	**07 26 28.6**	**-0.5**
AUL	**Augustine Lava**	**0.40**	**205**		**Pn**	**07 26 16.8**	**-0.1**
AUL					**Sn**	**07 26 28.7**	**-0.5**
O20K	**Slope Mountain**	**0.41**	**35**		**Pn**	**07 26 16.9**	**-0.1**
O20K					**Sn**	**07 26 28.3**	**-1.2**
O20K	**Slope Mountain**	**0.41**	**35**	P	**Pn**	**07 26 16.9**	**-0.1**
baz=217,SNR=83							
O20K				S	**Sn**	**07 26 29.2**	**-0.2**
baz=217							
AGU	**Augustine-Summ**	**0.42**	**203**		**Pn**	**07 26 16.9**	**-0.3**
AUQ	**Augustine Qik'**	**0.42**	**202**		**Pn**	**07 26 16.9**	**-0.1**
RED	**Redoubt Volcan**	**0.69**	**14**		**Pn**	**07 26 18.8**	**-0.2**
RED					**Sn**	**07 26 32.0**	**-1.0**
RSO	**Redoubt South**	**0.74**	**14**		**Pn**	**07 26 19.4**	**-0.2**
HOM	**Homer**	**0.74**	**96**		**Pn**	**07 26 19.6**	**+0.3**
HOM	**Homer**	**0.74**	**96**		**Sn**	**07 26 34.0**	**+0.5**
HOM	**Homer**	**0.74**	**96**	IAML		07 26 35.3	
comp=N,14μm,0.5s							
HOM				IAML		07 26 35.7	
comp=E,12μm,0.4s							
HOM	**Homer**	**0.74**	**96**	P	**Pn**	**07 26 19.5**	**+0.3**
baz=276,SNR=56							
HOM				S	**Sn**	**07 26 33.9**	**+0.4**
baz=276							
O19K	**Port Alsworth**	**0.76**	**307**	Pn	**Pn**	**07 26 19.0**	**-0.4**
O19K	**Port Alsworth**	**0.76**	**307**		**Sn**	**07 26 32.6**	**-1.2**
O19K	**Port Alsworth**	**0.76**	**307**	IAML		07 26 33.6	
comp=N,7μm,0.4s							
O19K				IAML		07 26 34.4	
comp=E,5μm,0.4s							
O19K	**Port Alsworth**	**0.76**	**307**	P	**Pn**	**07 26 19.1**	**-0.4**
baz=128,SNR=162							
O19K				S	**Sn**	**07 26 32.5**	**-1.2**
baz=128							
NCT	**North Crescent**	**0.82**	**6**		**Pn**	**07 26 19.9**	**-0.2**
Q19K	**Cape Douglas,**	**0.87**	**199**		**Pn**	**07 26 20.1**	**-0.3**
Q19K				IAML		07 26 38.9	
comp=E,3μm,0.8s							
Q19K				IAML		07 26 40.2	
comp=N,3μm,0.8s							
Q19K	**Cape Douglas,**	**0.87**	**199**		**Sn**	**07 26 34.7**	**-0.8**
Q19K	**Cape Douglas,**	**0.87**	**199**	P	**Pn**	**07 26 20.2**	**-0.3**
baz=17,SNR=111							
Q19K				S	**Sn**	**07 26 34.8**	**-0.8**
baz=17							
DFR	**Drift River**	**0.87**	**14**		**Pn**	**07 26 20.4**	**-0.2**
RDT	**Redoubt**	**0.90**	**22**		**Pn**	**07 26 20.8**	**0.0**
CNPM	**China Poot**	**0.97**	**102**		**Pn**	**07 26 21.4**	**-0.1**
CNPM				IAML		07 26 37.3	
comp=N,6μm,0.5s							
CNPM				IAML		07 26 37.4	
comp=E,3μm,0.4s							
CNPM	**China Poot**	**0.97**	**102**		**Sn**	**07 26 36.8**	**-0.6**
O18K	**Koktuh Hills**	**1.07**	**277**		**Pn**	**07 26 21.9**	**-0.6**
O18K					**Sn**	**07 26 37.8**	**-1.4**
BRLK	**Bradley Lake**	**1.12**	**88**		**Pn**	**07 26 22.7**	**-0.3**
BRLK					**Sn**	**07 26 39.5**	**-0.6**
BRLK	**Bradley Lake**	**1.12**	**88**	IAML		07 26 40.3	
comp=N,3μm,0.1s							
BRLK				IAML		07 26 42.6	
comp=E,3μm,0.2s							
P18K	**Big Mountain,**	**1.14**	**253**		**Pn**	**07 26 22.5**	**-0.8**
P18K					**Sn**	**07 26 38.6**	**-1.9**
P18K	**Big Mountain,**	**1.14**	**253**	P	**Pn**	**07 26 22.5**	**-0.8**
baz=72,SNR=18							
P18K				S	**Sn**	**07 26 38.6**	**-1.9**
baz=72							
BRSE	**Bradley Lake S**	**1.20**	**89**		**Pn**	**07 26 23.5**	**-0.4**
BRSE	**Bradley Lake S**	**1.20**	**89**	P	**Pn**	**07 26 23.5**	**-0.4**
baz=270,SNR=35							
BRSE				S	**Sn**	**07 26 40.7**	**-0.9**
baz=270							
N19K	**Bonanza Creek**	**1.27**	**328**		**Pn**	**07 26 24.6**	**-0.2**
N19K	**Bonanza Creek**	**1.27**	**328**	P	**Pn**	**07 26 24.6**	**-0.2**
baz=148							
N19K				S	**Sn**	**07 26 41.9**	**-1.3**
baz=148							
CAPN	**Captain Cook N**	**1.41**	**43**		**Pn**	**07 26 28.0**	**+1.8**
CAPN	**Captain Cook N**	**1.41**	**43**	IAML		07 26 50.4	
comp=E,4μm,0.4s							
CAPN	**Captain Cook N**	**1.41**	**43**	P	**Pn**	**07 26 28.0**	**+1.8**
baz=224							
SPU	**Mount Spurr**	**1.53**	**19**		**Pn**	**07 26 27.8**	**0.0**
SLKM	**Skilak Lake**	**1.63**	**61**		**Pn**	**07 26 28.7**	**-0.2**
SPNN	**North Nagishla**	**1.64**	**7**		**Pn**	**07 26 29.3**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.64**	**19**		**Pn**	**07 26 29.3**	**+0.1**
SVW2	**Sparrevohn**	**1.83**	**319**		**Pn**	**07 26 30.9**	**-0.4**
SVW2	**Sparrevohn**	**1.83**	**319**	IAML		07 27 05.6	
comp=N,3μm,0.6s							
O22K	**Cooper Landing**	**1.84**	**65**		**Pn**	**07 26 31.7**	**+0.2**
O22K	**Cooper Landing**	**1.84**	**65**	P	**Pn**	**07 26 31.7**	**+0.2**
baz=248,SNR=62							
O22K				S	**Sn**	**07 26 54.5**	**-0.7**
baz=248							
KABU	**Katmai Buttres**	**1.86**	**218**		**Pn**	**07 26 32.2**	**+0.3**
KABU					**Sn**	**07 26 54.8**	**-0.9**
STLK	**Strandline Lak**	**1.87**	**19**		**Pn**	**07 26 32.1**	**+0.2**
SEW	**Seward**	**1.87**	**77**		**Pn**	**07 26 31.5**	**-0.3**
SEW	**Seward**	**1.87**	**77**	P	**Pn**	**07 26 31.7**	**-0.1**
baz=260,SNR=24							
SEW				S	**Sn**	**07 26 54.8**	**-0.9**
baz=260							
KDAK	**Kodiak Island**	**1.99**	**172**	P	**Pn**	**07 26 32.6**	**-0.7**
comp=N,240nm,0.3s,baz=66,slow=3.7,SNR=188							
KDAK				S	**Sn**	**07 26 57.2**	**-1.2**
comp=N,130nm,0.3s,baz=329,slow=23,SNR=31							
KDAK	**Kodiak Island**	**1.99**	**172**	IAML		07 26 59.2	
comp=N,957nm,0.3s							
KDAK				IAML		07 26 59.4	
comp=N,1μm,0.3s							
KDAK	**Kodiak Island**	**1.99**	**172**	P	**Pn**	**07 26 32.6**	**-0.7**
baz=352							
KDAK				S	**Sn**	**07 26 57.7**	**-0.7**
baz=352							
FIS	**Fire Island**	**2.00**	**44**		**Pn**	**07 26 35.1**	**+1.6**
FIS	**Fire Island**	**2.00**	**44**	IAML		07 27 03.4	
comp=N,2μm,0.8s							
FIS				IAML		07 27 03.9	
comp=E,2μm,0.8s							
RC01	**Rabbit Creek A**	**2.15**	**50**		**Pn**	**07 26 35.4**	**+0.1**
RC01	**Rabbit Creek A**	**2.15**	**50**	IAML		07 27 04.2	
comp=N,2μm,0.4s							
RC01	**Rabbit Creek A**	**2.15**	**50**	P	**Pn**	**07 26 35.6**	**+0.3**
baz=232,SNR=40							
RC01				S	**Sn**	**07 27 00.8**	**-1.2**
baz=232							
M19K	**Big River Lodg**	**2.25**	**344**		**Pn**	**07 26 36.6**	**-0.1**
M19K	**Big River Lodg**	**2.25**	**344**	P	**Pn**	**07 26 36.7**	**0.0**
baz=164							
M22K	**Willow**	**2.49**	**35**		**Pn**	**07 26 40.5**	**+0.8**
M22K	**Willow**	**2.49**	**35**	P	**Pn**	**07 26 40.2**	**+0.6**
baz=218,SNR=18							
M22K				S	**Sn**	**07 27 10.0**	**+0.2**
baz=218							
OHAK	**Old Harbor**	**2.53**	**182**		**Pn**	**07 26 39.1**	**-1.2**
OHAK	**Old Harbor**	**2.53**	**182**	P	**Pn**	**07 26 39.1**	**-1.2**
baz=1.5,SNR=12							
OHAK				S	**Sn**	**07 27 08.4**	**-2.5**
baz=1.5							
L19K	**White Mountain**	**2.59**	**341**		**Pn**	**07 26 40.9**	**-0.2**
L19K	**White Mountain**	**2.59**	**341**	P	**Pn**	**07 26 40.9**	**-0.2**
baz=161							
L19K				S	**Sn**	**07 27 11.5**	**-0.8**
baz=161							
PWL	**Port Wells**	**2.62**	**63**		**Pn**	**07 26 40.8**	**-0.7**
PWL	**Port Wells**	**2.62**	**63**	P	**Pn**	**07 26 40.8**	**-0.7**
baz=247,SNR=29							
PWL				S	**Sn**	**07 27 11.1**	**-1.9**
baz=247							
PMR	**Palmer**	**2.69**	**45**		**Pn**	**07 26 41.7**	**-0.6**
PMR	**Palmer**	**2.69**	**45**	IAML		07 27 14.2	
comp=N,654nm,0.4s							
PMR				IAML		07 27 20.1	
comp=E,517nm,0.7s							
PMR	**Palmer**	**2.69**	**45**	P	**Pn**	**07 26 41.7**	**-0.6**
baz=228,SNR=23							
PMR				S	**Sn**	**07 27 12.1**	**-2.5**
baz=228							
L20K	**Farewell, AK**	**2.77**	**353**		**Pn**	**07 26 43.7**	**+0.3**
L20K	**Farewell, AK**	**2.77**	**353**	P	**Pn**	**07 26 43.7**	**+0.3**
baz=172							
KNK	**Knik Glacier**	**2.84**	**52**		**Pn**	**07 26 43.8**	**-0.5**
KNK	**Knik Glacier**	**2.84**	**52**	P	**Pn**	**07 26 43.8**	**-0.5**
baz=236,SNR=24							
KNK				S	**Sn**	**07 27 15.9**	**-2.1**
baz=236							
CUT	**Chulitna**	**3.00**	**26**		**Pn**	**07 26 46.5**	**0.0**
CUT	**Chulitna**	**3.00**	**26**	IAML		07 27 27.4	
comp=E,742nm,0.3s							
CUT				IAML		07 27 52.1	
comp=N,705nm,0.9s							
CUT	**Chulitna**	**3.00**	**26**	P	**Pn**	**07 26 46.4**	**0.0**
baz=209,SNR=53							
CUT				S	**Sn**	**07 27 21.0**	**-0.8**
baz=209							
SML	**Sawmill**	**3.12**	**46**		**Pn**	**07 26 47.5**	**-0.6**
SML	**Sawmill**	**3.12**	**46**	IAML		07 27 24.9	
comp=N,718nm,0.7s							
SML				IAML		07 27 31.8	
comp=E,601nm,0.7s							
SML	**Sawmill**	**3.12**	**46**	P	**Pn**	**07 26 47.5**	**-0.6**
baz=231,SNR=11							
PPLA	**Purkeypile**	**3.19**	**8**		**Pn**	**07 26

CHIR				IAML			07 29 43.4
	comp=E,263nm,2.2s						
CHIR	**Chirikof Islan**	**4.16**	**200**	P		**Pn**	**07 27 00.6 -1.4**
	baz=18						
CHUM	**Lake Minchumin**	**4.17**	**5**			**Pn**	**07 27 02.3 +0.3**
CHUM	**Lake Minchumin**	**4.17**	**5**	P		**Pn**	**07 27 02.3 +0.3**
	baz=186,SNR=86						
RND	**Reindeer**	**4.20**	**27**			**Pn**	**07 27 02.5 +0.1**
RND	**Reindeer**	**4.20**	**27**	IAML			07 27 51.4
	comp=N,100nm,1.0s						
RND				IAML			07 28 10.1
	comp=E,122nm,0.7s						
GOAT	**Goat Mountain**	**4.27**	**75**			**Pn**	**07 27 02.5 -0.9**
KAIM	**Kayak Island**	**4.39**	**84**	P		**Pn**	**07 27 05.2 +0.2**
	baz=271						
BMRM	**Bremner River**	**4.39**	**70**			**Pn**	**07 27 03.9 -1.2**
BMRM	**Bremner River**	**4.39**	**70**	IAML			07 27 54.5
	comp=E,282nm,0.4s						
BMRM				IAML			07 27 54.9
	comp=N,232nm,0.4s						
BMRM	**Bremner River**	**4.39**	**70**	P		**Pn**	**07 27 04.4 -0.7**
	baz=257,SNR=27						
PS11	**TAPS Pump St11**	**4.40**	**55**			**Pn**	**07 27 05.1 0.0**
CHGN	**Chignik**	**4.46**	**222**			**Pn**	**07 27 05.6 -0.3**
CHGN	**Chignik**	**4.46**	**222**	IAML			07 27 56.0
	comp=N,101nm,0.1s						
CHGN				IAML			07 27 57.5
	comp=E,174nm,0.1s						
CHGN	**Chignik**	**4.46**	**222**	P		**Pn**	**07 27 06.0 +0.1**
	baz=37						
MCK	**McKinley**	**4.46**	**25**			**Pn**	**07 27 06.2 +0.2**
MCK	**McKinley**	**4.46**	**25**	IAML			07 27 59.5
	comp=E,99nm,0.5s						
MCK				IAML			07 28 19.6
	comp=N,94nm,0.8s						
MCK	**McKinley**	**4.46**	**25**	P		**Pn**	**07 27 06.2 +0.2**
	baz=208,SNR=48						
HMT	**Hamilton**	**4.47**	**79**			**Pn**	**07 27 06.0 -0.1**
HMT				IAML			07 27 57.4
	comp=N,309nm,0.4s						
J20K	**Nowinta River**	**4.47**	**354**			**Pn**	**07 27 06.2 +0.1**
J20K	**Nowinta River**	**4.47**	**354**	P		**Pn**	**07 27 06.2 +0.1**
	baz=174						
BPAW	**Bear Paw Mtn.**	**4.48**	**12**			**Pn**	**07 27 05.6 -0.6**
BPAW	**Bear Paw Mtn.**	**4.48**	**12**	P		**Pn**	**07 27 05.7 -0.6**
	baz=194,SNR=34						
N25K	**Chitina, Valde**	**4.58**	**62**			**Pn**	**07 27 07.0 -0.6**
N25K	**Chitina, Valde**	**4.58**	**62**	P		**Pn**	**07 27 07.0 -0.6**
	baz=250,SNR=47						
NICHA	**Nichawak Mount**	**4.61**	**80**			**Pn**	**07 27 07.8 -0.2**
HARP	**HAARP**	**4.69**	**52**			**Pn**	**07 27 08.8 -0.2**
HARP	**HAARP**	**4.69**	**52**	P		**Pn**	**07 27 08.7 -0.3**
	baz=239						
BWN	**Browne**	**4.76**	**20**			**Pn**	**07 27 10.5 +0.5**
BWN	**Browne**	**4.76**	**20**	IAML			07 28 39.5
	comp=E,131nm,1.1s						
BWN				IAML			07 28 44.1
	comp=N,166nm,1.0s						
GLB	**Gilahina Butte**	**4.89**	**66**			**Pn**	**07 27 11.0 -0.7**
GLB	**Gilahina Butte**	**4.89**	**66**	IAML			07 28 08.0
	comp=E,167nm,0.7s						
PAX	**Paxson**	**4.89**	**45**			**Pn**	**07 27 11.6 -0.2**
PAX	**Paxson**	**4.89**	**45**	P		**Pn**	**07 27 11.4 -0.4**
	baz=232,SNR=22						
KHIT	**Khitrov Hills**	**4.98**	**78**			**Pn**	**07 27 12.2 -0.8**
VRDI	**Verde Repeater**	**5.00**	**69**			**Pn**	**07 27 12.2 -1.1**
VRDI	**Verde Repeater**	**5.00**	**69**	IAML			07 28 09.2
	comp=E,66nm,0.6s						
VRDI				IAML			07 28 10.2
	comp=N,118nm,0.6s						
PS10	**TAPS Pump St10**	**5.09**	**40**			**Pn**	**07 27 15.2 +0.8**
WAX	**Waxell Ridge**	**5.18**	**78**			**Pn**	**07 27 15.2 -0.4**
NEA2	**Nenana**	**5.22**	**19**			**Pn**	**07 27 15.7 -0.4**
NEA2	**Nenana**	**5.22**	**19**	P		**Pn**	**07 27 15.6 -0.4**
	baz=203,SNR=34						
WRH	**Wood River Hil**	**5.29**	**24**			**Pn**	**07 27 16.5 -0.6**
WRH	**Wood River Hil**	**5.29**	**24**	IAML			07 28 18.5
	comp=E,50nm,0.7s						
GCSA	**Galena City Sc**	**5.32**	**342**			**Pn**	**07 27 17.2 -0.2**
GCSA	**Galena City Sc**	**5.32**	**342**	P		**Pn**	**07 27 17.3 -0.2**
	baz=159,SNR=32						
MLY	**Manley**	**5.42**	**11**			**Pn**	**07 27 18.5 -0.4**
MLY	**Manley**	**5.42**	**11**	P		**Pn**	**07 27 18.3 -0.5**
	baz=193						
ISLE	**Juniper Island**	**5.44**	**76**			**Pn**	**07 27 19.4 +0.1**
KIAG	**Kiagna River**	**5.47**	**73**			**Pn**	**07 27 19.1 -0.6**
I21K	**Tanana**	**5.48**	**5**			**Pn**	**07 27 19.3 -0.3**
I21K	**Tanana**	**5.48**	**5**	P		**Pn**	**07 27 19.4 -0.3**
	baz=186						
BALM	**Baldy**	**5.49**	**72**			**Pn**	**07 27 19.0 -0.9**
HDA	**Harding Lake**	**5.50**	**29**			**Pn**	**07 27 19.3 -0.6**
HDA	**Harding Lake**	**5.50**	**29**	P		**Pn**	**07 27 19.5 -0.4**
	baz=215,SNR=32						
CCB	**Clear Creek Bu**	**5.51**	**24**			**Pn**	**07 27 18.8 -1.2**
MENT	**Mentasta**	**5.53**	**51**			**Pn**	**07 27 20.6 +0.2**
BAGL	**Bagley Icefiel**	**5.56**	**78**			**Pn**	**07 27 20.6 -0.1**
M26K	**Nabesna, AK**	**5.58**	**57**			**Pn**	**07 27 21.1 0.0**
M26K	**Nabesna, AK**	**5.58**	**57**	P		**Pn**	**07 27 20.7 -0.4**
	baz=246						
RIDG	**Independent Ri**	**5.61**	**41**			**Pn**	**07 27 21.6 +0.2**
RIDG	**Independent Ri**	**5.61**	**41**	P		**Pn**	**07 27 20.9 -0.5**
	baz=228,SNR=12						
MESA	**MESA**	**5.62**	**81**			**Pn**	**07 27 21.4 -0.4**
MESA	**MESA**	**5.62**	**81**	P		**Pn**	**07 27 21.9 +0.2**
	baz=270,SNR=7.7						
I23K	**Minto, Yukon-K**	**5.69**	**16**			**Pn**	**07 27 22.1 -0.4**
I23K	**Minto, Yukon-K**	**5.69**	**16**	P		**Pn**	**07 27 22.1 -0.4**
	baz=200,SNR=63						
TCOL	**CIGO, UAF Yank**	**5.70**	**23**			**Pn**	**07 27 22.2 -0.3**
TCOL	**CIGO, UAF Yank**	**5.70**	**23**	P		**Pn**	**07 27 22.1 -0.4**
	baz=208,SNR=31						
COLA	**College**	**5.70**	**23**			**Pn**	**07 27 22.1 -0.4**
COLA	**College**	**5.70**	**23**	P		**Pn**	**07 27 22.2 -0.4**
	baz=208						
MDM	**Murphy Dome**	**5.70**	**21**			**Pn**	**07 27 21.7 -1.0**
YAH	**Yahtse**	**5.72**	**79**			**Pn**	**07 27 23.5 +0.3**
L26K	**Log Cabin Wild**	**5.72**	**51**			**Pn**	**07 27 23.1 +0.1**
L26K	**Log Cabin Wild**	**5.72**	**51**	P		**Pn**	**07 27 23.2 +0.3**
	baz=239,SNR=6.9						
DOT	**Dot Lake**	**5.81**	**44**			**Pn**	**07 27 24.2 0.0**
IL31		**5.82**	**27**			**Pn**	**07 27 23.2 -0.9**
ILAR	**Eielson Array**	**5.82**	**27**	P		**Pn**	**07 27 23.4 -0.8**
	comp=E,13nm,0.3s,baz=215,slow=13,SNR=478						
ILAR				S		**Sn**	**07 28 24.4 -5.1**
	comp=E,5.4nm,0.3s,baz=229,slow=13,SNR=4.8						
ILAR	**Eielson Array**	**5.82**	**27**	Pn		**Pn**	**07 27 23.6 -0.6**
BARN	**Barnard Glacie**	**5.82**	**72**			**Pn**	**07 27 24.6 +0.1**
SDPT	**Sand Point**	**5.93**	**225**			**Pn**	**07 27 24.5 -1.3**
H21K	**Melozitna Rive**	**5.94**	**1**			**Pn**	**07 27 25.8 0.0**
H21K	**Melozitna Rive**	**5.94**	**1**	P		**Pn**	**07 27 25.9 0.0**
	baz=182						
POKR	**Poker Plat Res**	**6.00**	**24**			**Pn**	**07 27 26.2 -0.3**
POKR	**Poker Plat Res**	**6.00**	**24**	P		**Pn**	**07 27 26.3 -0.3**
	baz=209,SNR=22						
PS07	**TAPS Pump Stn7**	**6.01**	**20**			**Pn**	**07 27 26.7 -0.1**
TABL	**Table Mountain**	**6.03**	**78**			**Pn**	**07 27 27.0 -0.3**
M27K	**Edge Creek, AK**	**6.05**	**60**			**Pn**	**07 27 28.2 +0.7**
M27K	**Edge Creek, AK**	**6.05**	**60**	P		**Pn**	**07 27 28.3 +0.8**
	baz=249						
SCRK	**Sand Creek**	**6.05**	**42**			**Pn**	**07 27 26.6 -0.8**
SCRK	**Sand Creek**	**6.05**	**42**	P		**Pn**	**07 27 26.7 -0.8**
	baz=230,SNR=16						
IM03		**6.27**	**358**			**Pn**	**07 27 30.9 +0.6**
IMAR	**Indian Mountai**	**6.27**	**358**	Pn		**Pn**	**07 27 30.3 0.0**
PS06	**TAPS Pump Stn6**	**6.32**	**13**			**Pn**	**07 27 31.2 +0.2**
YUK2	**White River**	**6.34**	**66**			**Pn**	**07 27 31.7 +0.2**
L27K	**Beaver Creek,**	**6.35**	**54**			**Pn**	**07 27 31.3 -0.2**
L27K	**Beaver Creek,**	**6.35**	**54**	P		**Pn**	**07 27 31.1 -0.4**
	baz=243						
BC03		**6.37**	**54**			**Pn**	**07 27 31.5 -0.2**
BCAR	**Beaver Creek A**	**6.37**	**54**	Pn		**Pn**	**07 27 32.6 +0.9**
PCA	**Pinnacle**	**6.47**	**81**			**Pn**	**07 27 33.4 +0.3**
PINM	**Pinnacle**	**6.47**	**81**	P		**Pn**	**07 27 33.6 +0.5**
	baz=272,SNR=6.4						
BVCY	**Beaver Creek**	**6.51**	**61**			**Pn**	**07 27 34.0 +0.3**
BVCY	**Beaver Creek**	**6.51**	**61**	P		**Pn**	**07 27 34.2 +0.5**
	baz=251,SNR=13						
YUK3	**Moose Creek**	**6.52**	**66**			**Pn**	**07 27 33.9 0.0**
YUK3	**Moose Creek**	**6.52**	**66**	P		**Pn**	**07 27 34.6 +0.7**
	baz=257,SNR=17						
H24K	**Noodor Dome**	**6.56**	**19**			**Pn**	**07 27 33.6 -0.7**
H24K	**Noodor Dome**	**6.56**	**19**	P		**Pn**	**07 27 33.7 -0.7**
	baz=204						
PRP	**Porcupine Dome**	**6.76**	**28**			**Pn**	**07 27 36.5 -0.6**
PRP	**Porcupine Dome**	**6.76**	**28**	P		**Pn**	**07 27 36.6 -0.5**
	baz=215,SNR=49						
BCPM	**Bancas Point**	**6.79**	**82**			**Pn**	**07 27 37.7 +0.3**
PNL	**Peninsula**	**6.94**	**85**			**Pn**	**07 27 39.4 0.0**
PNL	**Peninsula**	**6.94**	**85**	P		**Pn**	**07 27 39.2 -0.2**
	baz=276,SNR=18						
PS05	**TAPS Pump Stn5**	**7.18**	**8**			**Pn**	**07 27 42.4 -0.2**
YUK4	**Talbot Arm**	**7.31**	**71**	P		**Pn**	**07 27 45.4 +0.9**
	baz=263						
YUK6	**Outpost Mounta**	**7.41**	**74**			**Pn**	**07 27 46.7 +0.7**
YUK6	**Outpost Mounta**	**7.41**	**74**	P		**Pn**	**07 27 46.5 +0.5**
	baz=267						
EGAK	**Eagle**	**7.51**	**43**			**Pn**	**07 27 46.3 -0.8**
EGAK	**Eagle**	**7.51**	**43**	P		**Pn**	**07 27 46.4 -0.8**
	baz=233,SNR=6.0						
YUK7	**Dusty Glacier**	**7.51**	**78**			**Pn**	**07 27 47.8 +0.5**
COLD	**Coldfoot**	**7.62**	**9**			**Pn**	**07 27 47.9 -0.7**
COLD	**Coldfoot**	**7.62**	**9**	P		**Pn**	**07 27 48.3 -0.3**
	baz=191,SNR=22						
ISLZ	**Isanotski Laza**	**7.64**	**233**			**Pn**	**07 27 49.2 +0.3**
YUK5	**Granite Creek**	**7.67**	**73**			**Pn**	**07 27 50.2 +0.8**
FYU	**Fort Yukon**	**7.71**	**24**			**Pn**	**07 27 49.0 -0.8**
HYT	**Haines Junctio**	**7.83**	**75**			**Pn**	**07 27 52.3 +0.8**
HYT	**Haines Junctio**	**7.83**	**75**	P		**Pn**	**07 27 51.9 +0.4**
	baz=269,SNR=7.0						
M30M	**Minto, Yukon**	**8.37**	**63**			**Pn**	**07 27 59.1 +0.2**
M30M	**Minto, Yukon**	**8.37**	**63**	P		**Pn**	**07 27 59.0 +0.1**
	baz=257						
BM03	**Burnt Mountain**	**8.57**	**23**			**Pn**	**07 27 59.2 -2.3**
BMAR	**Burnt Mountain**	**8.59**	**23**			**Pn**	**07 28 00.3 -1.4**
N31M	**Braeburn, Yuko**	**8.69**	**71**			**Pn**	**07 28 03.7 +0.5**
N31M	**Braeburn, Yuko**	**8.69**	**71**	P		**Pn**	**07 28 03.6 +0.5**
	baz=266,SNR=9.2						
SKAG	**Skagway**	**9.02**	**84**	Pn		**Pn**	**07 28 08.5 +1.0**
SKAG	**Skagway**	**9.02**	**84**	P		**Pn**	**07 28 07.9 +0.4**
	baz=279,SNR=14						
TOLK	**Toolik Lake Re**	**9.06**	**8**			**Pn**	**07 28 08.4 +0.3**
TOLK	**Toolik Lake Re**	**9.06**	**8**	P		**Pn**	**07 28 07.7 -0.4**
	baz=192,SNR=18						
M31M	**Drury Creek, Y**	**9.42**	**67**			**Pn**	**07 28 13.5 +0.6**
M31M	**Drury Creek, Y**	**9.42**	**67**	P		**Pn**	**07 28 13.4 +0.4**
	baz=263,SNR=9.7						
JIS	**Juneau Island**	**9.76**	**91**			**Pn**	**07 28 18.9 +1.3**
FARO	**Faro, Yukon**	**9.90**	**67**	P		**Pn**	**07 28 19.8 +0.3**
	baz=264,SNR=8.8						
P33M	**Teslin, Yukon**	**10.17**	**79**	Pn		**Pn**	**07 28 24.2 +1.0**
P33M	**Teslin, Yukon**	**10.17**	**79**	P		**Pn**	**07 28 23.7 +0.5**
	baz=276,SNR=6.8						
DLBC	**Dease Lake**	**11.92**	**86**	P		**Pn**	**07 28 47.3 +0.6**
	comp=E,3.7nm,0.3s,baz=278,slow=6.5,SNR=18						
INK	**Inuvik**	**12.07**	**37**	P		**Pn**	**07 28 47.7 -0.8**
	comp=E,0.4nm,0.3s,baz=242,slow=21,SNR=18						
INK	**Inuvik**	**12.07**	**37**			**Pn**	**07 28 48.1 -0.4**
INK	**Inuvik**	**12.07**	**37**	P		**Pn**	**07 28 47.8 -0.7**
	baz=234						
C36M	**Paulatuk**	**15.57**	**40**	P		**Pn**	**07 29 31.0 -2.3**
	baz=246						
A36M	**Sachs Harbour**	**16.50**	**31**			**Pn**	**07 29 44.3 -0.6**
A36M				IAmb		IAmb	07 29 50.7
	comp=Z,12nm,0.7s						
A36M	**Sachs Harbour**	**16.50**	**31**	P		**Pn**	**07 29 43.8 -1.1**
	baz=236,SNR=15						
YKA	**Yellowknife Ar**	**18.61**	**65**	P		**Pn**	**07 30 10.1 -0.2**
	comp=Z,0.5nm,0.3s,baz=277,slow=9.9,SNR=60						
YKA				PcP		**PcP**	**07 34 32.6 +0.2**
	comp=Z,0.0nm,0.3s,baz=296,slow=1.8,SNR=4.2						
YKA	**Yellowknife Ar**	**18.61**	**65**	P		**P**	**07 30 08.7 0.0**
RES	**Resolute Bay**	**25.55**	**32**	P		**P**	**07 31 18.2 -0.1**
	comp=Z,0.6nm,0.6s,baz=269,slow=12,SNR=2.1						
RES	**Resolute Bay**	**25.55**	**32**	P		**P**	**07 31 18.7 +0.4**
RES				IAmb		IAmb	07 31 37.0
	comp=Z,0.1nm,0.1s						
SCHQ	**Schefferville**	**43.75**	**57**	P		**P**	**07 33 54.7 +0.4**
	comp=Z,3.3nm,0.8s,baz=343,slow=9.4,SNR=7.9						
SCHQ	**Schefferville**	**43.75**	**57**	IAmb		IAmb	07 34 15.3
	comp=Z,17nm,1.5s						
KSRS	**Korea Array**	**53.18**	**283**	P		**P**	**07 35 08.0 +1.2**
	comp=Z,2.1nm,0.5s,baz=36,slow=7.6,SNR=7.4						
SONM	**Songino Array**	**54.90**	**306**	P		**P**	**07 35 20.6 +1.4**
	comp=Z,2.6nm,0.6s,baz=43,slow=7.2,SNR=20						
ZALV	**Zalesovo Beam**	**57.55**	**324**	P		**P**	**07 35 38.4 +0.6**
	comp=Z,3.9nm,0.5s,baz=32,slow=6.5,SNR=14						
HHC	**Hu-ho-hao-te**	**58.25**	**297**	*e*P		**P**	**07 35 43.5 +0.4**
HHC				pmax		pmax	
	comp=Z,10.0nm,1.0s						
HHC				pmax		pmax	
	comp=Z,120nm,6.7s						
BVAR	**Borovoye Array**	**62.27**	**332**	P		**P**	**07 36 10.5 +0.5**
	comp=Z,1.0nm,0.5s,baz=50,slow=9.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**62.32**	**326**	P		**P**	**07 36 10.6 +0.2**
	comp=Z,0.8nm,0.5s,baz=28,slow=6.8,SNR=4.3						
MKAR	**Makanchi Array**	**64.60**	**321**	P		**P**	**07 36 25.4 -0.1**
	comp=Z,0.3nm,0.5s,baz=32,slow=7.3,SNR=4.0						

*NNC **28** 07:29:59.0±0.6, 50°.02N×78°.69E, h0km, mb3.4, mpv3.1,*
Error ellipse: s-maj=7.0km s-min=3.1km az=71.0,
Suspected Mining explosion.
*IDC **28** 07:29:59.8±1.0, 50°.03N×78°.75E, h0km, mb1 2.9/3,*
mb1mx2.5/51, mbtmp2.9/3, ML2.6/3, Error ellipse:
s-maj=9.8km s-min=7.1km az=50.0

ISC 28 07:29:59.1±0.8, 49°.94N±0°.03×78°.60E±0°.04, h0km, n17,
σ1§86/21, 4C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.69**	**356**	Pg		**Pg**	**07 30 11.1 -1.3**
	3.0nm,0.3s,baz=167,slow=18,SNR=131						
KURBB				Lg		Lg	07 30 20.3
	8.2nm,0.3s,baz=170,slow=34,SNR=48						
KURBB	**Kurchatov Arra**	**0.69**	**356**	⇑P		**Pg**	**07 30 10.8 -1.5**
	26nm,0.4s						
KURBB				⇑S		**Sg**	**07 30 20.1 -1.2**
	137nm,0.5s						
KURK	**Kurchatov**	**0.78**	**1**	⇓P		**Pg**	**07 30 12.0 -2.1**
	10nm,0.4s						
KURK				⇑S		**Sg**	**07 30 22.6 -1.6**
	23nm,0.7s						
SEM	**Semipalatinsk**	**1.16**	**65**	P		**Pg**	**07 30 19.8 -1.6**
	9.0nm,0.2s						
SEM				S		**Sg**	**07 30 34.5 -2.0**
	68nm,0.5s						
BRZS	**Berezniki**	**3.83**	**273**	Pg		**Pg**	**07 31 10.6 -1.8**
	4.4nm,0.4s						
BRZS				Lg		Lg	07 32 01.7
	3.2nm,0.3s						
MAKZ	**Makanchi**	**3.85**	**143**	⇑Pn		**Pn**	**07 31 01.5 +1.8**
	0.3nm,0.3s						
MAKZ				⇓Pg		**Pb**	**07 31 08.0 0.0**
	1.7nm,0.6s						
MAKZ				⇓Lg		Lg	07 31 59.9
	8.9nm,0.7s						
MK31	**Makanchi Array**	**3.99**	**141**	⇓Pn		**Pn**	**07 31 02.8 +1.2**
	0.3nm,0.3s,baz=322,slow=10,SNR=25						
MK31				⇓Pg		**Pb**	**07 31 10.5 +0.2**
	1.2nm,0.4s,baz=323,slow=14,SNR=18						
MK31				⇓Lg		Lg	07 32 05.1
	11nm,0.6s,baz=328,slow=26,SNR=19						
MKAR	**Makanchi Array**	**3.99**	**141**	Pn		**Pn**	**07 31 03.0 +1.4**
	0.4nm,0.3s,baz=328,slow=11,SNR=25						
MKAR				Lg		Lg	07 32 04.1
	2.3nm,0.3s,baz=327,slow=25,SNR=14						
OTUK	**Ortayu**	**4.45**	**250**	Pn		**Pn**	**07 31 10.3 +2.4**
OTUK				Lg		Lg	07 32 23.4
KAPS	**Kapalarasan**	**4.68**	**173**	Pg		**Pg**	**07 31 26.4 -2.4**
	2.0nm,0.6s						
KAPS				Lg		Lg	07 32 29.4
	11nm,0.5s						
ZSN	**Zaisan**	**4.84**	**119**	Pg		**Pb**	**07 31 27.6 +2.8**
	3.5nm,0.3s						
ZSN				Lg		Lg	07 32 31.2
	5.7nm,0.4s						
ZALV	**Zalesovo Beam**	**5.56**	**41**	Pn		**Pn**	**07 31 23.7 +0.6**
	1.0nm,0.3s,baz=233,slow=14,SNR=14						
ZALV				Lg		Lg	07 32 50.8
	0.5nm,0.3s,baz=225,slow=27,SNR=5.3						
I46RU	**ZALESOVO INFRA**	**5.56**	**41**	*i*			08 04 00.0
	baz=222,slow=338,SNR=2.5						
DJR	**Jarkent**	**5.67**	**171**	Pg		**Pg**	**07 31 46.5 -1.1**
	1.9nm,0.4s						
DJR				Lg		Lg	07 33 04.2
	4.3nm,0.6s						
ARXS	**Arharly**	**5.75**	**186**	Pg		**Pg**	**07 31 46.1 -3.1**
	1.6nm,0.3s						
ARXS				Lg		Lg	07 33 02.6
	9.9nm,0.5s						
BVAR	**Borovoye Array**	**5.99**	**304**	Pn		**Pn**	**07 31 29.1 +0.1**
	0.2nm,0.3s,baz=117,slow=12,SNR=1.8						
BVAR				Sn		**Sn**	**07 32 39.9 +1.6**
	0.9nm,0.3s,baz=102,slow=29,SNR=13						
BVAR				Lg		Lg	07 33 11.1
	0.7nm,0.3s,baz=104,slow=34,SNR=3.8						
AAK	**Ala-Archa**	**7.83**	**203**	Lg		Lg	07 34 12.6
	0.2nm,0.3s,baz=256,slow=21,SNR=3.9						

*ROM **28** 07:44:36.7±0.4, 42°.55N±0°.02×15°.38E±0°.02, h6km±2km,*
ML2.5/5, Error ellipse: s-maj=1.9km s-min=1.4km az=51.0

ISC 28 07:44:37.0±1.1, 42°.46N±0°.02×15°.29E±0°.02, h6km±10km,
n47, σ1§60/65, 1C-3D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.78**	**154**	P		**Pg**	**07 44 52.6 +0.6**
CIGN	**Sant'Elia a Pi**	**0.86**	**200**	P		**Pn**	**07 44 55.9 +0.2**
MSAG	**Monte S. Angel**	**0.88**	**148**	P		**Pb**	**07 44 54.8 0.0**
MSAG				S		**Sb**	**07 45 07.9 +1.1**
MSAG				AML		AML	
	comp=N,850μm,0.3s						
MSAG				AML		AML	
	comp=E,514μm,1.1s						
TRIV	**Trivento**	**0.89**	**219**	P		**Pg**	**07 44 54.3 +0.3**
LPEL	**Lama dei Pelig**	**0.92**	**244**	P		**Pg**	**07 44 55.4 +0.7**
LPEL				AML		AML	
	comp=N,330μm,0.2s						
LPEL				AML		AML	
	comp=E,318μm,0.3s						
BSSO	**Busso**	**1.05**	**210**	P		**Pb**	**07 44 58.2 +0.4**
VCEL	**Villa Celiera**	**1.08**	**267**	P		**Pg**	**07 44 58.0 +0.3**
VCEL				S		**Sn**	**07 45 14.0 -0.1**
VCEL				AML		AML	
	comp=E,266μm,1.3s						
VCEL				AML		AML	
	comp=N,228μm,0.7s						
VCEL				AML		AML	
	comp=N,227μm,0.7s						
MOCO	**Biccari - m.te**	**1.09**	**185**	P		**Pg**	**07 44 58.5 +0.5**
HVAR	**Hvar**	**1.11**	**50**	*e*Pn		**Pn**	**07 45 00.3 +1.1**
HVAR				Sg		**Sn**	**07 45 17.0 +2.1**
MIDA	**Miranda**	**1.13**	**224**	P		**Pg**	**07 44 57.9 -0.8**
T0110	**Collepietro**	**1.15**	**259**	P		**Pb**	**07 44 59.6 +0.3**
T0110				AML		AML	
	comp=E,224μm,0.3s						
T0110				AML		AML	
	comp=N,156μm,0.6s						
T0110				AML		AML	
	comp=N,156μm,0.6s						
T0110				AML		AML	
	comp=E,223μm,0.3s						
LSTV	**Lastovo**	**1.22**	**75**	*e*Pn		**Pn**	**07 45 01.8 +1.1**
LSTV				Sn		**Sn**	**07 45 20.3 +2.8**
ZIRJ	**Zirje**	**1.22**	**12**	*e*Pn		**Pn**	**07 45 01.6 +1.0**
ZIRJ				Sn		**Sn**	**07 45 19.5 +2.0**
TERO	**Teramo**	**1.26**	**278**	P		**Pg**	**07 45 00.6 -0.6**
GIGS	**Gran Sasso**	**1.28**	**270**	P		**Pn**	**07 45 01.2 -0.3**
GIGS				S		**Sn**	**07 45 19.6 +0.6**
OFFI	**Offida**	**1.28**	**292**	P		**Pb**	**07 45 01.7 +0.2**
FAGN	**Fagnano**	**1.28**	**262**	P		**Pb**	**07 45 01.8 +0.2**
FAGN				S		**Sn**	**07 45 20.3 +1.1**
CERA	**Filignano**	**1.28**	**228**	P		**Pg**	**07 45 03.1 +1.4**
VAGA	**Valle Agricola**	**1.31**	**217**	P		**Pg**	**07 45 04.1 +1.9**
VAGA				S		**Sn**	**07 45 23.0 +3.1**
VVLD	**Villa Vallelon**	**1.38**	**245**	AML		AML	
	comp=E,68μm,1.0s						
VVLD				AML		AML	
	comp=E,68μm,1.0s						
VVLD				AML		AML	
	comp=N,57μm,0.6s						
CAMP	**Campotosto**	**1.40**	**274**	P		**Pg**	**07 45 04.2 +0.4**
CAMP				S		**Sn**	**07 45 23.5 +1.5**
MORI	**Morici**	**1.44**	**12**	*e*Pn		**Pg**	**07 45 04.7 +0.1**
MORI				Sn		**Sg**	**07 45 25.1 +1.9**
AQT1	**Arquata del Tr**	**1.51**	**283**	P		**Pb**	**07 45 05.6 +0.1**
AQT1				S		**Sg**	**07 45 26.4 +0.9**
MAKA	**Makarska**	**1.51**	**56**	*e*Pn		**Pg**	**07 45 05.3 -0.8**
MAKA				Sn		**Sg**	**07 45 26.2 +0.6**
DUGI	**Dugi Otok**	**1.54**	**354**	*e*Pn		**Pg**	**07 45 06.3 -0.2**
DUGI				Sn		**Sg**	**07 45 26.4 -0.1**
RM33	**Pellescritta (**	**1.54**	**272**	P		**Pb**	**07 45 06.2 +0.1**
RM33				S		**Sg**	**07 45 27.0 +0

VLS					AML	AML	07 49 56.9	
	comp=N,2126μm,0.2s							
VLS					AML	AML	07 49 56.9	
	comp=E,2961μm,0.1s							
FSK	**Fiskardo**	**0.40**	**37**	P		**Pn**	**07 49 54.9**	**+0.1**
FSK				S		**Sb**	**07 50 00.5**	**+0.7**
	comp=E,432nm,0.1s							
FSK	**Fiskardo**	**0.40**	**37**	P		**Pn**	**07 49 54.9**	**+0.1**
FSK				S		**Sn**	**07 50 01.2**	**-0.2**
FSK				AML		AML	07 50 01.5	
	comp=N,348μm,0.1s							
FSK				AML		AML	07 50 01.8	
	comp=E,1350μm,0.1s							
EVGI	**Lefkada island**	**0.58**	**33**	P		**Pn**	**07 49 57.7**	**+0.5**
DRAG	**Dragano-Lefkad**	**0.60**	**25**	P		**Pn**	**07 49 59.2**	**+1.7**
ZIRJ	**Zirje**	**6.52**	**329**	*e*Pn		**Pn**	**07 51 20.4**	**+1.5**
ZIRJ				Sn		**Sn**	**07 52 29.9**	**-2.3**
KIJV	**Kijevo**	**6.54**	**335**	*e*Pn		**Pn**	**07 51 20.7**	**+1.5**
KIJV				Sn		**Sn**	**07 52 30.2**	**-2.5**

*CNRM **28** 07:51:56.1, 35°.57N×3°.71W, h10km, ml3.0*
ISC 28 07:51:56.0±1.6, 35°.55N±0°.06×3°.70W±0°.04, h9km±11km, n9, σ0°66/16, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39**	**210**	P	**Pg**	**07 52 03.6**	**0.0**
PALE				S	**Sg**	**07 52 08.7**	**0.0**
CHAS	**Isla Isabel II**	**1.10**	**109**	*e*P	**Pb**	**07 52 17.2**	**0.0**
CHAS				*e*S	**Sg**	**07 52 31.5**	**0.0**
CHEFC	**Chefchaouen**	**1.41**	**252**	P	**Pn**	**07 52 22.2**	**+0.3**
CHEFC				S	**Sn**	**07 52 40.1**	**-0.5**
JBK	**JBK**	**1.53**	**142**	P	**Pn**	**07 52 23.1**	**-0.5**
JBK				S	**Sn**	**07 52 43.9**	**+0.1**
SICH	**Sidi Chahed**	**1.96**	**223**	P	**Pn**	**07 52 30.2**	**+0.8**
SICH				S	**Sg**	**07 52 58.3**	**-0.8**
LCRM	**LCR**	**2.09**	**207**	P	**Pb**	**07 52 33.9**	**-0.3**
LCRM				S	**Sb**	**07 53 00.2**	**-0.1**
MD31	**MD31**	**2.82**	**198**	P	**Pn**	**07 52 42.3**	**+1.0**
MDT	**Midelt**	**2.83**	**196**	P	**Pn**	**07 52 42.3**	**+0.9**
PVAQ	**Vaqueiros**	**3.73**	**301**	P	**Pn**	**07 52 54.4**	**+0.8**
PVAQ				S	**Sn**	**07 53 36.8**	**-0.8**

*CNRM **28** 08:01:18.1, 35°.55N×3°.68W, h16km, ml2.5*
ISC 28 08:01:18.0±1.7, 35°.54N±0°.07×3°.67W±0°.04, h15km±10km, n7, σ0°98/14, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39**	**215**	P	**Pg**	**08 01 25.8**	**-0.1**
PALE				S	**Sg**	**08 01 31.0**	**-0.2**
CHAS	**Isla Isabel II**	**1.07**	**109**	*e*P	**Pn**	**08 01 38.6**	**+0.2**
CHAS				*e*S	**Sb**	**08 01 52.5**	**+0.5**
CHEFC	**Chefchaouen**	**1.43**	**253**	P	**Pn**	**08 01 43.5**	**-0.1**
CHEFC				S	**Sn**	**08 02 02.0**	**-0.2**
JBK	**JBK**	**1.50**	**143**	P	**Pn**	**08 01 44.5**	**-0.1**
JBK				S	**Sn**	**08 02 03.5**	**-0.5**
SICH	**Sidi Chahed**	**1.97**	**224**	P	**Pb**	**08 01 53.4**	**-0.2**
SICH				S	**Sb**	**08 02 18.0**	**0.0**
MD31	**MD31**	**2.81**	**199**	P	**Pn**	**08 02 03.5**	**+1.0**
MD31				S	**Sn**	**08 02 36.5**	**+0.3**
PVAQ	**Vaqueiros**	**3.76**	**301**	P	**Pn**	**08 02 17.2**	**+1.8**
PVAQ				S	**Sn**	**08 02 57.2**	**-2.2**

*CNRM **28** 08:03:49.0, 35°.57N×3°.67W, h9km, ml2.8*
ISC 28 08:03:49.0±1.7, 35°.57N±0°.06×3°.66W±0°.04, h9km±11km, n7, σ0°63/14, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.42**	**213**	P	**Pg**	**08 03 57.0**	**-0.1**
PALE				S	**Sg**	**08 04 02.2**	**-0.4**
CHAS	**Isla Isabel II**	**1.08**	**110**	*e*P	**Pn**	**08 04 10.1**	**-0.1**
CHAS				*e*S	**Sb**	**08 04 24.3**	**+0.5**
CHEFC	**Chefchaouen**	**1.45**	**252**	P	**Pg**	**08 04 16.8**	**+0.1**
CHEFC				S	**Sg**	**08 04 35.5**	**0.0**
JBK	**JBK**	**1.52**	**143**	P	**Pg**	**08 04 18.2**	**+0.1**
JBK				S	**Sn**	**08 04 35.9**	**-0.6**
SICH	**Sidi Chahed**	**2.00**	**223**	P	**Pn**	**08 04 22.0**	**-0.8**
SICH				S	**Sb**	**08 04 51.5**	**+1.2**
MD31	**MD31**	**2.84**	**199**	P	**Pn**	**08 04 35.1**	**+0.5**
MD31				S	**Sn**	**08 05 08.6**	**-0.3**
PVAQ	**Vaqueiros**	**3.75**	**300**	P	**Pn**	**08 04 47.3**	**+0.4**
PVAQ				S	**Sn**	**08 05 30.3**	**-0.8**

*CNRM **28** 08:07:00.0, 35°.54N×3°.78W, h11km, ml2.8*
ISC 28 08:06:58.1±1.5, 35°.58N±0°.06×3°.70W±0°.04, h7km±11km, n9, σ1°34/18, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.41**	**208**	P	**Pg**	**08 07 05.5**	**-0.6**
PALE				S	**Sg**	**08 07 11.4**	**0.0**
CHAS	**Isla Isabel II**	**1.11**	**110**	*e*P	**Pb**	**08 07 18.9**	**-0.8**
CHAS				*e*S	**Sg**	**08 07 33.0**	**-0.9**
CHEFC	**Chefchaouen**	**1.42**	**251**	P	**Pn**	**08 07 24.5**	**+0.1**
CHEFC				S	**Sg**	**08 07 45.4**	**+1.7**
JBK	**JBK**	**1.55**	**143**	P	**Pg**	**08 07 28.4**	**+0.5**
JBK				S	**Sb**	**08 07 47.4**	**+0.2**
SICH	**Sidi Chahed**	**1.98**	**223**	P	**Pb**	**08 07 33.6**	**-0.8**
SICH				S	**Sb**	**08 07 59.2**	**-0.2**
LCRM	**LCR**	**2.11**	**207**	P	**Pg**	**08 07 38.2**	**-0.4**
LCRM				S	**Sb**	**08 08 02.5**	**-0.9**
MD31	**MD31**	**2.84**	**198**	P	**Pn**	**08 07 45.4**	**+1.4**
MD31				S	**Sn**	**08 08 18.2**	**-0.3**
MDT	**Midelt**	**2.85**	**195**	P	**Pn**	**08 07 45.4**	**+1.2**
MDT				S	**Sn**	**08 08 19.5**	**+0.6**
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	**08 07 58.5**	**+2.6**
PVAQ				S	**Sn**	**08 08 37.2**	**-2.7**

IDC 28 08:26:40.1±2.7, 53°.58N×87°.87E, h0km, mb1 3.1/2, mb1mx3.0/38, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=22.9km s-min=15.5km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**283**	*i*		08 36 51.8	
	baz=98,slow=335,SNR=17						
ZALV	**Zalesovo Beam**	**1.85**	**283**	Pn	Pn	08 27 12.4	-0.6
	1.9nm,0.3s,baz=101,slow=14,SNR=24						
ZALV				Lg	Lg	08 27 38.7	
	3.0nm,0.3s,baz=105,slow=27,SNR=13						
KURBB	**Kurchatov Arra**	**6.47**	**247**	Pn	Pn	08 28 17.1	+0.6
	0.2nm,0.3s,baz=62,slow=14,SNR=5.9						
KURBB				Sn	Sn	08 29 30.9	-0.1
	0.0nm,0.3s,baz=293,slow=39,SNR=1.3						
KURBB				Lg	Lg	08 30 03.7	
	0.1nm,0.3s,baz=63,slow=32,SNR=5.2						
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn	08 28 34.3	+1.2
	0.2nm,0.3s,baz=30,slow=14,SNR=8.6						
MKAR				Sn	Sn	08 30 01.1	+0.3
	0.1nm,0.3s,baz=32,slow=19,SNR=2.8						
MKAR				Lg	Lg	08 30 42.2	
	0.1nm,0.3s,baz=30,slow=32,SNR=3.6						

IDC 28 08:44:59.4±3.3, 54°.55N×86°.26E, h0km, mb1 2.7/2, mb1mx2.7/39, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=23.9km s-min=13.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**235**	*i*		08 51 06.1	
	baz=52,slow=336,SNR=19						
ZALV	**Zalesovo Beam**	**1.04**	**235**	Pg	Pg	08 45 18.5	-0.8
	1.2nm,0.3s,baz=52,slow=17,SNR=11						
ZALV				Lg	Lg	08 45 34.1	
	3.0nm,0.3s,baz=55,slow=27,SNR=16						
KURBB	**Kurchatov Arra**	**6.13**	**233**	Pn	Pn	08 46 32.2	+1.0
	0.1nm,0.3s,baz=49,slow=13,SNR=4.5						
KURBB				Lg	Lg	08 48 14.4	
	0.0nm,0.3s,baz=48,slow=28,SNR=1.5						
MKAR	**Makanchi Array**	**8.16**	**200**	Pn	Pn	08 46 59.8	+0.8
	0.1nm,0.3s,baz=25,slow=14,SNR=1.9						
MKAR				Sn	Sn	08 48 30.7	-1.2
	0.1nm,0.3s,baz=24,slow=29,SNR=4.5						
MKAR				Lg	Lg	08 49 15.1	
	baz=22,slow=32,SNR=1.8						

*IDC **28** 08:55:16.6±1.6, 23°.83S×66°.74W, h192km±14km, mb3.1/4, mb1 3.3/9, mb1mx3.2/28, mbtmp3.7/9, Error ellipse: s-maj=23.0km s-min=19.1km az=159.0*
*GUC **28** 08:55:17.6±0.5, 23°.84S×67°.20W, h240km±7km, ML4.1*
ISC 28 08:55:17.1±1.2, 23°.87S±0°.08×66°.9W±0°.1, h206km±13km, n23, σ0°97/38, mb3.5/4, 10C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.21**	**304**	P	**Pn**	**08 55 59.1**	**+0.5**
	35nm,0.3s,baz=151,slow=5.6,SNR=517						
LVC				S	**S**	**08 56 31.0**	**+0.5**
	37nm,0.3s,baz=254,slow=20,SNR=25						
LVC	**Limon Verde**	**2.21**	**304**	↑*i*P	**Pn**	**08 55 59.2**	**+0.5**
LVC				*i* S	**S**	**08 56 31.3**	**+0.8**
PB15	**IPOC Station P**	**2.43**	**285**	↑*i*P	**Pn**	**08 56 00.9**	**+0.2**
PB15				*i* S	**S**	**08 56 34.0**	**-0.2**
PB06	**IPOC Station P**	**2.69**	**295**	↑*i*P	**Pn**	**08 56 04.0**	**+0.3**
PB06				*i* S	**S**	**08 56 39.5**	**-0.1**
PB06				IAML		08 56 43.0	
	comp=N,536nm,0.2s						
PB09	**IPOC Station P**	**2.97**	**314**	*e*P	**Pn**	**08 56 08.0**	**+1.1**
PB09				*i* S	**S**	**08 56 45.1**	**-0.1**
PB09				IAML		08 56 55.0	
	comp=E,149nm,0.4s						
PB03	**IPOC Station P**	**3.17**	**304**	↑*i*P	**Pn**	**08 56 09.4**	**+0.1**
PB03				*i* S	**S**	**08 56 48.6**	**-0.9**
PB04	**IPOC Station P**	**3.34**	**297**	↑*i*P	**Pn**	**08 56 11.1**	**-0.2**
PB04				*i* S	**S**	**08 56 51.7**	**-1.4**
PB10	**IPOC Station P**	**3.35**	**275**	↑*i*P	**Pn**	**08 56 10.7**	**-0.4**
PB10				*i* S	**S**	**08 56 51.2**	**-1.7**
PB07	**IPOC Station P**	**3.47**	**307**	↑*i*P	**Pn**	**08 56 12.9**	**+0.1**
PB07				*i* S	**S**	**08 56 54.5**	**-1.3**
PB01	**IPOC Station P**	**3.68**	**319**	↑*i*P	**Pn**	**08 56 15.5**	**+0.2**
PB01				*i* S	**S**	**08 56 59.5**	**-0.9**
PB02	**IPOC Station P**	**3.74**	**312**	↑*i*P	**Pn**	**08 56 15.9**	**-0.2**
PB02				*i* S	**S**	**08 57 00.1**	**-1.6**
PB08	**IPOC Station P**	**4.25**	**330**	↑*i*P	**Pn**	**08 56 23.5**	**+0.9**
PB08				*i* S	**S**	**08 57 14.6**	**+1.1**
GO01	**Chusmiza**	**4.68**	**333**	*e*P	**Pn**	**08 56 28.8**	**+0.7**
GO01				*e*S	**S**	**08 57 23.7**	**+0.1**
PB11	**IPOC Station P**	**4.81**	**328**	*e*P	**Pn**	**08 56 28.8**	**-0.7**
PB11				*i* S	**S**	**08 57 24.9**	**-1.2**
LPAZ	**La Paz**	**7.63**	**351**	P	**Pn**	**08 57 06.8**	**+0.7**
	comp=E,0.2nm,0.3s,baz=148,slow=5.8,SNR=9.2						
LPAZ				S	**S**	**08 58 32.4**	**-0.5**
	comp=E,0.1nm,0.3s,baz=332,slow=16,SNR=1.9						
SIV	**San Ignacio**	**9.57**	**36**	P	**Pn**	**08 57 28.5**	**-2.4**
	comp=E,0.2nm,0.3s,baz=213,slow=7.8,SNR=9.5						
PLCA	**Paso Flores**	**17.09**	**189**	P	**Pn**	**08 59 05.3**	**+1.2**
	comp=E,0.1nm,0.3s,baz=14,slow=8.3,SNR=3.4						
BDFB	**Brasilia**	**19.57**	**69**	P	**P**	**08 59 28.6**	**-1.2**
	comp=E,0.7nm,0.3s,baz=236,slow=12,SNR=9.1						
PTGA	**Pitinga**	**23.97**	**17**	P	**P**	**09 00 13.8**	**+0.9**
	comp=E,0.3nm,0.3s,baz=105,slow=20,SNR=1.2						
TXAR	**Lajitas Array**	**63.61**	**324**	P	**P**	**09 05 27.6**	**+1.2**
	comp=E,0.2nm,0.6s,baz=158,slow=7.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.46**	**69**	P	**P**	**09 06 43.5**	**-1.2**
	comp=E,0.6nm,0.5s,baz=259,slow=5.7,SNR=8.5						
YKA	**Yellowknife Ar**	**94.03**	**340**	P	**P**	**09 08 12.2**	**+0.9**
	comp=E,0.2nm,0.5s,baz=135,slow=4.6,SNR=13						
MKAR	**Makanchi Array**	**146.38**	**39**	PKPbc	**PKPab**	**09 14 34.4**	**-0.6**
	comp=E,0.3nm,0.5s,baz=323,slow=2.8,SNR=6.0						

*MOS **28** 08:55:33.3±1.3, 43°.77N×147°.22E, h68km, mb4.5/1, Error ellipse: s-maj=14.2km s-min=12.9km az=32.4*
*JMA **28** 08:55:33.8±0.2, 43°.60N×147°.25E, h33km, M4.0*
*SKHL **28** 08:55:34.3±0.1, 43°.70N×147°.30E, h66km±4km, mb4.8/4*
*IDC **28** 08:55:37.9±4.1, 43°.87N×147°.14E, h88km±33km, mb3.4/11, mb1 3.6/13, mb1mx3.4/42, mbtmp3.7/13, MS2.7/2, Ms1 2.7/2, ms1mx2.4/49, Error ellipse: s-maj=53.2km s-min=19.0km az=171.0*
ISC 28 08:55:32.9±1.2, 43°.65N±0°.07×147°.36E±0°.07, h50km±9km, n54, σ1°04/65, mb3.6/11, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.44**	**301**	↑*i*PN	**Pn**	**08 55 44.0**	**+0.5**
SHO				*e*S	**Sn**	**08 55 50.9**	**-0.2**
SHO				smax	smax		
	comp=N,17μm,0.2s						
SHO				smax	smax		
	comp=E,15μm,0.2s						
SHO	**Shikotan**	**0.44**	**301**	*i* P	**Pn**	**08 55 44.0**	**+0.5**
SHO				AMB	AMB	08 55 44.6	
	comp=E,2μm,0.3s						
SHO				*e*S	**Sn**	**08 55 51.4**	**+0.3**
SHO				A	A	08 55 52.3	
	comp=E,14μm,0.3s						
SHO				A	A	08 55 52.3	
	comp=E,14μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**290**	↓*i*PN	**Pn**	**08 55 52.8**	**+0.2**
YUK				*i* S	**Sn**	**08 56 06.3**	**-1.0**
YUK				pmax	pmax		
	comp=N,202nm,0.2s						
YUK				pmax	pmax		
	comp=E,166nm,0.2s						
YUK				pmax	pmax		
	comp=Z,722nm,0.2s						
YUK				smax	smax		
	comp=E,4μm,0.3s						
YUK				smax	smax		
	comp=N,4μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**290**	*i* P	**Pn**	**08 55 52.8**	**+0.2**
YUK				AMB	AMB	08 55 53.0	
	comp=N,470nm,0.2s						
YUK				*i* S	**Sn**	**08 56 06.7**	**-0.6**
YUK				A	A	08 56 06.9	
	comp=N,3μm,0.3s						
YUK				A	A	08 56 06.9	
	comp=N,4μm,0.3s						
GRPR	**Tuman**	**1.20**	**287**	*e*PN	**Pn**	**08 55 52.8**	**-0.5**
GRPR				*e*S	**Sn**	**08 56 07.6**	**-0.9**
GRPR				smax	smax		
	comp=E,2μm,0.2s						
GRPR				smax	smax		
	comp=N,3μm,0.3s						
GRPR	**Tuman**	**1.20**	**287**	*e*P	**Pn**	**08 55 53.2**	**-0.1**
GRPR				*e*S	**Sn**	**08 56 07.3**	**-1.2**
GRPR				A	A	08 56 09.4	
	comp=N,3μm,0.3s						
GRPR				A	A	08 56 09.4	
	comp=N,2μm,0.3s						
NEM2	**Nemuro 2**	**1.21**	**257**	P	**Pn**	**08 55 53.8**	**+0.4**
NEM2				*e*S	**Sn**	**08 56 08.2**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.22**	**257**	↓*i*PN	**Pn**	**08 55 53.8**	**+0.3**
NMR				*e*S	**Sn**	**08 56 08.3**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.22**	**257**	*i* P	**Pn**	**08 55 53.8**	**+0.3**
NMR				*e*S	**Sn**	**08 56 08.3**	**-0.6**
RUSJ	**Misakicho**	**1.59**	**287**	*i* PN	**Pn**	**08 56 00.2**	**+1.5**
RUSJ				*e*S	**Sn**	**08 56 19.2**	**+1.1**
KUR	**Kuril'sk**	**1.63**	**13**	*e*PN	**Pn**	**08 56 00.4**	**+1.3**
KUR				*e*S	**Sn**	**08 56 18.7**	**-0.2**
KUR				pmax	pmax		
	comp=Z,157nm,0.4s						
KUR				smax	smax		
	comp=E,480nm,0.4s						
KUR				smax	smax		
	comp=N,432nm,0.2s						
KUR	**Kuril'sk**	**1.63**	**13**	*e*P	**Pn**	**08 55 59.6**	**+0.5**
KUR				AMB	AMB	08 56 05.9	
	comp=N,160nm,0.3s						
KUR				*e*S	**Sn**	**08 56 18.9**	**0.0**
KUR				A	A	08 56 20.6	
	comp=N,450nm,0.3s						
KUR				A	A	08 56 20.6	
	comp=N,490nm,0.3s						
JRA	**Rausu**	**1.64**	**281**	P	**Pn**	**08 56 00.2**	**+0.8**
JRA				*e*S	**Sn**	**08 56 19.6**	**+0.3**
JKHN	**Kushirohamanak**	**1.70**	**251**	P	**Pn**	**08 56 01.0**	**+0.9**
JKHN				*e*S	**Sn**	**08 56 21.0**	**+0.4**
JNSB	**Nemuroshibetsu**	**1.71**	**275**	P	**Pn**	**08 56 01.5**	**+1.2**
JNSB				*e*S	**Sn**	**08 56 21.8**	**+0.8**
JNK	**Nakash**	**1.92**	**269**	P	**Pn**	**08 56 03.7**	**+0.6**
JNK				*e*S	**Sn**	**08 56 26.4**	**+0.4**
AKK	**Akkeshi**	**1.94**	**252**	*e*P	**Pn**	**08 56 04.1**	**+0.7**
AKK				*e*S	**Sn**	**08 56 25.9**	**-0.7**
JAK	**Akkeshi**	**2.05**	**252**	P	**Pn**	**08 56 05.5**	**+0.6**
JAK				*e*S	**Sn**	**08 56 29.0**	**-0.2**
JTKR	**Abashiri--Toko**	**2.52**	**279**	P	**Pn**	**08 56 12.8**	**+1.5**
JAR	**Ashorobuto**	**2.63**	**264**	P	**Pn**	**08 56 14.6**	**+1.7**
JAR				*e*S	**Sn**	**08 56 44.5**	**+0.8**
JOB	**Onbets**	**2.68**	**255**	P	**Pn**	**08 56 14.9**	**+1.4**
JOB				*e*S	**Sn**	**08 56 45.5**	**+0.8**
JMP	**Maruseppu**	**2.92**	**278**	P	**Pn**	**08 56 18.5**	**+1.7**
JCH	**Churui**	**3.10**	**252**	P	**Pn**	**08 56 20.2**	**+0.9**
JCH				*e*S	**Sn**	**08 56 56.1**	**+1.0**
JKA	**Kamikawa-asahi**	**3.47**	**279**	*e*P	**Pn**	**08 56 27.2**	**+2.8**
ASAJ	**Asahikawa**	**3.47**	**279**	P	**Pn**	**08 56 27.2**	**+2.8**
	comp=N,1.4nm,0.3s,baz=66,slow=12,SNR=4.7						
ASAJ				S	Sn	08 57 13.1	+8.8
	comp=N,2.0nm,0.3s,baz=21,slow=31,SNR=3.5						
ASAJ				LR	LR	08 57 50.5	
	comp=N,72nm,21.3s,baz=0.5,slow=40						
JNBK	**Urakawa-nobuka**	**3.64**	**250**	P	**Pn**	**08 56 28.2**	**+1.4**
JSE	**Soyaes**	**3.67**	**293**	P	**Pn**	**08 56 28.8**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.63**	**317**	*e*P	**Pn**	**08 56 42.0**	**+1.7**
YSS				AMB	AMB	08 56 44.7	
	comp=N,20nm,0.5s						
TYV	**Tymovskoe**	**7.89**	**338**	*e*P	**Pn**	**08 57 26.6**	**+1.6**
KLR	**Kul'dur**	**12.12**	**303**	LR	LR	09 03 36.7	
	comp=N,49nm,18.2s,baz=146,slow=40						
SEY	**Seymchan**	**19.54**	**7**	P	**P**	**08 59 55.2**	**-0.8**
	comp=N,0.1nm,0.3s,baz=199,slow=8.5,SNR=3.6						
SONM	**Songino Array**	**28.65**	**293**	P	**P**	**09 01 23.5**	**-1.3**
	comp=N,0.3nm,0.5s,baz=95,slow=9.8,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.93**	**139**	T	T	09 32 07.4	
	baz=330,slow=76,SNR=122						
H11N1	**WAKE ISLAND Hy**	**28.94**	**139**	T	T	09 32 09.1	
	baz=330,slow=76,SNR=126						
H11N3	**WAKE ISLAND Hy**	**28.94**	**139**	T	T	09 32 09.5	
	baz=330,slow=76,SNR=116						
H11S1	**WAKE ISLAND Hy**	**29.89**	**141**	T	T	09 33 22.4	
	baz=332,slow=76,SNR=331						
H11S3	**WAKE ISLAND Hy**	**29.90**	**141**	T	T	09 33 22.1	
	baz=332,slow=76,SNR=200						
H11S2	**WAKE ISLAND Hy**	**29.91**	**141**	T	T	09 33 23.4	
	baz=332,slow=76,SNR=199						
ILAR	**Eielson Array**	**41.48**	**36**	P	**P**	**09 03 15.0**	**+0.4**
	comp=N,0.6nm,0.6s,baz=274,slow=8.2,SNR=6.7						
MKAR	**Makanchi Array**	**44.77**	**298**	P	**P**	**09 03 41.1**	**-0.2**
	comp=N,0.4nm,0.4s,baz=79,slow=8.6,SNR=9.0						
KURK	**Kurchatov**	**45.71**	**304**	P	**P**	**09 03 48.8**	**+0.1**
KURK	**Kurchatov**	**45.71**	**304**	*e*P	**P**	**09 03 48.8**	**+0.1**
KURBB	**Kurchatov Arra**	**45.80**	**304**	P	**P**	**09 03 48.8**	**-0.6**
	comp=N,0.5nm,0.3s,baz=78,slow=9.0,SNR=2.6						
INK	**Inuvik**	**46.41**	**30**	P	**P**	**09 03 54.8**	**+0.8**
	comp=N,1.1nm,0.5s,baz=302,slow=7.0,SNR=14						
YKA	**Yellowknife Ar**	**55.80**	**34**	P	**P**	**09 05 05.0**	**+0.5**
	comp=N,0.3nm,0.6s,baz=300,slow=6.9,SNR=7.3						
NVAR	**Mina Array Bea**	**67.51**	**58**	P	**P**	**09 06 24.9**	**+1.0**
	comp=N,0.2nm,0.6s,baz=304,slow=7.3,SNR=5.1						
NOA	**NORSAR Array B**	**69.75**	**339**	P	**P**	**09 06 36.0**	**-1.3**
	comp=N,0.5nm,0.5s,baz=53,slow=7.4,SNR=2.0						
NOA	**NORSAR Array B**	**69.75**	**339**	P	**P**	**09 06 36.0**	**-1.3**
PDAR	**Pinedale Array**	**69.86**	**50**	P	**P**	**09 06 38.9**	**+0.3**
	comp=N,0.5nm,0.7s,baz=248,slow=3.8,SNR=4.0						
AKASG	**Malin Array Be**	**71.75**	**324**	P	**P**	**09 06 48.2**	**-1.3**
	comp=N,0.9nm,0.6s,baz=38,slow=6.1,SNR=2.0						
TXAR	**Lajitas Array**	**82.58**	**56**	P	**P**	**09 07 51.2**	**+0.4**
	comp=N,0.4nm,0.6s,baz=287,slow=4.0,SNR=5.4						
H03N2	**Juan Fernandez**	**142.81**	**90**	T	T	11 54 25.5	
	baz=304						
H03N3	**Juan Fernandez**	**142.83**	**90**	T	T	11 54 19.2	
	baz=304						
H03N1	**Juan Fernandez**	**142.83**	**90**	T	T	11 54 23.4	
	baz=304						

*MEX **28** 09:09:08.4±1.3, 14°.66N×94°.36W, h36km±25km, MD4.6*
*NEIC **28** 09:09:11.4±2.5, 14°.92N±0°.04×94°.19W±0°.04, h33km±5km, mb4.7/197, Md4.6/57(MEX), Error ellipse: s-maj=5.9km s-min=5.4km az=150.0*
*IDC **28** 09:09:16.1±1.9, 15°.52N×93°.83W, h46km±17km, mb4.1/22, mb1 4.3/25, mb1mx4.1/42, mbtmp4.3/25, ML3.7/2, MS3.8/28, Ms1 3.8/28, ms1mx3.7/69, Error ellipse: s-maj=27.8km s-min=10.8km az=47.0*
ISC 28 09:09:08.6±1.8, 14°.70N±0°.05×94°.41W±0°.03, h29km±12km, n406, σ2°08/336, mb4.7/107, MS3.8/26, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.52**	**49**		**Pn**	**09 09 31.7**	**-2.1**
PCIG					**Sn**	**09 09 48.8**	**-3.9**
PCIG		**1.52**	**49**	*i* P	**Pn**	**09 09 31.7**	**-2.1**
PCIG				*e*S	**Sn**	**09 09 48.8**	**-3.9**
HUIG	**Huatulco**	**1.96**	**303**		Pn	09 09 37.6	-2.2
HUIG					**Sn**	**09 09 58.6**	**-4.8**
HUIG	**Huatulco**	**1.96**	**303**	*e*P	Pn	09 09 37.6	-2.2
HUIG				*i* S	**Sn**	**09 09 58.6**	**-4.8**
THIG		**2.08**	**84**		**Pn**	**09 09 38.8**	**-2.7**
THIG					**Sn**	**09 10 01.1**	**-5.4**
THIG		**2.08**	**84**	*e*P	**Pn**	**09 09 38.8**	**-2.7**
THIG				*e*S	**Sn**	**09 10 01.1**	**-5.4**
PATR	**El Naranjo**	**2.14**	**78**	*e*P	**Pn**	**09 09 40.0**	**-2.6**
PATR				*e*S	**Sn**	**09 10 04.3**	**-4.0**
PAVE	**Pavencul**	**2.21**	**77**	*e*P	**Pn**	**09 09 41.2**	**-2.3**
PAVE				*e*S	**Sn**	**09 10 06.2**	**-3.9**
CHUJ	**Union Juarez**	**2.26**	**80**	*e*P	**Pn**	**09 09 41.1**	**-3.1**
CHUJ		

CRIG	Cruz Grande	4.98	295			Pn	09 10 21.3 -0.1
CRIG						Sn	09 11 09.1 -8.9
CRIG	Cruz Grande	4.98	295	eP		Pn	09 10 21.3 -0.1
CRIG				eS		Sn	09 11 09.1 -8.9
SNET	Serv Nac Est T	5.12	101			Pn	09 10 23.0 -0.4
SCIG	Sabancuy	5.25	36			Pn	09 10 23.9 -1.2
SCIG						Sn	09 11 25.2 +0.6
SCIG	Sabancuy	5.25	36	eP		Pn	09 10 23.9 -1.2
SCIG				eS		Sn	09 11 25.2 +0.6
DAIG	Los Arroyos	5.55	295			Pn	09 10 29.8 +0.5
DAIG						Sn	09 11 24.4 -7.7
DAIG	Los Arroyos	5.55	295	eP		Pn	09 10 29.8 +0.5
DAIG				eS		Sn	09 11 24.4 -7.7
YAIG	Yautepec	6.09	314			Pn	09 10 40.0 +3.2
YAIG						Sb	09 12 00.1 -6.4
YAIG	Yautepec	6.09	314	eP		Pn	09 10 40.0 +3.2
YAIG				i S		Sb	09 12 00.1 -6.4
PLIG	Platanillo	6.12	308			Pn	09 10 40.8 +3.7
PLIG						Sn	09 11 42.1 -4.1
PLIG	Platanillo	6.12	308	eP		Pn	09 10 40.8 +3.7
PLIG				eS		Sn	09 11 42.1 -4.1
ARIG	Puente Sto Nin	6.72	303			Pn	09 10 47.8 +2.5
ARIG						Sn	09 12 00.5 -0.5
ARIG	Puente Sto Nin	6.72	303	eP		Pn	09 10 47.8 +2.5
ARIG				eS		Sn	09 12 00.5 -0.5
MOIG	Morelia	8.16	308			Pn	09 11 08.5 +3.3
MATN	Matagalpa	8.42	101			Pn	09 11 08.8 -0.1
BOAB	BOACO BROADBAN	8.79	104	Pn		Pn	09 11 13.3 -0.4
ACON	Acoyapa	9.39	106			Pn	09 11 18.5 -3.4
HZTE	Horizontes, Gu	9.46	114	Pn		Pn	09 11 23.8 +0.7
ORTG	Ortega, Santa	9.74	115			Pn	09 11 28.7 +1.8
DUNO	Dulce Nombre,	9.84	117			Pn	09 11 29.7 +1.6
JTS	Las Juntas de	10.22	114	P		Pn	09 11 38.0 +4.7
RIMA	Rio Macho	11.41	114	Pn		Pn	09 11 51.5 +1.6
PEZE	Perez Zeledon,	11.74	116			Pn	09 11 54.7 +0.3
BRU2	Volcan	12.88	116			Pn	09 12 12.2 +2.3
833A	Chaparral WMA,	14.33	342	Pn		Pn	09 12 28.8 -0.7
833A	Chaparral WMA,	14.33	342	P		Pn	09 12 30.0 +0.4
	baz=160,SNR=7.3						
HKT	Hockley	15.24	355			Pn	09 12 43.0 +1.3
435B	Jarrell	16.28	350	Pn		Pn	09 12 54.9 -0.2
435B				IAmb		IAmb	09 13 11.3
	comp=Z,59nm,1.0s						
435B	Jarrell	16.28	350	P		Pn	09 12 55.7 +0.6
	baz=168						
JCT	Junction City	16.48	343	Pn		Pn	09 12 56.9 -0.9
JCT	Junction City	16.48	343	P		Pn	09 12 57.4 -0.3
	baz=161,SNR=13						
TXAR	Lajitas Array	16.90	331	P		Pn	09 13 05.0 +1.9
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=39						
TXAR				LR		LR	09 19 12.1
	comp=Z,117nm,19.7s,baz=159,slow=36						
TXAR	Lajitas Array	16.90	331	P		Pn	09 13 04.6 +1.6
TX31	Lajitas Ar. Si	16.90	331	P		Pn	09 13 04.9 +1.8
TX31				IAmb		IAmb	09 13 19.0
	comp=Z,92nm,1.2s						
237A	Washetta, Mont	17.28	356	P		Pn	09 13 05.7 -1.9
237A				IAmb		IAmb	09 13 27.9
	comp=Z,38nm,1.0s						
WHTX	Lake Whitney,	17.44	351			Pn	09 13 10.6 +0.8
WHTX				IAmb		IAmb	09 13 13.1
	comp=Z,29nm,0.8s						
WHTX	Lake Whitney,	17.44	351	P		Pn	09 13 09.6 -0.1
	baz=170,SNR=11						
LPIG	La Paz	17.66	304	LR		LR	09 20 19.0
	comp=Z,251nm,18.8s,baz=62,slow=38						
ABTX	Abilene, Hawle	18.48	346	IAmb		IAmb	09 13 24.8
	comp=Z,26nm,0.8s						
ABTX	Abilene, Hawle	18.48	346	P		P	09 13 22.6 +0.4
	baz=163,SNR=11						
Z41A	Richland Creek	18.54	4	P		P	09 13 22.2 -0.6
	baz=185						
Z35A	Perchaven, San	18.73	353	IAmb		IAmb	09 13 37.0
	comp=Z,29nm,0.8s						
Z47A	Carrollton	19.30	16	P		P	09 13 30.2 -1.0
Z47A				IAmb		IAmb	09 13 33.9
	comp=Z,37nm,0.9s						
LOOK	Love County	19.38	353	P		P	09 13 30.7 -1.4
DBBC	Dabeiba	19.42	111	eP		Pn	09 13 34.7 +0.7
LRAL	Lakeview Retre	19.46	19	P		P	09 13 32.8 -0.1
	baz=202						
Y45A	Yeager Farm, C	19.59	12	P		P	09 13 34.2 -0.2
Y45A				IAmb		IAmb	09 14 00.8
	comp=Z,38nm,1.1s						
MNTX	Cornudas Mount	19.68	331	P		P	09 13 34.9 -0.5
MNTX	Cornudas Mount	19.68	331	P		P	09 13 36.3 +0.9
	baz=146,SNR=7.4						
UREC	San Jos de Ur	19.75	108	eP		P	09 13 35.7 -0.6
X40A	Basin Creek Fa	19.76	4	P		P	09 13 36.2 0.0
	baz=184						
MIAR	Mount Ida	19.78	2	P		P	09 13 35.0 -1.5
MIAR	Mount Ida	19.78	2	P		P	09 13 35.6 -0.9
	baz=182,SNR=6.8						
CBOC	Ciudad Bolivar	20.10	114	eP		Pn	09 13 42.5 +0.3
OXF	Oxford	20.24	12	IAmb		IAmb	09 13 54.4
	comp=Z,33nm,1.0s						
OXF	Oxford	20.24	12	P		P	09 13 39.9 -1.6
	baz=194						
PLMC	San Jos del P	20.32	117	eP		Pn	09 13 45.5 +0.8
WMOK	Wichita Mounta	20.34	350	P		P	09 13 42.9 +0.2
	baz=167,SNR=9.3						
HELC	Santa Helena	20.38	113	eP		Pn	09 13 46.4 +0.7
W39A	Magazine	20.42	1	IAmb		IAmb	09 13 58.4
	comp=Z,22nm,1.0s						
W39A	Magazine	20.42	1	P		P	09 13 42.8 -0.6
	baz=182						
ZARC	Zaragoza, Cauc	20.46	108	eP		P	09 13 44.5 +0.4
ZARC	Zaragoza, Cauc	20.46	108	P		P	09 13 43.3 -0.8
W41B	Gary Mavity, V	20.48	5	P		P	09 13 43.7 -0.4
	baz=186						
W35A	Tecumseh	20.49	354			P	09 13 44.2 0.0
W35A				IAmb		IAmb	09 13 57.4
	comp=Z,51nm,0.9s						
WHAR	Wooly Hollow	20.60	5	P		P	09 13 45.2 -0.1
MSTX	Muleshoe	20.63	340	IAmb		IAmb	09 13 55.2
	comp=Z,26nm,0.8s						
MSTX	Muleshoe	20.63	340	P		P	09 13 46.1 +0.2
	baz=156,SNR=9.4						
YOTC	Yotoco, Valle	20.74	119	eP		P	09 13 48.4 +1.2
SMLC	San Martn de	20.75	104	eP		P	09 13 47.4 +0.3
GUY2C	Guyana, Caldas	20.96	115	eP		Pn	09 13 53.2 +0.6
GOGA	Godfrey	21.11	26	P		P	09 13 51.2 +0.3
GOGA				IAmb		IAmb	09 14 02.0
	comp=Z,21nm,0.9s						
GOGA	Godfrey	21.11	26	P		P	09 13 49.7 -1.2
	baz=211						
AMTX	Amarillo	21.14	343	P		P	09 13 52.3 +1.0
	baz=160						
TUL1	Leonard	21.16	357	P		P	09 13 51.0 -0.4
	baz=176						
PTBC	PUERTO BERRIO,	21.20	110	eP		P	09 13 52.3 +0.2
FCAR	Ozark Folk Cen	21.21	5	IAmb		IAmb	09 13 56.1
	comp=Z,24nm,0.8s						
NORC	Norcasia	21.25	113	eP		P	09 13 56.2 +3.6
OK030	Cody Creek RV	21.25	355	IAmb		IAmb	09 13 55.8
	comp=Z,33nm,0.9s						
POPC	Popayan, Colom	21.26	123	eP		P	09 13 56.2 +3.2
OK031	S. Brethren Rd	21.28	355			P	09 13 51.4 -1.3
OK031				IAmb		IAmb	09 13 59.4
	comp=Z,38nm,0.9s						
FPAL	Fort Paine	21.30	20	P		P	09 13 52.2 -0.7
FPAL				IAmb		IAmb	09 14 05.1
	comp=Z,28nm,0.9s						
OK033	Mehan	21.38	354	IAmb		IAmb	09 14 05.1
	comp=Z,41nm,1.0s						
319A	Douglas	21.48	323	IAmb		IAmb	09 14 13.5
	comp=Z,30nm,1.0s						
QUOK	Quay	21.49	355	IAmb		IAmb	09 14 10.6
	comp=Z,63nm,1.4s						
HHAR	Hobbs	21.50	1	P		P	09 13 53.2 -1.9
HHAR				IAmb		IAmb	09 13 58.0
	comp=Z,18nm,0.7s						
121A	Cookes Peak, D	21.54	328	P		P	09 13 58.5 +2.8
	baz=142,SNR=28						
SOTA	Rioblanco	21.55	124	eP		P	09 13 56.2 -0.2
PCON	Cinco Dias	21.61	123	eP		P	09 13 59.1 +2.1
U40A	Yellville	21.62	3	P		P	09 13 56.8 +0.5
	baz=184,SNR=6.3						
U38A	Gravette	21.66	0	IAmb		IAmb	09 13 59.6
	comp=Z,18nm,0.8s						
ORTC	Ortega, Tolima	21.71	118	eP		P	09 14 00.1 +2.5
SPBC	San Pablo de B	21.92	112	eP		P	09 14 00.1 +0.2
CROK	Carrier	21.95	352	P		P	09 13 59.9 0.0
ROSC	El Rosal	22.06	114	P		P	09 14 04.9 +3.2
	comp=Z,21nm,0.8s,baz=122,slow=12,SNR=6.9						
ROSC				LR		LR	09 24 02.3
	comp=Z,136nm,19.6s,baz=324,slow=40						
PRAC	Prado	22.12	118	eP		P	09 14 04.9 +3.0
WVT	Waverly	22.14	14	P		P	09 14 02.3 +0.4
	baz=197						
T35A	Sooner Cattle	22.21	356	IAmb		IAmb	09 14 05.2
	comp=Z,27nm,0.8s						
BNM	Barren Site	22.30	332	P		P	09 14 05.6 +1.6
BARC	Barichara	22.34	109	eP		P	09 14 08.8 +4.3
KAN14	Manchester OK	22.40	353	IAmb		IAmb	09 14 07.1
	comp=Z,21nm,0.8s						
MGMO	Mountain Grove	22.45	4	P		P	09 14 05.1 -0.2
MGMO				IAmb		IAmb	09 14 19.0
	comp=Z,24nm,1.1s						
KAN17	Caldwell West	22.46	353			P	09 14 03.7 -1.6
PAMC	Pamplona, Colo	22.51	107	eP		P	09 14 05.9 -0.7
KAN10	Anthony SW Sta	22.58	352	IAmb		IAmb	09 14 16.4
	comp=Z,24nm,0.9s						
FLOC	Florencia	22.65	123	eP		P	09 14 06.9 -0.7
KAN16	Harper SW Stat	22.68	352	IAmb		IAmb	09 14 17.5
	comp=Z,31nm,0.9s						
CHIC	Chingaza	22.68	114	eP		P	09 14 10.8 +2.5
RUSC	La Rusia	22.71	110	eP		P	09 14 10.8 +2.0
V51A	Loudon	22.87	21	IAmb		IAmb	09 14 08.9
	comp=Z,18nm,0.9s						
ANMO	Albuquerque	22.90	334	P		P	09 14 11.4 +1.2
	comp=Z,5.7nm,0.8s,baz=152,slow=12,SNR=34						
ANMO	Albuquerque	22.90	334	P		P	09 14 11.4 +1.2
ANMO	Albuquerque	22.90	334	P		P	09 14 10.9 +0.7
	baz=148						
S39A	Bolivar	22.93	2	IAmb		IAmb	09 14 11.5
	comp=Z,24nm,0.8s						
TKL	Tuckaleechee C	22.95	23	P		P	09 14 06.0 -4.5
	comp=Z,7.9nm,1.0s,baz=188,slow=14,SNR=5.5						
TKL				LR		LR	09 24 00.6
	comp=Z,152nm,18.7s,baz=180,slow=40						
TKL	Tuckaleechee C	22.95	23	IAmb		IAmb	09 14 33.4
	comp=Z,49nm,1.4s						
TUC	Tucson	23.03	322	P		P	09 14 13.6 +2.1
TUC	Tucson	23.03	322	P		P	09 14 13.1 +1.5
	baz=135						
U49A	Red Boiling Sp	23.05	18	IAmb		IAmb	09 14 25.8
	comp=Z,30nm,1.1s						
T47A	Sharon Grove	23.14	15	IAmb		IAmb	09 14 14.3
	comp=Z,15nm,0.8s						
S44A	Carbondale	23.36	10	IAmb		IAmb	09 14 40.9
	comp=Z,18nm,0.8s						
CCM	Cathedral Cave	23.44	6	P		P	09 14 13.2 -2.1
CCM				IAmb		IAmb	09 14 15.6
	comp=Z,21nm,0.8s						
CCM	Cathedral Cave	23.44	6	P		P	09 14 13.9 -1.5
	baz=188						
KMSC	Kings Mountain	23.51	28	P		P	09 14 15.6 -0.5
	baz=213						
R40A	Maddies Statio	23.58	4	IAmb		IAmb	09 14 17.3
	comp=Z,28nm,0.8s						
TAMC	Tame, Arauca	23.68	108	eP		P	09 14 20.5 +2.5
MACC	Macarena, Meta	23.82	120	eP		P	09 14 21.5 +2.2
TZTN	Tazewell	23.82	22	P		P	09 14 18.1 -1.0
	baz=207						
SDV	Santo Domingo	23.97	101	P		P	09 14 23.2 +2.3
	comp=Z,6.2nm,0.8s,baz=279,slow=12,SNR=6.1						
SDV				LR		LR	09 25 26.6
	comp=Z,149nm,20.3s,baz=296,slow=41						
SDV	Santo Domingo	23.97	101	eP		P	09 14 18.6 -2.3
SDV	Santo Domingo	23.97	101	P		P	09 14 20.2 -0.7
214A	Organ Pipe Nat	24.04	319	P		P	09 14 23.2 +2.0
	baz=131						
T25A	Trinidad	24.06	340	P		P	09 14 23.2 +1.6
	baz=155,SNR=16						
X18A	Snowflake	24.22	327	IAmb		IAmb	09 14 27.8
	comp=Z,13nm,0.9s						
PTGC	Puerto Gaitan,	24.29	113	eP		P	09 14 25.4 +1.7
KSU1	Kansas State U	24.39	356	IAmb		IAmb	09 14 25.4
	comp=Z,17nm,0.8s						
KSU1	Kansas State U	24.39	356	P		P	09 14 23.2 -1.2
	baz=175,SNR=6.4						
CBKS	Cedar Bluff	24.48	350	P		P	09 14 25.6 +0.4
	baz=167,SNR=7.7						
WCI	Wyandotte Cave	24.52	16	P		P	09 14 24.4 -1.1
WCI				IAmb		IAmb	09 14 27.7
	comp=Z,24nm,0.9s						
WCI	Wyandotte Cave	24.52	16	P		P	09 14 24.2 -1.3
	baz=199						
OLIL	Olney	24.58	12	IAmb		IAmb	09 14 25.6
	comp=Z,22nm,0.9s						
P38A	Dawn	24.85	2	IAmb		IAmb	09 14 31.2
	comp=Z,17nm,0.9s						
X16A	Lo Mia Camp, P	24.94	325	P		P	09 14 32.2 +2.6
X16A				IAmb		IAmb	09 14 35.1
	comp=Z,14nm,0.8s						
SDCO	Great Sand Dun	24.98	339	P		P	09 14 32.1 +2.1
	baz=154,SNR=15						
113A	Mohawk Valley,	25.18	319	P		P	09 14 32.4 +0.9
KSCO	Kaye Shedlock'	25.28	345	IAmb		IAmb	09 14 43.1
	comp=Z,21nm,1.1s						
KSCO	Kaye Shedlock'	25.28	345	P		P	09 14 33.6 +1.1
	baz=161						
BLO	Bloomington	25.35	14	IAmb		IAmb	09 14 35.6
	comp=Z,18nm,0.9s						
S22A	4UR Ranch, Cre	25.47	337	P		P	09 14 36.3 +1.8
	baz=151						
MVCO	Mesa Verde	25.69	333	IAmb		IAmb	09 15 07.6
	comp=Z,17nm,1.1s						
MVCO	Mesa Verde	25.69	333	P		P	09 14 38.1 +1.7
	baz=147,SNR=7.0						
WUAZ	Wupatki	25.73	327	IAmb		IAmb	09 14 42.9
	comp=Z,21nm,0.8s						
WUAZ	Wupatki	25.73	327	P		P	09 14 39.6 +2.9
	baz=139,SNR=12						
O44A	Mansfield	25.89	10	IAmb		IAmb	09 14 37.5
	comp=Z,17nm,0.8s						
P48A	Milroy	25.90	16	IAmb		IAmb	09 14 39.5
	comp=Z,16nm,0.8s						
Q24A	Divide	25.96	341	P		P	09 14 40.9 +1.9
	baz=155						
N38A	Joes South For	26.02	2	P		P	09 14 38.0 -1.1
GLA	Glamis	26.04	318	P		P	09 14 42.0 +2.6
	baz=129						
N35A	Tabor	26.09	358	IAmb		IAmb	09 14 42.1
	comp=Z,29nm,0.9s						
Q51A	Peebles	26.12	20	IAmb		IAmb	09 14 59.3
	comp=Z,23nm,1.2s						
HDIL	Hopedale	26.15	9	P		P	09 14 38.8 -1.5
	baz=191						
P49A	Miami Univ. Ec	26.17	17	P		P	09 14 38.6 -1.9
	baz=202						
PDMCI	Parker Dam,Lak	26.43	321	P		P	09 14 45.6 +2.7
	baz=132						
Q52A	Bidwell	26.43	22	IAmb		IAmb	09 14 44.6
	comp=Z,17nm,0.9s						
SWSC	Sam W. Stewart	26.61	317	P		P	09 14 47.3 +2.8
	baz=128						
IKP	In-Ko-Pah, Jac	26.64	316	P		P	09 14 45.3 +0.4
	baz=127						
PV15	Paradox Valley	26.64	335	IAmb		IAmb	09 14 52.0
	comp=Z,14nm,0.9s						
O48B	Farmland	26.72	16	P		P	09 14 43.4 -2.1
	baz=200						
PV11	David Mesa, Pa	26.77	334	P		P	09 14 47.6 +1.5
PV11				IAmb		IAmb	09 14 51.3
	comp=Z,12nm,0.9s						
SMCO	Snowmass	26.78	338	P		P	09 14 48.1 +1.6
PV07	Paradox Valley	26.79	335	IAmb		IAmb	09 14 50.1
	comp=Z,15nm,0.9s						
BGNE	Belgrade	26.82	354	P		P	09 14 47.6 +1.3
	baz=172						
BC3	Big Chuckawall	26.83	318	P		P	09 14 49.0 +2.4
	baz=129						
ISCO	Idaho Springs	26.87	341	P		P	09 14 48.1 +0.9
	baz=155,SNR=11						
ATAH	Atahualpa	26.88	143	LR		LR	09 22 50.1
	comp=Z,98nm,20.6s,baz=343,slow=30						
O49A	Covington	26.88	17	IAmb		IAmb	09 14 46.5
	comp=Z,21nm,0.9s						
PV23	Carpenter Ridg	26.95	334	IAmb		IAmb	09 14 54.3
	comp=Z,19nm,0.9s						
IRM	Iron Mountain	26.96	320	P		P	09 14 50.1 +2.4
	baz=130,SNR=6.2						
OGNE	Ogallala	26.98	347	P		P	09 14 49.1 +1.2
	baz=163						
MONP2	Monument Peak	26.99	316	P		P	09 14 50.0 +1.7
	baz=126						
SCIA	State Center	27.14	2	P		P	09 14 48.4 -0.7
	baz=182						
BELC	Belle Mtn. Jos	27.40	318	P		P	09 14 54.1 +2.3
	baz=129						
TPFO	Pinon Flats	27.45	317	P		P	09 14 54.7 +2.5
	baz=128						
PFO	Pinyon Flats O	27.45	317	P		P	09 14 54.9 +2.6
	comp=Z,1.6nm,0.7s,baz=111,slow=7.9,SNR=4.5						
PFO	Pinyon Flats O	27.45	317	P		P	09 14 54.6 +2.4
	baz=128						
GMRC	Granite Mounta	27.69	320	P		P	09 14 56.8 +2.4
	baz=131						
L44A	Lake County Fo	27.96	10	P		P	09 14 57.2 +0.7
	baz=193						
N23A	Red Feather La	27.97	341	P		P	09 14 59.1 +2.1
	baz=155						
O20A	White River Ci	28.09	337	P		P	09 15 00.6 +2.7
	baz=150						
HEC	Hector,Ludlow	28.14	319	P		P	09 15 00.9 +2.6
	baz=130						
TUQ	Turquoise Moun	28.28	321	P		P	09 15 01.9 +2.3
	baz=131						
Q16A	Castle Valley	28.29	332	P		P	09 15 01.5 +1.7
CCUT	Cedar City	28.31	327	P		P	09 15 02.5 +2.5
JFWS	Jewell Farm	28.35	6	P		P	09 14 59.2 -0.7
	baz=188						
P17A	Butcher Ranch,	28.55	333	IAmb		IAmb	09 15 05.4
	comp=Z,8.0nm,0.8s						
ECSD	EROS Data Cent	29.00	357	IAmb		IAmb	09 15 13.9
	comp=Z,14nm,1.1s						
ECSD	EROS Data Cent	29.00	357	P		P	09 15 04.9 -0.9
	baz=175						
RWWY	Rawlins	29.10	340	IAmb		IAmb	09 15 10.6
	comp=Z,20nm,1.1s						
EDW2	Edwards Air Fo	29.23	318	P		P	09 15 10.5 +2.4
	baz=127						
LRMC	Laurel Mtn Rad	29.40	319	P		P	09 15 11.6 +2.0
	baz=128						
FURC	Furnace Creek,	29.53	321	P		P	09 15 13.4 +2.8
	baz=131						
MPMC	Manual Prospec	29.65	320	P		P	09 15 13.6 +1.8
	baz=130,SNR=5.8						
K22A	Casper	29.75	342	IAmb		IAmb	09 15 28.4
	comp=Z,19nm,1.4s						
K22A	Casper	29.75	342	P		P	09 15 13.8 +1.1
	baz=156						
ARVC	Arvin	29.93	317	P		P	09 15 17.0 +2.8
	baz=126						
ISA	Isabella, Lake	30.02	318	P		P	09 15 18.0 +3.0
	baz=128						
DUG	Dugway, Tooele	30.07	331	P		P	09 15 17.8 +2.3
	baz=142						
R11A	Troy Canyon, C	30.09	325	P		P	09 15 17.7 +2.0
	baz=136						
CWC	Cottonwood Cre	30.26	320	P		P	09 15 19.3 +2.0
	baz=129						
PKM	Mcpherson Peak	30.45	316	P		P	09 15 21.0 +2.1
	baz=125						
SPMN	Marine on St.	30.46	2	P		P	09 15 17.3 -1.4
	baz=183,SNR=8.4						
VES	Vestal, Richgr	30.52	318	P		P	09 15 21.5 +2.2
	baz=127						
HWUT	Hardware Ranch	30.66	334	P		P	09 15 21.9 +1.1
BW06	Boulder Array	30.86	338	P		P	09 15 23.3 +0.7
	baz=150						
PDAR	Pinedale Array	30.86	338	P		P	09 15 23.7 +1.1
	comp=Z,2.4nm,0.8s,baz=146,slow=8.3,SNR=19						
HVU	Hansel Valley	31.32	333	IAmb		IAmb	09 15 30.1
	comp=Z,9.3nm,0.8s						
AHID	Auburn Hatcher	31.45	336	IAmb		IAmb	09 15 31.1
	comp=Z,6.9nm,0.8s						
NV11	Mina Array Sit	31.60	323	P		P	09 15 29.7 +0.7
NV11				IAmb		IAmb	09 15 32.9
	comp=Z,5.8nm,0.9s						
LHV	Little Huntoon	31.69	322	P		P	09 15 32.4 +2.8
LHV				IAmb		IAmb	09 15 42.1
	comp=Z,12nm,1.3s						
NVAR	Mina Array Bea	31.69	323	P		P	09 15 33.2 +3.3
	comp=Z,8.4nm,1.1s,baz=139,slow=8.5,SNR=32						
NVAR	Mina Array Bea	31.69	323	P		P	09 15 31.8 +1.9
NNA	Nana	31.71	146	LR		LR	09 25 33.4
	comp=Z,87nm,20.2s,baz=327,slow=30						
REDW	Red Top Meadow	31.86	337	IAmb		IAmb	09 15 34.1
	comp=Z,9.9nm,0.8s						
LOHW	Long Hollow	31.98	338	IAmb		IAmb	09 15 35.5
	comp=Z,8.0nm,0.8s						
MOOW	Moose Ponds	32.15	337	P		P	09 15 34.4 +0.6
FLWY	Flagg Ranch	32.42	338	IAmb		IAmb	09 15 50.1
	comp=Z,9.8nm,1.1s						
YERR	Yerington	32.60	323	IAmb		IAmb	09 15 42.1
	comp=Z,12nm,1.3s						
SADO	Sadowa	32.66	20	LR		LR	09 30 32.3
	comp=Z,165nm,18.6s,baz=132,slow=40						
LKWY	Lake	32.73	339	IAmb		IAmb	09 15 42.6
	comp=Z,6.6nm,1.1s						
RLMT	Red Lodge	32.84	340	IAmb		IAmb	09 15 48.5
	comp=Z,14nm,1.3s						
RLMT	Red Lodge	32.84	340	P		P	09 15 40.4 +0.6
	baz=152						
PNTR	Pine Nut	32.88	322	IAmb		IAmb	09 15 44.8
	comp=Z,14nm,1.2s						
YMR	Madison River	33.02	338	IAmb		IAmb	09 15 49.4
	comp=Z,6.1nm,0.9s						
VCNR	Virginia City	33.05	323	IAmb		IAmb	09 15 49.2
	comp=Z,11nm,1.3s						
MPK	Martis Peak	33.27	322	IAmb		IAmb	09 15 48.4
	comp=Z,14nm,1.0s						
MDND	Maddock	33.34	354	P		P	09 15 41.8 -2.2
MDND	Maddock	33.34	354	P		P	09 15 43.8 -0.1
	baz=171						
HLID	Hailey	33.48	333	IAmb		IAmb	09 16 01.1
	comp=Z,6.2nm,0.9s						
HLID	Hailey	33.48	333	P		P	09 15 47.1 +1.7
	baz=143,SNR=8.5						
AGMN	Agassiz Nation	33.53	358	P		P	09 15 45.5 0.0
AGMN				IAmb		IAmb	09 15 47.6
	comp=Z,12nm,0.8s						
AGMN	Agassiz Nation	33.53	358	P		P	09 15 45.2 -0.4
	baz=177						
DLMT	Dillon	34.22	337	IAmb		IAmb	09 15 58.5
	comp=Z,11nm,1.0s						
DGMT	Dagmar	34.63	349	IAmb		IAmb	09 15 58.8
	comp=Z,13nm,1.1s						
DGMT	Dagmar	34.63	349	P		P	09 15 55.6 +0.4
	baz=163						
WVOR	Wild Horse Val	34

comp=Z,62nm,18.0s,baz=268,slow=34
SIV San Ignacio 44.88 131 LR LR 09 35 48.9
comp=Z,104nm,18.2s,baz=304,slow=35
SCHQ Schefferville 45.42 22 P **P** **09 17 22.9 -1.7**
comp=Z,5.7nm,0.9s,baz=221,slow=7.3,SNR=3.6
SCHQ LR LR 09 37 23.7
comp=Z,213nm,19.7s,baz=238,slow=38
BBB Bella Bella 46.03 332 LR LR 09 39 14.9
comp=Z,336nm,19.9s,baz=330,slow=40
YKA Yellowknife Ar 49.84 348 P **P** **09 17 59.3 +0.6**
comp=Z,5.7nm,0.7s,baz=154,slow=7.3,SNR=81
DLBC Dease Lake 51.09 337 P **P** **09 18 11.3 +3.0**
comp=Z,5.2nm,0.8s,baz=152,slow=5.6,SNR=4.0
FRB Frobisher Bay 52.19 14 LR LR 09 41 48.6
comp=Z,149nm,19.1s,baz=211,slow=38
WRGLY Wrigley 52.57 344 P **P** **09 18 20.7 +1.5**
baz=144
P33M Teslin, Yukon 53.34 337 P **P** **09 18 26.6 +1.5**
baz=131
CPUP Villa Florida 54.43 138 P P 09 18 40.1 +6.8
comp=Z,2.0nm,0.7s,baz=293,slow=8.8,SNR=1.3
CPUP Villa Florida 54.43 138 IAmb IAmb 09 18 46.4
comp=Z,13nm,1.4s
BDFB Brasilia 54.87 121 P **P** **09 18 37.3 +0.5**
comp=Z,4.4nm,0.8s,baz=260,slow=6.7,SNR=5.6
BDFB Brasilia 54.87 121 IAmb IAmb 09 18 38.0
comp=Z,7.3nm,1.0s
FARO Faro, Yukon 54.88 339 P **P** **09 18 37.8 +1.5**
baz=132
M30M Minto, Yukon 56.33 338 P **P** **09 18 47.9 +1.3**
baz=128
MAYO Mayo, Yukon 56.66 339 P **P** **09 18 50.4 +1.4**
baz=130
L27K Beaver Creek, 58.49 337 P **P** **09 19 03.4 +1.5**
baz=123
I29M Ogilvie Camp, 58.59 340 P **P** **09 19 02.7 +0.3**
baz=128
N25K Chitina, Valde 58.83 335 P **P** **09 19 06.6 +2.3**
baz=120
L26K Log Cabin Wild 59.06 336 P **P** **09 19 07.9 +2.1**
baz=122
INK Inuvik 59.13 344 P **P** **09 19 07.0 +0.9**
comp=Z,5.3nm,0.8s,baz=127,slow=8.3,SNR=19
INK LR LR 09 46 36.5
comp=Z,176nm,18.6s,baz=148,slow=38
INK Inuvik 59.13 344 P **P** **09 19 06.9 +0.9**
INK IAmb IAmb 09 19 08.2
comp=Z,7.5nm,0.9s
INK Inuvik 59.13 344 P **P** **09 19 06.5 +0.5**
baz=134,SNR=6.4
EGAK Eagle 59.21 339 P **P** **09 19 07.8 +1.0**
baz=125
PLCA Paso Flores 59.42 159 P P 09 19 18.9 +10
comp=Z,1.6nm,1.0s,baz=275,slow=11,SNR=2.5
PLCA LR LR 09 38 50.0
comp=Z,71nm,19.5s,baz=200,slow=30
SFJD Kangerlussuaq 59.58 18 LR LR 09 45 55.1
comp=Z,128nm,18.2s,baz=234,slow=38
SCRK Sand Creek 59.80 337 P **P** **09 19 12.4 +1.4**
baz=121
PAX Paxson 59.86 336 P **P** **09 19 13.0 +1.6**
baz=119
RES Resolute Bay 59.99 360 P **P** **09 19 11.8 -0.1**
RES IAmb IAmb 09 19 12.4
comp=Z,7.2nm,1.0s
RIDG Independent Ri 60.00 337 P **P** **09 19 13.6 +1.3**
baz=120
A36M Sachs Harbour 60.13 349 IAmb IAmb 09 19 14.5
comp=Z,7.3nm,0.9s
A36M Sachs Harbour 60.13 349 P **P** **09 19 12.5 -0.4**
baz=145,SNR=5.6
SEW Seward 60.27 332 P **P** **09 19 15.0 +0.9**
baz=114
PMR Palmer 60.75 333 P **P** **09 19 18.7 +1.4**
baz=115
HOM Homer 61.12 331 P **P** **09 19 21.2 +1.3**
baz=112
HDA Harding Lake 61.14 337 P **P** **09 19 21.1 +1.1**
baz=118
PRP Porcupine Dome 61.16 338 P **P** **09 19 21.3 +1.0**
baz=120
IL31 61.29 337 IAmb IAmb 09 19 23.2
comp=Z,7.2nm,0.8s
ILAR Eielson Array 61.29 337 P **P** **09 19 22.0 +1.0**
comp=Z,7.2nm,1.0s,baz=142,slow=4.3,SNR=40
ILAR LR LR 09 50 06.3
comp=Z,130nm,19.5s,baz=147,slow=40
RND Reindeer 61.42 335 P **P** **09 19 24.3 +2.3**
MCK McKinley 61.60 336 P **P** **09 19 24.3 +1.2**
baz=116
POKR Poker Plat Res 61.66 337 P **P** **09 19 24.7 +1.2**
baz=118
COLA College 61.70 337 P **P** **09 19 24.8 +1.1**
baz=118
TCOL CIGO, UAF Yank 61.71 337 P **P** **09 19 24.8 +1.0**
baz=118
O20K Slope Mountain 61.73 331 P **P** **09 19 26.3 +2.2**
baz=111
Q19K Cape Douglas, 61.82 330 P **P** **09 19 27.3 +2.6**
baz=109
BMAR Burnt Mountain 61.85 340 P **P** **09 19 25.7 +0.9**
TRF Thorofare Moun 62.02 335 P **P** **09 19 26.9 +0.8**
baz=115
H24K Noodor Dome 62.17 338 P **P** **09 19 28.2 +1.3**
baz=118
I23K Minto, Yukon-K 62.40 337 P **P** **09 19 29.1 +0.7**
baz=116,SNR=7.8
O19K Port Alsworth 62.57 331 P **P** **09 19 30.6 +1.0**
baz=109
BPAW Bear Paw Mtn. 62.58 336 P **P** **09 19 30.6 +0.9**
baz=114
CAST Castle Rocks 62.75 335 IAmb IAmb 09 19 32.0
comp=Z,6.4nm,1.0s
CAST Castle Rocks 62.75 335 P **P** **09 19 31.7 +0.8**
baz=113
N19K Bonanza Creek 62.85 331 P **P** **09 19 32.5 +0.9**
baz=109
MLY Manley 62.87 337 P **P** **09 19 32.7 +1.0**
baz=115
PPT Papeete 63.15 241 LR LR 09 39 43.7
comp=Z,73nm,20.6s,baz=60,slow=28
L20K Farewell, AK 63.16 333 P **P** **09 19 34.3 +0.7**
baz=111
M19K Big River Lodg 63.18 333 P **P** **09 19 35.0 +1.3**
baz=110
I21K Tanana 63.41 337 P **P** **09 19 36.1 +0.9**
baz=114
K20K Telida 63.55 334 P **P** **09 19 37.1 +1.0**
baz=111
COLD Coldfoot 63.64 339 IAmb IAmb 09 19 39.8
comp=Z,6.7nm,1.0s
COLD Coldfoot 63.64 339 P **P** **09 19 38.0 +1.3**
baz=116
J20K Nowinta River 63.88 335 P **P** **09 19 39.5 +1.2**
J20K IAmb IAmb 09 19 43.2
comp=Z,5.5nm,0.8s
J20K Nowinta River 63.88 335 P **P** **09 19 39.4 +1.2**
baz=111
H21K Melozitna Rive 63.92 337 P **P** **09 19 39.1 +0.5**
baz=113
TOLK Toolik Lake Re 64.08 340 IAmb IAmb 09 19 41.7
comp=Z,4.5nm,0.8s
TOLK Toolik Lake Re 64.08 340 P **P** **09 19 40.6 +1.0**
baz=118
ICESG Greenland Ices 64.17 19 *i* P **P** **09 19 39.5 -1.0**
ICESG IAmb IAmb 09 19 41.3
comp=Z,16nm,1.0s
TTA Tatalina 64.23 333 P **P** **09 19 41.7 +1.0**
baz=109
EUNU Eureka 65.49 2 P **P** **09 19 48.7 +0.1**
SUMG Summit 66.20 16 *i* P **P** **09 19 51.0 -2.7**
SUMG IAmb IAmb 09 19 57.7
comp=Z,4.4nm,0.8s
NEEM North Greenlan 66.42 9 *i* P **P** **09 19 54.3 -0.6**
NEEM IAmb IAmb 09 19 57.3
comp=Z,14nm,0.9s
NIKH Nikolski High 69.04 321 P **P** **09 20 13.3 +1.8**
baz=93
BORG Borgarnes 69.60 26 LR LR 09 48 38.4
comp=Z,47nm,20.8s,baz=189,slow=34
USHA Ushuaia 72.68 165 LR LR 09 48 07.0
comp=Z,79nm,21.5s,baz=94,slow=32
NOR Nord 73.76 9 *i* P **P** **09 20 38.6 -0.9**
NOR IAmb IAmb 09 20 40.6
comp=Z,2.5nm,0.7s
JMIC Jan Mayen 74.88 20 LR LR 09 54 13.3
comp=Z,127nm,19.9s,baz=225,slow=36
ESDC Sonseca Array 81.11 51 P **P** **09 21 21.5 0.0**
comp=Z,3.4nm,0.9s,baz=292,slow=5.7,SNR=13
NB2 NORSAR Subarra 84.64 28 P **P** **09 21 40.6 +1.3**
comp=Z,1.8nm,0.8s,baz=290,slow=5.3
NOA NORSAR Array B 84.64 28 P **P** **09 21 40.5 +1.3**
comp=Z,2.2nm,0.7s,baz=292,slow=5.1,SNR=7.5
NOA LR LR 10 01 24.6
comp=Z,79nm,18.1s,baz=280,slow=37
HFS Hagfors 86.11 28 LR LR 09 59 34.8
comp=Z,231nm,18.2s,baz=304,slow=36
ARCES ARCESS Array B 86.20 18 P **P** **09 21 46.7 -0.2**
comp=Z,2.7nm,0.7s,baz=343,slow=5.8,SNR=4.8
SEY Seymchan 87.15 335 P **P** **09 21 53.1 +1.5**
comp=Z,1.0nm,0.5s,baz=78,slow=20,SNR=2.1
GERES GERESS Array B 90.54 39 P **P** **09 22 08.5 +0.4**
comp=Z,0.7nm,0.7s,baz=7.6,slow=3.0,SNR=5.4
FINES FINESS Array B 90.85 24 P **P** **09 22 10.8 +1.7**
comp=Z,5.5nm,1.2s,baz=286,slow=2.6,SNR=1.8
KOLL Kolacno 93.48 38 *e*SG **S** **09 33 21.4 -6.5**
VAE Valguarnera 95.49 49 LR LR 09 59 40.9
comp=Z,106nm,19.4s,baz=112,slow=32
OBN Obninsk 99.11 26 LR LR 10 09 37.6
comp=Z,21nm,18.5s,baz=328,slow=37
WRA Warramunga Arr 133.30 256 PKhKP PKPpre 09 28 22.6
comp=Z,0.5nm,0.7s,baz=84,slow=1.7,SNR=2.9
ASAR Alice Springs 133.69 251 PKhKP PKPpre 09 28 23.2
comp=Z,0.3nm,0.7s,baz=59,slow=1.6,SNR=4.4
PZH PanZhiHua 136.14 339 PKP **PKPdf** **09 28 29.3 +1.3**
CMAR Chiang Mai Arr 144.53 338 PKhKP PKPpre 09 28 42.6
comp=Z,1.3nm,0.4s,baz=341,slow=3.8,SNR=9.1
CHLP Challavanipeta 146.97 3 *e*PKPdf **PKPdf** **09 28 44.0 -3.3**
HYBB Hyderabad (bro 147.34 13 *e*PKPdf **PKPdf** **09 28 45.5 -2.5**
NJS Nagarjunasagar 148.34 12 *e*PKPdf **PKPdf** **09 28 47.3 -2.3**
MYLAV Mylavaram 148.38 9 *e*PKPdf **PKPdf** **09 28 46.4 -3.2**
ADKI Addanki 149.15 11 *e*PKPdf **PKPdf** **09 28 47.8 -3.1**
RCLA Racherla 149.33 13 *e*PKPdf **PKPdf** **09 28 48.1 -3.2**

*JMA **28** 09:16:04.2±0.2, 44°.85N×141°.94E, h260km±2km, M3.3*
*IDC **28** 09:16:04.7±0.6, 44°.95N×141°.90E, h249km±10km, mb3.4/12, mb1 3.6/16, mb1mx3.3/51, mbtmp4.0/16, Error ellipse: s-maj=30.0km s-min=10.6km az=176.0*
ISC 28 09:16:04.4±0.7, 44°.72N±0°.07×141°.97E±0°.06, h261km±6km, n38, σ1§02/53, mb3.6/12, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	**Shosan**	**0.33**	**195**	P	**Pn**	**09 16 38.5**	**+0.2**
JSS				*e*S	**S**	**09 17 05.0**	**+0.1**
JYG	**Yagishiri**	**0.49**	**233**	P	**Pn**	**09 16 38.7**	**+0.1**
JSE	**Soyaes**	**0.50**	**61**	P	**Pn**	**09 16 38.3**	**-0.2**
JSE				*e*S	**S**	**09 17 04.5**	**-0.9**
JWK2	**Keihoku**	**0.60**	**355**	P	**Pn**	**09 16 38.3**	**-0.5**
JWK2				*e*S	**S**	**09 17 05.0**	**-1.1**
ASAJ	**Asahikawa**	**0.75**	**143**	P	**Pn**	**09 16 39.8**	**+0.2**
	11nm,0.3s,baz=297,slow=4.9,SNR=34						
ASAJ				S	**S**	**09 17 06.6**	**-0.6**
	1.4nm,0.3s,baz=117,slow=31,SNR=4.0						
ASAJ	**Asahikawa**	**0.75**	**143**	P	**Pn**	**09 16 39.8**	**+0.2**
ASAJ				*e*S	**S**	**09 17 07.7**	**+0.5**
JHR	**Hokuryu**	**0.99**	**190**	P	**Pn**	**09 16 41.4**	**+0.7**
JKK2	**Kamakawa 2**	**1.01**	**146**	P	**Pn**	**09 16 41.4**	**+0.6**
JKK2				*e*S	**S**	**09 17 10.5**	**+1.0**
JMP	**Maruseppu**	**1.22**	**125**	P	**Pn**	**09 16 42.5**	**+0.5**
JMP				*e*S	**S**	**09 17 12.0**	**+0.3**
JAB	**Ashibetsu**	**1.23**	**171**	P	**Pn**	**09 16 42.6**	**+0.5**
JTKR	**Abashiri--Toko**	**1.58**	**118**	P	**Pn**	**09 16 45.1**	**+0.7**
JTKR				*e*S	**S**	**09 17 16.6**	**+0.7**
JFR	**Furan**	**1.62**	**164**	P	**Pn**	**09 16 44.9**	**+0.1**
JSK	**Shakotan**	**1.74**	**219**	P	**Pn**	**09 16 46.2**	**+0.5**
JEW	**Eniwo**	**1.92**	**192**	P	**Pn**	**09 16 48.4**	**+1.2**
JEW				*e*S	**S**	**09 17 22.3**	**+1.3**
JAR	**Ashorobuto**	**1.92**	**137**	P	**Pn**	**09 16 48.2**	**+1.0**
JAR				*e*S	**S**	**09 17 22.3**	**+1.3**
JCH	**Churui**	**2.33**	**154**	P	**Pn**	**09 16 50.1**	**-0.8**
JCH				*e*S	**S**	**09 17 25.1**	**-2.6**
JRA	**Rausu**	**2.39**	**108**	P	**Pn**	**09 16 52.6**	**+1.2**
JNBK	**Urakawa-nobuka**	**2.50**	**167**	P	**Pn**	**09 16 53.4**	**+0.8**
JNBK				*e*S	**S**	**09 17 30.3**	**-0.4**
JAK	**Akkeshi**	**2.62**	**130**	P	**Pn**	**09 16 53.0**	**-0.7**
JAK				*e*S	**S**	**09 17 31.3**	**-1.3**
JKB	**Kayabe**	**2.91**	**194**	P	**Pn**	**09 16 56.6**	**-0.1**
JKB				*e*S	**S**	**09 17 35.7**	**-2.5**
NEM2	**Nemuro 2**	**3.04**	**115**	P	**Pn**	**09 16 57.4**	**-0.6**
NEM2				*e*S	**S**	**09 17 37.7**	**-2.8**
USRK	**Ussuriysk Ar.**	**7.16**	**269**	P	**Pn**	**09 17 47.7**	**+0.5**
	baz=64,slow=13,SNR=1.3						
KLR	**Kul'dur**	**8.32**	**306**	P	**Pn**	**09 18 00.9**	**-0.8**
	0.6nm,0.3s,baz=113,slow=13,SNR=26						
MJAR	**Matsushiro Arr**	**8.65**	**201**	P	**Pn**	**09 18 05.3**	**-0.7**
	0.2nm,0.3s,baz=9.0,slow=14,SNR=6.6						
PETK	**Petropavlovsk-**	**13.30**	**45**	P	**P**	**09 19 04.5**	**-0.1**
	0.9nm,0.3s,baz=217,slow=7.0,SNR=24						
SEY	**Seymchan**	**19.21**	**15**	P	**P**	**09 20 07.8**	**-1.1**
	0.6nm,0.3s,baz=217,slow=8.6,SNR=24						
SONM	**Songino Array**	**24.65**	**290**	P	**P**	**09 21 01.9**	**+0.4**
	4.2nm,0.5s,baz=82,slow=8.9,SNR=34						
ZALV	**Talesovo Beam**	**37.42**	**305**	P	**P**	**09 22 51.6**	**-0.9**
	0.9nm,0.4s,baz=88,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**40.82**	**295**	P	**P**	**09 23 20.8**	**+0.2**
	2.8nm,0.7s,baz=78,slow=8.5,SNR=25						
KURBB	**Kurchatov Arra**	**41.96**	**302**	P	**P**	**09 23 29.4**	**-0.3**
	2.3nm,0.4s,baz=70,slow=8.7,SNR=12						
ILAR	**Eielson Array**	**42.92**	**37**	P	**P**	**09 23 36.8**	**-0.4**
	1.1nm,0.7s,baz=279,slow=7.0,SNR=9.6						
BVAR	**Borovoye Array**	**45.98**	**307**	P	**P**	**09 24 01.3**	**-0.2**
	1.0nm,0.5s,baz=65,slow=14,SNR=7.1						
INK	**Inuvik**	**47.44**	**30**	P	**P**	**09 24 11.6**	**-0.9**
	1.0nm,0.3s,baz=296,slow=7.6,SNR=13						
YKA	**Yellowknife Ar**	**57.03**	**33**	P	**P**	**09 25 23.3**	**+0.6**
	0.9nm,0.6s,baz=306,slow=7.0,SNR=21						
AKASG	**Malin Array Be**	**68.54**	**321**	P	**P**	**09 26 37.6**	**-1.0**
	0.4nm,0.4s,baz=41,slow=6.6,SNR=4.4						
NVAR	**Mina Array Bea**	**70.16**	**55**	P	**P**	**09 26 50.3**	**+1.3**
	0.6nm,0.7s,baz=299,slow=5.6,SNR=3.5						
PDAR	**Pinedale Array**	**72.06**	**47**	P	**P**	**09 27 01.5**	**+1.2**
	1.5nm,0.6s,baz=265,slow=0.6,SNR=19						
TXAR	**Lajitas Array**	**85.12**	**53**	P	**P**	**09 28 13.1**	**+1.7**
	0.7nm,0.8s,baz=311,slow=4.3,SNR=6.4						

*IDC **28** 09:22:12.0±1.1, 41°.00N×127°.35W, h0km, mb3.9/15, mb1 4.0/21, mb1mx3.8/55, mbtmp3.9/21, ML3.2/6, MS3.7/15, Ms1 3.7/15, ms1mx3.4/80, Error ellipse: s-maj=26.9km s-min=10.8km az=18.0*
*NCEDC **28** 09:22:13.6±5.0, 40°.48N±0°.07×127°.3W±0°.1, h10km±2km, Error ellipse: s-maj=13.0km s-min=12.4km az=278.0*
*NEIC **28** 09:22:14.4±3.0, 40°.83N±0°.04×127°.19W±0°.09, h10km±1km, mb4.3/16, ML3.4/50, ML3.5/15(NCEDC), Error ellipse: s-maj=12.8km s-min=5.1km az=247.0*
*ANF **28** 09:22:17.2±1.4, 41°.13N×126°.83W, h0km, ML3.8/8, Error ellipse: s-maj=14.8km s-min=8.8km az=53.0*
ISC 28 09:22:13.5±0.7, 40°.94N±0°.07×127°.24W±0°.07, h10km, n139, σ1§65/130, mb4.1/21, MS3.6/10, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPM	**Mount Pierce**	**2.43**	**101**		**Pn**	**09 22 51.6**	**-1.8**
KMPM				IAML		09 23 43.9	
	comp=E,242nm,1.0s						
JCC	**Jacoby Creek,**	**2.44**	**92**		**Pn**	**09 22 52.1**	**-1.3**
JCC				IAML		09 23 21.3	
	comp=N,116nm,0.2s						
JCC	**Jacoby Creek,**	**2.44**	**92**		**Sn**	**09 23 20.4**	**-2.8**
JCC	**Jacoby Creek,**	**2.44**	**92**		**Pn**	**09 22 52.5**	**-0.9**
KRPM	**Rodgers**	**2.44**	**84**		**Pn**	**09 22 52.8**	**-0.8**
KRPM				IAML		09 23 41.0	
	comp=E,221nm,2.3s						
KBO	**Bosley Butte**	**2.59**	**60**		**Pn**	**09 22 55.9**	**+0.3**
KBO				IAML		09 24 06.2	
	comp=E,202nm,2.7s						
KCRM	**Chalk Rock**	**2.65**	**100**		**Pn**	**09 22 55.1**	**-1.3**
KHMM	**Horse Mountain**	**2.66**	**90**		**Pn**	**09 22 56.0**	**-0.6**
KHMM				IAML		09 23 30.8	
	comp=E,194nm,1.0s						
KHMM				IAML		09 23 35.3	
	comp=N,148nm,1.1s						
KSXB	**Camp Six Broad**	**2.68**	**70**		**Pn**	**09 22 56.5**	**-0.4**
KMRM	**Mail Ridge**	**2.78**	**104**		**Pn**	**09 22 57.0**	**-1.2**
KMRM				IAML		09 23 36.5	
	comp=E,158nm,2.0s						
KMRM				IAML		09 23 38.9	
	comp=N,126nm,1.1s						
KOMM	**Orleans Mounta**	**2.88**	**82**		**Pn**	**09 22 59.8**	**+0.2**
KBSM	**Bell Springs**	**2.96**	**109**		**Pn**	**09 22 59.4**	**-1.3**
L02E	**Cave Junction**	**2.99**	**65**		**Pn**	**09 23 00.7**	**-0.3**
L02E	**Cave Junction**	**2.99**	**65**	P	**Pn**	**09 23 00.8**	**-0.1**
	baz=238,SNR=36						
L02E				S	**Sn**	**09 23 34.7**	**-2.1**
	baz=238						
KCPM	**Cahto Peak**	**3.06**	**113**		**Pn**	**09 23 01.2**	**-0.9**
KCPM				IAML		09 23 49.1	
	comp=N,115nm,1.0s						
KCPM				IAML		09 23 50.6	
	comp=E,126nm,1.8s						
K02D	**Willamette Mer**	**3.19**	**56**	P	**Pn**	**09 23 03.2**	**-0.6**
	baz=230,SNR=56						
K02D				S	**Sn**	**09 23 39.3**	**-2.7**
	baz=230						
J01E	**Myrtle Point**	**3.31**	**47**	Pn	**Pn**	**09 23 05.5**	**+0.1**
J01E				IAML		09 23 31.0	
	comp=N,73nm,4.3s						
J01E	**Myrtle Point**	**3.31**	**47**	P	**Pn**	**09 23 05.1**	**-0.3**
	baz=222						
J01E				S	**Sn**	**09 23 42.0**	**-2.8**
	baz=222						
M02C	**Callahan**	**3.34**	**81**		**Pn**	**09 23 05.9**	**0.0**
M02C	**Callahan**	**3.34**	**81**	P	**Pn**	**09 23 06.2**	**+0.3**
	baz=254,SNR=21						
M02C				S	**Sn**	**09 23 43.7**	**-1.9**
	baz=254						
N02D	**Trinity Center**	**3.43**	**88**		**Pn**	**09 23 07.1**	**-0.1**
N02D				IAML		09 23 52.7	
	comp=N,90nm,0.7s						
N02D				IAML		09 23 58.1	
	comp=E,101nm,0.7s						
N02D	**Trinity Center**	**3.43**	**88**	P	**Pn**	**09 23 06.9**	**-0.2**
	baz=262,SNR=39						
N02D				S	**Sn**	**09 23 46.4**	**-1.6**
	baz=262						
YBH	**Yreka Blue Hor**	**3.50**	**76**	Pn	**Pn**	**09 23 09.3**	**+1.2**
	comp=E,9.5nm,0.3s,baz=263,slow=11,SNR=54						
YBH				Sn	**Sn**	**09 23 50.0**	**+0.4**
	comp=E,0.8nm,0.3s,baz=250,slow=8.2,SNR=1.7						
WDC	**Whiskeytown Da**	**3.59**	**94**		**Pn**	**09 23 09.3**	**+0.1**
HUMO	**Hull Mountain**	**3.61**	**61**		**Pn**	**09 23 09.9**	**+0.4**
DBO	**Dodson Butte**	**3.69**	**53**		**Pn**	**09 23 10.7**	**0.0**
DBO				IAML		09 24 39.6	
	comp=N,66nm,4.8s						
DBO				IAML		09 24 40.2	
	comp=E,54nm,4.8s						
HOPS	**Hopland Field**	**3.75**	**120**		**Pn**	**09 23 10.3**	**-1.1**
HOPS				IAML		09 23 53.4	
	comp=N,58nm,2.9s						
HOPS				IAML		09 24 48.3	
	comp=E,68nm,4.7s						
L04D	**Klamath Falls**	**3.91**	**69**		**Pn**	**09 23 15.7**	**+1.9**
L04D				IAML		09 24 08.4	
	comp=N,60nm,1.0s						
L04D	**Klamath Falls**	**3.91**	**69**	P	**Pn**	**09 23 15.2**	**+1.4**
	baz=245,SNR=73						
I03D	**Drain, OR**	**3.99**	**45**	P	**Pn**	**09 23 14.3**	**-0.4**
	baz=222,SNR=24						
M04C	**Macdoel**	**4.15**	**77**		**Pn**	**09 23 18.6**	**+1.6**
M04C	**Macdoel**	**4.15**	**77**	P	**Pn**	**09 23 18.2**	**+1.1**
	baz=253,SNR=28						
O03E	**Paynes Creek**	**4.19**	**97**		**Pn**	**09 23 17.0**	**-0.5**
O03E				IAML		09 24 18.9	
	comp=E,48nm,0.9s						
O03E				IAML		09 24 21.7	
	comp=N,27nm,1.8s						
O03E	**Paynes Creek**	**4.19**	**97**	P	**Pn**	**09 23 17.5**	**-0.1**
	baz=273						
O03E				S	**Sn**	**09 24 05.3**	**-1.3**
	baz=273						
MCCM	**Marconi Confer**	**4.38**	**128**	Pn	**Pn**	**09 23 18.7**	**-1.4**
MCCM				IAML		09 24 10.1	
	comp=N,48nm,1.9s						
K04D	**Chiloquin, OR**	**4.43**	**66**	P	**Pn**	**09 23 20.9**	**0.0**
	baz=243						
I04A	**Tendick Farm,**	**4.57**	**50**	P	**Pn**	**09 23 22.5**	**-0.2**
	baz=228						
ORV	**Oroville**	**4.61**	**106**		**Pn**	**09 23 23.3**	**+0.1**
H04D	**Lebanon**	**4.88**	**41**	Pn	**Pn**	**09 23 27.8**	**+0.9**
H04D	**Lebanon**	**4.88**	**41**	P	**Pn**	**09 23 27.4**	**+0.5**
	baz=220						
J05D	**Fort Rock, OR**	**5.04**	**60**	P	**Pn**	**09 23 29.8**	**+0.5**
	baz=239,SNR=14						
K05A	**Summer Lake**	**5.06**	**67**		**Pn**	**09 23 30.1**	**+0.4**
H04A	**Detroit Lake**	**5.27**	**43**		**Pn**	**09 23 32.9**	**+0.6**
H04A				IAML		09 26 47.6	
	comp=N,25nm,4.7s						
MOD	**Modoc Plateau**	**5.30**	**77**		**Pn**	**09 23 33.8**	**+0.9**
MOD				IAML		09 24 14.6	
	comp=E,18nm,5.0s						
MOD				IAML		09 25 00.6	
	comp=N,19nm,4.8s						
PINE	**Pine Mountain**	**5.46**	**57**	Pn	**Pn**	**09 23 35.7**	**+0.5**
RUBR	**Rubicon Trail**	**5.76**	**107**		**Pn**	**09 23 41.0**	**+1.8**
MPK	**Martis Peak**	**5.77**	**104**		**Pn**	**09 23 40.9**	**+1.5**
EMB	**Emerald Bay**	**5.82**	**107**		**Pn**	**09 23 43.9**	**+3.7**
CMB	**Columbia Colle**	**6.04**	**117**	Pn	**Pn**	**09 23 44.2**	**+1.2**
SAO	**San Andreas Ge**	**6.15**	**131**		**Pn**	**09 23 43.0**	**-1.5**
YERR	**Yerington**	**6.45**	**105**	Pn	**Pn**	**09 23 48.9**	**+0.2**
BBGB	**Big Mountain B**	**6.51**	**130**		**Pn**	**09 23 48.8**	**-0.7**
I07A	**Izee**	**6.52**	**59**		**Pn**	**09 23 52.1**	**+2.5**
WVOR	**Wild Horse Val**	**6.61**	**74**		**Pn**	**09 23 52.6**	**+1.8**
PMPB	**Monarch Peak**	**6.91**	**131**	Pn	**Pn**	**09 23 53.6**	**-1.3**
J08A	**Circle Bar Ran**	**6.95**	**67**		**Pn**	**09 23 57.5**	**+2.0**
NVAR	**Mina Array Bea**	**7.33**	**107**	Pn	**Pn**	**09 24 01.3**	**+0.4**
	comp=N,0.1nm,0.3s,baz=289,slow=15,SNR=3.6						
NVAR				LR	LR	09 27 06.2	
	comp=N,613nm,21.1s,baz=306,slow=39						
PAGB	**Antelope Grade**	**7.56**	**131**		**Pn**	**09 24 02.2**	**-1.7**
BMO	**Blue Mountains**	**8.27**	**59**	Pn	**Pn**	**09 24 14.6**	**+1.0**
MFID	**Camas Ranch**	**8.82**	**70**		**Pn**	**09 24 21.6**	**+0.4**
ELK	**Elko**	**9.10**	**87**	Pn	**Pn**	**09 24 29.2**	**+4.1**
	comp=N,0.1nm,0.3s,baz=260,slow=11,SNR=6.7						
ELK	**Elko**	**9.10**	**87**	Pn	**Pn**	**09 24 27.5**	**+2.4**
PLID	**Pearl Lake**	**9.21**	**60**	Pn	**Pn**	**09 24 28.5**	**+1.8**
HLID	**Hailey**	**9.86**	**70**		**Pn**	**09 24 37.2**	**+1.7**
GSC	**Goldstone, Bar**	**9.96**	**121**		**Pn**	**09 24 38.2**	**+1.4**
NEW	**Newport**	**10.27**	**41**	Pn	**Pn**	**09 24 44.0**	**+3.1**
	comp=N,0.1nm,0.3s,baz=234,slow=10,SNR=2.9						
NEW				LR	LR	09 28 26.6	
	comp=N,309nm,19.6s,baz=245,slow=36						
HVU	**Hansel Valley**	**10.91**	**81**		**Pn**	**09 24 52.0**	**+2.2**
DUG	**Dugway, Tooele**	**11.00**	**89**		**Pn**	**09 24 51.8**	**+0.8**
MCMT	**McKenzie Canyo**	**11.25**	**65**		**Pn**	**09 24 58.2**	**+3.7**
PFO	**Pinyon Flats O**	**11.28**	**127**	Pn	**Pn**	**09 24 52.7**	**-2.2**
	comp=N,0.1nm,0.3s,baz=270,slow=7.1,SNR=2.0						
PFO				LR	LR	09 29 01.6	
	comp=N,235nm,21.0s,baz=284,slow=36						
LRM	**Limekiln Ridge**	**11.81**	**61**		**Pn**	**09 25 05.5**	**+3.3**
HWUT	**Hardware Ranch**	**11.82**	**82**		**Pn**	**09 25 02.4**	**+0.1**
MSU	**Marysvale**	**11.85**	**97**	Pn	**Pn**	**09 25 07.5**	**+4.7**
JLU	**Jordanelle**	**11.98**	**86**		**Pn**	**09 25 05.3**	**+0.7**
W13A	**Hualapai Mount**	**12.03**	**115**	Pn	**Pn**	**09 25 08.4**	**+3.2**
TMUT	**Trail Mountain**	**12.38**	**92**		**Pn**	**09 25 13.9**	**+3.8**
U15A	**North Rim**	**12.52**	**106**		Pn	09 25 17.4	+5.4
Y14A	**Wickenburg**	**13.29**	**117**	Pn	**Pn**	**09 25 21.4**	**-0.9**
BW06	**Boulder Array**	**13.31**	**76**		**Pn**	**09 25 23.5**	**+0.9**
PD31	**Pinedale Array**	**13.31**	**76**	Pn	**Pn**	**09 25 23.7**	**+1.0**
PDAR	**Pinedale Array**	**13.31**	**76**	Pn	**

comp=Z,0.0nm,0.3s,baz=201,slow=8.6,SNR=2.9
MNTX Cornudas Mount 19.84 111 P 09 26 44.8 +0.3
MNTX IAmb IAmb 09 26 57.4
comp=Z,8.8nm,1.1s
FFC Flin Flon 21.70 42 P P 09 27 05.6 +1.2
FFC IAmb IAmb 09 27 12.4
comp=Z,24nm,1.0s
LPIG La Paz 21.98 135 LR LR 09 34 06.4
comp=Z,94nm,19.6s,baz=12,slow=32
TX31 Lajitas Ar. Si 22.41 114 P **P 09 27 14.1 +1.6**
TX32 Lajitas Array 22.41 114 P **P 09 27 15.4 +2.9**
TX32 IAmb IAmb 09 27 23.5
comp=Z,10nm,1.2s
TXAR Lajitas Array 22.42 114 P **P 09 27 14.6 +2.1**
comp=Z,2.7nm,1.0s,baz=300,slow=8.9,SNR=16
TXAR Lajitas Array 22.42 114 P **P 09 27 15.3 +2.9**
YKA Yellowknife Ar 22.87 15 P **P 09 27 16.5 -0.4**
comp=Z,2.5nm,0.9s,baz=205,slow=10,SNR=14
F33A 5 Mile Ranch, 22.93 67 P **P 09 27 18.9 +1.2**
F33A IAmb IAmb 09 27 26.9
comp=Z,23nm,1.2s
KAN06 Argonia West S 23.05 90 P **P 09 27 19.0 +0.1**
KAN06 IAmb IAmb 09 27 28.7
comp=Z,20nm,1.0s
KAN14 Manchester OK 23.06 90 P **P 09 27 19.5 +0.4**
WMOK Wichita Mounta 23.25 96 P **P 09 27 22.5 +1.4**
WMOK IAmb IAmb 09 27 30.6
comp=Z,15nm,1.4s
MENT Mentasta 24.11 341 P **P 09 27 32.3 +3.1**
MENT IAmb IAmb 09 27 39.0
comp=Z,12nm,1.0s
OK034 N. Norfolk Rd. 24.33 92 P **P 09 27 33.1 +1.7**
435B Jarrell 25.97 104 P **P 09 27 50.4 +4.1**
ILAR Eielson Array 26.42 341 P **P 09 27 50.1 +0.1**
comp=Z,1.2nm,0.8s,baz=156,slow=8.2,SNR=11
TKL Tuckaleechee C 34.25 85 LR LR 09 43 43.5
comp=Z,199nm,18.5s,baz=316,slow=38
RES Resolute Bay 36.92 14 P **P 09 29 21.8 -0.3**
comp=Z,1.3nm,0.7s,baz=231,slow=12,SNR=3.2
SHEM Shemya Is, Ala 40.73 307 LR LR 09 44 58.9
comp=Z,48nm,19.0s,baz=329,slow=34
APG El Apazote 41.04 118 LR LR 09 48 16.0
comp=Z,64nm,19.2s,baz=328,slow=38
PETK Petropavlovsk- 50.32 311 P **P 09 31 09.9 -0.3**
comp=Z,2.2nm,0.8s,baz=58,slow=3.6,SNR=1.4
SEY Seymchan 50.33 324 P **P 09 31 09.8 -0.3**
comp=Z,0.6nm,0.5s,baz=68,slow=16,SNR=2.2
TIXI Tiksi 55.84 338 P **P 09 31 48.3 -2.2**
comp=Z,1.4nm,0.3s,baz=76,slow=8.0,SNR=1.7
SDV Santo Domingo 59.19 106 LR LR 09 59 01.6
comp=Z,37nm,20.8s,baz=268,slow=37
H11N3 WAKE ISLAND Hy 59.28 270 T T 10 36 29.8
baz=53,slow=75,SNR=108
H11N2 WAKE ISLAND Hy 59.28 270 T T 10 36 30.3
baz=53,slow=75,SNR=106
H11N1 WAKE ISLAND Hy 59.29 270 T T 10 36 27.9
baz=53,slow=75,SNR=145
H11S1 WAKE ISLAND Hy 60.16 269 T T 10 37 35.7
baz=52,slow=75,SNR=24
H11S2 WAKE ISLAND Hy 60.16 269 T T 10 37 36.6
baz=52,slow=75,SNR=22
H11S3 WAKE ISLAND Hy 60.17 269 T T 10 37 34.0
baz=52,slow=75,SNR=13
PTGA Pitinga 73.48 106 LR LR 10 09 40.4
comp=Z,32nm,19.2s,baz=332,slow=39
MDP Montagnes des 75.04 96 LR LR 10 11 07.4
comp=Z,28nm,18.1s,baz=335,slow=39
SONM Songino Array 79.64 327 P **P 09 34 20.3 -0.9**
comp=Z,1.4nm,1.0s,baz=81,slow=4.5,SNR=6.9
ZALV Zalesovo Beam 81.54 342 P **P 09 34 30.2 -0.8**
comp=Z,0.5nm,0.4s,baz=37,slow=8.1,SNR=1.8
ARU Arti 82.87 357 LR LR 10 13 18.1
comp=Z,81nm,19.8s,baz=306,slow=37
GERES GERESS Array B 84.17 25 P **P 09 34 46.0 +1.1**
comp=Z,0.3nm,0.2s,baz=328,slow=3.6,SNR=1.6
ESDC Sonseca Array 84.59 40 P **P 09 34 47.5 +0.3**
comp=Z,0.3nm,0.5s,baz=297,slow=3.8,SNR=2.4
BVAR Borovoye Array 85.17 349 P **P 09 34 49.9 +0.1**
comp=Z,0.5nm,0.6s,baz=76,slow=6.1,SNR=3.6
KURBB Kurchatov Arra 86.06 344 P **P 09 34 53.7 -0.5**
comp=Z,1.2nm,0.8s,baz=16,slow=4.8,SNR=5.6
AKASG Malin Array Be 86.44 15 P **P 09 34 55.2 -0.8**
comp=Z,0.6nm,0.6s,baz=348,slow=4.5,SNR=6.5
AKTO Aktyubinsk 88.88 357 P **P 09 35 07.2 -0.6**
comp=Z,2.8nm,0.8s,baz=39,slow=3.4,SNR=4.8
AKTO LR LR 10 17 31.5
comp=Z,79nm,19.1s,baz=324,slow=37
JAY Jayapura 93.19 269 LR LR 10 09 52.8
comp=Z,82nm,19.9s,baz=314,slow=31

*IDC **28** 09:28:53.5±1.4, 59.°76N×153.°34W, h91km±19km, mb3.3/4, mb1 3.5/9, mb1mx3.2/63, mbtmp3.6/9, MS3.7/1, Ms1 3.7/1, ms1mx2.7/46, Error ellipse: s-maj=24.1km s-min=11.1km az=105.0*
*ANF **28** 09:28:54.8±0.2, 59.°71N×153.°13W, h103km±3km, ML3.5/24, Error ellipse: s-maj=2.2km s-min=2.2km az=179.0*
*NEIC **28** 09:28:54.9±0.8, 59.°73N±0.°04×153.°17W±0.°05, h110km±5km, Error ellipse: s-maj=5.7km s-min=3.6km az=161.0*
*AEIC **28** 09:28:55±1.2, 59.°72N±0.°04×153.°15W±0.°07, h106km±5km, ML3.0, ML3.3/82(NEIC), Error ellipse: s-maj=6.0km s-min=4.7km az=135.0*
ISC 28 09:28:54.8±0.8, 59.°73N±0.°03×153.°13W±0.°03, h111km±5km, n200, σ0.968/199, mb3.7/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.09**	**215**		**Pn**	**09 29 10.1**	**-0.1**
ILS	**Iliamna Low So**	**0.23**	**8**		**Pn**	**09 29 10.4**	**-0.2**
AUL	**Augustine Lava**	**0.38**	**204**		**Pn**	**09 29 11.2**	**+0.1**
AUL					**Sn**	**09 29 23.1**	**-0.1**
AGU	**Augustine-Summ**	**0.40**	**203**		**Pn**	**09 29 11.3**	**0.0**
AUQ	**Augustine Qik'**	**0.40**	**201**		**Pn**	**09 29 11.3**	**+0.1**
AUQ					**Sn**	**09 29 23.0**	**-0.4**
O20K	**Slope Mountain**	**0.44**	**35**		**Pn**	**09 29 11.3**	**-0.2**
O20K					**Sn**	**09 29 23.8**	**-0.2**
O20K	**Slope Mountain**	**0.44**	**35**	P	**Pn**	**09 29 11.4**	**0.0**
	baz=216,SNR=11						
RED	**Redoubt Volcan**	**0.72**	**14**		**Pn**	**09 29 13.3**	**-0.2**
RED					**Sn**	**09 29 26.7**	**-0.9**
HOM	**Homer**	**0.76**	**94**		**Pn**	**09 29 13.8**	**0.0**
HOM					**Sn**	**09 29 28.5**	**+0.5**
HOM	**Homer**	**0.76**	**94**	IAML		09 29 30.2	
	comp=E,719nm,0.8s						
HOM				IAML		09 29 30.6	
	comp=N,749nm,0.3s						
HOM	**Homer**	**0.76**	**94**	P	**Pn**	**09 29 13.7**	**0.0**
	baz=275,SNR=8.3						
O19K	**Port Alsworth**	**0.76**	**309**		**Pn**	**09 29 13.5**	**-0.2**
O19K					**Sn**	**09 29 27.1**	**-0.9**
O19K	**Port Alsworth**	**0.76**	**309**	IAML		09 29 27.9	
	comp=N,1μm,0.4s						
O19K				IAML		09 29 28.7	
	comp=E,1μm,0.4s						
O19K	**Port Alsworth**	**0.76**	**309**	P	**Pn**	**09 29 13.6**	**-0.2**
	baz=129,SNR=35						
O19K				S	**Sn**	**09 29 27.0**	**-0.9**
	baz=129						
RSO	**Redoubt South**	**0.76**	**14**		**Pn**	**09 29 14.0**	**0.0**
Q19K	**Cape Douglas,**	**0.84**	**198**		**Pn**	**09 29 14.5**	**0.0**
Q19K					**Sn**	**09 29 29.1**	**-0.3**
Q19K	**Cape Douglas,**	**0.84**	**198**	IAML		09 29 33.1	
	comp=E,600nm,0.8s						
Q19K				IAML		09 29 34.4	
	comp=N,760nm,0.8s						
Q19K	**Cape Douglas,**	**0.84**	**198**	P	**Pn**	**09 29 14.5**	**0.0**
	baz=17,SNR=7.2						
Q19K				S	**Sn**	**09 29 29.0**	**-0.3**
	baz=17						
NCT	**North Crescent**	**0.84**	**7**		**Pn**	**09 29 14.5**	**-0.2**
NCT					**Sn**	**09 29 28.7**	**-0.9**
DFR	**Drift River**	**0.90**	**14**		**Pn**	**09 29 15.0**	**-0.1**
DFR					**Sn**	**09 29 29.6**	**-0.9**
RDT	**Redoubt**	**0.93**	**23**		**Pn**	**09 29 15.3**	**-0.1**
CNPM	**China Poot**	**0.98**	**101**		**Pn**	**09 29 15.7**	**-0.2**
O18K	**Koktuh Hills**	**1.06**	**278**		**Pn**	**09 29 16.4**	**-0.3**
O18K					**Sn**	**09 29 31.9**	**-1.3**
P18K	**Big Mountain,**	**1.12**	**254**		**Pn**	**09 29 16.9**	**-0.5**
P18K	**Big Mountain,**	**1.12**	**254**	P	**Pn**	**09 29 16.8**	**-0.5**
	baz=72						
P18K				S	**Sn**	**09 29 33.1**	**-1.3**
	baz=72						
BRLK	**Bradley Lake**	**1.14**	**87**		**Pn**	**09 29 17.1**	**-0.4**
BRLK					**Sn**	**09 29 33.9**	**-0.8**
BRLK	**Bradley Lake**	**1.14**	**87**	IAML		09 29 36.0	
	comp=N,565nm,0.1s						
BRSE	**Bradley Lake S**	**1.21**	**88**		**Pn**	**09 29 18.1**	**-0.2**
BRSE	**Bradley Lake S**	**1.21**	**88**	P	**Pn**	**09 29 18.1**	**-0.2**
	baz=270						
BRSE				S	**Sn**	**09 29 35.3**	**-0.8**
	baz=270						
N19K	**Bonanza Creek**	**1.28**	**329**		**Pn**	**09 29 19.1**	**-0.1**
N19K					**Sn**	**09 29 36.7**	**-1.1**
N19K	**Bonanza Creek**	**1.28**	**329**	P	**Pn**	**09 29 19.1**	**-0.1**
	baz=148						
N19K				S	**Sn**	**09 29 36.6**	**-1.1**
	baz=148						
CAPN	**Captain Cook N**	**1.44**	**42**		**Pn**	**09 29 22.6**	**+1.8**
CAPN	**Captain Cook N**	**1.44**	**42**	P	**Pn**	**09 29 22.6**	**+1.8**
	baz=224						
SPU	**Mount Spurr**	**1.56**	**20**		**Pn**	**09 29 22.3**	**0.0**
SPCN	**Chakachatna No**	**1.58**	**17**		**Pn**	**09 29 22.8**	**+0.2**
SLKM	**Skilak Lake**	**1.66**	**60**		**Pn**	**09 29 23.4**	**-0.1**
SPNN	**North Nagishla**	**1.66**	**7**		**Pn**	**09 29 23.9**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.67**	**19**		**Pn**	**09 29 23.9**	**+0.2**
KABU	**Katmai Buttres**	**1.83**	**218**		**Pn**	**09 29 26.4**	**+0.5**
KABU					**Sn**	**09 29 49.6**	**+0.1**
O22K	**Cooper Landing**	**1.87**	**65**		**Pn**	**09 29 26.2**	**+0.1**
O22K	**Cooper Landing**	**1.87**	**65**	IAML		09 30 00.4	
	comp=E,487nm,0.6s						
O22K	**Cooper Landing**	**1.87**	**65**	P	**Pn**	**09 29 26.1**	**+0.1**
	baz=247,SNR=8.1						
O22K				S	**Sn**	**09 29 48.4**	**-1.6**
	baz=247						
STLK	**Strandline Lak**	**1.89**	**19**		**Pn**	**09 29 26.5**	**0.0**
SEW	**Seward**	**1.89**	**77**		**Pn**	**09 29 26.1**	**-0.3**
SEW	**Seward**	**1.89**	**77**	P	**Pn**	**09 29 26.1**	**-0.3**
	baz=260						
SEW				S	**Sn**	**09 29 49.0**	**-1.5**
	baz=260						
KDAK	**Kodiak Island**	**1.97**	**171**	P	**Pn**	**09 29 26.6**	**-0.8**
	comp=E,17nm,0.3s,baz=20,slow=12,SNR=69						
KDAK				S	**Sn**	**09 29 51.1**	**-1.2**
	comp=E,15nm,0.3s,baz=298,slow=23,SNR=26						
KDAK	**Kodiak Island**	**1.97**	**171**		**Pn**	**09 29 26.8**	**-0.6**
KDAK	**Kodiak Island**	**1.97**	**171**	IAML		09 29 52.6	
	comp=E,137nm,1.4s						
KDAK	**Kodiak Island**	**1.97**	**171**	P	**Pn**	**09 29 26.7**	**-0.6**
	baz=352						
KDAK				S	**Sn**	**09 29 51.3**	**-1.0**
	baz=352						
FIS	**Fire Island**	**2.03**	**44**		**Pn**	**09 29 29.4**	**+1.4**
FIS	**Fire Island**	**2.03**	**44**	IAML		09 29 50.2	
	comp=E,271nm,3.4s						
FIS				IAML		09 30 02.5	
	comp=N,302nm,1.0s						
RC01	**Rabbit Creek A**	**2.17**	**49**		**Pn**	**09 29 30.0**	**+0.1**
RC01	**Rabbit Creek A**	**2.17**	**49**	IAML		09 29 57.0	
	comp=E,355nm,0.3s						
RC01	**Rabbit Creek A**	**2.17**	**49**	P	**Pn**	**09 29 30.0**	**+0.1**
	baz=232						
RC01				S	**Sn**	**09 29 55.4**	**-1.4**
	baz=232						
M19K	**Big River Lodg**	**2.27**	**345**		**Pn**	**09 29 31.2**	**0.0**
M19K	**Big River Lodg**	**2.27**	**345**	P	**Pn**	**09 29 31.2**	**0.0**
	baz=164,SNR=30						
OHAK	**Old Harbor**	**2.51**	**182**		**Pn**	**09 29 33.3**	**-1.0**
OHAK	**Old Harbor**	**2.51**	**182**	IAML		09 30 01.8	
	comp=N,83nm,2.8s						
OHAK				IAML		09 30 13.7	
	comp=E,89nm,3.0s						
OHAK	**Old Harbor**	**2.51**	**182**	P	**Pn**	**09 29 33.3**	**-1.0**
	baz=1.6						
M22K	**Willow**	**2.52**	**35**	S	**Sn**	**09 30 04.6**	**-0.2**
	baz=217						
L19K	**White Mountain**	**2.60**	**342**		**Pn**	**09 29 35.4**	**-0.2**
L19K	**White Mountain**	**2.60**	**342**	P	**Pn**	**09 29 35.4**	**-0.2**
	baz=161						
PWL	**Port Wells**	**2.65**	**62**		**Pn**	**09 29 35.3**	**-0.8**
PWL	**Port Wells**	**2.65**	**62**	P	**Pn**	**09 29 35.4**	**-0.8**
	baz=247						
PMR	**Palmer**	**2.72**	**45**		**Pn**	**09 29 36.1**	**-0.8**
PMR	**Palmer**	**2.72**	**45**	IAML		09 30 09.5	
	comp=E,102nm,0.3s						
PMR				IAML		09 30 09.8	
	comp=N,87nm,0.5s						
PMR	**Palmer**	**2.72**	**45**	P	**Pn**	**09 29 36.2**	**-0.8**
	baz=228						
L20K	**Farewell, AK**	**2.79**	**353**		**Pn**	**09 29 38.2**	**+0.3**
L20K	**Farewell, AK**	**2.79**	**353**	P	**Pn**	**09 29 38.2**	**+0.3**
	baz=172						
KNK	**Knik Glacier**	**2.86**	**52**		**Pn**	**09 29 38.3**	**-0.6**
KNK	**Knik Glacier**	**2.86**	**52**	P	**Pn**	**09 29 38.3**	**-0.6**
	baz=236						
GHO	**Glory Hole Cre**	**2.91**	**43**		**Pn**	**09 29 38.9**	**-0.8**
CUT	**Chulitna**	**3.03**	**26**		**Pn**	**09 29 41.3**	**+0.2**
CUT				IAML		09 30 17.7	
	comp=N,96nm,0.4s						
CUT				IAML		09 30 23.0	
	comp=E,100nm,0.3s						
CUT	**Chulitna**	**3.03**	**26**	P	**Pn**	**09 29 41.2**	**+0.2**
	baz=209,SNR=10						
SML	**Sawmill**	**3.15**	**46**		**Pn**	**09 29 42.1**	**-0.7**
SML	**Sawmill**	**3.15**	**46**	IAML		09 30 20.6	
	comp=N,78nm,0.6s						
SML				IAML		09 30 26.4	
	comp=E,80nm,0.6s						
SML	**Sawmill**	**3.15**	**46**	P	**Pn**	**09 29 42.0**	**-0.7**
	baz=231						
PPLA	**Purkeypile**	**3.21**	**8**		**Pn**	**09 29 45.0**	**+1.2**
PPLA	**Purkeypile**	**3.21**	**8**	P	**Pn**	**09 29 44.8**	**+1.1**
	baz=189,SNR=7.1						
SII	**Sitkinak Islan**	**3.22**	**190**		**Pn**	**09 29 42.5**	**-1.3**
SII	**Sitkinak Islan**	**3.22**	**190**	P	**Pn**	**09 29 42.7**	**-1.1**
	baz=9.3						
FID	**Port Fidalgo**	**3.47**	**70**		**Pn**	**09 29 45.4**	**-1.7**
TT01	**Tatalina**	**3.48**	**338**		**Pn**	**09 29 46.8**	**-0.4**
TTA	**Tatalina**	**3.50**	**338**		**Pn**	**09 29 47.0**	**-0.5**
TTA	**Tatalina**	**3.50**	**338**	P	**Pn**	**09 29 47.0**	**-0.5**
	baz=156,SNR=13						
JPK	**Jack Peak**	**3.51**	**65**		**Pn**	**09 29 46.7**	**-0.8**
SCM	**Sheep Creek Mo**	**3.54**	**51**		**Pn**	**09 29 47.5**	**-0.6**
SCM	**Sheep Creek Mo**	**3.54**	**51**	IAML		09 30 30.4	
	comp=E,105nm,0.5s						
SCM				IAML		09 30 32.7	
	comp=N,83nm,0.7s						
SCM	**Sheep Creek Mo**	**3.54**	**51**	P	**Pn**	**09 29 47.4**	**-0.7**
	baz=236						
K20K	**Telida**	**3.67**	**353**		**Pn**	**09 29 49.7**	**0.0**
K20K	**Telida**	**3.67**	**353**	P	**Pn**	**09 29 49.6**	**0.0**
	baz=173						
CAST	**Castle Rocks**	**3.74**	**7**		**Pn**	**09 29 50.8**	**+0.2**
CAST	**Castle Rocks**	**3.74**	**7**	P	**Pn**	**09 29 50.6**	**0.0**
	baz=188,SNR=16						
EYAK	**Cordova Ski Ar**	**3.78**	**74**		**Pn**	**09 29 50.1**	**-1.1**
EYAK	**Cordova Ski Ar**	**3.78**	**74**	P	**Pn**	**09 29 50.2**	**-0.9**
	baz=260						
DIV	**Divide**	**3.91**	**66**		**Pn**	**09 29 52.4**	**-0.5**
KLU	**Klutina**	**3.97**	**60**		**Pn**	**09 29 53.1**	**-0.7**
KLU	**Klutina**	**3.97**	**60**	IAML		09 30 38.5	
	comp=E,73nm,0.3s						
KLU	**Klutina**	**3.97**	**60**	P	**Pn**	**09 29 53.0**	**-0.8**
	baz=247						
TRF	**Thorofare Moun**	**3.98**	**19**		**Pn**	**09 29 54.0**	**+0.1**
TRF	**Thorofare Moun**	**3.98**	**19**	IAML		09 31 10.7	
	comp=E,39nm,3.1s						
TRF				IAML		09 31 19.6	
	comp=N,42nm,3.3s						
TRF	**Thorofare Moun**	**3.98**	**19**	P	**Pn**	**09 29 53.8**	**-0.1**
	baz=201,SNR=6.9						
KTH	**Kantishna Hill**	**3.98**	**14**		**Pn**	**09 29 53.5**	**-0.4**
KTH	**Kantishna Hill**	**3.98**	**14**	IAML		09 30 41.9	
	comp=E,25nm,2.7s						
KTH				IAML		09 31 02.9	
	comp=N,28nm,2.9s						
M24K	**Tolsona, Glenn**	**4.15**	**52**		**Pn**	**09 29 56.0**	**-0.1**
M24K	**Tolsona, Glenn**	**4.15**	**52**	P	**Pn**	**09 29 56.0**	**-0.1**
	baz=238						
CHUM	**Lake Minchumin**	**4.19**	**5**		**Pn**	**09 29 57.0**	**+0.4**
CHUM	**Lake Minchumin**	**4.19**	**5**	P	**Pn**	**09 29 56.8**	**+0.2**
	baz=186,SNR=12						
RND	**Reindeer**	**4.22**	**27**		**Pn**	**09 29 56.9**	**-0.2**
RND	**Reindeer**	**4.22**	**27**	IAML		09 30 36.1	
	comp=E,24nm,4.7s						
RND				IAML		09 30 53.0	
	comp=N,21nm,3.8s						
GOAT	**Goat Mountain**	**4.29**	**75**		**Pn**	**09 29 57.0**	**-1.0**
BMRM	**Bremner River**	**4.42**	**70**		**Pn**	**09 29 58.7**	**-1.0**
BMRM	**Bremner River**	**4.42**	**70**	IAML		09 30 40.3	
	comp=N,54nm,3.4s						
BMRM				IAML		09 30 49.1	
	comp=E,47nm,0.4s						
BMRM	**Bremner River**	**4.42**	**70**	P	**Pn**	**09 29 59.3**	**-0.4**
	baz=257						
MCK	**McKinley**	**4.49**	**25**		**Pn**	**09 30 00.9**	**+0.2**
MCK	**McKinley**	**4.49**	**25**	IAML		09 31 07.4	
	comp=N,28nm,4.4s						
MCK				IAML		09 31 57.1	
	comp=E,32nm,4.9s						
MCK	**McKinley**	**4.49**	**25**	P	**Pn**	**09 30 00.7**	**0.0**
	baz=208,SNR=5.7						
J20K	**Nowinta River**	**4.49**	**354**		**Pn**	**09 30 00.8**	**0.0**
J20K	**Nowinta River**	**4.49**	**354**	IAML		09 32 14.4	
	comp=E,16nm,3.8s						
J20K				IAML		09 32 15.7	
	comp=N,18nm,4.0s						
J20K	**Nowinta River**	**4.49**	**354**	P	**Pn**	**09 30 00.7**	**0.0**
	baz=174,SNR=8.3						
BPAW	**Bear Paw Mtn.**	**4.51**	**12**		**Pn**	**09 29 59.9**	**-1.0**
BPAW	**Bear Paw Mtn.**	**4.51**	**12**	IAML		09 30 59.1	
	comp=E,23nm,4.5s						
BPAW				IAML		09 31 28.0	
	comp=N,18nm,3.9s						
BPAW	**Bear Paw Mtn.**	**4.51**	**12**	P	**Pn**	**09 30 00.7**	**-0.2**
	baz=194						
N25K	**Chitina, Valde**	**4.60**	**62**		**Pn**	**09 30 02.3**	**+0.1**
N25K	**Chitina, Valde**	**4.60**	**62**	IAML		09 30 58.6	
	comp=N,45nm,4.5s						
N25K	**Chitina, Valde**	**4.60**	**62**	P	**Pn**	**09 30 02.1**	**-0.2**
	baz=250						
HARP	**HAARP**	**4.71**	**52**		**Pn**	**09 30 03.5**	**-0.2**
HARP	**HAARP**	**4.71**	**52**	P	**Pn**	**09 30 03.5**	**-0.2**
	baz=239						
GLB	**Gilahina Butte**	**4.91**	**65**		**Pn**	**09 30 05.5**	**-0.9**
GLB	**Gilahina Butte**	**4.91**	**65**	IAML		09 31 05.6	
	comp=E,30nm,5.0s						
PAX	**Paxson**	**4.92**	**45**		**Pn**	**09 30 05.5**	**-1.0**
PAX	**Paxson**	**4.92**	**45**	P	**Pn**	**09 30 06.2**	**-0.3**
	baz=232						
VRDI	**Verde Repeater**	**5.02**	**68**		**Pn**	**09 30 06.8**	**-1.1**
VRDI	**Verde Repeater**	**5.02**	**68**	IAML		09 31 03.6	
	comp=E,24nm,3.1s						
VRDI				IAML		09 33 21.0	
	comp=N,33nm,4.2s						
WAX	**Waxell Ridge**	**5.20**	**78**		**Pn**	**09 30 10.0**	**-0.3**
NEA2	**Nenana**	**5.24**	**20**	P	**Pn**	**09 30 10.0**	**-0.7**
	baz=203,SNR=5.6						
WRH	**Wood River Hil**	**5.32**	**24**		**Pn**	**09 30 11.0**	**-0.8**
WRH	**Wood River Hil**	**5.32**	**24**	IAML		09 32 36.9	
	comp=N,18nm,4.7s						
GCSA	**Galena City Sc**	**5.33**	**342**		**Pn**	**09 30 11.4**	**-0.5**
GCSA	**Galena City Sc**	**5.33**	**342**	P	**Pn**	**09 30 11.5**	**-0.5**
	baz=159						
MLY	**Manley**	**5.44**	**11**		**Pn**	**09 30 13.8**	**+0.3**
MLY	**Manley**	**5.44**	**11**	P	**Pn**	**09 30 13.4**	**-0.1**
	baz=193						
ISLE	**Juniper Island**	**5.46**	**76**	Pn	**Pn**	**09 30 14.2**	**+0.3**
KIAG	**Kiagna River**	**5.49**	**73**		**Pn**	**09 30 14.6**	**+0.3**
I21K	**Tanana**	**5.50**	**5**		**Pn**	**09 30 14.7**	**+0.4**
I21K	**Tanana**	**5.50**	**5**	P	**Pn**	**09 30 14.1**	**-0.1**
	baz=186						
BALM	**Baldy**	**5.51**	**72**		**Pn**	**09 30 14.6**	**0.0**
HDA	**Harding Lake**	**5.52**	**29**		**Pn**	**09 30 14.2**	**-0.4**
HDA	**Harding Lake**	**5.52**	**29**	P	**Pn**	**09 30 14.2**	**-0.4**
	baz=215,SNR=8.0						
CCB	**Clear Creek Bu**	**5.53**	**24**		**Pn**	**09 30 13.8**	**-0.8**
MENT	**Mentasta**	**5.56**	**51**	Pn	**Pn**	**09 30 16.2**	**+1.1**
M26K	**Nabesna, AK**	**5.61**	**57**		**Pn**	**09 30 17.0**	**+1.3**
M26K	**Nabesna, AK**	**5.61**	**57**	P	**Pn**	**09 30 16.7**	**+1.0**
	baz=246						
RIDG	**Independent Ri**	**5.63**	**41**		**Pn**	**09 30 16.8**	**+0.7**
RIDG	**Independent Ri**	**5.63**	**41**	P	**Pn**	**09 30 16.5**	**+0.4**
	baz=228						
MESA	**MESA**	**5.64**	**81**	P	**Pn**	**09 30 16.8**	**+0.5**
	baz=270						
I23K	**Minto, Yukon-K**	**5.72**	**16**		**Pn**	**09 30 16.6**	**-0.5**
I23K	**Minto, Yukon-K**	**5.72**	**16**	P	**Pn**	**09 30 16.9**	**-0.2**
	baz=200,SNR=10.0						
TCOL	**CIGO, UAF Yank**	**5.72**	**23**		**Pn**	**09 30 16.6**	**-0.5**
TCOL	**CIGO, UAF Yank**	**5.72**	**23**	P	**Pn**	**09 30 16.8**	**-0.4**
	baz=208,SNR=7.2						
COLA	**College**	**5.72**	**23**		**Pn**	**09 30 16.4**	**-0.8**
COLA	**College**	**5.72**	**23**	P	**Pn**	**09 30 16.8**	**-0.4**
	baz=208						
MDM	**Murphy Dome**	**5.73**	**21**		**Pn**	**09 30 16.6**	**-0.7**
YAH	**Yahtse**	**5.74**	**79**		**Pn**	**09 30 18.4**	**+0.6**
IL31		**5.84**	**27**		**Pn**	**09 30 17.9**	**-0.9**
ILAR	**Eielson Array**	**5.84**	**27**	P	**Pn**	**09 30 18.0**	**-0.9**
	comp=N,2.6nm,0.3s,baz=215,slow=13,SNR=106						
ILAR				S	**Sn**	**09 31 22.7**	**-1.7**
	comp=N,1.3nm,0.3s,baz=218,slow=22,SNR=7.9						
ILAR	**Eielson Array**	**5.84**	**27**		**Pn**	**09 30 18.4**	**-0.5**
BARN	**Barnard Glacie**	**5.84**	**72**		**Pn**	**09 30 19.7**	**+0.6**
H21K	**Melozitna Rive**	**5.96**	**1**		**Pn**	**09 30 20.1**	**-0.3**
H21K	**Melozitna Rive**	**5.96**	**1**	P	**Pn**	**09 30 20.4**	**0.0**
	baz=182						
POKR	**Poker Plat Res**	**6.02**	**24**	P	**Pn**	**09 30 20.9**	**-0.5**
	baz=209						
TABL	**Table Mountain**	**6.04**	**78**		**Pn**	**09 30 21.6**	**-0.2**
M27K	**Edge Creek, AK**	**6.07**	**59**		**Pn**	**09 30 22.8**	**+0.7**
M27K	**Edge Creek, AK**	**6.07**	**59**	P	**Pn**	**09 30 22.7**	**+0.6**
	baz=249						
SCRK	**Sand Creek**	**6.07**	**42**		**Pn**	**09 30 21.6**	**-0.5**
SCRK	**Sand Creek**	**6.07**	**42**	P	**Pn**	**09 30 21.8**	**-0.3**
	baz=230						
IM03		**6.29**	**358**		**Pn**	**09 30 25.4**	**+0.5**
IMAR	**Indian Mountai**	**6.29**	**358**	Pn	**Pn**	**09 30 25.6**	**+0.7**
YUK2	**White River**	**6.37**	**66**		**Pn**	**09 30 26.4**	**+0.3**
L27K	**Beaver Creek,**	**6.38**	**54**		**Pn**	**09 30 26.5**	**+0.3**
L27K	**Beaver Creek,**	**6.38**	**54**	P	**Pn**	**09 30 26.9**	**+0.7**
	baz=243						
PCA	**Pinnacle**	**6.49**

KKN Kakani 3.06 237 *e*Pn **Pg 09 37 01.1 -0.5**
PKI Pulchoki 3.10 233 *e*Pn **Pg 09 37 02.5 +0.1**
PKI *e*Sn **Sg 09 37 45.2 +2.7**
PKIN Phulchoki 3.10 233 *e*Pn **Pg 09 37 02.2 -0.3**
PKIN *e*Sn **Sg 09 37 45.2 +2.5**
DMN Daman 3.29 236 *e*Pn **Pg 09 37 05.7 -0.3**
DMN *e*Sn **Sg 09 37 50.5 +1.8**
609nm,0.7s
GKN Gorkha 3.44 245 *e*Pn **Pg 09 37 08.8 -0.2**
GKN *e*Sn **Sg 09 37 56.3 +2.7**
247nm,0.5s
DHUB DHUBRI 3.81 155 *e*P **Pn 09 37 05.8 +4.1**
DHUB *i* x x 09 37 16.2
DHUB *e*S **Sb 09 37 54.5 -2.2**
SHL Shillong 5.11 139 *e*P **Pn 09 37 23.1 +3.4**
SHL *ex* **Sg 09 38 44.1 -3.0**
SHL IAML 09 38 57.1
comp=E,195nm,1.3s
SHL IAML 09 39 00.0
comp=N,432nm,0.8s
BOK Bokaro 6.03 200 *e*P **Pn 09 37 36.2 +3.9**
BOK IAML 09 39 19.8
comp=E,29nm,1.2s
BOK IAML 09 39 34.6
comp=N,43nm,1.2s
KOHI KOHIMA 6.46 124 *e*P **Pn 09 37 41.5 +3.1**
IMP Imphal 6.92 131 *e*P Pn 09 37 50.3 +5.7
IMP IAML 09 39 55.6
comp=Z,26nm,1.4s
IMP IAML 09 39 58.8
comp=E,47nm,0.6s
DDI Dehra Dun 8.82 278 *e*P **Pn 09 38 13.2 +2.5**
DHRM DHARAMSHALA 10.57 288 *e*P **Pn 09 38 33.9 -0.9**
BHPL Bhopal 11.47 240 *e*P **Pn 09 38 46.8 -0.2**
BHPL *e*S **Sn 09 40 50.6 -4.7**
RPR Rampur 13.32 219 *e*Pn **Pn 09 39 10.5 -1.8**
NIL Nilore 13.38 292 Pn **Pn 09 39 10.1 -3.0**
PVM Polavaram 13.58 208 *e*Pn **Pn 09 39 15.1 -0.7**
SRSP Sriramsagar 13.81 223 *e*Pn **Pn 09 39 16.5 -2.5**
CMAR Chiang Mai Arr 14.73 136 Pn **Pn 09 39 31.6 +0.1**
comp=E,0.3nm,0.3s,baz=312,slow=13,SNR=9.1
CMAR LR LR 09 45 49.4
comp=E,164nm,18.4s,baz=325,slow=40
CMAR Chiang Mai Arr 14.73 136 Pn **Pn 09 39 32.8 +1.2**
TARG Taragay, Kyrgy 14.83 328 **Pn 09 39 32.7 -0.4**
HYBB Hyderabad (bro 14.90 218 *e*Pn **Pn 09 39 32.1 -1.8**
NJS Nagarjunasagar 15.23 214 *e*Pn **Pn 09 39 36.2 -2.1**
ADKI Addanki 15.54 211 *e*Pn **Pn 09 39 40.8 -1.5**
SRLM Srisailam 15.83 215 *e*Pn **Pn 09 39 45.0 -1.0**
RCLA Racherla 16.35 213 *e*Pn **Pn 09 39 51.5 -1.2**
KBL Kabul 16.98 292 **Pn 09 39 57.1 -3.9**
KBL IAmb IAmb 09 40 03.7
comp=Z,7.8nm,0.7s
AAK Ala-Archa 17.13 324 P **Pn 09 40 02.1 -0.6**
comp=Z,0.1nm,0.3s,baz=129,slow=14,SNR=1.8
SKHT Srikalahasti 17.52 208 *e*Pn **Pn 09 40 06.5 -1.0**
URV Uravakonda 17.63 217 *e*Pn **Pn 09 40 07.1 -1.9**
BTK Batken 17.70 311 Pn **Pn 09 40 06.1 -3.7**
MK31 Makanchi Array 17.88 347 **Pn 09 40 11.8 0.0**
MKAR Makanchi Array 17.88 347 P **P 09 40 12.6 +0.2**
comp=Z,0.3nm,0.3s,baz=158,slow=13,SNR=15
MKAR LR LR 09 48 03.3
comp=Z,212nm,18.3s,baz=178,slow=40
MKAR Makanchi Array 17.88 347 P **P 09 40 12.1 -0.4**
MAKZ Makanchi 17.95 346 P **Pn 09 40 12.1 -0.7**
CHGR Chuyangaron 18.19 305 P **Pn 09 40 12.8 -2.9**
CHGR IAmb IAmb 09 40 15.9
comp=Z,22nm,1.2s
KKAR Karatay Array 19.63 319 **P 09 40 30.6 -1.1**
UBPT Khong Chiam 21.31 128 P **P 09 40 51.0 +1.0**
KURBB Kurchatov Arra 22.32 344 P **P 09 40 58.8 -1.9**
comp=Z,5.6nm,0.9s,baz=159,slow=10,SNR=20
KURK Kurchatov 22.39 344 P **P 09 41 02.2 +0.8**
KURK IAmb IAmb 09 41 03.3
comp=Z,8.3nm,1.1s
SONM Songino Array 23.09 32 P **P 09 41 08.9 -0.1**
comp=Z,2.9nm,1.0s,baz=224,slow=7.7,SNR=13
SONM LR LR 09 51 03.8
comp=Z,105nm,18.3s,baz=60,slow=39
SONM Songino Array 23.09 32 IAmb IAmb 09 41 13.4
comp=Z,4.3nm,1.1s
PALK Pallekele 23.19 199 LR LR 09 50 55.0
comp=Z,95nm,18.1s,baz=164,slow=39
ULN Ulaanbaatar 23.43 33 P **P 09 41 14.1 +1.7**
ULN IAmb IAmb 09 41 16.6
comp=Z,16nm,1.5s
ZALV Zalesovo Beam 24.56 355 P **P 09 41 24.5 +1.6**
comp=Z,2.3nm,0.7s,baz=199,slow=7.6,SNR=4.4
ZALV LR LR 09 52 07.9
comp=Z,134nm,19.8s,baz=170,slow=39
GEYT Alibeck 26.30 297 LR LR 09 54 06.9
comp=Z,170nm,20.8s,baz=154,slow=41
BVAR Borovoye Array 26.90 336 P **P 09 41 45.3 +1.3**
comp=Z,0.6nm,0.5s,baz=115,slow=9.7,SNR=2.5
WSAR Wadi Sarin 27.15 264 LR LR 09 54 12.6
comp=Z,49nm,20.0s,baz=96,slow=40
PSI Prapat 28.44 157 LR LR 09 56 33.5
comp=Z,89nm,18.1s,baz=324,slow=43
ABKAR Akbulak array 29.16 320 P **P 09 42 04.4 +0.2**
ABKAR IAmb IAmb 09 42 08.5
comp=Z,2.4nm,0.8s
ABKAR Akbulak array 29.16 320 P **P 09 42 03.6 -0.7**
KSRS Korea Array 33.90 66 LR LR 09 57 39.0
comp=Z,65nm,18.1s,baz=295,slow=38
KLR Kul'dur 38.38 47 P **P 09 43 25.8 +1.5**
comp=Z,1.1nm,0.7s,baz=231,slow=6.5,SNR=4.2
NRIK Noril'sk 39.89 360 P **P 09 43 38.6 +2.0**
comp=Z,2.2nm,0.7s,baz=159,slow=8.3,SNR=5.3
NRIK Noril'sk 39.89 360 P **P 09 43 37.1 +0.5**
NRIK IAmb IAmb 09 43 43.9
comp=Z,5.7nm,1.1s
BRTR Keskin Array B 45.42 298 P **P 09 44 21.4 -0.8**
comp=Z,0.7nm,0.6s,baz=110,slow=10,SNR=2.3
KAPI Kappang 45.78 133 LR LR 10 05 32.6
comp=Z,34nm,20.4s,baz=351,slow=39
AKASG Malin Array Be 48.40 313 P **P 09 44 43.6 -1.5**
comp=Z,1.0nm,0.6s,baz=85,slow=6.1,SNR=6.2
AKASG Malin Array Be 48.40 313 IAmb IAmb 09 44 46.9
comp=Z,1.5nm,1.2s
FINES FINESS Array B 51.28 327 P **P 09 45 07.8 +1.0**
comp=Z,2.2nm,0.8s,baz=104,slow=8.0,SNR=11
ARCES ARCESS Array B 53.18 337 P **P 09 45 22.2 +1.3**
comp=Z,2.3nm,0.8s,baz=105,slow=6.9,SNR=6.0
NOA NORSAR Array B 58.43 326 P **P 09 45 59.3 +0.6**
comp=Z,1.0nm,0.8s,baz=90,slow=6.7,SNR=2.4
GERES GERESS Array B 58.54 312 P **P 09 46 00.1 +0.3**
comp=Z,0.5nm,0.5s,baz=57,slow=7.4,SNR=4.2
WRA Warramunga Arr 66.29 132 P **P 09 46 52.1 +0.3**
comp=Z,2.0nm,0.7s,baz=327,slow=6.7,SNR=15
WRA LR LR 10 21 05.2
comp=Z,40nm,19.0s,baz=86,slow=41
WRA Warramunga Arr 66.29 132 IAmb IAmb 09 46 52.9
comp=Z,0.2nm,0.8s
ASAR Alice Springs 68.74 135 P **P 09 47 08.0 +0.7**
comp=Z,2.5nm,0.7s,baz=320,slow=6.8,SNR=29
ILAR Eielson Array 76.79 21 P **P 09 47 55.9 +1.4**
comp=Z,0.3nm,0.7s,baz=311,slow=5.0,SNR=2.8
TORD Torodi Ar. Bea 80.63 280 P **P 09 48 15.5 -1.0**
comp=Z,1.2nm,0.8s,baz=59,slow=4.2,SNR=6.6
TORD Torodi Ar. Bea 80.63 280 IAmb IAmb 09 48 20.6
comp=Z,8.7nm,0.9s
YKA Yellowknife Ar 86.53 10 P **P 09 48 43.5 -2.4**
comp=Z,0.8nm,0.9s,baz=336,slow=4.9,SNR=7.5

IDC 28 09:47:14.3±6.7,6°.30S×128°.09E,h347km±75km,mb2.5/1, mb1 2.9/4,mb1mx2.7/43,mbtmp3.6/4,Error ellipse: s-maj=98.3km s-min=28.1km az=53.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.85**	**228**	P	Pn	09 48 43.5	+0.1
	12nm,0.3s,baz=151,slow=3.8,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.96**	**191**	P	P	09 49 55.0	-0.8
	0.2nm,0.3s,baz=32,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**14.86**	**156**	P	P	09 50 27.2	-0.4
	0.5nm,0.3s,baz=335,slow=12,SNR=19						
ASAR	**Alice Springs**	**18.15**	**163**	P	P	09 51 03.3	+0.2
	0.2nm,0.3s,baz=342,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**66.61**	**328**	P	P	09 57 28.4	0.0
	0.1nm,0.4s,baz=143,slow=7.0,SNR=1.9						

*NNC **28** 09:59:38.7±5.7,40°.58N×70°.02E,h0km,mb3.8,mpv3.6, Error ellipse: s-maj=45.9km s-min=32.9km az=58.0*

*SOME **28** 09:59:38.9,40°.58N×69°.90E,h20km*
*KRNET **28** 09:59:47.4±0.1,39°.58N×72°.26E,h35km,mb2.4*

ISC 28 09:59:28.2±2.1,39°.9N±0°.1×70°.43E±0°.08,h10km,n11, σ2°.14/16,9C-1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.15**	**113**	⇑*i*P	Pn	09 59 57.6	+7.1
	baz=55						
DRK				⇑*i*S	**Sb**	**10 00 05.7**	**+0.4**
	baz=55						
OHH	**Osh**	**1.90**	**71**	⇑*i*P	**Pg**	**10 00 06.4**	**+1.9**
	baz=23						
OHH				⇑*i*S	**Sn**	**10 00 20.1**	**-4.5**
	baz=23						
IUG	**Iuzhnay**	**2.24**	**352**	*e*P	**Pb**	**10 00 08.4**	**-0.4**
	698nm,0.2s						
IUG				*e*S	**Sn**	**10 00 30.0**	**-3.1**
	39nm,0.2s						
IUG	**Iuzhnay**	**2.24**	**352**	P	**Pb**	**10 00 08.0**	**-0.7**
	698nm,0.2s						
IUG				S	**Sn**	**10 00 30.3**	**-2.8**
	39nm,0.2s						
SFK	**Sufi-Kurgan**	**2.36**	**87**	⇑*e*P	**Pn**	**10 00 07.0**	**-0.2**
	baz=65						
SFK				⇑*e*S	Sn	10 00 21.1	-15
	baz=65						
BRLS	**Borolday**	**3.13**	**352**	*e*P	**Pn**	**10 00 17.9**	**+0.3**
	2.6nm,0.3s						
BRLS				*e*S	Sn	10 00 46.0	-9.0
	18nm,0.2s						
BRLS	**Borolday**	**3.13**	**352**	Pg	**Pn**	**10 00 17.7**	**+0.1**
BRLS				Lg	Lg	10 00 46.0	
KK09	**Karatay Array**	**3.19**	**1**	⇑Pg	**Pb**	**10 00 25.6**	**+0.6**
	0.4nm,0.2s						
KK09				⇓Lg	Lg	10 00 58.5	
	4.1nm,0.5s						
MRKS	**Merke**	**3.51**	**36**	*e*P	**Pg**	**10 00 38.4**	**+2.9**
	1.3nm,0.4s						
MRKS				*e*S	**Sg**	**10 01 21.4**	**+0.4**
	5.7nm,0.8s						
MRKS	**Merke**	**3.51**	**36**	Pg	**Pg**	**10 00 37.5**	**+2.0**
	2.7nm,0.5s						
MRKS				Lg	Lg	10 01 20.7	
	5.2nm,0.5s						
UCH	**Uchtor**	**3.84**	**52**	⇑*e*P	**Pb**	**10 00 36.1**	**-0.2**
	baz=32						
UCH				⇑*i*S	**Sn**	**10 01 11.3**	**-1.9**
	baz=32						

*IDC **28** 10:02:19.9±1.9,59°.99N×152°.66W,h89km±31km,mb3.4/3, mb1 3.4/8,mb1mx3.0/66,mbtmp3.6/8,Error ellipse: s-maj=35.3km s-min=14.3km az=117.0*
*ANF **28** 10:02:20.4±0.2,60°.01N×152°.53W,h100km±2km,ML3.6/39, Error ellipse: s-maj=1.7km s-min=1.6km az=175.0*
*NEIC **28** 10:02:20.7±1.1,60°.05N±0°.03×152°.57W±0°.08, h101km±3km,Error ellipse: s-maj=5.6km s-min=4.7km az=87.0*
*AEIC **28** 10:02:21±1.0,60°.04N±0°.04×152°.57W±0°.09,h100km±1km, ML3.2,ML3.4/123(NEIC),Error ellipse: s-maj=6.6km s-min=5.0km az=103.0*

ISC 28 10:02:20.6±0.8,60°.03N±0°.03×152°.54W±0°.03, h105km±5km,n227,σ0°.85/233,mb3.5/3,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.06**	**320**		**Pn**	**10 02 34.8**	**-0.4**
O20K					**Sn**	**10 02 45.4**	**-0.7**
O20K	**Slope Mountain**	**0.06**	**320**	P	**Pn**	**10 02 34.8**	**-0.4**
	baz=148,SNR=20						
O20K				S	**Sn**	**10 02 45.3**	**-0.7**
	baz=148						
RED	**Redoubt Volcan**	**0.40**	**344**		**Pn**	**10 02 35.7**	**-0.6**
RED					**Sn**	**10 02 46.7**	**-1.4**
RSO	**Redoubt South**	**0.44**	**346**		**Pn**	**10 02 36.1**	**-0.6**
OPT	**Oil Point**	**0.52**	**223**		**Pn**	**10 02 36.8**	**-0.2**
RDT	**Redoubt**	**0.55**	**7**		**Pn**	**10 02 36.7**	**-0.6**
NCT	**North Crescent**	**0.56**	**340**		**Pn**	**10 02 36.7**	**-0.7**
DFR	**Drift River**	**0.57**	**353**		**Pn**	**10 02 36.9**	**-0.5**
DFR					**Sn**	**10 02 48.4**	**-1.6**
HOM	**Homer**	**0.59**	**129**		**Pn**	**10 02 37.7**	**+0.2**
HOM					**Sn**	**10 02 50.5**	**+0.3**
HOM	**Homer**	**0.59**	**129**	IAML		10 02 52.1	
	comp=N,2μm,0.3s						
HOM				IAML		10 02 52.6	
	comp=E,2μm,0.3s						
HOM	**Homer**	**0.59**	**129**	P	**Pn**	**10 02 37.7**	**+0.2**
	baz=310,SNR=8.4						
HOM				S	**Sn**	**10 02 50.3**	**+0.2**
	baz=310						
AU22	**Augustine Moun**	**0.78**	**212**		**Pn**	**10 02 39.2**	**+0.1**
AUL	**Augustine Lava**	**0.79**	**215**		**Pn**	**10 02 39.5**	**+0.2**
AUL					**Sn**	**10 02 52.8**	**-0.5**
AUQ	**Augustine Qik'**	**0.81**	**213**		**Pn**	**10 02 39.6**	**+0.2**
AUQ					**Sn**	**10 02 53.2**	**-0.5**
CNPM	**China Poot**	**0.83**	**127**		**Pn**	**10 02 39.7**	**+0.1**
CNPM					**Sn**	**10 02 53.9**	**-0.2**
BRLK	**Bradley Lake**	**0.88**	**107**		**Pn**	**10 02 39.9**	**-0.2**
BRLK	**Bradley Lake**	**0.88**	**107**	IAML		10 02 55.2	
	comp=N,2μm,0.3s						
BRLK				IAML		10 02 55.9	
	comp=E,2μm,0.2s						
O19K	**Port Alsworth**	**0.91**	**281**		**Pn**	**10 02 39.8**	**-0.4**
O19K					**Sn**	**10 02 54.0**	**-1.1**
O19K	**Port Alsworth**	**0.91**	**281**	P	**Pn**	**10 02 40.0**	**-0.3**
	baz=100,SNR=40						
O19K				S	**Sn**	**10 02 54.2**	**-0.9**
	baz=100						
BRSE	**Bradley Lake S**	**0.95**	**107**		**Pn**	**10 02 40.8**	**0.0**
BRSE					**Sn**	**10 02 55.5**	**-0.6**
BRSE	**Bradley Lake S**	**0.95**	**107**	P	**Pn**	**10 02 40.8**	**0.0**
	baz=289,SNR=9.4						
BRSE				S	**Sn**	**10 02 55.5**	**-0.6**
	baz=289						
CAPN	**Captain Cook N**	**1.01**	**42**		**Pn**	**10 02 43.0**	**+1.6**
CAPN	**Captain Cook N**	**1.01**	**42**	P	**Pn**	**10 02 42.9**	**+1.6**
	baz=224,SNR=9.8						
SPU	**Mount Spurr**	**1.18**	**12**		**Pn**	**10 02 43.2**	**-0.1**
SPCN	**Chakachatna No**	**1.21**	**8**		**Pn**	**10 02 43.7**	**+0.1**
SPCN					**Sn**	**10 03 00.8**	**-0.3**
N19K	**Bonanza Creek**	**1.24**	**310**		**Pn**	**10 02 43.6**	**-0.4**
N19K					**Sn**	**10 03 00.6**	**-1.2**
N19K	**Bonanza Creek**	**1.24**	**310**	P	**Pn**	**10 02 43.7**	**-0.4**
	baz=128,SNR=64						
N19K				S	**Sn**	**10 03 00.7**	**-1.2**
	baz=128						
Q19K	**Cape Douglas,**	**1.24**	**207**		**Pn**	**10 02 43.9**	**-0.2**
Q19K					**Sn**	**10 03 00.8**	**-0.9**
Q19K	**Cape Douglas,**	**1.24**	**207**	IAML		10 03 05.2	
	comp=E,1μm,0.7s						
Q19K	**Cape Douglas,**	**1.24**	**207**	P	**Pn**	**10 02 43.9**	**-0.2**
	baz=26,SNR=15						
Q19K				S	**Sn**	**10 03 00.9**	**-0.9**
	baz=26						
SLKM	**Skilak Lake**	**1.25**	**67**		**Pn**	**10 02 43.7**	**-0.4**
SPCG	**Spurr Capps Gl**	**1.29**	**11**		**Pn**	**10 02 44.7**	**+0.1**
SPCG					**Sn**	**10 03 01.6**	**-1.3**
SPNN	**North Nagishla**	**1.34**	**357**		**Pn**	**10 02 45.3**	**0.0**
O18K	**Koktuh Hills**	**1.35**	**264**		**Pn**	**10 02 45.2**	**-0.1**
O18K					**Sn**	**10 03 02.4**	**-1.6**
O22K	**Cooper Landing**	**1.48**	**71**		**Pn**	**10 02 46.7**	**0.0**
O22K	**Cooper Landing**	**1.48**	**71**	P	**Pn**	**10 02 46.7**	**0.0**
	baz=254,SNR=24						
O22K				S	**Sn**	**10 03 05.3**	**-1.2**
	baz=254						
P18K	**Big Mountain,**	**1.51**	**246**		**Pn**	**10 02 46.8**	**-0.3**
P18K					**Sn**	**10 03 05.8**	**-1.5**
P18K	**Big Mountain,**	**1.51**	**246**	P	**Pn**	**10 02 46.8**	**-0.3**
	baz=63,SNR=22						
P18K				S	**Sn**	**10 03 06.0**	**-1.3**
	baz=63						
STLK	**Strandline Lak**	**1.51**	**13**		**Pn**	**10 02 47.4**	**+0.1**
SEW	**Seward**	**1.55**	**86**		**Pn**	**10 02 47.3**	**-0.3**
SEW	**Seward**	**1.55**	**86**	P	**Pn**	**10 02 47.3**	**-0.3**
	baz=269,SNR=8.2						
SEW				S	**Sn**	**10 03 06.9**	**-1.2**
	baz=269						
FIS	**Fire Island**	**1.60**	**45**		**Pn**	**10 02 49.5**	**+1.3**
FIS	**Fire Island**	**1.60**	**45**	IAML		10 03 19.8	
	comp=N,418nm,0.7s						
FIS				IAML		10 03 33.1	
	comp=E,463nm,0.5s						
SUA	**Susitna One**	**1.69**	**31**		**Pn**	**10 02 49.9**	**+0.4**
SUA	**Susitna One**	**1.69**	**31**	IAML		10 03 12.8	
	comp=N,600nm,0.4s						
RC01	**Rabbit Creek A**	**1.75**	**51**		**Pn**	**10 02 50.2**	**+0.2**
RC01	**Rabbit Creek A**	**1.75**	**51**	IAML		10 03 13.9	
	comp=E,287nm,0.4s						
RC01	**Rabbit Creek A**	**1.75**	**51**	P	**Pn**	**10 02 50.2**	**+0.2**
	baz=234,SNR=72						
RC01				S	**Sn**	**10 03 12.0**	**-0.5**
	baz=234						
M19K	**Big River Lodg**	**2.08**	**335**		**Pn**	**10 02 54.4**	**+0.1**
M19K	**Big River Lodg**	**2.08**	**335**	P	**Pn**	**10 02 54.4**	**+0.1**
	baz=154						
M19K				S	**Sn**	**10 03 19.4**	**-0.8**
	baz=154						
M22K	**Willow**	**2.09**	**33**		**Pn**	**10 02 54.7**	**+0.2**
M22K	**Willow**	**2.09**	**33**	P	**Pn**	**10 02 55.0**	**+0.6**
	baz=216,SNR=15						
M22K				S	**Sn**	**10 03 20.6**	**+0.3**
	baz=216						
PWL	**Port Wells**	**2.24**	**67**		**Pn**	**10 02 55.5**	**-0.9**
PWL	**Port Wells**	**2.24**	**67**	IAML		10 03 24.8	
	comp=N,361nm,0.4s						
PWL				IAML		10 03 26.0	
	comp=E,299nm,0.5s						
PWL	**Port Wells**	**2.24**	**67**	P	**Pn**	**10 02 55.5**	**-0.9**
	baz=250,SNR=12						
PWL				S	**Sn**	**10 03 22.4**	**-1.5**
	baz=250						
KDAK	**Kodiak Island**	**2.26**	**181**	P	**Pn**	**10 02 55.9**	**-0.7**
	comp=E,5.4nm,0.3s,baz=58,slow=8.8,SNR=139						
KDAK				S	**Sn**	**10 03 21.9**	**-2.2**
	comp=E,17nm,0.3s,baz=328,slow=23,SNR=23						
KDAK	**Kodiak Island**	**2.26**	**181**		**Pn**	**10 02 55.8**	**-0.8**
KDAK	**Kodiak Island**	**2.26**	**181**	IAML		10 03 32.3	
	comp=E,173nm,0.8s						
KDAK	**Kodiak Island**	**2.26**	**181**	P	**Pn**	**10 02 55.8**	**-0.7**
	baz=0.2						
KDAK				S	**Sn**	**10 03 22.7**	**-1.4**
	baz=0.2						
KABU	**Katmai Buttres**	**2.26**	**220**		**Pn**	**10 02 57.5**	**+0.8**
PMR	**Palmer**	**2.29**	**45**		**Pn**	**10 02 56.4**	**-0.6**
PMR	**Palmer**	**2.29**	**45**	IAML		10 03 25.3	
	comp=N,171nm,0.2s						
PMR	**Palmer**	**2.29**	**45**	P	**Pn**	**10 02 56.3**	**-0.6**
	baz=229,SNR=27						
PMR				S	**Sn**	**10 03 23.2**	**-1.7**
	baz=229						
L19K	**White Mountain**	**2.43**	**334**		**Pn**	**10 02 59.0**	**+0.1**
L19K	**White Mountain**	**2.43**	**334**	P	**Pn**	**10 02 59.0**	**+0.1**
	baz=152,SNR=50						
L19K				S	**Sn**	**10 03 26.7**	**-1.6**
	baz=152						
KNK	**Knik Glacier**	**2.44**	**54**		**Pn**	**10 02 58.3**	**-0.6**
KNK	**Knik Glacier**	**2.44**	**54**	IAML		10 03 28.2	
	comp=N,157nm,0.4s						
KNK				IAML		10 03 28.4	
	comp=E,172nm,0.6s						
KNK	**Knik Glacier**	**2.44**	**54**	P	**Pn**	**10 02 58.3**	**-0.6**
	baz=237,SNR=30						
KNK				S	**Sn**	**10 03 26.6**	**-1.8**
	baz=237						
GHO	**Glory Hole Cre**	**2.48**	**44**		**Pn**	**10 02 59.1**	**-0.5**
GHO	**Glory Hole Cre**	**2.48**	**44**	IAML		10 03 30.4	
	comp=N,266nm,0.5s						
GHO				IAML		10 03 30.7	
	comp=E,255nm,0.3s						
L20K	**Farewell, AK**	**2.54**	**346**		**Pn**	**10 03 00.6**	**+0.4**
L20K	**Farewell, AK**	**2.54**	**346**	P	**Pn**	**10 03 00.5**	**+0.2**
	baz=165,SNR=11						
CUT	**Chulitna**	**2.62**	**24**		**Pn**	**10 03 01.5**	**+0.1**
CUT	**Chulitna**	**2.62**	**24**	P	**Pn**	**10 03 01.4**	**0.0**
	baz=206,SNR=13						
CUT				S	**Sn**	**10 03 32.4**	**-0.3**
	baz=206						
SML	**Sawmill**	**2.72**	**47**		**Pn**	**10 03 02.1**	**-0.6**
SML	**Sawmill**	**2.72**	**47**	IAML		10 03 35.5	
	comp=N,141nm,0.6s						
SML				IAML		10 03 43.0	
	comp=E,166nm,0.6s						
SML	**Sawmill**	**2.72**	**47**	P	**Pn**	**10 03 02.1**	**-0.6**
	baz=231,SNR=9.6						
OHAK	**Old Harbor**	**2.85**	**188**		**Pn**	**10 03 03.2**	**-1.1**
OHAK	**Old Harbor**	**2.85**	**188**	IAML		10 03 52.4	
	comp=N,115nm,2.5s						
OHAK	**Old Harbor**	**2.85**	**188**	P	**Pn**	**10 03 03.2**	**-1.1**
	baz=7.3						
OHAK				S	**Sn**	**10 03 35.4**	**-2.6**
	baz=7.3						
PPLA	**Purkeypile**	**2.88**	**3**		**Pn**	**10 03 05.7**	**+0.8**
PPLA	**Purkeypile**	**2.88**	**3**	P	**Pn**	**10 03 05.6**	**+0.8**
	baz=184						
PPLA				S	**Sn**	**10 03 38.9**	**0.0**
	baz=184						
FID	**Port Fidalgo**	**3.10**	**74**		**Pn**	**10 03 05.6**	**-2.1**
FID	**Port Fidalgo**	**3.10**	**74**	IAML		10 03 42.8	
	comp=E,181nm,0.6s						
FID				IAML		10 03 43.7	
	comp=N,198nm,0.4s						
JPK	**Jack Peak**	**3.11**	**68**		**Pn**	**10 03 06.4**	**-1.5**
SCM	**Sheep Creek Mo**	**3.12**	**52**		**Pn**	**10 03 07.5**	**-0.5**
SCM	**Sheep Creek Mo**	**3.12**	**52**	IAML		10 03 41.9	
	comp=N,79nm,3.3s						
SCM				IAML		10 04 00.2	
	comp=E,88nm,1.6s						
SCM	**Sheep Creek Mo**	**3.12**	**52**	P	**Pn**	**10 03 07.6**	**-0.5**
	baz=237,SNR=8.7						
Q23K	**Middleton Isla**	**3.19**	**98**		**Pn**	**10 03 09.3**	**+0.4**
MID	**Middleton Isla**	**3.20**	**98**		**Pn**	**10 03 09.2**	**+0.2**
TT01	**Tatalina**	**3.33**	**331**		**Pn**	**10 03 10.6**	**-0.1**
TTA	**Tatalina**	**3.35**	**332**		**Pn**	**10 03 10.6**	**-0.5**
TTA	**Tatalina**	**3.35**	**332**	P	**Pn**	**10 03 10.7**	**-0.3**
	baz=149,SNR=14						
CAST	**Castle Rocks**	**3.41**	**3**		**Pn**	**10 03 11.8**	**0.0**
CAST	**Castle Rocks**	**3.41**	**3**	P	**Pn**	**10 03 11.8**	**0.0**
	baz=184,SNR=6.7						
K20K	**Telida**	**3.41**	**348**		**Pn**	**10 03 12.4**	**+0.5**
K20K	**Telida**	**3.41**	**348**	P	**Pn**	**10 03 12.3**	**+0.5**
	baz=167						
EYAK	**Cordova Ski Ar**	**3.42**	**78**		**Pn**	**10 03 10.4**	**-1.5**
EYAK	**Cordova Ski Ar**	**3.42**	**78**	P	**Pn**	**10 03 10.8**	**-1.1**
	baz=264						
DIV	**Divide**	**3.52**	**69**		**Pn**	**10 03 12.3**	**-1.0**
KLU	**Klutina**	**3.56**	**63**		**Pn**	**10 03 13.1**	**-0.9**
KLU	**Klutina**	**3.56**	**63**	IAML		10 03 54.5	
	comp=E,69nm,0.4s						
KLU				IAML		10 03 57.9	
	comp=N,98nm,0.8s						
KLU	**Klutina**	**3.56**	**63**	P	**Pn**	**10 03 13.1**	**-0.9**
	baz=249,SNR=9.9						
SII	**Sitkinak Islan**	**3.59**	**195**		**Pn**	**10 03 13.0**	**-1.3**
SII	**Sitkinak Islan**	**3.59**	**195**	P	**Pn**	**10 03 13.6**	**-0.7**
	baz=13						
TRF	**Thorofare Moun**	**3.59**	**16**		**Pn**	**10 03 15.7**	**+1.3**
TRF	**Thorofare Moun**	**3.59**	**16**	IAML		10 03 58.9	
	comp=N,83nm,0.6s						
TRF				IAML		10 03 59.9	
	comp=E,80nm,0.7s						
TRF	**Thorofare Moun**	**3.59**	**16**	P	**Pn**	**10 03 15.5**	**+1.1**
	baz=199,SNR=8.4						
KTH	**Kantishna Hill**	**3.62**	**12**		**Pn**	**10 03 14.7**	**+0.1**
M24K	**Tolsona, Glenn**	**3.73**	**53**		**Pn**	**10 03 16.1**	**0.0**
M24K	**Tolsona, Glenn**	**3.73**	**53**	IAML		10 04 05.3	
	comp=

comp=E,39nm,0.5s
MCK IAML 10 04 10.8
comp=N,42nm,0.8s
MCK McKinley 4.09 23 P **Pn 10 03 21.5 +0.6**
baz=206,SNR=10
BPAW Bear Paw Mtn. 4.15 9 Pn 10 03 21.6 -0.1
BPAW Bear Paw Mtn. 4.15 9 IAML 10 04 13.4
comp=E,37nm,0.8s
BPAW Bear Paw Mtn. 4.15 9 P **Pn 10 03 21.5 -0.3**
baz=191,SNR=6.3
N25K Chitina, Valde 4.20 64 Pn 10 03 21.7 -0.8
N25K Chitina, Valde 4.20 64 IAML 10 04 25.9
comp=N,34nm,2.9s
N25K IAML 10 04 57.1
comp=E,33nm,4.8s
N25K Chitina, Valde 4.20 64 P **Pn 10 03 21.7 -0.8**
baz=252
J20K Nowinta River 4.23 350 Pn 10 03 23.1 +0.4
J20K Nowinta River 4.23 350 P **Pn 10 03 23.0 +0.3**
baz=169
HARP HAARP 4.29 53 Pn 10 03 23.4 -0.2
HARP HAARP 4.29 53 P **Pn 10 03 23.3 -0.2**
baz=240
BWN Browne 4.40 18 Pn 10 03 25.9 +0.9
BWN Browne 4.40 18 IAML 10 04 47.1
comp=E,55nm,1.3s
BWN IAML 10 05 08.0
comp=N,70nm,1.4s
PAX Paxson 4.49 46 Pn 10 03 26.3 -0.1
PAX Paxson 4.49 46 P **Pn 10 03 26.1 -0.3**
baz=232,SNR=13
GLB Gilahina Butte 4.51 68 Pn 10 03 25.6 -1.1
GLB Gilahina Butte 4.51 68 IAML 10 04 25.1
comp=E,31nm,4.0s
GLB IAML 10 05 46.7
comp=N,31nm,4.3s
CHIR Chirikof Islan 4.53 203 Pn 10 03 26.1 -0.8
VRDI Verde Repeater 4.63 71 Pn **Pn 10 03 27.3 -1.1**
VRDI IAML 10 04 28.0
comp=N,40nm,4.0s
VRDI IAML 10 04 42.3
comp=E,29nm,4.4s
KHIT Khitrov Hills 4.65 81 Pn 10 03 28.3 -0.3
PS10 TAPS Pump St10 4.68 41 Pn 10 03 29.8 +0.8
WAX Waxell Ridge 4.85 81 Pn 10 03 29.6 -1.6
NEA2 Nenana 4.85 18 Pn 10 03 31.4 +0.1
NEA2 IAML 10 04 32.3
comp=N,23nm,4.8s
NEA2 Nenana 4.85 18 P **Pn 10 03 31.2 0.0**
baz=201,SNR=8.8
WRH Wood River Hil 4.92 23 Pn 10 03 31.9 -0.2
WRH Wood River Hil 4.92 23 IAML 10 04 28.3
comp=N,29nm,2.3s
WRH IAML 10 05 13.0
comp=E,27nm,4.5s
MLY Manley 5.09 9 Pn 10 03 34.8 +0.4
MLY Manley 5.09 9 P **Pn 10 03 34.1 -0.3**
baz=190
ISLE Juniper Island 5.11 79 Pn **Pn 10 03 34.9 +0.1**
HDA Harding Lake 5.11 28 Pn 10 03 34.8 +0.1
KIAG Kiagna River 5.12 76 Pn 10 03 35.0 +0.1
CCB Clear Creek Bu 5.13 23 Pn 10 03 34.5 -0.4
CCB Clear Creek Bu 5.13 23 IAML 10 05 07.4
comp=E,20nm,3.1s
MENT Mentasta 5.13 52 Pn 10 03 34.8 -0.3
MENT IAML 10 05 23.3
comp=N,29nm,4.1s
MENT IAML 10 05 24.8
comp=E,32nm,2.8s
BALM Baldy 5.14 74 Pn 10 03 34.2 -0.9
GCSA Galena City Sc 5.14 339 Pn 10 03 35.4 +0.3
GCSA Galena City Sc 5.14 339 P **Pn 10 03 35.2 +0.2**
baz=155,SNR=12
I21K Tanana 5.17 3 Pn 10 03 36.0 +0.5
I21K IAML 10 04 19.8
comp=E,23nm,3.6s
I21K IAML 10 06 58.0
comp=N,22nm,4.9s
I21K Tanana 5.17 3 P **Pn 10 03 35.5 0.0**
baz=183
M26K Nabesna, AK 5.19 59 Pn 10 03 35.3 -0.5
M26K Nabesna, AK 5.19 59 IAML 10 04 54.0
comp=E,22nm,4.9s
M26K IAML 10 04 58.3
comp=N,20nm,2.5s
M26K Nabesna, AK 5.19 59 P **Pn 10 03 35.4 -0.5**
baz=247
RIDG Independent Ri 5.20 41 Pn 10 03 36.4 +0.4
RIDG Independent Ri 5.20 41 IAML 10 04 52.3
comp=E,42nm,0.7s
RIDG IAML 10 04 53.2
comp=N,38nm,2.5s
RIDG Independent Ri 5.20 41 P **Pn 10 03 35.9 -0.1**
baz=228,SNR=11
MESA MESA 5.30 84 P **Pn 10 03 37.0 -0.5**
baz=273
TCOL CIGO, UAF Yank 5.32 22 Pn 10 03 37.5 0.0
TCOL CIGO, UAF Yank 5.32 22 P **Pn 10 03 37.6 0.0**
baz=206,SNR=22
COLA College 5.32 22 Pn 10 03 37.4 -0.1
COLA College 5.32 22 P **Pn 10 03 37.4 -0.1**
baz=206
L26K Log Cabin Wild 5.33 52 Pn 10 03 37.4 -0.3
L26K Log Cabin Wild 5.33 52 IAML 10 05 04.5
comp=N,24nm,1.6s
L26K IAML 10 05 08.0
comp=E,29nm,2.2s
L26K Log Cabin Wild 5.33 52 P **Pn 10 03 37.3 -0.3**
baz=240
MDM Murphy Dome 5.33 20 Pn 10 03 37.5 -0.2
MDM Murphy Dome 5.33 20 IAML 10 04 50.6
comp=E,22nm,4.6s
MDM IAML 10 05 11.8
comp=N,16nm,2.7s
I23K Minto, Yukon-K 5.34 15 Pn 10 03 38.2 +0.5
I23K Minto, Yukon-K 5.34 15 IAML 10 04 45.2
comp=E,20nm,3.7s
I23K IAML 10 04 53.2
comp=N,22nm,4.2s
I23K Minto, Yukon-K 5.34 15 P **Pn 10 03 37.8 +0.1**
baz=198,SNR=15
YAH Yahtse 5.40 82 Pn 10 03 39.6 +0.8
DOT Dot Lake 5.41 44 Pn 10 03 38.6 -0.2
IL31 5.43 26 Pn 10 03 38.6 -0.4
ILAR Eielson Array 5.43 26 P **Pn 10 03 38.5 -0.5**
comp=N,2.0nm,0.3s,baz=213,slow=14,SNR=67
ILAR S **Sn 10 04 33.9 -6.3**
comp=N,2.1nm,0.3s,baz=213,slow=15,SNR=1.2
BARN Barnard Glacie 5.47 74 Pn 10 03 40.3 +0.5
POKR Poker Plat Res 5.62 23 Pn 10 03 41.4 -0.2
POKR Poker Plat Res 5.62 23 P **Pn 10 03 41.4 -0.2**
baz=207,SNR=5.1
SCRK Sand Creek 5.65 42 Pn 10 03 41.2 -0.9
SCRK Sand Creek 5.65 42 P **Pn 10 03 41.3 -0.7**
baz=230,SNR=7.9
H21K Melozitna Rive 5.65 359 Pn 10 03 41.2 -0.8
H21K Melozitna Rive 5.65 359 P **Pn 10 03 41.7 -0.3**
baz=179
M27K Edge Creek, AK 5.66 61 Pn 10 03 42.0 -0.2
M27K Edge Creek, AK 5.66 61 P **Pn 10 03 41.6 -0.6**
baz=250
L27K Beaver Creek, 5.95 55 Pn 10 03 45.5 -0.6
L27K Beaver Creek, 5.95 55 P **Pn 10 03 45.7 -0.5**
baz=244
BC03 5.97 55 Pn 10 03 46.0 -0.4
BCAR Beaver Creek A 5.97 55 Pn **Pn 10 03 46.1 -0.3**
YUK2 White River 5.97 68 Pn 10 03 46.1 -0.4
IM03 6.00 355 Pn 10 03 47.1 +0.4
BVCY Beaver Creek 6.13 62 Pn 10 03 48.7 +0.2
BVCY Beaver Creek 6.13 62 P **Pn 10 03 48.6 +0.1**
baz=252
YUK3 Moose Creek 6.15 68 P **Pn 10 03 48.7 -0.2**
baz=259
PCA Pinnacle 6.15 84 Pn 10 03 49.5 +0.6
PINM Pinnacle 6.16 84 P **Pn 10 03 49.2 +0.3**
baz=275
H24K Noodor Dome 6.20 18 Pn 10 03 49.8 +0.3
H24K Noodor Dome 6.20 18 P **Pn 10 03 49.3 -0.2**
baz=202
PRP Porcupine Dome 6.37 27 P **Pn 10 03 51.4 -0.5**
baz=214
PNL Peninsula 6.63 87 P **Pn 10 03 55.3 -0.1**
baz=279
YUK4 Talbot Arm 6.95 73 P **Pn 10 04 00.1 +0.3**
baz=265
EGAK Eagle 7.11 43 Pn 10 04 01.3 -0.5
EGAK Eagle 7.11 43 P **Pn 10 04 01.2 -0.5**
baz=233
COLD Coldfoot 7.30 7 Pn **Pn 10 04 04.2 -0.1**
COLD Coldfoot 7.30 7 P **Pn 10 04 04.4 +0.1**
baz=189
FYU Fort Yukon 7.33 24 Pn 10 04 04.1 -0.6
DAWY Dawson 7.38 51 Pn 10 04 04.9 -0.6
DAWY Dawson 7.38 51 P **Pn 10 04 05.1 -0.4**
baz=243
HYT Haines Junctio 7.49 77 Pn 10 04 07.1 +0.1
ANM Nome 7.50 313 Pn **Pn 10 04 07.0 -0.1**
SKAG Skagway 8.71 86 Pn 10 04 24.0 +0.5
DLBC Dease Lake 11.63 88 P **Pn 10 05 04.0 +1.0**
comp=N,0.6nm,0.3s,baz=289,slow=5.3,SNR=20
DLBC S **Sn 10 07 10.3 -0.4**
comp=N,0.2nm,0.3s,baz=288,slow=20,SNR=3.0
INK Inuvik 11.67 37 P **Pn 10 05 04.2 +0.8**
comp=N,0.1nm,0.3s,baz=252,slow=13,SNR=6.1
YKA Yellowknife Ar 18.23 66 P **Pn 10 06 26.6 +0.3**
comp=N,0.2nm,0.3s,baz=278,slow=10,SNR=30
SONM Songino Array 54.96 306 P **P 10 11 42.5 +2.1**
comp=N,1.0nm,0.7s,baz=48,slow=5.3,SNR=8.7
ZALV Zalesovo Beam 57.48 324 P **P 10 11 58.6 +0.5**
comp=N,0.2nm,0.4s,baz=41,slow=7.7,SNR=3.5
MKAR Makanchi Array 64.55 322 P **P 10 12 45.5 -0.5**
comp=N,0.2nm,0.5s,baz=36,slow=7.4,SNR=4.4

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*SOME **28** 10:04:44.1, 40°.93N×70°.25E, h5km*
*NNC **28** 10:04:44.5±4.8, 40°.85N×69°.84E, h0km, mb2.9, mpv3.5,*
Error ellipse: s-maj=35.6km s-min=30.5km az=75.0
*KRNET **28** 10:04:46.4±0.1, 41°.11N×70°.19E, h20km, mb2.1*
ISC 28 10:04:46.5±1.6, 41°.08N±0°.04×70°.26E±0°.05, h3km±12km, n12, σ1§60/23, 10C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.80**	**55**	⇑*iP*	**Pg**	**10 05 01.8**	**1.0**
TRKS	baz=64			⇑*eS*	**Sb**	**10 05 13.4**	**-1.0**
IUG	**luzhnay**	**1.08**	**351**	*eP*	**Pg**	**10 05 07.2**	**-0.1**
IUG	190nm,0.1s			*eS*	**Sn**	**10 05 23.3**	**-1.0**
IUG	**luzhnay**	**1.08**	**351**	P	**Pn**	**10 05 09.5**	**+0.9**
IUG	81nm,0.0s			S	**Sn**	**10 05 28.7**	**+4.4**
BTK	**Batken**	**1.10**	**157**	⇑*iP*	**Pg**	**10 05 07.6**	**0.0**
BTK	108nm,0.2s			⇑*iS*	**Sn**	**10 05 23.5**	**-1.2**
ARK	**Arkit**	**1.47**	**60**	⇑*iP*	**Pn**	**10 05 13.8**	**-0.2**
ARK	baz=55			⇑*iS*	**Sg**	**10 05 33.6**	**0.0**
BRLS	**Borolday**	**1.98**	**351**	*eP*	**Pn**	**10 05 19.5**	**-1.4**
BRLS	6.1nm,0.1s			*eS*	**Sn**	**10 05 45.5**	**-0.7**
BRLS	**Borolday**	**1.98**	**351**	Pg	**Pn**	**10 05 19.4**	**-1.5**
BRLS	8.7nm,0.1s			Lg	Lg	10 05 45.3	
KK09	**Karatay Array**	**2.05**	**5**	⇑Pn	**Pb**	**10 05 24.5**	**+0.1**
KK09	0.6nm,0.2s,baz=192,slow=15			⇑Sn	**Sg**	**10 05 53.0**	**+0.7**
MNAS	**Manas**	**2.19**	**49**	⇑*iP*	**Pn**	**10 05 24.2**	**+0.3**
MNAS	baz=51			⇑*iS*	**Sn**	**10 05 51.3**	**-0.3**
MRKS	**Merke**	**2.77**	**52**	*eP*	**Pb**	**10 05 38.0**	**+1.4**
MRKS	2.8nm,0.4s			*eS*	**Sg**	**10 06 17.5**	**+2.1**
SGDS	**Sogindy**	**4.01**	**52**	*eP*	**Pb**	**10 05 59.7**	**+1.8**
SGDS	4.6nm,0.6s			*eS*	**Sg**	**10 06 54.1**	**-1.3**
BTLS	**Baital**	**4.83**	**34**	*eP*	**Pg**	**10 06 16.2**	**-2.8**
BTLS	1.4nm,1.2s			*eS*	**Sg**	**10 07 22.1**	**+0.5**

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*IDC **28** 10:14:11.2±1.1, 0°.51N×126°.18E, h0km, mb3.7/6,*
mb1 3.9/7, mb1mx3.4/59, mbtmp3.7/7, ML4.1/1, Error
ellipse: s-maj=97.9km s-min=17.7km az=69.0
ISC 28 10:14:17.4±1.1, 0°.3N±0°.1×125°.8E±0°.4, h44km, n7, σ0§42/8, mb3.7/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.30**	**181**	P	**Pn**	**10 18 28.3**	**+0.2**
FITZ	0.5nm,0.3s,baz=338,slow=5.4,SNR=8.8			S	**Sn**	**10 21 51.5**	**-0.2**
WRA	**Warramunga Arr**	**21.79**	**158**	P	**P**	**10 19 05.5**	**-0.2**
	2.0nm,0.2s,baz=135,slow=14,SNR=2.0						
ASAR	**Alice Springs**	**25.09**	**162**	P	**P**	**10 19 38.8**	**+0.6**
	3.3nm,0.6s,baz=339,slow=11,SNR=19						
STKA	**Stephens Creek**	**35.32**	**156**	P	**P**	**10 21 08.3**	**-0.2**
	1.2nm,0.5s,baz=346,slow=12,SNR=23						
SONM	**Songino Array**	**50.26**	**343**	P	**P**	**10 23 09.6**	**+0.2**
	3.2nm,0.8s,baz=336,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**59.87**	**327**	P	**P**	**10 24 18.8**	**+0.1**
	0.2nm,0.7s,baz=152,slow=5.3,SNR=1.4						
KURBB	**Kurchatov Arra**	**64.14**	**329**	P	**P**	**10 24 46.7**	**-0.6**
	0.3nm,0.5s,baz=132,slow=6.6,SNR=2.9						

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*HEL **28** 10:20:09.1±0.1, 64°.71N×30°.77E, h0km, ML2.2, Explosion*
*UPP **28** 10:20:09.2±2.8, 64°.58N×30°.92E, h1km, ML1.9, Suspected*
explosion
*IDC **28** 10:20:11.5±2.4, 64°.65N×30°.64E, h0km, mb1 3.0/3,*
mb1mx2.5/67, mbtmp3.0/3, ML2.0/3, Error ellipse:
s-maj=38.8km s-min=8.3km az=102.0
ISC 28 10:20:09.5±1.3, 64°.73N±0°.03×31°.00E±0°.07, h0km, n27, σ1§72/44, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.38**	**341**	PN	**Pn**	**10 20 35.3**	**-0.8**
KU6	comp=Z,11nm,0.2s			MSG		10 20 50.3	
MSF	**Maaselka**	**1.44**	**326**	PN	**Pn**	**10 20 35.5**	**-1.3**
MSF	baz=147			SN	**Sg**	**10 20 54.6**	**-1.1**
JOF	**Joensuu**	**1.82**	**175**	PG	**Pn**	**10 20 41.6**	**-0.5**
JOF				SN	**Sn**	**10 21 05.3**	**-0.5**
OUL	**Oulu**	**2.20**	**282**	PG	**Pn**	**10 20 47.1**	**-0.1**
OUL				SG	**Sn**	**10 21 13.7**	**-1.5**
OUF	**Merijarvi**	**2.73**	**265**	PB	**Pn**	**10 20 54.5**	**0.0**
OUF	baz=83			MSG		10 21 26.6	
RNF	**Rovaniemi**	**2.80**	**315**	PB	**Pn**	**10 20 56.2**	**+0.8**
RNF	comp=Z,19nm,0.2s			SG	**Sn**	**10 21 32.2**	**+2.4**
OBF0	**Syolatti, Pyha**	**2.92**	**268**	PG	**Pn**	**10 20 59.1**	**+2.0**
OBF0				SG	**Sb**	**10 21 36.2**	**-2.4**
SUF	**Sumiainen**	**2.95**	**229**	PB	**Pn**	**10 20 57.8**	**+0.3**
SUF				MSG		10 21 33.6	
SUF	comp=Z,8.0nm,0.2s			SG	**Sn**	**10 21 34.9**	**+1.2**
VRF	**Varrio**	**3.08**	**350**	PB	**Pn**	**10 21 00.7**	**+1.3**
TOF	baz=167						
TOF	**Tornio**	**3.10**	**299**	PB	**Pn**	**10 21 01.0**	**+1.4**
TOF				MSG		10 21 38.0	
TOF	comp=Z,8.0nm,0.2s			SB	**Sn**	**10 21 39.5**	**+2.2**
KAF	**Kangasniemi**	**3.37**	**221**	PB	**Pn**	**10 21 04.9**	**+1.6**
KALU	baz=36 **Kalix**	**3.40**	**293**	P	**Pn**	**10 21 03.6**	**-0.2**
KEF	**Keuruu**	**3.77**	**230**	PB	**Pn**	**10 21 09.1**	**+0.4**
PAJU	**Pajala**	**3.97**	**309**	P	**Pn**	**10 21 11.4**	**-0.2**
PAJU				S	**Sn**	**10 22 00.3**	**+1.5**
PAJU	**Pajala**	**3.97**	**309**	PN	**Pn**	**10 21 11.3**	**-0.3**
PAJU				SG	**Sb**	**10 22 10.1**	**+1.3**
FIA0	**FINESS Array S**	**3.98**	**216**	PN	**Pn**	**10 21 11.0**	**-0.7**
FIA0				SG	**Sb**	**10 22 12.6**	**+3.4**
FINES	**FINESS Array B**	**3.98**	**216**	Pn	**Pn**	**10 21 11.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=8.6						
FINES				Pg	**Pb**	**10 21 19.1**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=31,slow=14,SNR=11						
FINES				Sn	**Sn**	**10 21 56.9**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=48,slow=24,SNR=3.4						
FINES				Lg	Lg	10 22 09.5	
	comp=Z,1.3nm,0.3s,baz=34,slow=27,SNR=10						
SJUU	**Sjulsmark**	**4.04**	**285**	P	**Pn**	**10 21 11.6**	**-0.9**
SJUU				S	**Sn**	**10 21 58.8**	**-1.7**
VAF	**Ylistaro**	**4.05**	**249**	SG	**Sb**	**10 22 13.0**	**+1.9**
ERTU	**Ertsjaerv**	**4.08**	**301**	P	**Pn**	**10 21 13.2**	**+0.1**
ERTU				S	**Sn**	**10 21 60.0**	**-1.5**
ERTU	**Ertsjaerv**	**4.08**	**301**	PN	**Pn**	**10 21 13.7**	**+0.6**
HARU	**Harads**	**4.42**	**293**	P	**Pn**	**10 21 17.6**	**-0.2**
VJF	**Virojoki**	**4.50**	**202**	SG	**Sb**	**10 22 27.3**	**+3.4**
HEF	**Hetta**	**4.71**	**325**	PB	**Pn**	**10 21 25.1**	**+3.4**
HEF				SG	**Sb**	**10 22 33.0**	**+2.9**
ARCES	**ARCESS Array B**	**5.28**	**339**	Pn	**Pn**	**10 21 29.5**	**-0.1**
	baz=151,slow=13,SNR=58						
ARCES				Sn	**Sn**	**10 22 27.9**	**-3.1**
	baz=158,slow=24,SNR=2.5						
ARCES				Lg	Lg	10 22 47.7	
	baz=152,slow=29,SNR=1.8						
I43RU	**DUBNA INFRASON**	**8.59**	**156**	*i*		11 11 50.0	
	baz=350,slow=319,SNR=1.3						
HFS	**Hagfors**	**9.23**	**248**	Pn	**Pn**	**10 22 20.3**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=54,slow=14,SNR=1.3						
HFS				Lg	Lg	10 24 50.9	
	comp=Z,0.2nm,0.3s,baz=60,slow=29,SNR=1.9						

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*IDC **28** 10:22:53.1±9.2, 26°.91N×140°.27E, h438km±105km,*
mb3.0/10, mb1 3.1/10, mb1mx2.7/50, mbtmp3.8/10, Error
ellipse: s-maj=42.4km s-min=14.2km az=72.0
*JMA **28** 10:22:58.4±0.1, 27°.25N×139°.71E, h422km, M3.7*
ISC 28 10:22:55.9±0.8, 27°.0N±0°.1×140°.2E±0°.2, h469km, n14, σ1§46/17, mb3.3/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.78**	**86**	P	**P**	**10 23 58.0**	**+1.0**
CBIJ				*eS*	**S**	**10 24 44.8**	**-1.8**
JHH2	**Haha-jima-NKT2**	**1.81**	**101**	P	**P**	**10 23 58.5**	**+1.3**
JHH2				*eS*	**S**	**10 24 45.7**	**-1.2**
JAG	**Ashikaga**	**9.42**	**356**	P	**P**	**10 25 07.9**	**+1.2**
JAG				*eS*	**S**	**10 26 50.9**	**-3.4**
JHO	**Hitachi**	**9.59**	**2**	P	**P**	**10 25 10.1**	**+1.6**
SONM	**Songino Array**	**33.57**	**317**	P	**P**	**10 28 54.7**	**-1.0**
	0.3nm,0.5s,baz=133,slow=6.5,SNR=2.2						
WRA	**Warramunga Arr**	**47.00**	**188**	P	**P**	**10 30 43.1**	**-0.7**
	0.6nm,0.4s,baz=4.3,slow=7.5,SNR=13						
MKAR	**Makanchi Array**	**49.17**	**310**	P	**P**	**10 30 60.0**	**+0.1**
	0.1nm,0.4s,baz=94,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**50.73**	**187**	P	**P**	**10 31 10.0**	**-1.5**
	0.3nm,0.7s,baz=358,slow=4.5,SNR=8.9						
KURBB	**Kurchatov Arra**	**51.84**	**315**	P	**P**	**10 31 20.0**	**+0.7**
	0.7nm,0.6s,baz=93,slow=8.3,SNR=6.8						
BVAR	**Borovoye Array**	**56.92**	**317**	P	**P**	**10 31 56.4**	**+1.3**
	0.8nm,0.4s,baz=62,slow=13,SNR=7.1						
ARCES	**ARCESS Array B**	**73.05**	**340**	P	**P**	**10 33 37.7**	**+0.9**
	3.8nm,0.9s,baz=50,slow=7.1,SNR=5.6						
YKA	**Yellowknife Ar**	**73.07**	**28**	P	**P**	**10 33 37.4**	**+0.3**
	0.3nm,0.4s,baz=296,slow=6.1,SNR=7.4						
FINES	**FINESS Array B**	**77.25**	**333**	P	**P**	**10 34 00.8**	**+0.3**
	1.3nm,0.3s,baz=62,slow=5.0,SNR=18						
AKASG	**Malin Array Be**	**81.64**	**323**	P	**P**	**10 34 23.9**	**-0.1**
	0.3nm,0.3s,baz=54,slow=4.7,SNR=3.0						

IDC 28 11:01:35.5±1.7, 4°.46S×152°.70E, h0km, mb3.3/3,
mb1 3.7/3, mb1mx3.4/28, mbtmp3.4/3, MS3.2/4, Ms1 3.2/4,
ms1mx2.8/30, Error ellipse: s-maj=32.8km
s-min=12.9km az=13.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.69**	**283**	Pg	Pb	**11 01 49.8**	-0.6
KRVT	baz=218,slow=20			Lg	Lg	11 01 57.6	
PMG	**Port Moresby**	**7.37**	**228**	LR	LR	11 06 24.8	
	comp=Z,97nm,21.3s,baz=338,slow=39						
CTA	**Charters Tower**	**16.75**	**201**	LR	LR	11 12 19.1	
	comp=Z,87nm,18.5s,baz=82,slow=38						
WRA	**Warramunga Arr**	**23.59**	**228**	P	P	11 06 48.4	+0.1
	0.7nm,0.8s,baz=52,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**26.33**	**222**	P	P	11 07 13.2	-0.2
	0.3nm,0.7s,baz=50,slow=9.3,SNR=1.6						
STKA	**Stephens Creek**	**29.20**	**200**	LR	LR	11 20 03.0	
	comp=Z,68nm,19.6s,baz=23,slow=38						
DAV	**Davao City (W)**	**29.39**	**293**	LR	LR	11 20 36.5	
	comp=Z,42nm,18.2s,baz=319,slow=39						
ILAR	**Eielson Array**	**81.89**	**22**	P	P	11 13 55.9	-0.7
	0.5nm,0.7s,baz=253,slow=5.6,SNR=5.0						

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*SFS **28** 11:04:16.0, 35°.71N×3°.70W, ML2.7, ALBORAN SUR*
*CNRM **28** 11:04:17.3, 35°.75N×3°.60W, h32km, ml3.0*
*IGIL **28** 11:04:18.0, 35°.72N×3°.71W, h0km, ML2.6*
ISC 28 11:04:14.0±1.4, 35°.76N±0°.03×3°.60W±0°.03, h6km±11km, n18, σ1§59/35, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.60**	**208**	P	**Pn**	**11 04 28.4**	**-0.8**
PALE				S	**Sb**	**11 04 37.0**	**+1.2**
GOG	**Mont Gurugu**	**0.72**	**137**	P	**Pn**	**11 04 31.0**	**+0.1**
GOG				S	**Sb**	**11 04 40.3**	**+1.0**
CHAS	**Isla Isabel II**	**1.11**	**121**	*eP*	**Pb**	**11 04 35.2**	**-0.4**
CHAS				*eS*	**Sg**	**11 04 48.7**	**-1.1**
EMAL	**Malaga-Limoner**	**1.21**	**326**	*eP*	**Pg**	**11 04 38.0**	**+0.7**
EMAL				*eS*	**Sn**	**11 04 53.5**	**-0.6**
TAF	**Taforalt**	**1.35**	**134**	P	**Pb**	**11 04 40.0**	**+0.2**
TAF				S	**Sn**	**11 04 57.5**	**-0.2**
CEU	**Ceuta**	**1.45**	**276**	*eP*	**Pn**	**11 04 39.3**	**-1.4**
CEU				*eS*	**Sn**	**11 04 55.6**	**-4.4**
CHEFC	**Chefchaouen**	**1.56**	**246**	P	**Pg**	**11 04 43.8**	**-0.2**
CHEFC				S	**Sn**	**11 05 00.5**	**-2.5**
JBK	**JBK**	**1.65**	**149**	P	**Pn**	**11 04 43.6**	**-0.1**
JBK				S	**Sn**	**11 05 04.0**	**-1.3**
LCRM	**LCR**	**2.31**	**207**	P	**Pb**	**11 04 56.6**	**+0.4**
LCRM				S	**Sg**	**11 05 26.6**	**-1.7**
MD31	**MD31**	**3.04**	**199**	P	**Pn**	**11 05 04.3**	**+1.6**
MD31				S	**Sn**	**11 05 40.4**	**+1.0**
MDT	**Midelt**	**3.05**	**196**	P	**Pn**	**11 05 04.5**	**+1.6**
MDT				S	**Sn**	**11 05 40.4**	**+0.6**
ZHG	**ZHG**	**3.41**	**228**	P	**Pn**	**11 05 10.3**	**+2.6**
ZHG				S	**Sn**	**11 05 49.5**	**+0.9**
PVAQ	**Vaqueiros**	**3.70**	**298**	P	**Pn**	**11 05 13.2**	**+1.5**
PVAQ				S	**Sn**	**11 05 54.8**	**-0.8**
FIGM	**Figuig**	**4.10**	**151**	P	**Pn**	**11 05 15.9**	**-1.5**
FIGM				S	**Sn**	**11 06 05.5**	**-0.2**
MESJ	**Messejana**	**4.25**	**301**	*eP*	**Pn**	**11 05 21.4**	**+2.1**
MESJ				*eS*	**Sn**	**11 06 07.6**	**-1.6**
MESJ				IAML		11 06 11.6	
	comp=N,10.0nm,0.2s						
MORF	**Marmelete**	**4.35**	**292**	*eS*	**Sn**	**11 06 09.7**	**-2.2**
MORF				IAML		11 06 14.7	
	comp=N,13nm,0.3s						
PFVI	**Vila Bisbo**	**4.43**	**290**	P	**Pn**	**11 05 23.1**	**+1.3**
PFVI				S	**Sn**	**11 06 12.0**	**-1.7**
PESTR	**Estremoz**	**4.45**	**315**	P	**Pn**	**11 05 24.1**	**+2.1**
PESTR				S	**Sn**	**11 06 13.2**	**-0.9**

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*IDC **28** 11:18:52.1±1.2, 35°.80N×3°.81W, h0km, mb3.5/3, mb1 3.5/5,*
mb1mx3.1/53, mbtmp3.3/5, ML3.0/2, Error ellipse:
s-maj=32.8km s-min=13.5km az=95.0
*CNRM **28** 11:18:53.7, 35°.73N×3°.56W, h25km, ml3.4*
*SFS **28** 11:18:53.0, 35°.70N×3°.71W, ML3.0, ALBORAN SUR*
*IGIL **28** 11:18:54.9, 35°.70N×3°.72W, h0km, ML2.9*
*LDG **28** 11:18:55.6±0.2, 35°.66N×3°.59W, h10km, Ml3.1/6, Error*
ellipse: s-maj=5.2km s-min=3.2km az=1.0
ISC 28 11:18:52.4±1.2, 35°.74N±0°.03×3°.59W±0°.03, h12km±9km,
n42, σ1§89/59, mb3.6/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.59**	**209**	P	**Pn**	**11 19 06.0**	**-0.8**
PALE				S	**Sb**	**11 19 13.2**	**+0.1**
GOG	**Mont Gurugu**	**0.71**	**136**	P	**Pn**	**11 19 08.1**	**-0.3**
GOG				S	**Sb**	**11 19 15.9**	**-0.7**
CHAS	**Isla Isabel II**	**1.10**	**120**	*eP*	**Pb**	**11 19 12.4**	**-1.0**

CHAS				eS	Sb	11 19 25.8	-1.9
EMAL	**Malaga-Limoner**	**1.23**	**327**	eP	Pg	11 19 15.1	-0.9
EMAL				eS	Sg	11 19 30.8	-1.1
TAF	**Taforalt**	**1.33**	**133**	P	Pb	11 19 17.0	-0.5
TAF				S	Sg	11 19 34.7	-0.8
CEU	**Ceuta**	**1.46**	**277**	eP	Pn	11 19 16.0	-2.6
CEU				eS	Sn	11 19 33.5	-4.1
SMIR	**Smir Dam**	**1.46**	**268**	P	Pg	11 19 20.0	-0.4
CHEFC	**Chefchaouen**	**1.56**	**247**	P	Pb	11 19 21.0	-0.4
CHEFC				S	Sn	11 19 40.3	0.0
JBK	**JBK**	**1.63**	**149**	P	Pn	11 19 20.6	-0.6
JBK				S	Sn	11 19 40.2	-2.1
SICH	**Sidi Chahed**	**2.16**	**221**	P	Pn	11 19 29.7	+1.4
LCRM	**LCR**	**2.30**	**207**	P	Pn	11 19 31.2	+0.9
LCRM				S	Sn	11 19 59.5	+0.9
IFR	**Ifrane**	**2.55**	**210**	eP	Pn	11 19 34.0	+0.2
IFR				eS	Sn	11 20 03.9	-1.0
CART	**Cartagena**	**2.78**	**48**	P	Pn	11 19 36.1	-0.8
CART				S	Sn	11 20 08.4	-1.9
MD31	**MD31**	**3.02**	**199**	P	Pn	11 19 41.0	+0.8
MD31				S	Sn	11 20 16.6	+0.2
MDT	**Midelt**	**3.04**	**196**	Pn	Pn	11 19 41.2	+0.8
1.4nm,0.3s,baz=226,slow=9.4,SNR=8.2							
MDT				Sn	Sn	11 20 16.9	+0.1
2.7nm,0.3s,baz=210,slow=18,SNR=3.5							
MDT				Lg	Lg	11 20 30.7	
5.5nm,0.3s,baz=220,slow=8.2,SNR=6.8							
MDT	**Midelt**	**3.04**	**196**	P	Pn	11 19 41.2	+0.8
MDT				S	Sn	11 20 17.8	+1.0
ZHG	**ZHG**	**3.40**	**229**	P	Pn	11 19 45.3	-0.1
PVAQ	**Vaqueiros**	**3.71**	**298**	P	Pn	11 19 50.4	+0.7
PVAQ				S	Sn	11 20 31.9	-1.4
ESDC	**Sonseca Array**	**3.94**	**356**	Pn	Pn	11 19 52.8	-0.1
0.7nm,0.3s,baz=179,slow=12,SNR=15							
ESDC				Sn	Sn	11 20 39.1	+0.1
0.8nm,0.3s,baz=183,slow=23,SNR=4.9							
ESDC				Lg	Lg	11 20 56.3	
1.2nm,0.3s,baz=180,slow=28,SNR=4.9							
FIGM	**Figuig**	**4.08**	**151**	P	Pn	11 19 56.5	+1.7
MESJ	**Messejana**	**4.26**	**301**	eP	Pn	11 19 58.2	+1.0
MESJ				eS	Sn	11 20 44.8	-2.1
MESJ				IAML		11 20 48.5	
comp=N,19nm,0.2s							
MORF	**Marmelete**	**4.36**	**292**	eP	Pn	11 19 59.3	+0.7
MORF				eS	Sn	11 20 46.5	-2.9
MORF				IAML		11 20 54.8	
comp=E,29nm,0.1s							
PFVI	**Vila Bisbo**	**4.44**	**290**	P	Pn	11 20 01.4	+1.7
PESTR	**Estremoz**	**4.46**	**316**	P	Pn	11 20 01.4	+1.5
EVO	**Evora**	**4.50**	**310**	eP	Pn	11 20 01.5	+1.0
EVO				eS	Sn	11 20 51.4	-1.3
ETSF	**Etsaut**	**7.53**	**17**	ePn	Pn	11 20 44.3	+2.2
ETSF	**Etsaut**	**7.53**	**17**	eP	Pn	11 20 49.0	+6.9
ETSF				eSn	Sn	11 22 06.0	-1.4
comp=E,0.7nm,0.2s							
SJPF	**Ste Jean**	**7.59**	**13**	ePn	Pn	11 20 44.6	+1.7
SJPF	**Ste Jean**	**7.59**	**13**	eP	Pn	11 20 50.6	+7.7
SJPF				eSn	Sn	11 22 07.4	-1.4
comp=E,0.3nm,0.2s							
EPF	**Esparros**	**7.89**	**21**	ePn	Pn	11 20 49.2	+2.1
EPF	**Esparros**	**7.89**	**21**	eP	Pn	11 20 54.5	+7.4
EPF				eSn	Sn	11 22 15.2	-1.1
comp=E,0.3nm,0.2s							
LFF	**La Frestale**	**9.77**	**18**	ePn	Pn	11 21 15.4	+2.7
LASF	**Ste Croix**	**10.10**	**32**	eP	Pn	11 21 24.7	+7.4
LASF				eSn	Sn	11 23 05.2	-5.3
comp=E,0.8nm,0.4s							
RJF	**Les Rejaudoux**	**10.31**	**21**	eP	Pn	11 21 28.7	+8.5
PGF	**Pioggiola**	**11.90**	**51**	ePn	Pn	11 21 44.3	+2.3
PGF	**Pioggiola**	**11.90**	**51**	eP	Pn	11 21 49.5	+7.5
LPL	**La Plagne**	**12.52**	**36**	ePn	Pn	11 21 53.3	+2.8
SGMF	**Saint Gilles**	**12.53**	**3**	eSn	Sn	11 24 05.1	-4.8
comp=E,2.1nm,0.3s							
ROSF	**Rostrenen**	**12.59**	**1**	eSn	Sn	11 24 06.7	-4.7
comp=E,0.6nm,0.2s							
TORD	**Torodi Ar. Bea**	**22.99**	**167**	P	P	11 23 59.2	+2.0
comp=E,0.7nm,0.8s,baz=353,slow=10,SNR=2.0							
MKAR	**Makanchi Array**	**62.44**	**51**	P	P	11 29 16.9	+1.5
comp=E,0.6nm,0.8s,baz=282,slow=6.1,SNR=6.2							
YKA	**Yellowknife Ar**	**67.69**	**332**	P	P	11 29 50.5	+1.4
comp=E,0.3nm,0.6s,baz=58,slow=6.4,SNR=7.4							

*ANF **28** 11:23:22.5±0.2, 60°.00N×152°.95W, h118km±3km, ML3.6/29, Error ellipse: s-maj=2.2km s-min=2.0km az=125.0*
*NEIC **28** 11:23:23.0±1.0, 60°.05N±0°.04×153°.05W±0°.05, h118km±4km, Error ellipse: s-maj=5.5km s-min=3.7km az=189.0*
*IDC **28** 11:23:22.4±2.0, 60°.02N×153°.07W, h95km±33km, mb3.5/1, mb1 3.5/6, mb1mx3.0/47, mbtmp3.7/6, Error ellipse: s-maj=35.5km s-min=15.6km az=115.0*
*AEIC **28** 11:23:23±1.2, 60°.02N±0°.03×152°.99W±0°.10, h115km±4km, ML3.1, ML3.3/90(NEIC), Error ellipse: s-maj=7.4km s-min=4.3km az=113.0*

ISC 28 11:23:22.8±0.9, 60°.02N±0°.03×152°.96W±0°.03, h123km±5km, n174, σ0=96/184, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.18**	**69**		**Pn**	**11 23 39.5**	**-0.3**
O20K					**Sn**	**11 23 51.9**	**-0.7**
O20K	**Slope Mountain**	**0.18**	**69**	P	**Pn**	**11 23 39.6**	**-0.3**
baz=252,SNR=33							
O20K				S	**Sn**	**11 23 51.9**	**-0.7**
baz=252							
OPT	**Oil Point**	**0.39**	**201**		**Pn**	**11 23 40.2**	**-0.4**
RED	**Redoubt Volcan**	**0.41**	**13**		**Pn**	**11 23 40.2**	**-0.5**
RED					**Sn**	**11 23 52.7**	**-1.5**
RSO	**Redoubt South**	**0.46**	**13**		**Pn**	**11 23 40.6**	**-0.4**
NCT	**North Crescent**	**0.55**	**1**		**Pn**	**11 23 41.1**	**-0.4**
NCT					**Sn**	**11 23 54.1**	**-1.4**
DFR	**Drift River**	**0.59**	**13**		**Pn**	**11 23 41.2**	**-0.5**
RDT	**Redoubt**	**0.62**	**26**		**Pn**	**11 23 41.5**	**-0.4**
AUL	**Augustine Lava**	**0.68**	**201**		**Pn**	**11 23 42.4**	**0.0**
AUL					**Sn**	**11 23 56.4**	**-0.6**
AGU	**Augustine-Summ**	**0.70**	**200**		**Pn**	**11 23 42.4**	**-0.2**
AUQ	**Augustine Qik'**	**0.71**	**199**		**Pn**	**11 23 42.4**	**-0.1**
O19K	**Port Alsworth**	**0.71**	**285**		**Pn**	**11 23 42.0**	**-0.5**
O19K					**Sn**	**11 23 55.7**	**-1.5**
O19K	**Port Alsworth**	**0.71**	**285**	IAML		11 23 57.0	
comp=N,2μm,0.4s							
O19K	**Port Alsworth**	**0.71**	**285**	P	**Pn**	**11 23 41.9**	**-0.5**
baz=104,SNR=25							
O19K				S	**Sn**	**11 23 55.7**	**-1.5**
baz=104							
HOM	**Homer**	**0.76**	**118**		**Pn**	**11 23 43.0**	**+0.1**
HOM					**Sn**	**11 23 58.0**	**+0.1**
HOM	**Homer**	**0.76**	**118**	IAML		11 23 59.2	
comp=E,2μm,0.5s							
HOM	**Homer**	**0.76**	**118**	P	**Pn**	**11 23 42.9**	**+0.1**
baz=299,SNR=13							
HOM				S	**Sn**	**11 23 58.2**	**+0.2**
baz=299							
CNPM	**China Poot**	**1.00**	**119**		**Pn**	**11 23 45.0**	**0.0**
BRLK	**Bradley Lake**	**1.07**	**103**		**Pn**	**11 23 45.6**	**-0.2**
N19K	**Bonanza Creek**	**1.10**	**317**		**Pn**	**11 23 45.7**	**-0.5**
N19K					**Sn**	**11 24 02.2**	**-1.6**
N19K	**Bonanza Creek**	**1.10**	**317**	P	**Pn**	**11 23 45.7**	**-0.5**
baz=136							
N19K				S	**Sn**	**11 24 02.3**	**-1.6**
baz=136							
O18K	**Koktuh Hills**	**1.15**	**263**		**Pn**	**11 23 46.0**	**-0.5**
O18K					**Sn**	**11 24 03.1**	**-1.4**
Q19K	**Cape Douglas,**	**1.15**	**198**		**Pn**	**11 23 46.1**	**-0.5**
Q19K					**Sn**	**11 24 03.6**	**-1.0**
Q19K	**Cape Douglas,**	**1.15**	**198**	IAML		11 24 05.8	
comp=E,467nm,0.7s							
Q19K				IAML		11 24 06.9	
comp=N,526nm,0.6s							
Q19K	**Cape Douglas,**	**1.15**	**198**	P	**Pn**	**11 23 46.2**	**-0.5**
baz=17,SNR=11							
Q19K				S	**Sn**	**11 24 03.7**	**-1.0**
baz=17							
BRSE	**Bradley Lake S**	**1.15**	**103**		**Pn**	**11 23 46.7**	**+0.1**
BRSE					**Sn**	**11 24 03.9**	**-0.7**
BRSE	**Bradley Lake S**	**1.15**	**103**	P	**Pn**	**11 23 46.8**	**+0.1**
baz=285,SNR=25							
BRSE				S	**Sn**	**11 24 04.2**	**-0.4**
baz=285							
CAPN	**Captain Cook N**	**1.17**	**49**		**Pn**	**11 23 48.4**	**+1.7**
CAPN	**Captain Cook N**	**1.17**	**49**	P	**Pn**	**11 23 48.3**	**+1.6**
baz=231,SNR=5.4							
SPU	**Mount Spurr**	**1.25**	**20**		**Pn**	**11 23 47.5**	**-0.2**
SPCN	**Chakachatna No**	**1.27**	**17**		**Pn**	**11 23 48.0**	**+0.1**
P18K	**Big Mountain,**	**1.31**	**242**		**Pn**	**11 23 47.7**	**-0.6**
P18K					**Sn**	**11 24 06.0**	**-1.7**
P18K	**Big Mountain,**	**1.31**	**242**	P	**Pn**	**11 23 47.7**	**-0.6**
baz=60							
P18K				S	**Sn**	**11 24 06.3**	**-1.4**
baz=60							
SPCG	**Spurr Capps Gl**	**1.36**	**19**		**Pn**	**11 23 49.0**	**+0.1**
SPNN	**North Nagishla**	**1.36**	**5**		**Pn**	**11 23 48.9**	**0.0**
SLKM	**Skilak Lake**	**1.45**	**69**		**Pn**	**11 23 49.5**	**-0.3**
STLK	**Strandline Lak**	**1.58**	**20**		**Pn**	**11 23 51.7**	**+0.3**
O22K	**Cooper Landing**	**1.68**	**73**		**Pn**	**11 23 52.3**	**-0.1**
O22K	**Cooper Landing**	**1.68**	**73**	P	**Pn**	**11 23 52.3**	**-0.1**
baz=256,SNR=10							
O22K				S	**Sn**	**11 24 13.8**	**-1.2**
baz=256							
SEW	**Seward**	**1.76**	**86**		**Pn**	**11 23 53.0**	**-0.4**
SEW	**Seward**	**1.76**	**86**	P	**Pn**	**11 23 53.0**	**-0.4**
baz=269							
SEW				S	**Sn**	**11 24 15.1**	**-1.6**
baz=269							
FIS	**Fire Island**	**1.76**	**49**		**Pn**	**11 23 54.5**	**+1.1**
FIS	**Fire Island**	**1.76**	**49**	IAML		11 24 20.3	
comp=N,372nm,0.6s							
FIS				IAML		11 24 28.1	
comp=E,411nm,0.6s							
SUA	**Susitna One**	**1.81**	**36**		**Pn**	**11 23 54.7**	**+0.6**
SUA					**Sn**	**11 24 18.1**	**0.0**
RC01	**Rabbit Creek A**	**1.92**	**55**		**Pn**	**11 23 55.2**	**-0.1**
RC01	**Rabbit Creek A**	**1.92**	**55**	IAML		11 24 20.9	
comp=N,350nm,0.4s							
RC01	**Rabbit Creek A**	**1.92**	**55**	P	**Pn**	**11 23 55.2**	**-0.1**
baz=238,SNR=8.1							
RC01				S	**Sn**	**11 24 19.2**	**-1.0**
baz=238							
M19K	**Big River Lodg**	**2.02**	**340**		**Pn**	**11 23 56.5**	**-0.1**
M19K	**Big River Lodg**	**2.02**	**340**	P	**Pn**	**11 23 56.5**	**-0.1**
baz=160							
M19K				S	**Sn**	**11 24 21.8**	**-0.7**
baz=160							
KABU	**Katmai Buttres**	**2.12**	**215**		**Pn**	**11 23 58.3**	**+0.2**
KABU					**Sn**	**11 24 24.2**	**-0.7**
KDAK	**Kodiak Island**	**2.25**	**175**	P	**Pn**	**11 23 58.4**	**-1.1**
comp=N,21nm,0.3s,baz=61,slow=13,SNR=110							
KDAK				S	**Sn**	**11 24 25.9**	**-1.7**
comp=N,20nm,0.3s,baz=228,slow=18,SNR=26							
KDAK	**Kodiak Island**	**2.25**	**175**	IAML		11 24 27.3	
comp=N,239nm,0.3s							
KDAK	**Kodiak Island**	**2.25**	**175**	P	**Pn**	**11 23 58.5**	**-1.1**
baz=355							
KDAK				S	**Sn**	**11 24 26.3**	**-1.3**
baz=355							
L19K	**White Mountain**	**2.36**	**338**		**Pn**	**11 24 00.6**	**-0.2**
L19K	**White Mountain**	**2.36**	**338**	P	**Pn**	**11 24 00.6**	**-0.2**
baz=157,SNR=40							
PWL	**Port Wells**	**2.44**	**68**		**Pn**	**11 24 00.8**	**-1.1**
PWL	**Port Wells**	**2.44**	**68**	IAML		11 24 31.3	
comp=N,242nm,0.2s							
PWL				IAML		11 24 32.2	
comp=E,151nm,0.4s							
PWL	**Port Wells**	**2.44**	**68**	P	**Pn**	**11 24 00.8**	**-1.1**
baz=252							
PWL				S	**Sn**	**11 24 29.7**	**-2.2**
baz=252							
PMR	**Palmer**	**2.45**	**48**		**Pn**	**11 24 00.8**	**-1.2**
PMR	**Palmer**	**2.45**	**48**	IAML		11 24 30.8	
comp=E,106nm,0.4s							
PMR				IAML		11 24 33.4	
comp=N,121nm,0.4s							
PMR	**Palmer**	**2.45**	**48**	P	**Pn**	**11 24 01.2**	**-0.8**
baz=232							
PMR				S	**Sn**	**11 24 29.7**	**-2.4**
baz=232							
L20K	**Farewell, AK**	**2.51**	**350**		**Pn**	**11 24 03.1**	**+0.3**
L20K	**Farewell, AK**	**2.51**	**350**	P	**Pn**	**11 24 03.1**	**+0.3**
baz=170							
KNK	**Knik Glacier**	**2.62**	**56**		**Pn**	**11 24 03.2**	**-0.9**
KNK	**Knik Glacier**	**2.62**	**56**	IAML		11 24 35.9	
comp=E,228nm,0.4s							
KNK				IAML		11 24 37.4	
comp=N,227nm,0.5s							
KNK	**Knik Glacier**	**2.62**	**56**	P	**Pn**	**11 24 03.2**	**-0.9**
baz=240							
KNK				S	**Sn**	**11 24 34.0**	**-2.0**
baz=240							
GHO	**Glory Hole Cre**	**2.64**	**46**		**Pn**	**11 24 03.6**	**-0.9**
GHO	**Glory Hole Cre**	**2.64**	**46**	IAML		11 24 41.5	
comp=N,179nm,0.6s							
GHO				IAML		11 24 42.6	
comp=E,204nm,0.7s							
CUT	**Chulitna**	**2.72**	**27**		**Pn**	**11 24 06.1**	**+0.5**
CUT	**Chulitna**	**2.72**	**27**	P	**Pn**	**11 24 06.0**	**+0.5**
baz=210,SNR=9.0							
OHAK	**Old Harbor**	**2.81**	**184**		**Pn**	**11 24 05.3**	**-1.4**
OHAK	**Old Harbor**	**2.81**	**184**	IAML		11 24 48.8	
comp=N,103nm,2.4s							
OHAK				IAML		11 24 54.5	
comp=E,123nm,4.6s							
OHAK	**Old Harbor**	**2.81**	**184**	P	**Pn**	**11 24 05.2**	**-1.4**
baz=3.0							
OHAK				S	**Sn**	**11 24 37.7**	**-2.7**
baz=3.0							
SML	**Sawmill**	**2.88**	**50**		**Pn**	**11 24 06.8**	**-0.9**
SML	**Sawmill**	**2.88**	**50**	IAML		11 24 40.5	
comp=N,94nm,1.0s							
SML				IAML		11 24 51.8	
comp=E,119nm,0.7s							
SML	**Sawmill**	**2.88**	**50**	P	**Pn**	**11 24 06.7**	**-0.9**
baz=234							
SML				S	**Sn**	**11 24 39.6**	**-2.6**
baz=234							
PPLA	**Purkeypile**	**2.91**	**7**		**Pn**	**11 24 09.0**	**+0.9**
PPLA	**Purkeypile**	**2.91**	**7**	P	**Pn**	**11 24 08.9**	**+0.9**
baz=188,SNR=10.0							
TT01	**Tatalina**	**3.25**	**334**		**Pn**	**11 24 12.1**	**-0.3**
TTA	**Tatalina**	**3.27**	**335**		**Pn**	**11 24 12.2**	**-0.6**
TTA	**Tatalina**	**3.27**	**335**	P	**Pn**	**11 24 12.1**	**-0.6**
baz=152,SNR=16							
SCM	**Sheep Creek Mo**	**3.29**	**54**		**Pn**	**11 24 12.5**	**-0.6**
SCM	**Sheep Creek Mo**	**3.29**	**54**	IAML		11 24 54.1	
comp=E,115nm,0.7s							
SCM				IAML		11 24 54.5	
comp=N,132nm,0.6s							
SCM	**Sheep Creek Mo**	**3.29**	**54**	P	**Pn**	**11 24 12.4**	**-0.7**
baz=239							
K20K	**Telida**	**3.39**	**351**		**Pn**	**11 24 14.5**	**+0.3**
K20K	**Telida**	**3.39**	**351**	P	**Pn**	**11 24 14.5**	**+0.3**
baz=171							
CAST	**Castle Rocks**	**3.44**	**7**		**Pn**	**11 24 14.9**	**+0.1**
CAST	**Castle Rocks**	**3.44**	**7**	P	**Pn**	**11 24 15.0**	**+0.1**
baz=188,SNR=16							
SII	**Sitkinak Islan**	**3.53**	**191**	P	**Pn**	**11 24 15.6**	**-0.6**
baz=9.8							
EYAK	**Cordova Ski Ar**	**3.63**	**78**	P	**Pn**	**11 24 16.7**	**-0.7**
baz=265							
TRF	**Thorofare Moun**	**3.67**	**19**		**Pn**	**11 24 17.7**	**-0.4**
TRF	**Thorofare Moun**	**3.67**	**19**	IAML		11 24 54.5	
comp=E,46nm,4.1s							
TRF				IAML		11 25 01.2	
comp=N,55nm,0.6s							
TRF	**Thorofare Moun**	**3.67**	**19**	P	**Pn**	**11 24 17.7**	**-0.4**
baz=202,SNR=5.5							
KTH	**Kantishna Hill**	**3.68**	**14**		**Pn**	**11 24 17.7**	**-0.3**
KTH	**Kantishna Hill**	**3.68**	**14**	IAML		11 25 02.6	
comp=E,37nm,1.7s							
KTH				IAML		11 25 02.8	
comp=N,39nm,0.9s							
DIV	**Divide**	**3.72**	**69**		**Pn**	**11 24 17.6**	**-1.0**
KLU	**Klutina**	**3.75**	**64**		**Pn**	**11 24 18.2**	**-0.9**
KLU	**Klutina**	**3.75**	**64**	P	**Pn**	**11 24 18.2**	**-0.9**
baz=250							
CHUM	**Lake Minchumin**	**3.89**	**4**		**Pn**	**11 24 21.0**	**+0.2**
CHUM	**Lake Minchumin**	**3.89**	**4**	P	**Pn**	**11 24 21.0**	**+0.2**
baz=185,SNR=7.3							
M24K	**Tolsona, Glenn**	**3.90**	**55**		**Pn**	**11 24 20.9**	**-0.2**
M24K	**Tolsona, Glenn**	**3.90**	**55**	P	**Pn**	**11 24 20.8**	**-0.3**
baz=241							
RND	**Reindeer**	**3.92**	**28**		**Pn**	**11 24 20.8**	**-0.5**
GOAT	**Goat Mountain**	**4.13**	**79**		**Pn**	**11 24 22.9**	**-1.3**
MCK	**McKinley**	**4.18**	**25**		**Pn**	**11 24 24.5**	**-0.3**
MCK	**McKinley**	**4.18**	**25**	IAML		11 25 13.5	
comp=E,26nm,1.9s							
MCK				IAML		11 25 52.9	
comp=N,30nm,3.3s							
MCK	**McKinley**	**4.18**	**25**	P	**Pn**	**11 24 24.8**	**0.0**
baz=209,SNR=7.7							
BPAW	**Bear Paw Mtn.**	**4.20**	**12**		**Pn**	**11 24 24.4**	**-0.6**
BPAW	**Bear Paw Mtn.**	**4.20**	**12**	IAML		11 25 11.9	
comp=N,24nm,2.4s							
BPAW				IAML		11 25 36.7	
comp=E,26nm,4.7s							
BPAW	**Bear Paw Mtn.**	**4.20**	**12**	P	**Pn**	**11 24 24.5**	**-0.5**
baz=194							
J20K	**Nowinta River**	**4.21**	**353**		**Pn**	**11 24 25.4**	**+0.3**
J20K	**Nowinta River**	**4.21**	**353**	P	**Pn**	**11 24 25.4**	**+0.3**
baz=172,SNR=38							
BMRM	**Bremner River**	**4.24**	**73**	P	**Pn**	**11 24 25.6**	**0.0**
baz=261							
N25K	**Chitina, Valde**	**4.39**	**65**		**Pn**	**11 24 26.9**	**-0.7**
N25K	**Chitina, Valde**	**4.39**	**65**	IAML		11 25 16.9	
comp=N,40nm,1.4s							
N25K				IAML		11 25 20.7	
comp=E,35nm,0.5s							
N25K	**Chitina, Valde**	**4.39**	**65**	P	**Pn**	**11 24 26.8**	**-0.9**
baz=252							
HARP	**HAARP**	**4.46**	**54**		**Pn**	**11 24 28.2**	**-0.3**
HARP	**HAARP**	**4.46**	**54**	P	**Pn**	**11 24 28.2**	**-0.3**
baz=241							
BWN	**Browne**	**4.48**	**20**		**Pn**	**11 24 28.8**	**+0.1**
PAX	**Paxson**	**4.65**	**47**		**Pn**	**11 24 31.0**	**-0.1**
PAX	**Paxson**	**4.65**	**47**	P	**Pn**	**11 24 30.9**	**-0.1**
baz=234							
GLB	**Gilahina Butte**	**4.71**	**68**		**Pn**	**11 24 31.1**	**-0.7**
GLB	**Gilahina Butte**	**4.71**	**68**	IAML		11 25 24.8	
comp=E,31nm,2.1s							
GLB				IAML		11 25 55.7	
comp=N,33nm,3.5s							
NEA2	**Nenana**	**4.94**	**20**	IAML		11 25 26.8	
comp=N,14nm,2.2s							
NEA2				IAML		11 27 54.1	
comp=E,21nm,4.7s							
NEA2	**Nenana**	**4.94**	**20**	P	**Pn**	**11 24 34.3**	**-0.5**
baz=204,SNR=11							
WRH	**Wood River Hil**	**5.01**	**25**		**Pn**	**11 24 35.3**	**-0.5**
WRH	**Wood River Hil**	**5.01**	**25**	IAML		11 25 50.1	
comp=E,25nm,4.5s							
WRH				IAML		11 27 41.2	
comp=N,15nm,4.4s							
WAX	**Waxell Ridge**	**5.05**	**81**		**Pn**	**11 24 36.3**	**-0.2**
GCSA	**Galena City Sc**	**5.08**	**341**		**Pn**	**11 24 36.8**	**0.0**
GCSA	**Galena City Sc**	**5.08**	**341**	P	**Pn**	**11 24 36.7**	**0.0**
baz=157,SNR=11							
MLY	**Manley**	**5.13**	**11**		**Pn**	**11 24 37.2**	**-0.4**
MLY				IAML		11 25 58.9	
comp=E,15nm,4.4s							
MLY				IAML		11 26 07.9	
comp=N,14nm,4.6s							
I21K	**Tanana**	**5.20**	**5**		**Pn**	**11 24 37.7**	**-0.6**
I21K				IAML		11 26 24.9	
comp=N,22nm,3.9s							
I21K				IAML		11 27 54.9	
comp=E,21nm,4.8s							
I21K	**Tanana**	**5.20**	**5**	P	**Pn**	**11 24 38.1**	**-0.3**
baz=186,SNR=5.3							
HDA	**Harding Lake**	**5.22**	**30**		**Pn**	**11 24 38.1**	**-0.6**
CCB	**Clear Creek Bu**	**5.23**	**25**		**Pn**	**11 24 37.7**	**-1.0**
CCB	**Clear Creek Bu**	**5.23**	**25**	IAML		11 25 31.1	
comp=E,18nm,4.1s							
BALM	**Baldy**	**5.34**	**74**		**Pn**	**11 24 40.3**	**0.0**
M26K	**Nabesna, AK**	**5.37**	**59**		**Pn**	**11 24 40.9**	**+0.2**
M26K	**Nabesna, AK**	**5.37**	**59**	IAML		11 25 38.7	
comp=E,21nm,3.0s							
M26K				IAML		11 25 41.8	
comp=N,28nm,3.0s							
M26K	**Nabesna, AK**	**5.37**	**59**	P	**Pn**	**11 24 40.7**	**-0.1**
baz=248							
I23K	**Minto, Yukon-K**	**5.41**	**16**		**Pn**	**11 24 40.8**	**-0.3**
I23K	**Minto, Yukon-K**	**5.41**	**16**	P	**Pn**	**11 24 40.8**	**-0.3**
baz=200,SNR=26							
TCOL	**CIGO, UAF Yank**	**5.41**	**24**		**Pn**	**11 24 40.7**	**-0.5**
TCOL	**CIGO, UAF Yank**	**5.41**	**24**	P	**Pn**	**11 24 41.0**	**-0.2**
baz=208,SNR=12							
COLA	**College**	**5.42**	**24**		**Pn**	**11 24 40.4**	**-0.9**
COLA	**College**	**5.42**	**24**	P	**Pn**	**11 24 41.0**	**-0.3**
baz=208							
MDM	**Murphy Dome**	**5.42**	**22**		**Pn**	**11 24 40.6**	**-0.7**
L26K	**Log Cabin Wild**	**5.50**	**53**	P	**Pn**	**11 24 42.7**	**+0.3**
baz=241							
MESA	**MESA**	**5.51**	**84**	P	**Pn**	**11 24 43.2**	**+0.5**
baz=273							
IL31		**5.54**	**28**		**Pn**	**11 24 42.1**	**-0.7**
ILAR	**Eielson Array**	**5.54**	**28**	P	**Pn**	**11 24 42.1**	**-0.8**
comp=N,2.4nm,0.3s,baz=215,slow=14,SNR=165							
ILAR				S	**Sn**	**11 25 39.6**	**-5.8**
comp=N,1.7nm,0.3s,baz=198,slow=14,SNR=11							
ILAR	**Eielson Array**	**5.54**	**28**	Pn	**Pn**	**11 24 41.8**	**-1.1**
H21K	**Melozitna Rive**	**5.66**	**1**		**Pn**	**11 24 44.4**	**-0.1**
H21K	**Melozitna Rive**	**5.66**	**1**	P	**Pn**	**11 24 44.3**	**-0.2**
baz=181,SNR=8.1							
BARN	**Barnard Glacie**	**5.67**	**75**		**Pn**	**11 24 45.6**	**+0.6**
POKR	**Poker Plat Res**	**5.72**	**24**		**Pn**	**11 24 45.0**	**-0.3**
POKR	**Poker Plat Res**	**5.72**	**24**	P	**Pn**	**11 24 44.9**	**-0.3**
baz=209							
SCRK	**Sand Creek**	**5.80**	**43**	Pn	**Pn**	**11 24 45.7**	**-0.8**
SCRK	**Sand Creek**	**5.80**	**43**	P	**Pn**	**11 24 45.8**	**-0.7**
baz=231							
IM03

BOSA				*i* S	Sn	11 55 05.7	-6.1
BOSA	**Boshof**	**5.67**	**203**	*i* P	Pn	11 54 06.3	-0.3
BOSA				*i* S	Sn	11 55 05.7	-6.1
KRI	**Karoi**	**6.75**	**15**	*i* P	Pn	11 54 13.9	-7.6
KRI				*i* S	Sn	11 55 22.2	-16
KRI	**Karoi**	**6.75**	**15**	*i* P	Pn	11 54 13.9	-7.6
KRI				*i* S	Sn	11 55 22.2	-16

*IDC **28** 11:52:55.2±3.8, 36°.64N×71°.40E, h89km±33km, mb3.7/14, mb1 3.8/18, mb1mx3.5/57, mbtmp4.1/18, Error ellipse: s-maj=23.3km s-min=14.4km az=8.0*
*NEIC **28** 11:52:56.1±3.0, 36°.79N±0°.06×71°.18E±0°.09, h83km±8km, mb4.2/7, Error ellipse: s-maj=10.4km s-min=8.7km az=88.0*
*SOME **28** 11:52:56.5, 38°.08N×71°.62E, h10km*
*NNC **28** 11:52:57.2±2.5, 36°.98N×70°.89E, h111km±31km, mb3.6, mpv4.3, Error ellipse: s-maj=22.5km s-min=12.5km az=160.0*

ISC 28 11:52:55.9±0.5, **36°.74N**±0°.04×**71°.40E**±0°.06, **h100**km, **n92**, σ2°**30**/96, **mb4.0**/14, **8C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.62**	**318**	Pn	**Pn**	**11 53 34.5**	**-2.1**
DRK	**Karamyk**	**2.76**	**6**		**Pn**	**11 53 40.5**	**+1.8**
KBL	**Kabul**	**2.92**	**222**		**Pn**	**11 53 41.1**	**+0.4**
CEP	**Cherat**	**2.94**	**172**	P	**Pn**	**11 53 42.5**	**+1.6**
CEP				S	**Sn**	**11 54 18.0**	**+2.4**
BTK	**Batken**	**3.35**	**352**	Pn	**Pn**	**11 53 47.5**	**+1.1**
CHCP	**Chirah Chowk**	**3.43**	**153**	P	**Pn**	**11 53 50.0**	**+2.6**
NIL	**Nilore**	**3.43**	**153**		**Pn**	**11 53 50.1**	**+2.7**
THW	**Thamme Wali**	**3.94**	**176**	P	**Pn**	**11 53 55.5**	**+1.2**
JMU	**Jammu**	**4.94**	**143**	*eP*	**Pn**	**11 54 09.2**	**+1.5**
JMU				*eS*	**Sn**	**11 55 03.4**	**-0.2**
IUG	**Iuzhnay**	**5.51**	**349**	*eP*	**Pn**	**11 54 17.1**	**+1.6**
	440nm,0.2s						
IUG				*eS*	**Sn**	**11 55 14.4**	**-3.1**
	520nm,0.7s						
THN	**Thein Dam**	**5.58**	**139**	*eP*	**Pn**	**11 54 18.6**	**+2.2**
THN				*eS*	**Sn**	**11 55 18.3**	**-0.8**
AML	**Almayashu**	**5.67**	**18**	P	**Pn**	**11 54 19.0**	**+1.0**
	SNR=80						
CHM	**Chimkent**	**5.75**	**347**	*eP*	**Pn**	**11 54 21.3**	**+2.7**
	228nm,0.2s						
CHM				*eS*	**Sn**	**11 55 21.7**	**-1.5**
	403nm,0.5s						
UCH	**Uchtor**	**5.99**	**23**	P	**Pn**	**11 54 23.6**	**+1.3**
	SNR=17						
DHRM	**DHARAMSHALA**	**6.03**	**136**	*eP*	**Pn**	**11 54 23.6**	**+0.8**
DHRM				*eS*	**Sn**	**11 55 28.8**	**-1.7**
DHRM				IAML		11 55 31.4	
	comp=N,296nm,0.0s						
DHRM				IAML		11 55 31.6	
	comp=E,559nm,0.5s						
DZA	**Taraz**	**6.15**	**360**	*eP*	**Pn**	**11 54 27.5**	**+3.4**
	comp=E,104nm,0.1s						
DZA				*eS*	**Sn**	**11 55 32.3**	**-0.7**
	comp=E,550nm,0.7s						
MRKS	**Merke**	**6.16**	**13**	*eP*	**Pn**	**11 54 28.1**	**+3.7**
	comp=E,22nm,1.1s						
MRKS				*eS*	**Sn**	**11 55 33.0**	**-0.4**
	comp=E,72nm,0.9s						
EKS2	**Erkin-Say**	**6.19**	**16**	P	**Pn**	**11 54 26.3**	**+1.4**
	SNR=25						
AAK	**Ala-Archa**	**6.36**	**21**	P	**Pn**	**11 54 28.5**	**+1.5**
	comp=E,5.0nm,0.3s,baz=194,slow=6.1,SNR=59						
AAK				S	**Sn**	**11 55 39.7**	**+1.4**
	comp=E,4.3nm,0.3s,baz=336,slow=20,SNR=12						
AAK	**Ala-Archa**	**6.36**	**21**	P	**Pn**	**11 54 28.9**	**+1.7**
	SNR=26						
AAK	**Ala-Archa**	**6.36**	**21**	⇑P	**Pn**	**11 54 28.8**	**+1.7**
	comp=E,10nm,0.6s						
AAK				S	**Sn**	**11 55 39.1**	**+0.8**
	comp=E,47nm,0.7s						
KK02	**Karatay Array**	**6.39**	**354**	⇓P	**Pn**	**11 54 26.8**	**-0.6**
	comp=E,25nm,0.5s						
KK02				⇑S	**Sn**	**11 55 35.4**	**-3.6**
	comp=E,26nm,0.5s						
KKAR	**Karatay Array**	**6.39**	**354**	Pn	**Pn**	**11 54 26.9**	**-0.6**
BRLS	**Borolday**	**6.40**	**350**	*eP*	**Pn**	**11 54 25.2**	**-2.3**
	comp=E,9.9nm,0.1s						
BRLS				*eS*	Sn	11 55 28.6	-11
	comp=E,61nm,0.3s						
KBK	**Karagaybulak**	**6.51**	**24**	P	**Pn**	**11 54 31.9**	**+2.7**
	SNR=8.3						
ULHL	**Ulahol**	**6.65**	**33**	P	**Pn**	**11 54 33.7**	**+2.5**
	SNR=8.1						
CHMS	**Chumysh**	**6.76**	**21**	P	**Pn**	**11 54 33.8**	**+1.3**
	SNR=17						
USP	**Ospenovka**	**6.94**	**19**	P	**Pn**	**11 54 35.8**	**+0.9**
	SNR=14						
TKM2	**Tokmak 2**	**6.97**	**26**	P	**Pn**	**11 54 37.7**	**+2.3**
	SNR=8.0						
TKM2	**Tokmak 2**	**6.97**	**26**	⇑P	**Pn**	**11 54 36.9**	**+1.5**
	comp=E,11nm,0.7s						
TKM2				⇓S	**Sn**	**11 55 52.8**	**-0.4**
	comp=E,8.8nm,0.7s						
KDJ	**Kajisay**	**7.00**	**38**	Pn	**Pn**	**11 54 37.2**	**+1.4**
TARG	**Taragay, Kyrgy**	**7.04**	**43**		**Pn**	**11 54 37.4**	**+0.8**
SGDS	**Sogindy**	**7.15**	**19**	*eP*	Pn	11 54 42.8	+5.1
	comp=E,4.8nm,1.0s						
SGDS				*eS*	**Sn**	**11 55 58.5**	**+1.1**
	comp=E,18nm,0.6s						
KST	**Kastek**	**7.21**	**28**	*eP*	Pn	11 54 45.2	+6.6
	comp=E,10.0nm,0.4s						
KST				*eS*	**Sn**	**11 56 02.7**	**+3.8**
	comp=E,23nm,0.8s						
SMLA	**Simla**	**7.36**	**138**	*eP*	**Pn**	**11 54 40.4**	**-0.3**
SMLA				*eS*	**Sn**	**11 55 58.0**	**-4.6**
SMLA				IAML		11 56 01.9	
	comp=N,119nm,0.2s						
SMLA				IAML		11 56 02.7	
	comp=E,110nm,0.1s						
KRBS	**Karabastau**	**7.68**	**24**	*eP*	Pn	11 54 57.8	+13
	comp=E,4.0nm,1.0s						
KRBS				*eS*	Sn	11 56 24.5	+14
	comp=E,8.2nm,0.9s						
KTBS	**Karatobe**	**8.05**	**28**	*eP*	Pn	11 55 05.5	+15
	comp=E,2.0nm,0.4s						
KTBS				*eS*	Sn	11 56 37.2	+18
	comp=E,12nm,0.7s						
PDGK	**Podgornoye**	**9.04**	**41**	⇑P	**Pn**	**11 55 03.5**	**-0.1**
	comp=E,5.3nm,1.0s						
KUDL	**Kundal**	**9.58**	**152**	*eP*	**Pn**	**11 55 08.8**	**-2.1**
KUDL				*eS*	**Sn**	**11 56 49.4**	**-7.4**
GEYT	**Alibeck**	**10.65**	**280**	P	Pn	11 55 20.0	-5.4
	comp=E,5.5nm,0.3s,baz=103,slow=17,SNR=20						
GEYT				S	Sn	11 57 12.4	-10
	comp=E,2.5nm,0.3s,baz=107,slow=20,SNR=5.8						
GEYT	**Alibeck**	**10.65**	**280**	Pn	Pn	11 55 19.4	-6.0
GYA0B	**ALIBECK ARRAY**	**10.65**	**280**	⇑P	Pn	11 55 19.6	-5.8
GYA0B				⇓S	Sn	11 57 12.8	-10
GYA0B	**ALIBECK ARRAY**	**10.65**	**280**	Pn	Pn	11 55 19.7	-5.7
MAKZ	**Makanchi**	**12.78**	**35**	Pn	**Pn**	**11 55 53.1**	**-0.5**
MK31	**Makanchi Array**	**12.91**	**36**	P	**Pn**	**11 55 56.0**	**+0.6**
	comp=E,0.9nm,0.5s,baz=223,slow=15,SNR=11						
MK31	**Makanchi Array**	**12.91**	**36**		**Pn**	**11 55 55.8**	**+0.3**
MKAR	**Makanchi Array**	**12.91**	**36**	P	**Pn**	**11 55 56.0**	**+0.5**
	comp=E,0.2nm,0.3s,baz=226,slow=15,SNR=12						
PYUN	**Piuthan**	**13.03**	**128**	*eP*	**Pn**	**11 55 55.1**	**-2.2**
	comp=E,19nm,0.3s						
DANN	**Dangsing**	**13.35**	**125**	*eP*	**Pn**	**11 55 59.0**	**-2.7**
	comp=E,12nm,0.3s						
KOLN	**Koldanda**	**13.64**	**127**	*eP*	**Pn**	**11 56 02.7**	**-2.7**
	comp=E,7.1nm,0.3s						
GKN	**Gorkha**	**14.16**	**124**	*eP*	**Pn**	**11 56 08.6**	**-3.4**
	comp=E,12nm,0.3s						
BHPL	**Bhopal**	**14.42**	**157**	*eP*	**P**	**11 56 21.2**	**+2.0**
BHPL				*eS*	Sn	11 58 44.7	-10
KKN	**Kakani**	**14.73**	**123**	*eP*	**Pn**	**11 56 15.6**	**-3.8**
	comp=E,3.0nm,0.2s						
KURBB	**Kurchatov Arra**	**14.79**	**18**	P	**Pn**	**11 56 20.6**	**+0.8**
	comp=E,0.1nm,0.3s,baz=209,slow=10,SNR=17						
KURBB	**Kurchatov Arra**	**14.79**	**18**	⇑P	**Pn**	**11 56 17.5**	**-2.2**
	comp=E,3.3nm,0.6s						
KURK	**Kurchatov**	**14.90**	**18**	Pn	**Pn**	**11 56 21.4**	**+0.3**
PKIN	**Phulchoki**	**14.95**	**124**	*eP*	**Pn**	**11 56 18.5**	**-3.7**
	comp=E,8.2nm,0.4s						
PKI	**Pulchoki**	**14.96**	**124**	*eP*	**Pn**	**11 56 18.7**	**-3.7**
	comp=E,2.6nm,0.2s						
AB31	**Akbulak array**	**15.04**	**330**	P	**Pn**	**11 56 19.3**	**-3.6**
	comp=E,2.6nm,0.4s,baz=142,slow=12,SNR=157						
AB31				S	Sn	11 58 53.9	-15
	comp=E,3.4nm,0.5s,baz=143,slow=24,SNR=7.3						
ABKAR	**Akbulak array**	**15.04**	**330**	Pn	**Pn**	**11 56 19.5**	**-3.4**
ABKAR	**Akbulak array**	**15.04**	**330**	Pn	**Pn**	**11 56 19.2**	**-3.6**
GUN	**Gumba**	**15.06**	**122**	*eP*	**Pn**	**11 56 20.0**	**-3.7**
	comp=E,1.7nm,0.2s						
BVA1	**Borovoye Array**	**16.30**	**358**	⇑P	**Pn**	**11 56 37.1**	**-1.6**
	comp=E,1.9nm,0.4s						
BVAR	**Borovoye Array**	**16.30**	**358**	P	**Pn**	**11 56 36.9**	**-1.8**
	comp=E,0.5nm,0.3s,baz=137,slow=13,SNR=15						
BVAR				S	**Sn**	**11 59 30.6**	**-8.6**
	comp=E,0.3nm,0.3s,baz=175,slow=17,SNR=4.7						
BRVK	**Borovoye**	**16.34**	**358**	⇓P	**Pn**	**11 56 37.1**	**-2.0**
	comp=E,6.2nm,0.8s						
BRVK	**Borovoye**	**16.34**	**358**	Pn	**Pn**	**11 56 38.0**	**-1.1**
BRVK				IAmb	IAmb	11 56 42.0	
	comp=Z,6.7nm,0.8s						
AKTO	**Aktyubinsk**	**16.74**	**329**	P	**Pn**	**11 56 42.6**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=131,slow=10,SNR=30						
AKTO				S	Sn	11 59 37.7	-12
	comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=2.3						
AKTO	**Aktyubinsk**	**16.74**	**329**	⇓P	**Pn**	**11 56 41.9**	**-2.2**
	comp=Z,8.1nm,0.6s						
AKTO				⇑S	Sn	11 59 39.5	-10
	comp=Z,7.9nm,1.1s						
ZAA0	**Zalesovo Array**	**19.57**	**24**	⇓P	**P**	**11 57 16.2**	**+0.6**
	comp=Z,0.5nm,0.4s						
ZAA0	**Zalesovo Array**	**19.57**	**24**	P	**P**	**11 57 16.4**	**+0.8**
ZAA0				IAmb	IAmb	11 57 17.0	
	comp=Z,6.3nm,0.4s						
ZALV	**Zalesovo Beam**	**19.57**	**24**	P	**P**	**11 57 15.9**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=214,slow=9.9,SNR=36						
ZALV	**Zalesovo Beam**	**19.57**	**24**	P	**P**	**11 57 16.1**	**+0.5**
GNI	**Garni**	**21.13**	**287**	P	**P**	**11 57 33.7**	**+1.0**
	comp=Z,11nm,0.9s,baz=315,slow=1.3,SNR=4.5						
ARU	**Arti**	**21.52**	**340**	P	**P**	**11 57 36.7**	**+0.2**
	comp=Z,2.3nm,0.2s,baz=161,slow=8.4,SNR=6.4						
ARU	**Arti**	**21.52**	**340**	IAmb	IAmb	11 57 42.0	
	comp=Z,9.4nm,1.0s						
SONM	**Songino Array**	**27.93**	**56**	P	**P**	**11 58 38.3**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=261,slow=8.7,SNR=4.8						
BRTR	**Keskin Array B**	**29.67**	**287**	P	**P**	**11 58 53.2**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=107,slow=9.9,SNR=8.8						
AKASG	**Malin Array Be**	**33.05**	**308**	P	**P**	**11 59 22.4**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=82,slow=6.8,SNR=6.6						
AKASG	**Malin Array Be**	**33.05**	**308**	IAmb	IAmb	11 59 25.4	
	comp=Z,0.9nm,0.8s						
AKBB	**Malin Array Si**	**33.05**	**308**	P	P	11 59 16.7	-4.9
NRIK	**Noril'sk**	**33.84**	**10**	P	**P**	**11 59 29.4**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=170,slow=5.0,SNR=4.5						
NRIK	**Noril'sk**	**33.84**	**10**	IAmb	IAmb	11 59 30.9	
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**12 00 00.6**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=130,slow=8.5,SNR=8.5						
ARCES	**ARCESS Array B**	**41.05**	**337**	P	**P**	**12 00 30.4**	**+1.4**
	comp=Z,2.1nm,0.6s,baz=106,slow=8.9,SNR=11						
NB2	**NORSAR Subarra**	**44.39**	**323**	P	**P**	**12 00 56.9**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**12 00 56.6**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=96,slow=7.7,SNR=7.3						
ESDC	**Sonseca Array**	**57.63**	**298**	P	**P**	**12 02 36.9**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=58,slow=6.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**66.05**	**269**	P	**P**	**12 03 32.0**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=51,slow=6.0,SNR=20						
TORD	**Torodi Ar. Bea**	**66.05**	**269**	IAmb	IAmb	12 03 33.2	
	comp=Z,16nm,0.9s						
YKA	**Yellowknife Ar**	**80.99**	**3**	P	**P**	**12 05 00.1**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=350,slow=5.5,SNR=18						
WRA	**Warramunga Arr**	**81.84**	**122**	P	**P**	**12 05 04.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=326,slow=4.9,SNR=16						
ASAR	**Alice Springs**	**84.12**	**125**	P	**P**	**12 05 16.2**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=311,slow=4.9,SNR=22						

*NIED **28** 11:53:12.6, 33°.85N×135°.66E, h51km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=0.25; $M_{\theta\theta}$=1.19; $M_{\phi\phi}$=-0.94; $M_{r\theta}$=0.00; $M_{\theta\phi}$=-1.08; $M_{\phi r}$=0.07; Fault plane solution: M_0=1.52000×10^14^ NP1: ϕ_s=158.00000°, δ=88.00000°, λ=-3.00000°. NP2: ϕ_s=248.00000°, δ=87.00000°, λ=-178.00000°.*

JMA 28 11:53:12.6, 33°.85N×135°.66E, h51km±1km, **M3.6, 4C-9D Broadband fault plane solution: P waves. NP1:** ϕ_s=182.00000°, δ=76.00000°, λ=-9.00000°. **NP2:** ϕ_s=275.00000°, δ=82.00000°, λ=-166.00000°. **Principal axes:** T Plg=4.0000°, Azm=48.0000°; N Plg=73.0000°, Azm=304.0000°; P Plg=16.0000°, Azm=139.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTNC	**Tanabenakahech**	**0.05**	**233**	⇓P	Pn	11 53 20.4	0.0
JTNC				S	Sn	11 53 25.8	-0.2
JWM	**Minabe**	**0.25**	**270**	⇓P	Pn	11 53 21.2	-0.2
JWM				S	Sn	11 53 27.2	-0.5
JMMH	**Miemihama**	**0.31**	**96**	⇓P	Pn	11 53 21.7	-0.2
JMMH				S	Sn	11 53 28.2	-0.3
JWY	**Kouya**	**0.37**	**351**	⇓P	Pn	11 53 22.6	0.0
JWY				S	Sn	11 53 29.3	-0.5
JKN2	**Miekihoku**	**0.64**	**53**	⇑P	Pn	11 53 25.4	-0.2
JKN2				S	Sn	11 53 34.6	-0.5
JHE	**Heguri**	**0.80**	**1**	⇓P	Pn	11 53 27.7	0.0
JHE				S	Sn	11 53 38.6	-0.2
JAWN	**Awajishima-nag**	**0.89**	**315**	⇓P	Pn	11 53 29.0	+0.1
JAWN				S	Sn	11 53 40.7	-0.2
TTO1	**TONANKAI O.B.S**	**0.96**	**103**	⇓P	Pn	11 53 29.6	0.0
TTO1				X		11 53 43.3	
JAI	**Aioi**	**1.01**	**267**	⇑P	Pn	11 53 30.4	0.0
JAI				S	Sn	11 53 43.1	-0.5
JIE	**Ise**	**1.02**	**58**	⇑P	Pn	11 53 30.6	0.0
JIE				S	Sn	11 53 43.1	-0.9
TSUJ	**Tsu 2**	**1.06**	**36**	⇑P	Pn	11 53 31.2	0.0
TSUJ				S	Sn	11 53 44.2	-0.7
TTO2	**TONANKAI O.B.S**	**1.14**	**95**	⇓P	Pn	11 53 32.0	0.0
TTO2				X		11 53 47.6	
JKS	**Kasai**	**1.32**	**329**	⇓P	Pn	11 53 34.6	0.0
JKS				S	Sn	11 53 50.5	-0.6
MAT	**Matsushiro**	**3.40**	**37**	P	Pn	11 54 03.3	+0.1
MAT				*eS*	Sn	11 54 43.3	+1.0

*IDC **28** 11:54:36.0±0.8, 39°.34N×137°.10E, h294km±10km, mb3.2/13, mb1 3.4/18, mb1mx3.1/60, mbtmp3.9/18 Error ellipse: s-maj=14.3km s-min=11.6km az=39.0*
*JMA **28** 11:54:37.1±0.2, 39°.28N×137°.41E, h320km±2km, M3.5*

ISC 28 11:54:36.8±0.7, **39°.36N**±0°.06×**137°.34E**±0°.07, **h309**km±7km, **n33**, σ1°**60**/43, **mb3.5**/13, **Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**1.51**	**151**	P	**Pn**	**11 55 21.6**	**+0.6**
JSD				*eS*	**S**	**11 55 55.9**	**-0.3**
JHG	**Hegura jima**	**1.55**	**192**	P	**Pn**	**11 55 22.1**	**+0.8**
JHG				S	**S**	**11 55 57.2**	**+0.5**
JAW	**Awa shima**	**1.75**	**121**	P	**Pn**	**11 55 23.3**	**+0.8**
JSZ	**Suzu**	**1.91**	**179**	P	**Pn**	**11 55 24.7**	**+0.9**
JSZ				S	**S**	**11 56 01.9**	**+0.6**
JNS	**Sasagawa**	**2.19**	**134**	P	**Pn**	**11 55 26.7**	**+0.7**
JYK	**Kaneyama**	**2.39**	**100**	P	**Pn**	**11 55 28.5**	**+0.9**
JYK				*eS*	**S**	**11 56 09.0**	**+0.8**
MAT	**Matsushiro**	**2.90**	**166**	P	**Pn**	**11 55 32.9**	**+0.5**
MAT				S	**S**	**11 56 16.2**	**-0.5**
MJAR	**Matsushiro Arr**	**2.90**	**166**	P	**Pn**	**11 55 32.4**	**0.0**
	baz=341,slow=26,SNR=0.9						
MJAR				S	**S**	**11 56 14.9**	**-1.9**
	0.2nm,0.3s,baz=223,slow=32,SNR=1.5						
JFT	**Otama**	**2.99**	**127**	P	**Pn**	**11 55 34.0**	**+0.8**
JMK	**Ichinoseki**	**3.05**	**97**	P	**Pn**	**11 55 34.4**	**+0.8**
JOM	**Ohasama**	**3.07**	**87**	P	**Pn**	**11 55 34.6**	**+0.8**
JOT	**Ohata**	**3.48**	**53**	P	**Pn**	**11 55 38.9**	**+1.0**
JRY	**Ryogami san**	**3.56**	**159**	P	**Pn**	**11 55 39.5**	**+0.5**
JOD2	**Odawara 2**	**4.32**	**161**	P	**Pn**	**11 55 46.4**	**-0.8**
JOD2				*eS*	**S**	**11 56 40.4**	**-3.2**
JHR	**Hokuryu**	**5.48**	**36**	P	**Pn**	**11 56 01.2**	**+1.1**
BSO1	**Boso 1**	**5.53**	**147**	P	**Pn**	**11 55 59.8**	**-0.5**
ASAJ	**Asahikawa**	**6.17**	**38**	P	**Pn**	**11 56 08.0**	**-0.2**
	3.5nm,0.3s,baz=222,slow=12,SNR=41						
ASAJ				S	**S**	**11 57 17.0**	**-5.1**
	1.0nm,0.3s,baz=357,slow=26,SNR=6.0						
USRK	**Ussuriysk Ar.**	**6.27**	**322**	P	**Pn**	**11 56 07.1**	**-2.4**
	baz=132,slow=11,SNR=8.2						
JHJ	**Hachijo jima 2**	**6.54**	**162**	P	**Pn**	**11 56 12.0**	**-0.8**
	20nm,0.3s,baz=322,slow=23,SNR=9.6						
JHJ				S	**S**	**11 57 25.4**	**-5.1**
	18nm,0.3s,baz=136,slow=23,SNR=8.4						
KLR	**Kul'dur**	**10.64**	**340**	P	**Pn**	**11 57 01.8**	**-0.7**
	0.7nm,0.3s,baz=165,slow=10,SNR=15						
SONM	**Songino Array**	**23.83**	**301**	P	**P**	**11 59 22.0**	**-0.7**
	1.6nm,0.6s,baz=106,slow=9.0,SNR=11						
ZALV	**Zalesovo Beam**	**37.97**	**310**	P	**P**	**12 01 24.6**	**-0.7**
	0.7nm,0.5s,baz=105,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**40.17**	**299**	P	**P**	**12 01 42.4**	**-1.2**
	0.6nm,0.6s,baz=80,slow=8.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**42.04**	**306**	P	**P**	**12 01 57.8**	**-0.7**
	2.3nm,0.5s,baz=82,slow=8.0,SNR=9.8						
BVAR	**Borovoye Array**	**46.62**	**310**	P	**P**	**12 02 34.2**	**-0.4**
	0.8nm,0.3s,baz=59,slow=12						
ILAR	**Eielson Array**	**49.28**	**33**	P	**P**	**12 02 55.8**	**+1.2**
	0.6nm,0.5s,baz=266,slow=5.4,SNR=15						
ILAR				PcP	**PcP**	**12 04 12.1**	**0.0**
	0.6nm,1.1s,baz=278,slow=6.3,SNR=2.2						
AKTO	**Aktyubinsk**	**54.73**	**310**	P	**P**	**12 03 34.5**	**-0.2**
	1.2nm,0.5s,baz=41,slow=7.0,SNR=2.3						
WRA	**Warramunga Arr**	**59.06**	**183**	P	**P**	**12 04 05.5**	**+0.3**
	0.4nm,0.4s,baz=360,slow=7.5,SNR=6.5						
YKA	**Yellowknife Ar**	**63.39**	**30**	P	**P**	**12 04 34.8**	**+1.4**
	0.4nm,0.6s,baz=308,slow=6.6,SNR=13						
AKASG	**Malin Array Be**	**70.47**	**320**	P	**P**	**12 05 17.3**	**-0.7**
	0.6nm,0.5s,baz=46,slow=5.7,SNR=5.2						
NVAR	**Mina Array Bea**	**76.11**	**52**	P	**P**	**12 05 53.3**	**+2.0**
	0.6nm,0.6s,baz=293,slow=5.4,SNR=9.2						
PDAR	**Pinedale Array**	**78.27**	**44**	P	**P**	**12 06 04.5**	**+1.4**
	0.4nm,0.5s,baz=308,slow=0.7,SNR=4.8						
TXAR	**Lajitas Array**	**91.16**	**50**	P	**P**	**12 07 09.3**	**+2.0**
	0.5nm,0.8s,baz=278,slow=3.7,SNR=5.3						

*IDC **28** 12:02:33.8±1.3, 40°.37S×17°.47W, h0km, mb4.3/6, mb1 4.3/6, mb1mx3.8/38, mbtmp4.3/6, MS3.6/10, Ms1 3.6/10, ms1mx3.4/54, Error ellipse: s-maj=128.8km s-min=25.9km az=100.0*

ISC 28 12:02:34.7±1.1, **40°.3S**±0°.2×**18°.0W**±0°.7, **h10**km, **n24**, σ1°**28**/9, **mb4.3**/6, **MS3.5**/10, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**31.37**	**6**	T	T	12 42 04.0	
	baz=182,slow=74,SNR=22						
H10S3	**ASCENSION HYDR**	**31.38**	**6**	T	T	12 42 05.1	
	baz=38,slow=74,SNR=69						
SUR	**Sutherland**	**32.05**	**88**	LR	LR	12 20 08.7	
	comp=Z,100nm,18.1s,baz=276,slow=33						
H10N1	**ASCENSION HYDR**	**32.49**	**7**	T	T	12 43 23.8	
	baz=191,slow=78,SNR=23						
H10N3	**ASCENSION HYDR**	**32.49**	**6**	T	T	12 43 27.6	
	baz=191,slow=78,SNR=93						
H10N2	**ASCENSION HYDR**	**32.50**	**6**	T	T	12 43 26.7	
	baz=191,slow=78,SNR=22						
CPUP	**Villa Florida**	**35.40**	**281**	LR	LR	12 22 57.1	
	comp=Z,71nm,18.3s,baz=94,slow=34						
TSUM	**Tsumeb**	**37.03**	**66**	LR	LR	12 19 25.0	
	comp=Z,47nm,21.7s,baz=353,slow=28						
BOSA	**Boshof**	**37.19**	**85**	LR	LR	12 22 12.1	
	comp=Z,46nm,18.1s,baz=192,slow=32						
LBTB	**Lobatse**	**39.34**	**81**	LR	LR	12 22 12.8	
	comp=Z,103nm,19.6s,baz=228,slow=30						
PLCA	**Paso Flores**	**39.44**	**252**	LR	LR	12 24 59.4	
	comp=Z,76nm,19.9s,baz=154,slow=34						
LVC	**Limon Verde**	**46.22**	**277**	LR	LR	12 29 20.9	
	comp=Z,63nm,20.0s,baz=152,slow=34						
DBIC	**Dimbokro**	**48.30**	**18**	P	**P**	**12 11 15.3**	**-0.9**
	2.6nm,0.9s,baz=180,slow=7.1,SNR=3.0						
LPAZ	**La Paz**	**49.43**	**284**	LR	LR	12 31 23.8	
	comp=Z,63nm,19.9s,baz=70,slow=35						
QSPA	**South Pole Qui**	**49.94**	**180**	P	**P**	**12 11 28.5**	**0.0**
	2.5nm,0.9s,baz=201,slow=4.7,SNR=9.8						
MDP	**Montagnes des**	**55.27**	**316**	LR	LR	12 34 51.0	
	comp=Z,88nm,18.3s,baz=102,slow=35				

Vanuatu Islands

ISC 28 12:31:47.9±3.3, 14°.09S±0°.3×166°.9E±0°.2, h35km, n16, σ1$14/15, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.44	169	P	Pn	12 32 14.2	+2.6
DVP	Devils Point	3.88	162	P	Pn	12 32 45.4	+0.3
LIFNC	LIFOU	6.73	177	P	Pn	12 33 24.8	+0.6
KOUNC	Koumac, New Ca	6.96	201	P	Pn	12 33 29.0	+1.6
MARNC	Mare, Loyalty	7.50	172	P	Pn	12 33 34.1	-0.6
YATNC	Mamie plateau,	8.00	180	P	Pn	12 33 40.5	-1.1
DZM	Mont Dzumac	8.02	183	Pn	Pn	12 33 41.1	-0.9
	2.1nm,0.3s,baz=340,slow=5.2,SNR=173						
DZM				Sn	Sn	12 34 59.6	-12
	1.2nm,0.3s,baz=151,slow=23,SNR=6.6						
DZM	Mont Dzumac	8.02	183	P	Pn	12 33 41.3	-0.7
NOUC	Port Laguerre	8.06	184	P	Pn	12 33 42.1	-0.4
ONTNC	Ouen Toro	8.25	183	P	Pn	12 33 44.7	-0.5
OUENC	Ouen Island, N	8.35	180	P	Pn	12 33 45.9	-0.6
PINNC	Pines Island,	8.56	177	P	Pn	12 33 48.6	-0.8
JAY	Jayapura	28.31	291	LR	LR	12 47 59.9	
	comp=Z,65nm,18.5s,baz=69,slow=35						
STKA	Stephens Creek	29.20	228	P	P	12 37 45.4	-0.9
	3.6nm,0.6s,baz=60,slow=9.2,SNR=9.2						
WRA	Warramunga Arr	31.68	255	P	P	12 38 09.0	+0.7
	0.5nm,0.7s,baz=85,slow=9.0,SNR=2.9						
ASAR	Alice Springs	32.61	248	P	P	12 38 16.2	-0.4
	0.5nm,0.5s,baz=76,slow=9.4,SNR=14						

*IDC **28** 13:09:34.3±1.1, 28°.67S×177°.69W, h100km±8km, mb3.7/6, mb1 3.9/7, mb1mx3.5/29, mbtmp4.0/7, MS3.1/2, Ms1 3.1/2, ms1mx2.7/56, Error ellipse: s-maj=28.0km s-min=20.5km az=6.0*

ISC 28 13:09:34.5±0.8, 29°.09S±0°.07×177°.7W±0°.1, h100km, n38, σ3$19/29, mb4.0/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.27	233	P	Pn	13 09 50.9	+2.0
	2μm,0.3s,baz=63,slow=3.0,SNR=90						
RAO				S	Sn	13 10 05.2	+5.4
	3μm,0.3s,baz=84,slow=21,SNR=9.1						
RIZ	Raoul Island	0.28	236	P	Pn	13 09 51.0	+2.0
RIZ				S	Sn	13 10 05.7	+5.9
GLKZ	Green Lake	0.28	232	P	Pn	13 09 50.8	+1.7
GLKZ				S	Sn	13 10 05.5	+5.7
MXZ	Matakaoa Point	9.10	201	S	Sn	13 13 22.1	-1.3
WMGZ	Waiomatatini S	9.30	200	P	Pn	13 11 41.3	-4.4
WMGZ				S	Sn	13 13 29.5	+1.1
PKGZ	Pakihiroa	9.47	201	S	Sn	13 13 28.0	-4.5
URZ	Urewera	10.12	204	P	Pn	13 11 52.2	-4.6
	0.6nm,0.3s,baz=275,slow=4.5,SNR=12						
URZ				S	Sn	13 13 46.9	-1.5
	9.6nm,0.3s,baz=166,slow=21,SNR=22						
NMHZ	Naumai	10.98	203	P	Pn	13 12 02.3	-6.2
NMHZ				S	Sn	13 14 09.2	-0.1
BKZ	Black Stump Fm	11.15	204	P	Pn	13 12 04.1	-6.8
BKZ				S	Sn	13 14 09.2	-4.3
MCHZ	McNeill Hill	11.33	203	P	Pn	13 12 07.0	-6.2
KWHZ	Kaweka Forest	11.40	204	P	Pn	13 12 07.4	-6.8
KWHZ				S	Sn	13 14 18.0	-1.6
BHHZ	Black Hill Sta	11.59	205	P	Pn	13 12 09.0	-7.7
BHHZ				S	Sn	13 14 22.1	-2.1
KRHZ	Kereru	11.62	203	P	Pn	13 12 10.8	-6.3
KRHZ				S	Sn	13 14 19.7	-5.1
MSVF	Nonsavu	11.96	340	P	Pn	13 12 18.1	-3.7
	0.3nm,0.3s,baz=140,slow=16,SNR=2.1						
DVHZ	Dannevirke	12.28	203	P	Pn	13 12 25.9	+0.1
DVHZ				S	Sn	13 14 34.8	-5.9
DZM	Mont Dzumac	15.94	292	P	P	13 13 17.8	+3.0
	0.3nm,0.3s,baz=155,slow=13,SNR=9.5						
DZM				LR	LR	13 18 33.1	
	comp=Z,62nm,18.6s,baz=182,slow=34						
AFI	Afiamalu	16.06	21	P	Pn	13 13 01.4	-13
	0.9nm,0.3s,baz=344,slow=22,SNR=1.5						
AFI				S	Sn	13 15 46.7	-26
	1.2nm,0.3s,baz=355,slow=18,SNR=1.7						
PPT	Papeete	28.16	72	LR	LR	13 25 44.8	
	comp=Z,39nm,19.1s,baz=58,slow=35						
CTA	Charters Tower	33.90	277	P	P	13 16 08.0	-0.1
	2.1nm,0.6s,baz=106,slow=10.0,SNR=7.1						
STKA	Stephens Creek	35.07	255	P	P	13 16 19.0	+0.9
	1.8nm,0.4s,baz=95,slow=12,SNR=7.7						
ASAR	Alice Springs	43.48	265	P	P	13 17 27.4	-0.7
	1.0nm,0.5s,baz=98,slow=7.2,SNR=21						
WRA	Warramunga Arr	44.35	271	P	P	13 17 33.3	-1.8
	1.5nm,0.5s,baz=110,slow=7.8,SNR=28						
H03S2	Juan Fernandez	80.95	124	T	T	14 51 33.9	
	baz=238						
H03S1	Juan Fernandez	80.96	124	T	T	14 51 34.9	
	baz=238						
H03S3	Juan Fernandez	80.97	124	T	T	14 51 34.5	
	baz=238						
H03N3	Juan Fernandez	81.13	123	T	T	14 51 44.8	
	baz=236,slow=75,SNR=6.0						
H03N2	Juan Fernandez	81.13	123	T	T	14 51 36.5	
	baz=236,slow=75,SNR=4.4						
H03N1	Juan Fernandez	81.15	123	T	T	14 51 41.7	
	baz=236,slow=75,SNR=7.6						
PLCA	Paso Flores	83.19	133	P	P	13 21 50.4	+0.5
	1.2nm,0.7s,baz=209,slow=7.7,SNR=5.6						
NVAR	Mina Array Bea	87.08	43	P	P	13 22 06.9	-2.4
	0.6nm,0.8s,baz=224,slow=8.4,SNR=4.4						
H10N3	ASCENSION HYDR	139.86	154	T	T	16 05 39.4	
	baz=204,slow=75,SNR=4.1						
H10N1	ASCENSION HYDR	139.86	154	T	T	16 05 41.1	
	baz=204,slow=75,SNR=8.7						
H10N2	ASCENSION HYDR	139.88	154	T	T	16 05 39.4	
	baz=204,slow=75,SNR=5.1						
FINES	FINESS Array B	144.01	341	PKhKP	PKPpre	13 28 52.6	
	3.6nm,0.8s,baz=85,slow=2.3,SNR=9.3						
NOA	NORSAR Array B	147.50	352	PKPbc	PKPdf	13 29 02.8	-0.9
	0.8nm,0.9s,baz=10,slow=3.2,SNR=1.4						
AKASG	Malin Array Be	150.42	324	PKPbc	PKiKP	13 29 14.3	-0.4
	1.5nm,0.5s,baz=45,slow=2.5,SNR=7.7						
BRTR	Keskin Array B	152.20	301	PKPbc	PKiKP	13 29 18.9	0.0
	0.6nm,0.5s,baz=127,slow=3.7,SNR=2.6						
TORD	Torodi Ar. Bea	164.13	178	PKPab	PKPab	13 30 23.8	+3.4
	1.0nm,0.7s,baz=196,slow=2.8,SNR=4.5						

*IDC **28** 13:16:46.9±5.0, 38°.08N×14°.61E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/40, mbtmp3.5/4, Error ellipse: s-maj=97.7km s-min=57.6km az=17.0*
*ROM **28** 13:17:17.1±0.4, 38°.67N±0°.02×15°.24E±0°.03, h249km±3km, ML2.9/23, Error ellipse: s-maj=3.4km s-min=1.5km az=127.0*

ISC 28 13:17:19.2±2.4, 38°.63N±0°.07×15°.30E±0°.08, h236km±15km, n50, σ0$77/54, mb3.2/4, 10D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IST3	Stromboli F	0.18	341	P	Pn	13 17 50.0	+0.2
IST3				AML	AML		
	comp=E,209μm,0.5s						
IST3				AML	AML		
	comp=N,408μm,0.5s						
IST3				AML	AML		
	comp=E,772μm,1.6s						
IST3				AML	AML		
	comp=N,896μm,0.7s						
IST3				AML	AML		
	comp=N,896μm,0.7s						
IST3				AML	AML		
	comp=E,769μm,1.6s						
VPL	Vulcano Piano	0.35	225	P	Pn	13 17 49.8	-0.4
VPL				S	S	13 18 15.7	+1.3
MILZ	Milazzo	0.36	189	↓iP	Pn	13 17 49.9	-0.3
MILZ				S	S	13 18 14.7	+0.4
MILZ				AML	AML		
	comp=E,221μm,0.4s						
MILZ				AML	AML		
	comp=N,202μm,0.4s						
MILZ				AML	AML		
	comp=N,202μm,0.4s						
MILZ				AML	AML		
	comp=E,222μm,0.4s						
MSRU	Castanea	0.40	156	↓iP	Pn	13 17 49.5	-0.8
MSRU				S	S	13 18 14.0	-0.6
MSRU				AML	AML		
	comp=N,272μm,0.5s						
MSRU				AML	AML		
	comp=E,332μm,0.5s						
JOPP	Joppolo	0.46	93	↓iP	Pn	13 17 50.1	-0.3
JOPP				S	S	13 18 14.6	-0.2
JOPP				AML	AML		
	comp=E,121μm,0.7s						
JOPP				AML	AML		
	comp=E,121μm,0.7s						
JOPP				AML	AML		
	comp=E,120μm,0.7s						
JOPP				AML	AML		
	comp=N,136μm,0.2s						
MPNC	Port Mandanici	0.49	176	P	Pn	13 17 50.2	-0.3
MSCL	Scilla	0.55	136	P	Pn	13 17 50.3	-0.5
MSCL				AML	AML		
	comp=E,547μm,0.9s						
MSCL				AML	AML		
	comp=N,440μm,0.1s						
MSCL				AML	AML		
	comp=E,548μm,0.9s						
MSCL				AML	AML		
	comp=N,440μm,0.1s						
MCSR	Castroreale	0.57	184	P	Pn	13 17 50.7	-0.2
MCSR				S	S	13 18 17.1	+1.4
MCSR				AML	AML		
	comp=N,568μm,0.4s						
MCSR				AML	AML		
	comp=E,440μm,1.0s						
CEL	Celeste	0.59	128	P	Pn	13 17 50.5	-0.5
CEL				AML	AML		
	comp=N,150μm,0.1s						
CEL				AML	AML		
	comp=N,191μm,0.1s						
CEL				AML	AML		
	comp=E,122μm,1.0s						
CEL				AML	AML		
	comp=N,151μm,0.1s						
CEL				AML	AML		
	comp=E,147μm,1.2s						
CEL				AML	AML		
	comp=N,192μm,0.1s						
NOV	Novara	0.62	192	P	Pn	13 17 51.4	+0.3
NOV				AML	AML		
	comp=E,232μm,0.4s						
NOV				AML	AML		
	comp=N,190μm,0.9s						
NOV				AML	AML		
	comp=E,233μm,0.4s						
NOV				AML	AML		
	comp=N,190μm,0.9s						
AIO	Antillo	0.66	185	↓iP	Pn	13 17 51.4	+0.2
AIO				AML	AML		
	comp=E,132μm,0.3s						
AIO				AML	AML		
	comp=N,167μm,0.4s						
MUCR	Ucria	0.68	210	P	Pn	13 17 50.8	-0.5
MUCR				AML	AML		
	comp=E,58μm,0.8s						
MUCR				AML	AML		
	comp=N,91μm,0.4s						
IACL	Alicudi	0.75	263	P	Pn	13 17 50.7	-0.7
SOI	Samo	0.81	133	↓iP	Pn	13 17 51.9	+0.1
SOI				S	S	13 18 17.0	-0.2
SOI				AML	AML		
	comp=E,96μm,0.5s						
SOI				AML	AML		
	comp=N,101μm,0.5s						
SOI				AML	AML		
	comp=E,96μm,0.5s						
SOI				AML	AML		
	comp=N,102μm,0.5s						
SOI				AML	AML		
	comp=N,102μm,0.5s						
SOI				AML	AML		
	comp=E,96μm,0.5s						
MSFR	San Fratello	0.82	223	P	Pn	13 17 51.4	-0.5
MNO	Monte Soro	0.84	215	P	Pn	13 17 52.6	+0.4
EMSG	Monte Spagnolo	0.85	199	P	Pn	13 17 53.0	+0.8
EPZF	Pizzo Felice	0.88	204	iP	Pn	13 17 53.0	+0.7
EPZF				AML	AML		
	comp=E,144μm,1.0s						
EPZF				AML	AML		
	comp=N,201μm,1.4s						
GRI	Girifalco	0.89	77	P	Pn	13 17 52.7	+0.5
PLAC	Placanica	0.91	101	↓iP	Pn	13 17 52.6	+0.3
PLAC				S	S	13 18 17.6	-0.5
PLAC				AML	AML		
	comp=N,162μm,1.3s						
PLAC				AML	AML		
	comp=E,180μm,0.3s						
SPS2	Spezzano della	1.04	50	P	Pn	13 17 53.0	-0.1
SPS2				AML	AML		
	comp=E,83μm,0.3s						
SPS2				AML	AML		
	comp=N,90μm,0.2s						
ECNV	Catenanuova	1.13	205	↓iP	Pn	13 17 54.6	+1.0
SERS	Sersale	1.15	69	↓iP	Pn	13 17 54.3	+0.5
SERS				S	S	13 18 20.8	-0.1
SERS				AML	AML		
	comp=E,215μm,0.4s						
SERS				AML	AML		
	comp=N,148μm,0.3s						
SERS				AML	AML		
	comp=E,146μm,0.4s						
SERS				AML	AML		
	comp=N,216μm,0.4s						
SERS				AML	AML		
	comp=E,147μm,0.4s						
CAGR	Agira	1.19	212	P	Pn	13 17 54.9	+0.8
CAGR				AML	AML		
	comp=E,138μm,1.3s						
CAGR				AML	AML		
	comp=N,164μm,0.7s						
CAGR				AML	AML		
	comp=N,164μm,0.7s						
CAGR				AML	AML		
	comp=E,138μm,1.3s						
CSLB	Castelbuono	1.20	235	P	Pn	13 17 52.9	-1.2
CSLB				AML	AML		
	comp=E,20μm,1.0s						
CSLB				AML	AML		
	comp=N,25μm,0.6s						
CSLB				AML	AML		
	comp=E,20μm,1.0s						
PETRA	Petralia Sopra	1.23	230	P	Pn	13 17 53.9	-0.6
PETRA				AML	AML		
	comp=N,99μm,0.4s						
PETRA				AML	AML		
	comp=E,77μm,0.3s						
PETRA				AML	AML		
	comp=N,100μm,0.4s						
T0702	Acquaformosa (	1.25	29	P	Pn	13 17 53.9	-0.5
T0702				S	S	13 18 20.4	-1.6
TIP	Timpagrande	1.26	64	↓iP	Pn	13 17 55.0	+0.5
TIP				S	S	13 18 22.1	0.0
TIP				AML	AML		
	comp=E,69μm,0.5s						
TIP				AML	AML		
	comp=N,100μm,0.7s						
TIP				AML	AML		
	comp=E,91μm,1.6s						
TIP				AML	AML		
	comp=E,91μm,1.6s						
TIP				AML	AML		
	comp=E,69μm,0.5s						
TIP				AML	AML		
	comp=N,122μm,0.7s						
TIP				AML	AML		
	comp=N,100μm,0.7s						
TDS	Terranova Siba	1.30	38	P	Pn	13 17 54.7	+0.1
TDS				AML	AML		
	comp=E,70μm,0.8s						
TDS				AML	AML		
	comp=N,33μm,0.8s						
TDS				AML	AML		
	comp=E,70μm,0.8s						
TDS				AML	AML		
	comp=N,33μm,0.8s						
HLNI	Lentini	1.32	195	P	Pn	13 17 54.7	-0.2
HLNI				AML	AML		
	comp=E,66μm,0.3s						
HLNI				AML	AML		
	comp=N,68μm,1.1s						
HLNI				AML	AML		
	comp=E,66μm,0.3s						
CUC	Castrocucco	1.42	16	P	Pn	13 17 55.2	-0.4
BULG	Bulgheria - Ca	1.45	2	P	Pn	13 17 55.6	-0.2
PIPA	Pietrapaola	1.45	54	AML	AML		
	comp=E,142μm,0.6s						
PIPA				AML	AML		
	comp=N,139μm,0.6s						
PIPA				AML	AML		
	comp=N,138μm,0.6s						
SALB	San Lorenzo Be	1.48	33	↓iP	Pn	13 17 56.7	+0.5
SALB				S	S	13 18 25.9	+0.7
SALB				AML	AML		
	comp=E,96μm,0.3s						
SALB				AML	AML		
	comp=N,49μm,0.7s						
SALB				AML	AML		
	comp=E,96μm,0.3s						
MGR	Morigerati	1.52	7	P	Pn	13 17 56.3	0.0
MEU	Monte Lauro	1.56	191	P	Pn	13 17 57.0	+0.2
HAVL	Avola	1.67	185	P	Pn	13 17 57.8	0.0
MCEL	Monticello	1.74	13	P	Pn	13 17 58.3	+0.1
CLTA	Licata	1.81	216	P	Pn	13 17 59.0	+0.1
CRAC	Craco	1.94	26	AML	AML		
	comp=E,506μm,0.2s						
CRAC				AML	AML		
	comp=N,518μm,0.4s						
MMGO	Monte Magaggia	2.07	243	P	Pn	13 17 59.7	-1.6
ACER	Acerenza	2.21	13	AML	AML		
	comp=N,35μm,0.5s						
ACER				AML	AML		
	comp=E,41μm,0.1s						
LTRZ	Laterza	2.29	30	P	Pn	13 18 01.9	-1.4
LIK	San Giovanni I	3.17	336	P	Pn	13 18 15.4	+2.8
LIK				S	S	13 19 14.0	+19
FIAM	Fiamignano	4.00	336	P	Pn	13 18 22.6	+0.2
APEC	Apecchio	5.38	337	P	Pn	13 18 38.5	-0.8
FINES	FINESS Array B	23.80	13	P	P	13 22 07.7	-2.7
	comp=E,0.7nm,0.3s,baz=190,slow=8.5,SNR=9.4						
ARCES	ARCESS Array B	31.45	7	P	P	13 23 14.4	-3.8
	comp=E,1.3nm,1.0s,baz=195,slow=8.4,SNR=10						
MKAR	Makanchi Array	48.54	58	P	P	13 25 37.6	-1.0
	comp=E,0.1nm,0.5s,baz=279,slow=7.1,SNR=4.3						
YKA	Yellowknife Ar	71.50	338	P	P	13 28 11.0	-2.9
	comp=E,0.2nm,0.8s,baz=38,slow=4.3,SNR=2.5						

TEH 28 13:22:27.5, 33°.50N×54°.99E, h9km, ML4.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANAR	Anarak	1.10	254	ePg	Pg	13 22 48.7	0.0
YZKH	Yazd	1.16	197	ePg	Pn	13 22 50.1	+0.1
ICHK	Chekchek	1.34	202	ePg	Pg	13 22 53.7	+0.4
ICHK				e		13 23 17.2	
	comp=Z,42μm,0.5s						
TNSJ	Nastanj	1.43	71	ePg	Pg	13 22 56.0	+1.1
TNSJ				eSg	Sg	13 23 14.9	+1.5
TPRV	Parvadeh(Tabas	1.50	108	ePg	Pg	13 22 57.4	+1.2
TPRV				eSg	Sg	13 23 18.0	+2.4
TPRV				e		13 23 24.0	
	comp=Z,19μm,0.4s						
TABS	Tabas	1.78	85	ePg	Pg	13 23 01.4	-0.3
TKDS	Koohdasht(Taba	1.78	86	ePn	Pg	13 23 01.2	-0.5
TKDS				e		13 23 40.9	
	comp=Z,15μm,0.4s						
ISAD	Sadrabad	1.93	215	e		13 23 32.8	
	comp=Z,20μm,0.3s						
ISAD				ePn	Pg	13 23 04.0	-0.5
NASN	Na'in	1.96	250	ePn	Pb	13 23 03.6	0.0
IBAF	Bafgh	1.96	166	ePn	Pb	13 23 04.1	+0.5
IMEH	Mehriz	2.13	189	e		13 23 41.4	
	comp=Z,10μm,0.3s						
IMEH				ePn	Pb	13 23 06.9	+0.5
IZEF	Zefreh	2.31	256	e		13 23 45.8	
	comp=Z,5μm,0.4s						
IZEF				ePn	Pb	13 23 08.3	-1.3
KRSH	Karshahi	2.43	282	ePn	Pb	13 23 10.1	-1.4
KRSH				e		13 23 53.1	
	comp=Z,10μm,0.6s						
ISFB	Sefidab	2.44	291	ePn	Pb	13 23 10.3	-1.3
ISFB				e		13 23 48.2	
	comp=Z,4μm,0.3s						
SHRO	Shahrood	2.62	18	ePn	Pb	13 23 12.8	-2.0
IGAR	Gharneh	2.71	247	ePn	Pb	13 23 14.2	-2.1
IRAM	Ramesheh	2.77	233	ePn	Pb	13 23 16.2	-1.2
IRAM				e		13 24 02.2	
	comp=Z,2μm,0.4s						
ZRDN	Zarand Kerman	2.84	152	ePn	Pb	13 23 16.5	-2.1
ZRDN				e		13 24 10.0	
	comp=Z,6μm,0.3s						
IKLH	Kolahrood	2.86	267	ePn	Pb	13 23 16.7	-2.2
IKLH				e		13 24 06.1	
	comp=Z,2μm,0.4s						
QAMS	Qamsar	3.01	275	ePn	Pb	13 23 18.6	-2.8
QAMS				e		13 24 05.6	
	comp=Z,2μm,0.4s						
IVRN	Varamin	3.09	300	ePn	Pn	13 23 19.3	+2.7
IVRN				e		13 24 20.4	
	comp=Z,2μm,0.4s						
IGLO	Ghaloghah	3.15	343	ePn	Pb	13 23 21.1	-2.6
IGLO				e		13 24 22.5	
	comp=Z,5μm,0.6s						
ITEG	Tejag	3.21	100	ePn	Pn	13 23 21.2	+2.9
ITEG				e		13 24 20.3	
	comp=Z,3μm,0.6s						
GHVR	GHOM	3.22	289	ePn	Pb	13 23 22.4	-2.6
DAMV	Damavand	3.28	311	ePn	Pb	13 23 22.8	-3.2
KHGB	Koh Gabri	3.36	158	ePn	Pn	13 23 23.2	+2.8
AFRZ	Afriz	3.36	90	ePn	Pn	13 23 23.4	+3.0
IPRN	Peran	3.50	322	ePn	Pn	13 23 25.6	+3.3
IQOM	Qom	3.52	293	ePn	Pn	13 23 26.3	+3.7
IQOM				e		13 23 55.1	
	comp=Z,1μm,0.7s						
IPIR	Pirpir	3.54	258	ePn	Pb	13 23 27.2	-3.3
IPIR				e		13 24 30.3	
	comp=Z,1μm,0.5s						
IKOO	Kooshah	3.54	107	ePn	Pn	13 23 25.7	+2.8
IKOO				e		13 24 30.8	
	comp=Z,5μm,0.6s						
SBZV	Sabzevar	3.60	36	ePn	Pn	13 23 26.3	+2.6
SHK1	Shahrekord	3.65	252	ePn	Pn	13 23 28.2	+3.8
IMND	Minoodasht	3.77	5	ePn	Pn	13 23 28.2	+2.4
KLNJ	Kolanjah	3.80	230	ePn	Pn	13 23 30.8	+4.2
KLNJ				e		13 24 49.6	
	comp=Z,1μm,0.8s						
IMON	Monand	3.92	93	ePn	Pn	13 23 31.8	+3.6
IMON				e		13 23 49.3	
	comp=Z,2μm,0.2s						
CHTH	Charan	3.99	308	ePn	Pn	13 23 32.4	+3.3
THKV	Tehran--Karaj	4.16	307	ePn	Pn	13 23 34.6	+3.2
IDAH	Dahanechah	4.16	99	ePn	Pn	13 23 34.5	+3.0
KHMZ	Khomeyn	4.21	275	ePn	Pn	13 23 35.3	+3.2
CHMN	Cheshme madani	4.23	148	ePn	Pn	13 23 36.0	+3.5
MRVT	Maraveh tapeh	4.25	12	ePn	Pn	13 23 35.5	+3.0
ASAO	Ashtian	4.25	286	ePn	Pn	13 23 36.0	+3.2
ISFR	Sfrayin	4.32	34	ePn	Pn	13 23 36.8	+3.2
IAKL	Akhelmad	4.37	44	ePn	Pn	13 23 37.3	+2.9
IMOG	Moghan	4.42	53	ePn	Pn	13 23 36.9	+1.8
SHRT	Shahrakht	4.43	87	ePn	Pn	13 23 38.4	+3.5
IRAZ	Razeghan	4.59	296	ePn	Pn	13 23 40.0	+2.6
QALM	Alamut, Qazvin	4.61	311	ePn	Pn	13 23 41.7	+4.0
BJRD	Bojnurd	4.63	24	ePn	Pn	13 23 41.2	+3.4
TBJM	Torbat-e-JAM	4.75	67	ePn	Pn	13 23 42.5	+3.0
NHDN	Nehbandan	4.76	115	ePn	Pn	13 23 42.7	+3.0
NHDN				e		13 25 10.0	
	comp=Z,2μm,0.4s						
IGZV	Ghazvin	4.87	308	ePn	Pn	13 23 44.6	+3.5
IKRD	Kardeh	4.94	47	ePn	Pn	13 23 45.6	+3.4
JRKH	Jarkhoshk	5.03	60	ePn	Pn	13 23 46.8	+3.6
IMYA	Miami	5.07	55	ePn	Pn	13 23 46.8	+3.0
AMIS	Naft Sefid	5.15	251	ePn	Pn	13 23 48.3	+3.4
KBAM	BAM	5.26	145	ePn	Pn	13 23 49.4	+2.9
JIR1	Jirandeh	5.32	308	ePn	Pn	13 23 50.4	+3.0
GHIR	Ghir-Karzin	5.47	199	ePn	Pn	13 23 51.5	+2.1
IDOB	Doab	5.69	275	ePn	Pn	13 23 56.1	+3.6
ZNJK	Zanjan	6.06	303	ePn	Pn	13 24 00.6	+3.0
SNGE	Sanandaj	6.52	286	ePn	Pn	13 24 06.9	+3.0
GRMI	Germi	7.81	315	ePn	Pn	13 24 24.9	+3.4
IBST	Bostanabad	7.81	305	ePn	Pn	13 24 25.1	+3.5

IDC 28 13:44:17.1±2.3, 27°.99N×84°.73E, h0km, mb3.9/2, mb1 3.7/3, mb1mx3.3/31, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=127.5km s-min=33.5km az=58.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.87**	**355**	P	Pn	13 48 39.3	-0.1
	0.0nm,0.3s,baz=175,slow=12,SNR=2.4						
FINES	**FINESS Array B**	**50.91**	**328**	P	P	13 53 19.5	-0.3
	3.3nm,1.0s,baz=98,slow=10.0,SNR=3.9						
WRA	**Warramunga Arr**	**67.62**	**129**	P	P	13 55 16.1	0.0
	0.8nm,1.1s,baz=321,slow=6.6,SNR=2.3						

*IDC **28** 13:54:50.2±3.2, 31°.22S×179°.58W, h205km±27km, mb3.6/3, mb1 3.6/6, mb1mx3.2/28, mbtmp4.1/6, Error ellipse: s-maj=31.2km s-min=18.2km az=64.0*

ISC 28 13:54:49.1±1.4, 31°.3S±0°.1×179°.5W±0°.3, h200km, n9, σ1°10/8, mb3.7/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.52**	**201**	P	**Pn**	**13 56 35.2**	**-0.8**
	1.0nm,0.3s,baz=291,slow=3.1,SNR=12						
URZ				S	Sn	13 57 51.7	-9.4
	0.8nm,0.3s,baz=72,slow=10,SNR=1.9						
MSVF	**Nonsavu**	**13.65**	**350**	P	**P**	**13 57 57.0**	**-0.2**
	0.7nm,0.3s,baz=185,slow=14,SNR=8.6						
DZM	**Mont Dzumac**	**15.54**	**303**	P	**P**	**13 58 19.3**	**+1.1**
	0.1nm,0.3s,baz=120,slow=16,SNR=2.2						
ASAR	**Alice Springs**	**41.80**	**269**	P	**P**	**14 02 19.2**	**-0.1**
	1.5nm,0.7s,baz=107,slow=7.4,SNR=22						
WRA	**Warramunga Arr**	**42.87**	**274**	P	**P**	**14 02 27.8**	**-0.2**
	1.0nm,0.4s,baz=111,slow=8.0,SNR=26						
QSPA	**South Pole Qui**	**58.85**	**180**	P	**P**	**14 04 28.1**	**+1.5**
	2.8nm,0.8s,baz=82,slow=1.0,SNR=22						
ARCES	**ARCESS Array B**	**139.15**	**347**	PKhKP	PKPpre	14 13 46.1	
	2.5nm,1.0s,baz=6.2,slow=1.0,SNR=5.3						
FINES	**FINESS Array B**	**145.49**	**339**	PKPbc	**PKPdf**	**14 14 01.9**	**-0.5**
	3.2nm,0.4s,baz=54,slow=4.1,SNR=52						
BRTR	**Keskin Array B**	**151.86**	**297**	PKPbc	**PKPbc**	**14 14 19.1**	**-1.2**
	0.5nm,0.6s,baz=162,slow=3.3,SNR=1.8						

*SKHL **28** 14:09:40.6±0.4, 52°.60N×152°.10E, h464km±11km, mb4.7/2, msha4.6/2*
*KRSC **28** 14:09:42.1±1.6, 52°.17N×153°.67E, h502km±28km, ML4.3*
*MOS **28** 14:09:42.0±0.7, 52°.25N×152°.92E, h481km, mb3.9/1, Error ellipse: s-maj=21.3km s-min=11.7km az=47.9*
*IDC **28** 14:09:43.9±1.5, 52°.49N×153°.02E, h460km±17km, mb2.8/7, mb1 3.1/9, mb1mx2.8/33, mbtmp3.7/9, Error ellipse: s-maj=24.7km s-min=14.8km az=129.0*

ISC 28 14:09:41.9±1.0, 52°.0N±0°.1×153°.7E±0°.2, h511km±18km, n57, σ1°73/61, mb3.2/7, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.01**	**105**	PN	**P**	**14 10 50.0**	**+2.0**
PAU	**Pauzhetka**	**2.01**	**105**	*eP*	**P**	**14 10 50.0**	**+2.0**
PAU	**Pauzhetka**	**2.01**	**105**	*eP*	**P**	**14 10 49.4**	**+1.4**
PAU				AMB	AMB	14 10 50.2	
	40nm,0.3s						
PAU				*eS*	**S**	**14 11 42.8**	**+1.0**
PAU				A	A	14 11 49.9	
	30nm,0.7s						
PAU				A	A	14 11 49.9	
	50nm,0.7s						
APC	**Apacha**	**2.28**	**66**	PN	**P**	**14 10 49.1**	**-0.2**
APC	**Apacha**	**2.28**	**66**	*eP*	**P**	**14 10 49.1**	**-0.2**
PETK	**Petropavlovsk-**	**2.65**	**65**	P	**P**	**14 10 50.7**	**-0.8**
	2.6nm,0.3s,baz=231,slow=2.1,SNR=79						
KDTR	**Khodutka, Kamc**	**2.71**	**93**	PN	**P**	**14 10 52.8**	**+1.0**
KDTR				S	**S**	**14 11 46.8**	**-2.1**
KDTR	**Khodutka, Kamc**	**2.71**	**93**	*eP*	**P**	**14 10 52.8**	**+1.0**
KDTR				*eS*	**S**	**14 11 46.8**	**-2.1**
GRL	**Gorelyy**	**2.72**	**77**	PN	**P**	**14 10 54.1**	**+2.0**
GRL	**Gorelyy**	**2.72**	**77**	*eP*	**P**	**14 10 54.1**	**+2.0**
MTVR	**Mutnovka**	**2.78**	**79**	PN	**P**	**14 10 54.3**	**+1.9**
MTVR	**Mutnovka**	**2.78**	**79**	*eP*	**P**	**14 10 54.3**	**+1.9**
KRMR	**Karymshinskiy**	**2.81**	**72**	PN	**P**	**14 10 53.9**	**+1.5**
KRMR	**Karymshinskiy**	**2.81**	**72**	*eP*	**P**	**14 10 53.9**	**+1.5**
RUS	**Russkaya**	**2.97**	**81**	PN	**P**	**14 10 54.7**	**+1.2**
RUS				S	**S**	**14 11 52.0**	**+0.1**
RUS	**Russkaya**	**2.97**	**81**	*eP*	**P**	**14 10 54.7**	**+1.2**
RUS				*eS*	**S**	**14 11 52.0**	**+0.1**
RUS	**Russkaya**	**2.97**	**81**	*eP*	**P**	**14 10 54.7**	**+1.2**
RUS				*eS*	**S**	**14 11 54.6**	**+2.7**
GNL	**Ganaly**	**3.05**	**55**	PN	**P**	**14 10 55.1**	**+1.0**
GNL	**Ganaly**	**3.05**	**55**	*eP*	**P**	**14 10 55.1**	**+1.0**
PET	**Petropavlovsk**	**3.17**	**70**	*eP*	**P**	**14 10 56.0**	**+1.2**
DALK	**Dalny**	**3.23**	**70**	PN	**P**	**14 10 56.5**	**+1.3**
DALK				S	**S**	**14 11 53.9**	**-1.2**
DALK	**Dalny**	**3.23**	**70**	*eP*	**P**	**14 10 56.5**	**+1.3**
DALK				*eS*	**S**	**14 11 53.9**	**-1.2**
KOK	**Koryaka**	**3.25**	**65**	PN	**P**	**14 10 57.0**	**+1.6**
KOK	**Koryaka**	**3.25**	**65**	*eP*	**P**	**14 10 57.0**	**+1.6**
KOK	**Koryaka**	**3.25**	**65**	*eP*	**P**	**14 10 57.0**	**+1.6**
AVH	**Avacha**	**3.29**	**66**	PN	**P**	**14 10 57.3**	**+1.6**
AVH	**Avacha**	**3.29**	**66**	*eP*	**P**	**14 10 57.3**	**+1.6**
AVH	**Avacha**	**3.29**	**66**	*eP*	**P**	**14 10 57.3**	**+1.6**
KRER	**Koryakskii**	**3.31**	**66**	PN	**P**	**14 10 57.7**	**+1.7**
KRER	**Koryakskii**	**3.31**	**66**	*eP*	**P**	**14 10 57.7**	**+1.7**
UGLR	**Uglovaya**	**3.32**	**67**	PN	**P**	**14 10 57.5**	**+1.5**
UGLR	**Uglovaya**	**3.32**	**67**	*eP*	**P**	**14 10 57.5**	**+1.5**
SMAR	**Somma**	**3.33**	**66**	PN	**P**	**14 10 57.5**	**+1.4**
SMAR	**Somma**	**3.33**	**66**	*eP*	**P**	**14 10 57.5**	**+1.4**
SDLR	**Sedlovina**	**3.38**	**66**	PN	**P**	**14 10 57.7**	**+1.3**
SDLR	**Sedlovina**	**3.38**	**66**	*eP*	**P**	**14 10 57.7**	**+1.3**
SPN	**Mys Shipunski**	**3.99**	**72**	PN	**P**	**14 11 01.3**	**+0.5**
SPN	**Mys Shipunski**	**3.99**	**72**	*eP*	**P**	**14 11 01.3**	**+0.5**
SPN				*eS*	**S**	**14 12 00.6**	**-4.8**
SPN	**Mys Shipunski**	**3.99**	**72**	*eP*	**P**	**14 11 01.3**	**+0.5**
TUMR	**Tumrok**	**5.01**	**47**	PN	**P**	**14 11 12.7**	**+3.1**
TUMD	**Tumrok D**	**5.08**	**49**	P	**P**	**14 11 12.7**	**+2.6**
KBTR	**Krutoberegovo**	**6.78**	**48**	*eS*	**S**	**14 12 47.2**	**-4.4**
PALN	**Palana**	**7.90**	**24**	PN	**P**	**14 11 37.9**	**+0.7**
PALN	**Palana**	**7.90**	**24**	P	**P**	**14 11 37.9**	**+0.7**
BKI	**Bering**	**7.94**	**62**	S	**S**	**14 13 13.0**	**+0.1**
SHO	**Shikotan**	**9.39**	**212**	*e*PN	**P**	**14 11 53.0**	**+0.1**
SHO				*eS*	**S**	**14 13 39.8**	**-0.8**
SHO	**Shikotan**	**9.39**	**212**	*eP*	**P**	**14 11 53.0**	**+0.1**
SHO				AMB	AMB	14 11 56.3	
	30nm,0.5s						
SHO				*eS*	**S**	**14 13 39.8**	**-0.8**
SHO				A	A	14 13 44.2	
	20nm,0.4s						
SHO				A	A	14 13 44.2	
	40nm,0.4s						
NMR	**Nemuro--Hokkai**	**10.21**	**215**	*eP*	**P**	**14 12 02.1**	**+0.6**
NMR				*eS*	**S**	**14 13 52.8**	**-3.5**
SEY	**Seymchan**	**10.94**	**357**	P	P	14 12 07.1	-1.8
	0.8nm,0.3s,baz=170,slow=15,SNR=17						
ILAR	**Eielson Array**	**32.29**	**44**	P	P	14 15 32.6	+4.9
	0.5nm,0.6s,baz=263,slow=7.0,SNR=11						
INK	**Inuvik**	**37.05**	**36**	P	P	14 16 11.4	+4.0
	0.8nm,0.3s,baz=300,slow=9.9,SNR=16						
MKAR	**Makanchi Array**	**45.04**	**293**	P	**P**	**14 17 12.2**	**+0.8**
	0.3nm,0.5s,baz=64,slow=7.2,SNR=7.9						
YKA	**Yellowknife Ar**	**46.52**	**40**	P	P	14 17 27.1	+4.8
	0.7nm,0.6s,baz=303,slow=7.0,SNR=11						
WRA	**Warramunga Arr**	**73.65**	**199**	P	P	14 20 31.0	+8.0
	0.4nm,0.6s,baz=18,slow=6.1,SNR=2.6						
WRA	**Warramunga Arr**	**73.65**	**199**	P	P	14 20 31.0	+8.0
TXAR	**Lajitas Array**	**74.60**	**62**	P	P	14 20 36.2	+7.7
	0.1nm,0.4s,baz=262,slow=4.8,SNR=4.4						
ASAR	**Alice Springs**	**77.36**	**199**	P	P	14 20 51.8	+8.2
	0.5nm,0.4s,baz=12,slow=5.0,SNR=24						

*EAF **28** 14:10:53.5±2.7, 26°.29S×29°.29E, h0km±20km, MD4.2*

BUL 28 14:10:53.7±2.7, 26°.30S×29°.29E, h0km±20km, MD4.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.60**	**90**	*i* P	Pn	14 11 36.6	-0.5
CNG				*i* Sg	Sb	14 12 13.2	-0.6
CNG	**Changalane**	**2.60**	**90**	*i* P	Pn	14 11 36.6	-0.5
CNG				*i* Sg	Sb	14 12 13.2	-0.6
MOPA	**Mopani**	**3.37**	**35**	*i* P	Pn	14 11 46.0	-1.7
MOPA	**Mopani**	**3.37**	**35**	*i* P	Pn	14 11 46.0	-1.7
LBTB	**Lobatse**	**3.57**	**290**	*i* P	Pn	14 11 50.9	+0.5
LBTB				*i* Sg	Sb	14 12 43.2	+1.5
LBTB	**Lobatse**	**3.57**	**290**	*i* P	Pn	14 11 50.9	+0.5
LBTB				*i* Sg	Sb	14 12 43.2	+1.5
MSNA	**Messina**	**4.00**	**10**	*i* P	Pn	14 11 56.6	+0.3
MSNA	**Messina**	**4.00**	**10**	*i* P	Pn	14 11 56.6	+0.3
BOSA	**Boshof**	**4.26**	**236**	*i* P	Pn	14 12 01.1	+1.2
BOSA				*i* Sg	Sb	14 13 04.5	+3.0
BOSA	**Boshof**	**4.26**	**236**	*i* P	Pn	14 12 01.1	+1.2
BOSA				*i* Sg	Sb	14 13 04.5	+3.0
MATP	**Matopo**	**5.89**	**353**	*i* P	Pn	14 12 22.5	0.0
MATP				*i* S	Sn	14 13 24.0	-6.8
MATP	**Matopo**	**5.89**	**353**	*i* P	Pn	14 12 22.5	0.0
MATP				*i* S	Sn	14 13 24.0	-6.8

*CNRM **28** 14:24:13.5, 35°.63N×3°.68W, h17km, ml3.2*
*SFS **28** 14:24:13.0, 35°.63N×3°.82W, ML2.8, ALBORAN SUR*

ISC 28 14:24:13.1±1.3, 35°.63N±0°.04×3°.74W±0°.03, h20km±7km, n16, σ1°63/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.45**	**202**	P	**Pg**	**14 24 22.0**	**-0.3**
PALE				S	**Sg**	**14 24 28.4**	**-0.2**
GOG	**Mont Gurugu**	**0.73**	**124**	P	**Pb**	**14 24 27.5**	**+0.3**
GOG				S	**Sg**	**14 24 37.1**	**-0.2**
CHAS	**Isla Isabel II**	**1.16**	**112**	*e*P	**Pn**	**14 24 33.7**	**-0.5**
CHAS				*e*S	**Sb**	**14 24 48.5**	**-0.5**
EMAL	**Malaga-Limoner**	**1.26**	**334**	*e*P	**Pn**	**14 24 36.0**	**+0.4**
EMAL				*e*S	**Sb**	**14 24 52.1**	**+0.2**
SMIR	**Smir Dam**	**1.34**	**273**	P	**Pg**	**14 24 38.5**	**-0.5**
SMIR				S	**Sg**	**14 24 57.5**	**+0.9**
TAF	**Taforalt**	**1.36**	**127**	P	**Pn**	**14 24 37.3**	**+0.2**
TAF				S	**Sn**	**14 24 54.4**	**-0.1**
CEU	**Ceuta**	**1.36**	**282**	*e*P	**Pn**	**14 24 34.3**	**-2.7**
CEU				*e*S	**Sn**	**14 24 51.5**	**-2.8**
CHEFC	**Chefchaouen**	**1.41**	**249**	P	**Pg**	**14 24 39.9**	**-0.5**
CHEFC				S	**Sg**	**14 24 59.2**	**+0.3**
JBK	**JBK**	**1.61**	**143**	P	**Pn**	**14 24 40.5**	**-0.1**
JBK				S	**Sn**	**14 24 59.9**	**-1.1**
SICH	**Sidi Chahed**	**2.00**	**221**	S	**Sg**	**14 25 16.5**	**-1.2**
LCRM	**LCR**	**2.15**	**206**	S	**Sb**	**14 25 17.4**	**-0.4**
ZHG	**ZHG**	**3.24**	**229**	P	**Pn**	**14 25 06.1**	**+3.2**
PVAQ	**Vaqueiros**	**3.66**	**300**	P	**Pn**	**14 25 07.4**	**-1.2**
PVAQ				S	**Sn**	**14 25 51.1**	**-0.2**
FIGM	**Figuig**	**4.05**	**149**	P	**Pn**	**14 25 16.5**	**+2.3**
PFVI	**Vila Bisbo**	**4.37**	**292**	P	**Pn**	**14 25 22.1**	**+3.7**
PESTR	**Estremoz**	**4.46**	**318**	P	**Pn**	**14 25 22.3**	**+2.7**

IDC 28 14:46:21.3±1.4, 21°.49N×146°.04E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.2/61, mbtmp3.4/4, Error ellipse: s-maj=62.5km s-min=26.5km az=96.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.21**	**319**	P	P	14 54 07.8	-0.1
	0.2nm,0.5s,baz=107,slow=7.4,SNR=1.9						
WRA	**Warramunga Arr**	**42.73**	**196**	P	P	14 54 20.4	-0.1
	0.6nm,0.5s,baz=17,slow=8.8,SNR=9.3						
ASAR	**Alice Springs**	**46.41**	**195**	P	P	14 54 49.6	-0.2
	0.3nm,0.6s,baz=11,slow=7.0,SNR=6.8						
YKA	**Yellowknife Ar**	**75.39**	**28**	P	P	14 58 06.6	+0.1
	0.1nm,0.4s,baz=289,slow=6.3,SNR=3.9						

*CNRM **28** 14:53:38.8, 35°.52N×3°.80W, h14km, ml2.7*
*SFS **28** 14:53:38.0, 35°.50N×3°.86W, ML2.3, ALBORAN SUR*

ISC 28 14:53:38.3±1.1, 35°.56N±0°.04×3°.77W±0°.03, h16km±9km, n12, σ1°33/22, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**203**	P	**Pb**	**14 53 45.3**	**-1.1**
PALE				S	**Sg**	**14 53 48.9**	**-2.0**
GOG	**Mont Gurugu**	**0.71**	**118**	P	**Pg**	**14 53 52.3**	**+0.1**
GOG				S	**Sb**	**14 54 03.4**	**+1.4**
CHAS	**Isla Isabel II**	**1.15**	**108**	*e*P	**Pn**	**14 53 58.8**	**-1.0**
CHAS				*e*S	**Sb**	**14 54 13.7**	**-0.9**
EMAL	**Malaga-Limoner**	**1.32**	**336**	*e*P	**Pn**	**14 54 02.8**	**+0.8**
EMAL				*e*S	**Sg**	**14 54 21.5**	**+0.7**
SMIR	**Smir Dam**	**1.32**	**276**	P	**Pg**	**14 54 05.0**	**+1.3**
TAF	**Taforalt**	**1.33**	**123**	P	**Pn**	**14 54 02.6**	**+0.3**
TAF				S	**Sg**	**14 54 22.1**	**+0.8**
CEU	**Ceuta**	**1.35**	**285**	*e*P	**Pn**	**14 54 00.8**	**-1.6**
CEU				*e*S	**Sb**	**14 54 17.7**	**-2.5**
CHEFC	**Chefchaouen**	**1.36**	**251**	P	**Pg**	**14 54 06.0**	**+1.5**
JBK	**JBK**	**1.57**	**141**	P	**Pn**	**14 54 05.3**	**-0.3**
JBK				S	**Sn**	**14 54 25.5**	**-0.3**
MD31	**MD31**	**2.81**	**197**	P	**Pn**	**14 54 24.6**	**+2.0**
MD31				S	**Sn**	**14 54 57.2**	**+1.0**
MDT	**Midelt**	**2.82**	**195**	P	**Pn**	**14 54 24.1**	**+1.3**
MDT				S	**Sn**	**14 54 56.7**	**0.0**
PVAQ	**Vaqueiros**	**3.68**	**301**	P	**Pn**	**14 54 35.7**	**+1.1**
PVAQ				S	**Sn**	**14 55 17.2**	**-0.4**

*IDC **28** 15:00:47.6±5.1, 37°.36N×72°.24E, h196km±40km, mb3.1/3, mb1 3.2/9, mb1mx2.8/53, mbtmp3.8/9, Error ellipse: s-maj=56.8km s-min=25.1km az=159.0*
*NNC **28** 15:00:49.5±8.4, 37°.85N×72°.09E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=66.5km s-min=55.9km az=175.0*
*SOME **28** 15:00:54.1, 38°.77N×72°.12E, h5km*

ISC 28 15:00:49.5±1.4, 37°.6N±0°.1×72°.6E±0°.10, h200km, n26, σ2°07/31, mb3.3/3, 2C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.64**	**12**	P	**Pn**	**15 02 00.3**	**+0.6**
	SNR=42						
IUG	**Iuzhnay**	**4.88**	**339**	*e*P	**Pn**	**15 02 05.1**	**+2.6**
	75nm,0.5s						
IUG				*e*S	**Sn**	**15 02 56.4**	**-3.6**
	151nm,0.4s						
UCH	**Uchtor**	**4.91**	**19**	P	**Pn**	**15 02 03.9**	**+0.7**
	SNR=16						
CHM	**Chimkent**	**5.17**	**337**	*e*P	**Pn**	**15 02 10.2**	**+4.2**
	52nm,0.2s						
CHM				*e*S	**Sn**	**15 03 04.7**	**-1.7**
	164nm,0.1s						
EKS2	**Erkin-Say**	**5.17**	**12**	P	**Pn**	**15 02 07.7**	**+1.5**
	SNR=12						
MRKS	**Merke**	**5.18**	**7**	*e*P	**Pn**	**15 02 10.7**	**+4.4**
	3.6nm,0.3s						
MRKS				*e*S	**Sn**	**15 03 05.6**	**-1.4**
	108nm,0.6s						
AAK	**Ala-Archa**	**5.29**	**17**	P	**Pn**	**15 02 08.7**	**+0.9**
	2.1nm,0.3s,baz=182,slow=8.1,SNR=35						
AAK				S	**Sn**	**15 03 09.1**	**-0.5**
	7.4nm,0.3s,baz=123,slow=8.6,SNR=35						
AAK	**Ala-Archa**	**5.29**	**17**	P	**Pn**	**15 02 08.9**	**+1.1**
	SNR=6.3						
AAK	**Ala-Archa**	**5.29**	**17**	⇓Pn	**Pn**	**15 02 08.6**	**+0.9**
	3.5nm,0.4s						
AAK				⇓Sn	**Sn**	**15 03 08.0**	**-1.5**
	28nm,0.5s						
DZA	**Taraz**	**5.34**	**352**	*e*P	**Pn**	**15 02 12.5**	**+4.2**
	64nm,0.1s						
DZA				*e*S	**Sn**	**15 03 09.4**	**-1.1**
	148nm,0.5s						
KBK	**Karagaybulak**	**5.43**	**21**	P	**Pn**	**15 02 11.4**	**+1.9**
	SNR=5.9						
KK01	**Karatay Array**	**5.68**	**346**	⇑Pn	**Pn**	**15 02 12.0**	**-0.5**
	1.0nm,0.3s,baz=151,slow=11						
KK01				⇓Sn	**Sn**	**15 03 15.3**	**-3.0**
	11nm,0.5s,baz=170,slow=22						
BRLS	**Borolday**	**5.76**	**341**	*e*P	**Pn**	**15 02 13.4**	**-0.2**
	2.2nm,0.2s						
BRLS				*e*S	Sn	15 03 10.4	-10
	36nm,0.2s						
TKM2	**Tokmak 2**	**5.86**	**24**	P	**Pn**	**15 02 16.1**	**+0.9**
	SNR=9.1						
TKM2	**Tokmak 2**	**5.86**	**24**	⇑Pn	**Pn**	**15 02 15.7**	**+0.5**
	4.7nm,0.5s						
KTBS	**Karatobe**	**6.93**	**27**	*e*P	Pn	15 02 47.3	+18
	1.2nm,0.5s						
KTBS				*e*S	Sn	15 04 08.8	+21
	7.0nm,0.9s						
BTLS	**Baital**	**7.54**	**9**	*e*P	Pn	15 02 53.1	+16
	0.7nm,0.3s						
BTLS				*e*S	Sn	15 04 18.5	+17
	6.1nm,0.6s						
MKAR	**Makanchi Array**	**11.77**	**36**	P	**Pn**	**15 03 31.8**	**+0.4**
	0.1nm,0.3s,baz=208,slow=12,SNR=7.4						
KURBB	**Kurchatov Arra**	**13.75**	**17**	P	**Pn**	**15 03 59.1**	**+3.0**
	0.1nm,0.3s,baz=203,slow=11,SNR=20						
AB31	**Akbulak array**	**14.71**	**326**	Pn	**P**	**15 04 09.0**	**0.0**
	0.5nm,0.5s,baz=130,slow=13,SNR=12						
BVAR	**Borovoye Array**	**15.49**	**356**	P	**P**	**15 04 17.8**	**+0.2**
	0.4nm,0.3s,baz=132,slow=9.7,SNR=8.3						
AKTO	**Aktyubinsk**	**16.42**	**326**	P	**Pn**	**15 04 29.2**	**+0.4**
	0.3nm,0.3s,baz=137,slow=9.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**18.47**	**24**	P	**P**	**15 04 50.8**	**+0.6**
	1.4nm,0.3s,baz=220,slow=10,SNR=49						
SONM	**Songino Array**	**26.82**	**57**	P	**P**	**15 06 12.5**	**+1.1**
	0.3nm,0.4s,baz=261,slow=8.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**66.83**	**269**	P	**P**	**15 11 17.9**	**-2.2**
	0.8nm,0.4s,baz=50,slow=5.9,SNR=8.4						
YKA	**Yellowknife Ar**	**80.09**	**3**	P	**P**	**15 12 35.8**	**-0.8**
	0.1nm,0.5s,baz=353,slow=6.4,SNR=1.9						

*IDC **28** 15:02:03.9±1.3, 26°.38S×27°.64E, h0km, mb3.9/5, mb1 4.0/11, mb1mx3.8/43, mbtmp4.0/11, ML3.9/5, Error ellipse: s-maj=19.4km s-min=17.8km az=75.0*
*NEIC **28** 15:02:04.3±2.4, 26°.52S±0°.07×27°.63E±0°.07, h5km±1km, mb4.5/6, Error ellipse: s-maj=13.1km s-min=8.4km az=38.0.*
*BUL **28** 15:02:05.4±1.9, 26°.52S×27°.83E, h0km±14km, MD5.1*
*EAF **28** 15:02:05.3±1.9, 26°.52S×27°.83E, h0km±14km, MD4.5*

ISC 28 15:02:03.4±0.5, 26°.52S±0°.04×27°.69E±0°.04, h5km, n37, σ2°41/46, mb4.2/8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.41**	**308**	Pn	**Pn**	**15 02 44.6**	**+1.0**
	31nm,0.3s,baz=125,slow=14,SNR=114						
LBTB				Pg	**Pb**	**15 02 46.4**	**-0.9**
	31nm,0.3s,baz=125,slow=17,SNR=281						
LBTB				Lg	Lg	15 03 16.2	
	79nm,0.3s,baz=32,slow=22,SNR=39						
LBTB	**Lobatse**	**2.41**	**308**	*i* P	**Pn**	**15 02 47.3**	**+3.8**
LBTB	**Lobatse**	**2.41**	**308**	*i* P	**Pn**	**15 02 47.3**	**+3.8**
BOSA	**Boshof**	**3.00**	**225**	Pn	**Pn**	**15 02 53.3**	**+1.6**
	6.4nm,0.3s,baz=45,slow=13,SNR=152						
BOSA				Pg	**Pg**	**15 03 01.0**	**+0.2**
	10nm,0.3s,baz=43,slow=16,SNR=29						
BOSA				Sn	**Sn**	**15 03 27.6**	**-0.4**
	17nm,0.3s,baz=244,slow=1.5,SNR=13						
BOSA				Lg	Lg	15 03 37.0	
	14nm,0.3s,baz=330,slow=21,SNR=9.0						
BOSA	**Boshof**	**3.00**	**225**	*i* P	**Pn**	**15 02 53.6**	**+1.9**
BOSA	**Boshof**	**3.00**	**225**	*i* P	**Pn**	**15 02 53.6**	**+1.9**
BOSA	**Boshof**	**3.00**	**225**		**Pn**	**15 02 53.1**	**+1.4**
CNG	**Changalane**	**4.04**	**88**	*i* P	**Pn**	**15 03 07.0**	**+1.0**
CNG				*i* Sg	**Sb**	**15 04 06.8**	**+2.4**
CNG	**Changalane**	**4.04**	**88**	*i* P	**Pn**	**15 03 07.0**	**+1.0**
CNG				*i* Sg	**Sb**	**15 04 06.8**	**+2.4**
MOPA	**Mopani**	**4.51**	**49**	*i* P	**Pn**	**15 03 12.7**	**+0.3**
MOPA	**Mopani**	**4.51**	**49**	*i* P	**Pn**	**15 03 12.7**	**+0.3**
MSNA	**Messina**	**4.67**	**28**	*i* P	**Pn**	**15 03 16.1**	**+1.4**
MSNA				*i* Sg	**Sb**	**15 04 27.2**	**+4.7**
MSNA	**Messina**	**4.67**	**28**	*i* P	**Pn**	**15 03 16.1**	**+1.4**
MSNA				*i* Sg	**Sb**	**15 04 27.2**	**+4.7**
MATP	**Matopo**	**6.12**	**7**	Pn	**Pn**	**15 03 34.2**	**-0.3**
	0.8nm,0.3s,baz=190,slow=19,SNR=16						
MATP				Sn	**Sn**	**15 04 39.1**	**-5.9**
	0.8nm,0.3s,baz=261,slow=22,SNR=3.5						
MATP				Lg	Lg	15 05 07.6	
	1.6nm,0.3s,baz=277,slow=21,SNR=3.4						
MATP	**Matopo**	**6.12**	**7**	*i* P	**Pn**	**15 03 37.6**	**+3.0**
MATP				*i* S	**Sn**	**15 04 41.5**	**-3.5**
MATP	**Matopo**	**6.12**	**7**	*i* P	**Pn**	**15 03 37.6**	**+3.0**
MATP				*i* S	**Sn**	**15 04 41.5**	**-3.5**
BLWY	**Bulawayo**	**6.41**	**8**	*i* P	**Pn**	**15 03 40.1**	**+1.5**
BLWY				*i* S	**Sn**	**15 04 48.9**	**-3.4**
BLWY	**Bulawayo**	**6.41**	**8**	*i* P	**Pn**	**15 03 40.1**	**+1.5**
BLWY				*i* S	**Sn**	**15 04 48.9**	**-3.4**
SUR	**Sutherland**	**8.36**	**224**	Pn	**Pn**	**15 04 06.7**	**+1.3**
	2.2nm,0.3s,baz=47,slow=13,SNR=32						
SUR				Sn	**Sn**	**15 05 36.4**	**-3.9**
	1.8nm,0.3s,baz=156,slow=22,SNR=6.4						
SUR				Lg	Lg	15 06 24.9	
	1.9nm,0.3s,baz=138,slow=23,SNR=1.8						
SUR	**Sutherland**	**8.36**	**224**	Pn	**Pn**	**15 04 05.4**	**0.0**
SUR				Sn	**Sn**	**15 05 37.1**	**-3.3**
KRI	**Karoi**	**9.81**	**11**	*i* P	Pn	15 04 20.0	-5.3
KRI				*i* S	Sn	15 05 56.0	-20
**KRI

KAN13				Sn	Sn	15 08 28.1	+0.3
KAN14	**Manchester OK**	**1.31 343**			Pn	15 08 10.0	-0.1
KAN14					Sn	15 08 27.9	+0.1
KAN17	**Caldwell West**	**1.36 350**			Pn	15 08 10.0	-0.7
KAN17				Sn	Sg	15 08 29.6	+0.4
TUL1	**Leonard**	**1.39 81**		Pn	Pn	15 08 09.9	-1.1
U32A	**Winter Ranch,**	**1.41 299**			Pn	15 08 11.3	-0.1
U32A				Sn	Sg	15 08 30.9	+0.2
OK035	**E0210 Rd and N**	**1.42 316**		Pn	Pn	15 08 11.1	-0.4
OK035				Sn	Sg	15 08 31.0	+0.1
WMOK	**Wichita Mounta**	**1.43 228**			Pn	15 08 11.5	-0.2
WMOK				Sn	Sn	15 08 30.1	-0.6
KAN05	**Bluff City Nor**	**1.44 347**			Pn	15 08 11.9	+0.1
T35A	**Sooner Cattle**	**1.44 32**		Pn	Pn	15 08 11.4	-0.4
T35A				Sn	Sn	15 08 30.9	-0.1
KAN01	**Argonia South**	**1.47 351**			Pn	15 08 12.4	+0.2
KAN10	**Anthony SW Sta**	**1.51 341**			Pb	15 08 13.2	-0.4
KAN08	**Anthony NE Sta**	**1.57 346**			Pb	15 08 14.3	-0.5
KAN06	**Argonia West S**	**1.58 349**			Pb	15 08 14.5	-0.3
KAN06				IAmb_Lg		15 08 37.0	
	comp=Z,46nm,1.0s						
KAN16	**Harper SW Stat**	**1.59 343**			Pb	15 08 14.8	-0.3
KAN12	**Harper NE Stat**	**1.65 345**			Pb	15 08 15.8	-0.3
LOOK	**Love County**	**1.72 172**			Pn	15 08 16.3	+0.7
X37A	**Clayton**	**2.05 122**		Pn	Pn	15 08 20.1	0.0
X37A				IAmb_Lg		15 08 51.9	
	comp=Z,70nm,1.0s						
Z35A	**Perchaven, San**	**2.37 175**		Pn	Pn	15 08 25.4	+0.8
U38A	**Gravette**	**2.61 73**			Pn	15 08 28.7	+0.8
R32A	**Long Quarter,**	**2.89 340**			Pn	15 08 31.4	-0.3
HHAR	**Hobbs**	**2.93 78**			Pn	15 08 33.4	+1.1
W39A	**Magazine**	**3.06 98**			Pn	15 08 33.8	-0.2
W39A				IAmb_Lg		15 09 26.6	
	comp=Z,26nm,0.8s						
Z38A	**Mt. Pleasant**	**3.19 139**		Pn	Pn	15 08 36.3	+0.5
MIAR	**Mount Ida**	**3.40 109**		Pn	Pn	15 08 39.6	+0.9
MIAR				IAmb_Lg		15 09 40.7	
	comp=Z,21nm,0.9s						
KSU1	**Kansas State U**	**3.46 11**			Pn	15 08 40.1	+0.5
KSU1				IAmb_Lg		15 09 39.0	
	comp=Z,33nm,1.0s						
AMTX	**Amarillo**	**3.53 258**			Pn	15 08 40.5	-0.2
ABTX	**Abilene, Hawle**	**3.55 211**			Pn	15 08 41.0	+0.1
ABTX				IAmb_Lg		15 09 38.1	
	comp=Z,22nm,0.8s						
CBKS	**Cedar Bluff**	**3.59 331**			Pn	15 08 42.1	+0.6
CBKS				IAmb_Lg		15 09 42.2	
	comp=Z,31nm,0.7s						
WHTX	**Lake Whitney,**	**3.70 180**			Pn	15 08 42.7	-0.1
U40A	**Yellville**	**3.81 79**		Pn	Pn	15 08 44.2	-0.1
U40A				IAmb_Lg		15 09 47.4	
	comp=Z,30nm,0.8s						
S39A	**Bolivar**	**3.89 58**			Pn	15 08 45.4	-0.1
S39A				IAmb_Lg		15 09 54.5	
	comp=Z,29nm,0.8s						
237A	**Washetta, Mont**	**3.94 159**		Pn	Pn	15 08 45.6	-0.5
237A				IAmb_Lg		15 09 55.5	
	comp=Z,31nm,1.0s						
X40A	**Basin Creek Fa**	**4.00 106**			Pn	15 08 47.9	+1.0
X40A				IAmb_Lg		15 09 59.1	
	comp=Z,29nm,0.7s						
WHAR	**Wooly Hollow**	**4.25 94**			Pn	15 08 49.7	-0.7
WHAR				IAmb_Lg		15 10 06.7	
	comp=Z,20nm,0.7s						
W41B	**Gary Mavity, V**	**4.30 95**			Pn	15 08 51.2	+0.1
FCAR	**Ozark Folk Cen**	**4.36 86**			Pn	15 08 51.4	-0.5
FCAR				IAmb_Lg		15 10 07.7	
	comp=Z,26nm,1.0s						
MGMO	**Mountain Grove**	**4.45 69**		Pn	Pn	15 08 53.3	+0.2
MSTX	**Muleshoe**	**4.68 250**			Pn	15 08 54.3	-2.2
435B	**Jarrell**	**4.90 181**		IAmb_Lg		15 10 25.6	
	comp=Z,25nm,0.8s						
R40A	**Maddies Statio**	**4.91 57**		Pn	Pn	15 08 58.6	-0.8
R40A				IAmb_Lg		15 10 20.3	
	comp=Z,20nm,0.8s						
P38A	**Dawn**	**5.01 37**			Pn	15 09 01.6	+0.7
LCAR	**Lake Charles**	**5.15 84**		Pn	Pn	15 09 01.8	-0.9
LCAR				IAmb_Lg		15 10 33.3	
	comp=Z,23nm,1.2s						
KSCO	**Kaye Shedlock'**	**5.27 310**			Pn	15 09 03.6	-0.9
KSCO				IAmb_Lg		15 10 45.4	
	comp=Z,24nm,0.8s						
T42A	**Van Buren**	**5.32 74**		IAmb_Lg		15 10 41.1	
	comp=Z,20nm,0.9s						
N35A	**Tabor**	**5.35 15**			Pn	15 09 04.4	-1.2
CCM	**Cathedral Cave**	**5.52 63**		Pn	Pn	15 09 07.5	-0.3
CCM				IAmb_Lg		15 10 46.5	
	comp=Z,24nm,0.7s						
T25A	**Trinidad**	**5.77 286**		Pn	Pn	15 09 11.9	+0.4
T25A				IAmb_Lg		15 10 56.3	
	comp=Z,24nm,1.0s						
PBMO	**Poplar Bluff**	**5.80 77**		Pn	Pn	15 09 10.8	-0.9
PBMO				IAmb_Lg		15 10 58.8	
	comp=Z,23nm,1.0s						
N38A	**Joes South For**	**6.08 32**		Pn	Pn	15 09 14.4	-1.1
FVM	**French Village**	**6.10 66**		Pn	Pn	15 09 14.2	-1.6
FVM				IAmb_Lg		15 10 59.3	
	comp=Z,26nm,0.8s						
OGNE	**Ogallala**	**6.34 327**		Pn	Pn	15 09 18.8	-0.5
SLM	**Saint Louis**	**6.48 61**		Pn	Pn	15 09 20.9	-0.2
SDCO	**Great Sand Dun**	**6.76 290**		Pn	Pn	15 09 26.9	+1.8
S44A	**Carbondale**	**6.90 71**			Pn	15 09 27.9	+1.1
Q24A	**Divide**	**6.92 300**		Pn	Pn	15 09 26.0	-1.4
Q24A				IAmb_Lg		15 11 27.0	
	comp=Z,12nm,0.9s						
MNTX	**Cornudas Mount**	**7.70 241**		Pn	Pn	15 09 37.6	-0.2
MNTX				IAmb_Lg		15 11 55.4	
	comp=Z,7.7nm,0.8s						
OLIL	**Olney**	**8.07 65**		Pn	Pn	15 09 42.4	-0.5
TXAR	**Lajitas Array**	**8.22 221**		Pn	Pn	15 09 45.5	+0.5
PHWY	**Pilot Hill**	**8.39 314**		Pn	Pn	15 09 45.5	-2.0
N23A	**Red Feather La**	**8.44 310**		Pn	Pn	15 09 47.4	-0.8
N23A				IAmb_Lg		15 12 27.6	
	comp=Z,15nm,0.8s						

JMA 28 15:17:02.9±0.2, 38°.33N×144°.60E, h48km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.41**	**289**	P	Pn	15 17 41.2	+1.3
OFUJ				S	Sn	15 18 10.0	+1.8
JIKH	**Ishinomakikobu**	**2.46**	**271**	P	Pn	15 17 41.7	+1.1
JIKH				*e*S	Sn	15 18 10.1	+0.6
JKMT	**Kesennumamotoy**	**2.50**	**282**	P	Pn	15 17 42.5	+1.5
JKMT				*e*S	Sn	15 18 11.7	+1.5
MIYJ	**Miyakonagasawa**	**2.50**	**301**	P	Pn	15 17 42.3	+1.2
MIYJ				*e*S	Sn	15 18 11.1	+0.8
JMK	**Ichinoseki**	**2.72**	**284**	P	Pn	15 17 45.8	+1.8
JMK				*e*S	Sn	15 18 17.7	+2.0
JOM	**Ohasama**	**2.82**	**295**	P	Pn	15 17 47.3	+1.8
JOM				*e*S	Sn	15 18 20.4	+2.2
JANG	**Nango**	**3.14**	**311**	P	Pn	15 17 50.9	+1.0
JANG				*e*S	Sn	15 18 27.3	+1.1
JYK	**Kaneyama**	**3.37**	**281**	P	Pn	15 17 55.3	+2.3
JFT	**Otama**	**3.47**	**258**	P	Pn	15 17 56.5	+2.1
JFT				*e*S	Sn	15 18 36.0	+1.8
JOT	**Ohata**	**4.09**	**319**	P	Pn	15 18 04.5	+1.6
JCH	**Churui**	**4.38**	**348**	P	Pn	15 18 07.4	+0.5
JCH				*e*S	Sn	15 18 54.3	-2.3
JKB	**Kayabe**	**4.48**	**324**	P	Pn	15 18 10.8	+2.5
JRY	**Ryogami san**	**5.10**	**245**	P	Pn	15 18 18.2	+1.4
NEM2	**Nemuro 2**	**5.10**	**9**	P	Pn	15 18 15.1	-1.7
NEM2				*e*S	Sn	15 19 09.4	-4.9
JTKR	**Abashiri--Toko**	**5.66**	**355**	P	Pn	15 18 24.4	0.0

*NEIC **28** 15:23:14.4±2.5, 4°.6S±0°.1×153°.80E±0°.09, h96km±7km, mb4.0/10, Error ellipse: s-maj=18.9km s-min=12.3km az=196.0*
*IDC **28** 15:23:18.1±7.2, 4°.69S×153°.66E, h126km±54km, mb3.4/6, mb1 3.6/7, mb1mx3.2/55, mbtmp3.9/7, Error ellipse: s-maj=56.2km s-min=28.0km az=90.0*
ISC 28 15:23:14.3±0.9, 4°.56S±0°.10×153°.80E±0°.09, h100km, n21, σ1°17/24, mb3.9/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.68**	**283**		**Pn**	**15 23 42.8**	**-0.1**
RABL				Sn	**Sn**	**15 24 02.5**	**-2.0**
HNR	**Honiara**	**7.78**	**129**	Pn	**Pn**	**15 25 04.6**	**-0.4**
PMG	**Port Moresby**		**8.16 234**	P	**Pn**	**15 25 11.5**	**+1.4**
	5.7nm,0.3s,baz=47,slow=7.7,SNR=22						
PMG				S	**Sn**	**15 26 40.0**	**-0.7**
	3.2nm,0.3s,baz=352,slow=22,SNR=6.5						
PMG	**Port Moresby**		**8.16 234**		**Pn**	**15 25 11.6**	**+1.4**
PMG					**Sn**	**15 26 40.9**	**+0.2**
COEN	**Coen**		**14.03 228**	P	**Pn**	**15 26 31.1**	**+2.3**
WB0	**Warramunga Arr**		**24.21 230**	P	**P**	**15 28 21.5**	**-0.4**
WB0				IAmb	IAmb	15 28 50.5	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**		**24.21 229**	P	**P**	**15 28 22.6**	**+0.7**
WR0				IAmb	IAmb	15 28 23.5	
	comp=Z,4.5nm,0.9s						
WRAB	**Tennant Creek**		**24.34 229**	P	**P**	**15 28 23.5**	**+0.5**
WRAB				IAmb	IAmb	15 28 23.8	
	comp=Z,6.5nm,1.0s						
WB2	**Warramunga Arr**		**24.34 229**	P	**P**	**15 28 23.4**	**+0.3**
WB2				IAmb	IAmb	15 28 24.6	
	comp=Z,4.1nm,0.6s						
WRA	**Warramunga Arr**		**24.35 229**	P	**P**	**15 28 23.4**	**+0.2**
	comp=Z,2.8nm,0.4s,baz=55,slow=10,SNR=38						
WRA	**Warramunga Arr**		**24.35 229**	P	**P**	**15 28 22.9**	**-0.3**
AS31	**Alice Springs**		**27.00 223**	P	**P**	**15 28 46.7**	**-0.4**
AS31				IAmb	IAmb	15 28 54.6	
	comp=Z,1.5nm,1.3s						
ASAR	**Alice Springs**		**27.00 223**	P	**P**	**15 28 47.1**	**0.0**
	comp=Z,0.4nm,0.4s,baz=55,slow=9.1,SNR=19						
LHI	**Lord Howe Isla**		**27.27 170**	P	**P**	**15 28 47.6**	**-1.7**
FITZ	**Fitzroy Crossi**		**30.65 242**	P	**P**	**15 29 18.7**	**-0.8**
	comp=Z,2.9nm,0.9s,baz=41,slow=9.3,SNR=1.3						
MBWA	**Marble Bar**		**36.95 240**	P	**P**	**15 30 12.1**	**-2.0**
PSA00	**Pilbara Seismi**		**37.01 240**	P	**P**	**15 30 12.9**	**-1.6**
SONM	**Songino Array**		**66.66 327**	P	**P**	**15 33 56.0**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=122,slow=5.0,SNR=2.3						
MKAR	**Makanchi Array**		**80.81 319**	P	**P**	**15 35 18.0**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=91,slow=6.7,SNR=4.2						
QSPA	**South Pole Qui**		**85.39 180**	P	**P**	**15 35 40.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=14,slow=4.2,SNR=7.9						
TORD	**Torodi Ar. Bea**		**151.18 289**	PKPbc	**PKPbc**	**15 42 57.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=53,slow=2.8,SNR=2.7						

IDC 28 15:27:57.8±6.5, 20°.29S×176°.29W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.1/53, mbtmp3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/21, Error ellipse: s-maj=350.7km s-min=93.6km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.20**	**261**	LR	LR	15 37 03.6	
	comp=Z,133nm,18.8s,baz=20,slow=34						
ASAR	**Alice Springs**	**46.13**	**256**	P	P	15 36 24.0	-0.4
	0.3nm,0.5s,baz=93,slow=8.7,SNR=11						
WRA	**Warramunga Arr**	**46.22**	**261**	P	P	15 36 25.2	+0.1
	0.3nm,0.4s,baz=97,slow=8.2,SNR=7.6						
AKASG	**Malin Array Be**	**143.59**	**333**	PKP	PKPdf	15 47 33.8	-0.7
	0.3nm,0.3s,baz=37,slow=3.7,SNR=4.5						

NOU 28 15:34:35.9, 18°.54S×168°.96E, h220km, MLv4.2/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**0.90**	**326**	P	Pn	15 35 07.4	+0.2
RTV	**Rentapao**	**0.90**	**326**	P	Pn	15 35 07.3	+0.1
DVP	**Devils Point**	**1.09**	**318**	P	Pn	15 35 08.4	0.0
DVP	**Devils Point**	**1.09**	**318**	P	Pn	15 35 08.3	-0.1
MARNC	**Mare, Loyalty**	**3.05**	**196**	P	Pn	15 35 27.0	-0.2
YATNC	**Mamie plateau,**	**4.00**	**209**	P	Pn	15 35 37.7	-0.8
DZM	**Mont Dzumac**	**4.23**	**213**	P	Pn	15 35 41.6	+0.2
PINNC	**Pines Island,**	**4.29**	**199**	P	Pn	15 35 42.6	+0.6
NOUC	**Port Laguerre**	**4.33**	**215**	P	Pn	15 35 42.8	+0.3
OUENC	**Ouen Island, N**	**4.34**	**207**	P	Pn	15 35 42.9	+0.3
ONTNC	**Ouen Toro**	**4.42**	**212**	P	Pn	15 35 43.4	-0.2
KOUNC	**Koumac, New Ca**	**4.84**	**245**	P	Pn	15 35 48.8	0.0

*IDC **28** 15:35:16.3±7.8, 32°.04S×179°.46E, h460km±99km, mb2.5/2, mb1 2.9/3, mb1mx2.5/37, mbtmp3.6/3, Error ellipse: s-maj=112.8km s-min=44.9km az=8.0*
*WEL **28** 15:35:19.8±1.0, 32°.S±7°×18°.0E±1°.9, h402km±15km, M4.3/11, mB4.7/7, MLv4.7/11, Mw(mB)3.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=108.4*
ISC 28 15:35:15.4±1.1, 31°.88S±0°.09×179°.7E±0°.2, h439km, n22, σ2°14/36, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.32**	**39**	P	**P**	**15 36 24.3**	**+0.2**
GLKZ				S	**S**	**15 37 20.9**	**+1.0**
MXZ	**Matakaoa Point**	**5.79**	**191**	P	**P**	**15 36 49.6**	**+2.7**
MXZ				S	**S**	**15 38 00.7**	**-1.1**
KUZ	**Kuaotunu**	**5.86**	**213**	P	**P**	**15 36 52.1**	**+4.4**
WCZ	**Waipu Caves**	**6.01**	**226**	P	**P**	**15 36 52.7**	**+3.5**
WMGZ	**Waiomatatini S**	**6.02**	**190**	P	**P**	**15 36 51.2**	**+1.9**
WMGZ				S	**S**	**15 38 07.6**	**+1.4**
HAZ	**Te Kaha**	**6.07**	**194**	P	**P**	**15 36 52.2**	**+2.4**
HAZ				S	**S**	**15 38 07.7**	**+0.5**
PKGZ	**Pakihiroa**	**6.14**	**192**	P	**P**	**15 36 53.4**	**+2.8**
PKGZ				S	**S**	**15 38 10.2**	**+1.6**
PUZ	**Puketiti**	**6.29**	**190**	P	**P**	**15 36 53.8**	**+1.6**
PUZ				S	**S**	**15 38 09.7**	**-1.7**
RUGZ	**Raukumara Rang**	**6.30**	**195**	P	**P**	**15 36 54.3**	**+2.0**
RUGZ				S	**S**	**15 38 08.5**	**-3.2**
TWGZ	**Tauwhareparae**	**6.44**	**192**	P	**P**	**15 36 55.9**	**+2.2**
TWGZ				S	**S**	**15 38 14.1**	**-0.3**
RVAZ	**Riverhead Bore**	**6.46**	**220**	P	**P**	**15 36 57.2**	**+3.3**
URZ	**Urewera**	**6.71**	**198**	P	**P**	**15 36 56.6**	**-0.1**
	6.6nm,0.3s,baz=34,slow=3.6,SNR=54						
URZ				S	**S**	**15 38 17.0**	**-2.5**
	1.7nm,0.3s,baz=65,slow=21,SNR=8.3						
URZ	**Urewera**	**6.71**	**198**	P	**P**	**15 36 57.1**	**+0.4**
URZ				S	**S**	**15 38 16.6**	**-2.9**
TKGZ	**Te Karaka**	**6.72**	**192**	P	**P**	**15 36 59.3**	**+2.5**
TKGZ				S	**S**	**15 38 18.7**	**-0.9**
RAGZ	**Rawiri**	**6.86**	**195**	P	**P**	**15 37 00.8**	**+2.4**
RAGZ				S	**S**	**15 38 22.9**	**+0.3**
RIGZ	**Rimuhau**	**7.00**	**192**	P	**P**	**15 37 00.5**	**+0.7**
RIGZ				S	**S**	**15 38 23.0**	**-2.1**
MUGZ	**Murupara**	**7.01**	**199**	P	**P**	**15 37 00.4**	**+0.5**
SNGZ	**Shannon Statio**	**7.15**	**195**	P	**P**	**15 37 04.1**	**+2.6**
SNGZ				S	**S**	**15 38 28.0**	**-0.3**
MRHZ	**Matea Rd**	**7.44**	**200**	P	**P**	**15 37 06.1**	**+1.6**
ASAR	**Alice Springs**	**41.09**	**270**	P	**P**	**15 42 17.4**	**-2.0**
	0.4nm,0.9s,baz=108,slow=7.7,SNR=1.9						
WRA	**Warramunga Arr**	**42.21**	**275**	P	**P**	**15 42 26.1**	**-2.3**
	0.2nm,0.3s,baz=111,slow=8.1,SNR=8.3						
FINES	**FINESS Array B**	**145.80**	**338**	PKPbc	**PKPdf**	**15 54 01.7**	**-0.5**
	1.9nm,0.8s,baz=46,slow=4.0,SNR=5.3						

*NEIC **28** 15:56:38.2±1.3, 18°.6S±0°.1×177°.21W±0°.09, h391km±8km, mb4.4/35, Error ellipse: s-maj=16.6km s-min=13.0km az=177.0*
*IDC **28** 15:56:40.9±1.9, 18°.79S×177°.52W, h398km±18km, mb3.2/8, mb1 3.5/11, mb1mx3.3/26, mbtmp4.0/11, Error ellipse: s-maj=25.1km s-min=18.8km az=134.0*
ISC 28 15:56:37.4±0.6, 18°.50S±0°.08×177°.12W±0°.07, h400km, n54, σ1°32/52, mb4.3/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.65**	**279**	P	**Pn**	**15 57 55.5**	**-0.5**
	1.5nm,0.3s,baz=62,slow=15,SNR=13						
MSVF				S	**S**	**15 58 57.9**	**-1.9**
	0.3nm,0.3s,baz=263,slow=23,SNR=1.6						
NIUE	**Niue**	**6.84**	**96**	Pn	**P**	**15 58 20.6**	**+0.7**
AFI	**Afiamalu**	**6.87**	**49**	P	**P**	**15 58 20.7**	**+0.3**
	11nm,0.3s,baz=140,slow=1.9,SNR=17						
AFI				S	**S**	**15 59 40.1**	**-3.2**
	0.1nm,0.3s,baz=233,slow=19,SNR=1.9						
AFI	**Afiamalu**	**6.87**	**49**		**Pn**	**15 58 19.5**	**-0.2**
MARNC	**Mare, Loyalty**	**14.27**	**256**	P	**P**	**15 59 41.9**	**-0.1**
LIFNC	**LIFOU**	**14.90**	**259**	P	**P**	**15 59 48.2**	**-0.7**
PINNC	**Pines Island,**	**15.02**	**252**		**P**	**15 59 50.2**	**+0.1**
OUENC	**Ouen Island, N**	**15.52**	**253**	P	**P**	**15 59 54.3**	**-1.2**
OUENC				IAmb	IAmb	16 00 14.8	
	comp=Z,16nm,1.4s						
DZM	**Mont Dzumac**	**15.82**	**254**	P	**P**	**15 59 59.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=77,slow=17,SNR=12						
DZM	**Mont Dzumac**	**15.82**	**254**	P	**P**	**15 59 57.8**	**-1.1**
DZM				IAmb	IAmb	16 00 01.2	
	comp=Z,9.6nm,0.9s						
OUZ	**Omahuta**	**18.58**	**204**	P	**P**	**16 00 27.6**	**-0.4**
OUZ				IAmb	IAmb	16 00 30.6	
	comp=Z,12nm,1.1s						
URZ	**Urewera**	**20.32**	**193**	P	**P**	**16 00 44.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=192,slow=14,SNR=1.9						
URZ				S	**S**	**16 04 00.8**	**-5.7**
	comp=Z,0.3nm,0.3s,baz=7.6,slow=23,SNR=2.0						
URZ	**Urewera**	**20.32**	**193**	IAmb	IAmb	16 00 45.6	
	comp=Z,77nm,1.7s						
BKZ	**Black Stump Fm**	**21.33**	**194**	P	**P**	**16 00 51.9**	**-1.9**
BKZ				IAmb	IAmb	16 00 59.1	
	comp=Z,16nm,1.3s						
TARA	**Tarawa**	**22.02**	**333**	P	**P**	**16 01 01.5**	**+1.1**
QRZ	**Quartz Range**	**23.96**	**200**	P	**P**	**16 01 17.3**	**-0.3**
THZ	**Tophouse**	**24.70**	**198**	P	**P**	**16 01 23.7**	**-0.7**
LTZ	**Lake Taylor**	**25.82**	**198**	P	**P**	**16 01 32.0**	**-2.3**
LTZ				IAmb	IAmb	16 01 41.1	
	comp=Z,15nm,1.1s						
WHZ	**Wether Hill Ro**	**29.99**	**201**	P	**P**	**16 02 11.4**	**+0.5**
WHZ				IAmb	IAmb	16 02 28.6	
	comp=Z,48nm,1.5s						
ARMA	**Armidale**	**30.72**	**241**	P	**P**	**16 02 17.4**	**-0.2**
ARMA				IAmb	IAmb	16 02 36.3	
	comp=Z,29nm,1.6s						
CAN	**Canberra**	**34.33**	**234**	P	**P**	**16 02 49.1**	**+0.6**
CAN				IAmb	IAmb	16 02 54.5	
	comp=Z,61nm,1.6s						
CTAO	**Charters Tower**	**34.56**	**261**	P	**P**	**16 02 50.6**	**0.0**
CTAO				IAmb	IAmb	16 02 51.6	
	comp=Z,8.1nm,0.7s						
TOO	**Toolangi**	**37.76**	**232**	P	**P**	**16 03 18.0**	**+0.9**
TOO				IAmb	IAmb	16 03 40.1	
	comp=Z,35nm,1.6s						
COEN	**Coen**	**38.33**	**271**	P	**P**	**16 03 22.4**	**+0.3**
STKA	**Stephens Creek**	**39.43**	**242**	P	**P**	**16 03 31.6**	**+0.8**
	comp=Z,2.5nm,0.4s,baz=90,slow=8.7,SNR=10						
BBOO	**Buckleboo**	**44.20**	**242**	P	**P**	**16 04 09.8**	**+0.9**
BBOO				IAmb	IAmb	16 04 35.9	
	comp=Z,32nm,1.4s						
WR0	**Warramunga Arr**	**45.54**	**260**	P	**P**	**16 04 19.0**	**-0.5**
WB0	**Warramunga Arr**	**45.70**	**260**	P	**P**	**16 04 20.3**	**-0.5**
WB2	**Warramunga Arr**	**45.72**	**260**	P	**P**	**16 04 20.2**	**-0.7**
WB2				IAmb	IAmb	16 04 42.8	
	comp=Z,18nm,1.6s						
WRAB	**Tennant Creek**	**45.72**	**260**	P	**P**	**16 04 20.4**	**-0.5**
WRA	**Warramunga Arr**	**45.73**	**260**	P	**P**	**16 04 20.3**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=98,slow=6.0,SNR=24						
WRA	**Warramunga Arr**	**45.73**	**260**	P	**P**	**16 04 20.0**	**-1.0**
AS31	**Alice Springs**	**45.81**	**255**	P	**P**	**16 04 21.9**	**+0.3**
ASAR	**Alice Springs**	**45.81**	**255**	P	**P**	**16 04 21.9**	**+0.3**
	comp=Z,12nm,0.5s,baz=91,slow=8.5,SNR=457						
ASAR	**Alice Springs**	**45.81**	**255**	P	**P**	**16 04 21.5**	**-0.2**
MTN	**Manton Dam**	**50.01**	**269**	P	**P**	**16 04 53.1**	**-0.3**
MTN				IAmb	IAmb	16 04 55.3	
	comp=Z,16nm,1.2s						
FORT	**Forrest**	**50.86**	**245**	P	**P**	**16 04 59.6**	**+0.1**
FORT				IAmb	IAmb	16 05 08.7	
	comp=Z,26nm,1.1s						
KNRA	**Kununurra**	**51.65**	**264**	P	**P**	**16 05 05.1**	**-0.4**
KNRA				IAmb	IAmb	16 05 18.4	
	comp=Z,44nm,1.4s						
SOEI	**Soe**	**57.29**	**270**	P	**P**	**16 05 45.9**	**+0.1**
SOEI				IAmb	IAmb	16 06 03.2	
	comp=Z,23nm,1.0s						
PSA00	**Pilbara Seismi**	**58.95**	**256**	P	**P**	**16 05 55.8**	**-1.0**
PSA00	**Pilbara Seismi**	**58.95**	**256**	P	**P**	**16 05 56.6**	**-0.2**
PSA00				IAmb	IAmb	16 06 10.5	
	comp=Z,70nm,1.6s						
MBWA	**Marble Bar**	**59.12**	**256**	P	**P**	**16 05 58.2**	**+0.2**
VNDA	**Vanda**	**59.97**	**185**	P	**P**	**16 06 02.8**	**0.0**
	comp=Z,2.6nm,0.9s,baz=30,slow=10,SNR=1.4						
VNDA	**Vanda**	**59.97**	**185**	P	**P**	**16 06 02.7**	**0.0**
VNDA				IAmb	IAmb	16 06 32.6	
	comp=Z,45nm,1.6s						
MORW	**Morawa**	**61.37**	**246**	P	**P**	**16 06 13.6**	**+0.7**
MORW				IAmb	IAmb	16 06 36.5	
	comp=Z,29nm,1.4s						
GIRL	**Giralia**	**63.90**	**253**	P	**P**	**16 06 31.6**	**+2.1**
JMM	**Marumori**	**68.61**	**325**	P	**P**	**16 06 59.7**	**+1.0**
QSPA	**South Pole Qui**	**71.56**	**180**	P	**P**	**16 07 19.3**	**+3.1**
	comp=Z,1.3nm,0.8s,baz=38,slow=21,SNR=2.2						
QSPA	**South Pole Qui**	**71.56**	**180**	P	**P**	**16 07 17.4**	**+1.2**
QSPA				IAmb	IAmb	16 07 25.0	
	comp=Z,11nm,1.6s						
NVAR	**Mina Array Bea**	**79.01**	**43**	P	P	16 08 05.5

NDS				*e*S		**Sn**	16 10 19.8	+0.7
	baz=339							
EYUL	**Yuli**	**0.86 235**	*e*P			**Pb**	16 10 07.5	-0.6
EYUL			*e*S			**Sn**	16 10 19.7	+0.5
	baz=232							
LATG	**Datong**	**0.86 323**	P			**Pb**	16 10 07.3	-0.9
LATG			S			**Sb**	16 10 19.2	-0.3
	baz=325							
CHGB	**Renai**	**0.87 285**	P			**Pn**	16 10 08.3	+0.5
CHGB			S			**Sn**	16 10 19.6	0.0
	baz=284							
NNSB	**Datong**	**0.87 312**	P			**Pb**	16 10 08.0	-0.4
NNSB			S			**Sb**	16 10 19.3	-0.5
	baz=313							
FUSS	**Fushou**	**0.88 298**	*i* P			**Pb**	16 10 08.3	-0.2
FUSS			*i* S			**Sn**	16 10 19.7	-0.1
	baz=298							
VWDT	**VWDT**	**0.88 264**	P			**Pb**	16 10 08.1	-0.2
VWDT			S			**Sn**	16 10 19.9	+0.5
	baz=263							
NNS	**Nan Shan**	**0.89 312**	*i* P			**Pb**	16 10 08.0	-0.6
NNS			*i* S			**Sb**	16 10 19.8	-0.5
	baz=313							
WUSB	**Renai**	**0.91 280**	P			**Pn**	16 10 09.2	+0.9
WUSB			S			**Sb**	16 10 20.0	-0.7
	baz=279							
NDT	**Datong Townshi**	**0.93 325**	*e*P			**Pn**	16 10 08.8	+0.3
NDT			S			**Sn**	16 10 20.8	+0.1
	baz=327							
ENTT	**Nioudou**	**0.93 329**	P			**Pn**	16 10 08.8	+0.2
ENTT			S			**Sb**	16 10 20.7	-0.6
	baz=331							
TWT	**Tachien**	**0.93 296**	P			**Pb**	16 10 08.8	-0.7
TWT			S			**Sn**	16 10 21.6	+0.4
	baz=296							
TDCB	**Techi**	**0.95 296**	*e*S			**Sn**	16 10 21.4	0.0
	baz=296							
TWE	**Neicheng**	**0.96 336**	*i* P			**Pb**	16 10 09.8	0.0
TWE			S			**Sn**	16 10 22.4	+1.0
	baz=339							
FULB	**Fuli**	**0.97 229**	*e*P			**Pn**	16 10 09.2	+0.1
FULB			S			**Sb**	16 10 21.2	-1.3
	baz=226							
JYNG	**Yonagunijimaku**	**0.99 52**	P			**Pn**	16 10 09.7	+0.4
JYNG			S			**Sb**	16 10 22.1	-0.8
CHKT	**Chengkung**	**1.00 222**	P			**Pn**	16 10 10.2	+0.8
CHKT			*i* S			**Sn**	16 10 23.3	+1.0
	baz=219							
FUSB	**Fushanzhiwuyua**	**1.02 333**	P			**Pn**	16 10 10.0	+0.1
FUSB			S			**Sb**	16 10 23.4	-0.6
	baz=335							
NTC	**Toucheng**	**1.04 347**	*e*P			**Pn**	16 10 10.4	+0.5
NTC			*e*S			**Sn**	16 10 24.4	+1.0
	baz=349							
YOJ	**Yonaguni jima**	**1.04 53**	P			**Pn**	16 10 10.5	+0.5
YOJ			*e*S			**Sn**	16 10 23.6	+0.1
YOJ	**Yonaguni jima**	**1.04 53**	P			**Pn**	16 10 10.9	+0.9
YOJ			S			**Sn**	16 10 23.9	+0.4
	baz=55							
SSLB	**Suanglung**	**1.04 267**	P			**Pb**	16 10 11.0	-0.2
SSLB			S			**Sb**	16 10 23.7	-0.9
	baz=266							
YHNB	**Yeheng**	**1.05 322**	P			**Pn**	16 10 10.8	+0.5
YHNB			S			**Sb**	16 10 23.8	-1.1
	baz=323							
NSK	**Sanguang**	**1.07 321**	*i* P			**Pn**	16 10 11.0	+0.5
NSK			*i* S			**Sn**	16 10 24.1	-0.2
	baz=322							
NWLT	**Wulai**	**1.08 330**	*e*P			**Pb**	16 10 11.7	-0.1
NWLT			*e*S			**Sn**	16 10 24.6	+0.1
	baz=331							
SMLT	**Sun Moon Lake**	**1.09 272**	*i* P			**Pb**	16 10 11.9	-0.2
SMLT			S			**Sn**	16 10 24.9	-0.1
	baz=271							
WCS	**Beigang Elemen**	**1.10 281**	*e*P			**Pn**	16 10 11.4	+0.6
WCS			*e*S			**Sb**	16 10 25.3	-0.8
	baz=280							
YUS	**Yu-Shan**	**1.10 252**	*e*P			**Pn**	16 10 11.8	+0.4
YUS			S			**Sn**	16 10 26.0	+0.3
	baz=249							
EDH	**Donghe**	**1.13 220**	P			**Pn**	16 10 10.1	-1.1
EDH			*i* S			**Sn**	16 10 24.8	-0.9
	baz=217							
TYC	**Yuchr**	**1.13 273**	*i* P			**Pn**	16 10 11.1	-0.2
TYC			S			**Sb**	16 10 26.3	-0.7
	baz=272							
WHP	**Taichung City**	**1.14 293**	*e*P			**Pn**	16 10 11.8	+0.4
WHP			*e*S			**Sn**	16 10 25.8	-0.2
	baz=292							
TIPB	**Shuangxi**	**1.15 348**	*e*P			**Pn**	16 10 12.7	+1.1
TIPB			*e*S			**Sb**	16 10 27.2	-0.4
	baz=349							
TWB1	**Santiao Chiao**	**1.17 355**	*e*P			**Pn**	16 10 12.7	+0.9
ELDTW	**Lidau**	**1.18 237**	*i* P			**Pn**	16 10 12.2	+0.1
ELDTW			*i* S			**Sn**	16 10 27.0	-0.2
	baz=234							
NFF	**Wufeng Townshi**	**1.19 312**	*e*P			**Pb**	16 10 13.7	0.0
NFF			*e*S			**Sb**	16 10 27.8	-1.0
	baz=312							
TWA	**Mucha**	**1.23 338**	*e*P			**Pn**	16 10 13.2	+0.6
TWA			S			**Sb**	16 10 29.2	-0.5
	baz=339							
ALS	**Alishan**	**1.23 255**	P			**Pn**	16 10 13.9	+1.0
ALS			S			**Sb**	16 10 29.8	-0.2
	baz=252							
NHDH	**Xindian Distri**	**1.23 335**	*e*S			**Sb**	16 10 29.6	-0.3
WJS	**Zhushan**	**1.25 269**	*e*P			**Pb**	16 10 14.2	-0.4
WJS			*e*S			**Sn**	16 10 29.0	+0.3
	baz=268							
NWF	**Wu-fen Shan**	**1.26 347**	P			**Pn**	16 10 13.7	+0.6
NWF			S			**Sn**	16 10 29.2	+0.3
	baz=348							
SXI1	**Grass Mountain**	**1.26 351**	P			**Pn**	16 10 13.8	+0.6
SXI1			S			**Sn**	16 10 30.1	+1.0
	baz=353							
LIOB	**Emei**	**1.27 309**	P			**Pb**	16 10 14.8	-0.2
LIOB			S			**Sb**	16 10 30.7	-0.3
	baz=310							
NSTT	**Nanjuang**	**1.27 308**	P			**Pb**	16 10 14.3	-0.6
NSTT			S			**Sn**	16 10 29.8	+0.6
	baz=309							
LONT	**Longtian**	**1.28 224**	*e*P			**Pn**	16 10 13.9	+0.5
LONT			S			**Sn**	16 10 30.2	+0.7
	baz=221							
WNT	**Mingjian**	**1.29 272**	*e*P			**Pn**	16 10 13.9	+0.4
LDUT	**Ludao**	**1.30 206**	*e*P			**Pn**	16 10 14.8	+1.2
	baz=204							
TAP	**Taipei**	**1.31 336**	*e*S			**Sn**	16 10 30.6	+0.5
	baz=337							
TWQ1	**Liyutan**	**1.31 293**	*e*P			**Pb**	16 10 15.2	-0.4
	baz=292							
CHN5	**Tsauling**	**1.32 260**	*e*P			**Pb**	16 10 15.3	-0.5
	baz=258							
TCU	**Taichung**	**1.33 284**	*e*P			**Pb**	16 10 15.9	-0.1
	baz=283							
TWGBT	**Beinan**	**1.38 223**	*e*P			**Pn**	16 10 15.7	+1.0
	baz=220							
STYH	**Taoyuan**	**1.38 241**	*e*P			**Pb**	16 10 16.3	-0.5
	baz=239							
STYH			*e*S			**Sn**	16 10 32.9	+1.0
	baz=239							
TWG	**Pinlang**	**1.38 223**	*e*P			**Pn**	16 10 15.6	+0.8
	baz=220							
TTN	**Taitung**	**1.39 219**	*e*P			**Pb**	16 10 16.6	-0.4
	baz=216							
TTN			*e*S			**Sn**	16 10 33.3	+1.3
	baz=216							
WDLH	**Douliu**	**1.43 264**	*e*P			**Pb**	16 10 17.1	-0.6
	baz=263							
TPUB	**Ta-pu**	**1.45 248**	*e*P			**Pb**	16 10 18.0	0.0
	baz=246							
CHN4	**Tsaushan**	**1.46 251**	*e*P			**Pb**	16 10 18.4	+0.3
	baz=249							
WTP	**Ta-pu**	**1.48 247**	*e*P			**Pb**	16 10 18.2	-0.3
	baz=244							
WTK	**Tuku**	**1.57 265**	*e*P			**Pb**	16 10 19.0	-1.0
	baz=263							
WRL	**Guolierlin Hig**	**1.57 273**	*e*P			**Pb**	16 10 19.1	-1.0
	baz=271							
IRIF	**Iriomote-Funau**	**1.57 71**	P			**Pn**	16 10 17.9	+0.5
IRIF			*e*S			**Sn**	16 10 37.5	+0.8
CHN1	**Nanshi**	**1.58 246**	*e*P			**Pb**	16 10 19.8	-0.4
	baz=244							
SGST	**Jiashian**	**1.58 242**	*e*P			**Pb**	16 10 19.3	-0.9
	baz=239							
TWK	**Hsinying**	**1.58 249**	*e*P			**Pb**	16 10 19.6	-0.7
	baz=247							
SSD	**Sandimen**	**1.73 231**	*e*P			**Pn**	16 10 21.6	+2.0
	baz=229							
WSL	**Shuilin Townsh**	**1.74 260**	*e*P			**Pb**	16 10 21.8	-1.1
	baz=258							
TSMG	**Majia**	**1.75 230**	*e*P			**Pb**	16 10 22.2	-0.8
	baz=228							
JKRS	**Kuro-shima**	**1.80 77**	*e*S			**Sn**	16 10 42.8	+0.7
MASBT	**Mashibuluo**	**1.82 228**	*e*P			**Pn**	16 10 22.0	+1.3
	baz=226							
EAST	**Anshuo**	**1.85 219**	*e*P			**Pb**	16 10 23.9	-0.9
	baz=216							
JIJ	**Ishigaki jima**	**1.94 74**	P			**Pn**	16 10 22.7	+0.2
JIJ			S			**Sn**	16 10 45.0	-0.8
JISG	**Ishigakijimahi**	**2.16 69**	P			**Pn**	16 10 25.7	+0.3
JISG			*e*S			**Sn**	16 10 50.2	-0.8

*TAP **28** 16:27:17.6, 24°.44N×122°.86E, h91km, ML2.6, C*
*JMA **28** 16:27:17.1±0.1, 24°.51N×122°.92E, h95km, M1.6*
ISC 28 16:27:17.6±1.4, **24°.44N**±0°.04×**122°.91E**±0°.03, **h91**km±9km, **n82**, σ0°55/142, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.03**	**76**	P	**Pn**	**16 27 30.5**	**+0.1**
JYNG				*e*S	**Sn**	**16 27 40.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.09**	**79**	P	**Pn**	**16 27 30.5**	**+0.1**
YOJ				*e*S	**Sn**	**16 27 40.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.09**	**79**	P	**Pn**	**16 27 30.8**	**+0.4**
	baz=78						
YOJ				S	**Sn**	**16 27 40.5**	**+0.4**
	baz=78						
IRIF	**Iriomote-Funau**	**0.75**	**98**	P	**Pn**	**16 27 34.7**	**0.0**
IRIF				*e*S	**Sn**	**16 27 47.5**	**0.0**
EGS		**0.98**	**294**	S	**Sn**	**16 27 51.6**	**-0.1**
	baz=295						
TWC	**Suao**	**0.98**	**280**	P	**Pn**	**16 27 36.8**	**-0.3**
	baz=280						
TWC				*i* S	**Sn**	**16 27 50.8**	**-1.0**
	baz=280						
TWB1	**Santiao Chiao**	**1.01**	**304**	*e*P	**Pn**	**16 27 37.5**	**0.0**
	baz=305						
JKRS	**Kuro-shima**	**1.02**	**101**	P	**Pn**	**16 27 38.2**	**+0.6**
JKRS				S	**Sn**	**16 27 53.4**	**+0.8**
EWUT	**Wuta**	**1.03**	**270**	*e*P	**Pn**	**16 27 37.9**	**+0.2**
	baz=270						
EWUT				*e*S	**Sn**	**16 27 52.8**	**0.0**
	baz=270						
ENA	**Nanau**	**1.07**	**269**	*i* P	**Pn**	**16 27 38.5**	**+0.4**
	baz=269						
ENA				S	**Sn**	**16 27 53.3**	**-0.3**
	baz=269						
NDS	**Dongshan**	**1.10**	**280**	*e*P	**Pn**	**16 27 38.5**	**0.0**
	baz=280						
NDS				*e*S	**Sn**	**16 27 53.4**	**-1.0**
	baz=280						
ILA	**Ilan**	**1.11**	**287**	*e*P	**Pn**	**16 27 38.2**	**-0.3**
	baz=287						
ILA				*e*S	**Sn**	**16 27 54.2**	**-0.1**
	baz=287						
TIPB	**Shuangxi**	**1.12**	**298**	*e*P	**Pn**	**16 27 38.6**	**-0.2**
	baz=299						
TIPB				*e*S	**Sn**	**16 27 53.6**	**-1.1**
	baz=299						
JIJ	**Ishigaki jima**	**1.13**	**94**	P	**Pn**	**16 27 38.6**	**-0.2**
JIJ				S	**Sn**	**16 27 54.1**	**-0.7**
SXI1	**Grass Mountain**	**1.14**	**305**	P	**Pn**	**16 27 39.7**	**+0.6**
	baz=305						
SXI1				S	**Sn**	**16 27 55.3**	**0.0**
	baz=305						
TWE	**Neicheng**	**1.17**	**284**	*i* P	**Pn**	**16 27 39.4**	**+0.1**
	baz=284						
TWE				S	**Sn**	**16 27 55.0**	**-0.6**
	baz=284						
NWF	**Wu-fen Shan**	**1.20**	**302**	P	**Pn**	**16 27 39.9**	**+0.1**
	baz=302						
NWF				*e*S	**Sn**	**16 27 56.2**	**-0.3**
	baz=302						
ETL	**Fush Village**	**1.21**	**257**	P	**Pn**	**16 27 39.5**	**-0.3**
	baz=255						
ETL				*e*S	**Sn**	**16 27 56.7**	**+0.1**
	baz=255						
NACB	**Ninganchiao**	**1.23**	**258**	P	**Pn**	**16 27 39.8**	**-0.2**
	baz=256						
NACB				S	**Sn**	**16 27 56.5**	**-0.5**
	baz=256						
ENTT	**Nioudou**	**1.24**	**279**	*i* P	**Pn**	**16 27 40.6**	**+0.4**
	baz=279						
ENTT				S	**Sn**	**16 27 56.7**	**-0.6**
	baz=279						
FUSB	**Fushanzhiwuyua**	**1.25**	**285**	P	**Pn**	**16 27 40.4**	**+0.1**
	baz=285						
FUSB				S	**Sn**	**16 27 56.9**	**-0.5**
	baz=285						
TWD	**Chiawan**	**1.25**	**254**	P	**Pn**	**16 27 40.4**	**+0.1**
	baz=252						
LATG	**Datong**	**1.27**	**274**	P	**Pn**	**16 27 40.8**	**+0.2**
	baz=274						
LATG				S	**Sn**	**16 27 57.4**	**-0.6**
	baz=274						
HWA	**Hwalien**	**1.28**	**249**	*e*P	**Pn**	**16 27 40.8**	**+0.1**
	baz=247						
HWA				*e*S	**Sn**	**16 27 57.8**	**-0.3**
	baz=247						
JISG	**Ishigakijimahi**	**1.28**	**83**	P	**Pn**	**16 27 40.3**	**-0.4**
JISG				*e*S	**Sn**	**16 27 57.0**	**-1.1**
NDT	**Datong Townshi**	**1.28**	**277**	P	**Pn**	**16 27 40.7**	**0.0**
	baz=277						
NDT				S	**Sn**	**16 27 57.8**	**-0.4**
	baz=277						
TWA	**Mucha**	**1.32**	**294**	*e*S	**Sn**	**16 27 58.3**	**-0.7**
	baz=294						
NWLT	**Wulai**	**1.32**	**285**	*e*P	**Pn**	**16 27 41.3**	**+0.1**
	baz=285						
NWLT				*e*S	**Sn**	**16 27 58.7**	**-0.4**
	baz=285						
NNSB	**Datong**	**1.39**	**270**	P	**Pn**	**16 27 42.1**	**0.0**
	baz=269						
NNSB				*e*S	**Sn**	**16 28 00.7**	**-0.1**
	baz=269						
NNS	**Nan Shan**	**1.40**	**270**	*i* P	**Pn**	**16 27 42.5**	**+0.2**
	baz=269						
NNS				S	**Sn**	**16 28 00.6**	**-0.3**
	baz=269						
PCYT	**Pengchaiyu**	**1.41**	**327**	*e*P	**Pn**	**16 27 42.8**	**+0.6**
	baz=328						
PCYT				*e*S	**Sn**	**16 28 00.8**	**0.0**
	baz=328						
YM01	**YM01**	**1.41**	**300**	*e*P	**Pn**	**16 27 42.8**	**+0.6**
	baz=300						
YM01				*e*S	**Sn**	**16 28 01.0**	**+0.1**
	baz=300						
TAP	**Taipei**	**1.41**	**295**	*e*P	**Pn**	**16 27 42.2**	**0.0**
	baz=295						
TAP				*e*S	**Sn**	**16 28 00.6**	**-0.3**
	baz=295						
YHNB	**Yeheng**	**1.42**	**279**	P	**Pn**	**16 27 42.8**	**+0.3**
	baz=279						
YHNB				S	**Sn**	**16 28 00.8**	**-0.4**
	baz=279						
NSK	**Sanguang**	**1.43**	**280**	P	**Pn**	**16 27 43.0**	**+0.4**
	baz=279						
NSK				S	**Sn**	**16 28 01.2**	**-0.3**
	baz=279						
TWY	**Chenhua**	**1.45**	**305**	*e*P	**Pn**	**16 27 42.8**	**0.0**
	baz=305						
TWY				*e*S	**Sn**	**16 28 00.9**	**-0.9**
	baz=305						
ANP	**Anpu**	**1.47**	**301**	*e*P	**Pn**	**16 27 43.5**	**+0.4**
	baz=301						
ANP				*e*S	**Sn**	**16 28 01.9**	**-0.4**
	baz=301						
ESL	**Shilin**	**1.49**	**245**	*i* P	**Pn**	**16 27 42.9**	**-0.3**
	baz=244						
NTST	**Danshui**	**1.51**	**299**	*e*S	**Sn**	**16 28 02.5**	**-0.6**
	baz=299						
WHF	**Hehuan Shan**	**1.53**	**259**	*i* P	**Pn**	**16 27 44.0**	**-0.2**
	baz=258						
WHF				*i* S	**Sn**	**16 28 03.6**	**-0.7**
	baz=258						
FUSS	**Fushou**	**1.53**	**263**	*e*P	**Pn**	**16 27 44.1**	**+0.1**
	baz=262						
FUSS				*e*S	**Sn**	**16 28 03.6**	**-0.5**
	baz=262						
EGFH	**Guangfu**	**1.56**	**241**	P	**Pn**	**16 27 43.8**	**-0.3**
	baz=239						
TWT	**Tachien**	**1.59**	**264**	*e*S	**Sn**	**16 28 05.5**	**+0.1**
	baz=262						
TDCB	**Techi**	**1.61**	**264**	*e*P	**Pn**	**16 27 45.8**	**+0.9**
	baz=262						
TDCB				*e*S	**Sn**	**16 28 05.7**	**0.0**
	baz=262						
CHGB	**Renai**	**1.63**	**257**	P	**Pn**	**16 27 45.5**	**+0.2**
	baz=256						
CHGB				S	**Sn**	**16 28 05.8**	**-0.4**
	baz=256						
JTJ	**Tarama**	**1.64**	**83**	S	**Sn**	**16 28 05.9**	**-0.2**
NFF	**Wufeng Townshi**	**1.64**	**277**	*e*P	**Pn**	**16 27 45.6**	**+0.3**
	baz=276						
NFF				*e*S	**Sn**	**16 28 05.8**	**-0.5**
	baz=276						
NCU	**National Centr**	**1.65**	**289**	*e*P	**Pn**	**16 27 45.4**	**0.0**
	baz=288						
NCUH	**Zhongli**	**1.66**	**289**	*e*P	**Pn**	**16 27 45.5**	**+0.1**
	baz=288						
NCUH				*e*S	**Sn**	**16 28 05.8**	**-0.6**
	baz=288						
HGSD	**Ruisui**	**1.66**	**235**	P	**Pn**	**16 27 45.1**	**-0.2**
	baz=234						
HGSD				*e*S	**Sn**	**16 28 06.2**	**-0.3**
	baz=234						
WUSB	**Renai**	**1.70**	**255**	P	**Pn**	**16 27 46.2**	**+0.2**
	baz=254						
WUSB				S	**Sn**	**16 28 07.4**	**-0.3**
	baz=254						
EHY	**Hungye**	**1.73**	**238**	P	**Pn**	**16 27 46.0**	**-0.3**
	baz=236						
EHY				*e*S	**Sn**	**16 28 07.8**	**-0.4**
	baz=236						
LIOB	**Emei**	**1.74**	**277**	*e*P	**Pn**	**16 27 46.8**	**+0.4**
	baz=276						
LIOB				*e*S	**Sn**	**16 28 08.0**	**-0.4**
	baz=276						
NSTT	**Nanjuang**	**1.75**	**277**	*e*P	**Pn**	**16 27 47.1**	**+0.5**
	baz=276						
NSTT				*e*S	**Sn**	**16 28 08.6**	**0.0**
	baz=276						
VWDT	**VWDT**	**1.76**	**247**	P	**Pn**	**16 27 46.8**	**+0.2**
	baz=246						
VWDT				*e*S	**Sn**	**16 28 08.6**	**-0.2**
	baz=246						
WHP	**Taichung City**	**1.80**	**265**	*e*P	**Pn**	**16 27 48.7**	**+1.4**
	baz=264						
WHP				*e*S	**Sn**	**16 28 10.4**	**+0.5**
	baz=264						
YULB	**Yu-li**	**1.81**	**235**	P	**Pn**	**16 27 47.0**	**-0.4**
	baz=233						
YULB				S	**Sn**	**16 28 10.1**	**0.0**
	baz=233						
EYUL	**Yuli**	**1.82**	**233**	*e*P	**Pn**	**16 27 47.5**	**0.0**
	baz=232						
EYUL				*e*S	**Sn**	**16 28 10.5**	**+0.3**
	baz=232						
WCS	**Beigang Elemen**	**1.86**	**259**	*e*P	**Pn**	**16 27 49.0**	**+0.9**
	baz=257						
WCS				*e*S	**Sn**	**16 28 10.7**	**-0.6**
	baz=257						
SSLB	**Suanglung**	**1.90**	**250**	P	**Pn**	**16 27 48.9**	**+0.3**
	baz=249						
SSLB				*e*S	**Sn**	**16 28 12.8**	**+0.5**
	baz=249						
SMLT	**Sun Moon Lake**	**1.92**	**254**	P	**Pn**	**16 27 49.5**	**+0.6**
	baz=252						
SMLT				*e*S	**Sn**	**16 28 12.2**	**-0.6**
	baz=252						
FULB	**Fuli**	**1.93**	**230**	P	**Pn**	**16 27 48.5**	**-0.4**
	baz=229						
FULB				*e*S	**Sn**	**16 28 13.3**	**+0.4**
	baz=229						
TYC	**Yuchr**	**1.95**	**254**	*e*P	**Pn**	**16 27 49.6**	**+0.4**
	baz=253						
TYC				*e*S	**Sn**	**16 28 12.5**	**-0.8**
	baz=253						
TWQ1	**Liyutan**	**1.95**	**268**	*e*P	**Pn**	**16 27 49.5**	**+0.3**
	baz=267						
TWQ1				*e*S	**Sn**	**16 28 12.6**	**-0.7**
	baz=267						
YUS	**Yu-Shan**	**2.03**	**242**	*e*P	**Pn**	**16 27 51.1**	**+0.4**
	baz=241						
YUS				*e*S	**Sn**	**16 28 14.7**	**-1.1**
	baz=241						
EDH	**Donghe**	**2.08**	**226**	*e*P	**Pn**	**16 27 50.1**	**-0.8**
	baz=224						
EDH				*e*S	**Sn**	**16 28 14.6**	**-1.6**
	baz=224						
WJS	**Zhushan**	**2.09**	**253**	*e*P	**Pn**	**16 27 51.7**	**+0.7**
	baz=252						
WJS				*e*S	**Sn**	**16 28 16.3**	**-0.2**
	baz=252						
ELDTW	**Lidau**	**2.14**	**235**	P	**Pn**	**16 27 51.5**	**-0.2**
	baz=233						
ELDTW				*e*S	**Sn**	**16 28 17.7**	**-0.2**
	baz=233						
ALS	**Alishan**	**2.14**	**245**	P	**Pn**	**16 27 52.6**	**+0.7**
	baz=243						
LDUT	**Ludao**	**2.20**	**217**	*e*S	**Sn**	**16 28 18.6**	**-0.6**
	baz=215						
CHN5	**Tsauling**	**2.21**	**248**	P	**Pn**	**16 27 54.3**	**+1.6**
	baz=247						
LONT	**Longtian**	**2.24**	**227**	*e*P	**Pn**	**16 27 53.1**	**+0.2**
	baz=226						
STYH	**Taoyuan**	**2.33**	**237**	*e*P	**Pn**	**16 27 54.9**	**+0.7**
	baz=236						
TPUB	**Ta-pu**	**2.38**	**242**	*e*P	**Pn**	**16 27 55.3**	**+0.4**
	baz=240						
CHN4	**Tsaushan**	**2.38**	**243**	*e*P	**Pn**	**16 27 55.6**	**+0.7**
	baz=242						
CHN4				*e*S	**Sn**	**16 28 25.0**	**+1.5**
	baz=242						
WTP	**Ta-pu**	**2.42**	**241**	*e*P	**Pn**	**16 27 55.8**	**+0.4**
	baz=239						
WTP				*e*S	**Sn**	**16 28 23.4**	**-1.0**
	baz=239						
WTK	**Tuku**	**2.42**	**252**	*e*P	**Pn**	**16 27 56.1**	**+0.6**
	baz=251						
TWK	**Hsinying**	**2.51**	**243**	*e*P	**Pn**	**16 27 56.5**	**-0.2**
	baz=241						
SLGT	**Liugui**	**2.53**	**236**	*e*P	**Pn**	**16 27 58.0**	**+1.2**
	baz=234						
WSL	**Shuilin Townsh**	**2.62**	**250**	*e*P	**Pn**	**16 27 58.9**	**+0.9**
	baz=249						
SSD	**Sandimen**	**2.69**	**232**	*e*P	**Pn**	**16 28 00.4**	**+1.4**
	baz=230						
MASBT	**Mashibuluo**	**2.77**	**229**	*e*P	**Pn**	**16 28 00.8**	**+0.6**
	baz=228						

*JSN **28** 16:31:54.9±1.3, 18°.20N×76°.87W, h1km±9km, MD2.3*
*SSNC **28** 16:31:56.3±0.5, 18°.28N×76°.94W, h22km±36km, MD2.9, ML1.7*

ISC 28 16:31:53.6±0.9,**18°.24N**±0°.05×**76°.86W**±0°.04,**h18km**,**n10**, σ1§**24**/13,**5C**,**Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.17**	**164**	⇑*i*P	**Pb**	**16 31 57.9**	**+0.1**
GWJ	**Greenwich**	**0.21**	**143**	⇑*i*P	**Pg**	**16 31 58.9**	**+0.1**
HOJ	**Hope**	**0.26**	**156**	⇑*i*P	**Pg**	**16 31 58.9**	**-0.5**
BBJ	**Bamboo Saint A**	**0.41**	**290**	⇑*i*P	**Pg**	**16 32 03.5**	**+1.5**
CMJ	**Castle Mountai**	**0.48**	**103**	⇑*i*P	**Pg**	**16 32 04.4**	**+1.2**
MTDJ	**Mount Denham**	**0.64**	**269**	*e*P	**Pg**	**16 32 06.3**	**0.0**
MTDJ				*e*S	**Sg**	**16 32 14.2**	**-0.7**
CVJ	**Coleyville**	**0.64**	**269**	*i* P	**Pg**	**16 32 06.2**	**-0.1**
MCJ	**Malvern**	**0.85**	**248**	*i* S	**Sb**	**16 32 22.4**	**+1.5**
LMGC	**Las Mercedes**	**1.82**	**356**	*e*P	**Pn**	**16 32 23.7**	**-0.2**
LMGC				*e*S	**Sn**	**16 32 44.0**	**-2.5**
LMGC				IAML		16 32 45.1	
	comp=N,12nm,0.1s						
LMGC				IAML		16 32 45.2	
	comp=E,9.2nm,0.1s						
RCC	**Rio Carpintero**	**2.06**	**32**	*e*P	**Pn**	**16 32 28.1**	**+0.8**
RCC				*e*S	**Sn**	**16 32 51.2**	**-1.3**
RCC				IAML		16 32 54.5	
	comp=N,3.9nm,0.1s						
RCC				IAML		16 32 55.8	
	comp=E,3.3nm,0.1s						

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*NEIC **28** 16:33:06.7±2.0, 36°.50N±0°.01×97°.08W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.5km az=74.0*
*TUL **28** 16:33:07.4±1.6, 36°.500N±0°.009×97°.07W±0°.02, h7km±5km, ML4.3, mb_Lg3.9/107(NEIC), Mwr3.5/35(NEIC), Error ellipse: s-maj=2.1km s-min=1.2km az=68.0*
*NEIC **28** 16:33:07.3, 36°.50N×97°.07W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.83; $M_{\theta\theta}$1.98; $M_{\phi\phi}$-1.14; $M_{r\theta}$-0.95; $M_{\theta\phi}$1.73; $M_{\phi r}$-0.16; Fault plane solution: $M_0$2.62000×10^{14} NP1:ϕ_s109.91000°, δ89.75000°, λ-20.05000°. NP2:ϕ_s200.00000°, δ69.95000°, λ-179.73000°. Principal axes: T 2.9784, Plg14.0000°, Azm157.0000°; N -1.0039, Plg70.0000°, Azm289.0000°; P -1.9745, Plg14.0000°, Azm63.0000°;*
*IDC **28** 16:33:08.1±1.2, 36°.68N×97°.29W, h0km, mb3.9/3, mb1 4.0/9, mb1mx3.5/61, mbtmp3.7/9, ML3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/88 Error ellipse: s-maj=18.5km s-min=10.6km az=106.0*
*ANF **28** 16:33:08.5±0.2, 36°.55N×97°.04W, h15km, ML4.9/16, Error ellipse: s-maj=3.3km s-min=2.3km az=46.0*

ISC 28 16:33:07.1±0.9,**36°.50N**±0°.02×**97°.09W**±0°.02,**h14**km±7km, **n228**,σ1§**27**/270,**mb3.8**/3,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.28**	**340**	Pg	**Pb**	**16 33 13.4**	**-0.5**
BLOK				Sg	**Sg**	**16 33 17.4**	**+0.4**
QUOK	**Quay**	**0.45**	**136**	Pg	**Pg**	**16 33 16.2**	**+0.1**
QUOK				Sg	**Sg**	**16 33 22.2**	**0.0**
OK033	**Mehan**	**0.47**	**164**	Pg	**Pb**	**16 33 16.7**	**-0.5**
OK033				Sg	**Sg**	**16 33 22.8**	**0.0**
OK034	**N. Norfolk Rd.**	**0.58**	**148**	Pg	**Pg**	**16 33 18.6**	**+0.1**
OK034				Sg	**Sg**	**16 33 25.7**	**-0.4**
OK031	**S. Brethren Rd**	**0.58**	**159**	Pg	**Pb**	**16 33 18.7**	**-0.4**
KAN13	**South Haven SW**	**0.60**	**329**		**Pb**	**16 33 19.3**	**-0.1**
KAN13				Sg	**Sb**	**16 33 27.5**	**-0.2**
OK030	**Cody Creek RV**	**0.62**	**156**	Pg	**Pb**	**16 33 19.4**	**-0.3**
OK030				Sg	**Sg**	**16 33 27.7**	**+0.2**
T35A	**Sooner Cattle**	**0.63**	**48**		**Pg**	**16 33 19.4**	**0.0**
T35A				Sg	**Sg**	**16 33 27.6**	**-0.1**
GC02	**Grant County #**	**0.71**	**300**		**Pb**	**16 33 21.3**	**+0.1**
GC02				Sg	**Sb**	**16 33 30.9**	**+0.1**
CROK	**Carrier**	**0.72**	**271**		**Pb**	**16 33 21.5**	**+0.1**
CROK				Sg	**Sb**	**16 33 31.6**	**+0.6**
OK029	**Liberty Lake**	**0.76**	**203**		**Pb**	**16 33 22.1**	**0.0**
OK029				Sg	**Sb**	**16 33 32.5**	**+0.2**
KAN17	**Caldwell West**	**0.77**	**315**	Pg	**Pb**	**16 33 22.3**	**+0.1**
KAN17				Sg	**Sb**	**16 33 32.9**	**+0.4**
KAN14	**Manchester OK**	**0.83**	**303**		**Pb**	**16 33 23.6**	**+0.2**
KAN14				Sg	**Sb**	**16 33 34.9**	**+0.5**
KAN01	**Argonia South**	**0.84**	**321**		**Pb**	**16 33 23.7**	**+0.2**
KAN01				Sg	**Sb**	**16 33 35.3**	**+0.6**
OK005	**Luther M Schoo**	**0.85**	**185**		**Pb**	**16 33 23.5**	**0.0**
OK005				Sg	**Sb**	**16 33 35.2**	**+0.4**
KAN05	**Bluff City Nor**	**0.87**	**314**		**Pb**	**16 33 24.2**	**+0.2**
KAN05				Sg	**Sb**	**16 33 35.6**	**+0.1**
OK025	**Westminster Rd**	**0.94**	**192**		**Pb**	**16 33 25.3**	**+0.2**
OK025				Sg	**Sb**	**16 33 38.3**	**+0.9**
BCOK	**Bluff Creek, N**	**0.94**	**207**	Pg	**Pb**	**16 33 25.4**	**+0.2**
BCOK				Sg	**Sb**	**16 33 38.0**	**+0.6**
OK001	**Jones High Sch**	**0.95**	**190**	Pg	**Pb**	**16 33 25.5**	**+0.2**
OK001				Sg	**Sb**	**16 33 38.5**	**+0.7**
OK009	**Oakdale Elemen**	**0.95**	**196**		**Pb**	**16 33 25.6**	**+0.2**
OK009				Sg	**Sb**	**16 33 38.6**	**+0.7**
KAN06	**Argonia West S**	**0.97**	**321**		**Pb**	**16 33 26.0**	**+0.3**
KAN06				Sg	**Sb**	**16 33 38.8**	**+0.6**
KAN08	**Anthony NE Sta**	**1.01**	**316**		**Pn**	**16 33 26.8**	**0.0**
KAN08				Sg	**Sb**	**16 33 40.4**	**+0.9**
KAN10	**Anthony SW Sta**	**1.02**	**308**		**Pn**	**16 33 26.9**	**0.0**
KAN10				Sg	**Sb**	**16 33 39.6**	**-0.1**
KAN16	**Harper SW Stat**	**1.06**	**313**		**Pn**	**16 33 27.7**	**+0.1**
KAN16				Sg	**Sb**	**16 33 42.0**	**+0.9**
OK011	**Prague**	**1.06**	**162**	Pg	**Pg**	**16 33 27.1**	**-0.6**
KAN12	**Harper NE Stat**	**1.08**	**318**		**Pn**	**16 33 28.0**	**+0.2**
KAN12				Sg	**Sb**	**16 33 42.1**	**+0.6**
OKCFA	**Oklahoma City**	**1.12**	**195**		**Pn**	**16 33 28.5**	**+0.2**
OKCFA				Sg	**Sn**	**16 33 43.7**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**1.13**	**194**	Pg	**Pn**	**16 33 28.6**	**+0.2**
OKCSW				Sg	**Sn**	**16 33 43.9**	**+0.2**
TUL1	**Leonard**	**1.21**	**119**	Pg	**Pg**	**16 33 29.6**	**-0.7**
TUL1				Sg	**Sg**	**16 33 45.4**	**-0.6**
TUL1	**Leonard**	**1.21**	**119**	P	**Pg**	**16 33 29.7**	**-0.6**
	baz=300,SNR=134						
TUL1				S	**Sg**	**16 33 45.4**	**-0.6**
	baz=300						
FNO	**Franklin**	**1.27**	**191**		**Pn**	**16 33 30.8**	**+0.4**
FNO				Sn	**Sn**	**16 33 48.3**	**+1.2**
OK035	**E0210 Rd and N**	**1.32**	**280**		**Pg**	**16 33 32.1**	**-0.3**
W35A	**Tecumseh**	**1.36**	**172**	Pn	**Pn**	**16 33 31.8**	**+0.2**
W35A				Sn	**Sn**	**16 33 51.0**	**+1.7**
U32A	**Winter Ranch,**	**1.54**	**266**	Pn	**Pg**	**16 33 35.9**	**-0.8**
U32A				Sn	**Sg**	**16 33 57.0**	**+0.2**
X34A	**Smith Ranch, M**	**1.99**	**198**		**Pb**	**16 33 42.6**	**-0.4**
U38A	**Gravette**	**2.18**	**91**	Pn	**Pn**	**16 33 44.9**	**+1.9**
U38A				IAmb_Lg		16 34 17.8	
	comp=Z,745nm,0.8s						
WMOK	**Wichita Mounta**	**2.23**	**219**		**Pn**	**16 33 45.2**	**+1.6**
WMOK	**Wichita Mounta**	**2.23**	**219**	P	**Pb**	**16 33 45.8**	**-1.4**
	baz=38,SNR=115						
WMOK				S	**Sb**	**16 34 14.4**	**-0.2**
	baz=38						
R32A	**Long Quarter,**	**2.31**	**327**		**Pn**	**16 33 45.3**	**+0.6**
X37A	**Clayton**	**2.37**	**143**		**Pn**	**16 33 47.3**	**+1.8**
LOOK	**Love County**	**2.50**	**182**		**Pn**	**16 33 47.7**	**+0.3**
HHAR	**Hobbs**	**2.55**	**94**	Pn	**Pn**	**16 33 49.3**	**+1.3**
KSU1	**Kansas State U**	**2.62**	**8**		**Pn**	**16 33 50.0**	**+1.0**
KSU1				IAmb_Lg		16 34 33.9	
	comp=Z,364nm,0.8s						
KSU1	**Kansas State U**	**2.62**	**8**	P	**Pn**	**16 33 50.8**	**+1.8**
	baz=188						
KSU1				Sb	**Sb**	**16 34 28.6**	**+2.6**
	baz=188						
W39A	**Magazine**	**2.99**	**115**		**Pn**	**16 33 55.6**	**+1.6**
W39A	**Magazine**	**2.99**	**115**	P	**Pn**	**16 33 55.7**	**+1.7**
	baz=297						
W39A				Sb	**Sb**	**16 34 38.6**	**+2.2**
	baz=297						
CBKS	**Cedar Bluff**	**3.12**	**319**	Pn	**Pn**	**16 33 57.4**	**+1.5**
CBKS	**Cedar Bluff**	**3.12**	**319**	P	**Pn**	**16 33 57.6**	**+1.7**
	baz=137,SNR=46						
Z35A	**Perchaven, San**	**3.16**	**182**		**Pn**	**16 33 58.3**	**+1.9**
S39A	**Bolivar**	**3.24**	**67**		**Pn**	**16 33 58.9**	**+1.3**
S39A				IAmb_Lg		16 34 55.6	
	comp=Z,282nm,0.8s						
U40A	**Yellville**	**3.42**	**91**		**Pn**	**16 34 00.2**	**+0.2**
U40A				IAmb_Lg		16 34 55.5	
	comp=Z,540nm,0.8s						
U40A	**Yellville**	**3.42**	**91**	P	**Pn**	**16 34 01.5**	**+1.5**
	baz=274						
MIAR	**Mount Ida**	**3.47**	**123**		**Pn**	**16 34 00.9**	**+0.3**
MIAR				IAmb_Lg		16 35 01.9	
	comp=Z,400nm,0.8s						
MIAR	**Mount Ida**	**3.47**	**123**	P	**Pn**	**16 34 02.4**	**+1.8**
	baz=306,SNR=10						
MIAR				S	**Sn**	**16 34 43.4**	**+1.9**
	baz=306						
Z38A	**Mt. Pleasant**	**3.67**	**151**		**Pn**	**16 34 03.9**	**+0.5**
Z38A				IAmb_Lg		16 35 10.3	
	comp=Z,230nm,0.7s						
MGMO	**Mountain Grove**	**3.93**	**79**		**Pn**	**16 34 07.1**	**+0.1**
X40A	**Basin Creek Fa**	**4.01**	**119**		**Pn**	**16 34 08.7**	**+0.5**
X40A				IAmb_Lg		16 35 22.7	
	comp=Z,412nm,1.1s						
X40A	**Basin Creek Fa**	**4.01**	**119**	P	**Pn**	**16 34 10.1**	**+2.0**
	baz=302,SNR=5.7						
AMTX	**Amarillo**	**4.07**	**248**	Pn	**Pn**	**16 34 09.6**	**+0.6**
AMTX				IAmb_Lg		16 35 20.1	
	comp=Z,208nm,0.7s						
AMTX	**Amarillo**	**4.07**	**248**	P	**Pn**	**16 34 11.2**	**+2.3**
	baz=65						
AMTX				S	**Sn**	**16 34 58.6**	**+2.3**
	baz=65						
FCAR	**Ozark Folk Cen**	**4.07**	**97**		**Pn**	**16 34 09.1**	**+0.3**
FCAR				IAmb_Lg		16 35 23.2	
	comp=Z,181nm,0.7s						
WHAR	**Wooly Hollow**	**4.08**	**106**		**Pn**	**16 34 09.9**	**+0.8**
WHAR				IAmb_Lg		16 35 22.1	
	comp=Z,229nm,0.8s						
W41B	**Gary Mavity, V**	**4.15**	**107**		**Pn**	**16 34 11.5**	**+1.5**
W41B				IAmb_Lg		16 35 24.3	
	comp=Z,408nm,0.8s						
W41B	**Gary Mavity, V**	**4.15**	**107**	P	**Pn**	**16 34 11.5**	**+1.5**
	baz=290						
P38A	**Dawn**	**4.20**	**41**		**Pn**	**16 34 12.7**	**+2.1**
P38A				IAmb_Lg		16 35 23.1	
	comp=Z,461nm,0.8s						
R40A	**Maddies Statio**	**4.24**	**64**		**Pn**	**16 34 11.8**	**+0.6**
N33A	**J Bar K, Exete**	**4.24**	**356**		**Pn**	**16 34 10.5**	**-0.7**
WLAR	**White Oak Lake**	**4.30**	**130**		**Pn**	**16 34 10.7**	**-1.4**
ABTX	**Abilene, Hawle**	**4.40**	**209**	Pn	**Pn**	**16 34 14.2**	**+0.7**
ABTX				IAmb_Lg		16 35 29.1	
	comp=Z,170nm,0.8s						
N35A	**Tabor**	**4.50**	**14**		**Pn**	**16 34 14.4**	**-0.4**
WHTX	**Lake Whitney,**	**4.51**	**184**		**Pn**	**16 34 14.0**	**-0.9**
WHTX	**Lake Whitney,**	**4.51**	**184**	P	**Pn**	**16 34 16.8**	**+1.9**
	baz=3.9						
237A	**Washetta, Mont**	**4.61**	**166**		**Pn**	**16 34 15.3**	**-1.0**
Z41A	**Richland Creek**	**4.79**	**131**	Pn	**Pn**	**16 34 17.5**	**-1.2**
Z41A	**Richland Creek**	**4.79**	**131**	P	**Pn**	**16 34 19.6**	**+0.9**
	baz=314						
Z41A				S	**Sn**	**16 35 14.2**	**+0.3**
	baz=314						
LCAR	**Lake Charles**	**4.82**	**93**		**Pn**	**16 34 17.9**	**-1.3**
LCAR				IAmb_Lg		16 35 35.7	
	comp=Z,184nm,0.8s						
T42A	**Van Buren**	**4.85**	**82**		**Pn**	**16 34 19.1**	**-0.5**
CCM	**Cathedral Cave**	**4.92**	**70**		**Pn**	**16 34 19.6**	**-1.0**
CCM				IAmb_Lg		16 35 50.3	
	comp=Z,258nm,0.9s						
CCM	**Cathedral Cave**	**4.92**	**70**	P	**Pn**	**16 34 21.2**	**+0.7**
	baz=253						
BGNE	**Belgrade**	**4.97**	**351**	Pn	**Pn**	**16 34 20.5**	**-0.8**
BGNE				IAmb_Lg		16 35 58.9	
	comp=Z,326nm,0.8s						
BGNE	**Belgrade**	**4.97**	**351**	P	**Pn**	**16 34 22.4**	**+1.1**
	baz=170						
BGNE				S	**Sn**	**16 35 19.0**	**+0.5**
	baz=170						
P40A	**Paris**	**5.00**	**51**		**Pn**	**16 34 19.5**	**-2.2**
P40A				IAmb_Lg		16 35 52.4	
	comp=Z,251nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.05**	**301**	Pn	**Pn**	**16 34 21.6**	**-0.9**
KSCO				IAmb_Lg		16 35 56.3	
	comp=Z,256nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.05**	**301**	P	**Pn**	**16 34 24.2**	**+1.8**
	baz=118						
KSCO				S	**Sn**	**16 35 21.6**	**+0.9**
	baz=118						
CCAR	**Cane Creek**	**5.06**	**119**	Pn	**Pn**	**16 34 20.4**	**-2.1**
CCAR				IAmb_Lg		16 35 54.3	
	comp=Z,376nm,0.9s						
NATX	**Nacogdoches**	**5.14**	**156**		**Pn**	**16 34 21.4**	**-2.2**
N38A	**Joes South For**	**5.24**	**34**		**Pn**	**16 34 25.1**	**+0.1**
MSTX	**Muleshoe**	**5.29**	**243**		**Pn**	**16 34 24.0**	**-1.8**
MSTX	**Muleshoe**	**5.29**	**243**	P	**Pn**	**16 34 27.3**	**+1.5**
	baz=60						
HBAR	**Harrisburg**	**5.30**	**98**	Pn	**Pn**	**16 34 23.5**	**-2.3**
PBMO	**Poplar Bluff**	**5.37**	**85**	Pn	**Pn**	**16 34 26.6**	**-0.1**
PBMO				IAmb_Lg		16 36 01.4	
	comp=Z,215nm,0.8s						
L34A	**Svendsen Farm,**	**5.49**	**6**		**Pn**	**16 34 27.9**	**-0.4**
FVM	**French Village**	**5.52**	**72**		**Pn**	**16 34 27.6**	**-1.3**
435B	**Jarrell**	**5.72**	**184**		**Pn**	**16 34 32.2**	**+0.7**
435B				IAmb_Lg		16 36 16.9	
	comp=Z,135nm,0.8s						
435B	**Jarrell**	**5.72**	**184**	P	**Pn**	**16 34 33.4**	**+1.8**
	baz=4.1						
GNAR	**Gosnell**	**5.75**	**93**	Pn	**Pn**	**16 34 31.2**	**-0.7**
GNAR				IAmb_Lg		16 36 18.9	
	comp=Z,307nm,0.7s						
SLM	**Saint Louis**	**5.85**	**67**		**Pn**	**16 34 34.2**	**+0.8**
SLM				IAmb_Lg		16 36 15.4	
	comp=Z,154nm,0.8s						
OGNE	**Ogallala**	**5.88**	**320**	Pn	**Pn**	**16 34 34.5**	**+0.6**
OGNE				IAmb_Lg		16 36 19.7	
	comp=Z,205nm,0.8s						
OGNE	**Ogallala**	**5.88**	**320**	P	**Pn**	**16 34 35.7**	**+1.8**
	baz=137						
T25A	**Trinidad**	**5.90**	**278**	Pn	**Pn**	**16 34 35.1**	**+0.8**
T25A				IAmb_Lg		16 36 18.3	
	comp=Z,292nm,0.8s						
T25A	**Trinidad**	**5.90**	**278**	P	**Pn**	**16 34 35.7**	**+1.4**
	baz=94						
PVMO	**Portageville**	**5.96**	**89**	IAmb_Lg		16 36 24.5	
	comp=Z,295nm,0.8s						
MET	**Memphis--Engin**	**5.98**	**101**	IAmb_Lg		16 36 19.1	
	comp=Z,298nm,0.7s						
143A	**Socs Landing,**	**6.03**	**127**	Pn	**Pn**	**16 34 34.4**	**-1.4**
143A				IAmb_Lg		16 36 32.7	
	comp=Z,153nm,0.9s						
LNXT	**Lenox**	**6.15**	**91**	Pn	**Pn**	**16 34 35.7**	**-1.8**
SCIA	**State Center**	**6.18**	**28**	Pn	**Pn**	**16 34 36.0**	**-1.9**
SCIA	**State Center**	**6.18**	**28**	S	**Sn**	**16 35 47.0**	**-1.4**
	baz=210						
K31A	**O'Neill**	**6.25**	**349**	Pn	**Pn**	**16 34 37.6**	**-1.2**
HALT	**Halls**	**6.30**	**93**	Pn	**Pn**	**16 34 37.6**	**-1.9**
HALT				IAmb_Lg		16 36 44.0	
	comp=Z,287nm,0.8s						
HICK	**Hickman**	**6.33**	**87**	Pn	**Pn**	**16 34 38.9**	**-1.1**
S44A	**Carbondale**	**6.38**	**77**		**Pn**	**16 34 40.3**	**-0.3**
JCT	**Junction City**	**6.42**	**201**	Pn	**Pn**	**16 34 42.0**	**+0.8**
JCT				IAmb_Lg		16 36 46.4	
	comp=Z,212nm,0.8s						
JCT	**Junction City**	**6.42**	**201**	P	**Pn**	**16 34 42.5**	**+1.3**
	baz=20						
N41A	**Harden Midland**	**6.44**	**47**		**Pn**	**16 34 43.2**	**+1.7**
342A	**Flagon Creek P**	**6.47**	**141**	Pn	**Pn**	**16 34 41.4**	**-0.4**
OXF	**Oxford**	**6.57**	**105**		**Pn**	**16 34 42.9**	**-0.4**
OXF				IAmb_Lg		16 36 36.4	
	comp=Z,268nm,0.8s						
OXF	**Oxford**	**6.57**	**105**	P	**Pn**	**16 34 44.3**	**+1.0**
	baz=290						
Y45A	**Yeager Farm, C**	**6.72**	**111**		**Pn**	**16 34 42.7**	**-2.6**
SDCO	**Great Sand Dun**	**6.83**	**283**		**Pn**	**16 34 45.7**	**-1.4**
SDCO				IAmb_Lg		16 36 46.6	
	comp=Z,96nm,0.8s						
SDCO	**Great Sand Dun**	**6.83**	**283**	P	**Pn**	**16 34 49.5**	**+2.4**
	baz=98,SNR=11						
Q44A	**Meyer Farm, Va**	**6.84**	**67**		**Pn**	**16 34 45.2**	**-1.7**
Q24A	**Divide**	**6.84**	**293**		**Pn**	**16 34 48.2**	**+0.9**
Q24A				IAmb_Lg		16 36 50.2	
	comp=Z,124nm,0.8s						
Q24A	**Divide**	**6.84**	**293**	P	**Pn**	**16 34 49.0**	**+1.7**
	baz=109						
Q24A				S	**Sn**	**16 36 05.9**	**+0.8**
	baz=109						
K38A	**Parkersburg**	**6.99**	**27**		**Pn**	**16 34 48.0**	**-1.0**
L40A	**Anamosa**	**7.18**	**38**		**Pn**	**16 34 53.1**	**+1.5**
L40A				IAmb_Lg		16 36 59.1	
	comp=Z,158nm,0.8s						
ECSD	**EROS Data Cent**	**7.24**	**3**	Pn	**Pn**	**16 34 52.8**	**+0.5**
ECSD	**EROS Data Cent**	**7.24**	**3**	P	**Pn**	**16 34 52.7**	**+0.3**
	baz=183,SNR=9.8						
ECSD				S	**Sn**	**16 36 13.4**	**-0.9**
	baz=183						
344A	**Westbrook Farm**	**7.30**	**132**	Pn	**Pn**	**16 34 51.9**	**-1.3**
HDIL	**Hopedale**	**7.33**	**54**		**Pn**	**16 34 54.5**	**+0.8**
HDIL	**Hopedale**	**7.33**	**54**	P	**Pn**	**16 34 54.4**	**+0.7**
	baz=239						
HDIL				S	**Sn**	**16 36 14.3**	**-2.4**
	baz=239						
ISCO	**Idaho Springs**	**7.48**	**299**	Pn	**Pn**	**16 34 57.1**	**+1.2**
ISCO				IAmb_Lg		16 37 05.0	
	comp=Z,82nm,0.8s						
ISCO	**Idaho Springs**	**7.48**	**299**	P	**Pn**	**16 34 57.5**	**+1.5**
	baz=114						
OLIL	**Olney**	**7.48**	**70**		**Pn**	**16 34 56.2**	**+0.5**
PLAL	**Pickwick Lake**	**7.49**	**99**	Pn	**Pn**	**16 34 56.7**	**+0.8**
PLAL				IAmb_Lg		16 37 11.3	
	comp=Z,86nm,0.8s						
WVT	**Waverly**	**7.49**	**90**	Pn	**Pn**	**16 34 56.8**	**+0.9**
WVT	**Waverly**	**7.49**	**90**	P	**Pn**	**16 34 56.5**	**+0.6**
	baz=276						
WVT				S	**Sn**	**16 36 18.4**	**-2.2**
	baz=276						
735A	**Kenedy**	**7.65**	**185**	Pn	**Pn**	**16 34 58.6**	**+0.5**
735A				IAmb_Lg		16 37 29.5	
	comp=Z,140nm,0.9s						
146A	**Union**	**7.67**	**118**	Pn	**Pn**	**16 34 58.5**	**+0.2**
146A				IAmb_Lg		16 37 30.8	
	comp=Z,86nm,0.8s						
O44A	**Mansfield**	**7.70**	**59**		**Pn**	**16 34 59.7**	**+1.0**
O44A				IAmb_Lg		16 37 30.7	
	comp=Z,131nm,0.8s						
ANMO	**Albuquerque**	**7.77**	**261**	Pn	**Pn**	**16 35 01.1**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=101,slow=8.9,SNR=6.8						
ANMO				Pg	Pg	16 35 29.2	-6.7
	comp=Z,2.4nm,0.3s,baz=83,slow=18,SNR=9.9						
ANMO				Lg	Lg	16 37 10.4	
	comp=Z,2.0nm,0.3s,baz=61,slow=22,SNR=3.5						
ANMO	**Albuquerque**	**7.77**	**261**	Pn	**Pn**	**16 35 01.1**	**+1.2**
ANMO	**Albuquerque**	**7.77**	**261**	P	**Pn**	**16 35 02.1**	**+2.2**
	baz=76						
S22A	**4UR Ranch, Cre**	**7.88**	**282**	Pn	**Pn**	**16 35 02.8**	**+1.3**
L42A	**Oliver, Polo**	**7.96**	**44**	Pn	**Pn**	**16 35 03.0**	**+0.7**
L42A				IAmb_Lg		16 37 23.9	
	comp=Z,130nm,0.7s						
I37A	**Lemond, Waseca**	**8.02**	**19**	IAmb_Lg		16 37 31.2	
	comp=Z,129nm,0.8s						
T47A	**Sharon Grove**	**8.03**	**84**		**Pn**	**16 35 03.7**	**+0.4**
T47A				IAmb_Lg		16 37 29.7	
	comp=Z,137nm,1.0s						
SUSD	**Miller**	**8.06**	**350**	Pn	**Pn**	**16 35 04.2**	**+0.5**
SUSD				IAmb_Lg		16 37 29.2	
	comp=Z,122nm,1.1s						
SUSD	**Miller**	**8.06**	**350**	P	**Pn**	**16 35 04.7**	**+1.0**
	baz=169						
SUSD				S	**Sn**	**16 36 32.7**	**-1.9**
	baz=169						
PHWY	**Pilot Hill**	**8.09**	**309**	Pn	**Pn**	**16 35 05.0**	**+0.6**
PHWY				IAmb_Lg		16 37 31.6	
	comp=Z,94nm,0.8s						
Z47A	**Carrollton**	**8.12**	**111**	Pn	**Pn**	**16 35 04.9**	**+0.4**
Z47A				IAmb_Lg		16 37 35.3	
	comp=Z,90nm,0.9s						
BNM	**Barren Site**	**8.14**	**256**	Pn	**Pn**	**16 35 05.7**	**+0.7**
N23A	**Red Feather La**	**8.19**	**305**	Pn	**Pn**	**16 35 06.6**	**+0.8**
N23A				IAmb_Lg		16 37 36.5	
	comp=Z,143nm,0.8s						
N23A	**Red Feather La**	**8.19**	**305**	P	**Pn**	**16 35 08.7**	**+3.0**
	baz=120						
SMCO	**Snowmass**	**8.26**	**292**	Pn	**Pn**	**16 35 08.1**	**+1.3**
JFWS	**Jewell Farm**	**8.30**	**37**	Pn	**Pn**	**16 35 07.6**	**+0.7**
JFWS				IAmb_Lg		16 37 28.7	
	comp=Z,159nm,0.8s						
JFWS	**Jewell Farm**	**8.30**	**37**	P	**Pn**	**16 35 07.9**	**+1.0**
	baz=222						
V48A	**Smith Brothers**	**8.35**	**92**	Pn	**Pn**	**16 35 09.1**	**+1.5**
MNTX	**Cornudas Mount**	**8.38**	**238**	Pn	**Pn**	**16 35 08.8**	**+0.8**
MNTX	**Cornudas Mount**	**8.38**	**238**	P	**Pn**	**16 35 09.1**	**+1.1**
	baz=53						
833A	**Chaparral WMA,**	**8.38**	**194**	Pn	**Pn**	**16 35 08.5**	**+0.3**
P46A	**Rosedale**	**8.40**	**65**	Pn	**Pn**	**16 35 08.7**	**+0.4**
P46A				IAmb_Lg		16 37 34.3	
	comp=Z,145nm,0.8s						
X48A	**Hartselle**	**8.45**	**101**	Pn	**Pn**	**16 35 09.2**	**+0.2**
M44A	**Midewin, Midew**	**8.57**	**53**	Pn	**Pn**	**16 35 11.7**	**+1.0**
CLTN	**Cedars of Leba**	**8.70**	**89**	Pn	**Pn**	**16 35 13.6**	**+1.1**
SFIN	**Lafayette**	**8.75**	**61**	Pn	**Pn**	**16 35 14.1**	**+1.0**
SFIN				IAmb_Lg		16 37 47.0	
	comp=Z,100nm,0.7s						
SFIN	**Lafayette

TPAW	**Teton Pass**	**12.70**	**308**	Pn	**Pn**	**16 36 07.5**	**0.0**	
V55A	**Taylorsville**	**12.85**	**88**	Pn	**Pn**	**16 36 08.9**	**-0.3**	
YMP	**Mirror Lake Pl**	**12.88**	**314**	Pn	**Pn**	**16 36 08.6**	**-1.4**	
O53A	**New Philadelph**	**13.01**	**68**	Pn	**Pn**	**16 36 09.1**	**-2.3**	
DGMT	**Dagmar**	**13.05**	**339**	Pn	**Pn**	**16 36 09.5**	**-2.5**	
N53A	**Lisbon**	**13.41**	**66**	Pn	**Pn**	**16 36 15.3**	**-1.6**	
E46A	**Sault Ste Mari**	**13.74**	**40**	Pn	**Pn**	**16 36 17.8**	**-3.6**	
ULM	**Lac du Bonnet**	**13.77**	**3**	Pn	**Pn**	**16 36 18.0**	**-3.8**	
	comp=Z,0.8nm,0.3s,baz=171,slow=11,SNR=4.3							
ULM				Sn	Sn	16 38 42.5	-12	
	comp=Z,0.7nm,0.3s,baz=53,slow=21,SNR=1.9							
ULM				Lg	Lg	16 40 13.3		
	comp=Z,1.1nm,0.3s,baz=111,slow=20,SNR=3.3							
ULM	**Lac du Bonnet**	**13.77**	**3**	Pn	**Pn**	**16 36 18.1**	**-3.6**	
T57A	**Hurt**	**14.32**	**83**	Pn	**Pn**	**16 36 28.4**	**-0.9**	
SADO	**Sadowa**	**15.91**	**53**	Sn	Sn	16 39 33.3	-13	
	comp=Z,0.3nm,0.3s,baz=318,slow=2.1,SNR=0.8							
SADO				Lg	Lg	16 41 17.5		
	comp=Z,0.7nm,0.3s,baz=104,slow=7.4,SNR=3.3							
NVAR	**Mina Array Bea**	**16.95**	**283**	Pn	**Pn**	**16 37 05.0**	**+1.0**	
	comp=Z,0.1nm,0.3s,baz=88,slow=12,SNR=1.9							
CMIG	**Matias Romero**	**19.43**	**174**	P	**Pn**	**16 37 38.7**	**+4.4**	
	comp=Z,0.5nm,0.3s,baz=0.0,slow=11,SNR=2.2							
CMIG				LR	LR	16 46 46.1		
	comp=Z,40nm,18.0s,baz=178,slow=42							
YKA	**Yellowknife Ar**	**28.20**	**343**	P	**P**	**16 38 59.9**	**+1.0**	
	comp=Z,0.5nm,0.6s,baz=142,slow=8.1,SNR=7.9							
ILAR	**Eielson Array**	**40.71**	**330**	P	**P**	**16 40 48.9**	**+2.0**	
	comp=Z,1.5nm,0.7s,baz=108,slow=7.5,SNR=12							
ARCES	**ARCESS Array B**	**66.31**	**19**	P	**P**	**16 43 55.8**	**+1.2**	
	comp=Z,1.7nm,0.8s,baz=305,slow=6.4,SNR=1.4							

NIC ***28*** *16:35:48.8±0.0, 34°.50N×26°.73E, h6km±2km, Ml4.2/4*
THE ***28*** *16:35:50.5, 34°.54N×26°.58E, h0km±1km, ML3.3/6, Error ellipse: s-maj=4.4km s-min=1.1km az=176.0*
ISK ***28*** *16:35:51.1, 34°.70N×26°.71E, h5km, ML3.5/23*
NEIC ***28*** *16:35:51.4±2.4, 34°.60N±0°.08×26°.64E±0°.06, h29km±4km, mb4.0/18, ML3.3(THE), Error ellipse: s-maj=11.2km s-min=6.4km az=193.0*
IDC ***28*** *16:35:53.7±2.2, 34°.57N×26°.53E, h50km±19km, mb3.7/14, mb1 3.8/19, mb1mx3.6/51, mbtmp3.9/19, ML3.5/5, MS2.7/1, Ms1 2.7/1, ms1mx2.4/90, Error ellipse: s-maj=23.2km s-min=15.3km az=180.0*
ATH ***28*** *16:35:54.6, 34°.96N×26°.50E, h36km±2km, ML3.3/8, Error ellipse: s-maj=7.9km s-min=1.9km az=334.0*
GII ***28*** *16:35:56.4±0.0, 34°.11N×27°.13E, h8km*
ISC 28 16:35:48.7±1.4,**34°.50N**±0°.04×**26°.69E**±0°.03,**h13**km±9km,
n132,σ1§**71**/154,**mb4.0**/16,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.72**	**328**	P	**Pg**	**16 36 02.8**	**0.0**
ZKR				S	**Sb**	**16 36 13.8**	**+0.9**
	4μm,0.7s						
ZKR	**Zakros**	**0.72**	**328**	P	**Pg**	**16 36 02.6**	**-0.1**
ZKR				S	**Sg**	**16 36 07.8**	**-4.5**
ZKR				AML	AML	16 36 22.8	
	comp=E,12132μm,0.6s						
ZKR				AML	AML	16 36 25.7	
	comp=N,4157μm,0.8s						
ZKR	**Zakros**	**0.72**	**328**	PG	**Pg**	**16 36 02.7**	**0.0**
ZKR	**Zakros**	**0.72**	**328**	P	**Pg**	**16 36 02.7**	**-0.1**
ZKR				S	**Sb**	**16 36 14.6**	**+1.6**
FRMA	**Ierapetra Chan**	**0.94**	**303**	P	**Pb**	**16 36 05.5**	**-1.3**
FRMA				S	**Sb**	**16 36 18.4**	**-0.7**
	comp=N,945nm,0.7s						
NPS	**Neapolis**	**1.17**	**311**	P	**Pb**	**16 36 11.2**	**+0.5**
NPS				S	**Sg**	**16 36 27.2**	**+0.9**
	comp=N,1μm,0.9s						
NPS	**Neapolis**	**1.17**	**311**	P	**Pn**	**16 36 10.9**	**+0.3**
NPS				AML	AML	16 36 41.8	
	comp=N,2638μm,1.1s						
NPS				AML	AML	16 36 44.3	
	comp=E,2839μm,0.6s						
HRKL	**Herakleio**	**1.53**	**302**	PN	**Pg**	**16 36 18.8**	**+0.6**
SIVA	**Sivas**	**1.63**	**289**	P	**Pg**	**16 36 20.0**	**0.0**
SIVA				AML	AML	16 37 01.1	
	comp=N,2642μm,0.6s						
SIVA				AML	AML	16 37 03.9	
	comp=E,3320μm,0.8s						
IDI	**Anoyia**	**1.67**	**298**	P	**Pb**	**16 36 20.1**	**+0.7**
	comp=E,16nm,0.3s,baz=132,slow=10,SNR=116						
IDI				S	**Sg**	**16 36 44.6**	**+2.1**
	comp=E,27nm,0.3s,baz=207,slow=17,SNR=6.9						
IDI				LR	LR	16 36 48.6	
	comp=E,59nm,18.5s,baz=153,slow=36						
ARG	**Arkhangelos**	**2.07**	**34**	P	**Pb**	**16 36 26.6**	**+0.4**
ARG				S	**Sb**	**16 36 53.0**	**+1.2**
	comp=E,470nm,0.9s						
ARG	**Arkhangelos**	**2.07**	**34**	P	**Pb**	**16 36 26.6**	**+0.4**
ARG				AML	AML	16 37 08.5	
	comp=E,992μm,0.9s						
ARG				AML	AML	16 37 12.7	
	comp=N,874μm,0.8s						
ARG	**Arkhangelos**	**2.07**	**34**	PN	**Pb**	**16 36 25.2**	**-0.9**
NIS1	**Nisyros Isl.**	**2.13**	**11**	P	**Pn**	**16 36 25.8**	**+1.8**
NIS1				S	**Sb**	**16 36 53.8**	**+0.3**
	comp=N,635nm,0.5s						
NIS1	**Nisyros Isl.**	**2.13**	**11**	P	**Pn**	**16 36 25.7**	**+1.8**
NIS1	**Nisyros Isl.**	**2.13**	**11**	PN	**Pb**	**16 36 26.2**	**-0.9**
NISR	**Nisiros**	**2.13**	**10**	P	**Pn**	**16 36 25.7**	**+1.8**
NISR				S	**Sb**	**16 36 52.4**	**-1.1**
	comp=N,655nm,1.0s						
NISR	**Nisiros**	**2.13**	**10**	P	**Pn**	**16 36 25.0**	**+1.0**
NISR				AML	AML	16 37 12.1	
	comp=E,1457μm,1.0s						
NISR				AML	AML	16 37 17.7	
	comp=N,956μm,1.2s						
GVD	**Gavdhos**	**2.17**	**280**	P	**Pb**	**16 36 28.8**	**+1.0**
GVD				AML	AML	16 37 10.8	
	comp=E,1052μm,0.5s						
GVD				AML	AML	16 37 24.6	
	comp=N,764μm,0.7s						
GVD	**Gavdhos**	**2.17**	**280**	PN	**Pb**	**16 36 28.8**	**+1.0**
VAM	**Vamos**	**2.23**	**294**	P	**Pb**	**16 36 29.0**	**+0.1**
VAM				AML	AML	16 37 18.5	
	comp=E,850μm,0.9s						
VAM				AML	AML	16 37 31.0	
	comp=N,953μm,1.0s						
KOSK	**Kos Island**	**2.25**	**6**	P	**Pn**	**16 36 27.5**	**+1.9**
KOSK	**Kos Island**	**2.25**	**6**	PN	**Pn**	**16 36 26.8**	**+1.2**
DAT	**Datca**	**2.34**	**18**	P	**Pn**	**16 36 28.4**	**+1.6**
DAT	**Datca**	**2.34**	**18**	PN	**Pn**	**16 36 28.7**	**+1.9**
IMMV	**Iera Moni Meta**	**2.42**	**294**	P	**Pb**	**16 36 31.6**	**-0.4**
IMMV				AML	AML	16 37 30.2	
	comp=E,1167μm,1.2s						
IMMV				AML	AML	16 37 35.6	
	comp=N,1021μm,0.9s						
IMMV	**Iera Moni Meta**	**2.42**	**294**	PN	**Pb**	**16 36 31.8**	**-0.2**
KNDR	**Palaiochora Ch**	**2.58**	**287**	PN	**Pb**	**16 36 34.6**	**-0.1**
TURN	**Turunc**	**2.60**	**29**	PN	**Pn**	**16 36 32.1**	**+1.8**
BODT	**Bodrum**	**2.60**	**11**	P	**Pn**	**16 36 31.9**	**+1.5**
BODT	**Bodrum**	**2.60**	**11**	PN	**Pn**	**16 36 32.4**	**+2.0**
DALY	**Dalyan (Mula)**	**2.81**	**34**	PN	**Pn**	**16 36 35.4**	**+2.2**
MHLO	**Agia Marina, M**	**2.87**	**320**	P	**Pn**	**16 36 37.1**	**+3.0**
FETY	**Fethiye**	**2.89**	**42**	PN	**Pn**	**16 36 36.6**	**+2.3**
MLSB	**Milas**	**2.92**	**17**	PN	**Pn**	**16 36 36.7**	**+1.9**
YER	**Yerkesik**	**2.93**	**26**	PN	**Pn**	**16 36 37.3**	**+2.4**
AKAS	**Kas**	**2.94**	**53**	PN	**Pn**	**16 36 37.9**	**+2.7**
AKAS				SN	**Sn**	**16 37 11.8**	**+1.4**
AKAS	**Kas**	**2.94**	**53**	P	**Pn**	**16 36 37.2**	**+2.0**
ANKY	**Antikythira Is**	**3.09**	**297**	P	**Pb**	**16 36 41.9**	**-1.6**
CAME	**Cameli-Denizli**	**3.23**	**40**	PN	**Pn**	**16 36 41.7**	**+2.5**
ELL	**Elmali**	**3.45**	**49**	PN	**Pn**	**16 36 45.3**	**+3.1**
ELL	**Elmali**	**3.45**	**49**	P	**Pn**	**16 36 43.0**	**+0.8**
ELL	**Elmali**	**3.45**	**49**		**Pn**	**16 36 44.9**	**+2.7**
URLA	**Izmir**	**3.85**	**359**	PN	**Pn**	**16 36 49.5**	**+1.9**
KORT	**Korkueli**	**3.88**	**49**	PN	**Pn**	**16 36 50.9**	**+2.8**
CHOS	**Chios island**	**3.91**	**353**	PN	**Pn**	**16 36 51.0**	**+2.6**
OSC1	**CSNet OBS 1**	**3.94**	**103**	P	**Pn**	**16 36 49.8**	**+1.0**
OSC1				S	**Sn**	**16 37 37.2**	**+2.4**
KULA	**Kula-Manisa**	**4.31**	**21**	PN	**Pn**	**16 36 56.4**	**+2.5**
SUTC	**Sutluce-Ispart**	**4.58**	**48**	PN	**Pn**	**16 37 01.5**	**+3.7**
AKMS	**Akamas**	**4.68**	**82**	P	**Pn**	**16 36 60.0**	**+1.0**
AKMS				AML	AML	16 37 57.4	
	comp=N,0.5nm,0.8s						
AKMS				AML	AML	16 37 59.7	
	comp=N,0.6nm,0.5s						
ITM	**Ithomi**	**4.70**	**306**	Pn	**Pn**	**16 37 01.4**	**+2.2**
SIGR	**SIGRI**	**4.75**	**352**	PN	**Pn**	**16 37 02.8**	**+2.9**
NATA	**Nata**	**4.86**	**85**	P	**Pn**	**16 37 02.5**	**+1.1**
NATA				AML	AML	16 38 02.5	
	comp=N,0.7nm,0.4s						
NATA				AML	AML	16 38 03.0	
	comp=N,0.5nm,0.6s						
SEYD	**Seydisehir-KON**	**5.08**	**54**	PN	**Pn**	**16 37 08.3**	**+3.7**
SZAC	**Souni**	**5.11**	**85**	P	**Pn**	**16 37 06.0**	**+1.0**
SZAC				AML	AML	16 38 05.7	
	comp=N,0.5nm,0.7s						
SZAC				AML	AML	16 38 09.7	
	comp=N,0.5nm,0.6s						
TVSB	**Tavsanli**	**5.41**	**23**	PN	**Pn**	**16 37 12.6**	**+3.5**
ASGA	**Asgata**	**5.41**	**85**	P	**Pn**	**16 37 10.5**	**+1.5**
ASGA				AML	AML	16 38 14.3	
	comp=N,0.4nm,0.5s						
ASGA				AML	AML	16 38 14.8	
	comp=N,0.3nm,0.6s						
CSS	**Mathiatis**	**5.49**	**83**	P	**Pn**	**16 37 11.2**	**+1.1**
CSS	**Mathiatis**	**5.49**	**83**	Pn	**Pn**	**16 37 11.3**	**+1.2**
AGG	**Agios Georgios**	**5.71**	**323**		**Pn**	**16 37 15.1**	**+2.0**
BORA	**Eskisehir**	**6.15**	**28**	Pn	**Pn**	**16 37 20.2**	**+1.0**
ALN	**Alexandroupoli**	**6.40**	**356**	Pn	**Pn**	**16 37 24.1**	**+1.5**
LIT	**Litokhoron**	**6.51**	**330**		**Pn**	**16 37 25.3**	**+1.2**
MDUB	**Mudurnu**	**6.95**	**30**	Pn	**Pn**	**16 37 30.3**	**0.0**
MMAI	**Mount Meron Ar**	**7.41**	**99**	P	**Pn**	**16 37 39.7**	**+3.2**
	comp=N,0.7nm,0.3s,baz=288,slow=12,SNR=2.3						
MMAI				S	**Sn**	**16 38 58.5**	**-1.9**
	comp=N,0.8nm,0.3s,baz=250,slow=32,SNR=1.4						
KZIT	**Kziot**	**7.42**	**117**	Pn	**Pn**	**16 37 38.8**	**+2.2**
KZIT				Sn	**Sn**	**16 38 57.0**	**-3.6**
FNA	**Florina**	**7.55**	**328**		**Pn**	**16 37 38.3**	**-0.2**
GEM	**Giv'at Ha'Em**	**7.58**	**97**	Pn	**Pn**	**16 37 40.6**	**+1.8**
GEM				Sn	**Sn**	**16 39 03.6**	**-0.9**
BR131	**Keskin Array S**	**7.61**	**45**		**Pn**	**16 37 40.2**	**+0.8**
BRTR	**Keskin Array B**	**7.61**	**45**	P	**Pn**	**16 37 41.6**	**+2.2**
	comp=N,0.1nm,0.3s,baz=220,slow=11,SNR=12						
BRTR				S	**Sn**	**16 39 02.0**	**-3.6**
	comp=N,0.0nm,0.3s,baz=212,slow=24,SNR=1.1						
BRTR				LR	LR	16 40 41.0	
	comp=N,50nm,19.9s,baz=242,slow=38						
BRTR	**Keskin Array B**	**7.61**	**45**		**Pn**	**16 37 41.0**	**+1.7**
NATI	**Neve Ativ**	**7.62**	**97**	Pn	**Pn**	**16 37 41.9**	**+2.5**
HMDT	**Nahal Hemdat**	**7.72**	**104**	Pn	**Pn**	**16 37 41.6**	**+0.8**
HMDT				Sn	**Sn**	**16 39 06.9**	**-1.2**
YTIR	**Yattir**	**7.74**	**112**	Pn	**Pn**	**16 37 44.0**	**+2.8**
DSI	**Dead Sea**	**7.86**	**109**	Pn	**Pn**	**16 37 44.6**	**+1.9**
DSI				Sn	**Sn**	**16 39 09.9**	**-1.6**
KRMI	**Paran Flat**	**8.08**	**121**	Pn	**Pn**	**16 37 47.6**	**+1.8**
KRMI				Sn	**Sn**	**16 39 13.4**	**-3.6**
GHAJ	**Ghor Haditha**	**8.12**	**111**		**Pn**	**16 37 47.6**	**+1.5**
GHAJ					**Sn**	**16 39 18.2**	**+0.4**
GHAJ	**Ghor Haditha**	**8.12**	**111**	Pn	**Pn**	**16 37 48.7**	**+2.5**
PRNI	**Paran**	**8.16**	**118**	Pn	**Pn**	**16 37 48.2**	**+1.5**
PRNI				Sn	**Sn**	**16 39 15.1**	**-3.7**
HRFI	**Mount Harif**	**8.35**	**120**	Pn	**Pn**	**16 37 51.1**	**+1.6**
HRFI				Sn	**Sn**	**16 39 20.9**	**-2.7**
MBRI	**Mt Berech**	**8.40**	**122**	Pn	**Pn**	**16 37 52.4**	**+2.2**
EIL	**Elat**	**8.50**	**122**	P	**Pn**	**16 37 53.0**	**+1.5**
	comp=N,1.0nm,0.3s,baz=241,slow=2.9,SNR=14						
EIL				S	Sn	16 39 20.5	-6.8
	comp=N,0.3nm,0.3s,baz=85,slow=20,SNR=1.5						
EIL	**Elat**	**8.50**	**122**	Pn	**Pn**	**16 37 53.2**	**+1.7**
EIL				Sn	**Sn**	**16 39 23.2**	**-4.1**
VTS	**Vitosha**	**8.54**	**343**	Pn	**Pn**	**16 37 50.3**	**-1.8**
SCTE	**Santa Cesarea**	**8.59**	**313**	Pn	**Pn**	**16 37 53.0**	**+0.4**
ASF	**Jabal al Asfar**	**8.85**	**102**	S	**Sn**	**16 39 35.0**	**-1.0**
	comp=N,0.1nm,0.3s,baz=65,slow=17,SNR=1.4						
GAZ	**Gaziantep**	**8.95**	**70**	Pn	**Pn**	**16 37 57.0**	**-0.7**
TIP	**Timpagrande**	**9.22**	**303**		**Pn**	**16 38 00.4**	**-1.0**
SGRT	**San Giovanni R**	**11.25**	**313**	Pn	**Pn**	**16 38 26.7**	**-2.5**
KBZ	**Khabaz**	**15.57**	**49**	P	**P**	**16 39 31.6**	**-0.4**
	comp=N,0.1nm,0.3s,baz=220,slow=3.6,SNR=7.7						
CTI	**Castel Tesino**	**16.24**	**320**		**Pn**	**16 39 38.0**	**+1.6**
AKASG	**Malin Array Be**	**16.29**	**6**	P	**Pn**	**16 39 37.2**	**+0.2**
	comp=N,0.6nm,0.3s,baz=193,slow=11,SNR=2.6						
AKASG	**Malin Array Be**	**16.29**	**6**	P	**Pn**	**16 39 37.0**	**0.0**
AKBB	**Malin Array Si**	**16.29**	**6**	Pn	**Pn**	**16 39 37.5**	**+0.5**
AKBB				IAmb	IAmb	16 40 06.6	
	comp=Z,12nm,1.4s						
MSSA	**Maissana**	**16.47**	**312**	Pn	**Pn**	**16 39 39.6**	**+0.2**
WATA	**Walderalm**	**17.13**	**323**	*e*Pn	**P**	**16 39 50.7**	**+1.2**
	comp=Z,1.5nm,0.4s						
GEC2	**GERESS Array S**	**17.27**	**330**		**Pn**	**16 39 49.3**	**-0.2**
GERES	**GERESS Array B**	**17.27**	**330**	P	**Pn**	**16 39 49.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=146,slow=9.7,SNR=7.9						
GERES	**GERESS Array B**	**17.27**	**330**	P	**Pn**	**16 39 48.3**	**-1.1**
FETA	**Feichten**	**17.35**	**321**	*e*Pn	**P**	**16 39 53.3**	**+1.3**
	comp=Z,0.7nm,0.4s						
MOTA	**Moosalm**	**17.37**	**322**	*e*Pn	**P**	**16 39 53.0**	**+0.8**
	comp=Z,0.8nm,0.3s						
TUE	**Stuetta**	**17.76**	**318**	P	**Pn**	**16 39 54.5**	**-1.2**
TUE				IAmb	IAmb	16 40 14.5	
	comp=Z,9.3nm,1.1s						
SENIN	**Lac Senin/Sane**	**18.87**	**315**	P	**P**	**16 40 08.0**	**-0.7**
SENIN				IAmb	IAmb	16 40 19.7	
	comp=Z,11nm,1.1s						
GRA1	**Grafenberg Arr**	**18.97**	**328**	P	**P**	**16 40 08.7**	**-0.9**
GRA1				IAmb	IAmb	16 40 18.4	
	comp=Z,15nm,1.3s						
GRFO	**Grafenberg**	**18.97**	**328**	P	**P**	**16 40 09.2**	**-0.3**
GRFO				IAmb	IAmb	16 40 18.4	
	comp=Z,16nm,1.3s						
FINES	**FINESS Array B**	**26.96**	**359**	P	**P**	**16 41 28.5**	**-1.1**
	comp=Z,4.1nm,1.0s,baz=167,slow=11,SNR=4.6						
HFS	**Hagfors**	**27.01**	**346**	P	**P**	**16 41 29.0**	**-1.0**
	comp=Z,7.2nm,1.0s,baz=134,slow=10,SNR=4.0						
AKTO	**Aktyubinsk**	**27.79**	**45**	P	**P**	**16 41 38.4**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=251,slow=6.1,SNR=9.1						
ABKAR	**Akbulak array**	**28.54**	**49**	P	**P**	**16 41 44.2**	**+0.4**
ABKAR	**Akbulak array**	**28.54**	**49**	P	**P**	**16 41 44.3**	**+0.4**
ABKAR				IAmb	IAmb	16 42 16.9	
	comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**31.06**	**233**	P	**P**	**16 42 05.4**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=29,slow=8.2,SNR=5.7						
ARCES	**ARCESS Array B**	**35.09**	**359**	P	**P**	**16 42 39.9**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=178,slow=9.6,SNR=15						
MAKZ	**Makanchi**	**42.88**	**56**	P	**P**	**16 43 47.9**	**+1.3**
MAKZ				IAmb	IAmb	16 44 24.8	
	comp=Z,5.5nm,1.6s						
MK31	**Makanchi Array**	**43.09**	**56**	P	**P**	**16 43 49.7**	**+1.4**
MKAR	**Makanchi Array**	**43.09**	**56**	P	**P**	**16 43 49.4**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=268,slow=7.8,SNR=22						
MKAR				PcP	**PcP**	**16 45 38.3**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=279,slow=4.1,SNR=1.8						
ZAA0	**Zalesovo Array**	**44.55**	**46**	P	**P**	**16 44 00.1**	**+0.2**
ZAA0				IAmb	IAmb	16 44 01.2	
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**44.55**	**46**	P	**P**	**16 44 00.6**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=265,slow=9.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**44.55**	**46**	P	**P**	**16 44 00.1**	**+0.1**
SUMG	**Summit**	**50.04**	**339**	*i* P	**P**	**16 44 42.0**	**-0.9**
SUMG	**Summit**	**50.04**	**339**	P	**P**	**16 44 42.1**	**-0.8**
HMDM	**Hanimaadhoo**	**50.90**	**112**	P	**P**	**16 44 50.3**	**+0.7**
SONM	**Songino Array**	**58.93**	**51**	P	**P**	**16 45 48.3**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=284,slow=7.3,SNR=10.0						
SONM	**Songino Array**	**58.93**	**51**	IAmb	IAmb	16 46 30.3	
	comp=Z,2.7nm,1.5s						
VOI	**Vohitsoka**	**59.27**	**158**	P	**P**	**16 45 50.7**	**+0.7**
EUNU	**Eureka**	**60.07**	**349**	P	**P**	**16 45 54.3**	**-0.6**
SCHQ	**Schefferville**	**64.50**	**320**	P	**P**	**16 46 23.3**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=67,slow=14,SNR=2.0						
CMAR	**Chiang Mai Arr**	**65.39**	**84**	P	**P**	**16 46 31.8**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=284,slow=8.2,SNR=5.9						
CMAR	**Chiang Mai Arr**	**65.39**	**84**	P	**P**	**16 46 31.0**	**-0.2**
USRK	**Ussuriysk Ar.**	**76.41**	**46**	P	**P**	**16 47 38.6**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=330,slow=3.8,SNR=8.5						
KSRS	**Korea Array**	**77.68**	**53**	P	**P**	**16 47 46.1**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=284,slow=4.9,SNR=2.7						
YKA	**Yellowknife Ar**	**78.45**	**343**	P	**P**	**16 47 49.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=37,slow=5.4,SNR=6.3						
ILAR	**Eielson Array**	**80.92**	**357**	P	**P**	**16 48 02.1**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=356,slow=6.3,SNR=4.9						

SFS ***28*** *16:40:15.0, 35°.73N×3°.73W, ML2.8, ALBORAN SUR*
CNRM ***28*** *16:40:17.4, 35°.69N×3°.56W, h24km, ml2.5*
ISC 28 16:40:15.7±1.3,**35°.75N**±0°.05×**3°.59W**±0°.04,**h26**km±14km,
n10,σ1§**44**/20,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.60**	**208**	P	**Pn**	**16 40 28.1**	**-0.5**
PALE				S	**Sn**	**16 40 36.9**	**-0.6**
GOG	**Mont Gurugu**	**0.72**	**137**	P	**Pb**	**16 40 29.6**	**-0.1**
GOG				S	**Sb**	**16 40 39.8**	**+0.7**
CHAS	**Isla Isabel II**	**1.10**	**120**	*e*P	**Pn**	**16 40 35.2**	**-0.3**
CHAS				*e*S	**Sb**	**16 40 50.0**	**-0.1**
EMAL	**Malaga-Limoner**	**1.22**	**326**	*e*P	**Pb**	**16 40 37.7**	**-0.3**
EMAL				*e*S	**Sn**	**16 40 53.1**	**+0.5**
CEU	**Ceuta**	**1.45**	**276**	*e*P	**Pn**	**16 40 39.2**	**-1.0**
CEU				*e*S	**Sn**	**16 40 56.4**	**-2.1**
SMIR	**Smir Dam**	**1.46**	**268**	P	**Pb**	**16 40 43.1**	**+1.0**
SMIR				S	**Sb**	**16 41 02.2**	**+2.0**
CHEFC	**Chefchaouen**	**1.56**	**246**	P	**Pb**	**16 40 44.5**	**+0.5**
CHEFC				S	**Sb**	**16 41 02.4**	**-1.0**
JBK	**JBK**	**1.64**	**149**	P	**Pn**	**16 40 43.4**	**+0.2**
JBK				S	**Sn**	**16 41 04.1**	**+0.6**
MD31	**MD31**	**3.03**	**199**	P	**Pn**	**16 41 03.6**	**+1.5**
MD31				S	**Sn**	**16 41 40.5**	**+2.8**
MDT	**Midelt**	**3.05**	**196**	P	**Pb**	**16 41 06.2**	**-3.1**
MDT				S	**Sn**	**16 41 38.6**	**+0.6**

JMA ***28*** *16:42:09.9±0.6, 46°.24N×152°.64E, h30km, M4.6*
SKHL ***28*** *16:42:10.5±0.0, 46°.20N×152°.70E, h68km±4km, mb5.0/9*
MOS ***28*** *16:42:10.4±1.1, 46°.33N×152°.52E, h62km, mb5.0/4, Error ellipse: s-maj=12.4km s-min=6.6km az=51.8*
NEIC ***28*** *16:42:11.1±1.8, 46°.4N±0°.1×152°.4E±0°.1, h45km±7km, mb4.8/36, Error ellipse: s-maj=18.7km s-min=9.6km az=137.0*
IDC ***28*** *16:42:13.7±2.8, 46°.48N×152°.37E, h70km±25km, mb3.3/13, mb1 3.7/17, mb1mx3.5/37, mbtmp3.8/17, MS3.1/2, Ms1 3.1/2, ms1mx2.6/44, Error ellipse: s-maj=23.1km s-min=13.6km az=135.0*
ISC 28 16:42:10.4±0.6,**46°.19N**±0°.06×**152°.65E**±0°.06,**h50**km,**n132,**
σ1§**87**/145,**mb4.7**/34,**1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.48**	**256**	*i* PN	**Pn**	**16 43 03.9**	**+1.9**
KUR				*e*S	**Sn**	**16 43 44.1**	**+2.2**
KUR				pmax	pmax		
	comp=N,95nm,0.3s						
KUR				pmax	pmax		
	comp=Z,254nm,0.3s						
KUR				pmax	pmax		
	comp=E,64nm,0.4s						
KUR				smax	smax		
	comp=N,464nm,0.3s						
KUR				smax	smax		
	comp=E,138nm,0.3s						
KUR	**Kuril'sk**	**3.48**	**256**	*i* P	**Pn**	**16 43 03.7**	**+1.7**
KUR				AMB	AMB	16 43 07.0	
	comp=E,250nm,0.3s						
KUR				*e*S	**Sn**	**16 43 43.6**	**+1.7**
KUR				A	A	16 43 49.6	
	comp=E,460nm,0.3s						
KUR				A	A	16 43 49.6	
	comp=E,140nm,0.3s						
SHO	**Shikotan**	**4.73**	**243**	*e*PN	**Pn**	**16 43 20.0**	**+0.9**
SHO				*e*S	**Sn**	**16 44 11.0**	**-1.6**
SHO				pmax	pmax		
	comp=Z,125nm,0.3s						
SHO				smax	smax		
	comp=N,130nm,0.4s						
SHO				smax	smax		
	comp=E,161nm,0.3s						
SHO	**Shikotan**	**4.73**	**243**	*e*P	**Pn**	**16 43 18.7**	**-0.4**
SHO				AMB	AMB	16 43 21.2	
	comp=E,130nm,0.4s						
SHO				*e*S	**Sn**	**16 44 09.9**	**-2.7**
SHO				A	A	16 44 14.7	
	comp=E,140nm,0.3s						
SHO				A	A

comp=E,10.0nm,0.5s
YSS eS Sn 16 45 04.9 -0.1
JMP Maruseppu 6.92 255 P Pn 16 43 52.7 +3.4
JAR Ashorobuto 6.95 249 P Pn 16 43 51.1 +1.5
JOB Onbets 7.10 246 P Pn 16 43 51.9 +0.3
JOB eS Sn 16 45 07.0 -3.9
JKK2 Kamakawa 2 7.38 255 P Pn 16 43 58.3 +2.8
JKA Kamikawa-asahi 7.40 257 Pn 16 43 58.4 +2.7
JKA Kamikawa-asahi 7.40 257 eP Pn 16 43 58.2 +2.5
ASAJ Asahikawa 7.40 257 P Pn 16 43 58.1 +2.4
comp=E,5.1nm,0.3s,baz=88,slow=2.5,SNR=34
ASAJ Asahikawa 7.40 257 P Pn 16 43 59.2 +3.5
JCH Churui 7.55 245 P Pn 16 43 57.5 -0.2
JCH eS Sn 16 45 17.9 -4.0
PEA0B Petropavlovsk- 7.66 23 PN Pn 16 43 59.5 +0.2
PEA0B Petropavlovsk- 7.66 23 Pn Pn 16 43 59.5 +0.2
PETK Petropavlovsk- 7.66 23 P Pn 16 43 58.6 -0.7
comp=E,1.5nm,0.3s,baz=179,slow=9.4,SNR=36
PETK LR LR 16 46 29.6
comp=E,73nm,21.0s,baz=227,slow=34
PETK Petropavlovsk- 7.66 23 Pn Pn 16 43 59.0 -0.3
UGL Uglegorsk 7.71 296 eS Sn 16 45 25.0 -0.8
JFR Furan 7.78 251 P Pn 16 44 03.8 +2.9
PET Petropavlovsk 7.87 27 ePN Pn 16 43 58.9 -3.3
PET MLR MLR
comp=Z,100nm,10.2s
PET Petropavlovsk 7.87 27 Pn Pn 16 44 00.7 -1.5
PET Petropavlovsk 7.87 27 eP Pn 16 44 03.2 +1.0
PET eS Sn 16 45 25.9 -3.9
ERM Erimo 8.00 242 PN Pn 16 44 05.4 +1.4
ERM Erimo 8.00 242 Pn 16 44 05.3 +1.4
JBT2 Biratori 2 8.10 249 P Pn 16 44 06.2 +0.8
TYV Tymovskoe 8.11 309 eP Pn 16 44 07.3 +1.8
TYV AMB AMB 16 44 09.1
comp=Z,10.0nm,0.5s
TYV eS Sn 16 45 34.5 -1.2
JEW Eniwo 8.67 251 Pn Pn 16 44 11.4 -1.8
JNB Noboribetsu 9.11 250 P Pn 16 44 19.7 +0.5
JNB eS Sn 16 45 56.3 -4.0
JKB Kayabe 9.40 247 P Pn 16 44 22.6 -0.5
JKB eS Sn 16 46 00.9 -6.5
JYM2 Yakumo 2 9.71 250 P Pn 16 44 27.5 +0.1
JANG Nango 9.98 238 P Pn 16 44 28.3 -2.7
JANG eS Sn 16 46 12.3 -9.2
JTM Tenmabayashi 9.99 241 Pn Pn 16 44 29.7 -1.6
JRG Rokugo 11.13 237 P Pn 16 44 44.3 -2.4
JMM Marumori 12.11 231 Pn Pn 16 44 55.9 -4.2
JSD Sado 13.42 238 Pn Pn 16 45 18.1 +0.1
MA2 Magadan 13.46 356 PN Pn 16 45 18.0 -0.5
MA2 Magadan 13.46 356 Pn 16 45 18.0 -0.5
MA2 Magadan 13.46 356 eP Pn 16 45 18.0 -0.5
MAJO Matsushiro 14.48 233 P Pn 16 45 31.7 -0.7
MAJO Matsushiro 14.48 233 Pn Pn 16 45 31.7 -0.7
MJAR Matsushiro Arr 14.48 233 P Pn 16 45 31.6 -0.8
comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=6.7
MJB9 Matsu-Tunnel 14.48 233 Pn Pn 16 45 31.6 -0.8
USRK Ussuriysk Ar. 14.70 270 P Pn 16 45 35.4 +0.3
baz=63,slow=12,SNR=4.8
SEY Seymchan 16.78 360 P Pn 16 46 00.8 -0.9
comp=Z,1.5nm,0.3s,baz=33,slow=21,SNR=33
KSRS Korea Array 20.32 253 P P 16 46 43.6 +1.5
comp=Z,1.7nm,0.7s,baz=58,slow=11,SNR=8.3
BILL Bilibino 23.01 13 P P 16 47 10.1 -0.5
JOW Kunigami 27.33 233 P P 16 47 50.6 +0.1
H11N2 WAKE ISLAND Hy 28.87 151 T T 17 19 29.3
baz=340,slow=76,SNR=440
H11N1 WAKE ISLAND Hy 28.89 151 T T 17 19 46.1
baz=340,slow=76,SNR=240
H11N3 WAKE ISLAND Hy 28.89 151 T T 17 19 35.7
baz=340,slow=76,SNR=272
H11S1 WAKE ISLAND Hy 29.95 153 T T 17 21 06.8
baz=340,slow=76,SNR=308
H11S3 WAKE ISLAND Hy 29.96 153 T T 17 20 56.2
baz=340,slow=76,SNR=173
H11S2 WAKE ISLAND Hy 29.97 153 T T 17 20 59.8
baz=340,slow=76,SNR=215
SONM Songino Array 31.22 290 LR LR 17 01 09.5
comp=Z,74nm,18.1s,baz=346,slow=37
IMAR Indian Mountai 34.41 36 P P 16 48 51.7 -0.8
H21K Melozitna Rive 34.76 36 P P 16 48 53.5 -2.0
CAST Castle Rocks 34.87 40 P P 16 48 56.4 -0.1
CAST IAmb IAmb 16 49 25.4
comp=Z,26nm,1.8s
BPAW Bear Paw Mtn. 35.39 39 P P 16 49 00.6 -0.4
BPAW IAmb IAmb 16 50 08.9
comp=Z,22nm,1.7s
KTH Kantishna Hill 35.40 40 P P 16 49 01.8 +0.7
TRF Thorofare Moun 35.68 40 P P 16 49 04.2 +0.6
TRF IAmb IAmb 16 49 33.4
comp=Z,23nm,1.5s
I23K Minto, Yukon-K 36.15 37 P P 16 49 09.1 +1.8
I23K IAmb IAmb 16 49 48.9
comp=Z,28nm,1.9s
MCK McKinley 36.29 40 P P 16 49 08.6 -0.1
MCK pmax pmax
comp=Z,41nm,1.9s
MCK McKinley 36.29 40 P P 16 49 08.6 -0.1
RND Reindeer 36.32 40 P P 16 49 09.1 +0.1
RND pmax pmax
comp=Z,39nm,1.8s
RND Reindeer 36.32 40 P P 16 49 09.1 +0.1
TOLK Toolik Lake Re 36.39 31 P P 16 49 10.5 +0.9
TOLK IAmb IAmb 16 49 25.8
comp=Z,16nm,1.7s
SML Sawmill 36.60 43 P P 16 49 11.9 +0.5
MDM Murphy Dome 36.62 38 P P 16 49 13.3 +1.8
MDM IAmb IAmb 16 50 14.0
comp=Z,28nm,1.8s
WRH Wood River Hil 36.67 39 P P 16 49 13.1 +1.3
WRH IAmb IAmb 16 50 10.7
comp=Z,36nm,1.8s
CCB Clear Creek Bu 36.79 38 P P 16 49 14.2 +1.3
CCB IAmb IAmb 16 49 36.6
comp=Z,15nm,1.7s
H24K Noodor Dome 36.80 36 P P 16 49 14.4 +1.4
H24K IAmb IAmb 16 49 26.5
comp=Z,17nm,1.7s
POKR Poker Plat Res 36.96 38 P P 16 49 15.6 +1.3
POKR IAmb IAmb 16 49 31.3
comp=Z,8.1nm,0.8s
SCM Sheep Creek Mo 37.08 43 P P 16 49 17.0 +1.6
SCM pmax pmax
comp=Z,137nm,2.0s
SCM Sheep Creek Mo 37.08 43 P P 16 49 17.0 +1.6
HDA Harding Lake 37.16 39 P P 16 49 17.0 +1.0
HDA IAmb IAmb 16 50 29.1
comp=Z,37nm,1.9s
IL31 37.19 38 P P 16 49 17.4 +1.2
IL31 IAmb IAmb 16 49 43.4
comp=Z,26nm,1.7s
ILAR Eielson Array 37.19 38 P P 16 49 17.1 +0.8
comp=Z,0.6nm,0.5s,baz=260,slow=8.0,SNR=16
ILAR Eielson Array 37.19 38 P P 16 49 17.4 +1.1
ILAR Eielson Array 37.19 38 P P 16 49 17.4 +1.1
M24K Tolsona, Glenn 37.60 42 P P 16 49 21.0 +1.1
BMAR Burnt Mountain 38.17 34 P P 16 49 26.1 +1.6
DOT Dot Lake 38.46 40 P P 16 49 27.1 +0.1
DOT IAmb IAmb 16 49 29.4
comp=Z,23nm,1.7s
SCRK Sand Creek 38.47 39 P P 16 49 27.9 +0.7
SCRK IAmb IAmb 16 49 44.5
comp=Z,16nm,1.6s
GLB Gilahina Butte 38.78 43 P P 16 49 31.8 +2.0
M26K Nabesna, AK 39.06 42 P P 16 49 34.5 +2.4
M26K IAmb IAmb 16 50 53.0
comp=Z,54nm,1.9s
BCAR Beaver Creek A 39.54 41 P P 16 49 38.3 +2.2
EGAK Eagle 39.64 38 P P 16 49 37.3 +0.5
EGAK IAmb IAmb 16 49 54.5
comp=Z,23nm,1.6s
BARN Barnard Glacie 39.87 44 P P 16 49 40.9 +1.9
A36M Sachs Harbour 44.50 26 P P 16 50 16.7 +0.4
C36M Paulatuk 45.47 30 P P 16 50 24.5 +0.6
MK31 Makanchi Array 46.91 298 P P 16 50 33.3 -2.5
MK31 pmax pmax
comp=Z,3.0nm,1.6s
MK31 Makanchi Array 46.91 298 P P 16 50 33.2 -2.5
MKAR Makanchi Array 46.91 298 P P 16 50 34.4 -1.3
comp=Z,0.4nm,0.6s,baz=72,slow=5.4,SNR=7.5
MKAR PcP **PcP** 16 52 07.2 -0.4
comp=Z,0.2nm,0.5s,baz=62,slow=3.0,SNR=1.4
YKA Yellowknife Ar 51.57 36 P P 16 51 12.2 +1.3
comp=Z,0.3nm,0.5s,baz=297,slow=7.0,SNR=4.8
CMAR Chiang Mai Arr 51.92 256 P P 16 51 15.1 +0.9
comp=Z,0.5nm,0.7s,baz=35,slow=7.3,SNR=8.4
COEN Coen 60.47 191 P P 16 52 16.6 +1.6
COEN IAmb IAmb 16 52 45.3
comp=Z,13nm,1.3s
SUMG Summit 61.28 4 *i* P P 16 52 33.0 +13
NVAR Mina Array Bea 62.98 62 P P 16 52 33.0 +0.9
comp=Z,0.1nm,0.4s,baz=311,slow=8.2,SNR=1.7
FINES FINESS Array B 64.41 335 P P 16 52 39.8 -1.1
comp=Z,1.2nm,0.6s,baz=9.5,slow=5.8,SNR=4.4
WRA Warramunga Arr 67.88 199 P P 16 53 04.8 +1.4
comp=Z,0.7nm,0.7s,baz=20,slow=6.9,SNR=6.2
NOA NORSAR Array B 68.66 341 P P 16 53 05.9 -2.1
comp=Z,0.8nm,0.6s,baz=17,slow=6.5,SNR=1.6
AS31 Alice Springs 71.57 198 P P 16 53 28.5 +2.4
ASAR Alice Springs 71.57 198 P P 16 53 28.9 +2.7
comp=Z,0.6nm,0.5s,baz=13,slow=6.8,SNR=18
ASAR Alice Springs 71.57 198 P P 16 53 28.3 +2.1
ASAR Alice Springs 71.57 198 P P 16 53 28.3 +2.1
AKASG Malin Array Be 71.83 326 P P 16 53 26.4 -1.1
comp=Z,0.2nm,0.3s,baz=36,slow=6.4,SNR=1.9
BUR08 Bucovina Ar. S 75.86 326 P P 16 53 51.8 +0.5
BUR08 IAmb IAmb 16 54 08.4
comp=Z,27nm,2.0s
BURAR Bucovina Array 75.88 326 P P 16 53 51.5 +0.1
TXAR Lajitas Array 78.05 60 P P 16 54 05.6 +1.8
comp=Z,0.2nm,0.5s,baz=309,slow=4.8,SNR=3.8
GERES GERESS Array B 78.82 334 P P 16 54 06.9 -0.9
comp=Z,0.4nm,0.6s,baz=32,slow=3.9,SNR=2.3
H03N2 Juan Fernandez 139.07 91 T T 19 37 17.0
baz=307,slow=77,SNR=22
H03N1 Juan Fernandez 139.08 91 T T 19 37 17.6
baz=307,slow=77,SNR=29
H03N3 Juan Fernandez 139.08 91 T T 19 37 17.7
baz=307,slow=77,SNR=23

*IDC **28** 17:02:52.1±1.6, 39°.03N×144°.50E, h0km, mb3.4/5, mb1 3.7/9, mb1mx3.3/46, mbtmp3.7/9, ML3.2/4, MS2.9/2, Ms1 2.9/2, ms1mx2.5/54, Error ellipse: s-maj=37.5km s-min=21.3km az=81.0*
*JMA **28** 17:02:56.8±0.1, 39°.08N×144°.21E, h44km, M3.5*
*NIED **28** 17:02:56.9, 39°.08N×144°.21E, h44km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.33; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$1.91; $M_{r\theta}$1.08; $M_{\phi\phi}$0.27; $M_{\theta r}$-0.29; Fault plane solution: $M_0$2.04000×10^{14} NP1: ϕ_s=335.00000°, δ58.00000°, λ-134.00000°. NP2: ϕ_s216.00000°, δ52.00000°, λ-42.00000°.*
ISC 28 17:02:55.5±1.1, 39°.05N±0°.06×144°.29E±0°.09, h19km, n26, σ1°51/41, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.99**	**286**	P	**Pn**	**17 03 28.0**	**-0.2**
MIYJ				eS	**Sn**	**17 03 51.1**	**-1.5**
OFUJ	**Ofunato**	**2.04**	**272**	P	**Pn**	**17 03 28.8**	**-0.1**
OFUJ				eS	**Sn**	**17 03 52.9**	**-1.0**
JTH	**Tanohata**	**2.08**	**296**	P	**Pn**	**17 03 29.3**	**-0.1**
JTH				eS	**Sn**	**17 03 54.2**	**-0.6**
JOM	**Ohasama**	**2.37**	**281**	P	**Pn**	**17 03 33.7**	**+0.3**
JOM				eS	**Sn**	**17 04 01.1**	**-0.8**
JMK	**Ichinoseki**	**2.40**	**269**	P	**Pn**	**17 03 33.8**	**+0.1**
JMK				eS	**Sn**	**17 04 01.6**	**-1.0**
JANG	**Nango**	**2.52**	**303**	P	**Pn**	**17 03 34.8**	**-0.6**
JYK	**Kaneyama**	**3.07**	**269**	P	**Pn**	**17 03 43.6**	**+0.6**
JYK				eS	**Sn**	**17 04 19.7**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.44**	**341**	P	**Pn**	**17 03 49.2**	**+1.2**
JNBK				eS	**Sn**	**17 04 28.7**	**+0.5**
JFT	**Otama**	**3.47**	**245**	P	**Pn**	**17 03 49.0**	**+0.5**
JFT				eS	**Sn**	**17 04 28.7**	**-0.3**
JCH	**Churui**	**3.64**	**349**	P	**Pn**	**17 03 50.7**	**0.0**
JCH				eS	**Sn**	**17 04 31.6**	**-1.5**
NEM2	**Nemuro 2**	**4.45**	**14**	P	**Pn**	**17 04 00.7**	**-1.3**
NEM2				eS	**Sn**	**17 04 49.4**	**-3.8**
JTKR	**Abashiri--Toko**	**4.93**	**357**	P	**Pn**	**17 04 08.4**	**-0.1**
JTKR				eS	**Sn**	**17 05 03.2**	**-1.8**
JHR	**Hokuryu**	**5.08**	**338**	P	**Pn**	**17 04 12.6**	**+2.1**
ASAJ	**Asahikawa**	**5.22**	**346**	Pn	**Pn**	**17 04 12.2**	**-0.3**
	0.7nm,0.3s,baz=182,slow=12,SNR=9.7						
ASAJ				Sn	**Sn**	**17 05 12.0**	**-0.3**
	baz=87,slow=30,SNR=1.4						
JRY	**Ryogami san**	**5.24**	**236**	P	**Pn**	**17 04 12.6**	**-0.3**
JRY				eS	**Sn**	**17 05 09.6**	**-3.2**
MJAR	**Matsushiro Arr**	**5.43**	**244**	Pn	**Pn**	**17 04 16.9**	**+1.5**
	0.8nm,0.3s,baz=57,slow=11,SNR=29						
MJAR				Sn	**Sn**	**17 05 20.8**	**+3.4**
	baz=87,slow=27,SNR=1.6						
MJAR				LR	LR	17 06 39.3	
	comp=Z,49nm,19.5s,baz=9.0,slow=41						
MAT	**Matsushiro**	**5.43**	**244**	P	**Pn**	**17 04 16.9**	**+1.5**
MAT				eS	**Sn**	**17 05 16.6**	**-0.8**
JOD2	**Odawara 2**	**5.62**	**229**	P	**Pn**	**17 04 17.2**	**-0.8**
JOD2				eS	**Sn**	**17 05 17.8**	**-4.2**
JHJ	**Hachijo jima 2**	**6.95**	**213**	Pn	**Pn**	**17 04 34.3**	**-2.0**
	4.1nm,0.3s,baz=76,slow=22,SNR=6.3						
JHJ				Sn	Sn	17 05 45.1	-10
	4.5nm,0.3s,baz=358,slow=16,SNR=2.0						
USRK	**Ussuriysk Ar.**	**10.55**	**303**	Pn	**Pn**	**17 05 26.5**	**+0.9**
	baz=102,slow=14,SNR=6.5						
SONM	**Songino Array**	**28.64**	**300**	P	**P**	**17 08 51.4**	**+0.4**
	0.3nm,0.7s,baz=114,slow=10,SNR=1.9						
SIJI	**Sorong**	**41.48**	**200**	LR	LR	17 30 14.8	
	comp=Z,35nm,18.2s,baz=214,slow=40						
MKAR	**Makanchi Array**	**45.01**	**301**	P	**P**	**17 11 11.0**	**+1.3**
	0.3nm,0.6s,baz=85,slow=7.6,SNR=4.9						
WRA	**Warramunga Arr**	**59.41**	**191**	P	**P**	**17 12 56.6**	**-0.2**
	0.4nm,0.7s,baz=9.3,slow=7.3,SNR=6.1						
ASAR	**Alice Springs**	**63.14**	**191**	P	**P**	**17 13 21.9**	**-0.1**
	0.3nm,1.0s,baz=11,slow=6.0,SNR=1.9						
AKASG	**Malin Array Be**	**74.08**	**323**	P	**P**	**17 14 29.7**	**-0.3**
	0.4nm,0.6s,baz=45,slow=5.8,SNR=4.2						

*EAF **28** 17:09:57.9±3.8, 26°.19S×29°.86E, h0km±35km, MD4.0*
BUL 28 17:09:57.8±2.3, 26°.24S×29°.83E, h0km±21km, MD4.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNG	**Changalane**	**2.12**	**92**	*i* P	Pn	17 10 34.4	-0.1
CNG				*i* Sg	Sn	17 11 02.5	+1.0
CNG	**Changalane**	**2.12**	**92**	*i* P	Pn	17 10 34.4	-0.1
CNG				*i* Sg	Sn	17 11 02.5	+1.0
MOPA	**Mopani**	**3.06**	**28**	*i* P	Pn	17 10 44.4	-3.0
MOPA				*i* S	Sn	17 11 18.1	-6.7
MOPA	**Mopani**	**3.06**	**28**	*i* P	Pn	17 10 44.4	-3.0
MOPA				*i* S	Sn	17 11 18.1	-6.7
MSNA	**Messina**	**3.88**	**3**	*i* P	Pn	17 10 58.9	+0.1
MSNA				*i* S	Sn	17 11 41.8	-3.3
MSNA	**Messina**	**3.88**	**3**	*i* P	Pn	17 10 58.9	+0.1
MSNA				*i* S	Sn	17 11 41.8	-3.3
LBTB	**Lobatse**	**4.01**	**287**	*i* P	Pn	17 11 01.6	+0.9
LBTB				*i* Sg	Sb	17 11 59.9	+1.4
LBTB	**Lobatse**	**4.01**	**287**	*i* P	Pn	17 11 01.6	+0.9
LBTB				*i* Sg	Sb	17 11 59.9	+1.4
MATP	**Matopo**	**5.91**	**348**	*i* P	Pn	17 11 26.7	-0.1
MATP				*i* S	Sn	17 12 30.1	-5.3
MATP	**Matopo**	**5.91**	**348**	*i* P	Pn	17 11 26.7	-0.1
MATP				*i* S	Sn	17 12 30.1	-5.3
BLWY	**Bulawayo**	**6.17**	**349**	*i* P	Pn	17 11 30.7	+0.3
BLWY				*i* S	Sn	17 12 37.1	-4.7
BLWY	**Bulawayo**	**6.17**	**349**	*i* P	Pn	17 11 30.7	+0.3
BLWY				*i* S	Sn	17 12 37.1	-4.7
KRI	**Karoi**	**9.36**	**359**	*i* P	Pn	17 12 04.1	-10
KRI				*i* S	Sn	17 13 36.3	-24
KRI	**Karoi**	**9.36**	**359**	*i* P	Pn	17 12 04.1	-10
KRI				*i* S	Sn	17 13 36.3	-24

IDC 28 17:11:41.5±3.0, 7°.19S×129°.67E, h75km±41km, mb3.1/1, mb1 3.4/4, mb1mx3.0/28, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=65.8km s-min=24.8km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.47**	**14**	P	Pn	17 13 14.6	+0.4
	0.2nm,0.3s,baz=198,slow=20,SNR=1.3						
SIJI				S	Sn	17 14 23.6	-3.1
	0.4nm,0.3s,baz=34,slow=22,SNR=1.6						
FITZ	**Fitzroy Crossi**	**11.54**	**200**	P	Pn	17 14 24.4	+1.1
	baz=231,slow=20						
FITZ				S	Sn	17 16 24.8	-5.7
	0.1nm,0.3s,baz=65,slow=15,SNR=1.7						
WRA Warramunga Arr 13.46 161 P Pn 17 14 48.2 -1.2
0.5nm,0.3s,baz=339,slow=13,SNR=20
WRA S Sn 17 17 13.4 -4.0
0.3nm,0.3s,baz=328,slow=22,SNR=5.8
ASAR Alice Springs 16.88 167 P Pn 17 15 33.2 +0.1
0.2nm,0.3s,baz=345,slow=10,SNR=26
MKAR Makanchi Array 68.20 327 P P 17 22 33.9 -0.1
0.2nm,0.4s,baz=127,slow=6.5,SNR=4.4

IDC 28 17:14:28.2±8.9, 16°.67N×145°.77E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/38, mbtmp3.6/4, Error ellipse: s-maj=268.3km s-min=57.4km az=6.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**44.77**	**323**	P	P	17 22 43.0	-0.7
	0.1nm,0.4s,baz=131,slow=6.5,SNR=1.5						
MKAR	**Makanchi Array**	**59.92**	**315**	P	P	17 24 37.3	+1.2
	0.2nm,0.6s,baz=95,slow=8.3,SNR=3.2						
YKA	**Yellowknife Ar**	**79.74**	**28**	P	P	17 26 38.3	+0.5
	0.3nm,0.5s,baz=287,slow=5.6,SNR=4.9						
FINES	**FINESS Array B**	**88.75**	**335**	P	P	17 27 22.4	-1.2
	3.7nm,1.0s,baz=66,slow=3.5,SNR=6.3						

RSNC 28 17:15:03.5±1.1, 8°.38N×74°.20W, h12km±3km, ML3.2, Mw3.5, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLC	**San Martn de**	**0.44**	**17⇑**	*e*P	Pg	17 15 11.5	-0.6
SMLC				eS	Sg	17 15 17.6	-0.3
OCAC	**Ocana**	**0.88**	**99⇓**	*i*P	Pg	17 15 19.6	-1.0
OCAC				eS	Sg	17 15 31.8	-0.4
ZARC	**Zaragoza, Cauc**	**1.10**	**216**	eP	Pb	17 15 22.2	-2.2
ZARC				eS	Sb	17 15 37.2	-1.5
ZARC				*i*		17 15 38.8	
	comp=Z,941nm,0.3s						
LL1C	**La Loma 1 Cana**	**1.32**	**29**	eP	Pn	17 15 19.3	-8.4
LL1C				ePg	Pb	17 15 22.9	-5.3
LL1C				eS	Sb	17 15 43.6	-1.4
LL1C				*i*		17 15 57.0	
	comp=Z,773nm,0.6s						
UREC	**San Jos de Ur**	**1.46**	**245**	eP	Pn	17 15 28.2	-1.5
UREC				eS	Sn	17 15 47.0	-1.8
UREC				*i*		17 15 50.8	
	comp=Z,400nm,0.2s						
ARGC	**Ariguani, Magd**	**1.47**	**358**	eP	Pn	17 15 28.4	-1.4
ARGC				eS	Sn	17 15 48.1	-0.9
ARGC				*i*		17 15 50.2	
	comp=Z,243nm,0.3s						
MOTC	**Monteria, Cord**	**1.50**	**285**	eP	Pn	17 15 29.4	-0.8
MOTC				eS	Sn	17 15 49.6	-0.2
MOTC				*i*		17 15 57.2	
	comp=Z,145nm,0.6s						
LL6C	**La Loma 6 Bece**	**1.63**	**34**	eP	Pn	17 15 17.1	-15
LL6C				ePg	Pb	17 15 20.1	-13
LL6C				eS	Sn	17 15 49.7	-3.3
LL6C				*i*		17 16 05.1	
	comp=Z,172nm,0.5s						
SJCC	**San Jacinto, C**	**1.79**	**327**	eP	Pn	17 15 33.1	-1.2
SJCC				eS	Sn	17 15 55.4	-1.6
SJCC				*i*		17 15 57.7	
	comp=Z,164nm,0.6s						
PAMC	**Pamplona, Colo**	**1.81**	**125**	eP	Pn	17 15 34.3	-0.7
PAMC				ePg	Pg	17 15 41.2	+2.8
PAMC				eS	Sn	17 15 56.9	-1.3
PAMC				*i*		17 15 59.0	
	comp=Z,215nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.85**	**188**	eP	Pn	17 15 33.9	-1.2
PTBC				eS	Sn	17 15 57.2	-1.2
PTBC				*i*		17 16 02.9	
	comp=Z,241nm,0.4s						
BARC	**Barichara**	**2.04**	**150**	eP	Pn	17 15 36.8	-1.2
BARC				eS	Sn	17 16 02.0	-1.5
BARC				*i*		17 16 09.6	
	comp=Z,181nm,0.4s						
LCBC	**Los crdobas,**	**2.19**	**283**	eP	Pn	17 15 40.3	+0.5
LCBC				eS	Sn	17 16 06.9	0.0
LCBC				*i*		17 16 16.6	
	comp=Z,94nm,0.5s						
HELC	**Santa Helena**	**2.54**	**211**	eP	Pn	17 15 45.3	+0.4
HELC				ePg	Pb	17 15 47.5	-1.9
HELC				eS	Sn	17 16 16.9	+0.8
HELC				*i*		17 16 21.5	
	comp=Z,106nm,0.5s						
RUSC	**La Rusia**	**2.71**	**156**	eP	Pn	17 15 46.5	-0.9
RUSC				ePg	Pb	17 15 53.5	+1.3
RUSC				eS	Sn	17 16 19.8	-0.5
RUSC				*i*		17 16 34.5	
	comp=Z,80nm,0.5s						
SPBC	**San Pablo de B**	**2.71**	**177**	eP	Pn	17 15 46.8	-0.2
SPBC				eS	Sn	17 16 19.3	-0.6
SPBC				*i*		17 16 24.7	
	comp=Z,101nm,0.4s						
SMRC	**Santa Marta, M**	**2.76**	**360**	eP	Pn	17 15 45.9	-1.8
SMRC				eS	Sn	17 16 19.5	-1.5
SMRC				*i*		17 16 27.7	
	comp=Z,39nm,0.2s						
NORC	**Norcasia**	**2.88**	**193**	eP	Pn	17 15 49.3	0.0
NORC				eS	Sn	17 16 25.3	+1.4
NORC				*i*		17 16 31.4	
	comp=Z,85nm,0.3s						
CRJC	**Cerrejon, Guaj**	**2.93**	**26**	eP	Pn	17 15 40.8	-9.2
CRJC				eS	Sn	17 16 17.3	-7.9
CRJC				*i*		17 16 26.5	
	comp=Z,103nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.08**	**216**	eP	Pn	17 15 53.2	+1.0
CBOC				eS	Sb	17 16 32.7	-3.3
CBOC				*i*		17 16 47.3	
	comp=Z,28nm,0.5s						
SOCV	**Socops**	**3.31**	**91**	eP	Pn	17 15 55.1	-0.1
SOCV				eS	Sn	17 16 35.0	+0.4
GUY2C	**Guyana, Caldas**	**3.34**	**200**	eP	Pn	17 15 57.5	+1.4
GUY2C				ePg	Pb	17 16 04.5	+1.5
GUY2C				eS	Sn	17 16 39.7	+3.7
GUY2C				*i*		17 16 57.5	
	comp=Z,56nm,0.5s						
ROSC	**El Rosal**	**3.52**	**182**	eP	Pn	17 16 00.0	+1.6
ROSC				eS	Sn	17 16 41.8	+1.5
ROSC				*i*		17 16 50.5	
	comp=Z,37nm,0.3s						
SDV	**Santo Domingo**	**3.56**	**82**	eP	Pn	17 15 58.8	0.0
SDV				eS	Sn	17 16 38.3	-2.8
SDV				*i*		17 16 48.5	
	comp=Z,54nm,0.4s						
CHIC	**Chingaza**	**3.76**	**173**	eP	Pn	17 16 03.1	+1.4
CHIC				eS	Sn	17 16 45.1	-0.9
CHIC				*i*		17 16 59.1	
	comp=Z,36nm,0.4s						
ANIL	**Santa Ana**	**4.05**	**197**	eP	Pn	17 16 09.6	+4.0
ANIL				eS	Sb	17 17 01.5	-2.4
ANIL				*i*		17 17 11.7	
	comp=Z,97nm,0.5s						
DABV	**Dabajuro**	**4.33**	**54**	eP	Pn	17 16 08.2	-1.0
DABV				eS	Sn	17 16 55.5	-4.1
ORTC	**Ortega, Tolima**	**4.56**	**193**	eP	Pn	17 16 15.7	+3.2
ORTC				eS	Sb	17 17 12.2	-6.5
ORTC				*i*		17 17 34.1	
	comp=Z,34nm,0.5s						
PRAC	**Prado**	**4.69**	**188**	eP	Pn	17 16 16.4	+2.2
PRAC				eS	Sn	17 17 12.9	+4.4
PRAC				*i*		17 17 30.2	
	comp=Z,31nm,0.5s						

*IDC **28** 17:17:53.8±1.1, 35°.55N×3°.78W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.2/49, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=38.6km s-min=12.7km az=96.0*
*LDG **28** 17:17:53.5±0.3, 35°.49N×3°.86W, h10km, Ml3.1/8, Error ellipse: s-maj=6.2km s-min=3.3km az=179.0*
*CNRM **28** 17:17:53.4, 35°.56N×3°.73W, h16km, ml3.5*
*SFS **28** 17:17:53.0, 35°.54N×3°.86W, ML3.2, ALBORAN SUR*
*INMG **28** 17:17:54.0±2.2, 35°.56N×3°.81W, h0km±9km, ML3.0, Error ellipse: s-maj=7.2km s-min=4.4km az=72.0*
*IGIL **28** 17:17:55.8, 35°.54N×3°.86W, h0km, ML2.6*
**ISC 28 17:17:53.4±0.8, 35°

PALE S **Sg** **17 18 05.9 -0.4**
GOG Mont Gurugu 0.70 119 P **Pg** **17 18 07.6 +0.5**
GOG S **Sg** **17 18 17.1 +0.8**
CHAS Isla Isabel II 1.14 109 *eP* **Pb** **17 18 14.2 -0.5**
CHAS *eS* **Sb** **17 18 28.5 -0.7**
EMAL Malaga-Limoner 1.32 335 *eP* **Pn** **17 18 17.4 +0.2**
EMAL *eS* **Sb** **17 18 34.8 +0.2**
SMIR Smir Dam 1.34 276 P **Pg** **17 18 18.8 -0.4**
SMIR S **Sn** **17 18 35.8 +0.8**
CEU Ceuta 1.37 285 *eP* **Pn** **17 18 15.2 -2.7**
CEU *eS* **Sb** **17 18 31.5 -4.4**
CHEFC Chefchaouen 1.38 251 P **Pn** **17 18 19.0 +0.8**
CHEFC S **Sg** **17 18 37.7 -0.3**
JBK JBK 1.56 141 P **Pn** **17 18 20.1 -0.6**
JBK S **Sn** **17 18 40.6 -0.1**
SICH Sidi Chahed 1.94 222 P **Pb** **17 18 28.4 0.0**
SICH S **Sg** **17 18 54.4 -1.5**
LCRM LCR 2.08 206 P **Pb** **17 18 30.1 -0.8**
LCRM S **Sb** **17 18 56.2 -0.4**
IFR Ifrane 2.33 210 *eP* **Pn** **17 18 30.1 -1.2**
IFR *eS* **Sn** **17 19 00.0 +0.2**
MD31 MD31 2.81 198 P **Pn** **17 18 39.0 +1.2**
MDT Midelt 2.83 195 Pn **Pn** **17 18 39.5 +1.4**
1.0nm,0.3s,baz=187,slow=13,SNR=22
MDT Sn **Sn** **17 19 14.7 +2.8**
7.1nm,0.3s,baz=1.7,slow=11,SNR=6.4
MDT Lg Lg 17 19 24.2
10.0nm,0.3s,baz=253,slow=22,SNR=6.2
MDT Midelt 2.83 195 P **Pn** **17 18 39.3 +1.2**
CART Cartagena 3.00 47 P **Pn** **17 18 41.5 +1.2**
CART S **Sn** **17 19 14.1 -1.7**
ZHG ZHG 3.19 229 P **Pn** **17 18 43.1 +0.1**
PVAQ Vaqueiros 3.69 301 *ePn* **Pn** **17 18 50.6 +0.8**
PVAQ *eSn* **Sn** **17 19 31.9 -1.2**
PVAQ A A 17 19 33.9
31nm,0.5s
PVAQ Vaqueiros 3.69 301 P **Pn** **17 18 50.7 +0.8**
PVAQ S **Sn** **17 19 38.6 +5.5**
PBDV Barranco-do-Ve 3.77 298 *ePn* **Pn** **17 18 51.9 +0.9**
PBDV *eSn* **Sn** **17 19 33.7 -1.4**
PBDV A A 17 19 39.4
19nm,0.3s
PCVE Castro Verde 4.03 302 *ePn* **Pn** **17 18 55.2 +0.8**
PCVE *eSn* **Sn** **17 19 40.6 -0.7**
PCVE A A 17 19 44.8
19nm,0.5s
ESDC Sonseca Array 4.11 358 Pn **Pn** **17 18 58.4 +2.7**
1.6nm,0.3s,baz=179,slow=12,SNR=35
ESDC Sn **Sn** **17 19 46.4 +2.9**
1.0nm,0.3s,baz=180,slow=17,SNR=5.2
ESDC Lg Lg 17 20 01.5
2.2nm,0.3s,baz=186,slow=28,SNR=7.7
PBEJ Beja 4.12 308 *ePn* **Pn** **17 18 57.0 +1.2**
PBEJ *eSn* **Sn** **17 19 44.0 +0.3**
PBEJ A A 17 19 54.6
12nm,0.5s
MESJ Messejana 4.26 304 *eP* **Pn** **17 18 58.8 +1.3**
MESJ *eS* **Sn** **17 19 45.3 -1.7**
MESJ IAML 17 19 46.6
comp=N,13nm,0.4s
MESJ Messejana 4.26 304 *ePn* **Pn** **17 18 59.1 +1.5**
MESJ *eSn* **Sn** **17 19 46.1 -0.9**
MESJ A A 17 19 50.9
comp=N,14nm,0.4s
MORF Marmelete 4.32 295 *eP* **Pn** **17 18 59.6 +1.1**
MORF Marmelete 4.32 295 *ePn* **Pn** **17 18 59.6 +1.1**
MORF *eSn* **Sn** **17 19 48.4 -0.3**
MORF A A 17 19 58.5
comp=N,9.9nm,0.4s
PFVI Vila Bisbo 4.39 292 *ePn* **Pn** **17 19 01.8 +2.3**
PFVI *eSn* **Sn** **17 19 49.6 -0.7**
PFVI A A 17 19 52.2
comp=N,16nm,0.6s
PFVI Vila Bisbo 4.39 292 P **Pn** **17 19 00.6 +1.2**
PTEO Sao Teotonio 4.47 298 *ePn* **Pn** **17 19 01.8 +1.3**
PTEO *eSn* **Sn** **17 19 51.6 -0.7**
PTEO A A 17 20 01.4
comp=N,22nm,0.5s
PESTR Estremoz 4.51 318 *ePn* **Pn** **17 19 04.0 +2.9**
PESTR *eSn* **Sn** **17 19 54.7 +1.5**
PESTR A A 17 20 23.0
comp=N,22nm,0.6s
PESTR Estremoz 4.51 318 P **Pn** **17 19 02.2 +1.1**
EVO Evora 4.52 312 *eP* **Pn** **17 19 02.9 +1.6**
EVO *eS* **Sn** **17 19 53.6 0.0**
EVO Evora 4.52 312 *ePn* **Pn** **17 19 03.3 +2.0**
EVO *eSn* **Sn** **17 19 53.6 0.0**
EVO A A 17 19 59.8
comp=N,19nm,0.6s
PNCL Nicolau / Gran 4.61 305 *ePn* **Pn** **17 19 03.5 +1.1**
PNCL *eSn* **Sn** **17 19 55.0 -0.6**
PNCL A A 17 20 01.9
comp=N,11nm,0.4s
PMRV Marv??o 4.83 324 *ePn* **Pn** **17 19 07.6 +2.1**
PMRV *eSn* **Sn** **17 20 02.6 +1.5**
PMRV A A 17 20 23.5
comp=N,14nm,0.6s
PMTG Montargil 5.00 316 *ePn* **Pn** **17 19 10.2 +2.4**
PMTG *eSn* **Sn** **17 20 05.9 +0.5**
PMTG A A 17 20 09.2
comp=N,15nm,0.5s
PCBR Castelo Branco 5.20 326 *ePn* **Pn** **17 19 13.3 +2.8**
PCBR *eSn* **Sn** **17 20 11.7 +1.5**
PCBR A A 17 20 19.0
comp=N,8.1nm,0.5s
OUZM OUZ 5.28 209 P **Pn** **17 19 13.1 +1.3**
OUK Oukaimeden 5.54 220 P **Pn** **17 19 15.2 -0.3**
PSBE So Bento 5.63 316 *ePn* **Pn** **17 19 18.9 +2.4**
MTE Manteigas 5.69 329 *ePn* **Pn** **17 19 21.1 +3.8**
MTE *eSn* **Sn** **17 20 25.7 +3.3**
PCAS Casmilo, Conde 5.86 321 *ePn* **Pn** **17 19 22.8 +3.2**
PCAS *eSn* **Sn** **17 20 26.5 +0.1**
PCAS A A 17 20 37.3
comp=N,9.8nm,0.7s
PVIS Viseu 6.10 329 *ePn* **Pn** **17 19 26.0 +3.0**
PVIS *eSn* **Sn** **17 20 34.1 +1.6**
MVO Moncorvo 6.16 336 *ePn* **Pn** **17 19 26.7 +2.9**
MVO *eSn* **Sn** **17 20 34.1 0.0**
MVO A A 17 21 21.3
comp=N,23nm,0.6s
TTIG Tnine Tigouga, 6.36 220 P **Pn** **17 19 24.4 -2.3**
PVRL Vila Real 6.50 333 *ePn* **Pn** **17 19 32.2 +3.7**
PVRL *eSn* **Sn** **17 20 41.6 -0.8**
PVRL A A 17 20 50.9
comp=N,14nm,0.5s
POLO Lamas de Olo 6.62 333 *ePn* **Pn** **17 19 32.8 +2.7**
POLO *eSn* **Sn** **17 20 44.4 -0.9**
POLO A A 17 20 55.2
comp=N,4.8nm,0.6s
PBRG Braganca 6.66 340 *ePn* **Pn** **17 19 33.3 +2.6**
PBRG *eSn* **Sn** **17 20 47.3 +1.0**
PBRG A A 17 21 01.9
comp=N,5.7nm,0.5s
PTO Porto 6.75 327 *ePn* **Pn** **17 19 34.0 +2.2**
PCAB Cabril 7.00 333 *eSn* **Sn** **17 20 56.4 +1.9**
PCAB A A 17 21 02.0
comp=N,8.7nm,0.6s
ETSF Etsaut 7.74 18 *ePn* **Pn** **17 19 46.2 +0.8**
ETSF Etsaut 7.74 18 *eP* Pn 17 19 51.4 +6.0
ETSF *eSn* **Sn** **17 21 09.5 -3.2**
comp=N,0.8nm,0.3s
SJPF Ste Jean 7.79 14 *ePn* **Pn** **17 19 46.8 +0.6**
SJPF Ste Jean 7.79 14 *eP* Pn 17 19 51.3 +5.1
SJPF *eSn* **Sn** **17 21 10.9 -3.2**
comp=N,0.6nm,0.4s
EPF Esparros 8.11 22 *ePn* **Pn** **17 19 50.5 0.0**
EPF Esparros 8.11 22 *eP* Pn 17 19 56.3 +5.8
EPF *eSn* **Sn** **17 21 18.7 -3.1**
comp=N,1.3nm,0.5s
SMRF Simiane la Rot 11.04 38 *ePn* **Pn** **17 20 30.9 +0.2**
MFF Saint Martin d 11.36 13 *ePn* **Pn** **17 20 34.2 -0.8**
MFF *eSn* Sn 17 22 34.2 -7.4
comp=N,0.3nm,0.2s
PGF Pioggiola 12.11 51 *eP* **Pn** **17 20 50.1 +4.7**
PGF *eSn* **Sn** **17 22 54.8 -5.4**
comp=N,0.2nm,0.3s
QUIF Quistinic 12.36 2 *eP* **Pn** **17 20 51.6 +3.0**
AVF Avril sur Loir 12.42 23 *eP* Pn 17 20 57.2 +7.7
SMF Signal de Mont 12.46 25 *ePn* Pn 17 20 46.3 -3.7
SGMF Saint Gilles 12.72 4 *ePn* **Pn** **17 20 52.7 -0.8**
SGMF *eSn* Sn 17 23 05.2 -10
comp=N,1.0nm,0.5s
ROSF Rostrenen 12.77 1 *eP* Pn 17 21 00.2 +5.9
ROSF *e*Sn Sn 17 23 08.7 -7.4
comp=N,3.0nm,0.5s
LDF La Druitiere 13.30 11 *eP* Pn 17 21 07.1 +5.6
TORD Torodi Ar. Bea 22.85 166 P **P** **17 22 57.0 +1.0**
comp=N,0.4nm,0.5s,baz=356,slow=10,SNR=3.6
MKAR Makanchi Array 62.65 51 P **P** **17 28 20.7 +3.5**
comp=N,0.5nm,0.6s,baz=291,slow=6.1,SNR=7.4
YKA Yellowknife Ar 67.79 332 P **P** **17 28 53.8 +3.7**
comp=N,0.6nm,0.8s,baz=59,slow=6.6,SNR=7.5

*KRNET **28** 17:22:20.9±0.1, 39°.15N×72°.12E, h11km, mb2.9*
*NNC **28** 17:22:20.7±9.5, 38°.82N×72°.18E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=74.2km s-min=47.5km az=175.0
*SOME **28** 17:22:20.9, 39°.35N×71°.82E, h5km*
ISC 28 17:22:24.8±2.0, 39°.3N±0°.1×72°.05E±0°.03, h10km, n22,
σ2§47/42, 12C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.28**	**316**	⇑*iP*	**Pg**	**17 22 29.4**	**-1.2**
DRK	baz=23			⇑*eS*	**Sg**	**17 22 35.3**	**+0.8**
BTK	**Batken**	**1.23**	**310**	⇓*iP*	**Pn**	**17 22 46.6**	**-1.6**
BTK	baz=12			⇓*eS*	**Sn**	**17 23 05.3**	**+0.4**
SFK	**Sufi-Kurgan**	**1.34**	**56**	⇑*eP*	**Pn**	**17 22 47.0**	**-2.8**
SFK	baz=51			⇑*eS*	**Sb**	**17 23 06.3**	**-1.1**
OHH	**Osh**	**1.36**	**24**	⇓*iP*	**Pn**	**17 22 48.0**	**-2.0**
OHH	baz=20			⇓*iS*	**Sn**	**17 23 08.6**	**+0.4**
SALK	**Salom-Alik**	**2.10**	**40**	⇑*eP*	**Pn**	**17 23 00.3**	**+0.2**
SALK	baz=36			⇑*eS*	**Sn**	**17 23 28.6**	**+2.2**
TRKS	**Terek-Say**	**2.35**	**343**	⇑*eP*	**Pn**	**17 23 03.5**	**-0.2**
TRKS	baz=43			⇑*iS*	**Sn**	**17 23 35.0**	**+2.3**
ARK	**Arkit**	**2.52**	**358**	⇑*eP*	**Pn**	**17 23 06.7**	**+0.8**
ARK	baz=57			⇑*iS*	**Sn**	**17 23 40.4**	**+3.7**
ARLS	**Aral**	**3.10**	**33**	⇓*iP*	**Pn**	**17 23 14.2**	**+0.2**
ARLS	baz=31			⇓*iS*	**Sn**	**17 23 53.5**	**+2.3**
IUG	**Iuzhnay**	**3.25**	**332**	*eP*	**Pb**	**17 23 20.2**	**-2.5**
IUG	107nm,0.2s			*eS*	**Sb**	**17 24 03.4**	**+1.0**
MRKS	**Merke**	**3.57**	**14**	*eP*	**Pb**	**17 23 25.1**	**-3.1**
MRKS	3.9nm,0.4s			*eS*	**Sb**	**17 24 11.4**	**-0.2**
AAK	**Ala-Archa**	**3.83**	**28**	⇑Pn	**Pn**	**17 23 26.3**	**+2.3**
AAK	4.2nm,0.7s			⇓Sn	**Sb**	**17 24 17.2**	**-1.8**
KK02	**Karatay Array**	**3.99**	**344**	⇓Pn	**Pn**	**17 23 28.4**	**+2.3**
KK01	**Karatay Array**	**4.00**	**344**	⇓Sn	**Sb**	**17 24 22.9**	**-0.8**
BRLS	**Borolday**	**4.10**	**337**	*eP*	**Pn**	**17 23 28.9**	**+1.3**
BRLS	7.3nm,0.9s			*eS*	**Sn**	**17 24 18.2**	**+2.5**
TKM2	**Tokmak 2**	**4.52**	**35**	⇓Pn	**Pn**	**17 23 34.5**	**+1.1**
TKM2	3.3nm,0.9s			⇑Sn	**Sb**	**17 24 35.5**	**-3.4**
SGDS	**Sogindy**	**4.60**	**24**	*eP*	**Pb**	**17 23 45.9**	**+0.4**
SGDS	4.2nm,1.0s			*eS*	**Sb**	**17 24 46.7**	**+5.6**
KST	**Kastek**	**4.78**	**37**	*eP*	**Pb**	**17 23 51.4**	**+2.6**
KST	5.4nm,1.1s			*eS*	**Sg**	**17 24 56.4**	**-1.8**
DGS	**Degeres**	**4.85**	**34**	*eP*	**Pb**	**17 23 52.1**	**+2.2**
DGS	4.4nm,0.9s			*eS*	**Sg**	**17 24 57.4**	**-3.1**
KRBS	**Karabastau**	**5.18**	**30**	*eP*	**Pb**	**17 23 58.0**	**+2.5**
KRBS	3.2nm,0.9s			*eS*	**Sg**	**17 25 07.9**	**-3.3**
KOTS	**Kotyrbulak**	**5.49**	**42**	*eP*	**Pb**	**17 24 04.0**	**+3.1**
KOTS	8.3nm,0.8s			*eS*	**Sg**	**17 25 17.9**	**-3.0**
KTBS	**Karatobe**	**5.63**	**37**	*eP*	**Pb**	**17 24 05.9**	**+2.8**
KTBS	6.2nm,1.1s			*eS*	**Sg**	**17 25 21.7**	**-3.7**
CHKK	**Chushkaly**	**5.88**	**37**	*eP*	**Pb**	**17 24 11.0**	**+3.6**
CHKK	3.1nm,0.6s			*eS*	**Sg**	**17 25 30.3**	**-3.2**

*SKHL **28** 17:25:52.7±0.6, 45°.80N×143°.10E, h332km±2km, mb4.0/4, msha4.5/2*
*JMA **28** 17:25:52.6±0.1, 45°.76N×142°.59E, h332km, M3.0*
*IDC **28** 17:25:52.4±1.1, 45°.86N×142°.64E, h328km±20km, mb2.7/5, mb1 3.0/8, mb1mx2.8/44, mbtmp3.4/8, Error ellipse: s-maj=34.2km s-min=18.3km az=176.0*
ISC 28 17:25:51.9±0.8, 45°.71N±0°.07×142°.71E±0°.07, h332km, n27,
σ1§24/35, mb2.9/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.69**	**236**	P	**Pn**	**17 26 35.4**	**+0.8**
JWK2				*eS*	**S**	**17 27 08.6**	**-0.2**
JSE	**Soyaes**	**0.75**	**187**	P	**Pn**	**17 26 35.3**	**+0.4**
JRR	**Rishiri**	**1.14**	**241**	P	**Pn**	**17 26 37.0**	**+0.7**
JRBN	**Rebuntou**	**1.19**	**257**	P	**Pn**	**17 26 36.5**	**0.0**
JRBN				*eS*	**S**	**17 27 10.5**	**-1.7**
YSS	**Yuzh-Sakhalins**	**1.25**	**1**	*eP*	**Pn**	**17 26 36.6**	**-0.1**
YSS				AMB	AMB	17 26 37.4	
YSS	20nm,0.4s			*eS*	**S**	**17 27 10.9**	**-1.7**
YSS				A	A	17 27 11.4	
YSS	20nm,0.7s			A	A	17 27 11.4	
JSS	**Shosan**	**1.44**	**205**	P	**Pn**	**17 26 39.2**	**+1.3**
ASAJ	**Asahikawa**	**1.59**	**183**	P	**Pn**	**17 26 40.2**	**+1.3**
ASAJ	**Asahikawa**	**1.59**	**183**	P	**Pn**	**17 26 40.4**	**+1.5**
JMP	**Maruseppu**	**1.76**	**165**	P	**Pn**	**17 26 41.4**	**+1.4**
JKK2	**Kamakawa 2**	**1.83**	**179**	P	**Pn**	**17 26 42.2**	**+1.7**
JTKR	**Abashiri--Toko**	**1.93**	**153**	P	**Pn**	**17 26 42.8**	**+1.7**
JAR	**Ashorobuto**	**2.52**	**162**	P	**Pn**	**17 26 47.7**	**+1.9**
AKK	**Akkeshi**	**3.09**	**150**	*eP*	**Pn**	**17 26 51.4**	**+0.6**
AKK				*eS*	**S**	**17 27 37.0**	**-1.1**
AKK				A	A	17 27 38.2	
AKK	60nm,0.4s			A	A	17 27 38.2	
JCH	**Churui**	**3.13**	**171**	P	**Pn**	**17 26 51.4**	**+0.2**
JCH				*eS*	**S**	**17 27 36.2**	**-2.5**
NMR	**Nemuro--Hokkai**	**3.18**	**136**	*eP*	**Pn**	**17 26 50.8**	**-0.8**
NMR				AMB	AMB	17 27 04.1	
NMR	30nm,0.5s			AMB	AMB	17 27 04.1	
NMR	30nm,0.5s			*eS*	**S**	**17 27 37.6**	**-2.0**
NEM2	**Nemuro 2**	**3.19**	**136**	P	**Pn**	**17 26 53.1**	**+1.4**
NEM2				*eS*	**S**	**17 27 38.4**	**-1.3**
JNBK	**Urakawa-nobuka**	**3.42**	**179**	P	**Pn**	**17 26 55.2**	**+1.2**
JKB	**Kayabe**	**4.01**	**198**	P	**Pn**	**17 27 00.4**	**+0.5**
JKB				*eS*	**S**	**17 27 53.4**	**-1.3**
JOSM	**Okushiri--Mats**	**4.31**	**214**	P	**Pn**	**17 27 03.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**7.75**	**263**	P	**Pn**	**17 27 43.0**	**+0.2**
	baz=70,slow=13,SNR=9.2						
KLR	**Kul'dur**	**8.22**	**299**	P	**Pn**	**17 27 47.2**	**-1.1**
	0.2nm,0.3s,baz=133,slow=12,SNR=4.9						
MJAR	**Matsushiro Arr**	**9.76**	**202**	P	**Pn**	**17 28 08.5**	**+1.4**
	0.1nm,0.3s,baz=10,slow=13,SNR=7.3						
SONM	**Songino Array**	**24.82**	**288**	P	**P**	**17 30 44.9**	**0.0**
	0.6nm,0.6s,baz=84,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**40.88**	**294**	P	**P**	**17 33 02.5**	**+0.1**
	0.1nm,0.6s,baz=77,slow=8.7,SNR=1.8						
ILAR	**Eielson Array**	**41.81**	**37**	P	**P**	**17 33 09.1**	**-0.5**
	0.4nm,0.6s,baz=282,slow=8.1,SNR=4.8						
YKA	**Yellowknife Ar**	**55.91**	**33**	P	**P**	**17 34 56.0**	**+0.3**
	0.3nm,0.6s,baz=302,slow=6.6,SNR=6.6						
NVAR	**Mina Array Bea**	**69.17**	**56**	P	**P**	**17 36 24.3**	**+1.0**
	0.3nm,0.6s,baz=316,slow=5.0,SNR=2.3						

IDC 28 18:05:11.3±2.2, 3°.92S×151°.74E, h0km, mb3.5/3,
mb1 3.8/4, mb1mx3.2/45, mbtmp3.5/4, ML1.3/1, MS2.9/1,
Ms1 2.9/1, ms1mx2.5/34, Error ellipse: s-maj=152.7km
s-min=28.7km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.10**	**220**	Pn	Pn	18 06 57.7	+1.1
	0.3nm,0.3s,baz=41,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**23.27**	**225**	P	P	18 10 19.5	-1.3
	1.0nm,0.3s,baz=51,slow=9.7,SNR=37						
ASAR	**Alice Springs**	**26.12**	**220**	P	P	18 10 48.2	+0.9
	0.7nm,0.9s,baz=53,slow=9.4,SNR=9.2						
KSRS	**Korea Array**	**46.74**	**334**	LR	LR	18 32 42.5	
	comp=Z,12nm,18.1s,baz=355,slow=35						
ILAR	**Eielson Array**	**81.75**	**22**	P	P	18 17 31.6	-0.1
	0.5nm,0.8s,baz=246,slow=6.8,SNR=3.1						

*UPP **28** 18:05:33.9±0.1, 67°.08N×20°.92E, h0km, ML2.2, Explosion*
*IDC **28** 18:05:34.9±0.8, 67°.07N×21°.29E, h0km, mb1 3.5/5, mb1mx3.0/65, mbtmp3.5/5, ML2.1/5, Error ellipse: s-maj=16.0km s-min=7.4km az=111.0*
*HEL **28** 18:05:34.8±0.1, 67°.10N×20°.97E, h0km, ML2.3, ML2.2(UPP), Explosion*
ISC 28 18:05:33.5±0.7, 67°.09N±0°.02×20°.92E±0°.03, h0km, n45,
σ1§01/58, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.56**	**48**	P	**Pg**	**18 05 44.8**	**+0.6**
MASU				S	**Sb**	**18 05 52.9**	**-1.9**
MASU	**Masugnsbyn**	**0.56**	**48**	*i P*	**Pg**	**18 05 44.8**	**+0.6**
MASU				*i S*	**Sb**	**18 05 52.9**	**-1.9**
ERTU	**Ertsjaerv**	**0.73**	**136**	P	**Pg**	**18 05 47.5**	**-0.1**
ERTU				S	**Sg**	**18 05 58.2**	**+1.2**
ERTU	**Ertsjaerv**	**0.73**	**136**	*eP*	**Pg**	**18 05 47.4**	**-0.1**
PAJU	**Pajala**	**0.86**	**93**	P	**Pg**	**18 05 49.9**	**-0.1**
PAJU	**Pajala**	**0.86**	**93**	*eP*	**Pg**	**18 05 49.7**	**-0.3**
	baz=275						
KUA	**Kurravaara**	**0.90**	**346**	P	**Pg**	**18 05 50.7**	**0.0**
KUA	**Kurravaara**	**0.90**	**346**	*eP*	**Pg**	**18 05 50.7**	**0.0**
HARU	**Harads**	**0.93**	**179**	P	**Pg**	**18 05 51.0**	**-0.3**
HARU	**Harads**	**0.93**	**179**	*eP*	**Pg**	**18 05 51.0**	**-0.3**
SALU	**Saltoluokta**	**0.98**	**288**	P	**Pg**	**18 05 52.5**	**+0.1**
SALU	**Saltoluokta**	**0.98**	**288**	*eP*	**Pg**	**18 05 52.5**	**+0.1**
LANU	**Lannavaara**	**1.05**	**22**	P	**Pg**	**18 05 53.3**	**-0.3**
LANU	**Lannavaara**	**1.05**	**22**	*eP*	**Pg**	**18 05 53.2**	**-0.4**
LANU				*e*SN	**Sn**	**18 06 10.4**	**-0.4**
NIKU	**Nikkaluokta**	**1.07**	**318**	P	**Pg**	**18 05 54.0**	**0.0**
NIKU	**Nikkaluokta**	**1.07**	**318**	*eP*	**Pg**	**18 05 54.0**	**0.0**
KOVU	**Salmi**	**1.18**	**346**	P	**Pg**	**18 05 56.0**	**-0.1**
KOVU	**Salmi**	**1.18**	**346**	*eP*	**Pg**	**18 05 56.0**	**-0.1**
SJUU	**Sjulsmark**	**1.61**	**170**	P	**Pn**	**18 06 03.1**	**0.0**
SJUU	**Sjulsmark**	**1.61**	**170**	*eP*	**Pn**	**18 06 03.1**	**0.0**
HEF	**Hetta**	**1.69**	**37**	*eP*	**Pn**	**18 06 04.1**	**-0.1**
HEF	**Hetta**	**1.69**	**37**	*eP*	**Pn**	**18 06 04.4**	**+0.1**
	baz=221						
HEF				MSG		18 06 23.9	
	comp=Z,20nm,0.2s						
HEF				*e*SN	**Sg**	**18 06 27.4**	**-0.2**
TOF	**Tornio**	**1.69**	**125**	*eP*	**Pn**	**18 06 04.5**	**+0.2**
TOF				MSG		18 06 24.7	
	comp=Z,32nm,0.2s						
TOF				*e*SN	**Sg**	**18 06 28.1**	**+0.2**
LILU	**Lilltraesk**	**1.86**	**194**	P	**Pb**	**18 06 08.3**	**-0.1**
LILU	**Lilltraesk**	**1.86**	**194**	*eP*	**Pb**	**18 06 08.3**	**-0.1**
KIF	**Kilpisjarvi**	**1.93**	**359**	*eP*	**Pb**	**18 06 09.3**	**-0.2**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*PB	**Pb**	**18 06 09.4**	**-0.1**
	baz=174						
KIF				MSG		18 06 33.0	
	comp=Z,48nm,0.2s						
KIF				*e*SG	**Sg**	**18 06 36.0**	**+0.7**
RNF	**Rovaniemi**	**2.07**	**101**	*e*PB	**Pn**	**18 06 10.6**	**+1.1**
RNF				*e*S	**Sn**	**18 06 36.5**	**+0.6**
BURU	**Burvik**	**2.52**	**176**	*eP*	**Pn**	**18 06 16.9**	**+1.2**
	baz=356						
OUL	**Oulu**	**2.85**	**132**	*eP*	**Pn**	**18 06 22.5**	**+2.3**
OBF0	**Syolatti, Pyha**	**2.94**	**151**	*e*PG	**Pg**	**18 06 29.3**	**-0.5**
OBF0				*e*SB	**Sb**	**18 07 00.8**	**-2.3**
ARA0	**ARCESS Array S**	**2.99**	**33**	*eP*	**Pn**	**18 06 23.0**	**+0.9**
	baz=216						
ARA0				*e*S	**Sn**	**18 06 58.5**	**-0.1**
ARCES	**ARCESS Array B**	**2.99**	**33**	Pn	**Pn**	**18 06 23.2**	**+1.0**
	baz=210,slow=14,SNR=99						
ARCES				Lg	Lg	18 07 05.2	
	baz=218,slow=27,SNR=3.8						
OUF	**Merijarvi**	**3.15**	**148**	*eP*	**Pn**	**18 06 26.5**	**+2.2**
	baz=328						
OUF				MSG		18 07 07.1	
	comp=Z,3.6nm,0.2s						
VRF	**Varrio**	**3.42**	**75**	*eP*	**Pn**	**18 06 28.7**	**+0.7**
MSF	**Maaselka**	**3.46**	**106**	*eP*	**Pn**	**18 06 30.5**	**+1.9**
KEV	**Kevo**	**3.50**	**37**	*eP*	**Pn**	**18 06 29.4**	**+0.3**
KU6	**Riekki**	**3.74**	**102**	*eP*	**Pn**	**18 06 34.2**	**+1.8**
HUSU	**Husum**	**3.83**	**192**	*eP*	**Pn**	**18 06 35.3**	**+1.7**
HUSU				*e*S	**Sn**	**18 07 19.8**	**+0.5**
VAF	**Ylistaro**	**4.13**	**169**	*eP*	**Pn**	**18 06 39.3**	**+1.6**
HEMU	**Hemsoen**	**4.60**	**197**	*eP*	**Pn**	**18 06 46.4**	**+2.2**
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**18 07 05.9**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=10						
FINES				Sn	**Sn**	**18 08 13.7**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=342,slow=22,SNR=9.9						
NOA	**NORSAR Array B**	**7.41**	**220**	Pn	**Pn**	**18 07 23.3**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=21,slow=11,SNR=5.9						
NOA				Sn	**Sn**	**18 08 45.6**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=170,slow=18,SNR=1.6						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**18 07 26.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=5.2						
SPITS	**Spitsbergen Ar**	**11.22**	**355**	Pn	**Pn**	**18 08 16.0**	**+1.1**
	baz=147,slow=12,SNR=1.9						

*IDC **28** 18:08:21.1±3.1, 30°.55S×177°.24W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.4/52, mbtmp3.9/5, ML2.9/1, Error ellipse: s-maj=60.2km s-min=24.5km az=93.0*
ISC 28 18:08:25.4±2.7, 30°.65S±0°.08×177°.3W±0°.3, h35km, n7,
σ1§53/9, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.51**	**338**	Pn	**Pn**	**18 08 48.4**	**-1.5**
	130nm,0.3s,baz=90,slow=22,SNR=4.3						
RAO				LR	LR	18 08 50.0	
	comp=Z,48nm,18.9s,baz=338,slow=20						
RAO				Sn	**Sn**	**18 09 07.3**	**-1.0**
	157nm,0.3s,baz=95,slow=21,SNR=4.1						
URZ	**Urewera**	**8.89**	**210**	Pn	**Pn**	**18 10 30.9**	**-0.4**
	0.1nm,0.3s,baz=352,slow=22,SNR=1.3						
URZ				Sn	**Sn**	**18 12 07.9**	**-2.4**
	0.3nm,0.3s,baz=89,slow=9.8,SNR=1.6						
CTA	**Charters Tower**	**34.47**	**279**	P	**P**	**18 15 11.5**	**+1.4**
	1.0nm,0.4s,baz=90,slow=7.1,SNR=1.7						
STKA	**Stephens Creek**	**35.04**	**257**	P	**P**	**18 15 16.1**	**+1.2**
	1.4nm,0.5s,baz=105,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**43.73**	**267**	P	**P**	**18 16 28.2**	**+0.7**
	0.3nm,0.6s,baz=109,slow=6.9,SNR=9.7						
WRA	**Warramunga Arr**	**44.74**	**272**	P	**P**	**18 16 36.6**	**+1.0**
	1.6nm,0.7s,baz=112,slow=7.7,SNR=10.0						
FINES	**FINESS Array B**	**145.60**	**340**	PKPbc	**PKPab**	**18 27 59.8**	**0.0**
	4.8nm,1.0s,baz=45,slow=4.1,SNR=3.4						

*NEIC **28** 18:09:31.7±1.2, 19°.22S±0°.10×172°.96W±0°.08, h13km±5km, mb4.6/18, Error ellipse: s-maj=16.6km s-min=7.1km az=214.0*
*IDC **28** 18:09:48.1±4.7, 19°.39S×173°.60W, h120km±39km, mb3.7/7, m

σ1°34/32, mb4.5/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.94**	**86**		**Pn**	**18 10 17.3**	**-0.4**
AFI	**Afiamalu**	**5.51**	**13**	Pn	**Pn**	**18 10 51.7**	**-1.5**
MSVF	**Nonsavu**	**8.61**	**279**	P	Pn	18 11 43.2	+7.4
0.3nm,0.3s,baz=110,slow=14,SNR=8.3							
MSVF	**Nonsavu**	**8.61**	**279**		Pn	18 11 41.3	+5.5
RAR	**Rarotonga**	**12.58**	**101**	Pn	**Pn**	**18 12 29.8**	**-0.2**
PINNC	**Pines Island,**	**18.53**	**256**		**P**	**18 13 47.9**	**+0.2**
OUENC	**Ouen Island, N**	**19.07**	**257**	P	**Pn**	**18 13 55.3**	**+0.9**
DZM	**Mont Dzumac**	**19.40**	**258**	P	**Pn**	**18 13 59.2**	**+0.7**
0.3nm,0.3s,baz=77,slow=17,SNR=13							
DZM				LR	LR	18 19 59.3	
comp=Z,133nm,18.5s,baz=52,slow=32							
DZM	**Mont Dzumac**	**19.40**	**258**	*e*P	**Pn**	**18 14 00.1**	**+1.6**
25nm,1.0s							
DZM				*e*LR	LR	18 18 37.0	
comp=Z,124nm,21.0s							
DZM	**Mont Dzumac**	**19.40**	**258**	P	**P**	**18 13 56.3**	**-1.1**
URZ	**Urewera**	**20.73**	**202**	P	Pn	18 14 16.1	+2.1
5.0nm,0.5s,baz=322,slow=18,SNR=2.4							
URZ	**Urewera**	**20.73**	**202**	P	**P**	**18 14 07.2**	**-4.5**
URZ				IAmb	IAmb	18 14 17.5	
comp=Z,18nm,1.3s							
PPT2	**Papeete2**	**22.31**	**89**	*e*LR	LR	18 19 43.7	
comp=Z,151nm,25.5s							
QRZ	**Quartz Range**	**24.75**	**207**	P	**P**	**18 14 52.4**	**-0.3**
THZ	**Tophouse**	**25.37**	**205**	P	**P**	**18 14 59.8**	**+1.4**
THZ				IAmb	IAmb	18 15 27.2	
comp=Z,19nm,1.1s							
LTZ	**Lake Taylor**	**26.48**	**205**	P	**P**	**18 15 09.6**	**+1.1**
LTZ				IAmb	IAmb	18 15 19.8	
comp=Z,13nm,0.9s							
FOZ	**Fox Glacier**	**28.12**	**207**	P	**P**	**18 15 23.7**	**+0.7**
EIDS	**Eidsvold**	**33.67**	**253**	P	**P**	**18 16 12.0**	**-0.3**
EIDS				IAmb	IAmb	18 16 34.3	
comp=Z,16nm,1.3s							
CTA	**Charters Tower**	**38.28**	**262**	P	**P**	**18 16 52.5**	**+0.7**
comp=Z,4.5nm,0.5s,baz=90,slow=10,SNR=15							
CTAO	**Charters Tower**	**38.28**	**262**	P	**P**	**18 16 51.4**	**-0.5**
CTAO				IAmb	IAmb	18 16 54.2	
comp=Z,11nm,1.0s							
TOO	**Toolangi**	**40.38**	**234**	P	**P**	**18 17 08.4**	**-0.8**
TOO				IAmb	IAmb	18 17 20.9	
comp=Z,11nm,1.4s							
COEN	**Coen**	**42.22**	**270**	P	**P**	**18 17 24.9**	**+0.3**
COEN				IAmb	IAmb	18 17 44.1	
comp=Z,6.7nm,1.1s							
ASAR	**Alice Springs**	**49.35**	**255**	P	**P**	**18 18 21.5**	**+0.6**
comp=Z,7.2nm,0.9s,baz=95,slow=7.8,SNR=32							
WB0	**Warramunga Arr**	**49.38**	**260**	P	**P**	**18 18 21.8**	**+0.6**
WB0				IAmb	IAmb	18 18 22.7	
comp=Z,6.9nm,1.1s							
WB2	**Warramunga Arr**	**49.40**	**260**	P	**P**	**18 18 21.6**	**+0.3**
WB2				IAmb	IAmb	18 18 36.1	
comp=Z,11nm,1.4s							
WRAB	**Tennant Creek**	**49.40**	**260**	P	**P**	**18 18 20.8**	**-0.4**
WRAB				IAmb	IAmb	18 18 35.4	
comp=Z,11nm,1.2s							
WRA	**Warramunga Arr**	**49.41**	**260**	P	**P**	**18 18 21.2**	**-0.1**
comp=Z,1.0nm,0.4s,baz=98,slow=7.8,SNR=13							
WRA	**Warramunga Arr**	**49.41**	**260**	P	**P**	**18 18 21.1**	**-0.2**
FORT	**Forrest**	**54.05**	**246**	P	**P**	**18 18 56.2**	**+0.3**
SOEI	**Soe**	**61.17**	**269**	P	**P**	**18 19 46.0**	**-0.5**
NVAR	**Mina Array Bea**	**77.01**	**41**	P	P	18 21 30.2	+5.8
comp=Z,0.8nm,0.9s,baz=212,slow=5.3,SNR=4.4							
NVAR	**Mina Array Bea**	**77.01**	**41**	P	**P**	**18 21 24.2**	**-0.2**
ILAR	**Eielson Array**	**86.20**	**11**	P	**P**	**18 22 15.9**	**+3.8**
comp=Z,0.4nm,0.6s,baz=233,slow=6.6,SNR=4.2							
ILAR	**Eielson Array**	**86.20**	**11**	P	**P**	**18 22 11.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**94.17**	**288**	P	**P**	**18 22 50.4**	**-0.3**
comp=Z,0.1nm,0.4s,baz=106,slow=1.3,SNR=1.3							
BRTR	**Keskin Array B**	**149.34**	**317**	PKPbc	**PKPab**	**18 29 24.1**	**-1.1**
comp=Z,0.8nm,0.8s,baz=35,slow=0.2,SNR=3.8							
GERES	**GERESS Array B**	**150.05**	**351**	PKPbc	**PKiKP**	**18 29 24.1**	**+1.3**
comp=Z,0.8nm,0.8s,baz=348,slow=4.1,SNR=3.0							

*IDC **28** 18:13:48.6±4.8, 8°.76S×120°.51E, h133km±48km, mb3.3/3, mb1 3.4/7, mb1mx2.9/52, mbtmp3.7/7, MS3.7/1, Ms1 3.7/1, ms1mx2.5/24, Error ellipse: s-maj=63.9km s-min=26.4km az=68.0*

ISC 28 18:13:49.7±0.8, 8°.8S±0°.1×120°.58E±0°.08, h150km, n21, σ1°28/21, mb3.6/5, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.36**	**115**	P	**Pn**	**18 14 41.9**	**+0.2**
31nm,0.3s,baz=309,slow=1.8,SNR=39							
BATI				S	**Sn**	**18 15 21.6**	**-0.3**
20nm,0.3s,baz=334,slow=23,SNR=7.2							
JAGI	**Jajag, Banyuwa**	**6.37**	**272**	P	**Pn**	**18 15 19.6**	**-1.7**
23nm,1.1s							
UGM	**Wanagama**	**9.99**	**274**	P	**Pn**	**18 16 09.1**	**-0.6**
110nm,1.5s							
FITZ	**Fitzroy Crossi**	**10.49**	**153**	P	**Pn**	**18 16 14.8**	**-1.4**
baz=330,slow=13							
FITZ				S	Sn	18 18 03.3	-9.0
0.5nm,0.3s,baz=328,slow=20,SNR=2.1							
KNRA	**Kununurra**	**10.53**	**131**	P	**Pn**	**18 16 14.6**	**-2.2**
9.7nm,1.0s							
DRS	**Darwin Rock St**	**10.77**	**111**	P	**Pn**	**18 16 18.1**	**-1.9**
19nm,0.6s							
MTN	**Manton Dam**	**11.12**	**112**	P	**Pn**	**18 16 23.1**	**-1.5**
KDU	**Kakadu**	**12.31**	**109**	P	**Pn**	**18 16 37.9**	**-2.2**
18nm,1.5s							
MBWA	**Marble Bar**	**12.34**	**184**	P	**Pn**	**18 16 39.8**	**-0.6**
11nm,1.5s							
PSA00	**Pilbara Seismi**	**12.74**	**183**	P	**Pn**	**18 16 45.7**	**+0.1**
24nm,1.8s							
GIRL	**Giralia**	**15.08**	**203**	P	**P**	**18 17 18.8**	**+2.0**
81nm,1.4s							
WRA	**Warramunga Arr**	**17.33**	**131**	P	**P**	**18 17 42.4**	**+0.7**
0.3nm,0.3s,baz=305,slow=12,SNR=15							
WRA				S	S	18 20 43.2	-12
0.4nm,0.3s,baz=260,slow=32,SNR=7.7							
WRAB	**Tennant Creek**	**17.33**	**131**	P	**Pn**	**18 17 42.9**	**+0.2**
WRKA	**Warakurna**	**17.77**	**156**	P	**Pn**	**18 17 48.2**	**+0.4**
8.5nm,1.6s							
ASAR	**Alice Springs**	**19.54**	**141**	P	**P**	**18 18 07.3**	**+1.5**
0.4nm,0.3s,baz=327,slow=13,SNR=38							
QIS	**Mount Isa**	**21.79**	**125**	P	**P**	**18 18 30.8**	**+0.9**
6.4nm,2.6s							
COEN	**Coen**	**22.73**	**105**	P	**P**	**18 18 39.6**	**+0.4**
3.9nm,0.6s							
CTA	**Charters Tower**	**27.24**	**117**	LR	LR	18 31 46.2	
comp=Z,137nm,18.7s,baz=85,slow=40							
SONM	**Songino Array**	**57.75**	**349**	P	**P**	**18 23 25.5**	**+0.6**
0.1nm,0.5s,baz=165,slow=6.0,SNR=1.5							
MKAR	**Makanchi Array**	**64.98**	**332**	P	**P**	**18 24 14.3**	**+0.8**
0.2nm,0.4s,baz=135,slow=6.8,SNR=8.0							
ZALV	**Zalesovo Beam**	**69.40**	**338**	P	**P**	**18 24 41.0**	**-0.1**
1.1nm,0.4s,baz=145,slow=5.1,SNR=5.9							

NNC 28 18:19:17.9±7.0, 37°.66N×70°.37E, h0km, mb3.9, mpv3.5, 4C-1D, Error ellipse: s-maj=53.8km s-min=43.9km az=13.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.49**	**357**	Pg	Pg	18 20 41.9	-2.0
187nm,0.6s							
IUG				Lg	Lg	18 21 37.7	
46nm,0.8s							
BRLS	**Borolday**	**5.38**	**356**	Pg	Pb	18 20 53.0	+0.3
BRLS				Lg	Lg	18 21 56.7	
KK02	**Karatay Array**	**5.43**	**1**	⇑Pn	Pn	18 20 37.7	-2.5
0.7nm,0.3s,baz=194,slow=13							
KK02				⇑Pg	Pb	18 20 56.9	+3.2
3.1nm,0.8s,baz=186,slow=17							
KK02				⇑Lg	Lg	18 22 07.5	
9.3nm,0.7s,baz=173,slow=28							
MRKS	**Merke**	**5.53**	**22**	Pg	Pg	18 21 02.8	-1.0
3.8nm,0.8s							
MRKS				Lg	Lg	18 22 13.4	
13nm,0.8s							
AAK	**Ala-Archa**	**5.89**	**31**	Pn	Pn	18 20 45.3	-1.2
1.9nm,0.4s							
AAK				Pg	Pb	18 21 02.9	+1.4
3.3nm,0.6s							
AAK				Lg	Lg	18 22 26.6	
11nm,1.0s							
TKM2	**Tokmak 2**	**6.60**	**36**	⇓Pn	Pn	18 20 55.0	-1.4
1.1nm,0.3s							
TKM2				⇑Lg	Lg	18 22 47.8	
4.3nm,0.8s							
KRBS	**Karabastau**	**7.25**	**32**	Pg	Pg	18 21 36.0	-0.8
1.4nm,0.5s							
KRBS				Lg	Lg	18 23 10.3	
2.4nm,0.8s							
KTBS	**Karatobe**	**7.71**	**36**	Pg	Pg	18 21 44.5	-1.1
1.2nm,1.1s							
KTBS				Lg	Lg	18 23 24.9	
4.3nm,0.7s							

IDC 28 18:21:15.4±2.7, 4°.27N×127°.88E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.0/47, mbtmp3.2/3, Error ellipse: s-maj=206.4km s-min=28.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.88**	**165**	P	P	18 26 40.0	0.0
0.4nm,0.6s,baz=346,slow=9.8,SNR=4.9							
ASAR	**Alice Springs**	**28.38**	**168**	P	P	18 27 11.6	0.0
0.2nm,0.7s,baz=344,slow=11,SNR=2.0							
MKAR	**Makanchi Array**	**57.78**	**325**	P	P	18 31 08.5	0.0
0.1nm,0.4s,baz=129,slow=5.7,SNR=5.4							

*IDC **28** 18:31:07.8±2.9, 21°.76S×177°.99W, h336km±30km, mb3.2/8, mb1 3.5/11, mb1mx3.3/31, mbtmp4.0/11, Error ellipse: s-maj=40.4km s-min=15.6km az=145.0*

*NEIC **28** 18:31:08.4±1.4, 21°.8S±0°.2×177°.8W±0°.1, h343km±10km, mb4.1/13, Error ellipse: s-maj=24.1km s-min=13.2km az=151.0*

ISC 28 18:31:10.1±0.6, 21°.94S±0°.10×177°.80W±0°.09, h373km, n29, σ1°34/30, mb3.6/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.91**	**70**	Pn	**Pn**	**18 33 02.1**	**-1.5**
NIUE				Sn	**S**	**18 34 36.9**	**+0.5**
AFI	**Afiamalu**	**9.83**	**37**	P	**Pn**	**18 33 22.7**	**-3.5**
2.9nm,0.3s,baz=239,slow=18,SNR=1.9							
AFI				S	S	18 35 07.4	-10
1.1nm,0.3s,baz=114,slow=16,SNR=2.2							
PINNC	**Pines Island,**	**13.67**	**264**	Pn	**Pn**	**18 34 11.3**	**+0.1**
DZM	**Mont Dzumac**	**14.61**	**267**	P	**P**	**18 34 18.9**	**-0.7**
0.2nm,0.3s,baz=93,slow=12,SNR=5.7							
URZ	**Urewera**	**16.85**	**194**	P	**P**	**18 34 44.5**	**+1.1**
2.0nm,0.3s,baz=322,slow=3.1,SNR=8.3							
URZ				S	**S**	**18 37 37.3**	**-2.8**
0.1nm,0.3s,baz=312,slow=22,SNR=1.4							
URZ	**Urewera**	**16.85**	**194**	IAmb	IAmb	18 34 48.0	
comp=Z,31nm,1.4s							
URZ				S	**S**	**18 37 38.4**	**-1.8**
BFZ	**Birch Farm**	**19.36**	**194**	P	**P**	**18 35 10.7**	**+0.8**
QRZ	**Quartz Range**	**20.53**	**201**	P	**P**	**18 35 22.1**	**+0.9**
NNZ	**Nelson**	**20.61**	**199**	P	**P**	**18 35 23.0**	**+1.1**
THZ	**Tophouse**	**21.26**	**199**	P	**P**	**18 35 29.2**	**+1.4**
THZ				IAmb	IAmb	18 35 33.4	
comp=Z,21nm,1.2s							
LTZ	**Lake Taylor**	**22.38**	**199**	P	**P**	**18 35 37.4**	**-0.6**
STKA	**Stephens Creek**	**37.35**	**246**	P	**P**	**18 37 48.7**	**+0.1**
comp=Z,1.3nm,0.4s,baz=90,slow=9.7,SNR=4.2							
BBOO	**Buckleboo**	**42.09**	**245**	P	**P**	**18 38 27.7**	**+0.5**
BBOO				IAmb	IAmb	18 38 50.1	
comp=Z,30nm,1.3s							
AS31	**Alice Springs**	**44.38**	**258**	P	**P**	**18 38 45.8**	**+0.3**
ASAR	**Alice Springs**	**44.39**	**258**	P	**P**	**18 38 45.2**	**-0.2**
comp=Z,0.7nm,0.8s,baz=93,slow=9.3,SNR=18							
WR0	**Warramunga Arr**	**44.41**	**263**	P	**P**	**18 38 45.1**	**-0.6**
WR0				IAmb	IAmb	18 38 49.0	
comp=Z,10nm,1.5s							
WB0	**Warramunga Arr**	**44.59**	**264**	P	**P**	**18 38 46.1**	**-1.0**
WB0				IAmb	IAmb	18 38 47.0	
comp=Z,11nm,1.5s							
WB2	**Warramunga Arr**	**44.59**	**263**	P	**P**	**18 38 46.8**	**-0.3**
WRAB	**Tennant Creek**	**44.59**	**263**	P	**P**	**18 38 45.8**	**-1.3**
WRAB				IAmb	IAmb	18 39 13.4	
comp=Z,9.6nm,1.4s							
WRA	**Warramunga Arr**	**44.60**	**263**	P	**P**	**18 38 46.0**	**-1.2**
comp=Z,0.5nm,0.8s,baz=96,slow=8.0,SNR=12							
WRA	**Warramunga Arr**	**44.60**	**263**	IAmb	IAmb	18 38 54.7	
comp=Z,0.3nm,1.3s							
PETK	**Petropavlovsk-**	**77.70**	**345**	P	**P**	**18 42 26.7**	**+0.5**
comp=Z,4.7nm,1.0s,baz=185,slow=8.1,SNR=1.8							
NVAR	**Mina Array Bea**	**81.94**	**43**	P	**P**	**18 42 51.1**	**+1.7**
comp=Z,0.5nm,0.6s,baz=231,slow=9.2,SNR=4.6							
ILAR	**Eielson Array**	**89.67**	**13**	P	**P**	**18 43 26.9**	**+0.9**
comp=Z,0.3nm,0.4s,baz=218,slow=5.3,SNR=7.7							
PDAR	**Pinedale Array**	**89.88**	**43**	P	**P**	**18 43 30.0**	**+2.1**
comp=Z,0.3nm,0.6s,baz=190,slow=4.5,SNR=3.7							
CMAR	**Chiang Mai Arr**	**90.77**	**289**	P	**P**	**18 43 33.4**	**+1.2**
comp=Z,0.2nm,0.3s,baz=106,slow=2.9,SNR=1.9							
ARCES	**ARCESS Array B**	**130.36**	**349**	PKP	**PKPdf**	**18 49 35.7**	**-0.2**
comp=Z,2.0nm,0.9s,baz=41,slow=1.5,SNR=5.1							
AKASG	**Malin Array Be**	**144.35**	**330**	PKP	**PKPab**	**18 50 00.7**	**-0.8**
comp=Z,0.9nm,0.5s,baz=43,slow=4.2,SNR=7.0							
BRTR	**Keskin Array B**	**147.93**	**311**	PKPbc	**PKiKP**	**18 50 13.7**	**-0.1**
comp=Z,1.8nm,1.2s,baz=19,slow=9.2,SNR=2.6							

*JMA **28** 18:36:41.3±0.2, 24°.50N×122°.55E, h86km±2km, M2.1*

*TAP **28** 18:36:41.6, 24°.47N×122°.55E, h82km, ML3.1, B*

ISC 28 18:36:42.2±1.3, 24°.46N±0°.03×122°.57E±0°.02, h80km±8km, n96, σ0°57/177, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.34**	**92**	P	**Pn**	**18 36 54.9**	**+0.2**
JYNG				S	**Sn**	**18 37 04.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.41**	**90**	P	**Pn**	**18 36 55.3**	**+0.1**
YOJ				S	**Sn**	**18 37 05.1**	**+0.4**
YOJ	**Yonaguni jima**	**0.41**	**90**	P	**Pn**	**18 36 55.2**	**+0.1**
baz=90							
YOJ				S	**Sn**	**18 37 05.3**	**+0.6**
baz=90							
EGS		**0.69**	**304**	*e*P	**Pn**	**18 36 57.3**	**-0.5**
baz=303							
EGS				*i* S	**Sn**	**18 37 08.9**	**-0.4**
baz=303							
EWUT	**Wuta**	**0.72**	**269**	P	**Pn**	**18 36 58.0**	**0.0**
baz=267							
EWUT				S	**Sn**	**18 37 10.6**	**+0.8**
baz=267							
ENA	**Nanau**	**0.75**	**268**	*i* P	**Pn**	**18 36 58.4**	**0.0**
baz=266							
ENA				*i* S	**Sn**	**18 37 10.8**	**+0.3**
baz=266							
TWB1	**Santiao Chiao**	**0.76**	**316**	*e*P	**Pn**	**18 36 58.1**	**-0.3**
baz=316							
TWB1				S	**Sn**	**18 37 10.7**	**+0.2**
baz=316							
EHP	**Heping Village**	**0.77**	**259**	*e*P	**Pn**	**18 36 58.2**	**-0.3**
baz=257							
EHP				*e*S	**Sn**	**18 37 10.9**	**+0.2**
baz=257							
NTC	**Toucheng**	**0.78**	**300**	*e*P	**Pn**	**18 36 58.4**	**-0.3**
baz=299							
NTC				*e*S	**Sn**	**18 37 10.2**	**-0.7**
baz=299							
NDS	**Dongshan**	**0.79**	**283**	P	**Pn**	**18 36 59.2**	**+0.4**
baz=281							
NDS				S	**Sn**	**18 37 11.2**	**-0.1**
baz=281							
ILA	**Ilan**	**0.80**	**292**	P	**Pn**	**18 36 58.8**	**-0.1**
baz=291							
ILA				*e*S	**Sn**	**18 37 11.5**	**+0.1**
baz=291							
TIPB	**Shuangxi**	**0.84**	**307**	*i* P	**Pn**	**18 36 58.8**	**-0.6**
baz=306							
TIPB				*i* S	**Sn**	**18 37 11.4**	**-0.9**
baz=306							
TWE	**Neicheng**	**0.86**	**288**	*i* P	**Pn**	**18 36 59.4**	**-0.1**
baz=287							
TWE				*i* S	**Sn**	**18 37 12.1**	**-0.4**
baz=287							
SXI1	**Grass Mountain**	**0.89**	**315**	P	**Pn**	**18 36 59.7**	**-0.3**
baz=315							
SXI1				S	**Sn**	**18 37 12.7**	**-0.6**
baz=315							
ETL	**Fush Village**	**0.91**	**251**	P	**Pn**	**18 36 60.0**	**-0.3**
baz=249							
ETL				S	**Sn**	**18 37 14.0**	**+0.3**
baz=249							
ENTT	**Nioudou**	**0.93**	**281**	*i* P	**Pn**	**18 37 00.7**	**+0.3**
baz=280							
ENTT				*i* S	**Sn**	**18 37 14.3**	**+0.3**
baz=280							
NACB	**Ninganchiao**	**0.93**	**252**	P	**Pn**	**18 36 59.9**	**-0.5**
baz=251							
NACB				S	**Sn**	**18 37 13.8**	**-0.2**
baz=251							
NWF	**Wu-fen Shan**	**0.94**	**310**	*i* P	**Pn**	**18 37 00.6**	**+0.1**
baz=310							
NWF				*i* S	**Sn**	**18 37 13.7**	**-0.6**
baz=310							
FUSB	**Fushanzhiwuyua**	**0.94**	**289**	P	**Pn**	**18 37 00.4**	**-0.2**
baz=288							
FUSB				S	**Sn**	**18 37 13.7**	**-0.6**
baz=288							
LATG	**Datong**	**0.95**	**275**	P	**Pn**	**18 37 00.9**	**+0.1**
baz=273							
LATG				S	**Sn**	**18 37 15.0**	**+0.4**
baz=273							
TWD	**Chiawan**	**0.96**	**247**	*i* P	**Pn**	**18 37 00.4**	**-0.4**
baz=245							
TWD				*i* S	**Sn**	**18 37 14.8**	**+0.1**
baz=245							
NDT	**Datong Townshi**	**0.97**	**279**	*i* P	**Pn**	**18 37 01.3**	**+0.4**
baz=277							
NDT				*i* S	**Sn**	**18 37 15.3**	**+0.5**
baz=277							
HWA	**Hwalien**	**1.00**	**241**	*e*P	**Pn**	**18 37 01.1**	**-0.1**
baz=240							
HWA				S	**Sn**	**18 37 16.3**	**+0.8**
baz=240							
NWLT	**Wulai**	**1.02**	**288**	*e*P	**Pn**	**18 37 01.5**	**0.0**
baz=287							
NWLT				S	**Sn**	**18 37 15.6**	**-0.3**
baz=287							
TWA	**Mucha**	**1.03**	**300**	P	**Pn**	**18 37 01.7**	**+0.1**
baz=299							
TWA				*e*S	**Sn**	**18 37 15.6**	**-0.6**
baz=299							
IRIF	**Iriomote-Funau**	**1.07**	**97**	P	**Pn**	**18 37 02.0**	**0.0**
IRIF				S	**Sn**	**18 37 16.9**	**0.0**
NHDH	**Xindian Distri**	**1.07**	**298**	*e*P	**Pn**	**18 37 01.9**	**-0.1**
baz=297							
NHDH				S	**Sn**	**18 37 16.7**	**-0.3**
baz=297							
NNSB	**Datong**	**1.08**	**268**	P	**Pn**	**18 37 02.2**	**-0.1**
baz=267							
NNSB				S	**Sn**	**18 37 17.5**	**+0.1**
baz=267							
NNS	**Nan Shan**	**1.09**	**269**	P	**Pn**	**18 37 02.4**	**-0.1**
baz=268							
NNS				*i* S	**Sn**	**18 37 17.5**	**-0.1**
baz=268							
YHNB	**Yeheng**	**1.10**	**281**	P	**Pn**	**18 37 02.7**	**+0.1**
baz=280							
YHNB				S	**Sn**	**18 37 18.2**	**+0.4**
baz=280							
NSK	**Sanguang**	**1.12**	**281**	*i* P	**Pn**	**18 37 02.7**	**-0.1**
baz=280							
NSK				*i* S	**Sn**	**18 37 18.1**	**-0.1**
baz=280							
TAP	**Taipei**	**1.12**	**301**	*e*P	**Pn**	**18 37 02.9**	**+0.2**
baz=300							
TAP				*e*S	**Sn**	**18 37 18.3**	**+0.3**
baz=300							
YM01	**YM01**	**1.13**	**307**	P	**Pn**	**18 37 02.7**	**-0.2**
baz=306							
YM01				S	**Sn**	**18 37 17.6**	**-0.8**
baz=306							
TWY	**Chenhua**	**1.20**	**313**	P	**Pn**	**18 37 03.0**	**-0.6**
baz=312							
TWY				S	**Sn**	**18 37 19.6**	**0.0**
baz=312							
ESL	**Shilin**	**1.22**	**238**	*i* P	**Pn**	**18 37 03.6**	**-0.3**
baz=237							
ESL				S	**Sn**	**18 37 20.0**	**-0.3**
baz=237							
TWS1	**Kuangyinshan**	**1.22**	**302**	*e*S	**Sn**	**18 37 20.4**	**+0.1**
baz=301							
FUSS	**Fushou**	**1.23**	**260**	*e*P	**Pn**	**18 37 04.5**	**+0.2**
baz=259							
FUSS				*e*S	**Sn**	**18 37 20.7**	**0.0**
baz=259							
WHF	**Hehuan Shan**	**1.23**	**255**	*i* P	**Pn**	**18 37 04.2**	**-0.2**
baz=254							
WHF				*i* S	**Sn**	**18 37 20.7**	**-0.4**
baz=254							
NTST	**Danshui**	**1.23**	**305**	*e*S	**Sn**	**18 37 20.4**	**-0.2**
baz=304							
TWT	**Tachien**	**1.29**	**261**	S	**Sn**	**18 37 22.4**	**+0.4**
baz=260							
TDCB	**Techi**	**1.30**	**261**	*e*P	**Pn**	**18 37 04.6**	**-0.5**
baz=260							
TDCB				*e*S	**Sn**	**18 37 21.9**	**-0.4**
baz=260							
EGFH	**Guangfu**	**1.31**	**233**	*e*P	**Pn**	**18 37 04.6**	**-0.4**
baz=232							
EGFH				S	**Sn**	**18 37 22.5**	**+0.3**
baz=232							
NFF	**Wufeng Townshi**	**1.33**	**278**	*e*P	**Pn**	**18 37 05.4**	**+0.1**
baz=276							
NFF				S	**Sn**	**18 37 22.9**	**0.0**
baz=276							
CHGB	**Renai**	**1.33**	**253**	P	**Pn**	**18 37 05.7**	**+0.1**
baz=251							
CHGB				S	**Sn**	**18 37 22.9**	**-0.2**
baz=251							
JKRS	**Kuro-shima**	**1.33**	**99**	P	**Pn**	**18 37 05.7**	**+0.4**
JKRS				S	**Sn**	**18 37 23.3**	**+0.5**
NCU	**National Centr**	**1.35**	**292**	*e*S	**Sn**	**18 37 23.2**	**0.0**
baz=291							
NCUH	**Zhongli**	**1.35**	**292**	*e*P	**Pn**	**18 37 05.5**	**-0.1**
baz=291							
NCUH				*e*S	**Sn**	**18 37 23.5**	**+0.2**
baz=291							
WUSB	**Renai**	**1.40**	**251**	P	**Pn**	**18 37 06.6**	**+0.2**
baz=249							
WUSB				*e*S	**Sn**	**18 37 24.2**	**-0.4**
baz=249							
HGSD	**Ruisui**	**1.42**	**228**	P	**Pn**	**18 37 06.2**	**-0.2**
baz=226							
HGSD				S	**Sn**	**18 37 24.2**	**-0.6**
baz=226							
LIOB	**Emei**	**1.42**	**278**	*e*P	**Pn**	**18 37 07.1**	**+0.6**
baz=277							
LIOB				S	**Sn**	**18 37 25.3**	**+0.4**
baz=277							
NSTT	**Nanjuang**	**1.44**	**277**	P	**Pn**	**18 37 06.8**	**+0.2**
baz=276							
NSTT				S	**Sn**	**18 37 25.5**	**+0.4**
baz=276			

baz=248
TWQ1 Liyutan 1.64 266 P **Pn 18 37 09.1 -0.2**
baz=265
TWQ1 *e*S **Sn 18 37 30.2 +0.3**
baz=265
TYC Yuchr 1.66 251 P **Pn 18 37 10.7 +1.2**
baz=249
TYC *e*S **Sn 18 37 29.9 -0.3**
baz=249
FULB Fuli 1.71 223 *e*P **Pn 18 37 10.0 -0.4**
baz=222
FULB S **Sn 18 37 31.1 -0.5**
baz=222
CHKT Chengkung 1.75 219 *e*P **Pn 18 37 10.4 -0.3**
baz=218
CHKT S **Sn 18 37 30.8 -1.6**
baz=218
TCU Taichung 1.75 260 *e*S **Sn 18 37 32.5 -0.1**
baz=259
YUS Yu-Shan 1.77 237 *e*S **Sn 18 37 32.9 -0.6**
baz=236
ALS Alishan 1.87 240 P **Pn 18 37 13.7 +1.1**
baz=238
EDH Donghe 1.88 218 *e*P **Pn 18 37 11.8 -0.7**
baz=217
EDH S **Sn 18 37 34.2 -1.3**
baz=217
ELDTW Lidau 1.90 229 P **Pn 18 37 12.5 -0.4**
baz=227
ELDTW S **Sn 18 37 36.0 -0.2**
baz=227
CHN5 Tsauling 1.93 244 P **Pn 18 37 14.4 +1.2**
baz=243
CHN5 *e*S **Sn 18 37 36.4 -0.4**
baz=243
JTJ Tarama 1.95 84 S **Sn 18 37 37.6 +0.4**
LONT Longtian 2.03 221 *e*P **Pn 18 37 15.0 +0.5**
baz=219
LONT *e*S **Sn 18 37 38.4 -0.7**
baz=219
LDUT Ludao 2.04 210 *e*P **Pn 18 37 14.4 -0.3**
baz=209
LDUT *e*S **Sn 18 37 38.4 -1.0**
baz=209
WRL Guolierlin Hig 2.08 255 *e*P **Pn 18 37 15.1 0.0**
baz=254
WRL *e*S **Sn 18 37 39.4 -0.8**
baz=254
STYH Taoyuan 2.08 232 *e*P **Pn 18 37 16.2 +1.0**
baz=231
STYH *e*S **Sn 18 37 41.0 +0.6**
baz=231
TPUB Ta-pu 2.12 237 *e*P **Pn 18 37 17.7 +2.1**
baz=236
TWGBT Beinan 2.13 220 *e*S **Sn 18 37 41.0 -0.6**
baz=219
TWG Pinlang 2.13 220 *e*P **Pn 18 37 15.3 -0.5**
baz=219
TWG *e*S **Sn 18 37 40.8 -0.7**
baz=219
WTK Tuku 2.13 249 *e*P **Pn 18 37 16.4 +0.6**
baz=248
WTK *e*S **Sn 18 37 41.0 -0.6**
baz=248
TTN Taitung 2.14 218 *e*S **Sn 18 37 42.0 +0.3**
baz=216
WTP Ta-pu 2.16 236 *e*P **Pn 18 37 17.6 +1.4**
baz=235
TWK Hsinying 2.24 238 *e*P **Pn 18 37 18.7 +1.3**
baz=237
TWK *e*S **Sn 18 37 43.8 -0.5**
baz=237
CHN1 Nanshi 2.26 236 *e*P **Pn 18 37 17.9 +0.3**
baz=235
CHN1 *e*S **Sn 18 37 43.9 -0.7**
baz=235
SNST Tainan City 2.26 237 *e*P **Pn 18 37 17.6 0.0**
baz=236
SNST *e*S **Sn 18 37 44.7 0.0**
baz=236
SGST Jiashian 2.28 233 *e*P **Pn 18 37 18.5 +0.7**
baz=232
SGST *e*S **Sn 18 37 44.4 -0.6**
baz=232
WSF Szhu 2.29 250 *e*S **Sn 18 37 45.1 -0.3**
baz=248
ECL Taimali 2.37 219 *e*P **Pn 18 37 19.3 +0.2**
baz=218
ECL *e*S **Sn 18 37 45.9 -1.5**
baz=218
JIRB Irabujima 2.40 81 *e*S **Sn 18 37 48.6 +0.7**
CHN8 Yiju 2.42 243 *e*S **Sn 18 37 48.5 -0.1**
baz=242
SSD Sandimen 2.46 226 *e*P **Pn 18 37 22.2 +1.9**
baz=225
SSD *e*S **Sn 18 37 49.7 +0.2**
baz=225
TSMG Majia 2.48 226 *e*P **Pn 18 37 21.6 +1.0**
baz=224
TSMG *e*S **Sn 18 37 50.9 +0.9**
baz=224
MASBT Mashibuluo 2.56 224 *e*P **Pn 18 37 22.0 +0.5**
baz=223
MASBT *e*S **Sn 18 37 52.3 +0.6**
baz=223
LAY Lan-yu 2.59 201 *e*P **Pn 18 37 23.1 +1.1**
baz=200
LAY *e*S **Sn 18 37 51.4 -1.1**
baz=200
EAST Anshuo 2.60 218 *e*P **Pn 18 37 22.5 +0.3**
baz=216
EAST *e*S **Sn 18 37 52.7 -0.2**
baz=216

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*IDC **28** 18:37:04.7±1.6,24°.93N×109°.41W,h0km,mb3.5/2, mb1 3.8/5,mb1mx3.6/40,mbtmp3.4/5,ML3.4/3,MS4.0/2, Ms1 4.0/2,ms1mx3.0/47,Error ellipse: s-maj=36.5km s-min=10.4km az=129.0*
*MEX **28** 18:37:09.9±1.4,25°.19N×109°.74W,h12km±14km,MD4.1*
ISC 28 18:37:07.5±1.5,**25°.08N**±0°.06×**109°.62W**±0°.07,
h16km±11km,**n13**,σ1§**17**/17,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.74**	**46**	*e*P	**Pg**	**18 37 21.8**	**-0.1**
TSIG				*e*S	**Sg**	**18 37 31.5**	**-0.1**
LPIG	**La Paz**	**1.16 213**		Pg	**Pn**	**18 37 28.0**	**-1.1**
9.3nm,0.3s,baz=75,slow=12,SNR=2.3							
LPIG				Lg	Lg	18 37 41.8	
77nm,0.3s,baz=203,slow=5.5,SNR=9.9							
LPIG				LR	LR	18 37 42.4	
comp=Z,93nm,19.2s,baz=339,slow=32							
LPIG	**La Paz**	**1.16 213**		*e*P	**Pn**	**18 37 28.3**	**-0.8**
LPIG				*i* S	**Sb**	**18 37 43.0**	**-1.0**
SLBS	**Sierra La Lagu**	**1.42 192**		*e*P	**Pb**	**18 37 33.8**	**0.0**
SLBS				*i* S	**Sn**	**18 37 51.9**	**+0.6**
CSIG	**Choix**	**2.07**	**33**	*e*P	**Pn**	**18 37 41.5**	**-0.2**
CSIG				*i* S	**Sn**	**18 38 05.6**	**-1.7**
SSIG	**Sanalona**	**2.27**	**96**	*e*P	**Pn**	**18 37 45.1**	**+0.7**
SSIG				*i* S	**Sn**	**18 38 11.3**	**-0.7**
TXAR	**Lajitas Array**	**6.79**	**50**	Pn	**Pn**	**18 38 46.4**	**-0.2**
0.1nm,0.3s,baz=228,slow=12,SNR=5.0							
TXAR				Sn	**Sn**	**18 40 01.4**	**-2.3**
0.1nm,0.3s,baz=222,slow=17,SNR=3.5							
TXAR				Lg	Lg	18 40 36.5	
0.2nm,0.3s,baz=234,slow=29,SNR=3.6							
NVAR	**Mina Array Bea**	**15.21 333**		Pn	**P**	**18 40 48.7**	**+1.9**
0.1nm,0.3s,baz=157,slow=12,SNR=11							
PDAR	**Pinedale Array**	**17.64**	**0**	P	**P**	**18 41 14.3**	**+0.5**
0.0nm,0.3s,baz=163,slow=11,SNR=6.9							
NEW	**Newport**	**23.88 348**		P	**P**	**18 42 21.6**	**+1.3**
0.5nm,0.3s,baz=176,slow=11,SNR=3.7							
YKA	**Yellowknife Ar**	**37.55 356**		P	**P**	**18 44 20.8**	**+0.1**
0.2nm,0.5s,baz=185,slow=7.3,SNR=5.5							
KDAK	**Kodiak Island**	**44.64 329**		LR	LR	19 03 27.4	
comp=Z,252nm,18.2s,baz=67,slow=35							
AFI	**Afiamalu**	**71.91 245**		LR	LR	19 11 49.8	
comp=Z,75nm,19.5s,baz=154,slow=29							

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*IDC **28** 18:39:52.5±1.3,35°.69N×3°.52W,h0km,mb3.2/3,mb1 3.3/5, mb1mx3.2/45,mbtmp3.1/5,ML3.0/1,Error ellipse: s-maj=33.7km s-min=13.3km az=97.0*
*SFS **28** 18:39:53.0,35°.70N×3°.69W,ML2.6,ALBORAN SUR*
*CNRM **28** 18:39:55.2,35°.64N×3°.55W,h23km,ml3.2*
*IGIL **28** 18:39:55.6,35°.70N×3°.69W,h0km,ML2.6*
ISC 28 18:39:52.8±1.4,**35°.69N**±0°.03×**3°.58W**±0°.03,**h5**km±10km,
n21,σ1§**19**/32,**mb3.4**/3,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.56 212**		P	**Pb**	**18 40 05.6**	**+0.5**
PALE				S	**Sb**	**18 40 13.6**	**+0.1**
GOG	**Mont Gurugu**	**0.67 135**		P	**Pb**	**18 40 07.1**	**+0.2**
GOG				S	**Sb**	**18 40 16.1**	**-0.5**
CHAS	**Isla Isabel II**	**1.06 118**		*e*P	**Pg**	**18 40 12.7**	**-0.5**
CHAS				*e*S	**Sn**	**18 40 28.9**	**-0.7**
EMAL	**Malaga-Limoner**	**1.27 327**		*e*P	**Pg**	**18 40 16.4**	**-0.7**
EMAL				*e*S	**Sg**	**18 40 32.7**	**-0.9**
SMIR	**Smir Dam**	**1.47 270**		P	**Pb**	**18 40 20.7**	**+0.1**
SMIR				S	**Sg**	**18 40 41.4**	**+1.4**
CHEFC	**Chefchaouen**	**1.56 248**		P	**Pn**	**18 40 21.4**	**+0.1**
CHEFC				S	**Sn**	**18 40 41.2**	**-0.7**
JBK	**JBK**	**1.59 148**		P	**Pn**	**18 40 20.8**	**-0.9**
JBK				S	**Sn**	**18 40 40.5**	**-2.4**
MD31	**MD31**	**2.98 200**		P	**Pn**	**18 40 41.7**	**+0.8**
MDT	**Midelt**	**3.00 197**		Pn	**Pn**	**18 40 41.6**	**+0.5**
baz=117,slow=6.8							
MDT				Sn	**Sn**	**18 41 18.6**	**+1.1**
1.0nm,0.3s,baz=41,slow=21,SNR=1.4							
MDT				Lg	Lg	18 41 28.1	
3.7nm,0.3s,baz=290,slow=15,SNR=5.9							
MDT	**Midelt**	**3.00 197**		P	**Pn**	**18 40 41.5**	**+0.5**
PVAQ	**Vaqueiros**	**3.75 298**		P	**Pn**	**18 40 51.5**	**+0.2**
ESDC	**Sonseca Array**	**3.98 356**		Pn	**Pn**	**18 40 56.1**	**+1.5**
0.5nm,0.3s,baz=177,slow=12,SNR=31							
ESDC				Sn	**Sn**	**18 41 42.9**	**+1.1**
0.3nm,0.3s,baz=176,slow=22,SNR=4.3							
ESDC				Lg	Lg	18 41 58.8	
0.5nm,0.3s,baz=172,slow=28,SNR=4.9							
FIGM	**Figuig**	**4.04 151**		P	**Pn**	**18 40 56.2**	**+0.7**
MESJ	**Messejana**	**4.30 301**		*e*P	**Pn**	**18 40 59.0**	**+0.1**
MORF	**Marmelete**	**4.39 293**		*e*P	**Pn**	**18 41 00.3**	**+0.1**
MORF				*e*S	**Sn**	**18 41 48.1**	**-3.8**
MORF				IAML		18 41 51.6	
comp=N,12nm,0.6s							
PFVI	**Vila Bisbo**	**4.47 290**		P	**Pn**	**18 41 02.2**	**+1.0**
PESTR	**Estremoz**	**4.50 316**		P	**Pn**	**18 41 02.7**	**+1.0**
EVO	**Evora**	**4.54 310**		*e*P	**Pn**	**18 41 02.5**	**+0.3**
EVO				*e*S	**Sn**	**18 41 53.1**	**-2.3**
TORD	**Torodi Ar. Bea**	**22.95 167**		P	**P**	**18 44 58.0**	**-0.1**
comp=N,0.3nm,0.6s,baz=350,slow=12,SNR=2.2							
MKAR	**Makanchi Array**	**62.46**	**51**	P	**P**	**18 50 17.7**	**+0.7**
comp=N,0.2nm,0.7s,baz=307,slow=7.9,SNR=1.9							
YKA	**Yellowknife Ar**	**67.74 332**		P	**P**	**18 50 51.3**	**+0.4**
comp=N,0.3nm,0.7s,baz=60,slow=6.4,SNR=2.8							

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*JMA **28** 19:28:48.4±0.3,23°.82N×126°.11E,h64km,M3.2*
*IDC **28** 19:28:57.5±9.5,25°.25N×125°.54E,h0km,mb3.4/5, mb1 3.4/6,mb1mx3.0/56,mbtmp3.4/6,ML3.0/1,Error ellipse: s-maj=190.6km s-min=26.9km az=170.0*
ISC 28 19:28:49.3±1.2,**23°.76N**±0°.08×**126°.17E**±0°.04,**h35**km,**n25**,
σ1§**98**/39,**mb3.3**/5,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.22 325**		P	**Pn**	**19 29 08.8**	**-1.0**
JOGS				S	**Sn**	**19 29 23.4**	**-1.6**
JMJ2	**Miyako jima3**	**1.24 322**		P	**Pn**	**19 29 09.0**	**-1.2**
JMJ2				*e*S	**Sn**	**19 29 23.8**	**-1.9**
JIRB	**Irabujima**	**1.40 320**		P	**Pn**	**19 29 10.9**	**-1.4**
JIRB				*e*S	**Sn**	**19 29 27.8**	**-1.8**
JIKM	**Ikemajima**	**1.43 324**		P	**Pn**	**19 29 11.6**	**-1.2**
JIKM				*e*S	**Sn**	**19 29 30.0**	**-0.4**
JTJ	**Tarama**	**1.60 304**		P	**Pn**	**19 29 14.0**	**-1.1**
JISG	**Ishigakijimahi**	**1.89 296**		P	**Pn**	**19 29 17.7**	**-1.3**
JIJ	**Ishigaki jima**	**1.95 289**		P	**Pn**	**19 29 19.2**	**-0.6**
JIJ				*e*S	**Sn**	**19 29 42.5**	**-0.5**
JKRS	**Kuro-shima**	**2.03 284**		P	**Pn**	**19 29 21.1**	**+0.1**
JKRS				*e*S	**Sn**	**19 29 43.3**	**-1.8**
HATJ	**Hateruma jima**	**2.18 278**		P	**Pn**	**19 29 21.2**	**-1.9**
HATJ				*e*S	**Sn**	**19 29 46.6**	**-2.2**
IRIF	**Iriomote-Funau**	**2.30 285**		P	**Pn**	**19 29 24.3**	**-0.4**
JKE	**Kume jima 2**	**2.62 12**		P	**Pn**	**19 29 28.4**	**-0.7**
JKE				*e*S	**Sn**	**19 29 56.9**	**-2.8**
YOJ	**Yonaguni jima**	**2.97 284**		P	**Pn**	**19 29 32.4**	**-1.5**
JAGN	**Aguni-jima**	**2.98 19**		P	**Pn**	**19 29 33.8**	**-0.3**
JAGN				*e*S	**Sn**	**19 30 07.8**	**-0.9**
JNTH	**Nagotoyohara**	**3.23 31**		P	**Pn**	**19 29 37.7**	**+0.3**
JNTH				*e*S	**Sn**	**19 30 14.0**	**-0.6**
JOW	**Kunigami**	**3.61 31**		Pn	**Pn**	**19 29 45.1**	**+2.4**
4.1nm,0.3s,baz=146,slow=22,SNR=7.9							
JOW				Sn	**Sn**	**19 30 20.7**	**-3.4**
2.9nm,0.3s,baz=114,slow=19,SNR=1.9							
JOW	**Kunigami**	**3.61 31**		P	**Pn**	**19 29 43.4**	**+0.7**
JIH	**Iheya**	**3.65 26**		P	**Pn**	**19 29 42.0**	**-1.2**
JIH				*e*S	**Sn**	**19 30 23.7**	**-1.4**
JYRO	**Yoronjima**	**3.86 32**		P	**Pn**	**19 29 46.1**	**0.0**
JMZ	**Minamidaito 2**	**5.03 65**		P	**Pn**	**19 30 03.2**	**+0.9**
JMZ				*e*S	**Sn**	**19 30 52.8**	**-6.4**
JKDJ	**Kitadaitoujima**	**5.15 64**		P	**Pn**	**19 30 03.7**	**-0.1**
JKDJ				*e*S	**Sn**	**19 30 57.9**	**-4.1**
SONM	**Songino Array**	**28.72 332**		P	**P**	**19 34 42.6**	**-0.8**
0.2nm,0.4s,baz=148,slow=8.5,SNR=2.0							
MKAR	**Makanchi Array**	**41.85 314**		P	**P**	**19 36 37.1**	**+1.2**
0.3nm,0.5s,baz=96,slow=9.1,SNR=9.6							
SEY	**Seymchan**	**42.93**	**17**	P	**P**	**19 36 48.0**	**+3.7**
0.7nm,0.6s,baz=180,slow=20,SNR=2.1							
ZALV	**Zalesovo Beam**	**43.14 325**		P	**P**	**19 36 47.0**	**+0.8**
0.3nm,0.4s,baz=97,slow=12,SNR=2.2							
KURBB	**Kurchatov Arra**	**45.41 319**		P	**P**	**19 37 05.4**	**+1.0**
0.2nm,0.5s,baz=109,slow=8.0,SNR=2.9							

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*NIED **28** 19:30:05.7,23°.72N×126°.15E,h21km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.09; $M_{\theta\theta}$-1.72; $M_{\phi\phi}$-0.37; $M_{r\theta}$-0.11; $M_{\theta\phi}$-0.92; $M_{\phi r}$0.61; Fault plane solution: $M_0$2.23000×10^{15} NP1:ϕ_s48.00000°, δ49.00000°,λ70.00000°. NP2:ϕ_s258.00000°,δ45.00000°, λ112.00000°.*
*JMA **28** 19:30:05.6±0.2,23°.72N×126°.15E,h21km±3km,M4.4*
*IDC **28** 19:30:07.0±0.8,23°.97N×125°.90E,h0km,mb3.9/18, mb1 4.0/21,mb1mx3.8/59,mbtmp3.9/21,ML3.4/3,MS3.3/5, Ms1 3.4/5,ms1mx2.9/87,Error ellipse: s-maj=20.8km s-min=16.4km az=89.0*
*NEIC **28** 19:30:08.9±1.7,23°.9N±0°.1×125°.91E±0°.08,h10km±5km, mb4.4/23,Error ellipse: s-maj=15.3km s-min=9.4km az=157.0*
ISC 28 19:30:07.6±3.2,**23°.91N**±0°.06×**126°.08E**±0°.04,**h8**km±20km,
n88,σ1§**72**/95,**mb4.2**/36,**MS3.3**/4,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.05 324**		P	**Pb**	**19 30 28.0**	**+1.1**
JMJ2	**Miyako jima3**	**1.07 321**		P	**Pb**	**19 30 28.3**	**-0.1**
JMJ2				*e*S	**Sn**	**19 30 45.0**	**+1.0**
JIRB	**Irabujima**	**1.23 318**		P	**Pn**	**19 30 30.4**	**-0.7**
JIRB				*e*S	**Sb**	**19 30 48.6**	**+1.4**
JIKM	**Ikemajima**	**1.26 323**		P	**Pn**	**19 30 31.0**	**-0.5**
JTJ	**Tarama**	**1.45 300**		P	**Pn**	**19 30 33.4**	**-0.7**
JTJ				*e*S	**Sn**	**19 30 53.5**	**+0.2**
JISG	**Ishigakijimahi**	**1.75 293**		P	**Pn**	**19 30 37.5**	**-0.7**
JISG				*e*S	**Sn**	**19 31 01.3**	**+0.6**
JIJ	**Ishigaki jima**	**1.83 285**		P	**Pn**	**19 30 38.6**	**-0.6**
JIJ				S	**Sn**	**19 31 02.7**	**+0.2**
JKRS	**Kuro-shima**	**1.92 280**		P	**Pn**	**19 30 39.8**	**-0.7**
JKRS				*e*S	**Sn**	**19 31 04.1**	**-0.8**
HATJ	**Hateruma jima**	**2.08 275**		P	**Pn**	**19 30 41.6**	**-1.2**
HATJ				*e*S	**Sn**	**19 31 07.8**	**-1.1**
IRIF	**Iriomote-Funau**	**2.19 282**		P	**Pn**	**19 30 43.6**	**-0.6**
JKE	**Kume jima 2**	**2.49 15**		P	**Pn**	**19 30 49.0**	**+0.6**
JKE				*e*S	**Sn**	**19 31 20.2**	**+1.2**
YOJ	**Yonaguni jima**	**2.86 282**		P	**Pn**	**19 30 52.8**	**-0.6**
YOJ				*e*S	**Sn**	**19 31 27.1**	**-0.9**
YOJ	**Yonaguni jima**	**2.86 282**		Pn	**Pn**	**19 30 52.2**	**-1.2**
JYNG	**Yonaguni jima**	**2.91 281**		P	**Pn**	**19 30 54.0**	**-0.2**
JNTH	**Nagotoyohara**	**3.14 34**		P	**Pn**	**19 30 57.5**	**+0.2**
JOW	**Kunigami**	**3.52 34**		Pn	**Pn**	**19 31 03.3**	**+0.7**
8.1nm,0.3s,baz=115,slow=30,SNR=6.4							
JOW				Sn	**Sn**	**19 31 39.8**	**-4.7**
10nm,0.3s,baz=120,slow=24,SNR=3.5							
JOW	**Kunigami**	**3.52 34**		P	**Pn**	**19 31 03.1**	**+0.5**
JOW	**Kunigami**	**3.52 34**			**Pn**	**19 31 02.6**	**0.0**
NACB	**Ninganchiao**	**4.11 275**			**Pn**	**19 31 09.0**	**-1.7**
TATO	**Taipei**	**4.32 285**		Pn	**Pn**	**19 31 11.3**	**-2.2**
YHNB	**Yeheng**	**4.36 281**			**Pn**	**19 31 14.3**	**+0.2**
YULB	**Yu-li**	**4.42 264**			**Pn**	**19 31 13.1**	**-1.8**
YULB					Sn	19 31 55.4	-11
SSLB	**Suanglung**	**4.69 270**			**Pn**	**19 31 17.2**	**-1.6**
TWG	**Pinlang**	**4.73 258**		Pn	**Pn**	**19 31 16.3**	**-2.8**
TWG					**Sn**	**19 32 07.3**	**-6.9**
TPUB	**Ta-pu**	**5.04 264**			**Pn**	**19 31 23.4**	**0.0**
JMZ	**Minamidaito 2**	**5.04 67**		P	**Pn**	**19 31 21.9**	**-1.6**
JMZ				*e*S	**Sn**	**19 32 15.7**	**-6.2**
JKDJ	**Kitadaitoujima**	**5.15 66**		P	**Pn**	**19 31 23.5**	**-1.5**
JKDJ				*e*S	**Sn**	**19 32 18.2**	**-6.5**
KNMB	**Chin-men Tao**	**7.04 276**		Pn	**Pn**	**19 31 48.1**	**-2.9**
JNU	**Nakatsue**	**10.10 24**		Pn	**Pn**	**19 32 33.1**	**+0.2**
0.4nm,0.3s,baz=230,slow=7.9,SNR=1.8							
JMN	**Monobe**	**11.93 33**		Pn	**Pn**	**19 32 56.1**	**-1.9**
KSRS	**Korea Array**	**13.59 6**		Pn	**Pn**	**19 33 20.6**	**-0.1**
0.1nm,0.3s,baz=199,slow=14,SNR=3.1							
MJAR	**Matsushiro Arr**	**16.36 37**		Pn	**P**	**19 34 03.1**	**+2.6**
0.1nm,0.3s,baz=215,slow=10,SNR=5.7							
MJAR	**Matsushiro Arr**	**16.36 37**		IAmb	IAmb	19 34 06.9	
comp=Z,3.5nm,0.9s							
DAV	**Davao City (W)**	**16.75 182**		LR	LR	19 39 44.3	
comp=Z,45nm,20.9s,baz=352,slow=34							
ASAJ	**Asahikawa**	**24.28 30**		P	**P**	**19 35 26.6**	**+1.4**
comp=Z,6.1nm,0.7s,baz=245,slow=10,SNR=1.5							
KLR	**Kul'dur**	**25.66 9**		P	**P**	**19 35 38.2**	**+0.5**
comp=Z,0.6nm,0.6s,baz=144,slow=7.0,SNR=2.2							
KLR				LR	LR	19 45 48.0	
comp=Z,93nm,18.4s,baz=42,slow=37							
CMAR	**Chiang Mai Arr**	**25.86 263**		P	**P**	**19 35 39.0**	**-0.8**
comp=Z,0.6nm,1.0s,baz=66,slow=7.7,SNR=4.2							
CMAR				LR	LR	19 47 17.8	
comp=Z,65nm,19.4s,baz=55,slow=40							
SONM	**Songino Array**	**28.55 332**		P	**P**	**19 36 02.6**	**-1.3**
comp=Z,0.5nm,0.5s,baz=152,slow=11,SNR=6.6							
SONM				LR	LR	19 46 43.4	
comp=Z,116nm,19.9s,baz=66,slow=35							
GUN	**Gumba**	**36.27 285**		*e*P	**P**	**19 37 12.5**	**+0.6**
comp=Z,1.6nm,0.3s							
PKI	**Pulchoki**	**36.70 285**		*e*P	**P**	**19 37 15.7**	**+0.1**
comp=Z,5.2nm,0.6s							
PKIN	**Phulchoki**	**36.71 285**		*e*P	**P**	**19 37 15.7**	**+0.1**
comp=Z,5.6nm,0.6s							
KKN	**Kakani**	**36.80 285**		*e*P	**P**	**19 37 16.4**	**0.0**
DMN	**Daman**	**36.97 285**		*e*P	**P**	**19 37 18.0**	**+0.2**
GKN	**Gorkha**	**37.36 285**		*e*P	**P**	**19 37 21.0**	**0.0**
comp=Z,7.3nm,0.5s							
PETK	**Petropavlovsk-**	**37.69 31**		LR	LR	19 54 37.9	
comp=Z,39nm,18.3s,baz=34,slow=39							
DANN	**Dangsing**	**38.11 286**		*e*P	**P**	**19 37 28.1**	**+0.6**
comp=Z,14nm,0.6s							
KOLN	**Koldanda**	**38.29 285**		*e*P	**P**	**19 37 29.1**	**+0.2**
PYUN	**Piuthan**	**38.80 286**		*e*P	**P**	**19 37 33.9**	**+0.6**
comp=Z,10nm,0.8s							
COEN	**Coen**	**41.18 154**		P	**P**	**19 37 54.3**	**+1.6**
COEN				IAmb	IAmb	19 38 01.6	
comp=Z,7.6nm,1.0s							
MK31	**Makanchi Array**	**41.69 314**		P	**P**	**19 37 56.1**	**-0.6**
MKAR	**Makanchi Array**	**41.69 314**		P	**P**	**19 37 56.0**	**-0.8**
comp=Z,1.7nm,0.5s,baz=100,slow=10.0,SNR=49							
MAKZ	**Makanchi**	**41.90 314**		P	**P**	**19 37 57.5**	**-0.9**
MAKZ				IAmb	IAmb	19 37 59.3	
comp=Z,2.4nm,0.5s							
SEY	**Seymchan**	**42.80 17**		P	**P**	**19 38 06.1**	**+0.6**
comp=Z,1.6nm,0.5s,baz=198,slow=7.1,SNR=19							
ZAA0	**Zalesovo Array**	**42.97 325**		P	**P**	**19 38 05.3**	**-1.7**
ZALV	**Zalesovo Beam**	**42.97 325**		P	**P**	**19 38 05.7**	**-1.3**
comp=Z,1.4nm,0.4s,baz=111,slow=8.9,SNR=8.3							
ZALV	**Zalesovo Beam**	**42.97 325**		P	**P**	**19 38 04.8**	**-2.2**
WB0	**Warramunga Arr**	**44.16 169**		P	**P**	**19 38 17.4**	**+0.5**
WB0				IAmb	IAmb	19 38 21.1	
comp=Z,6.3nm,0.9s							
KDJ	**Kajisay**	**44.20 306**		P	**P**	**19 38 18.6**	**+1.2**
KDJ				IAmb	IAmb	19 38 27.5	
comp=Z,16nm,1.1s							
WRAB	**Tennant Creek**	**44.32 169**		P	**P**	**19 38 18.9**	**+0.7**
WRAB				IAmb	IAmb	19 38 27.3	
comp=Z,7.1nm,1.1s							
WRA	**Warramunga Arr**	**44.32 169**		P	**P**	**19 38 19.2**	**+1.0**
comp=Z,3.2nm,0.9s,baz=352,slow=8.8,SNR=9.9							
WRA	**Warramunga Arr**	**44.32 169**		IAmb	IAmb	19 38 19.8	
comp=Z,0.5nm,1.2s							
WB2	**Warramunga Arr**	**44.33 169**		P	**P**	**19 38 17.6**	**-0.7**
WB2				IAmb	IAmb	19 38 29.9	
comp=Z,5.7nm,0.9s							
WR0	**Warramunga Arr**	**44.38 169**		P	**P**	**19 38 19.4**	**+0.8**
WR0				IAmb	IAmb	19 38 26.0	
comp=Z,12nm,1.4s							
KURK	**Kurchatov**	**45.21 319**		P	**P**	**19 38 24.5**	**-0.5**
KURK	**Kurchatov**	**45.21 319**		IAmb	IAmb	19 38 40.0	
comp=Z,2.9nm,1.2s							
KURBB	**Kurchatov Arra**	**45.24 319**		P	**P**	**19 38 24.5**	**-0.8**
comp=Z,1.1nm,0.5s,baz=109,slow=8.3,SNR=13							
AAK	**Ala-Archa**	**46.24 307**		P	**P**	**19 38 34.0**	**+0.4**
comp=Z,1.1nm,0.6s,baz=117,slow=11,SNR=4.2							
AAK	**Ala-Archa**	**46.24 307**		IAmb	IAmb	19 38 55.4	
comp=Z,2.5nm,1.0s							
ASAR	**Alice Springs**	**47.90 170**		P	**P**	**19 38 47.9**	**+1.5**
comp=Z,0.4nm,0.5s,baz=355,slow=14,SNR=7.4							
CTAO	**Charters Tower**	**47.95 154**		P	**P**	**19 38 46.9**	**+0.1**
CTAO				IAmb	IAmb	19 39 02.4	
comp=Z,11nm,1.4s							
BVAR	**Borovoye Array**	**50.74 320**		P	**P**	**19 39 07.3**	**-0.5**
comp=Z,0.6nm,0.5s,baz=84,slow=14,SNR=4.6							
BRVK	**Borovoye**	**50.81 320**		P	**P**	**19 39 07.7**	**-0.7**
BRVK				IAmb	IAmb	19 39 09.4	
comp=Z,2.9nm,1.0s							
ABKAR	**Akbulak array**	**56.84 314**		P	**P**	**19 39 52.8**	**+0.3**
ABKAR				IAmb	IAmb	19 39 53.9	
comp=Z,8.8nm,1.4s							
ABKAR	**Akbulak array**	**56.84 314**		P	**P**	**19 39 51.9**	**-0.6**
BMAR	**Burnt Mountain**	**67.92 25**		P	**P**	**19 41 06.9**	**+0.4**
SOCY	**Socotra**	**68.92 274**		P	**P**	**19 41 11.6**	**-2.1**
SOCY				IAmb	IAmb	19 41 24.2	
comp=Z,3.4nm,0.9s							
KBZ	**Khabaz**	**69.12 310**		P	**P**	**19 41 14.5**	**+0.2**
comp=Z,3.3nm,0.9s,baz=130,slow=3.4,SNR=4.6							
KIV	**Kislovodsk**	**69.22 310**		P	**P**	**19 41 15.6**	**+0.5**
OBL	**Observatory Le**	**72.34 76**		P	**P**	**19 41 37.2**

0.0nm,0.3s,baz=170,slow=11,SNR=4.9
YKA Yellowknife Ar 37.68 356 P **P 19 41 50.1 -0.1**
0.1nm,0.3s,baz=181,slow=7.8,SNR=5.4
ILAR Eielson Array 46.51 339 P **P 19 43 03.4 +1.1**
0.4nm,0.7s,baz=142,slow=8.0,SNR=2.9

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*IDC **28** 19:41:15.4±1.8,24°.89N×109°.30W,h0km,mb3.6/4, mb1 3.8/8,mb1mx3.7/53,mbtmp3.5/8,ML3.4/4,MS3.7/2, Ms1 3.7/2,ms1mx3.0/69,Error ellipse: s-maj=41.5km s-min=10.2km az=131.0*
*MEX **28** 19:41:21.0±1.2,25°.23N×109°.78W,h15km±26km,MD4.0*
ISC 28 19:41:18.6±1.4,24°.93N±0°.07×109°.27W±0°.09, h23km±14km,n19,σ1°28/25,mb3.7/4,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.70**	**17**	*e*P	**Pb**	**19 41 32.6**	**+0.5**
TSIG				*i* S	**Sn**	**19 41 42.9**	**-0.3**
TSIG	**Topolobambo**	**0.70**	**17**	*e*P	**Pb**	**19 41 32.6**	**+0.5**
TSIG				*e*S	**Sn**	**19 41 42.9**	**-0.3**
LPIG	**La Paz**	**1.26**	**229**	Pg	**Pn**	**19 41 39.5**	**-1.3**
	23nm,0.3s,baz=32,slow=9.5,SNR=9.7						
LPIG				Lg	Lg	19 41 53.9	
	148nm,0.3s,baz=66,slow=20,SNR=9.4						
LPIG				LR	LR	19 41 55.3	
	comp=Z,79nm,19.3s,baz=319,slow=33						
LPIG	**La Paz**	**1.26**	**229**	*e*P	**Pn**	**19 41 39.6**	**-1.2**
LPIG	**La Paz**	**1.26**	**229**	*e*P	**Pn**	**19 41 39.5**	**-1.3**
LPIG				*e*S	**Sn**	**19 41 53.8**	**-3.2**
SLBS	**Sierra La Lagu**	**1.39**	**207**	*e*P	**Pb**	**19 41 45.2**	**+1.3**
SLBS				*e*S	**Sb**	**19 42 02.3**	**+1.1**
CSIG	**Choix**	**2.06**	**23**	*e*P	**Pn**	**19 41 51.8**	**0.0**
CSIG				*e*S	**Sn**	**19 42 16.3**	**-0.4**
CSIG	**Choix**	**2.06**	**23**	*i* P	**Pn**	**19 41 51.9**	**+0.1**
CSIG				*i* S	**Sn**	**19 42 15.7**	**-1.1**
HPIG		**3.81**	**58**	*e*P	**Pb**	**19 42 24.3**	**-0.9**
HPIG				*e*S	**Sb**	**19 43 08.6**	**-2.4**
TXAR	**Lajitas Array**	**6.64**	**47**	Pn	**Pn**	**19 42 55.9**	**+1.0**
	0.1nm,0.3s,baz=231,slow=13,SNR=4.0						
TXAR				Sn	**Sn**	**19 44 12.4**	**+2.4**
	0.7nm,0.3s,baz=235,slow=22,SNR=11						
TXAR				Lg	Lg	19 44 45.5	
	baz=226,slow=31,SNR=1.8						
ANMO	**Albuquerque**	**10.27**	**13**	Pn	**Pn**	**19 43 45.1**	**+0.3**
	0.1nm,0.3s,baz=198,slow=13,SNR=3.2						
CMIG	**Matias Romero**	**15.52**	**117**	LR	LR	19 51 13.9	
	comp=Z,73nm,20.5s,baz=267,slow=38						
ELK	**Elko**	**16.54**	**344**	Pn	**P**	**19 45 11.6**	**-0.2**
	0.1nm,0.3s,baz=184,slow=16,SNR=4.2						
PDAR	**Pinedale Array**	**17.79**	**359**	*e*P	**Pn**	**19 45 25.2**	**+0.2**
	0.1nm,0.3s,baz=168,slow=11,SNR=11						
NEW	**Newport**	**24.10**	**347**	*e*P	**P**	**19 46 32.6**	**+0.1**
	2.1nm,0.8s,baz=177,slow=6.9,SNR=3.6						
YKA	**Yellowknife Ar**	**37.72**	**356**	P	**P**	**19 48 32.6**	**+0.4**
	1.1nm,1.1s,baz=174,slow=8.0,SNR=9.5						
INK	**Inuvik**	**45.82**	**348**	P	**P**	**19 49 38.8**	**+0.4**
	1.0nm,0.8s,baz=124,slow=8.0,SNR=3.3						
ILAR	**Eielson Array**	**46.61**	**339**	P	**P**	**19 49 45.4**	**+0.7**
	0.4nm,0.7s,baz=146,slow=6.6,SNR=4.4						
RAO	**Raoul Island**	**85.12**	**235**	LR	LR	20 21 24.9	
	comp=Z,155nm,21.9s,baz=114,slow=28						

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*IDC **28** 19:48:49.9±0.7,35°.44N×3°.87W,h0km,mb4.1/17, mb1 4.2/23,mb1mx4.1/55,mbtmp4.1/23,ML4.0/5,MS3.6/4, Ms1 3.7/4,ms1mx3.0/90,Error ellipse: s-maj=18.2km s-min=14.1km az=103.0*
*SFS **28** 19:48:50.0,35°.51N×3°.85W,ML3.7,ALBORAN SUR*
*MDD **28** 19:48:50.9±0.7,35°.52N×3°.86W,h0km,mbLg3.7/10,Error ellipse: s-maj=6.3km s-min=3.8km az=21.0*
*CRAAG **28** 19:48:50.8,35°.32N×3°.89W,Mb4.1*
*CNRM **28** 19:48:51.2,35°.51N×3°.71W,h20km,ml4.3*
*LDG **28** 19:48:51.6,35°.30N×3°.62W,h30km*
*NEIC **28** 19:48:51.2±1.6,35°.45N±0°.05×3°.82W±0°.05,h10km±1km, mb4.5/53,Error ellipse: s-maj=10.6km s-min=3.2km az=136.0*
*INMG **28** 19:48:51.5±2.1,35°.53N×3°.82W,h0km±5km,MD3.6,ML3.6, Error ellipse: s-maj=4.5km s-min=3.9km az=79.0*
*MED_RC **28** 19:48:51.0±0.5,35°.49N×3°.84W,h15km,MW4.3/13, Moment Tensor Solution.Mantle waves: s13,c19; Duration: 1°0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.28±.37; $M_{\theta\theta}$-0.47±.20; $M_{\phi\phi}$1.75±.29; $M_{r\theta}$0.69±.59; $M_{\theta\phi}$-1.23±.22; $M_{\phi r}$3.57±.41; Best double couple: $M_0$4.15000×10^{15} NP1:ϕ_s188.00000°,δ80.00000°, λ-69.00000°. NP2:ϕ_s302.00000°,δ23.00000°, λ-154.00000°. Principal axes: T 4.2100, Plg32.0000°, Azm260.0000°; N -0.1200, Plg21.0000°, Azm4.0000°; P -4.0900, Plg51.0000°, Azm121.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*IGIL **28** 19:48:52.6,35°.52N×3°.86W,h0km,ML3.9*
ISC 28 19:48:51.7±0.7,35°.50N±0°.03×3°.74W±0°.02,h13km±4km, n221,σ1°97/317,mb4.5/42,MS3.8/3,16C-8D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**210**	P	**Pg**	**19 48 57.8**	**-0.6**
PALE				S	**Sg**	**19 49 02.4**	**-0.4**
GOG	**Mont Gurugu**	**0.67**	**114**	P	**Pg**	**19 49 04.5**	**-0.4**
GOG				S	**Sg**	**19 49 13.7**	**0.0**
EMEL	**Melilla**	**0.67**	**107**	Pg	**Pg**	**19 49 04.7**	**-0.1**
	3μm,0.2s,SNR=137						
EMEL				Lg	Lg	19 49 15.5	
	11μm,0.1s,SNR=13						
EALB	**Alboran**	**0.73**	**52**	Pg	**Pb**	**19 49 06.3**	**+0.1**
	2μm,0.3s,SNR=381						
EALB				Lg	Lg	19 49 16.8	
	6μm,0.2s,SNR=27						
AKLM	**AKL**	**0.99**	**186**	P	**Pb**	**19 49 10.0**	**-0.7**
AKLM				S	**Sg**	**19 49 22.4**	**-1.5**
CHAS	**Isla Isabel II**	**1.12**	**106**	*e*P	**Pb**	**19 49 11.0**	**-1.9**
CHAS				*e*S	**Sb**	**19 49 25.0**	**-2.3**
SMIR	**Smir Dam**	**1.35**	**278**	P	**Pn**	**19 49 15.9**	**-0.2**
EMIJ	**Mijas**	**1.35**	**322**	Pg	**Pn**	**19 49 15.2**	**-1.0**
	41nm,0.3s,SNR=90						
EMIJ				Lg	Lg	19 49 32.2	
	204nm,0.2s,SNR=17						
CHEFC	**Chefchaouen**	**1.36**	**254**	P	**Pn**	**19 49 15.8**	**-0.7**
CHEFC				S	**Sb**	**19 49 33.6**	**-0.9**
ELGU	**Los Guajares,**	**1.37**	**4**	Pg	**Pn**	**19 49 15.6**	**-1.0**
	SNR=7.9						
ELGU				Lg	Lg	19 49 34.0	
	344nm,0.1s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.38**	**336**	*e*P	**Pn**	**19 49 15.3**	**-1.3**
EMAL				*e*S	**Sn**	**19 49 34.5**	**-0.2**
CEU	**Ceuta**	**1.39**	**287**	*e*P	**Pn**	**19 49 13.0**	**-3.7**
CEU				*e*S	**Sn**	**19 49 28.6**	**-6.3**
ECEU	**Ceuta**	**1.39**	**287**	Pg	**Pn**	**19 49 14.5**	**-2.3**
	133nm,0.2s,SNR=176						
ECEU				Lg	Lg	19 49 31.1	
	368nm,0.2s,SNR=12						
JBK	**JBK**	**1.51**	**140**	P	**Pn**	**19 49 16.7**	**-1.9**
JBK				S	**Sn**	**19 49 35.6**	**-2.6**
EBER	**Berja**	**1.56**	**26**	Pg	**Pn**	**19 49 18.9**	**-0.4**
	213nm,0.3s,SNR=274						
EBER				Lg	Lg	19 49 41.8	
	946nm,0.3s,SNR=7.0						
EGOR	**Sierra Gorda,**	**1.64**	**350**	Pg	**Pn**	**19 49 20.2**	**-0.1**
	SNR=7.9						
EGOR				Lg	Lg	19 49 42.5	
	72nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.69**	**305**	Pg	**Pn**	**19 49 20.3**	**-0.6**
	SNR=7.9						
EJIF				Lg	Lg	19 49 43.3	
	359μm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.72**	**8**	Pg	**Pn**	**19 49 21.6**	**+0.2**
	165nm,0.6s,SNR=160						
EQUE				Lg	Lg	19 49 45.8	
	122nm,0.3s,SNR=5.0						
CPS	**Cap Spartel**	**1.79**	**280**	S	**Sn**	**19 49 45.2**	**+0.4**
SICH	**Sidi Chahed**	**1.90**	**223**	P	**Pn**	**19 49 24.3**	**+0.5**
SICH				S	**Sb**	**19 49 49.3**	**-0.5**
ENIJ	**Nijar**	**1.93**	**40**	Pg	**Pn**	**19 49 23.6**	**-0.5**
	SNR=7.9						
ENIJ				Lg	Lg	19 49 46.8	
	995nm,0.3s,SNR=7.9						
LCRM	**LCR**	**2.03**	**207**	P	**Pn**	**19 49 26.5**	**+0.8**
LCRM				S	**Sn**	**19 49 51.0**	**0.0**
SFS	**San Fernando**	**2.22**	**297**	Pn	**Pn**	**19 49 26.2**	**-1.9**
IFR	**Ifrane**	**2.28**	**210**	*e*P	**Pn**	**19 49 28.2**	**-1.0**
IFR				*e*S	**Sn**	**19 49 55.0**	**-2.3**
EQES	**Quesada**	**2.36**	**13**	Pg	**Pb**	**19 49 32.5**	**-1.7**
	258nm,0.5s,SNR=401						
MD31	**MD31**	**2.76**	**198**	P	**Pn**	**19 49 35.5**	**-0.2**
MD31				S	**Sn**	**19 50 07.9**	**-0.9**
MDT	**Midelt**	**2.77**	**195**	Pn	**Pn**	**19 49 35.3**	**-0.5**
	14nm,0.3s,baz=181,slow=12,SNR=160						
MDT				LR	LR	19 50 05.4	
	comp=Z,53nm,20.1s,baz=260,slow=28						
MDT				Sn	**Sn**	**19 50 08.4**	**-0.8**
	50nm,0.3s,baz=6.3,slow=19,SNR=10						
MDT	**Midelt**	**2.77**	**195**	P	**Pn**	**19 49 35.4**	**-0.5**
MDT				S	**Sn**	**19 50 08.6**	**-0.6**
CART	**Cartagena**	**3.04**	**46**	Pn	**Pn**	**19 49 38.2**	**-1.1**
CART	**Cartagena**	**3.04**	**46**	P	**Pn**	**19 49 39.9**	**+0.5**
CART				S	**Sn**	**19 50 11.5**	**-4.1**
ZHG	**ZHG**	**3.15**	**230**	P	**Pn**	**19 49 40.0**	**-1.1**
PVAQ	**Vaqueiros**	**3.73**	**302**	*e*Pn	**Pn**	**19 49 48.4**	**-0.5**
PVAQ				*e*Sn	**Sn**	**19 50 30.8**	**-1.8**
PVAQ				A	A	19 50 33.4	
	245nm,0.4s						
PVAQ	**Vaqueiros**	**3.73**	**302**	Pn	**Pn**	**19 49 48.2**	**-0.7**
PVAQ	**Vaqueiros**	**3.73**	**302**	P	**Pn**	**19 49 48.5**	**-0.5**
AVE	**Averroes**	**3.75**	**235**	*e*P	**Pn**	**19 49 47.4**	**-1.8**
AVE				*e*S	**Sn**	**19 50 30.2**	**-2.9**
AVE	**Averroes**	**3.75**	**235**	P	**Pn**	**19 49 49.1**	**-0.1**
PBAR	**Barrancos**	**3.76**	**316**	*e*Pn	**Pn**	**19 49 49.3**	**0.0**
PBAR				*e*Sn	**Sn**	**19 50 32.4**	**-1.0**
PBAR				A	A	19 50 37.4	
	114nm,0.7s						
PBDV	**Barranco-do-Ve**	**3.80**	**298**	*e*Pn	**Pn**	**19 49 49.3**	**-0.7**
PBDV				*e*Sn	**Sn**	**19 50 31.2**	**-3.3**
PBDV				A	A	19 50 36.0	
	119nm,0.4s						
FIGM	**Figuig**	**3.94**	**148**	P	**Pn**	**19 49 52.4**	**+0.4**
PCVE	**Castro Verde**	**4.06**	**303⇑**	*e*Pn	**Pn**	**19 49 53.0**	**-0.5**
PCVE				*e*Sn	**Sn**	**19 50 38.6**	**-2.3**
PCVE				A	A	19 50 44.3	
	113nm,0.3s						
PAB	**San Pablo**	**4.07**	**353**	Pn	**Pn**	**19 49 52.3**	**-1.4**
PBEJ	**Beja**	**4.16**	**309**	*e*Pn	**Pn**	**19 49 54.7**	**-0.2**
PBEJ				*e*Sn	**Sn**	**19 50 40.6**	**-2.8**
PBEJ				A	A	19 50 45.5	
	92nm,0.3s						
ESDC	**Sonseca Array**	**4.17**	**358**	Pn	**Pn**	**19 49 56.4**	**+1.4**
	6.5nm,0.3s,baz=176,slow=12,SNR=201						
ESDC				Sn	**Sn**	**19 50 42.7**	**-1.0**
	2.0nm,0.3s,baz=182,slow=18,SNR=5.5						
ESDC	**Sonseca Array**	**4.17**	**358**	Pn	**Pn**	**19 49 55.8**	**+0.7**
ESBB	**Sonseca Array**	**4.17**	**358**		**Pn**	**19 49 56.0**	**+0.9**
MESJ	**Messejana**	**4.29**	**304**	*e*P	**Pn**	**19 49 56.0**	**-0.6**
MESJ				*e*S	**Sn**	**19 50 42.5**	**-4.0**
MESJ				IAML		19 50 50.6	
	comp=N,222nm,0.3s						
MESJ	**Messejana**	**4.29**	**304**	*e*Pn	**Pn**	**19 49 56.3**	**-0.3**
MESJ				*e*Sn	**Sn**	**19 50 43.9**	**-2.6**
MESJ				A	A	19 50 53.7	
	comp=N,121nm,0.6s						
MORF	**Marmelete**	**4.35**	**296**	*e*P	**Pn**	**19 49 56.7**	**-0.8**
MORF				*e*S	**Sn**	**19 50 43.6**	**-4.5**
MORF				IAML		19 50 52.3	
	comp=N,317nm,0.3s						
MORF	**Marmelete**	**4.35**	**296**	*e*Pn	**Pn**	**19 49 56.7**	**-0.8**
MORF				*e*Sn	**Sn**	**19 50 45.5**	**-2.6**
MORF				A	A	19 50 48.6	
	comp=N,146nm,0.2s						
PFVI	**Vila Bisbo**	**4.42**	**293**	*e*Pn	**Pn**	**19 49 57.5**	**-0.9**
PFVI				*e*Sn	**Sn**	**19 50 45.8**	**-3.9**
PFVI				A	A	19 50 56.4	
	comp=N,112nm,0.8s						
PFVI	**Vila Bisbo**	**4.42**	**293**	Pn	**Pn**	**19 49 57.0**	**-1.4**
PFVI	**Vila Bisbo**	**4.42**	**293**	P	**Pn**	**19 49 57.5**	**-0.9**
PTEO	**Sao Teotonio**	**4.50**	**298**	*e*Pn	**Pn**	**19 49 59.2**	**-0.3**
PTEO				*e*Sn	**Sn**	**19 50 49.4**	**-2.3**
PTEO				A	A	19 50 52.5	
	comp=N,154nm,0.4s						
PESTR	**Estremoz**	**4.55**	**319**	*e*Pn	**Pn**	**19 50 00.6**	**+0.3**
PESTR				*e*Sn	**Sn**	**19 50 50.8**	**-2.3**
PESTR				A	A	19 51 01.6	
	comp=N,54nm,0.4s						
PESTR	**Estremoz**	**4.55**	**319**		**Pn**	**19 50 00.5**	**+0.3**
PESTR	**Estremoz**	**4.55**	**319**	P	**Pn**	**19 50 00.6**	**+0.3**
EVO	**Evora**	**4.56**	**313**	*e*P	**Pn**	**19 50 00.4**	**0.0**
EVO				*e*S	**Sn**	**19 50 51.4**	**-1.9**
EVO	**Evora**	**4.56**	**313**	*e*Pn	**Pn**	**19 50 00.4**	**0.0**
EVO				*e*Sn	**Sn**	**19 50 51.1**	**-2.2**
EVO				A	A	19 50 55.0	
	comp=N,95nm,0.3s						
PNCL	**Nicolau / Gran**	**4.64**	**306⇑**	*e*Pn	**Pn**	**19 50 01.1**	**-0.4**
PNCL				*e*Sn	**Sn**	**19 50 51.5**	**-3.7**
PNCL				A	A	19 50 56.6	
	comp=N,90nm,0.6s						
UCM	**Universidad Co**	**4.82**	**5**	*e*P	**Pn**	**19 50 05.4**	**+1.5**
UCM				*e*S	**Sn**	**19 50 58.3**	**-1.3**
PMRV	**Marv??o**	**4.88**	**325**	*e*Pn	**Pn**	**19 50 05.3**	**+0.5**
PMRV				*e*Sn	**Sn**	**19 50 58.9**	**-2.2**
PMRV				A	A	19 51 14.7	
	comp=N,52nm,0.6s						
TZRR	**Tazzarine**	**4.94**	**199**	P	**Pn**	**19 50 05.9**	**+0.2**
PMTG	**Montargil**	**5.05**	**316**	*e*Pn	**Pn**	**19 50 07.1**	**+0.1**
PMTG				*e*Sn	**Sn**	**19 51 02.5**	**-2.7**
PMTG				A	A	19 51 03.6	
	comp=N,74nm,0.5s						
OUZM	**OUZ**	**5.23**	**210**	P	**Pn**	**19 50 09.9**	**+0.2**
PCBR	**Castelo Branco**	**5.25**	**327**	*e*Pn	**Pn**	**19 50 10.3**	**+0.5**
PCBR				*e*Sn	**Sn**	**19 51 07.7**	**-2.5**
PCBR				A	A	19 51 14.6	
	comp=N,28nm,0.4s						
LIS	**Lisbon**	**5.38**	**308**	*e*Pn	**Pn**	**19 50 11.5**	**-0.1**
PMST	**Lisbon--Monsan**	**5.42**	**308**	*e*Pn	**Pn**	**19 50 12.6**	**+0.5**
PMST				*e*Sn	**Sn**	**19 51 12.2**	**-2.1**
PMST				A	A	19 51 19.1	
	comp=N,66nm,0.4s						
OUK	**Oukaimeden**	**5.50**	**220**	P	**Pn**	**19 50 12.2**	**-1.4**
ZGR	**Zagora**	**5.59**	**197**	P	**Pn**	**19 50 14.9**	**+0.2**
PMAFR	**Mafra**	**5.61**	**310**	*e*Pn	**Pn**	**19 50 15.3**	**+0.6**
PMAFR				*e*Sn	**Sn**	**19 51 15.8**	**-3.2**
PMAFR				A	A	19 51 36.8	
	comp=N,61nm,0.6s						
PSBE	**So Bento**	**5.67**	**316**	*e*Pn	**Pn**	**19 50 16.2**	**+0.5**
PSBE				*e*Sn	**Sn**	**19 51 18.0**	**-2.7**
PSBE				A	A	19 51 25.2	
	comp=N,35nm,0.3s						
MTE	**Manteigas**	**5.74**	**330**	*e*Pn	**Pn**	**19 50 17.3**	**+0.7**
MTE				*e*Sn	**Sn**	**19 51 20.4**	**-2.0**
MTE				A	A	19 51 58.6	
	comp=N,55nm,0.7s						
MTE	**Manteigas**	**5.74**	**330**	Pn	**Pn**	**19 50 17.1**	**+0.5**
PCAS	**Casmilo, Conde**	**5.90**	**322**	*e*Pn	**Pn**	**19 50 19.9**	**+1.1**
PCAS				*e*Sn	**Sn**	**19 51 22.3**	**-4.0**
PCAS				A	A	19 51 59.5	
	comp=N,44nm,0.6s						
COI	**Coimbra**	**5.98**	**323**	*e*Pn	**Pn**	**19 50 21.5**	**+1.7**
COI				*e*Sn	**Sn**	**19 51 23.9**	**-4.2**
PVIS	**Viseu**	**6.15**	**329**	*e*Pn	**Pn**	**19 50 23.0**	**+0.7**
PVIS				*e*Sn	**Sn**	**19 51 30.0**	**-2.5**
PVIS				A	A	19 51 45.2	
	comp=N,28nm,0.8s						
MVO	**Moncorvo**	**6.22**	**336**	*e*Pn	**Pn**	**19 50 24.3**	**+1.1**
MVO				*e*Sn	**Sn**	**19 51 31.8**	**-2.3**
MVO				A	A	19 51 38.7	
	comp=N,36nm,0.4s						
TTIG	**Tnine Tigouga,**	**6.32**	**220**	P	**Pn**	**19 50 21.5**	**-3.2**
PVRL	**Vila Real**	**6.56**	**333⇑**	*e*Pn	**Pn**	**19 50 28.6**	**+0.8**
PVRL				*e*Sn	**Sn**	**19 51 39.1**	**-3.3**
PVRL				A	A	19 51 46.3	
	comp=N,56nm,0.3s						
POLO	**Lamas de Olo**	**6.67**	**333**	*e*Pn	**Pn**	**19 50 30.4**	**+1.0**
POLO				*e*Sn	**Sn**	**19 51 42.2**	**-3.1**
POLO				A	A	19 51 51.8	
	comp=N,13nm,0.8s						
PBRG	**Braganca**	**6.72**	**340**	*e*Pn	**Pn**	**19 50 31.1**	**+1.0**
PBRG				*e*Sn	**Sn**	**19 51 44.9**	**-1.5**
PBRG				A	A	19 51 52.7	
	comp=N,19nm,0.6s						
PTO	**Porto**	**6.80**	**327**	*e*Pn	**Pn**	**19 50 32.0**	**+0.9**
PTO				*e*Sn	**Sn**	**19 51 44.7**	**-3.7**
PCAB	**Cabril**	**7.05**	**333**	*e*Pn	**Pn**	**19 50 35.5**	**+0.9**
PCAB				*e*Sn	**Sn**	**19 51 50.8**	**-3.8**
PCAB				A	A	19 51 57.0	
	comp=N,24nm,0.7s						
PGAV	**Gavieira, Arco**	**7.36**	**333**	*e*Pn	**Pn**	**19 50 40.0**	**+1.1**
PGAV				*e*Sn	**Sn**	**19 51 58.2**	**-4.1**
PGAV				A	A	19 52 05.6	
	comp=N,20nm,0.6s						
ETSF	**Etsaut**	**7.79**	**18**	*e*Pn	**Pn**	**19 50 43.2**	**-1.6**
ETSF	**Etsaut**	**7.79**	**18**	*e*P	**Pn**	**19 50 47.8**	**+3.0**
ETSF				*e*Sn	**Sn**	**19 52 06.5**	**-6.4**
	comp=N,2.0nm,0.3s						
SJPF	**Ste Jean**	**7.85**	**14**	*e*Pn	**Pn**	**19 50 44.6**	**-1.0**
SJPF	**Ste Jean**	**7.85**	**14**	*e*P	**Pn**	**19 50 47.4**	**+1.8**
SJPF				*e*Sn	**Sn**	**19 52 08.1**	**-6.1**
	comp=N,1.1nm,0.3s						
EPF	**Esparros**	**8.16**	**22**	*e*Pn	**Pn**	**19 50 48.2**	**-1.6**
EPF	**Esparros**	**8.16**	**22**	*e*P	**Pn**	**19 50 51.1**	**+1.3**
EPF				*e*Sn	**Sn**	**19 52 15.1**	**-6.8**
	comp=N,1.9nm,0.3s						
MTLF	**Montolieu**	**9.09**	**29**	*e*Pn	**Pn**	**19 51 00.6**	**-1.9**
MTLF	**Montolieu**	**9.09**	**29**	*e*P	**Pn**	**19 51 05.9**	**+3.4**
LFF	**La Frestale**	**10.03**	**19**	*e*Pn	**Pn**	**19 51 13.0**	**-2.4**
LFF	**La Frestale**	**10.03**	**19**	*e*P	**Pn**	**19 51 18.6**	**+3.2**
LASF	**Ste Croix**	**10.37**	**32**	*e*Pn	**Pn**	**19 51 17.7**	**-2.4**
LASF	**Ste Croix**	**10.37**	**32**	*e*P	**Pn**	**19 51 22.3**	**+2.2**
CAF	**Calviac**	**10.41**	**23**	*e*Pn	**Pn**	**19 51 18.3**	**-2.3**
RJF	**Les Rejaudoux**	**10.58**	**21**	*e*Pn	**Pn**	**19 51 21.3**	**-1.7**
RJF				*e*Sn	**Sn**	**19 53 13.0**	**-8.3**
	comp=N,0.9nm,0.3s						
KEST	**Kesra**	**10.66**	**85**	Pn	**Pn**	**19 51 25.9**	**+1.7**
	comp=N,0.1nm,0.3s,baz=324,slow=8.7,SNR=3.4						
KEST				LR	LR	19 56 26.2	
	comp=N,135nm,19.4s,baz=186,slow=42						
LMR	**La Mourre**	**11.13**	**42**	*e*P	**Pn**	**19 51 33.1**	**+2.6**
LMR				*e*Sn	**Sn**	**19 53 26.6**	**-8.2**
	comp=N,0.3nm,0.2s						
VSL	**Villasalto**	**11.16**	**65**	Pn	**Pn**	**19 51 31.7**	**+0.7**
VIVF	**Saint-Julien-l**	**11.34**	**32**	*e*Pn	**Pn**	**19 51 30.3**	**-3.1**
MFF	**Saint Martin d**	**11.42**	**13**	*e*Pn	**Pn**	**19 51 32.5**	**-1.9**
MFF	**Saint Martin d**	**11.42**	**13**	*e*P	**Pn**	**19 51 35.4**	**+1.0**
TCF	**Toulx Ste Croi**	**11.68**	**21**	*e*Pn	**Pn**	**19 51 35.6**	**-2.4**
ORIF	**Oris-en-Rattie**	**11.93**	**35**	*e*Sn	**Sn**	**19 53 45.8**	**-8.7**
	comp=N,0.4nm,0.3s						
SBF	**Sospel**	**11.99**	**42**	*e*Pn	**Pn**	**19 51 40.8**	**-1.5**
SBF				*e*Sn	Sn	19 53 46.3	-10
	comp=N,0.9nm,0.2s						
BGF	**Bois d'Agland**	**12.11**	**22**	*e*Pn	**Pn**	**19 51 41.4**	**-2.5**
BGF	**Bois d'Agland**	**12.11**	**22**	*e*P	**Pn**	**19 51 46.5**	**+2.6**
PGF	**Pioggiola**	**12.15**	**51**	*e*P	**Pn**	**19 51 47.6**	**+3.1**
PGF				*e*Sn	Sn	19 53 50.2	-10
	comp=N,0.4nm,0.2s						
QUIF	**Quistinic**	**12.42**	**2**	*e*P	**Pn**	**19 51 49.4**	**+1.4**
QUIF				*e*Sn	Sn	19 53 56.5	-10
	comp=N,1.6nm,0.3s						
AVF	**Avril sur Loir**	**12.48**	**23**	*e*Pn	**Pn**	**19 51 46.0**	**-2.9**
SMF	**Signal de Mont**	**12.51**	**25**	*e*P	**Pn**	**19 51 51.6**	**+2.2**
HYF	**Humbligny**	**12.69**	**20**	*e*Pn	**Pn**	**19 51 50.9**	**-0.9**
HYF				*e*Sn	Sn	19 54 03.1	-10
SSF	**Saint Saulge**	**12.77**	**23**	*e*Pn	**Pn**	**19 51 50.3**	**-2.5**
LPG	**La Plagne**	**12.78**	**35**	*e*Pn	**Pn**	**19 51 50.7**	**-2.5**
SGMF	**Saint Gilles**	**12.78**	**4**	*e*P	**Pn**	**19 51 53.7**	**+0.8**
ROSF	**Rostrenen**	**12.83**	**1**	*e*P	**Pn**	**19 51 54.8**	**+1.1**
GRR	**Gorron**	**13.06**	**9**	*e*P	**Pn**	**19 51 58.2**	**+1.4**
CABF	**La Chapelle**	**13.34**	**31**	*e*Pn	**Pn**	**19 51 58.9**	**-1.8**
LDF	**La Druitiere**	**13.36**	**10**	*e*P	**Pn**	**19 52 01.3**	**+0.4**
FLN	**La Foliniere**	**13.47**	**9**	*e*Pn	**Pn**	**19 51 59.7**	**-2.7**
VAE	**Valguarnera**	**14.74**	**77**	Pn	**P**	**19 52 27.3**	**+1.3**
	comp=N,1.2nm,0.3s,baz=328,slow=4.9,SNR=3.9						
DAVOX	**Davos/Dischmat**	**15.22**	**38**	Pn	**Pn**	**19 52 28.3**	**+1.9**
	baz=232,slow=17,SNR=1.5						
FETA	**Feichten**	**15.81**	**39**	*e*P	**P**	**19 52 39.6**	**+1.7**
	comp=N,6.0nm,0.9s						
SQTA	**Sankt Quirin**	**16.19**	**39**	*e*P	**P**	**19 52 44.7**	**+2.7**
	comp=N,7.0nm,1.0s						
MOTA	**Moosalm**	**16.22**	**39**	*e*P	**P**	**19 52 44.3**	**+1.9**
	comp=N,9.6nm,1.5s						
BCLA	**Clavier**	**16.30**	**21**	P	**Pn**	**19 52 40.8**	**+0.7**
WTTA	**Wattenberg**	**16.44**	**40**	*e*P	**P**	**19 52 48.2**	**+3.3**
	comp=N,7.1nm,1.0s						
WATA	**Walderalm**	**16.45**	**39**	*e*P	**P**	**19 52 45.9**	**+0.9**

MLR				IAmb	IAmb	19 54 17.5
	comp=Z,12nm,1.0s					
BUR08	**Bucovina Ar. S**	**24.67**	**52**	P	**P**	**19 54 12.5 +0.3**
BURAR	**Bucovina Array**	**24.67**	**52**	⇑P	**P**	**19 54 13.4 +1.1**
BURAR	**Bucovina Array**	**24.67**	**52**	P	**P**	**19 54 12.8 +0.6**
COVR	**Voineasa-Covas**	**24.82**	**56**	⇑P	**P**	**19 54 14.8 +1.3**
PLOR	**Plostina**	**25.13**	**56**	⇑P	**P**	**19 54 18.7 +2.4**
VRI	**Vrincioaia**	**25.18**	**56**	⇓P	**P**	**19 54 18.5 +1.7**
TESR	**Tescani**	**25.29**	**55**	⇓P	**P**	**19 54 18.3 +0.7**
CFR	**Carcaliu**	**26.01**	**58**	⇑P	**P**	**19 54 26.2 +2.0**
TPGR	**Topolog**	**26.15**	**59**	⇑P	**P**	**19 54 27.6 +2.1**
SORM	**Soroca**	**26.84**	**52**	⇓P	**P**	**19 54 30.6 -1.1**
HFS	**Hagfors**	**27.11**	**19**	P	**P**	**19 54 35.3 +1.2**
	comp=Z,3.3nm,0.7s,baz=184,slow=9.8,SNR=4.6					
NOA	**NORSAR Array B**	**27.29**	**16**	P	**P**	**19 54 36.4 +0.7**
	comp=Z,1.5nm,0.8s,baz=210,slow=8.8,SNR=4.9					
NOA				LR	LR	20 07 03.0
	comp=Z,102nm,19.8s,baz=280,slow=40					
FINES	**FINESS Array B**	**32.10**	**27**	P	**P**	**19 55 20.0 +1.8**
	comp=Z,4.6nm,1.1s,baz=224,slow=9.6,SNR=20					
FINES	**FINESS Array B**	**32.10**	**27**	P	**P**	**19 55 18.2 0.0**
ARCES	**ARCESS Array B**	**37.67**	**16**	P	**P**	**19 56 07.3 +1.1**
	comp=Z,3.2nm,0.9s,baz=212,slow=8.3,SNR=10					
ARCES	**ARCESS Array B**	**37.67**	**16**	P	**P**	**19 56 07.0 +0.8**
ARU	**Arti**	**46.26**	**43**	P	**P**	**19 57 16.4 -0.1**
ABKAR	**Akbulak array**	**47.65**	**53**	P	**P**	**19 57 27.2 -0.2**
ABKAR	**Akbulak array**	**47.65**	**53**	P	**P**	**19 57 26.6 -0.8**
ABKAR				IAmb	IAmb	19 57 29.1
	comp=Z,5.0nm,0.9s					
BCX	**Boston College**	**51.67**	**299**	P	**P**	**19 57 58.6 +0.4**
BRVK	**Borovoye**	**53.38**	**46**	P	**P**	**19 58 11.8 +1.1**
BRVK				IAmb	IAmb	19 58 14.2
	comp=Z,3.4nm,0.7s					
EUNU	**Eureka**	**54.03**	**348**	P	**P**	**19 58 16.7 +1.5**
EUNU				IAmb	IAmb	19 58 17.4
	comp=Z,5.1nm,0.7s					
KKAR	**Karatay Array**	**56.24**	**58**	P	**P**	**19 58 31.4 -0.2**
RES	**Resolute Bay**	**56.43**	**341**	P	**P**	**19 58 33.5 +1.0**
RES				IAmb	IAmb	19 58 34.4
	comp=Z,4.3nm,1.2s					
SADO	**Sadowa**	**56.48**	**304**	LR	LR	20 21 30.6
	comp=Z,123nm,18.1s,baz=342,slow=35					
CHGR	**Chuyangaron**	**56.81**	**63**	P	**P**	**19 58 36.4 +0.6**
BTK	**Batken**	**57.50**	**61**	P	**P**	**19 58 41.0 +0.3**
BTK				IAmb	IAmb	19 58 48.5
	comp=Z,4.5nm,1.1s					
NRIK	**Noril'sk**	**57.73**	**25**	P	**P**	**19 58 42.6 +0.9**
NRIK				IAmb	IAmb	19 58 44.7
	comp=Z,7.8nm,1.4s					
DRK	**Karamyk**	**58.42**	**62**	P	**P**	**19 58 48.2 +0.9**
DRK				IAmb	IAmb	19 58 50.0
	comp=Z,4.2nm,1.0s					
KURK	**Kurchatov**	**58.99**	**47**	P	**P**	**19 58 50.7 -0.1**
AAK	**Ala-Archa**	**59.14**	**57**	P	**P**	**19 58 52.8 +0.6**
AAK				IAmb	IAmb	19 58 55.9
	comp=Z,2.4nm,1.0s					
KSH	**Kashi**	**61.38**	**60**	P	**P**	**19 59 07.8 +0.3**
KSH				pmax	pmax	
	comp=Z,8.0nm,1.2s					
ZAA0	**Zalesovo Array**	**61.42**	**42**	P	**P**	**19 59 06.9 -0.5**
ZAA0				IAmb	IAmb	19 59 09.2
	comp=Z,2.6nm,0.7s					
ZALV	**Zalesovo Beam**	**61.42**	**42**	P	**P**	**19 59 07.4 +0.1**
	comp=Z,1.8nm,0.5s,baz=293,slow=7.7,SNR=9.4					
ZALV	**Zalesovo Beam**	**61.42**	**42**	P	**P**	**19 59 06.6 -0.8**
NIL	**Nilore**	**61.84**	**67**	P	**P**	**19 59 10.9 +0.3**
MAKZ	**Makanchi**	**62.49**	**51**	P	**P**	**19 59 14.8 +0.1**
MAKZ				IAmb	IAmb	19 59 16.0
	comp=Z,3.9nm,0.8s					
MK31	**Makanchi Array**	**62.69**	**50**	P	**P**	**19 59 15.6 -0.5**
MK31				IAmb	IAmb	19 59 17.7
	comp=Z,4.4nm,1.1s					
MKAR	**Makanchi Array**	**62.69**	**50**	P	**P**	**19 59 16.4 +0.2**
	comp=Z,2.9nm,0.7s,baz=300,slow=5.2,SNR=27					
MKAR				PcP	**PcP**	**19 59 54.8 0.0**
	comp=Z,1.0nm,1.0s,baz=276,slow=3.3,SNR=4.3					
MKAR				LR	LR	20 30 50.6
	comp=Z,62nm,18.3s,baz=327,slow=40					
MKAR	**Makanchi Array**	**62.69**	**50**	P	**P**	**19 59 15.8 -0.3**
BAUV	**El Baul**	**63.97**	**262**	P	**P**	**19 59 25.4 +0.5**
FFC	**Flin Flon**	**66.23**	**321**	P	**P**	**19 59 39.2 +0.1**
WMQ	**Urumqi**	**67.42**	**52**	*e*P	**P**	**19 59 49.5 +2.6**
YKA	**Yellowknife Ar**	**67.85**	**332**	P	**P**	**19 59 49.2 0.0**
	comp=Z,3.7nm,0.9s,baz=60,slow=6.5,SNR=38					
YKA	**Yellowknife Ar**	**67.85**	**332**	P	**P**	**19 59 48.8 -0.4**
BOSA	**Boshof**	**69.39**	**153**	P	**P**	**19 59 59.7 +0.4**
	comp=Z,1.5nm,0.6s,baz=346,slow=7.6,SNR=4.7					
OK031	**S. Brethren Rd**	**72.41**	**302**	P	**P**	**20 00 16.0 -1.7**
PHWY	**Pilot Hill**	**75.21**	**310**	P	**P**	**20 00 33.5 -0.9**
SONM	**Songino Array**	**76.24**	**41**	P	**P**	**20 00 40.6 +0.6**
	comp=Z,2.0nm,1.0s,baz=305,slow=5.2,SNR=13					
SONM	**Songino Array**	**76.24**	**41**	IAmb	IAmb	20 00 41.4
	comp=Z,3.4nm,1.1s					
BW06	**Boulder Array**	**76.86**	**313**	P	**P**	**20 00 43.3 -0.4**
BW06				IAmb	IAmb	20 00 44.0
	comp=Z,3.4nm,0.8s					
PD31	**Pinedale Array**	**76.86**	**313**	P	**P**	**20 00 41.9 -1.8**
PD31				IAmb	IAmb	20 00 44.0
	comp=Z,2.9nm,0.8s					
PDAR	**Pinedale Array**	**76.86**	**313**	P	**P**	**20 00 43.4 -0.3**
	comp=Z,2.5nm,0.7s,baz=64,slow=6.9,SNR=18					
PDAR	**Pinedale Array**	**76.86**	**313**	P	**P**	**20 00 42.7 -0.9**
SDCO	**Great Sand Dun**	**77.26**	**307**	P	**P**	**20 00 45.5 -0.6**
S22A	**4UR Ranch, Cre**	**78.11**	**308**	P	**P**	**20 00 51.5 +0.6**
RDMU	**Red Mountain**	**78.17**	**312**	P	**P**	**20 00 50.9 -0.1**
HWUT	**Hardware Ranch**	**78.75**	**313**	P	**P**	**20 00 53.5 -0.6**
HWUT				IAmb	IAmb	20 00 55.1
	comp=Z,3.6nm,0.9s					
PV16	**Nyswonger Mesa**	**79.11**	**309**	P	**P**	**20 00 56.4 +0.1**
PV16				IAmb	IAmb	20 00 57.8
	comp=Z,7.0nm,1.0s					
PV20	**West Nyswonger**	**79.12**	**309**	P	**P**	**20 00 53.4 -2.9**
PV20				IAmb	IAmb	20 01 03.9
	comp=Z,2.9nm,0.7s					
PV13	**Radium Mtn., P**	**79.14**	**309**	P	**P**	**20 00 54.0 -2.4**
PV13				IAmb	IAmb	20 00 58.1
	comp=Z,3.8nm,1.1s					
PV14	**Lion Creek, Pa**	**79.14**	**309**	P	**P**	**20 00 55.6 -0.9**
PV14				IAmb	IAmb	20 00 58.1
	comp=Z,5.6nm,0.9s					
HLID	**Hailey**	**79.19**	**316**	P	**P**	**20 00 57.2 +0.7**
HLID				IAmb	IAmb	20 01 00.0
	comp=Z,4.4nm,1.2s					
PV05	**Paradox Valley**	**79.37**	**309**	P	**P**	**20 00 56.0 -1.7**
PV05				IAmb	IAmb	20 00 58.6
	comp=Z,5.2nm,1.0s					
SRU	**San Rafael Swe**	**79.63**	**311**	P	**P**	**20 00 58.5 -0.5**
SRU				IAmb	IAmb	20 01 00.4
	comp=Z,2.7nm,0.9s					
SHL	**Shillong**	**79.87**	**66**	P	**P**	**20 00 59.5 -1.1**
SHL				IAmb	IAmb	20 01 01.2
	comp=Z,6.0nm,0.8s					
BMO	**Blue Mountains**	**79.96**	**319**	P	**P**	**20 01 00.7 +0.1**
TXAR	**Lajitas Array**	**80.85**	**299**	P	**P**	**20 01 06.4 +0.7**
	comp=Z,0.4nm,0.6s,baz=84,slow=5.2,SNR=5.2					
ELK	**Elko**	**81.45**	**314**	P	**P**	**20 01 10.0 +1.1**
	comp=Z,1.7nm,0.9s,baz=88,slow=2.9,SNR=4.8					
ELK	**Elko**	**81.45**	**314**	P	**P**	**20 01 09.8 +0.9**
ELK				IAmb	IAmb	20 01 11.5
	comp=Z,2.9nm,1.1s					
LZH	**Lanzhou**	**81.99**	**51**	*e*P	**P**	**20 01 12.5 +0.8**
LZH				pP	sP	20 01 16.5 -0.9
LZH				sP	PcP	20 01 18.8 +1.6
LZH				pmax	pmax	
	comp=Z,12nm,1.5s					
HHC	**Hu-ho-hao-te**	**83.57**	**44**	*e*P	**P**	**20 01 19.5 -0.2**
HHC				pmax	pmax	
	comp=Z,14nm,0.9s					
HHC				pmax	pmax	
	comp=Z,160nm,6.2s					
TUC	**Tucson**	**83.97**	**306**	P	**P**	**20 01 22.9 +1.0**
PZH	**PanZhiHua**	**86.48**	**60**	P	**P**	**20 01 34.8 +0.2**
PZH				pmax	pmax	
	comp=Z,10.0nm,1.0s					
PZH				pmax	pmax	
	comp=Z,70nm,5.1s					
CMAR	**Chiang Mai Arr**	**89.32**	**68**	P	**P**	**20 01 48.6 +0.5**
	comp=Z,1.5nm,0.9s,baz=306,slow=7.1,SNR=12					
NJ2	**Nanjing**	**93.90**	**46**	*e*P	**P**	**20 02 08.5 -0.6**
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
ASAR	**Alice Springs**	**141.59**	**84**	PKhKP	PKPpre	20 08 18.6
	comp=Z,0.3nm,0.6s,baz=294,slow=2.3,SNR=2.0					
STKA	**Stephens Creek**	**151.02**	**93**	PKPbc	**PKPbc**	**20 08 44.0 -0.4**
	comp=Z,2.3nm,0.8s,baz=71,slow=3.8,SNR=3.9					

*IDC **28** 19:53:31.6±0.9, 11°.57N×141°.60E, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/40, mbtmp3.7/9, MS3.0/1, Ms1 3.0/1, ms1mx2.4/80, Error ellipse: s-maj=32.6km s-min=19.3km az=88.0*

ISC 28 19:53:35.8±0.8, **11°.5N**±0°.1×**141°.6E**±0°.2, **h27**km, **n11**, σ1§**06**/10, **mb3.7**/10, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.54**	**165**	P	**P**	**19 58 23.7**	**+0.5**
	7.6nm,0.5s,baz=45,slow=4.0,SNR=4.5						
KSRS	**Korea Array**	**28.56**	**337**	LR	LR	20 10 52.8	
	comp=Z,27nm,18.8s,baz=100,slow=36						
WRA	**Warramunga Arr**	**32.09**	**193**	P	**P**	**20 00 00.0**	**-0.8**
	0.9nm,0.8s,baz=14,slow=9.9,SNR=4.8						
ASAR	**Alice Springs**	**35.79**	**192**	P	**P**	**20 00 33.1**	**+0.1**
	0.5nm,0.6s,baz=17,slow=13,SNR=9.0						
CMAR	**Chiang Mai Arr**	**41.66**	**285**	P	**P**	**20 01 23.2**	**+0.8**
	0.3nm,0.3s,baz=67,slow=6.9,SNR=4.3						
SONM	**Songino Array**	**46.63**	**328**	P	**P**	**20 02 03.0**	**+1.0**
	0.3nm,0.7s,baz=139,slow=7.6,SNR=2.2						
MKAR	**Makanchi Array**	**60.76**	**317**	P	**P**	**20 03 45.0**	**-0.4**
	0.1nm,0.4s,baz=93,slow=7.8,SNR=4.6						
ILAR	**Eielson Array**	**71.78**	**25**	P	**P**	**20 04 55.0**	**-0.7**
	0.4nm,0.6s,baz=258,slow=5.5,SNR=6.0						
YKA	**Yellowknife Ar**	**86.14**	**27**	P	**P**	**20 06 14.7**	**+0.4**
	0.3nm,0.6s,baz=289,slow=5.5,SNR=4.8						
NVAR	**Mina Array Bea**	**90.70**	**51**	P	**P**	**20 06 37.8**	**+1.0**
	0.4nm,0.7s,baz=249,slow=3.8,SNR=2.8						
FINES	**FINESS Array B**	**91.62**	**334**	P	**P**	**20 06 38.4**	**-1.9**
	6.9nm,1.1s,baz=71,slow=6.0,SNR=3.7						

*IDC **28** 19:59:53.0±1.7, 35°.45N×3°.50W, h0km, mb3.0/2, mb1 3.2/4, mb1mx3.0/46, mbtmp2.9/4, ML2.7/2, Error ellipse: s-maj=55.4km s-min=28.9km az=103.0*
*SFS **28** 19:59:54.0, 35°.52N×3°.84W, ML2.7, ALBORAN SUR*
*CNRM **28** 19:59:54.0, 35°.47N×3°.75W, h16km, ml3.0*

ISC 28 19:59:53.1±1.3, **35°.48N**±0°.03×**3°.78W**±0°.04, **h8**km±10km, **n19**, σ1§**83**/33, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.29**	**206**	P	**Pb**	**20 00 01.2**	**+0.6**
PALE				S	**Sb**	**20 00 05.1**	**-0.5**
GOG	**Mont Gurugu**	**0.69**	**112**	P	**Pg**	**20 00 07.1**	**+0.7**
GOG				S	**Sg**	**20 00 15.4**	**0.0**
AKLM	**AKL**	**0.97**	**184**	P	**Pn**	**20 00 13.8**	**+0.7**
AKLM				S	**Sb**	**20 00 26.0**	**+0.8**
CHAS	**Isla Isabel II**	**1.14**	**105**	*e*P	**Pg**	**20 00 14.1**	**-0.9**
CHAS				*e*S	**Sg**	**20 00 28.2**	**-1.7**
SMIR	**Smir Dam**	**1.32**	**279**	P	**Pn**	**20 00 19.0**	**+1.3**
SMIR				S	**Sb**	**20 00 36.1**	**+1.0**
CHEFC	**Chefchaouen**	**1.33**	**254**	P	**Pn**	**20 00 18.6**	**+0.5**
CHEFC				S	**Sb**	**20 00 34.7**	**-0.9**
CEU	**Ceuta**	**1.36**	**288**	*e*P	**Pn**	**20 00 16.4**	**-1.9**
CEU				*e*S	**Sb**	**20 00 29.5**	**-6.8**
EMAL	**Malaga-Limoner**	**1.38**	**338**	*e*P	**Pn**	**20 00 20.0**	**+1.3**
EMAL				*e*S	**Sb**	**20 00 36.5**	**-0.4**
JBK	**JBK**	**1.52**	**139**	P	**Pn**	**20 00 19.5**	**-1.2**
JBK				S	**Sn**	**20 00 39.0**	**-1.8**
SICH	**Sidi Chahed**	**1.87**	**223**	P	**Pb**	**20 00 27.5**	**0.0**
SICH				S	**Sg**	**20 00 53.6**	**+0.6**
LCRM	**LCR**	**2.00**	**207**	P	**Pn**	**20 00 28.4**	**+1.1**
LCRM				S	**Sn**	**20 00 53.2**	**+0.5**
MD31	**MD31**	**2.73**	**198**	P	**Pn**	**20 00 38.3**	**+0.9**
MD31				S	**Sn**	**20 01 08.0**	**-2.5**
MDT	**Midelt**	**2.75**	**195**	Pn	**Pn**	**20 00 39.1**	**+1.6**
MDT	0.9nm,0.3s,baz=182,slow=13,SNR=10						
				Sn	**Sn**	**20 01 10.7**	**-0.4**
	2.1nm,0.3s,baz=348,slow=19,SNR=6.9						
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**20 00 38.7**	**+1.2**
MDT				S	**Sn**	**20 01 08.0**	**-3.0**
ZHG	**ZHG**	**3.12**	**230**	P	**Pn**	**20 00 42.8**	**+0.2**
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**20 00 51.2**	**+0.6**
ESDC	**Sonseca Array**	**4.19**	**358**	Pn	**Pn**	**20 00 59.3**	**+2.0**
	0.3nm,0.3s,baz=179,slow=12,SNR=12						
MKAR	**Makanchi Array**	**62.72**	**50**	P	**P**	**20 10 18.4**	**-0.1**
	0.1nm,0.4s,baz=286,slow=7.0,SNR=1.5						
YKA	**Yellowknife Ar**	**67.85**	**332**	P	**P**	**20 10 53.6**	**+2.2**
	0.1nm,0.6s,baz=70,slow=6.6,SNR=1.9						

*IDC **28** 20:03:01.6±0.5, 56°.27S×143°.74W, h0km, mb4.7/11, mb1 4.8/11, mb1mx4.6/22, mbtmp4.7/11, MS4.2/34, Ms1 4.2/34, ms1mx4.1/48, Error ellipse: s-maj=26.8km s-min=15.3km az=1.0*
*MOS **28** 20:03:02.1±1.4, 56°.53S×143°.62W, h10km, mb5.2/6, Error ellipse: s-maj=25.7km s-min=21.7km az=120.4*
*NEIC **28** 20:03:03.2±2.8, 56°.5S±0°.1×143°.6W±0°.2, h10km±1km, mb5.1/38, Error ellipse: s-maj=25.2km s-min=19.9km az=351.0*
*GCMT **28** 20:03:05.2±0.2, 56°.38S±0°.01×143°.33W±0°.02, h16km±1km, MW5.2/100, Moment Tensor Solution. s55,c77; s100,c144; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.70±.17; Mθθ6.29±.20; Mφφ-4.58±.16; Mrθ-0.26±.45; Mrφ4.51±.14; Mθφ0.89±.43; Best double couple: M0 7.15400×1016 NP1:φ1=115.00000°, δ82.00000°, λ-8.00000°. NP2:φ2=206.00000°, δ82.00000°, λ-172.00000°. Principal axes: T 7.9180, Plg0.0000°, Azm340.0000°; N -1.5180, Plg79.0000°, Azm248.0000°; P -6.3900, Plg11.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 20:03:03.0±0.4, **56°.4S**±0°.1×**143°.63W**±0°.09, **h10**km, **n161**, σ1§**35**/110, **mb5.0**/29, **MS4.3**/38, **1D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.15**	**202**	LR	LR	20 16 39.3	
	comp=Z,511nm,21.9s,baz=76,slow=29						
URZ	**Urewera**	**31.64**	**288**	LR	LR	20 19 08.6	
	comp=Z,577nm,20.9s,baz=174,slow=31						
QSPA	**South Pole Qui**	**33.73**	**180**	P	**P**	**20 09 47.2**	**+3.0**
	20nm,0.8s,baz=74,slow=6.5						
QSPA				LR	LR	20 21 15.8	
	comp=Z,593nm,20.2s,baz=66,slow=32						
QSPA	**South Pole Qui**	**33.73**	**180**	P	**P**	**20 09 43.0**	**-1.2**
QSPA				IAmb	IAmb	20 09 48.1	
	comp=Z,31nm,1.0s						
RAR	**Rarotonga**	**37.15**	**335**	LR	LR	20 20 36.4	
	comp=Z,623nm,21.2s,baz=184,slow=28						
PMSA	**Palmer Station**	**37.41**	**136**	LR	LR	20 21 44.6	
	comp=Z,191nm,19.4s,baz=295,slow=30						
RPN	**Rapa Nui**	**38.17**	**54**	LR	LR	20 21 58.7	
	comp=Z,155nm,18.6s,baz=230,slow=30						
MEH	**Mehetia**	**38.63**	**353**	*e*T	T	20 50 50.1	
	comp=Z,121nm,0.2s						
PAE	**Paea**	**38.96**	**351**	*e*T	T	20 51 12.1	
	comp=Z,25nm,0.3s						
PPT2	**Papeete2**	**39.03**	**351**	*e*S	S	20 16 19.4	-9.3
	comp=Z,265nm,26.2s						
PPT2				*e*LR	LR	20 20 43.8	
	comp=Z,2μm,28.5s						
PPT2	**Papeete2**	**39.03**	**351**	*e*T	T	20 51 13.5	
	comp=Z,35nm,0.3s						
TIAR	**Tiarei**	**39.04**	**351**	*e*T	T	20 51 08.4	
	comp=Z,12nm,0.2s						
PPT	**Papeete**	**39.05**	**351**	LR	LR	20 21 51.5	
	comp=Z,374nm,20.5s,baz=177,slow=29						
USHA	**Ushuaia**	**40.51**	**121**	P	**P**	**20 10 42.5**	**+0.9**
	comp=Z,21nm,1.0s,baz=206,slow=4.7,SNR=4.5						
USHA				LR	LR	20 22 28.8	
	comp=Z,148nm,20.9s,baz=246,slow=29						
VAH	**Vaihoa**	**41.22**	**354**	*e*T	T	20 54 03.6	
	comp=Z,216nm,0.2s						
PMOR	**Pomariorio Ree**	**41.47**	**354**	*e*T	T	20 54 22.7	
	comp=Z,23nm,0.3s						
COYC	**Coyhaique**	**44.33**	**108**	P	**P**	**20 11 12.2**	**-0.6**
COYC				IAmb	IAmb	20 11 15.9	
	comp=Z,36nm,1.3s						
LL04	**Puerto Octay**	**47.32**	**103**	P	**P**	**20 11 36.7**	**+0.2**
LL04				IAmb	IAmb	20 11 38.6	
	comp=Z,16nm,1.1s						
EFI	**East Falkland**	**47.37**	**122**	*i*P	**P**	**20 11 35.9**	**-0.8**
TAOE	**Nuku Hiva Isla**	**47.53**	**5**	*e*S	S	20 18 23.5	-10
	comp=Z,467nm,25.7s						
TAOE				*e*LR	LR	20 24 48.5	
	comp=Z,1μm,28.3s						
AFI	**Afiamalu**	**47.60**	**322**	LR	LR	20 25 47.1	
	comp=Z,275nm,21.5s,baz=154,slow=29						
MSVF	**Nonsavu**	**48.15**	**308**	LR	LR	20 27 14.4	
	comp=Z,345nm,21.7s,baz=155,slow=30						
MSVF	**Nonsavu**	**48.15**	**308**	*i*P	**P**	**20 11 44.5**	**+1.3**
PLCA	**Paso Flores**	**48.45**	**104**	P	**P**	**20 11 45.8**	**+0.5**
	comp=Z,8.4nm,1.0s,baz=209,slow=10,SNR=9.6						
PLCA	**Paso Flores**	**48.45**	**104**	*e*P	**P**	**20 11 45.2**	**-0.2**
PLCA	**Paso Flores**	**48.45**	**104**	P	**P**	**20 11 45.2**	**-0.2**
PLCA				IAmb	IAmb	20 11 49.6	
	comp=Z,18nm,1.2s						
VNA3	**Neumayer Olymp**	**48.55**	**162**	P	**P**	**20 11 45.8**	**+0.1**
H03S2	**Juan Fernandez**	**48.82**	**91**	T	T	21 04 09.0	
	baz=220						
H03S1	**Juan Fernandez**	**48.83**	**91**	T	T	21 04 10.3	
	baz=220						
H03S3	**Juan Fernandez**	**48.84**	**91**	T	T	21 04 09.4	
	baz=220						
LC01	**Cunco**	**49.03**	**101**	P	**P**	**20 11 48.5**	**-1.3**
LC01				IAmb	IAmb	20 11 53.4	
	comp=Z,18nm,0.9s						
H03N3	**Juan Fernandez**	**49.11**	**91**	T	T	21 04 27.0	
	baz=223,slow=72,SNR=1373						
H03N2	**Juan Fernandez**	**49.11**	**91**	T	T	21 04 25.9	
	baz=223,slow=72,SNR=569						
H03N1	**Juan Fernandez**	**49.12**	**91**	T	T	21 04 12.6	
	baz=223,slow=72,SNR=1290						
VNA2	**Neumayer--Watz**	**49.21**	**163**	P	**P**	**20 11 51.2**	**+0.5**
	baz=211,slow=7.7						
SNAA	**Sanae**	**49.27**	**165**	P	**P**	**20 11 51.7**	**+0.5**
SNAA	**Sanae**	**49.27**	**165**	*i*P	**P**	**20 11 51.1**	**-0.1**
SNAA	**Sanae**	**49.27**	**165**	P	**P**	**20 11 51.4**	**+0.2**
VNA1	**Neumayer--Stat**	**49.30**	**162**	P	**P**	**20 11 52.0**	**+0.7**
DZM	**Mont Dzumac**	**50.03**	**292**	*e*LR	LR	20 26 07.9	
	comp=Z,592nm,23.8s						
ML02	**Panimavida**	**51.55**	**99**	P	**P**	**20 12 09.3**	**+0.4**
BO02	**Sierra Bellavi**	**52.62**	**98**	P	**P**	**20 12 17.0**	**+0.1**
BO02				IAmb	IAmb	20 12 19.9	
	comp=Z,19nm,0.8s						
BO01	**Tunca**	**52.75**	**98**	P	**P**	**20 12 18.2**	**+0.5**
MT01	**Popeta**	**53.05**	**97**	P	**P**	**20 12 20.6**	**+0.6**
MT01				IAmb	IAmb	20 12 21.4	
	comp=Z,22nm,1.1s						
MT09	**Talagante**	**53.26**	**97**	P	**P**	**20 12 22.3**	**+0.5**
MT09				IAmb	IAmb	20 12 23.5	
	comp=Z,23nm,1.0s						
PEL	**Peldehue**	**53.91**	**97**	P	**P**	**20 12 26.7**	**+0.3**
PEL				pmax	pmax		
	comp=Z,35nm,1.1s						
PEL	**Peldehue**	**53.91**	**97**	P	**P**	**20 12 26.6**	**+0.3**
VA03	**San Esteban**	**54.27**	**97**	P	**P**	**20 12 28.6**	**-0.5**
VA03				IAmb	IAmb	20 12 30.9	
	comp=Z,19nm,1.0s						
MAW	**Mawson**	**54.73**	**192**	P	**P**	**20 12 34.1**	**+2.4**
	comp=Z,17nm,1.0s,baz=138,slow=6.3,SNR=3.7						
MAW				LR	LR	20 32 58.0	
	comp=Z,427nm,21.7s,baz=164,slow=33						
MAW	**Mawson**	**54.73**	**192**	IAmb	IAmb	20 12 37.4	
	comp=Z,6.3nm,1.1s						
SYO	**Syowa Base**	**54.85**	**181**	⇓*e*pP	**P**	**20 12 34.2**	**+1.6**
CO03	**El Pedregal**	**55.65**	**95**	P	**P**	**20 12 39.8**	**+0.8**
CO03				IAmb	IAmb	20 12 40.9	
	comp=Z,14nm,1.0s						
STKA	**Stephens Creek**	**55.87**	**263**	P	**P**	**20 12 40.9**	**+0.3**
	comp=Z,9.5nm,0.9s,baz=153,slow=9.4,SNR=6.8						
STKA				LR	LR	20 32 35.2	
	comp=Z,308nm,20.2s,baz=150,slow=32						
STKA	**Stephens Creek**	**55.87**	**263**	*e*P	**P**	**20 12 41.2**	**+0.7**
STKA	**Stephens Creek**	**55.87**	**263**	P	**P**	**20 12 41.2**	**+0.7**
AC04	**Llanos de Chal**	**57.46**	**93**	P	**P**	**20 12 52.1**	**+0.2**
AC02	**Maricunga**	**59.60**	**93**	P	**P**	**20 13 08.4**	**+0.9**
PB15	**IPOC Station P**	**62.27**	**91**	P	**P**	**20 13 24.4**	**-0.9**
CTA	**Charters Tower**	**62.51**	**275**	LR	LR	20 37 28.2	
	comp=Z,168nm,18.8s,baz=127,slow=33						
PB06	**IPOC Station P**	**62.61**	**90**	P	**P**	**20 13 26.1**	**-1.4**
PB06				IAmb	IAmb	20 13 28.6	
	comp=Z,16nm,0.9s						
LVC	**Limon Verde**	**63.06**	**91**	P	**P**	**20 13 31.2**	**+0.5**
	comp=Z,20nm,0.8s,baz=253,slow=9.3,SNR=5.0						
PB01	**IPOC Station P**	**63.99**	**89**	P	**P**	**20 13 36.9**	**+0.4**
PB01				IAmb	IAmb	20 13 38.2	
	comp=Z,15nm,0.9s						
PLTB	**Pedras Altas**	**64.19**	**109**	P	**P**	**20 13 35.8**	**-1.9**
PLTB				IAmb	IAmb	20 13 40.8	
	comp=Z,12nm,0.8s						
ITQB	**Itaqui**	**64.23**	**105**	P	**P**	**20 13 37.4**	**-0.5**
PB11	**IPOC Station P**	**64.92**	**88**	P	**P**	**20 13 42.5**	**-0.3**
P

comp=Z,76nm,18.0s,baz=153,slow=34
BOSA Boshof 94.77 170 LR LR 20 57 08.2
comp=Z,171nm,18.0s,baz=198,slow=34
ANMO Albuquerque 96.34 30 LR LR 20 52 54.8
comp=Z,68nm,18.4s,baz=278,slow=31
NVAR Mina Array Bea 96.91 20 LR LR 20 50 03.0
comp=Z,153nm,21.4s,baz=290,slow=29
LBTB Lobatse 98.37 170 LR LR 20 55 02.2
comp=Z,271nm,19.7s,baz=177,slow=32
YBH Yreka Blue Hor 99.38 16 LR LR 20 50 10.8
comp=Z,207nm,21.6s,baz=316,slow=28
ELK Elko 99.75 22 LR LR 20 52 57.0
comp=Z,125nm,19.1s,baz=297,slow=30
H10S3 ASCENSION HYDR 102.51 128 T T 22 12 15.3
baz=13,slow=74,SNR=25
H10S2 ASCENSION HYDR 102.52 128 T T 22 12 12.6
baz=207,slow=74,SNR=17
H10N3 ASCENSION HYDR 103.57 128 T T 22 13 25.8
baz=206,slow=75,SNR=55
H10N1 ASCENSION HYDR 103.58 128 T T 22 13 36.5
baz=206,slow=75,SNR=73
H10N2 ASCENSION HYDR 103.59 128 T T 22 13 37.0
baz=206,slow=75,SNR=49
NJ2 Nanjing 120.05 283 *e*PKP **PKiKP 20 21 54.3 +1.0**
CMAR Chiang Mai Arr 120.30 257 PKP **PKiKP 20 21 56.0 +1.8**
comp=Z,0.4nm,0.4s,baz=201,slow=1.1,SNR=4.9
YKA Yellowknife Ar 120.72 15 PKP **PKiKP 20 21 55.6 +1.9**
comp=Z,0.1nm,0.4s,baz=176,slow=2.5,SNR=1.9
YKA PKKPbc **PKKPbc 20 31 58.0 0.0**
comp=Z,0.4nm,0.8s,baz=8.9,slow=4.1,SNR=6.5
ILAR Eielson Array 120.90 358 PKP **PKPdf 20 21 53.7 -0.1**
comp=Z,1.5nm,0.8s,baz=183,slow=1.3,SNR=9.0
PZH PanZhiHua 125.20 266 PKP **PKiKP 20 22 04.5 +0.6**
KLR Kul'dur 126.42 306 *i* PKIKP **PKPdf 20 22 04.1 -0.8**
TORD Torodi Ar. Bea 129.27 134 PKP **PKPdf 20 22 11.4 -0.1**
comp=Z,1.7nm,1.0s,baz=264,slow=1.4,SNR=3.4
HHC Hu-ho-hao-te 130.50 285 *e*PKP **PKPdf 20 22 08.8 -4.3**
HHC LR LR
comp=Z,140nm,14.6s
HHC LR LR
comp=Z,220nm,15.2s
HHC LR LR
comp=Z,170nm,14.6s
SONM Songino Array 137.93 289 PKP **PKPdf 20 22 26.7 -0.1**
comp=Z,0.3nm,0.8s,baz=163,slow=1.5,SNR=2.5
WMQ Urumqi 145.59 271 *e*PKPbc **PKPab 20 22 41.5 +0.4**
NIL Nilore 146.02 244 PKIKP **PKPdf 20 22 40.1 -1.5**
NIL Nilore 146.02 244 PKPdf **PKPdf 20 22 40.1 -1.5**
RAYN Ar Rayn 146.46 195 PKIKP **PKPdf 20 22 42.0 -0.7**
RAYN Ar Rayn 146.46 195 PKPdf **PKPdf 20 22 42.0 -0.7**
SUMG Summit 146.79 32 *i* P **PKPdf 20 22 43.0 +0.8**
KBL Kabul 148.79 239 PKIKP **PKPdf 20 22 46.4 0.0**
KBL Kabul 148.79 239 PKPdf **PKPdf 20 22 46.4 0.0**
ESDC Sonseca Array 148.82 105 PKPbc **PKPbc 20 22 49.8 -0.3**
comp=Z,4.5nm,0.8s,baz=244,slow=2.3,SNR=20
ESDC Sonseca Array 148.82 105 PKPdf **PKPdf 20 22 43.1 -3.0**
DGZ Jazzator, Alta 149.21 279 *i* PKIKP **PKPdf 20 22 47.8 +1.3**
MK31 Makanchi Array 150.42 271 PKIKP **PKPbc 20 22 51.9 -1.8**
MK31 Makanchi Array 150.42 271 **PKPbc 20 22 51.9 -1.8**
MKAR Makanchi Array 150.42 271 PKPbc **PKPbc 20 22 52.4 -1.2**
comp=Z,7.9nm,1.0s,baz=103,slow=3.9,SNR=16
MKAR Makanchi Array 150.42 271 **PKPbc 20 22 51.2 -2.5**
MAKZ Makanchi 150.60 270 PKIKP **PKPbc 20 22 52.1 -2.0**
MAKZ Makanchi 150.60 270 **PKPbc 20 22 52.0 -2.0**
AAK Ala-Archa 152.09 257 *i* PKIKP **PKPbc 20 22 55.1 -2.8**
AAK Ala-Archa 152.09 257 **PKPbc 20 22 55.3 -2.5**
ZAA0 Zalesovo Array 152.68 285 **PKPdf 20 22 54.0 +2.5**
ZALV Zalesovo Beam 152.68 285 PKPbc **PKiKP 20 22 59.7 +0.9**
comp=Z,0.8nm,0.7s,baz=116,slow=5.0,SNR=2.9
ZALV Zalesovo Beam 152.68 285 **PKPdf 20 22 52.5 +1.0**
NRIK Noril'sk 154.28 320 *i* PKIKP **PKPdf 20 22 53.9 +0.6**
KURK Kurchatov 154.59 275 *i* PKIKP **PKPdf 20 22 54.4 +0.1**
FETA Feichten 161.64 110 *e*P **PKPab 20 23 50.8 +2.4**
comp=Z,1.9nm,0.7s
SQTA Sankt Quirin 162.02 110 *i* P **PKPab 20 23 51.4 +1.3**
comp=Z,1.6nm,0.5s
MOTA Moosalm 162.04 110 *i* P **PKPab 20 23 52.3 +2.1**
comp=Z,2.2nm,0.7s
WATA Walderalm 162.28 110 *i* P **PKPab 20 23 52.8 +1.5**
comp=Z,1.6nm,0.5s
ABTA Abfaltersbach 162.38 113 *e*P **PKPab 20 23 53.2 +1.6**
comp=Z,5.2nm,1.0s
BRTR Keskin Array B 163.19 173 PKPab **PKPab 20 23 54.9 -0.4**
comp=Z,1.1nm,0.8s,baz=169,slow=7.1,SNR=4.9
DIVS Divibare 163.87 133 **PKPab 20 23 56.6 -1.6**
GERES GERESS Array B 164.34 109 PKPab **PKPab 20 24 01.7 +1.4**
comp=Z,0.8nm,0.7s,baz=213,slow=4.1,SNR=5.2
CLL Collm 165.33 101 *e*PKP2 **PKPab 20 24 06.0 +1.6**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 165.33 101 *e*PKPab **PKPab 20 24 06.0 +1.6**
comp=Z,5.0nm,1.0s
KIF Kilpisjarvi 165.58 23 *e*P **PKPdf 20 23 03.0 -3.0**
HEF Hetta 166.66 21 *e*P **PKPdf 20 23 06.3 -0.6**
FINES FINESS Array B 172.68 42 PKPab **PKPab 20 24 38.4 +1.9**
comp=Z,8.8nm,1.1s,baz=226,slow=10,SNR=3.8
AKASG Malin Array Be 172.86 140 PKPab **PKPab 20 24 35.8 -1.8**
comp=Z,2.5nm,0.9s,baz=216,slow=3.6,SNR=6.5

SFS ***28*** *20:08:02.0,35°.53N×3°.85W, ML2.4, ALBORAN SUR*
CNRM ***28*** *20:08:03.2,35°.50N×3°.82W, h22km, ml2.7*
ISC 28 20:08:01.2±1.1, 35°.59N±0°.03×3°.77W±0°.03, h16km±8km, n14, σ1°95/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39**	**200**	P		**Pg**	**20 08 09.6**	**+0.3**
PALE				S		**Sg**	**20 08 13.1**	**-1.6**
GOG	**Mont Gurugu**	**0.73**	**120**	P		**Pg**	**20 08 15.6**	**0.0**
GOG				S		**Sg**	**20 08 24.0**	**-1.2**
CHAS	**Isla Isabel II**	**1.17**	**110**	*e*P		**Pn**	**20 08 22.8**	**0.0**
CHAS				*e*S		**Sb**	**20 08 36.6**	**-1.2**
EMAL	**Malaga-Limoner**	**1.29**	**336**	*e*P		**Pg**	**20 08 27.3**	**+1.2**
EMAL				*e*S		**Sg**	**20 08 43.4**	**+0.5**
SMIR	**Smir Dam**	**1.31**	**275**	P		**Pg**	**20 08 28.3**	**+1.8**
SMIR				S		**Sn**	**20 08 42.3**	**+0.2**
CEU	**Ceuta**	**1.34**	**284**	*e*P		**Pn**	**20 08 24.8**	**-0.4**
CEU				*e*S		**Sn**	**20 08 36.6**	**-6.1**
CHEFC	**Chefchaouen**	**1.37**	**250**	P		**Pg**	**20 08 27.3**	**-0.4**
CHEFC				S		**Sn**	**20 08 42.9**	**-0.7**
JBK	**JBK**	**1.59**	**141**	P		**Pb**	**20 08 30.2**	**-0.1**
JBK				S		**Sn**	**20 08 49.6**	**+0.3**
SICH	**Sidi Chahed**	**1.95**	**221**	P		**Pb**	**20 08 36.2**	**-0.1**
SICH				S		**Sn**	**20 08 57.8**	**0.0**
LCRM	**LCR**	**2.10**	**206**	P		**Pb**	**20 08 40.0**	**+1.1**
LCRM				S		**Sn**	**20 09 03.7**	**+2.1**
MD31	**MD31**	**2.83**	**197**	P		**Pn**	**20 08 47.4**	**+1.5**
MD31				S		**Sn**	**20 09 20.0**	**+0.3**
MDT	**Midelt**	**2.85**	**194**	P		**Pn**	**20 08 49.0**	**+2.9**
MDT				S		**Sn**	**20 09 20.5**	**+0.4**
ZHG	**ZHG**	**3.19**	**229**	P		**Pb**	**20 08 55.8**	**-1.8**
ZHG				S		**Sn**	**20 09 24.9**	**-3.6**
PVAQ	**Vaqueiros**	**3.66**	**301**	P		**Pn**	**20 09 00.2**	**+3.0**
PVAQ				S		**Sn**	**20 09 38.5**	**-1.4**

IDC 28 20:25:55.5±2.5, 5°.91S×130°.97E, h196km±37km, mb2.9/1, mb1 3.2/4, mb1mx2.8/31, mbtmp3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/16, Error ellipse: s-maj=89.9km s-min=17.8km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.01**	**3**	P		Pn	20 27 10.7	+0.6
	3.3nm,0.3s,baz=52,slow=8.3,SNR=17							
SIJI				S		Sn	20 28 08.8	-0.1
	2.4nm,0.3s,baz=236,slow=23,SNR=7.0							
FITZ	**Fitzroy Crossi**	**13.19**	**203**	LR		LR	20 36 21.9	
	comp=Z,68nm,18.4s,baz=72,slow=48							
WRA	**Warramunga Arr**	**14.33**	**167**	P		Pn	20 29 10.5	+0.7
	0.3nm,0.3s,baz=347,slow=11,SNR=12							
ASAR	**Alice Springs**	**17.88**	**171**	P		P	20 29 49.8	-0.7
	0.3nm,0.3s,baz=350,slow=10,SNR=22							
MKAR	**Makanchi Array**	**67.85**	**326**	P		P	20 36 32.8	+0.1
	0.2nm,0.4s,baz=121,slow=8.1,SNR=6.4							

GUC 28 20:36:04.4±0.6, 29°.73S×71°.62W, h54km±5km, ML4.2, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.38**	**120**	⇓*i* P		Pn	20 36 15.7	+1.1
CO05				IAML			20 36 24.3	
	comp=E,13μm,0.4s							
GO04	**Tololo Observa**	**0.84**	**122**	*i* P		Pn	20 36 20.5	+0.2
GO04				*i* S		Sn	20 36 32.5	+0.6
GO04				IAML			20 36 34.8	
	comp=N,22μm,0.5s							
CO06	**Fray Jorge**	**0.94**	**181**	⇓*i* P		Pn	20 36 21.4	-0.1
CO06				*i* S		Sn	20 36 33.6	-0.4
CO06				IAML			20 36 34.7	
	comp=N,5μm,0.1s							
LCO	**Las Campanas**	**1.07**	**48**	*e*P		Pn	20 36 23.9	+0.4
LCO				*e*S		Sn	20 36 38.7	+1.1
CO03	**El Pedregal**	**1.37**	**144**	⇓*i* P		Pn	20 36 27.5	+0.3
CO03				*i* S		Sn	20 36 44.1	-0.2
CO03				IAML			20 36 44.9	
	comp=N,5μm,0.2s							
AC04	**Llanos de Chal**	**1.59**	**18**	*e*P		Pn	20 36 31.2	+0.9
AC04				*e*S		Sn	20 36 50.5	+0.8
AC04				IAML			20 36 53.4	
	comp=E,1μm,0.1s							
AC04				⇓*e*			20 36 53.4	
GO03	**Copiap**	**2.45**	**30**	*e*P		Pn	20 36 42.9	+0.9
GO03				*e*S		Sn	20 37 11.3	+0.5
VA06	**Catapilco**	**2.84**	**175**	*e*P		Pn	20 36 47.3	+0.1
VA06				*i* S		Sn	20 37 18.9	-1.3
VA06				IAML			20 37 37.4	
	comp=E,1μm,0.4s							
VA03	**San Esteban**	**3.16**	**163**	*e*P		Pn	20 36 53.1	+1.3
VA03				*i* S		Sn	20 37 29.6	+1.3
ROCH	**El Roble**	**3.27**	**171**	⇑*e*P		Pn	20 36 53.7	+0.2
ROCH				*e*S		Sn	20 37 30.3	-1.0
ROCH				IAML			20 37 45.0	
	comp=N,597nm,0.3s							
PEL	**Peldehue**	**3.50**	**167**	*e*P		Pn	20 36 57.0	+0.6
PEL				*e*S		Sn	20 37 36.9	+0.4
PEL				IAML			20 37 40.3	
	comp=N,451nm,0.2s							
MT02	**Curacav**	**3.54**	**173**	*e*P		Pn	20 36 56.7	-0.2
MT02				*e*S		Sn	20 37 37.2	-0.4
MT02				IAML			20 37 38.1	
	comp=E,252nm,0.3s							
MT05	**Renca**	**3.73**	**169**	⇑*e*P		Pn	20 37 00.2	+0.7
MT05				*e*S		Sn	20 37 42.3	+0.1
MT05				IAML			20 37 46.8	
	comp=N,928nm,0.2s							
VA05	**Santo Domingo**	**3.92**	**180**	*e*S		Sn	20 37 43.8	-2.9
VA05				IAML			20 38 04.2	
	comp=E,412nm,0.3s							
MT09	**Talagante**	**4.07**	**173**	*e*P		Pn	20 37 04.9	+0.7
MT09				*e*S		Sn	20 37 50.4	-0.4
MT09				IAML			20 38 08.2	
	comp=N,298nm,0.4s							

JMA ***28*** *20:47:27.6±0.1, 38°.24N×141°.98E, h44km±1km, M4.1*
Broadband fault plane solution: P waves. NP1:
ϕ_s=187.00000°, δ=26.00000°, λ=122.00000°. NP2:
ϕ_s=332.00000°, δ=68.00000°, λ=76.00000°. Principal axes: T
Plg64.0000°, Azm219.0000°; N Plg13.0000°,
Azm338.0000°; P Plg22.0000°, Azm73.0000°;
JMA Felt I J1.
NEIC ***28*** *20:47:27.8±1.8, 38°.19N±0°.06×141°.92E±0°.05, h38km±6km,*
mb4.6/17 Error ellipse: s-maj=8.6km s-min=6.1km
az=167.0
NIED ***28*** *20:47:27.6, 38°.24N×141°.98E, h44km, MW4.0, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}=1.05; $M_{\theta\theta}$=0.00; $M_{\phi\phi}$-1.06; $M_{r\theta}$-0.36; $M_{\theta\phi}$-0.03; $M_{\phi r}$0.52;
Fault plane solution: $M_0$1.23000×10^{15} NP1:
ϕ_s=345.00000°, δ=60.00000°, λ=73.00000°. NP2:
ϕ_s=196.00000°, δ=34.00000°, λ=117.00000°.
IDC ***28*** *20:47:28.4±0.7, 38°.16N×142°.07E, h49km±5km, mb3.6/16,*
mb1 3.8/22, mb1mx3.6/56, mbtmp3.9/22, MS3.5/4,
Ms1 3.5/4, ms1mx2.9/84 Error ellipse: s-maj=15.8km
s-min=9.9km az=107.0
ISC 28 20:47:27.7±0.6, 38°.20N±0°.04×141°.99E±0°.06, h43km±5km, n94, σ1°07/105, mb4.4/32, 1C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.43**	**285**	⇓P		**Pn**	**20 47 37.5**	**-0.2**
JIKH				S		**Sn**	**20 47 44.1**	**-0.6**
JIO	**Ouri**	**0.56**	**297**	⇓P		**Pn**	**20 47 39.1**	**-0.3**
JIO				S		**Sn**	**20 47 47.2**	**-0.6**
JKMT	**Kesennumamotoy**	**0.73**	**326**	⇓P		**Pn**	**20 47 41.3**	**-0.3**
JKMT				S		**Sn**	**20 47 50.7**	**-1.0**
OFUJ	**Ofunato**	**0.91**	**344**	⇑P		**Pn**	**20 47 43.4**	**-0.7**
OFUJ				S		**Sn**	**20 47 54.7**	**-1.4**
JMK	**Ichinoseki**	**0.96**	**321**	⇓P		**Pn**	**20 47 44.7**	**-0.1**
JMK				S		**Sn**	**20 47 56.9**	**-0.4**
JMM	**Marumori**	**1.00**	**251**	⇓P		**Pn**	**20 47 45.0**	**-0.4**
JMM				S		**Sn**	**20 47 56.6**	**-1.7**
JMM	**Marumori**	**1.00**	**251**			**Pn**	**20 47 45.0**	**-0.4**
JOU	**Okura**	**1.06**	**279**	⇓P		**Pn**	**20 47 46.4**	**+0.3**
JOU				*e*S		**Sn**	**20 47 59.9**	**+0.2**
JFK	**Kawauchi**	**1.22**	**227**	⇓P		**Pn**	**20 47 47.8**	**-0.5**
JFK				S		**Sn**	**20 48 02.4**	**-1.2**
JOM	**Ohasama**	**1.38**	**337**	P		**Pn**	**20 47 50.7**	**+0.2**
JOM				*e*S		**Sn**	**20 48 07.5**	**-0.1**
JYK	**Kaneyama**	**1.47**	**300**	⇓P		**Pn**	**20 47 51.9**	**+0.2**
JFT	**Otama**	**1.48**	**243**	⇓P		**Pn**	**20 47 52.4**	**+0.5**
JFT				*e*S		**Sn**	**20 48 10.3**	**+0.3**
JYS	**Shirataka**	**1.52**	**271**	P		**Pn**	**20 47 52.8**	**+0.4**
JRG	**Rokugo**	**1.60**	**319**	P		**Pn**	**20 47 54.0**	**+0.5**
JYT	**Yasato**	**2.44**	**217**			**Pn**	**20 48 04.6**	**-0.4**
JTM	**Tenmabayashi**	**2.68**	**345**			**Pn**	**20 48 09.3**	**+1.1**
JSD	**Sado**	**2.95**	**268**			**Pn**	**20 48 12.1**	**+0.1**
MJAR	**Matsushiro Arr**	**3.44**	**242**	P		**Pn**	**20 48 20.5**	**+1.7**
	2.2nm,0.3s,baz=58,slow=11,SNR=54							
MJAR				S		Sn	20 49 08.2	+10
	1.2nm,0.3s,baz=30,slow=14,SNR=4.7							
MJAR				LR		LR	20 50 03.0	
	comp=Z,274nm,19.4s,baz=82,slow=44							
MJAR	**Matsushiro Arr**	**3.44**	**242**			**Pn**	**20 48 19.5**	**+0.7**
MAJO	**Matsushiro**	**3.44**	**242**			**Pn**	**20 48 18.6**	**-0.2**
MAT	**Matsushiro**	**3.44**	**242**	P		**Pn**	**20 48 20.3**	**+1.5**
MAT				*e*S		**Sn**	**20 49 00.9**	**+2.5**
MJB9	**Matsu-Tunnel**	**3.44**	**242**			**Pn**	**20 48 19.7**	**+0.9**
ERM	**Erimo**	**3.91**	**13**	Pn		**Pn**	**20 48 25.1**	**-0.1**
JGF	**Kuroka**	**4.53**	**236**			**Pn**	**20 48 36.3**	**+2.4**
JSG	**Sagara**	**4.67**	**222**			**Pn**	**20 48 34.2**	**-1.5**
INU	**Inuyama**	**4.91**	**236**			**Pn**	**20 48 41.2**	**+2.3**
JHJ2	**Mitsune**	**5.38**	**200**	Pn		**Pn**	**20 48 45.4**	**0.0**
JHJ	**Hachijo jima 2**	**5.38**	**200**	P		**Pn**	**20 48 45.5**	**+0.1**
	39nm,0.3s,baz=328,slow=22,SNR=35							
JHJ				S		**Sn**	**20 49 44.2**	**-1.9**
	29nm,0.3s,baz=53,slow=20,SNR=1.9							
ASAJ	**Asahikawa**	**5.92**	**4**	P		**Pn**	**20 48 53.8**	**+0.9**
	1.8nm,0.3s,baz=124,slow=24,SNR=1.9							
ASAJ				S		**Sn**	**20 49 59.0**	**-0.4**
	1.5nm,0.3s,baz=173,slow=25,SNR=1.6							
ASAJ				LR		LR	20 51 04.9	
	comp=Z,61nm,19.1s,baz=256,slow=36							
JKA	**Kamikawa-asahi**	**5.92**	**4**			**Pn**	**20 48 53.8**	**+0.9**
JHS	**Saijyo**	**7.82**	**249**			**Pn**	**20 49 19.3**	**+0.3**
JMN	**Monobe**	**7.95**	**238**	Pn		**Pn**	**20 49 22.9**	**+2.2**
USA0B	**Ussuriysk Arra**	**9.62**	**312**	Pn		**Pn**	**20 49 42.8**	**-0.8**
USRK	**Ussuriysk Ar.**	**9.62**	**312**	P		**Pn**	**20 49 45.7**	**+2.2**
	baz=124,slow=14,SNR=8.5							
JNU	**Nakatsue**	**10.36**	**244**	P		**Pn**	**20 49 56.0**	**+2.2**
	0.5nm,0.3s,baz=339,slow=3.1,SNR=5.3							
JCJ	**Chichijima**	**11.08**	**179**	Pn		**Pn**	**20 50 03.1**	**-0.4**
KSRS	**Korea Array**	**11.15**	**270**	P		**Pn**	**20 50 07.3**	**+2.8**
	0.2nm,0.3s,baz=78,slow=14,SNR=5.1							
KLR	**Kul'dur**	**13.27**	**329**	P		**P**	**20 50 38.6**	**-3.5**
	0.1nm,0.3s,baz=132,slow=12,SNR=1.9							
NACB	**Ninganchiao**	**22.30**	**237**	P		**P**	**20 52 20.4**	**-0.9**
NACB				IAmb		IAmb	20 52 43.0	
	comp=Z,28nm,1.2s							
SSLB	**Suanglung**	**22.99**	**237**	P		**P**	**20 52 26.6**	**-2.1**
SSLB				IAmb		IAmb	20 52 41.0	
	comp=Z,18nm,1.1s							
SEY	**Seymchan**	**25.56**	**11**	P		**P**	**20 52 53.3**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=192,slow=15,SNR=4.3							
SONM	**Songino Array**	**27.54**	**302**	P		**P**	**20 53 11.4**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=92,slow=7.9,SNR=6.8							
SONM	**Songino Array**	**27.54**	**302**	IAmb		IAmb	20 53 20.7	
	comp=Z,2.9nm,1.5s							
ENH	**Enshi**	**27.91**	**263**	P		**P**	**20 53 12.9**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**28.38**	**123**	T		T	21 23 33.8	
	baz=316,slow=75,SNR=1136							
H11N1	**WAKE ISLAND Hy**	**28.39**	**123**	T		T	21 23 34.5	
	baz=316,slow=75,SNR=1083							
H11N3	**WAKE ISLAND Hy**	**28.40**	**123**	T		T	21 23 35.1	
	baz=316,slow=75,SNR=895							
H11S1	**WAKE ISLAND Hy**	**29.14**	**125**	T		T	21 24 30.2	
	baz=318,slow=76,SNR=275							
H11S3	**WAKE ISLAND Hy**	**29.14**	**125**	T		T	21 24 29.5	
	baz=318,slow=76,SNR=402							
H11S2	**WAKE ISLAND Hy**	**29.15**	**125**	T		T	21 24 31.1	
	baz=318,slow=76,SNR=173							
ZALV	**Zalesovo Beam**	**41.48**	**311**	P		**P**	**20 55 10.7**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=86,slow=6.4,SNR=6.1							
ZALV				pP		**sP**	**20 55 25.1**	**-2.0**
	comp=Z,2.1nm,0.4s,baz=85,slow=7.7,SNR=8.4							
ZALV				PcP		**PcP**	**20 57 07.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=93,slow=3.3,SNR=2.3							
ZALV	**Zalesovo Beam**	**41.48**	**311**	P		**P**	**20 55 09.7**	**-0.4**
CHTO	**Chiang Mai**	**42.03**	**255**	P		**P**	**20 55 15.1**	**0.0**
CHTO				IAmb		IAmb	20 55 26.6	
	comp=Z,2.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**42.24**	**255**	P		**P**	**20 55 16.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=50,slow=6.1,SNR=4.9							
CMAR	**Chiang Mai Arr**	**42.24**	**255**	P		**P**	**20 55 15.6**	**-1.2**
MK31	**Makanchi Array**	**43.90**	**301**	P		**P**	**20 55 30.0**	**+0.1**
MKAR	**Makanchi Array**	**43.90**	**301**	P		**P**	**20 55 30.2**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=86,slow=11,SNR=14							
MKAR				pP		**pP**	**20 55 43.9**	**+2.0**
	comp=Z,2.1nm,0.7s,baz=88,slow=8.3,SNR=13							
MAKZ	**Makanchi**	**44.11**	**301**	P		**P**	**20 55 32.6**	**+1.0**
KURK	**Kurchatov**	**45.58**	**307**	P		**P**	**20 55 42.1**	**-1.1**
KURK				IAmb		IAmb	20 55 59.7	
	comp=Z,10nm,0.8s							
GUN	**Gumba**	**47.51**	**275**	*e*P		**P**	**20 55 59.6**	**+0.6**
	comp=Z,11nm,0.4s							
KKN	**Kakani**	**48.03**	**275**	*e*P		**P**	**20 56 03.4**	**+0.4**
	comp=Z,9.0nm,0.4s							
PKI	**Pulchoki**	**48.03**	**275**	*e*P		**P**	**20 56 03.2**	**+0.1**
	comp=Z,4.1nm,0.5s							
PKIN	**Phulchoki**	**48.04**	**275**	*e*P		**P**	**20 56 03.1**	**0.0**
	comp=Z,4.8nm,0.5s							
ILAR	**Eielson Array**	**48.26**	**33**	P		**P**	**20 56 04.5**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=258,slow=7.6,SNR=4.8							
ILAR				pP		**pP**	**20 56 17.2**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=261,slow=6.8,SNR=5.3							
GKN	**Gorkha**	**48.44**	**276**	*e*P		**P**	**20 56 06.5**	**+0.5**
	comp=Z,13nm,0.6s							
DANN	**Dangsing**	**48.97**	**277**	*e*P		**P**	**20 56 11.0**	**+0.8**
	comp=Z,38nm,0.7s							
BMAR	**Burnt Mountain**	**49.09**	**29**	P		**P**	**20 56 11.8**	**+1.5**
KOLN	**Koldanda**	**49.36**	**276**	*e*P		**P**	**20 56 12.7**	**-0.4**
PYUN	**Piuthan**	**49.68**	**277**	*e*P		**P**	**20 56 16.1**	**+0.5**
	comp=Z,12nm,0.6s							
COEN	**Coen**	**51.90**	**179**	P		**P**	**20 56 32.8**	**+0.9**
COEN				IAmb		IAmb	20 56 36.1	
	comp=Z,4.8nm,1.0s							
KKAR	**Karatay Array**	**52.94**	**300**	P		**P**	**20 56 39.4**	**-0.2**
CHGR	**Chuyangaron**	**55.59**	**295**	P		**P**	**20 56 59.4**	**+0.4**
ARU	**Arti**	**55.79**	**318**	P		**P**	**20 56 59.8**	**-0.3**
ARU				IAmb		IAmb	20 57 17.5	
	comp=Z,14nm,1.4s							
ABKAR	**Akbulak array**	**57.54**	**310**	P		**P**	**20 57 12.4**	**-0.3**
ABKAR				IAmb		IAmb	20 57 13.2	
	comp=Z,2.0nm,0.6s							
ABKAR	**Akbulak array**	**57.54**	**310**	P		**P**	**20 57 12.3**	**-0.3**
WB0	**Warramunga Arr**	**58.10**	**188**	P		**P**	**20 57 15.9**	**-0.8**
WB0				IAmb		IAmb	20 57 17.3	
	comp=Z,5.9nm,0.9s							
WR0	**Warramunga Arr**	**58.28**	**188**	P		**P**	**20 57 16.7**	**-1.2**
WB2	**Warramunga Arr**	**58.28**	**188**	P		**P**	**20 57 16.8**	**-1.2**
WB2				IAmb		IAmb	20 57 18.6	
	comp=Z,7.4nm,1.1s							
WRA	**Warramunga Arr**	**58.28**	**188**	P		**P**	**20 57 17.8**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=6,2,slow=7.4,SNR=25							
WRA	**Warramunga Arr**	**58.28**	**188**	P		**P**	**20 57 17.0**	**-1.0**
SPITS	**Spitsbergen Ar**	**59.47**	**349**	LR		LR	21 25 46.5	
	comp=Z,102nm,18.8s,baz=354,slow=39							
ASAR	**Alice Springs**	**62.01**	**188**	P		**P**	**20 57 43.5**	**0.0**
	comp=Z,1.4nm,0.6s,baz=1.1,slow=4.9,SNR=12							
YKA	**Yellowknife Ar**	**62.57**	**31**	P		**P**	**20 57 47.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=303,slow=7.1,SNR=3.7							
YKA				pP		**pP**	**20 58 00.3**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=299,slow=6.6,SNR=5.8							
ARCES	**ARCESS Array B**	**63.07**	**339**	P		**P**	**20 57 50.4**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=31,slow=5.8,SNR=4.9							
FINES	**FINESS Array B**	**68.00**	**332**	P		**P**	**20 58 22.3**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=45,slow=8.6,SNR=12			

PBEJ	Beja	7.61	37	eP	Pn	20 55 39.5	+3.4
MDT	Midelt	7.68	82	P	Pn	20 55 39.7	+2.6
SMIR	Smir Dam	7.76	60	P	Pn	20 55 43.5	+5.3
EVO	Evora	7.93	34	eP	Pn	20 55 42.9	+2.3
EVO				eS	Sn	20 57 07.2	-3.2
EVO				A	A	20 57 21.8	
	comp=N,2.5nm,0.5s						
PMTG	Montargil	8.28	31	eP	Pn	20 55 47.5	+2.3
PMTG				eS	Sn	20 57 16.4	-2.3
PESTR	Estremoz	8.40	34	eS	Sn	20 57 18.6	-3.3
PMRV	Marv??o	8.94	33	eP	Pn	20 55 57.5	+3.1
PMRV				eS	Sn	20 57 32.0	-3.2

*NOU **28** 20:58:12.4, 37°.99S×176°.29E, h218km, MLv4.2/9, North Island, New Zealand*
*WEL **28** 20:58:20.9±0.6, 38°.S±4°.×17°.6E±°, h142km±5km, M3.3/60, MLv3.3/60, Error ellipse: s-maj=0.0km s-min=0.0km az=150.0*

ISC 28 20:58:15.3±1.8, 38°.23S±0°.07×176°.15E±0°.06, h187km±10km, n149, σ1.985/158, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSRZ	Hossack Road	0.11	135	P	Pn	20 58 41.2	+1.3
GRRZ	Galatos Road	0.12	194	P	Pn	20 58 41.2	+1.3
HLRZ	Highlands Stat	0.16	96	P	Pn	20 58 41.3	+1.2
OMRZ	Omania	0.22	54	P	Pn	20 58 41.0	+0.8
KARZ	Kaharoa	0.23	20	P	Pn	20 58 41.0	+0.8
MKRZ	Makatiti	0.27	69	P	Pn	20 58 41.7	+1.4
TARZ	Mount Tarawera	0.28	90	P	Pn	20 58 41.4	+1.1
WPRZ	Whakapapatarin	0.28	177	P	Pn	20 58 41.5	+1.3
RRRZ	Republican Roa	0.31	110	P	Pn	20 58 41.2	+0.9
PRRZ	Plateau Road	0.33	144	P	Pn	20 58 41.5	+1.2
WHTZ	Whakaora	0.46	199	P	Pn	20 58 42.4	+1.6
EDRZ	Edgecumbe	0.48	75	P	Pn	20 58 41.8	+0.9
MARZ	Manawahe	0.49	59	P	Pn	20 58 41.9	+1.0
TLZ	Tolley Road	0.49	259	P	Pn	20 58 42.0	+1.1
OPRZ	Ohinepanea	0.51	40	P	Pn	20 58 41.6	+0.7
MUGZ	Murupara	0.55	116	P	Pn	20 58 41.9	+0.8
WATZ	Wairara	0.57	214	P	Pn	20 58 42.8	+1.6
MRHZ	Matea Rd	0.64	160	P	Pn	20 58 42.8	+1.2
MRHZ				S	S	20 58 59.1	-2.8
RATZ	Rangitukua	0.70	205	P	Pn	20 58 43.4	+1.5
TOZ	Tahuroa Road	0.71	314	P	Pn	20 58 42.9	+1.0
TOZ				S	S	20 59 00.8	-1.6
RTZ	Ruatahuna	0.76	120	P	Pn	20 58 43.6	+1.4
RTZ				S	S	20 59 01.3	-1.7
URZ	Urewera	0.76	92	P	Pn	20 58 42.8	+0.8
URZ				S	S	20 59 00.0	-2.8
URZ	Urewera	0.76	92	P	Pn	20 58 42.9	+0.8
RITZ	Rihia Road	0.78	197	P	Pn	20 58 44.4	+2.1
KATZ	Kakaramea	0.82	205	P	Pn	20 58 44.5	+1.8
MTHZ	Maungataniwha	0.82	139	P	Pn	20 58 44.2	+1.7
MTHZ				S	S	20 59 01.9	-1.9
NTVZ	North Tongarir	0.94	203	P	Pn	20 58 45.2	+1.8
KRVZ	Karewarewa	0.94	205	P	Pn	20 58 45.3	+1.8
TMVZ	Te Maari	0.95	201	P	Pn	20 58 45.2	+1.8
ETVZ	East Tongariro	0.96	201	P	Pn	20 58 45.4	+1.8
BKZ	Black Stump Fm	0.97	164	P	Pn	20 58 45.3	+1.8
BKZ				S	S	20 59 03.4	-2.2
BKZ	Black Stump Fm	0.97	164	P	Pn	20 58 45.3	+1.8
WTVZ	West Tongariro	0.98	206	P	Pn	20 58 45.5	+1.8
NNVZ	North Ngauruho	0.99	205	P	Pn	20 58 45.6	+1.8
OTVZ	Oturere	1.00	202	P	Pn	20 58 46.0	+2.1
TWVZ	Taurewa	1.00	213	P	Pn	20 58 45.7	+1.9
NMHZ	Naumai	1.00	149	P	Pn	20 58 46.7	+2.9
NMHZ				S	S	20 59 05.7	-0.3
SNVZ	South Ngauruho	1.03	202	P	Pn	20 58 46.0	+1.9
NGZ	Ngauruhoe	1.03	204	P	Pn	20 58 45.9	+1.8
RAGZ	Rawiri	1.03	105	P	Pn	20 58 45.6	+1.6
RAGZ				S	S	20 59 05.0	-1.2
HIZ	Hauiti	1.05	254	P	Pn	20 58 46.1	+2.0
HIZ	Hauiti	1.05	254	P	Pn	20 58 46.1	+2.0
SNGZ	Shannon Statio	1.08	121	P	Pn	20 58 46.5	+2.2
MWZ	Matawai	1.09	96	P	Pn	20 58 45.8	+1.4
MWZ				S	S	20 59 05.0	-1.9
TUVZ	Tukino	1.10	200	P	Pn	20 58 46.7	+2.1
FWVZ	Far West T-bar	1.12	204	P	Pn	20 58 46.6	+1.8
WHVZ	Whangaehu Hut	1.13	202	P	Pn	20 58 46.9	+2.0
DRZ	Dome Shelter	1.14	203	P	Pn	20 58 47.5	+2.4
TRVZ	Turoa	1.16	204	P	Pn	20 58 47.1	+1.9
WNVZ	Wahianoa	1.17	201	P	Pn	20 58 47.2	+2.1
KWHZ	Kaweka Forest	1.21	170	P	Pn	20 58 47.5	+2.2
MOVZ	Moawhango	1.21	195	P	Pn	20 58 47.1	+1.7
ARHZ	Aropaoanui	1.22	147	P	Pn	20 58 48.1	+2.7
PKVZ	Pokaka	1.23	210	P	Pn	20 58 47.6	+2.1
RUGZ	Raukumara Rang	1.24	78	P	Pn	20 58 46.2	+0.5
BHHZ	Black Hill Sta	1.25	183	P	Pn	20 58 47.6	+1.9
MTVZ	Mangateitei	1.26	204	P	Pn	20 58 48.0	+2.2
MCHZ	McNeill Hill	1.28	161	P	Pn	20 58 48.8	+2.9
RIGZ	Rimuhau	1.35	111	P	Pn	20 58 48.8	+2.3
TKGZ	Te Karaka	1.35	99	P	Pn	20 58 48.6	+2.2
HAZ	Te Kaha	1.38	70	P	Pn	20 58 47.6	+0.8
VRZ	Vera Road	1.40	230	P	Pn	20 58 49.6	+2.7
KRHZ	Kereru	1.42	173	P	Pn	20 58 49.4	+2.3
KNZ	Kokohu	1.43	124	P	Pn	20 58 49.4	+2.2
TWGZ	Tauwhareparae	1.45	88	P	Pn	20 58 49.6	+2.2
KUZ	Kuaotunu	1.52	347	P	Pn	20 58 49.8	+1.7
PRGZ	Paritu Road	1.53	117	P	Pn	20 58 50.3	+2.3
PKGZ	Pakihiroa	1.56	78	P	Pn	20 58 50.1	+1.6
CKHZ	Cape Kidnapper	1.60	153	P	Pn	20 58 51.6	+2.9
WIAZ	Waiheke Island	1.65	330	P	Pn	20 58 51.5	+2.2
MHGZ	Mahia Peninsul	1.66	124	P	Pn	20 58 52.0	+2.7
KAHZ	Kahuranaki	1.66	160	P	Pn	20 58 52.2	+2.8
AWAZ	Awhitu Peninsu	1.67	314	P	Pn	20 58 51.7	+2.2
PUZ	Puketiti	1.67	85	P	Pn	20 58 51.2	+1.7
PNHZ	Pukenui	1.68	179	P	Pn	20 58 51.7	+2.1
WAZ	Wanganui	1.77	210	P	Pn	20 58 53.1	+2.7
TSZ	Takapari Road	1.83	184	P	Pn	20 58 53.2	+2.2
LREZ	Lake Rotokare	1.83	227	P	Pn	20 58 54.4	+3.4
MXZ	Matakaoa Point	1.84	69	P	Pn	20 58 53.4	+2.3
WMGZ	Waiomatatini S	1.84	78	P	Pn	20 58 53.1	+2.0
WPHZ	Waipukurau	1.84	173	P	Pn	20 58 53.6	+2.4
PXZ	Pawanui	1.88	163	P	Pn	20 58 54.1	+2.6
PREZ	Palmer Road	1.91	234	P	Pn	20 58 55.5	+3.6
NEZ	North Egmont	1.91	237	P	Pn	20 58 55.4	+3.5
PKE	Pukeiti	1.94	240	P	Pn	20 58 55.6	+3.3
KHEZ	Kahui Hut	1.97	237	P	Pn	20 58 56.0	+3.4
NBEZ	Newall Road No	2.06	239	P	Pn	20 58 56.9	+3.5
DVHZ	Dannevirke	2.06	180	P	Pn	20 58 55.6	+2.1
PRHZ	Porangahau	2.06	170	P	Pn	20 58 56.0	+2.5
OHWZ	Ohakea	2.07	198	P	Pn	20 58 56.3	+2.8
NMEZ	Namu Road	2.13	236	P	Pn	20 58 57.6	+3.4
POWZ	Post Office Ro	2.17	188	P	Pn	20 58 56.7	+2.0
ANWZ	Angora Road	2.24	174	P	Pn	20 58 57.9	+2.6
PRWZ	Pori Road	2.32	183	P	Pn	20 58 58.6	+2.3
BFZ	Birch Farm	2.45	178	P	Pn	20 58 59.8	+2.1
BFZ	Birch Farm	2.45	178	P	Pn	20 58 59.8	+2.1
MRZ	Mangatainoka R	2.46	190	P	Pn	20 58 59.8	+1.9
TIWZ	Tintock	2.55	184	P	Pn	20 59 00.9	+2.0
CPWZ	Castlepoint	2.67	179	P	Pn	20 59 02.9	+2.6
OGWZ	Otaki Gorge	2.69	196	P	Pn	20 59 02.3	+1.9
HOWZ	Holdsworth Sta	2.70	190	P	Pn	20 59 02.3	+1.6
KIW	Kapiti Island	2.79	200	P	Pn	20 59 03.2	+1.5
TMWZ	Te Maipa	2.88	184	P	Pn	20 59 04.4	+1.7
MTW	Mount Morrison	2.95	189	P	Pn	20 59 05.1	+1.4
CAW	Cannon Point	2.99	196	P	Pn	20 59 05.7	+1.7
DUWZ	D'Urville Isla	3.09	213	P	Pn	20 59 06.7	+1.4
TRWZ	Traveller	3.18	186	P	Pn	20 59 08.0	+1.6
PAWZ	Paruwai Farm	3.19	190	P	Pn	20 59 07.8	+1.3
WEL	Wellington	3.23	199	P	Pn	20 59 08.4	+1.5
MSWZ	Moikau Station	3.25	192	P	Pn	20 59 08.5	+1.2
SNZO	South Karori	3.27	199	P	Pn	20 59 08.8	+1.4
TCW	Tory Channel	3.30	205	P	Pn	20 59 09.3	+1.5
BHW	Baring Head	3.32	197	P	Pn	20 59 09.2	+1.2
PLWZ	Palliser	3.40	191	P	Pn	20 59 10.2	+1.0
TUWZ	Tuamarina	3.61	207	P	Pn	20 59 12.8	+1.1
NNZ	Nelson	3.66	215	P	Pn	20 59 13.7	+1.4
TKNZ	Takaka Hill	3.72	220	P	Pn	20 59 14.1	+1.1
QRZ	Quartz Range	3.81	226	P	Pn	20 59 15.1	+0.9
QRZ	Quartz Range	3.81	226	P	Pn	20 59 15.2	+1.0
CMWZ	Cape Campbell	3.81	202	P	Pn	20 59 16.2	+2.1
BSWZ	Blackbirch Sta	3.89	206	P	Pn	20 59 16.4	+1.3
MRNZ	Matariki Terra	4.10	218	P	Pn	20 59 18.6	+0.8
THZ	Tophouse	4.31	214	P	Pn	20 59 21.9	+1.3
KHZ	Kahutara	4.63	205	P	Pn	20 59 25.7	+1.2
KHZ	Kahutara	4.63	205	P	Pn	20 59 25.9	+1.4
DSZ	Denniston Nort	4.84	222	P	Pn	20 59 27.6	+0.3
GVZ	Greta Valley S	5.29	206	P	Pn	20 59 33.8	+0.7
LTZ	Lake Taylor	5.42	212	P	Pn	20 59 34.9	+0.2
AMCZ	Amberley	5.61	207	P	Pn	20 59 37.7	+0.6
INZ	Inchbonnie	5.74	217	P	Pn	20 59 38.7	-0.2
OKCZ	Okains Bay	5.96	202	P	Pn	20 59 42.4	+0.6
OXZ	Oxford	5.96	210	P	Pn	20 59 41.4	-0.4
MQZ	McQueen's Vall	6.07	205	P	Pn	20 59 42.9	-0.2
AKCZ	Akaroa Harbour	6.14	202	P	Pn	20 59 44.4	+0.3
RACZ	Rakaia	6.27	208	P	Pn	20 59 45.4	-0.3
MHCZ	Mount Hutt	6.33	212	P	Pn	20 59 46.8	+0.2
WVZ	Waitaha Valley	6.35	219	P	Pn	20 59 49.0	+2.2
WACZ	Wakanui South	6.56	208	P	Pn	20 59 49.4	-0.2
RPZ	Rata Peaks	6.69	214	P	Pn	20 59 51.6	+0.2
RPZ	Rata Peaks	6.69	214	P	Pn	20 59 52.0	+0.7
ARCZ	Arundel	6.83	212	P	Pn	20 59 53.6	+0.5
FOZ	Fox Glacier	7.14	220	P	Pn	20 59 56.2	-1.0
TMZ	Timaru	7.26	211	P	Pn	20 59 58.8	0.0
LBZ	Lake Benmore	7.61	214	P	Pn	21 00 03.1	-0.2
ODZ	Otahua Downs	7.95	209	P	Pn	21 00 08.3	+0.5
ODZ	Otahua Downs	7.95	209	P	Pn	21 00 08.7	+0.9
JCZ	Jackson Bay	8.05	221	P	Pn	21 00 09.0	-0.2
TUZ	Tuapeka	9.10	210	P	Pn	21 00 24.3	+1.4
MLZ	Mavora Lakes	9.31	217	P	Pn	21 00 27.1	+1.5

*IDC **28** 21:00:34.3±1.0, 12°.36N×47°.39E, h0km, mb3.9/12, mb1 4.1/15, mb1mx3.8/54, mbtmp4.0/15, ML3.3/3, MS3.6/7, Ms1 3.6/7, ms1mx3.2/77, Error ellipse: s-maj=24.3km s-min=19.0km az=173.0*
*NEIC **28** 21:00:36.4±1.9, 12°.4N±0°.1×47°.40E±0°.08, h10km±1km, mb4.4/21, Error ellipse: s-maj=24.6km s-min=13.3km az=167.0*
*OMAN **28** 21:00:36.2±0.5, 12°.82N×47°.27E, h10km, mb5.4/2, Error ellipse: s-maj=23.1km s-min=10.7km az=333.0*

ISC 28 21:00:35.6±0.6, 12°.37N±0°.08×47°.42E±0°.07, h14km, n59, σ1.935/53, mb4.3/27, MS3.6/5, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	4.56	260	Pn	Pn	21 01 44.2	0.0
	1.6nm,0.3s,baz=47,slow=7.2,SNR=7.3						
ATD				LR	LR	21 03 02.0	
	comp=Z,196nm,18.7s,baz=357,slow=33						
ATD	Arta Tunnel	4.56	260	P	Pn	21 01 44.2	0.0
ATD	Arta Tunnel	4.56	260		Pn	21 01 42.2	-2.1
SOCY	Socotra	6.42	91	P	Pn	21 02 07.4	-2.5
SOCY	Socotra	6.42	91	Pn	Pn	21 02 08.1	-1.7
ABTO	Aybut	7.54	48	P	Pn	21 02 24.1	-1.1
ABTO				S	Sn	21 03 47.5	-3.1
WHFO	Wadi Hawf	8.24	47	P	Pn	21 02 34.1	-0.9
DOK	Doka	8.96	45	P	Pn	21 02 43.8	-0.9
DMTO	DMTO	9.00	53	P	Pn	21 02 45.4	+0.1
RAYN	Ar Rayn	11.24	351	P	Pn	21 03 11.9	-4.1
RAYN				S	Sn	21 05 12.4	-9.2
LODK	Lodwar	14.88	234	Pn	Pn	21 04 03.3	-2.5
WSAR	Wadi Sarin	15.18	43	Pn	Pn	21 04 10.8	+1.1
	0.3nm,0.3s,baz=249,slow=8.9,SNR=4.1						
WSAR				LR	LR	21 10 12.0	
	comp=Z,122nm,18.9s,baz=238,slow=38						
KMBO	Kilima Mbogo	16.79	218	Pn	Pn	21 04 30.9	+0.1
	0.0nm,0.3s,baz=39,slow=16,SNR=6.1						
KMBO	Kilima Mbogo	16.79	218		Pn	21 04 29.4	-1.4
SIRT	Sirnak	25.42	351	P	P	21 06 03.9	+0.9
HRA	Herat	25.73	29	P	P	21 06 05.9	-0.1
HRA				IAmb	IAmb	21 06 12.5	
	comp=Z,11nm,1.2s						
GNI	Garni	27.77	356	LR	LR	21 18 50.5	
	comp=Z,133nm,18.1s,baz=179,slow=40						
BRTR	Keskin Array B	29.85	338	P	P	21 06 43.7	+0.9
	comp=Z,0.9nm,1.0s,baz=148,slow=8.5,SNR=2.1						
CHGR	Chuyangaron	32.54	33	P	P	21 07 06.9	+0.5
LSZ	Lusaka	33.42	215	LR	LR	21 21 38.7	
	comp=Z,83nm,20.6s,baz=330,slow=38						
BTK	Batken	34.44	33	P	P	21 07 23.6	+0.6
BTK				IAmb	IAmb	21 07 31.6	
	comp=Z,8.7nm,1.2s						
DRK	Karamyk	34.55	34	P	P	21 07 25.6	+1.4
DRK				IAmb	IAmb	21 07 27.8	
	comp=Z,9.2nm,0.9s						
KKAR	Karatay Array	36.56	29	P	P	21 07 43.0	+1.9
ABKAR	Akbulak array	38.21	13	P	P	21 07 55.1	+0.2
ABKAR	Akbulak array	38.21	13	P	P	21 07 54.4	-0.5
ABKAR				IAmb	IAmb	21 08 02.3	
	comp=Z,3.9nm,0.9s						
AAK	Ala-Archa	38.22	33	P	P	21 07 56.9	+1.6
	comp=Z,2.1nm,0.8s,baz=262,slow=9.0,SNR=6.9						
AAK	Ala-Archa	38.22	33	P	P	21 07 56.7	+1.4
AAK				IAmb	IAmb	21 08 04.3	
	comp=Z,5.9nm,1.1s						
AKTO	Aktyubinsk	38.94	11	LR	LR	21 27 03.1	
	comp=Z,100nm,21.8s,baz=233,slow=41						
BURAR	Bucovina Array	39.76	336	P	P	21 08 09.4	+1.3
AKASG	Malin Array Be	41.02	342	P	P	21 08 18.9	+0.6
	comp=Z,1.5nm,0.9s,baz=151,slow=7.5,SNR=5.4						
TSUM	Tsumeb	43.00	224	LR	LR	21 26 56.2	
	comp=Z,102nm,19.6s,baz=339,slow=37						
SOKA	Soboth	43.74	328	eP	P	21 08 42.3	+1.6
CONA	Conrad Observa	44.16	330	eP	P	21 08 45.8	+1.8
	comp=Z,3.7nm,1.1s						
TORD	Torodi Ar. Bea	44.56	276	P	P	21 08 48.4	+0.8
	comp=Z,1.2nm,0.8s,baz=89,slow=7.5,SNR=4.1						
TORD	Torodi Ar. Bea	44.56	276	IAmb	IAmb	21 08 51.4	
	comp=Z,3.3nm,1.2s						
ARU	Arti	44.80	9	P	P	21 08 49.9	+1.0
ARU				IAmb	IAmb	21 08 56.3	
	comp=Z,5.9nm,1.1s						
MAKZ	Makanchi	44.97	33		P	21 08 51.0	+0.6
MAKZ				IAmb	IAmb	21 08 57.9	
	comp=Z,5.8nm,0.9s						
MK31	Makanchi Array	45.13	34	P	P	21 08 52.5	+0.7
MK31				IAmb	IAmb	21 08 59.5	
	comp=Z,6.0nm,0.8s						
MKAR	Makanchi Array	45.13	34	P	P	21 08 52.8	+1.1
	comp=Z,4.4nm,1.1s,baz=219,slow=7.4,SNR=17						
MKAR	Makanchi Array	45.13	34		P	21 08 52.3	+0.6
GERES	GERESS Array B	45.84	329	P	P	21 08 57.9	+0.5
	comp=Z,1.6nm,0.9s,baz=132,slow=9.2,SNR=11						
GERES	GERESS Array B	45.84	329	P	P	21 08 57.1	-0.2
KURK	Kurchatov	45.92	27	P	P	21 08 58.5	+0.7
KURK				IAmb	IAmb	21 09 05.3	
	comp=Z,4.1nm,0.8s						
WMQ	Urumqi	46.65	40	eP	P	21 09 05.8	+2.0
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
CMAR	Chiang Mai Arr	49.90	76	P	P	21 09 30.1	+0.8
	comp=Z,1.1nm,0.7s,baz=275,slow=8.7,SNR=9.4						
ZAA0	Zalesovo Array	50.91	28	P	P	21 09 36.2	0.0
ZAA0				IAmb	IAmb	21 09 51.3	
	comp=Z,3.9nm,1.3s						
ZALV	Zalesovo Beam	50.91	28	P	P	21 09 36.6	+0.3
	comp=Z,0.7nm,0.6s,baz=224,slow=4.0,SNR=4.6						
ZALV	Zalesovo Beam	50.91	28		P	21 09 36.2	0.0
FINES	FINESS Array B	51.40	347	P	P	21 09 40.2	+0.4
	comp=Z,2.6nm,0.7s,baz=146,slow=13,SNR=3.4						
PZH	PanZhiHua	52.76	66	P	P	21 09 52.5	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,6.0s						
GTA	Gaotai	53.38	50	eP	P	21 09 54.0	-1.1
GTA				pP	pP	21 09 58.3	-0.6
GTA				sP	sP	21 10 01.3	+1.0
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LZH	Lanzhou	55.77	55	eP	P	21 10 18.5	+6.0
LZH				pP	pwP	21 10 24.0	+4.8
LZH				sP	sP	21 10 27.0	+9.2
LZH				pmax	pmax		
	comp=Z,12nm,1.4s						
SONM	Songino Array	60.22	42	P	P	21 10 44.8	+1.2
	comp=Z,0.8nm,0.8s,baz=244,slow=8.3,SNR=6.5						
SONM	Songino Array	60.22	42	P	P	21 10 43.9	+0.3
SONM				IAmb	IAmb	21 10 52.5	
	comp=Z,1.9nm,1.0s						
HHC	Hu-ho-hao-te	62.48	50	eP	P	21 10 58.8	-0.2
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,6.4s						
NJ2	Nanjing	67.87	60	eP	P	21 11 33.3	-0.7
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRA	Warramunga Arr	91.30	110	P	P	21 13 42.4	+0.9
	comp=Z,1.2nm,0.7s,baz=298,slow=3.7,SNR=9.7						
ASAR	Alice Springs	91.72	114	P	P	21 13 44.5	+1.1
	comp=Z,0.3nm,0.6s,baz=293,slow=5.3,SNR=4.6						
PETK	Petropavlovsk-	91.97	34	LR	LR	21 58 09.6	
	comp=Z,78nm,19.4s,baz=41,slow=38						

*NEIC **28** 21:01:43.7±1.6, 3°.5S±0°.1×67°.33E±0°.09, h10km±1km, mb4.4/19, Error ellipse: s-maj=24.1km s-min=13.9km az=164.0*
*IDC **28** 21:01:44.4±5.5, 3°.49S×67°.71E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.3/49, mbtmp3.8/4, MS3.4/2, Ms1 3.4/2, ms1mx2.9/79, Error ellipse: s-maj=136.7km s-min=42.6km az=82.0*

ISC 28 21:01:42.7±0.7, 3°.5S±0°.1×67°.30E±0°.08, h10km, n29, σ0.993/27, mb4.2/14, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	Kaadhehdhoo	6.94	55	Pn	Pn	21 03 24.1	-0.4
MSEY	Mahe Island	11.85	264	Pn	Pn	21 04 31.8	-0.2
KMBO	Kilima Mbogo	30.12	274	P	P	21 07 53.6	+0.3
LODK	Lodwar	32.66	282	P	P	21 08 15.4	0.0
LODK				IAmb	IAmb	21 08 19.5	
	comp=Z,4.4nm,1.4s						
IPM	Ipoh	34.61	77	P	P	21 08 31.7	-0.8
IPM				IAmb	IAmb	21 08 35.3	
	comp=Z,9.7nm,1.2s						
MYKOM	Kota Tinggi	36.91	82	P	P	21 08 52.2	+0.1
MYKOM				IAmb	IAmb	21 08 58.0	
	comp=Z,20nm,1.3s						
NIL	Nilore	37.38	8	P	P	21 08 57.2	+1.3
NIL				IAmb	IAmb	21 09 14.8	
	comp=Z,3.4nm,0.7s						
SHL	Shillong	37.46	38	P	P	21 08 56.2	-0.7
CMAR	Chiang Mai Arr	38.05	54	P	P	21 09 02.1	+0.4
	comp=Z,1.9nm,1.0s,baz=244,slow=10,SNR=9.6						
XMIS	Christmas Isla	38.66	102	P	P	21 09 07.6	+0.7
XMIS				IAmb	IAmb	21 09 15.6	
	comp=Z,28nm,0.9s						
MATP	Matopo	41.36	243	LR	LR	21 23 46.3	
	comp=Z,48nm,21.5s,baz=351,slow=32						
BTK	Batken	43.47	4	P	P	21 09 46.5	+0.2
BTK				IAmb	IAmb	21 09 48.7	
	comp=Z,5.2nm,1.4s						
KKAR	Karatay Array	46.48	3	P	P	21 10 10.8	+0.7
MK31	Makanchi Array	51.80	13	P	P	21 10 49.6	-1.3
WIN	Windhoek	52.14	244	P	P	21 10 54.2	+0.2
WIN				IAmb	IAmb	21 10 55.0	
	comp=Z,5.9nm,1.0s						
KAPI	Kappang	52.31	94	LR	LR	21 30 06.1	
	comp=Z,49nm,20.0s,baz=97,slow=33						
ABKAR	Akbulak array	52.93	354	P	P	21 11 00.1	+1.0
ABKAR	Akbulak array	52.93	354	P	P	21 11 00.0	+0.9
ABKAR				IAmb	IAmb	21 11 12.6	
	comp=Z,1.3nm,0.8s						
BRTR	Keskin Array B	52.98	328	P	P	21 11 00.3	+0.4
ELL	Elmali	53.07	322	P	P	21 10 58.4	-2.2
KURK	Kurchatov	54.88	9	P	P	21 11 12.8	-0.5
KURK				IAmb	IAmb	21 11 25.0	
	comp=Z,1.7nm,0.8s						
SOEI	Soe	56.86	99	P	P	21 11 27.1	-1.4
SONM	Songino Array	61.50	29	P	P	21 12 01.7	+1.7
	comp=Z,1.9nm,1.1s,baz=217,slow=6.4,SNR=4.4						
SONM	Songino Array	61.50	29	P	P	21 11 59.9	0.0
SONM				IAmb	IAmb	21 12 01.9	
	comp=Z,1.7nm,1.0s						
CLTB	Caltabellotta	64.64	315	P	P	21 12 20.2	-0.8
CLTB				IAmb	IAmb	21 12 21.5	
	comp=Z,8.6nm,1.2s						
FAKI	Fak Fak	64.83	92	P	P	21 12 22.0	-0.6
SGRT	San Giovanni R	64.91	320	P	P	21 12 23.3	+0.7
SGRT				IAmb	IAmb	21 12 33.5	
	comp=Z,3.5nm,1.1s						
ASAR	Alice Springs	67.19	114	P	P	21 12 38.6	+0.9
	comp=Z,0.4nm,0.8s,baz=294,slow=7.0,SNR=2.2						
WRA	Warramunga Arr	67.23	110	P	P	21 12 38.9	+0.9
	comp=Z,0.8nm,0.8s,baz=284,slow=6.4,SNR=4.8						

*IDC **28** 21:07:31.3±1.7, 18°.32N×72°.33W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/41, mbtmp3.9/6, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1

V51A IAmb IAmb 21 12 18.8
comp=Z,31nm,0.9s
Q52A Bidwell 22.28 340 P **P** **21 12 29.9 +1.0**
Q52A IAmb IAmb 21 12 43.4
comp=Z,26nm,0.8s
Q51A Peebles 22.71 338 P **P** **21 12 35.0 +1.6**
R49A Shelbyville 22.79 334 P **P** **21 12 33.8 -0.5**
R49A IAmb IAmb 21 12 34.3
comp=Z,12nm,0.5s
BLOK Blackwell 28.47 315 P **P** **21 13 28.3 +1.6**
BLOK IAmb IAmb 21 13 33.7
comp=Z,20nm,1.2s
KAN13 South Haven SW 28.78 315 P **P** **21 13 31.8 +2.3**
CROK Carrier 28.85 314 P **P** **21 13 31.2 +1.1**
CROK IAmb IAmb 21 13 35.7
comp=Z,20nm,0.9s
PD31 Pinedale Array 39.69 316 P **P** **21 15 04.0 -0.1**
PDAR Pinedale Array 39.69 316 P **P** **21 15 07.0 +3.0**
comp=Z,0.1nm,0.4s,baz=129,slow=9.7,SNR=2.1
FRB Frobisher Bay 45.51 2 P **P** **21 15 52.4 +1.7**
comp=Z,1.2nm,0.5s,baz=219,slow=6.2,SNR=5.2
YKA Yellowknife Ar 52.87 337 P **P** **21 16 47.9 +0.8**
comp=Z,0.7nm,0.9s,baz=126,slow=7.6,SNR=7.4
PLTB Pedras Altas 52.97 160 P **P** **21 16 49.4 +1.3**
PLTB IAmb IAmb 21 17 05.3
comp=Z,6.7nm,1.0s
ARCES ARCESS Array B 75.81 21 P **P** **21 19 18.2 +0.9**
comp=Z,3.5nm,1.0s,baz=269,slow=4.1,SNR=1.5

*IDC **28** 21:16:27.5±0.7, 3°.77S×136°.32E, h0km, mb4.2/5, mb1 4.5/11, mb1mx4.3/25, mbtmp4.4/11, ML4.4/5, MS3.5/7, Ms1 3.5/7, ms1mx3.1/64, Error ellipse: s-maj=22.8km s-min=15.5km az=51.0*
*DJA **28** 21:16:29.5±0.8, 4°.S±2°×13°.6E±°, h12km±6km, M4.6/19, mb4.7/19, mB5.0/3, MLv4.6/10, Mw(mB)4.3/3, MwMwp4.9/1, Mwp5.2/1*
*NEIC **28** 21:16:31.7±1.8, 3°.83S±0°.08×136°.35E±0°.07, h25km±7km, mb4.4/17, Error ellipse: s-maj=12.0km s-min=9.9km az=183.0*
ISC 28 21:16:31.4±0.4,**3°.98S**±0°.05×**136°.28E**±0°.05,**h27**km,**n88,**
σ1$**87**/89,**mb4.6**/18,**MS3.8**/5,**1C-2D,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.09**	**359**	P	**Pn**	**21 17 01.8**	**-2.9**
SRPI				S	**Sn**	**21 17 26.5**	**-3.4**
BAKI	**Biak**	**2.77**	**356**	P	**Pn**	**21 17 10.9**	**-3.1**
SMPI	**Sarmi**	**3.13**	**51**	P	**Pn**	**21 17 17.3**	**-1.7**
SMPI				S	**Sn**	**21 17 53.5**	**-2.0**
GENI	**Genyem**	**4.12**	**71**	P	**Pn**	**21 17 32.8**	**+0.2**
GENI	**Genyem**	**4.12**	**71**	P	**Pn**	**21 17 33.3**	**+0.7**
FAKI	**Fak Fak**	**4.16**	**284**	P	**Pn**	**21 17 33.4**	**+0.3**
FAKI	**Fak Fak**	**4.16**	**284**	Pn	**Pn**	**21 17 33.3**	**+0.2**
FAKI	**Fak Fak**	**4.16**	**284**	P	**Pn**	**21 17 33.4**	**+0.3**
JAY	**Jayapura**	**4.65**	**72**	Pn	**Pn**	**21 17 38.8**	**-1.2**
	12nm,0.3s,baz=235,slow=12,SNR=23						
JAY				Sn	**Sn**	**21 18 32.9**	**-0.2**
	4.1nm,0.3s,baz=117,slow=18,SNR=2.2						
JAY	**Jayapura**	**4.65**	**72**	P	**Pn**	**21 17 39.0**	**-1.0**
SIJI	**Sorong**	**5.88**	**302**	Pn	**Pn**	**21 17 56.3**	**-0.5**
	16nm,0.3s,baz=139,slow=8.7,SNR=29						
SIJI				Sn	**Sn**	**21 19 03.6**	**+0.2**
	3.0nm,0.3s,baz=276,slow=19,SNR=2.0						
SIJI				LR	LR	21 20 30.8	
	comp=Z,445nm,20.2s,baz=132,slow=42						
SWI	**Sorong**	**5.89**	**302**	P	**Pn**	**21 17 56.2**	**-0.7**
	0.5nm2um105nm,0.7s						
MMPI	**Merauke**	**6.05**	**138**	P	**Pn**	**21 18 00.2**	**+1.1**
	2.9nm369nm,0.4s						
SAUI	**Saumlaki**	**6.35**	**231**	Pn	**Pn**	**21 18 06.3**	**+3.0**
MSAI	**Masohi**	**7.36**	**275**	P	**Pn**	**21 18 19.4**	**+2.2**
AAI	**Ambon**	**8.07**	**272**	P	**Pn**	**21 18 28.4**	**+1.5**
	40nm,0.8s						
LBMI	**Labuha**	**9.37**	**290**	P	**Pn**	**21 18 42.7**	**-2.1**
	58nm,1.1s						
KDU	**Kakadu**	**9.44**	**203**	P	**Pn**	**21 18 47.7**	**+2.0**
MTN	**Manton Dam**	**10.17**	**210**	Pn	**Pn**	**21 18 58.6**	**+2.9**
MTN	**Manton Dam**	**10.17**	**210**	P	**Pn**	**21 18 58.9**	**+3.1**
SANI	**Sanana**	**10.45**	**280**	P	**Pn**	**21 18 58.3**	**-1.3**
	34nm,0.9s						
SANI	**Sanana**	**10.45**	**280**	P	**Pn**	**21 18 59.9**	**+0.3**
COEN	**Coen**	**12.03**	**146**	Pn	**Pn**	**21 19 20.2**	**-1.0**
PMG	**Port Moresby**	**12.08**	**117**	Pn	**Pn**	**21 19 22.6**	**+0.7**
	1.8nm,0.3s,baz=301,slow=5.5,SNR=13						
PMG				LR	LR	21 25 28.3	
	comp=Z,178nm,19.2s,baz=338,slow=45						
PMG	**Port Moresby**	**12.08**	**117**	Pn	**Pn**	**21 19 22.7**	**+0.9**
PMG	**Port Moresby**	**12.08**	**117**	P	**Pn**	**21 19 23.8**	**+2.0**
SOEI	**Soe**	**13.23**	**244**	Pn	**Pn**	**21 19 39.1**	**+1.4**
KNRA	**Kununurra**	**13.78**	**212**	Pn	**Pn**	**21 19 46.2**	**+1.1**
KNRA	**Kununurra**	**13.78**	**212**	P	**Pn**	**21 19 45.6**	**+0.5**
APSI	**Ampana**	**14.93**	**281**	P	**Pn**	**21 20 02.6**	**+1.8**
	39nm,0.9s						
WB0	**Warramunga Arr**	**15.80**	**187**	Pn	**Pn**	**21 20 10.7**	**-1.5**
WRAB	**Tennant Creek**	**15.97**	**187**		**Pn**	**21 20 16.0**	**+1.6**
WRAB				IAmb	IAmb	21 20 21.4	
	comp=Z,55nm,1.3s						
WRAB	**Tennant Creek**	**15.97**	**187**	P	**Pn**	**21 20 16.1**	**+1.7**
WR0	**Warramunga Arr**	**15.98**	**186**		**Pn**	**21 20 14.9**	**+0.4**
WR0				IAmb	IAmb	21 20 21.3	
	comp=Z,18nm,0.9s						
WB2	**Warramunga Arr**	**15.98**	**187**	Pn	**Pn**	**21 20 13.0**	**-1.5**
WB2				IAmb	IAmb	21 20 29.3	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**15.98**	**187**	Pn	**Pn**	**21 20 12.3**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=357,slow=13,SNR=19						
WRA				Sn	**Sn**	**21 23 03.8**	**-7.3**
	comp=Z,1.3nm,0.3s,baz=12,slow=22,SNR=5.1						
WRA				LR	LR	21 26 21.4	
	comp=Z,158nm,19.4s,baz=18,slow=37						
MTSU	**Mount Surprise**	**16.12**	**151**	P	**Pn**	**21 20 16.9**	**+0.6**
TOLI2	**Tolitoli**	**16.29**	**288**	Pn	**Pn**	**21 20 17.7**	**-0.8**
TTSI	**Tana Toraja**	**16.45**	**273**	P	**P**	**21 20 22.6**	**-0.5**
	comp=Z,23nm,1.1s						
QIS	**Mount Isa**	**16.80**	**169**	P	**P**	**21 20 26.4**	**-0.5**
MPSI	**Mapaga**	**16.92**	**284**	P	**P**	**21 20 28.4**	**+0.2**
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**17.48**	**216**	P	**P**	**21 20 34.3**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=43,slow=12,SNR=6.6						
FITZ				S	**Sn**	**21 23 42.0**	**-5.3**
	baz=212,slow=13						
CTA	**Charters Tower**	**18.74**	**150**	P	**Pn**	**21 20 48.8**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=333,slow=11,SNR=12						
CTA				LR	LR	21 28 54.9	
	comp=Z,142nm,18.2s,baz=329,slow=40						
CTA	**Charters Tower**	**18.74**	**150**	P	**Pn**	**21 20 49.7**	**+0.9**
CTAO	**Charters Tower**	**18.74**	**150**	P	**Pn**	**21 20 48.6**	**-0.2**
CTAO	**Charters Tower**	**18.74**	**150**	P	**Pn**	**21 20 49.8**	**+0.9**
AS31	**Alice Springs**	**19.71**	**186**	P	**Pn**	**21 21 01.6**	**+1.1**
AS31				IAmb	IAmb	21 21 14.9	
	comp=Z,13nm,0.7s						
ASAR	**Alice Springs**	**19.71**	**186**	P	**Pn**	**21 21 01.3**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=10,slow=11,SNR=87						
ASAR				S	**S**	**21 24 32.8**	**-7.1**
	comp=Z,0.3nm,0.3s,baz=6.5,slow=27,SNR=5.2						
ASAR	**Alice Springs**	**19.71**	**186**		**Pn**	**21 21 00.9**	**+0.4**
MYLDM	**Lahad Datu**	**19.95**	**297**	P	**Pn**	**21 21 03.3**	**-0.1**
MYLDM				IAmb	IAmb	21 21 09.6	
	comp=Z,43nm,1.2s						
BBKI	**Banjar Baru**	**21.40**	**271**	P	P	21 21 28.2	+11
WRKA	**Warakurna**	**22.30**	**199**	P	**P**	**21 21 29.3**	**+2.3**
MBWA	**Marble Bar**	**23.46**	**222**	P	**P**	**21 21 40.4**	**+1.5**
PSA00	**Pilbara Seismi**	**23.68**	**221**	P	**P**	**21 21 43.6**	**+2.6**
INKA	**Innaminka**	**24.02**	**170**	P	**P**	**21 21 45.6**	**+1.5**
EIDS	**Eidsvold**	**25.59**	**148**	P	**P**	**21 21 59.1**	**+0.6**
EIDS				IAmb	IAmb	21 22 01.1	
	comp=Z,5.8nm,0.9s						
STKA	**Stephens Creek**	**28.20**	**170**	P	**P**	**21 22 23.0**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=339,slow=9.9,SNR=5.3						
STKA	**Stephens Creek**	**28.20**	**170**	IAmb	IAmb	21 22 25.2	
	comp=Z,1.8nm,1.2s						
JNU	**Nakatsue**	**37.25**	**353**	P	**P**	**21 23 39.4**	**-1.5**
WHN	**Wuhan**	**40.22**	**330**	⇓P	P	21 23 59.0	-6.8
CMAR	**Chiang Mai Arr**	**43.01**	**302**	P	**P**	**21 24 28.5**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=122,slow=6.0,SNR=17						
MSVF	**Nonsavu**	**43.12**	**112**	LR	LR	21 43 45.6	
	comp=Z,76nm,19.2s,baz=25,slow=38						
CHTO	**Chiang Mai**	**43.17**	**303**	P	**P**	**21 24 31.0**	**+0.7**
CHTO				IAmb	IAmb	21 24 32.3	
	comp=Z,3.9nm,0.8s						
LYN	**LuoYang**	**44.40**	**332**	⇓P	**P**	**21 24 40.8**	**+1.0**
LYN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**45.78**	**328**	P	**P**	**21 24 51.8**	**+0.9**
XAN				pP	pP	21 24 59.8	+0.1
XAN				pmax	pmax		
	comp=Z,13nm,1.3s						
XAN				LR	LR		
	comp=N,230nm,17.2s						
XAN				LR	LR		
	comp=E,260nm,19.9s						
LZH	**Lanzhou**	**50.09**	**326**	⇑P	**P**	**21 25 26.8**	**+2.4**
LZH				pP	pP	21 25 32.5	-0.7
LZH				sP	sP	21 25 34.8	-1.9
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
LZH				LR	LR		
	comp=N,350nm,13.5s						
LZH				LR	LR		
	comp=E,320nm,12.1s						
URZ	**Urewera**	**50.46**	**138**	LR	LR	21 46 11.2	
	comp=E,29nm,20.0s,baz=319,slow=35						
GTA	**Gaotai**	**54.69**	**326**	*eP*	**P**	**21 26 00.3**	**+1.9**
GTA				pP	pP	21 26 05.0	-2.3
GTA				sP	sP	21 26 08.0	-2.9
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SONM	**Songino Array**	**57.87**	**337**	P	**P**	**21 26 20.1**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=148,slow=5.7,SNR=2.5						
SONM				LR	LR	21 51 14.9	
	comp=Z,66nm,19.7s,baz=4.0,slow=36						
GUN	**Gumba**	**57.95**	**306**	*eP*	**P**	**21 26 22.3**	**+0.1**
	comp=Z,18nm,0.7s						
PKI	**Pulchoki**	**58.18**	**306**	*eP*	**P**	**21 26 24.5**	**+0.7**
PKIN	**Phulchoki**	**58.20**	**306**	*eP*	**P**	**21 26 24.6**	**+0.8**
GKN	**Gorkha**	**58.98**	**306**	*eP*	**P**	**21 26 30.1**	**+0.9**
PETK	**Petropavlovsk-**	**59.67**	**15**	P	**P**	**21 26 32.3**	**-0.9**
KOLN	**Koldanda**	**59.73**	**305**	*eP*	**P**	**21 26 34.6**	**+0.2**
DANN	**Dangsing**	**59.83**	**306**	*eP*	**P**	**21 26 35.8**	**+0.6**
	comp=Z,42nm,0.9s						
PYUN	**Piuthan**	**60.36**	**305**	*eP*	**P**	**21 26 38.8**	**+0.1**
	comp=Z,64nm,0.7s						
MK31	**Makanchi Array**	**69.33**	**324**	IAmb	IAmb	21 27 39.6	
	comp=Z,8.7nm,1.4s						
MKAR	**Makanchi Array**	**69.33**	**324**	P	**P**	**21 27 35.9**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=107,slow=7.6,SNR=22						
MAKZ	**Makanchi**	**69.52**	**323**	P	**P**	**21 27 37.0**	**-0.8**
KSH	**Kashi**	**70.20**	**314**	P	**P**	**21 27 45.0**	**+2.7**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ZALV	**Zalesovo Beam**	**71.83**	**331**	P	**P**	**21 27 51.2**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=136,slow=6.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**71.83**	**331**	P	**P**	**21 27 51.5**	**0.0**
CHGR	**Chuyangaron**	**74.88**	**312**	P	**P**	**21 28 10.6**	**+0.5**
CHGR				IAmb	IAmb	21 28 14.2	
	comp=Z,9.2nm,1.2s						
KKAR	**Karatay Array**	**75.34**	**316**	P	**P**	**21 28 12.3**	**-0.3**
ILAR	**Eielson Array**	**87.98**	**25**	P	**P**	**21 29 16.6**	**-2.2**
	comp=Z,4.0nm,1.1s,baz=268,slow=4.3,SNR=9.5						
CPUP	**Villa Florida**	**147.12**	**157**	PKPbc	**PKPab**	**21 36 14.5**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=166,slow=4.2,SNR=2.2						
LPAZ	**La Paz**	**148.57**	**130**	PKPbc	**PKiKP**	**21 36 19.5**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=191,slow=1.7,SNR=3.8						

*NOU **28** 21:17:05.2, 37°.79S×176°.26E, h247km, MLv4.1/8, North Island, New Zealand*
*WEL **28** 21:17:16.9, 38°S±9°×17°6E±1°3, h162km±16km, M2.8/47, MLv2.8/47, Error ellipse: s-maj=0.0km s-min=0.0km az=108.6*
ISC 28 21:17:10.5±1.7,**38°.09S**±0°.08×**176°.09E**±0°.06,**h200**km,
n104,σ1$**24**/104,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	**Mount Tarawera**	**0.36**	**115**	P	**Pn**	**21 17 38.5**	**+1.2**
OPRZ	**Ohinepanea**	**0.44**	**57**	P	**Pn**	**21 17 37.5**	**+0.1**
MUGZ	**Murupara**	**0.66**	**126**	P	**Pn**	**21 17 38.7**	**+0.5**
MRHZ	**Matea Rd**	**0.79**	**161**	P	**Pn**	**21 17 40.1**	**+1.2**
URZ	**Urewera**	**0.82**	**102**	P	**Pn**	**21 17 39.1**	**0.0**
URZ	**Urewera**	**0.82**	**102**	P	**Pn**	**21 17 39.0**	**0.0**
RTZ	**Ruatahuna**	**0.88**	**127**	P	**Pn**	**21 17 40.2**	**+0.7**
KATZ	**Kakaramea**	**0.94**	**199**	P	**Pn**	**21 17 41.8**	**+1.8**
MTHZ	**Maungataniwha**	**0.96**	**143**	P	**Pn**	**21 17 41.1**	**+1.1**
HIZ	**Hauiti**	**1.06**	**246**	P	**Pn**	**21 17 42.5**	**+1.9**
HIZ	**Hauiti**	**1.06**	**246**	P	**Pn**	**21 17 42.6**	**+2.0**
NTVZ	**North Tongarir**	**1.06**	**198**	P	**Pn**	**21 17 42.5**	**+1.8**
KRVZ	**Karewarewa**	**1.07**	**199**	P	**Pn**	**21 17 40.2**	**-0.6**
TMVZ	**Te Maari**	**1.07**	**196**	P	**Pn**	**21 17 42.5**	**+1.6**
ETVZ	**East Tongariro**	**1.09**	**196**	P	**Pn**	**21 17 42.6**	**+1.7**
WTVZ	**West Tongariro**	**1.10**	**201**	P	**Pn**	**21 17 42.7**	**+1.7**
NNVZ	**North Ngauruho**	**1.11**	**199**	P	**Pn**	**21 17 43.1**	**+1.9**
TWVZ	**Taurewa**	**1.11**	**207**	P	**Pn**	**21 17 42.8**	**+1.8**
RAGZ	**Rawiri**	**1.12**	**112**	P	**Pn**	**21 17 41.8**	**+0.7**
BKZ	**Black Stump Fm**	**1.12**	**164**	P	**Pn**	**21 17 42.3**	**+1.2**
BKZ	**Black Stump Fm**	**1.12**	**164**	P	**Pn**	**21 17 42.5**	**+1.4**
OTVZ	**Oturere**	**1.12**	**197**	P	**Pn**	**21 17 43.2**	**+1.9**
NGZ	**Ngauruhoe**	**1.15**	**199**	P	**Pn**	**21 17 43.3**	**+1.8**
SNVZ	**South Ngauruho**	**1.15**	**198**	P	**Pn**	**21 17 43.1**	**+1.7**
NMHZ	**Naumai**	**1.15**	**151**	P	**Pn**	**21 17 43.6**	**+2.2**
MWZ	**Matawai**	**1.16**	**103**	P	**Pn**	**21 17 41.7**	**+0.3**
SNGZ	**Shannon Statio**	**1.20**	**126**	P	**Pn**	**21 17 42.8**	**+1.2**
TUVZ	**Tukino**	**1.23**	**196**	P	**Pn**	**21 17 43.8**	**+1.7**
FWVZ	**Far West T-bar**	**1.24**	**200**	P	**Pn**	**21 17 43.3**	**+1.1**
WHVZ	**Whangaehu Hut**	**1.26**	**198**	P	**Pn**	**21 17 44.1**	**+1.8**
RUGZ	**Raukumara Rang**	**1.26**	**85**	P	**Pn**	**21 17 41.2**	**-1.0**
TRVZ	**Turoa**	**1.28**	**199**	P	**Pn**	**21 17 44.3**	**+1.8**
WNVZ	**Wahianoa**	**1.30**	**197**	P	**Pn**	**21 17 44.2**	**+1.6**
PKVZ	**Pokaka**	**1.33**	**206**	P	**Pn**	**21 17 44.5**	**+1.7**
MOVZ	**Moawhango**	**1.34**	**191**	P	**Pn**	**21 17 44.1**	**+1.2**
KWHZ	**Kaweka Forest**	**1.36**	**169**	P	**Pn**	**21 17 44.7**	**+1.7**
ARHZ	**Aropaoanui**	**1.37**	**149**	P	**Pn**	**21 17 44.8**	**+1.8**
HAZ	**Te Kaha**	**1.38**	**77**	P	**Pn**	**21 17 42.1**	**-1.0**
MTVZ	**Mangateitei**	**1.38**	**200**	P	**Pn**	**21 17 44.9**	**+1.7**
BHHZ	**Black Hill Sta**	**1.40**	**181**	P	**Pn**	**21 17 44.6**	**+1.3**
TKGZ	**Te Karaka**	**1.43**	**105**	P	**Pn**	**21 17 43.9**	**+0.4**
MCHZ	**McNeill Hill**	**1.44**	**161**	P	**Pn**	**21 17 45.9**	**+2.4**
RIGZ	**Rimuhau**	**1.45**	**116**	P	**Pn**	**21 17 44.8**	**+1.1**
VRZ	**Vera Road**	**1.47**	**225**	P	**Pn**	**21 17 46.2**	**+2.3**
TWGZ	**Tauwhareparae**	**1.49**	**94**	P	**Pn**	**21 17 44.7**	**+0.6**
KNZ	**Kokohu**	**1.55**	**127**	P	**Pn**	**21 17 45.7**	**+1.1**
KRHZ	**Kereru**	**1.57**	**172**	P	**Pn**	**21 17 46.4**	**+1.6**
PKGZ	**Pakihiroa**	**1.58**	**83**	P	**Pn**	**21 17 44.9**	**-0.1**
PRGZ	**Paritu Road**	**1.64**	**121**	P	**Pn**	**21 17 46.4**	**+1.0**
PUZ	**Puketiti**	**1.71**	**90**	P	**Pn**	**21 17 45.9**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.78**	**127**	P	**Pn**	**21 17 48.1**	**+1.4**
KAHZ	**Kahuranaki**	**1.81**	**160**	P	**Pn**	**21 17 48.9**	**+1.9**
PNHZ	**Pukenui**	**1.83**	**177**	P	**Pn**	**21 17 48.5**	**+1.3**
MXZ	**Matakaoa Point**	**1.83**	**74**	P	**Pn**	**21 17 47.2**	**0.0**
WMGZ	**Waiomatatini S**	**1.86**	**82**	P	**Pn**	**21 17 47.4**	**-0.1**
TSZ	**Takapari Road**	**1.97**	**183**	P	**Pn**	**21 17 50.0**	**+1.3**
PKE	**Pukeiti**	**1.98**	**235**	P	**Pn**	**21 17 51.4**	**+2.7**
WPHZ	**Waipukurau**	**1.99**	**172**	P	**Pn**	**21 17 50.2**	**+1.4**
PXZ	**Pawanui**	**2.03**	**163**	P	**Pn**	**21 17 50.8**	**+1.6**
DVHZ	**Dannevirke**	**2.21**	**178**	P	**Pn**	**21 17 52.1**	**+1.0**
PRHZ	**Porangahau**	**2.22**	**169**	P	**Pn**	**21 17 52.5**	**+1.3**
POWZ	**Post Office Ro**	**2.31**	**186**	P	**Pn**	**21 17 53.2**	**+0.9**
ANWZ	**Angora Road**	**2.39**	**173**	P	**Pn**	**21 17 54.4**	**+1.3**
PRWZ	**Pori Road**	**2.47**	**182**	P	**Pn**	**21 17 55.1**	**+1.2**
BFZ	**Birch Farm**	**2.59**	**177**	P	**Pn**	**21 17 56.1**	**+0.7**
BFZ	**Birch Farm**	**2.59**	**177**	P	**Pn**	**21 17 56.3**	**+1.0**
MRZ	**Mangatainoka R**	**2.60**	**189**	P	**Pn**	**21 17 56.0**	**+0.6**
TIWZ	**Tintock**	**2.69**	**183**	P	**Pn**	**21 17 57.3**	**+0.8**
OGWZ	**Otaki Gorge**	**2.82**	**194**	P	**Pn**	**21 17 58.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**2.84**	**189**	P	**Pn**	**21 17 58.5**	**+0.3**
KIW	**Kapiti Island**	**2.92**	**198**	P	**Pn**	**21 17 59.3**	**+0.2**
TMWZ	**Te Maipa**	**3.02**	**183**	P	**Pn**	**21 18 00.7**	**+0.4**
MTW	**Mount Morrison**	**3.10**	**188**	P	**Pn**	**21 18 01.2**	**0.0**
CAW	**Cannon Point**	**3.12**	**194**	P	**Pn**	**21 18 01.7**	**+0.3**
DUWZ	**D'Urville Isla**	**3.19**	**211**	P	**Pn**	**21 18 02.3**	**0.0**
TRWZ	**Traveller**	**3.32**	**185**	P	**Pn**	**21 18 04.0**	**+0.1**
PAWZ	**Paruwai Farm**	**3.33**	**189**	P	**Pn**	**21 18 03.9**	**-0.1**
WEL	**Wellington**	**3.35**	**197**	P	**Pn**	**21 18 04.5**	**+0.3**
MSWZ	**Moikau Station**	**3.39**	**191**	P	**Pn**	**21 18 04.5**	**-0.2**
TCW	**Tory Channel**	**3.42**	**204**	P	**Pn**	**21 18 05.2**	**+0.2**
PLWZ	**Palliser**	**3.54**	**190**	P	**Pn**	**21 18 06.2**	**-0.3**
TUWZ	**Tuamarina**	**3.73**	**206**	P	**Pn**	**21 18 08.9**	**+0.2**
NNZ	**Nelson**	**3.76**	**213**	P	**Pn**	**21 18 08.9**	**-0.2**
QRZ	**Quartz Range**	**3.88**	**224**	P	**Pn**	**21 18 09.9**	**-0.8**
QRZ	**Quartz Range**	**3.88**	**224**	P	**Pn**	**21 18 10.3**	**-0.4**
BSWZ	**Blackbirch Sta**	**4.00**	**204**	P	**Pn**	**21 18 12.3**	**+0.1**
MRNZ	**Matariki Terra**	**4.19**	**217**	P	**Pn**	**21 18 13.9**	**-0.6**
THZ	**Tophouse**	**4.41**	**213**	P	**Pn**	**21 18 17.3**	**-0.1**
KHZ	**Kahutara**	**4.74**	**203**	P	**Pn**	**21 18 21.3**	**-0.2**
KHZ	**Kahutara**	**4.74**	**203**	P	**Pn**	**21 18 21.3**	**-0.2**
GVZ	**Greta Valley S**	**5.40**	**205**	P	**Pn**	**21 18 29.2**	**-0.7**
LTZ	**Lake Taylor**	**5.52**	**211**	P	**Pn**	**21 18 30.3**	**-1.2**
OXZ	**Oxford**	**6.07**	**209**	P	**Pn**	**21 18 36.7**	**-1.9**
OKCZ	**Okains Bay**	**6.08**	**201**	P	**Pn**	**21 18 37.8**	**-0.9**
MQZ	**McQueen's Vall**	**6.19**	**204**	P	**Pn**	**21 18 38.1**	**-1.9**
RACZ	**Rakaia**	**6.38**	**207**	P	**Pn**	**21 18 40.6**	**-1.9**
MHCZ	**Mount Hutt**	**6.43**	**211**	P	**Pn**	**21 18 42.0**	**-1.2**
WACZ	**Wakanui South**	**6.67**	**207**	P	**Pn**	**21 18 44.9**	**-1.5**
RPZ	**Rata Peaks**	**6.79**	**213**	P	**Pn**	**21 18 47.0**	**-0.9**
RPZ	**Rata Peaks**	**6.79**	**213**	P	**Pn**	**21 18 46.8**	**-1.1**
ARCZ	**Arundel**	**6.93**	**211**	P	**Pn**	**21 18 48.6**	**-1.1**
TMZ	**Timaru**	**7.36**	**210**	P	**Pn**	**21 18 54.1**	**-1.2**
ODZ	**Otahua Downs**	**8.06**	**209**	P	**Pn**	**21 19 03.6**	**-0.8**
ODZ	**Otahua Downs**	**8.06**	**209**	P	**Pn**	**21 19 03.9**	**-0.4**
	43nm,2.3s						

*PGC **28** 21:22:52.0±2.4, 47°.56N×129°.12W, h10km, MLSn3.2/7, Mw3.8/7, 296km Wsw of Tofino, Bc Off Coast Of Washington*
*NEIC **28** 21:22:52.1±1.6, 47°.60N±0°.04×128°.9W±0°.1, h10km±2km, mb3.8/6, ML3.5/16, Mwr3.8(OTT), Error ellipse: s-maj=15.0km s-min=3.1km az=245.0*
ISC 28 21:22:51.5±1.1,**47°.57N**±0°.06×**128°.96W**±0°.08,**h10**km,**n33,**
σ1$**08**/38,**Off coast of Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**0.39**	**346**		**Pg**	**21 22 58.9**	**-0.2**
KEMF					**Sg**	**21 23 04.3**	**+0.2**
KEMF	**NEPTUNE Canada**	**0.39**	**346**	P	**Pg**	**21 22 58.9**	**-0.2**
KEMF				S	**Sg**	**21 23 04.3**	**+0.2**
BTB	**Buttle Lake**	**2.97**	**49**	Pn	**Pn**	**21 23 40.3**	**+1.5**
BTB				Sn	**Sn**	**21 24 13.1**	**-1.4**
BTB	**Buttle Lake**	**2.97**	**49**	Pn	**Pn**	**21 23 40.3**	**+1.5**
BTB				Sn	**Sn**	**21 24 13.1**	**-1.4**
C03A	**Quillayute Air**	**2.98**	**81**	Pn	**Pn**	**21 23 38.1**	**-0.7**
WOSB	**Woss**	**3.03**	**30**	Pn	**Pn**	**21 23 40.3**	**+0.8**
WOSB	**Woss**	**3.03**	**30**	Pn	**Pn**	**21 23 40.3**	**+0.8**
MAYB	**Maynard**	**3.06**	**22**	Pn	**Pn**	**21 23 40.7**	**+0.6**
MAYB	**Maynard**	**3.06**	**22**	Pn	**Pn**	**21 23 40.7**	**+0.6**
NCRB	**Newcastle Ridg**	**3.42**	**33**	Pn	**Pn**	**21 23 46.5**	**+1.6**
CBB	**Campbell River**	**3.42**	**43**	Pn	**Pn**	**21 23 44.8**	**-0.1**
NLWA	**Neilton Lookou**	**3.45**	**91**	Pn	**Pn**	**21 23 46.4**	**+1.1**
NLWA				IAML		21 25 57.4	
	66nm,5.0s						
NLWA				IAML		21 25 57.5	
	65nm,3.3s						
B926	**Mesachie Lake**	**3.46**	**67**	Pn	**Pn**	**21 23 47.4**	**+2.0**
B926				Sn	**Sn**	**21 24 27.9**	**+1.5**
CLRS	**Cowichan Lake**	**3.46**	**67**	Pn	**Pn**	**21 23 46.3**	**+0.9**
TXB	**Texada**	**3.67**	**53**	Pn	**Pn**	**21 23 50.4**	**+2.1**
PGC	**Sid

NNZ	Nelson	10.47 209		Pn	21 30 47.8	+0.5
QRZ	Quartz Range	10.53 213		Pn	21 30 48.2	+0.3
THZ	Tophouse	11.13 209		Pn	21 30 55.3	+0.3
KHZ	Kahutara	11.44 205		P	21 30 59.0	0.0
LTZ	Lake Taylor	12.24 208	P	P	21 31 07.8	-0.1
MQZ	McQueen's Vall	12.88 205	P	P	21 31 15.0	+0.1
RPZ	Rata Peaks	13.51 209	P	P	21 31 21.5	-0.3
FOZ	Fox Glacier	13.90 213	P	P	21 31 26.1	0.0
MSVF	Nonsavu	14.54 352	P	P	21 31 33.6	0.0
	0.5nm,0.3s,baz=301,slow=16,SNR=2.3					
MSVF	Nonsavu	14.54 352	P	Pn	21 31 35.3	-0.2
MSVF				PcP	21 36 16.7	-5.7
LIFNC	LIFOU	16.19 312	P	Pn	21 31 54.5	0.0
LIFNC			IAmb	IAmb	21 32 47.5	
	comp=Z,23nm,1.0s					
STKA	Stephens Creek	32.53 260	P	P	21 34 24.3	+1.0
	comp=Z,1.3nm,0.5s,baz=108,slow=12,SNR=4.3					
STKA	Stephens Creek	32.53 260	P	P	21 34 24.2	+1.0
STKA			IAmb	IAmb	21 35 15.6	
	comp=Z,3.2nm,1.4s					
BBOO	Buckleboo	36.95 257	P	P	21 35 00.5	-0.2
BBOO			IAmb	IAmb	21 35 10.2	
	comp=Z,58nm,1.6s					
AS31	Alice Springs	41.44 270	P	P	21 35 37.3	-0.4
ASAR	Alice Springs	41.44 270	P	P	21 35 37.0	-0.7
	comp=Z,0.7nm,0.3s,baz=106,slow=7.5,SNR=16					
ASAR	Alice Springs	41.44 270	P	P	21 35 36.7	-1.0
WB2	Warramunga Arr	42.59 275	P	P	21 35 46.0	-0.9
WB2			IAmb	IAmb	21 35 46.4	
	comp=Z,22nm,1.8s					
WRA	Warramunga Arr	42.60 275	P	P	21 35 46.0	-1.0
	comp=Z,1.9nm,0.3s,baz=115,slow=7.5,SNR=20					
WB0	Warramunga Arr	42.63 275	P	P	21 35 46.4	-0.9
WB0			IAmb	IAmb	21 37 27.0	
	comp=Z,23nm,1.8s					
FAKI	Fak Fak	53.50 293	P	P	21 37 11.1	+1.5
QSPA	South Pole Qui	57.89 180	P	P	21 37 43.9	+3.9
	comp=Z,1.3nm,0.3s,baz=41,slow=2.0,SNR=6.7					
FINES	FINESS Array B	146.25 338	PKPbc	PKPbc	21 47 22.7	-0.1
	comp=Z,1.4nm,0.7s,baz=50,slow=2.2,SNR=3.6					

NEIC 28 21:34:40.8±0.9, 36°.34N±0°.01×97°.18W±0°.02, h5km±7km, mb_Lg2.6/7, Error ellipse: s-maj=2.4km s-min=1.5km az=109.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK033	Mehan	0.36	146	Pg	Pg	21 34 48.3	+0.6
BLOK	Blackwell	0.42	357		Pg	21 34 49.6	+0.8
QUOK	Quay	0.42	114		Pg	21 34 49.7	+0.8
OK034	N. Norfolk Rd.	0.51	131	Pg	Pg	21 34 51.1	+0.7
OK029	Liberty Lake	0.59	202		Pg	21 34 52.0	0.0
CROK	Carrier	0.67	284		Pg	21 34 53.7	+0.1
KAN13	South Haven SW	0.71	341	Pg	Pg	21 34 54.2	-0.2
GC02	Grant County #	0.74	313	Pg	Pg	21 34 55.1	+0.1
BCOK	Bluff Creek, N	0.77	207	Pg	Pg	21 34 55.1	-0.3
OK025	Westminster Rd	0.77	189		Pg	21 34 55.3	-0.2
T35A	Sooner Cattle	0.79	43		Pg	21 34 56.0	+0.1
KAN17	Caldwell West	0.84	326	Pg	Pg	21 34 57.0	+0.1
KAN14	Manchester OK	0.88	315	Pg	Pg	21 34 57.5	-0.1
OK032	Salt Plains WL	0.95	299	Pg	Pg	21 34 58.8	-0.1
FNO	Franklin	1.10	189	Pg	Pg	21 35 01.1	-0.7
TUL1	Leonard	1.21	111	Pg	Pg	21 35 03.0	-0.9
W35A	Tecumseh	1.21	168	Pg	Pg	21 35 03.1	-0.9
X34A	Smith Ranch, M	1.82	197	Pn	Pn	21 35 13.4	+0.6
WMOK	Wichita Mounta	2.06	220	Pn	Pn	21 35 15.7	-0.5
U38A	Gravette	2.26	87	IAmb_Lg		21 35 54.4	
	comp=Z,9.8nm,1.1s						
HHAR	Hobbs	2.62	90	IAmb_Lg		21 36 05.9	
	comp=Z,5.6nm,0.7s						
Z35A	Perchaven, San	3.01	181	IAmb_Lg		21 36 17.3	
	comp=Z,7.2nm,0.7s						
GLAT	Glass	6.38	88	IAmb_Lg		21 38 16.3	
	comp=Z,76nm,0.9s						
WVT	Waverly	7.56	89	IAmb_Lg		21 38 55.7	
	comp=Z,30nm,1.2s						

IDC 28 21:35:19.0±1.2, 1°.70N×127°.26E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/42, mbtmp3.8/7, MS3.3/1, Ms1 3.3/1, ms1mx2.4/71, Error ellipse: s-maj=97.6km s-min=16.6km az=70.0

NEIC 28 21:35:33.5±1.6, 1°.5N±0°.1×127°.1E±0°.1, h117km±8km, mb4.4/12, Error ellipse: s-maj=20.5km s-min=10.8km az=46.0

ISC 28 21:35:31.9±0.7, 1°.58N±0°.09×127°.1E±0°.1, h103km, n26, σ1§61/25, mb4.2/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.86	159	Pn	Pn	21 35 52.8	+1.7
TNTI				Sn	Sn	21 36 09.7	+4.2
TOLI2	Tolitoli	6.29	266	Pn	Pn	21 37 03.4	+1.1
FAKI	Fak Fak	6.85	131	Pn	Pn	21 37 11.9	+2.1
MYLDM	Lahad Datu	9.26	293	Pn	Pn	21 37 44.4	+1.7
MTN	Manton Dam	14.89	164	Pn	Pn	21 38 56.0	-1.2
KNRA	Kununurra	17.23	174	P	P	21 39 25.6	-0.6
KNRA				IAmb	IAmb	21 39 43.6	
	comp=Z,48nm,1.4s						
UGM	Wanagama	19.00	240	P	Pn	21 39 46.5	-1.0
FITZ	Fitzroy Crossi	19.60	184	P	P	21 39 51.9	-0.3
	baz=25,slow=9.4						
COEN	Coen	22.21	135	P	P	21 40 19.2	-1.0
COEN				IAmb	IAmb	21 40 47.6	
	comp=Z,22nm,1.9s						
WRAB	Tennant Creek	22.54	162	P	P	21 40 21.4	-2.2
WRAB				IAmb	IAmb	21 40 29.3	
	comp=Z,14nm,1.1s						
WRA	Warramunga Arr	22.55	162	P	P	21 40 21.9	-1.7
	comp=Z,2.5nm,0.4s,baz=340,slow=11,SNR=21						
WRA	Warramunga Arr	22.55	162	P	P	21 40 20.9	-2.7
WB2	Warramunga Arr	22.55	162	P	P	21 40 22.1	-1.5
WB2				IAmb	IAmb	21 40 29.3	
	comp=Z,14nm,1.0s						
XMIS	Christmas Isla	24.44	240	P	P	21 40 41.2	-0.1
UBPT	Khong Chiam	25.28	304	P	P	21 40 49.6	+0.6
UBPT				IAmb	IAmb	21 40 51.7	
	comp=Z,28nm,1.7s						
ASAR	Alice Springs	25.96	166	P	P	21 40 53.4	-1.6
	comp=Z,0.8nm,0.3s,baz=344,slow=7.4,SNR=8.4						
KSAR	Wonju Array Be	35.70	1	P	P	21 42 20.6	+0.2
STKA	Stephens Creek	36.02	159	P	P	21 42 21.8	-1.5
	comp=Z,0.8nm,0.4s,baz=348,slow=9.3,SNR=1.7						
ARMA	Armidale	39.51	146	P	P	21 42 52.4	-0.5
KLR	Kul'dur	47.64	4	LR	LR	22 10 07.7	
	comp=Z,33nm,18.0s,baz=47,slow=44						
SONM	Songino Array	49.43	342	P	P	21 44 11.0	-0.5
	comp=Z,0.2nm,0.6s,baz=153,slow=8.1,SNR=2.3						
MK31	Makanchi Array	59.50	326	P	P	21 45 24.4	0.0
MK31				IAmb	IAmb	21 45 46.2	
	comp=Z,6.7nm,2.0s						
MKAR	Makanchi Array	59.50	326	P	P	21 45 24.2	-0.2
	comp=Z,1.2nm,0.5s,baz=119,slow=7.6,SNR=26						
KURBB	Kurchatov Arra	63.72	328	P	P	21 45 52.1	-0.5
	comp=Z,0.9nm,0.6s,baz=129,slow=6.3,SNR=10						
KURK	Kurchatov	63.72	328	P	P	21 45 52.1	-0.5
KURK	Kurchatov	63.72	328	IAmb	IAmb	21 45 55.4	
	comp=Z,2.5nm,0.9s						

ISK 28 21:50:34.9, 39°.52N×26°.00E, h10km, ML2.5/15
DDA 28 21:50:35.4±0.0, 39°.52N×26°.03E, h15km, ML2.5

ISC 28 21:50:35.4±0.9, 39°.51N±0°.02×26°.01E±0°.04, h15km±6km, n21, σ0§26/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	Canakkale, Ayv	0.10	96	P	Pg	21 50 38.7	-0.1
KOCA				S	Sg	21 50 41.1	+0.2
SIGR	SIGRI	0.32	201	PG	Pg	21 50 41.8	-0.3
SIGR				SG	Sg	21 50 46.6	0.0
BOZC	Bozcaada	0.33	6	PG	Pg	21 50 42.3	0.0
BOZC				SG	Sg	21 50 47.0	+0.1
BOZC	Bozcaada	0.33	6	P	Pg	21 50 42.2	0.0
BOZC				P	Pg	21 50 42.2	0.0
BOZC				S	Sg	21 50 47.1	+0.2
BOZC				S	Sb	21 50 47.5	-0.7
EZN	Ezine	0.40	38	PG	Pg	21 50 43.5	0.0
EZN				SG	Sg	21 50 48.9	0.0
GOKA	anakkale-Gk	0.68	354	P	Pg	21 50 48.6	-0.1
GOKA				S	Sb	21 50 58.8	+0.6
GADA	Gvkgeada	0.68	353	PG	Pg	21 50 48.7	-0.1
DKL	Dikili	0.83	122	PG	Pb	21 50 51.6	+0.1
BUHA	Balikesir, Bur	0.83	90	P	Pn	21 50 52.5	0.0
BUHA				S	Sb	21 51 02.8	+0.3
GELI	Tayfur-Gelibol	0.95	22	PG	Pb	21 50 53.6	-0.1
ZEDA	zmir-Bergama	0.99	123	P	Pb	21 50 54.3	-0.1
ZEDA				S	Sb	21 51 07.2	-0.1
CHOS	Chios island	1.12	178	PN	Pg	21 50 57.4	+0.3
ERIK	Erikli-Kesan	1.22	18	PN	Pn	21 50 57.8	-0.1
ENEZ	Enez	1.23	5	PN	Pb	21 50 58.4	+0.1
URLA	Izmir	1.24	158	PN	Pg	21 50 59.0	-0.3
KRBG	Karabiga-Canak	1.33	48	PN	Pb	21 50 59.9	-0.1
ALN	Alexandroupoli	1.38	1	PN	Pb	21 50 00.9	-0.1
KESN	Edirne-Kesan	1.41	21	P	Pn	21 51 01.1	+0.2
KESN				S	Sn	21 51 19.4	0.0
KESN				*i* AML	AML	21 51 47.0	
	comp=N,62nm,0.6s						
KESN				*i* AML	AML	21 51 49.0	
	comp=E,69nm,0.2s						
RKY	Sarkoy-Tekirda	1.48	37	PN	Pn	21 51 01.9	+0.3
MAR3	Marsite Statio	1.58	38	PN	Pb	21 51 03.6	-0.7
OUR	Ouranopolis	1.76	298	PN	Pn	21 51 05.5	+0.2

ISK 28 21:51:17.4, 39°.51N×25°.98E, h11km, ML2.9/18
DDA 28 21:51:18.2±0.0, 39°.52N×26°.04E, h13km, ML2.9
THE 28 21:51:18.0, 39°.51N×25°.95E, h12km±1km, ML2.7/8, Error ellipse: s-maj=1.6km s-min=0.8km az=98.0
ATH 28 21:51:18.7, 39°.49N×25°.95E, h16km±4km, ML2.7/4, Error ellipse: s-maj=4.4km s-min=1.2km az=149.0

ISC 28 21:51:17.9±0.8, 39°.51N±0°.01×26°.00E±0°.02, h14km±6km, n75, σ0§78/110, 4C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	Canakkale, Ayv	0.10	93	P	Pg	21 51 21.2	+0.1
KOCA				*i* AML	AML	21 51 23.0	
	comp=E,5μm,0.6s						
KOCA				S	Sg	21 51 23.2	-0.1
SIGR	SIGRI	0.32	201	P	Pg	21 51 24.4	0.0
SIGR				S	Sg	21 51 28.4	-0.5
	3μm,0.3s						
SIGR	SIGRI	0.32	201	P	Pg	21 51 24.2	-0.2
SIGR				S	Sg	21 51 28.7	-0.2
SIGR				AML	AML	21 51 29.5	
	comp=E,5315μm,0.2s						
SIGR				AML	AML	21 51 29.5	
	comp=N,7391μm,0.4s						
SIGR	SIGRI	0.32	201	PG	Pg	21 51 24.4	0.0
SIGR				SG	Sg	21 51 28.7	-0.2
BOZC	Bozcaada	0.34	7	PG	Pg	21 51 24.9	+0.2
BOZC				SG	Sb	21 51 30.3	-0.5
BOZC	Bozcaada	0.34	7	P	Pg	21 51 24.9	+0.2
BOZC				P	Pg	21 51 24.9	+0.2
BOZC				S	Sg	21 51 29.7	+0.2
BOZC				S	Sb	21 51 29.8	-1.0
BOZC				*i* AML	AML	21 51 30.0	
	comp=N,2μm,0.3s						
BOZC				*i* AML	AML	21 51 30.0	
	comp=N,1μm,0.2s						
BOZC				*i* AML	AML	21 51 30.0	
	comp=N,2μm,0.2s						
BOZC				*i* AML	AML	21 51 30.0	
	comp=N,1μm,0.3s						
PRK	Paraskevi	0.34	141	P	Pb	21 51 26.0	+0.4
PRK				S	Sb	21 51 30.4	-0.4
	comp=N,3μm,0.4s						
PRK	Paraskevi	0.34	141	P	Pb	21 51 26.0	+0.4
PRK				S	Sb	21 51 31.0	+0.2
PRK				AML	AML	21 51 31.3	
	comp=N,5314μm,0.3s						
PRK				AML	AML	21 51 32.3	
	comp=E,6538μm,0.5s						
EZN	Ezine	0.40	38	P	Pg	21 51 26.2	+0.2
EZN				S	Sb	21 51 31.8	-1.0
	comp=E,1μm,0.2s						
EZN	Ezine	0.40	38	PG	Pg	21 51 26.2	+0.2
EZN				SG	Sb	21 51 32.1	-0.7
ECEA	Canakkale, Ece	0.55	14	P	Pb	21 51 29.2	-0.1
ECEA				S	Sg	21 51 36.2	+0.1
ECEA				*i* AML	AML	21 51 37.0	
	comp=E,906nm,0.4s						
ECEA				*i* AML	AML	21 51 38.0	
	comp=E,1μm,0.3s						
AYVA	Ayvalik	0.57	110	P	Pb	21 51 29.3	-0.3
AYVA				S	Sg	21 51 36.6	0.0
GOKA	anakkale-Gk	0.69	354	P	Pg	21 51 31.1	-0.2
GOKA				S	Sb	21 51 41.5	+0.5
GOKA				*i* AML	AML	21 51 46.0	
	comp=E,546nm,0.5s						
GADA	Gvkgeada	0.69	353	P	Pg	21 51 31.1	-0.2
GADA				S	Sg	21 51 40.6	+0.3
GADA	Gvkgeada	0.69	353	PG	Pg	21 51 31.0	-0.2
LIA	Limnos Island	0.74	302	P	Pg	21 51 32.4	+0.1
LIA				S	Sg	21 51 41.1	-1.0
	comp=E,522nm,0.3s						
LIA	Limnos Island	0.74	302	P	Pg	21 51 32.4	+0.1
LIA				S	Sg	21 51 42.4	+0.3
LIA				AML	AML	21 51 44.6	
	comp=E,1177μm,0.3s						
LIA				AML	AML	21 51 45.1	
	comp=N,905μm,0.2s						
EFSA	Agios Efstrati	0.79	273	P	Pg	21 51 33.6	+0.4
DKL	Dikili	0.82	122	PG	Pb	21 51 34.3	+0.4
BUHA	Balikesir, Bur	0.83	90	P	Pg	21 51 33.9	-0.1
BUHA				S	Sb	21 51 45.5	+0.4
GELI	Tayfur-Gelibol	0.96	22	PG	Pg	21 51 36.2	-0.2
FOCM	Foa	0.98	144	PG	Pb	21 51 36.6	+0.1
ZEDA	zmir-Bergama	0.99	123	P	Pg	21 51 37.1	+0.1
ZEDA				S	Sn	21 51 50.9	-0.2
PSRA	Psara	1.02	200	P	Pb	21 51 37.7	+0.3
SMTH	Samothraki Isl	1.03	339	P	Pb	21 51 37.5	+0.1
SMTH				S	Sb	21 51 51.2	+0.4
	comp=N,200nm,0.2s						
SMTH	Samothraki Isl	1.03	339	P	Pb	21 51 37.2	-0.3
SMTH				AML	AML	21 51 52.4	
	comp=N,415μm,0.2s						
SMTH				AML	AML	21 51 53.4	
	comp=E,503μm,0.4s						
CHOS	Chios island	1.12	178	P	Pb	21 51 38.6	-0.5
CHOS				S	Sb	21 51 54.1	+0.6
	comp=E,675nm,0.2s						
CHOS	Chios island	1.12	178	P	Pb	21 51 38.3	-0.7
CHOS	Chios island	1.12	178	PN	Pb	21 51 39.5	+0.4
CAVK	Edirne/Enez-Ca	1.19	6	P	Pn	21 51 40.2	+0.2
CAVK				S	Sn	21 51 56.6	+0.6
ERIK	Erikli-Kesan	1.23	18	PN	Pn	21 51 40.5	0.0
ENEZ	Enez	1.23	5	P	Pn	21 51 41.0	+0.3
ENEZ				S	Sb	21 51 56.5	-0.1
ENEZ	Enez	1.23	5	PN	Pn	21 51 40.9	+0.3
URLA	Izmir	1.24	158	PN	Pn	21 51 40.2	-0.5
URLA	Izmir	1.24	158	P	Pn	21 51 39.9	-0.8
URLA				S	Sb	21 51 56.1	-0.6
URLA				*i* AML	AML	21 52 03.0	
	comp=E,211nm,1.2s						
BALY	Balya	1.27	79	P	Pg	21 51 42.9	+0.6
BALY				S	Sb	21 51 57.6	-0.2
SKY	Skiros Island	1.29	241	P	Pn	21 51 40.6	-0.9
SKY				S	Sb	21 51 57.3	-1.1
ZEYE	Izmir, Urla-Ze	1.33	163	P	Pb	21 51 42.7	+0.2
ZEYE				S	Sb	21 51 58.7	-0.6
ZEYE				*i* AML	AML	21 52 04.0	
	comp=E,209nm,0.3s						
KRBG	Karabiga-Canak	1.33	48	PN	Pn	21 51 41.9	-0.1
STEP	BALIKESIR_Sava	1.33	95	P	Pb	21 51 42.5	-0.1
STEP				S	Sg	21 52 00.7	-0.2
ALN	Alexandroupoli	1.39	1	P	Pn	21 51 42.8	0.0
ALN				S	Sn	21 52 00.2	-0.7
	comp=E,122nm,0.4s						
ALN	Alexandroupoli	1.39	1	PN	Pn	21 51 42.9	+0.1
KNL	Balıkesir	1.40	57	P	Pg	21 51 44.2	-0.5
KNL				S	Sg	21 52 02.4	-0.5
KNL				*i* AML	AML	21 52 04.0	
	comp=E,179nm,0.6s						
KNL				*i* AML	AML	21 52 04.0	
	comp=E,193nm,0.4s						
GONE	Gonen-Balikesi	1.40	67	PN	Pb	21 51 43.7	-0.1
KESN	Edirne-Kesan	1.41	21	P	Pn	21 51 43.6	+0.1
KESN				S	Sg	21 52 02.8	-0.8
KESN				*i* AML	AML	21 52 03.0	
	comp=E,184nm,0.6s						
THAS	Thassos island	1.47	318	P	Pn	21 51 43.7	-0.3
THAS				S	Sn	21 52 02.1	-0.9
	comp=E,148nm,0.3s						
RKY	Sarkoy-Tekirda	1.48	37	PN	Pn	21 51 44.6	+0.4
SART	Tekirdag	1.48	37	P	Pb	21 51 45.1	-0.1
SART				S	Sg	21 52 04.9	-0.8
SART				*i* AML	AML	21 52 07.0	
	comp=E,166nm,0.2s						
SART				*i* AML	AML	21 52 07.0	
	comp=E,194nm,0.2s						
MAR6	Marsite Statio	1.54	39	PN	Pb	21 51 45.7	-0.4
MAR3	Marsite Statio	1.58	38	PN	Pb	21 51 46.3	-0.6
GZKV	Gazikoy-Tekird	1.60	39	PN	Pn	21 51 46.5	+0.8
DGB	zmir	1.61	154	P	Pb	21 51 47.8	+0.5
DGB				S	Sn	21 52 06.8	+0.5
MAR4	Marsite Statio	1.62	37	PN	Pn	21 51 46.6	+0.5
EDC	Edincik	1.66	59	PN	Pb	21 51 47.6	-0.6
RDO	Rodhopi	1.67	348	PN	Pn	21 51 47.2	+0.5
OUR	Ouranopolis	1.76	299	PN	Pn	21 51 48.2	+0.3
TKR	Tekirdag	1.89	38	PN	Pn	21 51 50.5	+0.8
SMG	Samos	1.91	160	P	Pn	21 51 50.2	+0.2
GCAM	G?zelcaml?	2.05	152	PN	Pn	21 51 52.8	+1.0
EDRB	Edirne	2.40	13	P	Pn	21 51 56.7	0.0
ARMN	Kirklareli, Me	2.59	24	P	Pn	21 51 59.6	+0.3
VTS	Vitosha	3.75	327	⇑P	Pg	21 52 31.2	+1.6
VTS	Vitosha	3.75	327	*e*Pn	Pn	21 52 16.0	+0.7
BOSS	Bosilegrad	4.00	319	*e*Pn	Pn	21 52 20.6	+1.9
PRVS	Prvonek	4.22	317	*e*Pn	Pn	21 52 21.3	-0.5
ZAPS	Zavoj	4.54	327	*e*Pn	Pn	21 52 28.1	+2.0
BARS	Barje	4.57	318	*e*Pn	Pn	21 52 28.1	+1.5
BOVS	Bovan	5.23	323	⇓P	Pn	21 52 36.6	+1.0
BOVS	Bovan	5.23	323	*e*Pn	Pn	21 52 35.7	+0.1
VOIR		5.97	354	⇑P	Pn	21 52 47.7	+1.9
GZR	Gura Zlata	6.35	339	P	Pn	21 52 48.1	-2.9
PLOR	Plostina	6.36	4	⇑P	Pn	21 52 53.3	+2.2
VRI	Vrincioaia	6.38	5	⇑P	Pn	21 52 53.7	+2.3
VLDR	Vladesti	6.51	13	P	Pn	21 52 54.8	+1.6
TESR	Tescani	7.02	4	⇓P	Pn	21 52 57.9	-2.2

IDC 28 22:00:53.5±1.0, 54°.03N×169°.19E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.6/42, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=30.2km s-min=19.0km az=165.0
KRSC 28 22:00:58.7±2.3, 54°.23N×168°.69E, h45km±28km, ML3.8

ISC 28 22:00:58.2±0.8, 54°.14N±0°.07×168°.99E±0°.05, h25km, n31, σ1§84/30, mb3.6/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.05	303	*e*P	Pn	22 01 29.3	-1.7
BKI				*e*S	Sn	22 01 52.7	-3.0
SHEM	Shemya Is, Ala	3.37	113	Pn	Pn	22 01 50.2	+1.0
	16nm,0.3s,baz=326,slow=3.6,SNR=6.3						
SHEM				Sn	Sn	22 02 27.8	-0.5
	8.0nm,0.3s,baz=281,slow=16,SNR=2.2						
BZGR	Bezymyannyi-Gr	5.10	294	*e*P	Pn	22 02 14.0	+1.0
TUMD	Tumrok D	5.10	286	*e*S	Sn	22 03 09.5	-1.4
KMNR	Kamenistaya	5.29	291	P	Pn	22 02 19.4	+3.7
KMNR				*e*S	Sn	22 03 16.4	+0.5
SPN	Mys Shipunski	5.44	263	*e*S	Sn	22 03 16.9	-2.3
KII	Karymskiy	5.61	273	*e*S	Sn	22 03 22.9	-0.8
UGLR	Uglovaya	6.11	265	*e*P	Pn	22 02 28.9	+2.0
SMAR	Somma	6.11	266	*e*P	Pn	22 02 29.1	+2.1
AVH	Avacha	6.15	266	P	Pn	22 02 29.5	+2.1
KOK	Koryaka	6.20	266	*e*P	Pn	22 02 30.9	+2.7
TILK	Tilichiki	6.50	347	P	Pn	22 02 32.9	+0.8
TILK				S	Sn	22 03 47.5	+2.1
KRMR	Karymshinskiy	6.61	263	*e*S	Sn	22 03 46.8	-1.3
MTVR	Mutnovka	6.68	260	P	Pn	22 02 37.2	+2.4
GRL	Gorelyy	6.73	261	P	Pn	22 02 37.3	+1.9
PETK	Petropavlovsk-	6.79	266	Pn	Pn	22 02 37.8	+1.6
	0.4nm,0.3s,baz=107,slow=19,SNR=7.7						
PETK				Sn	Sn	22 03 52.8	+0.1
	0.5nm,0.3s,baz=89,slow=20,SNR=1.3						
KDTR	Khodutka, Kamc	6.99	255	P	Pn	22 02 40.9	+2.1
KDTR				S	Sn	22 03 55.1	-2.3
ILAR	Eielson Array	24.28	47	P	P	22 06 11.5	-1.5
	0.5nm,0.4s,baz=252,slow=6.8,SNR=14						
MJAR	Matsushiro Arr	27.57	243	P	P	22 06 44.3	+1.3
	0.6nm,0.4s,baz=83,slow=13,SNR=1.8						
H11N2	WAKE ISLAND Hy	34.39	183	T	T	22 44 19.9	
	baz=2.1,slow=76,SNR=111						
H11N3	WAKE ISLAND Hy	34.40	183	T	T	22 44 21.3	
	baz=2.1,slow=76,SNR=79						
H11N1	WAKE ISLAND Hy	34.41	183	T	T	22 44 21.7	
	baz=2.1,slow=76,SNR=127						
H11S1	WAKE ISLAND Hy	35.61	184	T	T	22 45 46.6	
	baz=2.4,slow=76,SNR=26						
H11S3	WAKE ISLAND Hy	35.62	184	T	T	22 45 47.9	
	baz=2.4,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	35.63	184	T	T	22 45 54.3	
	baz=2.4,slow=76,SNR=32						
YKA	Yellowknife Ar	38.71	46	P	P	22 08 19.5	-0.1
	0.4nm,0.5s,baz=294,slow=8.1,SNR=4.6						
MKAR	Makanchi Array	52.35	300	P	P	22 10 06.6	-1.0
	1.7nm,1.3s,baz=38,slow=6.1,SNR=1.8						
ARCES	ARCESS Array B	53.80	345	P	P	22 10 16.9	-1.1
	1.8nm,0.9s,baz=36,slow=9.1,SNR=5.5						
TXAR	Lajitas Array	65.30	74	P	P	22 11 38.2	+0.2
	0.4nm,0.7s,baz=331,slow=4.6,SNR=5.0						
BRTR	Keskin Array B	78.93	326	P	P	22 13 00.2	+0.7
	0.5nm,0.7s,baz=26,slow=14,SNR=1.6						
WRA	Warramunga Arr	79.56	213	P	P	22 13 00.2	-2.5
	0.5nm,0.8s,baz=15,slow=3.5,SNR=2.3						

KRNET 28 22:25:07.4±0.1, 39°.45N×72°.34E, h19km, mb2.7
SOME 28 22:25:09.0, 39°.48N×72°.23E, h10km
*NNC

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK				⇓Lg	Lg	22 26 53.8	
	7.2nm,0.7s						
KK03	**Karatay Array**	**3.90**	**340**	⇓Pn	**Pb**	**22 26 11.8**	**-2.5**
	2.3nm,0.3s,baz=144,slow=12						
KK03				⇓Lg	Lg	22 27 10.3	
	2.5nm,0.4s,baz=149,slow=29						
BRLS	**Borolday**	**4.04**	**333**	*e*P	**Pg**	**22 26 20.8**	**-2.6**
	1.1nm,0.3s						
BRLS				*e*S	**Sg**	**22 27 13.6**	**-2.0**
	6.5nm,0.3s						
BRLS	**Borolday**	**4.04**	**333**	Pg	**Pg**	**22 26 20.8**	**-2.6**
	1.1nm,0.3s						
BRLS				Lg	Lg	22 27 13.6	
	6.5nm,0.3s						
TKM2	**Tokmak 2**	**4.24**	**34**	⇑Pn	**Pb**	**22 26 15.9**	**-4.4**
	2.2nm,0.9s						
TKM2				⇓Pg	**Pg**	**22 26 25.7**	**-1.5**
TKM2				⇓Lg	Lg	22 27 20.2	
	3.5nm,0.8s						
KST	**Kastek**	**4.50**	**36**	*e*P	**Pg**	**22 26 31.2**	**-1.0**
	1.2nm,0.2s						
KST				*e*S	**Sg**	**22 27 31.7**	**+1.1**
	6.5nm,0.4s						
KST	**Kastek**	**4.50**	**36**	Pg	**Pg**	**22 26 31.2**	**-1.0**
	1.2nm,0.2s						
KST				Lg	Lg	22 27 31.7	
	6.5nm,0.4s						
DGS	**Degeres**	**4.58**	**33**	*e*P	**Pg**	**22 26 35.7**	**+2.0**
	3.2nm,0.3s						
DGS				*e*S	**Sg**	**22 27 39.8**	**+6.8**
	4.7nm,0.7s						
DGS	**Degeres**	**4.58**	**33**	Pg	**Pg**	**22 26 35.7**	**+2.0**
	3.2nm,0.3s						
DGS				Lg	Lg	22 27 39.8	
	4.7nm,0.7s						
TNSS	**Tian-Shan**	**4.98**	**43**	*e*P	**Pg**	**22 26 39.9**	**-1.6**
	1.2nm,0.2s						
TNSS				*e*S	**Sg**	**22 27 46.4**	**+0.3**
	3.2nm,0.9s						
TNSS	**Tian-Shan**	**4.98**	**43**	Pg	**Pg**	**22 26 39.9**	**-1.6**
	1.2nm,0.2s						
TNSS				Lg	Lg	22 27 46.4	
	3.2nm,0.9s						

*CNRM **28** 22:30:05.7, 35.°55N×3.°75W, h17km, ml3.1*
*SFS **28** 22:30:07.0, 35.°54N×3.°81W, ML2.8, ALBORAN SUR*
*IGIL **28** 22:30:08.3, 35.°55N×3.°81W, h0km, ML2.7*
ISC 28 22:30:05.8±1.1, 35.°55N±0.°03×3.°75W±0.°03, h17km±8km, n21, σ1§39/35, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**205**	P	**Pg**	**22 30 13.3**	**-0.1**
PALE				S	**Sg**	**22 30 17.8**	**-0.8**
GOG	**Mont Gurugu**	**0.70**	**118**	P	**Pb**	**22 30 19.9**	**+0.3**
GOG				S	**Sb**	**22 30 29.0**	**0.0**
CHAS	**Isla Isabel II**	**1.14**	**108**	*e*P	**Pn**	**22 30 26.4**	**-0.6**
CHAS				*e*S	**Sb**	**22 30 40.6**	**-1.0**
EMAL	**Malaga-Limoner**	**1.33**	**336**	*e*P	**Pg**	**22 30 30.8**	**-0.7**
EMAL				*e*S	**Sg**	**22 30 50.0**	**+1.2**
CEU	**Ceuta**	**1.36**	**285**	*e*P	**Pn**	**22 30 28.5**	**-1.5**
CEU				*e*S	**Sn**	**22 30 44.0**	**-3.8**
CHEFC	**Chefchaouen**	**1.37**	**252**	P	**Pb**	**22 30 31.2**	**+0.1**
CHEFC				S	**Sn**	**22 30 48.0**	**-0.1**
JBK	**JBK**	**1.55**	**141**	P	**Pn**	**22 30 32.2**	**-0.7**
JBK				S	**Sn**	**22 30 53.1**	**+0.4**
SICH	**Sidi Chahed**	**1.93**	**222**	P	**Pn**	**22 30 39.4**	**+1.4**
SICH				S	**Sb**	**22 31 05.4**	**+1.0**
LCRM	**LCR**	**2.07**	**206**	P	**Pn**	**22 30 40.5**	**+0.6**
LCRM				S	**Sn**	**22 31 07.5**	**+2.1**
IFR	**Ifrane**	**2.32**	**210**	*e*P	**Pn**	**22 30 43.5**	**0.0**
IFR				*e*S	**Sn**	**22 31 10.4**	**-1.3**
MD31	**MD31**	**2.80**	**198**	P	**Pn**	**22 30 50.6**	**+0.6**
MD31				S	**Sn**	**22 31 22.9**	**-0.6**
MDT	**Midelt**	**2.82**	**195**	P	**Pn**	**22 30 51.9**	**+1.7**
CART	**Cartagena**	**3.01**	**47**	P	**Pn**	**22 30 52.9**	**+0.2**
CART				S	**Sn**	**22 31 27.2**	**-1.1**
ZHG	**ZHG**	**3.18**	**230**	P	**Pn**	**22 30 55.4**	**+0.3**
PVAQ	**Vaqueiros**	**3.69**	**301**	P	**Pn**	**22 31 03.8**	**+1.6**
FIGM	**Figuig**	**3.99**	**148**	P	**Pn**	**22 31 08.4**	**+2.1**
MESJ	**Messejana**	**4.26**	**304**	*e*P	**Pn**	**22 31 11.8**	**+1.9**
MESJ				*e*S	**Sn**	**22 31 58.2**	**-0.9**
MESJ				IAML		22 32 05.3	
	comp=E,12nm,0.4s						
MORF	**Marmelete**	**4.32**	**295**	*e*S	**Sn**	**22 31 59.9**	**-0.9**
MORF				IAML		22 32 03.9	
	comp=E,18nm,0.4s						
EVO	**Evora**	**4.53**	**312**	*e*P	**Pn**	**22 31 15.7**	**+2.2**
EVO				*e*S	**Sn**	**22 32 06.6**	**+0.8**
OUK	**Oukaimeden**	**5.53**	**220**	P	**Pn**	**22 31 27.1**	**-0.6**
TTIG	**Tnine Tigouga,**	**6.35**	**220**	P	**Pn**	**22 31 36.3**	**-2.5**

*NDI **28** 22:47:10.2±3.9, 27.°12N×75.°40E, h10km, ML3.7*
*IDC **28** 22:47:11.5±2.3, 27.°30N×76.°14E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/29, mbtmp3.5/6, MS3.8/1, Ms1 3.8/1, ms1mx2.7/65, Error ellipse: s-maj=57.2km s-min=26.8km az=57.0*
ISC 28 22:47:09.0±0.6, 27.°12N±0.°04×75.°50E±0.°04, h10km, n45, σ2§05/57, mb3.4/5, 1D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**1.00**	**230**	⇓*i*P	**Pg**	**22 47 27.0**	**-1.2**
AJM				*e*P	**Pb**	**22 47 27.9**	**-0.5**
AJM				*e*S	**Sb**	**22 47 40.5**	**-1.1**
AJM				*i*S	**Sn**	**22 47 51.0**	**+7.7**
KUDL	**Kundal**	**1.34**	**41**	*e*P	**Pn**	**22 47 34.0**	**+0.2**
KUDL				*e*S	**Sn**	**22 47 51.7**	**0.0**
SONA	**Sohna**	**1.80**	**51**	*e*P	**Pn**	**22 47 42.4**	**+2.4**
SONA				*e*S	**Sn**	**22 48 05.1**	**+2.2**
NDI	**New Delhi**	**2.17**	**44**	*e*P	**Pn**	**22 47 46.0**	**+0.8**
NDI				*e*P	**Pb**	**22 47 48.2**	**-0.2**
NDI				*e*S	**Sn**	**22 48 15.0**	**+2.8**
NDI				*e*S	**Sb**	**22 48 15.8**	**+0.3**
JHNI	**Jhansi**	**3.19**	**120**	*e*P	**Pn**	**22 48 01.6**	**+2.4**
JHNI				*e*S	**Sn**	**22 48 41.9**	**+4.6**
DDI	**Dehra Dun**	**3.90**	**35**	*e*P	**Pn**	**22 48 10.3**	**+1.3**
JASL	**Jaisalmer**	**4.10**	**268**	*e*P	**Pn**	**22 48 11.8**	**0.0**
BHPL	**Bhopal**	**4.24**	**155**	*e*x	x	22 48 30.0	
BHPL				*e*S	**Sn**	**22 49 06.0**	**+2.6**
BHPL				IAML		22 49 23.5	
	comp=E,262nm,0.7s						
BHPL				IAML		22 49 25.9	
	comp=N,161nm,0.0s						
SMLA	**Simla**	**4.25**	**20**	*e*P	**Pn**	**22 48 15.5**	**+1.8**
SMLA				*e*S	**Sn**	**22 49 01.9**	**-1.4**
SMLA				IAML		22 49 22.0	
	comp=N,180nm,0.2s						
SMLA				IAML		22 49 22.3	
	comp=E,178nm,0.5s						
BHK	**Bhakra**	**4.35**	**10**	*e*P	**Pn**	**22 48 17.0**	**+1.8**
LGTI	**Lohaghat**	**4.79**	**60**	*e*P	**Pn**	**22 48 23.3**	**+2.2**
PTH	**Pithoragarh**	**4.81**	**59**	*e*P	**Pn**	**22 48 24.3**	**+2.7**
PTH				*e*S	**Sn**	**22 49 18.6**	**+1.1**
DHRM	**DHARAMSHALA**	**5.16**	**8**	*e*P	**Pn**	**22 48 27.9**	**+1.5**
DHRM				*e*S	**Sn**	**22 49 28.1**	**+2.0**
DHRM				IAML		22 49 29.6	
	comp=N,129nm,0.4s						
DHRM				IAML		22 49 30.3	
	comp=E,169nm,0.5s						
THN	**Thein Dam**	**5.29**	**2**	*e*P	**Pn**	**22 48 29.8**	**+1.7**
THN				*e*S	**Sn**	**22 49 28.6**	**-0.6**
JMU	**Jammu**	**5.60**	**355**	*e*P	**Pn**	**22 48 34.4**	**+2.1**
JMU				*e*S	**Sn**	**22 49 35.5**	**-1.2**
JBP	**Jabalpur**	**5.66**	**133**	*e*P	**Pn**	**22 48 32.9**	**-0.2**
JBP				*e*S	**Sn**	**22 49 35.2**	**-3.0**
ALBI	**Allahabad**	**5.95**	**106**	*e*P	**Pn**	**22 48 37.8**	**+0.6**
ALBI				*e*S	**Sn**	**22 49 44.0**	**-1.4**
BHV	**Bhavnagar**	**6.16**	**210**	*e*S	**Sn**	**22 49 47.9**	**-2.8**
THW	**Thamme Wali**	**6.52**	**331**	P	**Pn**	**22 48 44.2**	**-0.8**
AKL	**Akola**	**6.54**	**167**	*e*P	**Pn**	**22 48 46.9**	**+1.6**
AKL				*e*S	**Sn**	**22 49 57.3**	**-2.7**
CHCP	**Chirah Chowk**	**6.79**	**344**	P	**Pn**	**22 48 47.8**	**-0.9**
VLK	**Valmikinagar**	**7.45**	**87**	*e*S	**Sn**	**22 50 21.3**	**-1.1**
BLSP	**Bilaspur**	**7.82**	**128**	*e*S	**Sn**	**22 50 31.2**	**-0.3**
SRSP	**Sriramsagar**	**8.57**	**162**	*e*P	**Pn**	**22 49 10.9**	**-2.3**
SRSP				*e*		22 50 44.0	
RPR	**Rampur**	**8.94**	**156**	*e*P	**Pn**	**22 49 16.5**	**-1.7**
RPR				*e*		22 50 56.0	
KLRI	**Killari**	**9.07**	**173**	*e*P	**Pn**	**22 49 19.4**	**-0.6**
KLRI				*e*		22 50 55.7	
HYBB	**Hyderabad (bro**	**10.06**	**163**	*e*P	Pn	22 49 29.5	-4.2
HYBB				*e*		22 51 19.1	
HYB	**Hyderabad**	**10.06**	**163**	*e*S	Sn	22 51 17.0	-10
CUPL	**Choutuppal**	**10.28**	**161**	*e*P	**Pn**	**22 49 36.4**	**-0.2**
CUPL				*e*		22 51 23.1	
NJS	**Nagarjunasagar**	**11.10**	**161**	*e*P	**Pn**	**22 49 46.1**	**-1.7**
NJS				*e*		22 51 44.1	
PVM	**Polavaram**	**11.34**	**149**	*e*P	**Pn**	**22 49 50.4**	**-0.8**
PVM				*e*		22 51 52.9	
MYLAV	**Mylavaram**	**11.37**	**154**	*e*P	**Pn**	**22 49 49.1**	**-2.4**
SRLM	**Srisailam**	**11.41**	**163**	*e*P	**Pn**	**22 49 49.9**	**-2.2**
SRLM				*e*		22 51 51.5	
CHLP	**Challavanipeta**	**11.65**	**136**	*e*P	**Pn**	**22 49 56.0**	**+0.6**
ADKI	**Addanki**	**11.97**	**159**	*e*		22 52 05.0	
RCLA	**Racherla**	**12.05**	**164**	*e*P	**Pn**	**22 49 59.2**	**-1.7**
RCLA				*e*		22 52 05.9	
URV	**Uravakonda**	**12.23**	**172**	*e*P	**Pn**	**22 50 00.9**	**-2.4**
URV				*e*		22 52 12.1	
SKHT	**Srikalahasti**	**13.89**	**163**	*e*P	**Pn**	**22 50 23.7**	**-2.2**
SKHT				*e*		22 52 50.6	
MKAR	**Makanchi Array**	**20.35**	**14**	P	**P**	**22 51 46.8**	**+1.3**
	comp=E,0.5nm,0.5s,baz=199,slow=12,SNR=11						
MKAR				S	S	22 55 21.0	-13
	comp=E,0.3nm,0.9s,baz=179,slow=19,SNR=2.6						
CMAR	**Chiang Mai Arr**	**23.24**	**107**	P	**P**	**22 52 17.1**	**+0.6**
	comp=E,0.4nm,0.4s,baz=295,slow=11,SNR=5.2						
ZALV	**Zalesovo Beam**	**27.67**	**12**	P	**P**	**22 52 57.5**	**+0.6**
	comp=E,0.3nm,0.4s,baz=193,slow=10,SNR=2.2						
SONM	**Songino Array**	**31.75**	**41**	P	**P**	**22 53 32.4**	**-0.9**
	comp=E,0.1nm,0.3s,baz=246,slow=11,SNR=2.4						
FINES	**FINESS Array B**	**47.45**	**330**	P	P	22 55 49.6	+6.0
	comp=E,2.8nm,0.8s,baz=121,slow=16,SNR=1.7						
JNU	**Nakatsue**	**47.81**	**69**	LR	LR	23 15 00.5	
	comp=E,112nm,20.7s,baz=322,slow=35						
WRA	**Warramunga Arr**	**73.73**	**123**	P	**P**	**22 58 44.3**	**+0.8**
	comp=E,0.2nm,0.5s,baz=325,slow=5.5,SNR=1.5						

ROM 28 23:10:17.1±0.1, 43.°060N±0.°003×12.°988E±0.°005, h14km, ML1.2/5, 1D, Error ellipse: s-maj=0.4km s-min=0.1km az=272.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.08**	**108**	P	Pg	23 10 20.2	+0.3
FDMO				S	Sg	23 10 22.3	+0.3
SNTG	**Esanatoglia**	**0.20**	**350**	P	Pg	23 10 21.8	+0.2
SNTG				S	Sg	23 10 25.3	+0.5
SNTG				AML	AML		
	comp=N,45μm,0.1s						
SNTG				AML	AML		
	comp=E,43μm,0.6s						
SNTG				AML	AML		
	comp=N,57μm,1.3s						
ASSB	**Assisi San Ben**	**0.24**	**266**	P	Pg	23 10 22.7	+0.4
ASSB				S	Sg	23 10 26.6	+0.7
ASSB				AML	AML		
	comp=E,72μm,0.1s						
ASSB				AML	AML		
	comp=N,86μm,0.8s						
NRCA	**Norcia**	**0.24**	**158**	P	Pg	23 10 22.8	+0.4
NRCA				S	Sb	23 10 26.9	-0.7
NRCA				AML	AML		
	comp=N,73μm,0.2s						
NRCA				AML	AML		
	comp=E,49μm,0.1s						
NRCA				AML	AML		
	comp=N,73μm,0.2s						
EL6	**Elcito**	**0.28**	**17**	⇓P	Pg	23 10 23.4	+0.3
ATCC	**AVT- Casa Cast**	**0.28**	**296**	P	Pg	23 10 23.4	+0.3
ATCC				S	Sb	23 10 28.2	-0.5
ATCC				AML	AML		
	comp=E,153μm,0.8s						
ATCC				AML	AML		
	comp=N,122μm,0.7s						
CING	**Cingoli**	**0.35**	**26**	P	Pg	23 10 24.5	+0.2
CING				S	Sb	23 10 30.2	-0.4
CING				AML	AML		
	comp=E,52μm,0.7s						
CING				AML	AML		
	comp=N,58μm,0.6s						
FIAM	**Fiamignano**	**0.80**	**173**	S	Sg	23 10 40.0	-3.1
CPGN	**Carpegna, Ital**	**0.89**	**327**	S	Sn	23 10 49.0	+0.8
CPGN	**Carpegna, Ital**	**0.89**	**327**	P	Pb	23 10 34.6	+0.2
MA9	**Marino**	**1.31**	**191**	P	Pn	23 10 39.5	-1.6

*STR **28** 23:10:37.1±0.9, 43.°N±4.°×1.°1E±.°, h0km, MLv2.7/10, preliminary*
*GEN **28** 23:10:38.1, 43.°16N×11.°03E, h10km±1km, Ml2.5*
*IDC **28** 23:10:38.8±2.9, 43.°36N×10.°81E, h0km, mb3.2/1, mb1 3.2/3, mb1mx2.7/43, mbtmp3.2/3, ML2.7/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/38, Error ellipse: s-maj=95.1km s-min=20.2km az=102.0*
*ROM **28** 23:10:38.2±0.1, 43.°130N±0.°004×11.°005E±0.°006, h8km, Md2.0/6, Error ellipse: s-maj=0.5km s-min=0.4km az=149.0*
*VIE **28** 23:10:39.1±1.1, 43.°12N×11.°03E, h10km, mb2.8/15, ml2.5/16, Error ellipse: s-maj=9.4km s-min=6.8km az=42.0 74 km SSW of Florence*
*LDG **28** 23:10:39.2±0.2, 43.°14N×11.°00E, h10km, Ml2.4/18, Error ellipse: s-maj=4.0km s-min=2.2km az=121.0*
ISC 28 23:10:38.2±0.8, 43.°11N±0.°02×10.°99E±0.°02, h11km±5km, n149, σ1§98/195, 10C-8D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIF	**Trifonti**	**0.06**	**277**	⇓*i*P	**Pg**	**23 10 40.8**	**+0.4**
TRIF				S	**Sg**	**23 10 42.2**	**+0.2**
TRIF				END			
TRIF				END			
FROS	**Frosini**	**0.16**	**51**	⇑*i*P	**Pg**	**23 10 41.5**	**-0.2**
FROS				S	**Sg**	**23 10 43.5**	**-0.8**
FROS				END			
FROS				END			
FROS	**Frosini**	**0.16**	**51**	P	**Pg**	**23 10 41.5**	**-0.2**
FROS				S	**Sg**	**23 10 43.6**	**-0.8**
FROS	**Frosini**	**0.16**	**51**	AML	AML		
	comp=E,25400μm,0.4s						
FROS	**Frosini**	**0.16**	**51**	AML	AML		
	comp=N,25550μm,1.6s						
FROS	**Frosini**	**0.16**	**51**	⇑P	**Pg**	**23 10 41.5**	**-0.2**
CASP	**Castiglione de**	**0.33**	**196**	P	**Pb**	**23 10 46.0**	**-0.1**
CASP				S	**Sb**	**23 10 51.0**	**-0.4**
CASP				END			
CASP				END			
CASP	**Castiglione de**	**0.33**	**196**	AML	AML		
	comp=E,6955μm,0.3s						
CASP	**Castiglione de**	**0.33**	**196**	AML	AML		
	comp=N,17100μm,0.3s						
CASP	**Castiglione de**	**0.33**	**196**	⇓P	**Pb**	**23 10 45.8**	**-0.3**
CSNT	**Castellina Chi**	**0.43**	**31**	⇑*i*P	**Pg**	**23 10 46.4**	**-0.2**
CSNT				S	**Sg**	**23 10 51.9**	**-0.3**
CSNT				END			
CSNT				END			
CSNT	**Castellina Chi**	**0.43**	**31**	P	**Pg**	**23 10 46.4**	**-0.2**
CSNT				S	**Sg**	**23 10 52.0**	**-0.3**
CSNT	**Castellina Chi**	**0.43**	**31**	AML	AML		
	comp=N,1785μm,0.3s						
CSNT	**Castellina Chi**	**0.43**	**31**	AML	AML		
	comp=E,2615μm,0.6s						
CSNT	**Castellina Chi**	**0.43**	**31**	⇑P	**Pg**	**23 10 46.4**	**-0.2**
ARCI	**Arcidosso**	**0.44**	**125**	⇓*i*P	**Pb**	**23 10 47.4**	**-0.7**
ARCI				S	**Sg**	**23 10 53.2**	**+0.5**
ARCI				AML	AML		
	comp=E,1545μm,0.5s						
ARCI				AML	AML		
	comp=N,1700μm,0.4s						
ARCI				END			
OSSC	**Osservatorio P**	**0.46**	**25**	⇑*i*P	**Pg**	**23 10 47.0**	**-0.2**
OSSC				S	**Sg**	**23 10 53.0**	**-0.2**
OSSC				END			
OSSC	**Osservatorio P**	**0.46**	**25**	P	**Pg**	**23 10 47.0**	**-0.2**
OSSC				S	**Sg**	**23 10 52.8**	**-0.4**
OSSC	**Osservatorio P**	**0.46**	**25**	AML	AML		
	comp=E,1650μm,0.5s						
OSSC	**Osservatorio P**	**0.46**	**25**	AML	AML		
	comp=E,1465μm,1.0s						
OSSC	**Osservatorio P**	**0.46**	**25**	AML	AML		
	comp=N,1630μm,0.5s						
OSSC	**Osservatorio P**	**0.46**	**25**	AML	AML		
	comp=N,1460μm,1.0s						
OSSC	**Osservatorio P**	**0.46**	**25**	⇑P	**Pg**	**23 10 47.0**	**-0.2**
MCIV	**Monte Civitell**	**0.60**	**123**	S	**Pg**	**23 10 51.0**	**+1.1**
MCIV	**Monte Civitell**	**0.60**	**123**	⇓*i*P	**Pb**	**23 10 50.3**	**-0.5**
MCIV				S	**Sb**	**23 10 59.5**	**+0.1**
CELB	**S.Piero in Cam**	**0.67**	**238**	P	**Pb**	**23 10 52.4**	**+0.4**
CELB				S	**Sb**	**23 11 01.6**	**+0.3**
CELB	**S.Piero in Cam**	**0.67**	**238**	AML	AML		
	comp=E,2130μm,0.3s						
CELB	**S.Piero in Cam**	**0.67**	**238**	AML	AML		
	comp=N,2540μm,0.3s						
CELB	**S.Piero in Cam**	**0.67**	**238**	⇑P	**Pb**	**23 10 52.4**	**+0.4**
PII	**Pisa**	**0.70**	**332**	P	**Pg**	**23 10 51.7**	**0.0**
PII				S	**Sg**	**23 11 01.4**	**+0.5**
PII	**Pisa**	**0.70**	**332**	P	**Pg**	**23 10 51.7**	**0.0**
PII				S	**Sb**	**23 11 01.6**	**-0.4**
PII	**Pisa**	**0.70**	**332**	AML	AML		
	comp=E,1100μm,0.3s						
PII	**Pisa**	**0.70**	**332**	AML	AML		
	comp=N,945μm,0.3s						
PII	**Pisa**	**0.70**	**332**	⇑P	**Pg**	**23 10 51.7**	**0.0**
SACS	**San Casciano d**	**0.73**	**111**	P	**Pb**	**23 10 52.8**	**-0.1**
SACS				S	**Sb**	**23 11 02.6**	**-0.3**
CAFI	**Castiglion Fio**	**0.75**	**73**	P	**Pg**	**23 10 52.4**	**-0.3**
CAFI				S	**Sg**	**23 11 02.5**	**0.0**
RUFI	**Rufina**	**0.83**	**27**	P	**Pg**	**23 10 53.8**	**-0.3**
RUFI				S	**Sg**	**23 11 04.9**	**+0.1**
RUFI	**Rufina**	**0.83**	**27**	P	**Pg**	**23 10 53.8**	**-0.3**
RUFI				S	**Sg**	**23 11 04.5**	**-0.4**
MGAB	**Montegabbione**	**0.85**	**103**	P	**Pg**	**23 10 54.5**	**-0.1**
MPPT	**Montemurlo**	**0.85**	**5**	*i*P	**Pg**	**23 10 54.3**	**-0.3**
MPPT				S	**Sg**	**23 11 06.1**	**+0.3**
GROG	**Isola di Gorgo**	**0.86**	**292**	P	**Pb**	**23 10 55.4**	**+0.3**
GROG				S	**Sb**	**23 11 07.5**	**+0.9**
CRE	**Caprese Michel**	**0.87**	**54**	S	**Pg**	**23 10 55.0**	**0.0**
CRE	**Caprese Michel**	**0.87**	**54**	P	**Pg**	**23 10 55.0**	**0.0**
MAIM	**Mastiano**	**0.88**	**336**	P	**Pg**	**23 10 54.9**	**-0.2**
MAIM				S	**Sg**	**23 11 06.0**	**-0.6**
ASQU	**Asqua**	**0.90**	**40**	S	**Pg**	**23 10 56.0**	**+0.4**
ASQU	**Asqua**	**0.90**	**40**	⇓*i*P	**Pg**	**23 10 55.5**	**-0.1**
ASQU				S	**Sg**	**23 11 07.0**	**-0.3**
ASQU	**Asqua**	**0.90**	**40**	P	**Pg**	**23 10 55.4**	**-0.1**
ASQU				S	**Sn**	**23 11 09.2**	**-0.9**
CARD	**Cardoso**	**0.99**	**338**	P	**Pg**	**23 10 56.7**	**-0.5**
CARD				S	**Sn**	**23 11 11.8**	**-0.2**
BDI	**Bagni Di Lucca**	**0.99**	**344**	⇓*i*P	**Pg**	**23 10 57.0**	**-0.3**
BDI				S	**Sg**	**23 11 09.9**	**-0.4**
BDI	**Bagni Di Lucca**	**0.99**	**344**	P	**Pg**	**23 10 56.9**	**-0.4**
BDI				S	**Sn**	**23 11 11.9**	**-0.5**
BDI	**Bagni Di Lucca**	**0.99**	**344**	AML	AML		
	comp=E,246μm,0.3s						
BDI	**Bagni Di Lucca**	**0.99**	**344**	AML	AML		
	comp=N,294μm,0.5s						
BDI	**Bagni Di Lucca**	**0.99**	**344**	AML	AML		
	comp=E,254μm,0.3s						
BDI	**Bagni Di Lucca**	**0.99**	**344**	AML	AML		
	comp=N,298μm,0.5s						
BDI	**Bagni Di Lucca**	**0.99**	**344**	⇓P	**Pg**	**23 10 57.1**	**-0.3**
SFI	**Santa Sofia**	**1.01**	**38**	S	**Pg**	**23 10 58.0**	**+0.3**
FNVD	**Fontana Vidola**	**1.06**	**5**	P	**Pg**	**23 10 58.5**	**-0.1**
LMD	**Lutirano**	**1.10**	**28**	P	**Pb**	**23 10 58.7**	**-0.7**
LMD				S	**Sb**	**23 11 13.1**	**-0.6**
LMD	**Lutirano**	**1.10**	**28**	P	**Pb**	**23 10 58.6**	**-0.7**
LMD				S	**Sg**	**23 11 14.0**	**+0.2**
VLC	**Villacollemand**	**1.14**	**338**	P	**Pb**	**23 10 59.3**	**-0.6**
VLC				S	**Sn**	**23 11 15.9**	**+0.2**
VLC	**Villacollemand**	**1.14**	**338**	AML	AML		
	comp=E,73μm,0.4s						
VLC	**Villacollemand**	**1.14**	**338**	AML	AML		
	comp=N,111μm,0.7s						
VLC	**Villacollemand**	**1.14**	**338**	AML	AML		
	comp=E,78μm,1.2s						
VLC	**Villacollemand**	**1.14**	**338**	AML	AML		
	comp=N,104μm,1.5s						
VLC	**Villacollemand**	**1.14**	**338**	⇓P	**Pb**	**23 10 59.3**	**-0.6**
SARO	**Sassorosso**	**1.16**	**339**	P	**Pb**	**23 10 58.5**	**-1.7**
SARO				S	**Sn**	**23 11 18.2**	**+1.9**
EQUI	**Equi**	**1.22**	**331**	P	**Pn**	**23 11 00.3**	**-0.9**
EQUI				S	**Sn**	**23 11 18.1**	**+0.4**
ZCCA	**Zocca**	**1.24**	**360**	P	**Pg**	**23 11 02.1**	**+0.1**
PE3	**Peglio**	**1.25**	**61**	AML	AML		
	comp=E,8μm,1.3s						
PE3				AML	AML		
	comp=N,7μm,1.2s						
GSCL	**Gusciola**	**1.27**	**347**	P	**Pn**	**23 11 01.2**	**-0.8**
GSCL				S	**Sg**	**23 11 19.3**	**0.0**
MTRZ	**Monterenzio**	**1.31**	**15**	P	**Pg**	**23 11 03.9**	**+0.4**
GRAM	**Graiana**	**1.54**	**335**	P	**Pn**	**23 11 05.6**	**0.0**
PGF	**Pioggiola**	**1.56**	**250**	*e*Pn	**Pn**	**23 11 05.5**	**-0.5**
PGF	**Pioggiola**	**1.56**	**250**	*e*P	**Pb**	**23 11 07.4**	**+0.2**
PGF				*e*Sn	**Sn**	**23 11 25.0**	**-1.4**
	comp=N,22nm,0.3s						
PGF	**Pioggiola**	**1.56**	**250**	P	**Pn**	**23 11 05.9**	**-0.1**
PGF				S	**Sb**	**23 11 26.8**	**-0.3**
CORF	**Corte**	**1.57**	**240**	P	**Pn**	**23 11 06.0**	**-0.1**
SMPL	**Sampolo**	**1.61**	**232**	P	**Pn**	**23 11 07.2**	**+0.6**
SMPL				S	**Sb**	**23 11 28.5**	**+0.1**
AJAC	**Base Areonaval**	**2.02**	**235**	P	**Pn**	**23 11 12.8**	**+0.6**
SAOF	**Saorge**	**2.64**	**291**	P	**Pn**	**23 11 20.4**	**-0.4**
MILN	**Milano**	**2.69**	**333**	S	**Sg**	**23 12 08.0**	**+3.6**
SBF	**Sospel**	**2.69**	**288**	*e*Pn	**Pn**	**23 11 20.9**	**-0.6**
SBF	**Sospel**	**2.69**	**288**	*e*P	**Pn**	**23 11 23.1**	**+1.6**
SBF				*e*Sn	**Sn**	**23 11 50.5**	**-3.6**
	comp=N,3.7nm,0.3s						
TURF	**col de Turini**	**2.75**	**290**	P	**Pn**

WTTA eSn Sn 23 12 33.1 +2.1
comp=N,4.4nm,0.4s
MOTA Moosalm 4.24 1 *i* Pn Pn 23 11 44.6 +1.8
comp=N,4.0nm,0.5s,SNR=5.6
MOTA eSn Sn 23 12 35.2 +2.8
comp=N,2.8nm,0.4s
OBKA Obir 4.24 35 *i* Pn Pn 23 11 42.6 -0.3
comp=N,0.6nm,0.4s
OBKA eSn Sn 23 12 34.7 +2.3
comp=N,3.1nm,0.6s
WATA Walderalm 4.25 5 *i* Pn Pn 23 11 44.9 +1.9
comp=N,2.6nm,0.3s
WATA eSn Sn 23 12 36.6 +3.9
comp=N,5.6nm,0.5s
DAVA Damuels 4.25 350 *e*Pn Pn 23 11 45.1 +2.1
KBA Koelnbreinsper 4.31 22 *i* Pn Pn 23 11 44.2 +0.4
comp=N,1.5nm,0.3s,SNR=4.7
KBA eSn Sn 23 12 35.4 +1.2
comp=N,1.7nm,0.4s
LSTV Lastovo 4.35 92 *e*Pn Pn 23 11 44.7 +0.5
LSTV Sn Sn 23 12 30.6 -4.3
RETA Reutte 4.38 358 *i* Pn Pn 23 11 46.7 +2.0
SNR=13
RETA eSn Sn 23 12 37.9 +2.1
comp=N,2.2nm,0.5s
RICI Ricice 4.50 83 *e*Pn Pn 23 11 46.8 +0.5
RICI Sn Sn 23 12 33.7 -5.0
OGSM Saint Maurice 4.54 305 P Pn 23 11 49.8 +2.9
SOKA Soboth 4.58 37 *i* Pn Pn 23 11 49.3 +1.8
comp=N,0.3nm,0.2s
VIVF Saint-Julien-l 4.88 293 *e*P Pn 23 11 54.0 +2.5
VIVF eSn Sn 23 12 43.0 -5.0
comp=N,0.9nm,0.3s
CABF La Chapelle 4.94 317 *e*Pn Pn 23 11 51.0 -1.4
CABF eSn Sn 23 12 44.8 -4.8
comp=N,0.6nm,0.2s
LASF Ste Croix 5.27 283 *e*Pn Pn 23 11 55.4 -1.5
LASF Ste Croix 5.27 283 *e*P Pn 23 11 59.6 +2.7
LASF eSn Sn 23 12 54.0 -3.6
comp=N,0.1nm,0.2s
MOA Molln 5.27 25 *i* Pn Pn 23 11 57.3 +0.3
comp=N,1.2nm,0.5s
HINF Hinteralfeld 5.53 330 *e*Pn Pn 23 11 59.3 -1.2
HINF Hinteralfeld 5.53 330 *e*P Pn 23 12 03.0 +2.5
HINF eSn Sn 23 12 58.4 -5.7
comp=N,0.4nm,0.2s
HAU Haudompre 5.88 328 *e*Pn Pn 23 12 04.7 -0.6
HAU Haudompre 5.88 328 *e*P Pn 23 12 06.2 +0.9
CDF Champ du Feu 5.91 335 *e*Pn Pn 23 12 04.2 -1.5
CDF eSn Sn 23 13 07.3 -6.1
comp=N,0.6nm,0.2s
GERES GERESS Array B 6.04 17 Pn Pn 23 12 06.5 -1.0
comp=N,0.1nm,0.3s,baz=198,slow=12,SNR=2.4
GERES Sn Sn 23 13 12.5 -4.3
comp=N,0.1nm,0.3s,baz=200,slow=24,SNR=1.4
SMF Signal de Mont 6.19 307 *e*Pn Pn 23 12 09.4 -0.1
SMF Signal de Mont 6.19 307 *e*P Pn 23 12 12.2 +2.7
MTLF Montolieu 6.41 275 *e*Pn Pn 23 12 11.2 -1.3
LOR Lormes 6.53 312 *e*Pn Pn 23 12 12.8 -1.4
baz=138
AVF Avril sur Loir 6.55 307 *e*Pn Pn 23 12 13.8 -0.6
PAGF Fort de Pagny 6.57 328 *e*Pn Pn 23 12 13.8 -0.9
baz=148
SSF Saint Saulge 6.61 309 *e*Pn Pn 23 12 13.5 -1.7
SSF eSn Sn 23 12 25.9 -4.6
comp=N,0.2nm,0.2s
BGF Bois d'Agland 6.74 304 *e*Pn Pn 23 12 14.9 -2.1
BGF eSn Sn 23 13 29.6 -4.1
comp=N,1.9nm,0.3s
KEST Kesra 7.47 190 Pn Pn 23 12 31.6 +4.3
comp=N,0.5nm,0.3s,baz=11,slow=5.2,SNR=22
KEST Sn Sn 23 13 55.8 +3.8
comp=N,0.0nm,0.3s,baz=47,slow=19,SNR=1.2
EPF Esparros 7.80 273 *e*Pn Pn 23 12 30.8 -0.8
EPF eSn Sn 23 13 54.7 -5.2
comp=N,0.5nm,0.3s
GIVF Givet 8.18 331 *e*Pn Pn 23 12 35.2 -1.6
GIVF Givet 8.18 331 *e*P Pn 23 12 41.1 +4.3
ETSF Etsaut 8.46 273 *e*Pn Pn 23 12 39.6 -1.2
ETSF Etsaut 8.46 273 *e*P Pn 23 12 44.2 +3.4
MBAR Mbarara 46.99 152 LR LR 23 40 20.2
comp=N,86nm,18.1s,baz=298,slow=38
MKAR Makanchi Array 49.00 60 P P 23 19 27.2 +2.4
comp=N,0.2nm,0.7s,baz=300,slow=5.9,SNR=2.6

*IDC **28** 23:19:13.8±0.7, 31°.66S×68°.77W, h98km±5km, mb3.6/6, mb1 3.9/1, mb1mx3.7/34, mbtmp4.1/11, Error ellipse: s-maj=25.0km s-min=14.0km az=86.0*
*SJA **28** 23:19:14.1±0.6, 31°.73S×68°.67W, h109km±2km, ML4.2, MW4.0*
*NEIC **28** 23:19:15.2±2.7, 31°.73S±0°.03×68°.8W±0°.1, h118km±7km, mb4.4/9, Error ellipse: s-maj=15.2km s-min=3.5km az=96.0*
ISC 28 23:19:14.2±0.5, 31°.70S±0°.04×68°.70W±0°.03, h107km±5km, n92, σ1§87/127, mb4.0/9, 5C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.21**	**140**	*e*S	**Pn**	**23 19 30.2**	**+0.8**
RTCV				*e*P	**Pn**	**23 19 30.2**	**+0.8**
RTCV				*e*S	**Sn**	**23 19 41.5**	**+0.7**
RTLS	**Leoncito**	**0.52**	**259**	*e*S	Sn	23 19 26.5	-18
RTLS				*e*P	**Pn**	**23 19 32.5**	**+1.2**
RTLS				*e*S	**Sn**	**23 19 46.1**	**+2.0**
RTLS				IAML		23 19 46.3	
comp=Z,4μm,0.5s							
AUSP	**Uspallata**	**0.79**	**228**	*e*P	**Pn**	**23 19 34.3**	**+0.9**
AUSP				*e*S	**Sn**	**23 19 48.5**	**+0.7**
ASAL	**Salagasta**	**0.89**	**188**	*e*P	**Pn**	**23 19 34.9**	**+0.6**
ASAL				*e*S	**Sn**	**23 19 47.5**	**-1.8**
ARCO	**CERRO ARCO**	**1.15**	**190**	*e*P	**Pn**	**23 19 37.5**	**+0.5**
ARCO				*e*S	**Sn**	**23 19 56.1**	**+1.8**
ARCO				IAML		23 19 56.9	
comp=Z,3μm,0.7s							
ACCO	**Cerro Coronel**	**1.16**	**344**	*e*P	**Pn**	**23 19 38.0**	**+0.7**
ACCO				*e*S	Sn	23 19 38.6	-16
AAGR	**Agrelo**	**1.38**	**185**	*e*P	**Pn**	**23 19 40.4**	**+0.7**
ACDV	**Cuesta del Vie**	**1.57**	**346**	*e*P	**Pn**	**23 19 43.5**	**+1.6**
VA03	**San Esteban**	**1.90**	**236**	*e*P	**Pn**	**23 19 48.0**	**+2.1**
VA03				*e*S	**Sn**	**23 20 12.5**	**+2.5**
VA03				IAML		23 20 17.2	
comp=E,1μm,0.5s							
VA03	**San Esteban**	**1.90**	**236**		**Pn**	**23 19 47.2**	**+1.3**
VA03				Sn	**Sn**	**23 20 12.3**	**+2.3**
CO03	**El Pedregal**	**1.91**	**296**	⇑*i*P	**Pn**	**23 19 47.8**	**+1.7**
CO03				*e*S	**Sn**	**23 20 12.5**	**+2.2**
CO03	**El Pedregal**	**1.91**	**296**		**Pn**	**23 19 47.7**	**+1.7**
CO03				Sn	**Sn**	**23 20 12.7**	**+2.4**
CO03	**El Pedregal**	**1.91**	**296**	*e*P	**Pn**	**23 19 48.2**	**+2.2**
CO03				*e*S	**Sn**	**23 20 13.8**	**+3.4**
CO03				IAML		23 20 14.3	
comp=Z,1μm,0.7s							
PEL	**Peldehue**	**2.21**	**229**	*e*P	**Pn**	**23 19 51.7**	**+1.8**
PEL				*i*S	**Sn**	**23 20 18.6**	**+1.4**
PEL				IAML		23 20 19.9	
comp=N,558nm,0.5s							
PEL	**Peldehue**	**2.21**	**229**		**Pn**	**23 19 51.9**	**+2.1**
PEL				Sn	**Sn**	**23 20 18.0**	**+0.8**
ROCH	**El Roble**	**2.33**	**237**	*e*P	**Pn**	**23 19 52.3**	**+0.7**
ROCH				*e*S	**Sn**	**23 20 20.7**	**+0.4**
ROCH				IAML		23 20 24.4	
comp=N,998nm,0.5s							
ROC1	**El Roble**	**2.34**	**236**	Pn	**Pn**	**23 19 51.9**	**+0.2**
ROC1				Sn	**Sn**	**23 20 19.7**	**-0.7**
GO04	**Tololo Observa**	**2.36**	**310**	⇑*i*P	**Pn**	**23 19 53.0**	**+1.0**
GO04	**Tololo Observa**	**2.36**	**310**		**Pn**	**23 19 52.9**	**+0.9**
GO04				Sn	**Sn**	**23 20 22.7**	**+1.7**
GO04	**Tololo Observa**	**2.36**	**310**	*e*P	**Pn**	**23 19 47.5**	**-4.5**
GO04				*e*P		23 19 53.5	
GO04				*e*S	**Sn**	**23 20 24.1**	**+3.1**
MT05	**Renca**	**2.41**	**225**	IAML		23 20 32.2	
comp=E,1μm,0.4s							
MT05	**Renca**	**2.41**	**225**		**Pn**	**23 19 54.4**	**+2.0**
MT05				Sn	**Sn**	**23 20 23.9**	**+2.1**
MT05	**Renca**	**2.41**	**225**	*e*P	**Pn**	**23 19 53.8**	**+1.3**
MT05				*e*S	**Sn**	**23 20 19.5**	**-2.3**
LMEL	**Las Melosas**	**2.49**	**210**	⇑*e*P	**Pn**	**23 19 55.5**	**+1.9**
LMEL				*e*S	**Sn**	**23 20 27.0**	**+3.3**
LMEL				IAML		23 20 35.7	
comp=N,281nm,0.4s							
LMEL	**Las Melosas**	**2.49**	**210**	Pn	**Pn**	**23 19 55.0**	**+1.5**
LMEL					**Sn**	**23 20 26.5**	**+2.7**
MT02	**Curacav**	**2.58**	**232**		**Pn**	**23 19 55.7**	**+1.1**
MT02					**Sn**	**23 20 25.2**	**-0.5**
MT02	**Curacav**	**2.58**	**232**	*e*P	**Pn**	**23 19 55.7**	**+1.1**
MT02				*e*S	**Sn**	**23 20 19.5**	**-6.2**
MT02				*e*S		23 20 26.5	
MRA	**San Martin**	**2.63**	**107**	*e*P	**Pn**	**23 19 56.0**	**+0.7**
MRA				*e*S	**Sn**	**23 20 25.0**	**-1.9**
MRA				IAML		23 20 29.0	
comp=Z,2μm,0.9s							
CO06	**Fray Jorge**	**2.72**	**291**	*e*P	**Pn**	**23 19 56.0**	**-0.4**
CO06				*e*S	**Sn**	**23 20 25.6**	**-3.3**
CO06				IAML		23 20 38.8	
comp=N,929nm,0.3s							
CO06	**Fray Jorge**	**2.72**	**291**		**Pn**	**23 19 56.1**	**-0.4**
ACLC	**CERRO LA CRUZ**	**2.72**	**34**	*e*P	**Pn**	**23 19 57.8**	**+1.1**
ACLC				*e*S	**Sn**	**23 20 30.5**	**+1.2**
ACLC				IAML		23 21 00.3	
comp=Z,788nm,0.4s							
BO04	**La Punta**	**2.79**	**215**⇑	*e*P	**Pn**	**23 19 58.7**	**+1.3**
BO04				IAML		23 20 36.5	
comp=N,346nm,0.5s							
CO05	**La Serena**	**2.82**	**308**	*e*P	**Pn**	**23 19 57.8**	**+0.1**
CO05				IAML		23 20 31.7	
comp=E,2μm,0.4s							
CO05	**La Serena**	**2.82**	**308**		**Pn**	**23 19 57.9**	**+0.1**
VA01	**Torpederas**	**2.82**	**241**		**Pn**	**23 19 57.7**	**-0.1**
MT09	**Talagante**	**2.83**	**222**⇑	*e*P	**Pn**	**23 19 58.5**	**+0.5**
MT09				*e*S	**Sn**	**23 20 32.1**	**+0.3**
MT09				IAML		23 20 34.2	
comp=E,503nm,0.5s							
MT09	**Talagante**	**2.83**	**222**		**Pn**	**23 19 58.7**	**+0.7**
VCA	**Vinchina**	**2.99**	**8**	*e*P	**Pn**	**23 20 01.4**	**+1.2**
VCA				*e*S	**Sn**	**23 20 39.2**	**+3.7**
VCA				IAML		23 20 42.8	
comp=Z,629nm,0.2s							
MT01	**Popeta**	**3.05**	**224**	*e*P	**Pn**	**23 20 00.7**	**-0.1**
MT01				*e*S	**Sn**	**23 20 35.5**	**-1.2**
MT01				IAML		23 20 37.1	
comp=E,326nm,0.2s							
MT01	**Popeta**	**3.05**	**224**		**Pn**	**23 20 01.0**	**+0.2**
MT01	**Popeta**	**3.05**	**224**	*e*P	**Pn**	**23 20 01.8**	**+1.0**
MT01				*e*S	Sn	23 20 26.5	-10
MT01				*e*S		23 20 36.2	
RFA	**San Rafael**	**3.07**	**176**	*e*P	**Pn**	**23 20 01.9**	**+0.8**
VA05	**Santo Domingo**	**3.14**	**231**		**Pn**	**23 20 04.2**	**+2.2**
LCO	**Las Campanas**	**3.19**	**327**	Pn	**Pn**	**23 20 03.8**	**+0.8**
BO01	**Tunca**	**3.35**	**216**		**Pn**	**23 20 05.0**	**+0.2**
BO01	**Tunca**	**3.35**	**216**	*e*P	**Pn**	**23 20 05.7**	**+0.9**
BO01				*e*S	**Sn**	**23 20 45.1**	**+1.2**
TCA	**Tanti**	**3.52**	**85**	*e*P	**Pn**	**23 20 07.6**	**+0.5**
TCA				*e*S	**Sn**	**23 20 48.6**	**+0.5**
TCA				IAML		23 21 04.8	
comp=Z,338nm,0.5s							
BO02	**Sierra Bellavi**	**3.54**	**209**	Pn	**Pn**	**23 20 08.7**	**+1.2**
BO02	**Sierra Bellavi**	**3.54**	**209**	*e*S	Sn	23 20 38.5	-10
AC04	**Llanos de Chal**	**4.05**	**329**	Pn	**Pn**	**23 20 14.4**	**+0.2**
GO05	**Huala**	**4.27**	**218**	Pn	**Pn**	**23 20 17.2**	**+0.1**
GO03	**Copiap**	**4.31**	**342**	Pn	**Pn**	**23 20 18.1**	**+0.4**
ML02	**Panimavida**	**4.64**	**209**	Pn	**Pn**	**23 20 21.5**	**-0.7**
AC02	**Maricunga**	**4.86**	**355**	Pn	**Pn**	**23 20 27.3**	**+1.6**
LC01	**Cunco**	**7.63**	**199**	Pn	**Pn**	**23 21 02.3**	**-0.4**
PB10	**IPOC Station P**	**8.32**	**348**	Pn	**Pn**	**23 21 10.2**	**-1.9**
LVC	**Limon Verde**	**9.06**	**359**	P	**Pn**	**23 21 20.3**	**-2.1**
comp=Z,7.5nm,0.3s,baz=206,slow=8.4,SNR=73							
LVC				S	**Sn**	**23 22 57.7**	**-5.1**
comp=Z,0.7nm,0.3s,baz=209,slow=19,SNR=1.3							
PLCA	**Paso Flores**	**9.14**	**189**	P	**Pn**	**23 21 22.2**	**-0.9**
comp=Z,0.4nm,0.3s,baz=11,slow=11,SNR=14							
PB03	**IPOC Station P**	**9.66**	**354**	Pn	**Pn**	**23 21 26.9**	**-3.6**
LL04	**Puerto Octay**	**9.66**	**197**	Pn	**Pn**	**23 21 26.8**	**-3.4**
PB07	**IPOC Station P**	**9.99**	**354**		**Pn**	**23 21 31.5**	**-3.5**
PB02	**IPOC Station P**	**10.40**	**354**	Pn	**Pn**	**23 21 37.7**	**-2.7**
PB01	**IPOC Station P**	**10.64**	**356**		**Pn**	**23 21 39.2**	**-4.5**
CPUP	**Villa Florida**	**11.29**	**65**	P	**Pn**	**23 21 54.1**	**+1.8**
comp=Z,0.5nm,0.3s,baz=222,slow=9.4,SNR=4.5							
CPUP	**Villa Florida**	**11.29**	**65**		**Pn**	**23 21 53.2**	**+0.8**
PB11	**IPOC Station P**	**11.92**	**356**	Pn	**Pn**	**23 21 56.1**	**-4.8**
GO01	**Chusmiza**	**11.99**	**358**		**Pn**	**23 21 59.1**	**-3.0**
PB16	**IPOC Station P**	**13.33**	**357**	Pn	**Pn**	**23 22 17.3**	**-2.5**
LPAZ	**La Paz**	**15.35**	**2**	P	**Pn**	**23 22 45.1**	**-0.7**
comp=Z,0.7nm,0.3s,baz=187,slow=7.8,SNR=22							
LPAZ	**La Paz**	**15.35**	**2**	Pn	**Pn**	**23 22 46.2**	**+0.4**
GO08	**Villa O'Higgin**	**17.00**	**189**	Pn	**Pn**	**23 23 02.4**	**-2.8**
SIV	**San Ignacio**	**17.11**	**26**	P	**P**	**23 23 07.3**	**+0.4**
comp=Z,0.5nm,0.3s,baz=208,slow=9.5,SNR=23							
GO09	**Cerro Castillo**	**19.74**	**187**	P	**P**	**23 23 35.9**	**+0.6**
GO09				IAmb	IAmb	23 23 55.8	
comp=Z,10.0nm,0.8s							
VILB	**Vilhena**	**20.23**	**25**	P	**P**	**23 23 41.7**	**+0.7**
VILB				IAmb	IAmb	23 23 44.3	
comp=Z,8.5nm,0.8s							
EFI	**East Falkland**	**21.43**	**162**	P	**P**	**23 23 53.4**	**-0.1**
EFI				IAmb	IAmb	23 23 55.5	
comp=Z,17nm,0.6s							
USHA	**Ushuaia**	**23.12**	**180**	P	**P**	**23 24 12.1**	**+1.4**
comp=Z,9.3nm,0.8s,baz=353,slow=8.6,SNR=5.7							
SMAI	**San Martin Ant**	**36.48**	**179**	P	**P**	**23 26 06.3**	**-2.2**
SMAI				IAmb	IAmb	23 26 14.1	
comp=Z,10nm,1.0s							
CELP	**Cerrillos**	**49.53**	**3**	P	**P**	**23 27 53.6**	**-0.5**
SNAA	**Sanae**	**52.67**	**159**	P	**P**	**23 28 18.0**	**+0.9**
comp=Z,1.3nm,0.8s,baz=279,slow=8.4,SNR=7.3							
QSPA	**South Pole Qui**	**58.53**	**180**	P	**P**	**23 29 00.4**	**+1.2**
QSPA				IAmb	IAmb	23 29 13.9	
comp=Z,3.4nm,1.1s							
TXAR	**Lajitas Array**	**69.21**	**328**	P	**P**	**23 30 11.0**	**+1.5**
comp=Z,0.5nm,0.6s,baz=159,slow=8.7,SNR=8.9							
TXAR				pP	**PcP**	**23 30 34.2**	**+1.6**
comp=Z,0.3nm,0.6s,baz=186,slow=7.5,SNR=3.0							
TXAR	**Lajitas Array**	**69.21**	**328**	P	**P**	**23 30 10.6**	**+1.1**
BOSA	**Boshof**	**78.61**	**117**	P	**P**	**23 31 05.9**	**+1.3**
comp=Z,0.6nm,0.4s,baz=149,slow=5.9,SNR=1.5							
TORD	**Torodi Ar. Bea**	**80.77**	**68**	P	**P**	**23 31 16.1**	**0.0**
comp=Z,1.1nm,0.5s,baz=282,slow=6.3,SNR=10							
TORD				pP	**pP**	**23 31 42.8**	**-1.2**
comp=Z,1.2nm,0.7s,baz=258,slow=4.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**80.77**	**68**	P	**P**	**23 31 15.2**	**-1.0**
PDAR	**Pinedale Array**	**83.06**	**331**	P	**P**	**23 31 28.1**	**+0.3**
comp=Z,0.4nm,0.7s,baz=124,slow=4.9,SNR=2.9							
YKA	**Yellowknife Ar**	**100.82**	**340**	P	**Pdif**	**23 32 50.3**	**+0.2**
comp=Z,0.1nm,0.2s,baz=140,slow=3.9,SNR=2.7							
ASAR	**Alice Springs**	**120.85**	**204**	PKP	**PKPdf**	**23 37 53.0**	**-1.4**
comp=Z,0.3nm,0.6s,baz=160,slow=3.8,SNR=2.3							
WRA	**Warramunga Arr**	**124.10**	**206**	PKP	**PKPdf**	**23 38 00.6**	**-0.1**
comp=Z,1.0nm,0.4s,baz=154,slow=1.8,SNR=17							
ZALV	**Zalesovo Beam**	**150.78**	**33**	PKPbc	**PKiKP**	**23 38 54.6**	**+0.5**
comp=Z,3.9nm,0.6s,baz=306,slow=3.0,SNR=20							
ZALV				pPKPbc	**pPKPbc**	**23 39 20.5**	**-2.4**
comp=Z,0.8nm,0.4s,baz=319,slow=3.0,SNR=3.1							
MKAR	**Makanchi Array**	**153.14**	**48**	PKPbc	**PKiKP**	**23 38 59.8**	**+0.5**
comp=Z,0.5nm,0.7s,baz=299,slow=2.5,SNR=6.2							
MKAR				PKPab	**PKPab**	**23 39 12.0**	**+0.8**
comp=Z,0.8nm,0.6s,baz=293,slow=4.2,SNR=9.2							
MKAR				pPKPbc	**pPKPbc**	**23 39 27.4**	**-1.1**
comp=Z,0.5nm,0.7s,baz=309,slow=3.0,SNR=3.6							
SONM	**Songino Array**	**163.46**	**12**	PKPab	**PKPab**	**23 39 57.0**	**+1.2**
comp=Z,0.2nm,0.4s,baz=348,slow=3.4,SNR=2.3							

*IDC **28** 23:22:06.2±1.1, 35°.55N×3°.92W, h0km, mb3.5/4, mb1 3.6/8, mb1mx3.3/53, mbtmp3.4/8, ML3.3/4, Error ellipse: s-maj=31.7km s-min=17.0km az=90.0*
*SFS **28** 23:22:07.0, 35°.53N×3°.53W, ML3.2, ALBORAN SUR*
*CNRM **28** 23:22:08.2, 35°.48N×3°.78W, h20km, ml3.4*
*IGIL **28** 23:22:09.4, 35°.54N×3°.84W, h0km, ML3.0*
*LDG **28** 23:22:10.1, 35°.39N×3°.60W, h30km*
ISC 28 23:22:08.0±1.1, 35°.52N±0°.03×3°.78W±0°.03, h16km±8km, n49, σ2§36/65, mb3.7/4, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.33**	**204**	P	**Pg**	**23 22 14.6**	**-0.2**
PALE				S	**Sg**	**23 22 18.9**	**-0.6**
GOG	**Mont Gurugu**	**0.70**	**115**	P	**Pg**	**23 22 20.8**	**-1.0**
GOG				S	**Sg**	**23 22 30.0**	**-1.1**
AKLM	**AKL**	**1.01**	**184**	P	**Pb**	**23 22 26.9**	**-0.3**
AKLM				S	**Sb**	**23 22 39.1**	**-1.2**
CHAS	**Isla Isabel II**	**1.15**	**107**	*e*P	**Pn**	**23 22 27.6**	**-1.9**
CHAS				*e*S	**Sb**	**23 22 41.9**	**-2.3**
CHEFC	**Chefchaouen**	**1.34**	**253**	P	**Pn**	**23 22 32.3**	**+0.1**
CHEFC				S	**Sn**	**23 22 49.3**	**-0.5**
EMAL	**Malaga-Limoner**	**1.35**	**337**	*e*P	**Pn**	**23 22 31.4**	**-0.7**
EMAL				*e*S	**Sb**	**23 22 50.5**	**+0.6**
CEU	**Ceuta**	**1.35**	**287**	*e*P	**Pn**	**23 22 29.9**	**-2.3**
CEU				*e*S	**Sn**	**23 22 44.8**	**-5.1**
JBK	**JBK**	**1.54**	**140**	P	**Pn**	**23 22 34.4**	**-0.8**
JBK				S	**Sn**	**23 22 54.7**	**-0.3**
SICH	**Sidi Chahed**	**1.90**	**222**	P	**Pn**	**23 22 40.0**	**+0.2**
SICH				S	**Sn**	**23 23 02.2**	**-1.2**
LCRM	**LCR**	**2.04**	**206**	P	**Pn**	**23 22 41.7**	**-0.1**
LCRM				S	**Sn**	**23 23 08.6**	**+1.6**
IFR	**Ifrane**	**2.29**	**210**	*e*P	**Pn**	**23 22 44.8**	**-0.5**
IFR				*e*S	**Sn**	**23 23 11.7**	**-1.6**
MD31	**MD31**	**2.77**	**197**	P	**Pn**	**23 22 52.0**	**+0.1**
MDT	**Midelt**	**2.79**	**195**	Pn	**Pn**	**23 22 52.2**	**+0.1**
2.0nm,0.3s,baz=183,slow=12,SNR=44							
MDT				Sn	**Sn**	**23 23 22.4**	**-3.1**
6.2nm,0.3s,baz=84,slow=16,SNR=5.9							
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**23 22 52.7**	**+0.6**
PVAQ	**Vaqueiros**	**3.69**	**302**	P	**Pn**	**23 23 04.7**	**+0.3**
PVAQ				S	**Sn**	**23 23 47.3**	**-0.4**
FIGM	**Figuig**	**3.98**	**148**	P	**Pn**	**23 23 09.8**	**+1.3**
ESDC	**Sonseca Array**	**4.15**	**358**	Pn	**Pn**	**23 23 12.3**	**+1.6**
0.9nm,0.3s,baz=177,slow=12,SNR=33							
ESDC				Sn	**Sn**	**23 23 59.4**	**+0.4**
0.5nm,0.3s,baz=190,slow=24,SNR=1.2							
ESDC				Lg	Lg	23 24 16.5	
0.8nm,0.3s,baz=176,slow=27,SNR=1.1							
MESJ	**Messejana**	**4.25**	**304**	*e*P	**Pn**	**23 23 12.8**	**+0.6**
MESJ				*e*S	**Sn**	**23 23 59.2**	**-2.4**
MESJ				IAML		23 24 03.9	
comp=N,21nm,0.3s							
MORF	**Marmelete**	**4.32**	**296**	*e*P	**Pn**	**23 23 13.7**	**+0.6**
MORF				*e*S	**Sn**	**23 24 00.4**	**-2.7**
MORF				IAML		23 24 04.7	
comp=N,39nm,0.2s							
PESTR	**Estremoz**	**4.52**	**319**	P	**Pn**	**23 23 17.1**	**+1.3**
EVO	**Evora**	**4.53**	**313**	*e*P	**Pn**	**23 23 16.9**	**+0.9**
EVO				*e*S	**Sn**	**23 24 07.1**	**-1.2**
TZRR	**Tazzarine**	**4.96**	**198**	P	**Pn**	**23 23 21.5**	**-0.4**
OUZM	**OUZ**	**5.23**	**209**	P	**Pn**	**23 23 26.4**	**+0.6**
OUK	**Oukaimeden**	**5.50**	**220**	P	**Pn**	**23 23 28.7**	**-0.9**
TTIG	**Tnine Tigouga,**	**6.32**	**220**	P	**Pn**	**23 23 38.8**	**-1.8**
ETSF	**Etsaut**	**7.78**	**18**	*e*Pn	**Pn**	**23 24 00.8**	**+0.2**
ETSF	**Etsaut**	**7.78**	**18**	*e*P	**Pn**	**23 24 05.4**	**+4.8**
ETSF				*e*Sn	**Sn**	**23 25 22.7**	**-5.7**
comp=N,0.2nm,0.2s							
SJPF	**Ste Jean**	**7.84**	**14**	*e*Pn	**Pn**	**23 24 01.7**	**+0.3**
SJPF	**Ste Jean**	**7.84**	**14**	*e*P	Pn	23 24 06.7	+5.3
SJPF				*e*Sn	**Sn**	**23 25 24.2**	**-5.5**
comp=N,0.3nm,0.3s							
EPF	**Esparros**	**8.15**	**22**	*e*Pn	**Pn**	**23 24 05.5**	**-0.2**
EPF	**Esparros**	**8.15**	**22**	*e*P	Pn	23 24 10.9	+5.2
EPF				*e*Sn	**Sn**	**23 25 30.5**	**-7.0**
comp=N,0.2nm,0.3s							
MTLF	**Montolieu**	**9.08**	**29**	*e*Pn	**Pn**	**23 24 17.8**	**-0.6**
MTLF	**Montolieu**	**9.08**	**29**	*e*P	**Pn**	**23 24 22.4**	**+4.0**
LASF	**Ste Croix**	**10.36**	**32**	*e*P	**Pn**	**23 24 39.0**	**+3.0**
LASF				*e*Sn	Sn	23 26 24.5	-7.3
comp=N,0.9nm,0.5s							
CAF	**Calviac**	**10.40**	**24**	*e*Pn	**Pn**	**23 24 35.5**	**-1.0**
KEST	**Kesra**	**10.69**	**85**	Pn	**Pn**	**23 24 43.6**	**+3.1**
comp=N,0.0nm,0.3s,baz=202,slow=22,SNR=1.4							
LMR	**La Mourre**	**11.14**	**42**	*e*P	**Pn**	**23 24 50.3**	**+3.8**
MFF	**Saint Martin d**	**11.40**	**13**	*e*P	Pn	23 24 55.2	+5.0
PGF	**Ploggiola**	**12.15**	**51**	*e*P	**Pn**	**23 25 04.3**	**+3.7**
QUIF	**Quistinic**	**12.39**	**2**	*e*P	Pn	23 25 08.9	+5.2
SGMF	**Saint Gilles**	**12.76**	**4**	*e*P	**Pn**	**23 25 11.5**	**+2.8**
ROSF	**Rostrenen**	**12.81**	**2**	*e*Pn	**Pn**	**23 25 07.7**	**-1.7**
ROSF	**Rostrenen**	**12.81**	**2**	*e*P	**Pn**	**23 25 13.6**	**+4.2**
GRR	**Gorron**	**13.04**	**9**	*e*P	**Pn**	**23 25 16.9**	**+4.4**
GERES	**GERESS Array B**	**18.52**	**39**	P	**Pn**	**23 26 25.0**	**+1.2**
comp=N,0.2nm,0.3s,baz=210,slow=5.7,SNR=1.7							
TORD	**Torodi Ar. Bea**	**22.82**	**166**	P	**P**	**23 27 11.6**	**+1.2**
comp=N,0.8nm,1.0s,baz=353,slow=10,SNR=1.9							
MKAR	**Makanchi Array**	**62.70**	**50**	P	**P**	**23 32 32.1**	**+0.1**
comp=N,0.5nm,0.7s,baz=318,slow=4.8,SNR=4.7							
YKA	**Yellowknife Ar**	**67.81**	**332**	P	**P**	**23 33 05.3**	**+0.4**
comp=N,0.4nm,0.5s,baz=56,slow=6.9,SNR=6.8							
PDAR	**Pinedale Array**	**76.82**	**313**	P	**P**	**23 33 59.5**	**+0.1**
comp=N,0.4nm,0.7s,

CMAR	**Chiang Mai Arr**	**54.84 257**	P		P		23 33 14.6 +1.7
	comp=E,0.5nm,0.4s,baz=31,slow=7.7,SNR=4.3						
NVAR	**Mina Array Bea**	**59.59 65**	P		**P**		**23 33 45.1 -1.5**
	comp=E,0.4nm,0.2s,baz=277,slow=8.1,SNR=2.3						
FINES	**FINESS Array B**	**62.64 335**	P		**P**		**23 34 08.4 +1.8**
	comp=E,5.9nm,1.1s,baz=128,slow=25,SNR=1.7						
WRA	**Warramunga Arr**	**71.49 202**	P		**P**		**23 35 02.5 -0.7**
	comp=E,0.6nm,0.9s,baz=15,slow=6.0,SNR=2.7						
TXAR	**Lajitas Array**	**74.61 63**	P		**P**		**23 35 23.4 +1.6**
	comp=E,0.6nm,0.5s,baz=304,slow=5.2,SNR=11						
ASAR	**Alice Springs**	**75.18 201**	P		P		23 35 27.4 +2.6
	comp=E,0.4nm,0.7s,baz=13,slow=4.9,SNR=2.3						
H03N2	**Juan Fernandez**	**136.79 90**	T		T		02 15 30.3
	baz=313						
H03N1	**Juan Fernandez**	**136.81 90**	T		T		02 15 28.8
	baz=313,slow=74						
H03N3	**Juan Fernandez**	**136.81 90**	T		T		02 15 40.7
	baz=313,slow=74						

BJI ***29*** *00:02:36.0±0.0, 11°.15S×166°.65E, h66km, mb4.9/62, mB5.3/42, Ms5.0/37, Ms7 4.7/39*
MOS ***29*** *00:02:36.9±1.0, 11°.23S×166°.13E, h60km, mb5.3/35, Error ellipse: s-maj=8.3km s-min=7.4km az=30.4*
IDC ***29*** *00:02:36.4±0.5, 11°.31S×166°.28E, h49km±4km, mb4.5/28, mb1 4.6/30, mb1mx4.6/37, mbtmp4.7/30, MS4.5/60, Ms1 4.5/60, ms1mx4.5/64, Error ellipse: s-maj=11.8km s-min=11.1km az=170.0*
GCMT ***29*** *00:02:38.2±0.1, 11°.43S±0°.01×165°.96E±0°.01, h48km, MW5.4/135, Moment Tensor Solution. s135,c214; s119,c191; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.43±.02; $M_{\theta\theta}$-0.09±.02; $M_{\phi\phi}$-1.33±.01; $M_{r\theta}$-0.01±.01; $M_{\theta\phi}$0.24±.01; $M_{\phi r}$0.25±.01; Best double couple: $M_0$1.42400×10^{17} NP1:ϕ_s168.00000°, δ40.00000°, λ88.00000°. NP2:ϕ_s351.00000°, δ50.00000°, λ92.00000°. Principal axes: T 1.4520, Plg85.0000°, Azm274.0000°; N -0.0500, Plg1.0000°, Azm170.0000°; P -1.3960, Plg5.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***29*** *00:02:39.2±1.5, 11°.40S±0°.07×166°.23E±0°.08, h62km±5km, mb5.2/171 Error ellipse: s-maj=11.9km s-min=10.1km az=52.0*

ISC 29 00:02:38.1±0.3,**11°36S**±0°.04×**166°26E**±0°.04,**h63**km±2km, **h63**km**:pP-P,n525,**σ1♀**57**/492,**mb5.2**/190,**47C-20D,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.17**	**167**	⇑P	**Pn**	**00 03 39.6**	**+0.5**
SANVU	**Saraoutou**	**4.17**	**167**	Pn	**Pn**	**00 03 39.5**	**+0.3**
HNR	**Honiara**	**6.50**	**287**	P	**Pn**	**00 04 11.6**	**+0.5**
	256nm,0.3s,baz=169,slow=3.1,SNR=160						
HNR				S	**Sn**	**00 05 22.8**	**-1.0**
	33nm,0.3s,baz=192,slow=21,SNR=1.1						
HNR				LR	LR	00 07 02.5	
	comp=Z,10μm,19.2s,baz=118,slow=41						
HNR	**Honiara**	**6.50**	**287**	⇓P	**Pn**	**00 04 11.6**	**+0.5**
KOUNC	**Koumac, New Ca**	**9.33**	**191**	⇑P	**Pn**	**00 04 50.2**	**+0.3**
LIFNC	**LIFOU**	**9.41**	**174**		**Pn**	**00 04 50.8**	**-0.2**
DZM	**Mont Dzumac**	**10.65**	**179**	P	**Pn**	**00 05 07.9**	**-0.1**
	5.0nm,0.3s,baz=340,slow=13,SNR=40						
DZM				LR	LR	00 07 57.2	
	comp=Z,708nm,21.3s,baz=26,slow=30						
DZM	**Mont Dzumac**	**10.65**	**179**	*e*Pn	**Pn**	**00 05 07.8**	**-0.3**
	36nm,0.2s						
DZM				*e*Sn	**Sn**	**00 06 57.6**	**-8.2**
	8.3nm,0.3s						
DZM				*e*LR	LR	00 07 33.4	
	comp=Z,8μm,24.4s						
DZM	**Mont Dzumac**	**10.65**	**179**	⇑P	**Pn**	**00 05 07.8**	**-0.3**
DZM	**Mont Dzumac**	**10.65**	**179**		**Pn**	**00 05 07.7**	**-0.3**
ONTNC	**Ouen Toro**	**10.89**	**179**		**Pn**	**00 05 11.6**	**+0.4**
OUENC	**Ouen Island, N**	**11.01**	**177**		**Pn**	**00 05 13.4**	**+0.6**
PINNC	**Pines Island,**	**11.25**	**174**		**Pn**	**00 05 15.4**	**-0.6**
MSVF	**Nonsavu**	**13.05**	**120**	P	**Pn**	**00 05 42.9**	**+2.1**
	0.1nm,0.3s,baz=164,slow=2.6,SNR=7.6						
MSVF				LR	LR	00 09 52.3	
	comp=Z,6μm,19.6s,baz=304,slow=33						
MSVF	**Nonsavu**	**13.05**	**120**	P	**Pn**	**00 05 43.1**	**+2.3**
MSVF	**Nonsavu**	**13.05**	**120**	⇑P	**P**	**00 05 51.5**	**+2.5**
MSVF	**Nonsavu**	**13.05**	**120**		**Pn**	**00 05 43.1**	**+2.3**
FUNA	**Funafuti**	**13.05**	**79**	Pn	**Pn**	**00 05 41.4**	**+0.6**
TARA	**Tarawa**	**14.27**	**28**		**Pn**	**00 05 58.2**	**+1.2**
RABL	**Rabaul**	**15.67**	**296**	Pn	**Pn**	**00 06 15.2**	**+0.1**
PMG	**Port Moresby**	**18.89**	**274**	P	**Pn**	**00 06 54.4**	**-0.4**
	2.4nm,0.3s,baz=272,slow=4.9,SNR=1.9						
PMG				LR	LR	00 13 52.9	
	comp=Z,3μm,20.1s,baz=134,slow=36						
PMG	**Port Moresby**	**18.89**	**274**	P	**Pn**	**00 06 55.0**	**+0.2**
PMG				pmax	pmax		
	comp=Z,81nm,0.9s						
PMG	**Port Moresby**	**18.89**	**274**	P	**Pn**	**00 06 55.0**	**+0.2**
PATS	**Pohnpei**	**19.73**	**336**	P	**P**	**00 07 03.5**	**+0.7**
EIDS	**Eidsvold**	**20.01**	**224**	P	Pn	00 07 07.6	-0.4
	baz=20,SNR=8.4						
EIDS	**Eidsvold**	**20.01**	**224**	⇓P	Pn	00 07 08.1	+0.1
EIDS	**Eidsvold**	**20.01**	**224**	P	**P**	**00 07 06.0**	**+0.3**
EIDS				IAmb	IAmb	00 07 23.8	
	comp=Z,70nm,0.8s						
MANU	**Manus Island**	**20.90**	**295**	⇓P	Pn	00 07 19.5	+0.8
MANU	**Manus Island**	**20.90**	**295**	P	**P**	**00 07 16.2**	**+0.7**
CTA	**Charters Tower**	**21.10**	**243**	P	**P**	**00 07 19.1**	**+1.5**
	comp=Z,41nm,0.9s,baz=71,slow=11,SNR=26						
CTA				LR	LR	00 14 27.3	
	comp=Z,3μm,19.9s,baz=77,slow=34						
CTAO	**Charters Tower**	**21.10**	**243**	P	**P**	**00 07 19.1**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,149nm,1.1s						
CTAO	**Charters Tower**	**21.10**	**243**	⇑P	**P**	**00 07 18.8**	**+1.2**
CTAO	**Charters Tower**	**21.10**	**243**	P	**P**	**00 07 19.1**	**+1.5**
CTAO				IAmb	IAmb	00 07 34.9	
	comp=Z,149nm,1.1s						
LHI	**Lord Howe Isla**	**21.14**	**197**	P	**P**	**00 07 18.6**	**+0.8**
	baz=21,SNR=3.5						
LHI	**Lord Howe Isla**	**21.14**	**197**	P	**P**	**00 07 18.1**	**+0.3**
LHI				IAmb	IAmb	00 07 39.6	
	comp=Z,151nm,1.0s						
AFI	**Afiamalu**	**21.58**	**99**	P	**P**	**00 07 23.6**	**+0.7**
	comp=Z,26nm,0.3s,baz=62,slow=22,SNR=4.8						
AFI				LR	LR	00 14 05.2	
	comp=Z,1μm,20.9s,baz=261,slow=32						
AFI	**Afiamalu**	**21.58**	**99**	P	**P**	**00 07 24.3**	**+1.4**
AFI				pmax	pmax		
	comp=Z,371nm,1.3s						
AFI	**Afiamalu**	**21.58**	**99**	P	**P**	**00 07 24.3**	**+1.4**
MTSU	**Mount Surprise**	**22.25**	**250**	P	**P**	**00 07 31.1**	**+1.2**
	baz=22,SNR=52						
RMQ	**Roma**	**22.32**	**225**	P	**P**	**00 07 31.5**	**+0.9**
	baz=23,SNR=36						
COEN	**Coen**	**22.66**	**261**	⇑P	**P**	**00 07 34.8**	**+0.3**
COEN	**Coen**	**22.66**	**261**	P	**P**	**00 07 34.7**	**+0.3**
COEN				IAmb	IAmb	00 07 52.8	
	comp=Z,134nm,0.8s						
RAO	**Raoul Island**	**23.13**	**143**	LR	LR	00 13 45.1	
	comp=Z,230nm,21.9s,baz=322,slow=29						
ARMA	**Armidale**	**23.33**	**213**	P	**P**	**00 07 42.1**	**+1.1**
	baz=24,SNR=8.6						
ARMA	**Armidale**	**23.33**	**213**	⇓P	**P**	**00 07 42.7**	**+1.7**
ARMA	**Armidale**	**23.33**	**213**	P	**P**	**00 07 41.0**	**0.0**
ARMA				IAmb	IAmb	00 07 56.2	
	comp=Z,112nm,0.9s						
OUZ	**Omahuta**	**24.67**	**165**	⇓P	**P**	**00 07 53.0**	**0.0**
OUZ	**Omahuta**	**24.67**	**165**	P	**P**	**00 07 53.8**	**+0.8**
QLP	**Quilpie**	**25.68**	**231**	P	**P**	**00 08 03.2**	**+0.8**
	baz=26,SNR=4.1						
QLP	**Quilpie**	**25.68**	**231**	⇑P	**P**	**00 08 02.8**	**+0.4**
MGCD	**Mangrove Creek**	**25.81**	**210**	P	**P**	**00 08 04.8**	**+1.4**
	baz=26,SNR=8.3						
RIV	**Riverview**	**26.29**	**209**	P	**P**	**00 08 08.8**	**+1.1**
	baz=26,SNR=6.0						
JAY	**Jayapura**	**26.82**	**287**	P	**P**	**00 08 12.4**	**-0.3**
	comp=Z,35nm,0.9s,baz=147,slow=7.2,SNR=4.9						
JAY				LR	LR	00 20 16.4	
	comp=Z,1μm,18.1s,baz=62,slow=40						
JAY	**Jayapura**	**26.82**	**287**	P	**P**	**00 08 13.4**	**+0.6**
	comp=Z,31nm,0.9s						
QIS	**Mount Isa**	**27.17**	**247**	P	**P**	**00 08 15.9**	**0.0**
	baz=27,SNR=4.9						
HIZ	**Hauiti**	**28.11**	**166**	P	**P**	**00 08 24.8**	**+0.8**
HAZ	**Te Kaha**	**28.25**	**160**	P	**P**	**00 08 25.9**	**+0.7**
CNB	**Canberra Magne**	**28.36**	**210**	P	**P**	**00 08 27.0**	**+0.6**
	baz=29,SNR=7.4						
PKGZ	**Pakihiroa**	**28.46**	**160**	P	**P**	**00 08 28.1**	**+0.9**
URZ	**Urewera**	**28.49**	**162**	P	**P**	**00 08 27.2**	**-0.2**
	comp=Z,7.8nm,0.8s,baz=270,slow=7.7,SNR=3.1						
URZ				LR	LR	00 17 54.6	
	comp=Z,2μm,21.9s,baz=344,slow=32						
URZ	**Urewera**	**28.49**	**162**	P	**P**	**00 08 25.6**	**-1.8**
URZ	**Urewera**	**28.49**	**162**	P	**P**	**00 08 27.4**	**0.0**
WMGZ	**Waiomatatini S**	**28.51**	**160**	P	**P**	**00 08 28.6**	**+1.0**
CAN	**Canberra**	**28.54**	**211**	P	**P**	**00 08 28.7**	**+0.7**
CAN				pmax	pmax		
	comp=Z,59nm,1.3s						
CAN	**Canberra**	**28.54**	**211**	P	**P**	**00 08 28.7**	**+0.7**
CAN				IAmb	IAmb	00 08 42.8	
	comp=Z,59nm,1.3s						
PUZ	**Puketiti**	**28.69**	**160**	P	**P**	**00 08 29.9**	**+0.7**
WTVZ	**West Tongariro**	**28.86**	**165**	P	**P**	**00 08 31.4**	**+0.5**
SMPI	**Sarmi**	**28.87**	**287**	P	**P**	**00 08 31.4**	**+0.4**
	comp=Z,130nm,1.3s						
NNVZ	**North Ngauruho**	**28.89**	**165**	P	**P**	**00 08 33.4**	**+2.3**
ETVZ	**East Tongariro**	**28.91**	**165**	P	**P**	**00 08 34.0**	**+2.7**
NGZ	**Ngauruhoe**	**28.92**	**165**	P	**P**	**00 08 31.4**	**0.0**
OTVZ	**Oturere**	**28.93**	**165**	P	**P**	**00 08 32.9**	**+1.4**
MTHZ	**Maungataniwha**	**28.96**	**163**	P	**P**	**00 08 32.1**	**+0.5**
BKZ	**Black Stump Fm**	**29.15**	**164**	P	**P**	**00 08 32.6**	**-0.8**
BKZ	**Black Stump Fm**	**29.15**	**164**	P	**P**	**00 08 33.1**	**-0.2**
BKZ				IAmb	IAmb	00 08 55.5	
	comp=Z,64nm,1.4s						
NMHZ	**Naumai**	**29.18**	**163**	P	**P**	**00 08 33.7**	**+0.1**
MILA	**Mila**	**29.86**	**208**	P	**P**	**00 08 40.9**	**+1.3**
	baz=30,SNR=4.6						
QRZ	**Quartz Range**	**29.87**	**170**	P	**P**	**00 08 40.5**	**+0.9**
QRZ				IAmb	IAmb	00 08 58.5	
	comp=Z,92nm,1.4s						
NNZ	**Nelson**	**30.39**	**169**	P	**P**	**00 08 44.0**	**-0.2**
NNZ				IAmb	IAmb	00 09 05.1	
	comp=Z,43nm,1.0s						
BFZ	**Birch Farm**	**30.51**	**165**	P	**P**	**00 08 43.8**	**-1.5**
BFZ				IAmb	IAmb	00 08 56.9	
	comp=Z,47nm,1.0s						
STKA	**Stephens Creek**	**30.56**	**224**	P	**P**	**00 08 46.5**	**+0.7**
	comp=Z,12nm,0.8s,baz=35,slow=8.5,SNR=16						
STKA				LR	LR	00 19 57.7	
	comp=Z,2μm,22.0s,baz=48,slow=34						
STKA	**Stephens Creek**	**30.56**	**224**	P	**P**	**00 08 46.4**	**+0.5**
	baz=31,SNR=12						
STKA	**Stephens Creek**	**30.56**	**224**	P	**P**	**00 08 46.2**	**+0.3**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
STKA	**Stephens Creek**	**30.56**	**224**	P	**P**	**00 08 46.2**	**+0.3**
TUWZ	**Tuamarina**	**30.70**	**169**	P	**P**	**00 08 46.4**	**-0.6**
SNZO	**South Karori**	**30.74**	**167**	P	**P**	**00 08 47.8**	**+0.5**
SNZO				IAmb	IAmb	00 09 11.6	
	comp=Z,42nm,0.8s						
THZ	**Tophouse**	**30.84**	**170**	P	**P**	**00 08 48.2**	**-0.1**
THZ				IAmb	IAmb	00 09 12.4	
	comp=Z,42nm,0.9s						
MSWZ	**Moikau Station**	**30.96**	**167**	P	**P**	**00 08 47.5**	**-1.8**
BSWZ	**Blackbirch Sta**	**30.97**	**169**	P	**P**	**00 08 49.5**	**+0.2**
PLWZ	**Palliser**	**31.11**	**167**	P	**P**	**00 08 49.5**	**-1.1**
KHZ	**Kahutara**	**31.59**	**170**	P	**P**	**00 08 53.4**	**-1.2**
KHZ				IAmb	IAmb	00 08 57.6	
	comp=Z,27nm,0.8s						
WR0	**Warramunga Arr**	**31.66**	**250**	P	**P**	**00 08 55.2**	**-0.5**
WR0				IAmb	IAmb	00 09 09.6	
	comp=Z,28nm,0.8s						
LTZ	**Lake Taylor**	**31.74**	**172**	IAmb	IAmb	00 09 14.2	
	comp=Z,52nm,0.8s						
WB0	**Warramunga Arr**	**31.77**	**251**	P	**P**	**00 08 55.7**	**-0.9**
WRAB	**Tennant Creek**	**31.84**	**251**	*ce*P	**P**	**00 08 56.5**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,79nm,1.7s						
WRAB	**Tennant Creek**	**31.84**	**251**	⇑P	**P**	**00 08 56.7**	**-0.5**
WRAB	**Tennant Creek**	**31.84**	**251**	P	**P**	**00 08 56.7**	**-0.5**
WRAB				IAmb	IAmb	00 09 11.1	
	comp=Z,55nm,0.9s						
WB2	**Warramunga Arr**	**31.84**	**250**	P	**P**	**00 08 56.6**	**-0.7**
WB2				IAmb	IAmb	00 09 11.2	
	comp=Z,60nm,0.9s						
WRA	**Warramunga Arr**	**31.85**	**250**	P	**P**	**00 08 56.9**	**-0.5**
	comp=Z,26nm,0.9s,baz=81,slow=9.2,SNR=100						
WRA				PcP	**PcP**	**00 11 47.3**	**+0.2**
	comp=Z,4.7nm,1.0s,baz=76,slow=3.3,SNR=3.6						
WRA				ScP	**ScP**	**00 15 26.5**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=78,slow=3.8,SNR=1.7						
WRA				LR	LR	00 20 29.5	
	comp=Z,1μm,21.1s,baz=46,slow=34						
TOO	**Toolangi**	**32.07**	**212**	P	**P**	**00 08 59.7**	**+0.6**
	baz=32,SNR=5.9						
TOO	**Toolangi**	**32.07**	**212**	P	**P**	**00 08 59.7**	**+0.6**
TOO				pmax	pmax		
	comp=Z,42nm,0.9s						
TOO	**Toolangi**	**32.07**	**212**	⇓P	**P**	**00 09 00.2**	**+1.1**
TOO	**Toolangi**	**32.07**	**212**	P	**P**	**00 08 59.7**	**+0.6**
TOO				IAmb	IAmb	00 09 14.6	
	comp=Z,42nm,0.9s						
FOZ	**Fox Glacier**	**32.20**	**175**	IAmb	IAmb	00 09 25.1	
	comp=Z,48nm,0.8s						
OXZ	**Oxford**	**32.24**	**172**	IAmb	IAmb	00 09 20.4	
	comp=Z,34nm,0.6s						
RPZ	**Rata Peaks**	**32.50**	**174**	P	**P**	**00 09 02.7**	**-0.1**
GUMO	**Guam**	**32.63**	**319**	LR	LR	00 23 06.6	
	comp=Z,381nm,18.4s,baz=105,slow=38						
MQZ	**McQueen's Vall**	**32.70**	**171**	P	**P**	**00 09 03.6**	**-0.8**
MQZ				IAmb	IAmb	00 09 26.2	
	comp=Z,43nm,0.9s						
KDU	**Kakadu**	**33.06**	**264**	P	**P**	**00 09 08.0**	**+0.1**
	baz=33,SNR=6.5						
KDU	**Kakadu**	**33.06**	**264**	⇓P	**P**	**00 09 08.0**	**+0.1**
LBZ	**Lake Benmore**	**33.08**	**175**	P	**P**	**00 09 07.3**	**-0.5**
LBZ				IAmb	IAmb	00 09 32.5	
	comp=Z,24nm,0.9s						
ASAR	**Alice Springs**	**33.10**	**244**	P	**P**	**00 09 07.3**	**-1.0**
	comp=Z,27nm,0.8s,baz=75,slow=9.4,SNR=184						
ASAR				PcP	**PcP**	**00 11 50.3**	**-0.2**
	comp=Z,5.0nm,0.6s,baz=78,slow=2.5,SNR=7.4						
ASAR				ScP	**ScP**	**00 15 30.5**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=61,slow=3.3,SNR=2.2						
ASAR				LR	LR	00 21 34.4	
	comp=Z,2μm,21.2s,baz=76,slow=34						
HTT	**Hallett**	**33.30**	**224**	P	**P**	**00 09 10.7**	**+0.8**
	baz=34,SNR=5.3						
HTT	**Hallett**	**33.30**	**224**	⇓P	**P**	**00 09 10.7**	**+0.8**
WKZ	**Wanaka**	**33.43**	**176**	P	**P**	**00 09 11.6**	**+0.7**
ARPS	**Mount Arapiles**	**33.52**	**217**	P	**P**	**00 09 13.6**	**+1.8**
	baz=34,SNR=5.3						
ODZ	**Otahua Downs**	**33.78**	**174**	P	**P**	**00 09 14.2**	**+0.4**
ODZ				IAmb	IAmb	00 09 41.9	
	comp=Z,64nm,1.4s						
MLZ	**Mavora Lakes**	**33.93**	**178**	P	**P**	**00 09 14.5**	**-0.6**
RAR	**Rarotonga**	**33.98**	**111**	LR	LR	00 20 17.7	
	comp=Z,824nm,21.0s,baz=260,slow=31						
DCZ	**Deep Cove**	**33.99**	**179**	P	**P**	**00 09 16.3**	**+0.6**
DCZ				IAmb	IAmb	00 09 30.1	
	comp=Z,50nm,1.1s						
MTN	**Manton Dam**	**34.36**	**264**	P	**P**	**00 09 19.6**	**+0.3**
	baz=35,SNR=3.6						
MTN	**Manton Dam**	**34.36**	**264**	⇑P	**P**	**00 09 20.0**	**+0.7**
MTN	**Manton Dam**	**34.36**	**264**	P	**P**	**00 09 19.8**	**+0.5**
MTN				IAmb	IAmb	00 09 35.5	
	comp=Z,35nm,1.0s						
BBOO	**Buckleboo**	**34.98**	**228**	P	**P**	**00 09 25.4**	**+0.9**
TAU	**Tasmania Unive**	**35.48**	**204**	P	**P**	**00 09 29.1**	**+0.5**
TAU				pmax	pmax		
	comp=Z,102nm,1.2s						
TAU	**Tasmania Unive**	**35.48**	**204**	P	**P**	**00 09 29.1**	**+0.5**
SIJI	**Sorong**	**36.27**	**284**	P	**P**	**00 09 35.4**	**-0.3**
	comp=Z,8.5nm,0.6s,baz=64,slow=5.0,SNR=5.3						
SIJI				LR	LR	00 24 37.7	
	comp=Z,1μm,21.9s,baz=82,slow=36						
SWI	**Sorong**	**36.27**	**284**	P	**P**	**00 09 36.8**	**+1.1**
	comp=Z,7μmcomp=Z,2μmcomp=Z,38nm,1.3s						
KNRA	**Kununurra**	**36.67**	**259**	P	**P**	**00 09 39.1**	**0.0**
	baz=37,SNR=7.8						
WRKA	**Warakurna**	**38.40**	**244**	P	**P**	**00 09 53.6**	**-0.1**
	baz=39,SNR=9.4						
WRKA	**Warakurna**	**38.40**	**244**	⇑P	**P**	**00 09 53.0**	**-0.6**
LBMI	**Labuha**	**39.93**	**283**	P	**P**	**00 10 08.1**	**+1.6**
	comp=Z,2μmcomp=Z,166nm,1.4s						
FORT	**Forrest**	**40.27**	**235**	⇑p	P	00 10 21.3	+12
FORT	**Forrest**	**40.27**	**235**	P	**P**	**00 10 09.5**	**+0.3**
TNTI	**Ternate**	**40.48**	**285**	P	**P**	**00 10 11.6**	**+0.5**
	comp=Z,26nm,1.1s						
SANI	**Sanana**	**41.00**	**280**	P	**P**	**00 10 16.2**	**+0.9**
	comp=Z,1μmcomp=Z,96nm,1.4s						
SOEI	**Soe**	**41.28**	**268**	P	**P**	**00 10 18.6**	**+0.7**
	comp=Z,55nm,1.4s						
BATI	**Baumata**	**41.83**	**267**	LR	LR	00 27 40.1	
	comp=Z,928nm,20.9s,baz=126,slow=36						
BATI	**Baumata**	**41.83**	**267**	P	**P**	**00 10 23.0**	**+0.8**
	comp=Z,85nm,1.1s						
PPT	**Papeete**	**43.13**	**104**	LR	LR	00 25 13.1	
	comp=Z,447nm,18.2s,baz=276,slow=32						
PPT2	**Papeete2**	**43.14**	**104**	*e*S	S	00 17 13.9	+19
	comp=Z,487nm,27.2s						
PPT2				*e*LQ	LQ	00 21 02.9	
	comp=Z,2μm,30.2s						
PPT2				*e*LR	LR	00 22 55.3	
	comp=Z,3μm,28.8s						
MMRI	**Maumere**	**43.41**	**269**	P	**P**	**00 10 34.4**	**-0.6**
	comp=Z,124nm,1.2s						
GTOI	**Gorontalo**	**44.59**	**283**	P	**P**	**00 10 45.6**	**+1.1**
	comp=Z,774nmcomp=Z,68nm,1.3s						
PMOR	**Pomariorio Ree**	**44.73**	**100**	*e*P	P	00 10 59.3	+14
	comp=Z,136nm,1.3s						
JCJ	**Chichijima**	**44.80**	**329**	P	**P**	**00 10 46.2**	**+0.3**
VAH	**Vaihoa**	**44.98**	**100**	*e*P	P	00 11 01.1	+14
	comp=Z,98nm,1.4s						
APSI	**Ampana**	**45.48**	**280**	P	**P**	**00 10 53.0**	**+1.5**
	comp=Z,2μmcomp=Z,155nm,1.4s						
BSSI	**Bau Bau, Buton**	**45.49**	**273**	P	**P**	**00 10 52.6**	**+1.0**
	comp=Z,1μmcomp=Z,132nm,1.0s						
PSA00	**Pilbara Seismi**	**45.50**	**251**	P	**P**	**00 10 51.9**	**+0.3**
PSA00	**Pilbara Seismi**	**45.50**	**251**	P	**P**	**00 10 52.1**	**+0.5**
PSA00				IAmb	IAmb	00 11 07.3	
	comp=Z,34nm,0.8s						
MBWA	**Marble Bar**	**45.57**	**252**	P	**P**	**00 10 52.9**	**+0.7**
MRSI	**Marisa**	**45.57**	**282**	P	**P**	**00 10 51.6**	**-0.6**
	comp=Z,62nm,1.1s						
BKSI	**Bulukumba**	**45.99**	**274**	P	**P**	**00 10 56.7**	**+1.1**
	comp=Z,608nmcomp=Z,52nm,1.0s						
WBSI	**Waikabubak, Su**	**46.08**	**268**	P	**P**	**00 10 56.5**	**+0.2**
	comp=Z,93nm,0.8s						
BNSI	**Bone**	**46.19**	**275**	P	**P**	**00 10 58.4**	**+1.3**
	comp=Z,3μmcomp=Z,255nm,1.1s						
KAPI	**Kappang**	**46.41**	**274**	P	**P**	**00 10 59.6**	**+0.7**
	comp=Z,16nm,0.9s,baz=107,slow=5.0,SNR=6.4						
KAPI				LR	LR	00 33 58.6	
	comp=Z,107nm,18.6s,baz=122,slow=40						
KAPI	**Kappang**	**46.41**	**274**	P	**P**	**00 10 59.2**	**+0.3**
KAPI				pmax	pmax		
	comp=Z,120nm,1.1s						
KAPI	**Kappang**	**46.41**	**274**	⇑P	**P**	**00 10 59.6**	**+0.7**
KAPI	**Kappang**	**46.41**	**274**	P	**P**	**00 10 59.2**	**+0.3**
SPSI	**Sidrap Palu**	**46.60**	**275**	P	**P**	**00 11 00.0**	**-0.4**
	comp=Z,834nmcomp=Z,70nm,1.2s						
TTSI	**Tana Toraja**	**46.75**	**277**	P	**P**	**00 11 03.5**	**+2.0**
	comp=Z,43nm,0.8s						
TOLI2	**Tolitoli**	**46.86**	**282**	P	**P**	**00 11 02.1**	**-0.3**
MEEK	**Meekatharra**	**47.26**	**244**	P	**P**	**00 11 05.9**	**+0.5**
	baz=48,SNR=21						
MPSI	**Mapaga**	**47.50**	**281**	P	**P**	**00 11 07.0**	**-0.3**
	comp=Z,1μmcomp=Z,106nm,1.7s						
KLBR	**Kellerberrin**	**48.96**	**238**	P	**P**	**00 11 18.3**	**-0.2**
	baz=49,SNR=6.3						
BLDU	**Ballidu**	**49.63**	**239**	P	**P**	**00 11 23.3**	**-0.2**
	baz=50,SNR=4.8						
NWAO	**Narrogin (SRO)**	**49.70**	**236**	P	**P**	**00 11 23.8**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,63nm,1.0s						
NWAO	**Narrogin (SRO)**	**49.70**	**236**	P	**P**	**00 11 23.8**	**-0.3**
MORW	**Morawa**	**49.91**	**242**	P	**P**	**00 11 26.2**	**+0.5**
	baz=50,SNR=4.9						
MORW	**Morawa**	**49.91**	**242**	⇓P	**P**	**00 11 26.3**	**+0.6**
KBKI	**Kotabaru**	**50.26**	**275**	P	**P**	**00 11 29.2**	**+0.7**
	comp=Z,2μmcomp=Z,44nm,1.2s						
MYLDM	**Lahad Datu**	**50.28**	**287**	⇑P	**P**	**00 11 30.6**	**+2.0**
RKGY	**Rocky Gully**	**50.33**	**234**	P	**P**	**00 11 29.3**	**+0.6**
	baz=51,SNR=4.4						
MUN	**Mundaring**	**50.33**	**238**	P	**P**	**00 11 29.4**	**+0.6**
	baz=51,SNR=7.8						
IGBI	**Denpasar**	**50.34**	**268**	P	**P**	**00 11 29.7**	**+0.6**
	comp=Z,158nm,1.1s						
SRBI	**Singaraja**	**50.37**

comp=Z,30nm,1.4s
YSS Yuzh-Sakhalins 61.74 342 P **P 00 12 50.3 +0.5**
MDSI Maura Dua 61.77 271 P **P 00 12 49.7 -1.1**
comp=Z,596nmcomp=Z,13nm,1.9s
DLV T Lat 61.86 290 P **P 00 12 51.4 -0.2**
NJ2 Nanjing 62.59 315 ⇓P **P 00 12 56.8 +0.9**
NJ2 pP **pP 00 13 11.3 -0.5**
NJ2 pmax pmax
comp=Z,12nm,0.6s
QIZ Qiongzhong 63.27 298 P **P 00 13 01.5 +0.9**
QIZ LR LR
comp=Z,380nm,24.5s
QIZ LR LR
comp=Z,440nm,22.6s
QIZ LR LR
comp=Z,610nm,22.3s
USA0B Ussuriysk Arra 63.45 333 P **P 00 13 00.4 -0.9**
USA0B pmax pmax
comp=Z,39nm,1.0s
USA0B Ussuriysk Arra 63.45 333 P **P 00 13 00.4 -0.9**
USRK Ussuriysk Ar. 63.45 333 P **P 00 13 01.9 +0.6**
comp=Z,11nm,1.0s,baz=159,slow=6.7,SNR=13
USRK pP **pP 00 13 14.9 -2.7**
comp=Z,24nm,0.8s,baz=138,slow=6.7,SNR=16
USRK Ussuriysk Ar. 63.45 333 P **P 00 13 00.8 -0.6**
SHEM Shemya Is, Ala 64.19 5 LR LR 00 35 02.5
comp=Z,428nm,21.1s,baz=160,slow=30
PETK Petropavlovsk- 64.63 354 P **P 00 13 08.0 -0.9**
comp=Z,3.9nm,0.9s,baz=166,slow=7.3,SNR=4.8
PETK pP **pP 00 13 22.3 -3.0**
comp=Z,11nm,0.9s,baz=60,slow=8.8,SNR=4.3
PETK LR LR 00 36 09.7
comp=Z,370nm,21.4s,baz=156,slow=31
MDJ Mudanjiang 64.86 332 P P 00 13 25.5 +15
MDJ pmax pmax
comp=Z,32nm,0.9s
MDJ pmax pmax
comp=Z,250nm,6.8s
MDJ Mudanjiang 64.86 332 P **P 00 13 10.8 +0.2**
MDJ IAmb IAmb 00 13 26.7
comp=Z,33nm,0.9s
UBPT Khong Chiam 65.75 293 P **P 00 13 17.0 +0.1**
UBPT IAmb IAmb 00 13 33.7
comp=Z,28nm,0.9s
BKNI Bangkinang 65.80 276 P **P 00 13 17.9 +0.6**
comp=Z,3μmcomp=Z,202nm,1.2s
BKNI Bangkinang 65.80 276 P **P 00 13 17.5 +0.2**
PPSI Pulau Pagai 66.18 272 P **P 00 13 20.3 +0.6**
comp=Z,1μmcomp=Z,114nm,1.1s
VNDA Vanda 66.19 181 P **P 00 13 17.5 -1.2**
comp=Z,6.8nm,0.8s,baz=344,slow=9.8,SNR=9.4
VNDA LR LR 00 38 26.6
comp=Z,279nm,20.4s,baz=2.0,slow=32
CN2 Changchun 66.27 329 *e*P **P 00 13 19.0 -0.7**
CN2 PP **PP 00 15 47.8 +1.4**
CN2 S **S 00 22 01.5 -2.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,230nm,3.5s
CN2 LR LR
comp=Z,330nm,16.0s
CN2 LR LR
comp=Z,330nm,16.0s
CN2 LR LR
comp=Z,410nm,16.0s
BNX BinXian 66.72 331 ⇓P **P 00 13 23.8 +1.3**
BNX pmax pmax
comp=Z,390nm,3.7s
IPM Ipoh 66.77 280 P **P 00 13 23.3 -0.2**
GRNR Gornyy 67.11 340 ⇓*i*P P 00 13 40.3 +15
GRNR pmax pmax
comp=Z,20nm,1.0s
MNSI Mandailing Nat 67.32 276 P **P 00 13 27.0 0.0**
comp=Z,83nm,0.7s
KULM Kulim 67.33 281 P **P 00 13 27.5 +0.4**
KULM IAmb IAmb 00 13 42.6
comp=Z,49nm,1.2s
KLR Kul'dur 67.54 336 LR LR 00 37 56.2
comp=Z,334nm,21.8s,baz=150,slow=31
KLR Kul'dur 67.54 336*ce*P **P 00 13 27.7 0.0**
KLR pmax pmax
comp=Z,25nm,1.5s
PSI Prapat 68.41 278 LR LR 00 45 37.7
comp=Z,173nm,20.3s,baz=112,slow=38
LYN LuoYang 68.43 314 ⇑P **P 00 13 33.0 -0.5**
LYN pP pP 00 13 48.0 -1.6
LYN S **S 00 22 35.8 +5.3**
LYN pmax pmax
comp=Z,20nm,1.0s
LYN LR LR
comp=Z,410nm,17.7s
LYN LR LR
comp=Z,610nm,21.8s
HNS HongShan 68.45 318 ⇑P **P 00 13 34.0 +0.4**
HNS pP **pP 00 13 47.5 -2.6**
HNS S **S 00 22 29.0 -1.7**
HNS pmax pmax
comp=Z,21nm,1.4s
HNS LR LR
comp=Z,660nm,20.3s
HNS LR LR
comp=Z,640nm,21.4s
ENH Enshi 68.48 309 IAmb IAmb 00 13 49.4
comp=Z,39nm,1.0s
TSI Tuntungan 68.92 278 P **P 00 13 36.9 -0.1**
comp=Z,198nm,1.1s
GYA Guiyang 69.01 304 ⇑P **P 00 13 37.8 +0.3**
GYA pP sP 00 13 58.8 -1.6
GYA pmax pmax
comp=Z,15nm,0.8s
BJT Baijiatuau 69.03 321 P **P 00 13 36.8 -0.4**
BJT pmax pmax
comp=Z,23nm,1.1s
BJT Baijiatuau 69.03 321 P **P 00 13 36.8 -0.4**
BJT IAmb IAmb 00 13 53.1
comp=Z,23nm,1.1s
BJI Beijing 69.04 321 P **P 00 13 37.0 -0.2**
BJI pmax pmax
comp=Z,12nm,1.1s
SLVN Son La 69.30 298 P **P 00 13 40.0 +0.7**
SLVN IAmb IAmb 00 13 56.4
comp=Z,32nm,1.4s
GSI Gunungsitoli 69.39 276 ⇑P **P 00 13 40.3 +0.4**
GSI Gunungsitoli 69.39 276 P **P 00 13 40.4 +0.4**
comp=Z,2μmcomp=Z,90nm,1.1s
GSI Gunungsitoli 69.39 276 P **P 00 13 40.0 +0.1**
KCSI Kotacane, Aceh 69.69 278 P **P 00 13 41.0 -0.8**
comp=Z,836nmcomp=Z,52nm,0.9s
XAN Xi'an 70.70 312 P **P 00 13 47.8 +0.2**
XAN pP pP 00 14 03.0 -0.8
XAN S **S 00 22 49.5 -7.9**
XAN pmax pmax
comp=Z,31nm,1.0s
XAN pmax pmax
comp=Z,240nm,5.0s
XAN LR LR
comp=Z,330nm,23.4s
XAN LR LR
comp=Z,540nm,23.4s
XAN LR LR
comp=Z,980nm,23.4s
XLT XiLinHaoTe 71.41 324 *e*P **P 00 13 52.5 +0.7**
XLT pP pP 00 14 07.5 -0.8
XLT PcP **PcP 00 14 11.3 +0.2**
XLT sP sP 00 14 15.8 +0.8
XLT pmax pmax
comp=Z,43nm,1.4s
XLT pmax pmax
comp=Z,390nm,4.8s
KMI Kunming 71.71 301 ⇑P **P 00 13 55.0 +0.9**
KMI pP pP 00 14 08.0 -2.5
KMI sP sP 00 14 15.8 -1.4
KMI S **S 00 23 15.0 +5.2**
KMI SS **SS 00 27 51.0 +4.0**
KMI pmax pmax
comp=Z,23nm,1.5s
KMI LR LR
comp=Z,170nm,12.7s
KMI LR LR
comp=Z,370nm,26.9s
KMI LR LR
comp=Z,510nm,25.4s
MA2 Magadan 71.79 352 *i* P **P 00 13 52.7 -0.9**
MA2 pmax pmax
comp=Z,16nm,2.0s
HHC Hu-ho-hao-te 72.39 319 *e*P **P 00 13 58.8 +1.0**
HHC pP PcP 00 14 15.3 0.0
HHC S **SKiKP 00 23 23.0 -4.7**
HHC sS sS 00 23 45.8 +0.2
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,94nm,5.0s
HHC LR LR
comp=Z,410nm,18.4s
HHC LR LR
comp=Z,450nm,21.7s
HHC LR LR
comp=Z,910nm,20.7s
CMAR Chiang Mai Arr 72.70 293 P **P 00 14 00.8 +0.9**
comp=Z,5.1nm,0.9s,baz=120,slow=4.2,SNR=36
CMAR LR LR 00 44 42.2
comp=Z,140nm,20.5s,baz=100,slow=35
CMAR Chiang Mai Arr 72.70 293 *i* P **P 00 14 01.1 +1.2**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 72.81 294 P **P 00 14 01.4 +0.9**
CHTO pmax pmax
comp=Z,35nm,1.1s
CHTO Chiang Mai 72.81 294 P **P 00 14 01.4 +0.9**
CHTO IAmb IAmb 00 14 18.1
comp=Z,35nm,1.1s
ZEA Zeya 72.83 337 *e*P **P 00 14 00.5 +0.6**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,40nm,0.7s
HIA Hailar 72.89 330 P **P 00 14 00.7 +0.3**
HIA pmax pmax
comp=Z,21nm,0.8s
HIA Hailar 72.89 330 P **P 00 14 00.7 +0.3**
HIA IAmb IAmb 00 14 16.4
comp=Z,21nm,0.8s
PZH PanZhiHua 73.07 302 ⇑P **P 00 14 02.3 +0.2**
PZH pP **PcP 00 14 19.5 +0.9**
PZH sP **sP 00 14 30.3 +5.2**
PZH S **S 00 23 25.0 0.0**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,5.3s
PZH LR LR
comp=Z,430nm,21.2s
PZH LR LR
comp=Z,1μm,21.3s
PZH LR LR
comp=Z,770nm,20.8s
CD2 Chengdu 73.19 307 P **P 00 14 03.0 +0.4**
CD2 S **S 00 23 27.0 +0.9**
CD2 SS **SS 00 28 15.0 +5.9**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,260nm,8.8s
CD2 LR LR
comp=Z,500nm,18.7s
CD2 LR LR
comp=Z,520nm,23.3s
SEY Seymchan 74.84 353 LR LR 00 42 25.1
comp=Z,677nm,21.9s,baz=180,slow=32
LZH Lanzhou 75.34 312 ⇑P **P 00 14 16.8 +1.6**
LZH pP PcP 00 14 28.5 +0.3
LZH sP sP 00 14 38.8 +0.2
LZH pmax pmax
comp=Z,35nm,1.4s
LZH pmax pmax
comp=Z,190nm,4.3s
LZH LR LR
comp=Z,310nm,20.9s
LZH LR LR
comp=Z,460nm,19.7s
LZH LR LR
comp=Z,700nm,20.1s
KDAK Kodiak Island 76.69 21 LR LR 00 41 54.5
comp=Z,599nm,19.9s,baz=221,slow=31
GAMB Gambell 76.79 10 P **P 00 14 22.9 +0.3**
GAMB Gambell 76.79 10 P **P 00 14 22.8 +0.3**
baz=202
P18K Big Mountain, 77.03 19 P **P 00 14 23.1 -0.9**
P18K Big Mountain, 77.03 19 P **P 00 14 23.5 -0.6**
baz=219
Q19K Cape Douglas, 77.19 20 P **P 00 14 25.7 +0.7**
O18K Koktuh Hills 77.39 19 P **P 00 14 26.1 0.0**
baz=219
O19K Port Alsworth 77.94 19 P **P 00 14 28.3 -0.7**
baz=220
YAK Yakutsk 78.54 343 LR LR 00 50 05.0
comp=Z,261nm,18.2s,baz=102,slow=36
YAK Yakutsk 78.54 343 *e*P **P 00 14 32.2 -0.1**
YAK *e* 00 14 39.3
YAK *e**PP **pP 00 14 46.3 -2.9**
YAK *e* 00 17 27.3
YAK *e*S **S 00 24 22.4 -1.2**
YAK *e**SS **sS 00 24 58.0 +5.2**
YAK *e*SS **SS 00 29 27.7 -0.9**
YAK pmax pmax
comp=Z,23nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,180nm,5.3s
YAK pmax pmax
comp=N,40nm,4.1s
YAK pmax pmax
comp=E,132nm,4.8s
YAK smax smax
comp=E,194nm,4.7s
YAK smax smax
comp=N,103nm,4.7s
YAK MLR MLR
comp=Z,426nm,22.0s
YAK MLR MLR
comp=N,259nm,22.0s
YAK MLR MLR
comp=E,121nm,22.0s
QSPA South Pole Qui 78.65 180 P **P 00 14 32.6 -0.6**
comp=E,29nm,1.0s,baz=0.7,slow=1.1,SNR=41
QSPA LR LR 00 45 37.2
comp=E,259nm,21.5s,baz=32,slow=33
QSPA South Pole Qui 78.65 180 P **P 00 14 32.5 -0.6**
RSO Redoubt South 78.65 19 P **P 00 14 34.3 +1.1**
ULN Ulaanbaatar 78.85 324*ce*P **P 00 14 34.9 +0.3**
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 78.85 324 P **P 00 14 35.1 +0.5**
ULN IAmb IAmb 00 14 51.0
comp=Z,35nm,0.8s
BILL Bilibino 79.19 0*de*P **P 00 14 35.3 -0.5**
BILL *e* 00 14 44.8
BILL *e*PPP PPP 00 19 25.1
BILL pmax pmax
comp=Z,14nm,1.2s
BILL Bilibino 79.19 0 P **P 00 14 35.7 -0.1**
BILL IAmb IAmb 00 14 51.8
comp=Z,60nm,1.4s
SONM Songino Array 79.22 324 P **P 00 14 36.6 +0.1**
comp=Z,2.9nm,0.6s,baz=143,slow=5.6,SNR=35
SONM pP **pP 00 14 50.2 -3.1**
comp=Z,10nm,0.6s,baz=147,slow=5.7,SNR=21
SONM LR LR 00 49 33.2
comp=Z,147nm,19.5s,baz=88,slow=36
M19K Big River Lodg 79.25 18 P **P 00 14 37.4 +1.2**
baz=219
L19K White Mountain 79.32 17 P **P 00 14 37.3 +0.6**
baz=219
TTA Tatalina 79.58 17 P **P 00 14 38.6 +0.4**
TTA pmax pmax
comp=Z,13nm,1.0s
TTA Tatalina 79.58 17 P **P 00 14 38.5 +0.4**
TTA Tatalina 79.58 17 P **P 00 14 38.6 +0.4**
baz=218
GTA Gaotai 79.64 314 ⇑P **P 00 14 40.0 +1.0**
GTA pP pP 00 14 55.5 -0.4
GTA sP sP 00 15 01.5 -1.1
GTA pmax pmax
comp=Z,22nm,1.4s
GTA pmax pmax
comp=Z,220nm,8.0s
GTA LR LR
comp=Z,230nm,16.3s
GTA LR LR
comp=Z,290nm,19.5s
GTA LR LR
comp=Z,430nm,21.9s
L20K Farewell, AK 79.84 18 P **P 00 14 40.2 +0.7**
baz=220
RPN Rapa Nui 79.98 116 LR LR 00 43 39.0
comp=Z,258nm,18.1s,baz=281,slow=31
KNK Knik Glacier 80.78 20 P **P 00 14 46.0 +1.4**
KNK IAmb IAmb 00 15 06.7
comp=Z,23nm,1.0s
KNK Knik Glacier 80.78 20 P **P 00 14 46.6 +2.1**
baz=225
BOD Bodaibo 81.03 335 *e*P **P 00 14 45.5 -0.4**
BOD pmax pmax
comp=Z,16nm,1.8s
J20K Nowinta River 81.08 16 P **P 00 14 48.5 +2.4**
baz=219
CAST Castle Rocks 81.09 18 IAmb IAmb 00 15 04.6
comp=Z,17nm,0.8s
CAST Castle Rocks 81.09 18 P **P 00 14 47.3 +1.1**
baz=221
SCM Sheep Creek Mo 81.46 20 IAmb IAmb 00 15 03.0
comp=Z,28nm,0.9s
DIV Divide 81.52 21 IAmb IAmb 00 14 53.1
comp=Z,32nm,1.2s
KTH Kantishna Hill 81.54 18 IAmb IAmb 00 15 04.3
comp=Z,31nm,1.4s
TRF Thorofare Moun 81.66 18 P **P 00 14 49.9 +0.5**
baz=223
RND Reindeer 82.07 19 P **P 00 14 52.7 +1.3**
RND pmax pmax
comp=Z,20nm,1.1s
RND Reindeer 82.07 19 P **P 00 14 52.7 +1.3**
GOMU GeErMu 82.10 309 P **P 00 14 53.5 +0.9**
GOMU S **S 00 25 09.8 +6.9**
GOMU pmax pmax
comp=Z,12nm,0.8s
GOMU pmax pmax
comp=Z,160nm,7.2s
GOMU LR LR
comp=Z,150nm,15.4s
GOMU LR LR
comp=Z,120nm,15.1s
GOMU LR LR
comp=Z,180nm,15.2s
RDOG Red Dog Mine 82.23 11 IAmb IAmb 00 15 10.0
comp=Z,16nm,0.8s
RDOG Red Dog Mine 82.23 11 P **P 00 14 52.7 +0.7**
baz=210
ZAK Zakamensk 82.25 325 *e*P **P 00 14 52.4 -0.2**
ZAK pmax pmax
comp=Z,19nm,1.1s
N25K Chitina, Valde 82.26 21 IAmb IAmb 00 15 21.4
comp=Z,28nm,1.1s
N25K Chitina, Valde 82.26 21 P **P 00 14 52.7 +0.3**
baz=228
MCK McKinley 82.28 18 IAmb IAmb 00 15 08.5
comp=Z,29nm,1.1s
H21K Melozitna Rive 82.59 16 P **P 00 14 55.2 +1.2**
LSA Lhasa 82.94 302 P **P 00 14 58.0 +0.8**
LSA pmax pmax
comp=Z,29nm,1.3s
WRH Wood River Hil 83.07 18 IAmb IAmb 00 15 13.6
comp=Z,17nm,0.9s
BBGB Big Mountain B 83.19 51 P **P 00 14 59.6 +1.7**
BBGB IAmb IAmb 00 15 15.4
comp=Z,37nm,1.0s
PMPB Monarch Peak 83.25 51 P **P 00 14 59.2 +1.1**
PMPB IAmb IAmb 00 15 13.4
comp=Z,58nm,1.5s
M26K Nabesna, AK 83.35 21 IAmb IAmb 00 15 13.6
comp=Z,30nm,1.1s
HDA Harding Lake 83.38 19 IAmb IAmb 00 15 15.2
comp=Z,32nm,0.8s
HDA Harding Lake 83.38 19 P **P 00 14 57.6 -0.5**
baz=226
TCOL CIGO, UAF Yank 83.42 18 IAmb IAmb 00 15 15.7
comp=Z,26nm,0.7s
TCOL CIGO, UAF Yank 83.42 18 P **P 00 14 57.8 -0.5**
baz=225
COLA College 83.43 18 *i* P **P 00 14 57.4 -0.9**
COLA pmax pmax
comp=Z,13nm,1.0s
COLA College 83.43 18 P **P 00 14 57.7 -0.6**
COLA IAmb IAmb 00 15 15.7
comp=Z,26nm,0.8s
MENT Mentasta 83.45 21 P **P 00 14 59.3 +0.8**
MENT IAmb IAmb 00 15 14.9
comp=Z,39nm,1.4s
M02C Callahan 83.53 46 P **P 00 15 01.5 +2.0**
M02C IAmb IAmb 00 15 21.1
comp=Z,25nm,1.2s
RIDG Independent Ri 83.60 20 P **P 00 14 59.5 +0.2**
baz=228
L26K Log Cabin Wild 83.63 21 IAmb IAmb 00 15 15.8
comp=Z,46nm,1.5s
L26K Log Cabin Wild 83.63 21 P **P 00 14 59.3 -0.1**
baz=230
IL31 83.65 18 IAmb IAmb 00 15 14.9
comp=Z,40nm,1.5s
ILAR Eielson Array 83.65 18 P **P 00 14 58.3 -1.1**
comp=Z,5.6nm,0.6s,baz=248,slow=4.7,SNR=45
ILAR PKKPbc **PKKPbc 00 33 16.4 -3.6**
comp=Z,0.3nm,0.5s,baz=6.3,slow=4.1,SNR=6.9
ILAR LR LR 00 44 41.2
comp=Z,208nm,22.0s,baz=194,slow=30
M27K Edge Creek, AK 83.72 22 IAmb IAmb 00 15 15.8
comp=Z,27nm,1.1s
POKR Poker Plat Res 83.73 18 P **P 00 14 59.0 -0.9**
baz=226
YBH Yreka Blue Hor 83.75 45 P **P 00 15 01.2 +0.5**
comp=Z,2.1nm,0.7s,baz=357,slow=4.3,SNR=4.5
YBH LR LR 00 46 00.9
comp=Z,404nm,19.5s,baz=301,slow=31
YBH Yreka Blue Hor 83.75 45 P **P 00 15 01.1 +0.5**
YBH pmax pmax
comp=Z,22nm,1.3s
YBH Yreka Blue Hor 83.75 45 P **P 00 15 01.1 +0.5**
YBH IAmb IAmb 00 15 22.4
comp=Z,22nm,1.3s
DOT Dot Lake 83.80 20 IAmb IAmb 00 15 16.3
comp=Z,50nm,1.4s
ORV Oroville 83.85 48 P **P 00 15 01.4 +0.3**
ORV pmax pmax
comp=Z,11nm,1.0s
ORV Oroville 83.85 48 P **P 00 15 01.4 +0.3**
O03E Paynes Creek 83.89 47 P **P 00 15 02.9 +1.5**
O03E IAmb IAmb 00 15 18.6
comp=Z,32nm,1.1s
HUMO Hull Mountain 83.90 45 P **P 00 15 02.3 +1.0**
HUMO IAmb IAmb 00 15 23.4
comp=Z,22nm,1.3s
SCRK Sand Creek 84.04 20 IAmb IAmb 00 15 19.4
comp=Z,25nm,0.9s
SCRK Sand Creek 84.04 20 P **P 00 15 02.0 +0.4**
baz=229
MOY Mondy 84.12 325 *e*P **P 00 15 05.4 +3.1**
CMB Columbia Colle 84.16 50 P **P 00 15 03.6 +0.9**
CMB pmax pmax
comp=Z,11nm,1.0s
CMB Columbia Colle 84.16 50 P **P 00 15 03.6 +0.9**
L27K Beaver Creek, 84.19 21 IAmb IAmb 00 15 17.8
comp=Z,20nm,1.3s
BBB Bella Bella 84.55 34 LR LR 00 44 36.0
comp=Z,577nm,20.6s,baz=243,slow=30
MAW Mawson 84.62 202 LR LR 00 46 36.2
comp=Z,342nm,19.5s,baz=72,slow=31
PAHR Pah Rah Range 85.44 48 P **P 00 15 10.9 +1.6**
EGAK Eagle 85.50 20 IAmb IAmb 00 15 26.3
comp=Z,20nm,0.7s
EGAK Eagle 85.50 20 P **P 00 15 09.2 +0.4**
baz=231
TOLK Toolik Lake Re 85.67 15 P **P 00 15 10.8 +1.2**
baz=223
PINE Pine Mountain 85.70 44 P **P 00 15 12.1 +1.6**
PINE IAmb IAmb 00 15 32.2
comp=Z,12nm,0.9s
RYN Ryan 85.74 49 P **P 00 15 12.2 +1.4**
NVAR Mina Array Bea 85.84 50 P **P 00 15 11.3 0.0**
comp=Z,1.6nm,0.6s,baz=234,slow=7.4,SNR=11
NVAR pP **pP 00 15 25.4 -3.2**
comp=Z,8.9nm,0.9s,baz=232,slow=7.8,SNR=11
NVAR LR LR 00 45 21.3

comp=Z,700nm,21.8s,baz=284,slow=30
NVAR Mina Array Bea 85.84 50 P **P 00 15 12.0 +0.6**
PFO Pinyon Flats O 85.85 55 LR LR 00 45 17.9
comp=Z,512nm,21.4s,baz=313,slow=30
NV11 Mina Array Sit 85.95 50 IAmb IAmb 00 15 28.3
comp=Z,23nm,1.4s
LCH Last Change Ra 85.98 51 P **P 00 15 12.6 +0.6**
QSM Queen of Sheba 86.20 52 P **P 00 15 14.1 +1.1**
CHLP Challavanipeta 86.30 290⇓*e*pP pP 00 15 30.8 +0.5
DLBC Dease Lake 86.45 28 LR LR 00 45 42.9
comp=Z,256nm,21.0s,baz=206,slow=30
TIXI Tiksi 86.49 349 LR LR 00 49 19.2
comp=Z,209nm,22.0s,baz=132,slow=32
TIXI Tiksi 86.49 349*ce*P **P 00 15 12.4 -1.1**
TIXI pmax pmax
comp=Z,18nm,1.9s
BC3 Big Chuckawall 86.67 55 P **P 00 15 16.8 +1.4**
baz=254
I29M Ogilvie Camp, 86.82 20 P **P 00 15 15.4 +0.1**
baz=234
GUN Gumba 86.91 299 *e*P **P 00 15 16.9 -0.1**
PALK Pallekele 87.09 278 LR LR 00 57 55.7
comp=Z,126nm,19.5s,baz=221,slow=38
PKI Pulchoki 87.23 299 *e*P **P 00 15 18.2 -0.3**
comp=Z,75nm,1.3s
PKIN Phulchoki 87.24 299 *e*P **P 00 15 18.1 -0.4**
J08A Circle Bar Ran 87.25 45 P **P 00 15 19.3 +1.3**
KKN Kakani 87.39 299 *e*P **P 00 15 19.2 0.0**
DMN Daman 87.50 299 *e*P **P 00 15 19.8 +0.1**
PDMCI Parker Dam,Lak 87.89 55 P **P 00 15 22.2 +1.1**
baz=255
EPYK Eagle Plains 87.93 20 IAmb IAmb 00 15 38.0
comp=Z,25nm,1.4s
GKN Gorkha 88.00 299 *e*P **P 00 15 21.4 -0.6**
PVM Polavaram 88.28 288 *e*P **P 00 15 23.6 +0.3**
LPIG La Paz 88.68 65 LR LR 00 47 07.3
comp=Z,167nm,22.0s,baz=260,slow=30
ELK Elko 88.78 48 LR LR 00 47 52.2
comp=Z,364nm,20.9s,baz=286,slow=31
DANN Dangsing 88.83 299 *e*P **P 00 15 25.3 -0.8**
comp=Z,29nm,0.9s
KOLN Koldanda 88.83 298 *e*P **P 00 15 25.2 -0.8**
F10A Beach Ranch, E 88.90 43 P **P 00 15 27.4 +1.6**
SPR3 Spring Creek 3 88.98 50 IAmb IAmb 00 15 44.0
comp=Z,11nm,1.0s
MYLAV Mylavaram 89.10 287 *e*P **P 00 15 27.6 +0.4**
LCMT Little Creek M 89.30 52 IAmb IAmb 00 15 45.6
comp=Z,11nm,0.9s
CCUT Cedar City 89.34 52 IAmb IAmb 00 15 43.4
comp=Z,9.0nm,1.0s
SKHT Srikalahasti 89.36 284 *e*P **P 00 15 29.0 +0.5**
PYUN Piuthan 89.43 299 *e*P **P 00 15 27.8 -1.0**
comp=Z,30nm,0.9s
PLID Pearl Lake 89.47 44 P **P 00 15 29.4 +0.7**
PLID IAmb IAmb 00 15 49.1
comp=Z,12nm,1.3s
ADKI Addanki 89.54 286 *e*P **P 00 15 29.8 +0.5**
KNB Kanab 89.63 52 P **P 00 15 31.3 +1.8**
KNB pmax pmax
comp=Z,20nm,1.2s
KNB Kanab 89.63 52 P **P 00 15 31.3 +1.8**
KNB IAmb IAmb 00 16 01.6
comp=Z,20nm,1.2s
NEW Newport 89.66 41 LR LR 00 49 40.7
comp=Z,320nm,19.8s,baz=251,slow=32
WMQ Urumqi 89.67 315 *e*P **P 00 15 29.5 +0.1**
WMQ pP pP 00 15 44.8 -1.7
WMQ sP sP 00 15 57.0 +3.9
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ LR LR
comp=Z,540nm,10.7s
WMQ LR LR
comp=Z,250nm,13.3s
WMQ LR LR
comp=Z,310nm,19.3s
U15A North Rim 89.89 53 IAmb IAmb 00 15 50.1
comp=Z,15nm,1.0s
INK Inuvik 90.03 19 P **P 00 15 30.5 +0.1**
comp=Z,0.7nm,0.5s,baz=213,slow=31,SNR=1.9
INK LR LR 00 49 19.3
comp=Z,333nm,21.4s,baz=196,slow=31
TUC Tucson 90.13 57 P **P 00 15 33.7 +1.8**
TUC pmax pmax
comp=Z,9.0nm,1.2s
TUC Tucson 90.13 57 P **P 00 15 33.7 +1.8**
HLID Hailey 90.14 46 IAmb IAmb 00 15 48.8
comp=Z,10nm,1.2s
HLID Hailey 90.14 46 P **P 00 15 32.3 +0.6**
baz=254
NJS Nagarjunasagar 90.31 287 *e*P **P 00 15 32.6 -0.3**
MTPU Mount Pierson 90.37 51 IAmb IAmb 00 15 48.8
comp=Z,11nm,1.0s
WUAZ Wupatki 90.40 54 P **P 00 15 34.2 +1.1**
baz=256
RCLA Racherla 90.42 286 *e*P **P 00 15 33.9 +0.5**
SRLM Srisailam 90.61 286 *e*P **P 00 15 34.5 +0.2**
RPR Rampur 90.78 289 *e*P **P 00 15 35.3 +0.3**
CUPL Choutuppal 90.82 287 *e*P **P 00 15 35.1 -0.1**
HVU Hansel Valley 90.85 48 IAmb IAmb 00 15 52.7
comp=Z,20nm,1.2s
NLU North Lily Min 90.92 50 IAmb IAmb 00 15 54.3
comp=Z,8.7nm,1.0s
HYBB Hyderabad (bro 91.19 287 *e*P **P 00 15 36.9 -0.1**
HYBB *es*P **sP 00 15 54.5 +0.4**
HYBB *e*PP **PP 00 19 14.4 -0.5**
MPU Maple Canyon 91.26 50 P **P 00 15 38.4 +1.3**
MPU IAmb IAmb 00 15 54.6
comp=Z,15nm,1.4s
X18A Snowflake 91.31 55 P **P 00 15 37.7 +0.3**
X18A IAmb IAmb 00 15 55.1
comp=Z,9.7nm,1.1s
TMUT Trail Mountain 91.41 50 P **P 00 15 38.1 +0.2**
DGZ Jazzator, Alta 91.46 320⇑*i*P **P 00 15 37.2 -0.5**
DGZ pmax pmax
comp=Z,9.0nm,0.9s
SYO Syowa Base 91.63 197⇑*e*P **P 00 15 39.0 +1.1**
SRSP Sriramsagar 91.68 289 *e*P **P 00 15 39.4 +0.2**
URV Uravakonda 91.92 285 *e*P **P 00 15 40.5 +0.1**
P18A Preston Nutter 92.21 50 P **P 00 15 43.0 +1.4**
REDW Red Top Meadow 92.60 46 P **P 00 15 44.9 +1.6**
REDW IAmb IAmb 00 15 59.9
comp=Z,12nm,1.4s
HRY Holter Researc 92.70 43 P **P 00 15 44.5 +1.0**
PV23 Carpenter Ridg 92.89 52 P **P 00 15 45.4 +0.6**
PV23 IAmb IAmb 00 15 51.5
comp=Z,6.5nm,0.6s
KLRI Killari 93.14 288 *e*P **P 00 15 46.0 0.0**
PDAR Pinedale Array 93.40 47 P **P 00 15 47.3 +0.4**
comp=Z,0.7nm,0.7s,baz=245,slow=2.1,SNR=6.8
PDAR PKKPbc **PKKPdf 00 32 53.7 -0.1**
comp=Z,0.3nm,0.7s,baz=105,slow=6.8,SNR=2.1
PDAR LR LR 00 53 56.6
comp=Z,168nm,18.4s,baz=288,slow=33
MK31 Makanchi Array 94.09 317*c i*P **P 00 15 49.4 -0.3**
MKAR Makanchi Array 94.09 317 P **P 00 15 49.5 -0.2**
comp=Z,7.6nm,0.6s,baz=88,slow=5.8,SNR=92
MKAR pP **pP 00 16 04.0 -2.8**
comp=Z,21nm,0.6s,baz=96,slow=6.4,SNR=27
MKAR PKKPbc **PKKPdf 00 32 50.9 -1.5**
comp=Z,0.3nm,0.5s,baz=250,slow=4.7,SNR=10
MKAR LR LR 00 58 33.2
comp=Z,58nm,20.3s,baz=104,slow=36
ZALV Zalesovo Beam 94.10 324 P **P 00 15 48.5 -1.0**
comp=Z,4.8nm,0.9s,baz=112,slow=5.3,SNR=21
ZALV pP **pP 00 16 03.4 -3.2**
comp=Z,9.0nm,0.7s,baz=107,slow=4.1,SNR=18
ZALV LR LR 00 58 20.5
comp=Z,127nm,19.8s,baz=69,slow=36
ANMO Albuquerque 94.21 55 LR LR 00 50 32.0
comp=Z,314nm,21.1s,baz=288,slow=30
MAKZ Makanchi 94.31 317 P **P 00 15 50.4 -0.3**
MAKZ pmax pmax
comp=Z,23nm,1.0s
MAKZ Makanchi 94.31 317 P **P 00 15 50.4 -0.3**
YKA Yellowknife Ar 95.02 27 P **P 00 15 51.8 -1.8**
comp=Z,1.5nm,0.6s,baz=258,slow=4.6,SNR=26
YKA PP **PP 00 19 45.0 +1.4**
comp=Z,0.3nm,0.9s,baz=257,slow=7.3,SNR=1.7
YKA PKKPbc **PKKPdf 00 32 45.1 -6.0**
comp=Z,0.5nm,0.9s,baz=74,slow=2.4,SNR=3.9
YKA LR LR 00 50 59.1
comp=Z,197nm,21.6s,baz=288,slow=30
PMSA Palmer Station 95.25 161 LR LR 00 54 18.2
comp=Z,142nm,18.8s,baz=302,slow=32

TXAR Lajitas Array 95.54 61 P **P 00 15 58.1 +1.3**
comp=Z,0.4nm,0.7s,baz=218,slow=5.9,SNR=5.5
TXAR LR LR 00 51 10.5
comp=Z,374nm,21.0s,baz=287,slow=30
POO Poona 95.79 288 *ex* x 00 16 10.0
NRIK Noril'sk 96.59 339 P **P 00 15 58.7 -1.8**
comp=Z,0.7nm,0.5s,baz=55,slow=5.7,SNR=2.1
NRIK LR LR 00 56 31.9
comp=Z,341nm,22.0s,baz=102,slow=34
NRIK Noril'sk 96.59 339 *i* P **P 00 15 59.5 -1.1**
NRIK pmax pmax
comp=Z,9.0nm,2.7s
SNAA Sanae 96.83 183 P **P 00 16 06.1 +4.2**
SNAA Sanae 96.83 183 P **P 00 16 02.6 +0.7**
comp=Z,1.1nm,0.9s,baz=270,slow=15,SNR=1.6
KURK Kurchatov 97.20 320*ce*P **P 00 16 02.8 -0.9**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 97.20 320 P **P 00 16 03.4 -0.4**
KURK IAmb IAmb 00 16 19.7
comp=Z,10nm,1.2s
KURBB Kurchatov Arra 97.24 320 LR LR 01 02 13.3
comp=Z,185nm,18.1s,baz=73,slow=37
AAK Ala-Archa 98.88 312 LR LR 01 02 09.8
comp=Z,76nm,19.3s,baz=76,slow=36
AAK Ala-Archa 98.88 312 *i* P **P 00 16 10.7 -1.0**
AAK pmax pmax
comp=Z,3.0nm,1.2s
AAK Ala-Archa 98.88 312 P Pdif 00 16 12.0 +0.2
ARCES ARCESS Array B 116.76 346 PKP **PKPdf 00 21 13.7 -1.1**
comp=Z,2.6nm,0.6s,baz=70,slow=1.9,SNR=26
MAK Makhachkala 118.63 313 *e*P **Pdif 00 17 42.3 +3.0**
MAK *e* 00 22 38.9
MAK *e*PS **PS 00 32 27.8 +2.5**
MAK pmax pmax
comp=Z,615nm,1.6s
MAK MLR MLR
comp=Z,194nm,17.0s
LPAZ La Paz 119.59 116 PKP **PKiKP 00 21 23.6 +1.0**
comp=Z,0.6nm,0.4s,baz=263,slow=8.1,SNR=2.4
OBN Obninsk 121.33 329 *e*PKIKP **PKPdf 00 21 22.1 -1.8**
OBN *e* 00 22 58.1
OBN *e*PPP PPP 00 25 29.5
OBN pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 121.80 315 *i* PKIKP **PKPdf 00 21 24.5 -0.9**
KIV pmax pmax
comp=Z,5.0nm,1.1s
FINES FINESS Array B 122.25 339 PKP **PKPdf 00 21 24.5 -1.0**
comp=Z,1.9nm,0.5s,baz=54,slow=1.5,SNR=16
RAYN Ar Rayn 122.54 291 PKIKP **PKPdf 00 21 27.0 -0.3**
RAYN Ar Rayn 122.54 291 PKPdf **PKPdf 00 21 27.0 -0.3**
CPUP Villa Florida 123.44 132 PKP **PKiKP 00 21 29.1 -0.1**
comp=Z,1.9nm,0.6s,baz=225,slow=1.7,SNR=4.5
GURO Guroymak-BITLI 123.64 309 PKPdf **PKiKP 00 21 29.9 +0.6**
SOC Sochi 123.97 315 *e*PKIKP **PKPdf 00 21 25.8 -3.6**
SOC *e*PPP PPP 00 25 48.0
SOC *e*SS SS 00 39 56.2 -2.7
SOC *e*SSS SSS 00 44 29.4
SOC pmax pmax
comp=Z,53nm,0.9s
BOSA Boshof 125.23 223 PKP **PKPdf 00 21 32.1 -0.4**
comp=Z,2.3nm,0.7s,baz=187,slow=3.3,SNR=5.3
NACGM Naroch 126.18 332 *i* PKP PKiKP 00 21 46.4 +13
NB2 NORSAR Subarra 127.13 345 PKPdf **PKPdf 00 21 34.4 -0.6**
comp=Z,5.2nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 127.13 345 PKP **PKPdf 00 21 34.5 -0.6**
comp=Z,0.6nm,0.7s,baz=52,slow=2.7,SNR=1.5
HFS Hagfors 127.23 343 PKP **PKPdf 00 21 34.0 -1.1**
comp=Z,1.5nm,0.6s,baz=79,slow=2.1,SNR=1.5
AKASG Malin Array Be 127.40 327 PKP **PKPdf 00 21 34.3 -1.4**
comp=Z,0.2nm,0.2s,baz=69,slow=2.5,SNR=5.0
PTLB Pontes e Lacer 127.75 120 **PKiKP 00 21 38.3 +0.4**
KMBO Kilima Mbogo 127.83 260 PKP **PKiKP 00 21 38.4 -0.1**
comp=Z,0.9nm,0.8s,baz=90,slow=4.0,SNR=1.9
SORM Soroca 129.25 325⇓P **PKiKP 00 21 47.4 +7.3**
SORM Soroca 129.25 325⇓PKIKP **PKiKP 00 21 47.4 +7.3**
BRTR Keskin Array B 129.54 313 PKP **PKPdf 00 21 40.2 -0.2**
comp=Z,0.3nm,0.5s,baz=129,slow=5.5,SNR=1.6
MILM Milestii Mici 129.62 323⇑P PKiKP 00 21 51.4 +11
ANTO Ankara 130.10 313⇑P PKPpre 00 21 32.1
ANTO Ankara 130.10 313⇑PKIKP PKPpre 00 21 32.1
LSZ Lusaka 130.76 238 PKIKP **PKPdf 00 21 43.6 +0.3**
LSZ Lusaka 130.76 238 **PKPdf 00 21 43.6 +0.3**
BURAR Bucovina Array 131.30 326⇑P **PKiKP 00 21 47.8 +3.4**
BURAR Bucovina Array 131.30 326⇑PKIKP **PKiKP 00 21 47.8 +3.4**
VRI Vrincioaia 131.40 323⇑P **PKiKP 00 21 46.8 +2.3**
VRI Vrincioaia 131.40 323⇑PKIKP **PKiKP 00 21 46.8 +2.3**
CRVS Cervenica-Dubn 132.51 329 *e*P **Pdif 00 18 43.6 +2.6**
CRVS Cervenica-Dubn 132.51 329 *e*PDIFF **Pdif 00 18 43.6 +2.6**
PTGA Pitinga 132.53 102 PKP **PKiKP 00 21 47.3 -0.4**
comp=Z,1.8nm,0.6s,baz=194,slow=3.6,SNR=1.6
ARR Arges 132.90 323⇑P **PKiKP 00 21 47.5 -0.2**
DRGR 133.17 326⇑P **PKPdf 00 21 45.3 -1.6**
DRGR 133.17 326⇑PKIKP **PKPdf 00 21 45.3 -1.6**
DPC Dobruska-Polom 133.95 334 *e*PKIKP **PKPdf 00 21 48.6 +0.4**
DPC Dobruska-Polom 133.95 334 *e*PKPDF **PKPdf 00 21 48.6 +0.4**
GZR Gura Zlata 133.96 324⇑P **PKPdf 00 21 45.6 -2.9**
GZR Gura Zlata 133.96 324⇑PKIKP **PKPdf 00 21 45.6 -2.9**
SIRR Siria 134.06 326⇓P **PKPdf 00 21 48.5 0.0**
HERR Herculane 134.47 324⇓P **PKPdf 00 21 48.8 -0.5**
BZS Buzias 134.49 325⇑P **PKPdf 00 21 49.6 +0.3**
BZS Buzias 134.49 325⇑PKIKP **PKPdf 00 21 49.6 +0.3**
CLL Collm 134.59 337 *e*PKPdf **PKPdf 00 21 50.0 +0.7**
CLL Lm MLR 01 21 00.0
comp=N,200nm,19.8s
CLL Lm MLR 01 21 00.0
comp=E,300nm,18.3s
CLL Lm MLR 01 21 00.0
comp=Z,300nm,21.2s
MODS Modra-Piesok 134.93 331 *e*PKIKP **PKiKP 00 21 51.0 -0.6**
MODS Modra-Piesok 134.93 331 *e*PKP **PKiKP 00 21 51.0 -0.6**
VTS Vitosha 135.26 321⇓P **PKPdf 00 21 49.9 -1.2**
VTS Vitosha 135.26 321⇓PKIKP **PKPdf 00 21 49.9 -1.2**
BOVS Bovan 135.61 323⇑P **PKPdf 00 21 52.2 +0.7**
CONA Conrad Observa 135.91 331 *e*P **PKPdf 00 21 51.9 -0.1**
comp=Z,1.8nm,0.6s
CKRC Cesky Krumlov 135.96 333 *e*PKPDF **PKPdf 00 21 52.6 +0.6**
CKRC *ex* x 00 22 04.8
KHC Kasperske Hory 136.04 334 *e*PKIKP **PKPdf 00 21 51.7 -0.5**
KHC *e* 00 22 04.8
KHC Kasperske Hory 136.04 334 *e*PKPDF **PKPdf 00 21 51.7 -0.5**
KHC *ex* x 00 22 04.8
GERES GERESS Array B 136.21 334 PKP **PKiKP 00 21 53.6 -0.6**
comp=Z,1.3nm,0.7s,baz=54,slow=2.3,SNR=9.3
BDFB Brasília 136.75 128 PKP **PKiKP 00 21 55.8 -0.6**
comp=Z,1.8nm,0.5s,baz=263,slow=4.0,SNR=4.3
SOKA Soboth 137.20 331 *e*P **PKPdf 00 21 54.1 -0.4**
comp=Z,0.7nm,0.5s
FNA Florina 137.43 320 PKIKP **PKPdf 00 21 55.8 +0.8**
FNA Florina 137.43 320 **PKPdf 00 21 55.8 +0.8**
WTTA Wattenberg 138.31 334 *i* P **PKPdf 00 21 56.7 +0.1**
comp=Z,1.5nm,0.5s
ABTA Abfaltersbach 138.32 333 *e*P **PKPdf 00 21 56.3 -0.3**
comp=Z,3.5nm,0.9s
MOTA Moosalm 138.47 334 *e*P **PKPdf 00 21 57.5 +0.6**
comp=Z,0.8nm,0.4s
SQTA Sankt Quirin 138.53 334 *e*P **PKiKP 00 21 59.3 +0.2**
comp=Z,1.6nm,0.5s
STAL STALIGIAL 138.60 332 PKPdf **PKPdf 00 21 57.1 +0.1**
FETA Feichten 138.89 334 *e*P **PKPdf 00 21 58.6 +1.0**
comp=Z,3.6nm,0.8s
CLTB Caltabellotta 144.42 322 PKPdf PKPbc 00 22 06.6 +0.3
VSL Villasalto 145.27 328 **PKPbc 00 22 08.5 -0.4**
KEST Kesra 147.97 323 PKPbc **PKPbc 00 22 17.3 +0.4**
comp=Z,12nm,0.7s,baz=132,slow=0.2,SNR=16
ESDC Sonseca Array 150.50 345 PKPbc **PKPbc 00 22 23.0 -0.1**
comp=Z,2.4nm,0.9s,baz=5.8,slow=2.4,SNR=11
ESDC Sonseca Array 150.50 345 **PKPbc 00 22 22.7 -0.4**
TORD Torodi Ar. Bea 164.81 278 PKP **PKPdf 00 22 36.3 +0.3**
comp=Z,2.6nm,0.9s,baz=107,slow=1.5,SNR=6.0
TORD PKPab **PKPab 00 23 31.0 -1.1**
comp=Z,2.1nm,0.9s,baz=99,slow=4.7,SNR=4.5
TORD PP **PP 00 27 17.7 -1.2**
comp=Z,1.6nm,0.9s,baz=128,slow=9.6,SNR=3.9
KIC Kosan Boka 169.81 242 *e*P **PKPab 00 23 53.8 -0.4**
comp=Z,27nm,0.8s
LIC Lamto 169.99 240 *e*P **PKPab 00 23 54.6 -0.4**
comp=Z,69nm,1.1s
DBIC Dimbokro 170.06 243 PKP **PKPdf 00 22 38.9 -0.9**
comp=Z,1.4nm,0.9s,baz=196,slow=22,SNR=1.5
DBIC PKPab **PKPab 00 23 55.3 0.0**
comp=Z,5.5nm,0.9s,baz=167,slow=1.5,SNR=5.3
TIC Toumodi 170.19 242 *e*P **PKPab 00 23 55.6 -0.3**

ATH 29 00:18:47.3, 38°.35N×22°.08E, h8km±1km, ML1.0/3, Error ellipse: s-maj=2.5km s-min=1.0km az=78.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.01**	**349**	P	Pg	00 18 48.6	-0.1
TRIZ				S	Sg	00 18 49.7	+0.1
SERG	**Sergoula**	**0.06**	**346**	P	Pg	00 18 49.0	-0.1
SERG				S	Sg	00 18 50.4	-0.1
SERG				AML	AML	00 18 50.7	
	comp=E,736μm,0.1s						
SERG				AML	AML	00 18 50.8	
	comp=N,811μm,0.1s						
LAKA	**Lakka**	**0.14**	**214**	P	Pg	00 18 50.0	-0.2
LAKA				S	Sg	00 18 52.5	+0.2
EFP	**Efpalio**	**0.15**	**299**	P	Pg	00 18 50.3	-0.2
EFP				S	Sg	00 18 52.9	+0.3
EFP				AML	AML	00 18 53.2	
	comp=E,107μm,0.2s						
EFP				AML	AML	00 18 53.3	
	comp=N,102μm,0.3s						
ANX	**Ano Chora**	**0.27**	**333**	P	Pg	00 18 52.5	-0.2
ANX				S	Sg	00 18 56.6	+0.3
ANX				AML	AML	00 18 57.0	
	comp=N,114μm,0.3s						
ANX				AML	AML	00 18 57.3	
	comp=E,97μm,0.3s						
KLV	**Kalavryta, Ach**	**0.32**	**169**	P	Pg	00 18 53.6	+0.1
KLV				S	Sg	00 18 58.0	+0.3
EVR	**Evrytania**	**0.60**	**340**	P	Pg	00 18 58.6	-0.3

ATH 29 00:19:58.3, 39°.34N×23°.29E, h7km±2km, ML1.7/2, Error ellipse: s-maj=3.2km s-min=1.5km az=281.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.06**	**235**	P	Pg	00 20 00.2	+0.2
NEO				S	Sg	00 20 00.9	-0.3
NEO				AML	AML	00 20 01.6	
	comp=E,1727μm,0.1s						
NEO				AML	AML	00 20 01.6	
	comp=N,2252μm,0.1s						
XOR	**Xorichti**	**0.08**	**289**	P	Pg	00 20 00.3	0.0
XOR				S	Sg	00 20 01.3	-0.3
XOR				AML	AML	00 20 01.6	
	comp=N,3064μm,0.2s						
XOR				AML	AML	00 20 02.0	
	comp=E,898μm,0.2s						
ALNA	**Alonissos**	**0.49**	**113**	P	Pg	00 20 07.4	-0.3
PAIG	**Paliouri**	**0.66**	**27**	P	Pg	00 20 10.8	-0.2
ATAL	**Atalanti**	**0.68**	**198**	P	Pg	00 20 11.0	-0.3
ATAL				S	Sg	00 20 20.3	+0.1
LRSO	**Larissa Observ**	**0.77**	**296**	P	Pg	00 20 12.4	-0.6
AGG	**Agios Georgios**	**0.81**	**247**	P	Pg	00 20 13.1	-0.7
MAKR	**Makrakomi, Fth**	**0.95**	**250**	P	Pg	00 20 16.6	0.0

IDC 29 00:23:59.2±4.0, 2°.59S×138°.04E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/31, mbtmp3.4/4, ML3.4/1, MS3.9/2, Ms1 3.9/2, ms1mx3.2/23, Error ellipse: s-maj=132.3km s-min=30.9km az=88.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.62**	**192**	P	Pn	00 28 06.3	0.0
	0.1nm,0.3s,baz=12,slow=12,SNR=4.4						
CTA	**Charters Tower**	**19.15**	**156**	LR	LR	00 37 03.3	
	comp=Z,281nm,18.3s,baz=67,slow=41						
FITZ	**Fitzroy Crossi**	**19.63**	**217**	P	P	00 28 29.3	-0.2
	baz=90,slow=12						
ASAR	**Alice Springs**	**21.33**	**190**	P	P	00 28 48.1	+0.2
	1.1nm,0.5s,baz=18,slow=11,SNR=11						
JHJ	**Hachijo jima 2**	**35.55**	**3**	LR	LR	00 41 22.3	
	comp=Z,193nm,21.8s,baz=94,slow=29						
MKAR	**Makanchi Array**	**69.29**	**323**	P	P	00 35 08.4	+0.1
	0.1nm,0.5s,baz=116,slow=6.9,SNR=1.7						

JMA 29 00:24:24.2±0.4, 32°.13N×141°.14E, h6km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.21**	**286**	P	Pg	00 24 47.0	-0.5
JHJ2	**Mitsune**	**1.48**	**312**	P	Pn	00 24 51.5	+0.1
JHJ2				*e*S	Sn	00 25 11.1	-0.1
JMKN	**Mikurajimanish**	**2.19**	**324**	P	Pn	00 25 02.2	+1.1
JMKN				*e*S	Sn	00 25 29.5	+1.0
BSO1	**Boso 1**	**2.52**	**357**	P	Pn	00 25 07.1	+1.9
JRY	**Ryogami san**	**4.30**	**335**	P	Pn	00 25 32.1	+1.9
JAG	**Ashikaga**	**4.51**	**342**	P	Pn	00 25 33.7	+0.7
JFT	**Otama**	**5.42**	**353**	P	Pn	00 25 46.6	+1.1

ISK ***29*** *00:35:19.7, 34°.97N×33°.28E, h51km±1km, ML3.1/22*
NIC ***29*** *00:35:20.5±0.0, 35°.01N×33°.31E, h52km±1km, Ml3.1/7*
DDA ***29*** *00:35:21.1±0.0, 35°.21N×33°.18E, h27km±1km, ML2.6*
GII ***29*** *00:35:22.2±0.3, 34°.83N×33°.41E, h40km, Mm2.9/7*
GRAL ***29*** *00:35:29.7±0.3, 34°.51N×34°.27E, h0km±5km, MD3.3*

ISC 29 00:35:20.3±1.1, 34°.94N±0°.02×33°.35E±0°.03, h55km±5km, n84, σ1§46/127, 2C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Mathiatis**	**0.03**	**327**	PG	**Pn**	**00 35 27.7**	**-0.9**
CSS				SG	**Sn**	**00 35 33.5**	**-1.1**
CSS	**Mathiatis**	**0.03**	**327**⇑*i*P	P	**Pn**	**00 35 28.2**	**-0.4**
CSS				S	**Sn**	**00 35 34.6**	**0.0**
AKIN	**Akıncılar- Kıb**	**0.12**	**52**	PG	**Pn**	**00 35 28.3**	**-0.5**
AKIN				SG	**Sn**	**00 35 34.9**	**-0.1**
ASGA	**Asgata**	**0.17**	**208**	P	**Pn**	**00 35 28.7**	**-0.4**
ASGA				S	**Sn**	**00 35 35.8**	**+0.4**
ASGA				AML	AML	00 35 39.7	
	2.1nm,0.3s						
ASGA				AML	AML	00 35 39.7	
	2.1nm,0.3s						
ASGA				AML	AML	00 35 42.6	
	1.8nm,0.3s						
ASGA				AML	AML	00 35 42.6	
	1.8nm,0.3s						
ATHAL	**Athalassa**	**0.20**	**11**⇑*i*P	P	**Pn**	**00 35 29.0**	**-0.2**
ATHAL				AML	AML	00 35 35.8	
	4.3nm,0.4s						
ATHAL				AML	AML	00 35 35.8	
	4.3nm,0.4s						
ATHAL				S	**Sn**	**00 35 36.0**	**+0.3**
ATHAL				AML	AML	00 35 36.1	
	4.2nm,0.5s						
ATHAL				AML	AML	00 35 36.1	
	4.2nm,0.5s						
MVOU	**Mavrovouni**	**0.24**	**72**	S	**Sn**	**00 35 36.4**	**+0.3**
LEF	**Lefka**	**0.42**	**296**	PG	**Pn**	**00 35 30.5**	**-0.5**
LEF				SG	**Sn**	**00 35 37.8**	**-0.9**
SZAC	**Souni**	**0.42**	**245**⇓*i*P	P	**Pn**	**00 35 31.1**	**0.0**
SZAC				S	**Sn**	**00 35 39.8**	**+0.9**
SZAC				AML	AML	00 35 39.9	
	9.5nm,0.4s						
SZAC				AML	AML	00 35 39.9	
	9.5nm,0.4s						
SZAC				AML	AML	00 35 40.3	
	8.2nm,0.2s						
SZAC				AML	AML	00 35 40.3	
	8.2nm,0.2s						
AKDN	**Akdeniz- Kıbrı**	**0.47**	**319**	PG	**Pn**	**00 35 31.1**	**-0.5**
PARAL	**Paralimni**	**0.57**	**84**	P	**Pn**	**00 35 33.3**	**+0.6**
PARAL				S	**Sn**	**00 35 43.2**	**+1.5**
PARAL				AML	AML	00 35 45.5	
	0.7nm,0.5s						
PARAL				AML	AML	00 35 45.5	
	0.7nm,0.5s						
PARAL				AML	AML	00 35 46.5	
	0.8nm,0.5s						
PARAL				AML	AML	00 35 46.5	
	0.8nm,0.5s						
ALFC	**Alefka**	**0.65**	**290**⇓*i*P	P	**Pn**	**00 35 32.8**	**-0.9**
ALFC				AML	AML	00 35 42.4	
	3.5nm,0.3s						
ALFC				AML	AML	00 35 42.4	
	3.5nm,0.3s						
ALFC				S	**Sn**	**00 35 42.9**	**-0.6**
ALFC				AML	AML	00 35 42.9	
	4.5nm,0.2s						

ALFC AML AML 00 35 42.9
4.5nm,0.2s
NATA Nata 0.66 256 P **Pn 00 35 33.8 0.0**
NATA AML AML 00 35 47.3
3.7nm,0.5s
NATA AML AML 00 35 48.5
6.1nm,0.3s
AKMS Akamas 0.84 276 P **Pn 00 35 35.7 -0.4**
AKMS S **Sn 00 35 47.8 +0.3**
AKMS AML AML 00 35 49.8
2.0nm,0.3s
AKMS AML AML 00 35 49.8
2.0nm,0.3s
AKMS AML AML 00 35 50.0
1.3nm,0.2s
AKMS AML AML 00 35 50.0
1.3nm,0.2s
EREN Erenkoy 0.89 49 PG **Pn 00 35 37.2 +0.5**
EREN SG **Sn 00 35 50.3 +1.4**
EREN Erenkoy 0.89 49 P **Pn 00 35 38.0 +1.2**
EREN S **Sn 00 35 50.3 +1.4**
EREN *i* AML AML 00 35 52.0
comp=N,193nm,0.5s
EREN *i* AML AML 00 35 54.0
comp=E,257nm,0.5s
EREN *i* AML AML 00 35 56.0
comp=Z,235nm,0.5s
AKK2 Akkuyu-Mersin 1.21 8 PN **Pn 00 35 40.3 -0.6**
AKK1 Akkuyu-Mersin 1.21 7 PN **Pn 00 35 40.5 -0.5**
YORU Yoruktepe-Mers 1.21 2 PN **Pn 00 35 40.8 -0.2**
TEKE Tekeli-Mersin 1.22 351 PN **Pn 00 35 40.4 -0.6**
TEKE SN **Sn 00 35 55.9 -0.6**
TISA Tisan-Mersin 1.25 12 PN **Pn 00 35 41.5 0.0**
GULN MERSIN_Gulnar 1.25 7 P **Pn 00 35 40.8 -0.8**
GULN S **Sn 00 35 55.7 -1.6**
OREN Orenkoy-Mersin 1.27 4 PN **Pn 00 35 40.7 -1.0**
YESI Yesilovacik-Me 1.28 11 PN **Pn 00 35 41.7 -0.1**
TEPK Tepekoy-MERSIN 1.29 7 PN **Pn 00 35 41.3 -0.8**
KARG Kargicak-Mersi 1.29 13 PN **Pn 00 35 42.2 +0.1**
TEVE Tevekalti-Mers 1.50 3 PN **Pn 00 35 44.8 -0.1**
SILI Silifke-Mersin 1.50 18 PN **Pn 00 35 45.3 +0.4**
SLFK Silifke-Mersin 1.53 18 PN **Pn 00 35 45.6 +0.3**
KEBE Keben-Mersin 1.53 11 PN **Pn 00 35 45.5 +0.1**
GAZI Gazipasa 1.54 327 PN **Pn 00 35 44.7 -0.8**
GAZI Gazipasa 1.54 327 P **Pn 00 35 44.7 -0.8**
GAZI S **Sn 00 36 01.9 -2.6**
GAZI *i* AML AML 00 36 03.0
comp=E,110nm,0.3s
KIZK Mersin 1.67 23 PN **Pn 00 35 47.7 +0.5**
KIZK Mersin 1.67 23 P **Pn 00 35 47.7 +0.5**
KIZK S **Sn 00 36 06.1 -1.4**
ERMK Ermenek 1.73 348 P **Pn 00 35 48.8 +0.6**
ERMK S **Sn 00 36 09.2 -0.2**
ERMK *i* AML AML 00 36 14.0
comp=N,98nm,0.3s
ERMK *i* AML AML 00 36 15.0
comp=E,79nm,0.5s
OSC2 CSNet OBS 4 2.06 206 S **Sn 00 36 19.9 +2.8**
HDMB Hadim 2.14 341 PN **Pn 00 35 53.8 0.0**
MERS Mersin 2.15 26 PN **Pn 00 35 54.4 +0.7**
BHL Bhannes 2.17 118 *eP* **Pn 00 35 52.9 -1.2**
DQRL Deir Qamar 2.21 123 *eP* **Pn 00 35 53.6 -1.1**
OSC1 CSNet OBS 1 2.24 231 P **Pn 00 35 55.4 +0.5**
KKBE Karaman, Kazim 2.30 352 P **Pn 00 35 57.0 +1.1**
KKBE S **Sn 00 36 22.1 -0.9**
KKBE *i* AML AML 00 36 27.0
comp=E,52nm,0.5s
DED Mersin 2.34 30 P **Pn 00 35 56.6 +0.3**
DED S **Sn 00 36 21.4 -2.5**
HNTI Hanita 2.39 140 Pn **Pn 00 35 57.1 0.0**
HNTI Sn **Sn 00 36 24.5 -0.7**
KEPZ Antalya-Kepez 2.42 325 P **Pn 00 35 57.8 +0.4**
KEPZ S **Sn 00 36 25.9 0.0**
YAYL Yayladag 2.50 63 PN **Pn 00 35 58.5 -0.1**
YAYL Yayladag 2.50 63 P **Pn 00 35 58.1 -0.6**
YAYL S **Sn 00 36 26.0 -2.0**
RCY Rachaya 2.51 124 *eP* **Pn 00 35 58.6 -0.2**
RCY *eS* **Sn 00 36 20.0 -8.3**
SHBL Chebaa 2.54 128 *eP* **Pn 00 35 59.2 0.0**
SHBL *eS* **Sn 00 36 21.1 -8.0**
KERG Konya-Eregli 2.55 14 P **Pn 00 36 01.1 +1.8**
KERG S **Sn 00 36 30.8 +1.6**
KERG *i* AML AML 00 37 30.0
comp=N,41nm,2.9s
MMA0B Mount Meron ar 2.57 138 Pn **Pn 00 35 59.8 +0.3**
MMA0B Sn **Sn 00 36 29.4 -0.2**
GEM Giv'at Ha'Em 2.58 131 Pn **Pn 00 36 00.0 +0.4**
GEM Sn **Sn 00 36 29.2 -0.6**
NATI Neve Ativ 2.59 130 Pn **Pn 00 36 00.3 +0.6**
NATI Sn **Sn 00 36 29.7 -0.3**
BLGI Bet Lehem HaGe 2.68 145 Pn **Pn 00 36 01.8 +0.8**
BLGI Sn **Sn 00 36 32.2 -0.1**
OFRI `Ofer 2.68 149 Pn **Pn 00 36 01.6 +0.5**
OFRI Sn **Sn 00 36 32.0 -0.4**
KARA Karaisali 2.70 30 PN **Pn 00 36 02.6 +1.4**
SEYD Seydisehir-KON 2.75 334 PN **Pn 00 36 02.3 +0.3**
SEDI Konya, Seydise 2.82 333 P **Pn 00 36 04.5 +1.5**
SEDI S **Sn 00 36 36.2 +0.4**
SEDI *i* AML AML 00 36 41.0
comp=E,29nm,0.5s
YESY Yesilyurt 2.86 6 PN **Pn 00 36 04.7 +1.2**
CMRD Camardi-Nigde 3.02 26 PN **Pn 00 36 06.9 +1.1**
MMLI Mount Malkishu 3.04 145 Pn **Pn 00 36 06.8 +0.9**
SLTI Sal'it 3.04 152 Pn **Pn 00 36 06.9 +1.0**
SLTI Sn **Sn 00 36 41.2 +0.1**
KONT Konya--Tatoy 3.10 345 PN **Pn 00 36 07.8 +1.0**
KONT Konya--Tatoy 3.10 345 P **Pn 00 36 08.4 +1.6**
KONT S **Sn 00 36 42.5 -0.2**
SUTC Sutluce-Ispart 3.17 324 PN **Pn 00 36 08.6 +0.9**
KORT Korkueli 3.19 311 PN **Pn 00 36 08.5 +0.5**
HMDT Nahal Hemdat 3.24 145 Pn **Pn 00 36 09.9 +1.3**
HMDT Sn **Sn 00 36 46.2 +0.3**
NIDE Nigde/Merkez-G 3.26 20 P **Pn 00 36 11.3 +2.2**
NIDE S **Sn 00 36 47.7 +0.9**
AKAS Kas 3.31 294 PN **Pn 00 36 09.7 0.0**
ALIN Konya, Altinte 3.37 354 P **Pn 00 36 10.8 +0.2**
YAHY KAYSERI_Yahyal 3.54 27 P **Pn 00 36 14.5 +1.6**
YAHY S **Sn 00 36 53.6 0.0**
ANDN Andirin 3.58 42 P **Pn 00 36 13.9 +0.5**
BAGO Egridir - ISPA 3.68 327 P **Pn 00 36 17.5 +2.8**
KDHN Kadinhani 3.71 345 P **Pn 00 36 15.5 +0.4**
YVAC Isparta, Yalva 3.73 334 P **Pn 00 36 16.5 +1.0**
DSI Dead Sea 3.77 153 Pn **Pn 00 36 16.8 +0.9**
FETY Fethiye 3.86 297 P **Pn 00 36 16.2 -0.9**
FETY S **Sn 00 36 57.1 -4.1**
FETY *i* AML AML 00 37 02.0
comp=E,16nm,0.2s
YTIR Yattir 3.86 157 Pn **Pn 00 36 18.7 +1.4**
YTIR Sn **Sn 00 37 01.7 +0.3**
GHAJ Ghor Haditha 4.08 152 Pn **Pn 00 36 21.8 +1.7**
KZIT Kziot 4.12 167 Pn **Pn 00 36 21.5 +0.8**
KZIT Sn **Sn 00 37 07.0 -0.6**
ZFRI Zfri 4.64 160 Pn **Pn 00 36 28.5 +0.7**
ZFRI Sn **Sn 00 37 19.5 -0.8**
PRNI Paran 4.78 163 Pn **Pn 00 36 31.0 +1.2**
PRNI Sn **Sn 00 37 22.9 -1.1**
KRMI Paran Flat 4.95 166 Pn **Pn 00 36 32.9 +0.8**
KRMI Sn **Sn 00 37 27.7 -0.3**
HRFI Mount Harif 5.09 163 Pn **Pn 00 36 35.1 +1.0**
HRFI Sn **Sn 00 37 31.1 -0.5**
MBRI Mt Berech 5.30 165 Pn **Pn 00 36 37.8 +0.9**

*IDC **29** 00:44:26.3±1.4,30′.33S×71′.85W,h0km,mb3.8/2,*
mb1 3.9/6,mb1mx3.7/24,mbtmp3.7/6,ML3.5/4,Error
ellipse: s-maj=44.1km s-min=30.2km az=102.0
*GUC **29** 00:44:27.9±0.5,30′.35S×72′.07W,h41km±3km,ML3.8*
ISC 29 00:44:26.7±2.0,**30′.29S**±0′.04×**71′.98W**±0′.08,**h6**km±12km,
n23,σ0°**87**/24,**4C-5D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.48**	**142**	⇓*iP*	**Pb**	**00 44 38.0**	**+0.4**
CO06				*i* S	**Sb**	**00 44 44.6**	**-0.3**
CO06				IAML		00 44 47.9	
comp=E,10μm,0.2s							
CO05	**La Serena**	**0.74**	**60**	⇓*iP*	**Pn**	**00 44 43.4**	**-0.3**
CO05				*i* S	**Sn**	**00 44 55.1**	**-0.1**
CO05				IAML		00 44 59.3	
comp=E,5μm,0.4s							
GO04	**Tololo Observa**	**1.02**	**84**	⇓*iP*	**Pn**	**00 44 48.1**	**+0.2**
GO04				*i* S	**Sn**	**00 45 03.3**	**+0.7**
CO03	**El Pedregal**	**1.24**	**116**	⇓*iP*	**Pg**	**00 44 50.6**	**+0.1**
CO03				*i* S	**Sn**	**00 45 07.4**	**-0.3**
CO03				IAML		00 45 10.9	
comp=E,2μm,0.4s							
LCO	**Las Campanas**	**1.69**	**41**	⇑*iP*	**Pb**	**00 44 57.9**	**-0.5**
LCO				*i* S	**Sg**	**00 45 20.8**	**-0.3**
AC04	**Llanos de Chal**	**2.23**	**21**	⇑*iP*	**Pn**	**00 45 03.7**	**-0.4**
AC04				IAML		00 45 47.5	
comp=E,357nm,0.7s							
VA03	**San Esteban**	**2.75**	**154**	IAML		00 46 02.5	
comp=E,576nm,0.4s							
ROCH	**El Roble**	**2.79**	**163**	⇑*iP*	**Pn**	**00 45 12.0**	**-0.1**
ROCH				IAML		00 46 01.6	
comp=N,523nm,0.4s							
MT02	**Curacav**	**3.04**	**167**	⇑*iP*	**Pn**	**00 45 14.8**	**-0.6**
MT02				IAML		00 46 13.3	
comp=E,132nm,0.4s							
PEL	**Peldehue**	**3.05**	**159**	⇓*iP*	**Pn**	**00 45 16.2**	**+0.7**
PEL				*i* S	**Sn**	**00 45 51.0**	**-1.3**
PEL				IAML		00 46 06.2	
comp=E,240nm,0.8s							
MT05	**Renca**	**3.27**	**162**	IAML		00 46 18.0	
comp=E,424nm,0.2s							
MT01	**Popeta**	**3.61**	**170**	*eP*	**Pn**	**00 45 22.4**	**-0.8**
H03N1	**Juan Fernandez**	**6.68**	**240**	T	T	00 53 10.8	
baz=70,slow=72,SNR=1021							
H03N2	**Juan Fernandez**	**6.70**	**240**	T	T	00 53 04.8	
baz=70,slow=72,SNR=856							
H03N3	**Juan Fernandez**	**6.70**	**240**	T	T	00 53 06.6	
baz=70,slow=72,SNR=907							
LVC	**Limon Verde**	**8.13**	**20**	Pn	**Pn**	**00 46 23.8**	**-1.8**
comp=E,0.2nm,0.3s,baz=224,slow=23,SNR=1.0							
LVC				Lg	Lg	00 48 25.6	
comp=E,0.8nm,0.3s,baz=202,slow=19,SNR=4.8							
PLCA	**Paso Flores**	**10.48**	**174**	Pn	**Pn**	**00 46 57.0**	**-0.6**
comp=E,0.1nm,0.3s,baz=349,slow=13,SNR=3.2							
LPAZ	**La Paz**	**14.38**	**15**	Pn	**Pn**	**00 47 53.6**	**+2.2**
comp=E,0.1nm,0.3s,baz=196,slow=5.1,SNR=6.4							
SIV	**San Ignacio**	**17.39**	**37**	P	**P**	**00 48 31.9**	**+0.4**
comp=E,0.2nm,0.3s,baz=212,slow=11,SNR=11							
BDFB	**Brasilia**	**26.37**	**62**	P	**P**	**00 50 03.2**	**-0.7**
comp=E,2.1nm,0.5s,baz=229,slow=5.9,SNR=3.7							
TXAR	**Lajitas Array**	**66.55**	**330**	P	**P**	**00 55 18.6**	**+0.9**
comp=E,0.3nm,0.7s,baz=148,slow=7.4,SNR=4.0							
AAK	**Ala-Archa**	**150.55**	**56**	PKPbc	**PKiKP**	**01 04 20.1**	**-0.1**
comp=E,0.7nm,0.6s,baz=270,slow=2.0,SNR=4.0							
ZALV	**Zalesovo Beam**	**151.01**	**29**	PKPbc	**PKiKP**	**01 04 20.5**	**-0.1**
comp=E,1.8nm,0.6s,baz=294,slow=3.5,SNR=11							

*IDC **29** 00:44:47.1±12.0,37′.57N×70′.64E,h0km,mb4.2/1,*
mb1 4.0/4,mb1mx3.2/32,mbtmp3.9/4,ML3.4/2,Error
ellipse: s-maj=227.3km s-min=25.0km az=162.0
*NNC **29** 00:44:53.6±2.4,37′.19N×71′.00E,h144km±37km,mb3.1,*
mpv4.0,Error ellipse: s-maj=21.6km s-min=13.9km
az=26.0
ISC 29 00:44:51.9±2.1,**37′.1N**±0′.1×**70′.84E**±0′.09,**h100**km,**n26,**
σ1°40/29,6C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.49**	**23**	P	**Pn**	**00 46 12.1**	**+0.5**
SNR=85							
UCH	**Uchtor**	**5.86**	**28**	P	**Pn**	**00 46 17.1**	**+0.5**
SNR=15							
EKS2	**Erkin-Say**	**6.00**	**21**	P	**Pn**	**00 46 18.7**	**+0.4**
SNR=11							
KK02	**Karatay Array**	**6.01**	**358**	⇑P	**Pn**	**00 46 19.5**	**+1.3**
5.1nm,0.3s							
KK02				⇓S	**Sn**	**00 47 26.1**	**+0.5**
2.3nm,0.4s							
AAK	**Ala-Archa**	**6.21**	**26**	P	**Pn**	**00 46 21.7**	**+0.5**
SNR=10							
AAK	**Ala-Archa**	**6.21**	**26**	⇓P	**Pn**	**00 46 21.1**	**0.0**
5.2nm,0.4s							
AAK				⇓S	**Sn**	**00 47 30.5**	**-0.3**
7.7nm,0.6s							
CHMS	**Chumysh**	**6.62**	**26**	P	**Pn**	**00 46 26.7**	**+0.2**
SNR=8.5							
USP	**Ospenovka**	**6.77**	**23**	P	**Pn**	**00 46 28.6**	**-0.1**
SNR=7.9							
TKM2	**Tokmak 2**	**6.87**	**31**	P	**Pn**	**00 46 30.0**	**-0.1**
SNR=6.3							
TKM2	**Tokmak 2**	**6.87**	**31**	⇓P	**Pn**	**00 46 29.6**	**-0.5**
4.7nm,0.6s							
TKM2				⇑S	**Sn**	**00 47 46.8**	**-0.1**
4.4nm,0.8s							
SGDS	**Sogindy**	**6.98**	**23**	P	**Pn**	**00 46 31.0**	**-0.5**
7.5nm,0.4s							
KST	**Kastek**	**7.12**	**32**	Lg	Lg	00 47 49.3	
6.6nm,0.6s							
DGS	**Degeres**	**7.21**	**30**	P	**Pn**	**00 46 34.2**	**-0.5**
5.3nm,0.6s							
MTBS	**Maitube**	**7.39**	**34**	P	**Pn**	**00 46 36.7**	**-0.4**
6.1nm,0.3s							
KRBS	**Karabastau**	**7.55**	**28**	P	**Pn**	**00 46 38.5**	**-0.8**
2.2nm,0.3s							
MDOK	**Medeo**	**7.70**	**36**	⇑P	**Pn**	**00 46 42.7**	**+1.3**
3.9nm,0.6s							
KUU	**Kurty**	**7.98**	**30**	P	**Pn**	**00 46 43.6**	**-1.4**
3.0nm,0.5s							
GEYT	**Alibeck**	**10.14**	**279**	Pn	Pn	00 47 11.0	-3.5
GEYT				Sn	**Sn**	**00 49 04.1**	**-2.3**
OTUK	**Ortayu**	**11.20**	**5**	⇑P	**Pn**	**00 47 27.1**	**-1.7**
1.0nm,0.5s							
MAKZ	**Makanchi**	**12.75**	**37**	⇑P	**Pn**	**00 47 45.6**	**-3.8**
0.5nm,0.6s							
MK31	**Makanchi Array**	**12.89**	**38**	P	**Pn**	**00 47 49.6**	**-1.7**
0.6nm,0.6s,baz=224,slow=14,SNR=15							
MKAR	**Makanchi Array**	**12.89**	**38**	Pn	**Pn**	**00 47 49.0**	**-2.3**
0.2nm,0.3s,baz=225,slow=15,SNR=17							
AB31	**Akbulak array**	**14.50**	**330**	⇓P	**Pn**	**00 48 12.3**	**+0.2**
0.3nm,0.3s,baz=139,slow=12,SNR=40							
AB31				⇓S	**Sn**	**00 50 50.5**	**-1.3**
1.4nm,0.8s,baz=146,slow=27,SNR=5.3							
AKTO	**Aktyubinsk**	**16.20**	**329**	⇑P	**P**	**00 48 36.1**	**+1.4**
1.6nm,0.6s							
ZALV	**Zalesovo Beam**	**19.43**	**25**	P	**P**	**00 49 09.3**	**-0.8**
0.6nm,0.3s,baz=215,slow=10,SNR=12							
ARCES	**ARCESS Array B**	**40.55**	**337**	P	**P**	**00 52 23.8**	**+2.9**
4.1nm,1.0s,baz=119,slow=9.4,SNR=2.1							

*IPEC **29** 01:14:21.9±0.3,51′.55N×16′.20E,h1km,ML2.5/3,Error*
ellipse: s-maj=3.1km s-min=1.4km az=58.0
*IDC **29** 01:14:22.8±1.2,51′.48N×16′.05E,h0km,mb1 3.5/3,*
mb1mx2.9/57,mbtmp3.4/3,ML2.8/3,Error ellipse:
s-maj=21.6km s-min=10.7km az=126.0
*PRU **29** 01:14:22.4±0.0,51′.57N×16′.07E,h0km*
*VIE **29** 01:14:25.9±1.0,51′.33N×15′.97E,h0km,mb2.7/10,*
ml2.5/12,Error ellipse: s-maj=5.3km s-min=4.3km
az=179.0 77 km WNW of Wroclaw Suspected Mining
induced.
ISC 29 01:14:20.1±0.8,**51′.65N**±0′.04×**16′.09E**±0′.02,**h0**km,**n53,**
σ1°30/99,8C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.81**	**171**	*e*Pg	**Pg**	**01 14 36.2**	**+0.6**
KSP				*e*Sg	**Sg**	**01 14 46.5**	**+0.2**
CHVC	**Chvalec**	**1.06**	**181**	*e*PG	**Pb**	**01 14 41.0**	**-0.3**
CHVC				*e*SG	**Sg**	**01 14 53.9**	**-0.2**
OSTC	**Ostas**	**1.09**	**176**	*e*PG	**Pb**	**01 14 41.7**	**-0.2**
OSTC				*e*SG	**Sg**	**01 14 55.1**	**-0.1**
comp=Z,68nm,0.6s							
UPC	**Upice**	**1.14**	**182**	*e*PG	**Pb**	**01 14 42.4**	**-0.3**
UPC				*e*SG	**Sg**	**01 14 56.1**	**-0.6**
DPC	**Dobruska-Polom**	**1.31**	**173**	*e*PG	**Pg**	**01 14 45.1**	**0.0**
DPC				*e*SG	**Sg**	**01 15 01.0**	**-1.0**
comp=Z,88nm,0.8s							
PVCC	**Panska Ves**	**1.47**	**221**	*e*PG	**Pg**	**01 14 48.3**	**0.0**
PVCC				*e*SG	**Sn**	**01 15 08.4**	**+0.6**
comp=Z,183nm,0.4s							
BRG	**Berggiesshubel**	**1.56**	**241**	Pg	**Pg**	**01 14 50.6**	**+0.8**
BRG				Sg	**Sg**	**01 15 11.0**	**+1.0**
BRG				Amp		01 15 11.8	
comp=Z,115nm,0.4s							
KRLC	**Kraliky**	**1.63**	**164**	*e*PG	**Pn**	**01 14 50.2**	**+0.1**
KRLC				*e*SG	**Sn**	**01 15 11.1**	**-0.8**
comp=Z,54nm,0.6s							
PRU	**Pruhonice**	**1.93**	**211**	*e*PN	**Pn**	**01 14 54.3**	**+0.2**
PRU				*e*PG	**Pb**	**01 14 56.3**	**+0.2**
PRU				*e*SG	**Sb**	**01 15 20.4**	**-0.3**
comp=Z,49nm,0.7s							
CLL	**Collm**	**1.96**	**261**	*i* Pn	**Pn**	**01 14 55.0**	**+0.5**
comp=Z,12nm,0.5s							
CLL				*i* Pg	**Pg**	**01 14 58.2**	**+0.6**
CLL				*i* x	x	01 15 02.1	
CLL				*e*Sg	**Sg**	**01 15 24.0**	**+1.0**
comp=Z,27nm,0.5s							
MORC	**Moravsky Berou**	**2.09**	**153**	⇑P	**Pn**	**01 14 56.5**	**+0.2**
MORC				⇑S	**Sb**	**01 15 26.1**	**+0.8**
MORC	**Moravsky Berou**	**2.09**	**153**	*e*Pn	**Pn**	**01 14 56.1**	**-0.3**
baz=335							
MORC				*e*Sg	**Sn**	**01 15 24.0**	**+0.9**
comp=Z,26nm,0.5s,baz=335							
OKC	**Ostrava-Krasne**	**2.23**	**143**	*e*PG	**Pg**	**01 15 02.4**	**-0.5**
OKC				*e*SG	**Sb**	**01 15 29.4**	**-0.1**
comp=Z,43nm,0.7s							
VRAC	**Vranov**	**2.36**	**172**	⇑P	**Pn**	**01 15 00.6**	**+0.4**
VRAC				⇓S	**Sb**	**01 15 32.6**	**-0.6**
VRAC	**Vranov**	**2.36**	**172**	Lg	Lg	01 15 34.6	
baz=85,slow=18							
VRAC	**Vranov**	**2.36**	**172**	*e*Pn	**Pn**	**01 15 00.5**	**+0.4**
baz=354							
VRAC				*e*Sg	**Sb**	**01 15 32.3**	**-0.9**
comp=Z,23nm,0.6s,baz=354							
VRAC	**Vranov**	**2.36**	**172**	*e*PN	**Pn**	**01 15 00.6**	**+0.4**
VRAC				*e*SG	**Sb**	**01 15 32.4**	**-0.8**
PBCC	**Pribram**	**2.37**	**215**	*e*SG	**Sg**	**01 15 35.3**	**-0.9**
comp=Z,10.0nm,0.5s							
TREC	**Trest**	**2.39**	**189**	*e*SG	**Sb**	**01 15 35.2**	**+1.3**
KRUC	**Moravsky**	**2.59**	**176**	*e*Pn	**Pn**	**01 15 03.3**	**0.0**
baz=357							
KRUC				*e*Sg	**Sb**	**01 15 39.9**	**0.0**
comp=Z,19nm,0.5s,baz=357							
NKC	**Novy Kostel**	**2.70**	**240**	*e*PN	**Pn**	**01 15 05.9**	**+1.1**
NKC				*e*PG	**Pg**	**01 15 12.0**	**+0.2**
NKC				*e*SG	**Sg**	**01 15 47.0**	**+0.2**
OJC	**Ojcow**	**2.75**	**120**	*e*Pn	**Pn**	**01 15 05.5**	**+0.1**
OJC				*e*Pg	**Pg**	**01 15 12.8**	**+0.1**
OJC				*e*Sg	**Sg**	**01 15 48.6**	**+0.3**
JAVC	**Velka Javorina**	**2.97**	**159**	*e*PN	**Pn**	**01 15 08.4**	**-0.1**
KHC	**Kasperske Hory**	**2.99**	**214**	*e*PN	**Pn**	**01 15 08.9**	**+0.2**
KHC				*e*PG	**Pg**	**01 15 17.5**	**+0.2**
KHC				*e*SN	**Sn**	**01 15 45.5**	**+0.3**
KHC				*e*SG	**Sg**	**01 15 54.9**	**-1.1**
comp=Z,12nm,0.4s							
CKRC	**Cesky Krumlov**	**3.05**	**203**	*e*PN	**Pn**	**01 15 10.8**	**+1.2**
CKRC				*e*PG	**Pb**	**01 15 16.5**	**+1.3**
CKRC				*e*SG	**Sg**	**01 15 56.9**	**-1.2**
comp=Z,18nm,0.5s							
GERES	**GERESS Array B**	**3.20**	**210**	Pn	**Pn**	**01 15 12.3**	**+0.6**
comp=Z,1.1nm,0.3s,baz=32,slow=13,SNR=29							
GERES				Sn	**Sn**	**01 15 44.9**	**-5.5**
comp=Z,1.6nm,0.3s,baz=45,slow=24,SNR=6.1							
GERES				Lg	Lg	01 15 58.2	
comp=Z,3.9nm,0.3s,baz=34,slow=25,SNR=4.8							
SMOL	**Smolenice**	**3.25**	**164**	*e*PG	**Pg**	**01 15 22.3**	**-0.1**
SMOL				*e*SG	**Sg**	**01 16 05.2**	**+0.7**
LANS	**Liptovska Anna**	**3.31**	**138**	*e*PN	**Pn**	**01 15 14.0**	**+0.9**
LANS				*e*PG	**Pg**	**01 15 23.0**	**-0.4**
LANS				*e*SG	**Sg**	**01 16 07.0**	**+0.8**
MODS	**Modra-Piesok**	**3.37**	**166**	*e*PN	**Pn**	**01 15 15.0**	**+1.1**
MODS				*e*PG	**Pg**	**01 15 25.6**	**+1.1**
MODS				*e*SG	**Sg**	**01 16 07.3**	**-0.8**
NIE	**Niedzica**	**3.49**	**128**	*e*P	**Pg**	**01 15 27.1**	**+0.1**
NIE				*e*S	**Sg**	**01 16 12.9**	**+0.7**
ZST	**Bratislava**	**3.52**	**169**	*e*SG	**Sg**	**01 16 12.9**	**-0.1**
VYHS	**Vyhne**	**3.62**	**150**	*e*PN	**Pn**	**01 15 17.6**	**+0.2**
VYHS				*e*PG	**Pg**	**01 15 31.4**	**+2.0**
VYHS				*e*SG	**Sg**	**01 16 17.3**	**+1.0**
CONA	**Conrad Observa**	**3.73**	**182**	*i* Pn	**Pn**	**01 15 20.3**	**+1.4**
comp=Z,2.2nm,0.3s,SNR=9.0							
CONA				*e*Pg	**Pg**	**01 15 30.9**	**-0.6**
comp=Z,4.8nm,0.3s							
CONA				*e*Sg	**Sg**	**01 16 18.5**	**-1.2**
comp=Z,10.0nm,0.4s							
MOA	**Molin**	**3.98**	**198**	*i* Pn	**Pn**	**01 15 23.2**	**+0.9**
comp=Z,7.4nm,0.3s,SNR=22							
MOA				*e*Sg	**Sg**	**01 16 26.5**	**-1.4**
comp=Z,12nm,0.6s							
CRVS	**Cervenica-Dubn**	**4.41**	**126**	*e*PG	**Pg**	**01 15 48.5**	**+4.0**
ARSA	**Arzberg**	**4.42**	**185**	*e*Sg	**Sg**	**01 16 43.1**	**+1.2**
comp=Z,10nm,0.6s							
KBA	**Koelnbreinsper**	**4.91**	**202**	*i* Pn	**Pn**	**01 15 36.5**	**+1.2**
comp=Z,4.1nm,0.4s,SNR=8.1							
KBA				*e*Sg	**Sg**	**01 16 58.1**	**+0.3**
comp=Z,6.8nm,0.5s							
SOKA	**Soboth**	**5.02**	**188**	*i* Pn	**Pn**	**01 15 39.1**	**+2.4**
comp=Z,1.1nm,0.4s,SNR=4.6							
SOKA				*e*Sg	**Sg**	**01 16 59.0**	**-2.3**
comp=Z,3.2nm,0.6s							
WATA	**Walderalm**	**5.22**	**216**	*i* Pn	**Pn**	**01 15 41.6**	**+2.1**
comp=Z,1.5nm,0.3s							
WATA				*e*Sg	**Sg**	**01 17 09.1**	**+1.4**
OBKA	**Obir**	**5.24**	**192**	*e*Pn	**Pn**	**01 15 41.5**	**+1.8**
comp=Z,0.9nm,0.4s							
OBKA				*e*Sg	**Sg**	**01 17 09.1**	**+0.8**
comp=Z,6.0nm,0.8s							
WTTA	**Wattenberg**	**5.26**	**215**	*e*Sg	**Sg**	**01 17 12.4**	**+3.4**
comp=Z,10nm,0.6s							
MYKA	**Terra Mystica**	**5.27**	**199**	*e*Sg	**Sg**	**01 17 08.7**	**-0.6**
comp=Z,4.8nm,0.7s							
MOTA	**Moosalm**	**5.39**	**219**	*i* Pn	**Pn**	**01 15 43.0**	**+1.1**
comp=Z,1.2nm,0.5s							
MOTA				*e*Sg	**Sg**	**01 17 14.2**	**+0.9**
comp=Z,4.3nm,0.6s							
ABTA	**Abfaltersbach**	**5.43**	**207**	*i* Pn	**Pn**	**01 15 44.0**	**+1.6**
comp=Z,1.0nm,0.5s							
ABTA				*e*Sg	**Sg**	**01 17 13.9**	**-0.6**
comp=Z,3.2nm,0.6s							
SQTA	**Sankt Quirin**	**5.45**	**218**	*i* Pn	**Pn**	**01 15 45.1**	**+2.5**
comp=Z,0.8nm,0.2s							
TRPA	**Tarpa**	**5.46**	**128**	⇑P	**Pn**	**01 15 42.8**	**+0.2**
FETA	**Feichten**	**5.80**	**219**	*e*Pn	**Pn**	**01 15 50.4**	**+2.9**
comp=Z,0.4nm,0.3s							
DRGR		**6.51**	**136**	⇑P	**Pn**	**01 15 57.3**	**+0.1**
SIRR	**Siria**	**6.51**	**144**	⇑P	**Pn**	**01 15 57.5**	**+0.3**
BZS	**Buzias**	**7.06**	**147**	⇑P	**Pn**	**01 16 04.8**	**+0.3**
BURAR	**Bucovina Array**	**7.17**	**121**	⇑P	**Pn**	**01 16 05.6**	**-0.6**
**

LCRM S **Sb** **01 17 22.1 -1.1**
SFS San Fernando 2.21 296 Pn **Pn** **01 16 55.9 -1.3**
IFR Ifrane 2.29 210 P **Pn** **01 16 57.7 -0.8**
IFR Ifrane 2.29 210 S **Sn** **01 17 24.4 -2.1**
OTSS Djebel Tessala 2.42 95 P **Pg** **01 17 08.0 +0.2**
MD31 MD31 2.77 198 P **Pn** **01 17 04.8 -0.2**
MD31 S **Sn** **01 17 36.5 -1.5**
MDT Midelt 2.79 195 Pn **Pn** **01 17 04.6 -0.5**
3.6nm,0.3s,baz=178,slow=13,SNR=121
MDT Sn **Sn** **01 17 38.4 -0.1**
23nm,0.3s,baz=90,slow=21,SNR=7.6
MDT Midelt 2.79 195 P **Pn** **01 17 04.7 -0.5**
MDT S **Sn** **01 17 37.0 -1.5**
CART Cartagena 3.03 46 e **Pn** **01 17 07.4 -1.1**
CART Cartagena 3.03 46 P **Pn** **01 17 07.5 -1.0**
CART S **Sn** **01 17 42.4 -1.9**
PVAQ Vaqueiros 3.72 302 ePn **Pn** **01 17 17.6 -0.4**
PVAQ eSn **Sn** **01 18 00.1 -1.2**
PVAQ A A 01 18 09.2
46nm,0.4s
PVAQ Vaqueiros 3.72 302 **Pn** **01 17 16.9 -1.0**
PVAQ Vaqueiros 3.72 302 P **Pn** **01 17 17.5 -0.4**
PVAQ S **Sb** **01 18 08.2 -3.1**
AVE Averroes 3.75 235 P **Pn** **01 17 18.8 +0.3**
AVE Averroes 3.75 235 P **Pn** **01 17 17.8 -0.6**
PBDV Barranco-do-Ve 3.79 298 ePn **Pn** **01 17 18.9 -0.1**
PBDV eSn **Sn** **01 18 01.8 -1.4**
PBDV A A 01 18 10.2
38nm,0.3s
GOLM Goulmima 3.93 195 P **Pn** **01 17 22.3 +1.3**
FIGM Figuig 3.95 148 P **Pn** **01 17 22.3 +1.0**
PCVE Castro Verde 4.05 303 ePn **Pn** **01 17 22.4 -0.1**
PCVE eSn **Sn** **01 18 08.5 -1.1**
PCVE A A 01 18 24.8
29nm,0.7s
PAB San Pablo 4.05 353 **Pn** **01 17 24.7 +2.1**
PBEJ Beja 4.15 308 ePn **Pn** **01 17 24.0 +0.1**
PBEJ eSn **Sn** **01 18 10.5 -1.5**
PBEJ A A 01 18 23.9
18nm,0.5s
ESDC Sonseca Array 4.16 358 Pn **Pn** **01 17 26.0 +1.9**
1.6nm,0.3s,baz=179,slow=12,SNR=60
ESDC Lg Lg 01 18 31.2
2.3nm,0.3s,baz=181,slow=28,SNR=5.8
ESDC Sonseca Array 4.16 358 **Pn** **01 17 25.2 +1.1**
ESBB Sonseca Array 4.16 358 **Pn** **01 17 25.2 +1.1**
MESJ Messejana 4.28 304 eP **Pn** **01 17 25.3 -0.4**
MESJ Messejana 4.28 304 ePn **Pn** **01 17 25.6 -0.1**
MESJ eSn **Sn** **01 18 13.1 -2.1**
MESJ A A 01 18 21.1
33nm,0.3s
MORF Marmelete 4.34 296 eP **Pn** **01 17 25.9 -0.6**
MORF Marmelete 4.34 296 ePn **Pn** **01 17 27.1 +0.5**
MORF eSn **Sn** **01 18 15.3 -1.5**
MORF A A 01 18 18.9
24nm,0.3s
PFVI Vila Bisbo 4.41 293 ePn **Pn** **01 17 27.0 -0.5**
PFVI eSn **Sn** **01 18 15.8 -2.6**
PFVI A A 01 18 29.1
30nm,0.4s
PFVI Vila Bisbo 4.41 293 Pn **Pn** **01 17 27.4 0.0**
PFVI Vila Bisbo 4.41 293 P **Pn** **01 17 27.7 +0.3**
PTEO Sao Teotonio 4.49 298 ePn **Pn** **01 17 28.7 +0.1**
PTEO eSn **Sn** **01 18 18.8 -1.6**
PTEO A A 01 18 28.9
33nm,0.5s
PESTR Estremoz 4.54 319 ePn **Pn** **01 17 30.5 +1.2**
PESTR eSn **Sn** **01 18 20.1 -1.6**
PESTR A A 01 18 31.3
16nm,0.4s
PESTR Estremoz 4.54 319 Pn **Pn** **01 17 29.4 +0.1**
PESTR Estremoz 4.54 319 P **Pn** **01 17 30.5 +1.2**
EVO Evora 4.55 313 P **Pn** **01 17 29.1 -0.3**
EVO Evora 4.55 313 S **Sn** **01 18 20.0 -1.9**
EVO Evora 4.55 313 ePn **Pn** **01 17 30.6 +1.2**
EVO eSn **Sn** **01 18 18.8 -3.2**
EVO A A 01 18 38.6
25nm,0.5s
PNCL Nicolau / Gran 4.63 305 ePn **Pn** **01 17 30.5 0.0**
PNCL eSn **Sn** **01 18 23.4 -0.5**
PNCL A A 01 18 38.0
19nm,0.5s
PMRV Marv??o 4.87 325 ePn **Pn** **01 17 35.2 +1.4**
PMRV eSn **Sn** **01 18 27.9 -1.8**
PMRV A A 01 18 46.2
17nm,0.5s
TZRR Tazzarine 4.96 198 P **Pn** **01 17 35.6 +0.5**
PMTG Montargil 5.04 316 ePn **Pn** **01 17 36.9 +0.9**
PMTG eSn **Sn** **01 18 32.2 -1.6**
PMTG A A 01 18 49.4
18nm,0.5s
PCBR Castelo Branco 5.24 327 ePn **Pn** **01 17 39.9 +1.1**
PCBR eSn **Sn** **01 18 37.4 -1.4**
PCBR A A 01 19 28.5
16nm,0.7s
OUZM OUZ 5.24 210 P **Pn** **01 17 39.2 +0.2**
OUZM S **Sn** **01 18 37.5 -1.6**
LIS Lisbon 5.37 308 ePn **Pn** **01 17 41.4 +0.7**
PMST Lisbon--Monsan 5.41 308 ePn **Pn** **01 17 41.8 +0.7**
OUK Oukaimeden 5.51 220 P **Pn** **01 17 41.9 -1.0**
PMAFR Mafra 5.60 310 ePn **Pn** **01 17 44.3 +0.5**
ZGR Zagora 5.61 197 P **Pn** **01 17 44.0 0.0**
PSBE So Bento 5.66 316 ePn **Pn** **01 17 45.9 +1.2**
MTE Manteigas 5.73 330 ePn **Pn** **01 17 47.3 +1.7**
MTE eSn **Sn** **01 18 50.4 -0.6**
MTE A A 01 19 23.1
28nm,0.5s
MTE Manteigas 5.73 330 Pn **Pn** **01 17 46.9 +1.3**
PCAS Casmilo, Conde 5.89 322 ePn **Pn** **01 17 49.1 +1.3**
PCAS eSn **Sn** **01 18 52.6 -2.3**
PCAS A A 01 19 49.8
24nm,0.7s
COI Coimbra 5.97 323 eSn **Sn** **01 18 54.8 -1.9**
COI A A 01 19 20.8
29nm,0.5s
COI Coimbra 5.97 323 Pn **Pn** **01 17 49.5 +0.7**
PVIS Viseu 6.14 329 ePn **Pn** **01 17 54.8 +3.6**
PVIS eSn **Sn** **01 19 00.5 -0.6**
PVIS A A 01 19 12.6
18nm,0.7s
MVO Moncorvo 6.20 336 ePn **Pn** **01 17 53.9 +1.7**
MVO eSn **Sn** **01 19 00.7 -2.0**
MVO A A 01 19 10.0
24nm,0.7s
TTIG Tnine Tigouga, 6.33 220 P **Pn** **01 17 50.9 -3.1**
PVRL Vila Real 6.54 333 ePn **Pn** **01 17 58.0 +1.2**
PVRL eSn **Sn** **01 19 08.1 -2.9**
PVRL A A 01 19 15.9
16nm,0.5s
POLO Lamas de Olo 6.66 333 ePn **Pn** **01 17 59.7 +1.3**
POLO eSn **Sn** **01 19 11.0 -2.9**
POLO A A 01 19 40.9
6.2nm,0.5s
PBRG Braganca 6.71 340 ePn **Pn** **01 18 00.8 +1.8**
PBRG eSn **Sn** **01 19 14.5 -0.5**
PBRG A A 01 20 16.5
10nm,0.6s
PTO Porto 6.79 327 ePn **Pn** **01 18 01.3 +1.2**
PTO eSn **Sn** **01 19 14.2 -2.8**
PTO A A 01 19 29.5
14nm,0.6s
PGAV Gavieira, Arco 7.35 333 ePn **Pn** **01 18 11.3 +3.4**
PGAV eSn **Sn** **01 19 29.6 -1.3**
PGAV A A 01 19 35.7
11nm,0.5s
ETSF Etsaut 7.78 18 eP **Pn** **01 18 16.6 +2.8**
ETSF eSn **Sn** **01 19 35.2 -6.3**
0.7nm,0.3s
SJPF Ste Jean 7.84 14 eP **Pn** **01 18 16.4 +1.9**
SJPF eSn **Sn** **01 19 38.2 -4.6**
0.6nm,0.2s
EPF Esparros 8.15 22 eP **Pn** **01 18 22.2 +3.4**
EPF eSn Sn 01 19 43.1 -7.4
0.3nm,0.2s
MTLF Montolieu 9.07 29 eP **Pn** **01 18 36.0 +4.5**
LFF La Frestale 10.02 19 eP **Pn** **01 18 47.4 +3.0**
LASF Ste Croix 10.36 32 eP **Pn** **01 18 52.9 +3.8**
LASF eSn Sn 01 20 35.7 -9.0
1.3nm,0.3s
RJF Les Rejaudoux 10.57 21 eP **Pn** **01 18 55.1 +3.2**
KEST Kesra 10.66 85 Pn **Pn** **01 18 54.4 +1.0**
0.2nm,0.3s,baz=240,slow=8.3,SNR=6.0
LMR La Mourre 11.12 42 eP **Pn** **01 19 02.7 +3.2**
LMR eSn Sn 01 20 56.3 -7.2
0.5nm,0.3s
VSL Villasalto 11.16 65 Pn **Pn** **01 19 01.8 +1.8**
MFF Saint Martin d 11.40 13 eP **Pn** **01 19 06.7 +3.3**
SSB Saint Sauveur 11.62 30 Pn **Pn** **01 19 06.8 +0.6**
BGF Bois d'Agland 12.10 22 eP **Pn** **01 19 17.2 +4.3**
PGF Pioggiola 12.14 51 eP **Pn** **01 19 17.0 +3.5**
QUIF Quistinic 12.40 2 eP **Pn** **01 19 21.0 +4.0**
GEC2 GERESS Array S 18.51 39 P **P** **01 20 35.1 -1.6**
GERES GERESS Array B 18.51 39 P **Pn** **01 20 39.6 +2.7**
0.0nm,0.3s,baz=243,slow=8.8,SNR=4.0
GERES GERESS Array B 18.51 39 P **P** **01 20 37.3 +0.6**
CLL Collm 19.86 32 e(sP) sP 01 20 59.0 +0.8
TORD Torodi Ar. Bea 22.80 166 P **P** **01 21 24.2 +0.9**
1.4nm,0.7s,baz=342,slow=14,SNR=4.2
ARU Arti 46.25 43 P **P** **01 24 46.8 +1.4**
0.7nm,0.6s,baz=280,slow=6.1,SNR=6.6
ARU Arti 46.25 43 IAmb IAmb 01 24 49.6
comp=Z,2.7nm,0.8s
ABKAR Akbulak array 47.64 53 P **P** **01 24 55.9 -0.5**
ABKAR IAmb IAmb 01 25 14.8
comp=Z,1.0nm,0.8s
BVAR Bovoye Array 53.45 46 P **P** **01 25 42.3 +2.1**
comp=Z,0.7nm,0.8s,baz=321,slow=5.7,SNR=2.8
KURBB Kurchatov Arra 58.96 47 P **P** **01 26 20.9 +1.3**
comp=Z,3.6nm,0.8s,baz=294,slow=7.7,SNR=8.4
KURK Kurchatov 58.98 47 P **P** **01 26 20.2 +0.4**
ZALV Zalesovo Beam 61.41 42 P **P** **01 26 38.0 +1.7**
comp=Z,0.7nm,0.6s,baz=286,slow=5.2,SNR=2.5
MAKZ Makanchi 62.48 51 P **P** **01 26 45.0 +1.3**
MAKZ IAmb IAmb 01 26 50.1
comp=Z,2.2nm,1.1s
MK31 Makanchi Array 62.68 50 P **P** **01 26 47.1 +2.1**
MK31 IAmb IAmb 01 26 50.3
comp=Z,1.6nm,1.2s
MKAR Makanchi Array 62.68 50 P **P** **01 26 46.2 +1.1**
comp=Z,1.1nm,0.8s,baz=290,slow=5.2,SNR=6.5
YKA Yellowknife Ar 67.83 332 P **P** **01 27 18.5 +0.4**
comp=Z,2.2nm,0.7s,baz=60,slow=6.4,SNR=29
PD31 Pinedale Array 76.85 313 P **P** **01 28 12.0 -0.6**
PD31 IAmb IAmb 01 28 35.2
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 76.85 313 P **P** **01 28 12.8 +0.1**
comp=Z,1.0nm,0.6s,baz=64,slow=7.8,SNR=8.6
TXAR Lajitas Array 80.84 299 P **P** **01 28 35.7 +1.1**
comp=Z,0.4nm,0.8s,baz=74,slow=7.4,SNR=4.4

*VAO **29** 01:17:02.8±0.5, 3°.96S×81°.45W, h0km, mb4.6*
*ARE **29** 01:17:07±5.1, 3°.91S±0°.08×81°.3W±0°.1, h33km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=162.0*
*IDC **29** 01:17:10.8±1.0, 3°.66S×80°.80W, h24km±5km, mb3.7/12, mb1 3.9/15, mb1mx3.8/42, mbtmp3.9/15, ML4.0/3, MS4.2/24, Ms1 4.2/24, ms1mx3.9/68, Error ellipse: s-maj=36.2km s-min=12.5km az=52.0*
*NEIC **29** 01:17:12.9±1.9, 3°.79S±0°.06×80°.9W±0°.1, h48km±6km, mb4.5/26, ML4.4(ARE), Error ellipse: s-maj=17.2km s-min=8.2km az=86.0*
ISC 29 01:17:11.1±0.5, 3°.80S±0°.07×81°.05W±0°.09, h39km, n106, σ1°36/93, mb4.2/22, MS4.2/19, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.24**	**142**	Pn	**Pn**	**01 18 15.1**	**+1.5**
	4.3nm,0.3s,baz=358,slow=7.8,SNR=33						
ATAH				Sn	**Sn**	**01 19 07.3**	**+5.2**
	19nm,0.3s,baz=145,slow=23,SNR=6.3						
ATAH				Lg	Lg	01 19 22.8	
	21nm,0.3s,baz=48,slow=17,SNR=5.9						
ATAH				LR	LR	01 19 59.7	
	comp=Z,3μm,19.6s,baz=310,slow=40						
OTAV	**Otavalo**	**4.78**	**33**	eP	**Pn**	**01 18 21.4**	**+0.4**
OTAV	**Otavalo**	**4.78**	**33**		**Pn**	**01 18 21.1**	**+0.2**
TUMC	**Tumaco**	**6.05**	**23**	Pn	**Pn**	**01 18 38.0**	**-0.1**
SOTA	**Rioblanco**	**7.38**	**37**	eP	**Pn**	**01 18 59.5**	**+2.7**
PCON	**Cinco Dias**	**7.66**	**37**	eP	**Pn**	**01 19 01.6**	**+0.9**
POPC	**Popayan, Colom**	**7.67**	**35**	eP	**Pn**	**01 19 01.7**	**+1.2**
YOTC	**Yotoco, Valle**	**9.05**	**31**	eP	**Pn**	**01 19 17.9**	**-1.5**
NNA	**Nana**	**9.14**	**153**	Pn	**Pn**	**01 19 22.2**	**+1.6**
	1.5nm,0.3s,baz=313,slow=14,SNR=2.1						
NNA				LR	LR	01 23 45.2	
	comp=Z,905nm,18.8s,baz=314,slow=43						
NNA	**Nana**	**9.14**	**153**	Pn	**Pn**	**01 19 21.3**	**+0.7**
CZSB	**Cruzeiro do Su**	**9.18**	**116**	eP	**Pn**	**01 19 19.3**	**-1.7**
CZSB	**Cruzeiro do Su**	**9.18**	**116**	Pn	**Pn**	**01 19 18.5**	**-2.6**
TBTG	**Tabatinga, AM**	**11.12**	**92**	eP	**Pn**	**01 19 49.5**	**+1.8**
TBTG	**Tabatinga, AM**	**11.12**	**92**		**Pn**	**01 19 46.9**	**-0.8**
ZARC	**Zaragoza, Cauc**	**12.80**	**29**		**Pn**	**01 20 10.3**	**-0.3**
JTS	**Las Juntas de**	**14.52**	**345**	LR	LR	01 25 10.1	
	comp=Z,765nm,21.3s,slow=33						
JTS	**Las Juntas de**	**14.52**	**345**	Pn	**Pn**	**01 20 34.9**	**+0.7**
SJCC	**San Jacinto, C**	**14.81**	**23**	Pn	**Pn**	**01 20 38.5**	**+0.6**
ETMB	**Extrema**	**15.90**	**113**	eP	**Pn**	**01 20 50.5**	**-1.6**
ETMB	**Extrema**	**15.90**	**113**	Pn	**Pn**	**01 20 50.4**	**-1.8**
ACON	**Acoyapa**	**16.19**	**345**	Pn	**Pn**	**01 20 54.4**	**-1.5**
ACON				IAmb	IAmb	01 21 13.1	
	comp=Z,23nm,1.2s						
SDV	**Santo Domingo**	**16.33**	**39**	LR	LR	01 28 27.7	
	comp=Z,3μm,20.9s,baz=222,slow=42						
SDV	**Santo Domingo**	**16.33**	**39**	eP	**Pn**	**01 20 58.8**	**+1.0**
SDV	**Santo Domingo**	**16.33**	**39**	Pn	**Pn**	**01 20 56.1**	**-1.8**
SDV				IAmb	IAmb	01 21 01.5	
	comp=Z,48nm,1.2s						
LPAZ	**La Paz**	**17.76**	**135**	P	**P**	**01 21 17.7**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=305,slow=3.1,SNR=10						
LPAZ				LR	LR	01 29 31.8	
	comp=Z,1μm,18.9s,baz=293,slow=42						
LPAZ	**La Paz**	**17.76**	**135**	eP	**Pn**	**01 21 14.6**	**-1.5**
LPAZ	**La Paz**	**17.76**	**135**		**Pn**	**01 21 15.0**	**-1.0**
PB16	**IPOC Station P**	**18.34**	**143**	P	**P**	**01 21 22.0**	**-1.0**
MNMC	**Minye Minye**	**18.91**	**145**	P	**P**	**01 21 28.3**	**-0.6**
GO01	**Chusmiza**	**19.57**	**145**	P	**P**	**01 21 36.2**	**-0.1**
GO01				IAmb	IAmb	01 21 54.0	
	comp=Z,12nm,1.1s						
MACA	**Manacapuru-AM**	**20.34**	**89**	eP	**P**	**01 21 44.1**	**-0.2**
MACA	**Manacapuru-AM**	**20.34**	**89**	P	**P**	**01 21 43.9**	**-0.4**
MACA				IAmb	IAmb	01 22 13.1	
	comp=Z,22nm,0.7s						
APG	**El Apazote**	**20.88**	**334**	LR	LR	01 28 29.8	
	comp=Z,522nm,20.5s,baz=93,slow=32						
PTGA	**Pitinga**	**21.29**	**82**	P	**P**	**01 21 53.4**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=262,slow=12,SNR=9.0						
PTGA				LR	LR	01 30 51.5	
	comp=Z,1μm,20.2s,baz=274,slow=39						
BOAV	**Boa Vista**	**21.42**	**74**	eP	**P**	**01 21 56.1**	**+0.1**
BOAV	**Boa Vista**	**21.42**	**74**	P	**P**	**01 21 55.6**	**-0.3**
BOAV				IAmb	IAmb	01 22 05.2	
	comp=Z,35nm,1.5s						
PCRV	**Puerto La Cruz**	**21.45**	**50**	LR	LR	01 32 12.6	
	comp=Z,1μm,19.7s,slow=43						
LVC	**Limon Verde**	**22.09**	**149**	P	**P**	**01 22 04.6**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=335,slow=8.1,SNR=4.3						
LVC				LR	LR	01 30 46.1	
	comp=Z,351nm,20.4s,baz=314,slow=37						
LVC	**Limon Verde**	**22.09**	**149**	eP	**P**	**01 21 59.8**	**-3.7**
LVC	**Limon Verde**	**22.09**	**149**	P	**P**	**01 22 03.4**	**-0.1**
VILB	**Vilhena**	**22.53**	**115**	eP	**P**	**01 22 08.1**	**+0.3**
VILB	**Vilhena**	**22.53**	**115**	P	**P**	**01 22 06.2**	**-1.7**
VILB				IAmb	IAmb	01 22 33.8	
	comp=Z,22nm,1.0s						
SIV	**San Ignacio**	**23.08**	**123**	P	**P**	**01 22 13.5**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=299,slow=9.6,SNR=8.2						
SIV				LR	LR	01 31 57.0	
	comp=Z,587nm,20.2s,baz=304,slow=39						
PTLB	**Pontes e Lacer**	**24.48**	**120**	eP	**P**	**01 22 27.3**	**+0.5**
PTLB	**Pontes e Lacer**	**24.48**	**120**	P	**P**	**01 22 26.8**	**+0.1**
PTLB				IAmb	IAmb	01 22 47.1	
	comp=Z,10nm,1.3s						
CMIG	**Matias Romero**	**24.85**	**327**	LR	LR	01 30 32.3	
	comp=Z,173nm,21.0s,baz=166,slow=32						
ITTB	**Itaituba**	**25.26**	**92**	eP	**P**	**01 22 35.3**	**+1.4**
NPGB	**Novo Progresso**	**25.78**	**98**	eP	**P**	**01 22 38.2**	**-0.5**
CLDB	**Colider**	**26.00**	**107**	eP	**P**	**01 22 39.6**	**-1.0**
MALB	**Monte Alegre**	**26.82**	**87**	eP	**P**	**01 22 49.6**	**+1.6**
SALV	**Santo Antonio**	**27.68**	**117**	eP	**P**	**01 22 55.9**	**+0.2**
MDP	**Montagnes des**	**29.73**	**73**	LR	LR	01 35 38.1	
	comp=Z,1μm,19.6s,baz=268,slow=38						
CPUP	**Villa Florida**	**31.91**	**137**	LR	LR	01 38 24.4	
	comp=Z,616nm,19.6s,baz=320,slow=40						
CPUP	**Villa Florida**	**31.91**	**137**	eP	**P**	**01 23 31.7**	**-1.4**
PEXB	**Peixe**	**33.44**	**106**	eP	**P**	**01 23 47.2**	**+0.5**
ITRB	**Iturama**	**33.85**	**120**	eP	**P**	**01 23 49.2**	**-1.0**
BDFB	**Brasilia**	**34.56**	**112**	LR	LR	01 38 45.4	
	comp=Z,468nm,21.0s,baz=336,slow=38						
RPN	**Rapa Nui**	**35.61**	**226**	LR	LR	01 35 46.2	
	comp=Z,304nm,18.2s,baz=65,slow=31						
BB19B	**Bebedouro**	**35.97**	**121**	eP	**P**	**01 24 07.5**	**-1.0**
833A	**Chaparral WMA,**	**36.49**	**332**	P	**P**	**01 24 14.2**	**+1.5**
833A				IAmb	IAmb	01 24 27.8	
	comp=Z,6.8nm,1.1s						
SDBA	**SAO DESIDERIO**	**36.76**	**106**	eP	**P**	**01 24 14.4**	**-0.9**
ROSB	**Rosrio**	**36.87**	**90**	eP	**P**	**01 24 16.6**	**+0.4**
JANB	**Januaria**	**37.86**	**110**	eP	**P**	**01 24 24.8**	**+0.2**
PLCA	**Paso Flores**	**37.97**	**167**	LR	LR	01 37 24.2	
	comp=Z,84nm,18.4s,baz=8.0,slow=32						
BSCB	**Bom Sucesso**	**39.19**	**119**	eP	**P**	**01 24 34.7**	**-1.1**
DIAM	**Diamantina, MG**	**39.30**	**114**	eP	**P**	**01 24 36.1**	**-0.7**
TKL	**Tuckaleechee C**	**39.33**	**357**	LR	LR	01 40 12.5	
	comp=Z,346nm,19.9s,baz=180,slow=35						
TXAR	**Lajitas Array**	**39.44**	**328**	P	**P**	**01 24 40.7**	**+2.9**
	comp=Z,0.3nm,0.8s,baz=150,slow=11,SNR=2.4						
TXAR				ScP	**S**	**01 30 34.6**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=113,slow=2.3,SNR=4.0						
NBPS	**Pedro II - PI**	**39.51**	**92**	eP	**P**	**01 24 38.7**	**+0.2**
LCAR	**Lake Charles**	**40.77**	**347**	P	**P**	**01 24 49.5**	**+1.0**
LCAR				IAmb	IAmb	01 25 02.5	
	comp=Z,12nm,1.1s						
U40A	**Yellville**	**41.44**	**346**	P	**P**	**01 24 54.2**	**+0.1**
HHAR	**Hobbs**	**41.65**	**344**	P	**P**	**01 24 56.2**	**+0.4**
HHAR				IAmb	IAmb	01 25 07.3	
	comp=Z,9.4nm,0.9s						
U38A	**Gravette**	**41.92**	**344**	P	**P**	**01 24 58.4**	**+0.4**
GDU01	**Guandu, BA**	**42.09**	**106**	eP	**P**	**01 24 59.5**	**-0.3**
CAM01	**Campos-RJ**	**42.20**	**119**	eP	**P**	**01 24 59.6**	**-0.9**
NAN01	**Guarapari, ES**	**42.43**	**112**	eP	**P**	**01 25 01.6**	**-0.8**
NBIT	**Itapeh - BA**	**42.44**	**108**	eP	**P**	**01 25 02.3**	**-0.3**
CMC01	**Camacan, BA**	**42.45**	**109**	eP	**P**	**01 25 01.9**	**-0.7**
RIB01	**Linhares ES**	**42.56**	**115**	eP	**P**	**01 25 02.7**	**-0.8**
S39A	**Bolivar**	**42.82**	**346**	P	**P**	**01 25 05.7**	**+0.4**
S39A				IAmb	IAmb	01 25 16.6	
	comp=Z,11nm,0.8s						
P38A	**Dawn**	**44.71**	**346**	P	**P**	**01 25 21.1**	**+0.7**
P38A				IAmb	IAmb	01 25 23.8	
	comp=Z,9.8nm,1.1s						
NBAN	**Anadia - AL**	**44.82**	**100**	eP	**P**	**01 25 21.4**	**-0.4**
RCBR	**Riachuelo**	**45.03**	**94**	eP	**P**	**01 25 23.4**	**-0.1**
NBPV	**Pedro Velho**	**45.64**	**95**	eP	**P**	**01 25 27.9**	**-0.3**
PFO	**Pinyon Flats O**	**50.02**	**321**	LR	LR	01 44 41.5	
	comp=Z,200nm,18.2s,baz=324,slow=33						
USHA	**Ushuaia**	**51.90**	**171**	LR	LR	01 44 06.2	
	comp=Z,88nm,21.4s,baz=318,slow=31						
PDAR	**Pinedale Array**	**53.04**	**334**	P	**P**	**01 26 25.5**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=124,slow=7.6,SNR=6.0						
PDAR				LR	LR	01 50 35.3	
	comp=Z,285nm,18.7s,baz=310,slow=38						
HWUT	**Hardware Ranch**	**53.05**	**332**	IAmb	IAmb	01 26 42.9	
	comp=Z,4.9nm,1.1s						
AGMN	**Agassiz Nation**	**53.47**	**348**	P	**P**	**01 26 27.0**	**-0.3**
ELK	**Elko**	**54.24**	**328**	LR	LR	01 49 23.3	
	comp=Z,320nm,18.2s,baz=298,slow=36						
NVAR	**Mina Array Bea**	**54.33**	**324**	P	**P**	**01 26 36.1**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=134,slow=7.3,SNR=5.1						
ULM	**Lac du Bonnet**	**55.33**	**348**	P	**P**	**01 26 42.2**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=157,slow=8.3,SNR=3.0						
PPT	**Papeete**	**68.39**	**253**	LR	LR	01 50 56.7	
	comp=Z,70nm,18.0s,baz=94,slow=30						
YKA	**Yellowknife Ar**	**70.86**	**344**	P	**P**	**01 28 23.1**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=130,slow=5.5,SNR=3.6						
YKA				pP	**pP**	**01 28 32.8**	**-2.5**
	comp=Z,0.5nm,0.8s,baz=137,slow=6.1,SNR=4.3						
DBIC	**Dimbokro**	**76.77**	**82**	P	**P**	**01 28 59.4**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=279,slow=6.4,SNR=3.1						
INK	**Inuvik**	**80.51**	**343**	P	**P**	**01 29 20.7**	**+2.0**
	comp=Z,1.2nm,1.0s,baz=273,slow=1.9,SNR=3.7						
INK				LR	LR	02 07 22.3	
	comp=Z,261nm,18.2s,baz=157,slow=37						
A36M	**Sachs Harbour**	**80.79**	**347**	P	**P**	**01 29 19.3**	**-0.8**
A36M				IAmb	IAmb	01 29 33.6	
	comp=Z,7.0nm,0.9s						
ESDC	**Sonseca Array**	**82.52**	**49**	P	**P**	**01 29 30.8**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=266,slow=4.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**83.81**	**76**	P	**P**	**01 29 36.3**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=273,slow=5.1,SNR=3.6						
VNDA	**Vanda**	**91.99**	**191**	P	**P**	**01 30 14.3**	**-1.0**
SUR	**Sutherland**	**97.96**	**123**	LR	LR	02 13 50.9	
	comp=Z,138nm,19.4s,baz=309,slow=35						
ZALV	**Zalesovo Beam**	**128.69**	**11**	PKP	**PKiKP**	**01 36 15.1**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=343,slow=4.5,SNR=3.5						
ZALV				pPKP	**pPKPdf**	**01 36 24.3**	**-2.2**
	comp=Z,0.9nm,0.7s,baz=211,slow=0.9,SNR=3.0						
MAKZ	**Makanchi**	**134.70**	**16**	PKPdf	**PKPdf**	**01 36 26.3**	**+0.5**
MKAR	**Makanchi Array**	**134.80**	**16**	PKP	**PKPdf**	**01 36 25.5**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=319,slow=2.4,SNR=5.3						
ASAR	**Alice Springs**	**136.35**	**230**	pPKP	pPKPdf	01 36 39.3	-2.7
	comp=Z,0.6nm,0.8s,baz=108,slow=1.9,SNR=3.2						
WRA	**Warramunga Arr**	**137.98**	**234**	PKP	**PKPdf**	**01 36 33.6**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=108,slow=2.4,SNR=3.1						
WRA				pPKP	**pPKPdf**	**01 36 42.1**	**-3.0**
	comp=Z,0.9nm,0.7s,baz=112,slow=2.0,SNR=4.4						

*IDC **29** 01:20:04.6±1.1, 35°.48N×3°.85W, h0km, mb3.9/6, mb1 3.8/9, mb1mx3.4/72, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=30.1km s-min=18.5km az=103.0*
*SFS **29** 01:20:05.0, 35°.46N×3°.84W, ML3.2, ALBORAN SUR*
*CNRM **29** 01:20:06.8, 35°.49N×3°.69W, h24km, ml3.7*
*IGIL **29** 01:20:07.3, 35°.47N×3°.84W, h0km, ML2.9*
*LDG **29** 01:20:08.2±0.4, 35°.52N×3°.65W, h10km, Ml2.6/4*
ISC 29 01:20:06.3±1.1, 35°.52N±0°.03×3°.74W±0°.03, h17km±7km, n59, σ2°11/66, mb3.9/6, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**208**	P	**Pg**	**01 20 12.9**	**-0.6**
PALE				S	**Sg**	**01 20 17.6**	**-0.8**
GOG	**Mont Gurugu**	**0.68**	**116**	P	**Pg**	**01 20 19.6**	**-0.1**
GOG				S	**Sg**	**01 20 28.6**	**-0.1**
AKLM	**AKL**	**1.01**	**186**	P	**Pb**	**01 20 25.3**	**-0.1**
AKLM				S	**Sb**	**01 20 37.8**	**-0.7**
CHAS	**Isla Isabel II**	**1.12**	**107**	P	**Pn**	**01 20 25.7**	**-1.5**
CHAS	**Isla Isabel II**	**1.12**	**107**	S	**Sb**	**01 20 40.2**	**-1.4**
EMAL	**Malaga-Limoner**	**1.36**	**336**	P	**Pn**	**01 20 30.1**	**-0.3**
EMAL	**Malaga-Limoner**	**1.

OUK	Oukaimeden	5.51	220	P		Pn	01 21 27.7	-0.2
ZGR	Zagora	5.61	197	P		Pn	01 21 29.9	+0.8
TTIG	Tnine Tigouga,	6.34	220	P		Pn	01 21 37.6	-1.4
ETSF	Etsaut	7.77	18	eP		Pn	01 22 02.8	+4.2
ETSF				eSn		Sn	01 23 21.0	-5.2
	comp=N,1.3nm,0.5s							
SJPF	Ste Jean	7.83	14	ePn		Pn	01 22 00.2	+0.8
SJPF	Ste Jean	7.83	14	eP		Pn	01 22 04.7	+5.3
SJPF				eSn		Sn	01 23 23.2	-4.4
	comp=N,0.1nm,0.1s							
EPF	Esparros	8.14	22	ePn		Pn	01 22 03.5	-0.2
EPF	Esparros	8.14	22	eP		Pn	01 22 08.8	+5.1
EPF				eSn		Sn	01 23 29.7	-5.6
	comp=N,0.5nm,0.3s							
MTLF	Montolieu	9.07	29	eP		Pn	01 22 22.1	+5.8
LFF	La Frestale	10.01	19	eP		Pn	01 22 34.9	+5.7
LASF	Ste Croix	10.35	32	eP		Pn	01 22 38.7	+4.8
CAF	Calviac	10.39	24	eP		Pn	01 22 39.8	+5.3
RJF	Les Rejaudoux	10.56	21	ePn		Pn	01 22 35.3	-1.5
LMR	La Mourre	11.12	42	eSn		Sn	01 24 42.2	-6.1
	comp=N,0.1nm,0.1s							
MFF	Saint Martin d	11.40	13	eP		Pn	01 22 53.8	+5.6
SBF	Sospel	11.97	43	eP		Pn	01 22 59.7	+3.5
PGF	Pioggiola	12.13	51	eP		Pn	01 23 03.7	+5.3
QUIF	Quistinic	12.39	2	ePn		Pn	01 23 01.5	-0.3
SGMF	Saint Gilles	12.75	4	ePn		Pn	01 23 06.8	0.0
GERES	GERESS Array B	18.50	39	P		Pn	01 24 24.5	+2.7
	comp=N,0.1nm,0.3s,baz=229,slow=8.8,SNR=4.2							
ARU	Arti	46.25	43	P		P	01 28 32.1	+1.8
	comp=N,0.4nm,0.2s,baz=231,slow=8.1,SNR=4.3							
KURBB	Kurchatov Arra	58.95	47	P		P	01 30 05.8	+1.3
	comp=N,2.8nm,0.6s,baz=293,slow=7.8,SNR=13							
ZALV	Zalesovo Beam	61.40	42	P		P	01 30 22.7	+1.4
	comp=N,0.5nm,0.4s,baz=295,slow=7.5,SNR=2.5							
MKAR	Makanchi Array	62.67	50	P		P	01 30 31.4	+1.5
	comp=N,0.6nm,0.8s,baz=299,slow=5.3,SNR=7.5							
YKA	Yellowknife Ar	67.83	332	P		P	01 31 04.0	+1.0
	comp=N,0.5nm,0.7s,baz=60,slow=6.5,SNR=8.0							
PDAR	Pinedale Array	76.84	313	P		P	01 31 58.4	+0.8
	comp=N,0.3nm,0.6s,baz=87,slow=9.1,SNR=4.1							

*IDC **29** 01:21:50.2±2.7, 57.97N×156.34W, h112km±24km, mb3.1/3, mb1 3.3/6, mb1mx2.8/55, mbtmp3.5/6, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=29.9km s-min=21.4km az=55.0*

*NEIC **29** 01:21:50.3±1.6, 57.82N±0.05×156.3W±0.1, h135km±8km, Error ellipse: s-maj=10.1km s-min=6.7km az=111.0*

*AEIC **29** 01:21:51±1.8, 57.80N±0.05×156.3W±0.1, h130km±7km, ML2.8/15, ML3.3/36(NEIC), Error ellipse: s-maj=9.8km s-min=5.5km az=120.0*

ISC 29 01:21:50.8±0.9, 57.85N±0.05×156.30W±0.05, h133km±7km, n68, σ1§12/69, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	Peulik 3	0.16	174		Pn	01 22 09.0	+0.1
PLK3					Sn	01 22 22.3	-0.3
PLK5	Peulik 5	0.34	296		Pn	01 22 09.3	0.0
KJL	Kejulik	0.44	62		Pn	01 22 09.9	0.0
KABU	Katmai Buttres	0.69	52		Pn	01 22 11.6	+0.2
KABU					Sn	01 22 27.1	0.0
P18K	Big Mountain,	1.65	19		Pn	01 22 20.8	0.0
P18K					Sn	01 22 43.5	-0.1
SII	Sitkinak Islan	1.73	137		Pn	01 22 21.3	-0.4
SII					Sn	01 22 44.2	-1.1
SII	Sitkinak Islan	1.73	137	IAML		01 22 45.2	
	comp=E,444nm,0.8s						
SII				IAML		01 22 46.1	
	comp=N,456nm,0.7s						
OHAK	Old Harbor	1.74	110		Pn	01 22 21.4	-0.3
OHAK					Sn	01 22 43.9	-1.5
OHAK	Old Harbor	1.74	110	IAML		01 22 45.0	
	comp=N,206nm,0.4s						
Q19K	Cape Douglas,	1.77	51		Pn	01 22 22.6	+0.5
Q19K					Sn	01 22 46.8	+0.7
Q19K	Cape Douglas,	1.77	51	IAML		01 22 49.4	
	comp=N,240nm,1.1s						
Q19K				IAML		01 22 51.0	
	comp=E,327nm,1.2s						
CHGN	Chignik	1.93	218		Sn	01 22 48.8	-0.7
CHGN				IAML		01 22 49.5	
	comp=N,157nm,0.7s						
CHGN	Chignik	1.93	218		Pn	01 22 23.6	-0.5
KDAK	Kodiak Island	1.99	90	P	Pn	01 22 24.9	+0.2
	comp=N,8.3nm,0.3s,baz=300,slow=8.1,SNR=331						
KDAK				S	Sn	01 22 48.9	-1.8
	comp=N,12nm,0.3s,baz=260,slow=21,SNR=7.5						
KDAK	Kodiak Island	1.99	90	IAML		01 22 51.1	
	comp=N,149nm,0.2s						
CHIR	Chirikof Islan	2.07	169		Pn	01 22 24.6	-1.0
CHIR	Chirikof Islan	2.07	169	IAML		01 22 46.3	
	comp=E,173nm,4.7s						
CHIR				IAML		01 23 33.9	
	comp=N,200nm,4.2s						
O18K	Koktuh Hills	2.09	15		Pn	01 22 26.1	+0.2
N19K	Bonanza Creek	3.12	17		Pn	01 22 39.5	+0.5
CNPM	China Poot	3.13	55		Pn	01 22 39.9	+0.7
CNPM					Sn	01 23 15.1	-1.4
CNPM	China Poot	3.13	55	IAML		01 24 15.9	
	comp=E,81nm,4.2s						
CNPM				IAML		01 24 26.2	
	comp=N,90nm,3.6s						
RSO	Redoubt South	3.19	33	Pn	Pn	01 22 40.7	+0.6
BRLK	Bradley Lake	3.41	53		Pn	01 22 42.9	+0.1
BRLK	Bradley Lake	3.41	53	IAML		01 23 20.8	
	comp=N,64nm,0.3s						
BRLK				IAML		01 23 50.4	
	comp=E,83nm,3.3s						
M19K	Big River Lodg	4.18	12	Pn	Pn	01 22 52.8	-0.1
M19K				IAML		01 23 57.2	
	comp=N,27nm,4.8s						
SEW	Seward	4.20	55	Pn	Pn	01 22 54.1	+1.0
O22K	Cooper Landing	4.29	49	Pn	Pn	01 22 54.0	-0.3
L19K	White Mountain	4.41	9	Pn	Pn	01 22 56.1	+0.2
L19K				IAML		01 25 41.4	
	comp=E,18nm,4.8s						
L19K				IAML		01 25 46.1	
	comp=N,21nm,4.8s						
RC01	Rabbit Creek A	4.67	43	Pn	Pn	01 22 58.2	-1.1
RC01				IAML		01 24 52.3	
	comp=N,36nm,3.8s						
M22K	Willow	5.01	36	Pn	Pn	01 23 03.7	-0.1
PWL	Port Wells	5.07	50	Pn	Pn	01 23 04.7	-0.1
KNK	Knik Glacier	5.35	45	Pn	Pn	01 23 08.2	-0.3
GHO	Glory Hole Cre	5.42	40	Pn	Pn	01 23 09.7	+0.2
CUT	Chulitna	5.47	31	Pn	Pn	01 23 10.6	+0.5
SML	Sawmill	5.65	42	Pn	Pn	01 23 12.5	0.0
CAST	Castle Rocks	5.96	19	Pn	Pn	01 23 17.4	+0.8
SCM	Sheep Creek Mo	6.03	45	Pn	Pn	01 23 17.4	-0.3
EYAK	Cordova Ski Ar	6.06	59	Pn	Pn	01 23 16.0	-1.9
DIV	Divide	6.29	54	Pn	Pn	01 23 20.8	-0.4
TRF	Thorofare Moun	6.35	25	Pn	Pn	01 23 21.5	-0.5
KLU	Klutina	6.40	51		Pn	01 23 22.0	-0.6
M24K	Tolsona, Glenn	6.63	46	Pn	Pn	01 23 25.2	-0.5
RND	Reindeer	6.67	30	Pn	Pn	01 23 25.2	-1.0
HMT	Hamilton	6.69	63	Pn	Pn	01 23 25.7	-0.7
BMRM	Bremner River	6.74	57	Pn	Pn	01 23 27.0	-0.1
MCK	McKinley	6.91	28	Pn	Pn	01 23 28.6	-0.9
BERG	Berg Lake	6.97	63	Pn	Pn	01 23 30.4	+0.2
N25K	Chitina, Valde	7.01	53	Pn	Pn	01 23 31.0	+0.2
GLB	Gilahina Butte	7.28	55	Pn	Pn	01 23 33.8	-0.6
VRDI	Verde Repeater	7.36	57	Pn	Pn	01 23 35.1	-0.5
WAX	Waxell Ridge	7.39	64	Pn	Pn	01 23 34.7	-1.2
PAX	Paxson	7.42	42	Pn	Pn	01 23 35.3	-1.0
NEA2	Nenana	7.61	24	Pn	Pn	01 23 38.0	-0.8
ISLE	Juniper Island	7.67	63	Pn	Pn	01 23 39.1	-0.7
WRH	Wood River Hil	7.73	27	Pn	Pn	01 23 39.1	-1.3
CCB	Clear Creek Bu	7.95	27	Pn	Pn	01 23 41.5	-1.8
HDA	Harding Lake	7.98	31	Pn	Pn	01 23 42.5	-1.3
M26K	Nabesna, AK	8.05	50	Pn	Pn	01 23 45.1	+0.3
MDM	Murphy Dome	8.11	25	Pn	Pn	01 23 44.0	-1.5
RIDG	Independent Ri	8.13	39	Pn	Pn	01 23 48.7	+2.8
TABL	Table Mountain	8.21	65	Pn	Pn	01 23 48.2	+1.1
IL31		8.28	29	Pn	Pn	01 23 46.8	-1.0
ILAR	Eielson Array	8.28	29	P	Pn	01 23 46.1	-1.7
	comp=N,0.8nm,0.3s,baz=216,slow=13,SNR=32						
ILAR				S	Sn	01 25 14.7	-4.9
	comp=N,0.4nm,0.3s,baz=220,slow=24,SNR=9.5						
INK	Inuvik	14.59	35	P	Pn	01 25 08.6	-1.9
	comp=N,0.1nm,0.3s,baz=227,slow=6.4,SNR=2.5						
BBB	Bella Bella	17.05	97	LR	LR	01 30 21.6	
	comp=N,171nm,18.0s,baz=280,slow=30						
YKA	Yellowknife Ar	20.96	60	P	P	01 26 24.2	+1.3
	comp=N,0.7nm,0.4s,baz=272,slow=9.8,SNR=44						
TXAR	Lajitas Array	45.95	105	P	P	01 30 02.2	+1.8
	comp=N,0.2nm,0.6s,baz=324,slow=9.0,SNR=2.7						
SONM	Songino Array	54.65	305	P	P	01 31 06.0	+0.5
	comp=N,0.7nm,0.7s,baz=48,slow=7.5,SNR=6.5						

UCR 29 01:25:06.8±1.6, 9.77N×86.10W, h8km±9km, MW3.9, 19C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAJU	San Juanillo,	0.48	52	↑iP	Pb	01 25 17.6	0.0
SAJU				eS	Sb	01 25 26.0	+1.2
INDI	Punta indio, G	0.59	80	↑iP	Pb	01 25 19.3	-0.2
GUAI	GUAI	0.77	49	↑iP	Pg	01 25 21.7	+0.2
GUAI				i S	Sb	01 25 33.5	+0.5
HZTE	Horizontes, Gu	1.06	28	↑iP	Pg	01 25 26.3	-0.9
HZTE				eS	Sb	01 25 41.8	+0.3
LAFE	Finca La Fe, P	1.17	88	↑iP	Pb	01 25 27.0	-2.3
LAFE				eS	Sg	01 25 41.8	-2.8
GPS2	Hotel Rincn d	1.22	37	↑iP	Pb	01 25 28.6	-1.7
JTS	Las Juntas de	1.24	65	↑iP	Pn	01 25 28.7	-1.8
LIM1	Limonal	1.25	42	↑iP	Pn	01 25 29.0	-1.6
LIM1				i S	Sb	01 25 46.3	-0.6
GB1A	Borinquen Arri	1.25	33	↑iP	Pn	01 25 28.9	-1.8
GB1A				i S	Sb	01 25 45.8	-1.3
COLC	Colonia	1.25	45	↑iP	Pn	01 25 29.1	-1.5
COLC				i S	Sb	01 25 47.0	-0.1
GUAB	Guayabo de Bag	1.27	42	↑iP	Pn	01 25 29.2	-1.6
CUI	Cuipilapa	1.28	46	↑iP	Pn	01 25 29.6	-1.4
HORNC	Hornillas	1.30	44	↑iP	Pn	01 25 29.9	-1.6
BUAI	Buenos Aires	1.34	34	i P	Pn	01 25 30.3	-1.5
ACAL	Aguas Claras	1.35	50	↑iP	Pn	01 25 30.9	-1.2
VMAR	Armenia, Volca	1.42	43	↑iP	Pn	01 25 31.7	-1.3
JACO	JACO, Garabito	1.42	94	↑iP	Pn	01 25 31.3	-1.6
CASO	Castillo	1.50	64	↑iP	Pn	01 25 33.1	-0.9
ARE1	Arenal 1	1.52	63	↑iP	Pn	01 25 33.5	-0.8
ARE1				eS	Sb	01 25 55.0	+0.2
CEDE	Laguna Cedeo	1.55	62	↓iP	Pn	01 25 34.5	-0.3
COVE	Coope Vega, Sa	1.92	60	↑iP	Pn	01 25 38.8	-1.0
HDC	Heredia	1.97	83	eP	Pn	01 25 41.8	+1.2
LCR2	La Lucha 2	2.06	91	↓iP	Pn	01 25 42.0	0.0
RIMA	Rio Macho	2.20	90	↓iP	Pn	01 25 43.8	0.0
PEZE	Perez Zeledon,	2.42	99	eP	Pn	01 25 46.3	-0.4
SRBA	San Rafael, Bu	2.75	101	eP	Pn	01 25 51.3	-0.1

*UPA **29** 01:38:59.8±0.5, 8.35N×82.78W, h23km±3km, MW3.1*

*UCR **29** 01:38:59.6±2.1, 8.30N×82.81W, h28km±5km, MW3.9*

ISC 29 01:38:59.6±1.0, 8.32N±0.04×82.81W±0.03, h26km±7km, n19, σ0§88/32, 2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.13	210	↑iP	Pb	01 39 04.1	-0.6
PTPM				eS	Sb	01 39 08.9	+0.7
CDITO	Canoas	0.26	346	eP	Pb	01 39 06.1	-0.1
CDITO				eS	Sb	01 39 10.5	-0.1
DVD	David	0.38	72	↑iP	Pb	01 39 07.2	-0.7
DVD				eS	Sb	01 39 13.9	+0.3
BCO2	Palmira	0.48	35	↓iP	Pb	01 39 09.4	-0.4
BCO2				eS	Sb	01 39 16.4	-0.3
BRU2	Volcan	0.48	14	i P	Pb	01 39 09.4	-0.4
BRU2				eS	Sb	01 39 17.7	+1.0
BRU2				i		01 39 21.2	
	comp=Z,139nm,0.3s						
BRU2	Volcan	0.48	14	↓iP	Pb	01 39 09.3	-0.4
BRU2				eS	Sb	01 39 16.8	+0.1
EDSV	San Vito	0.52	342	eP	Pb	01 39 10.3	-0.1
EDSV				eS	Sn	01 39 19.3	-0.3
PIRO	Carate, Puerto	0.53	279	↓iP	Pb	01 39 09.1	-1.2
PIRO				eS	Sb	01 39 18.7	+1.1
DRK0	Durika	1.03	335	eP	Pn	01 39 17.7	-0.9
DRK0				eS	Sb	01 39 31.7	-0.5
SRBA	San Rafael, Bu	1.05	329	eP	Pn	01 39 17.9	-1.0
PEZE	Perez Zeledon,	1.36	321	eP	Pn	01 39 24.1	+1.1
EDDO	Dominical	1.39	312	eP	Pn	01 39 24.3	+0.9
GMAL	Guarumal, Vera	1.66	109	eP	Pn	01 39 26.0	-1.1
GMAL				eS	Sn	01 39 48.4	+0.9
RIMA	Rio Macho	1.77	324	eP	Pn	01 39 29.1	+0.3
LCR2	La Lucha 2	1.84	320	eP	Pn	01 39 31.0	+1.3
CACAO	El Cacao, Vera	2.16	117	eP	Pn	01 39 34.7	+0.7
CACAO				eS	Sb	01 40 04.7	+0.1
JACO	JACO, Garabito	2.26	306	eP	Pn	01 39 35.0	-0.4
JACO				eS	Sn	01 40 02.4	0.0
BCIP	Isla Barro Col	3.06	74	eP	Pb	01 39 52.1	-1.3
BCIP				eS	Sb	01 40 32.6	+2.3
SAJU	San Juanillo,	3.35	301	eP	Pn	01 39 50.6	+0.3

*IDC **29** 01:40:41.2±9.8, 14.52N×91.58W, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.6/26, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=195.4km s-min=106.0km az=12.0*

*MEX **29** 01:40:57.0±0.6, 14.99N×92.75W, h89km±12km, MD3.7*

*GCG **29** 01:40:58.2±0.3, 14.96N×92.75W, h22km±2km, MD4.2*

ISC 29 01:40:57.3±1.7, 15.0N±0.1×92.9W±0.1, h58km±15km, n12, σ1§16/20, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.61	97	i P	Pn	01 41 09.9	-0.4
THIG				i S	Sn	01 41 20.4	+0.6
PATR	El Naranjo	0.65	78	eP	Pn	01 41 10.6	-0.5
PATR				eS	Sn	01 41 21.0	-0.1
PAVE	Pavencul	0.72	73	i P	Pn	01 41 11.8	-0.2
PAVE				eS	Sn	01 41 23.0	+0.4
CHUJ	Union Juarez	0.76	82	eP	Pn	01 41 11.7	-0.7
CHUJ				i S	Sn	01 41 23.3	-0.2
STG3	Santiaguito 3,	1.30	102	eP	Pn	01 41 19.4	-0.1
STG3				eS	Sn	01 41 36.1	0.0
CCIG	Comitan	1.48	29	eP	Pn	01 41 22.7	+0.8
CCIG				eS	Sn	01 41 40.2	-0.1
TGIG		1.80	353	eP	Pn	01 41 25.6	-0.5
TGIG				i S	Sn	01 41 48.3	+0.4
FUG	Fuego 3	2.05	105	eP	Pn	01 41 30.0	+0.4
FUG				eS	Sn	01 41 54.6	+0.4
MRL	Marmol	3.10	88	eP	Pn	01 41 44.7	+0.7
TXAR	Lajitas Array	17.41	327	P	P	01 44 59.5	+2.6
	0.1nm,0.3s,baz=152,slow=13,SNR=13						
NVAR	Mina Array Bea	32.37	321	P	P	01 47 22.8	+1.1
	0.5nm,0.4s,baz=129,slow=9.5,SNR=4.8						
YKA	Yellowknife Ar	49.88	347	P	P	01 49 41.4	-3.2
	0.1nm,0.3s,baz=155,slow=7.2,SNR=4.3						

*UCC **29** 01:41:50.1±0.8, 51.60N×6.83E, h5km±4km, ML2.7*

*BUG **29** 01:41:50.4±0.0, 51.59N×6.86E, h0km, MD2.5/10, ML2.6/6*

*BGR **29** 01:41:51.0±0.4, 51.61N×6.82E, h1km, ML2.1/4, Error ellipse: s-maj=4.4km s-min=3.3km az=108.0*

*BNS **29** 01:41:51.0±0.4, 51.56N×6.81E, h1km, ML1.9*

*LDG **29** 01:41:51.0±0.1, 51.54N×6.79E, h1km, Ml2.5/22, Error ellipse: s-maj=2.2km s-min=1.7km az=3.0, Suspected Mining induced.*

ISC 29 01:41:48.8±0.8, 51.55N±0.02×6.70E±0.02, h0km, n67, σ1§37/117, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	Hlnxe	0.13	58	Pg	Pg	01 41 50.6	-0.6
BZER				Sg	Sg	01 41 51.2	-1.6
LAUG	Laupendahl	0.25	143	ePg	Pg	01 41 55.5	+1.9
BAVN	Auguste-Victor	0.32	55	Pg	Pg	01 41 55.0	0.0
BAVN				Sg	Sg	01 41 59.2	+0.1
BULI	Ruhr-Universit	0.36	105	Pg	Pg	01 41 56.5	+0.8
BULI				Sg	Sg	01 42 00.8	+0.3
BUG	Bochum--Univer	0.37	107	Pg	Pg	01 41 56.7	+0.8
BUG				eSg	Sg	01 42 02.1	+1.3
BKLB	Ruhr-Universit	0.38	107	Pg	Pg	01 41 56.7	+0.8
BTEZ	Ruhr-Universit	0.38	106	Pg	Pg	01 41 56.8	+0.8
WTSB	Winterswijk	0.42	9	ePg	Pg	01 41 57.6	+0.8
WTSB				eSg	Sg	01 42 03.8	+1.6
ENTS	Ennepetalsperr	0.55	125	ePg	Pg	01 42 00.3	+1.1
ENTS				eSg	Sg	01 42 07.4	+1.1
PLH	Pulheim	0.56	172	ePg	Pb	01 42 01.9	+0.6
HMES	Hamm, Michael-	0.65	80	Pg	Pg	01 42 01.2	0.0
HMES				Sg	Sg	01 42 09.4	-0.2
HOBG	Hohbusch	0.70	145	ePg	Pb	01 42 04.1	+0.4
SORT	Sorpetalsperre	0.82	104	ePg	Pg	01 42 04.5	0.0
SORT				eSg	Sg	01 42 15.2	0.0
	30nm,0.5s						
GSH	Grosshau	0.84	194	ePg	Pn	01 42 08.0	+0.1
GSH				eSg	Sn	01 42 20.2	-0.7
	39nm,0.5s						
HGN	Heimansgroeve	0.93	212	Pg	Pn	01 42 09.9	+0.9
HGN				Sg	Sn	01 42 23.6	+0.6
DREG	Dreilaegerbach	0.94	198	ePg	Pn	01 42 09.4	+0.2
DREG				eSg	Sn	01 42 23.3	0.0
	35nm,0.5s						
TDN	Todenfeld	0.99	171	ePg	Pb	01 42 09.7	+0.9
TDN				eSg	Sn	01 42 23.9	-0.7
	46nm,0.6s						
BEBN	Eben Emael	0.99	221	P	Pn	01 42 10.5	+0.6
IBBN	Ibbenburen	1.00	41	Sg	Sg	01 42 21.5	+0.6
IBBE	Ibbenbueren Ea	1.01	42	Pg	Pb	01 42 09.5	+0.4
IBBE				Sg	Sg	01 42 22.7	+1.5
AHRW	Bad Neuenahr-A	1.04	167	Pg	Pn	01 42 11.7	+1.1
AHRW				Sg	Sn	01 42 27.1	+1.3
MEM	Membach	1.04	205	ePg	Pn	01 42 11.2	+0.6
MEM				eSg	Sn	01 42 26.7	+0.9
MEM	Membach	1.04	205	P	Pn	01 42 11.2	+0.6
MEM				P	Pn	01 42 11.2	+0.6
MEM				S	Sn	01 42 26.6	+0.7
BMOL	Mol	1.06	252	P	Pn	01 42 12.5	+1.6
BMOL				S	Sn	01 42 28.2	+1.8
OLFT	Oleftalsperre	1.07	190	ePg	Pn	01 42 11.9	+0.8
OLFT				eSg	Sn	01 42 27.0	+0.3
KASTN	Kahler Asten	1.13	107	Pg	Pg	01 42 10.6	+0.1
KASTN				Sg	Sg	01 42 26.4	+1.3
BSTI	Sart Tilman	1.21	217	P	Pn	01 42 13.4	+0.5
BHE	Schloss Buerre	1.24	166	eSg	Sn	01 42 31.2	+0.4
	42nm,0.3s						
HILG	Hillesheim	1.26	181	ePg	Pn	01 42 14.7	+1.0
BHOU	Houvegnez	1.28	200	P	Pn	01 42 14.9	+1.0
BHOU				S	Sn	01 42 32.5	+0.7
KOE	Koeppel	1.30	150	ePg	Pb	01 42 14.7	+0.5
LOH	Wallersheim-Lo	1.38	184	ePg	Pb	01 42 16.9	+1.5
LOH				eSg	Sn	01 42 35.3	+1.1
	21nm,0.3s						
BGG	Burgeitz	1.41	163	ePg	Pg	01 42 16.2	+0.5
BCLA	Clavier	1.44	218	P	Pb	01 42 17.1	+0.7
BGES	Gesves	1.55	222	P	Pg	01 42 20.6	+2.2
RCHB	Rochefort	1.68	214	P	Pb	01 42 20.2	-0.3
TNS	Taunus Mts	1.73	140	Pg	Pg	01 42 22.4	+0.4
TNS				Sg	Sg	01 42 46.0	+1.6
BMRD	Maredsous	1.75	225	S	Sg	01 42 46.7	+1.8
GIVF	Givet	1.88	220	ePn	Pn	01 42 22.7	+0.6
GIVF	Givet	1.88	220	ePg	Pg	01 42 26.0	+1.3
GIVF				eSn	Sn	01 42 46.3	-0.2
GIVF				eSg	Sg	01 42 51.2	+2.2
	10.0nm,0.3s						
WLF	Walferdange	1.92	191	Sn	Sg	01 42 51.0	+0.5
WLF	Walferdange	1.92	191	P	Pb	01 42 25.0	+0.3
DOU	Dourbes	1.98	223	P	Pb	01 42 24.9	-0.7
BAIF	Baives	2.17	228	ePn	Pn	01 42 26.4	+0.2
BAIF	Baives	2.17	228	ePg	Pg	01 42 31.9	+1.5
BAIF				eSn	Sn	01 42 53.5	-0.3
	1.8nm,0.2s						
BAIF				eSg	Sg	01 43 00.8	+2.2
	6.2nm,0.3s						
CLZ	Clausthal	2.31	81	eSg	Sb	01 43 00.7	+0.5
PAGF	Fort de Pagny	3.07	192	ePn	Pn	01 42 38.6	+0.1
PAGF	Fort de Pagny	3.07	192	ePg	Pg	01 42 47.5	0.0
PAGF				eSg	Sg	01 43 27.5	+0.3
	2.7nm,0.3s,baz=16						
SAVF	Savonnieres en	3.11	200	ePn	Pn	01 42 39.3	+0.2
SAVF	Savonnieres en	3.11	200	ePg	Pg	01 42 48.6	+0.2
SAVF				eSn	Sn	01 43 14.7	-2.2
	baz=19						
SAVF				eSg	Sg	01 43 29.1	+0.5
	2.7nm,0.3s						
CDF	Champ du Feu	3.17	173	ePn	Pn	01 42 39.6	-0.3
CDF				eSg	Sg	01 43 30.0	-0.4
	1.1nm,0.3s						
MEZF	Maizieres J'vi	3.23	200	ePn	Pn	01 42 40.9	+0.2
	baz=23						
MEZF				eSn	Sn	01 43 15.8	-4.1
MEZF				eSg	Sg	01 43 32.9	+0.3
	9.3nm,0.5s						
SFTF	Sexfontaines	3.52	198	ePn	Pn	01 42 44.7	0.0
SFTF	Sexfontaines	3.52	198	ePg	Pg	01 42 55.9	-0.3
SFTF				eSg	Sg	01 43 40.7	-1.1
	5.8nm,0.3s						
HAU	Haudompre	3.56	184	ePn	Pn	01 42 45.2	0.0
HAU				eSn	Sn	01 43 25.9	-2.1
HAU				eSg	Sg	01 43 42.6	-0.4
	1.9nm,0.3s						
HINF	Hinteralfeld	3.74	178	ePn	Pn	01 42 47.6	-0.2
HINF				eSn	Sn	01 43 30.3	-2.2
	0.8nm,0.3s						
HINF				eSg	Sg	01 43

GENO	**Geno**	**1.01**	**73**	*e*Pg	**Pb**	**02 11 01.6**	**-2.4**
GENO				*e*Sg	**Sn**	**02 11 17.1**	**+0.4**
GENO				*e*		02 11 20.7	
	comp=Z,14μm,0.2s						
SHME	**Shamm**	**1.41**	**138**	*e*Pn	**Pn**	**02 11 09.7**	**+1.0**
SHME	**Shamm**	**1.41**	**138**	P	**Pn**	**02 11 09.6**	**+0.9**
	SNR=12						
SHME				S	**Sb**	**02 11 31.9**	**+3.7**
SHME	**Shamm**	**1.41**	**138**	P	**Pn**	**02 11 09.5**	**+0.7**
SHME				S	**Sb**	**02 11 30.8**	**+2.6**
BANOM	**Banah**	**1.60**	**137**	*e*Pn	**Pn**	**02 11 12.7**	**+1.3**
BANOM	**Banah**	**1.60**	**137**	P	**Pn**	**02 11 12.5**	**+1.1**
	SNR=33						
BANOM				S	**Sb**	**02 11 37.0**	**+3.3**
BANOM	**Banah**	**1.60**	**137**	*e*P	**Pn**	**02 11 12.5**	**+1.1**
	SNR=33						
BANOM				S	**Sb**	**02 11 36.0**	**+2.3**
LMD1	**Lamerd**	**1.73**	**278**	*e*Pn	**Pb**	**02 11 16.4**	**+0.2**
LMD1				*e*		02 11 48.8	
	comp=Z,4μm,0.4s						
JHRM	**Jahrom**	**1.94**	**317**	*e*Pg	**Pb**	**02 11 19.3**	**-0.4**
JHRM				*e*		02 11 54.0	
	comp=Z,5μm,0.4s						
MASF	**Masafi**	**1.97**	**151**	P	**Pb**	**02 11 18.8**	**-1.5**
	SNR=12						
MASF				S	**Sb**	**02 11 44.7**	**+0.2**
MSFE	**Esma-Masafi**	**1.98**	**151**	*e*Pn	**Pn**	**02 11 18.5**	**+1.8**
MSFE	**Esma-Masafi**	**1.98**	**151**	*e*P	**Pn**	**02 11 18.4**	**+1.7**
	SNR=12						
NAZ	**Nazwa, Dubai**	**2.17**	**166**	*e*Pn	**Pb**	**02 11 21.8**	**-1.8**
NAZ	**Nazwa, Dubai**	**2.17**	**166**	P	**Pb**	**02 11 22.0**	**-1.6**
NAZ				S	**Sb**	**02 11 48.9**	**-1.2**
NAZ	**Nazwa, Dubai**	**2.17**	**166**	P	**Pb**	**02 11 21.7**	**-1.8**
QIR1	**Qir**	**2.27**	**308**	*e*Pn	**Pb**	**02 11 23.9**	**-1.5**
QIR1				*e*		02 12 35.8	
	comp=Z,5μm,0.1s						
UOSS	**Minazif**	**2.37**	**155**	*e*Pn	**Pn**	**02 11 23.5**	**+1.5**
UOSS	**Minazif**	**2.37**	**155**	P	**Pn**	**02 11 23.7**	**+1.7**
UOSS				S	**Sb**	**02 11 56.1**	**+0.2**
UOSS	**Minazif**	**2.37**	**155**	*e*P	**Pn**	**02 11 23.5**	**+1.5**
	SNR=20						
FAQ	**Al Faqa, Dubai**	**2.39**	**169**	*e*Pn	**Pn**	**02 11 24.7**	**+2.4**
FAQ	**Al Faqa, Dubai**	**2.39**	**169**	P	**Pn**	**02 11 24.9**	**+2.7**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.39**	**169**	*e*P	**Pn**	**02 11 24.6**	**+2.3**
	SNR=12						
HATD	**Hatta, Dubai**	**2.45**	**157**	*e*Pn	**Pn**	**02 11 25.2**	**+2.0**
HATD	**Hatta, Dubai**	**2.45**	**157**	P	**Pn**	**02 11 25.2**	**+2.0**
	SNR=12						
HATD	**Hatta, Dubai**	**2.45**	**157**	*e*P	**Pn**	**02 11 24.8**	**+1.6**
	SNR=12						
KHNJ	**Kahnooj**	**2.47**	**69**	*e*Pn	**Pn**	**02 11 23.4**	**0.0**
ASUD	**Al Ashush, Dub**	**2.48**	**175**	P	**Pb**	**02 11 26.7**	**-2.1**
	SNR=6.6						
ASUD				S	**Sn**	**02 11 51.6**	**-1.2**
ASUD	**Al Ashush, Dub**	**2.48**	**175**	P	**Pb**	**02 11 26.4**	**-2.4**
ASHO	**Ashiyiah**	**2.56**	**160**	*e*Pn	**Pn**	**02 11 26.8**	**+2.2**
ASHO	**Ashiyiah**	**2.56**	**160**	P	**Pn**	**02 11 26.8**	**+2.2**
	SNR=8.1						
ASHO	**Ashiyiah**	**2.56**	**160**	*e*P	**Pn**	**02 11 26.5**	**+1.8**
	SNR=8.1						
NGRK	**Negar Kerman**	**2.92**	**29**	*e*Pn	**Pn**	**02 11 29.4**	**-0.4**
NGRK				*e*		02 12 12.0	
	comp=Z,554nm,0.3s						
TVBK	**TV Kerman**	**3.23**	**27**	*e*Pn	**Pn**	**02 11 34.3**	**+0.2**
TVBK				*e*		02 12 27.4	
	comp=Z,717nm,0.4s						
KHGB	**Koh Gabri**	**3.48**	**20**	*e*Pn	**Pn**	**02 11 38.0**	**+0.5**
KHGB				*e*		02 11 40.2	
	comp=Z,640nm,0.2s						
CHMN	**Cheshme madani**	**3.49**	**38**	*e*Pn	**Pn**	**02 11 39.3**	**+1.6**
CHMN				*e*		02 11 41.5	
	comp=Z,360nm,0.3s						
MZWR	**Madinat Zayed**	**3.50**	**198**	P	**Pn**	**02 11 39.7**	**+2.2**
KBAM	**BAM**	**3.59**	**55**	*e*Pn	**Pn**	**02 11 39.3**	**+0.4**
KBAM				*e*		02 11 49.2	
	comp=Z,479nm,0.3s						
GHWR	**Ruwais**	**3.71**	**213**	P	**Pn**	**02 11 41.2**	**+0.8**
ARQ	**Araqi**	**3.97**	**161**	P	**Pn**	**02 11 45.6**	**+1.6**
	SNR=11						
ZRDN	**Zarand Kerman**	**4.05**	**18**	*e*Pn	**Pn**	**02 11 44.6**	**-0.7**
IMEH	**Mehriz**	**4.29**	**355**	*e*Pn	**Pn**	**02 11 50.0**	**+1.4**
UMZA	**Um Al Zommool**	**4.37**	**179**	*e*Pn	**Pn**	**02 11 51.8**	**+2.3**
UMZA	**Um Al Zommool**	**4.37**	**179**	P	**Pn**	**02 11 51.2**	**+1.7**
UMZA				S	**Sn**	**02 12 41.7**	**+2.2**
IBAF	**Bafgh**	**4.49**	**5**	*e*Pn	**Pn**	**02 11 51.5**	**+0.2**
BSY	**Bisya**	**4.74**	**156**	P	**Pn**	**02 11 56.9**	**+2.2**
SMDO	**Samad**	**4.84**	**146**	P	**Pn**	**02 11 57.9**	**+1.9**
SMDO				S	**Sn**	**02 12 51.8**	**+0.6**
ISAD	**Sadrabad**	**4.95**	**346**	*e*Pn	**Pn**	**02 11 58.3**	**+0.6**
KLNJ	**Kolanjah**	**4.95**	**323**	*e*Pn	**Pn**	**02 11 58.5**	**+0.7**
ICHK	**Chekchek**	**5.16**	**354**	*e*Pn	**Pn**	**02 12 01.0**	**+0.5**
IRAM	**Ramesheh**	**5.25**	**334**	*e*Pn	**Pn**	**02 12 02.5**	**+0.7**
JMDO	**Jabal Madar**	**5.45**	**149**	P	**Pn**	**02 12 06.5**	**+2.2**
WBK	**Wadi Bani Khal**	**5.69**	**141**	P	**Pn**	**02 12 08.3**	**+0.6**
	SNR=27						
IGAR	**Gharneh**	**5.91**	**334**	*e*Pn	**Pn**	**02 12 11.3**	**+0.4**
TPRV	**Parvadeh(Tabas**	**6.07**	**13**	*e*Pn	**Pn**	**02 12 13.6**	**+0.7**
ANAR	**Anarak**	**6.18**	**349**	*e*Pn	**Pn**	**02 12 14.6**	**+0.1**
IZEF	**Zefreh**	**6.25**	**338**	*e*Pn	**Pn**	**02 12 15.0**	**-0.6**
JLN	**Jalan Bani Buh**	**6.30**	**141**	P	**Pn**	**02 12 16.2**	**+0.1**
	SNR=6.4						
SHK1	**Shahrekord**	**6.36**	**326**	*e*Pn	**Pn**	**02 12 17.6**	**+0.5**
SRVN	**Saravan**	**6.51**	**86**	*e*Pn	**Pn**	**02 12 20.5**	**+1.5**
IPIR	**Pirpir**	**6.65**	**328**	*e*Pn	**Pn**	**02 12 20.9**	**-0.2**
AMIS	**Naft Sefid**	**6.80**	**313**	*e*Pn	**Pn**	**02 12 23.1**	**+0.1**
IKLH	**Kolahrood**	**6.90**	**335**	*e*Pn	**Pn**	**02 12 24.0**	**-0.5**
KRSH	**Karshahi**	**7.30**	**340**	*e*Pn	**Pn**	**02 12 29.9**	**0.0**
ISFB	**Sefidab**	**7.63**	**342**	*e*Pn	**Pn**	**02 12 35.3**	**+1.0**
DOK	**Doka**	**8.49**	**186**	P	**Pn**	**02 12 46.2**	**+0.1**
IDOB	**Doab**	**8.94**	**320**	*e*Pn	**Pn**	**02 12 52.2**	**-0.3**
WHFO	**Wadi Hawf**	**9.22**	**188**	P	**Pn**	**02 12 56.1**	**-0.1**
	SNR=64						
RAYN	**Ar Rayn**	**9.38**	**250**	P	**Pn**	**02 12 57.9**	**-0.4**
ABTO	**Aybut**	**9.84**	**190**	P	**Pn**	**02 13 04.7**	**0.0**
	SNR=11						
ABTO				S	**Sn**	**02 14 51.3**	**-3.1**

*CNRM **29** 02:11:33.4,35.′49N×3.′81W,h10km,ml2.5*
ISC 29 02:11:31.5±1.0,35.′55N±0.′05×3.′78W±0.′05,h11km,n10,
σ1°91/12,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**202**	P	**Pg**	**02 11 39.0**	**+0.4**
GOG	**Mont Gurugu**	**0.72**	**117**	P	**Pg**	**02 11 47.0**	**+1.6**
AKLM	**AKL**	**1.04**	**184**	P	**Pg**	**02 11 51.4**	**-0.1**
CHAS	**Isla Isabel II**	**1.16**	**108**	P	**Pb**	**02 11 52.2**	**-1.3**
CHAS				S	**Sb**	**02 12 06.6**	**-1.9**
EMAL	**Malaga-Limoner**	**1.32**	**337**	P	**Pn**	**02 11 54.5**	**-1.4**
EMAL				S	**Sb**	**02 12 11.0**	**-2.3**
CHEFC	**Chefchaouen**	**1.35**	**251**	P	**Pn**	**02 11 57.5**	**+1.1**
JBK	**JBK**	**1.57**	**140**	P	**Pn**	**02 12 00.0**	**+0.6**
MDT	**Midelt**	**2.81**	**194**	P	**Pn**	**02 12 17.8**	**+1.3**
PVAQ	**Vaqueiros**	**3.68**	**301**	P	**Pn**	**02 12 30.1**	**+1.9**
PAB	**San Pablo**	**4.02**	**354**	P	**Pn**	**02 12 36.3**	**+3.3**

*SOME **29** 02:12:43.9,43.′05N×77.′23E,h15km*
*KRNET **29** 02:12:44.4±0.1,43.′09N×77.′23E,h23km,mb3.4*
*NNC **29** 02:12:44.0±0.3,43.′08N×77.′23E,h9km±2km,mb3.3,*
mpv3.5,Error ellipse: s-maj=3.8km s-min=1.8km az=172.0
*KNET **29** 02:12:46.1±0.6,43.′06N×77.′01E,h11km±4km,ml2.5,Error*
ellipse: s-maj=4.8km s-min=3.5km az=7.0
ISC 29 02:12:44.7±0.8,43.′08N±0.′02×77.′23E±0.′01,h16km±5km,
n90,σ0°91/173,45C-41D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**0.16**	**302**	⇑*e*P	**Pg**	**02 12 48.8**	**-0.2**
	70nm,0.1s						
MDOK				*e*S	**Sb**	**02 12 52.0**	**-0.4**
	1μm,0.2s						
MDOK	**Medeo**	**0.16**	**302**	⇑P	**Pg**	**02 12 48.6**	**-0.3**
	15nm,0.3s						
MDOK				⇑S	**Sb**	**02 12 51.9**	**-0.4**
	303nm,0.3s						
MDOK	**Medeo**	**0.16**	**302**	Pg	**Pg**	**02 12 48.8**	**-0.2**
	70nm,0.1s						
MDOK				Lg	Lg	02 12 51.6	
	1μm,0.2s						
MDOK	**Medeo**	**0.16**	**302**	⇑*e*P	**Pg**	**02 12 48.8**	**-0.2**
	baz=1.0						
MDOK				⇑*e*S	**Sb**	**02 12 52.1**	**-0.4**
	baz=1.0						
KOTS	**Kotyrbulak**	**0.18**	**331**	⇓*e*P	**Pb**	**02 12 49.3**	**-0.4**
	460nm,0.1s						
KOTS				*e*S	**Sb**	**02 12 53.0**	**0.0**
	3μm,0.2s						
KOTS	**Kotyrbulak**	**0.18**	**331**	P	**Pb**	**02 12 49.3**	**-0.4**
	460nm,0.1s						
KOTS				S	**Sb**	**02 12 52.6**	**-0.4**
	3μm,0.2s						
KOTS	**Kotyrbulak**	**0.18**	**331**	⇓*e*P	**Pb**	**02 12 49.3**	**-0.4**
	baz=30						
KOTS				⇓*e*S	**Sb**	**02 12 53.0**	**0.0**
	baz=30						
TNSS	**Tian-Shan**	**0.21**	**259**	⇓*e*P	**Pg**	**02 12 49.6**	**-0.3**
	403nm,0.1s						
TNSS				*e*S	**Sg**	**02 12 53.2**	**-0.3**
	504nm,0.1s						
TNSS	**Tian-Shan**	**0.21**	**259**	P	**Pg**	**02 12 49.6**	**-0.3**
	403nm,0.1s						
TNSS				S	**Sg**	**02 12 53.1**	**-0.3**
	504nm,0.1s						
TNSS	**Tian-Shan**	**0.21**	**259**	⇓*e*P	**Pg**	**02 12 49.6**	**-0.3**
	baz=59						
TNSS				⇓*e*S	**Sg**	**02 12 53.2**	**-0.3**
	baz=59						
KNDC	**Almaty**	**0.24**	**306**	⇑P	**Pg**	**02 12 50.1**	**0.0**
	66nm,0.2s						
KNDC				⇓S	**Sb**	**02 12 54.4**	**-0.2**
	1μm,0.7s						
AAA	**Alma-Ata**	**0.26**	**299**	⇓*e*P	**Pb**	**02 12 50.7**	**-0.4**
	224nm,0.1s						
AAA				*e*S	**Sb**	**02 12 55.3**	**-0.2**
	75nm,0.1s						
AAA	**Alma-Ata**	**0.26**	**299**	P	**Pb**	**02 12 50.7**	**-0.4**
	224nm,0.1s						
AAA				S	**Sb**	**02 12 55.2**	**-0.2**
	75nm,0.1s						
AAA	**Alma-Ata**	**0.26**	**299**	⇓*e*P	**Pb**	**02 12 50.7**	**-0.4**
	baz=98						
AAA				⇓*e*S	**Sb**	**02 12 55.3**	**-0.2**
	baz=98						
ANVS	**Anan'yevo**	**0.44**	**133**	⇑*i*P	**Pg**	**02 12 53.2**	**-0.3**
	baz=33						
ANVS				⇑*i*S	**Sb**	**02 12 59.6**	**-0.9**
	baz=33						
MTBS	**Maitube**	**0.59**	**275**	*e*P	**Pg**	**02 12 55.6**	**-0.7**
	13nm,0.1s						
MTBS				*e*S	**Sg**	**02 13 03.6**	**-0.6**
	134nm,0.2s						
MTBS	**Maitube**	**0.59**	**275**	P	**Pg**	**02 12 55.6**	**-0.7**
	13nm,0.1s						
MTBS				S	**Sg**	**02 13 03.4**	**-0.8**
	134nm,0.2s						
MTBS	**Maitube**	**0.59**	**275**	*e*P	**Pg**	**02 12 55.6**	**-0.7**
	baz=75						
MTBS				*e*S	**Sg**	**02 13 03.6**	**-0.6**
	baz=75						
KTBS	**Karatobe**	**0.75**	**328**	⇓*e*P	**Pg**	**02 12 58.6**	**-0.7**
	37nm,0.1s						
KTBS				*e*S	**Sg**	**02 13 08.5**	**-0.6**
	243nm,0.2s						
KTBS	**Karatobe**	**0.75**	**328**	P	**Pg**	**02 12 58.6**	**-0.7**
	41nm,0.1s						
KTBS				S	**Sg**	**02 13 08.5**	**-0.6**
	243nm,0.2s						
KTBS	**Karatobe**	**0.75**	**328**	⇓*e*P	**Pg**	**02 12 58.6**	**-0.7**
	baz=28						
KTBS				⇓*e*S	**Sg**	**02 13 08.6**	**-0.6**
	baz=28						
CHKK	**Chushkaly**	**0.79**	**347**	*e*P	**Pg**	**02 12 59.4**	**-0.7**
	216nm,0.1s						
CHKK				*e*S	**Sg**	**02 13 10.1**	**-0.5**
	756nm,0.1s						
CHKK	**Chushkaly**	**0.79**	**347**	P	**Pg**	**02 12 59.4**	**-0.7**
	216nm,0.1s						
CHKK				S	**Sg**	**02 13 10.1**	**-0.5**
	756nm,0.1s						
CHKK	**Chushkaly**	**0.79**	**347**	*e*P	**Pg**	**02 12 59.4**	**-0.7**
	baz=48						
CHKK				*e*S	**Sg**	**02 13 10.1**	**-0.5**
	baz=48						
KURS	**Kuram**	**0.80**	**59**	⇓*e*P	**Pg**	**02 12 59.7**	**-0.6**
	8.1nm,0.1s						
KURS				*e*S	**Sg**	**02 13 10.3**	**-0.5**
	33nm,0.2s						
KURS	**Kuram**	**0.80**	**59**	P	**Pg**	**02 12 59.7**	**-0.6**
	8.1nm,0.1s						
KURS				S	**Sg**	**02 13 10.3**	**-0.5**
	33nm,0.2s						
KURS	**Kuram**	**0.80**	**59**	⇓*e*P	**Pg**	**02 12 59.7**	**-0.6**
	baz=59						
KURS				⇓*e*S	**Sg**	**02 13 10.3**	**-0.5**
	baz=59						
SATY	**Saty**	**0.86**	**91**	*e*P	**Pg**	**02 13 00.6**	**-0.8**
	11nm,0.1s						
SATY				*e*S	**Sb**	**02 13 12.6**	**-0.1**
	295nm,0.1s						
SATY	**Saty**	**0.86**	**91**	P	**Pg**	**02 13 00.6**	**-0.8**
	11nm,0.1s						
SATY				S	**Sg**	**02 13 12.3**	**-0.5**
	295nm,0.1s						
SATY	**Saty**	**0.86**	**91**	*e*P	**Pg**	**02 13 00.6**	**-0.8**
	baz=91						
SATY				*e*S	**Sb**	**02 13 12.6**	**-0.1**
	baz=91						
ZHN	**Zhinishke**	**0.89**	**84**	*e*P	**Pb**	**02 13 00.9**	**-0.8**
	28nm,0.1s						
ZHN				*e*S	**Sb**	**02 13 12.6**	**-0.8**
	490nm,0.2s						
ZHN	**Zhinishke**	**0.89**	**84**	P	**Pb**	**02 13 01.1**	**-0.7**
	28nm,0.1s						
ZHN				S	**Sb**	**02 13 12.7**	**-0.6**
	490nm,0.2s						
ZHN	**Zhinishke**	**0.89**	**84**	*e*P	**Pb**	**02 13 00.9**	**-0.8**
	baz=84						
ZHN				*e*S	**Sb**	**02 13 12.6**	**-0.8**
	baz=84						
KST	**Kastek**	**0.93**	**268**	*e*P	**Pb**	**02 13 01.4**	**-1.1**
	13nm,0.1s						
KST				*e*S	**Sb**	**02 13 13.8**	**-0.8**
	51nm,0.3s						
KST	**Kastek**	**0.93**	**268**	P	**Pb**	**02 13 01.4**	**-1.1**
	13nm,0.1s						
KST				S	**Sb**	**02 13 13.4**	**-1.2**
	51nm,0.3s						
KST	**Kastek**	**0.93**	**268**	*e*P	**Pb**	**02 13 01.4**	**-1.1**
	baz=68						
KST				*e*S	**Sb**	**02 13 13.8**	**-0.8**
	baz=68						
KDJ	**Kajisay**	**0.95**	**182**	⇓*i*P	**Pb**	**02 13 02.3**	**-0.5**
	baz=82						
KDJ				⇓*i*S	**Sb**	**02 13 14.8**	**-0.4**
	baz=82						
KUU	**Kurty**	**1.04**	**322**	⇓*e*P	**Pb**	**02 13 03.5**	**-0.8**
	8.9nm,0.2s						
KUU				⇓*i*S	**Sb**	**02 13 17.2**	**-0.5**
	88nm,0.2s						
KUU	**Kurty**	**1.04**	**322**	P	**Pb**	**02 13 03.5**	**-0.8**
	16nm,0.2s						
KUU				S	**Sb**	**02 13 17.2**	**-0.5**
	114nm,0.2s						
KUU	**Kurty**	**1.04**	**322**	⇓*e*P	**Pb**	**02 13 03.5**	**-0.8**
	baz=22						
KUU				⇓*i*S	**Sb**	**02 13 17.2**	**-0.5**
	baz=22						
PRZ	**Przheval'sk**	**1.05**	**124**	⇑*i*P	**Pb**	**02 13 04.1**	**-0.4**
	baz=24						
PRZ				⇑*i*S	**Sg**	**02 13 18.2**	**-0.5**
	baz=24						
DGS	**Degeres**	**1.08**	**279**	*e*P	**Pb**	**02 13 03.8**	**-1.2**
	14nm,0.1s						
DGS				*e*S	**Sb**	**02 13 17.5**	**-1.4**
	86nm,0.3s						
DGS	**Degeres**	**1.08**	**279**	P	**Pb**	**02 13 03.8**	**-1.2**
	14nm,0.1s						
DGS				S	**Sb**	**02 13 17.5**	**-1.4**
	86nm,0.3s						
ULHL	**Ulahol**	**1.11**	**222**	⇓P	**Pb**	**02 13 04.8**	**-0.8**
	39nm,0.2s,SNR=181						
ULHL				⇑S	**Sb**	**02 13 19.3**	**-0.5**
	68nm,0.2s						
ULHL	**Ulahol**	**1.11**	**222**	⇑*i*P	**Pb**	**02 13 04.9**	**-0.6**
	baz=21						
ULHL				⇑*i*S	**Sg**	**02 13 20.1**	**-0.5**
	baz=21						
BOOM	**Boomskoye usch**	**1.12**	**239**	⇑*i*P	**Pb**	**02 13 05.0**	**-0.7**
	baz=38						
BOOM				⇑*i*S	**Sg**	**02 13 20.3**	**-0.6**
	baz=38						
TKM2	**Tokmak 2**	**1.21**	**263**	⇑P	**Pn**	**02 13 06.6**	**-0.5**
	6.6nm,0.2s,SNR=37						
TKM2				⇑S	**Sb**	**02 13 22.4**	**-0.3**
	52nm,0.1s						
TKM2	**Tokmak 2**	**1.21**	**263**	⇑P	**Pn**	**02 13 06.5**	**-0.5**
	1.7nm,0.3s						
TKM2				⇓S	**Sb**	**02 13 22.6**	**-0.1**
	12nm,0.3s						
TKM2	**Tokmak 2**	**1.21**	**263**	⇓*i*P	**Pn**	**02 13 06.6**	**-0.5**
	baz=63						
TKM2				⇓*i*S	**Sb**	**02 13 22.4**	**-0.3**
	baz=63						
ARXS	**Arharly**	**1.21**	**21**	⇑*e*P	**Pn**	**02 13 06.7**	**-0.3**
	43nm,0.1s						
ARXS				*e*S	**Sb**	**02 13 22.9**	**+0.2**
	119nm,0.1s						
ARXS	**Arharly**	**1.21**	**21**	P	**Pn**	**02 13 06.7**	**-0.3**
	43nm,0.1s						
ARXS				S	**Sb**	**02 13 22.6**	**-0.1**
	119nm,0.1s						
KRBS	**Karabastau**	**1.29**	**299**	⇑*e*P	**Pn**	**02 13 07.8**	**-0.3**
	18nm,0.1s						
KRBS				*e*S	**Sb**	**02 13 24.6**	**-0.3**
	155nm,0.2s						
KRBS	**Karabastau**	**1.29**	**299**	P	**Pn**	**02 13 07.8**	**-0.3**
	18nm,0.1s						
KRBS				S	**Sb**	**02 13 24.5**	**-0.5**
	155nm,0.2s						
KRBS	**Karabastau**	**1.29**	**299**	⇑*e*P	**Pn**	**02 13 07.8**	**-0.3**
	baz=99						
KRBS				⇑*e*S	**Sb**	**02 13 24.6**	**-0.3**
	baz=99						
UZB	**Uzynbulak**	**1.31**	**86**	*e*P	**Pb**	**02 13 08.5**	**-0.5**
	5.6nm,0.1s						
UZB				*e*S	**Sb**	**02 13 25.6**	**-0.2**
	59nm,0.1s						
UZB	**Uzynbulak**	**1.31**	**86**	P	**Pb**	**02 13 08.6**	**-0.5**
	5.6nm,0.1s						
UZB				S	**Sn**	**02 13 25.7**	**-0.1**
	59nm,0.1s						
UZB	**Uzynbulak**	**1.31**	**86**	*e*P	**Pb**	**02 13 08.5**	**-0.5**
	baz=87						
UZB				*e*S	**Sb**	**02 13 25.5**	**-0.2**
	baz=87						
BLB	**Baldybastay**	**1.36**	**41**	*e*P	**Pn**	**02 13 09.2**	**+0.1**
	63nm,0.2s						
BLB				*e*S	**Sn**	**02 13 26.9**	**0.0**
	144nm,0.2s						
BLB	**Baldybastay**	**1.36**	**41**	P	**Pn**	**02 13 09.2**	**+0.1**
	63nm,0.2s						
BLB				S	**Sn**	**02 13 26.9**	**0.0**
	144nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.42**	**162**	⇓*i*P	**Pb**	**02 13 10.5**	**-0.4**
	baz=62						
TARG				⇓*i*S	**Sb**	**02 13 29.2**	**+0.4**
	baz=62						
PDGK	**Podgornoye**	**1.67**	**81**	⇑P	**Pb**	**02 13 14.2**	**-0.9**
	2.9nm,0.3s						
PDGK				⇓S	**Sb**	**02 13 36.8**	**+0.8**
	34nm,0.6s						
KBK	**Karagaybulak**	**1.73**	**257**	⇑P	**Pb**	**02 13 15.6**	**-0.5**
	66nm,0.2s,SNR=45						
KBK				⇑S	**Sb**	**02 13 38.1**	**+0.4**
	138nm,0.3s						
KBK	**Karagaybulak**	**1.73**	**257**	⇑*i*P	**Pb**	**02 13 15.9**	**-0.2**
	baz=56						
KBK				⇑*i*S	**Sb**	**02 13 38.4**	**+0.7**
	baz=56						
CHMS	**Chumysh**	**1.82**	**268**	⇓P	**Pb**	**02 13 16.5**	**-1.0**
	7.8nm,0.3s,SNR=11						
CHMS				⇑S	**Sb**	**02 13 40.2**	**+0.1**
	58nm,0.2s						
CHMS	**Chumysh**	**1.82**	**268**	⇓*i*P	**Pb**	**02 13 16.9**	**-0.7**
	baz=68						
CHMS				⇓*i*S	**Sb**	**02 13 40.7**	**+0.6**
	baz=68						
SGDS	**Sogindy**	**1.94**	**282**	*e*P	**Pb**	**02 13 18.9**	**-0.6**
	4.5nm,0.1s						
SGDS				*e*S	**Sb**	**02 13 43.7**	**+0.2**
	30nm,0.2s						
SGDS	**Sogindy**	**1.94**	**282**	P	**Pb**	**02 13 19.8**	**+0.2**
	4.5nm,0.1s						
SGDS				S	**Sb**	**02 13 44.9**	**+1.4**
	30nm,0.2s						
USP	**Ospenovka**	**2.01**	**276**	⇓P	**Pb**	**02 13 19.3**	**-1.5**
	8.2nm,0.2s,SNR=8.7						
USP				⇑S	**Sb**	**02 13 45.9**	**+0.4**
	29nm,0.2s						
USP	**Ospenovka**	**2.01**	**276**	⇑*i*P	**Pb**	**02 13 19.6**	**-1.2**
	baz=76						
USP				⇑*i*S	**Sb**	**02 13 45.1**	**-0.4**
	baz=76						
AAK	**Ala-Archa**	**2.06**	**259**	⇑P	**Pb**	**02 13 21.1**	**-0.7**
	6.5nm,0.2s,SNR=8.5						
AAK				⇓S	**Sb**	**02 13 48.3**	**+1.2**
	14nm,0.2s						
AAK	**Ala-Archa**	**2.06**	**259**	⇑Pn	**Pn**	**02 13 20.0**	**+1.3**
	2.0nm,0.3s						
AAK				⇑Sn	**Sb**	**02 13 47.6**	**+0.5**
	40nm,0.9s						
AAK	**Ala-Archa**	**2.06**	**259**	⇓*i*P	**Pb**	**02 13 20.5**	**-1.2**
	baz=58						
AAK				⇓*i*S	**Sb**	**02 13 46.5**	**-0.6**
	baz=58						
TDK	**Taldyqorghan**	**2.10**	**23**	*e*P	**Pb**	**02 13 22.5**	**+0.1**
	35nm,0.2s						
TDK				*e*S	**Sb**	**02 13 49.6**	**+1.4**
	35nm,0.2s						
TDK	**Taldyqorghan**	**2.10**	**23**	Pg	**Pb**	**02 13 22.5**	**+0.1**
	35nm,0.2s						
TDK				Lg	Lg	02 13 49.6	
	35nm,0.2s						
UCH	**Uchtor**	**2.18**	**248**	⇓P	**Pb**	**02 13 23.9**	**-0.1**
	6.2nm,0.2s,SNR=18						
**UC

MAKZ	**Makanchi**	**5.03**	**40**	⇑Pn	**Pn**	**02 14 00.8**	**+1.5**
	0.6nm,0.7s						
MAKZ				⇑Pg	**Pg**	**02 14 16.8**	**-4.0**
	1.7nm,1.1s						
MAKZ				⇑Lg	Lg	02 15 20.4	
	2.3nm,0.8s						
MK31	**Makanchi Array**	**5.17**	**42**	⇑Pn	**Pn**	**02 14 02.9**	**+1.6**
	baz=221,slow=16,SNR=9.0						
MK31				⇑Pg	**Pb**	**02 14 18.0**	**+3.4**
	0.1nm,0.2s,baz=221,slow=15,SNR=4.8						
MK31				⇓Sn	**Sn**	**02 15 01.3**	**+0.8**
	0.2nm,0.2s,baz=238,slow=22,SNR=4.3						
MK31				⇓Lg	Lg	02 15 24.8	
	0.5nm,0.3s,baz=218,slow=26,SNR=6.0						

IDC ***29*** *02:20:13.5±1.3, 41°.35S×174°.25E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.6/38, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=49.4km s-min=30.5km az=170.0*
NOU ***29*** *02:20:18.4, 41°.47S×174°.56E, h92km, MLv4.5/8, Cook Strait, New Zealand*
NEIC ***29*** *02:20:19.6±1.8, 41°.40S±0°.05×174°.40E±0°.04, h50km±6km, mb4.1/6, ML4.1(WEL), Error ellipse: s-maj=6.7km s-min=4.6km az=181.0*
WEL ***29*** *02:20:19.7±0.3, 41°S±3°×17°4E±°, h32km±3km, M4.1/13, ML4.4/13, MLv4.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=167.3*
ISC 29 02:20:19.8±0.8, 41°.43S±0°.03×174°.42E±0°.03, h55km±5km, n165, σ1§07/183, mb4.0/6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.24**	**61**	Pn	**Pn**	**02 20 28.8**	**-0.1**
SNZO				Sn	**Sn**	02 20 35.0	-0.5
TCW	**Tory Channel**	**0.24**	**333**	P	**Pn**	02 20 28.2	-0.8
TCW				S	**Sn**	02 20 33.7	-1.9
WEL	**Wellington**	**0.29**	**61**	P	**Pn**	02 20 29.5	+0.1
WEL				S	**Sn**	02 20 36.1	-0.2
BHW	**Baring Head**	**0.34**	**87**	P	**Pn**	02 20 30.0	+0.3
BHW				S	**Sn**	02 20 37.1	+0.2
BHW	**Baring Head**	**0.34**	**87**		**Pn**	02 20 30.0	+0.3
CMWZ	**Cape Campbell**	**0.36**	**206**	P	**Pn**	02 20 31.0	+0.9
CMWZ				S	**Sn**	02 20 39.8	+2.5
CMWZ	**Cape Campbell**	**0.36**	**206**		**Pn**	02 20 30.9	+0.9
TUWZ	**Tuamarina**	**0.36**	**269**	P	**Pn**	02 20 29.5	-0.5
TUWZ				S	**Sn**	02 20 35.8	-1.5
TUWZ	**Tuamarina**	**0.36**	**269**		**Pn**	02 20 29.4	-0.5
TUWZ				Sn	**Sn**	02 20 35.7	-1.6
BSWZ	**Blackbirch Sta**	**0.50**	**235**	P	**Pn**	02 20 31.8	+0.3
BSWZ				S	**Sn**	02 20 40.3	+0.4
BSWZ	**Blackbirch Sta**	**0.50**	**235**		**Pn**	02 20 31.7	+0.3
CAW	**Cannon Point**	**0.58**	**57**	P	**Pn**	02 20 32.5	+0.2
CAW				S	**Sn**	02 20 41.9	+0.4
MSWZ	**Moikau Station**	**0.62**	**89**	P	**Pn**	02 20 33.2	+0.4
MSWZ				S	**Sn**	02 20 43.0	+0.7
MSWZ	**Moikau Station**	**0.62**	**89**		**Pn**	02 20 33.2	+0.4
PLWZ	**Palliser**	**0.64**	**103**	P	**Pn**	02 20 33.6	+0.5
PLWZ				S	**Sn**	02 20 43.5	+0.7
PLWZ	**Palliser**	**0.64**	**103**		**Pn**	02 20 33.6	+0.5
KIW	**Kapiti Island**	**0.67**	**33**	P	**Pn**	02 20 33.6	+0.1
KIW				S	**Sn**	02 20 43.0	-0.4
DUWZ	**D'Urville Isla**	**0.73**	**328**	P	**Pn**	02 20 33.7	-0.5
DUWZ				S	**Sn**	02 20 43.3	-1.4
PAWZ	**Paruwai Farm**	**0.76**	**87**	P	**Pn**	02 20 34.7	+0.2
PAWZ				S	**Sn**	02 20 45.8	+0.5
NNZ	**Nelson**	**0.81**	**285**	P	**Pn**	02 20 34.8	-0.4
NNZ				S	**Sn**	02 20 45.7	-0.8
NNZ	**Nelson**	**0.81**	**285**		**Pn**	02 20 34.6	-0.6
OGWZ	**Otaki Gorge**	**0.83**	**43**	P	**Pn**	02 20 35.6	+0.2
OGWZ				S	**Sn**	02 20 47.0	+0.1
MTW	**Mount Morrison**	**0.85**	**72**	P	**Pn**	02 20 35.8	0.0
MTW				S	**Sn**	02 20 47.9	+0.4
TRWZ	**Traveller**	**0.95**	**89**	P	**Pn**	02 20 37.2	+0.2
TRWZ				S	**Sn**	02 20 50.2	+0.4
HOWZ	**Holdsworth Sta**	**0.98**	**58**	P	**Pn**	02 20 37.3	-0.1
TMWZ	**Te Maipa**	**1.15**	**74**	P	**Pn**	02 20 39.6	-0.1
MRZ	**Mangatainoka R**	**1.16**	**49**	P	**Pn**	02 20 39.7	-0.1
TKNZ	**Takaka Hill**	**1.17**	**289**	P	**Pn**	02 20 39.9	0.0
THZ	**Tophouse**	**1.19**	**253**	P	**Pn**	02 20 40.3	+0.1
THZ	**Tophouse**	**1.19**	**253**	Pn	**Pn**	02 20 40.3	+0.1
KHZ	**Kahutara**	**1.19**	**213**	P	**Pn**	02 20 40.9	+0.8
KHZ	**Kahutara**	**1.19**	**213**	Pn	**Pn**	02 20 40.9	+0.8
KHZ	**Kahutara**	**1.19**	**213**	P	**Pn**	02 20 41.0	+0.8
MRWZ	**Matariki Terra**	**1.25**	**271**	P	**Pn**	02 20 41.5	+0.4
TIWZ	**Tintock**	**1.28**	**60**	P	**Pn**	02 20 41.2	-0.3
OHWZ	**Ohakea**	**1.39**	**29**	P	**Pn**	02 20 43.9	+1.0
CPWZ	**Castlepoint**	**1.44**	**70**	P	**Pn**	02 20 43.8	+0.3
POWZ	**Post Office Ro**	**1.45**	**45**	P	**Pn**	02 20 43.3	-0.4
PRWZ	**Pori Road**	**1.46**	**54**	P	**Pn**	02 20 43.5	-0.3
QRZ	**Quartz Range**	**1.55**	**292**	P	**Pn**	02 20 45.6	+0.6
QRZ	**Quartz Range**	**1.55**	**292**		**Pn**	02 20 45.6	+0.6
QRZ	**Quartz Range**	**1.55**	**292**	P	**Pn**	02 20 45.7	+0.6
BFZ	**Birch Farm**	**1.57**	**62**	P	**Pn**	02 20 44.4	-0.8
BFZ	**Birch Farm**	**1.57**	**62**		**Pn**	02 20 44.4	-0.8
BFZ	**Birch Farm**	**1.57**	**62**	P	**Pn**	02 20 44.5	-0.8
WAZ	**Wanganui**	**1.72**	**15**	P	**Pn**	02 20 48.7	+1.2
DVHZ	**Dannevirke**	**1.74**	**50**	P	**Pn**	02 20 46.7	-0.9
TSZ	**Takapari Road**	**1.80**	**41**	P	**Pn**	02 20 48.0	-0.5
ANWZ	**Angora Road**	**1.83**	**59**	P	**Pn**	02 20 47.8	-1.0
GVZ	**Greta Valley S**	**1.85**	**213**	P	**Pn**	02 20 49.4	+0.2
DSZ	**Denniston Nort**	**1.99**	**260**	P	**Pn**	02 20 51.5	+0.4
PNHZ	**Pukenui**	**2.03**	**42**	P	**Pn**	02 20 50.7	-0.8
PRHZ	**Porangahau**	**2.04**	**56**	P	**Pn**	02 20 50.5	-1.2
WPHZ	**Waipukurau**	**2.05**	**49**	P	**Pn**	02 20 50.9	-0.9
NMEZ	**Namu Road**	**2.05**	**348**	P	**Pn**	02 20 52.8	+0.9
PREZ	**Palmer Road**	**2.09**	**354**	P	**Pn**	02 20 54.3	+1.8
LTZ	**Lake Taylor**	**2.10**	**229**	P	**Pn**	02 20 52.7	+0.1
LTZ	**Lake Taylor**	**2.10**	**229**	Pn	**Pn**	02 20 52.0	-0.5
KHEZ	**Kahui Hut**	**2.15**	**352**	P	**Pn**	02 20 54.7	+1.4
NEZ	**North Egmont**	**2.17**	**353**	P	**Pn**	02 20 54.8	+1.2
AMCZ	**Amberley**	**2.19**	**216**	P	**Pn**	02 20 53.6	-0.1
MTVZ	**Mangateitei**	**2.19**	**22**	P	**Pn**	02 20 54.7	+0.8
NBEZ	**Newall Road No**	**2.20**	**349**	P	**Pn**	02 20 55.3	+1.4
DREZ	**Durham Road**	**2.24**	**356**	P	**Pn**	02 20 56.1	+1.6
PKVZ	**Pokaka**	**2.25**	**19**	P	**Pn**	02 20 55.3	+0.6
PKE	**Pukeiti**	**2.25**	**351**	P	**Pn**	02 20 56.1	+1.4
MOVZ	**Moawhango**	**2.26**	**27**	P	**Pn**	02 20 54.5	-0.2
WNVZ	**Wahianoa**	**2.28**	**24**	P	**Pn**	02 20 55.6	+0.4
TRVZ	**Turoa**	**2.29**	**22**	P	**Pn**	02 20 56.0	+0.6
BHHZ	**Black Hill Sta**	**2.30**	**33**	P	**Pn**	02 20 55.1	-0.3
VRZ	**Vera Road**	**2.31**	**6**	P	**Pn**	02 20 56.8	+1.3
KRHZ	**Kereru**	**2.32**	**40**	P	**Pn**	02 20 54.5	-1.0
DRZ	**Dome Shelter**	**2.32**	**22**	P	**Pn**	02 20 57.0	+1.2
PXZ	**Pawanui**	**2.32**	**54**	P	**Pn**	02 20 54.0	-1.5
WHVZ	**Whangaehu Hut**	**2.32**	**23**	P	**Pn**	02 20 56.4	+0.7
FWVZ	**Far West T-bar**	**2.33**	**22**	P	**Pn**	02 20 56.5	+0.5
TUVZ	**Tukino**	**2.35**	**24**	P	**Pn**	02 20 56.7	+0.6
NGZ	**Ngauruhoe**	**2.42**	**22**	P	**Pn**	02 20 57.6	+0.6
SNVZ	**South Ngauruho**	**2.42**	**23**	P	**Pn**	02 20 57.7	+0.6
OTVZ	**Oturere**	**2.45**	**23**	P	**Pn**	02 20 58.1	+0.6
NNVZ	**North Ngauruho**	**2.47**	**22**	P	**Pn**	02 20 58.3	+0.6
WTVZ	**West Tongariro**	**2.47**	**22**	P	**Pn**	02 20 58.3	+0.5
TWVZ	**Taurewa**	**2.48**	**19**	P	**Pn**	02 20 58.4	+0.6
KAHZ	**Kahuranaki**	**2.48**	**50**	P	**Pn**	02 20 56.4	-1.4
ETVZ	**East Tongariro**	**2.49**	**24**	P	**Pn**	02 20 57.2	-0.8
OKCZ	**Okains Bay**	**2.51**	**203**	P	**Pn**	02 20 57.6	-0.5
TMWZ	**Te Maari**	**2.51**	**23**	P	**Pn**	02 20 58.5	+0.3
KRVZ	**Karewarewa**	**2.51**	**22**	P	**Pn**	02 20 58.7	+0.5
NTVZ	**North Tongarir**	**2.51**	**23**	P	**Pn**	02 20 58.7	+0.4
KWHZ	**Kaweka Forest**	**2.52**	**38**	P	**Pn**	02 20 57.4	-0.9
INZ	**Inchbonnie**	**2.57**	**239**	P	**Pn**	02 20 58.9	-0.1
OXZ	**Oxford**	**2.59**	**222**	P	**Pn**	02 20 58.2	-1.1
OXZ	**Oxford**	**2.59**	**222**		**Pn**	02 20 58.2	-1.1
MQZ	**McQueen's Vall**	**2.63**	**209**	P	**Pn**	02 20 58.4	-1.4
MQZ	**McQueen's Vall**	**2.63**	**209**	Pn	**Pn**	02 20 58.0	-1.7
MCHZ	**McNeill Hill**	**2.63**	**42**	P	**Pn**	02 20 58.8	-1.0
KATZ	**Kakaramea**	**2.63**	**22**	P	**Pn**	02 21 01.0	+1.0
RITZ	**Rihia Road**	**2.68**	**25**	P	**Pn**	02 21 00.8	+0.3
AKCZ	**Akaroa Harbour**	**2.69**	**204**	P	**Pn**	02 20 59.8	-0.8
BKZ	**Black Stump Fm**	**2.76**	**36**	P	**Pn**	02 21 00.2	-1.3
BKZ	**Black Stump Fm**	**2.76**	**36**		**Pn**	02 21 00.2	-1.3
BKZ	**Black Stump Fm**	**2.76**	**36**	P	**Pn**	02 21 00.3	-1.3
RACZ	**Rakaia**	**2.85**	**216**	P	**Pn**	02 21 01.5	-1.3
ARHZ	**Aropaoanui**	**2.92**	**43**	P	**Pn**	02 21 02.5	-1.3
HIZ	**Hauiti**	**2.93**	**7**	P	**Pn**	02 21 04.9	+1.0
HIZ	**Hauiti**	**2.93**	**7**		**Pn**	02 21 03.6	-0.3
HIZ	**Hauiti**	**2.93**	**7**	P	**Pn**	02 21 04.8	+0.9
NMHZ	**Naumai**	**2.96**	**39**	P	**Pn**	02 21 02.9	-1.4
MHCZ	**Mount Hutt**	**2.98**	**224**	P	**Pn**	02 21 03.4	-1.2
MRHZ	**Matea Rd**	**3.01**	**31**	P	**Pn**	02 21 03.4	-1.6
KUTZ	**Kaahu Road**	**3.12**	**21**	P	Pn	02 21 10.8	+4.3
WACZ	**Wakanui South**	**3.15**	**216**	P	**Pn**	02 21 05.7	-1.2
MTHZ	**Maungataniwha**	**3.17**	**37**	P	**Pn**	02 21 05.5	-1.7
WVZ	**Waitaha Valley**	**3.19**	**238**	P	**Pn**	02 21 07.0	-0.4
TLZ	**Tolley Road**	**3.21**	**16**	P	**Pn**	02 21 07.8	0.0
ALRZ	**Allen Road**	**3.22**	**28**	P	**Pn**	02 21 06.6	-1.3
RPZ	**Rata Peaks**	**3.38**	**226**	P	**Pn**	02 21 09.3	-0.7
RPZ	**Rata Peaks**	**3.38**	**226**		**Pn**	02 21 08.9	-1.2
RPZ	**Rata Peaks**	**3.38**	**226**	P	**Pn**	02 21 10.2	+0.1
RTZ	**Ruatahuna**	**3.42**	**36**	P	**Pn**	02 21 08.8	-2.0
MUGZ	**Murupara**	**3.45**	**32**	P	**Pn**	02 21 09.1	-1.9
ARCZ	**Arundel**	**3.48**	**222**	P	**Pn**	02 21 10.3	-1.1
TARZ	**Mount Tarawera**	**3.57**	**27**	P	**Pn**	02 21 11.9	-0.8
GCSZ	**Gaunt Creek Bo**	**3.58**	**237**	P	**Pn**	02 21 12.3	-0.4
PRGZ	**Paritu Road**	**3.64**	**48**	P	**Pn**	02 21 11.3	-2.4
RIGZ	**Rimuhau**	**3.73**	**44**	P	**Pn**	02 21 12.2	-2.8
URZ	**Urewera**	**3.78**	**34**	Pn	**Pn**	02 21 12.7	-2.8
	3.8nm,0.3s,baz=258,slow=4.1,SNR=34						
URZ				Sn	**Sn**	02 21 56.0	-2.6
	10nm,0.3s,baz=236,slow=3.2,SNR=7.3						
URZ	**Urewera**	**3.78**	**34**	Pn	**Pn**	02 21 13.0	-2.5
URZ	**Urewera**	**3.78**	**34**	P	**Pn**	02 21 13.3	-2.2
TMZ	**Timaru**	**3.88**	**219**	P	**Pn**	02 21 15.6	-1.3
FOZ	**Fox Glacier**	**4.01**	**237**	P	**Pn**	02 21 17.7	-0.9
FOZ	**Fox Glacier**	**4.01**	**237**	Pn	**Pn**	02 21 16.9	-1.7
TWGZ	**Tauwhareparae**	**4.25**	**41**	P	**Pn**	02 21 19.6	-2.3
RUGZ	**Raukumara Rang**	**4.27**	**37**	P	**Pn**	02 21 20.0	-2.4
LBZ	**Lake Benmore**	**4.29**	**225**	P	**Pn**	02 21 21.8	-0.8
LBZ	**Lake Benmore**	**4.29**	**225**	Pn	**Pn**	02 21 22.3	-0.3
AWAZ	**Awhitu Peninsu**	**4.36**	**2**	P	**Pn**	02 21 24.2	+0.7
ETAZ	**East Tamaki Re**	**4.48**	**5**	P	**Pn**	02 21 26.2	+1.0
WTAZ	**Waiatarua**	**4.49**	**2**	P	**Pn**	02 21 26.3	+1.1
PKGZ	**Pakihiroa**	**4.52**	**40**	P	**Pn**	02 21 23.5	-2.2
ODZ	**Otahua Downs**	**4.55**	**216**	P	**Pn**	02 21 24.4	-1.6
ODZ	**Otahua Downs**	**4.55**	**216**	Pn	**Pn**	02 21 25.2	-0.8
ODZ	**Otahua Downs**	**4.55**	**216**	P	**Pn**	02 21 25.0	-1.1
WIAZ	**Waiheke Island**	**4.66**	**7**	P	**Pn**	02 21 28.1	+0.5
MBAZ	**Motutapu North**	**4.67**	**5**	P	**Pn**	02 21 28.1	+0.5
KUZ	**Kuaotunu**	**4.78**	**13**	P	**Pn**	02 21 28.8	-0.4
ABAZ	**Army Bay**	**4.83**	**4**	P	**Pn**	02 21 30.6	+0.7
JCZ	**Jackson Bay**	**4.92**	**236**	P	**Pn**	02 21 29.8	-1.5
WKZ	**Wanaka**	**5.22**	**228**	P	**Pn**	02 21 33.0	-2.2
GRZ	**Great Barrier**	**5.23**	**9**	P	**Pn**	02 21 35.3	-0.2
EAZ	**Earnscleugh**	**5.33**	**223**	P	**Pn**	02 21 35.4	-1.3
TUZ	**Tuapeka**	**5.71**	**216**	P	**Pn**	02 21 41.0	-0.8
OUZ	**Omahuta**	**6.23**	**354**	Pn	**Pn**	02 21 48.7	-0.4
DCZ	**Deep Cove**	**6.65**	**230**	Pn	**Pn**	02 21 54.1	-0.7
MSVF	**Nonsavu**	**23.82**	**9**	P	**P**	02 25 27.1	-0.6
MSVF				IAmb	IAmb	02 25 38.4	
	comp=Z,4.8nm,1.0s						
AS31	**Alice Springs**	**38.07**	**285**	P	**P**	02 27 33.2	0.0
AS31				IAmb	IAmb	02 27 46.0	
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**38.07**	**285**	P	**P**	02 27 32.6	-0.5
	comp=Z,0.9nm,0.4s,baz=123,slow=7.1,SNR=23						
WR0	**Warramunga Arr**	**39.96**	**290**	P	**P**	02 27 48.8	-0.1
WR0				IAmb	IAmb	02 27 53.8	
	comp=Z,6.7nm,1.2s						
WRAB	**Tennant Creek**	**40.11**	**290**	P	**P**	02 27 49.0	-1.1
WRAB				IAmb	IAmb	02 27 52.5	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**40.11**	**290**	P	**P**	02 27 49.6	-0.6
	comp=Z,0.9nm,0.5s,baz=125,slow=8.7,SNR=18						
WB0	**Warramunga Arr**	**40.19**	**290**	P	**P**	02 27 49.7	-1.2
MKAR	**Makanchi Array**	**119.88**	**308**	PKP	**PKiKP**	**02 39 05.6**	**+2.2**
	comp=Z,0.9nm,0.5s,baz=98,slow=3.5,SNR=5.5						
RES	**Resolute Bay**	**129.63**	**20**	PKP	**PKiKP**	**02 39 24.0**	**+2.1**
	comp=Z,1.4nm,0.3s,baz=336,slow=3.8,SNR=10						
ARCES	**ARCESS Array B**	**147.52**	**340**	PKPbc	**PKPbc**	**02 39 56.0**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=35,slow=3.3,SNR=1.7						
TORD	**Torodi Ar. Bea**	**151.12**	**195**	PKPbc	**PKiKP**	**02 40 08.0**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=166,slow=2.2,SNR=8.9						

IDC 29 02:22:42.6±13.0, 7°.53N×103°.62W, h0km, mb3.1/3, mb1 3.6/3, mb1mx3.1/35, mbtmp3.1/3, Error ellipse: s-maj=474.0km s-min=164.0km az=104.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**21.69**	**360**	P	P	02 27 35.2	-0.2
	0.5nm,0.8s,baz=179,slow=14,SNR=5.1						
PDAR	**Pinedale Array**	**35.49**	**352**	P	P	02 29 41.5	+0.3
	0.5nm,0.7s,baz=158,slow=9.4,SNR=4.5						
H03N2	**Juan Fernandez**	**47.01**	**151**	T	T	03 22 41.6	
	baz=328,slow=78,SNR=5.0						
H03N1	**Juan Fernandez**	**47.02**	**151**	T	T	03 22 50.8	
	baz=328,slow=78,SNR=4.9						
H03N3	**Juan Fernandez**	**47.02**	**151**	T	T	03 22 40.9	
	baz=328,slow=78,SNR=5.2						
YKA	**Yellowknife Ar**	**55.45**	**354**	P	P	02 32 18.4	-0.4
	0.1nm,0.5s,baz=168,slow=7.1,SNR=2.4						

NEIC ***29*** *02:29:14.7±2.3, 19°.31N±0°.07×121°.09E±0°.08, h10km±1km, mb5.0/130, Error ellipse: s-maj=12.4km s-min=10.9km az=110.0*
GCMT ***29*** *02:29:16.7±0.2, 19°.48N±0°.01×120°.87E±0°.02, h34km, MW5.1/95, Moment Tensor Solution. s51,c65; s95,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.55±.21; Mθθ0.28±.14; Mϕϕ-3.82±.14; Mrθ-2.00±.18; Mϕθ-2.54±.09; Mϕr-2.67±.18; Best double couple: M=5.45800×10^16 NP1:ϕs12.00000°, δ28.00000°, λ69.00000°. NP2: ϕs215.00000°, δ64.00000°, λ101.00000°. Principal axes: T 4.7710, Plg69.0000°, Azm146.0000°; N 1.3810, Plg10.0000°, Azm31.0000°; P -6.1450, Plg19.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***29*** *02:29:16.1±0.0, 19°.58N×120°.92E, h10km, mb4.6/58, mB5.0/40, ML4.7/1, Ms4.6/66, Ms7 4.5/60*
IDC ***29*** *02:29:16.1±2.8, 19°.23N×121°.25E, h27km±18km, mb4.4/35, mb1 4.5/38, mb1mx4.4/60, mbtmp4.6/38, ML4.1/3, MS4.3/59, Ms1 4.3/59, ms1mx4.2/91, Error ellipse: s-maj=14.3km s-min=9.2km az=83.0*
MAN ***29*** *02:29:17.2, 19°.36N×121°.19E, h39km, mb3.9, ML2.6, MS2.2*
ISC 29 02:29:18.0±0.6, 19°.27N±0°.03×121°.14E±0°.04, h40km±5km, n394, σ1§79/362, mb4.8/130, MS4.4/70, 57C-29D, Fault plane solution: NP1:ϕs218.64233°, δ84.14826°, λ103.28642°. NP2:ϕs331.99487°, δ14.49674°, λ24.03467°. Principal axes: T Plg49.1730°, Azm143.0350°; N Plg13.2159°, Azm37.2632°; P Plg37.7706°, Azm296.7787°; **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Gonzaga**	**1.33**	**140**	⇑*e*P	**Pn**	**02 29 40.3**	**+0.1**
APYP	**Conner**	**1.40**	**176**	⇓*e*P	**Pn**	**02 29 41.2**	**+0.1**
APYP				*e*S	**Sn**	**02 30 02.9**	**+4.6**
BBP	**Basco**	**1.41**	**34**	⇑*i*P	**Pn**	**02 29 40.4**	**-0.8**
BBP				*i* S	**Sn**	**02 29 58.2**	**-0.4**
SIPP	**Brgy, Tapao**	**1.48**	**206**	⇓*i*P	**Pn**	**02 29 43.8**	**+1.6**
SIPP				*i* S	Sn	02 30 13.4	+13
SAMP	**Sagada Mountai**	**2.18**	**186**	⇑*i*P	**Pn**	**02 29 52.7**	**+0.8**
CAUP	**Cauayan**	**2.40**	**164**	⇑*i*P	**Pn**	**02 29 58.0**	**+3.2**
BOLP	**Bolinao**	**3.10**	**202**	⇓*i*P	**Pn**	**02 30 05.8**	**+1.4**
BOLP				*e*S	**Sn**	**02 30 34.8**	**-5.4**
SMPP	**San Manuel, Pa**	**3.13**	**188**	⇑*e*P	**Pn**	**02 30 05.6**	**+0.8**
BALP	**Baler**	**3.53**	**173**	⇑*i*P	**Pn**	**02 30 12.0**	**+1.6**
BALP				*e*S	**Sn**	**02 30 58.9**	**+7.9**
TWG	**Pinlang**	**3.54**	**359**		**Pn**	**02 30 07.7**	**-2.8**
SCZP	**Santa Cruz**	**3.66**	**199**	⇓*i*P	**Pn**	**02 30 12.9**	**+0.7**
SCZP				*e*S	**Sn**	**02 30 58.4**	**+4.2**
PCPH	**Palayan**	**3.68**	**181**	⇑*e*P	**Pn**	**02 30 15.1**	**+2.6**
PCPH				*e*S	**Sn**	**02 31 02.4**	**+7.7**
TPUB	**Ta-pu**	**4.04**	**353**		**Pn**	**02 30 14.7**	**-2.8**
YULB	**Yu-li**	**4.11**	**2**		**Pn**	**02 30 17.8**	**-0.6**
SSLB	**Suanglung**	**4.50**	**358**		**Pn**	**02 30 22.1**	**-1.7**
NACB	**Ninganchiao**	**4.90**	**5**		**Pn**	**02 30 27.8**	**-1.4**
MACP	**Maragondon, Ca**	**4.99**	**185**	⇓*e*P	**Pn**	**02 30 31.5**	**+1.0**
MACP				*e*S	**Sn**	**02 31 21.6**	**-5.3**
TGY	**Tagaytay City**	**5.14**	**182**	Pn	Pn	02 30 37.2	+4.6
	77nm,0.3s,baz=302,slow=5.8,SNR=11						
JCNP	**Jose Panganiba**	**5.17**	**163**	⇓*e*P	**Pn**	**02 30 34.3**	**+1.3**
JCNP				*e*S	**Sn**	**02 31 26.2**	**-5.1**
YHNB	**Yeheng**	**5.38**	**2**		**Pn**	**02 30 35.2**	**-0.7**
YOJ	**Yonaguni jima**	**5.46**	**18**		**Pn**	**02 30 37.0**	**+0.1**
GQP	**Guinayangan**	**5.48**	**167**	⇑*e*P	**Pn**	**02 30 39.0**	**+1.9**
GQP				*e*S	**Sn**	**02 31 37.7**	**-1.2**
TATO	**Taipei**	**5.69**	**3**	Pn	**Pn**	**02 30 40.9**	**+0.8**
PGP	**Puerto Galera**	**5.73**	**182**	⇑*e*P	**Pn**	**02 30 43.7**	**+3.0**
KNMB	**Chin-men Tao**	**5.77**	**334**		**Pn**	**02 30 38.1**	**-3.0**
QZH	**Quanzhou**	**6.12**	**338**	⇑*i*Pn	**Pn**	**02 30 42.5**	**-3.5**
QZH				Sn	Sn	02 31 45.5	-9.3
QZH				LR	LR		
	comp=N,2μm,13.9s						
QZH				LR	LR		
	comp=E,2μm,18.6s						
QZH				LR	LR		
	comp=Z,3μm,18.8s						
HKPS	**Hong Kong Po S**	**7.20**	**296**		**Pn**	**02 30 57.7**	**-3.0**
RCP	**Roxas**	**7.82**	**168**	⇑*e*P	Pn	02 31 16.2	+6.9
JOW	**Kunigami**	**9.99**	**40**	Pn	**Pn**	**02 31 39.4**	**+0.3**
	5.4nm,0.3s,baz=232,slow=15,SNR=6.5						
JOW	**Kunigami**	**9.99**	**40**	Pn	**Pn**	**02 31 38.5**	**-0.7**
QIZ	**Qiongzhong**	**10.68**	**271**	P	**Pn**	**02 31 45.5**	**-3.0**
QIZ				S	**Sn**	**02 33 41.5**	**-5.3**
QIZ				pmax	pmax		
	comp=Z,39nm,0.8s						
QIZ				LR	LR		
	comp=N,1μm,15.1s						
QIZ				LR	LR		
	comp=E,2μm,15.9s						
QIZ				LR	LR		
	comp=Z,2μm,13.7s						
QIZ	**Qiongzhong**	**10.68**	**271**	Pn	**Pn**	**02 31 45.8**	**-2.7**
JMZ	**Minamidaito 2**	**11.37**	**53**	Pn	**Pn**	**02 31 55.8**	**-2.2**
PAGZ	**Pagadian**	**11.56**	**169**	*e*P	Pn	02 32 05.4	+4.8
SSE	**Sheshan**	**11.78**	**0**	P	**Pn**	**02 32 03.0**	**-0.5**
SSE				S	**Sn**	**02 34 18.5**	**+4.8**
SSE				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SSE				pmax	pmax		
	comp=Z,350nm,5.3s						
SSE				LR	LR		
	comp=N,870nm,20.4s						
SSE				LR	LR		
	comp=E,780nm,18.9s						
WHN	**Wuhan**	**12.80**	**333**	⇑P	**Pn**	**02 32 14.3**	**-3.2**
DAV	**Davao City (W)**	**12.87**	**160**	LR	LR	02 38 02.1	
	comp=Z,2μm,19.1s,slow=41						
NJ2	**Nanjing**	**12.90**	**351**	*e*P	**Pn**	**02 32 17.5**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2			

CD2 LR LR
comp=Z,1μm,13.9s
CD2 LR LR
comp=Z,2μm,14.9s
TIY Taiyuan 19.89 339 *e*P **Pn 02 33 47.5 -0.5**
TIY S **Sn 02 37 28.0 -2.7**
TIY LR LR
comp=Z,2μm,16.7s
TIY LR LR
comp=Z,500nm,11.4s
TIY LR LR
comp=Z,2μm,16.3s
APSI Ampana 20.06 179 P Pn 02 33 51.4 +1.4
comp=Z,783nmcomp=Z,63nm,0.6s
KSM Kuching 20.62 212 P **P 02 33 53.5 -0.6**
KSM IAmb IAmb 02 33 59.0
comp=Z,56nm,0.8s
CHTO Chiang Mai 20.98 272 P **P 02 33 58.0 -0.1**
MTKI Muara Teweh, K 20.99 198 P **P 02 33 59.7 +1.6**
comp=Z,87nm,0.8s
CM31 Chiang Mai Arr 21.02 271 P **P 02 33 58.0 -0.4**
CMAR Chiang Mai Arr 21.02 271 P **P 02 33 59.1 +0.7**
comp=Z,10nm,0.8s,baz=72,slow=9.5,SNR=62
CMAR PcP **PcP 02 38 05.6 +1.0**
comp=Z,3.9nm,0.7s,baz=54,slow=0.4,SNR=14
CMAR ScP **ScP 02 41 38.9 +0.6**
comp=Z,0.8nm,0.3s,baz=59,slow=1.4,SNR=7.7
CMAR LR LR 02 42 20.6
comp=Z,401nm,18.1s,baz=85,slow=37
CMAR Chiang Mai Arr 21.02 271 P **P 02 33 58.0 -0.4**
BJT Baijiatuau 21.12 349 P **P 02 33 58.2 -1.1**
BJT IAmb IAmb 02 34 26.8
comp=Z,39nm,0.9s
BJI Beijing 21.14 349 P **P 02 34 02.5 +3.0**
BJI pmax pmax
comp=Z,26nm,0.9s
BJI pmax pmax
comp=Z,330nm,3.8s
BJI LR LR
comp=Z,910nm,15.5s
BJI LR LR
comp=Z,700nm,20.7s
BJI LR LR
comp=Z,1μm,16.4s
STKI Sintang 21.30 208 P **P 02 34 02.5 +1.0**
comp=Z,31nm,0.9s
INU Inuyama 21.30 38 P **P 02 34 01.4 +0.1**
INU IAmb IAmb 02 34 09.7
comp=Z,98nm,1.0s
JGF Kuroka 21.68 38 P **P 02 34 05.6 +0.3**
SANI Sanana 21.71 167 P **P 02 34 07.5 +1.7**
comp=Z,34nm,0.7s
TTSI Tana Toraja 22.21 183 P **P 02 34 15.0 +3.8**
comp=Z,50nm,0.9s
SIJI Sorong 22.34 152 P **P 02 34 12.8 +0.1**
comp=Z,26nm,0.6s,baz=345,slow=3.9,SNR=7.3
LZH Lanzhou 22.64 321 ⇓P **P 02 34 16.3 +0.5**
LZH pP pP 02 34 21.3 -3.7
LZH sP pwP 02 34 24.0 -5.4
LZH PP **PnPn 02 34 46.3 +5.8**
LZH S **S 02 38 24.0 +2.8**
LZH pmax pmax
comp=Z,44nm,1.4s
LZH pmax pmax
comp=Z,410nm,4.5s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,920nm,17.1s
LZH LR LR
comp=Z,2μm,17.1s
MAT Matsushiro 22.83 38 P **P 02 34 16.1 -1.5**
MAT S **S 02 38 25.0 +0.8**
MAJO Matsushiro 22.83 38 P **P 02 34 16.3 -1.4**
MAJO IAmb IAmb 02 34 39.4
comp=Z,35nm,1.0s
MJAR Matsushiro Arr 22.83 38 P **P 02 34 16.7 -1.0**
comp=Z,17nm,1.1s,baz=230,slow=9.3,SNR=14
MJAR Matsushiro Arr 22.83 38 P **P 02 34 16.5 -1.2**
MJB9 Matsu-Tunnel 22.83 38 P **P 02 34 17.2 -0.5**
MJB9 IAmb IAmb 02 34 39.4
comp=Z,36nm,1.0s
HHC Hu-ho-hao-te 23.02 341 *e*P **P 02 34 19.8 +0.1**
HHC sP pP 02 34 27.5 -1.5
HHC PP **PnPn 02 34 46.0 +0.4**
HHC S **S 02 38 29.8 +2.2**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,280nm,5.3s
HHC LR LR
comp=Z,2μm,14.7s
HHC LR LR
comp=Z,880nm,16.2s
HHC LR LR
comp=Z,2μm,15.9s
SPSI Sidrap Palu 23.12 183 P **P 02 34 22.1 +1.4**
comp=Z,57nm,0.9s
BTO Baotou 23.31 338 *e*P **P 02 34 22.5 0.0**
BTO LR LR
comp=Z,4μm,17.7s
BTO LR LR
comp=Z,3μm,16.3s
BBKI Banjar Baru 23.42 196 P **P 02 34 24.0 +0.3**
comp=Z,5μmcomp=Z,131nm,1.0s
GUMO Guam 23.44 100 LR LR 02 43 29.6
comp=Z,799nm,19.4s,baz=260,slow=37
BNSI Bone 23.54 183 P **P 02 34 28.5 +3.7**
comp=Z,701nmcomp=Z,27nm,0.7s
AAI Ambon 23.84 162 P **P 02 34 28.5 +0.8**
comp=Z,97nm,0.6s
KAPI Kappang 24.16 183 P **P 02 34 29.6 -1.1**
comp=Z,14nm,0.5s,baz=352,slow=8.0,SNR=13
KAPI LR LR 02 44 53.2
comp=Z,319nm,19.4s,baz=18,slow=39
KAPI Kappang 24.16 183 P **P 02 34 30.0 -0.6**
KAPI IAmb IAmb 02 35 00.0
comp=Z,93nm,1.6s
KULM Kulim 24.32 238 P **P 02 34 31.9 -0.3**
KULM IAmb IAmb 02 34 45.8
comp=Z,71nm,1.3s
BKSI Bulukumba 24.45 182 P **P 02 34 33.9 +0.6**
comp=Z,453nmcomp=Z,21nm,0.7s
IPM Ipoh 24.51 236 P **P 02 34 33.2 -0.8**
IPM IAmb IAmb 02 34 44.6
comp=Z,66nm,1.3s
FAKI Fak Fak 24.61 152 P **P 02 34 37.4 +2.7**
comp=Z,36nm,0.7s
FAKI Fak Fak 24.61 152 P **P 02 34 34.0 -0.7**
FAKI IAmb IAmb 02 34 36.8
comp=Z,32nm,1.0s
CN2 Changchun 24.73 7 *e*P **P 02 34 34.5 -1.1**
CN2 sP pP 02 34 41.5 -4.3
CN2 PP **PnPn 02 35 11.3 +2.5**
CN2 S **S 02 38 53.8 -1.1**
CN2 sS sS 02 39 00.5 -12
CN2 SS **SnSn 02 39 51.0 +7.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,790nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,870nm,16.0s
XLT XiLinHaoTe 24.93 351 *e*P **P 02 34 37.8 +0.3**
XLT pP pP 02 34 42.0 -5.7
XLT sP pwP 02 34 44.8 -6.1
XLT PcP **PcP 02 38 13.8 +1.5**
XLT S **S 02 38 59.0 +0.8**
XLT sS sS 02 39 06.0 -10
XLT pmax pmax
comp=Z,31nm,1.1s
XLT pmax pmax
comp=Z,530nm,4.1s
XLT LR LR
comp=Z,930nm,15.2s
XLT LR LR
comp=Z,920nm,18.1s
XLT LR LR
comp=Z,1μm,16.4s
DSRI Dabo 25.48 221 P **P 02 34 44.7 +2.1**
comp=Z,19nm,1.1s
TPI Tanjungpandan 25.59 213 P **P 02 34 45.0 +1.4**
comp=Z,356nmcomp=Z,28nm,1.1s
PPBI Pangkal Pinang 25.90 216 P **P 02 34 48.3 +1.9**
comp=Z,29μmcomp=Z,44nm,1.2s
MDJ Mudanjiang 26.25 14 P **P 02 34 48.2 -1.1**
USRK Ussuriysk Ar. 26.47 18 P **P 02 34 51.0 -0.4**
comp=Z,4.7nm,0.7s,baz=197,slow=9.3,SNR=6.1
USRK LR LR 02 45 30.1
comp=Z,494nm,21.1s,baz=183,slow=37
PSI Prapat 27.19 236 P **P 02 34 58.6 +0.3**
comp=Z,3.6nm,0.6s,baz=55,slow=16,SNR=5.9
PSI PcP **PcP 02 38 18.5 +0.4**
comp=Z,6.3nm,0.8s,baz=288,slow=4.9,SNR=5.9
PSI LR LR 02 45 41.9
comp=Z,427nm,19.1s,baz=62,slow=36
GTA Gaotai 27.23 322 *e*P **P 02 34 58.5 0.0**
GTA pP pP 02 35 03.3 -5.2
GTA sP pwP 02 35 06.3 -6.3
GTA S **S 02 39 39.5 +4.6**
GTA pmax pmax
comp=Z,100nm,8.0s
GTA LR LR
comp=Z,460nm,17.1s
GTA LR LR
comp=Z,710nm,17.1s
GTA LR LR
comp=Z,810nm,15.5s
SHL Shillong 27.72 288 P **P 02 35 02.3 -0.8**
BLJI Banyuglugur 27.85 196 P **P 02 35 04.8 +0.9**
comp=Z,1μmcomp=Z,84nm,0.8s
MNSI Mandailing Nat 27.99 232 P P 02 35 19.5 +14
GOMU GeErMu 28.63 312 P **P 02 35 12.3 +1.1**
GOMU pP pP 02 35 15.3 -6.1
GOMU sP pwP 02 35 19.3 -6.0
GOMU S **S 02 40 05.3 +7.9**
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU pmax pmax
comp=Z,160nm,4.9s
GOMU LR LR
comp=Z,780nm,16.5s
GOMU LR LR
comp=Z,1μm,16.1s
GOMU LR LR
comp=Z,910nm,15.4s
KLSI 28.77 216 P **P 02 35 13.8 +1.6**
comp=Z,278nmcomp=Z,9.6nm,1.6s
MDSI Maura Dua 28.91 217 P **P 02 35 14.8 +1.4**
comp=Z,1μmcomp=Z,6.9nm,1.5s
JAY Jayapura 28.96 136 LR LR 02 44 39.0
comp=Z,692nm,21.4s,baz=346,slow=32
MASI Maura Aman, Be 29.00 222 P P 02 35 20.4 +6.1
LSA Lhasa 29.12 297 P **P 02 35 17.0 +1.2**
LSA pmax pmax
comp=Z,31nm,0.9s
BATI Baumata 29.39 175 P **P 02 35 16.9 -0.8**
comp=Z,42nm,0.7s,baz=322,slow=1.5,SNR=4.5
BATI LR LR 02 48 04.1
comp=Z,436nm,21.9s,baz=346,slow=38
SISI Saibi 29.79 229 P **P 02 35 22.0 +0.7**
comp=Z,524nmcomp=Z,21nm,1.2s
CGJI Cibinong 29.88 212 P **P 02 35 24.7 +2.7**
ASAJ Asahikawa 30.60 31 LR LR 02 48 19.0
comp=Z,476nm,20.9s,baz=326,slow=37
ULN Ulaanbaatar 30.74 341 P **P 02 35 28.6 -0.9**
SONM Songino Array 30.92 341 P **P 02 35 31.6 +0.5**
comp=Z,4.2nm,1.0s,baz=157,slow=8.9,SNR=11
SONM LR LR 02 49 04.2
comp=Z,1μm,18.9s,baz=159,slow=38
SONM Songino Array 30.92 341 P **P 02 35 30.3 -0.8**
KLR Kul'dur 31.09 14 P **P 02 35 32.0 -0.4**
comp=Z,2.5nm,0.8s,baz=281,slow=4.2,SNR=6.1
KLR LR LR 02 49 24.4
comp=Z,935nm,20.1s,baz=195,slow=39
XMIS Christmas Isla 33.27 209 P **P 02 35 50.5 -1.3**
GUN Gumba 33.34 292 *e*P **P 02 35 53.3 +0.4**
comp=Z,52nm,0.9s
MTN Manton Dam 33.39 162 P **P 02 35 51.8 -1.0**
MTN IAmb IAmb 02 35 56.2
comp=Z,9.2nm,0.7s
PKI Pulchoki 33.72 291 *e*P **P 02 35 56.0 -0.1**
KKN Kakani 33.85 291 *e*P **P 02 35 56.9 -0.3**
comp=Z,6.0nm,0.4s
DMN Daman 33.99 291 *e*P **P 02 35 58.3 -0.1**
DANN Dangsing 35.25 292 *e*P **P 02 36 09.1 -0.2**
KOLN Koldanda 35.33 291 *e*P **P 02 36 10.0 +0.1**
KNRA Kununurra 35.52 167 P **P 02 36 10.2 -1.1**
KNRA IAmb IAmb 02 36 37.0
comp=Z,15nm,0.8s
PYUN Piuthan 35.90 291 *e*P **P 02 36 14.9 +0.1**
comp=Z,9.1nm,0.7s
WMQ Urumqi 37.17 319 *e*P **P 02 36 26.8 +1.6**
WMQ pP pP 02 36 31.3 -4.2
WMQ sP pwP 02 36 34.0 -5.5
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ LR LR
comp=Z,1μm,16.3s
WMQ LR LR
comp=Z,790nm,10.9s
WMQ LR LR
comp=Z,490nm,16.3s
PMG Port Moresby 38.34 136 LR LR 02 51 46.3
comp=Z,136nm,20.1s,baz=300,slow=35
COEN Coen 39.51 145 P **P 02 36 42.9 -2.2**
MBWA Marble Bar 40.20 182 P **P 02 36 49.1 -1.6**
ZSN Zaisan 40.73 322 *e*P **P 02 36 54.9 -0.1**
baz=322
WB0 Warramunga Arr 40.91 161 P **P 02 36 55.7 -0.9**
WB0 IAmb IAmb 02 36 57.6
comp=Z,11nm,0.6s
PALK Pallekele 41.01 259 LR LR 02 54 02.7
comp=Z,263nm,19.1s,baz=123,slow=36
WRAB Tennant Creek 41.05 161 P **P 02 36 56.0 -1.8**
WRAB IAmb IAmb 02 36 58.9
comp=Z,31nm,1.3s
WRA Warramunga Arr 41.06 161 P **P 02 36 55.2 -2.7**
comp=Z,7.1nm,0.5s,baz=345,slow=9.1,SNR=100
WRA PcP **PcP 02 38 57.4 +0.1**
comp=Z,5.4nm,0.7s,baz=343,slow=3.5,SNR=9.7
WRA LR LR 02 56 33.7
comp=Z,139nm,19.0s,baz=209,slow=40
WB2 Warramunga Arr 41.06 161 IAmb IAmb 02 36 59.0
comp=Z,40nm,1.3s
WR0 Warramunga Arr 41.14 161 IAmb IAmb 02 36 58.3
comp=Z,40nm,1.3s
MK31 Makanchi Array 41.94 320 P **P 02 37 05.6 +0.7**
MKAR Makanchi Array 41.94 320 P **P 02 37 05.8 +0.9**
comp=Z,7.8nm,0.8s,baz=113,slow=9.4,SNR=63
MKAR PcP **PcP 02 39 00.1 +0.3**
comp=Z,2.1nm,0.9s,baz=105,slow=4.4,SNR=1.5
MKAR LR LR 02 55 40.4
comp=Z,415nm,18.9s,baz=112,slow=38
MKAR Makanchi Array 41.94 320 P **P 02 37 05.6 +0.7**
MAKZ Makanchi 42.14 320 P **P 02 37 06.2 -0.3**
GIRL Giralia 42.19 190 P **P 02 37 07.1 0.0**
UZB Uzynbulak 42.58 313 *e*P **P 02 37 10.9 +0.7**
baz=314
SATY Saty 42.97 313 *e*P **P 02 37 14.0 +0.5**
baz=313
H11N1 WAKE ISLAND Hy 43.04 81 T T 03 22 49.3
baz=277,slow=75,SNR=87
H11N2 WAKE ISLAND Hy 43.04 81 T T 03 22 49.5
baz=277,slow=75,SNR=61
H11N3 WAKE ISLAND Hy 43.05 81 T T 03 22 50.6
baz=277,slow=75,SNR=52
YAK Yakutsk 43.14 6 LR LR 02 57 18.0
comp=Z,389nm,18.3s,baz=208,slow=39
KSH Kashi 43.69 307 P **P 02 37 23.0 +3.7**
KSH pP pP 02 37 27.8 -1.9
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=Z,330nm,13.7s
KSH LR LR
comp=Z,790nm,17.5s
KSH LR LR
comp=Z,1μm,16.8s
MDOK Medeo 43.94 313 *e*P **P 02 37 22.0 +0.7**
baz=313
PETK Petropavlovsk- 44.02 31 P **P 02 37 21.3 -0.3**
comp=Z,5.8nm,0.8s,baz=204,slow=13,SNR=4.6
PETK LR LR 02 56 02.6
comp=Z,240nm,20.9s,baz=214,slow=36
PETK Petropavlovsk- 44.02 31 P **P 02 37 20.8 -0.8**
ZAAO Zalesovo Array 44.40 330 P **P 02 37 24.3 -0.3**
ZALV Zalesovo Beam 44.40 330 P **P 02 37 24.8 +0.2**
comp=Z,6.4nm,0.9s,baz=124,slow=7.7,SNR=11
ZALV LR LR 02 56 53.9
comp=Z,499nm,20.3s,baz=120,slow=37
ZALV Zalesovo Beam 44.40 330 P **P 02 37 24.4 -0.1**
AS31 Alice Springs 44.45 163 P **P 02 37 23.4 -2.0**
ASAR Alice Springs 44.45 163 P **P 02 37 23.9 -1.5**
comp=Z,9.9nm,0.6s,baz=344,slow=6.7,SNR=105
ASAR PcP **PcP 02 39 08.0 -0.5**
comp=Z,1.9nm,0.6s,baz=334,slow=3.1,SNR=4.9
ASAR ScP **ScP 02 42 58.9 +1.3**
comp=Z,1.1nm,1.0s,baz=357,slow=5.5,SNR=4.1
ASAR Alice Springs 44.45 163 P **P 02 37 23.7 -1.7**
KUU Kurty 44.66 314 *e*P **P 02 37 27.2 +0.3**
baz=314
NIL Nilore 44.82 299 P **P 02 37 28.3 0.0**
NIL IAmb IAmb 02 37 42.5
comp=Z,21nm,0.8s
SEM Semipalatinsk 44.84 324 *e*P **P 02 37 28.0 -0.4**
baz=324
AAK Ala-Archa 45.58 311 P **P 02 37 36.1 +1.8**
comp=Z,1.6nm,0.8s,baz=131,slow=5.2,SNR=4.1
AAK LR LR 02 58 47.9
comp=Z,562nm,19.9s,baz=100,slow=39
AAK Ala-Archa 45.58 311 P **P 02 37 34.1 -0.3**
KURK Kurchatov 45.91 323 P **P 02 37 36.7 +0.1**
KURK IAmb IAmb 02 37 46.2
comp=Z,20nm,1.1s
KURBB Kurchatov Arra 45.91 323 P **P 02 37 37.3 +0.6**
comp=Z,8.1nm,0.8s,baz=122,slow=7.9,SNR=29
KURBB LR LR 02 57 44.9
comp=Z,228nm,19.1s,baz=113,slow=37
CTA Charters Tower 46.21 146 LR LR 02 56 07.7
comp=Z,273nm,21.6s,baz=284,slow=35
CTAO Charters Tower 46.21 146 P **P 02 37 38.7 -0.7**
CTAO IAmb IAmb 02 37 48.0
comp=Z,23nm,1.4s
DRK Karamyk 46.83 306 P **P 02 37 45.5 +1.1**
DRK IAmb IAmb 02 38 02.1
comp=Z,19nm,1.2s
BTK Batken 47.68 307 P **P 02 37 51.7 +0.9**
BTK IAmb IAmb 02 38 08.8
comp=Z,9.3nm,0.9s
HNR Honiara 47.71 123 LR LR 02 57 35.3
comp=Z,244nm,18.3s,baz=336,slow=36
MORW Morawa 48.30 186 P **P 02 37 54.7 -0.8**
KBL Kabul 48.38 299 P **P 02 37 56.3 -0.1**
KBL IAmb IAmb 02 38 19.1
comp=Z,12nm,0.9s
SEY Seymchan 48.62 18 P **P 02 37 57.4 0.0**
comp=Z,1.1nm,0.4s,baz=219,slow=14,SNR=4.6
SEY PcP **PcP 02 39 22.2 -0.3**
comp=Z,5.0nm,0.9s,baz=20,slow=24,SNR=2.6
SEY LR LR 03 00 42.5
comp=Z,195nm,18.5s,baz=339,slow=39
IUG Iuzhnay 48.67 310 *e*P **P 02 37 59.3 +0.9**
baz=310
BRLS Borolday 48.99 311 *e*P **P 02 38 01.6 +0.8**
baz=310
BRZS Berezniki 49.09 320 *e*P **P 02 38 01.9 +0.5**
baz=320
FORT Forrest 50.20 172 P **P 02 38 09.7 -0.2**
BVAR Borovoye Array 51.51 323 P **P 02 38 20.7 +1.1**
comp=Z,1.7nm,0.7s,baz=108,slow=14,SNR=9.3
BVAR PcP **PcP 02 39 32.6 -0.8**
comp=Z,2.8nm,0.6s,baz=61,slow=12,SNR=3.6
BRVK Borovoye 51.58 323 P **P 02 38 20.5 +0.4**
BRVK IAmb IAmb 02 38 34.0
comp=Z,9.5nm,0.8s
NWAO Narrogin (SRO) 52.03 184 P **P 02 38 23.0 -0.7**
TIXI Tiksi 52.59 3 LR LR 03 03 50.8
comp=Z,337nm,18.4s,baz=211,slow=39
TIXI Tiksi 52.59 3 P **P 02 38 25.7 -1.6**
TIXI IAmb IAmb 02 38 49.6
comp=Z,12nm,0.9s
BBOO Buckleboo 53.71 164 P **P 02 38 35.9 -0.2**
HRA Herat 53.98 299 P **P 02 38 38.6 +0.2**
NRIK Noril'sk 54.13 346 P **P 02 38 39.9 +1.2**
comp=Z,5.3nm,0.6s,baz=121,slow=7.2,SNR=14
NRIK LR LR 03 03 41.5
comp=Z,574nm,18.4s,baz=150,slow=38
STKA Stephens Creek 54.50 159 P **P 02 38 41.3 -0.5**
comp=Z,8.8nm,0.6s,baz=341,slow=6.3,SNR=26
STKA LR LR 03 07 56.9
comp=Z,82nm,18.4s,baz=11,slow=43
STKA Stephens Creek 54.50 159 P **P 02 38 41.0 -0.9**
BILL Bilibino 56.32 19 P **P 02 38 53.8 -0.7**
BILL IAmb IAmb 02 39 27.1
comp=Z,9.3nm,0.8s
ABKAR Akbulak array 56.91 317 P **P 02 38 59.1 +0.1**
SANVU Saraoutou 56.96 124 P **P 02 38 59.4 -0.4**
GYA0B ALIBECK ARRAY 57.34 303 P **P 02 39 02.7 +0.4**
GYA0B IAmb IAmb 02 39 22.5
comp=Z,15nm,0.9s
WSAR Wadi Sarin 58.00 286 LR LR 03 06 16.9
comp=Z,86nm,19.4s,baz=104,slow=38
AKTO Aktyubinsk 58.31 318 LR LR 03 05 34.4
comp=Z,248nm,18.7s,baz=110,slow=37
ARU Arti 59.04 325 LR LR 03 08 27.1
comp=Z,233nm,19.3s,baz=88,slow=40
ARU Arti 59.04 325 P **P 02 39 14.3 +0.5**
DZM Mont Dzumac 60.41 131 LR LR 03 01 45.1
comp=Z,353nm,21.0s,baz=283,slow=32
DZM Mont Dzumac 60.41 131 *e*LR LR 02 57 14.7
comp=Z,512nm,21.6s
DZM Mont Dzumac 60.41 131 IAmb IAmb 02 39 24.7
comp=Z,7.3nm,0.6s
OUENC Ouen Island, N 60.92 131 P **P 02 39 26.4 -0.8**
OUENC IAmb IAmb 02 39 28.9
comp=Z,13nm,0.8s
TOO Toolangi 61.01 158 P **P 02 39 27.3 -0.2**
KIRV Kirov 64.24 326 LR LR 03 10 08.2
comp=Z,426nm,18.9s,baz=101,slow=38
ANM Nome 65.69 27 P **P 02 39 58.8 +0.7**
baz=264
MSVF Nonsavu 66.91 120 LR LR 03 07 54.1
comp=Z,212nm,18.4s,baz=341,slow=35
MSVF Nonsavu 66.91 120 P **P 02 40 07.2 +0.4**
RDOG Red Dog Mine 67.04 23 IAmb IAmb 02 40 16.4
comp=Z,7.3nm,0.8s
RDOG Red Dog Mine 67.04 23 P **P 02 40 08.5 +1.8**
baz=264
GNI Garni 67.61 306 LR LR 03 12 53.3
comp=Z,157nm,20.8s,baz=98,slow=39
ONI Oni 68.29 309 P **P 02 40 16.5 +1.4**
AKH Akhalkalaki 68.40 308 ⇑P **P 02 40 17.5 +1.5**
KBZ Khabaz 68.56 310 P **P 02 40 17.2 +0.6**
comp=Z,5.8nm,1.0s,baz=181,slow=6.5,SNR=5.3
KBZ LR LR 03 14 18.7
comp=Z,294nm,18.1s,baz=64,slow=39
KIV Kislovodsk 68.69 311 ⇑P **P 02 40 17.9 +0.2**
KIV Kislovodsk 68.69 311 P **P 02 40 18.2 +0.6**
KLMR Klimovskoe 69.30 329 *e*P **P 02 40 19.1 -1.9**
KLMR AMP 02 40 33.3
comp=Z,29nm,1.3s
GCSA Galena City Sc 69.34 27 P **P 02 40 22.4 +1.2**
baz=271
TTA Tatalina 69.79 29 P **P 02 40 24.4 +0.3**
TTA IAmb IAmb 02 40 36.8
comp=Z,12nm,1.1s
TTA Tatalina 69.79 29 P **P 02 40 24.4 +0.3**
baz=273
RAYN Ar Rayn 69.80 289 P **P 02 40 25.0 +0.2**
RAYN IAmb IAmb 02 40 36.3
comp=Z,7.9nm,0.8s
GURO Guroymak-BITLI 69.90 305 IAmb IAmb 02 40 40.2
comp=Z,8.8nm,1.0s
L19K White Mountain 70.37 30 P **P 02 40 28.3 +0.7**
L19K IAmb IAmb 02 40 42.9
comp=Z,18nm,1.1s
L19K White Mountain 70.37 30 P **P 02 40 28.5 +0.8**
baz=274
O18K Koktuh Hills 70.38 32 P **P 02 40 28.3 +0.6**
baz=275
P18K Big Mountain, 70.41 33 P **P 02 40 27.8 -0.1**
baz=275
J20K Nowinta River 70.55 28 IAmb IAmb 02 40 47.6
comp=Z,17nm,1.1s
J20K Nowinta River 70.55 28 P **P 02 40 29.5 +0.9**
baz=274
M19K Big River Lodg 70.61 30 P **P 02 40 29.9 +0.8**
baz=275
K20K Telida 70.65 28 IAmb IAmb 02 40 37.4
comp=Z,31nm,1.7s
K20K Telida 70.65 28 P **P 02 40 29.9 +0.7**
baz=274
N19K Bonanza Creek 70.66 31 P **P 02 40 30.1 +0.7**
baz=275
H21K Melozitna Rive 71.01 26 IAmb IAmb 02 40 40.0
comp=Z,20nm,1.1s

H21K Melozitna Rive 71.01 26 P **P 02 40 32.2 +0.8**
baz=275
MARD Mardin 71.09 304 IAmb IAmb 02 40 44.2
comp=Z,11nm,0.7s
CHUM Lake Minchumin 71.38 28 P **P 02 40 34.5 +0.8**
baz=276
I21K Tanana 71.40 26 IAmb IAmb 02 41 01.4
comp=Z,13nm,1.0s
CAST Castle Rocks 71.53 28 P **P 02 40 35.0 +0.4**
baz=276
MLY Manley 71.94 27 P **P 02 40 37.5 +0.5**
MLY IAmb IAmb 02 40 52.2
comp=Z,11nm,0.9s
MLY Manley 71.94 27 P **P 02 40 37.7 +0.6**
baz=277
KDAK Kodiak Island 71.96 34 P **P 02 40 36.5 -0.7**
comp=Z,26nm,0.9s,baz=289,slow=9.3,SNR=7.4
TOLK Toolik Lake Re 71.97 23 IAmb IAmb 02 40 57.3
comp=Z,7.7nm,0.8s
TOLK Toolik Lake Re 71.97 23 P **P 02 40 38.3 +1.1**
baz=277
I23K Minto, Yukon-K 72.50 26 IAmb IAmb 02 40 48.0
comp=Z,28nm,1.6s
I23K Minto, Yukon-K 72.50 26 P **P 02 40 41.2 +0.9**
baz=278
MCK McKinley 72.89 28 IAmb IAmb 02 40 50.0
comp=Z,22nm,1.2s
RND Reindeer 72.98 28 IAmb IAmb 02 40 50.2
comp=Z,15nm,0.8s
H24K Noodor Dome 73.01 25 IAmb IAmb 02 41 00.7
comp=Z,18nm,1.4s
H24K Noodor Dome 73.01 25 P **P 02 40 44.1 +0.7**
baz=279
PMR Palmer 73.14 30 P **P 02 40 43.1 -1.0**
baz=279
SEW Seward 73.22 32 P **P 02 40 46.3 +1.6**
baz=279
SML Sawmill 73.47 30 P **P 02 40 46.1 -0.2**
baz=280
IL31 73.60 27 IAmb IAmb 02 41 08.4
comp=Z,21nm,1.7s
ILAR Eielson Array 73.60 27 P **P 02 40 45.1 -1.7**
comp=Z,0.9nm,0.6s,baz=263,slow=5.0,SNR=12
AFI Afiamalu 73.81 111 LR LR 03 09 32.9
comp=Z,112nm,19.6s,baz=218,slow=33
ARCES ARCESS Array B 74.07 339 P **P 02 40 49.6 0.0**
comp=Z,4.1nm,0.7s,baz=78,slow=5.6,SNR=10
ARCES LR LR 03 18 46.7
comp=Z,286nm,18.1s,baz=92,slow=40
SPITS Spitsbergen Ar 74.26 348 P **P 02 40 50.2 -0.3**
comp=Z,12nm,0.9s,baz=163,slow=15,SNR=2.0
SPITS LR LR 03 16 36.2
comp=Z,235nm,21.1s,baz=234,slow=38
M24K Tolsona, Glenn 74.42 29 P **P 02 40 52.6 +0.8**
baz=282
RIDG Independent Ri 74.68 27 P **P 02 40 52.1 -1.1**
RIDG IAmb IAmb 02 41 11.0
comp=Z,23nm,1.2s
SCRK Sand Creek 75.00 27 IAmb IAmb 02 41 30.5
comp=Z,31nm,1.7s
SCRK Sand Creek 75.00 27 P **P 02 40 54.6 -0.6**
baz=283
ATD Arta Tunnel 75.34 277 LR LR 03 15 56.6
comp=Z,53nm,18.3s,baz=80,slow=37
L26K Log Cabin Wild 75.50 28 IAmb IAmb 02 41 04.6
comp=Z,27nm,1.6s
L26K Log Cabin Wild 75.50 28 P **P 02 40 58.2 +0.2**
baz=284
FINES FINESS Array B 75.66 330 P **P 02 40 58.6 -0.2**
comp=Z,7.1nm,1.1s,baz=184,slow=23,SNR=5.1
M26K Nabesna, AK 75.80 29 P **P 02 40 59.7 0.0**
baz=284
EGAK Eagle 75.99 26 IAmb IAmb 02 41 20.2
comp=Z,8.8nm,0.9s
EGAK Eagle 75.99 26 P **P 02 41 00.9 +0.2**
baz=285
BRTR Keskin Array B 76.08 307 P **P 02 41 01.2 -0.6**
comp=Z,0.6nm,0.5s,baz=128,slow=3.5,SNR=6.8
BRTR LR LR 03 19 39.1
comp=Z,145nm,18.6s,baz=87,slow=40
L27K Beaver Creek, 76.16 28 IAmb IAmb 02 41 15.9
comp=Z,19nm,1.5s
L27K Beaver Creek, 76.16 28 P **P 02 41 02.5 +0.8**
baz=285
BCAR Beaver Creek A 76.17 28 P **P 02 41 01.8 -0.1**
MMAI Mount Meron Ar 76.30 300 LR LR 03 19 01.1
comp=Z,128nm,20.9s,baz=233,slow=39
M27K Edge Creek, AK 76.32 28 P **P 02 41 03.3 +0.5**
baz=285
MNK Minsk 76.40 323 *i* P **P 02 41 06.7 +3.5**
MNK *i* P **P 02 41 06.7 +3.5**
MNK *i* P **P 02 41 06.7 +3.5**
comp=Z,15nm,0.8s,baz=255
MNK *i* PP **PP 02 44 00.7 +5.8**
MNK *i* PPP PPP 02 45 47.9
MNK *i* S S 02 50 57.1 +12
MNK *i* SS **SS 02 55 36.2 -3.6**
MNK *i* SSS SSS 02 59 20.8
MNK *i* LQ LQ 03 10 08.9
MNK *i* LR LR 03 14 23.9
MNK *i* LRM MLR 03 16 43.1
comp=N,481nm,17.4s
MNK *i* LRM MLR 03 16 53.4
comp=Z,412nm,20.9s
MNK *i* LRM MLR 03 17 12.5
comp=E,197nm,23.6s
AKASG Malin Array Be 76.52 319 P **P 02 41 03.0 -0.9**
comp=E,3.0nm,0.8s,baz=62,slow=5.2,SNR=7.4
AKASG LR LR 03 16 50.7
comp=E,281nm,18.1s,baz=81,slow=37
NACGM Naroch 76.92 324 *i* P **P 02 41 06.2 +0.1**
DAWY Dawson 76.93 26 IAmb IAmb 02 41 12.7
comp=Z,9.8nm,0.9s
J29M Klondike Camp 77.30 26 IAmb IAmb 02 41 19.0
comp=Z,11nm,0.7s
RPZ Rata Peaks 77.57 145 P **P 02 41 09.9 0.0**
URZ Urewera 77.65 138 LR LR 03 15 42.2
comp=Z,96nm,19.7s,baz=312,slow=36
SORM Soroca 77.72 317 ⇑P **P 02 41 10.3 -0.4**
INK Inuvik 77.79 22 P **P 02 41 09.9 -0.8**
comp=Z,3.5nm,0.9s,baz=306,slow=8.9,SNR=10
INK Inuvik 77.79 22 IAmb IAmb 02 41 24.0
comp=Z,19nm,1.4s
INK Inuvik 77.79 22 P **P 02 41 11.0 +0.3**
baz=291
M30M Minto, Yukon 78.51 28 P **P 02 41 15.6 +0.7**
baz=290
TPGR Topolog 78.54 314 ⇑P **P 02 41 15.4 +0.1**
CFR Carcaliu 78.64 314 ⇓P **P 02 41 15.2 -0.7**
A36M Sachs Harbour 78.82 17 P **P 02 41 16.4 0.0**
baz=298
TESR Tescani 79.27 316 ⇑P **P 02 41 19.1 -0.3**
VRI Vrincioaia 79.40 315 ⇑P **P 02 41 20.4 +0.3**
PLOR Plostina 79.46 315 ⇑P **P 02 41 20.4 -0.1**
BURAR Bucovina Array 79.89 317 ⇑P **P 02 41 22.9 +0.1**
BURAR Bucovina Array 79.89 317 P **P 02 41 22.6 -0.2**
OZUR 79.96 315 ⇑P **P 02 41 22.8 -0.4**
MLR Muntele Rosu 80.04 315 ⇑P **P 02 41 24.1 +0.4**
MLR Muntele Rosu 80.04 315 LR LR 03 19 46.6
comp=Z,407nm,20.3s,baz=66,slow=38
DOPR Dopca 80.27 315 ⇑P **P 02 41 24.7 -0.1**
C36M Paulatuk 80.44 19 IAmb IAmb 02 41 25.4
comp=Z,15nm,0.8s
C36M Paulatuk 80.44 19 P **P 02 41 24.7 -0.5**
baz=300
VOIR 80.66 315 ⇑P **P 02 41 26.8 -0.1**
ARR Arges 80.95 315 ⇑P **P 02 41 27.4 -1.2**
DRGR 81.77 317 ⇑P **P 02 41 32.9 0.0**
HFS Hagfors 81.82 331 LR LR 03 19 34.2
comp=Z,400nm,19.1s,baz=60,slow=37
CRVS Cervenica-Dubn 81.85 319 *eP* P 02 41 44.5 +11
ABPO Ambohimpanom 81.86 247 P **P 02 41 33.7 -0.2**
ABPO IAmb IAmb 02 41 35.1
comp=Z,11nm,0.8s
NB2 NORSAR Subarra 82.54 333 P **P 02 41 35.3 -1.2**
comp=Z,10nm,1.2s,baz=65,slow=5.6
NOA NORSAR Array B 82.54 333 P **P 02 41 35.3 -1.2**
comp=Z,1.3nm,0.8s,baz=63,slow=5.1,SNR=4.0
NOA LR LR 03 21 24.9
comp=Z,564nm,19.5s,baz=65,slow=38
HERR Herculane 82.60 315 ⇑P **P 02 41 36.8 -0.3**
SIRR Siria 82.63 316 ⇑P **P 02 41 37.1 -0.2**
VTS Vitosha 82.80 313 ⇓P **P 02 41 38.5 +0.2**
VTS Vitosha 82.80 313 P **P 02 41 38.6 +0.2**
VTS IAmb IAmb 02 41 51.0
comp=Z,8.9nm,1.0s

BZS Buzias 82.88 316 ⇑P **P 02 41 38.1 -0.5**
RES Resolute Bay 83.50 9 P **P 02 41 40.8 -0.4**
comp=Z,15nm,0.8s,baz=309,slow=7.1,SNR=44
RES LR LR 03 21 22.8
comp=Z,121nm,21.4s,baz=302,slow=37
JMIC Jan Mayen 83.55 345 LR LR 03 23 09.3
comp=Z,194nm,19.2s,baz=36,slow=39
IDI Anoyia 84.00 305 LR LR 03 24 26.2
comp=Z,66nm,19.0s,baz=257,slow=39
LIT Litokhoron 84.17 310 IAmb IAmb 02 41 52.4
comp=Z,12nm,1.3s
JAVC Velka Javorina 84.20 320 *eP* **P 02 41 46.3 +0.9**
FRGS Fruska Gora 84.23 316 ⇓P **P 02 41 45.1 -0.5**
KIBK Kibwezi 84.24 266 P **P 02 41 46.1 -0.2**
KIBK IAmb IAmb 02 41 48.4
comp=Z,8.5nm,1.1s
KRLC Kraliky 84.27 321 *eP* **P 02 41 45.8 +0.1**
KRLC *epP* **PcP 02 41 51.3 +1.9**
DPC Dobruska-Polom 84.43 322 *eP* **P 02 41 46.7 +0.2**
DPC *epP* **PcP 02 41 52.4 +2.3**
CHVC Chvalec 84.49 322 *eP* P 02 41 53.0 +6.2
KMBO Kilima Mbogo 84.59 267 P **P 02 41 48.9 +0.7**
KMBO IAmb IAmb 02 41 50.6
comp=Z,10nm,1.1s
VRAC Vranov 84.68 320 ⇑P **P 02 41 47.3 -0.4**
VRAC Vranov 84.68 320 LR LR 03 24 00.0
comp=Z,225nm,19.3s,baz=59,slow=39
VRAC Vranov 84.68 320 *eP* **P 02 41 47.9 +0.2**
FNA Florina 84.73 311 IAmb IAmb 02 42 04.1
comp=Z,5.6nm,0.9s
KRUC Moravsky 84.90 320 *eP* **P 02 41 48.6 -0.2**
LODK Lodwar 84.90 272 P **P 02 41 49.7 +0.2**
LODK IAmb IAmb 02 41 51.9
comp=Z,10nm,1.4s
TREC Trest 85.35 321 *eP* **P 02 41 51.2 +0.1**
BRG Berggiesshubel 85.59 323 Amp 02 41 58.9
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 85.59 323 *eP* **P 02 41 52.4 +0.2**
BRG Berggiesshubel 85.59 323 Amp 02 41 54.1
comp=Z,18nm,1.9s
BRG Berggiesshubel 85.59 323 *ex* x 02 41 58.1
PDG Podgorica 85.61 313 ⇑P **P 02 41 51.7 -0.8**
PRU Pruhonice 85.62 322 *eP* **P 02 41 52.1 -0.3**
CONA Conrad Observa 85.68 319 *eP* **P 02 41 53.2 +0.4**
comp=Z,0.6nm,0.4s
CLL Collm 85.94 323 *eP* **P 02 41 53.0 -0.9**
CLL LmV 03 25 00.0
comp=Z,300nm,20.6s
ARSA Arzberg 86.16 319 *eP* **P 02 41 55.6 +0.4**
comp=Z,0.7nm,0.5s
CKRC Cesky Krumlov 86.25 321 *eP* **P 02 41 56.0 +0.4**
CKRC *epP* **PcP 02 42 01.1 +3.0**
GERES GERESS Array B 86.60 321 P **P 02 41 56.7 -0.7**
comp=Z,1.0nm,0.8s,baz=72,slow=6.3,SNR=7.0
GERES GERESS Array B 86.60 321 P **P 02 41 56.2 -1.2**
MOA Molln 86.69 320 *eP* P 02 42 03.8 +6.0
comp=Z,0.5nm,0.3s
SOKA Soboth 86.71 318 *eP* **P 02 41 58.2 +0.3**
OBKA Obir 87.08 318 *eP* **P 02 41 59.8 0.0**
comp=Z,1.0nm,0.6s
RAR Rarotonga 87.20 113 LR LR 03 17 17.2
comp=Z,66nm,18.7s,baz=263,slow=33
YKA Yellowknife Ar 87.50 23 P **P 02 42 01.1 -0.2**
comp=Z,16nm,0.8s,baz=312,slow=4.6,SNR=246
YKA PKiKP **PKiKP 02 47 05.0 +0.2**
comp=Z,0.2nm,0.6s,baz=304,slow=2.2,SNR=5.8
YKA PKKPbc **PKKPbc 02 59 48.7 -3.2**
comp=Z,0.7nm,0.6s,baz=127,slow=2.6,SNR=17
KBA Koelnbreinsper 87.58 319 *eP* P 02 42 07.8 +5.5
comp=Z,2.0nm,0.7s
ABTA Abfaltersbach 88.24 319 *eP* **P 02 42 04.4 -0.9**
comp=Z,1.0nm,0.5s
WTTA Wattenberg 88.55 320 *eP* **P 02 42 06.2 -0.7**
comp=Z,1.2nm,0.4s
SQTA Sankt Quirin 88.83 320 *eP* **P 02 42 07.6 -0.5**
comp=Z,0.8nm,0.4s
MOTA Moosalm 88.83 320 *eP* **P 02 42 07.7 -0.5**
comp=Z,0.6nm,0.4s
FETA Feichten 89.21 320 *eP* P 02 42 14.8 +4.9
comp=Z,1.7nm,0.7s
DAVOX Davos/Dischmat 89.83 320 LR LR 03 26 50.8
comp=Z,244nm,19.9s,baz=53,slow=38
MBAR Mbarara 90.57 270 LR LR 03 24 07.3
comp=Z,60nm,18.1s,baz=33,slow=36
BORG Borgarnes 91.44 345 LR LR 03 26 57.3
comp=Z,86nm,19.1s,baz=30,slow=38
EKA Eskdalemuir Ar 92.00 332 LR LR 03 30 00.6
comp=Z,465nm,19.3s,baz=19,slow=40
SFJD Kangerlussuaq 93.78 357 LR LR 03 26 43.1
comp=Z,162nm,18.4s,baz=344,slow=37
PPT Papeete 95.00 107 LR LR 03 15 43.6
comp=Z,90nm,21.2s,baz=276,slow=29
PPT2 Papeete2 95.01 107 *eLR* LR 03 13 15.6
comp=Z,253nm,25.0s
FRB Frobisher Bay 96.92 4 P **P 02 42 44.0 -0.8**
comp=Z,2.7nm,0.7s,baz=0.8,slow=7.2,SNR=8.5
FRB LR LR 03 29 58.0
comp=Z,127nm,20.2s,baz=354,slow=38
LSZ Lusaka 97.63 257 LR LR 03 24 48.6
comp=Z,165nm,18.4s,baz=87,slow=34
FFC Flin Flon 97.64 24 P Pdif 02 42 47.9 -0.5
FFC IAmb IAmb 02 43 01.6
comp=Z,2.9nm,0.9s
NVAR Mina Array Bea 100.03 43 P **Pdif 02 42 59.3 -0.4**
comp=Z,0.7nm,0.7s,baz=280,slow=5.3,SNR=7.0
TAOE Nuku Hiva Isla 101.05 96 *eLR* LR 03 16 07.0
comp=Z,318nm,23.0s
PDAR Pinedale Array 102.64 36 PKKPbc PKKPbc 02 59 09.9 -1.6
comp=Z,0.6nm,0.9s,baz=180,slow=1.8,SNR=4.2
TORD Torodi Ar. Bea 112.22 294 PKiKP **PKiKP 02 47 49.5 -0.8**
comp=Z,1.0nm,0.8s,baz=0.5,slow=2.6,SNR=3.7
TORD PKKPab **PKKPab 02 58 49.9 -0.7**
comp=Z,2.7nm,0.8s,baz=259,slow=4.7,SNR=10.0
MNTX Cornudas Mount 112.50 42 P **PKiKP 02 47 51.2 +0.8**
baz=312
TXAR Lajitas Array 115.18 43 PKP **PKPdf 02 47 55.9 +0.1**
comp=Z,2.1nm,0.7s,baz=235,slow=0.5,SNR=31
U40A Yellville 116.02 30 **PKPdf 02 47 56.6 -0.5**
JCT Junction City 116.78 39 P **PKiKP 02 47 59.0 +0.2**
baz=316
WVT Waverly 118.46 26 **PKiKP 02 48 01.4 -0.4**
WVT Waverly 118.46 26 P **PKiKP 02 48 01.1 -0.7**
baz=329
833A Chaparral WMA, 118.57 41 P **PKiKP 02 48 03.0 +0.7**
baz=316
GO10 Punta Arenas 144.88 167 PKPdf **PKPdf 02 48 51.6 +1.0**
BCIP Isla Barro Col 144.99 38 PKPdf **PKPdf 02 48 51.0 -0.9**
MG05 Puerto Natales 145.92 165 PKPbc **PKPab 02 48 54.2 +0.6**
SJCC San Jacinto, C 146.86 30 PKPbc **PKPbc 02 48 55.8 -1.3**
MOTC Monteria, Cord 147.59 32 PKPbc **PKPbc 02 48 58.0 -1.0**
EFI East Falkland 147.65 181 PKPbc **PKPbc 02 48 57.9 -0.1**
ZARC Zaragoza, Cauc 149.09 32 PKPbc **PKPdf 02 48 59.7 +0.9**
OCAC Ocana 149.18 29 PKPbc **PKPbc 02 49 00.5 -2.9**
SDV Santo Domingo 149.72 24 PKPdf **PKPdf 02 48 59.6 -0.4**
SDV PKPbc **PKiKP 02 49 05.0 -0.8**
ROSC El Rosal 151.62 34 PKPbc **PKiKP 02 49 10.3 +0.3**
comp=Z,20nm,0.6s,baz=348,slow=5.6,SNR=9.8
PLCA Paso Flores 156.38 157 PKPbc PKPbc 02 49 18.9
comp=Z,2.3nm,0.9s,baz=235,slow=3.1,SNR=7.3
LPAZ La Paz 170.69 73 PKP **PKPdf 02 49 24.4 +0.9**
comp=Z,1.9nm,0.6s,baz=295,slow=3.8,SNR=4.3
LPAZ La Paz 170.69 73 **PKPdf 02 49 21.8 -1.7**
LPAZ PKPab **PKPab 02 50 45.1 +3.8**
CPUP Villa Florida 172.83 191 PKPab **PKPab 02 50 50.3 +0.9**
comp=Z,2.5nm,0.7s,baz=103,slow=5.6,SNR=4.5

*TUL **29** 02:30:18±1.5, 36°.48N±0°.02×98°.74W±0°.03, h5km±7km, ML2.6, ML2.4/26(NEIC) Error ellipse: s-maj=4.6km s-min=1.6km az=50.0*

NEIC 29 02:30:18.7±1.6, 36°.49N±0°.02×98°.69W±0°.05, h12km±7km, Error ellipse: s-maj=6.0km s-min=3.1km az=91.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.22**	**355**		Pg	02 30 22.8	-0.7
OK035				IAML		02 30 26.9	
868nm,0.3s							
U32A	**Winter Ranch,**	**0.27**	**248**	Pg	Pg	02 30 22.9	-1.5
U32A				IAML		02 30 26.8	
comp=E,661nm,0.1s							
OK032	**Salt Plains WL**	**0.50**	**50**	Pg	Pg	02 30 28.7	+0.2
OK032				IAML		02 30 39.2	
comp=E,220nm,0.2s							
OK032				IAML		02 30 43.6	
comp=E,208nm,0.2s							
CROK	**Carrier**	**0.57**	**88**	Pg	Pg	02 30 29.1	-0.7
CROK				IAML		02 30 40.6	
comp=E,237nm,0.3s							
CROK				IAML		02 30 42.0	
comp=N,189nm,0.2s							
KAN14	**Manchester OK**	**0.75**	**51**		Pg	02 30 33.2	0.0
KAN14				IAML		02 30 54.2	
comp=N,128nm,0.1s							
GC02	**Grant County #**	**0.76**	**61**	Pg	Pg	02 30 33.2	-0.2
KAN10	**Anthony SW Sta**	**0.80**	**37**	Pg	Pg	02 30 33.1	-1.0
KAN10				IAML		02 30 57.2	
comp=N,118nm,0.1s							
KAN05	**Bluff City Nor**	**0.90**	**46**	Pg	Pg	02 30 35.6	-0.6
KAN05				IAML		02 30 54.2	
comp=E,113nm,0.2s							
KAN05				IAML		02 30 56.7	
comp=N,94nm,0.1s							
KAN17	**Caldwell West**	**0.93**	**53**	Pg	Pg	02 30 36.1	-0.5
KAN17				IAML		02 30 51.4	
comp=E,120nm,0.3s							
KAN01	**Argonia South**	**1.00**	**48**	Pg	Pg	02 30 37.7	-0.3
KAN01				IAML		02 30 58.0	
comp=E,78nm,0.1s							
KAN13	**South Haven SW**	**1.10**	**61**	Pg	Pb	02 30 38.8	-1.0
OK029	**Liberty Lake**	**1.21**	**124**	Pg	Pn	02 30 41.1	-0.4
OK029				IAML		02 30 58.8	
comp=E,68nm,0.2s							
OK029				IAML		02 31 01.9	
comp=E,67nm,0.3s							
BLOK	**Blackwell**	**1.22**	**76**	Pg	Pn	02 30 41.6	0.0
OK025	**Westminster Rd**	**1.42**	**129**	Pn	Pn	02 30 43.6	-0.7
OK033	**Mehan**	**1.48**	**107**	Pn	Pn	02 30 45.4	+0.2
OK031	**S. Brethren Rd**	**1.59**	**109**	Pn	Pb	02 30 47.4	-0.6
FNO	**Franklin**	**1.61**	**139**	Pn	Pn	02 30 47.0	0.0
QUOK	**Quay**	**1.63**	**100**	Pn	Pn	02 30 47.0	-0.3
OK030	**Cody Creek RV**	**1.64**	**109**	Pn	Pb	02 30 48.4	-0.5
OK034	**N. Norfolk Rd.**	**1.66**	**106**	Pn	Pn	02 30 48.2	+0.5
WMOK	**Wichita Mounta**	**1.75**	**183**	Pn	Pn	02 30 49.2	+0.4
T35A	**Sooner Cattle**	**1.80**	**76**		Pn	02 30 50.4	+0.8
R32A	**Long Quarter,**	**1.94**	**359**	Pn	Pn	02 30 51.4	-0.1
W35A	**Tecumseh**	**1.98**	**132**	Pn	Pn	02 30 52.8	+0.6
X34A	**Smith Ranch, M**	**2.00**	**159**	Pn	Pb	02 30 53.8	-1.3
CBKS	**Cedar Bluff**	**2.47**	**341**	Pn	Pn	02 30 59.6	+0.7
AMTX	**Amarillo**	**2.91**	**238**	Pn	Pn	02 31 04.8	-0.2
X37A	**Clayton**	**3.30**	**124**	Pn	Pn	02 31 09.8	-0.4
U38A	**Gravette**	**3.47**	**89**	Pn	Pn	02 31 13.1	+0.5
S39A	**Bolivar**	**4.46**	**73**	Pn	Pn	02 31 27.1	+1.1
T25A	**Trinidad**	**4.64**	**280**	Pn	Pn	02 31 27.1	-1.7
U40A	**Yellville**	**4.71**	**90**	Pn	Pn	02 31 30.1	+0.5
OGNE	**Ogallala**	**5.17**	**331**	Pn	Pn	02 31 36.3	+0.3

ROM 29 02:39:16.6±0.1, 42°.64N±0°.01×13°.14E±0°.02, h13km±2km, ML0.9/2, 1C, Error ellipse: s-maj=1.8km s-min=0.5km az=220.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.08**	**244**	P	Pg	02 39 19.8	+0.3
LNSS				S	Sg	02 39 21.8	+0.3
LNSS				AML	AML		
comp=E,87μm,0.2s							
LNSS				AML	AML		
comp=N,100μm,0.2s							
LNSS				AML	AML		
comp=N,101μm,0.2s							
RM33	**Pellescritta (**	**0.14**	**155**	P	Pg	02 39 20.6	+0.4
RM33				S	Sg	02 39 23.1	+0.4
SMA1	**SAN MARTINO**	**0.15**	**93**	P	Pg	02 39 20.8	+0.5
SMA1				S	Sg	02 39 23.5	+0.6
SMA1				AML	AML		
comp=E,50μm,0.2s							
SMA1				AML	AML		
comp=N,81μm,0.2s							
NRCA	**Norcia**	**0.20**	**356**	P	Pg	02 39 21.4	+0.3
NRCA				S	Sg	02 39 24.8	+0.6
NRCA				AML	AML		
comp=N,41μm,1.4s							
NRCA				AML	AML		
comp=E,67μm,0.1s							
CSP1	**Cessapalombo**	**0.46**	**6**	P	Pg	02 39 22.3	-3.3
MMUR	**Monte Murano**	**0.81**	**353**	⇑P	Pg	02 39 21.2	-11
MMUR				AML	AML		
comp=N,972μm,1.6s							
MMUR				AML	AML		
comp=E,910μm,1.6s							
CPGN	**Carpegna, Ital**	**1.31**	**333**	P	Pn	02 39 25.3	-15
MTRZ	**Monterenzio**	**2.12**	**326**	S	Pn	02 40 04.0	+12

IDC 29 02:44:02.0±2.1, 7°.02S×129°.00E, h0km, mb3.4/1, mb1 3.5/3, mb1mx2.8/35, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=88.5km s-min=28.6km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.49**	**196**	Pn	Pn	02 46 46.8	-0.7
FITZ				Sn	Sn	02 48 42.4	-14
WRA	**Warramunga Arr**	**13.86**	**159**	Pn	Pn	02 47 20.9	+1.0
0.3nm,0.3s,baz=342,slow=13,SNR=20							
WRA				Sn	Sn	02 49 45.4	-9.2
0.2nm,0.3s,baz=334,slow=20,SNR=5.2							
ASAR	**Alice Springs**	**17.21**	**165**	P	Pn	02 48 03.8	-0.3
0.1nm,0.3s,baz=335,slow=10,SNR=2.2							
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	02 55 01.3	0.0
0.2nm,0.5s,baz=115,slow=7.7,SNR=5.6							

*TUL **29** 02:51:28±0.8, 36°.82N±0°.04×98°.27W±0°.05, h6km±7km, ML2.6, mb_Lg2.0/6(NEIC), Error ellipse: s-maj=6.1km s-min=5.9km az=153.0*

NEIC 29 02:51:28.4±0.6, 36°.81N±0°.03×98°.23W±0°.05, h6km±7km, Error ellipse: s-maj=6.4km s-min=3.7km az=128.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.02**	**112**		Pg	02 51 29.7	+0.2
KAN14	**Manchester OK**	**0.26**	**56**		Pg	02 51 33.5	0.0
GC02	**Grant County #**	**0.30**	**82**	Pg	Pg	02 51 34.8	+0.6
KAN10	**Anthony SW Sta**	**0.33**	**20**	Pg	Pg	02 51 34.8	-0.1
CROK	**Carrier**	**0.37**	**147**	Pg	Pg	02 51 35.1	-0.3
KAN05	**Bluff City Nor**	**0.41**	**44**		Pg	02 51 36.3	-0.1
KAN16	**Harper SW Stat**	**0.43**	**18**	Pg	Pg	02 51 36.5	-0.3
KAN17	**Caldwell West**	**0.44**	**58**	Pg	Pg	02 51 37.0	+0.1
KAN08	**Anthony NE Sta**	**0.47**	**27**	Pg	Pg	02 51 36.9	-0.5
KAN01	**Argonia South**	**0.51**	**48**		Pg	02 51 38.2	0.0
KAN12	**Harper NE Stat**	**0.52**	**21**	Pg	Pg	02 51 38.6	+0.2
KAN06	**Argonia West S**	**0.53**	**34**		Pg	02 51 38.7	+0.1
KAN13	**South Haven SW**	**0.64**	**71**	Pg	Pg	02 51 40.5	-0.1
U32A	**Winter Ranch,**	**0.75**	**235**	Pg	Pg	02 51 41.7	-1.1
BLOK	**Blackwell**	**0.82**	**93**	Pg	Pg	02 51 43.6	-0.5
BCOK	**Bluff Creek, N**	**1.26**	**156**	Pn	Pg	02 51 51.2	-1.3
OK033	**Mehan**	**1.30**	**126**		Pn	02 51 52.8	-0.2
T35A	**Sooner Cattle**	**1.39**	**85**		Pn	02 51 54.0	-0.2
QUOK	**Quay**	**1.39**	**117**		Pn	02 51 53.9	-0.4
QUOK				IAmb_Lg		02 52 12.0	
comp=Z,3.8nm,1.0s							
OK031	**S. Brethren Rd**	**1.42**	**127**		Pn	02 51 54.7	+0.1
OK025	**Westminster Rd**	**1.43**	**149**		Pn	02 51 54.8	0.0
OK025				IAmb_Lg		02 52 16.6	
comp=Z,12nm,0.7s							
OK034	**N. Norfolk Rd.**	**1.47**	**123**		Pn	02 51 55.5	+0.1
OK030	**Cody Creek RV**	**1.47**	**127**		Pb	02 51 55.9	-0.1
R32A	**Long Quarter,**	**1.65**	**347**		Pn	02 51 57.7	-0.3
FNO	**Franklin**	**1.69**	**156**	Pn	Pn	02 51 58.2	-0.2
FNO				IAmb_Lg		02 52 25.8	
comp=Z,6.2nm,0.8s							
W35A	**Tecumseh**	**1.99**	**146**	Pn	Pn	02 52 02.4	-0.2
WMOK	**Wichita Mounta**	**2.12**	**192**	Pn	Pn	02 52 04.1	-0.2
TUL1	**Leonard**	**2.17**	**114**	Pn	Pn	02 52 05.1	+0.1
X34A	**Smith Ranch, M**	**2.23**	**171**	Pn	Pn	02 52 05.8	-0.1
CBKS	**Cedar Bluff**	**2.33**	**330**	Pn	Pn	02 52 07.4	+0.2
U38A	**Gravette**	**3.12**	**96**	Pn	Pn	02 52 17.7	-0.4
X37A	**Clayton**	**3.22**	**133**	Pn	Pn	02 52 19.5	+0.1
HHAR	**Hobbs**	**3.50**	**97**	Pn	Pn	02 52 22.9	-0.4
W39A	**Magazine**	**3.95**	**113**	Pn	Pn	02 52 29.9	+0.4
S39A	**Bolivar**	**4.02**	**76**	Pn	Pn	02 52 30.7	+0.3
U40A	**Yellville**	**4.35**	**94**	Pn	Pn	02 52 35.2	+0.1
MIAR	**Mount Ida**	**4.41**	**119**	Pn	Pn	02 52 34.7	-1.2

N35A Tabor 4.52 26 IAmb_Lg 02 53 59.9
comp=Z,13nm,0.8s

IDC 29 03:18:21.9±5.7, 12°.88N×143°.32E, h145km±90km, mb2.8/4, mb1 3.0/4, mb1mx2.4/48, mbtmp3.2/4, Error ellipse: s-maj=130.2km s-min=21.7km az=84.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.67**	**65**	P	Pn	03 18 52.6	-0.2
	23nm,0.3s,baz=136,slow=20,SNR=8.5						
GUMO				S	Sn	03 19 16.7	+0.2
	64nm,0.3s,baz=8.3,slow=23,SNR=7.3						
WRA	**Warramunga Arr**	**33.80**	**195**	P	P	03 24 50.0	-0.2
	0.4nm,0.6s,baz=18,slow=9.9,SNR=8.8						
ASAR	**Alice Springs**	**37.47**	**194**	P	P	03 25 21.8	+0.2
	0.2nm,0.6s,baz=24,slow=12,SNR=4.8						
SONM	**Songino Array**	**46.45**	**326**	P	P	03 26 34.9	+0.6
	0.2nm,0.5s,baz=122,slow=7.3,SNR=1.7						
MKAR	**Makanchi Array**	**60.95**	**317**	P	P	03 28 19.0	-0.7
	0.1nm,0.6s,baz=100,slow=8.5,SNR=1.4						

IDC 29 03:24:57.5±1.4, 53°.42S×166°.65E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/24, mbtmp4.1/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/49, Error ellipse: s-maj=65.0km s-min=29.6km az=58.0
NEIC 29 03:24:59.3±2.1, 54°.0S±0°.1×166°.0E±0°.1, h11km±6km, mb4.4/3, Error ellipse: s-maj=15.1km s-min=12.1km az=179.0

ISC 29 03:24:58.4±1.4, 54°.1S±0°.2×166°.2E±0°.2, h10km, n27, σ0s97/13, mb4.3/5, South of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**4.25**	**261**		**Pn**	**03 26 03.0**	**-0.1**
PYZ	**Puysegur Point**	**7.91**	**3**	Pn	**Pn**	**03 26 53.3**	**0.0**
WHZ	**Wether Hill Ro**	**8.25**	**9**	Pn	**Pn**	**03 26 58.1**	**0.0**
DCZ	**Deep Cove**	**8.62**	**5**		**Pn**	**03 27 04.0**	**+0.8**
DZM	**Mont Dzumac**	**31.93**	**0**	P	**P**	**03 31 23.9**	**-0.3**
DZM				IAmb	IAmb	03 32 10.6	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**36.06**	**180**	P	P	03 32 05.9	+6.1
	comp=Z,1.2nm,0.2s,baz=27,slow=1.8,SNR=2.2						
ASAR	**Alice Springs**	**38.78**	**309**	P	**P**	**03 32 22.4**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=148,slow=7.8,SNR=8.1						
H01W1	**Cape Leeuwin H**	**40.69**	**276**	T	T	04 16 02.2	
	baz=134,slow=76,SNR=41						
H01W2	**Cape Leeuwin H**	**40.70**	**276**	T	T	04 16 04.2	
	baz=134,slow=76,SNR=47						
H01W3	**Cape Leeuwin H**	**40.71**	**276**	T	T	04 16 03.5	
	baz=134,slow=76,SNR=40						
WB2	**Warramunga Arr**	**41.82**	**312**	P	**P**	**03 32 49.7**	**+1.4**
WB2				IAmb	IAmb	03 33 34.8	
	comp=Z,22nm,1.6s						
WRA	**Warramunga Arr**	**41.83**	**312**	P	**P**	**03 32 47.0**	**-1.3**
	comp=Z,2.8nm,1.0s,baz=150,slow=7.5,SNR=9.0						
WRA				LR	LR	03 48 22.2	
	comp=Z,68nm,19.1s,baz=193,slow=34						
WRA	**Warramunga Arr**	**41.83**	**312**	IAmb	IAmb	03 33 35.9	
	comp=Z,1.3nm,1.8s						
H03S2	**Juan Fernandez**	**76.06**	**129**	T	T	05 01 04.2	
	baz=214,SNR=16						
H03S1	**Juan Fernandez**	**76.06**	**129**	T	T	05 01 06.5	
	baz=214,SNR=16						
H03S3	**Juan Fernandez**	**76.07**	**129**	T	T	05 01 02.2	
	baz=214,SNR=19						
H03N3	**Juan Fernandez**	**76.37**	**129**	T	T	05 01 21.3	
	baz=219,slow=76,SNR=9.8						
H03N2	**Juan Fernandez**	**76.38**	**129**	T	T	05 01 23.3	
	baz=219,slow=76,SNR=16						
H03N1	**Juan Fernandez**	**76.39**	**129**	T	T	05 01 25.6	
	baz=219,slow=76,SNR=9.3						
H08S2	**Diego Garcia H**	**86.03**	**263**	T	T	05 12 33.9	
	baz=142,slow=76,SNR=7.9						
H08S1	**Diego Carcia H**	**86.04**	**263**	T	T	05 12 34.1	
	baz=142,slow=76,SNR=5.8						
H08S3	**Diego Garcia H**	**86.05**	**263**	T	T	05 12 35.7	
	baz=142,slow=76,SNR=6.5						
ILAR	**Eielson Array**	**123.87**	**22**	PKP	**PKPdf**	**03 43 55.0**	**0.0**
	comp=Z,0.6nm,0.8s,baz=288,slow=2.1,SNR=4.9						
CHGR	**Chuyangaron**	**123.97**	**290**	PKPdf	**PKiKP**	**03 43 57.3**	**+0.8**
YKA	**Yellowknife Ar**	**131.62**	**38**	PKP	**PKPdf**	**03 44 08.3**	**-1.6**
	comp=Z,0.3nm,1.0s,baz=252,slow=2.2,SNR=8.5						
BR131	**Keskin Array S**	**145.24**	**265**	PKPbc	**PKPdf**	**03 44 36.5**	**+0.8**
BRTR	**Keskin Array B**	**145.24**	**265**	PKPbc	**PKPbc**	**03 44 36.0**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=136,slow=7.2,SNR=6.8						

TUL 29 03:39:55.2±1.3, 36°.74N±0°.04×98°.76W±0°.05, h7km±7km, ML2.9, mb_Lg2.6/18(NEIC), Error ellipse: s-maj=6.0km s-min=5.2km az=177.0

NEIC 29 03:39:56.2±1.1, 36°.75N±0°.04×98°.71W±0°.04, h9km±5km, Error ellipse: s-maj=6.3km s-min=4.4km az=195.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.04**	**175**		Pg	03 39 57.0	-1.0
OK035				Sg	Sg	03 39 58.4	-0.9
OK032	**Salt Plains WL**	**0.41**	**82**	Pg	Pg	03 40 04.1	-0.1
OK032				Sg	Sg	03 40 10.5	+0.9
U32A	**Winter Ranch,**	**0.44**	**212**	Pg	Pg	03 40 03.4	-1.3
U32A				Sg	Sg	03 40 09.5	-1.0
KAN10	**Anthony SW Sta**	**0.62**	**53**	Pg	Pg	03 40 08.0	-0.2
KAN10				Sg	Sg	03 40 17.1	+0.7
CROK	**Carrier**	**0.64**	**112**	Pg	Pg	03 40 08.1	-0.4
KAN14	**Manchester OK**	**0.64**	**71**		Pg	03 40 08.0	-0.5
GC02	**Grant County #**	**0.69**	**81**	Pg	Pg	03 40 09.3	-0.3
KAN16	**Harper SW Stat**	**0.70**	**47**		Pg	03 40 09.6	-0.2
KAN08	**Anthony NE Sta**	**0.76**	**51**	Pg	Pg	03 40 10.6	-0.3
KAN05	**Bluff City Nor**	**0.76**	**62**		Pg	03 40 10.7	-0.2
KAN12	**Harper NE Stat**	**0.79**	**46**	Pg	Pg	03 40 11.0	-0.5
KAN17	**Caldwell West**	**0.82**	**69**	Pg	Pg	03 40 11.5	-0.5
KAN06	**Argonia West S**	**0.85**	**54**		Pg	03 40 12.2	-0.4
KAN13	**South Haven SW**	**1.03**	**75**	Pg	Pg	03 40 15.2	-0.7
BLOK	**Blackwell**	**1.20**	**89**		Pb	03 40 18.3	-0.9
OK029	**Liberty Lake**	**1.39**	**133**	Pn	Pn	03 40 21.2	-0.6
BCOK	**Bluff Creek, N**	**1.41**	**140**		Pn	03 40 21.6	-0.4
OK033	**Mehan**	**1.60**	**116**	Pn	Pn	03 40 24.2	-0.4
OK033				IAmb_Lg		03 40 47.5	
	comp=Z,24nm,0.9s						
OK025	**Westminster Rd**	**1.61**	**136**	Pn	Pn	03 40 24.8	-0.1
R32A	**Long Quarter,**	**1.67**	**0**		Pn	03 40 26.0	+0.3
OKCFA	**Oklahoma City**	**1.68**	**142**	Pn	Pn	03 40 25.8	0.0
OKCSW	**OKLAHOMA CITY**	**1.69**	**142**	Pn	Pn	03 40 26.1	+0.1
OK031	**S. Brethren Rd**	**1.71**	**117**	Pn	Pn	03 40 26.5	+0.3
QUOK	**Quay**	**1.72**	**109**		Pn	03 40 26.7	+0.5
OK030	**Cody Creek RV**	**1.76**	**117**	Pn	Pn	03 40 27.2	+0.4
T35A	**Sooner Cattle**	**1.77**	**84**		Pn	03 40 27.8	+0.7
OK034	**N. Norfolk Rd.**	**1.77**	**114**		Pn	03 40 27.5	+0.4
FNO	**Franklin**	**1.83**	**144**		Pn	03 40 28.1	+0.3
WMOK	**Wichita Mounta**	**2.01**	**182**		Pn	03 40 30.1	-0.1
W35A	**Tecumseh**	**2.18**	**136**	Pn	Pn	03 40 33.1	+0.4
CBKS	**Cedar Bluff**	**2.21**	**339**		Pn	03 40 34.2	+1.1
CBKS				IAmb_Lg		03 41 06.5	
	comp=Z,33nm,0.8s						
X34A	**Smith Ranch, M**	**2.26**	**161**		Pn	03 40 35.2	+1.5
TUL1	**Leonard**	**2.50**	**109**		Pn	03 40 37.8	+0.7
KSU1	**Kansas State U**	**2.88**	**35**	Pn	Pn	03 40 42.8	+0.5
KSU1	**Kansas State U**	**2.88**	**35**	IAmb_Lg		03 41 32.4	
	comp=Z,17nm,0.8s						
LOOK	**Love County**	**3.02**	**155**		Pn	03 40 44.5	+0.2
AMTX	**Amarillo**	**3.05**	**233**	Pn	Pn	03 40 44.9	+0.2
X37A	**Clayton**	**3.47**	**127**		Pn	03 40 50.4	0.0
U38A	**Gravette**	**3.50**	**94**		Pn	03 40 50.8	0.0
KSCO	**Kaye Shedlock'**	**3.83**	**307**	IAmb_Lg		03 41 59.6	
	comp=Z,14nm,0.7s						
HHAR	**Hobbs**	**3.87**	**96**		Pn	03 40 56.6	+0.6
ABTX	**Abilene, Hawle**	**4.19**	**191**		Pn	03 40 59.6	-0.6
W39A	**Magazine**	**4.29**	**110**	Pn	Pn	03 41 02.2	+0.6
MSTX	**Muleshoe**	**4.32**	**231**	Pn	Pn	03 41 01.7	-0.5
S39A	**Bolivar**	**4.41**	**76**	Pn	Pn	03 41 01.8	-1.4
T25A	**Trinidad**	**4.58**	**277**	Pn	Pn	03 41 05.8	0.0
Z38A	**Mt. Pleasant**	**4.63**	**138**	Pn	Pn	03 41 06.5	+0.1
Z38A				IAmb_Lg		03 42 32.6	
	comp=Z,14nm,0.9s						
MIAR	**Mount Ida**	**4.73**	**116**	Pn	Pn	03 41 07.5	-0.2
U40A	**Yellville**	**4.74**	**93**	Pn	Pn	03 41 07.9	+0.1
U40A				IAmb_Lg		03 42 36.3	
	comp=Z,10nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTX	**Lake Whitney,**	**4.86**	**167**	Pn	Pn	03 41 09.0	-0.4
P38A	**Dawn**	**4.99**	**53**	Pn	Pn	03 41 10.8	-0.4
MGMO	**Mountain Grove**	**5.18**	**84**	Pn	Pn	03 41 13.0	-0.9
R40A	**Maddies Statio**	**5.35**	**71**	Pn	Pn	03 41 14.8	-1.4
R40A				IAmb_Lg		03 42 50.2	
	comp=Z,7.3nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.39**	**97**	Pn	Pn	03 41 17.1	+0.4
WHAR	**Wooly Hollow**	**5.41**	**104**		Pn	03 41 16.8	-0.2
W41B	**Gary Mavity, V**	**5.47**	**105**	Pn	Pn	03 41 17.8	-0.2
SDCO	**Great Sand Dun**	**5.50**	**282**	Pn	Pn	03 41 16.4	-2.2
L34A	**Svendsen Farm,**	**5.52**	**18**	IAmb_Lg		03 42 53.2	
	comp=Z,17nm,0.8s						
K31A	**O'Neill**	**5.87**	**360**	IAmb_Lg		03 43 15.4	
	comp=Z,14nm,0.9s						
CCM	**Cathedral Cave**	**6.09**	**75**	Pn	Pn	03 41 26.5	+0.2
CCM				IAmb_Lg		03 43 11.2	
	comp=Z,5.9nm,0.7s						
LCAR	**Lake Charles**	**6.13**	**94**	Pn	Pn	03 41 26.9	-0.1

CNRM 29 03:45:26.1, 35°.58N×3°.73W, h14km, ml3.1
SFS 29 03:45:26.0, 35°.50N×3°.85W, ML2.5, ALBORAN SUR

ISC 29 03:45:25.1±1.6, 35°.58N±0°.06×3°.75W±0°.04, h11km±12km, n14, σ0s95/22, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.39**	**203**	P	**Pb**	**03 45 33.8**	**-0.3**
PALE				S	**Sg**	**03 45 37.9**	**-0.2**
GOG	**Mont Gurugu**	**0.71**	**120**	P	**Pb**	**03 45 40.2**	**+0.7**
GOG				S	**Sb**	**03 45 49.5**	**+0.2**
AKLM	**AKL**	**1.07**	**185**	P	**Pg**	**03 45 46.0**	**+0.3**
AKLM				S	**Sg**	**03 45 59.7**	**+0.1**
CHAS	**Isla Isabel II**	**1.15**	**110**	P	**Pn**	**03 45 46.8**	**-0.3**
CHAS				S	**Sb**	**03 46 01.0**	**-0.8**
CEU	**Ceuta**	**1.36**	**284**	P	**Pn**	**03 45 48.9**	**-1.1**
CHEFC	**Chefchaouen**	**1.38**	**251**	P	**Pg**	**03 45 51.6**	**-0.1**
CHEFC				S	**Sg**	**03 46 09.1**	**-0.5**
JBK	**JBK**	**1.57**	**142**	P	**Pn**	**03 45 52.6**	**-0.6**
JBK				S	**Sn**	**03 46 12.6**	**-1.0**
RSA	**Sarsar**	**1.83**	**248**	P	**Pb**	**03 45 59.2**	**+0.6**
SICH	**Sidi Chahed**	**1.96**	**222**	P	**Pb**	**03 45 59.4**	**-1.4**
SICH				S	**Sb**	**03 46 25.7**	**+0.6**
LCRM	**LCR**	**2.10**	**206**	P	**Pg**	**03 46 05.0**	**-0.3**
MD31	**MD31**	**2.83**	**197**	P	**Pn**	**03 46 11.3**	**+1.0**
MDT	**Midelt**	**2.85**	**195**	P	**Pn**	**03 46 12.3**	**+1.7**
TDRA	**Tendrara**	**2.90**	**150**	P	**Pn**	**03 46 12.8**	**+1.4**
PVAQ	**Vaqueiros**	**3.68**	**301**	P	**Pn**	**03 46 23.8**	**+1.9**
PVAQ				S	**Sn**	**03 47 04.9**	**-0.4**

IDC 29 04:04:32.4±8.7, 36°.70N×70°.68E, h208km±54km, mb2.8/1, mb1 2.9/7, mb1mx2.7/56, mbtmp3.6/7, Error ellipse: s-maj=82.4km s-min=49.6km az=174.0
NNC 29 04:04:33.6±2.4, 36°.97N×70°.27E, h200km±33km, mb3.2, mpv4.3, Error ellipse: s-maj=24.3km s-min=13.4km az=32.0

ISC 29 04:04:32.9±2.2, 36°.9N±0°.2×70°.3E±0°.1, h200km, n24, σ0s88/27, 2C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.86**	**26**	P	**Pn**	**04 05 58.6**	**0.0**
	SNR=84						
KK02	**Karatay Array**	**6.19**	**2**	⇑P	**Pn**	**04 06 03.0**	**+0.5**
	11nm,0.7s						
KK02				⇓S	**Sn**	**04 07 12.9**	**-0.7**
	9.5nm,0.8s						
UCH	**Uchtor**	**6.25**	**30**	P	**Pn**	**04 06 03.5**	**-0.2**
	SNR=18						
EKS2	**Erkin-Say**	**6.36**	**24**	P	**Pn**	**04 06 05.2**	**+0.5**
	SNR=18						
AAK	**Ala-Archa**	**6.59**	**28**	P	**Pn**	**04 06 08.0**	**+0.1**
	3.8nm,0.3s,baz=193,slow=4.2,SNR=30						
AAK				S	**Sn**	**04 07 23.2**	**+0.1**
	1.1nm,0.3s,baz=324,slow=19,SNR=11						
AAK	**Ala-Archa**	**6.59**	**28**	P	**Pn**	**04 06 08.0**	**+0.1**
	SNR=13						
AAK	**Ala-Archa**	**6.59**	**28**	⇓P	**Pn**	**04 06 07.6**	**-0.2**
	4.4nm,0.4s						
AAK				⇓S	**Sn**	**04 07 23.5**	**+0.3**
	13nm,0.6s						
KBK	**Karagaybulak**	**6.78**	**31**	P	**Pn**	**04 06 10.6**	**+0.2**
	SNR=8.1						
CHMS	**Chumysh**	**7.00**	**28**	P	**Pn**	**04 06 12.9**	**-0.1**
	SNR=8.7						
USP	**Ospenovka**	**7.14**	**26**	P	**Pn**	**04 06 14.6**	**-0.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**7.28**	**33**	P	**Pn**	**04 06 16.1**	**-0.7**
	SNR=29						
TKM2	**Tokmak 2**	**7.28**	**33**	⇓P	**Pn**	**04 06 16.2**	**-0.6**
	15nm,0.5s						
KST	**Kastek**	**7.53**	**34**	P	**Pn**	**04 06 19.8**	**-0.3**
	12nm,0.4s						
MTBS	**Maitube**	**7.81**	**35**	P	**Pn**	**04 06 23.3**	**-0.3**
	7.6nm,0.3s						
KRBS	**Karabastau**	**7.94**	**30**	Lg	Lg	04 07 53.7	
	2.1nm,0.3s						
MK31	**Makanchi Array**	**13.33**	**38**	P	**Pn**	**04 07 34.1**	**-0.3**
	1.1nm,0.8s,baz=214,slow=11,SNR=13						
MKAR	**Makanchi Array**	**13.33**	**38**	P	**Pn**	**04 07 33.1**	**-1.3**
	0.2nm,0.3s,baz=217,slow=11,SNR=9.6						
AB31	**Akbulak array**	**14.44**	**332**	P	**Pn**	**04 07 48.3**	**+0.3**
	0.9nm,0.5s,baz=150,slow=12,SNR=34						
AB31				⇓S	**S**	**04 10 27.0**	**-1.3**
	0.6nm,0.6s,baz=154,slow=22,SNR=3.0						
KURBB	**Kurchatov Arra**	**14.94**	**21**	P	**Pn**	**04 07 53.9**	**-0.2**
	0.0nm,0.3s,baz=207,slow=10,SNR=4.5						
BVAR	**Borovoye Array**	**16.11**	**0**	P	**Pn**	**04 08 11.1**	**+2.7**
	0.2nm,0.3s,baz=176,slow=6.9,SNR=4.1						
AKTO	**Aktyubinsk**	**16.13**	**331**	P	**Pn**	**04 08 10.4**	**+1.9**
	0.2nm,0.3s,baz=143,slow=12,SNR=10						
AKTO	**Aktyubinsk**	**16.13**	**331**	⇑P	**Pn**	**04 08 09.7**	**+1.2**
	4.9nm,0.9s						
ZALV	**Zalesovo Beam**	**19.80**	**26**	P	**P**	**04 08 47.8**	**-0.1**
	0.2nm,0.3s,baz=220,slow=12,SNR=5.8						
YKA	**Yellowknife Ar**	**80.86**	**2**	P	**P**	**04 16 23.4**	**-0.7**
	0.2nm,0.7s,baz=346,slow=5.8,SNR=4.5						

DJA 29 04:09:04.6±0.4, 0°.N±3°×12°.7E±°, h10km, M3.3/6, MLv3.3/6
IDC 29 04:09:08.2±2.3, 0°.77S×127°.26E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.1/49, mbtmp3.4/3, Error ellipse: s-maj=177.1km s-min=28.3km az=66.0

ISC 29 04:09:04.0±1.1, 0°.02N±0°.07×126°.79E±0°.09, h10km, n8, σ2s48/8, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.94**	**37**	P	**Pb**	**04 09 22.7**	**+0.2**
TNTI				S	**Sb**	**04 09 34.9**	**-0.2**
LBMI	**Labuha**	**0.96**	**133**	P	**Pg**	**04 09 24.3**	**+1.8**
SANI	**Sanana**	**2.20**	**201**	P	**Pn**	**04 09 41.9**	**+1.2**
KMSI	**Cibinong**	**2.87**	**281**	P	**Pn**	**04 09 49.8**	**0.0**
GTOI	**Gorontalo**	**3.83**	**279**	P	**Pn**	**04 10 05.0**	**+1.9**
WRA	**Warramunga Arr**	**21.17**	**160**	P	**P**	**04 13 45.9**	**-3.8**
	0.4nm,0.3s,baz=339,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.53**	**164**	P	**P**	**04 14 21.2**	**-2.9**
	1.2nm,0.7s,baz=339,slow=9.3,SNR=9.8						
MKAR	**Makanchi Array**	**60.64**	**326**	P	P	04 19 27.3	+12
	0.1nm,0.4s,baz=128,slow=7.1,SNR=1.9						

IDC 29 04:13:03.7±3.7, 55°.44N×86°.08E, h0km, mb1 2.5/2, mb1mx2.5/53, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=30.0km s-min=23.2km az=36.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**207**	*i*		04 23 08.3	
	baz=23,slow=347,SNR=6.9						
ZALV	**Zalesovo Beam**	**1.67**	**207**	Pg	Pn	04 13 32.3	-1.8
	1.9nm,0.3s,baz=29,slow=17,SNR=14						
ZALV				Lg	Lg	04 13 57.3	
	1.0nm,0.3s,baz=29,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**6.64**	**226**	Pn	Pn	04 14 42.3	-0.1
	0.0nm,0.3s,baz=45,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**8.98**	**197**	Pn	Pn	04 15 15.3	+0.7
	0.0nm,0.3s,baz=29,slow=16,SNR=2.4						

IDC 29 04:30:42.4±2.1, 58°.99S×25°.74W, h62km±17km, mb4.6/12, mb1 4.6/12, mb1mx4.3/26, mbtmp4.8/12, MS3.8/28, Ms1 3.8/28, ms1mx3.7/47, Error ellipse: s-maj=17.0km s-min=14.4km az=65.0
MOS 29 04:30:44.9±1.1, 58°.99S×25°.75W, h96km, mb5.0/5, Error ellipse: s-maj=23.2km s-min=11.8km az=107.6
NEIC 29 04:30:46.3±1.4, 58°.98S±0°.09×25°.8W±0°.2, h98km±4km, mb5.1/65, Error ellipse: s-maj=14.1km s-min=13.4km az=117.0

ISC 29 04:30:46.1±0.3, 59°.04S±0°.06×25°.72W±0°.07, h100km, n266, σ1s04/244, mb5.1/43, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.61**	**304**	P	**Pn**	**04 32 34.5**	**+0.5**
HOPE	**Hope Point**	**7.61**	**304**	Pn	**Pn**	**04 32 34.5**	**+0.5**
ORCD	**Orcadas**	**9.70**	**252**	Pn	**Pn**	**04 33 02.5**	**+0.1**
VNA1	**Neumayer--Stat**	**13.73**	**155**	P	Pn	04 33 50.8	-5.3
VNA3	**Neumayer Olymp**	**13.90**	**158**	P	Pn	04 33 52.5	-5.9
VNA2	**Neumayer--Watz**	**14.12**	**155**	P	Pn	04 33 54.8	-6.4
VNA2				x	x	04 33 55.8	
	baz=314,slow=15						
ESPZ	**Base Esperanza**	**15.57**	**241**	Pn	**Pn**	**04 34 19.9**	**+0.2**
ESPZ				IAmb	IAmb	04 34 24.7	
	comp=Z,80nm,0.9s						
SNAA	**Sanae**	**15.69**	**153**	P	**Pn**	**04 34 16.7**	**-4.5**
SNAA	**Sanae**	**15.69**	**153**	S	Sn	04 36 56.6	-18
SNAA	**Sanae**	**15.69**	**153**	P	**Pn**	**04 34 16.6**	**-4.5**
	comp=Z,10.0nm,0.3s,baz=311,slow=16,SNR=217						
SNAA				S	Sn	04 36 56.0	-18
	comp=Z,1.1nm,0.3s,baz=333,slow=18,SNR=3.7						
SNAA				LR	LR	04 38 46.1	
	comp=Z,431nm,21.6s,baz=346,slow=31						
SNAA	**Sanae**	**15.69**	**153**	*i* P	**Pn**	**04 34 16.2**	**-4.9**
SNAA	**Sanae**	**15.69**	**153**	Pn	**Pn**	**04 34 16.3**	**-4.8**
SNAA				IAmb	IAmb	04 34 19.1	
	comp=Z,50nm,0.5s						
PMSA	**Palmer Station**	**18.70**	**236**	LR	LR	04 41 01.2	
	comp=Z,274nm,19.4s,baz=123,slow=33						
NVL	**N'Iazarevskaya**	**19.36**	**142**	*e*P	**P**	**04 35 03.8**	**+0.5**
NVL				pmax	pmax		
	comp=Z,18nm,1.0s						
EFI	**East Falkland**	**19.65**	**278**	*e*P	**P**	**04 35 07.4**	**+0.8**
EFI				pmax	pmax		
	comp=Z,44nm,0.8s						
EFI	**East Falkland**	**19.65**	**278**	P	**P**	**04 35 06.2**	**-0.3**
SMAI	**San Martin Ant**	**20.12**	**226**	P	**P**	**04 35 12.4**	**+0.9**
SMAI				IAmb	IAmb	04 35 32.1	
	comp=Z,58nm,0.8s						
MG01	**Puerto William**	**22.91**	**262**	P	**P**	**04 35 41.7**	**+0.7**
MG01				IAmb	IAmb	04 35 44.7	
	comp=Z,72nm,0.9s						
USHA	**Ushuaia**	**23.37**	**262**	P	**P**	**04 35 46.1**	**+0.7**
	comp=Z,16nm,0.6s,baz=119,slow=9.9,SNR=11						
USHA				LR	LR	04 42 55.0	
	comp=Z,322nm,20.0s,baz=134,slow=31						
DSPA	**Despedida**	**23.71**	**264**	P	**P**	**04 35 47.6**	**-0.9**
MG02	**Cerro Sombrero**	**24.80**	**265**	P	**P**	**04 35 57.1**	**-1.2**
MG05	**Puerto Natales**	**27.09**	**265**	P	**P**	**04 36 17.5**	**-1.5**
MG05				IAmb	IAmb	04 36 28.1	
	comp=Z,161nm,1.9s						
GO09	**Cerro Castillo**	**27.24**	**266**	P	**P**	**04 36 18.6**	**-1.8**
GO09				IAmb	IAmb	04 36 28.1	
	comp=Z,76nm,1.4s						
QSPA	**South Pole Qui**	**31.20**	**180**	P	**P**	**04 36 56.1**	**+0.7**
	comp=Z,25nm,0.5s,baz=211,slow=1.7,SNR=273						
QSPA				PcP	**PcP**	**04 39 48.9**	**+1.4**
	comp=Z,4.4nm,0.5s,baz=264,slow=2.3,SNR=4.9						
QSPA				LR	LR	04 48 58.6	
	comp=Z,223nm,20.4s,baz=194,slow=35						
QSPA	**South Pole Qui**	**31.20**	**180**	P	**P**	**04 36 55.4**	**-0.1**
QSPA				IAmb	IAmb	04 36 57.0	
	comp=Z,29nm,0.6s						
PLTB	**Pedras Altas**	**33.11**	**313**	P	**P**	**04 37 11.1**	**-1.2**
PLTB				IAmb	IAmb	04 38 24.2	
	comp=Z,28nm,1.5s						
GO07	**Milladeo Hill,**	**33.22**	**277**	P	**P**	**04 37 11.8**	**-1.3**
PLCA	**Paso Flores**	**33.38**	**283**	P	**P**	**04 37 14.2**	**-0.4**
	comp=Z,4.3nm,0.5s,baz=126,slow=7.4,SNR=30						
PLCA				PcP	**PcP**	**04 39 54.8**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=120,slow=4.2,SNR=3.4						
PLCA				LR	LR	04 51 40.9	
	comp=Z,58nm,18.8s,baz=154,slow=38						
PLCA	**Paso Flores**	**33.38**	**283**	*e*P	**P**	**04 37 14.6**	**-0.1**
PLCA	**Paso Flores**	**33.38**	**283**	P	**P**	**04 37 13.5**	**-1.2**
LL04	**Puerto Octay**	**34.19**	**281**	P	**P**	**04 37 21.4**	**-0.1**
LR03	**Panguipulli**	**35.11**	**283**	P	**P**	**04 37 28.3**	**-1.2**
LR03				IAmb	IAmb	04 37 32.5	
	comp=Z,20nm,1.0s						
LC01	**Cunco**	**35.44**	**284**	P	**P**	**04 37 31.9**	**-0.4**
LC01				IAm

BOSA IAmb IAmb 04 39 14.5
comp=Z,34nm,1.6s
BDFB Brasilia 46.35 330 P **P 04 39 02.0 -0.1**
comp=Z,2.6nm,0.5s,baz=162,slow=9.3,SNR=9.3
BDFB Brasilia 46.35 330 P **P 04 39 01.5 -0.6**
BDFB pmax pmax
comp=Z,16nm,1.5s
BDFB Brasilia 46.35 330 P **P 04 39 01.5 -0.6**
PP1B Ponte de Pedra 46.54 320 *e*P **P 04 39 03.2 -0.3**
LVC Limon Verde 47.51 301 LR LR 05 03 13.6
comp=Z,34nm,18.1s,baz=179,slow=41
LVC Limon Verde 47.51 301 P **P 04 39 11.0 -0.3**
LVC pmax pmax
comp=Z,6.0nm,0.8s
LVC Limon Verde 47.51 301 *e*P **P 04 39 11.0 -0.3**
LVC Limon Verde 47.51 301 P **P 04 39 11.0 -0.3**
PB04 IPOC Station P 48.30 300 IAmb IAmb 04 39 32.5
comp=Z,17nm,0.8s
PB09 IPOC Station P 48.36 301 IAmb IAmb 04 39 46.0
comp=Z,59nm,1.8s
PB07 IPOC Station P 48.71 300 IAmb IAmb 04 39 24.3
comp=Z,13nm,0.6s
SDBA SAO DESIDERIO 48.72 335 *e*P **P 04 39 19.4 -1.0**
NBLA Lagarto - SE 48.81 344 *e*P **P 04 39 20.7 -0.3**
LBTB Lobatse 49.23 69 LR LR 04 56 37.7
comp=Z,106nm,19.9s,baz=220,slow=32
LBTB Lobatse 49.23 69 P **P 04 39 23.6 -0.6**
LBTB pmax pmax
comp=Z,24nm,1.6s
LBTB Lobatse 49.23 69 P **P 04 39 23.6 -0.6**
LBTB IAmb IAmb 04 41 02.3
comp=Z,24nm,1.6s
NBPN Ponto Novo - B 49.33 341 *e*P **P 04 39 24.5 -0.5**
PB08 IPOC Station P 49.78 302 P **P 04 39 28.6 -0.2**
PB08 IAmb IAmb 04 40 38.2
comp=Z,32nm,2.0s
PEXB Peixe 49.82 331 *e*P **P 04 39 28.7 0.0**
NBAN Anadia - AL 49.92 346 *e*P **P 04 39 29.3 -0.1**
PTLB Pontes e Lacer 50.01 316 *e*P **P 04 39 28.8 -1.2**
PTLB Pontes e Lacer 50.01 316 P **P 04 39 28.6 -1.4**
SIV San Ignacio 50.22 314 LR LR 05 01 12.0
comp=Z,79nm,18.9s,baz=127,slow=36
TSUM Tsumeb 50.55 57 LR LR 04 56 22.0
comp=Z,130nm,21.3s,baz=152,slow=30
TSUM Tsumeb 50.55 57 P **P 04 39 34.2 -0.1**
H10S2 ASCENSION HYDR 50.68 14 T T 05 34 04.2
baz=187,slow=74,SNR=12
H10S3 ASCENSION HYDR 50.69 14 T T 05 34 05.1
baz=33,slow=74,SNR=16
SNDB Serra Nova Dou 50.75 327 *e*P **P 04 39 35.3 -0.3**
NBRF Rio Formoso - 50.76 348 *e*P **P 04 39 35.7 -0.1**
MNMC Minye Minye 50.86 302 IAmb IAmb 04 39 42.4
comp=Z,11nm,0.6s
H10N1 ASCENSION HYDR 51.80 14 T T 05 35 44.3
baz=190,slow=78
H10N3 ASCENSION HYDR 51.80 14 T T 05 35 30.0
baz=190,slow=78
H10N2 ASCENSION HYDR 51.82 14 T T 05 35 32.9
baz=190,slow=78
NBMA Muriti-CE 52.52 344 *e*P **P 04 39 49.0 +0.2**
VILB Vilhena 52.69 316 *e*P **P 04 39 48.0 -2.1**
PDRB Porto dos Gac 52.75 321 *e*P **P 04 39 48.8 -1.8**
LPAZ La Paz 52.76 306 P **P 04 39 50.7 -0.7**
comp=Z,1.8nm,0.4s,baz=134,slow=3.0,SNR=19
LPAZ PcP **PcP 04 41 00.1 +0.5**
comp=Z,1.2nm,0.5s,baz=92,slow=2.6,SNR=1.4
LPAZ LR LR 05 02 35.2
comp=Z,34nm,21.7s,baz=137,slow=36
LPAZ La Paz 52.76 306 *e*P **P 04 39 51.7 +0.3**
LPAZ La Paz 52.76 306 P **P 04 39 50.6 -0.7**
NBPV Pedro Velho 53.01 348 *e*P **P 04 39 53.0 +0.5**
NBPB Pedra_Branca-C 54.43 343 *e*P **P 04 40 03.1 +0.3**
MATP Matopo 54.52 69 LR LR 04 59 06.6
comp=Z,79nm,21.3s,baz=258,slow=31
NBCL Cascavel-CE 55.54 345 *e*P **P 04 40 11.3 +0.6**
NBPS Pedro II - PI 55.85 341 *e*P **P 04 40 12.8 -0.3**
ETMB Extrema 57.83 311 *e*P **P 04 40 25.9 -1.1**
ETMB Extrema 57.83 311 P **P 04 40 25.4 -1.6**
LSZ Lusaka 58.80 66 LR LR 05 02 55.0
comp=Z,171nm,18.8s,baz=218,slow=33
LSZ Lusaka 58.80 66 P **P 04 40 33.9 0.0**
LSZ pmax pmax
comp=Z,9.0nm,0.7s
LSZ Lusaka 58.80 66 P **P 04 40 33.9 0.0**
LSZ IAmb IAmb 04 40 34.7
comp=Z,8.6nm,0.7s
NNA Nana 60.39 299 LR LR 05 05 03.3
comp=Z,44nm,21.5s,baz=163,slow=34
MALB Monte Alegre 61.22 327 *e*P **P 04 40 51.0 +0.7**
MCPB Macapa, AP 62.05 330 *e*P **P 04 40 56.3 +0.4**
PTGA Pitinga 64.01 321 LR LR 05 10 26.1
comp=Z,39nm,18.7s,baz=160,slow=37
ATAH Atahualpa 65.37 300 LR LR 05 10 10.5
comp=Z,47nm,20.4s,baz=162,slow=36
BOAV Boa Vista 67.13 322 *e*P **P 04 41 27.5 -1.4**
BOAV Boa Vista 67.13 322 P **P 04 41 27.0 -1.9**
BOAV IAmb IAmb 04 42 36.4
comp=Z,26nm,1.6s
LIC Lamto 67.13 22 *e*P **P 04 41 29.4 +0.6**
comp=Z,46nm,0.7s
KIC Kosan Boka 67.32 23 *e*P **P 04 41 30.4 +0.4**
comp=Z,19nm,0.7s
MDP Montagnes des 67.45 331 LR LR 05 08 11.2
comp=Z,44nm,20.2s,baz=148,slow=33
TIC Toumodi 67.55 22 *e*P **P 04 41 31.9 +0.4**
DBIC Dimbokro 67.60 23 P **P 04 41 32.3 +0.6**
comp=Z,11nm,0.7s,baz=192,slow=7.0,SNR=16
DBIC LR LR 05 03 36.0
comp=Z,174nm,18.6s,baz=142,slow=29
DBIC Dimbokro 67.60 23 P **P 04 41 32.0 +0.2**
DBIC pmax pmax
comp=Z,10.0nm,0.6s
DBIC Dimbokro 67.60 23 P **P 04 41 32.0 +0.2**
DBIC IAmb IAmb 04 41 32.7
comp=Z,9.8nm,0.6s
OTAV Otavalo 71.97 303 *e*P **P 04 41 59.9 +0.7**
MBAR Mbarara 72.87 61 LR LR 05 09 29.6
comp=Z,118nm,21.3s,baz=248,slow=32
ROSC El Rosal 74.40 309 LR LR 05 15 21.0
comp=Z,89nm,20.9s,baz=152,slow=36
DCZ Deep Cove 75.31 189 P **P 04 42 18.9 +1.1**
DCZ IAmb IAmb 04 43 57.9
comp=Z,102nm,1.8s
TORD Torodi Ar. Bea 75.31 28 P **P 04 42 19.1 +1.1**
comp=Z,23nm,0.6s,baz=199,slow=6.1,SNR=153
LBZ Lake Benmore 76.10 192 P **P 04 42 22.6 +0.3**
LBZ IAmb IAmb 04 44 41.9
comp=Z,112nm,2.0s
SDV Santo Domingo 76.68 314 LR LR 05 16 02.6
comp=Z,90nm,21.4s,baz=108,slow=36
SDV Santo Domingo 76.68 314 *e*P **P 04 42 25.3 -0.8**
ZARC Zaragoza, Cauc 77.03 310 P **P 04 42 27.3 -0.5**
TAU Tasmania Unive 78.25 175 P **P 04 42 34.5 +0.2**
TAU Tasmania Unive 78.25 175 P **P 04 42 34.5 +0.2**
THZ Tophouse 78.37 194 P **P 04 42 36.4 +1.2**
THZ Tophouse 78.37 194 P **P 04 42 36.2 +1.0**
THZ IAmb IAmb 04 42 42.2
comp=Z,23nm,0.7s
DSZ Denniston Nort 78.53 193 P **P 04 42 35.7 -0.2**
CAW Cannon Point 78.73 196 P **P 04 42 38.4 +1.3**
MRNZ Matariki Terra 78.75 194 P **P 04 42 37.9 +0.7**
HOWZ Holdsworth Sta 78.87 196 P **P 04 42 38.9 +1.1**
BFZ Birch Farm 78.97 197 P **P 04 42 39.8 +1.4**
TKNZ Takaka Hill 79.08 194 P **P 04 42 39.1 +0.1**
MRZ Mangatainoka R 79.09 196 P **P 04 42 38.3 -0.7**
QRZ Quartz Range 79.34 194 P **P 04 42 39.4 -1.0**
WNVZ Wahianoa 80.40 197 P **P 04 42 47.7 +1.4**
BKZ Black Stump Fm 80.42 197 P **P 04 42 47.9 +1.6**
TRVZ Turoa 80.43 197 P **P 04 42 48.2 +1.6**
OTVZ Oturere 80.55 197 P **P 04 42 48.4 +1.3**
PKE Pukeiti 80.76 195 P **P 04 42 45.8 -2.3**
HIZ Hauiti 81.31 196 P **P 04 42 48.3 -2.6**
OUZ Omahuta 84.72 196 P **P 04 43 08.9 +0.3**
OUZ IAmb IAmb 04 43 10.6
comp=Z,17nm,1.1s
CAN Canberra 85.89 176 P **P 04 43 15.1 +0.6**
CAN pmax pmax
comp=Z,121nm,1.9s
CAN Canberra 85.89 176 P **P 04 43 15.1 +0.6**
BBOO Buckleboo 87.24 165 P **P 04 43 20.8 -0.3**
FORT Forrest 87.89 158 P **P 04 43 25.1 +0.9**
STKA Stephens Creek 88.81 169 P **P 04 43 29.5 +1.0**
comp=Z,6.0nm,0.6s,baz=151,slow=7.5,SNR=11
STKA Stephens Creek 88.81 169 *e*P **P 04 43 29.3 +0.8**
STKA Stephens Creek 88.81 169 P **P 04 43 29.3 +0.8**
comp=Z,59nm,20.4s,baz=268,slow=34
ATD Arta Tunnel 89.14 66 LR LR 05 20 46.0
comp=Z,4.8nm,0.6s,baz=184,slow=4.1,SNR=68
ASAR Alice Springs 95.89 161 P **P 04 44 01.2 -0.1**
ASAR PP **PP 04 47 54.8 +1.1**
comp=Z,1.0nm,0.9s,baz=182,slow=8.4,SNR=4.2
ASAR PKKPbc **PKKPbc 05 00 49.0 +2.5**
comp=Z,1.6nm,0.5s,baz=20,slow=2.2,SNR=20
ASAR LR LR 05 23 55.9
comp=Z,114nm,21.4s,baz=202,slow=33
AS31 Alice Springs 95.89 161 P **P 04 44 01.3 -0.1**
AS31 IAmb IAmb 04 45 16.4
comp=Z,3.4nm,0.6s
WRA Warramunga Arr 99.61 161 P **Pdif 04 44 17.7 -0.4**
comp=Z,0.5nm,0.6s,baz=193,slow=4.1,SNR=5.5
WRA PKKP **PKKPdf 05 00 38.9 -0.4**
comp=Z,0.7nm,0.5s,baz=350,slow=2.8,SNR=9.5
WRA LR LR 05 26 22.3
comp=Z,113nm,21.3s,baz=172,slow=34
WRAB Tennant Creek 99.62 161 *i* P **Pdif 04 44 17.6 -0.5**
WRAB pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 118.15 36 PKP **PKPdf 04 49 19.9 -0.1**
comp=Z,1.6nm,0.6s,baz=234,slow=1.1,SNR=7.5
AKASG Malin Array Be 118.15 36 PKIKP **PKPdf 04 49 20.0 0.0**
AKASG Malin Array Be 118.15 36 PKPdf **PKPdf 04 49 20.0 0.0**
SCHQ Schefferville 118.22 334 PKP **PKPdf 04 49 19.1 -0.9**
comp=Z,3.5nm,0.4s,baz=100,slow=0.9,SNR=8.1
EDW2 Edwards Air Fo 120.28 288 P **PKiKP 04 49 25.8 +0.9**
baz=143
RSSD Black Hills 121.23 304 P **PKiKP 04 49 27.1 +0.5**
baz=144
R11A Troy Canyon, C 121.87 292 P **PKiKP 04 49 29.2 +1.2**
baz=143
DUG Dugway, Tooele 122.02 296 P **PKiKP 04 49 29.6 +1.4**
baz=143
PDAR Pinedale Array 122.56 300 PKP **PKPdf 04 49 28.5 -0.6**
comp=Z,4.4nm,0.4s,baz=126,slow=4.8,SNR=8.0
ULM Lac du Bonnet 122.93 314 PKP **PKPdf 04 49 28.9 -0.3**
comp=Z,4.2nm,0.5s,baz=327,slow=1.1,SNR=5.3
NB2 NORSAR Subarra 123.14 20 PKPdf **PKPdf 04 49 29.8 +0.2**
comp=Z,5.9nm,1.2s,baz=202,slow=1.9
NOA NORSAR Array B 123.14 20 PKP **PKiKP 04 49 30.4 +0.8**
comp=Z,2.5nm,0.9s,baz=204,slow=18,SNR=6.6
NVAR Mina Array Bea 123.24 290 PKP **PKiKP 04 49 32.0 +1.2**
comp=Z,0.8nm,0.5s,baz=126,slow=2.4,SNR=8.8
CMAR Chiang Mai Arr 123.26 111 PKIKP **PKiKP 04 49 31.7 +0.6**
CMAR Chiang Mai Arr 123.26 111 PKPdf **PKiKP 04 49 31.7 +0.6**
LOHW Long Hollow 123.70 300 **PKPdf 04 49 31.3 0.0**
MOOW Moose Ponds 123.87 300 PKPdf **PKiKP 04 49 32.9 +1.0**
LAO LASA Array 124.20 305 P **PKiKP 04 49 32.8 +0.6**
baz=142
OBN Obninsk 124.23 38 *i* PKIKP **PKiKP 04 49 32.3 +0.5**
OBN *e* 04 51 16.0
OBN *e*PPP PPP 04 53 55.4
OBN pmax pmax
comp=Z,6.0nm,0.9s
CHGR Chuyangaron 124.54 71 PKPdf **PKiKP 04 49 33.5 +0.3**
O03E Paynes Creek 126.39 289 P **PKiKP 04 49 38.1 +1.4**
baz=140
BTK Batken 126.44 71 PKIKP **PKiKP 04 49 37.7 +0.8**
BTK Batken 126.44 71 PKPdf **PKiKP 04 49 37.7 +0.8**
FINES FINESS Array B 126.66 28 PKP **PKiKP 04 49 36.6 +0.2**
comp=Z,3.2nm,0.5s,baz=162,slow=1.9,SNR=28
MSO Missoula 127.68 300 P **PKiKP 04 49 40.2 +1.0**
baz=139
ABKAR Abkulak array 128.40 56 **PKiKP 04 49 40.2 -0.2**
AKTO Aktyubinsk 128.47 54 PKP **PKiKP 04 49 40.8 +0.3**
comp=Z,5.6nm,0.8s,baz=189,slow=3.2,SNR=15
KSH Kashi 128.58 76 PKP **PKPdf 04 49 40.5 -0.1**
KLMR Klimovskoe 129.83 35 *e*PKIKP **PKPdf 04 49 41.5 -0.5**
KLMR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 129.83 35 *e*PKPdf **PKPdf 04 49 41.5 -0.5**
KLMR AMP 04 49 44.0
comp=Z,9.0nm,0.8s
AAK Ala-Archa 130.19 72 *i* PKIKP **PKiKP 04 49 44.6 +0.2**
AAK Ala-Archa 130.19 72 **PKiKP 04 49 44.3 -0.1**
KIRV Kirov 131.28 42 *i* PKIKP **PKiKP 04 49 45.4 -0.4**
PZH PanZhiHua 131.43 108 PKP **PKiKP 04 49 47.3 -0.1**
ARU Arti 133.09 49 *i* PKIKP **PKPdf 04 49 47.0 -1.4**
ARU SS SS 05 09 46.2 -5.4
ARCES ARCESS Array B 133.43 22 PKhKP PKPpre 04 49 35.6
comp=Z,2.7nm,0.9s,baz=185,slow=0.8,SNR=6.5
ARCES PKP **PKiKP 04 49 49.4 -0.5**
comp=Z,4.0nm,0.7s,baz=209,slow=3.3,SNR=20
BRVK Borovoye 135.66 59 *i* PKIKP **PKPdf 04 49 52.6 -0.7**
MK31 Makanchi Array 137.04 73 *i* PKIKP **PKPdf 04 49 55.0 -1.1**
MKAR Makanchi Array 137.04 73 PKhKP PKPpre 04 49 48.3
comp=Z,0.6nm,0.5s,baz=219,slow=5.0,SNR=6.4
MKAR PKP **PKPdf 04 49 55.3 -0.8**
comp=Z,1.7nm,0.7s,baz=260,slow=1.6,SNR=6.8
MKAR SKPbc **SKiKP 04 53 23.7 -0.8**
comp=Z,1.4nm,1.1s,baz=158,slow=1.3,SNR=4.8
MKAR Makanchi Array 137.04 73 PKPdf **PKPdf 04 49 56.9 +0.7**
YKA Yellowknife Ar 138.89 315 PKhKP PKPpre 04 49 50.6
comp=Z,0.3nm,0.5s,baz=123,slow=3.6,SNR=17
YKA PKP **PKPdf 04 49 59.3 +0.3**
comp=Z,13nm,0.6s,baz=128,slow=2.4,SNR=145
YKA SKPbc **SKiKP 04 53 28.2 +0.5**
comp=Z,0.4nm,0.7s,baz=132,slow=3.2,SNR=5.3
YKA PKKP **PKKPdf 04 59 28.0 +0.2**
comp=Z,0.2nm,0.7s,baz=318,slow=2.0,SNR=5.6
YKA Yellowknife Ar 138.89 315 PKPdf **PKPdf 04 49 59.6 +0.7**
ZAA0 Zalesovo Array 142.91 67 PKPdf **PKiKP 04 50 08.6 -1.1**
ZALV Zalesovo Beam 142.91 67 PKhKP PKPpre 04 50 03.0
comp=Z,2.0nm,0.4s,baz=248,slow=4.0,SNR=9.7
P33M Teslin, Yukon 144.84 304 PKPdf **PKPdf 04 50 09.5 -0.3**
P33M Teslin, Yukon 144.84 304 P **PKPdf 04 50 10.1 +0.3**
baz=121
MMPY Sheldon Lake, 145.39 308 P **PKPab 04 50 11.4 +0.3**
baz=119
C36M Paulatuk 145.79 321 PKPdf **PKPab 04 50 12.4 +0.1**
C36M Paulatuk 145.79 321 P **PKPab 04 50 12.4 +0.1**
baz=115
M31M Drury Creek, Y 146.48 306 P **PKPab 04 50 14.7 -0.6**
baz=118
A36M Sachs Harbour 147.16 326 PKPbc **PKPbc 04 50 15.5 -0.1**
A36M Sachs Harbour 147.16 326 P **PKPbc 04 50 16.2 +0.5**
baz=110
M30M Minto, Yukon 147.65 306 PKPbc **PKPbc 04 50 16.1 -1.2**
MAYO Mayo, Yukon 147.71 308 P **PKiKP 04 50 18.9 -0.4**
baz=115
INK Inuvik 148.59 317 P **PKPbc 04 50 19.9 +0.4**
baz=109
J29M Klondike Camp 148.99 309 P **PKPbc 04 50 21.3 +0.5**
baz=112
EPYK Eagle Plains 149.10 313 P **PKPbc 04 50 21.1 +0.2**
baz=110
BVCY Beaver Creek 149.30 304 P **PKiKP 04 50 22.8 +0.2**
baz=114
DAWY Dawson 149.32 308 P **PKPbc 04 50 21.9 +0.3**
baz=112
BJT Baijiatuau 149.39 111 PKP2 **PKPbc 04 50 22.9 +0.5**
BJT Baijiatuau 149.39 111 PKPbc **PKPbc 04 50 22.9 +0.5**
BCAR Beaver Creek A 149.94 305 PKPdf **PKPdf 04 50 16.1 -2.0**
BCAR PKPbc **PKiKP 04 50 23.8 -0.2**
L27K Beaver Creek, 149.96 305 P **PKiKP 04 50 24.1 +0.1**
baz=112
ZAK Zakamensk 149.98 84 *e*PKP2 **PKPbc 04 50 23.9 +0.2**
ZAK pmax pmax
comp=Z,24nm,1.1s
SONM Songino Array 150.01 91 PKP **PKPdf 04 50 19.1 +0.3**
comp=Z,0.9nm,0.9s,baz=198,slow=2.6,SNR=4.9
SONM PKPbc **PKiKP 04 50 24.6 -0.2**
comp=Z,7.3nm,0.5s,baz=216,slow=3.2,SNR=51
SONM Songino Array 150.01 91 **PKPbc 04 50 23.6 -0.3**
EGAK Eagle 150.29 309 P **PKiKP 04 50 24.8 +0.2**
baz=110
ULN Ulaanbaatar 150.37 91 PKIKP **PKPbc 04 50 24.7 -0.1**
ULN Ulaanbaatar 150.37 91 **PKPbc 04 50 24.7 -0.1**
L26K Log Cabin Wild 150.59 305 P **PKiKP 04 50 25.6 +0.4**
baz=111
NRIK Noril'sk 150.79 42 PKPbc **PKiKP 04 50 25.6 +0.2**
comp=Z,8.9nm,0.9s,baz=121,slow=0.4,SNR=8.2
NRIK Noril'sk 150.79 42 **PKiKP 04 50 26.0 +0.6**
SCRK Sand Creek 151.19 306 P **PKiKP 04 50 27.2 +0.6**
baz=109
RIDG Independent Ri 151.47 306 P **PKiKP 04 50 28.0 +0.9**
baz=109
PAX Paxson 151.48 304 P **PKiKP 04 50 28.5 +1.3**
baz=110
M24K Tolsona, Glenn 151.48 302 P **PKiKP 04 50 28.6 +1.4**
baz=111
PWL Port Wells 151.99 299 P **PKiKP 04 50 28.9 +0.7**
baz=112
KSRS Korea Array 152.50 130 PKPbc **PKiKP 04 50 30.5 +0.5**
comp=Z,2.3nm,0.6s,baz=221,slow=1.3,SNR=5.7
KSRS PKPab **PKPab 04 50 41.4 +0.9**
comp=Z,3.9nm,0.8s,baz=216,slow=4.7,SNR=5.3
IL31 152.63 307 **PKPbc 04 50 29.2 +0.1**
ILAR Eielson Array 152.63 307 PKPbc **PKiKP 04 50 29.6 +0.1**
comp=Z,2.8nm,0.4s,baz=140,slow=1.9,SNR=37
MCK McKinley 153.20 304 P **PKiKP 04 50 31.3 +0.7**
baz=106
NEA2 Nenana 153.49 306 **PKPbc 04 50 30.5 -0.6**
NEA2 Nenana 153.49 306 P **PKiKP 04 50 31.6 +0.4**
baz=105
BPAW Bear Paw Mtn. 154.17 305 P **PKiKP 04 50 33.4 +0.7**
baz=104
TOLK Toolik Lake Re 154.42 315 P **PKiKP 04 50 34.4 +1.3**
baz=96
COLD Coldfoot 154.48 312 **PKiKP 04 50 34.3 +1.1**
COLD Coldfoot 154.48 312 P **PKiKP 04 50 35.0 +1.9**
baz=98
MJAR Matsushiro Arr 155.16 148 PKPab **PKPab 04 50 52.4 +0.6**
comp=Z,1.2nm,0.6s,baz=219,slow=7.2,SNR=4.0
KLR Kul'dur 163.63 117 PKPab **PKPab 04 51 28.2 -0.1**
comp=Z,1.5nm,0.5s,baz=159,slow=6.3,SNR=7.3
BILL Bilibino 169.53 335 *e*PKIKP **PKPdf 04 50 41.8 +2.0**
BILL *e* 04 55 45.8
BILL pmax pmax
comp=Z,2.0nm,1.8s

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*SOME **29** 04:33:41.7, 41°.57N×83°.42E, h5km*
*NNC **29** 04:33:44.8±1.0, 41°.65N×83°.23E, h8km±5km, mb3.7,*
mpv3.5, Error ellipse: s-maj=7.7km s-min=5.9km az=168.0
ISC 29 04:33:45.5±2.3, 41°.7N±0°.1×83°.15E±0°.07, h10km, n35,
σ2°53/55, 9C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.74**	**312**	*e*P	**Pg**	**04 34 36.7**	**-1.3**
KTMS	5.1nm,0.2s			*e*S	**Sg**	**04 35 16.4**	**+2.8**
KTMS	**Ketmen**	**2.74**	**312**	Pg	**Pg**	**04 34 36.7**	**-1.3**
KTMS	49nm,0.2s			Lg	Lg	04 35 15.9	
PDGK	**Podgornoye**	**3.19**	**303**	⇓Pg	**Pb**	**04 34 43.7**	**+1.4**
PDGK	6.4nm,0.8s			⇑Lg	Lg	04 35 26.8	
UZB	**Uzynbulak**	**3.40**	**298**	*e*P	**Pb**	**04 34 47.7**	**+1.7**
UZB	4.5nm,0.2s			*e*S	**Sg**	**04 35 34.9**	**+0.1**
UZB	**Uzynbulak**	**3.40**	**298**	Pg	**Pb**	**04 34 46.8**	**+0.8**
UZB	4.5nm,0.2s			Lg	Lg	04 35 33.2	
DJR	**Jarkent**	**3.64**	**319**	*e*P	**Pg**	**04 34 52.6**	**-2.7**
DJR	6.9nm,0.3s			*e*S	**Sg**	**04 35 43.2**	**+0.7**
DJR	**Jarkent**	**3.64**	**319**	Pg	**Pg**	**04 34 52.6**	**-2.7**
DJR	6.9nm,0.3s			Lg	Lg	04 35 43.2	
SATY	**Saty**	**3.79**	**293**	*e*P	**Pb**	**04 34 54.9**	**+2.4**
SATY	3.7nm,0.2s			*e*S	**Sg**	**04 35 47.1**	**-0.1**
SATY	**Saty**	**3.79**	**293**	Pg	**Pb**	**04 34 54.9**	**+2.4**
SATY	3.7nm,0.2s			Lg	Lg	04 35 47.1	
KURS	**Kuram**	**4.11**	**298**	*e*P	**Pb**	**04 35 00.2**	**+2.2**
KURS	1.8nm,0.6s			*e*S	**Sg**	**04 35 56.5**	**-1.1**
KURS	**Kuram**	**4.11**	**298**	Pg	**Pb**	**04 35 00.2**	**+2.2**
KURS	1.8nm,0.6s			Lg	Lg	04 35 56.5	
BLB	**Baldybastay**	**4.22**	**307**	*e*P	**Pg**	**04 35 03.7**	**-2.6**
BLB	7.3nm,0.3s			*e*S	**Sg**	**04 36 02.4**	**+1.5**
BLB	**Baldybastay**	**4.22**	**307**	Pg	**Pg**	**04 35 03.7**	**-2.6**
BLB	7.3nm,0.3s			Lg	Lg	04 36 02.4	
KAPS	**Kapalarasan**	**4.56**	**324**	*e*P	**Pb**	**04 35 08.7**	**+2.9**
KAPS	3.0nm,0.3s			*e*S	**Sg**	**04 36 10.8**	**-1.2**
KAPS	**Kapalarasan**	**4.56**	**324**	Pg	**Pb**	**04 35 08.7**	**+2.9**
KAPS	3.0nm,0.3s			Lg	Lg	04 36 10.8	
ARXS	**Arharly**	**4.67**	**305**	*e*P	**Pg**	**04 35 11.7**	**-3.3**
ARXS	1.3nm,0.3s			*e*S	**Sg**	**04 36 16.3**	**+0.7**
ARXS	**Arharly**	**4.67**	**305**	Pg	**Pg**	**04 35 11.7**	**-3.3**
ARXS	1.3nm,0.3s			Lg	Lg	04 36 16.3	
KOTS	**Kotyrbulak**	**4.74**	**292**	*e*P	**Pb**	**04 35 12.4**	**+3.6**
KOTS	4.6nm,0.2s			*e*S	**Sg**	**04 36 17.4**	**-0.3**
KOTS	**Kotyrbulak**	**4.74**	**292**	Pg	**Pb**	**04 35 12.4**	**+3.6**
KOTS	4.6nm,0.2s			Lg	Lg	04 36 17.4	
MDOK	**Medeo**	**4.76**	**291**	*e*P	**Pb**	**04 35 12.1**	**+2.9**
MDOK	4.2nm,0.4s			*e*S	**Sg**	**04 36 16.8**	**-1.7**
MDOK	**Medeo**	**4.76**	**291**	Pg	**Pb**	**04 35 12.1**	**+2.9**
MDOK	4.2nm,0.4s			Lg	Lg	04 36 16.8	
TNSS	**Tian-Shan**	**4.80**	**289**	*e*P	**Pb**	**04 35 13.3**	**+3.3**
TNSS	2.1nm,0.1s			*e*S	**Sg**	**04 36 19.0**	**-0.7**
TNSS	**Tian-Shan**	**4.80**	**289**	Pg	**Pb**	**04 35 13.3**	**+3.3**
TNSS	2.1nm,0.1s			Lg	Lg	04 36 19.0	
TDK	**Taldyqorghan**	**4.82**	**316**	*e*P	**Pb**	**04 35 13.7**	**+3.7**
TDK	41nm,0.2s			*e*S	**Sg**	**04 36 19.7**	**-0.5**
TDK	**Taldyqorghan**	**4.82**	**316**	Pg	**Pb**	**04 35 13.7**	**+3.7**
TDK	41nm,0.2s			Lg	Lg	04 36 19.7	
CHKK	**Chushkaly**	**5.04**	**298**	*e*P	**Pb**	**04 35 17.1**	**+3.2**
CHKK	0.9nm,0.1s			*e*S	**Sg**	**04 36 25.5**	**-1.9**
CHKK	**Chushkaly**	**5.04**	**298**	Pg	**Pb**	**04 35 17.1**	**+3.2**
CHKK	0.9nm,0.1s			Lg	Lg	04 36 25.5	
MK31	**Makanchi Array**	**5.18**	**353**	⇑Pn	**Pn**	**04 35 03.2**	**+0.1**
MK31	0.1nm,0.2s,baz=182,slow=13,SNR=12			⇑Pg	**Pb**	**04 35 18.1**	**+1.8**
MK31	0.6nm,0.3s,baz=168,slow=14,SNR=9.7			⇑Sn	**Sn**	**04 36 03.5**	**+0.5**
MK31	3.0nm,0.7s			⇑Lg	Lg	04 36 28.0	
KTBS	**Karatobe**	**5.20**	**296**	*e*P	**Pb**	**04 35 19.3**	**+2.9**
KTBS	0.8nm,0.3s			*e*S	**Sg**	**04 36 29.0**	**-3.2**
KTBS	**Karatobe**	**5.20**	**296**	Pg	**Pb**	**04 35 19.3**	**+2.9**
KTBS	0.8nm,0.3s			Lg	Lg	04 36 29.0	
MAKZ	**Makanchi**	**5.23**	**351**	⇑Pn	**Pn**	**04 35 03.9**	**+0.1**
MAKZ	0.2nm,0.2s			⇑Pg	**Pb**	**04 35 18.8**	**+1.8**
MAKZ	1.4nm,0.6s			⇑Sn	**Sn**	**04 36 04.6**	**+0.5**
	2.9nm,0.8s						

MAKZ ⇑Lg Lg 04 36 29.2
7.5nm,0.9s
KUU Kurty 5.49 296 *eP* **Pg 04 35 27.0 -3.7**
1.4nm,0.3s
KUU *eS* **Sg 04 36 42.8 +1.0**
8.7nm,0.4s
KUU Kurty 5.49 296 Pg **Pg 04 35 27.0 -3.7**
1.4nm,0.3s
KUU Lg Lg 04 36 42.8
8.7nm,0.4s
ZSN Zaisan 5.93 11 *eP* **Pb 04 35 32.5 +3.5**
3.2nm,0.3s
ZSN *eS* **Sg 04 36 51.9 -4.0**
10nm,0.5s
ZSN Zaisan 5.93 11 Pg **Pb 04 35 32.5 +3.5**
3.2nm,0.3s
ZSN Lg Lg 04 36 51.8
10nm,0.5s

*IDC **29** 04:37:54.7±0.7, 12°.51N×143°.37E, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.0/53, mbtmp4.2/11, MS3.7/26, Ms1 3.7/26, ms1mx3.5/84, Error ellipse: s-maj=21.9km s-min=14.9km az=98.0*
*NEIC **29** 04:37:57.7±1.5, 12°.55N±0°.06×143°.5E±0°.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=20.9km s-min=7.7km az=287.0*
ISC 29 04:37:59.3±0.6, 12°.54N±0°.08×143°.49E±0°.10, h27km, n52, σ0§85/30, mb4.3/17, MS3.6/24, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.70**	**52**	Pn	**Pn**	**04 38 27.9**	**+0.7**
GUMO	95nm,0.3s,baz=200,slow=10,SNR=17			Sn	**Sb**	**04 38 50.6**	**-0.2**
GUMO	129nm,0.3s,baz=32,slow=21,SNR=10			LR	LR	04 39 09.2	
GUMO	comp=Z,759nm,20.7s,baz=232,slow=41 **Guam**	**1.70**	**52**		**Pn**	**04 38 27.6**	**+0.4**
SIJI	**Sorong**	**18.02**	**223**	LR	LR	04 47 46.9	
DAV	comp=Z,216nm,19.6s,baz=64,slow=33 **Davao City (W)**	**18.46**	**255**	LR	LR	04 47 40.4	
PMG	comp=Z,218nm,20.0s,baz=335,slow=32 **Port Moresby**	**22.10**	**170**	LR	LR	04 50 46.1	
JNU	comp=Z,78nm,18.7s,baz=174,slow=35 **Nakatsue**	**23.52**	**333**	LR	LR	04 51 05.2	
H11N1	comp=Z,61nm,19.2s,baz=162,slow=34 **WAKE ISLAND Hy**	**23.56**	**69**	T	T	05 07 47.6	
H11N2	baz=255,slow=75,SNR=20 **WAKE ISLAND Hy**	**23.57**	**69**	T	T	05 07 49.6	
H11N3	baz=255,slow=75,SNR=14 **WAKE ISLAND Hy**	**23.58**	**69**	T	T	05 07 50.2	
MJAR	baz=255,slow=75,SNR=17 **Matsushiro Arr**	**24.37**	**350**	LR	LR	04 52 08.2	
COEN	comp=Z,157nm,19.1s,baz=170,slow=35 **Coen**	**26.33**	**181**	P	**P**	**04 43 32.4**	**-0.7**
COEN	comp=Z,6.7nm,0.8s			IAmb	IAmb	04 43 39.3	
KAPI	**Kappang**	**29.34**	**235**	LR	LR	04 57 18.5	
ASAJ	comp=Z,50nm,18.7s,baz=80,slow=40 **Asahikawa**	**31.48**	**359**	LR	LR	05 01 12.5	
CTA	comp=Z,35nm,19.2s,baz=108,slow=44 **Charters Tower**	**32.53**	**175**	P	**P**	**04 44 27.3**	**-0.9**
CTA	comp=Z,2.7nm,0.5s,baz=355,slow=11,SNR=5.0			LR	LR	04 58 47.6	
USRK	comp=Z,53nm,18.2s,baz=294,slow=38 **Ussuriysk Ar.**	**33.06**	**345**	LR	LR	04 56 42.4	
WB0	comp=Z,86nm,20.5s,baz=140,slow=34 **Warramunga Arr**	**33.33**	**196**	P	**P**	**04 44 35.6**	**+0.5**
WB0	comp=Z,6.9nm,0.6s			IAmb	IAmb	04 44 41.1	
WR0	**Warramunga Arr**	**33.48**	**195**	P	**P**	**04 44 37.2**	**+0.8**
WR0	comp=Z,7.8nm,0.5s			IAmb	IAmb	04 44 42.4	
WRA	**Warramunga Arr**	**33.51**	**196**	P	**P**	**04 44 35.0**	**-1.7**
WRA	comp=Z,3.2nm,0.7s,baz=20,slow=9.7,SNR=18 **Warramunga Arr**	**33.51**	**196**	P	**P**	**04 44 36.9**	**+0.1**
AS31	**Alice Springs**	**37.18**	**195**	P	**P**	**04 45 08.1**	**-0.2**
ASAR	**Alice Springs**	**37.19**	**195**	P	**P**	**04 45 07.0**	**-1.4**
ASAR	comp=Z,1.4nm,0.5s,baz=18,slow=10,SNR=15			LR	LR	05 01 02.0	
KLR	comp=Z,80nm,18.1s,baz=20,slow=37 **Kul'dur**	**37.85**	**347**	LR	LR	04 59 49.4	
LEM	comp=Z,141nm,19.2s,baz=250,slow=35 **Lembang**	**40.52**	**244**	LR	LR	05 04 43.4	
DZM	comp=Z,54nm,18.8s,baz=271,slow=40 **Mont Dzumac**	**41.11**	**147**	P	**P**	**04 45 41.5**	**+0.3**
DZM	comp=Z,8.7nm,0.8s,baz=312,slow=4.8,SNR=10			LR	LR	04 59 17.9	
DZM	comp=Z,104nm,20.4s,baz=130,slow=31 **Mont Dzumac**	**41.11**	**147**	P	**P**	**04 45 41.5**	**+0.3**
DZM	comp=Z,11nm,0.6s			IAmb	IAmb	04 45 49.3	
PETK	**Petropavlovsk-**	**42.03**	**13**	LR	LR	05 01 41.0	
CMAR	comp=Z,57nm,19.7s,baz=184,slow=34 **Chiang Mai Arr**	**43.25**	**284**	P	**P**	**04 45 59.8**	**+1.0**
CMAR	comp=Z,0.5nm,0.3s,baz=96,slow=8.2,SNR=1.2			LR	LR	05 03 24.4	
BBOO	comp=Z,62nm,20.0s,baz=100,slow=36 **Buckleboo**	**45.65**	**189**	P	**P**	**04 46 19.0**	**+1.3**
SONM	**Songino Array**	**46.83**	**326**	P	**P**	**04 46 27.3**	**+0.3**
SONM	comp=Z,0.6nm,0.5s,baz=148,slow=7.4,SNR=7.6			LR	LR	05 06 51.8	
TOO	comp=Z,124nm,18.9s,baz=90,slow=37 **Toolangi**	**49.88**	**178**	P	**P**	**04 46 50.2**	**-0.2**
RAO	**Raoul Island**	**55.80**	**139**	LR	LR	05 07 51.6	
MK31	comp=Z,66nm,21.6s,baz=70,slow=32 **Makanchi Array**	**61.32**	**317**	P	**P**	**04 48 12.9**	**+0.3**
MK31	comp=Z,4.0nm,1.5s			IAmb	IAmb	04 48 35.0	
MKAR	**Makanchi Array**	**61.32**	**317**	P	**P**	**04 48 12.4**	**-0.2**
MAKZ	comp=Z,0.8nm,0.8s,baz=83,slow=9.9,SNR=6.2 **Makanchi**	**61.53**	**317**	P	**P**	**04 48 14.9**	**+0.8**
ZALV	**Zalesovo Beam**	**61.70**	**325**	P	**P**	**04 48 14.2**	**-0.8**
ZALV	comp=Z,1.5nm,0.5s,baz=104,slow=6.7,SNR=6.1			LR	LR	05 15 54.4	
KKAR	comp=Z,100nm,19.2s,baz=74,slow=37 **Karatay Array**	**69.14**	**311**	P	**P**	**04 49 03.3**	**-0.1**
IL31		**70.08**	**25**	P	**P**	**04 49 09.3**	**+0.6**
IL31	comp=Z,4.3nm,1.1s			IAmb	IAmb	04 49 33.0	
ILAR	**Eielson Array**	**70.08**	**25**	P	**P**	**04 49 07.9**	**-0.9**
ARU	comp=Z,0.9nm,0.7s,baz=250,slow=5.5,SNR=12 **Arti**	**76.86**	**325**	LR	LR	05 25 23.5	
YKA	comp=Z,89nm,18.1s,baz=315,slow=37 **Yellowknife Ar**	**84.40**	**27**	P	**P**	**04 50 28.9**	**-0.1**
YBH	comp=Z,0.6nm,0.5s,baz=289,slow=5.4,SNR=6.3 **Yreka Blue Hor**	**84.57**	**49**	LR	LR	05 20 08.3	
SPITS	comp=Z,170nm,20.9s,baz=308,slow=30 **Spitsbergen Ar**	**84.86**	**350**	LR	LR	05 28 56.0	
ARCES	comp=Z,98nm,19.0s,baz=349,slow=36 **ARCESS Array B**	**87.66**	**342**	LR	LR	05 32 37.6	
NVAR	comp=Z,79nm,19.4s,baz=247,slow=38 **Mina Array Bea**	**88.62**	**51**	P	**P**	**04 50 51.7**	**+1.2**
NVAR	comp=Z,1.9nm,0.7s,baz=261,slow=5.5,SNR=16 **Mina Array Bea**	**88.62**	**51**	P	**P**	**04 50 50.8**	**+0.3**
MFID	**Camas Ranch**	**89.09**	**46**	P	**P**	**04 50 52.1**	**-0.4**
ELK	**Elko**	**90.27**	**48**	LR	LR	05 24 26.5	
FINES	comp=Z,78nm,19.9s,baz=261,slow=31 **FINESS Array B**	**91.54**	**335**	P	**P**	**04 51 01.3**	**-2.0**
AKASG	comp=Z,7.0nm,1.1s,baz=79,slow=4.1,SNR=3.8 **Malin Array Be**	**95.09**	**324**	LR	LR	05 35 52.2	
NOA	comp=Z,71nm,19.1s,baz=246,slow=37 **NORSAR Array B**	**97.54**	**339**	LR	LR	05 40 26.7	
LPIG	comp=Z,18nm,18.5s,baz=340,slow=38 **La Paz**	**99.28**	**63**	LR	LR	05 27 26.8	
LPAZ	comp=Z,52nm,21.6s,baz=322,slow=30 **La Paz**	**149.16**	**101**	PKPbc	**PKPbc**	**04 57 47.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=270,slow=7.7,SNR=5.5						

*IDC **29** 05:19:40.3±4.0, 36°.80N×70°.53E, h0km, mb3.8/2, mb1 3.9/6, mb1mx3.5/49, mbtmp3.8/6, ML3.5/4, Error ellipse: s-maj=65.7km s-min=33.6km az=166.0*
*NNC **29** 05:19:43.4±0.9, 37°.46N×69°.85E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=7.5km s-min=5.9km az=154.0*
ISC 29 05:19:46.9±2.5, 37°.6N±0°.2×69°.7E±0°.1, h10km, n21, σ1§68/15, 3C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.56**	**3**	Pg	**Pb**	**05 21 08.3**	**+1.2**
IUG	258nm,0.3s			Lg	Lg	05 22 12.3	
BRLS	92nm,0.3s **Borolday**	**5.44**	**1**	Pg	**Pb**	**05 21 20.9**	**-1.1**
BRLS	1.4nm,0.2s			Lg	Lg	05 22 33.8	
KK02	2.3nm,0.3s **Karatay Array**	**5.55**	**6**	⇑Pn	**Pn**	**05 21 09.6**	**+0.1**
KK02	1.6nm,0.5s			⇓Pg	**Pb**	**05 21 26.0**	**+2.2**
KK02	2.5nm,0.5s			Lg	Lg	05 22 42.7	
MRKS	**Merke**	**5.82**	**27**	Pg	**Pb**	**05 21 30.6**	**+2.1**
MRKS	9.3nm,0.7s			Lg	Lg	05 22 50.6	
AAK	24nm,0.6s **Ala-Archa**	**6.25**	**35**	Pn	Pn	05 21 21.3	+2.1
AAK	2.1nm,0.3s,baz=202,slow=9.3,SNR=19			Lg	Lg	05 23 01.6	
AAK	1.7nm,0.3s,baz=60,slow=4.1,SNR=7.4 **Ala-Archa**	**6.25**	**35**	⇓Pn	**Pn**	**05 21 17.9**	**-1.3**
AAK	1.6nm,0.3s			⇓Pg	**Pb**	**05 21 37.2**	**+1.4**
AAK	6.3nm,0.7s			⇑Lg	Lg	05 23 03.0	
TKM2	8.6nm,0.7s **Tokmak 2**	**6.99**	**38**	⇑Pn	**Pn**	**05 21 27.0**	**-2.4**
TKM2	1.2nm,0.4s			⇓Lg	Lg	05 23 25.0	
KST	12nm,1.3s **Kastek**	**7.26**	**39**	Pg	Pg	05 21 56.6	-9.2
KST	9.4nm,1.0s			Lg	Lg	05 23 35.2	
DGS	7.2nm,0.8s **Degeres**	**7.31**	**38**	Pg	Pb	05 21 56.8	+2.9
DGS	4.0nm,0.9s			Lg	Lg	05 23 35.5	
KRBS	5.3nm,0.8s **Karabastau**	**7.62**	**35**	Pg	Pg	05 22 04.2	-8.4
KRBS	1.8nm,0.4s			Lg	Lg	05 23 48.3	
KOTS	3.2nm,0.3s **Kotyrbulak**	**8.00**	**43**	Pg	Pb	05 22 08.4	+2.9
KOTS	2.6nm,0.3s			Lg	Lg	05 23 55.5	
KUU	9.2nm,0.4s **Kurty**	**8.07**	**37**	Pg	Pb	05 22 10.9	+4.1
KUU	1.8nm,0.1s			Lg	Lg	05 23 59.7	
KTBS	8.0nm,0.7s **Karatobe**	**8.11**	**39**	Pg	Pb	05 22 11.5	+4.1
KTBS	1.2nm,0.2s			Lg	Lg	05 24 00.7	
BTLS	6.7nm,0.7s **Baital**	**8.14**	**22**	Pg	Pg	05 22 13.5	-9.1
BTLS	1.3nm,0.2s			Lg	Lg	05 24 04.5	
MKAR	9.6nm,0.9s **Makanchi Array**	**13.10**	**41**	Pn	**Pn**	**05 22 52.4**	**-0.6**
AB31	0.1nm,0.3s,baz=228,slow=13,SNR=5.3 **Akbulak array**	**13.63**	**332**	⇓Pn	**Pn**	**05 22 59.3**	**-0.8**
AKTO	0.6nm,0.5s,baz=154,slow=13,SNR=33 **Aktyubinsk**	**15.32**	**331**	Pn	**P**	**05 23 29.4**	**+1.5**
AKTO	0.9nm,0.3s,baz=138,slow=11,SNR=11 **Aktyubinsk**	**15.32**	**331**	⇓Pn	**Pn**	**05 23 22.6**	**-0.4**
ZALV	11nm,1.2s **Zalesovo Beam**	**19.41**	**28**	P	**Pn**	**05 24 11.3**	**-2.7**
ARCES	0.4nm,0.3s,baz=214,slow=9.8,SNR=6.9 **ARCESS Array B**	**39.74**	**337**	P	**P**	**05 27 20.5**	**+1.3**
YKA	4.3nm,1.1s,baz=110,slow=7.8,SNR=1.6 **Yellowknife Ar**	**80.20**	**2**	P	**P**	**05 31 57.0**	**-0.1**
	0.3nm,0.7s,baz=352,slow=5.4,SNR=8.0						

*IDC **29** 05:27:41.2±1.6, 12°.15S×166°.75E, h116km±9km, mb3.7/8, mb1 3.9/8, mb1mx3.4/54, mbtmp4.0/8, MS3.0/2, Ms1 3.0/2, ms1mx2.6/63, Error ellipse: s-maj=49.3km s-min=23.0km az=138.0*
*NEIC **29** 05:27:43.5±1.4, 11°.8S±0°.1×166°.7E±0°.1, h129km±5km, mb4.5/9, Error ellipse: s-maj=18.6km s-min=16.3km az=95.0*
*NOU **29** 05:27:59.4, 12°.94S×166°.64E, h107km, mb4.8/13, Santa Cruz Islands*
ISC 29 05:27:40.1±0.6, 11°.73S±0°.07×166°.7E±0°.1, h100km, n52, σ2§01/51, mb4.2/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.73**	**172**		**Pn**	**05 28 38.6**	**+2.9**
SANVU	**Saraoutou**	**3.73**	**172**	P	**Pn**	**05 28 39.3**	**+3.6**
DVP	**Devils Point**	**6.13**	**166**	P	**Pn**	**05 29 11.4**	**+3.1**
HNR	**Honiara**	**7.00**	**288**	LR	LR	05 32 00.3	
LIFNC	comp=Z,53nm,20.0s,baz=96,slow=36 **LIFOU**	**9.01**	**177**	Pn	**Pn**	**05 29 47.9**	**+0.4**
LIFNC	**LIFOU**	**9.01**	**177**	P	**Pn**	**05 29 48.8**	**+1.4**
KOUNC	**Koumac, New Ca**	**9.07**	**194**	P	**Pn**	**05 29 51.1**	**+2.9**
YATNC	**Mamie plateau,**	**10.27**	**179**	P	**Pn**	**05 30 06.2**	**+1.6**
DZM	**Mont Dzumac**	**10.29**	**181**	P	**Pn**	**05 30 07.4**	**+2.6**
DZM	7.0nm,0.3s,baz=312,slow=19,SNR=150			S	**Sn**	**05 31 54.5**	**-3.8**
DZM	3.0nm,0.3s,baz=330,slow=22,SNR=11 **Mont Dzumac**	**10.29**	**181**	*e*Pn	**Pn**	**05 30 06.9**	**+2.0**
DZM	57nm,0.8s **Mont Dzumac**	**10.29**	**181**		**Pn**	**05 30 06.8**	**+2.0**
DZM	**Mont Dzumac**	**10.29**	**181**	P	**Pn**	**05 30 07.9**	**+3.0**
NOUC	**Port Laguerre**	**10.32**	**182**	P	**Pn**	**05 30 08.9**	**+3.7**
ONTNC	**Ouen Toro**	**10.52**	**181**		**Pn**	**05 30 09.7**	**+1.7**
ONTNC	**Ouen Toro**	**10.52**	**181**	P	**Pn**	**05 30 11.7**	**+3.7**
OUENC	**Ouen Island, N**	**10.63**	**179**		**Pn**	**05 30 11.6**	**+2.1**
OUENC	**Ouen Island, N**	**10.63**	**179**	P	**Pn**	**05 30 12.9**	**+3.5**
PINNC	**Pines Island,**	**10.85**	**176**		**Pn**	**05 30 13.7**	**+1.4**
ARMA	**Armidale**	**23.26**	**215**	P	**P**	**05 32 38.5**	**-0.5**
ARMA	comp=Z,18nm,1.4s			IAmb	IAmb	05 32 49.8	
OUZ	**Omahuta**	**24.21**	**166**	P	**P**	**05 32 48.3**	**+0.8**
OUZ	comp=Z,25nm,1.4s			IAmb	IAmb	05 33 01.7	
PKGZ	**Pakihiroa**	**27.98**	**161**	P	P	05 33 33.9	+12
WMGZ	**Waiomatatini S**	**28.02**	**160**	P	P	05 33 32.6	+11
PUZ	**Puketiti**	**28.20**	**160**	P	P	05 33 29.9	+6.5
TWGZ	**Tauwhareparae**	**28.21**	**161**	P	P	05 33 32.2	+8.7
OTVZ	**Oturere**	**28.46**	**165**	P	**P**	**05 33 27.1**	**+1.2**
WNVZ	**Wahianoa**	**28.60**	**165**	P	**P**	**05 33 28.9**	**+1.7**
RIGZ	**Rimuhau**	**28.62**	**162**	P	P	05 33 34.2	+7.0
BKZ	**Black Stump Fm**	**28.68**	**164**	P	**P**	**05 33 26.8**	**-0.9**
NMHZ	**Naumai**	**28.70**	**163**	P	**P**	**05 33 28.4**	**+0.5**
BHHZ	**Black Hill Sta**	**28.87**	**165**	P	**P**	**05 33 28.8**	**-0.6**
KWHZ	**Kaweka Forest**	**28.91**	**164**	P	**P**	**05 33 29.8**	**+0.1**
MCHZ	**McNeill Hill**	**29.00**	**164**	P	**P**	**05 33 30.2**	**-0.3**
TSZ	**Takapari Road**	**29.39**	**165**	P	**P**	**05 33 33.1**	**-0.8**
TOO	**Toolangi**	**31.98**	**213**	P	**P**	**05 33 56.5**	**-0.4**
TOO	comp=Z,19nm,1.2s			IAmb	IAmb	05 34 05.3	
WB0	**Warramunga Arr**	**32.04**	**251**	P	**P**	**05 33 56.9**	**-0.7**
WB0	comp=Z,10nm,1.5s			IAmb	IAmb	05 33 58.6	
WRA	**Warramunga Arr**	**32.12**	**251**	P	**P**	**05 33 56.6**	**-1.7**
WRA	comp=Z,1.3nm,1.0s,baz=85,slow=8.9,SNR=3.6			pP	**pP**	**05 34 22.6**	**+3.4**
WRA	comp=Z,0.8nm,0.6s,baz=81,slow=9.2,SNR=4.3			PcP	**PcP**	**05 36 45.4**	**+0.1**
WRA	comp=Z,0.8nm,1.0s,baz=84,slow=4.0,SNR=5.8 **Warramunga Arr**	**32.12**	**251**	IAmb	IAmb	05 34 02.9	
ASAR	comp=Z,0.2nm,1.2s **Alice Springs**	**33.32**	**245**	P	**P**	**05 34 06.5**	**-2.3**
ASAR	comp=Z,0.8nm,0.8s,baz=82,slow=9.4,SNR=6.1			pP	**pP**	**05 34 31.9**	**+2.2**
ASAR	comp=Z,1.2nm,0.8s,baz=78,slow=9.4,SNR=5.5			PcP	**PcP**	**05 36 47.8**	**-0.9**
ASAR	comp=Z,0.8nm,0.5s,baz=64,slow=3.3,SNR=7.2			LR	LR	05 46 03.1	
MORW	comp=Z,52nm,18.6s,baz=75,slow=33 **Morawa**	**50.11**	**242**	P	**P**	**05 36 24.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**73.23**	**293**	P	**P**	**05 39 02.5**	**+1.6**
QSPA	comp=Z,0.9nm,0.3s,baz=107,slow=4.5,SNR=8.0 **South Pole Qui**	**78.28**	**180**	P	**P**	**05 39 27.5**	**-1.5**
SONM	**Songino Array**	**79.76**	**324**	P	**P**	**05 39 38.5**	**+1.1**
ILAR	comp=Z,0.9nm,0.3s,baz=140,slow=5.9,SNR=15 **Eielson Array**	**83.87**	**18**	P	**P**	**05 39 59.0**	**+0.7**
ZALV	comp=Z,1.2nm,1.0s,baz=230,slow=6.9,SNR=7.2 **Zalesovo Beam**	**94.65**	**324**	P	**P**	**05 40 49.7**	**0.0**
MK31	comp=Z,0.3nm,0.3s,baz=120,slow=5.3,SNR=3.8 **Makanchi Array**	**94.65**	**317**	P	**P**	**05 40 50.2**	**+0.2**
MK31	comp=Z,1.8nm,0.8s			IAmb	IAmb	05 40 51.5	
MKAR	**Makanchi Array**	**94.65**	**317**	P	**P**	**05 40 50.3**	**+0.3**
MKAR	comp=Z,1.4nm,0.6s,baz=84,slow=6.5,SNR=22			pP	**sP**	**05 41 22.4**	**-4.2**
	comp=Z,0.4nm,0.7s,baz=99,slow=5.6,SNR=2.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**95.16**	**27**	P	**P**	**05 40 51.1**	**-0.8**
ARCES	comp=Z,0.3nm,0.9s,baz=259,slow=5.0,SNR=6.6 **ARCESS Array B**	**117.22**	**346**	PKP	**PKPdf**	**05 46 12.7**	**-0.5**
FINES	comp=Z,0.9nm,0.4s,baz=95,slow=2.2,SNR=23 **FINESS Array B**	**122.74**	**339**	PKP	**PKPdf**	**05 46 22.5**	**-1.5**
KEST	comp=Z,1.3nm,0.8s,baz=194,slow=3.9,SNR=4.3 **Kesra**	**148.51**	**323**	PKPbc	**PKPbc**	**05 47 16.5**	**+0.7**
ESDC	comp=Z,4.5nm,0.8s,baz=267,slow=2.9,SNR=6.1 **Sonseca Array**	**150.96**	**345**	PKPbc	**PKPbc**	**05 47 22.4**	**+0.7**
TORD	comp=Z,1.0nm,0.9s,baz=36,slow=0.4,SNR=5.2 **Torodi Ar. Bea**	**165.27**	**277**	PKP	**PKPdf**	**05 47 33.3**	**-0.5**
	comp=Z,1.6nm,1.0s,baz=90,slow=1.4,SNR=4.6						

*SFS **29** 05:35:35.0, 35°.68N×3°.73W, ML2.5, ALBORAN SUR*
*IGIL **29** 05:35:37.5, 35°.69N×3°.73W, h0km*
*CNRM **29** 05:35:38.6, 35°.65N×3°.70W, h35km, ml2.6*
ISC 29 05:35:37.1±1.4, 35°.72N±0°.05×3°.58W±0°.05, h35km, n12, σ1§66/18, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.58**	**211**	P	**Pn**	**05 35 48.5**	**-0.4**
PALE				S	**Sn**	**05 35 55.3**	**-2.0**
GOG	**Mont Gurugu**	**0.69**	**136**	P	**Pn**	**05 35 50.5**	**+0.1**
CHAS	**Isla Isabel II**	**1.08**	**120**	P	**Pn**	**05 35 55.1**	**-0.5**
CHAS				S	**Sn**	**05 36 09.1**	**-0.2**
AKLM	**AKL**	**1.23**	**191**	P	**Pn**	**05 35 59.0**	**+1.1**
AKLM				S	**Sn**	**05 36 13.6**	**+0.2**
EMAL	**Malaga-Limoner**	**1.25**	**327**	P	**Pn**	**05 35 57.9**	**-0.1**
CHEFC	**Chefchaouen**	**1.57**	**247**	P	**Pn**	**05 36 04.2**	**+1.7**
JBK	**JBK**	**1.61**	**149**	P	**Pn**	**05 36 04.3**	**+1.1**
JBK				S	**Sn**	**05 36 23.2**	**+0.4**
MD31	**MD31**	**3.01**	**199**	P	**Pn**	**05 36 24.1**	**+1.7**
MDT	**Midelt**	**3.02**	**197**	P	**Pn**	**05 36 24.1**	**+1.6**
PVAQ	**Vaqueiros**	**3.73**	**298**	P	**Pn**	**05 36 33.3**	**+1.1**
PVAQ				S	**Sn**	**05 37 14.4**	**-0.4**
MESJ	**Messejana**	**4.29**	**301**	*e*P	**Pn**	**05 36 40.8**	**+1.1**
OUK	**Oukaimeden**	**5.76**	**220**	P	**Pn**	**05 37 01.7**	**+1.4**
OUK				S	**Sn**	**05 38 00.7**	**-4.6**

*IDC **29** 05:35:48.9±1.4, 43°.28N×130°.85E, h583km±15km, mb2.8/8, mb1 2.9/11, mb1mx2.6/69, mbtmp3.8/11, Error ellipse: s-maj=37.5km s-min=19.7km az=161.0*
ISC 29 05:35:48.8±1.2, 43°.5N±0°.1×130°.6E±0°.2, h550km, n12, σ2§01/12, mb3.3/8, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**1.22**	**53**	P	**P**	**05 36 58.3**	**+2.8**
KLR	baz=232,slow=2.0,SNR=18 **Kul'dur**	**5.81**	**7**	P	**P**	**05 37 29.1**	**+3.7**
KSRS	2.0nm,0.3s,baz=198,slow=8.7,SNR=28 **Korea Array**	**6.36**	**200**	P	**P**	**05 37 31.5**	**+0.8**
SONM	0.4nm,0.3s,baz=20,slow=8.9,SNR=4.4 **Songino Array**	**17.46**	**293**	P	**P**	**05 39 23.8**	**+2.1**
MKAR	0.2nm,0.3s,baz=102,slow=8.7,SNR=5.9 **Makanchi Array**	**33.83**	**293**	P	**P**	**05 41 45.8**	**+0.2**
KURBB	0.5nm,0.6s,baz=88,slow=12,SNR=4.5 **Kurchatov Arra**	**35.57**	**300**	P	**P**	**05 42 00.1**	**+0.1**
BVAR	2.0nm,0.7s,baz=83,slow=8.5,SNR=4.2 **Borovoye Array**	**40.12**	**306**	P	**P**	**05 42 36.7**	**-0.3**
ARCES	0.9nm,0.4s,baz=66,slow=15,SNR=5.3 **ARCESS Array B**	**54.90**	**335**	P	**P**	**05 44 26.5**	**-0.8**
RES	1.7nm,0.7s,baz=70,slow=8.7,SNR=3.6 **Resolute Bay**	**58.30**	**13**	P	**P**	**05 44 49.4**	**-1.2**
FINES	0.7nm,0.6s,baz=307,slow=5.1,SNR=4.3 **FINESS Array B**	**59.11**	**327**	P	**P**	**05 44 55.0**	**-1.2**
YKA	0.7nm,0.4s,baz=50,slow=6.0,SNR=8.9 **Yellowknife Ar**	**62.25**	**28**	P	**P**	**05 45 15.3**	**-1.5**
AKASG	0.1nm,0.4s,baz=313,slow=6.2,SNR=8.6 **Malin Array Be**	**64.05**	**316**	P	**P**	**05 45 26.6**	**-2.0**
	0.4nm,0.4s,baz=50,slow=6.7,SNR=4.8						

*ISN **29** 05:35:45.1±1.2, 28°.63N×47°.46E, h0km±768km, ML3.5*
*TEH **29** 05:35:47.0, 28°.77N×47°.46E, h10km, ML3.7*
*IDC **29** 05:35:48.8±6.5, 28°.40N×47°.83E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/52, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=139.0km s-min=43.7km az=7.0*
ISC 29 05:35:52.9±1.6, 28°.9N±0°.1×47°.60E±0°.10, h13km, n36, σ1§53/39, mb3.6/4, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAFI	**Al-Rafai**	**3.12**	**336**	*e*Pn	**Pn**	**05 36 39.5**	**-2.4**
RAFI				*e*Sn	**Sn**	**05 37 19.0**	**-0.1**
RAFI				AML	AML	05 37 39.7	
IBRJ	comp=E,222nm,0.4s **Brojen**	**4.38**	**45**	*e*		05 38 19.2	
AMIS	comp=Z,404nm,0.9s **Naft Sefid**	**3.15**	**27**	*e*Pn	**Pn**	**05 36 41.8**	**-0.4**
KLNJ	**Kolanjah**	**4.07**	**57**	*e*Pn	**Pn**	**05 36 54.6**	**-0.6**
KLNJ				*e*		05 38 10.7	
IBRJ	comp=Z,823nm,1.2s **Brojen**	**4.38**	**45**	*e*		05 38 19.2	
SHK1	comp=Z,404nm,0.9s **Shahrekord**	**4.46**	**39**	*e*Pn	**Pn**	**05 36 59.6**	**-0.9**
IBDR	**Badra**	**4.47**	**342**	*e*Pn	**Pn**	**05 36 59.0**	**-1.3**
IBDR				*e*Sn	**Sn**	**05 37 53.0**	**+0.8**
IKFM	**Kafar-mosalman**	**4.65**	**3**	*e*Pn	**Pn**	**05 37 02.0**	**-0.8**
IKFM				*e*		05 38 36.8	
IPIR	comp=Z,757nm,0.6s **Pirpir**	**4.74**	**36**	*e*Pn	**Pn**	**05 37 04.0**	**-0.4**
IPIR				*e*		05 38 26.5	
GHIR	comp=Z,429nm,0.7s **Ghir-Karzin**	**4.77**	**96**	*e*Pn	**Pn**	**05 37 01.5**	**-3.2**
IDOB	**Doab**	**4.93**	**6**	*e*Pn	**Pn**	**05 37 05.6**	**-1.3**
IRAM	**Ramesheh**	**5.07**	**53**	*e*Pn	**Pn**	**05 37 08.1**	**-0.7**
BHD	**Baghdad**	**5.19**	**329**	*e*Pn	**Pn**	**05 37 08.0**	**-2.2**
BHD				*e*Sn	**Sn**	**05 38 09.0**	**-0.9**
KHMZ	**Khomeyn**	**5.26**	**22**	*e*Pn	**Pn**	**05 37 09.8**	**-1.7**
IGHG	**Ghaleghazi**	**5.52**	**351**	*e*Pn	**Pn**	**05 37 14.0**	**-1.0**
IGHG				*e*		05 38 19.7	
IBZA	comp=Z,635nm,0.6s **Bozab**	**5.59**	**2**	*e*Pn	**Pn**	**05 37 14

YKA Yellowknife Ar 149.69 352 PKPbc PKPbc 06 08 40.5 -0.4
0.5nm,0.7s,baz=16,slow=2.0,SNR=19

DJA 29 05:56:12.2±0.7,8°S±10°×10°7E±°,h48km±14km,M3.8/8, mb4.2/1,mB5.0/1,MLv3.6/8,Mw(mB)4.3/1,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.71**	**337**	P	Pn	05 56 26.9	+0.8
CNJI				S	Sn	05 56 38.3	+2.2
CMJI	**Cimerak**	**1.04**	**80**	P	Pn	05 56 30.5	0.0
CMJI				S	Sn	05 56 44.1	+0.1
LEM	**Lembang**	**1.15**	**10**	P	Pn	05 56 31.9	-0.3
DBJI	**Dramaga**	**1.55**	**335**	P	Pn	05 56 37.8	+0.4
KPJI	**Karang Pucung**	**1.64**	**67**	P	Pn	05 56 38.5	0.0
TNG	**Tangerang**	**1.94**	**337**	P	Pn	05 56 43.2	+0.5
CGJI	**Cibinong**	**2.17**	**308**	P	Pn	05 56 45.6	-0.3
CGJI				S	Sn	05 57 11.5	-0.1
UGM	**Wanagama**	**3.08**	**89**	P	Pn	05 56 58.6	+0.1
PCJI	**Pacitan**	**3.74**	**94**	P	Pn	05 57 07.4	0.0

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*NNC **29** 06:00:21.7±1.3,54°52N×86°29E,h0km,mb2.8,mpv2.6, Error ellipse: s-maj=34.1km s-min=7.2km az=150.0, Suspected Mining explosion.*
*IDC **29** 06:00:25.3±2.4,54°18N×86°34E,h0km,mb1 3.0/2, mb1mx2.4/51,mbtmp3.0/2,ML2.8/2,Error ellipse: s-maj=19.6km s-min=11.3km az=60.0*

ISC 29 06:00:21.3±3.0,53°23N±0°07×86°0E±0°2,h0km,n8, σ0s70/8,4C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.01**	**316**	⇑P	**Pb**	**06 00 41.3**	**-0.3**
	0.2nm,0.2s						
ZAA0				⇓S	**Sb**	**06 00 56.0**	**+0.5**
	1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**1.01**	**316**	Pg	**Pb**	**06 00 41.5**	**-0.2**
	2.6nm,0.3s,baz=73,slow=17,SNR=34						
ZALV				Lg	Lg	06 00 56.5	
	6.4nm,0.3s,baz=78,slow=30,SNR=43						
ZALV				Rg	Rg	06 01 00.0	
	44nm,1.1s,baz=73,slow=30,SNR=11						
I46RU	**ZALESOVO INFRA**	**1.01**	**316**	*i*		06 05 50.0	
	baz=72,slow=341,SNR=44						
KURK	**Kurchatov**	**5.21**	**244**	⇓Pn	**Pb**	**06 01 52.3**	**-0.9**
	0.6nm,0.5s						
KURK				⇑Lg	Lg	06 03 31.9	
	6.8nm,1.5s						
KURBB	**Kurchatov Arra**	**5.31**	**244**	Pn	**Pb**	**06 01 55.8**	**+0.9**
	0.1nm,0.3s,baz=54,slow=14,SNR=8.5						
KURBB	**Kurchatov Arra**	**5.31**	**244**	⇑Pn	**Pb**	**06 01 54.3**	**-0.6**
	0.9nm,0.3s						
KURBB				⇑Lg	Lg	06 03 36.2	
	4.9nm,0.8s						
MK31	**Makanchi Array**	**6.87**	**202**	Pn	**Pb**	**06 02 21.6**	**+0.1**
	0.2nm,0.5s,baz=27,slow=13,SNR=11						
MK31				Lg	Lg	06 04 38.3	
	4.0nm,1.2s,baz=46,slow=24,SNR=6.0						
MKAR	**Makanchi Array**	**6.87**	**202**	Pn	**Pb**	**06 02 21.4**	**-0.2**
	0.2nm,0.3s,baz=24,slow=13,SNR=11						
MKAR				Lg	Lg	06 04 33.4	
	0.1nm,0.3s,baz=27,slow=30,SNR=9.4						

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*CNRM **29** 06:25:49.5,35°50N×3°71W,h21km,ml3.7*
*IDC **29** 06:25:49.4±1.5,35°48N×4°59W,h0km,mb3.5/2,mb1 3.6/4, mb1mx3.3/45,mbtmp3.4/4,ML3.0/2,Error ellipse: s-maj=83.7km s-min=20.2km az=83.0*
*IGIL **29** 06:25:50.3,35°49N×3°81W,h0km,ML2.6*
*LDG **29** 06:25:51.6±0.5,35°48N×3°69W,h10km,Ml2.6/1,Error ellipse: s-maj=10.1km s-min=5.6km az=1.0*

ISC 29 06:25:48.6±2.1,35°52N±0°03×3°76W±0°03,h8km±15km, n30,σ1s98/41,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**207**	P	**Pb**	**06 25 56.1**	**-0.7**
PALE				S	**Sb**	**06 26 00.4**	**-1.9**
GOG	**Mont Gurugu**	**0.69**	**115**	P	**Pb**	**06 26 02.5**	**-0.4**
GOG				S	**Sb**	**06 26 11.6**	**-1.0**
AKLM	**AKL**	**1.01**	**185**	P	**Pb**	**06 26 08.2**	**-0.2**
AKLM				S	**Sb**	**06 26 20.6**	**-1.2**
CHAS	**Isla Isabel II**	**1.13**	**107**	S	**Sg**	**06 26 23.3**	**-1.8**
EMAL	**Malaga-Limoner**	**1.36**	**336**	S	**Sn**	**06 26 28.9**	**-3.1**
CHEFC	**Chefchaouen**	**1.36**	**253**	P	**Pn**	**06 26 14.1**	**+0.2**
CHEFC				S	**Sb**	**06 26 30.2**	**-1.7**
CEU	**Ceuta**	**1.37**	**287**	S	**Sb**	**06 26 26.9**	**-5.2**
JBK	**JBK**	**1.53**	**140**	P	**Pn**	**06 26 15.0**	**-1.4**
JBK				S	**Sn**	**06 26 32.7**	**-3.8**
SICH	**Sidi Chahed**	**1.91**	**223**	P	**Pb**	**06 26 23.6**	**-0.1**
SICH				S	**Sb**	**06 26 47.9**	**+0.3**
LCRM	**LCR**	**2.04**	**207**	P	**Pn**	**06 26 23.3**	**-0.1**
LCRM				S	**Sb**	**06 26 50.3**	**-1.3**
IFR	**Ifrane**	**2.29**	**210**	S	**Sn**	**06 26 53.3**	**-2.1**
MD31	**MD31**	**2.77**	**198**	P	**Pn**	**06 26 33.6**	**+0.3**
MD31				S	**Sn**	**06 27 07.0**	**0.0**
MDT	**Midelt**	**2.79**	**195**	Pn	**Pn**	**06 26 33.5**	**-0.1**
	1.4nm,0.3s,baz=217,slow=10.0,SNR=40						
MDT				Sn	**Sn**	**06 27 07.7**	**+0.3**
	11nm,0.3s,baz=157,slow=13,SNR=7.6						
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**06 26 33.4**	**-0.1**
MDT				S	**Sn**	**06 27 06.6**	**-0.8**
CART	**Cartagena**	**3.03**	**46**	P	**Pn**	**06 26 36.9**	**+0.1**
CART				S	**Sn**	**06 27 10.7**	**-2.5**
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**06 26 47.6**	**+1.4**
PVAQ				S	**Sn**	**06 27 29.6**	**-0.4**
FIGM	**Figuig**	**3.96**	**148**	P	**Pn**	**06 26 49.9**	**+0.2**
ESDC	**Sonseca Array**	**4.15**	**358**	Pn	**Pn**	**06 26 55.2**	**+2.9**
	0.5nm,0.3s,baz=182,slow=12,SNR=21						
MESJ	**Messejana**	**4.27**	**304**	*e*P	**Pn**	**06 26 54.4**	**+0.5**
MESJ				*e*S	**Sn**	**06 27 41.1**	**-2.7**
MESJ				IAML		06 27 46.8	
	comp=N,12nm,0.6s						
EVO	**Evora**	**4.54**	**313**	S	**Sn**	**06 27 50.0**	**-0.6**
OUK	**Oukaimeden**	**5.50**	**220**	P	**Pn**	**06 27 10.7**	**-0.5**
ETSF	**Etsaut**	**7.78**	**18**	*e*Pn	**Pn**	**06 27 43.0**	**+0.9**
ETSF	**Etsaut**	**7.78**	**18**	*e*P	Pn	06 27 49.0	+6.9
SJPF	**Ste Jean**	**7.83**	**14**	*e*Pn	**Pn**	**06 27 44.1**	**+1.3**
SJPF	**Ste Jean**	**7.83**	**14**	*e*P	Pn	06 27 49.2	+6.4
SJPF				*e*Sn	**Sn**	**06 29 08.2**	**-3.5**
	comp=N,0.4nm,0.3s						
EPF	**Esparros**	**8.15**	**22**	*e*Pn	**Pn**	**06 27 48.6**	**+1.5**
EPF	**Esparros**	**8.15**	**22**	*e*P	Pn	06 27 53.3	+6.2
PGF	**Pioggiola**	**12.14**	**51**	*e*P	**Pn**	**06 28 45.9**	**+4.0**
TORD	**Torodi Ar. Bea**	**22.81**	**166**	P	**P**	**06 30 55.7**	**+3.8**
	comp=N,0.6nm,0.7s,baz=334,slow=13,SNR=3.9						
YKA	**Yellowknife Ar**	**67.83**	**332**	P	**P**	**06 36 47.0**	**+0.3**
	comp=N,0.5nm,0.8s,baz=60,slow=6.3,SNR=6.0						

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*IDC **29** 06:42:23.6±2.3,2°37S×129°68E,h0km,mb3.6/2, mb1 3.8/3,mb1mx3.4/38,mbtmp3.6/3,ML3.0/1,MS2.6/1, Ms1 2.6/1,ms1mx2.1/50,Error ellipse: s-maj=150.0km s-min=26.7km az=70.0*
*DJA **29** 06:42:29.9±0.9,4°S±6°×12°7E±°,h10km,M3.5/7,mb4.0/1, MLv3.3/7*

ISC 29 06:42:31.2±1.4,4°0S±0°1×127°20E±0°08,h35km,n9, σ2s45/8,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.03**	**74**	P	**Pn**	**06 42 49.0**	**-0.1**
AAI				S	**Sn**	**06 43 02.4**	**+0.1**
MSAI	**Masohi**	**1.83**	**70**	P	**Pn**	**06 42 56.7**	**-3.5**
SANI	**Sanana**	**2.26**	**327**	P	**Pn**	**06 43 04.6**	**-1.4**
LBMI	**Labuha**	**3.32**	**5**	P	**Pn**	**06 43 23.2**	**+2.5**
FAKI	**Fak Fak**	**5.14**	**79**	P	**Pn**	**06 43 46.9**	**+1.1**
WRA	**Warramunga Arr**	**17.34**	**157**	P	**P**	**06 46 34.2**	**+2.5**
	0.1nm,0.3s,baz=345,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**20.63**	**162**	P	Pn	06 47 15.0	+4.8
	3.0nm,0.8s,baz=345,slow=12,SNR=30						
KSRS	**Korea Array**	**41.21**	**1**	LR	LR	07 06 43.3	
	comp=Z,7.9nm,19.1s,baz=230,slow=37						
MKAR	**Makanchi Array**	**64.18**	**327**	P	**P**	**06 53 00.9**	**-1.5**
	0.2nm,0.5s,baz=122,slow=7.5,SNR=6.0						

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*NEIC **29** 06:44:36.9±0.8,19°4N±0°1×64°8W±0°2,h39km±56km, Error ellipse: s-maj=22.5km s-min=13.3km az=118.0*
*RSPR **29** 06:44:38.3,19°43N×64°83W,h40km±18km,MD3.6/7*

ISC 29 06:44:37.6±3.0,19°3N±0°2×64°87W±0°09,h23km,n43, σ0s46/43,12C-3D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.95**	**165**	⇑*e*P	**Pb**	**06 44 55.4**	**+0.1**
TBVI	**Tortola**	**0.95**	**165**	*e*S	**Sn**	**06 45 08.5**	**+0.2**
STVI	**Saint Thomas**	**0.98**	**184**	⇑*e*P	**Pb**	**06 44 55.5**	**-0.4**
STVI	**Saint Thomas**	**0.98**	**184**	*e*S	**Sn**	**06 45 09.6**	**+0.5**
STVI	**Saint Thomas**	**0.98**	**184**		**Pb**	**06 44 55.5**	**-0.4**
STVI					**Sn**	**06 45 09.6**	**+0.5**
CUPR	**Culebra, Puert**	**1.09**	**201**	⇑*e*P	**Pb**	**06 44 57.2**	**-0.7**
CUPR	**Culebra, Puert**	**1.09**	**201**	*e*S	**Sn**	**06 45 12.7**	**+0.8**
CUPR	**Culebra, Puert**	**1.09**	**201**		**Pb**	**06 44 57.2**	**-0.7**
CUPR					**Sn**	**06 45 12.7**	**+0.8**
CUPR	**Culebra, Puert**	**1.09**	**201**	IAML		06 45 15.6	
	comp=N,119nm,0.5s						
CBYP	**Canovanas**	**1.41**	**221**	⇓*e*P	**Pn**	**06 45 01.7**	**-0.2**
CBYP	**Canovanas**	**1.41**	**221**	*e*S	**Sn**	**06 45 20.2**	**+0.4**
CBYP	**Canovanas**	**1.41**	**221**		**Pn**	**06 45 01.7**	**-0.2**
CBYP					**Sn**	**06 45 20.2**	**+0.4**
GCPR	**Guaynabo City**	**1.54**	**228**	⇑*e*P	**Pn**	**06 45 03.1**	**-0.5**
GCPR	**Guaynabo City**	**1.54**	**228**	*e*S	**Sn**	**06 45 22.8**	**0.0**
GCPR	**Guaynabo City**	**1.54**	**228**		**Pn**	**06 45 03.1**	**-0.5**
GCPR					**Sn**	**06 45 22.8**	**0.0**
PDPR	**Patillas Dam,**	**1.71**	**220**		**Pn**	**06 45 05.7**	**-0.2**
PDPR				IAML		06 45 38.6	
	comp=E,54nm,0.9s						
EMPR	**Esperanza - Ma**	**1.79**	**242**	⇑*e*P	**Pn**	**06 45 06.9**	**-0.1**
EMPR	**Esperanza - Ma**	**1.79**	**242**		**Pn**	**06 45 06.9**	**-0.1**
EMPR	**Esperanza - Ma**	**1.79**	**242**	IAML		06 45 45.9	
	comp=E,96nm,0.8s						
EMPR				IAML		06 46 10.9	
	comp=N,102nm,2.4s						
IGPR	**InterUniversit**	**1.80**	**221**	⇑*e*P	**Pn**	**06 45 07.2**	**0.0**
IGPR	**InterUniversit**	**1.80**	**221**	*e*S	**Sn**	**06 45 29.6**	**+0.3**
IGPR	**InterUniversit**	**1.80**	**221**		**Sn**	**06 45 29.6**	**+0.3**
AOPR	**Arecibo Observ**	**2.04**	**241**	⇑*e*P	**Pn**	**06 45 10.1**	**-0.4**
AOPR	**Arecibo Observ**	**2.04**	**241**		**Pn**	**06 45 10.1**	**-0.4**
AOPR	**Arecibo Observ**	**2.04**	**241**	IAML		06 45 46.2	
	comp=N,102nm,0.4s						
CELP	**Cerrillos**	**2.05**	**232**	⇑*e*P	**Pn**	**06 45 11.0**	**+0.4**
CELP	**Cerrillos**	**2.05**	**232**	*e*S	**Sn**	**06 45 35.9**	**+0.4**
CELP	**Cerrillos**	**2.05**	**232**		**Pn**	**06 45 11.0**	**+0.4**
CELP					**Sn**	**06 45 35.9**	**+0.4**
UUPR	**Utuado, UPR, P**	**2.06**	**239**	⇑*e*P	**Pn**	**06 45 10.5**	**-0.2**
UUPR	**Utuado, UPR, P**	**2.06**	**239**		**Pn**	**06 45 10.5**	**-0.2**
OBIP	**Obispado Ponce**	**2.09**	**232**	⇓*e*P	**Pn**	**06 45 11.5**	**+0.3**
OBIP	**Obispado Ponce**	**2.09**	**232**		**Pn**	**06 45 11.5**	**+0.3**
AGPR	**Aguadilla, PR**	**2.29**	**248**	⇑*e*P	**Pn**	**06 45 14.1**	**+0.2**
AGPR	**Aguadilla, PR**	**2.29**	**248**		**Pn**	**06 45 14.1**	**+0.2**
AGPR	**Aguadilla, PR**	**2.29**	**248**	IAML		06 45 55.1	
	comp=E,88nm,2.3s						
LSP	**Las Mesas**	**2.39**	**242**	⇓*e*P	**Pn**	**06 45 16.0**	**+0.6**
MLPR	**Magueyes Islan**	**2.47**	**237**	⇑*e*P	**Pn**	**06 45 15.7**	**-0.7**
MLPR	**Magueyes Islan**	**2.47**	**237**	*e*S	**Sn**	**06 45 46.8**	**+1.0**
MLPR	**Magueyes Islan**	**2.47**	**237**		**Pn**	**06 45 15.7**	**-0.7**
MLPR					**Sn**	**06 45 46.8**	**+1.0**
MLPR	**Magueyes Islan**	**2.47**	**237**	IAML		06 46 21.3	
	comp=N,33nm,2.9s						
MLPR				IAML		06 46 46.1	
	comp=E,30nm,3.3s						
CRPR	**Cabo Rojo, PR**	**2.50**	**238**	⇑*e*P	**Pn**	**06 45 16.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.50**	**238**		**Pn**	**06 45 16.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.50**	**238**	IAML		06 45 56.4	
	comp=N,48nm,3.6s						
CRPR				IAML		06 46 50.9	

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*TUL **29** 06:51:34.3±0.7,36°60N±0°02×97°62W±0°02,h5km±8km, ML2.7,mb_Lg2.4/8(NEIC),Error ellipse: s-maj=2.5km s-min=1.9km az=170.0*

NEIC 29 06:51:34.4±0.5,36°58N±0°02×97°61W±0°02,h4km±6km, Error ellipse: s-maj=3.5km s-min=1.4km az=47.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.31**	**256**		Pg	06 51 40.6	+0.3
GC02	**Grant County #**	**0.34**	**324**	Pg	Pg	06 51 40.9	0.0
BLOK	**Blackwell**	**0.37**	**60**	Pg	Pg	06 51 41.8	+0.3
KAN13	**South Haven SW**	**0.45**	**14**	Pg	Pg	06 51 42.9	-0.1
KAN14	**Manchester OK**	**0.47**	**323**		Pg	06 51 43.3	-0.1
KAN17	**Caldwell West**	**0.48**	**345**	Pg	Pg	06 51 43.5	-0.1
OK032	**Salt Plains WL**	**0.53**	**295**	Pg	Pg	06 51 44.4	-0.1
KAN01	**Argonia South**	**0.59**	**348**		Pg	06 51 45.4	-0.3
KAN06	**Argonia West S**	**0.70**	**344**		Pg	06 51 47.4	-0.4
KAN08	**Anthony NE Sta**	**0.71**	**336**	Pg	Pg	06 51 47.7	-0.3
OK033	**Mehan**	**0.76**	**134**		Pg	06 51 49.2	+0.2
QUOK	**Quay**	**0.83**	**119**		Pg	06 51 50.5	+0.1
OK031	**S. Brethren Rd**	**0.88**	**135**		Pg	06 51 51.4	+0.1
OK034	**N. Norfolk Rd.**	**0.92**	**128**		Pg	06 51 52.1	+0.1
OK030	**Cody Creek RV**	**0.93**	**134**		Pg	06 51 52.4	+0.1
T35A	**Sooner Cattle**	**0.95**	**69**	Pg	Pg	06 51 52.6	+0.1
OK025	**Westminster Rd**	**1.02**	**167**	Pg	Pg	06 51 54.0	0.0
OKCFA	**Oklahoma City**	**1.17**	**174**		Pg	06 51 56.5	-0.2
OKCSW	**OKLAHOMA CITY**	**1.18**	**173**	Pg	Pg	06 51 56.6	-0.3
FNO	**Franklin**	**1.33**	**173**		Pn	06 51 59.3	-0.5
W35A	**Tecumseh**	**1.54**	**157**		Pn	06 52 02.7	-0.1
TUL1	**Leonard**	**1.62**	**114**		Pn	06 52 03.9	+0.2
TUL1				IAmb_Lg		06 52 28.2	
	comp=Z,18nm,0.9s						
X34A	**Smith Ranch, M**	**1.98**	**185**		Pb	06 52 09.9	-1.1
WMOK	**Wichita Mounta**	**2.07**	**208**		Pn	06 52 10.5	+0.5
MGMO	**Mountain Grove**	**4.32**	**81**	IAmb_Lg		06 53 52.4	
	comp=Z,8.9nm,0.8s						
PBMO	**Poplar Bluff**	**5.78**	**86**	IAmb_Lg		06 54 38.8	
	comp=Z,4.7nm,0.8s						
JCT	**Junction City**	**6.35**	**197**	IAmb_Lg		06 55 07.2	
	comp=Z,5.2nm,1.1s						

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*NEIC **29** 07:07:49.8±1.8,17°67N±0°05×128°60E±0°06,h10km±1km, mb4.9/51,Error ellipse: s-maj=10.1km s-min=8.0km az=62.0*
*IDC **29** 07:07:54.1±2.6,1°84N×128°71E,h45km±27km,mb4.2/23, mb1 4.3/25,mb1mx4.0/49,mbtmp4.4/25,ML4.5/2,MS3.5/9, Ms1 3.6/9,ms1mx3.1/73,Error ellipse: s-maj=19.8km s-min=12.9km az=75.0*
*BJI **29** 07:07:55.0±0.0,1°50N×128°50E,h71km,mb4.5/41, mB4.9/20,Ms4.4/4,Ms7 4.1/3*
*DJA **29** 07:07:55.3±0.3,2°N±2°×12°9E±°,h45km±3km,M4.7/37, mb4.8/37,mB5.2/17,MLv4.6/12,Mw(mB)4.6/17*

ISC 29 07:07:53.4±0.3,1°72N±0°05×128°69E±0°05,h35km,n174, σ1s85/164,mb4.7/69,MS3.5/9,3C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.63**	**234**	P	**Pn**	**07 08 20.5**	**+0.9**
TNTI				S	**Sn**	**07 08 43.0**	**+3.7**
TNTI	**Ternate**	**1.63**	**234**	Pn	**Pn**	**07 08 18.3**	**-1.3**
TNTI				Sn	**Sn**	**07 08 35.0**	**-4.3**
LBMI	**Labuha**	**2.63**	**207**	P	**Pn**	**07 08 36.3**	**+2.9**
LBMI				S	**Sn**	**07 09 09.6**	**+5.5**
SWI	**Sorong**	**3.63**	**135**	P	**Pn**	**07 08 47.5**	**+0.3**
SWI				S	**Sn**	**07 09 29.9**	**+1.0**
SIJI	**Sorong**	**3.64**	**135**	P	**Pn**	**07 08 47.3**	**0.0**
	25nm,0.3s,baz=334,slow=21,SNR=25						
SIJI				S	**Sn**	**07 09 30.2**	**+1.1**
	8.5nm,0.3s,baz=177,slow=22,SNR=16						
SGSI	**Sangihe**	**3.71**	**302**	P	**Pn**	**07 08 52.3**	**+4.0**
SANI	**Sanana**	**4.62**	**216**	P	**Pn**	**07 09 04.3**	**+3.5**
KMSI	**Cibinong**	**4.85**	**256**	P	**Pn**	**07 09 06.4**	**+2.5**
MSAI	**Masohi**	**5.04**	**177**	P	**Pn**	**07 09 09.5**	**+2.9**
	0.3nm1μm11nm,0.5s						
GTOI	**Gorontalo**	**5.78**	**259**	P	**Pn**	**07 09 21.3**	**+4.5**
	0.2nm760nm48nm,0.6s						
FAKI	**Fak Fak**	**5.82**	**142**	P	**Pn**	**07 09 17.8**	**+0.4**
	0.3nm51nm,1.0s						
FAKI	**Fak Fak**	**5.82**	**142**	Pn	**Pn**	**07 09 17.5**	**+0.1**
KCP	**Kidapawan**	**6.36**	**326**	⇑*i*P	**Pn**	**07 09 27.8**	**+3.0**
MRSI	**Marisa**	**6.86**	**260**	P	**Pn**	**07 09 35.2**	**+3.6**
	0.5nm1μm134nm,0.6s						
BUKP	**Musuan**	**7.10**	**330**	⇑*i*P	**Pn**	**07 09 39.4**	**+4.4**
APSI	**Ampana**	**7.51**	**250**	P	**Pn**	**07 09 42.5**	**+2.0**
	0.7nm2μm238nm,1.0s						
TOLI2	**Tolitoli**	**7.93**	**266**	Pn	**Pn**	**07 09 45.5**	**-0.8**
BAKI	**Biak**	**7.96**	**111**	P	**Pn**	**07 09 50.2**	**+3.5**
MPSI	**Mapaga**	**8.90**	**261**	P	**Pn**	**07 10 02.9**	**+3.3**
	1μm58nm,1.2s						
TTSI	**Tana Toraja**	**10.05**	**242**	P	**Pn**	**07 10 16.9**	**+1.5**
	167nm,0.9s						
BNSI	**Bone**	**10.52**	**235**	P	**Pn**	**07 10 24.0**	**+2.2**
	994nm87nm,0.9s						
SPSI	**Sidrap Palu**	**10.56**	**238**	P	**Pn**	**07 10 24.4**	**+2.1**
	1μm193nm,1.1s						
SMPI	**Sarmi**	**10.68**	**110**	P	**Pn**	**07 10 26.5**	**+2.6**
	35nm,1.0s						
MYLDM	**Lahad Datu**	**10.73**	**289**	Pn	**Pn**	**07 10 23.7**	**-1.0**
BKSI	**Bulukumba**	**11.06**	**231**	P	**Pn**	**07 10 32.3**	**+3.1**
	654nm38nm,0.5s						
KAPI	**Kappang**	**11.16**	**233**	P	**Pn**	**07 10 32.7**	**+2.1**
	3.9nm,0.3s,baz=116,slow=5.0,SNR=22						
KAPI				LR	LR	07 15 04.5	
	comp=Z,111nm,20.5s,baz=77,slow=38						
KAPI	**Kappang**	**11.16**	**233**	Pn	**Pn**	**07 10 27.7**	**-2.9**
MMRI	**Maumere**	**12.14**	**212**	Pn	Pn	07 10 38.0	-5.9
SOEI	**Soe**	**12.22**	**201**	Pn	Pn	07 10 40.2	-5.1
MTKI	**Muara Teweh, K**	**14.05**	**259**	P	**Pn**	**07 11 13.3**	**+3.2**
MTN	**Manton Dam**	**14.67**	**171**	Pn	**Pn**	**07 11 16.2**	**-2.3**
BBKI	**Banjar Baru**	**14.77**	**250**	P	**Pn**	**07 11 22.1**	**+2.2**
	10μm45nm,1.1s						
SBUM	**Sibu**	**16.48**	**273**	Pn	**Pn**	**07 11 39.9**	**-2.2**
JAGI	**Jajag, Banyuwa**	**17.68**	**235**	P	**P**	**07 12 00.4**	**+2.6**
	58nm,1.1s						
JAGI	**Jajag, Banyuwa**	**17.68**	**235**	P	**Pn**	**07 11 55.9**	**-1.2**
JAGI				IAmb	IAmb	07 12 08.7	
	comp=Z,48nm,0.9s						
BLJI	**Banyuglugur**	**17.75**	**238**	P	**P**	**07 12 01.4**	**+2.8**
	comp=Z,1μmcomp=Z,34nm,0.8s						
GMJI	**Gumukmas**	**18.16**	**237**	P	**P**	**07 12 06.3**	**+3.3**
	comp=Z,1μmcomp=Z,48nm,1.2s						
KSM	**Kuching**	**18.38**	**269**	P	**P**	**07 12 03.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**19.93**	**189**	P	**Pn**	**07 12 24.0**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=359,slow=12,SNR=2.8						
PCJI	**Pacitan**	**20.05**	**240**	P	Pn	07 12 26.5	+0.8
	comp=Z,117nm,1.5s						
SMRI	**Semarang**	**20.19**	**244**	P	Pn	07 12 28.2	+0.8
	comp=Z,126nm,1.5s						
UGM	**Wanagama**	**20.49**	**242**	P	**P**	**07 12 26.2**	**-2.4**
UGM					Pn	07 12 28.1	-2.8
UGM				IAmb	IAmb	07 13 12.0	
	comp=Z,145nm,1.2s						
YOGI	**Yogyakarta**	**20.65**	**242**	P	Pn	07 12 32.7	-0.1
	comp=Z,99nm,0.8s						
COEN	**Coen**	**21.18**	**138**	P	**P**	**07 12 33.3**	**-2.8**
PMG	**Port Moresby**	**21.46**	**121**	LR	LR	07 21 24.5	
	comp=Z,145nm,20.2s,baz=320,slow=38						
PMG	**Port Moresby**	**21.46**	**121**	P	**P**	**07 12 39.3**	**+0.3**
PMG				IAmb	IAmb	07 13 16.6	
	comp=Z,48nm,1.4s						
TPI	**Tanjungpandan**	**21.50**	**258**	P	**P**	**07 12 42.1**	**+2.7**
	comp=Z,28nm,1.3s						
WB0	**Warramunga Arr**	**22.08**	**166**	P	**P**	**07 12 45.0**	**-0.6**
WRAB	**Tennant Creek**	**22.23**	**166**	P	**P**	**07 12 46.7**	**-0.5**
WRA	**Warramunga Arr**	**22.23**	**166**	P	**P**	**07 12 47.6**	**+0.3**
	comp=Z,4.6nm,0.7s,baz=346,slow=11,SNR=39						
WRA	**Warramunga Arr**	**22.23**	**166**	P	**P**	**07 12 47.5**	**+0.3**
WR0	**Warramunga Arr**	**22.30**	**165**	P	**P**	**07 12 47.6**	**-0.3**
DLV	**T Lat**	**22.46**	**298**	P	**P**	**07 12 48.8**	**-1.2**
DLV				IAmb	IAmb	07 12 54.4	
	comp=Z,113nm,1.2s						
LEM	**Lembang**	**22.68**	**248**	P	**P**	**07 12 54.2**	**+1.9**
	comp=Z,26nm,0.9s						
PPBI	**Pangkal Pinang**	**22.88**	**260**	P	**P**	**07 12 56.7**	**+2.5**
CNJI	**Cibinong**	**23.31**	**247**	P	**P**	**07 13 00.2**	**+1.7**
	comp=Z,69nm,1.0s						
MBWA	**Marble Bar**	**24.37**	**201**	P	**P**	**07 13 08.2**	**-0.2**
CGJI	**Cibinong**	**24.41**	**250**	P	**P**	**07 13 08.9**	**+0.1**
	comp=Z,77nm,1.0s						
KLSI		**24.77**	**255**	P	**P**	**07 13 13.0**	**+0.8**
	comp=Z,15nm,0.9s						
KASI	**Kota Agung**	**25.21**	**253**	P	**P**	**07 13 16.9**	**+0.7**
	comp=Z,986nmcomp=Z,43nm,1.3s						
MDSI	**Maura Dua**	**25.26**	**256**	P	**P**	**07 13 16.6**	**0.0**
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**25.74**	**169**	P	**P**	**07 13 18.6**	**-2.3**
ASAR	**Alice Springs**	**25.74**	**169**	P	**P

comp=Z,63nm,19.2s,baz=153,slow=37
USRK Ussuriysk Ar. 42.40 4 P P 07 15 43.1 -1.4
SHL Shillong 42.64 307 P P 07 15 46.5 -0.5
XLT XiLinHaoTe 43.47 347 *eP* **P 07 15 56.5 +3.2**
XLT pP sP 07 16 15.3 +8.0
XLT sP pP 07 16 24.8 +22
XLT pmax pmax
comp=Z,7.0nm,1.3s
XLT pmax pmax
comp=Z,280nm,4.6s
DZM Mont Dzumac 43.79 125 LR LR 07 34 30.8
comp=Z,73nm,18.6s,baz=34,slow=36
ONTNC Ouen Toro 43.91 125 P **P 07 15 56.6 -0.4**
ONTNC IAmb IAmb 07 16 16.0
comp=Z,16nm,0.9s
LSA Lhasa 45.23 312 P **P 07 16 08.8 +0.7**
LSA pmax pmax
comp=Z,49nm,1.1s
GTA Gaotai 45.82 329 *eP* **P 07 16 13.5 +1.3**
GTA pP sP 07 16 31.0 +4.8
GTA sP pP 07 16 39.0 +17
GTA pmax pmax
comp=Z,4.0nm,1.0s
GOMU GeErMu 46.46 322 P **P 07 16 21.3 +3.7**
GOMU pmax pmax
comp=Z,2.0nm,0.7s
GOMU pmax pmax
comp=Z,66nm,5.6s
CHLP Challavanipeta 46.81 294 *eP* **P 07 16 19.4 -0.7**
KLR Kul'dur 47.40 3 P **P 07 16 23.5 -0.8**
comp=Z,2.9nm,0.8s,baz=279,slow=1.2,SNR=8.3
GUN Gumba 48.48 307 *eP* **P 07 16 32.8 -0.6**
comp=Z,63nm,0.7s
PKI Pulchoki 48.72 306 *eP* **P 07 16 34.9 -0.4**
comp=Z,11nm,0.6s
PKIN Phulchoki 48.73 306 *eP* **P 07 16 34.9 -0.4**
comp=Z,16nm,0.6s
PVM Polavaram 48.75 291 *eP* **P 07 16 35.4 +0.2**
KKN Kakani 48.92 306 *eP* **P 07 16 36.4 -0.2**
DMN Daman 48.98 306 *eP* **P 07 16 37.2 0.0**
MYLAV Mylavaram 49.56 291 *eP* **P 07 16 39.5 -1.9**
SKHT Srikalahasti 49.87 286 *eP* **P 07 16 42.7 -1.1**
ADKI Addanki 50.00 289 *eP* **P 07 16 44.1 -0.7**
KOLN Koldanda 50.27 305 *eP* **P 07 16 46.7 -0.2**
comp=Z,74nm,0.8s
DANN Dangsing 50.37 306 *eP* **P 07 16 47.7 -0.1**
comp=Z,48nm,0.6s
NJS Nagarjunasagar 50.77 290 *eP* **P 07 16 49.5 -1.0**
RCLA Racherla 50.89 288 *eP* **P 07 16 51.2 -0.3**
PYUN Piuthan 50.90 305 *eP* **P 07 16 51.4 -0.3**
comp=Z,71nm,0.9s
SRLM Srisailam 51.07 289 *eP* **P 07 16 51.4 -1.5**
RPR Rampur 51.27 293 *eP* **P 07 16 54.0 -0.3**
CUPL Choutuppal 51.28 291 *eP* **P 07 16 54.0 -0.4**
HYBB Hyderabad (bro 51.65 291 *eP* **P 07 16 55.9 -1.3**
HYBB *esP* **P 07 17 00.4 +3.2**
HYBB *eS* **S 07 24 17.5 +1.0**
WMQ Urumqi 55.48 325 *eP* **P 07 17 26.0 +1.1**
WMQ pP sP 07 17 44.5 +5.4
WMQ sP pP 07 17 55.8 +21
WMQ pmax pmax
comp=Z,14nm,1.1s
PETK Petropavlovsk- 56.57 21 P **P 07 17 33.6 +1.1**
URZ Urewera 59.75 137 LR LR 07 44 47.9
comp=Z,90nm,18.7s,baz=7.0,slow=37
MK31 Makanchi Array 60.31 325 P **P 07 17 58.1 -0.6**
MKAR Makanchi Array 60.31 325 P **P 07 17 57.8 -1.0**
comp=Z,3.2nm,0.5s,baz=117,slow=8.3,SNR=71
MKAR Makanchi Array 60.31 325 P **P 07 17 58.1 -0.6**
MAKZ Makanchi 60.50 325 P **P 07 17 59.6 -0.4**
MAKZ IAmb IAmb 07 18 02.3
comp=Z,9.5nm,1.0s
NIL Nilore 60.70 308 P **P 07 18 00.8 -0.8**
NIL IAmb IAmb 07 18 09.3
comp=Z,16nm,1.2s
KSH Kashi 60.84 315 P **P 07 18 03.5 +0.9**
KSH pmax pmax
comp=Z,6.0nm,1.3s
AAK Ala-Archa 63.15 318 P **P 07 18 17.6 -0.5**
comp=Z,1.0nm,0.4s,baz=148,slow=2.9,SNR=4.0
ZALV Zalesovo Beam 63.26 333 P **P 07 18 16.8 -1.5**
comp=Z,1.5nm,0.7s,baz=122,slow=5.2,SNR=2.2
SEY Seymchan 63.56 12 P **P 07 18 20.7 +0.6**
comp=Z,3.9nm,0.8s,baz=205,slow=5.9,SNR=12
KBL Kabul 64.29 308 P **P 07 18 24.4 -1.5**
KBL IAmb IAmb 07 18 27.5
comp=Z,5.3nm,0.8s
KURBB Kurchatov Arra 64.47 327 P **P 07 18 25.4 -1.0**
comp=Z,7.8nm,0.7s,baz=124,slow=5.8,SNR=55
KURK Kurchatov 64.47 327 P **P 07 18 25.5 -0.9**
KURK IAmb IAmb 07 18 29.0
comp=Z,13nm,0.8s
KKAR Karatay Array 66.03 317 P **P 07 18 35.0 -1.8**
HRA Herat 69.69 306 P **P 07 18 58.6 -1.6**
HRA IAmb IAmb 07 19 28.1
comp=Z,6.1nm,1.3s
TIXI Tiksi 69.82 0 P **P 07 18 59.5 -0.5**
TIXI IAmb IAmb 07 19 02.7
comp=Z,6.8nm,0.9s
BVAR Borovoye Array 70.06 327 P **P 07 19 00.1 -1.7**
comp=Z,8.0nm,0.9s,baz=96,slow=11,SNR=20
BRVK Borovoye 70.13 327 P **P 07 19 00.3 -2.0**
BRVK IAmb IAmb 07 19 03.8
comp=Z,6.8nm,0.7s
NRIK Noril'sk 72.84 346 P **P 07 19 16.8 -1.4**
comp=Z,3.4nm,0.7s,baz=106,slow=7.4,SNR=3.7
NRIK Noril'sk 72.84 346 IAmb IAmb 07 19 21.5
comp=Z,3.4nm,0.7s
SOCY Socotra 74.69 282 P **P 07 19 28.4 -1.9**
SOCY IAmb IAmb 07 22 14.0
comp=Z,6.8nm,1.0s
ABKAR Akbulak array 74.93 321 P **P 07 19 29.6 -1.3**
ABKAR IAmb IAmb 07 19 31.1
comp=Z,18nm,1.9s
ABKAR Akbulak array 74.93 321 P **P 07 19 29.6 -1.3**
AKTO Aktyubinsk 76.44 322 P **P 07 19 38.2 -1.3**
comp=Z,2.4nm,0.8s,baz=100,slow=8.3,SNR=6.6
ARU Arti 77.67 328 P **P 07 19 44.3 -2.0**
comp=Z,0.6nm,0.3s,baz=149,slow=6.4,SNR=4.0
ARU Arti 77.67 328 IAmb IAmb 07 19 52.4
comp=Z,10nm,1.3s
VNDA Vanda 81.21 173 P **P 07 20 06.0 +0.9**
comp=Z,11nm,1.0s,baz=337,slow=3.4,SNR=3.6
VNDA Vanda 81.21 173 P **P 07 20 05.8 +0.6**
TTA Tatalina 81.80 27 P **P 07 20 09.3 +0.7**
TTA IAmb IAmb 07 20 16.1
comp=Z,11nm,1.3s
N19K Bonanza Creek 82.08 29 P **P 07 20 11.2 +0.9**
L19K White Mountain 82.17 27 P **P 07 20 11.9 +1.3**
L19K IAmb IAmb 07 22 19.8
comp=Z,14nm,1.3s
M19K Big River Lodg 82.33 28 P **P 07 20 12.0 +0.6**
M19K IAmb IAmb 07 22 41.8
comp=Z,39nm,1.9s
KDAK Kodiak Island 82.53 32 P **P 07 20 12.6 +0.1**
J20K Nowinta River 82.87 25 P **P 07 20 14.6 +0.4**
IMAR Indian Mountai 83.37 24 P **P 07 20 17.2 +0.5**
PPLA Purkeypile 83.51 27 P **P 07 20 17.6 0.0**
TRF Thorofare Moun 84.44 26 P **P 07 20 22.1 -0.3**
COLD Coldfoot 84.97 23 P **P 07 20 25.4 +0.5**
COLD IAmb IAmb 07 20 57.5
comp=Z,5.9nm,1.2s
SML Sawmill 85.16 28 P **P 07 20 26.4 +0.4**
TOLK Toolik Lake Re 85.39 21 P **P 07 20 27.4 +0.5**
TOLK IAmb IAmb 07 20 34.5
comp=Z,4.1nm,0.8s
ILAR Eielson Array 86.06 25 P **P 07 20 28.7 -1.6**
comp=Z,0.3nm,0.5s,baz=239,slow=4.7,SNR=7.7
BMAR Burnt Mountain 87.16 23 P **P 07 20 36.4 +0.7**
QSPA South Pole Qui 91.64 180 P **P 07 20 57.1 +0.3**
QSPA IAmb IAmb 07 23 48.8
comp=Z,22nm,1.9s
ARCES ARCESS Array B 92.99 340 P **P 07 21 01.1 -1.8**
comp=Z,4.9nm,1.0s,baz=80,slow=5.9,SNR=5.5
FINES FINESS Array B 94.51 332 P **P 07 21 08.0 -2.0**
comp=Z,2.9nm,0.9s,baz=113,slow=9.1,SNR=3.9
YKA Yellowknife Ar 100.49 25 P **Pdif 07 21 36.1 -0.8**
comp=Z,0.2nm,0.7s,baz=297,slow=4.2,SNR=4.4

BJI ***29*** *07:11:19.2±0.0, 1°.38N×129°.01E, h40km, mb4.5/36, mB4.9/21, Ms4.5/4, Ms7 4.1/4*
NEIC ***29*** *07:11:19.3±1.3, 1°.80N±0°.07×128°.72E±0°.06, h8km±4km, mb4.8/36, Error ellipse: s-maj=11.1km s-min=8.8km*
az=210.0
DJA ***29*** *07:11:20.4±0.3, 2°N±3°×12°9E±°, h10km, M4.7/18, mb4.7/18, mB5.6/5, MLv4.4/11, Mw(mB)5.0/5*
IDC ***29*** *07:11:22.5±6.0, 1°.78N×128°.71E, h32km±47km, mb4.0/18, mb1 4.2/20, mb1mx3.9/48, mbtmp4.2/20, ML4.0/2, MS3.4/1, Ms1 3.3/1, ms1mx2.7/73, Error ellipse: s-maj=25.0km s-min=14.4km az=71.0*
ISC 29 07:11:23.5±0.4, 1.78N±0°.05×128°.80E±0°.06, h40km, n122, σ1§46/116, mb4.6/49, 1C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.75**	**235**	P	**Pn**	**07 11 49.3**	**-2.1**
TNTI				S	**Sn**	**07 12 17.0**	**+4.4**
TNTI	**Ternate**	**1.75**	**235**	Pn	**Pn**	**07 11 48.2**	**-3.2**
LBMI	**Labuha**	**2.73**	**208**	P	**Pn**	**07 12 06.2**	**+1.2**
SWI	**Sorong**	**3.60**	**137**	P	**Pn**	**07 12 16.2**	**-0.6**
SIJI	**Sorong**	**3.60**	**137**	Pn	**Pn**	**07 12 16.4**	**-0.5**
	16nm,0.3s,baz=338,slow=22,SNR=10						
SIJI				Sn	**Sn**	**07 12 58.8**	**+0.5**
	4.8nm,0.3s,baz=205,slow=23,SNR=1.7						
SGSI	**Sangihe**	**3.78**	**300**	P	**Pn**	**07 12 19.3**	**0.0**
SANI	**Sanana**	**4.74**	**216**	P	**Pn**	**07 12 31.3**	**-1.1**
FAKI	**Fak Fak**	**5.80**	**144**	P	**Pn**	**07 12 47.0**	**-0.1**
	0.2nm50nm,1.0s						
FAKI	**Fak Fak**	**5.80**	**144**	Pn	**Pn**	**07 12 46.5**	**-0.6**
GTOI	**Gorontalo**	**5.90**	**259**	P	**Pn**	**07 12 49.9**	**+1.4**
	0.1nm29nm,1.0s						
KCP	**Kidapawan**	**6.38**	**325**	‖*eP*	**Pn**	**07 12 56.7**	**+1.6**
MRSI	**Marisa**	**6.98**	**259**	P	**Pn**	**07 13 03.6**	**+0.3**
	0.2nm834nm49nm,0.6s						
APSI	**Ampana**	**7.64**	**250**	P	**Pn**	**07 13 13.0**	**+0.7**
	0.3nm85nm,1.1s						
BAKI	**Biak**	**7.88**	**112**	P	**Pn**	**07 13 16.5**	**+0.9**
TOLI2	**Tolitoli**	**8.05**	**265**	Pn	**Pn**	**07 13 15.6**	**-2.4**
MPSI	**Mapaga**	**9.02**	**261**	P	**Pn**	**07 13 31.9**	**+0.6**
	27nm,1.3s						
TTSI	**Tana Toraja**	**10.18**	**242**	P	**Pn**	**07 13 45.9**	**-1.3**
	4μm58nm,0.8s						
BNSI	**Bone**	**10.64**	**235**	P	**Pn**	**07 13 54.3**	**+0.8**
	40nm,0.8s						
SPSI	**Sidrap Palu**	**10.68**	**238**	P	**Pn**	**07 13 55.0**	**+0.9**
	783nm44nm,0.5s						
MYLDM	**Lahad Datu**	**10.82**	**288**	Pn	**Pn**	**07 13 54.6**	**-1.4**
KAPI	**Kappang**	**11.29**	**233**	Pn	**Pn**	**07 14 02.3**	**0.0**
	0.8nm,0.3s,baz=108,slow=4.4,SNR=6.1						
KAPI	**Kappang**	**11.29**	**233**		**Pn**	**07 14 01.9**	**-0.4**
SOEI	**Soe**	**12.32**	**201**	Pn	**Pn**	**07 14 14.8**	**-1.8**
BBKI	**Banjar Baru**	**14.90**	**250**	P	**Pn**	**07 14 50.3**	**-1.2**
	4μm34nm,1.0s						
SBUM	**Sibu**	**16.59**	**273**		**Pn**	**07 15 10.0**	**-3.3**
KNRA	**Kununurra**	**17.35**	**180**	Pn	**Pn**	**07 15 20.7**	**-2.0**
KNRA				IAmb	IAmb	07 15 33.6	
	comp=Z,87nm,1.9s						
KSM	**Kuching**	**18.49**	**269**	P	**P**	**07 15 33.4**	**-3.0**
KSM				IAmb	IAmb	07 15 42.5	
	comp=Z,29nm,1.0s						
PCJI	**Pacitan**	**20.18**	**240**	P	Pn	07 15 56.2	-0.8
	comp=Z,86nm,1.3s						
WB0	**Warramunga Arr**	**22.11**	**166**	P	**P**	**07 16 15.0**	**-0.6**
WB0				IAmb	IAmb	07 16 31.5	
	comp=Z,15nm,0.9s						
TWG	**Pinlang**	**22.22**	**341**	P	**P**	**07 16 13.8**	**-3.0**
TWG				IAmb	IAmb	07 17 03.3	
	comp=Z,220nm,1.9s						
WRAB	**Tennant Creek**	**22.26**	**166**	P	**P**	**07 16 16.2**	**-1.0**
WRA	**Warramunga Arr**	**22.26**	**166**	P	**P**	**07 16 16.6**	**-0.7**
	comp=Z,4.1nm,0.6s,baz=346,slow=11,SNR=7.0						
WRA	**Warramunga Arr**	**22.26**	**166**	P	**P**	**07 16 16.7**	**-0.7**
WR0	**Warramunga Arr**	**22.33**	**166**	P	**P**	**07 16 17.1**	**-0.9**
DLV	**T Lat**	**22.53**	**298**	P	**P**	**07 16 18.7**	**-1.8**
DLV				IAmb	IAmb	07 16 23.6	
	comp=Z,50nm,1.1s						
NACB	**Ninganchiao**	**23.33**	**343**	P	**P**	**07 16 26.6**	**-1.6**
MBWA	**Marble Bar**	**24.47**	**201**	P	**P**	**07 16 38.1**	**-0.9**
MBWA				IAmb	IAmb	07 17 28.1	
	comp=Z,107nm,1.5s						
CGJI	**Cibinong**	**24.53**	**250**	P	**P**	**07 16 42.5**	**+2.9**
KLSI		**24.90**	**255**	P	**P**	**07 16 44.2**	**+1.2**
	comp=Z,12nm,1.6s						
AS31	**Alice Springs**	**25.78**	**169**	P	**P**	**07 16 50.2**	**-0.7**
ASAR	**Alice Springs**	**25.78**	**169**	P	**P**	**07 16 50.4**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=356,slow=7.3,SNR=7.4						
ASAR				PcP	**PcP**	**07 20 20.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=350,slow=2.7,SNR=4.3						
UBPT	**Khong Chiam**	**26.64**	**302**	P	**P**	**07 16 57.5**	**-1.2**
UBPT				IAmb	IAmb	07 17 17.1	
	comp=Z,12nm,1.1s						
MASI	**Maura Aman, Be**	**27.00**	**260**	P	**P**	**07 17 04.0**	**+1.9**
	comp=Z,69nm,0.9s						
SLVN	**Son La**	**31.08**	**311**	P	**P**	**07 17 36.8**	**-1.4**
SLVN				IAmb	IAmb	07 18 10.9	
	comp=Z,21nm,1.8s						
NJ2	**Nanjing**	**31.54**	**344**	*eP*	**P**	**07 17 45.0**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MORW	**Morawa**	**33.02**	**201**	P	**P**	**07 17 54.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**33.64**	**301**	P	**P**	**07 18 01.6**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=122,slow=7.9,SNR=10						
CHTO	**Chiang Mai**	**33.80**	**302**	P	**P**	**07 18 00.8**	**-1.3**
CHTO				IAmb	IAmb	07 18 07.2	
	comp=Z,24nm,1.5s						
KMI	**Kunming**	**34.21**	**315**	⇑P	**P**	**07 18 05.5**	**-0.3**
KMI				pmax	pmax		
	comp=Z,11nm,2.5s						
EIDS	**Eidsvold**	**34.55**	**143**	P	**P**	**07 18 08.6**	**+0.1**
EIDS				IAmb	IAmb	07 18 09.6	
	comp=Z,9.4nm,0.8s						
KSRS	**Korea Array**	**35.51**	**359**	P	**P**	**07 18 17.2**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=172,slow=9.5,SNR=6.7						
STKA	**Stephens Creek**	**35.61**	**161**	P	**P**	**07 18 17.5**	**0.0**
	comp=Z,4.8nm,0.7s,baz=347,slow=4.8,SNR=5.1						
STKA				LR	LR	07 33 18.3	
	comp=Z,60nm,21.4s,baz=350,slow=37						
STKA	**Stephens Creek**	**35.61**	**161**	P	**P**	**07 18 17.8**	**+0.3**
MAT	**Matsushiro**	**35.66**	**13**	P	**P**	**07 18 18.2**	**+0.3**
MJAR	**Matsushiro Arr**	**35.66**	**13**	P	**P**	**07 18 18.2**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=185,slow=9.4,SNR=10						
MJAR	**Matsushiro Arr**	**35.66**	**13**	IAmb	IAmb	07 18 20.1	
	comp=Z,3.4nm,0.8s						
PZH	**PanZhiHua**	**35.77**	**316**	P	**P**	**07 18 20.8**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,5.7s						
XAN	**Xi'an**	**37.09**	**332**	P	**P**	**07 18 30.0**	**-0.1**
XAN				pP	pP	07 18 38.5	-2.4
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CD2	**Chengdu**	**37.43**	**323**	P	**P**	**07 18 35.0**	**+1.9**
ARMA	**Armidale**	**38.72**	**148**	P	**P**	**07 18 45.4**	**+1.4**
ARMA				IAmb	IAmb	07 19 02.4	
	comp=Z,25nm,1.6s						
H11S3	**WAKE ISLAND Hy**	**40.68**	**63**	T	T	08 02 30.4	
	baz=250,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**40.69**	**63**	T	T	08 02 31.5	
	baz=250,slow=74,SNR=25						
H11S1	**WAKE ISLAND Hy**	**40.69**	**63**	T	T	08 02 28.1	
	baz=250,slow=74,SNR=24						
LZH	**Lanzhou**	**41.23**	**329**	*eP*	**P**	**07 19 07.5**	**+2.6**
LZH				pmax	pmax		
	comp=Z,12nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**41.28**	**62**	T	T	08 03 22.4	
	baz=249,slow=75,SNR=21						
H11N2	**WAKE ISLAND Hy**	**41.29**	**62**	T	T	08 03 22.6	
	baz=249,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**41.30**	**62**	T	T	08 03 30.2	
	baz=249,slow=75,SNR=24						
HHC	**Hu-ho-hao-te**	**41.90**	**340**	*eP*	**P**	**07 19 12.0**	**+1.8**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,210nm,4.5s						
USRK	**Ussuriysk Ar.**	**42.33**	**3**	P	**P**	**07 19 13.9**	**+0.3**
	comp=Z,4.8nm,0.7s,baz=200,slow=7.2,SNR=6.2						
USRK	**Ussuriysk Ar.**	**42.33**	**3**	P	**P**	**07 19 12.6**	**-1.0**
SHL	**Shillong**	**42.69**	**307**	P	**P**	**07 19 15.1**	**-2.0**
SHL				IAmb	IAmb	07 19 23.9	
	comp=Z,44nm,0.7s						
XLT	**XiLinHaoTe**	**43.44**	**347**	*eP*	**P**	**07 19 25.0**	**+2.4**
XLT				pmax	pmax		
	comp=Z,4.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,220nm,4.3s						
GTA	**Gaotai**	**45.83**	**328**	*eP*	**P**	**07 19 42.8**	**+1.0**
GTA				pP	pP	07 19 51.8	-1.0
GTA				sP	sP	07 19 56.5	-0.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GOMU	**GeErMu**	**46.49**	**321**	P	**P**	**07 19 50.3**	**+2.9**
GOMU				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,72nm,4.1s						
CHLP	**Challavanipeta**	**46.89**	**294**	*eP*	**P**	**07 19 49.8**	**-0.5**
KLR	**Kul'dur**	**47.34**	**3**	P	**P**	**07 19 52.5**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=235,slow=6.1,SNR=4.2						
GUN	**Gumba**	**48.54**	**306**	*eP*	**P**	**07 20 02.2**	**-1.3**
	comp=Z,34nm,0.7s						
PVM	**Polavaram**	**48.83**	**291**	*eP*	**P**	**07 20 04.4**	**-1.0**
MYLAV	**Mylavaram**	**49.64**	**290**	*eP*	**P**	**07 20 10.4**	**-1.2**
SONM	**Songino Array**	**49.80**	**340**	P	**P**	**07 20 12.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=163,slow=8.8,SNR=3.8						
SKHT	**Srikalahasti**	**49.96**	**286**	*eP*	**P**	**07 20 13.7**	**-0.4**
KOLN	**Koldanda**	**50.33**	**305**	*eP*	**P**	**07 20 15.8**	**-1.2**
	comp=Z,83nm,0.9s						
DANN	**Dangsing**	**50.43**	**306**	*eP*	**P**	**07 20 16.5**	**-1.3**
	comp=Z,79nm,0.8s						
NJS	**Nagarjunasagar**	**50.85**	**290**	*eP*	**P**	**07 20 20.0**	**-0.8**
PYUN	**Piuthan**	**50.95**	**305**	*eP*	**P**	**07 20 20.6**	**-1.1**
	comp=Z,75nm,1.0s						
RCLA	**Racherla**	**50.97**	**288**	*eP*	**P**	**07 20 20.2**	**-1.5**
SRLM	**Srisailam**	**51.15**	**289**	*eP*	**P**	**07 20 21.5**	**-1.6**
SRLM				*ep*P	pP	07 20 24.8	-9.4
RPR	**Rampur**	**51.35**	**293**	*eP*	**P**	**07 20 23.6**	**-0.9**
HYBB	**Hyderabad (bro**	**51.73**	**291**	*eP*	**P**	**07 20 26.1**	**-1.3**
HYBB				*eS*	**S**	**07 27 48.7**	**+1.9**
URV	**Uravakonda**	**52.50**	**287**	*eP*	**P**	**07 20 32.7**	**-0.4**
KLRI	**Killari**	**53.69**	**291**	*eP*	**P**	**07 20 41.8**	**-0.1**
WMQ	**Urumqi**	**55.50**	**325**	*eP*	**P**	**07 20 57.0**	**+2.4**
WKZ	**Wanaka**	**58.57**	**147**	P	**P**	**07 21 16.8**	**+0.5**
MK31	**Makanchi Array**	**60.33**	**325**	P	**P**	**07 21 27.8**	**-0.7**
MK31				IAmb	IAmb	07 22 57.6	
	comp=Z,14nm,0.7s						
MKAR	**Makanchi Array**	**60.33**	**325**	P	**P**	**07 21 26.5**	**-1.9**
	comp=Z,2.8nm,0.5s,baz=116,slow=8.3,SNR=28						
MKAR	**Makanchi Array**	**60.33**	**325**	P	**P**	**07 21 27.1**	**-1.3**
KSH	**Kashi**	**60.88**	**315**	P	**P**	**07 21 35.0**	**+2.6**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ZALV	**Zalesovo Beam**	**63.25**	**333**	P	**P**	**07 21 45.7**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=129,slow=3.9,SNR=2.7						
SEY	**Seymchan**	**63.48**	**12**	P	**P**	**07 21 48.5**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=358,slow=23,SNR=2.9						
KBL	**Kabul**	**64.34**	**308**	P	**P**	**07 21 53.9**	**-1.9**
KBL				IAmb	IAmb	07 21 59.0	
	comp=Z,5.4nm,0.7s						
KURBB	**Kurchatov Arra**	**64.49**	**327**	P	**P**	**07 21 55.1**	**-0.9**
	comp=Z,8.9nm,0.8s,baz=128,slow=5.8,SNR=1.1						
KKAR	**Karatay Array**	**66.06**	**317**	P	**P**	**07 22 06.2**	**-0.3**
BVAR	**Borovoye Array**	**70.07**	**327**	P	**P**	**07 22 30.6**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=106,slow=11,SNR=13						
BRVK	**Borovoye**	**70.14**	**327**	P	**P**	**07 22 31.1**	**-0.8**
BRVK				IAmb	IAmb	07 22 35.6	
	comp=Z,9.6nm,1.1s						
NRIK	**Noril'sk**	**72.81**	**346**	P	**P**	**07 22 47.1**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=162,slow=3.2,SNR=3.6						
NRIK	**Noril'sk**	**72.81**	**346**	IAmb	IAmb	07 23 32.0	
	comp=Z,15nm,1.9s						
ABKAR	**Akbulak array**	**74.96**	**321**	P	**P**	**07 23 00.8**	**+0.2**
AKTO	**Aktyubinsk**	**76.46**	**322**	P	**P**	**07 23 08.7**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=65,slow=8.3,SNR=3.1						
L19K	**White Mountain**	**82.07**	**27**	P	**P**	**07 23 40.6**	**+1.0**
L19K				IAmb	IAmb	07 25 59.1	
	comp=Z,45nm,2.0s						
KDAK	**Kodiak Island**	**82.43**	**32**	P	**P**	**07 23 43.7**	**+2.2**
IMAR	**Indian Mountai**	**83.28**	**24**	P	**P**	**07 23 46.2**	**+0.5**
RC01	**Rabbit Creek A**	**84.31**	**29**	P	**P**	**07 23 51.4**	**+0.3**
RND	**Reindeer**	**84.98**	**27**	P	**P**	**07 23 53.8**	**-0.7**
SML	**Sawmill**	**85.06**	**28**	P	**P**	**07 23 54.7**	**-0.2**
TOLK	**Toolik Lake Re**	**85.29**	**21**	P	**P**	**07 23 56.5**	**+0.5**
TOLK				IAmb	IAmb	07 24 03.0	
	comp=Z,4.6nm,0.8s						
SCM	**Sheep Creek Mo**	**85.53**	**28**	P	**P**	**07 23 57.8**	**+0.5**
ILAR	**Eielson Array**	**85.96**	**25**	P	**P**	**07 24 00.9**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=258,slow=4.5,SNR=6.8						
BMAR	**Burnt Mountain**	**87.06**	**23**	P	**P**	**07 24 04.8**	**+0.1**
SYO	**Syowa Base**	**91.37**	**201**	‖*eP*cP	**PcP**	**07 24 27.6**	**+1.9**
ARCES	**ARCESS Array B**	**92.98**	**340**	P	**P**	**07 24 32.2**	**-0.1**
	comp=Z,2.7nm,1.0s,baz=39,slow=6.2,SNR=4.6						
NOR	**Nord**	**95.19**	**355**	*i* P	P	07 24 52.0	+10
YKA	**Yellowknife Ar**	**100.39**	**25**	P	**Pdif**	**07 25 07.8**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=297,slow=4.5,SNR=4.9						

NNC ***29*** *07:20:42.6±0.3, 50°.00N×78°.70E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=3.9km s-min=1.9km az=75.0, Suspected Mining explosion.*
IDC ***29*** *07:20:44.2±1.1, 50°.06N×78°.75E, h0km, mb1 3.0/3, mb1mx2.6/54, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=13.7km s-min=7.9km az=64.0*
ISC 29 07:20:43.4±0.9, 50°.15N±0°.03×78°.86E±0°.04, h0km, n31, σ0§78/40, 24C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.49**	**333**	⇑P	**Pb**	**07 20 54.2**	**-0.6**
KUR07				⇑S	**Sb**	**07 21 03.5**	**+0.9**
KUR14	**Kurchatov Arra**	**0.49**	**340**	⇑P	**Pb**	**07 20 54.7**	**-0.3**
KUR14				⇑S	**Sb**	**07 21 03.4**	**+0.6**
KUR06	**Kurchatov Arra**	**0.50**	**335**	⇑P	**Pb**	**07 20 54.7**	**-0.4**
KUR06				⇑S	**Sb**	**07 21 03.5**	**+0.5**
KUR15	**Kurchatov Arra**	**0.51**	**338**	⇑P	**Pb**	**07 20 54.9**	**-0.3**
KUR15				⇑S	**Sb**	**07 21 03.5**	**+0.3**
KURBB	**Kurchatov Arra**	**0.52**	**336**	Pg	**Pb**	**07 20 55.1**	**-0.3**
	4.7nm,0.3s,baz=167,slow=18,SNR=58						
KURBB				Lg	Lg	07 21 04.1	
	4.4nm,0.3s,baz=166,slow=31,SNR=19						
KURBB	**Kurchatov Arra**	**0.52**	**336**	⇑P	**Pb**	**07 20 55.2**	**-0.3**
	28nm,0.3s						
KURBB				⇑S	**Sb**	**07 21 04.7**	**+1.3**
	105nm,0.5s						
KUR16	**Kurchatov Arra**	**0.53**	**334**	⇑P	**Pb**	**07 20 55.0**	**-0.7**
KUR16

ZALV	**Zalesovo Beam**	**5.29 42**	Pn	Pn	07 22 07.7	+4.1
	1.3nm,0.3s,baz=232,slow=14,SNR=13					
I46RU	**ZALESOVO INFRA**	**5.29 42**	*i*		07 55 20.0	
	baz=221,slow=333,SNR=2.4					
DJR	**Jarkent**	**5.86 173**	Pg	**Pb**	**07 22 26.4**	**-0.1**
	3.0nm,0.3s					
DJR			Lg	Lg	07 23 41.1	
	4.9nm,0.3s					
ARXS	**Arharly**	**5.98 187**	Pg	**Pb**	**07 22 29.3**	**+0.7**
	1.7nm,0.4s					
ARXS			Lg	Lg	07 23 46.2	
	15nm,0.4s					
BVAR	**Borovoye Array**	**6.01 302**	Pn	**Pn**	**07 22 14.3**	**+0.7**
	0.2nm,0.3s,baz=100,slow=16,SNR=2.6					
BTLS	**Baital**	**6.06 214**	Pg	**Pb**	**07 22 30.3**	**+0.5**
	2.7nm,0.7s					
BTLS			Lg	Lg	07 23 48.1	
	3.7nm,0.4s					
BLB	**Baldybastay**	**6.06 183**	Pg	**Pb**	**07 22 31.3**	**+1.4**
	4.7nm,0.4s					
BLB			Lg	Lg	07 23 49.7	
	16nm,0.4s					
BRVK	**Borovoye**	**6.09 302**	⇓Sn	**Sn**	**07 23 25.9**	**+1.0**
	2.7nm,0.5s					
BRVK			⇓Lg	Lg	07 23 56.5	
	2.5nm,0.7s					
KUU	**Kurty**	**6.49 196**	Pg	**Pb**	**07 22 37.9**	**+0.6**
	1.5nm,0.1s					
KUU			Lg	Lg	07 24 00.9	
	14nm,0.3s					
KTBS	**Karatobe**	**6.61 194**	Pg	**Pb**	**07 22 39.5**	**+0.2**
	1.1nm,0.4s					
KTBS			Lg	Lg	07 24 03.4	
	11nm,0.4s					
PDGK	**Podgornoye**	**6.84 176**	⇑Lg	Lg	07 24 16.1	
	7.4nm,0.8s					
TKM2	**Tokmak 2**	**7.57 199**	⇑Lg	Lg	07 24 38.8	
	3.9nm,0.6s					

*IDC **29** 07:32:52.8±0.8, 0°.56S×129°.96E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/37, mbtmp4.0/8, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/68, Error ellipse: s-maj=29.8km s-min=14.6km az=50.0*
*DJA **29** 07:32:57.1±0.9, 1°.S±4°×13°.0E±°, h28km±10km, M3.8/8, MLv3.8/8*
ISC 29 07:32:58.1±0.8, 0°.59S±0°.08×130°.00E±0°.05, h35km, n17, σ0§77/18, mb4.0/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.29 102**		P	**Pn**	**07 33 18.8**	**-0.9**
SWI				S	**Sn**	**07 33 36.1**	**+0.3**
SIJI	**Sorong**	**1.30 102**		Pn	**Pn**	**07 33 19.1**	**-0.8**
	98nm,0.3s,baz=328,slow=22,SNR=76						
SIJI				Sn	**Sn**	**07 33 37.4**	**+1.3**
	64nm,0.3s,baz=65,slow=19,SNR=5.4						
LBMI	**Labuha**	**2.50 269**		P	**Pn**	**07 33 35.7**	**-0.5**
MSAI	**Masohi**	**2.94 201**		P	**Pn**	**07 33 41.9**	**-0.5**
TNTI	**Ternate**	**2.95 297**		P	**Pn**	**07 33 43.1**	**+0.5**
TNTI				S	**Sn**	**07 34 16.6**	**-0.2**
FAKI	**Fak Fak**	**3.23 136**		P	**Pn**	**07 33 46.5**	**+0.1**
AAI	**Ambon**	**3.57 210**		P	**Pn**	**07 33 51.1**	**+0.1**
WRA	**Warramunga Arr**	**19.70 168**		P	**P**	**07 37 22.9**	**-1.7**
	0.6nm,0.3s,baz=351,slow=12,SNR=20						
ASAR	**Alice Springs**	**23.25 171**		P	**P**	**07 38 02.8**	**+0.2**
	5.6nm,0.7s,baz=355,slow=9.3,SNR=56						
JOW	**Kunigami**	**27.31 357**		LR	LR	07 48 00.5	
	comp=Z,77nm,19.7s,baz=240,slow=33						
STKA	**Stephens Creek**	**33.00 162**		P	**P**	**07 39 30.9**	**+1.0**
	2.8nm,0.7s,baz=328,slow=8.3,SNR=3.5						
KSRS	**Korea Array**	**37.90 357**		LR	LR	07 54 20.5	
	comp=Z,24nm,21.1s,baz=5.0,slow=34						
SONM	**Songino Array**	**52.42 340**		P	**P**	**07 42 07.3**	**0.0**
	0.3nm,0.4s,baz=137,slow=8.1,SNR=1.8						
MKAR	**Makanchi Array**	**62.94 325**		P	**P**	**07 43 20.8**	**-0.4**
	0.8nm,0.6s,baz=119,slow=8.2,SNR=14						
ZALV	**Zalesovo Beam**	**65.89 333**		P	**P**	**07 43 40.9**	**+0.6**
	0.3nm,0.4s,baz=83,slow=6.1,SNR=3.8						
KURBB	**Kurchatov Arra**	**67.11 327**		P	**P**	**07 43 47.6**	**-0.5**
	1.4nm,0.7s,baz=125,slow=5.9,SNR=18						
BVAR	**Borovoye Array**	**72.69 327**		P	**P**	**07 44 22.0**	**-0.4**
	1.4nm,0.7s,baz=108,slow=9.5,SNR=7.1						

*NNC **29** 07:44:46.3±3.5, 54°.05N×87°.21E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=23.1km s-min=10.2km az=80.0, Suspected Mining explosion.*
*IDC **29** 07:44:47.0±2.9, 54°.14N×87°.18E, h0km, mb1 2.8/2, mb1mx2.7/50, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=25.8km s-min=17.4km az=57.0*
ISC 29 07:44:50.2±4.8, 54°.0N±0°.2×86°.9E±0°.2, h0km, n7, σ0§95/8, 3C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.20 267**	*i*			07 52 30.0	
	baz=80,slow=343,SNR=15						
ZAA0	**Zalesovo Array**	**1.20 267**		⇓P	**Pg**	**07 45 12.2**	**-1.1**
	0.4nm,0.3s,baz=86,slow=17						
ZAA0				⇓S	**Sn**	**07 45 32.3**	**+1.0**
	3.6nm,0.4s,baz=84,slow=25						
ZALV	**Zalesovo Beam**	**1.20 267**		Pg	**Pg**	**07 45 12.3**	**-0.9**
	2.7nm,0.3s,baz=83,slow=17,SNR=25						
ZALV				Lg	Lg	07 45 31.8	
	4.8nm,0.3s,baz=82,slow=28,SNR=16						
KURBB	**Kurchatov Arra**	**6.13 240**		Pn	**Pn**	**07 46 22.9**	**+0.9**
	0.1nm,0.3s,baz=54,slow=13,SNR=7.1						
KURBB				Lg	Lg	07 48 08.7	
	0.1nm,0.3s,baz=58,slow=32,SNR=4.4						
KURBB	**Kurchatov Arra**	**6.13 240**		⇓Pn	**Pn**	**07 46 22.6**	**+0.6**
	2.8nm,1.0s						
KURBB				⇑Sn	**Sn**	**07 47 32.9**	**+0.1**
	3.8nm,0.8s						
KURBB				⇑Lg	Lg	07 48 09.1	
	6.8nm,0.8s						
MK31	**Makanchi Array**	**7.80 204**		⇓Sn	**Sn**	**07 48 13.8**	**0.0**
	0.2nm,0.4s,baz=66,slow=81,SNR=4.1						
MK31				⇑Lg	Lg	07 48 56.1	
	1.6nm,0.8s,baz=37,slow=30,SNR=4.1						
MKAR	**Makanchi Array**	**7.80 204**		Pn	**Pn**	**07 46 45.2**	**+0.3**
	0.1nm,0.3s,baz=24,slow=12,SNR=6.0						

*NNC **29** 07:50:54.0±1.9, 54°.15N×87°.26E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=13.6km s-min=9.7km az=42.0, Suspected Mining explosion.*
*IDC **29** 07:50:55.4±2.9, 54°.18N×87°.17E, h0km, mb1 2.7/2, mb1mx2.6/51, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=25.6km s-min=17.5km az=56.0*
ISC 29 07:50:54.3±4.2, 54°.2N±0°.2×87°.2E±0°.2, h0km, n7, σ1§80/8, 2C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44 261**	*i*			07 58 21.8	
	baz=77,slow=339,SNR=29						
ZAA0	**Zalesovo Array**	**1.44 261**		⇓P	**Pg**	**07 51 20.5**	**-1.4**
	0.8nm,0.9s,baz=82,slow=17						
ZAA0				⇑S	**Sg**	**07 51 40.6**	**+0.1**
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**1.44 261**		Pg	**Pg**	**07 51 20.4**	**-1.5**
	0.7nm,0.3s,baz=81,slow=17,SNR=9.7						
ZALV				Lg	Lg	07 51 40.5	
	1.4nm,0.3s,baz=81,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**6.41 240**		Pn	**Pn**	**07 52 32.0**	**+2.1**
	0.0nm,0.3s,baz=54,slow=14,SNR=6.2						
KURBB				Lg	Lg	07 54 16.1	
	baz=51,slow=31,SNR=2.7						
KURBB	**Kurchatov Arra**	**6.41 240**		⇓Pn	**Pn**	**07 52 31.4**	**+1.6**
	1.3nm,0.7s						
KURBB				⇓Lg	Lg	07 54 17.7	
	12nm,1.2s						
MK31	**Makanchi Array**	**8.05 205**		Pn	**Pn**	**07 52 50.8**	**-1.6**
	0.5nm,0.7s,baz=26,slow=13,SNR=7.8						
MK31				Sn	**Sn**	**07 54 24.4**	**+0.4**
	2.0nm,1.1s,baz=29,slow=27,SNR=5.0						
MK31				⇑Lg	Lg	07 55 10.4	
	5.0nm,1.2s,baz=31,slow=30,SNR=3.6						
MKAR	**Makanchi Array**	**8.05 205**		Pn	**Pn**	**07 52 54.0**	**+1.6**
	0.1nm,0.3s,baz=24,slow=12,SNR=8.1						
MKAR				Lg	Lg	07 55 07.5	
	0.0nm,0.3s,baz=25,slow=24,SNR=1.8						

*NSSP **29** 07:54:56.7, 38°.60N×43°.42E, h20km, Ms3.2*
*ISK **29** 07:54:57.9, 38°.75N×43°.50E, h5km, ML3.2/15*
*DDA **29** 07:54:58.7±0.0, 38°.71N×43°.52E, h21km±1km, ML3.1*
*AZER **29** 07:55:01.5±0.7, 38°.87N×43°.58E, h22km±48km, Error ellipse: s-maj=74.3km s-min=8.8km az=238.0, Hypocentre not reviewed by the ISC*
ISC 29 07:55:00.1±0.8, 38°.75N±0°.02×43°.43E±0°.02, h15km±5km, n52, σ1§26/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17 187**		PG	**Pb**	**07 55 03.9**	**-0.8**
VANB				SG	**Sg**	**07 55 08.9**	**+2.4**
TVAN	**Van**	**0.23 182**		P	**Pg**	**07 55 03.9**	**-0.9**
TVAN				S	**Sg**	**07 55 08.5**	**+0.2**
TVAN				*i* AML	AML	07 55 13.0	
	comp=E,1μm,0.5s						
TVAN				*i* AML	AML	07 55 14.0	
	comp=N,1μm,0.6s						
VMUR	**Van-Muradiye**	**0.26 28**		P	**Pg**	**07 55 04.3**	**-1.0**
VMUR				*i* AML	AML	07 55 10.0	
	comp=E,8μm,0.7s						
VMUR				S	**Sb**	**07 55 10.4**	**-0.5**
VMUR				*i* AML	AML	07 55 15.0	
	comp=N,4μm,0.6s						
ERCV	**ERCIS-VAN**	**0.27 347**		PG	**Pg**	**07 55 05.0**	**-0.5**
ERCV				SG	**Sb**	**07 55 10.4**	**-0.7**
OZAP	**Van, Ozalp-Mer**	**0.46 102**		P	**Pg**	**07 55 07.3**	**-1.6**
OZAP				S	**Sb**	**07 55 18.8**	**+2.1**
OZAP				*i* AML	AML	07 55 23.0	
	comp=N,3μm,1.0s						
OZAP				*i* AML	AML	07 55 23.0	
	comp=E,2μm,0.8s						
GEVA	**Gevas**	**0.53 212**		P	**Pg**	**07 55 09.4**	**-0.7**
GEVA				S	**Sb**	**07 55 18.8**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.54 275**		P	**Pb**	**07 55 11.2**	**0.0**
ADCV				S	**Sn**	**07 55 21.1**	**-1.3**
ADCV				*i* AML	AML	07 55 23.0	
	comp=E,634nm,0.4s						
AKDM	**Akdamar-Van**	**0.55 219**		PG	**Pb**	**07 55 11.2**	**-0.1**
MLAZ	**Malazgirt-MUS**	**0.78 300**		PG	**Pn**	**07 55 15.1**	**-1.4**
DYDN	**Diyadin**	**0.81 15**		P	**Pb**	**07 55 14.9**	**-0.9**
DYDN				S	**Sn**	**07 55 27.4**	**-1.7**
DYDN				*i* AML	AML	07 55 29.0	
	comp=E,520nm,0.3s						
AGRB	**Hanur-Agry**	**0.88 338**		PG	**Pg**	**07 55 15.9**	**-0.9**
KOTA	**Agri, Merkez-K**	**1.05 351**		P	**Pb**	**07 55 19.4**	**-0.6**
KOTA				S	**Sn**	**07 55 37.6**	**+2.6**
KOTA				*i* AML	AML	07 55 41.0	
	comp=E,307nm,0.6s						
PERV	**Siirt/Pervari-**	**1.06 221**		P	**Pn**	**07 55 21.5**	**+1.1**
PERV				S	**Sn**	**07 55 40.3**	**+5.1**
PERV				*i* AML	AML	07 55 45.0	
	comp=N,340nm,0.5s						
BLIS	**Bitlis-Merkez**	**1.07 252**		P	**Pg**	**07 55 19.7**	**-0.8**
BLIS				S	**Sn**	**07 55 35.4**	**-0.1**
GURO	**Guroymak-BITLI**	**1.10 260**		PN	**Pn**	**07 55 20.3**	**-0.7**
HAKT	**HAKKARI**	**1.22 169**		P	**Pn**	**07 55 20.5**	**-2.2**
HAKT				S	**Sn**	**07 55 40.0**	**+0.8**
IGDI	**IGDIR**	**1.22 25**		P	**Pg**	**07 55 22.5**	**-0.8**
IGDI				S	**Sn**	**07 55 41.7**	**+2.7**
IGDI				*i* AML	AML	07 55 44.0	
	comp=E,276nm,0.6s						
EATA	**Eleskirt**	**1.31 327**		P	**Pg**	**07 55 25.2**	**+0.1**
EATA				S	**Sg**	**07 55 45.5**	**+3.3**
EATA				*i* AML	AML	07 55 47.0	
	comp=E,244nm,0.6s						
VNNZ	**Vanand**	**1.38 13**		*i* P	**Pg**	**07 55 25.8**	**-0.5**
VNNZ				*i* S	**Sg**	**07 55 46.7**	**+2.5**
TASB	**TASBURUN-IGDIR**	**1.38 27**		PN	**Pg**	**07 55 25.2**	**-1.1**
SIRT	**Sirnak**	**1.47 212**		PN	**Pb**	**07 55 26.7**	**-0.3**
METS	**Metsamor**	**1.48 20**		*i* P	**Pg**	**07 55 27.0**	**-1.2**
METS				*i* S	**Sg**	**07 55 48.2**	**+0.7**
MUSM	**Mu-Merkez**	**1.49 269**		P	**Pg**	**07 55 27.1**	**-1.2**
MUSM				S	**Sg**	**07 55 49.9**	**+2.2**
CUKT	**Cukurca**	**1.52 174**		PN	**Pb**	**07 55 26.9**	**-0.9**
CUKT	**Cukurca**	**1.52 174**		P	**Pg**	**07 55 28.7**	**-0.1**
CUKT				S	**Sg**	**07 55 49.1**	**+0.5**
CUKT				*i* AML	AML	07 55 57.0	
	comp=E,295nm,0.7s						
CUKT				*i* AML	AML	07 55 58.0	
	comp=N,238nm,0.7s						
NRKZ	**NAREK**	**1.57 38**		*i* P	**Pg**	**07 55 29.2**	**-0.7**
NRKZ				*i* S	**Sg**	**07 55 53.2**	**+2.9**
VRTB	**Varto-Mus**	**1.58 285**		PN	**Pg**	**07 55 28.9**	**-1.2**
DIGO	**Kars**	**1.65 359**		P	**Pg**	**07 55 30.8**	**-0.7**
DIGO				*i* AML	AML	07 56 06.0	
	comp=E,215nm,0.8s						
KOPR	**Koprukoy-ERZUR**	**1.73 316**		PN	**Pg**	**07 55 31.2**	**-1.7**
GNI	**Garni**	**1.73 36**		*i* P	**Pb**	**07 55 30.8**	**-0.6**
GNI				*i* S	**Sg**	**07 55 57.5**	**+2.1**
GNI	**Garni**	**1.73 36**		PN	**Pb**	**07 55 30.1**	**-1.3**
HOMI	**Horasan**	**1.74 318**		P	**Pg**	**07 55 32.4**	**-0.7**
HOMI				S	**Sg**	**07 55 57.0**	**+1.4**
HOMI				*i* AML	AML	07 56 08.0	
	comp=N,279nm,1.1s						
HOMI				*i* AML	AML	07 56 08.0	
	comp=E,288nm,1.4s						
SVAN	**Silvan-Diyarba**	**1.84 251**		PN	**Pb**	**07 55 32.9**	**-0.4**
KAPZ	**Kaputan**	**1.85 32**		*i* P	**Pb**	**07 55 32.4**	**-1.1**
KAPZ				*i* S	**Sg**	**07 55 59.6**	**+0.3**
KARS	**Kars**	**1.88 352**		PN	**Pb**	**07 55 32.7**	**-1.4**
BTMN	**Batman**	**1.90 243**		P	**Pg**	**07 55 34.8**	**-1.3**
BTMN				S	**Sg**	**07 55 59.7**	**-1.0**
BTMN				*i* AML	AML	07 56 26.0	
	comp=E,141nm,1.5s						
EAK	**Akyaka**	**1.93 4**		P	**Pg**	**07 55 37.4**	**+0.6**
EAK				*i* AML	AML	07 56 19.0	
	comp=N,114nm,0.9s						
EJDE	**Erzurum, Palan**	**1.96 304**		PN	**Pb**	**07 55 34.6**	**-0.9**
ERZM	**Erzurum**	**1.96 306**		PN	**Pb**	**07 55 34.6**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.98 336**		PN	**Pb**	**07 55 34.8**	**-0.9**
BNGB	**Bingl**	**2.15 277**		PN	**Pb**	**07 55 37.3**	**-1.2**

*IDC **29** 07:58:11.3±3.1, 7°.92S×118°.79E, h195km±21km, mb3.3/5, mb1 3.5/7, mb1mx3.1/45, mbtmp3.9/7, Error ellipse: s-maj=125.7km s-min=16.0km az=58.0*
*DJA **29** 07:58:12.2±0.5, 8°.S±4°×11°.9E±°, h159km±8km, M3.8/13, mb4.0/2, MLv3.7/13*
ISC 29 07:58:11.1±0.8, 8°.14S±0°.07×118°.69E±0°.08, h200km, n18, σ1§62/21, mb3.7/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.65 155**		P	**Pn**	**07 58 44.5**	**-1.8**
WBSI				S	**Sn**	**07 59 09.7**	**-4.0**
BSSI	**Bau Bau, Buton**	**2.67 42**		P	**Pn**	**07 58 56.2**	**-0.8**
BASI	**Baing, Sumba**	**2.79 138**		P	**Pn**	**07 58 57.8**	**-0.5**
BKSI	**Bulukumba**	**3.14 27**		P	**Pn**	**07 59 02.0**	**-0.5**
SRBI	**Singaraja**	**3.44 271**		P	**Pn**	**07 59 04.7**	**-1.3**
DNP	**Denpasar**	**3.48 261**		P	**Pn**	**07 59 05.7**	**-0.8**
IGBI	**Denpasar**	**3.57 259**		P	**Pn**	**07 59 06.7**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.50 265**		P	**Pn**	**07 59 17.6**	**-1.6**
GMJI	**Gumukmas**	**5.19 268**		P	**Pn**	**07 59 27.6**	**-0.4**
	0.1nm27nm,1.1s						
BATI	**Baumata**	**5.33 113**		P	**Pn**	**07 59 31.2**	**+1.4**
SOEI	**Soe**	**5.75 107**		P	**Pn**	**07 59 32.9**	**-2.4**
FITZ	**Fitzroy Crossi**	**11.99 146**		P	**Pn**	**08 00 58.1**	**+2.1**
	0.5nm,0.3s,baz=328,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**19.17 129**		P	**P**	**08 02 20.6**	**+0.8**
	0.8nm,0.3s,baz=304,slow=12,SNR=52						
WRA				ScP	**ScP**	**08 09 52.6**	**+0.8**
	0.1nm,0.3s,baz=318,slow=2.3,SNR=6.5						
ASAR	**Alice Springs**	**21.24 138**		P	**P**	**08 02 42.8**	**+1.0**
	4.9nm,0.5s,baz=315,slow=8.7,SNR=74						
ASAR				ScP	**ScP**	**08 09 57.4**	**+0.7**
	0.5nm,0.6s,baz=330,slow=2.2,SNR=5.6						
STKA	**Stephens Creek**	**31.81 141**		P	**P**	**08 04 19.2**	**+2.1**
	1.3nm,0.5s,baz=311,slow=11,SNR=5.0						
SONM	**Songino Array**	**56.78 350**		P	**P**	**08 07 34.4**	**-0.1**
	0.4nm,0.7s,baz=156,slow=7.4,SNR=2.4						
MKAR	**Makanchi Array**	**63.55 333**		P	**P**	**08 08 20.1**	**-0.3**
	0.3nm,0.6s,baz=148,slow=7.0,SNR=2.7						
ZALV	**Zalesovo Beam**	**68.13 339**		P	**P**	**08 08 48.1**	**-1.3**
	0.9nm,0.6s,baz=133,slow=6.3,SNR=2.7						

*NNC **29** 07:58:42.0±1.9, 54°.14N×86°.61E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=14.1km s-min=10.6km az=1.0, Suspected Mining explosion.*
*IDC **29** 07:58:45.6±2.6, 54°.13N×86°.40E, h0km, mb1 3.0/2, mb1mx2.4/51, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=20.9km s-min=12.7km az=59.0*
ISC 29 07:58:41.4±4.3, 54°.4N±0°.3×86°.6E±0°.1, h0km, n7, σ1§39/7, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.11 247**	*i*			08 03 27.1	
	baz=78,slow=342,SNR=25						
ZAA0	**Zalesovo Array**	**1.11 247**		⇑P	**Pg**	**07 59 02.4**	**-0.3**
	0.3nm,0.5s,baz=79,slow=17						
ZAA0				⇑S	**Sg**	**07 59 17.5**	**+0.4**
	4.1nm,0.9s						
ZALV	**Zalesovo Beam**	**1.11 247**		Pg	**Pb**	**07 59 02.4**	**-1.1**
	0.8nm,0.3s,baz=80,slow=18,SNR=9.1						
ZALV				Lg	Lg	07 59 17.8	
	2.9nm,0.3s,baz=79,slow=28,SNR=14						
ZALV				Rg	Rg	07 59 21.4	
	3.2nm,0.3s,baz=83,slow=23,SNR=7.2						
KURK	**Kurchatov**	**6.08 236**		⇑Pn	**Pn**	**08 00 12.7**	**+0.2**
	1.8nm,1.1s						
KURK				Lg	Lg	08 01 50.5	
	3.6nm,0.8s						
KURBB	**Kurchatov Arra**	**6.18 236**		Pn	**Pn**	**08 00 15.9**	**+2.0**
	0.1nm,0.3s,baz=55,slow=13,SNR=12						
MK31	**Makanchi Array**	**8.08 201**		Pn	**Pn**	**08 00 39.3**	**-0.5**
	0.2nm,0.2s,baz=28,slow=14,SNR=5.7						
MK31				⇓Lg	Lg	08 02 52.5	
	2.7nm,1.2s						
MKAR	**Makanchi Array**	**8.08 201**		Pn	**Pn**	**08 00 41.2**	**+1.4**
	0.2nm,0.3s,baz=25,slow=12,SNR=6.3						

*SFS **29** 08:08:24.0, 35°.51N×3°.84W, ML2.5, ALBORAN SUR*
*CNRM **29** 08:08:25.2, 35°.52N×3°.77W, h23km, ml3.0*
ISC 29 08:08:23.9±1.2, 35°.53N±0°.04×3°.71W±0°.04, h17km±9km, n14, σ0§89/23, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37 211**		P	**Pg**	**08 08 31.8**	**+0.3**
PALE				S	**Sg**	**08 08 36.1**	**-0.6**
AKLM	**AKL**	**1.03 187**		P	**Pg**	**08 08 43.9**	**+0.1**
AKLM				S	**Sb**	**08 08 56.8**	**+0.2**
CHAS	**Isla Isabel II**	**1.10 108**		P	**Pg**	**08 08 45.0**	**-0.1**
CHAS				S	**Sb**	**08 08 59.0**	**+0.4**
EMAL	**Malaga-Limoner**	**1.36 335**		P	**Pb**	**08 08 48.8**	**-0.1**
EMAL				S	**Sn**	**08 09 04.9**	**-0.9**
CHEFC	**Chefchaouen**	**1.40 253**		P	**Pb**	**08 08 49.6**	**-0.1**
CHEFC				S	**Sn**	**08 09 06.9**	**0.0**
JBK	**JBK**	**1.52 142**		P	**Pn**	**08 08 50.6**	**+0.1**
JBK				S	**Sn**	**08 09 09.8**	**-0.2**
LCRM	**LCR**	**2.07 208**		P	**Pb**	**08 09 00.3**	**-0.9**
LCRM				S	**Sb**	**08 09 25.9**	**-0.8**
IFR	**Ifrane**	**2.33 211**		P	**Pn**	**08 09 02.7**	**+1.0**
IFR				S	**Sn**	**08 09 28.7**	**-1.3**
MD31	**MD31**	**2.80 198**		P	**Pn**	**08 09 08.9**	**+0.9**
MDT	**Midelt**	**2.81 196**		P	**Pn**	**08 09 09.9**	**+1.7**
TDRA	**Tendrara**	**2.85 150**		P	**Pn**	**08 09 09.7**	**+0.9**
PVAQ	**Vaqueiros**	**3.73 301**		P	**Pn**	**08 09 21.4**	**+0.7**
PVAQ				S	**Sn**	**08 10 03.3**	**-1.1**
OUZM	**OUZ**	**5.28 210**		P	**Pn**	**08 09 43.5**	**+1.4**
OUK	**Oukaimeden**	**5.54 220**		P	**Pn**	**08 09 47.1**	**+1.2**

*SFS **29** 08:10:46.0, 35°.52N×3°.84W, ML2.8, ALBORAN SUR*
*CNRM **29** 08:10:47.2, 35°.49N×3°.82W, h20km, ml2.9*
*IGIL **29** 08:10:47.7, 35°.53N×3°.84W, h0km, ML2.5*
ISC 29 08:10:44.9±1.3, 35°.56N±0°.03×3°.74W±0°.04, h14km±9km, n14, σ1§17/25, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38 206**		P	**Pg**	**08 10 52.9**	**+0.4**
PALE				S	**Sg**	**08 10 57.4**	**-0.4**
AKLM	**AKL**	**1.05 186**		P	**Pb**	**08 11 05.4**	**+0.5**
AKLM				S	**Sb**	**08 11 17.5**	**-1.0**
CHAS	**Isla Isabel II**	**1.13 109**		P	**Pn**	**08 11 06.3**	**0.0**
CHAS				S	**Sb**	**08 11 20.1**	**-0.6**
EMAL	**Malaga-Limoner**	**1.33 335**		P	**Pb**	**08 11 09.2**	**-0.3**
EMAL				S	**Sn**	**08 11 26.1**	**-0.3**
CHEFC	**Chefchaouen**	**1.39 252**		P	**Pg**	**08 11 10.8**	**-0.8**
JBK	**JBK**	**1.55 141**		P	**Pn**	**08 11 12.3**	**0.0**
JBK				S	**Sn**	**08 11 32.8**	**+0.5**
RSA	**Sarsar**	**1.83 249**		P	**Pb**	**08 11 18.6**	**+0.4**
LCRM	**LCR**	**2.08 207**		P	**Pb**	**08 11 21.3**	**-1.2**
LCRM				S	**Sb**	**08 11 47.2**	**-1.1**
IFR	**Ifrane**	**2.34 210**		P	**Pn**	**08 11 23.8**	**+0.7**
IFR				S	**Sn**	**08 11 50.0**	**-1.6**
MD31	**MD31**	**2.81 198**		P	**Pn**	**08 11 30.9**	**+1.4**
MD31				S	**Sn**	**08 12 02.7**	**-0.6**
MDT	**Midelt**	**2.83 195**		P	**Pn**	**08 11 31.8**	**+2.1**
MDT				S	**Sn**	**08 12 04.4**	**+0.8**
TDRA	**Tendrara**	**2.88 150**		P	**Pn**	**08 11 32.6**	**+2.1**
PVAQ	**Vaqueiros**	**3.70 301**		P	**Pn**	**08 11 43.2**	**+1.7**
PVAQ				S	**Sn**	**08 12 24.7**	**-0.3**
MESJ	**Messejana**	**4.26 304**		*e*P	**Pn**	**08 11 51.2**	**+1.9**
MESJ				*e*S	**Sn**	**08 12 37.4**	**-1.4**
MESJ				IAML		08 12 46.1	
	comp=N,11nm,0.3s						

IDC 29 08:30:59.7±2.5, 54°.27N×86°.11E, h0km, mb1 2.9/2, mb1mx2.9/43, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=19.4km s-min=11.7km az=52.0, Southwestern Siberia

| Code | Station Name |

σ0°76/9, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.03	24	P	Pn	08 48 50.2	-0.4
	SNR=23						
UCH	Uchtor	6.41	29	P	Pn	08 48 55.0	-0.6
	SNR=12						
KK02	Karatay Array	6.43	1	⇓P	Pn	08 48 54.6	-0.9
	1.0nm,0.3s,baz=175,slow=12						
EKS2	Erkin-Say	6.53	23	P	Pn	08 48 56.7	-0.3
	SNR=11						
AAK	Ala-Archa	6.75	27	P	Pn	08 49 00.6	+0.6
	SNR=6.2						
AAK	Ala-Archa	6.75	27	⇑P	Pn	08 48 59.2	-0.7
	1.2nm,0.3s						
AAK				⇑S	Sn	08 50 16.2	+0.3
	3.1nm,0.6s						
TKM2	Tokmak 2	7.42	31	P	Pn	08 49 08.5	-0.4
	SNR=8.0						
AB31	Akbulak array	14.71	332	⇑P	Pn	08 50 44.5	+0.8
	0.3nm,0.3s,baz=156,slow=12,SNR=20						

IDC 29 08:59:45.6±2.7, 52°.36N×35°.69E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.0/53, mbtmp3.5/3, ML2.9/3, Error ellipse: s-maj=33.6km s-min=13.6km az=122.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	Obninsk	2.81	10	Lg	Lg	09 01 13.0	
	3.0nm,0.3s,baz=137,slow=23,SNR=5.2						
AKASG	Malin Array Be	4.37	250	Pn	Pn	09 00 50.9	-2.2
	1.0nm,0.3s,baz=47,slow=22,SNR=1.8						
AKASG				Pg	Pb	09 01 02.1	-1.1
	1.8nm,0.3s,baz=60,slow=15,SNR=6.0						
AKASG				Sn	Sn	09 01 42.1	-2.6
	2.0nm,0.3s,baz=61,slow=21,SNR=4.8						
FINES	FINESS Array B	10.50	334	Pn	Pn	09 02 14.4	-2.8
	0.1nm,0.3s,baz=152,slow=12,SNR=4.4						
FINES				Sn	Sn	09 04 03.8	-12
	0.3nm,0.3s,baz=147,slow=23,SNR=1.1						
I31KZ	AKTYUBINSK INF	14.08	89	*i*		10 20 50.0	
	baz=282,slow=286,SNR=0.5						
ARCES	ARCESS Array B	17.88	348	P	Pn	09 03 55.6	+0.2
	baz=161,slow=9.5,SNR=8.2						
YKA	Yellowknife Ar	63.11	345	P	P	09 10 13.4	-1.0
	0.1nm,0.5s,baz=13,slow=6.9,SNR=4.2						

*IDC **29** 09:11:10.3±1.7, 52°.01N×171°.72W, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.0/64, mbtmp3.3/5, ML3.0/1, Error ellipse: s-maj=62.9km s-min=27.5km az=143.0*
*AEIC **29** 09:11:17±2.3, 52°.1N±0°.1×171°.57W±0°.09, h33km±6km, ML3.1/15, mb3.7/9(NEIC), ML3.8/6(NEIC), Error ellipse: s-maj=17.0km s-min=4.0km az=153.0*
*NEIC **29** 09:11:18.7±1.9, 52°.2N±0°.2×171°.6W±0°.1, h58km±12km, Error ellipse: s-maj=27.3km s-min=5.4km az=163.0*
ISC 29 09:11:16.2±1.2, 51°.9N±0°.2×171°.43W±0°.06, h44km, n40, σ1§13/38, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	Cleveland East	1.33	44	IAML		09 12 03.3	
	comp=N,2μm,0.3s						
CLES	Cleveland East	1.33	44		Pn	09 11 38.7	+0.4
CLES					Sn	09 11 55.2	+0.5
CLCO	Concord Point,	1.38	49		Pn	09 11 39.2	+0.2
CLCO					Sn	09 11 57.7	+1.6
KOFP	Korovin Flat P	1.69	284		Pn	09 11 43.9	+0.6
ATKA	Atka Island	1.74	282		Pn	09 11 43.8	-0.1
ATKA					Sn	09 12 04.3	-0.5
KOKL	Mount Kliuchef	1.77	285		Pn	09 11 45.0	+0.7
NIKH	Nikolski High	1.91	54		Pn	09 11 45.8	-0.5
OKSP	Okmok Steeple	2.35	53		Pn	09 11 53.0	+0.7
GSMY	Great Sitkin M	2.87	275		Pn	09 12 00.7	+1.3
GSTR	Great Sitkin T	2.87	276		Pn	09 12 00.7	+1.2
GSTD	Great Sitkin T	2.92	275		Pn	09 12 01.2	+1.0
GSTD					Sn	09 12 35.4	+1.4
ADK	Adak	3.26	272		Pn	09 12 05.5	+0.8
ADK					Sn	09 12 41.6	-0.6
ADK	Adak	3.26	272	IAML		09 12 52.2	
	comp=N,208nm,0.3s						
KIWB	Kanaga Island	3.55	272		Pn	09 12 07.0	-1.7
AKUT	Akutan	4.09	54	Pn	Pn	09 12 15.9	-0.2
AKUT				IAML		09 12 50.4	
	comp=N,110nm,3.7s						
AKUT				IAML		09 14 46.9	
	comp=E,102nm,4.7s						
KDAK	Kodiak Island	12.34	54	Pn	Pn	09 14 06.8	-2.2
	comp=E,0.2nm,0.3s,baz=225,slow=5.7,SNR=1.8						
KDAK	Kodiak Island	12.34	54		Pn	09 14 07.6	-1.4
M19K	Big River Lodg	13.64	36	Pn	Pn	09 14 25.9	-0.8
L19K	White Mountain	13.66	35	Pn	Pn	09 14 26.5	-0.5
BRLK	Bradley Lake	13.94	48	Pn	Pn	09 14 28.6	-2.2
K20K	Telida	14.72	32	Pn	Pn	09 14 38.3	-3.0
PPLA	Purkeypile	15.06	35	Pn	Pn	09 14 47.1	+1.2
J20K	Nowinta River	15.27	30	Pn	Pn	09 14 49.2	+0.8
J20K				IAmb	IAmb	09 14 53.2	
	comp=Z,6.2nm,1.4s						
KTH	Kantishna Hill	15.92	35	Pn	Pn	09 14 55.8	-1.1
KTH				IAmb	IAmb	09 15 16.5	
	comp=Z,8.0nm,1.4s						
ILAR	Eielson Array	18.07	35	P	P	09 15 23.2	-0.4
	comp=Z,0.1nm,0.3s,baz=227,slow=8.9,SNR=4.0						
M26K	Nabesna, AK	18.50	44	P	Pn	09 15 29.7	+0.7
M26K				IAmb	IAmb	09 15 34.5	
	comp=Z,8.9nm,1.3s						
DOT	Dot Lake	18.57	40	P	Pn	09 15 29.1	-0.6
BARN	Barnard Glacie	18.67	49	P	Pn	09 15 30.9	-0.2
BARN				IAmb	IAmb	09 15 34.5	
	comp=Z,7.5nm,0.8s						
EGAK	Eagle	20.21	39	P	P	09 15 46.9	0.0
EGAK				IAmb	IAmb	09 15 52.4	
	comp=Z,2.0nm,0.8s						
BMAR	Burnt Mountain	20.38	30	P	Pn	09 15 49.5	-1.7
HYT	Haines Junctio	20.59	51	P	P	09 15 51.1	-0.1
INK	Inuvik	24.45	33	P	P	09 16 29.8	-0.5
	comp=Z,0.4nm,0.4s,baz=228,slow=4.2,SNR=5.7						
INK	Inuvik	24.45	33	IAmb	IAmb	09 16 34.6	
	comp=Z,1.4nm,1.1s						
YKA	Yellowknife Ar	31.51	48	P	P	09 17 34.0	+0.5
	comp=Z,0.2nm,0.6s,baz=273,slow=7.8,SNR=9.7						
H11N2	WAKE ISLAND Hy	36.30	216	T	T	09 56 45.4	
	baz=21,slow=75,SNR=6.7						
H11N3	WAKE ISLAND Hy	36.31	216	T	T	09 56 51.9	
	baz=21,slow=75,SNR=7.2						
H11N1	WAKE ISLAND Hy	36.32	216	T	T	09 56 48.6	
	baz=21,slow=75,SNR=6.1						
FCC	Fort Churchill	42.22	49	P	P	09 19 05.2	+0.8
MKAR	Makanchi Array	63.20	312	P	P	09 21 38.2	-1.3
	comp=Z,0.2nm,0.5s,baz=37,slow=7.4,SNR=4.2						
ASAR	Alice Springs	89.12	228	P	P	09 24 07.5	+0.9
	comp=Z,0.6nm,0.7s,baz=36,slow=4.8,SNR=6.1						

IDC 29 09:15:35.8±10.0, 21°.65S×177°.28W, h461km±65km, mb3.2/4, mb1 3.3/6, mb1mx2.7/44, mbtmp4.1/6, Error ellipse: s-maj=258.4km s-min=28.7km az=66.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.87	311	P	P	09 17 09.4	0.0
	3.4nm,0.3s,baz=143,slow=15,SNR=20						
URZ	Urewera	17.25	195	P	P	09 19 10.2	-0.1
	0.9nm,0.3s,baz=276,slow=4.7,SNR=11						
CTA	Charters Tower	34.06	266	P	P	09 21 40.6	+0.1
	3.9nm,0.7s,baz=104,slow=8.2,SNR=7.4						
STKA	Stephens Creek	37.91	246	P	P	09 22 12.0	-0.4
	1.4nm,0.4s,baz=57,slow=8.0,SNR=5.9						
ASAR	Alice Springs	44.92	258	P	P	09 23 08.6	+0.1
	2.0nm,0.8s,baz=98,slow=8.1,SNR=29						
WRA	Warramunga Arr	45.12	263	P	P	09 23 09.7	-0.3
	0.5nm,0.4s,baz=96,slow=8.4,SNR=9.4						

IDC 29 09:17:23.8±3.0, 54°.12N×86°.55E, h0km, mb1 2.6/2, mb1mx2.1/60, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=24.9km s-min=14.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.04	261	*i*		09 23 05.8	
	baz=82,slow=343,SNR=9.4						
ZALV	Zalesovo Beam	1.04	261	Pg	Pg	09 17 42.1	-1.5
	0.3nm,0.3s,baz=80,slow=17,SNR=4.1						
ZALV				Lg	Lg	09 17 58.8	
	0.6nm,0.3s,baz=76,slow=30,SNR=6.0						
ZALV				Rg	Rg	09 18 01.7	
	11nm,1.1s,baz=78,slow=28,SNR=23						
KURBB	Kurchatov Arra	6.03	238	Pn	Pn	09 18 54.9	+0.8
	0.0nm,0.3s,baz=55,slow=13,SNR=5.7						
MKAR	Makanchi Array	7.82	202	Pn	Pn	09 19 19.9	+1.1
	0.1nm,0.3s,baz=26,slow=15,SNR=4.8						

IDC 29 09:20:14.8±2.5, 54°.11N×86°.49E, h0km, mb1 3.2/2, mb1mx3.0/62, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=21.3km s-min=12.7km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	262	*i*		09 25 53.2	
	baz=82,slow=343,SNR=8.9						
ZALV	Zalesovo Beam	1.00	262	Pg	Pg	09 20 32.6	-1.2
	1.2nm,0.3s,baz=82,slow=18,SNR=14						
ZALV				Lg	Lg	09 20 48.0	
	3.2nm,0.3s,baz=77,slow=30,SNR=15						
KURBB	Kurchatov Arra	5.99	238	Pn	Pn	09 21 45.9	+1.3
	0.2nm,0.3s,baz=55,slow=14,SNR=8.1						
MKAR	Makanchi Array	7.79	202	Pn	Pn	09 22 10.1	+0.8
	0.4nm,0.3s,baz=25,slow=14,SNR=22						

*NNC **29** 09:24:43.0±2.3, 53°.81N×90°.49E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=15.8km s-min=12.6km az=78.0, Suspected Mining explosion.*
*IDC **29** 09:24:42.1±4.1, 53°.60N×90°.73E, h0km, mb1 3.1/3, mb1mx2.7/66, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=40.6km s-min=27.9km az=44.0*
ISC 29 09:24:40.7±4.1, 53°.8N±0°.1×90°.8E±0°.2, h0km, n9, σ0§84/11, 4C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.57	276	⇓Pg	Pb	09 25 43.5	-1.2
	1.4nm,0.8s						
ZAA0				⇓Lg	Lg	09 26 29.2	
	5.8nm,0.9s						
ZALV	Zalesovo Beam	3.57	276	Pn	Pn	09 25 38.8	+1.4
	baz=94,slow=12,SNR=3.9						
ZALV				Lg	Lg	09 26 33.4	
	1.9nm,0.3s,baz=92,slow=25,SNR=9.1						
KURK	Kurchatov	8.10	253	⇑Pn	Pn	09 26 39.1	-0.3
	2.9nm,1.1s						
KURK				⇑Sn	Sn	09 28 11.8	+0.3
	3.3nm,0.8s						
KURK				⇓Lg	Lg	09 28 52.8	
	16nm,0.9s						
KURBB	Kurchatov Arra	8.19	252	Pn	Pn	09 26 40.3	-0.4
	0.1nm,0.3s,baz=66,slow=15,SNR=8.4						
KURBB				Sn	Sn	09 28 14.6	+0.8
	0.1nm,0.3s,baz=67,slow=26,SNR=7.9						
KURBB				Lg	Lg	09 29 00.6	
	0.1nm,0.3s,baz=71,slow=31,SNR=6.8						
KURBB	Kurchatov Arra	8.19	252	⇑Pn	Pn	09 26 41.3	+0.6
	3.1nm,0.7s						
KURBB				⇓Sn	Sn	09 28 13.8	0.0
	14nm,0.8s						
KURBB				⇑Lg	Lg	09 28 56.5	
	17nm,0.9s						
MK31	Makanchi Array	8.86	222	Sn	Sn	09 28 31.2	+0.9
	0.2nm,0.5s,baz=39,slow=17,SNR=4.1						
MK31				Lg	Lg	09 29 18.3	
	3.8nm,0.9s,baz=39,slow=32,SNR=4.9						
MKAR	Makanchi Array	8.86	222	Pn	Pn	09 26 50.0	+0.2
	0.2nm,0.3s,baz=42,slow=14,SNR=4.7						
MKAR				Lg	Lg	09 29 16.9	
	0.1nm,0.3s,baz=26,slow=24,SNR=3.1						
MAKZ	Makanchi	8.97	223	⇓Sn	Sn	09 28 33.1	+0.1
	2.4nm,1.1s						
MAKZ				⇓Lg	Lg	09 29 25.3	
	5.2nm,1.1s						
I34MN	SONGINO INFRAS	11.50	115	*i*		10 35 50.0	
	baz=309,slow=334,SNR=0.9						

*NEIC **29** 09:35:10.0±2.0, 40°.76N±0°.07×127°.3W±0°.1, h10km±2km, mb4.1/13, ML3.4/48, ML3.4/9(NCEDC), Error ellipse: s-maj=16.3km s-min=11.8km az=254.0*
*ANF **29** 09:35:10.4±2.3, 40°.94N×127°.11W, h0km, ML3.7/4, Error ellipse: s-maj=25.3km s-min=11.3km az=65.0*
*IDC **29** 09:35:10.1±1.6, 41°.11N×127°.30W, h0km, mb3.9/7, mb1 4.0/11, mb1mx3.7/56, mbtmp3.8/11, ML3.2/4, MS3.4/8, Ms1 3.4/8, ms1mx3.1/87, Error ellipse: s-maj=37.8km s-min=14.0km az=27.0*
*NCEDC **29** 09:35:11.9±2.3, 40°.71N±0°.06×127°.2W±0°.1, h10km±2km, Error ellipse: s-maj=16.0km s-min=10.7km az=260.0*
ISC 29 09:35:10.3±1.0, 40°.83N±0°.07×127°.25W±0°.08, h10km, n140, σ1§40/128, mb4.0/8, MS3.4/5, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPM	Mount Pierce	2.42	99		Pn	09 35 49.7	-0.3
KMPM				IAML		09 36 23.2	
	comp=E,205nm,0.8s						
JCC	Jacoby Creek,	2.44	89		Pn	09 35 48.7	-1.5
JCC	Jacoby Creek,	2.44	89	IAML		09 36 13.3	
	comp=E,137nm,4.0s						
JCC				IAML		09 36 19.6	
	comp=N,102nm,0.7s						
KRPM	Rodgers	2.46	81	Pn	Pn	09 35 50.0	-0.5
KRPM				IAML		09 36 21.6	
	comp=N,246nm,1.4s						
KRPM				IAML		09 36 22.6	
	comp=E,206nm,1.3s						
KCRM	Chalk Rock	2.64	98		Pn	09 35 51.2	-1.8
KBO	Bosley Butte	2.66	58		Pn	09 35 52.7	-0.5
KHMM	Horse Mountain	2.67	88		Pn	09 35 54.4	+0.9
KHMM				IAML		09 36 27.9	
	comp=E,149nm,1.1s						
KHMM				IAML		09 36 30.1	
	comp=N,115nm,1.5s						
KSXB	Camp Six Broad	2.73	68		Pn	09 35 54.4	+0.1
KSXB				IAML		09 36 28.9	
	comp=N,78nm,1.7s						
KSXB				IAML		09 36 32.8	
	comp=E,75nm,1.9s						
KMRM	Mail Ridge	2.77	102		Pn	09 35 54.1	-0.7
KMRM				IAML		09 36 32.0	
	comp=E,177nm,2.4s						
KMRM				IAML		09 36 51.3	
	comp=N,114nm,1.3s						
KOMM	Orleans Mounta	2.91	80		Pn	09 35 57.1	+0.5
KBSM	Bell Springs	2.94	107		Pn	09 35 56.7	-0.4
KCPM	Cahto Peak	3.03	111		Pn	09 35 57.2	-1.2
KCPM				IAML		09 36 45.2	
	comp=E,133nm,2.7s						
KCPM				IAML		09 37 16.9	
	comp=N,74nm,4.2s						
L02E	Cave Junction	3.04	63		Pn	09 35 58.9	+0.4
L02E	Cave Junction	3.04	63	P	Pn	09 35 57.8	-0.6
	baz=243,SNR=30						
L02E				S	Sn	09 36 33.9	-1.1
	baz=243						
K02D	Willamette Mer	3.26	54	P	Pn	09 36 00.2	-1.3
	baz=234,SNR=30						
M02C	Callahan	3.37	79		Pn	09 36 03.5	+0.5
M02C	Callahan	3.37	79	P	Pn	09 36 03.5	+0.5
	baz=260,SNR=95						
M02C				S	Sn	09 36 42.2	-0.9
	baz=260						
J01E	Myrtle Point	3.40	46	Pn	Pn	09 36 02.5	-0.8
J01E				IAML		09 37 03.7	
	comp=N,74nm,3.7s						
J01E				IAML		09 37 58.8	
	comp=E,109nm,4.1s						
J01E	Myrtle Point	3.40	46	P	Pn	09 36 01.8	-1.5
	baz=226						
N02D	Trinity Center	3.45	86		Pn	09 36 03.2	-0.9
N02D				IAML		09 36 49.6	
	comp=N,63nm,0.9s						
N02D				IAML		09 36 50.8	
	comp=E,55nm,0.9s						
N02D	Trinity Center	3.45	86	P	Pn	09 36 03.7	-0.4
	baz=267,SNR=33						
N02D				S	Sn	09 36 45.0	0.0
	baz=267						
YBH	Yreka Blue Hor	3.54	74	Pn	Pn	09 36 06.6	+1.2
	comp=E,6.7nm,0.3s,baz=286,slow=13,SNR=112						
YBH	Yreka Blue Hor	3.54	74		Pn	09 36 05.8	+0.5
WDC	Whiskeytown Da	3.59	93		Pn	09 36 05.7	-0.3
GASB	Alder Springs	3.67	107		Pn	09 36 06.8	-0.3
HUMO	Hull Mountain	3.67	60	Pn	Pn	09 36 07.4	+0.3
HOPS	Hopland Field	3.70	118		Pn	09 36 07.6	+0.1
HOPS	Hopland Field	3.70	118	IAML		09 36 43.5	
	comp=N,72nm,4.4s						
HOPS				IAML		09 37 18.4	
	comp=E,86nm,3.5s						
DBO	Dodson Butte	3.76	51	Pn	Pn	09 36 08.0	-0.4
DBO				IAML		09 36 55.9	
	comp=E,75nm,4.8s						
DBO				IAML		09 38 34.6	
	comp=N,50nm,4.3s						
L04D	Klamath Falls	3.96	68	Pn	Pn	09 36 12.8	+1.6
L04D				IAML		09 38 46.2	
	comp=N,51nm,3.8s						
L04D	Klamath Falls	3.96	68	P	Pn	09 36 12.3	+1.1
	baz=249,SNR=127						
I03D	Drain, OR	4.07	44	P	Pn	09 36 11.1	-1.4
	baz=225,SNR=8.7						
M04C	Macdoel	4.18	75		Pn	09 36 15.5	+1.2
M04C	Macdoel	4.18	75	P	Pn	09 36 14.4	+0.1
	baz=257,SNR=19						
O03E	Paynes Creek	4.18	96		Pn	09 36 14.8	+0.5
O03E				IAML		09 37 12.0	
	comp=N,28nm,3.8s						
O03E				IAML		09 37 14.3	
	comp=E,40nm,1.5s						
O03E	Paynes Creek	4.18	96	P	Pn	09 36 13.7	-0.5
	baz=278,SNR=13						
O03E				S	Sn	09 37 02.8	-0.4
	baz=278						
CVS	Carmenet Viney	4.46	122		Pn	09 36 17.7	-0.2
J04D	Umpqua Nationa	4.52	56		Pn	09 36 19.8	+0.8
ORV	Oroville	4.58	104		Pn	09 36 19.5	-0.2
I04A	Tendick Farm,	4.65	49	P	Pn	09 36 19.9	-0.7
	baz=230						
BKS	Berkeley--Byer	4.88	126		Pn	09 36 23.3	-0.5
H04D	Lebanon	4.96	41		Pn	09 36 26.9	+2.0
BDM	Black Diamond	5.07	123		Pn	09 36 27.4	+1.1
J05D	Fort Rock, OR	5.10	59	P	Pn	09 36 26.1	-0.8
	baz=242,SNR=15						
K05A	Summer Lake	5.12	66		Pn	09 36 29.9	+2.8
JRSC	Jasper Ridge	5.19	130		Pn	09 36 27.1	-0.8
MOD	Modoc Plateau	5.33	76	Pn	Pn	09 36 30.8	+0.7
H04A	Detroit Lake	5.36	42	Pn	Pn	09 36 30.3	0.0
PINE	Pine Mountain	5.53	56	Pn	Pn	09 36 33.5	+0.7
MHC	Mount Hamilton	5.58	127		Pn	09 36 32.8	-0.8
I05D	Terrebonne, OR	5.59	49	P	Pn	09 36 33.1	-0.5
	baz=232						
RUBR	Rubicon Trail	5.74	106	Pn	Pn	09 36 34.6	-1.1
MPK	Martis Peak	5.75	103	Pn	Pn	09 36 33.9	-2.0
EMB	Emerald Bay	5.80	106	Pn	Pn	09 36 35.6	-1.0
HCOM	Corn Cob Canyo	5.85	131		Pn	09 36 36.3	-0.8
GHS	Gilroy Hot Spr	5.86	128		Pn	09 36 36.6	-0.6
HFEM	San Felipe	5.96	128		Pn	09 36 38.0	-0.6
CMB	Columbia Colle	6.00	116	Pn	Pn	09 36 40.8	+1.6
VCNR	Virginia City	6.03	102	Pn	Pn	09 36 39.2	-0.5
HOOD	Mount Hood Mea	6.08	41	Pn	Pn	09 36 41.8	+1.5
SAO	San Andreas Ge	6.09	130		Pn	09 36 38.9	-1.4
PAHR	Pah Rah Range	6.12	98	Pn	Pn	09 36 38.9	-2.0
RADR	Rader Ridge	6.12	23	Pn	Pn	09 36 40.8	0.0
PNTR	Pine Nut	6.13	104	Pn	Pn	09 36 40.5	-0.7
F04A	Amboy	6.19	33	Pn	Pn	09 36 42.0	+0.3
BJCM	Johnson Can.	6.27	131		Pn	09 36 42.2	-0.6
HAST	Hastings Reser	6.29	133		Pn	09 36 42.8	-0.4
E03A	Lebam	6.30	24	Pn	Pn	09 36 45.7	+2.5
BSMM	Soledad Missio	6.37	132		Pn	09 36 43.2	-1.0
YERR	Yerington	6.43	104	Pn	Pn	09 36 45.8	+0.6
BBGB	Big Mountain B	6.45	129		Pn	09 36 44.6	-0.8
I07A	Izee	6.58	58	Pn	Pn	09 36 47.8	+0.6
WVOR	Wild Horse Val	6.65	73		Pn	09 36 48.6	+0.5
E04D	Cinebar	6.65	29	Pn	Pn	09 36 49.8	+1.8
PMPB	Monarch Peak	6.84	130	Pn	Pn	09 36 50.0	-0.7
J08A	Circle Bar Ran	7.00	66		Pn	09 36 53.5	+0.6
LHV	Little Huntoon	7.23	108		Pn	09 36 57.0	+1.0
NVAR	Mina Array Bea	7.31	106	Pn	Pn	09 37 00.5	+3.2
	comp=E,0.1nm,0.3s,baz=278,slow=14,SNR=6.5						
NV11	Mina Array Sit	7.42	106	Pn	Pn	09 37 00.4	+1.7
PAGB	Antelope Grade	7.50	131	Pn	Pn	09 36 59.7	0.0
G08A	Pilot Rock	7.53	51		Pn	09 37 01.1	+0.9
BMO	Blue Mountains	8.34	58	Pn	Pn	09 37 11.7	+0.5
ISA	Isabella, Lake	8.62	124	Pn	Pn	09 37 15.7	+0.6
MFID	Camas Ranch	8.87	69	Pn	Pn	09 37 21.2	+2.5
F10A	Beach Ranch, E	8.92	52	Pn	Pn	09 37 21.0	+1.8
ELK	Elko	9.11	87	Pn	Pn	09 37 25.9	+3.9
	comp=E,0.1nm,0.3s,baz=276,slow=8.3,SNR=5.1						
PLID	Pearl Lake	9.28	59	Pn	Pn	09 37 25.9	+1.6
B08A	Colville Reser	9.40	34	Pn	Pn	09 37 26.6	+0.9
HLID	Hailey	9.91	70	Pn	Pn	09 37 35.6	+2.8
NEW	Newport	10.36	41	LR	LR	09 40 34.7	
	comp=E,158nm,21.4s,baz=234,slow=32						
BCYI	Bear Canyon	10.79	67	Pn	Pn	09 37 47.1	+2.2
HVU	Hansel Valley	10.93	80	Pn	Pn	09 37 46.1	-0.8
MCMT	McKenzie Canyo	11.30	65	Pn	Pn	09 37 53.5	+1.5
HWUT	Hardware Ranch	11.84	81	Pn	Pn	09 38 02.5	+3.1
MSU	Marysvale	11.85	96	Pn	Pn	09 38 01.8	+2.3
W13A	Hualapai Mount	12.00	114	Pn	Pn	09 37 59.4	-2.1
BW06	Boulder Array	13.34	76	Pn	Pn	09 38 18.4	-1.5
PD31	Pinedale Array	13.34	76	Pn	Pn	09 38 17.0	-2.9
PDAR	Pinedale Array	13.34	76	Pn	P	09 38 24.7	-4.9
	comp=E,0.0nm,0.3s,baz=270,slow=11,SNR=4.4						
PDAR				LR	LR	09 43 37.0	
	comp=E,184nm,21.3s,baz=264,slow=38						
PDAR	Pinedale Array	13.34	76		Pn	09 38 19.2	-0.7
RDMU	Red Mountain	13.42	85	Pn	Pn	09 38 17.9	-3.0
X16A	Lo Mia Camp, P	14.06	112	Pn	Pn	09 38 27.6	-2.1
PV23	Carpenter Ridg	14.26	94	Pn	Pn	09 38 31.9	-0.5
PV11	David Mesa, Pa	14.40	94	Pn	Pn	09 38 32.8	-1.5
PV13	Radium Mtn., P	14.48	95	Pn	Pn	09 38 36.5	+1.1
O20A	White River Ci	14.49	87		P	09 38 42.2	-0.1
PV07	Paradox Valley	14.54	93	Pn	Pn	09 38 36.4	+0.2
214A	Organ Pipe Nat	14.60	123	Pn	Pn	09 38 36.4	-0.6
PV15	Paradox Valley	14.69	94	Pn	Pn	09

H11N1 WAKE ISLAND Hy 59.28 270 T T 10 49 02.0
baz=53,slow=75,SNR=129
H11S1 WAKE ISLAND Hy 60.15 269 T T 10 50 03.3
baz=52,slow=75,SNR=23
H11S2 WAKE ISLAND Hy 60.15 269 T T 10 50 07.5
baz=52,slow=75,SNR=18
H11S3 WAKE ISLAND Hy 60.16 269 T T 10 50 20.4
baz=52,slow=75,SNR=8.8
PTGA Pitinga 73.46 106 LR LR 10 23 10.8
comp=Z,50nm,18.2s,baz=56,slow=39
SONM Songino Array 79.73 327 P **P** **09 47 18.4 +0.1**
comp=Z,0.8nm,0.8s,baz=8.7,slow=2.0,SNR=6.3
SONM Songino Array 79.73 327 IAmb IAmb 09 47 19.2
comp=Z,2.3nm,1.1s
ESDC Sonseca Array 84.68 40 P **P** **09 47 44.4 0.0**
comp=Z,0.9nm,0.9s,baz=344,slow=4.1,SNR=4.3
AKASG Malin Array Be 86.54 15 P **P** **09 47 52.6 -0.7**
comp=Z,0.3nm,0.3s,baz=335,slow=4.1,SNR=6.0
AKASG Malin Array Be 86.54 15 IAmb IAmb 09 47 53.5
comp=Z,1.7nm,1.1s
AKTO Aktyubinsk 88.99 357 P **P** **09 48 04.7 -0.4**
comp=Z,1.0nm,0.7s,baz=340,slow=7.4,SNR=4.0

*NNC **29** 09:51:59.0±1.1, 51°.80N×75°.46E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=20.6km s-min=6.6km az=25.0, Suspected Mining explosion.*
*IDC **29** 09:52:01.7±1.1, 51°.60N×75°.44E, h0km, mb1 2.9/2, mb1mx2.3/66, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=36.1km s-min=8.1km az=28.0*
ISC 29 09:52:00.6±1.1, 51°.6N±0°.1×75°.12E±0°.10, h0km, n11, σ0§66/9, 6C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.37**	**113**	Pg	**Pn**	**09 52 40.2**	**-0.5**
	0.4nm,0.3s,baz=294,slow=18,SNR=42						
KURBB				Lg	Lg	09 53 10.1	
	0.4nm,0.3s,baz=308,slow=30,SNR=14						
KURBB	**Kurchatov Arra**	**2.37**	**113**	⇓Pg	**Pn**	**09 52 40.4**	**-0.3**
	5.6nm,0.8s						
KURBB				⇑Lg	Lg	09 53 10.6	
	38nm,0.6s						
KURK	**Kurchatov**	**2.38**	**111**	⇓Pg	**Pn**	**09 52 40.1**	**-0.8**
	1.6nm,0.4s						
KURK				⇑Lg	Lg	09 53 08.5	
	10nm,0.6s						
BVAR	**Borovoye Array**	**3.23**	**298**	Pg	**Pg**	**09 53 01.8**	**-0.6**
	0.5nm,0.3s,baz=98,slow=18,SNR=11						
BVAR				Lg	Lg	09 53 48.2	
	2.5nm,0.3s,baz=106,slow=29,SNR=14						
BRVK	**Borovoye**	**3.30**	**298**	⇓Pg	**Pb**	**09 53 00.6**	**+0.7**
	4.5nm,1.1s						
BRVK				⇓Lg	Lg	09 53 47.5	
	12nm,0.7s						
OTUK	**Ortayu**	**3.82**	**209**	⇑Lg	Lg	09 54 07.3	
	6.2nm,0.9s						
I46RU	**ZALESOVO INFRA**	**6.33**	**65**	*i*		10 30 00.0	
	baz=248,slow=321,SNR=1.9						
ZALV	**Zalesovo Beam**	**6.33**	**65**	Pn	**Pn**	**09 53 35.1**	**0.0**
	0.3nm,0.3s,baz=259,slow=13,SNR=7.0						
MAKZ	**Makanchi**	**6.58**	**134**	⇓Lg	Lg	09 55 25.2	
	4.5nm,0.9s						
MK31	**Makanchi Array**	**6.74**	**133**	⇑Pn	**Pn**	**09 53 40.2**	**-0.5**
	0.5nm,0.6s,baz=288,slow=23,SNR=2.5						
MK31				⇑Sn	**Sn**	**09 54 58.8**	**+0.7**
	1.0nm,0.7s,baz=321,slow=21,SNR=4.2						
MK31				⇑Lg	Lg	09 55 29.5	
	3.3nm,0.8s,baz=320,slow=27,SNR=5.7						
MKAR	**Makanchi Array**	**6.74**	**133**	Pn	**Pn**	**09 53 40.9**	**+0.2**
	0.1nm,0.3s,baz=315,slow=12,SNR=5.0						
MKAR				Lg	Lg	09 55 29.5	
	0.2nm,0.3s,baz=319,slow=25,SNR=11						

IDC 29 09:58:08.3±2.5, 54°.31N×85°.99E, h0km, mb1 2.7/2, mb1mx2.2/61, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=19.0km s-min=10.6km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**243**	*i*		10 02 44.9	
	baz=60,slow=343,SNR=14						
ZALV	**Zalesovo Beam**	**0.78**	**243**	Pg	Pg	09 58 21.5	-1.7
	0.5nm,0.3s,baz=59,slow=16,SNR=11						
ZALV				Lg	Lg	09 58 34.8	
	3.7nm,0.3s,baz=66,slow=30,SNR=22						
KURBB	**Kurchatov Arra**	**5.87**	**234**	Pn	Pn	09 59 37.9	+1.6
	0.1nm,0.3s,baz=51,slow=13,SNR=5.1						
MKAR	**Makanchi Array**	**7.88**	**199**	Pn	Pn	10 00 04.9	+0.8
	0.1nm,0.3s,baz=18,slow=13,SNR=7.7						

*SOME **29** 10:04:54.2, 43°.58N×69°.77E*
*NNC **29** 10:04:54.8±0.9, 43°.58N×69°.72E, h0km, mb3.8, mpv3.0, Error ellipse: s-maj=5.3km s-min=4.0km az=140.0, Suspected Mining explosion.*
ISC 29 10:04:55.0±2.1, 43°.58N±0°.07×69°.8E±0°.1, h0km, n16, σ1§25/27, 11C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.55**	**174**	P	**Pn**	**10 05 09.5**	**-0.7**
	1.2nm,0.4s						
BRLS				S	**Sn**	**10 05 20.9**	**+0.7**
	8.1nm,0.2s						
KK09	**Karatay Array**	**0.71**	**130**	⇑P	**Pg**	**10 05 08.8**	**+0.2**
KK09				⇓S	**Sb**	**10 05 19.4**	**-1.2**
KK08	**Karatay Array**	**0.71**	**132**	⇑P	**Pg**	**10 05 08.9**	**+0.2**
KK08				⇓S	**Sb**	**10 05 19.6**	**-1.0**
KK04	**Karatay Array**	**0.72**	**131**	⇑P	**Pg**	**10 05 09.0**	**+0.2**
KK04				⇑S	**Sb**	**10 05 19.5**	**-1.3**
KK03	**Karatay Array**	**0.72**	**131**	⇑P	**Pg**	**10 05 08.6**	**-0.2**
KK03				⇑S	**Sb**	**10 05 19.4**	**-1.5**
KK01	**Karatay Array**	**0.72**	**131**	⇑P	**Pg**	**10 05 08.9**	**+0.1**
KK01				⇓S	**Sb**	**10 05 19.7**	**-1.2**
KK05	**Karatay Array**	**0.72**	**130**	⇓P	**Pg**	**10 05 08.8**	**-0.1**
KK05				⇑S	**Sb**	**10 05 19.6**	**-1.4**
KK02	**Karatay Array**	**0.73**	**131**	⇓P	**Pg**	**10 05 09.0**	**+0.1**
	0.9nm,0.3s,baz=323,slow=17						
KK02				⇑S	**Sb**	**10 05 19.6**	**-1.4**
	28nm,0.6s,baz=308,slow=28						
KK07	**Karatay Array**	**0.73**	**132**	⇑P	**Pg**	**10 05 09.1**	**+0.1**
KK07				⇓S	**Sb**	**10 05 20.2**	**-1.0**
KK06	**Karatay Array**	**0.74**	**131**	⇓P	**Pg**	**10 05 09.3**	**+0.1**
KK06				⇑S	**Sb**	**10 05 20.0**	**-1.4**
IUG	**Iuzhnay**	**1.45**	**172**	P	**Pb**	**10 05 23.0**	**+0.1**
	197nm,0.4s						
IUG				S	**Sn**	**10 05 44.4**	**+2.1**
	32nm,0.5s						
MRKS	**Merke**	**2.67**	**107**	Pg	**Pg**	**10 05 44.7**	**-1.5**
	3.1nm,0.6s						
MRKS				Lg	Lg	10 06 21.4	
	5.8nm,0.6s						
BTLS	**Baital**	**3.40**	**63**	Pg	**Pg**	**10 05 58.8**	**-1.4**
	7.0nm,0.5s						
BTLS				Lg	Lg	10 06 45.2	
	3.6nm,0.9s						
KRBS	**Karabastau**	**4.29**	**86**	Pg	**Pb**	**10 06 14.0**	**+2.6**
	2.2nm,0.6s						
KRBS				Lg	Lg	10 07 11.7	
	2.9nm,0.7s						
KST	**Kastek**	**4.56**	**95**	Pg	**Pg**	**10 06 21.0**	**-1.3**
	4.7nm,0.6s						
KST				Lg	Lg	10 07 23.4	
	6.8nm,0.8s						
KTBS	**Karatobe**	**5.02**	**86**	Pg	**Pb**	**10 06 25.9**	**+2.1**
	1.0nm,0.3s						
KTBS				Lg	Lg	10 07 31.8	
	4.7nm,0.9s						

*IDC **29** 10:05:41.7±2.8, 41°.11N×127°.24W, h0km, mb3.2/3, mb1 3.7/4, mb1mx3.4/35, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=46.3km s-min=21.3km az=23.0*
*NEIC **29** 10:05:42.1±2.3, 40°.90N±0°.08×127°.28W±0°.03, h10km±2km, ML3.2/40, Error ellipse: s-maj=13.9km s-min=4.6km az=168.0*
*ANF **29** 10:05:45.5±4.3, 41°.17N×126°.86W, h0km, Error ellipse: s-maj=47.3km s-min=16.8km az=52.0*
ISC 29 10:05:41.8±1.6, 40°.94N±0°.07×127°.3W±0°.1, h10km, n46, σ0§92/42, mb3.0/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPM	**Mount Pierce**	**2.47**	**101**	Pn	**Pn**	**10 06 21.7**	**-0.4**
KMPM				IAML		10 06 51.6	
	comp=N,85nm,1.9s						
KMPM				IAML		10 07 12.4	
	comp=E,119nm,2.0s						
JCC	**Jacoby Creek,**	**2.48**	**92**	Pn	**Pn**	**10 06 21.3**	**-0.9**
JCC				IAML		10 06 40.9	
	comp=N,85nm,3.5s						
JCC				IAML		10 06 41.1	
	comp=E,109nm,4.8s						
KBO	**Bosley Butte**	**2.63**	**60**	Pn	**Pn**	**10 06 23.6**	**-0.8**
KHMM	**Horse Mountain**	**2.70**	**90**	Pn	**Pn**	**10 06 25.1**	**-0.3**
KHMM				IAML		10 07 02.6	
	comp=N,83nm,2.9s						
KHMM				IAML		10 07 43.7	
	comp=E,83nm,2.9s						
KSXB	**Camp Six Broad**	**2.72**	**70**	Pn	**Pn**	**10 06 24.5**	**-1.2**
KSXB				IAML		10 07 02.8	
	comp=E,66nm,4.6s						
KMRM	**Mail Ridge**	**2.82**	**104**	Pn	**Pn**	**10 06 26.8**	**-0.2**
KMRM				IAML		10 07 13.3	
	comp=E,88nm,4.2s						
KMRM				IAML		10 07 42.8	
	comp=N,67nm,3.9s						
L02E	**Cave Junction**	**3.02**	**65**	Pn	**Pn**	**10 06 29.8**	**+0.1**
L02E				IAML		10 07 12.3	
	comp=N,48nm,2.9s						
L02E				IAML		10 08 26.3	
	comp=E,69nm,3.6s						
L02E	**Cave Junction**	**3.02**	**65**	P	**Pn**	**10 06 29.0**	**-0.8**
	baz=249,SNR=12						
K02D	**Willamette Mer**	**3.23**	**56**	P	**Pn**	**10 06 31.6**	**-1.1**
	baz=238,SNR=20						
M02C	**Callahan**	**3.38**	**81**		**Pn**	**10 06 34.9**	**+0.2**
M02C	**Callahan**	**3.38**	**81**	P	**Pn**	**10 06 34.5**	**-0.2**
	baz=267,SNR=16						
N02D	**Trinity Center**	**3.47**	**88**		**Pn**	**10 06 36.1**	**+0.2**
N02D				IAML		10 07 30.8	
	comp=N,31nm,3.7s						
N02D	**Trinity Center**	**3.47**	**88**	P	**Pn**	**10 06 36.2**	**+0.2**
	baz=275						
N02D				S	**Sn**	**10 07 15.8**	**-1.4**
	baz=275						
YBH	**Yreka Blue Hor**	**3.54**	**76**	Pn	**Pn**	**10 06 37.5**	**+0.7**
	comp=N,1.9nm,0.3s,baz=266,slow=13,SNR=15						
YBH				Sn	**Sn**	**10 07 19.4**	**+0.6**
	comp=N,1.3nm,0.3s,baz=110,slow=17,SNR=1.7						
YBH	**Yreka Blue Hor**	**3.54**	**76**		**Pn**	**10 06 37.6**	**+0.7**
WDC	**Whiskeytown Da**	**3.63**	**94**	Pn	**Pn**	**10 06 39.1**	**+1.1**
HUMO	**Hull Mountain**	**3.64**	**61**		**Pn**	**10 06 38.0**	**-0.3**
DBO	**Dodson Butte**	**3.72**	**53**	Pn	**Pn**	**10 06 38.5**	**-0.9**
DBO				IAML		10 07 08.6	
	comp=N,57nm,3.1s						
DBO				IAML		10 07 50.9	
	comp=E,51nm,3.2s						
HOPS	**Hopland Field**	**3.78**	**120**	Pn	**Pn**	**10 06 39.2**	**-0.9**
HOPS				IAML		10 07 38.0	
	comp=E,65nm,4.2s						
L04D	**Klamath Falls**	**3.95**	**70**		**Pn**	**10 06 43.9**	**+1.3**
L04D				IAML		10 07 32.1	
	comp=N,42nm,3.5s						
L04D	**Klamath Falls**	**3.95**	**70**	P	**Pn**	**10 06 43.2**	**+0.5**
	baz=254,SNR=5.3						
I03D	**Drain, OR**	**4.02**	**45**	P	**Pn**	**10 06 42.0**	**-1.3**
	baz=227,SNR=8.7						
M04C	**Macdoel**	**4.19**	**77**		**Pn**	**10 06 46.2**	**+0.3**
O03E	**Paynes Creek**	**4.23**	**97**	Pn	**Pn**	**10 06 45.0**	**-1.3**
O03E				IAML		10 08 03.7	
	comp=E,24nm,3.6s						
O03E				IAML		10 08 10.4	
	comp=N,23nm,4.5s						
O03E	**Paynes Creek**	**4.23**	**97**	S	**Sn**	**10 07 34.4**	**-1.4**
	baz=284						
J05D	**Fort Rock, OR**	**5.08**	**61**	P	**Pn**	**10 06 58.1**	**0.0**
	baz=245						
K05A	**Summer Lake**	**5.10**	**67**	Pn	**Pn**	**10 06 59.7**	**+1.2**
H04A	**Detroit Lake**	**5.30**	**43**	Pn	**Pn**	**10 07 02.5**	**+1.4**
MOD	**Modoc Plateau**	**5.34**	**77**	Pn	**Pn**	**10 07 03.1**	**+1.3**
MOD				IAML		10 08 17.8	
	comp=E,17nm,4.3s						
MOD				IAML		10 09 34.1	
	comp=N,13nm,4.8s						
PINE	**Pine Mountain**	**5.50**	**57**	Pn	**Pn**	**10 07 04.2**	**+0.3**
CMB	**Columbia Colle**	**6.08**	**116**	Pn	**Pn**	**10 07 12.4**	**+0.6**
SAO	**San Andreas Ge**	**6.18**	**131**	Pn	**Pn**	**10 07 12.2**	**-0.9**
BBGB	**Big Mountain B**	**6.54**	**130**	Pn	**Pn**	**10 07 18.3**	**+0.1**
WVOR	**Wild Horse Val**	**6.65**	**74**	Pn	**Pn**	**10 07 18.4**	**-1.2**
G08A	**Pilot Rock**	**7.49**	**52**	Pn	**Pn**	**10 07 32.2**	**+1.1**
BMO	**Blue Mountains**	**8.31**	**59**	Pn	**Pn**	**10 07 43.7**	**+1.3**
ISA	**Isabella, Lake**	**8.70**	**124**	Pn	**Pn**	**10 07 48.0**	**+0.2**
TXAR	**Lajitas Array**	**22.45**	**114**	P	**P**	**10 10 42.7**	**+1.7**
	comp=N,0.6nm,1.0s,baz=292,slow=6.6,SNR=4.9						
YKA	**Yellowknife Ar**	**22.89**	**15**	P	**P**	**10 10 44.6**	**-0.7**
	comp=N,1.2nm,0.9s,baz=204,slow=11,SNR=11						
ILAR	**Eielson Array**	**26.41**	**341**	P	**P**	**10 11 18.5**	**+0.3**
	comp=N,0.2nm,0.5s,baz=155,slow=7.5,SNR=4.9						
H11N3	**WAKE ISLAND Hy 59.24**	**270**		T	T	11 19 33.5	
	baz=53,slow=75,SNR=31						
H11N2	**WAKE ISLAND Hy 59.24**	**270**		T	T	11 19 33.7	
	baz=53,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy 59.25**	**270**		T	T	11 19 35.1	
	baz=53,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy 60.12**	**269**		T	T	11 20 35.8	
	baz=52,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy 60.12**	**269**		T	T	11 20 42.9	
	baz=52,slow=75,SNR=5.2						
H11S3	**WAKE ISLAND Hy 60.13**	**269**		T	T	11 20 43.1	
	baz=52,slow=75,SNR=3.9						

*ANF **29** 10:08:59.6±1.8, 41°.09N×127°.29W, h0km, ML3.7/1, Error ellipse: s-maj=24.1km s-min=5.7km az=25.0*
*NEIC **29** 10:08:59.8±1.6, 41°.0N±0°.1×127°.5W±0°.2, h10km±2km, ML3.2/32, Error ellipse: s-maj=22.1km s-min=18.4km az=261.0*
*IDC **29** 10:09:00.9±2.9, 41°.15N×127°.24W, h0km, mb3.1/3, mb1 3.6/4, mb1mx3.4/33, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=48.5km s-min=22.1km az=23.0*
ISC 29 10:09:01.8±1.8, 41°.08N±0°.10×127°.3W±0°.1, h10km, n34, σ0§77/31, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	**Rodgers**	**2.44**	**87**	Pn	**Pn**	**10 09 40.5**	**-1.3**
KRPM				IAML		10 10 10.5	
	comp=N,166nm,2.3s						
JCC	**Jacoby Creek,**	**2.46**	**95**	Pn	**Pn**	**10 09 41.8**	**-0.1**
JCC				IAML		10 10 00.4	
	comp=N,99nm,4.0s						
JCC				IAML		10 10 12.4	
	comp=E,88nm,3.6s						
KMPM	**Mount Pierce**	**2.47**	**104**	Pn	**Pn**	**10 09 41.9**	**-0.3**
KMPM				IAML		10 10 12.5	
	comp=E,111nm,1.8s						
KMPM				IAML		10 11 14.6	
	comp=N,115nm,3.0s						
KBO	**Bosley Butte**	**2.54**	**62**	Pn	**Pn**	**10 09 42.7**	**-0.5**
KSXB	**Camp Six Broad**	**2.65**	**72**	Pn	**Pn**	**10 09 44.4**	**-0.3**
KSXB				IAML		10 10 23.2	
	comp=N,55nm,4.2s						
KSXB				IAML		10 10 36.1	
	comp=E,71nm,3.3s						
KMRM	**Mail Ridge**	**2.83**	**106**	Pn	**Pn**	**10 09 47.0**	**-0.1**
KMRM				IAML		10 10 05.7	
	comp=E,60nm,3.7s						
KMRM				IAML		10 10 23.2	
	comp=N,63nm,4.2s						
L02E	**Cave Junction**	**2.94**	**67**	Pn	**Pn**	**10 09 48.0**	**-0.6**
L02E				IAML		10 11 03.0	
	comp=N,54nm,4.4s						
L02E				IAML		10 11 43.2	
	comp=E,45nm,3.7s						
L02E	**Cave Junction**	**2.94**	**67**	P	**Pn**	**10 09 47.8**	**-0.9**
	baz=250,SNR=8.3						
L02E				S	**Sn**	**10 10 23.8**	**-0.3**
	baz=250						
K02D	**Willamette Mer**	**3.13**	**58**	P	**Pn**	**10 09 50.5**	**-0.8**
	baz=240,SNR=12						
M02C	**Callahan**	**3.33**	**83**	Pn	**Pn**	**10 09 53.4**	**-0.7**
M02C	**Callahan**	**3.33**	**83**	P	**Pn**	**10 09 53.1**	**-1.0**
	baz=266,SNR=15						
N02D	**Trinity Center**	**3.44**	**90**	Pn	**Pn**	**10 09 55.1**	**-0.5**
N02D				IAML		10 11 22.9	
	comp=N,28nm,4.9s						
N02D				IAML		10 11 58.5	
	comp=E,28nm,4.7s						
N02D	**Trinity Center**	**3.44**	**90**	P	**Pn**	**10 09 54.6**	**-1.0**
	baz=273						
N02D				S	**Sn**	**10 10 37.7**	**+1.2**
	baz=273						
YBH	**Yreka Blue Hor**	**3.48**	**78**	Pn	**Pn**	**10 09 56.8**	**+0.7**
	comp=E,2.1nm,0.3s,baz=269,slow=14,SNR=17						
YBH				Sn	**Sn**	**10 10 37.8**	**+0.3**
	comp=E,1.1nm,0.3s,baz=114,slow=14,SNR=2.0						
YBH	**Yreka Blue Hor**	**3.48**	**78**		**Pn**	**10 09 56.7**	**+0.5**
HUMO	**Hull Mountain**	**3.56**	**63**		**Pn**	**10 09 56.7**	**-0.4**
WDC	**Whiskeytown Da**	**3.61**	**96**	Pn	**Pn**	**10 09 58.1**	**+0.3**
DBO	**Dodson Butte**	**3.62**	**54**	Pn	**Pn**	**10 09 58.1**	**+0.1**
DBO				IAML		10 11 20.2	
	comp=N,65nm,3.2s						
DBO				IAML		10 11 28.6	
	comp=E,46nm,3.1s						
L04D	**Klamath Falls**	**3.88**	**71**		**Pn**	**10 10 02.4**	**+0.8**
L04D				IAML		10 12 10.2	
	comp=N,50nm,4.9s						
L04D	**Klamath Falls**	**3.88**	**71**	P	**Pn**	**10 10 01.6**	**-0.1**
	baz=255,SNR=13						
I03D	**Drain, OR**	**3.90**	**47**	P	**Pn**	**10 10 01.0**	**-0.8**
	baz=230,SNR=5.7						
M04C	**Macdoel**	**4.13**	**78**	Pn	**Pn**	**10 10 06.5**	**+1.4**
O03E	**Paynes Creek**	**4.22**	**99**	S	**Sn**	**10 10 53.9**	**-1.7**
	baz=283						
K05A	**Summer Lake**	**5.03**	**69**	Pn	**Pn**	**10 10 18.1**	**+0.6**
PINE	**Pine Mountain**	**5.40**	**58**	Pn	**Pn**	**10 10 23.3**	**+0.7**
TXAR	**Lajitas Array**	**22.48**	**114**	P	**P**	**10 14 02.1**	**+0.6**
	comp=N,0.0nm,0.3s,baz=290,slow=13,SNR=1.9						
YKA	**Yellowknife Ar**	**22.75**	**15**	P	**P**	**10 14 03.6**	**-0.2**
	comp=N,1.0nm,0.9s,baz=204,slow=10,SNR=7.6						
ILAR	**Eielson Array**	**26.29**	**341**	P	**P**	**10 14 37.2**	**+0.1**
	comp=N,0.4nm,0.8s,baz=162,slow=9.3,SNR=2.8						
H11N3	**WAKE ISLAND Hy 59.26**	**270**		T	T	11 22 52.5	
	baz=53,slow=75,SNR=45						
H11N2	**WAKE ISLAND Hy 59.26**	**270**		T	T	11 22 53.3	
	baz=53,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy 59.28**	**270**		T	T	11 22 53.2	
	baz=53,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy 60.14**	**269**		T	T	11 23 58.2	
	baz=52,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy 60.15**	**269**		T	T	11 24 00.9	
	baz=52,slow=75,SNR=8.1						
H11S3	**WAKE ISLAND Hy 60.16**	**269**		T	T	11 24 05.9	
	baz=52,slow=75,SNR=4.4						

*IDC **29** 10:21:30.0±1.5, 41°.20N×127°.34W, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.8/50, mbtmp3.7/11, ML3.0/2, MS3.5/11, Ms1 3.5/11, ms1mx3.1/93, Error ellipse: s-maj=34.2km s-min=14.1km az=22.0*
*ANF **29** 10:21:31.9±1.4, 41°.04N×127°.01W, h0km, ML3.6/6, Error ellipse: s-maj=14.3km s-min=10.1km az=42.0*
*NEIC **29** 10:21:31±2.4, 40°.84N±0°.05×127°.21W±0°.08, h10km±1km, mb4.1/16, ML3.4/50, ML3.4/14(NCEDC), Error ellipse: s-maj=11.9km s-min=6.8km az=304.0*
*NCEDC **29** 10:21:31.4±2.7, 40°.73N±0°.07×127°.20W±0°.10, h10km±2km, Error ellipse: s-maj=13.0km s-min=11.7km az=240.0*
ISC 29 10:21:30.1±0.7, 40°.87N±0°.06×127°.26W±0°.07, h10km, n111, σ1§33/103, mb4.0/13, MS3.5/6, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPM	**Mount Pierce**	**2.43**	**100**	Pn	**Pn**	**10 22 08.7**	**-1.3**
KMPM				IAML		10 22 43.3	
	comp=E,246nm,0.9s						
KMPM				IAML		10 22 44.3	
	comp=N,239nm,0.6s						
JCC	**Jacoby Creek,**	**2.45**	**90**	Pn	**Pn**	**10 22 09.3**	**-0.8**
JCC	**Jacoby Creek,**	**2.45**	**90**		**Sn**	**10 22 37.6**	**-2.5**
JCC	**Jacoby Creek,**	**2.45**	**90**	IAML		10 22 40.8	
	comp=N,103nm,0.9s						
KRPM	**Rodgers**	**2.46**	**82**	Pn	**Pn**	**10 22 10.3**	**-0.1**
KRPM				IAML		10 22 41.6	
	comp=N,270nm,1.0s						
KRPM				IAML		10 22 42.4	
	comp=E,224nm,1.2s						
KBO	**Bosley Butte**	**2.64**	**59**		**Pn**	**10 22 12.6**	**-0.2**
KHMM	**Horse Mountain**	**2.67**	**89**	Pn	**Pn**	**10 22 13.1**	**-0.3**
KHMM				IAML		10 22 47.6	
	comp=N,125nm,1.0s						
KHMM				IAML		10 22 47.8	
	comp=E,140nm,1.9s						
KSXB	**Camp Six Broad**	**2.72**	**68**		**Pn**	**10 22 14.0**	**+0.1**
KSXB				IAML		10 22 46.7	
	comp=N,79nm,0.8s						
KMRM	**Mail Ridge**	**2.78**	**102**		**Pn**	**10 22 14.8**	**0.0**
KMRM				IAML		10 22 54.2	
	comp=E,152nm,0.7s						
KMRM				IAML		10 22 56.0	
	comp=N,116nm,1.0s						
KOMM	**Orleans Mounta**	**2.91**	**81**		**Pn**	**10 22 17.2**	**+0.7**
L02E	**Cave Junction**	**3.03**	**64**		**Pn**	**10 22 18.3**	**+0.2**
L02E				IAML		10 22 44.0	
	comp=N,61nm,3.5s						
L02E	**Cave Junction**	**3.03**	**64**	P	**Pn**	**10 22 17.9**	**-0.2**
	baz=243,SNR=5.4						
L02E				S	**Sn**	**10 22 54.3**	**-0.2**
	baz=243						
KCPM	**Cahto Peak**	**3.05**	**112**	Pn	**Pn**	**10 22 17.3**	**-1.3**
KCPM				IAML		10 22 53.7	
	comp=N,100nm,3.4s						
KCPM				IAML		10 22 58.3	
	comp=E,102nm,1.9s						
K02D	**Willamette Mer**	**3.25**	**55**	P	**Pn**	**10 22 20.5**	**-0.6**
	baz=234						
M02C	**Callahan**	**3.37**	**80**	Pn	**Pn**	**10 22 23.7**	**+0.9**
M02C	**Callahan**	**3.37**	**80**	P	**Pn**	**10 22 23.2**	**+0.4**
	baz=260						
M02C				S	**Sn**	**10 23 01.6**	**-1.2**
	baz=260						
J01E	**Myrtle Point**	**3.37**	**46**	Pn	**Pn**	**10 22 22.1**	**-0.7**
J01E				IAML		10 23 18.3	
	comp=N,88nm,4.5s						
J01E				IAML		10 23 59.4	
	comp=E,95nm,3.9s						
J01E	**Myrtle Point**	**3.37**	**46**	P	**Pn**	**10 22 21.3**	**-1.5**
	baz=226						
J01E				S	**Sn**	**10 23 01.0**	**-1.8**
	baz=226						
N02D	**Trinity Center**	**3.45**	**87**		**Pn**	**10 22 23.6**	**-0.4**
N02D				IAML		10 23 15.0	
	comp=E,69nm,0.6s						
N02D				IAML		10 23 18.9	
	comp=N,52nm,1.4s						
N02D	**Trinity Center**	**3.45**	**87**	P	**Pn**	**10 22 23.4**	**-0.6**
	baz=267,SNR=5.6						
N02D				S	**Sn**	**10 23 04.4**	**-0.5**
	baz=267						
YBH	**Yreka Blue Hor**	**3.53**	**74**	Pn	**Pn**	**10

O03E				S	Sn	10 23 22.4	-0.9
	baz=278						
K04D	**Chiloquin, OR**	**4.47**	**65**	P	**Pn**	**10 22 37.6**	**-0.4**
	baz=247						
J04D	**Umpqua Nationa**	**4.50**	**57**		**Pn**	**10 22 38.8**	**+0.2**
ORV	**Oroville**	**4.60**	**105**		**Pn**	**10 22 40.9**	**+1.2**
I04A	**Tendick Farm,**	**4.63**	**49**	P	**Pn**	**10 22 40.2**	**+0.1**
	baz=231,SNR=8.3						
H04D	**Lebanon**	**4.94**	**41**	P	**Pn**	**10 22 44.4**	**0.0**
	baz=222						
J05D	**Fort Rock, OR**	**5.09**	**60**	P	**Pn**	**10 22 46.8**	**+0.2**
	baz=242,SNR=7.9						
K05A	**Summer Lake**	**5.11**	**67**	Pn	**Pn**	**10 22 48.9**	**+2.1**
H04A	**Detroit Lake**	**5.33**	**43**		**Pn**	**10 22 50.0**	**+0.2**
H04A				IAML		10 24 45.5	
	comp=N,25nm,4.6s						
MOD	**Modoc Plateau**	**5.33**	**77**	Pn	**Pn**	**10 22 51.4**	**+1.5**
MOD				IAML		10 23 57.9	
	comp=E,18nm,3.9s						
MOD				IAML		10 24 02.4	
	comp=N,15nm,4.8s						
PINE	**Pine Mountain**	**5.52**	**56**	Pn	**Pn**	**10 22 53.5**	**+1.0**
I05D	**Terrebonne, OR**	**5.57**	**50**	P	**Pn**	**10 22 53.2**	**+0.1**
	baz=232						
CMB	**Columbia Colle**	**6.03**	**116**		**Pn**	**10 23 00.5**	**+1.1**
SAO	**San Andreas Ge**	**6.12**	**130**	Pn	**Pn**	**10 23 00.4**	**-0.1**
PNTR	**Pine Nut**	**6.15**	**104**	Pn	**Pn**	**10 23 02.0**	**+0.9**
YERR	**Yerington**	**6.45**	**104**	Pn	**Pn**	**10 23 07.0**	**+1.8**
BBGB	**Big Mountain B**	**6.48**	**129**	Pn	**Pn**	**10 23 06.6**	**+0.9**
I07A	**Izee**	**6.57**	**58**	Pn	**Pn**	**10 23 08.6**	**+1.7**
E04D	**Cinebar**	**6.62**	**29**	Pn	**Pn**	**10 23 09.6**	**+2.2**
WVOR	**Wild Horse Val**	**6.64**	**74**		**Pn**	**10 23 08.5**	**+0.6**
PMPB	**Monarch Peak**	**6.87**	**131**	Pn	**Pn**	**10 23 10.9**	**-0.1**
NVAR	**Mina Array Bea**	**7.33**	**107**	Pn	Pn	10 23 21.9	+4.5
	comp=N,0.1nm,0.3s,baz=282,slow=14,SNR=5.1						
NVAR				LR	LR	10 26 33.2	
	comp=N,392nm,21.4s,baz=274,slow=40						
NVAR	**Mina Array Bea**	**7.33**	**107**		**Pn**	**10 23 16.9**	**-0.5**
D05A	**Enumclaw**	**7.37**	**29**	Pn	**Pn**	**10 23 19.7**	**+2.0**
G08A	**Pilot Rock**	**7.51**	**51**		**Pn**	**10 23 21.1**	**+1.4**
PAGB	**Antelope Grade**	**7.53**	**131**	Pn	**Pn**	**10 23 19.5**	**-0.5**
LTY	**Liberty**	**7.95**	**34**	Pn	**Pn**	**10 23 26.8**	**+1.0**
BMO	**Blue Mountains**	**8.32**	**58**	Pn	**Pn**	**10 23 31.9**	**+1.1**
ISA	**Isabella, Lake**	**8.65**	**124**	Pn	**Pn**	**10 23 33.7**	**-1.6**
MFID	**Camas Ranch**	**8.87**	**70**	Pn	**Pn**	**10 23 37.5**	**-0.8**
ELK	**Elko**	**9.12**	**87**	LR	LR	10 26 30.1	
	comp=N,118nm,21.4s,baz=256,slow=33						
PLID	**Pearl Lake**	**9.26**	**59**	Pn	**Pn**	**10 23 45.7**	**+1.8**
B08A	**Colville Reser**	**9.37**	**34**	Pn	**Pn**	**10 23 45.7**	**+0.5**
GSC	**Goldstone, Bar**	**9.94**	**121**	Pn	**Pn**	**10 23 53.1**	**+0.1**
NEW	**Newport**	**10.33**	**41**	LR	LR	10 28 03.0	
	comp=N,295nm,18.3s,baz=242,slow=39						
MCMT	**McKenzie Canyo**	**11.29**	**65**	Pn	**Pn**	**10 24 13.2**	**+1.5**
DLMT	**Dillon**	**11.62**	**62**	Pn	**Pn**	**10 24 17.9**	**+1.9**
PDAR	**Pinedale Array**	**13.34**	**76**	Pn	**P**	**10 24 45.3**	**-4.1**
	baz=276,slow=9.0,SNR=3.2						
PDAR				LR	LR	10 30 16.1	
	comp=N,197nm,21.5s,baz=261,slow=40						
PDAR	**Pinedale Array**	**13.34**	**76**		**Pn**	**10 24 40.9**	**+1.2**
PV23	**Carpenter Ridg**	**14.27**	**94**	Pn	**Pn**	**10 24 54.0**	**+1.6**
PV11	**David Mesa, Pa**	**14.41**	**94**	Pn	**Pn**	**10 24 55.0**	**+0.7**
214A	**Organ Pipe Nat**	**14.63**	**123**	Pn	**Pn**	**10 24 55.0**	**-2.1**
SDCO	**Great Sand Dun**	**17.12**	**93**	Pn	**Pn**	**10 25 26.9**	**-2.8**
SDCO				IAmb	IAmb	10 25 42.7	
	comp=Z,15nm,1.4s						
319A	**Douglas**	**17.32**	**118**	Pn	**Pn**	**10 25 30.9**	**-1.1**
319A				IAmb	IAmb	10 25 39.9	
	comp=Z,23nm,1.5s						
ANMO	**Albuquerque**	**17.43**	**103**	P	**P**	**10 25 39.4**	**+4.6**
	comp=Z,0.1nm,0.3s,baz=302,slow=8.3,SNR=5.0						
ANMO				LR	LR	10 32 58.8	
	comp=Z,151nm,20.9s,baz=297,slow=39						
ANMO	**Albuquerque**	**17.43**	**103**	Pn	**Pn**	**10 25 33.3**	**-0.3**
121A	**Cookes Peak, D**	**17.67**	**112**	Pn	**Pn**	**10 25 35.6**	**-0.9**
T25A	**Trinidad**	**18.13**	**94**		**P**	**10 25 43.6**	**+1.0**
SKAG	**Skagway**	**19.29**	**347**	P	**P**	**10 25 54.5**	**-0.3**
SKAG				IAmb	IAmb	10 26 15.5	
	comp=Z,27nm,1.2s						
MNTX	**Cornudas Mount**	**19.83**	**111**	P	**P**	**10 26 01.4**	**+0.4**
FFC	**Flin Flon**	**21.76**	**42**	P	**P**	**10 26 22.4**	**+0.7**
TX31	**Lajitas Ar. Si**	**22.40**	**114**	P	**P**	**10 26 28.1**	**-0.8**
TX32	**Lajitas Array**	**22.40**	**114**	P	**P**	**10 26 28.1**	**-0.7**
TX32				IAmb	IAmb	10 26 41.2	
	comp=Z,6.0nm,1.2s						
TXAR	**Lajitas Array**	**22.40**	**114**	P	**P**	**10 26 33.1**	**+4.2**
	comp=Z,0.7nm,0.9s,baz=297,slow=8.3,SNR=7.5						
TXAR				LR	LR	10 35 53.6	
	comp=Z,90nm,21.8s,baz=312,slow=38						
ECSD	**EROS Data Cent**	**22.78**	**73**	P	**P**	**10 26 33.8**	**+1.1**
ECSD				IAmb	IAmb	10 26 41.9	
	comp=Z,14nm,1.2s						
YKA	**Yellowknife Ar**	**22.94**	**15**	P	**P**	**10 26 33.0**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=204,slow=10,SNR=30						
KDAK	**Kodiak Island**	**23.42**	**325**	LR	LR	10 33 31.1	
	comp=Z,123nm,18.1s,baz=130,slow=31						
ULM	**Lac du Bonnet**	**23.74**	**56**	LR	LR	10 36 15.0	
	comp=Z,116nm,19.4s,baz=284,slow=38						
ILAR	**Eielson Array**	**26.48**	**341**	P	**P**	**10 27 07.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=156,slow=8.5,SNR=6.8						
FCC	**Fort Churchill**	**27.48**	**38**	P	**P**	**10 27 17.4**	**+1.2**
FCC				IAmb	IAmb	10 27 26.6	
	comp=Z,6.7nm,1.5s						
J20K	**Nowinta River**	**28.09**	**335**	P	**P**	**10 27 22.2**	**+0.7**
J20K				IAmb	IAmb	10 27 42.6	
	comp=Z,5.8nm,1.4s						
BMAR	**Burnt Mountain**	**28.26**	**346**	P	**P**	**10 27 24.9**	**+1.7**
H21K	**Melozitna Rive**	**28.74**	**338**	P	**P**	**10 27 28.0**	**+0.6**
H21K				IAmb	IAmb	10 27 50.0	
	comp=Z,5.5nm,1.4s						
IMAR	**Indian Mountai**	**29.24**	**338**	P	**P**	**10 27 33.1**	**+1.3**
TOLK	**Toolik Lake Re**	**30.28**	**344**	P	**P**	**10 27 42.2**	**+1.1**
UWE	**Uwekahuna**	**32.09**	**237**	P	**P**	**10 27 57.3**	**-0.3**
TKL	**Tuckaleechee C**	**34.27**	**84**	LR	LR	10 41 59.6	
	comp=Z,186nm,20.2s,baz=306,slow=36						
CMIG	**Matias Romero**	**36.59**	**121**	LR	LR	10 46 17.9	
	comp=Z,89nm,18.1s,baz=292,slow=40						
H11N3	**WAKE ISLAND Hy**	**59.26**	**270**	T	T	11 35 28.6	
	baz=53,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**59.26**	**270**	T	T	11 35 31.8	
	baz=53,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**59.28**	**270**	T	T	11 35 22.6	
	baz=53,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**60.14**	**269**	T	T	11 36 31.9	
	baz=52,slow=75,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**60.15**	**269**	T	T	11 36 11.1	
	baz=52,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**60.16**	**269**	T	T	11 36 33.1	
	baz=52,slow=75,SNR=5.1						
PTGA	**Pitinga**	**73.47**	**106**	LR	LR	11 09 06.9	
	comp=Z,35nm,19.2s,baz=2.0,slow=39						
SONM	**Songino Array**	**79.69**	**327**	P	**P**	**10 33 38.0**	**0.0**
	comp=Z,0.8nm,0.8s,baz=45,slow=2.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**81.61**	**341**	P	**P**	**10 33 47.2**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=69,slow=7.9,SNR=2.2						
GERES	**GERESS Array B**	**84.25**	**25**	P	**P**	**10 34 01.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=299,slow=14,SNR=3.5						
ESDC	**Sonseca Array**	**84.65**	**40**	P	**P**	**10 34 04.7**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=290,slow=7.5,SNR=4.1						
AKASG	**Malin Array Be**	**86.51**	**15**	P	**P**	**10 34 11.7**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=340,slow=4.3,SNR=8.2						

IDC 29 10:23:54.2±9.9, 22°.20N×144°.88E, $h0^{km}$, mb3.3/3, mb1 3.6/3, mb1mx3.2/43, mbtmp3.3/3, Error ellipse: s-maj=363.7km s-min=34.8km az=75.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.13**	**195**	P	P	10 31 56.0	-0.6
	0.7nm,0.6s,baz=16,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**46.83**	**194**	P	P	10 32 26.4	+0.5
	0.2nm,0.6s,baz=15,slow=7.6,SNR=5.5						
MKAR	**Makanchi Array**	**55.52**	**312**	P	P	10 33 31.1	-0.1
	0.2nm,0.7s,baz=83,slow=8.5,SNR=2.4						

*IDC **29** 10:26:55.3±1.2, 11°.85S×165°.21E, $h0^{km}$, mb3.8/6, mb1 4.1/7, mb1mx3.8/35, mbtmp3.8/7, ML4.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/58, Error ellipse: s-maj=46.0km s-min=25.0km az=135.0*

ISC 29 10:27:00.6±0.9, 11°.9S±0°.1×165°.3E±0°.2, $h35^{km}$, n13, σ0°.64/13, mb3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.01**	**152**	P	**Pn**	**10 27 59.1**	**-0.5**
DVP	**Devils Point**	**6.46**	**154**	P	**Pn**	**10 28 33.5**	**+0.3**
KOUNC	**Koumac, New Ca**	**8.66**	**186**	P	**Pn**	**10 29 03.8**	**+0.3**
DZM	**Mont Dzumac**	**10.19**	**174**	Pn	**Pn**	**10 29 24.1**	**-0.4**
	3.1nm,0.3s,baz=32,slow=11,SNR=48						
DZM				LR	LR	10 32 43.5	
	comp=Z,114nm,19.7s,baz=122,slow=34						
DZM	**Mont Dzumac**	**10.19**	**174**	P	**Pn**	**10 29 24.5**	**0.0**
NOUC	**Port Laguerre**	**10.20**	**174**	P	**Pn**	**10 29 25.5**	**+0.9**
YATNC	**Mamie plateau,**	**10.23**	**171**	P	**Pn**	**10 29 25.7**	**+0.7**
WRA	**Warramunga Arr**	**30.75**	**251**	P	**P**	**10 33 12.6**	**-0.3**
	0.5nm,0.7s,baz=82,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**31.99**	**244**	P	**P**	**10 33 22.8**	**-0.9**
	0.4nm,0.7s,baz=72,slow=9.2,SNR=7.2						
ILAR	**Eielson Array**	**84.46**	**19**	P	**P**	**10 39 29.6**	**+0.2**
	0.9nm,0.6s,baz=246,slow=5.2,SNR=12						
NVAR	**Mina Array Bea**	**86.94**	**50**	P	**P**	**10 39 43.0**	**+0.4**
	0.4nm,0.7s,baz=234,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**93.81**	**317**	P	**P**	**10 40 14.9**	**+0.7**
	0.3nm,0.5s,baz=90,slow=6.1,SNR=4.9						
YKA	**Yellowknife Ar**	**95.94**	**27**	P	**P**	**10 40 22.8**	**-0.8**
	0.2nm,0.8s,baz=250,slow=4.6,SNR=4.1						

*CNRM **29** 10:47:11.1, 35°.59N×3°.71W, $h15^{km}$, ml2.7*
*SFS **29** 10:47:12.0, 35°.56N×3°.82W, ML2.7, ALBORAN SUR*

ISC 29 10:47:11.2±1.4, 35°.61N±0°.04×3°.77W±0°.04, $h19^{km}$±4km, n13, σ1°.47/23, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.42**	**200**	P	**Pg**	**10 47 19.5**	**-0.4**
PALE				S	**Sg**	**10 47 25.0**	**-0.7**
CHAS	**Isla Isabel II**	**1.17**	**111**	P	**Pn**	**10 47 32.0**	**-0.5**
CHAS				S	**Sb**	**10 47 46.0**	**-1.5**
EMAL	**Malaga-Limoner**	**1.27**	**335**	P	**Pb**	**10 47 36.1**	**+1.6**
EMAL				S	**Sg**	**10 47 53.3**	**+0.9**
CEU	**Ceuta**	**1.34**	**283**	P	**Pn**	**10 47 34.2**	**-0.6**
CEU				S	**Sn**	**10 47 48.6**	**-3.4**
TAF	**Taforalt**	**1.36**	**125**	P	**Pn**	**10 47 34.9**	**-0.3**
TAF				S	**Sn**	**10 47 52.5**	**-0.4**
CHEFC	**Chefchaouen**	**1.38**	**249**	P	**Pb**	**10 47 37.3**	**+0.9**
CHEFC				S	**Sg**	**10 47 55.3**	**-0.6**
JBK	**JBK**	**1.61**	**142**	P	**Pn**	**10 47 38.1**	**-0.7**
JBK				S	**Sn**	**10 47 59.4**	**+0.3**
IFR	**Ifrane**	**2.37**	**209**	P	**Pn**	**10 47 47.7**	**-1.5**
IFR				S	**Sn**	**10 48 16.2**	**-1.6**
MD31	**MD31**	**2.86**	**197**	P	**Pn**	**10 47 57.5**	**+1.7**
MD31				S	**Sn**	**10 48 30.5**	**+0.8**
MDT	**Midelt**	**2.87**	**194**	P	**Pn**	**10 47 58.8**	**+2.8**
MDT				S	**Sn**	**10 48 31.9**	**+1.7**
CART	**Cartagena**	**2.97**	**48**	P	**Pn**	**10 47 57.5**	**+0.1**
ZHG	**ZHG**	**3.21**	**229**	P	**Pn**	**10 48 01.4**	**+0.8**
PVAQ	**Vaqueiros**	**3.65**	**301**	P	**Pn**	**10 48 07.3**	**+0.6**

*NSSP **29** 11:28:56.5, 38°.63N×43°.32E, $h10^{km}$, Ms3.7*
*DDA **29** 11:28:58.0±0.0, 38°.69N×43°.58E, $h24^{km}$±1km, ML3.4*
*ISK **29** 11:28:58.0, 38°.75N×43°.48E, $h5^{km}$, ML3.4/19*
*AZER **29** 11:28:59.8±0.3, 38°.76N×43°.43E, $h26^{km}$±24km, Error ellipse: s-maj=37.0km s-min=4.8km az=244.0, Hypocentre not reviewed by the ISC*

ISC 29 11:29:00.1±0.8, 38°.73N±0°.02×43°.45E±0°.02, $h12^{km}$±6km, n70, σ1°.05/102, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**202**	PG	**Pb**	**11 29 04.2**	**-0.3**
TVAN	**Van**	**0.20**	**191**	P	**Pg**	**11 29 04.2**	**-0.3**
TVAN				S	**Sg**	**11 29 08.6**	**+1.1**
TVAN				*i* AML	AML	11 29 14.0	
	comp=N,2μm,0.6s						
TVAN				*i* AML	AML	11 29 15.0	
	comp=E,2μm,0.6s						
VMUR	**Van-Muradiye**	**0.28**	**19**	P	**Pg**	**11 29 04.6**	**-1.1**
VMUR				S	**Sg**	**11 29 10.3**	**+0.7**
VMUR				*i* AML	AML	11 29 11.0	
	comp=E,1μm,0.7s						
VMUR				*i* AML	AML	11 29 12.0	
	comp=N,9μm,0.4s						
ERCV	**ERCIS-VAN**	**0.31**	**342**	PG	**Pg**	**11 29 05.2**	**-1.0**
ERCV				SG	**Sg**	**11 29 10.2**	**-0.3**
OZAP	**Van, Ozalp-Mer**	**0.42**	**99**	P	**Pg**	**11 29 07.0**	**-1.3**
OZAP				S	**Sb**	**11 29 17.6**	**+1.8**
OZAP				*i* AML	AML	11 29 23.0	
	comp=E,5μm,1.0s						
OZAP				*i* AML	AML	11 29 23.0	
	comp=N,7μm,1.0s						
GEVA	**Gevas**	**0.52**	**217**	P	**Pg**	**11 29 09.6**	**-0.5**
GEVA				S	**Sb**	**11 29 18.3**	**-0.1**
AKDM	**Akdamar-Van**	**0.55**	**223**	PG	**Pg**	**11 29 10.4**	**-0.2**
AKDM				SG	**Sb**	**11 29 19.6**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.58**	**278**	P	**Pg**	**11 29 11.3**	**+0.1**
ADCV				S	**Sn**	**11 29 21.8**	**-1.6**
ADCV				*i* AML	AML	11 29 29.0	
	comp=N,1μm,0.6s						
MLAZ	**Malazgirt-MUS**	**0.82**	**301**	PG	**Pg**	**11 29 15.4**	**-0.3**
DYDN	**Diyadin**	**0.83**	**12**	P	**Pg**	**11 29 14.9**	**-1.2**
DYDN				S	**Sg**	**11 29 27.4**	**+0.4**
DYDN				*i* AML	AML	11 29 33.0	
	comp=N,493nm,0.5s						
DYDN				*i* AML	AML	11 29 34.0	
	comp=E,835nm,1.0s						
AGRB	**Hanur-Agry**	**0.92**	**337**	PG	**Pg**	**11 29 16.1**	**-1.6**
PERV	**Siirt/Pervari-**	**1.06**	**223**	P	**Pn**	**11 29 21.1**	**+0.6**
KOTA	**Agri, Merkez-K**	**1.09**	**350**	P	**Pb**	**11 29 19.2**	**-1.6**
KOTA				S	**Sn**	**11 29 36.9**	**+0.7**
BLIS	**Bitlis-Merkez**	**1.10**	**254**	P	**Pb**	**11 29 19.4**	**-1.4**
BLIS				S	**Sn**	**11 29 35.5**	**-0.7**
GURO	**Guroymak-BITLI**	**1.13**	**261**	PN	**Pb**	**11 29 20.5**	**-0.8**
HAKT	**HAKKARI**	**1.18**	**170**	P	**Pb**	**11 29 20.2**	**-2.1**
EKAR	**Karacoban**	**1.21**	**296**	P	**Pn**	**11 29 22.6**	**-0.1**
EKAR				S	**Sb**	**11 29 36.8**	**-1.6**
IGDI	**IGDIR**	**1.24**	**23**	P	**Pn**	**11 29 22.4**	**-0.5**
IGDI				S	**Sg**	**11 29 42.4**	**+2.7**
IGDI				*i* AML	AML	11 29 44.0	
	comp=E,639nm,0.7s						
YOVA	**Hakkari_Yksek**	**1.31**	**150**	P	**Pn**	**11 29 22.9**	**-1.2**
YOVA				S	**Sg**	**11 29 45.2**	**+3.0**
EATA	**Eleskirt**	**1.36**	**327**	P	**Pn**	**11 29 24.1**	**-0.8**
EATA				S	**Sg**	**11 29 44.5**	**+0.8**
TASB	**TASBURUN-IGDIR**	**1.39**	**26**	PN	**Pn**	**11 29 25.2**	**+0.1**
SIRT	**Sirnak**	**1.46**	**214**	PN	**Pg**	**11 29 27.2**	**-0.7**
CUKT	**Cukurca**	**1.48**	**175**	PN	**Pn**	**11 29 26.4**	**+0.1**
CUKT	**Cukurca**	**1.48**	**175**	P	**Pn**	**11 29 26.0**	**-0.4**
METS	**Metsamor**	**1.50**	**19**	*i* P	**Pb**	**11 29 27.4**	**-0.2**
METS				*i* S	**Sg**	**11 29 49.7**	**+1.5**
NRKZ	**NAREK**	**1.58**	**36**	*i* P	**Pb**	**11 29 29.2**	**+0.3**
NRKZ				*i* S	**Sg**	**11 29 53.5**	**+2.9**
DIGO	**Kars**	**1.69**	**358**	P	**Pb**	**11 29 30.3**	**-0.6**
GNI	**Garni**	**1.73**	**35**	*i* P	**Pn**	**11 29 30.7**	**+0.8**
GNI				*i* S	**Sg**	**11 29 57.8**	**+2.2**
GNI	**Garni**	**1.73**	**35**	PN	**Pn**	**11 29 30.4**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**1.77**	**316**	PN	**Pb**	**11 29 31.5**	**-0.8**
HOMI	**Horasan**	**1.78**	**318**	P	**Pb**	**11 29 32.2**	**-0.3**
KAPZ	**Kaputan**	**1.86**	**31**	*i* P	**Pn**	**11 29 32.5**	**+0.9**
KAPZ				*i* S	**Sg**	**11 29 59.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.86**	**253**	PN	**Pb**	**11 29 33.2**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.86**	**253**	P	**Pb**	**11 29 33.9**	**+0.1**
BTMN	**Batman**	**1.91**	**245**	P	**Pb**	**11 29 33.9**	**-0.7**
KARS	**Kars**	**1.92**	**351**	PN	**Pn**	**11 29 32.9**	**+0.5**
EAK	**Akyaka**	**1.96**	**3**	P	**Pb**	**11 29 35.1**	**-0.4**
KARO	**Karliova-Bingo**	**1.96**	**288**	PN	**Pb**	**11 29 34.2**	**-1.4**
EJDE	**Erzurum, Palan**	**2.00**	**304**	PN	**Pn**	**11 29 34.5**	**+0.8**
EJDE	**Erzurum, Palan**	**2.00**	**304**	P	**Pn**	**11 29 34.9**	**+1.2**
ERZM	**Erzurum**	**2.00**	**307**	PN	**Pn**	**11 29 34.6**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.02**	**335**	PN	**Pn**	**11 29 34.5**	**+0.7**
BNGB	**Bingl**	**2.19**	**278**	PN	**Pn**	**11 29 37.2**	**+1.2**
GRS	**Goris**	**2.37**	**70**	‖ *i* P	**Pn**	**11 29 37.0**	**-1.5**
GRS				‖ *i* S	**Sb**	**11 30 12.0**	**+0.4**
DAGI	**Agillar**	**2.63**	**334**	P	**Pb**	**11 29 47.7**	**+0.8**
AKH	**Akhalkalaki**	**2.68**	**1**	PN	**Pn**	**11 29 43.7**	**+0.8**
DYBB	**Diyarbakir**	**2.72**	**255**	PN	**Pn**	**11 29 44.9**	**+1.6**
BAYT	**Aydintepe-Bayb**	**3.06**	**304**	PN	**Pn**	**11 29 49.3**	**+1.3**

*SLM **29** 11:31:48.6±1.5, 36°.564N±0°.007×89°.85W±0°.01, $h7^{km}$±4km, Md2.5/16, ML2.1/28(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=88.0*

NEIC 29 11:31:48.6±0.8, 36°.565N±0°.010×89°.86W±0°.01, $h11^{km}$±3km, Error ellipse: s-maj=1.8km s-min=1.0km az=225.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOPM	**Tallapoosa**	**0.05**	**211**		Pg	11 31 52.1	+1.4
MLDM	**Malden**	**0.08**	**321**		Pg	11 31 52.9	+1.9
PARMO	**Parma**	**0.13**	**41**		Pg	11 31 51.7	-0.1
PARMO					Sg	11 31 54.1	+0.1
PARMO	**Parma**	**0.13**	**41**	IAML		11 31 54.3	
	comp=E,2μm,0.3s						
PARMO				IAML		11 31 54.5	
	comp=N,2μm,0.3s						
PGVM	**Portageville**	**0.15**	**135**		Pg	11 31 51.9	-0.1
PGVM					Sg	11 31 54.5	+0.1
MARMO	**Marston**	**0.16**	**103**		Pg	11 31 52.0	-0.1
MARMO					Sg	11 31 54.8	+0.1
BETM	**Bethany**	**0.17**	**286**		Pb	11 31 55.5	+1.7
CATM	**Catron**	**0.18**	**74**		Pg	11 31 52.4	-0.1
CATM					Sg	11 31 55.5	+0.3
COKM	**Charter Oak**	**0.18**	**36**		Pg	11 31 52.6	0.0
COKM					Sg	11 31 55.6	+0.3
BRNM	**Bernie**	**0.19**	**325**		Pg	11 31 53.0	+0.2
BRNM					Sg	11 31 56.2	+0.6
PVMO	**Portageville**	**0.20**	**140**	Pg	Pg	11 31 52.7	-0.2
PVMO				IAML		11 31 56.2	
	comp=N,683nm,0.3s						
PVMO				Sg	Sg	11 31 56.0	+0.3
WADM	**Wardell**	**0.20**	**166**		Pg	11 31 52.9	0.0
WADM					Sg	11 31 56.3	+0.4
PENMO	**Penman**	**0.22**	**122**		Pg	11 31 53.1	-0.1
PENMO					Sg	11 31 56.5	+0.2
NMEM	**New Madrid Sch**	**0.22**	**88**		Pg	11 31 53.1	-0.1
POBM	**Portage Bay**	**0.22**	**134**		Pg	11 31 53.2	-0.1
POBM					Sg	11 31 56.8	+0.3
NMMO	**New Madrid**	**0.25**	**85**		Pg	11 31 53.7	-0.1
KEWM	**Kewanee**	**0.25**	**58**		Pg	11 31 53.7	-0.1
KEWM					Sg	11 31 57.6	+0.2
WALK	**Watson Lake**	**0.26**	**96**		Pg	11 31 53.8	-0.1
WALK					Sg	11 31 57.7	+0.2
PPLM	**Point Pleasant**	**0.28**	**126**		Pg	11 31 54.1	-0.1
PPLM					Sg	11 31 58.3	+0.4
MATM	**Matthews**	**0.29**	**44**		Pg	11 31 54.5	-0.1
MATM					Sg	11 31 58.9	+0.3
HENM	**Henderson Moun**	**0.35**	**64**		Pg	11 31 55.3	-0.2
PBMO	**Poplar Bluff**	**0.51**	**295**	Pg	Pg	11 31 58.4	-0.1
PBMO				Sg	Sg	11 32 05.6	+0.4
PBMO				IAML		11 32 05.7	
	comp=N,219nm,0.2s						
PBMO				IAML		11 32 06.1	
	comp=E,128nm,0.2s						
HICK	**Hickman**	**0.51**	**93**		Pg	11 31 58.3	-0.3
HICK	**Hickman**	**0.51**	**93**	Sg	Sb	11 32 06.2	-0.8
HICK				IAML		11 32 08.6	
	comp=E,113nm,0.2s						
HICK				IAML		11 32 15.2	
	comp=N,102nm,0.3s						
GLAT	**Glass**	**0.55**	**122**		Pg	11 31 58.8	-0.5
GLAT				Sg	Sg	11 32 07.2	+0.7
GLAT				IAML		11 32 11.6	
	comp=N,151nm,1.3s						
GLAT				IAML		11 32 15.3	
	comp=E,109nm,0.7s						
LNXT	**Lenox**	**0.55**	**147**		Pg	11 31 59.1	-0.3
LNXT				IAML		11 32 14.3	
	comp=E,104nm,0.8s						
GNAR	**Gosnell**	**0.61**	**192**		Pg	11 32 00.6	+0.1
GNAR					Sb	11 32 10.6	+0.6
GNAR				IAML		11 32 11.8	
	comp=N,153nm,0.4s						
CGM3	**Cape Girardeau**	**0.75**	**12**		Pg	11 32 02.4	-0.8
HALT	**Halls**	**0.78**	**147**		Pg	11 32 03.3	-0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.66**	**185**	P	P	12 28 20.5	+1.2
	0.2nm,0.6s,baz=3.1,slow=11,SNR=1.9						
H11S3	**WAKE ISLAND Hy**	**31.07**	**67**	T	T	13 00 37.8	
	baz=253,slow=75,SNR=106						
H11S1	**WAKE ISLAND Hy**	**31.09**	**67**	T	T	13 00 42.7	
	baz=253,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy**	**31.09**	**67**	T	T	13 00 41.9	
	baz=253,slow=75,SNR=84						
ASAR	**Alice Springs**	**31.39**	**185**	P	P	12 28 51.4	-0.9
	0.4nm,0.7s,baz=18,slow=12,SNR=6.8						
MKAR	**Makanchi Array**	**60.35**	**320**	P	P	12 32 40.7	+0.2
	0.6nm,0.6s,baz=106,slow=8.4,SNR=8.2						
KURBB	**Kurchatov Arra**	**64.07**	**323**	P	P	12 33 05.2	-0.1
	0.5nm,0.6s,baz=116,slow=5.6,SNR=1.4						
BVAR	**Borovoye Array**	**69.61**	**324**	P	P	12 33 40.4	-0.3
	0.7nm,0.7s,baz=76,slow=14,SNR=3.7						

*TUL **29** 13:28:15.3±1.1, 36°.74N±0°.02×98°.35W±0°.03, h4km±6km, ML2.7, mb_Lg2.4/5(NEIC), Error ellipse: s-maj=3.9km s-min=1.8km az=134.0*

NEIC 29 13:28:15.6±0.9, 36°.73N±0°.02×98°.35W±0°.02, h5km±6km, Error ellipse: s-maj=3.7km s-min=1.8km az=140.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.14**	**55**	Pg	Pg	13 28 18.6	+0.3
OK032				Sg	Sg	13 28 20.8	+0.6
OK035	**E0210 Rd and N**	**0.29**	**267**	Pg	Pg	13 28 21.2	0.0
OK035				Sg	Sg	13 28 25.6	+0.6
CROK	**Carrier**	**0.37**	**127**	Pg	Pg	13 28 23.0	+0.3
CROK				Sg	Sg	13 28 28.2	+0.7
KAN14	**Manchester OK**	**0.39**	**53**	Pg	Pg	13 28 23.1	0.0
KAN14				Sg	Sg	13 28 28.4	+0.3
GC02	**Grant County #**	**0.41**	**72**	Pg	Pg	13 28 23.6	+0.1
GC02				Sg	Sg	13 28 29.3	+0.4
KAN10	**Anthony SW Sta**	**0.45**	**27**	Pg	Pg	13 28 23.9	-0.2
KAN05	**Bluff City Nor**	**0.54**	**45**	Pg	Pg	13 28 25.8	-0.2
KAN05				Sg	Sg	13 28 33.4	+0.4
KAN16	**Harper SW Stat**	**0.55**	**24**	Pg	Pg	13 28 25.9	-0.2
KAN17	**Caldwell West**	**0.57**	**56**	Pg	Pg	13 28 26.1	-0.3
KAN08	**Anthony NE Sta**	**0.58**	**31**	Pg	Pg	13 28 26.6	-0.2
U32A	**Winter Ranch,**	**0.63**	**237**	Pg	Pg	13 28 27.5	-0.1
KAN12	**Harper NE Stat**	**0.64**	**26**	Pg	Pg	13 28 27.6	-0.2
KAN01	**Argonia South**	**0.64**	**48**	Pg	Pg	13 28 27.6	-0.2
KAN06	**Argonia West S**	**0.65**	**37**	Pg	Pg	13 28 27.8	-0.3
KAN13	**South Haven SW**	**0.76**	**67**	Pg	Pg	13 28 30.0	-0.1
OK029	**Liberty Lake**	**1.18**	**142**	Pg	Pg	13 28 37.6	-0.5
BCOK	**Bluff Creek, N**	**1.22**	**151**	Pg	Pg	13 28 38.2	-0.8
OK033	**Mehan**	**1.32**	**120**	Pn	Pn	13 28 40.2	-0.5
OK025	**Westminster Rd**	**1.41**	**144**	Pn	Pn	13 28 41.8	0.0
QUOK	**Quay**	**1.43**	**112**	Pn	Pn	13 28 41.8	-0.3
OK031	**S. Brethren Rd**	**1.44**	**122**	Pn	Pn	13 28 42.1	-0.2
T35A	**Sooner Cattle**	**1.49**	**82**	Pn	Pn	13 28 42.9	0.0
OK030	**Cody Creek RV**	**1.49**	**122**	Pn	Pn	13 28 42.8	-0.2
OK034	**N. Norfolk Rd.**	**1.50**	**118**	Pn	Pn	13 28 42.9	-0.2
FNO	**Franklin**	**1.66**	**152**	Pn	Pn	13 28 45.3	+0.1
R32A	**Long Quarter,**	**1.72**	**350**	Pn	Pn	13 28 46.7	+0.6
W35A	**Tecumseh**	**1.97**	**142**	Pn	Pn	13 28 49.7	+0.1
WMOK	**Wichita Mounta**	**2.01**	**190**	Pn	Pn	13 28 50.5	+0.3
X34A	**Smith Ranch, M**	**2.16**	**169**	Pn	Pn	13 28 53.3	+1.1
X34A				IAmb_Lg		13 29 27.5	
	comp=Z,18nm,0.8s						
TUL1	**Leonard**	**2.22**	**111**	Pn	Pn	13 28 53.6	+0.6
U38A	**Gravette**	**3.20**	**94**	Pn	Pn	13 29 06.1	-0.5
X37A	**Clayton**	**3.23**	**130**	Pn	Pn	13 29 07.4	+0.6
AMTX	**Amarillo**	**3.27**	**237**	Pn	Pn	13 29 07.6	0.0
HHAR	**Hobbs**	**3.58**	**96**	Pn	Pn	13 29 12.3	+0.6
W39A	**Magazine**	**4.00**	**111**	Pn	Pn	13 29 15.6	-2.0
S39A	**Bolivar**	**4.13**	**75**	Pn	Pn	13 29 20.0	+0.8
S39A				IAmb_Lg		13 30 37.3	
	comp=Z,7.4nm,0.7s						
U40A	**Yellville**	**4.44**	**93**	Pn	Pn	13 29 23.2	-0.3
P38A	**Dawn**	**4.77**	**51**	IAmb_Lg		13 30 48.8	
	comp=Z,7.8nm,0.9s						
T25A	**Trinidad**	**4.87**	**277**	Pn	Pn	13 29 27.5	-2.2
MGMO	**Mountain Grove**	**4.89**	**83**	Pn	Pn	13 29 31.1	+1.4
X40A	**Basin Creek Fa**	**5.02**	**115**	Pn	Pn	13 29 32.8	+1.4
R40A	**Maddies Statio**	**5.08**	**70**	Pn	Pn	13 29 31.5	-0.8
W41B	**Gary Mavity, V**	**5.18**	**106**	Pn	Pn	13 29 32.8	-0.9
CCM	**Cathedral Cave**	**5.81**	**75**	Pn	Pn	13 29 43.5	+1.1

*IDC **29** 13:30:34.8±1.7, 7°.01N×76°.95W, h0km, mb3.0/1, mb1 3.6/3, mb1mx3.3/30, mbtmp3.5/3, ML2.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/17, Error ellipse: s-maj=50.0km s-min=27.7km az=37.0*

*RSNC **29** 13:30:38.5±1.0, 6°.87N×76°.67W, h5km±4km, ML3.2, Mw3.7*

ISC 29 13:30:38.3±0.9, 6°.88N±0°.02×76°.77W±0°.03, h21km±4km, n40, σ2°39/78, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**1.06**	**285**	*e*P	**Pn**	**13 30 58.3**	**+0.4**
PTAC				*e*S	**Sn**	**13 31 14.7**	**+2.6**
PTAC				*i*		13 31 15.9	
	comp=Z,1μm,0.2s						
CBOC	**Ciudad Bolivar**	**1.26**	**143**	*e*Pg	**Pn**	**13 30 58.7**	**-2.0**
CBOC				*e*P	**Pb**	**13 30 59.5**	**-1.9**
CBOC				*e*S	**Sn**	**13 31 15.2**	**-1.9**
CBOC				*i*		13 31 20.5	
	comp=Z,638nm,0.4s						
HELC	**Santa Helena**	**1.41**	**119**	*e*P	**Pn**	**13 31 00.8**	**-2.2**
HELC				*e*S	**Sn**	**13 31 19.7**	**-1.4**
HELC				*i*		13 31 23.0	
	comp=Z,310nm,0.5s						
UREC	**San Jos de Ur**	**1.50**	**55⇑**	*e*P	**Pn**	**13 31 02.9**	**-1.2**
UREC				*e*S	**Sn**	**13 31 22.5**	**-0.5**
UREC				*i*		13 31 23.4	
	comp=Z,395nm,0.4s						
CAPC	**Capurgana**	**1.84**	**342**	*e*Pg	**Pn**	**13 31 07.5**	**-1.1**
CAPC				*e*P	**Pb**	**13 31 10.0**	**-1.3**
CAPC				*e*S	**Sb**	**13 31 32.8**	**-1.0**
CAPC				*i*		13 31 43.1	
	comp=Z,210nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.99**	**72**	*e*P	**Pn**	**13 31 10.0**	**-0.8**
ZARC				*e*S	**Sn**	**13 31 34.6**	**-0.5**
ZARC				*i*		13 31 36.1	
	comp=Z,309nm,0.4s						
LCBC	**Los crdobas,**	**2.01**	**11**	*e*P	**Pn**	**13 31 12.0**	**+1.1**
LCBC				*e*S	**Sb**	**13 31 40.9**	**+2.3**
LCBC				*i*		13 31 41.9	
	comp=Z,211nm,0.3s						
PLMC	**San Jos del P**	**2.02**	**166⇑**	*e*P	**Pn**	**13 31 08.1**	**-3.0**
PLMC				*e*S	**Sn**	**13 31 30.5**	**-5.3**
PLMC				*i*		13 31 32.5	
	comp=Z,414nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.16**	**140**	*e*P	**Pn**	**13 31 13.6**	**+0.2**
GUY2C				*e*S	**Sn**	**13 31 40.7**	**+1.0**
GUY2C				*i*		13 31 48.5	
	comp=Z,156nm,0.5s						
MOTC	**Monteria, Cord**	**2.18**	**30**	*e*P	**Pn**	**13 31 12.6**	**-0.8**
MOTC				*e*Pg	**Pb**	**13 31 21.2**	**+4.1**
MOTC				*e*S	**Sn**	**13 31 38.6**	**-1.1**
MOTC				*i*		13 31 47.7	
	comp=Z,63nm,0.4s						
NORC	**Norcasia**	**2.30**	**125**	*e*P	**Pn**	**13 31 15.8**	**+0.8**
NORC				*e*S	**Sn**	**13 31 43.9**	**+1.2**
NORC				*i*		13 31 49.0	
	comp=Z,132nm,0.5s						
PTBC	**PUERTO BERRIO,**	**2.32**	**98**	*e*P	**Pn**	**13 31 15.4**	**+0.2**
PTBC				*e*S	**Sn**	**13 31 42.5**	**-0.7**
PTBC				*i*		13 31 45.7	
	comp=Z,330nm,0.5s						
ANIL	**Santa Ana**	**2.73**	**150**	*e*P	**Pn**	**13 31 22.3**	**+1.2**
ANIL				*e*S	**Sn**	**13 31 56.1**	**+2.4**
ANIL				*i*		13 32 00.4	
	comp=Z,220nm,0.4s						
YOTC	**Yotoco, Valle**	**2.91**	**172**	*e*P	**Pn**	**13 31 20.9**	**-2.5**
YOTC				*e*S	**Sn**	**13 31 52.0**	**-5.8**
YOTC				*i*		13 31 53.0	
	comp=Z,72nm,0.3s						
SPBC	**San Pablo de B**	**2.94**	**114**	*e*P	**Pn**	**13 31 25.3**	**+1.4**
SPBC				*e*S	**Sn**	**13 32 00.9**	**+2.2**
SPBC				*i*		13 32 21.2	
	comp=Z,50nm,0.6s						
ROSC	**El Rosal**	**3.17**	**130**	Pn	**Pn**	**13 31 29.7**	**+2.4**
	comp=Z,15nm,0.3s,baz=321,slow=6.5,SNR=11						
ROSC				Sn	**Sb**	**13 32 11.5**	**-1.0**
	comp=Z,11nm,0.3s,baz=216,slow=23,SNR=6.0						
ROSC	**El Rosal**	**3.17**	**130**	*e*P	**Pn**	**13 31 29.6**	**+2.3**
ROSC				*e*S	**Sb**	**13 32 11.3**	**-1.1**
ROSC				*i*		13 32 14.1	
	comp=Z,55nm,0.7s						
SMLC	**San Martn de**	**3.29**	**54**	*e*P	**Pn**	**13 31 29.5**	**+1.0**
SMLC				*e*S	**Sn**	**13 32 04.4**	**-2.6**
SMLC				*i*		13 32 22.8	
	comp=Z,68nm,0.4s						
ORTC	**Ortega, Tolima**	**3.32**	**153**	*e*P	**Pn**	**13 31 30.9**	**+1.9**
ORTC				*e*S	**Sn**	**13 32 10.7**	**+2.9**
ORTC				*i*		13 32 21.4	
	comp=Z,49nm,0.6s						
BARC	**Barichara**	**3.57**	**94**	*e*P	**Pn**	**13 31 33.0**	**+0.3**
BARC				*e*S	**Sn**	**13 32 13.4**	**-1.1**
BARC				*i*		13 32 22.9	
	comp=Z,81nm,0.7s						
AZU	**Azuero**	**3.59**	**285**	*e*P	**Pn**	**13 31 33.7**	**+0.9**
AZU				*e*S	**Sn**	**13 32 14.0**	**-0.5**
PRAC	**Prado**	**3.66**	**149**	*e*P	**Pn**	**13 31 37.4**	**+3.7**
PRAC				*e*S	**Sn**	**13 32 20.0**	**+3.7**
PRAC				*i*		13 32 28.7	
	comp=Z,44nm,0.7s						
OCAC	**Ocana**	**3.68**	**68**	*e*P	**Pn**	**13 31 38.1**	**+4.1**
OCAC				*e*S	**Sn**	**13 32 15.6**	**-1.3**
OCAC				*i*		13 32 31.9	
	comp=Z,142nm,0.4s						
CHIC	**Chingaza**	**3.76**	**126**	*e*P	**Pn**	**13 31 37.9**	**+2.5**
CHIC				*e*S	**Sn**	**13 32 25.1**	**+5.9**
CHIC				*i*		13 32 47.6	
	comp=Z,20nm,0.5s						
RUSC	**La Rusia**	**3.79**	**105**	*e*P	**Pn**	**13 31 35.9**	**-0.1**
RUSC				*e*Pg	**Pb**	**13 31 43.7**	**-1.1**
RUSC				*e*S	**Sn**	**13 32 24.3**	**+4.1**
RUSC				*i*		13 32 41.4	
	comp=Z,56nm,0.7s						
PAMC	**Pamplona, Colo**	**4.07**	**83**	*e*P	**Pn**	**13 31 40.6**	**+0.9**
PAMC				*e*S	**Sn**	**13 32 26.0**	**-0.9**
PAMC				*i*		13 32 40.5	
	comp=Z,52nm,0.5s						
POPC	**Popayan, Colom**	**4.31**	**179**	*e*P	**Pn**	**13 31 42.5**	**-0.3**
POPC				*e*S	**Sn**	**13 32 30.6**	**-2.0**
POPC				*i*		13 32 38.5	
	comp=Z,19nm,0.3s						
BETC	**Betania**	**4.37**	**162**	*e*P	**Pn**	**13 31 46.1**	**+2.6**
BETC				*e*S	**Sn**	**13 32 35.5**	**+1.6**
BETC				*i*		13 32 39.4	
	comp=Z,39nm,0.5s						
LL6C	**La Loma 6 Bece**	**4.48**	**50**	*e*P	**Pn**	**13 31 46.4**	**+1.5**
LL6C				*e*S	**Sn**	**13 32 34.6**	**-1.8**
LL6C				*i*		13 33 01.7	
	comp=Z,15nm,0.7s						
PCON	**Cinco Dias**	**4.53**	**175**	*e*P	**Pn**	**13 31 48.4**	**+2.2**
PCON				*e*S	**Sn**	**13 32 39.5**	**+0.9**
PCON				*i*		13 32 51.0	
	comp=Z,18nm,0.4s						
SOTA	**Rioblanco**	**4.71**	**178**	*e*P	**Pn**	**13 31 49.6**	**+1.0**
SOTA				*e*S	**Sn**	**13 32 43.5**	**+0.6**
SOTA				*i*		13 32 52.9	
	comp=Z,22nm,0.5s						
GARC	**Garzon, Huila**	**4.83**	**165**	*e*P	**Pn**	**13 31 50.7**	**+0.7**
GARC				*e*S	**Sn**	**13 32 45.2**	**-0.3**
GARC				*i*		13 32 52.6	
	comp=Z,17nm,0.3s						
MACC	**Macarena, Meta**	**5.53**	**148**	*e*P	**Pn**	**13 32 01.6**	**+2.2**
MACC				*e*S	**Sn**	**13 33 10.2**	**+7.8**
CRJC	**Cerrejon, Guaj**	**5.63**	**43**	*e*P	**Pn**	**13 32 01.7**	**+0.8**
CRJC				*e*S	**Sn**	**13 33 01.0**	**-3.9**
CRJC				*i*		13 33 08.4	
	comp=Z,27nm,0.5s						
SOCV	**Socops**	**6.03**	**76**	*e*P	**Pn**	**13 32 06.1**	**-0.1**
SOCV				*e*S	**Sn**	**13 33 11.6**	**-3.0**
SDV	**Santo Domingo**	**6.40**	**71**	Pn	**Pn**	**13 32 11.8**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=264,slow=9.2,SNR=7.4						
SDV				Sn	**Sn**	**13 33 20.7**	**-3.4**
	comp=Z,2.2nm,0.3s,baz=351,slow=17,SNR=1.9						
ATAH	**Atahualpa**	**14.01**	**187**	LR	LR	13 40 60.0	
	comp=Z,89nm,20.0s,baz=25,slow=44						
NNA	**Nana**	**18.74**	**180**	LR	LR	13 42 54.9	
	comp=Z,31nm,19.1s,baz=9.5,slow=39						
YKA	**Yellowknife Ar**	**62.00**	**341**	P	**P**	**13 40 55.6**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=133,slow=6.4,SNR=2.0						
ASAR	**Alice Springs**	**146.15**	**237**	PKPbc	**PKPdf**	**13 50 16.5**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=114,slow=3.6,SNR=4.1						

*IDC **29** 13:31:26.5±3.4, 7°.23S×129°.62E, h86km±31km, mb4.0/15, mb1 4.2/18, mb1mx3.8/45, mbtmp4.4/18, MS3.2/2, Ms1 3.2/2, ms1mx2.5/69, Error ellipse: s-maj=28.8km s-min=14.0km az=69.0*

*DJA **29** 13:31:30.3±0.3, 7°.S±3°×13°.0E±°, h169km±11km, M4.5/12, mb4.6/11, mB5.1/7, MLv4.7/12, Mw(mB)4.4/7*

*NEIC **29** 13:31:32.2±2.0, 7°.22S±0°.06×129°.68E±0°.08, h136km±5km, mb4.4/18, Error ellipse: s-maj=12.1km s-min=9.3km az=89.0*

ISC 29 13:31:31.8±0.4, 7°.24S±0°.05×129°.74E±0°.06, h139km, n76, σ1°39/73, mb4.2/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.71**	**116**	P	**Pn**	**13 32 02.5**	**-0.3**
SAUI	**Saumlaki**	**1.71**	**116**	Pn	**Pn**	**13 32 03.8**	**+1.0**
AAI	**Ambon**	**3.85**	**336**	P	**Pn**	**13 32 30.7**	**+0.9**
MSAI	**Masohi**	**3.95**	**348**	P	**Pn**	**13 32 32.3**	**+1.1**
FAKI	**Fak Fak**	**4.96**	**30**	P	**Pn**	**13 32 43.1**	**-1.5**
	0.8nm3μm58nm,0.5s						
FAKI	**Fak Fak**	**4.96**	**30**		**Pn**	**13 32 43.0**	**-1.6**
MTN	**Manton Dam**	**5.73**	**166**	Pn	**Pn**	**13 32 54.0**	**-0.9**
SOEI	**Soe**	**5.97**	**245**	P	**Pn**	**13 32 57.5**	**-0.6**
	0.9nm3μm204nm,0.9s						
SOEI	**Soe**	**5.97**	**245**		**Pn**	**13 32 57.3**	**-0.8**
SANI	**Sanana**	**6.37**	**324**	P	**Pn**	**13 33 05.2**	**+1.8**
	0.1nm29nm,0.7s						
SIJI	**Sorong**	**6.51**	**14**	S	**Sn**	**13 34 12.2**	**-6.1**
	14nm,0.3s,baz=232,slow=23,SNR=8.0						
SWI	**Sorong**	**6.51**	**13**	P	**Pn**	**13 33 04.0**	**-1.3**
	0.4nm1μm31nm,0.7s						
BATI	**Baumata**	**6.69**	**243**	P	**Pn**	**13 33 06.4**	**-1.3**
	50nm,0.3s,baz=109,slow=3.3,SNR=32						
BATI				S	**Sn**	**13 34 18.7**	**-4.1**
	30nm,0.3s,baz=274,slow=22,SNR=8.0						
BATI	**Baumata**	**6.69**	**243**	P	**Pn**	**13 33 06.9**	**-0.8**
	0.5nm2μm125nm,0.6s						
LBMI	**Labuha**	**6.93**	**341**	P	**Pn**	**13 33 11.2**	**+0.3**
	0.1nm26nm,1.1s						
MMRI	**Maumere**	**7.56**	**259**	P	**Pn**	**13 33 18.4**	**-1.0**
	0.3nm50nm,0.9s						
TNTI	**Ternate**	**8.30**	**343**	P	Pn	13 33 13.9	-15
KNRA	**Kununurra**	**8.44**	**186**		**Pn**	**13 33 28.7**	**-2.5**
KAPI	**Kappang**	**10.18**	**282**	LR	LR	13 38 23.3	
	comp=Z,29nm,19.1s,baz=178,slow=41						
FITZ	**Fitzroy Crossi**	**11.51**	**200**	P	Pn	13 34 07.3	-4.7
	5.3nm,0.3s,baz=33,slow=10,SNR=76						
FITZ				S	Sn	13 36 06.2	-13
	5.7nm,0.3s,baz=229,slow=19,SNR=7.8						
WRA	**Warramunga Arr**	**13.39**	**161**	P	Pn	13 34 32.1	-4.3
	6.3nm,0.3s,baz=336,slow=14,SNR=110						
WRA				S	Sn	13 36 52.7	-12
	6.9nm,0.3s,baz=331,slow=22,SNR=15						
COEN	**Coen**	**14.79**	**118**		**Pn**	**13 34 53.3**	**-0.9**
BBKI	**Banjar Baru**	**15.30**	**283**	P	**P**	**13 35 05.7**	**+3.5**
JAGI	**Jajag, Banyuwa**	**15.49**	**264**	Pn	**Pn**	**13 35 01.5**	**-1.5**
JAGI				IAmb	IAmb	13 35 04.6	
	comp=Z,38nm,1.3s						
AS31	**Alice Springs**	**16.81**	**167**	P	**P**	**13 35 17.8**	**-1.1**
ASAR	**Alice Springs**	**16.82**	**167**	P	**P**	**13 35 17.1**	**-1.8**
	comp=Z,3.2nm,0.3s,baz=336,slow=9.5,SNR=221						
ASAR				S	S	13 38 05.6	-21
	comp=Z,0.5nm,0.3s,baz=348,slow=17,SNR=2.6						
ASAR	**Alice Springs**	**16.82**	**167**	P	**P**	**13 35 17.6**	**-1.3**
MBWA	**Marble Bar**	**16.89**	**214**	P	**P**	**13 35 19.7**	**0.0**
PSA00	**Pilbara Seismi**	**17.16**	**213**	P	**P**	**13 35 22.7**	**0.0**
PSA00	**Pilbara Seismi**	**17.16**	**213**	P	**P**	**13 35 22.7**	**0.0**
FORT	**Forrest**	**23.47**	**184**	P	**P**	**13 36 30.3**	**+1.4**
FORT				IAmb	IAmb	13 36 42.1	
	comp=Z,20nm,0.8s						
MORW	**Morawa**	**25.27**	**209**	P	**P**	**13 36 44.9**	**-0.4**
MORW				IAmb	IAmb	13 37 12.2	
	comp=Z,25nm,1.4s						
BBOO	**Buckleboo**	**26.11**	**168**	P	**P**	**13 36 55.2**	**+2.5**
STKA	**Stephens Creek**	**26.89**	**157**	P	**P**	**13 37 01.1**	**+1.3**
	comp=Z,4.4nm,0.5s,baz=341,slow=11,SNR=12						
STKA	**Stephens Creek**	**26.89**	**157**	P	**P**	**13 37 00.5**	**+0.7**
NWAO	**Narrogin (SRO)**	**28.08**	**203**	P	**P**	**13 37 09.4**	**-1.0**
TOO	**Toolangi**	**33.41**	**157**	P	**P**	**13 37 59.0**	**+1.8**
TOO				IAmb	IAmb	13 38 08.3	
	comp=Z,6.7nm,1.4s						
CMAR	**Chiang Mai Arr**	**39.69**	**310**	P	**P**	**13 38 50.1**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=139,slow=7.3,SNR=9.2						
CMAR	**Chiang Mai Arr**	**39.69**	**310**	P	**P**	**13 38 49.2**	**-1.5**
KSAR	**Wonju Array Be**	**44.48**	**358**	P	**P**	**13 39 29.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**51.24**	**2**	P	**P**	**13 40 21.2**	**+0.1**
	comp=Z,3.2nm,0.5s,baz=200,slow=9.7,SNR=5.6						
USRK	**Ussuriysk Ar.**	**51.24**	**2**	P	**P**	**13 40 21.6**	**+0.5**
KLR	**Kul'dur**	**56.26**	**2**	P	**P**	**13 40 58.5**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=187,slow=2.9,SNR=3.8						
SONM	**Songino Array**	**58.59**	**342**	P	**P**	**13 41 14.8**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=160,slow=7.7,SNR=7.5						
SONM	**Songino Array**	**58.59**	**342**	P	**P**	**13 41 14.1**	**0.0**
SONM				IAmb	IAmb	13 41 16.0	
	comp=Z,3.6nm,1.4s						
PETK	**Petropavlovsk-**	**64.63**	**18**	P	**P**	**13 41 55.4**	**+1.1**
	comp=Z,8.7nm,1.1s,baz=170,slow=4.5,SNR=5.3						
PETK				PcP	**PcP**	**13 42 27.0**	**0.0**
	comp=Z,3.0nm,0.9s,baz=191,slow=1.5,SNR=5.7						
PETK	**Petropavlovsk-**	**64.63**	**18**	P	**P**	**13 41 55.2**	**+0.9**
MK31	**Makanchi Array**	**68.29**	**327**	P	**P**	**13 42 18.6**	**+0.8**
MK31				IAmb	IAmb	13 42 18.8	
	comp=Z,3.8nm,0.6s						
MKAR	**Makanchi Array**	**68.29**	**327**	P	**P**	**13 42 18.2**	**+0.4**
	comp=Z,5.6nm,0.5s,baz=117,slow=8.2,SNR=184						
MKAR	**Makanchi Array**	**68.29**	**327**	P	**P**	**13 42 18.4**	**+0.6**
MAKZ	**Makanchi**	**68.47**	**327**	P	**P**	**13 42 19.5**	**+0.6**
MAKZ				IAmb	IAmb	13 42 19.8	
	comp=Z,5.1nm,0.6s						
AAK	**Ala-Archa**	**70.56**	**320**	P	**P**	**13 42 33.2**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=159,slow=5.9,SNR=4.1						
ZAA0	**Zalesovo Array**	**71.69**	**334**	P	**P**	**13 42 38.2**	**-0.1**
ZAA0				IAmb	IAmb	13 42 38.9	
	comp=Z,8.6nm,1.2s						
ZALV	**Zalesovo Beam**	**71.69**	**334**	P	**P**	**13 42 37.7**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=119,slow=5.2,SNR=16						
ZALV	**Zalesovo Beam**	**71.69**	**334**	P	**P**	**13 42 37.9**	**-0.4**
SEY	**Seymchan**	**72.09**	**11**	P	**P**	**13 42 41.6**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=220,slow=6.1,SNR=12						
KURBB	**Kurchatov Arra**	**72.58**	**329**	P	**P**	**13 42 43.7**	**0.0**
	comp=Z,3.1nm,0.6s,baz=128,slow=4.9,SNR=30						
KURK	**Kurchatov**	**72.59**	**329**	P	**P**	**13 42 43.1**	**-0.7**
KURK				IAmb	IAmb	13 42 45.1	
	comp=Z,8.4nm,1.1s						
KKAR	**Karatay Array**	**73.35**	**319**	P	**P**	**13 42 48.6**	**+0.1**
BVAR	**Borovoye Array**	**78.13**	**328**	P	**P**	**13 43 15.1**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=93,slow=7.6,SNR=17						
BRVK	**Borovoye**	**78.20**	**328**	P	**P**	**13 43 15.3**	**-0.5**
BRVK				IAmb	IAmb	13 43 16.9	
	comp=Z,4.4nm,0.8s						
ABKAR	**Akbulak array**	**82.54**	**322**	P	**P**	**13 43 38.7**	**-0.4**
QSPA	**South Pole Qui**	**82.74**	**180**	P	**P**	**13 43 40.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=282,slow=1.0,SNR=11						
QSPA	**South Pole Qui**	**82.74**	**180**	P	**P**	**13 43 39.9**	**-0.1**
ARU	**Arti**	**85.77**	**328**	P	**P**	**13 43 55.1**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=121,slow=2.7,SNR=9.2						
IMAR	**Indian Mountai**	**91.12**	**23**	P	**P**	**13 44 21.4**	**+1.0**
ILAR	**Eielson Array**	**93.67**	**25**	P	**P**	**13 44 31.3**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=255,slow=4.7,SNR=7.1						
MMAI	**Mount Meron Ar**	**97.53**	**302**	LR	LR	14 36 50.7	
	comp=Z,48nm,19.1s,baz=41,slow=40						
YKA	**Yellowknife Ar**	**108.08**	**26**	PKiKP	**PKiKP**	**13 49 43.5**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=296,slow=1.7,SNR=7.7						
PDAR	**Pinedale Array**	**117.24**	**45**	PKP	**PKiKP**	**13 50 02.4**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=270,slow=0.9,SNR=4.6						
TXAR	**Lajitas Array**	**125.27**	**59**	PKP	**PKiKP**	**13 50 18.8**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=19,slow=2.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**128.61**	**281**

MAT	**Matsushiro**	**3.57**	**241**	P		**Pn**	**13 47 55.5**	**+3.3**
MAT				*e*S		**Sn**	**13 48 36.9**	**+3.7**
ASAJ	**Asahikawa**	**5.80**	**4**	P		**Pn**	**13 48 24.0**	**+1.2**
	0.8nm,0.3s,baz=222,slow=16,SNR=14							
USRK	**Ussuriysk Ar.**	**9.61**	**311**	P		**Pn**	**13 49 17.7**	**+2.8**
	baz=120,slow=14,SNR=4.8							
H11N2	**WAKE ISLAND Hy**	**28.38**	**124**	T		T	14 22 56.2	
	baz=316,slow=75,SNR=84							
H11N1	**WAKE ISLAND Hy**	**28.39**	**124**	T		T	14 23 12.3	
	baz=316,slow=75,SNR=82							
H11N3	**WAKE ISLAND Hy**	**28.39**	**124**	T		T	14 23 13.5	
	baz=316,slow=75,SNR=97							
H11S1	**WAKE ISLAND Hy**	**29.14**	**126**	T		T	14 24 02.7	
	baz=318,slow=76,SNR=25							
H11S3	**WAKE ISLAND Hy**	**29.14**	**126**	T		T	14 24 02.8	
	baz=318,slow=76,SNR=35							
H11S2	**WAKE ISLAND Hy**	**29.16**	**126**	T		T	14 24 04.7	
	baz=318,slow=76,SNR=16							
ZALV	**Zalesovo Beam**	**41.46**	**311**	P		**P**	**13 54 42.4**	**0.0**
	1.2nm,0.4s,baz=91,slow=8.6,SNR=6.8							
MKAR	**Makanchi Array**	**43.91**	**301**	P		**P**	**13 55 02.2**	**-0.2**
	0.5nm,0.6s,baz=84,slow=10.0,SNR=9.5							
ILAR	**Eielson Array**	**48.12**	**33**	P		**P**	**13 55 35.6**	**+0.4**
	0.5nm,0.9s,baz=244,slow=8.2,SNR=4.2							
WRA	**Warramunga Arr**	**58.41**	**189**	P		**P**	**13 56 50.3**	**-1.1**
	0.3nm,0.6s,baz=6.3,slow=7.3,SNR=2.5							
YKA	**Yellowknife Ar**	**62.42**	**31**	P		**P**	**13 57 18.1**	**-0.1**
	0.3nm,0.8s,baz=300,slow=5.7,SNR=2.6							
TXAR	**Lajitas Array**	**88.91**	**53**	P		**P**	**13 59 50.1**	**-0.2**
	0.2nm,0.5s,baz=224,slow=3.3,SNR=4.1							

ISC 29 13:48:53.5±1.1, 48°.58N±0°.05×17°.58E±0°.04, h6km±11km, n8, σ9°75/15, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMOL	**Smolenice**	**0.12**	**235**	*e*PG	**Pg**	**13 48 55.4**	**-0.6**
SMOL				*e*SG	**Sg**	**13 48 57.3**	**-0.4**
JAVC	**Velka Javorina**	**0.28**	**13**	*e*PG	**Pg**	**13 48 59.6**	**+0.5**
JAVC				*e*SG	**Sb**	**13 49 05.0**	**-1.2**
MODS	**Modra-Piesok**	**0.29**	**224**	*e*PG	**Pg**	**13 48 59.7**	**+0.5**
MODS				*e*SG	**Sg**	**13 49 04.5**	**+1.5**
KOLL	**Kolacno**	**0.55**	**90**	*e*PG	**Pg**	**13 49 04.1**	**0.0**
VYHS	**Vyhne**	**0.84**	**96**	*e*PG	**Pg**	**13 49 10.0**	**+0.3**
VYHS				*e*SG	**Sb**	**13 49 21.4**	**-0.8**
KRUC	**Moravsky**	**0.92**	**302**	*e*PG	**Pb**	**13 49 11.7**	**-0.2**
KRUC				*e*SG	**Sb**	**13 49 23.9**	**-0.4**
VRAC	**Vranov**	**0.97**	**319**	*e*PG	**Pn**	**13 49 13.4**	**-0.4**
VRAC				*e*SG	**Sb**	**13 49 26.3**	**+0.3**
MORC	**Moravsky Berou**	**1.20**	**359**	*e*PG	**Pn**	**13 49 17.3**	**+0.4**
MORC				*e*SG	**Sn**	**13 49 33.6**	**+0.1**

*IDC **29** 13:51:38.0±0.7, 18°.00N×120°.42E, h0km, mb4.1/13, mb1 4.2/13, mb1mx3.8/53, mbtmp4.1/13, MS3.2/3, Ms1 3.2/3, ms1mx2.7/85, Error ellipse: s-maj=26.2km s-min=15.5km az=76.0*

*NEIC **29** 13:51:41.9±3.0, 18°.04N±0°.06×120°.1E±0°.1, h21km±5km, mb4.4/21, Error ellipse: s-maj=15.2km s-min=8.4km az=77.0*

*MAN **29** 13:51:42.6, 18°.17N×120°.09E, h22km, mb4.9, ML3.8, MS3.8*

MAN INTENSITY III - PASUQUIN, ILOCOS NORTE;
INTENSITY II - LAOAG CITY & PAOAY, ILOCOS NORTE;
INTENSITY I - CURIMAO, ILOCOS NORTE.

ISC 29 13:51:42.8±1.5, 18°.13N±0°.04×120°.14E±0°.06, h29km±11km, n64, σ1°84/70, mb4.3/20, MS2.8/3, 9C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.37**	**124**	↑*e*P	**Pn**	**13 51 52.0**	**-0.2**
SIPP				*i* S	Sn	13 52 16.1	+18
SAMP	**Sagada Mountai**	**1.27**	**145**	↓*e*P	**Pb**	**13 52 05.5**	**-0.7**
SAMP				*e*S	**Sb**	**13 52 22.1**	**0.0**
BOLP	**Bolinao**	**1.75**	**187**	↓*e*P	**Pn**	**13 52 11.7**	**+0.4**
BOLP				*e*S	**Sb**	**13 52 42.1**	**+6.2**
SGCP	**Gonzaga**	**1.82**	**86**	↑*i*P	**Pn**	**13 52 13.5**	**+1.3**
SGCP				*e*S	**Sb**	**13 52 36.8**	**-1.0**
CAUP	**Cauayan**	**1.99**	**126**	↑*e*P	**Pb**	**13 52 18.3**	**-0.1**
CAUP				*e*S	**Sb**	**13 52 47.9**	**+5.0**
SMPP	**San Manuel, Pa**	**2.03**	**165**	↑*i*P	**Pn**	**13 52 16.1**	**+0.9**
SMPP				*e*S	**Sn**	**13 52 38.6**	**-1.1**
SCZP	**Santa Cruz**	**2.35**	**185**	↑*i*P	**Pn**	**13 52 19.0**	**-0.5**
PCPH	**Palayan**	**2.71**	**160**	↑*e*P	**Pb**	**13 52 28.6**	**-2.1**
BALP	**Baler**	**2.74**	**150**	↓*e*P	**Pb**	**13 52 28.1**	**-3.2**
BALP				*e*S	**Sb**	**13 53 02.9**	**-1.5**
BBP	**Basco**	**2.87**	**37**	↑*i*P	**Pn**	**13 52 27.4**	**+0.6**
BBP				*e*S	**Sn**	**13 52 59.3**	**-1.0**
MACP	**Maragondon, Ca**	**3.88**	**172**	↓*i*P	**Pn**	**13 52 44.6**	**+4.0**
LUBP	**Lubang**	**4.37**	**179**	↑*i*P	Pb	13 52 53.3	-5.6
PGP	**Puerto Galera**	**4.67**	**170**	↑*e*P	**Pn**	**13 52 55.5**	**+4.0**
TPUB	**Ta-pu**	**5.17**	**5**	Pn	**Pn**	**13 52 56.8**	**-1.5**
YULB	**Yu-li**	**5.35**	**11**	Pn	**Pn**	**13 53 01.1**	**+0.3**
SSLB	**Suanglung**	**5.68**	**8**	Pn	**Pn**	**13 53 05.7**	**+0.3**
KNMB	**Chin-men Tao**	**6.51**	**346**		**Pn**	**13 53 15.0**	**-1.7**
YHNB	**Yeheng**	**6.61**	**10**	Pn	**Pn**	**13 53 20.2**	**+2.0**
QIZ	**Qiongzhong**	**9.81**	**277**	Pn	**Pn**	**13 53 59.8**	**-2.2**
CMAR	**Chiang Mai Arr**	**20.13**	**274**	P	Pn	13 56 17.2	+0.5
	1.4nm,0.9s,baz=80,slow=9.3,SNR=6.4						
CMAR				LR	LR	14 04 32.4	
	comp=Z,27nm,18.4s,baz=60,slow=38						
KSRS	**Korea Array**	**20.43**	**18**	P	**P**	**13 56 17.9**	**+0.1**
	5.1nm,0.8s,baz=206,slow=12,SNR=8.5						
KSRS				LR	LR	14 04 53.8	
	comp=Z,42nm,20.1s,baz=215,slow=39						
KLR	**Kul'dur**	**32.41**	**14**	P	**P**	**13 58 11.2**	**+1.0**
	2.5nm,0.8s,baz=239,slow=6.9,SNR=8.1						
KNRA	**Kununurra**	**34.65**	**165**	P	**P**	**13 58 28.5**	**-1.4**
WB0	**Warramunga Arr**	**40.17**	**159**	P	**P**	**13 59 13.6**	**-3.2**
WB0				IAmb	IAmb	13 59 17.4	
	comp=Z,8.7nm,1.1s						
WRA	**Warramunga Arr**	**40.32**	**159**	P	**P**	**13 59 14.9**	**-3.1**
	comp=Z,1.3nm,0.8s,baz=345,slow=9.1,SNR=18						
WRA				PcP	**PcP**	**14 01 21.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=344,slow=3.1,SNR=4.7						
WRA	**Warramunga Arr**	**40.32**	**159**	P	**P**	**13 59 15.4**	**-2.5**
WB2	**Warramunga Arr**	**40.32**	**159**	P	**P**	**13 59 15.5**	**-2.5**
WB2				IAmb	IAmb	13 59 24.3	
	comp=Z,6.9nm,1.2s						
WR0	**Warramunga Arr**	**40.40**	**159**	P	**P**	**13 59 15.7**	**-2.9**
MK31	**Makanchi Array**	**42.21**	**321**	P	**P**	**13 59 34.6**	**+1.3**
MKAR	**Makanchi Array**	**42.21**	**321**	P	**P**	**13 59 34.8**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=122,slow=7.6,SNR=15						
MKAR				PcP	**PcP**	**14 01 26.9**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=104,slow=5.1,SNR=8.6						
MKAR	**Makanchi Array**	**42.21**	**321**	P	**P**	**13 59 35.2**	**+1.9**
MAKZ	**Makanchi**	**42.41**	**321**	P	**P**	**13 59 36.0**	**+1.1**
AS31	**Alice Springs**	**43.66**	**162**	P	**P**	**13 59 43.4**	**-1.8**
AS31				IAmb	IAmb	13 59 44.4	
	comp=Z,2.0nm,0.4s						
ASAR	**Alice Springs**	**43.66**	**162**	P	**P**	**13 59 43.2**	**-2.0**
	comp=Z,2.6nm,0.4s,baz=337,slow=6.9,SNR=120						
ASAR	**Alice Springs**	**43.66**	**162**	P	**P**	**13 59 42.8**	**-2.4**
YAK	**Yakutsk**	**44.37**	**6**	P	**P**	**13 59 51.0**	**+0.6**
	comp=Z,5.8nm,0.6s,baz=212,slow=3.0,SNR=5.3						
YAK	**Yakutsk**	**44.37**	**6**	P	**P**	**13 59 50.4**	**+0.1**
NIL	**Nilore**	**44.54**	**300**	P	**P**	**13 59 53.6**	**+1.3**
ZALV	**Zalesovo Beam**	**44.92**	**331**	P	**P**	**13 59 55.4**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=114,slow=7.2,SNR=6.8						
AAK	**Ala-Archa**	**45.63**	**312**	P	**P**	**14 00 03.2**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=137,slow=6.6,SNR=3.9						
AAK				LR	LR	14 22 46.8	
	comp=Z,70nm,18.5s,baz=322,slow=41						
KURK	**Kurchatov**	**46.26**	**324**	P	**P**	**14 00 07.1**	**+1.6**
KURK				IAmb	IAmb	14 00 07.7	
	comp=Z,4.1nm,0.8s						
KKAR	**Karatay Array**	**48.57**	**312**	P	**P**	**14 00 25.1**	**+1.4**
BBOO	**Buckleboo**	**52.89**	**163**	P	**P**	**14 00 55.0**	**-1.3**
TIXI	**Tiksi**	**53.77**	**3**	P	**P**	**14 01 01.8**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=171,slow=3.2,SNR=5.2						
NRIK	**Noril'sk**	**55.00**	**347**	P	**P**	**14 01 11.8**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=127,slow=6.4,SNR=6.5						
NRIK	**Noril'sk**	**55.00**	**347**	P	**P**	**14 01 11.9**	**+0.6**
NRIK				IAmb	IAmb	14 01 12.5	
	comp=Z,4.2nm,0.8s						
ABKAR	**Abkulak array**	**57.09**	**317**	P	**P**	**14 01 27.4**	**+0.8**
ABKAR	**Abkulak array**	**57.09**	**317**	P	**P**	**14 01 27.3**	**+0.8**
TTA	**Tatalina**	**71.24**	**29**	P	**P**	**14 02 59.8**	**+0.6**
IMAR	**Indian Mountai**	**72.03**	**25**	P	**P**	**14 03 04.8**	**+1.0**
H21K	**Melozitna Rive**	**72.44**	**26**	P	**P**	**14 03 06.9**	**+0.6**
H21K				IAmb	IAmb	14 03 08.5	
	comp=Z,2.9nm,0.8s						

CAST	**Castle Rocks**	**72.97**	**28**	P	**P**	**14 03 10.0**	**+0.5**
CAST				IAmb	IAmb	14 03 11.3	
	comp=Z,3.1nm,0.8s						
TOLK	**Toolik Lake Re**	**73.38**	**22**	P	**P**	**14 03 13.0**	**+1.1**
TOLK				IAmb	IAmb	14 03 13.6	
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**75.03**	**26**	P	**P**	**14 03 20.4**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=281,slow=4.8,SNR=8.6						
ILAR	**Eielson Array**	**75.03**	**26**	P	**P**	**14 03 20.8**	**-0.7**
HDA	**Harding Lake**	**75.07**	**27**	P	**P**	**14 03 21.4**	**-0.3**
HDA				IAmb	IAmb	14 03 29.4	
	comp=Z,7.8nm,1.3s						
BMAR	**Burnt Mountain**	**75.43**	**23**	P	**P**	**14 03 25.1**	**+1.3**
INK	**Inuvik**	**79.18**	**21**	P	**P**	**14 03 44.3**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=298,slow=5.3,SNR=13						
INK	**Inuvik**	**79.18**	**21**	P	**P**	**14 03 43.9**	**-0.8**
INK				IAmb	IAmb	14 03 45.1	
	comp=Z,1.8nm,0.7s						
YKA	**Yellowknife Ar**	**88.91**	**22**	P	**P**	**14 04 34.5**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=310,slow=4.5,SNR=42						
TXAR	**Lajitas Array**	**116.65**	**43**	PKP	**PKiKP**	**14 10 25.2**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=270,slow=1.3,SNR=4.2						
TXAR	**Lajitas Array**	**116.65**	**43**		**PKPdf**	**14 10 24.6**	**-0.5**
SDV	**Santo Domingo**	**151.13**	**22**	PKPbc	**PKPbc**	**14 11 34.3**	**-0.2**
	comp=Z,5.7nm,0.7s,baz=158,slow=1.2,SNR=5.8						
MDP	**Montagnes des**	**155.84**	**342**	PKPbc	PKPbc	14 11 44.2	
	comp=Z,13nm,0.7s,baz=28,slow=3.6,SNR=4.2						

*TUL **29** 13:56:58.8±1.1, 36°.803N±0°.010×97°.86W±0°.01, h6km±2km, ML2.5, ML2.3/45(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=143.0*

NEIC 29 13:56:59.1±0.9, 36°.79N±0°.01×97°.85W±0°.01, h4km±3km, Error ellipse: s-maj=1.6km s-min=1.5km az=60.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.06**	**353**	Pg	Pg	13 57 00.5	0.0
GC02				Sg	Sg	13 57 01.5	+0.1
KAN14	**Manchester OK**	**0.19**	**331**		Pg	13 57 02.8	0.0
KAN14				Sg	Sg	13 57 05.5	+0.3
KAN14				IAML		13 57 07.2	
	comp=N,832nm,0.2s						
KAN17	**Caldwell West**	**0.26**	**15**	Pg	Pg	13 57 04.2	0.0
KAN17				Sg	Sg	13 57 06.9	-0.7
OK032	**Salt Plains WL**	**0.29**	**272**	Pg	Pg	13 57 04.7	-0.1
OK032				Sg	Sg	13 57 08.4	-0.1
OK032				IAML		13 57 10.6	
	comp=N,509nm,0.3s						
OK032				IAML		13 57 10.7	
	comp=N,407nm,0.4s						
CROK	**Carrier**	**0.31**	**200**	Pg	Pg	13 57 05.1	0.0
CROK				Sg	Sg	13 57 09.4	+0.3
CROK				IAML		13 57 09.9	
	comp=E,378nm,0.3s						
CROK				IAML		13 57 14.4	
	comp=N,336nm,0.3s						
KAN05	**Bluff City Nor**	**0.32**	**357**		Pg	13 57 05.3	+0.1
KAN05				Sg	Sg	13 57 09.4	+0.1
KAN05				IAML		13 57 11.5	
	comp=E,360nm,0.2s						
KAN01	**Argonia South**	**0.37**	**12**		Pg	13 57 06.2	-0.1
KAN01				Sg	Sg	13 57 10.0	-1.0
KAN13	**South Haven SW**	**0.37**	**54**	Pg	Pg	13 57 06.3	0.0
KAN13				Sg	Sg	13 57 11.3	+0.1
KAN13				IAML		13 57 13.6	
	comp=E,434nm,0.3s						
KAN10	**Anthony SW Sta**	**0.38**	**329**		Pg	13 57 06.5	0.0
KAN10				Sg	Sg	13 57 11.6	0.0
KAN10				IAML		13 57 13.9	
	comp=N,245nm,0.2s						
KAN08	**Anthony NE Sta**	**0.44**	**348**	Pg	Pg	13 57 05.3	-2.4
KAN08				Sg	Sg	13 57 13.8	+0.3
KAN08				IAML		13 57 14.1	
	comp=E,335nm,0.2s						
KAN06	**Argonia West S**	**0.45**	**359**		Pg	13 57 07.8	-0.1
KAN06				Sg	Sg	13 57 13.4	-0.4
KAN06				IAML		13 57 14.5	
	comp=E,224nm,0.1s						
KAN16	**Harper SW Stat**	**0.46**	**338**	Pg	Pg	13 57 07.9	-0.2
KAN16				Sg	Sg	13 57 14.0	-0.2
BLOK	**Blackwell**	**0.51**	**94**	Pg	Pg	13 57 09.0	0.0
BLOK				Sg	Sg	13 57 15.2	-0.5
BLOK				IAML		13 57 26.6	
	comp=E,198nm,0.2s						
OK035	**E0210 Rd and N**	**0.69**	**263**		Pg	13 57 12.2	-0.3
OK035				Sg	Sg	13 57 21.3	-0.2
OK035				IAML		13 57 29.3	
	comp=E,159nm,0.2s						
OK035				IAML		13 57 32.5	
	comp=E,166nm,0.4s						
U32A	**Winter Ranch,**	**1.01**	**246**	Pg	Pg	13 57 17.6	-1.0
U32A				Sg	Sg	13 57 31.5	-0.2
U32A				IAML		13 57 33.9	
	comp=N,81nm,0.3s						
U32A				IAML		13 57 34.3	
	comp=E,77nm,0.1s						
OK029	**Liberty Lake**	**1.04**	**162**	Pg	Pg	13 57 18.8	-0.4
OK029				Sg	Sg	13 57 33.0	+0.2
OK029				IAML		13 57 39.0	
	comp=E,70nm,0.3s						
OK029				IAML		13 57 43.3	
	comp=E,67nm,0.5s						
T35A	**Sooner Cattle**	**1.08**	**83**		Pg	13 57 19.3	-0.5
T35A				Sg	Sg	13 57 34.1	+0.3
T35A				IAML		13 57 39.5	
	comp=E,50nm,0.2s						
T35A				IAML		13 57 39.9	
	comp=N,74nm,0.2s						
QUOK	**Quay**	**1.11**	**124**	Pg	Pg	13 57 19.8	-0.6
QUOK				Sg	Sg	13 57 35.0	+0.2
BCOK	**Bluff Creek, N**	**1.15**	**170**	Pg	Pg	13 57 20.9	-0.4
BCOK				Sg	Sb	13 57 36.7	-0.2
BCOK				IAML		13 57 38.2	
	comp=E,63nm,0.2s						
BCOK				IAML		13 57 38.7	
	comp=N,51nm,0.2s						
OK031	**S. Brethren Rd**	**1.17**	**135**		Pg	13 57 21.2	-0.4
OK031				Sg	Sg	13 57 37.1	+0.3
OK034	**N. Norfolk Rd.**	**1.21**	**130**	Pg	Pg	13 57 21.4	-0.8
OK034				Sg	Sg	13 57 37.9	0.0
OK025	**Westminster Rd**	**1.28**	**161**	Pn	Pg	13 57 22.5	-1.1
FNO	**Franklin**	**1.58**	**166**	Pn	Pn	13 57 27.7	-0.3
R32A	**Long Quarter,**	**1.76**	**337**		Pb	13 57 31.5	-0.6
W35A	**Tecumseh**	**1.82**	**154**		Pn	13 57 31.4	+0.2
TUL1	**Leonard**	**1.88**	**117**	Pn	Pn	13 57 32.5	+0.4
WMOK	**Wichita Mounta**	**2.19**	**201**		Pn	13 57 37.0	+0.7
X34A	**Smith Ranch, M**	**2.19**	**180**		Pn	13 57 36.7	+0.4
U38A	**Gravette**	**2.81**	**96**	Pn	Pn	13 57 45.6	+0.7
S39A	**Bolivar**	**3.72**	**75**	Pn	Pn	13 57 56.6	-0.8
U40A	**Yellville**	**4.05**	**95**	Pn	Pn	13 58 01.6	-0.3
MIAR	**Mount Ida**	**4.14**	**122**		Pn	13 58 03.5	+0.4
WHAR	**Wooly Hollow**	**4.75**	**107**	Pn	Pn	13 58 12.3	+0.8
W41B	**Gary Mavity, V**	**4.82**	**108**	Pn	Pn	13 58 11.0	-1.6
MSTX	**Muleshoe**	**4.91**	**236**	Pn	Pn	13 58 12.8	-1.1
P40A	**Paris**	**5.33**	**57**	Pn	Pn	13 58 19.5	0.0
CCM	**Cathedral Cave**	**5.41**	**75**	Pn	Pn	13 58 20.9	+0.3

*IDC **29** 14:06:39.9±1.5, 41°.18N×127°.31W, h0km, mb3.7/7, mb1 3.9/12, mb1mx3.7/46, mbtmp3.6/12, ML3.0/5, MS3.7/12, Ms1 3.7/12, ms1mx3.2/89, Error ellipse: s-maj=33.4km s-min=13.0km az=23.0*

*ANF **29** 14:06:40.5±1.9, 40°.98N×127°.10W, h0km, ML3.5/5, Error ellipse: s-maj=20.7km s-min=10.9km az=65.0*

*NCEDC **29** 14:06:40.5±2.6, 40°.77N±0°.08×127°.2W±0°.1, h10km±2km, Error ellipse: s-maj=14.2km s-min=13.5km az=207.0*

*NEIC **29** 14:06:40.9±2.0, 40°.92N±0°.07×127°.2W±0°.1, h15km±9km, ML3.4/52, ML3.4/12(NCEDC), Error ellipse: s-maj=15.0km s-min=10.6km az=90.0*

ISC 29 14:06:40.1±0.9, 40°.94N±0°.06×127°.31W±0°.08, h10km, n79, σ1°36/71, mb3.8/7, MS3.7/8, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPM	**Mount Pierce**	**2.48**	**101**		**Pn**	**14 07 18.9**	**-1.8**
KMPM				IAML		14 07 52.9	
	comp=E,256nm,1.3s						
KMPM				IAML		14 07 58.0	
	comp=N,228nm,3.3s						

JCC	**Jacoby Creek,**	**2.49**	**92**		**Pn**	**14 07 18.4**	**-2.3**
JCC				IAML		14 08 09.3	
	comp=E,123nm,2.5s						
JCC				IAML		14 08 36.7	
	comp=N,108nm,4.7s						
JCC	**Jacoby Creek,**	**2.49**	**92**		**Sn**	**14 07 46.9**	**-4.3**
JCC	**Jacoby Creek,**	**2.49**	**92**		**Pn**	**14 07 19.0**	**-1.7**
KRPM	**Rodgers**	**2.50**	**84**	Pn	**Pn**	**14 07 19.6**	**-1.3**
KRPM				IAML		14 07 51.3	
	comp=E,275nm,1.9s						
KRPM				IAML		14 07 51.6	
	comp=N,244nm,1.9s						
KBO	**Bosley Butte**	**2.64**	**60**	Pn	**Pn**	**14 07 21.8**	**-1.1**
KBO				IAML		14 08 29.0	
	comp=N,199nm,2.7s						
KCRM	**Chalk Rock**	**2.71**	**100**		**Pn**	**14 07 21.9**	**-1.9**
KSXB	**Camp Six Broad**	**2.73**	**70**	Pn	**Pn**	**14 07 23.3**	**-0.9**
KSXB				IAML		14 08 14.6	
	comp=N,85nm,3.0s						
KMRM	**Mail Ridge**	**2.84**	**104**	Pn	**Pn**	**14 07 25.1**	**-0.5**
KMRM				IAML		14 08 01.7	
	comp=E,115nm,1.0s						
KMRM				IAML		14 08 30.4	
	comp=N,90nm,2.9s						
KOMM	**Orleans Mounta**	**2.94**	**82**		**Pn**	**14 07 26.4**	**-0.5**
KEBM	**Edson Butte**	**2.94**	**48**	Pn	**Pn**	**14 07 25.6**	**-1.4**
L02E	**Cave Junction**	**3.04**	**65**		**Pn**	**14 07 27.7**	**-0.6**
L02E	**Cave Junction**	**3.04**	**65**	P	**Pn**	**14 07 27.4**	**-0.9**
	baz=244,SNR=20						
L02E				S	**Sn**	**14 08 04.5**	**-0.2**
	baz=244						
K02D	**Willamette Mer**	**3.24**	**56**	P	**Pn**	**14 07 29.4**	**-1.7**
	baz=235,SNR=37						
K02D				S	**Sn**	**14 08 07.8**	**-2.0**
	baz=235						
J01E	**Myrtle Point**	**3.35**	**47**	Pn	**Pn**	**14 07 31.3**	**-1.3**
J01E				IAML		14 08 40.5	
	comp=N,82nm,3.4s						
J01E				IAML		14 09 31.7	
	comp=E,118nm,4.8s						
M02C	**Callahan**	**3.40**	**81**	Pn	**Pn**	**14 07 33.2**	**-0.1**
M02C	**Callahan**	**3.40**	**81**	P	**Pn**	**14 07 32.6**	**-0.7**
	baz=261,SNR=95						
N02D	**Trinity Center**	**3.49**	**88**	Pn	**Pn**	**14 07 33.5**	**-1.1**
N02D				IAML		14 08 20.3	
	comp=E,44nm,1.8s						
N02D				IAML		14 08 22.7	
	comp=N,52nm,1.7s						
N02D	**Trinity Center**	**3.49**	**88**	P	**Pn**	**14 07 33.2**	**-1.4**
	baz=268,SNR=14						
N02D				S	**Sn**	**14 08 14.8**	**-1.2**
	baz=268						
YBH	**Yreka Blue Hor**	**3.55**	**76**	Pn	**Pn**	**14 07 36.1**	**+0.7**
	comp=N,6.6nm,0.3s,baz=284,slow=9.6,SNR=102						
YBH				LR	LR	14 08 10.4	
	comp=N,202nm,21.8s,baz=256,slow=26						
YBH				Sn	**Sn**	**14 08 18.4**	**+0.9**
	comp=N,2.0nm,0.3s,baz=277,slow=13,SNR=1.3						
YBH	**Yreka Blue Hor**	**3.55**	**76**	Pn	**Pn**	**14 07 36.1**	**+0.7**
WDC	**Whiskeytown Da**	**3.64**	**94**	Pn	**Pn**	**14 07 36.4**	**-0.1**
HUMO	**Hull Mountain**	**3.66**	**62**	Pn	**Pn**	**14 07 36.0**	**-0.8**
DBO	**Dodson Butte**	**3.73**	**53**	Pn	**Pn**	**14 07 37.0**	**-0.8**
DBO				IAML		14 08 22.2	
	comp=E,50nm,4.4s						
DBO				IAML		14 08 46.0	
	comp=N,76nm,4.2s						
HOPS	**Hopland Field**	**3.79**	**119**	Pn	**Pn**	**14 07 37.1**	**-1.5**
HOPS				IAML		14 08 08.5	
	comp=E,64nm,3.1s						
HOPS				IAML		14 08 30.1	
	comp=N,79nm,2.8s						
L04D	**Klamath Falls**	**3.97**	**70**	Pn	**Pn**	**14 07 42.1**	**+0.9**
L04D				IAML		14 09 41.8	
	comp=N,70nm,3.9s						
L04D	**Klamath Falls**	**3.97**	**70**	P	**Pn**	**14 07 41.5**	**+0.3**
	baz=250,SNR=109						
I03D	**Drain, OR**	**4.03**	**46**	P	**Pn**	**14 07 40.7**	**-1.1**
	baz=226						
I02E	**Swisshome, OR**	**4.07**	**38**	Pn	**Pn**	**14 07 42.6**	**+0.2**
M04C	**Macdoel**	**4.20**	**77**		**Pn**	**14 07 45.0**	**+0.6**
M04C				IAML		14 08 14.2	
	comp=E,65nm,4.3s						
M04C				IAML		14 09 45.3	
	comp=N,65nm,4.7s						
M04C	**Macdoel**	**4.20**	**77**	P	**Pn**	**14 07 44.8**	**+0.4**
	baz=258,SNR=13						
O03E	**Paynes Creek**	**4.24**	**97**		**Pn**	**14 07 44.0**	**-0.9**
O03E				IAML		14 08 35.4	
	comp=N,29nm,3.4s						
O03E				IAML		14 08 42.4	
	comp=E,42nm,3.3s						
O03E	**Paynes Creek

YAK	Yakutsk	60.31	328	LR	LR	14 41 50.3		
	comp=E,47nm,19.0s,baz=82,slow=35							
MDP	Montagnes des	75.10	96	LR	LR	14 57 23.6		
	comp=E,40nm,18.1s,baz=96,slow=40							
SONM	Songino Array	79.61	326	P	P	14 18 47.8	+0.2	
	comp=E,1.1nm,1.0s,baz=67,slow=3.7,SNR=5.4							
ZALV	Zalesovo Beam	81.53	341	P	P	14 18 57.6	+0.1	
	comp=E,0.5nm,0.6s,baz=350,slow=1.8,SNR=2.3							
ZALV				LR	LR	14 59 09.0		
	comp=E,83nm,18.1s,baz=340,slow=39							
GERES	GERESS Array B	84.20	25	P	P	14 19 11.3	-0.4	
	comp=E,0.3nm,0.4s,baz=300,slow=5.6,SNR=4.1							
AKASG	Malin Array Be	86.45	15	P	P	14 19 22.0	-0.7	
	comp=E,0.3nm,0.3s,baz=340,slow=4.1,SNR=7.7							
VAE	Valguarnera	94.45	30	LR	LR	15 04 39.0		
	comp=E,210nm,18.4s,baz=146,slow=37							

*IDC **29** 14:06:48.3±1.3, 15°.13N×59°.53W, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/36, mbtmp4.0/9, ML2.4/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/83, Error ellipse: s-maj=29.8km s-min=19.0km az=163.0*
*TRN **29** 14:06:50.4, 14°.93N×59°.65W, h18km, MD3.9*
*NEIC **29** 14:06:52.6±1.7, 14°.88N±0°.08×59°.52W±0°.01, h37km±8km, mb4.3/6, Error ellipse: s-maj=11.2km s-min=1.8km az=175.0*

ISC 29 14:06:50.3±1.6, 14°.95N±0°.04×59°.52W±0°.06, h19km±6km, n87, σ1§07/108, mb4.3/11, MS3.4/4, 3C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	Ilet Lapin Mar	1.32	263	eP	Pn	14 07 13.3	-0.4
ILAM				eS	Sn	14 07 30.1	-0.7
ILAM	Ilet Lapin Mar	1.32	263		Pn	14 07 13.7	0.0
H05S1	Guadeloupe/Mar	1.38	248	Pn	Pn	14 07 14.7	+0.2
MVM	Montagne Vaucl	1.39	254	eP	Pn	14 07 14.6	-0.1
MPOM	Morne Pois Mar	1.39	249	↑iP	Pn	14 07 14.7	+0.1
MPOM				eS	Sn	14 07 32.2	-0.3
MPOM	Morne Pois Mar	1.39	249	Pn	Pn	14 07 14.7	+0.1
LPMF	Morne Lapointe	1.45	255↑	eP	Pn	14 07 15.0	-0.5
ZAM	Aeronautique	1.51	256↑	eP	Pn	14 07 15.8	-0.5
TRMF	Trois Ilets	1.54	255	eP	Pn	14 07 16.4	-0.3
BIM	Bigot	1.56	254	eP	Pn	14 07 17.0	-0.1
BIM				eS	Sn	14 07 35.8	-1.0
BIM	Bigot	1.56	254	Pn	Pn	14 07 17.0	-0.1
BAMF	Morne Balai	1.58	265	eP	Pn	14 07 18.1	+0.7
FDF	Fort de France	1.59	263	eP	Pn	14 07 17.0	-0.5
FDF				eS	Sn	14 07 37.6	0.0
FDF	Fort de France	1.59	263		Pn	14 07 17.1	-0.4
SVN	Savane Anatole	1.60	266	eP	Pn	14 07 18.1	+0.5
SVN	Savane Anatole	1.60	266		Pn	14 07 17.9	+0.3
GBMF	Grand Be	1.60	265	eP	Pn	14 07 18.2	+0.6
PML	Morne Lenard	1.62	264	eP	Pn	14 07 18.6	+0.7
PCM	Pelee Case Pet	1.64	266	eP	Pn	14 07 18.8	+0.6
SLBI	Saint Lucia, B	1.68	237	eP	Pn	14 07 18.7	0.0
SLBI				eS	Sn	14 07 40.1	+0.4
DLPL	La Plaine	1.71	283	eP	Pn	14 07 20.0	+0.9
DLPL				eS	Sb	14 07 41.9	-0.4
DLPL	La Plaine	1.71	283		Pn	14 07 20.1	+0.9
BBGH	Gun Hill	1.79	181	eP	Pb	14 07 22.6	0.0
BBGH				eS	Sb	14 07 45.9	+1.2
MDN	Morne-Daniel	1.84	282	eP	Pn	14 07 21.9	+1.0
MDN				eS	Sn	14 07 44.5	+0.7
MCLT	Moule a Chique	1.85	228	eP	Pn	14 07 21.8	+0.8
MCLT				eS	Sb	14 07 45.4	-0.9
DSLB	Salisbury	1.90	285	eP	Pn	14 07 22.5	+0.8
DSLB				eS	Sn	14 07 46.0	+0.8
MDVC	Dominica, Viel	1.94	290	eP	Pn	14 07 23.0	+0.8
MDVC				eS	Sn	14 07 46.5	+0.5
MAGL	Barre de l'ile	1.97	301	eP	Pn	14 07 23.3	+0.6
MAGL				eS	Sn	14 07 48.1	+1.2
MDCT	Cottage Hill,	1.99	290	eP	Pn	14 07 23.6	+0.7
MDCT				eS	Sn	14 07 47.7	+0.3
H05N1	Guadeloupe/Mar	2.01	313	Pn	Pn	14 07 22.4	-0.9
H05N1				Sn	Sn	14 07 45.3	-2.7
	SNR=565						
TDBA	Terre de Bas,	2.23	294	eP	Pn	14 07 27.7	+1.4
TDBA				eS	Sn	14 07 54.3	+1.0
TBG	Guadaloupe-3	2.24	294	eP	Pn	14 07 27.2	+0.8
TBG				eS	Sn	14 07 54.3	+0.8
CBE	Ff, Capester	2.30	299	eP	Pn	14 07 27.9	+0.7
CBE				eS	Sn	14 07 55.8	+0.7
SVV	Soufriere Volc	2.31	226	eP	Pn	14 07 29.2	+1.9
SVB	Belmont	2.37	225	eP	Pn	14 07 29.5	+1.4
SVB				eS	Sn	14 07 57.1	+0.4
SVB	Belmont	2.37	225		Pn	14 07 29.3	+1.2
ABD	La Joyeuse, An	2.43	309	eP	Pn	14 07 30.1	+1.1
ABD				eS	Sn	14 07 59.3	+1.1
SVOC	Richmond Hill,	2.43	223	eP	Pn	14 07 29.8	+0.8
GCMP	Grenada, Carri	3.07	217	eP	Pn	14 07 39.1	+1.3
GCMP				eS	Sn	14 08 13.0	-1.0
ANWB	Willy Bob	3.47	322	eP	Pn	14 07 43.7	+0.3
ANWB				eS	Sn	14 08 23.4	-0.6
GRGR	Grenville	3.48	217	eP	Pn	14 07 45.2	+1.7
GRGR				eS	Sn	14 08 24.5	+0.2
GRGR	Grenville	3.48	217	Pn	Pn	14 07 45.9	+2.3
SKI	Saint Kitts	3.90	308	e	Pn	14 07 53.0	+3.8
SKI				eS	Sn	14 08 34.6	+0.1
STVI	Saint Thomas	6.21	304	Pn	Pn	14 08 21.5	+0.4
CUPR	Culebra, Puert	6.46	302	Pn	Pn	14 08 25.1	+0.8
CELP	Cerrillos	7.45	296	Pn	Pn	14 08 39.0	+0.9
AOPR	Arecibo Observ	7.71	297	Pn	Pn	14 08 42.8	+1.1
BIRV	Birongo	7.94	237	Pn	Pn	14 08 45.9	+1.0
BAUV	El Baul	10.25	235		Pn	14 09 17.1	+0.6
SDDR	Presa de Saban	11.95	291		Pn	14 09 40.6	+0.7
SDV	Santo Domingo	12.43	242	Pn	Pn	14 09 48.8	+2.3
	0.2nm,0.3s,baz=64,slow=14,SNR=1.9						
SDV				LR	LR	14 16 26.1	
	comp=Z,85nm,18.8s,baz=90,slow=46						
BOAV	Boa Vista	12.51	185	Pn	Pn	14 09 45.2	-2.3
SMLC	San Martn de	15.49	248	eP	Pn	14 10 27.2	-0.6
BARC	Barichara	15.77	240	eP	P	14 10 36.4	+0.8
RUSC	La Rusia	16.08	237	eP	P	14 10 40.4	+1.1
ZARC	Zaragoza, Cauc	16.76	245	eP	Pn	14 10 42.5	-1.7
PTBC	PUERTO BERRIO,	16.88	242	eP	Pn	14 10 44.1	-1.6
SPBC	San Pablo de B	17.03	239	eP	P	14 10 49.1	-0.2
CHIC	Chingaza	17.34	235	eP	P	14 10 54.7	+1.5
GUY2C	Guyana, Caldas	18.33	240	eP	P	14 11 05.0	+0.8
CBOC	Ciudad Bolivar	18.55	243	eP	Pn	14 11 07.6	+1.0
ANIL	Santa Ana	18.77	238	eP	P	14 11 08.9	+0.1
PRAC	Prado	18.81	235	eP	P	14 11 07.3	-1.7
ORTC	Ortega, Tolima	18.98	236	eP	Pn	14 11 11.7	+0.1
YOTC	Yotoco, Valle	19.83	238	eP	P	14 11 16.5	-3.8
PCON	Cinco Dias	20.84	235	eP	P	14 11 31.3	-0.5
ATAH	Atahualpa	28.84	222	LR	LR	14 27 03.5	
	comp=Z,50nm,19.5s,baz=3.6,slow=42						
LPAZ	La Paz	32.18	196	LR	LR	14 29 00.8	
	comp=Z,37nm,18.8s,baz=48,slow=41						
SCHQ	Schefferville	40.20	353	P	P	14 14 25.7	+0.3
	4.1nm,0.8s,baz=197,slow=6.1,SNR=4.4						
TXAR	Lajitas Array	43.07	297	P	P	14 14 49.2	-0.2
	0.3nm,0.6s,baz=139,slow=5.6,SNR=3.9						
TXAR				PcP	PcP	14 16 40.8	+1.5
	0.4nm,0.8s,baz=128,slow=8.1,SNR=3.5						
PDAR	Pinedale Array	50.91	313	P	P	14 15 50.9	+0.3
	0.7nm,0.6s,baz=122,slow=9.4,SNR=6.1						
PDAR	Pinedale Array	50.91	313	P	P	14 15 50.7	0.0
SFJD	Kangerlussuaq	52.34	4	LR	LR	14 38 05.7	
	comp=Z,55nm,18.6s,baz=40,slow=36						
NVAR	Mina Array Bea	56.49	306	P	P	14 16 32.9	+1.2
	0.3nm,0.6s,baz=131,slow=4.1,SNR=3.2						
TORD	Torodi Ar. Bea	59.25	83	P	P	14 16 50.7	-0.4
TORD				IAmb	IAmb	14 16 51.4	
	comp=Z,1.1nm,1.0s						
YKA	Yellowknife Ar	61.06	334	P	P	14 17 01.6	-1.1
	comp=Z,1.5nm,0.6s,baz=106,slow=7.5,SNR=26						
YKA	Yellowknife Ar	61.06	334	P	P	14 17 02.0	-0.6
KEST	Kesra	64.37	57	P	P	14 17 26.1	+0.7
	comp=Z,3.1nm,0.7s,baz=224,slow=4.4,SNR=4.5						
INK	Inuvik	70.31	338	P	P	14 18 01.7	-0.5
INK				IAmb	IAmb	14 18 24.7	
	comp=Z,4.4nm,1.4s						
DAWY	Dawson	72.25	333	P	P	14 18 14.7	+0.6
BCAR	Beaver Creek A	73.30	332	P	P	14 18 20.8	+0.4
L27K	Beaver Creek,	73.31	332	P	P	14 18 20.9	+0.4
L27K				IAmb	IAmb	14 18 44.7	
	comp=Z,6.2nm,1.4s						
ARCES	ARCESS Array B	74.37	21	P	P	14 18 26.4	-0.1
	comp=Z,2.7nm,0.7s,baz=306,slow=4.3,SNR=5.3						
ARCES				LR	LR	14 48 23.5	
	comp=Z,46nm,18.0s,baz=274,slow=34						
ARCES	ARCESS Array B	74.37	21	P	P	14 18 24.9	-1.6
ARCES				IAmb	IAmb	14 18 45.4	
	comp=Z,11nm,1.4s						
FINES	FINESS Array B	74.90	30	P	P	14 18 29.5	-0.2
	comp=Z,3.6nm,0.9s,baz=238,slow=3.6,SNR=8.3						
FINES	FINESS Array B	74.90	30	P	P	14 18 29.7	0.0
SNAA	Sanae	94.31	165	P	P	14 20 07.3	-0.8

*NEIC **29** 14:38:25.2±1.4, 40°.93N±0°.09×127°.1W±0°.2, h13km±10km, ML3.2/44, Error ellipse: s-maj=18.3km s-min=12.7km az=79.0*
*IDC **29** 14:38:25.6±3.6, 41°.25N×127°.14W, h0km, mb3.0/3, mb1 3.5/4, mb1mx3.3/41, mbtmp3.1/4, ML3.7/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/13, Error ellipse: s-maj=65.8km s-min=27.8km az=38.0*

ISC 29 14:38:24.4±1.7, 40°.98N±0°.09×127°.1W±0°.1, h10km, n34, σ1§38/28, mb3.1/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek,	2.34	93	Pn	Pn	14 39 03.8	+0.9
JCC				Sn	Sn	14 39 31.3	-0.4
JCC				IAML		14 39 43.1	
	comp=E,131nm,4.0s						
JCC				IAML		14 40 09.6	
	comp=N,106nm,2.4s						
KMPM	Mount Pierce	2.34	103	Pn	Pn	14 39 03.2	+0.2
KMPM				IAML		14 40 03.5	
	comp=E,122nm,3.7s						
KMPM				IAML		14 40 19.7	
	comp=N,116nm,2.7s						
KRPM	Rodgers	2.34	85	Pn	Pn	14 39 04.1	+1.1
KRPM				IAML		14 39 25.0	
	comp=N,177nm,1.7s						
KRPM				IAML		14 39 36.9	
	comp=E,150nm,2.2s						
KBO	Bosley Butte	2.49	59	Pn	Pn	14 39 05.5	+0.4
KHMM	Horse Mountain	2.56	91	Pn	Pn	14 39 07.5	+1.4
KHMM				IAML		14 39 41.8	
	comp=E,92nm,4.4s						
KHMM				IAML		14 39 58.9	
	comp=N,74nm,4.5s						
KSXB	Camp Six Broad	2.58	70	Pn	Pn	14 39 07.5	+1.3
KSXB				IAML		14 39 48.5	
	comp=E,70nm,3.8s						
KSXB				IAML		14 40 27.9	
	comp=N,73nm,3.7s						
KMRM	Mail Ridge	2.70	105	Pn	Pn	14 39 08.3	+0.4
KMRM				IAML		14 40 17.9	
	comp=N,86nm,3.8s						
KMRM				IAML		14 40 32.1	
	comp=E,88nm,3.7s						
KEBM	Edson Butte	2.81	47	Pn	Pn	14 39 09.2	-0.2
L02E	Cave Junction	2.89	65	Pn	Pn	14 39 11.3	+0.8
L02E				IAML		14 40 27.5	
	comp=N,71nm,5.0s						
L02E				IAML		14 40 51.0	
	comp=E,64nm,3.5s						
KCPM	Cahto Peak	2.99	114	Pn	Pn	14 39 12.9	+1.0
KCPM				IAML		14 39 46.7	
	comp=E,89nm,2.1s						
KCPM				IAML		14 41 00.6	
	comp=N,89nm,3.1s						
M02C	Callahan	3.24	81	Pn	Pn	14 39 16.3	+0.9
N02D	Trinity Center	3.34	89	Pn	Pn	14 39 17.4	+0.8
YBH	Yreka Blue Hor	3.40	76	Pn	Pn	14 39 19.1	+1.6
WDC	Whiskeytown Da	3.49	95	Pn	Pn	14 39 19.3	+0.5
HUMO	Hull Mountain	3.51	61	Pn	Pn	14 39 20.2	+1.2
DBO	Dodson Butte	3.59	52	Pn	Pn	14 39 21.3	+1.1
HOPS	Hopland Field	3.68	121	Pn	Pn	14 39 21.0	-0.4
HOPS				IAML		14 41 27.0	
	comp=E,62nm,2.4s						
M04C	Macdoel	4.05	77	Pn	Pn	14 39 28.5	+2.0
O03E	Paynes Creek	4.10	98	Pn	Pn	14 39 26.8	-0.3
O03E				IAML		14 40 00.4	
	comp=E,31nm,4.8s						
O03E				IAML		14 41 10.1	
	comp=N,29nm,4.8s						
ORV	Oroville	4.52	106	Pn	Pn	14 39 32.8	-0.1
ORV				IAML		14 41 47.8	
	comp=E,15nm,4.7s						
H04A	Detroit Lake	5.18	43	Pn	Pn	14 39 42.7	+0.7
MOD	Modoc Plateau	5.20	78	Pn	Pn	14 39 41.8	-0.6
MOD				IAML		14 41 02.0	
	comp=N,17nm,5.0s						
MOD				IAML		14 41 08.6	
	comp=E,17nm,4.9s						
PINE	Pine Mountain	5.37	56	Pn	Pn	14 39 44.4	-0.3
NEW	Newport	10.18	41	LR	LR	14 44 49.9	
	comp=E,238nm,20.6s,baz=221,slow=38						
PDAR	Pinedale Array	13.21	76	Pn	P	14 41 38.7	-3.5
	comp=E,0.1nm,0.3s,baz=270,slow=2.7,SNR=2.7						
PDAR				LR	LR	14 47 05.2	
	comp=E,137nm,21.5s,baz=250,slow=40						
ANMO	Albuquerque	17.35	104	LR	LR	14 50 02.4	
	comp=E,97nm,20.4s,baz=277,slow=40						
TXAR	Lajitas Array	22.34	114	P	P	14 43 26.4	+3.9
	comp=E,0.2nm,0.7s,baz=300,slow=7.2,SNR=2.4						
YKA	Yellowknife Ar	22.82	15	P	P	14 43 26.8	-0.3
	comp=E,1.0nm,0.9s,baz=203,slow=10,SNR=6.5						
ILAR	Eielson Array	26.42	341	P	P	14 44 01.4	+0.5
	comp=E,0.4nm,1.0s,baz=148,slow=10,SNR=2.8						
H11N3	WAKE ISLAND Hy	59.37	270	T	T	15 52 19.1	
	baz=53,slow=75,SNR=15						
H11N2	WAKE ISLAND Hy	59.37	270	T	T	15 52 19.3	
	baz=53,slow=75,SNR=17						
H11N1	WAKE ISLAND Hy	59.39	270	T	T	15 52 22.3	
	baz=53,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	60.25	269	T	T	15 53 25.9	
	baz=278,slow=74,SNR=4.7						
H11S2	WAKE ISLAND Hy	60.26	269	T	T	15 53 28.6	
	baz=52,slow=74,SNR=3.5						

*IDC **29** 14:47:59.1±1.8, 7°.94S×126°.76E, h0km, mb3.7/1, mb1 4.1/3, mb1mx3.3/36, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=268.5km s-min=30.6km az=62.0*

ISC 29 14:48:15.2±1.3, 7°.7S±0°.1×128°.6E±0°.1, h151km, n12, σ2§10/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.72	244	P	Pn	14 49 25.9	+0.8
DRS	Darwin Rock St	5.21	154	P	Pn	14 49 33.0	+1.5
MTN	Manton Dam	5.68	154	P	Pn	14 49 38.9	+1.1
KDU	Kakadu	6.25	143	P	Pn	14 49 46.4	+1.1
KNRA	Kununurra	7.92	179	P	Pn	14 50 07.3	-0.2
WRA	Warramunga Arr	13.38	156	Pn	Pn	14 51 17.1	-2.2
	1.0nm,0.3s,baz=323,slow=14,SNR=52						
WRA				Sn	Sn	14 53 38.5	-8.9
	0.8nm,0.3s,baz=330,slow=21,SNR=6.5						
COEN	Coen	15.62	115	P	P	14 51 49.9	+1.6
QIS	Mount Isa	16.64	141	P	Pn	14 52 01.6	+1.8
ASAR	Alice Springs	16.66	163	P	Pn	14 52 00.9	+0.8
	0.7nm,0.3s,baz=341,slow=10,SNR=57						
ASAR				S	S	14 55 01.3	-4.0
	0.3nm,0.3s,baz=319,slow=20,SNR=6.0						
WRKA	Warakurna	17.23	181	P	Pn	14 52 08.6	+1.7
MTSU	Mount Surprise	18.49	126	P	Pn	14 52 22.9	+1.0
MKAR	Makanchi Array	68.06	328	P	P	14 58 55.8	-2.7
	0.3nm,0.4s,baz=121,slow=8.1,SNR=19						

*CNRM **29** 15:00:49.0, 35°.66N×3°.63W, h28km, ml2.8*
*SFS **29** 15:00:48.0, 35°.71N×3°.66W, ML2.7, ALBORAN SUR*

ISC 29 15:00:44.6±1.2, 35°.69N±0°.04×3°.64W±0°.03, h12km±10km, n12, σ2§23/24, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.53	207	P	Pg	15 00 55.4	+0.4
PALE				S	Sn	15 01 08.3	+1.4
GOG	Mont Gurugu	0.71	132	P	Pn	15 01 01.5	+1.1
GOG				S	Sn	15 01 13.4	+2.2
CHAS	Isla Isabel II	1.11	117	P	Pg	15 01 07.0	+1.1
CHAS				S	Sb	15 01 19.7	-0.3
EMAL	Malaga-Limoner	1.24	329	P	Pg	15 01 09.5	+1.0
EMAL				S	Sb	15 01 21.3	-2.6
TAF	Taforalt	1.33	131	P	Pg	15 01 11.9	+1.7
TAF				S	Sg	15 01 28.1	+0.6
SMIR	Smir Dam	1.42	270	P	Pg	15 01 12.9	+1.1
SMIR				S	Sg	15 01 31.1	+1.0
CHEFC	Chefchaouen	1.51	248	P	Pg	15 01 14.4	+0.9
CHEFC				S	Sn	15 01 31.1	+0.2
JBK	JBK	1.62	147	P	Pg	15 01 15.7	+0.1
JBK				S	Sn	15 01 30.9	-3.0
MD31	MD31	2.97	198	P	Pb	15 01 35.7	-1.7
MD31				S	Sb	15 02 11.7	-1.9
MDT	Midelt	2.98	196	P	Pb	15 01 36.2	-1.4
MDT				S	Sb	15 02 12.5	-1.6
ZHG	ZHG	3.34	229	P	Pb	15 01 41.8	-1.9
ZHG				S	Sn	15 02 20.6	+4.3
PVAQ	Vaqueiros	3.70	299	P	Pb	15 01 46.1	-3.7
PVAQ				S	Sn	15 02 29.4	+4.5

*IDC **29** 15:00:58.3±1.6, 35°.74N×3°.56W, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.3/43, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=38.7km s-min=22.5km az=92.0*
*SFS **29** 15:01:02.0, 35°.73N×3°.53W, ML2.9, ALBORAN SUR*

ISC 29 15:00:59.6±1.0, 35°.73N±0°.07×3°.61W±0°.09, h10km, n6, σ1§13/8, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAS	Isla Isabel II	1.10	119	P	Pg	15 01 21.7	+0.8
CHAS				S	Sg	15 01 33.5	-1.7
EMAL	Malaga-Limoner	1.23	328	P	Pn	15 01 23.2	+0.4
EMAL				S	Sb	15 01 37.3	-1.5
MDT	Midelt	3.02	196	Pn	Pn	15 01 47.7	+0.1
	1.3nm,0.3s,baz=209,slow=6.3,SNR=2.8						
ESDC	Sonseca Array	3.95	356	Pn	Pn	15 02 00.9	+0.5
	0.3nm,0.3s,baz=174,slow=12,SNR=6.5						
ESDC				Lg	Lg	15 03 03.2	
	0.8nm,0.3s,baz=176,slow=28,SNR=5.9						
MKAR	Makanchi Array	62.46	51	P	P	15 11 23.0	0.0
	0.4nm,0.8s,baz=286,slow=6.1,SNR=4.7						
YKA	Yellowknife Ar	67.70	332	P	P	15 11 57.0	+0.3
	0.3nm,0.5s,baz=58,slow=6.3,SNR=7.0						

*CNRM **29** 15:03:16.7, 35°.72N×3°.58W, h26km, ml2.3*
*SFS **29** 15:03:16.0, 35°.67N×3°.69W, ML2.5, ALBORAN SUR*

ISC 29 15:03:14.5±1.2, 35°.79N±0°.05×3°.50W±0°.04, h13km±10km, n11, σ0§99/22, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.67	213	P	Pn	15 03 28.5	-1.3
PALE				S	Sg	15 03 36.6	+0.2
GOG	Mont Gurugu	0.69	144	P	Pn	15 03 29.8	-0.3
GOG				S	Sn	15 03 39.4	-1.4
CHAS	Isla Isabel II	1.06	124	P	Pg	15 03 35.1	+0.3
CHAS				S	Sn	15 03 50.7	+1.1
EMAL	Malaga-Limoner	1.23	323	P	Pg	15 03 38.0	-0.2
EMAL				S	Sg	15 03 54.1	-0.1
TAF	Taforalt	1.31	137	P	Pg	15 03 39.9	+0.2
TAF				S	Sg	15 03 56.6	-0.2
SMIR	Smir Dam	1.54	267	P	Pb	15 03 41.7	-1.1
SMIR				S	Sn	15 04 00.4	-1.0
JBK	JBK	1.64	152	P	Pb	15 03 44.2	-0.4
JBK				S	Sn	15 04 03.5	-0.7
MD31	MD31	3.09	200	P	Pn	15 04 04.2	+1.1
MD31				S	Sn	15 04 40.2	+0.2
MDT	Midelt	3.10	198	P	Pn	15 04 04.5	+1.2
MDT				S	Sn	15 04 40.2	-0.1
ZHG	ZHG	3.49	229	P	Pn	15 04 10.3	+1.8
ZHG				S	Sn	15 04 50.4	+0.6
PVAQ	Vaqueiros	3.76	297	P	Pn	15 04 13.9	+1.7
PVAQ				S	Sn	15 04 55.7	-0.7

*EAF **29** 15:04:24.0±1.4, 26°.71S×27°.76E, h6km±21km, MD3.8*

BUL 29 15:04:24.0±1.4, 26°.71S×27°.76E, h6km±21km, MD4.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	2.58	310	iP	Pn	15 05 04.8	-1.7
LBTB				iSg	Sb	15 05 44.0	+1.3
LBTB	Lobatse	2.58	310	iP	Pn	15 05 04.8	-1.7
LBTB				iSg	Sb	15 05 44.0	+1.3
BOSA	Boshof	2.92	229	iP	Pn	15 05 10.6	-0.7
BOSA				iSg	Sg	15 05 55.4	-2.6
BOSA	Boshof	2.92	229	iP	Pn	15 05 10.6	-0.7
BOSA				iSg	Sg	15 05 55.4	-2.6
MATP	Matopo	6.29	6	iP	Pn	15 05 56.3	-1.2
MATP				iS	Sn	15 07 04.5	-5.3
MATP	Matopo	6.29	6	iP	Pn	15 05 56.3	-1.2
MATP				iS	Sn	15 07 04.5	-5.3
BLWY	Bulawayo	6.58	7	eP	Pn	15 06 00.2	-1.4
BLWY				iS	Sn	15 07 11.8	-5.2
BLWY	Bulawayo	6.58	7	eP	Pn	15 06 00.2	-1.4
BLWY				iS	Sn	15 07 11.8	-5.2

IDC 29 15:18:00.8±12.0, 12°.68N×143°.45E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/39, mbtmp3.3/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/27, Error ellipse: s-maj=464.6km s-min=34.6km az=79.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.64	196	P	P	15 24 43.1	-0.3
	0.7nm,0.8s,baz=20,slow=11,SNR=4.7						
ASAR	Alice Springs	37.31	195	P	P	15 25 15.2	+0.2
	0.3nm,0.8s,baz=17,slow=13,SNR=2.7						
YAK	Yakutsk	50.27	352	LR	LR	15 48 22.2	
	comp=Z,69nm,18.6s,baz=270,slow=36						
MKAR	Makanchi Array	61.19	317	P	P	15 28 17.5	0.0
	0.2nm,0.8s,baz=97,slow=5.9,SNR=1.8						

*IDC **29** 15:19:52.5±0.7, 12°.67N×143°.60E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/37, mbtmp4.1/11, MS3.3/10, Ms1 3.3/10, ms

COEN IAmb IAmb 15 25 37.3
comp=Z,14nm,1.1s
KSRS Korea Array 28.52 333 LR LR 15 35 56.7
comp=Z,29nm,18.4s,baz=320,slow=34
NJ2 Nanjing 29.96 314 *eP* **P** **15 26 02.3 +0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
BATI Baumata 30.20 222 LR LR 15 39 06.7
comp=Z,92nm,19.4s,baz=45,slow=38
ASAJ Asahikawa 31.42 358 LR LR 15 42 23.6
comp=Z,17nm,18.0s,baz=173,slow=43
KNRA Kununurra 31.78 208 P **P** **15 26 16.8 -1.2**
CTA Charters Tower 32.58 176 LR LR 15 40 19.5
comp=Z,60nm,18.4s,baz=44,slow=38
USRK Ussuriysk Ar. 33.07 344 P **P** **15 26 29.9 +0.8**
comp=Z,2.0nm,0.6s,baz=100,slow=16,SNR=2.0
WB0 Warramunga Arr 33.46 196 P **P** **15 26 30.9 -1.8**
WB0 IAmb IAmb 15 26 33.9
comp=Z,6.5nm,0.9s
WR0 Warramunga Arr 33.61 196 P **P** **15 26 34.2 +0.2**
WR0 IAmb IAmb 15 26 42.7
comp=Z,8.5nm,1.1s
WRAB Tennant Creek 33.63 196 P **P** **15 26 35.0 +0.8**
WRAB IAmb IAmb 15 26 35.5
comp=Z,12nm,1.1s
WB2 Warramunga Arr 33.64 196 P **P** **15 26 34.5 +0.2**
WB2 IAmb IAmb 15 26 37.5
comp=Z,9.8nm,0.9s
WRA Warramunga Arr 33.65 196 P **P** **15 26 35.2 +0.9**
comp=Z,4.3nm,0.7s,baz=19,slow=9.8,SNR=19
WRA LR LR 15 40 51.7
comp=Z,88nm,19.3s,baz=200,slow=37
WRA Warramunga Arr 33.65 196 P **P** **15 26 33.7 -0.6**
LYN LuoYang 35.81 313 ⇓P **P** **15 26 52.3 -0.7**
LYN S **S** **15 32 34.5 +3.9**
LYN pmax pmax
comp=Z,10.0nm,1.0s
LYN LR LR
comp=Z,340nm,12.9s
LYN LR LR
comp=Z,390nm,16.2s
LYN LR LR
comp=Z,190nm,8.7s
HNS HongShan 35.83 319 ⇑P **P** **15 26 53.0 -0.1**
HNS pmax pmax
comp=Z,38nm,1.6s
BJI Beijing 36.56 323 P **P** **15 27 00.8 +1.5**
BJI pmax pmax
comp=Z,22nm,1.6s
BJI pmax pmax
comp=Z,92nm,4.4s
AS31 Alice Springs 37.31 195 P **P** **15 27 05.1 -0.8**
ASAR Alice Springs 37.31 195 P **P** **15 27 06.6 +0.7**
comp=Z,1.4nm,0.7s,baz=22,slow=12,SNR=18
ASAR LR LR 15 42 02.0
comp=Z,59nm,18.9s,baz=16,slow=36
ASAR Alice Springs 37.31 195 P **P** **15 27 05.0 -1.0**
XAN Xi'an 38.17 310 P **P** **15 27 14.5 +1.3**
XAN pP pwP 15 27 30.5 +11
XAN pmax pmax
comp=Z,8.0nm,1.4s
XLT XiLinHaoTe 39.22 328 *eP* **P** **15 27 21.8 -0.1**
XLT pP pwP 15 27 38.0 +10
XLT sP sP 15 27 45.8 +21
XLT pmax pmax
comp=Z,26nm,1.5s
XLT pmax pmax
comp=Z,210nm,4.1s
HHC Hu-ho-hao-te 39.83 321 *eP* **P** **15 27 28.8 +1.8**
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,190nm,5.2s
KMI Kunming 40.61 294 ⇑P **P** **15 27 32.8 -1.0**
KMI pmax pmax
comp=Z,7.0nm,0.8s
DZM Mont Dzumac 41.02 147 P **P** **15 27 39.5 +2.5**
comp=Z,19nm,1.0s,baz=359,slow=8.0,SNR=9.8
CD2 Chengdu 41.10 303 P **P** **15 27 38.3 +0.7**
CD2 pmax pmax
comp=Z,20nm,0.8s
PZH PanZhiHua 41.74 296 P **P** **15 27 43.8 +0.7**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.2s
PETK Petropavlovsk- 41.91 13 LR LR 15 46 34.2
comp=Z,29nm,19.1s,baz=222,slow=38
LZH Lanzhou 42.81 310 *eP* **P** **15 27 52.0 +0.3**
LZH pP pwP 15 28 04.3 +6.3
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,340nm,4.3s
CMAR Chiang Mai Arr 43.49 284 P **P** **15 27 56.6 -0.6**
comp=Z,2.9nm,0.9s,baz=83,slow=6.3,SNR=15
FORT Forrest 45.70 199 P **P** **15 28 12.4 -2.1**
SONM Songino Array 46.93 326 P **P** **15 28 24.1 -0.2**
comp=Z,3.9nm,0.8s,baz=131,slow=5.8,SNR=24
SONM Songino Array 46.93 326 P **P** **15 28 24.2 0.0**
GTA Gaotai 47.03 313 ⇑P **P** **15 28 25.0 -0.2**
GTA pP pwP 15 28 40.5 +9.0
GTA sP sP 15 28 47.8 +20
GTA pmax pmax
comp=Z,4.0nm,1.0s
MORW Morawa 49.33 212 P **P** **15 28 42.2 -0.7**
GOMU GeErMu 49.75 307 P **P** **15 28 46.0 -0.6**
GOMU pmax pmax
comp=Z,3.0nm,1.0s
GOMU pmax pmax
comp=Z,110nm,4.9s
WMQ Urumqi 57.04 314 *eP* **P** **15 29 37.0 -2.6**
WMQ sP pwP 15 30 04.0 +18
WMQ PP **PP** **15 31 49.5 +3.2**
WMQ pmax pmax
comp=Z,29nm,1.7s
MKAR Makanchi Array 61.45 317 P **P** **15 30 09.3 -0.8**
comp=Z,2.1nm,1.1s,baz=93,slow=8.7,SNR=12
MKAR Makanchi Array 61.45 317 P **P** **15 30 07.9 -2.2**
ZALV Zalesovo Beam 61.80 325 P **P** **15 30 11.5 -0.7**
comp=Z,0.5nm,0.4s,baz=99,slow=9.3,SNR=2.2
KURK Kurchatov 64.64 320 P **P** **15 30 27.6 -3.5**
KURK IAmb IAmb 15 30 38.2
comp=Z,7.0nm,0.8s
KSH Kashi 64.98 308 P P 15 30 39.3 +5.5
KSH pP PcP 15 30 55.8 -11
KSH pmax pmax
comp=Z,3.0nm,1.6s
ILAR Eielson Array 69.92 25 P **P** **15 31 05.7 +1.4**
comp=Z,0.6nm,0.7s,baz=246,slow=5.4,SNR=6.0
BRVK Borovoye 70.10 322 P **P** **15 31 04.2 -1.5**
BRVK IAmb IAmb 15 31 12.2
comp=Z,8.7nm,1.1s
YKA Yellowknife Ar 84.22 27 P **P** **15 32 23.5 -1.3**
comp=Z,0.2nm,0.6s,baz=288,slow=5.3,SNR=4.8
NVAR Mina Array Bea 88.38 51 P **P** **15 32 47.5 +1.4**
comp=Z,1.7nm,0.9s,baz=267,slow=6.3,SNR=4.5
EIL Elat 99.62 303 LR LR 16 23 06.6
comp=Z,24nm,20.0s,baz=290,slow=38
LPAZ La Paz 148.92 101 PKPbc **PKPbc** **15 39 43.8 +0.7**
comp=Z,2.9nm,0.9s,baz=272,slow=0.5,SNR=8.6

*JMA **29** 15:30:32.8±0.1,28°.00N×140°.32E,h508km,M4.2*
*IDC **29** 15:30:32.8±1.8,27°.75N×139°.62E,h511km±22km,*
mb3.2/16,mb1 3.4/20,mb1mx3.1/58,mbtmp4.2/20,Error
ellipse: s-maj=16.4km s-min=9.8km az=105.0
ISC 29 15:30:32.2±0.7,27°.86N±0°.08×139°.8E±0°.1,h500km,n43,
σ1§80/46,mb3.9/25,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.29**	**109**	P	**P**	**15 31 38.6**	**-0.2**
CBIJ				S	**S**	**15 32 30.1**	**-2.8**
JHH2	**Haha-jima-NKT2**	**2.48**	**119**	P	**P**	**15 31 39.9**	**0.0**
JHH2				S	**S**	**15 32 32.6**	**-2.2**
TTO1	**TONANKAI O.B.S**	**6.29**	**337**	P	**P**	**15 32 14.6**	**+3.7**
BSO1	**Boso 1**	**6.86**	**8**	P	**P**	**15 32 17.6**	**+1.4**
BSO3	**Boso 3**	**6.95**	**5**	P	**P**	**15 32 18.8**	**+1.4**
JIE	**Ise**	**7.02**	**339**	P	**P**	**15 32 21.8**	**+3.4**
JKN2	**Miekihoku**	**7.03**	**336**	P	**P**	**15 32 21.2**	**+2.7**
JHU	**Hanno**	**7.98**	**357**	P	**P**	**15 32 28.3**	**+0.1**
JHU				*eS*	**S**	**15 34 01.5**	**-2.0**
JRY	**Ryogami san**	**8.17**	**355**	P	**P**	**15 32 30.7**	**+0.5**
JAG	**Ashikaga**	**8.55**	**358**	P	**P**	**15 32 33.9**	**-0.2**
JAG				*eS*	**S**	**15 34 11.0**	**-3.3**
JHO	**Hitachi**	**8.76**	**4**	P	**P**	**15 32 37.1**	**+0.8**
JHO				S	**S**	**15 34 15.9**	**-2.4**
MJAR	**Matsushiro Arr**	**8.76**	**352**	P	**P**	**15 32 36.2**	**-0.1**
0.4nm,0.3s,baz=255,slow=5.1,SNR=21							
MAT	**Matsushiro**	**8.76**	**352**	P	**P**	**15 32 36.4**	**+0.1**
MAT				*eS*	**S**	**15 34 12.1**	**-6.3**
JFK	**Kawauchi**	**9.53**	**5**	P	**P**	**15 32 46.2**	**+1.8**
JFK				*eS*	**S**	**15 34 30.9**	**-2.3**
JOW	**Kunigami**	**10.26**	**267**	P	P	15 32 52.8	+0.4
3.1nm,0.3s,baz=109,slow=22,SNR=7.4							
JMK	**Ichinoseki**	**11.13**	**6**	P	**P**	**15 33 01.6**	**+0.3**
ASAJ	**Asahikawa**	**16.39**	**7**	P	**P**	**15 33 58.0**	**+1.4**
0.7nm,0.3s,baz=220,slow=13,SNR=6.5							
USRK	**Ussuriysk Ar.**	**17.46**	**341**	P	**P**	**15 34 08.1**	**+0.7**
baz=167,slow=11,SNR=14							
KLR	**Kul'dur**	**22.21**	**346**	P	**P**	**15 34 51.5**	**+0.9**
1.6nm,0.4s,baz=159,slow=11,SNR=13							
PETK	**Petropavlovsk-**	**28.52**	**23**	P	**P**	**15 35 48.6**	**+2.3**
3.0nm,0.9s,baz=211,slow=4.7,SNR=7.3							
SEY	**Seymchan**	**36.04**	**10**	P	**P**	**15 36 51.8**	**+1.5**
1.4nm,0.7s,baz=193,slow=8.7,SNR=5.3							
CMAR	**Chiang Mai Arr**	**38.52**	**265**	P	P	15 37 10.6	-0.8
0.7nm,0.7s,baz=65,slow=5.6,SNR=7.7							
PSI	**Prapat**	**46.24**	**245**	P	P	15 38 11.2	-1.0
2.8nm,0.3s,baz=135,slow=22,SNR=3.8							
GUN	**Gumba**	**47.28**	**283**	*eP*	**P**	**15 38 20.5**	**+0.1**
12nm,0.4s							
ZALV	**Zalesovo Beam**	**47.50**	**319**	P	**P**	**15 38 20.4**	**-0.7**
0.6nm,0.4s,baz=97,slow=7.3,SNR=4.6							
PKI	**Pulchoki**	**47.77**	**283**	*eP*	**P**	**15 38 23.4**	**-0.6**
3.3nm,0.4s							
PKIN	**Phulchoki**	**47.78**	**283**	*eP*	**P**	**15 38 23.4**	**-0.6**
3.8nm,0.4s							
WRA	**Warramunga Arr**	**47.81**	**187**	P	**P**	**15 38 22.6**	**-1.3**
2.1nm,0.3s,baz=1.8,slow=7.8,SNR=23							
KKN	**Kakani**	**47.83**	**283**	*eP*	**P**	**15 38 24.0**	**-0.3**
5.5nm,0.4s							
DMN	**Daman**	**48.02**	**283**	*eP*	P	15 38 24.9	-0.9
6.3nm,0.3s							
MKAR	**Makanchi Array**	**48.33**	**309**	P	**P**	**15 38 27.4**	**-0.1**
0.5nm,0.3s,baz=88,slow=11,SNR=24							
GKN	**Gorkha**	**48.33**	**284**	*eP*	**P**	**15 38 28.0**	**0.0**
2.9nm,0.3s							
DANN	**Dangsing**	**49.01**	**285**	*eP*	**P**	**15 38 33.3**	**+0.1**
8.6nm,0.3s							
KOLN	**Koldanda**	**49.28**	**284**	*eP*	**P**	**15 38 34.6**	**-0.5**
3.3nm,0.3s							
PYUN	**Piuthan**	**49.72**	**284**	*eP*	**P**	**15 38 38.0**	**-0.4**
16nm,0.4s							
NRIK	**Noril'sk**	**51.16**	**339**	P	**P**	**15 38 47.7**	**-0.2**
0.8nm,0.4s,baz=79,slow=4.4,SNR=5.1							
ASAR	**Alice Springs**	**51.53**	**187**	P	**P**	**15 38 49.9**	**-1.4**
1.0nm,0.4s,baz=1.0,slow=5.1,SNR=16							
ILAR	**Eielson Array**	**58.09**	**29**	P	**P**	**15 39 36.9**	**+0.2**
0.9nm,0.5s,baz=247,slow=5.5,SNR=16							
ARCES	**ARCESS Array B**	**72.11**	**340**	P	**P**	**15 41 05.5**	**+0.5**
5.0nm,1.0s,baz=64,slow=8.4,SNR=11							
YKA	**Yellowknife Ar**	**72.49**	**28**	P	**P**	**15 41 07.7**	**+0.5**
1.5nm,0.6s,baz=296,slow=5.8,SNR=24							
FINES	**FINESS Array B**	**76.30**	**333**	P	**P**	**15 41 28.4**	**-0.4**
1.3nm,0.4s,baz=67,slow=5.6,SNR=17							
NVAR	**Mina Array Bea**	**81.73**	**51**	P	**P**	**15 42 00.2**	**+1.7**
0.3nm,0.5s,baz=301,slow=6.4,SNR=6.1							
NOA	**NORSAR Array B**	**82.09**	**337**	P	**P**	**15 41 58.9**	**-0.8**
0.9nm,0.7s,baz=50,slow=4.9,SNR=1.9							

IDC 29 15:35:17.2±6.0,25°.52S×69°.35E,h0km,mb3.6/4,
mb1 3.9/4,mb1mx3.4/44,mbtmp3.6/4,MS3.5/5,Ms1 3.6/5,
ms1mx3.0/75,Error ellipse: s-maj=167.1km
s-min=39.9km az=57.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.03**	**10**	T	T	15 57 25.3	
baz=189,slow=76,SNR=10							
H08S2	**Diego Garcia H**	**18.03**	**10**	T	T	15 57 21.2	
baz=189,slow=76,SNR=27							
H08S3	**Diego Garcia H**	**18.05**	**10**	T	T	15 57 24.2	
baz=189,slow=76,SNR=13							
LBTB	**Lobatse**	**39.44**	**261**	LR	LR	15 57 30.8	
comp=Z,53nm,18.2s,baz=46,slow=34							
SUR	**Sutherland**	**42.73**	**249**	LR	LR	15 58 01.0	
comp=Z,100nm,20.4s,baz=21,slow=32							
TSUM	**Tsumeb**	**48.05**	**267**	LR	LR	16 02 47.1	
comp=Z,85nm,18.4s,baz=155,slow=34							
CMAR	**Chiang Mai Arr**	**52.34**	**36**	P	P	15 44 31.0	-0.1
0.2nm,0.4s,baz=230,slow=5.6,SNR=2.3							
CMAR					LR	16 03 37.2	
comp=Z,11nm,20.8s,baz=190,slow=32							
ASAR	**Alice Springs**	**58.19**	**103**	P	P	15 45 13.5	0.0
0.6nm,0.7s,baz=253,slow=5.9,SNR=6.3							
WRA	**Warramunga Arr**	**59.69**	**99**	P	P	15 45 23.8	-0.1
1.4nm,0.9s,baz=250,slow=7.3,SNR=4.5							
MKAR	**Makanchi Array**	**72.92**	**9**	P	P	15 46 48.1	0.0
0.4nm,0.8s,baz=199,slow=6.2,SNR=4.9							
DBIC	**Dimbokro**	**78.77**	**283**	LR	LR	16 19 17.3	
comp=Z,77nm,19.5s,baz=110,slow=34							

*IDC **29** 15:49:27.4±2.8,27°.91N×139°.72E,h504km±37km,mb2.9/5,*
mb1 3.0/6,mb1mx2.4/48,mbtmp3.8/6,Error ellipse:
s-maj=59.8km s-min=14.1km az=84.0
ISC 29 15:49:27.6±1.5,27°.9N±0°.1×139°.5E±0°.5,h507km,n7,
σ1§42/7,mb3.5/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.65**	**353**	P	**P**	**15 51 30.6**	**-0.1**
0.2nm,0.3s,baz=205,slow=7.4,SNR=6.6							
TIXI	**Tiksi**	**44.16**	**355**	P	**P**	**15 56 50.3**	**+0.1**
5.5nm,0.7s,baz=51,slow=3.2,SNR=17							
WRA	**Warramunga Arr**	**47.85**	**187**	P	**P**	**15 57 19.1**	**+0.1**
0.2nm,0.3s,baz=2.5,slow=8.1,SNR=7.6							
KURBB	**Kurchatov Arra**	**50.73**	**314**	P	**P**	**15 57 41.3**	**+1.4**
0.6nm,0.5s,baz=90,slow=7.9,SNR=8.3							
ASAR	**Alice Springs**	**51.58**	**187**	P	**P**	**15 57 46.3**	**-0.1**
0.3nm,0.7s,baz=0.7,slow=4.9,SNR=8.5							
BVAR	**Borovoye Array**	**55.79**	**317**	P	**P**	**15 58 13.6**	**-2.4**
4.0nm,0.6s,baz=118,slow=10,SNR=35							
FINES	**FINESS Array B**	**76.12**	**333**	P	**P**	**16 00 23.2**	**+0.7**
0.9nm,0.3s,baz=79,slow=4.9,SNR=13							

*IDC **29** 15:54:40.0±1.6,38°.71N×73°.21E,h0km,mb3.7/6,*
mb1 3.8/9,mb1mx3.5/51,mbtmp3.7/9,ML3.1/3,Error
ellipse: s-maj=34.6km s-min=20.3km az=139.0
*SOME **29** 15:54:40.5,39°.00N×72°.87E,h10km*
*NNC **29** 15:54:45.3±1.6,38°.97N×73°.30E,h0km,mb4.1,mpv3.6,*
Error ellipse: s-maj=12.2km s-min=9.1km az=167.0
ISC 29 15:54:40.4±1.2,38°.38N±0°.07×73°.33E±0°.07,h10km,n44,
σ1§80/49,mb3.9/6,12C-1D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.76**	**4**	P	**Pn**	**15 55 38.5**	**-0.3**
SNR=53							
UCH	**Uchtor**	**3.95**	**13**	P	**Pn**	**15 55 41.0**	**-0.4**
SNR=35							
EKS2	**Erkin-Say**	**4.29**	**4**	P	**Pn**	**15 55 46.8**	**+1.0**
SNR=11							
AAK	**Ala-Archa**	**4.34**	**11**	Pn	**Pn**	**15 55 46.7**	**+0.1**
3.4nm,0.3s,baz=157,slow=5.7,SNR=51							
AAK				Sn	**Sn**	**15 56 39.6**	**+2.2**
1.4nm,0.3s,baz=338,slow=18,SNR=10							
AAK	**Ala-Archa**	**4.34**	**11**	P	**Pn**	**15 55 46.6**	**-0.1**
SNR=24							
AAK	**Ala-Archa**	**4.34**	**11**	⇑Pn	**Pn**	**15 55 45.8**	**-0.8**
23nm,0.7s							
AAK				⇑Lg	Lg	15 56 43.3	
42nm,0.9s							
MRKS	**Merke**	**4.36**	**359**	*eP*	**Pn**	**15 55 48.1**	**+1.3**
5.5nm,0.5s							
MRKS				*eS*	**Sn**	**15 56 36.4**	**-1.3**
18nm,0.8s							
MRKS	**Merke**	**4.36**	**359**	Pg	**Pn**	**15 55 48.1**	**+1.3**
5.5nm,0.5s							
MRKS				Lg	Lg	15 56 44.1	
18nm,0.8s							
KBK	**Karagaybulak**	**4.45**	**16**	P	**Pn**	**15 55 48.6**	**+0.5**
SNR=32							
IUG	**Iuzhnay**	**4.53**	**327**	*eP*	**Pn**	**15 55 51.1**	**+2.0**
181nm,0.3s							
IUG				*eS*	**Sn**	**15 56 41.8**	**-0.1**
61nm,0.6s							
IUG	**Iuzhnay**	**4.53**	**327**	Pg	**Pn**	**15 55 51.1**	**+2.0**
181nm,0.3s							
IUG				Lg	Lg	15 56 49.1	
31nm,0.5s							
TKM2	**Tokmak 2**	**4.85**	**20**	⇑Pn	**Pn**	**15 55 53.0**	**-0.7**
2.8nm,0.6s							
TKM2				⇑Pg	**Pb**	**15 56 03.4**	**-2.2**
8.5nm,0.6s							
TKM2				⇑Lg	Lg	15 57 02.9	
11nm,0.6s							
USP	**Ospenovka**	**4.96**	**10**	P	**Pn**	**15 55 54.4**	**-0.6**
SNR=6.3							
KST	**Kastek**	**5.07**	**22**	*eP*	**Pb**	**15 56 06.8**	**-2.5**
5.4nm,0.7s							
KST				*eS*	**Sb**	**15 57 09.1**	**-1.2**
22nm,0.9s							
KST	**Kastek**	**5.07**	**22**	Pg	Pn	15 56 04.7	+8.1
5.4nm,0.7s							
KST				Lg	Lg	15 57 12.4	
22nm,0.9s							
SGDS	**Sogindy**	**5.16**	**11**	*eP*	Pb	15 56 06.9	-3.9
7.4nm,0.7s							
SGDS				*eS*	**Sb**	**15 57 09.2**	**-3.6**
13nm,1.0s							
SGDS	**Sogindy**	**5.16**	**11**	Pg	Pn	15 56 03.3	+5.5
2.9nm,0.7s							
SGDS				Lg	Lg	15 57 10.1	
13nm,1.0s							
KK02	**Karatay Array**	**5.18**	**337**	⇑Pn	**Pn**	**15 55 57.0**	**-1.0**
6.5nm,0.6s							
KK02				⇑Sn	**Sn**	**15 56 53.0**	**-4.7**
23nm,0.8s							
MTBS	**Maitube**	**5.30**	**25**	*eP*	**Pb**	**15 56 11.6**	**-1.5**
5.4nm,0.4s							
MTBS				*eS*	**Sb**	**15 57 17.2**	**+0.5**
5.9nm,0.5s							
BRLS	**Borolday**	**5.35**	**331**	*eP*	Pn	15 56 04.6	+4.3
5.0nm,0.6s							
BRLS				*eS*	**Sn**	**15 57 05.4**	**+3.5**
8.9nm,0.7s							
TNSS	**Tian-Shan**	**5.40**	**29**	*eP*	**Pb**	**15 56 14.1**	**-1.1**
6.1nm,0.6s							
TNSS				*eS*	**Sb**	**15 57 21.6**	**+1.4**
6.3nm,0.6s							
TNSS	**Tian-Shan**	**5.40**	**29**	Pg	Pb	15 56 11.3	-3.8
6.1nm,0.6s							
TNSS				Lg	Lg	15 57 23.6	
6.3nm,0.6s							
MDOK	**Medeo**	**5.55**	**29**	*eP*	**Pb**	**15 56 16.1**	**-1.4**
8.4nm,0.7s							
MDOK				*eS*	**Sb**	**15 57 25.0**	**+0.9**
9.9nm,0.8s							
MDOK	**Medeo**	**5.55**	**29**	Pg	**Pb**	**15 56 17.5**	**0.0**
8.4nm,0.7s							
MDOK				⇑Lg	Lg	15 57 26.4	
28nm,1.4s							
MDOK	**Medeo**	**5.55**	**29**	Pg	Pb	15 56 13.5	-4.0
8.4nm,0.7s							
MDOK				Lg	Lg	15 57 27.1	
9.9nm,0.8s							
KRBS	**Karabastau**	**5.60**	**18**	*eP*	**Pb**	**15 56 16.5**	**-1.7**
2.7nm,0.5s							
KRBS				*eS*	**Sb**	**15 57 25.9**	**+0.4**
7.5nm,0.7s							
KRBS	**Karabastau**	**5.60**	**18**	Pg	Pn	15 56 12.3	+8.5
2.7nm,0.5s							
KRBS				Lg	Lg	15 57 25.2	
7.5nm,0.7s							
KOTS	**Kotyrbulak**	**5.63**	**29**	*eP*	**Pb**	**15 56 18.6**	**-0.3**
10nm,0.6s							
KOTS				*eS*	**Sb**	**15 57 29.5**	**+2.9**
26nm,1.0s							
KOTS	**Kotyrbulak**	**5.63**	**29**	Pg	Pb	15 56 14.9	-4.0
10nm,0.6s							
KOTS				Lg	Lg	15 57 30.0	
26nm,1.0s							
KTBS	**Karatobe**	**5.90**	**24**	*eP*	**Pb**	**15 56 22.6**	**-0.7**
2.9nm,0.8s							
KTBS				*eS*	**Sb**	**15 57 36.1**	**+2.1**
11nm,0.7s							
KTBS	**Karatobe**	**5.90**	**24**	Pg	Pb	15 56 18.9	-4.5
2.9nm,0.8s							
KTBS				Lg	Lg	15 57 36.3	
11nm,0.7s							
KUU	**Kurty**	**5.96**	**21**	*eP*	**Pb**	**15 56 24.3**	**-0.1**
4.9nm,0.5s							
KUU				*eS*	**Sb**	**15 57 38.6**	**+2.9**
11nm,0.6s							
PDGK	**Podgornoye**	**6.80**	**41**	⇓Pn	**Pn**	**15 56 20.2**	**-0.1**
2.4nm,0.8s							
PDGK				⇑Pg	**Pb**	**15 56 43.0**	**+4.2**
3.4nm,0.6s							
PDGK				⇑Lg	Lg	15 58 09.4	
9.2nm,0.9s							
MKAR	**Makanchi Array**	**10.69**	**35**	Pn	**Pn**	**15 57 13.0**	**-0.5**
0.0nm,0.3s,baz=212,slow=11,SNR=8.5							
AB31	**Akbulak array**	**14.52**	**323**	Pn	Pn	15 58 02.7	-3.1
0.7nm,0.5s,baz=132,slow=13,SNR=18							
BRVK	**Borovoye**	**14.83**	**353**	⇑Pn	**Pn**	**15 58 08.3**	**-1.7**
4.9nm,1.0s							
AKTO	**Aktyubinsk**	**16.23**	**323**	⇑Pn	**Pn**	**15 58 27.6**	**-0.9**
3.5nm,1.0s							
ZALV	**Zalesovo Beam**	**17.45**	**23**	P	**Pn**	**15 58 41.1**	**-2.6**
0.4nm,0.3s,baz=209,slow=12,SNR=8.9							
SONM	**Songino Array**	**25.76**	**58**	P	**P**	**16 00 12.1**	**+0.8**
1.8nm,0.8s,baz=265,slow=8.0,SNR=13							
FINES	**FINESS Array B**	**37.00**	**324**	P	P	16 01 48.0	-1.8
2.1nm,0.9s,baz=116,slow=8.7,SNR=5.4							
ARCES	**ARCESS Array B**	**40.15**	**336**	P	**P**	**16 02 14.9**	**-1.2**
2.7nm,0.9s,baz=98,slow=2.5,SNR=4.3							
TORD	**Torodi Ar. Bea**	**67.60**	**269**	P	**P**	**16 05 38.8**	**+1.2**
0.6nm,0.7s,baz=46,slow=6.2,SNR=2.2							
ILAR	**Eielson Array**	**72.46**	**17**	P	**P**	**16 06 05.5**	**-1.1**
0.4nm,0.9s,baz=317,slow=5.6,SNR=4.1							
YKA	**Yellowknife Ar**	**79.27**	**4**	P	**P**	**16 06 44.5**	**-1.0**
0.2nm,0.5s,baz=349,slow=5.3,SNR=6.7							

*KRSC **29** 15:56:50.9±0.6,54°.63N×161°.04E,h89km±16km,ML4.1*
*IDC **29** 15:56:52.5±2.6,54°.88N×160°.51E,h92km±26km,mb3.3/9,*
mb1 3.5/10,mb1mx3.2/54,mbtmp3.6/10,Error ellipse:
s-maj=28.8km s-min=17.3km az=140.0
ISC 29 15:56:52.1±0.7,54°.64N±0°.03×161°.03E±0°.05,h89km±7km,
n58,σ0§93/77,mb3.7/9,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.67**	**327**	*eP*	**Pn**	**15 57 07.3**	**-0.9**
TUMD				*eS*	**Sn**	**15 57 19.1**	**-1.2**
TUMR	**Tumrok**	**0.82**	**322**	*i P*	**Pn**	**15 57 09.7**	**-0.2**
KII	**Karymskiy**	**1.11**	**238**	*eP*	**Pn**	**15 57 13.3**	**+0.3**
KII				*eS*	**Sn**	**15 57 29.5**	**+0.8**
KMNR	**Kamenistaya**	**1.21**	**338**	*i P*	**Pn**	**15 57 14.4**	**+0.2**
KMNR				*eS*	**Sn**	**15 57 31.6**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**1.32**	**352**	*eP*	**Pn**	**15 57 16.9**	**+1.3**
BZGR				*eS*	**Sn**	**15 57 35.3**	**+2.0**
BZWR	**Bezymyannyi-We**	**1.36**	**347**	*eP*	**Pn**	**15 57 16.5**	**+0.3**
BZWR				*eS*	**Sn**	**15 57 34.4**	**0.0**
KIRR	**Kirishev**	**1.38**	**344**	*eP*	**Pn**	**15 57 16.5**	**+0.2**
KIRR				*eS*	**Sn**	**15 57 34.6**	**0.0**
ZLN	**Zelenaya**	**1.39**	**355**	*eP*	**Pn**	**15 57 16.9**	**+0.5**
ZLN				*eS*	**Sn**	**15 57 35.5**	**+0.7**
KPT	**Kopyto**	**1.41**	**341**	*eP*	**Pn**	**15 57 16.8**	**+0.1**
CIRR	**Tsirk**	**1.49**	**354**	*eP*	**Pn**	**15 57 18.0**	**+0.3**
CIRR				*eS*	**Sn**	**15 57 37.3**	**+0.2**
KOZ	**Kozyrevsk**	**1.57**	**336**	*eP*	**Pn**	**15 57 18.5**	**-0.

BDR	Baidarnaya	1.94	3	eP	Pn	15 57 24.1	+0.7
BDR				eS	Sn	15 57 48.0	+0.7
UGLR	Uglovaya	1.94	223	eP	Pn	15 57 24.2	+0.7
KOK	Koryaka	1.96	227	i P	Pn	15 57 24.4	+0.7
SMKR	Semkarok	1.96	7	eP	Pn	15 57 24.4	+0.6
SMKR				eS	Sn	15 57 49.3	+1.4
SRKR	Sorokina	2.02	2	eP	Pn	15 57 25.2	+0.7
SRKR				eS	Sn	15 57 50.3	+1.0
GNL	Ganaly	2.05	244	eP	Pn	15 57 25.4	+0.4
DALK	Dalny	2.10	221	eP	Pn	15 57 26.0	+0.5
DALK				eS	Sn	15 57 51.3	+0.2
PET	Petropavlovsk	2.15	222	i P	Pn	15 57 26.9	+0.8
PET				eS	Sn	15 57 53.0	+0.9
PETK	Petropavlovsk-	2.50	234	P	Pn	15 57 30.5	-0.4
	6.9nm,0.3s,baz=67,slow=17,SNR=212						
KRMR	Karymshinskiy	2.50	225	eP	Pn	15 57 31.5	+0.7
RUS	Russkaya	2.67	215	eP	Pn	15 57 32.9	-0.2
RUS				eS	Sn	15 58 03.5	-1.1
GRL	Gorelyy	2.73	221	i P	Pn	15 57 35.4	+1.3
MTVR	Mutnovka	2.75	219	i P	Pn	15 57 35.4	+1.1
MTVR				eS	Sn	15 58 07.7	+1.0
APC	Apacha	2.87	235	eP	Pn	15 57 36.8	+1.1
BKI	Bering	2.91	77	eP	Pn	15 57 36.9	+0.7
BKI				eS	Sn	15 58 08.9	-1.3
KDTR	Khodutka, Kamc	3.34	213	eP	Pn	15 57 42.0	-0.2
PAU	Pauzhetka	4.07	220	eP	Pn	15 57 54.0	+2.0
PALN	Palana	4.50	353	P	Pn	15 57 58.4	+0.6
OSSR	Ossora	4.75	13	eP	Pn	15 58 02.4	+1.2
SKR	Severo-Kuril's	4.96	219	eP	Pn	15 58 04.9	+0.8
TILK	Tilichiki	6.44	23	eP	Pn	15 58 25.6	+1.5
ILAR	Eielson Array	27.34	47	P	P	16 02 28.3	0.0
	0.5nm,0.8s,baz=252,slow=6.4,SNR=9.4						
INK	Inuvik	32.31	39	P	P	16 03 12.2	+0.2
	0.4nm,0.3s,baz=283,slow=6.4,SNR=4.8						
H11N2	WAKE ISLAND Hy 35.13	170		T	T	16 40 50.1	
	baz=354,slow=76,SNR=151						
H11N3	WAKE ISLAND Hy 35.15	170		T	T	16 40 50.4	
	baz=354,slow=76,SNR=152						
H11N1	WAKE ISLAND Hy 35.15	170		T	T	16 41 05.1	
	baz=354,slow=76,SNR=180						
H11S1	WAKE ISLAND Hy 36.33	171		T	T	16 42 26.8	
	baz=353,slow=76,SNR=3.8						
H11S3	WAKE ISLAND Hy 36.34	171		T	T	16 42 17.1	
	baz=353,slow=76,SNR=5.2						
H11S2	WAKE ISLAND Hy 36.34	171		T	T	16 42 38.2	
	baz=353,slow=76,SNR=3.5						
YKA	Yellowknife Ar	41.65	44	P	P	16 04 31.5	+0.3
	0.6nm,0.6s,baz=300,slow=8.0,SNR=8.5						
RES	Resolute Bay	41.68	23	P	P	16 04 30.8	-0.4
	1.0nm,0.6s,baz=325,slow=11,SNR=4.3						
MKAR	Makanchi Array	48.00	295	P	P	16 05 19.7	-2.0
	0.1nm,0.4s,baz=57,slow=6.8,SNR=5.0						
NVAR	Mina Array Bea	54.71	72	P	P	16 06 14.5	+2.4
	0.6nm,0.6s,baz=300,slow=7.2,SNR=5.5						
FINES	FINESS Array B	58.92	337	P	P	16 06 38.3	-2.9
	2.1nm,0.8s,baz=46,slow=7.1,SNR=9.8						
WRA	Warramunga Arr	77.72	206	P	P	16 08 39.3	+0.4
	0.5nm,1.0s,baz=14,slow=6.2,SNR=1.2						
WRA				pP	pP	16 09 02.2	+0.1
	0.9nm,0.7s,baz=20,slow=6.1,SNR=4.3						
ASAR	Alice Springs	81.40	205	P	P	16 08 59.2	+0.4
	0.3nm,0.9s,baz=17,slow=5.3,SNR=1.9						
ASAR				pP	pP	16 09 22.5	+0.4
	0.8nm,0.8s,baz=19,slow=5.1,SNR=6.0						

IDC 29 16:06:49.7±1.5, 15°.69S×71°.82W, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.6/32, mbtmp3.6/5, ML3.2/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/64, Error ellipse: s-maj=38.2km s-min=28.8km az=64.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.60	100	Pn	Pn	16 07 48.9	+1.5
	0.7nm,0.3s,baz=276,slow=15,SNR=8.4						
LPAZ				LR	LR	16 09 35.8	
	comp=Z,144nm,21.5s,baz=296,slow=46						
NNA	Nana	6.11	306	LR	LR	16 11 14.6	
	comp=Z,92nm,19.9s,baz=145,slow=43						
LVC	Limon Verde	7.41	159	Pn	Pn	16 08 38.1	-1.4
	1.3nm,0.3s,baz=331,slow=7.8,SNR=7.6						
SIV	San Ignacio	10.35	93	Pn	Pn	16 09 17.4	-2.2
	0.2nm,0.3s,baz=284,slow=13,SNR=5.5						
ATAH	Atahualpa	10.67	322	LR	LR	16 14 26.8	
	comp=Z,50nm,21.4s,baz=167,slow=43						
CPUP	Villa Florida	17.16	130	LR	LR	16 18 19.6	
	comp=Z,68nm,21.2s,baz=7.0,slow=40						
H03N1	Juan Fernandez	18.80	199	T	T	16 29 25.9	
	baz=23,slow=73,SNR=5.4						
H03N2	Juan Fernandez	18.80	199	T	T	16 29 18.9	
	baz=23,slow=73,SNR=4.8						
H03N3	Juan Fernandez	18.82	199	T	T	16 29 22.6	
	baz=23,slow=73,SNR=11						
PLCA	Paso Flores	24.97	178	P	P	16 12 15.5	+0.4
	3.1nm,1.0s,baz=347,slow=12,SNR=4.7						
MDP	Montagnes des	28.06	44	LR	LR	16 25 05.9	
	comp=Z,56nm,19.6s,baz=184,slow=39						
YKA	Yellowknife Ar	84.83	342	P	P	16 19 24.3	-1.5
	0.1nm,0.3s,baz=136,slow=5.4,SNR=2.6						
SONM	Songino Array	147.92	2	PKPbc	PKPbc	16 26 38.0	+0.8
	0.3nm,0.3s,baz=347,slow=4.4,SNR=4.3						

IDC 29 16:41:12.5±0.9, 15°.13S×173°.35W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.6/39, mbtmp3.7/7, MS3.3/2, Ms1 3.3/2, ms1mx2.7/67, Error ellipse: s-maj=48.1km s-min=19.1km az=139.0

ISC 29 16:41:17.6±0.9, 15°.1S±0°.3×173°.2W±0°.2, h35km, n17, σ1°59/10, mb3.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.81	49	Pn	Pn	16 41 46.3	-0.1
	110nm,0.3s,baz=203,slow=3.0,SNR=160						
AFI				Sn	Sn	16 42 05.4	-2.7
	455nm,0.3s,baz=46,slow=23,SNR=45						
AFI				LR	LR	16 42 26.0	
	comp=Z,361nm,20.1s,baz=219,slow=38						
MSVF	Nonsavu	8.81	252	LR	LR	16 46 28.9	
	comp=Z,158nm,19.7s,baz=68,slow=37						
URZ	Urewera	24.60	199	P	P	16 46 33.9	-0.6
	3.7nm,0.3s,baz=267,slow=4.2,SNR=10						
H11S2	WAKE ISLAND Hy 38.83	329		T	T	17 29 20.6	
	baz=147,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy 38.84	329		T	T	17 29 24.7	
	baz=147,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy 38.85	329		T	T	17 29 49.1	
	baz=147,slow=76,SNR=8.3						
H11N3	WAKE ISLAND Hy 39.77	330		T	T	17 30 36.3	
	baz=147,slow=76,SNR=8.5						
H11N1	WAKE ISLAND Hy 39.78	330		T	T	17 30 36.7	
	baz=147,slow=76,SNR=4.5						
H11N2	WAKE ISLAND Hy 39.79	330		T	T	17 30 37.5	
	baz=147,slow=76,SNR=4.1						
WRA	Warramunga Arr	50.12	257	P	P	16 50 08.6	-1.3
	0.3nm,0.7s,baz=92,slow=7.0,SNR=2.4						
ASAR	Alice Springs	50.40	252	P	P	16 50 10.5	-1.5
	0.6nm,0.4s,baz=90,slow=7.5,SNR=24						
SHEM	Shemya Is, Ala	68.45	352	LR	LR	17 18 24.7	
	comp=Z,20nm,18.2s,baz=140,slow=33						
TXAR	Lajitas Array	80.28	56	P	P	16 53 26.7	+1.4
	0.7nm,0.9s,baz=224,slow=6.3,SNR=4.7						
PDAR	Pinedale Array	81.91	42	P	P	16 53 34.8	+0.8
	0.3nm,0.6s,baz=242,slow=3.2,SNR=4.2						
ILAR	Eielson Array	82.12	11	P	P	16 53 35.7	+1.5
	0.2nm,0.6s,baz=230,slow=7.0,SNR=1.6						
YKA	Yellowknife Ar	89.75	23	P	P	16 54 12.7	+0.7
	0.3nm,0.8s,baz=235,slow=4.6,SNR=3.8						
BRTR	Keskin Array B	146.07	321	PKPbc	PKPbc	17 00 53.5	-0.9
	1.0nm,0.8s,baz=93,slow=2.8,SNR=5.6						

NAO 29 16:51:02.3±2.1, 79°.95N×2°.96E, ML3.3
DNK 29 16:51:03.0±4.9, 79°.79N×3°.47E, h20km±37km, ML1.7
IDC 29 16:51:05.9±2.9, 79°.87N×4°.24E, h0km, mb3.9/2, mb1 4.1/5, mb1mx3.3/63, mbtmp3.9/5, ML3.2/2, Error ellipse: s-maj=52.0km s-min=25.4km az=65.0
BER 29 16:51:06.4±1.8, 79°.87N×3°.07E, h26km±16km, ML2.7, ML3.3(NAO), Confirmed Earthquake
IEPN 29 16:51:09.0, 79°.45N×3°.40E, h10km

ISC 29 16:51:01.9±3.0, 79°.81N±0°.07×3°.20E±0°.06, h10km±21km, n40, σ2°35/65, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.85	114	Pn	Pn	16 51 35.0	+1.3
KBS				Sn	Sn	16 51 55.1	-1.9
KBS	Kingsbay	1.85	114	i P	Pn	16 51 34.8	+1.2
KBS				i S	Sn	16 51 53.8	-3.2
KBS	Kingsbay	1.85	114	⇑i P	Pn	16 51 34.8	+1.2
KBS				eS	Sn	16 51 56.7	-0.3
KBS				IAML		16 52 01.8	
	comp=Z,124nm,0.4s						
KBS	Kingsbay	1.85	114	eP	Pn	16 51 34.5	+0.8
KBS				eS	Sn	16 51 55.7	-1.3
BRBB	Barentsburg B	2.73	124	Pn	Pb	16 51 49.1	-1.6
BRBB				Sn	Sn	16 52 18.6	-0.1
BRBB	Barentsburg B	2.73	124	eP	Pn	16 51 48.1	+2.4
BRBB				eS	Sn	16 52 17.9	-0.8
BRBA	Barentsburg A	2.75	124	Pn	Pb	16 51 49.4	-1.7
BRBA				Sn	Sn	16 52 19.2	-0.1
BRBA	Barentsburg A	2.75	124	eP	Pn	16 51 48.6	+2.6
BRBA				eS	Sn	16 52 18.6	-0.8
BRBA				IAML		16 52 32.3	
	comp=Z,44nm,0.3s						
SPA0	Spitsbergen Ar	3.01	116	Pn	Pn	16 51 51.6	+2.0
	baz=319,slow=11						
SPA0				Sn	Sn	16 52 25.7	+0.1
	baz=304,slow=28						
SPA0	Spitsbergen Ar	3.01	116	Pn	Pn	16 51 51.6	+2.0
	baz=319,slow=11						
SPA0				Sn	Sn	16 52 25.7	+0.1
	baz=304,slow=28						
SPA0	Spitsbergen Ar	3.01	116	⇑i P	Pn	16 51 51.5	+2.0
SPA0				i S	Sn	16 52 24.4	-1.2
SPITS	Spitsbergen Ar	3.01	116	Pn	Pn	16 51 51.5	+2.0
	baz=313,slow=7.5,SNR=757						
SPITS				Sn	Sn	16 52 25.1	-0.5
	baz=315,slow=16,SNR=5.6						
NOR	Nord	3.67	309	Pn	Pn	16 51 59.5	+0.9
NOR	Nord	3.67	309	i P	Pn	16 51 59.8	+1.1
NOR				i S	Sn	16 52 40.8	-1.1
NOR				IAML		16 52 47.4	
	comp=Z,2.1nm,0.2s						
NOR	Nord	3.67	309	eP	Pn	16 51 59.3	+0.7
NOR				eS	Sn	16 52 38.8	-3.2
HSPB	Hornsund (broa	3.75	132	Pn	Pn	16 52 01.6	+1.8
HSPB				Sn	Sn	16 52 43.1	-0.8
HSPB	Hornsund (broa	3.75	132	eP	Pn	16 52 02.4	+2.6
HSPB				eS	Sn	16 52 43.0	-1.0
HSPB				IAML		16 52 49.8	
	comp=Z,39nm,0.4s						
HSPB	Hornsund (broa	3.75	132	eP	Pn	16 52 03.0	+3.2
HSPB				eS	Sn	16 52 42.0	-2.0
HOPEN	Hopen	5.54	115	Pn	Pn	16 52 26.0	+1.7
HOPEN				Sn	Sn	16 53 24.8	-3.1
HOPEN	Hopen	5.54	115	eP	Pn	16 52 26.1	+1.8
HOPEN				eS	Sn	16 53 24.5	-3.3
HOPEN				IAML		16 53 33.6	
	comp=Z,21nm,0.7s						
HOPEN	Hopen	5.54	115	eP	Pn	16 52 25.8	+1.6
HOPEN				eS	Sn	16 53 23.8	-4.1
BJO1	Bjornoya	6.36	139	eP	Pn	16 52 37.7	+2.2
BJO1				eS	Sn	16 53 45.1	-2.9
BJO1				IAML		16 53 49.5	
	comp=Z,13nm,0.6s						
BJO1	Bjornoya	6.36	139	eP	Pn	16 52 37.6	+2.2
BJO1				eS	Sn	16 53 44.3	-3.7
ZFI	Zemlya Franca-	7.41	61	eP	Pn	16 52 51.7	+1.8
ZFI				eS	Sn	16 54 09.2	-4.7
	comp=Z,35nm,1.0s						
DBG	Daneborg	7.54	235	Pn	Pn	16 52 52.0	+0.2
DBG				Sn	Sn	16 54 08.6	-8.6
DBG	Daneborg	7.54	235	i P	Pn	16 52 50.9	-0.8
DBG				i S	Sn	16 54 07.5	-10
DBG				IAML		16 54 12.8	
	comp=Z,4.7nm,0.2s						
DBG	Daneborg	7.54	235	eP	Pn	16 52 51.9	+0.2
DBG				eS	Sn	16 54 09.2	-7.9
NEEM	North Greenlan	10.60	285	i P	Pn	16 53 30.6	-3.2
NEEM				i S	Sn	16 55 20.4	-12
ARA0	ARCESS Array S	11.74	139	Pn	Pn	16 53 50.8	+1.6
	baz=346,slow=12						
ARA0				Sn	Sn	16 55 56.0	-4.0
	baz=349,slow=22						
ARA0	ARCESS Array S	11.74	139	Pn	Pn	16 53 50.8	+1.6
	baz=346,slow=12						
ARA0				Sn	Sn	16 55 56.0	-4.0
	baz=349,slow=22						
ARCES	ARCESS Array B	11.74	139	Pn	Pn	16 53 50.7	+1.5
	baz=348,slow=12,SNR=10						
ARCES				Sn	Sn	16 55 56.2	-3.8
	baz=1.0,slow=21,SNR=1.8						
KIF	Kilpisjarvi	11.74	148	Pn	Pn	16 53 52.2	+3.0
KIF	Kilpisjarvi	11.74	148	Pn	Pn	16 53 52.2	+3.0
SUMG	Summit	11.93	256	i P	Pn	16 53 50.1	-2.1
SUMG				i S	Sn	16 55 53.0	-12
TULEG	Thule	14.19	295	i P	Pn	16 54 19.3	-3.1
TULEG				i S	Sn	16 56 46.2	-13
FIA0	FINESS Array S	19.64	146	P	Pn	16 55 34.3	+2.7
	baz=345,slow=12						
FIA0	FINESS Array S	19.64	146	P	Pn	16 55 34.3	+2.7
	baz=345,slow=12						
FINES	FINESS Array B	19.64	146	P	Pn	16 55 34.4	+2.7
	comp=Z,0.2nm,0.3s,baz=347,slow=12,SNR=11						
MKAR	Makanchi Array	42.43	90	P	P	16 59 00.7	+4.5
	comp=Z,0.5nm,0.6s,baz=344,slow=7.2,SNR=7.6						
CMAR	Chiang Mai Arr	72.98	81	P	P	17 02 35.4	+4.1
	comp=Z,1.5nm,0.3s,baz=325,slow=5.9,SNR=4.1						

IDC 29 17:02:40.7±1.9, 1°.88N×128°.71E, h0km, mb3.1/3, mb1 3.3/4, mb1mx3.0/29, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=89.0km s-min=27.1km az=61.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.73	137	Pn	Pn	17 03 40.0	+0.3
	2.1nm,0.3s,baz=323,slow=20,SNR=12						
SIJI				Sn	Sn	17 04 22.3	-2.1
	0.6nm,0.3s,baz=223,slow=22,SNR=1.5						
WRA	Warramunga Arr	22.38	166	P	P	17 07 39.7	-1.0
	0.4nm,0.7s,baz=346,slow=11,SNR=2.4						
ASAR	Alice Springs	25.89	169	P	P	17 08 15.0	+0.5
	0.3nm,0.9s,baz=350,slow=10,SNR=1.7						
H11S3	WAKE ISLAND Hy 40.72	64		T	T	17 53 54.8	
	baz=250,slow=75,SNR=6.4						
H11S2	WAKE ISLAND Hy 40.73	64		T	T	17 53 54.4	
	baz=250,slow=75,SNR=6.6						
H11S1	WAKE ISLAND Hy 40.73	64		T	T	17 53 54.1	
	baz=250,slow=75,SNR=7.8						
H11N1	WAKE ISLAND Hy 41.31	62		T	T	17 54 45.4	
	baz=249,slow=75,SNR=3.9						
H11N2	WAKE ISLAND Hy 41.33	62		T	T	17 54 45.2	
	baz=249,slow=75,SNR=3.5						
H11N3	WAKE ISLAND Hy 41.33	62		T	T	17 54 46.7	
	baz=249,slow=75,SNR=4.0						
MKAR	Makanchi Array	60.20	325	P	P	17 12 50.7	+0.1
	0.2nm,0.5s,baz=114,slow=7.9,SNR=1.3						

NEIC 29 17:04:23.2±0.3, 2°.0N±0°.2×124°.6E±0°.1, h268km±15km, mb4.0/9, Error ellipse: s-maj=25.2km s-min=12.5km az=202.0
IDC 29 17:04:34.6±7.8, 1°.58N×124°.14E, h400km±98km, mb2.8/4, mb1 3.1/6, mb1mx2.8/30, mbtmp3.8/6, Error ellipse: s-maj=88.7km s-min=21.1km az=62.0

ISC 29 17:04:23.4±1.0, 1°.9N±0°.1×124°.6E±0°.1, h268km, n17, σ0°89/17, mb3.9/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.98	113	Pn	Pn	17 05 16.5	-0.2
TOLI2	Tolitoli	3.93	258	Pn	Pn	17 05 27.1	-0.2
BATI	Baumata	12.11	185	P	P	17 07 11.6	+1.3
	4.7nm,0.3s,baz=0.0,slow=1.0,SNR=6.0						
MTN	Manton Dam	16.05	156	P	P	17 07 54.4	+0.5
KNRA	Kununurra	17.98	167	P	P	17 08 14.8	0.0
FITZ	Fitzroy Crossi	19.94	177	P	P	17 08 35.4	-0.3
	0.4nm,0.3s,baz=354,slow=5.8,SNR=9.0						
WB0	Warramunga Arr	23.61	156	P	P	17 09 10.2	-0.6
WB0				IAmb	IAmb	17 09 13.1	
	comp=Z,5.4nm,1.1s						
WRAB	Tennant Creek	23.74	157	P	P	17 09 11.7	-0.2
WRAB				IAmb	IAmb	17 09 18.9	
	comp=Z,16nm,1.6s						
WRA	Warramunga Arr	23.75	157	P	P	17 09 11.9	-0.1
	comp=Z,1.4nm,0.3s,baz=335,slow=11,SNR=33						
WRA	Warramunga Arr	23.75	157	P	P	17 09 10.6	-1.4
WB2	Warramunga Arr	23.75	157	P	P	17 09 11.9	-0.2
WB2				IAmb	IAmb	17 09 17.3	
	comp=Z,11nm,1.6s						
WR0	Warramunga Arr	23.84	156	P	P	17 09 12.6	-0.2
WR0				IAmb	IAmb	17 09 17.1	
	comp=Z,13nm,1.4s						
AS31	Alice Springs	27.01	161	P	P	17 09 40.1	-1.2
AS31				IAmb	IAmb	17 09 48.8	
	comp=Z,2.1nm,1.4s						
ASAR	Alice Springs	27.01	161	P	P	17 09 41.0	-0.2
	comp=Z,0.2nm,0.3s,baz=336,slow=7.7,SNR=15						
SONM	Songino Array	48.36	344	P	P	17 12 40.1	+1.5
	comp=Z,0.2nm,0.6s,baz=150,slow=6.7,SNR=1.5						
MK31	Makanchi Array	57.85	327	P	P	17 13 46.3	-1.1
MKAR	Makanchi Array	57.85	327	P	P	17 13 46.2	-1.2
	comp=Z,0.2nm,0.3s,baz=121,slow=8.0,SNR=6.3						

IDC 29 17:06:13.2±2.0, 1°.02N×126°.40E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/27, mbtmp3.4/3, Error ellipse: s-maj=175.4km s-min=25.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.24	160	P	P	17 11 11.8	0.0
	0.9nm,0.4s,baz=338,slow=11,SNR=12						
ASAR	Alice Springs	25.60	164	P	P	17 11 44.5	0.0
	0.2nm,0.4s,baz=345,slow=11,SNR=7.1						
MKAR	Makanchi Array	59.59	326	P	P	17 16 18.9	0.0
	0.3nm,0.5s,baz=119,slow=8.3,SNR=7.3						

IDC 29 17:13:36.4±5.3, 2°.69S×139°.78E, h0km, mb2.8/2, mb1 3.1/3, mb1mx3.1/23, mbtmp2.9/3, ML3.0/1, Error ellipse: s-maj=206.3km s-min=33.3km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.96	197	P	Pn	17 17 47.7	0.0
	0.1nm,0.3s,baz=18,slow=13,SNR=1.3						
ASAR	Alice Springs	21.62	195	P	P	17 18 28.4	0.0
	0.3nm,0.9s,baz=21,slow=11,SNR=2.2						
MKAR	Makanchi Array	70.42	322	P	P	17 24 52.7	0.0
	0.1nm,0.7s,baz=134,slow=6.2,SNR=1.1						

NEIC 29 17:32:32.0±2.1, 0°.91N±0°.06×126°.11E±0°.04, h10km±1km, mb5.2/155, Error ellipse: s-maj=11.0km s-min=7.3km az=192.0
IDC 29 17:32:34.0±3.8, 0°.81N×126°.00E, h19km±23km, mb4.7/29, mb1 4.7/33, mb1mx4.5/42, mbtmp4.8/33, ML4.1/4, MS3.9/26, Ms1 3.9/26, ms1mx3.6/71, Error ellipse: s-maj=15.0km s-min=9.7km az=78.0
MOS 29 17:32:34.1±1.2, 0°.88N×126°.00E, h37km, mb5.2/41, Error ellipse: s-maj=10.2km s-min=4.9km az=114.0
BJI 29 17:32:35.0±0.0, 0°.90N×126°.20E, h40km, mb4.8/65, mB5.1/36, Ms4.5/22, Ms7 4.2/23
GCMT 29 17:32:37.0±0.2, 1°.06N±0°.02×126°.19E±0°.02, h32km±1km, MW5.0/80, Moment Tensor Solution. s45,c62; s80,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.76±.21; $M_{\theta\theta}$1.57±.14; $M_{\phi\phi}$-4.32±.15; $M_{r\theta}$0.43±.22; $M_{\theta\phi}$-1.50±.13; $M_{\phi r}$-0.10±.22; Best double couple: $M_0$3.81400×10^{16} NP1:φ$_s$35.00000°, δ49.00000°, λ121.00000°. NP2: φ$_s$172.00000°, δ50.00000°, λ59.00000°. Principal axes: T 2.9490, Plg67.0000°, Azm14.0000°; N 1.7410, Plg23.0000°, Azm193.0000°; P -4.6800, Plg0.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 29 17:32:37.6±0.3, 1°N±2°×12°6E±°, h40km±3km, M4.8/43, mB5.4/18, mb5.0/43, MLv5.0/22, Mw(mB)4.8/18, MwMwp4.7/6, Mwp5.1/6
KLM 29 17:32:38, 1°.07N×126°.37E, h58km, mb5.0

ISC 29 17:32:37.2±0.5, 0°.86N±0°.03×126°.10E±0°.04, h49km±4km, h49km:pP-P, n533, σ1°66/521, mb5.1/175, MS4.0/33, 23C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.27	94	P	Pn	17 32 56.4	-2.2
TNTI	Ternate	1.27	94		Pn	17 32 56.2	-2.4
TNTI				Sn	Sn	17 33 13.0	-1.5
TNTI	Ternate	1.27	94	P	Pn	17 32 57.4	-1.2
LBMI	Labuha	2.04	137	P	Pn	17 33 07.8	-1.3
KMSI	Cibinong	2.13	263	P	Pn	17 33 11.1	+0.7
SGSI	Sangihe	2.87	349	P	Pn	17 33 22.1	+1.6
SANI	Sanana	2.89	182	P	Pn	17 33 20.4	-0.3
SANI	Sanana	2.89	182	P	Pn	17 33 20.3	-0.4
GTOI	Gorontalo	3.09	266	P	Pn	17 33 25.9	+2.4
MRSI	Marisa	4.17	265	P	Pn	17 33 39.1	+0.7
APSI	Ampana	4.78	248	P	Pn	17 33 49.0	+2.3
AAI	Ambon	4.97	155	P	Pn	17 33 49.9	+0.5
MSAI	Masohi	5.04	146	P	Pn	17 33 50.8	+0.5
	0.1nm522nm26nm,0.5s						
TOLI2	Tolitoli	5.32	273	Pn	Pn	17 33 52.5	-1.6
TOLI2				Sn	Sn	17 34 51.6	-2.6
TOLI2	Tolitoli	5.32	273	P	Pn	17 33 54.3	+0.2
GSPH	General Santos	5.32	348	⇑i P	Pn	17 33 53.9	-0.4
SIJI	Sorong	5.45	108	Pn	Pn	17 33 55.7	-0.2
	2.1nm,0.3s,baz=178,slow=18,SNR=8.8						
SIJI				Sn	Sn	17 34 59.9	+2.6
	0.8nm,0.3s,baz=293,slow=18,SNR=1.1						
SIJI				LR	LR	17 36 24.7	
	comp=Z,3μm,19.4s,baz=269,slow=42						
KCP	Kidapawan	6.20	351	eP	Pn	17 34 09.0	+2.8
DAV	Davao City (W)	6.20	355		Pn	17 34 02.9	-3.3
MPSI	Mapaga	6.22	265	P	Pn	17 34 08.3	+1.8
	0.8nm6μm2μm227nm,0.9s						
CTBH	Cotabato--PC H	6.59	344	eP	Pn	17 34 12.7	+1.1

MTN Manton Dam 14.50 160 Pn **Pn 17 35 57.1 -2.5**
MTN Manton Dam 14.50 160 P **Pn 17 35 59.4 -0.2**
STKI Sintang 14.64 267 P **P 17 36 06.5 -0.3**
3µm33nm,0.7s
PBKI Pangkalan Bun 14.85 256 P **P 17 36 12.2 +3.1**
KDU Kakadu 14.87 155 P **Pn 17 36 03.3 -1.2**
JAY Jayapura 14.98 103 LR LR 17 41 32.6
comp=Z,585nm,21.5s,baz=252,slow=36
JAGI Jajag, Banyuwa 15.08 232 P **P 17 36 17.2 +5.5**
JAGI Jajag, Banyuwa 15.08 232 **Pn 17 36 06.6 -0.8**
JAGI IAmb IAmb 17 36 25.6
comp=Z,80nm,1.0s
JAGI Jajag, Banyuwa 15.08 232 P **P 17 36 10.1 -1.6**
BLJI Banyuglugur 15.11 235 P **P 17 36 16.6 +4.6**
GMJI Gumukmas 15.53 234 P P 17 36 24.6 +7.9
KSM Kuching 15.80 272 Pn **Pn 17 36 15.3 -1.2**
KSM Kuching 15.80 272 P **P 17 36 22.0 +2.4**
KSM Kuching 15.80 272 P **P 17 36 18.3 -1.3**
KNRA Kununurra 16.64 171 Pn **Pn 17 36 25.0 -2.1**
KNRA IAmb IAmb 17 36 28.5
comp=Z,109nm,0.8s
KNRA Kununurra 16.64 171 P **Pn 17 36 27.5 +0.4**
PCJI Pacitan 17.38 239 P **P 17 36 40.9 +3.7**
comp=Z,90nm,1.0s
SMRI Semarang 17.48 243 P P 17 36 47.6 +9.3
SMRI Semarang 17.48 243 P **P 17 36 38.6 +0.3**
UGM Wanagama 17.80 240 **Pn 17 36 39.8 -1.9**
UGM Wanagama 17.80 240 P **P 17 36 44.1 +2.2**
FITZ Fitzroy Crossi 18.84 181 P **P 17 36 52.9 -0.3**
comp=Z,0.7nm,0.3s,baz=9.8,slow=6.2,SNR=11
FITZ LR LR 17 46 45.8
comp=Z,97nm,18.0s,baz=356,slow=45
CMJI Cimerak 19.58 244 P Pn 17 37 14.7 +12
LEM Lembang 19.96 247 P **P 17 37 04.2 -1.5**
comp=Z,2.0nm,0.3s,baz=340,slow=12,SNR=3.7
CBJI Citeko 20.52 249 P Pn 17 37 17.0 +2.8
comp=Z,97nm,1.2s
CNJI Cibinong 20.59 246 P Pn 17 37 26.6 +12
TNG Tangerang 20.63 250 P Pn 17 37 15.0 -0.5
comp=Z,16µmcomp=Z,1µm,0.5s
TNG P **P 17 37 12.7 -0.1**
comp=Z,23µmcomp=Z,2µm,0.5s
DLV T Lat 20.66 303 P **P 17 37 13.2 -0.1**
DLV IAmb IAmb 17 37 31.4
comp=Z,163nm,1.7s
DSRI Dabo 21.56 267 P P 17 37 34.4 +12
CGJI Cibinong 21.67 250 P **P 17 37 24.2 +0.2**
comp=Z,27nm,0.7s
KLSI 22.05 255 P P 17 37 35.3 +7.3
WB0 Warramunga Arr 22.05 159 P **P 17 37 26.9 -1.1**
WB0 IAmb IAmb 17 37 32.7
comp=Z,124nm,0.8s
WRAB Tennant Creek 22.19 159*ce*P **P 17 37 28.7 -0.7**
WRAB pmax pmax
comp=Z,122nm,0.8s
WRAB Tennant Creek 22.19 159 P **P 17 37 27.7 -1.7**
WRAB IAmb IAmb 17 37 33.9
comp=Z,109nm,0.8s
WRAB Tennant Creek 22.19 159 P **P 17 37 28.8 -0.7**
WRA Warramunga Arr 22.19 159 P **P 17 37 28.3 -1.2**
comp=Z,71nm,0.9s,baz=337,slow=11,SNR=185
WRA S **S 17 41 29.2 -2.0**
comp=Z,6.7nm,1.0s,baz=348,slow=21,SNR=5.4
WRA Warramunga Arr 22.19 159 P **P 17 37 27.2 -2.4**
WB2 Warramunga Arr 22.20 159 P **P 17 37 27.8 -1.7**
WB2 IAmb IAmb 17 37 34.0
comp=Z,122nm,0.8s
MYKOM Kota Tinggi 22.26 273 P **P 17 37 28.2 -2.1**
MYKOM Kota Tinggi 22.26 273 P **P 17 37 36.0 +5.7**
WR0 Warramunga Arr 22.28 159 P **P 17 37 29.3 -1.2**
WR0 IAmb IAmb 17 37 35.4
comp=Z,52nm,0.8s
TWG Pinlang 22.37 348 P **P 17 37 27.3 -4.1**
TWG IAmb IAmb 17 37 32.4
comp=Z,39nm,0.7s
COEN Coen 22.42 132 P **P 17 37 29.6 -2.4**
COEN Coen 22.42 132 P **P 17 37 33.5 +1.4**
KASI Kota Agung 22.48 253 P **P 17 37 38.0 +5.3**
comp=Z,3µmcomp=Z,88nm,0.8s
MDSI Maura Dua 22.53 256 P **P 17 37 33.5 +0.3**
comp=Z,10nm,0.8s
MBWA Marble Bar 22.75 196 P **P 17 37 33.1 -2.3**
MBWA Marble Bar 22.75 196 P **P 17 37 35.6 +0.2**
LWLI Liwa 22.77 255 P P 17 37 45.0 +9.1
YULB Yu-li 22.88 349 P **P 17 37 32.5 -4.3**
YULB IAmb IAmb 17 37 56.5
comp=Z,170nm,1.8s
TPUB Ta-pu 22.93 347 P **P 17 37 32.5 -4.8**
TPUB IAmb IAmb 17 37 41.9
comp=Z,101nm,0.9s
TPUB Ta-pu 22.93 347 P **P 17 37 37.0 -0.4**
PSA00 Pilbara Seismi 23.11 195 P **P 17 37 36.2 -2.9**
PSA00 Pilbara Seismi 23.11 195 P **P 17 37 36.8 -2.4**
PSA00 IAmb IAmb 17 38 16.4
comp=Z,43nm,1.1s
PSA00 Pilbara Seismi 23.11 195 P **P 17 37 38.9 -0.2**
comp=Z,58nm,2.2s
XMIS Christmas Isla 23.25 241 P **P 17 37 38.1 -2.5**
XMIS IAmb IAmb 17 37 47.6
comp=Z,50nm,1.0s
XMIS Christmas Isla 23.25 241 P **P 17 37 42.4 +1.8**
comp=Z,48nm,0.7s
PMG Port Moresby 23.32 116 P **P 17 37 41.4 +0.2**
comp=Z,25nm,1.0s,baz=334,slow=8.1,SNR=9.1
PMG Port Moresby 23.32 116*ce*P **P 17 37 41.1 -0.2**
PMG pmax pmax
comp=Z,59nm,1.7s
PMG Port Moresby 23.32 116 P **P 17 37 37.3 -4.0**
SSLB Suanglung 23.34 348 P **P 17 37 38.2 -3.1**
SSLB Suanglung 23.34 348 P **P 17 37 41.2 -0.1**
NACB Ninganchiao 23.59 350 P **P 17 37 40.0 -3.7**
NACB IAmb IAmb 17 37 51.5
comp=Z,114nm,1.8s
YOJ Yonaguni jima 23.66 353 P **P 17 37 40.7 -3.6**
YOJ pmax pmax
comp=Z,159nm,1.1s
YOJ Yonaguni jima 23.66 353 P **P 17 37 40.7 -3.6**
MNAI Manna 23.70 257 P **P 17 37 41.9 -3.0**
JRMM Jerantut 23.79 278 P **P 17 37 46.0 +0.3**
JMJ Miyako jima 2 23.83 358 P **P 17 37 48.3 +2.4**
comp=Z,2µm,0.8s
QIZ Qiongzhong 24.09 320 P **P 17 37 49.0 +0.6**
QIZ S **S 17 42 07.0 +4.2**
QIZ LR LR
comp=Z,500nm,16.7s
QIZ LR LR
comp=Z,320nm,24.5s
QIZ LR LR
comp=Z,330nm,23.9s
QIZ Qiongzhong 24.09 320 P **P 17 37 49.3 +0.9**
YHNB Yeheng 24.11 349 P **P 17 37 45.9 -2.7**
YHNB IAmb IAmb 17 37 55.5
comp=Z,152nm,1.6s
YHNB Yeheng 24.11 349 P **P 17 37 49.7 +1.1**
MASI Maura Aman, Be 24.18 260 P P 17 37 57.2 +7.9
TATO Taipei 24.39 350 P **P 17 37 48.5 -2.5**
TATO IAmb IAmb 17 37 57.7
comp=Z,113nm,1.1s
KNMB Chin-men Tao 24.63 343 P **P 17 37 50.5 -2.7**
KNMB IAmb IAmb 17 38 09.3
comp=Z,51nm,1.3s
KRJI Kerinci 24.80 263 P P 17 38 11.6 +17
UBPT Khong Chiam 24.90 306 P **P 17 37 54.8 -1.1**
QZH Quanzhou 25.02 344 *e*P **P 17 37 57.8 +1.0**
QIS Mount Isa 25.06 149 P **P 17 37 58.6 +1.4**
IPM Ipoh 25.30 279 P **P 17 37 57.8 -1.7**
IPM IAmb IAmb 17 38 04.6
comp=Z,52nm,1.4s
IPM Ipoh 25.30 279 P **P 17 38 00.0 +0.5**
AS31 Alice Springs 25.53 163 P **P 17 38 00.2 -1.2**
ASAR Alice Springs 25.53 163 P **P 17 38 01.2 -0.3**
comp=Z,11nm,0.4s,baz=349,slow=14,SNR=198
ASAR PcP **PcP 17 41 33.1 +1.0**
comp=Z,3.0nm,0.7s,baz=347,slow=2.4,SNR=6.3
ASAR S **S 17 42 31.9 +6.1**
comp=Z,2.7nm,0.9s,baz=345,slow=21,SNR=5.4
ASAR ScP **ScP 17 45 11.4 +3.7**
comp=Z,1.2nm,0.8s,baz=347,slow=2.8,SNR=5.6
ASAR Alice Springs 25.53 163 P **P 17 37 59.9 -1.5**
ASAR S **S 17 42 23.7 -2.1**
ASAR Alice Springs 25.53 163 P **P 17 37 59.9 -1.5**
ASAR Alice Springs 25.53 163 **S 17 42 23.7 -2.1**
KULM Kulim 25.78 280 P **P 17 38 02.6 -1.3**
KULM Kulim 25.78 280 P **P 17 38 06.0 +2.1**

WRKA Warakurna 25.83 175 P **P 17 38 05.1 +0.9**
JOW Kunigami 25.91 4 P **P 17 38 06.4 +1.5**
comp=Z,85nm,0.8s,baz=158,slow=12,SNR=16
JOW Kunigami 25.91 4 P **P 17 38 01.9 -2.9**
JOW Kunigami 25.91 4 P **P 17 38 07.0 +2.1**
MTSU Mount Surprise 26.03 137 P **P 17 38 07.7 +1.7**
GIRL Giralia 26.06 206 P **P 17 38 06.0 -0.2**
RABL Rabaul 26.52 101 P **P 17 38 08.3 -2.3**
RABL IAmb IAmb 17 38 16.2
comp=Z,30nm,0.7s
PSI Prapat 27.23 274 P **P 17 38 16.9 -0.1**
comp=Z,5.3nm,0.7s,baz=112,slow=6.5,SNR=12
PSI LR LR 17 50 32.6
comp=Z,401nm,21.7s,baz=95,slow=40
SRIT Nakonsritamara 27.48 287 P **P 17 38 18.1 -1.0**
MEEK Meekatharra 28.27 194 P **P 17 38 27.0 +0.9**
GSI Gunungsitoli 28.52 271 P **P 17 38 30.4 +1.9**
GSI Gunungsitoli 28.52 271 P **P 17 38 26.2 -2.3**
GSI IAmb IAmb 17 38 30.6
comp=Z,37nm,1.2s
GSI Gunungsitoli 28.52 271 P **P 17 38 31.3 +2.8**
CTA Charters Tower 28.70 138 LR LR 17 51 47.1
comp=Z,272nm,18.7s,baz=313,slow=40
LHMI Lhok Sumawe 29.42 279 P **P 17 38 34.7 -1.7**
LHMI IAmb IAmb 17 38 48.1
comp=Z,47nm,1.0s
SLVN Son La 29.71 315 P **P 17 38 37.2 -1.8**
SLVN IAmb IAmb 17 38 43.2
comp=Z,51nm,1.6s
OOD Oodnadatta 29.94 163 P **P 17 38 41.0 +0.2**
JCJ Chichijima 30.32 29 P **P 17 38 42.4 -1.9**
JSU Suzuyama 30.76 7 P **P 17 38 45.2 -2.9**
MORW Morawa 31.27 197 P **P 17 38 51.9 -0.7**
MORW Morawa 31.27 197 P **P 17 38 53.0 +0.4**
FORT Forrest 31.51 177 P **P 17 38 52.7 -2.0**
FORT Forrest 31.51 177 P **P 17 38 55.8 +1.1**
GYA Guiyang 31.59 325⇑*i*P **P 17 38 57.5 +1.9**
GYA pmax pmax
comp=Z,18nm,1.2s
GYA pmax pmax
comp=Z,190nm,3.8s
NJ2 Nanjing 31.77 348 *e*P **P 17 38 58.3 +1.4**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
MULG Mulgathing 31.88 167 P **P 17 38 58.5 +0.6**
CM31 Chiang Mai Arr 31.88 305 P **P 17 38 56.3 -1.8**
CMAR Chiang Mai Arr 31.88 305 P **P 17 38 58.9 +0.8**
comp=Z,2.9nm,0.9s,baz=128,slow=7.2,SNR=36
CMAR PcP **PcP 17 41 50.3 +2.2**
comp=Z,2.7nm,0.9s,baz=158,slow=1.9,SNR=11
CMAR Chiang Mai Arr 31.88 305 P **P 17 38 56.8 -1.3**
CMAR 17 41 49.6
CMAR Chiang Mai Arr 31.88 305 P **P 17 38 56.8 -1.3**
CMAR **PcP 17 41 49.6 +1.5**
CHTO Chiang Mai 32.06 305 P **P 17 38 57.0 -2.7**
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 32.06 305 P **P 17 38 57.0 -2.7**
JNU Nakatsue 32.41 8 P **P 17 39 03.3 +0.7**
comp=Z,26nm,0.9s,baz=332,slow=2.5,SNR=9.3
JNU Nakatsue 32.41 8 P **P 17 39 00.6 -1.9**
BLDU Ballidu 32.55 195 P **P 17 39 03.8 0.0**
KMI Kunming 33.03 319⇑P **P 17 39 09.8 +1.4**
KMI pP pwP 17 39 22.0 -0.9
KMI pmax pmax
comp=Z,20nm,1.5s
KMI LR LR
comp=Z,210nm,24.8s
KMI LR LR
comp=Z,220nm,30.4s
KMI LR LR
comp=Z,340nm,22.4s
LCRK Leigh Creek 33.20 161 P **P 17 39 10.4 +0.9**
KLBR Kellerberrin 33.23 193 P **P 17 39 12.1 +2.4**
ENH Enshi 33.24 333 P **P 17 39 07.7 -2.2**
ENH IAmb IAmb 17 39 11.9
comp=Z,24nm,0.9s
RK1H Rockhampton Ha 33.82 137 P **P 17 39 15.7 +0.8**
comp=Z,13nm,0.7s
MUN Mundaring 33.97 195 P **P 17 39 17.1 +0.9**
NWAO Narrogin (SRO) 34.63 193 P **P 17 39 21.9 0.0**
NWAO pmax pmax
comp=Z,69nm,1.5s
NWAO Narrogin (SRO) 34.63 193 P **P 17 39 21.9 0.0**
NWAO IAmb IAmb 17 39 43.0
comp=Z,69nm,1.4s
NWAO Narrogin (SRO) 34.63 193 P **P 17 39 22.9 +1.1**
PZH PanZhiHua 34.63 319⇓P **P 17 39 23.0 +0.9**
PZH pP **pP 17 39 33.5 -0.9**
PZH S **S 17 44 50.0 +1.5**
PZH sS **sS 17 45 13.3 +4.0**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,130nm,6.4s
PZH LR LR
comp=Z,680nm,19.8s
PZH LR LR
comp=Z,630nm,19.6s
PZH LR LR
comp=Z,770nm,19.4s
BBOO Buckleboo 34.78 165 P **P 17 39 21.8 -1.4**
BBOO Buckleboo 34.78 165 P **P 17 39 23.3 +0.1**
PBA Port Blair 34.80 289 P **P 17 39 21.6 -1.9**
HNR Honiara 35.22 108 LR LR 17 53 32.9
comp=Z,217nm,20.6s,baz=290,slow=36
HNR Honiara 35.22 108 P **P 17 39 24.9 -2.3**
HNR pmax pmax
comp=Z,71nm,1.1s
HNR Honiara 35.22 108 P **P 17 39 24.9 -2.3**
NAPP Napperby 35.71 163 P **P 17 39 31.6 +0.4**
comp=Z,13nm,1.3s
STKA Stephens Creek 35.71 157 P **P 17 39 31.6 +0.3**
comp=Z,10nm,0.6s,baz=334,slow=8.5,SNR=25
STKA Stephens Creek 35.71 157 P **P 17 39 30.4 -0.8**
STKA pmax pmax
comp=Z,17nm,1.8s
STKA Stephens Creek 35.71 157 P **P 17 39 30.4 -0.8**
STKA Stephens Creek 35.71 157 P **P 17 39 31.0 -0.2**
INU Inuyama 35.80 15 P **P 17 39 31.2 -0.6**
INU IAmb IAmb 17 39 34.1
comp=Z,37nm,0.8s
INU Inuyama 35.80 15 P **P 17 39 33.5 +1.7**
comp=Z,51nm,1.6s
LYN LuoYang 35.86 341 *e*P **P 17 39 34.0 +1.6**
LYN pmax pmax
comp=Z,10.0nm,0.8s
LYN LR LR
comp=Z,240nm,12.4s
LYN LR LR
comp=Z,280nm,19.8s
HTT Hallett 36.18 162 P **P 17 39 37.3 +2.1**
KSRS Korea Array 36.46 2 P **P 17 39 39.0 +1.5**
comp=Z,6.4nm,0.6s,baz=176,slow=9.8,SNR=26
CD2 Chengdu 36.63 327 P **P 17 39 39.5 +0.3**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,310nm,15.3s
CD2 LR LR
comp=Z,300nm,23.0s
XAN Xi'an 36.72 336 P **P 17 39 40.0 +0.1**
XAN pP pP 17 39 49.8 -2.4
XAN PcP **PcP 17 42 02.8 +1.1**
XAN pmax pmax
comp=Z,24nm,1.1s
XAN LR LR
comp=Z,190nm,15.1s
XAN LR LR
comp=Z,400nm,19.2s
XAN LR LR
comp=Z,380nm,21.3s
CMSA Cobar Meteorol 37.19 152 P **P 17 39 44.4 +0.6**
MAJO Matsushiro 37.24 16 *i* P **P 17 39 43.8 -0.4**
MAJO pmax pmax
comp=Z,51nm,1.5s
MAJO Matsushiro 37.24 16 P **P 17 39 43.7 -0.5**
MAJO IAmb IAmb 17 39 45.3
comp=Z,68nm,1.4s
MAJO Matsushiro 37.24 16 P **P 17 39 45.0 +0.8**
MAT Matsushiro 37.24 16 P **P 17 39 44.0 -0.2**
MJAR Matsushiro Arr 37.24 16 P **P 17 39 44.2 0.0**
comp=Z,19nm,0.8s,baz=188,slow=8.6,SNR=17
MJAR LR LR 17 55 14.0
comp=Z,76nm,19.0s,baz=206,slow=36

MJAR Matsushiro Arr 37.24 16 P **P 17 39 42.4 -1.8**
MJAR pmax pmax
comp=Z,52nm,1.7s
MJAR Matsushiro Arr 37.24 16 P **P 17 39 42.4 -1.8**
MJAR IAmb IAmb 17 39 45.2
comp=Z,52nm,1.6s
MJB9 Matsu-Tunnel 37.24 16 P **P 17 39 43.0 -1.2**
MJB9 IAmb IAmb 17 39 45.3
comp=Z,64nm,1.4s
TWOA Tennyson Woods 37.56 163 P **P 17 39 48.3 +1.4**
comp=Z,24nm,1.1s
HNS HongShan 37.85 345⇑P **P 17 39 49.3 0.0**
HNS *e*S **S 17 45 36.0 -1.2**
HNS pmax pmax
comp=Z,10.0nm,0.9s
HNS LR LR
comp=Z,340nm,18.9s
HNS LR LR
comp=Z,360nm,15.1s
HNS LR LR
comp=Z,340nm,20.4s
JSD Sado 38.66 15 P **P 17 39 55.8 -0.3**
JSD IAmb IAmb 17 39 57.9
comp=Z,68nm,1.0s
JMM Marumori 39.24 19 P **P 17 39 58.7 -2.3**
ARMA Armidale 39.47 144 P **P 17 40 01.8 -1.4**
ARMA Armidale 39.47 144 P **P 17 40 04.5 +1.3**
BJT Baijiatuau 40.02 348 P **P 17 40 05.9 -1.5**
BJT pmax pmax
comp=Z,13nm,0.6s
BJT Baijiatuau 40.02 348 P **P 17 40 05.9 -1.5**
BJI Beijing 40.04 348 P **P 17 40 07.5 0.0**
BJI pmax pmax
comp=Z,18nm,1.1s
ARPS Mount Arapiles 40.19 160 P **P 17 40 10.6 +1.7**
LZH Lanzhou 40.69 332 *e*P **P 17 40 14.3 +1.1**
LZH pP pP 17 40 25.5 -0.1
LZH sP sP 17 40 31.5 +0.4
LZH PcP **PcP 17 42 16.5 +2.3**
LZH pmax pmax
comp=Z,25nm,1.4s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,230nm,16.3s
LZH LR LR
comp=Z,250nm,15.2s
LZH LR LR
comp=Z,290nm,15.2s
SHL Shillong 41.13 309 P **P 17 40 15.3 -1.8**
SHL pmax pmax
comp=Z,12nm,0.8s
SHL Shillong 41.13 309 P **P 17 40 15.3 -1.8**
HHC Hu-ho-hao-te 41.94 343 *e*P **P 17 40 25.3 +2.0**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,140nm,4.3s
JTM Tenmabayashi 42.00 17 P **P 17 40 23.5 -0.3**
JTM IAmb IAmb 17 40 27.1
comp=Z,78nm,1.0s
CN2 Changchun 42.76 359 *e*P **P 17 40 30.5 +0.6**
CN2 *ep*P sP 17 40 45.8 -2.2
CN2 *e*S **S 17 46 51.0 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 43.48 6 P **P 17 40 34.1 -1.5**
USA0B pmax pmax
comp=Z,28nm,0.8s
USA0B Ussuriysk Arra 43.48 6 P **P 17 40 34.0 -1.5**
USA0B IAmb IAmb 17 40 38.9
comp=Z,28nm,0.8s
USRK Ussuriysk Ar. 43.48 6 P **P 17 40 37.0 +1.4**
comp=Z,19nm,0.6s,baz=190,slow=6.0,SNR=37
USRK Ussuriysk Ar. 43.48 6 P **P 17 40 35.2 -0.4**
USRK Ussuriysk Ar. 43.48 6 P **P 17 40 35.2 -0.4**
MDJ Mudanjiang 43.69 4 P **P 17 40 38.8 +1.5**
MDJ pmax pmax
comp=Z,42nm,1.0s
MDJ pmax pmax
comp=Z,180nm,3.6s
MDJ Mudanjiang 43.69 4 P **P 17 40 36.3 -1.0**
MDJ IAmb IAmb 17 40 39.8
comp=Z,28nm,0.8s
SANVU Saraoutou 43.73 113 P **P 17 40 36.4 -1.7**
SANVU IAmb IAmb 17 40 40.5
comp=Z,60nm,1.3s
XLT XiLinHaoTe 43.78 350 *e*P **P 17 40 38.5 +0.3**
XLT pP pP 17 40 49.0 -1.7
XLT sP pwP 17 40 52.5 -0.7
XLT PcP **PcP 17 42 24.8 +0.6**
XLT pmax pmax
comp=Z,11nm,1.2s
XLT pmax pmax
comp=Z,210nm,4.7s
LSA Lhasa 43.91 314 P **P 17 40 41.0 +1.1**
LSA pmax pmax
comp=Z,50nm,1.7s
BNX BinXian 44.71 1⇑P **P 17 40 43.0 -2.5**
BNX pmax pmax
comp=Z,9.0nm,0.9s
BNX pmax pmax
comp=Z,220nm,5.1s
GTA Gaotai 45.26 331⇓P **P 17 40 51.0 +0.9**
GTA pP pP 17 41 00.3 -2.4
GTA sP pwP 17 41 04.0 -1.3
GTA PcP **PcP 17 42 31.0 +1.5**
GTA ScS ScS 17 50 46.0 +3.0
GTA pmax pmax
comp=Z,10.0nm,0.7s
GTA pmax pmax
comp=Z,92nm,7.2s
GTA LR LR
comp=Z,240nm,15.5s
GTA LR LR
comp=Z,260nm,14.3s
GTA LR LR
comp=Z,340nm,20.3s
DZM Mont Dzumac 45.47 123 LR LR 17 59 43.4
comp=Z,174nm,21.8s,baz=218,slow=36
DZM Mont Dzumac 45.47 123 P **P 17 40 50.9 -1.1**
ASAJ Asahikawa 45.51 17 P **P 17 40 53.9 +2.0**
comp=Z,21nm,0.9s,baz=239,slow=7.6,SNR=14
ASAJ LR LR 18 04 36.5
comp=Z,46nm,18.2s,baz=201,slow=42
ASAJ Asahikawa 45.51 17 P **P 17 40 51.2 -0.6**
ASAJ pmax pmax
comp=Z,53nm,1.3s
JKA Kamikawa-asahi 45.51 17 P **P 17 40 51.2 -0.7**
JKA IAmb IAmb 17 40 54.8
comp=Z,53nm,1.3s
GOMU GeErMu 45.58 324 P **P 17 40 55.3 +2.3**
GOMU pmax pmax
comp=Z,8.0nm,1.6s
GOMU pmax pmax
comp=Z,170nm,5.5s
GUN Gumba 46.95 309 *e*P **P 17 41 03.2 -0.7**
comp=Z,18nm,0.5s
PKI Pulchoki 47.17 308 *e*P **P 17 41 04.1 -1.5**
comp=Z,2.4nm,0.3s
PKIN Phulchoki 47.18 308 *e*P **P 17 41 04.3 -1.3**
comp=Z,5.0nm,0.3s
KKN Kakani 47.37 308 *e*P **P 17 41 06.1 -0.9**
comp=Z,2.1nm,0.3s
MYLAV Mylavaram 47.46 292 *e*P **P 17 41 06.5 -1.0**
SKHT Srikalahasti 47.65 288 *e*P **P 17 41 08.1 -1.0**
ADKI Addanki 47.86 291 *e*P **P 17 41 09.9 -0.8**
YSS Yuzh-Sakhalins 48.16 15*ce*P **P 17 41 12.9 +0.4**
YSS pmax pmax
comp=Z,44nm,1.7s
YSS Yuzh-Sakhalins 48.16 15 P **P 17 41 12.3 -0.2**
KLR Kul'dur 48.44 5 P **P 17 41 15.4 +0.8**
comp=Z,12nm,0.8s,baz=214,slow=5.4,SNR=34
KLR Kul'dur 48.44 5*ce*P **P 17 41 14.7 +0.1**
KLR pmax pmax
comp=Z,28nm,1.0s
HIA Hailar 48.54 354 P **P 17 41 14.6 -0.8**
HIA IAmb IAmb 17 41 19.1
comp=Z,22nm,1.0s
HIA PcP **PcP 17 42 41.9 +1.2**
NJS Nagarjunasagar 48.64 291 *e*P **P 17 41 16.1 -0.6**
KOLN Koldanda 48.69 307 *e*P **P 17 41 16.2 -1.0**
comp=Z,44nm,0.7s
RCLA Racherla 48.72 290 *e*P **P 17 41 16.9 -0.4**
DANN Dangsing 48.82 308 *e*P **P 17 41 17.1 -1.2**

comp=Z,31nm,0.7s
SRLM Srisailam 48.92 291 *e*P **P 17 41 17.8 -1.2**
CUPL Choutuppal 49.18 292 *e*P **P 17 41 20.4 -0.4**
RPR Rampur 49.24 294 *e*P **P 17 41 20.5 -0.8**
PYUN Piuthan 49.32 307 *e*P **P 17 41 21.5 -0.5**
comp=Z,58nm,0.8s
HYBB Hyderabad (bro 49.55 292 *e*P **P 17 41 22.5 -1.3**
ULN Ulaanbaatar 49.66 343*ce*P **P 17 41 25.0 +0.8**
ULN pmax pmax
comp=Z,29nm,1.7s
ULN Ulaanbaatar 49.66 343 P **P 17 41 22.7 -1.4**
ULN PcP **PcP 17 42 45.9 +0.9**
SONM Songino Array 49.82 343 P **P 17 41 26.5 +1.1**
comp=Z,5.5nm,0.7s,baz=157,slow=8.5,SNR=29
SONM PcP **PcP 17 42 46.1 +0.6**
comp=Z,3.9nm,0.7s,baz=165,slow=4.0,SNR=6.8
SONM Songino Array 49.82 343 P **P 17 41 24.6 -0.8**
SONM PcP **PcP 17 42 46.3 +0.8**
GRNR Gornyy 50.50 8⇑*i*P **P 17 41 32.0 +1.7**
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,60nm,18.0s
GRNR MLR MLR
comp=N,50nm,13.0s
GRNR MLR MLR
comp=Z,120nm,15.0s
TYV Tymovskoe 51.77 13 *e*P **P 17 41 41.5 +1.7**
TYV pmax pmax
comp=Z,15nm,1.2s
TYV pmax pmax
comp=Z,300nm,6.1s
CIT Chita 52.06 350 *e*P **P 17 41 43.6 +1.5**
CIT *e* 17 41 52.0
CIT *e* 17 42 02.2
CIT pmax pmax
comp=Z,109nm,1.7s
ZEA Zeya 52.71 1 *e*P **P 17 41 47.6 +0.8**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZAK Zakamensk 53.03 342 *e*P **P 17 41 48.5 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
MSVF Nonsavu 54.35 113 LR LR 18 03 09.4
comp=Z,136nm,22.0s,baz=310,slow=34
MSVF Nonsavu 54.35 113 *i*P **P 17 41 59.8 +0.3**
MSVF pmax pmax
comp=Z,76nm,4.2s
WMQ Urumqi 54.73 327 *e*P **P 17 42 03.3 +1.4**
WMQ pP pP 17 42 10.5 -4.2
WMQ sP pwP 17 42 16.8 -0.4
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ LR LR
comp=Z,210nm,21.3s
MOY Mondy 54.87 341 *e*P **P 17 42 04.5 +1.8**
MOY pmax pmax
comp=Z,29nm,2.9s
BOD Bodaibo 57.61 352 *e*P **P 17 42 23.1 +1.1**
BOD pmax pmax
comp=Z,38nm,1.1s
PEA0B Petropavlovsk- 58.31 22 P **P 17 42 27.0 -0.1**
PEA0B pmax pmax
comp=Z,78nm,1.4s
PEA0B Petropavlovsk- 58.31 22 P **P 17 42 27.0 -0.1**
PETK Petropavlovsk- 58.31 22 P **P 17 42 28.4 +1.3**
comp=Z,18nm,0.7s,baz=188,slow=4.1,SNR=32
PETK LR LR 18 07 50.1
comp=Z,49nm,20.2s,baz=224,slow=36
PETK Petropavlovsk- 58.31 22 P **P 17 42 26.6 -0.5**
PETK Petropavlovsk- 58.31 22 P **P 17 42 26.6 -0.5**
ZSN Zaisan 58.58 328 *e*P **P 17 42 28.9 -0.2**
ZSN pmax pmax
comp=Z,9.0nm,1.1s
ZSN Zaisan 58.58 328 *e*P **P 17 42 28.9 -0.2**
comp=Z,8.9nm,1.1s,baz=328
PET Petropavlovsk 58.61 22 *i*P **P 17 42 28.8 -0.3**
PET pmax pmax
comp=Z,19nm,1.1s
DGZ Jazzator, Alta 58.79 332*c i*P **P 17 42 31.4 +0.8**
DGZ pmax pmax
comp=Z,14nm,1.0s
NIL Nilore 59.21 309 P **P 17 42 32.5 -1.2**
NIL pmax pmax
comp=Z,34nm,1.5s
NIL Nilore 59.21 309 P **P 17 42 32.5 -1.2**
NIL IAmb IAmb 17 42 37.2
comp=Z,34nm,1.4s
PDGK Podgornoye 59.24 322 P **P 17 42 33.3 -0.6**
UZB Uzynbulak 59.44 322 *e*P **P 17 42 34.4 -0.8**
UZB pmax pmax
comp=Z,8.0nm,0.8s
UZB Uzynbulak 59.44 322 *e*P **P 17 42 34.4 -0.8**
comp=Z,8.0nm,0.8s,baz=322
TARG Taragay, Kyrgy 59.48 320 P **P 17 42 35.2 -0.7**
TARG IAmb IAmb 17 42 50.9
comp=Z,18nm,1.2s
MK31 Makanchi Array 59.56 327 *i*P **P 17 42 34.9 -1.0**
MK31 Makanchi Array 59.56 327 P **P 17 42 34.9 -1.0**
MK31 IAmb IAmb 17 42 38.0
comp=Z,16nm,0.8s
MKAR Makanchi Array 59.56 327 P **P 17 42 35.4 -0.5**
comp=Z,18nm,0.7s,baz=120,slow=7.2,SNR=94
MKAR S **S 17 50 40.2 -2.2**
comp=Z,0.1nm,0.4s,baz=124,slow=18,SNR=1.7
MKAR LR LR 18 08 51.7
comp=Z,167nm,19.4s,baz=113,slow=37
MKAR Makanchi Array 59.56 327 P **P 17 42 34.9 -1.0**
MKAR S **S 17 50 40.2 -2.2**
MKAR Makanchi Array 59.56 327 P **P 17 42 34.9 -1.0**
KSH Kashi 59.65 317 P **P 17 42 38.0 +1.2**
KSH pmax pmax
comp=Z,6.0nm,1.2s
MAKZ Makanchi 59.75 326 P **P 17 42 36.2 -1.0**
MAKZ pmax pmax
comp=Z,22nm,0.9s
MAKZ Makanchi 59.75 326 P **P 17 42 36.1 -1.0**
MAKZ IAmb IAmb 17 42 39.2
comp=Z,22nm,0.8s
SATY Saty 59.78 321 *e*P **P 17 42 37.0 -0.5**
SATY pmax pmax
comp=Z,12nm,0.8s
SATY Saty 59.78 321 *e*P **P 17 42 37.1 -0.5**
comp=Z,12nm,0.8s,baz=321
ZHN Zhinishke 59.81 321 *e*P **P 17 42 37.4 -0.4**
ZHN Zhinishke 59.81 321 *e*P **P 17 42 37.4 -0.4**
baz=321
KDJ Kajisay 60.09 320 P **P 17 42 38.3 -1.5**
KDJ pmax pmax
comp=Z,14nm,1.0s
KDJ Kajisay 60.09 320 P **P 17 42 38.3 -1.5**
KDJ IAmb IAmb 17 42 44.4
comp=Z,14nm,1.0s
TUWZ Tuamarina 60.34 140 P **P 17 42 39.2 -2.0**
MDOK Medeo 60.69 321 P **P 17 42 43.4 -0.4**
MDOK Medeo 60.69 321 *e*P **P 17 42 43.5 -0.4**
baz=321
TNSS Tian-Shan 60.69 321 *e*P **P 17 42 43.7 -0.4**
baz=320
AAA Alma-Ata 60.79 321 *e*P **P 17 42 43.9 -0.5**
AAA Alma-Ata 60.79 321 *e*P **P 17 42 44.0 -0.5**
baz=321
TDK Taldyqorghan 60.79 323 *e*P **P 17 42 44.4 +0.1**
TDK pmax pmax
comp=Z,14nm,0.6s
TDK Taldyqorghan 60.79 323 *e*P **P 17 42 44.5 +0.1**
comp=Z,14nm,0.6s,baz=323
YAK Yakutsk 61.08 2 P **P 17 42 46.1 +0.2**
comp=Z,20nm,0.6s,baz=224,slow=0.4,SNR=29
YAK LR LR 18 10 28.1
comp=Z,73nm,20.4s,baz=218,slow=37
YAK Yakutsk 61.08 2*c i*P **P 17 42 46.6 +0.7**
YAK *e**PP **pP 17 43 01.2 +1.9**
YAK *e* 17 43 28.9
YAK *e* 17 44 59.4
YAK *e*PPP PPP 17 46 28.0
YAK *e*S **S 17 51 01.8 +0.7**
YAK *e**SS sS 17 51 30.8 +7.9
YAK *e* 17 52 27.2
YAK *e*SS **SS 17 55 03.5 +1.9**
YAK *e*SSS SSS 17 57 46.7
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,134nm,4.2s
YAK pmax pmax
comp=N,94nm,3.6s
YAK pmax pmax
comp=E,87nm,3.6s
YAK smax smax
comp=E,156nm,5.4s
YAK smax smax
comp=N,156nm,4.7s
YAK Yakutsk 61.08 2 P **P 17 42 46.1 +0.2**
TKM2 Tokmak 2 61.49 320 P **P 17 42 49.1 -0.3**
SNR=16
TKM2 Tokmak 2 61.49 320 P **P 17 42 48.6 -0.8**
KUU Kurty 61.49 321 *e*P **P 17 42 48.3 -0.8**
KUU pmax pmax
comp=Z,20nm,0.7s
KUU Kurty 61.49 321 *e*P **P 17 42 48.4 -0.8**
comp=Z,20nm,0.7s,baz=321
MA2 Magadan 61.63 14*ce*P **P 17 42 51.8 +2.1**
MA2 pmax pmax
comp=Z,64nm,1.7s
MA2 Magadan 61.63 14 P **P 17 42 49.9 +0.2**
KBK Karagaybulak 61.79 319 P **P 17 42 53.3 +2.0**
SNR=8.5
UCH Uchtor 61.88 319 P **P 17 42 53.4 +1.2**
SNR=19
AAK Ala-Archa 62.08 319 P **P 17 42 54.1 +0.9**
SNR=7.1
AAK Ala-Archa 62.08 319 P **P 17 42 52.0 -1.2**
AAK pmax pmax
comp=Z,21nm,1.5s
AAK Ala-Archa 62.08 319 P **P 17 42 52.0 -1.2**
AAK IAmb IAmb 17 42 58.2
comp=Z,21nm,1.4s
USP Ospenovka 62.37 320 P **P 17 42 55.5 +0.5**
SNR=14
SGDS Sogindy 62.37 320 *e*P **P 17 42 54.6 -0.4**
baz=320
AML Almayashu 62.38 318 P **P 17 42 56.5 +0.9**
SNR=13
DRK Karamyk 62.55 315 P **P 17 42 55.5 -1.1**
DRK IAmb IAmb 17 43 02.7
comp=Z,14nm,0.8s
EKS2 Erkin-Say 62.56 319 P **P 17 42 58.5 +2.0**
SNR=12
KBL Kabul 62.79 309 P **P 17 42 56.0 -2.2**
KBL pmax pmax
comp=Z,12nm,1.0s
KBL Kabul 62.79 309 P **P 17 42 56.0 -2.2**
KBL IAmb IAmb 17 43 00.4
comp=Z,12nm,0.9s
SEM Semipalatinsk 62.80 329 *e*P **P 17 42 57.2 -0.8**
SEM Semipalatinsk 62.80 329 *e*P **P 17 42 57.2 -0.8**
baz=329
ZAA0 Zalesovo Array 62.86 334 P **P 17 42 57.1 -0.9**
ZAA0 IAmb IAmb 17 43 00.6
comp=Z,25nm,1.4s
ZALV Zalesovo Beam 62.86 334 P **P 17 42 57.5 -0.5**
comp=Z,4.5nm,0.5s,baz=116,slow=6.2,SNR=24
ZALV Zalesovo Beam 62.86 334 P **P 17 42 57.0 -1.1**
BTK Batken 63.47 315 P **P 17 43 01.9 -0.6**
BTK pmax pmax
comp=Z,15nm,1.0s
BTK Batken 63.47 315 P **P 17 43 01.9 -0.6**
BTK IAmb IAmb 17 43 06.8
comp=Z,15nm,0.9s
BTLS Baital 63.49 321 *e*P **P 17 43 02.0 -0.4**
BTLS Baital 63.49 321 *e*P **P 17 43 02.0 -0.4**
baz=321
KURK Kurchatov 63.83 329 P **P 17 43 03.5 -1.0**
KURK pmax pmax
comp=Z,43nm,0.8s
KURK Kurchatov 63.83 329 P **P 17 43 03.5 -1.0**
DZA Taraz 64.28 318 *e*P **P 17 43 07.2 -0.4**
DZA Taraz 64.28 318 *e*P **P 17 43 07.3 -0.4**
baz=318
IUG Iuzhnay 64.85 317 *e*P **P 17 43 10.8 -0.7**
IUG Iuzhnay 64.85 317 *e*P **P 17 43 10.9 -0.7**
baz=317
SEY Seymchan 64.96 13 P **P 17 43 13.9 +2.3**
comp=Z,11nm,1.1s,baz=211,slow=5.5,SNR=25
SHEM Shemya Is, Ala 65.25 30 LR LR 18 07 46.3
comp=Z,66nm,20.2s,baz=288,slow=32
BRLS Borolday 65.33 318 *e*P **P 17 43 14.0 -0.5**
BRLS Borolday 65.33 318 *e*P **P 17 43 14.0 -0.5**
baz=318
OTUK Ortayu 66.04 324 P **P 17 43 18.4 -0.5**
BRZS Berezniki 66.67 326 *e*P **P 17 43 22.1 -0.8**
BRZS pmax pmax
comp=Z,12nm,0.9s
BRZS Berezniki 66.67 326 *e*P **P 17 43 22.2 -0.8**
comp=Z,12nm,0.9s,baz=326
BRVK Borovoye 69.46 328 P **P 17 43 38.5 -1.8**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 69.46 328 P **P 17 43 38.5 -1.8**
BRVK IAmb IAmb 17 43 45.8
comp=Z,26nm,1.1s
TIXI Tiksi 70.71 1 LR LR 18 15 54.1
comp=Z,39nm,21.7s,baz=226,slow=37
TIXI Tiksi 70.71 1*ce*P **P 17 43 47.4 -0.2**
TIXI pmax pmax
comp=Z,35nm,1.3s
TIXI Tiksi 70.71 1 P **P 17 43 46.9 -0.8**
GEYT Alibeck 72.21 310 P **P 17 43 59.1 +1.7**
comp=Z,6.8nm,0.8s,baz=215,slow=8.5,SNR=6.7
GYA0B ALIBECK ARRAY 72.21 310 IAmb IAmb 17 44 03.3
comp=Z,9.9nm,0.7s
BILL Bilibino 72.48 15 *e*P **P 17 44 00.0 +1.6**
BILL *e* 17 44 14.2
BILL *e* 17 46 44.5
BILL *e*PPP PPP 17 48 23.3
BILL pmax pmax
comp=Z,23nm,2.5s
BILL Bilibino 72.48 15 P **P 17 43 58.7 +0.4**
NRIK Noril'sk 73.06 347 P **P 17 44 02.6 +0.9**
comp=Z,11nm,0.7s,baz=144,slow=6.0,SNR=18
NRIK LR LR 18 17 47.6
comp=Z,99nm,20.6s,baz=166,slow=37
NRIK Noril'sk 73.06 347*ce*P **P 17 44 02.3 +0.5**
NRIK pmax pmax
comp=Z,21nm,1.0s
NRIK Noril'sk 73.06 347 IAmb IAmb 17 44 04.8
comp=Z,30nm,1.1s
AB31 Akbulak array 73.97 321 P **P 17 44 07.0 -0.6**
AKTO Aktyubinsk 75.52 322 LR LR 18 20 01.4
comp=Z,108nm,21.3s,baz=103,slow=38
RAR Rarotonga 75.53 112 LR LR 18 15 47.8
comp=Z,38nm,21.4s,baz=232,slow=34
SVE Sverdlovsk 76.07 329*ce*P **P 17 44 20.1 +0.6**
SVE pmax pmax
comp=Z,51nm,0.9s
ARU Arti 77.02 328 LR LR 18 19 39.9
comp=Z,61nm,19.5s,baz=66,slow=37
ARU Arti 77.02 328*d i*P **P 17 44 24.7 -0.2**
ARU 17 47 19.1
ARU S **S 17 54 11.8 +2.1**
ARU SS **SS 17 59 08.5 +1.0**
ARU pmax pmax
comp=Z,38nm,1.0s
ARU Arti 77.02 328 P **P 17 44 24.2 -0.7**
GAMB Gambell 77.26 24 P **P 17 44 24.8 -1.3**
GAMB IAmb IAmb 17 44 29.2
comp=Z,18nm,1.0s
GAMB Gambell 77.26 24 P **P 17 44 28.6 +2.5**
baz=245
TNA Tin City 79.47 23 P **P 17 44 40.2 +2.0**
baz=248
SDPT Sand Point 79.92 34 P **P 17 44 42.3 +1.5**
baz=257
ANM Nome 80.13 24 P **P 17 44 44.2 +2.3**
baz=251
VNDA Vanda 80.67 173 P **P 17 44 45.4 +0.8**
comp=Z,4.2nm,0.9s,baz=305,slow=8.4,SNR=5.6
MAW Mawson 80.86 200 LR LR 18 17 44.2
comp=Z,129nm,20.3s,baz=28,slow=34
RAYN Ar Rayn 81.03 294 P **P 17 44 45.8 -1.8**
RAYN pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 81.03 294 P **P 17 44 45.8 -1.8**
MAK Makhachkala 81.07 313 *e*P **P 17 44 46.7 -0.6**
MAK *e*PPP PPP 17 49 41.9
MAK *e*S **S 17 54 51.7 -1.6**
MAK *e*SS **SS 18 00 03.8 -5.0**
MAK *e*SSS SSS 18 03 33.3
MAK pmax pmax
comp=Z,349nm,1.4s
RDOG Red Dog Mine 82.18 21 IAmb IAmb 17 44 57.1
comp=Z,37nm,1.3s
RDOG Red Dog Mine 82.18 21 P **P 17 44 55.5 +2.9**
baz=253
GROC Groznyy 82.34 313 *e*P **P 17 44 55.7 +1.7**
GROC *e**PP **pwP 17 45 09.8 -0.6**
GROC pmax pmax
comp=Z,20nm,0.5s
KIRV Kirov 82.34 329*ce*P **P 17 44 54.1 +0.5**
GNI Garni 82.84 310 *i*P **P 17 44 57.8 +0.9**
GNI pmax pmax
comp=Z,11nm,1.2s
P18K Big Mountain, 83.50 30 P **P 17 45 01.5 +1.8**
baz=261
O18K Koktuh Hills 83.59 30 P **P 17 45 02.1 +2.0**
baz=261
GCSA Galena City Sc 83.70 25 P **P 17 45 03.2 +2.7**
baz=259
TTA Tatalina 83.73 27 P **P 17 45 03.1 +2.2**
baz=260
NCK Nalchik 83.97 313 *i*P **P 17 45 02.4 -0.1**
NCK pmax pmax
comp=Z,19nm,0.9s
N19K Bonanza Creek 84.09 29 P **P 17 45 02.8 0.0**
N19K Bonanza Creek 84.09 29 P **P 17 45 05.1 +2.3**
baz=261
L19K White Mountain 84.13 28 P **P 17 45 05.3 +2.4**
baz=261
Q19K Cape Douglas, 84.24 31 P **P 17 45 04.2 +0.7**
baz=262
M19K Big River Lodg 84.31 28 IAmb IAmb 17 45 07.4
comp=Z,25nm,0.9s
M19K Big River Lodg 84.31 28 P **P 17 45 06.2 +2.5**
baz=261
PYA1 Pyatigorsk 84.37 314 *i*P **P 17 45 04.5 0.0**
PYA1 pmax pmax
comp=Z,1.0nm,0.9s
KBZ Khabaz 84.49 314 P **P 17 45 05.3 +0.3**
comp=Z,13nm,0.9s,baz=188,slow=4.6,SNR=14
KBZ Khabaz 84.49 314*ce*P **P 17 45 05.9 +0.9**
KBZ pmax pmax
comp=Z,17nm,1.0s
NEY Neytrino 84.58 313 *i*P **P 17 45 07.1 +1.3**
NEY pmax pmax
comp=Z,12nm,2.1s
L20K Farewell, AK 84.63 27 P **P 17 45 07.8 +2.4**
baz=262
KDAK Kodiak Island 84.64 32 P **P 17 45 06.4 +0.9**
KDAK pmax pmax
comp=Z,58nm,1.2s
KDAK Kodiak Island 84.64 32 P **P 17 45 06.4 +0.9**
KDAK Kodiak Island 84.64 32 P **P 17 45 07.7 +2.2**
baz=263
KIV Kislovodsk 84.66 314 *e*P **P 17 45 06.7 +0.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s
SHA1 Shidzhatmaz 84.66 314 *i*P **P 17 45 05.2 -1.1**
K20K Telida 84.68 26 IAmb IAmb 17 45 10.1
comp=Z,42nm,1.6s
K20K Telida 84.68 26 P **P 17 45 08.2 +2.6**
baz=261
PRGR Permogore 84.72 332 *e*P **P 17 45 06.2 +0.4**
PRGR *e**SP **pP 17 45 17.4 -2.1**
PRGR *e*S **S 17 55 29.5 -0.1**
PRGR pmax pmax
comp=Z,144nm,1.5s
J20K Nowinta River 84.77 26 P **P 17 45 08.5 +2.5**
baz=261
PPLA Purkeypile 85.46 27 P **P 17 45 12.1 +2.4**
baz=263
H21K Melozitna Rive 85.55 24 P **P 17 45 12.4 +2.4**
baz=262
CAST Castle Rocks 85.57 27 P **P 17 45 10.8 +0.7**
CAST IAmb IAmb 17 45 14.7
comp=Z,26nm,1.8s
CAST Castle Rocks 85.57 27 P **P 17 45 11.9 +1.9**
baz=263
MARD Mardin 85.75 307 IAmb IAmb 17 45 14.7
comp=Z,24nm,0.9s
VRH Novokhopyorsk 85.80 321 *e*P **P 17 45 11.2 -0.2**
VRH pmax pmax
comp=Z,40nm,0.8s
BRSE Bradley Lake S 85.81 30 P **P 17 45 13.4 +2.1**
baz=264
I21K Tanana 85.83 25 P **P 17 45 13.5 +2.3**
baz=263
MLY Manley 86.33 25 P **P 17 45 14.1 +0.3**
MLY IAmb IAmb 17 45 16.6
comp=Z,14nm,1.2s
MLY Manley 86.33 25 P **P 17 45 15.4 +1.5**
baz=264
RC01 Rabbit Creek A 86.43 29 P **P 17 45 14.7 +0.4**
RC01 IAmb IAmb 17 45 17.2
comp=Z,45nm,1.5s
RC01 Rabbit Creek A 86.43 29 P **P 17 45 15.2 +0.9**
baz=265
COLD Coldfoot 86.77 23 IAmb IAmb 17 45 19.3
comp=Z,15nm,1.0s
COLD Coldfoot 86.77 23 P **P 17 45 18.1 +2.2**
baz=264
SOC Sochi 86.79 313 *e*P **P 17 45 13.4 -3.1**
SOC *e* 17 48 34.6
SOC *e*PPP PPP 17 50 34.6
SOC *e*S **SKSac 17 55 36.3 -3.3**
SOC *e*SS **SS 18 01 32.8 -0.5**
SOC *e*SSS SSS 18 05 05.1
I23K Minto, Yukon-K 86.93 25 IAmb IAmb 17 45 19.6
comp=Z,36nm,1.4s
I23K Minto, Yukon-K 86.93 25 P **P 17 45 18.3 +1.7**
baz=265
MCK McKinley 87.00 26 P **P 17 45 18.0 +0.9**
baz=266
NEA2 Nenana 87.01 25 P **P 17 45 18.0 +0.9**
RND Reindeer 87.02 27 IAmb IAmb 17 45 18.4
comp=Z,8.1nm,0.8s
KNK Knik Glacier 87.07 29 P **P 17 45 18.9 +1.4**
baz=266
PWL Port Wells 87.09 29 P **P 17 45 18.9 +1.3**
baz=266
TOLK Toolik Lake Re 87.14 21 IAmb IAmb 17 45 21.0
comp=Z,10nm,0.9s
TOLK Toolik Lake Re 87.14 21 P **P 17 45 19.7 +2.0**
baz=265
SML Sawmill 87.15 28 P **P 17 45 19.5 +1.6**
baz=266
VSR Storozhevoye 87.41 321 *e*P **P 17 45 19.3 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
WRH Wood River Hil 87.42 26 IAmb IAmb 17 45 20.2
comp=Z,9.9nm,1.0s
CCB Clear Creek Bu 87.56 25 P **P 17 45 19.4 -0.3**
CCB IAmb IAmb 17 45 21.2
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 87.58 331 *e*P **P 17 45 19.4 -0.5**
KLMR pmax pmax
comp=Z,24nm,1.0s
KLMR Klimovskoe 87.58 331 *e*P **P 17 45 19.5 -0.5**
KLMR AMP 17 45 26.9
comp=Z,24nm,1.0s
H24K Noodor Dome 87.59 24 IAmb IAmb 17 45 23.2
comp=Z,30nm,1.4s
H24K Noodor Dome 87.59 24 P **P 17 45 22.3 +2.3**
baz=267
LPSR Galich'ya Gora 87.60 322 *e*P **P 17 45 19.7 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
HDA Harding Lake 87.91 26 IAmb IAmb 17 45 22.1
comp=Z,10nm,0.9s
HDA Harding Lake 87.91 26 P **P 17 45 21.6 +0.2**
baz=268
ILAR Eielson Array 87.95 25 P **P 17 45 21.0 -0.7**
comp=Z,2.4nm,0.6s,baz=252,slow=4.4,SNR=22
ILAR PP **PP 17 48 53.9 +5.6**
comp=Z,1.1nm,0.9s,baz=256,slow=6.7,SNR=5.3
KIBK Kibwezi 88.09 268 P **P 17 45 23.0 -0.5**
M24K Tolsona, Glenn 88.18 28 P **P 17 45 22.1 -0.8**
PAX Paxson 88.53 27 IAmb IAmb 17 45 27.2
comp=Z,11nm,1.0s

PAX	Paxson	88.53	27	P	P	17 45 25.6 +1.1
	baz=269					
FYU	Fort Yukon	88.69	24	IAmb	IAmb	17 45 29.1
	comp=Z,15nm,1.0s					
RIDG	Independent Ri	88.82	26	P	P	17 45 26.9 +1.1
	baz=270					
BMAR	Burnt Mountain	88.95	23	P	P	17 45 26.6 +0.2
OBN	Obninsk	89.03	325	eP	P	17 45 28.1 +1.2
OBN				e		17 48 56.4
OBN				pmax	pmax	
	comp=Z,9.0nm,1.0s					
DOT	Dot Lake	89.17	27	P	P	17 45 27.9 +0.4
DOT				IAmb	IAmb	17 45 29.1
	comp=Z,8.7nm,0.8s					
SCRK	Sand Creek	89.20	26	P	P	17 45 29.2 +1.5
	baz=270					
MENT	Mentasta	89.33	27	IAmb	IAmb	17 45 30.4
	comp=Z,8.7nm,0.7s					
L26K	Log Cabin Wild	89.50	27	IAmb	IAmb	17 45 31.8
	comp=Z,19nm,1.6s					
L26K	Log Cabin Wild	89.50	27	P	P	17 45 30.5 +1.5
	baz=271					
SYO	Syowa Base	89.53	201	‖eP	P	17 45 27.8 -1.1
L27K	Beaver Creek,	90.19	27	IAmb	IAmb	17 45 35.0
	comp=Z,9.8nm,0.7s					
L27K	Beaver Creek,	90.19	27	P	P	17 45 34.4 +2.2
	baz=272					
BCAR	Beaver Creek A	90.21	27	P	P	17 45 32.9 +0.5
EGAK	Eagle	90.41	25	P	P	17 45 34.5 +1.3
	baz=273					
BVCY	Beaver Creek	90.66	28	P	P	17 45 36.9 +2.5
	baz=273					
QSPA	South Pole Qui	90.78	180	LR	LR	18 25 24.9
	comp=Z,92nm,20.8s,baz=330,slow=35					
DAWY	Dawson	91.22	26	IAmb	IAmb	17 45 39.5
	comp=Z,11nm,1.1s					
DAWY	Dawson	91.22	26	P	P	17 45 39.2 +2.2
	baz=274					
BR131	Keskin Array S	91.35	310	i P	P	17 45 38.2 -0.1
BRTR	Keskin Array B	91.35	310	P	P	17 45 37.9 -0.4
	comp=Z,2.6nm,0.8s,baz=129,slow=5.1,SNR=13					
BRTR	Keskin Array B	91.35	310	P	P	17 45 37.2 -1.1
I29M	Ogilvie Camp,	91.57	25	IAmb	IAmb	17 45 40.8
	comp=Z,10nm,0.9s					
I29M	Ogilvie Camp,	91.57	25	P	P	17 45 40.2 +1.6
	baz=275					
J29M	Klondike Camp	91.70	26	P	P	17 45 41.3 +2.1
	baz=276					
HYT	Haines Junctio	92.39	29	P	P	17 45 44.4 +1.8
	baz=276					
M30M	Minto, Yukon	92.53	27	IAmb	IAmb	17 45 46.1
	comp=Z,18nm,1.1s					
M30M	Minto, Yukon	92.53	27	P	P	17 45 44.9 +1.8
	baz=277					
ARCES	ARCESS Array B	92.91	340	P	P	17 45 44.3 -0.3
	comp=Z,3.6nm,0.8s,baz=85,slow=6.4,SNR=12					
INK	Inuvik	93.05	21	P	P	17 45 44.8 -0.5
	comp=Z,9.5nm,1.1s,baz=268,slow=5.7,SNR=15					
INK				LR	LR	18 32 10.5
	comp=Z,49nm,19.1s,baz=178,slow=38					
INK	Inuvik	93.05	21	IAmb	IAmb	17 45 47.7
	comp=Z,16nm,1.2s					
INK	Inuvik	93.05	21	P	P	17 45 46.1 +0.9
	baz=280					
N31M	Braeburn, Yuko	93.14	28	P	P	17 45 48.3 +2.4
	baz=278					
M31M	Drury Creek, Y	93.69	28	IAmb	IAmb	17 45 50.8
	comp=Z,13nm,1.1s					
M31M	Drury Creek, Y	93.69	28	P	P	17 45 50.0 +1.6
	baz=279					
AKASG	Malin Array Be	93.71	321	P	P	17 45 47.8 -0.9
	comp=Z,1.1nm,0.7s,baz=69,slow=4.6,SNR=7.2					
AKASG	Malin Array Be	93.71	321	i P	P	17 45 49.4 +0.7
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.4s					
FINES	FINESS Array B	94.05	332	P	P	17 45 48.9 -1.1
	comp=Z,0.8nm,0.7s,baz=35,slow=5.1,SNR=1.0					
FARO	Faro, Yukon	94.17	27	P	P	17 45 52.8 +2.1
	baz=280					
P33M	Teslin, Yukon	94.77	29	P	P	17 45 55.2 +1.7
	baz=280					
A36M	Sachs Harbour	94.90	17	P	P	17 45 54.9 +1.2
	baz=288					
MBAR	Mbarara	95.37	269	LR	LR	18 25 34.5
	comp=Z,104nm,18.4s,baz=76,slow=33					
C36M	Paulatuk	96.11	20	P	P	17 45 59.0 -0.3
C36M				IAmb	IAmb	17 46 00.9
	comp=Z,8.0nm,0.7s					
C36M	Paulatuk	96.11	20	P	P	17 46 00.3 +1.0
	baz=289					
BURAR	Bucovina Array	96.71	318	IAmb	IAmb	17 46 05.5
	comp=Z,6.7nm,0.9s					
BUR08	Bucovina Ar. S	96.71	318	P	P	17 46 02.3 -0.4
BUR08				IAmb	IAmb	17 46 04.7
	comp=Z,8.2nm,1.1s					
UZH	Uzhgorod	98.46	319	eP	Pdif	17 46 11.4 +1.0
UZH				i		17 46 28.3
CRVS	Cervenica-Dubn	98.95	320	eP	Pdif	17 46 13.9 +1.3
CRVS	Cervenica-Dubn	98.95	320	ePDIFF	Pdif	17 46 13.8 +1.2
LBTB	Lobatse	99.88	245	LR	LR	18 28 05.0
	comp=Z,60nm,20.1s,baz=67,slow=33					
BOSA	Boshof	99.93	241	LR	LR	18 25 48.6
	comp=Z,70nm,20.6s,baz=122,slow=32					
YKA	Yellowknife Ar	102.36	24	P	Pdif	17 46 28.8 +1.4
	comp=Z,1.4nm,0.8s,baz=297,slow=4.6,SNR=17					
YKA				PP	PP	17 50 40.5 +0.6
	comp=Z,0.7nm,1.0s,baz=300,slow=7.4,SNR=3.6					
YKA				PKKPbc	PKKPbc	18 02 30.2 -1.2
	comp=Z,0.4nm,0.7s,baz=118,slow=2.8,SNR=4.6					
TORD	Torodi Ar. Bea	123.16	286	PKP	PKiKP	17 51 30.5 +0.7
	comp=Z,4.0nm,0.7s,baz=54,slow=1.8,SNR=22					
TORD				PKKPbc	PKKPab	18 01 22.2 +1.8
	comp=Z,2.5nm,0.7s,baz=286,slow=3.6,SNR=9.4					
SCHQ	Schefferville	123.49	9	PKP	PKiKP	17 51 30.2 +0.8
	comp=Z,1.4nm,0.4s,baz=340,slow=2.2,SNR=7.2					
KIC	Kosan Boka	130.41	279	ePKP1	PKiKP	17 51 45.3 +0.9
	comp=Z,6.1nm,0.6s					
DBIC	Dimbokro	130.49	279	PKP	PKiKP	17 51 44.4 -0.1
	comp=Z,2.4nm,0.7s,baz=70,slow=3.9,SNR=5.0					
TIC	Toumodi	130.65	279	ePKP1	PKiKP	17 51 45.5 +0.6
LIC	Lamto	130.71	279	ePKP1	PKiKP	17 51 44.6 -0.3
	comp=Z,57nm,1.7s					
PLCA	Paso Flores	137.53	161	PKP	PKiKP	17 51 58.2 0.0
	comp=Z,1.3nm,0.8s,baz=150,slow=6.3,SNR=4.0					
PLCA				PKKPbc	PKKPbc	18 00 34.5
	comp=Z,1.6nm,1.0s,baz=259,slow=1.4,SNR=2.8					
LCO	Las Campanas	147.74	152	PKP2	PKiKP	17 52 19.5 -0.2
LCO	Las Campanas	147.74	152	PKPab	PKiKP	17 52 19.5 -0.2
SRBA	San Rafael, Bu	149.00	70		PKPdf	17 52 17.5 +0.4
RIOS	Rincon, Osa	149.00	72		PKiKP	17 52 22.6 +0.3
GO03	Copiap	149.14	151	PKPdf	PKPdf	17 52 14.8 -2.1
GO03					PKiKP	17 52 21.9 -0.5
PLTB	Pedras Altas	149.26	180		PKPbc	17 52 21.5 +0.3
AC02	Maricunga	150.31	152	PKPdf	PKPdf	17 52 16.0 -3.4
AC02					PKiKP	17 52 25.7 +0.3
CPUP	Villa Florida	154.46	173	PKP	PKPdf	17 52 26.1 +1.3
	comp=Z,4.9nm,1.1s,baz=243,slow=4.1,SNR=3.4					
CPUP				PKPbc	PKiKP	17 52 34.9 +1.6
	comp=Z,4.4nm,0.8s,baz=150,slow=1.6,SNR=7.3					
CPUP	Villa Florida	154.46	173	PKIKP	PKPdf	17 52 25.5 +0.6
CPUP	Villa Florida	154.46	173		PKPdf	17 52 25.4 +0.6
ROSC	El Rosal	158.83	74	PKPab	PKPab	17 53 09.4 +2.0
	comp=Z,8.1nm,0.4s,baz=120,slow=20,SNR=2.4					
LPAZ	La Paz	159.22	138	PKP	PKPdf	17 52 33.4 +1.5
	comp=Z,1.8nm,0.8s,baz=232,slow=1.6,SNR=5.2					

JMA 29 17:38:48.8,34°.01N×135°.17E,h5km±1km,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	Minabe	0.22	136	P	Pg	17 38 53.3	+0.2
JWM				S	Sg	17 38 56.5	+0.4
JTNC	Tanabenakahech	0.41	117	P	Pg	17 38 57.1	+0.3

*JMA **29** 17:45:31.7±0.2,37°.03N×142°.11E,h44km,M3.9*
*NIED **29** 17:45:31.8,37°.03N×142°.11E,h44km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.94; $M_{\theta\theta}$-0.57; $M_{\phi\phi}$2.51; $M_{r\theta}$1.74; $M_{\theta\phi}$-1.04; $M_{\phi r}$-0.63; Fault plane solution: $M_0$3.11000×10^{14} NP1: ϕ_s=313.00000°,δ66.00000°,λ-124.00000°. NP2: ϕ_s=192.00000°,δ41.00000°,λ-39.00000°.*
*IDC **29** 17:45:33.1±6.3,37°.08N×142°.27E,h32km±47km,mb3.6/6,mb1 3.8/9,mb1mx3.2/70,mbtmp3.9/9,ML3.6/3 Error ellipse: s-maj=34.4km s-min=17.6km az=79.0*
*NEIC **29** 17:45:33.1±2.2,37°.05N±0°.05×142°.27E±0°.09,h35km±5km,mb4.1/9,Error ellipse: s-maj=11.1km s-min=7.2km az=103.0*

ISC 29 17:45:29.3±3.1,37°.03N±0°.04×142°.21E±0°.05,h12km±20km,n57,σ1§59/64,mb3.9/10,4C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.11	288	⇑P	Pb	17 45 50.1	-0.4
JFK				eS	Sb	17 46 03.5	-1.4
ONAJ	Iwakimizuishiy	1.13	274	⇑P	Pb	17 45 50.2	-0.5
JMST	Minamisoumatoc	1.26	304	P	Pn	17 45 52.5	-0.1
JMST				eS	Sb	17 46 07.5	-1.5
JFFD	Fukushimafurud	1.32	273	⇑P	Pn	17 45 52.8	-0.7
JFFD				eS	Sb	17 46 07.7	-3.0
JHO	Hitachi	1.38	253	P	Pn	17 45 53.8	-0.5
JHO				eS	Sn	17 46 09.5	-3.0
JMM	Marumori	1.40	307	P	Pn	17 45 54.6	+0.1
JMM				eS	Sn	17 46 10.9	-2.0
JMM	Marumori	1.40	307	Pn	Pn	17 45 54.7	+0.1
JMM				Sn	Sn	17 46 12.0	-0.9
JFT	Otama	1.57	289	⇑P	Pn	17 45 57.6	+0.7
JFT				eS	Sn	17 46 16.2	-0.9
JIO	Ouri	1.57	335	P	Pn	17 45 57.2	+0.2
JIO				eS	Sn	17 46 15.1	-2.1
JYT	Yasato	1.81	244		Pn	17 46 00.3	+0.1
JYT				Sn	Sn	17 46 22.5	-0.5
JOU	Okura	1.81	318	P	Pb	17 46 01.9	-0.4
JFY	Yanaizu	2.03	281	P	Pn	17 46 04.6	+1.3
JFY				eS	Sn	17 46 28.6	0.0
JMK	Ichinoseki	2.07	338	P	Pn	17 46 05.1	+1.3
JAG	Ashikaga	2.29	255	P	Pn	17 46 07.3	+0.4
MJAR	Matsushiro Arr	3.25	263	Pn	Pn	17 46 22.6	+2.6
	2.8nm,0.3s,baz=88,slow=15,SNR=91						
MJAR				Sn	Sn	17 47 00.9	+2.3
	1.0nm,0.3s,baz=80,slow=38,SNR=1.4						
MJAR	Matsushiro Arr	3.25	263		Pn	17 46 20.7	+0.7
MAJO	Matsushiro	3.25	263		Pn	17 46 21.7	+1.7
MAT	Matsushiro	3.25	263	P	Pn	17 46 22.4	+2.4
MAT				eS	Sn	17 47 00.3	+1.7
MJB9	Matsu-Tunnel	3.25	263		Pn	17 46 22.3	+2.2
JSD	Sado	3.29	289		Pn	17 46 22.1	+1.5
JTM	Tenmabayashi	3.85	347	Pn	Pn	17 46 32.2	+3.9
JGF	Kuroka	4.17	251		Pn	17 46 35.5	+2.8
JHJ2	Mitsune	4.38	207	Pn	Pn	17 46 36.6	+1.1
JHJ	Hachijo jima 2	4.38	208	Pn	Pn	17 46 37.4	+1.8
	38nm,0.3s,baz=62,slow=22,SNR=4.7						
JHJ				Sn	Sn	17 47 24.8	-1.7
	44nm,0.3s,baz=85,slow=22,SNR=1.8						
INU	Inuyama	4.52	250		Pn	17 46 38.8	+1.3
ERM	Erimo	5.03	8	Pn	Pn	17 46 45.2	+0.7
JEW	Eniwo	5.83	355	Pn	Pn	17 46 55.3	-0.2
ASAJ	Asahikawa	7.08	2	Pn	Pn	17 47 14.1	+1.5
	0.7nm,0.3s,baz=205,slow=18,SNR=13						
ASAJ				Sn	Sn	17 48 32.4	-0.7
	0.4nm,0.3s,baz=36,slow=29,SNR=1.3						
JKA	Kamikawa-asahi	7.08	2		Pn	17 47 14.1	+1.5
JMN	Monobe	7.56	247	Pn	Pn	17 47 22.3	+3.0
JHS	Saijyo	7.64	257	Pn	Pn	17 47 22.6	+2.2
JCJ	Chichijima	9.91	180	Pn	Pn	17 47 51.5	0.0
JNU	Nakatsue	10.07	251	Pn	Pn	17 47 57.1	+3.4
H11N2	WAKE ISLAND Hy	27.61	122	T	T	18 20 29.5	
	baz=314,slow=75,SNR=22						
H11N1	WAKE ISLAND Hy	27.61	122	T	T	18 20 41.5	
	baz=314,slow=75,SNR=17						
H11N3	WAKE ISLAND Hy	27.62	122	T	T	18 20 27.8	
	baz=314,slow=75,SNR=18						
WAKE	Wake Island	27.75	123	P	P	17 51 15.7	-2.2
SONM	Songino Array	28.31	304	P	P	17 51 24.1	+1.3
	0.8nm,0.9s,baz=101,slow=8.1,SNR=4.3						
SONM	Songino Array	28.31	304	IAmb	IAmb	17 51 49.3	
	comp=Z,3.3nm,1.6s						
H11S1	WAKE ISLAND Hy	28.33	124	T	T	18 21 17.6	
	baz=316,slow=75,SNR=15						
H11S3	WAKE ISLAND Hy	28.33	124	T	T	18 21 25.8	
	baz=316,slow=75,SNR=11						
H11S2	WAKE ISLAND Hy	28.35	124	T	T	18 21 31.3	
	baz=316,slow=75,SNR=11						
ZALV	Zalesovo Beam	42.38	312	P	P	17 53 24.6	+1.4
	comp=Z,1.2nm,0.9s,baz=104,slow=6.1,SNR=2.5						
ZALV	Zalesovo Beam	42.38	312	P	P	17 53 23.5	+0.3
MK31	Makanchi Array	44.66	302	P	P	17 53 40.9	-0.7
MK31				IAmb	IAmb	17 53 56.0	
	comp=Z,1.4nm,1.2s						
MKAR	Makanchi Array	44.66	302	P	P	17 53 42.2	+0.5
	comp=Z,0.7nm,0.7s,baz=86,slow=10.0,SNR=6.4						
KURBB	Kurchatov Arra	46.50	308	P	P	17 53 57.2	+1.0
	comp=Z,0.6nm,0.3s,baz=81,slow=8.3,SNR=2.6						
SOEI	Soe	49.49	204	P	P	17 54 18.7	-1.1
WRAB	Tennant Creek	57.14	189	P	P	17 55 16.9	+1.1
WR0	Warramunga Arr	57.14	189	P	P	17 55 16.1	+0.2
WR0				IAmb	IAmb	17 55 31.9	
	comp=Z,8.8nm,1.3s						
WB2	Warramunga Arr	57.15	189	P	P	17 55 16.5	+0.6
WB2				IAmb	IAmb	17 55 26.3	
	comp=Z,19nm,1.6s						
WRA	Warramunga Arr	57.15	189	P	P	17 55 16.9	+1.1
	comp=Z,1.1nm,0.6s,baz=8.7,slow=7.3,SNR=14						
WRA	Warramunga Arr	57.15	189	P	P	17 55 16.6	+0.7
ABKAR	Abkulak array	58.42	310	P	P	17 55 25.2	+0.7
ABKAR	Abkulak array	58.42	310	P	P	17 55 25.3	+0.7
ABKAR				IAmb	IAmb	17 55 57.0	
	comp=Z,0.6nm,0.8s						
ASAR	Alice Springs	60.88	189	P	P	17 55 43.2	+1.5
	comp=Z,0.8nm,0.7s,baz=19,slow=7.2,SNR=11						
ASAR	Alice Springs	60.88	189	P	P	17 55 42.1	+0.4

*ANF **29** 17:47:12.0±0.2,36°.40N×98°.76W,h0km,ML4.2/13,Error ellipse: s-maj=3.0km s-min=2.2km az=19.0*
*NEIC **29** 17:47:12.5±1.7,36°.49N±0°.02×98°.67W±0°.03,h9km±4km,Error ellipse: s-maj=3.5km s-min=3.0km az=204.0*
*TUL **29** 17:47:12±1.7,36°.49N±0°.02×98°.74W±0°.04,h8km±4km,ML3.4,mb_Lg3.4/77(NEIC),Error ellipse: s-maj=4.9km s-min=2.9km az=108.0*
*IDC **29** 17:47:13.6±2.5,36°.62N×98°.99W,h0km,mb3.0/1,mb1 3.5/3,mb1mx2.9/50,mbtmp3.0/3,ML3.9/1,Error ellipse: s-maj=39.9km s-min=14.5km az=86.0*

ISC 29 17:47:11.8±0.9,36°.50N±0°.02×98°.71W±0°.02,h10km±7km,n130,σ1§13/148,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.21	1	Pg	Pg	17 47 16.8	+0.7
OK035				Sg	Sg	17 47 20.6	+1.5
U32A	Winter Ranch,	0.26	242	Pg	Pg	17 47 17.0	-0.2
U32A					Sg	17 47 20.9	+0.1
OK032	Salt Plains WL	0.50	53	Pg	Pg	17 47 22.2	+0.5
OK032				Sg	Sg	17 47 28.0	-0.3
CROK	Carrier	0.59	90	Pg	Pg	17 47 23.6	+0.4
CROK				Sg	Sg	17 47 30.7	-0.3
KAN14	Manchester OK	0.75	53		Pb	17 47 26.8	-0.3
KAN14				Sg	Sb	17 47 37.2	-0.3
GC02	Grant County #	0.77	63	Pg	Pb	17 47 27.2	-0.2
GC02				Sg	Sg	17 47 37.3	+0.5
KAN10	Anthony SW Sta	0.79	38	Pg	Pg	17 47 27.2	+0.1
KAN10				Sg	Sg	17 47 35.6	-2.0
KAN16	Harper SW Stat	0.89	36		Pb	17 47 29.4	0.0
KAN16				Sg	Sb	17 47 41.6	+0.2
KAN05	Bluff City Nor	0.91	48	Pg	Pg	17 47 28.1	-1.1
KAN05				Sg	Sb	17 47 42.2	+0.4
KAN17	Caldwell West	0.93	54		Pg	17 47 30.0	+0.2
KAN17				Sg	Sg	17 47 42.0	0.0
KAN08	Anthony NE Sta	0.94	39	Pg	Pg	17 47 29.9	+0.1
KAN08				Sg	Sb	17 47 42.8	+0.2
KAN12	Harper NE Stat	0.98	36	Pg	Pb	17 47 30.9	0.0
KAN12				Sg	Sb	17 47 44.7	+0.8
KAN01	Argonia South	1.00	49		Pg	17 47 31.3	+0.1
KAN01				Sg	Sb	17 47 45.1	+0.5
KAN06	Argonia West S	1.01	42		Pg	17 47 31.2	-0.1
KAN06				Sg	Sb	17 47 45.1	+0.3
KAN13	South Haven SW	1.11	62		Pg	17 47 31.7	-1.6
KAN13				Sg	Sg	17 47 46.7	-1.1
BCOK	Bluff Creek, N	1.23	133		Pg	17 47 34.6	-0.8
BCOK				Sg	Sg	17 47 51.0	-0.4
BLOK	Blackwell	1.23	77	Pn	Pg	17 47 35.0	-0.5
BLOK				Sg	Sb	17 47 52.2	+1.0
OK029	Liberty Lake	1.24	124	Pn	Pg	17 47 34.9	-0.7
OK029				Sg	Sg	17 47 51.5	-0.2
OK025	Westminster Rd	1.45	129	Pn	Pn	17 47 38.1	0.0
OK025				Sn	Sb	17 47 58.0	+0.8
OKCFA	Oklahoma City	1.49	136		Pn	17 47 38.4	-0.3
OKCFA				Sn	Sn	17 47 58.6	+0.3
OK033	Mehan	1.50	107		Pn	17 47 39.4	+0.5
OK033				Sn	Sg	17 48 00.2	0.0
OKCSW	OKLAHOMA CITY	1.51	136	Pn	Pb	17 47 40.0	+0.1
OKCSW				Sn	Sb	17 47 59.7	+0.7
OK031	S. Brethren Rd	1.61	109		Pn	17 47 40.9	+0.6
OK031				Sn	Sg	17 48 03.2	-0.4
FNO	Franklin	1.64	139	Pn	Pn	17 47 41.3	+0.6
FNO				Sn	Sb	17 48 03.6	+0.8
QUOK	Quay	1.65	101	Pn	Pn	17 47 41.7	+0.8
QUOK				Sn	Sg	17 48 04.7	-0.2
OK030	Cody Creek RV	1.66	110		Pn	17 47 42.0	+0.9
OK034	N. Norfolk Rd.	1.69	106	Pn	Pn	17 47 41.7	+0.3
WMOK	Wichita Mounta	1.76	182	Pn	Pn	17 47 42.5	0.0
WMOK	Wichita Mounta	1.76	182	P	Pn	17 47 42.5	0.0
	baz=1.1						
WMOK				S	Sn	17 48 06.1	+1.2
	baz=1.1						
T35A	Sooner Cattle	1.82	76	Pn	Pn	17 47 44.6	+1.4
R32A	Long Quarter,	1.92	0		Pb	17 47 46.7	-0.3
W35A	Tecumseh	2.01	131	Pn	Pn	17 47 46.4	+0.6
X34A	Smith Ranch, M	2.03	159		Pn	17 47 46.7	+0.6
X34A				IAmb_Lg		17 48 17.1	
	comp=Z,176nm,0.7s						
TUL1	Leonard	2.44	103	Pn	Pn	17 47 52.2	+0.5
TUL1				IAmb_Lg		17 48 29.1	
	comp=Z,130nm,0.8s						
TUL1	Leonard	2.44	103	P	Pn	17 47 53.4	+1.7
	baz=284						
TUL1				S	Sb	17 48 25.1	-0.6
	baz=284						
CBKS	Cedar Bluff	2.45	341	Pn	Pb	17 47 55.1	-0.9
CBKS	Cedar Bluff	2.45	341	P	Pb	17 47 55.1	-0.9
	baz=161						
CBKS				S	Sb	17 48 26.6	+0.4
	baz=161						
LOOK	Love County	2.80	153	Pn	Pn	17 47 57.3	+0.6
AMTX	Amarillo	2.91	237	Pn	Pn	17 47 59.6	+1.4
AMTX				IAmb_Lg		17 48 48.8	
	comp=Z,161nm,0.8s						
AMTX	Amarillo	2.91	237	Pb	Pb	17 48 02.2	-1.6
	baz=55						
KSU1	Kansas State U	3.08	32		Pn	17 48 01.3	+0.7
KSU1	Kansas State U	3.08	32	P	Pn	17 48 03.0	+2.4
	baz=213						
X37A	Clayton	3.33	124	Pn	Pn	17 48 04.8	+0.9
X37A				IAmb_Lg		17 49 02.2	
	comp=Z,119nm,0.7s						
Z35A	Perchaven, San	3.38	159		Pn	17 48 05.9	+1.1
U38A	Gravette	3.49	90	Pn	Pn	17 48 07.5	+1.4
U38A				IAmb_Lg		17 49 03.3	
	comp=Z,84nm,0.9s						
HHAR	Hobbs	3.86	92		Pn	17 48 11.6	+0.3
ABTX	Abilene, Hawle	3.94	191		Pn	17 48 12.9	+0.4
ABTX	Abilene, Hawle	3.94	191	Pb	Pb	17 48 20.5	-1.0
	baz=11						
KSCO	Kaye Shedlock'	3.99	310		Pn	17 48 12.6	-0.6
KSCO				IAmb_Lg		17 49 28.4	
	comp=Z,87nm,0.7s						
MSTX	Muleshoe	4.17	234		Pn	17 48 16.1	+0.4
MSTX				IAmb_Lg		17 49 30.4	
	comp=Z,70nm,0.7s						
W39A	Magazine	4.21	107		Pn	17 48 15.7	-0.3
W39A	Magazine	4.21	107	P	Pn	17 48 17.7	+1.6
	baz=289,SNR=13						
N33A	J Bar K, Exete	4.34	13		Pn	17 48 18.5	+0.5
N33A				IAmb_Lg		17 49 42.0	
	comp=Z,57nm,0.7s						
Z38A	Mt. Pleasant	4.46	135	Pn	Pn	17 48 18.8	-0.7
Z38A				IAmb_Lg		17 49 35.7	
	comp=Z,100nm,0.7s						
S39A	Bolivar	4.47	73		Pn	17 48 19.8	+0.2
T25A	Trinidad	4.62	280		Pn	17 48 22.9	+1.0
T25A				IAmb_Lg		17 49 39.0	
	comp=Z,72nm,1.1s						
T25A	Trinidad	4.62	280	P	Pn	17 48 22.7	+0.8
	baz=96,SNR=8.6						
T25A				Sb	Sb	17 49 33.8	+5.1
	baz=96						
WHTX	Lake Whitney,	4.62	167	Pn	Pn	17 48 21.1	-0.6
WHTX	Lake Whitney,	4.62	167	P	Pn	17 48 22.0	+0.3
	baz=347						
MIAR	Mount Ida	4.62	113		Pn	17 48 23.0	+1.2
MIAR				IAmb_Lg		17 49 45.5	
	comp=Z,54nm,0.8s						
MIAR	Mount Ida	4.62	113	P	Pn	17 48 23.4	+1.6
	baz=296						
MIAR				S	Sn	17 49 16.2	+0.7
	baz=296						
U40A	Yellville	4.73	90		Pn	17 48 23.3	+0.1
U40A				IAmb_Lg		17 49 39.4	
	comp=Z,67nm,0.7s						
U40A	Yellville	4.73	90	P	Pn	17 48 24.5	+1.3
	baz=273,SNR=5.2						
BGNE	Belgrade	4.92	5		Pn	17 48 24.2	-1.6
BGNE				IAmb_Lg		17 49 57.6	
	comp=Z,84nm,0.7s						
BGNE	Belgrade	4.92	5	P	Pn	17 48 28.3	+2.5
	baz=186						
N35A	Tabor	4.97	28		Pn	17 48 27.2	+0.6
237A	Washetta, Mont	5.09	151		Pn	17 48 27.8	-0.4
237A				IAmb_Lg		17 50 00.1	
	comp=Z,51nm,0.8s						
OGNE	Ogallala	5.14	331	Pn

PHWY	Pilot Hill	7.11	314		Pn	17 48 55.0 -1.2
PHWY				IAmb_Lg		17 50 59.1
	comp=Z,33nm,0.8s					
N23A	Red Feather La	7.16	310		Pn	17 48 58.5 +1.7
MNTX	Cornudas Mount	7.32	231		Pn	17 48 59.6 +0.8
ECSD	EROS Data Cent	7.40	12	Pn	Pn	17 48 59.5 -0.4
N41A	Harden Midland	7.45	53	Pn	Pn	17 49 01.9 +1.4
OXF	Oxford	7.84	102	IAmb_Lg		17 51 26.6
	comp=Z,36nm,1.0s					
W45A	Hickory Valley	7.85	97	IAmb_Lg		17 51 29.5
	comp=Z,49nm,0.9s					
MVCO	Mesa Verde	7.88	278		Pn	17 49 04.5 -2.1
SUSD	Miller	7.93	359	IAmb_Lg		17 51 42.8
	comp=Z,31nm,0.8s					
TX31	Lajitas Ar. Si	8.27	212		Pn	17 49 10.9 -1.1
TX32	Lajitas Array	8.27	212		Pn	17 49 12.2 +0.2
TXAR	Lajitas Array	8.27	212	Pn	Pn	17 49 13.1 +1.1
	comp=Z,0.4nm,0.3s,baz=40,slow=11,SNR=21					
TXAR				Lg	Lg	17 51 30.3
	comp=Z,1.0nm,0.3s,baz=50,slow=22,SNR=8.4					
TXAR	Lajitas Array	8.27	212		Pn	17 49 13.0 +1.0
RWWY	Rawlins	8.39	311	IAmb_Lg		17 51 41.5
	comp=Z,40nm,1.1s					
HDIL	Hopedale	8.42	58	Pn	Pn	17 49 15.5 +1.6
K22A	Casper	8.60	318	Pn	Pn	17 49 16.5 -0.1
K22A				IAmb_Lg		17 51 58.4
	comp=Z,37nm,0.8s					
RSSD	Black Hills	8.63	334	Pn	Pn	17 49 18.1 +1.2
WVT	Waverly	8.79	89	Pn	Pn	17 49 19.5 +0.5
O44A	Mansfield	8.84	63	Pn	Pn	17 49 18.9 -0.7
L42A	Oliver, Polo	8.91	49	IAmb_Lg		17 52 02.9
	comp=Z,44nm,0.8s					
JFWS	Jewell Farm	9.14	43	Pn	Pn	17 49 23.2 -0.5
JFWS				IAmb_Lg		17 52 09.0
	comp=Z,32nm,0.8s					
T47A	Sharon Grove	9.33	84	Pn	Pn	17 49 27.1 +0.7
F33A	5 Mile Ranch,	9.51	10	IAmb_Lg		17 52 14.0
	comp=Z,23nm,1.2s					
V48A	Smith Brothers	9.65	91	Pn	Pn	17 49 32.5 +1.7
K43A	Burlington	10.12	49	Pn	Pn	17 49 36.9 -0.3
F36A	Milaca	10.13	21	Pn	Pn	17 49 37.1 -0.2
PDAR	Pinedale Array	10.44	310	Pn	Pn	17 49 42.5 +0.7
	baz=97,slow=16,SNR=1.9					
PDAR				Lg	Lg	17 52 32.3
	comp=Z,0.2nm,0.3s,baz=110,slow=21,SNR=2.2					
PDAR	Pinedale Array	10.44	310	Pn	Pn	17 49 39.7 -2.1
BW06	Boulder Array	10.44	310	Pn	Pn	17 49 40.2 -1.5
SWET	Sewanee	10.45	93	Pn	Pn	17 49 40.8 -1.0
I42A	Draeger Farm,	10.51	42	Pn	Pn	17 49 42.6 0.0
G40A	Rib Lake	10.87	34	Pn	Pn	17 49 45.9 -1.4
ULM	Lac du Bonnet	13.89	8	Lg	Lg	17 54 27.1
	comp=Z,0.4nm,0.3s,baz=271,slow=16,SNR=3.2					
YKA	Yellowknife Ar	27.83	344	P	P	17 53 03.8 +2.8
	comp=Z,0.1nm,0.6s,baz=149,slow=9.0,SNR=2.3					

*IDC **29** 17:52:40.3±15.0, 20°.25S×178°.56W, h677km±78km, mb3.0/4, mb1 3.1/5, mb1mx2.7/35, mbtmp4.1/5, Error ellipse: s-maj=320.9km s-min=116.6km az=81.0*
*NEIC **29** 17:52:43.7±1.3, 20°.4S±0°.1×179°.0W±0°.1, h664km±19km, mb4.2/11, Error ellipse: s-maj=22.3km s-min=18.3km az=210.0*

ISC 29 17:52:42.1±1.2, **20°.5S**±0°.2×**178°.9W**±0°.2, **h645**km, **n18**, σ0°.**97**/17, **mb4.0**/10, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.97	314	P	P	17 54 11.7	+0.9
	3.3nm,0.3s,baz=87,slow=23,SNR=30						
MSVF	Nonsavu	3.97	314	P	P	17 54 12.1	+1.2
PINNC	Pines Island,	12.84	258	P	P	17 55 28.0	-0.5
PYZ	Puysegur Point	28.17	201	P	P	17 57 46.7	+1.1
XMAS	Kiritimati	30.77	46	P	P	17 58 08.0	-0.2
CTA	Charters Tower	32.61	265	P	P	17 58 24.8	+1.0
	2.0nm,0.3s,baz=84,slow=9.9,SNR=1.9						
STKA	Stephens Creek	36.99	244	P	P	17 58 59.9	+0.1
	4.8nm,1.1s,baz=61,slow=13,SNR=2.8						
STKA	Stephens Creek	36.99	244	IAmb	IAmb	17 59 06.7	
	comp=Z,2.7nm,1.3s						
BBOO	Buckleboo	41.75	243	P	P	17 59 36.1	-1.6
BBOO				IAmb	IAmb	17 59 46.4	
	comp=Z,88nm,1.6s						
WR0	Warramunga Arr	43.54	262	P	P	17 59 51.8	+0.1
WR0				IAmb	IAmb	17 59 59.3	
	comp=Z,11nm,1.5s						
AS31	Alice Springs	43.66	257	P	P	17 59 52.8	+0.2
ASAR	Alice Springs	43.66	257	P	P	17 59 51.8	-0.8
	comp=Z,1.6nm,0.6s,baz=92,slow=8.0,SNR=48						
ASAR	Alice Springs	43.66	257	PcP	PcP	18 01 22.9	-1.9
WB0	Warramunga Arr	43.70	263	P	P	17 59 52.8	-0.1
WB0				IAmb	IAmb	18 00 02.7	
	comp=Z,6.3nm,1.2s						
WB2	Warramunga Arr	43.72	262	P	P	17 59 52.1	-0.9
WB2				IAmb	IAmb	18 00 07.2	
	comp=Z,7.3nm,1.4s						
WRAB	Tennant Creek	43.72	262	P	P	17 59 52.9	-0.1
WRAB				IAmb	IAmb	18 00 13.6	
	comp=Z,19nm,1.5s						
WRA	Warramunga Arr	43.73	262	P	P	17 59 52.7	-0.5
	comp=Z,0.5nm,0.3s,baz=96,slow=7.7,SNR=17						
MTN	Manton Dam	48.28	271	P	P	18 00 26.8	-0.6
MTN				IAmb	IAmb	18 00 40.3	
	comp=Z,21nm,1.1s						

*ISK **29** 18:03:03.5, 38°.52N×39°.21E, h8km, ML2.9/12*
*DDA **29** 18:03:03.4±0.0, 38°.49N×39°.12E, h7km±2km, ML2.7*

ISC 29 18:03:03.7±0.9, **38°.48N**±0°.04×**39°.14E**±0°.03, **h14**km±6km, **n18**, σ0°.**70**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.12	277	P	Pg	18 03 07.5	+0.3
ELZG				S	Sg	18 03 09.9	+0.2
SVRC	Sivrice-ELAZID	0.17	129	PG	Pg	18 03 07.3	-0.5
SVRC				SG	Sg	18 03 10.3	-0.3
KOVA	Elazig, Kovanc	0.57	67	P	Pg	18 03 14.6	-0.2
KOVA				S	Sb	18 03 22.6	-1.0
TNCL	Tunceli-Merkez	0.70	26	P	Pg	18 03 16.9	-0.5
TNCL				S	Sb	18 03 27.1	-0.3
TNCL				*i* AML	AML	18 03 29.0	
	comp=N,249nm,0.6s						
TNCL				*i* AML	AML	18 03 30.0	
	comp=E,260nm,0.2s						
ARPR	Arapgir-MALATY	0.88	314	PG	Pb	18 03 20.7	-0.1
ARPR				SG	Sb	18 03 34.0	+1.5
KEMA	Kemaliye	0.93	327	P	Pg	18 03 21.2	-0.6
KEMA				S	Sb	18 03 35.0	+0.9
KEMA				*i* AML	AML	18 03 35.0	
	comp=N,255nm,0.3s						
KEMA				*i* AML	AML	18 03 38.0	
	comp=E,193nm,0.4s						
DYBB	Diyarbakir	0.95	124	PG	Pb	18 03 22.3	+0.3
DYBB				SG	Sb	18 03 35.1	+0.7
DIYA	Diyarbakir	0.95	126	P	Pb	18 03 22.5	+0.5
DIYA				S	Sn	18 03 36.0	-0.2
DIYA				*i* AML	AML	18 03 38.0	
	comp=N,359nm,0.3s						
DIYA				*i* AML	AML	18 03 40.0	
	comp=E,239nm,0.2s						
AKCD	Akcadag	0.98	259	P	Pg	18 03 22.0	-0.6
AKCD				S	Sg	18 03 35.5	+0.1
AKCD				*i* AML	AML	18 03 38.0	
	comp=E,488nm,0.4s						
AKCD				*i* AML	AML	18 03 38.0	
	comp=N,491nm,0.2s						
ILIC	ilic-Erzincan	1.07	335	PG	Pg	18 03 23.7	-0.6
BNGB	Bingl	1.30	67	PN	Pn	18 03 27.8	+0.2
DARE	Darende-Malaty	1.30	274	PN	Pn	18 03 27.2	-0.4
SVAN	Silvan-Diyarba	1.65	101	PN	Pn	18 03 32.7	+0.4
GAZ	Gaziantep	2.01	230	PN	Pb	18 03 39.6	-0.5
SARI	SarD1z-Kayseri	2.14	269	PN	Pb	18 03 41.6	-0.8
SVSK	Karacayir	2.20	311	PN	Pb	18 03 42.5	-0.7
RSDY	Resadiye-TOKAT	2.37	324	PN	Pn	18 03 43.8	+1.5
SIRT	Sirnak	2.78	110	PN	Pn	18 03 48.4	+0.4

*IDC **29** 18:09:09.8±1.0, 11°.02N×125°.06E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/40, mbtmp3.6/7, Error ellipse: s-maj=84.7km s-min=18.4km az=71.0*
*MAN **29** 18:09:11.5, 10°.93N×124°.82E, h4km, mb4.6, ML3.5, MS3.3*

ISC 29 18:09:12.4±1.5, **10°.99N**±0°.04×**124°.79E**±0°.04, **h18**km±9km, **n19**, σ1°.**76**/28, **mb3.6**/7, **6C-5D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.19	290	↓*iP*	Pb	18 09 17.4	+0.5
MSLP	Maasin	0.85	176	↑*iP*	Pg	18 09 27.1	-1.9
MSLP				*i* S	Sb	18 09 39.8	+0.1
BESP	Borongan	0.88	46	↑*eP*	Pn	18 09 29.1	-0.8
BESP				*e*S	Sn	18 09 42.4	+0.2
LLP	Lapu-Lapu	1.05	231	↓*eP*	Pb	18 09 31.4	-0.7
LLP				*i* S	Sb	18 09 45.2	-0.3
SCPH	Surigao	1.38	150	*e*P	Pb	18 09 36.6	-1.1
SCPH				*e*S	Sg	18 09 59.5	+2.4
TBP	Tagbilaran	1.58	216	↓*eP*	Pn	18 09 39.7	+0.2
TBP				*e*S	Sb	18 10 00.7	-0.1
GLSP	General Luna,	1.77	132	↑*iP*	Pb	18 09 43.1	-1.3
GLSP				*e*S	Sg	18 10 12.5	+2.8
RCP	Roxas	2.09	286	↑*eP*	Pb	18 09 48.6	-1.2
RCP				*e*S	Sb	18 10 14.8	-0.6
BUTP	Butuan	2.16	158	↓*iP*	Pb	18 09 51.3	+0.3
BUTP				*e*S	Sg	18 10 27.3	+5.2
CNOP	Candoni, Negro	2.41	242	↓*eP*	Pn	18 09 51.3	+0.3
CNOP				*e*S	Sn	18 10 20.6	+0.5
JAP	San Jose, Anti	2.81	265	↑*eP*	Pb	18 10 01.8	-0.3
PAGZ	Pagadian	3.42	204	↑*eP*	Pb	18 10 08.3	-4.1
KSRS	Korea Array	26.50	6	P	P	18 14 49.0	+0.2
	1.3nm,0.8s,baz=186,slow=10,SNR=3.0						
WRA	Warramunga Arr	32.14	163	P	P	18 15 40.2	+1.1
	0.3nm,0.8s,baz=347,slow=9.3,SNR=1.7						
ASAR	Alice Springs	35.57	166	P	P	18 16 08.1	-0.9
	0.3nm,0.4s,baz=339,slow=6.9,SNR=4.7						
SONM	Songino Array	39.86	341	P	P	18 16 44.5	-0.6
	0.5nm,0.9s,baz=161,slow=9.2,SNR=2.9						
STKA	Stephens Creek	45.55	160	P	P	18 17 30.6	-0.7
	4.2nm,1.0s,baz=320,slow=14,SNR=2.8						
MKAR	Makanchi Array	50.59	323	P	P	18 18 12.2	+2.0
	1.0nm,0.7s,baz=123,slow=8.3,SNR=12						
ZALV	Zalesovo Beam	53.31	332	P	P	18 18 30.5	+0.2
	0.3nm,0.4s,baz=117,slow=5.0,SNR=1.8						

*NEIC **29** 18:10:23.8±1.8, 18°.84N±0°.04×67°.37W±0°.03, h38km±51km, Error ellipse: s-maj=7.3km s-min=3.2km az=206.0*
*RSPR **29** 18:10:24.2, 18°.90N×67°.40W, h11km±4km, MD3.1/15*

ISC 29 18:10:19.5±1.4, **18°.98N**±0°.05×**67°.33W**±0°.03, **h9**km±10km, **n54**, σ1°.**09**/66, **12C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.55	157	↑*eP*	Pn	18 10 33.5	-0.1
AGPR	Aguadilla, PR	0.55	157	*e*S	Sb	18 10 40.8	+1.4
AGPR	Aguadilla, PR	0.55	157		Pn	18 10 33.4	-0.2
AGPR					Sb	18 10 39.3	-0.1
IDE	Isla Desecheo	0.60	193	↑*eP*	Pn	18 10 34.3	0.0
IDE	Isla Desecheo	0.60	193	*e*S	Sb	18 10 42.2	+1.3
PRSN	Puerto Rico Se	0.78	167		Pb	18 10 35.9	+0.6
PRSN					Sb	18 10 46.5	+0.6
AOPR	Arecibo Observ	0.83	139	↑*eP*	Pn	18 10 37.8	+0.2
AOPR	Arecibo Observ	0.83	139	*e*S	Sb	18 10 48.7	+1.1
AOPR	Arecibo Observ	0.83	139		Pn	18 10 37.6	+0.1
AOPR				Sn	Sb	18 10 48.6	+1.0
AOPR				IAML		18 11 02.5	
	comp=N,1μm,0.3s						
EMPR	Esperanza - Ma	0.91	123	↑*eP*	Pn	18 10 39.6	+1.0
EMPR	Esperanza - Ma	0.91	123	*e*S	Sn	18 10 52.3	+0.5
EMPR	Esperanza - Ma	0.91	123		Pn	18 10 39.6	+1.0
EMPR				Sn	Sn	18 10 52.4	+0.5
UUPR	Utuado, UPR, P	0.93	141	↑*eP*	Pn	18 10 39.4	+0.6
UUPR	Utuado, UPR, P	0.93	141	*e*S	Sb	18 10 50.2	0.0
UUPR	Utuado, UPR, P	0.93	141		Pn	18 10 39.4	+0.6
UUPR					Sb	18 10 50.2	0.0
CRPR	Cabo Rojo, PR	0.99	167	↑*eP*	Pn	18 10 40.4	+0.8
CRPR	Cabo Rojo, PR	0.99	167	*e*S	Sb	18 10 52.2	+0.2
CRPR	Cabo Rojo, PR	0.99	167		Pn	18 10 40.0	+0.4
CRPR				Sn	Sb	18 10 52.1	0.0
MLPR	Magueyes Islan	1.04	165	↓*eP*	Pn	18 10 40.1	-0.3
MLPR	Magueyes Islan	1.04	165	*e*S	Sb	18 10 53.2	-0.2
MLPR	Magueyes Islan	1.04	165	Pn	Pb	18 10 39.9	+0.2
MLPR				Sn	Sg	18 10 52.5	-0.5
GBPR	Guanica, Bosqu	1.08	156	↓*eP*	Pn	18 10 41.9	+0.9
GBPR	Guanica, Bosqu	1.08	156	*e*S	Sn	18 10 55.7	-0.4
PCDR	Punta Cana, DR	1.09	245	↑*eP*	Pn	18 10 42.2	+1.1
PCDR	Punta Cana, DR	1.09	245	*e*S	Sg	18 10 53.2	-1.6
PCDR	Punta Cana, DR	1.09	245		Pn	18 10 42.2	+1.1
PCDR					Sg	18 10 53.2	-1.6
CELP	Cerrillos	1.15	141	Pn	Pn	18 10 42.4	+0.5
CELP				IAML		18 11 01.9	
	comp=N,462nm,0.3s						
OBIP	Obispado Ponce	1.16	143	↑*eP*	Pn	18 10 43.2	+1.2
OBIP	Obispado Ponce	1.16	143	*e*S	Sn	18 10 58.1	+0.2
OBIP	Obispado Ponce	1.16	143		Pn	18 10 42.9	+0.9
OBIP	Obispado Ponce	1.16	143		Sn	18 10 58.1	+0.2
ICMP	Isla Caja de M	1.33	145	↑*eP*	Pg	18 10 45.5	+0.5
ICMP	Isla Caja de M	1.33	145	*e*S	Sn	18 11 03.0	+0.8
ICMP	Isla Caja de M	1.33	145	Pn	Pg	18 10 45.4	+0.3
ICMP					Sb	18 10 58.3	-3.5
ICMP				IAML		18 11 14.6	
	comp=N,290nm,0.6s						
GCPR	Guaynabo City	1.36	119		Pg	18 10 45.6	0.0
SJG	San Juan	1.42	127		Pg	18 10 46.7	0.0
SJG					Sb	18 11 02.0	-2.3
SJG				IAML		18 11 05.6	
	comp=N,354nm,0.4s						
SJG				IAML		18 11 10.1	
	comp=N,360nm,0.3s						
IGPR	InterUniversit	1.54	131	↑*eP*	Pg	18 10 48.9	-0.2
IGPR	InterUniversit	1.54	131	*e*S	Sb	18 11 07.7	-0.2
CBYP	Canovanas	1.57	116	↑*eP*	Pn	18 10 48.3	+0.6
CBYP	Canovanas	1.57	116	*e*S	Sg	18 11 12.6	+2.6
CBYP	Canovanas	1.57	116		Pb	18 10 48.7	-0.1
PDPR	Patillas Dam,	1.57	127		Pb	18 10 48.9	+0.2
PDPR				Sn	Sn	18 11 05.7	-2.3
CUPR	Culebra, Puert	2.06	109	↓*eP*	Pb	18 10 54.3	0.0
CUPR	Culebra, Puert	2.06	109	*e*S	Sb	18 11 22.4	-0.4
CUPR	Culebra, Puert	2.06	109	Pn	Pn	18 10 54.6	+0.2
CUPR	Culebra, Puert	2.06	109		Sb	18 11 22.4	-0.4
STVI	Saint Thomas	2.34	105	↑*eP*	Pb	18 11 01.7	-0.2
STVI	Saint Thomas	2.34	105	*e*S	Sb	18 11 29.7	-1.3
STVI	Saint Thomas	2.34	105	Pn	Pn	18 10 59.0	+0.7
STVI				Sn	Sn	18 11 26.7	-0.5
STVI				IAML		18 11 39.2	
	comp=N,126nm,0.3s						
BANI	BANI	2.92	259	Pn	Pn	18 11 06.4	0.0
SDDR	Presa de Saban	3.74	271		Pn	18 11 20.4	+2.8
SDDR				IAML		18 12 22.5	
	comp=N,68nm,0.7s						
SDDR				IAML		18 12 23.6	
	comp=N,69nm,1.0s						
GRTK	Grand Turk	4.37	306	Pn	Pn	18 11 28.2	+2.0
BIRV	Birongo	8.51	173	Pn	Pn	18 12 24.1	+0.9
BAUV	El Baul	10.00	184	Pn	Pn	18 12 41.4	-2.1

*IDC **29** 18:34:22.5±1.8, 33°.22N×141°.11E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.1/31, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=34.7km s-min=21.1km az=40.0*
*JMA **29** 18:34:26.5±0.1, 33°.54N×141°.02E, h58km, M3.6*

ISC 29 18:34:25.6±2.2, **33°.45N**±0°.07×**141°.05E**±0°.09, **h25**km±15km, **n24**, σ1°.**04**/28, **mb3.7**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.08	252	P	Pb	18 34 46.0	+0.4
JHJ	Hachijo jima 2	1.11	253	Pn	Pb	18 34 46.0	0.0
	304nm,0.3s,baz=90,slow=20,SNR=46						
JHJ				Sn	Sb	18 34 60.0	-0.1
	975nm,0.3s,baz=65,slow=22,SNR=20						
JHCJ	Hachijojimakas	1.11	250	P	Pb	18 34 46.5	+0.4
JHCJ				*e*S	Sb	18 35 00.6	+0.4
BSO1	Boso 1	1.20	357	P	Pn	18 34 46.3	0.0
JMKN	Mikurajimanish	1.29	290	P	Pb	18 34 48.1	-1.0
JMKN				*e*S	Sn	18 35 03.8	-0.7
BSO3	Boso 3	1.42	342	P	Pn	18 34 49.4	-0.1
JAOM	Aogashimamukai	1.46	228	P	Pb	18 34 51.3	-0.8
JKO	Kozu shima	1.75	295	P	Pn	18 34 54.6	+0.3
JKO				S	Sn	18 35 15.2	-0.6
JTHY	Toshimahigashi	1.81	307	P	Pn	18 34 55.1	-0.1
JTHY				*e*S	Sn	18 35 16.0	-1.3
JIM2	Oshima 3	1.84	314	P	Pn	18 34 55.4	-0.2
JIM2				S	Sn	18 35 16.1	-2.0
JIZS	Izushimoda	2.20	306	P	Pn	18 35 00.8	+0.3
JIZS				*e*S	Sn	18 35 26.1	-0.8
JOD2	Odawara 2	2.42	319	P	Pn	18 35 03.4	-0.3
JOD2				S	Sn	18 35 30.9	-1.7
JFNN	Fujinakano	2.61	312	P	Pn	18 35 07.4	+1.2
MJAR	Matsushiro Arr	3.86	324	Pn	Pn	18 35 25.1	+1.7
	1.0nm,0.3s,baz=139,slow=13,SNR=26						
MJAR				Sn	Sn	18 36 08.6	+0.6
	0.4nm,0.3s,baz=218,slow=14,SNR=2.8						
MAT	Matsushiro	3.86	324	P	Pn	18 35 25.0	+1.6
MAT				S	Sn	18 36 08.0	0.0
H11N2	WAKE ISLAND Hy	26.76	114	T	T	19 09 03.4	
	baz=306,slow=74,SNR=5.4						
H11N1	WAKE ISLAND Hy	26.77	114	T	T	19 09 09.4	
	baz=306,slow=74,SNR=3.7						
H11N3	WAKE ISLAND Hy	26.78	114	T	T	19 09 04.6	
	baz=306,slow=74,SNR=4.3						
H11S3	WAKE ISLAND Hy	27.35	117	T	T	19 09 47.9	
	baz=306						
H11S1	WAKE ISLAND Hy	27.35	117	T	T	19 09 48.0	
	baz=306						
H11S2	WAKE ISLAND Hy	27.36	117	T	T	19 09 44.6	
	baz=306						
MKAR	Makanchi Array	45.84	305	P	P	18 42 47.6	+2.0
	0.2nm,0.5s,baz=82,slow=10,SNR=2.2						
WRA	Warramunga Arr	53.48	188	P	P	18 43 42.9	-1.0
	0.6nm,0.3s,baz=5.4,slow=7.7,SNR=18						
ASAR	Alice Springs	57.21	188	P	P	18 44 09.7	-1.0
	0.3nm,0.4s,baz=3.6,slow=6.6,SNR=19						

NOU 29 18:45:23.8, 14°.52S×167°.29E, h138km, MLv4.3/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.93	185	P	Pn	18 45 46.6	-0.2
KOUNC	Koumac, New Ca	6.65	205	P	Pn	18 47 00.0	+0.9
YATNC	Mamie plateau,	7.51	183	P	Pn	18 47 10.0	-0.6
DZM	Mont Dzumac	7.55	186	P	Pn	18 47 10.9	-0.4
OUENC	Ouen Island, N	7.87	183	P	Pn	18 47 15.5	0.0
PINNC	Pines Island,	8.05	179	P	Pn	18 47 17.6	-0.3

IDC 29 18:50:09.5±14.0, **3°.33S×102°.32W**, **h0**km, **mb3.4**/3, **mb1 3.8**/3, **mb1mx3.5**/30, **mbtmp3.4**/3, **MS3.5**/5, **Ms1 3.5**/5, **ms1mx3.1**/30, **Error ellipse: s-maj=487.8km s-min=217.8km az=111.0, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	21.58	20	LR	LR	19 01 14.9	
	comp=Z,70nm,19.3s,baz=216,slow=31						
NNA	Nana	26.65	110	LR	LR	19 04 04.2	
	comp=Z,74nm,18.1s,baz=251,slow=31						
LPAZ	La Paz	35.98	113	LR	LR	19 08 54.7	
	comp=Z,67nm,21.6s,baz=32,slow=31						
H03N2	Juan Fernandez	37.07	147	T	T	19 37 10.3	
	baz=317,slow=77,SNR=5.3						
H03N1	Juan Fernandez	37.09	147	T	T	19 37 10.4	
	baz=317,slow=77,SNR=6.3						
H03N3	Juan Fernandez	37.09	147	T	T	19 37 07.5	
	baz=317,slow=77,SNR=7.1						
SIV	San Ignacio	42.46	110	LR	LR	19 13 40.4	
	comp=Z,107nm,20.1s,baz=300,slow=33						
PDAR	Pinedale Array	46.35	353	P	P	18 58 37.5	-0.1
	0.3nm,0.7s,baz=154,slow=7.0,SNR=2.8						
PLCA	Paso Flores	46.96	147	LR	LR	19 11 54.1	
	comp=Z,48nm,20.4s,baz=298,slow=28						
YKA	Yellowknife Ar	66.31	354	P	P	19 00 60.0	+0.4
	0.4nm,0.8s,baz=164,slow=6.7,SNR=5.0						
ILAR	Eielson Array	75.36	342	P	P	19 01 54.1	-0.5
	0.4nm,0.8s,baz=140,slow=6.8,SNR=2.0						
H11N3	WAKE ISLAND Hy	91.84	290	T	T	20 43 46.9	
	baz=94						
H11N2	WAKE ISLAND Hy	91.85	290	T	T	20 43 49.8	
	baz=94						
H11N1	WAKE ISLAND Hy	91.86	290	T	T	20 43 42.9	
	baz=94						
H11S2	WAKE ISLAND Hy	91.97	288	T	T	20 43 55.6	
	baz=94,slow=75,SNR=8.0						
H11S1	WAKE ISLAND Hy	91.98	288	T	T	20 43 45.9	
	baz=94,slow=75,SNR=6.4						
H11S3	WAKE ISLAND Hy	91.99	288	T	T	20 43 51.0	
	baz=94,slow=75,SNR=6.4						

*IDC **29** 19:06:31.9±1.4, 13°.85S×167°.33E, h179km±11km, mb4.3/24, mb1 4.3/25, mb1mx4.1/39, mbtmp4.7/25, MS3.1/2, Ms1 3.1/2, ms1mx2.7/61, Error ellipse: s-maj=16.1km s-min=10.1km az=99.0*
*NOU **29** 19:06:33.1, 13°.52S×167°.44E, h206km, mb4.7/44, Vanuatu Islands*
*NEIC **29** 19:06:34.4±1.7, 13°.81S±0°.08×167°.27E±0°.10, h198km±4km, mb4.9/101, Error ellipse: s-maj=13.8km s-min=11.0km az=77.0*
*BJI **29** 19:06:36.2±0.0, 13°.06S×167°.16E, h200km, mb4.7/51, mB5.0/28*

ISC 29 19:06:34.1±0.3, **13°.81S**±0°.05×**167°.29E**±0°.06, **h200**km, **n310**, σ1°.**19**/337, **mb4.8**/96, **3C-5D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.63	183	Pn	Pn	19 07 09.9	+1.0
SANVU				Sn	Sn	19 07 36.5	+

COEN Coen 23.41 267 P **P** 19 11 26.4 +1.1
COEN PcP **PcP** 19 15 05.6 -0.4
COEN Coen 23.41 267 P **P** 19 11 26.5 +1.2
MGCD Mangrove Creek 24.29 215 P **P** 19 11 35.1 +2.0
baz=25,SNR=7.2
MGCD Mangrove Creek 24.29 215 P **P** 19 11 35.1 +2.0
QLP Quilpie 25.03 236 P **P** 19 11 40.8 +0.9
baz=26,SNR=4.4
QLP Quilpie 25.03 236 P **P** 19 11 40.8 +0.9
MXZ Matakaoa Point 25.61 159 P **P** 19 11 45.4 +0.4
URZ Urewera 25.86 162 P **P** 19 11 47.0 -0.3
comp=Z,2.4nm,0.4s,baz=278,slow=2.6,SNR=6.6
URZ Urewera 25.86 162 P **P** 19 11 46.5 -0.8
URZ IAmb IAmb 19 11 57.5
comp=Z,39nm,1.5s
CMSA Cobar Meteorol 26.52 225 P **P** 19 11 54.5 +1.2
baz=27,SNR=17
CMSA Cobar Meteorol 26.52 225 P **P** 19 11 54.5 +1.2
BKZ Black Stump Fm 26.53 164 P **P** 19 11 53.0 -0.3
BKZ IAmb IAmb 19 11 55.8
comp=Z,10.0nm,0.6s
BKZ Black Stump Fm 26.53 164 P **P** 19 11 54.1 +0.8
CNB Canberra Magne 26.82 214 P **P** 19 11 57.4 +1.5
baz=27,SNR=8.7
CNB Canberra Magne 26.82 214 P **P** 19 11 57.2 +1.2
CAN Canberra 27.02 214 P **P** 19 11 57.8 +0.1
CAN Canberra 27.02 214 P **P** 19 11 58.1 +0.3
QIS Mount Isa 27.26 252 P **P** 19 12 00.2 +0.2
baz=28,SNR=3.8
QIS Mount Isa 27.26 252 P **P** 19 12 00.8 +0.8
QRZ Quartz Range 27.30 171 P **P** 19 12 01.4 +1.3
BFZ Birch Farm 27.89 165 P **P** 19 12 03.8 -1.5
BFZ IAmb IAmb 19 12 24.6
comp=Z,45nm,1.3s
BFZ Birch Farm 27.89 165 P **P** 19 12 04.7 -0.7
SNZO South Karori 28.15 168 P **P** 19 12 08.2 +0.6
comp=Z,52nm,1.4s
THZ Tophouse 28.27 171 P **P** 19 12 08.9 +0.2
THZ IAmb IAmb 19 12 14.3
comp=Z,48nm,1.7s
INKA Innaminka 28.34 237 P **P** 19 12 10.4 +0.9
KHZ Kahutara 29.01 170 P **P** 19 12 16.0 +0.8
LTZ Lake Taylor 29.19 172 P **P** 19 12 17.3 +0.5
LTZ IAmb IAmb 19 12 18.6
comp=Z,16nm,1.1s
STKA Stephens Creek 29.61 228 P **P** 19 12 21.7 +1.1
comp=Z,23nm,0.6s,baz=49,slow=8.7,SNR=33
STKA PcP **PcP** 19 15 20.8 +0.4
comp=Z,5.5nm,0.6s,baz=68,slow=3.3,SNR=5.6
STKA Stephens Creek 29.61 228 P **P** 19 12 21.9 +1.3
baz=30,SNR=27
STKA Stephens Creek 29.61 228 P **P** 19 12 21.7 +1.1
STKA PcP **PcP** 19 15 19.2 -1.1
STKA Stephens Creek 29.61 228 P **P** 19 12 21.9 +1.3
FOZ Fox Glacier 29.70 176 P **P** 19 12 21.9 +0.7
FOZ IAmb IAmb 19 12 23.4
comp=Z,20nm,0.7s
RPZ Rata Peaks 29.98 175 P **P** 19 12 25.2 +1.5
LBZ Lake Benmore 30.57 176 P **P** 19 12 29.2 +0.2
LBZ IAmb IAmb 19 12 34.6
comp=Z,21nm,1.0s
TOO Toolangi 30.60 215 P **P** 19 12 30.6 +1.3
baz=31,SNR=21
TOO Toolangi 30.60 215 P **P** 19 12 30.4 +1.1
TOO PcP **PcP** 19 15 20.2 -2.7
TOO Toolangi 30.60 215 P **P** 19 12 30.7 +1.3
ODZ Otahua Downs 31.26 175 P **P** 19 12 37.0 +2.0
LCRK Leigh Creek 31.48 233 P **P** 19 12 37.8 +0.7
DCZ Deep Cove 31.55 180 P **P** 19 12 37.7 +0.2
DCZ IAmb IAmb 19 12 39.2
comp=Z,32nm,1.1s
GLAD Gladstone 31.88 208 P **P** 19 12 41.8 +1.4
WR0 Warramunga Arr 31.89 254 P **P** 19 12 39.9 -0.9
WB0 Warramunga Arr 32.01 255 P **P** 19 12 41.1 -0.8
WB0 PcP **PcP** 19 15 27.2 +0.3
WB2 Warramunga Arr 32.06 254 P **P** 19 12 40.8 -1.6
WB2 **PcP** 19 15 27.6 +0.5
WRAB Tennant Creek 32.06 254 P **P** 19 12 41.6 -0.8
WRA Warramunga Arr 32.07 254 P **P** 19 12 41.5 -0.9
comp=Z,3.9nm,0.7s,baz=85,slow=9.1,SNR=34
WRA PcP **PcP** 19 15 27.1 0.0
comp=Z,4.9nm,1.0s,baz=80,slow=2.8,SNR=14
WRA ScP **ScP** 19 18 53.4 +1.6
comp=Z,2.4nm,0.8s,baz=82,slow=3.8,SNR=11
WRA Warramunga Arr 32.07 254 P **P** 19 12 39.9 -2.5
WRA **PcP** 19 15 27.0 -0.1
ARPS Mount Arapiles 32.25 220 P **P** 19 12 44.9 +1.2
baz=33,SNR=16
ARPS Mount Arapiles 32.25 220 P **P** 19 12 44.9 +1.2
HTT Hallett 32.34 228 P **P** 19 12 45.7 +1.1
baz=33,SNR=9.6
HTT Hallett 32.34 228 P **P** 19 12 45.5 +0.9
OOD Oodnadatta 32.53 240 P **P** 19 12 47.5 +1.2
AS31 Alice Springs 33.02 248 P **P** 19 12 49.9 -0.8
ASAR Alice Springs 33.02 248 P **P** 19 12 49.9 -0.9
comp=Z,7.5nm,0.7s,baz=74,slow=9.2,SNR=40
ASAR PcP **PcP** 19 15 29.9 +0.1
comp=Z,3.0nm,0.6s,baz=72,slow=2.6,SNR=13
ASAR S **S** 19 17 50.6 -3.9
comp=Z,2.5nm,1.0s,baz=80,slow=16,SNR=13
ASAR ScP **ScP** 19 18 56.5 +1.4
comp=Z,2.5nm,0.9s,baz=86,slow=3.9,SNR=10
ASAR PKiKP **PKiKP** 19 22 54.6 -1.1
comp=Z,0.5nm,0.6s,baz=112,slow=1.2,SNR=12
ASAR Alice Springs 33.02 248 P **P** 19 12 49.6 -1.1
ASAR PcP **PcP** 19 15 29.5 -0.2
ASAR ScP **ScP** 19 18 56.8 +1.8
TAU Tasmania Unive 33.72 207 P **P** 19 12 57.7 +1.3
BBOO Buckleboo 34.16 231 P **P** 19 13 00.9 +0.5
baz=35,SNR=17
BBOO Buckleboo 34.16 231 P **P** 19 13 00.6 +0.2
BBOO IAmb IAmb 19 13 02.3
comp=Z,48nm,1.2s
BBOO PcP **PcP** 19 15 32.0 -0.8
BBOO Buckleboo 34.16 231 P **P** 19 13 00.9 +0.5
MULG Mulgathing 34.72 236 P **P** 19 13 04.9 -0.3
MTN Manton Dam 35.17 267 P **P** 19 13 10.3 +1.1
MTN IAmb IAmb 19 13 34.9
comp=Z,27nm,1.1s
MTN PcP **PcP** 19 15 36.3 +0.3
KNRA Kununurra 37.27 262 P **P** 19 13 26.2 -0.7
baz=38,SNR=4.7
KNRA Kununurra 37.27 262 P **P** 19 13 26.6 -0.3
KNRA PcP **PcP** 19 15 42.8 +0.6
KNRA Kununurra 37.27 262 P **P** 19 13 26.9 -0.1
WRKA Warakurna 38.30 247 P **P** 19 13 35.2 -0.4
baz=39,SNR=18
WRKA Warakurna 38.30 247 P **P** 19 13 35.2 -0.4
FORT Forrest 39.78 238 P **P** 19 13 46.9 -0.8
FORT IAmb IAmb 19 13 48.5
comp=Z,32nm,0.7s
FORT Forrest 39.78 238 P **P** 19 13 47.8 0.0
SANI Sanana 42.45 282 P **P** 19 14 10.8 +1.1
comp=Z,17nm,1.1s
PSA00 Pilbara Seismi 45.71 253 P **P** 19 14 35.4 -0.1
PSA00 PcP **PcP** 19 16 09.8 -0.2
PSA00 Pilbara Seismi 45.71 253 P **P** 19 14 34.4 -1.1
PSA00 IAmb IAmb 19 14 55.5
comp=Z,123nm,1.8s
PSA00 PcP **PcP** 19 16 09.8 -0.2
MBWA Marble Bar 45.81 254 P **P** 19 14 35.0 -1.3
MBWA PcP **PcP** 19 16 10.1 -0.2
MBWA Marble Bar 45.81 254 P **P** 19 14 37.3 +1.0
comp=Z,23nm,1.4s
MEEK Meekatharra 47.16 246 P **P** 19 14 46.7 0.0
baz=48,SNR=9.5
MEEK Meekatharra 47.16 246 P **P** 19 14 46.8 0.0
JCJ Chichijima 47.41 329 P **P** 19 14 48.6 +0.1
BNSI Bone 47.43 277 P **P** 19 14 50.5 +1.5
comp=Z,26nm,1.1s
TOLI2 Tolitoli 48.40 284 P **P** 19 14 55.5 -0.9
TOLI2 Tolitoli 48.40 284 P **P** 19 14 55.8 -0.6
KLBR Kellerberrin 48.57 240 P **P** 19 14 56.9 -0.6
baz=49,SNR=9.4
KLBR Kellerberrin 48.57 240 P **P** 19 14 57.0 -0.5
NWAO Narrogin (SRO) 49.24 238 P **P** 19 15 01.8 -0.7
NWAO IAmb IAmb 19 15 02.8
comp=Z,30nm,0.8s
NWAO Narrogin (SRO) 49.24 238 P **P** 19 15 02.0 -0.5
AIN Ainahou 49.33 49 P **P** 19 15 04.1 +0.6
MORW Morawa 49.68 244 P **P** 19 15 05.7 -0.3
baz=50,SNR=7.3
MORW Morawa 49.68 244 P **P** 19 15 05.5 -0.4
MORW IAmb IAmb 19 15 06.7
comp=Z,15nm,0.8s
MORW Morawa 49.68 244 P **P** 19 15 05.8 -0.1
MUN Mundaring 49.93 240 P **P** 19 15 07.5 -0.2
baz=50,SNR=3.2
MUN Mundaring 49.93 240 P **P** 19 15 07.9 +0.1
GIRL Giralia 50.93 252 P **P** 19 15 13.7 -1.7
MYLDM Lahad Datu 51.96 288 P **P** 19 15 24.9 +1.8
MYLDM IAmb IAmb 19 15 34.8
comp=Z,39nm,1.4s
JAGI Jajag, Banyuwa 52.32 270 P **P** 19 15 24.7 -1.0
JAGI IAmb IAmb 19 15 32.7
comp=Z,17nm,1.0s
KKM Kota Kinabalu 54.39 288 P **P** 19 15 40.7 -0.3
KKM IAmb IAmb 19 15 42.6
comp=Z,50nm,1.3s
JOW Kunigami 55.39 317 P **P** 19 15 48.7 +0.9
JOW IAmb IAmb 19 15 49.7
comp=Z,32nm,0.8s
UGM Wanagama 55.95 270 P **P** 19 15 51.3 -0.7
JGF Kuroka 56.73 331 P **P** 19 15 56.5 -0.6
JGF IAmb IAmb 19 15 57.5
comp=Z,24nm,1.2s
JMN Monobe 56.99 327 P **P** 19 15 58.8 -0.2
JMM Marumori 57.10 335 P **P** 19 16 00.3 +0.7
MJAR Matsushiro Arr 57.10 332 P **P** 19 15 59.0 -0.7
comp=Z,6.3nm,0.7s,baz=177,slow=7.9,SNR=11
MJAR Matsushiro Arr 57.10 332 P **P** 19 15 58.7 -1.0
MAJO Matsushiro 57.11 332 P **P** 19 15 59.0 -0.7
MAJO IAmb IAmb 19 16 08.8
comp=Z,50nm,1.7s
MAJO **pP** **pP** 19 16 46.4 +1.8
MAT Matsushiro 57.11 332 P **P** 19 15 59.5 -0.2
MJB9 Matsu-Tunnel 57.11 332 P **P** 19 15 59.1 -0.7
MJB9 IAmb IAmb 19 16 08.8
comp=Z,54nm,1.8s
KPJI Karang Pucung 57.61 270 P **P** 19 16 04.9 +1.2
comp=Z,36nm,0.7s
JNU Nakatsue 58.19 324 P **P** 19 16 07.5 +0.2
comp=Z,14nm,0.9s,baz=5.3,slow=2.5,SNR=5.1
JNU Nakatsue 58.19 324 P **P** 19 16 06.9 -0.4
YULB Yu-li 58.23 309 P **P** 19 16 07.9 +0.1
YULB IAmb IAmb 19 16 51.5
comp=Z,70nm,1.8s
JSD Sado 58.32 333 P **P** 19 16 08.3 +0.2
JHS Saijyo 58.37 327 P **P** 19 16 07.6 -0.9
NACB Ninganchiao 58.45 310 P **P** 19 16 08.4 -0.9
NACB IAmb IAmb 19 16 13.9
comp=Z,37nm,1.0s
TPUB Ta-pu 58.69 308 P **P** 19 16 10.3 -0.6
TPUB IAmb IAmb 19 16 11.2
comp=Z,25nm,0.7s
SSLB Suanglung 58.71 309 P **P** 19 16 10.8 -0.4
SSLB IAmb IAmb 19 16 11.6
comp=Z,15nm,0.7s
YHNB Yeheng 58.90 310 P **P** 19 16 11.8 -0.7
JTM Tenmabayashi 59.51 337 P **P** 19 16 17.0 +0.8
CGJI Cibinong 60.91 270 P **P** 19 16 25.5 -0.8
comp=Z,769nmcomp=Z,62nm,0.9s
KNMB Chin-men Tao 61.03 308 P **P** 19 16 27.3 +0.4
JKA Kamikawa-asahi 61.89 340 P **P** 19 16 33.8 +1.6
ASAJ Asahikawa 61.89 340 P **P** 19 16 34.0 +1.8
comp=Z,8.6nm,0.5s,baz=223,slow=5.9,SNR=18
KASI Kota Agung 62.30 271 P **P** 19 16 35.2 -0.4
comp=Z,37nm,0.9s
KSRS Korea Array 62.99 325 P **P** 19 16 40.2 +0.6
comp=Z,3.7nm,0.8s,baz=148,slow=7.5,SNR=7.0
HKPS Hong Kong Po S 63.24 304 P **P** 19 16 41.0 -0.6
VNDA Vanda 63.77 181 P **P** 19 16 44.2 0.0
comp=Z,2.8nm,0.6s,baz=11,slow=6.7,SNR=8.0
VNDA Vanda 63.77 181 P **P** 19 16 44.6 +0.4
VNDA IAmb IAmb 19 16 53.2
comp=Z,29nm,1.3s
SBA Scott Base 64.05 180 P **P** 19 16 46.1 +0.1
YSS Yuzh-Sakhalins 64.37 342 P **P** 19 16 48.9 +0.5
CASY Casey 64.38 202 P **P** 19 16 48.2 0.0
CASY IAmb IAmb 19 17 22.6
comp=Z,39nm,1.4s
NJ2 Nanjing 65.03 316 *eP* **P** 19 16 54.0 +0.9
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
USA0B Ussuriysk Arra 66.08 333 P **P** 19 16 59.9 +0.4
USA0B IAmb IAmb 19 17 02.7
comp=Z,28nm,1.4s
USRK Ussuriysk Ar. 66.08 333 P **P** 19 17 00.5 +1.0
comp=Z,8.7nm,0.9s,baz=151,slow=8.5,SNR=11
USRK Ussuriysk Ar. 66.08 333 P **P** 19 17 00.0 +0.5
KIWB Kanaga Island 66.77 10 P **P** 19 17 05.5 +1.8
PEA0B Petropavlovsk- 67.16 354 P **P** 19 17 06.6 +0.5
PETK Petropavlovsk- 67.16 354 P **P** 19 17 07.4 +1.3
comp=Z,8.9nm,0.8s,baz=176,slow=13,SNR=7.2
PETK Petopavlovsk- 67.16 354 P **P** 19 17 06.7 +0.5
UBPT Khong Chiam 67.62 293 P **P** 19 17 10.5 +0.7
IPM Ipoh 68.19 281 P **P** 19 17 13.1 -0.4
IPM IAmb IAmb 19 17 14.9
comp=Z,26nm,1.0s
MNSI Mandailing Nat 68.58 276 P **P** 19 17 15.8 -0.1
comp=Z,24nm,0.9s
KULM Kulim 68.78 281 P **P** 19 17 17.3 +0.2
CN2 Changchun 68.87 329 *eP* **P** 19 17 16.8 -0.2
CN2 pmax pmax
comp=Z,20nm,0.9s
BNX BinXian 69.34 331 ⇓P **P** 19 17 20.5 +0.6
BNX pmax pmax
comp=Z,20nm,0.7s
BNX pmax pmax
comp=Z,220nm,5.1s
KLR Kul'dur 70.18 336 P **P** 19 17 26.1 +1.3
comp=Z,5.5nm,0.6s,baz=131,slow=2.6,SNR=27
GSI Gunungsitoli 70.64 276 P **P** 19 17 29.6 +1.1
comp=Z,26nm,0.9s
GSI Gunungsitoli 70.64 276 P **P** 19 17 27.9 -0.6
GSI IAmb IAmb 19 17 29.9
comp=Z,19nm,0.8s
LYN LuoYang 70.85 314 ⇑P **P** 19 17 30.0 +0.7
LYN pmax pmax
comp=Z,10.0nm,0.6s
HNS HongShan 70.93 318 ⇑P **P** 19 17 30.8 +1.1
HNS pmax pmax
comp=Z,15nm,1.0s
GYA Guiyang 71.21 304 ⇓P **P** 19 17 32.5 +0.7
GYA pmax pmax
comp=Z,7.0nm,1.2s
BJI Beijing 71.56 321 P **P** 19 17 33.8 +0.4
BJI pmax pmax
comp=Z,10.0nm,0.9s
XAN Xi'an 73.08 312 P **P** 19 17 43.3 +0.6
XAN pP pP 19 18 28.8 -1.4
XAN pmax pmax
comp=Z,13nm,0.7s
KMI Kunming 73.84 302 ⇓P **P** 19 17 49.5 +2.0
KMI pmax pmax
comp=Z,15nm,1.2s
XLT XiLinHaoTe 73.97 324 *eP* **P** 19 17 48.5 +0.8
XLT PcP **PcP** 19 18 00.5 -1.4
XLT pP pP 19 18 32.8 -2.2
XLT pmax pmax
comp=Z,23nm,1.1s
XLT pmax pmax
comp=Z,260nm,4.4s
MA2 Magadan 74.35 351 P **P** 19 17 49.1 -0.2
CM31 Chiang Mai Arr 74.59 294 P **P** 19 17 52.8 +1.1
CM31 IAmb IAmb 19 17 54.0
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 74.59 294 P **P** 19 17 53.0 +1.3
comp=Z,7.7nm,0.8s,baz=129,slow=4.7,SNR=93
CMAR Chiang Mai Arr 74.59 294 P **P** 19 17 52.2 +0.5
CHTO Chiang Mai 74.72 294 P **P** 19 17 52.4 0.0
HHC Hu-ho-hao-te 74.90 320 *eP* **P** 19 17 52.5 -0.6
HHC pmax pmax
comp=Z,12nm,1.2s
HHC pmax pmax
comp=Z,83nm,4.2s
PZH PanZhiHua 75.22 302 P **P** 19 17 56.8 +1.5
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,5.6s
CD2 Chengdu 75.47 307 P **P** 19 17 57.5 +1.0
SEY Seymchan 77.38 353 P **P** 19 18 06.1 -0.3
comp=Z,9.6nm,0.7s,baz=153,slow=6.5,SNR=45
LZH Lanzhou 77.72 312 ⇓P **P** 19 18 11.3 +2.2
LZH pP pP 19 18 58.5 +1.5
LZH pmax pmax
comp=Z,21nm,1.4s
LZH LR LR
comp=Z,330nm,19.0s
LZH LR LR
comp=Z,390nm,18.4s
LZH LR LR
comp=Z,190nm,18.4s
OHAK Old Harbor 77.93 21 P **P** 19 18 10.1 +0.5
OHAK IAmb IAmb 19 18 22.4
comp=Z,60nm,1.4s
O19K Port Alsworth 79.93 18 P **P** 19 18 21.4 +1.1
O19K IAmb IAmb 19 18 23.2
comp=Z,17nm,1.2s
YAK Yakutsk 81.16 343 P **P** 19 18 27.5 +0.6
comp=Z,9.3nm,0.5s,baz=84,slow=0.6,SNR=16
YAK Yakutsk 81.16 343 P **P** 19 18 27.5 +0.6
YAK IAmb IAmb 19 18 28.3
comp=Z,26nm,0.7s
BILL Bilibino 81.63 360 P **P** 19 18 29.9 +0.6
BILL IAmb IAmb 19 18 30.8
comp=Z,15nm,0.9s
SONM Songino Array 81.77 324 P **P** 19 18 31.0 +0.3
comp=Z,2.1nm,0.6s,baz=138,slow=5.7,SNR=18
SONM Songino Array 81.77 324 P **P** 19 18 31.0 +0.3
GTA Gaotai 82.05 314 ⇑P **P** 19 18 33.5 +1.2
GTA pP pP 19 19 22.3 +1.5
GTA sP sP 19 19 45.0 +3.1
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,8.0s
GTA LR LR
comp=Z,180nm,9.2s
GTA LR LR
comp=Z,310nm,9.6s
GTA LR LR
comp=Z,170nm,15.1s
RC01 Rabbit Creek A 82.06 20 P **P** 19 18 32.2 +0.5
RC01 IAmb IAmb 19 18 39.4
comp=Z,34nm,1.5s
PWL Port Wells 82.36 20 P **P** 19 18 33.9 +0.7
PWL IAmb IAmb 19 18 45.4
comp=Z,27nm,1.5s
KNK Knik Glacier 82.72 20 P **P** 19 18 35.5 +0.4
KNK IAmb IAmb 19 18 57.8
comp=Z,43nm,1.7s
MAW Mawson 82.74 202 P **P** 19 18 35.5 +0.3
comp=Z,52nm,1.0s,baz=158,slow=10,SNR=3.2
MAW Mawson 82.74 202 P **P** 19 18 35.4 +0.3
MAW IAmb IAmb 19 18 39.4
comp=Z,24nm,1.1s
SML Sawmill 83.05 20 P **P** 19 18 37.5 +0.7
SML IAmb IAmb 19 18 52.4
comp=Z,34nm,1.7s
CAST Castle Rocks 83.12 17 P **P** 19 18 36.4 -0.7
CAST IAmb IAmb 19 18 37.8
comp=Z,19nm,1.6s
SCM Sheep Creek Mo 83.40 20 P **P** 19 18 39.1 +0.5
SCM IAmb IAmb 19 19 05.0
comp=Z,28nm,1.4s
KTH Kantishna Hill 83.56 17 P **P** 19 18 39.0 -0.4
KTH IAmb IAmb 19 19 07.3
comp=Z,28nm,1.6s
TRF Thorofare Moun 83.67 18 P **P** 19 18 39.9 -0.2
RND Reindeer 84.06 18 P **P** 19 18 42.6 +0.6
N25K Chitina, Valde 84.17 21 P **P** 19 18 42.6 0.0
N25K IAmb IAmb 19 19 10.1
comp=Z,26nm,1.7s
TABL Table Mountain 84.64 23 P **P** 19 18 45.2 +0.2
IMAR Indian Mountai 84.68 15 P **P** 19 18 45.8 +0.9
BARN Barnard Glacie 84.85 22 P **P** 19 18 46.8 +0.7
BARN IAmb IAmb 19 19 30.2
comp=Z,40nm,1.8s
HDA Harding Lake 85.38 18 P **P** 19 18 48.8 +0.4
IL31 85.65 18 P **P** 19 18 49.1 -0.6
ILAR Eielson Array 85.65 18 P **P** 19 18 49.5 -0.3
comp=Z,1.9nm,0.6s,baz=238,slow=5.1,SNR=29
ILAR pP **pP** 19 19 37.4 -0.5
comp=Z,1.2nm,0.8s,baz=238,slow=5.6,SNR=2.8
NVAR Mina Array Bea 86.66 49 P **P** 19 18 55.9 +0.3
comp=Z,1.0nm,0.7s,baz=240,slow=7.2,SNR=2.6
GLA Glamis 87.57 55 P **P** 19 19 00.3 +0.4
GUN Gumba 88.97 299 *eP* **P** 19 19 05.7 -1.2
comp=Z,19nm,0.8s
TIXI Tiksi 89.08 349 P **P** 19 19 05.1 -0.9
comp=Z,1.6nm,0.5s,baz=341,slow=1.8,SNR=4.2
TIXI Tiksi 89.08 349 IAmb IAmb 19 19 08.1
comp=Z,2.9nm,0.8s
PKI Pulchoki 89.28 298 *eP* **P** 19 19 08.1 -0.2
comp=Z,21nm,0.8s
PKIN Phulchoki 89.29 298 *eP* **P** 19 19 08.0 -0.3
comp=Z,19nm,0.8s
KKN Kakani 89.44 299 *eP* **P** 19 19 08.9 -0.1
DMN Daman 89.55 298 *eP* **P** 19 19 09.6 +0.1
comp=Z,39nm,0.9s
SYO Syowa Base 89.58 197 ⇓*e*pP pP 19 19 58.2 +0.8
GKN Gorkha 90.05 299 *eP* **P** 19 19 11.0 -0.7
WMQ Urumqi 92.10 315 *eP* **P** 19 19 21.5 +0.8
WMQ pmax pmax
comp=Z,10.0nm,1.5s
SNAA Sanae 94.46 183 P **P** 19 19 30.2 -1.0
VNA3 Neumayer Olymp 95.13 181 P **P** 19 19 33.6 -0.5
VNA2 Neumayer--Watz 95.39 182 P **P** 19 19 34.9 -0.4
baz=175,slow=4.4
MK31 Makanchi Array 96.55 316 P **P** 19 19 40.7 -0.3
MK31 IAmb IAmb 19 19 42.2
comp=Z,4.5nm,0.7s
MKAR Makanchi Array 96.55 316 P **P** 19 19 41.5 +0.5
comp=Z,5.3nm,0.7s,baz=95,slow=6.3,SNR=69
MKAR PKiKP **PKiKP** 19 24 16.4 -0.8
comp=Z,0.3nm,0.6s,baz=156,slow=0.9,SNR=5.6
MKAR PKKPbc **PKKPbc** 19 36 22.5 -3.5
comp=Z,0.5nm,0.7s,baz=280,slow=3.7,SNR=6.0
MKAR Makanchi Array 96.55 316 P **P** 19 19 40.5 -0.5
ZAA0 Zalesovo Array 96.67 324 P **P** 19 19 39.9 -1.4
ZAA0 IAmb IAmb 19 19 41.4
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 96.67 324 P **P** 19 19 40.8 -0.5
comp=Z,3.4nm,0.7s,baz=113,slow=4.8,SNR=15
ZALV Zalesovo Beam 96.67 324 P **P** 19 19 39.1 -2.1
YKA Yellowknife Ar 96.73 27 P **P** 19 19 41.1 -0.3
comp=Z,0.3nm,0.4s,baz=258,slow=4.9,SNR=3.7
MAKZ Makanchi 96.77 316 P **P** 19 19 41.6 -0.3
MAKZ IAmb IAmb 19 19 43.7
comp=Z,4.8nm,1.0s
SPITS Spitsbergen Ar 114.03 354 PKP PKPdf 19 24 48.3 -0.3
comp=Z,10.0nm,1.0s,baz=79,slow=4.3,SNR=5.3
ARCES ARCESS Array B 119.37 346 PKP **PKPdf** 19 24 59.0 0.0
comp=Z,7.4nm,0.6s,baz=65,slow=1.8,SNR=66
ARCES PKKPbc **PKKPab** 19 35 10.6 -3.1
comp=Z,6.7nm,0.9s,baz=227,slow=4.4,SNR=10
KLMR Klimovskoe 119.88 333 *e*PKPdf **PKPdf** 19 24 59.1 -1.1
KLMR AMP 19 25 00.8
comp=Z,14nm,1.1s
SDV Santo Domingo 123.11 88 PKPdf **PKPdf** 19 25 05.4 -2.6
BOSA Boshof 124.08 221 PKP **PKPdf** 19 25 09.4 -0.1
comp=Z,3.9nm,0.8s,baz=170,slow=1.3,SNR=8.6
FINES FINESS Array B 124.88 338 PKP **PKPdf** 19 25 09.9 +0.2
comp=Z,6.3nm,0.9s,baz=86,slow=2.9,SNR=21
PTLB Pontes e Lacer 125.66 121 **PKPdf** 19 25 11.1 -1.5
GURO Guroymak-BITLI 125.94 308 PKPdf **PKPdf** 19 25 12.7 -0.1
KMBO Kilima Mbogo 128.32 257 PKP **PKiKP** 19 25 19.1 +0.3
comp=Z,1.3nm,0.5s,baz=70,slow=7.3,SNR=3.8
NB2 NORSAR Subarra 129.75 345 PKPdf **PKPdf** 19 25 18.6 -0.6
comp=Z,0.3nm,0.4s,baz=31,slow=1.9
NOA NORSAR Array B 129.75 345 PKP **PKPdf** 19 25 19.5 +0.3
comp=Z,1.4nm,0.6s,baz=28,slow=4.1,SNR=3.9
AKASG Malin Array Be 129.99 326 PKP **PKPdf** 19 25 19.5 -0.4
comp=Z,0.5nm,0.3s,baz=48,slow=2.6,SNR=11
AKASG SKPbc SKPbc 19 28 25.9 +2.3
comp=Z,0.5nm,0.5s,baz=42,slow=4.9,SNR=6.1
AKASG Malin Array Be 129.99 326 PKPdf **PKPdf** 19 25 17.3 -2.5
BRTR Keskin Array B 131.92 311 PKP **PKPdf** 19 25 23.3 -0.8
comp=Z,0.9nm,0.6s,baz=118,slow=2.4,SNR=5.9
BRTR SKPbc **SKPab** 19 28 33.1 +0.7
comp=Z,1.0nm,0.7s,baz=104,slow=3.9,SNR=6.2
BUR08 Bucovina Ar. S 133.87 325 PKPdf **PKPdf** 19 25 24.4 -3.0
MBAR Mbarara 134.65 255 PKP **PKiKP** 19 25 31.6 +0.1
comp=Z,2.5nm,0.2s,baz=75,slow=5.4,SNR=3.9
CRVS Cervenica-Dubn 135.12 328 *e*PKP **PKPdf** 19 25 30.2 +0.6
BRG Berggiesshubel 137.19 335 *i* PKP **PKiKP** 19 25 36.2 +0.9
BRG Amp 19 25 37.5
comp=Z,5.1nm,0.8s
CLL Collm 137.23 336 *e*PKPdf **PKPdf** 19 25 34.0 +0.6
CONA Conrad Observa 138.53 331 *eP* **PKiKP** 19 25 38.9 +0.7
comp=Z,2.9nm,0.6s
CKRC Cesky Krumlov 138.59 333 *e*PKPDF **PKPdf** 19 25 36.8 +0.7
KHC Kasperske Hory 138.67 334 *e*PKPDF **PKPdf** 19 25 36.9 +0.7

GERES **GERESS Array B 138.84 333** PKP **PKPdf 19 25 37.6 +1.0**
comp=Z,1.5nm,0.6s,baz=48,slow=2.0,SNR=9.5
GERES SKPbc **SKPbc 19 28 54.7 +2.0**
comp=Z,0.6nm,0.6s,baz=57,slow=4.9,SNR=4.9
DIVS Divibare 138.89 324 PKPdf **PKPdf 19 25 32.1 -4.8**
ARSA Arzberg 139.17 330 *eP* **PKiKP 19 25 39.4 0.0**
comp=Z,5.0nm,1.3s
FNA Florina 139.93 319 PKPdf **PKPdf 19 25 34.2 -4.6**
KBA Koelnbreinsper 140.32 332 *eP* **PKPdf 19 25 39.8 +0.4**
comp=Z,6.5nm,1.1s
WTTA Wattenberg 140.94 334 *eP* **PKPdf 19 25 41.8 +1.2**
ABTA Abfaltersbach 140.94 332 *eP* **PKPdf 19 25 40.7 +0.2**
comp=Z,2.8nm,0.7s
FETA Feichten 141.52 334 *eP* **PKPdf 19 25 40.3 -1.3**
comp=Z,5.3nm,1.1s
DAVOX Davos/Dischmat 142.06 335 PKhKP PKPpre 19 25 38.3
comp=Z,3.6nm,0.5s,baz=221,slow=8.3,SNR=9.4
TUE Stuetta 142.53 335 PKPdf **PKPdf 19 25 40.0 -3.4**
MURB Monte Urbino 143.50 328 PKPdf PKPab 19 25 41.0 -0.9
NRCA Norcia 143.50 327 PKPdf PKPab 19 25 41.8 -0.2
TIP Timpagrande 143.77 320 PKPab 19 25 43.5 +0.5
BNI Bardonecchia 144.77 336 **PKPab 19 25 45.5 -1.3**
CEL Celeste 144.85 319 PKPbc 19 25 46.5 -0.7
SSB Saint Sauveur 145.39 338 PKPdf **PKPdf 19 25 47.6 -0.7**
VSL Villasalto 147.86 327 PKPdf **PKPdf 19 25 51.8 -0.8**
KEST Kesra 150.51 322 PKPbc **PKiKP 19 26 03.6 +0.4**
comp=Z,21nm,0.7s,baz=92,slow=8.8,SNR=33
KEST Kesra 150.51 322 PKPdf **PKPdf 19 25 55.8 -1.2**
KEST **PKPbc** 19 26 02.4 -0.2
CMAH Djebel Manchou 151.00 325 P **PKPbc 19 26 03.8 +0.1**
ABSA Djebel Ababsia 151.22 325 P **PKiKP 19 26 05.0 +0.3**
CKFL Kef-Lekhel 151.55 326 P **PKiKP 19 26 05.7 +0.3**
PBRG Braganca 151.63 351 *e*PKPbc **PKiKP 19 26 05.6 +0.3**
DFRA Djebel Bou Aff 151.90 327 P **PKiKP 19 26 07.1 +1.0**
PCAB Cabril 151.91 353 *e*PKPbc **PKPbc 19 26 05.4 -0.1**
POLO Lamas de Olo 152.21 352 *e*PKPbc **PKiKP 19 26 07.3 +0.7**
POLO Lamas de Olo 152.21 352 *e*PKPab **PKPab 19 26 17.1 +0.4**
PVRL Vila Real 152.29 352 *e*PKPbc **PKiKP 19 26 07.5 +0.8**
PVRL Vila Real 152.29 352 *e*PKPab **PKPab 19 26 18.3 +1.3**
MVO Moncorvo 152.30 351 *e*PKPbc **PKiKP 19 26 07.5 +0.8**
MVO Moncorvo 152.30 351 *e*PKPab **PKPab 19 26 17.7 +0.6**
ESDC Sonseca Array 153.11 345 PKPbc **PKPbc 19 26 08.6 +0.3**
comp=Z,1.7nm,0.8s,baz=4.2,slow=3.0,SNR=11
ESDC PKPab **PKPab 19 26 21.2 +0.7**
comp=Z,1.9nm,0.7s,baz=5.4,slow=3.4,SNR=8.2
MTE Manteigas 153.13 351 *e*PKPbc **PKiKP 19 26 09.2 +0.7**
PCBR Castelo Branco 153.66 351 *e*PKPdf **PKPdf 19 26 01.1 -0.4**
PCBR Castelo Branco 153.66 351 *e*PKPbc **PKiKP 19 26 10.3 +0.8**
PMRV Marv??o 154.06 351 *e*PKPbc **PKiKP 19 26 11.2 +0.9**
PBEJ Beja 155.50 351 *e*PKPab **PKPab 19 26 31.8 +1.2**
PMPST Porto Santo, M 160.54 9 *e*PKPdf **PKPdf 19 26 12.8 +2.4**
PMPST Porto Santo, M 160.54 9 *e*PKPab **PKPab 19 26 51.9 -0.7**
PMPS Porto Santo 160.56 9 *e*PKPdf **PKPdf 19 26 14.1 +3.8**
TORD Torodi Ar. Bea 165.97 269 PKP **PKPdf 19 26 15.8 -0.1**
comp=Z,5.0nm,0.9s,baz=40,slow=0.9,SNR=16
TORD PKPab **PKPab 19 27 17.5 +0.3**
comp=Z,5.3nm,1.0s,baz=88,slow=4.4,SNR=8.9
DBIC Dimbokro 169.51 228 PKP **PKPdf 19 26 17.4 -1.1**
comp=Z,4.6nm,0.9s,baz=162,slow=4.3,SNR=3.7
DBIC PKPab **PKPab 19 27 32.7 0.0**
comp=Z,3.2nm,0.7s,baz=249,slow=4.4,SNR=3.1

IDC 29 19:42:41.6±3.2, 4°.58N×127°.28E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/29, mbtmp3.3/3, Error ellipse: s-maj=274.9km s-min=28.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.34**	**164**	P	P	19 48 08.9	-1.5
	0.6nm,0.9s,baz=344,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**28.81**	**167**	P	P	19 48 43.3	+1.6
	0.3nm,0.8s,baz=346,slow=11,SNR=1.7						
MKAR	**Makanchi Array**	**57.18**	**325**	P	P	19 52 30.4	-0.1
	0.2nm,0.6s,baz=123,slow=7.2,SNR=4.9						

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*IDC **29** 19:59:56.6±1.4, 4°.18S×129°.90E, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.3/40, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=57.9km s-min=25.0km az=79.0*

ISC 29 20:00:00.4±0.9, 4°.21S±0°.07×129°.88E±0°.09, h35km, n11, σ2§46/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.31**	**176**	P	**Pn**	**20 00 06.3**	**-2.3**
FAKI	**Fak Fak**	**2.69**	**62**	P	**Pn**	**20 00 41.7**	**+0.5**
SIJI	**Sorong**	**3.59**	**23**	Pn	**Pn**	**20 00 53.7**	**0.0**
	8.3nm,0.3s,baz=246,slow=12,SNR=59						
SIJI				Sn	**Sn**	**20 01 33.3**	**-1.6**
	3.5nm,0.3s,baz=253,slow=19,SNR=9.8						
SANI	**Sanana**	**4.44**	**299**	P	**Pn**	**20 01 04.2**	**-1.1**
MTN	**Manton Dam**	**8.67**	**172**	P	**Pn**	**20 02 06.4**	**+2.9**
KDU	**Kakadu**	**8.81**	**163**	P	**Pn**	**20 02 07.5**	**+2.2**
KNRA	**Kununurra**	**11.45**	**185**	P	**Pn**	**20 02 42.8**	**+1.2**
WRA	**Warramunga Arr**	**16.23**	**165**	Pn	**Pn**	**20 03 44.5**	**-1.4**
	0.1nm,0.3s,baz=349,slow=13,SNR=1.8						
WRA				Sn	**Sn**	**20 06 39.5**	**-5.6**
	0.1nm,0.3s,baz=355,slow=24,SNR=1.6						
ASAR	**Alice Springs**	**19.73**	**169**	P	**Pn**	**20 04 29.2**	**+0.3**
	0.3nm,0.3s,baz=351,slow=11,SNR=18						
MKAR	**Makanchi Array**	**65.85**	**326**	P	**P**	**20 10 44.0**	**+1.5**
	0.6nm,0.6s,baz=113,slow=7.9,SNR=10						
KURBB	**Kurchatov Arra**	**70.09**	**328**	P	**P**	**20 11 10.1**	**+1.1**
	0.4nm,0.6s,baz=132,slow=5.5,SNR=5.8						

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*IDC **29** 20:03:25.7±1.3, 22°.09N×145°.04E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.5/63, mbtmp3.7/8, MS3.9/2, Ms1 3.9/2, ms1mx2.8/85, Error ellipse: s-maj=48.8km s-min=22.3km az=84.0*

ISC 29 20:03:31.9±1.2, 22°.1N±0°.2×145°.0E±0°.3, h44km, n11, σ1§02/9, mb3.7/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.12**	**319**	P	**P**	**20 11 03.2**	**-0.3**
	0.3nm,0.6s,baz=124,slow=9.3,SNR=2.1						
WRA	**Warramunga Arr**	**43.04**	**195**	P	**P**	**20 11 26.6**	**-0.9**
	0.5nm,0.3s,baz=17,slow=8.8,SNR=2.1						
LEM	**Lembang**	**46.53**	**236**	LR	LR	20 34 22.8	
	comp=Z,39nm,18.6s,baz=220,slow=40						
ASAR	**Alice Springs**	**46.73**	**194**	P	**P**	**20 11 57.1**	**+0.3**
	0.7nm,0.7s,baz=13,slow=9.0,SNR=5.6						
TIXI	**Tiksi**	**50.45**	**353**	P	**P**	**20 12 23.0**	**-1.8**
	2.9nm,0.3s,baz=140,slow=0.8,SNR=0.9						
MKAR	**Makanchi Array**	**55.67**	**312**	P	**P**	**20 13 04.1**	**+0.4**
	0.2nm,0.5s,baz=89,slow=7.9,SNR=6.0						
KURBB	**Kurchatov Arra**	**58.38**	**317**	P	**P**	**20 13 23.4**	**+0.7**
	0.6nm,0.4s,baz=91,slow=7.5,SNR=16						
BVAR	**Borovoye Array**	**63.46**	**319**	P	**P**	**20 13 58.0**	**+0.7**
	0.7nm,0.5s,baz=74,slow=13,SNR=7.3						
PPT	**Papeete**	**75.20**	**116**	LR	LR	20 41 16.9	
	comp=Z,280nm,21.1s,baz=84,slow=30						
YKA	**Yellowknife Ar**	**75.34**	**28**	P	**P**	**20 15 11.3**	**+0.9**
	0.1nm,0.5s,baz=298,slow=5.8,SNR=1.9						
FINES	**FINESS Array B**	**83.55**	**335**	P	**P**	**20 15 55.3**	**+0.2**
	11nm,1.2s,baz=51,slow=5.5,SNR=4.1						

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*IDC **29** 20:04:58.8±1.8, 7°.55S×128°.08E, h182km±21km, mb2.8/2, mb1 3.5/7, mb1mx3.0/43, mbtmp3.9/7, MS3.1/1, Ms1 3.1/1, ms1mx2.4/11, Error ellipse: s-maj=23.3km s-min=18.8km az=120.0*

ISC 29 20:04:57.0±0.9, 7°.64S±0°.06×128°.30E±0°.09, h150km, n8, σ2§69/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.24**	**240**	P	**Pn**	**20 06 16.1**	**+2.4**
	3.9nm,0.3s,baz=232,slow=2.8,SNR=7.7						
BATI				S	**Sn**	**20 07 13.4**	**-0.1**
	8.1nm,0.3s,baz=109,slow=20,SNR=12						
SIJI	**Sorong**	**7.34**	**24**	P	**Pn**	**20 06 43.3**	**+1.6**
	4.0nm,0.3s,baz=213,slow=13,SNR=13						
SIJI				S	**Sn**	**20 08 02.0**	**-1.9**
	0.5nm,0.3s,baz=243,slow=24,SNR=1.3						
FITZ	**Fitzroy Crossi**	**10.72**	**194**	P	**Pn**	**20 07 26.2**	**-0.3**
	baz=18,slow=12						
FITZ				S	**Sn**	**20 09 20.6**	**-4.5**
	25nm,0.3s,baz=55,slow=0.1,SNR=147						
WRA	**Warramunga Arr**	**13.56**	**155**	P	**Pn**	**20 08 05.2**	**+1.7**
	1.4nm,0.3s,baz=322,slow=14,SNR=38						
WRA				S	**Sn**	**20 10 32.5**	**-1.3**
	0.7nm,0.3s,baz=329,slow=22,SNR=5.3						

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Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**16.82**	**162**	P	**P**	**20 08 46.6**	**+3.2**
	0.4nm,0.3s,baz=338,slow=11,SNR=34						
ASAR				S	**S**	**20 11 49.8**	**-1.2**
	0.1nm,0.3s,baz=329,slow=19,SNR=2.6						
LEM	**Lembang**	**20.53**	**271**	LR	LR	20 17 53.4	
	comp=Z,51nm,20.7s,baz=228,slow=38						
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**20 15 35.7**	**-3.3**
	0.1nm,0.3s,baz=123,slow=7.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**72.18**	**329**	P	**P**	**20 16 02.8**	**-2.5**
	0.2nm,0.6s,baz=120,slow=5.1,SNR=2.3						

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*VAO **29** 20:07:12.9±0.3, 30°.31S×71°.47W, h10km, mb5.1*
*NEIC **29** 20:07:15.1±2.2, 30°.33S±0°.03×71°.63W±0°.07, h36km±4km, mb5.3/135, Mwr4.8/51, Mwr5.2(GUC), Error ellipse: s-maj=8.4km s-min=4.6km az=93.0*
*GUC **29** 20:07:16.0±0.7, 30°.36S×71°.54W, h44km±2km, ML5.2, MW5.2*
*IDC **29** 20:07:16.4±0.5, 30°.39S×71°.45W, h38km±2km, mb4.3/16, mb1 4.4/21, mb1mx4.4/35, mbtmp4.5/21, ML4.3/5, MS4.3/38, Ms1 4.2/38, ms1mx4.2/50, Error ellipse: s-maj=19.3km s-min=13.6km az=44.0*
*NEIC **29** 20:07:16, 30°.36S×71°.54W, h39km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.79; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-1.64; $M_{r\theta}$0.14; $M_{\theta\phi}$-0.24; $M_{\phi r}$-1.32; Fault plane solution: $M_0$2.19000×10^{16} NP1:ϕ_s180.33000°, δ63.73000°, λ82.90000°. NP2:ϕ_s16.05000°, δ27.15000°, λ104.07000°. Principal axes: T 2.2581, Plg70.0000°, Azm75.0000°; N -0.1537, Plg6.0000°, Azm183.0000°; P -2.1044, Plg18.0000°, Azm276.0000°;*
*GCMT **29** 20:07:20.1±0.3, 30°.28S±0°.02×71°.74W±0°.03, h42km±1km, MW5.1/71, Moment Tensor Solution. s53,c61; s71,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.24±.25; $M_{\theta\theta}$-0.02±.18; $M_{\phi\phi}$-5.22±.17; $M_{r\theta}$0.69±.13; $M_{\theta\phi}$-0.51±.12; $M_{\phi r}$-2.52±.16; Best double couple: $M_0$5.86700×10^{16} NP1:ϕ_s14.00000°, δ33.00000°, λ105.00000°. NP2: ϕ_s177.00000°, δ58.00000°, λ80.00000°. Principal axes: T 5.9190, Plg75.0000°, Azm60.0000°; N -0.1050, Plg8.0000°, Azm182.0000°; P -5.8160, Plg13.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 20:07:14.3±0.3, 30°.33S±0°.03×71°.70W±0°.04, h31km±2km, h34km:pP-P, n403, σ1§51/409, mb5.2/82, MS4.3/36, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.35**	**171**	*i* P	**Pn**	**20 07 23.9**	**+0.5**
CO06				*i* S	**Sn**	**20 07 30.7**	**+1.4**
CO06				IAML		20 07 31.6	
	comp=E,182μm,0.2s						
CO06	**Fray Jorge**	**0.35**	**171**		**Pn**	**20 07 24.1**	**+0.8**
CO06				Sn	**Sn**	**20 07 30.3**	**+1.0**
CO05	**La Serena**	**0.57**	**45**	*e*P	**Pn**	**20 07 27.8**	**+1.4**
CO05				*i* S	**Sn**	**20 07 35.3**	**+0.6**
CO05				IAML		20 07 37.9	
	comp=E,170μm,0.5s						
CO05	**La Serena**	**0.57**	**45**		**Pn**	**20 07 27.8**	**+1.4**
CO05				Sn	**Sn**	**20 07 35.2**	**+0.6**
GO04	**Tololo Observa**	**0.80**	**79**	*e*P	**Pn**	**20 07 29.8**	**+0.2**
GO04				*i* S	**Sb**	**20 07 39.0**	**-1.4**
GO04				IAML		20 07 42.1	
	comp=N,158μm,0.5s						
GO04	**Tololo Observa**	**0.80**	**79**		**Pn**	**20 07 29.9**	**+0.2**
GO04				Sn	**Sb**	**20 07 38.2**	**-2.2**
CO03	**El Pedregal**	**1.01**	**121**	⇓*i*P	**Pn**	**20 07 32.4**	**-0.1**
CO03				*i* S	**Sn**	**20 07 44.4**	**-1.4**
CO03	**El Pedregal**	**1.01**	**121**	Pn	**Pn**	**20 07 32.0**	**-0.5**
CO03				Sn	**Sn**	**20 07 44.3**	**-1.4**
CO02	**Combarbal**	**1.06**	**146**	*e*P	**Pn**	**20 07 33.8**	**+0.6**
CO02				*e*S	**Sn**	**20 07 46.8**	**-0.3**
CO02				IAML		20 07 50.9	
	comp=N,146μm,0.2s						
CO02	**Combarbal**	**1.06**	**146**	Pn	**Pn**	**20 07 33.4**	**+0.2**
CO02				Sn	**Sn**	**20 07 46.5**	**-0.6**
LCO	**Las Campanas**	**1.57**	**34**	*e*P	**Pb**	**20 07 42.1**	**-0.8**
LCO				*e*S	**Sb**	**20 08 02.5**	**-0.1**
LCO	**Las Campanas**	**1.57**	**34**	Pn	**Pb**	**20 07 42.4**	**-0.6**
LCO				Sn	**Sn**	**20 07 59.1**	**-0.8**
AC04	**Llanos de Chal**	**2.19**	**15**	⇑*e*P	**Pb**	**20 07 50.9**	**-2.3**
AC04				IAML		20 08 29.7	
	comp=E,10μm,0.7s						
AC04	**Llanos de Chal**	**2.19**	**15**	Pn	**Pb**	**20 07 50.8**	**-2.4**
VA06	**Catapilco**	**2.25**	**171**	*e*P	**Pn**	**20 07 52.4**	**+2.9**
VA06				*e*S	**Sb**	**20 08 21.0**	**-0.8**
VA06				IAML		20 08 36.3	
	comp=E,22μm,0.5s						
VA03	**San Esteban**	**2.62**	**158**	*e*P	**Pn**	**20 07 58.2**	**+3.5**
VA03				*e*S	**Sn**	**20 08 28.0**	**+2.5**
VA03				IAML		20 08 40.1	
	comp=E,17μm,0.3s						
VA03	**San Esteban**	**2.62**	**158**	Pn	**Pn**	**20 07 56.1**	**+1.5**
VA01	**Torpederas**	**2.69**	**179**	*e*P	**Pn**	**20 07 57.8**	**+2.4**
VA01	**Torpederas**	**2.69**	**179**	Pn	**Pn**	**20 07 53.6**	**-1.9**
ROCH	**El Roble**	**2.70**	**168**	*e*P	**Pn**	**20 07 58.0**	**+2.1**
ROCH				IAML		20 08 41.4	
	comp=N,15μm,0.5s						
PEL	**Peldehue**	**2.94**	**163**	Pn	**Pn**	**20 07 58.0**	**-0.9**
MT02	**Curacav**	**2.96**	**171**	*e*P	**Pn**	**20 08 01.2**	**+1.9**
MT02				*e*S	**Sn**	**20 08 35.4**	**+1.7**
MT02				IAML		20 08 50.9	
	comp=E,6μm,0.6s						
MT02	**Curacav**	**2.96**	**171**	Pn	**Pn**	**20 07 57.0**	**-2.2**
GO03	**Copiap**	**3.01**	**26**	⇑*e*P	**Pn**	**20 08 02.2**	**+2.2**
GO03				*e*S	**Sn**	**20 08 37.9**	**+2.8**
GO03				IAML		20 08 52.7	
	comp=E,15μm,0.8s						
GO03	**Copiap**	**3.01**	**26**	Pn	**Pn**	**20 08 02.3**	**+2.3**
MT05	**Renca**	**3.16**	**165**	*e*P	**Pn**	**20 08 03.9**	**+1.9**
MT05				*e*S	**Sn**	**20 08 42.0**	**+3.2**
MT05				IAML		20 08 56.7	
	comp=N,10μm,0.7s						
MT05	**Renca**	**3.16**	**165**		**Pn**	**20 08 02.5**	**+0.4**
VA05	**Santo Domingo**	**3.32**	**179**		**Pn**	**20 08 04.0**	**-0.2**
MT09	**Talagante**	**3.49**	**170**	*e*P	**Pn**	**20 08 09.0**	**+2.3**
MT09				*e*S	**Sn**	**20 08 48.4**	**+1.4**
MT09				IAML		20 09 06.1	
	comp=N,5μm,0.5s						
MT09	**Talagante**	**3.49**	**170**	Pn	**Pn**	**20 08 08.0**	**+1.3**
MT01	**Popeta**	**3.55**	**174**	*e*P	**Pn**	**20 08 09.4**	**+2.2**
MT01				*e*S	**Sn**	**20 08 47.3**	**-0.9**
MT01				IAML		20 09 09.3	
	comp=E,2μm,0.6s						
MT01	**Popeta**	**3.55**	**174**	Pn	**Pn**	**20 08 08.4**	**+1.1**
LMEL	**Las Melosas**	**3.73**	**160**	*e*P	**Pn**	**20 08 13.2**	**+3.2**
LMEL				*e*S	**Sn**	**20 08 55.2**	**+2.2**
LMEL				IAML		20 09 07.9	
	comp=N,3μm,0.2s						
BO01	**Tunca**	**4.09**	**173**	Pn	**Pn**	**20 08 15.5**	**+0.8**
AC02	**Maricunga**	**4.15**	**34**	Pn	**Pn**	**20 08 17.0**	**+1.0**
BO02	**Sierra Bellavi**	**4.52**	**170**		**Pn**	**20 08 23.0**	**+2.2**
GO05	**Huala**	**4.67**	**182**		**Pn**	**20 08 22.0**	**-0.8**
ML02	**Paniravida**	**5.43**	**178**	Pn	**Pn**	**20 08 31.6**	**-1.5**
PB14	**IPOC Station P**	**5.79**	**12**		**Pn**	**20 08 39.0**	**+0.5**
PB10	**IPOC Station P**	**6.86**	**9**	Pn	**Pn**	**20 08 52.1**	**-0.8**
H03N1	**Juan Fernandez**	**6.87**	**241**	Pn	**Pn**	**20 08 54.5**	**+1.8**
	baz=28,slow=20,SNR=1090						
H03N1				Sn	**Sn**	**20 10 03.6**	**-6.2**
	baz=208,slow=20,SNR=6.0						
H03N1				T	T	20 16 06.8	
	baz=69,slow=72,SNR=2052						
H03N2	**Juan Fernandez**	**6.89**	**241**	Pn	**Pn**	**20 08 54.6**	**+1.7**
	baz=28,slow=20,SNR=1430						
H03N2				Sn	**Sn**	**20 10 05.1**	**-5.0**
	baz=208,slow=20,SNR=3.9						
H03N2				T	T	20 16 07.4	
	baz=69,slow=72,SNR=2166						
H03N3	**Juan Fernandez**	**6.89**	**241**	Pn	**Pn**	**20 08 54.4**	**+1.4**
	baz=28,slow=20,SNR=877						
H03N3				Sn	**Sn**	**20 10 06.8**	**-3.4**
	baz=208,slow=20,SNR=3.5						
H03N3				T	T	20 16 06.2	
	baz=69,slow=72,SNR=1780						
H03S3	**Juan Fernandez**	**7.04**	**238**	Pn	**Pn**	**20 08 55.9**	**+0.9**
	SNR=40						
H03S3				Sn	**Sn**	**20 10 11.2**	**-2.7**
	SNR=38						
H03S3				T	T	20 16 16.0	
	SNR=28						
H03S1	**Juan Fernandez**	**7.05**	**238**	Pn	**Pn**	**20 08 55.7**	**+0.6**
	SNR=33						
H03S1				Sn	**Sn**	**20 10 07.5**	**-6.5**
	SNR=36						
H03S1				T	T	20 16 14.9	
	SNR=41						
H03S2	**Juan Fernandez**	**7.06**	**238**	Pn	**Pn**	**20 08 56.5**	**+1.2**
H03S2				Sn	**Sn**	**20 10 10.0**	**-4.3**
	SNR=40						
H03S2				T	T	20 16 14.4	
	SNR=45						
PB15	**IPOC Station P**	**7.37**	**16**		**Pn**	**20 08 59.2**	**-0.8**
PB06	**IPOC Station P**	**7.83**	**15**		**Pn**	**20 09 06.1**	**-0.2**
LVC	**Limon Verde**	**8.08**	**19**	Pn	**Pn**	**20 09 10.7**	**+0.7**
	comp=N,2.2nm,0.3s,baz=153,slow=6.8,SNR=11						
LVC				Sn	**Sn**	**20 10 39.5**	**-1.0**
	comp=N,8.0nm,0.3s,baz=200,slow=12,SNR=4.1						
LVC				LR	LR	20 12 12.1	
	comp=N,3μm,20.2s,baz=212,slow=37						
LVC	**Limon Verde**	**8.08**	**19**	*e*P	**Pn**	**20 09 10.5**	**+0.5**
LVC	**Limon Verde**	**8.08**	**19**	Pn	**Pn**	**20 09 09.5**	**-0.4**
PB04	**IPOC Station P**	**8.08**	**10**		**Pn**	**20 09 08.8**	**-1.0**
LC01	**Cunco**	**8.55**	**181**	Pn	**Pn**	**20 09 14.9**	**-1.1**
LC02	**Puerto Saavedr**	**8.56**	**189**	Pn	**Pn**	**20 09 17.0**	**+0.9**
PB07	**IPOC Station P**	**8.72**	**11**		**Pn**	**20 09 17.5**	**-1.0**
PB09	**IPOC Station P**	**8.78**	**15**		**Pn**	**20 09 18.9**	**-0.4**
LR03	**Panguipulli**	**9.30**	**183**	Pn	**Pn**	**20 09 25.7**	**-0.5**
PB01	**IPOC Station P**	**9.46**	**13**		**Pn**	**20 09 28.4**	**-0.1**
TA01	**Diego Aracena**	**9.82**	**8**	Pn	**Pn**	**20 09 34.0**	**+0.6**
TA02	**Huaiquique**	**10.11**	**8**	Pn	**Pn**	**20 09 38.7**	**+1.2**
PB08	**IPOC Station P**	**10.40**	**13**	Pn	**Pn**	**20 09 37.0**	**-4.7**
PLCA	**Paso Flores**	**10.43**	**175**	Pn	**Pn**	**20 09 42.9**	**+1.1**
	comp=N,0.5nm,0.3s,baz=333,slow=11,SNR=16						
PLCA				LR	LR	20 14 20.5	
	comp=N,2μm,18.4s,baz=352,slow=41						
PLCA	**Paso Flores**	**10.43**	**175**	*e*P	**Pn**	**20 09 43.1**	**+1.3**
PLCA	**Paso Flores**	**10.43**	**175**		**Pn**	**20 09 42.5**	**+0.7**
LL04	**Puerto Octay**	**10.57**	**183**		**Pn**	**20 09 42.9**	**-0.8**
PB11	**IPOC Station P**	**10.68**	**10**	Pn	**Pn**	**20 09 47.4**	**+1.9**
LL03	**Petrohue**	**10.80**	**183**	Pn	**Pn**	**20 09 47.0**	**+0.2**
GO01	**Chusmiza**	**10.85**	**13**		**Pn**	**20 09 48.9**	**+0.9**
LL05	**Los Muermos**	**11.15**	**187**	Pn	**Pn**	**20 09 51.6**	**+0.1**
PB12	**IPOC Station P**	**11.73**	**6**		**Pn**	**20 10 00.4**	**+0.7**
AP01	**Chacalluta**	**11.97**	**6**	Pn	**Pn**	**20 10 02.3**	**-0.5**
LL01	**San Ignacio de**	**12.04**	**183**	Pn	**Pn**	**20 10 02.8**	**-0.9**
PB16	**IPOC Station P**	**12.11**	**10**		**Pn**	**20 10 05.0**	**-0.3**
GO07	**Milladeo Hill,**	**12.86**	**186**	Pn	**Pn**	**20 10 16.4**	**+1.5**
ITQB	**Itaqui**	**13.09**	**91**	*e*P	**Pn**	**20 10 16.4**	**-1.6**
ITQB	**Itaqui**	**13.09**	**91**		**Pn**	**20 10 14.9**	**-3.1**
CPUP	**Villa Florida**	**13.27**	**76**	Pn	**Pn**	**20 10 19.2**	**-1.4**
	comp=N,0.3nm,0.3s,baz=248,slow=11,SNR=5.8						
CPUP				LR	LR	20 16 05.9	
	comp=N,2μm,20.2s,baz=253,slow=40						
CPUP	**Villa Florida**	**13.27**	**76**	*e*P	**Pn**	**20 10 18.8**	**-1.8**
CPUP	**Villa Florida**	**13.27**	**76**		**Pn**	**20 10 18.9**	**-1.8**
LPAZ	**La Paz**	**14.35**	**14**	Pn	**Pn**	**20 10 38.6**	**+2.6**
	comp=N,1.4nm,0.3s,baz=184,slow=8.6,SNR=64						
LPAZ	**La Paz**	**14.35**	**14**	*e*P	**Pn**	**20 10 35.9**	**-0.2**
LPAZ	**La Paz**	**14.35**	**14**		**Pn**	**20 10 35.8**	**-0.2**
COYC	**Coyhaique**	**15.22**	**181**		**Pn**	**20 10 45.0**	**-2.0**
PLTB	**Pedras Altas**	**15.58**	**100**	*e*P	**Pn**	**20 10 50.3**	**-1.4**
PLTB	**Pedras Altas**	**15.58**	**100**		**Pn**	**20 10 49.4**	**-2.4**
CPSB	**Cacapava Do Su**	**15.77**	**95**	*e*P	**Pn**	**20 10 53.4**	**-0.7**
SIV	**San Ignacio**	**17.28**	**37**	P	**P**	**20 11 14.5**	**-0.2**
	comp=N,0.9nm,0.3s,baz=221,slow=11,SNR=87						
SIV				LR	LR	20 19 12.6	
	comp=N,2μm,20.9s,baz=217,slow=42						
ITAB	**Concordia**	**17.43**	**85**	*e*P	**Pn**	**20 11 15.2**	**0.0**
ITAB	**Concordia**	**17.43**	**85**	P	**Pn**	**20 11 12.9**	**-2.2**
ITAB				IAmb	IAmb	20 11 31.6	
	comp=Z,243nm,1.1s						
AQDB	**Aquidauana**	**17.45**	**60**	*e*P	**Pn**	**20 11 13.8**	**-1.7**
AQDB	**Aquidauana**	**17.45**	**60**	P	**Pn**	**20 11 12.3**	**-3.2**
PTGB	**Pitanga**	**18.28**	**77**	*e*P	**P**	**20 11 25.3**	**-0.5**
PTLB	**Pontes e Lacer**	**18.77**	**41**	*e*P	**P**	**20 11 31.2**	**+0.1**
PTLB	**Pontes e Lacer**	**18.77**	**41**	P	**P**	**20 11 29.7**	**-1.3**
PTLB				IAmb	IAmb	20 11 47.1	
	comp=Z,204nm,1.7s						
NNA	**Nana**	**18.86**	**344**	LR	LR	20 17 14.5	
	comp=Z,590nm,21.7s,baz

NBLA Lagarto - SE 36.90 66 eP **P 20 14 18.9 -1.5**
ZARC Zaragoza, Cauc 37.73 355 eP **P 20 14 27.1 -0.3**
ZARC Zaragoza, Cauc 37.73 355 P **P 20 14 26.7 -0.6**
ZARC IAmb IAmb 20 14 40.4
comp=Z,39nm,1.4s
SMAI San Martin Ant 37.93 177 P **P 20 14 28.9 +0.3**
NBMA Muriti-CE 38.40 60 eP **P 20 14 33.1 -0.1**
NBPS Pedro II - PI 38.47 54 eP **P 20 14 33.5 -0.3**
SMLC San Martn de 38.97 356 eP P 20 14 32.4 -5.4
SDV Santo Domingo 39.00 2 P **P 20 14 39.3 +1.0**
comp=Z,6.6nm,0.7s,baz=196,slow=3.4,SNR=9.4
SDV LR LR 20 31 56.2
comp=Z,247nm,18.4s,baz=177,slow=38
SDV Santo Domingo 39.00 2 eP P 20 14 32.4 -5.9
SDV Santo Domingo 39.00 2 eP **P 20 14 38.9 +0.6**
SDV Santo Domingo 39.00 2 P **P 20 14 37.9 -0.4**
MOTC Monteria, Cord 39.07 354 P **P 20 14 39.4 +0.8**
BAUV El Baul 39.20 6 P **P 20 14 39.0 -0.7**
BAUV IAmb IAmb 20 15 00.6
comp=Z,93nm,1.1s
MDP Montagnes des 39.68 31 LR LR 20 33 00.5
comp=Z,390nm,18.2s,baz=206,slow=39
NBCA Caruaru-PE 39.96 64 eP **P 20 14 45.2 -1.0**
BCIP Isla Barro Col 40.04 347 P **P 20 14 46.8 +0.1**
BCIP IAmb IAmb 20 15 17.5
comp=Z,152nm,1.7s
SJCC San Jacinto, C 40.13 355 eP **P 20 14 45.4 -2.2**
SJCC San Jacinto, C 40.13 355 P **P 20 14 46.0 -1.6**
NBMO Morrinhos-CE 40.22 54 eP **P 20 14 47.4 -0.9**
NBCL Cascavel-CE 40.84 57 eP **P 20 14 52.6 -0.8**
SRBA San Rafael, Bu 40.90 342 P **P 20 14 52.3 -1.7**
BIRV Birongo 40.90 8 P **P 20 14 51.5 -2.4**
BIRV IAmb IAmb 20 15 19.3
comp=Z,38nm,1.1s
RIMA Rio Macho 41.54 342 P **P 20 14 58.9 -0.5**
RCBR Riachuelo 41.55 61 eP **P 20 14 59.3 -0.1**
RCBR Riachuelo 41.55 61 P **P 20 14 57.6 -1.8**
JTS Las Juntas de 42.35 340 P **P 20 15 06.2 +0.4**
COVE Coope Vega, Sa 42.60 341 P **P 20 15 08.8 +1.0**
ACON Acoyapa 44.01 341 P **P 20 15 18.7 -0.4**
ACON IAmb IAmb 20 15 23.6
comp=Z,64nm,1.5s
ICMP Isla Caja de M 48.19 7 P **P 20 15 50.7 -1.3**
MLPR Magueyes Islan 48.23 6 P **P 20 15 51.0 -1.3**
CRPR Cabo Rojo, PR 48.26 6 P **P 20 15 51.8 -0.7**
SEUS St. Eustatius 48.28 11 P **P 20 15 51.7 -1.0**
JAKH Jacmel 48.29 359 P **P 20 15 52.9 +0.1**
OBIP Obispado Ponce 48.34 6 P **P 20 15 52.1 -1.0**
PDPR Patillas Dam, 48.38 7 P **P 20 15 53.0 -0.5**
SJG San Juan 48.45 7 P **P 20 15 53.4 -0.6**
SJG IAmb IAmb 20 15 55.4
comp=Z,62nm,1.2s
PRSN Puerto Rico Se 48.46 6 P **P 20 15 53.4 -0.7**
APG El Apazote 48.56 336 P **P 20 15 56.8 +1.6**
comp=Z,5.0nm,0.8s,baz=134,slow=12,SNR=4.9
AOPR Arecibo Observ 48.63 6 P **P 20 15 54.9 -0.5**
AOPR IAmb IAmb 20 16 07.0
comp=Z,36nm,1.0s
CBYP Canovanas 48.64 7 P **P 20 15 54.2 -1.4**
GCPR Guaynabo City 48.66 7 P **P 20 15 54.4 -1.2**
GCPR IAmb IAmb 20 15 56.2
comp=Z,17nm,0.7s
PCDR Punta Cana, DR 48.66 4 P **P 20 15 53.8 -1.8**
CUPR Culebra, Puert 48.75 8 P **P 20 15 54.1 -2.2**
SMRT St. Maarten 48.81 11 P **P 20 15 54.4 -2.4**
SMRT IAmb IAmb 20 16 06.0
comp=Z,51nm,1.1s
DR12 Loma Pena Alta 48.88 3 P **P 20 15 55.5 -1.9**
GTBY Guantanamo Bay 50.07 356 P **P 20 16 05.5 -0.8**
LCCY Blossom Villag 50.36 350 P **P 20 16 08.2 -0.3**
CMIG Matias Romero 52.16 332 pP **pP 20 16 35.4 +4.7**
comp=Z,7.2nm,0.9s,baz=82,slow=3.6,SNR=5.1
CMIG LR LR 20 33 42.5
comp=Z,180nm,20.6s,baz=178,slow=30
VNA2 Neumayer--Watz 53.29 158 P **P 20 16 30.5 +0.6**
baz=276,slow=7.9
SNAA Sanae 54.88 159 P **P 20 16 42.0 +0.4**
SNAA Sanae 54.88 159 LR LR 20 37 46.6
comp=Z,301nm,21.8s,baz=305,slow=33
SNAA Sanae 54.88 159 P **P 20 16 40.4 -1.2**
SNAA IAmb IAmb 20 16 43.0
comp=Z,24nm,1.0s
QSPA South Pole Qui 59.90 180 LR LR 20 43 22.0
comp=Z,136nm,21.8s,baz=175,slow=36
H06E1 SOCORRO T-PHAS 61.72 317 T T 21 24 28.6
SNR=17
833A Chaparral WMA, 64.04 333 P **P 20 17 43.1 -2.0**
LRAL Lakeview Retre 64.66 346 P **P 20 17 48.2 -0.8**
LRAL IAmb IAmb 20 18 34.0
comp=Z,60nm,1.8s
Y52A Lilburn 64.91 349 P **P 20 17 50.9 +0.2**
Y52A IAmb IAmb 20 18 04.0
comp=Z,18nm,1.0s
LPIG La Paz 65.58 321 LR LR 20 41 07.2
comp=Z,109nm,20.1s,baz=301,slow=31
X51A Calhoun 65.73 348 P **P 20 17 56.1 +0.1**
FPAL Fort Paine 65.84 347 P **P 20 17 57.6 +0.8**
FPAL IAmb IAmb 20 19 46.7
comp=Z,27nm,1.3s
Y45A Yeager Farm, C 66.04 344 P **P 20 17 56.7 -1.2**
X48A Hartselle 66.04 346 P **P 20 17 58.0 0.0**
JCT Junction City 66.12 334 P **P 20 17 55.5 -3.2**
W50A Signal Mountai 66.43 348 **P 20 17 59.8 -0.8**
W50A IAmb IAmb 20 18 14.2
comp=Z,35nm,1.1s
CPCT Cooper Cave 66.53 349 P **P 20 17 59.7 -1.4**
CPCT IAmb IAmb 20 18 14.7
comp=Z,33nm,1.1s
SWET Sewanee 66.56 347 P **P 20 18 00.6 -0.8**
SWET IAmb IAmb 20 19 18.1
comp=Z,42nm,1.2s
TKL Tuckaleechee C 66.61 349 P **P 20 18 02.8 +1.1**
comp=Z,6.2nm,0.9s,baz=184,slow=9.6,SNR=4.1
TKL pP **sP 20 18 14.3 -0.2**
comp=Z,9.9nm,0.8s,baz=179,slow=8.4,SNR=4.7
OXF Oxford 66.62 344 P **P 20 18 01.5 -0.2**
TX31 Lajitas Ar. Si 66.70 330 P **P 20 18 03.3 +0.8**
TX32 Lajitas Array 66.70 330 P **P 20 18 03.0 +0.5**
TX32 IAmb IAmb 20 18 17.3
comp=Z,16nm,1.0s
TXAR Lajitas Array 66.70 330 P **P 20 18 05.5 +3.1**
comp=Z,1.2nm,0.7s,baz=154,slow=8.3,SNR=13
TXAR pP **sP 20 18 16.4 +1.9**
comp=Z,7.2nm,0.8s,baz=151,slow=8.4,SNR=33
TXAR LR LR 20 42 34.6
comp=Z,204nm,20.1s,baz=203,slow=32
TXAR Lajitas Array 66.70 330 P **P 20 18 03.3 +0.8**
V52A Sevierville 66.76 349 P **P 20 18 03.3 +0.7**
PLAL Pickwick Lake 66.77 345 P **P 20 18 03.1 +0.5**
PLAL IAmb IAmb 20 19 28.2
comp=Z,66nm,1.6s
V51A Loudon 66.85 349 P **P 20 18 03.1 0.0**
V51A IAmb IAmb 20 18 18.9
comp=Z,15nm,0.8s
TAOE Nuku Hiva Isla 67.00 273 eLR LR 20 38 25.7
comp=Z,274nm,29.6s
V48A Smith Brothers 67.24 347 P **P 20 18 04.8 -0.8**
V48A IAmb IAmb 20 18 19.3
comp=Z,50nm,1.2s
CLTN Cedars of Leba 67.48 347 P **P 20 18 06.2 -1.0**
MIAR Mount Ida 67.75 341 P **P 20 18 08.7 -0.1**
MIAR IAmb IAmb 20 18 23.0
comp=Z,47nm,1.4s
VNDA Vanda 67.75 191 LR LR 20 44 36.1
comp=Z,112nm,18.8s,baz=180,slow=33
U49A Red Boiling Sp 67.79 348 P **P 20 18 08.6 -0.5**
U49A IAmb IAmb 20 18 45.1
comp=Z,33nm,1.0s
WVT Waverly 67.82 346 **P 20 18 09.2 -0.1**
W41B Gary Mavity, V 67.97 342 P **P 20 18 09.4 -0.8**
WHAR Wooly Hollow 68.09 342 P **P 20 18 10.4 -0.5**
WHAR IAmb IAmb 20 18 24.9
comp=Z,16nm,1.0s
GNAR Gosnell 68.15 344 P **P 20 18 10.1 -1.2**
W39A Magazine 68.41 341 P **P 20 18 12.5 -0.5**
W39A IAmb IAmb 20 18 27.7
comp=Z,42nm,1.0s
LCAR Lake Charles 68.53 343 P **P 20 18 12.1 -1.7**
LCAR IAmb IAmb 20 18 27.4
comp=Z,29nm,0.9s
FCAR Ozark Folk Cen 68.61 342 P **P 20 18 13.1 -1.1**
PBMO Poplar Bluff 69.03 344 P **P 20 18 16.0 -0.8**
PBMO IAmb IAmb 20 18 30.5
comp=Z,28nm,0.9s

SYO Syowa Base 69.17 159 eP **P 20 18 14.6 -2.8**
SYO Syowa Base 69.17 159 eP pP 20 18 26.0 -1.1
U40A Yellville 69.24 342 P **P 20 18 17.6 -0.6**
U40A IAmb IAmb 20 18 32.1
comp=Z,28nm,1.1s
HHAR Hobbs 69.47 341 P **P 20 18 19.4 -0.3**
HHAR IAmb IAmb 20 18 33.5
comp=Z,34nm,1.0s
MNTX Cornudas Mount 69.48 330 P **P 20 18 20.1 +0.3**
MNTX IAmb IAmb 20 18 33.3
comp=Z,16nm,0.8s
S44A Carbondale 69.63 345 P **P 20 18 20.1 -0.4**
TUL1 Leonard 69.67 339 P **P 20 18 19.8 -1.1**
MEH Mehetia 69.67 261 eT T 21 34 29.1
comp=Z,44nm,0.2s
U38A Gravette 69.75 341 P **P 20 18 20.5 -0.8**
U38A IAmb IAmb 20 18 35.3
comp=Z,36nm,1.4s
MGMO Mountain Grove 69.84 343 P **P 20 18 20.4 -1.5**
MGMO IAmb IAmb 20 18 35.8
comp=Z,24nm,1.2s
Q51A Peebles 69.85 350 P **P 20 18 21.2 -0.6**
FVM French Village 70.18 344 P **P 20 18 22.7 -1.2**
FVM IAmb IAmb 20 18 37.8
comp=Z,59nm,1.2s
CCM Cathedral Cave 70.44 344 P **P 20 18 24.1 -1.4**
CCM IAmb IAmb 20 18 39.5
comp=Z,43nm,1.1s
S39A Bolivar 70.62 342 P **P 20 18 26.1 -0.5**
S39A IAmb IAmb 20 18 40.7
comp=Z,32nm,1.1s
TIAR Tiarei 70.91 260 eT T 21 35 58.9
comp=Z,15nm,0.2s
R40A Maddies Statio 70.92 343 P **P 20 18 27.4 -1.0**
R40A IAmb IAmb 20 18 42.3
comp=Z,48nm,1.0s
PPT2 Papeete2 71.09 260 eS **S 20 27 49.3 +4.4**
comp=Z,187nm,29.0s
PPT2 Papeete2 71.09 260 eLR LR 20 40 19.5
comp=Z,479nm,24.2s
121A Cookes Peak, D 71.25 328 P **P 20 18 30.6 -0.3**
121A IAmb IAmb 20 18 46.4
comp=Z,39nm,1.1s
KAN16 Harper SW Stat 71.59 338 P **P 20 18 31.1 -1.4**
M50A Fremont 72.14 351 P **P 20 18 34.9 -0.7**
M50A IAmb IAmb 20 18 49.0
comp=Z,24nm,0.9s
TUC Tucson 72.48 326 P **P 20 18 38.6 +0.6**
ANMO Albuquerque 72.72 331 P **P 20 18 41.6 +2.1**
comp=Z,0.5nm,0.4s,baz=173,slow=5.0,SNR=3.7
ANMO pP **sP 20 18 52.5 +0.7**
comp=Z,7.5nm,0.9s,baz=148,slow=10,SNR=11
ANMO LR LR 20 46 52.8
comp=Z,274nm,18.2s,baz=201,slow=33
ANMO Albuquerque 72.72 331 P **P 20 18 39.3 -0.3**
ANMO IAmb IAmb 20 18 54.9
comp=Z,31nm,1.5s
N41A Harden Midland 72.87 345 P **P 20 18 40.1 0.0**
N41A IAmb IAmb 20 18 53.5
comp=Z,52nm,1.1s
LIC Lamto 73.36 72 eP **P 20 18 43.6 0.0**
comp=Z,38nm,1.0s
N38A Joes South For 73.52 343 P **P 20 18 44.4 +0.5**
N38A IAmb IAmb 20 18 58.3
comp=Z,33nm,0.7s
CBKS Cedar Bluff 73.59 337 P **P 20 18 44.8 +0.4**
CBKS IAmb IAmb 20 18 59.0
comp=Z,54nm,1.0s
TIC Toumodi 73.61 72 eP **P 20 18 45.0 -0.1**
KIC Kosan Boka 73.68 72 eP **P 20 18 45.6 +0.1**
comp=Z,30nm,1.0s
DBIC Dimbokro 73.75 72 P **P 20 18 46.5 +0.6**
comp=Z,13nm,1.0s,baz=252,slow=4.7,SNR=7.3
DBIC LR LR 20 48 59.1
comp=Z,368nm,19.4s,baz=240,slow=34
DBIC Dimbokro 73.75 72 P **P 20 18 44.9 -1.0**
DBIC IAmb IAmb 20 18 47.3
comp=Z,26nm,1.2s
T25A Trinidad 73.78 333 IAmb IAmb 20 19 01.2
comp=Z,40nm,1.0s
N35A Tabor 74.22 341 P **P 20 18 45.9 -2.1**
SADO Sadowa 75.05 355 pP pP 20 19 04.5 +2.4
comp=Z,8.3nm,0.9s,baz=100,slow=3.0,SNR=2.5
WUAZ Wupatki 75.39 327 IAmb IAmb 20 19 10.8
comp=Z,53nm,1.3s
MVCO Mesa Verde 75.51 330 IAmb IAmb 20 19 11.1
comp=Z,26nm,1.0s
TRQ Mont Tremblant 76.23 358 **P 20 18 59.9 +0.3**
SUR Sutherland 76.37 120 LR LR 20 49 27.0
comp=Z,192nm,18.3s,baz=245,slow=33
ISCO Idaho Springs 76.56 334 P **P 20 19 01.3 -0.6**
MAW Mawson 76.61 164 LR LR 20 55 16.6
comp=Z,209nm,19.2s,baz=234,slow=38
K31A O'Neill 76.74 340 **P 20 19 04.8 +2.4**
D62A Allapoint, All 77.09 2 P **P 20 19 05.4 +1.1**
D62A IAmb IAmb 20 19 07.8
comp=Z,30nm,1.1s
ECSD EROS Data Cent 77.16 342 P **P 20 19 03.9 -0.9**
ECSD IAmb IAmb 20 19 18.9
comp=Z,48nm,1.1s
CCUT Cedar City 77.97 327 IAmb IAmb 20 19 25.7
comp=Z,22nm,1.0s
SHPR Sheep Range 77.99 325 **P 20 19 09.6 -0.2**
RAR Rarotonga 78.00 252 LR LR 20 45 03.6
comp=Z,182nm,20.3s,baz=117,slow=29
Q16A Castle Valley 78.09 330 P **P 20 19 12.5 +2.1**
Q16A IAmb IAmb 20 19 25.8
comp=Z,24nm,1.0s
F36A Milaca 78.38 345 **P 20 19 12.0 +0.6**
PRN Pahroc Range 78.65 326 IAmb IAmb 20 19 29.2
comp=Z,31nm,1.1s
RDMU Red Mountain 78.79 332 IAmb IAmb 20 19 29.1
comp=Z,32nm,1.1s
TPNV Topopah Spring 78.88 325 P **P 20 19 16.4 +1.7**
ISA Isabella, Lake 79.01 323 **P 20 19 13.1 -2.2**
NLU North Lily Min 79.34 330 IAmb IAmb 20 19 32.6
comp=Z,25nm,1.3s
SPR3 Spring Creek 3 79.58 328 IAmb IAmb 20 19 33.7
comp=Z,29nm,1.3s
JLU Jordanelle 79.60 330 P **P 20 19 18.9 +0.2**
RSSD Black Hills 79.77 337 P **P 20 19 17.9 -1.6**
DUG Dugway, Tooele 79.86 329 P **P 20 19 20.3 +0.3**
DUG IAmb IAmb 20 19 35.2
comp=Z,24nm,1.2s
TSUM Tsumeb 79.95 106 LR LR 20 50 14.9
comp=Z,166nm,18.7s,baz=217,slow=32
TSUM Tsumeb 79.95 106 **P 20 19 19.8 -1.3**
TSUM IAmb IAmb 20 19 38.5
comp=Z,40nm,1.0s
HWUT Hardware Ranch 80.48 331 IAmb IAmb 20 19 38.0
comp=Z,22nm,1.0s
PDAR Pinedale Array 80.63 333 P **P 20 19 26.2 +2.1**
comp=Z,0.8nm,0.7s,baz=141,slow=6.3,SNR=5.8
PDAR pP **sP 20 19 37.7 +0.3**
comp=Z,3.9nm,1.0s,baz=158,slow=4.8,SNR=9.5
PDAR LR LR 20 51 53.5
comp=Z,121nm,20.4s,baz=198,slow=33
NVAR Mina Array Bea 81.05 325 P **P 20 19 29.5 +3.0**
comp=Z,1.1nm,0.7s,baz=159,slow=7.3,SNR=7.1
NVAR pP **sP 20 19 40.3 +1.4**
comp=Z,3.5nm,0.8s,baz=151,slow=6.5,SNR=12
NVAR Mina Array Bea 81.05 325 P **P 20 19 27.7 +1.2**
HVU Hansel Valley 81.14 330 P **P 20 19 26.4 -0.4**
AGMN Agassiz Nation 81.21 344 **P 20 19 26.4 -0.3**
ELK Elko 81.40 328 LR LR 20 52 23.6
comp=Z,186nm,18.1s,baz=188,slow=33
KVN Kaiserville 81.43 325 P **P 20 19 29.6 +1.2**
BOSA Boshof 81.53 118 P **P 20 19 29.1 -0.3**
comp=Z,4.8nm,0.9s,baz=247,slow=7.4,SNR=5.4
BOSA pP **pP 20 19 40.2 +1.0**
comp=Z,13nm,0.8s,baz=242,slow=4.6,SNR=11
BOSA LR LR 20 50 28.3
comp=Z,165nm,19.3s,baz=227,slow=32
BOSA Boshof 81.53 118 P **P 20 19 28.5 -0.9**
BOSA IAmb IAmb 20 19 46.6
comp=Z,21nm,0.8s
CMB Columbia Colle 81.81 323 **P 20 19 31.9 +1.6**
TORD Torodi Ar. Bea 82.70 70 P **P 20 19 35.6 +0.3**
comp=Z,14nm,1.0s,baz=262,slow=5.0,SNR=26
TORD pP **sP 20 19 47.7 -1.0**
comp=Z,17nm,0.8s,baz=266,slow=4.5,SNR=10
TORD Torodi Ar. Bea 82.70 70 P **P 20 19 35.2 -0.1**
TORD IAmb IAmb 20 19 52.4
comp=Z,17nm,0.9s
ULM Lac du Bonnet 83.04 345 P **P 20 19 37.7 +1.4**
comp=Z,3.0nm,0.7s,baz=187,slow=5.7,SNR=3.1

ULM pP **sP 20 19 49.2 -0.3**
comp=Z,8.9nm,0.8s,baz=139,slow=3.4,SNR=6.7
ULM Lac du Bonnet 83.04 345 **P 20 19 36.3 -0.1**
ULM IAmb IAmb 20 19 49.9
comp=Z,19nm,1.0s
LBTB Lobatse 83.59 115 LR LR 20 51 38.7
comp=Z,285nm,21.0s,baz=224,slow=32
LBTB Lobatse 83.59 115 **P 20 19 39.7 -0.4**
LBTB IAmb IAmb 20 19 56.9
comp=Z,36nm,0.9s
DGMT Dagmar 83.67 339 **P 20 19 39.8 +0.1**
MCMT McKenzie Canyo 83.67 332 P **P 20 19 40.1 0.0**
SCHQ Schefferville 84.91 3 P **P 20 19 46.9 +1.1**
comp=Z,5.9nm,1.1s,baz=145,slow=7.4,SNR=4.1
PLID Pearl Lake 85.20 330 P **P 20 19 47.8 0.0**
PLID IAmb IAmb 20 20 02.3
comp=Z,15nm,1.1s
YBH Yreka Blue Hor 85.76 324 LR LR 20 56 38.4
comp=Z,57nm,18.1s,baz=196,slow=34
URZ Urewera 86.34 227 LR LR 20 49 07.5
comp=Z,174nm,21.4s,baz=180,slow=29
RAO Raoul Island 88.09 237 LR LR 20 49 36.0
comp=Z,108nm,20.3s,baz=88,slow=29
NEW Newport 88.18 332 LR LR 20 56 21.8
comp=Z,246nm,19.2s,baz=186,slow=33
MATP Matopo 88.24 113 LR LR 20 55 22.5
comp=Z,72nm,21.5s,baz=242,slow=33
MDT Midelt 89.29 51 P **P 20 20 08.8 +1.1**
comp=Z,3.7nm,1.1s,baz=240,slow=16,SNR=3.8
MDT LR LR 20 57 29.2
comp=Z,176nm,21.9s,baz=228,slow=34
FCC Fort Churchill 90.70 349 P **P 20 20 12.6 -0.8**
FCC IAmb IAmb 20 20 27.7
comp=Z,24nm,1.5s
AFI Afiamalu 91.54 253 LR LR 20 51 09.6
comp=Z,232nm,21.4s,baz=104,slow=29
ESDC Sonseca Array 93.82 46 P **P 20 20 29.1 +0.7**
comp=Z,1.6nm,1.1s,baz=244,slow=3.5,SNR=4.9
ESDC pP **sP 20 20 41.2 -0.8**
comp=Z,2.8nm,1.1s,baz=244,slow=4.7,SNR=6.6
ESDC LR LR 20 59 22.2
comp=Z,289nm,20.9s,baz=229,slow=33
BBB Bella Bella 95.82 329 LR LR 20 59 04.2
comp=Z,61nm,20.9s,baz=321,slow=32
MSVF Nonsavu 97.65 244 LR LR 20 55 56.1
comp=Z,62nm,19.9s,baz=142,slow=30
SFJD Kangerlussuaq 98.33 8 LR LR 21 07 17.1
comp=Z,59nm,18.7s,baz=164,slow=37
YKA Yellowknife Ar 98.68 341 P Pdif 20 20 50.7 +0.8
comp=Z,0.5nm,0.7s,baz=140,slow=4.3,SNR=9.1
YKA pP sP 20 21 02.7 -0.5
comp=Z,0.8nm,0.6s,baz=141,slow=4.6,SNR=7.5
DZM Mont Dzumac 103.63 234 eLR LR 20 55 23.8
comp=Z,396nm,24.4s
ILAR Eielson Array 111.05 334 PP **PP 20 26 30.0 +6.7**
comp=Z,0.1nm,0.5s,baz=82,slow=14,SNR=1.8
AKASG Malin Array Be 119.47 46 PKP **PKPdf 20 26 00.2 -0.2**
comp=Z,0.9nm,0.6s,baz=266,slow=2.7,SNR=6.8
AKASG pPKP **sPKPdf 20 26 12.5 -1.1**
comp=Z,1.9nm,0.7s,baz=265,slow=2.8,SNR=6.1
BRTR Keskin Array B 119.75 59 PKP **PKPdf 20 26 00.6 -0.9**
comp=Z,0.6nm,0.8s,baz=270,slow=1.3,SNR=3.1
BRTR pPKP **sPKPdf 20 26 14.1 -0.6**
comp=Z,0.8nm,0.7s,baz=235,slow=0.1,SNR=4.7
ASAR Alice Springs 120.95 208 PKP **PKiKP 20 26 06.4 +2.0**
comp=Z,0.2nm,0.5s,baz=134,slow=1.5,SNR=1.9
WRA Wyrramunga Arr 124.09 210 PKP **PKPdf 20 26 10.6 +0.2**
comp=Z,0.5nm,0.5s,baz=149,slow=1.6,SNR=10
H11S2 WAKE ISLAND Hyl 26.03 272 T T 22 45 05.5
baz=114,slow=74,SNR=1168
H11S1 WAKE ISLAND Hyl 26.05 272 T T 22 45 05.1
baz=114,slow=74,SNR=679
H11S3 WAKE ISLAND Hyl 26.05 272 T T 22 45 03.4
baz=114,slow=74,SNR=519
KBZ Khabaz 127.37 56 PKP **PKiKP 20 26 16.6 +0.3**
comp=Z,2.0nm,0.9s,baz=204,slow=12,SNR=2.3
BILL Bilibino 129.64 336 PKPdf **PKPdf 20 26 17.8 -1.6**
ARU Arti 136.74 38 PKP **PKPdf 20 26 33.0 -0.1**
comp=Z,0.5nm,0.4s,baz=58,slow=3.5,SNR=4.2
TIXI Tiksi 137.13 351 PKP **PKPdf 20 26 34.0 +0.7**
comp=Z,1.2nm,0.2s,baz=352,slow=1.9,SNR=4.0
ABKAR Akbulak array 139.11 48 PKPdf **PKPdf 20 26 36.1 -1.5**
ABKAR Akbulak array 139.11 48 PKPdf **PKPdf 20 26 36.8 -0.8**
BRVK Borovoye 144.26 40 PKPdf PKPbc 20 26 45.9 +0.8
BVAR Borovoye Array 144.34 40 PKP **PKPdf 20 26 47.2 +0.3**
comp=Z,2.4nm,0.6s,baz=18,slow=6.2,SNR=14
YAK Yakutsk 145.35 342 PKPbc **PKPdf 20 26 49.7 +1.4**
comp=Z,24nm,0.8s,baz=29,slow=0.1,SNR=29
YAK Yakutsk 145.35 342 **PKPdf 20 26 48.6 +0.3**
KBL Kabul 146.75 72 PKPdf **PKPdf 20 26 52.1 +0.2**
KKAR Karatay Array 147.41 56 **PKPbc 20 26 54.2 -0.8**
BTK Batken 148.07 62 **PKPdf 20 26 54.9 +1.2**
TOLI2 Tolitoli 148.62 205 **PKPbc 20 26 59.2 +0.2**
SKHT Srikalahasti 148.91 116 ePKPdf **PKPdf 20 26 53.0 -2.7**
SRLM Srisailam 149.60 111 ePKiKP **PKPbc 20 27 01.1 -0.4**
EKS2 Erkin-Say 149.85 56 P **PKiKP 20 27 03.2 +0.8**
SNR=11
KURBB Kurchatov Arra 149.93 39 PKPbc **PKiKP 20 27 02.4 +0.3**
comp=Z,7.9nm,1.0s,baz=299,slow=3.0,SNR=16
KURBB pPKPbc **sPKPbc 20 27 14.3 0.0**
comp=Z,7.4nm,0.6s,baz=302,slow=3.2,SNR=16
KURK Kurchatov 149.93 39 PKPdf **PKPdf 20 26 55.5 -0.7**
KURK **PKiKP 20 27 01.7 -0.4**
HYBB Hyderabad (bro 150.02 109 ePKPbc **PKPbc 20 27 01.2 -1.3**
NIL Nílore 150.18 74 **PKPbc 20 27 01.8 -0.6**
NJS Nagarjunasagar 150.18 111 ePKiKP **PKPbc 20 27 02.7 -0.1**
NJS ePKPab **pPKPdf 20 27 07.3 -0.4**
USP Ospenovka 150.22 55 P **PKiKP 20 27 03.8 +0.7**
SNR=12
AAK Ala-Archa 150.37 56 P **PKiKP 20 27 04.6 +1.0**
SNR=18
AAK Ala-Archa 150.37 56 **PKiKP 20 27 04.0 +0.5**
CHMS Chumysh 150.47 55 P **PKiKP 20 27 04.4 +0.8**
SNR=11
UCH Uchtor 150.48 57 P **PKiKP 20 27 05.3 +1.2**
SNR=18
SRSP Sriramsagar 150.59 106 ePKiKP **PKPbc 20 27 03.5 -0.2**
KBK Karagaybulak 150.69 56 P **PKiKP 20 27 05.2 +1.0**
SNR=8.2
ZAA0 Zalesovo Array 150.93 29 PKPdf **PKPdf 20 26 57.6 -0.1**
ZAA0 PKPbc **PKiKP 20 27 04.2 +0.2**
ZAA0 PKPab **pPKPbc 20 27 12.8 -0.5**
ZALV Zalesovo Beam 150.93 29 PKPbc **PKiKP 20 27 04.7 +0.6**
comp=Z,22nm,0.7s,baz=269,slow=1.4,SNR=11
ZALV pPKPbc **sPKPbc 20 27 16.6 0.0**
comp=Z,37nm,0.6s,baz=305,slow=3.3,SNR=25
ZALV Zalesovo Beam 150.93 29 PKPdf **PKPdf 20 26 58.1 +0.3**
ZALV PKPbc **PKiKP 20 27 04.5 +0.4**
ZALV **sPKPbc 20 27 15.9 -0.8**
TKM2 Tokmak 2 151.09 55 P **PKiKP 20 27 05.8 +0.7**
SNR=12
RPSI Rantau Prapat 151.12 160 **PKPdf 20 26 59.3 0.0**
PSI Prapat 151.22 160 PKP **PKPdf 20 26 59.3 -0.3**
comp=Z,2.4nm,0.3s,baz=214,slow=6.2,SNR=6.3
RPR Rampur 151.34 107 ePKiKP **PKPbc 20 27 04.9 -0.6**
KSH Kashi 152.08 62 PKPbc **PKPdf 20 27 01.8 +1.7**
KSH pPKP sPKPdf 20 27 13.5 +0.1
KSH sPKP 20 27 16.8
MAKZ Makanchi 153.83 44 PKPdf **PKPdf 20 27 00.7 -1.6**
MAKZ PKPbc **PKPbc 20 27 08.9 -1.3**
MAKZ PKPab **PKPab 20 27 22.2 -1.2**
MKAR Makanchi Array 154.02 43 PKP **PKPdf 20 27 03.3 +0.7**
comp=Z,0.9nm,0.8s,baz=288,slow=1.2,SNR=9.4
MKAR PKPbc **PKiKP 20 27 11.3 +0.5**
comp=Z,2.3nm,0.8s,baz=324,slow=2.3,SNR=19
MKAR pPKPbc **PKPab 20 27 23.9 -0.2**
comp=Z,4.8nm,0.8s,baz=324,slow=2.2,SNR=15
KLR Kul'dur 154.08 323 PKP **PKPdf 20 27 04.5 +2.0**
comp=Z,1.0nm,0.8s,baz=326,slow=3.4,SNR=3.8
KLR PKPbc **PKiKP 20 27 11.0 +0.3**
comp=Z,1.1nm,0.7s,baz=62,slow=5.2,SNR=4.0
MJAR Matsushiro Arr 154.34 292 PKPab **PKPab 20 27 28.0 +2.1**
comp=Z,4.7nm,0.7s,baz=117,slow=2.2,SNR=7.9
MAT Matsushiro 154.35 292 ePKP **PKPbc 20 27 07.7 -4.0**
WMQ Urumqi 158.82 45 ePKP **PKPdf 20 27 08.0 -1.0**
SONM Songino Array 162.46 4 PKP **PKPdf 20 27 12.7 -0.2**
comp=Z,0.5nm,0.8s,baz=31,slow=1.2,SNR=4.4
SONM PKPab **PKPab 20 28 01.7 +1.1**
comp=Z,2.2nm,0.9s,baz=328,slow=4.2,SNR=9.4
SONM PP **PP 20 31 47.5 +3.2**
comp=Z,1.0nm,1.0s,baz=285,slow=5.8,SNR=3.7
XLT XiLinHaoTe 165.11 338 ePKP **PKPdf 20 27 16.3 +0.9**
CMAR Chiang Mai Arr 165.44 142 pPKP **pPKPdf 20 27 28.4 +1.9**
comp=Z,1.2nm,1.0s,baz=272,slow=2.2,SNR=4.2
CMAR PKPab **PKPab 20 28 13.8 -0.6**
comp=Z,0.6nm,0.9s,baz=259,slow=1.8,SNR=1.9

CMAR				PP	**PP**	**20 32 01.8**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=227,slow=10,SNR=4.4						
GTA	**Gaotai**	**168.58**	**35**	PKP	**PKPdf**	**20 27 20.0**	**+1.7**
GTA				pPKP	sPKPdf	20 27 31.5	-0.1
GTA				sPKP		20 27 37.0	
GTA				PKPab	**PKPab**	**20 28 29.5**	**+1.6**
HHC	**Hu-ho-hao-te**	**169.17**	**347**	*e*PKP	**PKPdf**	**20 27 18.3**	**-0.3**
NJ2	**Nanjing**	**170.80**	**283**	*e*PKP	**PKPdf**	**20 27 19.0**	**-0.6**
LZH	**Lanzhou**	**173.15**	**32**	*e*PKP	**PKPdf**	**20 27 18.0**	**-2.8**
LZH				sPKP		20 27 34.0	

*IDC **29** 20:16:24.6±4.8, 37°.04N×71°.32E, h75km±30km, mb3.6/5, mb1 3.7/12, mb1mx3.3/65, mbtmp3.9/12, MS3.9/3, Ms1 3.9/3, ms1mx3.0/82, Error ellipse: s-maj=60.3km s-min=21.0km az=163.0*

*NNC **29** 20:16:29.9±2.4, 37°.55N×71°.03E, h144km±48km, mb3.1, mpv3.6, Error ellipse: s-maj=24.3km s-min=13.3km az=164.0*

ISC 29 20:16:25.4±0.8, 37°.17N±0°.08×71°.22E±0°.06, h100km, n37, σ2°20/40, mb3.8/4, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.31**	**20**	P	**Pn**	**20 17 44.2**	**+1.7**
	SNR=45						
UCH	**Uchtor**	**5.65**	**26**	P	**Pn**	**20 17 49.3**	**+2.0**
	SNR=10						
EKS2	**Erkin-Say**	**5.82**	**19**	P	**Pn**	**20 17 51.4**	**+2.1**
	SNR=15						
KK02	**Karatay Array**	**5.95**	**355**	⇓P	**Pn**	**20 17 52.2**	**+1.3**
	3.2nm,0.3s						
KK02				⇑S	**Sn**	**20 18 55.1**	**-2.5**
	9.2nm,0.5s						
AAK	**Ala-Archa**	**6.01**	**24**	P	**Pn**	**20 17 54.0**	**+2.2**
	1.8nm,0.3s,baz=183,slow=5.9,SNR=31						
AAK				S	**Sn**	**20 18 56.6**	**-2.8**
	2.2nm,0.3s,baz=17,slow=22,SNR=14						
AAK	**Ala-Archa**	**6.01**	**24**	P	**Pn**	**20 17 54.1**	**+2.2**
	SNR=5.9						
AAK	**Ala-Archa**	**6.01**	**24**	⇑P	**Pn**	**20 17 54.0**	**+2.2**
	2.7nm,0.4s						
AAK				⇑S	**Sn**	**20 18 57.4**	**-1.9**
	15nm,0.5s						
CHMS	**Chumysh**	**6.42**	**24**	P	**Pn**	**20 17 59.0**	**+1.7**
	SNR=8.9						
USP	**Ospenovka**	**6.58**	**21**	P	**Pn**	**20 18 00.8**	**+1.2**
	SNR=6.5						
TKM2	**Tokmak 2**	**6.65**	**29**	P	**Pn**	**20 18 02.2**	**+1.6**
	SNR=5.7						
TKM2	**Tokmak 2**	**6.65**	**29**	⇑P	**Pn**	**20 18 02.0**	**+1.4**
	2.6nm,0.5s						
TKM2				⇓S	**Sn**	**20 19 14.1**	**-0.8**
	3.6nm,0.6s						
GEYT	**Alibeck**	**10.43**	**278**	P	**Pn**	**20 18 50.7**	**-1.2**
	3.4nm,0.3s,baz=105,slow=11,SNR=19						
GEYT				S	**Sn**	**20 20 43.1**	**-3.7**
	0.9nm,0.3s,baz=247,slow=19,SNR=2.4						
GYA0B	**ALIBECK ARRAY**	**10.43**	**278**	⇑P	**Pn**	**20 18 52.4**	**+0.4**
GYA0B				⇑S	**Sn**	**20 20 45.1**	**-1.8**
MK31	**Makanchi Array**	**12.64**	**37**	P	**Pn**	**20 19 21.1**	**-0.3**
	1.2nm,0.6s,baz=224,slow=15,SNR=13						
MKAR	**Makanchi Array**	**12.64**	**37**	P	**Pn**	**20 19 21.3**	**-0.2**
	0.2nm,0.3s,baz=228,slow=16,SNR=8.2						
MKAR				S	**Sn**	**20 21 33.8**	**-6.6**
	0.0nm,0.3s,baz=228,slow=15,SNR=1.2						
DANN	**Dangsing**	**13.73**	**126**	*e*P	**Pn**	**20 19 34.7**	**-1.3**
	4.2nm,0.3s						
KOLN	**Koldanda**	**14.03**	**128**	*e*P	**Pn**	**20 19 38.0**	**-1.8**
	9.6nm,0.4s						
KURBB	**Kurchatov Arra**	**14.43**	**19**	P	**P**	**20 19 48.0**	**-0.5**
	0.0nm,0.3s,baz=208,slow=10.0,SNR=8.0						
GKN	**Gorkha**	**14.53**	**125**	*e*P	**Pn**	**20 19 44.1**	**-2.1**
	13nm,0.5s						
AB31	**Akbulak array**	**14.59**	**329**	P	**Pn**	**20 19 46.0**	**-0.6**
	0.8nm,0.3s,baz=135,slow=14,SNR=80						
AB31				⇑S	Sn	20 22 18.9	-8.5
	1.4nm,0.6s,baz=155,slow=23,SNR=6.7						
KKN	**Kakani**	**15.09**	**124**	*e*P	**Pn**	**20 19 51.0**	**-2.5**
	2.0nm,0.3s						
DMN	**Daman**	**15.10**	**125**	*e*P	**Pn**	**20 19 51.7**	**-1.9**
PKIN	**Phulchoki**	**15.31**	**125**	*e*P	**Pn**	**20 19 54.4**	**-1.9**
	5.6nm,0.5s						
PKI	**Pulchoki**	**15.32**	**125**	*e*P	**Pn**	**20 19 54.4**	**-2.1**
	3.2nm,0.3s						
GUN	**Gumba**	**15.41**	**123**	*e*P	**Pn**	**20 19 55.0**	**-2.7**
	5.9nm,0.4s						
BVAR	**Borovoye Array**	**15.86**	**358**	P	**P**	**20 20 04.7**	**+0.2**
	0.2nm,0.3s,baz=185,slow=16,SNR=2.0						
AKTO	**Aktyubinsk**	**16.29**	**329**	P	**P**	**20 20 10.0**	**+0.7**
	0.5nm,0.3s,baz=140,slow=10,SNR=13						
AKTO	**Aktyubinsk**	**16.29**	**329**	⇓P	**Pn**	**20 20 06.4**	**-1.7**
	4.5nm,0.8s						
ZALV	**Zalesovo Beam**	**19.23**	**25**	P	**P**	**20 20 42.6**	**+1.2**
	0.5nm,0.3s,baz=226,slow=10,SNR=14						
GNI	**Garni**	**20.86**	**286**	P	Pn	20 21 03.3	+0.5
	3.0nm,0.6s,baz=43,slow=6.9,SNR=5.1						
SONM	**Songino Array**	**27.81**	**56**	P	**P**	**20 22 07.0**	**+1.9**
	0.1nm,0.3s,baz=258,slow=7.1,SNR=3.6						
ATD	**Arta Tunnel**	**36.07**	**232**	LR	LR	20 38 52.2	
	comp=Z,93nm,18.6s,baz=104,slow=37						
ARCES	**ARCESS Array B**	**40.59**	**337**	P	**P**	**20 23 57.4**	**+2.6**
	3.4nm,1.0s,baz=48,slow=1.8,SNR=5.0						
TIXI	**Tiksi**	**45.08**	**22**	P	**P**	**20 24 32.2**	**+1.3**
	1.6nm,0.3s,baz=289,slow=6.4,SNR=3.8						
YKA	**Yellowknife Ar**	**80.56**	**3**	P	**P**	**20 28 29.4**	**+3.2**
	0.4nm,0.5s,baz=350,slow=5.3,SNR=11						
ASAR	**Alice Springs**	**84.49**	**125**	LR	LR	21 10 50.1	
	comp=Z,70nm,18.2s,baz=168,slow=39						
PMG	**Port Moresby**	**84.62**	**106**	LR	LR	21 10 01.4	
	comp=Z,144nm,21.5s,baz=127,slow=38						

*IDC **29** 20:26:31.9±4.5, 2°.74S×147°.08E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.4/29, mbtmp4.0/3, Error ellipse: s-maj=139.4km s-min=67.0km az=113.0*

*NEIC **29** 20:26:33.7±0.8, 2°.7S±0°.1×147°.1E±0°.2, h9km±8km, mb4.2/9, Error ellipse: s-maj=34.4km s-min=4.2km az=116.0*

ISC 29 20:26:34.0±1.0, 2°.7S±0°.1×147°.1E±0°.2, h10km, n14, σ1°26/14, mb4.1/7, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.72**	**22**		**Pn**	**20 26 50.3**	**0.0**
MANU					**Sg**	**20 26 57.3**	**-0.2**
MTN	**Manton Dam**	**18.72**	**237**		**Pn**	**20 30 55.4**	**+2.1**
MTN				IAmb	IAmb	20 31 19.0	
	comp=Z,26nm,1.2s						
WB0	**Warramunga Arr**	**21.00**	**215**	P	**P**	**20 31 16.4**	**-1.4**
WB0				IAmb	IAmb	20 31 19.4	
	comp=Z,7.5nm,1.1s						
WR0	**Warramunga Arr**	**21.07**	**215**	P	**P**	**20 31 17.0**	**-1.5**
WR0				IAmb	IAmb	20 31 20.5	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**21.16**	**215**	P	**P**	**20 31 18.1**	**-1.4**
WRAB				IAmb	IAmb	20 31 21.4	
	comp=Z,18nm,1.3s						
WB2	**Warramunga Arr**	**21.16**	**215**	P	**P**	**20 31 18.6**	**-0.9**
WB2				IAmb	IAmb	20 31 36.8	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**21.17**	**215**	P	**P**	**20 31 18.6**	**-1.1**
	comp=Z,5.2nm,1.0s,baz=38,slow=11,SNR=14						
KNRA	**Kununurra**	**22.17**	**233**	P	**P**	**20 31 29.5**	**-0.9**
SANVU	**Saraoutou**	**23.51**	**124**	P	**P**	**20 31 45.1**	**+0.8**
AS31	**Alice Springs**	**24.42**	**210**	P	**P**	**20 31 51.8**	**-1.2**
ASAR	**Alice Springs**	**24.42**	**210**	P	**P**	**20 31 52.5**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=43,slow=7.5,SNR=26						
ASAR	**Alice Springs**	**24.42**	**210**	P	**P**	**20 31 51.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**26.00**	**233**	P	**P**	**20 32 06.7**	**-0.6**
	comp=Z,4.3nm,1.0s,baz=52,slow=12,SNR=2.3						
TORD	**Torodi Ar. Bea**	**144.25**	**289**	PKP	PKPbc	20 46 09.7	+0.1
	comp=Z,1.0nm,0.9s,baz=96,slow=1.4,SNR=2.7						

*TUL **29** 20:27:47.7±1.6, 36°.48N±0°.02×98°.75W±0°.04, h8km±4km, ML3.4, mb_Lg3.3/73(NEIC), Error ellipse: s-maj=4.2km s-min=3.5km az=103.0*

NEIC 29 20:27:47.7±1.3, 36°.50N±0°.02×98°.73W±0°.04, h15km±3km, Error ellipse: s-maj=4.3km s-min=3.2km az=75.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.21**	**4**	Pg	Pg	20 27 52.7	+0.1
OK032	**Salt Plains WL**	**0.52**	**54**	Pg	Pg	20 27 57.6	-0.3
OK032				Sg	Sb	20 28 05.4	-0.5
CROK	**Carrier**	**0.60**	**89**	Pg	Pg	20 27 59.3	-0.2
CROK				Sg	Sg	20 28 07.4	-0.1
KAN14	**Manchester OK**	**0.77**	**53**		Pg	20 28 02.6	0.0
GC02	**Grant County #**	**0.78**	**63**	Pg	Pg	20 28 02.9	-0.1
GC02				Sg	Sg	20 28 12.8	-0.5
KAN10	**Anthony SW Sta**	**0.81**	**39**	Pg	Pb	20 28 03.4	0.0
KAN10				Sg	Sg	20 28 13.5	-0.5
KAN16	**Harper SW Stat**	**0.90**	**36**		Pg	20 28 05.2	0.0
KAN16				Sg	Sb	20 28 16.9	0.0
KAN05	**Bluff City Nor**	**0.92**	**48**		Pg	20 28 05.8	+0.2
KAN05				Sg	Sb	20 28 16.9	-0.5
KAN17	**Caldwell West**	**0.95**	**55**	Pg	Pb	20 28 05.8	-0.1
KAN17				Sg	Sb	20 28 17.8	-0.4
KAN08	**Anthony NE Sta**	**0.95**	**40**		Pb	20 28 05.7	-0.2
KAN08				Sg	Sg	20 28 19.0	+0.6
KAN12	**Harper NE Stat**	**0.99**	**36**	Pg	Pg	20 28 06.9	+0.1
KAN12				Sg	Sn	20 28 20.5	-0.3
KAN01	**Argonia South**	**1.02**	**50**	Pg	Pb	20 28 06.6	-0.5
KAN01					Sn	20 28 21.2	-0.4
KAN06	**Argonia West S**	**1.02**	**43**		Pg	20 28 07.4	-0.1
KAN13	**South Haven SW**	**1.13**	**63**	Pg	Pn	20 28 09.1	0.0
KAN13				Sg	Sn	20 28 24.7	+0.4
BCOK	**Bluff Creek, N**	**1.24**	**132**		Pn	20 28 10.6	+0.1
BCOK				Sg	Sn	20 28 26.9	-0.1
BLOK	**Blackwell**	**1.25**	**77**	Pn	Pn	20 28 10.8	+0.1
BLOK					Sg	20 28 28.4	+0.4
OK029	**Liberty Lake**	**1.25**	**124**	Pn	Pn	20 28 10.5	-0.1
OK029					Sn	20 28 27.5	+0.3
OK025	**Westminster Rd**	**1.45**	**129**		Pb	20 28 14.2	-0.3
OKCFA	**Oklahoma City**	**1.50**	**136**		Pn	20 28 13.8	-0.3
OKCSW	**OKLAHOMA CITY**	**1.51**	**136**		Pb	20 28 15.0	-0.5
OK033	**Mehan**	**1.52**	**107**		Pn	20 28 14.9	+0.5
OK031	**S. Brethren Rd**	**1.62**	**109**		Pn	20 28 16.0	+0.2
FNO	**Franklin**	**1.64**	**139**	Pn	Pn	20 28 15.7	-0.4
QUOK	**Quay**	**1.66**	**101**		Pn	20 28 17.2	+0.8
OK030	**Cody Creek RV**	**1.67**	**109**		Pn	20 28 17.0	+0.5
OK034	**N. Norfolk Rd.**	**1.70**	**106**		Pn	20 28 17.4	+0.6
OK034				IAmb_Lg		20 28 42.0	
	comp=Z,206nm,1.3s						
WMOK	**Wichita Mounta**	**1.76**	**181**	Pn	Pn	20 28 18.0	+0.3
T35A	**Sooner Cattle**	**1.83**	**76**	Pn	Pn	20 28 18.8	+0.1
T35A				IAmb_Lg		20 28 47.8	
	comp=Z,171nm,0.9s						
R32A	**Long Quarter,**	**1.92**	**0**		Pn	20 28 20.6	+0.7
W35A	**Tecumseh**	**2.02**	**131**		Pn	20 28 20.6	-0.7
X34A	**Smith Ranch, M**	**2.03**	**159**	Pn	Pn	20 28 21.4	0.0
CBKS	**Cedar Bluff**	**2.45**	**341**		Pb	20 28 29.9	-1.6
TUL1	**Leonard**	**2.45**	**103**		Pn	20 28 27.1	-0.1
TUL1				IAmb_Lg		20 29 05.5	
	comp=Z,108nm,0.8s						
LOOK	**Love County**	**2.80**	**153**	Pn	Pn	20 28 32.9	+0.8
LOOK				IAmb_Lg		20 29 21.2	
	comp=Z,95nm,0.8s						
AMTX	**Amarillo**	**2.89**	**237**	Pn	Pn	20 28 34.7	+1.4
KSU1	**Kansas State U**	**3.09**	**32**		Pn	20 28 37.5	+1.5
KSU1				IAmb_Lg		20 29 33.9	
	comp=Z,78nm,0.9s						
X37A	**Clayton**	**3.33**	**124**		Pn	20 28 38.9	-0.4
Z35A	**Perchaven, San**	**3.38**	**159**	Pn	Pn	20 28 40.0	0.0
U38A	**Gravette**	**3.50**	**90**		Pn	20 28 41.2	-0.4
U38A				IAmb_Lg		20 29 45.5	
	comp=Z,82nm,0.8s						
HHAR	**Hobbs**	**3.87**	**92**		Pn	20 28 46.4	-0.4
ABTX	**Abilene, Hawle**	**3.94**	**191**	Pn	Pn	20 28 48.4	+0.7
KSCO	**Kaye Shedlock'**	**3.98**	**310**		Pn	20 28 47.9	-0.4
KSCO				IAmb_Lg		20 29 60.0	
	comp=Z,97nm,0.7s						
MSTX	**Muleshoe**	**4.16**	**234**	Pn	Pn	20 28 51.4	+0.5
MSTX				IAmb_Lg		20 30 04.1	
	comp=Z,89nm,0.8s						
W39A	**Magazine**	**4.22**	**106**		Pn	20 28 51.0	-0.6
W39A				IAmb_Lg		20 30 08.7	
	comp=Z,105nm,0.9s						
N33A	**J Bar K, Exete**	**4.35**	**13**	Pn	Pn	20 28 53.0	-0.4
N33A				IAmb_Lg		20 30 18.5	
	comp=Z,63nm,0.7s						
Z38A	**Mt. Pleasant**	**4.46**	**135**	Pn	Pn	20 28 53.8	-1.0
Z38A				IAmb_Lg		20 30 10.8	
	comp=Z,88nm,0.9s						
S39A	**Bolivar**	**4.48**	**73**		Pn	20 28 55.4	+0.2
S39A				IAmb_Lg		20 30 21.2	
	comp=Z,68nm,1.0s						
T25A	**Trinidad**	**4.60**	**280**		Pn	20 28 58.2	+1.2
T25A				IAmb_Lg		20 30 25.2	
	comp=Z,52nm,0.7s						
MIAR	**Mount Ida**	**4.63**	**113**		Pn	20 28 56.5	-0.7
MIAR				IAmb_Lg		20 30 22.7	
	comp=Z,65nm,1.1s						
U40A	**Yellville**	**4.74**	**90**		Pn	20 28 58.6	-0.1
U40A				IAmb_Lg		20 30 28.2	
	comp=Z,51nm,0.7s						
BGNE	**Belgrade**	**4.92**	**5**		Pn	20 29 03.0	+1.8
BGNE				IAmb_Lg		20 30 35.7	
	comp=Z,65nm,0.7s						
N35A	**Tabor**	**4.98**	**28**		Pn	20 29 02.7	+0.7
237A	**Washetta, Mont**	**5.10**	**151**	IAmb_Lg		20 30 41.2	
	comp=Z,55nm,0.7s						
OGNE	**Ogallala**	**5.14**	**331**		Pn	20 29 05.5	+1.4
P38A	**Dawn**	**5.15**	**51**		Pn	20 29 05.5	+1.2
X40A	**Basin Creek Fa**	**5.21**	**111**		Pn	20 29 04.8	-0.4
X40A				IAmb_Lg		20 30 39.6	
	comp=Z,62nm,0.9s						
MGMO	**Mountain Grove**	**5.22**	**81**		Pn	20 29 05.2	-0.1
WHAR	**Wooly Hollow**	**5.37**	**101**		Pn	20 29 06.3	-1.0
WHAR				IAmb_Lg		20 30 40.7	
	comp=Z,64nm,1.0s						
FCAR	**Ozark Folk Cen**	**5.38**	**95**		Pn	20 29 07.1	-0.3
FCAR				IAmb_Lg		20 30 40.4	
	comp=Z,38nm,0.7s						
WLAR	**White Oak Lake**	**5.39**	**120**		Pn	20 29 08.3	+0.7
WLAR				IAmb_Lg		20 30 48.7	
	comp=Z,44nm,0.8s						
W41B	**Gary Mavity, V**	**5.43**	**102**		Pn	20 29 09.3	+1.2
W41B				IAmb_Lg		20 30 53.9	
	comp=Z,50nm,0.8s						
R40A	**Maddies Statio**	**5.45**	**69**		Pn	20 29 06.8	-1.6
SDCO	**Great Sand Dun**	**5.55**	**285**		Pn	20 29 08.8	-1.3
Q24A	**Divide**	**5.65**	**298**		Pn	20 29 11.0	-0.5
Q24A				IAmb_Lg		20 30 54.0	
	comp=Z,48nm,0.8s						
L34A	**Svendsen Farm,**	**5.76**	**18**		Pn	20 29 11.2	-1.4
435B	**Jarrell**	**5.78**	**170**	IAmb_Lg		20 31 03.6	
	comp=Z,54nm,0.8s						
Z41A	**Richland Creek**	**5.84**	**122**	Pn	Pn	20 29 12.6	-1.2
Z41A				IAmb_Lg		20 31 08.6	
	comp=Z,55nm,0.8s						
JCT	**Junction City**	**6.07**	**189**	Pn	Pn	20 29 15.2	-1.8
JCT				IAmb_Lg		20 31 13.4	
	comp=Z,43nm,0.8s						
N38A	**Joes South For**	**6.07**	**43**		Pn	20 29 15.4	-1.6
P40A	**Paris**	**6.08**	**58**		Pn	20 29 15.9	-1.1
K31A	**O'Neill**	**6.12**	**360**	IAmb_Lg		20 31 06.3	
	comp=Z,67nm,0.9s						
LCAR	**Lake Charles**	**6.13**	**92**	Pn	Pn	20 29 17.2	-0.6
CCM	**Cathedral Cave**	**6.17**	**73**		Pn	20 29 17.8	-0.5
CCAR	**Cane Creek**	**6.25**	**112**	IAmb_Lg		20 31 14.8	
	comp=Z,38nm,0.8s						
ISCO	**Idaho Springs**	**6.35**	**303**	Pn	Pn	20 29 20.3	-0.7
ANMO	**Albuquerque**	**6.47**	**258**		Pn	20 29 20.0	-2.7
S22A	**4UR Ranch, Cre**	**6.59**	**283**	Pn	Pn	20 29 22.3	-2.1
PBMO	**Poplar Bluff**	**6.68**	**85**	Pn	Pn	20 29 25.0	-0.3
PBMO				IAmb_Lg		20 31 18.8	
	comp=Z,35nm,0.8s						
FVM	**French Village**	**6.79**	**75**	Pn	Pn	20 29 27.6	+0.8
FVM				IAmb_Lg		20 31 30.1	
	comp=Z,41nm,0.9s						
BNM	**Barren Site**	**6.87**	**252**	Pn	Pn	20 29 27.9	-0.2
SLM	**Saint Louis**	**7.08**	**70**	IAmb_Lg		20 31 31.8	
	comp=Z,41nm,0.7s						
PHWY	**Pilot Hill**	**7.11**	**314**		Pn	20 29 30.6	-0.9
PHWY				IAmb_Lg		20 31 32.7	
	comp=Z,28nm,0.8s						
MNTX	**Cornudas Mount**	**7.30**	**231**	Pn	Pn	20 29 32.4	-1.5
MNTX				IAmb_Lg		20 31 47.6	
	comp=Z,27nm,0.8s						
ECSD	**EROS Data Cent**	**7.41**	**12**	Pn	Pn	20 29 34.5	-0.7
S44A	**Carbondale**	**7.67**	**78**	IAmb_Lg		20 31 51.6	
	comp=Z,31nm,0.7s						
K38A	**Parkersburg**	**7.67**	**35**	IAmb_Lg		20 32 10.7	
	comp=Z,58nm,0.9s						
OXF	**Oxford**	**7.85**	**102**	Pn	Pn	20 29 40.2	-1.3
Q44A	**Meyer Farm, Va**	**8.06**	**70**	Pn	Pn	20 29 43.3	-1.0
T45A	**Paducah**	**8.11**	**83**	Pn	Pn	20 29 44.9	-0.1
PV02	**Paradox Valley**	**8.15**	**285**	Pn	Pn	20 29 43.3	-2.4
833A	**Chaparral WMA,**	**8.17**	**184**	Pn	Pn	20 29 45.0	-0.8
TX31	**Lajitas Ar. Si**	**8.26**	**212**	Pn	Pn	20 29 48.0	+0.9
TX32	**Lajitas Array**	**8.26**	**212**		Pn	20 29 48.0	+0.8
TXAR	**Lajitas Array**	**8.26**	**212**	Pn	Pn	20 29 48.2	+1.1
PV21	**Cone Mtn., Par**	**8.40**	**287**	Pn	Pn	20 29 48.7	-0.4
PV23	**Carpenter Ridg**	**8.40**	**286**	Pn	Pn	20 29 49.1	-0.1
PV05	**Paradox Valley**	**8.41**	**284**		Pn	20 29 47.1	-2.3
HDIL	**Hopedale**	**8.43**	**58**		Pn	20 29 51.2	+1.9
L42A	**Oliver, Polo**	**8.92**	**49**	IAmb_Lg		20 32 39.3	
	comp=Z,47nm,0.8s						
JFWS	**Jewell Farm**	**9.15**	**43**	IAmb_Lg		20 32 50.8	
	comp=Z,30nm,0.8s						
F36A	**Milaca**	**10.14**	**21**	Pn	Pn	20 30 12.3	-0.5

*TUL **29** 20:39:16±2.6, 36°.47N±0°.02×98°.74W±0°.03, h5km±7km, ML2.9, mb_Lg2.5/11(NEIC), Error ellipse: s-maj=3.0km s-min=2.6km az=65.0*

NEIC 29 20:39:16.0±1.7, 36°.48N±0°.03×98°.72W±0°.05, h14km±4km, Error ellipse: s-maj=5.4km s-min=4.2km az=96.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.23**	**2**	Pg	Pg	20 39 21.2	+0.1
OK035				Sg	Sg	20 39 24.9	+0.4
U32A	**Winter Ranch,**	**0.25**	**246**	Pg	Pg	20 39 20.8	-0.7
U32A				Sg	Sg	20 39 24.3	-0.8
OK032	**Salt Plains WL**	**0.52**	**52**	Pg	Pg	20 39 26.4	+0.1
OK032				Sg	Sb	20 39 34.0	-0.3
CROK	**Carrier**	**0.59**	**87**		Pg	20 39 27.8	+0.1
CROK				Sg	Sg	20 39 35.9	+0.3
KAN14	**Manchester OK**	**0.77**	**52**		Pg	20 39 30.5	-0.5
KAN14				Sg	Sg	20 39 41.2	0.0
GC02	**Grant County #**	**0.78**	**62**	Pg	Pg	20 39 31.0	-0.3
GC02				Sg	Sb	20 39 42.1	+0.1
KAN10	**Anthony SW Sta**	**0.81**	**38**	Pg	Pg	20 39 31.8	-0.1
KAN10				Sg	Sg	20 39 42.2	-0.4
KAN16	**Harper SW Stat**	**0.91**	**35**	Pg	Pb	20 39 33.6	0.0
KAN17	**Caldwell West**	**0.95**	**53**	Pg	Pb	20 39 33.2	-1.1
KAN08	**Anthony NE Sta**	**0.96**	**39**	Pg	Pb	20 39 33.1	-1.2
KAN12	**Harper NE Stat**	**1.00**	**35**		Pb	20 39 34.1	-1.0
KAN01	**Argonia South**	**1.02**	**49**	Pg	Pb	20 39 34.8	-0.7
KAN06	**Argonia West S**	**1.03**	**42**	Pg	Pb	20 39 35.6	0.0
KAN13	**South Haven SW**	**1.13**	**62**	Pg	Pb	20 39 37.3	0.0
BCOK	**Bluff Creek, N**	**1.22**	**132**	Pg	Pn	20 39 38.1	-0.6
OK029	**Liberty Lake**	**1.23**	**123**		Pn	20 39 38.5	-0.3
BLOK	**Blackwell**	**1.24**	**77**	Pg	Pn	20 39 38.9	-0.1
OK025	**Westminster Rd**	**1.44**	**128**	Pn	Pn	20 39 40.9	-0.7
OKCFA	**Oklahoma City**	**1.48**	**136**	Pn	Pn	20 39 41.2	-1.1
OKCSW	**OKLAHOMA CITY**	**1.49**	**136**	Pn	Pn	20 39 41.5	-0.9
OK033	**Mehan**	**1.50**	**106**		Pn	20 39 43.0	+0.5
OK031	**S. Brethren Rd**	**1.61**	**109**	Pn	Pn	20 39 44.4	+0.4
FNO	**Franklin**	**1.62**	**138**		Pn	20 39 44.5	+0.3
QUOK	**Quay**	**1.65**	**100**	Pn	Pb	20 39 46.1	-0.2
WMOK	**Wichita Mounta**	**1.74**	**182**	Pn	Pn	20 39 46.4	+0.6
T35A	**Sooner Cattle**	**1.83**	**76**		Pb	20 39 48.3	-0.9
T35A				IAmb_Lg		20 40 17.6	
	comp=Z,22nm,0.7s						
R32A	**Long Quarter,**	**1.94**	**0**		Pb	20 39 50.2	-1.0
W35A	**Tecumseh**	**2.00**	**131**	Pn	Pn	20 39 50.7	+1.3
X34A	**Smith Ranch, M**	**2.01**	**159**		Pb	20 39 51.8	-0.5
X34A				IAmb_Lg		20 40 20.5	
	comp=Z,23nm,0.9s						
TUL1	**Leonard**	**2.44**	**103**	Pn	Pn	20 39 56.1	+0.7
TUL1				IAmb_Lg		20 40 34.8	
	comp=Z,16nm,0.8s						
CBKS	**Cedar Bluff**	**2.47**	**341**	Pn	Pn	20 39 57.7	+1.9
AMTX	**Amarillo**	**2.89**	**237**	IAmb_Lg		20 40 53.8	
	comp=Z,24nm,0.7s						
KSU1	**Kansas State U**	**3.10**	**32**	Pn	Pn	20 40 03.9	-0.7
X37A	**Clayton**	**3.32**	**124**	Pn	Pn	20 40 06.7	-0.8
U38A	**Gravette**	**3.49**	**89**		Pn	20 40 09.3	-0.6
HHAR	**Hobbs**	**3.86**	**92**	

LOOK	**Love County**	**2.82**	**152**	Pn	Pn	20 43 46.1	-1.1
AMTX	**Amarillo**	**2.87**	**237**	Pn	Pn	20 43 46.8	-1.2
X37A	**Clayton**	**3.37**	**124**	Pn	Pn	20 43 55.2	+0.5
U38A	**Gravette**	**3.53**	**90**	Pn	Pn	20 43 55.5	-1.5
HHAR	**Hobbs**	**3.90**	**92**	Pn	Pn	20 44 02.9	+0.9
ABTX	**Abilene, Hawle**	**3.94**	**191**	Pn	Pn	20 44 02.7	+0.1
W39A	**Magazine**	**4.25**	**106**	Pn	Pn	20 44 05.5	-1.4
S39A	**Bolivar**	**4.51**	**73**	Pn	Pn	20 44 10.0	-0.4
T25A	**Trinidad**	**4.57**	**280**		Pn	20 44 11.4	-0.1
MIAR	**Mount Ida**	**4.66**	**113**	Pn	Pn	20 44 10.9	-1.6
N35A	**Tabor**	**4.99**	**28**	IAmb_Lg		20 45 49.1	
	comp=Z,15nm,0.9s						
P38A	**Dawn**	**5.17**	**51**	Pn	Pn	20 44 20.9	+1.5
WHAR	**Wooly Hollow**	**5.40**	**101**	Pn	Pn	20 44 20.5	-2.1
W41B	**Gary Mavity, V**	**5.46**	**102**	Pn	Pn	20 44 22.9	-0.5
R40A	**Maddies Statio**	**5.47**	**69**	Pn	Pn	20 44 23.4	-0.2
P40A	**Paris**	**6.11**	**58**	Pn	Pn	20 44 32.1	-0.2
CCM	**Cathedral Cave**	**6.20**	**73**	Pn	Pn	20 44 33.5	0.0

*TUL **29** 20:45:22.1±2.7,36°.48N±0°.02×98°.74W±0°.04,h3km±7km, ML3.2,mb_Lg3.1/62(NEIC),Error ellipse: s-maj=5.0km s-min=3.2km az=89.0*

NEIC 29 20:45:22.1±2.3,36°.47N±0°.02×98°.72W±0°.01,h5km±2km, Error ellipse: s-maj=3.1km s-min=2.9km az=333.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.24**	**2**	Pg	Pg	20 45 27.6	+0.7
OK035				Sg	Sg	20 45 31.3	+1.3
U32A	**Winter Ranch,**	**0.25**	**248**	Pg	Pg	20 45 27.0	0.0
U32A				Sg	Sg	20 45 30.6	+0.4
OK032	**Salt Plains WL**	**0.53**	**51**	Pg	Pg	20 45 32.7	+0.4
OK032				Sg	Sb	20 45 40.7	-1.1
CROK	**Carrier**	**0.59**	**86**	Pg	Pg	20 45 34.1	+0.6
CROK				Sg	Sg	20 45 42.4	+1.1
KAN14	**Manchester OK**	**0.78**	**51**		Pg	20 45 37.5	+0.5
KAN14				Sg	Sb	20 45 48.4	-0.7
GC02	**Grant County #**	**0.79**	**61**	Pg	Pg	20 45 37.5	+0.2
GC02				Sg	Sb	20 45 48.8	-0.6
KAN10	**Anthony SW Sta**	**0.82**	**37**	Pg	Pg	20 45 38.0	+0.1
KAN10				Sg	Sg	20 45 49.3	+0.7
KAN16	**Harper SW Stat**	**0.92**	**35**		Pg	20 45 39.8	0.0
KAN16				Sg	Sb	20 45 52.6	-0.5
KAN05	**Bluff City Nor**	**0.93**	**47**	Pg	Pg	20 45 38.6	-1.4
KAN17	**Caldwell West**	**0.96**	**53**	Pg	Pg	20 45 40.6	+0.1
KAN08	**Anthony NE Sta**	**0.96**	**38**	Pg	Pg	20 45 40.6	0.0
KAN08				Sg	Sb	20 45 54.0	-0.4
KAN12	**Harper NE Stat**	**1.01**	**35**	Pg	Pg	20 45 41.5	0.0
KAN01	**Argonia South**	**1.03**	**48**	Pg	Pg	20 45 42.1	+0.2
KAN06	**Argonia West S**	**1.04**	**41**		Pg	20 45 42.0	-0.1
KAN13	**South Haven SW**	**1.13**	**61**	Pg	Pg	20 45 43.3	-0.6
BCOK	**Bluff Creek, N**	**1.21**	**132**		Pg	20 45 45.0	-0.4
OK029	**Liberty Lake**	**1.22**	**123**		Pg	20 45 45.2	-0.4
BLOK	**Blackwell**	**1.24**	**76**		Pg	20 45 45.6	-0.4
OK025	**Westminster Rd**	**1.43**	**128**		Pn	20 45 48.5	-0.2
OKCFA	**Oklahoma City**	**1.47**	**135**		Pn	20 45 49.4	+0.1
OKCSW	**OKLAHOMA CITY**	**1.49**	**135**		Pn	20 45 49.6	+0.1
OK033	**Mehan**	**1.50**	**106**		Pn	20 45 49.7	-0.1
OK031	**S. Brethren Rd**	**1.60**	**108**		Pn	20 45 50.5	-0.7
FNO	**Franklin**	**1.62**	**138**		Pn	20 45 50.7	-0.6
QUOK	**Quay**	**1.65**	**100**		Pn	20 45 50.9	-0.9
OK030	**Cody Creek RV**	**1.66**	**109**		Pn	20 45 50.0	-1.9
OK034	**N. Norfolk Rd.**	**1.69**	**105**	Pn	Pn	20 45 50.3	-2.0
WMOK	**Wichita Mounta**	**1.73**	**182**	Pn	Pn	20 45 53.4	+0.5
T35A	**Sooner Cattle**	**1.83**	**75**		Pn	20 45 52.1	-2.2
T35A				IAmb_Lg		20 46 25.3	
	comp=Z,67nm,0.7s						
R32A	**Long Quarter,**	**1.95**	**0**		Pn	20 45 56.9	+1.0
W35A	**Tecumseh**	**1.99**	**131**		Pn	20 45 56.0	-0.5
X34A	**Smith Ranch, M**	**2.00**	**159**		Pn	20 45 57.4	+0.8
TUL1	**Leonard**	**2.43**	**102**	Pn	Pn	20 46 01.5	-1.0
TUL1				IAmb_Lg		20 46 39.7	
	comp=Z,62nm,0.9s						
CBKS	**Cedar Bluff**	**2.48**	**341**	Pn	Pn	20 46 02.9	-0.3
CBKS				IAmb_Lg		20 46 40.8	
	comp=Z,57nm,0.7s						
LOOK	**Love County**	**2.77**	**153**	Pn	Pn	20 46 07.4	+0.1
LOOK				IAmb_Lg		20 46 55.9	
	comp=Z,49nm,0.8s						
AMTX	**Amarillo**	**2.88**	**238**	Pn	Pn	20 46 10.3	+1.4
AMTX				IAmb_Lg		20 46 58.5	
	comp=Z,84nm,0.8s						
KSU1	**Kansas State U**	**3.11**	**32**	Pn	Pn	20 46 10.9	-1.0
KSU1				IAmb_Lg		20 47 08.7	
	comp=Z,44nm,0.9s						
X37A	**Clayton**	**3.31**	**124**		Pn	20 46 13.5	-1.1
Z35A	**Perchaven, San**	**3.36**	**159**	Pn	Pn	20 46 15.3	0.0
U38A	**Gravette**	**3.49**	**89**		Pn	20 46 17.0	-0.2
U38A				IAmb_Lg		20 47 13.5	
	comp=Z,44nm,0.7s						
HHAR	**Hobbs**	**3.86**	**91**		Pn	20 46 19.7	-2.5
ABTX	**Abilene, Hawle**	**3.91**	**192**		Pn	20 46 21.2	-1.7
KSCO	**Kaye Shedlock'**	**4.00**	**310**		Pn	20 46 26.0	+1.7
KSCO				IAmb_Lg		20 47 37.7	
	comp=Z,44nm,0.8s						
MSTX	**Muleshoe**	**4.15**	**234**	IAmb_Lg		20 47 40.1	
	comp=Z,35nm,0.7s						
W39A	**Magazine**	**4.21**	**106**		Pn	20 46 27.5	+0.6
W39A				IAmb_Lg		20 47 42.6	
	comp=Z,56nm,0.8s						
N33A	**J Bar K, Exete**	**4.38**	**13**	Pn	Pn	20 46 27.8	-1.5
N33A				IAmb_Lg		20 47 52.5	
	comp=Z,27nm,0.8s						
Z38A	**Mt. Pleasant**	**4.44**	**135**	Pn	Pn	20 46 27.6	-2.4
Z38A				IAmb_Lg		20 47 53.5	
	comp=Z,44nm,1.0s						
S39A	**Bolivar**	**4.48**	**73**	Pn	Pn	20 46 30.0	-0.8
WHTX	**Lake Whitney,**	**4.59**	**166**	Pn	Pn	20 46 31.9	-0.3
MIAR	**Mount Ida**	**4.61**	**113**	Pn	Pn	20 46 31.8	-0.7
T25A	**Trinidad**	**4.62**	**280**	Pn	Pn	20 46 33.0	+0.2
T25A				IAmb_Lg		20 47 55.2	
	comp=Z,26nm,0.7s						
U40A	**Yellville**	**4.73**	**90**	Pn	Pn	20 46 30.4	-3.7
U40A				IAmb_Lg		20 48 03.1	
	comp=Z,39nm,0.9s						
BGNE	**Belgrade**	**4.95**	**5**		Pn	20 46 37.9	+0.7
BGNE				IAmb_Lg		20 48 09.2	
	comp=Z,42nm,0.9s						
N35A	**Tabor**	**5.00**	**28**	Pn	Pn	20 46 34.0	-3.8
P38A	**Dawn**	**5.16**	**51**		Pn	20 46 38.4	-1.7
OGNE	**Ogallala**	**5.17**	**331**	Pn	Pn	20 46 40.9	+0.7
X40A	**Basin Creek Fa**	**5.19**	**111**	Pn	Pn	20 46 37.9	-2.6
MGMO	**Mountain Grove**	**5.22**	**81**	Pn	Pn	20 46 39.0	-1.9
MGMO				IAmb_Lg		20 48 13.6	
	comp=Z,34nm,0.9s						
WHAR	**Wooly Hollow**	**5.35**	**101**		Pn	20 46 40.7	-2.0
WHAR				IAmb_Lg		20 48 16.0	
	comp=Z,33nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.37**	**94**	Pn	Pn	20 46 41.9	-0.9
FCAR				IAmb_Lg		20 48 15.2	
	comp=Z,24nm,0.8s						
WLAR	**White Oak Lake**	**5.37**	**119**	IAmb_Lg		20 48 26.7	
	comp=Z,31nm,0.9s						
W41B	**Gary Mavity, V**	**5.41**	**102**	Pn	Pn	20 46 42.3	-1.3
W41B				IAmb_Lg		20 48 15.8	
	comp=Z,22nm,0.9s						
R40A	**Maddies Statio**	**5.45**	**69**	Pn	Pn	20 46 43.4	-0.6
SDCO	**Great Sand Dun**	**5.57**	**285**	Pn	Pn	20 46 44.7	-1.3
Q24A	**Divide**	**5.67**	**298**	IAmb_Lg		20 48 26.9	
	comp=Z,20nm,0.8s						
435B	**Jarrell**	**5.75**	**170**	IAmb_Lg		20 48 37.0	
	comp=Z,32nm,0.8s						
NATX	**Nacogdoches**	**5.78**	**143**	IAmb_Lg		20 48 39.5	
	comp=Z,22nm,0.8s						
L34A	**Svendsen Farm,**	**5.78**	**18**	Pn	Pn	20 46 47.3	-1.3
JCT	**Junction City**	**6.04**	**189**	IAmb_Lg		20 48 41.5	
	comp=Z,23nm,0.7s						
LCAR	**Lake Charles**	**6.12**	**92**	Pn	Pn	20 46 50.6	-2.7
PBMO	**Poplar Bluff**	**6.67**	**85**	Pn	Pn	20 46 58.8	-2.0
PBMO				IAmb_Lg		20 48 53.7	
	comp=Z,26nm,0.8s						
FVM	**French Village**	**6.79**	**75**	Pn	Pn	20 47 00.5	-1.9
FVM				IAmb_Lg		20 49 02.8	
	comp=Z,29nm,0.8s						
SCIA	**State Center**	**6.91**	**37**	IAmb_Lg		20 49 04.9	
	comp=Z,29nm,0.7s						
SLM	**Saint Louis**	**7.08**	**70**	IAmb_Lg		20 49 05.4	
	comp=Z,25nm,0.8s						
PHWY	**Pilot Hill**	**7.13**	**315**	IAmb_Lg		20 49 22.0	
	comp=Z,18nm,0.8s						
ECSD	**EROS Data Cent**	**7.43**	**12**	Pn	Pn	20 47 11.2	0.0

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S44A	**Carbondale**	**7.66**	**78**	IAmb_Lg		20 49 34.5
	comp=Z,22nm,0.7s					
K22A	**Casper**	**8.62**	**318**	IAmb_Lg		20 50 09.1
	comp=Z,18nm,0.8s					
JFWS	**Jewell Farm**	**9.16**	**43**	IAmb_Lg		20 50 25.6
	comp=Z,19nm,0.8s					

IDC 29 21:00:18.5±8.0,3°.32S×147°.62E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/25,mbtmp3.4/3,Error ellipse: s-maj=265.4km s-min=36.4km az=99.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.00**	**217**	P	P	21 05 04.2	+0.4
	2.8nm,1.0s,baz=37,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**24.19**	**212**	P	P	21 05 36.7	-0.2
	0.3nm,0.6s,baz=47,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	**75.85**	**320**	P	P	21 12 06.8	0.0
	0.4nm,0.9s,baz=123,slow=5.3,SNR=3.4						

*IDC **29** 21:08:00.7±6.9,6°.36S×155°.10E,h127km±64km,mb3.7/11, mb1 3.9/12,mb1mx3.7/41,mbtmp4.1/12,Error ellipse: s-maj=25.7km s-min=20.9km az=130.0*
*NEIC **29** 21:08:01.1±2.0,6°.27S±0°.08×154°.96E±0°.10,h116km±7km, mb4.5/20,Error ellipse: s-maj=14.3km s-min=11.8km az=108.0*

ISC 29 21:07:58.3±0.6,6°.35S±0°.09×155°.12E±0°.09,h100km,n44, σ1$42/39,mb4.2/22,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.64**	**306**		Pn	21 08 46.3	-6.4
MANU	**Manus Island**	**8.84**	**299**	Pn	**Pn**	**21 10 07.6**	**+4.4**
MANU				Sn	**Sn**	**21 11 40.3**	**-0.8**
COEN	**Coen**	**13.97**	**236**		**P**	**21 11 17.3**	**+0.6**
DZM	**Mont Dzumac**	**19.08**	**146**	P	**P**	**21 12 13.4**	**+0.3**
	0.4nm,0.3s,baz=266,slow=12,SNR=8.0						
DZM	**Mont Dzumac**	**19.08**	**146**	P	**P**	**21 12 13.6**	**+0.4**
WR0	**Warramunga Arr**	**24.13**	**234**	P	**P**	**21 13 05.2**	**+0.1**
WR0				IAmb	IAmb	21 13 11.2	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**24.15**	**235**	P	**P**	**21 13 05.5**	**+0.3**
WB0				IAmb	IAmb	21 13 06.2	
	comp=Z,8.9nm,0.9s						
WRAB	**Tennant Creek**	**24.27**	**234**	P	**P**	**21 13 06.6**	**+0.2**
WRAB				IAmb	IAmb	21 13 07.3	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	**24.28**	**234**	P	**P**	**21 13 06.8**	**+0.4**
WB2				IAmb	IAmb	21 13 11.4	
	comp=Z,17nm,1.2s						
WRA	**Warramunga Arr**	**24.29**	**234**	P	**P**	**21 13 06.6**	**+0.1**
	comp=Z,4.8nm,0.5s,baz=58,slow=9.6,SNR=68						
WRA				PcP	**PcP**	**21 16 44.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=63,slow=2.9,SNR=1.5						
WRA	**Warramunga Arr**	**24.29**	**234**	P	**P**	**21 13 05.5**	**-0.9**
AS31	**Alice Springs**	**26.69**	**228**	P	**P**	**21 13 28.1**	**-0.2**
ASAR	**Alice Springs**	**26.69**	**228**	P	**P**	**21 13 28.0**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=57,slow=9.2,SNR=23						
H11S3	**WAKE ISLAND Hy**	**27.20**	**25**	T	T	21 41 34.3	
	baz=205,slow=75,SNR=64						
H11S2	**WAKE ISLAND Hy**	**27.20**	**25**	T	T	21 41 27.7	
	baz=205,slow=75,SNR=57						
H11S1	**WAKE ISLAND Hy**	**27.22**	**25**	T	T	21 41 26.9	
	baz=205,slow=75,SNR=40						
KNRA	**Kununurra**	**27.45**	**248**	P	**P**	**21 13 35.0**	**0.0**
KNRA				IAmb	IAmb	21 13 44.1	
	comp=Z,18nm,1.2s						
STKA	**Stephens Creek**	**28.37**	**205**	P	**P**	**21 13 41.8**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=8.5,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**28.37**	**205**	P	**P**	**21 13 42.8**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**28.38**	**24**	T	T	21 43 11.9	
	baz=199						
H11N3	**WAKE ISLAND Hy**	**28.39**	**24**	T	T	21 43 04.8	
	baz=199						
H11N2	**WAKE ISLAND Hy**	**28.39**	**24**	T	T	21 43 09.6	
	baz=199						
FITZ	**Fitzroy Crossi**	**31.03**	**245**	P	**P**	**21 14 06.4**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=90,slow=20						
FORT	**Forrest**	**35.14**	**223**	P	**P**	**21 14 40.3**	**-2.1**
PSA00	**Pilbara Seismi**	**37.30**	**242**	P	**P**	**21 15 00.0**	**-1.0**
QRZ	**Quartz Range**	**37.69**	**158**	P	**P**	**21 15 05.6**	**+1.6**
QRZ				IAmb	IAmb	21 15 20.2	
	comp=Z,20nm,1.3s						
BKZ	**Black Stump Fm**	**37.94**	**153**	P	**P**	**21 15 08.0**	**+1.8**
BKZ				IAmb	IAmb	21 15 20.8	
	comp=Z,17nm,1.4s						
THZ	**Tophouse**	**38.65**	**159**	P	**P**	**21 15 15.4**	**+3.4**
BFZ	**Birch Farm**	**39.06**	**154**	P	**P**	**21 15 16.5**	**+1.0**
LTZ	**Lake Taylor**	**39.32**	**160**	P	**P**	**21 15 20.7**	**+3.0**
LTZ				IAmb	IAmb	21 15 22.3	
	comp=Z,23nm,1.5s						
PEA0B	**Petropavlovsk-**	**59.27**	**2**	P	**P**	**21 17 50.1**	**+0.9**
PETK	**Petropavlovsk-**	**59.27**	**2**	P	**P**	**21 17 48.9**	**-0.3**
	comp=Z,4.1nm,0.9s,baz=178,slow=10,SNR=4.6						
CM31	**Chiang Mai Arr**	**60.62**	**295**	P	**P**	**21 17 57.3**	**-1.8**
CM31				IAmb	IAmb	21 18 00.2	
	comp=Z,3.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.62**	**295**	P	**P**	**21 17 59.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=127,slow=5.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**60.62**	**295**	P	**P**	**21 17 58.4**	**-0.7**
SONM	**Songino Array**	**68.86**	**327**	P	**P**	**21 18 51.6**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=136,slow=5.3,SNR=2.6						
BILL	**Bilibino**	**74.64**	**4**	P	**P**	**21 19 27.1**	**+0.8**
BILL				IAmb	IAmb	21 19 32.5	
	comp=Z,3.5nm,0.8s						
ILAR	**Eielson Array**	**82.73**	**21**	P	**P**	**21 20 10.3**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=243,slow=5.9,SNR=4.6						
MK31	**Makanchi Array**	**83.01**	**319**	P	**P**	**21 20 11.5**	**-1.1**
MKAR	**Makanchi Array**	**83.01**	**319**	P	**P**	**21 20 11.5**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=92,slow=0.7,SNR=18						
ZALV	**Zalesovo Beam**	**83.72**	**326**	P	**P**	**21 20 14.5**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=131,slow=4.1,SNR=5.0						
MAW	**Mawson**	**85.03**	**203**	P	**P**	**21 20 21.9**	**-0.5**
	comp=Z,15nm,0.4s,baz=48,slow=16,SNR=1.9						
YKA	**Yellowknife Ar**	**95.71**	**28**	P	**P**	**21 21 12.3**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=261,slow=4.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**152.97**	**286**	PKPbc	**PKPbc**	**21 27 42.8**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=72,slow=2.1,SNR=6.3						

IDC 29 21:11:26.2±7.5,3°.02S×146°.77E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.5/38,mbtmp3.6/3,MS3.5/2,Ms1 3.5/2, ms1mx2.8/43,Error ellipse: s-maj=253.1km s-min=35.2km az=98.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.74**	**215**	P	P	21 16 09.2	+0.6
	3.4nm,0.8s,baz=42,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.01**	**210**	P	P	21 16 42.5	-0.4
	1.8nm,0.8s,baz=37,slow=7.8,SNR=11						
DZM	**Mont Dzumac**	**26.90**	**136**	LR	LR	21 26 06.2	
	comp=Z,78nm,19.5s,baz=160,slow=33						
URZ	**Urewera**	**44.70**	**146**	LR	LR	21 36 23.5	
	comp=Z,80nm,20.3s,baz=31,slow=34						
MKAR	**Makanchi Array**	**75.08**	**320**	P	P	21 23 10.1	0.0
	0.2nm,0.7s,baz=100,slow=6.7,SNR=2.2						

IDC 29 21:19:05.4±6.5,4°.99S×147°.99E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.2/27,mbtmp3.2/3,ML2.9/1,Error ellipse: s-maj=199.0km s-min=37.3km az=102.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.93**	**221**	P	P	21 23 39.3	+0.2
	0.0nm,0.3s,baz=45,slow=9.6,SNR=6.2						
ASAR	**Alice Springs**	**23.00**	**215**	P	P	21 24 11.7	-0.4
	0.3nm,0.6s,baz=37,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**77.36**	**320**	P	P	21 31 02.4	+0.2
	0.2nm,0.8s,baz=101,slow=6.4,SNR=1.7						

CNRM 29 21:28:09.4,35°.46N×3°.91W,h18km,ml2.5,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.25**	**186**	P	Pg	21 28 14.4	-0.8
PALE				S	Sg	21 28 19.0	-0.1
SMIR	**Smir Dam**	**1.22**	**281**	P	Pn	21 28 31.4	-0.1
SMIR				S	Sn	21 28 47.8	+0.2

CHEFC	**Chefchaouen**	**1.22**	**253**	P	Pg	21 28 32.7	-0.4
CHEFC				S	Sg	21 28 50.4	+1.3
CHAS	**Isla Isabel II**	**1.24**	**103**	P	Pn	21 28 26.5	-5.3
CHAS				S	Sb	21 28 40.4	-7.5
JBK	**JBK**	**1.58**	**135**	P	Pn	21 28 36.0	-0.7
JBK				S	Sn	21 28 55.6	-1.0
LCRM	**LCR**	**1.94**	**204**	P	Pb	21 28 44.5	+0.2
LCRM				S	Sg	21 29 11.4	-0.6
MD31	**MD31**	**2.69**	**195**	P	Pn	21 28 51.7	-0.1
MD31				S	Sn	21 29 25.1	+1.2
MDT	**Midelt**	**2.71**	**193**	P	Pn	21 28 53.0	+0.9
MDT				S	Sn	21 29 25.8	+1.3
ZHG	**ZHG**	**3.02**	**229**	P	Pn	21 28 57.6	+1.1
ZHG				S	Sn	21 29 33.6	+1.4
PVAQ	**Vaqueiros**	**3.63**	**303**	P	Pn	21 29 06.8	+2.1
PVAQ				S	Sn	21 29 46.7	-0.3

*NEIC **29** 21:34:34.0±2.0,32°.78S±0°.08×179°.0W±0°.1,h73km±7km, mb4.5/29,Error ellipse: s-maj=15.6km s-min=10.6km az=104.0*
*IDC **29** 21:34:38.6±3.9,32°.82S×179°.46W,h107km±30km,mb4.2/8, mb1 4.1/11,mb1mx3.9/36,mbtmp4.4/11,Error ellipse: s-maj=30.3km s-min=17.9km az=59.0*
*WEL **29** 21:34:40.1±0.7,33°.3S±12°×18°.0W±2°.9,h145km±23km, M4.2/19,mB4.7/13,ML4.8/19,MLv4.7/19,Mw(mB)3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=112.6*

ISC 29 21:34:39.1±0.6,33°.07S±0°.05×179°.58W±0°.09,h100km, n116,σ1$72/124,mb4.5/20,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.05**	**21**	P	**Pn**	**21 35 41.6**	**+2.6**
GLKZ				S	**Sn**	**21 36 28.9**	**+3.5**
RAO	**Raoul Island**	**4.06**	**21**	Pn	Pn	21 35 28.2	-11
MXZ	**Matakaoa Point**	**4.80**	**201**	Pn	**Pn**	**21 35 50.4**	**+1.3**
HAZ	**Te Kaha**	**5.15**	**204**	P	**Pn**	**21 35 56.7**	**+2.9**
HAZ				S	**Sn**	**21 36 55.2**	**+3.3**
PKGZ	**Pakihiroa**	**5.17**	**201**	P	**Pn**	**21 35 55.9**	**+1.7**
PKGZ				S	**Sn**	**21 36 54.5**	**+1.9**
PUZ	**Puketiti**	**5.29**	**199**	P	**Pn**	**21 35 56.6**	**+0.8**
PUZ				S	**Sn**	**21 36 54.9**	**-0.6**
RUGZ	**Raukumara Rang**	**5.37**	**204**	P	**Pn**	**21 35 58.4**	**+1.5**
RUGZ				S	**Sn**	**21 36 59.6**	**+2.0**
TWGZ	**Tauwhareparae**	**5.47**	**201**	P	**Pn**	**21 36 00.3**	**+2.1**
TWGZ				S	**Sn**	**21 37 01.5**	**+1.7**
CNGZ	**Carnagh Statio**	**5.69**	**198**	P	**Pn**	**21 36 01.5**	**+0.4**
MWZ	**Matawai**	**5.76**	**203**	P	**Pn**	**21 36 03.4**	**+1.3**
MWZ				S	**Sn**	**21 37 08.1**	**+1.3**
URZ	**Urewera**	**5.84**	**207**	P	**Pn**	**21 36 04.4**	**+1.2**
	1.5nm,0.3s,baz=262,slow=4.4,SNR=17						
URZ				S	**Sn**	**21 37 07.1**	**-1.5**
	10.0nm,0.3s,baz=165,slow=22,SNR=9.0						
URZ	**Urewera**	**5.84**	**207**	P	**Pn**	**21 36 04.3**	**+1.2**
URZ				S	**Sn**	**21 37 09.2**	**+0.6**
URZ	**Urewera**	**5.84**	**207**	P	**Pn**	**21 36 04.6**	**+1.5**
RAGZ	**Rawiri**	**5.94**	**203**	P	**Pn**	**21 36 06.4**	**+1.8**
RAGZ				S	**Sn**	**21 37 11.8**	**+0.5**
RIGZ	**Rimuhau**	**6.02**	**200**	P	**Pn**	**21 36 06.0**	**+0.3**
OUZ	**Omahuta**	**6.05**	**247**		**Pn**	**21 36 09.3**	**+3.2**
MUGZ	**Murupara**	**6.16**	**208**	P	**Pn**	**21 36 07.2**	**-0.3**
MUGZ				S	**Sn**	**21 37 16.5**	**0.0**
RTZ	**Ruatahuna**	**6.20**	**206**	P	**Pn**	**21 36 08.2**	**+0.1**
RTZ				S	**Sn**	**21 37 16.7**	**-0.9**
MHGZ	**Mahia Peninsul**	**6.40**	**198**	P	**Pn**	**21 36 10.6**	**-0.1**
MTHZ	**Maungataniwha**	**6.46**	**206**	P	**Pn**	**21 36 12.5**	**+0.9**
NMHZ	**Naumai**	**6.69**	**205**	P	**Pn**	**21 36 16.2**	**+1.5**
NMHZ				S	**Sn**	**21 37 30.4**	**+0.9**
ARHZ	**Aropaoanui**	**6.77**	**203**	P	**Pn**	**21 36 16.2**	**+0.4**
BKZ	**Black Stump Fm**	**6.86**	**206**	P	**Pn**	**21 36 14.5**	**-2.6**
BKZ	**Black Stump Fm**	**6.86**	**206**	Pn	**Pn**	**21 36 17.9**	**+0.8**
MCHZ	**McNeill Hill**	**7.04**	**204**	P	**Pn**	**21 36 19.8**	**+0.4**
HIZ	**Hauiti**	**7.07**	**218**	Pn	**Pn**	**21 36 22.0**	**+2.2**
KWHZ	**Kaweka Forest**	**7.12**	**206**	P	**Pn**	**21 36 19.5**	**-1.0**
KWHZ				S	**Sn**	**21 37 38.8**	**-1.1**
NTVZ	**North Tongarir**	**7.14**	**211**	P	**Pn**	**21 36 22.5**	**+1.6**
**TMVZ

FORT	Forrest	44.12	258	P	P	21 42 37.1	-0.6
MTN	Manton Dam	49.15	282	P	P	21 43 17.4	+0.4
MTN				IAmb	IAmb	21 43 36.4	
	comp=Z,5.5nm,1.1s						
KNRA	Kununurra	49.64	277	P	P	21 43 20.9	+0.2
FITZ	Fitzroy Crossi	51.08	273	P	P	21 43 30.8	-0.8
	comp=Z,2.9nm,0.7s,baz=123,slow=5.4						
CASY	Casey	52.16	209	P	P	21 43 38.5	-0.4
CASY				IAmb	IAmb	21 43 48.9	
	comp=Z,8.4nm,1.1s						
FAKI	Fak Fak	54.08	293	P	P	21 43 54.2	+0.5
PSA00	Pilbara Seismi	54.38	266	P	P	21 43 54.7	-1.1
PSA00	Pilbara Seismi	54.38	266	P	P	21 43 54.6	-1.2
PSA00				IAmb	IAmb	21 44 00.8	
	comp=Z,10nm,1.1s						
MORW	Morawa	54.53	256	P	P	21 43 55.2	-1.7
MORW				IAmb	IAmb	21 44 11.1	
	comp=Z,3.6nm,1.1s						
MBWA	Marble Bar	54.65	266	P	P	21 43 56.0	-1.8
MBWA				IAmb	IAmb	21 44 08.7	
	comp=Z,9.7nm,1.1s						
QSPA	South Pole Qui	57.05	180	P	P	21 44 16.1	+1.7
	comp=Z,4.9nm,0.6s,baz=323,slow=0.9,SNR=17						
QSPA	South Pole Qui	57.05	180	P	P	21 44 16.4	+1.9
MAW	Mawson	69.34	201	P	P	21 45 34.5	-0.9
	comp=Z,49nm,1.1s,baz=294,slow=17,SNR=1.9						
MAW	Mawson	69.34	201	P	P	21 45 36.1	+0.8
SNAA	Sanae	75.52	179	P	P	21 46 12.7	+0.6
H03S2	Juan Fernandez	80.11	124	T	T	23 15 31.3	
	baz=239						
H03S1	Juan Fernandez	80.11	124	T	T	23 15 30.4	
	baz=239						
H03S3	Juan Fernandez	80.12	124	T	T	23 15 28.8	
	baz=239						
H03N3	Juan Fernandez	80.31	124	T	T	23 15 34.4	
	baz=239,slow=72,SNR=13						
H03N2	Juan Fernandez	80.32	124	T	T	23 15 33.9	
	baz=239,slow=72,SNR=12						
H03N1	Juan Fernandez	80.33	124	T	T	23 15 34.4	
	baz=239,slow=72,SNR=19						
PETK	Petropavlovsk-	88.07	347	P	P	21 47 16.9	-0.9
	comp=Z,5.2nm,0.9s,baz=145,slow=5.3,SNR=2.9						
YHH	Holmes Hill	99.46	42	P	Pdif	21 48 05.3	-5.3
MKAR	Makanchi Array	118.44	309	PKP	PKPdf	21 53 11.9	-2.7
	comp=Z,0.2nm,0.5s,baz=96,slow=1.1,SNR=1.8						
FINES	FINESS Array B	147.14	337	PKPbc	PKPdf	21 54 06.9	-0.5
	comp=Z,3.4nm,0.6s,baz=41,slow=4.7,SNR=20						
FINES	FINESS Array B	147.14	337		PKPdf	21 54 07.8	+0.5
AKASG	Malin Array Be	152.50	318	PKPbc	PKPdf	21 54 19.1	+2.9
	comp=Z,0.3nm,0.3s,baz=48,slow=2.7,SNR=3.3						
BRTR	Keskin Array B	152.56	294	PKPbc	PKPbc	21 54 21.9	-2.1
	comp=Z,0.7nm,0.4s,baz=167,slow=5.3,SNR=9.0						
LIC	Lamto	152.81	168	*e*PKP1	PKiKP	21 54 26.2	+1.0
	comp=Z,25nm,0.9s						
KIC	Kosan Boka	152.99	169	*e*PKP1	PKiKP	21 54 26.4	+0.8
	comp=Z,8.2nm,0.5s						
TIC	Toumodi	153.22	168	*e*PKP1	PKPbc	21 54 25.5	-0.5
DBIC	Dimbokro	153.28	168	PKPbc	PKPbc	21 54 26.6	+0.5
	comp=Z,1.7nm,0.4s,baz=178,slow=2.4,SNR=6.4						
TORD	Torodi Ar. Bea	160.13	184	PKPab	PKPab	21 55 06.7	-0.8
	comp=Z,2.3nm,0.7s,baz=172,slow=4.0,SNR=7.1						

*NEIC **29** 21:36:08.7±1.1,2°.82S±0°.07×147°.8E±0°.2, h10km±2km, mb4.4/11, Error ellipse: s-maj=34.8km s-min=9.1km az=76.0*
*IDC **29** 21:36:14.3±6.6,2°.85S×146°.39E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.9/3, Error ellipse: s-maj=221.2km s-min=34.2km az=97.0*

ISC 29 21:36:09.1±2.0,2°.87S±0°.09×147°.7E±0°.3, h10km, n21, σ0°87/18, mb4.2/9, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	0.89	338	Pn	Pn	21 36 27.4	-0.3
PMG	Port Moresby	6.51	185	Pn	Pn	21 37 44.9	-0.2
COEN	Coen	11.89	202	Pn	Pn	21 39 00.0	+1.1
MTN	Manton Dam	19.16	238	P	P	21 40 31.8	-1.0
MTN				IAmb	IAmb	21 40 49.4	
	comp=Z,22nm,1.2s						
WB0	Warramunga Arr	21.24	217	P	P	21 40 55.9	+0.4
WB0				IAmb	IAmb	21 40 59.9	
	comp=Z,10nm,1.1s						
WR0	Warramunga Arr	21.30	216	P	P	21 40 56.2	0.0
WR0				IAmb	IAmb	21 40 58.7	
	comp=Z,13nm,1.1s						
WRAB	Tennant Creek	21.39	217	P	P	21 40 56.5	-0.7
WRAB				IAmb	IAmb	21 40 59.1	
	comp=Z,19nm,1.2s						
WB2	Warramunga Arr	21.40	217	P	P	21 40 57.8	+0.5
WB2				IAmb	IAmb	21 40 59.3	
	comp=Z,18nm,1.1s						
WRA	Warramunga Arr	21.40	217	P	P	21 40 56.5	-0.9
	comp=Z,9.1nm,1.0s,baz=39,slow=9.9,SNR=21						
WRA	Warramunga Arr	21.40	217	P	P	21 40 57.7	+0.4
KNRA	Kununurra	22.58	235	P	P	21 41 09.8	-0.2
KNRA				IAmb	IAmb	21 41 19.1	
	comp=Z,28nm,1.4s						
SOEI	Soe	24.26	253	P	P	21 41 26.9	0.0
SOEI				IAmb	IAmb	21 41 34.6	
	comp=Z,27nm,1.2s						
AS31	Alice Springs	24.61	212	P	P	21 41 30.1	+0.3
ASAR	Alice Springs	24.61	212	P	P	21 41 30.2	+0.4
	comp=Z,3.1nm,1.0s,baz=41,slow=7.3,SNR=19						
ASAR	Alice Springs	24.61	212	P	P	21 41 30.0	+0.2
H11S3	WAKE ISLAND Hy	28.29	41	T	T	22 12 13.9	
	baz=222,slow=74,SNR=13						
H11S2	WAKE ISLAND Hy	28.30	41	T	T	22 12 16.7	
	baz=222,slow=74,SNR=9.9						
H11S1	WAKE ISLAND Hy	28.31	41	T	T	22 12 15.1	
	baz=222,slow=74,SNR=7.3						
BBOO	Buckleboo	31.72	199	P	P	21 42 32.4	-0.9
TWG	Pinlang	36.43	316	P	P	21 43 12.7	-1.6
MKAR	Makanchi Array	75.56	320	P	P	21 47 56.0	+1.8
	comp=Z,0.5nm,0.9s,baz=104,slow=6.5,SNR=3.3						

*TUL **29** 21:49:52.8±2.0,36°.49N±0°.02×98°.75W±0°.02, h8km±6km, ML2.5, mb_Lg2.5/6(NEIC), Error ellipse: s-maj=2.6km s-min=2.0km az=125.0*

NEIC 29 21:49:52.6±1.2, 36°.49N±0°.02×98°.74W±0°.01, h12km±4km, Error ellipse: s-maj=3.2km s-min=0.9km az=151.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.22	5	Pg	Pg	21 49 57.8	+0.3
OK035				Sg	Sg	21 50 01.6	+0.8
U32A	Winter Ranch,	0.24	244	Pg	Pg	21 49 57.5	-0.2
U32A				Sg	Sg	21 50 01.3	+0.1
OK032	Salt Plains WL	0.53	53	Pg	Pg	21 50 03.3	+0.3
OK032				Sg	Sb	21 50 10.7	-0.7
CROK	Carrier	0.61	88	Pg	Pg	21 50 04.7	+0.2
CROK				Sg	Sg	21 50 13.0	+0.5
KAN14	Manchester OK	0.78	53	Pg	Pg	21 50 07.4	-0.3
GC02	Grant County #	0.79	62	Pg	Pg	21 50 07.5	-0.5
KAN10	Anthony SW Sta	0.82	39		Pg	21 50 08.3	-0.1
KAN16	Harper SW Stat	0.91	36	Pg	Pg	21 50 10.2	-0.1
KAN08	Anthony NE Sta	0.96	39	Pg	Pg	21 50 10.5	-0.7
KAN01	Argonia South	1.03	49	Pg	Pb	21 50 12.1	-0.3
KAN06	Argonia West S	1.04	43	Pg	Pb	21 50 12.5	0.0
KAN13	South Haven SW	1.14	62	Pg	Pb	21 50 14.0	-0.2
OK029	Liberty Lake	1.25	123		Pn	21 50 15.8	0.0
BLOK	Blackwell	1.25	77		Pn	21 50 15.8	-0.2
OK025	Westminster Rd	1.45	128	Pn	Pn	21 50 18.1	-0.6
OK033	Mehan	1.52	106		Pg	21 50 22.0	+0.2
WMOK	Wichita Mounta	1.74	181	Pn	Pn	21 50 23.3	+0.6
T35A	Sooner Cattle	1.84	76	Pn	Pb	21 50 26.2	0.0
R32A	Long Quarter,	1.93	1	Pn	Pb	21 50 27.3	-0.5
W35A	Tecumseh	2.02	131	Pn	Pb	21 50 29.1	-0.1
X34A	Smith Ranch, M	2.02	158	Pn	Pb	21 50 29.1	-0.1
CBKS	Cedar Bluff	2.46	341	Pn	Pn	21 50 32.4	-0.1
AMTX	Amarillo	2.88	237	Pn	Pn	21 50 39.5	+1.1
AMTX				IAmb_Lg		21 51 24.8	
	comp=Z,16nm,0.9s						
X37A	Clayton	3.33	124	IAmb_Lg		21 51 47.6	
	comp=Z,12nm,0.9s						
MSTX	Muleshoe	4.15	234	IAmb_Lg		21 52 05.1	
	comp=Z,25nm,1.1s						
W39A	Magazine	4.22	106	IAmb_Lg		21 52 08.8	
	comp=Z,6.6nm,0.9s						

*TUL **29** 21:58:07.6±0.7,36°.48N±0°.03×98°.75W±0°.04, h8km±6km, ML3.6, mb_Lg3.5/85(NEIC), Error ellipse: s-maj=5.1km s-min=3.1km az=124.0*
*IDC **29** 21:58:07.8±1.8,36°.57N×98°.83W, h0km, mb1 3.5/4, mb1mx3.3/51, mbtmp3.3/4, ML3.1/4, Error ellipse: s-maj=24.9km s-min=13.6km az=97.0*
*NEIC **29** 21:58:08.4±0.8,36°.47N±0°.03×98°.73W±0°.03, h6km±7km, Error ellipse: s-maj=4.8km s-min=3.0km az=131.0*

ISC 29 21:58:08.2±1.2, 36°.47N±0°.03×98°.72W±0°.03, h3km±13km, n89, σ0°87/67, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	E0210 Rd and N	0.23	2	Pg	Pg	21 58 12.6	-0.1
OK035				Sg	Sg	21 58 16.4	+0.6
U32A	Winter Ranch,	0.25	248	Pg	Pg	21 58 12.5	-0.4
U32A				Sg	Sg	21 58 16.1	0.0
OK032	Salt Plains WL	0.53	51	Pg	Pg	21 58 18.0	-0.2
OK032				Sg	Sg	21 58 25.5	+0.4
CROK	Carrier	0.59	87	Pg	Pg	21 58 19.5	0.0
KAN14	Manchester OK	0.78	51		Pg	21 58 22.6	-0.4
KAN14				Sg	Sg	21 58 33.4	+0.2
GC02	Grant County #	0.79	61	Pg	Pg	21 58 22.9	-0.4
GC02				Sg	Sg	21 58 33.9	+0.4
KAN10	Anthony SW Sta	0.82	38	Pg	Pg	21 58 23.3	-0.6
KAN10					Sg	21 58 34.5	-0.1
KAN16	Harper SW Stat	0.92	35		Pg	21 58 25.1	-0.7
KAN16					Sg	21 58 37.6	0.0
KAN05	Bluff City Nor	0.93	47	Pg	Pg	21 58 25.6	-0.4
KAN17	Caldwell West	0.95	53	Pg	Pg	21 58 25.9	-0.6
KAN08	Anthony NE Sta	0.96	38	Pg	Pg	21 58 25.9	-0.7
KAN12	Harper NE Stat	1.00	35	Pg	Pg	21 58 26.7	-0.8
KAN01	Argonia South	1.03	48		Pg	21 58 27.1	-0.8
KAN06	Argonia West S	1.04	42		Pg	21 58 27.2	-0.8
KAN13	South Haven SW	1.13	61	Pg	Pg	21 58 29.1	-0.8
BCOK	Bluff Creek, N	1.21	132		Pg	21 58 30.6	-0.9
OK029	Liberty Lake	1.23	123		Pg	21 58 30.6	-1.0
BLOK	Blackwell	1.24	76	Pg	Pn	21 58 30.9	-1.5
OK025	Westminster Rd	1.43	128		Pn	21 58 34.3	-0.7
OKCFA	Oklahoma City	1.48	135		Pn	21 58 34.7	-0.8
OKCSW	OKLAHOMA CITY	1.49	135		Pn	21 58 35.4	-0.4
OK033	Mehan	1.50	106		Pn	21 58 35.5	-0.5
OK031	S. Brethren Rd	1.61	108	Pn	Pn	21 58 36.8	-0.6
FNO	Franklin	1.62	138		Pn	21 58 37.1	-0.4
QUOK	Quay	1.65	100		Pn	21 58 37.5	-0.5
OK030	Cody Creek RV	1.66	109	Pn	Pn	21 58 37.9	-0.2
OK034	N. Norfolk Rd.	1.69	105		Pn	21 58 38.0	-0.5
WMOK	Wichita Mounta	1.73	182		Pn	21 58 38.4	-0.7
WMOK	Wichita Mounta	1.73	182	Pn	Pn	21 58 38.0	-1.2
T35A	Sooner Cattle	1.83	75	Pn	Pn	21 58 40.7	+0.2
R32A	Long Quarter,	1.94	0	Pn	Pn	21 58 42.2	+0.1
W35A	Tecumseh	2.00	131	Pn	Pn	21 58 42.1	-0.6
X34A	Smith Ranch, M	2.00	159		Pn	21 58 43.4	+0.6
TUL1	Leonard	2.43	102		Pn	21 58 48.6	-0.2
TUL1				IAmb_Lg		21 59 24.8	
	comp=Z,201nm,0.8s						
CBKS	Cedar Bluff	2.47	341	Pn	Pn	21 58 50.2	+0.9
LOOK	Love County	2.78	153		Pn	21 58 52.0	-1.5
AMTX	Amarillo	2.89	238	Pn	Pn	21 58 55.0	0.0
AMTX				IAmb_Lg		21 59 44.3	
	comp=Z,174nm,0.8s						
KSU1	Kansas State U	3.11	32	Pn	Pn	21 58 58.3	+0.3
KSU1				IAmb_Lg		21 59 53.8	
	comp=Z,152nm,0.9s						
X37A	Clayton	3.32	124	Pn	Pn	21 58 59.8	-1.0
X37A				IAmb_Lg		21 59 57.9	
	comp=Z,162nm,0.7s						
Z35A	Perchaven, San	3.36	159	Pn	Pn	21 58 59.7	-1.8
U38A	Gravette	3.49	89	Pn	Pn	21 59 04.1	+0.7
U38A				IAmb_Lg		21 59 58.5	
	comp=Z,117nm,0.8s						
HHAR	Hobbs	3.86	91		Pn	21 59 08.9	+0.5
ABTX	Abilene, Hawle	3.92	191	Pn	Pn	21 59 08.6	-0.5
KSCO	Kaye Shedlock'	4.00	310	IAmb_Lg		22 00 23.6	
	comp=Z,106nm,0.9s						
MSTX	Muleshoe	4.15	234	IAmb_Lg		22 00 21.7	
	comp=Z,98nm,0.9s						
N33A	J Bar K, Exete	4.37	13	Pn	Pn	21 59 14.2	-1.3
N33A				IAmb_Lg		22 00 36.6	
	comp=Z,79nm,0.8s						
Z38A	Mt. Pleasant	4.44	135		Pn	21 59 16.1	-0.2
Z38A				IAmb_Lg		22 00 31.3	
	comp=Z,112nm,0.8s						
S39A	Bolivar	4.48	73	Pn	Pn	21 59 16.4	-0.6
WHTX	Lake Whitney,	4.59	166	Pn	Pn	21 59 17.5	-0.9
T25A	Trinidad	4.62	280		Pn	21 59 17.4	-1.5
T25A				IAmb_Lg		22 00 36.6	
	comp=Z,97nm,1.0s						
MIAR	Mount Ida	4.62	113	Pn	Pn	21 59 18.1	-0.6
U40A	Yellville	4.73	90	Pn	Pn	21 59 20.5	+0.1
U40A				IAmb_Lg		22 00 45.4	
	comp=Z,76nm,0.8s						
BGNE	Belgrade	4.95	5	Pn	Pn	21 59 21.8	-1.5
BGNE				IAmb_Lg		22 00 53.4	
	comp=Z,119nm,0.7s						
237A	Washetta, Mont	5.07	151	IAmb_Lg		22 01 03.9	
	comp=Z,93nm,0.8s						
OGNE	Ogallala	5.16	331	Pg	Pg	21 59 44.3	-2.7
P38A	Dawn	5.16	51	Pn	Pn	21 59 25.7	-0.5
P38A				IAmb_Lg		22 01 05.6	
	comp=Z,61nm,0.7s						
X40A	Basin Creek Fa	5.20	111	Pn	Pn	21 59 26.5	-0.2
X40A				IAmb_Lg		22 01 00.0	
	comp=Z,81nm,0.8s						
MGMO	Mountain Grove	5.22	81	Pn	Pn	21 59 26.1	-1.0
MGMO				IAmb_Lg		22 00 59.1	
	comp=Z,64nm,0.7s						
WHAR	Wooly Hollow	5.35	101	Pn	Pn	21 59 27.6	-1.3
WHAR				IAmb_Lg		22 01 00.1	
	comp=Z,105nm,0.9s						
FCAR	Ozark Folk Cen	5.37	94	IAmb_Lg		22 01 00.4	
	comp=Z,91nm,0.8s						
WLAR	White Oak Lake	5.37	120	IAmb_Lg		22 01 13.1	
	comp=Z,69nm,0.8s						
W41B	Gary Mavity, V	5.42	102	IAmb_Lg		22 01 13.5	
	comp=Z,74nm,0.8s						
Q24A	Divide	5.67	298	IAmb_Lg		22 01 05.0	
	comp=Z,57nm,0.8s						
435B	Jarrell	5.75	170	IAmb_Lg		22 01 22.5	
	comp=Z,62nm,0.8s						
Z41A	Richland Creek	5.83	122	IAmb_Lg		22 01 23.4	
	comp=Z,66nm,0.8s						
K31A	O'Neill	6.14	360	IAmb_Lg		22 01 31.9	
	comp=Z,77nm,0.7s						
CCAR	Cane Creek	6.23	112	IAmb_Lg		22 01 37.8	
	comp=Z,58nm,0.8s						
ANMO	Albuquerque	6.48	259	Pn	Pn	21 59 44.5	0.0
	comp=Z,0.2nm,0.3s,baz=82,slow=12,SNR=3.1						
ANMO				Pg	Pb	22 00 03.7	+2.2
	comp=Z,0.9nm,0.3s,baz=82,slow=19,SNR=9.7						
ANMO				Lg	Lg	22 01 27.3	
	comp=Z,0.9nm,0.3s,baz=61,slow=19,SNR=2.2						
PBMO	Poplar Bluff	6.67	85	IAmb_Lg		22 01 38.3	
	comp=Z,62nm,0.7s						
SCIA	State Center	6.91	37	IAmb_Lg		22 01 49.9	
	comp=Z,72nm,0.8s						
SLM	Saint Louis	7.08	70	IAmb_Lg		22 01 51.8	
	comp=Z,73nm,0.8s						
143A	Socs Landing,	7.11	120	IAmb_Lg		22 02 04.5	
	comp=Z,44nm,0.8s						
Y22D	IRIS PASSCAL I	7.12	253	IAmb_Lg		22 02 12.2	
	comp=Z,84nm,1.1s						
PHWY	Pilot Hill	7.13	315	IAmb_Lg		22 01 54.2	
	comp=Z,52nm,1.0s						
ECSD	EROS Data Cent	7.43	12	IAmb_Lg		22 02 12.4	
	comp=Z,39nm,1.1s						
K38A	Parkesburg	7.69	35	IAmb_Lg		22 02 30.2	
	comp=Z,73nm,0.8s						
OXF	Oxford	7.84	102	IAmb_Lg		22 02 35.6	
	comp=Z,50nm,1.0s						
W45A	Hickory Valley	7.86	97	IAmb_Lg		22 02 28.6	
	comp=Z,68nm,0.8s						
SUSD	Miller	7.96	359	IAmb_Lg		22 02 27.6	
	comp=Z,37nm,0.7s						
TXAR	Lajitas Array	8.24	212	Pn	Pn	22 00 07.9	-0.8
	comp=Z,0.4nm,0.3s,baz=39,slow=10,SNR=16						
TXAR				Pg	Pb	22 00 37.9	+6.3
	comp=Z,0.7nm,0.3s,baz=29,slow=13,SNR=9.8						
TXAR				Lg	Lg	22 02 24.9	
	comp=Z,1.9nm,0.3s,baz=36,slow=23,SNR=7.0						
RWWY	Rawlins	8.41	311	IAmb_Lg		22 02 40.2	
	comp=Z,35nm,1.0s						
I37A	Lemond, Waseca	8.56	27	IAmb_Lg		22 03 01.1	
	comp=Z,36nm,0.8s						
K22A	Casper	8.62	318	IAmb_Lg		22 02 59.4	
	comp=Z,56nm,1.0s						
RSSD	Black Hills	8.65	334	IAmb_Lg		22 02 43.5	
	comp=Z,32nm,1.0s						
L42A	Oliver, Polo	8.93	49	IAmb_Lg		22 02 55.5	
	comp=Z,64nm,0.8s						
JFWS	Jewell Farm	9.16	43	IAmb_Lg		22 03 10.3	
	comp=Z,50nm,0.8s						
F33A	5 Mile Ranch,	9.53	10	IAmb_Lg		22 03 14.6	
	comp=Z,35nm,1.2s						
PDAR	Pinedale Array	10.45	310	Pn	Pn	22 00 39.6	+0.6
	comp=Z,0.1nm,0.3s,baz=118,slow=15,SNR=2.7						
PDAR				Lg	Lg	22 03 30.1	
	comp=Z,0.3nm,0.3s,baz=121,slow=24,SNR=1.7						
ULM	Lac du Bonnet	13.92	8	Pn	Pn	22 01 18.8	-7.4
	comp=Z,0.2nm,0.3s,baz=197,slow=17,SNR=1.2						

*TUL **29** 22:16:12.5±1.5,36°.63N±0°.01×97°.667W±0°.004, h5km±6km, ML2.6, mb_Lg2.4/12(NEIC), Error ellipse: s-maj=1.5km s-min=0.5km az=173.0*

NEIC 29 22:16:12.6±1.3, 36°.616N±0°.010×97°.66W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=316.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.28	247	Pg	Pg	22 16 18.4	+0.3
CROK				Sg	Sg	22 16 22.5	+0.7
GC02	Grant County #	0.28	326	Pg	Pg	22 16 18.3	+0.2
GC02				Sg	Sg	22 16 22.3	+0.4
BLOK	Blackwell	0.39	68	Pg	Pg	22 16 19.9	-0.2
BLOK				Sg	Sg	22 16 25.7	+0.5
KAN14	Manchester OK	0.42	325		Pg	22 16 20.6	0.0
KAN14				Sg	Sg	22 16 26.5	+0.4
KAN13	South Haven SW	0.42	21	Pg	Pg	22 16 20.9	+0.1
KAN13				Sg	Sg	22 16 26.8	+0.4
KAN17	Caldwell West	0.43	349	Pg	Pg	22 16 21.1	+0.1
KAN17				Sg	Sg	22 16 27.1	+0.4
OK032	Salt Plains WL	0.48	293	Pg	Pg	22 16 21.8	0.0
OK032				Sg	Sg	22 16 28.6	+0.5
KAN05	Bluff City Nor	0.52	341		Pg	22 16 22.1	-0.5
KAN05				Sg	Sg	22 16 30.0	+0.6
KAN01	Argonia South	0.54	352		Pg	22 16 23.0	0.0
KAN01				Sg	Sg	22 16 30.2	0.0
KAN06	Argonia West S	0.65	346	Pg	Pg	22 16 24.4	-0.7
KAN08	Anthony NE Sta	0.66	338	Pg	Pg	22 16 25.0	-0.3
KAN08				Sg	Sg	22 16 34.1	+0.2
KAN16	Harper SW Stat	0.69	332	Pg	Pg	22 16 25.7	-0.2
KAN12	Harper NE Stat	0.73	339	Pg	Pb	22 16 27.7	-0.1
KAN12				Sg	Sg	22 16 36.8	+0.6
OK029	Liberty Lake	0.83	168	Pg	Pg	22 16 28.6	0.0
QUOK	Quay	0.89	120	Pg	Pg	22 16 29.5	-0.2
OK031	S. Brethren Rd	0.94	135	Pg	Pg	22 16 30.4	-0.2
T35A	Sooner Cattle	0.97	72	Pg	Pg	22 16 31.0	-0.3
OK034	N. Norfolk Rd.	0.98	128	Pg	Pg	22 16 31.1	-0.3
OK025	Westminster Rd	1.07	166	Pg	Pg	22 16 32.8	-0.2
U32A	Winter Ranch,	1.10	258	Pg	Pg	22 16 33.0	-0.8
OKCFA	Oklahoma City	1.21	172	Pg	Pg	22 16 34.6	-1.2
OKCSW	OKLAHOMA CITY	1.22	171	Pn	Pg	22 16 35.6	-0.4
FNO	Franklin	1.37	171		Pn	22 16 38.2	-0.3
W35A	Tecumseh	1.59	156	Pn	Pn	22 16 41.3	-0.2
TUL1	Leonard	1.67	114	Pn	Pn	22 16 42.6	+0.1
TUL1				IAmb_Lg		22 17 06.5	
	comp=Z,31nm,1.1s						
X34A	Smith Ranch, M	2.02	184	Pn	Pn	22 16 46.0	-1.2
WMOK	Wichita Mounta	2.08	206	Pn	Pn	22 16 48.1	-0.2
WMOK				Sn	Sn	22 17 13.8	-0.8
WMOK				IAmb_Lg		22 17 23.3	
	comp=Z,13nm,0.8s						
KSU1	Kansas State U	2.62	18		Pn	22 16 55.9	+0.3
LOOK	Love County	2.65	171	Pn	Pn	22 16 55.2	-0.8
X37A	Clayton	2.75	137	Pn	Pn	22 16 57.1	-0.3
W39A	Magazine	3.45	113	IAmb_Lg		22 18 07.7	
	comp=Z,10nm,0.8s						
S39A	Bolivar	3.63	72	IAmb_Lg		22 18 16.0	
	comp=Z,9.8nm,0.8s						
AMTX	Amarillo	3.70	243	IAmb_Lg		22 18 19.0	
	comp=Z,15nm,1.1s						
U40A	Yellville	3.88	92	IAmb_Lg		22 18 15.8	
	comp=Z,6.8nm,0.9s						

*IDC **29** 22:19:02.4±1.6,5°.18S×152°.91E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/29, mbtmp3.7/8, ML2.1/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/62, Error ellipse: s-maj=64.4km s-min=22.0km az=123.0*

ISC 29 22:19:08.1±2.5, 4°.4S±0°.7×151°.9E±0°.8, h35km, n12, σ0°65/5, mb3.5/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.88	223	Pn	Pn	22 20 48.5	+2.0
	1.9nm,0.3s,baz=333,slow=9.2,SNR=2.4						
PMG				Sn	Sn	22 22 04.1	+0.4
	4.9nm,0.3s,baz=134,slow=20,SNR=8.8						
CTA	Charters Tower	16.56	199	LR	LR	22 28 20.9	
	comp=Z,68nm,19.5s,baz=52,slow=34						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**11.67**	**45**	*i*		23 45 30.0	
	baz=240,slow=313,SNR=0.7						
I34MN	**SONGINO INFRAS**	**24.13**	**74**	*i*		01 07 30.0	
	baz=273,slow=337,SNR=0.6						
I18DK	**QAANAAQ INFRAS**	**53.87**	**350**	*i*		04 10 50.0	
	baz=25,slow=322,SNR=1.0						

IDC 29 22:39:55.7±999.0, 44°.73N×68°.95E, h0km, Error ellipse: s-maj=663.5km s-min=191.8km az=39.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**13.83**	**43**	*i*		23 58 40.0	
	baz=243,slow=323,SNR=2.2						
I34MN	**SONGINO INFRAS**	**25.91**	**70**	*i*		01 19 30.0	
	baz=271,slow=338,SNR=1.5						
I45RU	**USSURIYSK INFR**	**43.96**	**67**	*i*		03 08 20.0	
	baz=286,slow=325,SNR=0.8						
I18DK	**QAANAAQ INFRAS**	**55.36**	**350**	*i*		04 22 01.0	
	baz=30,slow=334,SNR=2.9						

*JMA **29** 22:52:47.6, 24°.14N×121°.76E, h48km±1km*
*TAP **29** 22:52:48.0, 24°.18N×121°.76E, h45km, ML3.2, C*
ISC 29 22:52:46.4±1.0, 24°.11N±0°.02×121°.85E±0°.02, h15km±8km, n74, σ1§45/120, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.22**	**284**	*i* P	**Pb**	**22 52 55.6**	**+3.5**
	baz=260						
ETL				S	**Sb**	**22 53 01.1**	**+5.2**
	baz=260						
EHP	**Heping Village**	**0.23**	**333**	*e*P	**Pb**	**22 52 55.6**	**+3.3**
	baz=357						
TWD	**Chiawan**	**0.24**	**264**	*i* P	**Pb**	**22 52 55.8**	**+3.4**
	baz=245						
TWD				S	**Sb**	**22 53 01.6**	**+5.2**
	baz=245						
NACB	**Ninganchiao**	**0.24**	**286**	P	**Pb**	**22 52 55.5**	**+3.0**
	baz=268						
NACB				S	**Sb**	**22 53 01.1**	**+4.4**
	baz=268						
HWA	**Hwalien**	**0.26**	**240**	P	**Pb**	**22 52 56.7**	**+3.9**
	baz=206						
HWA				*e*S	**Sb**	**22 53 03.5**	**+6.4**
	baz=206						
ENA	**Nanau**	**0.34**	**342**	*i* P	**Pn**	**22 52 56.5**	**-0.3**
	baz=359						
ENA				S	**Sn**	**22 53 02.9**	**-0.4**
	baz=359						
EWUT	**Wuta**	**0.34**	**349**	*i* P	**Pn**	**22 52 56.6**	**-0.2**
	baz=5.0						
EWUT				S	**Sn**	**22 53 03.0**	**-0.5**
	baz=5.0						
ESL	**Shilin**	**0.48**	**233**	P	**Pn**	**22 52 57.9**	**-0.9**
	baz=226						
TWC	**Suao**	**0.50**	**360**	P	**Pn**	**22 52 58.8**	**-0.2**
	baz=19						
TWC				*e*S	**Sn**	**22 53 07.0**	**-0.4**
	baz=19						
LATG	**Datong**	**0.52**	**325**	P	**Pn**	**22 52 58.1**	**-1.3**
	baz=323						
LATG				*e*S	**Sn**	**22 53 05.7**	**-2.3**
	baz=323						
NNSB	**Datong**	**0.54**	**307**	*i* P	**Pn**	**22 52 58.3**	**-1.3**
	baz=300						
NNSB				S	**Sb**	**22 53 05.8**	**+0.7**
	baz=300						
NDS	**Dongshan**	**0.54**	**347**	P	**Pn**	**22 52 58.7**	**-0.9**
	baz=349						
NDS				*e*S	**Sn**	**22 53 07.2**	**-1.1**
	baz=349						
WHF	**Hehuan Shan**	**0.54**	**274**	P	**Pn**	**22 52 58.7**	**-1.3**
	baz=259						
WHF				*e*S	**Sn**	**22 53 06.3**	**-2.6**
	baz=259						
NNS	**Nan Shan**	**0.55**	**307**	P	**Pn**	**22 52 58.4**	**-1.5**
	baz=307						
NNS				*e*S	**Sb**	**22 53 06.2**	**+0.6**
	baz=307						
FUSS	**Fushou**	**0.57**	**284**	*i* P	**Pn**	**22 52 59.2**	**-1.1**
	baz=281						
FUSS				*e*S	**Sb**	**22 53 06.7**	**+0.3**
	baz=281						
NDT	**Datong Townshi**	**0.58**	**328**	*i* P	**Pn**	**22 52 59.1**	**-1.1**
	baz=333						
NDT				*e*S	**Sb**	**22 53 07.1**	**+0.7**
	baz=333						
EGFH	**Guangfu**	**0.58**	**222**	*e*P	**Pn**	**22 52 59.5**	**-0.7**
	baz=210						
ENTT	**Nioudou**	**0.59**	**334**	*i* P	**Pn**	**22 52 59.2**	**-1.1**
	baz=335						
ENTT				S	**Sb**	**22 53 07.5**	**+0.8**
	baz=335						
CHGB	**Renai**	**0.62**	**266**	*i* P	**Pn**	**22 52 59.9**	**-1.0**
	baz=252						
CHGB				S	**Sn**	**22 53 08.5**	**-2.2**
	baz=252						
TWE	**Neicheng**	**0.63**	**345**	*i* P	**Pn**	**22 53 00.1**	**-0.8**
	baz=348						
TDCB	**Techi**	**0.65**	**283**	P	**Pn**	**22 53 00.3**	**-0.9**
	baz=278						
TDCB				S	**Sb**	**22 53 08.7**	**+0.2**
	baz=278						
WUSB	**Renai**	**0.68**	**260**	⇓P	**Pn**	**22 53 00.7**	**-0.9**
	baz=249						
WUSB				S	**Sn**	**22 53 09.7**	**-2.4**
	baz=249						
FUSB	**Fushanzhiwuyua**	**0.69**	**340**	*e*P	**Pn**	**22 53 00.6**	**-1.2**
	baz=339						
FUSB				*e*S	**Sb**	**22 53 10.1**	**+0.4**
	baz=339						
YHNB	**Yeheng**	**0.71**	**322**	*e*P	**Pb**	**22 53 00.7**	**+0.1**
	baz=325						
YHNB				*e*S	**Sb**	**22 53 09.5**	**-0.7**
	baz=325						
NSK	**Sanguang**	**0.72**	**322**	P	**Pb**	**22 53 00.8**	**0.0**
	baz=324						
NSK				S	**Sg**	**22 53 09.7**	**-0.5**
	baz=324						
HGSD	**Ruisui**	**0.73**	**213**	*e*P	**Pn**	**22 53 02.2**	**+0.1**
	baz=213						
NWLT	**Wulai**	**0.74**	**334**	P	**Pg**	**22 53 01.2**	**+0.3**
	baz=332						
NWLT				*e*S	**Sg**	**22 53 10.5**	**-0.2**
	baz=332						
VWDT	**VWDT**	**0.74**	**242**	P	**Pn**	**22 53 01.8**	**-0.5**
	baz=226						
VWDT				*e*S	**Sn**	**22 53 11.5**	**-1.8**
	baz=226						
NTC	**Toucheng**	**0.74**	**358**	P	**Pn**	**22 53 02.4**	**0.0**
	baz=357						
NTC				*e*S	**Sn**	**22 53 12.7**	**-0.7**
	baz=357						
EHY	**Hungye**	**0.77**	**219**	*e*P	**Pg**	**22 53 01.2**	**-0.3**
	baz=210						
WHP	**Taichung City**	**0.85**	**282**	*e*P	**Pn**	**22 53 03.2**	**-0.6**
	baz=273						
WHP				*e*S	**Sg**	**22 53 13.6**	**-0.4**
	baz=273						
NFF	**Wufeng Townshi**	**0.85**	**308**	*e*P	**Pn**	**22 53 03.5**	**-0.4**
	baz=308						
NFF				*e*S	**Sb**	**22 53 13.1**	**-1.1**
	baz=308						
TIPB	**Shuangxi**	**0.86**	**358**	*e*P	**Pn**	**22 53 04.0**	**0.0**
	baz=359						
TIPB				*e*S	**Sn**	**22 53 15.9**	**-0.5**
	baz=359						
WCS	**Beigang Elemen**	**0.86**	**267**	*e*P	**Pn**	**22 53 03.3**	**-0.7**
	baz=258						
WCS				*e*S	**Sn**	**22 53 15.8**	**-0.5**
	baz=258						
YULB	**Yu-li**	**0.88**	**216**	*e*P	**Pg**	**22 53 02.8**	**-0.6**
	baz=207						
YULB				*e*S	**Sg**	**22 53 14.5**	**-0.4**
	baz=207						
SSLB	**Suanglung**	**0.88**	**249**	*e*P	**Pn**	**22 53 03.4**	**-0.9**
	baz=234						
SMLT	**Sun Moon Lake**	**0.90**	**256**	*e*P	**Pn**	**22 53 04.0**	**-0.7**
	baz=240						
EYUL	**Yuli**	**0.90**	**213**	*e*P	**Pn**	**22 53 04.5**	**0.0**
	baz=213						
NHDH	**Xindian Distri**	**0.90**	**341**	*e*P	**Pg**	**22 53 03.9**	**-0.1**
	baz=337						
NHDH				*e*S	**Sb**	**22 53 15.0**	**-0.6**
	baz=337						
TWB1	**Santiao Chiao**	**0.91**	**8**	*e*P	**Pn**	**22 53 04.8**	**+0.2**
	baz=24						
TWB1				*e*S	**Sn**	**22 53 17.5**	**+0.1**
	baz=24						
LIOB	**Emei**	**0.93**	**305**	*e*P	**Pn**	**22 53 04.8**	**-0.2**
	baz=301						
LIOB				*e*S	**Sg**	**22 53 16.2**	**-0.7**
	baz=301						
NSTT	**Nanjuang**	**0.94**	**304**	*e*P	**Pn**	**22 53 04.8**	**-0.3**
	baz=299						
NSTT				*e*S	**Sb**	**22 53 15.6**	**-1.0**
	baz=299						
NWF	**Wu-fen Shan**	**0.96**	**356**	*e*P	**Pn**	**22 53 05.3**	**-0.1**
	baz=352						
NWF				*e*S	**Sn**	**22 53 19.2**	**+0.3**
	baz=352						
SXI1	**Grass Mountain**	**0.98**	**1**	*e*P	**Pg**	**22 53 06.1**	**+0.6**
	baz=356						
SXI1				*e*S	**Sn**	**22 53 19.4**	**0.0**
	baz=356						
TWQ1	**Liyutan**	**1.01**	**284**	*e*P	**Pg**	**22 53 05.6**	**-0.5**
	baz=280						
TWQ1				*e*S	**Sg**	**22 53 18.8**	**-0.6**
	baz=280						
FULB	**Fuli**	**1.04**	**210**	*e*P	**Pg**	**22 53 06.2**	**-0.4**
	baz=211						
YM01	**YM01**	**1.07**	**346**	*e*P	**Pb**	**22 53 06.3**	**-0.3**
	baz=338						
TCU	**Taichung**	**1.08**	**272**	*e*P	**Pg**	**22 53 06.8**	**-0.4**
	baz=267						
TCU				*e*S	**Sn**	**22 53 20.9**	**-0.7**
	baz=267						
WNT	**Mingjian**	**1.09**	**258**	*e*P	**Pg**	**22 53 07.6**	**0.0**
	baz=251						
WNT				*e*S	**Sg**	**22 53 22.2**	**+0.4**
	baz=251						
CHKT	**Chengkung**	**1.10**	**204**	*e*P	**Pg**	**22 53 07.6**	**0.0**
	baz=186						
YOJ	**Yonaguni jima**	**1.11**	**71**	P	**Pg**	**22 53 08.2**	**+0.2**
YOJ				*e*S	**Sg**	**22 53 23.2**	**+0.7**
ANP	**Anpu**	**1.12**	**344**	*e*P	**Pg**	**22 53 07.6**	**-0.4**
	baz=349						
ALS	**Alishan**	**1.13**	**238**	*e*P	**Pg**	**22 53 08.4**	**+0.1**
	baz=231						
CHN5	**Tsauling**	**1.19**	**245**	*e*P	**Pg**	**22 53 09.1**	**-0.3**
	baz=228						
CHN5				*e*S	**Sg**	**22 53 26.1**	**+1.1**
	baz=228						
ELDTW	**Lidau**	**1.19**	**220**	*e*P	**Pn**	**22 53 08.0**	**-0.7**
	baz=206						
EDH	**Donghe**	**1.24**	**204**	*e*P	**Pn**	**22 53 08.7**	**-0.4**
	baz=188						
EDH				*e*S	**Sg**	**22 53 25.4**	**-1.0**
	baz=188						
WDLH	**Douliu**	**1.27**	**251**	*e*P	**Pg**	**22 53 10.1**	**-0.9**
	baz=245						
WRL	**Guolierlin Hig**	**1.36**	**262**	*e*P	**Pn**	**22 53 10.4**	**-0.6**
	baz=256						
TPUB	**Ta-pu**	**1.38**	**235**	*e*P	**Pb**	**22 53 11.8**	**-0.2**
	baz=218						
TPUB				*e*S	**Sg**	**22 53 29.7**	**-1.3**
	baz=218						
WTK	**Tuku**	**1.40**	**253**	*e*P	**Pb**	**22 53 11.5**	**-0.8**
	baz=247						
WTP	**Ta-pu**	**1.42**	**233**	*e*P	**Pg**	**22 53 12.6**	**-1.2**
	baz=226						
CHY	**Chiayi**	**1.44**	**245**	*e*P	**Pb**	**22 53 12.8**	**-0.2**
	baz=239						
TWGBT	**Beinan**	**1.47**	**209**	*e*P	**Pn**	**22 53 12.2**	**-0.2**
	baz=193						
TWK	**Hsinying**	**1.50**	**237**	*e*P	**Pb**	**22 53 13.8**	**-0.3**
	baz=230						
CHN1	**Nanshi**	**1.52**	**233**	*e*P	**Pb**	**22 53 13.8**	**-0.5**
	baz=227						
SLGT	**Liugui**	**1.57**	**225**	*e*P	**Pb**	**22 53 15.2**	**0.0**
	baz=219						
WSL	**Shuilin Townsh**	**1.60**	**249**	*e*P	**Pn**	**22 53 13.8**	**-0.3**
	baz=243						
ICHU	**Yijhu**	**1.62**	**243**	*e*P	**Pn**	**22 53 14.5**	**0.0**
	baz=237						
IRIF	**Iriomote-Funau**	**1.73**	**82**	P	**Pn**	**22 53 16.6**	**+0.7**
IRIF				S	**Sn**	**22 53 38.1**	**+0.4**
HATJ	**Hateruma jima**	**1.78**	**91**	P	**Pb**	**22 53 18.6**	**-0.2**
MASBT	**Mashibuluo**	**1.86**	**217**	*e*P	**Pb**	**22 53 19.3**	**-0.9**
	baz=211						
MASBT				*e*S	**Sb**	**22 53 43.4**	**+0.1**
	baz=211						
JKRS	**Kuro-shima**	**1.97**	**86**	P	**Pb**	**22 53 20.8**	**-1.2**
JKRS				S	**Sb**	**22 53 45.5**	**-0.9**
JIJ	**Ishigaki jima**	**2.11**	**83**	P	**Pn**	**22 53 22.0**	**+0.9**
JIJ				S	**Sn**	**22 53 47.3**	**+0.3**
JISG	**Ishigakijimahi**	**2.29**	**77**	P	**Pn**	**22 53 24.2**	**+0.5**

NNC 29 22:54:22.1±5.5, 36°.81N×71°.08E, h182km±106km, mb2.6, mpv3.6, 3C-2D, Error ellipse: s-maj=61.6km s-min=34.0km az=17.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**6.30**	**356**	⇑P	Pn	22 55 53.2	+0.2
	2.8nm,0.4s,baz=178,slow=13						
KK02				⇓S	Sn	22 57 05.4	+0.6
	1.6nm,0.3s						
AAK	**Ala-Archa**	**6.39**	**23**	⇑P	Pn	22 55 54.1	-0.2
	1.5nm,0.4s						
AAK				⇓S	Sn	22 57 07.3	+0.2
	7.0nm,1.2s						
AB31	**Akbulak array**	**14.85**	**330**	⇑P	Pn	22 57 42.9	0.0
	0.3nm,0.5s,baz=263,slow=36,SNR=12						

*NEIC **29** 23:01:27.7±1.1, 2°.59S±0°.08×146°.9E±0°.1, h10km±1km, mb4.3/10, Error ellipse: s-maj=24.3km s-min=11.2km az=111.0*
*IDC **29** 23:01:29.4±6.7, 2°.95S×146°.60E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/25, mbtmp3.9/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/58, Error ellipse: s-maj=230.8km s-min=27.2km az=98.0*
ISC 29 23:01:28.3±0.8, 2°.62S±0°.08×146°.9E±0°.1, h10km, n21, σ1§58/17, mb4.2/8, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.76**	**41**	Pn	**Pn**	**23 01 43.8**	**-1.4**
JAY	**Jayapura**	**6.16**	**271**	LR	LR	23 05 15.9	
	comp=Z,135nm,18.3s,baz=154,slow=38						
PMG	**Port Moresby**	**6.75**	**178**	LR	LR	23 06 11.8	
	comp=Z,62nm,18.9s,baz=314,slow=44						
PMG	**Port Moresby**	**6.75**	**178**	Pn	**Pn**	**23 03 07.0**	**-0.5**
CTA	**Charters Tower**	**17.37**	**182**	LR	LR	23 13 15.3	
	comp=Z,46nm,18.8s,baz=51,slow=41						
WB0	**Warramunga Arr**	**20.95**	**215**	P	**P**	**23 06 10.7**	**-0.9**
WB0				IAmb	IAmb	23 06 15.3	
	comp=Z,18nm,1.2s						
WR0	**Warramunga Arr**	**21.02**	**214**	P	**P**	**23 06 11.3**	**-1.0**
WR0				IAmb	IAmb	23 06 13.5	
	comp=Z,29nm,1.2s						
WRAB	**Tennant Creek**	**21.11**	**214**	P	**P**	**23 06 11.0**	**-2.3**
WRAB				IAmb	IAmb	23 06 13.9	
	comp=Z,21nm,1.1s						
WB2	**Warramunga Arr**	**21.11**	**214**	P	**P**	**23 06 12.4**	**-0.9**
WB2				IAmb	IAmb	23 06 14.0	
	comp=Z,20nm,1.1s						
WRA	**Warramunga Arr**	**21.12**	**214**	P	**P**	**23 06 11.7**	**-1.7**
	comp=Z,15nm,1.1s,baz=38,slow=12,SNR=27						
WRA	**Warramunga Arr**	**21.12**	**214**	P	**P**	**23 06 12.3**	**-1.1**
AS31	**Alice Springs**	**24.39**	**210**	P	**P**	**23 06 46.5**	**-0.6**
ASAR	**Alice Springs**	**24.39**	**210**	P	**P**	**23 06 45.9**	**-1.2**
	comp=Z,4.7nm,1.1s,baz=40,slow=7.7,SNR=19						
ASAR				LR	LR	23 17 54.7	
	comp=Z,90nm,18.3s,baz=51,slow=41						
ASAR	**Alice Springs**	**24.39**	**210**	P	**P**	**23 06 45.0**	**-2.0**
TOLI2	**Tolitoli**	**26.34**	**278**	P	**P**	**23 07 05.9**	**+1.1**
ARMA	**Armidale**	**28.01**	**171**	P	**P**	**23 07 18.5**	**-1.3**
ARMA				IAmb	IAmb	23 07 28.9	
	comp=Z,3.6nm,1.1s						
PINNC	**Pines Island,**	**28.17**	**137**	P	**P**	**23 07 23.6**	**+2.5**
SONM	**Songino Array**	**61.42**	**330**	P	P	23 11 49.5	+4.5
	comp=Z,0.4nm,0.7s,baz=142,slow=7.2,SNR=3.6						
SONM	**Songino Array**	**61.42**	**330**	P	**P**	**23 11 44.8**	**-0.1**
SONM				IAmb	IAmb	23 11 54.6	
	comp=Z,3.3nm,1.5s						
MKAR	**Makanchi Array**	**74.83**	**320**	P	**P**	**23 13 11.4**	**+2.3**
	comp=Z,1.3nm,1.2s,baz=91,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**74.83**	**320**	P	**P**	**23 13 09.1**	**-0.1**

RSNC 29 23:10:50.2±0.4, 6°.81N×73°.12W, h148km±5km, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**195**	*e*P	Pn	23 11 10.0	-0.6
BARC				*i*		23 11 26.1	
	comp=Z,9.2nm,0.4s						
BARC	**Barichara**	**0.22**	**195**	*e*P	Pn	23 11 10.0	-0.6
PAMC	**Pamplona, Colo**	**0.68**	**39**	*e*P	Pn	23 11 12.7	-0.2
PAMC				*e*S	Sn	23 11 29.8	-0.4
PAMC				*i*		23 11 31.9	
	comp=Z,6.0nm,0.3s						
PAMC	**Pamplona, Colo**	**0.68**	**39**	*e*P	Pn	23 11 12.8	-0.2
PAMC				*e*S	Sn	23 11 29.9	-0.3
PAMC				*i*		23 11 32.2	
	comp=Z,10nm,0.5s						
RUSC	**La Rusia**	**0.91**	**177**	*e*P	Pn	23 11 13.9	-0.8
RUSC				*e*S	Sn	23 11 32.8	-0.5
RUSC				*i*		23 11 33.0	
	comp=Z,5.0nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P	Pn	23 11 17.0	-1.1
PTBC				*e*S	Sn	23 11 38.4	-1.0
PTBC				*i*		23 11 43.4	
	comp=Z,9.9nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P	Pn	23 11 16.3	-1.8
PTBC				*e*S	Sn	23 11 37.9	-1.5
PTBC				*i*		23 11 42.3	
	comp=Z,9.9nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	*e*P	Pn	23 11 22.8	-0.7
ZARC				*e*S	Sn	23 11 48.5	-0.5
ZARC				*i*		23 11 54.5	
	comp=Z,7.7nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	*e*S	Sn	23 11 48.3	-0.7
ZARC				*i*		23 11 52.1	
	comp=N,14nm,0.2s						
NORC	**Norcasia**	**2.13**	**235**	*e*P	Pn	23 11 26.2	-0.7
NORC				*e*S	Sn	23 11 54.5	-0.4
NORC				*i*		23 11 56.4	
SMLC	**San Martn de**	**2.19**	**335**	*e*P	Pn	23 11 25.7	-1.8
SMLC				*e*S	Sn	23 11 54.9	-1.4
SMLC				*i*		23 11 59.8	
	comp=Z,12nm,0.1s						
CHIC	**Chingaza**	**2.25**	**196**	*e*P	Pn	23 11 28.0	-0.6
CHIC				*e*S	Sn	23 11 56.8	-1.2
CHIC				*i*		23 12 01.4	
	comp=Z,2.1nm,0.6s						
HELC	**Santa Helena**	**2.47**	**256**	*e*S	Sn	23 12 02.3	-0.4

*NEIC **29** 23:16:12.8±1.2, 2°.6S±0°.1×147°.0E±0°.1, h10km±2km, mb4.0/8, Error ellipse: s-maj=26.7km s-min=12.1km az=129.0*
*IDC **29** 23:16:13.6±5.2, 2°.86S×146°.80E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/60, Error ellipse: s-maj=187.0km s-min=33.4km az=99.0*
ISC 29 23:16:13.5±0.9, 2°.7S±0°.1×147°.0E±0°.2, h10km, n15, σ1§46/14, mb3.9/7, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.74**	**27**	Pn	**Pn**	**23 16 28.6**	**-1.4**
WB0	**Warramunga Arr**	**20.98**	**215**	P	**P**	**23 20 55.9**	**-1.2**
WR0	**Warramunga Arr**	**21.05**	**214**	P	**P**	**23 20 56.8**	**-1.0**
WR0				IAmb	IAmb	23 20 59.5	
	comp=Z,5.5nm,0.9s						
WRAB	**Tennant Creek**	**21.13**	**215**	P	**P**	**23 20 56.3**	**-2.5**
WRAB				IAmb	IAmb	23 21 02.1	
	comp=Z,13nm,1.1s						
WB2	**Warramunga Arr**	**21.14**	**215**	P	**P**	**23 20 57.5**	**-1.3**
WB2				IAmb	IAmb	23 20 58.6	
	comp=Z,4.5nm,1.1s						
WRA	**Warramunga Arr**	**21.15**	**215**	P	**P**	**23 20 57.5**	**-1.4**
	comp=Z,6.3nm,1.1s,baz=39,slow=11,SNR=12						
EIDS	**Eidsvold**	**22.87**	**171**	P	**P**	**23 21 16.9**	**-0.4**
EIDS				IAmb	IAmb	23 21 31.1	
	comp=Z,6.0nm,1.0s						
ASAR	**Alice Springs**	**24.41**	**210**	P	**P**	**23 21 32.1**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=38,slow=8.0,SNR=13						
ASAR	**Alice Springs**	**24.41**	**210**	P	**P**	**23 21 31.2**	**-1.1**
LIFNC	**LIFOU**	**26.66**	**134**	P	**P**	**23 21 54.5**	**+1.7**
ARMA	**Armidale**	**27.91**	**171**	P	**P**	**23 22 04.7**	**+0.7**
MYLDM	**Lahad Datu**	**29.55**	**285**	P	**P**	**23 22 19.2**	**+0.5**
LEM	**Lembang**	**39.47**	**263**	LR	LR	23 41 05.1	
	comp=Z,56nm,18.6s,baz=260,slow=38						
MKAR	**Makanchi Array**	**75.00**	**320**	P	**P**	**23 27 57.2**	**+1.9**
	comp=Z,0.6nm,1.0s,baz=114,slow=6.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**144.18**	**289**	PKP	**PKPdf**	**23 35 50.0**	**-0.8**
	comp=Z,1.3nm,1.0s,baz=66,slow=1.3,SNR=1.2						

*UUSS **29** 23:23:59.9±1.6, 40°.50N±0°.03×111°.39W±0°.02, h11km±3km, ML2.9/15, ML2.9/104(NEIC), Error ellipse: s-maj=4.0km s-min=2.0km az=168.0*
NEIC 29 23:24:00.2±1.8, 40°.51N±0°.02×111°.35W±0°.02, h3km±6km, Error ellipse: s-maj=3.5km s-min=1.1km az=48.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEB	**Heber**	**0.02**	**131**		Pg	23 24 02.4	+1.3
LDJ	**Lady**	**0.08**	**328**		Pg	23 24 02.9	+0.9
HLJ	**Hailstone**	**0.10**	**340**		Pg	23 24 05.2	+2.9
JLU	**Jordanelle**	**0.12**	**320**	Pg	Pg	23 24 03.1	+0.5
JLU				Sg	Sg	23 24 05.0	+0.8
JLU				IAML		23 24 05.4	
	comp=E,10μm,0.5s						
JLU				IAML		23 24 05.6	
	comp=N,7μm,0.2s						
KLJ	**Keetly**	**0.12**	**341**		Pg	23 24 03.4	+0.7
DAU	**Daniels Canyon**	**0.12**	**144**		Pg	23 24 03.9	+1.2
RCJ	**Ross Creek**	**0.16**	**336**		Pg	23 24 03.9	+0.5
HTU	**Hoyt Peak**	**0.19**	**32**		Pg	23 24 05.1	+1.1
TCVU	**Timpanogos Cav**	**0.28**	**256**		Pg	23 24 05.3	-0.2
GMU	**Granite Mounta**	**0.32**	**281**		Pg	23 24 06.0	-0.4
CTU	**Camp Tracy**	**0.35**	**301**	Pg	Pg	23 24 06.7	-0.3
CTU				Sg	Sg	23 24 10.9	-0.7
CTU				IAML		23 24 11.3	
	comp=N,3μm,0.4s						
CTU				IAML		23 24 13.0	
	comp=E,2μm,0.4s						
MHD	**Mile High Driv**	**0.37**	**294**		Pg	23 24 07.1	-0.3
N16A	**Rees Ranch, Co**	**0.38**	**350**		Pg	23 24 08.3	+0.7
RBU	**Red Butte Cany**	**0.44**	**308**		Pg	23 24 08.3	-0.3
BSUT	**Blindstream Ca**	**0.45**	**87**		Pg	23 24 09.7	+0.8
WTU	**Western Traver**	**0.46**	**263**		Pg	23 24 08.8	-0.2
LHUT	**Little Humpy P**	**0.47**	**36**		Pb	23 24 10.3	-0.9
HRU	**Hogsback Ridge**	**0.49**	**304**		Pg	23 24 09.3	-0.2
WMUT	**West Mountain**	**0.57**	**220**		Pg	23 24 10.9	-0.2
CWU	**Camp Williams**	**0.57**	**264**		Pg	23 24 10.8	-0.4
NOQ	**North Oquirrh**	**0.60**	**284**		Pg	23 24 11.3	-0.4
FPU	**Francis Peak**	**0.63**	**325**		Pg	23 24 12.0	-0.3
SAIU	**Southern Antel**	**0.72**	**299**		Pg	23 24 13.2	-0.7
NLU	**North Lily Min**	**0.79**	**225**	Pg	Pg	23 24 14.6	-0.6
NLU					Sg	23 24 25.4	0.0
NLU				IAML		23 24 28.5	
	comp=E,482nm,0.5s	

TMUT			IAML		23 24 48.5		
	comp=N,149nm,0.7s						
TMUT			IAML		23 24 48.9		
	comp=E,135nm,0.8s						
P18A	**Preston Nutter**	**1.23 136**		Pg	23 24 23.7	0.0	
P18A	**Preston Nutter**	**1.23 136**	IAML		23 24 45.2		
	comp=N,205nm,0.3s						
P18A			IAML		23 24 53.7		
	comp=E,150nm,0.4s						
RDMU	**Red Mountain**	**1.36 87**		Pg	23 24 25.9	-0.3	
RDMU			IAML		23 24 51.0		
	comp=N,102nm,0.5s						
SRU	**San Rafael Swe**	**1.54 155**	Pn	Pn	23 24 27.6	-1.0	
SRU			IAML		23 24 51.7		
	comp=E,136nm,0.6s						
SRU			IAML		23 24 53.3		
	comp=N,115nm,0.6s						
Q16A	**Castle Valley**	**1.60 175**		Pn	23 24 29.4	-0.1	
HVU	**Hansel Valley**	**1.66 320**	Pn	Pn	23 24 28.7	-1.6	
HVU			IAML		23 24 59.1		
	comp=E,197nm,0.5s						
TCRU	**Three Creeks R**	**2.08 204**		Pn	23 24 35.1	-1.1	
TCRU			IAML		23 25 09.1		
	comp=N,44nm,0.9s						
TCRU			IAML		23 25 10.1		
	comp=E,65nm,1.6s						
MSU	**Marysvale**	**2.10 198**	Pn	Pn	23 24 35.9	-0.5	
AHID	**Auburn Hatcher**	**2.26 5**		Pn	23 24 38.7	+0.1	
O20A	**White River Ci**	**2.41 98**		Pb	23 24 42.9	-1.3	
O20A			IAML		23 25 22.2		
	comp=N,113nm,0.7s						
ECR	**Eagle Creek**	**2.54 360**		Pn	23 24 41.5	-0.9	
MTPU	**Mount Pierson**	**2.55 195**		Pb	23 24 47.8	+1.0	
BW06	**Boulder Array**	**2.62 30**		Pn	23 24 44.3	+0.6	
BW06			IAML		23 25 23.7		
	comp=N,47nm,0.3s						
BW06			IAML		23 25 25.0		
	comp=N,49nm,0.3s						
PD31	**Pinedale Array**	**2.62 30**		Pn	23 24 44.3	+0.7	
PDAR	**Pinedale Array**	**2.62 30**		Pn	23 24 44.0	+0.4	
PV23	**Carpenter Ridg**	**2.74 138**		Pn	23 24 45.4	+0.1	
SPR3	**Spring Creek 3**	**2.75 238**		Pn	23 24 44.8	-0.7	
SPR3			IAML		23 25 36.9		
	comp=N,25nm,0.7s						
PSUT	**Pine Spring**	**2.77 225**		Pn	23 24 45.0	-0.5	
PV10	**Paradox Valley**	**2.79 139**		Pn	23 24 46.9	+1.0	
REDW	**Red Top Meadow**	**2.87 7**		Pn	23 24 47.0	0.0	
REDW			IAML		23 25 34.7		
	comp=N,43nm,0.8s						
REDW			IAML		23 25 35.0		
	comp=N,49nm,0.5s						
PV11	**David Mesa, Pa**	**2.93 138**		Pn	23 24 48.1	+0.3	
PV07	**Paradox Valley**	**2.95 134**		Pn	23 24 48.6	+0.6	
ELK	**Elko**	**2.97 276**		Pn	23 24 48.0	-0.3	
ELK			IAML		23 25 33.6		
	comp=N,22nm,0.3s						
SNOW	**Snow King Moun**	**2.98 8**		Pn	23 24 48.5	-0.1	
SNOW			IAML		23 25 37.8		
	comp=N,60nm,0.7s						
SNOW			IAML		23 25 39.1		
	comp=N,47nm,0.6s						
TPAW	**Teton Pass**	**2.99 6**		Pn	23 24 48.1	-0.6	
TPAW			IAML		23 25 37.4		
	comp=N,24nm,0.6s						
TPAW			IAML		23 25 40.7		
	comp=N,39nm,0.8s						
PV13	**Radium Mtn., P**	**3.06 139**		Pn	23 24 49.7	0.0	
PV15	**Paradox Valley**	**3.11 133**		Pn	23 24 50.5	+0.2	
LOHW	**Long Hollow**	**3.15 10**		Pn	23 24 50.5	-0.3	
LOHW			IAML		23 25 40.6		
	comp=N,24nm,0.7s						
LOHW			IAML		23 25 43.0		
	comp=N,29nm,0.8s						
PKCU	**Pink Cliffs**	**3.15 194**		Pn	23 24 50.1	-1.0	
PKCU			IAML		23 25 52.0		
	comp=E,27nm,2.7s						
PKCU			IAML		23 26 01.7		
	comp=N,29nm,4.3s						
SZCU	**Shurtz Canyon**	**3.21 205**		Pn	23 24 50.5	-1.2	
MOOW	**Moose Ponds**	**3.27 8**		Pn	23 24 51.7	-0.7	
RWWY	**Rawlins**	**3.34 68**		Pn	23 24 52.9	-0.7	
RWWY			IAML		23 25 53.2		
	comp=N,45nm,0.8s						
CCUT	**Cedar City**	**3.35 209**		Pn	23 24 52.6	-1.0	
FLWY	**Flagg Ranch**	**3.60 8**	Pn	Pn	23 24 58.0	+0.9	
FLWY			IAML		23 26 47.0		
	comp=N,24nm,4.7s						
FLWY			IAML		23 27 09.9		
	comp=N,23nm,4.1s						
SMCO	**Snowmass**	**3.62 110**		Pn	23 24 58.4	+0.8	
KNB	**Kanab**	**3.67 199**	Pn	Pn	23 24 57.3	-0.7	
KNB			IAML		23 26 43.9		
	comp=E,12nm,4.7s						
LCMT	**Little Creek M**	**3.80 204**		Pn	23 24 58.4	-1.3	
HLID	**Hailey**	**3.81 324**		Pn	23 25 00.1	+0.3	
H17A	**Grant Village**	**3.92 8**	IAML		23 25 52.1		
	comp=N,14nm,4.5s						
H17A			IAML		23 26 59.3		
	comp=E,10nm,4.3s						
R11A	**Troy Canyon, C**	**3.92 238**		Pn	23 25 03.1	+1.6	
MVCO	**Mesa Verde**	**3.98 145**		Pn	23 25 03.3	+1.0	
BCYI	**Bear Canyon**	**4.09 339**	Pn	Pn	23 25 03.1	-0.7	
LKWY	**Lake**	**4.11 10**	Pn	Pn	23 25 03.0	-1.1	
LKWY			IAML		23 26 28.8		
	comp=E,27nm,4.9s						
N23A	**Red Feather La**	**4.13 83**		Pn	23 25 04.6	+0.2	
U15A	**North Rim**	**4.14 191**		Pn	23 25 04.6	0.0	
U15A			IAML		23 26 02.0		
	comp=N,9.6nm,4.8s						
U15A			IAML		23 26 37.3		
	comp=E,13nm,4.1s						
PRN	**Pahroc Range**	**4.23 224**	Pg	Pg	23 25 20.2	-1.1	
PRN			IAML		23 26 21.4		
	comp=N,12nm,0.6s						
PRN			IAML		23 26 40.5		
	comp=E,14nm,3.6s						
ISCO	**Idaho Springs**	**4.46 97**	Pg	Pb	23 25 20.8	+1.6	
ISCO			IAML		23 27 26.5		
	comp=E,11nm,4.5s						
ISCO			IAML		23 27 43.1		
	comp=E,14nm,4.0s						
S22A	**4UR Ranch, Cre**	**4.47 127**	IAML		23 26 38.2		
	comp=N,22nm,4.3s						
S22A			IAML		23 27 34.3		
	comp=E,14nm,5.0s						
BMN	**Battle Mountai**	**4.48 271**	Pg	Pg	23 25 24.8	-1.1	
BMN			IAML		23 26 22.1		
	comp=N,12nm,1.8s						
BMN			IAML		23 26 31.0		
	comp=E,12nm,3.1s						
TPH	**Tonopah**	**5.16 244**		Pg	23 25 37.6	-1.5	
M04C	**Macdoel**	**8.02 283**	Pn	Pn	23 25 57.5	-0.1	

IDC 29 23:41:15.1±5.1, 2°.91S×147°.05E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, Error ellipse: s-maj=167.2km s-min=32.9km az=98.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.00 215**		P	P	23 45 59.8	-0.5
	0.8nm,0.9s,baz=44,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**24.24 211**		P	P	23 46 34.4	+0.4
	0.3nm,0.7s,baz=33,slow=7.0,SNR=3.4						
SONM	**Songino Array**	**61.75 330**		P	P	23 51 35.6	0.0
	0.3nm,0.9s,baz=124,slow=7.4,SNR=3.9						

*NEIC **30** 00:00:34.5±0.6, 2°.95S±0°.05×147°.6E±0°.3, h10km±2km, mb4.3/7, Error ellipse: s-maj=43.2km s-min=5.5km az=80.0*

*IDC **30** 00:00:36.0±2.0, 3°.03S×147°.08E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/30, mbtmp4.0/5, Error ellipse: s-maj=76.2km s-min=25.2km az=105.0*

ISC 30 00:00:35.8±1.1, 3°.01S±0°.09×147°.4E±0°.3, h10km, n16, σ1§20/16, mb4.0/8, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.96 1**			**Pb**	**00 00 52.5**	**-2.1**
COEN	**Coen**	**11.63 201**		Pn	**Pn**	**00 03 22.2**	**+0.1**
WB0	**Warramunga Arr**	**20.92 216**		P	**P**	**00 05 18.6**	**-0.2**
WB0				IAmb	IAmb	00 05 20.3	
	comp=Z,14nm,1.1s						
WR0	**Warramunga Arr**	**20.98 216**		P	**P**	**00 05 19.3**	**-0.2**
WR0				IAmb	IAmb	00 05 22.1	
	comp=Z,24nm,1.1s						
WRAB	**Tennant Creek**	**21.07 216**		P	**P**	**00 05 19.4**	**-1.0**
WRAB				IAmb	IAmb	00 05 21.9	
	comp=Z,20nm,1.1s						
WB2	**Warramunga Arr**	**21.08 216**		P	**P**	**00 05 20.0**	**-0.5**
WB2				IAmb	IAmb	00 05 22.7	
	comp=Z,27nm,1.1s						
WRA	**Warramunga Arr**	**21.09 216**		P	**P**	**00 05 20.3**	**-0.3**
	comp=Z,19nm,1.1s,baz=38,slow=12,SNR=17						
WRA	**Warramunga Arr**	**21.09 216**		P	**P**	**00 05 20.3**	**-0.3**
EIDS	**Eidsvold**	**22.52 171**		P	**P**	**00 05 33.8**	**-2.1**
AS31	**Alice Springs**	**24.30 211**		P	**P**	**00 05 53.1**	**-0.7**
AS31				IAmb	IAmb	00 05 55.3	
	comp=Z,1.2nm,1.0s						
ASAR	**Alice Springs**	**24.31 211**		P	**P**	**00 05 54.2**	**+0.4**
	comp=Z,5.7nm,1.1s,baz=43,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**24.31 211**		P	**P**	**00 05 53.7**	**-0.1**
SONM	**Songino Array**	**61.99 330**		P	**P**	**00 10 57.2**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=123,slow=5.3,SNR=4.4						
MKAR	**Makanchi Array**	**75.44 320**		P	**P**	**00 12 21.1**	**+0.9**
	comp=Z,1.5nm,1.1s,baz=109,slow=6.6,SNR=5.0						
MKAR	**Makanchi Array**	**75.44 320**		P	**P**	**00 12 20.2**	**+0.1**
YKA	**Yellowknife Ar**	**96.38 28**		P	**P**	**00 14 07.2**	**+2.5**
	comp=Z,0.2nm,0.7s,baz=268,slow=3.8,SNR=4.2						

*BJI **30** 00:08:45.3±0.0, 6°.23N×145°.98E, h5km, mb4.9/65, mB5.2/42, Ms4.8/27, Ms7 4.4/26*

*MOS **30** 00:08:47.9±1.0, 6°.34N×145°.60E, h10km, mb5.2/35, Error ellipse: s-maj=11.9km s-min=5.7km az=112.5*

*IDC **30** 00:08:47.9±0.4, 6°.30N×145°.67E, h0km, mb4.7/36, mb1 4.8/38, mb1mx4.6/55, mbtmp4.7/38, ML2.7/1, MS4.1/39, Ms1 4.1/39, ms1mx4.0/68, Error ellipse: s-maj=14.7km s-min=8.9km az=83.0*

*NEIC **30** 00:08:50.7±1.3, 6°.29N±0°.06×145°.65E±0°.08, h10km±1km, mb5.1/117, Error ellipse: s-maj=13.2km s-min=9.6km az=266.0*

*GCMT **30** 00:08:51.7±0.2, 6°.32N±0°.01×145°.53E±0°.01, h21km, MW5.1/126, Moment Tensor Solution. s62,c82; s126,c201; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.51±.20; $M_{\theta\theta}$5.09±.17; $M_{\phi\phi}$-3.59±.16; $M_{r\theta}$1.27±.27; $M_{\theta\phi}$4.35±.13; $M_{\phi r}$-1.08±.29; Best double couple: $M_0$6.43300×10^{16} NP1:ϕ_s24.00000°, δ73.00000°, λ-170.00000°. NP2:ϕ_s291.00000°, δ81.00000°, λ-17.00000°. Principal axes: T 6.9640, Plg5.0000°, Azm338.0000°; N -1.0730, Plg70.0000°, Azm83.0000°; P -5.9020, Plg19.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **30** 00:09:03.9±1.1, 5°N±6°×14°.5E±°, h39km±8km, M5.2/43, mB5.6/22, mb5.2/43, MLv5.8/1, Mw(mB)5.1/22, MwMwp5.0/2, Mwp5.2/2*

ISC 30 00:08:50.1±0.3, 6°.37N±0°.04×145°.71E±0°.05, h10km, n477, σ1§36/437, mb5.0/153, MS4.2/50, 8C-3D, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.22 353**		Pn	**Pn**	**00 10 34.2**	**-1.6**
	117nm,0.3s,baz=178,slow=11,SNR=17						
GUMO				Sn	Sn	00 11 50.7	-7.2
	40nm,0.3s,baz=103,slow=23,SNR=2.4						
GUMO				LR	LR	00 13 20.2	
	comp=Z,1μm,18.1s,baz=164,slow=37						
GUMO	**Guam**	**7.22 353**		Pn	**Pn**	**00 10 35.7**	**-0.1**
GUMO				Sn	**Sn**	**00 11 54.1**	**-3.8**
MANU	**Manus Island**	**8.52 169**		Pn	**Pn**	**00 10 50.5**	**-3.2**
JAY	**Jayapura**	**10.14 210**		Pn	**Pn**	**00 11 12.3**	**-3.7**
	34nm,0.3s,baz=8.1,slow=6.0,SNR=78						
JAY				Sn	Sn	00 12 57.3	-13
	44nm,0.3s,baz=323,slow=20,SNR=21						
JAY				LR	LR	00 14 17.7	
	comp=Z,1μm,19.6s,baz=7.5,slow=33						
JAY	**Jayapura**	**10.14 210**		P	**Pn**	**00 11 11.9**	**-4.1**
	2μm269nm,0.8s						
GENI	**Genyem**	**10.48 212**		P	**Pn**	**00 11 18.8**	**-1.8**
	7μm740nm,0.8s						
GENI	**Genyem**	**10.48 212**		P	**Pn**	**00 11 18.8**	**-1.8**
SMPI	**Sarmi**	**10.86 220**		P	**Pn**	**00 11 24.1**	**-1.6**
	147nm,0.8s						
BAKI	**Biak**	**12.18 232**		P	**Pn**	**00 11 42.1**	**-1.8**
	217nm,0.6s						
RABL	**Rabaul**	**12.31 148**		Pn	**Pn**	**00 11 45.2**	**-0.5**
RABL	**Rabaul**	**12.31 148**		P	**Pn**	**00 11 48.9**	**+3.3**
WAMI	**Wamena**	**12.36 215**		P	**Pn**	**00 11 46.1**	**-0.1**
	11μm614nm,0.6s						
SRPI	**Serui, Papua**	**12.51 229**		P	**Pn**	**00 11 46.1**	**-2.2**
	236nm,0.5s						
PATS	**Pohnpei**	**12.52 87**		Pn	**Pn**	**00 11 48.0**	**-0.6**
PMG	**Port Moresby**	**15.74 175**		Pn	**Pn**	**00 12 31.4**	**-0.7**
	1.1nm,0.3s,baz=338,slow=19,SNR=1.4						
PMG				LR	LR	00 17 53.7	
	comp=Z,727nm,19.0s,baz=344,slow=35						
PMG	**Port Moresby**	**15.74 175**	*c*	*iP*	**Pn**	**00 12 32.5**	**+0.4**
PMG				pmax	pmax		
	comp=Z,139nm,2.0s						
PMG	**Port Moresby**	**15.74 175**			**Pn**	**00 12 33.6**	**+1.5**
PMG	**Port Moresby**	**15.74 175**		P	**P**	**00 12 35.7**	**-0.3**
PMG	**Port Moresby**	**15.74 175**		P	**P**	**00 12 36.0**	**0.0**
SIJI	**Sorong**	**16.12 244**		Pn	**Pn**	**00 12 34.0**	**-3.0**
	comp=Z,6.9nm,0.3s,baz=49,slow=13,SNR=11						
SIJI				LR	LR	00 17 07.9	
	comp=Z,2μm,19.6s,baz=78,slow=31						
SWI	**Sorong**	**16.12 244**		P	**P**	**00 12 38.8**	**-1.5**
FAKI	**Fak Fak**	**16.31 236**		P	**Pn**	**00 12 38.3**	**-1.1**
	comp=Z,2μmcomp=Z,1μmcomp=Z,102nm,0.8s						
FAKI	**Fak Fak**	**16.31 236**		Pn	**Pn**	**00 12 37.5**	**-1.9**
FAKI				IAmb	IAmb	00 12 39.0	
	comp=Z,63nm,0.6s						
FAKI	**Fak Fak**	**16.31 236**		P	**Pn**	**00 12 37.5**	**-1.9**
TNTI	**Ternate**	**19.13 254**		P	**P**	**00 13 13.3**	**-0.3**
TNTI				IAmb	IAmb	00 13 35.7	
	comp=Z,144nm,1.4s						
MSAI	**Masohi**	**19.34 241**		P	**Pn**	**00 13 18.9**	**+1.9**
	comp=Z,3μmcomp=Z,9.1nm,0.5s						
LBMI	**Labuha**	**19.47 250**		P	**Pn**	**00 13 19.9**	**+1.4**
	comp=Z,3μmcomp=Z,72nm,1.0s						
DAV	**Davao City (W)**	**20.01 273**		P	**Pn**	**00 13 27.4**	**+2.5**
	comp=Z,59nm,0.3s,baz=62,slow=6.0,SNR=6.3						
DAV				LR	LR	00 19 56.8	
	comp=Z,322nm,19.9s,baz=30,slow=34						
DAV	**Davao City (W)**	**20.01 273**		P	**Pn**	**00 13 26.7**	**+1.8**
AAI	**Ambon**	**20.14 241**		P	Pn	00 13 32.5	+6.0
SAUI	**Saumlaki**	**20.25 225**		P	**P**	**00 13 26.1**	**+0.3**
COEN	**Coen**	**20.35 187**	Pn	Pn	00 13 27.6	-1.3
COEN	**Coen**	**20.35 187**	P	Pn	00 13 28.3	-0.6
JCJ	**Chichijima**	**20.88 351**		P	**P**	**00 13 33.4**	**+0.8**
JCJ	**Chichijima**	**20.88 351**	P	Pn	00 13 36.7	+1.6
HNR	**Honiara**	**21.16 138**	P	**P**	**00 13 34.0**	**-1.6**
	comp=Z,77nm,0.4s,baz=232,slow=6.4,SNR=6.1						
HNR	**Honiara**	**21.16 138**	P	**P**	**00 13 35.8**	**+0.2**
HNR				pmax	pmax		
	comp=Z,279nm,1.0s						
HNR	**Honiara**	**21.16 138**	P	**P**	**00 13 35.8**	**+0.2**
HNR	**Honiara**	**21.16 138**	P	**P**	**00 13 38.3**	**+2.7**
SANI	**Sanana**	**21.40 248**	P	**P**	**00 13 41.1**	**+2.9**
	comp=Z,939nmcomp=Z,54nm,1.0s						
SANI	**Sanana**	**21.40 248**	P	**P**	**00 13 38.0**	**-0.2**
KWAJ	**Kwajalein Atol**	**21.84 82**	P	**P**	**00 13 44.7**	**+1.7**
KWAJ				pmax	pmax		
	comp=Z,468nm,1.2s						
KWAJ	**Kwajalein Atol**	**21.84 82**	P	**P**	**00 13 44.7**	**+1.7**
KMSI	**Cibinong**	**22.44 256**	P	P	00 14 01.9	+12
KDU	**Kakadu**	**23.06 215**	P	**P**	**00 13 54.4**	**-1.5**
	baz=23,SNR=36						
KDU	**Kakadu**	**23.06 215**	P	**P**	**00 13 54.6**	**-1.3**
GTOI	**Gorontalo**	**23.36 257**	P	**P**	**00 14 02.9**	**+3.9**
	comp=Z,609nmcomp=Z,39nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**23.73 58**	T	T	00 38 10.7		
	baz=246,slow=75,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**23.74 58**	T	T	00 38 13.7		
	baz=246,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**23.74 58**	T	T	00 38 10.6		
	baz=246,slow=75						
MTN	**Manton Dam**	**23.96 217**		P	**P**	**00 14 03.5**	**-1.3**
	baz=24,SNR=4.4						
MTN	**Manton Dam**	**23.96 217**		P	**P**	**00 14 03.7**	**-1.2**
MTN				IAmb	IAmb	00 14 13.3	
	comp=Z,47nm,0.9s						
MTN	**Manton Dam**	**23.96 217**		P	**P**	**00 14 04.0**	**-0.9**
MTSU	**Mount Surprise**	**24.39 183**		P	**P**	**00 14 08.3**	**-0.5**
	baz=24,SNR=249						
MTSU	**Mount Surprise**	**24.39 183**		P	**P**	**00 14 09.0**	**+0.2**
MRSI	**Marisa**	**24.43 257**		P	P	00 14 16.7	+7.4
	comp=Z,1μmcomp=Z,71nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**24.48 55**		T	T	00 39 03.2	
	baz=244,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**24.50 55**		T	T	00 39 02.4	
	baz=244,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**24.50 55**		T	T	00 39 03.7	
	baz=244,slow=75,SNR=9.3						
APSI	**Ampana**	**25.09 254**		P	**P**	**00 14 19.1**	**+3.9**
	comp=Z,1μmcomp=Z,135nm,1.3s						
TOLI2	**Tolitoli**	**25.41 259**		P	**P**	**00 14 18.3**	**+0.2**
TOLI2				IAmb	IAmb	00 14 34.9	
	comp=Z,68nm,1.1s						
JOW	**Kunigami**	**26.26 323**		P	**P**	**00 14 25.9**	**+0.1**
	comp=Z,20nm,0.9s,baz=148,slow=7.6,SNR=6.1						
JOW				LR	LR	00 23 20.3	
	comp=Z,336nm,21.3s,baz=112,slow=33						
JOW	**Kunigami**	**26.26 323**		P	**P**	**00 14 26.0**	**+0.3**
JOW				IAmb	IAmb	00 14 28.8	
	comp=Z,60nm,1.2s						
JOW	**Kunigami**	**26.26 323**		P	**P**	**00 14 26.9**	**+1.2**
CTA	**Charters Tower**	**26.30 179**		P	**P**	**00 14 25.6**	**-0.4**
	comp=Z,24nm,1.0s,baz=350,slow=9.8,SNR=14						
CTA				LR	LR	00 23 42.4	
	comp=Z,229nm,19.4s,baz=6.0,slow=34						
CTA	**Charters Tower**	**26.30 179**		P	**P**	**00 14 26.9**	**+0.8**
CTAO	**Charters Tower**	**26.30 179**		P	**P**	**00 14 25.8**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,48nm,1.2s						
CTAO	**Charters Tower**	**26.30 179**		P	**P**	**00 14 25.8**	**-0.3**
CTAO				IAmb	IAmb	00 14 30.0	
	comp=Z,48nm,1.1s						
CTAO	**Charters Tower**	**26.30 179**		P	**P**	**00 14 26.8**	**+0.7**
MPSI	**Mapaga**	**26.45 258**		P	P	00 14 35.6	+8.1
	comp=Z,2μmcomp=Z,43nm,1.2s						
SOEI	**Soe**	**26.70 233**		P	P	00 14 39.5	+10
SOEI	**Soe**	**26.70 233**		P	**P**	**00 14 28.3**	**-1.7**
JHJ	**Hachijo jima 2**	**27.18 349**		LR	LR	00 24 12.2	
	comp=Z,216nm,20.6s,baz=169,slow=34						
QIS	**Mount Isa**	**27.43 193**		P	**P**	**00 14 35.2**	**-1.0**
	baz=27,SNR=16						
QIS	**Mount Isa**	**27.43 193**		P	**P**	**00 14 35.5**	**-0.8**
BATI	**Baumata**	**27.45 235**		P	**P**	**00 14 35.0**	**-1.6**
	comp=Z,21nm,0.8s,baz=90,slow=4.0,SNR=2.1						
BATI				LR	LR	00 25 03.1	
	comp=Z,245nm,19.6s,baz=62,slow=36						
TTSI	**Tana Toraja**	**27.50 251**		P	P	00 14 51.7	+15
KNRA	**Kununurra**	**27.60 217**		P	**P**	**00 14 36.8**	**-1.1**
	baz=28,SNR=4.9						
KNRA	**Kununurra**	**27.60 217**		P	**P**	**00 14 36.3**	**-1.5**
KNRA				IAmb	IAmb	00 14 46.3	
	comp=Z,48nm,1.0s						
KNRA	**Kununurra**	**27.60 217**		P	**P**	**00 14 35.0**	**-2.8**
BNSI	**Bone**	**27.71 248**		P	**P**	**00 14 44.3**	**+5.4**
	comp=Z,819nmcomp=Z,56nm,1.3s						
SPSI	**Sidrap Palu**	**27.86 249**		P	P	00 14 51.5	+11
BKSI	**Bulukumba**	**28.06 246**		P	P	00 14 50.8	+8.8
WB0	**Warramunga Arr**	**28.26 203**		P	**P**	**00 14 42.2**	**-1.6**
WB0				IAmb	IAmb	00 14 55.9	
	comp=Z,28nm,0.9s						
KAPI	**Kappang**	**28.28 247**		LR	LR	00 24 23.0	
	comp=Z,123nm,21.7s,baz=90,slow=33						
WR0	**Warramunga Arr**	**28.38 203**		P	**P**	**00 14 43.2**	**-1.6**
WR0				IAmb	IAmb	00 14 44.2	
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	**28.43 203**	*i*	P	**P**	**00 14 43.7**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,43nm,1.4s						
WRAB	**Tennant Creek**	**28.43 203**		P	**P**	**00 14 43.2**	**-2.0**
WRAB				IAmb	IAmb	00 14 48.8	
	comp=Z,60nm,1.4s						
WRAB	**Tennant Creek**	**28.43 203**		P	**P**	**00 14 44.1**	**-1.1**
WB2	**Warramunga Arr**	**28.44 203**		P	**P**	**00 14 43.9**	**-1.4**
WB2				IAmb	IAmb	00 14 48.8	
	comp=Z,66nm,1.4s						
WRA	**Warramunga Arr**	**28.44 203**		P	**P**	**00 14 43.7**	**-1.7**
	comp=Z,12nm,0.7s,baz=26,slow=10,SNR=79						
WRA				LR	LR	00 25 41.5	
	comp=Z,451nm,19.4s,baz=16,slow=36						
WRA	**Warramunga Arr**	**28.44 203**		P	**P**	**00 14 43.0**	**-2.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
WRA	**Warramunga Arr**	**28.44 203**		P	**P**	**00 14 43.0**	**-2.3**
SSLB	**Suanglung**	**29.43 309**		P	**P**	**00 14 54.4**	**+0.2**
SSLB				IAmb	IAmb	00 15 17.2	
	comp=Z,28nm,1.2s						
TPUB	**Ta-pu**	**29.43 308**		P	**P**	**00 14 54.1**	**-0.1**
TPUB				IAmb	IAmb	00 14 54.7	
	comp=Z,41nm,1.1s						
INU	**Inuyama**	**29.93 346**		P	**P**	**00 14 59.5**	**+1.1**
INU				IAmb	IAmb	00 15 12.8	
	comp=Z,56nm,1.4s						
JNU	**Nakatsue**	**29.98 335**		P	**P**	**00 14 58.5**	**-0.4**
	comp=Z,34nm,0.8s,baz=148,slow=6.1,SNR=11						
JNU				LR	LR	00 27 13.7	
	comp=Z,119nm,18.9s,baz=160,slow=37						
JNU	**Nakatsue**	**29.98 335**		P	**P**	**00 14 58.9**	**0.0**
JNU	**Nakatsue**	**29.98 335**		P	**P**	**00 14 59.1**	**+0.2**
SANVU	**Saraoutou**	**30.38 136**		P	**P**	**00 15 02.9**	**+0.3**
SANVU				IAmb	IAmb	00 15 24.1	
	comp=Z,26nm,1.0s						
MJAR	**Matsushiro Arr**	**30.81 348**		P	**P**	**00 15 04.4**	**-1.7**
	comp=Z,2.5nm,0.6s,baz=177,slow=8.3,SNR=5.4						
MJAR				LR	LR	00 26 38.8	
	comp=Z,473nm,18.9s,baz=150,slow=35						
MAJO	**Matsushiro**	**30.81 348**	*i*	P	**P**	**00 15 03.8**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,146nm,4.7s						
FITZ	**Fitzroy Crossi**

baz=37,SNR=11
ARMA Armidale 37.02 171 P P 00 15 59.5 -0.7
ARMA IAmb IAmb 00 16 01.2
comp=Z,33nm,1.1s
ARMA Armidale 37.02 171 P P 00 16 00.3 +0.1
QIZ Qiongzhong 37.09 293 P P 00 15 58.5 -2.5
QIZ S S **00 21 47.5 +0.1**
QIZ LR LR
comp=Z,740nm,19.2s
QIZ LR LR
comp=Z,380nm,15.5s
QIZ LR LR
comp=Z,300nm,17.7s
LCRK Leigh Creek 37.31 191 P P 00 16 01.4 -1.2
JKA Kamikawa-asahi 37.70 356 P P 00 16 06.5 +0.8
JKA IAmb IAmb 00 16 29.2
comp=Z,38nm,1.2s
ASAJ Asahikawa 37.70 356 P P 00 16 06.2 +0.4
comp=Z,6.0nm,0.3s,baz=195,slow=12,SNR=3.4
ASAJ LR LR 00 34 13.0
comp=Z,202nm,18.0s,baz=166,slow=40
ASAJ Asahikawa 37.70 356 P P 00 16 06.5 +0.8
ASAJ pmax pmax
comp=Z,38nm,1.2s
MULG Mulgathing 38.12 196 P P 00 16 08.4 -1.1
STKA Stephens Creek 38.23 186 P P 00 16 08.4 -2.1
comp=Z,13nm,0.7s,baz=350,slow=8.6,SNR=20
STKA LR LR 00 32 16.7
comp=Z,662nm,18.6s,baz=3.7,slow=37
STKA Stephens Creek 38.23 186 P P 00 16 09.1 -1.4
baz=38,SNR=6.1
STKA Stephens Creek 38.23 186 P P 00 16 08.8 -1.6
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 38.23 186 P P 00 16 08.8 -1.6
STKA Stephens Creek 38.23 186 P P 00 16 08.9 -1.5
KPJI Karang Pucung 39.14 250 P P 00 16 26.3 +8.0
comp=Z,20nm,0.8s
USA0B Ussuriysk Arra 39.55 344 P P 00 16 21.6 +0.3
USA0B pmax pmax
comp=Z,12nm,0.9s
USA0B Ussuriysk Arra 39.55 344 P P 00 16 21.6 +0.3
USRK Ussuriysk Ar. 39.55 344 P P 00 16 21.4 +0.1
comp=Z,7.2nm,0.8s,baz=179,slow=9.5,SNR=8.3
USRK Ussuriysk Ar. 39.55 344 P P 00 16 20.7 -0.6
USRK Ussuriysk Ar. 39.55 344 P P 00 16 20.7 -0.6
LHI Lord Howe Isla 39.78 162 P P 00 16 23.4 +0.1
MSVF Nonsavu 39.91 127 P P 00 16 24.5 -0.3
comp=Z,8.6nm,0.7s,baz=279,slow=5.8,SNR=8.8
MSVF LR LR 00 31 29.3
comp=Z,449nm,18.0s,baz=240,slow=34
MSVF Nonsavu 39.91 127 P P 00 16 25.9 +1.1
MSVF pmax pmax
comp=Z,40nm,1.1s
MSVF Nonsavu 39.91 127 P P 00 16 25.9 +1.1
MSVF IAmb IAmb 00 16 37.2
comp=Z,40nm,1.1s
MSVF Nonsavu 39.91 127 P P 00 16 27.7 +2.9
NAPP Napperby 39.99 190 P P 00 16 24.3 -0.8
comp=Z,35nm,0.7s
BBOO Buckleboo 40.03 193 P P 00 16 23.8 -1.6
baz=40,SNR=12
BBOO Buckleboo 40.03 193 P P 00 16 24.0 -1.5
BBOO IAmb IAmb 00 16 24.7
comp=Z,38nm,0.8s
BBOO Buckleboo 40.03 193 P P 00 16 24.0 -1.5
HTT Hallett 40.10 189 P P 00 16 24.6 -1.5
baz=40,SNR=7.9
LEM Lembang 40.21 252 LR LR 00 32 58.1
comp=Z,136nm,19.2s,baz=116,slow=36
DGTI Dogotuki 40.51 124 P **P 00 16 31.3 +1.7**
YSS Yuzh-Sakhalins 40.51 357 *eP* **P 00 16 27.5 -1.8**
YSS pmax pmax
comp=Z,10.0nm,0.6s
MDJ Mudanjiang 40.62 342 P P 00 16 30.5 +0.3
MDJ Mudanjiang 40.62 342 P P 00 16 32.1 +1.9
comp=Z,11nm,1.1s
FORT Forrest 40.62 204 P P 00 16 29.6 -0.7
baz=41,SNR=8.4
FORT Forrest 40.62 204 P P 00 16 29.6 -0.7
FORT IAmb IAmb 00 16 30.3
comp=Z,47nm,0.8s
FORT Forrest 40.62 204 P P 00 16 29.7 -0.7
comp=Z,73nm,0.9s
CN2 Changchun 41.31 338 *eP* **P 00 16 36.0 +0.1**
CN2 S S 00 23 00.0 +10
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,600nm,21.0s
ENH Enshi 41.51 310 P P 00 16 37.5 -0.3
LYN LuoYang 41.55 317 ⇑P **P 00 16 38.0 -0.1**
LYN PP **PnPn 00 18 20.5 +1.6**
LYN S **S 00 22 57.8 +3.7**
LYN pmax pmax
comp=Z,20nm,1.0s
LYN pmax pmax
comp=Z,240nm,9.8s
LYN LR LR
comp=Z,370nm,20.6s
LYN LR LR
comp=Z,490nm,13.2s
TWOA Tennyson Woods 41.73 189 P P 00 16 38.8 -0.6
comp=Z,52nm,0.8s
HNS HongShan 41.83 322 ⇑P **P 00 16 40.5 +0.2**
HNS S **S 00 22 56.0 -2.1**
HNS pmax pmax
comp=Z,37nm,1.0s
HNS LR LR
comp=Z,530nm,18.4s
HNS LR LR
comp=Z,810nm,17.3s
HNS LR LR
comp=Z,460nm,15.5s
GYA Guiyang 42.20 303 ⇑P **P 00 16 44.8 +1.2**
GYA pmax pmax
comp=Z,24nm,1.2s
GYA pmax pmax
comp=Z,320nm,4.8s
BNX BinXian 42.31 341 ⇓P **P 00 16 44.8 +0.7**
BNX pmax pmax
comp=Z,20nm,0.9s
BNX pmax pmax
comp=Z,230nm,4.4s
KLSI 42.37 256 P P 00 17 01.8 +17
BJT Baijiatuau 42.73 326 P P 00 16 47.6 +0.1
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuau 42.73 326 P P 00 16 47.6 +0.1
BJI Beijing 42.74 326 P P 00 16 47.8 +0.2
BJI S **S 00 23 13.8 +2.4**
BJI pmax pmax
comp=Z,20nm,0.8s
BJI pmax pmax
comp=Z,200nm,3.8s
BJI LR LR
comp=Z,310nm,19.1s
BJI LR LR
comp=Z,400nm,18.0s
BJI LR LR
comp=Z,560nm,24.1s
MDSI Maura Dua 42.85 256 P P 00 16 56.9 +8.0
comp=Z,752nmcomp=Z,14nm,1.1s
ARPS Mount Arapiles 43.07 185 P P 00 16 49.6 -0.7
baz=43,SNR=15
ARPS Mount Arapiles 43.07 185 P P 00 16 50.2 -0.1
SLVN Son La 43.07 294 P P 00 16 50.5 -0.2
TOO Toolangi 43.71 180 P P 00 16 55.3 -0.2
baz=44,SNR=5.1
TOO Toolangi 43.71 180 P P 00 16 54.9 -0.6
TOO pmax pmax
comp=Z,35nm,1.1s
TOO Toolangi 43.71 180 P P 00 16 54.9 -0.6
TOO IAmb IAmb 00 16 56.3
comp=Z,35nm,1.1s
BRAT Ballarat 43.72 182 P P 00 16 56.1 +0.6
comp=Z,14nm,1.1s
XAN Xi'an 43.75 314 P P 00 16 56.0 0.0
XAN pP sP 00 16 59.8 +1.2
XAN S **S 00 23 28.5 +1.9**
XAN pmax pmax
comp=Z,16nm,1.6s
XAN pmax pmax
comp=Z,340nm,5.7s
XAN LR LR
comp=Z,400nm,17.6s
XAN LR LR
comp=Z,420nm,17.9s
XAN LR LR
comp=Z,500nm,17.2s
RGRI Rengat 43.80 263 P P 00 17 01.6 +4.9
comp=Z,87μmcomp=Z,666nm,0.4s
KLR Kul'dur 44.31 347 P **P 00 16 59.8 -0.4**
comp=Z,2.8nm,0.7s,baz=137,slow=10,SNR=8.4
KLR Kul'dur 44.31 347 *i* P **P 00 16 59.0 -1.2**
KLR pmax pmax
comp=Z,29nm,1.8s
MASI Maura Aman, Be 44.42 259 P **P 00 17 05.6 +3.9**
comp=Z,2μmcomp=Z,153nm,1.0s
IPM Ipoh 44.52 270 P **P 00 17 01.9 -0.5**
IPM Ipoh 44.52 270 P **P 00 17 07.0 +4.6**
KULM Kulim 44.83 271 P **P 00 17 04.5 -0.4**
BKNI Bangkinang 44.98 264 P P 00 17 16.6 +11
comp=Z,201nm,0.5s
KMI Kunming 45.11 299 ⇑P **P 00 17 08.8 +1.6**
KMI pP sP 00 17 11.5 +1.7
KMI sP pwP 00 17 13.0 -1.5
KMI S **S 00 23 46.3 -0.7**
KMI pmax pmax
comp=Z,17nm,1.0s
KMI pmax pmax
comp=Z,110nm,4.6s
KMI LR LR
comp=Z,170nm,14.1s
KMI LR LR
comp=Z,270nm,14.1s
KMI LR LR
comp=Z,270nm,19.4s
MORW Morawa 45.35 218 P **P 00 17 07.9 -0.9**
baz=45,SNR=6.0
MORW Morawa 45.35 218 P **P 00 17 07.8 -0.9**
MORW Morawa 45.35 218 P **P 00 17 08.5 -0.3**
XLT XiLinHaoTe 45.52 330 *eP* **P 00 17 10.0 0.0**
XLT pP sP 00 17 15.5 +2.9
XLT sP pwP 00 17 17.0 -0.3
XLT pmax pmax
comp=Z,63nm,0.8s
XLT pmax pmax
comp=Z,250nm,4.9s
PPI Padang Panjang 45.73 263 P P 00 17 21.4 +9.4
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 45.91 324 *eP* **P 00 17 13.5 +0.3**
HHC S **S 00 23 58.5 +0.6**
HHC SS **ScS 00 27 14.0 +4.4**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,150nm,6.9s
HHC LR LR
comp=Z,450nm,16.5s
HHC LR LR
comp=Z,410nm,15.9s
HHC LR LR
comp=Z,480nm,15.9s
CD2 Chengdu 46.24 307 ⇑P **P 00 17 16.3 +0.4**
CD2 pP sP 00 17 19.0 +0.5
CD2 S **S 00 24 02.5 -0.3**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,190nm,7.5s
MNSI Mandailing Nat 46.35 265 P **P 00 17 21.6 +4.7**
comp=Z,32nm,0.8s
PZH PanZhiHua 46.38 301 P **P 00 17 18.3 +1.2**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,4.9s
BTO Baotou 46.68 322 *eP* **P 00 17 20.8 +1.5**
PSI Prapat 46.76 268 P **P 00 17 18.3 -2.0**
comp=Z,2.1nm,0.6s,baz=44,slow=9.2,SNR=2.3
PSI LR LR 00 35 54.9
comp=Z,56nm,21.9s,baz=100,slow=35
NKL Nikolayevsk 46.82 356 *eP* **P 00 17 16.7 -3.2**
NKL *e* 00 18 50.2
NKL pmax pmax
comp=E,8.0nm,1.0s
NKL pmax pmax
comp=N,609nm,0.9s
NKL pmax pmax
comp=Z,17nm,1.3s
NKL pmax pmax
comp=Z,37nm,3.2s
CMAR Chiang Mai Arr 47.09 289 P **P 00 17 23.0 +0.3**
comp=Z,2.9nm,0.8s,baz=95,slow=6.1,SNR=23
CMAR LR LR 00 37 46.2
comp=Z,66nm,19.5s,baz=95,slow=37
CMAR Chiang Mai Arr 47.09 289 P **P 00 17 23.9 +1.2**
CMAR Chiang Mai Arr 47.09 289 P **P 00 17 23.9 +1.2**
SISI Saibi 47.17 262 P P 00 17 31.7 +8.4
comp=Z,27nm,1.1s
PETK Petropavlovsk- 47.62 10 P **P 00 17 27.4 +1.2**
comp=Z,11nm,1.1s,baz=190,slow=8.1,SNR=5.0
KCSI Kotacane, Aceh 47.83 269 P P 00 17 40.3 +12
HIA Hailar 48.04 337 *i* P **P 00 17 29.3 -0.3**
HIA pmax pmax
comp=Z,21nm,1.3s
HIA Hailar 48.04 337 P **P 00 17 29.1 -0.5**
HIA IAmb IAmb 00 17 45.5
comp=Z,9.5nm,0.6s
GSI Gunungsitoli 48.27 266 P P 00 17 41.6 +10
comp=Z,41nm,1.2s
GSI Gunungsitoli 48.27 266 P **P 00 17 32.2 +0.3**
LZH Lanzhou 48.38 314 *eP* **P 00 17 33.0 +0.3**
LZH pP pwP 00 17 39.5 -0.4
LZH sP sP 00 17 43.3 +8.0
LZH sS sS 00 24 48.8 +13
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,190nm,5.4s
LZH LR LR
comp=Z,370nm,16.8s
LZH LR LR
comp=Z,390nm,17.3s
LZH LR LR
comp=Z,500nm,17.3s
OUZ Omahuta 49.00 150 P **P 00 17 38.0 +0.9**
ZEA Zeya 49.56 346 *eP* **P 00 17 40.9 -0.2**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
HIZ Hauiti 52.22 151 P **P 00 18 02.1 +0.7**
CIT Chita 52.66 336 *eP* **P 00 18 05.3 +0.8**
GTA Gaotai 52.73 316 ⇑P **P 00 18 05.8 +0.4**
GTA pP sP 00 18 10.3 +2.3
GTA sP pwP 00 18 13.5 +0.8
GTA pmax pmax
comp=Z,21nm,1.1s
GTA pmax pmax
comp=Z,230nm,6.8s
GTA LR LR
comp=Z,250nm,16.3s
GTA LR LR
comp=Z,240nm,11.1s
GTA LR LR
comp=Z,230nm,16.3s
ULN Ulaanbaatar 52.84 328 *i* P **P 00 18 06.5 +0.4**
ULN pmax pmax
comp=Z,29nm,1.0s
ULN Ulaanbaatar 52.84 328 P **P 00 18 06.6 +0.5**
ULN **pP 00 18 06.9 -1.1**
ULN IAmb IAmb 00 18 17.4
comp=Z,23nm,0.9s
QRZ Quartz Range 53.03 155 P **P 00 18 08.6 +1.3**
QRZ IAmb IAmb 00 18 12.0
comp=Z,22nm,1.0s
URZ Urewera 53.14 149 P **P 00 18 07.7 -0.5**
URZ IAmb IAmb 00 18 09.6
comp=Z,28nm,0.8s
SONM Songino Array 53.17 328 P **P 00 18 08.6 +0.2**
comp=Z,5.8nm,0.7s,baz=136,slow=8.1,SNR=54
SONM PcP **PcP 00 19 15.6 -0.9**
comp=Z,3.1nm,1.1s,baz=166,slow=4.9,SNR=1.2
SONM LR LR 00 41 58.4
comp=Z,190nm,19.0s,baz=140,slow=37
SONM Songino Array 53.17 328 P **P 00 18 09.0 +0.5**
SONM pmax pmax
comp=Z,22nm,1.1s
SONM Songino Array 53.17 328 P **P 00 18 09.0 +0.5**
SONM IAmb IAmb 00 18 19.8
comp=Z,22nm,1.1s
MA2 Magadan 53.22 3 P **P 00 18 09.2 +0.7**
MA2 pmax pmax
comp=Z,20nm,1.0s
MA2 Magadan 53.22 3 P **P 00 18 09.2 +0.7**
MA2 IAmb IAmb 00 18 19.2
comp=Z,20nm,1.0s
BKZ Black Stump Fm 53.52 150 IAmb IAmb 00 18 12.1
comp=Z,32nm,0.9s
THZ Tophouse 53.97 155 P **P 00 18 13.4 -0.8**
THZ IAmb IAmb 00 18 14.7
comp=Z,18nm,1.0s
TUWZ Tuamarina 54.14 154 P **P 00 18 15.1 -0.3**
FOZ Fox Glacier 54.25 159 P **P 00 18 15.4 -0.8**
FOZ IAmb IAmb 00 18 17.0
comp=Z,14nm,0.9s
BSWZ Blackbirch Sta 54.34 154 P **P 00 18 16.1 -0.9**
BHW Baring Head 54.53 153 P **P 00 18 16.7 -1.6**
LTZ Lake Taylor 54.55 156 P **P 00 18 18.6 0.0**
LTZ IAmb IAmb 00 18 28.7
comp=Z,18nm,1.0s
KIWB Kanaga Island 54.70 27 P **P 00 18 20.4 +1.0**
MSWZ Moikau Station 54.71 153 P **P 00 18 18.6 -1.0**
PLWZ Palliser 54.83 153 P **P 00 18 19.9 -0.7**
RPZ Rata Peaks 54.87 158 P **P 00 18 20.0 -0.8**
OXZ Oxford 54.92 157 P **P 00 18 19.5 -1.6**
OXZ IAmb IAmb 00 18 20.9
comp=Z,27nm,1.0s
DCZ Deep Cove 55.06 162 P **P 00 18 21.5 -0.6**
GOMU GeErMu 55.12 310 P **P 00 18 24.0 +0.7**
GOMU pP sP 00 18 27.5 +1.6
GOMU sP pwP 00 18 31.8 +1.2
GOMU S **S 00 26 07.3 +0.7**
GOMU pmax pmax
comp=Z,4.0nm,1.0s
GOMU pmax pmax
comp=Z,93nm,5.7s
GOMU LR LR
comp=Z,190nm,17.1s
GOMU LR LR
comp=Z,170nm,16.8s
GOMU LR LR
comp=Z,220nm,16.3s
LBZ Lake Benmore 55.12 159 P **P 00 18 22.0 -0.6**
LBZ IAmb IAmb 00 18 26.0
comp=Z,24nm,1.1s
MLZ Mavora Lakes 55.28 161 P **P 00 18 23.7 0.0**
ZAK Zakamensk 56.34 329 *eP* P 00 18 38.5 +7.1
ZAK pmax pmax
comp=Z,33nm,1.2s
SEY Seymchan 56.66 4 P **P 00 18 33.2 -0.1**
comp=Z,1.4nm,0.3s,baz=180,slow=8.5,SNR=5.1
SEY Seymchan 56.66 4 *i* P **P 00 18 33.7 +0.4**
YAK Yakutsk 56.80 351 *i* P **P 00 18 34.9 +0.6**
YAK pmax pmax
comp=Z,32nm,1.4s
MOY Mondy 58.26 329 *eP* **P 00 18 45.5 +0.5**
MOY pmax pmax
comp=Z,33nm,3.1s
GUN Gumba 60.44 298 *eP* **P 00 19 00.8 0.0**
comp=Z,70nm,1.1s
PKI Pulchoki 60.80 298 *eP* **P 00 19 02.9 -0.3**
PKIN Phulchoki 60.81 298 *eP* **P 00 19 03.3 0.0**
KKN Kakani 60.95 298 *eP* **P 00 19 03.9 -0.2**
GKN Gorkha 61.54 298 *eP* **P 00 19 07.8 -0.3**
DANN Dangsing 62.36 299 *eP* **P 00 19 13.5 -0.2**
comp=Z,33nm,0.7s
KOLN Koldanda 62.42 298 *eP* **P 00 19 13.8 -0.2**
comp=Z,28nm,1.0s
WMQ Urumqi 62.80 316 *eP* **P 00 19 16.3 +0.2**
WMQ pP sP 00 19 21.5 +2.8
WMQ sP pwP 00 19 28.5 +5.0
WMQ pmax pmax
comp=Z,21nm,1.5s
WMQ pmax pmax
comp=Z,250nm,3.8s
WMQ LR LR
comp=Z,200nm,29.3s
WMQ LR LR
comp=Z,1μm,28.9s
WMQ LR LR
comp=Z,100nm,17.7s
PYUN Piuthan 63.00 298 *eP* **P 00 19 17.8 -0.1**
comp=Z,42nm,0.9s
BILL Biiibino 63.12 9⇓*eP* **P 00 19 16.2 -1.4**
BILL *e* 00 19 54.8
BILL pmax pmax
comp=Z,23nm,1.5s
BILL MLR MLR
comp=Z,107nm,16.0s
PALK Pallekele 64.51 275 LR LR 00 48 17.0
comp=Z,40nm,19.8s,baz=182,slow=37
SDPT Sand Point 64.81 31 P **P 00 19 29.7 +0.7**
DGZ Jazzator, Alta 64.97 322 *i* P **P 00 19 31.1 +0.7**
DGZ pmax pmax
comp=Z,15nm,0.9s
ADKI Addanki 64.98 284 *eP* **P 00 19 29.8 -1.1**
SKHT Srikalahasti 65.24 282 *eP* **P 00 19 32.0 -0.5**
NJS Nagarjunasagar 65.62 285 *eP* **P 00 19 34.6 -0.4**
ZSN Zaisan 65.82 319 *eP* **P 00 19 34.4 -1.4**
ZSN Zaisan 65.82 319 *eP* **P 00 19 34.4 -1.4**
baz=320
RCLA Racherla 65.96 284 *eP* **P 00 19 36.5 -0.7**
TIXI Tiksi 66.06 354 P **P 00 19 35.4 -1.4**
comp=Z,2.8nm,0.3s,baz=134,slow=5.9,SNR=5.2
TIXI Tiksi 66.06 354 *i* P **P 00 19 35.7 -1.1**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
HYBB Hyderabad (bro 66.35 286 *eP* **P 00 19 39.6 -0.2**
MK31 Makanchi Array 67.32 318 *i* P **P 00 19 45.5 +0.1**
MK31 Makanchi Array 67.32 318 P **P 00 19 45.2 -0.2**
MK31 IAmb IAmb 00 19 56.9
comp=Z,11nm,0.8s
MKAR Makanchi Array 67.32 318 P **P 00 19 45.5 +0.1**
comp=Z,8.0nm,0.7s,baz=95,slow=7.6,SNR=67
MKAR Makanchi Array 67.32 318 *i* P **P 00 19 45.7 +0.3**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 67.32 318 P **P 00 19 45.6 +0.2**
MAKZ Makanchi 67.53 318 P **P 00 19 46.7 0.0**
MAKZ pmax pmax
comp=Z,23nm,0.8s
MAKZ Makanchi 67.53 318 P **P 00 19 46.7 0.0**
ANM Nome 67.57 21 P **P 00 19 46.3 -0.3**
baz=234
URV Uravakonda 67.60 283 *eP* **P 00 19 46.5 -1.2**
ZAA0 Zalesovo Array 68.00 326 IAmb IAmb 00 20 03.1
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 68.00 326 P **P 00 19 48.8 -0.6**
comp=Z,3.2nm,0.6s,baz=110,slow=6.4,SNR=17
ZALV Zalesovo Beam 68.00 326 *i* P **P 00 19 48.7 -0.8**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 68.00 326 P **P 00 19 48.6 -0.8**
PDGK Podgornoye 68.42 314 P **P 00 19 52.2 -0.3**
UZB Uzynbulak 68.72 314 *eP* **P 00 19 53.2 -1.2**
UZB pmax pmax
comp=Z,3.0nm,0.8s
UZB Uzynbulak 68.72 314 *eP* **P 00 19 53.3 -1.2**
comp=Z,3.3nm,0.8s,baz=314
SATY Saty 69.14 314 *eP* **P 00 19 56.0 -1.0**
SATY pmax pmax
comp=Z,4.0nm,0.8s
SATY Saty 69.14 314 *eP* **P 00 19 56.0 -1.0**
comp=Z,4.0nm,0.8s,baz=314
OHAK Old Harbor 69.23 31 P **P 00 19 57.8 +0.7**
baz=248
TDK Taldyqorghan 69.53 316 *eP* **P 00 19 57.6 -1.6**
TDK pmax pmax
comp=Z,13nm,0.7s
TDK Taldyqorghan 69.53 316 *eP* **P 00 19 57.7 -1.6**
comp=Z,14nm,0.7s,baz=316
SEM Semipalatinsk 69.59 322 *eP* **P 00 19 58.1 -1.6**
SEM Semipalatinsk 69.59 322 *eP* **P 00 19 58.1 -1.6**
baz=322
N19K Bonanza Creek 70.06 27 P **P 00 20 03.3 +1.0**
N19K IAmb IAmb 00 20 25.9

comp=Z,18nm,1.1s
N19K Bonanza Creek 70.06 27 P P 00 20 03.6 +1.4
baz=246
MDOK Medeo 70.14 314 P P 00 20 02.8 -0.4
KSH Kashi 70.36 310 P P 00 20 07.3 +2.7
KSH pP pwP 00 20 12.8 +0.8
KSH sP sP 00 20 14.3 +7.0
KSH pmax pmax
comp=Z,11nm,1.1s
RDOG Red Dog Mine 70.41 18 P P 00 20 05.3 +1.2
baz=236
L19K White Mountain 70.46 25 P P 00 20 05.9 +1.3
L19K IAmb IAmb 00 20 20.0
comp=Z,17nm,1.3s
L19K White Mountain 70.46 25 P P 00 20 05.5 +0.9
baz=245
KURK Kurchatov 70.67 322 *c i P* **P 00 20 05.9 -0.2**
KURK pmax pmax
comp=Z,45nm,0.9s
KURK Kurchatov 70.67 322 P P 00 20 05.3 -0.8
KURBB Kurchatov Arra 70.70 322 P P 00 20 06.1 -0.2
KUU Kurty 70.78 314 *eP* **P 00 20 05.5 -1.4**
KUU pmax pmax
comp=Z,17nm,0.7s
KUU Kurty 70.78 314 *eP* **P 00 20 05.5 -1.4**
comp=Z,17nm,0.7s,baz=314
L20K Farewell, AK 71.00 25 P P 00 20 08.8 +0.9
baz=246
TKM2 Tokmak 2 71.15 313 P P 00 20 09.0 -0.5
K20K Telida 71.28 24 P P 00 20 10.8 +1.3
baz=246
J20K Nowinta River 71.59 24 P P 00 20 12.6 +1.2
baz=245,SNR=5.7
PPLA Purkeypile 71.88 25 P P 00 20 13.7 +0.4
baz=248
NIL Nilore 71.90 303 P P 00 20 14.4 +0.5
NIL pmax pmax
comp=Z,51nm,0.9s
NIL Nilore 71.90 303 P P 00 20 14.4 +0.5
AAK Ala-Archa 71.91 313 P P 00 20 13.6 -0.4
comp=Z,2.3nm,0.7s,baz=112,slow=5.7,SNR=7.1
AAK Ala-Archa 71.91 313 P P 00 20 13.9 -0.1
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 71.91 313 P P 00 20 13.9 -0.1
CAST Castle Rocks 72.12 25 P P 00 20 14.7 0.0
baz=248
CHUM Lake Minchumin 72.21 24 P P 00 20 16.2 +1.1
baz=247,SNR=5.9
RC01 Rabbit Creek A 72.31 27 P P 00 20 15.5 -0.3
baz=250
IMAR Indian Mountai 72.50 22 P P 00 20 16.9 0.0
BTLS Baital 72.58 315 *eP* **P 00 20 16.0 -1.7**
BTLS Baital 72.58 315 *eP* **P 00 20 16.1 -1.7**
baz=315
H21K Melozitna Rive 72.72 22 P P 00 20 18.4 +0.2
baz=246
PMR Palmer 72.75 27 P P 00 20 18.1 -0.3
baz=251
BPAW Bear Paw Mtn. 72.83 24 P P 00 20 19.0 +0.1
baz=248
I21K Tanana 72.85 23 P P 00 20 19.8 +0.9
baz=247,SNR=6.2
PWL Port Wells 72.88 28 P P 00 20 19.4 +0.2
baz=252
KNK Knik Glacier 73.00 27 P P 00 20 20.3 +0.4
baz=252
SML Sawmill 73.18 27 P P 00 20 20.9 -0.1
baz=252
NRIK Noril'sk 73.19 342 P P 00 20 20.9 0.0
comp=Z,5.3nm,0.9s,baz=122,slow=6.9,SNR=8.4
NRIK Noril'sk 73.19 342 *i P* **P 00 20 19.7 -1.2**
NRIK pmax pmax
comp=Z,14nm,0.9s
NRIK Noril'sk 73.19 342 IAmb IAmb 00 20 32.2
comp=Z,13nm,1.0s
MLY Manley 73.28 23 P P 00 20 21.9 +0.4
baz=248
MCK McKinley 73.55 25 IAmb IAmb 00 20 23.9
comp=Z,21nm,1.4s
MCK McKinley 73.55 25 P P 00 20 23.3 +0.2
baz=250
SCM Sheep Creek Mo 73.64 27 P P 00 20 24.1 +0.3
baz=252
I23K Minto, Yukon-K 73.86 23 IAmb IAmb 00 20 26.4
comp=Z,24nm,1.4s
I23K Minto, Yukon-K 73.86 23 P P 00 20 25.5 +0.6
baz=250,SNR=7.7
A21K Barrow 74.00 16 IAmb IAmb 00 20 27.2
comp=Z,26nm,1.2s
A21K Barrow 74.00 16 P P 00 20 26.7 +1.2
baz=241
DIV Divide 74.15 28 P P 00 20 26.9 +0.1
DIV IAmb IAmb 00 20 28.3
comp=Z,16nm,0.7s
KLU Klutina 74.19 28 P P 00 20 27.0 +0.1
baz=254
OTUK Ortayu 74.21 318 P P 00 20 26.9 -0.4
M24K Tolsona, Glenn 74.25 27 P P 00 20 28.3 +1.0
baz=253
BRZS Berezniki 74.25 320 *eP* **P 00 20 26.0 -1.5**
BRZS Berezniki 74.25 320 *eP* **P 00 20 26.1 -1.5**
baz=320
DZA Taraz 74.25 313 *eP* **P 00 20 26.9 -0.8**
DZA Taraz 74.25 313 *eP* **P 00 20 27.0 -0.8**
baz=313
COLD Coldfoot 74.30 21 IAmb IAmb 00 20 29.5
comp=Z,19nm,1.2s
COLD Coldfoot 74.30 21 P P 00 20 28.4 +0.9
baz=248
COLA College 74.38 24 *i P* **P 00 20 24.9 -3.0**
COLA pmax pmax
comp=Z,6.0nm,0.9s
HDA Harding Lake 74.60 25 P P 00 20 28.3 -0.9
baz=252,SNR=6.5
H24K Noodor Dome 74.68 23 P P 00 20 30.5 +0.7
baz=251
ILAR Eielson Array 74.73 24 P P 00 20 28.7 -1.3
comp=Z,5.4nm,0.7s,baz=253,slow=5.5,SNR=69
ILAR Eielson Array 74.73 24 P P 00 20 28.5 -1.5
ILAR Eielson Array 74.73 24 P 00 20 28.5 -1.5
HARP HAARP 74.78 27 P P 00 20 30.8 +0.5
baz=254
PAX Paxson 74.80 26 P P 00 20 30.9 +0.4
PAX pmax pmax
comp=Z,6.0nm,0.8s
PAX Paxson 74.80 26 P P 00 20 30.9 +0.4
PAX Paxson 74.80 26 P P 00 20 30.6 +0.1
baz=254,SNR=5.5
TOLK Toolik Lake Re 75.04 20 P P 00 20 32.5 +0.8
baz=248
IUG Iuzhnay 75.14 312 *eP* **P 00 20 32.0 -0.9**
IUG Iuzhnay 75.14 312 *eP* **P 00 20 32.0 -0.9**
baz=312
RIDG Independent Ri 75.29 26 P P 00 20 33.3 0.0
baz=254,SNR=5.7
BRLS Borolday 75.36 313 *eP* **P 00 20 33.9 -0.1**
BRLS Borolday 75.36 313 *eP* **P 00 20 34.0 -0.1**
baz=312
TAOE Nuku Hiva Isla 75.43 101 *e*LR LR 00 43 43.9
comp=Z,264nm,24.3s
KBL Kabul 75.44 304 P P 00 20 34.2 -0.8
KBL pmax pmax
comp=Z,13nm,1.2s
KBL Kabul 75.44 304 P P 00 20 34.2 -0.8
SCRK Sand Creek 75.72 25 P P 00 20 35.8 -0.1
baz=255,SNR=5.6
L26K Log Cabin Wild 75.75 26 P P 00 20 36.5 +0.5
baz=256
BVAR Borovoye Array 76.12 323 P P 00 20 38.2 0.0
comp=Z,6.6nm,0.8s,baz=87,slow=11,SNR=28
BRVK Borovoye 76.19 323 P P 00 20 38.5 0.0
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 76.19 323 P P 00 20 38.5 0.0
M27K Edge Creek, AK 76.25 27 P P 00 20 39.7 +0.8
baz=257
BMAR Burnt Mountain 76.42 22 P P 00 20 40.8 +1.1
L27K Beaver Creek, 76.43 27 P P 00 20 40.2 +0.3
baz=257
BVCY Beaver Creek 76.73 27 P P 00 20 42.6 +1.1
baz=258,SNR=5.1
YUK3 Moose Creek 76.79 28 P P 00 20 42.9 +0.8
baz=259,SNR=7.4
EGAK Eagle 77.10 25 IAmb IAmb 00 20 45.6
comp=Z,12nm,0.9s
EGAK Eagle 77.10 25 P P 00 20 44.7 +1.3
baz=257,SNR=8.5
YUK4 Talbot Arm 77.56 29 P P 00 20 47.9 +1.5
baz=260,SNR=5.2
YUK6 Outpost Mounta 77.63 29 P P 00 20 47.7 +0.9
baz=261
DAWY Dawson 77.71 26 P P 00 20 47.8 +0.8
baz=259,SNR=7.7
HYT Haines Junctio 78.03 29 P P 00 20 49.8 +0.9
baz=262,SNR=10
M30M Minto, Yukon 78.62 27 P P 00 20 52.9 +0.8
baz=262,SNR=9.0
SKAG Skagway 78.93 31 P P 00 20 54.3 +0.6
baz=264
N31M Braeburn, Yuko 78.95 29 P P 00 20 54.6 +0.8
baz=263
P33M Teslin, Yukon 80.26 30 P P 00 21 01.3 +0.2
baz=266
INK Inuvik 80.70 22 P P 00 21 02.8 -0.3
comp=Z,13nm,0.9s,baz=262,slow=5.1,SNR=31
INK LR LR 00 53 47.4
comp=Z,111nm,20.9s,baz=230,slow=33
INK Inuvik 80.70 22 P P 00 21 02.9 -0.2
baz=264
HRA Herat 81.06 304 IAmb IAmb 00 21 17.5
comp=Z,28nm,1.1s
MMPY Sheldon Lake, 81.17 28 P P 00 21 07.3 +1.4
baz=267
DLBC Dease Lake 81.60 32 P P 00 21 08.7 +0.4
comp=Z,7.9nm,0.9s,baz=271,slow=7.1,SNR=11
SVE Sverdlovsk 82.01 326 *eP* P 00 21 20.7 +10
SVE pmax pmax
comp=Z,22nm,1.0s
AB31 Abkulak array 82.46 319 *i P* **P 00 21 12.6 -0.3**
ABKAR Abkulak array 82.46 319 P P 00 21 12.5 -0.3
BBB Bella Bella 82.66 38 LR LR 00 51 08.9
comp=Z,123nm,20.5s,baz=280,slow=31
ARU Arti 83.16 326 LR LR 01 00 05.7
comp=Z,233nm,19.4s,baz=45,slow=37
ARU Arti 83.16 326 *‖ i P* **P 00 21 17.4 +1.0**
ARU PP **PP 00 24 26.1 -1.3**
ARU S **S 00 31 39.4 +3.0**
ARU SS **SS 00 36 54.3 -6.0**
ARU pmax pmax
comp=Z,6.0nm,1.1s
ARU Arti 83.16 326 P P 00 21 17.6 +1.2
ARU IAmb IAmb 00 21 27.2
comp=Z,10nm,0.8s
AKTO Aktyubinsk 83.67 320 LR LR 00 59 02.5
comp=Z,64nm,21.7s,baz=52,slow=36
A36M Sachs Harbour 83.69 18 P P 00 21 19.1 +0.3
baz=271
C36M Paulatuk 84.16 21 P P 00 21 20.8 -0.4
baz=272
GEYT Alibeck 84.24 307 P P 00 21 21.1 -1.2
comp=Z,1.1nm,0.6s,baz=50,slow=3.2,SNR=1.8
VNDA Vanda 84.25 177 P P 00 21 21.2 -0.2
comp=Z,7.8nm,1.0s,baz=352,slow=5.0,SNR=3.0
VNDA LR LR 00 55 45.8
comp=Z,59nm,18.2s,baz=338,slow=34
WSAR Wadi Sarin 84.85 293 LR LR 01 02 58.8
comp=Z,40nm,19.2s,baz=96,slow=38
KIRV Kirov 87.89 329 LR LR 01 04 07.8
comp=Z,131nm,18.5s,baz=64,slow=38
PINE Pine Mountain 88.05 46 IAmb IAmb 00 21 43.2
comp=Z,14nm,0.9s
E07A Sunnyside 88.47 43 P P 00 21 44.5 +1.6
E07A IAmb IAmb 00 21 44.8
comp=Z,21nm,1.2s
B08A Colville Reser 88.57 42 P P 00 21 44.0 +0.6
B08A IAmb IAmb 00 21 44.7
comp=Z,16nm,1.1s
YKA Yellowknife Ar 88.85 27 P P 00 21 44.1 -0.3
comp=Z,6.4nm,0.9s,baz=282,slow=4.9,SNR=61
YKA LR LR 00 58 14.9
comp=Z,226nm,19.8s,baz=258,slow=33
YKA Yellowknife Ar 88.85 27 *i P* **P 00 21 44.0 -0.3**
YKA pmax pmax
comp=Z,64nm,0.9s
YKA Yellowknife Ar 88.85 27 P P 00 21 44.4 +0.1
E08A Dider Farm, El 89.02 43 P P 00 21 45.8 +0.3
E08A IAmb IAmb 00 21 47.3
comp=Z,22nm,1.4s
PRGR Permogore 89.21 332 *eP* **P 00 21 48.3 +2.3**
PRGR pmax pmax
comp=Z,17nm,0.8s
G08A Pilot Rock 89.26 45 P P 00 21 46.8 0.0
G08A IAmb IAmb 00 21 49.5
comp=Z,13nm,1.5s
E09A Wood Farm, Sta 89.64 43 P P 00 21 48.5 +0.1
E09A IAmb IAmb 00 22 02.4
comp=Z,14nm,1.0s
NEW Newport 90.05 42 LR LR 00 56 18.5
comp=Z,233nm,19.4s,baz=262,slow=32
NEW Newport 90.05 42 P P 00 21 50.6 +0.2
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 90.05 42 P P 00 21 50.6 +0.2
NEW IAmb IAmb 00 21 51.7
comp=Z,10nm,1.1s
NEW Newport 90.05 42 P P 00 21 50.3 -0.1
baz=280
BMO Blue Mountains 90.48 45 IAmb IAmb 00 21 54.1
comp=Z,10nm,1.0s
NVAR Mina Array Bea 90.75 51 P P 00 21 54.3 +0.2
comp=Z,1.1nm,0.5s,baz=262,slow=6.2,SNR=6.9
NVAR LR LR 00 56 52.6
comp=Z,199nm,19.4s,baz=274,slow=32
NVAR Mina Array Bea 90.75 51 P P 00 21 54.6 +0.6
CWC Cottonwood Cre 91.23 53 P P 00 21 56.8 +0.5
baz=279
SPITS Spitsbergen Ar 91.27 351 LR LR 01 01 56.0
comp=Z,123nm,21.6s,baz=282,slow=35
RES Resolute Bay 91.34 13 P P 00 21 55.4 -0.3
comp=Z,2.5nm,0.8s,baz=302,slow=7.0,SNR=8.4
PLID Pearl Lake 91.36 45 IAmb IAmb 00 21 57.6
comp=Z,8.1nm,0.9s
LRMC Laurel Mtn Rad 91.70 54 P P 00 21 59.1 +0.7
baz=279
MPMC Manual Prospec 91.76 54 P P 00 21 59.5 +0.7
baz=279
MFID Camas Ranch 91.78 46 IAmb IAmb 00 21 59.9
comp=Z,8.4nm,0.8s
KLMR Klimovskoe 92.27 332 *eP* **P 00 21 57.6 -2.7**
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR Klimovskoe 92.27 332 *eP* **P 00 21 57.6 -2.7**
KLMR AMP 00 21 58.9
comp=Z,19nm,1.5s
TPNV Topopah Spring 92.60 53 P P 00 22 02.9 +0.3
baz=280
ELK Elko 92.70 49 LR LR 00 59 31.0
comp=Z,146nm,19.1s,baz=268,slow=33
ELK Elko 92.70 49 P P 00 22 03.5 +0.4
ELK pmax pmax
comp=Z,27nm,1.0s
ELK Elko 92.70 49 P P 00 22 03.5 +0.4
HLID Hailey 92.76 46 P P 00 22 03.8 +0.6
HLID IAmb IAmb 00 22 05.0
comp=Z,5.8nm,0.9s
HLID Hailey 92.76 46 P P 00 22 03.9 +0.6
baz=281
R11A Troy Canyon, C 92.87 51 IAmb IAmb 00 22 05.7
comp=Z,8.9nm,1.3s
R11A Troy Canyon, C 92.87 51 P P 00 22 04.5 +0.7
baz=280
PFO Pinyon Flats O 92.99 56 LR LR 00 54 50.1
comp=Z,85nm,22.0s,baz=256,slow=30
LRM Limekiln Ridge 93.66 43 P P 00 22 07.3 0.0
ARCES ARCESS Array B 94.17 342 LR LR 01 08 39.9
comp=Z,167nm,18.8s,baz=343,slow=38
BOZ Bozeman (W) 94.27 43 P P 00 22 10.5 +0.4
baz=284
DUG Dugway, Tooele 94.62 49 P P 00 22 11.9 +0.1
DUG pmax pmax
comp=Z,41nm,0.9s
DUG Dugway, Tooele 94.62 49 P P 00 22 11.9 +0.1
DUG Dugway, Tooele 94.62 49 P P 00 22 12.5 +0.7
baz=282
KIV Kislovodsk 94.91 315 *eP* **P 00 22 11.6 -1.4**
KIV pmax pmax
comp=Z,62nm,1.1s
QSPA South Pole Qui 96.25 180 LR LR 01 05 37.6
comp=Z,263nm,18.3s,baz=14,slow=35
PDAR Pinedale Array 96.40 46 P P 00 22 19.3 -0.7
comp=Z,0.1nm,0.5s,baz=337,slow=2.1,SNR=1.6
PDAR LR LR 01 01 36.1
comp=Z,133nm,18.8s,baz=259,slow=33
WUAZ Wupatki 96.74 53 P **P 00 22 22.9 +1.3**
baz=283
FINES FINESS Array B 98.02 335 LR LR 01 08 08.0
comp=Z,70nm,20.1s,baz=29,slow=36
CRVS Cervenica-Dubn 106.64 325 *e*PDIFF **Pdif 00 23 10.9 +5.7**
TORD Torodi Ar. Bea 139.34 299 PKP **PKPdf 00 28 17.4 -1.3**
comp=Z,4.3nm,1.1s,baz=108,slow=4.7,SNR=2.3
PB11 IPOC Station P 143.16 115 PKPab 00 28 22.3 +1.1
LPAZ La Paz 145.44 109 PKPbc **PKPbc 00 28 30.5 +0.3**
comp=Z,2.3nm,0.4s,baz=226,slow=2.7,SNR=6.9
DBIC Dimbokro 147.90 293 PKPab **PKiKP 00 28 38.4 -0.3**
comp=Z,4.8nm,0.9s,baz=192,slow=1.0,SNR=5.8
KIC Kosan Boka 147.92 293 *e*PKP1 **PKPbc 00 28 37.0 +0.2**
comp=Z,13nm,0.8s
TIC Toumodi 148.06 293 *e*PKP1 **PKPbc 00 28 37.7 +0.5**
LIC Lamto 148.23 293 *e*PKP1 **PKPbc 00 28 36.6 -1.0**
comp=Z,51nm,0.9s
TOSP Speyside 148.53 56 PKPbc 00 28 39.7 +1.3
CPUP Villa Florida 150.39 135 PKP **PKPdf 00 28 37.6 +0.2**
comp=Z,0.8nm,0.4s,baz=239,slow=5.9,SNR=2.2
CPUP PKPab **sPKPbc 00 28 46.5 +1.2**
comp=Z,6.6nm,1.1s,baz=180,slow=4.1,SNR=5.7
CPUP Villa Florida 150.39 135 PKPab **PKPab 00 28 47.8 -1.2**
MACA Manacapuru-AM 153.50 84 PKPab **PKPab 00 29 01.5 -0.9**
PTLB Pontes e Lacer 154.01 112 PKPab 00 29 02.1 -2.4

KRSC ***30*** *00:16:34.7±2.3, 48°.23N×154°.05E, h175km±42km, ML5.8*
SKHL ***30*** *00:16:36.3±0.1, 48°.30N×153°.90E, h138km±8km, mb5.8/13, mbv5.7/6, msha6.7/4*
BJI ***30*** *00:16:36.8±0.0, 48°.61N×153°.58E, h156km, mb5.3/73, mB5.1/42*
MOS ***30*** *00:16:37.9±1.0, 48°.58N×153°.41E, h158km, mb5.2/66, Error ellipse: s-maj=7.0km s-min=3.5km az=66.9*
IDC ***30*** *00:16:38.7±1.1, 48°.54N×153°.37E, h144km±9km, mb4.7/59, mb1 4.8/64, mb1mx4.8/77, mbtmp5.2/64, MS4.0/8, Ms1 4.0/8, ms1mx3.3/96, Error ellipse: s-maj=7.3km s-min=5.8km az=136.0*
NEIC ***30*** *00:16:39.8±2.1, 48°.53N±0°.07×153°.5E±0°.1, h153km±4km, mb5.2/402, Error ellipse: s-maj=12.6km s-min=8.9km az=131.0*
GCMT ***30*** *00:16:39.8±0.3, 48°.54N±0°.02×153°.69E±0°.03, h158km±2km, MW5.1/121, Moment Tensor Solution. s29,c34; s121,c177; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.38±.14; $M_{\theta\theta}$-0.31±.17; $M_{\phi\phi}$4.68±.17; $M_{r\theta}$-0.77±.15; $M_{\theta\phi}$1.81±.18; $M_{\phi r}$1.83±.15; Best double couple: $M_0$5.25600×10^{16} NP1:ϕ_s35.00000°, δ39.00000°, λ-63.00000°. NP2:ϕ_s182.00000°, δ56.00000°, λ-110.00000°. Principal axes: T 5.5030, Plg9.0000°, Azm286.0000°; N -0.5000, Plg17.0000°, Azm193.0000°; P -5.0080, Plg71.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DSN ***30*** *00:16:40.1±1.4, 47°.86N×153°.15E, h152km, mb5.4/10 Error ellipse: s-maj=35.7km s-min=24.5km az=117.0*
BGR ***30*** *00:16:41.5±0.0, 48°.52N×153°.49E, h65km, mb5.3*
JMA ***30*** *00:16:42.9±0.5, 47°.00N×154°.03E, h242km, M4.9*
ISC 30 00:16:38.8±0.4,**48°.54N**±0°.03×**153°.45E**±0°.03,**h149**km±3km, **h149**km:**pP-P,n1207,**σ1**§49**/1154,**mb5.2**/363,**224C-354D,**
Fault plane solution: NP1:ϕ_s26.70317°, δ43.32005°, λ-63.00109°. **NP2:**ϕ_s171.69907°, δ52.31634°, λ-113.17592°. **Principal axes:** T Plg4.7143°, Azm277.9134°; N Plg18.1472°, Azm186.3645°; P Plg71.2088°, Azm21.9396°; **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.76**	**38**	*e*PN	**Pn**	**00 17 23.6**	**+0.6**
SKR				*e*S	**Sn**	**00 17 57.0**	**-0.1**
SKR	comp=Z,1μm,0.4s			pmax	pmax		
SKR	comp=E,3μm,0.5s			smax	smax		
SKR	comp=N,4μm,0.5s			smax	smax		
SKR	**Severo-Kuril's**	**2.76**	**38**	*e*P	**Pn**	**00 17 23.4**	**+0.4**
SKR				*e*S	**Sn**	**00 17 57.0**	**-0.1**
SKR	**Severo-Kuril's**	**2.76**	**38**	*e*P	**Pn**	**00 17 22.2**	**-0.8**
SKR	comp=N,2μm,0.3s			AMB	AMB	00 17 24.2	
SKR				*e*S	**Sn**	**00 17 56.6**	**-0.5**
SKR	comp=N,4μm,0.3s			A	A	00 18 03.1	
SKR	comp=N,6μm,0.3s			A	A	00 18 03.1	
PAU	**Pauzhetka**	**3.64**	**35**	PN	**Pn**	**00 17 34.2**	**-0.1**
PAU				S	**Sn**	**00 18 16.8**	**-0.6**
PAU	**Pauzhetka**	**3.64**	**35**	*e*P	**Pn**	**00 17 34.2**	**-0.1**
PAU				*e*S	**Sn**	**00 18 16.8**	**-0.6**
PAU	**Pauzhetka**	**3.64**	**35**	*e*P	**Pn**	**00 17 34.1**	**-0.2**
PAU	comp=N,600nm,0.5s			AMB	AMB	00 17 36.2	
PAU				*e*S	**Sn**	**00 18 17.5**	**+0.1**
PAU	comp=N,10μm,0.3s			A	A	00 18 18.2	
PAU	comp=N,8μm,0.3s			A	A	00 18 18.2	
KDTR	**Khodutka, Kamc**	**4.42**	**41**	PN	**Pn**	**00 17 42.7**	**-1.7**
KDTR				S	**Sn**	**00 18 30.6**	**-4.9**
KDTR	**Khodutka, Kamc**	**4.42**	**41**	*e*P	**Pn**	**00 17 42.7**	**-1.7**
KDTR				*e*S	**Sn**	**00 18 30.6**	**-4.9**
MTVR	**Mutnovka**	**4.97**	**36**	PN	**Pn**	**00 17 51.8**	**0.0**
MTVR				S	**Sn**	**00 18 46.8**	**-1.9**
MTVR	**Mutnovka**	**4.97**	**36**	*e*P	**Pn**	**00 17 51.8**	**0.0**
MTVR				*e*S	**Sn**	**00 18 46.8**	**-1.9**
APC	**Apacha**	**4.98**	**27**	PN	**Pn**	**00 17 52.7**	**+0.9**
APC	**Apacha**	**4.98**	**27**	*e*P	**Pn**	**00 17 52.7**	**+0.9**
GRL	**Gorelyy**	**4.98**	**35**	PN	**Pn**	**00 17 52.5**	**+0.6**
GRL				S	**Sn**	**00 18 48.2**	**-0.8**
GRL	**Gorelyy**	**4.98**	**35**	*e*P	**Pn**	**00 17 52.5**	**+0.6**
GRL				*e*S	**Sn**	**00 18 48.2**	**-0.8**
KUR	**Kuril'sk**	**5.06**	**231**	*e*PN	**Pn**	**00 17 54.7**	**+1.8**
KUR				*e*S	**Sn**	**00 18 53.0**	**+2.3**
KUR	comp=Z,3μm,4.2s			pmax	pmax		
KUR	comp=Z,358nm,0.6s			pmax	pmax		
KUR	comp=N,122nm,0.5s			pmax	pmax		
KUR	comp=E,175nm,0.5s			smax	smax		
KUR	comp=E,4μm,2.8s			smax	smax		
KUR	comp=N,4μm,2.7s			smax	smax		
KUR	comp=N,948nm,0.6s			smax	smax		
KUR	comp=E,701nm,0.9s						
KUR	**Kuril'sk**	**5.06**	**231**	*e*P	**Pn**	**00 17 52.3**	**-0.6**
KUR				AMB	AMB	00 17 57.0	
KUR	comp=E,3μm,4.2s			AMB	AMB	00 17 59.6	
KUR	comp=E,360nm,0.5s			*e*S	**Sn**	**00 18 52.5**	**+1.8**
KUR				A	A	00 18 59.1	
KUR	comp=E,950nm,0.7s			A	A	00 18 59.1	
KUR	comp=E,700nm,0.7s						
RUS	**Russkaya**	**5.06**	**38**	PN	**Pn**	**00 17 51.4**	**-1.5**
RUS				S	**Sn**	**00 18 45.9**	**-4.8**
RUS	**Russkaya**	**5.06**	**38**	*e*P	**Pn**	**00 17 51.4**	**-1.5**
RUS				*e*S	**Sn**	**00 18 45.9**	**-4.8**
RUS	**Russkaya**	**5.06**	**38**	*e*P	**Pn**	**00 17 51.4**	**-1.5**
KRMR	**Karymshinskiy**	**5.22**	**33**	PN	**Pn**	**00 17 55.3**	**+0.3**
KRMR	**Karymshinskiy**	**5.22**	**33**	*e*P	**Pn**	**00 17 55.3**	**+0.3**
PEA0B	**Petropavlovsk-**	**5.30**	**29**	*ce*PN	**Pn**	**00 17 56.4**	**+0.3**
PEA0B	**Petropavlovsk-**	**5.30**	**29**		**Pn**	**00 17 56.7**	**+0.6**
PETK	**Petropavlovsk-**	**5.30**	**29**	P	**Pn**	**00 17 56.3**	**+0.2**
PETK	comp=E,9.2nm,0.3s,baz=170,slow=9.5,SNR=155			S	**Sn**	**00 18 56.6**	**+0.1**
PETK	comp=E,12nm,0.3s,baz=255,slow=20,SNR=2.1						
PETK	**Petropavlovsk-**	**5.30**	**29**		**Pn**	**00 17 56.9**	**+0.7**
PET	**Petropavlovsk**	**5.57**	**34**	*e*PN	**Pn**	**00 17 58.4**	**-1.2**
PET				*e*S	**Sn**	**00 18 59.3**	**-3.5**
PET	comp=Z,274nm,0.9s			pmax	pmax		
PET	comp=N,1μm,0.6s			smax	smax		
PET				smax	smax		

comp=E,988nm,0.6s
PET MLR MLR
comp=Z,2μm,14.0s
PET MLR MLR
comp=Z,800nm,12.0s
PET Petropavlovsk 5.57 34 Pn 00 17 58.9 -0.7
PET Petropavlovsk 5.57 34 P **Pn 00 18 00.5 +0.9**
PET Petropavlovsk 5.57 34 *eP* **Pn 00 17 59.3 -0.3**
PET Petropavlovsk 5.57 34 *eP* **Pn 00 17 58.4 -1.2**
PET AMB AMB 00 18 00.3
comp=Z,320nm,0.4s
PET *eS* **Sn 00 19 01.8 -1.0**
PET A A 00 19 21.5
comp=Z,1μm,0.6s
PET A A 00 19 21.5
comp=Z,1μm,0.6s
DALK Dalny 5.61 35 PN **Pn 00 17 59.6 -0.6**
DALK S **Sn 00 19 00.3 -3.5**
DALK Dalny 5.61 35 *eP* **Pn 00 17 59.6 -0.6**
DALK *eS* **Sn 00 19 00.3 -3.5**
KOK Koryaka 5.78 33 PN **Pn 00 18 03.4 +0.9**
KOK Koryaka 5.78 33 *eP* **Pn 00 18 03.4 +0.9**
KOK Koryaka 5.78 33 *eP* **Pn 00 18 03.4 +0.9**
UGLR Uglovaya 5.78 34 PN **Pn 00 18 03.0 +0.5**
UGLR Uglovaya 5.78 34 *eP* **Pn 00 18 03.0 +0.5**
AVH Avacha 5.79 33 PN **Pn 00 18 03.4 +0.7**
AVH Avacha 5.79 33 *eP* **Pn 00 18 03.4 +0.7**
SMAR Somma 5.81 34 PN **Pn 00 18 03.5 +0.4**
SMAR Somma 5.81 34 *eP* **Pn 00 18 03.5 +0.4**
KRER Koryakskii 5.83 33 PN **Pn 00 18 03.7 +0.5**
KRER Koryakskii 5.83 33 *eP* **Pn 00 18 03.7 +0.5**
SDLR Sedlovina 5.86 34 PN **Pn 00 18 03.4 -0.2**
SDLR Sedlovina 5.86 34 *eP* **Pn 00 18 03.4 -0.2**
GNL Ganaly 5.88 27 PN **Pn 00 18 05.2 +1.3**
GNL Ganaly 5.88 27 *eP* **Pn 00 18 05.2 +1.3**
NLC Nalytchevo 5.95 37 PN **Pn 00 18 02.0 -2.7**
NLC Nalytchevo 5.95 37 *eP* **Pn 00 18 02.0 -2.7**
NLC *eS* **Sn 00 19 04.7 -7.1**
SPN Mys Shipunski 6.17 40 PN **Pn 00 18 05.7 -2.0**
SPN Mys Shipunski 6.17 40 *eP* **Pn 00 18 05.7 -2.0**
SPN *eS* **Sn 00 19 10.2 -7.1**
SPN Mys Shipunski 6.17 40 *eP* **Pn 00 18 05.7 -2.0**
SHO Shikotan 6.55 227 *c i* PN **Pn 00 18 10.5 -2.3**
SHO pmax pmax
comp=Z,224nm,0.6s
SHO pmax pmax
comp=E,120nm,0.7s
SHO pmax pmax
comp=N,71nm,0.5s
SHO pmax pmax
comp=Z,281nm,1.0s
SHO Shikotan 6.55 227 *i* P **Pn 00 18 10.0 -2.8**
SHO AMB AMB 00 18 11.5
comp=Z,220nm,0.6s
SHO AMB AMB 00 18 11.9
comp=Z,280nm,1.0s
SHO *i* S **Sn 00 19 20.3 -6.1**
KII Karymskiy 6.66 32 PN **Pn 00 18 14.5 +0.2**
KII Karymskiy 6.66 32 *eP* **Pn 00 18 14.5 +0.2**
YUK Yuzh-Kuril'sk 6.92 232 *e*PN **Pn 00 18 18.0 +0.2**
YUK *eS* **Sn 00 19 34.3 -1.0**
YUK pmax pmax
comp=Z,1μm,0.5s
YUK pmax pmax
comp=N,225nm,0.4s
YUK pmax pmax
comp=E,471nm,0.4s
YUK Yuzh-Kuril'sk 6.92 232 *eP* **Pn 00 18 18.0 +0.2**
YUK AMB AMB 00 18 20.5
comp=E,1μm,0.5s
YUK *eS* **Sn 00 19 34.3 -1.0**
GRPR Tuman 7.00 232 *e*PN **Pn 00 18 19.0 +0.2**
GRPR *eS* **Sn 00 19 35.8 -1.3**
GRPR pmax pmax
comp=Z,1μm,1.0s
GRPR pmax pmax
comp=Z,740nm,0.4s
GRPR pmax pmax
comp=N,179nm,0.2s
GRPR pmax pmax
comp=E,114nm,0.4s
GRPR Tuman 7.00 232 *eP* **Pn 00 18 19.0 +0.2**
GRPR AMB AMB 00 18 20.6
comp=E,1μm,1.0s
GRPR AMB AMB 00 18 21.7
comp=E,740nm,0.4s
GRPR *eS* **Sn 00 19 35.8 -1.3**
RUSJ Misakicho 7.20 235 ⇑ *i* PN **Pn 00 18 21.9 +0.4**
RUSJ *eS* **Sn 00 19 43.1 +1.0**
GLVR Golovnino 7.31 232 *e*PN **Pn 00 18 22.7 -0.2**
GLVR *eS* **Sn 00 19 42.0 -2.5**
GLVR pmax pmax
comp=N,252nm,0.6s
GLVR pmax pmax
comp=Z,527nm,0.6s
GLVR pmax pmax
comp=E,156nm,0.2s
GLVR Golovnino 7.31 232 *eP* **Pn 00 18 22.7 -0.2**
GLVR AMB AMB 00 18 28.8
comp=E,530nm,0.6s
GLVR *eS* **Sn 00 19 42.0 -2.5**
TYV Tymovskoe 7.37 292 *e*PN **Pn 00 18 27.5 +3.8**
TYV pmax pmax
comp=Z,2μm,3.4s
TYV pmax pmax
comp=Z,325nm,0.9s
TYV Tymovskoe 7.37 292 *eP* **Pn 00 18 27.2 +3.5**
TYV AMB AMB 00 18 28.3
comp=Z,2μm,3.0s
TYV AMB AMB 00 18 28.4
comp=Z,320nm,0.9s
JRA Rausu 7.38 234 P **Pn 00 18 24.1 +0.2**
YSS Yuzh-Sakhalins 7.38 262 *oe*PN **Pn 00 18 27.2 +3.4**
YSS *eS* **Sn 00 19 49.3 +3.0**
YSS pmax pmax
comp=Z,1μm,3.4s
YSS pmax pmax
comp=Z,230nm,0.9s
YSS smax smax
comp=N,50nm,0.8s
YSS smax smax
comp=N,800nm,5.1s
YSS MLR MLR
comp=Z,700nm,13.0s
YSS MLR MLR
comp=E,500nm,11.0s
YSS Yuzh-Sakhalins 7.38 262 **Pn 00 18 26.1 +2.3**
YSS Yuzh-Sakhalins 7.38 262 *eP* **Pn 00 18 27.3 +3.4**
YSS AMB AMB 00 18 29.1
comp=E,1μm,3.0s
YSS AMB AMB 00 18 29.2
comp=E,230nm,0.9s
NEM2 Nemuro 2 7.46 229 P **Pn 00 18 22.3 -2.6**
NEM2 *eS* **Sn 00 19 40.2 -7.9**
NMR Nemuro--Hokkai 7.46 229 ⇓ *i* PN **Pn 00 18 22.5 -2.4**
NMR *eS* **Sn 00 19 42.2 -6.0**
NMR Nemuro--Hokkai 7.46 229 *i* P **Pn 00 18 22.5 -2.4**
UGL Uglegorsk 7.53 278 ⇑ *i* PN **Pn 00 18 29.9 +4.1**
UGL *eS* **Sn 00 19 50.3 +0.4**
UGL pmax pmax
comp=Z,400nm,0.9s
UGL smax smax
comp=E,800nm,4.9s
UGL smax smax
comp=N,1μm,5.7s
UGL Uglegorsk 7.53 278 *eP* **Pn 00 18 30.0 +4.1**
UGL AMB AMB 00 18 31.0
comp=N,400nm,0.9s
JNK Nakash 7.83 234 P **Pn 00 18 29.2 -0.8**
TUMR Tumrok 7.92 29 PN **Pn 00 18 31.8 +0.8**
TUMR Tumrok 7.92 29 *eP* **Pn 00 18 31.9 +0.9**
TUMD Tumrok D 7.93 30 *eP* **Pn 00 18 31.8 +0.6**
JTKR Abashiri--Toko 8.04 239 P **Pn 00 18 33.2 +0.6**
AKK Akkeshi 8.16 231 *eP* **Pn 00 18 31.5 -2.8**
JAK Akkeshi 8.25 231 P **Pn 00 18 33.1 -2.4**
JAK *eS* **Sn 00 19 59.3 -8.0**
JSE Soyaes 8.28 248 P **Pn 00 18 39.0 +3.2**
OKH Okha 8.30 311 *d i* PN Pn 00 18 42.8 +6.7
OKH *i* S **Sn 00 20 13.4 +5.1**
OKH pmax pmax
comp=Z,300nm,11.1s
OKH smax smax
comp=E,300nm,14.2s
OKH smax smax
comp=N,400nm,17.2s
OKH Okha 8.30 311 *i* P **Pn 00 18 39.3 +3.2**
OKH AMB AMB 00 18 47.6
comp=N,100nm,0.6s
JMP Maruseppu 8.33 241 P **Pn 00 18 37.6 +1.0**
KMNR Kamenistaya 8.34 27 PN **Pn 00 18 37.5 +0.8**
KMNR Kamenistaya 8.34 27 *eP* **Pn 00 18 37.5 +0.8**
JWK2 Keihoku 8.54 252 P **Pn 00 18 43.8 +4.5**
JAR Ashorobuto 8.54 236 P **Pn 00 18 39.3 -0.1**
JKA Kamikawa-asahi 8.71 243 **Pn 00 18 43.6 +2.0**
JKA Kamikawa-asahi 8.71 243 *eP* **Pn 00 18 43.6 +2.0**
ASAJ Asahikawa 8.71 243 P **Pn 00 18 43.6 +1.9**
comp=N,36nm,0.3s,baz=80,slow=14,SNR=176
ASAJ Asahikawa 8.71 243 P **Pn 00 18 44.0 +2.3**
JKK2 Kamakawa 2 8.76 242 P **Pn 00 18 43.8 +1.4**
JOB Onbets 8.77 234 P **Pn 00 18 40.6 -1.8**
JOB *eS* **Sn 00 20 13.1 -6.7**
JRBN Rebuntou 9.02 254 P **Pn 00 18 49.0 +3.3**
JCH Churui 9.22 234 P **Pn 00 18 46.2 -2.2**
JCH *eS* **Sn 00 20 22.8 -7.9**
JFR Furan 9.29 239 P **Pn 00 18 49.2 -0.1**
JAB Ashibetsu 9.29 241 P **Pn 00 18 50.2 +0.9**
NKL Nikolayevsk 9.29 305 *eP* **Pn 00 18 52.2 +2.9**
NKL AMB AMB 00 18 56.1
comp=N,80nm,0.6s
NKL AMB AMB 00 18 56.1
comp=N,40nm,0.6s
KBG Krutoberegovo 9.57 33 PN **Pn 00 18 50.8 -2.0**
KBG Krutoberegovo 9.57 33 *eP* **Pn 00 18 50.8 -2.0**
KBG Krutoberegovo 9.57 33 *eP* **Pn 00 18 50.8 -2.0**
KBTR Krutoberegovo 9.57 33 PN **Pn 00 18 50.6 -2.3**
KBTR Krutoberegovo 9.57 33 *eP* **Pn 00 18 50.6 -2.3**
JBT2 Biratori 2 9.66 237 P **Pn 00 18 52.5 -1.8**
ERM Erimo 9.75 232 *ce*PN **Pn 00 18 53.6 -1.8**
ERM pmax pmax
comp=Z,290nm,0.7s
ERM Erimo 9.75 232 Pn **Pn 00 18 53.7 -1.8**
ERM Erimo 9.75 232 P **Pn 00 18 54.2 -1.3**
JNBK Urakawa-nobuka 9.78 234 P **Pn 00 18 53.1 -2.8**
JNBK *eS* Sn 00 20 33.9 -10
JEW Eniwo 10.14 240 P **Pn 00 19 00.3 -0.3**
JEW Eniwo 10.14 240 **Pn 00 19 00.6 -0.1**
BKI Bering 10.21 45 PN **Pn 00 18 58.6 -2.8**
BKI Bering 10.21 45 *eP* **Pn 00 18 58.6 -2.8**
BKI *eS* Sn 00 20 40.1 -14
BKI Bering 10.21 45 *eP* **Pn 00 18 58.6 -2.8**
JNB Noboribetsu 10.61 240 P **Pn 00 19 04.4 -2.4**
JNB *eS* **Sn 00 20 58.6 -5.5**
JKB Kayabe 10.99 237 P **Pn 00 19 08.2 -3.6**
JKB *eS* Sn 00 21 02.2 -11
JSH Shimam 11.08 243 P **Pn 00 19 12.5 -0.5**
MA2 Magadan 11.16 353 *ce*PN **Pn 00 19 14.4 +0.5**
MA2 pmax pmax
comp=Z,12nm,0.7s
MA2 Magadan 11.16 353 **Pn 00 19 14.5 +0.6**
MA2 Magadan 11.16 353 *eP* **Pn 00 19 14.4 +0.5**
JYM2 Yakumo 2 11.22 240 P **Pn 00 19 12.5 -2.3**
JYM2 *eS* **Sn 00 21 11.1 -7.6**
GRNR Gornyy 11.26 288 ⇑ *i* PN **Pn 00 19 18.5 +3.2**
GRNR *eS* **Sn 00 21 25.9 +6.3**
GRNR pmax pmax
comp=N,40nm,1.1s
GRNR pmax pmax
comp=Z,50nm,1.0s
GRNR smax smax
comp=E,6.0nm,0.6s
GRNR MLR MLR
comp=E,110nm,12.0s
GRNR MLR MLR
comp=N,240nm,18.0s
GRNR MLR MLR
comp=Z,260nm,15.0s
GRNR Gornyy 11.26 288 *eP* **Pn 00 19 18.5 +3.2**
GRNR AMB AMB 00 19 19.4
comp=Z,50nm,0.5s
JSR Shiriuchi 11.57 238 P **Pn 00 19 16.1 -3.3**
JTM Tenmabayashi 11.73 233 P Pn 00 19 16.7 -4.8
JTM *eS* Sn 00 21 16.3 -15
JOSM Okushiri--Mats 11.76 242 P **Pn 00 19 19.3 -2.6**
JANG Nango 11.79 231 P Pn 00 19 17.0 -5.4
JANG *eS* Sn 00 21 17.6 -15
TEY Ternei 12.06 259 ⇑ *e*PN **Pn 00 19 28.6 +2.8**
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=E,50nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.8s
TEY pmax pmax
comp=E,100nm,2.9s
TEY pmax pmax
comp=Z,100nm,2.4s
TEY Ternei 12.06 259 *eP* **Pn 00 19 28.6 +2.8**
TEY AMB AMB 00 19 29.5
comp=Z,40nm,0.8s
TEY AMB AMB 00 26 29.5
comp=Z,100nm,3.0s
TEY AMB AMB 00 26 29.5
comp=Z,100nm,3.0s
JRG Rokugo 12.97 230 P **Pn 00 19 33.1 -4.5**
JRG *eS* Sn 00 21 46.2 -15
SHEM Shemya Is, Ala 13.75 65 P **Pn 00 19 48.8 +1.5**
comp=Z,46nm,0.3s,baz=349,slow=5.2,SNR=16
SHEM S **Sn 00 22 12.4 -7.0**
comp=Z,13nm,0.3s,baz=251,slow=23,SNR=10
SMY Shemya 13.75 65 P **Pn 00 19 48.4 +1.1**
SMY Shemya 13.75 65 P **Pn 00 19 48.4 +1.1**
TILK Tilichiki 13.99 27 P **Pn 00 19 48.8 -1.5**
TILK Tilichiki 13.99 27 *eP* **Pn 00 19 48.8 -1.5**
JMM Marumori 14.09 225 Pn **Pn 00 19 49.1 -2.6**
KLR Kul'dur 14.29 281 P **Pn 00 19 55.4 +1.2**
comp=Z,5.7nm,0.3s,baz=83,slow=12,SNR=138
KLR ScP **ScP 00 28 19.9 +0.4**
comp=Z,0.1nm,0.3s,baz=132,slow=2.9,SNR=4.1
KLR Kul'dur 14.29 281 *eP* **P 00 19 57.2 +0.2**
SEY Seymchan 14.44 358 P **Pn 00 19 56.6 +0.7**
comp=Z,2.3nm,0.3s,baz=167,slow=11,SNR=14
JSD Sado 15.22 232 Pn **Pn 00 20 04.0 -1.9**
USA0B Ussuriysk Arra 15.42 262 P **Pn 00 20 08.9 +0.6**
USA0B pmax pmax
comp=Z,76nm,0.9s
USA0B Ussuriysk Arra 15.42 262 P **Pn 00 20 08.9 +0.6**
USA0B IAmb IAmb 00 20 11.9
comp=Z,76nm,0.8s
USRK Ussuriysk Ar. 15.42 262 P **Pn 00 20 08.0 -0.4**
baz=72,slow=11,SNR=50
USRK Ussuriysk Ar. 15.42 262 P **Pn 00 20 08.9 +0.5**
USRK Ussuriysk Ar. 15.42 262 **Pn 00 20 08.8 +0.5**
JYT Yasato 15.70 223 **Pn 00 20 09.6 -2.1**
JYT IAmb IAmb 00 20 14.4
comp=Z,129nm,0.8s
VLA Vladivostok 15.96 258 *i* P **Pn 00 20 14.1 -0.8**
VLA Vladivostok 15.96 258 *eP* **Pn 00 20 14.1 -0.8**
MJAR Matsushiro Arr 16.39 229 P **Pn 00 20 19.8 -0.5**
comp=Z,1.3nm,0.3s,baz=22,slow=13,SNR=132
MJAR Matsushiro Arr 16.39 229 Pn **Pn 00 20 18.8 -1.5**
MJAR IAmb IAmb 00 20 21.1
comp=Z,66nm,0.7s
MJB9 Matsu-Tunnel 16.39 229 P **Pn 00 20 19.7 -0.7**
MJB9 IAmb IAmb 00 20 21.0
comp=Z,158nm,0.7s
MAJO Matsushiro 16.39 229 P **Pn 00 20 19.6 -0.7**
MAJO pmax pmax
comp=Z,163nm,0.7s
MAJO Matsushiro 16.39 229 **Pn 00 20 19.6 -0.7**
MAJO Matsushiro 16.39 229 P **Pn 00 20 20.1 -0.2**
MAT Matsushiro 16.39 229 P **Pn 00 20 19.2 -1.1**
MAT S **Sn 00 23 24.1 +1.0**
MDJ Mudanjiang 16.84 265 P **Pn 00 20 25.5 -0.2**
MDJ pmax pmax
comp=Z,87nm,0.9s
MDJ pmax pmax
comp=Z,500nm,3.9s
MDJ Mudanjiang 16.84 265 IAmb IAmb 00 20 28.1
comp=Z,121nm,0.7s
MDJ Mudanjiang 16.84 265 P **Pn 00 20 26.1 +0.4**
ZEA Zeya 17.19 297 *eP* **Pn 00 20 30.2 +0.5**
ZEA *eS* S 00 23 28.6 -12
ZEA pmax pmax
comp=E,200nm,2.7s
ZEA pmax pmax
comp=Z,200nm,2.3s
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA smax smax
comp=E,200nm,4.2s
ZEA smax smax
comp=N,300nm,6.3s
ZEA Zeya 17.19 297 *eP* **Pn 00 20 30.2 +0.5**
JGF Kuroka 17.56 228 **P 00 20 32.7 -0.6**
JGF IAmb IAmb 00 20 36.4
comp=Z,136nm,0.9s
BNX BinXian 17.91 271 ⇑ P **P 00 20 37.0 0.0**
BNX pmax pmax
comp=Z,73nm,1.0s
BNX pmax pmax
comp=Z,380nm,8.6s
INU Inuyama 17.93 229 **P 00 20 37.4 +0.1**
INU Inuyama 17.93 229 P **Pn 00 20 38.3 -0.4**
YAK Yakutsk 18.96 324 P **P 00 20 47.7 -0.6**
comp=Z,0.3nm,0.3s,baz=118,slow=3.9,SNR=4.3
YAK S **S 00 24 12.8 -2.7**
comp=Z,0.2nm,0.3s,baz=154,slow=20,SNR=19
YAK Yakutsk 18.96 324 *eP* **P 00 20 47.6 -0.6**
YAK *eS* **S 00 24 13.5 -1.9**
YAK pmax pmax
comp=Z,37nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,15nm,1.1s
YAK smax smax
comp=N,295nm,1.2s
YAK smax smax
comp=E,145nm,1.2s
YAK Yakutsk 18.96 324 IAmb IAmb 00 20 53.2
comp=Z,105nm,0.7s
KIWB Kanaga Island 19.05 69 P **P 00 20 48.7 -0.6**
GSTR Great Sitkin T 19.72 68 P **P 00 20 57.2 +0.7**
CN2 Changchun 19.91 267 *eP* **P 00 20 56.8 -1.8**
CN2 S **S 00 24 26.5 -7.9**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,14.4s
CN2 LR LR
comp=Z,300nm,14.4s
CN2 LR LR
comp=Z,600nm,23.0s
JHS Saijyo 20.24 236 P **P 00 21 03.0 +0.6**
BILL Bilibino 20.59 14 *d i* P **P 00 21 05.3 -0.4**
BILL *i* *PP **pP 00 21 34.0 +2.4**
BILL *i* S **S 00 24 46.1 -1.4**
BILL pmax pmax
comp=Z,72nm,1.0s
BILL Bilibino 20.59 14 P **P 00 21 05.1 -0.7**
BILL IAmb IAmb 00 21 07.1
comp=Z,51nm,0.7s
BILL Bilibino 20.59 14 *eP* **P 00 21 05.3 -0.4**
KSRS Korea Array 21.61 249 P **P 00 21 17.5 +0.6**
comp=Z,56nm,0.7s,baz=49,slow=10,SNR=50
KSRS PcP **PcP 00 25 12.8 +0.5**
comp=Z,3.4nm,0.8s,baz=50,slow=0.9,SNR=5.3
KS19 Wonju Array Si 21.61 249 P **P 00 21 17.0 +0.1**
KS19 IAmb IAmb 00 21 20.4
comp=Z,87nm,0.9s
INCN Inchon 22.39 250 P **P 00 21 25.5 +0.7**
INCN pmax pmax
comp=Z,87nm,1.0s
INCN Inchon 22.39 250 P **P 00 21 25.5 +0.7**
INCN IAmb IAmb 00 21 27.3
comp=Z,87nm,1.0s
INCN Inchon 22.39 250 P **P 00 21 26.6 +1.8**
TJN Taejon 22.64 247 *ce*P **P 00 21 28.9 +1.8**
TJN Taejon 22.64 247 P **P 00 21 27.7 +0.6**
TJN Taejon 22.64 247 P **P 00 21 28.9 +1.8**
JNU Nakatsue 22.87 236 P **P 00 21 29.8 +0.4**
comp=Z,77nm,0.8s,baz=35,slow=5.0,SNR=27
JNU Nakatsue 22.87 236 P **P 00 21 30.4 +0.9**
JNU IAmb IAmb 00 21 34.2
comp=Z,88nm,0.7s
JNU Nakatsue 22.87 236 P **P 00 21 30.7 +1.3**
SPIA Saint Paul Isl 23.31 55 P **P 00 21 33.9 +0.8**
SPIA Saint Paul Isl 23.31 55 P **P 00 21 33.7 +0.6**
baz=264
GAMB Gambell 24.25 38 P **P 00 21 42.3 +0.8**
GAMB Gambell 24.25 38 P **P 00 21 42.4 +0.8**
baz=248,SNR=15
JSU Suzuyama 24.34 234 P **P 00 21 42.8 0.0**
JSU IAmb IAmb 00 21 45.6
comp=Z,96nm,1.1s
TIK Tiksi 25.80 342 *eP* **P 00 21 54.6 -1.0**
TIXI Tiksi 25.82 342 P **P 00 21 54.7 -0.9**
comp=Z,5.7nm,0.4s,baz=139,slow=7.4,SNR=20
TIXI PcP **PcP 00 25 20.7 -0.1**
comp=Z,5.6nm,0.7s,baz=81,slow=1.4,SNR=3.9
TIXI S **S 00 26 09.6 -4.0**
comp=Z,0.8nm,0.3s,baz=340,slow=18,SNR=1.2
TIXI Tiksi 25.82 342 *ce*P **P 00 21 54.6 -1.1**
TIXI pmax pmax
comp=Z,26nm,1.7s
TIXI Tiksi 25.82 342 P **P 00 21 55.0 -0.7**
XLT XiLinHaoTe 26.09 274 *eP* **P 00 21 58.3 -0.2**
XLT pP pwP 00 22 31.0 -1.8
XLT PP **PnPn 00 22 46.3 0.0**
XLT S **S 00 26 15.8 -2.9**
XLT SS **SnSn 00 27 37.5 +2.4**
XLT pmax pmax
comp=Z,89nm,0.9s
XLT pmax pmax
comp=Z,240nm,4.6s
TNA Tin City 26.43 36 P **P 00 22 01.1 -0.1**
TNA IAmb IAmb 00 22 15.1
comp=Z,30nm,0.7s
TNA Tin City 26.43 36 P **P 00 22 02.4 +1.2**
baz=249,SNR=14
ANM Nome 27.13 39 P **P 00 22 08.7 +1.2**
baz=254
BJI Beijing 27.77 266 P **P 00 22 15.5 +2.0**
BJI pmax pmax
comp=Z,17nm,0.8s
RDOG Red Dog Mine 29.17 32 P **P 00 22 26.5 +1.0**
baz=250
JOW Kunigami 29.20 231 P **P 00 22 25.8 -0.5**
comp=Z,28nm,0.7s,baz=29,slow=3.6,SNR=8.0
JOW Kunigami 29.20 231 P **P 00 22 26.2 -0.1**
JOW IAmb IAmb 00 22 28.5
comp=Z,37nm,0.8s
JOW Kunigami 29.20 231 P **P 00 22 27.5 +1.2**
HNS HongShan 30.15 263 ⇑ P **P 00 22 35.0 +0.5**
HNS pP **pwP 00 23 11.8 +2.5**
HNS S **S 00 27 22.0 -0.4**
HNS pmax pmax
comp=Z,62nm,1.3s
HNS LR LR
comp=Z,530nm,18.0s
HNS LR LR
comp=Z,810nm,17.3s
HNS LR LR
comp=Z,460nm,14.9s
HHC Hu-ho-hao-te 30.43 271 *eP* **P 00 22 37.5 +0.3**
HHC S **S 00 27 22.5 -4.6**
HHC pmax pmax
comp=Z,100nm,1.0s
HHC pmax pmax
comp=Z,120nm,6.9s
HHC LR LR
comp=Z,320nm,12.7s
HHC LR LR
comp=Z,440nm,13.3s
HHC LR LR
comp=Z,470nm,14.1s
ULN Ulaanbaatar 30.56 286 *ce*P **P 00 22 37.7 -0.6**
ULN pmax pmax
comp=Z,42nm,1.0s
ULN Ulaanbaatar 30.56 286 P **P 00 22 37.7 -0.6**
ULN IAmb IAmb 00 22 39.2
comp=Z,30nm,0.8s
ULN Ulaanbaatar 30.56 286 *eP* **P 00 22 37.7 -0.6**
H11N2 WAKE ISLAND Hy 30.73 155 T T 00 54 47.3
baz=342,slow=76,SNR=206
GCSA Galena City Sc 30.74 40 P **P 00 22 39.8 +0.3**
baz=262
H11N1 WAKE ISLAND Hy 30.74 155 T T 00 55 01.3
baz=342,slow=76,SNR=160
H11N3 WAKE ISLAND Hy 30.74 155 T T 00 54 53.1

baz=342,slow=76,SNR=75
NJ2 Nanjing 30.77 250 ⇑P **P 00 22 41.8 +1.7**
NJ2 pmax pmax
comp=Z,31nm,0.8s
TTA Tatalina 30.94 43 P **P 00 22 42.2 +0.8**
TTA pmax pmax
comp=Z,66nm,0.9s
TTA Tatalina 30.94 43 P **P 00 22 42.2 +0.8**
TTA IAmb IAmb 00 22 43.3
comp=Z,66nm,0.9s
TTA Tatalina 30.94 43 P **P 00 22 42.4 +1.0**
baz=266,SNR=35
SONM Songino Array 30.99 287 P **P 00 22 41.3 -0.8**
comp=Z,22nm,0.8s,baz=63,slow=9.3,SNR=90
SONM PcP **PcP 00 25 33.8 -0.5**
comp=Z,6.5nm,0.9s,baz=111,slow=2.4,SNR=7.5
SONM ScP **ScP 00 29 01.9 -1.1**
comp=Z,2.7nm,1.0s,baz=102,slow=1.5,SNR=7.2
SONM Songino Array 30.99 287 P **P 00 22 41.4 -0.6**
SONM 00 25 34.3
SONM pmax pmax
comp=Z,26nm,0.8s
SONM Songino Array 30.99 287 P **P 00 22 41.4 -0.6**
SONM **PcP 00 25 34.3 0.0**
O18K Koktuh Hills 31.29 49 P **P 00 22 44.9 +0.6**
O18K IAmb IAmb 00 22 46.5
comp=Z,74nm,1.1s
O18K Koktuh Hills 31.29 49 P **P 00 22 45.0 +0.6**
baz=272
P18K Big Mountain, 31.29 50 P **P 00 22 45.7 +1.2**
P18K Big Mountain, 31.29 50 P **P 00 22 45.5 +1.0**
baz=273,SNR=16
L19K White Mountain 31.45 45 IAmb IAmb 00 22 47.9
comp=Z,73nm,1.3s
L19K White Mountain 31.45 45 P **P 00 22 46.8 +1.0**
baz=268,SNR=22
TIY Taiyuan 31.48 265 ⇓P **P 00 22 48.0 +1.7**
TIY pmax pmax
comp=Z,45nm,0.8s
N19K Bonanza Creek 31.62 48 P **P 00 22 48.6 +1.3**
baz=271
M19K Big River Lodg 31.66 45 IAmb IAmb 00 22 49.8
comp=Z,39nm,0.7s
M19K Big River Lodg 31.66 45 P **P 00 22 48.8 +1.2**
baz=269
O19K Port Alsworth 31.72 49 IAmb IAmb 00 22 52.3
comp=Z,42nm,0.8s
O19K Port Alsworth 31.72 49 P **P 00 22 49.2 +1.2**
baz=272
H11S1 WAKE ISLAND Hy 31.84 156 T T 00 56 19.3
baz=344,slow=76,SNR=305
H11S3 WAKE ISLAND Hy 31.84 156 T T 00 56 20.0
baz=344,slow=76,SNR=314
K20K Telida 31.85 43 P **P 00 22 50.3 +1.1**
baz=267
H11S2 WAKE ISLAND Hy 31.85 156 T T 00 56 20.9
baz=344,slow=76,SNR=318
J20K Nowinta River 31.86 41 P **P 00 22 50.3 +1.0**
baz=266,SNR=38
L20K Farewell, AK 31.91 44 P **P 00 22 50.2 +0.4**
baz=269
Q19K Cape Douglas, 32.14 51 IAmb IAmb 00 22 52.8
comp=Z,67nm,0.8s
Q19K Cape Douglas, 32.14 51 P **P 00 22 52.2 +0.4**
baz=275,SNR=6.4
ZAK Zakamensk 32.16 293 *e*P **P 00 22 52.1 -0.1**
ZAK *e* 00 23 26.6
ZAK *e* 00 25 35.2
ZAK pmax pmax
comp=Z,42nm,1.2s
ZAK Zakamensk 32.16 293 *e*P **P 00 22 52.1 -0.1**
IMAR Indian Mountai 32.20 38 **PcP 00 25 37.7 +0.7**
P19K Oil Pt 32.30 50 P **P 00 22 53.5 +0.3**
P19K IAmb IAmb 00 22 54.4
comp=Z,87nm,1.1s
A21K Barrow 32.30 27 **PcP 00 25 38.4 +1.2**
A21K Barrow 32.30 27 P **P 00 22 53.9 +0.9**
baz=252,SNR=21
OHAK Old Harbor 32.52 54 P **P 00 22 54.8 -0.2**
baz=278,SNR=11
H21K Melozitna Rive 32.55 38 P **P 00 22 56.3 +0.9**
baz=265
O20K Slope Mountain 32.57 49 P **P 00 22 56.6 +0.9**
baz=274,SNR=5.3
CHUM Lake Minchumin 32.65 42 P **P 00 22 57.5 +1.3**
baz=268,SNR=18
PPLA Purkeypile 32.69 44 P **P 00 22 58.1 +1.4**
PPLA Purkeypile 32.69 44 P **P 00 22 58.4 +1.7**
baz=270,SNR=20
CAST Castle Rocks 32.74 43 P **P 00 22 58.4 +1.4**
baz=269,SNR=40
KDAK Kodiak Island 32.82 53 P **P 00 22 57.1 -0.6**
comp=Z,89nm,0.8s,baz=310,slow=5.8,SNR=36
KDAK PcP **PcP 00 25 39.1 +0.3**
comp=Z,27nm,1.2s,baz=261,slow=2.7,SNR=6.1
KDAK Kodiak Island 32.82 53 P **P 00 22 57.5 -0.2**
KDAK pmax pmax
comp=Z,102nm,0.9s
KDAK Kodiak Island 32.82 53 P **P 00 22 57.5 -0.2**
KDAK Kodiak Island 32.82 53 P **P 00 22 57.3 -0.4**
baz=277
I21K Tanana 32.86 39 P **P 00 22 59.3 +1.4**
baz=266,SNR=38
MOY Mondy 33.19 296 *e*P **P 00 23 01.3 +0.1**
MOY pmax pmax
comp=Z,39nm,1.5s
BPAW Bear Paw Mtn. 33.24 41 P **P 00 23 02.5 +1.1**
baz=269,SNR=46
MLY Manley 33.38 40 P **P 00 23 03.8 +1.3**
baz=268
SUA Susitna One 33.41 46 P **P 00 23 03.2 +0.3**
baz=273
BRSE Bradley Lake S 33.55 49 P **P 00 23 04.3 +0.2**
baz=276,SNR=14
TRF Thorofare Moun 33.55 43 P **P 00 23 05.2 +1.0**
baz=271,SNR=33
CUT Chulitna 33.59 44 P **P 00 23 04.6 +0.3**
baz=272,SNR=20
M22K Willow 33.69 46 IAmb IAmb 00 23 06.0
comp=Z,55nm,0.7s
COLD Coldfoot 33.73 36 IAmb IAmb 00 23 07.1
comp=Z,54nm,0.6s
COLD Coldfoot 33.73 36 P **P 00 23 06.6 +1.0**
baz=265,SNR=67
RC01 Rabbit Creek A 33.92 47 P **P 00 23 07.2 0.0**
baz=275,SNR=29
I23K Minto, Yukon-K 33.96 39 IAmb IAmb 00 23 09.3
comp=Z,43nm,0.8s
I23K **PcP 00 25 42.9 +0.9**
I23K Minto, Yukon-K 33.96 39 P **P 00 23 08.8 +1.3**
baz=269,SNR=42
O22K Cooper Landing 33.98 48 P **P 00 23 07.7 0.0**
baz=276,SNR=21
NEA2 Nenana 34.08 40 P **P 00 23 09.6 +1.0**
baz=270,SNR=59
TOLK Toolik Lake Re 34.11 33 IAmb IAmb 00 23 10.5
comp=Z,47nm,0.6s
TOLK Toolik Lake Re 34.11 33 P **P 00 23 10.0 +1.2**
baz=264,SNR=33
MCK McKinley 34.15 42 P **P 00 23 09.9 +0.7**
baz=271,SNR=39
SEW Seward 34.15 49 P **P 00 23 09.3 +0.1**
SEW IAmb IAmb 00 23 10.0
comp=Z,69nm,0.9s
SEW Seward 34.15 49 P **P 00 23 09.1 -0.1**
baz=276,SNR=10
PMR Palmer 34.17 46 IAmb IAmb 00 23 11.2
comp=Z,38nm,0.8s
PMR **PcP 00 25 42.7 +0.1**
PMR Palmer 34.17 46 P **P 00 23 08.7 -0.6**
baz=274,SNR=15
KNK Knik Glacier 34.51 46 P **P 00 23 13.1 +0.8**
baz=275,SNR=51
SML Sawmill 34.53 45 P **P 00 23 13.2 +0.7**
baz=275,SNR=119
H24K Noodor Dome 34.59 38 P **P 00 23 14.4 +1.4**
baz=269
TCOL CIGO, UAF Yank 34.60 40 P **P 00 23 14.3 +1.3**
baz=271,SNR=32
COLA College 34.60 40 *d i*P **P 00 23 13.8 +0.8**
COLA pmax pmax
comp=Z,186nm,0.9s
COLA College 34.60 40 P **P 00 23 14.3 +1.3**
PWL Port Wells 34.62 47 P **P 00 23 13.3 0.0**
baz=276,SNR=28
WHN Wuhan 34.63 253 ⇓P **P 00 23 13.8 +0.1**
POKR Poker Plat Res 34.78 40 P **P 00 23 16.1 +1.5**
baz=271,SNR=52
HDA Harding Lake 35.00 41 P **P 00 23 16.7 +0.2**
baz=272,SNR=97
SCM Sheep Creek Mo 35.00 45 P **P 00 23 17.3 +0.7**
baz=276,SNR=43
IL31 35.02 40 IAmb IAmb 00 23 18.9
comp=Z,62nm,0.8s
ILAR Eielson Array 35.02 40 P **P 00 23 16.6 -0.1**
comp=Z,45nm,0.8s,baz=259,slow=4.8,SNR=177
ILAR PcP **PcP 00 25 43.8 -1.3**
comp=Z,3.4nm,1.0s,baz=287,slow=3.7,SNR=4.0
ILAR Eielson Array 35.02 40 P **P 00 23 16.3 -0.4**
M24K Tolsona, Glenn 35.52 45 P **P 00 23 21.6 +0.5**
M24K Tolsona, Glenn 35.52 45 P **P 00 23 22.4 +1.4**
baz=276,SNR=20
PRP Porcupine Dome 35.57 39 P **P 00 23 22.5 +1.0**
baz=272,SNR=61
GUMO Guam 35.57 194 P **P 00 23 20.9 -0.9**
comp=Z,68nm,0.5s,baz=47,slow=19,SNR=1.7
KLU Klutina 35.71 46 P **P 00 23 23.5 +0.8**
baz=277,SNR=34
PAX Paxson 35.76 43 IAmb IAmb 00 23 26.8
comp=Z,40nm,0.9s
PAX **PcP 00 25 48.1 +0.7**
PAX Paxson 35.76 43 P **P 00 23 23.3 +0.2**
baz=275,SNR=28
BMAR Burnt Mountain 35.92 36 P **P 00 23 24.9 +0.6**
BMAR **PcP 00 25 48.7 +1.0**
EYAK Cordova Ski Ar 35.92 47 P **P 00 23 25.1 +0.8**
EYAK IAmb IAmb 00 23 25.7
comp=Z,45nm,1.0s
EYAK Cordova Ski Ar 35.92 47 P **P 00 23 25.3 +1.0**
baz=279,SNR=6.6
XAN Xi'an 35.92 263 P **P 00 23 25.0 +0.2**
XAN pP pwP 00 24 01.5 +1.2
XAN pmax pmax
comp=Z,54nm,1.1s
XAN LR LR
comp=Z,400nm,18.5s
XAN LR LR
comp=Z,420nm,17.9s
XAN LR LR
comp=Z,500nm,15.1s
HARP HAARP 35.96 44 P **P 00 23 26.1 +1.4**
baz=276,SNR=42
RIDG Independent Ri 35.97 42 P **P 00 23 25.0 +0.2**
baz=275,SNR=52
TPUB Ta-pu 36.16 238 IAmb IAmb 00 23 30.9
comp=Z,53nm,0.9s
TPUB Ta-pu 36.16 238 P **P 00 23 27.9 +1.1**
N25K Chitina, Valde 36.32 45 P **P 00 23 29.0 +1.1**
baz=278,SNR=44
SCRK Sand Creek 36.33 41 P **P 00 23 28.0 0.0**
baz=275,SNR=69
BMRM Bremner River 36.41 46 P **P 00 23 29.8 +1.2**
baz=279,SNR=29
MENT Mentasta 36.55 43 IAmb IAmb 00 23 31.9
comp=Z,60nm,0.6s
KAIM Kayak Island 36.68 48 P **P 00 23 32.4 +1.6**
baz=280
L26K Log Cabin Wild 36.71 43 P **P 00 23 32.3 +1.2**
baz=277,SNR=60
M26K Nabesna, AK 36.96 44 P **P 00 23 35.0 +1.8**
baz=278
NRIK Noril'sk 37.35 328 P **P 00 23 35.6 -0.7**
comp=Z,3.5nm,0.6s,baz=102,slow=12,SNR=3.8
NRIK PcP **PcP 00 25 52.5 +0.5**
comp=Z,7.3nm,0.6s,baz=88,slow=6.4,SNR=6.9
NRIK S **S 00 29 09.4 -3.2**
comp=Z,1.5nm,0.7s,baz=116,slow=23,SNR=5.9
NRIK Noril'sk 37.35 328 *ce*P **P 00 23 33.8 -2.5**
NRIK pmax pmax
comp=Z,14nm,1.4s
NRIK Noril'sk 37.35 328 P **P 00 23 36.1 -0.2**
L27K Beaver Creek, 37.40 43 P **P 00 23 38.8 +1.9**
baz=278
EGAK Eagle 37.46 40 P **P 00 23 37.8 +0.4**
baz=277,SNR=86
M27K Edge Creek, AK 37.48 44 P **P 00 23 39.4 +1.7**
baz=279
MESA MESA 37.84 47 P **P 00 23 42.5 +1.7**
baz=282,SNR=5.5
BVCY Beaver Creek 37.94 44 P **P 00 23 43.3 +1.8**
baz=280,SNR=75
ENH Enshi 37.94 258 IAmb IAmb 00 23 43.0
comp=Z,47nm,1.0s
LZH Lanzhou 38.09 270 ⇑P **P 00 23 44.0 +0.8**
LZH pP pwP 00 24 21.5 +2.6
LZH sP sP 00 24 34.0 +3.1
LZH pmax pmax
comp=Z,130nm,1.5s
LZH pmax pmax
comp=Z,190nm,6.0s
YUK3 Moose Creek 38.24 45 P **P 00 23 45.3 +1.2**
baz=281,SNR=40
DAWY Dawson 38.32 41 P **P 00 23 45.7 +1.0**
baz=279,SNR=22
I29M Ogilvie Camp, 38.59 39 P **P 00 23 48.3 +1.5**
baz=278,SNR=40
PINM Pinnacle 38.69 47 P **P 00 23 49.0 +1.2**
baz=283,SNR=11
GTA Gaotai 38.94 277 ⇑P **P 00 23 50.8 +0.6**
GTA ScS ScS 00 33 42.5 -0.9
GTA pmax pmax
comp=Z,30nm,1.2s
YUK4 Talbot Arm 39.18 45 P **P 00 23 53.5 +1.5**
baz=283,SNR=23
YUK6 Outpost Mounta 39.40 46 P **P 00 23 55.4 +1.5**
baz=284,SNR=8.1
M30M Minto, Yukon 39.76 43 P **P 00 23 58.5 +1.9**
baz=283,SNR=23
HYT Haines Junctio 39.84 46 P **P 00 23 59.4 +2.0**
baz=284,SNR=28
MAYO Mayo, Yukon 39.93 41 P **P 00 24 00.1 +2.1**
baz=282,SNR=8.7
INK Inuvik 40.02 34 P **P 00 24 00.1 +1.6**
comp=Z,45nm,0.5s,baz=296,slow=6.7,SNR=191
INK Inuvik 40.02 34 P **P 00 24 00.2 +1.6**
baz=279,SNR=52
N31M Braeburn, Yuko 40.48 44 P **P 00 24 04.9 +2.3**
baz=285,SNR=36
M31M Drury Creek, Y 40.93 43 P **P 00 24 08.2 +2.0**
baz=285,SNR=33
SKAG Skagway 41.26 47 P **P 00 24 10.5 +1.6**
SKAG Skagway 41.26 47 P **P 00 24 11.2 +2.3**
baz=287,SNR=6.5
CD2 Chengdu 41.28 263 P **P 00 24 10.0 +0.5**
CD2 pmax pmax
comp=Z,170nm,0.7s
FARO Faro, Yukon 41.40 43 P **P 00 24 11.8 +1.8**
baz=286,SNR=29
ZALV Zalesovo Beam 41.77 304 P **P 00 24 12.2 -0.9**
comp=Z,8.3nm,0.6s,baz=67,slow=6.7,SNR=30
ZALV PcP **PcP 00 26 06.9 +0.5**
comp=Z,23nm,0.8s,baz=72,slow=2.8,SNR=22
ZALV ScP **ScP 00 29 41.7 -0.7**
comp=Z,0.6nm,0.5s,baz=94,slow=2.0,SNR=2.4
BESE Bessie Mountai 41.77 48 P **P 00 24 14.3 +1.2**
DGZ Jazzator, Alta 41.95 297 *c i*P **P 00 24 14.9 +0.1**
DGZ pmax pmax
comp=Z,37nm,1.0s
SIT Sitka 42.04 51 P **P 00 24 16.4 +1.2**
SIT pmax pmax
comp=Z,84nm,1.2s
SIT Sitka 42.04 51 P **P 00 24 16.4 +1.2**
SIT IAmb IAmb 00 24 18.4
comp=Z,84nm,1.2s
SIT Sitka 42.04 51 P **P 00 24 17.2 +2.0**
baz=290
A36M Sachs Harbour 42.15 27 P **P 00 24 17.6 +1.7**
baz=282,SNR=94
MMPY Sheldon Lake, 42.22 42 P **P 00 24 18.8 +2.1**
baz=287,SNR=27
P33M Teslin, Yukon 42.24 45 P **P 00 24 18.6 +1.7**
baz=288,SNR=36
GYA Guiyang 42.35 256 ⇓*i*P **P 00 24 19.0 +0.8**
GYA pP pwP 00 24 56.5 +1.9
GYA S **S 00 30 25.8 -2.4**
GYA pmax pmax
comp=Z,90nm,1.3s
GYA pmax pmax
comp=Z,380nm,4.5s
C36M Paulatuk 43.16 31 P **P 00 24 25.3 +1.2**
baz=286,SNR=46
CRAG Craig 43.77 52 P **P 00 24 31.6 +2.5**
baz=293
WRAK Wrangell Islan 43.80 51 P **P 00 24 30.7 +1.3**
WRAK IAmb IAmb 00 24 32.6
comp=Z,34nm,0.8s
WRAK Wrangell Islan 43.80 51 P **P 00 24 31.9 +2.5**
baz=292,SNR=6.2
GOMU GeErMu 44.01 276 P **P 00 24 31.8 0.0**
GOMU pmax pmax
comp=Z,52nm,0.7s
GOMU pmax pmax
comp=Z,73nm,4.5s
GOMU LR LR
comp=Z,160nm,15.5s
GOMU LR LR
comp=Z,160nm,15.3s
GOMU LR LR
comp=Z,170nm,15.1s
WTLY Watson Lake, Y 44.16 45 P **P 00 24 34.5 +2.2**
baz=291
DLBC Dease Lake 44.20 47 P **P 00 24 35.0 +2.4**
comp=Z,37nm,0.8s,baz=292,slow=6.4,SNR=49
ZSN Zaisan 44.48 296 *e*P **P 00 24 33.6 -1.4**
ZSN *e*S **S 00 30 58.0 -0.6**
ZSN Zaisan 44.48 296 *e*P **P 00 24 33.6 -1.4**
baz=296
ZSN *e*S **S 00 30 58.0 -0.6**
baz=296
WMQ Urumqi 44.51 290 *e*P **P 00 24 36.0 +0.7**
WMQ pP pP 00 25 06.5 -1.2
WMQ sP sP 00 25 23.5 -0.6
WMQ PcP **PcP 00 26 16.8 +0.9**
WMQ PP **PP 00 26 25.0 +3.1**
WMQ pmax pmax
comp=Z,67nm,0.9s
WMQ pmax pmax
comp=Z,280nm,4.1s
WMQ LR LR
comp=Z,650nm,29.0s
WMQ LR LR
comp=Z,1μm,28.9s
WMQ LR LR
comp=Z,110nm,28.3s
WRGLY Wrigley 45.38 39 P **P 00 24 44.1 +2.3**
baz=292,SNR=20
PZH PanZhiHua 45.52 260 P **P 00 24 44.0 +0.5**
PZH pP **pwP 00 25 18.8 -1.3**
PZH S **S 00 31 12.0 -2.2**
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
PZH LR LR
comp=Z,770nm,19.2s
PZH LR LR
comp=Z,730nm,19.7s
PZH LR LR
comp=Z,850nm,20.1s
SEM Semipalatinsk 45.80 301 *e*P **P 00 24 43.7 -1.8**
SEM pmax pmax
comp=Z,30nm,0.8s
SEM Semipalatinsk 45.80 301 *e*P **P 00 24 43.8 -1.8**
comp=Z,30nm,0.8s,baz=301
KMI Kunming 45.81 258 ⇑P **P 00 24 46.5 +0.5**
KMI pP pwP 00 25 24.3 +1.7
KMI sP sP 00 25 44.0 +10
KMI PP **PP 00 26 37.5 +1.4**
KMI pmax pmax
comp=Z,57nm,1.1s
KMI pmax pmax
comp=Z,190nm,4.8s
MK31 Makanchi Array 46.34 296 *c i*P **P 00 24 49.1 -0.5**
MK31 Makanchi Array 46.34 296 IAmb IAmb 00 24 50.9
comp=Z,47nm,0.9s
MKAR Makanchi Array 46.34 296 P **P 00 24 49.4 -0.2**
comp=Z,43nm,0.8s,baz=64,slow=7.4,SNR=147
MKAR PcP **PcP 00 26 22.4 +0.3**
comp=Z,7.9nm,0.7s,baz=90,slow=2.8,SNR=5.2
MKAR ScP **ScP 00 30 00.2 -1.1**
comp=Z,0.9nm,0.9s,baz=23,slow=1.9,SNR=2.4
MKAR S **S 00 31 23.4 -1.9**
comp=Z,0.7nm,0.8s,baz=69,slow=6.6,SNR=2.5
MKAR LR LR 00 46 03.3
comp=Z,135nm,19.1s,baz=56,slow=38
MAKZ Makanchi 46.52 296 P **P 00 24 50.6 -0.4**
MAKZ pmax pmax
comp=Z,49nm,1.2s
MAKZ Makanchi 46.52 296 P **P 00 24 50.6 -0.4**
MAKZ IAmb IAmb 00 24 51.8
comp=Z,49nm,1.1s
KURK Kurchatov 46.58 302 *ce*P **P 00 24 51.2 -0.1**
KURK pmax pmax
comp=Z,219nm,1.3s
KURK Kurchatov 46.58 302 **ScP 00 30 01.6 -0.5**
KURK Kurchatov 46.58 302 P **P 00 24 50.9 -0.4**
KURK Kurchatov 46.58 302 *e*P **P 00 24 51.2 -0.1**
KURBB Kurchatov Arra 46.67 302 ScP **ScP 00 30 01.7 -0.9**
comp=Z,0.8nm,0.6s,baz=67,slow=3.1,SNR=4.5
KURBB S **S 00 31 26.9 -2.9**
comp=Z,0.6nm,0.7s,baz=123,slow=35,SNR=5.4
SLVN Son La 47.76 253 P **P 00 25 02.0 +1.1**
SLVN IAmb IAmb 00 25 05.1
comp=Z,37nm,1.0s
RES Resolute Bay 49.06 19 P **P 00 25 09.8 -0.3**
comp=Z,18nm,0.4s,baz=357,slow=5.4,SNR=74
RES PcP **PcP 00 26 31.9 +0.5**
comp=Z,12nm,0.8s,baz=334,slow=2.5,SNR=4.3
RES S **S 00 32 05.2 +2.2**
comp=Z,1.8nm,1.0s,baz=39,slow=19,SNR=2.7
YKA Yellowknife Ar 49.36 38 P **P 00 25 13.4 +0.9**
comp=Z,78nm,0.8s,baz=297,slow=7.0,SNR=385
YKA PcP **PcP 00 26 33.1 +0.4**
comp=Z,10nm,0.8s,baz=303,slow=3.8,SNR=9.0
YKA ScP **ScP 00 30 15.4 +1.6**
comp=Z,0.1nm,0.3s,baz=294,slow=4.6,SNR=1.9
YKA Yellowknife Ar 49.36 38 *i*P **P 00 25 13.3 +0.8**
YKA pmax pmax
comp=Z,79nm,0.8s
HPAH Hawaii Prepara 49.54 107 P **P 00 25 14.1 -0.5**
HPAH IAmb IAmb 00 25 16.2
comp=Z,88nm,1.0s
KHLU Kahalu`u 49.74 107 P **P 00 25 15.9 -0.2**
POHA Pohakuloa 49.85 107 P **P 00 25 18.2 +1.1**
POHA Pohakuloa 49.85 107 P **P 00 25 17.6 +0.5**
BVAR Borovoye Array 49.91 308 P **P 00 25 16.6 -0.2**
comp=Z,14nm,0.6s,baz=52,slow=14,SNR=60
BVAR ScP **ScP 00 30 17.3 +1.0**
comp=Z,0.8nm,0.5s,baz=44,slow=8.9,SNR=1.8
BVAR S **S 00 32 13.1 -2.2**
comp=Z,1.9nm,0.8s,baz=63,slow=30,SNR=5.6
BRVK Borovoye 49.94 308 *ce*P **P 00 25 17.0 -0.1**
BRVK pmax pmax
comp=Z,30nm,0.8s
BRVK Borovoye 49.94 308 P **P 00 25 16.7 -0.4**
BRVK Borovoye 49.94 308 *e*P **P 00 25 17.0 -0.1**
AIN Ainahou 50.18 107 P **P 00 25 20.0 +0.5**
UZB Uzynbulak 50.22 293 *e*P **P 00 25 18.5 -1.0**
UZB Uzynbulak 50.22 293 *e*P **P 00 25 18.5 -1.0**
baz=294
BRZS Berezniki 50.24 304 *e*P **P 00 25 18.1 -1.3**
BRZS pmax pmax
comp=Z,22nm,0.7s
BRZS Berezniki 50.24 304 *e*P **P 00 25 18.1 -1.3**
comp=Z,22nm,0.7s,baz=304
LSA Lhasa 50.42 272 P **P 00 25 22.8 +1.2**
ZHN Zhinishke 50.57 294 *e*P **P 00 25 20.5 -1.6**
ZHN Zhinishke 50.57 294 *e*P **P 00 25 20.5 -1.6**
baz=294
SATY Saty 50.65 294 *e*P **P 00 25 21.5 -1.2**
SATY Saty 50.65 294 *e*P **P 00 25 21.5 -1.2**
baz=294
SPA0 Spitsbergen Ar 50.89 350 *e*P **P 00 25 22.6 -1.3**
MDOK Medeo 51.41 295 *e*P **P 00 25 27.7 -0.7**
MDOK Medeo 51.41 295 *e*P **P 00 25 27.8 -0.7**
baz=294
KUU Kurty 51.43 296 *e*P **P 00 25 27.0 -1.4**
KUU pmax pmax
comp=Z,25nm,0.7s
KUU Kurty 51.43 296 *e*P **P 00 25 27.0 -1.4**
comp=Z,25nm,0.7s,baz=296
TULEG Thule 52.32 11 *i*P **P 00 25 32.8 -1.7**
TULEG Thule 52.32 11 P **P 00 25 34.2 -0.3**
TULEG IAmb IAmb 00 25 35.3
comp=Z,72nm,0.8s
ULHL Ulahol 52.42 294 P **P 00 25 37.1 +1.0**
SNR=9.2
TKM2 Tokmak 2 52.43 295 P **P 00 25 36.6 +0.6**
SNR=15
BOOM Boomskoye usch 52.47 294 IAmb IAmb 00 25 38.1

comp=Z,32nm,0.6s
SVE Sverdlovsk 52.68 316 *e*P **P 00 25 36.8 -0.6**
SVE pmax pmax
comp=Z,24nm,1.1s
SGDS Sogindy 52.70 296 *e*P **P 00 25 36.7 -1.2**
comp=Z,14nm,1.0s,baz=296
CHTO Chiang Mai 52.77 256 P **P 00 25 39.9 +1.4**
CHTO pmax pmax
comp=Z,61nm,0.8s
CHTO Chiang Mai 52.77 256 P **P 00 25 39.9 +1.4**
CHTO Chiang Mai 52.77 256 P **P 00 25 40.1 +1.5**
SIJI Sorong 52.84 208 P **P 00 25 39.0 0.0**
comp=Z,13nm,0.6s,baz=26,slow=16,SNR=2.3
USP Ospenovka 52.88 296 P **P 00 25 39.7 +0.5**
SNR=37
CHMS Chumysh 52.89 296 P **P 00 25 39.7 +0.5**
SNR=16
KBK Karagaybulak 52.97 295 P **P 00 25 40.6 +0.6**
SNR=15
CM31 Chiang Mai Arr 53.03 255 IAmb IAmb 00 25 45.2
comp=Z,21nm,0.7s
CMAR Chiang Mai Arr 53.03 255 P **P 00 25 42.1 +1.6**
comp=Z,17nm,0.8s,baz=35,slow=7.1,SNR=78
CMAR PcP **PcP 00 26 46.3 -0.7**
comp=Z,3.2nm,0.8s,baz=17,slow=3.3,SNR=4.2
CMAR ScP **ScP 00 30 30.0 -0.3**
comp=Z,2.5nm,0.8s,baz=17,slow=3.5,SNR=9.5
CMAR LR LR 00 50 24.5
comp=Z,41nm,18.7s,baz=35,slow=38
CMAR Chiang Mai Arr 53.03 255 *i* P **P 00 25 42.5 +2.0**
CMAR pmax pmax
comp=Z,17nm,0.8s
CMAR Chiang Mai Arr 53.03 255 P **P 00 25 41.9 +1.4**
CMAR **pwP 00 26 20.2 +2.2**
FRU1 Bishkek 53.07 295 IAmb IAmb 00 25 42.2
comp=Z,39nm,0.7s
D03D Eldon 53.07 57 P **P 00 25 41.9 +1.5**
baz=304
B05A Bryant 53.21 56 P **P 00 25 42.4 +1.0**
baz=304
AAK Ala-Archa 53.25 295 P **P 00 25 42.2 +0.2**
comp=Z,29nm,0.7s,baz=120,slow=5.9,SNR=91
AAK PcP **PcP 00 26 48.5 +0.7**
comp=Z,9.0nm,0.8s,baz=132,slow=2.5,SNR=3.3
AAK LR LR 00 49 53.8
comp=Z,185nm,20.2s,baz=95,slow=38
AAK Ala-Archa 53.25 295 P **P 00 25 42.1 +0.2**
SNR=22
AAK Ala-Archa 53.25 295*ce*P **P 00 25 41.9 -0.1**
AAK pmax pmax
comp=Z,28nm,0.7s
AAK Ala-Archa 53.25 295 P **P 00 25 42.6 +0.5**
AAK IAmb IAmb 00 25 43.9
comp=Z,28nm,0.8s
AAK Ala-Archa 53.25 295 *e*P **P 00 25 41.9 -0.1**
AAK Ala-Archa 53.25 295 *i* P **P 00 25 42.3 +0.3**
SNR=22
NEEM North Greenlan 53.35 6 *i* P **P 00 25 40.4 -2.0**
NEEM IAmb IAmb 00 25 42.6
comp=Z,60nm,0.8s
E03A Lebam 53.37 59 P **P 00 25 42.8 +0.2**
EKS2 Erkin-Say 53.67 296 P **P 00 25 45.6 +0.5**
SNR=31
ARU Arti 53.85 317*d i*P **P 00 25 45.1 -0.8**
ARU *PP **pwP 00 26 21.4 -1.3**
ARU 00 26 47.4
ARU 00 27 45.9
ARU S **S 00 33 08.9 -0.1**
ARU SS **SKiKP 00 36 44.0 +1.3**
ARU pmax pmax
comp=Z,50nm,1.3s
ARU Arti 53.85 317 P **P 00 25 44.3 -1.7**
ARU IAmb IAmb 00 25 46.7
comp=Z,75nm,1.4s
ARU Arti 53.85 317 *e*P **P 00 25 45.1 -0.8**
D05A Enumclaw 53.88 57 P **P 00 25 47.2 +0.9**
D05A IAmb IAmb 00 25 48.3
comp=Z,38nm,0.9s
E04D Cinebar 53.92 58 P **P 00 25 48.0 +1.4**
baz=305
AML Almayashu 54.03 295 P **P 00 25 48.9 +0.9**
SNR=9.5
AML Almayashu 54.03 295 *i* P **P 00 25 48.2 +0.2**
SNR=9.6
C06D Leavenworth 54.07 56 P **P 00 25 48.8 +1.1**
baz=305
KSH Kashi 54.19 291 P **P 00 25 53.0 +4.1**
KSH pP pwP 00 26 30.0 +3.6
KSH PcP **PcP 00 26 55.0 +3.6**
KSH pmax pmax
comp=Z,20nm,1.0s
F04A Amboy 54.37 59 IAmb IAmb 00 25 51.6
comp=Z,34nm,0.8s
FAKI Fak Fak 54.48 206 P **P 00 25 50.0 -1.0**
B08A Colville Reser 54.67 55 IAmb IAmb 00 25 53.8
comp=Z,60nm,1.3s
GUN Gumba 55.08 274 *e*P **P 00 25 55.8 +0.1**
comp=Z,13nm,0.4s
I03D Drain, OR 55.15 61 P **P 00 25 57.4 +1.9**
baz=307
HOOD Mount Hood Mea 55.16 59 IAmb IAmb 00 25 58.0
comp=Z,69nm,1.1s
H04A Detroit Lake 55.24 60 IAmb IAmb 00 25 58.3
comp=Z,45nm,1.2s
G05D Wamic, OR 55.40 59 P **P 00 25 58.7 +1.3**
baz=306
E07A Sunnyside 55.44 57 IAmb IAmb 00 25 59.0
comp=Z,23nm,0.7s
K02D Willamette Mer 55.56 63 P **P 00 26 00.4 +1.8**
baz=307
KKN Kakani 55.56 274 *e*P **P 00 25 59.2 +0.2**
C09A Chrisman Ranch 55.57 55 IAmb IAmb 00 26 00.1
comp=Z,60nm,1.3s
PKI Pulchoki 55.62 274 *e*P **P 00 25 59.7 +0.2**
PKIN Phulchoki 55.62 274 *e*P **P 00 25 59.6 +0.1**
I04A Tendick Farm, 55.64 61 P **P 00 26 00.7 +1.6**
baz=307,SNR=5.9
HAWA Hanford 55.72 57 IAmb IAmb 00 26 01.6
comp=Z,24nm,1.0s
SANI Sanana 55.75 214 P **P 00 25 59.5 -0.6**
comp=Z,39nm,0.8s
SANI Sanana 55.75 214 P **P 00 25 59.7 -0.4**
BRLS Borolday 55.78 298 *e*P **P 00 26 00.8 +0.7**
BRLS Borolday 55.78 298 *e*P **P 00 26 00.9 +0.7**
baz=298
DMN Daman 55.80 274 *e*P **P 00 26 01.5 +0.8**
comp=Z,36nm,0.6s
F07A Phinny Hill Vi 55.80 57 IAmb IAmb 00 26 02.2
comp=Z,43nm,0.7s
GKN Gorkha 55.85 275 *e*P **P 00 26 01.6 +0.7**
comp=Z,60nm,0.6s
NEW Newport 55.92 54 P **P 00 26 01.3 +0.3**
comp=Z,26nm,0.9s,baz=314,slow=6.8,SNR=10
NEW Newport 55.92 54 P **P 00 26 01.6 +0.6**
NEW pmax pmax
comp=Z,53nm,1.2s
NEW Newport 55.92 54 P **P 00 26 01.6 +0.6**
NEW IAmb IAmb 00 26 02.8
comp=Z,53nm,1.1s
NEW Newport 55.92 54 P **P 00 26 01.7 +0.6**
baz=307,SNR=25
L02E Cave Junction 55.92 63 P **P 00 26 03.0 +1.9**
baz=307
I05D Terrebonne, OR 55.93 60 P **P 00 26 02.3 +1.1**
baz=307,SNR=5.6
PRGR Permogore 55.98 327 *e*P **P 00 26 00.0 -1.1**
PRGR *e**PP **pP 00 26 35.6 +0.6**
PRGR *e*S **S 00 33 32.3 -4.9**
PRGR pmax pmax
comp=Z,58nm,0.9s
J04D Umpqua Nationa 56.14 61 P **P 00 26 04.7 +1.8**
baz=307,SNR=7.9
DANN Dangsing 56.20 276 *e*P **P 00 26 04.5 +0.9**
comp=Z,229nm,0.6s
IUG luzhnay 56.20 297 *e*P **P 00 26 02.2 -1.0**
IUG luzhnay 56.20 297 *e*P **P 00 26 02.3 -1.0**
baz=297
ARA0 ARCESS Array S 56.23 341 *e*P **P 00 26 01.8 -1.0**
ARCES ARCESS Array B 56.23 341 P **P 00 26 01.9 -0.9**
comp=Z,3.1nm,0.6s,baz=30,slow=7.4,SNR=22
E09A Wood Farm, Sta 56.41 56 IAmb IAmb 00 26 06.3
comp=Z,43nm,0.9s
KIRV Kirov 56.48 322*ce*P **P 00 26 04.4 -0.3**
J05D Fort Rock, OR 56.62 61 P **P 00 26 08.1 +1.8**
baz=308,SNR=27
KHMM Horse Mountain 56.63 64 IAmb IAmb 00 26 09.2
comp=Z,59nm,1.2s
L04D Klamath Falls 56.65 62 P **P 00 26 07.8 +1.4**
baz=308,SNR=8.0
KOLN Koldanda 56.69 275 *e*P **P 00 26 07.5 +0.6**
comp=Z,97nm,0.7s
G08A Pilot Rock 56.70 58 IAmb IAmb 00 26 08.7
comp=Z,33nm,1.4s
YBH Yreka Blue Hor 56.71 63 P **P 00 26 08.1 +1.3**
comp=Z,18nm,1.0s,baz=326,slow=0.6,SNR=14
M02C Callahan 56.83 63 P **P 00 26 09.3 +1.7**
baz=308
PYUN Piuthan 56.87 276 *e*P **P 00 26 09.0 +0.8**
comp=Z,140nm,0.9s
I07A Izee 57.13 59 IAmb IAmb 00 26 11.6
comp=Z,21nm,0.9s
K05A Summer Lake 57.16 61 IAmb IAmb 00 26 13.0
comp=Z,64nm,1.1s
N02D Trinity Center 57.18 64 P **P 00 26 11.6 +1.5**
baz=308,SNR=6.7
M04C Macdoel 57.19 62 P **P 00 26 11.6 +1.4**
baz=308,SNR=7.1
UPNV Upernavik 57.23 10 *i* P **P 00 26 06.3 -3.5**
JETT Jettan, Norway 57.30 342 *e*P **P 00 26 11.6 +1.2**
ABKAR Akbulak array 57.46 309 IAmb IAmb 00 26 12.3
comp=Z,22nm,0.8s
TRO Tromso 57.53 343 *e*P **P 00 26 12.2 +0.3**
BMO Blue Mountains 57.90 57 IAmb IAmb 00 26 16.9
comp=Z,23nm,0.8s
PMG Port Moresby 57.97 187 P **P 00 26 15.7 +0.1**
comp=Z,4.3nm,0.3s,baz=21,slow=4.6,SNR=5.8
PMG Port Moresby 57.97 187*ce*P **P 00 26 15.3 -0.3**
PMG pmax pmax
comp=Z,23nm,1.3s
PMG Port Moresby 57.97 187 P **P 00 26 16.0 +0.5**
PMG IAmb IAmb 00 26 16.7
comp=Z,45nm,1.4s
PMG Port Moresby 57.97 187 P **P 00 26 16.1 +0.5**
O03E Paynes Creek 58.14 64 P **P 00 26 17.5 +0.7**
baz=309,SNR=8.7
J08A Circle Bar Ran 58.17 59 IAmb IAmb 00 26 19.6
comp=Z,51nm,1.2s
MSO Missoula 58.50 54 P **P 00 26 20.2 +0.9**
baz=309,SNR=50
KLMR Klimovskoe 58.69 328 *e*P **P 00 26 18.8 -1.3**
KLMR *e**PP **pP 00 26 53.6 -0.7**
KLMR pmax pmax
comp=Z,23nm,0.7s
KLMR Klimovskoe 58.69 328 *e*P **P 00 26 18.8 -1.3**
KLMR AMP 00 26 20.3
comp=Z,23nm,0.7s
KLMR *e*pP **pP 00 26 53.7 -0.6**
NUUG Nuugaatsiaq 58.73 10 *i* P **P 00 26 17.3 -3.0**
SUMG Summit 58.89 4 P **P 00 26 22.2 +0.3**
SUMG pmax pmax
comp=Z,94nm,0.9s
SUMG Summit 58.89 4 *i* P **P 00 26 20.5 -1.3**
SUMG Summit 58.89 4 P **P 00 26 22.2 +0.3**
FFC Flin Flon 59.23 41 P **P 00 26 25.0 +1.0**
FFC pmax pmax
comp=Z,89nm,0.9s
FFC Flin Flon 59.23 41 P **P 00 26 25.0 +1.0**
NIL Nilore 59.57 288 P **P 00 26 27.4 +0.7**
NIL pmax pmax
comp=Z,125nm,1.0s
NIL Nilore 59.57 288 P **P 00 26 27.4 +0.7**
STEI Steigen 59.69 343 *e*P **P 00 26 26.7 -0.2**
LOF Lofoten 59.84 344 *e*P **P 00 26 27.4 -0.5**
EGMT Eagleton 59.93 50 P **P 00 26 29.9 +0.9**
baz=310,SNR=32
FAUS Fauske 60.16 343 *e*P **P 00 26 29.6 -0.5**
HLID Hailey 60.32 57 IAmb IAmb 00 26 34.3
comp=Z,40nm,1.4s
HLID Hailey 60.32 57 P **P 00 26 33.0 +1.1**
baz=310,SNR=28
BOZ Bozeman (W) 60.52 53 P **P 00 26 34.5 +1.3**
baz=311,SNR=95
BBGB Big Mountain B 60.97 67 IAmb IAmb 00 26 38.4
comp=Z,33nm,1.0s
ILULI Ilulissat 61.17 10 P **P 00 26 36.8 -0.1**
ILULI pmax pmax
comp=Z,75nm,0.9s
ILULI Ilulissat 61.17 10 *i* P **P 00 26 35.6 -1.3**
ILULI IAmb IAmb 00 26 37.0
comp=Z,45nm,0.8s
ILULI Ilulissat 61.17 10 P **P 00 26 36.8 -0.1**
KONS Konsvik 61.35 343 *e*P **P 00 26 38.7 +0.5**
MOR8 Moi Rana 61.38 342 *e*P **P 00 26 36.6 -1.8**
NVAR Mina Array Bea 61.41 63 P **P 00 26 40.5 +1.1**
comp=Z,25nm,0.8s,baz=293,slow=7.1,SNR=85
NVAR PcP **PcP 00 27 20.9 +0.8**
comp=Z,4.5nm,0.8s,baz=301,slow=6.9,SNR=4.2
NV11 Mina Array Sit 61.50 63 IAmb IAmb 00 26 41.6
comp=Z,32nm,1.1s
KBL Kabul 61.62 291 P **P 00 26 39.7 -1.1**
KBL pmax pmax
comp=Z,32nm,0.8s
KBL Kabul 61.62 291 P **P 00 26 39.7 -1.1**
KBL IAmb IAmb 00 26 41.3
comp=Z,32nm,0.8s
ELK Elko 61.69 60 P **P 00 26 42.5 +1.3**
comp=Z,11nm,0.8s,baz=313,slow=6.8,SNR=40
LKWY Lake 61.86 54 IAmb IAmb 00 26 46.1
comp=Z,41nm,0.8s
H17A Grant Village 61.88 54 P **P 00 26 45.4 +2.9**
baz=312,SNR=41
FLWY Flagg Ranch 62.02 54 IAmb IAmb 00 26 46.5
comp=Z,51nm,1.2s
MOOW Moose Ponds 62.21 55 IAmb IAmb 00 26 47.5
comp=Z,69nm,1.4s
ICESG Greenland Ices 62.28 5 *i* P **P 00 26 43.4 -1.4**
ICESG IAmb IAmb 00 26 45.8
comp=Z,144nm,0.7s
TIN Tinemaha, Big 62.36 65 P **P 00 26 46.9 +1.4**
baz=312,SNR=5.4
DGMT Dagmar 62.41 47 P **P 00 26 46.6 +1.0**
baz=313,SNR=20
FIA1 FINESS Array S 62.51 335 P **P 00 26 45.9 -0.1**
FIA1 IAmb IAmb 00 26 47.5
comp=Z,81nm,1.5s
FINES FINESS Array B 62.51 335 P **P 00 26 45.8 -0.2**
comp=Z,19nm,0.4s,baz=36,slow=7.7,SNR=319
FINES PcP **pwP 00 27 23.5 0.0**
comp=Z,11nm,0.9s,baz=52,slow=7.5,SNR=4.5
LAO LASA Array 62.62 50 P **P 00 26 48.5 +1.4**
baz=313,SNR=22
AHID Auburn Hatcher 62.67 56 IAmb IAmb 00 26 50.0
comp=Z,49nm,1.1s
PKM Mcpherson Peak 62.84 67 P **P 00 26 49.8 +0.9**
baz=312
CWC Cottonwood Cre 62.86 65 P **P 00 26 49.7 +0.7**
baz=312
COEN Coen 62.89 191 P **P 00 26 49.4 +0.4**
COEN IAmb IAmb 00 26 50.3
comp=Z,57nm,1.4s
COEN **PcP 00 27 26.2 +0.4**
COEN Coen 62.89 191 P **P 00 26 49.6 +0.6**
GRAC Grapevine Rang 62.92 64 P **P 00 26 50.5 +1.3**
baz=312,SNR=26
R11A Troy Canyon, C 63.07 62 IAmb IAmb 00 26 52.1
comp=Z,26nm,0.9s
R11A Troy Canyon, C 63.07 62 P **P 00 26 51.1 +0.8**
baz=312,SNR=39
ISA Isabella, Lake 63.14 66 P **P 00 26 50.6 -0.1**
baz=312,SNR=5.8
HWUT Hardware Ranch 63.19 57 IAmb IAmb 00 26 53.6
comp=Z,74nm,1.3s
FRB Frobisher Bay 63.28 19 LR LR 00 56 18.6
comp=Z,302nm,18.1s,baz=235,slow=38
NSS Namsos 63.32 342 *e*P **P 00 26 50.9 -0.4**
SFJD Kangerlussuaq 63.34 10 P **P 00 26 51.4 0.0**
SFJD pmax pmax
comp=Z,34nm,1.0s
SFJD Kangerlussuaq 63.34 10 *i* P **P 00 26 49.3 -2.1**
SFJD Kangerlussuaq 63.34 10 P **P 00 26 51.4 0.0**
SFJD IAmb IAmb 00 26 51.9
comp=Z,34nm,1.0s
DUG Dugway, Tooele 63.44 59 IAmb IAmb 00 26 55.0
comp=Z,71nm,1.2s
DUG Dugway, Tooele 63.44 59 P **P 00 26 53.9 +1.2**
baz=312,SNR=39
MPMC Manual Prospec 63.47 65 P **P 00 26 53.7 +0.7**
baz=312,SNR=19
BW06 Boulder Array 63.52 55 P **P 00 26 54.2 +0.9**
baz=313,SNR=60
PDAR Pinedale Array 63.52 55 P **P 00 26 54.1 +0.8**
comp=Z,42nm,0.8s,baz=308,slow=1.8,SNR=249
SOEG Soedalen 63.52 2 *i* P **P 00 26 51.2 -1.4**
FURC Furnace Creek, 63.57 64 P **P 00 26 54.6 +1.2**
baz=312,SNR=26
TPNV Topopah Spring 63.61 63 IAmb IAmb 00 26 55.8
comp=Z,18nm,0.8s
TPNV Topopah Spring 63.61 63 P **P 00 26 54.8 +0.9**
baz=312,SNR=28
OSI Osito Audit: C 63.69 67 IAmb IAmb 00 26 56.0
comp=Z,40nm,0.8s
OSI Osito Audit: C 63.69 67 P **P 00 26 54.9 +0.6**
baz=312
LRMC Laurel Mtn Rad 63.74 65 P **P 00 26 55.2 +0.5**
baz=312,SNR=10
EDW2 Edwards Air Fo 63.95 66 P **P 00 26 56.7 +0.7**
baz=312,SNR=15
OBN Obninsk 63.96 325*ce*P **P 00 26 53.9 -1.7**
OBN *i* *PP **pwP 00 27 32.2 -1.5**
OBN *e* 00 29 15.3
OBN *e*S S 00 35 09.8 -9.4
OBN *e*SS **SS 00 39 30.0 +0.5**
OBN pmax pmax
comp=Z,51nm,2.5s
DECC Green Verdugo 64.17 67 P **P 00 26 57.8 +0.4**
baz=313
DY2G Dye2 64.32 9 *i* P **P 00 26 56.8 -1.4**
DY2G IAmb IAmb 00 26 58.4
comp=Z,20nm,0.7s
MWC Mount Wilson 64.36 67 IAmb IAmb 00 27 01.0
comp=Z,66nm,1.4s
GSC Goldstone, Bar 64.39 65 IAmb IAmb 00 27 00.4
comp=Z,21nm,0.9s
GSC Goldstone, Bar 64.39 65 P **P 00 26 59.5 +0.6**
baz=313,SNR=14
VRH Novokhopyorsk 64.78 320 *e*P **P 00 26 59.6 -1.4**
VRH pmax pmax
comp=Z,20nm,0.6s
TUQ Turquoise Moun 64.83 64 P **P 00 27 02.5 +0.7**
baz=313,SNR=30
SANVU Saraoutou 64.87 165 P **P 00 27 00.8 -1.1**
SANVU IAmb IAmb 00 27 01.8
comp=Z,43nm,0.9s
SANVU Saraoutou 64.87 165 P **P 00 27 01.2 -0.7**
LPSR Galich'ya Gora 64.92 322 *e*P **P 00 27 00.8 -1.1**
LPSR pmax pmax
comp=Z,20nm,0.6s
HEC Hector,Ludlow 64.99 65 P **P 00 27 03.4 +0.6**
baz=313,SNR=21
ULM Lac du Bonnet 65.02 41 P **P 00 27 02.5 -0.1**
comp=Z,35nm,0.7s,baz=312,slow=7.1,SNR=29
ULM PcP **PcP 00 27 34.3 0.0**
comp=Z,6.2nm,0.7s,baz=315,slow=4.3,SNR=3.2
ULM Lac du Bonnet 65.02 41 IAmb IAmb 00 27 03.7
comp=Z,41nm,0.9s
MDND Maddock 65.05 45 P **P 00 27 03.9 +1.1**
baz=316,SNR=5.1
PSI Prapat 65.07 244 P **P 00 27 04.2 +0.6**
comp=Z,4.2nm,0.5s,baz=21,slow=0.3,SNR=5.7
AAL Aland 65.24 336 *e*P **P 00 27 04.1 +0.3**
MURC Murrieta 65.30 67 P **P 00 27 04.7 -0.1**
baz=313,SNR=7.9
MTSE Matsula 65.40 334 *e*P **P 00 27 04.9 0.0**
GMRC Granite Mounta 65.43 65 P **P 00 27 06.3 +0.7**
baz=313,SNR=21
RSSD Black Hills 65.50 51 P **P 00 27 06.6 +0.5**
RSSD pmax pmax
comp=Z,56nm,0.8s
RSSD Black Hills 65.50 51 P **P 00 27 06.6 +0.5**
RSSD Black Hills 65.50 51 P **P 00 27 06.8 +0.7**
baz=315
RPR Rampur 65.67 271 *e*P **P 00 27 08.4 +1.2**
PFO Pinyon Flats O 65.74 66 P **P 00 27 07.2 -0.5**
comp=Z,4.5nm,0.6s,baz=302,slow=4.1,SNR=6.1
PFO PcP **PcP 00 27 37.7 0.0**
comp=Z,6.2nm,0.8s,baz=329,slow=8.5,SNR=5.9
PFO Pinyon Flats O 65.74 66 P **P 00 27 07.9 +0.1**
PFO Pinyon Flats O 65.74 66 P **P 00 27 07.8 +0.1**
baz=313,SNR=5.1
BELC Belle Mtn. Jos 65.76 66 P **P 00 27 07.8 0.0**
baz=313,SNR=10.0
ISOG Isortoq, Green 65.84 6 *i* P **P 00 27 04.1 -3.4**
VSR Storozhevoye 65.85 321 *e*P **P 00 27 07.1 -0.8**
VSR pmax pmax
comp=Z,20nm,1.2s
GEYT Alibeck 65.88 300 P **P 00 27 09.1 +0.7**
comp=Z,13nm,0.8s,baz=338,slow=0.8,SNR=16
GYA0B ALIBECK ARRAY 65.88 300 IAmb IAmb 00 27 10.3
comp=Z,16nm,0.7s
HRA Herat 65.89 295 P **P 00 27 09.3 +0.6**
HRA IAmb IAmb 00 27 10.6
comp=Z,21nm,0.7s
MOL Molde 65.95 343 *e*P **P 00 27 09.7 +1.3**
VORD Divnogorie 65.99 321 *e*P **P 00 27 08.0 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.7s
O20A White River Ci 66.04 56 IAmb IAmb 00 27 11.4
comp=Z,69nm,1.2s
O20A White River Ci 66.04 56 P **P 00 27 10.2 +0.6**
baz=314,SNR=21
UPP Uppsala 66.13 337 *e*P **P 00 27 09.4 -0.1**
DOMB Dombas 66.14 343 *e*P **P 00 27 09.8 +0.1**
IRM Iron Mountain 66.17 65 P **P 00 27 11.0 +0.7**
baz=314,SNR=30
SRSP Sriramsagar 66.25 272 *e*P **P 00 27 11.7 +0.7**
MONP2 Monument Peak 66.26 67 P **P 00 27 11.3 +0.2**
baz=314
MYLAV Mylavaram 66.29 269 *e*P **P 00 27 13.5 +2.4**
MNSI Mandailing Nat 66.29 242 P **P 00 27 13.1 +1.9**
comp=Z,15nm,0.6s
U15A North Rim 66.30 61 IAmb IAmb 00 27 13.7
comp=Z,33nm,1.0s
BC3 Big Chuckawall 66.33 66 P **P 00 27 11.6 +0.2**
baz=314,SNR=13
TKX Tecate 66.37 67 pP 00 27 50.1 +3.1
AKN Aaknes 66.42 344 *e*P **P 00 27 12.5 +1.1**
AGMN Agassiz Nation 66.46 43 IAmb IAmb 00 27 12.9
comp=Z,51nm,1.1s
AGMN Agassiz Nation 66.46 43 P **P 00 27 12.0 +0.1**
baz=317,SNR=17
NB2 NORSAR Subarra 66.60 341 P **P 00 27 12.8 +0.2**
comp=Z,20nm,0.7s,baz=25,slow=6.5
NB2 NORSAR Subarra 66.60 341 P **P 00 27 12.8 +0.2**
baz=25,slow=6.5
NOA NORSAR Array B 66.60 341 P **P 00 27 12.8 +0.2**
comp=Z,16nm,0.6s,baz=26,slow=6.4,SNR=42
SWSC Sam W. Stewart 66.60 66 P **P 00 27 13.0 0.0**
baz=314
IKP In-Ko-Pah, Jac 66.62 67 P **P 00 27 13.7 +0.4**
baz=314
PDMCI Parker Dam,Lak 66.67 64 P **P 00 27 14.2 +0.7**
baz=314,SNR=9.8
N23A Red Feather La 66.76 54 IAmb IAmb 00 27 16.5
comp=Z,46nm,1.0s
N23A Red Feather La 66.76 54 P **P 00 27 15.3 +1.0**
baz=315,SNR=13
NC602 NORSAR Array S 66.81 341 *e*P **P 00 27 13.9 +0.1**
MTSU Mount Surprise 66.87 189 P **P 00 27 15.0 +0.3**
BORG Borgarnes 66.97 358 P **P 00 27 16.8 +2.0**
comp=Z,47nm,0.7s,baz=33,slow=3.3,SNR=12
BORG Borgarnes 66.97 358 IAmb IAmb 00 27 17.7
comp=Z,66nm,0.8s
PV07 Paradox Valley 66.99 58 IAmb IAmb 00 27 17.5
comp=Z,42nm,1.1s
GLA Glamis 67.12 66 IAmb IAmb 00 27 18.1
comp=Z,46nm,1.1s
GLA Glamis 67.12 66 P **P 00 27 17.3 +0.9**
baz=314,SNR=7.8
PV15 Paradox Valley 67.15 58 IAmb IAmb 00 27 18.5
comp=Z,48nm,0.9s
HYBB Hyderabad (bro 67.19 271 *e*P **P 00 27 17.9 +0.9**
HYBB *e*pP **pwP 00 27 54.6 -1.2**
IDID Didziasalis 67.29 330 *e*P **P 00 27 17.2 +0.3**
NJS Nagarjunasagar 67.31 270 *e*P **P 00 27 18.7 +1.1**
SMCO Snowmass 67.41 56 IAmb IAmb 00 27 20.3
comp=Z,38nm,0.8s
IIGN Ignalina 67.43 330 *e*P **P 00 27 18.0 +0.2**
WUAZ Wupatki 67.47 62 IAmb IAmb 00 27 20.9
comp=Z,30nm,1.0s
WUAZ Wupatki 67.47 62 P **P 00 27 20.0 +1.3**
baz=314,SNR=14
MNK Minsk 67.57 329 *i* P **P 00 27 16.3 -2.4**
MNK *i* *PP **pP 00 27 52.4 -1.2**
MNK *i* PPP PPP 00 31 26.6
MNK *i* S **S 00 36 01.5 -1.6**
MNK *i* *SS **SKKSac 00 37 02.2 +0.2**
MNK pmax pmax
comp=N,21nm,1.0s

MNK pmax pmax
comp=Z,28nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.3s
MNK MLR MLR
comp=Z,178nm,10.0s
MNK MLR MLR
comp=N,463nm,20.0s
MNK MLR MLR
comp=E,67nm,22.0s
MNK Minsk 67.57 329 *i* P **P 00 27 16.3 -2.4**
comp=E,2.0nm,1.3s
MNK *i* P **P 00 27 16.3 -2.4**
comp=N,21nm,1.1s
MNK *i* P **P 00 27 16.3 -2.4**
comp=Z,28nm,1.1s,baz=36
MNK *i* pP **pP 00 27 52.4 -1.1**
MNK *i* PP **PP 00 29 47.0 -1.9**
MNK *i* PPP PPP 00 31 26.6
MNK *i* S **S 00 36 01.5 -1.6**
MNK *i* sS **SKKSac 00 37 02.2 +0.3**
MNK *i* SS **SS 00 40 21.0 -4.5**
MNK *i* SSS SSS 00 43 42.6
MNK *i* LRM MLR 01 01 38.5
comp=Z,178nm,9.5s
MNK *i* LRM MLR 01 02 00.1
comp=N,463nm,20.4s
MNK *i* LRM MLR 01 02 12.8
comp=E,67nm,21.6s
NACGM Naroch 67.61 330 *i* P **P 00 27 17.7 -1.3**
OSL Oslo 67.70 341 *eP* **P 00 27 19.7 +0.3**
ISCO Idaho Springs 67.71 55 IAmb IAmb 00 27 22.7
comp=Z,57nm,0.9s
ISCO Idaho Springs 67.71 55 P **P 00 27 21.7 +1.4**
baz=315,SNR=36
SUSD Miller 67.82 48 P **P 00 27 20.8 +0.3**
baz=317
KLSI 67.89 234 P **P 00 27 21.8 +0.5**
comp=Z,12nm,0.9s
SRLM Srisailam 67.91 269 *eP* **P 00 27 22.1 +0.6**
MVCO Mesa Verde 67.94 59 IAmb IAmb 00 27 23.5
comp=Z,47nm,1.0s
MVCO Mesa Verde 67.94 59 P **P 00 27 22.3 +0.6**
baz=315,SNR=25
MASI Maura Aman, Be 67.97 237 P **P 00 27 23.7 +1.9**
comp=Z,78nm,1.0s
KLRI Killari 68.03 273 *eP* **P 00 27 22.4 +0.2**
PABE Paberze 68.03 332 *eP* **P 00 27 21.5 0.0**
X16A Lo Mia Camp, P 68.19 62 IAmb IAmb 00 27 25.5
comp=Z,26nm,0.9s
KONO Kongsberg 68.21 341 *eP* **P 00 27 23.6 +0.9**
RCLA Racherla 68.33 269 *eP* **P 00 27 24.6 +0.5**
S22A 4UR Ranch, Cre 68.50 57 IAmb IAmb 00 27 27.7
comp=Z,48nm,0.9s
S22A 4UR Ranch, Cre 68.50 57 P **P 00 27 26.5 +1.3**
baz=315,SNR=34
Q24A Divide 68.56 55 P **P 00 27 26.6 +0.9**
baz=316
ODD1 Odda 68.58 343 *eP* **P 00 27 26.2 +1.2**
CTA Charters Tower 68.62 187 P **P 00 27 24.9 -0.7**
comp=Z,12nm,0.6s,baz=5.0,slow=6.9,SNR=21
CTA Charters Tower 68.62 187 P **P 00 27 25.7 +0.1**
CTAO Charters Tower 68.62 187 P **P 00 27 25.5 -0.1**
CTAO pmax pmax
comp=Z,23nm,1.0s
CTAO Charters Tower 68.62 187 P **P 00 27 25.5 -0.1**
CTAO Charters Tower 68.62 187 P **P 00 27 25.5 -0.1**
EYMN Ely 68.66 41 IAmb IAmb 00 27 26.7
comp=Z,51nm,0.9s
EYMN Ely 68.66 41 P **P 00 27 25.8 +0.1**
baz=320,SNR=8.0
DGTI Dogotuki 68.67 153 P **P 00 27 27.3 +1.3**
GOF Gofitskoye 68.72 315⇑ *eP* **P 00 27 26.6 +0.5**
GOF pmax pmax
comp=Z,59nm,0.8s
OGNE Ogallala 68.80 52 P **P 00 27 27.6 +0.8**
OGNE Ogallala 68.80 52 P **P 00 27 27.6 +0.8**
baz=316,SNR=16
SKHT Srikalahasti 69.07 267 *eP* **P 00 27 29.8 +1.2**
214A Organ Pipe Nat 69.10 65 IAmb IAmb 00 27 30.5
comp=Z,41nm,1.4s
214A Organ Pipe Nat 69.10 65 P **P 00 27 29.4 +0.7**
baz=315,SNR=18
IVI Ivigtut 69.22 11 *i* P **P 00 27 26.0 -2.8**
IVI Ivigtut 69.22 11 IAmb IAmb 00 27 30.1
comp=Z,40nm,0.8s
SDCO Great Sand Dun 69.24 56 IAmb IAmb 00 27 31.8
comp=Z,31nm,1.1s
SDCO Great Sand Dun 69.24 56 P **P 00 27 30.7 +0.9**
baz=316,SNR=30
ECSD EROS Data Cent 69.48 47 P **P 00 27 31.0 +0.2**
ECSD IAmb IAmb 00 27 31.9
comp=Z,45nm,0.7s
ECSD EROS Data Cent 69.48 47 P **P 00 27 31.0 +0.2**
baz=318,SNR=38
SUW Suwalki 69.53 331 *eP* **P 00 27 31.0 +0.1**
SUW Suwalki 69.53 331 P **P 00 27 30.7 -0.2**
SUW pmax pmax
comp=Z,50nm,1.2s
SUW Suwalki 69.53 331 P **P 00 27 30.6 -0.2**
SUW IAmb IAmb 00 27 32.1
comp=Z,50nm,1.2s
MSVF Nonsavu 69.54 155 P **P 00 27 32.5 +1.2**
comp=Z,29nm,1.0s,baz=343,slow=3.7,SNR=11
MSVF Nonsavu 69.54 155 P **P 00 27 33.1 +1.7**
MSVF IAmb IAmb 00 27 33.8
comp=Z,46nm,1.1s
MSVF Nonsavu 69.54 155 P **P 00 27 32.9 +1.5**
NCK Nalchik 69.62 313 *i* P **P 00 27 32.2 +0.5**
NCK pmax pmax
comp=Z,22nm,0.8s
KIV Kislovodsk 69.71 314 ⇑P **P 00 27 34.1 +1.7**
KIV Kislovodsk 69.71 314 *eP* **P 00 27 32.4 +0.1**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV Kislovodsk 69.71 314 P **P 00 27 34.1 +1.7**
KIV Kislovodsk 69.71 314 P **P 00 27 33.9 +1.6**
KBZ Khabaz 69.78 314 P **P 00 27 33.0 +0.4**
comp=Z,13nm,0.8s,baz=66,slow=3.3,SNR=23
KBZ Khabaz 69.78 314 *ceP* **P 00 27 33.2 +0.6**
KBZ pmax pmax
comp=Z,15nm,0.9s
URV Uravakonda 69.82 270 *eP* **P 00 27 34.0 +0.6**
KSCO Kaye Shedlock' 69.89 54 P **P 00 27 34.3 +0.7**
baz=317
SHA1 Shidzhatmaz 69.89 314 *i* P **P 00 27 34.1 +0.5**
QIS Mount Isa 69.89 194 P **P 00 27 33.2 -0.3**
TUC Tucson 70.07 64 P **P 00 27 35.5 +0.8**
TUC pmax pmax
comp=Z,28nm,1.3s
TUC Tucson 70.07 64 P **P 00 27 35.5 +0.8**
TUC Tucson 70.07 64 P **P 00 27 35.5 +0.8**
baz=315
WB0 Warramunga Arr 70.10 199 IAmb IAmb 00 27 35.5
comp=Z,39nm,0.8s
SPMN Marine on St. 70.15 43 IAmb IAmb 00 27 36.0
comp=Z,41nm,0.8s
SPMN Marine on St. 70.15 43 P **P 00 27 35.1 +0.3**
baz=320,SNR=10
AKASG Malin Array Be 70.18 326 P **P 00 27 34.3 -0.6**
comp=Z,13nm,0.7s,baz=33,slow=6.1,SNR=29
AKASG Malin Array Be 70.18 326 *i* P **P 00 27 34.2 -0.7**
AKASG pmax pmax
comp=Z,13nm,0.7s
AKBB Malin Array Si 70.18 326 *ceP* **P 00 27 34.0 -0.9**
WR0 Warramunga Arr 70.26 199 IAmb IAmb 00 27 36.4
comp=Z,23nm,0.8s
WRAB Tennant Creek 70.27 199 *ceP* **P 00 27 34.8 -1.0**
WRAB pmax pmax
comp=Z,50nm,1.3s
WRAB Tennant Creek 70.27 199 P **P 00 27 36.0 +0.2**
WRAB IAmb IAmb 00 27 36.6
comp=Z,38nm,1.0s
WRAB Tennant Creek 70.27 199 P **P 00 27 35.6 -0.2**
T25A Trinidad 70.27 56 IAmb IAmb 00 27 37.8
comp=Z,52nm,0.9s
T25A Trinidad 70.27 56 P **P 00 27 36.8 +0.7**
baz=316,SNR=34
WB2 Warramunga Arr 70.28 199 IAmb IAmb 00 27 36.6
comp=Z,38nm,1.0s
WRA Warramunga Arr 70.28 199 P **P 00 27 35.5 -0.3**
comp=Z,23nm,0.9s,baz=19,slow=6.4,SNR=54
BGNE Belgrade 70.45 49 P **P 00 27 37.0 +0.2**
baz=318
ANMO Albuquerque 70.71 59 P **P 00 27 39.3 +0.6**
comp=Z,15nm,0.8s,baz=313,slow=7.2,SNR=12
ANMO Albuquerque 70.71 59 *ceP* **P 00 27 39.2 +0.5**
ANMO pmax pmax
comp=Z,27nm,1.3s
ANMO Albuquerque 70.71 59 P **P 00 27 39.3 +0.6**
ANMO Albuquerque 70.71 59 P **P 00 27 39.8 +1.1**
baz=316
FITZ Fitzroy Crossi 70.83 208 P **P 00 27 39.9 +0.7**
comp=Z,19nm,0.8s,baz=10,slow=4.3,SNR=13
COWI Conover 71.11 41 IAmb IAmb 00 27 41.1
comp=Z,26nm,0.7s
DZM Mont Dzumac 71.25 167 P **P 00 27 42.7 +1.0**
comp=Z,26nm,0.8s,baz=47,slow=9.4,SNR=14
DZM Mont Dzumac 71.25 167 IAmb IAmb 00 27 43.8
comp=Z,29nm,0.8s
DZM Mont Dzumac 71.25 167 P **P 00 27 42.9 +1.2**
NOUC Port Laguerre 71.26 167 P **P 00 27 42.9 +1.3**
SOC Sochi 71.40 315 *eP* P 00 27 35.3 -7.1
GNI Garni 71.54 310 P **P 00 27 45.5 +1.8**
comp=Z,7.4nm,0.7s,baz=313,slow=2.5,SNR=9.6
GNI LR LR 01 05 31.4
comp=Z,141nm,18.4s,baz=40,slow=41
GNI Garni 71.54 310 *ceP* **P 00 27 45.2 +1.6**
GNI pmax pmax
comp=Z,23nm,1.3s
GNI Garni 71.54 310 P **P 00 27 45.8 +2.2**
GNI Garni 71.54 310 P **P 00 27 45.4 +1.8**
CBKS Cedar Bluff 71.56 52 IAmb IAmb 00 27 44.2
comp=Z,49nm,0.8s
CBKS Cedar Bluff 71.56 52 P **P 00 27 43.5 0.0**
baz=318,SNR=9.1
SCHQ Schefferville 71.57 23 P **P 00 27 43.8 +0.5**
comp=Z,20nm,0.4s,baz=336,slow=5.7,SNR=117
SCHQ Schefferville 71.57 23 IAmb IAmb 00 27 44.8
comp=Z,79nm,1.2s
319A Douglas 71.63 63 IAmb IAmb 00 27 46.1
comp=Z,55nm,0.8s
OUENC Ouen Island, N 71.65 167 P **P 00 27 45.4 +1.4**
121A Cookes Peak, D 71.68 62 IAmb IAmb 00 27 46.9
comp=Z,39nm,1.2s
121A Cookes Peak, D 71.68 62 P **P 00 27 45.7 +1.2**
baz=316,SNR=13
RGN Rugen 71.93 337 *eP* **P 00 27 46.4 +1.0**
baz=25,slow=5.8
GKP Gorka Klasztor 71.98 334 *eP* **P 00 27 46.4 +0.7**
BEL Belsk 72.14 331 *eP* **P 00 27 47.7 +0.9**
SCIA State Center 72.50 46 P **P 00 27 49.5 +0.4**
baz=320,SNR=9.1
SORM Soroca 72.61 325 ⇑P **P 00 27 49.3 -0.2**
LVV L'vov 72.78 328 *eP* **P 00 27 50.2 -0.4**
KSU1 Kansas State U 72.96 50 IAmb IAmb 00 27 52.0
comp=Z,42nm,1.1s
KSU1 Kansas State U 72.96 50 P **P 00 27 51.1 -0.7**
baz=319,SNR=8.2
JFWS Jewell Farm 73.11 43 P **P 00 27 52.1 -0.5**
baz=322
PALK Pallekele 73.17 262 P **P 00 27 53.7 +0.3**
comp=Z,12nm,1.0s,baz=82,slow=11,SNR=4.2
PALK Pallekele 73.17 262 IAmb IAmb 00 27 56.7
comp=Z,13nm,0.9s
BSEG Bad Segeberg 73.24 338 *eP* **P 00 27 53.7 +0.5**
comp=Z,22nm,0.8s,baz=25,slow=5.8
PURM Purcari 73.33 323 ⇓P **P 00 27 54.0 +0.2**
KWP Kalwaria Pacla 73.40 329 *eP* **P 00 27 54.9 +0.7**
AMTX Amarillo 73.43 56 P **P 00 27 55.5 +0.7**
baz=318
MILM Milestii Mici 73.43 324 ⇑P **P 00 27 54.4 0.0**
MSTX Muleshoe 73.50 57 IAmb IAmb 00 27 56.6
comp=Z,70nm,1.1s
MSTX Muleshoe 73.50 57 P **P 00 27 55.8 +0.6**
baz=318,SNR=17
HLG Helgoland 73.59 340 *eP* **P 00 27 56.0 +0.8**
comp=Z,231nm,1.0s,baz=25,slow=5.8
EIDS Eidsvold 73.60 182 P **P 00 27 56.2 +0.7**
RUE Ruedersdorf 73.66 336 *eP* **P 00 27 56.0 +0.5**
RUE Ruedersdorf 73.66 336 *eP* **P 00 27 56.4 +0.8**
comp=Z,43nm,0.8s,baz=25,slow=5.8
MNTX Cornudas Mount 73.68 61 P **P 00 27 56.8 +0.7**
baz=317,SNR=21
KAN05 Bluff City Nor 73.81 52 IAmb IAmb 00 27 56.9
comp=Z,32nm,0.7s
KAN01 Argonia South 73.84 52 IAmb IAmb 00 27 57.5
comp=Z,38nm,0.6s
OJC Ojcow 73.86 331 *eP* **P 00 27 57.4 +0.6**
OK032 Salt Plains WL 73.87 52 IAmb IAmb 00 27 58.8
comp=Z,36nm,1.0s
AS31 Alice Springs 73.98 199 pP pP 00 28 35.9 +1.9
ASAR Alice Springs 73.98 199 P **P 00 27 58.4 +0.6**
comp=Z,9.0nm,0.8s,baz=14,slow=5.5,SNR=63
LEOM Leova 74.02 324 ⇑P **P 00 27 59.0 +1.2**
GLMI Grayling 74.05 39 P **P 00 27 58.6 +0.6**
baz=324,SNR=7.8
KAN13 South Haven SW 74.09 52 IAmb IAmb 00 27 59.0
comp=Z,50nm,1.2s
BURAR Bucovina Array 74.22 326 ⇓P **P 00 27 59.4 +0.3**
NIE Niedzica 74.39 330 *eP* **P 00 28 01.8 +1.8**
UZH Uzhgorod 74.39 329 *c i P* **P 00 27 59.9 -0.1**
UZH *e* 00 28 42.4
KSP Ksiaz 74.40 333 *eP* **P 00 28 00.7 +0.7**
BIR Birlad 74.43 324 ⇑P **P 00 28 01.7 +1.4**
CRVS Cervenica-Dubn 74.44 329 *eP* **P 00 28 01.0 +0.7**
CRVS pmax pmax
comp=Z,18nm,0.8s
CRVS Cervenica-Dubn 74.44 329 *eP* **P 00 28 01.0 +0.7**
FLTG Flechtingen 74.47 337 *eP* **P 00 28 00.7 +0.4**
comp=Z,25nm,0.8s,baz=25,slow=5.8
TESR Tescani 74.60 325 ⇑P **P 00 28 01.8 +0.5**
VLDR Vladesti 74.60 324 ⇑P **P 00 28 02.3 +1.1**
NRDL Niedersach Rie 74.61 338 *eP* **P 00 28 01.9 +0.8**
comp=Z,18nm,0.8s,baz=25,slow=5.8
EKA Eskdalemuir Ar 74.65 346 P **P 00 28 01.4 +0.1**
comp=Z,35nm,0.8s,baz=24,slow=5.6,SNR=59
VARL Varlezi 74.65 324 ⇑P **P 00 28 02.5 +1.0**
OSTC Ostas 74.67 333 ⇓*eP* **P 00 28 02.2 +0.6**
GHRR 74.69 324 ⇓P **P 00 28 02.7 +1.0**
CHVC Chvalec 74.69 333 *eP* **P 00 28 02.3 +0.6**
TRPA Tarpa 74.74 328 ⇑P **P 00 28 03.1 +1.2**
SCTR Scanteiesti 74.78 324 ⇑P **P 00 28 02.9 +0.7**
UPC Upice 74.78 333 *eP* **P 00 28 03.0 +0.8**
UPC Upice 74.78 333 ⇓*eP* **P 00 28 03.0 +0.8**
BMR Baia Mare 74.79 328 ⇑P **P 00 28 03.1 +0.8**
ASSE Asse, Remlinge 74.80 337 *eP* **P 00 28 02.7 +0.6**
comp=Z,8.7nm,0.9s,baz=25,slow=5.8
RMQ Roma 74.80 184 P **P 00 28 03.5 +1.1**
TATR Tatarca 74.82 324 ⇑P **P 00 28 03.4 +1.0**
DPC Dobruska-Polom 74.82 333 ⇓*i P* **P 00 28 03.4 +0.9**
DPC Dobruska-Polom 74.82 333 ⇓*i P* **P 00 28 03.4 +0.9**
GIUM Giurgiulesti 74.85 323 ⇓P **P 00 28 03.1 +0.4**
TLCR 74.86 323 ⇑P **P 00 28 03.1 +0.4**
LANS Liptovska Anna 74.89 331 *eP* **P 00 28 04.5 +1.6**
LANS pmax pmax
comp=Z,19nm,0.8s
LANS Liptovska Anna 74.89 331 *eP* **P 00 28 04.5 +1.6**
CLL Collm 74.92 336 ⇓*i P* **P 00 28 03.1 +0.1**
CLL pmax pmax
comp=Z,80nm,0.9s
CLL Collm 74.92 336 ⇓*i P* **P 00 28 03.1 +0.1**
comp=Z,80nm,0.9s
CLL Collm 74.92 336 *eP* **P 00 28 03.3 +0.3**
comp=Z,54nm,0.8s,baz=25,slow=5.8
CLL Collm 74.92 336 IAmb IAmb 00 28 04.1
comp=Z,68nm,0.8s
KRLC Kraliky 74.93 333 ⇓*i P* **P 00 28 03.8 +0.7**
KRLC Kraliky 74.93 333 ⇓*i P* **P 00 28 03.8 +0.7**
SLCR Slobozia Conac 74.94 324 ⇑P **P 00 28 04.3 +1.1**
PANC Panciu 74.94 324 ⇑P **P 00 28 04.0 +0.8**
MORC Moravsky Berou 74.96 332 ⇑P **P 00 28 04.5 +1.2**
MORC Moravsky Berou 74.96 332 *eP* **P 00 28 03.9 +0.6**
MORC Moravsky Berou 74.96 332 IAmb IAmb 00 28 05.0
comp=Z,35nm,0.9s
IZVR Izvoarele 74.97 324 ⇑P **P 00 28 04.2 +0.9**
BRG Berggiesshubel 75.05 335 ⇓*i P* **P 00 28 04.0 +0.2**
BRG Amp 00 28 06.2
comp=Z,27nm,1.0s
BRG Berggiesshubel 75.05 335 ⇓*i P* **P 00 28 03.9 +0.2**
BRG pmax pmax
comp=Z,27nm,1.0s
BRG Berggiesshubel 75.05 335 *eP* **P 00 28 04.2 +0.5**
comp=Z,14nm,0.8s,baz=25,slow=5.8
ODBI Odobesti 75.07 324 ⇑P **P 00 28 05.4 +1.5**
VRI Vrincioaia 75.11 325 ⇑P **P 00 28 05.1 +0.9**
WMOK Wichita Mounta 75.12 54 IAmb IAmb 00 28 05.8
comp=Z,65nm,1.1s
WMOK pP 00 28 42.5 +1.7
WMOK Wichita Mounta 75.12 54 P **P 00 28 04.9 +0.5**
baz=319,SNR=44
CFR Carcaliu 75.13 323 ⇑P **P 00 28 04.9 +0.6**
KECS Kecovo 75.14 330 *eP* **P 00 28 04.8 +0.5**
KECS pmax pmax
comp=Z,11nm,0.8s
KECS Kecovo 75.14 330 *eP* **P 00 28 04.8 +0.5**
CLZ Clausthal 75.14 337 *eP* **P 00 28 04.9 +0.7**
comp=Z,36nm,0.9s,baz=25,slow=5.8
PLOR Plostina 75.15 325 ⇑P **P 00 28 05.4 +0.9**
FBE Freiberg 75.17 335 *eP* **P 00 28 05.0 +0.6**
comp=Z,31nm,0.8s,baz=25,slow=5.8
PVCC Panska Ves 75.18 334 ⇓*i P* **P 00 28 05.2 +0.7**
PVCC Panska Ves 75.18 334 ⇓*i P* **P 00 28 05.2 +0.7**
QLP Quilpie 75.24 189 P **P 00 28 05.6 +0.7**
OZUR 75.28 325 ⇑P **P 00 28 06.6 +1.4**
TPGR Topolog 75.28 323 ⇑P **P 00 28 06.2 +1.0**
IZAB Izabela 75.32 330 *eP* **P 00 28 06.3 +1.0**
COVR Voineasa-Covas 75.33 325 ⇑P **P 00 28 06.7 +1.2**
NEUB Neuenburg 75.35 336 *eP* **P 00 28 06.2 +0.8**
baz=25,slow=5.8
IBBN Ibbenburen 75.36 339 *eP* **P 00 28 06.0 +0.6**
comp=Z,30nm,0.8s,baz=25,slow=5.8
IBBN epP **PcP 00 28 23.7 +5.8**
HDIL Hopedale 75.40 44 IAmb IAmb 00 28 06.9
comp=Z,71nm,0.8s
HDIL Hopedale 75.40 44 P **P 00 28 06.1 +0.2**
baz=322,SNR=7.5
MESR Meseseni 75.43 328 ⇑P **P 00 28 07.3 +1.3**
BANOM Banah 75.50 293 P **P 00 28 07.3 +0.6**
SHME Shamm 75.50 293 P **P 00 28 06.8 +0.1**
GTTG Gottingen 75.51 337 *eP* **P 00 28 07.3 +0.9**
comp=Z,15nm,0.7s,baz=25,slow=5.8
GTTG epP **PcP 00 28 24.8 +6.1**
DOPR Dopca 75.54 325 ⇑P **P 00 28 07.6 +1.0**
CJR Cluj-Napoca 75.57 327 ⇑P **P 00 28 08.2 +1.3**
HARR Harsova 75.62 323 ⇑P **P 00 28 08.0 +0.9**
VRAC Vranov 75.66 332 ⇓P **P 00 28 08.2 +1.0**
VRAC Vranov 75.66 332 P **P 00 28 08.2 +1.0**
comp=Z,29nm,0.9s,baz=35,slow=4.7,SNR=37
VRAC Vranov 75.66 332 *eP* **P 00 28 08.2 +1.0**
VYHS Vyhne 75.67 331 *eP* **P 00 28 08.2 +0.9**
VYHS pmax pmax
comp=Z,19nm,0.9s
VYHS Vyhne 75.67 331 *eP* **P 00 28 08.2 +0.9**
PRU Pruhonice 75.67 334 *eP* **P 00 28 07.8 +0.5**
PRU Pruhonice 75.67 334 ⇓*eP* **P 00 28 07.8 +0.5**
TLBR Topalu 75.69 323 ⇑P **P 00 28 08.3 +0.8**
JAVC Velka Javorina 75.72 332 *eP* **P 00 28 09.4 +1.7**
MLR Muntele Rosu 75.72 325 ⇑P **P 00 28 09.4 +1.5**
MLR Muntele Rosu 75.72 325 P **P 00 28 08.4 +0.5**
comp=Z,30nm,0.7s,baz=324,slow=14,SNR=42
MLR Muntele Rosu 75.72 325 IAmb IAmb 00 28 10.2
comp=Z,35nm,0.9s
MDB Medias 75.77 326 ⇓P **P 00 28 08.1 +0.2**
ISR Istrita 75.81 324 ⇑P **P 00 28 09.7 +1.5**
PGOR Pogoanele 75.81 324 ⇑P **P 00 28 09.7 +1.6**
TUL1 Leonard 75.81 52 P **P 00 28 08.8 +0.5**
baz=320,SNR=27
DRGR 75.82 328 ⇑P **P 00 28 08.6 +0.3**
PSZ Piszkesteto 75.82 330 ⇑P **P 00 28 09.4 +1.1**
TANN Tannenbergstha 75.88 335 *eP* **P 00 28 09.0 +0.4**
comp=Z,9.4nm,0.7s,baz=25,slow=5.8
WERD Werda 75.89 336 *eP* **P 00 28 09.3 +0.7**
comp=Z,18nm,0.8s,baz=25,slow=5.8
MOX Moxa 75.90 336 *eP* **P 00 28 09.2 +0.6**
comp=Z,24nm,0.9s,baz=25,slow=5.8
KRUC Moravsky 75.94 332 *eP* **P 00 28 09.6 +0.8**
GUNZ Gunzen 75.96 336 *eP* **P 00 28 09.4 +0.5**
comp=Z,24nm,0.8s,baz=25,slow=5.8
WSAR Wadi Sarin 76.00 289 P **P 00 28 09.0 -0.6**
comp=Z,9.0nm,0.8s,baz=13,slow=11,SNR=2.6
WERN Wernitzgruen 76.02 335 *eP* **P 00 28 10.0 +0.8**
comp=Z,35nm,0.7s,baz=25,slow=5.8
NKC Novy Kostel 76.05 335 ⇓*i P* **P 00 28 10.0 +0.6**
NKC Novy Kostel 76.05 335 ⇓*i P* **P 00 28 10.0 +0.6**
SECR 76.06 325 ⇑P **P 00 28 10.3 +0.7**
PBCC Pribram 76.10 334 ⇓*i P* **P 00 28 10.2 +0.5**
SMOL Smolenice 76.10 332 *eP* **P 00 28 11.0 +1.2**
SMOL pmax pmax
comp=Z,14nm,1.0s
SMOL Smolenice 76.10 332 *eP* **P 00 28 11.0 +1.2**
VOIR 76.11 325 ⇑P **P 00 28 11.3 +1.4**
ILGA Ilgaz 76.13 317 IAmb IAmb 00 28 13.2
comp=Z,83nm,0.9s
ICOR Ion Corvin 76.15 323 ⇑P **P 00 28 11.5 +1.4**
UBBA Unterbreizbach 76.17 337 *eP* **P 00 28 10.5 +0.6**
comp=Z,9.7nm,0.7s,baz=25,slow=5.8
UMQ Umm Al-Quwin 76.18 293 P **P 00 28 10.8 +0.3**
BSZH Besenyszg 76.23 329 ⇓P **P 00 28 11.5 +1.0**
ABTX Abilene, Hawle 76.24 56 IAmb IAmb 00 28 12.3
comp=Z,36nm,0.9s
ABTX Abilene, Hawle 76.24 56 P **P 00 28 11.2 +0.4**
baz=319,SNR=9.3
LPIG La Paz 76.27 69 LR LR 00 59 33.6
comp=Z,89nm,20.1s,baz=318,slow=34
UOSS Minazif 76.27 292 P **P 00 28 11.0 -0.1**
MODS Modra-Piesok 76.27 332 *eP* **P 00 28 13.3 +2.5**
MODS pmax pmax
comp=Z,31nm,1.0s
MODS Modra-Piesok 76.27 332 *eP* **P 00 28 13.3 +2.5**
BUG Bochum--Univer 76.28 339 *eP* **P 00 28 11.3 +0.7**
comp=Z,27nm,0.9s,baz=25,slow=5.8
SULR 76.29 324 ⇑P **P 00 28 11.7 +0.9**
RASA Rasa 76.32 323 ⇓P **P 00 28 11.9 +0.9**
PSN Preselentsi 76.35 322 *eP* **P 00 28 12.0 +0.8**
MANZ Manzenberg 76.36 335 *eP* **P 00 28 11.7 +0.5**
comp=Z,4.0nm,0.8s,baz=25,slow=5.8
HATD Hatta, Dubai 76.40 292 P **P 00 28 12.4 +0.6**
TX32 Lajitas Array 76.42 61 IAmb IAmb 00 28 13.7
comp=Z,93nm,1.4s
TXAR Lajitas Array 76.42 61 P **P 00 28 12.4 +0.4**
comp=Z,29nm,0.7s,baz=297,slow=4.9,SNR=316
TXAR LR LR 01 02 51.2
comp=Z,115nm,20.0s,baz=287,slow=36
SRO Srobarova 76.44 331 *eP* **P 00 28 12.9 +1.3**
SRO pmax pmax
comp=Z,31nm,0.8s
SRO Srobarova 76.44 331 *eP* **P 00 28 12.9 +1.3**
CCM Cathedral Cave 76.44 47 P **P 00 28 11.6 -0.3**
CCM pmax pmax
comp=Z,49nm,1.0s
CCM Cathedral Cave 76.44 47 P **P 00 28 11.6 -0.3**
CCM IAmb IAmb 00 28 12.8
comp=Z,49nm,0.9s
CCM Cathedral Cave 76.44 47 P **P 00 28 11.8 0.0**
baz=322
SLM Saint Louis 76.47 46 IAmb IAmb 00 28 13.0
comp=Z,61nm,0.7s
HHAR Hobbs 76.48 50 IAmb IAmb 00 28 12.8
comp=Z,58nm,0.8s
ZST Bratislava 76.49 332 *eP* **P 00 28 13.0 +1.1**
ZST pmax pmax
comp=Z,62nm,1.0s
ZST Bratislava 76.49 332 *eP* **P 00 28 13.0 +1.1**
AAM Ann Arbor 76.51 40 IAmb IAmb 00 28 13.1
comp=Z,36nm,0.8s
AAM Ann Arbor 76.51 40 P **P 00 28 12.8 +0.7**
baz=325
ROTZ Rotzenmuhle 76.53 335 *eP* **P 00 28 12.8 +0.6**
comp=Z,6.2nm,0.8s,baz=25,slow=5.8
ASHO Ashiyiah 76.55 292 P **P 00 28 13.7 +0.9**
SFIN Lafayette 76.55 43 P **P 00 28 12.7 +0.2**
baz=324
WRKA Warakurna 76.63 203 P **P 00 28 14.0 +1.1**
SIRR Siria 76.64 328 ⇑P **P 00 28 13.7 +0.8**
KHC Kasperske Hory 76.72 334 ⇓*i P* **P 00 28 14.3 +1.0**
KHC Kasperske Hory 76.72 334 ⇓*i P* **P 00 28 14.3 +1.0**
KHC Kasperske Hory 76.72 334 IAmb IAmb 00 28 15.2
comp=Z,44nm,0.8s
SGRR Singureni 76.78 324 ⇑P **P 00 28 13.7 +0.1**
CKRC Cesky Krumlov 76.78 334 ⇓*i P* **P 00 28 14.2 +0.6**
INKA Innaminka 76.79 192 P **P 00 28 14.5 +0.9**
SLBS Sierra La Lagu 76.80 69 P **P 00 28 15.5 +1.3**
GRF Grafenberg Arr 76.87 336 *eP* **P 00 28 15.1 +1.0**
comp=Z,65nm,0.7s,baz=25,slow=5.8
GRFO Grafenberg 76.87 336 P **P 00 28 15.4 +1.3**
GRFO pmax pmax
comp=Z,76nm,0.7s
GRFO Grafenberg 76.87 336 P **P 00 28 15.4 +1.3**
FVM French Village 76.90 47 IAmb IAmb 00 28 15.4
comp=Z,41nm,0.8s
HUMR Humele 76.91 325 ⇑P **P 00 28 14.1 -0.2**
WET Wettzell 76.91 335 *eP* **P 00 28 15.0 +0.7**
comp=Z,29nm,0.8s,baz=25,slow=5.8
BNN Bunyan 76.91 315 IAmb IAmb 00 28 17.2

comp=Z,50nm,0.9s
GEC2 GERESS Array S 76.94 334 eP P 00 28 15.2 +0.6
comp=Z,14nm,0.8s,baz=25,slow=5.8
GERES GERESS Array B 76.94 334 P P 00 28 15.1 +0.5
comp=Z,18nm,0.8s,baz=36,slow=5.5,SNR=69
U40A Yellville 76.97 49 P P 00 28 14.9 0.0
baz=321,SNR=60
GZR Gura Zlata 76.99 327 ⇑P P 00 28 15.5 +0.6
ASUD Al Ashush, Dub 77.04 292 P P 00 28 16.0 +0.6
DELO Deloro Mine 77.09 35 IAmb IAmb 00 28 15.5
comp=Z,28nm,0.8s
CONA Conrad Observa 77.11 332 i P P 00 28 16.8 +1.3
comp=Z,13nm,0.6s,SNR=8.2
TNS Taunus Mts 77.11 338 eP P 00 28 16.2 +0.7
comp=Z,31nm,0.8s,baz=25,slow=5.8
COPA Copaceanca 77.15 325 ⇑P P 00 28 16.0 +0.3
AHRW Bad Neuenahr-A 77.16 339 eP P 00 28 16.8 +1.2
comp=Z,39nm,1.0s,baz=25,slow=5.8
ALNE Al Ain 77.20 292 i P P 00 28 16.7 +0.4
SNR=6.9
BZS Buzias 77.22 328 ⇑P P 00 28 16.7 +0.6
BR131 Keskin Array S 77.24 317 d iP P 00 28 16.6 +0.1
BRTR Keskin Array B 77.24 317 P P 00 28 17.2 +0.7
comp=Z,14nm,0.8s,baz=66,slow=3.7,SNR=57
BEBN Eben Emael 77.25 340 P P 00 28 16.6 +0.5
comp=Z,78nm,0.8s
BTNL Ternell 77.34 339 P P 00 28 17.1 +0.5
comp=Z,39nm,0.8s
MEM Membach 77.34 339 P P 00 28 17.4 +0.8
comp=Z,59nm,0.8s
W39A Magazine 77.40 51 P P 00 28 17.3 +0.1
baz=321,SNR=18
OLIL Olney 77.41 45 IAmb IAmb 00 28 17.9
comp=Z,32nm,0.7s
BSTI Sart Tilman 77.47 340 ⇓P P 00 28 18.2 +0.8
comp=Z,14nm,0.8s
ZIMR 77.49 324 ⇑P P 00 28 17.7 +0.1
ANTO Ankara 77.50 317 P P 00 28 19.1 +1.3
ANTO pmax pmax
comp=Z,21nm,0.6s
ANTO Ankara 77.50 317 P P 00 28 19.1 +1.3
ANTO IAmb IAmb 00 28 19.6
comp=Z,21nm,0.6s
O48B Farmland 77.52 42 P P 00 28 17.8 -0.1
baz=325
VLAD Vladila 77.57 325 ⇑P P 00 28 18.4 +0.4
BHOU Houvegnez 77.58 339 ⇓P P 00 28 18.8 +0.8
comp=Z,20nm,0.8s
BHOU x x 00 28 20.3
BANR Banloc 77.59 328 ⇑P P 00 28 19.1 +1.0
SZH Strazhica 77.60 324 eP P 00 28 18.0 -0.2
OOD Oodnadatta 77.64 196 P P 00 28 19.1 +0.7
MOA Molln 77.67 333 i P P 00 28 19.4 +0.8
comp=Z,12nm,0.8s,SNR=5.8
BCLA Clavier 77.69 340 P P 00 28 18.9 +0.4
comp=Z,30nm,1.0s
BCLA pP pwP 00 28 56.9 -1.1
MORH Mrgy, Hungar 77.73 330 ⇓iP P 00 28 18.6 -0.3
BGES Gesves 77.77 340 P P 00 28 19.6 +0.5
comp=Z,25nm,0.9s
JCT Junction City 77.77 58 IAmb IAmb 00 28 20.7
comp=Z,60nm,1.1s
JCT Junction City 77.77 58 P P 00 28 19.7 +0.3
baz=320,SNR=16
ARSA Arzberg 77.82 332 i P P 00 28 20.5 +1.1
comp=Z,6.1nm,0.6s,SNR=5.3
SNF Seneffe 77.83 340 P P 00 28 20.5 +1.2
comp=Z,38nm,0.6s
PBMO Poplar Bluff 77.85 48 IAmb IAmb 00 28 21.8
comp=Z,56nm,0.9s
PUNG Punghina 77.89 326 ⇑P P 00 28 20.0 +0.2
MDVR Moldovita 77.90 327 ⇑P P 00 28 19.9 -0.1
BMRD Maredsous 77.92 340 P P 00 28 20.5 +0.6
comp=Z,31nm,1.0s
MEDO Medina 77.92 36 IAmb IAmb 00 28 21.0
comp=Z,97nm,1.2s
WHTX Lake Whitney, 77.92 55 IAmb IAmb 00 28 21.7
comp=Z,74nm,0.8s
WHTX Lake Whitney, 77.92 55 P P 00 28 20.8 +0.6
baz=320,SNR=11
RCHB Rochefort 77.95 340 P P 00 28 20.3 +0.3
comp=Z,22nm,1.0s
MIAR Mount Ida 78.01 51 IAmb IAmb 00 28 22.0
comp=Z,69nm,0.8s
MIAR Mount Ida 78.01 51 P P 00 28 21.1 +0.4
baz=321,SNR=31
LONY Lake Ozonia 78.13 33 P P 00 28 20.5 -0.6
baz=330,SNR=5.3
DOU Dourbes 78.15 340 P P 00 28 21.1 0.0
comp=Z,9.9nm,0.8s
ERPA Erie 78.19 38 P P 00 28 21.9 +0.4
baz=327
WLF Walferdange 78.19 339 eP P 00 28 22.6 +1.2
comp=Z,13nm,0.9s,baz=25,slow=5.8
WLF Walferdange 78.19 339 P P 00 28 22.3 +0.9
comp=Z,13nm,1.1s
RJOB Jochberg 78.20 334 eP P 00 28 22.3 +0.7
comp=Z,20nm,0.8s,baz=25,slow=5.8
W41B Gary Mavity, V 78.20 50 P P 00 28 21.7 0.0
baz=322,SNR=37
FUR Furstenfeldbru 78.25 335 eP P 00 28 22.6 +0.9
comp=Z,41nm,0.8s,baz=25,slow=5.8
FRGS Fruska Gora 78.25 328 ⇓P P 00 28 21.6 -0.2
FRGS Fruska Gora 78.25 328 ⇓iP P 00 28 21.2 -0.6
P49A Miami Univ. Ec 78.31 42 P P 00 28 22.2 0.0
baz=325,SNR=9.7
X40A Basin Creek Fa 78.44 51 P P 00 28 23.3 +0.3
baz=322,SNR=23
EDRB Edirne 78.47 322 P P 00 28 23.5 +0.5
M53A WI Miller and 78.47 38 P P 00 28 23.4 +0.3
baz=327,SNR=8.2
SOKA Soboth 78.48 332 i P P 00 28 24.0 +0.9
comp=Z,14nm,0.6s,SNR=12
PERS Pernice 78.49 332 i P P 00 28 23.7 +0.5
MMNY Mt. Morris Dam 78.50 36 IAmb IAmb 00 28 23.8
comp=Z,53nm,0.7s
ACSO Alum Creek Sta 78.50 41 IAmb IAmb 00 28 24.4
comp=Z,56nm,1.1s
ACSO Alum Creek Sta 78.50 41 P P 00 28 23.5 +0.3
baz=326,SNR=11
WVNY West Valley, N 78.50 37 IAmb IAmb 00 28 24.2
comp=Z,75nm,1.1s
ALLY Alegheny Colle 78.51 38 IAmb IAmb 00 28 24.6
comp=Z,71nm,0.8s
KALN Kalnik 78.52 331 P P 00 28 22.6 -0.7
ARMA Armidale 78.62 182 P P 00 28 25.1 +1.2
LOBO Lobor 78.62 331 P P 00 28 23.6 -0.2
KBA Koelnbreinsper 78.64 333 i P P 00 28 25.6 +1.5
comp=Z,46nm,0.7s,SNR=22
WCI Wyandotte Cave 78.65 44 P P 00 28 24.5 +0.4
WCI pmax pmax
comp=Z,90nm,0.9s
WCI Wyandotte Cave 78.65 44 P P 00 28 24.5 +0.4
WCI Wyandotte Cave 78.65 44 P P 00 28 24.6 +0.5
baz=324
GNAR Gosnell 78.69 48 P P 00 28 25.2 +0.9
OBKA Obir 78.78 332 eP P 00 28 25.4 +0.6
comp=Z,9.4nm,0.6s
DIM Dimitrovgrad 78.78 323 eP P 00 28 25.0 +0.3
M54A Oil Creek Stat 78.83 38 IAmb IAmb 00 28 26.1
comp=Z,67nm,1.1s
M54A Oil Creek Stat 78.83 38 P P 00 28 25.2 +0.2
baz=327,SNR=6.8
BFO Black Forest 78.89 337 P P 00 28 25.7 +0.4
BFO pmax pmax
comp=Z,26nm,0.9s
BFO Black Forest 78.89 337 eP P 00 28 26.0 +0.7
comp=Z,19nm,0.9s,baz=25,slow=5.8
BFO Black Forest 78.89 337 P P 00 28 25.7 +0.4
BOVS Bovan 78.89 326 ⇑P P 00 28 25.1 -0.2
PGB Panagyurishte 78.90 324 eP P 00 28 25.0 -0.5
WATA Walderalm 78.92 335 i P P 00 28 26.6 +1.1
comp=Z,49nm,1.1s,SNR=18
MYKA Terra Mystica 78.95 333 i P P 00 28 26.3 +0.6
comp=Z,9.7nm,0.7s,SNR=5.1
WTTA Wattenberg 78.96 335 i P P 00 28 27.1 +1.2
comp=Z,53nm,0.6s,SNR=22
RETA Reutte 79.01 335 i P P 00 28 26.9 +1.0
comp=Z,25nm,0.7s,SNR=8.4
UBR Ueberruh 79.01 336 eP P 00 28 26.7 +0.7
comp=Z,11nm,0.7s,baz=25,slow=5.8
GCIS Gornji Cirnik 79.02 331 i P P 00 28 26.3 +0.3
VT1 Waterbury 79.03 32 IAmb IAmb 00 28 27.3
comp=Z,31nm,0.7s
MOTA Moosalm 79.04 335 i P P 00 28 27.2 +0.9
comp=Z,40nm,0.8s,SNR=18
CRES Cresnjev 79.11 332 ⇓iP P 00 28 26.6 +0.1
DIVS Divibare 79.11 328 ⇓iP P 00 28 26.6 0.0
SQTA Sankt Quirin 79.12 335 i P P 00 28 27.7 +1.0
comp=Z,30nm,0.9s,SNR=14
N54A Moraine State 79.15 38 IAmb IAmb 00 28 28.1
comp=Z,79nm,1.1s
N54A Moraine State 79.15 38 P P 00 28 27.1 +0.3
baz=327,SNR=12
ABTA Abfaltersbach 79.18 334 i P P 00 28 27.2 +0.2
comp=Z,8.6nm,0.8s,SNR=6.4
VTS Vitosha 79.20 325 ⇑P P 00 28 28.2 +1.0
VTS Vitosha 79.20 325 IAmb IAmb 00 28 28.8
comp=Z,37nm,0.7s
VTS Vitosha 79.20 325 eP P 00 28 27.0 -0.2
LJU Ljubljana 79.20 332 eP P 00 28 27.1 +0.1
LJU Ljubljana 79.20 332 i P P 00 28 26.9 -0.2
O53A New Philadelph 79.24 39 P P 00 28 27.5 +0.2
baz=327,SNR=19
ECH Echery 79.29 338 IAmb IAmb 00 28 28.9
comp=Z,30nm,0.9s
P52A Corning 79.36 40 P P 00 28 27.6 -0.3
baz=326,SNR=8.7
MRAK Mrakovica 79.36 330 eP P 00 28 27.5 -0.5
MZR Muzera 79.38 293 i P P 00 28 28.7 +0.4
SNR=18
LBNH Lisbon 79.40 31 P P 00 28 28.8 +0.7
baz=331
Z41A Richland Creek 79.42 51 IAmb IAmb 00 28 30.0
comp=Z,43nm,0.9s
Z41A Richland Creek 79.42 51 P P 00 28 29.2 +0.9
baz=322
DAVA Damuels 79.43 336 i P P 00 28 29.1 +0.7
comp=Z,26nm,0.8s,SNR=9.3
FETA Feichten 79.44 335 i P P 00 28 29.3 +0.8
comp=Z,15nm,0.9s,SNR=9.4
BLY Banja Luka 79.50 330 ⇓iP P 00 28 28.3 -0.3
CEY Cerknica 79.51 332 ⇓iP P 00 28 28.2 -0.5
BBLS Lazići 79.52 328 ⇓iP P 00 28 29.3 +0.5
ACCN Adirondack Com 79.53 33 IAmb IAmb 00 28 29.2
comp=Z,30nm,0.8s
RDO Rodhopi 79.55 323 P P 00 28 29.4 +0.5
ALN Alexandroupoli 79.55 322 P P 00 28 29.3 +0.4
GBRS Gornja Briga 79.58 332 i P P 00 28 29.2 +0.1
NATX Nacogdoches 79.61 53 P P 00 28 30.7 +1.3
baz=321,SNR=7.9
WVT Waverly 79.62 46 P P 00 28 29.7 +0.3
WVT pmax pmax
comp=Z,38nm,0.8s
WVT Waverly 79.62 46 P P 00 28 29.7 +0.3
WVT IAmb IAmb 00 28 30.7
comp=Z,38nm,0.8s
WVT Waverly 79.62 46 P P 00 28 29.8 +0.4
baz=324
833A Chaparral WMA, 79.64 59 P P 00 28 30.5 +0.9
baz=320,SNR=5.6
BINY Binghamton 79.69 35 P P 00 28 29.4 -0.3
baz=329
RUDO Rudo 79.75 328 eP P 00 28 29.3 -0.7
LCRK Leigh Creek 79.81 193 P P 00 28 30.7 +0.5
MGRS Mrkonjic Grad 79.83 330 ⇑iP P 00 28 31.4 +1.0
MMB Musomiste 79.89 324 eP P 00 28 31.0 +0.2
DAVOX Davos/Dischmat 79.90 336 P P 00 28 32.0 +1.0
comp=Z,28nm,0.7s,baz=14,slow=2.9,SNR=53
KKB Krupnik 79.90 325 eP P 00 28 31.0 +0.2
CMSA Cobar Meteorol 80.02 187 P P 00 28 32.5 +1.2
NVR Nevrokopi 80.04 324 P P 00 28 32.0 +0.4
OXF Oxford 80.15 48 P P 00 28 32.6 +0.4
baz=323,SNR=17
SMRN Sveta Marina 80.22 332 P P 00 28 30.4 -2.1
UPM Unac-Piva 80.28 328 eP P 00 28 32.4 -0.7
SSPA Standing Stone 80.28 37 P P 00 28 33.0 +0.1
SSPA IAmb IAmb 00 28 33.9
comp=Z,31nm,0.7s
SSPA Standing Stone 80.28 37 P P 00 28 33.3 +0.4
baz=328
RABC Rab 80.28 331 P P 00 28 30.7 -2.0
MCWV Mont Chateau 80.31 39 IAmb IAmb 00 28 34.6
comp=Z,73nm,0.8s
MCWV Mont Chateau 80.31 39 P P 00 28 33.8 +0.7
baz=327,SNR=13
O56A Blue Knob Stat 80.32 38 IAmb IAmb 00 28 34.2
comp=Z,72nm,1.1s
O56A Blue Knob Stat 80.32 38 P P 00 28 33.4 +0.2
baz=328,SNR=13
TUE Stuetta 80.33 336 IAmb IAmb 00 28 35.6
comp=Z,54nm,0.8s
SRS Serrai 80.34 324 P P 00 28 33.1 -0.1
CLTN Cedars of Leba 80.37 45 IAmb IAmb 00 28 34.8
comp=Z,61nm,0.8s
HKT Hockley 80.38 55 i P P 00 28 33.3 -0.2
HKT pmax pmax
comp=Z,15nm,1.3s
HKT Hockley 80.38 55 P P 00 28 34.3 +0.8
STIP Stip 80.39 325 ⇓iP P 00 28 32.7 -0.8
KIJV Kijevo 80.42 330 P P 00 28 30.9 -2.7
NVLJ Novalja 80.42 331 P P 00 28 31.9 -1.6
PLAL Pickwick Lake 80.43 47 IAmb IAmb 00 28 34.6
comp=Z,50nm,0.8s
SKO Skopje 80.43 326 ⇓iP P 00 28 34.2 +0.5
VAY Valandovo 80.56 325 ⇓iP P 00 28 34.8 +0.5
RICI Ricice 80.63 329 P P 00 28 32.6 -2.1
BRY Bratogost 80.67 328 eP P 00 28 34.5 -0.6
TEOL Teolo 80.69 334 IAmb IAmb 00 28 36.5
comp=Z,35nm,0.7s
LIA Limnos Island 80.75 322 P P 00 28 35.5 +0.2
STKA Stephens Creek 80.76 190 P P 00 28 35.1 -0.2
comp=Z,5.9nm,0.9s,baz=29,slow=5.7,SNR=7.8
SALO Salr 80.78 335 IAmb IAmb 00 28 36.6
comp=Z,38nm,0.8s
PDG Podgorica 80.83 327 ⇑P P 00 28 36.0 +0.2
PDG Podgorica 80.83 327 ⇓iP P 00 28 35.5 -0.2
PDG Podgorica 80.83 327 IAmb IAmb 00 28 36.4
comp=Z,36nm,0.8s
MAKA Makarska 80.85 329 P P 00 28 33.1 -2.8
DUGI Dugi Otok 80.88 331 P P 00 28 34.4 -1.6
N59A State Game Lan 80.88 36 IAmb IAmb 00 28 36.6
comp=Z,30nm,0.8s
N59A State Game Lan 80.88 36 P P 00 28 36.3 +0.2
baz=329,SNR=6.1
TREB Trebinje 80.90 328 eP P 00 28 34.2 -1.9
ZIRJ Zirje 80.98 330 P P 00 28 33.8 -2.8
STON Ston 80.99 329 P P 00 28 34.9 -1.6
HRV Adam Dziewonsk 81.05 32 P P 00 28 37.2 +0.3
baz=332
DRME Dracevica, Mon 81.07 327 ⇓iP P 00 28 36.6 -0.4
HCY Herceg Novi 81.08 328 eP P 00 28 35.8 -1.3
PAGS Pennsylvania G 81.09 37 IAmb IAmb 00 28 38.0
comp=Z,69nm,1.0s
TZTN Tazewell 81.29 43 IAmb IAmb 00 28 39.6
comp=Z,34nm,0.9s
TZTN Tazewell 81.29 43 P P 00 28 38.8 +0.5
baz=326,SNR=5.5
LEF Lefka 81.31 314 ⇑P P 00 28 39.1 +0.7
LSTV Lastovo 81.36 329 P P 00 28 35.6 -2.9
ELL Elmali 81.36 317 IAmb IAmb 00 28 40.7
comp=Z,38nm,0.7s
OHR Ohrid 81.42 326 i P P 00 28 38.7 -0.2
VBMS Vicksburg 81.42 50 P P 00 28 40.2 +1.2
baz=323,SNR=5.4
FNA Florina 81.48 325 P P 00 28 39.2 -0.1
PAL Palisades 81.51 34 P P 00 28 39.3 0.0
baz=330
TIR Tirane 81.56 327 IAmb IAmb 00 28 40.9
comp=Z,40nm,0.6s
CHOS Chios island 81.66 321 P P 00 28 40.3 0.0
SHAO Shalim 81.73 288 P P 00 28 41.0 +0.1
CPCT Cooper Cave 81.74 44 IAmb IAmb 00 28 41.7
comp=Z,40nm,0.9s
KZN Kozani 81.74 325 P P 00 28 40.3 -0.4
MMAI Mount Meron Ar 81.79 311 P P 00 28 42.4 +1.3
comp=Z,34nm,0.9s
MMAI comp=Z,79nm,18.2s,baz=216,slow=40 LR LR 01 10 44.3
BLA Blacksburg 82.12 41 IAmb IAmb 00 28 43.9
comp=Z,34nm,0.9s
BLA Blacksburg 82.12 41 P P 00 28 43.0 +0.3
baz=327,SNR=5.3
FORT Forrest 82.17 202 P P 00 28 42.9 +0.2
FORT IAmb IAmb 00 28 44.0
comp=Z,61nm,0.7s
FORT Forrest 82.17 202 P P 00 28 43.1 +0.4
KYMI Kymi, Euboea I 82.26 322 P P 00 28 42.8 -0.6
LSK Leskovik 82.33 325 P P 00 28 44.1 +0.3
MURB Monte Urbino 82.33 332 IAmb IAmb 00 28 46.1
comp=Z,36nm,1.0s
LRAL Lakeview Retre 82.53 47 IAmb IAmb 00 28 45.5
comp=Z,36nm,0.7s
LRAL Lakeview Retre 82.53 47 P P 00 28 44.7 -0.1
baz=324,SNR=16
NRCA Norcia 82.53 332 IAmb IAmb 00 28 46.5
comp=Z,43nm,1.0s
ARG Arkhangelos 82.59 318 P P 00 28 45.2 +0.1
JAN Janina 82.66 325 P P 00 28 44.6 -0.9
SSB Saint Sauveur 82.68 338 IAmb IAmb 00 28 47.4
comp=Z,63nm,1.4s
DION Dionisos Attik 82.80 322 P P 00 28 45.0 -1.2
BG3 Lake Jocassee 82.85 44 IAmb IAmb 00 28 47.9
comp=Z,62nm,0.9s
PTL Penteli 82.86 322 P P 00 28 45.4 -1.1
AQU L'Aquila 82.88 331 eP P 00 28 47.3 +0.7
SCTE Santa Cesarea 83.18 327 IAmb IAmb 00 28 48.5
comp=Z,35nm,0.7s
MATE Matera 83.30 328 ⇓P P 00 28 48.7 0.0
KMSC Kings Mountain 83.45 42 IAmb IAmb 00 28 50.5
comp=Z,37nm,0.8s
KMSC Kings Mountain 83.45 42 P P 00 28 49.6 0.0
baz=327,SNR=9.1
PAULI Pauline 83.50 43 IAmb IAmb 00 28 50.8
comp=Z,31nm,0.8s
RAYN Ar Rayn 83.76 299 P P 00 28 52.6 +1.2
RAYN pmax pmax
comp=Z,14nm,1.3s
RAYN Ar Rayn 83.76 299 P P 00 28 52.6 +1.2
RAYN Ar Rayn 83.76 299 i P P 00 28 52.1 +0.7
SNR=7.4
HODGE Hodges 83.79 44 IAmb IAmb 00 28 52.6
comp=Z,38nm,0.9s
DRO Drossia 83.80 324 P P 00 28 51.1 -0.2
GOGA Godfrey 83.91 45 IAmb IAmb 00 28 52.7
comp=Z,19nm,0.7s
GOGA Godfrey 83.91 45 P P 00 28 52.3 +0.4
baz=326,SNR=8.8
BRAL Brewton 84.01 49 P P 00 28 53.2 +0.7
BRAL Brewton 84.01 49 P P 00 28 54.1 +1.6
baz=325,SNR=6.2
VLS Valsamata 84.05 324 P P 00 28 51.9 -0.6
JSC Jenkinsville 84.20 43 P P 00 28 53.1 -0.3
JSC pmax pmax
comp=Z,37nm,0.9s
JSC Jenkinsville 84.20 43 P P 00 28 53.1 -0.3
JSC IAmb IAmb 00 28 54.4
comp=Z,37nm,0.9s
BIRD Birdtown, Kers 84.25 42 IAmb IAmb 00 28 54.8
comp=Z,45nm,1.0s
ZKR Zakros 84.36 319 P P 00 28 54.0 -0.2
ITM Ithomi 84.39 323 IAmb IAmb 00 28 54.2
comp=Z,32nm,0.8s
TIP Timpagrande 84.59 328 ⇑P P 00 28 55.9 +0.6
TIP Timpagrande 84.59 328 IAmb IAmb 00 28 56.5
comp=Z,45nm,1.4s
EIL Elat 84.72 310 P P 00 28 56.2 +0.1
comp=Z,16nm,0.6s,baz=51,slow=3.5
IDI Anoyia 84.78 320 P P 00 28 55.0 -1.4
comp=Z,19nm,0.6s,baz=28,slow=9.3,SNR=27
IDI Anoyia 84.78 320 P P 00 28 55.7 -0.7
CNNC Cliffs of the 84.87 40 IAmb IAmb 00 28 57.6
comp=Z,52nm,0.7s
CNNC Cliffs of the 84.87 40 P P 00 28 57.3 +0.6
baz=329
IMMV Iera Moni Meta 85.02 321 P P 00 28 57.3 -0.2
TIGA Tifton 85.48 46 P P 00 29 00.9 +1.1
baz=326,SNR=16
KLBR Kellerberrin 85.93 210 P P 00 29 01.9 +0.2
BRAT Ballarat 86.14 188 P P 00 29 04.3 +1.8
SOCY Socotra 87.14 285 IAmb IAmb 00 29 08.1
comp=Z,56nm,1.3s
NWAO Narrogin (SRO) 87.33 210 P P 00 29 08.7 +0.2
NWAO pmax pmax
comp=Z,25nm,0.8s
NWAO Narrogin (SRO) 87.33 210 P P 00 29 08.7 +0.2
NWAO IAmb IAmb 00 29 09.2
comp=Z,25nm,0.8s
KRP Karapiro 88.30 163 P P 00 29 19.9 +7.0
HIZ Hauiti 88.74 163 IAmb IAmb 00 29 16.5
comp=Z,26nm,0.9s
HIZ pwP 00 29 55.9 +1.5
ESDC Sonseca Array 89.91 343 P P 00 29 19.9 -1.0
comp=Z,2.3nm,0.9s,baz=357,slow=3.4,SNR=6.4
KEST Kesra 90.20 332 P P 00 29 22.1 -0.2
comp=Z,14nm,0.8s,baz=343,slow=2.2,SNR=16
KEST Kesra 90.20 332 IAmb IAmb 00 29 25.0
comp=Z,15nm,0.8s
TORD Torodi Ar. Bea 113.66 330 PKiKP PKiKP 00 35 00.1 +0.4
comp=Z,1.1nm,0.6s,baz=24,slow=1.2,SNR=5.5
DBIC Dimbokro 121.81 334 PKP PKPdf 00 35 15.0 -0.4
comp=Z,13nm,0.8s,baz=35,slow=2.2,SNR=12
TIC Toumodi 121.88 335 ePKP1 PKPdf 00 35 15.2 -0.4
KIC Kosan Boka 122.07 334 ePKP1 PKPdf 00 35 15.5 -0.5
comp=Z,15nm,0.6s
LIC Lamto 122.28 334 ePKP1 PKPdf 00 35 14.8 -1.5
comp=Z,27nm,0.8s
LSZ Lusaka 124.46 287 PKIKP PKiKP 00 35 20.9 +0.1
LSZ Lusaka 124.46 287 PKiKP PKiKP 00 35 20.9 +0.1
LPAZ La Paz 133.29 61 PKP PKPdf 00 35 37.7 -0.2
comp=Z,2.0nm,0.6s,baz=322,slow=1.3,SNR=7.5
BOSA Boshof 135.83 277 PKP PKPdf 00 35 41.6 -0.1
comp=Z,2.6nm,0.6s,baz=30,slow=2.5,SNR=3.7
PTLB Pontes e Lacer 137.54 50 PKPdf PKPdf 00 35 45.3 +0.3
QSPA South Pole Qui 138.28 180 PKhKP PKPpre 00 35 37.6
comp=Z,2.0nm,0.6s,baz=269,slow=6.2,SNR=2.0
QSPA South Pole Qui 138.28 180 PKPpre 00 35 37.9
H03N2 Juan Fernandez 138.51 89 T T 03 09 45.3
baz=309,slow=77,SNR=74
H03N1 Juan Fernandez 138.52 89 T T 03 09 42.0
baz=309,slow=77,SNR=98
H03N3 Juan Fernandez 138.52 89 T T 03 09 46.0
baz=309,slow=77,SNR=92
SYO Syowa Base 142.55 213 ⇑ePdiff Pdif 00 33 17.1 +2.2
SYO Syowa Base 142.55 213 ⇑epPdiff pPdif 00 33 57.4 +5.0
BDFB Brasilia 142.76 36 PKhKP PKPpre 00 35 50.7
comp=Z,18nm,0.9s,baz=335,slow=1.4,SNR=23
BDFB PKKP PKKPdf 00 45 08.7 +1.6
comp=Z,2.1nm,0.7s,baz=201,slow=6.7,SNR=3.0
BDFB Brasilia 142.76 36 PKIKP PKPdf 00 35 51.1 -3.6
BDFB Brasilia 142.76 36 PKPdf PKPdf 00 35 51.1 -3.6
AQDB Aquidauana 143.52 50 PKPdf PKPab 00 35 52.9 +0.5
ML02 Panimavida 144.87 86 PKPbc 00 35 55.9 -1.2
CPUP Villa Florida 147.36 58 PKP PKPdf 00 36 01.4 -0.8
comp=Z,18nm,0.8s,baz=326,slow=3.0,SNR=23
CPUP PKPbc PKPbc 00 36 04.8 +0.1
comp=Z,17nm,0.7s,baz=334,slow=2.8,SNR=16
PLCA Paso Flores 148.10 93 PKP PKPdf 00 36 02.3 -0.7
comp=Z,33nm,0.7s,baz=289,slow=3.1,SNR=101
PLCA PKPbc PKPbc 00 36 07.0 +0.5
comp=Z,33nm,0.7s,baz=277,slow=3.4,SNR=52
VNA2 Neumayer--Watz 155.80 195 PKPdf PKPdf 00 36 22.2 +8.7
baz=136,slow=0.7

NEIC ***30*** *00:22:23.8±2.0, 33°.18S±0°.08×176°.9W±0°.2, h10km±2km, mb4.4/19 Error ellipse: s-maj=23.4km s-min=12.6km az=106.0*

IDC ***30*** *00:22:31.0±1.2, 33°.05S×178°.38W, h0km, mb4.5/5, mb1 4.6/8, mb1mx4.1/50, mbtmp4.4/8, ML4.8/3, MS3.8/10, Ms1 3.8/10, ms1mx3.5/55, Error ellipse: s-maj=37.7km s-min=22.8km az=134.0*

NOU ***30*** *00:22:31.3, 33°.34S×177°.87W, h0km, mb4.8/9, South of Kermadec Islands*

WEL ***30*** *00:22:34.0±0.7, 33°S±7°×17°8W±1°5, h33km, M4.6/23, mB5.1/14, ML5.1/24, MLv4.9/23, Mw(mB)4.5/14, Error ellipse: s-maj=0.0km s-min=0.0km az=111.9*

ISC 30 00:22:32.8±0.8, 33°.12S±0°.06×177°.8W±0°.1, h34km, n117, σ1§81/143, mb4.7/10, MS3.8/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.85	359	P	Pn	00 23 28.0	-1.6
GLKZ				S	Sn	00 24 09.3	-4.5
RAO	Raoul Island	3.86	359	Pn	Pn	00 23 31.3	+1.5
	56nm,0.3s,baz=233,slow=20,SNR=1.6						
RAO				Sn	Sn	00 24 10.2	-3.8
	90nm,0.3s,baz=302,slow=19,SNR=1.9						

RAO	Raoul Island	3.86	359	Pn		Pn	00 23 25.3 -4.6
MXZ	Matakaoa Point	5.44	214	P		Pn	00 23 53.6 +2.1
MXZ				S		Sn	00 24 53.7 +0.8
MXZ	Matakaoa Point	5.44	214	Pn		Pn	00 23 51.3 -0.2
WMGZ	Waiomatatini S	5.60	212	P		Pn	00 23 53.2 -0.5
WMGZ				S		Sn	00 24 58.8 +2.0
PKGZ	Pakihiroa	5.81	214	P		Pn	00 23 57.4 +0.7
PKGZ				S		Sn	00 25 01.8 -0.3
HAZ	Te Kaha	5.85	217	P		Pn	00 23 57.0 -0.1
HAZ				S		Sn	00 25 04.1 +1.2
PUZ	Puketiti	5.88	212	P		Pn	00 23 56.9 -0.7
PUZ				S		Sn	00 25 02.9 -0.8
RUGZ	Raukumara Rang	6.06	216	P		Pn	00 24 01.0 +0.8
RUGZ				S		Sn	00 25 07.8 -0.6
TWGZ	Tauwhareparae	6.09	213	P		Pn	00 24 01.4 +1.0
TWGZ				S		Sn	00 25 08.7 -0.2
CNGZ	Carnagh Statio	6.24	210	P		Pn	00 24 02.0 -0.6
CNGZ				S		Sn	00 25 12.3 -0.4
WHRZ	Whale Island	6.35	220	P		Pn	00 24 06.1 +2.2
WHRZ				S		Sn	00 25 19.2 +4.0
TKGZ	Te Karaka	6.36	212	P		Pn	00 24 05.9 +1.8
TKGZ				S		Sn	00 25 15.8 +0.2
KUZ	Kuaotunu	6.41	234	P		Pn	00 24 05.4 +0.5
MWZ	Matawai	6.43	215	P		Pn	00 24 05.5 +0.5
MWZ				S		Sn	00 25 17.5 +0.3
OPRZ	Ohinepanea	6.57	223	P		Pn	00 24 08.8 +1.8
URZ	Urewera	6.57	217	Pn		Pn	00 24 07.0 0.0
	12nm,0.3s,baz=344,slow=1.4,SNR=81						
URZ				Sn		Sn	00 25 19.4 -1.4
	8.3nm,0.3s,baz=6.0,slow=19,SNR=2.0						
URZ	Urewera	6.57	217	P		Pn	00 24 06.9 -0.2
URZ				S		Sn	00 25 20.1 -0.7
URZ	Urewera	6.57	217	Pn		Pn	00 24 06.6 -0.5
URZ	Urewera	6.57	217	P		Pn	00 24 07.0 0.0
RAGZ	Rawiri	6.61	214	P		Pn	00 24 10.2 +2.6
RAGZ				S		Sn	00 25 20.9 -0.8
SNGZ	Shannon Statio	6.87	213	P		Pn	00 24 13.1 +1.9
SNGZ				S		Sn	00 25 27.5 -0.7
TARZ	Mount Tarawera	6.88	221	P		Pn	00 24 14.6 +3.3
TARZ				S		Sn	00 25 32.0 +3.6
RTZ	Ruatahuna	6.91	216	P		Pn	00 24 12.2 +0.4
RTZ				S		Sn	00 25 27.7 -1.5
MHGZ	Mahia Peninsul	6.94	209	P		Pn	00 24 12.4 +0.3
MHGZ				S		Sn	00 25 30.3 +0.6
TOZ	Tahuroa Road	7.13	228	P		Pn	00 24 16.9 +2.3
PRRZ	Plateau Road	7.13	220	P		Pn	00 24 16.7 +2.0
MTHZ	Maungataniwha	7.17	216	P		Pn	00 24 15.9 +0.7
MTHZ				S		Sn	00 25 33.7 -1.8
MRHZ	Matea Rd	7.36	218	P		Pn	00 24 19.2 +1.2
MRHZ				S		Sn	00 25 38.8 -1.6
NMHZ	Naumai	7.37	215	P		Pn	00 24 19.2 +1.0
NMHZ				S		Sn	00 25 40.5 -0.1
OUZ	Omahuta	7.41	251	Pn		Pn	00 24 20.3 +1.8
OUZ	Omahuta	7.41	251	P		Pn	00 24 19.2 +0.6
ARHZ	Aropaoanui	7.42	213	P		Pn	00 24 20.1 +1.5
ARHZ				S		Sn	00 25 42.2 +0.6
BKZ	Black Stump Fm	7.58	216	P		Pn	00 24 20.5 -0.5
BKZ				S		Sn	00 25 43.9 -1.8
BKZ	Black Stump Fm	7.58	216	Pn		Pn	00 24 20.4 -0.5
BKZ	Black Stump Fm	7.58	216	P		Pn	00 24 20.2 -0.7
MCHZ	McNeill Hill	7.70	213	P		Pn	00 24 22.4 -0.1
MCHZ				S		Sn	00 25 47.3 -1.3
RITZ	Rihia Road	7.76	219	P		Pn	00 24 28.1 +4.7
KWHZ	Kaweka Forest	7.81	215	P		Pn	00 24 23.9 -0.3
KWHZ				S		Sn	00 25 49.0 -2.5
TMVZ	Te Maari	7.95	219	P		Pn	00 24 26.7 +0.7
TMVZ				S		Sn	00 25 52.4 -2.3
NTVZ	North Tongarir	7.95	220	P		Pn	00 24 27.3 +1.2
NTVZ				S		Sn	00 25 54.9 +0.1
NNVZ	North Ngauruho	8.00	220	P		Pn	00 24 30.9 +4.0
KRHZ	Kereru	8.01	214	P		Pn	00 24 26.0 -0.9
KRHZ				S		Sn	00 25 51.5 -4.7
HIZ	Hauiti	8.01	226	Pn		Pn	00 24 28.1 +1.3
HIZ	Hauiti	8.01	226	P		Pn	00 24 26.6 -0.2
SNVZ	South Ngauruho	8.03	219	P		Pn	00 24 28.1 +0.9
BHHZ	Black Hill Sta	8.04	216	P		Pn	00 24 28.1 +0.8
BHHZ				S		Sn	00 25 53.2 -3.8
NGZ	Ngauruhoe	8.04	219	P		Pn	00 24 28.6 +1.2
PXZ	Pawanui	8.11	210	P		Pn	00 24 28.4 +0.3
MOVZ	Moawhango	8.13	218	P		Pn	00 24 29.1 +0.5
WNVZ	Wahianoa	8.16	219	P		Pn	00 24 29.8 +0.8
BFZ	Birch Farm	8.91	210	Pn		Pn	00 24 38.3 -0.8
BFZ	Birch Farm	8.91	210	P		Pn	00 24 37.8 -1.3
MSWZ	Moikau Station	9.94	212	Pn		Pn	00 24 54.0 +0.7
PLWZ	Palliser	10.07	211	Pn		Pn	00 24 54.0 -0.9
TUWZ	Tuamarina	10.56	216	Pn		Pn	00 24 58.8 -2.9
CMWZ	Cape Campbell	10.68	214	Pn		Pn	00 25 01.6 -1.7
NNZ	Nelson	10.69	218	Pn		Pn	00 25 02.7 -0.9
QRZ	Quartz Range	10.88	222	Pn		Pn	00 25 04.4 -1.7
QRZ	Quartz Range	10.88	222	P		Pn	00 25 05.0 -1.2
THZ	Tophouse	11.33	218	Pn		Pn	00 25 11.5 -0.9
THZ						Sn	00 27 11.9 -5.9
KHZ	Kahutara	11.51	214	Pn		Pn	00 25 12.4 -2.3
KHZ	Kahutara	11.51	214	P		Pn	00 25 14.0 -0.7
LTZ	Lake Taylor	12.40	216	Pn		Pn	00 25 25.8 -1.1
OXZ	Oxford	12.92	215	Pn		Pn	00 25 31.0 -3.0
MQZ	McQueen's Vall	12.93	212	Pn		Pn	00 25 32.0 -2.0
RPZ	Rata Peaks	13.69	216	Pn		Pn	00 25 43.0 -1.5
RPZ	Rata Peaks	13.69	216	P		Pn	00 25 43.8 -0.7
FOZ	Fox Glacier	14.20	219	Pn		Pn	00 25 49.3 -2.1
LBZ	Lake Benmore	14.61	216	Pn		Pn	00 25 54.5 -2.5
LBZ				IAmb		IAmb	00 26 02.8
	comp=Z,10.0nm,1.0s						
ODZ	Otahua Downs	14.88	214	Pn		Pn	00 25 58.7 -1.8
ODZ				IAmb		IAmb	00 26 03.3
	comp=Z,31nm,1.4s						
ODZ	Otahua Downs	14.88	214	P		Pn	00 26 00.6 0.0
WKZ	Wanaka	15.51	217	Pn		Pn	00 26 07.2 -1.7
WKZ				IAmb		IAmb	00 26 20.7
	comp=Z,48nm,1.4s						
MSVF	Nonsavu	15.77	345	Pn		Pn	00 26 12.6 +0.1
	comp=Z,0.3nm,0.3s,baz=187,slow=22,SNR=1.8						
MSVF	Nonsavu	15.77	345	Pn		Pn	00 26 09.7 -2.8
MLZ	Mavora Lakes	16.34	217	Pn		Pn	00 26 18.4 -1.2
MLZ				IAmb		IAmb	00 26 26.9
	comp=Z,21nm,1.4s						
PINNC	Pines Island,	16.69	305	Pn		Pn	00 26 24.2 +0.1
PINNC				IAmb		IAmb	00 26 32.9
	comp=Z,53nm,1.5s						
WHZ	Wether Hill Ro	16.79	216	Pn		Pn	00 26 21.5 -3.7
DCZ	Deep Cove	16.91	219			Pn	00 26 26.3 -0.4
DCZ				IAmb		IAmb	00 26 29.5
	comp=Z,25nm,1.3s						
OUENC	Ouen Island, N	17.24	304	P		P	00 26 34.6 +2.4
OUENC				IAmb		IAmb	00 26 35.7
	comp=Z,16nm,1.0s						
PYZ	Puysegur Point	17.62	218	Pn		Pn	00 26 32.6 -2.9
PYZ				IAmb		IAmb	00 26 33.5
	comp=Z,72nm,1.4s						
DZM	Mont Dzumac	17.74	304	P		Pn	00 26 37.9 +0.6
	comp=Z,0.2nm,0.3s,baz=123,slow=16,SNR=7.8						
DZM				LR		LR	00 32 19.7
	comp=Z,904nm,18.0s,baz=84,slow=34						
DZM	Mont Dzumac	17.74	304	eP		P	00 26 42.2 +4.3
	comp=Z,52nm,1.6s						
DZM				eLR		LR	00 30 45.0
	comp=Z,885nm,22.8s						
RAR	Rarotonga	19.93	58	LR		LR	00 35 32.2
	comp=Z,114nm,18.3s,baz=264,slow=38						
PPT2	Papeete2	29.72	66	eLR		LR	00 36 21.8
	comp=Z,164nm,23.0s						
PPT	Papeete	29.73	66	LR		LR	00 39 20.7
	comp=Z,73nm,19.1s,baz=238,slow=34						
STKA	Stephens Creek	34.10	261	P		P	00 29 13.4 -0.9
	comp=Z,4.2nm,0.9s,baz=104,slow=12,SNR=3.2						
STKA				LR		LR	00 42 24.2
	comp=Z,403nm,18.2s,baz=49,slow=36						
CTA	Charters Tower	34.47	283	P		P	00 29 17.0 -0.6
	comp=Z,4.2nm,0.5s,baz=124,slow=10,SNR=13						
CTA				LR		LR	00 40 59.3
	comp=Z,148nm,18.3s,baz=88,slow=33						
CTAO	Charters Tower	34.47	283	P		P	00 29 18.8 +1.2
CTAO				IAmb		IAmb	00 29 30.0
	comp=Z,7.7nm,0.8s						
PMG	Port Moresby	39.96	298	LR		LR	00 43 40.0
	comp=Z,135nm,20.1s,baz=70,slow=32						
COEN	Coen	40.23	289	P		P	00 30 07.0 +0.6
COEN				IAmb		IAmb	00 30 19.7
	comp=Z,9.8nm,1.0s						
TAOE	Nuku Hiva Isla	42.31	64	eLR		LR	00 42 16.4
	comp=Z,264nm,24.3s						
AS31	Alice Springs	43.18	270	P		P	00 30 30.5 -0.1
ASAR	Alice Springs	43.18	270	P		P	00 30 30.1 -0.6
	comp=Z,3.2nm,0.6s,baz=108,slow=7.7,SNR=24						
ASAR				PcP		PcP	00 32 21.5 +1.8
	comp=Z,0.3nm,0.4s,baz=120,slow=4.0,SNR=1.3						
ASAR				LR		LR	00 46 33.4
	comp=Z,79nm,20.0s,baz=106,slow=34						
ASAR	Alice Springs	43.18	270	P		P	00 30 29.9 -0.7
WB2	Warramunga Arr	44.40	275	P		P	00 30 40.2 -0.3
WRA	Warramunga Arr	44.41	275	P		P	00 30 39.6 -1.0
	comp=Z,4.9nm,0.4s,baz=115,slow=7.7,SNR=47						
WRA				LR		LR	00 47 40.6
	comp=Z,92nm,21.1s,baz=48,slow=34						
WRA	Warramunga Arr	44.41	275	P		P	00 30 40.3 -0.3
WB0	Warramunga Arr	44.45	275	P		P	00 30 40.6 -0.2
FORT	Forrest	45.55	258	P		P	00 30 48.1 -1.4
JAY	Jayapura	49.32	299	LR		LR	00 50 23.9
	comp=Z,109nm,18.3s,baz=342,slow=34						
KNRA	Kununurra	51.11	276	P		P	00 31 32.1 -0.4
KNRA				IAmb		IAmb	00 31 39.5
	comp=Z,14nm,1.0s						
FITZ	Fitzroy Crossi	52.55	272	P		P	00 31 42.2 -1.0
	comp=Z,3.4nm,0.8s,baz=135,slow=5.7,SNR=2.7						
MORW	Morawa	55.94	255	P		P	00 32 06.3 -1.4
BATI	Baumata	58.18	279	LR		LR	00 57 19.6
	comp=Z,125nm,19.3s,baz=72,slow=36						
NJ2	Nanjing	88.13	311	eP		P	00 35 19.5 -0.5
NJ2				pmax		pmax	
	comp=Z,11nm,0.5s						
PZH	PanZhiHua	96.69	297	P		P	00 35 59.8 -0.2
PZH				pmax		pmax	
	comp=Z,8.0nm,0.9s						
PZH				pmax		pmax	
	comp=Z,100nm,5.5s						
HHC	Hu-ho-hao-te	98.22	314	eP		P	00 36 04.5 -2.0
HHC				pmax		pmax	
	comp=Z,16nm,0.8s						
HHC				pmax		pmax	
	comp=Z,260nm,6.7s						
MKAR	Makanchi Array	119.61	309	PKP		PKiKP	00 41 21.3 +2.4
	comp=Z,0.2nm,0.5s,baz=170,slow=2.5,SNR=2.0						
AKTO	Aktyubinsk	136.01	310	PKP		PKiKP	00 41 52.4 +0.9
	comp=Z,6.9nm,0.9s,baz=207,slow=4.5,SNR=6.3						
ARCES	ARCESS Array B	141.27	347	PKP		PKiKP	00 42 01.3 -0.4
	comp=Z,4.4nm,0.9s,baz=90,slow=1.8,SNR=1.4						
FINES	FINESS Array B	147.74	339	PKPbc		PKPab	00 42 15.8 +0.2
	comp=Z,4.8nm,0.5s,baz=36,slow=3.5,SNR=47						
NOA	NORSAR Array B	151.46	351	PKPbc		PKiKP	00 42 25.1 +2.2
	comp=Z,1.8nm,0.6s,baz=14,slow=4.1,SNR=5.5						
AKASG	Malin Array Be	153.51	320	PKPbc		PKiKP	00 42 30.0 +2.6
	comp=Z,0.5nm,0.5s,baz=52,slow=2.6,SNR=2.0						
BRTR	Keskin Array B	153.93	294	PKPbc		PKiKP	00 42 31.3 +2.4
	comp=Z,1.3nm,0.5s,baz=94,slow=4.3,SNR=14						
BRTR				PKPab		PKPab	00 42 43.1 +0.9
	comp=Z,0.6nm,0.5s,baz=113,slow=3.6,SNR=4.0						
ESDC	Sonseca Array	171.80	35	PKP		PKPdf	00 42 42.3 +4.4
	comp=Z,0.5nm,0.8s,baz=356,slow=3.9,SNR=1.9						

SFS ***30*** *00:25:43.0, 35.°40N×3.°80W, ML2.5, ALBORAN SUR*
CNRM ***30*** *00:25:44.2, 35.°70N×3.°77W, h15km, ml2.8*
IGIL ***30*** *00:25:46.4, 35.°50N×3.°90W, h0km, ML2.2*
ISC 30 00:25:44.8±1.0, 35.°54N±0.°04×3.°84W±0.°04, h11km, n18, σ2°28/25, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.33	194	P	Pn	00 25 54.0	-1.5
AKLM	AKL	1.02	181	P	Pn	00 26 07.0	+1.8
AKLM	AKL	1.02	181	P	Pn	00 26 05.0	-0.2
CHAS	Isla Isabel II	1.20	107	P	Pn	00 26 05.1	-2.5
CHAS				S	Sb	00 26 19.9	-3.2
SMIR	Smir Dam	1.27	277	P	Pn	00 26 08.0	-0.4
SMIR	Smir Dam	1.27	277	P	Pn	00 26 08.0	-0.4
CEU	Ceuta	1.30	287	P	Pn	00 26 08.6	-0.2
CEU				S	Sb	00 26 21.0	-4.9
CHEFC	Chefchaouen	1.30	251	P	Pg	00 26 13.0	+3.2
CHEFC	Chefchaouen	1.30	251	P	Pg	00 26 10.0	+0.2
EMAL	Malaga-Limoner	1.31	339	P	Pn	00 26 08.3	-0.8
EMAL				S	Sb	00 26 22.3	-4.0
JBK	JBK	1.59	139	P	Pn	00 26 13.0	-0.1
LCRM	LCR	2.03	205	P	Pg	00 26 25.0	+1.3
IFR	Ifrane	2.28	208	P	Pn	00 26 23.2	+0.7
IFR				S	Sb	00 26 52.8	-1.4
MDT	Midelt	2.79	193	P	Pn	00 26 30.8	+1.4
MDT	Midelt	2.79	193	P	Pn	00 26 30.8	+1.4
MESJ	Messejana	4.21	304	eP	Pn	00 26 49.6	+0.8
MESJ				eS	Sn	00 27 35.8	-2.1
MESJ				IAML		00 27 39.0	
	comp=N,4.7nm,0.3s						
EVO	Evora	4.48	313	P	Pn	00 26 53.9	+1.2
EVO				S	Sn	00 27 44.6	-0.2
UCM	Universidad Co	4.79	5	P	Pn	00 26 59.8	+3.0
UCM				S	Sn	00 27 56.6	+4.3

IDC ***30*** *00:28:38.0±0.6, 40.°92N×127.°30W, h0km, mb4.5/34, mb1 4.6/41, mb1mx4.4/70, mbtmp4.5/41, ML3.6/7, MS4.2/8, Ms1 4.2/8, ms1mx3.7/61, Error ellipse: s-maj=14.6km s-min=8.0km az=27.0*
BJI ***30*** *00:28:37.0±0.0, 40.°90N×127.°30W, h10km, mb4.9/38, mB5.5/23, Ms5.1/8, Ms7 4.7/8*
MOS ***30*** *00:28:39.7±1.2, 40.°88N×127.°31W, h19km, mb5.2/44, Error ellipse: s-maj=7.1km s-min=5.7km az=111.8*
NEIC ***30*** *00:28:40.7, 40.°52N×127.°30W, h8km, Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr=2.01; Mθθ=0.44; Mϕϕ=1.57; Mrθ=0.07; Mθϕ=-0.58; Mϕr=-5.29; Fault plane solution: M0=5.63000×1016 NP1:ϕs=146.68000°, δ=11.03000°, λ=-120.51000°. NP2:ϕs=357.66000°, δ=80.51000°, λ=-84.35000°. Principal axes: T 5.4190, Plg35.0000°, Azm83.0000°; N 0.3996, Plg6.0000°, Azm177.0000°; P -5.8185, Plg54.0000°, Azm274.0000°;*
NCEDC ***30*** *00:28:40.7±5.3, 40.°52N±0.°07×127.°30W±0.°09, h10km±1km Error ellipse: s-maj=12.1km s-min=9.9km az=224.0*
ANF ***30*** *00:28:41.4±1.9, 40.°86N×127.°14W, h10km, ML4.1/13, Error ellipse: s-maj=21.3km s-min=7.3km az=69.0*
NEIC ***30*** *00:28:42.0±2.3, 40.°92N±0.°05×127.°21W±0.°08, h10km±1km, mb5.1/176, Mww5.1, Mwr5.1/10(NCEDC), Error ellipse: s-maj=11.1km s-min=8.3km az=252.0*
GCMT ***30*** *00:28:43.0±0.3, 40.°87N±0.°03×127.°40W±0.°02, h12km, MW5.1/113, Moment Tensor Solution. s28,c31; s113,c154; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=3.19±.12; Mθθ0.16±.14; Mϕϕ3.03±.09; Mrθ=1.02±.44; Mθϕ=-0.02±.10; Mϕr=3.93±.39; Best double couple: M0=5.11100×1016 NP1:ϕs=170.00000°, δ20.00000°, λ=-110.00000°. NP2:ϕs=11.00000°, δ71.00000°, λ=-83.00000°. Principal axes: T 4.9700, Plg26.0000°, Azm96.0000°; N 0.2830, Plg6.0000°, Azm189.0000°; P -5.2510, Plg63.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***30*** *00:28:45, 41.°00N×127.°14W, h12km, Moment Tensor Solution. Duration: 9s6 Moment tensor: Scale 1016Nm; Mrr=3.05; Mθθ0.36; Mϕϕ2.69; Mrθ0.94; Mθϕ0.53; Mϕr=3.79; Fault plane solution: M0=4.89000×1016 NP1: ϕs=204.00000°, δ21.00000°, λ=-59.00000°. NP2: ϕs=352.00000°, δ72.00000°, λ=-100.00000°. Principal axes: T 4.5776, Plg26.0000°, Azm91.0000°; N 0.5691, Plg10.0000°, Azm356.0000°; P -5.1467, Plg61.0000°, Azm246.0000°;*
ISC 30 00:28:41.4±0.7, 40.°95N±0.°05×127.°31W±0.°05, h18km±2km, h19km; pP-P, n552, σ1°43/538, mb5.0/159, MS4.3/14, 4C-2D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPM	Mount Pierce	2.48	101		Pn	00 29 19.2	-1.8
JCC	Jacoby Creek,	2.49	92		Pn	00 29 18.8	-2.1
JCC					Sn	00 29 47.3	-3.5
KRPM	Rodgers	2.49	84		Pn	00 29 19.9	-1.2
KBO	Bosley Butte	2.63	60		Pn	00 29 22.3	-0.8
KCRM	Chalk Rock	2.70	100		Pn	00 29 22.1	-1.9
KHMM	Horse Mountain	2.71	90		Pn	00 29 22.4	-1.8
KSXB	Camp Six Broad	2.73	70		Pn	00 29 23.6	-0.8
KMRM	Mail Ridge	2.83	104		Pn	00 29 24.5	-1.4
KEBM	Edson Butte	2.94	48		Pn	00 29 26.9	-0.3
KBSM	Bell Springs	3.01	109		Pn	00 29 26.4	-1.9
L02E	Cave Junction	3.03	65	P	Pn	00 29 28.2	-0.2
	baz=241,SNR=40						
KCPM	Cahto Peak	3.11	113		Pn	00 29 27.9	-1.8
K02D	Willamette Mer	3.23	56	P	Pn	00 29 30.6	-0.8
	baz=233,SNR=19						
J01E	Myrtle Point	3.35	48		Pn	00 29 32.4	-0.4
J01E	Myrtle Point	3.35	48	P	Pn	00 29 32.0	-0.8
	baz=225						
M02C	Callahan	3.39	81	P	Pn	00 29 33.3	-0.2
	baz=257,SNR=56						
N02D	Trinity Center	3.48	88	P	Pn	00 29 33.4	-1.4
	baz=264,SNR=48						
YBH	Yreka Blue Hor	3.55	76	Pn	Pn	00 29 34.8	-0.9
	17nm,0.3s,baz=278,slow=10,SNR=159						
YBH				Sn	Sn	00 30 16.4	-0.8
	baz=173,slow=23,SNR=1.5						
DBO	Dodson Butte	3.72	53		Pn	00 29 37.9	-0.2
L04D	Klamath Falls	3.96	70	P	Pn	00 29 42.2	+0.8
	baz=247,SNR=64						
I03D	Drain, OR	4.02	46	P	Pn	00 29 41.3	-0.7
	baz=224,SNR=6.3						
I02E	Swisshome, OR	4.06	38	Pn	Pn	00 29 42.9	+0.2
I02E	Swisshome, OR	4.06	38	P	Pn	00 29 42.2	-0.4
	baz=217						
GDXM	Geysers	4.08	120		Pn	00 29 42.2	-0.7
M04C	Macdoel	4.20	77	P	Pn	00 29 45.3	+0.7
	baz=255,SNR=92						
O03E	Paynes Creek	4.24	97	P	Pn	00 29 44.3	-0.9
	baz=275,SNR=16						
O03E				S	Sn	00 30 33.2	-1.1
	baz=275						
K04D	Chiloquin, OR	4.48	66	P	Pn	00 29 48.9	+0.4
	baz=245,SNR=12						
J04D	Umpqua Nationa	4.49	58		Pn	00 29 48.9	+0.1
J04D	Umpqua Nationa	4.49	58	P	Pn	00 29 49.7	+0.9
	baz=237,SNR=41						
BUCK	Buck Mountain	4.55	43		Pn	00 29 49.6	+0.2
I04A	Tendick Farm,	4.61	50	P	Pn	00 29 50.5	+0.3
	baz=230,SNR=11						
COR	Corvallis	4.68	38	P	Pn	00 29 51.8	+0.7
COR	Corvallis	4.68	38	Pn	Pn	00 29 51.8	+0.7
H04D	Lebanon	4.91	42	Pn	Pn	00 29 54.8	+0.6
H04D	Lebanon	4.91	42	P	Pn	00 29 55.1	+0.8
	baz=222,SNR=6.3						
J05D	Fort Rock, OR	5.08	61	P	Pn	00 29 57.0	+0.2
	baz=241,SNR=42						
K05A	Summer Lake	5.11	68		Pn	00 29 58.1	+0.9
G03D	McMinnville, O	5.19	33	Pn	Pn	00 30 00.2	+2.1
H04A	Detroit Lake	5.30	44		Pn	00 29 59.9	+0.2
I05D	Terrebonne, OR	5.55	50	P	Pn	00 30 03.5	+0.3
	baz=231,SNR=6.3						
HOOD	Mount Hood Mea	6.02	42		Pn	00 30 08.4	-1.2
F04A	Amboy	6.12	34		Pn	00 30 11.3	+0.4
G05D	Wamic, OR	6.13	44	P	Pn	00 30 12.5	+1.4
	baz=225						
E03A	Lebam	6.22	25	Pn	Pn	00 30 13.2	+1.0
F05D	White Salmon	6.51	39		Pn	00 30 18.1	+1.8
BBGB	Big Mountain B	6.56	130		Pn	00 30 15.1	-2.0
I07A	Izee	6.56	59		Pn	00 30 16.5	-0.6
E04D	Cinebar	6.57	30		Pn	00 30 19.2	+2.1
E04D	Cinebar	6.57	30	P	Pn	00 30 19.6	+2.5
	baz=211						
WVOR	Wild Horse Val	6.66	74	P	Pn	00 30 18.7	+0.3
WVOR	Wild Horse Val	6.66	74	Pn	Pn	00 30 18.7	+0.3
PMPB	Monarch Peak	6.95	131	Pn	Pn	00 30 20.4	-2.0
J08A	Circle Bar Ran	6.99	67		Pn	00 30 23.7	+0.7
F07A	Phinny Hill Vi	7.30	45	Pn	Pn	00 30 29.0	+2.0
D05A	Enumclaw	7.32	30		Pn	00 30 28.5	+1.2
MLAC	Mammoth, Mammo	7.36	114	P	Pn	00 30 30.6	+2.5
	baz=296						
NVAR	Mina Array Bea	7.38	107	Pn	Pn	00 30 27.6	-0.9
	0.3nm,0.3s,baz=280,slow=15,SNR=11						
NVAR	Mina Array Bea	7.38	107	Pn	Pn	00 30 28.2	-0.3
NV11	Mina Array Sit	7.49	107		Pn	00 30 29.6	-0.3
PAGB	Antelope Grade	7.61	131		Pn	00 30 28.7	-2.7
HAWA	Hanford	7.83	43		Pn	00 30 34.1	-0.3
LTY	Liberty	7.91	35		Pn	00 30 36.1	+0.6
SMMC	Simmler	8.05	132	P	Pn	00 30 35.5	-1.9
	baz=314,SNR=6.3						
SMMC				S	Sn	00 32 05.8	-2.2
	baz=314						
E08A	Dider Farm, El	8.14	44		Pn	00 30 39.2	+0.6
VES	Vestal, Richgr	8.22	126	P	Pn	00 30 39.4	-0.4
	baz=308,SNR=7.6						
PKM	Mcpherson Peak	8.46	133	P	Pn	00 30 41.6	-1.7
	baz=316,SNR=19						
PKM				S	Sn	00 32 15.5	-2.8
	baz=316						
D08A	Wollman Farm,	8.59	42	Pn	Pn	00 30 45.7	+1.0
E09A	Wood Farm, Sta	8.65	47	Pn	Pn	00 30 46.4	+0.8
GRAC	Grapevine Rang	8.69	114	P	Pn	00 30 50.7	+4.4
	baz=298,SNR=6.5						
ISA	Isabella, Lake	8.72	124	P	Pn	00 30 46.7	+0.1
ISA	Isabella, Lake	8.72	124	Pn	Pn	00 30 46.7	+0.1
ISA	Isabella, Lake	8.72	124	P	Pn	00 30 46.8	+0.1
	baz=308,SNR=24			

W13A	Hualapai Mount	12.08 115	Pn	Pn	00 31 34.3 +1.5
AHID	Auburn Hatcher	12.22 76		Pn	00 31 35.7 +1.0
QLMT	Earthquake Lak	12.27 66		Pn	00 31 35.6 +0.2
BOZ	Bozeman (W)	12.33 63	P	Pn	00 31 36.5 +0.3
BOZ	Bozeman (W)	12.33 63		Pn	00 31 36.5 +0.3
BOZ	Bozeman (W)	12.33 63	P	Pn	00 31 37.7 +1.6
	baz=252,SNR=8.4				
REDW	Red Top Meadow	12.45 73		Pn	00 31 41.1 +3.3
SNOW	Snow King Moun	12.53 73	Pn	Pn	00 31 40.1 +1.1
HRY	Holter Researc	12.56 58		Pn	00 31 40.7 +1.4
U15A	North Rim	12.57 106		Pn	00 31 41.8 +2.3
MOOW	Moose Ponds	12.57 72	Pn	Pn	00 31 40.5 +1.1
FLWY	Flagg Ranch	12.65 70		Pn	00 31 42.4 +1.9
LOHW	Long Hollow	12.65 72		Pn	00 31 41.7 +1.1
GLA	Glamis	12.70 124	P	Pn	00 31 40.1 -1.1
GLA	Glamis	12.70 124	Pn	Pn	00 31 40.1 -1.1
H17A	Grant Village	12.79 69		Pn	00 31 43.1 +0.7
LKWY	Lake	12.94 68	P	Pn	00 31 45.9 +1.4
LKWY	Lake	12.94 68	Pn	Pn	00 31 45.9 +1.4
Y14A	Wickenburg	13.34 117		Pn	00 31 51.3 +1.5
BW06	Boulder Array	13.36 76		Pn	00 31 52.2 +1.9
BW06	Boulder Array	13.36 76	P	Pn	00 31 55.3 +5.1
	baz=266,SNR=26				
PD31	Pinedale Array	13.36 76		Pn	00 31 52.7 +2.5
PDAR	Pinedale Array	13.36 76	Pn	Pn	00 31 52.4 +2.2
	0.1nm,0.3s,baz=277,slow=12,SNR=16				
113A	Mohawk Valley,	13.56 123	Pn	Pn	00 31 54.2 +1.4
WUAZ	Wupatki	13.64 108	Pn	Pn	00 31 56.0 +1.9
SFX	San Felipe	14.11 131	Pn	Pn	00 32 01.1 +0.8
X16A	Lo Mia Camp, P	14.15 112		Pn	00 32 03.6 +2.6
PV10	Paradox Valley	14.31 94		P	00 32 08.5 -1.9
PV23	Carpenter Ridg	14.31 94	P	P	00 32 08.3 -2.1
EGMT	Eagleton	14.37 55	P	P	00 32 11.3 +0.5
EGMT	Eagleton	14.37 55	P	P	00 32 12.1 +1.2
	baz=246				
O20A	White River Ci	14.52 87	P	P	00 32 13.7 +1.0
	baz=278,SNR=10				
214A	Organ Pipe Nat	14.70 123	Pn	Pn	00 32 09.5 +1.0
214A	Organ Pipe Nat	14.70 123	P	Pn	00 32 09.1 +0.6
	baz=310,SNR=7.0				
W18A	Petrified Fore	15.01 107	P	P	00 32 16.9 -1.2
CRAG	Craig	15.03 347	Pn	Pn	00 32 15.5 +2.9
MVCO	Mesa Verde	15.07 98	P	P	00 32 18.7 -0.2
	baz=289,SNR=13				
RWWY	Rawlins	15.12 81	Pn	Pn	00 32 13.1 -1.1
RWWY			IAmb	IAmb	00 32 23.5
	comp=Z,79nm,1.4s				
X18A	Snowflake	15.14 109	IAmb	IAmb	00 32 30.3
	comp=Z,91nm,1.4s				
K22A	Casper	15.59 77	IAmb	IAmb	00 32 49.0
	comp=Z,174nm,1.6s				
SMCO	Snowmass	15.67 90	P	Pn	00 32 21.9 +0.3
TUC	Tucson	15.80 118	P	Pn	00 32 24.0 +1.0
TUC			pmax	pmax	
	comp=Z,93nm,1.5s				
TUC	Tucson	15.80 118	Pn	Pn	00 32 24.0 +1.0
TUC	Tucson	15.80 118	P	P	00 32 26.7 -0.1
	baz=306				
WRAK	Wrangell Islan	15.83 350		Pn	00 32 24.3 +1.2
N23A	Red Feather La	16.15 83	P	Pn	00 32 28.6 +1.0
	baz=276,SNR=12				
S22A	4UR Ranch, Cre	16.16 95		Pn	00 32 28.0 +0.2
S22A	4UR Ranch, Cre	16.16 95	P	P	00 32 31.6 +0.6
	baz=286,SNR=30				
LAO	LASA Array	16.24 62	IAmb	IAmb	00 32 41.8
	comp=Z,364nm,1.9s				
ISCO	Idaho Springs	16.57 87	P	P	00 32 35.5 0.0
	baz=280,SNR=20				
SIT	Sitka	16.94 345	P	Pn	00 32 38.9 +1.7
SIT	Sitka	16.94 345	Pn	Pn	00 32 38.9 +1.7
Q24A	Divide	17.10 89		Pn	00 32 40.3 +0.5
Q24A	Divide	17.10 89	P	P	00 32 42.8 +1.4
	baz=282				
SDCO	Great Sand Dun	17.16 94	P	P	00 32 42.2 +0.2
SDCO			IAmb	IAmb	00 32 51.7
	comp=Z,336nm,1.9s				
SDCO	Great Sand Dun	17.16 94	P	P	00 32 44.0 +2.0
	baz=286,SNR=68				
319A	Douglas	17.38 118	P	P	00 32 46.7 +2.3
319A			IAmb	IAmb	00 32 56.2
	comp=Z,332nm,1.6s				
RSSD	Black Hills	17.43 72	P	Pn	00 32 42.6 -1.1
RSSD			pmax	pmax	
	comp=Z,51nm,1.6s				
RSSD	Black Hills	17.43 72	Pn	Pn	00 32 42.6 -1.1
ANMO	Albuquerque	17.49 103	P	P	00 32 47.3 +1.8
	comp=Z,0.1nm,0.3s,baz=300,slow=12,SNR=25				
ANMO	Albuquerque	17.49 103	P	P	00 32 47.4 +1.8
ANMO			pmax	pmax	
	comp=Z,31nm,1.2s				
ANMO	Albuquerque	17.49 103		P	00 32 47.4 +1.8
ANMO	Albuquerque	17.49 103	P	P	00 32 49.0 +3.5
	baz=295				
DLBC	Dease Lake	17.59 355	P	Pn	00 32 46.8 +1.3
	comp=Z,0.1nm,0.3s,baz=176,slow=10.0,SNR=6.5				
121A	Cookes Peak, D	17.73 112	P	P	00 32 53.3 +5.0
	baz=303,SNR=19				
DGMT	Dagmar	18.02 58	IAmb	IAmb	00 33 01.3
	comp=Z,309nm,1.9s				
T25A	Trinidad	18.18 95	P	P	00 32 56.2 +3.0
	baz=288,SNR=23				
BESE	Bessie Mountai	18.29 347	P	Pn	00 32 55.5 +1.5
KSCO	Kaye Shedlock'	19.00 88		Pn	00 33 03.3 +0.4
KSCO	Kaye Shedlock'	19.00 88	P	Pn	00 33 05.2 +2.3
	baz=282,SNR=18				
OGNE	Ogallala	19.08 82	P	Pn	00 33 04.4 +0.6
SKAG	Skagway	19.20 347		Pn	00 33 07.6 +2.6
MNTX	Cornudas Mount	19.89 111		P	00 33 13.0 +1.2
MNTX	Cornudas Mount	19.89 111	P	Pn	00 33 14.7 +1.2
	baz=303,SNR=42				
MSTX	Muleshoe	20.65 102	P	P	00 33 20.7 +0.6
HYT	Haines Junctio	20.87 346	P	P	00 33 24.4 +2.1
	baz=158				
MDND	Maddock	20.89 61	P	P	00 33 24.2 +1.6
AMTX	Amarillo	21.07 98	P	P	00 33 24.1 -0.6
N31M	Braeburn, Yuko	21.20 349	P	P	00 33 28.1 +2.3
	baz=162				
CBKS	Cedar Bluff	21.23 87	P	P	00 33 26.2 -0.1
CBKS			pmax	pmax	
	comp=Z,177nm,1.4s				
CBKS	Cedar Bluff	21.23 87	P	P	00 33 26.2 -0.1
CBKS			IAmb	IAmb	00 33 36.2
	comp=Z,177nm,1.4s				
CBKS	Cedar Bluff	21.23 87	P	P	00 33 28.2 +1.9
	baz=283,SNR=13				
FARO	Faro, Yukon	21.62 352	P	P	00 33 32.4 +2.1
	baz=168,SNR=6.8				
FFC	Flin Flon	21.73 42	P	P	00 33 32.5 +1.0
FFC			pmax	pmax	
	comp=Z,105nm,1.0s				
FFC	Flin Flon	21.73 42	P	P	00 33 32.5 +1.0
FFC			IAmb	IAmb	00 33 39.5
	comp=Z,105nm,0.9s				
MMPY	Sheldon Lake,	21.83 355	P	P	00 33 35.0 +2.5
	baz=172,SNR=6.6				
BGNE	Belgrade	21.91 79	P	P	00 33 34.5 +0.9
BGNE			IAmb	IAmb	00 33 42.1
	comp=Z,124nm,1.1s				
LPIG	La Paz	22.02 135	P	P	00 33 35.1 +0.3
	comp=Z,20nm,0.3s,baz=0.4,slow=6.6,SNR=4.5				
YUK3	Moose Creek	22.33 343	P	P	00 33 39.4 +1.4
	baz=153,SNR=12				
M30M	Minto, Yukon	22.39 348	P	P	00 33 40.2 +1.6
	baz=161,SNR=12				
TX31	Lajitas Ar. Si	22.46 114	P	P	00 33 39.7 0.0
TX31			IAmb	IAmb	00 33 44.5
	comp=Z,90nm,1.1s				
TX32	Lajitas Array	22.46 114	P	P	00 33 39.8 +0.2
TXAR	Lajitas Array	22.46 114	P	P	00 33 40.4 +0.7
	comp=Z,15nm,1.0s,baz=297,slow=5.5,SNR=40				
TXAR	Lajitas Array	22.46 114	P	P	00 33 39.6 -0.1
TXAR	Lajitas Array	22.46 114	P	P	00 33 39.6 -0.1
SLBS	Sierra La Lagu	22.55 134	P	P	00 33 40.9 +0.3
OK035	E0210 Rd and N	22.63 91	P	P	00 33 43.0 +1.7
HPIG		22.67 121	P	P	00 33 44.1 +2.0
HPIG			IAmb	IAmb	00 33 51.6
	comp=Z,145nm,1.8s				
BMRM	Bremner River	22.68 338	P	P	00 33 43.6 +2.0
BMRM			IAmb	IAmb	00 33 52.1
	comp=Z,90nm,1.4s				
EYAK	Cordova Ski Ar	22.68 336	P	P	00 33 43.9 +2.4
ECSD	EROS Data Cent	22.79 73	P	P	00 33 43.8 +0.8
ECSD	EROS Data Cent	22.79 73	P	P	00 33 43.6 +0.7
	baz=273,SNR=15				
YKA	Yellowknife Ar	22.88 15	P	P	00 33 43.0 -0.7
	comp=Z,11nm,0.9s,baz=204,slow=10,SNR=43				
YKA			LR	LR	00 42 09.6
	comp=Z,220nm,19.5s,baz=254,slow=35				
YKA	Yellowknife Ar	22.88 15	P	P	00 33 42.6 -1.1
YKA	Yellowknife Ar	22.88 15	P	P	00 33 42.6 -1.1
KAN16	Harper SW Stat	22.95 90	P	P	00 33 46.1 +1.5
KAN10	Anthony SW Sta	22.96 90	P	P	00 33 46.1 +1.3
OK032	Salt Plains WL	22.98 91	P	P	00 33 46.3 +1.3
OK032			IAmb	IAmb	00 33 59.0
	comp=Z,149nm,1.5s				
KAN12	Harper NE Stat	22.98 90	P	P	00 33 46.3 +1.3
KAN08	Anthony NE Sta	23.02 90	P	P	00 33 46.9 +1.5
KAN08			IAmb	IAmb	00 33 59.4
	comp=Z,140nm,1.4s				
KAN06	Argonia West S	23.10 90	P	P	00 33 47.8 +1.7
KAN05	Bluff City Nor	23.13 90	P	P	00 33 47.4 +0.9
DIV	Divide	23.14 337	P	P	00 33 48.1 +1.7
DIV			IAmb	IAmb	00 33 56.2
	comp=Z,65nm,1.4s				
M27K	Edge Creek, AK	23.16 343	P	P	00 33 47.7 +1.0
	baz=151				
N25K	Chitina, Valde	23.20 339	P	P	00 33 49.2 +2.2
N25K			IAmb	IAmb	00 34 01.0
	comp=Z,65nm,1.6s				
KAN01	Argonia South	23.20 90	P	P	00 33 48.5 +1.3
KAN17	Caldwell West	23.23 90	P	P	00 33 48.9 +1.3
KAN17			IAmb	IAmb	00 33 57.5
	comp=Z,110nm,1.1s				
OHAK	Old Harbor	23.33 323	P	P	00 33 51.0 +2.7
OHAK			IAmb	IAmb	00 33 58.2
	comp=Z,72nm,1.3s				
KDAK	Kodiak Island	23.33 325	P	P	00 33 47.3 -1.0
	comp=Z,7.3nm,0.9s,baz=135,slow=7.1,SNR=2.2				
KDAK	Kodiak Island	23.33 325	P	P	00 33 48.7 +0.4
KDAK			pmax	pmax	
	comp=Z,80nm,1.5s				
KDAK	Kodiak Island	23.33 325	P	P	00 33 48.7 +0.4
KDAK			IAmb	IAmb	00 33 57.7
	comp=Z,80nm,1.4s				
AGMN	Agassiz Nation	23.44 61	P	P	00 33 49.9 +0.4
AGMN			IAmb	IAmb	00 33 57.6
	comp=Z,91nm,1.1s				
AGMN	Agassiz Nation	23.44 61	P	P	00 33 50.6 +1.2
	baz=262,SNR=14				
M26K	Nabesna, AK	23.45 342	P	P	00 33 51.6 +2.1
	baz=149				
KAN13	South Haven SW	23.46 90	P	P	00 33 50.9 +1.0
KAN13			IAmb	IAmb	00 33 58.2
	comp=Z,51nm,1.1s				
KSU1	Kansas State U	23.52 84	P	P	00 33 52.1 +1.7
SEW	Seward	23.58 332	P	P	00 33 51.8 +1.1
SEW			IAmb	IAmb	00 33 59.8
	comp=Z,143nm,1.7s				
ABTX	Abilene, Hawle	23.59 102	P	P	00 33 51.5 +0.3
ABTX			IAmb	IAmb	00 33 59.1
	comp=Z,48nm,1.1s				
ULM	Lac du Bonnet	23.72 56	P	P	00 33 50.9 -1.4
	comp=Z,6.3nm,0.9s,baz=276,slow=9.1,SNR=5.1				
ULM	Lac du Bonnet	23.72 56	IAmb	IAmb	00 33 60.0
	comp=Z,67nm,1.5s				
BCAR	Beaver Creek A	23.76 344	P	P	00 33 54.5 +2.0
L27K	Beaver Creek,	23.77 344	P	P	00 33 54.3 +1.7
	baz=152				
M24K	Tolsona, Glenn	24.04 338	P	P	00 33 57.6 +2.4
M24K			IAmb	IAmb	00 34 04.4
	comp=Z,69nm,1.3s				
OK025	Westminster Rd	24.07 93	P	P	00 33 56.5 +0.9
OK025			IAmb	IAmb	00 34 05.5
	comp=Z,64nm,1.2s				
L26K	Log Cabin Wild	24.07 342	P	P	00 33 57.5 +2.0
	baz=150				
SCM	Sheep Creek Mo	24.16 337	P	P	00 33 57.8 +1.4
	baz=141				
OK033	Mehan	24.20 92	P	P	00 33 57.8 +0.9
DAWY	Dawson	24.21 347	P	P	00 33 58.4 +1.7
	baz=158,SNR=8.5				
OK031	S. Brethren Rd	24.31 92		P	00 33 58.5 +0.6
OK030	Cody Creek RV	24.36 92	P	P	00 33 59.5 +1.2
J29M	Klondike Camp	24.38 349	P	P	00 34 00.8 +2.5
	baz=160				
OK034	N. Norfolk Rd.	24.38 92		P	00 33 59.2 +0.7
SML	Sawmill	24.45 336	P	P	00 34 00.4 +1.4
	baz=139				
PMR	Palmer	24.54 335	P	P	00 34 01.0 +1.3
PMR			pmax	pmax	
	comp=Z,51nm,1.6s				
PMR	Palmer	24.54 335	P	P	00 34 01.0 +1.3
PAX	Paxson	24.55 340	P	P	00 34 02.1 +2.2
PAX			pmax	pmax	
	comp=Z,28nm,1.6s				
PAX	Paxson	24.55 340	P	P	00 34 02.1 +2.2
JCT	Junction City	24.56 106	IAmb	IAmb	00 34 09.7
	comp=Z,68nm,1.3s				
JCT	Junction City	24.56 106	P	P	00 34 01.6 +1.4
	baz=302,SNR=13				
DOT	Dot Lake	24.78 342	IAmb	IAmb	00 34 11.9
	comp=Z,64nm,1.7s				
RSO	Redoubt South	25.04 330	P	P	00 34 06.5 +2.1
SCRK	Sand Creek	25.04 343	P	P	00 34 05.7 +1.4
	baz=149				
TUL1	Leonard	25.12 91		P	00 34 06.3 +1.1
TUL1			IAmb	IAmb	00 34 15.2
	comp=Z,67nm,1.3s				
EGAK	Eagle	25.17 346	P	P	00 34 05.4 0.0
	baz=155				
I29M	Ogilvie Camp,	25.25 349	P	P	00 34 08.2 +2.0
I29M			IAmb	IAmb	00 34 15.8
	comp=Z,55nm,1.4s				
CHGN	Chignik	25.37 318	P	P	00 34 09.5 +2.2
CHGN			IAmb	IAmb	00 34 16.0
	comp=Z,79nm,1.2s				
P18K	Big Mountain,	25.39 326	P	P	00 34 09.2 +1.7
P18K			IAmb	IAmb	00 34 16.3
	comp=Z,67nm,1.3s				
SPMN	Marine on St.	25.44 69	P	P	00 34 09.6 +1.6
O19K	Port Alsworth	25.49 328	IAmb	IAmb	00 34 16.6
	comp=Z,62nm,1.0s				
O19K	Port Alsworth	25.49 328	P	P	00 34 09.5 +1.3
	baz=128,SNR=14				
SCIA	State Center	25.49 76	P	P	00 34 10.7 +2.2
SCIA			IAmb	IAmb	00 34 19.4
	comp=Z,70nm,1.4s				
WHTX	Lake Whitney,	25.52 101	P	P	00 34 09.9 +1.1
WHTX			IAmb	IAmb	00 34 19.8
	comp=Z,58nm,1.2s				
O18K	Koktuh Hills	25.65 327	P	P	00 34 11.5 +1.7
O18K			IAmb	IAmb	00 34 19.1
	comp=Z,73nm,1.4s				
N19K	Bonanza Creek	25.93 329	P	P	00 34 14.6 +2.2
N19K			IAmb	IAmb	00 34 22.9
	comp=Z,50nm,1.2s				
435B	Jarrell	26.02 103	P	P	00 34 14.1 +0.6
435B	Jarrell	26.02 103	P	P	00 34 15.4 +1.9
	baz=300				
833A	Chaparral WMA,	26.07 110	P	P	00 34 13.7 -0.2
833A	Chaparral WMA,	26.07 110	P	P	00 34 15.3 +1.4
	baz=305				
MCK	McKinley	26.10 338	P	P	00 34 14.7 +0.9
	baz=141				
HDA	Harding Lake	26.11 341	P	P	00 34 14.6 +0.7
	baz=145				
TRF	Thorofare Moun	26.28 337	P	P	00 34 17.4 +1.7
	baz=138				
EYMN	Ely	26.33 62	P	P	00 34 16.9 +0.8
EYMN			IAmb	IAmb	00 34 24.3
	comp=Z,105nm,1.6s				
HHAR	Hobbs	26.39 89	P	P	00 34 18.6 +1.9
HHAR			IAmb	IAmb	00 34 28.9
	comp=Z,64nm,1.5s				
ILAR	Eielson Array	26.40 341	P	P	00 34 16.3 -0.2
	comp=Z,5.2nm,1.0s,baz=159,slow=7.8,SNR=31				
ILAR			PcP	PcP	00 37 41.5 +0.1
	comp=Z,2.4nm,1.0s,baz=167,slow=3.0,SNR=5.2				
PPLA	Purkeypile	26.48 334	P	P	00 34 19.0 +1.6
	baz=135,SNR=9.7				
M19K	Big River Lodg	26.57 331	P	P	00 34 19.3 +1.2
	baz=130				
COLA	College	26.72 341	P	P	00 34 21.8 +2.5
COLA			pmax	pmax	
	comp=Z,83nm,2.0s				
COLA	College	26.72 341	P	P	00 34 21.8 +2.5
COLA			IAmb	IAmb	00 34 30.8
	comp=Z,83nm,1.9s				
TCOL	CIGO, UAF Yank	26.72 341	P	P	00 34 23.1 +3.8
TCOL			IAmb	IAmb	00 34 30.8
	comp=Z,82nm,1.9s				
L20K	Farewell, AK	26.77 333	P	P	00 34 21.2 +1.3
	baz=132				
NEA2	Nenana	26.81 339	P	P	00 34 21.6 +1.3
	baz=142,SNR=16				
CAST	Castle Rocks	26.82 335	P	P	00 34 20.5 +0.2
	baz=136				
L19K	White Mountain	26.92 331	P	P	00 34 22.3 +1.0
	baz=130,SNR=16				
BPAW	Bear Paw Mtn.	26.98 337	P	P	00 34 22.3 +0.6
	baz=138				
CHUM	Lake Minchumin	27.22 336	P	P	00 34 24.9 +1.0
	baz=136				
I23K	Minto, Yukon-K	27.33 340	IAmb	IAmb	00 34 37.2
	comp=Z,53nm,1.3s				
I23K	Minto, Yukon-K	27.33 340	P	P	00 34 25.9 +1.1
	baz=142,SNR=8.9				
MGMO	Mountain Grove	27.36 86	IAmb	IAmb	00 34 39.5
	comp=Z,47nm,1.4s				
K20K	Telida	27.42 334	P	P	00 34 26.7 +1.0
	baz=133				
JFWS	Jewell Farm	27.50 74	P	P	00 34 28.0 +1.4
JFWS			pmax	pmax	
	comp=Z,92nm,1.4s				
JFWS	Jewell Farm	27.50 74	P	P	00 34 28.0 +1.4
H24K	Noodor Dome	27.51 342	P	P	00 34 27.9 +1.4
	baz=145				
ZAIG	Zacatecas	27.60 124	P	P	00 34 29.2 +1.2
MLY	Manley	27.61 339	P	P	00 34 28.4 +1.0
	baz=140				
INK	Inuvik	27.62 355	P	P	00 34 26.6 -0.8
	comp=Z,5.4nm,1.1s,baz=180,slow=8.4,SNR=6.1				
INK	Inuvik	27.62 355	P	P	00 34 27.9 +0.5
	baz=170,SNR=6.8				
NATX	Nacogdoches	27.71 99	P	P	00 34 30.4 +1.7
HKT	Hockley	27.75 103	*i* P	P	00 34 30.1 +1.2
HKT			pmax	pmax	
	comp=Z,36nm,1.3s				
HKT	Hockley	27.75 103	P	P	00 34 30.3 +1.4
HKT			IAmb	IAmb	00 34 47.8
	comp=Z,91nm,1.8s				
TTA	Tatalina	27.81 332	P	P	00 34 32.6 +3.3
TTA			pmax	pmax	
	comp=Z,18nm,1.3s				
TTA	Tatalina	27.81 332	P	P	00 34 32.6 +3.3
CCM	Cathedral Cave	27.85 84	P	P	00 34 31.3 +1.5
CCM			pmax	pmax	
	comp=Z,43nm,1.5s				
CCM	Cathedral Cave	27.85 84	P	P	00 34 31.3 +1.5
CCM			IAmb	IAmb	00 34 37.2
	comp=Z,43nm,1.4s				
X40A	Basin Creek Fa	27.90 92	P	P	00 34 31.0 +0.8
	baz=293,SNR=10.0				
COWI	Conover	27.96 67	IAmb	IAmb	00 34 40.0
	comp=Z,70nm,1.5s				
WHAR	Wooly Hollow	28.00 90	P	P	00 34 32.4 +1.2
WHAR			IAmb	IAmb	00 34 41.1
	comp=Z,71nm,1.3s				
J20K	Nowinta River	28.00 335	P	P	00 34 32.1 +1.2
	baz=134				
I21K	Tanana	28.07 338	P	P	00 34 33.3 +1.8
	baz=138				
W41B	Gary Mavity, V	28.07 90	P	P	00 34 33.5 +1.7
W41B			IAmb	IAmb	00 34 47.6
	comp=Z,27nm,1.1s				
W41B	Gary Mavity, V	28.07 90	P	P	00 34 38.2 +6.4
	baz=292,SNR=8.2				
Z41A	Richland Creek	28.43 95	P	P	00 34 36.0 +1.0
FVM	French Village	28.49 84	P	P	00 34 37.2 +1.7
FVM			pmax	pmax	
	comp=Z,66nm,2.0s				
FVM	French Village	28.49 84	P	P	00 34 37.2 +1.7
FVM			IAmb	IAmb	00 34 50.2
	comp=Z,66nm,2.0s				
C36M	Paulatuk	28.51 2	P	P	00 34 35.8 +0.5
	baz=185,SNR=5.4				
LCAR	Lake Charles	28.57 88	P	P	00 34 36.6 +0.3
H21K	Melozitna Rive	28.65 338	P	P	00 34 38.0 +1.3
	baz=138				
PBMO	Poplar Bluff	28.87 86	P	P	00 34 39.4 +0.5
PBMO			IAmb	IAmb	00 35 27.8
	comp=Z,24nm,0.8s				
CCAR	Cane Creek	28.93 92	P	P	00 34 41.2 +1.8
COLD	Coldfoot	29.19 342	P	P	00 34 43.0 +1.5
	baz=143				
HQIL	Hanson Quary C	29.44 75	P	P	00 34 44.3 +0.3
TOLK	Toolik Lake Re	30.20 344	IAmb	IAmb	00 34 59.3
	comp=Z,25nm,1.1s				
TOLK	Toolik Lake Re	30.20 344	P	P	00 34 52.5 +2.1
	baz=146,SNR=11				
SFIN	Lafayette	30.32 78	P	P	00 34 53.4 +1.6
SFIN			IAmb	IAmb	00 34 59.7
	comp=Z,56nm,1.6s				
OXF	Oxford	30.48 90	P	P	00 34 54.7 +1.5
OXF			pmax	pmax	
	comp=Z,31nm,1.1s				
OXF	Oxford	30.48 90	P	P	00 34 54.7 +1.5
OXF			IAmb	IAmb	00 35 05.6
	comp=Z,31nm,1.1s				
A36M	Sachs Harbour	31.13 1	P	P	00 34 59.8 +1.4
	baz=183,SNR=9.2				
GLMI	Grayling	31.25 68	P	P	00 35 00.4 +0.5
PLAL	Pickwick Lake	31.31 88	P	P	00 35 00.9 +0.4
PLAL			IAmb	IAmb	00 35 09.2
	comp=Z,50nm,1.7s				
ANM	Nome	32.18 330	P	P	00 35 09.5 +1.7
	baz=119				
MLOA	Mauna Loa Obse	32.20 237	P	P	00 35 09.9 +1.0
HLP	Hilina Pali	32.21 236	P	P	00 35 09.3 +0.7
LRAL	Lakeview Retre	32.92 91	P	P	00 35 15.5 +0.8
LRAL			IAmb	IAmb	00 35 22.4
	comp=Z,30nm,1.4s				
TNA	Tin City	33.60 331	P	P	00 35 22.5 +2.3
CPCT	Cooper Cave	33.81 85	P	P	00 35 22.5 +0.1
CPCT			IAmb	IAmb	00 35 30.1
	comp=Z,22nm,1.3s				
GAMB	Gambell	34.38 327	IAmb	IAmb	00 35 34.8
	comp=Z,18nm,1.0s				
M54A	Oil Creek Stat	35.48 73	P	P	00 35 39.0 +2.2
MCWV	Mont Chateau	35.87 76	P	P	00 35 40.8 +0.6
MEDO	Medina	35.93 70	P	P	00 35 41.2 +0.6
MEDO			IAmb	IAmb	00 35 47.5
	comp=Z,45nm,1.0s				
WVNY	West Valley, N	36.01 71	P	P	00 35 43.2 +1.8
PAULI	Pauline	36.10 85	P	P	00 35 43.5 +1.3
BLA	Blacksburg	36.25 80	P	P	00 35 47.1 +3.6
BLA			pmax	pmax	
	comp=Z,49nm,1.5s				
BLA	Blacksburg	36.25 80	P	P	00 35 47.1 +3.6
BLA			IAmb	IAmb	00 35 56.2
	comp=Z,49nm,1.4s				
KMSC	Kings Mountain	36.34 84	P	P	00 35 45.0 +0.8
KMSC			IAmb	IAmb	00 35 51.9
	comp=Z,67nm,1.4s				
RES	Resolute Bay	36.93 14	P	P	00 35 48.2 -0.6
	comp=Z,5.4nm,0.8s,baz=222,slow=9.3,SNR=15				
PETF	Flores	40.13 115	P	P	00 36 17.1 +0.8
APG	El Apazote	41.08 118	P	P	00 36 22.0 -2.4
	comp=Z,5.6nm,0.9s,baz=292,slow=11,SNR=3.0				
APG			LR	LR	00 54 52.5
	comp=Z,398nm,21.2s,baz=290,slow=38				
SCHQ	Schefferville	41.54 49	P	P	00 36 26.2 -1.3
	comp=Z,5.1nm,0.9s,baz=305,slow=4.4,SNR=3.8				
ESQI	Esquipulas	42.16 117	P	P	00 36 33.8 +0.7
MTO3	Montecristo	42.26 118	P	P	00 36 35.1 +1.0
BILL	Bilibino	44.04 330	*i* P	P	00 36 46.8 -0.8
BILL			*e*		00 38 27.5
BILL			*e*S	S	00 43 13.2 -5.4
BILL			*e*SS	SS	00 46 36.6 +1.2
BILL			pmax	pmax	
	comp=Z,27nm,1.6s				
BILL			MLR	MLR	
	comp=Z,271nm,18.0s				
BILL	Bilibino	44.04 330	P	P	00 36 47.9 +0.3
BILL			IAmb	IAmb	00 36 55.4
	comp=Z,38nm,1.6s				
MATN	Matagalpa	45.63 116	P	P	00 37 01.4 +0.4
ACON	Acoyapa	46.83 116	P	P	00 37 10.4 +0.1
ACON			IAmb	IAmb	00 37 29.2
	comp=Z,

comp=Z,5.3nm,0.7s
PETK Petropavlovsk- 50.27 311 P **P 00 37 35.8 -0.6**
comp=Z,2.5nm,0.8s,baz=88,slow=10,SNR=2.2
SEY Seymchan 50.29 324 P **P 00 37 35.6 -0.7**
comp=Z,3.5nm,0.3s,baz=92,slow=9.9,SNR=14
SEY Seymchan 50.29 324 *i* P **P 00 37 35.4 -1.0**
SUMG Summit 51.16 23 P **P 00 37 44.4 +1.1**
SUMG pmax pmax
comp=Z,59nm,1.8s
SUMG Summit 51.16 23 *i* P **P 00 37 43.0 -0.3**
SUMG IAmb IAmb 00 37 44.6
comp=Z,5.8nm,0.9s
SUMG Summit 51.16 23 P **P 00 37 44.4 +1.1**
SUMG IAmb IAmb 00 38 05.6
comp=Z,59nm,1.8s
ICESG Greenland Ices 51.65 27 *i* P **P 00 37 46.0 -0.9**
ICESG IAmb IAmb 00 37 48.4
comp=Z,8.6nm,0.9s
MA2 Magadan 51.97 320 *i* P **P 00 37 47.6 -1.4**
MA2 pmax pmax
comp=Z,44nm,1.7s
MA2 Magadan 51.97 320 P **P 00 37 49.3 +0.3**
MA2 IAmb IAmb 00 37 56.7
comp=Z,19nm,0.9s
DR12 Loma Pena Alta 53.84 96 P **P 00 38 04.2 +0.8**
SJCC San Jacinto, C 55.27 109 P **P 00 38 14.1 +0.2**
TIXI Tiksi 55.81 338 P **P 00 38 15.4 -1.5**
comp=Z,6.4nm,0.9s,baz=65,slow=7.2,SNR=12
TIXI Tiksi 55.81 338 *i* P **P 00 38 15.6 -1.3**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 55.81 338 P **P 00 38 16.5 -0.4**
ICMP Isla Caja de M 56.54 95 P **P 00 38 22.6 -0.2**
GCPR Guaynabo City 56.62 94 P **P 00 38 22.9 -0.5**
SJG San Juan 56.68 94 P **P 00 38 22.6 -1.3**
SJG pmax pmax
comp=Z,32nm,1.1s
SJG San Juan 56.68 94 P **P 00 38 22.6 -1.3**
SJG IAmb IAmb 00 38 26.0
comp=Z,32nm,1.1s
PDPR Patillas Dam, 56.84 94 P **P 00 38 25.5 +0.6**
OCAC Ocana 57.74 109 P **P 00 38 31.7 +0.1**
H11N3 WAKE ISLAND Hy 59.23 270 T T 01 42 32.5
baz=54
H11N2 WAKE ISLAND Hy 59.23 270 T T 01 42 32.8
baz=54
H11N1 WAKE ISLAND Hy 59.24 270 T T 01 42 38.5
baz=54
SDV Santo Domingo 59.24 106 P **P 00 38 42.3 +0.2**
SDV IAmb IAmb 00 38 50.1
comp=Z,20nm,1.2s
ROSC El Rosal 59.40 112 P **P 00 38 43.4 0.0**
comp=Z,5.4nm,0.5s,baz=49,slow=5.9,SNR=5.7
OTAV Otavalo 59.93 120 *ceP* **P 00 38 48.7 +1.6**
OTAV pmax pmax
comp=Z,17nm,1.3s
OTAV Otavalo 59.93 120 P **P 00 38 47.1 0.0**
OTAV IAmb IAmb 00 38 49.6
comp=Z,20nm,1.3s
H11S1 WAKE ISLAND Hy 60.10 269 T T 01 43 43.6
baz=52,slow=75,SNR=31
H11S2 WAKE ISLAND Hy 60.11 269 T T 01 43 42.8
baz=52,slow=75,SNR=18
H11S3 WAKE ISLAND Hy 60.12 269 T T 01 43 43.5
baz=52,slow=75,SNR=36
YAK Yakutsk 60.31 328 *eP* **P 00 38 48.3 -0.2**
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,13nm,1.3s
YAK Yakutsk 60.31 328 P **P 00 38 48.9 +0.3**
BAUV El Baul 61.10 104 P **P 00 38 54.9 +0.3**
ZEA Zeya 66.09 321 *eP* **P 00 39 26.3 -0.7**
ZEA *e* 00 39 52.3
ZEA pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 66.50 315 *i* P **P 00 39 28.2 -1.5**
KLR pmax pmax
comp=Z,11nm,1.9s
NRIK Noril'sk 67.06 347 P **P 00 39 32.6 -0.4**
comp=Z,3.6nm,0.9s,baz=40,slow=6.3,SNR=7.4
NRIK Noril'sk 67.06 347 *i* P **P 00 39 31.4 -1.5**
NRIK pmax pmax
comp=Z,22nm,2.0s
RAR Rarotonga 68.81 212 LR LR 01 02 15.6
comp=Z,119nm,21.5s,baz=234,slow=29
USRK Ussuriysk Ar. 69.37 311 P **P 00 39 47.8 0.0**
comp=Z,4.0nm,0.7s,baz=50,slow=12,SNR=3.2
USRK LR LR 01 10 58.8
comp=Z,99nm,18.0s,baz=56,slow=37
USRK Ussuriysk Ar. 69.37 311 P **P 00 39 48.3 +0.4**
USRK Ussuriysk Ar. 69.37 311 P **P 00 39 48.2 +0.4**
MJAR Matsushiro Arr 70.16 301 P **P 00 39 52.4 -0.6**
comp=Z,4.4nm,0.9s,baz=33,slow=6.6,SNR=4.2
MAJO Matsushiro 70.16 301 *i* P **P 00 39 52.9 0.0**
MAJO pmax pmax
comp=Z,17nm,1.1s
LVZ Lovozero 70.62 7 *i* P **P 00 39 53.7 -1.5**
LVZ pmax pmax
comp=Z,24nm,1.1s
BNX BinXian 70.96 314 ⇓P **P 00 39 56.8 -0.8**
BNX pmax pmax
comp=Z,13nm,0.9s
BNX pmax pmax
comp=Z,430nm,4.5s
BOAV Boa Vista 71.01 104 P **P 00 39 59.3 +1.0**
BOAV IAmb IAmb 00 40 05.8
comp=Z,21nm,1.2s
NOA NORSAR Array B 72.89 20 P **P 00 40 08.5 -0.5**
comp=Z,6.1nm,1.1s,baz=329,slow=6.2,SNR=3.9
NOA LR LR 01 12 35.3
comp=Z,132nm,21.4s,baz=30,slow=36
ETMB Extrema 75.51 117 IAmb IAmb 00 40 24.9
comp=Z,21nm,1.3s
FINES FINESS Array B 75.69 13 P **P 00 40 25.1 0.0**
comp=Z,8.2nm,1.0s,baz=269,slow=8.3,SNR=4.1
MSVF Nonsavu 77.28 233 *i* P **P 00 40 35.5 +0.6**
MSVF pmax pmax
comp=Z,7.0nm,1.0s
PRGR Permogore 77.61 3 *eP* **P 00 40 34.4 -1.6**
PRGR *e* 00 40 41.1
PRGR pmax pmax
comp=Z,50nm,1.5s
KLMR Klimovskoe 77.98 7 *eP* **P 00 40 36.4 -1.6**
KLMR pmax pmax
comp=Z,62nm,1.5s
KLMR Klimovskoe 77.98 7 *eP* **P 00 40 36.5 -1.6**
KLMR AMP 00 40 39.8
comp=Z,62nm,1.5s
XLT XiLinHaoTe 78.12 319 *eP* **P 00 40 39.5 +0.2**
XLT pmax pmax
comp=Z,16nm,1.1s
XLT pmax pmax
comp=Z,130nm,3.7s
ZAK Zakamensk 78.83 330 *eP* **P 00 40 42.7 -0.5**
ZAK pmax pmax
comp=Z,13nm,1.3s
LPAZ La Paz 79.00 123 P **P 00 40 44.5 -0.6**
comp=Z,2.5nm,0.9s,baz=343,slow=8.9,SNR=6.4
LPAZ La Paz 79.00 123 P **P 00 40 44.8 -0.3**
LPAZ pmax pmax
comp=Z,9.0nm,1.2s
LPAZ La Paz 79.00 123 P **P 00 40 44.8 -0.3**
ULN Ulaanbaatar 79.31 326 *i* P **P 00 40 44.9 -1.0**
ULN pmax pmax
comp=Z,23nm,1.9s
SONM Songino Array 79.61 326 P **P 00 40 47.8 +0.3**
comp=Z,5.3nm,1.0s,baz=55,slow=3.5,SNR=28
BMRD Maredsous 79.89 29 P **P 00 40 50.1 +1.3**
comp=Z,8.9nm,1.2s
BGES Gesves 79.94 29 P **P 00 40 50.0 +1.0**
comp=Z,7.7nm,1.0s
BSTI Sart Tilman 79.95 28 P **P 00 40 50.5 +1.4**
BCLA Clavier 79.99 29 P **P 00 40 50.3 +1.0**
comp=Z,12nm,1.1s
PB11 IPOC Station P 80.66 126 IAmb IAmb 00 40 54.2
comp=Z,22nm,1.0s
ZALV Zalesovo Beam 81.52 341 P **P 00 40 57.0 -0.4**
comp=Z,2.4nm,0.9s,baz=32,slow=5.9,SNR=14
ZALV Zalesovo Beam 81.52 341 *i* P **P 00 40 57.5 +0.1**
ZALV pmax pmax
comp=Z,2.0nm,0.9s
CLL Collm 81.81 24 *i* P **P 00 41 00.0 +1.0**
CLL *e* 00 41 05.0
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 81.81 24 *i* P **P 00 41 00.0 +1.0**
comp=Z,12nm,1.1s
CLL *es*P **sP 00 41 05.0 -1.1**
VILB Vilhena 81.84 115 P **P 00 41 00.6 +0.9**
NACGM Naroch 81.98 15 *i* P **P 00 41 02.8 +2.9**
PB03 IPOC Station P 82.34 128 P **P 00 41 02.5 +0.2**
PB03 IAmb IAmb 00 41 03.5
comp=Z,15nm,1.2s
SVE Sverdlovsk 82.36 356 *eP* **P 00 41 01.7 -0.1**
SVE pmax pmax
comp=Z,15nm,1.4s
PB09 IPOC Station P 82.45 127 P **P 00 41 03.6 +0.7**
PB09 IAmb IAmb 00 41 04.4
comp=Z,21nm,1.3s
BRG Berggiesshubel 82.48 24 *eP* **P 00 41 03.8 +1.2**
BRG Amp 00 41 05.6
comp=Z,58nm,1.8s
BRG *ex* x 00 41 15.6
BRG Amp 00 41 17.4
comp=Z,27nm,1.6s
BRG Berggiesshubel 82.48 24 *eP* **P 00 41 03.7 +1.2**
BRG *e* 00 41 15.5
BRG pmax pmax
comp=Z,58nm,1.8s
BRG pmax pmax
comp=Z,27nm,1.6s
HHC Hu-ho-hao-te 82.63 319 *eP* **P 00 41 04.0 +0.3**
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,210nm,5.8s
ARU Arti 82.86 357 *c i* P **P 00 41 03.3 -1.1**
ARU S **S 00 51 21.4 -0.3**
ARU pmax pmax
comp=Z,19nm,2.1s
LVC Limon Verde 83.27 128 *ceP* **P 00 41 08.3 +0.9**
LVC pmax pmax
comp=Z,12nm,1.7s
OBN Obninsk 83.32 9 *i* P **P 00 41 05.7 -1.1**
OBN *e* 00 41 12.8
OBN *i* 00 44 15.8
OBN *e*PPP PPP 00 46 12.7
OBN *es*S **S 00 51 22.5 -3.8**
OBN *es*SS **SS 00 56 48.8 -1.0**
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,258nm,17.0s
CHVC Chvalec 83.36 23 *eP* **P 00 41 07.4 +0.2**
UPC Upice 83.42 23 *eP* **P 00 41 08.9 +1.5**
UPC Upice 83.42 23 *eP* **P 00 41 08.9 +1.5**
OSTC Ostas 83.44 22 *eP* **P 00 41 08.9 +1.4**
PRU Pruhonice 83.44 24 *eP* **P 00 41 08.7 +1.1**
PRU Pruhonice 83.44 24 *eP* **P 00 41 08.7 +1.1**
HNS HongShan 83.58 315 ⇓P **P 00 41 08.5 0.0**
HNS S **S 00 51 29.8 +0.2**
HNS pmax pmax
comp=Z,9.0nm,1.4s
HNS LR LR
comp=Z,410nm,18.1s
HNS LR LR
comp=Z,380nm,18.7s
DPC Dobruska-Polom 83.65 22 *eP* **P 00 41 09.7 +1.0**
DPC *e**PP **pwP 00 41 16.5 -0.7**
DPC Dobruska-Polom 83.65 22 *eP* **P 00 41 09.7 +1.0**
DPC *ep*P **pwP 00 41 16.5 -0.7**
KHC Kasperske Hory 83.90 25 *i* P **P 00 41 09.8 -0.2**
KHC pmax pmax
comp=Z,20nm,1.1s
KHC Kasperske Hory 83.90 25 *eP* **P 00 41 10.9 +0.9**
KHC *ep*P **pwP 00 41 17.6 -0.9**
KHC Kasperske Hory 83.90 25 IAmb IAmb 00 41 12.3
comp=Z,27nm,1.4s
KRLC Kraliky 84.03 22 *eP* **P 00 41 11.7 +1.1**
KRLC *e**PP **pwP 00 41 17.7 -1.5**
KRLC Kraliky 84.03 22 *eP* **P 00 41 11.7 +1.1**
KRLC *ep*P **pwP 00 41 17.7 -1.5**
GERES GERESS Array B 84.19 25 P **P 00 41 11.6 0.0**
comp=Z,5.1nm,1.0s,baz=345,slow=4.7,SNR=13
DAVA Damuels 84.27 28 *i* P **P 00 41 13.7 +1.7**
comp=Z,23nm,1.2s
TREC Trest 84.34 23 *eP* **P 00 41 13.4 +1.2**
TREC Trest 84.34 23 *eP* **P 00 41 13.4 +1.2**
RETA Reutte 84.40 27 *i* P **P 00 41 13.9 +1.3**
comp=Z,11nm,1.3s
CKRC Cesky Krumlov 84.40 24 *eP* **P 00 41 13.3 +0.8**
CKRC *ep*P **pwP 00 41 19.7 -1.4**
MORC Moravsky Berou 84.52 22 *eP* **P 00 41 13.8 +0.7**
ESDC Sonseca Array 84.62 40 P **P 00 41 13.3 -0.5**
comp=Z,7.1nm,1.1s,baz=314,slow=5.0,SNR=14
ESDC Sonseca Array 84.62 40 P **P 00 41 14.6 +0.8**
ESDC IAmb IAmb 00 41 15.8
comp=Z,13nm,1.4s
MOTA Moosalm 84.64 27 *eP* **P 00 41 15.1 +1.2**
comp=Z,16nm,1.3s
VRAC Vranov 84.66 23 P **P 00 41 13.9 +0.1**
comp=Z,11nm,1.0s,baz=338,slow=5.6,SNR=11
VRAC Vranov 84.66 23 *eP* **P 00 41 14.7 +0.9**
DAVOX Davos/Dischmat 84.70 28 LR LR 01 18 52.8
comp=Z,252nm,19.4s,baz=350,slow=36
DGZ Jazzator, Alta 84.70 338 *i* P **P 00 41 12.7 -1.5**
DGZ pmax pmax
comp=Z,24nm,1.2s
TUE Stuetta 84.77 28 P **P 00 41 15.7 +1.1**
SQTA Sankt Quirin 84.78 27 *eP* **P 00 41 16.3 +1.7**
comp=Z,22nm,1.3s
FETA Feichten 84.79 27 *eP* **P 00 41 16.5 +1.8**
comp=Z,14nm,1.1s
WATA Walderalm 84.81 27 *i* P **P 00 41 15.9 +1.1**
comp=Z,20nm,1.3s
KRUC Moravsky 84.82 23 *eP* **P 00 41 15.3 +0.7**
WTTA Wattenberg 84.89 27 *eP* **P 00 41 16.2 +0.9**
comp=Z,24nm,1.7s
BNI Bardonecchia 84.97 31 P **P 00 41 16.4 +0.8**
BNI pmax pmax
comp=Z,22nm,1.1s
BNI Bardonecchia 84.97 31 P **P 00 41 16.4 +0.8**
NJ2 Nanjing 85.13 309 *eP* **P 00 41 16.0 -0.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
BRVK Borovoye 85.14 349 P **P 00 41 16.3 +0.2**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 85.14 349 P **P 00 41 16.3 +0.2**
BVAR Borovoye Array 85.16 349 P **P 00 41 16.6 +0.4**
comp=Z,3.0nm,0.9s,baz=58,slow=5.9,SNR=16
MOA Molln 85.25 25 *eP* **P 00 41 17.8 +1.0**
comp=Z,10nm,1.4s
JAVC Velka Javorina 85.38 22 *eP* **P 00 41 19.3 +1.8**
LANS Liptovska Anna 85.62 21 *eP* **P 00 41 20.0 +1.4**
LANS pmax pmax
comp=Z,4.0nm,1.2s
LANS Liptovska Anna 85.62 21 *eP* **P 00 41 20.0 +1.4**
SMOL Smolenice 85.62 23 *eP* **P 00 41 20.0 +1.4**
SMOL pmax pmax
comp=Z,5.0nm,1.2s
SMOL Smolenice 85.62 23 *eP* **P 00 41 20.0 +1.4**
KBA Koelnbreinsper 85.63 26 *eP* **P 00 41 20.4 +1.5**
comp=Z,11nm,1.2s
ABTA Abfaltersbach 85.64 26 *eP* **P 00 41 19.6 +0.8**
comp=Z,12nm,1.4s
CONA Conrad Observa 85.67 24 *eP* **P 00 41 20.4 +1.4**
comp=Z,16nm,1.3s
MODS Modra-Piesok 85.70 23 *eP* **P 00 41 21.6 +2.6**
MODS pmax pmax
comp=Z,18nm,1.1s
MODS Modra-Piesok 85.70 23 *eP* **P 00 41 21.6 +2.6**
KURK Kurchatov 85.93 344 P **P 00 41 19.7 -0.4**
KURK pmax pmax
comp=Z,14nm,1.1s
KURK Kurchatov 85.93 344 P **P 00 41 19.7 -0.4**
KURK IAmb IAmb 00 41 28.5
comp=Z,14nm,1.1s
KURBB Kurchatov Arra 86.04 344 P **P 00 41 20.3 -0.3**
comp=Z,5.8nm,0.9s,baz=17,slow=4.5,SNR=26
ARSA Arzberg 86.17 24 *eP* **P 00 41 23.0 +1.6**
comp=Z,8.3nm,1.1s
H03N2 Juan Fernandez 86.41 141 T T 02 17 09.2
baz=325,slow=77,SNR=8.6
H03N1 Juan Fernandez 86.42 141 T T 02 17 13.3
baz=325,slow=77,SNR=7.7
H03N3 Juan Fernandez 86.43 141 T T 02 17 11.7
baz=325,slow=77,SNR=7.5
AKASG Malin Array Be 86.44 15 P **P 00 41 21.9 -0.7**
comp=Z,7.4nm,0.8s,baz=347,slow=4.1,SNR=22
AKASG Malin Array Be 86.44 15 *i* P **P 00 41 21.8 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 86.44 15 P **P 00 41 22.2 -0.3**
AKBB Malin Array Si 86.44 15 P **P 00 41 22.3 -0.3**
AKBB pmax pmax
comp=Z,21nm,1.1s
AKBB Malin Array Si 86.44 15 P **P 00 41 22.2 -0.3**
OBKA Obir 86.52 25 *eP* **P 00 41 23.4 +0.2**
comp=Z,5.8nm,1.0s
SOKA Soboth 86.53 25 *eP* **P 00 41 24.4 +1.2**
comp=Z,9.5nm,1.4s
UZH Uzhgorod 86.84 20 *eP* **P 00 41 23.6 -1.0**
UZH *e* 00 41 30.6
DZM Mont Dzumac 87.76 238 P **P 00 41 29.5 +0.1**
comp=Z,9.5nm,1.1s,baz=294,slow=12,SNR=7.5
DZM Mont Dzumac 87.76 238 P **P 00 41 30.7 +1.3**
MK31 Makanchi Array 88.75 340 *i* P **P 00 41 32.4 -1.4**
MK31 Makanchi Array 88.75 340 IAmb IAmb 00 41 34.4
comp=Z,12nm,1.5s
MKAR Makanchi Array 88.75 340 P **P 00 41 33.7 -0.1**
comp=Z,1.7nm,0.9s,baz=9.9,slow=3.4,SNR=12
AKTO Aktyubinsk 88.88 357 P **P 00 41 32.9 -1.4**
comp=Z,7.3nm,0.9s,baz=355,slow=5.0,SNR=13
AKTO Aktyubinsk 88.88 357 P **P 00 41 33.5 -0.8**
XAN Xi'an 89.19 316 P **P 00 41 35.3 -0.9**
XAN pP PcP 00 41 38.3 +0.7
XAN pmax pmax
comp=Z,12nm,1.5s
XAN LR LR
comp=Z,270nm,16.5s
XAN LR LR
comp=Z,300nm,15.8s
XAN LR LR
comp=Z,320nm,17.2s
GTA Gaotai 89.22 325 *eP* **P 00 41 36.3 0.0**
GTA pP PcP 00 41 40.5 +2.7
GTA sP pwP 00 41 43.5 -1.8
GTA pmax pmax
comp=Z,7.0nm,1.4s
OTUK Ortayu 89.50 347 P **P 00 41 35.5 -1.8**
WMQ Urumqi 89.92 335 *eP* **P 00 41 40.3 +0.9**
WMQ pP pwP 00 41 46.5 -1.6
WMQ sP sP 00 41 50.3 +3.7
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ pmax pmax
comp=Z,240nm,5.7s
WMQ LR LR
comp=Z,880nm,28.5s
WMQ LR LR
comp=Z,980nm,29.2s
WMQ LR LR
comp=Z,190nm,27.5s
AB31 Akbulak array 89.95 355 *i* P **P 00 41 39.5 +0.2**
ABKAR Akbulak array 89.95 355 IAmb IAmb 00 41 40.9
comp=Z,20nm,1.4s
LZH Lanzhou 90.11 321 *eP* **P 00 41 41.0 +0.4**
LZH pP pwP 00 41 47.5 -2.0
LZH sP sP 00 41 52.3 +4.6
LZH pmax pmax
comp=Z,15nm,1.4s
LZH LR LR
comp=Z,260nm,19.0s
LZH LR LR
comp=Z,290nm,18.3s
LZH LR LR
comp=Z,210nm,18.4s
VSL Villasalto 90.74 32 IAmb IAmb 00 41 44.8
comp=Z,12nm,1.2s
BDFB Brasilia 92.25 109 LR LR 01 27 22.7
comp=Z,158nm,20.7s,baz=328,slow=38
CPUP Villa Florida 93.17 122 P **P 00 41 52.8 -1.7**
comp=Z,0.9nm,0.4s,baz=180,slow=9.1,SNR=1.6
KEST Kesra 93.93 34 P **P 00 41 57.7 -0.5**
comp=Z,4.2nm,1.0s,baz=264,slow=10,SNR=4.3
KIV Kislovodsk 95.00 7 *eP* **P 00 42 00.8 -2.1**
KIV pmax pmax
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 97.85 15 P **P 00 42 15.9 -0.1**
comp=Z,0.8nm,0.8s,baz=343,slow=1.7,SNR=4.6
PZH PanZhiHua 98.92 317 P **P 00 42 21.8 +0.8**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,6.3s
GNI Garni 98.96 6 *i* P **P 00 42 20.8 -0.2**
GNI pmax pmax
comp=Z,9.0nm,1.4s
QSPA South Pole Qui 130.76 180 PKPdf 00 47 51.0 +0.7
WIN Windhoek 144.93 69 PKIKP **PKPab 00 48 17.1 +0.1**
WIN Windhoek 144.93 69 PKPab 00 48 17.1 +0.1
LSZ Lusaka 146.73 47 PKP2 **PKPdf 00 48 22.8 +1.8**
LSZ Lusaka 146.73 47 PKPdf 00 48 22.8 +1.8

NEIC ***30*** *00:29:25.7±2.0, 36°.48N±0°.05×70°.20E±0°.08, h203^{km}±4^{km}, mb4.0/8, Error ellipse: s-maj=10.0km s-min=6.6km az=116.0*
IDC ***30*** *00:29:25.6±4.9, 36°.58N×70°.31E, h190^{km}±25^{km}, mb3.4/6, mb1 3.3/12, mb1mx3.0/64, mbtmp3.9/12, Error ellipse: s-maj=64.5km s-min=15.7km az=155.0*
NNC ***30*** *00:29:29.2±2.3, 36°.85N×70°.26E, h205^{km}±34^{km}, mb3.1, mpv4.2, Error ellipse: s-maj=22.4km s-min=14.3km az=16.0*

ISC 30 00:29:25.1±0.6, 36°.49N±0°.05×70°.36E±0°.05, h204^{km}, n70, σ1^{s}35/80, mb3.8/7, 1C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.22**	**209**		**Pn**	**00 30 07.0**	**+0.6**
KBL				Sn	**S**	00 30 37.4	-0.7
CHGR	**Chuyangaron**	**2.37**	**337**	Pn	**Pn**	**00 30 07.9**	**+0.1**
CHGR				Sn	**S**	00 30 39.6	-1.0
CEP	**Cherat**	**2.95**	**154**	P	**Pn**	**00 30 15.6**	**+1.1**
CEP				S	**S**	00 30 53.0	+0.5
DRK	**Karamyk**	**3.20**	**20**		**Pn**	**00 30 18.7**	**+1.2**
BTK	**Batken**	**3.58**	**6**		**Pn**	**00 30 23.6**	**+1.7**
CHCP	**Chirah Chowk**	**3.69**	**139**	P	**Pn**	**00 30 24.7**	**+1.4**
NIL	**Nilore**	**3.69**	**139**		**Pn**	**00 30 25.0**	**+1.7**
THW	**Thamme Wali**	**3.86**	**162**	P	**Pn**	**00 30 26.0**	**+0.7**
TAS	**Tashkent**	**4.90**	**351**	Pn	**Pn**	**00 30 39.1**	**+0.9**
JMU	**Jammu**	**5.31**	**134**	*eP*	**Pn**	**00 30 45.0**	**+1.5**
JMU				*e*S	**S**	00 31 42.5	-2.5
THN	**Thein Dam**	**6.00**	**131**	*eP*	**Pn**	**00 30 53.0**	**+0.7**
AML	**Almayashu**	**6.20**	**24**	P	**Pn**	**00 30 55.5**	**+0.2**
	SNR=196						
DHRM	**DHARAMSHALA**	**6.48**	**129**	*eP*	**Pn**	**00 30 58.8**	**0.0**
DHRM				*e*S	**S**	00 32 10.0	-2.9
DHRM				IAML		00 32 12.5	
	comp=E,130nm,0.3s						
DHRM				IAML		00 32 13.0	
	comp=N,138nm,0.1s						
UCH	**Uchtor**	**6.57**	**28**	P	**Pn**	**00 31 00.7**	**+0.5**
	SNR=70						
KKAR	**Karatay Array**	**6.61**	**1**		**Pn**	**00 30 60.0**	**-0.2**
KK08	**Karatay Array**	**6.61**	**1**	⇓P	**Pn**	**00 31 00.1**	**-0.1**
	comp=N,3.4nm,0.4s						
KK08				⇓S	**S**	00 32 11.9	-3.6
	comp=N,3.3nm,0.4s						
EKS2	**Erkin-Say**	**6.71**	**22**	P	**Pn**	**00 31 02.2**	**+0.6**
	SNR=8.4						
AAK	**Ala-Archa**	**6.92**	**26**	P	**Pn**	**00 31 05.1**	**+0.7**
	comp=N,6.1nm,0.3s,baz=195,slow=6.3,SNR=66						
AAK				S	**S**	00 32 22.1	-1.0
	comp=N,1.9nm,0.3s,baz=127,slow=20,SNR=12						
AAK	**Ala-Archa**	**6.92**	**26**	P	**Pn**	**00 31 05.0**	**+0.7**
	SNR=25						
AAK	**Ala-Archa**	**6.92**	**26**	⇓P	**Pn**	**00 31 05.0**	**+0.7**
	comp=N,9.6nm,0.5s						
AAK				⇓S	**S**	00 32 21.7	-1.4
	comp=N,13nm,0.6s						
AAK	**Ala-Archa**	**6.92**	**26**		**Pn**	**00 31 05.2**	**+0.8**
HRA	**Herat**	**6.95**	**255**	Pn	**Pn**	**00 31 04.2**	**-0.6**
KBK	**Karagaybulak**	**7.11**	**29**	P	**Pn**	**00 31 07.6**	**+0.8**
	SNR=9.2						
FRU1	**Bishkek**	**7.12**	**26**	Pn	**Pn**	**00 31 07.8**	**+0.9**
CHMS	**Chumysh**	**7.33**	**26**	P	**Pn**	**00 31 09.9**	**+0.4**
	SNR=12						
ULHL	**Ulahol**	**7.34**	**37**	P	**Pn**	**00 31 10.1**	**+0.3**
	SNR=6.1						
BOOM	**Boomskoye usch**	**7.38**	**34**		**Pn**	**00 31 11.4**	**+1.1**

USP	Ospenovka	7.48	24	P	Pn	00 31 11.4	0.0
	SNR=22						
TKM2	Tokmak 2	7.59	31	P	Pn	00 31 13.3	+0.3
	SNR=31						
TKM2	Tokmak 2	7.59	31	⇓P	Pn	00 31 13.2	+0.2
	comp=N,24nm,0.5s						
TKM2				⇓S	S	00 32 37.3	-1.6
	comp=N,4.1nm,0.6s						
KDJ	Kajisay	7.73	41	Pn	Pn	00 31 15.5	+0.7
SMLA	Simla	7.79	131	eP	Pn	00 31 15.3	-0.2
SMLA				eS	S	00 32 38.3	-5.2
SMLA				IAML		00 32 43.2	
	comp=E,47nm,0.2s						
SMLA				IAML		00 32 43.4	
	comp=N,42nm,0.4s						
TARG	Taragay, Kyrgy	7.80	46	Pn	Pn	00 31 16.4	+0.4
PRZ	Przheval'sk	8.63	44	Pn	Pn	00 31 27.4	+0.8
KUDL	Kundal	9.80	146	eP	Pn	00 31 40.8	-0.9
KUDL				eS	S	00 33 23.4	-8.1
GEYT	Alibeck	9.87	282	P	Pn	00 31 40.9	-1.6
	comp=N,0.2nm,0.3s,baz=109,slow=8.0,SNR=1.9						
GEYT				S	S	00 33 31.4	-1.7
	comp=N,0.3nm,0.3s,baz=114,slow=17,SNR=1.4						
MAKZ	Makanchi	13.47	36		Pn	00 32 28.5	+0.4
PYUN	Piuthan	13.56	124	eP	Pn	00 32 29.4	-0.2
	comp=N,3.6nm,0.3s						
MK31	Makanchi Array	13.61	37		Pn	00 32 30.3	+0.4
MKAR	Makanchi Array	13.61	37	P	Pn	00 32 29.6	-0.3
	comp=N,0.3nm,0.3s,baz=209,slow=12,SNR=11						
MKAR	Makanchi Array	13.61	37		Pn	00 32 30.9	+1.0
DANN	Dangsing	13.92	122	eP	Pn	00 32 34.0	-0.1
	comp=N,4.2nm,0.2s						
KOLN	Koldanda	14.18	124	eP	Pn	00 32 37.6	+0.3
	comp=N,3.3nm,0.3s						
GKN	Gorkha	14.74	121	eP	P	00 32 45.7	+0.7
	comp=N,7.6nm,0.3s						
AB31	Akbulak array	14.85	332	⇑P	Pn	00 32 44.1	-0.9
	comp=N,1.1nm,0.5s,baz=149,slow=12,SNR=49						
ABKAR	Akbulak array	14.85	332		Pn	00 32 44.3	-0.8
KURBB	Kurchatov Arra	15.31	20	P	Pn	00 32 49.6	-1.0
	comp=N,0.1nm,0.3s,baz=208,slow=11,SNR=2.4						
DMN	Daman	15.31	121	eP	P	00 32 53.0	+1.6
	comp=N,4.3nm,0.3s						
KKN	Kakani	15.32	120	eP	P	00 32 53.3	+1.9
	comp=N,11nm,0.3s						
KURK	Kurchatov	15.41	20	P	Pn	00 32 51.4	-0.5
PKIN	Phulchoki	15.53	121	eP	Pn	00 32 56.1	+2.3
	comp=N,4.0nm,0.2s						
PKI	Pulchoki	15.54	121	eP	Pn	00 32 55.8	+1.8
	comp=N,4.6nm,0.2s						
GUN	Gumba	15.66	119	eP	Pn	00 32 57.6	+2.1
	comp=N,11nm,0.4s						
BVAR	Borovoye Array	16.54	0	P	Pn	00 33 05.6	+0.2
	comp=N,0.4nm,0.3s,baz=123,slow=10,SNR=8.4						
AKTO	Aktyubinsk	16.54	331	P	Pn	00 33 05.7	+0.3
	comp=N,0.7nm,0.3s,baz=148,slow=10,SNR=16						
AKTO	Aktyubinsk	16.54	331	⇓P	Pn	00 33 05.3	-0.1
	comp=N,1.6nm,0.5s						
BRVK	Borovoye	16.57	360		Pn	00 33 05.8	0.0
ZAA0	Zalesovo Array	20.14	25	P	P	00 33 44.4	+1.0
ZAA0				IAmb	IAmb	00 34 08.6	
	comp=Z,3.2nm,0.8s						
ZALV	Zalesovo Beam	20.14	25	P	P	00 33 44.3	+0.9
	comp=Z,2.6nm,0.5s,baz=212,slow=10,SNR=16						
GNI	Garni	20.41	288	P	Pn	00 33 49.3	-2.4
	comp=Z,5.1nm,0.7s,baz=90,slow=4.0,SNR=4.9						
ARU	Arti	21.48	342	P	P	00 34 00.2	+2.8
ARU				IAmb	IAmb	00 34 00.6	
	comp=Z,5.9nm,1.1s						
BRTR	Keskin Array B	28.94	288	P	P	00 35 06.4	+1.0
	comp=Z,0.4nm,0.6s,baz=114,slow=8.5,SNR=2.5						
FINES	FINESS Array B	37.20	326	P	P	00 36 17.3	+1.0
	comp=Z,1.4nm,0.6s,baz=113,slow=9.1,SNR=3.9						
FINES	FINESS Array B	37.20	326	P	P	00 36 16.9	+0.6
AGG	Agios Georgios	37.71	289	P	P	00 36 20.9	-0.1
AGG				IAmb	IAmb	00 36 37.7	
	comp=Z,8.2nm,1.5s						
ITM	Ithomi	38.43	286	P	P	00 36 23.8	-3.2
ARCES	ARCESS Array B	40.96	338	P	P	00 36 48.4	+1.1
	comp=Z,2.2nm,0.6s,baz=110,slow=6.7,SNR=9.1						
ARCES	ARCESS Array B	40.96	338	P	P	00 36 48.5	+1.1
SGRT	San Giovanni R	42.10	295	P	P	00 36 58.1	+1.0
SGRT				IAmb	IAmb	00 37 13.6	
	comp=Z,8.4nm,1.2s						
NOA	NORSAR Array B	44.08	323	P	P	00 37 12.2	-0.4
	comp=Z,0.7nm,0.7s,baz=96,slow=7.7,SNR=2.9						

BJI **30** *00:30:47.3±0.0, 40°.90N×127°.40W, h5km, mb5.0/33, mB5.6/16, Ms4.9/4, Ms7 4.5/4*

IDC **30** *00:30:48.5±0.7, 40°.90N×127°.31W, h0km, mb4.6/29, mb1 4.7/36, mb1mx4.5/66, mbtmp4.5/36, ML3.7/6, MS4.3/15, Ms1 4.3/15, ms1mx3.9/61, Error ellipse: s-maj=16.6km s-min=8.9km az=20.0*

GCMT **30** *00:30:49.6±0.2, 40°.88N±0°.03×127°.50W±0°.02, h12km, MW5.0/116, Moment Tensor Solution. s37,c43; s116,c184; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~3.34±.11; Mθθ~0.29±.12; Mφφ3.64±.08; Mrθ~1.06±.43; Mrφ0.28±.08; Mθφ~0.80±.32; Best double couple: M0 3.75300×10^16^ NP1:φs=168.00000°, δ40.00000°, λ~115.00000°. NP2:φs=20.00000°, δ54.00000°, λ~70.00000°. Principal axes: T 3.7710, Plg7.0000°, Azm96.0000°; N -0.0310, Plg16.0000°, Azm188.0000°; P -3.7350, Plg72.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ANF **30** *00:30:50.7±2.9, 40°.92N×127°.29W, h10km, ML4.3/14 Error ellipse: s-maj=33.4km s-min=9.2km az=74.0*

NCEDC **30** *00:30:51.4±8.7, 40°.53N±0°.06×127°.26W±0°.09, h10km±1km, Error ellipse: s-maj=12.1km s-min=10.2km az=230.0*

NEIC **30** *00:30:51.4, 40°.53N×127°.26W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr~1.67; Mθθ0.32; Mφφ1.36; Mrθ~0.07; Mθφ~0.66; Mφr~3.68; Fault plane solution: M0 4.05000×10^16^ NP1:φs=138.70000°, δ14.58000°, λ~128.47000°. NP2:φs=358.09000°, δ78.63000°, λ~80.81000°. Principal axes: T 3.8974, Plg33.0000°, Azm80.0000°; N 0.2834, Plg9.0000°, Azm176.0000°; P -4.1808, Plg55.0000°, Azm280.0000°;*

BGR **30** *00:30:52.2±0.0, 40°.91N×129°.52W, h33km, mb4.8*

NEIC **30** *00:30:52.6±1.8, 41°.04N±0°.06×127°.38W±0°.09, h10km±1km, mb5.0/158, Mww5.0, Mwr5.0/7(NCEDC), Error ellipse: s-maj=11.7km s-min=10.3km az=238.0*

NEIC **30** *00:30:53, 41°.01N×127°.31W, h12km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^16^Nm; Mrr~3.24; Mθθ0.44; Mφφ2.80; Mrθ0.38; Mθφ0.53; Mφr~3.49; Fault plane solution: M0 4.68000×10^16^ NP1: φs=201.00000°, δ22.00000°, λ~69.00000°. NP2: φs=359.00000°, δ70.00000°, λ~97.00000°. Principal axes: T 4.4202, Plg24.0000°, Azm95.0000°; N 0.4739, Plg7.0000°, Azm2.0000°; P -4.8941, Plg65.0000°, Azm256.0000°;*

ISC 30 00:30:51.2±0.4, 41°.01N±0°.07×127°.36W±0°.05, h10km, n478, σ1$41/443, mb4.9/133, MS4.3/11, 3C-1D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	Rodgers	2.53	86	Pn	Pn	00 31 32.6	+0.2
JCC	Jacoby Creek,	2.53	93		Pn	00 31 28.8	-3.6
JCC					Sn	00 31 57.8	-5.5
KMPM	Mount Pierce	2.54	103	Pn	Pn	00 31 29.6	-2.9
KBO	Bosley Butte	2.64	62	Pn	Pn	00 31 33.1	-0.9
KSXB	Camp Six Broad	2.75	72	Pn	Pn	00 31 34.9	-0.5
KHMM	Horse Mountain	2.75	92	Pn	Pn	00 31 35.0	-0.6
KCRM	Chalk Rock	2.76	101		Pn	00 31 32.5	-3.1
KMRM	Mail Ridge	2.89	105	Pn	Pn	00 31 35.7	-1.7
KEBM	Edson Butte	2.92	50	Pn	Pn	00 31 37.2	-0.7
KOMM	Orleans Mounta	2.96	84		Pn	00 31 37.0	-1.4
L02E	Cave Junction	3.04	67	P	Pn	00 31 38.4	-1.0
	baz=241						
KBSM	Bell Springs	3.08	110		Pn	00 31 36.8	-3.2
KCPM	Cahto Peak	3.18	113	Pn	Pn	00 31 39.9	-1.5
K02D	Willamette Mer	3.23	57	P	Pn	00 31 40.7	-1.4
	baz=232						
J01E	Myrtle Point	3.33	49		Pn	00 31 42.7	-0.7
J01E	Myrtle Point	3.33	49	P	Pn	00 31 42.3	-1.1
	baz=224						
M02C	Callahan	3.42	82	P	Pn	00 31 43.9	-0.9
	baz=257,SNR=8.5						
N02D	Trinity Center	3.53	89	P	Pn	00 31 45.0	-1.1
	baz=264,SNR=9.1						
YBH	Yreka Blue Hor	3.57	77	Pn	Pn	00 31 45.9	-0.9
	28nm,0.3s,baz=290,slow=10,SNR=19						
YBH				Sn	Sn	00 32 26.6	-2.5
	13nm,0.3s,baz=290,slow=22,SNR=2.2						
YBH				LR	LR	00 32 51.5	
	comp=Z,4μm,19.9s,baz=226,slow=34						
YBH	Yreka Blue Hor	3.57	77		Sn	00 32 26.6	-2.5
DBO	Dodson Butte	3.72	54	Pn	Pn	00 31 49.1	+0.3
L04D	Klamath Falls	3.98	71	P	Pn	00 31 52.9	+0.5
	baz=247,SNR=16						
I03D	Drain, OR	4.00	47	P	Pn	00 31 51.5	-1.2
	baz=224						
I02E	Swisshome, OR	4.04	39		Pn	00 31 53.3	+0.2
I02E	Swisshome, OR	4.04	39	P	Pn	00 31 52.7	-0.4
	baz=216						
GDXM	Geysers	4.15	121	Pn	Pn	00 31 55.0	+0.3
M04C	Macdoel	4.22	78	P	Pn	00 31 55.9	+0.1
	baz=255,SNR=12						
O03E	Paynes Creek	4.29	98	P	Pn	00 31 54.5	-2.1
	baz=275						
K04D	Chiloquin, OR	4.49	67	P	Pn	00 31 59.4	0.0
	baz=245						
J04D	Umpqua Nationa	4.50	59	Pn	Pn	00 32 00.0	+0.4
J04D	Umpqua Nationa	4.50	59	P	Pn	00 31 59.8	+0.2
	baz=236						
BUCK	Buck Mountain	4.53	44	Pn	Pn	00 32 01.1	+1.1
I04A	Tendick Farm,	4.60	51	P	Pn	00 32 00.8	-0.1
	baz=229,SNR=6.7						
COR	Corvallis	4.65	39		Pn	00 32 02.3	+0.7
H04D	Lebanon	4.89	43	Pn	Pn	00 32 06.1	+1.3
H04D	Lebanon	4.89	43	P	Pn	00 32 04.8	0.0
	baz=221						
J05D	Fort Rock, OR	5.09	62	P	Pn	00 32 07.7	0.0
	baz=240						
K05A	Summer Lake	5.12	68	Pn	Pn	00 32 09.1	+0.9
G03D	McMinnville, O	5.16	34	Pn	Pn	00 32 08.6	+0.2
G03D	McMinnville, O	5.16	34	P	Pn	00 32 09.0	+0.6
	baz=213						
H04A	Detroit Lake	5.28	44	Pn	Pn	00 32 10.6	+0.3
PINE	Pine Mountain	5.50	58	Pn	Pn	00 32 12.9	-0.5
I05D	Terrebonne, OR	5.54	51	P	Pn	00 32 14.0	+0.1
	baz=231						
HOOD	Mount Hood Mea	6.00	42		Pn	00 32 19.7	-0.4
F04A	Amboy	6.09	35		Pn	00 32 22.6	+1.3
G05D	Wamic, OR	6.12	44	P	Pn	00 32 21.8	+0.2
	baz=225						
E03A	Lebam	6.17	25	Pn	Pn	00 32 24.0	+1.6
F05D	White Salmon	6.49	39		Pn	00 32 28.2	+1.4
E04D	Cinebar	6.54	30		Pn	00 32 29.1	+1.7
E04D	Cinebar	6.54	30	P	Pn	00 32 29.7	+2.3
	baz=211						
I07A	Izee	6.56	60	Pn	Pn	00 32 29.3	+1.4
BBGB	Big Mountain B	6.63	130	Pn	Pn	00 32 30.3	+1.5
J08A	Circle Bar Ran	7.00	68	Pn	Pn	00 32 34.7	+0.7
PMPB	Monarch Peak	7.02	131	Pn	Pn	00 32 34.5	+0.3
D05A	Enumclaw	7.28	30	Pn	Pn	00 32 37.9	+0.2
F07A	Phinny Hill Vi	7.28	45	Pn	Pn	00 32 38.3	+0.7
NVAR	Mina Array Bea	7.44	107	Pn	Pn	00 32 38.8	-1.3
	0.4nm,0.3s,baz=305,slow=26,SNR=1.1						
NVAR				LR	LR	00 35 44.2	
	comp=Z,4μm,19.1s,baz=274,slow=40						
NVAR	Mina Array Bea	7.44	107		Pn	00 32 39.8	-0.3
G08A	Pilot Rock	7.48	52		Pn	00 32 40.7	+0.2
E07A	Sunnyside	7.76	42	Pn	Pn	00 32 45.8	+1.6
HAWA	Hanford	7.81	44	Pn	Pn	00 32 46.4	+1.5
LTY	Liberty	7.88	35		Pn	00 32 45.5	-0.4
E08A	Dider Farm, El	8.13	45		Pn	00 32 50.6	+1.4
VES	Vestal, Richgr	8.30	126	P	Pn	00 32 49.3	-2.3
	baz=309,SNR=7.6						
BMO	Blue Mountains	8.31	59		Pn	00 32 52.5	+0.6
PKM	Mcpherson Peak	8.54	133	P	Pn	00 32 51.9	-3.2
	baz=316						
D08A	Wollman Farm,	8.57	42		Pn	00 32 56.1	+0.8
E09A	Wood Farm, Sta	8.64	47	Pn	Pn	00 32 57.1	+0.8
ISA	Isabella, Lake	8.79	125	Pn	Pn	00 32 57.2	-1.2
ISA	Isabella, Lake	8.79	125	P	Pn	00 32 57.0	-1.4
	baz=308						
F10A	Beach Ranch, E	8.88	53		Pn	00 33 01.1	+1.5
MFID	Camas Ranch	8.89	71		Pn	00 33 01.2	+1.4
ELK	Elko	9.19	88	Pn	Pn	00 33 05.5	+1.5
	0.1nm,0.3s,baz=280,slow=13,SNR=9.2						
ELK				LR	LR	00 36 50.6	
	comp=Z,2μm,19.9s,baz=265,slow=40						
ELK	Elko	9.19	88	Pn	Pn	00 33 05.5	+1.5
PLID	Pearl Lake	9.26	60	Pn	Pn	00 33 05.5	+0.5
B08A	Colville Reser	9.30	35	Pn	Pn	00 33 06.2	+0.8
C09A	Chrisman Ranch	9.39	41	Pn	Pn	00 33 08.6	+2.0
R11A	Troy Canyon, C	9.46	103	Pn	Pn	00 33 08.9	+1.1
TPNV	Topopah Spring	9.56	112	Pn	Pn	00 33 11.1	+2.0
HLID	Hailey	9.93	71	Pn	Pn	00 33 15.3	+1.2
HLID	Hailey	9.93	71	P	Pn	00 33 16.9	+2.8
	baz=257						
MWC	Mount Wilson	10.02	130	Pn	Pn	00 33 15.5	+0.2
GSC	Goldstone, Bar	10.08	121		Pn	00 33 15.2	-0.9
NEW	Newport	10.28	42	Pn	Pn	00 33 18.7	0.0
	0.1nm,0.3s,baz=214,slow=12,SNR=5.7						
NEW				LR	LR	00 37 15.0	
	comp=Z,2μm,19.9s,baz=230,slow=37						
NEW	Newport	10.28	42	Pn	Pn	00 33 20.1	+1.3
NEW	Newport	10.28	42	P	Pn	00 33 22.1	+3.4
	baz=227						
HEC	Hector,Ludlow	10.67	122	P	Pn	00 33 22.0	-2.2
	baz=307,SNR=10						
BCYI	Bear Canyon	10.79	68	Pn	Pn	00 33 27.8	+1.8
DUG	Dugway, Tooele	11.10	89		Pn	00 33 30.7	+0.6
DUG	Dugway, Tooele	11.10	89	P	Pn	00 33 32.7	+2.7
	baz=276,SNR=5.5						
GMRC	Granite Mounta	11.14	120	P	Pn	00 33 28.4	-2.2
	baz=306						
MSO	Missoula	11.29	55		Pn	00 33 34.2	+1.6
MCMT	McKenzie Canyo	11.30	65		Pn	00 33 34.7	+1.8
PFO	Pinyon Flats O	11.39	127	Pn	Pn	00 33 31.1	-3.0
	0.8nm,0.3s,baz=305,slow=16,SNR=5.5						
PFO	Pinyon Flats O	11.39	127		Pn	00 33 32.7	-1.5
BELC	Belle Mtn. Jos	11.42	124	P	Pn	00 33 31.8	-2.7
	baz=309						
JTMT	Jette	11.52	50	Pn	Pn	00 33 37.2	+1.4
DLMT	Dillon	11.62	63		Pn	00 33 37.6	+0.4
TJX	Tijuana	11.84	133	Pn	Pn	00 33 39.4	-0.7
LRM	Limekiln Ridge	11.86	61		Pn	00 33 42.5	+1.9
IRM	Iron Mountain	11.86	121	P	Pn	00 33 39.0	-1.4
	baz=307						
HWUT	Hardware Ranch	11.90	82		Pn	00 33 42.5	+1.4
MONP2	Monument Peak	11.92	129	P	Pn	00 33 41.4	-0.1
	baz=314						
BAR	Barrett	11.93	131	Pn	Pn	00 33 41.7	+0.3
BC3	Big Chuckawall	11.98	124	P	Pn	00 33 39.3	-2.9
	baz=310						
ECR	Eagle Creek	12.07	75	Pn	Pn	00 33 44.8	+1.4
W13A	Hualapai Mount	12.15	115		Pn	00 33 45.5	+0.9
AHID	Auburn Hatcher	12.25	76	Pn	Pn	00 33 47.4	+1.6
QLMT	Earthquake Lak	12.29	67	Pn	Pn	00 33 47.7	+1.3
BOZ	Bozeman (W)	12.34	63		Pn	00 33 48.5	+1.5
BOZ	Bozeman (W)	12.34	63	P	Pn	00 33 49.4	+2.3
	baz=252						
SNOW	Snow King Moun	12.55	73	Pn	Pn	00 33 50.9	+0.9
HRY	Holter Researc	12.57	58		Pn	00 33 51.1	+1.0
MOOW	Moose Ponds	12.59	72	Pn	Pn	00 33 52.3	+1.8
U15A	North Rim	12.63	106	Pn	Pn	00 33 53.4	+2.2
FLWY	Flagg Ranch	12.67	70	Pn	Pn	00 33 54.4	+2.8
LOHW	Long Hollow	12.68	73		Pn	00 33 53.4	+1.7
H17A	Grant Village	12.80	69	Pn	Pn	00 33 55.5	+2.1
CPBX	Cerro Prieto	12.92	128	Pn	Pn	00 33 56.1	+1.3
BW06	Boulder Array	13.38	77		Pn	00 34 02.4	+1.0
BW06	Boulder Array	13.38	77	P	Pn	00 34 07.0	+5.6
	baz=266						
PD31	Pinedale Array	13.38	77		Pn	00 34 02.5	+1.1
PDAR	Pinedale Array	13.38	77	Pn	Pn	00 34 03.4	+2.0
	baz=231,slow=11,SNR=3.2						
PDAR				LR	LR	00 39 46.8	
	comp=Z,1μm,18.7s,baz=254,slow=40						
PDAR	Pinedale Array	13.38	77	Pn	Pn	00 34 03.3	+2.0
Y14A	Wickenburg	13.40	117		Pn	00 34 02.9	+1.4
WUAZ	Wupatki	13.70	108	Pn	Pn	00 34 07.8	+2.1
SFX	San Felipe	14.18	131		Pn	00 34 11.7	-0.5
X16A	Lo Mia Camp, P	14.21	113		Pn	00 34 13.4	+0.7
PV10	Paradox Valley	14.35	95	Pn	Pn	00 34 17.1	+2.4
PV23	Carpenter Ridg	14.35	94		Pn	00 34 16.0	+1.3
EGMT	Eagleton	14.37	55		Pn	00 34 16.2	+1.5
PV11	David Mesa, Pa	14.50	95		Pn	00 34 18.6	+1.9
O20A	White River Ci	14.56	87		Pn	00 34 20.2	+2.7
PV13	Radium Mtn., P	14.58	95		Pn	00 34 19.0	+1.2
PV07	Paradox Valley	14.63	94		Pn	00 34 19.9	+1.4
214A	Organ Pipe Nat	14.77	123		Pn	00 34 21.9	+1.7
214A	Organ Pipe Nat	14.77	123	P	Pn	00 34 24.2	+4.0
	baz=310						
PV15	Paradox Valley	14.78	94		Pn	00 34 21.2	+0.6
W18A	Petrified Fore	15.07	107		Pn	00 34 25.6	+1.2
W18A				IAmb	IAmb	00 34 34.1	
	comp=Z,70nm,1.2s						
MVCO	Mesa Verde	15.13	98	Pn	Pn	00 34 26.0	+0.9
RWWY	Rawlins	15.15	81	Pn	Pn	00 34 26.6	+1.0
RWWY				IAmb	IAmb	00 34 41.5	
	comp=Z,34nm,0.8s						
X18A	Snowflake	15.21	110		Pn	00 34 27.4	+1.3
X18A					P	00 34 28.5	-2.7
K22A	Casper	15.62	77	IAmb	IAmb	00 35 00.8	
	comp=Z,86nm,1.4s						
SMCO	Snowmass	15.71	90	Pn	Pn	00 34 34.6	+1.6
WRAK	Wrangell Islan	15.76	350	P	Pn	00 34 35.7	+2.6
TUC	Tucson	15.87	118		Pn	00 34 36.4	+1.7
TUC	Tucson	15.87	118	P	P	00 34 41.6	+3.1
	baz=306						
N23A	Red Feather La	16.18	83	Pn	Pn	00 34 38.6	-0.3
S22A	4UR Ranch, Cre	16.21	95	Pn	Pn	00 34 40.2	+0.9
S22A	4UR Ranch, Cre	16.21	95	P	Pn	00 34 41.5	+2.3
	baz=286,SNR=9.5						
LAO	LASA Array	16.25	63		Pn	00 34 38.8	-0.8
PHWY	Pilot Hill	16.50	82	Pn	Pn	00 34 40.4	-2.6
ISCO	Idaho Springs	16.61	87	Pn	Pn	00 34 44.7	+0.3
ISCO	Idaho Springs	16.61	87	P	Pn	00 34 45.8	+1.4
	baz=280,SNR=12						
Q24A	Divide	17.14	90		Pn	00 34 51.0	-0.2
SDCO	Great Sand Dun	17.21	94	P	Pn	00 34 53.4	+1.4
SDCO	Great Sand Dun	17.21	94	P	Pn	00 34 54.3	+2.3
	baz=286,SNR=26						
RSSD	Black Hills	17.45	72		Pn	00 34 56.4	+1.5
319A	Douglas	17.45	118		Pn	00 34 54.7	-0.2
319A				IAmb	IAmb	00 35 08.7	
	comp=Z,240nm,1.5s						
DLBC	Dease Lake	17.52	355	P	Pn	00 34 56.6	+1.0
	comp=Z,0.1nm,0.3s,baz=172,slow=11,SNR=9.8						
ANMO	Albuquerque	17.54	103	P	Pn	00 34 56.7	+0.6
	comp=Z,0.1nm,0.3s,baz=300,slow=11,SNR=5.5						
ANMO				LR	LR	00 42 09.6	
	comp=Z,2μm,18.7s,baz=298,slow=39						
ANMO	Albuquerque	17.54	103		Pn	00 34 57.7	+1.7
ANMO	Albuquerque	17.54	103	P	P	00 34 60.0	+2.8
	baz=295						
BNM	Barren Site	17.79	106	P	Pn	00 35 00.8	+1.7
121A	Cookes Peak, D	17.80	112		P	00 35 02.3	+2.4
121A	Cookes Peak, D	17.80	112	P	P	00 35 06.8	+6.9
	baz=303						
DGMT	Dagmar	18.02	58		P	00 35 03.4	+1.2
DGMT				IAmb	IAmb	00 35 11.3	
	comp=Z,213nm,2.0s						
BESE	Bessie Mountai	18.21	347	P	Pn	00 35 04.8	+0.8
T25A	Trinidad	18.22	95	P	Pn	00 35 04.5	0.0
T25A	Trinidad	18.22	95	P	P	00 35 06.9	+2.2
	baz=288,SNR=9.9						
KSCO	Kaye Shedlock'	19.04	88	P	P	00 35 14.6	+1.0
KSCO	Kaye Shedlock'	19.04	88	P	Pn	00 35 16.1	+1.8
	baz=282,SNR=11						
OGNE	Ogallala	19.11	82	P	Pn	00 35 16.2	+1.1
OGNE				IAmb	IAmb	00 35 33.9	
	comp=Z,167nm,1.9s						
SKAG	Skagway	19.13	348	P	P	00 35 15.3	+1.1
P33M	Teslin, Yukon	19.52	352	P	Pn	00 35 20.5	+0.7
	baz=168						
MNTX	Cornudas Mount	19.95	111		P	00 35 25.3	+1.9
MNTX	Cornudas Mount	19.95	111	P	Pn	00 35 28.6	+3.5
	baz=303,SNR=13						
MSTX	Muleshoe	20.70	102		P	00 35 32.7	+1.0
PCA	Pinnacle	20.71	342	P	P	00 35 33.1	+1.6
PCA				IAmb	IAmb	00 35 34.4	
	comp=Z,72nm,1.3s						
HYT	Haines Junctio	20.79	346	P	Pn	00 35 34.8	-0.1
	baz=158,SNR=11						
MDND	Maddock	20.89	62	P	P	00 35 35.6	+2.0
MDND				IAmb	IAmb	00 35 45.1	
	comp=Z,35nm,0.8s						
YUK6	Outpost Mounta	21.07	345	P	P	00 35 37.3	+1.8
	baz=156						
SUSD	Miller	21.10	71	P	P	00 35 37.4	+1.6
SUSD				IAmb	IAmb	00 35 44.6	
	comp=Z,34nm,0.7s						
AMTX	Amarillo	21.12	99	P	P	00 35 37.2	+1.0
AMTX				IAmb	IAmb	00 35 53.3	
	comp=Z,57nm,1.2s						
N31M	Braeburn, Yuko	21.13	349	P	P	00 35 38.4	+2.3
	baz=162,SNR=6.7						
CBKS	Cedar Bluff	21.27	87	P	P	00 35 38.7	+1.0
CBKS				IAmb	IAmb	00 35 48.9	
	comp=Z,74nm,1.1s						
YUK4	Talbot Arm	21.49	345	P	P	00 35 42.0	+2.0
	baz=157						
FARO	Faro, Yukon	21.55	352	P	P

comp=Z,46nm,1.1s
AGMN Agassiz Nation 23.44 61 P **P** **00 36 01.1 +0.5**
baz=262,SNR=12
KAN13 South Haven SW 23.50 90 P **P** **00 36 02.9 +1.6**
KAN13 IAmb IAmb 00 36 09.9
comp=Z,33nm,0.9s
KSU1 Kansas State U 23.56 85 P **P** **00 36 03.9 +2.2**
KSU1 IAmb IAmb 00 36 09.6
comp=Z,38nm,1.1s
ABTX Abilene, Hawle 23.64 102 P **P** **00 36 03.8 +1.1**
ABTX IAmb IAmb 00 36 10.9
comp=Z,71nm,1.2s
PWL Port Wells 23.66 334 P **P** **00 36 03.7 +1.1**
baz=138
BCAR Beaver Creek A 23.69 344 P **P** **00 36 04.1 +1.2**
L27K Beaver Creek, 23.69 344 P **P** **00 36 04.8 +1.9**
baz=152
ULM Lac du Bonnet 23.72 56 P **P** **00 36 03.2 0.0**
comp=Z,14nm,0.8s,baz=273,slow=13,SNR=3.5
ULM LR LR 00 45 30.1
comp=Z,699nm,19.5s,baz=259,slow=37
ULM Lac du Bonnet 23.72 56 P **P** **00 36 04.6 +1.4**
HARP HAARP 23.92 339 P **P** **00 36 07.5 +2.4**
baz=146
L26K Log Cabin Wild 24.00 342 P **P** **00 36 07.7 +1.9**
baz=149
MENT Mentasta 24.01 342 P **P** **00 36 06.9 +0.9**
MENT IAmb IAmb 00 36 09.9
comp=Z,35nm,0.8s
SCM Sheep Creek Mo 24.09 337 P **P** **00 36 08.3 +1.6**
baz=141,SNR=9.9
OK025 Westminster Rd 24.11 93 P **P** **00 36 09.5 +2.4**
OK025 IAmb IAmb 00 36 15.4
comp=Z,57nm,1.1s
DAWY Dawson 24.14 347 P **P** **00 36 08.9 +1.8**
baz=157,SNR=11
OK033 Mehan 24.25 92 **P** **00 36 09.1 +0.8**
OK033 IAmb IAmb 00 36 16.8
comp=Z,51nm,1.2s
J29M Klondike Camp 24.31 349 P **P** **00 36 09.8 +1.1**
OK031 S. Brethren Rd 24.35 92 **P** **00 36 11.3 +2.0**
SML Sawmill 24.37 336 P **P** **00 36 10.9 +1.6**
baz=139,SNR=7.3
OK030 Cody Creek RV 24.40 92 **P** **00 36 11.4 +1.6**
OK034 N. Norfolk Rd. 24.43 92 **P** **00 36 10.6 +0.6**
PMR Palmer 24.47 335 P **P** **00 36 11.3 +1.3**
PMR IAmb IAmb 00 36 25.4
comp=Z,58nm,1.7s
PAX Paxson 24.48 340 P **P** **00 36 11.4 +1.1**
baz=146
JCT Junction City 24.62 107 P **P** **00 36 11.2 -0.6**
JCT IAmb IAmb 00 36 21.4
comp=Z,35nm,1.1s
DOT Dot Lake 24.70 342 P **P** **00 36 12.9 +0.7**
M22K Willow 24.91 334 P **P** **00 36 15.2 +1.1**
RSO Redoubt South 24.96 330 P **P** **00 36 16.2 +1.4**
RIDG Independent Ri 24.97 342 P **P** **00 36 15.9 +1.3**
baz=148,SNR=5.1
SCRK Sand Creek 24.97 343 P **P** **00 36 16.1 +1.3**
baz=149,SNR=7.3
EGAK Eagle 25.10 346 P **P** **00 36 16.1 +0.4**
EGAK Eagle 25.10 346 P **P** **00 36 17.3 +1.5**
baz=155
TUL1 Leonard 25.16 91 **P** **00 36 17.3 +0.7**
TUL1 IAmb IAmb 00 36 25.2
comp=Z,68nm,1.4s
I29M Ogilvie Camp, 25.18 349 P **P** **00 36 17.3 +0.8**
I29M Ogilvie Camp, 25.18 349 P **P** **00 36 17.6 +1.0**
baz=160,SNR=6.2
P18K Big Mountain, 25.31 326 P **P** **00 36 19.0 +1.1**
P18K IAmb IAmb 00 36 25.3
comp=Z,29nm,1.1s
O19K Port Alsworth 25.41 328 IAmb IAmb 00 36 20.8
comp=Z,51nm,1.1s
O19K Port Alsworth 25.41 328 P **P** **00 36 20.1 +1.5**
baz=127,SNR=10.0
SCIA State Center 25.51 77 P **P** **00 36 22.3 +2.5**
O18K Koktuh Hills 25.57 327 P **P** **00 36 21.0 +0.9**
O18K IAmb IAmb 00 36 30.1
comp=Z,43nm,1.2s
WHTX Lake Whitney, 25.57 101 P **P** **00 36 22.1 +1.8**
WHTX IAmb IAmb 00 36 29.6
comp=Z,54nm,1.1s
N19K Bonanza Creek 25.85 329 P **P** **00 36 22.8 0.0**
N19K IAmb IAmb 00 36 27.0
comp=Z,46nm,1.4s
N19K Bonanza Creek 25.85 329 P **P** **00 36 23.7 +1.0**
baz=128
SDPT Sand Point 26.02 315 P **P** **00 36 23.4 -0.8**
MCK McKinley 26.03 338 P **P** **00 36 25.4 +1.1**
MCK McKinley 26.03 338 P **P** **00 36 25.1 +0.9**
baz=141,SNR=6.0
HDA Harding Lake 26.04 341 P **P** **00 36 25.3 +1.0**
baz=145
435B Jarrell 26.08 104 P **P** **00 36 27.4 +2.4**
833A Chaparral WMA, 26.13 110 P **P** **00 36 26.5 +1.0**
833A IAmb IAmb 00 36 41.5
comp=Z,42nm,1.4s
IL31 26.32 341 P **P** **00 36 27.2 +0.4**
ILAR Eielson Array 26.32 341 P **P** **00 36 27.6 +0.7**
comp=Z,8.2nm,0.9s,baz=158,slow=7.7,SNR=21
ILAR PcP **PcP** **00 39 52.0 -0.5**
comp=Z,1.8nm,0.9s,baz=166,slow=2.8,SNR=6.2
PPLA Purkeypile 26.40 334 P **P** **00 36 28.7 +0.9**
PPLA IAmb IAmb 00 36 30.3
comp=Z,59nm,1.2s
PPLA Purkeypile 26.40 334 P **P** **00 36 29.4 +1.6**
baz=135,SNR=8.0
HHAR Hobbs 26.43 89 **P** **00 36 30.0 +1.9**
M19K Big River Lodg 26.50 331 P **P** **00 36 29.6 +1.1**
M19K IAmb IAmb 00 36 31.3
comp=Z,41nm,1.3s
M19K Big River Lodg 26.50 331 P **P** **00 36 30.1 +1.6**
baz=130
PRP Porcupine Dome 26.63 343 P **P** **00 36 31.7 +1.9**
baz=148
COLA College 26.64 341 P **P** **00 36 31.1 +1.4**
COLA IAmb IAmb 00 36 41.2
comp=Z,28nm,1.4s
TCOL CIGO, UAF Yank 26.65 341 P **P** **00 36 30.9 +1.2**
TCOL IAmb IAmb 00 36 41.1
comp=Z,27nm,1.4s
L20K Farewell, AK 26.69 332 P **P** **00 36 31.3 +1.1**
baz=132
CAST Castle Rocks 26.74 335 P **P** **00 36 30.2 -0.4**
baz=136
NEA2 Nenana 26.74 339 P **P** **00 36 31.9 +1.2**
baz=142,SNR=18
L19K White Mountain 26.84 331 P **P** **00 36 32.5 +0.9**
L19K IAmb IAmb 00 36 40.8
comp=Z,57nm,1.2s
L19K White Mountain 26.84 331 P **P** **00 36 32.8 +1.2**
baz=130,SNR=12
BPAW Bear Paw Mtn. 26.90 337 P **P** **00 36 32.7 +0.6**
baz=138,SNR=7.0
CHUM Lake Minchumin 27.14 336 P **P** **00 36 35.2 +0.9**
baz=136,SNR=5.7
I23K Minto, Yukon-K 27.25 340 P **P** **00 36 35.6 +0.4**
I23K IAmb IAmb 00 36 48.5
comp=Z,59nm,1.6s
I23K Minto, Yukon-K 27.25 340 P **P** **00 36 36.5 +1.3**
baz=142,SNR=13
K20K Telida 27.34 334 P **P** **00 36 36.7 +0.6**
baz=133
MIAR Mount Ida 27.36 93 P **P** **00 36 38.0 +1.5**
MGMO Mountain Grove 27.40 87 P **P** **00 36 37.3 +0.4**
MGMO IAmb IAmb 00 36 49.4
comp=Z,30nm,1.3s
H24K Noodor Dome 27.44 342 P **P** **00 36 38.3 +1.3**
baz=145
FALS False Pass 27.49 312 P **P** **00 36 37.7 +0.3**
JFWS Jewell Farm 27.52 74 P **P** **00 36 39.2 +1.3**
JFWS IAmb IAmb 00 36 48.3
comp=Z,30nm,1.0s
MLY Manley 27.53 339 P **P** **00 36 38.6 +0.8**
baz=140
INK Inuvik 27.55 355 P **P** **00 36 37.9 +0.1**
comp=Z,6.3nm,1.0s,baz=168,slow=8.9,SNR=5.9
INK Inuvik 27.55 355 P **P** **00 36 38.1 +0.3**
baz=170,SNR=5.6
ZAIG Zacatecas 27.67 124 P **P** **00 36 41.6 +1.9**
TTA Tatalina 27.73 332 P **P** **00 36 40.9 +1.2**
TTA IAmb IAmb 00 36 52.6
comp=Z,44nm,1.7s
NATX Nacogdoches 27.77 99 P **P** **00 36 41.5 +1.3**
NATX IAmb IAmb 00 36 49.2

comp=Z,25nm,0.9s
HKT Hockley 27.80 103 P **P** **00 36 42.4 +2.0**
HKT IAmb IAmb 00 36 53.1
comp=Z,66nm,1.6s
CCM Cathedral Cave 27.89 84 P **P** **00 36 42.7 +1.5**
J20K Nowinta River 27.93 335 P **P** **00 36 42.4 +1.1**
baz=134
FCAR Ozark Folk Cen 27.94 89 P **P** **00 36 44.0 +2.3**
FCAR IAmb IAmb 00 37 22.7
comp=Z,32nm,1.8s
COWI Conover 27.97 67 P **P** **00 36 43.0 +1.0**
COWI IAmb IAmb 00 36 49.3
comp=Z,39nm,1.2s
I21K Tanana 27.99 338 P **P** **00 36 42.8 +0.9**
baz=138
WHAR Wooly Hollow 28.04 90 P **P** **00 36 44.2 +1.6**
WLAR White Oak Lake 28.06 94 P **P** **00 36 43.5 +0.7**
W41B Gary Mavity, V 28.12 91 P **P** **00 36 44.6 +1.4**
C36M Paulatuk 28.45 2 P **P** **00 36 46.0 +0.2**
baz=185,SNR=8.0
Z41A Richland Creek 28.48 95 P **P** **00 36 47.8 +1.3**
FVM French Village 28.53 84 P **P** **00 36 48.5 +1.6**
FVM IAmb IAmb 00 37 10.5
comp=Z,28nm,1.6s
H21K Melozitna Rive 28.58 338 P **P** **00 36 48.3 +1.2**
baz=137
LCAR Lake Charles 28.61 88 P **P** **00 36 47.0 -0.6**
PBMO Poplar Bluff 28.91 86 P **P** **00 36 51.3 +1.0**
PBMO IAmb IAmb 00 36 58.5
comp=Z,31nm,1.5s
COLD Coldfoot 29.11 342 P **P** **00 36 52.6 +0.8**
COLD IAmb IAmb 00 37 26.3
comp=Z,38nm,1.8s
COLD Coldfoot 29.11 342 P **P** **00 36 53.4 +1.6**
baz=143
GCSA Galena City Sc 29.19 334 P **P** **00 36 53.7 +1.2**
baz=130
TOLK Toolik Lake Re 30.12 344 P **P** **00 37 01.7 +0.9**
TOLK IAmb IAmb 00 37 04.0
comp=Z,28nm,1.1s
TOLK Toolik Lake Re 30.12 344 P **P** **00 37 03.0 +2.2**
baz=145,SNR=9.7
CLES Cleveland East 30.91 307 P **P** **00 37 09.3 +1.5**
A36M Sachs Harbour 31.07 1 P **P** **00 37 10.3 +1.3**
baz=183,SNR=10.0
GLMI Grayling 31.27 69 P **P** **00 37 12.4 +1.3**
ANM Nome 32.10 330 P **P** **00 37 19.5 +1.3**
baz=119
SWET Sewanee 32.88 87 P **P** **00 37 27.2 +1.8**
SWET IAmb IAmb 00 37 31.1
comp=Z,31nm,1.5s
A21K Barrow 33.74 344 P **P** **00 37 32.5 +0.1**
GAMB Gambell 34.30 327 P **P** **00 37 38.1 +0.8**
GAMB IAmb IAmb 00 37 39.5
comp=Z,15nm,1.0s
TKL Tuckaleechee C 34.34 85 LR LR 00 50 20.2
comp=Z,988nm,19.6s,baz=282,slow=34
MEDO Medina 35.95 70 P **P** **00 37 53.5 +1.6**
PAULI Pauline 36.14 85 P **P** **00 37 55.0 +1.5**
KMSC Kings Mountain 36.37 84 P **P** **00 37 55.7 +0.1**
KMSC IAmb IAmb 00 38 02.8
comp=Z,27nm,1.1s
MMNY Mt. Morris Dam 36.45 70 P **P** **00 37 55.0 -1.1**
CMIG Matias Romero 36.73 121 LR LR 00 53 29.5
comp=Z,379nm,20.1s,baz=313,slow=37
RES Resolute Bay 36.88 14 P **P** **00 37 59.2 -0.2**
comp=Z,10nm,0.9s,baz=225,slow=10.0,SNR=12
SCHQ Schefferville 41.53 49 P **P** **00 38 37.1 -1.4**
comp=Z,12nm,1.1s,baz=288,slow=8.9,SNR=4.3
SCHQ LR LR 00 56 17.2
comp=Z,237nm,18.2s,baz=278,slow=37
SCHQ Schefferville 41.53 49 P **P** **00 38 38.0 -0.5**
ESQI Esquipulas 42.22 117 P **P** **00 38 46.1 +1.4**
MTO3 Montecristo 42.33 118 P **P** **00 38 47.3 +1.7**
MTO3 IAmb IAmb 00 38 53.8
comp=Z,23nm,1.1s
BILL Bilibino 43.96 330 P **P** **00 38 57.3 -0.7**
BILL IAmb IAmb 00 38 59.2
comp=Z,18nm,1.2s
ESPN Las Esperanzas 47.33 115 P **P** **00 39 25.2 -0.1**
ORTG Ortega, Santa 47.86 118 P **P** **00 39 29.8 +0.3**
JTS Las Juntas de 48.25 117 P **P** **00 39 33.7 +1.2**
DY2G Dye2 49.78 31 *i* P **P** **00 39 42.0 -1.8**
DY2G IAmb IAmb 00 39 50.7
comp=Z,6.7nm,0.7s
PETK Petropavlovsk- 50.20 311 P **P** **00 39 46.4 -0.6**
comp=Z,5.5nm,0.9s,baz=119,slow=11,SNR=4.1
PETK LR LR 00 59 56.3
comp=Z,135nm,18.4s,baz=88,slow=35
PETK Petropavlovsk- 50.20 311 P **P** **00 39 46.4 -0.6**
SEY Seymchan 50.22 324 P **P** **00 39 46.3 -0.6**
comp=Z,9.2nm,1.0s,baz=86,slow=7.5,SNR=8.4
SEY LR LR 00 57 49.0
comp=Z,450nm,20.9s,baz=46,slow=32
SUMG Summit 51.12 23 *i* P **P** **00 39 53.3 -0.8**
SUMG IAmb IAmb 00 39 55.9
comp=Z,11nm,0.9s
SUMG Summit 51.12 23 P **P** **00 39 54.1 +0.1**
SUMG IAmb IAmb 00 39 56.6
comp=Z,20nm,0.9s
ICESG Greenland Ices 51.61 27 *i* P **P** **00 39 56.7 -1.1**
ICESG IAmb IAmb 00 39 58.9
comp=Z,15nm,0.8s
MA2 Magadan 51.89 320 P **P** **00 39 59.7 +0.1**
MA2 IAmb IAmb 00 40 00.8
comp=Z,18nm,1.0s
SJCC San Jacinto, C 55.33 109 P **P** **00 40 26.0 +0.5**
TIXI Tiksi 55.73 338 P **P** **00 40 26.8 -0.7**
comp=Z,9.7nm,0.9s,baz=66,slow=6.6,SNR=13
TIXI Tiksi 55.73 338 P **P** **00 40 26.8 -0.7**
TIXI IAmb IAmb 00 40 28.0
comp=Z,11nm,0.8s
MOTC Monteria, Cord 55.76 110 P **P** **00 40 29.2 +0.8**
OBIP Obispado Ponce 56.43 95 P **P** **00 40 33.9 +0.7**
H11N3 WAKE ISLAND Hy 59.18 270 T T 01 44 52.4
baz=53,slow=75,SNR=1063
H11N2 WAKE ISLAND Hy 59.18 270 T T 01 44 51.5
baz=53,slow=75,SNR=178
H11N1 WAKE ISLAND Hy 59.20 270 T T 01 44 51.1
baz=53,slow=75,SNR=212
OTAV Otavalo 60.00 120 P **P** **00 40 59.6 +0.9**
OTAV IAmb IAmb 00 43 07.5
comp=Z,12nm,1.1s
H11S1 WAKE ISLAND Hy 60.06 269 T T 01 46 08.1
baz=52,slow=75,SNR=56
H11S2 WAKE ISLAND Hy 60.07 269 T T 01 46 00.5
baz=52,slow=75,SNR=50
H11S3 WAKE ISLAND Hy 60.08 269 T T 01 46 06.4
baz=52,slow=75,SNR=51
NRIK Noril'sk 66.99 347 P **P** **00 41 43.0 -0.6**
comp=Z,5.7nm,0.9s,baz=33,slow=4.9,SNR=8.4
NRIK Noril'sk 66.99 347 IAmb IAmb 00 41 44.3
comp=Z,11nm,1.1s
NRIK Noril'sk 66.99 347 IAmb IAmb 00 41 44.3
comp=Z,11nm,1.1s
ARCES ARCESS Array B 67.97 10 P **P** **00 41 49.1 -0.7**
comp=Z,6.3nm,1.0s,baz=342,slow=11,SNR=3.9
ARCES ARCESS Array B 67.97 10 P **P** **00 41 49.6 -0.3**
AFI Afiamalu 68.36 227 LR LR 01 03 15.6
comp=Z,209nm,21.4s,baz=142,slow=28
USRK Ussuriysk Ar. 69.29 311 P **P** **00 41 57.0 -1.5**
comp=Z,6.0nm,0.9s,baz=52,slow=3.4,SNR=6.1
MJAR Matsushiro Arr 70.09 301 P **P** **00 42 01.5 -2.1**
comp=Z,3.0nm,0.9s,baz=27,slow=5.4,SNR=4.2
MJAR Matsushiro Arr 70.09 301 P **P** **00 42 01.5 -2.1**
MJAR Matsushiro Arr 70.09 301 IAmb IAmb 00 42 03.7
comp=Z,16nm,1.4s
LVZ Lovozero 70.56 7 P **P** **00 42 05.8 -0.2**
BNX BinXian 70.89 314 ⇑P **P** **00 42 07.5 -0.8**
BNX pmax pmax
comp=Z,11nm,1.2s
BNX pmax pmax
comp=Z,270nm,3.7s
NB2 NORSAR Subarra 72.85 20 PKP P 00 42 25.9 +6.0
comp=Z,1.0nm,0.6s,baz=16,slow=2.4
NOA NORSAR Array B 72.85 20 P **P** **00 42 20.1 +0.2**
comp=Z,5.8nm,1.0s,baz=330,slow=5.9,SNR=7.0
ETMB Extrema 75.57 117 IAmb IAmb 00 42 41.2
comp=Z,14nm,1.2s
KLMR Klimovskoe 77.92 7 *e*P **P** **00 42 46.4 -2.5**
KLMR AMP 00 42 49.4
comp=Z,30nm,1.2s
XLT XiLinHaoTe 78.05 319 *e*P **P** **00 42 50.0 -0.1**
XLT pmax pmax
comp=Z,21nm,1.3s
XLT pmax pmax

comp=Z,140nm,6.5s
LPAZ La Paz 79.07 123 P **P** **00 42 54.1 -2.5**
comp=Z,2.4nm,1.1s,baz=288,slow=7.2,SNR=3.6
SONM Songino Array 79.53 326 P **P** **00 42 58.1 -0.1**
comp=Z,8.8nm,1.0s,baz=354,slow=3.0,SNR=21
SONM Songino Array 79.53 326 IAmb IAmb 00 42 59.4
comp=Z,19nm,1.2s
SONM Songino Array 79.53 326 IAmb IAmb 00 42 59.4
comp=Z,19nm,1.2s
NRDL Niedersach Rie 79.84 25 *e*P **P** **00 43 00.4 +0.9**
comp=Z,5.4nm,0.8s,baz=331,slow=5.2
BMRD Maredsous 79.86 29 P **P** **00 43 00.6 +0.9**
BGES Gesves 79.91 29 P **P** **00 43 00.1 +0.1**
comp=Z,10nm,0.9s
BGES PcP **pwP** **00 43 07.0 +0.6**
MEM Membach 80.05 28 P **P** **00 43 01.8 +0.9**
RCHB Rochefort 80.15 29 P **P** **00 43 01.6 +0.3**
BHOU Houvegnez 80.26 28 P **P** **00 43 02.0 0.0**
BHOU PcP **pwP** **00 43 09.1 +0.8**
FLTG Flechtingen 80.34 24 *e*P **P** **00 43 02.8 +0.5**
comp=Z,12nm,1.0s,baz=331,slow=5.2
PB11 IPOC Station P 80.73 126 P **P** **00 43 03.9 -1.1**
PB11 IAmb IAmb 00 43 10.6
comp=Z,18nm,1.0s
ZALV Zalesovo Beam 81.45 341 P **P** **00 43 07.3 -0.9**
comp=Z,5.7nm,0.9s,baz=15,slow=6.2,SNR=11
CLL Collm 81.77 24 *e*P **P** **00 43 10.0 0.0**
comp=Z,14nm,1.3s
CLL *ex* x 00 43 23.0
CLL Collm 81.77 24 *e*P **P** **00 43 10.4 +0.4**
comp=Z,4.8nm,0.8s,baz=331,slow=5.2
PB01 IPOC Station P 81.81 127 IAmb IAmb 00 43 16.4
comp=Z,10nm,1.2s
MOX Moxa 81.92 25 *e*P **P** **00 43 11.2 +0.4**
comp=Z,4.7nm,1.1s,baz=331,slow=5.2
BRG Berggiesshubel 82.44 24 *e*P **P** **00 43 14.2 +0.7**
BRG Amp 00 43 15.8
comp=Z,18nm,1.3s
BRG Berggiesshubel 82.44 24 *e*P **P** **00 43 13.8 +0.3**
comp=Z,6.9nm,0.9s,baz=331,slow=5.2
HHC Hu-ho-hao-te 82.55 319 *e*P **P** **00 43 13.8 -0.6**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.5s
BFO Black Forest 82.79 28 *e*P **P** **00 43 16.2 +0.8**
comp=Z,6.6nm,1.1s,baz=331,slow=5.2
PVCC Panska Ves 82.93 23 *e*P **P** **00 43 17.1 +1.0**
CHVC Chvalec 83.32 22 *e*P **P** **00 43 18.7 +0.6**
UPC Upice 83.38 23 *e*P **P** **00 43 18.9 +0.5**
OSTC Ostas 83.39 22 *e*P **P** **00 43 19.0 +0.5**
PRU Pruhonice 83.40 24 *e*P **P** **00 43 19.0 +0.5**
PBCC Pribram 83.50 24 *e*P **P** **00 43 19.7 +0.6**
HNS HongShan 83.51 315 ⇑P **P** **00 43 19.3 0.0**
HNS pmax pmax
comp=Z,12nm,1.3s
DPC Dobruska-Polom 83.61 22 *e*P **P** **00 43 20.2 +0.6**
WET Wettzell 83.63 25 *e*P **P** **00 43 20.1 +0.4**
comp=Z,5.6nm,1.0s,baz=331,slow=5.2
KHC Kasperske Hory 83.86 25 *e*P **P** **00 43 21.5 +0.6**
KHC *e*pP **pwP** **00 43 27.6 +0.4**
KHC Kasperske Hory 83.86 25 IAmb IAmb 00 43 22.6
comp=Z,11nm,1.1s
FUR Furstenfeldbru 83.95 26 *e*P **P** **00 43 21.7 +0.3**
comp=Z,11nm,0.9s,baz=331,slow=5.2
UBR Ueberruh 83.97 27 *e*P **P** **00 43 22.2 +0.6**
comp=Z,4.7nm,0.9s,baz=331,slow=5.2
KRLC Kraliky 83.99 22 *e*P **P** **00 43 22.1 +0.5**
KRLC *ex* x 00 43 30.2
GEC2 GERESS Array S 84.15 25 *e*P **P** **00 43 22.7 +0.2**
comp=Z,9.0nm,1.0s,baz=331,slow=5.2
GEC2 GERESS Array S 84.15 25 IAmb IAmb 00 43 24.2
comp=Z,18nm,1.2s
GEC2 GERESS Array S 84.15 25 IAmb IAmb 00 43 24.2
comp=Z,18nm,1.2s
GERES GERESS Array B 84.15 25 P **P** **00 43 22.5 0.0**
comp=Z,5.6nm,0.9s,baz=343,slow=4.2,SNR=14
DAVA Damuels 84.23 28 *e*P **P** **00 43 24.2 +1.2**
comp=Z,21nm,1.1s
TREC Trest 84.30 23 *e*P **P** **00 43 23.6 +0.4**
CKRC Cesky Krumlov 84.36 24 *e*P **P** **00 43 23.6 +0.1**
RETA Reutte 84.36 27 *e*P **P** **00 43 23.7 +0.1**
comp=Z,7.5nm,1.1s
MORC Moravsky Berou 84.47 22 *e*P **P** **00 43 24.4 +0.3**
MORC Moravsky Berou 84.47 22 IAmb IAmb 00 43 25.3
comp=Z,6.9nm,1.0s
ESDC Sonseca Array 84.59 40 P **P** **00 43 24.5 -0.4**
comp=Z,5.0nm,1.0s,baz=313,slow=4.9,SNR=10
ESDC Sonseca Array 84.59 40 P **P** **00 43 24.9 +0.1**
ESDC IAmb IAmb 00 43 26.0
comp=Z,9.2nm,1.2s
MOTA Moosalm 84.60 27 *e*P **P** **00 43 25.7 +0.8**
comp=Z,16nm,1.2s
VRAC Vranov 84.62 23 *e*P **P** **00 43 25.2 +0.4**
OJC Ojcow 84.69 20 IAmb IAmb 00 43 26.2
comp=Z,21nm,1.1s
OJC Ojcow 84.69 20 IAmb IAmb 00 43 26.2
comp=Z,21nm,1.1s
SQTA Sankt Quirin 84.75 27 *e*P **P** **00 43 26.7 +1.1**
comp=Z,13nm,1.0s
FETA Feichten 84.75 27 *e*P **P** **00 43 27.0 +1.3**
comp=Z,18nm,1.1s
WATA Walderalm 84.77 27 *i* P **P** **00 43 26.6 +0.9**
comp=Z,16nm,1.1s,SNR=4.3
KRUC Moravsky 84.78 23 *e*P **P** **00 43 25.8 +0.2**
RJOB Jochberg 84.83 26 *e*P **P** **00 43 26.3 +0.4**
comp=Z,6.6nm,0.9s,baz=331,slow=5.2
WTTA Wattenberg 84.85 27 *i* P **P** **00 43 27.0 +0.8**
comp=Z,18nm,1.2s,SNR=4.6
BNI Bardonecchia 84.94 31 IAmb IAmb 00 43 28.9
comp=Z,22nm,1.1s
NJ2 Nanjing 85.06 309 *e*P **P** **00 43 26.5 -0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
BRVK Borovoye 85.07 349 P **P** **00 43 27.1 +0.2**
BRVK IAmb IAmb 00 43 27.9
comp=Z,12nm,0.9s
BRVK Borovoye 85.07 349 IAmb IAmb 00 43 27.9
comp=Z,12nm,0.9s
BVAR Borovoye Array 85.09 349 P **P** **00 43 27.1 0.0**
comp=Z,5.3nm,0.9s,baz=49,slow=6.8,SNR=11
JAVC Velka Javorina 85.33 22 *e*P **P** **00 43 29.5 +1.1**
LANS Liptovska Anna 85.57 21 *e*P **P** **00 43 30.7 +1.1**
SMOL Smolenice 85.58 23 *e*P **P** **00 43 30.7 +1.1**
KBA Koelneinsper 85.59 26 *e*P **P** **00 43 29.1 -0.7**
comp=Z,15nm,1.1s
ABTA Abfaltersbach 85.60 26 *e*P **P** **00 43 30.8 +1.0**
comp=Z,11nm,1.3s
CONA Conrad Observa 85.63 24 *i* P **P** **00 43 31.0 +1.0**
comp=Z,13nm,1.2s,SNR=6.2
MODS Modra-Piesok 85.66 23 *e*P **P** **00 43 31.9 +1.9**
ZST Bratislava 85.77 23 *e*P **P** **00 43 31.5 +1.0**
KURK Kurchatov 85.86 344 P **P** **00 43 30.6 -0.3**
KURK IAmb IAmb 00 43 31.4
comp=Z,13nm,1.1s
KURBB Kurchatov Arra 85.97 344 P **P** **00 43 31.1 -0.4**
comp=Z,8.0nm,0.9s,baz=17,slow=4.5,SNR=18
ARSA Arzberg 86.13 24 *e*P **P** **00 43 33.4 +1.0**
comp=Z,11nm,1.4s
AKASG Malin Array Be 86.39 15 P **P** **00 43 32.8 -0.7**
comp=Z,13nm,0.9s,baz=344,slow=4.1,SNR=17
AKBB Malin Array Si 86.39 15 IAmb IAmb 00 43 33.6
comp=Z,21nm,1.1s
OBKA Obir 86.48 25 *i* P **P** **00 43 35.2 +1.0**
comp=Z,5.7nm,0.9s,SNR=4.3
SOKA Soboth 86.48 25 *e*P **P** **00 43 35.4 +1.2**
comp=Z,7.1nm,1.3s
H03N2 Juan Fernandez 86.49 141 T T 02 19 45.8
baz=338
H03N1 Juan Fernandez 86.50 141 T T 02 19 50.1
baz=338
H03N3 Juan Fernandez 86.50 141 T T 02 19 46.0
baz=338
DZM Mont Dzumac 87.76 238 P **P** **00 43 40.6 0.0**
comp=Z,7.7nm,1.0s,baz=43,slow=8.6,SNR=5.3
DZM Mont Dzumac 87.76 238 P **P** **00 43 41.0 +0.4**
MKAR Makanchi Array 88.67 340 P **P** **00 43 43.4 -1.3**
comp=Z,1.0nm,0.8s,baz=33,slow=4.6,SNR=4.8
MAKZ Makanchi 88.74 340 P **P** **00 43 44.2 -0.8**
MAKZ IAmb IAmb 00 43 45.0
comp=Z,14nm,1.1s
AKTO Aktyubinsk 88.81 357 P **P** **00 43 45.2 0.0**
comp=Z,12nm,0.9s,baz=352,slow=4.3,SNR=16
XAN Xi'an 89.11 316 P **P** **00 43 46.5 -0.5**
XAN pP PcP 00 43 50.0 +1.5
XAN pmax pmax

comp=Z,15nm,1.0s
XAN LR LR
comp=Z,230nm,17.2s
XAN LR LR
comp=Z,290nm,16.5s
GTA Gaotai 89.15 325 *eP* **P 00 43 47.0 -0.2**
GTA pP sP 00 43 51.3 +0.9
GTA sP pwP 00 43 54.5 +1.2
GTA pmax pmax
comp=Z,6.0nm,1.2s
NRCA Norcia 89.23 28 IAmb IAmb 00 43 52.0
comp=Z,8.6nm,1.3s
MDT Midelt 89.55 45 LR LR 01 21 19.8
comp=Z,114nm,18.3s,baz=34,slow=34
WMQ Urumqi 89.84 335 *eP* **P 00 43 50.0 -0.3**
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ LR LR
comp=Z,620nm,27.9s
WMQ LR LR
comp=Z,1μm,26.3s
WMQ LR LR
comp=Z,130nm,24.3s
ABKAR Akbulak array 89.88 355 IAmb IAmb 00 43 51.3
comp=Z,9.0nm,1.1s
LZH Lanzhou 90.04 321 ⇑P **P 00 43 52.0 +0.6**
LZH pP sP 00 43 56.0 +1.3
LZH sP pwP 00 43 59.5 +1.9
LZH pmax pmax
comp=Z,24nm,1.3s
SGRT San Giovanni R 91.09 27 IAmb IAmb 00 43 56.6
comp=Z,10nm,1.0s
SGRT San Giovanni R 91.09 27 IAmb IAmb 00 43 56.6
comp=Z,10nm,1.0s
KEST Kesra 93.90 34 P **P 00 44 09.1 -0.1**
comp=Z,5.5nm,0.9s,baz=259,slow=8.6,SNR=5.5
BRTR Keskin Array B 97.80 15 P **P 00 44 26.1 -0.9**
comp=Z,0.6nm,0.8s,baz=8.1,slow=1.7,SNR=3.9
PZH PanZhiHua 98.85 317 P **P 00 44 32.5 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.6s
SYO Syowa Base 151.10 170⇓*e*PKPdf **PKPdf 00 50 39.3 +1.9**

*CNRM **30** 00:37:47.1, 35°.83N×3°.59W, h0km, ml2.7*
*SFS **30** 00:37:52.0, 35°.50N×3°.80W, ML2.5, ALBORAN SUR*
ISC 30 00:37:50.3±1.0, 35°.47N±0°.04×3°.80W±0°.04, h10km, n11, σ1°53/15, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**203**	P	**Pn**	**00 37 59.3**	**-1.2**
AKLM	**AKL**	**0.96**	**183**	P	**Pn**	**00 38 12.0**	**+2.1**
CHAS	**Isla Isabel II**	**1.16**	**104**	P	**Pn**	**00 38 12.3**	**-0.3**
CHAS				S	**Sb**	**00 38 26.3**	**-1.2**
SMIR	**Smir Dam**	**1.30**	**280**	P	**Pn**	**00 38 15.0**	**+0.5**
CHEFC	**Chefchaouen**	**1.31**	**254**	P	**Pg**	**00 38 17.2**	**+1.8**
CEU	**Ceuta**	**1.35**	**289**	P	**Pn**	**00 38 15.2**	**+0.1**
CEU				S	**Sb**	**00 38 30.1**	**-2.8**
EMAL	**Malaga-Limoner**	**1.38**	**339**	P	**Pg**	**00 38 18.4**	**+1.5**
EMAL				S	**Sb**	**00 38 33.9**	**-0.1**
JBK	**JBK**	**1.52**	**138**	P	**Pn**	**00 38 18.1**	**+0.3**
LCRM	**LCR**	**1.98**	**206**	P	**Pg**	**00 38 30.0**	**+1.7**
IFR	**Ifrane**	**2.24**	**210**	P	**Pb**	**00 38 29.6**	**-1.3**
IFR				S	**Sn**	**00 38 56.0**	**+0.7**
MDT	**Midelt**	**2.73**	**194**	P	**Pb**	**00 38 37.8**	**-1.6**

*IDC **30** 00:43:01.1±4.8, 25°.18N×125°.36E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/36, mbtmp3.5/5, ML2.9/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/66, Error ellipse: s-maj=104.9km s-min=29.1km az=176.0*
*JMA **30** 00:43:07.7±0.4, 26°.00N×125°.47E, h6km±4km, M2.9*
ISC 30 00:43:06.2±1.6, 25°.98N±0°.08×125°.50E±0°.08, h4km±11km, n15, σ0°75/19, mb3.3/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.07**	**192**	P	**Pn**	**00 43 28.4**	**+0.4**
JIKM				S	**Sn**	**00 43 42.6**	**-0.8**
JIRB	**Irabujima**	**1.18**	**195**	P	**Pn**	**00 43 30.1**	**+0.6**
JIRB				*e*S	**Sn**	**00 43 46.4**	**+0.4**
JKE	**Kume jima 2**	**1.21**	**73**	P	**Pn**	**00 43 30.7**	**+0.9**
JKE				S	**Sn**	**00 43 46.6**	**-0.1**
JMJ2	**Miyako jima3**	**1.24**	**187**	P	**Pn**	**00 43 31.4**	**+1.1**
JMJ2				*e*S	**Sn**	**00 43 48.0**	**+0.5**
JTJ	**Tarama**	**1.51**	**209**	P	**Pg**	**00 43 35.1**	**-0.1**
JTJ				*e*S	**Sg**	**00 43 54.9**	**0.0**
JAGN	**Aguni-jima**	**1.68**	**68**	P	**Pg**	**00 43 38.8**	**+0.5**
JAGN				*e*S	**Sg**	**00 44 01.0**	**+0.9**
JIH	**Iheya**	**2.45**	**64**	P	**Pb**	**00 43 50.7**	**-0.1**
JOW	**Kunigami**	**2.63**	**70**	Pn	**Pb**	**00 43 52.6**	**-1.3**
	2.6nm,0.3s,baz=234,slow=15,SNR=2.3						
JOW				Sn	**Sg**	**00 44 29.4**	**-1.3**
	7.5nm,0.3s,baz=210,slow=20,SNR=2.7						
JNU	**Nakatsue**	**8.52**	**32**	LR	LR	00 49 34.9	
	comp=Z,56nm,18.9s,baz=109,slow=42						
KSRS	**Korea Array**	**11.63**	**10**	LR	LR	00 51 06.8	
	comp=Z,50nm,18.2s,baz=220,slow=39						
SONM	**Songino Array**	**26.50**	**330**	P	**P**	**00 48 45.3**	**+0.6**
	0.6nm,0.9s,baz=138,slow=9.2,SNR=3.7						
MKAR	**Makanchi Array**	**39.89**	**313**	P	**P**	**00 50 41.2**	**0.0**
	0.5nm,0.8s,baz=116,slow=8.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**40.99**	**324**	P	**P**	**00 50 50.0**	**-0.1**
	0.2nm,0.3s,baz=126,slow=7.3,SNR=1.8						
AKTO	**Aktyubinsk**	**56.27**	**315**	LR	LR	01 19 48.7	
	comp=Z,140nm,19.5s,baz=344,slow=39						
YKA	**Yellowknife Ar**	**79.77**	**24**	P	**P**	**00 55 14.7**	**-0.6**
	0.4nm,0.8s,baz=304,slow=5.8,SNR=7.1						

*REN **30** 00:45:59.3±1.0, 38°.48N±0°.02×118°.36W±0°.02, h5km±5km, ML2.9, ML2.5/10(NEIC), Error ellipse: s-maj=2.7km s-min=2.0km az=147.0*
NEIC 30 00:45:59.7±1.0, 38°.47N±0°.02×118°.37W±0°.02, h4km±7km, Error ellipse: s-maj=2.9km s-min=1.7km az=154.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**0.06**	**131**	Pg	Pg	00 46 00.1	-1.2
NV11	**Mina Array Sit**	**0.17**	**104**		Pg	00 46 03.1	0.0
NV11				Sg	Sg	00 46 05.6	+0.3
NV11				IAML		00 46 07.4	
	comp=E,2μm,0.3s						
RYN	**Ryan**	**0.20**	**322**		Pg	00 46 03.9	+0.3
LHV	**Little Huntoon**	**0.25**	**206**		Pg	00 46 04.7	+0.2
BONR	**Boundary Peak**	**0.52**	**174**		Pg	00 46 10.1	+0.4
KVN	**Kaiserville**	**0.61**	**20**		Pg	00 46 11.3	-0.2
LUL	**Lundy Lake**	**0.77**	**237**		Pg	00 46 14.7	+0.3
BENR	**Benton**	**0.77**	**192**		Pg	00 46 14.3	-0.2
YERR	**Yerington**	**0.85**	**307**		Pg	00 46 15.8	-0.3
ORC	**Owens River**	**0.87**	**195**		Pg	00 46 16.2	-0.1
MLNR	**Milner Canyon**	**0.88**	**179**		Pg	00 46 16.4	-0.1
TPH	**Tonopah**	**0.98**	**113**		Pg	00 46 18.5	-0.1
Q09A	**Carvers**	**0.99**	**68**		Pg	00 46 18.9	+0.1
BFC	**Buffalo Canyon**	**1.06**	**294**		Pg	00 46 19.5	-0.5
POCCA	**Poleta Canyon**	**1.11**	**177**		Pg	00 46 20.6	-0.4
SCHCA	**Scheelite**	**1.14**	**193**		Pg	00 46 21.6	0.0
DSP	**Deep Springs**	**1.14**	**164**		Pg	00 46 21.4	-0.2
LCH	**Last Change Ra**	**1.36**	**155**		Pn	00 46 25.4	-0.2
KCC	**Kaiser Creek**	**1.37**	**214**		Pn	00 46 25.1	-0.6
EMB	**Emerald Bay**	**1.45**	**291**		Pn	00 46 26.7	-0.2
CMB	**Columbia Colle**	**1.65**	**255**		Pn	00 46 29.8	+0.3
DONR	**Donner Summit**	**1.76**	**301**		Pn	00 46 31.9	+0.7
WVA	**Winnemucca Val**	**1.86**	**323**		Pb	00 46 33.5	-0.8
MCA	**Marble Canyon**	**2.02**	**154**		Pn	00 46 34.8	+0.4
R11A	**Troy Canyon, C**	**2.19**	**92**		Pb	00 46 39.2	-0.7
R11A					Sb	00 47 06.5	-0.9
R11A				IAML		00 47 10.3	
	comp=E,30nm,0.3s						
TPNV	**Topopah Spring**	**2.26**	**132**		Pn	00 46 37.2	-0.9
TPNV				IAML		00 47 22.4	
	comp=E,23nm,0.7s						
TPNV				IAML		00 47 23.5	
	comp=E,28nm,1.0s						
ISA	**Isabella, Lake**	**2.81**	**182**		Pg	00 46 52.1	-1.3
ISA				IAML		00 47 30.0	
	comp=E,21nm,0.3s						
ISA				IAML		00 47 30.5	
	comp=N,15nm,0.2s						
BBGB	**Big Mountain B**	**2.84**	**229**	Pn	Pn	00 46 45.1	-0.9
ELK	**Elko**	**3.31**	**46**		Pn	00 46 52.1	-0.5
U15A	**North Rim**	**5.25**	**111**		Pg	00 47 37.9	-2.3
HLID	**Hailey**	**5.90**	**29**		Pn	00 47 28.0	0.0

IDC 30 01:07:05.3±6.7, 2°.82S×146°.10E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/33, mbtmp3.8/4, Error ellipse: s-maj=231.4km s-min=27.0km az=97.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.53**	**213**	P	P	01 11 46.2	+0.8
	4.9nm,0.9s,baz=40,slow=12,SNR=16						
ASAR	**Alice Springs**	**23.84**	**209**	P	P	01 12 20.2	-0.2
	2.7nm,0.8s,baz=41,slow=7.6,SNR=25						
SONM	**Songino Array**	**61.21**	**331**	P	P	01 17 23.8	+1.6
	0.5nm,0.9s,baz=150,slow=6.5,SNR=2.8						
MKAR	**Makanchi Array**	**74.49**	**320**	P	P	01 18 44.3	-1.5
	0.8nm,1.0s,baz=123,slow=5.3,SNR=4.4						

IDC 30 01:07:43.0±5.7, 2°.49S×146°.31E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/33, mbtmp4.0/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/59, Error ellipse: s-maj=208.5km s-min=34.6km az=98.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.92**	**213**	P	P	01 12 27.6	+0.3
	14nm,1.1s,baz=37,slow=12,SNR=12						
ASAR	**Alice Springs**	**24.23**	**209**	P	P	01 13 01.8	0.0
	5.0nm,1.1s,baz=46,slow=7.9,SNR=9.1						
KAPI	**Kappang**	**26.61**	**264**	LR	LR	01 26 17.8	
	comp=Z,115nm,20.3s,baz=60,slow=42						
LEM	**Lembang**	**38.79**	**262**	LR	LR	01 33 34.9	
	comp=Z,102nm,18.6s,baz=308,slow=40						
MKAR	**Makanchi Array**	**74.38**	**320**	P	P	01 19 22.6	-0.2
	0.5nm,1.0s,baz=106,slow=4.7,SNR=1.9						
TORD	**Torodi Ar. Bea**	**143.44**	**289**	PKP	PKPdf	01 27 20.2	-0.5
	2.2nm,1.0s,baz=80,slow=3.3,SNR=4.8						

*NEIC **30** 01:11:55.5±2.2, 17°.6S±0°.1×179°.0W±0°.1, h554km±7km, mb4.2/11, Error ellipse: s-maj=22.9km s-min=12.8km az=153.0*
*IDC **30** 01:11:56.1±0.9, 17°.76S×178°.96W, h567km±8km, mb3.1/9, mb1 3.3/11, mb1mx3.2/33, mbtmp3.9/11, Error ellipse: s-maj=23.8km s-min=13.2km az=149.0*
ISC 30 01:11:53.7±0.6, 17°.65±0°.1×178°.8W±0°.1, h539km, n28, σ2°01/30, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.99**	**267**	P	**P**	**01 13 10.9**	**+2.9**
	10.0nm,0.3s,baz=85,slow=5.0,SNR=22						
MSVF				S	**S**	**01 14 14.3**	**+6.0**
	baz=185,slow=23,SNR=8.4						
MSVF	**Nonsavu**	**2.99**	**267**	P	**P**	**01 13 11.1**	**+3.2**
DZM	**Mont Dzumac**	**14.57**	**250**	P	**P**	**01 14 57.4**	**-1.6**
	0.1nm,0.3s,baz=139,slow=17,SNR=1.2						
URZ	**Urewera**	**20.89**	**189**	P	**P**	**01 15 57.1**	**-1.1**
	4.1nm,0.3s,baz=277,slow=3.5,SNR=13						
URZ	**Urewera**	**20.89**	**189**	IAmb	IAmb	01 16 00.7	
	comp=Z,26nm,1.4s						
WKZ	**Wanaka**	**29.01**	**198**	P	**P**	**01 17 10.3**	**+0.3**
ARMA	**Armidale**	**29.77**	**239**	P	**P**	**01 17 17.1**	**+0.2**
ARMA				IAmb	IAmb	01 17 33.1	
	comp=Z,13nm,1.4s						
CTA	**Charters Tower**	**33.12**	**260**	P	**P**	**01 17 44.7**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=79,slow=12,SNR=1.8						
COEN	**Coen**	**36.72**	**270**	P	**P**	**01 18 14.7**	**-1.0**
COEN				IAmb	IAmb	01 18 16.8	
	comp=Z,5.9nm,0.9s						
TOO	**Toolangi**	**37.07**	**230**	P	**P**	**01 18 20.0**	**+1.7**
TOO				IAmb	IAmb	01 18 21.0	
	comp=Z,8.0nm,0.8s						
WB0	**Warramunga Arr**	**44.27**	**260**	P	**P**	**01 19 15.1**	**-0.8**
WB2	**Warramunga Arr**	**44.30**	**259**	P	**P**	**01 19 15.0**	**-1.1**
WB2				IAmb	IAmb	01 19 17.7	
	comp=Z,7.1nm,1.1s						
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**01 19 14.9**	**-1.2**
	comp=Z,0.4nm,0.2s,baz=85,slow=8.2,SNR=20						
ASAR	**Alice Springs**	**44.51**	**254**	P	**P**	**01 19 17.4**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=87,slow=8.1,SNR=32						
ASAR				PcP	**PcP**	**01 20 49.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=102,slow=4.6,SNR=4.4						
ASAR				S	**S**	**01 25 10.6**	**-3.4**
	comp=Z,1.0nm,0.8s,baz=90,slow=15,SNR=6.4						
QSPA	**South Pole Qui**	**72.46**	**180**	P	**P**	**01 22 28.0**	**+2.5**
QSPA				IAmb	IAmb	01 22 28.4	
	comp=Z,4.8nm,0.9s						
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**01 23 05.9**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=212,slow=12,SNR=1.8						
GAMB	**Gambell**	**81.30**	**3**	P	**P**	**01 23 14.1**	**+0.8**
GAMB				IAmb	IAmb	01 23 24.8	
	comp=Z,16nm,1.4s						
WUAZ	**Wupatki**	**82.83**	**49**	P	**P**	**01 23 22.6**	**+0.5**
ILAR	**Eielson Array**	**85.67**	**13**	P	**P**	**01 23 34.2**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=223,slow=5.4,SNR=5.6						
MG05	**Puerto Natales**	**86.08**	**143**	P	**P**	**01 23 35.2**	**-2.2**
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**01 23 40.7**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=213,slow=5.8,SNR=8.4						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**01 23 44.8**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=221,slow=3.7,SNR=6.5						
YKA	**Yellowknife Ar**	**94.21**	**25**	P	**P**	**01 24 14.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=237,slow=4.4,SNR=5.4						
ARCES	**ARCESS Array B**	**125.94**	**350**	PKP	**PKPdf**	**01 29 52.2**	**-1.7**
	comp=Z,5.7nm,1.1s,baz=344,slow=2.6,SNR=1.8						
LODK	**Lodwar**	**143.66**	**251**		**PKPdf**	**01 30 27.4**	**-1.1**
BURAR	**Bucovina Array**	**144.16**	**332**		**PKPab**	**01 30 27.1**	**-1.1**
BRTR	**Keskin Array B**	**144.29**	**315**	PKP	**PKPab**	**01 30 28.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=131,slow=2.5,SNR=2.2						
GERES	**GERESS Array B**	**147.21**	**345**	PKPbc	**PKiKP**	**01 30 36.8**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=14,slow=2.8,SNR=4.1						

*IDC **30** 01:18:21.3±1.9, 17°.36S×178°.92W, h607km±18km, mb3.1/7, mb1 3.4/9, mb1mx3.2/28, mbtmp4.0/9, Error ellipse: s-maj=81.1km s-min=19.5km az=150.0*
ISC 30 01:18:20.7±1.4, 17°.3S±0°.5×178°.9W±0°.3, h600km, n9, σ0°63/10, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.91**	**262**	P	**P**	**01 19 40.7**	**+1.3**
	3.1nm,0.3s,baz=126,slow=11,SNR=34						
DZM	**Mont Dzumac**	**14.56**	**249**	P	**P**	**01 21 24.6**	**-0.3**
	0.2nm,0.3s,baz=86,slow=19,SNR=1.3						
STKA	**Stephens Creek**	**38.48**	**240**	P	**P**	**01 24 52.6**	**-0.4**
	1.3nm,0.4s,baz=86,slow=6.0,SNR=4.6						
WRA	**Warramunga Arr**	**44.25**	**259**	P	**P**	**01 25 38.6**	**0.0**
	1.7nm,0.5s,baz=94,slow=6.9,SNR=48						
WRA				PcP	**PcP**	**01 27 09.6**	**-0.1**
	0.5nm,1.1s,baz=99,slow=3.4,SNR=1.4						
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**01 25 40.8**	**+0.4**
	11nm,0.6s,baz=88,slow=8.5,SNR=138						
ILAR	**Eielson Array**	**85.45**	**13**	P	**P**	**01 29 55.7**	**+0.2**
	0.4nm,1.0s,baz=219,slow=6.6,SNR=4.3						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**01 29 59.6**	**0.0**
	0.2nm,0.7s,baz=224,slow=5.0,SNR=5.3						
PDAR	**Pinedale Array**	**87.28**	**44**	P	**P**	**01 30 04.8**	**-0.2**
	0.3nm,0.6s,baz=242,slow=3.9,SNR=2.6						
CMAR	**Chiang Mai Arr**	**88.23**	**290**	P	**P**	**01 30 08.8**	**-0.8**
	1.2nm,0.4s,baz=60,slow=5.3,SNR=1.9						

IDC 30 01:31:18.9±6.1, 2°.90S×146°.79E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/40, mbtmp3.6/4, Error ellipse: s-maj=209.8km s-min=27.6km az=98.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.84**	**215**	P	P	01 36 03.2	+0.8
	6.8nm,1.0s,baz=38,slow=12,SNR=18						
ASAR	**Alice Springs**	**24.11**	**210**	P	P	01 36 36.2	-0.3
	2.4nm,0.8s,baz=40,slow=8.1,SNR=16						
SONM	**Songino Array**	**61.62**	**330**	P	P	01 41 39.8	+1.3
	0.3nm,0.6s,baz=119,slow=5.1,SNR=2.2						
MKAR	**Makanchi Array**	**75.00**	**320**	P	P	01 43 00.9	-1.4
	0.2nm,0.7s,baz=97,slow=7.5,SNR=2.4						

*IDC **30** 01:37:03.6±1.4, 33°.14S×178°.04W, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.1/30, mbtmp4.2/7, ML3.9/2, Error ellipse: s-maj=41.7km s-min=26.4km az=150.0*
*WEL **30** 01:37:08.2±0.9, 33°.S±11°.×17°.8W±2°.8, h33km, M4.4/15, mB4.9/10, ML4.7/16, MLv4.6/15, Mw(mB)4.2/10, Error ellipse: s-maj=0.0km s-min=0.0km az=109.6*
*NEIC **30** 01:37:09.2±1.3, 33°.2S±0°.2×178°.0W±0°.2, h42km±5km, mb4.3/8, Error ellipse: s-maj=32.6km s-min=15.5km az=134.0*
ISC 30 01:37:07.5±1.0, 33°.01S±0°.08×178°.0W±0°.2, h34km, n43, σ1°27/54, mb4.4/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.73**	**0**	P	**Pn**	**01 38 00.2**	**-2.5**
GLKZ				S	**Sn**	**01 38 43.7**	**-1.8**
MXZ	**Matakaoa Point**	**5.47**	**213**	P	**Pn**	**01 38 26.6**	**0.0**
MXZ				S	**Sn**	**01 39 27.4**	**-0.9**
MXZ	**Matakaoa Point**	**5.47**	**213**	Pn	**Pn**	**01 38 25.5**	**-1.1**
WMGZ	**Waiomatatini S**	**5.64**	**211**	P	**Pn**	**01 38 31.1**	**+2.2**
WMGZ				S	**Sn**	**01 39 34.2**	**+1.8**
PKGZ	**Pakihiroa**	**5.85**	**213**	P	**Pn**	**01 38 30.9**	**-0.9**
PKGZ				S	**Sn**	**01 39 35.2**	**-2.4**
HAZ	**Te Kaha**	**5.88**	**215**	P	**Pn**	**01 38 31.3**	**-0.8**
HAZ				S	**Sn**	**01 39 38.4**	**+0.2**
PUZ	**Puketiti**	**5.92**	**210**	P	**Pn**	**01 38 31.5**	**-1.3**
PUZ				S	**Sn**	**01 39 38.0**	**-1.3**
RUGZ	**Raukumara Rang**	**6.09**	**215**	P	**Pn**	**01 38 34.8**	**-0.4**
TWGZ	**Tauwhareparae**	**6.13**	**212**	P	**Pn**	**01 38 35.2**	**-0.4**
TWGZ				S	**Sn**	**01 39 44.4**	**-0.1**
CNGZ	**Carnagh Statio**	**6.29**	**209**	P	**Pn**	**01 38 35.7**	**-2.1**
CNGZ				S	**Sn**	**01 39 50.0**	**+1.6**
TKGZ	**Te Karaka**	**6.40**	**211**	P	**Pn**	**01 38 40.4**	**+1.1**
MWZ	**Matawai**	**6.46**	**213**	P	**Pn**	**01 38 38.4**	**-1.8**
MWZ				S	**Sn**	**01 39 51.0**	**-1.7**
OPRZ	**Ohinepanea**	**6.58**	**221**	P	**Pn**	**01 38 43.6**	**+1.8**
URZ	**Urewera**	**6.60**	**216**	Pn	**Pn**	**01 38 41.8**	**-0.2**
	6.9nm,0.3s,baz=314,slow=1.8,SNR=13						
URZ				Sn	**Sn**	**01 39 53.6**	**-2.4**
	5.2nm,0.3s,baz=18,slow=19,SNR=3.2						
URZ	**Urewera**	**6.60**	**216**	P	**Pn**	**01 38 42.4**	**+0.4**
URZ				S	**Sn**	**01 39 53.6**	**-2.4**
URZ	**Urewera**	**6.60**	**216**		**Pn**	**01 38 42.8**	**+0.8**
RAGZ	**Rawiri**	**6.64**	**213**	P	**Pn**	**01 38 43.6**	**+0.9**
RIGZ	**Rimuhau**	**6.66**	**210**	P	**Pn**	**01 38 42.3**	**-0.7**
RIGZ				S	**Sn**	**01 39 56.6**	**-1.1**
PRGZ	**Paritu Road**	**6.80**	**209**	P	**Pn**	**01 38 44.7**	**0.0**
PRGZ				S	**Sn**	**01 40 00.4**	**-0.6**
SNGZ	**Shannon Statio**	**6.91**	**212**	P	**Pn**	**01 38 47.1**	**+0.7**
MTHZ	**Maungataniwha**	**7.20**	**214**	P	**Pn**	**01 38 50.6**	**+0.3**
NMHZ	**Naumai**	**7.41**	**213**	P	**Pn**	**01 38 53.8**	**+0.6**
ARHZ	**Aropaoanui**	**7.46**	**212**	P	**Pn**	**01 38 54.2**	**+0.4**
DCZ	**Deep Cove**	**16.93**	**218**	Pn	**Pn**	**01 41 00.3**	**-1.3**
DCZ				IAmb	IAmb	01 41 14.4	
	comp=Z,34nm,1.5s						
DZM	**Mont Dzumac**	**17.59**	**304**	P	**P**	**01 41 11.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=118,slow=17,SNR=3.8						
DZM	**Mont Dzumac**	**17.59**	**304**	IAmb	IAmb	01 41 22.6	
	comp=Z,7.5nm,1.1s						
CTA	**Charters Tower**	**34.34**	**283**	P	**P**	**01 43 52.4**	**+1.3**
	comp=Z,2.9nm,0.5s,baz=122,slow=10,SNR=9.0						
CTAO	**Charters Tower**	**34.34**	**283**	P	**P**	**01 43 52.0**	**+0.9**
COEN	**Coen**	**40.08**	**289**	P	**P**	**01 44 40.9**	**+0.9**
COEN				IAmb	IAmb	01 44 43.2	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**43.07**	**270**	P	**P**	**01 45 03.6**	**-0.8**
ASAR	**Alice Springs**	**43.07**	**270**	P	**P**	**01 45 04.0**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=106,slow=7.7,SNR=21						
WB2	**Warramunga Arr**	**44.28**	**275**	P	**P**	**01 45 14.1**	**0.0**
WRA	**Warramunga Arr**	**44.29**	**275**	P	**P**	**01 45 14.0**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=114,slow=7.8,SNR=67						
WRA	**Warramunga Arr**	**44.29**	**275**	IAmb	IAmb	01 45 16.5	
	comp=Z,0.3nm,1.2s						
WB0	**Warramunga Arr**	**44.33**	**275**	P	**P**	**01 45 14.3**	**-0.2**
WB0				IAmb	IAmb	01 45 15.8	
	comp=Z,8.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.44**	**272**	P	**P**	**01 46 17.5**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=149,slow=4.2						
NVAR	**Mina Array Bea**	**90.13**	**43**	P	**P**	**01 50 04.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=235,slow=9.5,SNR=1.1						
MKAR	**Makanchi Array**	**119.46**	**309**	PKP	**PKiKP**	**01 55 55.1**	**+1.9**
	comp=Z,0.2nm,0.2s,baz=153,slow=0.5,SNR=2.2						
ARCES	**ARCESS Array B**	**141.14**	**347**	PKP	**PKPdf**	**01 56 34.3**	**+1.0**
	comp=Z,4.1nm,1.1s,baz=20,slow=2.9,SNR=1.8						
FINES	**FINESS Array B**	**147.59**	**339**	PKPbc	**PKPab**	**01 56 50.1**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=46,slow=3.9,SNR=31						
MARD	**Mardin**	**148.19**	**289**	PKPbc	**PKiKP**	**01 56 51.3**	**-0.4**
BRTR	**Keskin Array B**	**153.78**	**294**	PKPbc	**PKiKP**	**01 57 04.8**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=148,slow=3.7,SNR=9.0						
BRTR	**Keskin Array B**	**153.78**	**294**		**PKPbc**	**01 57 01.4**	**-1.6**

*TAP **30** 01:52:07.6, 24°.60N×122°.04E, h69km, ML3.2, C*
*JMA **30** 01:52:07.2±0.1, 24°.60N×122°.03E, h72km±2km, M2.7*
ISC 30 01:52:08.6±1.3, 24°.61N±0°.04×122°.07E±0°.03, h62km±7km, n71, σ0°56/101, 12C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.20**	**271**	⇓*i*P	**Pn**	**01 52 18.2**	**-0.1**
TWC				*i*S	**Sn**	**01 52 25.9**	**+0.6**

NHDH	Xindian Distri	0.61 306	eP	Pn	01 52 22.3	+0.3
	baz=316					
YHNB	Yeheng	0.64 276	eP	Pn	01 52 22.2	-0.2
	baz=277					
YHNB			eS	Sn	01 52 32.4	0.0
	baz=277					
NNSB	Datong	0.65 255	⇑P	Pn	01 52 22.2	-0.3
	baz=248					
NNSB			S	Sn	01 52 32.8	0.0
	baz=248					
NSK	Sanguang	0.65 276	⇑P	Pn	01 52 22.4	-0.1
	baz=277					
NSK			S	Sn	01 52 32.4	-0.3
	baz=277					
NNS	Nan Shan	0.66 256	⇑iP	Pn	01 52 22.3	-0.3
	baz=251					
NNS			S	Sn	01 52 32.7	-0.2
	baz=251					
TAP	Taipei	0.67 310	eP	Pn	01 52 22.6	0.0
	baz=321					
TWD	Chiawan	0.68 220	eP	Pn	01 52 22.2	-0.5
	baz=212					
TWD			eS	Sn	01 52 32.9	-0.2
	baz=212					
YM01	YM01	0.71 320	eP	Pn	01 52 22.7	-0.5
	baz=322					
TWS1	Kuangyinshan	0.77 310	eP	Pn	01 52 23.6	-0.3
	baz=316					
NTST	Danshui	0.79 315	eP	Pn	01 52 24.0	-0.1
	baz=324					
TWY	Chenhua	0.79 327	eP	Pn	01 52 23.6	-0.6
	baz=330					
FUSS	Fushou	0.83 245	⇓P	Pn	01 52 24.6	-0.2
	baz=239					
WHF	Hehuan Shan	0.87 238	⇑P	Pn	01 52 24.8	-0.6
	baz=238					
WHF			eS	Sn	01 52 37.1	-0.7
	baz=238					
YOJ	Yonaguni jima	0.87 99	P	Pn	01 52 24.6	-0.4
YOJ			eS	Sn	01 52 37.4	+0.2
NFF	Wufeng Townshi	0.87 272	eP	Pn	01 52 25.8	+0.7
	baz=280					
NFF			eS	Sn	01 52 36.8	-0.6
	baz=280					
NCUH	Zhongli	0.88 294	eS	Sn	01 52 37.7	+0.2
	baz=287					
TWT	Tachien	0.89 247	eP	Pn	01 52 25.6	+0.1
	baz=240					
TWT			eS	Sn	01 52 37.9	0.0
	baz=240					
TDCB	Techi	0.90 247	⇑iP	Pn	01 52 25.6	-0.1
	baz=240					
TDCB			eS	Sn	01 52 37.8	-0.5
	baz=240					
LIOB	Emei	0.96 273	eP	Pn	01 52 25.9	-0.3
	baz=274					
LIOB			eS	Sn	01 52 39.3	0.0
	baz=274					
NSTT	Nanjuang	0.97 272	eP	Pn	01 52 26.2	-0.2
	baz=273					
NSTT			eS	Sn	01 52 39.1	-0.5
	baz=273					
ESL	Shilin	0.98 217	eP	Pn	01 52 25.0	-1.5
	baz=223					
CHGB	Renai	0.98 237	P	Pn	01 52 26.6	-0.1
	baz=230					
WUSB	Renai	1.06 235	⇑iP	Pn	01 52 27.4	-0.3
	baz=226					
WHP	Taichung City	1.08 253	⇓P	Pn	01 52 28.4	+0.5
	baz=253					
NMLH	Miaoli	1.17 267	eP	Pn	01 52 28.7	-0.3
	baz=268					
WCS	Beigang Elemen	1.19 243	eP	Pn	01 52 29.9	+0.7
	baz=243					
VWDT	VWDT	1.20 225	eP	Pn	01 52 29.1	-0.3
	baz=232					
NSY	Sanyi	1.21 261	eP	Pn	01 52 29.4	-0.1
	baz=262					
TWQ1	Liyutan	1.21 258	eP	Pn	01 52 29.4	-0.2
	baz=258					
HGSD	Ruisui	1.26 208	eP	Pn	01 52 29.0	-1.1
	baz=216					
SMLT	Sun Moon Lake	1.29 236	⇓P	Pn	01 52 31.4	+0.8
	baz=228					
SSLB	Suanglung	1.30 232	eP	Pn	01 52 30.4	-0.4
	baz=224					
TYC	Yuchr	1.31 238	eP	Pn	01 52 31.2	+0.4
	baz=237					
YULB	Yu-li	1.40 211	eP	Pn	01 52 30.6	-1.4
	baz=208					
EYUL	Yuli	1.43 209	eP	Pn	01 52 32.1	-0.3
	baz=215					
WJS	Zhushan	1.45 238	eS	Sn	01 52 51.8	+0.9
	baz=251					
WNT	Mingjian	1.46 241	eS	Sn	01 52 51.7	+0.7
	baz=253					
YUS	Yu-Shan	1.51 223	eP	Pn	01 52 33.6	-0.4
	baz=216					
IRIF	Iriomote-Funau	1.54 100	P	Pn	01 52 33.6	-0.2
IRIF			S	Sn	01 52 53.1	+0.3
FULB	Fuli	1.57 207	eP	Pn	01 52 33.4	-1.0
	baz=213					
ALS	Alishan	1.59 227	eP	Pn	01 52 35.3	+0.4
	baz=218					
CHN5	Tsauling	1.62 232	eP	Pn	01 52 35.7	+0.6
	baz=243					
WRL	Guolierlin Hig	1.70 246	eS	Sn	01 52 55.5	-1.2
	baz=257					
ELDTW	Lidau	1.71 215	eP	Pn	01 52 36.0	-0.3
	baz=207					
EDH	Donghe	1.77 204	eP	Pn	01 52 37.2	+0.2
	baz=211					
JKRS	Kuro-shima	1.80 101	P	Pn	01 52 37.7	+0.3
JKRS			S	Sn	01 52 59.2	-0.1
TPUB	Ta-pu	1.85 226	eP	Pn	01 52 39.1	+1.0
	baz=239					
WTP	Ta-pu	1.90 225	eP	Pn	01 52 39.6	+0.8
	baz=238					
JIJ	Ishigaki jima	1.90 97	P	Pn	01 52 38.5	-0.3
JIJ			S	Sn	01 53 01.4	-0.3
TWK	Hsinying	1.97 228	eP	Pn	01 52 40.6	+0.8
	baz=240					
JISG	Ishigakijimahi	2.04 90	P	Pn	01 52 40.6	0.0
JISG			S	Sn	01 53 05.2	+0.2
JTJ	Tarama	2.39 89	eS	Sn	01 53 15.1	+1.4

NEIC ***30*** *01:52:35.8±2.0, 17°.37S±0°.08×178°.0W±0°.1, h412km±5km, mb4.8/180, Error ellipse: s-maj=14.1km s-min=12.1km az=103.0*
BGR ***30*** *01:52:36.8±0.0, 17°.34S×178°.05W, h442km*
NOU ***30*** *01:52:37.4, 17°.50S×177°.93W, h446km, mb5.0/82, Fiji Islands Region*
IDC ***30*** *01:52:38.3±0.7, 17°.29S×178°.28W, h441km±7km, mb4.2/21, mb1 4.5/22, mb1mx4.4/28, mbtmp5.0/22, Error ellipse: s-maj=13.8km s-min=8.5km az=144.0*
ISC 30 01:52:37.7±0.4, 17°.39S±0°.04×178°.03W±0°.05, h443km±4km, h444km; pP-P, n743, σ1§18/737, mb4.8/129, 93C-28D, Fault plane solution: NP1:ϕ_s57.65553°, δ47.29768°, λ69.99297°. **NP2:**ϕ_s265.88617°, δ46.32735°, λ110.34168°. **Principal axes:** T Plg75.4288°, Azm253.5813°; N Plg14.5622°, Azm71.5264°; P Plg0.5003°, Azm161.6563°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	Taveuni	1.92	290	P	P	01 53 38.1	+0.9
DGTI	Dogotuki	2.40	296	P	P	01 53 40.1	+0.1
MSVF	Nonsavu	3.76	264	P	P	01 53 52.2	+1.8
	40nm,0.3s,baz=105,slow=11,SNR=491						
MSVF				S	S	01 54 52.1	+2.7
	baz=144,slow=20,SNR=11						
MSVF	Nonsavu	3.76	264	P	P	01 53 51.1	+0.7
MSVF	Nonsavu	3.76	264	P	P	01 53 52.3	+1.9
AFI	Afiamalu	6.94	61	P	P	01 54 19.4	-2.5
	51nm,0.3s,baz=281,slow=16,SNR=31						
AFI				S	S	01 55 40.2	-6.7
	27nm,0.3s,baz=202,slow=23,SNR=6.0						
AFI	Afiamalu	6.94	61		P	01 54 18.9	-3.0
AFI	Afiamalu	6.94	61	P	P	01 54 20.0	-1.8
NIUE	Niue	7.88	104	P	P	01 54 31.9	+0.1
	baz=7.8,SNR=52						
NIUE	Niue	7.88	104	P	P	01 54 30.5	-1.3
NIUE	Niue	7.88	104	P	P	01 54 32.5	+0.7
FUNA	Funafuti	9.21	343	P	P	01 54 43.3	-3.0

RAO	Raoul Island	11.81	180	S	S	01 57 24.0	0.0
	134nm,0.3s,baz=98,slow=22,SNR=6.9						
RAO	Raoul Island	11.81	180	P	P	01 55 11.3	-3.2
GLKZ	Green Lake	11.82	180	P	P	01 55 11.7	-2.9
GLKZ				S	S	01 57 25.3	+1.2
RTV	Rentapao	12.93	266	P	P	01 55 28.6	+1.9
DVP	Devils Point	13.15	266	P	P	01 55 30.5	+1.3
MARNC	Mare, Loyalty	13.77	251	P	P	01 55 34.9	-0.9
MARNC	Mare, Loyalty	13.77	251	P	P	01 55 35.6	-0.2
SANVU	Saraoutou	14.30	276	P	P	01 55 41.3	-0.3
SANVU	Saraoutou	14.30	276	P	P	01 55 41.9	+0.3
LIFNC	LIFOU	14.33	254	P	P	01 55 40.4	-1.5
LIFNC	LIFOU	14.33	254	P	P	01 55 40.7	-1.2
PINNC	Pines Island,	14.61	247	P	P	01 55 44.4	-0.4
PINNC	Pines Island,	14.61	247	P	P	01 55 44.9	+0.1
YATNC	Mamie plateau,	14.94	249	P	P	01 55 48.7	+0.3
OUENC	Ouen Island, N	15.08	248	P	P	01 55 49.0	-0.9
OUENC				IAmb	IAmb	01 55 51.8	
	comp=Z,67nm,1.0s						
OUENC	Ouen Island, N	15.08	248	P	P	01 55 50.0	+0.1
DZM	Mont Dzumac	15.34	250	P	P	01 55 51.8	-1.0
	comp=Z,2.4nm,0.3s,baz=85,slow=19,SNR=60						
DZM	Mont Dzumac	15.34	250	eP	P	01 55 51.7	-1.1
	comp=Z,121nm,1.1s						
DZM	Mont Dzumac	15.34	250	P	P	01 55 51.9	-1.0
DZM				IAmb	IAmb	01 55 54.3	
	comp=Z,62nm,1.1s						
DZM	Mont Dzumac	15.34	250	P	P	01 55 52.5	-0.3
ONTNC	Ouen Toro	15.40	249	P	P	01 55 51.9	-1.4
ONTNC				IAmb	IAmb	01 55 55.4	
	comp=Z,57nm,0.9s						
ONTNC	Ouen Toro	15.40	249	P	P	01 55 53.2	-0.1
NOUC	Port Laguerre	15.48	250	P	P	01 55 53.2	-0.9
	comp=Z,54nm,0.8s						
KOUNC	Koumac, New Ca	17.02	257	P	P	01 56 10.0	-0.5
NFK	Norfolk Island	17.33	225	P	P	01 56 14.8	+1.1
	baz=18,SNR=3.2						
OUZ	Omahuta	19.27	201	P	P	01 56 33.5	+0.8
OUZ	Omahuta	19.27	201	P	P	01 56 33.6	+0.9
WCZ	Waipu Caves	19.68	199	P	P	01 56 38.2	+1.7
KUZ	Kuaotunu	20.06	195	P	P	01 56 41.4	+1.5
MXZ	Matakaoa Point	20.36	188	P	P	01 56 41.9	-0.8
WMGZ	Waiomatatini S	20.60	188	P	P	01 56 44.6	-0.2
HAZ	Te Kaha	20.63	189	P	P	01 56 43.7	-1.3
TARA	Tarawa	20.65	334	P	P	01 56 44.1	-1.4
TARA	Tarawa	20.65	334	P	P	01 56 46.3	+0.7
RUGZ	Raukumara Rang	20.85	190	P	P	01 56 45.9	-1.3
RUGZ				S	S	02 00 08.9	-1.4
PUZ	Puketiti	20.87	188	P	P	01 56 47.2	0.0
PUZ				S	S	02 00 09.4	-1.0
TGRZ	Tauranga	20.88	193	P	P	01 56 48.5	+1.2
OPRZ	Ohinepanea	20.93	192	P	P	01 56 49.1	+1.2
TWGZ	Tauwhareparae	21.01	189	P	P	01 56 47.9	-0.7
EDRZ	Edgecumbe	21.15	192	P	P	01 56 50.9	+1.0
KARZ	Kaharoa	21.16	193	P	P	01 56 51.6	+1.6
OMRZ	Omania	21.22	192	P	P	01 56 51.6	+1.0
URZ	Urewera	21.23	191	P	P	01 56 46.8	-3.7
	comp=Z,54nm,0.4s,baz=14,slow=6.9,SNR=46						
URZ				S	S	02 00 12.0	-4.1
	comp=Z,7.3nm,0.9s,baz=13,slow=19,SNR=2.0						
URZ	Urewera	21.23	191	P	P	01 56 47.4	-3.1
URZ				S	S	02 00 12.6	-3.5
URZ	Urewera	21.23	191	P	P	01 56 48.3	-2.2
URZ	Urewera	21.23	191	P	P	01 56 47.6	-2.9
MWZ	Matawai	21.23	190	P	P	01 56 48.4	-2.2
NGRZ	Ngongotaha	21.25	193	P	P	01 56 53.3	+2.4
TKGZ	Te Karaka	21.29	189	P	P	01 56 50.9	-0.2
TARZ	Mount Tarawera	21.32	192	P	P	01 56 51.5	+0.1
RAGZ	Rawiri	21.41	190	P	P	01 56 51.7	-0.5
HSRZ	Hossack Road	21.45	192	P	P	01 56 54.2	+1.7
HRRZ	Handcock Road	21.51	192	P	P	01 56 53.3	+0.1
RIGZ	Rimuhau	21.56	189	P	P	01 56 52.5	-1.1
PRRZ	Plateau Road	21.60	192	P	P	01 56 53.5	-0.4
RTZ	Ruatahuna	21.60	191	P	P	01 56 52.2	-1.8
TLZ	Tolley Road	21.61	194	P	P	01 56 55.8	+1.7
PRGZ	Paritu Road	21.75	189	P	P	01 56 57.4	+2.1
MTHZ	Maungataniwha	21.85	191	P	P	01 56 55.4	-0.9
KNZ	Kokohu	21.88	189	P	P	01 56 55.4	-1.0
HIZ	Hauiti	21.95	195	P	P	01 57 01.6	+4.5
MHGZ	Mahia Peninsul	21.98	188	P	P	01 56 58.7	+1.4
RATZ	Rangitukua	22.08	193	P	P	01 56 58.9	+0.6
NMHZ	Naumai	22.10	191	P	P	01 56 56.4	-2.1
RITZ	Rihia Road	22.17	193	P	P	01 56 58.8	-0.3
KATZ	Kakaramea	22.20	193	P	P	01 56 59.7	+0.2
BKZ	Black Stump Fm	22.22	191	P	P	01 56 57.4	-2.3
BKZ				S	S	02 00 28.5	-3.6
BKZ	Black Stump Fm	22.22	191	P	P	01 56 57.2	-2.4
ARHZ	Aropaoanui	22.23	190	P	P	01 56 59.8	+0.2
NTVZ	North Tongarir	22.32	193	P	P	01 57 00.5	-0.1
TMVZ	Te Maari	22.33	193	P	P	01 57 00.3	-0.4
TWVZ	Taurewa	22.35	193	P	P	01 56 60.0	-0.8
ETVZ	East Tongariro	22.35	193	P	P	01 57 00.4	-0.5
NNVZ	North Ngauruho	22.37	193	P	P	01 57 01.3	+0.2
OTVZ	Oturere	22.39	193	P	P	01 56 59.5	-1.7
NGZ	Ngauruhoe	22.41	193	P	P	01 57 02.7	+1.3
SNVZ	South Ngauruho	22.41	193	P	P	01 57 01.4	-0.1
MCHZ	McNeill Hill	22.45	191	P	P	01 57 00.6	-1.1
KWHZ	Kaweka Forest	22.48	191	P	P	01 57 00.2	-1.8
FWVZ	Far West T-bar	22.50	193	P	P	01 57 02.2	-0.1
TRVZ	Turoa	22.54	193	P	P	01 57 03.7	+1.0
WNVZ	Wahianoa	22.56	193	P	P	01 57 01.9	-0.9
MOVZ	Moawhango	22.60	193	P	P	01 57 02.2	-0.8
BHHZ	Black Hill Sta	22.62	192	P	P	01 57 00.9	-2.3
KRHZ	Kereru	22.71	191	P	P	01 57 02.5	-1.4
KAHZ	Kahuranaki	22.76	190	P	P	01 57 03.3	-1.2
PNHZ	Pukenui	23.00	191	P	P	01 57 05.6	-1.1
DVHZ	Dannevirke	23.38	191	P	P	01 57 09.4	-0.6
QRZ	Quartz Range	24.74	197	P	P	01 57 21.9	-0.2
LBZ	Lake Benmore	28.69	198	P	P	01 57 56.3	-0.7
LBZ				IAmb	IAmb	01 57 59.4	
	comp=Z,46nm,1.3s						
EIDS	Eidsvold	29.79	249	P	P	01 58 05.7	-1.1
	baz=30,SNR=17						
EIDS	Eidsvold	29.79	249	P	P	01 58 05.6	-1.3
EIDS				IAmb	IAmb	01 58 06.7	
	comp=Z,47nm,0.9s						
EIDS	Eidsvold	29.79	249	P	P	01 58 05.9	-1.0
RK1H	Rockhampton Ha	30.07	253	P	P	01 58 08.9	-0.4
ARMA	Armidale	30.52	239	P	P	01 58 13.3	0.0
	baz=31,SNR=29						
ARMA	Armidale	30.52	239	P	P	01 58 13.1	-0.2
ARMA				IAmb	IAmb	01 58 13.7	
	comp=Z,21nm,0.7s						
ARMA	Armidale	30.52	239	P	P	01 58 13.3	0.0
MGCD	Mangrove Creek	31.89	234	P	P	01 58 25.0	0.0
	baz=32,SNR=12						
RMQ	Roma	32.04	248	P	P	01 58 26.2	-0.1
	baz=32,SNR=42						
RMQ	Roma	32.04	248	P	P	01 58 26.2	-0.1
CTA	Charters Tower	33.90	260	P	P	01 58 41.2	-1.0
CTAO	Charters Tower	33.90	260	P	P	01 58 41.2	-1.0
CTAO				IAmb	IAmb	01 58 42.8	
	comp=Z,35nm,1.1s						
CTAO	Charters Tower	33.90	260	P	P	01 58 41.3	-0.9
CNB	Canberra Magne	34.03	232	P	P	01 58 43.3	0.0
	baz=34,SNR=18						
CNB	Canberra Magne	34.03	232	P	P	01 58 43.2	0.0
CAN	Canberra	34.31	232	P	P	01 58 44.8	-0.8
CAN				IAmb	IAmb	01 58 46.1	
	comp=Z,42nm,1.2s						
PMG	Port Moresby	34.74	279	P	P	01 58 48.2	-1.2
PMG	Port Moresby	34.74	279	P	P	01 58 50.7	+1.3
	comp=Z,32nm,0.7s						
JOHN	Johnston Islan	34.92	14	P	P	01 58 50.9	+0.1
CMSA	Cobar Meteorol	35.73	240	P	P	01 58 56.9	-0.5
	baz=36,SNR=95						
CMSA	Cobar Meteorol	35.73	240	P	P	01 58 57.1	-0.4
MTSU	Mount Surprise	35.83	263	P	P	01 58 57.4	-1.2
	baz=36,SNR=20						
MTSU	Mount Surprise	35.83	263	P	P	01 58 57.4	-1.2
QLP	Quilpie	36.06	249	P	P	01 58 59.4	-0.9
	baz=36,SNR=19						
QLP	Quilpie	36.06	249	P	P	01 58 59.4	-0.9
COEN	Coen	37.47	270	P	P	01 59 11.6	-0.6
COEN	Coen	37.47	270	P	P	01 59 11.7	-0.5
TOO	Toolangi	37.78	230	P	P	01 59 14.6	+0.1
	baz=38,SNR=30						
TOO	Toolangi	37.78	230	P	P	01 59 14.3	-0.2
TOO				IAmb	IAmb	01 59 15.3	
	comp=Z,55nm,0.9s						
TOO	Toolangi	37.78 230		P	P	01 59 14.4	-0.1
TAU	Tasmania Unive	38.87	222	P	P	01 59 22.7	-0.6

TAU				IAmb	IAmb	01 59 28.6	
	comp=Z,54nm,1.3s						
GEXS	Deakin Univers	38.90	230	P	P	01 59 23.1	-0.4
BRAT	Ballarat	38.93	231	P	P	01 59 24.2	+0.4
STKA	Stephens Creek	39.20	241	P	P	01 59 25.9	-0.2
	comp=Z,30nm,0.5s,baz=91,slow=10,SNR=87						
STKA				PcP	PcP	02 01 25.7	+0.9
	comp=Z,6.4nm,0.8s,baz=76,slow=4.2,SNR=3.0						
STKA	Stephens Creek	39.20	241	P	P	01 59 26.0	-0.2
	baz=39,SNR=62						
STKA	Stephens Creek	39.20	241	P	P	01 59 25.6	-0.5
STKA	Stephens Creek	39.20	241	P	P	01 59 26.1	-0.1
INKA	Innaminka	39.28	247	P	P	01 59 26.9	+0.1
WAKE	Wake Island	39.43	337	P	P	01 59 27.1	-0.9
QIS	Mount Isa	40.11	259	P	P	01 59 33.1	-0.6
	baz=40,SNR=3.9						
ARPS	Mount Arapiles	40.25	233	P	P	01 59 34.2	-0.4
	baz=40,SNR=7.6						
ARPS	Mount Arapiles	40.25	233	P	P	01 59 34.0	-0.6
HTT	Hallett	41.73	239	P	P	01 59 46.2	-0.3
	baz=42,SNR=27						
HTT	Hallett	41.73	239	P	P	01 59 46.3	-0.3
LCRK	Leigh Creek	41.81	244	P	P	01 59 46.8	-0.4
NAPP	Napperby	42.31	240	P	P	01 59 51.1	0.0
TWOA	Tennyson Woods	42.34	237	P	P	01 59 50.8	-0.5
KHLU	Kahalu`u	42.70	32	P	P	01 59 53.4	-1.0
WHYH	Whyalla	42.76	240	P	P	01 59 54.4	-0.2
HPAH	Hawaii Prepara	43.16	31	P	P	01 59 58.5	+0.5
OOD	Oodnadatta	43.75	248	P	P	02 00 02.5	0.0
BBOO	Buckleboo	43.98	241	P	P	02 00 03.6	-0.7
	baz=44,SNR=54						
BBOO	Buckleboo	43.98	241	P	P	02 00 03.5	-0.7
BBOO				IAmb	IAmb	02 00 04.4	
	comp=Z,68nm,0.9s						
BBOO	Buckleboo	43.98	241	P	P	02 00 03.7	-0.5
WB2	Warramunga Arr	45.08	259	P	P	02 00 10.9	-2.1
WRAB	Tennant Creek	45.08	259	P	P	02 00 11.3	-1.7
WRAB	Tennant Creek	45.08	259	P	P	02 00 11.4	-1.6
WRA	Warramunga Arr	45.09	259	P	P	02 00 10.9	-2.2
	comp=Z,8.2nm,0.6s,baz=98,slow=7.2,SNR=98						
WRA				PcP	PcP	02 01 45.5	+0.6
	comp=Z,8.7nm,0.9s,baz=91,slow=4.0,SNR=8.8						
WRA				ScP	ScP	02 04 56.2	+1.6
	comp=Z,3.0nm,0.9s,baz=86,slow=4.3,SNR=7.0						
WRA				S	S	02 06 15.6	-3.4
	comp=Z,0.7nm,0.8s,baz=88,slow=14,SNR=3.1						
WRA				PKiKP	PKiKP	02 08 41.0	-0.8
	comp=Z,0.5nm,0.7s,baz=69,slow=0.4,SNR=5.3						
AS31	Alice Springs	45.28	254	P	P	02 00 13.4	-1.1
AS31				IAmb	IAmb	02 00 14.1	
	comp=Z,35nm,0.6s						
ASAR	Alice Springs	45.28	254	P	P	02 00 13.3	-1.2
	comp=Z,114nm,0.6s,baz=88,slow=8.1,SNR=1253						
ASAR				PcP	PcP	02 01 45.8	+0.3
	comp=Z,11nm,0.7s,baz=100,slow=4.1,SNR=11						
ASAR				ScP	ScP	02 04 57.4	+2.0
	comp=Z,1.5nm,0.7s,baz=118,slow=4.0,SNR=4.5						
ASAR				S	S	02 06 17.6	-4.1
	comp=Z,2.9nm,1.0s,baz=85,slow=15,SNR=5.8						
MULG	Mulgathing	45.36	244	P	P	02 00 14.2	-0.8
KDU	Kakadu	47.93	268	P	P	02 00 33.6	-1.1
	baz=48,SNR=27						
KDU	Kakadu	47.93	268	P	P	02 00 33.8	-1.0
MTN	Manton Dam	49.18	268	P	P	02 00 42.9	-1.3
	baz=49,SNR=5.3						
MTN	Manton Dam	49.18	268	P	P	02 00 42.6	-1.5
WRKA	Warakurna	50.35	252	P	P	02 00 51.9	-0.9
	baz=50,SNR=220						
WRKA	Warakurna	50.35	252	P	P	02 00 52.0	-0.8
FORT	Forrest	50.56	244	P	P	02 00 53.0	-1.1
	baz=51,SNR=33						
FORT	Forrest	50.56	244	P	P	02 00 52.9	-1.3
FORT	Forrest	50.56	244	P	P	02 00 53.0	-1.1
FAKI	Fak Fak	50.84	281	P	P	02 00 54.9	-1.5
KNRA	Kununurra	50.91	264	P	P	02 00 55.8	-1.1
	baz=51,SNR=12						
KNRA	Kununurra	50.91	264	P	P	02 00 55.8	-1.1
KNRA				IAmb	IAmb	02 00 56.6	
	comp=Z,32nm,0.7s						
KNRA	Kununurra	50.91	264	P	P	02 00 56.3	-0.6
SWI	Sorong	52.48	283	P	P	02 01 08.8	+0.4
	comp=Z,0.5nmcomp=Z,1μmcomp=Z,148nm,0.7s						
MSAI	Masohi	53.82	279	P	P	02 01 11.3	-6.7
	comp=Z,0.1nmcomp=Z,8.3nm,0.5s						
MSAI	Masohi	53.82	279	P	P	02 01 22.0	+4.0
SOEI	Soe	56.44	270	P	P	02 01 36.1	-0.4
SOEI	Soe	56.44	270	P	P	02 01 37.7	+1.2
SANI	Sanana	57.02	279	P	P	02 01 40.3	-0.1
PSA00	Pilbara Seismi	58.39	255	P	P	02 01 48.5	-1.2
PSA00	Pilbara Seismi	58.39	255	P	P	02 01 48.5	-1.2
PSA00				IAmb	IAmb	02 01 51.3	
	comp=Z,61nm,1.2s						
MEEK	Meekatharra	58.96	249	P	P	02 01 52.3	-1.3
	baz=59,SNR=7.1						
MEEK	Meekatharra	58.96	249	P	P	02 01 52.0	-1.5
KLBR	Kellerberrin	59.39	243	P	P	02 01 55.3	-1.0
	baz=59,SNR=37						
KLBR	Kellerberrin	59.39	243	P	P	02 01 55.5	-0.8
NWAO	Narrogin (SRO)	59.78	242	P	P	02 01 58.1	-0.8
RKGY	Rocky Gully	59.95	240	P	P	02 02 00.2	+0.2
	baz=60,SNR=6.0						
BLDU	Ballidu	60.33	244	P	P	02 02 01.6	-1.1
	baz=60,SNR=15						
MUN	Mundaring	60.69	243	P	P	02 02 06.1	+1.1
	baz=61,SNR=4.0						
VNDA	Vanda	60.99	185	P	P	02 02 07.9	+1.7
	comp=Z,12nm,1.1s,baz=13,slow=6.3,SNR=7.6						
VNDA				PcP	PcP	02 02 46.4	+2.0
	comp=Z,5.9nm,1.0s,baz=352,slow=7.1,SNR=5.8						
VNDA	Vanda	60.99	185	P	P	02 02 08.0	+1.7
VNDA				IAmb	IAmb	02 02 13.2	
	comp=Z,38nm,1.4s						
MORW	Morawa	61.02	246	P	P	02 02 06.4	-0.9
	baz=61,SNR=15						
MORW	Morawa	61.02	246	P	P	02 02 05.7	-1.6
MORW				IAmb	IAmb	02 02 08.1	
	comp=Z,19nm,0.7s						
MORW

YULB IAmb IAmb 02 03 18.7
comp=Z,23nm,1.2s
QSPA South Pole Qui 72.67 180 P **P 02 03 20.3 +1.3**
KSM Kuching 72.98 277 P **P 02 03 21.7 0.0**
KSM Kuching 72.98 277 P **P 02 03 23.1 +1.5**
YSS Yuzh-Sakhalins 73.12 333 P **P 02 03 20.8 -0.9**
YSS IAmb IAmb 02 03 23.2
comp=Z,22nm,1.0s
PEA0B Petropavlovsk- 73.27 345 P **P 02 03 22.2 -0.2**
PEA0B IAmb IAmb 02 03 22.9
comp=Z,18nm,0.8s
PETK Petropavlovsk- 73.27 345 P **P 02 03 21.6 -0.8**
comp=Z,18nm,0.8s,baz=114,slow=8.2,SNR=28
CNJI Cibinong 73.43 267 P **P 02 03 24.0 -0.2**
comp=Z,13µmcomp=Z,121nm,0.8s
CBJI Citeko 73.94 268 P **P 02 03 26.7 -0.5**
comp=Z,163nm,0.7s
SKJI Sukabumi 74.06 268 P **P 02 03 27.7 -0.1**
comp=Z,220nm,0.6s
KSRS Korea Array 74.56 318 P **P 02 03 31.0 +0.9**
comp=Z,4.5nm,0.7s,baz=122,slow=6.2,SNR=10
CGJI Cibinong 74.99 268 P **P 02 03 32.2 -0.9**
comp=Z,4µmcomp=Z,327nm,0.6s
USRK Ussuriysk Ar. 76.39 325 P **P 02 03 40.8 +0.6**
comp=Z,2.9nm,0.7s,baz=134,slow=4.2,SNR=5.5
USRK Ussuriysk Ar. 76.39 325 P **P 02 03 40.0 -0.2**
KASI Kota Agung 76.44 268 P **P 02 03 40.5 -0.7**
comp=Z,2µmcomp=Z,177nm,0.6s
MWC Mount Wilson 76.72 47 IAmb IAmb 02 03 44.1
comp=Z,24nm,1.2s
VES Vestal, Richgr 76.87 46 P **P 02 03 44.2 +1.1**
baz=237
LWLI Liwa 77.00 269 P **P 02 03 44.3 -0.1**
comp=Z,130nm,0.7s
MURC Murrieta 77.00 48 P **P 02 03 45.5 +1.6**
baz=239
MDSI Maura Dua 77.04 269 P **P 02 03 41.8 -2.7**
comp=Z,26nm,0.7s
EDW2 Edwards Air Fo 77.11 47 P **P 02 03 46.2 +1.7**
baz=238,SNR=5.7
OHAK Old Harbor 77.14 14 P **P 02 03 44.5 +0.5**
baz=204
ISA Isabella, Lake 77.19 46 P **P 02 03 45.8 +0.8**
ISA Isabella, Lake 77.19 46 P **P 02 03 46.7 +1.7**
baz=238,SNR=6.9
MONP2 Monument Peak 77.20 49 P **P 02 03 47.2 +2.0**
baz=239,SNR=8.6
IKP In-Ko-Pah, Jac 77.31 50 P **P 02 03 47.6 +2.0**
baz=240,SNR=6.4
PFO Pinyon Flats O 77.54 49 P **P 02 03 47.8 +0.8**
comp=Z,4.7nm,0.8s,baz=259,slow=7.1,SNR=5.3
PFO Pinyon Flats O 77.54 49 P **P 02 03 48.3 +1.4**
baz=239
M02C Callahan 77.60 39 P **P 02 03 49.2 +2.2**
baz=233
SWSC Sam W. Stewart 77.68 50 P **P 02 03 49.2 +1.6**
baz=240,SNR=5.4
KDAK Kodiak Island 77.81 14 P **P 02 03 48.3 +0.6**
comp=Z,21nm,0.7s,baz=260,slow=4.1,SNR=20
KDAK Kodiak Island 77.81 14 P **P 02 03 48.3 +0.6**
KDAK IAmb IAmb 02 03 48.9
comp=Z,24nm,0.8s
KDAK Kodiak Island 77.81 14 P **P 02 03 48.2 +0.5**
baz=205
CWC Cottonwood Cre 77.88 46 P **P 02 03 50.2 +1.4**
baz=238
NJ2 Nanjing 77.89 309 *e*P **P 02 03 50.5 +1.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
YBH Yreka Blue Hor 77.89 39 P **P 02 03 50.2 +1.6**
comp=Z,7.2nm,0.7s,baz=160,slow=2.1,SNR=13
MDJ Mudanjiang 77.97 325 P **P 02 03 50.5 +1.6**
MDJ pmax pmax
comp=Z,16nm,0.7s
MDJ pmax pmax
comp=Z,140nm,6.0s
MDJ Mudanjiang 77.97 325 P **P 02 03 49.5 +0.7**
MDJ IAmb IAmb 02 03 50.9
comp=Z,13nm,0.8s
MDJ Mudanjiang 77.97 325 P **P 02 03 49.8 +0.9**
BELC Belle Mtn. Jos 78.07 49 P **P 02 03 51.7 +1.8**
baz=240,SNR=9.4
MPMC Manual Prospec 78.08 46 P **P 02 03 51.6 +1.6**
baz=238,SNR=8.0
GSC Goldstone, Bar 78.16 47 P **P 02 03 51.6 +1.3**
baz=239,SNR=5.3
DLV T Lat 78.20 287 P **P 02 03 50.8 -0.2**
DLV IAmb IAmb 02 03 53.7
comp=Z,32nm,0.9s
DLV T Lat 78.20 287 P **P 02 03 51.7 +0.7**
HEC Hector,Ludlow 78.25 48 P **P 02 03 52.1 +1.4**
baz=239,SNR=6.2
BC3 Big Chuckawall 78.28 49 P **P 02 03 52.7 +1.8**
baz=240,SNR=5.2
L04D Klamath Falls 78.42 39 P **P 02 03 53.1 +1.5**
baz=234
GLA Glamis 78.44 50 IAmb IAmb 02 03 55.1
comp=Z,21nm,0.9s
GLA Glamis 78.44 50 P **P 02 03 54.5 +2.8**
baz=240,SNR=10
GRAC Grapevine Rang 78.66 45 P **P 02 03 54.8 +1.9**
baz=238,SNR=18
GMRC Granite Mounta 78.70 48 P **P 02 03 54.7 +1.5**
baz=240
FURC Furnace Creek, 78.72 46 P **P 02 03 54.8 +1.7**
baz=238
P18K Big Mountain, 78.74 12 P **P 02 03 52.5 -0.2**
baz=202,SNR=7.4
IRM Iron Mountain 78.76 49 P **P 02 03 55.3 +1.9**
baz=240,SNR=9.5
NVAR Mina Array Bea 78.80 44 P **P 02 03 55.5 +1.7**
comp=Z,14nm,0.7s,baz=226,slow=9.0,SNR=36
TUQ Turquoise Moun 78.85 47 P **P 02 03 55.7 +1.7**
baz=239
NV11 Mina Array Sit 78.89 44 P **P 02 03 55.0 +0.8**
NV11 IAmb IAmb 02 03 56.2
comp=Z,12nm,0.8s
113A Mohawk Valley, 79.08 51 IAmb IAmb 02 03 58.3
comp=Z,13nm,0.8s
J04D Umpqua Nationa 79.14 38 P **P 02 03 57.3 +1.8**
baz=234
O18K Koktuh Hills 79.17 11 P **P 02 03 55.3 +0.2**
baz=202
MYKOM Kota Tinggi 79.21 275 P **P 02 03 56.6 +0.4**
MYKOM IAmb IAmb 02 03 58.0
comp=Z,36nm,1.0s
MASI Maura Aman, Be 79.28 270 P **P 02 03 54.2 -2.5**
TPNV Topopah Spring 79.40 46 P **P 02 03 58.7 +1.8**
baz=239,SNR=12
214A Organ Pipe Nat 79.41 52 P **P 02 03 59.3 +2.3**
baz=242
PDMCI Parker Dam,Lak 79.55 49 P **P 02 03 59.6 +2.0**
baz=241
K05A Summer Lake 79.57 39 IAmb IAmb 02 04 00.1
comp=Z,20nm,0.9s
J05D Fort Rock, OR 79.69 38 P **P 02 04 00.1 +1.8**
baz=234
CN2 Changchun 79.83 322 *e*P **P 02 03 59.5 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
BNX BinXian 79.88 325 ⇑P **P 02 03 57.0 -2.1**
BNX pmax pmax
comp=Z,36nm,1.0s
BNX pmax pmax
comp=Z,270nm,5.3s
BRSE Bradley Lake S 80.00 14 P **P 02 03 59.6 +0.2**
baz=206
PINE Pine Mountain 80.16 38 IAmb IAmb 02 04 03.3
comp=Z,29nm,0.8s
N19K Bonanza Creek 80.20 11 P **P 02 03 59.7 -0.8**
baz=203
I05D Terrebonne, OR 80.24 37 P **P 02 04 02.3 +1.2**
baz=234
R11A Troy Canyon, C 80.57 45 P **P 02 04 04.4 +1.3**
baz=239,SNR=6.2
SEW Seward 80.61 14 P **P 02 04 02.5 -0.1**
baz=208
WVOR Wild Horse Val 80.77 40 IAmb IAmb 02 04 06.7
comp=Z,20nm,1.0s
MA2 Magadan 80.79 345 P **P 02 04 02.9 -0.7**
MA2 Magadan 80.79 345 P **P 02 04 03.1 -0.4**
O22K Cooper Landing 80.89 14 P **P 02 04 04.2 +0.2**
baz=207
GAMB Gambell 81.05 3 IAmb IAmb 02 04 16.0
comp=Z,14nm,1.0s
GAMB Gambell 81.05 3 P **P 02 04 05.4 +0.6**
baz=186

F05D White Salmon 81.08 36 P **P 02 04 06.7 +1.3**
baz=234
TUC Tucson 81.09 52 P **P 02 04 06.9 +1.0**
TUC IAmb IAmb 02 04 09.6
comp=Z,25nm,0.9s
TUC Tucson 81.09 52 P **P 02 04 08.6 +2.8**
baz=243
I07A Izee 81.17 38 IAmb IAmb 02 04 08.7
comp=Z,14nm,0.8s
D03D Eldon 81.18 34 P **P 02 04 07.4 +1.6**
baz=232
M19K Big River Lodg 81.22 11 IAmb IAmb 02 04 06.7
comp=Z,15nm,0.7s
M19K Big River Lodg 81.22 11 P **P 02 04 05.6 -0.1**
baz=203
J08A Circle Bar Ran 81.39 39 IAmb IAmb 02 04 09.8
comp=Z,26nm,1.2s
L19K White Mountain 81.40 11 P **P 02 04 06.9 +0.3**
baz=202
RC01 Rabbit Creek A 81.43 13 P **P 02 04 06.6 -0.2**
baz=207,SNR=6.6
BKNI Bangkinang 81.44 273 P **P 02 04 08.1 +0.1**
SMAI San Martin Ant 81.51 159 P **P 02 04 08.7 +1.4**
PWL Port Wells 81.54 14 P **P 02 04 07.3 -0.1**
baz=209,SNR=5.4
SUA Susitna One 81.54 13 P **P 02 04 07.1 -0.5**
baz=206
X16A Lo Mia Camp, P 81.57 50 IAmb IAmb 02 04 11.9
comp=Z,15nm,1.0s
319A Douglas 81.82 54 P **P 02 04 11.5 +1.8**
L20K Farewell, AK 81.85 11 P **P 02 04 08.7 -0.2**
baz=203
TTA Tatalina 81.90 10 P **P 02 04 09.9 +0.6**
TTA IAmb IAmb 02 04 10.8
comp=Z,21nm,1.2s
TTA Tatalina 81.90 10 P **P 02 04 09.9 +0.6**
baz=201,SNR=12
U15A North Rim 81.90 48 IAmb IAmb 02 04 13.6
comp=Z,27nm,1.0s
M22K Willow 81.94 13 P **P 02 04 09.2 -0.2**
baz=207
KNK Knik Glacier 82.00 14 P **P 02 04 09.8 0.0**
baz=208
PMR Palmer 82.01 13 IAmb IAmb 02 04 09.9
comp=Z,13nm,0.5s
PMR Palmer 82.01 13 P **P 02 04 09.6 -0.1**
baz=208,SNR=7.3
ELK Elko 82.03 43 P **P 02 04 11.9 +1.2**
ELK IAmb IAmb 02 04 13.2
comp=Z,16nm,1.1s
WUAZ Wupatki 82.13 49 IAmb IAmb 02 04 15.1
comp=Z,16nm,1.1s
WUAZ Wupatki 82.13 49 P **P 02 04 13.3 +2.1**
baz=242
B05A Bryant 82.16 34 P **P 02 04 12.0 +1.2**
baz=233
G08A Pilot Rock 82.17 38 IAmb IAmb 02 04 13.7
comp=Z,20nm,1.1s
ANM Nome 82.27 5 P **P 02 04 11.6 +0.6**
baz=192
SML Sawmill 82.38 14 P **P 02 04 11.4 -0.4**
baz=208
E07A Sunnyside 82.38 36 IAmb IAmb 02 04 14.1
comp=Z,16nm,0.8s
DIV Divide 82.40 15 IAmb IAmb 02 04 12.6
comp=Z,21nm,0.8s
HAWA Hanford 82.47 37 IAmb IAmb 02 04 15.0
comp=Z,24nm,0.9s
CUT Chulitna 82.49 13 P **P 02 04 11.9 -0.2**
baz=207,SNR=8.3
BMRM Bremner River 82.56 16 P **P 02 04 12.8 +0.2**
baz=212
MESA MESA 82.61 17 P **P 02 04 13.7 +0.6**
baz=215
K20K Telida 82.63 11 P **P 02 04 13.3 +0.4**
baz=203
SCM Sheep Creek Mo 82.63 14 P **P 02 04 13.1 +0.1**
baz=210,SNR=9.5
KLU Klutina 82.67 15 P **P 02 04 12.9 -0.3**
baz=211
IPM Ipoh 82.72 277 P **P 02 04 14.5 0.0**
IPM Ipoh 82.72 277 P **P 02 04 15.7 +1.2**
E08A Dider Farm, El 82.80 37 IAmb IAmb 02 04 16.1
comp=Z,14nm,0.8s
SISI Saibi 82.81 271 P **P 02 04 17.3 +2.3**
comp=Z,28nm,0.7s
HPIG 82.85 59 P **P 02 04 16.4 +1.3**
HPIG IAmb IAmb 02 04 18.3
comp=Z,19nm,1.2s
MNSI Mandailing Nat 82.98 273 P **P 02 04 15.9 +0.1**
MFID Camas Ranch 83.04 40 IAmb IAmb 02 04 18.1
comp=Z,14nm,0.8s
CAST Castle Rocks 83.05 11 P **P 02 04 13.9 -1.1**
baz=205,SNR=27
TNA Tin City 83.05 4 IAmb IAmb 02 04 16.4
comp=Z,24nm,0.8s
TNA Tin City 83.05 4 P **P 02 04 15.6 +0.7**
baz=190
N25K Chitina, Valde 83.10 15 IAmb IAmb 02 04 16.4
comp=Z,20nm,0.8s
N25K Chitina, Valde 83.10 15 P **P 02 04 15.6 +0.2**
baz=212,SNR=10
W18A Petrified Fore 83.14 50 P **P 02 04 18.4 +2.0**
baz=243
M24K Tolsona, Glenn 83.14 14 P **P 02 04 16.4 +0.8**
baz=210,SNR=7.1
D08A Wollman Farm, 83.19 36 IAmb IAmb 02 04 18.6
comp=Z,18nm,1.0s
KULM Kulim 83.33 278 P **P 02 04 17.6 0.0**
KULM IAmb IAmb 02 04 19.5
comp=Z,30nm,0.9s
DUG Dugway, Tooele 83.35 44 P **P 02 04 18.6 +1.3**
baz=241,SNR=6.7
J20K Nowinta River 83.37 10 P **P 02 04 16.7 +0.1**
baz=203
TRF Thorofare Moun 83.42 12 P **P 02 04 16.5 -0.6**
baz=207,SNR=18
CHUM Lake Minchumin 83.43 11 P **P 02 04 16.3 -0.6**
baz=205,SNR=14
121A Cookes Peak, D 83.47 53 IAmb IAmb 02 04 21.8
comp=Z,27nm,1.4s
121A Cookes Peak, D 83.47 53 P **P 02 04 20.4 +2.3**
baz=245
F10A Beach Ranch, E 83.56 38 IAmb IAmb 02 04 20.1
comp=Z,22nm,0.9s
HARP HAARP 83.64 15 P **P 02 04 18.5 +0.4**
baz=212,SNR=6.7
BJI Beijing 83.67 315 P **P 02 04 19.8 +1.1**
BJI pmax pmax
comp=Z,11nm,0.7s
B08A Colville Reser 83.70 35 IAmb IAmb 02 04 19.9
comp=Z,13nm,0.9s
ZAIG Zacatecas 83.86 64 P **P 02 04 21.6 +1.2**
ZAIG IAmb IAmb 02 04 24.4
comp=Z,13nm,0.9s
BPAW Bear Paw Mtn. 83.87 12 P **P 02 04 18.0 -1.2**
baz=206
MCK McKinley 83.95 13 IAmb IAmb 02 04 20.6
comp=Z,25nm,0.8s
MCK McKinley 83.95 13 P **P 02 04 19.3 -0.3**
baz=208,SNR=15
HLID Hailey 84.00 41 IAmb IAmb 02 04 23.4
comp=Z,12nm,0.8s
HLID Hailey 84.00 41 P **P 02 04 22.4 +1.9**
baz=239,SNR=20
PAX Paxson 84.06 14 P **P 02 04 19.5 -0.7**
baz=211,SNR=6.8
M26K Nabesna, AK 84.18 16 P **P 02 04 20.9 +0.1**
baz=214
ENH Enshi 84.28 304 P **P 02 04 22.4 +0.4**
ENH IAmb IAmb 02 04 23.8
comp=Z,17nm,0.8s
YUK3 Moose Creek 84.34 17 P **P 02 04 22.5 +0.6**
baz=216,SNR=13
M27K Edge Creek, AK 84.44 16 P **P 02 04 22.9 +0.7**
baz=214,SNR=10
HYT Haines Junctio 84.45 19 P **P 02 04 22.8 +0.6**
baz=219
MENT Mentasta 84.45 15 P **P 02 04 22.1 0.0**
MENT IAmb IAmb 02 04 23.2
comp=Z,15nm,0.8s
MAW Mawson 84.47 200 P **P 02 04 24.0 +1.8**
comp=Z,44nm,0.8s,baz=98,slow=8.8,SNR=4.0
MAW Mawson 84.47 200 P **P 02 04 23.0 +0.8**
MAW IAmb IAmb 02 04 24.5
comp=Z,18nm,0.9s
YUK4 Talbot Arm 84.52 18 P **P 02 04 23.6 +0.9**
baz=218

L26K Log Cabin Wild 84.62 15 P **P 02 04 23.4 +0.5**
baz=213,SNR=9.4
I21K Tanana 84.67 11 P **P 02 04 23.2 +0.1**
baz=205
NEA2 Nenana 84.69 12 P **P 02 04 22.3 -0.9**
baz=208
BVCY Beaver Creek 84.75 16 P **P 02 04 24.2 +0.6**
baz=215,SNR=12
MLY Manley 84.76 11 P **P 02 04 22.8 -0.7**
baz=206
RIDG Independent Ri 84.86 14 P **P 02 04 24.1 0.0**
baz=212,SNR=12
NEW Newport 84.88 36 P **P 02 04 25.1 +0.5**
baz=237,SNR=5.6
H21K Melozitna Rive 84.96 10 P **P 02 04 25.3 +0.8**
baz=204
MVCO Mesa Verde 84.96 49 P **P 02 04 27.0 +1.5**
baz=244
HDA Harding Lake 84.97 13 P **P 02 04 24.5 -0.1**
baz=210,SNR=28
DOT Dot Lake 84.97 14 IAmb IAmb 02 04 25.5
comp=Z,22nm,0.7s
MNTX Cornudas Mount 84.98 55 IAmb IAmb 02 04 28.6
comp=Z,9.7nm,0.8s
MNTX Cornudas Mount 84.98 55 P **P 02 04 27.6 +2.2**
baz=246
L27K Beaver Creek, 85.03 16 P **P 02 04 25.3 +0.4**
baz=214,SNR=6.0
GSI Gunungsitoli 85.04 273 P **P 02 04 27.6 +1.5**
comp=Z,5µmcomp=Z,133nm,0.9s
GSI Gunungsitoli 85.04 273 P **P 02 04 26.5 +0.4**
GSI Gunungsitoli 85.04 273 P **P 02 04 27.7 +1.6**
BCAR Beaver Creek A 85.05 16 P **P 02 04 25.0 0.0**
I23K Minto, Yukon-K 85.13 12 P **P 02 04 24.6 -0.7**
baz=207,SNR=5.2
PV11 David Mesa, Pa 85.18 48 IAmb IAmb 02 04 29.0
comp=Z,6.9nm,0.5s
TCOL CIGO, UAF Yank 85.18 12 P **P 02 04 25.3 -0.2**
baz=209,SNR=8.4
COLA College 85.19 12 P **P 02 04 25.4 -0.2**
SCRK Sand Creek 85.27 14 P **P 02 04 26.4 +0.3**
baz=212,SNR=14
IL31 85.30 13 IAmb IAmb 02 04 26.4
comp=Z,14nm,1.0s
ILAR Eielson Array 85.30 13 P **P 02 04 25.5 -0.7**
comp=Z,9.4nm,0.8s,baz=221,slow=5.5,SNR=71
ILAR pP **pP 02 06 05.7 +0.4**
comp=Z,9.1nm,1.2s,baz=234,slow=5.2,SNR=6.4
ILAR S **SKSac 02 14 07.2 -0.5**
comp=Z,0.5nm,1.1s,baz=253,slow=8.5,SNR=4.3
ILAR PKKP **PKKPdf 02 22 24.7 +0.7**
comp=Z,0.5nm,0.8s,baz=150,slow=0.3,SNR=4.5
ILAR Eielson Array 85.30 13 P **P 02 04 25.9 -0.2**
SRIT Nakonsritamara 85.34 280 P **P 02 04 27.9 +0.4**
TX32 Lajitas Array 85.41 58 P **P 02 04 29.9 +2.3**
TX32 IAmb IAmb 02 04 31.6
comp=Z,25nm,1.1s
TXAR Lajitas Array 85.41 58 P **P 02 04 30.1 +2.4**
comp=Z,12nm,0.8s,baz=226,slow=5.7,SNR=120
TXAR Lajitas Array 85.41 58 P **P 02 04 30.2 +2.5**
ANMO Albuquerque 85.49 51 P **P 02 04 28.7 +0.6**
ANMO Albuquerque 85.49 51 P **P 02 04 29.4 +1.3**
baz=245
N31M Braeburn, Yuko 85.49 19 P **P 02 04 27.1 -0.1**
baz=220
P33M Teslin, Yukon 85.49 21 P **P 02 04 28.0 +0.7**
baz=223
KCSI Kotacane, Aceh 85.52 275 P **P 02 04 25.6 -2.8**
comp=Z,34nm,0.8s
MSO Missoula 85.95 38 P **P 02 04 30.8 +0.9**
baz=239
BILL Bilibino 85.95 354 P **P 02 04 29.0 -0.3**
BILL IAmb IAmb 02 04 30.1
comp=Z,15nm,0.7s
DLMT Dillon 86.03 40 IAmb IAmb 02 04 32.9
comp=Z,12nm,0.8s
M30M Minto, Yukon 86.03 18 P **P 02 04 30.1 +0.3**
baz=219,SNR=14
H24K Noodor Dome 86.03 12 P **P 02 04 28.3 -1.4**
baz=209
REDW Red Top Meadow 86.16 42 IAmb IAmb 02 04 33.8
comp=Z,14nm,0.9s
XAN Xi'an 86.23 307 P **P 02 04 32.5 +1.0**
XAN sP sP 02 06 49.5 -7.5
XAN pmax pmax
comp=Z,20nm,0.8s
PRP Porcupine Dome 86.24 13 P **P 02 04 30.1 -0.8**
baz=211
SNOW Snow King Moun 86.27 42 IAmb IAmb 02 04 34.4
comp=Z,16nm,1.0s
S22A 4UR Ranch, Cre 86.39 49 IAmb IAmb 02 04 35.3
comp=Z,12nm,1.0s
S22A 4UR Ranch, Cre 86.39 49 P **P 02 04 34.1 +1.7**
baz=245
O20A White River Ci 86.43 46 P **P 02 04 33.4 +0.9**
baz=244
M31M Drury Creek, Y 86.46 19 P **P 02 04 31.8 -0.1**
baz=221
DAWY Dawson 86.49 16 P **P 02 04 32.4 +0.5**
baz=217,SNR=9.7
QLMT Earthquake Lak 86.49 41 P **P 02 04 34.2 +1.6**
FLWY Flagg Ranch 86.60 42 IAmb IAmb 02 04 36.2
comp=Z,24nm,1.0s
EGAK Eagle 86.62 15 P **P 02 04 32.8 +0.3**
baz=215
BW06 Boulder Array 86.72 43 P **P 02 04 34.7 +0.9**
baz=243
PDAR Pinedale Array 86.72 43 P **P 02 04 34.7 +0.9**
comp=Z,5.6nm,0.7s,baz=214,slow=2.9,SNR=54
PDAR pP **pP 02 06 13.7 +0.6**
comp=Z,1.1nm,0.9s,baz=220,slow=3.9,SNR=3.5
PDAR PP **PP 02 08 02.0 -2.1**
comp=Z,0.2nm,0.6s,baz=243,slow=6.0,SNR=3.3
BOZ Bozeman (W) 86.73 40 P **P 02 04 35.1 +1.4**
baz=241,SNR=8.2
FARO Faro, Yukon 86.81 19 P **P 02 04 33.5 0.0**
baz=222
H17A Grant Village 86.82 42 P **P 02 04 37.0 +2.7**
baz=242,SNR=16
COLD Coldfoot 86.83 10 IAmb IAmb 02 04 35.1
comp=Z,10nm,0.9s
COLD Coldfoot 86.83 10 P **P 02 04 33.8 +0.3**
baz=207
LKWY Lake 87.01 41 P **P 02 04 36.9 +1.7**
LKWY IAmb IAmb 02 04 39.1
comp=Z,13nm,0.8s
MAYO Mayo, Yukon 87.08 17 P **P 02 04 35.6 +0.9**
baz=220,SNR=5.2
J29M Klondike Camp 87.11 16 IAmb IAmb 02 04 36.4
comp=Z,6.9nm,0.6s
J29M Klondike Camp 87.11 16 P **P 02 04 36.2 +1.3**
baz=218
HHC Hu-ho-hao-te 87.17 314 *e*P **P 02 04 37.0 +1.2**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,110nm,7.1s
SDCO Great Sand Dun 87.35 49 P **P 02 04 38.3 +1.3**
baz=246
MMPY Sheldon Lake, 87.76 20 P **P 02 04 38.8 +0.8**
baz=224,SNR=7.3
I29M Ogilvie Camp, 87.81 16 P **P 02 04 38.1 0.0**
baz=218
MSTX Muleshoe 87.89 54 IAmb IAmb 02 04 41.2
comp=Z,11nm,0.7s
MSTX Muleshoe 87.89 54 P **P 02 04 40.8 +1.4**
baz=248
RLMT Red Lodge 87.98 41 IAmb IAmb 02 04 42.5
comp=Z,10nm,0.8s
RLMT Red Lodge 87.98 41 P **P 02 04 41.4 +1.8**
baz=243
BMAR Burnt Mountain 88.07 12 P **P 02 04 39.8 +0.5**
Q24A Divide 88.10 48 P **P 02 04 42.3 +1.8**
baz=246
ISCO Idaho Springs 88.11 47 P **P 02 04 42.1 +1.5**
baz=246
TOLK Toolik Lake Re 88.21 10 P **P 02 04 40.0 +0.1**
baz=207
COYC Coyhaique 88.45 137 P **P 02 04 42.7 +1.1**
JCT Junction City 88.95 58 P **P 02 04 45.9 +1.6**
baz=249
CMAR Chiang Mai Arr 89.05 290 P **P 02 04 46.1 +1.2**
comp=Z,4.9nm,1.0s,baz=100,slow=2.8,SNR=20
CMAR Chiang Mai Arr 89.05 290 P **P 02 04 45.8 +0.8**
AMTX Amarillo 89.07 53 IAmb IAmb 02 04 46.9
comp=Z,14nm,1.1s
AMTX Amarillo 89.07 53 P **P 02 04 46.3 +1.5**

baz=248
CHTO Chiang Mai 89.17 290 P P 02 04 46.5 +1.0
PZH PanZhiHua 89.23 298 P P 02 04 47.8 +2.0
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,6.2s
SYO Syowa Base 89.74 193⇑ *i P* **P 02 04 47.4 +0.2**
SYO Syowa Base 89.74 193⇓ *e* PcP **PcP 02 04 50.6 +2.5**
ABTX Abilene, Hawle 89.83 56 IAmb IAmb 02 04 50.9
comp=Z,20nm,0.9s
ABTX Abilene, Hawle 89.83 56 P P 02 04 50.1 +1.8
baz=249
LL04 Puerto Octay 90.06 133 P P 02 04 50.1 +0.8
LL04 IAmb IAmb 02 04 51.8
comp=Z,17nm,0.8s
LAO LASA Array 90.58 41 IAmb IAmb 02 04 54.3
comp=Z,15nm,0.8s
LAO LASA Array 90.58 41 P P 02 04 53.7 +2.2
baz=245
LZH Lanzhou 90.86 308 *e* P **P 02 04 54.8 +1.6**
LZH pP pP 02 06 36.8 +2.8
LZH pmax pmax
comp=Z,16nm,1.3s
RSSD Black Hills 90.94 44 P P 02 04 53.9 +0.5
RSSD IAmb IAmb 02 04 55.9
comp=Z,9.7nm,0.8s
RSSD Black Hills 90.94 44 P P 02 04 54.4 +1.0
baz=247
SNAA Sanae 91.11 178 P P 02 04 54.3 +0.7
SNAA Sanae 91.11 178 P P 02 04 53.3 -0.3
LC01 Cunco 91.23 131 P P 02 04 56.2 +1.4
LC01 IAmb IAmb 02 04 57.1
comp=Z,9.6nm,0.9s
VNA3 Neumayer Olymp 91.23 176 P P 02 04 55.3 +1.2
INK Inuvik 91.29 15 P P 02 04 53.8 -0.3
comp=Z,3.9nm,0.9s,baz=208,slow=5.7,SNR=12
INK Inuvik 91.29 15 P P 02 04 54.3 +0.2
baz=222
PLCA Paso Flores 91.43 134 P P 02 04 57.5 +1.8
comp=Z,7.4nm,0.8s,baz=217,slow=5.4,SNR=17
PLCA Paso Flores 91.43 134 P P 02 04 57.1 +1.4
PLCA IAmb IAmb 02 04 58.7
comp=Z,11nm,0.9s
VNA2 Neumayer--Watz 91.68 177 P P 02 04 57.6 +1.5
baz=182,slow=4.8
VNA1 Neumayer--Stat 91.91 177 P P 02 04 58.8 +1.6
DGMT Dagmar 92.56 40 P P 02 05 02.3 +1.8
baz=247
SONM Songino Array 93.39 319 P P 02 05 03.8 -0.8
comp=Z,0.8nm,0.5s,baz=139,slow=5.3,SNR=8.3
SONM pP pP 02 06 45.6 +0.3
comp=Z,0.2nm,0.4s,baz=129,slow=4.1,SNR=1.8
SONM S SKSac 02 14 57.5 +1.8
comp=Z,0.2nm,0.5s,baz=76,slow=6.1,SNR=1.5
SONM PKKPbc PKKPdf 02 22 09.6 +0.5
comp=Z,0.4nm,0.8s,baz=234,slow=7.1,SNR=3.6
SONM Songino Array 93.39 319 P P 02 05 04.1 -0.5
YKA Yellowknife Ar 93.71 25 P P 02 05 05.7 +0.3
comp=Z,5.4nm,0.7s,baz=244,slow=4.5,SNR=102
YKA PP PP 02 08 53.9 -4.1
comp=Z,0.7nm,0.9s,baz=246,slow=7.6,SNR=3.7
YKA PKiKP PKiKP 02 09 47.8 +0.1
comp=Z,0.3nm,0.7s,baz=245,slow=1.3,SNR=4.0
YKA PKKPbc PKKPdf 02 22 07.0 -1.9
comp=Z,0.4nm,0.5s,baz=42,slow=2.1,SNR=14
YKA PKPPKP P'P'df 02 30 20.0 +1.5
comp=Z,0.4nm,0.9s,baz=48,slow=2.2,SNR=3.8
YKA Yellowknife Ar 93.71 25 P P 02 05 05.2 -0.2
BGNE Belgrade 93.98 48 P P 02 05 09.4 +2.2
baz=250
KSU1 Kansas State U 94.34 50 P P 02 05 10.7 +1.8
baz=251
ECSD EROS Data Cent 95.81 46 P P 02 05 16.0 +0.5
baz=252
A36M Sachs Harbour 95.89 14 P P 02 05 15.1 0.0
baz=230
LPAZ La Paz 103.26 112 Pdiff **Pdif 02 05 51.9 +1.8**
comp=Z,1.1nm,0.9s,baz=191,slow=5.2,SNR=3.5
LPAZ PKKPbc PKKPbc 02 21 42.0 -1.0
comp=Z,0.7nm,0.8s,baz=33,slow=8.4,SNR=3.5
ZALV Zalesovo Beam 108.05 322 PKiKP **PKiKP 02 10 13.1 -0.8**
comp=Z,1.5nm,0.6s,baz=158,slow=1.3,SNR=7.5
ZALV PP PP 02 10 48.8 +3.6
comp=Z,1.0nm,0.8s,baz=87,slow=6.4,SNR=3.8
MKAR Makanchi Array 109.03 314 Pdiff **Pdif 02 06 16.3 +1.9**
comp=Z,0.3nm,0.8s,baz=46,slow=6.9,SNR=2.6
MKAR PKiKP PKiKP 02 10 14.9 -1.1
comp=Z,0.9nm,0.5s,baz=139,slow=0.5,SNR=6.5
MKAR PKKPbc PKKPbc 02 21 25.2 -0.5
comp=Z,1.3nm,0.7s,baz=273,slow=3.6,SNR=16
KKAR Karatay Array 117.26 310 PKPdf **PKPdf 02 10 31.7 -0.1**
KBL Kabul 118.34 300 PKPdf 02 10 33.9 -0.5
SPA0 Spitsbergen Ar 118.77 357 *e* PKPdf **PKPdf 02 10 33.6 -0.2**
SPITS Spitsbergen Ar 118.77 357 PKP **PKiKP 02 10 34.1 +0.2**
comp=Z,17nm,1.0s,baz=69,slow=4.6,SNR=8.0
SFJD Kangerlussuaq 120.07 21 PKP **PKPdf 02 10 36.4 -0.1**
comp=Z,3.8nm,0.5s,baz=304,slow=3.6,SNR=7.5
BDFB Brasilia 120.79 121 PKP **PKPdf 02 10 39.5 -0.1**
comp=Z,2.8nm,0.8s,baz=166,slow=8.3,SNR=4.2
ARU Arti 122.62 327 PKP **PKPdf 02 10 41.6 -0.1**
comp=Z,3.7nm,0.4s,baz=103,slow=1.7,SNR=23
ABKAR Akbulak array 123.79 318 PKPdf 02 10 43.9 -0.2
AKTO Aktyubinsk 124.71 320 PKP **PKPdf 02 10 45.4 -0.5**
comp=Z,3.9nm,0.8s,baz=33,slow=2.4,SNR=12
HAMF Hammerfest 125.16 351 *e* PKPdf **PKPdf 02 10 46.1 -0.1**
ARA0 ARCESS Array S 125.87 350 *e* PKPdf **PKiKP 02 10 48.0 0.0**
ARCES ARCESS Array B 125.87 350 PKP **PKPdf 02 10 47.6 0.0**
comp=Z,4.4nm,0.4s,baz=44,slow=0.6,SNR=84
ARCES PKKPbc PKKPbc 02 20 25.3 -1.3
comp=Z,2.8nm,0.7s,baz=242,slow=1.9,SNR=5.7
KIRV Kirov 126.25 331 PKP **PKiKP 02 10 51.3 +2.3**
comp=Z,4.5nm,0.6s,baz=105,slow=5.2,SNR=3.6
KTK1 Kautokeino 126.70 351 *e* PKPdf **PKPdf 02 10 49.0 -0.2**
TRO Tromso 126.72 353 *e* PKPdf **PKPdf 02 10 49.1 -0.1**
GEYT Alibeck 127.05 305 PKP **PKiKP 02 10 51.2 -0.1**
comp=Z,4.0nm,0.8s,baz=77,slow=7.6,SNR=5.9
STEI Steigen 128.77 354 *e* PKPdf **PKiKP 02 10 53.7 -0.1**
KLMR Klimovskoe 129.02 337 AMP 02 11 03.5
comp=Z,14nm,1.3s
KLMR Klimovskoe 129.02 337 *e* PKPdf **PKPdf 02 10 52.1 -1.7**
BOSA Boshof 129.03 207 PKP **PKiKP 02 10 55.8 0.0**
comp=Z,4.8nm,0.8s,baz=88,slow=1.8,SNR=8.0
FAUS Fauske 129.29 353 *e* PKPdf **PKiKP 02 10 54.5 -0.4**
MOR8 Moi Rana 130.55 353 *e* PKPdf **PKPdf 02 10 56.5 -0.1**
FINES FINESS Array B 132.79 344 PKhKP PKPpre 02 10 52.5
comp=Z,3.2nm,0.9s,baz=4.8,slow=2.3,SNR=6.3
FINES PKP **PKPdf 02 11 00.6 -0.3**
comp=Z,6.4nm,1.0s,baz=66,slow=1.3,SNR=11
FINES SKP 02 13 49.9
comp=Z,4.3nm,0.8s,baz=71,slow=6.3,SNR=5.5
NB2 NORSAR Subarra 135.90 354 PKP **PKiKP 02 11 08.3 -0.2**
comp=Z,0.6nm,0.4s,baz=17,slow=2.6
NOA NORSAR Array B 135.90 354 PKP **PKiKP 02 11 07.9 -0.7**
comp=Z,0.7nm,0.4s,baz=34,slow=1.2,SNR=4.5
LSZ Lusaka 138.51 220 PKPpre 02 11 06.7
RAYN Ar Rayn 138.88 286 PKPdf **PKPdf 02 11 13.1 -0.4**
HOMB Homborsund 138.89 355 *e* Pdif **Pdif 02 08 25.6 -1.1**
GURO Guroymak-BITLI 139.23 309 PKPdf 02 11 13.6 -0.2
SUW Suwalki 139.92 341 *e* PKP **PKiKP 02 11 16.0 -0.8**
AKASG Malin Array Be 140.27 333 PKhKP PKPpre 02 11 07.6
comp=Z,0.9nm,0.4s,baz=43,slow=3.8,SNR=8.9
AKASG PKP **PKiKP 02 11 16.4 -1.2**
comp=Z,2.8nm,0.7s,baz=47,slow=2.3,SNR=12
TSUM Tsumeb 140.54 204 PKPdf 02 11 13.9 -2.8
KMBO Kilima Mbogo 140.68 246 PKhKP PKPpre 02 11 11.7
comp=Z,1.9nm,0.7s,baz=67,slow=5.5,SNR=8.4
EKA Eskdalemuir Ar 141.92 5 PKhKP PKPpre 02 11 12.7
comp=Z,1.1nm,0.5s,baz=351,slow=2.6,SNR=5.6
SORM Soroca 142.52 331⇑ **PKPdf 02 11 15.4 -3.8**
PURM Purcari 142.89 328⇑ **PKPdf 02 11 17.0 -2.8**
MILM Milestii Mici 143.16 329⇓ PKPbc 02 11 19.1 +1.0
FURI Furi 143.33 261 PKPdf **PKPdf 02 11 21.9 -0.1**
KWP Kalwaria Pacla 143.74 337 *e* PKP PKPbc 02 11 20.5 +0.6
KWP Kalwaria Pacla 143.74 337 PKPbc 02 11 20.3 +0.5
LEOM Leova 143.75 329⇓ PKPbc 02 11 20.3 +0.4
ILGA Ilgaz 143.94 317 PKPab 02 11 21.6 +0.5
OJC Ojcow 144.25 340 *e* PKP **PKPab 02 11 21.6 0.0**
BUR01 Bucovina Ar. S 144.32 333⇑ **PKPdf 02 11 22.9 +0.4**
BURAR Bucovina Array 144.32 333⇓ **PKPdf 02 11 23.3 +0.8**
FLTG Flechtingen 144.37 350 *e* PKPbc PKPbc 02 11 21.8 0.0
baz=16,slow=2.9
NRDL Niedersach Rie 144.38 351 *e* PKPbc **PKPdf 02 11 22.1 -0.1**
baz=16,slow=2.9
LODK Lodwar 144.44 251 PKPdf **PKPdf 02 11 24.0 +0.4**
ASSE Asse, Remlinge 144.66 351 *e* PKPbc **PKPab 02 11 22.9 -0.1**
baz=16,slow=2.9
BRTR Keskin Array B 144.67 316 PKP **PKPab 02 11 23.7 -0.1**
comp=Z,12nm,0.6s,baz=124,slow=4.3,SNR=129
BRTR Keskin Array B 144.67 316 PKPbc 02 11 22.9 -0.5
KSP Ksiaz 144.71 344 *e* PKP **PKPab 02 11 23.8 +0.5**
NIE Niedzica 144.77 339 *e* PKP **PKPab 02 11 24.9 +1.2**
IBBN Ibbenburen 144.86 354 *e* PKPbc **PKPab 02 11 24.0 +0.2**
baz=16,slow=2.9
CLZ Clausthal 144.98 351 *e* PKPbc **PKPab 02 11 24.1 -0.3**
baz=16,slow=2.9
OSTC Ostas 144.99 344⇑ *i* PKP **PKPab 02 11 24.7 +0.3**
CHVC Chvalec 145.00 344 *e* PKP **PKPab 02 11 24.4 -0.1**
BMR Baia Mare 145.01 334⇑ **PKPab 02 11 24.7 +0.1**
TRPA Tarpa 145.03 336⇓ **PKPab 02 11 24.8 +0.2**
CLL Collm 145.03 348 *i* PKPbc **PKPbc 02 11 24.1 +0.2**
comp=Z,54nm,0.7s
CLL Collm 145.03 348 *e* PKPbc **PKPab 02 11 24.3 -0.3**
baz=16,slow=2.9
UPC Upice 145.09 344⇑ *i* PKP **PKPab 02 11 25.0 +0.2**
OKC Ostrava-Krasne 145.10 342⇑ *e* PKP **PKPab 02 11 24.8 0.0**
DPC Dobruska-Polom 145.15 344⇑ *i* PKP **PKPab 02 11 25.4 +0.3**
ANTO Ankara 145.16 316 PKPbc **PKPab 02 11 25.2 -0.4**
BRG Berggiesshubel 145.25 347 *i* PKP **PKPbc 02 11 24.7 +0.1**
BRG Amp 02 11 26.5
comp=Z,32nm,1.1s
BRG Berggiesshubel 145.25 347 *e* PKPbc **PKPab 02 11 25.2 -0.1**
baz=16,slow=2.9
KRLC Kraliky 145.28 343⇑ *i* PKP **PKPab 02 11 25.4 -0.2**
LANS Liptovska Anna 145.28 340 *e* PKP **PKPab 02 11 26.2 +0.6**
FBE Freiberg 145.33 347 *e* PKPbc **PKPab 02 11 25.4 -0.2**
baz=16,slow=2.9
GTTG Gottingen 145.33 351 *e* PKPbc **PKPab 02 11 25.3 -0.4**
baz=16,slow=2.9
MORC Moravsky Berou 145.33 342⇑ **PKPab 02 11 25.4 -0.4**
MORC Moravsky Berou 145.33 342 *e* PKP **PKPab 02 11 25.4 -0.4**
NEUB Neuenburg 145.36 349 *e* PKPbc **PKPab 02 11 25.5 -0.3**
baz=16,slow=2.9
PVCC Panska Ves 145.43 346⇑ *e* PKP **PKPab 02 11 26.1 0.0**
KECS Kecovo 145.50 338 *e* PKP **PKPab 02 11 26.1 -0.3**
MLR Muntele Rosu 145.57 330 PKPbc **PKPbc 02 11 25.9 0.0**
comp=Z,15nm,0.7s,baz=47,slow=2.2,SNR=20
MOX Moxa 145.93 349 *e* PKPbc **PKPbc 02 11 27.0 +0.4**
baz=16,slow=2.9
PRU Pruhonice 145.94 345⇑ *i* PKP **PKPbc 02 11 27.2 +0.6**
PRU *e* pPKP **pPKPdf 02 13 15.6 +4.1**
WERD Werda 145.99 348 *e* PKPbc **PKPbc 02 11 27.5 +0.7**
baz=16,slow=2.9
TANN Tannenbergstha 145.99 348 *e* PKPbc **PKPbc 02 11 27.3 +0.5**
baz=16,slow=2.9
SHEL Horse Pasture 146.00 167 PKPbc **PKPdf 02 11 26.9 +0.6**
VRAC Vranov 146.02 343⇑ **PKPab 02 11 27.9 -0.6**
VRAC Vranov 146.02 343 PKPbc **PKPbc 02 11 27.4 +0.6**
comp=Z,5.7nm,0.7s,baz=342,slow=2.6,SNR=5.8
VRAC Vranov 146.02 343 *e* PKP **PKPbc 02 11 27.5 +0.6**
UBBA Unterbreizbach 146.03 351 *e* PKPbc **PKPbc 02 11 27.5 +0.8**
baz=16,slow=2.9
VYHS Vyhne 146.06 340 *e* PKP **PKPbc 02 11 27.8 +0.8**
GUNZ Gunzen 146.06 348 *e* PKPbc **PKPbc 02 11 27.8 +0.8**
baz=16,slow=2.9
JAVC Velka Javorina 146.11 341 *e* PKP **PKPab 02 11 29.0 +0.1**
WERN Wernitzgruen 146.13 348 *e* PKPbc **PKPbc 02 11 27.9 +0.7**
baz=16,slow=2.9
NKC Novy Kostel 146.16 348⇑ *e* PKP **PKPbc 02 11 27.3 0.0**
PSZ Piszkesteto 146.19 338⇑ **PKPbc 02 11 28.2 +0.7**
KRUC Moravsky 146.30 343 *e* PKP **PKPbc 02 11 28.2 +0.5**
PBCC Pribram 146.35 346⇑ *e* PKP **PKPbc 02 11 28.5 +0.7**
MANZ Manzenberg 146.47 348 *e* PKPbc **PKPbc 02 11 28.6 +0.5**
baz=16,slow=2.9
SMOL Smolenice 146.49 341 *e* PKP **PKPab 02 11 29.4 -0.9**
SMOL *e* 02 13 13.9
MBAR Mbarara 146.50 241 PKPbc **PKPbc 02 11 30.4 +0.8**
ROTZ Rotzenmuhle 146.66 348 *e* PKPbc **PKPbc 02 11 29.4 +0.7**
baz=16,slow=2.9
MODS Modra-Piesok 146.66 341 *e* PKP **PKiKP 02 11 30.8 -0.2**
MODS *e* 02 13 15.7
BORA Eskisehir 146.67 318 PKPbc **PKPbc 02 11 29.1 -0.1**
AHRW Bad Neuenahr-A 146.67 354 *e* PKPbc **PKPbc 02 11 29.4 +0.8**
baz=16,slow=2.9
MEM Membach 146.70 355 PKPbc **PKPbc 02 11 29.7 +1.0**
BTNL Ternell 146.71 355 PKPbc **PKPbc 02 11 29.6 +0.8**
BSTI Sart Tilman 146.76 356 PKPbc **PKPbc 02 11 29.6 +0.7**
TNS Taunus Mts 146.83 352 *e* PKPbc **PKPbc 02 11 29.9 +0.7**
baz=16,slow=2.9
GRF Grafenberg Arr 146.92 349 *e* PKPbc **PKPbc 02 11 30.1 +0.7**
baz=16,slow=2.9
KHC Kasperske Hory 146.96 346⇑ *i* PKP **PKPdf 02 11 27.6 +0.8**
KHC *ex* x 02 11 30.3
KHC *e* pPKP pPKPab 02 13 14.5 -0.1
CKRC Cesky Krumlov 147.08 345 *e* PKP **PKPdf 02 11 27.9 +0.9**
CKRC *ex* x 02 11 30.6
CKRC *e* pPKP **pPKPab 02 13 15.1 +0.1**
BMRD Maredsous 147.09 357 PKPbc **PKPbc 02 11 30.7 +0.9**
WET Wettzell 147.11 347 *e* PKPbc **PKPbc 02 11 30.7 +0.7**
baz=16,slow=2.9
AMBH Ambrzfalva 147.19 336⇑ **PKPbc 02 11 30.9 +0.7**
GEC2 GERESS Array S 147.20 346 *e* PKPbc **PKPbc 02 11 30.8 +0.5**
baz=16,slow=2.9
GERES GERESS Array B 147.20 346 PKP **PKPdf 02 11 27.7 +0.4**
comp=Z,7.8nm,0.9s,baz=20,slow=3.1,SNR=30
GERES PKPbc **PKPbc 02 11 30.8 +0.5**
comp=Z,6.1nm,0.6s,baz=18,slow=2.7,SNR=34
GERES pPKP **pPKPbc 02 13 15.1 0.0**
comp=Z,0.9nm,0.7s,baz=31,slow=3.1,SNR=3.1
RCHB Rochefort 147.20 356 PKPbc **PKPbc 02 11 30.1 0.0**
DOU Dourbes 147.30 357 PKPbc **PKPbc 02 11 30.9 +0.6**
LEF Lefka 147.31 309⇑ **PKPbc 02 11 31.2 +0.3**
VLAD Vladila 147.41 329⇓ **PKiKP 02 11 31.8 -0.8**
CONA Conrad Observa 147.48 343 *i* P **PKiKP 02 11 32.1 -0.7**
comp=Z,35nm,1.1s,SNR=11
WLF Walferdange 147.62 355 *e* PKPbc **PKiKP 02 11 32.4 -0.4**
baz=16,slow=2.9
WLF Walferdange 147.62 355 PKPbc **PKPbc 02 11 31.2 0.0**
WLF Walferdange 147.62 355 PKPbc **PKiKP 02 11 32.5 -0.4**
BAIL Bailesti 147.90 330⇑ **PKiKP 02 11 33.8 +0.2**
MOA Molin 147.99 344 *i* P **PKPbc 02 11 32.9 +0.7**
comp=Z,19nm,1.2s,SNR=5.3
MORH Mrgy, Hungar 148.09 338⇑ *i* P **PKPbc 02 11 32.3 -0.2**
ARSA Arzberg 148.19 342 *e* P **PKPbc 02 11 33.1 +0.3**
comp=Z,12nm,1.1s
FUR Furstenfeldbru 148.37 348 *e* PKPbc **PKiKP 02 11 34.0 -0.5**
baz=16,slow=2.9
RJOB Jochberg 148.45 346 *e* PKPbc **PKPbc 02 11 34.0 +0.5**
baz=16,slow=2.9
BFO Black Forest 148.70 352 *e* PKPbc **PKiKP 02 11 34.7 -0.5**
baz=16,slow=2.9
BFO Black Forest 148.70 352 PKPbc 02 11 33.9 -0.1
ALN Alexandroupoli 148.71 323 P **PKPbc 02 11 33.9 -0.3**
RDO Rodhopi 148.83 324 P **PKPbc 02 11 34.5 0.0**
SOKA Soboth 148.85 342 *i* P **PKPbc 02 11 34.6 +0.1**
comp=Z,16nm,1.0s,SNR=7.2
KBA Koelnbreinsper 148.94 345 *i* P **PKPbc 02 11 34.8 -0.1**
comp=Z,12nm,0.5s,SNR=7.8
BOVS Bovan 148.96 332⇑ **PKPbc 02 11 34.7 -0.1**
VTS Vitosha 149.01 329⇑ **PKiKP 02 11 35.9 -0.2**
VTS Vitosha 149.01 329 PKPbc **PKPbc 02 11 35.5 +0.4**
UBR Ueberruh 149.06 349 *e* PKPbc **PKiKP 02 11 35.7 -0.2**
baz=16,slow=2.9
WATA Walderalm 149.10 347 *i* P **PKPbc 02 11 35.6 +0.4**
comp=Z,15nm,0.6s,SNR=7.3
RETA Reutte 149.12 348 *e* P **PKPbc 02 11 35.3 +0.1**
comp=Z,17nm,1.2s
OBKA Obir 149.14 343 *e* P **PKPbc 02 11 35.1 -0.2**
comp=Z,6.7nm,0.9s
WTTA Wattenberg 149.16 347 *i* P **PKiKP 02 11 36.0 -0.4**
comp=Z,23nm,0.6s,SNR=12
MOTA Moosalm 149.19 348 *i* P **PKPbc 02 11 35.8 +0.4**
comp=Z,37nm,1.1s,SNR=9.2
KSL Kastellorizon 149.23 313 P **PKPbc 02 11 35.4 -0.3**
MYKA Terra Mystica 149.28 344 *i* P **PKPbc 02 11 35.3 -0.2**
comp=Z,17nm,0.5s,SNR=8.0
SQTA Sankt Quirin 149.29 348 *i* P **PKiKP 02 11 36.2 -0.3**
comp=Z,24nm,0.7s,SNR=9.4
SMTH Samothraki Isl 149.29 323 P **PKPbc 02 11 35.4 -0.3**
DIVS Divibare 149.34 334⇑ **PKiKP 02 11 36.3 -0.4**
DIVS Divibare 149.34 334 PKPdf 02 11 30.2 -0.7
DIVS PKPbc **PKPbc 02 11 36.1 +0.3**
ABTA Abfaltersbach 149.45 346 *e* P **PKPdf 02 11 30.6 -0.4**
comp=Z,8.9nm,1.2s
ABTA *i* P **PKPbc 02 11 36.0 0.0**
comp=Z,30nm,0.6s,SNR=10
DAVA Damuels 149.48 349 *i* P **PKiKP 02 11 37.2 +0.2**
comp=Z,44nm,1.0s,SNR=9.7
KAVA Kavala 149.50 325 P **PKPbc 02 11 36.3 +0.1**
FETA Feichten 149.57 348 *e* P **PKPdf 02 11 31.7 +0.5**
comp=Z,8.3nm,0.9s
FETA *i* P **PKiKP 02 11 37.1 -0.1**
comp=Z,34nm,1.0s,SNR=7.4
NVR Nevrokopi 149.60 326 P **PKPbc 02 11 36.4 -0.1**
PRK Paraskevi 149.65 321 P **PKiKP 02 11 37.5 +0.2**
THAS Thassos island 149.66 324 P **PKPbc 02 11 36.3 -0.2**
BBLS Lazići 149.77 335⇑ *i* P **PKiKP 02 11 37.5 -0.1**
LIA Limnos Island 149.87 323 P **PKPbc 02 11 37.0 -0.1**
KOKK Kokkinochori, 149.91 325 P **PKPbc 02 11 36.9 -0.2**
SIGR SIGRI 149.92 321 P **PKPbc 02 11 37.0 -0.2**
DAVOX Davos/Dischmat 149.97 349 PKP **PKPdf 02 11 32.6 +0.6**
comp=Z,4.8nm,0.8s,baz=15,slow=3.5,SNR=8.9
DAVOX PKPbc **PKiKP 02 11 38.1 +0.1**
comp=Z,59nm,0.6s,baz=323,slow=5.1,SNR=109
RUDO Rudo 149.99 334 *e* P **PKPbc 02 11 37.1 -0.2**
ARG Arkhangelos 150.21 314 P **PKPbc 02 11 38.2 +0.2**
STIP Stip 150.21 329 *i* P **PKPbc 02 11 37.2 -0.7**
SMG Samos 150.23 318 P **PKPbc 02 11 37.8 -0.2**
OUR Ouranopolis 150.25 325 P **PKPbc 02 11 37.5 -0.4**
VAY Valandovo 150.30 328⇑ *i* P **PKPbc 02 11 37.7 -0.4**
DAT Datca 150.30 316 P **PKPbc 02 11 37.7 -0.7**
CHOS Chios island 150.31 320 P **PKPbc 02 11 38.3 0.0**
SKO Skopje 150.37 330⇑ *i* P **PKPbc 02 11 38.4 +0.1**
UPM Unac-Piva 150.52 334⇑ *i* P **PKPbc 02 11 38.4 -0.4**
NIS1 Nisyros Isl. 150.64 316 P **PKPbc 02 11 38.7 -0.3**
PAIG Paliouri 150.70 324 P **PKPbc 02 11 38.2 -0.8**
BRY Bratogost 150.92 334⇑ *i* P **PKPbc 02 11 39.3 -0.3**
RICI Ricice 150.97 337 P **PKPbc 02 11 39.1 -0.5**
PDG Podgorica 151.00 333⇑ P **PKPbc 02 11 39.6 0.0**
PDG Podgorica 151.00 333⇑ *i* P **PKPbc 02 11 39.6 0.0**
PDG Podgorica 151.00 333 PKPbc **PKPbc 02 11 39.5 -0.2**
PHP Peshkopia 151.06 331 P **PKPbc 02 11 39.8 -0.1**
TREB Trebinje 151.15 334⇑ *i* P **PKPbc 02 11 39.3 -0.7**
MAKA Makarska 151.19 337 P **PKPbc 02 11 39.3 -0.7**
LIT Litokhoron 151.22 326 P **PKPbc 02 11 39.6 -0.7**
DRME Dracevica, Mon 151.23 333⇑ *i* P **PKPbc 02 11 40.2 0.0**
STON Ston 151.29 335 P **PKPbc 02 11 39.5 -0.7**
FNA Florina 151.30 328 P **PKPbc 02 11 40.3 -0.2**
HCY Herceg Novi 151.32 334⇑ *i* P **PKPbc 02 11 40.0 -0.4**
KYMI Kymi, Euboea I 151.33 322 P **PKPbc 02 11 39.6 -0.9**
OHR Ohrid 151.34 329 *i* P **PKiKP 02 11 41.4 +0.5**
NEO Neokhori 151.38 324 P **PKPbc 02 11 39.8 -0.9**
HVAR Hvar 151.50 337 P **PKPbc 02 11 39.5 -1.3**
KARY Karystos 151.53 321 P **PKPbc 02 11 40.3 -0.7**
TIR Tirane 151.60 331⇑ P **PKiKP 02 11 42.4 +1.1**
LSTV Lastovo 151.69 336 P **PKPbc 02 11 40.5 -0.7**
NEST Nestorio 151.74 328 P **PKPbc 02 11 41.6 +0.1**
DION Dionisos Attik 151.80 321 P **PKPbc 02 11 40.8 -0.8**
PTL Penteli 151.86 321 P **PKPbc 02 11 41.0 -0.8**
KPRO Kipourio 151.92 327 P **PKiKP 02 11 42.2 +0.1**
LKR Lokris 151.96 323 P **PKPbc 02 11 41.1 -0.8**
VLY Voula,Athens 152.03 321 P **PKPbc 02 11 41.2 -0.9**
AGG Agios Georgios 152.08 325 P **PKPbc 02 11 41.5 -0.7**
BNI Bardonecchia 152.13 353 PKPbc 02 11 42.2 -0.1
LSK Leskovik 152.17 328 P **PKiKP 02 11 42.8 +0.1**
KLV Kalavryta, Ach 152.86 323 P **PKPdf 02 11 37.0 +0.6**
IDI Anoyia 152.91 316 PKPbc **PKiKP 02 11 44.8 +0.4**
comp=Z,6.6nm,0.6s,baz=22,slow=8.3,SNR=2.5
IDI Anoyia 152.91 316 P **PKiKP 02 11 44.3 0.0**
NRCA Norcia 152.92 342 PKPdf 02 11 35.4 -0.9
NRCA **PKPbc 02 11 43.6 -0.4**
NRCA PKPab **PKPab 02 11 57.7 +0.5**
SGRT San Giovanni R 152.99 337 PKPdf 02 11 35.8 -0.7
SGRT PKPbc **PKPbc 02 11 44.3 +0.1**
VLI Veliai 153.28 320 P **PKPdf 02 11 33.5 -3.5**
KEF4 Livadi, Kephal 153.66 326 P **PKiKP 02 11 47.5 +1.8**
PCAB Cabril 154.28 17 *e* PKPab **PKPab 02 12 03.9 +0.9**
PBRG Braganca 154.54 15 *e* PKPab **PKPab 02 12 05.0 +0.9**
PTO Porto 154.64 19 *e* PKPab **PKPab 02 12 04.5 +0.1**
POLO Lamas de Olo 154.66 17 *e* PKPbc **PKPbc 02 11 48.5 +0.7**
POLO Lamas de Olo 154.66 17 *e* PKPab **PKPab 02 12 05.8 +1.1**
PVRL Vila Real 154.77 17 *e* PKPbc **PKPbc 02 11 49.2 +1.2**
PVRL Vila Real 154.77 17 *e* PKPab **PKPab 02 12 06.2 +1.1**
MVO Moncorvo 155.07 16 *e* PKPab **PKPab 02 12 07.1 +0.7**
PVIS Viseu 155.24 18 *e* PKPdf **PKPdf 02 11 40.4 +0.8**
PVIS Viseu 155.24 18 *e* PKPab **PKPab 02 12 07.5 +0.4**
PCAS Casmilo, Conde 155.66 20 *e* PKPdf **PKPdf 02 11 39.9 -0.2**
PCAS Casmilo, Conde 155.66 20 *e* PKPab **PKPab 02 12 09.5 +0.6**
PSBE So Bento 156.04 21 *e* PKPab **PKPab 02 12 11.2 +0.6**
PCBR Castelo Branco 156.17 18 *e* PKPdf **PKPdf 02 11 41.4 +0.6**
PCBR Castelo Branco 156.17 18 *e* PKPab **PKPab 02 12 11.6 +0.5**
PMTG Montargil 156.63 20 *e* PKPab **PKPab 02 12 13.3 +0.2**
FUL Funchal 157.18 45 *e* PKPab **PKPab 02 12 15.8 0.0**
ESDC Sonseca Array 157.20 12 PKP **PKPdf 02 11 43.1 +0.9**
comp=Z,1.1nm,0.9s,baz=351,slow=2.7,SNR=5.1
ESDC PKPab **PKPab 02 12 15.8 +0.2**
comp=Z,1.4nm,0.9s,baz=351,slow=2.7,SNR=5.1
PNCL Nicolau / Gran 157.39 22 *e* PKPab **PKPab 02 12 17.2 +0.8**
PBEJ Beja 157.70 21 *e* PKPab **PKPab 02 12 18.5 +0.7**
PCVE Castro Verde 157.99 22 *e* PKPdf **PKPdf 02 11 43.2 +0.1**
PCVE Castro Verde 157.99 22 *e* PKPab **PKPab 02 12 20.1 +1.1**
MORF Marmelete 158.06 23 *e* PKPdf **PKPdf 02 11 43.4 +0.1**
MORF Marmelete 158.06 23 *e* PKPab **PKPab 02 12 20.1 +0.7**
PVAQ Vaqueiros 158.31 21 *e* PKPab **PKPab 02 12 20.3 -0.1**
KEST Kesra 160.59 342 PKPab **PKPab 02 12 30.7 +0.2**
comp=Z,3.9nm,0.6s,baz=328,slow=2.7,SNR=11
MDT Midelt 163.53 20 PKP **PKPdf 02 11 49.2 -0.2**
comp=Z,5.6nm,0.9s,baz=0.0,slow=0.0,SNR=8.2
MDT PKPab **PKPab 02 12 41.9 -1.6**
comp=Z,4.7nm,0.9s,baz=11,slow=5.2,SNR=6.3
LIC Lamto 166.97 147 *e* PKIKP **PKPdf 02 11 51.7 -0.9**
comp=Z,83nm,1.3s
KIC Kosan Boka 167.23 148 *e* PKIKP **PKPdf 02 11 51.9 -0.9**
comp=Z,16nm,0.9s
TIC Tomodi 167.33 147 *e* PKIKP **PKPdf 02 11 51.6 -1.3**
DBIC Dimbokro 167.43 147 PKP **PKPdf 02 11 52.4 -0.6**
comp=Z,6.3nm,0.8s,baz=176,slow=3.6,SNR=6.2
DBIC PKPab **PKPab 02 13 00.7 -0.4**
comp=Z,3.3nm,0.8s,baz=180,slow=5.1,SNR=1.9
TORD Torodi Ar. Bea 175.78 176 PKP **PKPdf 02 11 55.3 -1.5**
comp=Z,4.1nm,0.8s,baz=108,slow=9.3,SNR=14
TORD PKPab **PKPab 02 13 35.6 -2.3**
comp=Z,3.2nm,0.7s,baz=176,slow=3.5,SNR=15
TORD PP **PP 02 17 30.3 +0.9**
comp=Z,8.4nm,1.0s,baz=174,slow=4.7,SNR=15

NNC 30 02:04:16.2±4.9, 37°.64N×71°.75E, h162km±83km, mb2.6, mpv3.5, 3C-3D Error ellipse: s-maj=48.6km s-min=28.3km az=12.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 4.7nm,0.3s	**5.42**	**22**	P	Pn	02 05 35.4	0.0
AAK				S	Sn	02 06 38.8	+1.4
KK08	**Karatay Array** 0.8nm,0.3s	**5.54**	**350**	⇓P	Pn	02 05 37.1	+0.1
KK08				⇓S	Sn	02 06 40.6	+0.3
TKM2	**Tokmak 2** 3.5nm,0.6s	**6.04**	**28**	⇓P

GANO Gareloi North 1.79 95 Pn 02 53 17.5 -1.2
GALAA Gareloi Lava P 1.82 96 Pn 02 53 18.0 -1.0
GAEA Gareloi East 1.83 96 Pn 02 53 18.4 -0.7
TASE Tanaga Southea 2.27 93 Pn 02 53 23.5 -1.2
TAFP Tanaga Falls P 2.29 91 Pn 02 53 23.8 -1.3
SHEM Shemya Is, Ala 2.69 287 P Pn 02 53 30.0 -0.1
140nm,0.3s,baz=43,slow=4.5,SNR=91
SHEM S Sn 02 54 03.5 +1.3
158nm,0.3s,baz=284,slow=22,SNR=16
SHEM LR LR 02 54 21.5
comp=Z,1µm,20.0s,baz=74,slow=34
SMY Shemya 2.69 287 P Pn 02 53 29.1 -1.0
SMY Shemya 2.69 287 Pn Pn 02 53 29.1 -1.0
KIMD Kanaga Island 2.77 93 Pn 02 53 30.1 -1.1
KICM Kanaga Island 2.78 90 Pn 02 53 30.7 -0.7
KIKV Kanaga Island 2.80 91 Pn 02 53 30.8 -0.9
KIWB Kanaga Island 2.81 91 Pn 02 53 30.5 -1.4
ADK Adak 3.10 90 P Pn 02 53 34.0 -1.6
ADK Adak 3.10 90 Pn 02 53 34.0 -1.6
ADK Adak 3.10 90 P Pn 02 53 34.6 -1.0
GSTD Great Sitkin T 3.42 87 Pn 02 53 38.7 -1.3
GSTR Great Sitkin T 3.48 86 Pn 02 53 39.7 -1.0
GSMY Great Sitkin M 3.48 87 Pn 02 53 39.5 -1.2
KOKL Mount Kliuchef 4.62 83 Pn 02 53 55.2 -0.8
ATKA Atka Island 4.62 85 Pn 02 53 55.1 -0.9
ATKA Atka Island 4.62 85 P Pn 02 53 55.8 -0.2
KOFP Korovin Flat P 4.69 84 Pn 02 53 57.1 +0.2
CLES Cleveland East 7.26 79 Pn Pn 02 54 31.9 +0.2
CLCO Concord Point, 7.37 79 Pn 02 54 34.4 +1.2
NIKH Nikolski High 7.90 78 Pn Pn 02 54 40.1 -0.3
NIKH Nikolski High 7.90 78 P Pn 02 54 41.2 +0.9
baz=270,SNR=14
OKSP Okmok Steeple 8.25 76 Pn 02 54 46.0 +0.8
SPIA Saint Paul Isl 8.42 48 Pn Pn 02 54 48.5 +1.0
SPIA Saint Paul Isl 8.42 48 P Pn 02 54 50.2 +2.7
baz=238,SNR=6.3
OKFG Magazine Ridge 8.49 75 Pn 02 54 49.0 +0.7
MAPS Pakushin South 9.10 73 Pn 02 54 56.9 +0.3
MSW Makushin Switc 9.20 72 Pn 02 54 59.1 +1.1
MTBL Makushin Table 9.27 72 Pn 02 55 00.2 +1.2
UNV Unalaska Valle 9.36 73 Pn Pn 02 54 59.6 -0.5
UNV Unalaska Valle 9.36 73 P Pn 02 55 00.9 +0.8
baz=266
AKRB Akutan Reef Bi 9.64 71 Pn 02 55 04.1 +0.1
AKUT Akutan 9.82 71 Pn 02 55 05.9 -0.5
PET Petropavlovsk 12.02 283 eP Pn 02 55 31.7 -4.3
PET eS Sn 02 57 43.2 -4.8
PET pmax pmax
comp=Z,41nm,0.9s
PET MLR MLR
comp=E,1.0nm,18.0s
PEA0B Petropavlovsk- 12.59 283 ceP Pn 02 55 43.3 -0.2
PEA0B Petropavlovsk- 12.59 283 Pn Pn 02 55 44.4 +0.9
PETK Petropavlovsk- 12.59 283 P Pn 02 55 44.9 +1.4
comp=E,1.1nm,0.3s,baz=104,slow=18,SNR=36
PETK S Sn 02 57 56.8 -5.1
comp=E,0.6nm,0.3s,baz=106,slow=21,SNR=2.0
PETK PcP PcP 03 01 12.5 +0.2
comp=E,0.6nm,0.3s,baz=43,slow=6.7,SNR=4.2
PETK Petropavlovsk- 12.59 283 Pn Pn 02 55 44.2 +0.7
SDPT Sand Point 13.00 67 Pn Pn 02 55 47.1 -1.7
SDPT Sand Point 13.00 67 P Pn 02 55 47.1 -1.7
baz=265,SNR=7.3
CHNA Chernabura Isl 13.47 69 P Pn 02 55 51.7 -3.2
baz=268
CHGN Chignik 14.27 63 Pn 02 56 04.4 -0.8
CHGN Chignik 14.27 63 P Pn 02 56 04.5 -0.7
baz=263
ANM Nome 15.17 28 P P 02 56 19.2 +0.1
baz=222,SNR=5.4
TNA Tin City 15.30 22 Pn 02 56 19.3 +1.1
TNA PcP 03 01 15.3 -0.2
TNA Tin City 15.30 22 P P 02 56 20.8 +0.3
baz=214,SNR=7.9
P18K Big Mountain, 16.56 53 Pn 02 56 33.2 -0.8
P18K IAmb IAmb 02 56 37.4
comp=Z,69nm,1.1s
P18K Big Mountain, 16.56 53 P P 02 56 35.6 +1.0
baz=256,SNR=11
SII Sitkinak Islan 16.64 63 P Pn 02 56 33.6 -1.2
baz=266
O18K Koktuh Hills 16.70 52 P P 02 56 37.6 +1.5
baz=254
BILL Bilibino 17.12 345 c iP Pn 02 56 43.2 +2.6
BILL i S S 02 59 53.6 +0.5
BILL pmax pmax
comp=Z,67nm,1.0s
BILL Bilibino 17.12 345 P 02 56 40.5 -0.1
BILL IAmb IAmb 02 56 44.7
comp=Z,49nm,0.8s
MA2 Magadan 17.14 307 P P 02 56 40.9 -0.1
MA2 pmax pmax
comp=Z,18nm,0.8s
MA2 Magadan 17.14 307 P 02 56 40.9 -0.1
OHAK Old Harbor 17.19 61 Pn P 02 56 39.1 -2.3
OHAK Old Harbor 17.19 61 P P 02 56 38.7 -2.7
baz=265,SNR=10
Q19K Cape Douglas, 17.25 55 P P 02 56 42.3 +0.1
baz=259,SNR=12
N19K Bonanza Creek 17.33 49 IAmb IAmb 02 56 49.1
comp=Z,92nm,0.8s
N19K Bonanza Creek 17.33 49 P Pn 02 56 45.5 +2.2
baz=252
TTA Tatalina 17.48 41 P Pn 02 56 45.3 +0.2
TTA pmax pmax
comp=Z,41nm,0.9s
TTA Tatalina 17.48 41 P Pn 02 56 45.3 +0.2
TTA Tatalina 17.48 41 P Pn 02 56 46.6 +1.5
baz=243,SNR=27
SEY Seymchan 17.59 319 P Pn 02 56 47.8 +1.5
comp=Z,0.3nm,0.3s,baz=135,slow=9.7,SNR=12
SEY PcP PcP 03 01 19.5 +0.3
comp=Z,0.3nm,0.3s,baz=136,slow=4.0,SNR=6.7
SEY ScP ScP 03 04 43.3 -0.8
comp=Z,0.6nm,0.3s,baz=128,slow=4.7,SNR=14
KDAK Kodiak Island 17.62 59 P P 02 56 44.2 -2.0
comp=Z,21nm,0.3s,baz=279,slow=1.7,SNR=84
KDAK LR LR 03 03 37.9
comp=Z,163nm,20.5s,baz=265,slow=37
KDAK Kodiak Island 17.62 59 P P 02 56 43.8 -2.4
KDAK pmax pmax
comp=Z,57nm,0.4s
KDAK Kodiak Island 17.62 59 P P 02 56 43.8 -2.4
KDAK Kodiak Island 17.62 59 P P 02 56 43.9 -2.4
baz=264
L19K White Mountain 17.65 44 IAmb IAmb 02 56 52.0
comp=Z,48nm,0.8s
L19K White Mountain 17.65 44 P Pn 02 56 48.7 +1.6
baz=247,SNR=29
M19K Big River Lodg 17.75 45 IAmb IAmb 02 57 03.8
comp=Z,45nm,0.7s
M19K Big River Lodg 17.75 45 P Pn 02 56 49.8 +1.5
baz=249
O20K Slope Mountain 18.01 52 P Pn 02 56 52.6 +1.1
baz=257,SNR=11
RSO Redoubt South 18.05 51 P Pn 02 56 52.1 +0.1
GCSA Galena City Sc 18.06 35 P Pn 02 56 53.5 +1.5
baz=237,SNR=7.4
L20K Farewell, AK 18.18 44 P Pn 02 56 54.1 +0.6
baz=248
HOM Homer 18.40 54 P Pn 02 56 55.5 -0.6
baz=259
K20K Telida 18.46 41 P Pn 02 56 57.1 +0.3
baz=245
RDOG Red Dog Mine 18.49 22 P Pn 02 56 58.6 +1.4
baz=219
J20K Nowinta River 18.80 39 P Pn 02 57 00.8 +0.1
baz=243
BRSE Bradley Lake S 18.87 54 P P 02 56 59.9 0.0
baz=260,SNR=32
PPLA Purkeypile 19.06 44 IAmb IAmb 02 57 07.7
comp=Z,81nm,1.0s
PPLA Purkeypile 19.06 44 P Pn 02 57 05.0 +1.0
baz=249,SNR=24
SUA Susitna One 19.25 48 P P 02 57 04.3 +0.2
baz=255
CAST Castle Rocks 19.30 42 P Pn 02 57 06.6 -0.1
baz=248,SNR=43
CHUM Lake Minchumin 19.39 41 P Pn 02 57 07.6 -0.1
baz=246,SNR=103
O22K Cooper Landing 19.51 52 P P 02 57 07.7 +0.9
baz=259,SNR=25
SEW Seward 19.57 53 IAmb IAmb 02 57 13.4
comp=Z,89nm,0.8s
SEW Seward 19.57 53 P P 02 57 07.3 -0.1
baz=260,SNR=16
M22K Willow 19.62 48 P P 02 57 08.2 +0.2
baz=255,SNR=15
RC01 Rabbit Creek A 19.63 50 P P 02 57 08.7 +0.6
baz=257,SNR=13
CUT Chulitna 19.74 46 P P 02 57 10.3 +1.0
baz=253
IMAR Indian Mountai 19.83 34 P P 02 57 10.9 +0.6
H21K Melozitna Rive 20.00 36 P Pn 02 57 13.9 -0.9
baz=241,SNR=31
BPAW Bear Paw Mtn. 20.02 41 P Pn 02 57 13.9 -1.2
baz=248,SNR=34
PMR Palmer 20.04 49 P P 02 57 13.5 +1.1
baz=256,SNR=10
TRF Thorofare Moun 20.07 43 P Pn 02 57 14.8 -1.0
baz=250,SNR=34
I21K Tanana 20.08 38 P Pn 02 57 14.9 -0.9
baz=243
PWL Port Wells 20.25 51 P P 02 57 14.3 -0.5
baz=259,SNR=22
KNK Knik Glacier 20.31 49 P P 02 57 15.4 -0.1
baz=258,SNR=24
SML Sawmill 20.46 48 P P 02 57 17.6 +0.5
baz=257,SNR=14
MLY Manley 20.49 39 P P 02 57 19.0 +1.6
baz=246
MCK McKinley 20.73 43 P P 02 57 21.0 +1.0
baz=251,SNR=16
SCM Sheep Creek Mo 20.93 49 P P 02 57 22.4 +0.3
baz=258,SNR=22
NEA2 Nenana 20.98 41 P P 02 57 23.6 +1.0
baz=249,SNR=24
I23K Minto, Yukon-K 21.07 39 P P 02 57 24.6 +1.0
baz=247,SNR=17
EYAK Cordova Ski Ar 21.46 52 IAmb IAmb 02 57 30.5
comp=Z,81nm,1.0s
EYAK Cordova Ski Ar 21.46 52 P P 02 57 27.5 -0.2
baz=263,SNR=16
M24K Tolsona, Glenn 21.52 48 P P 02 57 29.7 +1.2
baz=259,SNR=18
KLU Klutina 21.52 50 P P 02 57 28.9 +0.4
baz=260,SNR=21
DIV Divide 21.53 51 IAmb IAmb 02 57 31.0
comp=Z,141nm,1.4s
TCOL CIGO, UAF Yank 21.56 40 P P 02 57 30.0 +1.2
baz=250,SNR=8.1
COLA College 21.57 40 i P P 02 57 29.6 +0.8
COLA pmax pmax
comp=Z,28nm,1.0s
COLA College 21.57 40 P P 02 57 28.6 -0.2
COLD Coldfoot 21.69 33 P P 02 57 30.7 +0.6
COLD Coldfoot 21.69 33 P P 02 57 30.9 +0.8
baz=241
HDA Harding Lake 21.78 42 P P 02 57 30.6 -0.6
baz=252,SNR=15
POKR Poker Plat Res 21.82 40 P P 02 57 32.3 +0.7
baz=250,SNR=13
H24K Noodor Dome 21.91 38 P P 02 57 33.5 +0.9
baz=247,SNR=25
ILAR Eielson Array 21.92 41 P P 02 57 31.8 -0.8
comp=Z,6.7nm,0.9s,baz=239,slow=8.9,SNR=52
ILAR PcP PcP 03 01 25.9 -1.1
comp=Z,1.7nm,0.6s,baz=284,slow=3.3,SNR=8.7
ILAR ScP ScP 03 04 51.0 -3.2
comp=Z,4.3nm,0.7s,baz=285,slow=3.5,SNR=25
ILAR LR LR 03 05 40.4
comp=Z,134nm,19.9s,baz=255,slow=35
ILAR Eielson Array 21.92 41 P P 02 57 31.5 -1.1
PAX Paxson 22.02 46 P P 02 57 33.8 0.0
PAX pmax pmax
comp=Z,59nm,1.2s
PAX Paxson 22.02 46 P P 02 57 33.8 0.0
PAX IAmb IAmb 02 58 01.9
comp=Z,59nm,1.2s
PAX Paxson 22.02 46 P P 02 57 33.6 -0.2
baz=257,SNR=32
HARP HAARP 22.04 48 P P 02 57 35.4 +1.4
baz=259,SNR=10
KAIM Kayak Island 22.06 54 P P 02 57 35.4 +1.3
baz=266,SNR=9.4
BMRM Bremner River 22.07 52 IAmb IAmb 02 57 39.8
comp=Z,62nm,0.9s
BMRM Bremner River 22.07 52 P P 02 57 34.0 -0.3
baz=263,SNR=15
TYV Tymovskoe 22.13 281 eP P 02 57 36.9 +2.0
TYV eS S 03 01 36.5 +5.0
TYV pmax pmax
comp=Z,22nm,1.0s
TYV pmax pmax
comp=Z,200nm,4.5s
N25K Chitina, Valde 22.16 50 IAmb IAmb 02 57 37.9
comp=Z,62nm,1.3s
N25K Chitina, Valde 22.16 50 P P 02 57 35.4 +0.1
baz=262,SNR=16
A21K Barrow 22.41 21 IAmb IAmb 02 58 02.6
comp=Z,51nm,0.9s
A21K Barrow 22.41 21 P P 02 57 38.7 +1.2
baz=223,SNR=13
RIDG Independent Ri 22.48 44 P P 02 57 37.9 -0.5
baz=256,SNR=22
TOLK Toolik Lake Re 22.61 30 P P 02 57 40.5 +0.8
TOLK Toolik Lake Re 22.61 30 P P 02 57 40.5 +0.8
baz=239,SNR=29
PRP Porcupine Dome 22.71 40 P P 02 57 40.6 -0.3
baz=251,SNR=13
DOT Dot Lake 22.80 45 IAmb IAmb 02 57 43.4
comp=Z,38nm,0.8s
MENT Mentasta 22.80 47 IAmb IAmb 02 57 46.2
comp=Z,44nm,0.6s
SCRK Sand Creek 22.91 44 P P 02 57 41.7 -1.1
baz=256,SNR=16
L26K Log Cabin Wild 22.98 46 P P 02 57 44.0 +0.6
baz=260,SNR=28
M26K Nabesna, AK 23.03 48 P P 02 57 43.9 0.0
baz=261
MESA MESA 23.31 54 P P 02 57 47.1 +0.4
baz=268,SNR=6.1
YSS Yuzh-Sakhalins 23.49 272 eP P 02 57 49.4 +1.2
YSS e*PP pP 02 58 11.1 +1.0
YSS e*SP sP 02 58 20.4 -3.0
YSS e 03 01 29.1
YSS eS S 03 01 54.7 +1.3
YSS pmax pmax
comp=Z,300nm,3.6s
YSS pmax pmax
comp=Z,70nm,0.7s
YSS MLR MLR
comp=Z,300nm,14.0s
YSS Yuzh-Sakhalins 23.49 272 P P 02 57 49.1 +0.9
YSS IAmb IAmb 02 57 51.6
comp=Z,60nm,0.8s
M27K Edge Creek, AK 23.54 48 P P 02 57 49.8 +1.0
baz=263,SNR=25
L27K Beaver Creek, 23.67 47 P P 02 57 50.2 +0.4
baz=261,SNR=64
BCAR Beaver Creek A 23.69 47 P P 02 57 50.1 +0.1
BMAR Burnt Mountain 23.74 35 P P 02 57 51.0 +0.7
BVCY Beaver Creek 24.02 48 P P 02 57 53.6 +0.7
baz=264,SNR=33
YUK3 Moose Creek 24.14 50 P P 02 57 54.3 0.0
baz=265,SNR=37
PCA Pinnacle 24.15 54 IAmb IAmb 02 57 55.3
comp=Z,91nm,1.0s
PINM Pinnacle 24.16 54 P P 02 57 54.5 +0.3
baz=269,SNR=8.6
EGAK Eagle 24.28 43 IAmb IAmb 02 57 56.7
comp=Z,76nm,0.9s
EGAK Eagle 24.28 43 P P 02 57 55.5 +0.3
baz=258
PNL Peninsula 24.59 55 P P 02 57 57.7 -0.4
baz=271,SNR=7.0
DAWY Dawson 24.91 45 P P 02 58 01.6 +0.6
baz=261,SNR=50
JKA Kamikawa-asahi 24.93 266 P P 02 58 01.5 +0.2
JKA IAmb IAmb 02 58 03.6
comp=Z,57nm,0.8s
ASAJ Asahikawa 24.93 266 P P 02 58 02.6 +1.3
comp=Z,50nm,0.8s,baz=60,slow=5.5,SNR=39
ASAJ Asahikawa 24.93 266 P P 02 58 01.5 +0.2
ASAJ pmax pmax
comp=Z,57nm,0.8s
YUK4 Talbot Arm 24.98 51 P P 02 58 05.1 +3.3
baz=268
YUK6 Outpost Mounta 25.11 52 P P 02 58 03.8 +0.8
baz=269,SNR=14
J29M Klondike Camp 25.47 44 P P 02 58 06.7 +0.6
baz=262,SNR=6.6
HYT Haines Junctio 25.52 52 P P 02 58 07.7 +1.0
baz=270,SNR=52
I29M Ogilvie Camp, 25.58 42 IAmb IAmb 02 58 35.1
comp=Z,51nm,1.2s
I29M Ogilvie Camp, 25.58 42 P P 02 58 07.0 -0.1
baz=260,SNR=9.7
ERM Erimo 25.74 261 i P P 02 58 10.0 +1.4
ERM pmax pmax
comp=Z,15nm,0.5s
ERM Erimo 25.74 261 P P 02 58 10.5 +1.9
comp=Z,108nm,1.0s
M30M Minto, Yukon 25.91 48 P P 02 58 14.4 +4.3
baz=267,SNR=27
N31M Braeburn, Yuko 26.36 51 P P 02 58 17.4 +3.3
baz=270,SNR=13
SKAG Skagway 26.66 55 P P 02 58 16.9 +0.1
baz=275
BESE Bessie Mountai 26.99 57 IAmb IAmb 02 58 21.6
comp=Z,44nm,1.4s
M31M Drury Creek, Y 27.02 49 P P 02 58 21.0 +1.0
baz=270,SNR=12
FARO Faro, Yukon 27.51 49 P P 02 58 25.3 +0.9
baz=271
YAK Yakutsk 27.65 310 ScP ScP 03 05 09.2 -1.0
comp=Z,2.6nm,0.3s,baz=163,slow=0.6,SNR=4.4
YAK LR LR 03 08 16.0
comp=Z,61nm,21.6s,baz=90,slow=34
YAK Yakutsk 27.65 310 ceP P 02 58 24.6 -0.9
YAK pmax pmax
comp=Z,12nm,0.8s
YAK Yakutsk 27.65 310 P P 02 58 24.9 -0.6
YAK IAmb IAmb 02 58 52.4
comp=Z,19nm,0.6s
P33M Teslin, Yukon 27.87 54 P P 02 58 28.2 +0.6
baz=275,SNR=8.7
INK Inuvik 28.00 36 P P 02 58 29.4 +0.9
comp=Z,2.9nm,0.3s,baz=252,slow=8.4,SNR=34
INK PcP PcP 03 01 39.8 -0.7
comp=Z,1.6nm,0.6s,baz=186,slow=2.7,SNR=2.4
INK ScP ScP 03 05 10.8 -0.4
comp=Z,5.8nm,0.9s,baz=252,slow=3.0,SNR=14
INK Inuvik 28.00 36 P P 02 58 29.5 +0.9
baz=259,SNR=5.8
MMPY Sheldon Lake, 28.47 48 P P 02 58 34.2 +1.2
baz=272,SNR=16
WRAK Wrangell Islan 28.68 61 P P 02 58 35.5 +0.7
baz=283
TIXI Tiksi 29.21 330 PcP PcP 03 01 43.0 -0.5
comp=Z,3.5nm,0.4s,baz=98,slow=4.0,SNR=5.8
TIXI ScP ScP 03 05 14.4 -0.6
comp=Z,8.8nm,0.7s,baz=111,slow=3.0,SNR=19
TIXI Tiksi 29.21 330 ceP P 02 58 38.2 -1.1
TIXI pmax pmax
comp=Z,7.0nm,1.3s
TIXI Tiksi 29.21 330 P P 02 58 38.8 -0.5
TIXI PcP 03 01 43.0 -0.5
KLR Kul'dur 29.28 283 P P 02 58 40.6 +0.4
comp=Z,34nm,0.7s,baz=66,slow=8.4,SNR=136
KLR LR LR 03 09 49.0
comp=Z,93nm,20.1s,baz=33,slow=35
KLR Kul'dur 29.28 283 ceP P 02 58 40.3 +0.1
KLR pmax pmax
comp=Z,28nm,0.9s
DLBC Dease Lake 29.52 57 P P 02 58 43.5 +1.2
comp=Z,12nm,0.8s,baz=284,slow=9.3,SNR=31
DLBC LR LR 03 10 55.5
comp=Z,198nm,18.7s,baz=288,slow=37
ZEA Zeya 30.34 294 eP P 02 58 49.2 -0.2
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,1.0s
A36M Sachs Harbour 31.43 30 P P 02 59 00.7 +1.9
baz=261,SNR=25
USRK Ussuriysk Ar. 31.44 274 P P 02 58 59.5 +0.3
comp=Z,11nm,0.8s,baz=56,slow=9.2,SNR=9.1
USRK PcP PcP 03 01 50.7 +0.9
comp=Z,9.3nm,0.6s,baz=16,slow=1.3,SNR=11
USRK LR LR 03 10 57.4
comp=Z,85nm,20.9s,baz=25,slow=34
USRK Ussuriysk Ar. 31.44 274 P P 02 58 59.2 -0.1
USRK 03 01 50.4
USRK Ussuriysk Ar. 31.44 274 P P 02 58 59.2 -0.1
USRK PcP 03 01 50.4 +0.6
C36M Paulatuk 31.54 35 P P 02 59 00.7 +0.9
baz=267,SNR=11
WRGLY Wrigley 31.99 47 P P 02 59 05.1 +1.3
baz=277
MJAR Matsushiro Arr 32.14 257 P P 02 59 06.7 +1.3
comp=Z,12nm,0.7s,baz=53,slow=7.5,SNR=22
MJAR PcP PcP 03 01 52.0 +0.1
comp=Z,2.5nm,0.4s,baz=82,slow=0.9,SNR=4.9
MJAR LR LR 03 09 49.0
comp=Z,20nm,21.2s,baz=78,slow=32
MAJO Matsushiro 32.14 257 i P P 02 59 05.9 +0.4
MAJO pmax pmax
comp=Z,31nm,1.0s
MAJO Matsushiro 32.14 257 P P 02 59 05.3 -0.1
MAJO IAmb IAmb 02 59 07.5
comp=Z,36nm,1.0s
MAT Matsushiro 32.14 257 P P 02 59 06.0 +0.5
MJB9 Matsu-Tunnel 32.14 257 IAmb IAmb 02 59 07.5
comp=Z,36nm,1.0s
BBB Bella Bella 32.29 68 LR LR 03 10 51.7
comp=Z,164nm,20.0s,baz=266,slow=34
H11N2 WAKE ISLAND Hy 33.42 200 T T 03 35 00.2
baz=11,slow=76,SNR=22
H11N3 WAKE ISLAND Hy 33.43 200 T T 03 34 48.4
baz=11,slow=76,SNR=27
H11N1 WAKE ISLAND Hy 33.44 200 T T 03 35 01.5
baz=11,slow=76,SNR=27
BNX BinXian 33.48 280 ⇓P P 02 59 16.8 -0.2
BNX pmax pmax
comp=Z,92nm,0.6s
BNX pmax pmax
comp=Z,410nm,3.8s
H11S1 WAKE ISLAND Hy 34.65 200 T T 03 36 11.7
baz=10,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 34.66 200 T T 03 36 15.5
baz=10,slow=76,SNR=9.4
H11S2 WAKE ISLAND Hy 34.66 200 T T 03 36 25.1
baz=10,slow=76,SNR=12
CN2 Changchun 35.67 278 eP P 02 59 34.8 -1.1
CN2 pmax pmax
comp=Z,10.0nm,0.9s
YKA Yellowknife Ar 36.11 47 P P 02 59 39.8 +0.4
comp=Z,11nm,0.7s,baz=282,slow=8.3,SNR=123
YKA PcP PcP 03 02 02.7 -0.1
comp=Z,1.2nm,0.6s,baz=294,slow=3.3,SNR=4.1
YKA ScP ScP 03 05 36.6 -2.3
comp=Z,2.7nm,0.8s,baz=289,slow=3.3,SNR=17
YKA PKiKP PKiKP 03 09 21.3 -0.3
comp=Z,0.1nm,0.6s,baz=301,slow=1.2,SNR=4.2
YKA LR LR 03 14 29.2
comp=Z,164nm,18.7s,baz=272,slow=36
HIA Hailar 36.38 290 P P 02 59 42.2 +0.2
HIA pmax pmax
comp=Z,38nm,1.4s
HIA Hailar 36.38 290 P P 02 59 42.2 +0.2
HIA IAmb IAmb 02 59 42.6
comp=Z,38nm,1.4s
D03D Eldon 37.22 73 P P 02 59 49.5 +0.5
baz=300
B05A Bryant 37.45 71 P P 02 59 50.9 0.0
baz=299
KSRS Korea Array 37.85 268 P P 02 59 56.3 +1.9
comp=Z,12nm,0.9s,baz=56,slow=8.5,SNR=17
KSRS PcP PcP 03 02 09.6 +1.1
comp=Z,4.1nm,0.8s,baz=52,slow=3.1,SNR=8.9
KSAR Wonju Array Be 37.88 268 P P 02 59 54.9 +0.2
KSAR 03 02 09.2
KSAR Wonju Array Be 37.88 268 P P 02 59 54.9 +0.2
KSAR PcP PcP 03 02 09.2 +0.6
E04D Cinebar 38.02 74 P P 02 59 56.3 +0.6
baz=301
TJN Taejon 38.88 267 ceP P 03 00 04.6 +1.6
JNU Nakatsue 38.88 260 P P 03 00 04.8 +1.6
comp=Z,9.5nm,0.8s,baz=353,slow=1.4,SNR=6.0
JNU Nakatsue 38.88 260 P P 03 00 04.4 +1.2
B08A Colville Reser 39.02 70 IAmb IAmb 03 00 04.3
comp=Z,24nm,1.2s
K02D Willamette Mer 39.43 80 P P 03 00 08.3 +0.6
baz=305
G05D Wamic, OR 39.45 75 P P 03 00 07.9 +0.2
baz=303
I04A Tendick Farm, 39.58 78 P P 03 00 08.7 -0.2
baz=304

L02E	Cave Junction	39.77	81	P	P	03 00 11.6	+1.1
	baz=305						
HAWA	Hanford	39.90	73	IAmb	IAmb	03 00 11.8	
	comp=Z,24nm,1.1s						
RES	Resolute Bay	39.92	24	P	P	03 00 12.7	+1.5
	comp=Z,3.0nm,0.4s,baz=274,slow=4.4,SNR=20						
RES				ScP	ScP	03 05 50.5	-2.6
	comp=Z,4.4nm,1.1s,baz=311,slow=5.1,SNR=4.7						
RES				LR	LR	03 20 06.8	
	comp=Z,60nm,18.7s,baz=82,slow=41						
E08A	Dider Farm, El	40.13	72	IAmb	IAmb	03 00 13.3	
	comp=Z,14nm,1.0s						
NEW	Newport	40.34	69	LR	LR	03 17 58.6	
	comp=Z,64nm,19.4s,baz=281,slow=38						
NEW	Newport	40.34	69	IAmb	IAmb	03 00 14.8	
	comp=Z,28nm,1.1s						
NEW	Newport	40.34	69	P	P	03 00 14.2	-0.9
	baz=301,SNR=16						
KHMM	Horse Mountain	40.44	82	P	P	03 00 16.5	+0.4
L04D	Klamath Falls	40.53	80	P	P	03 00 17.4	+0.6
	baz=306						
YBH	Yreka Blue Hor	40.56	81	LR	LR	03 13 28.0	
	comp=Z,59nm,19.5s,baz=277,slow=31						
J05D	Fort Rock, OR	40.57	78	P	P	03 00 17.7	+0.5
	baz=305,SNR=7.9						
E09A	Wood Farm, Sta	40.65	72	IAmb	IAmb	03 00 18.2	
	comp=Z,24nm,1.3s						
M02C	Callahan	40.67	81	P	P	03 00 19.2	+1.2
	baz=306						
KMRM	Mail Ridge	40.84	83	P	P	03 00 19.9	+0.5
N02D	Trinity Center	41.01	81	P	P	03 00 21.8	+1.1
	baz=307,SNR=5.1						
M04C	Macdoel	41.06	80	P	P	03 00 22.0	+0.8
	baz=306,SNR=9.0						
K05A	Summer Lake	41.09	78	P	P	03 00 21.3	-0.2
K05A				IAmb	IAmb	03 00 22.6	
	comp=Z,16nm,0.6s						
I07A	Izee	41.16	76	IAmb	IAmb	03 00 22.6	
	comp=Z,12nm,0.9s						
XLT	XiLinHaoTe	41.30	284	⇓*i*P	P	03 00 23.5	+0.4
XLT				pP	pP	03 00 44.3	-3.4
XLT				sP	sP	03 00 58.0	-1.9
XLT				pmax	pmax		
	comp=Z,60nm,0.8s						
XLT				pmax	pmax		
	comp=Z,190nm,5.1s						
O03E	Paynes Creek	41.96	82	P	P	03 00 28.8	+0.3
	baz=307,SNR=11						
GDXM	Geysers	42.26	84	IAmb	IAmb	03 00 33.0	
	comp=Z,17nm,0.9s						
WVOR	Wild Horse Val	42.62	77	IAmb	IAmb	03 00 34.5	
	comp=Z,10nm,0.5s						
MSO	Missoula	42.93	69	IAmb	IAmb	03 00 36.0	
	comp=Z,20nm,1.1s						
MSO	Missoula	42.93	69	P	P	03 00 35.3	-1.0
	baz=303,SNR=7.3						
NRIK	Noril'sk	42.95	329	P	P	03 00 37.0	+1.0
	comp=Z,15nm,0.8s,baz=76,slow=9.4,SNR=24						
NRIK				PcP	PcP	03 02 24.9	+0.5
	comp=Z,2.4nm,0.5s,baz=65,slow=4.7,SNR=2.9						
NRIK	Noril'sk	42.95	329	*ce*P	P	03 00 36.6	+0.6
NRIK				pmax	pmax		
	comp=Z,14nm,0.8s						
NRIK	Noril'sk	42.95	329	P	P	03 00 36.7	+0.7
NRIK				IAmb	IAmb	03 00 39.7	
	comp=Z,15nm,0.8s						
BJI	Beijing	43.49	280	P	P	03 00 42.0	+1.3
BJI				pmax	pmax		
	comp=Z,22nm,0.8s						
BJT	Baijiatuau	43.51	280	P	P	03 00 41.3	+0.4
BJT				pmax	pmax		
	comp=Z,17nm,0.8s						
BJT	Baijiatuau	43.51	280	P	P	03 00 41.3	+0.4
BJT				IAmb	IAmb	03 00 43.9	
	comp=Z,17nm,0.8s						
ULN	Ulaanbaatar	44.37	294	*ce*P	P	03 00 48.6	+0.7
ULN				pmax	pmax		
	comp=Z,18nm,1.0s						
ULN	Ulaanbaatar	44.37	294	P	P	03 00 48.0	+0.1
ULN				IAmb	IAmb	03 00 49.6	
	comp=Z,18nm,1.1s						
HLID	Hailey	44.49	73	P	P	03 00 48.1	-0.8
HLID	Hailey	44.49	73	P	P	03 00 48.2	-0.7
	baz=306,SNR=17						
EGMT	Eagleton	44.66	65	P	P	03 00 48.9	-1.2
	baz=304,SNR=7.2						
BBGB	Big Mountain B	44.74	85	P	P	03 00 50.8	-0.1
SONM	Songino Array	44.76	295	P	P	03 00 52.0	+1.1
	comp=Z,11nm,0.7s,baz=62,slow=8.1,SNR=88						
SONM				PcP	PcP	03 02 31.8	+0.6
	comp=Z,7.4nm,0.6s,baz=65,slow=2.0,SNR=18						
SONM				ScP	ScP	03 06 15.7	+2.4
	comp=Z,2.3nm,0.7s,baz=44,slow=3.5,SNR=13						
SONM	Songino Array	44.76	295	P	P	03 00 50.8	-0.2
SONM				IAmb	IAmb	03 00 52.9	
	comp=Z,10nm,0.7s						
SONM				PcP	PcP	03 02 31.4	+0.2
TULEG	Thule	44.94	18	*i* P	P	03 00 52.0	+0.2
TULEG				IAmb	IAmb	03 00 52.7	
	comp=Z,14nm,0.5s						
TULEG	Thule	44.94	18	P	P	03 00 52.4	+0.6
TULEG				IAmb	IAmb	03 00 53.2	
	comp=Z,15nm,0.6s						
BOZ	Bozeman (W)	44.95	69	IAmb	IAmb	03 00 52.1	
	comp=Z,14nm,0.8s						
BOZ	Bozeman (W)	44.95	69	P	P	03 00 51.4	-1.2
	baz=305,SNR=20						
JOW	Kunigami	44.95	256	P	P	03 00 53.1	+0.6
	comp=Z,23nm,0.8s,baz=332,slow=8.1,SNR=3.9						
ZAK	Zakamensk	45.09	299	*eP*	P	03 00 53.0	-0.5
ZAK				*e*		03 02 31.9	
ZAK				pmax	pmax		
	comp=Z,14nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NVAR	Mina Array Bea	45.25	81	P	P	03 00 55.2	+0.2
	comp=Z,9.9nm,0.5s,baz=293,slow=7.7,SNR=55						
NVAR				pP	pP	03 01 19.4	-0.7
	comp=Z,9.1nm,0.9s,baz=295,slow=7.4,SNR=4.8						
NVAR				PcP	PcP	03 02 34.1	+1.0
	comp=Z,3.1nm,0.8s,baz=295,slow=2.6,SNR=3.5						
NVAR				ScP	ScP	03 06 15.1	-0.4
	comp=Z,2.0nm,0.6s,baz=299,slow=4.6,SNR=8.3						
NVAR	Mina Array Bea	45.25	81	P	P	03 00 54.5	-0.6
TIA	Tai'an	45.31	275	⇓P	P	03 00 56.0	+0.7
TIA				pmax	pmax		
	comp=Z,48nm,0.8s						
NV11	Mina Array Sit	45.34	81	IAmb	IAmb	03 00 56.0	
	comp=Z,9.0nm,0.7s						
ELK	Elko	45.68	77	P	P	03 00 58.2	-0.2
ELK				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ELK	Elko	45.68	77	P	P	03 00 58.2	-0.2
ELK				IAmb	IAmb	03 00 58.8	
	comp=Z,10.0nm,0.5s						
PAGB	Antelope Grade	45.78	86	IAmb	IAmb	03 01 00.3	
	comp=Z,21nm,0.6s						
HHC	Hu-ho-hao-te	45.79	284	*eP*	P	03 00 59.5	+0.3
HHC				pmax	pmax		
	comp=Z,34nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,7.0s						
HHC				LR	LR		
	comp=Z,270nm,13.3s						
HHC				LR	LR		
	comp=Z,280nm,13.3s						
HHC				LR	LR		
	comp=Z,210nm,13.3s						
HNS	HongShan	46.03	278	⇓P	P	03 01 02.5	+1.6
HNS				pmax	pmax		
	comp=Z,39nm,0.8s						
TIN	Tinemaha, Big	46.16	83	P	P	03 01 03.0	+0.9
	baz=310						
SMMC	Simmler	46.20	86	P	P	03 01 03.2	+0.8
	baz=312						
H17A	Grant Village	46.25	70	IAmb	IAmb	03 01 04.1	
	comp=Z,17nm,1.1s						
H17A	Grant Village	46.25	70	P	P	03 01 03.5	+0.6
	baz=306,SNR=12						
FLWY	Flagg Ranch	46.37	70	IAmb	IAmb	03 01 04.2	
	comp=Z,11nm,0.7s						
NOR	Nord	46.40	3	*i* P	P	03 01 00.4	-2.9
VES	Vestal, Richgr	46.42	85	P	P	03 01 03.9	-0.1
	baz=311,SNR=13						
MOOW	Moose Ponds	46.54	71	P	P	03 01 04.0	-1.1
RLMT	Red Lodge	46.58	68	IAmb	IAmb	03 01 06.2	
	comp=Z,22nm,1.1s						
RLMT	Red Lodge	46.58	68	P	P	03 01 04.7	-0.8
	baz=306,SNR=14						
CWC	Cottonwood Cre	46.65	83	P	P	03 01 06.3	+0.3
	baz=311						
GRAC	Grapevine Rang	46.73	82	P	P	03 01 07.0	+0.5
	baz=310,SNR=10						
GUMO	Guam	46.75	227	P	P	03 01 05.3	-1.4
	comp=Z,55nm,0.4s,baz=5.2,slow=11,SNR=1.8						
BTO	Baotou	46.87	284	*eP*	P	03 01 08.8	+1.2
ISA	Isabella, Lake	46.91	84	P	P	03 01 07.3	-0.6
	baz=311						
R11A	Troy Canyon, C	46.95	80	IAmb	IAmb	03 01 08.8	
	comp=Z,10nm,0.5s						
R11A	Troy Canyon, C	46.95	80	P	P	03 01 08.1	-0.2
	baz=310,SNR=31						
NJ2	Nanjing	47.01	269	*eP*	P	03 01 08.5	-0.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TIY	Taiyuan	47.22	280	*eP*	P	03 01 12.5	+2.2
TIY				pmax	pmax		
	comp=Z,37nm,0.6s						
NEEM	North Greenlan	47.24	13	*i* P	P	03 01 09.8	-0.4
NEEM				IAmb	IAmb	03 01 11.3	
	comp=Z,72nm,0.4s						
MPMC	Manual Prospec	47.26	83	P	P	03 01 10.9	+0.1
	baz=311,SNR=12						
HWUT	Hardware Ranch	47.34	74	P	P	03 01 10.4	-0.9
FURC	Furnace Creek,	47.38	82	P	P	03 01 11.8	+0.4
	baz=311,SNR=16						
LAO	LASA Array	47.40	65	P	P	03 01 11.0	-0.5
	baz=306,SNR=6.9						
TPNV	Topopah Spring	47.45	82	IAmb	IAmb	03 01 39.4	
	comp=Z,13nm,0.8s						
TPNV	Topopah Spring	47.45	82	P	P	03 01 12.3	+0.2
	baz=311,SNR=19						
DUG	Dugway, Tooele	47.47	76	IAmb	IAmb	03 01 12.7	
	comp=Z,14nm,0.6s						
DUG	Dugway, Tooele	47.47	76	P	P	03 01 12.1	-0.3
	baz=309,SNR=26						
LRMC	Laurel Mtn Rad	47.52	84	P	P	03 01 12.7	0.0
	baz=312						
EDW2	Edwards Air Fo	47.72	85	P	P	03 01 13.8	-0.4
	baz=312						
BW06	Boulder Array	47.82	71	IAmb	IAmb	03 01 14.8	
	comp=Z,13nm,0.9s						
BW06	Boulder Array	47.82	71	P	P	03 01 14.0	-1.0
	baz=308,SNR=17						
PD31	Pinedale Array	47.82	71	P	P	03 01 13.9	-1.2
PDAR	Pinedale Array	47.82	71	P	P	03 01 13.9	-1.2
	comp=Z,5.4nm,0.5s,baz=318,slow=3.6,SNR=69						
PDAR				pP	pP	03 01 39.8	-0.5
	comp=Z,3.1nm,0.7s,baz=307,slow=2.7,SNR=3.3						
PDAR				ScP	ScP	03 06 24.6	-1.7
	comp=Z,0.4nm,0.5s,baz=9.0,slow=1.3,SNR=4.7						
SHOC	Shoshone, Teco	48.11	83	P	P	03 01 17.3	+0.2
	baz=311,SNR=18						
MWC	Mount Wilson	48.12	86	IAmb	IAmb	03 01 18.4	
	comp=Z,28nm,1.1s						
GSC	Goldstone, Bar	48.18	84	P	P	03 01 17.9	+0.2
	baz=312,SNR=24						
TUQ	Turquoise Moun	48.63	83	P	P	03 01 21.1	-0.1
	baz=312,SNR=11						
HEC	Hector,Ludlow	48.78	84	P	P	03 01 22.3	-0.1
	baz=312,SNR=10						
BBRC	Big Bear Solar	48.80	85	P	P	03 01 23.0	+0.3
	baz=312						
MURC	Murrieta	49.07	86	P	P	03 01 24.4	-0.1
	baz=313						
GMRC	Granite Mounta	49.22	83	P	P	03 01 25.8	0.0
	baz=312,SNR=16						
LYN	LuoYang	49.27	276	⇓*i*P	P	03 01 27.0	+1.1
LYN				S	S	03 08 22.3	-1.4
LYN				pmax	pmax		
	comp=Z,30nm,0.7s						
PFO	Pinyon Flats O	49.52	85	P	P	03 01 27.0	-1.0
PFO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PFO	Pinyon Flats O	49.52	85	P	P	03 01 27.0	-1.0
PFO	Pinyon Flats O	49.52	85	P	P	03 01 27.8	-0.2
	baz=313,SNR=5.5						
BELC	Belle Mtn. Jos	49.54	84	P	P	03 01 27.7	-0.5
	baz=313,SNR=12						
109C	Camp Elliot, M	49.61	86	P	P	03 01 28.9	+0.4
	baz=313						
SPB2	Spitsbergen Ar	49.62	355	P	P	03 01 28.5	+0.4
K22A	Casper	49.66	69	P	P	03 01 28.2	-0.9
	baz=309						
IRM	Iron Mountain	49.96	84	P	P	03 01 31.0	-0.3
	baz=313,SNR=16						
UPNV	Upernavik	49.97	18	*i* P	P	03 01 30.0	-0.7
BAR	Barrett	50.02	86	IAmb	IAmb	03 01 32.4	
	comp=Z,14nm,0.8s						
MONP2	Monument Peak	50.02	86	P	P	03 01 31.8	-0.1
	baz=313						
W13A	Hualapai Mount	50.10	82	IAmb	IAmb	03 01 59.5	
	comp=Z,7.5nm,0.8s						
BC3	Big Chuckawall	50.10	84	P	P	03 01 31.7	-0.8
	baz=313,SNR=7.6						
O20A	White River Ci	50.23	73	IAmb	IAmb	03 01 33.1	
	comp=Z,11nm,0.6s						
O20A	White River Ci	50.23	73	P	P	03 01 32.4	-1.1
	baz=310,SNR=14						
CBX	Cerro Bola	50.27	86	IAmb	IAmb	03 01 35.0	
	comp=Z,13nm,0.7s						
SWSC	Sam W. Stewart	50.37	85	P	P	03 01 33.9	-0.4
	baz=313						
IKP	In-Ko-Pah, Jac	50.38	86	P	P	03 01 34.4	-0.1
	baz=314						
PDMCI	Parker Dam,Lak	50.48	83	P	P	03 01 35.0	-0.1
	baz=313						
CCX	Cicese	50.57	87	P	P	03 01 33.4	-2.5
ULM	Lac du Bonnet	50.83	56	P	P	03 01 36.6	-0.9
	comp=Z,5.2nm,0.6s,baz=306,slow=8.1,SNR=6.7						
ULM	Lac du Bonnet	50.83	56	IAmb	IAmb	03 01 37.3	
	comp=Z,18nm,1.1s						
PV23	Carpenter Ridg	50.85	75	IAmb	IAmb	03 01 44.2	
	comp=Z,9.1nm,0.6s						
GLA	Glamis	50.90	84	P	P	03 01 38.4	0.0
	baz=313,SNR=8.0						
PV13	Radium Mtn., P	51.16	75	P	P	03 01 39.2	-1.3
WUAZ	Wupatki	51.36	80	IAmb	IAmb	03 02 09.6	
	comp=Z,10.0nm,0.8s						
WUAZ	Wupatki	51.36	80	P	P	03 01 42.0	+0.1
	baz=312,SNR=10						
Y14A	Wickenburg	51.42	82	IAmb	IAmb	03 02 09.3	
	comp=Z,11nm,1.2s						
SSLB	Suanglung	51.63	260	P	P	03 01 43.7	-0.2
SSLB	Suanglung	51.63	260	P	P	03 01 44.9	+1.0
	comp=Z,45nm,1.1s						
YULB	Yu-li	51.72	259	P	P	03 01 45.3	+0.8
XAN	Xi'an	51.78	278	P	P	03 01 45.3	+0.4
XAN				pmax	pmax		
	comp=Z,24nm,0.8s						
XAN				pmax	pmax		
	comp=Z,300nm,7.7s						
MVCO	Mesa Verde	51.97	76	IAmb	IAmb	03 01 47.5	
	comp=Z,16nm,1.5s						
MVCO	Mesa Verde	51.97	76	P	P	03 01 45.8	-0.8
	baz=312,SNR=7.2						
ISCO	Idaho Springs	51.99	72	P	P	03 01 47.0	+0.2
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ISCO	Idaho Springs	51.99	72	P	P	03 01 47.0	+0.2
ISCO	Idaho Springs	51.99	72	P	P	03 01 45.9	-0.9
	baz=311						
AGMN	Agassiz Nation	52.04	58	IAmb	IAmb	03 01 46.6	
	comp=Z,13nm,1.0s						
AGMN	Agassiz Nation	52.04	58	P	P	03 01 45.3	-1.3
	baz=309,SNR=5.2						
X16A	Lo Mia Camp, P	52.05	81	IAmb	IAmb	03 01 48.2	
	comp=Z,5.9nm,0.6s						
TPUB	Ta-pu	52.19	260	P	P	03 01 48.1	0.0
ZALV	Zalesovo Beam	52.29	312	P	P	03 01 48.0	-0.3
	comp=Z,1.5nm,0.3s,baz=49,slow=6.3,SNR=14						
ZALV				PcP	PcP	03 02 58.9	+0.9
	comp=Z,12nm,0.8s,baz=34,slow=3.8,SNR=21						
ZALV				ScP	ScP	03 06 46.0	+1.1
	comp=Z,2.4nm,0.8s,baz=55,slow=5.5,SNR=7.7						
ZALV	Zalesovo Beam	52.29	312	P	P	03 01 47.8	-0.5
ZALV				PcP	PcP	03 02 58.5	+0.4
S22A	4UR Ranch, Cre	52.62	74	P	P	03 01 51.2	-0.1
	baz=312,SNR=7.6						
W18A	Petrified Fore	52.62	79	IAmb	IAmb	03 01 52.9	
	comp=Z,20nm,1.2s						
W18A	Petrified Fore	52.62	79	P	P	03 01 51.0	-0.2
	baz=313						
X18A	Snowflake	52.88	79	IAmb	IAmb	03 01 54.1	
	comp=Z,12nm,0.5s						
214A	Organ Pipe Nat	52.89	84	IAmb	IAmb	03 01 53.7	
	comp=Z,8.5nm,0.8s						
214A	Organ Pipe Nat	52.89	84	P	P	03 01 53.1	0.0
	baz=314,SNR=9.5						
SUMG	Summit	53.11	13	P	P	03 01 54.0	-0.6
SUMG				pmax	pmax		
	comp=Z,27nm,0.8s						
SUMG	Summit	53.11	13	*i* P	P	03 01 54.7	+0.1
SUMG				IAmb	IAmb	03 01 56.2	
	comp=Z,21nm,0.9s						
SUMG	Summit	53.11	13	P	P	03 01 54.0	-0.6
DBG	Daneborg	53.36	6	*i* P	P	03 01 54.4	-1.6
SDCO	Great Sand Dun	53.41	73	IAmb	IAmb	03 01 57.7	
	comp=Z,12nm,1.2s						
SDCO	Great Sand Dun	53.41	73	P	P	03 01 56.7	-0.5
	baz=312,SNR=10						
LZH	Lanzhou	53.49	284	⇑P	P	03 01 59.3	+1.7
LZH				pP	pP	03 02 25.0	+1.7
LZH				sP	sP	03 02 35.8	+0.6
LZH				pmax	pmax		
	comp=Z,54nm,1.4s						
GTA	Gaotai	53.66	290	⇓P	P	03 01 59.5	+0.7
GTA				pP	pP	03 02 25.0	+0.9
GTA				sP	sP	03 02 39.0	+3.1
GTA				pmax	pmax		
	comp=Z,48nm,0.6s						
DGZ	Jazzator, Alta	53.73	306	*i* P	P	03 01 59.6	+0.4
DGZ				pmax	pmax		
	comp=Z,15nm,1.0s						
ILULI	Ilulissat	53.80	20	P	P	03 01 58.8	-0.4
ILULI				pmax	pmax		
	comp=Z,35nm,0.7s						
ILULI	Ilulissat	53.80	20	*i* P	P	03 01 58.2	-0.9
ILULI	Ilulissat	53.80	20	P	P	03 01 58.8	-0.4
TUC	Tucson	53.89	82	P	P	03 01 59.9	-0.6
TUC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TUC	Tucson	53.89	82	P	P	03 01 59.9	-0.6
TUC				IAmb	IAmb	03 02 01.4	
	comp=Z,9.9nm,1.1s						
TUC	Tucson	53.89	82	P	P	03 02 00.6	+0.2
	baz=314						
ENH	Enshi	54.02	275	P	P	03 02 00.8	-0.6
T25A	Trinidad	54.46	73	IAmb	IAmb	03 02 05.9	
	comp=Z,20nm,1.2s						
T25A	Trinidad	54.46	73	P	P	03 02 04.7	0.0
	baz=312,SNR=9.5						
ECSD	EROS Data Cent	54.55	62	P	P	03 02 03.2	-1.9
	baz=311						
ANMO	Albuquerque	54.71	77	*ce*P	P	03 02 05.8	-0.7
ANMO				pmax	pmax		
	comp=Z,8.0nm,2.5s						
ANMO	Albuquerque	54.71	77	P	P	03 02 05.9	-0.7
ANMO	Albuquerque	54.71	77	P	P	03 02 06.3	-0.3
	baz=313						
319A	Douglas	55.45	82	IAmb	IAmb	03 02 12.8	
	comp=Z,16nm,1.1s						
121A	Cookes Peak, D	55.56	80	P	P	03 02 12.8	+0.1
	baz=314						
SPMN	Marine on St.	55.63	59	IAmb	IAmb	03 02 12.4	
	comp=Z,26nm,1.2s						
SPMN	Marine on St.	55.63	59	P	P	03 02 11.9	-0.8
	baz=312						
ICESG	Greenland Ices	56.04	15	*i* P	P	03 02 15.1	-0.6
ICESG				IAmb	IAmb	03 02 15.9	
	comp=Z,16nm,0.7s						
CBKS	Cedar Bluff	56.06	69	IAmb	IAmb	03 02 16.1	
	comp=Z,17nm,0.8s						
CBKS	Cedar Bluff	56.06	69	P	P	03 02 15.5	-0.5
	baz=313						
ZSN	Zaisan	56.49	306	*eP*	P	03 02 18.9	0.0
ZSN	Zaisan	56.49	306	*eP*	P	03 02 19.0	0.0
	baz=306						
CD2	Chengdu	57.09	279	P	P	03 02 23.8	+0.4
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
DY2G	Dye2	57.11	20	*i* P	P	03 02 21.4	-1.8
DY2G				IAmb	IAmb	03 02 23.5	
	comp=Z,18nm,0.8s						
ARCES	ARCESS Array B	57.16	349	P	P	03 02 23.2	0.0
	comp=Z,4.7nm,0.6s,baz=24,slow=8.5,SNR=33						
ARCES				PcP	PcP	03 03 16.5	-0.1
	comp=Z,2.3nm,0.7s,baz=36,slow=3.4,SNR=3.9						
ARCES	ARCESS Array B	57.16	349	IAmb	IAmb	03 02 31.4	
	comp=Z,7.5nm,1.1s						
KURK	Kurchatov	57.28	312	*ce*P	P	03 02 24.5	+0.2
KURK				pmax	pmax		
	comp=Z,43nm,1.3s						
KURK	Kurchatov	57.28	312	P	P	03 02 24.6	+0.2
LVZ	Lovozero	57.38	345	*ce*P	P	03 02 24.3	-0.6
LVZ				pmax	pmax		
	comp=Z,42nm,1.3s						
LVZ	Lovozero	57.38	345	P	P	03 02 24.6	-0.3
KURBB	Kurchatov Arra	57.38	312	P	P	03 02 25.5	+0.4
	comp=Z,19nm,0.6s,baz=42,slow=6.6,SNR=164						
KURBB				pP	pP	03 02 51.5	+0.9
	comp=Z,2.8nm,0.8s,baz=48,slow=7.0,SNR=1.7						
KURBB				PcP	PcP	03 03 18.2	+0.4
	comp=Z,9.0nm,0.7s,baz=43,slow=3.5,SNR=10						
KURBB				ScP	ScP	03 07 08.9	+1.6
	comp=Z,2.0nm,0.9s,baz=49,slow=4.2,SNR=6.7						
KURBB	Kurchatov Arra	57.38	312	P	P	03 02 25.4	+0.3
WMQ	Urumqi	57.49	301	*eP*	P	03 02 26.8	+0.8
WMQ				pP	pwP	03 02 55.0	+1.0
WMQ				sP	sP	03 03 05.5	+2.3
WMQ				PcP	PcP	03 03 19.0	+0.6
WMQ				pmax	pmax		
	comp=Z,34nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,75nm,3.9s						
WMQ				LR	LR		
	comp=Z,810nm,8.1s						
WMQ				LR	LR		
	comp=Z,260nm,7.7s						
WMQ				LR	LR		
	comp=Z,54nm,12.1s						
MSTX	Muleshoe	57.59	75	IAmb	IAmb	03 02 27.8	
	comp=Z,14nm,1.1s						
MSTX	Muleshoe	57.59	75	P	P	03 02 26.2	-0.7
	baz=314,SNR=7.9						
MNTX	Cornudas Mount	57.60	79	IAmb	IAmb	03 02 27.7	
	comp=Z,7.6nm,0.7s						
MNTX	Cornudas Mount	57.60	79	P	P	03 02 26.9	0.0
	baz=315,SNR=14						
AMTX	Amarillo	57.61	73	IAmb	IAmb	03 02 28.5	
	comp=Z,9.7nm,0.6s						
AMTX	Amarillo	57.61	73	P	P	03 02 26.7	-0.3
	baz=314						
SOEG	Soedalen	58.09	13	*i* P	P	03 02 28.5	-1.3
MK31	Makanchi Array	58.23	307	*d i* P	P	03 02 30.5	-0.6
MK31	Makanchi Array	58.23	307	P	P	03 02 31.1	0.0
MK31				IAmb	IAmb	03 02 31.7	
	comp=Z,7.7nm,0.7s						
MKAR	Makanchi Array	58.23	307	P	P	03 02 31.0	-0.1
	comp=Z,7.7nm,0.5s,baz=50,slow=6.6,SNR=112						
MKAR				PcP	Pc

WMOK Wichita Mounta 59.42 72 P **P 03 02 39.1 -0.4**
baz=315,SNR=5.2
SVE Sverdlovsk 60.09 326 *e*P **P 03 02 45.3 +1.6**
SVE pmax pmax
comp=Z,46nm,1.3s
TX32 Lajitas Array 60.32 79 IAmb IAmb 03 02 46.3
comp=Z,7.9nm,0.6s
TXAR Lajitas Array 60.32 79 P **P 03 02 45.5 -0.4**
comp=Z,6.0nm,0.5s,baz=306,slow=5.1,SNR=198
TXAR PcP **PcP 03 03 30.7 +0.8**
comp=Z,1.6nm,0.6s,baz=295,slow=3.8,SNR=2.0
TXAR ScP **ScP 03 07 19.1 -1.7**
comp=Z,1.7nm,0.8s,baz=290,slow=3.0,SNR=8.6
TUL1 Leonard 60.34 69 P **P 03 02 45.3 -0.5**
TUL1 IAmb IAmb 03 02 47.5
comp=Z,8.4nm,1.0s
SLBS Sierra La Lagu 60.56 89 P **P 03 02 46.9 -0.6**
SLBS IAmb IAmb 03 02 48.7
comp=Z,16nm,0.8s
SCHQ Schefferville 60.61 37 P **P 03 02 47.2 -0.1**
comp=Z,3.5nm,0.4s,baz=282,slow=9.0,SNR=33
SCHQ pP **pP 03 03 14.3 +1.1**
comp=Z,19nm,1.1s,baz=344,slow=5.9,SNR=6.0
PRGR Permogore 60.63 336 *e*P **P 03 02 46.5 -0.8**
PRGR pmax pmax
comp=Z,43nm,0.7s
HDIL Hopedale 60.70 61 P **P 03 02 47.1 -1.1**
baz=315
HPIG 60.83 83 P **P 03 02 48.7 -0.7**
HPIG IAmb IAmb 03 02 50.1
comp=Z,6.7nm,0.6s
ARU Arti 61.11 327*d i*P **P 03 02 51.8 +1.2**
ARU 03 03 32.3
ARU 03 05 07.0
ARU S **S 03 11 03.6 +2.6**
ARU SS **SS 03 14 56.8 -4.7**
ARU pmax pmax
comp=Z,55nm,0.9s
ARU Arti 61.11 327 P **P 03 02 50.9 +0.2**
HHAR Hobbs 61.14 67 IAmb IAmb 03 02 49.9
comp=Z,6.0nm,0.7s
CCM Cathedral Cave 61.40 64 P **P 03 02 50.9 -2.0**
baz=316
TDK Taldyqorghan 61.41 307 *e*P **P 03 02 53.1 +0.2**
TDK pmax pmax
comp=Z,12nm,0.7s
TDK Taldyqorghan 61.41 307 *e*P **P 03 02 53.2 +0.2**
comp=Z,12nm,0.7s,baz=307
PZH PanZhiHua 61.48 277 P **P 03 02 55.8 +2.1**
PZH pmax pmax
comp=Z,11nm,1.2s
PZH pmax pmax
comp=Z,110nm,5.3s
U40A Yellville 61.70 66 P **P 03 02 53.2 -1.7**
baz=316,SNR=6.0
JCT Junction City 61.83 76 P **P 03 02 55.0 -1.0**
baz=316
KMI Kunming 61.87 275 ⇑P **P 03 02 57.0 +0.5**
KMI pmax pmax
comp=Z,15nm,0.8s
W39A Magazine 62.00 68 P **P 03 02 55.8 -1.1**
baz=316
SFIN Lafayette 62.01 60 P **P 03 02 56.3 -0.6**
baz=316,SNR=7.7
PDGK Podgornoye 62.08 305 P **P 03 02 57.9 +0.3**
WHTX Lake Whitney, 62.15 73 P **P 03 02 57.6 -0.4**
baz=316
KIRV Kirov 62.21 333*ce*P **P 03 02 59.0 +1.1**
FCAR Ozark Folk Cen 62.45 66 IAmb IAmb 03 02 59.4
comp=Z,16nm,1.0s
UZB Uzynbulak 62.45 305 *e*P **P 03 03 00.0 0.0**
UZB Uzynbulak 62.45 305 *e*P **P 03 03 00.1 0.0**
baz=306
MIAR Mount Ida 62.58 68 P **P 03 02 59.4 -1.4**
MIAR pmax pmax
comp=Z,24nm,1.3s
MIAR Mount Ida 62.58 68 P **P 03 02 59.4 -1.4**
MIAR IAmb IAmb 03 03 00.9
comp=Z,24nm,1.3s
MIAR Mount Ida 62.58 68 P **P 03 03 00.3 -0.6**
baz=316,SNR=5.4
ZHN Zhinishke 62.73 306 *e*P **P 03 03 01.9 0.0**
ZHN Zhinishke 62.73 306 *e*P **P 03 03 01.1 -0.8**
baz=306
KLMR Klimovskoe 62.76 339 *e*P **P 03 03 00.5 -1.1**
KLMR *e**PP **pwP 03 03 29.6 -0.4**
KLMR *e**SP **sP 03 03 39.5 +0.5**
KLMR pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 62.76 339 *e*P **P 03 03 00.5 -1.1**
KLMR AMP 03 03 14.8
comp=Z,11nm,1.0s
KLMR *e*pP **pwP 03 03 29.6 -0.4**
KLMR *es*P **sP 03 03 39.6 +0.5**
PBMO Poplar Bluff 62.76 65 IAmb IAmb 03 03 00.7
comp=Z,9.7nm,0.6s
W41B Gary Mavity, V 62.89 67 IAmb IAmb 03 03 21.6
comp=Z,13nm,1.3s
W41B Gary Mavity, V 62.89 67 P **P 03 03 01.4 -1.5**
baz=316
O48B Farmland 63.12 58 P **P 03 03 03.0 -1.4**
baz=317
MDOK Medeo 63.42 307 *e*P **P 03 03 06.4 -0.1**
MDOK Medeo 63.42 307 *e*P **P 03 03 06.4 -0.1**
baz=307
AAA Alma-Ata 63.46 307 *e*P **P 03 03 07.0 +0.4**
AAA Alma-Ata 63.46 307 *e*P **P 03 03 07.0 +0.4**
baz=307
BTLS Baital 63.49 310 *e*P **P 03 03 07.2 +0.5**
BTLS Baital 63.49 310 *e*P **P 03 03 07.3 +0.5**
baz=310
833A Chaparral WMA, 63.64 77 P **P 03 03 07.9 0.0**
baz=317
P49A Miami Univ. Ec 63.88 59 P **P 03 03 09.4 +0.1**
baz=317
SLVN Son La 63.95 272 IAmb IAmb 03 03 12.1
comp=Z,20nm,1.1s
TKM2 Tokmak 2 64.32 307 P **P 03 03 12.8 +0.4**
SGDS Sogindy 64.40 308 *e*P **P 03 03 13.1 +0.3**
baz=308
USP Ospenovka 64.60 308 P **P 03 03 15.2 +1.1**
SNR=7.0
WVT Waverly 64.68 63 P **P 03 03 13.7 -0.9**
baz=317
FINES FINESS Array B 64.76 346 P **P 03 03 14.4 -0.3**
comp=Z,3.7nm,0.4s,baz=16,slow=7.9,SNR=54
KBK Karagaybulak 64.83 308 P **P 03 03 16.9 +1.1**
SNR=6.5
OXF Oxford 64.98 66 P **P 03 03 15.7 -0.9**
baz=317,SNR=6.3
AAK Ala-Archa 65.07 308 P **P 03 03 18.4 +1.2**
SNR=12
AAK Ala-Archa 65.07 308*ce*P **P 03 03 17.6 +0.3**
AAK pmax pmax
comp=Z,10.0nm,0.6s
AAK Ala-Archa 65.07 308 P **P 03 03 17.4 +0.2**
AAK IAmb IAmb 03 03 18.8
comp=Z,14nm,0.6s
EKS2 Erkin-Say 65.40 308 P **P 03 03 20.7 +1.3**
SNR=14
CLTN Cedars of Leba 65.53 62 IAmb IAmb 03 03 46.3
comp=Z,18nm,1.2s
ZAIG Zacatecas 65.78 84 P **P 03 03 21.9 -0.3**
SWI Sorong 65.83 233 P **P 03 03 22.6 +0.4**
comp=Z,150nm,0.8s
SIJI Sorong 65.83 233 P **P 03 03 22.5 +0.2**
comp=Z,81nm,0.6s,baz=38,slow=5.4,SNR=32
AML Almayashu 65.84 308 P **P 03 03 24.0 +1.5**
SNR=8.1
AB31 Akbulak array 66.34 321 *e*P **P 03 03 25.8 +0.7**
ABKAR Akbulak array 66.34 321 P **P 03 03 25.7 +0.6**
KKAR Karatay Array 66.63 311 P **P 03 03 27.4 +0.4**
KKAR Karatay Array 66.63 311 P **P 03 03 27.4 +0.4**
KSH Kashi 66.68 305 P **P 03 03 31.8 +4.3**
KSH sP sP 03 04 08.5 +3.2
KSH pmax pmax
comp=Z,26nm,0.7s
PMG Port Moresby 66.77 214*ce*P **P 03 03 28.3 +0.2**
PMG pmax pmax
comp=Z,38nm,2.5s
PMG Port Moresby 66.77 214 P **P 03 03 28.6 +0.5**
PMG IAmb IAmb 03 03 29.3
comp=Z,26nm,1.3s
AAL Aland 66.82 348 *e*P **P 03 03 27.2 -0.7**
NB2 NORSAR Subarra 66.84 353 P **P 03 03 27.7 -0.4**
comp=Z,1.1nm,0.6s,baz=9.2,slow=6.5

NOA NORSAR Array B 66.84 353 P **P 03 03 28.1 -0.1**
comp=Z,1.4nm,0.5s,baz=2.7,slow=5.7,SNR=11
NOA pP **PcP 03 03 55.5 -0.6**
comp=Z,7.2nm,1.0s,baz=7.7,slow=6.3,SNR=5.4
BRLS Borolday 67.00 311 *e*P **P 03 03 31.0 +1.6**
BRLS Borolday 67.00 311 *e*P **P 03 03 31.0 +1.6**
baz=311
FAKI Fak Fak 67.13 231 P **P 03 03 30.8 +0.3**
comp=Z,47nm,0.8s
FAKI Fak Fak 67.13 231 P **P 03 03 30.6 +0.1**
UPP Uppsala 67.41 350 *e*P **P 03 03 31.4 -0.2**
IUG Iuzhnay 67.59 310 *e*P **P 03 03 34.1 +0.9**
IUG Iuzhnay 67.59 310 *e*P **P 03 03 34.1 +0.9**
baz=310
MTSE Matsula 67.71 346 *e*P **P 03 03 33.5 0.0**
SANVU Saraoutou 67.85 192 P **P 03 03 34.6 -0.3**
SHL Shillong 68.15 284 P **P 03 03 37.1 0.0**
SHL pmax pmax
comp=Z,71nm,1.1s
SHL Shillong 68.15 284 P **P 03 03 37.1 0.0**
OBN Obninsk 68.63 336⇓*e*P **P 03 03 39.2 -0.1**
OBN *e**PP **pwP 03 04 11.1 +2.5**
OBN *e* 03 06 15.5
OBN *e*PPP PPP 03 07 53.7
OBN pmax pmax
comp=Z,64nm,2.5s
DRK Karamyk 68.79 307 IAmb IAmb 03 03 43.2
comp=Z,16nm,0.8s
BTK Batken 68.83 308 IAmb IAmb 03 03 42.9
comp=Z,28nm,0.8s
CHTO Chiang Mai 68.90 274 P **P 03 03 41.9 +0.3**
CHTO pmax pmax
comp=Z,12nm,0.7s
CHTO Chiang Mai 68.90 274 P **P 03 03 41.9 +0.3**
CHTO IAmb IAmb 03 03 42.9
comp=Z,12nm,0.7s
CM31 Chiang Mai Arr 69.17 273 P **P 03 03 43.4 +0.1**
CM31 IAmb IAmb 03 03 44.8
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 69.17 273 P **P 03 03 43.9 +0.6**
comp=Z,8.6nm,0.6s,baz=26,slow=7.0,SNR=51
MSVF Nonsavu 69.43 180 *e*P **P 03 03 46.6 +1.8**
MSVF pmax pmax
comp=Z,17nm,1.1s
MSVF Nonsavu 69.43 180 P **P 03 03 45.6 +0.8**
MSVF IAmb IAmb 03 03 47.3
comp=Z,24nm,1.2s
SANI Sanana 69.53 238 P **P 03 03 44.9 -0.5**
comp=Z,43nm,1.0s
MRSI Marisa 69.58 243 P **P 03 03 45.8 0.0**
comp=Z,68nm,1.1s
TOLI2 Tolitoli 69.70 244 IAmb IAmb 03 03 46.9
comp=Z,21nm,0.8s
GUN Gumba 69.95 290 *e*P **P 03 03 49.4 +1.0**
comp=Z,221nm,0.5s
LPSR Galich'ya Gora 70.33 335 *e*P **P 03 03 49.1 -0.7**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
KKN Kakani 70.39 290 *e*P **P 03 03 51.8 +0.9**
comp=Z,101nm,0.6s
PKI Pulchoki 70.48 290 *e*P **P 03 03 52.3 +0.7**
comp=Z,102nm,0.6s
PKIN Phulchoki 70.49 290 *e*P **P 03 03 52.1 +0.5**
comp=Z,111nm,0.5s
GKN Gorkha 70.61 291 *e*P **P 03 03 52.8 +0.6**
comp=Z,55nm,0.4s
DMN Daman 70.63 290 *e*P **P 03 03 53.2 +0.8**
comp=Z,96nm,0.9s
MPSI Mapaga 70.83 244 P **P 03 03 53.4 0.0**
comp=Z,46nm,1.0s
VRH Novokhopyorsk 70.83 333 *e*P **P 03 03 52.1 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.8s
DANN Dangsing 70.85 292 *e*P **P 03 03 54.7 +0.9**
comp=Z,201nm,0.8s
KOLN Koldanda 71.38 291 *e*P **P 03 03 57.7 +0.8**
comp=Z,95nm,0.8s
PYUN Piuthan 71.48 292 *e*P **P 03 03 58.3 +0.8**
comp=Z,164nm,0.9s
VSR Storozhevoye 71.52 334 *e*P **P 03 03 56.3 -0.8**
VSR pmax pmax
comp=Z,9.0nm,0.9s
COEN Coen 72.39 216 P **P 03 04 02.9 +0.2**
COEN Coen 72.39 216 P **P 03 04 02.1 -0.5**
comp=Z,14nm,1.1s
NIL Nilore 72.57 302 P **P 03 04 04.4 +0.7**
NIL pmax pmax
comp=Z,37nm,0.7s
NIL Nilore 72.57 302 P **P 03 04 04.3 +0.7**
SBUM Sibu 73.52 252 P **P 03 04 09.3 -0.1**
TTSI Tana Toraja 73.67 243 P **P 03 04 10.2 -0.1**
comp=Z,18nm,0.4s
KBL Kabul 74.03 306 P **P 03 04 12.5 +0.1**
KBL pmax pmax
comp=Z,35nm,0.8s
KBL Kabul 74.03 306 P **P 03 04 12.5 +0.1**
AKASG Malin Array Be 74.38 340 P **P 03 04 13.7 -0.2**
comp=Z,14nm,0.4s,baz=21,slow=6.1,SNR=78
AKASG pP **pP 03 04 40.4 -0.4**
comp=Z,3.9nm,0.9s,baz=21,slow=5.5,SNR=1.4
AKASG Malin Array Be 74.38 340*ce*P **P 03 04 13.6 -0.3**
AKASG pmax pmax
comp=Z,13nm,0.4s
AKBB Malin Array Si 74.38 340*ce*P **P 03 04 13.3 -0.6**
YATNC Mamie plateau, 74.41 191 P **P 03 04 15.8 +1.5**
comp=Z,14nm,1.6s
SPSI Sidrap Palu 74.46 242 P **P 03 04 14.7 -0.2**
comp=Z,13nm,1.4s
DZM Mont Dzumac 74.48 191 IAmb IAmb 03 04 17.5
comp=Z,15nm,0.9s
BNSI Bone 74.64 242 P **P 03 04 16.4 +0.5**
comp=Z,2μmcomp=Z,32nm,1.0s
PPTF Pamatai, Papee 74.73 148 P **P 03 04 16.4 +0.1**
OUENC Ouen Island, N 74.77 191 P **P 03 04 16.6 +0.2**
KAPI Kappang 75.34 241 P **P 03 04 20.3 +0.4**
comp=Z,6.2nm,0.5s,baz=127,slow=6.3,SNR=4.4
KAPI Kappang 75.34 241 P **P 03 04 20.2 +0.3**
KAPI pmax pmax
comp=Z,23nm,1.2s
KAPI Kappang 75.34 241 P **P 03 04 20.2 +0.3**
KAPI IAmb IAmb 03 04 25.4
comp=Z,23nm,1.1s
BKSI Bulukumba 75.40 241 P **P 03 04 20.4 +0.2**
comp=Z,38nm,1.2s
KDU Kadu 75.59 226 P **P 03 04 20.6 -0.7**
comp=Z,107nm,0.7s
GOF Gofitskoye 75.93 329⇑*e*P **P 03 04 24.4 +1.5**
GOF pmax pmax
comp=Z,98nm,0.9s
DRS Darwin Rock St 76.08 228 P **P 03 04 23.7 -0.3**
comp=Z,26nm,0.7s
SRIT Nakonsritamara 76.33 266 P **P 03 04 25.4 -0.2**
MTN Manton Dam 76.33 227 P **P 03 04 25.8 +0.4**
MTN Manton Dam 76.33 227 P **P 03 04 25.2 -0.3**
comp=Z,83nm,1.1s
GEYT Alibeck 76.39 315 P **P 03 04 26.9 +1.2**
comp=Z,5.2nm,0.6s,baz=245,slow=3.1,SNR=12
GEYT Alibeck 76.39 315 IAmb IAmb 03 04 28.2
comp=Z,32nm,1.4s
GYA0B ALIBECK ARRAY 76.39 315 P **P 03 04 25.9 +0.1**
GYA0B IAmb IAmb 03 04 28.1
comp=Z,43nm,1.4s
DPC Dobruska-Polom 76.89 348 *e*P **P 03 04 28.6 +0.3**
DPC Dobruska-Polom 76.89 348 *e*P **P 03 04 28.6 +0.3**
SORM Soroca 76.99 340 ⇑P **P 03 04 28.9 +0.1**
KIV Kislovodsk 77.03 329 ⇓P **P 03 04 30.4 +1.2**
KIV Kislovodsk 77.03 329 *e*P **P 03 04 30.6 +1.3**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 77.03 329 P **P 03 04 29.4 +0.2**
KIV IAmb IAmb 03 04 33.0
comp=Z,11nm,0.7s
CTAO Charters Tower 77.05 211 P **P 03 04 29.0 -0.4**
CTAO pmax pmax
comp=Z,19nm,0.9s
CTAO Charters Tower 77.05 211 P **P 03 04 29.0 -0.4**
CTAO IAmb IAmb 03 04 30.5
comp=Z,19nm,0.8s
KRLC Kraliky 77.10 348 *e*P **P 03 04 29.4 -0.1**
KRLC Kraliky 77.10 348 *e*P **P 03 04 29.4 -0.1**
NCK Nalchik 77.14 328 *i* P **P 03 04 30.4 +0.6**
NCK pmax pmax
comp=Z,25nm,0.9s
KBZ Khabaz 77.16 329 P **P 03 04 31.3 +1.4**
comp=Z,10nm,0.8s,baz=110,slow=2.4,SNR=29
KBZ Khabaz 77.16 329*ce*P **P 03 04 31.0 +1.1**

KBZ pmax pmax
comp=Z,15nm,0.9s
SHA1 Shidzhatmaz 77.23 329 *i* P **P 03 04 31.1 +0.5**
HRA Herat 77.46 310 IAmb IAmb 03 04 34.1
comp=Z,22nm,0.7s
CRVS Cervenica-Dubn 77.56 345 *e*P **P 03 04 32.6 +0.6**
CRVS Cervenica-Dubn 77.56 345 *e*P **P 03 04 32.6 +0.6**
LANS Liptovska Anna 77.63 346 *e*P **P 03 04 34.2 +1.7**
LANS pmax pmax
comp=Z,5.0nm,0.9s
LANS Liptovska Anna 77.63 346 *e*P **P 03 04 34.2 +1.7**
BATI Baumata 77.66 235 P **P 03 04 33.3 +0.3**
comp=Z,48nm,0.5s,baz=261,slow=3.6,SNR=5.5
ZEI Tsey 77.67 327 *e*P **P 03 04 33.1 +0.1**
ZEI pmax pmax
comp=Z,29nm,0.8s
MILM Milestii Mici 78.05 339 ⇓P **P 03 04 34.9 +0.2**
BUR08 Bucovina Ar. S 78.10 342 IAmb IAmb 03 04 40.0
comp=Z,10nm,0.8s
TRPA Tarpa 78.12 344 ⇓P **P 03 04 36.0 +0.9**
TRPA Tarpa 78.12 344 P **P 03 04 36.1 +0.9**
BURAR Bucovina Array 78.13 342 ⇑P **P 03 04 36.1 +0.7**
BURAR Bucovina Array 78.13 342 P **P 03 04 35.8 +0.4**
CHLP Challavanipeta 78.20 285 *e*P **P 03 04 36.9 +0.9**
VYHS Vyhne 78.36 346 *e*P **P 03 04 36.9 +0.4**
VYHS Vyhne 78.36 346 *e*P **P 03 04 36.9 +0.4**
KHC Kasperske Hory 78.41 350 *e*P **P 03 04 37.8 +1.0**
KHC Kasperske Hory 78.41 350 *e*P **P 03 04 37.8 +1.0**
SMOL Smolenice 78.54 347 *e*P **P 03 04 38.4 +0.9**
SMOL Smolenice 78.54 347 *e*P **P 03 04 38.4 +0.9**
IPM Ipoh 78.66 263 P **P 03 04 37.4 -1.2**
IPM IAmb IAmb 03 04 38.9
comp=Z,19nm,0.8s
GERES GERESS Array B 78.68 350 P **P 03 04 38.0 -0.3**
comp=Z,0.7nm,0.6s,baz=42,slow=6,1,SNR=4.6
PSZ Piszkesteto 78.76 345 ⇑P **P 03 04 38.8 0.0**
ARCR ARCALIA 78.80 342 ⇓P **P 03 04 40.5 +1.5**
TESR Tescani 78.90 340 ⇑P **P 03 04 39.7 +0.3**
BIR Birlad 78.92 340 ⇓P **P 03 04 40.7 +1.1**
AKH Akhalkalaki 79.04 327 ⇑P **P 03 04 42.8 +2.3**
MYKOM Kota Tinggi 79.05 259 P **P 03 04 40.9 +0.1**
VARL Varlezi 79.22 339 ⇑P **P 03 04 42.5 +1.2**
VLDR Vladesti 79.23 339 ⇓P **P 03 04 42.4 +1.2**
CONA Conrad Observa 79.33 348 *e*P **P 03 04 43.0 +1.1**
comp=Z,1.5nm,0.4s
DRGR 79.39 343 ⇑P **P 03 04 42.7 +0.5**
SCTR Scanteiesti 79.41 339 ⇑P **P 03 04 43.3 +1.1**
VRI Vrincioaia 79.50 340 ⇓P **P 03 04 43.7 +0.9**
ODBI Odobesti 79.53 340 ⇑P **P 03 04 44.5 +1.6**
PLOR Plostina 79.53 340 ⇑P **P 03 04 43.8 +0.9**
SLCR Slobozia Conac 79.54 339 ⇓P **P 03 04 43.9 +1.0**
COVR Voineasa-Covas 79.62 341 ⇑P **P 03 04 45.0 +1.6**
DOPR Dopca 79.67 341 ⇓P **P 03 04 44.8 +1.1**
TLCR 79.69 339 ⇑P **P 03 04 45.4 +1.7**
GNI Garni 79.74 326*ce*P **P 03 04 44.3 0.0**
GNI pmax pmax
comp=Z,33nm,1.7s
GNI Garni 79.74 326 P **P 03 04 45.2 +0.8**
GNI IAmb IAmb 03 05 02.5
comp=Z,21nm,1.2s
MPLH Magyarpolny 79.84 347 P **P 03 04 46.8 +2.2**
KNRA Kununurra 79.90 228 P **P 03 04 45.0 -0.1**
KNRA IAmb IAmb 03 04 46.0
comp=Z,30nm,0.9s
KNRA Kununurra 79.90 228 P **P 03 04 45.1 -0.1**
comp=Z,34nm,1.0s
NEHR Nehoiu 80.00 340 ⇑P **P 03 04 47.4 +1.8**
MLR Muntele Rosu 80.02 341 ⇓P **P 03 04 47.6 +1.9**
TPGR Topolog 80.09 339 ⇓P **P 03 04 46.8 +0.9**
VOIR 80.25 341 ⇑P **P 03 04 47.7 +0.8**
RETA Reutte 80.32 351 *e*P **P 03 04 48.0 +0.8**
comp=Z,0.4nm,0.3s
HARR Harsova 80.36 339 ⇓P **P 03 04 49.3 +1.9**
WATA Walderalm 80.39 351 *e*P **P 03 04 47.8 +0.1**
comp=Z,2.7nm,0.5s
WTTA Wattenberg 80.46 351 *e*P **P 03 04 48.4 +0.3**
comp=Z,4.2nm,0.4s
KBA Koelnbreinsper 80.46 350 *e*P **P 03 04 49.1 +1.0**
comp=Z,11nm,0.6s
TLBR Topalu 80.47 339 ⇓P **P 03 04 48.6 +0.6**
SQTA Sankt Quirin 80.54 351 *e*P **P 03 04 48.7 +0.2**
comp=Z,0.7nm,0.3s
LHMI Lhok Sumawe 80.58 266 P **P 03 04 50.4 +1.4**
comp=Z,148nm,0.7s
BZS Buzias 80.72 344 ⇑P **P 03 04 49.6 +0.4**
RPR Rampur 80.75 289 *e*P **P 03 04 50.3 +0.5**
FETA Feichten 80.79 351 *e*P **P 03 04 50.0 +0.2**
comp=Z,1.5nm,0.6s
KOVH Kovagotottos 80.82 346 P **P 03 04 51.1 +1.3**
ABTA Abfaltersbach 80.88 350 *e*P **P 03 04 50.2 0.0**
comp=Z,2.7nm,0.7s
OBKA Obir 80.89 349 *e*P **P 03 04 50.8 +0.5**
comp=Z,3.3nm,0.3s
WB0 Warramunga Arr 81.07 221 IAmb IAmb 03 04 51.8
comp=Z,25nm,0.8s
WRAB Tennant Creek 81.24 221*ce*P **P 03 04 50.6 -1.6**
WRAB pmax pmax
comp=Z,69nm,2.5s
WRAB Tennant Creek 81.24 221 P **P 03 04 51.8 -0.5**
WRAB IAmb IAmb 03 04 52.7
comp=Z,27nm,0.9s
WRAB Tennant Creek 81.24 221 P **P 03 04 51.5 -0.7**
comp=Z,33nm,0.8s
WB2 Warramunga Arr 81.25 221 IAmb IAmb 03 04 52.8
comp=Z,29nm,0.8s
SRSP Sriramsagar 81.25 289 *e*P **P 03 04 51.9 -0.7**
WRA Warramunga Arr 81.25 221 P **P 03 04 52.0 -0.3**
comp=Z,23nm,0.7s,baz=32,slow=6.0,SNR=205
WRA PKiKP **PKiKP 03 10 16.0 -1.0**
comp=Z,0.3nm,0.6s,baz=347,slow=1.5,SNR=2.0
WRA PKKPbc **PKKPbc 03 23 26.2 +0.4**
comp=Z,0.2nm,0.6s,baz=231,slow=2.4,SNR=4.6
WRA Warramunga Arr 81.25 221 P **P 03 04 52.0 -0.3**
PSI Prapat 81.27 263 P **P 03 04 52.9 +0.1**
comp=Z,16nm,0.8s,baz=18,slow=2.9,SNR=20
HERR Herculane 81.28 343 ⇑P **P 03 04 52.1 -0.2**
FRGS Fruska Gora 81.46 345 ⇓P **P 03 04 53.4 +0.1**
MYLAV Mylavaram 81.61 286 *e*P **P 03 04 55.3 +0.9**
VLAD Vladila 81.76 341 ⇑P **P 03 04 55.1 +0.3**
GURO Guroymak-BITLI 82.10 327 P **P 03 04 57.6 +0.7**
CUPL Choutuppal 82.19 288 *e*P **P 03 04 57.9 +0.4**
HYBB Hyderabad (bro 82.31 288 *e*P **P 03 04 58.4 +0.3**
TEOL Teolo 82.34 351 IAmb IAmb 03 05 01.9
comp=Z,20nm,0.7s
NJS Nagarjunasagar 82.55 287 *e*P **P 03 04 59.6 +0.2**
KLRI Killari 82.94 290 *e*P **P 03 05 01.6 +0.1**
VTS Vitosha 83.32 342 ⇑P **P 03 05 03.1 -0.1**
KPJI Karang Pucung 83.32 249 P **P 03 05 01.5 -1.7**
BR131 Keskin Array S 83.61 333 *i* P **P 03 05 03.6 -1.1**
BRTR Keskin Array B 83.61 333 P **P 03 05 05.5 +0.8**
comp=Z,2.4nm,0.5s,baz=40,slow=2.3,SNR=34
BRTR PKKPbc **PKKPbc 03 23 20.1 +1.1**
comp=Z,0.5nm,0.5s,baz=206,slow=3.9,SNR=4.2
BRTR Keskin Array B 83.61 333*ce*P **P 03 05 05.5 +0.8**
BRTR pmax pmax
comp=Z,3.0nm,0.5s
BRTR Keskin Array B 83.61 333 P **P 03 05 05.0 +0.3**
RCLA Racherla 83.61 287 *e*P **P 03 05 04.5 -0.3**
MARD Mardin 83.64 327 P **P 03 05 05.5 +0.7**
MARD IAmb IAmb 03 05 07.3
comp=Z,11nm,0.8s
BNN Bunyan 83.79 331 IAmb IAmb 03 05 07.8
comp=Z,21nm,0.8s
MURB Monte Urbino 84.32 350 IAmb IAmb 03 05 11.6
comp=Z,18nm,1.1s
SKHT Srikalahasti 84.51 285 *e*P **P 03 05 09.6 +0.3**
NRCA Norcia 84.68 349 IAmb IAmb 03 05 11.9
comp=Z,13nm,1.0s
AS31 Alice Springs 84.76 220 P **P 03 05 10.7 +0.3**
ASAR Alice Springs 84.77 220 P **P 03 05 10.7 +0.3**
comp=Z,12nm,0.7s,baz=23,slow=5.5,SNR=150
ASAR PKiKP **PKiKP 03 10 22.6 +0.1**
comp=Z,0.3nm,0.7s,baz=9.6,slow=1.9,SNR=2.4
GAZ Gaziantep 84.92 330 P **P 03 05 10.6 -0.7**
URV Uravakonda 85.02 288 *e*P **P 03 05 12.6 +0.6**
ARMA Armidale 85.34 203 IAmb IAmb 03 05 15.6
comp=Z,16nm,0.8s
ARMA Armidale 85.34 203 P **P 03 05 14.7 +1.5**
comp=Z,26nm,1.0s
OUZ Omahuta 86.95 184 P **P 03 05 21.5 +0.7**
OUZ IAmb IAmb 03 05 24.8
comp=Z,19nm,1.4s
OOD Oodnadatta 87.80 217 P **P 03 05 24.9 -0.1**
comp=Z,33nm,0.8s

CMSA	Cobar Meteorol	87.96	207	P	P	03 05 26.6	+0.9
	comp=Z,34nm,0.9s						
WRKA	Warakurna	88.31	224	P	P	03 05 27.6	0.0
	comp=Z,44nm,1.1s						
ESDC	Sonseca Array	88.68	2	P	P	03 05 27.8	-1.6
	comp=Z,0.9nm,0.9s,baz=349,slow=4.8,SNR=4.8						
MBWA	Marble Bar	88.92	233	P	P	03 05 29.7	-0.8
	comp=Z,41nm,2.1s						
LCRK	Leigh Creek	89.31	214	P	P	03 05 32.5	+0.4
	comp=Z,109nm,0.9s						
STKA	Stephens Creek	89.51	211	P	P	03 05 34.0	+1.0
	comp=Z,23nm,0.7s,baz=353,slow=6.1,SNR=36						
STKA	Stephens Creek	89.51	211	P	P	03 05 34.0	+1.0
STKA	Stephens Creek	89.51	211	P	P	03 05 33.1	+0.1
STKA				IAmb	IAmb	03 05 34.8	
	comp=Z,6.0nm,0.8s						
STKA	Stephens Creek	89.51	211	P	P	03 05 33.5	+0.5
	comp=Z,10.0nm,1.3s						
MULG	Mulgathing	90.65	217	P	P	03 05 38.3	0.0
	comp=Z,29nm,0.9s						
BKZ	Black Stump Fm	90.80	181	P	P	03 05 37.2	-1.7
	comp=Z,64nm,1.4s						
HTT	Hallett	91.80	212	P	P	03 05 44.5	+0.8
KEST	Kesra	92.11	351	P	P	03 05 46.1	+0.7
	comp=Z,1.2nm,0.8s,baz=343,slow=3.7,SNR=4.6						
QRZ	Quartz Range	92.58	184	P	P	03 05 46.4	-0.6
	comp=Z,18nm,1.3s						
FORT	Forrest	93.44	222	P	P	03 05 51.7	+0.5
	comp=Z,31nm,1.2s						
RAYN	Ar Rayn	94.23	318	P	P	03 05 54.8	-0.6
RAYN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RAYN	Ar Rayn	94.23	318	P	P	03 05 54.8	-0.6
TORD	Torodi Ar. Bea	115.06	356	PKP	PKiKP	03 11 16.1	-0.9
	comp=Z,3.1nm,0.4s,baz=354,slow=2.2,SNR=61						
TORD				PKKPbc	PKKPbc	03 21 53.0	+2.4
	comp=Z,1.3nm,0.9s,baz=180,slow=2.5,SNR=4.8						
LPAZ	La Paz	117.15	82	PKP	PKPdf	03 11 20.7	-0.8
	comp=Z,0.7nm,0.6s,baz=339,slow=5.8,SNR=4.2						
DBIC	Dimbokro	121.50	4	PKP	PKPdf	03 11 28.9	-0.4
	comp=Z,7.5nm,0.6s,baz=6.6,slow=2.5,SNR=22						
TIC	Toumodi	121.52	4	*e*PKP1	PKPdf	03 11 27.9	-1.5
KIC	Kosan Boka	121.81	4	*e*PKP1	PKPdf	03 11 28.4	-1.5
	comp=Z,12nm,0.5s						
LIC	Lamto	121.94	4	*e*PKP1	PKPdf	03 11 29.1	-1.1
	comp=Z,24nm,0.6s						
BDFB	Brasilia	128.46	63	PKP	PKPdf	03 11 41.6	-1.0
	comp=Z,3.0nm,0.7s,baz=67,slow=20,SNR=4.6						
CPUP	Villa Florida	131.29	80	PKP	PKPdf	03 11 47.1	-0.4
	comp=Z,2.0nm,0.6s,baz=0.5,slow=3.2,SNR=5.1						
CPUP				SKPbc	SKPbc	03 15 01.0	-1.5
	comp=Z,6.1nm,0.6s,baz=316,slow=4.2,SNR=16						
PLCA	Paso Flores	132.87	105	PKP	PKiKP	03 11 51.0	-0.4
	comp=Z,1.7nm,0.8s,baz=221,slow=4.1,SNR=6.1						
PLCA				SKPab	SKPab	03 15 08.6	-0.9
	comp=Z,5.7nm,0.9s,baz=319,slow=4.1,SNR=10.0						
PLCA	Paso Flores	132.87	105	PKIKP	PKiKP	03 11 51.0	-0.4
TSUM	Tsumeb	143.95	328	PKPdf	PKPbc	03 12 09.6	+0.3
MAW	Mawson	145.87	218	PKPbc	PKPbc	03 12 13.7	+0.1
	comp=Z,20nm,0.6s,baz=123,slow=21,SNR=2.2						
LBTB	Lobatse	146.00	312	PKP2	PKPbc	03 12 15.8	+0.3
LBTB	Lobatse	146.00	312	PKPbc	PKPbc	03 12 15.8	+0.3
BOSA	Boshof	149.21	309	PKPbc	PKPbc	03 12 24.6	+0.5
	comp=Z,12nm,0.5s,baz=35,slow=2.3,SNR=45						
BOSA	Boshof	149.21	309	PKP2	PKPbc	03 12 23.7	-0.4
BOSA	Boshof	149.21	309	PKPbc	PKPbc	03 12 23.7	-0.4

TAP ***30*** *03:07:52.7, 23.°03N×121.°62E, h25km, ML3.4, C*
JMA ***30*** *03:07:53.4±0.4, 23.°19N×121.°74E, h20km, M3.3*
ISC 30 03:07:51.3±1.1, 23.°03N±0.°02×121.°68E±0.°03, h20km±3km, n74, σ0.°73/115, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.30	284	*i* P	Pb	03 07 58.7	+0.7
	baz=286						
CHKT				S	Sg	03 08 02.8	+0.3
	baz=286						
EDH	Donghe	0.35	261	*i* P	Pb	03 07 59.4	+0.4
	baz=253						
EDH				*i* S	Sb	03 08 04.3	+0.2
	baz=253						
FULB	Fuli	0.40	295	*i* P	Pb	03 08 00.0	+0.2
	baz=299						
FULB				S	Sb	03 08 05.2	-0.3
	baz=299						
LDUT	Ludao	0.41	209	P	Pb	03 08 00.8	+0.9
	baz=201						
LDUT				S	Sb	03 08 06.3	+0.7
	baz=201						
EYUL	Yuli	0.46	313	P	Pb	03 08 01.4	+0.6
	baz=325						
YULB	Yu-li	0.51	316	P	Pg	03 08 02.2	+0.6
	baz=326						
YULB				*e*S	Sb	03 08 09.1	+0.6
	baz=326						
HGSD	Ruisui	0.52	333	P	Pg	03 08 02.2	+0.3
	baz=344						
HGSD				*e*S	Sb	03 08 09.8	+1.0
	baz=344						
LONT	Longtian	0.52	257	P	Pb	03 08 02.0	+0.2
	baz=248						
LONT				*e*S	Sg	03 08 09.8	+0.8
	baz=248						
TTN	Taitung	0.56	241	*e*P	Pg	03 08 03.2	+0.6
	baz=231						
EHY	Hungye	0.58	325	P	Pg	03 08 03.2	+0.2
	baz=330						
EHY				*e*S	Sg	03 08 11.3	+0.6
	baz=330						
TWGBT	Beinan	0.59	249	*i* P	Pb	03 08 03.3	+0.3
	baz=241						
TWGBT				*e*S	Sb	03 08 11.4	+0.4
	baz=241						
TWG	Pinlang	0.60	250	P	Pb	03 08 03.0	-0.1
	baz=241						
TWG				*e*S	Sb	03 08 11.4	+0.3
	baz=241						
ELDTW	Lidau	0.63	285	*i* P	Pb	03 08 03.5	-0.2
	baz=286						
ELDTW				*e*S	Sb	03 08 11.4	-0.8
	baz=286						
EGFH	Guangfu	0.68	340	*e*P	Pn	03 08 05.5	-0.3
	baz=355						
EGFH				*e*S	Sn	03 08 15.0	-0.9
	baz=355						
ECL	Taimali	0.80	238	*e*P	Pb	03 08 05.8	-0.7
	baz=234						
ECL				*e*S	Sb	03 08 15.8	-1.1
	baz=234						
YUS	Yu-Shan	0.81	304	*i* P	Pb	03 08 07.1	0.0
	baz=306						
ESL	Shilin	0.81	344	*e*P	Pg	03 08 07.0	-0.3
	baz=357						
ESL				*e*S	Sb	03 08 16.9	-0.6
	baz=357						
VWDT	VWDT	0.88	326	*i* P	Pg	03 08 08.3	-0.2
	baz=328						
VWDT				*e*S	Sg	03 08 19.6	-0.5
	baz=328						
ALS	Alishan	0.94	301	P	Pg	03 08 09.4	-0.2
	baz=302						
SLGT	Liugui	0.96	268	*e*P	Pb	03 08 09.3	+0.1
	baz=260						
LAY	Lan-yu	0.99	187	*e*P	Pb	03 08 09.2	-0.7
	baz=183						
EAST	Anshuo	1.00	230	*e*P	Pb	03 08 09.3	-0.7
	baz=237						
TAWH	Dawu Township	1.00	227	*e*P	Pb	03 08 09.4	-0.6
	baz=235						
TPUB	Ta-pu	1.01	286	P	Pg	03 08 10.8	-0.1
	baz=294						
TPUB				*e*S	Sn	03 08 23.7	-0.3
	baz=294						
WTP	Ta-pu	1.01	283	*i* P	Pg	03 08 10.8	-0.1
	baz=282						
WTP				*e*S	Sn	03 08 24.0	-0.1
	baz=282						
SSD	Sandimen	1.01	254	*e*P	Pb	03 08 09.6	-0.5
	baz=252						
SSLB	Suanglung	1.01	319	P	Pb	03 08 10.1	-0.1
	baz=321						
TSMG	Majia	1.01	252	*e*P	Pb	03 08 09.9	-0.3
	baz=249						
TSMG				*e*S	Sb	03 08 20.9	-2.1
	baz=249						
SGST	Jiashian	1.01	273	*e*P	Pb	03 08 09.9	-0.3
	baz=276						
SGST				*e*S	Sb	03 08 23.0	-0.2
	baz=276						
LYUB	Lan-yu	1.03	185	*e*P	Pb	03 08 08.9	-1.5
	baz=182						
LYUB				*e*S	Sb	03 08 21.4	-2.1
	baz=182						
TWD	Chiawan	1.05	356	*e*P	Pb	03 08 10.5	-0.3
	baz=359						
CHN4	Tsaushan	1.05	288	*i* P	Pg	03 08 11.7	-0.1
	baz=294						
CHN4				*e*S	Sg	03 08 25.6	-0.1
	baz=294						
MASBT	Mashibuluo	1.05	247	P	Pb	03 08 10.4	-0.5
	baz=240						
MASBT				*e*S	Sb	03 08 23.3	-1.0
	baz=240						
CHN1	Nanshi	1.07	279	*i* P	Pg	03 08 12.2	0.0
	baz=286						
CHN1				*e*S	Sg	03 08 26.4	+0.1
	baz=286						
CHN5	Tsauling	1.08	302	P	Pg	03 08 12.4	+0.1
	baz=303						
WUSB	Renai	1.09	332	*e*P	Pn	03 08 11.5	-0.1
	baz=334						
WUSB				*e*S	Sb	03 08 24.7	-0.8
	baz=334						
SNST	Tainan City	1.11	280	*e*P	Pg	03 08 12.7	-0.1
	baz=280						
SNST				*e*S	Sg	03 08 27.8	+0.5
	baz=280						
SMLT	Sun Moon Lake	1.11	320	P	Pb	03 08 12.2	+0.2
	baz=329						
TWK	Hsinying	1.12	282	*i* P	Pg	03 08 12.8	-0.3
	baz=282						
TWK				*e*S	Sg	03 08 28.0	+0.1
	baz=282						
CHGB	Renai	1.13	336	*e*P	Pb	03 08 12.2	-0.1
	baz=349						
CHGB				*e*S	Sb	03 08 26.0	-0.6
	baz=349						
NACB	Ninganchiao	1.14	356	*e*P	Pn	03 08 12.0	-0.2
	baz=8.0						
NACB				*e*S	Sb	03 08 25.9	-1.0
	baz=8.0						
SLIU	Shizi	1.15	225	*e*P	Pn	03 08 11.4	-0.9
	baz=232						
TYC	Yuchr	1.16	319	*e*P	Pb	03 08 12.7	+0.1
	baz=331						
TYC				*e*S	Sg	03 08 28.4	-0.5
	baz=331						
SSPT	Xinbi	1.16	242	*e*P	Pb	03 08 13.0	+0.2
	baz=240						
WHF	Hehuan Shan	1.18	341	*e*P	Pn	03 08 12.6	-0.5
	baz=357						
SCZT	Fangliau	1.18	237	*e*P	Pb	03 08 13.7	+0.7
	baz=234						
TWM1	Shoushan	1.18	260	*e*P	Pg	03 08 14.6	+0.4
	baz=258						
WJS	Zhushan	1.18	312	*e*P	Pg	03 08 14.3	+0.1
	baz=313						
SHHT	Tainan City	1.23	270	*e*P	Pg	03 08 16.1	+1.0
	baz=269						
SHHT				*e*S	Sg	03 08 33.6	+2.4
	baz=269						
WDLH	Douliu	1.24	302	*e*P	Pg	03 08 15.3	0.0
	baz=303						
WNT	Mingjian	1.25	313	*e*P	Pg	03 08 15.3	-0.2
	baz=314						
CHY	Chiayi	1.25	292	*e*P	Pg	03 08 15.1	-0.4
	baz=293						
CHY				*e*S	Sg	03 08 31.5	-0.3
	baz=293						
FUSS	Fushou	1.28	342	*e*P	Pn	03 08 14.5	+0.1
	baz=358						
ICHU	Yijhu	1.33	285	*e*P	Pg	03 08 16.5	-0.6
	baz=284						
CHN8	Yiju	1.39	283	*e*P	Pb	03 08 17.4	+0.8
	baz=283						
ENA	Nanau	1.39	2	*e*P	Pb	03 08 16.3	-0.4
	baz=5.0						
WHP	Taichung City	1.42	332	*e*P	Pb	03 08 17.2	+0.1
	baz=342						
WSL	Shuilin Townsh	1.43	290	*e*P	Pb	03 08 17.5	+0.3
	baz=290						
LATG	Datong	1.51	355	*e*P	Pn	03 08 17.7	+0.4
	baz=357						
TWQ1	Liyutan	1.56	328	*e*P	Pg	03 08 20.3	-1.1
	baz=330						
TWQ1				*e*S	Sg	03 08 40.0	-1.6
	baz=330						
NSY	Sanyi	1.62	329	*e*P	Pb	03 08 21.3	+0.8
	baz=331						
NSY				*e*S	Sg	03 08 42.6	-1.0
	baz=331						
YHNB	Yeheng	1.66	350	*e*P	Pb	03 08 20.3	-1.0
	baz=3.0						
NSK	Sanguang	1.67	350	*e*P	Pb	03 08 20.6	-0.7
	baz=352						
NSK				*e*S	Sn	03 08 40.2	-0.2
	baz=352						
NFF	Wufeng Townshi	1.68	342	*e*P	Pb	03 08 21.9	+0.3
	baz=354						
NSTT	Nanjuang	1.71	339	*e*P	Pb	03 08 22.1	-0.1
	baz=340						
LIOB	Emei	1.72	339	*e*P	Pb	03 08 22.3	0.0
	baz=354						
LIOB				*e*S	Sb	03 08 44.0	+0.5
	baz=354						
FUSB	Fushanzhiwuyua	1.73	357	*e*P	Pn	03 08 21.1	+0.8
	baz=359						
PHUB	P'eng-hu	2.00	284	*e*P	Pn	03 08 24.7	+0.7
	baz=284						
HATJ	Hateruma jima	2.20	62	P	Pn	03 08 27.0	+0.3
HATJ				*e*S	Sn	03 08 53.7	+0.3
IRIF	Iriomote-Funau	2.28	55	P	Pn	03 08 29.7	+1.8
IRIF				*e*S	Sn	03 08 55.8	+0.3
JKRS	Kuro-shima	2.45	60	P	Pn	03 08 31.9	+1.7
JKRS				*e*S	Sn	03 08 59.4	-0.2
JIJ	Ishigaki jima	2.62	59	P	Pn	03 08 33.9	+1.4
JIJ				S	Sn	03 09 03.9	+0.2
JISG	Ishigakijimahi	2.86	57	P	Pn	03 08 37.0	+1.1
JISG				*e*S	Sn	03 09 08.9	-0.9
JTJ	Tarama	3.20	59	P	Pn	03 08 41.9	+1.4
JTJ				*e*S	Sn	03 09 18.8	+0.8

IDC ***30*** *03:11:58.1±0.9, 24.°09N×122.°51E, h0km, mb4.1/9, mb1 4.1/11, mb1mx3.8/49, mbtmp4.0/11, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/87, Error ellipse: s-maj=26.4km s-min=19.2km az=60.0*
NEIC ***30*** *03:12:00.8±1.8, 23.°94N±0.°05×122.°46E±0.°05, h17km±2km, mb4.2/10, Error ellipse: s-maj=8.4km s-min=5.4km az=154.0*
TAP ***30*** *03:12:02.2, 23.°99N×122.°44E, h25km, ML4.2, C*
JMA ***30*** *03:12:02.4±0.2, 24.°00N×122.°43E, h28km±4km, M3.8*
NIED ***30*** *03:12:02.5, 24.°00N×122.°43E, h28km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; M_{rr}0.20; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$0.04; $M_{r\theta}$0.96; $M_{\theta\phi}$0.20; $M_{\phi r}$0.51; Fault plane solution: $M_0$1.12000×10^15^ NP1:ϕ_s66.00000°, δ87.00000°, λ78.00000°. NP2:ϕ_s321.00000°, δ13.00000°, λ165.00000°.*
ISC 30 03:11:59.2±1.0, 23.°85N±0.°02×122.°45E±0.°02, h12km±7km, n163, σ0.°96/220, mb4.1/14, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.75	37	P	Pb	03 12 14.9	+0.7
JYNG				S	Sg	03 12 23.4	-0.1
HWA	Hwalien	0.79	280	*e*P	Pn	03 12 16.8	+0.7
	baz=256						
HWA				*e*S	Sn	03 12 27.6	-0.3
	baz=256						
YOJ	Yonaguni jima	0.80	40	P	Pb	03 12 15.8	+0.9
YOJ				S	Sg	03 12 24.7	-0.3
YOJ	Yonaguni jima	0.80	40	*i* P	Pb	03 12 15.9	+0.9
	baz=56						
YOJ				S	Sg	03 12 25.0	0.0
	baz=56						
YOJ	Yonaguni jima	0.80	40		Pb	03 12 15.9	+0.9
TWD	Chiawan	0.82	287	*i* P	Pn	03 12 16.6	+0.1
	baz=276						
TWD				S	Sb	03 12 27.6	+1.2
	baz=276						
ETL	Fush Village	0.82	292	*e*P	Pn	03 12 16.8	+0.1
	baz=282						
NACB	Ninganchiao	0.85	293	*i* P	Pn	03 12 17.0	0.0
	baz=268						
NACB				*e*S	Sb	03 12 28.3	+1.0
	baz=268						
NACB	Ninganchiao	0.85	293		Pn	03 12 16.9	0.0
EWUT	Wuta	0.86	314	*i* P	Pb	03 12 16.6	+0.6
	baz=306						
EWUT				*e*S	Sg	03 12 27.8	+0.9
	baz=306						
ENA	Nanau	0.87	312	*i* P	Pb	03 12 16.9	+0.7
	baz=304						
ESL	Shilin	0.94	268	P	Pn	03 12 18.2	0.0
	baz=258						
ESL				*e*S	Sn	03 12 31.3	-0.2
	baz=258						
EGFH	Guangfu	0.96	259	*e*P	Pn	03 12 19.6	+1.1
	baz=250						
HGSD	Ruisui	1.01	250	P	Pn	03 12 20.2	+1.1
	baz=241						
NDS	Dongshan	1.03	319	*i* P	Pb	03 12 19.5	+0.5
	baz=314						
LATG	Datong	1.09	309	*i* P	Pn	03 12 20.8	+0.5
	baz=302						
LATG				*e*S	Sb	03 12 35.4	+1.2
	baz=302						
EHY	Hungye	1.09	252	*i* P	Pn	03 12 21.5	+1.2
	baz=244						
EHY				*e*S	Sn	03 12 36.2	+0.8
	baz=244						
EGS		1.10	334	*e*P	Pn	03 12 21.1	+0.6
	baz=331						
ILA	Ilan	1.12	325	*e*P	Pn	03 12 21.3	+0.7
	baz=320						
TWE	Neicheng	1.13	321	*i* P	Pn	03 12 21.3	+0.6
	baz=316						
WHF	Hehuan Shan	1.13	285	*i* P	Pn	03 12 21.6	+0.4
	baz=264						
WHF				*e*S	Sg	03 12 35.8	+0.2
	baz=264						
ENTT	Nioudou	1.13	314	*i* P	Pn	03 12 21.4	+0.6
	baz=294						
NNSB	Datong	1.14	301	*i* P	Pn	03 12 21.6	+0.6
	baz=282						
NDT	Datong Townshi	1.14	311	P	Pn	03 12 21.7	+0.7
	baz=305						
NNS	Nan Shan	1.15	301	*i* P	Pn	03 12 21.7	+0.5
	baz=282						
NTC	Toucheng	1.15	331	*e*P	Pb	03 12 21.7	+0.7
	baz=326						
YULB	Yu-li	1.15	247	P	Pn	03 12 22.7	+1.5
	baz=239						
YULB				*e*S	Sn	03 12 37.8	+0.9
	baz=239						
YULB	Yu-li	1.15	247		Pn	03 12 22.7	+1.5
EYUL	Yuli	1.15	245	P	Pn	03 12 22.9	+1.7
	baz=237						
EYUL				*e*S	Sn	03 12 38.8	+1.9
	baz=237						
FUSS	Fushou	1.18	290	*i* P	Pn	03 12 22.5	+0.8
	baz=283						
CHGB	Renai	1.19	280	*i* P	Pn	03 12 22.8	+0.9
	baz=260						
CHGB				S	Sn	03 12 38.6	+0.5
	baz=260						
FUSB	Fushanzhiwuyua	1.20	319	*i* P	Pn	03 12 22.8	+0.9
	baz=314						
VWDT	VWDT	1.21	266	*i* P	Pn	03 12 23.2	+1.4
	baz=258						
VWDT				S	Sn	03 12 38.5	+0.4
	baz=258						
TWB1	Santiao Chiao	1.23	340	P	Pn	03 12 22.3	+0.1
	baz=338						
WUSB	Renai	1.23	277	*i* P	Pn	03 12 23.4	+1.0
	baz=269						
WUSB				*e*S	Sn	03 12 39.8	+0.8
	baz=269						
TWT	Tachien	1.23	289	*e*P	Pg	03 12 24.1	+1.1
	baz=271						
FULB	Fuli	1.25	239	*e*P	Pg	03 12 23.7	+0.6
	baz=233						
CHKT	Chengkung	1.25	233	*e*S	Sg	03 12 39.1	-0.3
	baz=227						
TDCB	Techi	1.25	289	*e*P	Pg	03 12 23.8	+0.5
	baz=271						
HATJ	Hateruma jima	1.25	80	P	Pg	03 12 24.5	+1.2
HATJ				S	Sn	03 12 40.9	+1.5
TIPB	Shuangxi	1.26	333	*i* P	Pn	03 12 23.0	+0.4
	baz=330						
TIPB				*e*S	Sb	03 12 38.3	-0.7
	baz=330						
IRIF	Iriomote-Funau	1.26	67	P	Pg	03 12 24.2	+0.7
IRIF				S	Sb	03 12 39.2	0.0
NWLT	Wulai	1.27	317	*i* P	Pb	03 12 23.6	+0.6
	baz=312						
YHNB	Yeheng	1.28	310	*i* P	Pb	03 12 23.8	+0.5
	baz=304						
YHNB	Yeheng	1.28	310		Pn	03 12 23.2	+0.3
NSK	Sanguang	1.29	310	*i* P	Pb	03 12 23.9	+0.4
	baz=304						
SXI1	Grass Mountain	1.35	337	*i* P	Pn	03 12 24.1	+0.2
	baz=334						
NWF	Wu-fen Shan	1.36	333	*i* P	Pn	03 12 24.5	+0.4
	baz=331						
NWF				*e*S	Sb	03 12 42.4	+0.3
	baz=331						
EDH	Donghe	1.37	231	*e*P	Pg	03 12 25.5	0.0
	baz=215						
EDH				*e*S	Sg	03 12 42.6	-0.6
	baz=215						
SSLB	Suanglung	1.37	268	*e*P	Pg	03 12 25.6	0.0
	baz=261						
SSLB	Suanglung	1.37	268		Pg	03 12 25.6	0.0
TWA	Mucha	1.38	325	*e*P	Pb	03 12 25.4	+0.5
	baz=321						
NHDH	Xindian Distri	1.40	323	*e*P	Pb	03 12 25.8	+0.6
	baz=333						
SMLT	Sun Moon Lake	1.42	272	P	Pg	03 12 26.7	+0.2
	baz=255						
SMLT				*e*S	Sg	03 12 45.2	+0.2
	baz=255						
YUS	Yu-Shan	1.42	256	*i* P	Pg	03 12 27.1	+0.5
	baz=249						
TATO	Taipei	1.43	322		Pn	03 12 25.5	+0.6
WCS	Beigang Elemen	1.43	279	*e*P	Pn	03 12 24.9	0.0
	baz=272						
WHP	Taichung City	1.44	288	*i* P	Pg	03 12 27.1	+0.2
	baz=271						
NFF	Wufeng Townshi	1.45	303	P	Pb	03 12 26.6	+0.5
	baz=297						
TYC	Yuchr	1.46	272	*i* P	Pg	03 12 27.3	0.0
	baz=266						
TAP	Taipei	1.47	324	*e*P	Pb	03 12 26.8	+0.3
	baz=320						
ELDTW	Lidau	1.47	244	*e*P	Pg	03 12 27.1	-0.4
	baz=238						
JKRS	Kuro-shima	1.47	74	P	Pg	03 12 27.9	+0.4
JKRS				S	Sg	03 12 46.8	+0.2
LDUT	Ludao	1.48	218	*e*P	Pg	03 12 27.1	-0.5
	baz=213						
LDUT				*e*S	Sb	03 12 45.5	+0.2
	baz=213						
YM01	YM01	1.52	328	*e*P	Pb	03 12 27.9	+0.5
	baz=325						
LIOB	Emei	1.53	301	*i* P	Pg	03 12 28.6	-0.1
	baz=296						
LONT	Longtian	1.54	233	*e*P	Pg	03 12 28.3	-0.3
	baz=219						
LONT				*e*S	Sg	03 12 48.3	-0.3
	baz=219						
NSTT	Nanjuang	1.54	301	*e*P	Pg	03 12 28.6	-0.1
	baz=295						
ALS	Alishan	1.55	258	P	Pg	03 12 29.4	+0.4
	baz=251						
ALS				*e*S	Sg	03 12 49.1	+0.1
	baz=251						
TWS1	Kuangyinshan	1.56	323	*e*P	Pb	03 12 28.1	0.0
	baz=337						
ANP	Anpu	1.58	328	*e*P	Pn	03 12 28.2	+1.1
	baz=324						
WJS	Zhushan	1.58	269	*e*P	Pg	03 12 30.1	+0.6
	baz=263						
NTST	Danshui	1.60	325	*e*P	Pb	03 12 28.9	+0.3
	baz=338						
NCUH	Zhongli	1.61	314	*e*P	Pb	03 12 28.9	+0.1
	baz=309						
TWQ1	Liyutan	1.61	288	*e*P	Pg	03 12 30.2	0.0
	baz=282						

TWQ1 eS Sg 03 12 50.8 -0.4
baz=282
TWY Chenhua 1.62 331 eP Pn 03 12 28.8 +1.2
baz=328
JIJ Ishigaki jima 1.63 71 P Pb 03 12 29.0 -0.1
JIJ eS Sn 03 12 48.4 -0.2
TWGBT Beinan 1.63 231 eP Pb 03 12 29.5 +0.4
baz=239
TWGBT eS Sg 03 12 50.3 -1.2
baz=239
TWG Pinlang 1.63 231 eP Pg 03 12 29.7 -0.8
baz=239
TWG eS Sb 03 12 49.8 0.0
baz=239
TWG Pinlang 1.63 231 Pb 03 12 29.3 +0.1
SBCB Hsinchu 1.64 305 eP Pb 03 12 30.0 +0.7
baz=300
CHN5 Tsauling 1.65 262 eP Pg 03 12 31.0 +0.2
baz=256
NSY Sanyi 1.65 290 eP Pg 03 12 30.6 -0.1
baz=284
NSY eS Sb 03 12 51.4 +1.2
baz=284
TCU Taichung 1.65 281 eP Pg 03 12 31.2 +0.3
baz=274
TCU eS Sg 03 12 52.6 +0.3
baz=274
NMLH Miaoli 1.67 295 eP Pb 03 12 30.7 +0.9
baz=288
NMLH eS Sb 03 12 52.2 +1.4
baz=288
WDJ Dajia District 1.73 287 eP Pg 03 12 31.9 -0.5
baz=281
WDJ eS Sb 03 12 53.9 +1.3
baz=281
WCHH Zhanghua 1.75 278 eP Pg 03 12 32.5 -0.2
baz=271
WCHH eS Sg 03 12 54.8 -0.7
baz=271
TPUB Ta-pu 1.76 252 eP Pg 03 12 32.8 -0.1
baz=247
TPUB Ta-pu 1.76 252 Pg 03 12 32.5 -0.4
WDLH Douliu 1.76 265 eP Pg 03 12 32.8 -0.2
baz=260
CHN4 Tsaushan 1.78 254 eP Pg 03 12 33.2 -0.1
baz=248
CHN4 eS Sg 03 12 56.2 -0.1
baz=248
WTP Ta-pu 1.79 251 P Pg 03 12 33.2 -0.3
baz=234
WTP eS Sg 03 12 56.9 0.0
baz=234
PCYT Pengchaiyu 1.81 349 P Pn 03 12 30.6 +0.4
baz=348
CHN2 Minshiung 1.84 261 eP Pg 03 12 34.5 0.0
baz=255
JISG Ishigakijimahi 1.85 66 P Pn 03 12 32.0 +1.3
JISG S Sn 03 12 53.6 -0.4
ECL Taimali 1.86 228 eP Pb 03 12 32.3 -0.8
baz=235
SLGT Liugui 1.86 243 eP Pg 03 12 34.1 -0.8
baz=238
SGST Jiashian 1.88 246 eP Pg 03 12 34.5 -0.7
baz=231
SGST eS Sg 03 12 59.7 +0.1
baz=231
CHN1 Nanshi 1.89 250 eP Pg 03 12 34.8 -0.6
baz=244
CHN1 eS Sg 03 13 00.0 +0.2
baz=244
CHY Chiayi 1.89 260 eP Pg 03 12 34.7 -0.8
baz=254
CHY eS Sg 03 12 58.9 -1.1
baz=254
TWK Hsinying 1.89 253 eP Pg 03 12 35.1 -0.4
baz=246
TWK eS Sg 03 12 59.9 -0.3
baz=246
WTK Tuku 1.90 266 eP Pg 03 12 34.9 -0.7
baz=259
WTK eS Sb 03 12 58.9 +1.5
baz=259
SNST Tainan City 1.90 251 eP Pg 03 12 35.5 -0.1
baz=245
SNST eS Sg 03 12 59.9 -0.4
baz=245
WRL Guolierlin Hig 1.90 272 eP Pb 03 12 34.6 +0.7
baz=267
LAY Lan-yu 1.98 205 eP Pb 03 12 34.3 -1.0
baz=202
WTCT Ta-ch'eng 1.99 271 eP Pb 03 12 36.0 +0.7
baz=279
WTCT eS Sb 03 13 01.8 +1.7
baz=279
SSD Sandimen 2.00 237 eP Pb 03 12 36.1 +0.6
baz=225
LYUB Lan-yu 2.01 204 eP Pn 03 12 33.8 +0.9
baz=201
TSMG Majia 2.02 236 eP Pg 03 12 37.3 -0.5
baz=223
ICHU Yijhu 2.05 257 eP Pb 03 12 37.1 +0.7
baz=251
ICHU eS Sb 03 13 02.9 +1.0
baz=251
WSF Szhu 2.06 265 eP Pb 03 12 37.0 +0.6
baz=259
WSF eS Sb 03 13 02.9 +1.0
baz=259
WSL Shuilin Townsh 2.07 261 eP Pb 03 12 36.9 +0.3
baz=255
WSL eS Sb 03 13 03.1 +0.9
baz=255
EAST Anshuo 2.08 226 eP Pb 03 12 35.9 -0.9
baz=222
MASBT Mashibuluo 2.08 234 eP Pb 03 12 36.7 -0.2
baz=222
SHHT Tainan City 2.10 247 eP Pg 03 12 39.6 +0.1
baz=242
SHHT eS Sg 03 13 07.4 +0.7
baz=242
CHN8 Yiju 2.12 257 eP Pb 03 12 38.1 +0.6
baz=251
CHN8 eS Sb 03 13 04.5 +0.8
baz=251
TWM1 Shoushan 2.13 242 eP Pg 03 12 40.2 +0.2
baz=237
JTJ Tarama 2.20 69 P Pn 03 12 37.4 +1.9
JTJ eS Sn 03 13 03.6 +0.9
SSPT Xinbi 2.20 232 eP Pg 03 12 40.3 -1.1
baz=222
SLIU Shizi 2.23 223 eP Pb 03 12 37.9 -1.5
baz=229
SCZT Fangliau 2.24 229 eP Pb 03 12 39.9 +0.4
baz=225
WLCH Liuqiu 2.42 232 eP Pg 03 12 45.0 -0.6
baz=244
TWKBT Hengchun 2.43 219 eP Pb 03 12 41.8 -1.0
baz=216
TWK1 Hengchun 2.43 219 eP Pb 03 12 42.1 -0.8
baz=216
WDGT Dungji 2.63 258 P Pb 03 12 44.1 -2.1
baz=252
WDGT eS Sn 03 13 15.0 +1.7
baz=252
PHUB P'eng-hu 2.66 263 eP Pn 03 12 44.4 +2.5
baz=258
PHUB eS Sn 03 13 15.8 +1.7
baz=258
JIRB Irabujima 2.67 68 P Pn 03 12 43.5 +1.5
JIRB eS Sn 03 13 14.4 +0.2
PNG Penghu 2.67 265 eP Pn 03 12 44.7 +2.6
baz=259
PNG eS Sn 03 13 16.3 +2.0
baz=259
VCHM Qimei 2.85 258 eP Pn 03 12 47.1 +2.6
baz=253
VCHM eS Sn 03 13 20.0 +1.3
baz=253
MATB Ma-tsu 3.23 316 eP Pn 03 12 49.5 -0.2
baz=311
PTMZ Houxiangcun 3.26 292 eP Pn 03 12 51.0 +0.8
baz=286
PTMZ eS Sn 03 13 27.4 -1.5
baz=286
LYJJ Jianjiangzhen 3.63 318 eP Pn 03 12 55.1 -0.2
baz=314
XPSS Dashiqiu 3.69 327 eP Pn 03 12 56.3 +0.3
baz=323
KNM Kinmen 3.72 280 eP Pn 03 12 59.4 +3.0
baz=276
KNMB Chin-men Tao 3.76 280 eP Pn 03 12 58.3 +1.2
baz=277
KNMB Chin-men Tao 3.76 280 Pn Pn 03 12 57.3 +0.2
MHZQ Yeshan 3.83 307 eP Pn 03 12 58.1 +0.1
baz=302
AXDP Jialang 4.22 285 eP Pn 03 13 04.5 +1.1
baz=282
ZPLA Ao Xicun 4.31 272 eP Pn 03 13 06.2 +1.7
baz=269
JOW Kunigami 6.05 59 Pn Pn 03 13 28.2 -0.3
3.7nm,0.3s,baz=109,slow=23,SNR=13
JOW Sn Sn 03 14 36.5 -1.1
baz=311,slow=18,SNR=1.2
JNU Nakatsue 11.84 37 LR LR 03 19 17.7
comp=Z,44nm,19.6s,baz=126,slow=38
KSRS Korea Array 14.35 18 Pn Pn 03 15 18.2 -3.9
0.4nm,0.3s,baz=142,slow=41,SNR=2.0
KS19 Wonju Array Si 14.38 18 Pn Pn 03 15 21.1 -1.5
BJT Baijiatuau 16.97 343 Pn Pn 03 15 55.0 -1.5
BJT IAmb IAmb 03 16 36.2
comp=Z,22nm,1.7s
SONM Songino Array 27.14 336 P P 03 17 41.2 -1.1
comp=Z,1.8nm,0.6s,baz=150,slow=8.8,SNR=15
SONM Songino Array 27.14 336 IAmb IAmb 03 17 42.8
comp=Z,2.2nm,0.8s
MK31 Makanchi Array 39.39 316 P P 03 19 27.7 -1.0
MK31 IAmb IAmb 03 19 29.0
comp=Z,15nm,1.9s
MKAR Makanchi Array 39.39 316 P P 03 19 28.6 -0.1
comp=Z,2.3nm,0.5s,baz=101,slow=9.5,SNR=42
MKAR PcP PcP 03 21 36.7 -0.2
comp=Z,0.3nm,0.6s,baz=106,slow=5.2,SNR=2.9
MAKZ Makanchi 39.59 316 P P 03 19 29.9 -0.5
MAKZ IAmb IAmb 03 19 31.4
comp=Z,4.8nm,1.1s
ZAA0 Zalesovo Array 41.16 327 P P 03 19 41.5 -1.8
ZAA0 IAmb IAmb 03 19 42.5
comp=Z,2.4nm,0.6s
ZALV Zalesovo Beam 41.16 327 P P 03 19 41.9 -1.4
comp=Z,2.6nm,0.5s,baz=109,slow=8.2,SNR=14
ZALV Zalesovo Beam 41.16 327 P P 03 19 41.1 -2.1
KURK Kurchatov 43.09 320 P P 03 19 58.9 -0.2
KURK IAmb IAmb 03 21 12.9
comp=Z,6.5nm,1.5s
WRA Warramunga Arr 45.04 164 P P 03 20 16.7 +1.6
comp=Z,1.7nm,0.9s,baz=348,slow=8.6,SNR=5.0
KKAR Karatay Array 46.59 307 P P 03 20 27.8 +0.6
ASAR Alice Springs 48.52 166 P P 03 20 45.3 +3.0
comp=Z,0.8nm,0.8s,baz=342,slow=7.0,SNR=4.1
ABKAR Akbulak array 54.50 314 P P 03 21 26.1 -0.7
ABKAR IAmb IAmb 03 21 28.3
comp=Z,2.6nm,0.6s
GEYT Alibeck 55.97 301 P P 03 21 39.3 +1.7
comp=Z,2.4nm,0.7s,baz=53,slow=5.6,SNR=3.1
MARD Mardin 69.61 303 P P 03 23 08.5 -0.2
FINES FINESS Array B 72.32 330 P P 03 23 23.1 -1.4
comp=Z,4.3nm,1.1s,baz=135,slow=1.3,SNR=4.2
BR131 Keskin Array S 74.30 307 P P 03 23 37.5 +0.6
BRTR Keskin Array B 74.30 307 P P 03 23 37.2 +0.4
comp=Z,1.6nm,0.8s,baz=102,slow=5.6,SNR=10.0
YKA Yellowknife Ar 82.82 23 P P 03 24 22.6 -0.6
comp=Z,0.3nm,0.7s,baz=310,slow=4.7,SNR=9.3

*IDC **30** 03:12:12.7±1.4, 5°.43S×147°.31E, h137km±14km, mb3.7/6, mb1 3.8/10, mb1mx3.4/41, mbtmp4.1/10, Error ellipse: s-maj=26.5km s-min=10.0km az=105.0*
*NEIC **30** 03:12:15.2±1.6, 5°.44S±0°.09×147°.11E±0°.09, h156km±12km, mb4.0/9, Error ellipse: s-maj=18.0km s-min=6.4km az=134.0*

ISC 30 03:12:14.4±0.7, 5°.46S±0°.06×147°.2E±0°.1, h150km, n23, σ1§30/27, mb4.0/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.92 180**		P		**Pn**	**03 13 14.0**	**+0.2**
	13nm,0.3s,baz=26,slow=10,SNR=15							
PMG				S		**Sn**	**03 13 57.5**	**-2.3**
	16nm,0.3s,baz=235,slow=23,SNR=23							
PMG	**Port Moresby**	**3.92 180**				**Pn**	**03 13 14.1**	**+0.4**
PMG				Sn		**Sn**	**03 13 57.7**	**-2.1**
RABL	**Rabaul**	**5.13 76**		Pn		**Pn**	**03 13 30.9**	**+1.3**
JAY	**Jayapura**	**7.09 294**		P		**Pn**	**03 13 55.4**	**-0.4**
	2.1nm,0.3s,baz=102,slow=19,SNR=4.1							
COEN	**Coen**	**9.32 205**		Pn		**Pn**	**03 14 25.6**	**0.0**
CTA	**Charters Tower**	**14.57 183**		P		**Pn**	**03 15 34.0**	**+0.4**
	0.1nm,0.3s,baz=358,slow=13,SNR=1.5							
WR0	**Warramunga Arr**	**18.95 219**		P		**P**	**03 16 24.0**	**-0.1**
WR0				IAmb		IAmb	03 16 28.8	
	comp=Z,8.9nm,0.8s							
WRAB	**Tennant Creek**	**19.05 220**		P		**P**	**03 16 25.6**	**+0.3**
WB2	**Warramunga Arr**	**19.05 220**		P		**P**	**03 16 25.2**	**-0.1**
WRA	**Warramunga Arr**	**19.06 220**		P		**P**	**03 16 26.0**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=40,slow=12,SNR=81							
WRA				S		**S**	**03 19 57.5**	**+3.6**
	comp=Z,0.1nm,0.3s,baz=38,slow=18,SNR=6.0							
WRA				PcP		**PcP**	**03 20 44.0**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=31,slow=1.6,SNR=1.5							
AS31	**Alice Springs**	**22.16 214**		P		**P**	**03 16 59.0**	**+0.5**
ASAR	**Alice Springs**	**22.16 214**		P		**P**	**03 16 59.2**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=52,slow=8.7,SNR=45							
ASAR				S		**S**	**03 20 54.5**	**+2.5**
	comp=Z,5.3nm,0.9s,baz=31,slow=22,SNR=16							
FITZ	**Fitzroy Crossi**	**24.50 237**		P		**P**	**03 17 20.5**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=57,slow=10,SNR=2.7							
ULN	**Ulaanbaatar**	**63.72 331**		P		**P**	**03 22 29.8**	**-0.4**
ULN				IAmb		IAmb	03 22 32.2	
	comp=Z,2.2nm,0.8s							
SONM	**Songino Array**	**64.02 331**		P		**P**	**03 22 32.6**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=152,slow=5.5,SNR=7.9							
SONM	**Songino Array**	**64.02 331**		IAmb		IAmb	03 22 34.7	
	comp=Z,1.1nm,0.8s							
MK31	**Makanchi Array**	**77.19 320**		P		**P**	**03 23 51.2**	**-0.7**
MKAR	**Makanchi Array**	**77.19 320**		P		**P**	**03 23 51.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=99,slow=8.1,SNR=14							
ZAA0	**Zalesovo Array**	**78.65 328**		P		**P**	**03 23 57.7**	**-2.0**
ZAA0				IAmb		IAmb	03 23 59.4	
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**78.65 328**		P		**P**	**03 23 59.0**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=110,slow=6.7,SNR=6.3							
IL31		**84.91 23**		P		**P**	**03 24 31.3**	**-0.9**
IL31				IAmb		IAmb	03 24 48.5	
	comp=Z,2.7nm,1.2s							
ILAR	**Eielson Array**	**84.91 23**		P		**P**	**03 24 32.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=257,slow=4.7,SNR=7.6							
TORD	**Torodi Ar. Bea**	**145.12 285**		PKPbc		**PKPbc**	**03 31 33.9**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=63,slow=3.6,SNR=1.4							

*NEIC **30** 03:15:59.9±1.4, 6°.4S±0°.1×154°.77E±0°.03, h84km±12km, mb4.1/9, Error ellipse: s-maj=14.6km s-min=4.5km az=181.0*
*IDC **30** 03:16:00.3±1.4, 6°.39S×154°.67E, h91km±13km, mb3.8/12, mb1 4.0/16, mb1mx3.9/43, mbtmp4.2/16, MS3.3/3, Ms1 3.3/3, ms1mx3.0/60, Error ellipse: s-maj=14.3km s-min=10.5km az=40.0*

ISC 30 03:16:00.7±0.6, 6°.42S±0°.07×154°.69E±0°.07, h100km, n35, σ0§96/32, mb4.0/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.35 311**		Pn		**Pn**	**03 16 51.0**	**-0.1**
KRVT	**Keravat (AS076**	**3.38 308**		P		**Pn**	**03 16 51.1**	**-0.4**
	baz=123,slow=0.0							
KRVT				S		**Sn**	**03 17 29.7**	**-1.1**
	baz=58,slow=0.0							
HNR	**Honiara**	**6.01 120**		P		**Pn**	**03 17 25.7**	**-1.5**
	14nm,0.3s,baz=266,slow=7.0,SNR=3.8							
HNR				S		**Sn**	**03 18 36.4**	**+1.8**
	baz=220,slow=17,SNR=1.1							
PMG	**Port Moresby**	**8.02 248**		P		**Pn**	**03 17 53.9**	**-0.6**
	2.3nm,0.3s,baz=50,slow=6.8,SNR=7.7							
PMG				S		**Sn**	**03 19 24.6**	**+0.9**
	4.3nm,0.3s,baz=293,slow=22,SNR=13							
PMG				LR		LR	03 20 45.1	
	comp=Z,235nm,21.2s,baz=20,slow=36							
PMG	**Port Moresby**	**8.02 248**				**Pn**	**03 17 54.2**	**-0.4**
COEN	**Coen**	**13.57 236**		Pn		**Pn**	**03 19 08.9**	**-0.3**
JAY	**Jayapura**	**14.46 285**		LR		LR	03 25 34.5	
	comp=Z,121nm,20.1s,baz=225,slow=40							
CTA	**Charters Tower**	**15.86 210**		P		**P**	**03 19 39.5**	**-0.7**
	0.2nm,0.3s,baz=24,slow=9.1,SNR=7.5							
CTA				LR		LR	03 24 55.8	
	comp=Z,92nm,20.6s,baz=79,slow=34							
CTAO	**Charters Tower**	**15.86 210**		Pn		**Pn**	**03 19 37.9**	**-0.5**
CTAO				IAmb		IAmb	03 19 44.2	
	comp=Z,10nm,0.9s							
DZM	**Mont Dzumac**	**19.27 145**		P		**Pn**	**03 20 19.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=4.8,slow=11,SNR=9.3							
DZM	**Mont Dzumac**	**19.27 145**		P		**P**	**03 20 16.6**	**-1.0**
DZM				IAmb		IAmb	03 20 20.7	
	comp=Z,11nm,0.9s							
WR0	**Warramunga Arr**	**23.75 234**		P		**P**	**03 21 04.4**	**+0.3**
WB0	**Warramunga Arr**	**23.76 234**		P		**P**	**03 21 04.8**	**+0.6**
WRAB	**Tennant Creek**	**23.88 234**		P		**P**	**03 21 07.2**	**+1.9**
WRAB				IAmb		IAmb	03 21 07.7	
	comp=Z,16nm,0.9s							
WRA	**Warramunga Arr**	**23.90 234**		P		**P**	**03 21 06.2**	**+0.7**
	comp=Z,11nm,0.9s,baz=57,slow=9.7,SNR=24							
WRA	**Warramunga Arr**	**23.90 234**		P		**P**	**03 21 05.8**	**+0.3**
WRA				IAmb		IAmb	03 21 07.8	
	comp=Z,0.6nm,1.1s							
ARMA	**Armidale**	**24.05 186**		P		**P**	**03 21 07.8**	**+1.1**
ARMA				IAmb		IAmb	03 21 09.9	
	comp=Z,8.3nm,0.9s							
AS31	**Alice Springs**	**26.33 227**		P		**P**	**03 21 28.5**	**+1.1**
ASAR	**Alice Springs**	**26.33 227**		P		**P**	**03 21 28.5**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=56,slow=9.4,SNR=16							
H11S3	**WAKE ISLAND Hy 27.44**	**25**		T		T	03 49 30.3	
	baz=206,slow=76,SNR=8.3							
H11S2	**WAKE ISLAND Hy 27.45**	**25**		T		T	03 49 38.7	
	baz=206,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy 27.46**	**25**		T		T	03 49 42.8	
	baz=206,slow=76,SNR=11							
STKA	**Stephens Creek**	**28.13 204**		P		**P**	**03 21 42.2**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=32,slow=12,SNR=4.7							
STKA	**Stephens Creek**	**28.13 204**		IAmb		IAmb	03 21 57.3	
	comp=Z,7.4nm,1.9s							
FITZ	**Fitzroy Crossi**	**30.61 245**		P		**P**	**03 22 05.2**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=52,slow=9.7							
KSAR	**Wonju Array Be**	**50.30 332**		P		**P**	**03 24 46.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**60.26 295**		P		**P**	**03 26 00.3**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=101,slow=4.7,SNR=1.4							
SONM	**Songino Array**	**68.69 327**		P		**P**	**03 26 54.6**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=120,slow=5.9,SNR=4.3							
MKAR	**Makanchi Array**	**82.77 319**		P		**P**	**03 28 14.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=98,slow=5.7,SNR=15							
ILAR	**Eielson Array**	**82.95 22**		P		**P**	**03 28 13.8**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=226,slow=5.2,SNR=7.3							
ZALV	**Zalesovo Beam**	**83.53 326**		P		**P**	**03 28 16.2**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=112,slow=6.5,SNR=1.5							
NVAR	**Mina Array Bea**	**91.61 52**		P		**P**	**03 28 57.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=228,slow=5.1,SNR=3.6							
YKA	**Yellowknife Ar**	**95.97 28**		P		**P**	**03 29 16.7**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=265,slow=5.0,SNR=6.5							
PDAR	**Pinedale Array**	**98.54 48**		P		Pdif	03 29 30.5	+1.8
	comp=Z,0.1nm,0.3s,baz=249,slow=10.0,SNR=1.7							
TORD	**Torodi Ar. Bea**	**152.57 286**		PKPbc		**PKiKP**	**03 35 47.9**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=27,slow=1.4,SNR=3.9							

IDC 30 03:19:11.9±9.8, 2°.96S×147°.26E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/35, mbtmp4.0/3, Error ellipse: s-maj=332.4km s-min=34.4km az=98.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.07 216**		P		P	03 23 57.5	-0.3
	13nm,1.1s,baz=40,slow=10,SNR=14							
ASAR	**Alice Springs**	**24.30 211**		P		P	03 24 31.4	+0.2
	4.7nm,1.1s,baz=38,slow=8.2,SNR=14							
MKAR	**Makanchi Array**	**75.34 320**		P		P	03 30 57.4	+0.1
	0.7nm,1.0s,baz=93,slow=6.2,SNR=4.1							

*DSN **30** 03:25:07.7±1.8, 53°.22N×158°.70E, h158km, mb7.1/20, Error ellipse: s-maj=46.2km s-min=36.9km az=110.0*
*BJI **30** 03:25:08.3±0.0, 54°.00N×158°.60E, h160km, mb6.2/78, mB6.9/74*
*KRSC **30** 03:25:08.5±0.5, 53°.85N×159°.04E, h178km±7km, ML7.1*
*MOS **30** 03:25:09.0±0.8, 53°.93N×158°.55E, h171km, mb6.8/94, MS6.5/43, Error ellipse: s-maj=6.0km s-min=3.1km az=87.4 Broadband fault plane solution: P waves. NP1: ϕ_s85.00000°, δ62.00000°, λ-122.00000°. NP2: ϕ_s318.00000°, δ42.00000°, λ-45.00000°. Principal axes: T Plg11.0000°, Azm197.0000°; N Plg28.0000°, Azm101.0000°; P Plg59.0000°, Azm307.0000°;*
MOS Fault plane solution: P-wave C13, D72 . Felt (IV-V) at Petropavlovsk-Kamchatskiy; (III-IV) at Severo-Kuril'sk.
*IDC **30** 03:25:10.6±0.5, 54°.07N×158°.56E, h160km±3km, mb6.2/43, mb1 6.3/46, mb1mx6.3/47, mbtmp6.7/46, MS6.5/43, Ms1 6.5/43, ms1mx6.2/98 Error ellipse: s-maj=7.5km s-min=5.7km az=115.0*
*NEIC **30** 03:25:10.8, 54°.04N×158°.49E, h174km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=5.19; $M_{\theta\theta}$=5.89; $M_{\phi\phi}$=0.70; $M_{r\theta}$=5.34; $M_{r\phi}$=1.40; $M_{\theta r}$=3.19; Fault plane solution: M_0=8.47000×10^{19} NP1:ϕ_s=73.38000°, δ70.16000°, λ-113.15000°. NP2:ϕ_s=304.93000°, δ30.13000°, λ-42.55000°. Principal axes: T 8.0458, Plg22.0000°, Azm181.0000°; N 0.7865, Plg22.0000°, Azm82.0000°; P -8.8323, Plg58.0000°, Azm311.0000°;*
*BGR **30** 03:25:11.0±0.0, 54°.01N×158°.56E, h176km±6km, mb7.2, mB_BB7.6*
*NEIC **30** 03:25:12.2±2.4, 53°.98N±0°.05×158°.6E±0°.1, h177km±1km, mb6.7/674, Mwb7.2/109, Mwc7.2/150, Mww7.2, Error ellipse: s-maj=11.7km s-min=6.7km az=124.0*
*NEIC **30** 03:25:18, 53°.84N×158°.85E, h180km, Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10^{19}Nm; M_{rr}=4.20; $M_{\theta\theta}$=5.23; $M_{\phi\phi}$=-1.03; $M_{r\theta}$=5.48; $M_{\phi\theta}$=-3.07; $M_{\phi r}$=2.67; Fault plane solution: M_0=8.35000×10^{19} NP1: ϕ_s=323.00000°, δ35.00000°, λ-31.00000°. NP2:ϕ_s=79.00000°, δ72.00000°, λ-121.00000°. Principal axes: T 8.0905, Plg21.0000°, Azm192.0000°; N 0.4877, Plg29.0000°, Azm90.0000°; P -8.5782, Plg52.0000°, Azm313.0000°;*
*GCMT **30** 03:25:19.2±0.1, 53°.86N×158°.73E, h168km, MW7.2/172, Moment Tensor Solution. s172,c487; s170,c925; Duration: 10s0 Moment tensor: Scale 10^{19}Nm; M_{rr}=4.12±.03; $M_{\theta\theta}$=5.53±.02; $M_{\phi\phi}$=-1.41±.02; $M_{r\theta}$=5.16±.02; $M_{\phi\theta}$=-3.41±.02; $M_{\phi r}$=3.35±.02; Best double couple: M_0=8.58500×10^{19} NP1:ϕ_s=324.00000°, δ39.00000°, λ-29.00000°. NP2:ϕ_s=77.00000°, δ72.00000°, λ-126.00000°. Principal axes: T 8.1610, Plg19.0000°, Azm193.0000°; N 0.8480, Plg34.0000°, Azm90.0000°; P -9.0100, Plg50.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 03:25:27.4, 53°.89N×158°.52E, h152km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=4.22; $M_{\theta\theta}$=5.66; $M_{\phi\phi}$=-1.44; $M_{r\theta}$=5.11; $M_{\phi\theta}$=-3.71; $M_{\phi r}$=3.45; Fault plane solution: M_0=8.79000×10^{19} NP1:ϕ_s=325.22000°, δ41.05000°, λ-28.94000°. NP2:ϕ_s=77.85000°, δ71.48000°, λ-127.31000°. Principal axes: T 8.3449, Plg18.0000°, Azm195.0000°; N 0.8866, Plg35.0000°, Azm91.0000°; P -9.2314, Plg49.0000°, Azm307.0000°;*

ISC 30 03:25:11.3±0.2, 53°.95N±0°.02×158°.50E±0°.02, h171km±1km, h171km:pP-P,n2662, σ1§92/3270, mb6.7/610, 322C-1191D, Fault plane solution: NP1:ϕ_s115.09774°, δ42.09747°, λ-92.01620°. NP2:ϕ_s297.81406°, δ47.93457°, λ-88.17938°. Principal axes: T Plg2.9194°, Azm26.5251°; N Plg1.3515°, Azm116.5940°; P Plg86.7825°, Azm231.4084°; Fault plane solution: NP1:ϕ_s75.29501°, δ50.73316°, λ-92.13858°. NP2: ϕ_s258.67151°, δ39.31563°, λ-87.38650°. Principal axes: T Plg5.7112°, Azm166.8146°; N Plg1.6556°, Azm76.6490°; P Plg84.0521°, Azm330.5426°; Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.42 232**		PN		**Pn**	**03 25 33.7**	**-1.1**
GNL	**Ganaly**	**0.42 232**		*e*P		**Pn**	**03 25 33.8**	**-1.1**
KII	**Karymskiy**	**0.57 81**		PN		**Pn**	**03 25 32.6**	**-2.8**
KII	**Karymskiy**	**0.57 81**		*e*P		**Pn**	**03 25 32.5**	**-2.8**
KOK	**Koryaka**	**0.67 173**		PN		**Pn**	**03 25 34.0**	**-2.0**
KOK	**Koryaka**	**0.67 173**		*i* P		**Pn**	**03 25 34.0**	**-2.0**
KRER	**Koryakskii**	**0.67 167**		*e*P		**Pn**	**03 25 34.0**	**-2.1**

AVH Avacha 0.70 168 PN **Pn 03 25 34.1 -2.1**
AVH Avacha 0.70 168 *i* P **Pn 03 25 34.1 -2.1**
SDLR Sedlovina 0.71 161 PN **Pn 03 25 33.8 -2.5**
SDLR Sedlovina 0.71 161 *eP* **Pn 03 25 33.8 -2.5**
SMAR Somma 0.71 165 PN **Pn 03 25 34.2 -2.2**
SMAR Somma 0.71 165 *i* P **Pn 03 25 34.2 -2.2**
UGLR Uglovaya 0.77 165 PN **Pn 03 25 34.4 -2.2**
UGLR Uglovaya 0.77 165 *i* P **Pn 03 25 34.4 -2.2**
NLC Nalytchevo 0.93 147 PN **Pn 03 25 34.5 -3.1**
NLC S **Sn 03 25 55.3 -2.3**
NLC Nalytchevo 0.93 147 *eP* **Pn 03 25 34.4 -3.1**
NLC *eS* **Sn 03 25 55.3 -2.3**
PET Petropavlovsk 0.93 174⇓*e*PN **Pn 03 25 35.2 -2.3**
PET *eS* **Sn 03 25 56.1 -1.6**
PET pmax pmax
comp=Z,740μm,0.8s
PET smax smax
comp=N,867μm,1.3s
PET smax smax
comp=E,537μm,1.4s
PET Petropavlovsk 0.93 174 ⇑P **Pn 03 25 34.8 -2.8**
PET Petropavlovsk 0.93 174 **Pn 03 25 35.4 -2.2**
PET Petropavlovsk 0.93 174 P **Pn 03 25 36.0 -1.5**
PET Petropavlovsk 0.93 174 P **Pn 03 25 35.3 -2.2**
DALK Dalny 0.93 170 PN **Pn 03 25 35.1 -2.4**
DALK S **Sn 03 25 56.5 -1.2**
DALK Dalny 0.93 170 *eP* **Pn 03 25 35.1 -2.4**
DALK *eS* **Sn 03 25 56.5 -1.2**
I44RU PETROPAVLOVSK- 0.97 209 P **Pn 03 25 35.7 -2.2**
baz=64,slow=15,SNR=2.8
I44RU *i* 03 36 10.0
baz=48,slow=340,SNR=0.4
PEA0B Petropavlovsk- 0.97 210*c i*PN **Pn 03 25 36.4 -1.4**
PEA0B Petropavlovsk- 0.97 210 Pn **Pn 03 25 36.1 -1.7**
PETK Petropavlovsk- 0.97 210 P **Pn 03 25 36.9 -1.0**
comp=E,2μm,0.3s,baz=62,slow=12,SNR=2850
PETK LR LR 03 25 59.4
comp=E,120μm,21.0s,baz=345,slow=45
PETK Petropavlovsk- 0.97 210 PN **Pn 03 25 36.5 -1.4**
PETK Petropavlovsk- 0.97 210 Pn **Pn 03 25 36.5 -1.4**
KRMR Karymshinskiy 1.14 191 PN **Pn 03 25 37.8 -1.5**
KRMR S **Sn 03 26 00.4 -0.3**
KRMR Karymshinskiy 1.14 191 *eP* **Pn 03 25 37.7 -1.5**
KRMR *eS* **Sn 03 26 00.3 -0.4**
SPN Mys Shipunski 1.25 133 PN **Pn 03 25 35.4 -4.6**
SPN Mys Shipunski 1.25 133 *eP* **Pn 03 25 35.5 -4.6**
APC Apacha 1.30 218 PN **Pn 03 25 40.5 -0.1**
APC S **Sn 03 26 05.6 +2.5**
APC Apacha 1.30 218 *eP* **Pn 03 25 40.5 -0.1**
APC *eS* **Sn 03 26 05.6 +2.5**
GRL Gorelyy 1.42 190 PN **Pn 03 25 40.8 -1.1**
GRL Gorelyy 1.42 190 *eP* **Pn 03 25 40.8 -1.1**
MTVR Mutnovka 1.48 187 PN **Pn 03 25 41.0 -1.5**
MTVR Mutnovka 1.48 187 *eP* **Pn 03 25 41.0 -1.5**
RUS Russkaya 1.52 180 PN **Pn 03 25 39.9 -2.7**
RUS Russkaya 1.52 180 *eP* **Pn 03 25 39.9 -2.7**
TUMR Tumrok 1.64 35 PN **Pn 03 25 42.0 -2.0**
TUMR S **Sn 03 26 09.5 +0.1**
TUMR Tumrok 1.64 35 *i* P **Pn 03 25 42.5 -1.5**
TUMD Tumrok D 1.67 41 *eP* **Pn 03 25 42.0 -2.2**
TUMD *eS* **Sn 03 26 07.8 -1.9**
ESO Esso 1.98 3 PN **Pn 03 25 50.1 +2.6**
KMNR Kamenistaya 2.07 28 PN **Pn 03 25 47.3 -1.2**
KMNR Kamenistaya 2.07 28 *i* P **Pn 03 25 47.3 -1.2**
KDTR Khodutka, Kamc 2.16 187 PN **Pn 03 25 47.1 -2.4**
KDTR S **Sn 03 26 15.8 -3.2**
KDTR Khodutka, Kamc 2.16 187 *eP* **Pn 03 25 46.7 -2.8**
KDTR *eS* **Sn 03 26 16.1 -2.9**
KPT Kopyto 2.25 26 PN **Pn 03 25 48.8 -1.8**
KPT Kopyto 2.25 26 *eP* **Pn 03 25 48.8 -1.8**
KOZ Kozyrevsk 2.26 20 PN **Pn 03 25 49.6 -1.0**
KOZ S **Sn 03 26 20.6 -0.5**
KOZ Kozyrevsk 2.26 20 *eP* **Pn 03 25 49.5 -1.0**
KOZ *eS* **Sn 03 26 20.2 -0.9**
KIRR Kirishev 2.27 27 PN **Pn 03 25 49.2 -1.7**
KIRR S **Sn 03 26 20.8 -0.8**
KIRR Kirishev 2.27 27 *eP* **Pn 03 25 49.2 -1.7**
KIRR *eS* **Sn 03 26 20.1 -1.5**
BZWR Bezymyannyi-We 2.32 29 PN **Pn 03 25 50.1 -1.4**
BZWR Bezymyannyi-We 2.32 29 *eP* **Pn 03 25 50.1 -1.4**
BZGR Bezymyannyi-Gr 2.36 32 PN **Pn 03 25 52.3 +0.4**
BZGR S **Sn 03 26 25.9 +2.4**
BZGR Bezymyannyi-Gr 2.36 32 *eP* **Pn 03 25 51.8 -0.1**
ZLN Zelenaya 2.46 32 PN **Pn 03 25 52.0 -1.1**
ZLN Zelenaya 2.46 32 *eP* **Pn 03 25 51.9 -1.1**
LGNR Loginova 2.48 30 PN **Pn 03 25 52.4 -1.0**
LGNR Loginova 2.48 30 *eP* **Pn 03 25 52.4 -1.0**
CIRR Tsirk 2.53 30 PN **Pn 03 25 52.1 -1.7**
CIRR Tsirk 2.53 30 *eP* **Pn 03 25 52.1 -1.7**
KRSR Krestovskiy 2.56 27 PN **Pn 03 25 52.5 -1.7**
KRSR Krestovskiy 2.56 27 *eP* **Pn 03 25 52.5 -1.7**
KLY Klyuchi 2.67 27 PN **Pn 03 25 54.5 -0.9**
KLY Klyuchi 2.67 27 *eP* **Pn 03 25 54.5 -0.9**
PAU Pauzhetka 2.69 203 PN **Pn 03 25 55.3 -0.4**
PAU S **Sn 03 26 29.2 -1.0**
PAU Pauzhetka 2.69 203 *eP* **Pn 03 25 55.3 -0.4**
PAU *eS* **Sn 03 26 29.8 -0.4**
BDR Baidarnaya 3.05 29 PN **Pn 03 25 59.1 -1.0**
BDR Baidarnaya 3.05 29 *eP* **Pn 03 25 59.1 -1.0**
SRKR Sorokina 3.11 28 PN **Pn 03 25 59.7 -1.1**
SRKR Sorokina 3.11 28 *eP* **Pn 03 25 59.7 -1.1**
SMKR Semkarok 3.14 32 PN **Pn 03 25 59.4 -1.8**
SMKR Semkarok 3.14 32 *eP* **Pn 03 25 59.4 -1.8**
KBG Krutoberegovo 3.34 45 PN **Pn 03 26 01.8 -1.8**
KBG S **Sn 03 26 43.5 -1.0**
KBG Krutoberegovo 3.34 45 *eP* **Pn 03 26 00.0 -3.6**
KBG *eS* **Sn 03 26 40.5 -4.0**
KBTR Krutoberegovo 3.36 46 PN **Pn 03 26 00.2 -3.6**
KBTR Krutoberegovo 3.36 46 *i* P **Pn 03 26 00.2 -3.6**
SKR Severo-Kuril's 3.58 205 *e*PN **Pn 03 26 06.2 -0.5**
SKR *eS* **Sn 03 26 45.2 -4.7**
SKR pmax pmax
comp=Z,16μm,0.9s
SKR smax smax
comp=N,85μm,0.5s
SKR smax smax
comp=E,190μm,0.7s
SKR MLR MLR
comp=Z,2076μm,17.0s
SKR Severo-Kuril's 3.58 205 *eP* **Pn 03 26 06.0 -0.7**
SKR *eS* **Sn 03 26 50.3 +0.4**
BKI Bering 4.53 71 PN **Pn 03 26 15.6 -3.1**
BKI Bering 4.53 71 *eP* Pn 03 26 13.9 -4.8
BKI *eS* **Sn 03 27 02.9 -8.7**
PALN Palana 5.22 8 PN **Pn 03 26 27.3 -0.4**
PALN S **Sn 03 27 26.7 -1.0**
PALN Palana 5.22 8 *eP* **Pn 03 26 27.3 -0.4**
PALN *eS* **Sn 03 27 26.7 -1.0**
OSSR Ossora 5.88 24 PN **Pn 03 26 34.8 -1.6**
OSSR Ossora 5.88 24 *eP* **Pn 03 26 34.8 -1.6**
MA2 Magadan 7.06 326*d i*PN **Pn 03 26 52.4 +0.5**
MA2 pmax pmax
comp=Z,4μm,1.7s
MA2 MLR MLR
comp=Z,149μm,11.0s
MA2 Magadan 7.06 326 ⇓P **Pn 03 26 52.5 +0.6**
MA2 Magadan 7.06 326 Pn **Pn 03 26 52.1 +0.1**
MA2 Magadan 7.06 326 P **Pn 03 26 54.4 +2.5**
MA2 Magadan 7.06 326 P **Pn 03 26 54.9 +3.0**
TILK Tilichiki 7.72 29 PN **Pn 03 26 59.2 -1.4**
TILK Tilichiki 7.72 29 *eP* **Pn 03 26 59.1 -1.5**
OKH Okha 9.23 274*d i*PN **Pn 03 27 25.4 +4.7**
OKH pmax pmax
comp=Z,57μm,9.8s
SHEM Shemya Is, Ala 9.42 91 P **Pn 03 27 22.7 -0.3**
comp=Z,132nm,0.3s,baz=333,slow=3.9,SNR=44
SHEM S **Sn 03 29 01.7 -6.1**
comp=Z,869nm,0.3s,baz=172,slow=22,SNR=9.9
SMY Shemya 9.42 91 PN **Pn 03 27 20.6 -2.5**
SMY Shemya 9.42 91 ⇑P **Pn 03 27 20.2 -2.9**
SMY Shemya 9.42 91 Pn **Pn 03 27 20.6 -2.5**
KMSK Kamenskaya 9.45 22 PN **Pn 03 27 22.6 -0.8**
KMSK Kamenskaya 9.45 22 *eP* **Pn 03 27 22.6 -0.8**
SEY Seymchan 9.56 343 P **Pn 03 27 26.7 +1.9**
comp=Z,8.3nm,0.3s,baz=147,slow=12,SNR=286
SEY P3KPbc 04 04 05.5
comp=Z,0.1nm,0.3s,baz=231,slow=4.4,SNR=5.1
SEY Seymchan 9.56 343*d i*PN **Pn 03 27 26.6 +1.8**
TYV Tymovskoe 10.16 259 *e*PN **P 03 27 38.5 -3.5**
TYV pmax pmax
comp=Z,4μm,1.5s
TYV pmax pmax
comp=Z,70μm,3.1s
NKL Nikolayevsk 10.63 273 *e*PN **Pn 03 27 41.0 +2.0**
NKL *eS* **S 03 29 40.5 +2.7**
NKL pmax pmax
comp=N,685nm,1.1s
NKL pmax pmax
comp=E,4.0nm,1.1s
NKL pmax pmax
comp=Z,10μm,1.2s
NKL smax smax
comp=N,1μm,0.8s
NKL smax smax
comp=E,12nm,0.8s
NKL MLR MLR
comp=Z,99μm,16.0s
KUR Kuril'sk 11.11 223*ce*PN **Pn 03 27 43.7 -1.6**
KUR *eS* **Sn 03 29 47.5 -1.0**
KUR pmax pmax
comp=Z,7μm,0.8s
KUR pmax pmax
comp=E,1μm,0.7s
KUR pmax pmax
comp=N,1μm,1.1s
KUR pmax pmax
comp=Z,107μm,9.6s
KUR pmax pmax
comp=N,82μm,9.3s
KUR pmax pmax
comp=E,67μm,10.1s
KUR smax smax
comp=E,2μm,0.7s
KUR smax smax
comp=N,910nm,0.8s
KUR smax smax
comp=N,397μm,15.0s
KUR smax smax
comp=Z,277μm,15.0s
KUR smax smax
comp=E,236μm,12.0s
UGL Uglegorsk 11.33 251 *e*PN **P 03 27 52.4 -2.7**
UGL *eS* **S 03 29 59.1 -4.4**
UGL pmax pmax
comp=Z,31μm,4.5s
UGL pmax pmax
comp=Z,5μm,1.4s
UGL smax smax
comp=N,594μm,10.0s
UGL smax smax
comp=E,388μm,7.2s
UGL MLR MLR
comp=Z,220μm,16.0s
UGL MLR MLR
comp=N,437μm,13.0s
UGL MLR MLR
comp=E,307μm,13.0s
YSS Yuzh-Sakhalins 12.22 241*de*PN **Pn 03 27 59.3 -0.3**
YSS *eS* **Sn 03 30 11.5 -3.5**
YSS pmax pmax
comp=Z,5μm,1.4s
YSS pmax pmax
comp=Z,52μm,8.3s
YSS pmax pmax
comp=N,28μm,10.1s
YSS smax smax
comp=N,339μm,10.6s
YSS smax smax
comp=E,242μm,10.6s
YSS MLR MLR
comp=N,161μm,15.0s
YSS MLR MLR
comp=Z,308μm,15.0s
YSS MLR MLR
comp=E,155μm,16.0s
YSS Yuzh-Sakhalins 12.22 241 ⇑P **Pn 03 28 02.1 +2.6**
YSS Yuzh-Sakhalins 12.22 241 **Pn 03 28 01.8 +2.3**
YSS ScP **ScP 03 36 45.8 +2.3**
YSS Yuzh-Sakhalins 12.22 241 P **Pn 03 28 02.0 +2.4**
SHO Shikotan 12.66 222*c i*PN Pn 03 27 59.4 -5.8
SHO pmax pmax
comp=Z,6μm,0.6s
SHO pmax pmax
comp=N,2μm,0.4s
SHO pmax pmax
comp=Z,18μm,3.0s
YUK Yuzh-Kuril'sk 12.91 225*c i*PN **Pn 03 28 05.4 -3.1**
YUK *eS* **Sn 03 30 29.0 -2.7**
YUK pmax pmax
comp=Z,33μm,0.6s
YUK pmax pmax
comp=N,22μm,0.4s
YUK pmax pmax
comp=E,15μm,0.5s
YUK pmax pmax
comp=Z,47μm,1.4s
GRPR Tuman 12.98 225⇓*i*PN **Pn 03 28 06.6 -2.8**
GRPR *eS* **Sn 03 30 33.5 +0.1**
GRPR pmax pmax
comp=Z,17μm,0.9s
GRPR pmax pmax
comp=E,12μm,0.4s
GRPR pmax pmax
comp=N,13μm,0.8s
GRPR pmax pmax
comp=Z,26μm,4.8s
RUSJ Misakicho 13.12 227⇓*i*PN **Pn 03 28 10.0 -1.0**
RUSJ *eS* **Sn 03 30 39.0 +2.4**
GLVR Golovnino 13.30 225⇑*i*PN **Pn 03 28 11.1 -2.2**
GLVR *eS* **Sn 03 30 37.5 -3.4**
GLVR pmax pmax
comp=Z,10μm,0.6s
GLVR pmax pmax
comp=E,4μm,0.2s
GLVR pmax pmax
comp=N,6μm,0.3s
GLVR pmax pmax
comp=Z,47μm,1.9s
NMR Nemuro--Hokkai 13.52 224 *e*P Pn 03 28 09.8 -6.3
NMR *eS* Sn 03 30 35.3 -11
GRNR Gornyy 13.85 266⇓*i*P **P 03 28 24.0 +0.9**
GRNR *eS* **S 03 30 58.9 -0.7**
GRNR pmax pmax
comp=N,50nm,0.4s
GRNR pmax pmax
comp=E,90nm,0.4s
GRNR pmax pmax
comp=Z,90nm,0.7s
GRNR smax smax
comp=E,140nm,0.8s
JKA Kamikawa-asahi 14.30 233 Pn **Pn 03 28 26.7 +0.7**
JKA ScP **ScP 03 36 50.3 +3.3**
ASAJ Asahikawa 14.31 233 P **P 03 28 28.1 0.0**
comp=E,76nm,0.3s,baz=44,slow=12,SNR=304
ASAJ ScP **ScP 03 36 49.6 +2.6**
comp=E,2.8nm,0.3s,baz=53,slow=6.1,SNR=4.5
ASAJ P3KPbc 04 03 48.9
comp=E,0.3nm,0.3s,baz=339,slow=7.2,SNR=3.6
ASAJ Asahikawa 14.31 233 P **Pn 03 28 26.7 +0.7**
BILL Bilibino 14.61 12*d i*P **Pn 03 28 28.9 -0.6**
BILL pmax pmax
comp=Z,4μm,1.3s
BILL Bilibino 14.61 12 Pn **Pn 03 28 28.9 -0.6**
BILL Bilibino 14.61 12 P **Pn 03 28 29.1 -0.4**
ADK Adak 15.09 88⇑P **Pn 03 28 32.6 -3.0**
ADK Adak 15.09 88 P **Pn 03 28 35.6 0.0**
ADK Adak 15.09 88 P **Pn 03 28 32.8 -2.8**
GSTR Great Sitkin T 15.40 87 Pn **Pn 03 28 36.9 -2.5**
JEM Erimo 15.71 227 ScP **ScP 03 36 51.4 +1.8**
ERM Erimo 15.71 227*c i*P **Pn 03 28 41.0 -2.2**
ERM MLR MLR
comp=Z,151μm,16.0s
ERM Erimo 15.71 227⇑P **Pn 03 28 37.9 -5.3**
ERM Erimo 15.71 227 Pn **Pn 03 28 41.6 -1.6**
ERM ScP **ScP 03 36 51.0 +1.5**
ERM Erimo 15.71 227 P **Pn 03 28 41.8 -1.4**
ERM Erimo 15.71 227 P **Pn 03 28 41.2 -2.0**
ERM pP **sP 03 29 40.1 +6.4**
JEW Eniwo 15.82 232⇑P **Pn 03 28 42.5 -2.1**
JEW Eniwo 15.82 232 Pn **Pn 03 28 42.6 -1.9**
ATKA Atka Island 16.46 85⇑P **P 03 28 49.6 -2.3**
ATKA Atka Island 16.46 85 P **Pn 03 28 52.3 0.0**
TEY Ternei 16.73 247⇑*i*P **Pn 03 28 58.6 +3.0**
TEY *eS* **S 03 32 00.4 +0.2**
TEY pmax pmax
comp=N,330nm,0.9s
TEY pmax pmax
comp=E,580nm,0.9s
TEY pmax pmax
comp=Z,920nm,0.9s
TEY pmax pmax
comp=Z,98μm,12.1s
TEY pmax pmax
comp=N,44μm,12.5s
TEY pmax pmax
comp=E,68μm,11.6s
TEY smax smax
comp=N,181μm,16.8s
TEY smax smax
comp=E,123μm,16.8s
TEY MLR MLR
comp=E,78μm,17.0s
TEY MLR MLR
comp=N,57μm,13.0s
TEY MLR MLR
comp=Z,92μm,15.0s
YAK Yakutsk 17.16 310 P **Pn 03 28 60.0 -0.5**
comp=Z,15nm,0.3s,baz=94,slow=4.4,SNR=242
YAK ScS ScS 03 40 31.1 -0.4
comp=Z,0.1nm,0.3s,baz=108,slow=3.2,SNR=6.6
YAK P3KPbc 04 03 44.0
comp=Z,0.1nm,0.3s,baz=228,slow=1.3,SNR=1.5
YAK Yakutsk 17.16 310 *eP* **P 03 28 59.8 +0.4**
YAK *eS* **S 03 32 10.3 +1.2**
YAK pmax pmax
comp=N,5μm,1.4s
YAK pmax pmax
comp=E,6μm,1.3s
YAK smax smax
comp=N,48μm,5.1s
YAK smax smax
comp=E,79μm,5.2s
YAK Yakutsk 17.16 310⇓P **P 03 28 58.4 -1.0**
YAK Yakutsk 17.16 310 P **P 03 28 58.7 -0.7**
YAK Yakutsk 17.16 310 P **P 03 28 59.7 +0.4**
KLR Kul'dur 17.23 265 P **Pn 03 29 02.4 +0.9**
comp=E,58nm,0.3s,baz=64,slow=9.6,SNR=510
KLR PcP **PcP 03 33 36.2 +2.2**
comp=E,22nm,0.3s,baz=111,slow=1.0,SNR=4.2
KLR LR LR 03 36 51.5
comp=E,122μm,19.2s,baz=68,slow=41
KLR ScS ScS 03 40 34.7 +2.5
comp=E,0.2nm,0.3s,baz=166,slow=23,SNR=12
KLR P3KPbc 04 03 40.6
comp=E,0.1nm,0.3s,baz=283,slow=6.3,SNR=1.8
KLR Kul'dur 17.23 265*d i*P **Pn 03 29 02.8 +1.3**
KLR pmax pmax
comp=Z,7μm,1.7s
KLR MLR MLR
comp=Z,113μm,14.0s
JTM Tenmabayashi 17.62 229 ScP **ScP 03 36 55.2 +1.8**
SPIA Saint Paul Isl 17.88 67 P **P 03 29 07.5 +0.1**
SPIA Saint Paul Isl 17.88 67 P **P 03 29 08.1 +0.7**
baz=273,SNR=68
SPIA S **S 03 32 25.9 +2.2**
baz=273
GAMB Gambell 18.10 45 P **P 03 29 08.6 -1.2**
GAMB Gambell 18.10 45 P **P 03 29 08.5 -1.2**
baz=251,SNR=1000
GAMB S **S 03 32 28.6 +0.7**
baz=251
ZEA Zeya 18.37 282 *eP* **Pn 03 29 14.4 -0.5**
ZEA *eS* **S 03 32 27.6 -5.8**
ZEA pmax pmax
comp=Z,76nm,1.2s
CLES Cleveland East 18.81 81 P **P 03 29 17.5 -0.1**
NIKH Nikolski High 19.37 80 P **P 03 29 22.3 -1.4**
NIKH ScP **ScP 03 36 57.2 +0.2**
NIKH Nikolski High 19.37 80 P **P 03 29 22.1 -1.5**
baz=286,SNR=187
NIKH S **S 03 32 53.5 +0.2**
baz=286
USA0B Ussuriysk Arra 19.81 251*d i*P **P 03 29 27.8 -0.6**
USA0B Ussuriysk Arra 19.81 251 P **P 03 29 28.3 -0.1**
USRK Ussuriysk Ar. 19.81 251 P **P 03 29 29.4 +1.0**
baz=57,slow=9.8,SNR=96
USRK ScP **ScP 03 37 00.6 +2.4**
baz=53,slow=0.8,SNR=7.5
USRK LR LR 03 38 20.5
comp=Z,140μm,18.1s,baz=57,slow=40
USRK P3KPbc 04 03 35.1
baz=281,slow=2.2,SNR=2.3
USRK Ussuriysk Ar. 19.81 251 P **P 03 29 27.7 -0.7**
JMM Marumori 20.17 224⇑P **P 03 29 32.6 +0.3**
TNA Tin City 20.22 42⇑P **P 03 29 31.8 -0.7**
TNA Tin City 20.22 42 P **P 03 29 32.0 -0.6**
TNA Tin City 20.22 42 P **P 03 29 31.9 -0.7**
baz=251,SNR=1000
TNA S **S 03 33 10.2 +0.5**
baz=251
UNV Unalaska Valle 20.50 76 ScP **ScP 03 36 59.1 -0.5**
UNV Unalaska Valle 20.50 76 P **P 03 29 33.9 -1.7**
baz=285,SNR=178
UNV S **S 03 33 14.3 -1.1**
baz=285
VLA Vladivostok 20.56 249*d i*P **P 03 29 35.6 -0.8**
VLA pmax pmax
comp=Z,1μm,0.9s
VLA MLR MLR
comp=Z,148μm,19.0s
AKUT Akutan 20.85 75⇑P **P 03 29 38.5 -0.8**
AKUT Akutan 20.85 75 IAmb IAmb 03 29 51.6
comp=Z,3μm,0.8s
AKUT ScP **ScP 03 36 59.9 -0.5**
MDJ Mudanjiang 20.91 255 P **P 03 29 39.5 -0.6**
MDJ sP sP 03 30 27.9 -3.2
MDJ S **S 03 33 22.5 -0.9**
MDJ pmax pmax
comp=Z,38μm,8.4s
MDJ LR LR
comp=Z,232μm,19.9s
MDJ LR LR
comp=Z,239μm,20.0s
MDJ LR LR
comp=Z,260μm,20.9s
MDJ Mudanjiang 20.91 255 P **P 03 29 39.5 -0.6**
MDJ IAmb IAmb 03 29 52.9
comp=Z,2μm,1.0s
MDJ Mudanjiang 20.91 255 P **P 03 29 42.0 +1.9**
MDJ Mudanjiang 20.91 255 P **P 03 29 38.3 -1.8**
MDJ pP **pP 03 30 16.4 +6.7**
ANM Nome 20.98 45 P **P 03 29 39.7 -1.0**
baz=257,SNR=1000
ANM S **S 03 33 21.9 -2.5**
baz=257
JSD Sado 21.12 229⇑P **P 03 29 42.1 -0.2**
JSD Sado 21.12 229 P **P 03 29 42.6 +0.2**
JSD PcP **PcP 03 33 36.7 -4.4**
JSD ScP **ScP 03 37 03.9 +2.4**
BNX BinXian 21.52 260⇓P **P 03 29 46.3 -0.4**
BNX pP **pP 03 30 14.0 -2.4**
BNX PP sP 03 30 22.6 -15
BNX sP sP 03 30 38.4 +0.6
BNX S **S 03 33 31.5 -2.6**
BNX sS **sS 03 34 19.1 -7.0**
BNX pmax pmax
comp=Z,95μm,6.2s
BNX LR LR
comp=Z,227μm,12.6s
BNX LR LR
comp=Z,242μm,11.9s
BNX LR LR
comp=Z,321μm,15.5s
JYT Yasato 21.82 223⇑P **P 03 29 50.0 +0.3**
TIXI Tiksi 21.90 335 P **P 03 29 50.9 +0.6**
comp=Z,4μm,1.0s,baz=123,slow=12,SNR=235
TIXI PcP **PcP 03 33 43.0 +1.0**
comp=Z,186nm,0.7s,baz=100,slow=2.3,SNR=2.3
TIXI LR LR 03 39 32.4
comp=Z,202μm,20.4s,baz=100,slow=40
TIXI Tiksi 21.90 335*d i*P **P 03 29 49.5 -0.8**
TIXI *i* *PP **pP 03 30 22.2 +1.9**
TIXI pmax pmax
comp=Z,6μm,1.1s
TIXI MLR MLR
comp=Z,214μm,22.0s
TIXI Tiksi 21.90 335⇑P **P 03 29 49.2 -1.1**
TIXI Tiksi 21.90 335 P **P 03 29 49.8 -0.5**
TIXI Tiksi 21.90 335 P **P 03 29 51.3 +1.1**
TIXI pP **pP 03 30 26.3 +6.0**
FALS False Pass 22.01 72 ScP **ScP 03 37 03.3 0.0**
FALS False Pass 22.01 72 P **P 03 29 51.5 0.0**
baz=284,SNR=41

FALS				S	S	03 33 43.8	+2.0
	baz=284						
FALS	**False Pass**	**22.01**	**72**	P	**P**	**03 29 52.1**	**+0.6**
MAJO	**Matsushiro**	**22.38**	**227**	*c iP*	**P**	**03 29 56.1**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,7μm,0.8s						
MAJO				MLR	MLR		
	comp=Z,68μm,17.0s						
MAJO	**Matsushiro**	**22.38**	**227**	⇓P	**P**	**03 29 55.9**	**+0.6**
MAJO	**Matsushiro**	**22.38**	**227**	P	**P**	**03 29 56.0**	**+0.8**
MAJO				ScP	**ScP**	**03 37 05.5**	**+0.8**
MAJO	**Matsushiro**	**22.38**	**227**	P	**P**	**03 29 56.8**	**+1.5**
MAJO	**Matsushiro**	**22.38**	**227**	P	**P**	**03 29 56.3**	**+1.0**
MAJO				pP	pP	03 30 35.4	+10
MAT	**Matsushiro**	**22.38**	**227**	P	**P**	**03 29 55.6**	**+0.3**
MAT				S	**S**	**03 33 49.8**	**+1.5**
MJAR	**Matsushiro Arr**	**22.38**	**227**	P	**P**	**03 29 56.5**	**+1.2**
	comp=Z,379nm,0.4s,baz=15,slow=9.0,SNR=333						
MJAR				ScP	**ScP**	**03 37 05.5**	**+0.8**
	comp=Z,229nm,1.1s,baz=9.3,slow=1.4,SNR=7.8						
MJAR				P3KPbc		04 03 27.1	
	comp=Z,1.7nm,0.4s,baz=191,slow=37,SNR=4.2						
RDOG	**Red Dog Mine**	**22.91**	**37**	P	**P**	**03 29 59.2**	**-0.6**
	baz=251						
RDOG				S	**S**	**03 33 56.2**	**-0.1**
	baz=251						
SDPT	**Sand Point**	**23.54**	**70**	IAmb	IAmb	03 30 29.5	
	comp=Z,4μm,1.5s						
SDPT				ScP	**ScP**	**03 37 08.7**	**+1.3**
SDPT	**Sand Point**	**23.54**	**70**	P	**P**	**03 30 04.9**	**-0.7**
	baz=284,SNR=31						
SDPT				S	**S**	**03 34 05.5**	**-1.0**
	baz=284						
JGF	**Kuroka**	**23.55**	**227**	⇑P	**P**	**03 30 07.1**	**+1.1**
JGF	**Kuroka**	**23.55**	**227**	IAmb	IAmb	03 30 13.4	
	comp=Z,2μm,0.7s						
INU	**Inuyama**	**23.91**	**228**	⇑P	**P**	**03 30 09.9**	**+0.7**
INU	**Inuyama**	**23.91**	**228**	P	**P**	**03 30 10.1**	**+0.9**
INU	**Inuyama**	**23.91**	**228**	P	**P**	**03 30 11.4**	**+2.2**
INU	**Inuyama**	**23.91**	**228**	P	**P**	**03 30 10.4**	**+1.2**
INU				pP	**pP**	**03 30 48.9**	**+6.7**
JSG	**Sagara**	**23.98**	**225**	⇑P	**P**	**03 30 13.5**	**+3.6**
CHNA	**Chernabura Isl**	**24.16**	**71**	P	**P**	**03 30 08.4**	**-2.9**
	baz=285,SNR=208						
CHNA				S	**S**	**03 34 11.2**	**-5.3**
	baz=285						
HIA	**Hailar**	**24.30**	**275**	*d iP*	**P**	**03 30 11.1**	**-1.6**
HIA				pmax	pmax		
	comp=Z,3μm,1.0s						
HIA				MLR	MLR		
	comp=Z,131μm,16.0s						
HIA	**Hailar**	**24.30**	**275**	P	**P**	**03 30 12.3**	**-0.3**
HIA				IAmb	IAmb	03 30 25.4	
	comp=Z,2μm,0.8s						
HIA				ScP	**ScP**	**03 37 11.8**	**+2.2**
HIA	**Hailar**	**24.30**	**275**	P	**P**	**03 30 12.4**	**-0.3**
CHGN	**Chignik**	**24.45**	**67**	IAmb	IAmb	03 30 19.7	
	comp=Z,1μm,0.7s						
CHGN	**Chignik**	**24.45**	**67**	P	**P**	**03 30 12.1**	**-1.8**
	baz=283,SNR=109						
CHGN				S	**S**	**03 34 23.6**	**+2.5**
	baz=283						
GCSA	**Galena City Sc**	**24.62**	**46**	P	**P**	**03 30 14.3**	**-1.0**
	baz=265,SNR=187						
GCSA				S	S	03 34 36.5	+13
	baz=265						
JHJ2	**Mitsune**	**24.70**	**220**	⇑P	**P**	**03 30 18.4**	**+2.0**
JHJ2	**Mitsune**	**24.70**	**220**	P	**P**	**03 30 18.4**	**+2.0**
JHJ	**Hachijo jima 2**	**24.71**	**220**	P	**P**	**03 30 17.9**	**+1.5**
	comp=Z,2μm,0.8s,baz=183,slow=6.8,SNR=18						
TTA	**Tatalina**	**24.93**	**51**	IAmb	IAmb	03 30 29.6	
	comp=Z,2μm,1.0s						
TTA	**Tatalina**	**24.93**	**51**	P	**P**	**03 30 16.9**	**-1.4**
	baz=270,SNR=616						
TTA				S	**S**	**03 34 29.5**	**+0.8**
	baz=270						
HHU	**Hamhung**	**25.12**	**249**	P	**P**	**03 30 20.9**	**+0.7**
HHU				pP	**pP**	**03 30 59.7**	**+4.7**
HHU				S	**S**	**03 34 30.8**	**-1.2**
HHU				AmB			
	comp=Z,58μm,7.2s						
HHU				AMS	AMS		
	comp=N,7μm,14.8s						
HHU				AMS	AMS		
	comp=E,4μm,8.8s						
HHU				AMS	AMS		
	comp=Z,801nm,1.8s						
L19K	**White Mountain**	**25.48**	**52**	P	**P**	**03 30 22.8**	**-0.5**
	baz=273,SNR=146						
L19K				S	**S**	**03 34 38.5**	**+1.1**
	baz=273						
O18K	**Koktuh Hills**	**25.52**	**58**	P	**P**	**03 30 22.9**	**-0.6**
	baz=277						
O18K				S	**S**	**03 34 39.9**	**+2.0**
	baz=277						
P18K	**Big Mountain,**	**25.57**	**59**	IAmb	IAmb	03 30 30.2	
	comp=Z,1μm,0.9s						
P18K	**Big Mountain,**	**25.57**	**59**	P	**P**	**03 30 22.8**	**-1.2**
	baz=278,SNR=244						
P18K				S	**S**	**03 34 39.9**	**+1.1**
	baz=278						
M19K	**Big River Lodg**	**25.72**	**53**	IAmb	IAmb	03 30 37.0	
	comp=Z,970nm,0.8s						
M19K	**Big River Lodg**	**25.72**	**53**	P	**P**	**03 30 24.2**	**-1.1**
	baz=274						
M19K				S	**S**	**03 34 42.4**	**+1.3**
	baz=274						
N19K	**Bonanza Creek**	**25.76**	**56**	IAmb	IAmb	03 30 37.7	
	comp=Z,1μm,0.7s						
N19K	**Bonanza Creek**	**25.76**	**56**	P	**P**	**03 30 24.9**	**-1.0**
	baz=276						
N19K				S	**S**	**03 34 43.9**	**+2.0**
	baz=276						
J20K	**Nowinta River**	**25.77**	**48**	P	**P**	**03 30 24.6**	**-1.2**
	baz=269,SNR=683						
J20K				S	**S**	**03 34 43.3**	**+1.5**
	baz=269						
K20K	**Telida**	**25.81**	**50**	P	**P**	**03 30 24.8**	**-1.4**
	baz=271						
K20K				S	**S**	**03 34 43.9**	**+1.4**
	baz=271						
L20K	**Farewell, AK**	**25.93**	**52**	P	**P**	**03 30 25.7**	**-1.5**
	baz=273						
L20K				S	**S**	**03 34 46.7**	**+2.4**
	baz=273						
JHS	**Saijyo**	**25.98**	**233**	⇑P	**P**	**03 30 28.9**	**+1.0**
JHS	**Saijyo**	**25.98**	**233**	P	**P**	**03 30 28.8**	**+0.8**
JHS				IAmb	IAmb	03 30 40.3	
	comp=Z,2μm,0.9s						
JHS				ScP	**ScP**	**03 37 15.4**	**+0.7**
IMAR	**Indian Mountai**	**26.02**	**44**	P	**P**	**03 30 26.6**	**-1.4**
IMAR				ScP	**ScP**	**03 37 15.1**	**+0.8**
A21K	**Barrow**	**26.03**	**31**	P	**P**	**03 30 27.4**	**-0.6**
A21K	**Barrow**	**26.03**	**31**	P	**P**	**03 30 26.9**	**-1.1**
	baz=252,SNR=1000						
A21K				S	**S**	**03 34 46.3**	**+0.6**
	baz=252						
SNY	**Shenyang**	**26.09**	**257**	⇓P	**P**	**03 30 28.4**	**-0.4**
SNY				PP	**PnPn**	**03 31 16.8**	**-1.3**
SNY				S	**S**	**03 34 45.9**	**-1.2**
SNY				pmax	pmax		
	comp=Z,830nm,1.6s						
SNY				LR	LR		
	comp=Z,218μm,20.2s						
SNY				LR	LR		
	comp=Z,139μm,20.0s						
SNY				LR	LR		
	comp=Z,164μm,29.4s						
CHIR	**Chirikof Islan**	**26.09**	**67**	P	**P**	**03 30 26.8**	**-1.9**
	baz=285,SNR=22						
CHIR				S	**S**	**03 34 43.5**	**-3.4**
	baz=285						
H21K	**Melozitna Rive**	**26.39**	**44**	P	**P**	**03 30 29.9**	**-1.4**
	baz=267						
H21K				S	**S**	**03 34 51.8**	**+0.2**
	baz=267						
Q19K	**Cape Douglas,**	**26.45**	**60**	IAmb	IAmb	03 30 49.1	
	comp=Z,1μm,0.8s						
Q19K	**Cape Douglas,**	**26.45**	**60**	P	**P**	**03 30 30.8**	**-1.1**
	baz=280,SNR=115						
CHUM	**Lake Minchumin**	**26.58**	**48**	P	**P**	**03 30 32.1**	**-1.0**
	baz=271,SNR=343						
CHUM				S	**S**	**03 34 57.5**	**+3.0**
	baz=271						
JMN	**Monobe**	**26.67**	**231**	⇑P	**P**	**03 30 36.0**	**+1.8**
JMN	**Monobe**	**26.67**	**231**	ScP	**ScP**	**03 37 18.2**	**+1.5**
SII	**Sitkinak Islan**	**26.68**	**65**	P	**P**	**03 30 32.7**	**-1.3**
	baz=285,SNR=58						
SII				S	**S**	**03 34 54.1**	**-2.2**
	baz=285						
SII	**Sitkinak Islan**	**26.68**	**65**	P	**P**	**03 30 33.4**	**-0.6**
PPLA	**Purkeypile**	**26.68**	**51**	P	**P**	**03 30 33.1**	**-1.0**
	baz=274,SNR=192						
PPLA				S	**S**	**03 34 59.5**	**+3.0**
	baz=274						
KS19	**Wonju Array Si**	**26.69**	**244**	P	**P**	**03 30 34.8**	**+0.6**
KS19				IAmb	IAmb	03 30 47.1	
	comp=Z,1μm,0.8s						
KS19				ScP	**ScP**	**03 37 18.5**	**+1.8**
KSRS	**Korea Array**	**26.69**	**244**	P	**P**	**03 30 36.0**	**+1.7**
	comp=Z,412nm,0.8s,baz=42,slow=8.2,SNR=102						
KSRS				PcP	**PcP**	**03 33 55.8**	**+2.8**
	comp=Z,73nm,0.5s,baz=348,slow=2.4,SNR=13						
KSRS				ScP	**ScP**	**03 37 18.9**	**+2.2**
	comp=Z,113nm,0.9s,baz=48,slow=3.3,SNR=12						
KSRS				PKiKP	**PKiKP**	**03 41 31.9**	**+1.1**
	comp=Z,5.2nm,0.7s,baz=349,slow=1.0,SNR=5.7						
KSRS				P3KPbc		04 03 09.8	
	comp=Z,9.6nm,1.0s,baz=212,slow=3.3,SNR=10						
SUJ	**Sinuiju**	**26.70**	**253**	P	**P**	**03 30 35.5**	**+1.2**
SUJ				pP	**pP**	**03 31 15.1**	**+5.7**
SUJ				S	**S**	**03 34 54.2**	**-2.6**
SUJ				AmB			
	comp=Z,20μm,2.8s						
SUJ				AMS	AMS		
	comp=N,64μm,21.4s						
SUJ				AMS	AMS		
	comp=E,12μm,4.0s						
SUJ				AMS	AMS		
	comp=Z,13μm,4.4s						
CAST	**Castle Rocks**	**26.70**	**49**	P	**P**	**03 30 33.2**	**-0.9**
	baz=273,SNR=253						
CAST				S	**S**	**03 34 58.5**	**+2.0**
	baz=273						
PYAG	**Pyongyang**	**26.72**	**250**	P	**P**	**03 30 35.8**	**+1.3**
PYAG				pP	**pP**	**03 31 15.1**	**+5.5**
PYAG				S	**S**	**03 34 54.3**	**-2.8**
PYAG				AmB			
	comp=Z,17μm,3.1s						
PYAG				AMS	AMS		
	comp=N,117μm,18.1s						
PYAG				AMS	AMS		
	comp=E,13μm,2.0s						
PYAG				AMS	AMS		
	comp=Z,74μm,11.4s						
I21K	**Tanana**	**26.72**	**46**	P	**P**	**03 30 33.0**	**-1.2**
	baz=269,SNR=304						
I21K				S	**S**	**03 34 58.3**	**+1.6**
	baz=269						
KSAR	**Wonju Array Be**	**26.72**	**244**	P	**P**	**03 30 35.1**	**+0.6**
KSAR				ScP	**ScP**	**03 37 18.6**	**+1.9**
O20K	**Slope Mountain**	**26.77**	**57**	P	**P**	**03 30 34.3**	**-0.6**
	baz=279,SNR=54						
O20K				S	**S**	**03 34 57.6**	**-0.2**
	baz=279						
CIT	**Chita**	**26.79**	**284**	*e*P	**P**	**03 30 35.0**	**-0.1**
CIT				*e*		03 31 12.0	
CIT				*e*		03 31 29.4	
CIT				*e*		03 41 05.0	
CIT				pmax	pmax		
	comp=Z,5μm,2.6s						
OHAK	**Old Harbor**	**26.99**	**63**	IAmb	IAmb	03 30 48.6	
	comp=Z,1μm,1.0s						
OHAK	**Old Harbor**	**26.99**	**63**	P	**P**	**03 30 33.8**	**-2.9**
	baz=284,SNR=126						
OHAK				S	**S**	**03 34 57.1**	**-4.0**
	baz=284						
BPAW	**Bear Paw Mtn.**	**27.16**	**48**	P	**P**	**03 30 37.0**	**-1.3**
	baz=272,SNR=266						
BPAW				S	**S**	**03 35 04.4**	**+0.7**
	baz=272						
KDAK	**Kodiak Island**	**27.23**	**62**	P	**P**	**03 30 37.9**	**-0.9**
	comp=Z,229nm,0.5s,baz=283,slow=1.0,SNR=139						
KDAK				PcP	**PcP**	**03 33 54.9**	**+0.9**
	comp=Z,277nm,1.0s,baz=225,slow=2.9,SNR=1.8						
KDAK				ScS	ScS	03 41 06.6	-2.6
	comp=Z,54nm,1.1s,baz=310,slow=7.9,SNR=1.8						
KDAK				P3KPbc		04 03 06.0	
	comp=Z,4.3nm,0.8s,baz=139,slow=3.5,SNR=1.1						
KDAK	**Kodiak Island**	**27.23**	**62**	*d iP*	**P**	**03 30 37.0**	**-1.8**
KDAK				pmax	pmax		
	comp=Z,2μm,1.6s						
KDAK				MLR	MLR		
	comp=Z,145μm,18.0s						
KDAK	**Kodiak Island**	**27.23**	**62**	⇓P	**P**	**03 30 36.3**	**-2.6**
KDAK	**Kodiak Island**	**27.23**	**62**	P	**P**	**03 30 36.2**	**-2.6**
KDAK				ScP	**ScP**	**03 37 20.0**	**+2.1**
KDAK	**Kodiak Island**	**27.23**	**62**	P	**P**	**03 30 35.9**	**-3.0**
	baz=283						
KDAK	**Kodiak Island**	**27.23**	**62**	P	**P**	**03 30 37.8**	**-1.1**
MLY	**Manley**	**27.25**	**46**	P	**P**	**03 30 38.2**	**-0.9**
	baz=271						
MLY				S	**S**	**03 35 06.7**	**+1.6**
	baz=271						
HOM	**Homer**	**27.33**	**58**	P	**P**	**03 30 38.9**	**-0.8**
	baz=280,SNR=16						
INCN	**Inchon**	**27.36**	**246**	P	**P**	**03 30 42.9**	**+2.6**
INCN				S	**S**	**03 35 05.0**	**-2.4**
INCN	**Inchon**	**27.36**	**246**	⇓P	**P**	**03 30 41.2**	**+0.9**
INCN	**Inchon**	**27.36**	**246**	P	**P**	**03 30 40.9**	**+0.6**
INCN				ScP	**ScP**	**03 37 20.3**	**+1.6**
INCN	**Inchon**	**27.36**	**246**	P	**P**	**03 30 43.4**	**+3.1**
INCN	**Inchon**	**27.36**	**246**	P	**P**	**03 30 40.4**	**+0.1**
CAPN	**Captain Cook N**	**27.39**	**55**	P	**P**	**03 30 39.6**	**-0.6**
	baz=278,SNR=39						
HJU	**Haeju**	**27.45**	**248**	P	**P**	**03 30 41.6**	**+0.6**
HJU				pP	**pP**	**03 31 22.1**	**+5.8**
HJU				S	**S**	**03 35 04.1**	**-4.6**
HJU				AmB			
	comp=Z,11μm,3.7s						
HJU				AMS	AMS		
	comp=N,28μm,12.0s						
HJU				AMS	AMS		
	comp=E,11μm,4.8s						
HJU				AMS	AMS		
	comp=Z,9μm,3.7s						
SUA	**Susitna One**	**27.49**	**54**	P	**P**	**03 30 39.4**	**-1.9**
	baz=278						
SUA				S	**S**	**03 35 06.9**	**-2.3**
	baz=278						
TRF	**Thorofare Moun**	**27.50**	**49**	P	**P**	**03 30 40.1**	**-1.4**
	baz=274,SNR=271						
TRF				S	**S**	**03 35 09.9**	**+0.5**
	baz=274						
COLD	**Coldfoot**	**27.52**	**41**	IAmb	IAmb	03 30 56.8	
	comp=Z,1μm,1.0s						
COLD	**Coldfoot**	**27.52**	**41**	P	**P**	**03 30 40.1**	**-1.3**
	baz=267,SNR=586						
COLD				S	**S**	**03 35 08.8**	**-0.5**
	baz=267						
CUT	**Chulitna**	**27.60**	**52**	P	**P**	**03 30 40.3**	**-1.8**
	baz=276,SNR=211						
CUT				S	**S**	**03 35 10.6**	**0.0**
	baz=276						
M22K	**Willow**	**27.75**	**53**	IAmb	IAmb	03 30 54.5	
	comp=Z,1μm,1.0s						
M22K	**Willow**	**27.75**	**53**	P	**P**	**03 30 41.4**	**-2.0**
	baz=277,SNR=166						
BRSE	**Bradley Lake S**	**27.76**	**57**	P	**P**	**03 30 41.7**	**-2.0**
	baz=281,SNR=179						
BRSE				S	**S**	**03 35 10.6**	**-2.6**
	baz=281						
TJN	**Taejon**	**27.80**	**243**	*d iP*	**P**	**03 30 43.7**	**-0.4**
TJN	**Taejon**	**27.80**	**243**	ScP	**ScP**	**03 37 20.8**	**+0.8**
TJN	**Taejon**	**27.80**	**243**	P	**P**	**03 30 46.6**	**+2.5**
I23K	**Minto, Yukon-K**	**27.83**	**46**	IAmb	IAmb	03 31 01.1	
	comp=Z,1μm,0.9s						
I23K	**Minto, Yukon-K**	**27.83**	**46**	P	**P**	**03 30 42.9**	**-1.2**
	baz=272,SNR=381						
I23K				S	**S**	**03 35 14.8**	**+0.7**
	baz=272						
TOLK	**Toolik Lake Re**	**27.86**	**38**	P	**P**	**03 30 43.4**	**-1.1**
TOLK	**Toolik Lake Re**	**27.86**	**38**	P	**P**	**03 30 43.4**	**-1.1**
	baz=265,SNR=857						
TOLK				S	**S**	**03 35 15.0**	**+0.2**
	baz=265						
NEA2	**Nenana**	**27.97**	**47**	P	**P**	**03 30 43.9**	**-1.5**
	baz=273,SNR=564						
NEA2				S	**S**	**03 35 16.5**	**+0.1**
	baz=273						
RC01	**Rabbit Creek A**	**28.03**	**54**	P	**P**	**03 30 43.2**	**-2.7**
	baz=279,SNR=128						
RC01				S	**S**	**03 35 16.5**	**-0.8**
	baz=279						
MCK	**McKinley**	**28.09**	**49**	IAmb	IAmb	03 30 49.1	
	comp=Z,2μm,1.3s						
MCK	**McKinley**	**28.09**	**49**	P	**P**	**03 30 44.9**	**-1.6**
	baz=275,SNR=498						
MCK				S	**S**	**03 35 17.8**	**-0.6**
	baz=275						
O22K	**Cooper Landing**	**28.13**	**56**	P	**P**	**03 30 44.5**	**-2.3**
	baz=280,SNR=158						
O22K				S	**S**	**03 35 17.0**	**-1.9**
	baz=280						
JTU	**Tsushima**	**28.18**	**238**	⇓P	**P**	**03 30 51.9**	**+4.4**
JTU	**Tsushima**	**28.18**	**238**	ScP	**ScP**	**03 37 23.3**	**+2.1**
PMR	**Palmer**	**28.24**	**53**	P	**P**	**03 30 46.2**	**-1.6**
	baz=278,SNR=299						
PMR				S	**S**	**03 35 18.6**	**-2.0**
	baz=278						
SEW	**Seward**	**28.33**	**56**	IAmb	IAmb	03 30 56.5	
	comp=Z,2μm,1.0s						
SEW	**Seward**	**28.33**	**56**	P	**P**	**03 30 46.1**	**-2.5**
	baz=281,SNR=349						
SEW				S	**S**	**03 35 20.4**	**-1.7**
	baz=281						
H24K	**Noodor Dome**	**28.43**	**44**	P	**P**	**03 30 48.7**	**-0.8**
	baz=272						
H24K				S	**S**	**03 35 24.6**	**+0.9**
	baz=272						
TCOL	**CIGO, UAF Yank**	**28.48**	**46**	IAmb	IAmb	03 30 53.0	
	comp=Z,3μm,1.4s						
TCOL	**CIGO, UAF Yank**	**28.48**	**46**	P	**P**	**03 30 48.7**	**-1.2**
	baz=273,SNR=326						
TCOL				S	**S**	**03 35 24.1**	**-0.2**
	baz=273						
COLA	**College**	**28.48**	**46**	*d iP*	**P**	**03 30 49.0**	**-0.9**
COLA				pmax	pmax		
	comp=Z,2μm,1.8s						
COLA				MLR	MLR		
	comp=Z,46μm,15.0s						
COLA	**College**	**28.48**	**46**	⇑P	**P**	**03 30 48.7**	**-1.2**
COLA	**College**	**28.48**	**46**	P	**P**	**03 30 48.9**	**-1.0**
COLA				IAmb	IAmb	03 30 53.0	
	comp=Z,3μm,1.4s						
COLA	**College**	**28.48**	**46**	P	**P**	**03 30 50.2**	**+0.3**
COLA				pP	**pP**	**03 31 25.2**	**-0.2**
JNU	**Nakatsue**	**28.58**	**234**	P	**P**	**03 30 52.6**	**+1.5**
	comp=Z,740nm,0.7s,baz=39,slow=2.4,SNR=61						
JNU				PcP	**PcP**	**03 33 59.7**	**+1.9**
	comp=Z,231nm,0.9s,baz=56,slow=12,SNR=2.1						
JNU				ScS	ScS	03 41 14.7	-1.5
	comp=Z,57nm,1.1s,baz=69,slow=19,SNR=6.8						
JNU				P3KPbc		04 03 00.1	
	comp=Z,3.5nm,0.8s,baz=333,slow=2.3,SNR=1.4						
JNU	**Nakatsue**	**28.58**	**234**	⇓P	**P**	**03 30 51.9**	**+0.8**
JNU	**Nakatsue**	**28.58**	**234**	ScP	**ScP**	**03 37 22.5**	**-0.1**
JNU	**Nakatsue**	**28.58**	**234**	IAmb	IAmb	03 31 04.0	
	comp=Z,992nm,0.8s						
JNU	**Nakatsue**	**28.58**	**234**	P	**P**	**03 30 52.5**	**+1.4**
SML	**Sawmill**	**28.58**	**53**	P	**P**	**03 30 49.3**	**-1.6**
	baz=279,SNR=973						
SML				S	**S**	**03 35 24.4**	**-1.8**
	baz=279						
KNK	**Knik Glacier**	**28.59**	**53**	P	**P**	**03 30 49.1**	**-1.8**
	baz=279,SNR=758						
KNK				S	**S**	**03 35 24.8**	**-1.3**
	baz=279						
POKR	**Poker Plat Res**	**28.64**	**46**	P	**P**	**03 30 50.2**	**-1.2**
	baz=273,SNR=366						
POKR				S	**S**	**03 35 26.7**	**-0.3**
	baz=273						
PWL	**Port Wells**	**28.74**	**55**	P	**P**	**03 30 49.9**	**-2.4**
	baz=280,SNR=549						
PWL				S	**S**	**03 35 25.3**	**-3.3**
	baz=280						
IL31		**28.90**	**46**	IAmb	IAmb	03 30 57.8	
	comp=Z,912nm,0.8s						
ILAR	**Eielson Array**	**28.90**	**46**	P	**P**	**03 30 52.4**	**-1.2**
	comp=Z,425nm,0.8s,baz=267,slow=9.2,SNR=542						
ILAR				ScP	**ScP**	**03 37 24.6**	**+1.6**
	comp=Z,68nm,0.9s,baz=280,slow=4.0,SNR=5.7						
ILAR				ScS	**ScS**	**03 41 18.5**	**+1.8**
	comp=Z,7.2nm,0.8s,baz=250,slow=5.4,SNR=4.7						
ILAR				LR	LR	03 41 24.7	
	comp=Z,52μm,21.7s,baz=276,slow=34						
ILAR				PKKP	**PKKPdf**	**03 56 26.4**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=1.2,slow=2.7,SNR=1.7						
ILAR				P3KPbc		04 02 58.6	
	comp=Z,14nm,1.0s,baz=101,slow=3.2,SNR=21						
ILAR				PKP2ab		04 07 06.3	
	comp=Z,7.9nm,1.1s,baz=244,slow=3.2,SNR=4.1						
ILAR	**Eielson Array**	**28.90**	**46**	P	**P**	**03 30 51.8**	**-1.8**
HDA	**Harding Lake**	**28.90**	**47**	P	**P**	**03 30 51.5**	**-2.1**
	baz=275,SNR=897						
HDA				S	**S**	**03 35 29.0**	**-2.0**
	baz=275						
HDA				S	**S**	**03 35 29.0**	**-2.0**
	baz=275						
SCM	**Sheep Creek Mo**	**29.05**	**52**	P	**P**	**03 30 53.5**	**-1.5**
	baz=279,SNR=406						
SCM				S	**S**	**03 35 32.5**	**-1.1**
	baz=279						
DL2	**Dalian**	**29.14**	**254**	⇓*iP*	**P**	**03 30 55.3**	**-0.6**
DL2				S	**S**	**03 35 36.4**	**+1.3**
DL2				ScP	**ScP**	**03 37 26.1**	**+1.9**
DL2				ScS	**ScS**	**03 41 17.1**	**-1.5**
DL2				pmax	pmax		
	comp=Z,1μm,0.8s						
DL2				pmax	pmax		
	comp=Z,14μm,8.8s						
XLT	**XiLinHaoTe**	**29.21**	**267**	⇑*iP*	**P**	**03 30 56.6**	**-0.1**
XLT				pP	pP	03 31 28.8	-3.4
XLT				sP	sP	03 31 47.4	-4.5
XLT				S	**S**	**03 35 33.2**	**-3.3**
XLT				sS	sS	03 36 40.9	+1.3
XLT				SS	**SnSn**	**03 37 21.4**	**-2.3**
XLT				PcS	**PcS**	**03 37 40.7**	**-1.7**
XLT				pmax	pmax		
	comp=Z,1μm,0.7s						
XLT				LR	LR		
	comp=Z,202μm,18.8s						
XLT				LR	LR		
	comp=Z,153μm,16.9s						
XLT				LR	LR		
	comp=Z,142μm,20.0s						
JCJ	**Chichijima**	**29.41**	**211**	ScP	**ScP**	**03 37 24.1**	**-1.1**
JCJ	**Chichijima**	**29.41**	**211**	P	**P**	**03 31 00.2**	**+1.8**
PRP	**Porcupine Dome**	**29.42**	**45**	P	**P**	**03 30 57.5**	**-0.9**
	baz=274,SNR=1000						
PRP				S	**S**	**03 35 39.6**	**+0.2**
	baz=274						
M24K	**Tolsona, Glenn**	**29.54**	**52**	P	**P**	**03 30 58.6**	**-0.8**
	baz=280,SNR=428						
M24K				S	**S**	**03 35 43.1**	**+1.8**
	baz=280						
BMAR	**Burnt Mountain**	**29.70**	**41**	P	**P**	**03 31 00.3**	**-0.4**
PAX	**Paxson**	**29.73**	**50**	ScP	**ScP**	**03 37 27.0**	**+1.2**
PAX	**Paxson**	**29.73**	**50**	P	**P**	**03 30 59.0**	**-2.0**
	baz=279,SNR=233						
PAX				S	**S**	**03 35 42.5**	**-1.7**
	baz=279						
KLU	**Klutina**	**29.77**	**53**	P	**P**	**03 30 59.9**	**-1.5**
	baz=281,SNR=565						
KLU				S	**S**	**03 35 45.5**	**+0.7**
	baz=281						
RIDG	**Independent Ri**	**29.89**	**48**	P	**P**	**03 31 00.1**	**-2.4**
	baz=278,SNR=698						
RIDG				S	**S**	**03 35 43.1**	**-3.6**
	baz=278						
DIV	**Divide**	**29.91**	**54**	P	**P**	**03 31 01.5**	**-1.2**
DIV				IAmb	I

SCRK				S	S	03 35 48.7	-3.5
	baz=278						
N25K	**Chitina, Valde**	**30.37**	**52**	IAmb	IAmb	03 31 09.8	
	comp=Z,2μm,1.2s						
N25K	**Chitina, Valde**	**30.37**	**52**	P	**P**	**03 31 05.6**	**-1.1**
	baz=282,SNR=461						
N25K				S	**S**	**03 35 55.0**	**+0.8**
	baz=282						
BMRM	**Bremner River**	**30.50**	**54**	P	**P**	**03 31 06.5**	**-1.4**
	baz=283,SNR=668						
BMRM				S	**S**	**03 35 57.5**	**+1.3**
	baz=283						
L26K	**Log Cabin Wild**	**30.67**	**49**	P	**P**	**03 31 08.2**	**-1.1**
	baz=280,SNR=265						
L26K				S	**S**	**03 35 59.0**	**+0.2**
	baz=280						
KAIM	**Kayak Island**	**30.84**	**56**	P	**P**	**03 31 09.8**	**-0.9**
	baz=285,SNR=95						
KAIM				S	**S**	**03 36 01.8**	**+0.4**
	baz=285						
M26K	**Nabesna, AK**	**30.95**	**51**	P	**P**	**03 31 11.2**	**-0.5**
	baz=282						
M26K				S	**S**	**03 36 05.0**	**+1.8**
	baz=282						
MIDW	**Midway**	**31.20**	**136**	⇑P	**P**	**03 31 14.4**	**+0.3**
MIDW	**Midway**	**31.20**	**136**	P	**P**	**03 31 14.4**	**+0.3**
MIDW				ScP	**ScP**	**03 37 32.1**	**+1.0**
MIDW	**Midway**	**31.20**	**136**	P	**P**	**03 31 14.8**	**+0.7**
MIDW	**Midway**	**31.20**	**136**	P	**P**	**03 31 14.4**	**+0.3**
EGAK	**Eagle**	**31.34**	**46**	P	**P**	**03 31 13.0**	**-2.0**
	baz=279						
EGAK				S	**S**	**03 36 07.9**	**-1.1**
	baz=279						
BGLC	**Bering Glacier**	**31.34**	**55**	P	**P**	**03 31 16.7**	**+1.6**
	baz=285						
BGLC				S	**S**	**03 36 12.4**	**+3.3**
	baz=285						
L27K	**Beaver Creek,**	**31.35**	**49**	P	**P**	**03 31 14.6**	**-0.6**
	baz=281						
L27K				S	**S**	**03 36 10.5**	**+1.1**
	baz=281						
BCAR	**Beaver Creek A**	**31.37**	**49**	P	**P**	**03 31 14.9**	**-0.5**
M27K	**Edge Creek, AK**	**31.47**	**50**	P	**P**	**03 31 16.1**	**-0.3**
	baz=282						
M27K				S	**S**	**03 36 13.5**	**+2.1**
	baz=282						
BJI	**Beijing**	**31.53**	**261**	P	**P**	**03 31 16.4**	**-0.6**
BJI				PcP	**PcP**	**03 34 08.5**	**+3.2**
BJI				S	**S**	**03 36 10.3**	**-2.2**
BJI				ScP	**ScP**	**03 37 34.4**	**+2.4**
BJI				PcS	**PcS**	**03 37 50.4**	**+0.6**
BJI				ScS	**ScS**	**03 41 30.2**	**0.0**
BJI				pmax	pmax		
	comp=Z,320nm,1.3s						
BJI				pmax	pmax		
	comp=Z,16μm,8.0s						
BJI				LR	LR		
	comp=Z,144μm,18.8s						
BJI				LR	LR		
	comp=Z,52μm,23.1s						
BJI				LR	LR		
	comp=Z,138μm,21.5s						
BJT	**Baijiatuau**	**31.55**	**261**	P	**P**	**03 31 16.9**	**-0.3**
BJT				PcP	**PcP**	**03 34 06.0**	**+0.6**
BJT				ScP	**ScP**	**03 37 33.7**	**+1.6**
BJT	**Baijiatuau**	**31.55**	**261**	P	**P**	**03 31 16.2**	**-1.0**
BJT				pP	**pP**	**03 31 59.6**	**+6.7**
BVCY	**Beaver Creek**	**31.92**	**50**	P	**P**	**03 31 19.7**	**-0.5**
	baz=283,SNR=886						
BVCY				S	**S**	**03 36 20.4**	**+2.1**
	baz=283						
IRK	**Irkutsk**	**31.94**	**289**	*e*P	**P**	**03 31 21.0**	**+0.5**
IRK				*e*		03 32 41.4	
IRK				pmax	pmax		
	comp=Z,3μm,0.5s						
MESA	**MESA**	**31.97**	**54**	P	**P**	**03 31 20.3**	**-0.5**
	baz=286,SNR=174						
MESA				S	**S**	**03 36 21.2**	**+1.9**
	baz=286						
DAWY	**Dawson**	**32.22**	**47**	⇓P	**P**	**03 31 21.9**	**-1.0**
DAWY	**Dawson**	**32.22**	**47**	P	**P**	**03 31 21.4**	**-1.4**
	baz=282,SNR=760						
DAWY				S	**S**	**03 36 22.5**	**-0.3**
	baz=282						
YUK3	**Moose Creek**	**32.26**	**51**	P	**P**	**03 31 22.3**	**-1.1**
	baz=284,SNR=480						
YUK3				S	**S**	**03 36 24.6**	**+0.8**
	baz=284						
ULN	**Ulaanbaatar**	**32.39**	**281**	*d i*P	**P**	**03 31 24.6**	**-0.1**
ULN				pmax	pmax		
	comp=Z,505nm,0.7s						
ULN				MLR	MLR		
	comp=Z,74μm,15.0s						
ULN	**Ulaanbaatar**	**32.39**	**281**	P	**P**	**03 31 24.9**	**+0.2**
ULN				S	**S**	**03 36 24.1**	**-2.0**
ULN	**Ulaanbaatar**	**32.39**	**281**	⇑P	**P**	**03 31 23.7**	**-1.0**
ULN	**Ulaanbaatar**	**32.39**	**281**	P	**P**	**03 31 23.6**	**-1.0**
ULN				ScP	**ScP**	**03 37 36.5**	**+1.4**
ULN	**Ulaanbaatar**	**32.39**	**281**	P	**P**	**03 31 24.9**	**+0.2**
I29M	**Ogilvie Camp,**	**32.43**	**44**	P	**P**	**03 31 23.7**	**-1.0**
	baz=280,SNR=668						
I29M				S	**S**	**03 36 26.6**	**+0.5**
	baz=280						
J29M	**Klondike Camp**	**32.64**	**46**	P	**P**	**03 31 25.7**	**-0.9**
	baz=282,SNR=226						
J29M				S	**S**	**03 36 28.4**	**-1.0**
	baz=282						
SONM	**Songino Array**	**32.79**	**281**	P	**P**	**03 31 28.4**	**+0.3**
	comp=Z,413nm,0.6s,baz=59,slow=7.6,SNR=447						
SONM				PcP	**PcP**	**03 34 10.1**	**+1.3**
	comp=Z,346nm,0.9s,baz=83,slow=1.7,SNR=6.3						
SONM				ScP	**ScP**	**03 37 38.4**	**+2.0**
	comp=Z,382nm,1.0s,baz=55,slow=2.5,SNR=12						
SONM				P3KPbc		04 02 44.9	
	comp=Z,4.0nm,0.7s,baz=236,slow=3.5,SNR=11						
SONM				P4KPbc		04 10 05.2	
	comp=Z,0.5nm,0.6s,baz=61,slow=3.9,SNR=2.4						
SONM	**Songino Array**	**32.79**	**281**	P	**P**	**03 31 28.4**	**+0.3**
SONM				PcP	**PcP**	**03 34 09.6**	**+0.8**
SONM				ScP	**ScP**	**03 37 38.4**	**+2.0**
PINM	**Pinnacle**	**32.81**	**54**	P	**P**	**03 31 26.9**	**-1.1**
	baz=287,SNR=492						
PINM				S	**S**	**03 36 31.8**	**-0.2**
	baz=287						
YUK4	**Talbot Arm**	**33.21**	**52**	P	**P**	**03 31 30.7**	**-0.9**
	baz=286						
YUK4				S	**S**	**03 36 39.5**	**+1.0**
	baz=286						
YKU2	**Yakutat**	**33.26**	**55**	P	**P**	**03 31 31.9**	**0.0**
YKU2				IAmb	IAmb	03 31 43.0	
	comp=Z,2μm,0.8s						
ZAK	**Zakamensk**	**33.33**	**287**	*e*P	**P**	**03 31 33.0**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,774nm,1.6s						
PNL	**Peninsula**	**33.35**	**55**	P	**P**	**03 31 31.3**	**-1.4**
	baz=288,SNR=157						
PNL				S	**S**	**03 36 40.5**	**+0.2**
	baz=288						
YUK6	**Outpost Mounta**	**33.45**	**52**	P	**P**	**03 31 32.8**	**-1.0**
	baz=287,SNR=241						
YUK6				S	**S**	**03 36 42.8**	**+0.4**
	baz=287						
TIA	**Tai'an**	**33.58**	**255**	⇓P	**P**	**03 31 34.2**	**-0.7**
TIA				S	**S**	**03 36 41.9**	**-2.4**
TIA				ScP	**ScP**	**03 37 45.6**	**+6.4**
TIA				PcS	**PcS**	**03 37 54.5**	**-2.6**
TIA				pmax	pmax		
	comp=Z,70nm,0.7s						
TIA				pmax	pmax		
	comp=Z,13μm,7.6s						
TIA				LR	LR		
	comp=Z,154μm,23.3s						
TIA				LR	LR		
	comp=Z,138μm,28.4s						
TIA				LR	LR		
	comp=Z,98μm,30.6s						
M30M	**Minto, Yukon**	**33.71**	**49**	P	**P**	**03 31 35.4**	**-0.3**
	baz=286,SNR=387						
M30M				S	**S**	**03 36 49.2**	**+3.3**
	baz=286						
HHC	**Hu-ho-hao-te**	**33.72**	**267**	*e*P	**P**	**03 31 35.8**	**-0.4**
HHC				PP	**PnPn**	**03 32 53.0**	**-1.9**
HHC				S	**S**	**03 36 43.3**	**-3.4**
HHC				sS	sS	03 37 46.8	-3.6
HHC				pmax	pmax		
	comp=Z,420nm,0.9s						
HHC				pmax	pmax		
	comp=Z,21μm,8.7s						
HHC				LR	LR		
	comp=Z,102μm,16.5s						
HHC				LR	LR		
	comp=Z,101μm,17.3s						
HHC				LR	LR		
	comp=Z,101μm,16.5s						
INK	**Inuvik**	**33.78**	**38**	LR	LR	03 46 57.2	
	comp=Z,85μm,20.1s,baz=291,slow=39						
INK				P3KPbc		04 02 40.5	
	comp=Z,8.2nm,0.9s,baz=46,slow=3.7,SNR=5.6						
INK	**Inuvik**	**33.78**	**38**	⇑P	**P**	**03 31 35.8**	**-0.4**
INK	**Inuvik**	**33.78**	**38**	P	**P**	**03 31 35.8**	**-0.4**
	baz=280,SNR=1000						
INK				S	**S**	**03 36 47.0**	**+0.3**
	baz=280						
MAYO	**Mayo, Yukon**	**33.84**	**47**	P	**P**	**03 31 36.5**	**-0.3**
	baz=285,SNR=227						
MAYO				S	**S**	**03 36 49.0**	**+1.2**
	baz=285						
HYT	**Haines Junctio**	**33.89**	**52**	P	**P**	**03 31 37.0**	**-0.4**
	baz=288,SNR=762						
HYT				S	**S**	**03 36 50.3**	**+1.5**
	baz=288						
MOY	**Mondy**	**34.02**	**290**	*e*P	**P**	**03 31 40.2**	**+1.5**
MOY				pmax	pmax		
	comp=Z,3μm,2.4s						
HNS	**HongShan**	**34.14**	**259**	⇓P	**P**	**03 31 39.4**	**-0.3**
HNS				PP	**PP**	**03 33 01.0**	**+0.6**
HNS				PcP	**PcP**	**03 34 15.9**	**+3.2**
HNS				S	**S**	**03 36 51.9**	**-1.0**
HNS				sS	**sS**	**03 38 00.3**	**+3.6**
HNS				ScS	**ScS**	**03 41 44.8**	**+1.0**
HNS				pmax	pmax		
	comp=Z,2μm,1.2s						
HNS				pmax	pmax		
	comp=Z,19μm,8.6s						
HNS				LR	LR		
	comp=Z,143μm,22.0s						
HNS				LR	LR		
	comp=Z,141μm,22.2s						
HNS				LR	LR		
	comp=Z,79μm,14.2s						
N31M	**Braeburn, Yuko**	**34.48**	**51**	P	**P**	**03 31 42.9**	**+0.5**
	baz=288,SNR=506						
N31M				S	**S**	**03 37 02.1**	**+4.3**
	baz=288						
NRIK	**Noril'sk**	**34.65**	**324**	P	**P**	**03 31 44.4**	**+0.7**
	comp=Z,155nm,0.5s,baz=84,slow=8.3,SNR=102						
NRIK				PcP	**PcP**	**03 34 15.0**	**+1.4**
	comp=Z,453nm,0.6s,baz=100,slow=4.6,SNR=11						
NRIK				ScP	**ScP**	**03 37 44.0**	**+1.5**
	comp=Z,229nm,0.9s,baz=333,slow=3.8,SNR=3.5						
NRIK				P3KPbc		04 02 37.2	
	comp=Z,4.0nm,0.8s,baz=102,slow=0.7,SNR=4.1						
NRIK				P4KPbc		04 10 14.6	
	comp=Z,2.9nm,0.6s,baz=141,slow=10,SNR=2.1						
NRIK	**Noril'sk**	**34.65**	**324**	*d i*P	**P**	**03 31 42.9**	**-0.8**
NRIK				pmax	pmax		
	comp=Z,1μm,1.5s						
NRIK				MLR	MLR		
	comp=Z,116μm,18.0s						
NRIK	**Noril'sk**	**34.65**	**324**	P	**P**	**03 31 43.7**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**34.76**	**166**	T	T	04 07 51.7	
	baz=352,slow=74						
H11N3	**WAKE ISLAND Hy**	**34.78**	**166**	T	T	04 07 49.4	
	baz=352						
H11N1	**WAKE ISLAND Hy**	**34.78**	**166**	T	T	04 07 55.6	
	baz=352,slow=74						
BTO	**Baotou**	**34.79**	**268**	*e*P	**P**	**03 31 45.6**	**+0.2**
BTO				S	**S**	**03 37 06.3**	**+3.3**
M31M	**Drury Creek, Y**	**34.89**	**49**	P	**P**	**03 31 46.0**	**+0.1**
	baz=288,SNR=1000						
M31M				S	**S**	**03 37 02.9**	**-1.1**
	baz=288						
JOW	**Kunigami**	**35.06**	**232**	⇓P	**P**	**03 31 47.9**	**+0.2**
JOW	**Kunigami**	**35.06**	**232**	P	**P**	**03 31 48.6**	**+0.9**
SSE	**Sheshan**	**35.13**	**245**	P	**P**	**03 31 47.9**	**-0.3**
SSE				S	**S**	**03 37 07.9**	**-0.3**
SSE				pmax	pmax		
	comp=Z,6μm,9.1s						
SSE				LR	LR		
	comp=Z,76μm,23.8s						
SSE				LR	LR		
	comp=Z,88μm,23.6s						
SSE				LR	LR		
	comp=Z,49μm,21.0s						
SSE	**Sheshan**	**35.13**	**245**	P	**P**	**03 31 48.7**	**+0.4**
WAKE	**Wake Island**	**35.17**	**167**	⇑P	**P**	**03 31 48.7**	**0.0**
WAKE	**Wake Island**	**35.17**	**167**	P	**P**	**03 31 48.9**	**+0.3**
WAKE				IAmb	IAmb	03 31 53.8	
	comp=Z,2μm,1.1s						
WAKE				ScP	**ScP**	**03 37 44.4**	**-0.6**
WAKE	**Wake Island**	**35.17**	**167**	P	**P**	**03 31 49.3**	**+0.7**
WAKE	**Wake Island**	**35.17**	**167**	P	**P**	**03 31 48.9**	**+0.3**
WAKE				pP	**PP**	**03 33 07.6**	**-4.4**
TIY	**Taiyuan**	**35.26**	**262**	⇓P	**P**	**03 31 49.3**	**-0.1**
TIY				PcP	**PcP**	**03 34 18.4**	**+2.4**
TIY				S	**S**	**03 37 09.8**	**-0.4**
TIY				ScP	**ScP**	**03 37 47.9**	**+2.6**
TIY				pmax	pmax		
	comp=Z,330nm,1.2s						
TIY				pmax	pmax		
	comp=Z,11μm,5.1s						
FARO	**Faro, Yukon**	**35.34**	**49**	P	**P**	**03 31 49.7**	**-0.1**
	baz=289,SNR=835						
FARO				S	**S**	**03 37 12.8**	**+1.8**
	baz=289						
SKAG	**Skagway**	**35.37**	**54**	⇑P	**P**	**03 31 50.2**	**+0.3**
SKAG	**Skagway**	**35.37**	**54**	P	**P**	**03 31 50.1**	**+0.1**
	baz=291,SNR=1000						
SKAG				S	**S**	**03 37 15.0**	**+3.8**
	baz=291						
NJ2	**Nanjing**	**35.66**	**248**	⇓P	**P**	**03 31 52.0**	**-0.7**
NJ2				PcP	**PcP**	**03 34 16.8**	**-0.4**
NJ2				S	**S**	**03 37 13.6**	**-2.7**
NJ2				ScP	**ScP**	**03 37 48.1**	**+1.4**
NJ2				sS	**sS**	**03 38 21.6**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,350nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,12μm,5.7s						
NJ2				LR	LR		
	comp=Z,144μm,20.4s						
NJ2				LR	LR		
	comp=Z,125μm,21.3s						
NJ2				LR	LR		
	comp=Z,74μm,18.9s						
A36M	**Sachs Harbour**	**35.88**	**31**	P	**P**	**03 31 54.4**	**+0.3**
	baz=282,SNR=1000						
A36M				S	**S**	**03 37 19.5**	**+0.7**
	baz=282						
BESE	**Bessie Mountai**	**35.92**	**55**	ScP	**ScP**	**03 37 48.7**	**+1.4**
H11S1	**WAKE ISLAND Hy**	**35.94**	**167**	T	T	04 09 05.9	
	baz=354,slow=76						
H11S3	**WAKE ISLAND Hy**	**35.95**	**167**	T	T	04 09 10.9	
	baz=354,slow=76						
H11S2	**WAKE ISLAND Hy**	**35.96**	**167**	T	T	04 09 04.1	
	baz=354,slow=76						
MMPY	**Sheldon Lake,**	**36.14**	**48**	P	**P**	**03 31 56.6**	**0.0**
	baz=290,SNR=884						
MMPY				S	**S**	**03 37 26.7**	**+3.6**
	baz=290						
P33M	**Teslin, Yukon**	**36.28**	**52**	P	**P**	**03 31 57.6**	**-0.2**
	baz=292,SNR=1000						
P33M				S	**S**	**03 37 28.8**	**+3.4**
	baz=292						
SIT	**Sitka**	**36.29**	**58**	IAmb	IAmb	03 32 10.9	
	comp=Z,3μm,1.2s						
SIT	**Sitka**	**36.29**	**58**	P	**P**	**03 31 58.3**	**+0.5**
	baz=294,SNR=124						
SIT				S	**S**	**03 37 26.7**	**+1.3**
	baz=294						
KRAR	**Krasnoyarsk**	**36.45**	**301**	*d i*P	**P**	**03 31 57.8**	**-1.3**
C36M	**Paulatuk**	**36.89**	**35**	P	**P**	**03 32 02.4**	**-0.3**
	baz=286,SNR=1000						
C36M				S	**S**	**03 37 33.8**	**-0.4**
	baz=286						
LYN	**LuoYang**	**37.43**	**258**	⇓*i*P	**P**	**03 32 07.6**	**-0.1**
LYN				sP	sP	03 32 56.9	-6.7
LYN				S	**S**	**03 37 40.7**	**-2.4**
LYN				pmax	pmax		
	comp=Z,700nm,0.6s						
LYN				pmax	pmax		
	comp=Z,14μm,8.4s						
LYN				LR	LR		
	comp=Z,108μm,22.6s						
LYN				LR	LR		
	comp=Z,98μm,28.4s						
WRAK	**Wrangell Islan**	**38.05**	**57**	IAmb	IAmb	03 32 22.9	
	comp=Z,2μm,1.1s						
WRAK	**Wrangell Islan**	**38.05**	**57**	P	**P**	**03 32 12.6**	**0.0**
	baz=296,SNR=223						
WRAK				S	**S**	**03 37 51.0**	**-0.9**
	baz=296						
CRAG	**Craig**	**38.09**	**59**	IAmb	IAmb	03 32 17.8	
	comp=Z,2μm,1.5s						
CRAG				ScP	**ScP**	**03 37 56.7**	**+1.3**
CRAG	**Craig**	**38.09**	**59**	P	**P**	**03 32 14.1**	**+1.2**
	baz=297,SNR=54						
CRAG				S	**S**	**03 37 54.7**	**+2.2**
	baz=297						
WTLY	**Watson Lake, Y**	**38.17**	**51**	P	**P**	**03 32 13.9**	**+0.2**
	baz=294,SNR=133						
WTLY				S	**S**	**03 37 50.7**	**-3.1**
	baz=294						
JMJ	**Miyako jima 2**	**38.18**	**234**	P	**P**	**03 32 15.5**	**+1.5**
DLBC	**Dease Lake**	**38.30**	**54**	LR	LR	03 48 20.8	
	comp=Z,106μm,19.8s,baz=296,slow=36						
DLBC				P3KPbc		04 02 21.7	
	comp=Z,4.8nm,0.9s,baz=360,slow=3.9,SNR=6.3						
WRGLY	**Wrigley**	**39.23**	**44**	P	**P**	**03 32 23.0**	**+0.7**
	baz=294,SNR=595						
WRGLY				S	**S**	**03 38 12.4**	**+3.0**
	baz=294						
WHN	**Wuhan**	**39.30**	**252**	⇓P	**P**	**03 32 22.4**	**-1.0**
WHN				S	**S**	**03 38 04.3**	**-7.0**
WHN				pmax	pmax		
	comp=Z,1μm,0.8s						
WHN				LR	LR		
	comp=Z,146μm,8.4s						
WHN				LR	LR		
	comp=Z,83μm,9.8s						
WHN				LR	LR		
	comp=Z,182μm,15.1s						
YOJ	**Yonaguni jima**	**39.58**	**236**	⇓P	**P**	**03 32 25.4**	**-0.3**
YOJ	**Yonaguni jima**	**39.58**	**236**	PcP	**PcP**	**03 34 30.6**	**+1.2**
XAN	**Xi'an**	**39.85**	**261**	P	**P**	**03 32 26.8**	**-1.1**
XAN				pP	pP	03 33 03.3	-1.5
XAN				PP	**PP**	**03 34 04.6**	**+1.6**
XAN				PcP	**PcP**	**03 34 32.9**	**+2.7**
XAN				ScP	**ScP**	**03 38 04.2**	**+1.5**
XAN				S	**S**	**03 38 21.1**	**+1.6**
XAN				sS	sS	03 39 23.1	-1.3
XAN				ScS	**ScS**	**03 42 13.2**	**-3.0**
XAN				pmax	pmax		
	comp=Z,470nm,1.3s						
XAN				pmax	pmax		
	comp=Z,18μm,6.3s						
XAN				LR	LR		
	comp=Z,163μm,23.5s						
XAN				LR	LR		
	comp=Z,165μm,23.3s						
XAN				LR	LR		
	comp=Z,131μm,22.1s						
XAN	**Xi'an**	**39.85**	**261**	P	**P**	**03 32 26.9**	**-1.0**
TATO	**Taipei**	**39.91**	**238**	P	P	03 32 33.9	+5.5
TATO				S	**S**	**03 38 17.2**	**-3.2**
TATO	**Taipei**	**39.91**	**238**	P	**P**	**03 32 29.6**	**+1.2**
TATO	**Taipei**	**39.91**	**238**	P	**P**	**03 32 30.3**	**+1.9**
TATO				pP	**sP**	**03 33 31.9**	**+7.3**
YHNB	**Yeheng**	**40.22**	**238**	P	**P**	**03 32 30.8**	**-0.2**
YHNB	**Yeheng**	**40.22**	**238**	P	**P**	**03 32 33.1**	**+2.0**
NACB	**Ninganchiao**	**40.52**	**238**	PcP	**PcP**	**03 34 34.2**	**+1.8**
NACB				ScP	**ScP**	**03 38 06.5**	**+1.2**
SSLB	**Suanglung**	**41.16**	**238**	P	**P**	**03 32 38.6**	**-0.1**
SSLB				ScP	**ScP**	**03 38 09.0**	**+1.1**
SSLB	**Suanglung**	**41.16**	**238**	P	**P**	**03 32 39.4**	**+0.6**
LZH	**Lanzhou**	**41.41**	**267**	⇓P	**P**	**03 32 41.3**	**+0.5**
LZH				pP	pP	03 33 19.6	+1.7
LZH				sP	sP	03 33 36.3	-0.9
LZH				PP	**PnPn**	**03 34 24.1**	**-2.1**
LZH				ScP	**ScP**	**03 38 11.5**	**+2.6**
LZH				S	**S**	**03 38 40.7**	**-2.1**
LZH				sS	sS	03 39 51.7	+3.7
LZH				ScS	**ScS**	**03 42 21.1**	**-4.7**
LZH				pmax	pmax		
	comp=Z,1μm,1.5s						
LZH				pmax	pmax		
	comp=Z,13μm,4.9s						
LZH				LR	LR		
	comp=Z,102μm,19.0s						
LZH				LR	LR		
	comp=Z,96μm,20.1s						
LZH				LR	LR		
	comp=Z,170μm,20.1s						
QZH	**Quanzhou**	**41.42**	**242**	⇑*i*P	**P**	**03 32 40.5**	**-0.3**
QZH				pP	**pP**	**03 33 14.3**	**-3.6**
QZH				sP	**sP**	**03 33 38.2**	**+1.0**
QZH				ScP	**ScP**	**03 38 10.1**	**+1.3**
QZH				S	**S**	**03 38 41.4**	**-1.3**
QZH				sS	**sS**	**03 39 46.2**	**-1.7**
QZH				ScS	**ScS**	**03 42 25.9**	**+0.2**
QZH				pmax	pmax		
	comp=Z,590nm,0.7s						
QZH				pmax	pmax		
	comp=Z,9μm,7.8s						
QZH				LR	LR		
	comp=Z,63μm,21.8s						
QZH				LR	LR		
	comp=Z,61μm,20.4s						
QZH				LR	LR		
	comp=Z,58μm,18.0s						
ZAA0	**Zalesovo Array**	**41.51**	**301**	P	**P**	**03 32 40.1**	**-1.1**
ZAA0				PcP	**PcP**	**03 34 33.0**	**-2.2**
ZALV	**Zalesovo Beam**	**41.51**	**301**	P	**P**	**03 32 41.0**	**-0.2**
	comp=Z,392nm,0.6s,baz=54,slow=7.4,SNR=234						
ZALV				PcP	**PcP**	**03 34 37.0**	**+1.8**
	comp=Z,477nm,0.5s,baz=88,slow=3.5,SNR=8.4						
ZALV				ScP	**ScP**	**03 38 12.6**	**+3.8**
	comp=Z,114nm,0.8s,baz=49,slow=4.5,SNR=3.7						
ZALV				PKiKP	**PKiKP**	**03 41 42.1**	**+0.7**
	comp=Z,25nm,0.5s,baz=136,slow=1.0,SNR=6.0						
ZALV				P3KP		04 03 47.0	
	comp=Z,4.8nm,1.1s,baz=205,slow=3.0,SNR=4.5						
ZALV				P4KPbc		04 10 43.8	
	comp=Z,1.1nm,0.4s,baz=53,slow=4.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**41.51**	**301**	*i* P	**P**	**03 32 40.0**	**-1.2**
ZALV				pmax	pmax		
	comp=Z,392nm,0.6s						
ZALV	**Zalesovo Beam**	**41.51**	**301**	P	**P**	**03 32 40.0**	**-1.2**
ZALV				PcP	**PcP**	**03 34 32.7**	**-2.5**
GTA	**Gaotai**	**41.58**	**274**	⇓P	**P**	**03 32 42.7**	**+0.6**
GTA				pP	pP	03 33 17.7	-1.5
GTA				sP	sP	03 33 35.3	-3.2
GTA				PcP	**PcP**	**03 34 38.1**	**+2.2**
GTA				ScP	**ScP**	**03 38 11.0**	**+1.5**
GTA				S	**S**	**03 38 45.7**	**+0.6**
GTA				sS	sS	03 39 51.8	+1.4
GTA				ScS	**ScS**	**03 42 25.6**	**-1.1**
GTA				pmax	pmax		
	comp=Z,820nm,1.4s						
GTA				pmax	pmax		
	comp=Z,29μm,7.6s						
GTA				LR	LR		
	comp=Z,94μm,17.1s						
GTA				LR	LR		
	comp=Z,77μm,18.7s						
GTA				LR	LR		
	comp=Z,70μm,19.9s						
GUMO	**Guam**	**41.68**	**200**	P	**P**	**03 32 41.2**	**-1.8**
	comp=Z,455nm,0.6s,baz=164,slow=7.5,SNR=14						
GUMO	**Guam**	**41.68**	**200**	P	**P**	**03 32 40.9**	**-2.0**
GUMO				pmax	pmax		
	comp=Z,533nm,0.6s						
GUMO	**Guam**	**41.68**	**200**	⇓P	**P**	**03 32 41.1**	**-1.8**
GUMO	**Guam**	**41.68**	**200**	P	**P**	**03 32 40.9**	**-2.0**
GUMO	**Guam**	**41.68**	**200**	P	**P**	**03 32 42.6**	**-0.3**
TPUB	**Ta-pu**	**41.73**	**238**	IAmb	IAmb	03 32 55.4	
	comp=Z,1μm,0.8s						
TPUB				ScP	**ScP**	**03 38 11.5**	**+1.4**
TPUB	**Ta-pu**	**41.73**	**238**	P	**P**	**03 32 45.4**	**+2.0**
CNSH	**ChangSha**	**41.91**	**251**	⇓P	**P**	**03 32 43.3**	**-1.4**
CNSH				S	**S**	**03 38 46.1**	**-3.7**
CNSH				pmax	pmax		
	comp=Z,270nm,1.0s						
CNSH				LR	LR		
	comp=Z,85μm,27.8s						
CNSH				LR	LR		
	comp=Z,94μm,20.7s						

CNSH LR LR
comp=Z,93µm,20.0s
TWG Pinlang 41.91 237 IAmb IAmb 03 32 55.4
comp=Z,1µm,0.6s
KNMB Chin-men Tao 41.92 241 P **P** **03 32 45.4 +0.6**
KNMB ScP **ScP** **03 38 12.3 +1.4**
ALE Alert 42.19 7 P **P** **03 32 47.2 +0.8**
ENH Enshi 42.27 256 P **P** **03 32 46.3 -1.4**
ENH IAmb IAmb 03 32 59.5
comp=Z,2µm,0.8s
ENH ScP **ScP** **03 38 13.9 +1.6**
ENH Enshi 42.27 256 P **P** **03 32 46.5 -1.2**
ENH pP **pP** **03 33 31.9 +7.0**
BBB Bella Bella 42.30 61 P4KPbc 04 10 47.6
comp=Z,15nm,1.0s,baz=103,slow=8.8,SNR=1.3
BBB Bella Bella 42.30 61 ⇓P **P** **03 32 49.1 +1.6**
DGZ Jazzator, Alta 42.44 294*d* iP **P** **03 32 49.1 +0.1**
DGZ pmax pmax
comp=Z,5µm,1.0s
DGZ MLR MLR
comp=Z,41µm,17.0s
RES Resolute Bay 42.88 22 ⇓P **P** **03 32 51.5 -0.5**
YKA Yellowknife Ar 43.18 43 P **P** **03 32 54.5 0.0**
comp=Z,1µm,0.9s,baz=300,slow=7.2,SNR=710
YKA pP **pP** **03 33 28.7 -3.3**
comp=Z,167nm,0.8s,baz=344,slow=28,SNR=1.9
YKA ScP **ScP** **03 38 15.9 +0.6**
comp=Z,92nm,0.8s,baz=299,slow=3.8,SNR=6.6
YKA P3KPbc 04 02 02.6
comp=Z,1.4nm,0.6s,baz=105,slow=4.7,SNR=10
YKA PKPPKP 04 04 47.0
comp=Z,2.8nm,0.7s,baz=156,slow=2.7,SNR=5.7
YKA P4KPbc 04 10 50.0
comp=Z,0.4nm,0.6s,baz=301,slow=4.1,SNR=6.0
YKA Yellowknife Ar 43.18 43 *i* P **P** **03 32 53.7 -0.8**
YKA pmax pmax
comp=Z,493nm,0.6s
YKA Yellowknife Ar 43.18 43 P **P'P'df** **04 04 47.0 -1.2**
YKA Yellowknife Ar 43.18 43 P **P** **03 32 54.3 -0.2**
YKA ScP **ScP** **03 38 15.8 +0.4**
YKA Yellowknife Ar 43.18 43 P **P'P'df** **04 04 47.0 -1.2**
BBP Basco 43.49 234⇓*iP* **P** **03 32 58.1 +0.6**
JOHN Johnston Islan 44.66 134⇓P **P** **03 33 07.1 +0.2**
JOHN Johnston Islan 44.66 134 P **P** **03 33 07.0 +0.2**
JOHN IAmb IAmb 03 33 16.0
comp=Z,3µm,1.2s
JOHN Johnston Islan 44.66 134 P **P** **03 33 08.9 +2.1**
JOHN Johnston Islan 44.66 134 P **P** **03 33 07.3 +0.4**
NOR Nord 44.66 359 *i* P **P** **03 33 05.5 -0.7**
NOR IAmb IAmb 03 33 08.8
comp=Z,10µm,3.4s
NOR Nord 44.66 359 ⇑P **P** **03 33 05.2 -0.9**
KEKH Kekaha 44.83 119 P **P** **03 33 07.9 -0.2**
KEKH IAmb IAmb 03 33 10.6
comp=Z,1µm,0.8s
CD2 Chengdu 45.12 262 ⇓P **P** **03 33 10.0 -0.5**
CD2 PP **PP** **03 34 59.4 +0.1**
CD2 S **S** **03 39 34.2 -2.5**
CD2 sS sS 03 40 45.5 +2.8
CD2 SS **SS** **03 42 55.6 -6.1**
CD2 pmax pmax
comp=Z,1µm,0.7s
CD2 pmax pmax
comp=Z,19µm,8.4s
CD2 LR LR
comp=Z,10µm,23.0s
CD2 LR LR
comp=Z,66µm,19.6s
CD2 LR LR
comp=Z,70µm,23.0s
ZSN Zaisan 45.13 293*d iP* **P** **03 33 10.1 -0.2**
ZSN *e*S **S** **03 39 38.2 +1.8**
ZSN Zaisan 45.13 293⇓*iP* **P** **03 33 10.1 -0.2**
baz=294
ZSN *e*S **S** **03 39 38.3 +1.8**
baz=294
GULI GuiLin 45.59 251 ⇓P **P** **03 33 12.1 -2.0**
GULI S **S** **03 39 38.3 -5.0**
GULI sS **sS** **03 40 49.0 -0.4**
GULI ScS **ScS** **03 42 47.7 -4.3**
GULI pmax pmax
comp=Z,560nm,0.9s
GULI LR LR
comp=Z,109µm,23.9s
GULI LR LR
comp=Z,118µm,24.4s
GULI LR LR
comp=Z,45µm,27.1s
KWAJ Kwajalein Atol 45.62 167 P **P** **03 33 14.4 +0.1**
KWAJ pmax pmax
comp=Z,2µm,1.1s
KWAJ Kwajalein Atol 45.62 167 ⇑P **P** **03 33 15.9 +1.5**
KWAJ Kwajalein Atol 45.62 167 P **P** **03 33 14.4 +0.1**
KWAJ Kwajalein Atol 45.62 167 P **P** **03 33 16.5 +2.1**
KWAJ Kwajalein Atol 45.62 167 P **P** **03 33 15.8 +1.5**
GZH Guangzhou 45.71 246 P **P** **03 33 10.4 -4.6**
GZH S S 03 39 35.0 -10
GZH pmax pmax
comp=Z,14µm,8.6s
GZH LR LR
comp=Z,122µm,21.2s
GZH LR LR
comp=Z,138µm,21.6s
WMQ Urumqi 45.79 288 P **P** **03 33 16.0 +0.4**
WMQ PP **PP** **03 35 10.1 +4.3**
WMQ S **S** **03 39 48.1 +2.0**
WMQ sS sS 03 40 51.3 -0.9
WMQ pmax pmax
comp=Z,4µm,0.9s
WMQ pmax pmax
comp=Z,30µm,5.5s
WMQ LR LR
comp=Z,67µm,20.9s
WMQ LR LR
comp=Z,43µm,11.1s
WMQ LR LR
comp=Z,34µm,21.3s
WMQ Urumqi 45.79 288 P **P** **03 33 16.1 +0.4**
WMQ pP **pP** **03 33 57.3 +3.9**
SEM Semipalatinsk 45.82 299*d iP* **P** **03 33 14.6 -1.3**
SEM Semipalatinsk 45.82 299⇓*iP* **P** **03 33 14.6 -1.3**
baz=299
KBS Kingsbay 45.89 351*de*P **P** **03 33 16.8 +1.0**
KBS *i* *PP **pP** **03 33 53.0 -0.6**
KBS pmax pmax
comp=Z,3µm,1.1s
KBS MLR MLR
comp=Z,73µm,19.0s
KBS Kingsbay 45.89 351 *i* P **P** **03 33 16.5 +0.7**
KBS Kingsbay 45.89 351⇓*iP* **P** **03 33 16.7 +1.0**
KBS IVmB_BB 03 33 19.9
comp=Z,23µm,1.2s
KBS *e*S **S** **03 39 46.9 +0.5**
KBS Kingsbay 45.89 351 ⇑P **P** **03 33 16.0 +0.2**
KBS Kingsbay 45.89 351 P **P** **03 33 16.0 +0.2**
KBS IAmb IAmb 03 33 20.6
comp=Z,3µm,1.1s
KBS Kingsbay 45.89 351 P **P** **03 33 17.1 +1.3**
HKC Hong Kong Obse 45.90 244 ⇑P **P** **03 33 18.0 +1.5**
OPA Opana 45.96 117 IAmb IAmb 03 33 19.4
comp=Z,2µm,0.9s
APYP Conner 46.05 233⇑*iP* **P** **03 33 16.8 -0.9**
SPA0 Spitsbergen Ar 46.13 350 *e*P **P** **03 33 17.9 +0.3**
SPA0 IVmB_BB 03 33 21.3
comp=Z,36µm,1.0s
SPA0 *e*S **S** **03 39 49.3 -0.6**
SPITS Spitsbergen Ar 46.13 350 P **P** **03 33 17.1 -0.6**
SPITS pmax pmax
comp=Z,5µm,1.1s
SPB2 Spitsbergen Ar 46.13 350 IAmb IAmb 03 33 21.9
comp=Z,4µm,1.1s
KIP Kipapa 46.17 117*d iP* **P** **03 33 18.8 +0.1**
KIP pmax pmax
comp=Z,2µm,0.8s
KIP MLR MLR
comp=Z,20µm,14.0s
KIP Kipapa 46.17 117 P **P** **03 33 18.9 +0.2**
KIP IAmb IAmb 03 33 20.9
comp=Z,2µm,0.9s
KIP Kipapa 46.17 117 P **P** **03 33 19.9 +1.2**
KIP Kipapa 46.17 117 P **P** **03 33 18.6 -0.1**
KIP pP **pP** **03 33 53.0 -3.5**
HON Honolulu 46.26 117 P **P** **03 33 19.4 0.0**
HON pmax pmax
comp=Z,2µm,1.1s
HON Honolulu 46.26 117 P **P** **03 33 19.4 0.0**
HON IAmb IAmb 03 33 31.5
comp=Z,2µm,1.1s
TULEG Thule 46.35 14 *i* P **P** **03 33 19.0 -0.3**
TULEG IVmB_BB 03 33 20.5
comp=Z,45µm,3.1s
TULEG Thule 46.35 14⇓P **P** **03 33 18.1 -1.2**
TULEG Thule 46.35 14 P **P** **03 33 18.2 -1.2**
TULEG IAmb IAmb 03 33 22.7
comp=Z,2µm,1.2s
TULEG ScP **ScP** **03 38 29.6 +1.4**
MCO Taipa Grande 46.37 245 P **P** **03 33 24.0 +3.8**
KURK Kurchatov 46.47 300*d iP* **P** **03 33 19.9 -0.8**
KURK pmax pmax
comp=Z,3µm,0.6s
KURK Kurchatov 46.47 300 P **P** **03 33 20.3 -0.4**
KURK S **S** **03 39 50.4 -5.0**
KURK Kurchatov 46.47 300⇓P **P** **03 33 20.0 -0.7**
KURK Kurchatov 46.47 300 P **P** **03 33 20.1 -0.6**
KURK Kurchatov 46.47 300 P **P** **03 33 19.9 -0.8**
HOPEN Hopen 46.48 346⇓*iP* **P** **03 33 20.4 0.0**
HOPEN IVmB_BB 03 33 23.7
comp=Z,18µm,1.5s
HOPEN *e*S **S** **03 39 53.4 -1.5**
KURBB Kurchatov Arra 46.58 300 P3KPbc 04 01 49.1
comp=Z,1.2nm,0.8s,baz=243,slow=5.0,SNR=4.5
KURBB P3KP 04 03 39.2
comp=Z,1.5nm,0.9s,baz=270,slow=1.9,SNR=4.0
KURBB P4KPbc 04 11 05.3
comp=Z,5.4nm,0.6s,baz=53,slow=3.9,SNR=20
KURBB Kurchatov Arra 46.58 300 P **P** **03 33 20.7 -0.8**
C03A Quillayute Air 46.61 64 P **P** **03 33 22.8 +1.0**
C03A IAmb IAmb 03 33 27.1
comp=Z,4µm,1.2s
GOMU GeErMu 46.67 275 P **P** **03 33 22.7 -0.2**
GOMU PP **PP** **03 35 13.1 -1.3**
GOMU S **S** **03 39 53.4 -5.8**
GOMU pmax pmax
comp=Z,620nm,0.8s
GOMU pmax pmax
comp=Z,8µm,3.6s
GOMU LR LR
comp=Z,55µm,18.1s
GOMU LR LR
comp=Z,41µm,18.3s
GOMU LR LR
comp=Z,36µm,18.2s
GYA Guiyang 46.77 255⇑*iP* **P** **03 33 23.1 -0.4**
GYA pP pP 03 34 03.5 +2.0
GYA sP sP 03 34 18.3 -2.3
GYA PP **PP** **03 35 20.5 +5.2**
GYA ScP **ScP** **03 38 33.0 +2.0**
GYA S **S** **03 39 56.0 -4.5**
GYA sS sS 03 41 10.1 +3.3
GYA ScS **ScS** **03 42 57.2 -2.8**
GYA pmax pmax
comp=Z,520nm,1.1s
GYA pmax pmax
comp=Z,17µm,7.2s
GYA LR LR
comp=Z,40µm,20.8s
GYA LR LR
comp=Z,59µm,19.8s
GYA LR LR
comp=Z,76µm,24.2s
MK31 Makanchi Array 46.93 294*d iP* **P** **03 33 23.3 -1.0**
MK31 pmax pmax
comp=Z,1µm,0.5s
MK31 Makanchi Array 46.93 294 P **P** **03 33 24.1 -0.3**
MK31 IAmb IAmb 03 33 28.2
comp=Z,1µm,0.6s
MKAR Makanchi Array 46.93 294 P **P** **03 33 24.6 +0.2**
comp=Z,1µm,0.5s,baz=57,slow=6.2,SNR=2203
MKAR ScP **ScP** **03 38 33.5 +2.3**
comp=Z,52nm,0.8s,baz=60,slow=5.7,SNR=2.6
MKAR P3KP 04 03 31.7
comp=Z,1.1nm,0.8s,baz=141,slow=0.8,SNR=4.1
MKAR P4KPbc 04 11 04.0
comp=Z,1.4nm,0.6s,baz=62,slow=3.9,SNR=17
MKAR Makanchi Array 46.93 294 P **P** **03 33 23.5 -0.8**
PATS Pohnpei 46.98 180 P **P** **03 33 25.8 +0.9**
MAKZ Makanchi 47.09 294 P **P** **03 33 24.5 -1.1**
MAKZ pmax pmax
comp=Z,4µm,1.1s
MAKZ Makanchi 47.09 294 P **P** **03 33 24.5 -1.1**
MAKZ IAmb IAmb 03 33 36.0
comp=Z,4µm,1.1s
MAKZ Makanchi 47.09 294 P **P** **03 33 24.7 -0.9**
A04D Lummi Island 47.12 62 P **P** **03 33 26.6 +0.9**
baz=308,SNR=64
A04D S **S** **03 40 05.7 +1.2**
baz=308
HSPB Hornsund (broa 47.24 349 *e*P **P** **03 33 26.7 +0.4**
HSPB *e*S **S** **03 40 03.9 -1.8**
HSPB *e*L L 03 45 30.4
comp=Z,148µm,30.1s
HSPB Hornsund (broa 47.24 349⇓*iP* **P** **03 33 27.5 +1.2**
HSPB IVmB_BB 03 33 30.8
comp=Z,22µm,1.4s
HSPB *e*S **S** **03 40 05.5 -0.2**
NLWA Neilton Lookou 47.32 65 ⇑P **P** **03 33 27.7 +0.3**
KHLH Kahului Airpor 47.45 116 IAmb IAmb 03 33 31.2
comp=Z,2µm,1.0s
WISH Wishkah 47.55 65 IAmb IAmb 03 33 41.3
comp=Z,3µm,1.2s
NEEM North Greenlan 47.58 8 *i* P **P** **03 33 29.2 0.0**
D03D Eldon 47.65 64 P **P** **03 33 30.0 +0.2**
baz=309,SNR=228
D03D S **S** **03 40 13.6 +1.5**
baz=309
HLK Haleakala 47.65 116 IAmb IAmb 03 33 32.7
comp=Z,2µm,1.0s
B05A Bryant 47.72 63 P **P** **03 33 30.4 0.0**
baz=308,SNR=276
B05A S **S** **03 40 13.1 0.0**
baz=308
RADR Rader Ridge 47.97 66 IAmb IAmb 03 33 44.2
comp=Z,2µm,1.2s
E03A Lebam 48.02 65 IAmb IAmb 03 33 38.2
comp=Z,2µm,0.9s
D04E Lakebay 48.04 64 P **P** **03 33 34.5 +1.7**
baz=309,SNR=40
PCPH Palayan 48.12 232⇑*e*P **P** **03 33 34.8 +1.0**
PNT Penticton 48.35 60 ⇓P **P** **03 33 34.7 -0.6**
D05A Enumclaw 48.45 64 P **P** **03 33 36.3 +0.3**
D05A IAmb IAmb 03 33 46.2
comp=Z,1µm,0.9s
D05A ScP **ScP** **03 38 39.4 +1.8**
JCNP Jose Panganiba 48.50 229⇓*e*P **P** **03 33 37.7 +1.0**
E04D Cinebar 48.54 65 IAmb IAmb 03 33 41.5
comp=Z,3µm,1.2s
E04D Cinebar 48.54 65 P **P** **03 33 37.4 +0.7**
baz=309,SNR=230
E04D S **S** **03 40 24.7 +0.1**
baz=309
HPAH Hawaii Prepara 48.54 116 IAmb IAmb 03 33 38.8
comp=Z,2µm,0.9s
C06D Leavenworth 48.56 62 P **P** **03 33 37.6 +0.7**
baz=309,SNR=93
C06D S **S** **03 40 25.5 +0.5**
baz=309
F04D Rainier, OR 48.60 65 P **P** **03 33 38.5 +1.3**
baz=310,SNR=51
F04D S **S** **03 40 26.4 +0.8**
baz=310
HEBO Mount Hebo 48.76 67 IAmb IAmb 03 33 48.4
comp=Z,2µm,0.9s
POHA Pohakuloa 48.85 116⇓P **P** **03 33 39.5 -0.1**
POHA Pohakuloa 48.85 116 P **P** **03 33 39.5 -0.1**
POHA IAmb IAmb 03 33 41.6
comp=Z,3µm,1.0s
POHA Pohakuloa 48.85 116 P **P** **03 33 40.4 +0.7**
POHA Pohakuloa 48.85 116 P **P** **03 33 40.0 +0.3**
GQP Guinayangan 48.95 229⇓*e*P **P** **03 33 41.5 +1.3**
BJO1 Bjornoya 49.00 347⇓*iP* **P** **03 33 39.9 +0.2**
BJO1 IVmB_BB 03 33 43.0
comp=Z,26µm,1.2s
BJO1 *e*S **S** **03 40 28.3 -2.0**
MLOA Mauna Loa Obse 49.01 116 IAmb IAmb 03 33 43.1
comp=Z,1µm,0.9s
G03D McMinnville, O 49.03 66 P **P** **03 33 41.4 +1.0**
baz=310,SNR=25
G03D S **S** **03 40 32.0 +0.6**
baz=310
MWH Moku'aweowe 49.04 116 IAmb IAmb 03 33 49.2
comp=Z,2µm,1.2s
B08A Colville Reser 49.10 61 IAmb IAmb 03 33 50.5
comp=Z,1µm,0.8s
LTY Liberty 49.10 63 IAmb IAmb 03 33 44.2
comp=Z,2µm,1.4s
BVAR Borovoye Array 49.11 307 P4KPbc 04 11 15.9
comp=Z,6.5nm,0.6s,baz=60,slow=8.9,SNR=18
BRVK Borovoye 49.14 307 P **P** **03 33 39.8 -1.3**
BRVK pmax pmax
comp=Z,2µm,0.8s
BRVK Borovoye 49.14 307 P **P** **03 33 40.8 -0.3**
BRVK S **S** **03 40 30.8 -2.1**
BRVK Borovoye 49.14 307⇓P **P** **03 33 40.4 -0.8**
BRVK Borovoye 49.14 307 P **P** **03 33 39.8 -1.3**
BRVK IAmb IAmb 03 33 51.0
comp=Z,2µm,0.8s
BRVK Borovoye 49.14 307 P **P** **03 33 40.6 -0.5**
MLH Mauna Loa 49.15 116 IAmb IAmb 03 33 43.8
comp=Z,2µm,0.9s
AIN Ainahou 49.21 116 IAmb IAmb 03 33 50.6
comp=Z,2µm,1.0s
UWE Uwekahuna 49.26 116 IAmb IAmb 03 33 44.4
comp=Z,2µm,1.1s
OBL Observatory Le 49.27 116 IAmb IAmb 03 33 46.5
comp=Z,1µm,0.9s
WRMHI West Rim 49.27 116 P **P** **03 33 42.8 +0.2**
WRMHI IAmb IAmb 03 33 54.9
comp=Z,2µm,0.9s
RIM Rim 49.29 116 IAmb IAmb 03 33 45.4
comp=Z,2µm,0.9s
KKO Keanakako`i 49.29 116 IAmb IAmb 03 33 46.8
comp=Z,2µm,0.9s
PUH Pauahi 49.34 116 IAmb IAmb 03 33 44.9
comp=Z,2µm,0.9s
NPOC North of Pu'u 49.38 116 IAmb IAmb 03 33 47.3
comp=Z,2µm,0.8s
JCUZ Jacuzzi 49.39 116 IAmb IAmb 03 33 51.9
comp=Z,1µm,0.8s
COR Corvallis 49.41 67 P **P** **03 33 43.5 +0.2**
COR pmax pmax
comp=Z,2µm,1.3s
COR Corvallis 49.41 67⇓P **P** **03 33 44.3 +1.0**
COR Corvallis 49.41 67 P **P** **03 33 43.5 +0.2**
COR IAmb IAmb 03 33 47.5
comp=Z,2µm,1.2s
COR Corvallis 49.41 67 P **P** **03 33 44.7 +1.4**
COR pP **pP** **03 34 23.1 +1.6**
I02E Swisshome, OR 49.42 68 IAmb IAmb 03 33 47.5
comp=Z,2µm,1.3s
I02E Swisshome, OR 49.42 68 P **P** **03 33 45.0 +1.6**
baz=311,SNR=22
I02E S **S** **03 40 38.9 +1.9**
baz=311
TGY Tagaytay City 49.47 231 P **P** **03 33 45.9 +1.7**
comp=Z,4µm,0.6s,baz=306,slow=1.0,SNR=30
TGY ScP **ScP** **03 38 43.8 +1.4**
comp=Z,613nm,0.6s,baz=189,slow=2.8,SNR=5.3
TGY Tagaytay City 49.47 231⇑*e*P **P** **03 33 48.0 +3.8**
F05D White Salmon 49.56 65 P **P** **03 33 45.6 +1.1**
baz=310,SNR=81
F05D S **S** **03 40 39.9 +0.9**
baz=310
PZH PanZhiHua 49.58 260⇓P **P** **03 33 44.1 -0.9**
PZH PP **PP** **03 35 41.4 +0.6**
PZH S **S** **03 40 34.5 -5.4**
PZH ScS **ScS** **03 43 16.0 -2.8**
PZH pmax pmax
comp=Z,650nm,0.7s
PZH pmax pmax
comp=Z,15µm,7.2s
PZH LR LR
comp=Z,340µm,21.8s
PZH LR LR
comp=Z,338µm,22.4s
PZH LR LR
comp=Z,320µm,21.3s
H04D Lebanon 49.76 67 P **P** **03 33 46.8 +0.9**
baz=311,SNR=74
H04D S **S** **03 40 42.9 +1.3**
baz=311
HOOD Mount Hood Mea 49.82 65 P **P** **03 33 46.6 0.0**
HOOD ScP **ScP** **03 38 45.0 +1.3**
HOOD S **S** **03 40 43.9 +1.0**
BUCK Buck Mountain 49.83 67 IAmb IAmb 03 33 50.9
comp=Z,3µm,1.4s
BRZS Berezniki 49.92 303*d iP* **P** **03 33 45.9 -1.2**
BRZS pmax pmax
comp=Z,1µm,1.2s
BRZS Berezniki 49.92 303⇓*iP* **P** **03 33 45.9 -1.2**
comp=Z,1µm,1.2s,baz=303
H04A Detroit Lake 49.95 66 IAmb IAmb 03 33 50.9
comp=Z,3µm,1.5s
KEBM Edson Butte 49.96 69 IAmb IAmb 03 33 53.4
comp=Z,2µm,1.0s
I03D Drain, OR 49.96 68 P **P** **03 33 48.0 +0.5**
baz=311,SNR=76
I03D S **S** **03 40 46.5 +2.0**
baz=311
E07A Sunnyside 49.98 63 P **P** **03 33 47.7 0.0**
E07A IAmb IAmb 03 33 51.1
comp=Z,3µm,1.5s
E07A ScP **ScP** **03 38 44.5 +0.4**
PGP Puerto Galera 49.98 231⇓*e*P **P** **03 33 49.7 +1.7**
J01E Myrtle Point 49.99 69 P **P** **03 33 49.0 +1.3**
J01E IAmb IAmb 03 33 52.0
comp=Z,3µm,1.4s
J01E Myrtle Point 49.99 69 P **P** **03 33 48.5 +0.8**
baz=311,SNR=48
J01E S **S** **03 40 47.5 +2.5**
baz=311
C09A Chrisman Ranch 50.01 61 IAmb IAmb 03 33 51.0
comp=Z,3µm,1.4s
KMI Kunming 50.05 258⇓P **P** **03 33 48.2 -0.5**
KMI pP pP 03 34 30.4 +3.2
KMI PP **PP** **03 35 43.1 -2.1**
KMI ScP **ScP** **03 38 49.8 +4.8**
KMI S **S** **03 40 42.9 -3.8**
KMI ScS **ScS** **03 43 19.2 -3.1**
KMI SS **SS** **03 44 18.6 -3.0**
KMI LR LR
comp=Z,123µm,28.3s
KMI LR LR
comp=Z,109µm,29.6s
KMI LR LR
comp=Z,98µm,26.2s
KMI Kunming 50.05 258 P **P** **03 33 48.7 0.0**
KMI pP **pP** **03 34 34.2 +7.0**
G05D Wamic, OR 50.06 65 P **P** **03 33 48.4 +0.2**
baz=311,SNR=117
G05D S **S** **03 40 46.7 +0.9**
baz=311
D08A Wollman Farm, 50.15 62 IAmb IAmb 03 33 52.0
comp=Z,2µm,1.5s
TDK Taldyqorghan 50.16 294 *i* P **P** **03 33 48.9 -0.1**
TDK pmax pmax
comp=Z,1µm,0.7s
TDK Taldyqorghan 50.16 294 *i* P **P** **03 33 48.9 -0.1**
comp=Z,1µm,0.7s,baz=295
HAWA Hanford 50.26 63⇓P **P** **03 33 49.2 -0.5**
HAWA Hanford 50.26 63 IAmb IAmb 03 33 53.1
comp=Z,2µm,1.3s
NEW Newport 50.30 60 ScP **ScP** **03 38 46.2 +0.6**
baz=318,slow=4.0
NEW S **S** **03 40 50.5 +1.3**
comp=Z,19nm,1.1s,baz=40,slow=23,SNR=6.3
NEW P4KPbc 04 11 20.4
comp=Z,4.2nm,0.8s,baz=290,slow=4.4,SNR=6.2
NEW Newport 50.30 60 IAmb IAmb 03 33 53.2
comp=Z,2µm,1.4s
NEW Newport 50.30 60 P **P** **03 33 49.4 -0.6**
baz=310,SNR=601
NEW S **S** **03 40 48.9 -0.3**
baz=310
F07A Phinny Hill Vi 50.37 64 IAmb IAmb 03 34 00.3
comp=Z,1µm,0.8s
I04A Tendick Farm, 50.41 67 P **P** **03 33 51.2 +0.2**
baz=311,SNR=139
I04A S **S** **03 40 52.1 +1.3**
baz=311
E08A Dider Farm, El 50.44 63 IAmb IAmb 03 33 54.2
comp=Z,2µm,1.4s
K02D Willamette Mer 50.45 69 P **P** **03 33 51.8 +0.5**
baz=312,SNR=69
K02D S **S** **03 40 53.3 +1.9**
baz=312
KBO Bosley Butte 50.46 70 IAmb IAmb 03 33 56.5

comp=Z,3μm,1.3s
I05D Terrebonne, OR 50.63 66 P P 03 33 52.0 -0.6
baz=311,SNR=146
I05D S **S 03 40 54.5 +0.5**
baz=311
PDGK Podgornoye 50.67 292 P P 03 33 52.3 -0.7
L02E Cave Junction 50.84 70 P P 03 33 54.7 +0.6
baz=312,SNR=91
L02E S **S 03 40 59.6 +2.9**
baz=312
QIZ Qiongzhong 50.89 246⇓*i*P P 03 33 55.3 +0.6
QIZ pP **pP 03 34 36.1 +2.7**
QIZ S **S 03 40 58.3 +0.5**
QIZ sS **sS 03 42 05.2 0.0**
QIZ pmax pmax
comp=Z,620nm,1.8s
QIZ pmax pmax
comp=Z,14μm,9.0s
QIZ LR LR
comp=Z,83μm,23.5s
QIZ LR LR
comp=Z,83μm,22.5s
QIZ LR LR
comp=Z,47μm,36.3s
QIZ Qiongzhong 50.89 246 P P 03 33 55.4 +0.7
QIZ ScP **ScP 03 38 49.4 +1.0**
QIZ Qiongzhong 50.89 246 P P 03 33 58.0 +3.3
QIZ Qiongzhong 50.89 246 P P 03 33 56.6 +1.9
QIZ pP **pP 03 34 40.4 +7.0**
HUMO Hull Mountain 50.90 69⇓P P 03 33 54.9 +0.3
RCP Roxas 50.90 228⇓*e*P P 03 33 56.0 +1.2
KSXB Camp Six Broad 50.91 70 IAmb IAmb 03 33 59.1
comp=Z,3μm,1.4s
E09A Wood Farm, Sta 50.91 62 IAmb IAmb 03 34 03.9
comp=Z,1μm,0.8s
J04D Umpqua Nationa 50.94 68 IAmb IAmb 03 33 59.9
comp=Z,4μm,1.4s
J04D Umpqua Nationa 50.94 68 P P 03 33 55.4 +0.3
baz=312,SNR=172
J04D S **S 03 41 00.4 +1.9**
baz=312
ARXS Arharly 50.99 294 *e*P P 03 33 54.8 -0.5
SVE Sverdlovsk 51.00 316*ce*P P 03 33 55.0 -0.1
SVE *e* 03 34 55.2
SVE *e* 03 35 53.2
SVE *e*S **S 03 41 01.2 +2.8**
SVE *e* 03 42 09.4
SVE pmax pmax
comp=Z,2μm,1.4s
UZB Uzynbulak 51.05 292*d i*P P 03 33 55.4 -0.4
UZB Uzynbulak 51.05 292⇓*i*P P 03 33 55.4 -0.4
baz=292
PINE Pine Mountain 51.21 66 IAmb IAmb 03 34 01.9
comp=Z,2μm,1.2s
MSLP Maasin 51.28 224⇓*i*P P 03 33 58.0 +0.4
UPNV Upernavik 51.30 13 *i* P P 03 33 55.9 -1.2
ZHN Zhinishke 51.35 293 *i* P P 03 33 57.9 -0.2
ZHN Zhinishke 51.35 293 *i* P P 03 33 58.0 -0.2
baz=293
J05D Fort Rock, OR 51.39 67 P P 03 33 58.6 +0.2
baz=312,SNR=527
J05D S **S 03 41 07.0 +2.5**
baz=312
WALA Waterton Lakes 51.40 57⇓P P 03 33 57.8 -0.6
SATY Saty 51.44 293 *i* P P 03 33 58.6 -0.2
SATY pmax pmax
comp=Z,1μm,0.9s
SATY Saty 51.44 293 *i* P P 03 33 58.6 -0.2
comp=Z,1μm,0.9s,baz=293
LLP Lapu-Lapu 51.49 225⇓*e*P P 03 33 59.6 +0.5
LLP *e*S **S 03 41 06.7 +0.7**
L04D Klamath Falls 51.52 69 P P 03 33 59.5 +0.2
baz=312,SNR=274
L04D S **S 03 41 08.0 +1.8**
baz=312
LVZ Lovozero 51.53 336*d i*P P 03 33 57.8 -1.1
LVZ pmax pmax
comp=Z,2μm,1.3s
LVZ MLR MLR
comp=Z,84μm,21.0s
LVZ Lovozero 51.53 336 ⇑P P 03 33 57.7 -1.3
LVZ Lovozero 51.53 336 P P 03 33 58.3 -0.7
LVZ IAmb IAmb 03 34 02.6
comp=Z,2μm,1.1s
LVZ Lovozero 51.53 336 P P 03 33 58.6 -0.3
K04D Chiloquin, OR 51.55 68 P P 03 34 00.1 +0.6
baz=312,SNR=81
K04D S **S 03 41 09.1 +2.5**
baz=312
HAMF Hammerfest 51.57 342⇓*i*P P 03 33 58.5 -0.6
HAMF IVmB_BB 03 34 01.5
comp=Z,16μm,1.2s
HAMF *e*S **S 03 41 02.4 -3.5**
YBH Yreka Blue Hor 51.62 69 S **S 03 41 10.4 +2.9**
comp=Z,7.3nm,1.0s,baz=80,slow=21,SNR=6.1
YBH LR LR 03 51 26.6
comp=Z,47μm,20.9s,baz=305,slow=31
KHMM Horse Mountain 51.63 71 IAmb IAmb 03 34 05.5
comp=Z,2μm,1.2s
KEV Kevo 51.69 341 P P 03 33 59.4 -0.6
KEV pmax pmax
comp=Z,585nm,0.9s
KEV Kevo 51.69 341⇓P P 03 33 58.7 -1.3
KEV Kevo 51.69 341 P P 03 33 59.4 -0.6
KEV Kevo 51.69 341 P P 03 33 59.9 -0.2
KMPM Mount Pierce 51.72 72 IAmb IAmb 03 34 05.5
comp=Z,3μm,1.4s
F10A Beach Ranch, E 51.74 62⇑P P 03 34 00.5 -0.4
M02C Callahan 51.77 70 P P 03 34 01.9 +0.8
baz=313,SNR=210
M02C S **S 03 41 13.3 +3.7**
baz=313
K05A Summer Lake 51.95 67 IAmb IAmb 03 34 07.0
comp=Z,3μm,1.4s
JAP San Jose, Anti 51.97 228⇓*e*P P 03 34 05.1 +2.4
KUU Kurty 52.01 295*d i*P P 03 34 01.4 -1.4
KUU *e*S **S 03 41 13.4 +0.8**
KUU pmax pmax
comp=Z,721nm,0.5s
KUU Kurty 52.01 295⇓*i*P P 03 34 01.4 -1.4
comp=Z,721nm,0.5s,baz=295
KUU *e*S **S 03 41 13.4 +0.8**
baz=295
DBG Daneborg 52.02 360 *i* P P 03 34 01.8 -0.6
DBG IAmb IAmb 03 34 05.1
comp=Z,989nm,1.0s
M04C Macdoel 52.06 69 P P 03 34 03.7 +0.4
baz=313,SNR=284
M04C S **S 03 41 16.1 +2.4**
baz=313
JTMT Jette 52.08 59 IAmb IAmb 03 34 15.0
comp=Z,3μm,0.9s
KMRM Mail Ridge 52.08 72 IAmb IAmb 03 34 14.2
comp=Z,1μm,0.9s
APA Apatity 52.09 337⇓*i*P P 03 34 02.6 -0.4
APA *i* 03 34 45.0
APA *i* 03 34 58.0
APA *i*S **S 03 41 10.0 -3.1**
APA *i*SS **sS 03 42 15.0 -5.6**
APA *i* 03 43 39.0
TBP Tagbilaran 52.09 225⇓*e*P P 03 34 03.6 -0.1
TBP *i*S **S 03 41 12.9 -1.4**
MDOK Medeo 52.11 294 *i* P P 03 34 03.2 -0.5
MDOK Medeo 52.11 294 *i* P P 03 34 03.3 -0.5
baz=294
ARU Arti 52.12 316 LR LR 03 58 34.1
comp=Z,59μm,21.5s,baz=46,slow=38
ARU P4KPbc 04 11 28.3
comp=Z,2.4nm,0.2s,baz=18,slow=1.9,SNR=7.0
ARU Arti 52.12 316*d i*P P 03 34 02.8 -0.6
ARU *PP **pP 03 34 41.1 -1.2**
ARU *SP **sP 03 35 00.2 -1.1**
ARU 03 35 15.2
ARU 03 35 59.4
ARU S **S 03 41 15.9 +2.1**
ARU *SS **sS 03 42 24.4 +3.1**
ARU 03 43 31.4
ARU SS **SS 03 44 50.9 -1.6**
ARU pmax pmax
comp=Z,2μm,0.8s
ARU pmax pmax
comp=Z,16μm,8.6s
ARU MLR MLR
comp=Z,44μm,16.0s
ARU Arti 52.12 316 ⇓P P 03 34 02.8 -0.6

ARU Arti 52.12 316 P **P 03 34 03.3 -0.1**
ARU Arti 52.12 316 P **P 03 34 02.3 -1.1**
ARU pP **sP 03 35 06.7 +5.3**
KNDC Almaty 52.12 294 P **P 03 34 02.9 -0.8**
N02D Trinity Center 52.13 70 P **P 03 34 04.7 +0.8**
baz=313,SNR=393
N02D S **S 03 41 17.8 +3.2**
baz=313
AAA Alma-Ata 52.15 294*d i*P P 03 34 03.6 -0.3
AAA Alma-Ata 52.15 294⇓*i*P P 03 34 03.6 -0.3
baz=294
ARA0 ARCESS Array S 52.17 341⇓*i*P P 03 34 03.5 0.0
ARCES ARCESS Array B 52.17 341 P **P 03 34 02.5 -1.0**
comp=Z,1μm,0.9s,baz=43,slow=7.5,SNR=392
ARCES PcP **PcP 03 35 14.6 +1.8**
comp=Z,277nm,0.9s,baz=23,slow=4.0,SNR=4.1
ARCES S **S 03 41 13.5 -0.7**
comp=Z,44nm,1.0s,baz=54,slow=9.1,SNR=3.1
ARCES LR LR 04 00 06.1
comp=Z,60μm,19.9s,baz=46,slow=40
ARCES PKPPKP **P'P'df 04 04 33.5 -2.9**
comp=Z,6.8nm,0.7s,baz=197,slow=1.7,SNR=5.6
ARCES P4KPbc 04 11 30.2
comp=Z,4.3nm,0.7s,baz=46,slow=3.7,SNR=5.1
ARCES ARCESS Array B 52.17 341 P P 03 34 02.7 -0.8
ARCES IAmb IAmb 03 34 07.3
comp=Z,2μm,1.0s
TNSS Tian-Shan 52.25 293 *i* P P 03 34 04.7 -0.4
baz=294
SLVN Son La 52.34 254 P P 03 34 05.5 -0.1
LKP Lekhapani 52.41 266 *e*P P 03 34 07.9 +2.0
BTLS Baital 52.46 297*d i*P P 03 34 05.1 -0.9
BTLS Baital 52.46 297⇓*i*P P 03 34 05.1 -0.9
baz=297
CNOP Candoni, Negro 52.49 227⇓*e*P P 03 34 07.5 +0.9
WDC Whiskeytown Da 52.49 70 ⇑P P 03 34 06.8 +0.4
TARG Taragay, Kyrgy 52.67 292 IAmb IAmb 03 34 31.9
comp=Z,1μm,0.8s
KDJ Kajisay 52.74 292 P P 03 34 08.3 -0.1
KDJ pmax pmax
comp=Z,4μm,0.7s
KDJ Kajisay 52.74 292 P P 03 34 08.3 -0.1
NUUG Nuugaatsiaq 52.82 12 *i* P P 03 34 06.5 -1.8
J08A Circle Bar Ran 52.83 65 IAmb IAmb 03 34 12.9
comp=Z,2μm,1.4s
MSO Missoula 52.87 59 IAmb IAmb 03 34 13.3
comp=Z,3μm,1.2s
MSO Missoula 52.87 59 P P 03 34 08.7 -0.5
baz=312,SNR=1000
MSO S **S 03 41 24.3 -0.2**
baz=312
PLID Pearl Lake 52.98 62 IAmb IAmb 03 34 21.3
comp=Z,1μm,0.8s
KTK1 Kautokeino 53.05 341⇓*i*P P 03 34 10.1 +0.1
KTK1 IVmB_BB 03 34 13.3
comp=Z,20μm,1.6s
KTK1 *e*S **S 03 41 24.2 -1.9**
TKM2 Tokmak 2 53.06 294 P P 03 34 10.5 -0.3
SNR=150
TKM2 Tokmak 2 53.06 294 P P 03 34 10.1 -0.7
JETT Jettan, Norway 53.08 343⇓*i*P P 03 34 11.7 +1.3
JETT IVmB_BB 03 34 14.6
comp=Z,36μm,1.5s
JETT *e*S **S 03 41 26.0 -0.6**
O03E Paynes Creek 53.10 70 P **P 03 34 10.8 -0.1**
baz=314,SNR=652
O03E S **S 03 41 29.4 +1.7**
baz=314
FFC Flin Flon 53.11 46 P P 03 34 10.2 -0.4
FFC pmax pmax
comp=Z,901nm,0.8s
FFC Flin Flon 53.11 46 ⇑P P 03 34 10.4 -0.2
FFC Flin Flon 53.11 46 P **P 03 34 10.2 -0.4**
FFC IAmb IAmb 03 34 22.1
comp=Z,901nm,0.8s
FFC Flin Flon 53.11 46 P P 03 34 11.5 +0.9
FFC pP **sP 03 35 06.7 -2.0**
ULHL Ulahol 53.17 293 P P 03 34 11.5 -0.1
SNR=91
PRGR Permogore 53.20 327 *e*P P 03 34 10.9 -0.3
PRGR *e* 03 36 12.0
PRGR *e*S **S 03 41 33.1 +4.8**
PRGR *e* 03 43 39.8
PRGR pmax pmax
comp=Z,537nm,1.5s
SUMG Summit 53.22 6 P P 03 34 11.1 -0.6
SUMG pmax pmax
comp=Z,5μm,1.2s
SUMG Summit 53.22 6 *i* P P 03 34 11.0 -0.6
SUMG Summit 53.22 6 ⇓P P 03 34 11.1 -0.6
SUMG Summit 53.22 6 P P 03 34 11.1 -0.6
SGDS Sogindy 53.22 295 *e*P P 03 34 11.4 -0.3
SGDS pmax pmax
comp=Z,524nm,1.1s
SGDS Sogindy 53.22 295⇓*i*P P 03 34 11.4 -0.3
baz=296
TRO Tromso 53.27 344⇓*i*P P 03 34 11.9 +0.3
TRO IVmBBB 03 34 14.8
comp=Z,17μm,1.4s
TRO *e*S **S 03 41 28.2 -0.8**
WVOR Wild Horse Val 53.37 66⇓P P 03 34 13.0 0.0
WVOR Wild Horse Val 53.37 66 IAmb IAmb 03 34 17.0
comp=Z,2μm,1.4s
USP Ospenovka 53.41 295 P P 03 34 12.9 -0.2
SNR=109
LSA Lhasa 53.44 272 P P 03 34 14.5 +0.5
LSA S **S 03 41 34.0 +0.7**
LSA pmax pmax
comp=Z,970nm,1.4s
LSA LR LR
comp=Z,78μm,15.7s
LSA LR LR
comp=Z,68μm,19.9s
LSA LR LR
comp=Z,88μm,15.7s
CHMS Chumysh 53.46 295 P **P 03 34 13.3 -0.2**
SNR=165
GDXM Geysers 53.57 72 IAmb IAmb 03 34 19.6
comp=Z,2μm,1.2s
KBK Karagaybulak 53.59 294 P **P 03 34 14.5 -0.1**
SNR=179
TARA Tarawa 53.76 162 P P 03 34 16.3 +0.5
TARA Tarawa 53.76 162 P P 03 34 16.3 +0.5
DAV Davao City (W) 53.77 222 P P 03 34 18.9 +3.0
comp=Z,414nm,0.5s,baz=51,slow=3.1,SNR=31
DAV Davao City (W) 53.77 222 P P 03 34 18.9 +3.0
DAV S **S 03 41 37.1 +0.1**
DAV Davao City (W) 53.77 222 P P 03 34 19.4 +3.5
DAV IAmb IAmb 03 34 25.8
comp=Z,2μm,1.2s
DAV Davao City (W) 53.77 222 P P 03 34 18.0 +2.1
JORH JORHAT 53.79 267 *e*P P 03 34 16.8 +0.7
ITAN ITANAGAR 53.81 267 *e*P P 03 34 16.6 +0.5
AAK Ala-Archa 53.85 295 P P 03 34 16.2 -0.3
SNR=244
AAK Ala-Archa 53.85 295 P P 03 34 16.1 -0.3
AAK Ala-Archa 53.85 295 P P 03 34 16.2 -0.3
AAK S **S 03 41 36.9 -1.0**
AAK Ala-Archa 53.85 295⇓P P 03 34 16.2 -0.3
AAK Ala-Archa 53.85 295 P P 03 34 16.2 -0.3
AAK pP **sP 03 35 16.4 +2.1**
AAK Ala-Archa 53.85 295 *i* P P 03 34 16.2 -0.3
SNR=282
MOKO MOKOCHONG 53.95 266 *e*P P 03 34 18.0 +0.6
MOKO *i* x x 03 52 21.2
PAGZ Pagadian 53.95 225⇓*i*P P 03 34 19.4 +2.1
MCCM Marconi Confer 53.98 73 ⇑P P 03 34 17.9 +0.7
KCP Kidapawan 54.02 222⇓*e*P P 03 34 19.3 +1.5
KCP Kidapawan 54.02 222⇓*e*P PKiKP 03 41 46.4 -8.8
UCH Uchtor 54.12 294 P **P 03 34 18.7 -0.1**
SNR=38
KIRV Kirov 54.13 322 LR LR 04 01 45.3
comp=Z,50μm,18.9s,baz=36,slow=41
KIRV P4KPbc 04 11 34.3
comp=Z,8.0nm,0.5s,baz=18,slow=3.2,SNR=5.0
KIRV Kirov 54.13 322*d i*P P 03 34 17.7 -0.3
EGMT Eagleton 54.14 56 IAmb IAmb 03 34 29.5
comp=Z,2μm,1.1s
EGMT Eagleton 54.14 56 P P 03 34 17.9 -0.5
baz=313,SNR=527
EGMT S **S 03 41 41.1 -0.4**
baz=313
MFID Camas Ranch 54.20 64 IAmb IAmb 03 34 22.7
comp=Z,2μm,1.4s
EKS2 Erkin-Say 54.22 295 P **P 03 34 19.1 +0.1**

SNR=213
PPR Puerto Princes 54.28 231⇓*i*P P 03 34 21.9 +2.4
DLMT Dillon 54.55 60 IAmb IAmb 03 34 25.1
comp=Z,2μm,1.4s
AML Almayashu 54.62 295 P P 03 34 22.1 -0.3
SNR=96
AML Almayashu 54.62 295 P P 03 34 22.9 +0.5
AML Almayashu 54.62 295 *i* P P 03 34 22.3 0.0
SNR=104
KOHI KOHIMA 54.65 266 *e*P P 03 34 23.1 +0.7
KOHI *i* x x 03 52 42.4
TEZP TEZPUR 54.75 268 *i* x x 04 01 57.2
HLID Hailey 54.85 63 P P 03 34 23.3 -0.4
baz=314,SNR=892
BCYI Bear Canyon 54.86 61 P P 03 34 23.6 -0.1
BOZ Bozeman (W) 54.88 59 IAmb IAmb 03 34 28.3
comp=Z,2μm,1.1s
BOZ Bozeman (W) 54.88 59 P P 03 34 23.4 -0.4
baz=314,SNR=1000
JMIC Jan Mayen 55.02 355⇓*i*P P 03 34 26.0 +1.8
JMIC IVmB_BB 03 34 28.9
comp=Z,32μm,1.3s
JMIC *e*S **S 03 41 59.2 +6.8**
KSH Kashi 55.20 291 P P 03 34 29.5 +3.3
KSH pP pP 03 35 05.7 +0.3
KSH PcP **PcP 03 35 29.7 +4.7**
KSH PP **PP 03 36 38.1 +7.0**
KSH S **S 03 42 00.7 +4.7**
KSH ScS **ScS 03 43 58.1 +0.2**
KSH pmax pmax
comp=Z,840nm,1.2s
KSH pmax pmax
comp=Z,27μm,5.8s
KSH LR LR
comp=Z,49μm,18.9s
KSH LR LR
comp=Z,45μm,18.2s
KSH LR LR
comp=Z,88μm,17.9s
ILULI Ilulissat 55.25 12 *i* P P 03 34 25.1 -0.7
ZCP Zamboanga City 55.33 226⇑*e*P P 03 34 31.6 +4.5
DZA Taraz 55.35 297 *e*P P 03 34 26.1 -1.0
DZA Taraz 55.35 297 *e*P P 03 34 26.2 -1.0
baz=297
STEI Steigen 55.40 344⇓*i*P P 03 34 26.8 -0.2
STEI IVmB_BB 03 34 28.3
comp=Z,21μm,3.4s
STEI *e*S **S 03 41 57.3 -0.2**
IMP Imphal 55.41 265 *e*P P 03 34 27.1 -0.7
IMP *i* x x 03 52 55.1
LOF Lofoten 55.49 345 *e*P P 03 34 28.0 +0.4
LOF IVmB_BB 03 34 30.5
comp=Z,33μm,1.1s
LOF *e*S **S 03 41 57.2 -1.5**
KKAR Karatay Array 55.64 298 P P 03 34 28.3 -0.8
KKAR Karatay Array 55.64 298 P P 03 34 28.3 -0.8
KLMR Klimovskoe 55.73 329 *e*P P 03 34 26.1 -3.3
KLMR *e* 03 36 35.7
KLMR *e*S **S 03 42 00.6 -1.4**
KLMR *e*SS **SS 03 45 50.2 +1.2**
KLMR pmax pmax
comp=Z,4μm,1.2s
KLMR Klimovskoe 55.73 329 *e*P P 03 34 26.1 -3.3
KLMR AMP 03 34 34.1
comp=Z,4μm,1.2s
KLMR *e*PP **PP 03 36 35.7 +0.6**
KLMR *e*S **S 03 42 00.7 -1.3**
KLMR *e*S **S 03 42 00.7 -1.3**
KLMR *e*sS **sS 03 43 07.0 -3.1**
KLMR *e*sS **sS 03 43 07.0 -3.1**
KLMR *e*SS **SS 03 45 50.3 +1.2**
KLMR *e*SS **SS 03 45 50.3 +1.2**
SAO San Andreas Ge 55.76 73 ⇓P P 03 34 30.8 +0.8
SCO Scoresbysund 55.87 0 P P 03 34 30.3 0.0
SCO pmax pmax
comp=Z,1μm,1.3s
SCO Scoresbysund 55.87 0 *i* P P 03 34 30.2 0.0
SCO IVmB_BB 03 34 32.7
comp=Z,27μm,4.6s
SCO Scoresbysund 55.87 0 ⇑P P 03 34 30.3 0.0
SCO Scoresbysund 55.87 0 P P 03 34 30.3 0.0
SCO IAmb IAmb 03 34 34.4
comp=Z,1μm,1.3s
FAUS Fauske 55.89 344⇓*i*P P 03 34 30.8 +0.3
FAUS IVmB_BB 03 34 33.6
comp=Z,22μm,1.3s
FAUS *e*S **S 03 42 03.8 -0.3**
BRLS Boroldy 56.04 298 *e*P P 03 34 32.8 +0.8
BRLS Boroldy 56.04 298 *e*P P 03 34 32.9 +0.8
baz=298
SHL Shillong 56.08 268⇓*i*P P 03 34 31.2 -1.5
SHL IAmb IAmb 03 34 35.7
comp=Z,463nm,0.7s
LKWY Lake 56.22 59 IAmb IAmb 03 34 46.2
comp=Z,1μm,0.9s
H17A Grant Village 56.25 60 P P 03 34 35.5 +1.7
baz=315,SNR=1000
H17A S **S 03 42 17.6 +7.5**
baz=315
UBPT Khong Chiam 56.34 248 P P 03 34 34.4 +0.1
UBPT ScP **ScP 03 39 13.8 +1.6**
NVAR Mina Array Bea 56.34 70 P P 03 34 35.5 +1.1
comp=Z,807nm,0.9s,baz=299,slow=8.0,SNR=515
NVAR ScP **ScP 03 39 14.0 +1.7**
comp=Z,30nm,0.7s,baz=297,slow=4.0,SNR=3.8
NVAR PKPPKP 04 04 23.3
comp=Z,8.5nm,0.8s,baz=149,slow=2.1,SNR=7.5
NVAR P4KPbc 04 11 47.2
comp=Z,4.9nm,0.7s,baz=291,slow=4.0,SNR=18
NVAR Mina Array Bea 56.34 70 P P 03 34 34.7 +0.3
NVAR pP **pP 03 35 12.8 -1.1**
ELK Elko 56.38 66 IAmb IAmb 03 34 45.1
comp=Z,968nm,1.0s
RLMT Red Lodge 56.40 58 P P 03 34 35.2 +0.4
baz=315,SNR=1000
RLMT S **S 03 42 14.4 +2.4**
baz=315
FLWY Flagg Ranch 56.41 60 IAmb IAmb 03 34 56.3
comp=Z,2μm,1.1s
NV11 Mina Array Sit 56.42 69 P P 03 34 34.9 0.0
NV11 IAmb IAmb 03 34 38.8
comp=Z,2μm,1.4s
DGMT Dagmar 56.49 52 P P 03 34 34.9 -0.2
baz=315,SNR=415
DGMT S **S 03 42 14.5 +1.8**
baz=315
AB31 Akbulak array 56.51 309 *i* P P 03 34 33.8 -1.4
ABKAR Akbulak array 56.51 309 ⇓P P 03 34 34.2 -1.0
ABKAR Akbulak array 56.51 309 P P 03 34 34.2 -1.0
AKTO Aktyubinsk 56.54 311 LR LR 04 04 00.4
comp=Z,45μm,18.8s,baz=35,slow=41
AKTO PKPPKP 04 04 29.2
comp=Z,9.9nm,0.9s,baz=180,slow=2.0,SNR=6.4
AKTO P4KPbc 04 11 47.5
comp=Z,5.7nm,0.5s,baz=81,slow=6.1,SNR=12
AKTO Aktyubinsk 56.54 311 P P 03 34 33.8 -1.6
ICESG Greenland Ices 56.55 8 *i* P P 03 34 35.3 -0.2
FXWY Fox Creek 56.56 60 IAmb IAmb 03 34 46.4
comp=Z,1μm,1.1s
IUG Iuzhnay 56.56 297*d i*P P 03 34 35.5 -0.2
IUG Iuzhnay 56.56 297⇓*i*P P 03 34 35.6 -0.2
baz=297
MLAC Mammoth, Mammo 56.61 71 P P 03 34 38.6 +2.2
baz=316,SNR=16
MLAC S **S 03 42 20.4 +5.5**
baz=316
MOOW Moose Ponds 56.62 60 IAmb IAmb 03 34 40.8
comp=Z,2μm,1.3s
LOHW Long Hollow 56.79 60 IAmb IAmb 03 34 42.9
comp=Z,2μm,1.1s
LAO LASA Array 56.80 55 P P 03 34 37.8 +0.4
baz=315,SNR=718
LAO S **S 03 42 19.1 +2.4**
baz=315
SGSI Sangihe 56.88 220 P P 03 34 37.9 -0.2
comp=Z,10μmcomp=Z,1μm,0.6s
KONS Konsvik 57.05 344 *e*P P 03 34 38.8 +0.1
KONS IVmB_BB 03 34 41.7
comp=Z,15μm,1.5s
KONS *e*S **S 03 42 22.0 +2.7**
FRB Frobisher Bay 57.09 23 P4KPbc 04 11 48.8
comp=Z,7.6nm,0.7s,baz=330,slow=5.9,SNR=12
FRB Frobisher Bay 57.09 23 ⇓P P 03 34 37.2 -1.7
AHID Auburn Hatcher 57.14 61 IAmb IAmb 03 34 50.2
comp=Z,2μm,0.9s

MOR8 Moi Rana 57.14 344⇓*i*P P 03 34 38.2 -1.2
MOR8 IVmB_BB 03 34 41.1
comp=Z,20μm,1.2s
MOR8 *e*S **S** **03 42 16.9 -3.6**
CHTO Chiang Mai 57.16 256 P **P** **03 34 40.2 +0.1**
CHTO pmax pmax
comp=Z,658nm,1.0s
CHTO Chiang Mai 57.16 256 P **P** **03 34 40.6 +0.4**
CHTO S **S** **03 42 20.1 -1.9**
CHTO Chiang Mai 57.16 256⇓P **P** **03 34 40.1 0.0**
CHTO Chiang Mai 57.16 256 P **P** **03 34 40.2 0.0**
CHTO Chiang Mai 57.16 256 P **P** **03 34 40.6 +0.4**
CHTO Chiang Mai 57.16 256 P **P** **03 34 39.8 -0.3**
CHTO pP **sP** **03 35 43.8 +5.3**
PAGB Antelope Grade 57.17 73 IAmb IAmb 03 34 44.2
comp=Z,2μm,1.5s
STOK Stokkvaagen 57.22 344 *e*P **P** **03 34 40.4 +0.6**
STOK *e*S **S** **03 42 24.1 +2.6**
VOG Valley Oaks Go 57.24 72 P **P** **03 34 41.1 +0.6**
baz=316,SNR=37
VOG S **S** **03 42 25.5 +2.9**
baz=316
TIN Tinemaha, Big 57.36 71 P **P** **03 34 42.5 +1.0**
baz=316,SNR=270
TIN S **S** **03 42 29.0 +4.5**
baz=316
SFJD Kangerlussuaq 57.40 13 P4KPbc 04 11 50.1
comp=Z,6.4nm,0.7s,baz=135,slow=11,SNR=4.1
SFJD Kangerlussuaq 57.40 13 P **P** **03 34 39.7 -1.4**
SFJD pmax pmax
comp=Z,2μm,1.2s
SFJD Kangerlussuaq 57.40 13 *i*P **P** **03 34 40.0 -1.1**
SFJD Kangerlussuaq 57.40 13⇓P **P** **03 34 39.6 -1.4**
SFJD Kangerlussuaq 57.40 13 P **P** **03 34 39.7 -1.4**
SFJD Kangerlussuaq 57.40 13 P **P** **03 34 39.7 -1.4**
SFJD pP **PcP** **03 35 33.4 +0.5**
CM31 Chiang Mai Arr 57.44 256 P **P** **03 34 45.3 +3.2**
SNR=154
CM31 S **S** **03 42 24.8 -0.9**
CMAR Chiang Mai Arr 57.44 256 P **P** **03 34 43.0 +0.9**
comp=Z,228nm,0.6s,baz=22,slow=7.3,SNR=112
CMAR ScP **ScP** **03 39 20.2 +3.1**
comp=Z,40nm,0.8s,baz=20,slow=4.1,SNR=3.4
CMAR LR LR 04 03 20.9
comp=Z,31μm,18.2s,baz=35,slow=40
CMAR PKPPKP **P'P'df** **04 04 28.2 +0.7**
comp=Z,4.4nm,0.7s,baz=222,slow=3.4,SNR=4.5
CMAR PKP2bc 04 04 39.6
comp=Z,30nm,1.1s,baz=235,slow=4.0,SNR=6.9
CMAR P4KPbc 04 11 52.3
comp=Z,4.8nm,0.6s,baz=14,slow=4.0,SNR=14
CMAR Chiang Mai Arr 57.44 256 *i*P **P** **03 34 42.5 +0.4**
CMAR pmax pmax
comp=Z,241nm,0.6s
CMAR Chiang Mai Arr 57.44 256 P **P** **03 34 42.4 +0.2**
DLV T Lat 57.48 243 P **P** **03 34 46.1 +3.5**
SMMC Simmler 57.62 73 P **P** **03 34 44.2 +1.0**
baz=316,SNR=177
SMMC S **S** **03 42 30.9 +3.2**
baz=316
VES Vestal, Richgr 57.75 72 P **P** **03 34 44.3 +0.3**
baz=316,SNR=235
VES S **S** **03 42 30.2 +0.9**
baz=316
VALR Valaam 57.79 333*d*i*P* **P** **03 34 43.2 -0.7**
VALR pmax pmax
comp=Z,5μm,1.2s
VALR MLR MLR
comp=Z,28μm,14.0s
GUN Gumba 57.87 274 *e*P **P** **03 34 44.8 -0.6**
GRAC Grapevine Rang 57.88 70 P **P** **03 34 45.5 +0.5**
baz=316,SNR=650
GRAC S **S** **03 42 35.1 +4.0**
baz=316
CWC Cottonwood Cre 57.88 71 P **P** **03 34 45.9 +0.6**
baz=316
CWC S **S** **03 42 34.2 +2.8**
baz=316
R11A Troy Canyon, C 57.89 68 IAmb IAmb 03 34 49.1
comp=Z,2μm,1.5s
R11A Troy Canyon, C 57.89 68 P **P** **03 34 45.1 -0.2**
baz=316,SNR=944
R11A S **S** **03 42 33.3 +1.8**
baz=316
BW06 Boulder Array 57.93 60 P **P** **03 34 45.5 0.0**
baz=316,SNR=1000
BW06 S **S** **03 42 33.6 +1.6**
baz=316
PD31 Pinedale Array 57.93 60⇓P **P** **03 34 45.5 -0.1**
PD31 Pinedale Array 57.93 60 IAmb IAmb 03 34 55.6
comp=Z,2μm,0.8s
PDAR Pinedale Array 57.93 60 P **P** **03 34 45.4 -0.1**
comp=Z,622nm,0.5s,baz=332,slow=2.5,SNR=799
PDAR LR LR 04 00 55.1
comp=Z,30μm,19.7s,baz=340,slow=37
PDAR PKPPKP **P'P'df** **04 04 25.6 -2.7**
comp=Z,20nm,1.1s,baz=113,slow=3.9,SNR=7.8
PDAR PKP2bc 04 04 40.0
comp=Z,19nm,0.9s,baz=98,slow=3.3,SNR=11
PDAR P4KPbc 04 11 53.8
comp=Z,2.0nm,0.7s,baz=330,slow=0.8,SNR=9.7
PDAR Pinedale Array 57.93 60 P **P** **03 34 45.8 +0.3**
SOEG Soedalen 57.94 4 *i*P **P** **03 34 43.8 -1.1**
BAKI Biak 58.01 207 P **P** **03 34 46.3 +0.3**
comp=Z,28μmcomp=Z,1μm,0.7s
PKM Mcpherson Peak 58.03 74 P **P** **03 34 47.0 +0.8**
baz=317,SNR=157
PKM S **S** **03 42 36.9 +3.5**
baz=317
DUG Dugway, Tooele 58.07 64 IAmb IAmb 03 34 56.4
comp=Z,2μm,1.0s
DUG Dugway, Tooele 58.07 64 P **P** **03 34 47.0 +0.6**
baz=316,SNR=1000
DUG S **S** **03 42 37.8 +4.1**
baz=316
RABL Rabaul 58.17 187 P **P** **03 34 47.8 +0.6**
JAY Jayapura 58.19 201 P **P** **03 34 47.4 +0.1**
comp=Z,47μmcomp=Z,6μmcomp=Z,299nm,1.4s
ISA Isabella, Lake 58.22 72 P **P** **03 34 46.9 -0.6**
baz=316,SNR=404
ISA S **S** **03 42 36.6 +1.0**
baz=316
KKN Kakani 58.31 275 *e*P **P** **03 34 48.1 -0.2**
GENI Genyem 58.38 202⇑P **P** **03 34 50.5 +1.9**
GENI Genyem 58.38 202 P **P** **03 34 50.2 +1.6**
comp=Z,77μmcomp=Z,26μmcomp=Z,833nm,0.7s
GENI Genyem 58.38 202 P **P** **03 34 51.3 +2.7**
PKI Pulchoki 58.40 274 *e*P **P** **03 34 48.6 -0.5**
PKIN Phulchoki 58.40 274 *e*P **P** **03 34 48.5 -0.5**
comp=Z,4μm,0.7s
SBC Santa Barbara 58.41 74 P **P** **03 34 50.2 +1.6**
baz=317,SNR=14
SBC S **S** **03 42 40.4 +2.6**
baz=317
ARVC Arvin 58.41 73 P **P** **03 34 49.2 +0.5**
baz=317,SNR=65
ARVC S **S** **03 42 39.7 +1.8**
baz=317
DY2G Dye2 58.45 11 *i*P **P** **03 34 48.5 -0.2**
MYLDM Lahad Datu 58.45 229⇑P **P** **03 34 51.2 +2.1**
MYLDM Lahad Datu 58.45 229 IAmb IAmb 03 35 04.1
comp=Z,956nm,1.0s
MPMC Manual Prospec 58.49 71 P **P** **03 34 49.2 -0.2**
baz=317,SNR=1000
MPMC S **S** **03 42 41.6 +2.3**
baz=317
GKN Gorkha 58.53 275 *e*P **P** **03 34 49.3 -0.5**
TPNV Topopah Spring 58.54 69⇓P **P** **03 34 49.8 +0.1**
TPNV Topopah Spring 58.54 69 IAmb IAmb 03 34 53.7
comp=Z,2μm,1.5s
TPNV Topopah Spring 58.54 69 P **P** **03 34 49.8 +0.1**
baz=316,SNR=755
TPNV S **S** **03 42 44.3 +4.5**
baz=316
FURC Furnace Creek, 58.54 70 P **P** **03 34 49.6 +0.1**
baz=317,SNR=1000
FURC S **S** **03 42 42.8 +3.3**
baz=317
DMN Daman 58.55 275 *e*P **P** **03 34 49.8 -0.2**
KKM Kota Kinabalu 58.72 232⇓P **P** **03 34 52.8 +1.7**
KKM Kota Kinabalu 58.72 232 P **P** **03 34 52.0 +0.9**
KKM IAmb IAmb 03 35 06.2
comp=Z,1μm,0.8s
KKM Kota Kinabalu 58.72 232 P **P** **03 34 52.8 +1.7**
DANN Dangsing 58.79 276 *e*P **P** **03 34 51.4 -0.3**
LRMC Laurel Mtn Rad 58.80 72 P **P** **03 34 51.5 0.0**
baz=317,SNR=597
LRMC S **S** **03 42 45.5 +2.3**
baz=317
OSI Osito Audit: C 58.84 73 IAmb IAmb 03 35 03.1
comp=Z,860nm,0.7s
OSI Osito Audit: C 58.84 73 P **P** **03 34 52.7 +0.9**
baz=317,SNR=84
OSI S **S** **03 42 46.5 +2.9**
baz=317
PRN Pahroc Range 58.87 68⇓P **P** **03 34 52.3 +0.3**
TNTI Ternate 58.89 217⇓P **P** **03 34 51.3 -0.8**
TNTI Ternate 58.89 217 P **P** **03 34 52.1 0.0**
comp=Z,37μmcomp=Z,9μmcomp=Z,529nm,0.9s
TNTI Ternate 58.89 217 P **P** **03 34 52.5 +0.4**
TNTI Ternate 58.89 217 P **P** **03 34 55.4 +3.3**
ULM Lac du Bonnet 58.92 46 P **P** **03 34 51.2 -0.7**
comp=Z,401nm,0.5s,baz=318,slow=6.9,SNR=271
ULM S **S** **03 42 45.2 +1.2**
comp=Z,28nm,0.8s,baz=142,slow=15,SNR=8.2
ULM P4KPbc 04 11 59.4
comp=Z,4.4nm,0.7s,baz=257,slow=3.3,SNR=3.4
ULM Lac du Bonnet 58.92 46*d*i*P* **P** **03 34 52.3 +0.4**
ULM Lac du Bonnet 58.92 46⇑P **P** **03 34 51.2 -0.7**
ULM Lac du Bonnet 58.92 46 IAmb IAmb 03 35 03.1
comp=Z,3μm,1.4s
FINES FINESS Array B 58.95 336 P **P** **03 34 51.2 -0.7**
comp=Z,2μm,0.9s,baz=37,slow=7.3,SNR=387
FINES LR LR 04 03 25.4
comp=Z,63μm,21.9s,baz=29,slow=39
FINES PKPPKP **P'P'df** **04 04 22.8 -3.6**
comp=Z,13nm,0.7s,baz=136,slow=1.8,SNR=7.7
FINES P4KPbc 04 11 56.7
comp=Z,3.2nm,0.6s,baz=76,slow=2.4,SNR=11
EDW2 Edwards Air Fo 59.06 72 P **P** **03 34 53.3 +0.1**
baz=317,SNR=642
EDW2 S **S** **03 42 47.8 +1.4**
baz=317
NSS Namsos 59.06 344⇓*i*P **P** **03 34 52.6 0.0**
NSS IVmB_BB 03 34 55.9
comp=Z,19μm,1.1s
NSS *e*S **S** **03 42 44.8 -0.6**
MDND Maddock 59.06 50 P **P** **03 34 53.4 +0.4**
baz=318,SNR=336
MDND S **S** **03 42 48.7 +2.7**
baz=318
SWI Sorong 59.11 212 P **P** **03 34 53.9 +0.3**
comp=Z,74μmcomp=Z,27μmcomp=Z,2μm,1.5s
PUL Pulkovo 59.27 332*d*i*P* **P** **03 34 53.5 -0.7**
PUL pmax pmax
comp=Z,4μm,1.3s
PUL MLR MLR
comp=Z,85μm,20.0s
PUL Pulkovo 59.27 332 *e*P **P** **03 34 54.4 +0.2**
PUL Pulkovo 59.27 332⇓P **P** **03 34 55.1 +0.9**
SHOC Shoshone, Teco 59.28 70 P **P** **03 34 55.5 +0.8**
baz=317,SNR=384
SHOC S **S** **03 42 52.2 +3.0**
baz=317
KOLN Koldanda 59.31 276 *e*P **P** **03 34 54.7 -0.5**
DECC Green Verdugo 59.33 73 P **P** **03 34 55.7 +0.7**
baz=317,SNR=154
DECC S **S** **03 42 52.1 +2.3**
baz=317
SNCC San Nicolas Is 59.38 75 IAmb IAmb 03 34 59.1
comp=Z,2μm,1.4s
SNCC San Nicolas Is 59.38 75 P **P** **03 34 57.0 +1.6**
baz=317,SNR=15
SNCC S **S** **03 42 53.0 +2.5**
baz=317
GSC Goldstone, Bar 59.42 71 IAmb IAmb 03 35 06.6
comp=Z,909nm,0.8s
GSC Goldstone, Bar 59.42 71 P **P** **03 34 55.6 -0.1**
baz=317,SNR=755
GSC S **S** **03 42 53.4 +2.3**
baz=317
PYUN Piuthan 59.43 277 *e*P **P** **03 34 55.5 -0.5**
PASC Pasadena Art C 59.47 73 IAmb IAmb 03 35 00.2
comp=Z,1μm,1.1s
MWC Mount Wilson 59.50 73 IAmb IAmb 03 35 00.8
comp=Z,2μm,1.2s
K22A Casper 59.56 58 IAmb IAmb 03 35 13.4
comp=Z,1μm,1.1s
K22A Casper 59.56 58 P **P** **03 34 57.0 +0.4**
baz=317,SNR=293
K22A S **S** **03 42 54.9 +2.1**
baz=317
RRX Edison Barstow 59.62 72 P **P** **03 34 58.0 +1.0**
baz=317
RRX S **S** **03 42 55.7 +2.1**
baz=317
RSSD Black Hills 59.72 56 P **P** **03 34 57.7 -0.1**
RSSD pmax pmax
comp=Z,8μm,1.4s
RSSD Black Hills 59.72 56⇓P **P** **03 34 57.5 -0.3**
RSSD Black Hills 59.72 56 P **P** **03 34 57.7 -0.1**
RSSD Black Hills 59.72 56 P **P** **03 34 57.7 -0.1**
baz=317
RSSD S **S** **03 42 56.6 +1.7**
baz=317
RSSD Black Hills 59.72 56 P **P** **03 34 58.7 +0.9**
RSSD pP **pP** **03 35 38.9 +1.3**
FMP Fort Macarthur 59.74 73 P **P** **03 34 58.8 +1.0**
baz=317,SNR=18
FMP S **S** **03 42 57.5 +2.4**
baz=317
SPMM Sapulut 59.78 231 P **P** **03 35 01.0 +2.7**
TUQ Turquoise Moun 59.81 70 P **P** **03 34 58.8 +0.4**
baz=317,SNR=417
TUQ S **S** **03 42 59.4 +3.2**
baz=317
NUUK Nuuk 59.90 15 *i*P **P** **03 34 57.8 -0.6**
NUUK Nuuk 59.90 15⇓P **P** **03 34 57.6 -0.8**
CIS Catalina Islan 59.90 74 P **P** **03 34 59.3 +0.3**
baz=318,SNR=57
CIS S **S** **03 42 59.2 +2.0**
baz=318
RWWY Rawlins 59.91 60 IAmb IAmb 03 35 02.8
comp=Z,2μm,1.4s
HEC Hector,Ludlow 60.03 71 P **P** **03 35 00.2 +0.3**
baz=317,SNR=357
HEC S **S** **03 43 01.6 +2.7**
baz=317
ISOG Isortoq, Green 60.08 8 *i*P **P** **03 34 59.5 -0.1**
ISOG Isortoq, Green 60.08 8⇓P **P** **03 34 58.1 -1.5**
BBRC Big Bear Solar 60.12 72 P **P** **03 35 01.1 +0.4**
baz=317,SNR=132
BBRC S **S** **03 43 02.0 +1.7**
baz=317
ANGG Ammassalik, Gr 60.12 8 *i*P **P** **03 34 58.6 -1.2**
ANGG IVmB_BB 03 35 01.1
comp=Z,34μm,4.9s
ANGG Ammassalik, Gr 60.12 8⇑P **P** **03 34 58.0 -1.8**
ANGG Ammassalik, Gr 60.12 8 P **P** **03 34 59.0 -0.9**
ANGG IAmb IAmb 03 35 08.6
comp=Z,985nm,0.8s
SCI2 San Clemente I 60.14 74 P **P** **03 35 01.6 +1.1**
baz=318,SNR=20
SCI2 S **S** **03 43 02.6 +2.5**
baz=318
DHRM DHARAMSHALA 60.24 285 *e*P **P** **03 35 01.2 -0.3**
DHRM IAmb IAmb 03 35 06.4
comp=Z,9μm,1.2s
AGMN Agassiz Nation 60.39 48 P **P** **03 35 02.0 0.0**
AGMN IAmb IAmb 03 35 13.0
comp=Z,2μm,1.1s
AGMN Agassiz Nation 60.39 48 P **P** **03 35 01.4 -0.7**
baz=319,SNR=307
AGMN S **S** **03 43 03.8 +0.8**
baz=319
GMRC Granite Mounta 60.44 71 P **P** **03 35 02.7 -0.1**
baz=318,SNR=1000
GMRC S **S** **03 43 06.8 +2.6**
baz=318
MURC Murrieta 60.45 73 P **P** **03 35 03.0 +0.3**
baz=318,SNR=388
MURC S **S** **03 43 05.8 +1.7**
baz=318
O20A White River Ci 60.52 62 P **P** **03 35 02.9 -0.3**
baz=318,SNR=683
O20A S **S** **03 43 07.8 +2.6**
baz=318
TBLU Trondheim 60.53 344⇓*i*P **P** **03 35 01.9 -0.9**
TBLU IVmB_BB 03 35 05.0
comp=Z,28μm,3.5s
TBLU IVmBBB 03 35 05.1
comp=Z,26μm,10.5s
TBLU *e*S **S** **03 43 01.4 -2.8**

DDI Dehra Dun 60.66 282⇓*i*P **P** **03 35 03.7 -0.5**
DDI IAmb IAmb 03 35 07.6
comp=Z,4μm,0.3s
FAKI Fak Fak 60.75 210⇓P **P** **03 35 05.0 +0.2**
FAKI Fak Fak 60.75 210 P **P** **03 35 04.7 -0.1**
FAKI IAmb IAmb 03 35 09.6
comp=Z,683nm,0.8s
FAKI Fak Fak 60.75 210 P **P** **03 35 05.4 +0.6**
BELC Belle Mtn. Jos 60.83 72 P **P** **03 35 05.0 -0.4**
baz=318,SNR=603
BELC S **S** **03 43 10.2 +1.0**
baz=318
PFO Pinyon Flats O 60.85 72 LR LR 03 57 38.7
comp=Z,37μm,21.8s,baz=312,slow=32
PFO PKPPKP 04 04 15.3
comp=Z,14nm,1.0s,baz=198,slow=0.2,SNR=6.5
PFO Pinyon Flats O 60.85 72*d*i*P* **P** **03 35 05.5 0.0**
PFO pmax pmax
comp=Z,2μm,1.4s
PFO MLR MLR
comp=Z,30μm,18.0s
PFO Pinyon Flats O 60.85 72 P **P** **03 35 05.1 -0.5**
PFO IAmb IAmb 03 35 09.0
comp=Z,1μm,1.4s
PFO Pinyon Flats O 60.85 72 P **P** **03 35 05.0 -0.6**
baz=318,SNR=324
PFO S **S** **03 43 10.6 +1.1**
baz=318
PFO Pinyon Flats O 60.85 72 P **P** **03 35 05.9 +0.4**
PFO pP **pP** **03 35 45.7 +0.4**
TPFO Pinon Flats 60.86 72 P **P** **03 35 05.2 -0.3**
baz=318,SNR=346
NIL Nilore 60.94 288 P **P** **03 35 05.7 -0.3**
NIL pmax pmax
comp=Z,8μm,1.1s
NIL Nilore 60.94 288 P **P** **03 35 06.2 +0.2**
NIL Nilore 60.94 288 P **P** **03 35 05.7 -0.3**
NIL Nilore 60.94 288 P **P** **03 35 05.7 -0.3**
NIL pP **PcP** **03 35 48.4 +0.7**
109C Camp Elliot, M 61.02 73 P **P** **03 35 07.1 +0.6**
baz=318,SNR=130
109C S **S** **03 43 13.5 +2.2**
baz=318
NEE2 Needles Airpor 61.03 70 P **P** **03 35 07.3 +0.8**
baz=318,SNR=22
NEE2 S **S** **03 43 13.9 +2.5**
baz=318
U15A North Rim 61.09 67 IAmb IAmb 03 35 11.5
comp=Z,2μm,1.5s
TOLI2 Tolitoli 61.12 224 P **P** **03 35 07.5 +0.2**
TOLI2 IAmb IAmb 03 35 18.5
comp=Z,960nm,0.9s
TOLI2 Tolitoli 61.12 224 P **P** **03 35 08.0 +0.7**
N23A Red Feather La 61.14 59 IAmb IAmb 03 35 17.7
comp=Z,1μm,0.9s
N23A Red Feather La 61.14 59 P **P** **03 35 07.6 0.0**
baz=318,SNR=530
N23A S **S** **03 43 15.8 +2.5**
baz=318
IRM Iron Mountain 61.19 71 P **P** **03 35 07.7 0.0**
baz=318,SNR=1000
IRM S **S** **03 43 15.3 +1.7**
baz=318
W13A Hualapai Mount 61.19 69 IAmb IAmb 03 35 11.8
comp=Z,1μm,1.4s
OBN Obninsk 61.27 326 LR LR 04 05 37.7
comp=Z,9μm,20.6s,baz=28,slow=40
OBN Obninsk 61.27 326*d*i*P* **P** **03 35 06.8 -1.0**
OBN *i* *PP **PcP** **03 35 49.5 +0.9**
OBN *e* 03 37 25.7
OBN *e*PPP PPP 03 38 57.6
OBN *e*S **S** **03 43 12.3 -1.5**
OBN pmax pmax
comp=Z,3μm,1.3s
OBN MLR MLR
comp=Z,75μm,22.0s
OBN Obninsk 61.27 326⇓P **P** **03 35 06.8 -1.0**
OBN Obninsk 61.27 326 P **P** **03 35 06.9 -0.9**
OBN Obninsk 61.27 326 P **P** **03 35 07.1 -0.7**
OBN pP **PcP** **03 35 48.4 -0.1**
VSU Vasula 61.36 333*d*i*P* **P** **03 35 07.9 -0.4**
VSU MLR MLR
comp=Z,115μm,20.0s
VSU Vasula 61.36 333 *e*P **P** **03 35 09.1 +0.7**
VSU Vasula 61.36 333⇓P **P** **03 35 07.0 -1.3**
BC3 Big Chuckawall 61.39 71 P **P** **03 35 08.6 -0.5**
baz=318,SNR=586
BC3 S **S** **03 43 15.5 -0.7**
baz=318
MONP2 Monument Peak 61.41 73 P **P** **03 35 09.1 -0.2**
baz=318,SNR=282
MONP2 S **S** **03 43 19.0 +2.4**
baz=318
BAR Barrett 61.42 73 IAmb IAmb 03 35 12.7
comp=Z,1μm,1.4s
AAL Aland 61.49 338 *e*P **P** **03 35 09.4 +0.2**
TKX Tecate 61.54 73 IAmb IAmb 03 35 13.5
comp=Z,2μm,1.5s
MOL Molde 61.60 345⇓*i*P **P** **03 35 10.4 +0.5**
BORG Borgarnes 61.63 360 P **P** **03 35 11.5 +1.4**
BORG pmax pmax
comp=Z,3μm,1.1s
BORG Borgarnes 61.63 360⇓P **P** **03 35 11.7 +1.6**
BORG Borgarnes 61.63 360 P **P** **03 35 11.5 +1.4**
BORG Borgarnes 61.63 360 P **P** **03 35 14.6 +4.5**
PDMCI Parker Dam,Lak 61.64 70 P **P** **03 35 10.7 +0.1**
baz=318,SNR=438
PDMCI S **S** **03 43 22.1 +3.0**
baz=318
SWSC Sam W. Stewart 61.72 72 P **P** **03 35 10.8 -0.4**
baz=318,SNR=233
SWSC S **S** **03 43 23.1 +3.0**
baz=318
PV15 Paradox Valley 61.72 63 IAmb IAmb 03 35 23.7
comp=Z,1μm,0.8s
KNTN Kanton 61.73 146 P **P** **03 35 12.2 +0.8**
KNTN pP **pP** **03 35 51.6 +0.3**
IKP In-Ko-Pah, Jac 61.76 73 P **P** **03 35 11.5 0.0**
baz=318,SNR=197
IKP S **S** **03 43 23.6 +2.8**
baz=318
RMX La Rumorosa 61.81 73 IAmb IAmb 03 35 16.1
comp=Z,2μm,1.5s
DOMB Dombas 61.86 344 *e*P **P** **03 35 11.1 -0.6**
DOMB IVmB_BB 03 35 15.1
comp=Z,21μm,1.3s
DOMB *e*S **S** **03 43 21.1 -0.1**
SMCO Snowmass 61.89 61⇓P **P** **03 35 12.7 0.0**
SMCO Snowmass 61.89 61 IAmb IAmb 03 35 22.7
comp=Z,1μm,0.9s
MTSE Matsula 61.89 335 *e*P **P** **03 35 12.7 +0.8**
SUSD Miller 61.91 52 P **P** **03 35 12.3 0.0**
baz=319,SNR=148
SUSD S **S** **03 43 22.8 +0.5**
baz=319
SANI Sanana 62.00 217⇓P **P** **03 35 13.0 -0.2**
SANI Sanana 62.00 217 P **P** **03 35 13.5 +0.3**
AKN Aaknes 62.05 345⇓*i*P **P** **03 35 14.0 +1.0**
AKN IVmB_BB 03 35 16.7
comp=Z,32μm,0.9s
AKN *e*S **S** **03 43 25.9 +2.3**
ISCO Idaho Springs 62.12 60 IAmb IAmb 03 35 18.6
comp=Z,2μm,1.2s
ISCO Idaho Springs 62.12 60 P **P** **03 35 14.2 0.0**
baz=318,SNR=1000
ISCO S **S** **03 43 30.4 +4.7**
baz=318
UABX UABC, Campus M 62.15 72 P **P** **03 35 15.6 +1.6**
GLA Glamis 62.18 71 IAmb IAmb 03 35 19.0
comp=Z,1μm,1.1s
GLA Glamis 62.18 71 P **P** **03 35 14.7 +0.3**
baz=318,SNR=304
GLA S **S** **03 43 28.9 +2.8**
baz=318
WUAZ Wupatki 62.26 67⇓P **P** **03 35 15.2 +0.2**
WUAZ Wupatki 62.26 67 P **P** **03 35 15.2 +0.2**
baz=318,SNR=1000
WUAZ S **S** **03 43 32.2 +4.9**
baz=318
UPP Uppsala 62.29 339 *e*P **P** **03 35 15.1 +0.6**
NDI New Delhi 62.36 281 *e*P **P** **03 35 13.5 -2.0**
NDI *e*S **S** **03 43 23.0 -5.3**
CPBX Cerro Prieto 62.39 72 IAmb IAmb 03 35 19.5
comp=Z,2μm,1.5s
NB2 NORSAR Subarra 62.44 343 P **P** **03 35 14.7 -0.9**
comp=Z,3μm,1.1s,baz=24,slow=6.9

NB2	NORSAR Subarra	62.44	343	P		P	03 35 14.7 -0.9
	baz=24,slow=6.9						
NOA	NORSAR Array B	62.44	343	P		P	03 35 14.2 -1.4
	comp=Z,1μm,0.9s,baz=23,slow=6.7,SNR=454						
NOA				PKPPKP		P'P'df	04 04 08.8 -12
	comp=Z,6.4nm,0.8s,baz=163,slow=2.9,SNR=8.7						
NOA				P4KPbc			04 12 10.4
	comp=Z,0.6nm,0.7s,baz=162,slow=17,SNR=1.1						
LPSR	Galich'ya Gora	62.53	323	*e*P		P	03 35 14.1 -2.1
LPSR				*e*S		S	03 43 21.1 -8.6
LPSR				*e*SSS		SSS	03 50 31.1
LPSR				pmax		pmax	
	comp=Z,3μm,1.1s						
LPSR				smax		smax	
	comp=N,15μm,10.5s						
EYMN	Ely	62.54	45	IAmb		IAmb	03 35 20.2
	comp=Z,2μm,0.9s						
EYMN	Ely	62.54	45	P		P	03 35 15.7 -0.7
	baz=321						
EYMN				S		S	03 43 29.8 -0.2
	baz=321						
Y14A	Wickenburg	62.54	69	IAmb		IAmb	03 35 20.7
	comp=Z,2μm,1.5s						
MVCO	Mesa Verde	62.55	64	IAmb		IAmb	03 35 27.9
	comp=Z,1μm,1.0s						
MVCO	Mesa Verde	62.55	64	P		P	03 35 16.7 -0.2
	baz=318,SNR=638						
MVCO				S		S	03 43 34.7 +3.7
	baz=318						
GUVIX	Guadalupe Vict	62.60	72	IAmb		IAmb	03 35 28.6
	comp=Z,1μm,0.8s						
KBL	Kabul	62.62	292	P		P	03 35 15.4 -2.0
KBL				pmax		pmax	
	comp=Z,4μm,1.1s						
KBL	Kabul	62.62	292	P		P	03 35 15.7 -1.7
	SNR=496						
KBL				S		S	03 43 26.0 -5.8
KBL	Kabul	62.62	292	P		P	03 35 15.4 -2.0
KBL	Kabul	62.62	292	P		P	03 35 15.2 -2.2
VRH	Novokhopyorsk	62.65	321	*e*P		P	03 35 14.9 -2.1
VRH				*e*S		S	03 43 29.6 -1.6
VRH				*e*SSS		SSS	03 50 26.3
VRH				pmax		pmax	
	comp=Z,2μm,0.7s						
VRH				smax		smax	
	comp=N,28μm,14.7s						
NC602	NORSAR Array S	62.67	342	⇓*i*P		P	03 35 17.0 -0.1
NC602				IVmB_BB			03 35 20.2
	comp=Z,17μm,1.2s						
NC602				*e*S		S	03 43 30.8 -0.5
HFS	Hagfors	62.83	341	P		P	03 35 17.2 -1.0
	comp=Z,492nm,0.5s,baz=44,slow=6.4,SNR=337						
HFS				PKPPKP		P'P'df	04 04 11.9 -8.3
	comp=Z,20nm,1.1s,baz=172,slow=3.0,SNR=7.8						
HFS				LR		LR	04 06 53.9
	comp=Z,32μm,19.6s,baz=354,slow=40						
HFS				P4KPbc			04 12 13.9
	comp=Z,4.1nm,0.9s,baz=57,slow=5.3,SNR=1.8						
FOO	Floro	62.89	346	⇓*i*P		P	03 35 19.0 +0.5
FOO				IVmB_BB			03 35 20.3
	comp=Z,29μm,3.5s						
FOO				*e*S		S	03 43 36.1 +2.2
BNDI	Bandanaira	62.99	212	⇓P		P	03 35 20.1 +0.4
BNDI	Bandanaira	62.99	212	P		P	03 35 20.2 +0.5
113A	Mohawk Valley,	62.99	71	IAmb		IAmb	03 35 23.3
	comp=Z,1μm,1.5s						
Q24A	Divide	62.99	60	IAmb		IAmb	03 35 23.8
	comp=Z,1μm,1.4s						
Q24A	Divide	62.99	60	P		P	03 35 20.0 +0.1
	baz=319						
Q24A				S		S	03 43 40.2 +3.7
	baz=319						
S22A	4UR Ranch, Cre	63.03	62	IAmb		IAmb	03 35 24.6
	comp=Z,2μm,1.4s						
S22A	4UR Ranch, Cre	63.03	62	P		P	03 35 20.6 +0.4
	baz=319,SNR=1000						
S22A				S		S	03 43 41.6 +4.6
	baz=319						
X16A	Lo Mia Camp, P	63.04	68	IAmb		IAmb	03 35 25.8
	comp=Z,674nm,0.9s						
XMAS	Kiritimati	63.06	129	⇑P		P	03 35 20.5 +0.3
XMAS	Kiritimati	63.06	129	P		P	03 35 20.5 +0.3
XMAS				IAmb		IAmb	03 35 21.9
	comp=Z,1μm,1.1s						
OGNE	Ogallala	63.07	57	P		P	03 35 20.7 +0.5
	baz=319,SNR=200						
OGNE				S		S	03 43 39.3 +2.3
	baz=319						
HNR	Honiara	63.15	178	LR		LR	04 04 06.6
	comp=Z,47μm,18.0s,baz=357,slow=37						
HNR				PKPPKP			04 04 16.8
	comp=Z,42nm,0.3s,baz=229,slow=7.3,SNR=1.9						
HNR	Honiara	63.15	178	P		P	03 35 20.8 +0.1
HNR				pmax		pmax	
	comp=Z,1μm,1.0s						
HNR	Honiara	63.15	178	⇑P		P	03 35 20.7 0.0
HNR	Honiara	63.15	178	P		P	03 35 20.8 +0.1
HNR				IAmb		IAmb	03 35 38.3
	comp=Z,1μm,1.0s						
HNR	Honiara	63.15	178	P		P	03 35 23.0 +2.3
HNR	Honiara	63.15	178	P		P	03 35 19.8 -0.9
HNR				pP		pP	03 35 59.0 -1.8
SLIT	Slitere, Latvi	63.23	335	*e*P		P	03 35 21.1 +0.3
SLIT	Slitere, Latvi	63.23	335	⇓P		P	03 35 19.9 -0.8
IVI	Ivigtut	63.25	14	*i*P		P	03 35 20.3 -0.6
IVI	Ivigtut	63.25	14	⇓P		P	03 35 19.9 -1.0
IVI	Ivigtut	63.25	14	P		P	03 35 19.4 -1.4
IVI	Ivigtut	63.25	14	P		P	03 35 20.0 -0.8
SKAR	Skarslia	63.27	344	*e*P		P	03 35 20.9 -0.2
SKAR				IVmB_BB			03 35 25.0
	comp=Z,17μm,1.3s						
SKAR				*e*S		S	03 43 40.9 +2.1
W18A	Petrified Fore	63.45	66	IAmb		IAmb	03 35 28.8
	comp=Z,1μm,1.1s						
W18A	Petrified Fore	63.45	66	P		P	03 35 23.9 +1.0
	baz=319,SNR=57						
W18A				S		S	03 43 46.5 +4.5
	baz=319						
ECSD	EROS Data Cent	63.54	51	P		P	03 35 22.2 -0.9
	baz=320,SNR=1000						
ECSD				S		S	03 43 43.0 +0.4
	baz=320						
OSL	Oslo	63.56	343	⇓*i*P		P	03 35 23.8 +0.9
OSL				IVmB_BB			03 35 24.9
	comp=Z,36μm,3.6s						
OSL				*e*S		S	03 43 43.3 +1.0
VSR	Storozhevoye	63.58	322	*e*P		P	03 35 22.5 -0.7
VSR				*e*S		S	03 43 37.2 -5.5
VSR				*e*SSS		SSS	03 50 42.5
VSR				pmax		pmax	
	comp=Z,3μm,1.2s						
VSR				smax		smax	
	comp=N,19μm,12.2s						
NRS	Narsarsuaq	63.67	13	P		P	03 35 22.4 -1.2
NRS				pmax		pmax	
	comp=Z,1μm,1.0s						
NRS	Narsarsuaq	63.67	13	*i*P		P	03 35 22.8 -0.8
NRS	Narsarsuaq	63.67	13	⇑P		P	03 35 22.4 -1.2
NRS	Narsarsuaq	63.67	13	P		P	03 35 22.4 -1.2
NRS				IAmb		IAmb	03 35 27.1
	comp=Z,1μm,1.0s						
SFX	San Felipe	63.67	73	IAmb		IAmb	03 35 27.7
	comp=Z,1μm,1.4s						
SDCO	Great Sand Dun	63.72	62	IAmb		IAmb	03 35 28.7
	comp=Z,2μm,1.4s						
SDCO	Great Sand Dun	63.72	62	P		P	03 35 24.7 0.0
	baz=319,SNR=734						
SDCO				S		S	03 43 49.8 +4.2
	baz=319						
VORD	Divnogorie	63.73	322	*e*P		P	03 35 23.2 -1.0
VORD				*e*S		S	03 43 43.9 -0.8
VORD				pmax		pmax	
	comp=Z,1μm,1.1s						
VORD				smax		smax	
	comp=N,13μm,11.9s						
SBUM	Sibu	63.74	234	⇓P		P	03 35 26.7 +2.0
SBUM				⇓P		P	03 35 26.8 +2.0
SBUM	Sibu	63.74	234	IAmb		IAmb	03 35 35.1
	comp=Z,1μm,1.1s						
SBUM	Sibu	63.74	234	P		P	03 35 27.0 +2.3
PMG	Port Moresby	63.84	192	PKPPKP			04 04 17.0
	comp=Z,22nm,0.8s,baz=70,slow=7.9,SNR=6.4						
PMG	Port Moresby	63.84	192	*d i*P		P	03 35 25.1 -0.2
PMG				pmax		pmax	
	comp=Z,959nm,0.9s						
PMG				MLR		MLR	
	comp=Z,15μm,17.0s						
PMG	Port Moresby	63.84	192	⇓P		P	03 35 25.2 0.0
PMG	Port Moresby	63.84	192	P		P	03 35 25.6 +0.4
PMG				IAmb		IAmb	03 35 29.5
	comp=Z,769nm,0.8s						
PMG	Port Moresby	63.84	192	P		P	03 35 25.9 +0.7
PMG	Port Moresby	63.84	192	P		P	03 35 25.8 +0.6
PMG	Port Moresby	63.84	192	P		P	03 35 25.0 -0.2
PMG				pP		pP	03 36 04.0 -1.4
ASK	Askoy	63.94	346	*e*P		P	03 35 24.9 -0.4
BER	Bergen	64.02	346	⇓*i*P		P	03 35 26.7 +0.8
BER				IVmB_BB			03 35 29.5
	comp=Z,28μm,1.1s						
BER				*e*S		S	03 43 49.3 +1.5
KONO	Kongsberg	64.03	343	*d i*P		P	03 35 25.6 -0.4
KONO				pmax		pmax	
	comp=Z,2μm,1.2s						
KONO				MLR		MLR	
	comp=Z,30μm,19.0s						
KONO	Kongsberg	64.03	343	⇓*i*P		P	03 35 26.5 +0.5
KONO				IVmB_BB			03 35 29.9
	comp=Z,21μm,1.8s						
KONO				*e*S		S	03 43 48.0 -0.1
KONO	Kongsberg	64.03	343	⇓P		P	03 35 25.4 -0.6
KONO	Kongsberg	64.03	343	P		P	03 35 25.5 -0.4
KONO				IAmb		IAmb	03 35 30.6
	comp=Z,2μm,1.1s						
KONO	Kongsberg	64.03	343	P		P	03 35 26.6 +0.6
IDID	Didziasalis	64.10	332	*e*P		P	03 35 26.5 0.0
SPMN	Marine on St.	64.10	48	IAmb		IAmb	03 35 31.4
	comp=Z,811nm,0.8s						
SPMN	Marine on St.	64.10	48	P		P	03 35 25.8 -0.9
	baz=322,SNR=362						
SPMN				S		S	03 43 49.3 -0.1
	baz=322						
214A	Organ Pipe Nat	64.13	71	IAmb		IAmb	03 35 31.1
	comp=Z,2μm,1.4s						
214A	Organ Pipe Nat	64.13	71	P		P	03 35 27.1 -0.1
	baz=319,SNR=1000						
214A				S		S	03 43 53.8 +3.6
	baz=319						
IIGN	Ignalina	64.21	332	*e*P		P	03 35 27.4 +0.1
KSCO	Kaye Shedlock'	64.24	59	IAmb		IAmb	03 35 39.3
	comp=Z,2μm,1.3s						
KSCO	Kaye Shedlock'	64.24	59	P		P	03 35 27.5 -0.3
	baz=320,SNR=131						
KSCO				S		S	03 43 53.5 +1.9
	baz=320						
ODD1	Odda	64.27	345	*e*P		P	03 35 27.4 -0.3
ODD1				*e*S		S	03 43 54.1 +2.9
NACGM	Naroch	64.45	331	*i*P		P	03 35 28.7 -0.1
MNK	Minsk	64.48	331	*i*P		P	03 35 29.1 +0.1
MNK				*i* *PP		pP	03 36 08.0 -1.5
MNK				*i*			03 37 51.7
MNK				*i* PPP		PPP	03 39 24.5
MNK				*i* S		S	03 43 55.4 +1.6
MNK				*i* *SS		sS	03 45 02.7 -0.8
MNK				*i* SS		SS	03 48 09.4 +3.3
MNK				pmax		pmax	
	comp=Z,5μm,1.1s						
MNK				pmax		pmax	
	comp=N,3μm,1.2s						
MNK				pmax		pmax	
	comp=E,317nm,1.2s						
MNK				MLR		MLR	
	comp=Z,58μm,22.0s						
MNK				MLR		MLR	
	comp=N,46μm,25.0s						
MNK				MLR		MLR	
	comp=E,8μm,24.0s						
MNK	Minsk	64.48	331	*i*P		P	03 35 29.1 +0.1
	comp=E,317nm,1.2s						
MNK				*i*P		P	03 35 29.1 +0.1
	comp=N,3μm,1.2s						
MNK				*i*P		P	03 35 29.1 +0.1
	comp=Z,5μm,1.1s,baz=30						
MNK				*i* pP		pP	03 36 08.1 -1.5
MNK				*i* PP		PP	03 37 51.7 -0.6
MNK				*i* PPP		PPP	03 39 24.6
MNK				*i* S		S	03 43 55.5 +1.7
MNK				*i* sS		sS	03 45 02.7 -0.7
MNK				*i* SS		SS	03 48 09.4 +3.3
MNK				*i* SSS		SSS	03 51 18.1
MNK				*i* LRM		MLR	04 06 42.0
	comp=Z,58μm,21.7s						
MNK				*i* LRM		MLR	04 06 48.5
	comp=N,46μm,25.3s						
MNK				*i* LRM		MLR	04 07 59.4
	comp=E,8μm,23.9s						
BGNE	Belgrade	64.61	54	P		P	03 35 29.4 -0.7
	baz=321,SNR=312						
BGNE				S		S	03 43 56.3 +0.5
	baz=321						
FUNA	Funafuti	64.65	157	P		P	03 35 30.3 -0.2
FUNA				IAmb		IAmb	03 35 32.1
	comp=Z,1μm,1.4s						
PABE	Paberze	64.69	333	*e*P		P	03 35 30.7 +0.4
T25A	Trinidad	64.75	61	IAmb		IAmb	03 35 35.0
	comp=Z,2μm,1.4s						
T25A	Trinidad	64.75	61	P		P	03 35 30.8 -0.5
	baz=320,SNR=666						
T25A				S		S	03 44 00.9 +2.9
	baz=320						
PBUR	Paburge	64.75	335	*e*P		P	03 35 31.0 +0.3
BLS5	Blasjo	64.77	345	⇓*i*P		P	03 35 31.1 +0.3
BLS5				IVmB_BB			03 35 34.5
	comp=Z,21μm,1.4s						
BLS5				*i* S		S	03 43 59.4 +2.3
KAPO	Kapuskasing	64.90	39	⇑P		P	03 35 30.4 -1.5
COWI	Conover	64.99	45	IAmb		IAmb	03 35 43.0
	comp=Z,2μm,1.2s						
TUC	Tucson	64.99	69	P		P	03 35 32.7 0.0
TUC				pmax		pmax	
	comp=Z,2μm,1.5s						
TUC	Tucson	64.99	69	⇓P		P	03 35 32.6 -0.2
TUC	Tucson	64.99	69	P		P	03 35 32.7 0.0
TUC				IAmb		IAmb	03 35 36.8
	comp=Z,2μm,1.4s						
TUC	Tucson	64.99	69	P		P	03 35 32.8 0.0
	baz=320						
TUC				S		S	03 44 04.1 +3.2
	baz=320						
TUC	Tucson	64.99	69	P		P	03 35 33.8 +1.0
TUC				pP		pP	03 36 13.5 +0.4
SRIT	Nakonsritamara	65.06	249	P		P	03 35 33.8 +0.5
LRW	Lerwick	65.11	349	*e*P		P	03 35 32.6 -0.4
LRW	Lerwick	65.11	349	⇓P		P	03 35 32.9 0.0
DGPR	DIGLIPUR	65.11	258	⇓*i*P		P	03 35 33.4 -0.2
DGPR				IAmb		IAmb	03 35 39.9
	comp=Z,1μm,1.1s						
KMY	Karmoy	65.15	345	*e*P		P	03 35 33.5 +0.2
KMY				IVmB_BB			03 35 37.4
	comp=Z,21μm,1.6s						
KMY				*e*S		S	03 44 01.2 -0.5
SCHQ	Schefferville	65.32	27	P		P	03 35 33.3 -1.2
	comp=Z,583nm,0.8s,baz=350,slow=5.7,SNR=284						
SCHQ				S		S	03 44 04.4 +0.3
	comp=Z,61nm,1.0s,baz=134,slow=19,SNR=4.6						
SCHQ	Schefferville	65.32	27	⇓P		P	03 35 33.1 -1.3
SCHQ	Schefferville	65.32	27	P		P	03 35 33.7 -0.8
ANMO	Albuquerque	65.34	64	S		S	03 44 09.1 +3.8
	comp=Z,13nm,1.1s,baz=215,slow=22,SNR=10						
ANMO				PKPPKP			04 04 11.7
	comp=Z,14nm,0.8s,baz=152,slow=6.0,SNR=4.7						
ANMO	Albuquerque	65.34	64	*d i*P		P	03 35 36.3 +1.2
ANMO				pmax		pmax	
	comp=Z,993nm,1.4s						
ANMO				MLR		MLR	
	comp=Z,30μm,18.0s						
ANMO	Albuquerque	65.34	64	⇓P		P	03 35 35.1 0.0
ANMO	Albuquerque	65.34	64	P		P	03 35 35.1 0.0
ANMO	Albuquerque	65.34	64	P		P	03 35 35.1 0.0
	baz=320						
ANMO				S		S	03 44 08.9 +3.6
	baz=320						
ANMO	Albuquerque	65.34	64	P		P	03 35 36.4 +1.3
ANMO				pP		pP	03 36 16.3 +0.7
KSM	Kuching	65.51	235	⇓P		P	03 35 37.8 +1.6
KSM				⇓P		P	03 35 37.8 +1.6
KSM	Kuching	65.51	235	P		P	03 35 38.0 +1.9
KSM	Kuching	65.51	235	P		P	03 35 38.1 +1.9
AJM	Ajmer	65.52	282	⇓*i*P		P	03 35 35.0 -1.2
HOMB	Homborsund	65.53	343	⇓*i*P		P	03 35 36.6 +0.9
HOMB				IVmBBB			03 35 39.6
	comp=Z,17μm,2.7s						
HOMB				*e*S		S	03 44 04.3 -2.0
SNART	Snartemo	65.68	344	*e*P		P	03 35 36.4 -0.3
Y22D	IRIS PASSCAL I	65.75	65	P		P	03 35 39.6 +1.9
	baz=320,SNR=99						
Y22D				S		S	03 44 16.0 +5.8
	baz=320						
GEYT	Alibeck	65.82	302	P		P	03 35 37.5 -0.6
	comp=Z,464nm,0.6s,baz=67,slow=4.8,SNR=100						
GEYT				P4KPbc			04 12 29.4
	comp=Z,3.1nm,0.8s,baz=324,slow=15,SNR=4.1						
GEYT	Alibeck	65.82	302	P		P	03 35 37.4 -0.6
GEYT				IAmb		IAmb	03 35 50.4
	comp=Z,979nm,0.8s						
GYA0B	ALIBECK ARRAY	65.82	302	IAmb		IAmb	03 35 50.4
	comp=Z,1μm,0.8s						
SAUI	Saumlaki	65.83	210	⇓P		P	03 35 39.6 +1.4
SAUI	Saumlaki	65.83	210	P		P	03 35 39.0 +0.9
SAUI	Saumlaki	65.83	210	P		P	03 35 40.7 +2.6
CBKS	Cedar Bluff	65.83	57	⇑P		P	03 35 37.1 -0.9
CBKS	Cedar Bluff	65.83	57	IAmb		IAmb	03 35 40.7
	comp=Z,2μm,1.2s						
CBKS	Cedar Bluff	65.83	57	P		P	03 35 37.7 -0.3
	baz=321,SNR=153						
CBKS				S		S	03 44 11.0 +0.1
	baz=321						
CHLP	Challavanipeta	66.11	269	*e*P		P	03 35 40.6 +0.6
CHLP				*e*PcP		PcP	03 36 09.6 +0.6
SUW	Suwalki	66.23	333	*e*P		P	03 35 39.3 -1.0
SUW				*e*S		S	03 44 16.5 +1.5
SUW				*e*L		L	04 01 40.3
	comp=Z,56μm,24.6s						
SUW	Suwalki	66.23	333	*e*P		P	03 35 40.0 -0.2
SUW	Suwalki	66.23	333	⇓P		P	03 35 39.2 -1.0
BHPL	Bhopal	66.37	277	⇓*i*P		P	03 35 40.9 -0.8
BHPL				IAmb		IAmb	03 35 51.6
	comp=Z,2μm,0.8s						
HRA	Herat	66.41	296	P		P	03 35 41.4 -0.6
HRA				IAmb		IAmb	03 35 52.1
	comp=Z,1μm,1.1s						
PBA	Port Blair	66.44	257	⇓*i*P		P	03 35 40.8 -1.3
PBA				IAmb		IAmb	03 35 47.5
	comp=Z,764nm,0.6s						
121A	Cookes Peak, D	66.46	67	IAmb		IAmb	03 35 46.8
	comp=Z,3μm,1.5s						
121A	Cookes Peak, D	66.46	67	P		P	03 35 43.5 +1.2
	baz=320,SNR=287						
121A				S		S	03 44 22.9 +3.9
	baz=320						
KLNR	Kaliningrad	66.46	335	*d i*P		P	03 35 40.9 -0.8
KLNR				pmax		pmax	
	comp=Z,6μm,1.1s						
KLNR				MLR		MLR	
	comp=Z,65μm,25.0s						
319A	Douglas	66.53	69	IAmb		IAmb	03 35 53.0
	comp=Z,2μm,1.0s						
SCIA	State Center	66.53	51	P		P	03 35 42.0 -0.3
	baz=322,SNR=184						
SCIA				S		S	03 44 18.7 -0.4
	baz=322						
GOET	G??ttrup	66.57	342	*i*P		P	03 35 43.6 +1.3
MAK	Makhachkala	66.90	312	*c i*P		P	03 35 44.3 -0.4
MAK				*e* *PP		pP	03 36 21.6 -3.8
MAK				*e* *SP		sP	03 36 39.1 -4.8
MAK				*e*			03 38 15.8
MAK				*e*PPP		PPP	03 39 53.7
MAK				*e*S		S	03 44 26.2 +2.7
MAK				*e* *SS		ScS	03 45 25.3 0.0
MAK				*e*SS		SS	03 48 41.8 -2.3
MAK				pmax		pmax	
	comp=Z,3μm,1.2s						
MAK				pmax		pmax	
	comp=Z,21μm,5.4s						
MAK				MLR		MLR	
	comp=Z,34μm,15.0s						
BIGH	Upper Bighouse	67.01	350	⇓*e*P		P	03 35 44.8 -0.3
JFWS	Jewell Farm	67.06	48	P		P	03 35 43.9 -1.8
	baz=323,SNR=129						
JFWS				S		S	03 44 23.3 -2.0
	baz=323						
KAPI	Kappang	67.09	223	P		P	03 35 46.6 +0.5
	comp=Z,182nm,0.6s,baz=41,slow=4.3,SNR=59						
KAPI	Kappang	67.09	223	P		P	03 35 47.0 +0.8
	comp=Z,614nm,0.8s						
KAPI				pmax		pmax	
KAPI	Kappang	67.09	223	P		P	03 35 47.3 +1.1
KAPI				S		S	03 44 30.1 +3.8
KAPI	Kappang	67.09	223	P		P	03 35 47.0 +0.8
KAPI	Kappang	67.09	223	P		P	03 35 47.1 +0.8
KAPI	Kappang	67.09	223	P		P	03 35 46.9 +0.8
GOF	Goftskoye	67.11	316	⇓*i*P		P	03 35 45.8 -0.2
GOF				*e*S		S	03 44 27.7 +1.8
GOF				pmax		pmax	
	comp=Z,8μm,0.9s						
GOF				smax		smax	
	comp=E,682nm,1.3s						
GOF				smax		smax	
	comp=N,931nm,1.2s						
MUD	Monsted U'grnd	67.13	342	*i*P		P	03 35 47.0 +1.1
MUD				IVmB_BB			03 35 50.3
	comp=Z,37μm,8.8s						
MUD	Monsted U'grnd	67.13	342	⇑P		P	03 35 46.3 +0.5
MUD				⇑P		P	03 35 46.3 +0.5
MUD				⇓P		P	03 35 49.2 +3.3
MLA1	Latheron	67.14	350	*e*P		P	03 35 45.6 -0.3
KSU1	Kansas State U	67.14	55	⇑P		P	03 35 44.6 -1.6
KSU1	Kansas State U	67.14	55	IAmb		IAmb	03 35 54.5
	comp=Z,589nm,0.6s						
KSU1	Kansas State U	67.14	55	P		P	03 35 44.5 -1.8
	baz=322,SNR=215						
KSU1				S		S	03 44 24.4 -2.1
	baz=322						
VIS	Vishakhapatnam	67.16	269	IAmb		IAmb	03 35 50.3
	comp=Z,485nm,0.7s						
KULM	Kulim	67.22	246	P		P	03 35 47.4 +0.3
KULM				IAmb		IAmb	03 35 54.4
	comp=Z,736nm,0.7s						
COP	Copenhagen	67.23	340	*i*P		P	03 35 47.4 +0.9
COP				IVmB_BB			03 35 50.7
	comp=Z,268μm,3.9s						
BSD	Bornholm Skovb	67.24	338	*i*P		P	03 35 46.5 0.0
BSD				IVmB_BB			03 35 48.5
	comp=Z,37μm,3.6s						
BSD	Bornholm Skovb	67.24	338	*e*P		P	03 35 46.6 0.0
AKASG	Malin Array Be	67.38	328	P		P	03 35 46.4 -1.3
	comp=Z,544nm,0.5s,baz=30,slow=6.5,SNR=279						
AKASG				PKPPKP		P'P'df	04 03 60.0 -13
	comp=Z,18nm,0.9s,baz=224,slow=3.7,SNR=14						
AKASG				LR		LR	04 08 57.8
	comp=Z,70μm,20.1s,baz=27,slow=39						
AKASG				P4KPbc			04 12 34.9
	comp=Z,4.4nm,1.1s,baz=31,slow=5.1,SNR=7.8						
AKASG	Malin Array Be	67.38	328	P		P	03 35 46.3 -1.3
AKASG				pmax		pmax	
	comp=Z,2μm,0.8s						
AKASG	Malin Array Be	67.38	328	P		P	03 35 46.3 -1.3
AKBB	Malin Array Si	67.38	328	*d i*P		P	03 35 46.2 -1.4
AKBB	Malin Array Si	67.38	328	P		P	03 35 46.5 -1.1
GROC	Groznyy	67.45	313	⇓*i*P		P	03 35 47.2 -1.0
GROC				*e* *PP		pP	03 36 25.5 -3.5
GROC				*e*			03 38 20.7
GROC				*e*S		S	03 44 32.4 +2.3
GROC				pmax		pmax	
	comp=Z,2μm,1.2s						
GROC				pmax		pmax	
	comp=E,698nm,1.0s						
GROC				pmax		pmax	
	comp=N,1μm,0.9s						
LEWI	Lewis, Hebride	67.63	352	*e*P		P	03 35 48.5 -0.6
LEWI				IAmb		IAmb	03 35 52.6
	comp=Z,2μm,1.1s						
IPM	Ipoh	67.70	245	P		P	03 35 50.2 +0.1
IPM				IAm

KAN16 Harper SW Stat 67.90 57 IAmb IAmb 03 35 53.9
comp=Z,2μm,1.3s
KAN08 Anthony NE Sta 67.94 57 IAmb IAmb 03 35 54.1
comp=Z,2μm,1.2s
KAN10 Anthony SW Sta 67.96 57 IAmb IAmb 03 35 54.3
comp=Z,2μm,1.2s
SRIG Santa Rosalia 67.97 74 P **P** **03 35 51.0 -0.6**
SRIG IAmb IAmb 03 35 55.9
comp=Z,1μm,1.1s
MSTX Muleshoe 68.03 62 IAmb IAmb 03 35 55.2
comp=Z,3μm,1.3s
MSTX Muleshoe 68.03 62 P **P** **03 35 51.2 -0.9**
baz=321,SNR=630
MSTX S **S** **03 44 39.4 +1.9**
baz=321
KAN05 Bluff City Nor 68.08 57 IAmb IAmb 03 35 55.1
comp=Z,2μm,1.2s
MDO Dochfour 68.09 350⇓*e*P **P** **03 35 51.3 -0.6**
KAN01 Argonia South 68.11 57 IAmb IAmb 03 35 55.2
comp=Z,3μm,1.2s
RGN Rugen 68.11 339 *e*P **P** **03 35 54.1 +2.1**
RGN Rugen 68.11 339 *e*P **P** **03 35 52.7 +0.7**
comp=Z,9μm,1.1s,baz=20,slow=5.9
RGN Rugen 68.11 339 ⇓P **P** **03 35 52.6 +0.7**
KVAR Kislovodsk Arr 68.15 316 LR LR 04 10 59.8
comp=Z,45μm,20.7s,baz=270,slow=40
NCK Nalchik 68.15 315*d i*P **P** **03 35 52.2 -0.4**
NCK pmax pmax
comp=Z,1μm,0.8s
KIV Kislovodsk 68.16 316 ⇓P **P** **03 35 52.8 +0.1**
KIV Kislovodsk 68.16 316 *e*P **P** **03 35 52.4 -0.3**
KIV *e**SP **sP** **03 36 50.6 -1.5**
KIV *e* 03 38 24.8
KIV *e*PPP PPP 03 40 07.4
KIV *e*S **S** **03 44 39.5 +0.9**
KIV *e*SS **SS** **03 49 08.4 +4.7**
KIV pmax pmax
comp=Z,6μm,4.2s
KIV pmax pmax
comp=Z,777nm,1.0s
KIV MLR MLR
comp=Z,41μm,17.0s
KIV Kislovodsk 68.16 316 P **P** **03 35 54.3 +1.6**
KIV S **S** **03 44 38.7 +0.1**
KIV Kislovodsk 68.16 316 ⇓P **P** **03 35 52.4 -0.3**
KIV ⇓P **P** **03 35 52.5 -0.1**
KIV ⇑P **P** **03 35 54.3 +1.6**
KIV Kislovodsk 68.16 316 P **P** **03 35 52.5 -0.1**
KIV Kislovodsk 68.16 316 P **P** **03 35 52.6 -0.1**
KIV Kislovodsk 68.16 316 *i* P **P** **03 35 52.6 -0.1**
SNR=264
OK032 Salt Plains WL 68.16 57 IAmb IAmb 03 36 02.7
comp=Z,2μm,1.5s
KAN17 Caldwell West 68.19 57 IAmb IAmb 03 35 55.8
comp=Z,2μm,1.3s
KBZ Khabaz 68.25 315 P **P** **03 35 53.1 -0.1**
comp=Z,1μm,0.9s,baz=80,slow=2.8,SNR=223
KBZ PKPPKP 04 04 08.1
comp=Z,17nm,1.1s,baz=147,slow=1.9,SNR=10
KBZ LR LR 04 10 49.2
comp=Z,54μm,20.6s,baz=30,slow=40
KBZ Khabaz 68.25 315*d i*P **P** **03 35 52.8 -0.3**
KBZ pmax pmax
comp=Z,2μm,1.0s
KBZ MLR MLR
comp=Z,51μm,19.0s
KPL Plockton 68.32 351 *e*P **P** **03 35 52.9 -0.4**
KPL IAmb IAmb 03 35 56.8
comp=Z,2μm,1.1s
SHA1 Shidzhatmaz 68.35 315*d i*P **P** **03 35 53.6 -0.4**
KAN13 South Haven SW 68.36 57 IAmb IAmb 03 36 02.2
comp=Z,649nm,0.7s
MNTX Cornudas Mount 68.40 66 IAmb IAmb 03 35 59.0
comp=Z,2μm,1.2s
MNTX Cornudas Mount 68.40 66 P **P** **03 35 54.2 -0.1**
baz=321,SNR=1000
MNTX S **S** **03 44 46.9 +5.2**
baz=321
GKP Gorka Klasztor 68.41 336 *e*P **P** **03 35 53.6 -0.3**
GKP *e*S **S** **03 44 45.0 +3.9**
GKP *e*L L 03 59 03.5
comp=Z,144μm,43.4s
GKP Gorka Klasztor 68.41 336 *e*P **P** **03 35 54.7 +0.8**
DRUM Mains of Drumt 68.41 349 *e*P **P** **03 35 53.3 -0.6**
DRUM IAmb IAmb 03 35 57.7
comp=Z,2μm,1.0s
MYKOM Kota Tinggi 68.48 241 P **P** **03 35 56.2 +1.3**
MYKOM IAmb IAmb 03 35 60.0
comp=Z,1μm,0.6s
MYKOM Kota Tinggi 68.48 241 P **P** **03 35 56.0 +1.1**
PVM Polavaram 68.53 270 *e*P **P** **03 35 55.1 -0.1**
PVM *e*pP **pP** **03 36 38.1 +1.9**
PVM *e*PP **PP** **03 38 30.1 +1.6**
PVM *e*S **S** **03 44 43.0 -0.5**
PVM *e*SKKSac **SKSac** **03 45 37.4 -0.4**
ZEI Tsey 68.60 314 *e*P **P** **03 35 53.6 -2.0**
ZEI pmax pmax
comp=Z,623nm,1.0s
RPR Rampur 68.65 273 *e*P **P** **03 35 56.1 +0.1**
RPR *e*pP **pP** **03 36 38.1 +1.1**
RPR *e*PP **PP** **03 38 31.1 +1.6**
RPR *e*S **S** **03 44 42.3 -2.6**
RPR *e*SKSac **SKSac** **03 45 38.2 -0.6**
L44A Lake County Fo 68.67 47 P **P** **03 35 54.3 -1.4**
baz=325,SNR=54
L44A S **S** **03 44 42.4 -2.1**
baz=325
NEY Neytrino 68.72 315*d i*P **P** **03 35 56.0 -0.3**
NEY pmax pmax
comp=Z,464nm,1.3s
BEL Belsk 68.82 333 *e*P **P** **03 35 56.9 +0.4**
BEL *e*S **S** **03 44 49.9 +3.9**
BEL *e*L L 04 08 56.4
comp=Z,64μm,21.5s
EDU Dundee 68.83 349⇓*e*P **P** **03 35 56.8 +0.3**
COEN Coen 68.89 196 P **P** **03 35 57.7 +0.4**
COEN IAmb IAmb 03 36 00.1
comp=Z,2μm,1.3s
COEN Coen 68.89 196 P **P** **03 35 57.9 +0.6**
HQIL Hanson Quary C 69.00 47 IAmb IAmb 03 36 08.1
comp=Z,3μm,1.3s
INVG Invergeldie, C 69.06 350 *e*P **P** **03 35 57.2 -0.7**
INVG IAmb IAmb 03 36 01.1
comp=Z,1μm,1.0s
SRSP Sriramsagar 69.16 274 *e*P **P** **03 35 58.4 -0.7**
SRSP *e*pP **pP** **03 36 41.5 +1.3**
SRSP *e*PP **PP** **03 38 33.0 -0.9**
SRSP *e*S **S** **03 44 49.1 -1.8**
SRSP *e*SS **SS** **03 49 21.9 +1.7**
BSEG Bad Segeberg 69.30 341 *e*P **P** **03 35 59.7 +0.3**
comp=Z,4μm,1.1s,baz=20,slow=5.9
LHMI Lhok Sumawe 69.30 249 ⇓P **P** **03 36 01.1 +1.1**
LHMI Lhok Sumawe 69.30 249 P **P** **03 36 01.9 +1.9**
OK029 Liberty Lake 69.32 57 IAmb IAmb 03 36 02.8
comp=Z,3μm,1.4s
HDIL Hopedale 69.38 49 P **P** **03 35 59.2 -1.0**
HDIL Hopedale 69.38 49 P **P** **03 35 58.9 -1.3**
baz=324,SNR=198
HDIL S **S** **03 44 50.8 -2.1**
baz=324
OK033 Mehan 69.39 57 IAmb IAmb 03 36 10.1
comp=Z,1μm,1.2s
ESY Stoneypath 69.40 349 *e*P **P** **03 35 59.1 -1.0**
CHVG Ch'k'valeri 69.42 315 ⇑P **P** **03 36 00.9 +0.5**
MMRI Maumere 69.45 219 ⇓P **P** **03 36 00.3 -0.6**
MMRI Maumere 69.45 219 P **P** **03 36 00.9 +0.1**
MMRI IAmb IAmb 03 36 11.5
comp=Z,2μm,1.1s
MMRI Maumere 69.45 219 P **P** **03 36 02.3 +1.5**
EDI Edinburgh 69.46 349 *e*P **P** **03 35 59.8 -0.6**
EDI IAmb IAmb 03 36 03.7
comp=Z,1μm,1.1s
WMOK Wichita Mounta 69.49 59 ⇓P **P** **03 36 00.1 -0.9**
WMOK Wichita Mounta 69.49 59 IAmb IAmb 03 36 11.9
comp=Z,1μm,1.2s
WMOK Wichita Mounta 69.49 59 P **P** **03 35 59.9 -1.1**
baz=322,SNR=672
WMOK S **S** **03 44 55.5 +1.0**
baz=322
MYLAV Mylavaram 69.51 270 *e*P **P** **03 36 01.7 +0.4**
MYLAV *e*pP **pP** **03 36 44.0 +1.7**
MYLAV *e*S **S** **03 44 54.8 -0.2**
MYLAV *e*SKSac **SKSac** **03 45 44.7 -0.6**
SANVU Saraoutou 69.52 171 ⇑P **P** **03 36 00.5 -0.6**
SANVU Saraoutou 69.52 171 P **P** **03 36 00.1 -1.0**
SANVU IAmb IAmb 03 36 10.3
comp=Z,1μm,0.8s
SANVU Saraoutou 69.52 171 P **P** **03 36 01.5 +0.4**
SANVU Saraoutou 69.52 171 P **P** **03 36 01.1 +0.1**
HLG Helgoland 69.52 342 *e*P **P** **03 36 02.8 +2.0**
comp=Z,4μm,1.2s,baz=20,slow=5.9
HLG Helgoland 69.52 342 ⇓P **P** **03 36 02.6 +1.9**
OK034 N. Norfolk Rd. 69.52 57 IAmb IAmb 03 36 04.6
comp=Z,2μm,1.3s
OK025 Westminster Rd 69.55 58 IAmb IAmb 03 36 12.0
comp=Z,3μm,1.5s
EBL Broad Law 69.59 349 *e*P **P** **03 36 00.6 -0.6**
SOC Sochi 69.68 317*d i*P **P** **03 36 00.8 -1.1**
SOC *e**PP **pP** **03 36 38.4 -4.6**
SOC *e**SP **sP** **03 36 57.0 -4.5**
SOC *e* 03 38 35.9
SOC *e*S **S** **03 44 57.0 +0.7**
SOC pmax pmax
comp=Z,11μm,2.8s
SOC pmax pmax
comp=Z,2μm,0.7s
PGBU Glenifferbraes 69.71 350⇓*e*P **P** **03 36 01.6 -0.3**
PGBU IAmb IAmb 03 36 07.3
comp=Z,6μm,1.2s
LVV L'vov 69.74 330⇑*i*P **P** **03 36 01.6 -0.6**
LVV *e* 03 36 40.1
LVV *i* S **S** **03 44 58.1 +1.3**
LVV *e* 03 52 32.5
LVV pmax pmax
comp=Z,7μm,1.4s
LVV MLR MLR
comp=N,35μm,19.0s
LVV MLR MLR
comp=E,18μm,19.0s
LVV MLR MLR
comp=Z,45μm,19.0s
SOEI Soe 69.76 216 ⇓P **P** **03 36 02.5 -0.4**
SOEI Soe 69.76 216 IAmb IAmb 03 36 27.9
comp=Z,1μm,0.9s
SOEI Soe 69.76 216 P **P** **03 36 04.9 +2.1**
SORM Soroca 69.90 327 ⇓P **P** **03 36 02.9 -0.3**
AKH Akhalkalaki 69.90 313 ⇓P **P** **03 36 04.0 +0.4**
RUE Ruedersdorf 69.94 338 *e*P **P** **03 36 04.3 +1.0**
RUE Ruedersdorf 69.94 338 *e*P **P** **03 36 03.5 +0.2**
comp=Z,5μm,1.1s,baz=20,slow=5.9
RUE Ruedersdorf 69.94 338 ⇓P **P** **03 36 03.5 +0.2**
KDU Kakadu 69.98 207 ⇓P **P** **03 36 04.3 +0.3**
KDU ⇓P **P** **03 36 04.3 +0.3**
KDU Kakadu 69.98 207 P **P** **03 36 04.6 +0.6**
EKA Eskdalemuir Ar 70.04 349 P **P** **03 36 03.4 -0.5**
comp=Z,615nm,0.7s,baz=17,slow=5.2,SNR=362
EKA S **S** **03 44 60.0 -0.1**
comp=Z,23nm,1.0s,baz=10.0,slow=13,SNR=5.0
EKA PKP2bc 04 04 03.9
comp=Z,16nm,0.8s,baz=177,slow=2.5,SNR=6.2
TUL1 Leonard 70.06 56 IAmb IAmb 03 36 08.0
comp=Z,2μm,1.1s
TUL1 Leonard 70.06 56 P **P** **03 36 03.4 -1.0**
baz=323,SNR=521
TUL1 S **S** **03 44 59.6 -1.4**
baz=323
ESK Eskdalemuir 70.06 349 *e*P **P** **03 36 03.3 -0.8**
ESK IAmb IAmb 03 36 08.2
comp=Z,2μm,0.9s
ESK Eskdalemuir 70.06 349 P **P** **03 36 03.6 -0.5**
ESK pmax pmax
comp=Z,2μm,1.0s
ESK Eskdalemuir 70.06 349 P **P** **03 36 03.6 -0.5**
ESK IAmb IAmb 03 36 08.4
comp=Z,2μm,1.0s
ESK Eskdalemuir 70.06 349 P **P** **03 36 03.5 -0.5**
SADO Sadowa 70.08 40 LR LR 04 06 52.8
comp=Z,35μm,21.1s,baz=351,slow=36
SADO Sadowa 70.08 40 ⇑P **P** **03 36 02.4 -1.9**
SADO ⇑P **P** **03 36 02.8 -1.5**
CUPL Choutuppal 70.09 272 *e*P **P** **03 36 04.7 -0.1**
DRS Darwin Rock St 70.17 209 P **P** **03 36 05.8 +0.6**
HYBB Hyderabad (bro 70.21 273 *e*P **P** **03 36 05.5 -0.1**
HYBB *e*PcP **PcP** **03 36 26.3 0.0**
HYBB *e*pP **pP** **03 36 48.3 +1.5**
HYBB *e*PP **PP** **03 38 43.2 +0.1**
HYBB *e*S **S** **03 45 03.3 0.0**
HYB Hyderabad 70.22 273⇓*i*P **P** **03 36 04.2 -1.4**
HYB IAmb IAmb 03 36 08.5
comp=Z,418nm,0.8s
KWP Kalwaria Pacla 70.28 331 *e*P **P** **03 36 06.0 +0.4**
KWP *e*S **S** **03 45 05.4 +2.2**
KWP *e*L L 03 59 05.3
comp=Z,169μm,65.1s
KWP Kalwaria Pacla 70.28 331 ⇓P **P** **03 36 05.7 +0.2**
KWP ⇓P **P** **03 36 05.8 +0.2**
AAM Ann Arbor 70.36 44 IAmb IAmb 03 36 11.5
comp=Z,1μm,0.9s
AAM Ann Arbor 70.36 44 P **P** **03 36 05.1 -1.0**
baz=326,SNR=168
AAM S **S** **03 45 03.7 -0.6**
baz=326
NEWG New Galloway 70.37 350⇓*e*P **P** **03 36 05.2 -0.7**
NEWG IAmb IAmb 03 36 09.3
comp=Z,2μm,1.1s
EDMD Edmundbyers 70.39 348 *e*P **P** **03 36 05.2 -0.8**
EDMD IAmb IAmb 03 36 09.5
comp=Z,2μm,1.2s
BATI Baumata 70.39 217 P **P** **03 36 06.5 0.0**
comp=Z,1μm,0.6s,baz=73,slow=0.1,SNR=73
GNI Garni 70.39 312 LR LR 04 14 05.1
comp=Z,30μm,18.1s,baz=56,slow=42
GNI Garni 70.39 312*d i*P **P** **03 36 06.8 +0.2**
GNI pmax pmax
comp=Z,2μm,1.1s
GNI Garni 70.39 312 P **P** **03 36 07.2 +0.5**
GNI Garni 70.39 312 ⇓P **P** **03 36 07.1 +0.5**
GNI Garni 70.39 312 P **P** **03 36 07.1 +0.5**
GNI Garni 70.39 312 P **P** **03 36 07.0 +0.4**
GNI Garni 70.39 312 P **P** **03 36 07.8 +1.2**
NJS Nagarjunasagar 70.44 271 *e*P **P** **03 36 06.9 0.0**
NJS *e*pP **pP** **03 36 49.8 +1.6**
NJS *e*PP **PP** **03 38 45.6 +0.6**
NJS *e*S **S** **03 45 04.3 -1.6**
NJS *e*SKKSac **SKSac** **03 45 51.8 -0.5**
NJS *e*SS **SS** **03 49 41.1 +1.1**
SFIN Lafayette 70.49 48 P **P** **03 36 05.8 -1.1**
SFIN IAmb IAmb 03 36 17.2
comp=Z,1μm,1.2s
SFIN Lafayette 70.49 48 P **P** **03 36 05.3 -1.7**
baz=325,SNR=148
SFIN S **S** **03 45 02.5 -3.3**
baz=325
MTN Manton Dam 70.50 208 P **P** **03 36 08.0 +0.9**
MTN IAmb IAmb 03 36 10.6
comp=Z,1μm,0.8s
MTN Manton Dam 70.50 208 P **P** **03 36 08.1 +0.9**
SLM Saint Louis 70.51 51 IAmb IAmb 03 36 10.6
comp=Z,2μm,1.2s
CCM Cathedral Cave 70.51 52 P **P** **03 36 06.3 -0.8**
CCM pmax pmax
comp=Z,3μm,1.4s
CCM Cathedral Cave 70.51 52 ⇓P **P** **03 36 05.7 -1.5**
CCM Cathedral Cave 70.51 52 P **P** **03 36 06.3 -0.8**
CCM IAmb IAmb 03 36 17.7
comp=Z,3μm,1.4s
CCM Cathedral Cave 70.51 52 P **P** **03 36 05.6 -1.5**
baz=324
CCM Cathedral Cave 70.51 52 P **P** **03 36 07.1 0.0**
CCM pP **pP** **03 36 47.5 -0.6**
OJC Ojcow 70.55 333 *e*P **P** **03 36 07.2 +0.1**
OJC *e*S **S** **03 45 08.3 +2.1**
OJC *e*L L 03 59 51.6
comp=Z,58μm,32.3s
CLGH Cloghs, Cushen 70.59 351 *e*P **P** **03 36 06.7 -0.6**
CLGH IAmb IAmb 03 36 10.9
comp=Z,2μm,1.1s
ADKI Addanki 70.61 270 *e*P **P** **03 36 08.1 +0.2**
ADKI *e*pP **pP** **03 36 51.2 +2.1**
ADKI *e*PP **PP** **03 38 46.7 +0.3**
ADKI *e*S **S** **03 45 04.0 -3.7**
ADKI *e*SKSac **SKSac** **03 45 52.9 -0.6**
ADKI *e*SS **SS** **03 49 43.6 +1.1**
ADKI *e*SKKSdf **SKKSdf** **04 02 39.0 +3.2**
RETH Rethem/Aller, 70.62 341 *e*P **P** **03 36 07.6 +0.2**
comp=Z,4μm,1.2s,baz=20,slow=5.9
FLTG Flechtingen 70.62 339 *e*P **P** **03 36 07.1 -0.4**
comp=Z,3μm,1.1s,baz=20,slow=5.9
FLTG Flechtingen 70.62 339 P **P** **03 36 07.0 -0.4**
GDLE Glaisdale, N Y 70.65 347⇓*e*P **P** **03 36 08.2 +0.6**
GAL1 Galloway 70.67 350 *e*P **P** **03 36 07.4 -0.3**
GAL1 IAmb IAmb 03 36 12.9
comp=Z,2μm,1.0s
SIM Simferopol' 70.67 322 *e*P **P** **03 36 06.2 -1.8**
SIM *e* 03 38 46.0
SIM *e*PPP PPP 03 40 27.0
SIM *e*S **S** **03 45 06.0 -1.8**
SIM *e**SS **SKSac** **03 45 53.0 -0.4**
SIM pmax pmax
comp=Z,3μm,1.5s
NRDL Niedersach Rie 70.70 340 *e*P **P** **03 36 08.0 +0.2**
comp=Z,3μm,1.1s,baz=20,slow=5.9
ABTX Abilene, Hawle 70.71 61 IAmb IAmb 03 36 11.5
comp=Z,3μm,1.4s
ABTX Abilene, Hawle 70.71 61 P **P** **03 36 07.4 -1.1**
baz=322,SNR=270
ABTX S **S** **03 45 07.7 -1.0**
baz=322
KIS Kishinev 70.75 326 ⇑P **P** **03 36 07.8 -0.5**
KIS Kishinev 70.75 326⇓*i*P **P** **03 36 07.3 -1.1**
comp=Z,7μm,2.7s
KIS Kishinev 70.75 326 *e*PcP **PcP** **03 36 22.0 -6.1**
KIS *e*pP **pP** **03 36 50.0 +0.5**
KIS *e*sP **sP** **03 37 05.0 -3.0**
KIS Kishinev 70.75 326 *e*PP PP 03 38 45.0 -1.7
KIS Kishinev 70.75 326*d i*P **P** **03 36 07.3 -1.1**
KIS *e* 03 36 22.0
KIS *e**SP **sP** **03 37 05.0 -3.0**
KIS *e* 03 38 45.0
KIS *e*S **S** **03 45 09.0 +0.4**
KIS *e* 03 45 46.0
KIS *e*PS 03 46 00.0
KIS pmax pmax
comp=Z,7μm,2.7s
KIS pmax pmax
comp=N,1μm,1.2s
MGMO Mountain Grove 70.76 53 IAmb IAmb 03 36 18.3
comp=Z,2μm,1.4s
KESW Keswick, Cumbr 70.76 349 *e*P **P** **03 36 08.0 -0.4**
KESW IAmb IAmb 03 36 12.6
comp=Z,5μm,1.0s
PURM Purcari 70.81 325 ⇓P **P** **03 36 08.0 -0.7**
MILM Milestii Mici 70.82 326 ⇑P **P** **03 36 08.2 -0.6**
MILM Milestii Mici 70.82 326⇓*i*P **P** **03 36 07.5 -1.3**
comp=Z,4μm,1.1s
MILM *i* pP **pP** **03 36 51.0 +1.1**
MILM ⇑*i* sP **sP** **03 37 08.8 +0.4**
MILM Milestii Mici 70.82 326 *e*PP PP 03 38 50.0 +2.7
MILM Milestii Mici 70.82 326*d i*P **P** **03 36 07.5 -1.3**
MILM *i* *PP **pP** **03 36 51.0 +1.1**
MILM *i* *SP **sP** **03 37 09.0 +0.6**
MILM *e* 03 38 50.0
MILM *e*PPP PPP 03 40 28.0
MILM *e*S **S** **03 45 11.0 +1.6**
MILM *e* 03 45 45.0
MILM *e* 03 45 50.0
MILM *e*PS **PnS** **03 46 00.0 -2.3**
MILM pmax pmax
comp=Z,4μm,1.1s
MILM pmax pmax
comp=N,6μm,3.1s
KLRI Killari 70.86 274 *e*P **P** **03 36 09.5 0.0**
KLRI *e*pP **pP** **03 36 52.9 +2.2**
KLRI *e*S **S** **03 45 10.6 -0.2**
KLRI ⇓*e*SKS **SKSac** **03 45 54.8 -0.7**
DELO Deloro Mine 70.86 39 IAmb IAmb 03 36 19.2
comp=Z,1μm,1.3s
KSP Ksiaz 70.87 336 *e*P **P** **03 36 09.2 +0.1**
KSP *e*S **S** **03 45 11.8 +1.9**
KSP *e*L L 04 00 31.5
comp=Z,145μm,48.3s
KSP Ksiaz 70.87 336 ⇓P **P** **03 36 08.9 -0.2**
BHUJ Bhuj 70.88 283⇓*i*P **P** **03 36 08.9 -0.6**
BHUJ IAmb IAmb 03 36 20.6
comp=Z,1μm,0.6s
STHS Stebnicka Huta 70.89 332 *e*P **P** **03 36 09.0 -0.2**
STHS Stebnicka Huta 70.89 332 *e*P **P** **03 36 09.0 -0.2**
ASSE Asse, Remlinge 70.93 340 *e*P **P** **03 36 09.2 0.0**
comp=Z,2μm,1.1s,baz=20,slow=5.9
IAS Iasi 70.98 327 ⇑P **P** **03 36 09.4 -0.4**
SRLM Srisailam 71.05 271 *e*SKSac **SKSac** **03 45 55.2 -1.7**
RAC Raciborz 71.10 334 *e*P **P** **03 36 09.3 -1.1**
RAC *e*PP **pP** **03 36 48.9 -2.7**
RAC *e*S **S** **03 45 14.4 +1.9**
RAC LMZ LR 04 10 33.0
comp=Z,67nm,20.9s
RAC Raciborz 71.10 334 *e*P **P** **03 36 09.3 -1.1**
RAC *e**PP **pP** **03 36 48.9 -2.7**
RAC *e*S **S** **03 45 14.4 +1.9**
RAC MLR MLR
comp=Z,67μm,20.9s
U40A Yellville 71.12 54 P **P** **03 36 09.3 -1.5**
baz=324,SNR=939
U40A S **S** **03 45 10.5 -2.8**
baz=324
NIE Niedzica 71.15 333 *e*P **P** **03 36 12.0 +1.2**
NIE *e*S **S** **03 45 18.1 +4.8**
NIE *e*L L 04 00 17.3
comp=Z,36μm,40.8s
OSTC Ostas 71.16 336⇓*i*P **P** **03 36 10.6 -0.2**
OSTC *e*x x 03 36 13.9
OSTC *e*sP **sP** **03 37 11.0 +0.6**
CHVC Chvalec 71.17 336⇓*i*P **P** **03 36 10.9 0.0**
CHVC *e*x x 03 36 14.4
CHVC *e*sP **sP** **03 37 10.2 -0.3**
CHVC *e*S **S** **03 45 15.6 +2.2**
CHVC AMS AMS 04 07 00.0
comp=Z,64μm,22.5s
TX32 Lajitas Array 71.17 66 IAmb IAmb 03 36 16.3
comp=Z,1μm,1.0s
TXAR Lajitas Array 71.17 66 P **P** **03 36 11.0 -0.3**
comp=Z,316nm,0.5s,baz=300,slow=4.4,SNR=808
TXAR pP **pP** **03 36 49.2 -3.2**
comp=Z,161nm,0.6s,baz=303,slow=3.3,SNR=1.3
TXAR LR LR 04 07 11.5
comp=Z,16μm,19.5s,baz=338,slow=36
TXAR Lajitas Array 71.17 66 P **P** **03 36 11.0 -0.3**
BKNI Bangkinang 71.19 243 P **P** **03 36 13.2 +1.8**
HPK Haverah Park 71.20 348 *e*P **P** **03 36 10.7 -0.2**
HPK IAmb IAmb 03 36 15.2
comp=Z,4μm,1.0s
CLL Collm 71.20 338 *e*P **P** **03 36 11.0 0.0**
CLL *e**SP **sP** **03 37 13.0 +2.4**
CLL *i* S **S** **03 45 16.3 +2.6**
CLL *e* 03 45 58.0
CLL pmax pmax
comp=Z,4μm,1.0s
CLL Collm 71.20 338 *e*P **P** **03 36 11.0 0.0**
CLL *e*Pmax 03 36 13.0
CLL *i* Pmax 03 36 14.1
comp=Z,4μm,1.0s
CLL *e*Plp 03 36 15.0
comp=N,14μm,24.7s
CLL *e*Plp 03 36 15.0
comp=E,6μm,24.8s
CLL *e*Plp 03 36 15.0
comp=Z,22μm,25.2s
CLL *i* x x 03 36 18.2
CLL *e*x x 03 37 02.0
CLL *e*sP **sP** **03 37 13.0 +2.4**
comp=Z,30μm,24.6s
CLL *e*(PP) 03 38 42.0
CLL *e*sPP 03 39 54.0
CLL *e*PPP PPP 03 40 36.0
CLL *e*PPPP 03 41 36.0
CLL *i* S **S** **03 45 16.3 +2.6**
CLL *e*x x 03 45 37.0
CLL *e*SKSac **SKKSac** **03 45 58.0 +0.7**
CLL *e*PS **PnS** **03 46 08.0 +0.9**
CLL *e*sS **sS** **03 46 27.0 +2.2**
CLL *e*sPS 03 46 55.0
CLL *e*sSKSac sSKSac 03 47 12.0 -1.8
CLL *e*SS **SS** **03 49 54.0 +4.3**
CLL *e*x x 03 51 30.0
CLL *e*SSS SSS 03 53 24.0
CLL *e*sSSS 03 54 24.0
CLL Lmax 04 00 00.0
CLL *e*PKPPKP P'P'df 04 03 38.0 -28
CLL *e*PKPPKPdf 04 04 09.0
comp=Z,484nm,3.0s
CLL *e*SKPPKPdf 04 07 18.0
CLL Collm 71.20 338 *e*P **P** **03 36 10.5 -0.5**

comp=Z,4μm,1.0s,baz=20,slow=5.9
IOMK Kirk Michael 71.25 350 *e*P **P 03 36 10.6 -0.6**
IOMK IAmb IAmb 03 36 14.6
comp=Z,4μm,1.1s
UPC Upice 71.25 336⇓*i*P **P 03 36 11.3 -0.1**
UPC *e**PP **sP 03 37 10.4 -0.6**
UPC Upice 71.25 336⇓*i*P **P 03 36 11.3 -0.1**
UPC *ex* x 03 36 14.8
UPC *es*P **sP 03 37 10.4 -0.6**
CLZ Clausthal 71.26 340 *e*P **P 03 36 11.8 +0.3**
comp=Z,6μm,1.1s,baz=20,slow=5.9
CRVS Cervenica-Dubn 71.30 332 *e*P **P 03 36 11.7 0.0**
CRVS pmax pmax
comp=Z,2μm,1.4s
CRVS Cervenica-Dubn 71.30 332 *e*P **P 03 36 11.7 0.0**
CRVS *e*S **S 03 45 16.4 +1.5**
CRVS *e*L L 04 00 03.7
CRVS *e* 04 03 44.0
UZH Uzhgorod 71.31 331*c i*P **P 03 36 10.0 -1.7**
UZH *e**PP **pP 03 36 53.3 +0.4**
UZH *e* 03 37 10.2
UZH *i* S **S 03 45 11.0 -3.9**
UZH *i* 03 45 58.0
UZH *e*SS **SS 03 49 54.0 +2.6**
UZH *e*SSS SSS 03 53 04.0
UZH pmax pmax
comp=N,2μm,17.0s
UZH pmax pmax
comp=E,700nm,17.0s
UZH pmax pmax
comp=Z,2μm,17.0s
DPC Dobruska-Polom 71.32 335⇓*i*P **P 03 36 12.1 +0.3**
DPC *e**PP **sP 03 37 13.0 +1.6**
DPC *e*S **S 03 45 16.9 +1.7**
DPC MLR MLR
comp=Z,56μm,21.5s
DPC Dobruska-Polom 71.32 335⇓*i*P **P 03 36 12.1 +0.3**
DPC *ex* x 03 36 15.5
DPC *es*P **sP 03 37 13.0 +1.6**
DPC *e*S **S 03 45 16.9 +1.7**
DPC AMS AMS 04 07 00.0
comp=Z,56μm,21.5s
BUR08 Bucovina Ar. S 71.33 329 IAmb IAmb 03 36 22.0
comp=Z,1μm,0.8s
IBBN Ibbenburen 71.33 342 *e*P **P 03 36 11.9 +0.2**
comp=Z,6μm,1.2s,baz=20,slow=5.9
IBBN Ibbenburen 71.33 342⇓P **P 03 36 11.9 +0.2**
OKC Ostrava-Krasne 71.33 334 *e*P **P 03 36 12.0 +0.1**
OKC *e**PP **sP 03 37 11.5 0.0**
OKC MLR MLR
comp=Z,53μm,19.2s
OKC Ostrava-Krasne 71.33 334⇓*e*P **P 03 36 12.0 +0.1**
OKC *ex* x 03 36 15.5
OKC *es*P **sP 03 37 11.5 0.0**
OKC AMS AMS 04 10 10.0
comp=Z,53μm,19.2s
BUR01 Bucovina Ar. S 71.35 329⇑P **P 03 36 12.4 +0.2**
BURAR Bucovina Array 71.35 329 P **P 03 36 11.8 -0.3**
LEOM Leova 71.40 326⇑P **P 03 36 12.1 -0.1**
OLIL Olney 71.40 49 IAmb IAmb 03 36 15.2
comp=Z,2μm,1.3s
VASR Vaslui 71.40 327⇑P **P 03 36 12.2 -0.1**
BRG Berggiesshubel 71.40 337⇓*i*P **P 03 36 12.0 -0.3**
BRG Amp 03 36 15.1
comp=Z,2μm,2.1s
BRG *i* x x 03 36 15.5
BRG Amp 03 36 17.7
comp=Z,2μm,1.2s
BRG *ex* x 03 36 21.7
BRG Amp 03 36 22.6
comp=Z,1μm,0.9s
BRG Berggiesshubel 71.40 337 S **S 03 45 21.0 +5.0**
BRG *i* SP **SPn 03 45 45.3 +1.4**
BRG Amp 03 45 48.6
comp=Z,1μm,2.6s
BRG Berggiesshubel 71.40 337 SS SS 03 49 57.0 +4.3
BRG Amp 04 00 54.0
comp=N,152nm,46.2s
BRG Amp 04 01 00.0
comp=E,137nm,46.2s
BRG Amp 04 01 22.0
comp=Z,239nm,59.4s
BRG PKPPKP 04 03 42.4
BRG Amp 04 04 02.8
comp=Z,55nm,1.6s
BRG *ex* x 04 06 55.9
BRG Amp 04 07 14.3
comp=Z,54nm,1.8s
BRG Berggiesshubel 71.40 337⇓*i*P **P 03 36 11.9 -0.3**
BRG SP 03 37 15.0
BRG *e* 03 45 21.0
BRG *i* SP **SPn 03 45 45.2 +1.4**
BRG SS **SS 03 49 57.0 +4.3**
BRG pmax pmax
comp=Z,2μm,2.1s
BRG Berggiesshubel 71.40 337 *e*P **P 03 36 11.8 -0.4**
comp=Z,2μm,1.2s,baz=20,slow=5.9
GMM Mts of Mourne 71.41 350 *e*P **P 03 36 11.3 -0.9**
O48B Farmland 71.43 46 P **P 03 36 10.8 -1.8**
baz=326
O48B S **S 03 45 12.2 -4.5**
baz=326
KRLC Kraliky 71.46 335⇓*i*P **P 03 36 12.8 +0.1**
KRLC *e**PP **sP 03 37 12.5 +0.2**
KRLC Kraliky 71.46 335⇓*i*P **P 03 36 12.8 +0.1**
KRLC *ex* x 03 36 16.1
KRLC *ep*P **sP 03 37 12.5 +0.2**
FBE Freiberg 71.49 338 *e*P **P 03 36 12.7 -0.1**
comp=Z,3μm,1.2s,baz=20,slow=5.9
RCLA Racherla 71.51 271 *e*P **P 03 36 13.5 +0.1**
RCLA *ep*P **pP 03 36 55.9 +1.2**
RCLA *e*PP **PP 03 38 54.6 +0.5**
RCLA *e*S **S 03 45 15.7 -2.6**
RCLA ⇑*e*SKS **SKSac 03 45 59.7 -0.8**
LMK Market Rasen 71.52 347⇓*e*P **P 03 36 12.1 -0.8**
LMK IAmb IAmb 03 36 16.8
comp=Z,2μm,1.1s
MORC Moravsky Berou 71.55 334⇑P **P 03 36 13.7 +0.5**
MORC Moravsky Berou 71.55 334⇓*i*P **P 03 36 13.2 0.0**
MORC *es*P **sP 03 37 13.6 +0.8**
MORC *e*S **S 03 45 19.3 +1.5**
MORC *e* 04 03 46.9
MORC Moravsky Berou 71.55 334⇓P **P 03 36 13.2 0.0**
MORC Moravsky Berou 71.55 334 IAmb IAmb 03 36 23.8
comp=Z,2μm,1.0s
LPIG La Paz 71.56 74 S **S 03 45 23.7 +5.1**
comp=Z,18nm,0.3s,baz=37,slow=23,SNR=5.8
NEUB Neuenburg 71.57 339 *e*P **P 03 36 13.2 0.0**
comp=Z,4μm,1.3s,baz=20,slow=5.9
PVCC Panska Ves 71.58 337 *e*P **P 03 36 13.3 0.0**
PVCC *e*S **S 03 45 18.3 +0.3**
PVCC Panska Ves 71.58 337⇓*e*P **P 03 36 13.3 0.0**
PVCC *e*S **S 03 45 18.3 +0.3**
PECO Prince Edward 71.59 39 IAmb IAmb 03 36 23.6
comp=Z,1μm,1.1s
W39A Magazine 71.61 55 P **P 03 36 12.5 -1.2**
baz=324,SNR=282
W39A S **S 03 45 17.9 -1.0**
baz=324
LANS Liptovska Anna 71.62 333 *e*P **P 03 36 14.7 +1.1**
LANS pmax pmax
comp=Z,3μm,1.5s
LANS Liptovska Anna 71.62 333 *e*P **P 03 36 14.7 +1.1**
GTTG Gottingen 71.63 340 *e*P **P 03 36 13.6 0.0**
comp=Z,3μm,1.2s,baz=20,slow=5.9
TRPA Tarpa 71.69 331⇑P **P 03 36 14.6 +0.6**
TRPA Tarpa 71.69 331 P **P 03 36 13.6 -0.3**
MEDO Medina 71.70 40 IAmb IAmb 03 36 16.7
comp=Z,3μm,1.3s
LBWR Ladybower, Pea 71.76 348 *e*P **P 03 36 13.7 -0.6**
LBWR IAmb IAmb 03 36 18.4
comp=Z,3μm,1.0s
BIR Birlad 71.78 326⇑P **P 03 36 15.3 +0.7**
BMR Baia Mare 71.82 330⇑P **P 03 36 15.3 +0.5**
KTUT Trabzon 71.82 316⇑P **P 03 36 14.4 -0.5**
FCAR Ozark Folk Cen 71.85 54 IAmb IAmb 03 36 25.4
comp=Z,2μm,1.4s
DVP Devils Point 71.87 170 P **P 03 36 15.9 +0.7**
LONY Lake Ozonia 71.88 37 P **P 03 36 13.6 -1.6**
baz=330,SNR=125
LONY S **S 03 45 18.1 -3.6**
baz=330
TESR Tescani 71.88 327⇓P **P 03 36 15.3 +0.1**
PBMO Poplar Bluff 71.93 52 IAmb IAmb 03 36 19.4
comp=Z,2μm,1.2s
KECS Kecovo 71.95 332 *e*P **P 03 36 15.5 -0.1**
KECS pmax pmax
comp=Z,600nm,1.2s
KECS Kecovo 71.95 332 *e*P **P 03 36 15.4 -0.1**
HPIG 71.95 69 P **P 03 36 15.8 -0.4**
RTV Rentapao 71.96 170 P **P 03 36 17.6 +1.8**
ERPA Erie 72.00 42 IAmb IAmb 03 36 26.6
comp=Z,3μm,1.2s
ERPA Erie 72.00 42 P **P 03 36 14.8 -1.1**
baz=328,SNR=75
ERPA S **S 03 45 20.0 -3.1**
baz=328
VLDR Vladesti 72.00 326⇑P **P 03 36 16.1 +0.2**
VARL Varlezi 72.03 326⇑P **P 03 36 16.3 +0.2**
GHRR 72.03 327⇑P **P 03 36 16.8 +0.7**
PMBI Palembang 72.04 238⇓P **P 03 36 17.8 +1.3**
TSSL Sulina 72.05 325⇓P **P 03 36 16.2 0.0**
WME Myndd Eilian 72.07 349 *e*P **P 03 36 15.0 -1.1**
IZAB Izabela 72.08 333 *e*P **P 03 36 16.9 +0.5**
ARCR ARCALIA 72.09 329⇑P **P 03 36 17.2 +0.8**
PRU Pruhonice 72.09 336⇓*i*P **P 03 36 16.4 +0.1**
PRU *e**PP **sP 03 37 16.9 +0.9**
PRU *e*S **S 03 45 27.2 +3.3**
PRU MLR MLR
comp=Z,44μm,20.9s
PRU Pruhonice 72.09 336⇓*i*P **P 03 36 16.4 +0.1**
PRU *es*P **sP 03 37 16.9 +0.9**
PRU *e*S **S 03 45 27.2 +3.3**
PRU AMS AMS 04 08 00.0
comp=Z,44μm,20.9s
WPS Cemaes, Angles 72.09 349⇓*e*P **P 03 36 16.4 +0.1**
WPS IAmb IAmb 03 36 19.3
comp=Z,1μm,1.1s
SLBS Sierra La Lagu 72.09 74⇑P **P 03 36 17.3 +0.4**
SLBS Sierra La Lagu 72.09 74 P **P 03 36 17.0 +0.1**
SLBS IAmb IAmb 03 36 21.2
comp=Z,2μm,1.5s
SLBS Sierra La Lagu 72.09 74 P **P 03 36 18.3 +1.4**
WACR West Acre 72.11 346⇓*e*P **P 03 36 17.1 +0.7**
WACR IAmb IAmb 03 36 20.6
comp=Z,4μm,1.0s
CEI Carei 72.11 330⇓P **P 03 36 17.5 +1.0**
POO Poona 72.11 277⇓*i*P **P 03 36 13.0 -4.0**
comp=Z,700nm,1.2s
POO *i* S **S 03 45 20.0 -5.2**
STNC Stoke 72.12 348⇓*e*P **P 03 36 16.0 -0.5**
MOX Moxa 72.13 339 *e*P **P 03 36 16.2 -0.4**
comp=Z,2μm,1.2s,baz=20,slow=5.9
TANN Tannenbergstha 72.16 338 *e*P **P 03 36 16.8 -0.1**
comp=Z,2μm,1.4s,baz=20,slow=5.9
PLN Plauen 72.16 338 *e*P **P 03 36 16.7 -0.1**
comp=Z,2μm,1.2s,baz=20,slow=5.9
WERD Werda 72.17 338 *e*P **P 03 36 16.9 0.0**
comp=Z,3μm,1.1s,baz=20,slow=5.9
SCTR Scanteiesti 72.18 326⇓P **P 03 36 17.2 +0.2**
AFI Afiamalu 72.20 150 LR LR 04 07 03.5
comp=Z,41μm,18.3s,baz=351,slow=35
AFI Afiamalu 72.20 150 P **P 03 36 17.4 0.0**
AFI pmax pmax
comp=Z,612nm,1.0s
AFI Afiamalu 72.20 150⇑P **P 03 36 17.4 0.0**
AFI Afiamalu 72.20 150 P **P 03 36 17.4 0.0**
AFI Afiamalu 72.20 150 P **P 03 36 17.8 +0.4**
AFI Afiamalu 72.20 150 P **P 03 36 17.3 -0.1**
GSI Gunungsitoli 72.22 247⇓P **P 03 36 17.8 +0.2**
GSI Gunungsitoli 72.22 247 P **P 03 36 17.8 +0.2**
GSI Gunungsitoli 72.22 247 P **P 03 36 18.5 +0.9**
P49A Miami Univ. Ec 72.22 46 P **P 03 36 15.7 -1.6**
baz=326,SNR=302
P49A S **S 03 45 22.5 -3.2**
baz=326
VRAC Vranov 72.22 335⇓P **P 03 36 17.8 +0.7**
VRAC Vranov 72.22 335 P **P 03 36 17.5 +0.3**
comp=Z,1μm,0.9s,baz=34,slow=5.5,SNR=169
VRAC LR LR 04 11 56.0
comp=Z,70μm,20.9s,baz=24,slow=39
VRAC Vranov 72.22 335⇓*i*P **P 03 36 17.4 +0.3**
VRAC *es*P **sP 03 37 17.6 +0.8**
VRAC *e*S **S 03 45 27.9 +2.5**
VRAC *e* 04 03 37.6
TATR Tatarca 72.23 326⇑P **P 03 36 17.4 +0.2**
MIAR Mount Ida 72.23 56⇑P **P 03 36 16.4 -1.0**
MIAR Mount Ida 72.23 56 IAmb IAmb 03 36 27.8
comp=Z,1μm,1.1s
MIAR Mount Ida 72.23 56 P **P 03 36 16.5 -1.0**
baz=324,SNR=442
MIAR S **S 03 45 25.7 -0.3**
baz=324
GUNZ Gunzen 72.24 338 *e*P **P 03 36 17.3 0.0**
comp=Z,2μm,1.2s,baz=20,slow=5.9
GUNZ *ep*P **pP 03 36 58.0 -0.5**
YRC Rhoscolyn 72.24 349⇓*e*P **P 03 36 17.4 +0.2**
BUG Bochum--Univer 72.25 342 *e*P **P 03 36 17.2 -0.1**
comp=Z,4μm,1.1s,baz=20,slow=5.9
PQI Presque Isle 72.25 32 IAmb IAmb 03 36 21.9
comp=Z,1μm,1.2s
GIUM Giurgiulesti 72.28 326⇑P **P 03 36 17.8 +0.3**
MMNY Mt. Morris Dam 72.28 40 P **P 03 36 16.5 -1.1**
PANC Panciu 72.29 327⇑P **P 03 36 18.2 +0.6**
WVNY West Valley, N 72.29 41 IAmb IAmb 03 36 28.2
comp=Z,3μm,1.2s
M53A Wt Miller and 72.30 43 P **P 03 36 16.2 -1.5**
baz=328,SNR=188
M53A S **S 03 45 22.9 -3.6**
baz=328
DGTI Dogotuki 72.30 159 P **P 03 36 19.2 +1.3**
WERN Wernitzgruen 72.30 338 *e*P **P 03 36 17.7 0.0**
comp=Z,2μm,1.1s,baz=20,slow=5.9
UBBA Unterbreizbach 72.31 340 *e*P **P 03 36 17.6 +0.1**
comp=Z,3μm,1.5s,baz=20,slow=5.9
YLL Llanberis 72.31 349 *e*P **P 03 36 17.1 -0.5**
JCT Junction City 72.33 63⇓P **P 03 36 17.0 -1.1**
JCT Junction City 72.33 63 IAmb IAmb 03 36 21.1
comp=Z,2μm,1.2s
JCT Junction City 72.33 63 P **P 03 36 16.8 -1.3**
baz=323,SNR=264
JCT S **S 03 45 27.1 -0.2**
baz=323
SLCR Slobozia Conac 72.33 326⇑P **P 03 36 18.0 +0.2**
NKC Novy Kostel 72.34 338 *e*P **P 03 36 17.8 -0.1**
NKC *e**PP **sP 03 37 18.7 +1.2**
NKC Novy Kostel 72.34 338⇓*e*P **P 03 36 17.8 -0.1**
NKC *ex* x 03 36 21.0
NKC *es*P **sP 03 37 18.7 +1.2**
TLCR 72.34 325⇑P **P 03 36 17.7 -0.2**
WHTX Lake Whitney, 72.34 60 P **P 03 36 17.0 -1.1**
baz=323,SNR=169
WHTX S **S 03 45 25.7 -1.6**
baz=323
CWF Charnwood Fore 72.36 347 *e*P **P 03 36 18.0 +0.1**
CWF IAmb IAmb 03 36 22.1
comp=Z,2μm,1.1s
JAVC Velka Javorina 72.36 334⇓*i*P **P 03 36 19.1 +1.0**
JAVC *es*P **sP 03 37 19.6 +1.9**
JAVC *e*S **S 03 45 29.4 +2.3**
JAVC *e* 04 03 39.0
ACSO Alum Creek Sta 72.37 45 P **P 03 36 16.9 -1.3**
baz=327,SNR=467
ACSO S **S 03 45 25.2 -2.2**
baz=327
W41B Gary Mavity, V 72.37 54 P **P 03 36 17.0 -1.2**
baz=324,SNR=667
W41B S **S 03 45 26.2 -1.3**
baz=324
IZVR Izvoarele 72.37 326⇓P **P 03 36 18.6 +0.5**
VYHS Vyhne 72.39 333 *e*P **P 03 36 18.4 +0.2**
VYHS pmax pmax
comp=Z,2μm,1.3s
VYHS Vyhne 72.39 333 *e*P **P 03 36 18.4 +0.2**
VYHS *e*S **S 03 45 24.6 -2.8**
VYHS *e*L L 04 02 51.0
VYHS *e* 04 03 44.4
SCHL Schela 72.39 326⇑P **P 03 36 18.4 +0.3**
ODBI Odobesti 72.41 327⇓P **P 03 36 19.1 +0.8**
SKHT Srikalahasti 72.42 269 *e*P **P 03 36 19.3 +0.5**
SKHT *e*PP **PP 03 39 02.2 +0.3**
SKHT *e*S **S 03 45 26.0 -2.5**
SKHT *e*SKKSac **SKSac 03 46 07.0 -0.3**
KOLL Kolacno 72.42 333 *e*P **P 03 36 18.9 +0.5**
VRI Vrincioaia 72.43 327⇑P **P 03 36 18.5 +0.1**
SBD1 Bryn Du 72.43 349 *e*P P 03 36 32.2 +14
FOEL Foel Wylfa 72.44 348 *e*P **P 03 36 17.8 -0.7**
FOEL IAmb IAmb 03 36 22.1
comp=Z,2μm,1.1s
MESR Meseseni 72.45 330⇓P **P 03 36 19.0 +0.5**
PLOR Plostina 72.47 327⇓P **P 03 36 18.4 -0.3**
PLOR ⇑P **P 03 36 18.7 -0.1**
KRUC Moravsky 72.50 335⇓*i*P **P 03 36 18.9 +0.1**
KRUC *es*P **sP 03 37 18.6 +0.1**
KRUC *e*S **S 03 45 31.7 +3.1**
KRUC *e* 04 03 36.1
PBCC Pribram 72.50 337⇓*i*P **P 03 36 18.7 -0.1**
PBCC *ex* x 03 36 22.0
PBCC *ep*P **sP 03 37 18.6 +0.2**
TREC Trest 72.50 336⇓*i*P **P 03 36 18.9 0.0**
TREC *e**PP **sP 03 37 19.3 +0.8**
TREC *e*S **S 03 45 30.2 +1.5**
TREC Trest 72.50 336⇓*i*P **P 03 36 18.9 0.0**
TREC *es*P **sP 03 37 19.3 +0.8**
TREC *e*S **S 03 45 30.2 +1.5**
OZUR 72.53 328⇓P **P 03 36 19.4 +0.3**
TGMR Targu Mures 72.53 329⇑P **P 03 36 19.9 +0.9**
JAGI Jajag, Banyuwa 72.53 226⇑P **P 03 36 17.2 -2.2**
JAGI Jajag, Banyuwa 72.53 226 P **P 03 36 19.7 +0.3**
LLW Llanuwychllyn 72.54 349 *e*P **P 03 36 18.7 -0.3**
LTVH Ltavrtes, Hu 72.55 331⇑P **P 03 36 20.1 +1.0**
LTVH Ltavrtes, Hu 72.55 331 P **P 03 36 19.5 +0.4**
CFR Carcaliu 72.57 326⇓P **P 03 36 18.9 -0.3**
CBBR Cluj-Babes-Bol 72.61 329⇑P **P 03 36 20.6 +1.0**
COVR Voineasa-Covas 72.61 327⇑P **P 03 36 20.2 +0.6**
WCI Wyandotte Cave 72.61 48 P **P 03 36 18.6 -1.1**
WCI pmax pmax
comp=Z,1μm,0.8s
WCI Wyandotte Cave 72.61 48⇓P **P 03 36 18.5 -1.2**
WCI Wyandotte Cave 72.61 48 P **P 03 36 18.6 -1.1**
WCI IAmb IAmb 03 36 30.4
comp=Z,1μm,0.8s
WCI Wyandotte Cave 72.61 48 P **P 03 36 18.5 -1.2**
baz=326
WCI S **S 03 45 28.5 -1.8**
baz=326
WCI Wyandotte Cave 72.61 48 P **P 03 36 19.4 -0.3**
WCI pP **pP 03 37 00.9 0.0**
PSZ Piszkesteto 72.63 332⇓P **P 03 36 20.3 +0.6**
PSZ Piszkesteto 72.63 332⇓P **P 03 36 19.8 +0.1**
PSZ ⇓P **P 03 36 19.9 +0.2**
PSZ ⇓P P 03 36 30.7 +11
PSZ Piszkesteto 72.63 332 IAmb IAmb 03 36 32.8
comp=Z,2μm,1.1s
PSZ Piszkesteto 72.63 332 P **P 03 36 19.8 +0.2**
M54A Oil Creek Stat 72.64 42 IAmb IAmb 03 36 30.4
comp=Z,2μm,1.2s
M54A Oil Creek Stat 72.64 42 P **P 03 36 18.3 -1.6**
baz=328,SNR=208
M54A S **S 03 45 27.2 -3.3**
baz=328
X40A Basin Creek Fa 72.64 55 P **P 03 36 18.7 -1.2**
baz=324,SNR=363
X40A S **S 03 45 29.4 -1.2**
baz=324
MANZ Manzenberg 72.64 338 *e*P **P 03 36 19.6 -0.1**
comp=Z,424nm,1.2s,baz=20,slow=5.9
GEVA Gevas 72.65 312 IAmb IAmb 03 36 30.7
comp=Z,1μm,1.1s
CJR Cluj-Napoca 72.65 329⇑P **P 03 36 20.6 +0.8**
ELMS Elmsett, Ipswi 72.67 346 *e*P **P 03 36 19.4 -0.4**
ELMS IAmb IAmb 03 36 23.4
comp=Z,3μm,1.2s
JURR Jurilovca 72.69 325⇑P **P 03 36 20.0 0.0**
BISRR Bisoca 72.72 327⇑P **P 03 36 20.7 +0.5**
SMOL Smolenice 72.74 334 *e*P **P 03 36 21.1 +0.9**
SMOL pmax pmax
comp=Z,820nm,1.2s
SMOL Smolenice 72.74 334 *e*P **P 03 36 21.1 +0.9**
TPGR Topolog 72.76 325⇓P **P 03 36 20.4 0.0**
DOPR Dopca 72.77 328⇑P **P 03 36 21.3 +0.8**
VT1 Waterbury 72.77 36 IAmb IAmb 03 36 25.3
comp=Z,2μm,1.4s
SNOP Sinop 72.77 319 P **P 03 36 19.6 -0.9**
TAVE Taveuni 72.77 158 P **P 03 36 23.4 +2.8**
DRLN Deer Lake 72.78 24⇑P **P 03 36 19.5 -1.0**
DRLN ⇓P **P 03 36 20.6 +0.2**
GRER 72.78 326⇑P **P 03 36 21.0 +0.4**
MTSU Mount Surprise 72.82 194 P **P 03 36 21.6 +0.7**
ROTZ Rotzenmuhle 72.83 338 *e*P **P 03 36 20.5 -0.2**
comp=Z,543nm,1.2s,baz=20,slow=5.9
DRGR 72.84 330⇑P **P 03 36 21.2 +0.2**
BORR Bors 72.84 331⇑P **P 03 36 21.9 +1.0**
GURO Guroymak-BITLI 72.90 313 IAmb IAmb 03 36 33.0
comp=Z,2μm,1.3s
MODS Modra-Piesok 72.91 334 *e*P **P 03 36 23.1 +1.8**
MODS pmax pmax
comp=Z,2μm,1.2s
MODS Modra-Piesok 72.91 334 *e*P **P 03 36 23.1 +1.8**
MODS *e*S **S 03 45 31.9 -1.4**
MODS *e*L L 04 01 14.2
SMRI Semarang 72.92 231⇓P **P 03 36 22.1 +0.5**
SMRI Semarang 72.92 231 P **P 03 36 22.1 +0.5**
SMRI IAmb IAmb 03 36 33.3
comp=Z,1μm,0.8s
SMRI Semarang 72.92 231 P **P 03 36 23.8 +2.1**
MDB Medias 72.92 329⇑P **P 03 36 22.1 +0.7**
NEHR Nehoiu 72.96 327⇑P **P 03 36 21.9 +0.3**
N54A Moraine State 72.98 42 IAmb IAmb 03 36 32.5
comp=Z,2μm,1.2s
N54A Moraine State 72.98 42 P **P 03 36 19.8 -2.0**
baz=328,SNR=182
N54A S **S 03 45 31.2 -3.1**
baz=328
MLR Muntele Rosu 73.01 327⇑P **P 03 36 22.2 +0.1**
MLR Muntele Rosu 73.01 327 P **P 03 36 21.7 -0.4**
comp=Z,601nm,0.6s,baz=31,slow=1.6,SNR=170
MLR LR LR 04 12 36.9
comp=Z,64μm,20.3s,baz=25,slow=39
MLR Muntele Rosu 73.01 327 IAmb IAmb 03 36 34.3
comp=Z,2μm,0.8s
HARR Harsova 73.07 326⇑P **P 03 36 22.2 -0.1**
O53A New Philadelph 73.08 44 P **P 03 36 21.0 -1.4**
baz=328,SNR=341
O53A S **S 03 45 32.3 -3.2**
baz=328
BSZH Besenyszg 73.09 332⇑P **P 03 36 23.5 +1.2**
BSZH Besenyszg 73.09 332 P **P 03 36 22.9 +0.6**
PKME Peaks-Kenny Pk 73.10 33 IAmb IAmb 03 36 28.2
comp=Z,1μm,0.9s
PKME Peaks-Kenny Pk 73.10 33 P **P 03 36 21.7 -0.7**
baz=333,SNR=128
PKME S **S 03 45 33.6 -1.9**
baz=333
KHC Kasperske Hory 73.11 337⇓*i*P **P 03 36 22.7 +0.2**
KHC *e**PP **sP 03 37 23.7 +1.5**
KHC *e* 03 39 06.9
KHC *e*S **SKiKP 03 45 37.3 +1.0**
KHC MLR MLR
comp=Z,30μm,18.3s
KHC Kasperske Hory 73.11 337⇓*i*P **P 03 36 22.7 +0.2**
KHC *es*P **sP 03 37 23.7 +1.5**
KHC *e*PP **PP 03 39 06.9 +0.1**
KHC *e*S **SKiKP 03 45 37.3 +1.0**
KHC AMS AMS 04 13 40.0
comp=Z,30μm,18.3s
KHC Kasperske Hory 73.11 337 IAmb IAmb 03 36 27.8
comp=Z,2μm,1.1s
GRF Grafenberg Arr 73.11 338 *e*P **P 03 36 22.8 +0.4**
comp=Z,4μm,1.1s,baz=20,slow=5.9
ZST Bratislava 73.12 334 *e*P **P 03 36 23.1 +0.7**
ZST pmax pmax
comp=Z,5μm,1.2s
ZST Bratislava 73.12 334 *e*P **P 03 36 23.1 +0.7**
ZST *e*S **S 03 45 35.5 -0.1**
GRFO Grafenberg 73.12 338 P **P 03 36 22.5 +0.1**
GRFO pmax pmax
comp=Z,4μm,1.1s
GRFO Grafenberg 73.12 338 P **P 03 36 22.5 +0.1**
GRFO Grafenberg 73.12 338 P **P 03 36 22.8 +0.4**
LBNH Lisbon 73.13 35 IAmb IAmb 03 36 34.1
comp=Z,2μm,1.1s
LBNH Lisbon 73.13 35 P **P 03 36 22.0 -0.6**
baz=332,SNR=153
LBNH S **S 03 45 34.7 -1.2**
baz=332
AHRW Bad Neuenahr-A 73.15 341 *e*P **P 03 36 22.7 +0.1**
comp=Z,3μm,1.2s,baz=20,slow=5.9
ISR Istrita 73.15 327⇓P **P 03 36 22.9 +0.1**
SRO Srobarova 73.15 333 *e*P **P 03 36 23.4 +0.8**
SRO pmax pmax
comp=Z,2μm,1.0s

SRO	Srobarova	73.15	333	eP	P	03 36 23.4	+0.8
WLAR	White Oak Lake	73.15	56	IAmb	IAmb	03 36 26.9	
	comp=Z,2μm,1.2s						
BEBN	Eben Emael	73.16	342	⇓P	P	03 36 22.5	-0.1
TLBR	Topalu	73.16	325	⇑P	P	03 36 22.7	0.0
TNS	Taunus Mts	73.19	340	eP	P	03 36 22.8	-0.2
	comp=Z,3μm,1.2s,baz=20,slow=5.9						
PGOR	Pogoanele	73.19	326	⇑P	P	03 36 23.3	+0.4
P52A	Corning	73.22	45	P	P	03 36 21.6	-1.6
	baz=328,SNR=202						
P52A				S	SKiKP	03 45 34.0	-2.6
	baz=328						
CKRC	Cesky Krumlov	73.23	336	⇓iP	P	03 36 23.1	0.0
CKRC				ex	x	03 36 26.6	
CKRC				esP	sP	03 37 24.9	+2.0
CKRC				eS	S	03 45 38.7	+1.8
CKRC				AMS	AMS	04 08 10.0	
	comp=Z,58μm,21.7s						
435B	Jarrell	73.24	61	P	P	03 36 23.0	-0.5
	baz=323						
435B				S	SKiKP	03 45 36.9	0.0
	baz=323						
BUD	Budapest	73.26	333	P	P	03 36 23.7	+0.4
WET	Wettzell	73.26	337	eP	P	03 36 23.5	+0.2
	comp=Z,3μm,1.2s,baz=20,slow=5.9						
ACCN	Adirondack Com	73.28	37	IAmb	IAmb	03 36 34.1	
	comp=Z,983nm,0.8s						
BTNL	Ternell	73.28	342	P	P	03 36 23.5	+0.1
	comp=Z,2μm,1.1s						
MEM	Membach	73.28	342	⇓P	P	03 36 23.3	0.0
	comp=Z,4μm,1.0s						
BZK	Bozkurt	73.28	320	⇑P	P	03 36 23.6	+0.1
TSCT	Constanta Port	73.29	325	⇓P	P	03 36 23.7	+0.1
MCH1	Michaelchurch	73.30	348	eP	P	03 36 22.8	-0.6
MCH1				IAmb	IAmb	03 36 26.9	
	comp=Z,1μm,1.1s						
MCH1	Michaelchurch	73.30	348	⇓P	P	03 36 22.9	-0.6
MCH1				⇑P	P	03 36 23.1	-0.3
MCH1				⇑P	P	03 36 26.5	+3.1
AMRR	Amara	73.34	326	⇑P	P	03 36 24.5	+0.7
MSVF	Nonsavu	73.34	161	LR	LR	04 08 00.4	
	comp=Z,20μm,18.2s,baz=353,slow=35						
MSVF	Nonsavu	73.34	161	c iP	P	03 36 24.9	+0.8
MSVF				pmax	pmax		
	comp=Z,378nm,1.0s						
MSVF				MLR	MLR		
	comp=Z,28μm,17.0s						
MSVF	Nonsavu	73.34	161	P	P	03 36 25.2	+1.1
MSVF	Nonsavu	73.34	161	P	P	03 36 26.0	+1.9
MSVF	Nonsavu	73.34	161	P	P	03 36 26.1	+1.9
MSVF				pP	pP	03 37 04.8	-0.7
VOIR		73.34	328	⇓P	P	03 36 24.2	+0.3
CVDA	Cernavoda	73.35	325	⇑P	P	03 36 24.0	+0.2
GEC2	GERESS Array S	73.35	337	eP	P	03 36 23.9	0.0
	comp=Z,2μm,1.2s,baz=20,slow=5.9						
GERES	GERESS Array B	73.35	337	P	P	03 36 23.7	-0.2
	comp=Z,421nm,0.7s,baz=37,slow=4.9,SNR=322						
GERES				LR	LR	04 14 53.8	
	comp=Z,38μm,18.8s,baz=26,slow=41						
EFOR	EFORIE	73.37	325	⇑P	P	03 36 24.4	+0.4
SECR		73.38	327	⇑P	P	03 36 23.9	-0.1
BSTI	Sart Tilman	73.39	342	P	P	03 36 24.2	+0.2
	comp=Z,590nm,1.1s						
UCC	Uccle	73.39	343	P	P	03 36 23.6	-0.3
	comp=Z,250nm,1.1s						
STRD	Stroud	73.41	348	eP	P	03 36 23.7	-0.4
STRD				IAmb	IAmb	03 36 28.4	
	comp=Z,3μm,1.2s						
HDBT	Hernando Brdge	73.42	53	P	P	03 36 24.7	+0.2
MONM	Monmouth	73.43	348	eP	P	03 36 23.9	-0.3
MONM				IAmb	IAmb	03 36 27.8	
	comp=Z,3μm,1.2s						
BINY	Binghamton	73.46	39	P	P	03 36 23.1	-1.5
	baz=330,SNR=100						
BINY				S	SKiKP	03 45 35.8	-1.2
	baz=330						
PLAR	PLOIESTI	73.50	327	⇓P	P	03 36 24.8	+0.1
BHOU	Houvegnez	73.53	342	P	P	03 36 25.1	+0.3
	comp=Z,2μm,1.1s						
MTUR	Matau	73.53	328	⇑P	P	03 36 25.1	+0.1
ARR	Arges	73.54	328	⇑P	P	03 36 26.2	+1.1
RSBS	Rosebush, Pemb	73.54	349	eP	P	03 36 23.8	-1.0
RSBS				IAmb	IAmb	03 36 28.1	
	comp=Z,2μm,1.3s						
ELSH	Elham, Standar	73.57	345	IAmb	IAmb	03 36 29.6	
	comp=Z,3μm,1.1s						
CSKK	Cskako	73.58	333	P	P	03 36 25.3	+0.1
BCLA	Clavier	73.59	342	P	P	03 36 25.1	-0.1
	comp=Z,1μm,1.1s						
SIRT	Sirnak	73.59	312	P	P	03 36 25.1	-0.5
DEV	Deva	73.61	329	⇑P	P	03 36 25.8	+0.4
WVL	Waterville	73.61	34	IAmb	IAmb	03 36 28.8	
	comp=Z,2μm,1.3s						
CCAR	Cane Creek	73.62	55	IAmb	IAmb	03 36 30.0	
	comp=Z,2μm,1.2s						
MANR	Mangalia	73.62	325	⇑P	P	03 36 25.8	+0.4
SWN1	Swindon	73.62	347	eP	P	03 36 24.4	-0.9
ICOR	Ion Corvin	73.62	325	⇑P	P	03 36 26.0	+0.5
SIRR	Siria	73.63	330	⇑P	P	03 36 25.8	+0.3
LEHL	Lehliu	73.63	326	⇑P	P	03 36 25.6	+0.1
SULR		73.64	327	⇑P	P	03 36 25.5	0.0
UGM	Wanagama	73.64	230	P	P	03 36 24.4	-1.5
UGM	Wanagama	73.64	230	P	P	03 36 25.2	-0.7
Z41A	Richland Creek	73.65	56	P	P	03 36 25.6	-0.2
	baz=324,SNR=96						
Z41A				S	S	03 45 42.1	+0.1
	baz=324						
WVT	Waverly	73.66	51	P	P	03 36 25.1	-0.7
WVT				pmax	pmax		
	comp=Z,3μm,1.5s						
WVT	Waverly	73.66	51	⇑P	P	03 36 24.9	-0.9
WVT				⇓P	P	03 36 25.1	-0.7
WVT	Waverly	73.66	51	P	P	03 36 25.1	-0.7
WVT				IAmb	IAmb	03 36 29.0	
	comp=Z,3μm,1.4s						
WVT	Waverly	73.66	51	P	P	03 36 25.1	-0.7
	baz=326						
WVT				S	S	03 45 41.8	-0.2
	baz=326						
WVT	Waverly	73.66	51	P	P	03 36 26.3	+0.5
WVT				pP	pP	03 37 06.0	-1.2
BGES	Gesves	73.66	343	⇓P	P	03 36 25.3	-0.3
	comp=Z,1μm,1.1s						
CONA	Conrad Observa	73.68	335	i P	P	03 36 26.7	+0.8
	comp=Z,566nm,0.6s,SNR=843						
SNF	Seneffe	73.68	343	P	P	03 36 25.5	-0.2
	comp=Z,1μm,0.7s						
SOP	Sopron	73.73	334	P	P	03 36 26.3	+0.3
LOT	Lotru	73.73	329	⇓P	P	03 36 26.3	0.0
WOL	Wolverton	73.74	347	eP	P	03 36 25.4	-0.7
RASA	Rasa	73.75	326	⇓P	P	03 36 26.0	-0.2
EGYH	Egyhazaskeszo	73.78	334	P	P	03 36 27.2	+0.9
BMRD	Maredsous	73.80	343	P	P	03 36 26.1	-0.3
	comp=Z,2μm,1.1s						
AMBH	Ambrzfalva	73.82	331	⇑P	P	03 36 27.3	+0.8
AMBH	Ambrzfalva	73.82	331	P	P	03 36 26.9	+0.3
RCHB	Rochefort	73.86	342	P	P	03 36 26.3	-0.4
	comp=Z,1μm,1.1s						
KNRA	Kununurra	73.87	210	IAmb	IAmb	03 36 37.9	
	comp=Z,1μm,0.8s						
KNRA	Kununurra	73.87	210	P	P	03 36 28.0	+0.9
PSN	Preselentsi	73.88	325	i P	P	03 36 27.8	+0.9
INCR	INCERC-Sediu C	73.88	327	⇑P	P	03 36 27.2	+0.3
STFAR	Stefanesti-Arg	73.89	328	⇑P	P	03 36 27.1	+0.1
FFD	Franklin Falls	73.91	36	IAmb	IAmb	03 36 37.9	
	comp=Z,2μm,1.4s						
NATX	Nacogdoches	73.94	58	IAmb	IAmb	03 36 37.2	
	comp=Z,961nm,0.8s						
NATX	Nacogdoches	73.94	58	P	P	03 36 27.4	-0.1
	baz=324,SNR=54						
NATX				S	S	03 45 44.1	-1.3
	baz=324						
MPLH	Magyarpolny	73.95	333	P	P	03 36 27.6	+0.3
HMNX	Herstmonceux	73.96	346	eP	P	03 36 27.5	+0.2
HMNX				IAmb	IAmb	03 36 31.4	
	comp=Z,3μm,1.3s						
BUC1	Bucharest	74.00	327	⇓P	P	03 36 28.6	+0.9
DOU	Dourbes	74.03	343	⇓P	P	03 36 27.3	-0.4
	comp=Z,1μm,1.1s						
KALB	Balgarevo	74.04	325	⇓P	P	03 36 28.1	+0.2
VAL	Valentia	74.06	353	⇑P	P	03 36 27.9	+0.1
VAL				⇓P	P	03 36 28.2	+0.4
SSPA	Standing Stone	74.08	41	⇓P	P	03 36 26.9	-1.3
SSPA				⇓P	P	03 36 26.9	-1.3
SSPA	Standing Stone	74.08	41	P	P	03 36 27.6	-0.6
SSPA				IAmb	IAmb	03 36 30.9	
	comp=Z,3μm,1.4s						
SSPA	Standing Stone	74.08	41	P	P	03 36 27.0	-1.2
	baz=329						
SSPA				S	S	03 45 43.3	-3.4
	baz=329						
SSPA	Standing Stone	74.08	41	P	P	03 36 28.2	0.0
SSPA				pP	pP	03 37 09.9	+0.3
GZR	Gura Zlata	74.09	329	⇑P	P	03 36 28.4	+0.2
TIH	Tihany	74.10	333	P	P	03 36 28.2	0.0
O56A	Blue Knob Stat	74.13	42	IAmb	IAmb	03 36 32.0	
	comp=Z,2μm,0.9s						
O56A	Blue Knob Stat	74.13	42	P	P	03 36 27.4	-1.2
	baz=329,SNR=338						
O56A				S	S	03 45 44.2	-3.1
	baz=329						
SGRR	Singureni	74.13	327	⇑P	P	03 36 27.6	-0.8
MCWV	Mont Chateau	74.14	43	IAmb	IAmb	03 36 32.6	
	comp=Z,1μm,0.9s						
MCWV	Mont Chateau	74.14	43	P	P	03 36 27.7	-0.9
	baz=329,SNR=224						
MCWV				S	S	03 45 45.2	-2.2
	baz=329						
MOA	Molln	74.15	336	i P	P	03 36 28.6	+0.1
	comp=Z,80nm,0.7s,SNR=331						
WLF	Walferdange	74.16	342	eP	P	03 36 28.8	+0.2
	comp=Z,1μm,1.4s,baz=20,slow=5.9						
WLF				epP	pP	03 37 11.5	+1.6
WLF	Walferdange	74.16	342	⇓P	P	03 36 28.7	+0.2
WLF				⇓P	P	03 36 28.9	+0.4
WLF	Walferdange	74.16	342	IAmb	IAmb	03 36 41.5	
	comp=Z,1μm,1.1s						
WLF	Walferdange	74.16	342	P	P	03 36 28.6	+0.1
	comp=Z,468nm,0.9s						
MNAI	Manna	74.18	239	⇑P	P	03 36 27.1	-2.0
MNAI				⇑P	P	03 36 27.3	-1.8
MNAI	Manna	74.18	239	IAmb	IAmb	03 36 49.0	
	comp=Z,2μm,0.8s						
MNAI	Manna	74.18	239	P	P	03 36 28.1	-1.0
BZS	Buzias	74.23	330	⇓P	P	03 36 28.8	-0.2
TIM	Timisoara	74.24	330	⇑P	P	03 36 29.5	+0.6
833A	Chaparral WMA,	74.25	64	P	P	03 36 28.9	-0.4
	baz=323,SNR=254						
833A				S	S	03 45 49.6	+0.7
	baz=323						
OXF	Oxford	74.26	53	P	P	03 36 28.1	-1.2
	baz=326,SNR=388						
OXF				S	S	03 45 48.7	-0.1
	baz=326						
KOUNC	Koumac, New Ca	74.36	174	P	P	03 36 31.5	+1.7
CLTN	Cedars of Leba	74.37	50	IAmb	IAmb	03 36 40.9	
	comp=Z,1μm,1.2s						
ARSA	Arzberg	74.39	335	i P	P	03 36 30.4	+0.5
	comp=Z,61nm,0.6s,SNR=466						
L61B	Northampton	74.44	37	P	P	03 36 29.2	-1.1
	baz=332,SNR=54						
L61B				S	S	03 45 48.4	-2.2
	baz=332						
COPA	Copaceanca	74.46	327	⇑P	P	03 36 30.0	-0.3
CTA	Charters Tower	74.48	192	P	P	03 36 30.9	+0.3
CTAO	Charters Tower	74.48	192	P	P	03 36 30.5	-0.1
CTAO				pmax	pmax		
	comp=Z,1μm,0.9s						
CTAO	Charters Tower	74.48	192	P	P	03 36 30.5	-0.1
CTAO				IAmb	IAmb	03 36 33.6	
	comp=Z,1μm,0.8s						
CTAO	Charters Tower	74.48	192	P	P	03 36 30.8	+0.2
CTAO	Charters Tower	74.48	192	P	P	03 36 30.6	0.0
CTAO				pP	pP	03 37 11.5	-0.4
LKBA	Tubou, Lakemba	74.49	158	P	P	03 36 31.7	+1.1
PLAL	Pickwick Lake	74.49	51	IAmb	IAmb	03 36 35.1	
	comp=Z,1μm,0.9s						
GOA	Goa	74.51	275	⇓iP	P	03 36 30.1	-0.9
GOA				IAmb	IAmb	03 36 40.9	
	comp=Z,479nm,0.8s						
MORH	Mrgy, Hungar	74.53	332	⇓iP	P	03 36 31.2	+0.5
FUR	Furstenfeldbru	74.54	338	eP	P	03 36 30.9	+0.1
	comp=Z,3μm,1.1s,baz=20,slow=5.9						
PRD	Provadia	74.57	325	i P	P	03 36 31.2	+0.3
BANR	Banloc	74.58	330	⇓P	P	03 36 31.2	+0.2
RJOB	Jochberg	74.60	337	eP	P	03 36 31.4	+0.2
	comp=Z,1μm,1.1s,baz=20,slow=5.9						
SRE	Strehaia	74.62	329	⇑P	P	03 36 31.1	-0.1
N59A	State Game Lan	74.65	40	IAmb	IAmb	03 36 42.0	
	comp=Z,1μm,1.1s						
N59A	State Game Lan	74.65	40	P	P	03 36 30.1	-1.4
	baz=330,SNR=157						
N59A				S	S	03 45 49.0	-4.1
	baz=330						
RMGR	Halanga-Turnu	74.77	329	⇑P	P	03 36 31.8	-0.3
HRV	Adam Dziewonsk	74.79	36	P	P	03 36 32.0	-0.3
HRV				pmax	pmax		
	comp=Z,1μm,1.1s						
HRV	Adam Dziewonsk	74.79	36	⇓P	P	03 36 31.5	-0.7
HRV				⇓P	P	03 36 31.5	-0.7
HRV				⇓P	P	03 36 31.7	+0.8
HRV	Adam Dziewonsk	74.79	36	P	P	03 36 32.0	-0.3
HRV				IAmb	IAmb	03 36 43.5	
	comp=Z,1μm,1.1s						
HRV	Adam Dziewonsk	74.79	36	P	P	03 36 31.2	-1.1
	baz=332						
HRV				S	S	03 45 52.9	-1.6
	baz=332						
HRV	Adam Dziewonsk	74.79	36	P	P	03 36 32.5	+0.3
HRV				pP	pP	03 37 14.9	+1.1
KOVH	Kovagotottos	74.80	333	P	P	03 36 31.3	-0.9
BEHE	Becsehely	74.80	334	⇓iP	P	03 36 34.0	+1.8
BEHE	Becsehely	74.80	334	P	P	03 36 32.6	+0.4
LIFNC	LIFOU	74.80	172	IAmb	IAmb	03 36 35.5	
	comp=Z,2μm,1.1s						
LIFNC	LIFOU	74.80	172	P	P	03 36 34.1	+1.8
KDZE	Karadeniz Ereo	74.80	321	⇑P	P	03 36 31.5	-0.8
HKT	Hockley	74.80	60	d iP	P	03 36 33.0	+0.5
HKT				pmax	pmax		
	comp=Z,957nm,1.5s						
HKT				MLR	MLR		
	comp=Z,39μm,18.0s						
HKT	Hockley	74.80	60	⇑P	P	03 36 32.2	-0.2
HKT				⇓P	P	03 36 33.0	+0.5
HKT	Hockley	74.80	60	P	P	03 36 32.0	-0.5
HKT	Hockley	74.80	60	P	P	03 36 33.0	+0.5
HKT				pP	pP	03 37 15.4	+1.5
DJES	Djerdap	74.82	329	⇑P	P	03 36 32.4	0.0
ZIMR		74.84	327	⇑P	P	03 36 31.7	-0.7
VLAD	Vladila	74.84	328	⇑P	P	03 36 32.1	-0.4
PAGS	Pennsylvania G	74.89	41	IAmb	IAmb	03 36 35.3	
	comp=Z,3μm,1.4s						
KOGS	Kog	74.95	334	i P	P	03 36 32.8	-0.3
KOGS				eS	S	03 45 58.0	+1.8
MDVR	Moldovita	74.96	330	⇓P	P	03 36 32.7	-0.6
WES	Weston	74.98	36	IAmb	IAmb	03 36 44.5	
	comp=Z,1μm,1.0s						
SZH	Strazhica	75.00	326	i P	P	03 36 32.7	-0.7
BFO	Black Forest	75.02	340	P	P	03 36 33.0	-0.5
BFO				pmax	pmax		
	comp=Z,2μm,1.1s						
BFO	Black Forest	75.02	340	eP	P	03 36 32.8	-0.7
	comp=Z,2μm,1.2s,baz=20,slow=5.9						
BFO	Black Forest	75.02	340	P	P	03 36 33.0	-0.5
BFO				IAmb	IAmb	03 36 39.5	
	comp=Z,2μm,1.1s						
BFO	Black Forest	75.02	340	P	P	03 36 33.4	-0.1
PUNG	Punghina	75.05	329	⇑P	P	03 36 33.3	-0.4
SOKA	Soboth	75.05	335	i P	P	03 36 34.1	+0.3
	comp=Z,3μm,1.2s,SNR=1036						
PERS	Pernice	75.07	335	i P	P	03 36 34.1	+0.3
LUPA	Lehigh Univers	75.08	40	IAmb	IAmb	03 36 36.5	
	comp=Z,2μm,1.4s						
KBA	Koelnbreinsper	75.09	336	i P	P	03 36 35.2	+1.1
	comp=Z,8μm,1.1s,SNR=3407						
BAIL	Bailesti	75.15	328	⇓P	P	03 36 34.5	+0.2
FRGS	Fruska Gora	75.17	331	⇑P	P	03 36 33.8	-0.7
FRGS	Fruska Gora	75.17	331	⇓iP	P	03 36 34.5	+0.1
UCCT	U. Connecticut	75.18	37	IAmb	IAmb	03 36 37.5	
	comp=Z,3μm,1.5s						
KALN	Kalnik	75.19	334	P	P	03 36 34.1	-0.5
TZTN	Tazewell	75.22	47	P	P	03 36 33.6	-1.2
	baz=328,SNR=169						
TZTN				S	S	03 45 58.2	-1.3
	baz=328						
BNN	Bunyan	75.23	317	P	P	03 36 34.4	-0.7
PVL	Pavlikeni	75.24	327	i P	P	03 36 38.4	+3.6
UBR	Ueberruh	75.26	339	eP	P	03 36 35.0	0.0
	comp=Z,3μm,1.2s,baz=20,slow=5.9						
UBR				epP	pP	03 37 18.0	+1.4
WATA	Walderalm	75.26	337	i P	P	03 36 35.5	+0.4
	comp=Z,2μm,1.1s,SNR=833						
PAL	Palisades	75.27	38	IAmb	IAmb	03 36 38.4	
	comp=Z,3μm,1.4s						
PAL	Palisades	75.27	38	P	P	03 36 33.7	-1.3
	baz=331,SNR=128						
PAL				S	S	03 45 55.7	-4.1
	baz=331						
LOBO	Lobor	75.27	334	P	P	03 36 34.6	-0.4
SWET	Sewanee	75.28	50	IAmb	IAmb	03 36 37.0	
	comp=Z,1μm,0.8s						
RETA	Reutte	75.30	338	i P	P	03 36 35.4	+0.2
	comp=Z,1μm,1.1s,SNR=254						
RETA				eP	PKKPbc	03 55 54.2	+1.9
	comp=Z,4.0nm,0.7s						
BRNJ	Basking Ridge	75.31	39	IAmb	IAmb	03 36 45.2	
	comp=Z,2μm,1.3s						
BRYW	Bryant College	75.31	36	IAmb	IAmb	03 36 42.7	
	comp=Z,911nm,0.8s						
WTTA	Wattenberg	75.31	337	i P	P	03 36 36.1	+0.7
	comp=Z,5μm,1.4s,SNR=1160						
WTTA				eP	PKKPbc	03 55 54.7	+2.4
	comp=Z,14nm,1.1s						
OBKA	Obir	75.33	335	i P	P	03 36 35.8	+0.4
	comp=Z,4μm,1.2s,SNR=1394						
CCA1	Carnmenellis	75.34	349	eP	P	03 36 34.5	-0.8
CCA1				IAmb	IAmb	03 36 38.7	
	comp=Z,2μm,1.2s						
BR131	Keskin Array S	75.35	319	d iP	P	03 36 34.9	-0.8
BR131	Keskin Array S	75.35	319	P	P	03 36 35.6	-0.1
	SNR=700						
BR131	Keskin Array S	75.35	319	IAmb	IAmb	03 36 45.8	
	comp=Z,2μm,0.9s						
BRTR	Keskin Array B	75.35	319	P	P	03 36 35.2	-0.5
	comp=Z,311nm,0.6s,baz=62,slow=3.3,SNR=379						
BRTR				PKKPbc	PKKPbc	03 55 55.4	+3.3
	comp=Z,2.8nm,0.8s,baz=211,slow=2.7,SNR=3.8						
BRTR				LR	LR	04 13 05.7	
	comp=Z,26μm,22.0s,baz=14,slow=38						
ECH	Echery	75.36	341	⇓P	P	03 36 35.2	-0.2
ECH				⇓P	P	03 36 35.2	-0.2
ECH				⇑P	P	03 36 39.0	+3.5
ECH	Echery	75.36	341	P	P	03 36 35.3	-0.1
MOTA	Moosalm	75.36	338	i P	P	03 36 35.9	+0.3
	comp=Z,4μm,1.5s,SNR=760						
MOTA				eP	PKKPbc	03 55 54.5	+2.3
	comp=Z,9.9nm,0.8s						
CPNY	Central Park	75.44	38	IAmb	IAmb	03 36 46.6	
	comp=Z,1μm,0.9s						
MYKA	Terra Mystica	75.44	336	i P	P	03 36 35.9	-0.1
	comp=Z,1μm,1.0s,SNR=583						
SQTA	Sankt Quirin	75.45	338	i P	P	03 36 36.6	+0.5
	comp=Z,3μm,1.2s,SNR=1023						
A252A	Venje	75.47	333	P	P	03 36 35.3	-0.8
JMB	Yambol	75.50	325	i P	P	03 36 36.3	0.0
PTJ	Puntijarka	75.53	334	P	P	03 36 36.5	0.0
ANTO	Ankara	75.55	320	P	P	03 36 36.7	0.0
ANTO				pmax	pmax		
	comp=Z,3μm,1.1s						
ANTO	Ankara	75.55	320	P	P	03 36 36.7	0.0
ANTO				IAmb	IAmb	03 36 47.3	
	comp=Z,3μm,1.1s						
MARNC	Mare, Loyalty	75.57	171	P	P	03 36 37.0	+0.2
BR231	Keskin MP Arra	75.58	320	IAmb	IAmb	03 36 48.3	
	comp=Z,3μm,1.2s						
MOSL	Moslavina	75.59	333	P	P	03 36 36.0	-0.8
ABTA	Abfaltersbach	75.60	337	i P	P	03 36 37.0	+0.1
	comp=Z,3μm,1.0s,SNR=1406						
ABTA				eP	PKKPbc	03 55 55.8	+4.2
	comp=Z,4.0nm,0.9s						
ZAG	Zagreb	75.60	334	P	P	03 36 37.4	+0.6
VBMS	Vicksburg	75.61	55	IAmb	IAmb	03 36 40.6	
	comp=Z,3μm,1.4s						
VBMS	Vicksburg	75.61	55	P	P	03 36 37.9	+0.9
	baz=325,SNR=54						
VBMS				S	S	03 46 04.1	+0.4
	baz=325						
PDKS	Podkum	75.63	335	i P	P	03 36 36.8	-0.3
PDKS				i		03 36 38.1	
PDKS				eP cP	PcP	03 36 48.9	-0.2
PDKS				es P	sP	03 37 38.1	+1.1
P60A	Greenville	75.66	40	P	P	03 36 35.7	-1.6
	baz=330,SNR=85						
P60A				S	S	03 45 59.7	-4.4
	baz=330						
KVTX	Kingsville	75.67	63	⇓P	P	03 36 39.4	+1.9
KVTX				⇑P	P	03 36 39.8	+2.3
KVTX	Kingsville	75.67	63	IAmb	IAmb	03 36 42.2	
	comp=Z,2μm,1.3s						
BLJ	Bijeljina	75.67	331	eP	P	03 36 37.5	+0.3
DAVA	Damuels	75.68	339	i P	P	03 36 37.5	0.0
	comp=Z,2μm,1.1s,SNR=536						
DAVA				eP	PKKPbc	03 55 54.2	+2.7
	comp=Z,5.9nm,0.7s						
PTCC	Patocco-Chiusa	75.72	336	⇓P	P	03 36 36.9	-0.6
PTCC				⇓P	P	03 36 37.0	-0.6
CRES	Cresnjev	75.74	334	⇓iP	P	03 36 38.7	+1.1
FETA	Feichten	75.75	338	i P	P	03 36 38.4	+0.5
	comp=Z,3μm,1.1s,SNR=698						
FETA				eP	PKKPbc	03 55 53.6	+2.2
	comp=Z,5.2nm,0.8s						
LJU	Ljubljana	75.77	335	⇓iP	P	03 36 38.7	+0.9
LJU	Ljubljana	75.77	335	i P	P	03 36 37.3	-0.5
LJU				i		03 36 38.8	
LJU				eP cP	PcP	03 36 49.4	-0.2
LJU				es P	sP	03 37 38.5	+0.7
LJU				e		03 40 38.2	
LJU				eS	S	03 46 07.2	+2.0
TEKS	Tekeris	75.81	331	⇓iP	P	03 36 36.8	-1.3
ROBS	Robic	75.83	336	i P	P	03 36 37.5	-0.7
TKL	Tuckaleechee C	75.87	48	LR	LR	04 10 18.2	
	comp=Z,67μm,21.6s,baz=329,slow=36						
ISK	Istanbul-Kandi	75.88	323	P	P	03 36 37.6	-0.9
JQE	Queens East	75.92	347	eP	P	03 36 38.0	-0.5
JVM	Valle D.L. Mar	75.92	347	eP	P	03 36 37.9	-0.6
JDG	Jersey Dam (

DIVS	**Divibare**	**76.09 331**	⇓P	**P**	**P**	**03 36 39.0**	**-0.8**
DIVS			⇓P		**P**	**03 36 39.0**	**-0.8**
DIVS	**Divibare**	**76.09 331**	IAmb	IAmb	IAmb	03 36 49.1	
	comp=Z,2μm,1.1s						
MRAK	**Mrakovica**	**76.11 333**	⇓*i*P		**P**	**03 36 40.4**	**+0.6**
DAVOX	**Davos/Dischmat**	**76.16 338**	LR	LR	LR	04 16 18.2	
	comp=Z,20μm,18.9s,baz=22,slow=40						
A251A	**Rujevac**	**76.17 333**	P		**P**	**03 36 40.1**	**0.0**
PRIJ	**Prijedor**	**76.20 333**	⇓*i*P		**P**	**03 36 39.9**	**-0.3**
SHME	**Shamm**	**76.20 295**	P		**P**	**03 36 39.7**	**-0.8**
	SNR=50						
SHME			S		**S**	**03 46 02.9**	**-7.6**
SHME	**Shamm**	**76.20 295**	*i* P		**P**	**03 36 39.2**	**-1.3**
	SNR=45						
PGB	**Panagyurishte**	**76.22 327**	*i* P		**P**	**03 36 41.3**	**+0.8**
BANOM	**Banah**	**76.22 295**	P		**P**	**03 36 40.1**	**-0.6**
	SNR=66						
BANOM			S		**S**	**03 46 05.8**	**-4.9**
BANOM	**Banah**	**76.22 295**	*i* P		**P**	**03 36 39.8**	**-0.9**
	SNR=58						
DIM	**Dimitrovgrad**	**76.22 326**	*i* P		**P**	**03 36 40.5**	**+0.1**
ONTNC	**Ouen Toro**	**76.25 172**	P		**P**	**03 36 41.5**	**+1.0**
ONTNC			IAmb		IAmb	03 36 52.0	
	comp=Z,2μm,1.3s						
ONTNC	**Ouen Toro**	**76.25 172**	P		**P**	**03 36 42.9**	**+2.3**
BLY	**Banja Luka**	**76.28 333**	⇓*i*P		**P**	**03 36 41.3**	**+0.6**
BLY	**Banja Luka**	**76.28 333**	⇓P		**P**	**03 36 39.9**	**-0.8**
BLY			⇓P		**P**	**03 36 39.9**	**-0.8**
BLY			⇓P		**P**	**03 36 43.4**	**+2.7**
WB0	**Warramunga Arr**	**76.29 203**	IAmb		IAmb	03 36 51.3	
	comp=Z,1μm,0.8s						
CBN	**Corbin Frederi**	**76.38 42**	IAmb		IAmb	03 36 46.1	
	comp=Z,3μm,1.4s						
CBN	**Corbin Frederi**	**76.38 42**	P		**P**	**03 36 40.4**	**-0.9**
	baz=330,SNR=150						
CBN			S		**S**	**03 46 10.3**	**-1.7**
	baz=330						
OUENC	**Ouen Island, N**	**76.39 172**	IAmb		IAmb	03 36 45.2	
	comp=Z,1μm,1.1s						
OUENC	**Ouen Island, N**	**76.39 172**	P		**P**	**03 36 43.7**	**+2.3**
BORA	**Eskisehir**	**76.42 321**	IAmb		IAmb	03 36 53.9	
	comp=Z,1μm,1.0s						
CLF	**Chambon-Foret**	**76.42 344**	⇑P		**P**	**03 36 41.8**	**+0.4**
CLF			⇑P		**P**	**03 36 41.9**	**+0.5**
CLF	**Chambon-Foret**	**76.42 344**	P		**P**	**03 36 41.5**	**+0.1**
PLD	**Plovdiv**	**76.44 326**	*i* P		**P**	**03 36 41.6**	**0.0**
RIY	**Rijeka**	**76.45 335**	P		**P**	**03 36 40.9**	**-0.7**
VTS	**Vitosha**	**76.45 328**	⇓P		**P**	**03 36 41.8**	**-0.1**
VTS	**Vitosha**	**76.45 328**	⇓P		**P**	**03 36 41.3**	**-0.5**
VTS			⇓P		**P**	**03 36 41.4**	**-0.5**
VTS	**Vitosha**	**76.45 328**	IAmb		IAmb	03 36 54.7	
	comp=Z,1μm,0.8s						
VTS	**Vitosha**	**76.45 328**	*i* P		**P**	**03 36 42.6**	**+0.7**
CTI	**Castel Tesino**	**76.46 337**	IAmb		IAmb	03 36 51.1	
	comp=Z,2μm,1.0s						
WRAB	**Tennant Creek**	**76.46 203**	*d i* P		**P**	**03 36 42.0**	**+0.1**
WRAB			pmax		pmax		
	comp=Z,1μm,0.9s						
WRAB			MLR		MLR		
	comp=Z,14μm,19.0s						
WRAB	**Tennant Creek**	**76.46 203**	P		**P**	**03 36 41.9**	**+0.1**
WRAB			IAmb		IAmb	03 36 52.3	
	comp=Z,1μm,0.9s						
WRAB			pP		**pP**	**03 37 21.8**	**-1.7**
WRAB	**Tennant Creek**	**76.46 203**	P		**P**	**03 36 42.4**	**+0.5**
WRAB	**Tennant Creek**	**76.46 203**	P		**P**	**03 36 41.6**	**-0.3**
WRAB			pP		**pP**	**03 37 22.1**	**-1.3**
BBLS	**Lazići**	**76.47 331**	⇓*i*P		**P**	**03 36 43.2**	**+1.3**
WB2	**Warramunga Arr**	**76.47 203**	IAmb		IAmb	03 36 52.4	
	comp=Z,1μm,0.9s						
WRA	**Warramunga Arr**	**76.47 203**	P		**P**	**03 36 42.1**	**+0.1**
	comp=Z,793nm,0.9s,baz=20,slow=6.2,SNR=292						
WRA			pP		**pP**	**03 37 23.8**	**+0.3**
	comp=Z,820nm,1.1s,baz=15,slow=6.1,SNR=2.0						
WRA			S		**S**	**03 46 14.1**	**+0.8**
	comp=Z,83nm,1.2s,baz=14,slow=11,SNR=13						
WRA			PKKPbc		**PKKPbc**	**03 55 51.2**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=210,slow=1.9,SNR=3.0						
WRA			PKPPKP		**P'P'df**	**04 03 52.0**	**-1.3**
	comp=Z,11nm,1.1s,baz=202,slow=2.3,SNR=6.8						
WRA	**Warramunga Arr**	**76.47 203**	*i* P		**P**	**03 36 40.7**	**-1.2**
WRA			pmax		pmax		
	comp=Z,793nm,0.9s						
WRA	**Warramunga Arr**	**76.47 203**	P		**P**	**03 36 42.0**	**+0.1**
WRA			pP		**pP**	**03 37 24.2**	**+0.6**
TUE	**Stuetta**	**76.57 339**	⇓P		**P**	**03 36 42.9**	**+0.4**
TUE			⇓P		**P**	**03 36 43.0**	**+0.4**
PLIT	**Plitvice**	**76.58 334**	P		**P**	**03 36 41.9**	**-0.5**
Q61A	**Milford**	**76.59 40**	P		**P**	**03 36 42.4**	**-0.1**
	baz=331,SNR=29						
Q61A			S		**S**	**03 46 11.9**	**-2.3**
	baz=331						
LRAL	**Lakeview Retre**	**76.60 52**	P		**P**	**03 36 41.1**	**-1.6**
	baz=327,SNR=192						
LRAL			S		**S**	**03 46 12.4**	**-2.2**
	baz=327						
MGRS	**Mrkonjic Grad**	**76.61 333**	⇓*i*P		**P**	**03 36 42.9**	**+0.3**
KDZ	**Kurdzhali**	**76.61 326**	*i* P		**P**	**03 36 43.7**	**+1.0**
RUDO	**Rudo**	**76.71 331**	*eP*		**P**	**03 36 42.2**	**-0.9**
MASF	**Masafi**	**76.73 295**	P		**P**	**03 36 44.5**	**+0.9**
	SNR=73						
MASF			S		S	03 46 06.6	-10
MSFE	**Esma-Masafi**	**76.74 295**	*i* P		**P**	**03 36 42.7**	**-1.0**
	SNR=52						
BG3	**Lake Jocassee**	**76.80 48**	IAmb		IAmb	03 36 46.2	
	comp=Z,807nm,0.7s						
SMRN	**Sveta Marina**	**76.80 335**	P		**P**	**03 36 42.6**	**-1.0**
RZN	**Rozhen**	**76.81 326**	*i* P		**P**	**03 36 44.7**	**+0.7**
UDBI	**Udbina**	**76.86 334**	P		**P**	**03 36 43.3**	**-0.7**
UMQ	**Umm Al-Quwin**	**76.88 295**	P		**P**	**03 36 45.0**	**+0.7**
	SNR=12						
UMQ			S		**S**	**03 46 12.2**	**-5.6**
UMQ	**Umm Al-Quwin**	**76.88 295**	*i* P		**P**	**03 36 44.0**	**-0.4**
	SNR=16						
RABC	**Rab**	**76.91 334**	P		**P**	**03 36 43.6**	**-0.6**
PLE	**Pljevlja**	**76.97 331**	*eP*		**P**	**03 36 44.8**	**+0.1**
PALK	**Pallekele**	**76.97 264**	LR		LR	04 14 59.5	
	comp=Z,13μm,20.2s,baz=149,slow=39						
PALK	**Pallekele**	**76.97 264**	*d i* P		**P**	**03 36 44.1**	**-1.0**
PALK			pmax		pmax		
	comp=Z,876nm,0.8s						
PALK			MLR		MLR		
	comp=Z,26μm,21.0s						
PALK	**Pallekele**	**76.97 264**	P		**P**	**03 36 44.8**	**-0.2**
PALK			S		**S**	**03 46 15.0**	**-4.1**
PALK	**Pallekele**	**76.97 264**	P		**P**	**03 36 44.0**	**-1.0**
PALK	**Pallekele**	**76.97 264**	P		**P**	**03 36 44.4**	**-0.6**
RDO	**Rodhopi**	**77.03 325**	P		**P**	**03 36 44.6**	**-0.3**
BRJN	**Brijuni**	**77.03 335**	P		**P**	**03 36 44.0**	**-0.8**
UOSS	**Minazif**	**77.05 294**	P		**P**	**03 36 44.2**	**-1.2**
UOSS			S		**S**	**03 46 13.2**	**-6.6**
UOSS	**Minazif**	**77.05 294**	P		**P**	**03 36 44.0**	**-1.4**
UOSS			IAmb		IAmb	03 36 55.2	
	comp=Z,2μm,1.0s						
UOSS	**Minazif**	**77.05 294**	P		**P**	**03 36 43.9**	**-1.4**
UOSS	**Minazif**	**77.05 294**	*i* P		**P**	**03 36 43.9**	**-1.5**
	SNR=149						
NVLJ	**Novalja**	**77.06 334**	P		**P**	**03 36 44.2**	**-0.8**
ALN	**Alexandroupoli**	**77.08 325**	P		**P**	**03 36 44.6**	**-0.6**
ALN	**Alexandroupoli**	**77.08 325**	IAmb		IAmb	03 36 55.3	
	comp=Z,2μm,1.0s						
WSAR	**Wadi Sarin**	**77.10 292**	P		**P**	**03 36 46.2**	**+0.6**
	SNR=58						
WSAR			S		**S**	**03 46 17.7**	**-2.6**
SENIN	**Lac Senin/Sane**	**77.10 340**	IAmb		IAmb	03 36 58.5	
	comp=Z,1μm,1.1s						
FITZ	**Fitzroy Crossi**	**77.10 212**	P		**P**	**03 36 46.2**	**+0.7**
	comp=Z,368nm,0.7s,baz=20,slow=7.1,SNR=15						
SALO	**Salr**	**77.12 338**	⇓P		**P**	**03 36 45.1**	**-0.3**
SALO			⇓P		**P**	**03 36 45.1**	**-0.3**
BIDO	**Bidbid**	**77.15 292**	P		**P**	**03 36 46.1**	**+0.2**
	SNR=56						
BIDO			S		**S**	**03 46 15.9**	**-4.9**
KIJV	**Kijevo**	**77.18 333**	P		**P**	**03 36 46.5**	**+0.7**
KKB	**Krupnik**	**77.18 327**	*i* P		**P**	**03 36 46.9**	**+1.1**
ENEZ	**Enez**	**77.19 325**	P		**P**	**03 36 45.3**	**-0.5**
HATD	**Hatta, Dubai**	**77.19 294**	P		**P**	**03 36 45.2**	**-0.9**
	SNR=176						
HATD	**Hatta, Dubai**	**77.19 294**	*i* P		**P**	**03 36 44.9**	**-1.2**
	SNR=138						
MMB	**Musomiste**	**77.22 327**	*i* P		**P**	**03 36 46.9**	**+0.8**
UPM	**Unac-Piva**	**77.22 331**	*eP*		**P**	**03 36 45.3**	**-1.0**
IVA	**Berane**	**77.24 330**	*eP*		**P**	**03 36 46.1**	**-0.1**
NAZ	**Nazwa, Dubai**	**77.31 295**	P		**P**	**03 36 45.9**	**-0.9**
NAZ			S		**S**	**03 46 17.3**	**-5.2**
NAZ	**Nazwa, Dubai**	**77.31 295**	*i* P		**P**	**03 36 45.6**	**-1.2**
	SNR=42						
RK1H	**Rockhampton Ha**	**77.33 188**	P		**P**	**03 36 47.4**	**+0.8**
	comp=Z,390nm,1.0s						
ASHO	**Ashiyiah**	**77.34 294**	P		**P**	**03 36 46.5**	**-0.5**
	SNR=42						
ASHO			S		**S**	**03 46 16.0**	**-7.0**
ASHO	**Ashiyiah**	**77.34 294**	*i* P		**P**	**03 36 46.0**	**-1.0**
	SNR=109						
KMSC	**Kings Mountain**	**77.36 47**	P		**P**	**03 36 45.7**	**-1.2**
	baz=329,SNR=234						
KMSC			S		**S**	**03 46 19.5**	**-3.3**
	baz=329						
KOME	**Kolasin**	**77.37 330**	*e*P		**P**	**03 36 46.4**	**-0.6**
NVR	**Nevrokopi**	**77.39 327**	P		**P**	**03 36 46.4**	**-0.6**
WBK	**Wadi Bani Khal**	**77.41 291**	P		**P**	**03 36 48.2**	**+0.8**
	SNR=107						
WBK			S		**S**	**03 46 21.0**	**-2.8**
RICI	**Ricice**	**77.45 332**	P		**P**	**03 36 46.6**	**-0.7**
PVY	**Plav**	**77.48 330**	*e*P		**P**	**03 36 46.9**	**-0.7**
MORI	**Morici**	**77.50 333**	P		**P**	**03 36 47.6**	**+0.1**
KAVA	**Kavala**	**77.50 326**	P		**P**	**03 36 47.0**	**-0.6**
JLN	**Jalan Bani Buh**	**77.53 290**	P		**P**	**03 36 47.9**	**-0.2**
	SNR=163						
JLN			S		**S**	**03 46 20.1**	**-4.9**
FAQ	**Al Faqa, Dubai**	**77.54 295**	P		**P**	**03 36 46.7**	**-1.4**
	SNR=58						
FAQ			S		**S**	**03 46 18.4**	**-6.6**
FAQ	**Al Faqa, Dubai**	**77.54 295**	*i* P		**P**	**03 36 47.0**	**-1.1**
	SNR=68						
HOQ	**Hoqain**	**77.55 293**	P		**P**	**03 36 47.5**	**-0.6**
	SNR=95						
HOQ			S		**S**	**03 46 20.1**	**-5.0**
DUGI	**Dugi Otok**	**77.55 334**	P		**P**	**03 36 46.7**	**-1.1**
NKY	**Niksic**	**77.56 331**	*e*P		**P**	**03 36 46.9**	**-1.1**
SMDO	**Samad**	**77.56 292**	P		**P**	**03 36 47.8**	**-0.5**
	SNR=100						
SMDO			S		**S**	**03 46 20.2**	**-5.3**
SKO	**Skopje**	**77.60 329**	⇓*i*P		**P**	**03 36 47.9**	**-0.3**
SKO			*e*S		SKKSac	03 47 00.7	+15
BRY	**Bratogost**	**77.61 331**	⇓*i*P		**P**	**03 36 47.0**	**-1.3**
BRY	**Bratogost**	**77.61 331**	*eP*		**P**	**03 36 47.1**	**-1.3**
NKME	**Niksic**	**77.61 331**	*eP*		**P**	**03 36 46.9**	**-1.3**
STIP	**Stip**	**77.62 328**	⇓*i*P		**P**	**03 36 46.9**	**-1.3**
STIP			*e*S		**S**	**03 46 25.8**	**+0.4**
NIUE	**Niue**	**77.63 150**	P		**P**	**03 36 48.3**	**0.0**
NIUE	**Niue**	**77.63 150**	P		**P**	**03 36 49.6**	**+1.2**
SMTH	**Samothraki Isl**	**77.63 325**	P		**P**	**03 36 47.5**	**-0.8**
BCI	**Bajram Curri**	**77.65 330**	*i* P		**P**	**03 36 47.6**	**-0.8**
MAKA	**Makarska**	**77.68 332**	P		**P**	**03 36 47.4**	**-1.1**
SRS	**Serrai**	**77.69 327**	P		**P**	**03 36 47.9**	**-0.8**
ZIRJ	**Zirje**	**77.71 333**	P		**P**	**03 36 47.7**	**-1.0**
GADA	**Gvkgeada**	**77.76 325**	P		**P**	**03 36 48.1**	**-0.9**
ASUD	**Al Ashush, Dub**	**77.78 295**	P		**P**	**03 36 48.8**	**-0.6**
	SNR=82						
ASUD	**Al Ashush, Dub**	**77.78 295**	*i* P		**P**	**03 36 48.6**	**-0.8**
	SNR=82						
THAS	**Thassos island**	**77.78 326**	P		**P**	**03 36 48.3**	**-0.8**
CEME	**Cevo**	**77.83 331**	*eP*		**P**	**03 36 48.8**	**-0.6**
KOKK	**Kokkinochori,**	**77.83 326**	P		**P**	**03 36 48.5**	**-0.9**
TREB	**Trebinje**	**77.83 331**	*eP*		**P**	**03 36 49.0**	**-0.4**
PDG	**Podgorica**	**77.83 330**	⇓P		**P**	**03 36 48.7**	**-0.6**
PDG	**Podgorica**	**77.83 330**	⇓*i*P		**P**	**03 36 48.6**	**-0.8**
PDG	**Podgorica**	**77.83 330**	⇑P		**P**	**03 36 47.3**	**-2.1**
PDG			⇑P		**P**	**03 36 47.3**	**-2.1**
TTG	**Podgorica**	**77.83 330**	*eP*		**P**	**03 36 49.8**	**+0.4**
VAY	**Valandovo**	**77.84 328**	*i* P		**P**	**03 36 49.4**	**0.0**
VAY			*e*S		**S**	**03 46 28.6**	**+1.0**
STON	**Ston**	**77.87 332**	P		**P**	**03 36 48.2**	**-1.3**
KNT	**Kendrikon**	**77.88 327**	P		**P**	**03 36 49.4**	**-0.3**
GOGA	**Godfrey**	**77.89 49**	P		**P**	**03 36 48.8**	**-1.1**
	baz=328,SNR=93						
GOGA			S		**S**	**03 46 27.0**	**-1.6**
	baz=328						
HVAR	**Hvar**	**77.94 333**	P		**P**	**03 36 48.8**	**-1.2**
EZN	**Ezine**	**77.94 324**	P		**P**	**03 36 49.1**	**-0.9**
ALNE	**Al Ain**	**78.01 294**	P		**P**	**03 36 49.9**	**-0.8**
	SNR=173						
ALNE			S		**S**	**03 46 25.4**	**-4.7**
ALNE	**Al Ain**	**78.01 294**	*i* P		**P**	**03 36 49.5**	**-1.1**
	SNR=85						
AJN	**Ajban**	**78.01 295**	P		**P**	**03 36 49.7**	**-1.0**
	SNR=26						
AJN			S		**S**	**03 46 22.6**	**-7.4**
AJN	**Ajban**	**78.01 295**	*i* P		**P**	**03 36 49.2**	**-1.4**
	SNR=22						
SOH	**Sokhos**	**78.04 327**	P		**P**	**03 36 49.8**	**-0.8**
HCY	**Herceg Novi**	**78.04 331**	⇓*i*P		**P**	**03 36 49.1**	**-1.4**
HCY	**Herceg Novi**	**78.04 331**	*eP*		**P**	**03 36 49.3**	**-1.2**
BUM	**Brajici-Budva**	**78.06 331**	*eP*		**P**	**03 36 49.5**	**-1.2**
DRME	**Dracevica, Mon**	**78.08 330**	⇓*i*P		**P**	**03 36 50.2**	**-0.6**
DRME	**Dracevica, Mon**	**78.08 330**	*eP*		**P**	**03 36 49.8**	**-1.0**
JMDO	**Jabal Madar**	**78.08 291**	P		**P**	**03 36 50.7**	**-0.4**
	SNR=196						
JMDO			S		**S**	**03 46 24.9**	**-6.0**
XMI	**Christmas Isla**	**78.11 233**	P		**P**	**03 36 51.3**	**+0.1**
BRAL	**Brewton**	**78.13 53**	IAmb		IAmb	03 37 02.2	
	comp=Z,3μm,1.1s						
BRAL	**Brewton**	**78.13 53**	P		**P**	**03 36 51.1**	**-0.1**
	baz=327,SNR=108						
BRAL			S		**S**	**03 46 32.4**	**+1.3**
	baz=327						
XMIS	**Christmas Isla**	**78.15 233**	P		**P**	**03 36 50.3**	**-1.1**
XMIS			IAmb		IAmb	03 37 01.6	
	comp=Z,1μm,1.0s						
XMIS	**Christmas Isla**	**78.15 233**	P		**P**	**03 36 51.1**	**-0.3**
PHP	**Peshkopia**	**78.16 329**	P		**P**	**03 36 50.4**	**-0.9**
PHP	**Peshkopia**	**78.16 329**	*i* P		**P**	**03 36 52.4**	**+1.1**
ARQ	**Araqi**	**78.17 293**	P		**P**	**03 36 51.0**	**-0.5**
	SNR=206						
ARQ			S		**S**	**03 46 26.7**	**-5.2**
LSTV	**Lastovo**	**78.19 332**	P		**P**	**03 36 50.4**	**-0.9**
TRD	**Trivandrum**	**78.19 268**	⇓*i*P		**P**	**03 36 52.1**	**+0.3**
TRD			IAmb		IAmb	03 36 57.9	
	comp=Z,1μm,1.2s						
ISP	**Isparta**	**78.20 320**	IAmb		IAmb	03 37 02.0	
	comp=Z,1μm,1.0s						
GRG	**Griva**	**78.22 328**	P		**P**	**03 36 51.1**	**-0.5**
LIA	**Limnos Island**	**78.26 325**	P		**P**	**03 36 51.0**	**-0.8**
ULC	**Ulcinj**	**78.27 330**	*eP*		**P**	**03 36 50.8**	**-1.0**
OUR	**Ouranopolis**	**78.27 326**	P		**P**	**03 36 51.0**	**-0.8**
BSY	**Bisya**	**78.28 292**	P		**P**	**03 36 51.6**	**-0.6**
	SNR=324						
BSY			S		**S**	**03 46 28.2**	**-4.8**
KULA	**Kula-Manisa**	**78.28 322**	P		**P**	**03 36 51.2**	**-0.8**
HORT	**Hortiatis**	**78.32 327**	P		**P**	**03 36 51.0**	**-1.2**
THE	**Thessaloniki**	**78.33 327**	P		**P**	**03 36 50.9**	**-1.3**
THE	**Thessaloniki**	**78.33 327**	*i* P		**P**	**03 36 52.3**	**+0.2**
PLG	**Polygyros**	**78.41 327**	P		**P**	**03 36 51.6**	**-1.1**
PRK	**Paraskevi**	**78.47 324**	P		**P**	**03 36 52.6**	**-0.4**
BNI	**Bardonecchia**	**78.48 340**	⇓P		**P**	**03 36 53.9**	**+0.8**
BNI			⇓P		**P**	**03 36 53.9**	**+0.8**
OHR	**Ohrid**	**78.58 329**	*i* P		**P**	**03 36 52.9**	**-0.7**
OHR			*e*S		**S**	**03 46 34.4**	**-1.4**
TIR	**Tirane**	**78.65 330**	⇓P		**P**	**03 36 53.7**	**-0.1**
TIR	**Tirane**	**78.65 330**	P		**P**	**03 36 53.3**	**-0.6**
TIR	**Tirane**	**78.65 330**	*i* P		**P**	**03 36 53.7**	**-0.1**
SIGR	**SIGRI**	**78.65 324**	P		**P**	**03 36 52.8**	**-1.1**
SSB	**Saint Sauveur**	**78.68 342**	⇓P		**P**	**03 36 54.4**	**+0.4**
SSB			⇓P		**P**	**03 36 54.5**	**+0.4**
SSB	**Saint Sauveur**	**78.68 342**	IAmb		IAmb	03 36 58.8	
	comp=Z,2μm,1.2s						
SSB	**Saint Sauveur**	**78.68 342**	P		**P**	**03 36 54.6**	**+0.6**
FNA	**Florina**	**78.70 328**	P		**P**	**03 36 53.3**	**-1.0**
FNA	**Florina**	**78.70 328**	IAmb		IAmb	03 37 03.9	
	comp=Z,1μm,1.0s						
FNA	**Florina**	**78.70 328**	*i* P		**P**	**03 36 53.8**	**-0.5**
CNNC	**Cliffs of the**	**78.73 44**	IAmb		IAmb	03 36 57.5	
	comp=Z,3μm,1.5s						
CNNC	**Cliffs of the**	**78.73 44**	P		**P**	**03 36 54.0**	**-0.4**
	baz=330,SNR=81						
CNNC			S		**S**	**03 46 36.4**	**-0.9**
	baz=330						
PAIG	**Paliouri**	**78.74 326**	P		**P**	**03 36 53.3**	**-1.1**
KTI	**Kastanea**	**78.82 328**	P		**P**	**03 36 54.4**	**-0.6**
JRN	**Qarnain Island**	**78.84 297**	P		**P**	**03 36 53.9**	**-1.3**
	SNR=41						
JRN			S		**S**	**03 46 32.1**	**-6.7**
OSSC	**Osservatorio P**	**78.94 336**	IAmb		IAmb	03 37 01.6	
	comp=Z,2μm,1.0s						
LIT	**Litokhoron**	**78.97 327**	P		**P**	**03 36 54.2**	**-1.5**
KHOR	**Al-Khor Airpor**	**78.99 298**	P		**P**	**03 36 55.1**	**-0.9**
KHOR			S		**S**	**03 46 32.9**	**-7.4**
KZN	**Kozani**	**79.01 328**	P		**P**	**03 36 54.9**	**-1.1**
KBN	**Korca**	**79.03 329**	P		**P**	**03 36 55.2**	**-0.9**
KBN	**Korca**	**79.03 329**	IAmb		IAmb	03 37 05.8	
	comp=Z,1μm,0.8s						
KBN	**Korca**	**79.03 329**	*i* P		**P**	**03 36 55.2**	**-0.9**
SHMA	**Al-Shehemyia**	**79.08 299**	P		**P**	**03 36 55.4**	**-1.1**
SHMA			S		**S**	**03 46 36.1**	**-5.2**
HWQ	**Hawqa**	**79.11 315**	*eP*		**P**	**03 36 55.5**	**-1.2**
NEST	**Nestorio**	**79.14 328**	P		**P**	**03 36 55.9**	**-0.8**
SAKB	**Bahrain**	**79.20 299**	P		**P**	**03 36 56.1**	**-1.0**
EIDS	**Eidsvold**	**79.25 187**	P		**P**	**03 36 56.9**	**-0.2**
EIDS	**Eidsvold**	**79.25 187**	P		**P**	**03 36 58.3**	**+1.2**
MZWR	**Madinat Zayed**	**79.25 296**	P		**P**	**03 36 56.0**	**-1.4**
MZWR			S		**S**	**03 46 36.2**	**-7.0**
PENT	**Pentalofos**	**79.31 328**	P		**P**	**03 36 56.7**	**-0.9**
CHOS	**Chios island**	**79.32 324**	P		**P**	**03 36 56.7**	**-1.0**
ELL	**Elmali**	**79.37 320**	P		**P**	**03 36 57.2**	**-0.9**
ELL			pmax		pmax		
	comp=Z,4μm,1.0s						
ELL	**Elmali**	**79.37 320**	P		**P**	**03 36 57.1**	**-0.9**
LRSO	**Larissa Observ**	**79.39 327**	P		**P**	**03 36 56.8**	**-1.1**
SKY	**Skiros Island**	**79.39 325**	P		**P**	**03 36 57.0**	**-1.0**
TYRN	**Tyrnavos**	**79.40 327**	P		**P**	**03 36 56.5**	**-1.5**
XOR	**Xorichti**	**79.41 326**	P		**P**	**03 36 56.6**	**-1.5**
UMZA	**Um Al Zommool**	**79.41 294**	P		**P**	**03 36 57.3**	**-1.0**
UMZA			S		**S**	**03 46 39.3**	**-5.6**
NEO	**Neokhori**	**79.45 326**	P		**P**	**03 36 56.6**	**-1.7**
SGRT	**San Giovanni R**	**79.45 333**	*i* P		**P**	**03 36 57.5**	**-0.8**
KPRO	**Kipourio**	**79.46 328**	P		**P**	**03 36 57.2**	**-1.2**
TIGA	**Tifton**	**79.50 50**	IAmb		IAmb	03 37 03.7	
	comp=Z,1μm,0.8s						
TIGA	**Tifton**	**79.50 50**	P		**P**	**03 36 58.1**	**-0.6**
	baz=328,SNR=206						
TIGA			S		**S**	**03 46 44.1**	**-1.6**
	baz=328						
AQU	**L'Aquila**	**79.51 334**	⇓*i*P		**P**	**03 37 00.2**	**+1.6**
LSK	**Leskovik**	**79.52 328**	P		**P**	**03 36 58.4**	**-0.3**
LSK	**Leskovik**	**79.52 328**	*i* P		**P**	**03 36 59.3**	**+0.5**
BHL	**Bhannes**	**79.56 315**	*eP*		**P**	**03 36 58.1**	**-1.0**
NHSC	**New Hope**	**79.60 47**	IAmb		IAmb	03 37 02.4	
	comp=Z,3μm,1.4s						
NHSC	**New Hope**	**79.60 47**	P		**P**	**03 36 58.7**	**-0.4**
	baz=329,SNR=77						
NHSC			S		**S**	**03 46 46.3**	**-0.3**
	baz=329						
CSS	**Mathiatis**	**79.60 317**	IAmb		IAmb	03 37 09.0	
	comp=Z,2μm,0.9s						
THL	**Klokotos Trika**	**79.61 327**	P		**P**	**03 36 57.1**	**-2.0**
GHWR	**Ruwais**	**79.62 296**	P		**P**	**03 36 58.2**	**-1.2**
GHWR			S		**S**	**03 46 40.4**	**-6.6**
YER	**Yerkesik**	**79.64 322**	P		**P**	**03 36 59.1**	**-0.3**
LEF	**Lefka**	**79.64 317**	⇑P		**P**	**03 36 59.4**	**+0.1**
SMG	**Samos**	**79.65 323**	P		**P**	**03 36 57.6**	**-1.8**
LATE	**Laterza**	**79.66 336**	IAmb		IAmb	03 37 12.4	
	comp=Z,2μm,1.0s						
DQRL	**Deir Qamar**	**79.76 315**	*eP*		**P**	**03 36 59.5**	**-0.7**
KYMI	**Kymi, Euboea I**	**79.77 325**	P		**P**	**03 36 58.9**	**-1.1**
FETY	**Fethiye**	**79.78 321**	P		**P**	**03 36 59.0**	**-1.2**
RCY	**Rachaya**	**79.83 314**	*eP*		**P**	**03 37 00.0**	**-0.6**
TRNA	**Turayna**	**79.87 298**	P		**P**	**03 36 59.2**	**-1.5**
TRNA			S		**S**	**03 46 41.8**	**-7.9**
JAN	**Janina**	**79.89 328**	P		**P**	**03 36 59.6**	**-1.1**
SRN	**Sarande**	**79.95 329**	P		**P**	**03 37 00.1**	**-0.8**
SRN	**Sarande**	**79.95 329**	*i* P		**P**	**03 37 00.6**	**-0.3**
NOCI	**Noci**	**79.98 331**	*i* P		**P**	**03 37 01.0**	**-0.1**

comp=Z,2μm,0.8s
VLI Velíai 81.89 325 P P 03 37 08.1 -3.2
MBWA Marble Bar 81.91 216 P P 03 37 11.3 -0.1
MBWA S **S** 03 47 08.7 -1.8
MBWA Marble Bar 81.91 216 P P 03 37 11.3 -0.1
MBWA Marble Bar 81.91 216 P P 03 37 11.3 -0.1
MBWA Marble Bar 81.91 216 P P 03 37 11.2 -0.1
PYL PYLOS 82.12 326 P P 03 37 10.2 -2.3
ZKR Zakros 82.19 322 P P 03 37 11.4 -1.5
PSA00 Pilbara Seismi 82.25 216 P P 03 37 12.9 -0.3
PSA00 pP **pP** 03 37 53.5 -2.0
PSA00 Pilbara Seismi 82.25 216 P P 03 37 13.1 0.0
KTHA Kythira Island 82.27 325 P P 03 37 11.0 -2.3
NPS Neapolis 82.28 323 P P 03 37 10.6 -2.7
KTHR Kythira 82.28 325 P P 03 37 11.5 -1.8
HRKL Herakleio 82.41 323 P P 03 37 11.6 -2.4
KSTL Kastelli Herak 82.43 323 P P 03 37 12.2 -1.9
PMOR Pomariorio Ree 82.45 128 *eP* **P 03 37 15.7 +1.4**
comp=Z,940nm,1.1s
PMOR Pomariorio Ree 82.45 128 *eT* T 05 06 40.4
comp=Z,126nm,0.2s
FRMA Ierapetra Chan 82.45 323 P P 03 37 12.7 -1.5
IDI Anoyia 82.51 323 P P 03 37 11.7 -2.9
comp=Z,332nm,0.4s,baz=30,slow=10,SNR=136
IDI Anoyia 82.51 323 P P 03 37 11.6 -3.0
ANKY Antikythira Is 82.54 325 P P 03 37 12.8 -1.8
PRNS Prines Rethymn 82.58 324 P P 03 37 13.6 -1.2
VAM Vamos 82.64 324 P P 03 37 13.4 -1.8
CEL Celeste 82.66 331 IAmb IAmb 03 37 25.5
comp=Z,1μm,1.0s
IMMV Iera Moni Meta 82.67 324 P P 03 37 13.9 -1.5
TMBK Timbaki Herakl 82.75 323 P P 03 37 15.5 -0.2
VAH Vaihoa 82.78 128 *eP* **P 03 37 17.2 +1.2**
comp=Z,554nm,0.9s
SIVA Sivas 82.78 323 P P 03 37 14.7 -1.2
INKA Innaminka 82.79 196 P P 03 37 17.1 +1.3
WRKA Warakurna 82.88 207 P P 03 37 17.0 +0.6
SHAO Shalim 82.95 291 P P 03 37 16.0 -1.1
SNR=29
SHAO S **S** 03 47 16.6 -4.9
SHAO Shalim 82.95 291 *i* P **P 03 37 16.2 -0.9**
SNR=41
KNDR Palaiochora Ch 82.98 324 P P 03 37 15.0 -1.9
RAR Rarotonga 83.03 141 LR LR 04 13 55.7
comp=Z,14μm,18.0s,baz=341,slow=35
RAR Rarotonga 83.03 141 P P 03 37 17.3 +0.2
RAR pmax pmax
comp=Z,247nm,0.9s
RAR Rarotonga 83.03 141 P P 03 37 17.3 +0.2
RAR Rarotonga 83.03 141 P P 03 37 16.8 -0.3
RAR Rarotonga 83.03 141 P P 03 37 18.0 +0.9
RAR pP **pP** 03 37 57.3 -2.0
GVDS Gavdos 83.19 324 P P 03 37 17.1 -0.9
GVD Gavdhos 83.19 324 P P 03 37 16.5 -1.6
VSL Villasalto 83.20 336 IAmb IAmb 03 37 28.6
comp=Z,2μm,1.2s
DOK Doka 83.29 292 P P 03 37 17.7 -1.0
SNR=109
DOK S **S** 03 47 17.0 -7.9
DWPF Disney Wildern 83.31 50 P P 03 37 18.9 +0.1
DWPF IAmb IAmb 03 37 29.9
comp=Z,946nm,0.9s
DWPF Disney Wildern 83.31 50 P P 03 37 19.0 +0.3
baz=329
DWPF Disney Wildern 83.31 50 P P 03 37 19.9 +1.2
DWPF pP **pP** 03 38 02.3 +1.2
DMTO DMTO 83.57 291 P P 03 37 19.6 -0.6
SNR=30
DMTO S **S** 03 47 19.9 -7.9
OOD Oodnadatta 83.77 200 P P 03 37 21.2 +0.4
PBRG Braganca 83.78 349 *eP* **P 03 37 21.9 +0.9**
comp=Z,3μm,1.9s
PBRG *i* LQ LQ 03 38 22.3
PGAV Gavieira, Arco 83.78 350 *eP* **P 03 37 21.8 +0.7**
comp=Z,4μm,1.9s
PGAV *i* LQ LQ 03 38 22.4
RAYN Ar Rayn 83.79 302 P P 03 37 20.4 -0.9
RAYN pmax pmax
comp=Z,5μm,1.3s
RAYN Ar Rayn 83.79 302 P P 03 37 20.9 -0.5
RAYN Ar Rayn 83.79 302 P P 03 37 20.4 -0.9
RAYN Ar Rayn 83.79 302 P P 03 37 20.5 -0.9
RAYN Ar Rayn 83.79 302 *i* P **P 03 37 20.5 -0.8**
SNR=1084
VAE Valguarnera 83.81 332 P P 03 37 21.1 -0.1
comp=Z,203nm,1.2s,baz=67,slow=1.9,SNR=25
MAHO Mahon 83.93 340 P P 03 37 21.9 +0.2
MAHO S **S** 03 47 32.4 +1.7
PPT Papeete 83.93 131 P P 03 37 23.5 +1.6
comp=Z,768nm,1.0s,baz=344,slow=4.1,SNR=24
PPT LR LR 04 05 19.2
comp=Z,23μm,21.6s,baz=333,slow=29
PPT2 Papeete2 83.95 131 *eP* **P 03 37 23.4 +1.4**
comp=Z,755nm,1.1s
PPT2 Papeete2 83.95 131 *eS* **S 03 47 32.9 +1.5**
comp=Z,110μm,33.0s
PPT2 Papeete2 83.95 131 *eL*Q LQ 04 00 11.8
comp=Z,124μm,32.8s
PPT2 *eL*R LR 04 04 02.7
comp=Z,95μm,25.2s,baz=328
PPT2 Papeete2 83.95 131 *eT* T 05 08 30.6
comp=Z,16nm,0.3s
PPTF Pamatai, Papee 83.95 131 P P 03 37 23.8 +1.8
PPTF Pamatai, Papee 83.95 131 P P 03 37 23.5 +1.4
COCO West Island 83.97 240 P P 03 37 22.3 +0.2
COCO pmax pmax
comp=Z,3μm,1.5s
COCO West Island 83.97 240 P P 03 37 22.3 +0.2
COCO IAmb IAmb 03 37 31.8
comp=Z,3μm,1.4s
PAE Paea 84.01 131 *eP* **P 03 37 23.5 +1.3**
comp=Z,133nm,1.0s
PAE Paea 84.01 131 *eT* T 05 08 34.5
comp=Z,2.9nm,0.3s
TIAR Tiarei 84.03 131 *eP* **P 03 37 23.5 +1.2**
comp=Z,5.8nm,0.8s
TIAR Tiarei 84.03 131 *eT* T 05 08 36.2
comp=Z,4.3nm,0.2s
WHFO Wadi Hawf 84.05 292 P P 03 37 21.3 -1.4
SNR=128
WHFO S **S** 03 47 25.1 -7.6
RBK Rabkut 84.15 292 P P 03 37 22.4 -0.9
SNR=48
RBK S **SKSac** 03 47 24.2 -6.3
RBK S **S** 03 47 26.1 -7.6
ARMA Armidale 84.23 186 P P 03 37 25.5 +2.3
TVO Taravao 84.27 131 *eT* T 05 08 54.0
POLO Lamas de Olo 84.32 350 *eP* **P 03 37 24.5 +0.7**
comp=Z,2μm,1.7s
POLO *i* LQ LQ 03 38 27.3
PVRL Vila Real 84.41 350 *eP* **P 03 37 24.9 +0.7**
comp=Z,5μm,1.5s
PVRL *e*pP **pP** 03 38 11.0 +4.5
MVO Moncorvo 84.44 349 *eP* **P 03 37 25.1 +0.7**
comp=Z,3μm,2.0s
MVO *i* LQ LQ 03 38 24.0
PTO Porto 84.64 350 *eP* **P 03 37 25.8 +0.6**
comp=Z,3μm,2.0s
PTO *i* LQ LQ 03 38 17.9
ABTO Aybut 84.77 292 P P 03 37 25.3 -1.1
SNR=97
ABTO S **SKSac** 03 47 29.2 -5.3
UCM Universidad Co 84.81 346 P P 03 37 26.9 +0.7
UCM S **S** 03 47 40.8 +1.2
MEH Mehetia 84.88 130 *eP* **P 03 37 28.0 +1.4**
comp=Z,187nm,1.0s
PVIS Viseu 84.98 350 *eP* **P 03 37 27.8 +0.7**
comp=Z,3μm,1.6s
PVIS *e*pP **pP** 03 38 15.4 +6.0
MTE Manteigas 85.26 349 *eP* **P 03 37 29.2 +0.7**
comp=Z,2μm,1.6s
MTE Manteigas 85.26 349 IAmb IAmb 03 37 33.8
comp=Z,3μm,1.4s
GIRL Giralia 85.28 220 IAmb IAmb 03 37 39.9
comp=Z,738nm,0.7s
GIRL Giralia 85.28 220 P P 03 37 29.5 +1.0
ESBB Sonseca Array 85.53 347 IAmb IAmb 03 37 35.2
comp=Z,1μm,1.1s
ESDC Sonseca Array 85.53 347 P P 03 37 29.4 -0.3
comp=Z,201nm,0.8s,baz=2.0,slow=4.4,SNR=310
ESDC S **S** 03 47 41.1 -5.6
comp=Z,4.6nm,1.0s,baz=6.6,slow=5.0,SNR=2.2
ESDC PKKPbc **PKKPbc** 03 55 30.7 +1.2
comp=Z,7.2nm,0.7s,baz=221,slow=1.8,SNR=12
ESDC PKPPKP **P'P'df** 04 03 35.4 -5.0
comp=Z,7.3nm,0.9s,baz=157,slow=1.0,SNR=8.2
ESDC Sonseca Array 85.53 347 P P 03 37 29.5 -0.3
ESDC IAmb IAmb 03 37 35.2
comp=Z,1μm,1.1s
COI Coimbra 85.54 350 *eP* **P 03 37 30.6 +0.9**
comp=Z,2μm,1.2s
COI *i* LQ LQ 03 38 31.5
COI Coimbra 85.54 350 IAmb IAmb 03 37 35.1
comp=Z,2μm,1.4s
PCAS Casmilo, Conde 85.70 350 *eP* **P 03 37 31.3 +0.7**
comp=Z,2μm,1.4s
PCAS *i* LQ LQ 03 38 33.4
PAB San Pablo 85.71 347 P P 03 37 30.2 -0.5
PAB pmax pmax
comp=Z,952nm,1.2s
PAB San Pablo 85.71 347 P P 03 37 30.2 -0.5
PAB San Pablo 85.71 347 P P 03 37 31.8 +1.0
PAB San Pablo 85.71 347 P P 03 37 31.8 +1.0
CMIG Matias Romero 85.76 67 PKKPbc PKKPbc 03 55 29.2 +0.6
comp=Z,6.9nm,0.7s,baz=61,slow=3.3,SNR=6.8
CMIG PKPPKP **P'P'df** 04 03 38.2 -1.6
comp=Z,5.6nm,1.0s,baz=150,slow=1.4,SNR=5.7
PCBR Castelo Branco 85.80 349 *eP* **P 03 37 31.5 +0.4**
comp=Z,1μm,1.3s
PCBR *i* LQ LQ 03 38 35.9
CMSA Cobar Meteorol 85.86 191 P P 03 37 32.4 +1.3
LCRK Leigh Creek 85.87 197 P P 03 37 31.9 +0.7
PMRV Marv??o 86.20 349 *eP* **P 03 37 33.8 +0.7**
comp=Z,866nm,1.8s
PMRV *i* LQ LQ 03 38 34.4
BBSR BB Station 86.27 35 P P 03 37 33.7 +0.3
BBSR IAmb IAmb 03 37 38.7
comp=Z,1μm,1.4s
BBSR BB Station 86.27 35 P P 03 37 34.1 +0.6
BBSR pP **pP** 03 38 17.1 +1.0
PSBE So Bento 86.27 350 *eP* **P 03 37 34.4 +1.0**
comp=Z,994nm,1.3s
PSBE *e*pP **pP** 03 38 11.2 -4.6
CAEH 'Ain El Ouahch 86.37 338 P P 03 37 33.4 -0.5
CMAH Djebel Manchou 86.39 337 P P 03 37 33.3 -0.8
MULG Mulgathing 86.52 201 P P 03 37 34.6 +0.2
PMTG Montargil 86.65 350 *eP* **P 03 37 35.2 0.0**
comp=Z,633nm,1.4s
PMTG *e*pP **pP** 03 38 22.5 +4.8
H07S1 FLORES T-PHASE 86.67 8|| *eP* **P 03 37 36.3 +1.0**
NTLH Newcastle Hard 86.69 186 P P 03 37 36.4 +1.3
STKA Stephens Creek 86.72 194 P P 03 37 35.5 +0.2
comp=Z,158nm,0.8s,baz=347,slow=6.1,SNR=108
STKA S **SKSac** 03 47 46.6 +1.2
comp=Z,7.4nm,0.9s,baz=45,slow=23,SNR=2.3
STKA PKKP **PKKPdf** 03 55 21.8 -1.0
comp=Z,6.6nm,1.0s,baz=29,slow=2.2,SNR=3.0
STKA PKKPbc **PKKPbc** 03 55 30.2 +1.9
comp=Z,7.8nm,0.6s,baz=156,slow=5.5,SNR=6.4
STKA Stephens Creek 86.72 194 *d i P* **P 03 37 35.3 0.0**
STKA Stephens Creek 86.72 194 P P 03 37 36.1 +0.8
PESTR Estremoz 86.78 349 *eP* **P 03 37 36.3 +0.4**
comp=Z,718nm,1.4s
PESTR *e*pP **pP** 03 38 18.8 +0.4
PESTR *i* LQ LQ 03 38 36.3
PESTR Estremoz 86.78 349 P P 03 37 35.7 -0.2
KEST Kesra 86.78 335 P P 03 37 35.7 -0.4
comp=Z,540nm,0.8s,baz=354,slow=0.7,SNR=119
KEST S **SKSac** 03 47 46.2 -0.4
comp=Z,21nm,1.1s,baz=198,slow=18,SNR=10
KEST PKKPbc **PKKPbc** 03 55 28.9 +2.4
comp=Z,11nm,0.8s,baz=128,slow=3.9,SNR=8.1
KEST PKPPKP **P'P'df** 04 03 35.0 -3.2
comp=Z,4.5nm,0.9s,baz=214,slow=3.6,SNR=4.1
KEST LR LR 04 21 23.8
comp=Z,34μm,20.4s,baz=347,slow=39
KEST Kesra 86.78 335 P P 03 37 36.1 0.0
SNR=183
KEST Kesra 86.78 335 IAmb IAmb 03 37 50.6
comp=Z,835nm,0.9s
DFRA Djebel Bou Aff 86.81 338 P P 03 37 36.2 0.0
PMAFR Mafra 86.87 350 *eP* **P 03 37 36.8 +0.5**
comp=Z,838nm,1.4s
KAAM Kaadhehdhoo 86.95 267 P P 03 37 37.8 +0.9
SNR=20
KAAM Kaadhehdhoo 86.95 267 IAmb IAmb 03 37 45.2
comp=Z,2μm,1.3s
CASM Ain Smara 86.95 338 P P 03 37 37.0 +0.2
MGCD Mangrove Creek 87.04 186 P P 03 37 38.3 +1.5
PMST Lisbon--Monsan 87.07 350 *eP* **P 03 37 37.8 +0.5**
comp=Z,683nm,1.1s
LIS Lisbon 87.09 350 *eP* **P 03 37 37.7 +0.3**
LIS IAmb IAmb 03 37 43.0
comp=Z,1μm,1.4s
LIS *e*PP **PP** 03 41 03.6 +1.4
LIS Lisbon 87.09 350 *eP* **P 03 37 38.0 +0.7**
comp=Z,607nm,1.2s
LIS Lisbon 87.09 350 *eP* **P 03 37 37.6 +0.3**
LIS *e* 03 41 03.5
ABMS Boumerdes 87.12 340 P P 03 37 36.4 -1.1
CART Cartagena 87.13 344 P P 03 37 36.8 -0.7
CART S **S** 03 48 03.6 +1.5
CART Cartagena 87.13 344 P P 03 37 36.5 -1.0
EVO Evora 87.16 349 P P 03 37 38.0 +0.3
EVO S **S** 03 48 01.6 -0.7
EVO Evora 87.16 349 *eP* **P 03 37 38.1 +0.4**
comp=Z,697nm,1.4s
EVO *i* LQ LQ 03 38 34.4
ABA Alger-Bouzarea 87.16 341 P P 03 37 38.7 +1.0
CTEI Djebel Teioual 87.16 338 P P 03 37 36.7 -1.2
MEEK Meekatharra 87.35 215 P P 03 37 38.2 -0.3
CKHR Kef el Ahmar 87.40 338 P P 03 37 39.4 +0.3
PCED Cedros 87.58 6 *eP* **P 03 37 40.7 +1.0**
comp=Z,503nm,1.4s
SYDH Sydney Hard Ro 87.61 186 P P 03 37 40.3 +0.8
PMAN Manadas 87.61 5|| *eP* **P 03 37 41.5 +1.7**
comp=Z,817nm,1.7s
PNCL Nicolau / Gran 87.63 350 *eP* **P 03 37 40.5 +0.6**
comp=Z,277nm,1.5s
PNCL *e*pP **pP** 03 38 28.5 +6.0
CALA Caldeira 87.63 6|| *eP* **P 03 37 41.2 +1.2**
comp=Z,559nm,1.4s
PBEJ Beja 87.64 349 *eP* **P 03 37 40.5 +0.5**
comp=Z,550nm,1.5s
PBEJ *e*pP **pP** 03 38 29.2 +6.6
ADJB Djebel Djouab 87.70 340 P P 03 37 40.0 -0.5
AKET Djebel Ketaf 87.72 340 P P 03 37 40.7 +0.1
PICO Pico 87.73 5|| *eP* **P 03 37 41.9 +1.4**
comp=Z,684nm,1.4s
EMHD Djebel Mahouad 87.76 340 P P 03 37 41.8 +1.1
PCAN Candelaria 87.76 5 *eP* **P 03 37 41.7 +1.1**
comp=Z,353nm,1.1s
ATAF Djebel Tarf 87.80 339 P P 03 37 41.5 +0.6
MESJ Messejana 87.86 350 *eP* **P 03 37 41.3 +0.3**
MESJ IAmb IAmb 03 37 44.3
comp=Z,1μm,1.9s
MESJ *e*PP **PP** 03 41 09.6 +1.2
MESJ *e*SKSac **SKSac** 03 47 54.1 +1.2
MESJ Messejana 87.86 350 *eP* **P 03 37 41.7 +0.7**
comp=Z,412nm,1.5s
MESJ *e*pP **pP** 03 38 22.4 -1.2
MESJ *i* LQ LQ 03 38 42.5
MESJ Messejana 87.86 350 *eP* **P 03 37 41.3 +0.3**
MESJ *e* 03 41 09.6
MESJ *e* 03 47 54.1
CCIG Comitan 87.91 65 P P 03 37 42.1 +0.4
CCIG IAmb IAmb 03 37 46.3
comp=Z,1μm,1.4s
EBNR Beni Rached 87.94 342 P P 03 37 42.1 +0.6
PCVE Castro Verde 88.05 349 *eP* **P 03 37 42.7 +0.8**
comp=Z,944nm,1.4s
PCVE *i* LQ LQ 03 38 45.8
ECHA Ech Chlef 88.11 342 P P 03 37 47.0 +4.8
PTEO Sao Teotonio 88.21 350 *eP* **P 03 37 43.3 +0.7**
comp=Z,671nm,1.7s
PTEO *e*pP **pP** 03 38 29.9 +4.6
PVAQ Vaqueiros 88.24 349 *eP* **P 03 37 43.5 +0.7**
comp=Z,900nm,1.5s
PVAQ *i* LQ LQ 03 38 42.4
PVAQ Vaqueiros 88.24 349 P P 03 37 43.2 +0.4
EANR 'Ain N'Sour 88.36 342 P P 03 37 40.0 -3.5
FORT Forrest 88.40 206 P P 03 37 43.2 -0.1
FORT Forrest 88.40 206 P P 03 37 43.3 -0.1
ARNO Arenosillo 88.42 348 P P 03 37 43.8 +0.1
ARNO S **S** 03 48 18.9 +4.5
MORF Marmelete 88.44 350 *eP* **P 03 37 44.1 +0.3**
MORF IAmb IAmb 03 37 47.9
comp=Z,791nm,1.4s
MORF *e*PP **PP** 03 41 14.3 +1.3
MORF *e*SKSac **SKSac** 03 47 57.7 +1.3
MORF Marmelete 88.44 350 *eP* **P 03 37 44.5 +0.7**
comp=Z,1μm,1.8s
MORF *i* LQ LQ 03 38 40.3
MORF Marmelete 88.44 350 *eP* **P 03 37 44.1 +0.3**
MORF *e* 03 41 14.3
MORF *e* 03 47 57.1
EMAL Malaga-Limoner 88.46 346 P P 03 37 42.8 -1.1
EMAL S **S** 03 48 18.7 +4.0
PSET Sete Cidades 88.52 3|| *eP* **P 03 37 45.3 +1.1**
comp=Z,688nm,1.4s
NAPP Napperby 88.55 197 P P 03 37 45.9 +1.9
BBOO Buckleboo 88.56 199 P P 03 37 44.4 +0.3
BBOO Buckleboo 88.56 199 P P 03 37 44.4 +0.3
GRON Grota Negra 88.58 3|| *eP* **P 03 37 45.4 +0.9**
comp=Z,719nm,1.8s
PETF Flores 88.59 63 P P 03 37 44.4 -0.4
CMLA Cha da Macela 88.59 3|| *eP* **P 03 37 45.8 +1.3**
comp=Z,730nm,1.1s
CMLA Cha da Macela 88.59 3 P P 03 37 45.6 +1.2
PDA Ponta Delgada 88.60 3|| *eP* **P 03 37 45.8 +1.3**
comp=Z,1μm,1.4s
SOCY Socotra 88.60 289 P P 03 37 42.3 -2.6
SNR=42
PFVI Vila Bisbo 88.63 350 *eP* **P 03 37 45.3 +0.7**
comp=Z,913nm,1.8s
PFVI *e*pP **pP** 03 38 23.5 -3.8
PFVI *i* LQ LQ 03 38 49.6
PFVI Vila Bisbo 88.63 350 P P 03 37 45.4 +0.7
HTT Hallett 88.66 196 P P 03 37 45.3 +0.7
comp=Z,544nm,0.9s
OJGS Djebel Guires 88.85 342 P P 03 37 44.9 -1.0
SFS San Fernando 88.98 348 P P 03 37 46.8 +0.5
SFS S **S** 03 48 24.2 +4.6
HUEH Huehuetenango 89.04 65 P P 03 37 46.5 -0.7
ODJA Bouhanifia 89.18 343 P P 03 37 46.8 -0.6
CNB Canberra Magne 89.25 187 P P 03 37 48.9 +1.6
CAN Canberra 89.29 188 P P 03 37 47.9 +0.4
CAN pmax pmax
comp=Z,611nm,1.2s
CAN Canberra 89.29 188 P P 03 37 47.9 +0.4
CAN Canberra 89.29 188 P P 03 37 49.2 +1.7
CAN Canberra 89.29 188 P P 03 37 49.1 +1.7
CAN pP **pP** 03 38 30.4 +0.2
PSMN Pico do Norte, 89.36 3|| *eP* **P 03 37 48.6 +0.5**
comp=Z,808nm,1.3s
PSMA Santa Maria 89.37 3|| *eP* **P 03 37 48.7 +0.6**
comp=Z,988nm,1.6s
CEU Ceuta 89.44 347 P P 03 37 48.0 -0.4
CEU S **S** 03 48 26.6 +2.7
OLHC Oulhaca 89.48 344 P P 03 37 48.0 -0.7
CHAS Isla Isabel II 89.71 344 P P 03 37 48.8 -0.9
CHAS S **S** 03 48 25.7 -0.6
OUZ Omahuta 89.76 168 IAmb IAmb 03 37 54.1
comp=Z,554nm,0.8s
OUZ Omahuta 89.76 168 P P 03 37 51.6 +2.0
APG El Apazote 89.86 64 PKKPbc PKKPbc 03 55 22.1 +3.0
comp=Z,5.5nm,0.5s,baz=160,slow=4.3,SNR=6.4
APG PKPPKP **P'P'df** 04 03 30.6 -2.0
comp=Z,8.4nm,1.1s,baz=116,slow=5.5,SNR=4.8
APG LR LR 04 17 19.4
comp=Z,14μm,21.9s,baz=338,slow=35
PALE Palemas 89.90 346 P P 03 37 51.0 +0.3
CHEFC Chefchaouen 90.21 347 P P 03 37 52.0 -0.2
TWOA Tennyson Woods 90.28 196 P P 03 37 54.2 +2.2
MQOL MQOL 90.33 307 *i* P **P 03 37 51.8 -1.1**
MQOL *i* 03 37 55.5
baz=234,slow=12
MORW Morawa 90.47 216 P P 03 37 52.2 -0.8
MORW Morawa 90.47 216 P P 03 37 52.4 -0.7
JBK JBK 90.56 344 P P 03 37 54.0 0.0
WCZ Waipu Caves 90.57 167 P P 03 37 54.5 +1.2
AKLM AKL 90.59 346 P P 03 37 53.0 -1.0
ESQI Esquipulas 90.82 64 IAmb IAmb 03 38 00.4
comp=Z,673nm,1.0s
GRZ Great Barrier 91.03 166 P P 03 37 55.6 +0.1
ABAZ Army Bay 91.28 167 P P 03 37 57.9 +1.3
MBAZ Motutapu North 91.46 167 P P 03 37 56.7 -0.7
ARPS Mount Arapiles 91.49 193 P P 03 37 58.0 +0.4
WIAZ Waiheke Island 91.51 167 P P 03 37 58.4 +0.7
LCRM LCR 91.54 346 P P 03 37 59.0 +0.5
WTAZ Waiatarua 91.58 167 P P 03 38 00.3 +2.3
BLDU Ballidu 91.65 215 P P 03 37 57.8 -0.7
AWAZ Awhitu Peninsu 91.72 167 P P 03 38 00.5 +1.9
IFR Ifrane 91.74 346 P P 03 37 58.6 -0.8
IFR S **S** 03 48 45.0 -0.4
TOO Toolangi 91.84 190 P P 03 38 00.4 +1.1
TOO pmax pmax
comp=Z,381nm,1.4s
TOO Toolangi 91.84 190 P P 03 38 00.4 +1.1
TOO Toolangi 91.84 190 P P 03 38 00.8 +1.5
BRAT Ballarat 92.00 192 P P 03 38 02.7 +2.8
KLBR Kellerberrin 92.20 214 P P 03 38 00.4 -0.6
AVE Averroes 92.26 348 P P 03 38 01.8 +0.2
AVE S **S** 03 48 52.8 +3.2
AVE Averroes 92.26 348 P P 03 38 02.4 +0.8
TGUH Tegucigalpa,Un 92.33 62 P P 03 38 02.6 +0.2
TGUH IAmb IAmb 03 38 06.9
comp=Z,712nm,1.1s
MDT Midelt 92.36 346 LR LR 04 27 38.3
comp=Z,9μm,18.1s,baz=34,slow=41
MDT Midelt 92.36 346 P P 03 38 01.8 -0.5
TOZ Tahuroa Road 92.49 167 P P 03 38 02.7 +0.6
FIGM Figuig 92.50 343 P P 03 38 02.1 -0.8
HAZ Te Kaha 92.84 165 P P 03 38 04.2 +0.4
PKGZ Pakihiroa 93.02 165 P P 03 38 06.4 +1.7
RUGZ Raukumara Rang 93.03 165 P P 03 38 04.0 -0.9
MUN Mundaring 93.07 215 P P 03 38 05.1 +0.1
HIZ Hauiti 93.17 167 P P 03 38 06.7 +1.4
PMPST Porto Santo, M 93.21 356 *eP* **P 03 38 06.5 +0.5**
comp=Z,857nm,1.6s
URZ Urewera 93.23 165 PKiKP **PKiKP 03 42 52.1 +0.9**
comp=Z,18nm,0.8s,baz=243,slow=2.9,SNR=6.4
URZ S **SKSac** 03 48 21.7 -1.1
comp=Z,12nm,0.9s,baz=114,slow=22,SNR=5.6
URZ LR LR 04 18 50.5
comp=Z,28μm,18.0s,baz=15,slow=34
URZ Urewera 93.23 165 P P 03 38 04.9 -0.7
URZ Urewera 93.23 165 P P 03 38 05.5 -0.1
PMPS Porto Santo 93.24 356 *eP* **P 03 38 05.5 -0.6**
comp=Z,888nm,1.9s
TWGZ Tauwhareparae 93.29 165 P P 03 38 05.5 -0.4
GOLM Goulmima 93.50 346 P P 03 38 09.0 +1.5
PMOZ Porto Moniz, M 93.50 356 *eP* **P 03 38 08.4 +0.9**
comp=Z,542nm,2.1s
PMOZ *i* LQ LQ 03 39 07.3
GRTK Grand Turk 93.58 45 IAmb IAmb 03 38 23.1
comp=Z,534nm,1.3s
PMAR Madeira 93.59 356 *eP* **P 03 38 08.7 +0.7**
comp=Z,1μm,1.6s
PMAR *i* LQ LQ 03 39 02.7
NWAO Narrogin (SRO) 93.60 214 P P 03 38 06.8 -0.6
NWAO pmax pmax
comp=Z,176nm,0.8s
NWAO Narrogin (SRO) 93.60 214 P P 03 38 06.8 -0.6
NWAO Narrogin (SRO) 93.60 214 P P 03 38 06.8 -0.6
NWAO Narrogin (SRO) 93.60 214 P P 03 38 06.8 -0.6
NWAO Narrogin (SRO) 93.60 214 P P 03 38 07.5 +0.1
NWAO pP **pP** 03 38 49.2 -1.2
DGAR Diego Garcia 93.61 262 *d i P* **P 03 38 07.0 -1.0**
DGAR pmax pmax
comp=Z,440nm,0.9s
DGAR MLR MLR
comp=Z,15μm,20.0s
DGAR Diego Garcia 93.61 262 P P 03 38 08.2 +0.3
DGAR Diego Garcia 93.61 262 P P 03 38 07.9 0.0
DGAR IAmb IAmb 03 38 13.5
comp=Z,340nm,0.8s
DGAR Diego Garcia 93.61 262 P P 03 38 06.7 -1.2
MTDJ Mount Denham 93.62 52 IAmb IAmb 03 38 19.6
comp=Z,567nm,1.4s
FUL Funchal 93.67 356 *eP* **P 03 38 08.8 +0.7**
comp=Z,1μm,1.8s
RIGZ Rimuhau 93.77 165 P P 03 38 08.0 -0.1
BKZ Black Stump Fm 94.03 166 P P 03 38 09.7 +0.3
BKZ Black Stump Fm 94.03 166 P P 03 38 09.9 +0.6
OUK Oukaimeden 94.38 348 P P 03 38 12.0 +0.2
TZRR Tazzarine 94.49 346 P P 03 38 12.0 -0.1
BOAB BOACO BROADBAND 94.52 62 IAmb IAmb 03 38 16.1
comp=Z,432nm,1.1s
OUZM OUZ 94.53 347 P P 03 38 13.0 +0.7
TTIG Tnine Tigouga, 95.09 349 P P 03 38 15.0 +0.1
ZGR Zagora 95.16 346 P P 03 38 15.0 -0.1

QRZ Quartz Range 95.17 169 P **P** **03 38 15.6 +1.2**
ATD Arta Tunnel 95.20 297 LR LR 04 27 52.3
comp=Z,23μm,20.5s,baz=33,slow=40
ATD Arta Tunnel 95.20 297 P **P** **03 38 16.4 +0.9**
SNR=37
ATD Arta Tunnel 95.20 297 IAmb IAmb 03 38 26.7
comp=Z,636nm,1.1s
ATD Arta Tunnel 95.20 297 P **P** **03 38 15.3 -0.1**
ATD Arta Tunnel 95.20 297 ⇓P **P** **03 38 14.8 -0.6**
ATD sP **sP** **03 39 10.1 -6.4**
ATD PP **PP** **03 42 04.7 -2.4**
ATD Arta Tunnel 95.20 297 *eP* **P** **03 38 15.8 +0.4**
RKGY Rocky Gully 95.22 213 P **P** **03 38 15.3 +0.5**
ESPN Las Esperanzas 95.44 61 IAmb IAmb 03 38 26.9
comp=Z,327nm,1.1s
BFZ Birch Farm 95.49 167 P **P** **03 38 17.0 +1.1**
SC01 Santiago de lo 95.60 46 IAmb IAmb 03 38 29.4
comp=Z,797nm,1.5s
SNZO South Karori 95.91 168 P **P** **03 38 16.9 -0.8**
SNZO South Karori 95.91 168 P pP 03 38 57.3 -3.4
BSWZ Blackbirch Sta 96.20 168 P **P** **03 38 17.7 -1.4**
SILA Clinic, Silare 96.66 302 ⇓P **P** **03 38 22.6 +0.4**
SILA sP pP 03 39 13.5 +8.1
SILA PP **PP** **03 42 13.6 -4.8**
BANI BANI 96.68 46 P **P** **03 38 22.6 +0.5**
JTS Las Juntas de 96.71 62 LR LR 04 22 09.5
comp=Z,9μm,21.6s,slow=35
JTS Las Juntas de 96.71 62 ⇓*iP* **P** **03 38 20.7 -1.5**
JTS pmax pmax
comp=Z,58nm,1.7s
JTS MLR MLR
comp=Z,15μm,21.0s
JTS Las Juntas de 96.71 62 P P 03 38 09.1 -13
JTS pP pP 03 39 00.0 -5.2
KHZ Kahutara 96.86 169 P **P** **03 38 22.3 +0.3**
TAU Tasmania Unive 96.96 188 P **P** **03 38 23.5 +1.0**
GOND University, Go 97.07 303 ⇓P Pdif 03 38 24.4 +0.1
GOND sP pP 03 39 15.9 +8.6
GOND PP **PP** **03 42 21.1 -0.6**
JAWL J.Aulia 97.16 308 *iP* **P** **03 38 23.7 -0.6**
JAWL IAmb IAmb 03 38 35.4
comp=Z,275nm,1.2s
HDC Heredia 97.39 62 P **P** **03 38 23.8 -1.6**
RPZ Rata Peaks 97.88 171 P Pdif 03 38 29.6 +2.9
SHAW Medical Clinic 97.91 303 ⇓P **P** **03 38 27.9 -0.1**
SHAW sP **pP** **03 39 18.3 +7.2**
SHAW PP **PP** **03 42 24.1 -4.1**
AGPR Aguadilla, PR 97.96 43 P Pdif 03 38 28.7 +0.9
MELAE School, Dubaba 97.96 304 ⇓P **P** **03 38 27.1 -0.8**
MELAE sP **sP** **03 39 24.0 -5.0**
MELAE PP **PP** **03 42 25.6 -2.7**
BAHR High School, B 97.97 302 ⇓P Pdif 03 38 28.9 +0.7
BAHR sP pP 03 39 19.7 +8.4
BAHR PP **PP** **03 42 25.6 -3.0**
MACI Morro de la Ar 98.03 356 P **P** **03 38 28.1 0.0**
MACI IAmb IAmb 03 38 39.1
comp=Z,600nm,1.4s
MACI Morro de la Ar 98.03 356 P Pdif 03 38 28.4 +0.1
MUKA Police Camp, M 98.04 303 ⇓P **P** **03 38 27.8 -0.5**
MUKA sP **sP** **03 39 25.5 -3.9**
MUKA PP **PP** **03 42 26.3 -2.6**
MERTO Secondary Scho 98.11 301 ⇓P Pdif 03 38 29.0 0.0
MERTO sP sP 03 39 27.4 -2.7
MERTO PP **PP** **03 42 29.3 -0.5**
ANKE Ethiopia-Afar 98.45 299 *eP* **P** **03 38 30.2 -0.3**
ABMD Abulta/Almeha 98.63 304 ⇓P **P** **03 38 30.1 -0.8**
ABMD sP **sP** **03 39 28.8 -3.2**
ABMD PP **PP** **03 42 29.3 -4.1**
SJG San Juan 98.67 43 P **P** **03 38 30.8 -0.1**
SJG pmax pmax
comp=Z,127nm,1.2s
SJG San Juan 98.67 43 *iP* Pdif 03 38 32.6 +1.7
SJG San Juan 98.67 43 P **P** **03 38 30.8 -0.1**
CHGE School, Chagni 98.92 303 ⇓P Pdif 03 38 33.1 +0.7
CHGE sP sP 03 39 27.9 -5.6
CHGE PP **PP** **03 42 33.8 -1.9**
ODZ Otahua Downs 99.16 171 Pdif **Pdif** **03 38 34.0 +1.7**
ODZ Otahua Downs 99.16 171 P **Pdif** **03 38 33.0 +0.7**
GUBA Police Station 99.26 304 ⇓P **Pdif** **03 38 33.0 -0.7**
GUBA sP **sP** **03 39 27.9 -7.0**
GUBA PP **PP** **03 42 36.0 -2.2**
FURI Furi 99.58 300 Pdif **Pdif** **03 38 36.1 +0.6**
FURI IAmb IAmb 03 38 46.9
comp=Z,472nm,1.1s
FURI Furi 99.58 300 *eP* **Pdif** **03 38 37.6 +2.2**
KIRE School, Kiremu 99.60 302 ⇓P **Pdif** **03 38 36.3 +0.8**
KIRE sP **sP** **03 39 29.3 -7.3**
KIRE PP **PP** **03 42 38.2 -2.8**
DEBR School, Debre 99.62 303 ⇓P **Pdif** **03 38 36.5 +0.8**
DEBR sP **sP** **03 39 30.8 -6.0**
DEBR PP **PP** **03 42 41.2 0.0**
SMRT St. Maarten 99.92 40 *eP* **Pdif** **03 38 33.1 -3.5**
HARO School, Haroo 99.97 302 ⇓P **Pdif** **03 38 37.7 +0.6**
HARO sP **sP** **03 39 32.2 -6.1**
HARO PP **PP** **03 42 41.2 -2.6**
GINR Hospital, Gini 100.02 297 ⇓P **Pdif** **03 38 37.6 +0.3**
GINR sP **pPdif** **03 39 28.8 +8.2**
GINR PP **PP** **03 42 41.2 -3.0**
SHERE Police Station 100.09 304 ⇓P **Pdif** **03 38 36.6 -0.8**
SHERE sP sP 03 39 33.1 -5.4
SHERE PP **PP** **03 42 42.0 -2.5**
SEUS St. Eustatius 100.47 40 *eP* **Pdif** **03 38 38.8 -0.1**
MEND High School, M 100.62 303 ⇓P **Pdif** **03 38 40.2 +0.3**
MEND sP sP 03 39 35.1 -6.1
MEND PP **PP** **03 42 45.7 -2.9**
SKI Saint Kitts 100.70 40 *eS* **SKSac** **03 49 01.8 -0.9**
ANWB Willy Bob 100.75 39 *eP* **Pdif** **03 38 34.3 -5.9**
ANBD Bethesda, Anti 101.33 39 *eP* **Pdif** **03 38 42.7 -0.1**
MSEY Mahe Island 101.42 278 P **Pdif** **03 38 43.3 +0.1**
MSEY Mahe Island 101.42 278 P **Pdif** **03 38 43.3 +0.1**
MSEY P **Pdif** **03 38 43.4 +0.1**
MSEY Mahe Island 101.42 278 Pdif **Pdif** **03 38 43.3 +0.1**
MSEY Mahe Island 101.42 278 *iP* **Pdif** **03 38 43.6 +0.4**
SNR=10
GIDAE Health Center, 101.57 303 ⇓P **Pdif** **03 38 45.0 +0.8**
GIDAE sP **sPdif** **03 39 38.0 -7.4**
GIDAE PP **PP** **03 42 50.9 -4.8**
GOREE District Admin 101.82 302 ⇓P **Pdif** **03 38 46.6 +1.2**
GOREE sP **sPdif** **03 39 40.4 -6.2**
GOREE PP **PP** **03 42 54.7 -3.0**
DILA Dilla 101.88 299 *eP* **Pdif** **03 38 47.5 +2.0**
URIC Uribia, Colomb 101.88 51 *iP* **Pdif** **03 38 43.2 -2.0**
ABD La Joyeuse, An 101.96 39 *eP* **Pdif** **03 38 44.0 -1.6**
SJCC San Jacinto, C 101.96 54 *iP* **Pdif** **03 38 45.9 +0.2**
NGLE Hospital, Nege 102.13 297 ⇓P **Pdif** **03 38 46.7 +0.1**
NGLE sP **sPdif** **03 39 40.8 -7.1**
NGLE PP **PP** **03 42 59.1 -0.9**
ARGC Ariguani, Magd 102.44 53 *iP* **Pdif** **03 38 51.2 +3.4**
TDBA Terre de Bas, 102.47 39 *eP* **Pdif** **03 38 42.2 -5.7**
TDBA Terre de Bas, 102.47 39 *e* **PP** **03 42 55.9 -6.1**
MAGL Barre de l'ile 102.52 39 *eP* **Pdif** **03 38 37.8 -10**
MOTC Monteria, Cord 102.69 55 *iP* **Pdif** **03 38 37.0 -3.0**
MDVC Dominica, Viel 102.78 39 *e* PP 03 42 55.3 -8.9
DSLB Salisbury 102.93 39 *eP* **Pdif** **03 38 48.4 -1.5**
LL6C La Loma 6 Bece 103.01 53 *iP* **Pdif** **03 38 45.9 -4.4**
MDN Morne-Daniel 103.05 39 *eP* **Pdif** **03 38 54.0 +3.6**
SMLC San Martn de 103.44 54 *iP* **Pdif** **03 38 53.9 +1.6**
UREC San Jos de Ur 103.65 56 *iP* **Pdif** **03 38 56.5 +3.4**
FDF Fort de France 103.68 39 *eP* **Pdif** **03 38 50.1 -3.2**
BIM Bigot 103.91 39 *eP* **Pdif** **03 38 49.4 -4.9**
DBBC Dabeiba 103.95 57 *iP* **Pdif** **03 38 53.9 -0.7**
SOLC Bahia Solano 104.03 58 *iP* **Pdif** **03 38 56.5 +1.7**
MPOM Morne Pois Mar 104.05 39 *eP* **Pdif** **03 38 52.2 -2.7**
MPOM Morne Pois Mar 104.05 39 *e* **PKiKP** **03 43 04.5 -6.7**
ZARC Zaragoza, Cauc 104.20 55 *iP* **Pdif** **03 38 53.9 -1.8**
OCAC Ocana 104.29 53 Pdif **Pdif** **03 38 57.4 +1.2**
SLBI Saint Lucia, B 104.40 40 *eP* **Pdif** **03 38 52.2 -4.2**
SLBI Saint Lucia, B 104.40 40 *e* **PKiKP** **03 43 04.8 -7.1**
MCLT Moule a Chique 104.70 40 *e* **PKiKP** **03 43 16.6 +4.2**
SDV Santo Domingo 104.97 51 PKKPbc PKKPbc 03 54 40.0 +2.0
comp=Z,16nm,0.9s,baz=286,slow=2.8,SNR=3.6
SDV Santo Domingo 104.97 51 Pdif **Pdif** **03 38 59.2 -0.1**
SVB Belmont 104.98 40 *eP* **Pdif** **03 38 55.0 -4.1**
SVB Belmont 104.98 40 *e* **PKiKP** **03 43 14.5 +1.5**
HELC Santa Helena 105.00 56 *iP* **Pdif** **03 39 04.5 +4.9**
CBOC Ciudad Bolivar 105.04 57 *iP* **Pdif** **03 38 59.2 -0.4**
PTBC PUERTO BERRIO 105.22 55 *iP* **Pdif** **03 38 59.2 -1.0**
GCMP Grenada, Carri 105.63 41 *eP* **Pdif** **03 38 52.0 -10**
BARC Barichara 105.79 54 *iP* **Pdif** **03 39 04.5 +1.5**
GRGR Grenville 105.86 41 *eP* **Pdif** **03 38 51.0 -12**
GRGR Grenville 105.86 41 *e* **PKiKP** **03 43 21.8 +7.2**
NORC Norcasia 105.86 56 *iP* **Pdif** **03 39 04.5 +1.4**
GRFF Grenada Fort F 105.91 41 *e* **PP** **03 43 24.7 -2.8**
GUY2C Guyana, Caldas 105.91 57 *iP* **Pdif** **03 39 15.1 +11**
BAUV El Baul 106.09 48 *eP* **Pdif** **03 39 05.2 +1.2**
BAUV El Baul 106.09 48 Pdif **Pdif** **03 39 05.2 +1.2**
SPBC San Pablo de B 106.18 55 *iP* **Pdif** **03 39 04.5 0.0**
RUSC La Rusia 106.45 54 *iP* **Pdif** **03 39 07.2 +1.0**
YOTC Yotoco, Valle 106.49 58 *iP* **Pdif** **03 39 07.2 +1.2**
ANIL Santa Ana 106.53 57 *iP* **Pdif** **03 39 09.8 +3.5**
ROSC El Rosal 106.76 56 Pdiff **Pdif** **03 39 08.0 +0.5**
comp=Z,6.5nm,0.4s,baz=264,slow=23,SNR=2.4
ROSC PKiKP **PKiKP** **03 43 18.3 +1.5**
comp=Z,38nm,1.0s,baz=40,slow=13,SNR=2.1
ROSC PKKPbc **PKKPbc** **03 54 34.8 +2.0**
comp=Z,32nm,0.6s,baz=55,slow=13,SNR=9.4
TOSP Speyside 107.06 40 *eP* **Pdif** **03 39 08.3 0.0**
ORTC Ortega, Tolima 107.11 57 *iP* **Pdif** **03 39 07.2 -1.4**
CHIC Chingaza 107.23 56 *iP* **Pdif** **03 39 15.1 +5.5**
PRAC Prado 107.45 57 *iP* **Pdif** **03 39 15.1 +5.0**
POPC Popayan, Colom 107.56 59 *iP* **Pdif** **03 39 09.8 -1.0**
VILC Villavicencio, 107.70 56 *iP* **Pdif** **03 39 17.8 +6.5**
PCON Cinco Dias 107.88 59 *iP* **Pdif** **03 39 15.1 +2.4**
SOTA Rioblanco 107.94 59 *iP* **Pdif** **03 39 12.5 -0.4**
BETC Betania 108.06 58 *iP* **Pdif** **03 39 15.1 +2.3**
GCUF Volcan Galeras 108.34 61 *iP* **Pdif** **03 39 15.1 +0.5**
OTAV Otavalo 108.61 62 P **Pdif** **03 39 15.6 -0.1**
OTAV Otavalo 108.61 62 Pdif **Pdif** **03 39 15.6 -0.1**
KMBO Kilima Mbogo 108.80 295 Pdiff **Pdif** **03 39 17.9 +1.5**
comp=Z,4.6nm,1.0s,baz=8.1,slow=6.3,SNR=3.8
KMBO PKiKP **PKiKP** **03 43 21.9 +1.5**
comp=Z,50nm,1.1s,baz=32,slow=8.4,SNR=7.5
KMBO PKKPbc **PKKPbc** **03 54 27.2 +0.9**
comp=Z,8.5nm,0.9s,baz=248,slow=6.8,SNR=3.9
KMBO Kilima Mbogo 108.80 295 P **Pdif** **03 39 16.7 +0.4**
KMBO Kilima Mbogo 108.80 295 P **Pdif** **03 39 17.4 +1.1**
KMBO sP **sPdif** **03 40 12.1 -5.6**
KMBO PP PP 03 43 40.2 -9.2
FLOC Florencia 108.90 59 *iP* **Pdif** **03 39 12.5 -4.1**
MACC Macarena, Meta 109.32 57 *iP* **Pdif** **03 39 17.8 -0.6**
TORD Torodi Ar. Bea 110.30 336 Pdiff **Pdif** **03 39 23.3 +0.6**
comp=Z,3.7nm,0.5s,baz=10,slow=3.2,SNR=12
TORD PKiKP **PKiKP** **03 43 23.0 +0.1**
comp=Z,28nm,0.6s,baz=23,slow=1.7,SNR=28
TORD PKKPbc **PKKPbc** **03 54 22.8 +1.3**
comp=Z,21nm,0.7s,baz=190,slow=2.8,SNR=33
MBAR Mbarara 111.74 302 PKiKP **PKiKP** **03 43 27.1 +1.2**
comp=Z,16nm,0.6s,baz=30,slow=15,SNR=13
MBAR Mbarara 111.74 302 *eP* **Pdif** **03 39 24.6 -4.7**
ATAH Atahualpa 114.83 66 PKP **PKiKP** **03 43 33.0 +1.0**
comp=Z,24nm,0.9s,baz=90,slow=4.3,SNR=2.9
ATAH PKKPab **PKKPab** **03 54 17.4 +1.4**
comp=Z,22nm,0.8s,baz=148,slow=2.2,SNR=6.0
MDP Montagnes des 115.64 35 PKKPbc PKKPbc 03 54 03.9 +0.2
comp=Z,20nm,0.8s,baz=171,slow=2.5,SNR=6.3
OPO Ambohidratompo 117.33 276 PKP **PKiKP** **03 43 36.7 +0.3**
comp=Z,34nm,0.9s,baz=347,slow=1.2,SNR=12
OPO SKP 03 46 57.9
comp=Z,30nm,0.9s,baz=69,slow=2.7,SNR=3.7
ABPO Ambohimpanom 117.65 276 PKIKP **PKPdf** **03 43 36.7 -0.3**
ABPO Ambohimpanom 117.65 276 PKPdf **PKPdf** **03 43 36.7 -0.3**
DBIC Dimbokro 118.00 341 PKP **PKPdf** **03 43 37.5 -0.1**
comp=Z,83nm,0.5s,baz=23,slow=2.1,SNR=46
DBIC PKKPbc **PKKPbc** **03 53 56.0 +0.5**
comp=Z,48nm,1.0s,baz=190,slow=3.1,SNR=10
DBIC PKKPab **PKKPab** **03 54 10.0 +6.5**
comp=Z,22nm,1.0s,baz=214,slow=3.2,SNR=5.3
DBIC SKKPbc SKKPbc 03 57 21.7 -0.3
comp=Z,12nm,0.9s,baz=217,slow=0.1,SNR=2.7
DBIC Dimbokro 118.00 341 PKIKP **PKPdf** **03 43 36.8 -0.8**
DBIC Dimbokro 118.00 341 PKPdf **PKPdf** **03 43 36.8 -0.8**
TIC Toumodi 118.05 341 *e*PKIKP **PKPdf** **03 43 37.3 -0.5**
TIC Toumodi 118.05 341 *e*PKP2 03 57 24.1
KIC Kosan Boka 118.28 341 *e*PKIKP **PKPdf** **03 43 37.2 -1.0**
comp=Z,308nm,0.7s
KIC Kosan Boka 118.28 341 *e*PKP2 03 57 24.9
comp=Z,46nm,1.2s
LIC Lamto 118.47 341 *e*PKIKP **PKPdf** **03 43 37.3 -1.3**
comp=Z,680nm,0.8s
LIC Lamto 118.47 341 *e*PKP2 03 57 23.7
comp=Z,79nm,1.4s
KSMZ Kasama 119.60 296 *iP* **PKiKP** **03 43 42.0 +1.0**
KSMZ *i* 03 44 27.0
KSMZ *i* 03 45 01.6
KSMZ *i* 03 45 02.8
KSMZ Kasama 119.60 296 *iP* **PKiKP** **03 43 42.0 +1.0**
KSMZ *i* 03 44 27.0
KSMZ *i* 03 45 01.6
KSMZ *i* 03 45 02.8
NNA Nana 119.69 68 PKP **PKPdf** **03 43 40.8 -0.1**
comp=Z,33nm,0.6s,baz=308,slow=4.6,SNR=13
NNA PKKPab **PKKPab** **03 53 54.5 +0.3**
comp=Z,33nm,0.6s,baz=221,slow=4.1,SNR=14
NNA Nana 119.69 68 *iP*KiKP **PKPdf** **03 43 39.6 -1.3**
NNA Nana 119.69 68 PKPdf **PKPdf** **03 43 40.7 -0.1**
NNA **PKKPab** **03 53 55.9 +1.7**
VOI Vohitsoka 120.15 274 PKP **PKiKP** **03 43 42.3 +0.6**
MCPB Macapa, AP 120.93 36 *eP* **PKPdf** **03 43 41.9 -1.4**
ITTB Itaituba 123.25 42 *eP* **PKPdf** **03 43 46.7 -1.1**
ITTB Itaituba 123.25 42 *eP* **PKPdf** **03 43 46.6 -1.1**
ETMB Extrema 123.41 56 *eP* **PKPdf** **03 43 47.5 -0.5**
CASY Casey 125.28 202 PKPdf **PKPdf** **03 43 50.0 +0.1**
LSZ Lusaka 125.47 295 PKP **PKiKP** **03 43 52.3 -0.1**
comp=Z,146nm,0.5s,baz=30,slow=2.4,SNR=31
LSZ Lusaka 125.47 295 PKIKP **PKPdf** **03 43 48.6 -3.4**
LSZ Lusaka 125.47 295 *iP* **PKPdf** **03 43 50.0 -2.1**
LSZ Lusaka 125.47 295 *iP* **PKPdf** **03 43 50.0 -2.1**
LSZ Lusaka 125.47 295 **PKPdf** **03 43 48.6 -3.4**
NPGB Novo Progresso 125.84 43 *eP* **PKiKP** **03 43 53.0 -0.1**
KRI Karoi 125.98 293 *iP* **PKPdf** **03 43 48.0 -5.0**
KRI Karoi 125.98 293 *iP* **PKPdf** **03 43 48.0 -5.0**
NBMO Morrinhos-CE 127.28 24 *eP* **PKPdf** **03 43 55.1 -0.4**
LPAZ La Paz 127.93 62 PKP **PKPdf** **03 43 56.9 -0.5**
comp=Z,144nm,0.9s,baz=357,slow=4.3,SNR=28
LPAZ PKKPbc PKKPbc 03 53 23.8
comp=Z,6.9nm,0.9s,baz=99,slow=3.9,SNR=7.2
LPAZ SKKPbc SKKPbc 03 56 53.2 +1.4
comp=Z,5.7nm,0.7s,baz=352,slow=4.2,SNR=3.7
LPAZ La Paz 127.93 62 *eP* **PKiKP** **03 43 58.4 +0.5**
NBPS Pedro II - PI 127.98 26 *eP* **PKPdf** **03 43 57.1 +0.2**
NBCL Cascavel-CE 128.56 22 *eP* **PKPdf** **03 43 57.1 -0.8**
PB12 IPOC Station P 128.68 66 PKPdf **PKPdf** **03 43 58.0 0.0**
VILB Vilhena 129.00 52 *eP* **PKiKP** **03 43 59.1 -0.3**
VILB Vilhena 129.00 52 PKPdf **PKiKP** **03 43 59.0 -0.3**
CLDB Colider 129.11 46 *eP* **PKPdf** **03 43 54.6 -4.3**
CLDB Colider 129.11 46 *eP* **PKPdf** **03 43 59.1 +0.2**
BLWY Bulawayo 129.22 291 *iP* **PKPdf** **03 43 53.5 -5.5**
BLWY Bulawayo 129.22 291 *iP* **PKPdf** **03 43 53.5 -5.5**
PDRB Porto dos Gac 129.38 47 *eP* **PKPdf** **03 43 57.0 -2.4**
PDRB Porto dos Gac 129.38 47 *eP* **PKPdf** **03 43 59.6 +0.2**
MATP Matopo 129.51 291 PKhKP PKPpre 03 43 51.8
comp=Z,4.8nm,0.6s,baz=45,slow=3.6,SNR=9.2
MATP PKP **PKiKP** **03 44 00.5 +0.2**
comp=Z,52nm,0.6s,baz=29,slow=4.0,SNR=30
MATP SKPbc SKPbc 03 47 07.2 +1.9
comp=Z,54nm,0.9s,baz=41,slow=12,SNR=3.0
MATP Matopo 129.51 291 *iP* **PKPdf** **03 43 52.6 -7.0**
MATP Matopo 129.51 291 *iP* **PKPdf** **03 43 52.6 -7.0**
NBPB Pedra_Branca-C 129.54 24 *eP* **PKPdf** **03 43 58.5 -1.3**
NBPB Pedra_Branca-C 129.54 24 *eP* **PKiKP** **03 44 00.2 -0.3**
GO01 Chusmiza 130.15 66 PKPdf **PKiKP** **03 44 02.0 -0.1**
RCBR Riachuelo 130.61 19 PKIKP **PKPdf** **03 44 02.0 +0.2**
RCBR Riachuelo 130.61 19 *eP* **PKPdf** **03 44 01.7 -0.1**
RCBR Riachuelo 130.61 19 *eP* **PKiKP** **03 44 03.1 +0.4**
RCBR Riachuelo 130.61 19 PKPdf **PKPdf** **03 44 02.0 +0.2**
RCBR SKPbc **SKPab** **03 47 10.5 +1.0**
VNDA Vanda 131.22 179 PKP **PKPdf** **03 44 00.9 -0.1**
comp=Z,20nm,0.4s,baz=328,slow=3.8,SNR=15
VNDA SKPbc **SKPab** **03 47 09.8 -0.3**
comp=Z,351nm,1.0s,baz=332,slow=4.6,SNR=28
VNDA PKKP **PKKPdf** **03 53 59.2 -0.6**
comp=Z,6.4nm,0.8s,baz=264,slow=3.7,SNR=3.2
SIV San Ignacio 131.23 55 PKhKP PKPpre 03 43 50.2
comp=Z,10nm,0.6s,baz=282,slow=4.0,SNR=13
SIV PKP **PKiKP** **03 44 03.8 0.0**
comp=Z,171nm,0.9s,baz=285,slow=1.1,SNR=26
SIV SKPbc **SKPbc** **03 47 11.7 +0.2**
comp=Z,506nm,0.9s,baz=291,slow=4.0,SNR=24
SIV SKKPbc **SKKPbc** **03 56 41.4 +2.0**
comp=Z,17nm,1.0s,baz=116,slow=6.2,SNR=3.6
PB07 IPOC Station P 131.44 68 PKPdf **PKiKP** **03 44 04.2 -0.1**
NBMA Muriti-CE 131.50 23 *eP* **PKiKP** **03 44 04.5 0.0**
SBA Scott Base 131.64 178 PKIKP **PKiKP** **03 44 03.7 +0.9**
SBA Scott Base 131.64 178 **PKiKP** **03 44 03.7 +0.9**
PTLB Pontes e Lacer 131.68 52 PKPdf **PKiKP** **03 44 04.3 -0.3**
LVC Limon Verde 132.69 68 PKhKP PKPpre 03 43 55.4
comp=Z,38nm,0.8s,baz=327,slow=3.3,SNR=20
LVC SKPbc **SKPab** **03 47 18.0 -0.6**
comp=Z,224nm,0.8s,baz=312,slow=3.3,SNR=23
SALV Santo Antonio 133.64 48 *eP* PKPpre 03 43 57.0
ASCN Ascension 133.75 350 PKPdf **PKiKP** **03 44 09.0 0.0**
TSUM Tsumeb 134.21 304 PKhKP PKPpre 03 43 58.3
comp=Z,19nm,0.7s,baz=349,slow=9.2,SNR=12
TSUM PKP **PKiKP** **03 44 10.0 +0.1**
comp=Z,79nm,0.7s,baz=36,slow=2.9,SNR=18
TSUM SKPbc **SKPbc** **03 47 23.4 +1.6**
comp=Z,239nm,1.1s,baz=48,slow=3.7,SNR=12
TSUM Tsumeb 134.21 304 PKPdf **PKiKP** **03 44 09.7 -0.2**
NBAN Anadia - AL 134.28 21 *eP* PKPpre 03 43 58.6
CRZF Crozet Islands 134.39 248 PKPdf **PKiKP** **03 44 10.4 +1.1**
LBTB Lobatse 134.77 291 PKhKP PKPpre 03 43 56.3
comp=Z,31nm,0.5s,baz=4.4,slow=1.5,SNR=22
LBTB PKP **PKiKP** **03 44 11.0 +0.1**
comp=Z,186nm,0.5s,baz=52,slow=2.2,SNR=17
LBTB SKPbc **SKPbc** **03 47 25.3 +1.9**
comp=Z,300nm,0.9s,baz=20,slow=0.5,SNR=7.5
LBTB Lobatse 134.77 291 PKIKP **PKiKP** **03 44 11.0 +0.1**
LBTB Lobatse 134.77 291 *iP* **PKPdf** **03 44 02.4 -7.0**
LBTB Lobatse 134.77 291 *iP* **PKPdf** **03 44 02.4 -7.0**
ARAG Araguaiana, MT 135.11 44 *eP* **PKPdf** **03 44 02.5 -7.6**
NBLA Lagarto - SE 135.23 23 *eP* PKPpre 03 43 59.4
PP1B Ponte de Pedra 135.50 48 *eP* **PKPdf** **03 44 11.2 +0.4**
BDFB Brasilia 136.53 39 PKhKP PKPpre 03 44 01.3
comp=Z,14nm,0.5s,baz=112,slow=1.0,SNR=12
BDFB SKPbc **SKPbc** **03 47 30.0 +0.9**
comp=Z,74nm,0.8s,baz=22,slow=2.1,SNR=4.6
LCO Las Campanas 136.68 75 PKHKP PKPpre 03 44 01.6
LCO Las Campanas 136.68 75 PKPpre 03 44 01.6
BOSA Boshof 137.76 288 PKhKP PKPpre 03 44 04.3
comp=Z,35nm,0.5s,baz=37,slow=3.1,SNR=21
BOSA PKP **PKPdf** **03 44 15.2 +0.4**
comp=Z,135nm,0.6s,baz=21,slow=2.5,SNR=16
BOSA SKPbc **SKPbc** **03 47 33.4 +1.0**
comp=Z,189nm,1.1s,baz=86,slow=5.1,SNR=3.6
BOSA SKKPbc **SKKPbc** **03 56 17.2 +0.9**
comp=Z,32nm,1.0s,baz=225,slow=5.5,SNR=6.9
BOSA Boshof 137.76 288 PKIKP **PKPdf** **03 44 14.9 0.0**
BOSA Boshof 137.76 288 *iP* PKPpre 03 44 04.9
BOSA Boshof 137.76 288 *iP* PKPpre 03 44 04.9
BOSA Boshof 137.76 288 PKPpre 03 44 04.7
BOSA PKPdf **PKPdf** **03 44 14.9 0.0**
IPMB Ipameri, GO 138.59 40 *eP* **PKPdf** **03 44 09.6 -7.0**
NBIT Itapeh - BA 138.60 27 *eP* PKPdf 03 44 07.4 -9.2
CMC01 Camacan, BA 138.99 27 *eP* PKPpre 03 44 06.0
ITRB Iturama 139.30 44 *eP* PKPdf 03 44 09.6 -8.2
VA05 Santo Domingo 139.56 81 PKPpre 03 44 09.8
VA05 PKPdf **PKPdf** **03 44 17.0 -0.8**
GUA01 Guaratinga, BA 140.08 28 *eP* PKPpre 03 44 08.1
GUA01 Guaratinga, BA 140.08 28 *eP* **PKPdf** **03 44 19.4 +0.2**
MAW Mawson 140.11 216 PKhKP PKPpre 03 44 10.6
comp=Z,35nm,0.6s,baz=18,slow=9.0,SNR=2.5
MAW SKPbc **SKPbc** **03 47 38.5 +1.2**
comp=Z,227nm,1.0s,baz=51,slow=3.7,SNR=6.6
MAW Mawson 140.11 216 PKIKP **PKPdf** **03 44 18.6 +0.9**
MAW Mawson 140.11 216 PKPdf **PKPdf** **03 44 18.6 +0.9**
SHEL Horse Pasture 140.14 336 PKIKP **PKPdf** **03 44 18.7 -0.7**
SHEL Horse Pasture 140.14 336 PKPdf **PKPdf** **03 44 18.7 -0.7**
DIAM Diamantina, MG 140.51 34 *eP* PKPpre 03 44 09.3
NAN01 Guarapari, ES 141.19 29 *eP* **PKPdf** **03 44 14.1 -7.1**
BB19B Bebedouro 141.26 43 *eP* **PKPdf** **03 44 14.3 -7.0**
SJMB Sao Joao De Ma 141.69 31 *eP* PKPdf 03 44 13.3 -8.8
CPUP Villa Florida 141.81 58 PKhKP PKPpre 03 44 16.2
comp=Z,68nm,0.8s,baz=326,slow=3.6,SNR=34
CPUP SKPbc **SKPbc** **03 47 43.5 +0.3**
comp=Z,45nm,0.6s,baz=238,slow=1.3,SNR=4.4
CPUP PKKP **PKKPdf** **03 53 37.6 -0.6**
comp=Z,7.3nm,1.0s,baz=61,slow=4.6,SNR=3.1
CPUP SKKPbc **SKKPbc** **03 56 00.2 +0.3**
comp=Z,20nm,1.0s,baz=158,slow=3.5,SNR=3.4
RIB01 Linhares ES 142.50 30 *eP* **PKPdf** **03 44 16.6 -6.9**
BSCB Bom Sucesso 142.63 37 *eP* PKPdf 03 44 15.9 -7.9
SUR Sutherland 143.10 288 PKP PKPbc 03 44 23.0 +1.1
comp=Z,222nm,0.7s,baz=61,slow=4.8,SNR=62
SUR Sutherland 143.10 288 PKPdf PKPbc 03 44 22.3 +0.4
VAO Valinhos 143.62 42 *eP* PKPbc 03 44 23.7 +0.2
ALF01 Guarapari-ES 143.63 31 *eP* PKPab 03 44 22.2 -0.2
QSPA South Pole Qui 143.70 180 PKhKP PKPpre 03 44 21.5
comp=Z,1μm,0.8s,baz=349,slow=1.0,SNR=241
QSPA SKPbc **SKPbc** **03 47 46.0 -0.4**
comp=Z,606nm,1.0s,baz=10,slow=2.1,SNR=4.2
PARB Paraibuna 144.45 40 *eP* **PKPdf** **03 44 27.1 +0.1**
CAM01 Campos-RJ 144.46 33 *eP* **PKPdf** **03 44 27.0 +0.1**
CAM01 Campos-RJ 144.46 33 *eP* PKPbc 03 44 25.9 +0.1
DUB01 Friburgo-RJ 144.46 35 *eP* **PKPdf** **03 44 27.0 0.0**
DUB01 Friburgo-RJ 144.46 35 *eP* PKPbc 03 44 26.2 +0.2
MAN01 Angra dos Reis 144.63 38 *eP* **PKPdf** **03 44 27.5 +0.2**
PET01 Itanhaem-SP 144.65 43 *eP* **PKPab** **03 44 26.2 -0.2**
TIJ01 Guaruva-PR 144.84 47 *eP* **PKPdf** **03 44 29.1 +1.4**
ITQB Itaqui 144.89 61 *eP* PKPbc 03 44 26.8 -0.2
PLCA Paso Flores 144.96 88 PKP PKPbc 03 44 26.7 -0.3
comp=Z,1μm,0.9s,baz=300,slow=3.9,SNR=246
PLCA SKPbc **SKiKP** **03 47 52.2 +1.3**
comp=Z,189nm,1.1s,baz=283,slow=5.4,SNR=3.8
PLCA PKKP **PKKPdf** **03 53 32.9 +0.2**
comp=Z,13nm,1.0s,baz=61,slow=3.0,SNR=4.0
PLCA Paso Flores 144.96 88 *eP* **PKPab** **03 44 27.1 0.0**
ITAB Concordia 145.09 52 *eP* **PKPbc** **03 44 27.7 0.0**
ITAB Concordia 145.09 52 **PKPbc** **03 44 26.9 -0.8**
TER01 Tubaro-SC 147.57 50 *eP* **PKPdf** **03 44 32.2 +0.2**
PLTB Pedras Altas 148.11 59 PKPbc **PKPbc** **03 44 36.6 +0.3**
SYO Syowa Base 148.80 218 ⇓*iP*KPdf **PKPab** **03 44 33.0 +0.3**
SYO Syowa Base 148.80 218 ⇓*iP*KPbc **PKPbc** **03 44 37.0 +0.2**
SYO Syowa Base 148.80 218 ⇓*iP*KiKP **PKPab** **03 44 40.0 -1.3**
SYO Syowa Base 148.80 218 ⇓*iP*KPab **PKPab** **03 44 44.0 +2.7**
USHA Ushuaia 153.05 111 PKPbc **PKPbc** **03 44 46.7 -0.4**
comp=Z,225nm,0.8s,baz=316,slow=3.0,SNR=36
SMAI San Martin Ant 154.53 142 PKPbc **PKPdf** **03 44 43.8 +2.5**
PMSA Palmer Station 156.26 134 PKP **PKPdf** **03 44 44.5 +0.7**
comp=Z,37nm,0.9s,baz=124,slow=3.6,SNR=1.3
EFI East Falkland 157.94 99 PKIKP **PKPdf** **03 44 45.7 -0.6**
EFI East Falkland 157.94 99 **PKPdf** **03 44 45.7 -0

SMIR	**Smir Dam**	**1.34 277**	P	**Pn**	**03 30 01.1**	**-2.1**
EMAL	**Malaga-Limoner**	**1.35 336**	P	**Pn**	**03 30 03.0**	**-0.2**
EMAL			S	**Sn**	**03 30 20.8**	**+0.4**
CHEFC	**Chefchaouen**	**1.37 252**	P	**Pn**	**03 30 03.5**	**-0.1**
CHEFC			S	**Sb**	**03 30 24.4**	**+2.5**
CEU	**Ceuta**	**1.38 286**	P	Pn	03 30 00.0	-3.6
CEU			S	**Sn**	**03 30 15.6**	**-5.5**
JBK	**JBK**	**1.54 141**	P	**Pn**	**03 30 05.0**	**-1.1**
JBK			S	**Sb**	**03 30 33.2**	**+6.5**
RSA	**Sarsar**	**1.82 250**	P	**Pn**	**03 30 10.9**	**+1.1**
SICH	**Sidi Chahed**	**1.93 223**	P	Pb	03 30 20.0	+5.8
LCRM	**LCR**	**2.06 207**	P	**Pn**	**03 30 13.0**	**-0.2**
LCRM			S	**Sb**	**03 30 49.2**	**+7.5**
IFR	**Ifrane**	**2.31 210**	P	**Pn**	**03 30 16.1**	**-0.5**
IFR			S	**Sn**	**03 30 42.3**	**-2.3**
MD31	**MD31**	**2.79 198**	P	**Pn**	**03 30 23.6**	**+0.5**
MDT	**Midelt**	**2.81 195**	Pn	**Pn**	**03 30 24.1**	**+0.7**
	2.0nm,0.3s,baz=18,slow=9.6,SNR=47					
MDT			Sn	**Sn**	**03 30 55.8**	**-0.8**
	11nm,0.3s,baz=123,slow=11,SNR=7.0					
MDT	**Midelt**	**2.81 195**	P	**Pn**	**03 30 23.7**	**+0.3**
TDRA	**Tendrara**	**2.86 150**	P	**Pn**	**03 30 25.9**	**+1.6**
CART	**Cartagena**	**3.01 46**	P	**Pn**	**03 30 26.6**	**+0.5**
CART			S	**Sn**	**03 30 59.3**	**-2.3**
CART	**Cartagena**	**3.01 46**	P	**Pn**	**03 30 26.0**	**-0.1**
CART			S	**Sn**	**03 30 59.5**	**-2.0**
PVAQ	**Vaqueiros**	**3.71 301**	*e*Pn	**Pn**	**03 30 35.8**	**+0.1**
PVAQ			*e*Sn	**Sn**	**03 31 16.9**	**-1.8**
PVAQ			A	A	03 31 19.2	
	97nm,0.5s					
PVAQ	**Vaqueiros**	**3.71 301**	P	**Pn**	**03 30 35.9**	**+0.2**
PVAQ			S	**Sn**	**03 31 18.6**	**-0.1**
PBAR	**Barrancos**	**3.73 316**	*e*Sn	**Sn**	**03 31 19.4**	**+0.1**
PBAR			A	A	03 31 26.6	
	34nm,0.5s					
AVE	**Averroes**	**3.76 235**	P	Pn	03 30 29.7	-6.8
AVE			S	**Sn**	**03 31 20.1**	**0.0**
AVE	**Averroes**	**3.76 235**	P	**Pn**	**03 30 35.4**	**-1.1**
PBDV	**Barranco-do-Ve**	**3.79 298**	⇑*e*Pn	**Pn**	**03 30 37.0**	**+0.2**
PBDV			*e*Sn	**Sn**	**03 31 19.0**	**-1.6**
PBDV			A	A	03 31 22.4	
	33nm,0.3s					
GOLM	**Goulmima**	**3.95 195**	P	**Pn**	**03 30 42.0**	**+2.9**
FIGM	**Figuig**	**3.97 148**	P	**Pn**	**03 30 39.6**	**+0.2**
PAB	**San Pablo**	**4.04 353**	P	**Pn**	**03 30 42.6**	**+2.3**
PCVE	**Castro Verde**	**4.04 302**	*e*Pn	**Pn**	**03 30 40.5**	**+0.2**
PCVE			*e*Sn	**Sn**	**03 31 25.2**	**-1.7**
PCVE			A	A	03 31 30.8	
	40nm,0.6s					
ESDC	**Sonseca Array**	**4.14 358**	Pn	**Pn**	**03 30 43.9**	**+2.2**
	2.2nm,0.3s,baz=181,slow=12,SNR=148					
ESDC			Sn	**Sn**	**03 31 29.6**	**+0.3**
	1.1nm,0.3s,baz=171,slow=22,SNR=4.8					
ESDC			Lg	Lg	03 31 46.9	
	2.4nm,0.3s,baz=183,slow=28,SNR=5.7					
PBEJ	**Beja**	**4.14 308**	*e*Pn	**Pn**	**03 30 42.3**	**+0.7**
PBEJ			*e*Sn	**Sn**	**03 31 27.3**	**-2.1**
PBEJ			A	A	03 31 32.4	
	17nm,0.9s					
MESJ	**Messejana**	**4.27 304**	*e*P	**Pn**	**03 30 43.6**	**+0.1**
MESJ			*e*S	**Sn**	**03 31 30.0**	**-2.6**
MESJ			IAML		03 31 33.1	
	comp=N,46nm,0.4s					
MESJ	**Messejana**	**4.27 304**	*e*Pn	**Pn**	**03 30 43.7**	**+0.3**
MESJ			*e*Sn	**Sn**	**03 31 31.2**	**-1.4**
MESJ			A	A	03 31 36.4	
	comp=N,27nm,0.4s					
MORF	**Marmelete**	**4.33 296**	*e*P	**Pn**	**03 30 44.4**	**+0.1**
MORF			*e*S	**Sn**	**03 31 31.5**	**-2.7**
MORF			IAML		03 31 34.7	
	comp=N,38nm,0.3s					
MORF	**Marmelete**	**4.33 296**	*e*Pn	**Pn**	**03 30 44.7**	**+0.3**
MORF			*e*Sn	**Sn**	**03 31 32.4**	**-1.8**
MORF			A	A	03 31 38.3	
	comp=N,21nm,0.3s					
PFVI	**Vila Bisbo**	**4.40 293**	*e*Pn	**Pn**	**03 30 46.5**	**+1.2**
PFVI			*e*Sn	**Sn**	**03 31 33.7**	**-2.1**
PFVI			A	A	03 31 46.2	
	comp=N,24nm,0.6s					
PFVI	**Vila Bisbo**	**4.40 293**	P	**Pn**	**03 30 45.3**	**0.0**
PTEO	**Sao Teotonio**	**4.49 298**	*e*Pn	**Pn**	**03 30 46.7**	**+0.3**
PTEO			*e*Sn	**Sn**	**03 31 36.4**	**-1.4**
PTEO			A	A	03 31 43.4	
	comp=N,25nm,0.3s					
PESTR	**Estremoz**	**4.53 318**	*e*Pn	**Pn**	**03 30 48.1**	**+1.2**
PESTR			*e*Sn	**Sn**	**03 31 38.3**	**-0.6**
PESTR			A	A	03 31 44.9	
	comp=N,14nm,0.4s					
PESTR	**Estremoz**	**4.53 318**	P	**Pn**	**03 30 48.2**	**+1.2**
EVO	**Evora**	**4.54 312**	P	**Pn**	**03 30 47.9**	**+0.8**
EVO			S	**Sn**	**03 31 37.2**	**-2.0**
EVO	**Evora**	**4.54 312**	*e*Pn	**Pn**	**03 30 47.9**	**+0.8**
EVO			*e*Sn	**Sn**	**03 31 37.8**	**-1.5**
EVO			A	A	03 31 41.7	
	comp=N,32nm,0.5s					
PNCL	**Nicolau / Gran**	**4.62 305**	*e*Pn	**Pn**	**03 30 48.6**	**+0.4**
PNCL			*e*Sn	**Sn**	**03 31 39.6**	**-1.6**
PNCL			A	A	03 31 42.5	
	comp=N,20nm,0.2s					
UCM	**Universidad Co**	**4.78 5**	P	**Pn**	**03 30 53.6**	**+3.1**
UCM			S	**Sn**	**03 31 49.2**	**+4.0**
PMRV	**Marv??o**	**4.85 324**	*e*Pn	**Pn**	**03 30 52.7**	**+1.3**
PMRV			*e*Sn	**Sn**	**03 31 46.3**	**-0.6**
PMRV			A	A	03 32 07.3	
	comp=N,17nm,0.4s					
TZRR	**Tazzarine**	**4.98 198**	P	**Pn**	**03 30 54.3**	**+1.0**
PMTG	**Montargil**	**5.02 316**	*e*Pn	**Pn**	**03 30 54.9**	**+1.2**
PMTG			*e*Sn	**Sn**	**03 31 50.1**	**-1.0**
PMTG			A	A	03 31 52.1	
	comp=N,25nm,0.6s					
PCBR	**Castelo Branco**	**5.22 327**	*e*Pn	**Pn**	**03 30 57.9**	**+1.4**
PCBR			*e*Sn	**Sn**	**03 31 55.6**	**-0.4**
PCBR			A	A	03 32 12.2	
	comp=N,14nm,0.5s					
LIS	**Lisbon**	**5.36 308**	*e*Pn	**Pn**	**03 31 00.0**	**+1.6**
PMST	**Lisbon--Monsan**	**5.39 308**	*e*Pn	**Pn**	**03 31 00.1**	**+1.2**
PMST			*e*Sn	**Sn**	**03 31 58.9**	**-1.4**
PMST			A	A	03 32 07.5	
	comp=N,24nm,0.8s					
OUK	**Oukaimeden**	**5.52 220**	P	**Pn**	**03 31 00.3**	**-0.6**
PMAFR	**Mafra**	**5.58 309**	*e*Pn	**Pn**	**03 31 02.5**	**+1.0**
PMAFR			*e*Sn	**Sn**	**03 32 03.3**	**-1.7**
PMAFR			A	A	03 32 05.0	
	comp=N,27nm,0.4s					
PSBE	**So Bento**	**5.65 316**	*e*Pn	**Pn**	**03 31 03.8**	**+1.4**
PSBE			*e*Sn	**Sn**	**03 32 05.1**	**-1.5**
PSBE			A	A	03 32 22.1	
	comp=N,15nm,0.4s					
MTE	**Manteigas**	**5.71 329**	*e*Pn	**Pn**	**03 31 04.9**	**+1.6**
MTE			*e*Sn	**Sn**	**03 32 07.9**	**-0.3**
MTE			A	A	03 32 17.1	
	comp=N,21nm,0.6s					
PCAS	**Casmilo, Conde**	**5.88 322**	*e*Pn	**Pn**	**03 31 06.8**	**+1.3**
PCAS			*e*Sn	**Sn**	**03 32 10.8**	**-1.3**
PCAS			A	A	03 32 16.0	
	comp=N,16nm,0.5s					
COI	**Coimbra**	**5.95 323**	*e*Pn	**Pn**	**03 31 08.0**	**+1.5**
COI			*e*Sn	**Sn**	**03 32 12.1**	**-1.9**
COI			A	A	03 32 21.8	
	comp=N,23nm,0.5s					
PVIS	**Viseu**	**6.12 329**	*e*Pn	**Pn**	**03 31 10.5**	**+1.6**
PVIS			*e*Sn	**Sn**	**03 32 17.6**	**-0.7**
PVIS			A	A	03 32 30.5	
	comp=N,9.6nm,0.6s					
MVO	**Moncorvo**	**6.19 336**	*e*Pn	**Pn**	**03 31 11.8**	**+2.0**
MVO			*e*Sn	**Sn**	**03 32 19.8**	**-0.1**
MVO			A	A	03 32 27.2	
	comp=N,17nm,0.4s					
TTIG	**Tnine Tigouga,**	**6.35 220**	P	**Pn**	**03 31 10.2**	**-1.9**
PVRL	**Vila Real**	**6.53 333**	*e*Pn	**Pn**	**03 31 16.0**	**+1.5**
PVRL			*e*Sn	**Sn**	**03 32 27.0**	**-1.2**
PVRL			A	A	03 32 31.1	
	comp=N,21nm,0.6s					
POLO	**Lamas de Olo**	**6.64 333**	⇑*e*Pn	**Pn**	**03 31 17.8**	**+1.7**
POLO			*e*Sn	**Sn**	**03 32 29.8**	**-1.3**
POLO			A	A	03 32 38.6	
	comp=N,5.1nm,0.5s					
PBRG	**Braganca**	**6.69 340**	*e*Pn	**Pn**	**03 31 18.6**	**+1.9**
PBRG			*e*Sn	**Sn**	**03 32 32.8**	**+0.6**
PBRG			A	A	03 32 39.8	
	comp=N,6.8nm,0.6s					
PTO	**Porto**	**6.77 327**	*e*Pn	**Pn**	**03 31 19.0**	**+1.2**
PTO			*e*Sn	**Sn**	**03 32 32.1**	**-2.1**
PTO			A	A	03 32 37.7	
	comp=N,10nm,0.5s					
PCAB	**Cabril**	**7.02 333**	*e*Pn	**Pn**	**03 31 22.8**	**+1.6**
PCAB			*e*Sn	**Sn**	**03 32 38.4**	**-1.9**
PCAB			A	A	03 32 54.1	
	comp=N,8.7nm,0.6s					
PGAV	**Gavieira, Arco**	**7.33 333**	*e*Pn	**Pn**	**03 31 27.4**	**+1.9**
PGAV			*e*Sn	**Sn**	**03 32 45.5**	**-2.6**
PGAV			A	A	03 32 55.2	
	comp=N,8.6nm,0.6s					
ETSF	**Etsaut**	**7.76 18**	*e*P	**Pn**	**03 31 34.5**	**+3.1**
ETSF			*e*Sn	**Sn**	**03 32 54.2**	**-4.4**
	comp=N,0.7nm,0.4s					
SJPF	**Ste Jean**	**7.82 14**	*e*P	**Pn**	**03 31 36.1**	**+4.0**
SJPF			*e*Sn	**Sn**	**03 32 54.9**	**-5.0**
	comp=N,1.1nm,0.3s					
EPF	**Esparros**	**8.13 22**	*e*Pn	**Pn**	**03 31 35.1**	**-1.3**
EPF	**Esparros**	**8.13 22**	*e*P	**Pn**	**03 31 40.4**	**+4.0**
EPF			*e*Sn	**Sn**	**03 33 03.9**	**-3.7**
	comp=N,1.3nm,0.3s					
MTLF	**Montolieu**	**9.06 29**	*e*P	Pn	03 31 53.9	+4.8
LASF	**Ste Croix**	**10.34 32**	*e*P	Pn	03 32 11.4	+4.7
CAF	**Calviac**	**10.38 24**	*e*P	Pn	03 32 12.0	+4.8
RJF	**Les Rejaudoux**	**10.55 21**	*e*Pn	**Pn**	**03 32 10.7**	**+1.1**
KEST	**Kesra**	**10.66 85**	Pn	**Pn**	**03 32 10.7**	**-0.4**
	comp=N,0.1nm,0.3s,baz=217,slow=18,SNR=2.1					
SMRF	**Simiane la Rot**	**11.06 38**	*e*P	**Pn**	**03 32 20.0**	**+3.4**
LMR	**La Mourre**	**11.11 42**	*e*P	Pn	03 32 21.9	+4.7
LMR			*e*Sn	**Sn**	**03 34 14.5**	**-6.2**
	comp=N,0.2nm,0.2s					
SBF	**Sospel**	**11.96 43**	*e*Pn	**Pn**	**03 32 28.8**	**-0.2**
PGF	**Pioggiola**	**12.13 51**	*e*P	**Pn**	**03 32 34.7**	**+3.5**
PGF			*e*Sn	Sn	03 34 37.3	-8.5
	comp=N,1.0nm,0.5s					
SGMF	**Saint Gilles**	**12.74 4**	*e*P	Pn	03 32 45.0	+5.5
ROSF	**Rostrenen**	**12.80 1**	*e*P	Pn	03 32 45.1	+4.8
GRR	**Gorron**	**13.02 9**	*e*P	Pn	03 32 48.1	+4.8
GERES	**GERESS Array B**	**18.49 39**	P	**P**	**03 33 53.7**	**-0.6**
	comp=N,0.1nm,0.3s,baz=242,slow=12,SNR=1.8					
TORD	**Torodi Ar. Bea**	**22.82 166**	P	**P**	**03 34 39.4**	**-1.8**
	comp=N,1.0nm,0.9s,baz=350,slow=10,SNR=2.2					

*SOME **30** 03:29:57.4, 38.78N×73.28E, h10km*
*NNC **30** 03:30:07.4±2.4, 39.21N×73.36E, h0km, mb4.6, mpv4.2,*
Error ellipse: s-maj=18.8km s-min=11.0km az=176.0

ISC 30 03:29:57.0±1.9, 38.74N±0.09×73.42E±0.04, h10km, n33, σ2.99/44, 7C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.13**	**68**	Pg	**Pn**	**03 30 30.3**	**-2.5**
KSH				Sg	**Sn**	**03 30 55.5**	**-3.9**
KSH				pmax	pmax		
	comp=Z,140nm,0.9s						
KSH				smax	smax		
	comp=N,960nm,0.8s						
KSH				smax	smax		
	comp=E,770nm,0.7s						
KSH				LR	LR		
	comp=N,2μm,4.2s						
KSH				LR	LR		
	comp=E,2μm,4.8s						
KSH				LR	LR		
	comp=Z,1μm,6.1s						
AML	**Almayashu**	**3.40**	**3**	P	**Pb**	**03 30 55.6**	**-1.9**
	SNR=57						
UCH	**Uchtor**	**3.58**	**13**	P	**Pb**	**03 30 57.6**	**-3.2**
	SNR=18						
EKS2	**Erkin-Say**	**3.93**	**4**	P	**Pb**	**03 31 03.7**	**-2.8**
	SNR=24						
AAK	**Ala-Archa**	**3.98**	**11**	P	**Pb**	**03 31 04.4**	**-2.9**
	SNR=54						
AAK	**Ala-Archa**	**3.98**	**11**	⇓Pn	**Pn**	**03 31 02.8**	**+4.6**
	comp=Z,75nm,0.8s						
AAK				⇑Lg	Lg	03 31 54.4	
	comp=Z,95nm,0.8s						
MRKS	**Merke**	**4.00**	**358**	*e*P	**Pb**	**03 31 07.4**	**-0.4**
	comp=Z,20nm,0.5s						
MRKS				*e*S	**Sb**	**03 31 57.6**	**+1.4**
	comp=Z,58nm,0.9s						
MRKS	**Merke**	**4.00**	**358**	Pg	**Pg**	**03 31 11.9**	**-1.8**
	comp=Z,38nm,0.4s						
MRKS				Lg	Lg	03 31 57.7	
	comp=Z,58nm,0.9s						
KBK	**Karagaybulak**	**4.08**	**16**	P	**Pb**	**03 31 07.0**	**-2.1**
	SNR=8.1						
IUG	**Iuzhnay**	**4.28**	**324**	*e*P	**Pg**	**03 31 16.2**	**-2.8**
	comp=Z,2μm,0.8s						
IUG				*e*S	**Sg**	**03 32 13.4**	**-0.9**
	comp=Z,328nm,1.0s						
IUG	**Iuzhnay**	**4.28**	**324**	Pg	**Pg**	**03 31 17.9**	**-1.1**
	comp=Z,3μm,0.8s						
IUG				Lg	Lg	03 32 08.1	
	comp=Z,145nm,0.7s						
CHMS	**Chumysh**	**4.37**	**13**	P	**Pb**	**03 31 09.8**	**-4.2**
	SNR=16						
TKM2	**Tokmak 2**	**4.49**	**21**	⇑Pn	Pb	03 31 11.6	-4.6
	comp=Z,12nm,0.9s						
TKM2				⇑Pg	**Pg**	**03 31 22.1**	**-1.0**
	comp=Z,41nm,1.1s						
TKM2				⇓Lg	Lg	03 32 19.2	
	comp=Z,141nm,1.5s						
USP	**Ospenovka**	**4.60**	**10**	P	Pb	03 31 12.7	-5.2
	SNR=12						
KST	**Kastek**	**4.71**	**23**	*e*P	**Pb**	**03 31 23.6**	**+3.7**
	comp=Z,32nm,0.9s						
KST				*e*S	**Sg**	**03 32 25.2**	**-3.1**
	comp=Z,46nm,0.9s						
SGDS	**Sogindy**	**4.80**	**11**	*e*P	**Pg**	**03 31 25.1**	**-3.8**
	comp=Z,14nm,0.8s						
SGDS				*e*S	**Sg**	**03 32 27.7**	**-3.3**
	comp=Z,38nm,0.8s						
KK02	**Karatay Array**	**4.89**	**334**	⇑Pn	**Pn**	**03 31 13.1**	**+2.5**
	comp=Z,17nm,0.6s,baz=143,slow=13						
KK02				⇑Sn	**Sn**	**03 32 11.4**	**+4.2**
	baz=148,slow=23						
MTBS	**Maitube**	**4.94**	**26**	*e*P	**Pb**	**03 31 27.8**	**+4.0**
	comp=Z,19nm,0.9s						
MTBS				*e*S	**Sg**	**03 32 32.6**	**-3.1**
	comp=Z,36nm,0.7s						
MTBS	**Maitube**	**4.94**	**26**	Pg	**Pg**	**03 31 32.9**	**+1.2**
	comp=Z,27nm,0.6s						
MTBS				Lg	Lg	03 32 34.1	
	comp=Z,36nm,0.7s						
TNSS	**Tian-Shan**	**5.06**	**31**	*e*P	**Pb**	**03 31 30.1**	**+4.2**
	comp=Z,15nm,0.5s						
TNSS				*e*S	**Sg**	**03 32 36.5**	**-2.9**
	comp=Z,15nm,0.8s						
TNSS	**Tian-Shan**	**5.06**	**31**	Pg	**Pg**	**03 31 34.2**	**+0.2**
	comp=Z,16nm,0.4s						
TNSS				Lg	Lg	03 32 36.6	
	comp=Z,15nm,0.8s						
BRLS	**Borolday**	**5.08**	**329**	*e*P	**Pb**	**03 31 25.2**	**-0.7**
	comp=Z,7.5nm,0.7s						
BRLS				*e*S	**Sb**	**03 32 28.2**	**+1.3**
	comp=Z,27nm,0.7s						
BRLS	**Borolday**	**5.08**	**329**	Pg	**Pg**	**03 31 31.3**	**-3.0**
	comp=Z,24nm,0.4s						
BRLS				Lg	Lg	03 32 31.7	
	comp=Z,27nm,0.7s						
MDOK	**Medeo**	**5.20**	**31**	*e*P	Pb	03 31 33.1	+4.9
	comp=Z,12nm,0.6s						
MDOK				*e*S	**Sg**	**03 32 42.5**	**-1.6**
	comp=Z,26nm,1.0s						
MDOK	**Medeo**	**5.20**	**31**	Pg	**Pg**	**03 31 37.9**	**+1.2**
	comp=Z,19nm,0.7s						
MDOK				Lg	Lg	03 32 42.5	
	comp=Z,26nm,1.0s						
KRBS	**Karabastau**	**5.24**	**18**	*e*P	**Pb**	**03 31 32.0**	**+3.3**
	comp=Z,9.3nm,0.7s						
KRBS				*e*S	**Sg**	**03 32 40.6**	**-4.5**
	comp=Z,35nm,0.7s						
KRBS	**Karabastau**	**5.24**	**18**	Pg	**Pg**	**03 31 34.6**	**-2.7**
	comp=Z,15nm,0.5s						
KRBS				Lg	Lg	03 32 36.9	
	comp=Z,35nm,0.7s						
KTBS	**Karatobe**	**5.54**	**25**	*e*P	Pb	03 31 38.8	+4.9
	comp=Z,14nm,0.5s						
KTBS				*e*S	**Sg**	**03 32 51.6**	**-3.4**
	comp=Z,29nm,0.7s						
KTBS	**Karatobe**	**5.54**	**25**	Pg	**Pg**	**03 31 41.0**	**-2.2**
	comp=Z,14nm,0.5s						
KTBS				Lg	Lg	03 32 47.7	
	comp=Z,29nm,0.7s						
KUU	**Kurty**	**5.60**	**22**	*e*P	**Pb**	**03 31 39.2**	**+4.3**
	comp=Z,10nm,0.8s						
KUU				*e*S	**Sg**	**03 32 52.9**	**-3.8**
	comp=Z,35nm,1.0s						
KUU	**Kurty**	**5.60**	**22**	Pg	**Pg**	**03 31 44.0**	**-0.2**
	comp=Z,7.7nm,0.6s						
KUU				Lg	Lg	03 32 52.9	
	comp=Z,35nm,1.0s						
ARXS	**Arharly**	**6.39**	**30**	Pg	**Pg**	**03 31 58.8**	**-0.7**
	comp=Z,15nm,0.8s						
ARXS				Lg	Lg	03 33 19.2	
	comp=Z,23nm,0.7s						
PDGK	**Podgornoye**	**6.49**	**43**	⇓Pn	**Pn**	**03 31 37.3**	**+4.6**
	comp=Z,4.3nm,0.8s						
PDGK				⇑Pg	**Pg**	**03 31 59.0**	**-2.2**
	comp=Z,18nm,0.9s						
PDGK				⇑Lg	Lg	03 33 21.2	
	comp=Z,46nm,1.0s						

PGC 30 03:30:20.8±11.0, 50.74N×130.56W, h10km, MLSn4.1/19, Mw4.7/19, Mw4.7/19, 221km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.55**	**93**	Pn	Pn	03 30 46.5	-2.0
HG4B	**Hotspring**	**1.60**	**346**	Pn	Pn	03 30 47.4	-1.9
HG4B				Sn	Sn	03 31 05.3	-4.7
PACB	**Port Alice, BC**	**1.98**	**98**	Pn	Pn	03 30 52.5	-1.8
PACB				Sn	Sn	03 31 14.2	-4.9
BNB	**Barry Inlet**	**1.98**	**338**	Pn	Pn	03 30 52.4	-2.1
BNB				Sn	Sn	03 31 15.1	-4.3
PHC	**Port Hardy**	**1.99**	**90**	Pn	Pn	03 30 50.8	-3.6
PHC				Sn	Sn	03 31 12.9	-6.4
BBB	**Bella Bella**	**2.11**	**46**	Pn	Pn	03 30 54.7	-1.3
BBB				Sn	Sn	03 31 17.8	-4.5
MAYB	**Maynard**	**2.19**	**98**	Pn	Pn	03 30 55.8	-1.6
MAYB				Sn	Sn	03 31 20.8	-3.7
TLCB	**Telegraph Cove**	**2.38**	**93**	Pn	Pn	03 30 58.5	-1.3
TLCB				Sn	Sn	03 31 25.6	-3.4
MOBC	**Moresby Island**	**2.56**	**341**	Pn	Pn	03 31 01.4	-1.0
WOSB	**Woss**	**2.62**	**101**	Pn	Pn	03 31 01.9	-1.2
BNKB	**Banks Island**	**2.63**	**9**	Pn	Pn	03 31 02.1	-1.1
BNKB				Sn	Sn	03 31 32.3	-2.9
BUTB	**Butedale**	**2.66**	**28**	Pn	Pn	03 31 02.7	-1.1
DIB	**Dawson Inlet,**	**2.74**	**335**	Pn	Pn	03 31 03.6	-1.2
NCRB	**Newcastle Ridg**	**2.89**	**95**	Pn	Pn	03 31 05.4	-1.6
HWKB	**Hawksbury Isla**	**2.99**	**16**	Pn	Pn	03 31 07.5	-0.8
HWKB				Sn	Sn	03 31 40.9	-3.3
GDR	**Gold River**	**3.06**	**107**	Pn	Pn	03 31 07.6	-1.6
GRNB	**Grenville Isla**	**3.13**	**7**	Pn	Pn	03 31 09.2	-1.0
SPLB	**Strathcona Par**	**3.26**	**103**	Pn	Pn	03 31 10.5	-1.5
CBB	**Campbell River**	**3.40**	**100**	Pn	Pn	03 31 12.9	-0.9
CBB				Sn	Sn	03 31 50.7	-3.5
BTB	**Buttle Lake**	**3.48**	**109**	Pn	Pn	03 31 14.0	-1.2
KITB	**Kitimat**	**3.54**	**19**	Pn	Pn	03 31 15.2	-0.6
KITB				Sn	Sn	03 31 55.7	-2.0
RUBB	**Prince Rupert**	**3.60**	**3**	Pn	Pn	03 31 15.4	-1.1
TXB	**Texada**	**4.07**	**103**	Pn	Pn	03 31 22.4	-0.7
MGB	**Mount Grey**	**4.18**	**112**	Pn	Pn	03 31 23.2	-1.5
SHB	**Sechelt**	**4.45**	**102**	Pn	Pn	03 31 27.7	-0.7
UBRB	**Upper Baezaeko**	**4.56**	**59**	Pn	Pn	03 31 30.8	+0.9
UBRB				Sn	Sn	03 32 21.2	-1.7
WPB	**Watts Point**	**4.84**	**100**	Pn	Pn	03 31 33.0	-0.7
FSB	**Fort Saint Jam**	**5.33**	**43**	Pn	Pn	03 31 40.6	+0.2
FSB				Sn	Sn	03 32 38.9	-2.9
FSJB	**Fort St James**	**5.33**	**43**	Pn	Pn	03 31 40.8	+0.3
FSJB				Sn	Sn	03 32 37.9	-4.0
HNBB	**Haney**	**5.35**	**103**	Pn	Pn	03 31 41.4	+0.7
LLLB	**Lillooet**	**5.52**	**88**	Pn	Pn	03 31 43.2	+0.2
VDB	**Vedder Mountai**	**5.73**	**104**	Pn	Pn	03 31 44.0	-1.9
CMW	**Cultus Mountai**	**5.96**	**110**	Pn	Pn	03 31 48.9	-0.3
JCW	**Jim Creek**	**6.18**	**111**	Pn	Pn	03 31 53.3	+1.2
RPW	**Rockport**	**6.31**	**108**	Pn	Pn	03 31 55.1	+1.1
GPW	**Glacier Peak**	**6.68**	**109**	Pn	Pn	03 31 58.9	-0.3
FMW	**Mount Fremont**	**6.99**	**120**	Pn	Pn	03 32 04.3	+0.9
LTY	**Liberty**	**7.38**	**114**	Pn	Pn	03 32 10.4	+1.8

JMA 30 03:34:27.0±0.1, 36.46N×140.60E, h55km±1km, M3.9, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.12**	**185**	⇑P	Pn	03 34 35.7	+0.2
JHYU				S	Sn	03 34 41.8	+0.3
JHO	**Hitachi**	**0.15**	**351**	⇑P	Pn	03 34 35.7	0.0
JHO				S	Sn	03 34 41.7	-0.2
JYT	**Yasato**	**0.40**	**235**	⇓P	Pn	03 34 37.8	+0.3
JYT				S	Sn	03 34 45.0	-0.1
ONAJ	**Iwakimizuishiy**	**0.66**	**14**	P	Pn	03 34 40.1	-0.5
ONAJ				S	Sn	03 34 49.7	-0.7
JAG	**Ashikaga**	**0.93**	**268**	⇓P	Pn	03 34 44.2	+0.3
JAG				S	Sn	03 34 56.0	-0.3
JFK	**Kawauchi**	**0.93**	**14**	P	Pn	03 34 43.4	-0.6
JFK				S	Sn	03 34 55.4	-1.1
JFT	**Otama**	**1.08**	**349**	P	Pn	03 34 46.1	+0.2
JFT				S	Sn	03 34 59.9	0.0
JKT	**Katashina**	**1.13**	**286**	P	Pn	03 34 47.1	+0.4
JKT				S	Sn	03 35 02.1	+0.8
JFY	**Yanaizu**	**1.19**	**323**	⇓P	Pn	03 34 47.9	+0.5
MAT	**Matsushiro**	**1.93**	**273**	P	Pn	03 34

MTVR	Mutnovka	1.40	202	PN		Pn	03 40 39.0	+1.2
MTVR	Mutnovka	1.40	202	eP		Pn	03 40 39.0	+1.2
APC	Apacha	1.42	233	PN		Pn	03 40 38.4	+0.7
APC	Apacha	1.42	233	eP		Pn	03 40 38.4	+0.7
APC				eS		Sn	03 41 02.6	+0.7
TUMD	Tumrok D	1.63	29	eP		Pn	03 40 39.6	-0.1
TUMR	Tumrok	1.63	23	PN		Pn	03 40 39.6	-0.3
TUMR	Tumrok	1.63	23	eP		Pn	03 40 40.3	+0.4
KDTR	Khodutka, Kamc	2.06	197	PN		Pn	03 40 44.0	-0.3
KDTR				S		Sn	03 41 12.0	-1.6
KDTR	Khodutka, Kamc	2.06	197	eP		Pn	03 40 44.0	-0.3
KDTR				eS		Sn	03 41 12.0	-1.6
KMNR	Kamenistaya	2.09	19	PN		Pn	03 40 44.9	+0.3
KMNR	Kamenistaya	2.09	19	eP		Pn	03 40 45.0	+0.3
ESO	Esso	2.15	355	PN		Pn	03 40 47.4	+2.2
KPT	Kopyto	2.29	17	PN		Pn	03 40 46.6	-0.2
KPT	Kopyto	2.29	17	eP		Pn	03 40 46.6	-0.2
KIRR	Kirishev	2.30	19	PN		Pn	03 40 46.5	-0.5
BZWR	Bezymyannyi-We	2.34	21	PN		Pn	03 40 47.7	+0.2
ZLN	Zelenaya	2.46	24	PN		Pn	03 40 50.5	+1.8
KLY	Klyuchi	2.70	19	PN		Pn	03 40 52.3	+0.8
KLY	Klyuchi	2.70	19	eP		Pn	03 40 52.2	+0.8
SRKR	Sorokina	3.12	22	PN		Pn	03 40 56.8	+0.2
KBTR	Krutoberegovo	3.26	40	PN		Pn	03 40 57.4	-0.8
KBTR	Krutoberegovo	3.26	40	eP		Pn	03 40 57.4	-0.8
KBTR				eS		Sn	03 41 36.9	-1.8
BKI	Bering	4.29	68	eS		Sn	03 41 57.3	-4.5
TIXI	Tiksi	22.19	335	P		P	03 44 46.2	-1.3
	comp=N,6.0nm,0.4s,baz=118,slow=10,SNR=1.8							
ILAR	Eielson Array	28.78	46	P		P	03 45 47.9	+1.0
	comp=N,2.1nm,1.1s,baz=270,slow=8.9,SNR=1.1							
SONM	Songino Array	33.13	282	P		P	03 46 24.1	-1.3
	comp=N,4.1nm,1.1s,baz=66,slow=8.3,SNR=1.6							
INK	Inuvik	33.71	38	P		P	03 46 31.2	+1.3
	comp=N,4.8nm,0.8s,baz=265,slow=11,SNR=18							
YKA	Yellowknife Ar	43.08	43	P		P	03 47 49.1	+1.1
	comp=N,1.3nm,0.7s,baz=301,slow=7.4,SNR=0.9							
SPITS	Spitsbergen Ar	46.34	350	P		P	03 48 13.1	-0.6
	comp=N,2.8nm,0.4s,baz=48,slow=9.1,SNR=25							
MKAR	Makanchi Array	47.29	294	P		P	03 48 19.9	-1.5
	comp=N,1.2nm,0.5s,baz=51,slow=7.2,SNR=1.0							
ARCES	ARCESS Array B	52.43	341	P		P	03 48 58.0	-1.8
	comp=N,3.9nm,0.8s,baz=42,slow=3.6,SNR=5.7							
ARCES	ARCESS Array B	52.43	341	P		P	03 48 58.0	-1.8
PDAR	Pinedale Array	57.73	61	P		P	03 49 40.6	+2.3
	comp=N,0.5nm,0.5s,baz=351,slow=2.9,SNR=1.1							
FINES	FINESS Array B	59.23	336	P		P	03 49 47.4	-0.7
	comp=N,2.5nm,0.5s,baz=30,slow=7.1,SNR=10							
NOA	NORSAR Array B	62.70	343	P		P	03 50 10.9	-0.6
	comp=N,1.0nm,0.6s,baz=17,slow=5.7,SNR=4.1							
AKASG	Malin Array Be	67.69	328	P		P	03 50 42.2	-1.5
	comp=N,0.5nm,0.3s,baz=30,slow=6.7,SNR=4.0							
TXAR	Lajitas Array	70.94	66	P		P	03 51 05.8	+1.7
	comp=N,0.3nm,0.4s,baz=295,slow=5.5,SNR=1.0							
WRA	Warramunga Arr	76.45	204	P		P	03 51 37.2	+1.2
	comp=N,1.6nm,0.9s,baz=24,slow=6.2,SNR=1.9							
ASAR	Alice Springs	80.14	203	P		P	03 51 57.6	+1.4
	comp=N,1.3nm,0.7s,baz=16,slow=3.9,SNR=1.9							
ESDC	Sonseca Array	85.76	347	P		P	03 52 25.1	0.0
	comp=N,1.0nm,0.8s,baz=5.0,slow=4.8,SNR=4.1							

*KRSC **30** 03:42:21.1±1.0, 53.°76N×159.°08E, h184km±9km, ML5.1*
*MOS **30** 03:42:22.2±0.9, 53.°86N×158.°73E, h180km, mb4.8/19, Error ellipse: s-maj=10.4km s-min=3.9km az=78.3*
*NEIC **30** 03:42:22.9±1.4, 53.°95N±0.°06×158.°7E±0.°1, h168km±5km, mb4.9/100, Error ellipse: s-maj=12.7km s-min=7.6km az=122.0*
*IDC **30** 03:42:23.2±0.8, 53.°97N×158.°60E, h171km±8km, mb4.2/33, mb1 4.3/37, mb1mx4.2/56, mbtmp4.7/37, Error ellipse: s-maj=10.3km s-min=7.1km az=147.0*

ISC 30 03:42:23.5±0.5, 53.°80N±0.°03×158.°91E±0.°04, h178km±4km, n461, σ1$26/506, mb4.9/89, 3C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.40	53		Pn	03 42 47.0	-0.8
KII	Karymskiy	0.40	53	eP	Pn	03 42 47.0	-0.8
KRER	Koryakskii	0.51	191	PN	Pn	03 42 48.3	-0.1
KRER				S	Sn	03 43 07.5	0.0
KRER	Koryakskii	0.51	191	i P	Pn	03 42 48.3	-0.1
KRER				eS	Sn	03 43 07.5	0.0
SDLR	Sedlovina	0.53	182	eS	Sn	03 43 06.8	-0.6
KOK	Koryaka	0.54	198	PN	Pn	03 42 48.4	0.0
KOK				S	Sn	03 43 07.4	-0.1
KOK	Koryaka	0.54	198	i P	Pn	03 42 48.4	0.0
KOK				eS	Sn	03 43 07.4	-0.1
SMAR	Somma	0.54	187	PN	Pn	03 42 48.5	-0.1
SMAR				S	Sn	03 43 07.5	-0.3
SMAR	Somma	0.54	187	eP	Pn	03 42 48.5	-0.1
SMAR				eS	Sn	03 43 07.5	-0.3
AVH	Avacha	0.55	191	PN	Pn	03 42 48.4	0.0
AVH				S	Sn	03 43 07.6	+0.1
AVH	Avacha	0.55	191	i P	Pn	03 42 48.4	0.0
AVH				eS	Sn	03 43 07.6	+0.1
GNL	Ganaly	0.58	260	PN	Pn	03 42 47.9	-0.7
GNL				S	Sn	03 43 06.8	-1.1
GNL	Ganaly	0.58	260	eP	Pn	03 42 47.9	-0.7
GNL				eS	Sn	03 43 06.8	-1.1
UGLR	Uglovaya	0.60	185	PN	Pn	03 42 48.7	0.0
UGLR				S	Sn	03 43 07.7	-0.3
UGLR	Uglovaya	0.60	185	i P	Pn	03 42 48.7	0.0
UGLR				eS	Sn	03 43 07.7	-0.3
NLC	Nalytchevo	0.68	157	PN	Pn	03 42 48.2	-0.7
NLC				S	Sn	03 43 07.2	-1.3
NLC	Nalytchevo	0.68	157	eP	Pn	03 42 48.2	-0.7
NLC				eS	Sn	03 43 07.2	-1.3
DALK	Dalny	0.78	187	PN	Pn	03 42 49.0	-0.5
DALK				S	Sn	03 43 08.3	-1.2
DALK	Dalny	0.78	187	eP	Pn	03 42 49.0	-0.5
DALK				eS	Sn	03 43 08.3	-1.2
PET	Petropavlovsk	0.80	191	i PN	Pn	03 42 49.2	-0.4
PET				eS	Sn	03 43 08.9	-0.8
PET				pmax	pmax		
	comp=Z,4μm,0.6s						
PET				smax	smax		
	comp=E,6μm,0.9s						
PET				smax	smax		
	comp=N,10μm,0.7s						
PET	Petropavlovsk	0.80	191	Pn	Pn	03 42 49.1	-0.4
PET	Petropavlovsk	0.80	191	P	Pn	03 42 49.5	-0.1
PET	Petropavlovsk	0.80	191	eP	Pn	03 42 49.2	-0.4
PET				eS	Sn	03 43 08.8	-0.9
SPN	Mys Shipunski	0.97	136	PN	Pn	03 42 49.5	-1.3
SPN				S	Sn	03 43 08.9	-2.9
SPN	Mys Shipunski	0.97	136	eP	Pn	03 42 49.5	-1.3
SPN				eS	Sn	03 43 08.9	-2.9
PEA0B	Petropavlovsk-	1.00	227	i PN	Pn	03 42 49.8	-1.3
PEA0B	Petropavlovsk-	1.00	227	Pn	Pn	03 42 50.5	-0.6
PETK	Petropavlovsk-	1.00	227	P	Pn	03 42 49.7	-1.3
	comp=N,140nm,0.3s,baz=67,slow=11,SNR=153						
PETK				S	Sn	03 43 09.3	-2.9
	comp=N,38nm,0.3s,baz=54,slow=37,SNR=4.6						
PETK	Petropavlovsk-	1.00	227		Pn	03 42 49.6	-1.5
KRMR	Karymshinskiy	1.08	206	PN	Pn	03 42 51.3	-0.3
KRMR				S	Sn	03 43 12.8	-0.5
KRMR	Karymshinskiy	1.08	206	eP	Pn	03 42 51.3	-0.3
KRMR				eS	Sn	03 43 12.8	-0.5
GRL	Gorelyy	1.35	202	PN	Pn	03 42 54.3	+0.2
GRL				S	Sn	03 43 17.2	-0.4
GRL	Gorelyy	1.35	202	i P	Pn	03 42 54.3	+0.2
GRL				eS	Sn	03 43 17.2	-0.4
APC	Apacha	1.37	231	PN	Pn	03 42 54.2	+0.2
APC				S	Sn	03 43 18.1	+0.5
APC	Apacha	1.37	231	eP	Pn	03 42 54.2	+0.2
APC				eS	Sn	03 43 18.1	+0.5
MTVR	Mutnovka	1.39	199	PN	Pn	03 42 54.5	0.0
MTVR				S	Sn	03 43 18.1	-0.2
MTVR	Mutnovka	1.39	199	i P	Pn	03 42 54.5	0.0
MTVR				eS	Sn	03 43 18.1	-0.2
RUS	Russkaya	1.39	190	PN	Pn	03 42 53.3	-1.0
RUS				S	Sn	03 43 15.8	-2.2
RUS	Russkaya	1.39	190	i P	Pn	03 42 53.3	-1.0
RUS				eS	Sn	03 43 15.8	-2.2
TUMR	Tumrok	1.65	25	PN	Pn	03 42 56.0	-0.8
TUMR				S	Sn	03 43 21.6	-1.2
TUMR	Tumrok	1.65	25	i P	Pn	03 42 56.7	-0.1
TUMR				eS	Sn	03 43 22.4	-0.4
TUMD	Tumrok D	1.65	31	eP	Pn	03 42 56.0	-0.7
TUMD				eS	Sn	03 43 21.6	-1.0
KDTR	Khodutka, Kamc	2.06	195	PN	Pn	03 42 59.8	-1.2
KDTR				S	Sn	03 43 27.4	-2.7
KDTR	Khodutka, Kamc	2.06	195	eP	Pn	03 42 59.8	-1.2
KDTR				eS	Sn	03 43 27.4	-2.7
KMNR	Kamenistaya	2.10	21	PN	Pn	03 43 01.6	0.0
KMNR				S	Sn	03 43 31.4	+0.1
KMNR	Kamenistaya	2.10	21	i P	Pn	03 43 01.6	0.0
KMNR				eS	Sn	03 43 31.4	+0.1
ESO	Esso	2.13	357	PN	Pn	03 43 04.0	+2.2
ESO				S	Sn	03 43 33.6	+1.9
ESO	Esso	2.13	357	eP	Pn	03 43 04.0	+2.2
ESO				eS	Sn	03 43 33.6	+1.9
KPT	Kopyto	2.30	19	PN	Pn	03 43 03.1	-0.6
KPT				S	Sn	03 43 33.1	-2.1
KPT	Kopyto	2.30	19	eP	Pn	03 43 03.1	-0.6
KPT				eS	Sn	03 43 33.1	-2.1
KIRR	Kirishev	2.31	20	PN	Pn	03 43 03.2	-0.7
KIRR				S	Sn	03 43 34.3	-1.2
KIRR	Kirishev	2.31	20	eP	Pn	03 43 03.2	-0.7
KIRR				eS	Sn	03 43 34.3	-1.2
KOZ	Kozyrevsk	2.33	13	PN	Pn	03 43 03.6	-0.4
KOZ				S	Sn	03 43 35.2	-0.5
KOZ	Kozyrevsk	2.33	13	eP	Pn	03 43 03.6	-0.4
KOZ				eS	Sn	03 43 35.2	-0.5
BZWR	Bezymyannyi-We	2.35	22	PN	Pn	03 43 04.2	-0.3
BZWR				S	Sn	03 43 35.9	-0.5
BZWR	Bezymyannyi-We	2.35	22	eP	Pn	03 43 04.2	-0.3
BZWR				eS	Sn	03 43 35.9	-0.5
BZGR	Bezymyannyi-Gr	2.38	25	PN	Pn	03 43 06.2	+1.5
BZGR	Bezymyannyi-Gr	2.38	25	eP	Pn	03 43 06.2	+1.5
ZLN	Zelenaya	2.47	25	PN	Pn	03 43 05.9	+0.1
ZLN	Zelenaya	2.47	25	eP	Pn	03 43 05.9	+0.1
LGNR	Loginova	2.51	23	PN	Pn	03 43 06.3	0.0
LGNR				S	Sn	03 43 39.7	-0.1
LGNR	Loginova	2.51	23	eP	Pn	03 43 06.3	0.0
LGNR				eS	Sn	03 43 39.7	-0.1
CIRR	Tsirk	2.55	24	PN	Pn	03 43 06.6	-0.1
CIRR	Tsirk	2.55	24	eP	Pn	03 43 06.6	-0.1
KRSR	Krestovskiy	2.60	21	PN	Pn	03 43 06.5	-0.8
KRSR				S	Sn	03 43 39.7	-1.8
KRSR	Krestovskiy	2.60	21	eP	Pn	03 43 06.5	-0.8
KRSR				eS	Sn	03 43 39.7	-1.8
PAU	Pauzhetka	2.67	210	PN	Pn	03 43 08.2	+0.2
PAU	Pauzhetka	2.67	210	eP	Pn	03 43 08.2	+0.2
KLY	Klyuchi	2.71	21	PN	Pn	03 43 08.7	+0.3
KLY				S	Sn	03 43 42.1	-1.4
KLY	Klyuchi	2.71	21	eP	Pn	03 43 08.7	+0.3
KLY				eS	Sn	03 43 42.1	-1.4
BDR	Baidarnaya	3.07	24	PN	Pn	03 43 12.9	0.0
BDR				S	Sn	03 43 50.0	-1.5
BDR	Baidarnaya	3.07	24	eP	Pn	03 43 12.9	0.0
BDR				eS	Sn	03 43 50.0	-1.5
SRKR	Sorokina	3.14	23	PN	Pn	03 43 13.4	-0.3
SRKR	Sorokina	3.14	23	eP	Pn	03 43 13.4	-0.3
SMKR	Semkarok	3.15	27	PN	Pn	03 43 13.8	0.0
SMKR				S	Sn	03 43 52.9	-0.3
SMKR	Semkarok	3.15	27	eP	Pn	03 43 13.8	0.0
SMKR				eS	Sn	03 43 52.9	-0.3
KBG	Krutoberegovo	3.29	40	PN	Pn	03 43 14.1	-1.3
KBG				S	Sn	03 43 53.8	-2.3
KBG	Krutoberegovo	3.29	40	eP	Pn	03 43 14.1	-1.3
KBG				eS	Sn	03 43 53.8	-2.3
KBTR	Krutoberegovo	3.30	41	PN	Pn	03 43 14.0	-1.6
KBTR				S	Sn	03 43 53.6	-2.7
KBTR	Krutoberegovo	3.30	41	eP	Pn	03 43 14.0	-1.6
KBTR				eS	Sn	03 43 53.6	-2.7
SKR	Severo-Kuril's	3.56	210	ePN	Pn	03 43 18.8	-0.2
SKR				eS	Sn	03 44 00.3	-2.0
SKR				pmax	pmax		
	comp=Z,455nm,0.6s						
SKR				smax	smax		
	comp=N,672nm,0.7s						
SKR				smax	smax		
	comp=E,2μm,0.7s						
SKR	Severo-Kuril's	3.56	210	eP	Pn	03 43 18.7	-0.2
BKI	Bering	4.35	68	PN	Pn	03 43 27.3	-1.5
BKI	Bering	4.35	68	eP	Pn	03 43 27.3	-1.5
BKI				eS	Sn	03 44 14.0	-6.1
PALN	Palana	5.33	6	PN	Pn	03 43 40.5	-1.0
PALN	Palana	5.33	6	eP	Pn	03 43 40.5	-1.0
OSSR	Ossora	5.92	21	PN	Pn	03 43 48.5	-0.7
OSSR	Ossora	5.92	21	eP	Pn	03 43 48.5	-0.7
MA2	Magadan	7.32	326	PN	Pn	03 44 05.2	-2.4
MA2	Magadan	7.32	326	Pn	Pn	03 44 05.2	-2.4
MA2	Magadan	7.32	326	P	Pn	03 44 06.4	-1.2
SEY	Seymchan	9.77	342	P	Pn	03 44 38.8	-1.0
	comp=E,0.7nm,0.3s,baz=140,slow=12,SNR=8.2						
SHO	Shikotan	12.71	223	ePN	Pn	03 45 13.2	-4.7
SHO				pmax	pmax		
	comp=Z,31nm,0.6s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,16nm,0.3s						
YUK	Yuzh-Kuril'sk	12.98	226	ePN	Pn	03 45 19.5	-1.8
YUK				S	Sn	03 47 42.7	-2.8
YUK				pmax	pmax		
	comp=N,34nm,0.3s						
YUK				pmax	pmax		
	comp=E,55nm,0.3s						
YUK				pmax	pmax		
	comp=Z,169nm,0.3s						
GRPR	Tuman	13.06	227	ePN	Pn	03 45 19.3	-3.0
GRPR				pmax	pmax		
	comp=Z,74nm,0.6s						
GRPR				pmax	pmax		
	comp=E,50nm,0.5s						
GRPR				pmax	pmax		
	comp=N,54nm,0.4s						
NMR	Nemuro--Hokkai	13.58	225	eP	Pn	03 45 23.3	-5.5
JKA	Kamikawa-asahi	14.41	234		Pn	03 45 40.2	+0.9
ASAJ	Asahikawa	14.41	234	P	Pn	03 45 40.0	+0.8
	comp=N,2.1nm,0.3s,baz=51,slow=7.8,SNR=6.5						
KIWB	Kanaga Island	14.59	88	Pn	Pn	03 45 41.9	+0.6
BILL	Bilibino	14.71	11⇓	eP	Pn	03 45 42.4	-0.2
BILL				pmax	pmax		
	comp=Z,63nm,1.0s						
BILL	Bilibino	14.71	11		Pn	03 45 41.6	-1.1
ERM	Erimo	15.79	228	i P	Pn	03 45 52.4	-3.6
ERM	Erimo	15.79	228	P	Pn	03 45 54.5	-1.5
ATKA	Atka Island	16.23	85	P	Pn	03 46 03.9	+2.5
YAK	Yakutsk	17.44	310	P	P	03 46 12.5	-1.8
	comp=Z,0.7nm,0.3s,baz=275,slow=4.2,SNR=6.2						
YAK	Yakutsk	17.44	310	eP	P	03 46 11.8	-2.4
YAK				pmax	pmax		
	comp=Z,44nm,0.9s						
YAK				pmax	pmax		
	comp=N,35nm,1.5s						
YAK				pmax	pmax		
	comp=E,37nm,1.2s						
YAK	Yakutsk	17.44	310	P	P	03 46 11.5	-2.7
KLR	Kul'dur	17.46	266	P	P	03 46 14.9	+0.4
	comp=E,0.5nm,0.3s,baz=73,slow=12,SNR=4.3						
KLR	Kul'dur	17.46	266	P	P	03 46 15.0	+0.4
GAMB	Gambell	18.03	45	P	P	03 46 21.0	+0.3
GAMB	Gambell	18.03	45	P	Pn	03 46 22.1	-0.5
	baz=251						
NIKH	Nikolski High	19.16	79	P	P	03 46 34.6	+1.6
USRK	Ussuriysk Ar.	19.99	252	P	P	03 46 42.0	-0.1
	baz=49,slow=13,SNR=4.6						
USRK	Ussuriysk Ar.	19.99	252	P	P	03 46 42.0	-0.1
TNA	Tin City	20.17	41	P	P	03 46 44.0	+0.3
TNA				IAmb	IAmb	03 46 50.8	
	comp=Z,40nm,0.8s						
JMM	Marumori	20.23	225	P	P	03 46 44.3	-0.4
ANM	Nome	20.91	45	P	P	03 46 52.5	+0.9
	baz=257						
JSD	Sado	21.21	230	P	P	03 46 55.3	+0.2
JSD				IAmb	IAmb	03 47 00.5	
	comp=Z,44nm,0.8s						
BNX	BinXian	21.74	261	⇓P	P	03 46 59.0	-1.6
BNX				pmax	pmax		
	comp=Z,120nm,1.1s						
BNX				pmax	pmax		
	comp=Z,19μm,11.4s						
TIXI	Tiksi	22.14	335	P	P	03 47 03.0	-1.3
	comp=Z,28nm,0.6s,baz=120,slow=11,SNR=13						
TIXI	Tiksi	22.14	335	i P	P	03 47 03.2	-1.0
TIXI				pmax	pmax		
	comp=Z,94nm,3.3s						
TIXI	Tiksi	22.14	335	P	P	03 47 02.3	-2.0
TIXI				IAmb	IAmb	03 47 04.5	
	comp=Z,34nm,1.0s						
MJB9	Matsu-Tunnel	22.46	228	P	P	03 47 07.3	-0.4
MJB9				IAmb	IAmb	03 47 09.5	
	comp=Z,22nm,0.6s						
MAJO	Matsushiro	22.46	228	i P	P	03 47 05.2	-2.5
MAJO				pmax	pmax		
	comp=Z,202nm,5.5s						
MAJO	Matsushiro	22.46	228	P	P	03 47 07.3	-0.4
MAJO				IAmb	IAmb	03 47 09.5	
	comp=Z,22nm,0.6s						
MAT	Matsushiro	22.46	228	P	P	03 47 07.6	-0.1
MJAR	Matsushiro Arr	22.46	228	P	P	03 47 07.6	-0.1
	comp=Z,10nm,0.6s,baz=21,slow=7.8,SNR=24						
MJAR				PcP	PcP	03 50 55.2	+0.1
	comp=Z,2.9nm,0.6s,baz=38,slow=0.5,SNR=5.2						
MJAR	Matsushiro Arr	22.46	228	P	P	03 47 07.3	-0.4
RDOG	Red Dog Mine	22.88	37	P	P	03 47 11.5	+0.4
	baz=251						
CHNA	Chernabura Isl	23.98	71	P	P	03 47 20.4	-0.8
	baz=285						
INU	Inuyama	23.99	229	P	P	03 47 21.6	+0.1
INU				IAmb	IAmb	03 47 23.6	
	comp=Z,45nm,1.0s						
CHGN	Chignik	24.29	67	P	P	03 47 23.9	-0.1
CHGN				IAmb	IAmb	03 47 27.8	
	comp=Z,60nm,1.4s						
TTA	Tatalina	24.84	50	P	P	03 47 29.2	+0.2
	baz=270						
L19K	White Mountain	25.38	52	P	P	03 47 33.7	-0.2
O18K	Koktuh Hills	25.39	58	P	P	03 47 37.3	+3.3
	baz=277						
N19K	Bonanza Creek	25.65	55	P	P	03 47 37.5	+1.1
	baz=276						
IMAR	Indian Mountai	25.96	43	P	P	03 47 39.0	-0.1
A21K	Barrow	26.04	31	P	P	03 47 39.7	+0.1
A21K	Barrow	26.04	31	P	P	03 47 40.8	+1.2
	baz=252						
SII	Sitkinak Islan	26.52	65	P	P	03 47 47.4	+3.3
JMN	Monobe	26.77	232		P	03 47 47.3	+0.7
OHAK	Old Harbor	26.84	63	P	P	03 47 46.0	-0.9
OHAK				IAmb	IAmb	03 47 48.4	
	comp=Z,18nm,0.8s						
OHAK	Old Harbor	26.84	63	P	P	03 47 46.7	-0.3
	baz=284						
KSRS	Korea Array	26.85	245	P	P	03 47 47.9	+0.7
	comp=Z,3.8nm,0.9s,baz=46,slow=8.6,SNR=6.3						
KSRS				PcP	PcP	03 51 05.8	+1.0
	comp=Z,1.9nm,0.5s,baz=357,slow=2.3,SNR=4.9						
KDAK	Kodiak Island	27.08	62	P	P	03 47 48.5	-0.6
	comp=Z,13nm,0.7s,baz=308,slow=7.9,SNR=17						
KDAK	Kodiak Island	27.08	62	P	P	03 47 48.1	-1.0
KDAK				pmax	pmax		
	comp=Z,23nm,1.0s						
KDAK	Kodiak Island	27.08	62	P	P	03 47 48.1	-1.0
KDAK				IAmb	IAmb	03 47 53.0	
	comp=Z,23nm,1.0s						
COLD	Coldfoot	27.47	41	P	P	03 47 52.3	-0.2
	baz=267						
TOLK	Toolik Lake Re	27.83	38	P	P	03 47 56.5	+0.7
	baz=264						
KNK	Knik Glacier	28.48	53	P	P	03 48 01.8	+0.3
	baz=279						
SML	Sawmill	28.48	52	P	P	03 48 02.2	+0.6
	baz=278						
POKR	Poker Plat Res	28.57	45	P	P	03 48 03.4	+1.1
	baz=273						
PWL	Port Wells	28.62	54	P	P	03 48 02.5	-0.3
	baz=280						
JNU	Nakatsue	28.69	235	P	P	03 48 03.8	+0.1
HDA	Harding Lake	28.82	47	P	P	03 48 04.2	-0.3
	baz=275						
ILAR	Eielson Array	28.82	46	P	P	03 48 04.5	-0.1
	comp=Z,8.9nm,0.6s,baz=277,slow=5.0,SNR=48						
ILAR				ScP	ScP	03 54 34.1	+0.7
	comp=Z,0.9nm,0.5s,baz=280,slow=3.0,SNR=5.2						
ILAR	Eielson Array	28.82	46	P	P	03 48 04.0	-0.5
SCM	Sheep Creek Mo	28.95	52	P	P	03 48 06.0	+0.3
	baz=279						
PRP	Porcupine Dome	29.35	45	P	P	03 48 09.8	+0.5
	baz=274						
BMAR	Burnt Mountain	29.65	41	P	P	03 48 12.5	+0.7
SCRK	Sand Creek	30.16	47	P	P	03 48 15.9	-0.5
	baz=278						
JSU	Suzuyama	30.22	234	P	P	03 48 17.5	+0.3
JSU				IAmb	IAmb	03 48 18.4	
	comp=Z,22nm,0.8s						
N25K	Chitina, Valde	30.27	52	P	P	03 48 17.5	+0.1
	baz=282						
M26K	Nabesna, AK	30.86	50	P	P	03 48 23.4	+0.9
	baz=281						
L27K	Beaver Creek,	31.26	49	P	P	03 48 27.0	+1.0
	baz=281						
EGAK	Eagle	31.27	46	P	P	03 48 25.5	-0.5
	baz=279						
BCAR	Beaver Creek A	31.28	49	P	P	03 48 26.4	+0.3
M27K	Edge Creek, AK	31.38	50	P	P	03 48 28.5	+1.4
	baz=282						
BVCY	Beaver Creek	31.83	50	P	P	03 48 31.8	+0.9
	baz=283,SNR=5.3						
MESA	MESA	31.86	54	P	P	03 48 32.7	+1.2
	baz=286						
DAWY	Dawson	32.14	47	P	P	03 48 34.4	+0.7
	baz=282						
I29M	Ogilvie Camp,	32.37	44	P	P	03 48 36.6	+1.0
	baz=280						
PINM	Pinnacle	32.70	54	P	P	03 48 39.4	+

comp=Z,0.7nm,0.4s,baz=306,slow=3.7,SNR=5.6
WMQ Urumqi 46.07 288 *e*P **P 03 50 30.3 +1.0**
WMQ LR LR
comp=N,12µm,29.2s
WMQ LR LR
comp=E,17µm,21.1s
WMQ LR LR
comp=Z,12µm,21.1s
SPITS Spitsbergen Ar 46.31 350 P **P 03 50 29.8 -0.9**
comp=Z,9.0nm,0.4s,baz=120,slow=9.8,SNR=57
TULEG Thule 46.43 14 *i* P **P 03 50 29.9 -1.7**
KURK Kurchatov 46.76 301 *i* P **P 03 50 32.5 -1.9**
KURK pmax pmax
comp=Z,282nm,4.7s
MK31 Makanchi Array 47.21 294 P **P 03 50 36.8 -1.2**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 47.21 294 P **P 03 50 36.8 -1.2**
MKAR Makanchi Array 47.21 294 P **P 03 50 36.2 -1.9**
comp=Z,3.8nm,0.5s,baz=62,slow=6.0,SNR=15
MKAR PcP **PcP 03 52 06.2 -0.2**
comp=Z,1.3nm,0.7s,baz=53,slow=5.7,SNR=2.0
MKAR Makanchi Array 47.21 294 *i* P **P 03 50 36.5 -1.5**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
D03D Eldon 47.50 64 P **P 03 50 41.7 +1.5**
baz=308
B05A Bryant 47.57 63 P **P 03 50 42.1 +1.4**
baz=308
E04D Cinebar 48.38 65 P **P 03 50 48.7 +1.7**
baz=309
BVAR Borovoye Array 49.39 307 P **P 03 50 52.1 -2.5**
comp=Z,2.6nm,0.6s,baz=57,slow=14,SNR=7.2
BVAR PcP **PcP 03 52 13.3 -0.8**
comp=Z,2.8nm,0.4s,baz=55,slow=9.1,SNR=8.0
HOOD Mount Hood Mea 49.66 65 P **P 03 50 57.9 +1.0**
PZH PanZhiHua 49.80 260 P **P 03 50 58.8 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
C09A Chrisman Ranch 49.86 61 P **P 03 50 59.3 +1.1**
C09A IAmb IAmb 03 50 59.9
comp=Z,38nm,1.2s
G05D Wamic, OR 49.90 65 P **P 03 51 00.0 +1.5**
baz=311
NEW Newport 50.16 60 P **P 03 51 01.2 +0.8**
baz=310
F07A Phinny Hill Vi 50.22 64 P **P 03 51 02.0 +1.2**
I04A Tendick Farm, 50.24 67 P **P 03 51 02.5 +1.4**
baz=311
I05D Terrebonne, OR 50.47 66 P **P 03 51 04.4 +1.5**
baz=311
J04D Umpqua Nationa 50.77 68 P **P 03 51 06.8 +1.5**
J04D Umpqua Nationa 50.77 68 P **P 03 51 07.4 +2.0**
baz=312
J05D Fort Rock, OR 51.22 67 P **P 03 51 10.7 +2.1**
baz=312,SNR=6.1
L04D Klamath Falls 51.34 69 P **P 03 51 11.3 +1.8**
baz=312
M02C Callahan 51.59 70 P **P 03 51 13.0 +1.7**
baz=313
M04C Macdoel 51.89 69 P **P 03 51 15.3 +1.7**
baz=313
JTMT Jette 51.95 59 P **P 03 51 15.3 +1.4**
N02D Trinity Center 51.95 70 P **P 03 51 16.4 +2.5**
baz=313
APA Apatity 52.32 337 ⇓ *i* P 03 51 30.0 +14
APA pmax pmax
comp=Z,70nm,1.2s
APA MLR MLR
comp=Z,17µm,17.0s
ARCES ARCESS Array B 52.39 341 P **P 03 51 14.7 -2.0**
comp=Z,3.7nm,0.7s,baz=37,slow=7.7,SNR=16
ARU Arti 52.40 316 *e*P **P 03 51 16.1 -0.8**
ARU pmax pmax
comp=Z,165nm,3.7s
MSO Missoula 52.73 60 P **P 03 51 20.7 +1.0**
baz=312
O03E Paynes Creek 52.92 70 P **P 03 51 22.8 +1.7**
baz=314,SNR=8.2
WVOR Wild Horse Val 53.21 66 IAmb IAmb 03 51 25.8
comp=Z,20nm,1.2s
AAK Ala-Archa 54.13 295 P **P 03 51 28.4 -1.6**
comp=Z,3.1nm,0.6s,baz=95,slow=1.0,SNR=5.4
MCMT McKenzie Canyo 54.65 61 P **P 03 51 34.5 +0.7**
HLID Hailey 54.70 63 P **P 03 51 34.6 +0.6**
HLID Hailey 54.70 63 P **P 03 51 35.5 +1.5**
baz=314,SNR=5.3
BOZ Bozeman (W) 54.74 59 P **P 03 51 35.5 +1.2**
baz=314,SNR=5.2
BBGB Big Mountain B 55.93 73 P **P 03 51 45.1 +2.2**
H17A Grant Village 56.12 60 P **P 03 51 47.5 +3.2**
baz=315,SNR=8.0
NVAR Mina Array Bea 56.16 70 P **P 03 51 46.6 +2.0**
comp=Z,19nm,0.7s,baz=299,slow=7.3,SNR=45
ELK Elko 56.22 66 P **P 03 51 46.4 +1.4**
ELK pmax pmax
comp=Z,15nm,0.7s
ELK Elko 56.22 66 P **P 03 51 46.4 +1.4**
ELK IAmb IAmb 03 51 47.9
comp=Z,15nm,0.7s
NV11 Mina Array Sit 56.24 70 P **P 03 51 45.9 +0.8**
NV11 IAmb IAmb 03 51 47.6
comp=Z,15nm,0.8s
RLMT Red Lodge 56.27 58 P **P 03 51 46.7 +1.4**
baz=315
LAO LASA Array 56.68 55 P **P 03 51 49.6 +1.6**
baz=315
REDW Red Top Meadow 56.70 61 IAmb IAmb 03 51 51.4
comp=Z,21nm,0.8s
TIN Tinemaha, Big 57.18 71 P **P 03 51 54.2 +2.6**
baz=316,SNR=6.6
VES Vestal, Richgr 57.56 72 P **P 03 51 55.4 +1.2**
baz=316,SNR=8.9
CMAR Chiang Mai Arr 57.65 257 P **P 03 51 54.5 -0.4**
comp=Z,1.4nm,0.6s,baz=21,slow=6.5,SNR=4.3
CWC Cottonwood Cre 57.70 71 P **P 03 51 57.2 +1.8**
baz=316
GRAC Grapevine Rang 57.70 70 P **P 03 51 57.6 +2.4**
baz=316,SNR=7.0
R11A Troy Canyon, C 57.72 68 P **P 03 51 57.0 +1.5**
baz=316,SNR=7.6
BW06 Boulder Array 57.79 60 P **P 03 51 57.7 +1.7**
baz=316,SNR=12
PD31 Pinedale Array 57.79 60 P **P 03 51 56.5 +0.5**
PDAR Pinedale Array 57.79 60 P **P 03 51 57.5 +1.5**
comp=Z,26nm,0.6s,baz=342,slow=2.4,SNR=162
DUG Dugway, Tooele 57.91 65 IAmb IAmb 03 51 59.7
comp=Z,26nm,1.1s
DUG Dugway, Tooele 57.91 65 P **P 03 51 58.6 +1.9**
baz=316,SNR=9.9
ISA Isabella, Lake 58.04 72 P **P 03 51 58.6 +1.0**
baz=316,SNR=5.8
MPMC Manual Prospec 58.31 71 P **P 03 52 01.4 +1.7**
baz=316,SNR=10
TPNV Topopah Spring 58.36 70 IAmb IAmb 03 52 02.7
comp=Z,14nm,1.0s
TPNV Topopah Spring 58.36 70 P **P 03 52 01.8 +1.8**
baz=316,SNR=12
FURC Furnace Creek, 58.36 70 P **P 03 52 01.9 +2.1**
baz=316,SNR=18
LRMC Laurel Mtn Rad 58.62 72 P **P 03 52 03.2 +1.5**
baz=317,SNR=6.7
ULM Lac du Bonnet 58.85 46 P **P 03 52 03.0 +0.2**
comp=Z,9.4nm,0.4s,baz=321,slow=6.1,SNR=17
ULM Lac du Bonnet 58.85 46 IAmb IAmb 03 52 03.9
comp=Z,11nm,0.7s
EDW2 Edwards Air Fo 58.87 72 P **P 03 52 05.0 +1.6**
baz=317,SNR=14
SHOC Shoshone, Teco 59.10 70 P **P 03 52 06.7 +1.8**
baz=317
DECC Green Verdugo 59.13 73 P **P 03 52 07.0 +1.8**
baz=317
FINES FINESS Array B 59.18 336 P **P 03 52 03.7 -1.3**
comp=Z,2.6nm,0.4s,baz=35,slow=8.1,SNR=25
GSC Goldstone, Bar 59.24 71 IAmb IAmb 03 52 08.4
comp=Z,17nm,0.8s
GSC Goldstone, Bar 59.24 71 P **P 03 52 07.6 +1.6**
baz=317,SNR=11
PASC Pasadena Art C 59.28 73 P **P 03 52 06.8 +0.7**
PASC IAmb IAmb 03 52 08.3
comp=Z,20nm,0.8s
RSSD Black Hills 59.60 56 P **P 03 52 09.8 +1.4**
baz=317
TUQ Turquoise Moun 59.63 71 P **P 03 52 10.5 +1.8**
baz=317,SNR=7.1

CIS Catalina Islan 59.71 74 P **P 03 52 10.1 +1.0**
baz=317
HEC Hector,Ludlow 59.84 71 P **P 03 52 11.9 +1.8**
baz=317,SNR=9.1
BBRC Big Bear Solar 59.93 72 P **P 03 52 13.0 +2.1**
baz=317
GMRC Granite Mounta 60.26 71 P **P 03 52 14.6 +1.7**
baz=318,SNR=11
MURC Murrieta 60.26 73 P **P 03 52 14.1 +1.3**
baz=318,SNR=5.8
O20A White River Ci 60.38 62 P **P 03 52 15.2 +1.4**
baz=317,SNR=7.3
BELC Belle Mtn. Jos 60.64 72 P **P 03 52 16.6 +1.0**
baz=318,SNR=9.3
PFO Pinyon Flats O 60.66 72 P **P 03 52 16.5 +0.8**
baz=318
IRM Iron Mountain 61.01 71 P **P 03 52 19.7 +1.8**
baz=318,SNR=10
N23A Red Feather La 61.01 60 P **P 03 52 19.7 +1.6**
baz=318
TOLI2 Tolitoli 61.18 225 P **P 03 52 19.6 +0.4**
TOLI2 IAmb IAmb 03 52 20.3
comp=Z,19nm,0.8s
BC3 Big Chuckawall 61.20 72 P **P 03 52 20.5 +1.2**
baz=318,SNR=7.7
PV23 Carpenter Ridg 61.20 64 IAmb IAmb 03 52 27.0
comp=Z,17nm,0.7s
MONP2 Monument Peak 61.22 73 P **P 03 52 20.4 +0.9**
baz=318
PDMCI Parker Dam,Lak 61.46 70 P **P 03 52 22.4 +1.5**
baz=318,SNR=7.0
CBX Cerro Bola 61.51 74 P **P 03 52 21.9 +0.5**
CBX IAmb IAmb 03 52 23.6
comp=Z,8.7nm,0.6s
SWSC Sam W. Stewart 61.53 72 P **P 03 52 22.6 +1.2**
baz=318
OBN Obninsk 61.53 326 ⇑ *e*P **P 03 52 20.9 -0.1**
OBN *e**PP **pP 03 53 06.1 +3.5**
OBN *e* 03 54 46.3
OBN pmax pmax
comp=Z,17nm,1.5s
IKP In-Ko-Pah, Jac 61.57 73 P **P 03 52 23.1 +1.4**
baz=318
ISCO Idaho Springs 61.99 60 P **P 03 52 25.3 +0.6**
ISCO pmax pmax
comp=Z,32nm,1.3s
ISCO Idaho Springs 61.99 60 P **P 03 52 25.3 +0.6**
ISCO IAmb IAmb 03 52 27.4
comp=Z,32nm,1.2s
ISCO Idaho Springs 61.99 60 P **P 03 52 26.6 +1.8**
baz=318
GLA Glamis 62.00 72 P **P 03 52 26.3 +1.8**
baz=318,SNR=5.9
WUAZ Wupatki 62.09 67 P **P 03 52 25.9 +0.6**
WUAZ Wupatki 62.09 67 P **P 03 52 27.3 +2.0**
baz=318,SNR=6.8
Y14A Wickenburg 62.36 70 IAmb IAmb 03 52 29.6
comp=Z,16nm,0.9s
MVCO Mesa Verde 62.39 64 IAmb IAmb 03 52 29.6
comp=Z,13nm,0.8s
MVCO Mesa Verde 62.39 64 P **P 03 52 28.6 +1.3**
baz=318
NB2 NORSAR Subarra 62.66 343 P **P 03 52 27.2 -1.3**
comp=Z,2.2nm,0.5s,baz=23,slow=6.9
NOA NORSAR Array B 62.66 343 P **P 03 52 27.2 -1.3**
comp=Z,2.1nm,0.4s,baz=25,slow=6.6,SNR=18
X16A Lo Mia Camp, P 62.87 68 IAmb IAmb 03 52 33.4
comp=Z,14nm,0.8s
S22A 4UR Ranch, Cre 62.88 63 IAmb IAmb 03 52 33.5
comp=Z,30nm,1.3s
S22A 4UR Ranch, Cre 62.88 63 P **P 03 52 32.6 +2.0**
baz=319
OGNE Ogallala 62.95 57 P **P 03 52 33.0 +2.2**
baz=319
W18A Petrified Fore 63.28 67 P **P 03 52 35.2 +2.0**
baz=319,SNR=5.4
ECSD EROS Data Cent 63.44 52 P **P 03 52 34.2 +0.3**
baz=320
SDCO Great Sand Dun 63.58 62 P **P 03 52 36.4 +1.2**
baz=319
PMG Port Moresby 63.75 193 P **P 03 52 36.6 +0.5**
PMG pmax pmax
comp=Z,15nm,0.9s
PMG Port Moresby 63.75 193 P **P 03 52 36.5 +0.5**
PMG IAmb IAmb 03 52 37.7
comp=Z,15nm,0.8s
SBUM Sibu 63.85 234 P **P 03 52 38.1 +1.2**
214A Organ Pipe Nat 63.95 71 IAmb IAmb 03 52 40.0
comp=Z,23nm,1.1s
214A Organ Pipe Nat 63.95 71 P **P 03 52 38.9 +1.5**
baz=319,SNR=8.1
SPMN Marine on St. 64.02 48 P **P 03 52 37.8 +0.2**
baz=322
TUC Tucson 64.81 69 P **P 03 52 44.6 +1.5**
baz=319
ANMO Albuquerque 65.18 64 *i* P **P 03 52 46.5 +0.9**
ANMO pmax pmax
comp=Z,50nm,4.0s
ANMO Albuquerque 65.18 64 P **P 03 52 46.1 +0.5**
ANMO IAmb IAmb 03 52 47.9
comp=Z,14nm,1.1s
ANMO Albuquerque 65.18 64 P **P 03 52 47.1 +1.5**
baz=320
SCHQ Schefferville 65.34 27 P **P 03 52 45.1 -0.9**
comp=Z,6.8nm,0.7s,baz=357,slow=7.0,SNR=7.1
KSM Kuching 65.63 235 P **P 03 52 49.2 +0.9**
KSM IAmb IAmb 03 52 50.5
comp=Z,20nm,0.9s
121A Cookes Peak, D 66.30 67 P **P 03 52 54.7 +2.0**
baz=320
SCIA State Center 66.43 51 P **P 03 52 53.9 +0.7**
baz=322
JFWS Jewell Farm 66.97 48 P **P 03 52 55.8 -0.8**
baz=323
KSU1 Kansas State U 67.03 55 P **P 03 52 56.4 -0.6**
baz=322
AKASG Malin Array Be 67.64 328 P **P 03 52 58.8 -1.9**
comp=Z,2.2nm,0.5s,baz=29,slow=6.9,SNR=7.9
AKASG Malin Array Be 67.64 328 *i* P **P 03 52 58.7 -1.9**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AMTX Amarillo 67.75 61 P **P 03 53 02.7 +1.0**
baz=321
SRIG Santa Rosalia 67.78 74 P **P 03 53 02.3 +0.4**
SRIG IAmb IAmb 03 53 03.9
comp=Z,17nm,0.8s
MSTX Muleshoe 67.89 63 P **P 03 53 02.9 +0.3**
baz=321
MNTX Cornudas Mount 68.24 66 P **P 03 53 06.3 +1.6**
baz=321
KBZ Khabaz 68.53 316 P **P 03 53 05.5 -0.8**
comp=Z,3.7nm,1.1s,baz=88,slow=1.8,SNR=4.4
COEN Coen 68.82 196 P **P 03 53 08.7 +0.4**
COEN IAmb IAmb 03 53 10.1
comp=Z,29nm,0.9s
COEN Coen 68.82 196 P **P 03 53 09.2 +0.9**
HDIL Hopedale 69.29 49 P **P 03 53 10.7 -0.3**
baz=324
WMOK Wichita Mounta 69.36 59 P **P 03 53 12.1 +0.5**
baz=322
TUL1 Leonard 69.94 56 P **P 03 53 15.1 0.0**
baz=323
KDU Kakadu 69.96 208 P **P 03 53 15.7 +0.4**
DRS Darwin Rock St 70.16 209 P **P 03 53 17.6 +1.1**
PSI Prapat 70.40 247 P **P 03 53 17.7 -0.6**
comp=Z,4.9nm,0.6s,baz=24,slow=6.6,SNR=4.7
SFIN Lafayette 70.41 48 P **P 03 53 17.5 -0.3**
baz=325
MTN Manton Dam 70.49 209 P **P 03 53 19.1 +0.6**
MTN Manton Dam 70.49 209 P **P 03 53 19.5 +1.0**
RPSI Rantau Prapat 70.49 247 P **P 03 53 17.7 -0.9**
ABTX Abilene, Hawle 70.57 61 P **P 03 53 19.8 +0.7**
baz=322
TX32 Lajitas Array 71.00 66 IAmb IAmb 03 53 23.9
comp=Z,31nm,1.1s
TXAR Lajitas Array 71.00 66 P **P 03 53 23.0 +1.3**
comp=Z,14nm,0.4s,baz=296,slow=5.2,SNR=188
TXAR Lajitas Array 71.00 66 P **P 03 53 23.4 +1.7**
TXAR Lajitas Array 71.00 66 P **P 03 53 23.4 +1.7**
U40A Yellville 71.01 54 P **P 03 53 21.2 -0.4**
baz=324
O48B Farmland 71.36 47 P **P 03 53 22.8 -0.8**
baz=326
CLL Collm 71.43 338 *e*P **P 03 53 22.0 -1.8**
CLL Collm 71.43 338 *e*P **P 03 53 22.0 -1.8**
LANS Liptovska Anna 71.86 333 *e*P **P 03 53 26.1 -0.4**
LANS Liptovska Anna 71.86 333 *e*P **P 03 53 26.1 -0.4**

LANS *e* 04 03 46.8
MIAR Mount Ida 72.11 56 P **P 03 53 28.7 +0.5**
baz=324
P49A Miami Univ. Ec 72.14 47 P **P 03 53 27.5 -0.7**
baz=326
M53A WI Miller and 72.24 43 P **P 03 53 28.8 -0.1**
baz=328
W41B Gary Mavity, V 72.26 54 P **P 03 53 29.6 +0.6**
baz=324
GSI Gunungsitoli 72.38 247 P **P 03 53 28.5 -1.5**
GSI IAmb IAmb 03 53 37.8
comp=Z,47nm,1.4s
GSI Gunungsitoli 72.38 247 P **P 03 53 30.0 0.0**
WCI Wyandotte Cave 72.53 49 P **P 03 53 30.2 -0.4**
WCI pmax pmax
comp=Z,88nm,1.2s
WCI Wyandotte Cave 72.53 49 P **P 03 53 30.2 -0.4**
WCI Wyandotte Cave 72.53 49 P **P 03 53 30.7 +0.1**
baz=326
M54A Oil Creek Stat 72.59 42 P **P 03 53 30.8 -0.1**
baz=328
KHC Kasperske Hory 73.34 337 *e*P **P 03 53 35.2 0.0**
KHC Kasperske Hory 73.34 337 *e*P **P 03 53 35.2 0.0**
BTNL Ternell 73.50 342 P **P 03 53 36.0 0.0**
MEM Membach 73.50 342 P **P 03 53 35.8 -0.2**
WVT Waverly 73.56 51 P **P 03 53 37.3 +0.6**
WVT pmax pmax
comp=Z,16nm,0.9s
WVT Waverly 73.56 51 P **P 03 53 37.3 +0.6**
WVT IAmb IAmb 03 53 37.8
comp=Z,16nm,0.8s
WVT Waverly 73.56 51 P **P 03 53 37.1 +0.5**
baz=326
GERES GERESS Array B 73.58 337 P **P 03 53 36.0 -0.7**
comp=Z,0.6nm,0.5s,baz=28,slow=6.2,SNR=6.2
O56A Blue Knob Stat 74.08 42 P **P 03 53 39.6 -0.1**
baz=329
CLTN Cedars of Leba 74.28 50 P **P 03 53 40.8 -0.1**
CLTN IAmb IAmb 03 53 41.9
comp=Z,20nm,0.9s
CTA Charters Tower 74.39 192 P **P 03 53 42.4 +1.0**
CTAO Charters Tower 74.39 192 P **P 03 53 42.5 +1.0**
CTAO pmax pmax
comp=Z,31nm,0.9s
CTAO Charters Tower 74.39 192 P **P 03 53 42.5 +1.0**
CTAO IAmb IAmb 03 53 43.1
comp=Z,31nm,0.9s
CTAO Charters Tower 74.39 192 P **P 03 53 42.2 +0.7**
BRTR Keskin Array B 75.62 319 P **P 03 53 47.8 -0.9**
comp=Z,0.7nm,0.6s,baz=26,slow=4.0,SNR=5.3
BRTR Keskin Array B 75.62 319 *i* P **P 03 53 48.2 -0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
NOUC Port Laguerre 75.86 173 P **P 03 53 52.4 +2.6**
YATNC Mamie plateau, 75.86 172 P **P 03 53 52.0 +2.2**
QIS Mount Isa 75.90 199 P **P 03 53 50.7 +0.6**
OUENC Ouen Island, N 76.21 172 P **P 03 53 53.7 +2.0**
OUENC IAmb IAmb 03 53 55.2
comp=Z,15nm,0.7s
OUENC Ouen Island, N 76.21 172 P **P 03 53 54.6 +2.8**
WB0 Warramunga Arr 76.25 204 P **P 03 53 52.6 +0.5**
WRAB Tennant Creek 76.42 204 *ce*P **P 03 53 54.2 +1.1**
WRAB pmax pmax
comp=Z,31nm,1.3s
WRAB Tennant Creek 76.42 204 P **P 03 53 53.9 +0.8**
WB2 Warramunga Arr 76.43 204 P **P 03 53 53.4 +0.3**
WB2 IAmb IAmb 03 53 54.6
comp=Z,30nm,0.8s
WRA Warramunga Arr 76.44 204 P **P 03 53 53.7 +0.6**
comp=Z,20nm,0.7s,baz=20,slow=6.2,SNR=45
KMSC Kings Mountain 77.29 47 P **P 03 53 57.6 -0.3**
baz=328
JSC Jenkinsville 78.05 47 P **P 03 54 01.8 -0.3**
JSC pmax pmax
comp=Z,22nm,1.3s
JSC Jenkinsville 78.05 47 P **P 03 54 01.8 -0.3**
JSC IAmb IAmb 03 54 25.8
comp=Z,22nm,1.3s
PDG Podgorica 78.08 331 P **P 03 54 00.9 -1.2**
VLC Villacollemand 78.77 337 P **P 03 54 06.3 +0.4**
VLC IAmb IAmb 03 54 32.3
comp=Z,33nm,1.5s
SSB Saint Sauveur 78.90 342 P **P 03 54 06.8 +0.1**
SSB pmax pmax
comp=Z,15nm,1.4s
SSB Saint Sauveur 78.90 342 P **P 03 54 06.8 +0.1**
MURB Monte Urbino 79.11 336 P **P 03 54 07.9 +0.1**
OSSC Osservatorio P 79.17 337 P **P 03 54 07.3 -0.8**
NRCA Norcia 79.37 335 P **P 03 54 09.5 +0.2**
TIGA Tifton 79.41 50 P **P 03 54 10.0 +0.4**
TIGA IAmb IAmb 03 54 11.1
comp=Z,33nm,0.9s
TIGA Tifton 79.41 50 P **P 03 54 10.2 +0.7**
baz=328
AS31 Alice Springs 80.12 203 P **P 03 54 14.6 +1.2**
ASAR Alice Springs 80.12 203 P **P 03 54 14.6 +1.2**
comp=Z,23nm,0.7s,baz=16,slow=5.3,SNR=49
MBWA Marble Bar 81.94 217 P **P 03 54 22.9 0.0**
MBWA Marble Bar 81.94 217 P **P 03 54 24.2 +1.3**
PSA00 Pilbara Seismi 82.28 216 P **P 03 54 24.7 0.0**
PSA00 IAmb IAmb 03 54 45.9
comp=Z,46nm,1.3s
PSA00 Pilbara Seismi 82.28 216 P **P 03 54 24.4 -0.3**
WRKA Warakurna 82.86 208 P **P 03 54 28.8 +1.1**
OOD Oodnadatta 83.72 201 P **P 03 54 33.4 +1.5**
PBRG Braganca 83.97 349 *i* LQ LQ 03 55 35.8
RAYN Ar Rayn 84.08 302 P **P 03 54 33.1 -1.1**
RAYN pmax pmax
comp=Z,10.0nm,1.3s
RAYN Ar Rayn 84.08 302 P **P 03 54 33.1 -1.1**
POLO Lamas de Olo 84.51 350 *i* LQ LQ 03 55 33.8
PVRL Vila Real 84.60 350 *e*P **P 03 54 37.1 +0.6**
PVIS Viseu 85.17 350 *i* LQ LQ 03 55 36.0
MTE Manteigas 85.45 350 *e*P **P 03 54 41.3 +0.5**
MTE *i* LQ LQ 03 55 32.4
COI Coimbra 85.73 350 *i* LQ LQ 03 55 33.0
ESDC Sonseca Array 85.73 347 P **P 03 54 42.6 +0.4**
comp=Z,1.6nm,0.7s,baz=7.0,slow=3.9,SNR=12
LCRK Leigh Creek 85.80 198 P **P 03 54 43.7 +1.5**
PCAS Casmilo, Conde 85.89 350 *e*P **P 03 54 43.0 +0.1**
PAB San Pablo 85.91 347 P **P 03 54 43.3 +0.2**
PAB pmax pmax
comp=Z,17nm,1.3s
PAB San Pablo 85.91 347 P **P 03 54 43.3 +0.2**
PCBR Castelo Branco 85.99 350 *i* LQ LQ 03 55 25.8
PMRV Marv??o 86.39 349 *e*P **P 03 54 48.2 +2.8**
PSBE So Bento 86.45 351 *i* LQ LQ 03 55 31.8
MULG Mulgathing 86.47 201 P **P 03 54 46.5 +1.0**
STKA Stephens Creek 86.64 195 P **P 03 54 47.5 +1.2**
comp=Z,2.6nm,0.5s,baz=36,slow=7.3,SNR=3.4
STKA Stephens Creek 86.64 195 P **P 03 54 48.3 +2.0**
STKA pmax pmax
comp=Z,3.0nm,1.1s
STKA Stephens Creek 86.64 195 P **P 03 54 48.3 +2.0**
KEST Kesra 87.02 336 P **P 03 54 48.0 -0.6**
comp=Z,13nm,1.1s,baz=8.2,slow=3.6,SNR=3.7
KEST Kesra 87.02 336 P **P 03 54 46.5 -2.0**
KEST IAmb IAmb 03 54 50.5
comp=Z,26nm,1.2s
PMAFR Mafra 87.05 351 *e*P **P 03 54 48.7 +0.1**
MEEK Meekatharra 87.37 215 P **P 03 54 49.6 -0.4**
PBEJ Beja 87.83 350 *i* LQ LQ 03 55 30.7
PCVE Castro Verde 88.24 350 *e*P **P 03 54 57.4 +3.2**
PCVE *i* LQ LQ 03 55 24.7
FORT Forrest 88.38 206 P **P 03 54 55.3 +0.7**
FORT Forrest 88.38 206 P **P 03 54 55.3 +0.7**
PTEO Sao Teotonio 88.39 350 *i* LQ LQ 03 55 28.8
PFVI Vila Bisbo 88.81 350 *e*P **P 03 54 58.4 +1.5**
OUZ Omahuta 89.57 168 IAmb IAmb 03 55 03.3
comp=Z,11nm,0.7s
DBIC Dimbokro 118.22 342 PKP **PKPdf 04 00 49.1 -0.3**
comp=Z,6.3nm,1.0s,baz=229,slow=8.5,SNR=2.0
LSZ Lusaka 125.75 296 PKP **PKPdf 04 01 04.2 +0.3**
comp=Z,2.9nm,0.8s,baz=191,slow=14,SNR=2.1
LPAZ La Paz 127.78 63 PKP **PKPdf 04 01 08.6 +0.3**
comp=Z,2.9nm,0.8s,baz=2.6,slow=16,SNR=2.0
SIV San Ignacio 131.11 55 PKP **PKPdf 04 01 13.6 -0.4**
comp=Z,4.6nm,0.9s,baz=52,slow=1.8,SNR=2.2
TSUM Tsumeb 134.50 304 PKP **PKPdf 04 01 19.7 -0.7**
comp=Z,1.2nm,0.6s,baz=72,slow=3.2,SNR=1.7
BOSA Boshof 138.04 288 PKP **PKPdf 04 01 27.3 +0.6**
comp=Z,2.9nm,0.7s,baz=311,slow=3.8,SNR=4.8
LL04 Puerto Octay 143.72 91 PKPab 04 01 34.7 +1.0
GO07 Milladeo Hill, 144.31 94 PKPdf **PKPab 04 01 37.0 +1.1**

PLCA	Paso Flores	144.72	89	PKP	PKPbc	04 01 38.6	+1.0
	comp=Z,25nm,0.6s,baz=300,slow=3.9,SNR=82						
PLCA	Paso Flores	144.72	89		PKPbc	04 01 38.5	+0.9
ITAB	Concordia	144.98	53		PKPbc	04 01 39.1	+0.4
COYC	Coyhaique	146.65	97	PKPbc	**PKPbc**	**04 01 44.1**	**+1.0**
PLTB	Pedras Altas	147.97	60		**PKPbc**	**04 01 47.2**	**0.0**

*IDC **30** 03:42:22.5±0.8, 43°.30N×127°.36W, h0km, mb4.4/13, mb1 4.5/20, mb1mx4.2/68, mbtmp4.4/20, ML3.4/6, Error ellipse: s-maj=20.4km s-min=9.9km az=33.0*
*NEIC **30** 03:42:24.0±1.4, 43°.44N±0°.05×127°.3W±0°.1, h10km±1km, mb4.6/10, ML4.1/49, Error ellipse: s-maj=18.7km s-min=7.3km az=257.0*
*ANF **30** 03:42:26.0±1.0, 43°.42N×127°.04W, h0km, ML4.5/15, Error ellipse: s-maj=10.1km s-min=5.4km az=64.0*

ISC 30 03:42:24.9±0.7, 43°.38N±0°.06×127°.31W±0°.07, h15km, n96, σ1$22/94, mb4.6/14, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	2.24	102		Pn	03 42 59.7	-1.7
KEBM				IAML		03 43 32.1	
	comp=N,797nm,1.0s						
J01E	**Myrtle Point**	2.48	94		Pn	03 43 02.8	-1.8
J01E				IAML		03 43 38.7	
	comp=N,601nm,0.3s						
J01E				IAML		03 43 43.6	
	comp=E,524nm,0.5s						
J01E	**Myrtle Point**	2.48	94	P	Pn	03 43 03.8	-0.9
	baz=278,SNR=45						
J01E				S	Sn	03 43 33.7	-0.9
	baz=278						
I02E	**Swisshome, OR**	2.62	73		Pn	03 43 05.1	-1.5
I02E	**Swisshome, OR**	2.62	73	P	Pn	03 43 05.8	-0.7
	baz=254,SNR=450						
I02E				S	Sn	03 43 37.7	-0.3
	baz=254						
K02D	**Willamette Mer**	2.76	103	P	Pn	03 43 08.0	-0.6
	baz=288,SNR=6.8						
K02D				S	Sn	03 43 40.9	-0.8
	baz=288						
I03D	**Drain, OR**	2.90	82	P	Pn	03 43 10.0	-0.4
	baz=265,SNR=842						
I03D				S	Sn	03 43 45.2	+0.2
	baz=265						
KSXB	**Camp Six Broad**	2.97	120		Pn	03 43 11.8	+0.3
DBO	**Dodson Butte**	2.98	94		Pn	03 43 10.5	-1.2
L02E	**Cave Junction**	2.99	113	S	Sn	03 43 48.3	+1.0
	baz=298						
COR	**Corvallis**	3.14	66		Pn	03 43 11.5	-2.2
COR				IAML		03 43 32.2	
	comp=E,334nm,1.9s						
HEBO	**Mount Hebo**	3.15	53		Pn	03 43 12.9	-1.1
HEBO				IAML		03 43 44.7	
	comp=E,399nm,1.8s						
HEBO				IAML		03 43 57.4	
	comp=N,447nm,1.7s						
BUCK	**Buck Mountain**	3.24	74		Pn	03 43 14.6	-0.6
BUCK				IAML		03 43 34.7	
	comp=E,424nm,4.9s						
G03D	**McMinnville, O**	3.44	56		Pn	03 43 16.9	-0.9
G03D				IAML		03 44 01.5	
	comp=N,430nm,0.7s						
G03D				IAML		03 44 02.7	
	comp=E,365nm,0.7s						
G03D	**McMinnville, O**	3.44	56	P	Pn	03 43 17.8	-0.1
	baz=238,SNR=469						
H04D	**Lebanon**	3.50	69		Pn	03 43 17.3	-1.3
H04D				IAML		03 43 42.0	
	comp=N,294nm,1.0s						
H04D				IAML		03 43 44.8	
	comp=E,391nm,0.8s						
H04D	**Lebanon**	3.50	69	P	Pn	03 43 19.2	+0.6
	baz=252,SNR=545						
I04A	**Tendick Farm,**	3.58	82	P	Pn	03 43 20.6	+0.7
	baz=265,SNR=34						
YBH	**Yreka Blue Hor**	3.77	114	Pn	Pn	03 43 24.8	+2.2
	comp=E,5.3nm,0.3s,baz=303,slow=12,SNR=40						
YBH				Sn	Sn	03 44 08.1	+1.4
	comp=E,1.7nm,0.3s,baz=289,slow=23,SNR=1.9						
J04D	**Umpqua Nationa**	3.80	90		Pn	03 43 22.6	-0.4
J04D	**Umpqua Nationa**	3.80	90	P	Pn	03 43 24.5	+1.5
	baz=274,SNR=22						
H04A	**Detroit Lake**	3.92	69		Pn	03 43 24.2	-0.3
H04A				IAML		03 43 53.1	
	comp=N,200nm,0.5s						
H04A				IAML		03 43 55.8	
	comp=E,187nm,0.6s						
RADR	**Rader Ridge**	3.94	38		Pn	03 43 23.4	-1.3
RADR				IAML		03 44 16.0	
	comp=N,422nm,1.0s						
RADR				IAML		03 44 19.5	
	comp=E,405nm,1.1s						
F04D	**Rainier, OR**	4.09	47	P	Pn	03 43 27.1	+0.3
	baz=228,SNR=67						
E03A	**Lebam**	4.14	39		Pn	03 43 26.4	-1.0
K04D	**Chiloquin, OR**	4.15	99	P	Pn	03 43 28.8	+1.0
	baz=283,SNR=21						
F04A	**Amboy**	4.33	52		Pn	03 43 30.1	+0.1
I05D	**Terrebonne, OR**	4.42	75	P	Pn	03 43 32.3	+0.8
	baz=259,SNR=17						
WISH	**Wishkah**	4.50	33	Pn	Pn	03 43 30.6	-1.8
WISH				IAML		03 44 55.9	
	comp=E,299nm,4.5s						
HOOD	**Mount Hood Mea**	4.50	62		Pn	03 43 33.2	+0.6
HOOD				IAML		03 44 32.9	
	comp=N,261nm,1.1s						
E04D	**Cinebar**	4.63	45		Pn	03 43 33.2	-1.0
E04D				IAML		03 44 30.8	
	comp=N,187nm,1.5s						
E04D				IAML		03 44 43.9	
	comp=E,209nm,2.4s						
E04D	**Cinebar**	4.63	45	P	Pn	03 43 34.8	+0.6
	baz=227,SNR=423						
PINE	**Pine Mountain**	4.65	83	Pn	Pn	03 43 32.8	-1.9
PINE				IAML		03 44 30.0	
	comp=N,132nm,4.8s						
PINE				IAML		03 45 00.9	
	comp=E,134nm,4.8s						
G05D	**Wamic, OR**	4.69	64	P	Pn	03 43 36.4	+1.3
	baz=248,SNR=97						
K05A	**Summer Lake**	4.75	96	Pn	Pn	03 43 35.2	-0.8
K05A				IAML		03 44 48.1	
	comp=E,137nm,5.0s						
K05A				IAML		03 45 19.9	
	comp=N,193nm,4.8s						
F05D	**White Salmon**	4.87	57		Pn	03 43 36.9	-0.7
F05D	**White Salmon**	4.87	57	P	Pn	03 43 39.0	+1.4
	baz=240,SNR=162						
D04E	**Lakebay**	4.97	39	P	Pn	03 43 39.8	+0.9
	baz=220,SNR=84						
D03D	**Eldon**	5.11	34	P	Pn	03 43 40.8	-0.1
	baz=215,SNR=33						
D03D				S	Sn	03 44 39.9	+0.3
	baz=215						
D05A	**Enumclaw**	5.35	43		Pn	03 43 44.7	+0.6
B04A	**Port Angeles**	5.39	28		Pn	03 43 44.4	-0.2
B04A				IAML		03 44 46.5	
	comp=E,92nm,0.8s						
B04A				IAML		03 44 49.5	
	comp=N,128nm,1.9s						
I07A	**Izee**	5.70	80	Pn	Pn	03 43 48.8	-0.2
F07A	**Phinny Hill Vi**	5.84	62		Pn	03 43 50.8	-0.1
LTY	**Liberty**	6.08	48		Pn	03 43 54.8	+0.5
B05A	**Bryant**	6.10	35	P	Pn	03 43 54.9	+0.6
	baz=217,SNR=29						
B05A				S	Sn	03 45 04.3	+0.5
	baz=217						
E07A	**Sunnyside**	6.17	56		Pn	03 43 55.0	-0.4
G08A	**Pilot Rock**	6.29	69		Pn	03 43 56.8	-0.4
HAWA	**Hanford**	6.30	59		Pn	03 43 56.5	-0.7
C06D	**Leavenworth**	6.39	42	S	Sn	03 45 14.2	+3.0
	baz=226						
WVOR	**Wild Horse Val**	6.44	95	Pn	Pn	03 43 57.4	-1.8
E08A	**Dider Farm, El**	6.63	59		Pn	03 44 00.3	-1.4
D08A	**Wollman Farm,**	6.97	55		Pn	03 44 06.3	-0.1
E09A	**Wood Farm, Sta**	7.22	61	Pn	Pn	03 44 08.9	-0.9
BMO	**Blue Mountains**	7.35	75		Pn	03 44 10.3	-1.4
B08A	**Colville Reser**	7.47	45		Pn	03 44 12.2	-1.0
F10A	**Beach Ranch, E**	7.64	67		Pn	03 44 15.6	-0.1
C09A	**Chrisman Ranch**	7.73	52		Pn	03 44 15.3	-1.5
NVAR	**Mina Array Bea**	8.42	123	Pn	Pn	03 44 26.4	-0.1
	comp=N,0.2nm,0.3s,baz=302,slow=16,SNR=2.0						
NEW	**Newport**	8.63	52	Pn	Pn	03 44 30.9	+1.8
	comp=N,5.7nm,0.3s,baz=241,slow=12,SNR=49						
BBB	**Bella Bella**	8.83	357	Pn	Pn	03 44 33.9	+2.1
	comp=N,1.8nm,0.3s,baz=188,slow=11,SNR=7.4						
ELK	**Elko**	9.36	102	Pn	Pn	03 44 42.0	+2.7
	comp=N,0.3nm,0.3s,baz=297,slow=18,SNR=2.5						
R11A	**Troy Canyon, C**	10.20	116		Pn	03 44 51.0	+0.1
PDAR	**Pinedale Array**	13.00	87	Pn	Pn	03 45 32.0	+2.9
	baz=278,slow=10,SNR=5.4						
WRAK	**Wrangell Islan**	13.45	348	Pn	Pn	03 45 36.0	+1.1
DLBC	**Dease Lake**	15.18	355	Pn	Pn	03 45 60.0	+1.4
	comp=N,0.0nm,0.3s,baz=172,slow=15,SNR=1.4						
SDCO	**Great Sand Dun**	17.48	101	Pn	Pn	03 46 27.3	-1.1
ANMO	**Albuquerque**	18.20	111	P	P	03 46 38.5	+1.3
	comp=N,0.1nm,0.3s,baz=293,slow=6.9,SNR=2.5						
EYAK	**Cordova Ski Ar**	20.48	333	P	P	03 46 58.7	-3.1
EYAK				IAmb	IAmb	03 46 59.8	
	comp=Z,30nm,1.2s						
YKA	**Yellowknife Ar**	20.55	17	P	Pn	03 47 03.6	-1.1
	comp=Z,9.6nm,0.7s,baz=201,slow=10,SNR=5.7						
DIV	**Divide**	20.93	335	P	P	03 47 05.2	-1.6
DIV				IAmb	IAmb	03 47 18.8	
	comp=Z,29nm,1.1s						
KDAK	**Kodiak Island**	21.39	321	P	P	03 47 12.8	+1.1
	comp=Z,20nm,0.9s,baz=143,slow=15,SNR=3.6						
KDAK	**Kodiak Island**	21.39	321	P	P	03 47 10.0	-1.6
KDAK				IAmb	IAmb	03 47 31.5	
	comp=Z,49nm,1.2s						
MENT	**Mentasta**	21.80	340	P	P	03 47 14.2	-1.9
TX32	**Lajitas Array**	23.54	119	P	P	03 47 32.7	-1.9
TXAR	**Lajitas Array**	23.54	119	P	P	03 47 35.2	+0.6
	comp=Z,2.8nm,0.8s,baz=297,slow=6.0,SNR=2.0						
MCK	**McKinley**	23.87	336	P	P	03 47 36.7	-0.7
MCK				IAmb	IAmb	03 47 58.7	
	comp=Z,34nm,1.2s						
IL31		24.11	339	P	P	03 47 39.1	-0.4
IL31				IAmb	IAmb	03 48 05.5	
	comp=Z,14nm,0.8s						
ILAR	**Eielson Array**	24.11	339	P	P	03 47 41.0	+1.4
	comp=Z,5.3nm,0.8s,baz=150,slow=9.4,SNR=12						
SPITS	**Spitsbergen Ar**	56.74	8	P	P	03 52 07.1	-0.2
	comp=Z,9.8nm,0.8s,baz=348,slow=6.3,SNR=2.3						
H11N3	**WAKE ISLAND Hy**	59.25	269	T	T	04 56 27.6	
	baz=50,slow=75						
H11N2	**WAKE ISLAND Hy**	59.25	269	T	T	04 56 26.8	
	baz=50,slow=75						
H11N1	**WAKE ISLAND Hy**	59.26	269	T	T	04 56 27.8	
	baz=50,slow=75						
H11S1	**WAKE ISLAND Hy**	60.17	268	T	T	04 57 33.6	
	baz=50,slow=75,SNR=433						
H11S2	**WAKE ISLAND Hy**	60.17	268	T	T	04 57 31.4	
	baz=50,slow=75,SNR=488						
H11S3	**WAKE ISLAND Hy**	60.18	268	T	T	04 57 31.3	
	baz=50,slow=75,SNR=248						
ASAJ	**Asahikawa**	61.71	305	P	P	03 52 43.4	+1.1
	comp=Z,5.5nm,0.8s,baz=73,slow=11,SNR=2.5						
USRK	**Ussuriysk Ar.**	67.78	310	P	P	03 53 21.2	-0.6
	comp=Z,2.8nm,0.8s,baz=55,slow=5.8,SNR=3.7						
MJAR	**Matsushiro Arr**	68.91	301	P	P	03 53 28.4	-0.7
	comp=Z,4.0nm,0.8s,baz=44,slow=5.5,SNR=7.1						
MJAR	**Matsushiro Arr**	68.91	301	IAmb	IAmb	03 53 46.5	
	comp=Z,6.4nm,1.5s						
NNA	**Nana**	71.77	127	P	P	03 53 47.0	+0.3
	comp=Z,3.1nm,0.4s,baz=292,slow=11,SNR=1.5						
FINES	**FINESS Array B**	73.33	13	P	P	03 53 55.7	+0.3
	comp=Z,7.5nm,0.9s,baz=339,slow=4.9,SNR=4.7						
PTGA	**Pitinga**	74.21	106	P	P	03 53 59.6	-1.6
	comp=Z,16nm,0.5s,baz=335,slow=4.2,SNR=3.8						
SONM	**Songino Array**	77.59	326	P	P	03 54 20.3	0.0
	comp=Z,4.4nm,1.0s,baz=9.5,slow=3.9,SNR=7.8						
SONM	**Songino Array**	77.59	326	IAmb	IAmb	03 54 26.0	
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	84.10	15	P	P	03 54 55.4	+0.6
	comp=Z,1.2nm,0.6s,baz=342,slow=4.1,SNR=5.7						
LSZ	**Lusaka**	145.04	44	PKPbc	**PKPdf**	**04 02 03.0**	**+1.0**
	comp=Z,5.9nm,0.9s,baz=346,slow=3.7,SNR=5.9						

*KRSC **30** 03:57:01.9±0.8, 53°.67N×159°.11E, h171km±8km, ML4.3*
*MOS **30** 03:57:01.9±0.8, 53°.65N×158°.88E, h179km, mb4.8/6, Error ellipse: s-maj=16.1km s-min=4.9km az=78.5*
*NEIC **30** 03:57:03.0±1.6, 53°.6N±0°.1×158°.8E±0°.2, h172km±8km, mb4.5/14, Error ellipse: s-maj=22.1km s-min=9.3km az=153.0*
*IDC **30** 03:57:04.1±0.8, 53°.82N×158°.55E, h166km±15km, mb3.6/14, mb1 3.7/14, mb1mx3.5/73, mbtmp4.1/14, Error ellipse: s-maj=41.4km s-min=24.1km az=6.0*

ISC 30 03:57:02.8±0.6, 53°.66N±0°.04×159°.05E±0°.05, h171km±5km, n122, σ1$20/150, mb4.1/21, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	0.39	195	PN	Pn	03 57 26.7	+0.4
SDLR	**Sedlovina**	0.39	195	eP	Pn	03 57 26.8	+0.4
KRER	**Koryakskii**	0.40	207	PN	Pn	03 57 27.0	+0.5
KRER				S	Sn	03 57 45.4	+0.9
KRER	**Koryakskii**	0.40	207	eP	Pn	03 57 27.0	+0.5
SMAR	**Somma**	0.42	201	PN	Pn	03 57 26.9	+0.3
SMAR	**Somma**	0.42	201	eP	Pn	03 57 27.1	+0.5
AVH	**Avacha**	0.43	206	PN	Pn	03 57 27.1	+0.7
AVH	**Avacha**	0.43	206	eP	Pn	03 57 27.1	+0.7
KOK	**Koryaka**	0.44	214	PN	Pn	03 57 27.0	+0.5
KOK	**Koryaka**	0.44	214	eP	Pn	03 57 27.0	+0.5
KII	**Karymskiy**	0.45	32	PN	Pn	03 57 26.5	+0.1
KII				S	Sn	03 57 47.4	+2.7
KII	**Karymskiy**	0.45	32	eP	Pn	03 57 26.5	+0.1
UGLR	**Uglovaya**	0.47	197	PN	Pn	03 57 27.1	+0.5
UGLR	**Uglovaya**	0.47	197	eP	Pn	03 57 27.2	+0.6
NLC	**Nalytchevo**	0.52	160	PN	Pn	03 57 27.0	+0.4
NLC				S	Sn	03 57 44.7	-0.2
NLC	**Nalytchevo**	0.52	160	eP	Pn	03 57 27.0	+0.4
NLC				eS	Sn	03 57 44.6	-0.3
DALK	**Dalny**	0.65	196	PN	Pn	03 57 27.7	+0.4
DALK				S	Sn	03 57 45.8	-0.3
DALK	**Dalny**	0.65	196	eP	Pn	03 57 27.7	+0.4
DALK				eS	Sn	03 57 45.8	-0.3
GNL	**Ganaly**	0.66	274	PN	Pn	03 57 27.3	-0.2
GNL	**Ganaly**	0.66	274	eP	Pn	03 57 27.3	-0.2
GNL				eS	Sn	03 57 45.6	-0.9
PET	**Petropavlovsk**	0.68	201	||pP	Pn	03 57 27.9	+0.4
PET				/S	Sn	03 57 46.3	0.0
PET				pmax	pmax		
	comp=Z,895nm,0.6s						
PET				smax	smax		
	comp=N,1μm,0.8s						
PET				smax	smax		
	comp=E,450nm,0.6s						
PET	**Petropavlovsk**	0.68	201	Pn	Pn	03 57 27.5	+0.1
PET				Sn	Sn	03 57 46.3	0.0
PET	**Petropavlovsk**	0.68	201	eP	Pn	03 57 27.9	+0.4
PET				eS	Sn	03 57 46.5	+0.2
SPN	**Mys Shipunski**	0.81	134	PN	Pn	03 57 28.2	0.0
SPN				S	Sn	03 57 47.2	-0.6
SPN	**Mys Shipunski**	0.81	134	eP	Pn	03 57 28.2	0.0
SPN				eS	Sn	03 57 47.2	-0.6
PEA0B	**Petropavlovsk-**	0.98	236	PN	Pn	03 57 28.7	-0.8
PEA0B						03 57 48.9	
PEA0B	**Petropavlovsk-**	0.98	236	Pn	Pn	03 57 28.7	-0.8
PEA0B				Sn	Sn	03 57 48.9	-1.1
PETK	**Petropavlovsk-**	0.98	236	P	Pn	03 57 28.9	-0.6
	comp=E,18nm,0.3s,baz=71,slow=12,SNR=190						
PETK				S	Sn	03 57 49.6	-0.4
	comp=E,6.4nm,0.3s,baz=330,slow=20,SNR=9.0						
KRMR	**Karymshinskiy**	1.00	214	PN	Pn	03 57 30.1	+0.5
KRMR				S	Sn	03 57 50.8	+0.7
KRMR	**Karymshinskiy**	1.00	214	eP	Pn	03 57 30.1	+0.5
KRMR				eS	Sn	03 57 50.8	+0.7
GRL	**Gorelyy**	1.25	208	PN	Pn	03 57 33.2	+1.3
GRL				S	Sn	03 57 56.6	+2.4
GRL	**Gorelyy**	1.25	208	eP	Pn	03 57 33.2	+1.3
GRL				eS	Sn	03 57 56.6	+2.4
RUS	**Russkaya**	1.27	195	PN	Pn	03 57 32.3	+0.5
RUS				S	Sn	03 57 53.8	-0.4
RUS	**Russkaya**	1.27	195	eP	Pn	03 57 32.3	+0.5
RUS				eS	Sn	03 57 53.8	-0.4
MTVR	**Mutnovka**	1.29	204	PN	Pn	03 57 33.5	+1.2
MTVR				S	Sn	03 57 57.1	+2.3
MTVR	**Mutnovka**	1.29	204	eP	Pn	03 57 33.4	+1.2
MTVR				eS	Sn	03 57 56.5	+1.7
APC	**Apacha**	1.35	238	eP	Pn	03 57 33.4	+0.8
APC				eS	Sn	03 57 55.8	+0.3
TUMD	**Tumrok D**	1.74	26	eP	Pn	03 57 36.7	+0.3
TUMR	**Tumrok**	1.75	21	PN	Pn	03 57 36.8	+0.2
TUMR	**Tumrok**	1.75	21	eP	Pn	03 57 37.4	+0.8
KDTR	**Khodutka, Kamc**	1.94	198	PN	Pn	03 57 38.9	+0.3
KDTR				S	Sn	03 58 05.3	-1.0
KDTR	**Khodutka, Kamc**	1.94	198	eP	Pn	03 57 38.8	+0.2
KDTR				eS	Sn	03 58 05.3	-1.0
KMNR	**Kamenistaya**	2.21	18	PN	Pn	03 57 42.6	+0.9
KMNR	**Kamenistaya**	2.21	18	eP	Pn	03 57 42.5	+0.9
ESO	**Esso**	2.28	355	PN	Pn	03 57 45.1	+2.7
KPT	**Kopyto**	2.41	16	PN	Pn	03 57 44.2	+0.2
KPT	**Kopyto**	2.41	16	eP	Pn	03 57 44.1	+0.1
KIRR	**Kirishev**	2.42	17	PN	Pn	03 57 44.6	+0.5
KIRR	**Kirishev**	2.42	17	eP	Pn	03 57 44.6	+0.5
KOZ	**Kozyrevsk**	2.45	11	eP	Pn	03 57 44.6	+0.2
BZWR	**Bezymyannyi-We**	2.46	19	PN	Pn	03 57 45.3	+0.7
BZWR	**Bezymyannyi-We**	2.46	19	eP	Pn	03 57 45.3	+0.7
BZGR	**Bezymyannyi-Gr**	2.48	22	PN	Pn	03 57 47.0	+2.2
ZLN	**Zelenaya**	2.57	22	PN	Pn	03 57 47.5	+1.6
PAU	**Pauzhetka**	2.58	213	PN	Pn	03 57 47.2	+1.2
LGNR	**Loginova**	2.61	21	PN	Pn	03 57 47.7	+1.2
KRSR	**Krestovskiy**	2.71	18	PN	Pn	03 57 47.8	+0.3
KRSR	**Krestovskiy**	2.71	18	eP	Pn	03 57 47.9	+0.4
KLY	**Klyuchi**	2.82	18	PN	Pn	03 57 50.0	+1.3
KLY	**Klyuchi**	2.82	18	eP	Pn	03 57 50.0	+1.3
BDR	**Baidarnaya**	3.17	22	PN	Pn	03 57 54.3	+1.1
BDR	**Baidarnaya**	3.17	22	eP	Pn	03 57 54.2	+1.1
SRKR	**Sorokina**	3.24	21	PN	Pn	03 57 55.2	+1.2
SRKR	**Sorokina**	3.24	21	eP	Pn	03 57 55.1	+1.1
SMKR	**Semkarok**	3.24	24	PN	Pn	03 57 55.3	+1.3
KBG	**Krutoberegovo**	3.35	37	PN	Pn	03 57 55.4	+0.2
KBG	**Krutoberegovo**	3.35	37	eP	Pn	03 57 55.4	+0.2
KBTR	**Krutoberegovo**	3.35	39	PN	Pn	03 57 55.5	+0.2
KBTR	**Krutoberegovo**	3.35	39	eP	Pn	03 57 55.5	+0.2
SKR	**Severo-Kuril's**	3.48	212	ePN	Pn	03 57 57.2	+0.2
SKR				eS	Sn	03 58 40.7	+1.5
SKR				pmax	pmax		
	comp=Z,42nm,0.4s						
SKR				smax	smax		
	comp=E,210nm,0.7s						
SKR				smax	smax		
	comp=N,115nm,0.5s						
BKI	**Bering**	4.33	66	PN	Pn	03 58 08.1	+0.4
BKI				S	Sn	03 58 56.1	-2.4
BKI	**Bering**	4.33	66	eP	Pn	03 58 08.1	+0.4
BKI				eS	Sn	03 58 55.1	-3.4
PALN	**Palana**	5.47	5	PN	Pn	03 58 23.1	+0.6
PALN	**Palana**	5.47	5	eP	Pn	03 58 22.9	+0.4
JKA	**Kamikawa-asahi**	14.40	235	Pn	Pn	04 00 16.0	-2.7
ASAJ	**Asahikawa**	14.40	235	P	Pn	04 00 16.0	-2.7
ERM	**Erimo**	15.75	229	P	Pn	04 00 34.4	-0.9
ERM				pmax	pmax		
	comp=Z,65nm,1.5s						
ERM	**Erimo**	15.75	229		Pn	04 00 34.4	-0.9
ERM				IAmb	IAmb	04 00 35.0	
	comp=Z,64nm,1.5s						
TIXI	**Tiksi**	22.31	335	P	P	04 01 45.5	-0.2
	comp=Z,3.7nm,0.6s,baz=123,slow=8.5,SNR=4.1						
TIXI	**Tiksi**	22.31	335	P	P	04 01 45.0	-0.7
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	**Tiksi**	22.31	335	P	P	04 01 45.0	-0.7
RSO	**Redoubt South**	26.54	56	P	P	04 02 25.4	+0.9
KDAK	**Kodiak Island**	27.08	62	P	P	04 02 30.3	+1.3
KDAK				pmax	pmax		
	comp=Z,26nm,1.3s						
KDAK	**Kodiak Island**	27.08	62	P	P	04 02 30.3	+1.3
KDAK				IAmb	IAmb	04 02 34.2	
	comp=Z,26nm,1.3s						
ILAR	**Eielson Array**	28.87	46	P	P	04 02 45.4	+0.6
ILAR	**Eielson Array**	28.87	46	P	P	04 02 45.4	+0.6
ZALV	**Zalesovo Beam**	41.95	302	P	P	04 04 32.4	-3.9
ZALV	**Zalesovo Beam**	41.95	302	P	P	04 04 32.4	-3.9
YKA	**Yellowknife Ar**	43.17	43	PcP	PcP	04 06 31.1	-1.0
	comp=Z,0.5nm,0.6s,baz=285,slow=2.5,SNR=6.4						
SPITS	**Spitsbergen Ar**	46.47	350	P	P	04 05 12.2	+0.3
	comp=Z,3.7nm,0.5s,baz=56,slow=9.1,SNR=12						
SPITS	**Spitsbergen Ar**	46.47	350	P	P	04 05 12.0	+0.1
SPITS				pmax	pmax		
	comp=Z,35nm,1.2s						
KURK	**Kurchatov**	46.91	301	P	P	04 05 14.0	-1.6
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURK	**Kurchatov**	46.91	301	P	P	04 05 14.0	-1.6
KURK				IAmb	IAmb	04 05 21.0	
	comp=Z,7.9nm,0.9s						
KURBB	**Kurchatov Arra**	47.01	301	P	P	04 05 15.6	-0.8
	comp=Z,2.6nm,0.7s,baz=55,slow=7.6,SNR=6.8						
MK31	**Makanchi Array**	47.35	295	P	P	04 05 18.9	-0.2
MK31				pmax	pmax		
	comp=Z,27nm,1.5s						
MK31	**Makanchi Array**	47.35	295	P	P	04 05 18.9	-0.2
MK31				IAmb	IAmb	04 05 19.5	
	comp=Z,27nm,1.4s						
MKAR	**Makanchi Array**	47.35	295	P	P	04 05 18.3	-0.8
	comp=Z,4.9nm,0.8s,baz=50,slow=5.6,SNR=5.9						
BVAR	**Borovoye Array**	49.55	307	P	P	04 05 34.4	-1.4
	comp=Z,1.3nm,0.4s,baz=72,slow=9.6,SNR=5.8						
BRVK	**Borovoye**	49.58	308	P	P	04 05

CHEFC	Chefchaouen	1.35 250	P	Pg	04 06 46.0	+2.6
JBK	JBK	1.59 141	P	Pg	04 06 49.0	+1.1
LCRM	LCR	2.08 205	P	Pg	04 06 58.0	+0.7
LCRM	LCR	2.08 205	P	Pg	04 06 58.0	+0.7
IFR	Ifrane	2.33 209	P	Pn	04 06 56.3	+0.3
IFR			S	Sn	04 07 22.1	-2.7
MDT	Midelt	2.84 194	P	Pn	04 07 03.6	+0.8
EVO	Evora	4.49 312	P	Pn	04 07 27.6	+2.3
EVO			S	Sn	04 08 17.5	-0.1

IDC 30 04:20:18.9±2.0, 3°.01S×147°.17E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.3/43, mbtmp3.9/3, Error ellipse: s-maj=285.2km s-min=33.3km az=122.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.98	216	P	P	04 25 03.6	-0.3
	5.2nm,0.9s,baz=41,slow=11,SNR=11						
ASAR	Alice Springs	24.21	211	P	P	04 25 37.9	+0.3
	2.1nm,0.9s,baz=42,slow=7.5,SNR=10						
YKA	Yellowknife Ar	96.46	28	P	P	04 33 49.6	-0.3
	0.2nm,0.7s,baz=267,slow=4.7,SNR=4.6						

*KRSC **30** 04:29:00.6±1.3, 53°.84N×159°.32E, h175km±12km, ML3.9*
*IDC **30** 04:29:01.8±1.2, 54°.03N×158°.75E, h169km±11km, mb3.0/6, mb1 3.3/7, mb1mx2.9/68, mbtmp3.5/7, Error ellipse: s-maj=28.3km s-min=19.1km az=102.0*

ISC 30 04:29:01.6±0.8, 53°.88N±0°.06×159°.22E±0°.06, h174km±6km, n38, σ1s17/54, mb3.3/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.21	41	eP	Pn	04 29 25.1	+0.2
SDLR	Sedlovina	0.63	198	eP	Pn	04 29 26.7	+0.2
SDLR				eS	Sn	04 29 45.8	+0.2
KRER	Koryakskii	0.64	206	eP	Pn	04 29 27.3	+0.6
SMAR	Somma	0.66	202	eP	Pn	04 29 27.3	+0.5
SMAR				eS	Sn	04 29 47.2	+1.1
AVH	Avacha	0.68	205	eP	Pn	04 29 27.2	+0.5
AVH				eS	Sn	04 29 46.7	+0.7
KOK	Koryaka	0.68	211	eP	Pn	04 29 27.3	+0.5
UGLR	Uglovaya	0.71	199	eP	Pn	04 29 27.5	+0.5
UGLR				eS	Sn	04 29 47.0	+0.6
NLC	Nalytchevo	0.71	174	eP	Pn	04 29 26.9	+0.1
NLC				eS	Sn	04 29 45.8	-0.3
GNL	Ganaly	0.78	257	eP	Pn	04 29 26.9	-0.4
GNL				eS	Sn	04 29 46.1	-1.0
DALK	Dalny	0.89	198	eP	Pn	04 29 27.9	0.0
DALK				eS	Sn	04 29 47.6	-0.6
PET	Petropavlovsk	0.92	202	eP	Pn	04 29 28.4	+0.3
PET				eS	Sn	04 29 48.2	-0.3
SPN	Mys Shipunski	0.92	148	eP	Pn	04 29 27.9	-0.2
SPN				eS	Sn	04 29 47.7	-1.4
PETK	Petropavlovsk-	1.19	230	P	Pn	04 29 29.1	-1.1
	2.4nm,0.3s,baz=49,slow=9.5,SNR=39						
KRMR	Karymshinskiy	1.23	212	eP	Pn	04 29 30.7	+0.1
KRMR				eS	Sn	04 29 53.1	+0.1
GRL	Gorelyy	1.50	208	eP	Pn	04 29 33.6	+0.4
TUMD	Tumrok D	1.50	27	eP	Pn	04 29 33.5	+0.5
RUS	Russkaya	1.51	197	eP	Pn	04 29 32.8	-0.3
RUS				eS	Sn	04 29 56.2	-1.3
TUMR	Tumrok	1.51	21	eP	Pn	04 29 34.2	+1.0
MTVR	Mutnovka	1.53	204	eP	Pn	04 29 34.2	+0.7
MTVR				eS	Sn	04 29 58.7	+0.6
APC	Apacha	1.56	233	eP	Pn	04 29 34.6	+1.0
KMNR	Kamenistaya	1.97	17	eP	Pn	04 29 38.8	+0.8
ESO	Esso	2.07	352	eP	Pn	04 29 41.7	+2.7
KPT	Kopyto	2.17	15	eP	Pn	04 29 40.1	-0.1
KIRR	Kirishev	2.18	17	eP	Pn	04 29 40.9	+0.6
KDTR	Khodutka, Kamc	2.18	199	eP	Pn	04 29 39.6	-0.7
KDTR				eS	Sn	04 30 07.9	-2.4
BZWR	Bezymyannyi-We	2.22	19	eP	Pn	04 29 41.3	+0.5
BZGR	Bezymyannyi-Gr	2.24	22	eP	Pn	04 29 42.9	+1.9
KLY	Klyuchi	2.58	18	eP	Pn	04 29 46.2	+1.5
KBG	Krutoberegovo	3.12	39	eP	Pn	04 29 51.4	+0.2
KBG				eS	Sn	04 30 28.1	-1.9
KBTR	Krutoberegovo	3.12	40	eP	Pn	04 29 51.5	+0.1
KBTR				eS	Sn	04 30 28.7	-1.5
BKI	Bering	4.15	69	eP	Pn	04 30 06.3	+1.9
BKI				eS	Sn	04 30 50.7	-2.8
SEY	Seymchan	9.76	341	P	Pn	04 31 16.3	-1.4
	0.1nm,0.3s,baz=152,slow=9.5,SNR=4.7						
YKA	Yellowknife Ar	42.94	43	P	P	04 36 42.7	+0.1
	0.2nm,0.8s,baz=297,slow=8.4,SNR=2.8						
MKAR	Makanchi Array	47.35	294	P	P	04 37 15.5	-2.1
	0.1nm,0.5s,baz=48,slow=8.3,SNR=2.1						
FINES	FINESS Array B	59.19	336	P	P	04 38 42.2	-1.3
	2.1nm,1.1s,baz=28,slow=6.3,SNR=5.6						
TXAR	Lajitas Array	70.81	67	P	P	04 40 01.7	+2.5
	0.1nm,0.3s,baz=305,slow=5.6,SNR=4.0						
WRA	Warramunga Arr	76.58	204	P	P	04 40 32.8	+0.3
	0.8nm,0.8s,baz=20,slow=6.1,SNR=4.9						
ASAR	Alice Springs	80.27	203	P	P	04 40 54.3	+1.7
	0.6nm,0.6s,baz=17,slow=5.5,SNR=8.1						

*JMA **30** 04:32:33.8±0.2, 29°.83N×139°.29E, h477km, M4.1*
*NEIC **30** 04:32:35.4±0.8, 29°.7N±0°.1×138°.9E±0°.1, h449km±9km, mb4.1/14, Error ellipse: s-maj=16.9km s-min=14.7km az=98.0*
*IDC **30** 04:32:36.0±1.2, 29°.70N×138°.77E, h458km±14km, mb3.3/23, mb1 3.4/29, mb1mx3.2/82, mbtmp4.1/29, Error ellipse: s-maj=13.4km s-min=8.3km az=98.0*

ISC 30 04:32:34.8±0.5, 29°.71N±0°.06×138°.90E±0°.08, h445km, n65, σ1s08/66, mb3.8/26, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.48	13	P	P	04 33 46.1	+1.0
JHJ2	Mitsune	3.48	13	P	P	04 33 45.2	+0.1
JHJ	Hachijo jima 2	3.49	12	P	P	04 33 47.0	+1.9
	70nm,0.3s,baz=88,slow=22,SNR=9.8						
CBIJ	Chichi jima	3.89	131	P	P	04 33 48.9	+0.2
JCJ	Chichijima	3.89	131	P	P	04 33 47.6	-1.2
JCJ				S	S	04 34 47.3	-1.5
JKN2	Miekihoku	5.04	334	P	P	04 34 01.1	+1.9
HMMJ	Hamamatsu 2	5.23	349	P	P	04 34 02.9	+1.9
BSO1	Boso 1	5.24	19	P	P	04 34 01.0	+0.5
BSO1				eS	S	04 35 10.3	-0.3
BSO3	Boso 3	5.26	15	P	P	04 34 01.4	+0.4
BSO4	Boso 4	5.41	13	P	P	04 34 02.7	0.0
BSO4				eS	S	04 35 13.7	-0.8
JOD2	Odawara 2	5.54	2	P	P	04 34 04.9	+0.7
JRY	Ryogami san	6.29	360	P	P	04 34 12.0	+0.2
JYT	Yasato	6.59	9	P	P	04 34 14.4	-0.6
JAG	Ashikaga	6.72	4	P	P	04 34 15.2	-1.1
JAG				eS	S	04 35 34.7	-4.7
MJAR	Matsushiro Arr	6.84	355	P	P	04 34 18.2	+0.6
	0.3nm,0.3s,baz=257,slow=15,SNR=4.8						
JHO	Hitachi	7.03	11	P	P	04 34 19.3	-0.3
JHS	Saijyo	7.20	319	P	P	04 34 22.9	+1.4
JMM	Marumori	8.29	10	P	P	04 34 33.8	+0.7
JOW	Kunigami	9.80	256	P	P	04 34 51.5	+1.8
	2.1nm,0.3s,baz=61,slow=8.9,SNR=5.1						
KSRS	Korea Array	11.97	313	P	P	04 35 13.8	+0.5
	0.2nm,0.3s,baz=125,slow=12,SNR=5.0						
ASAJ	Asahikawa	14.68	11	P	P	04 35 45.1	+2.6
	0.7nm,0.3s,baz=233,slow=11,SNR=4.6						
JKA	Kamikawa-asahi	14.68	11	P	P	04 35 45.1	+2.7
USA0B	Ussuriysk Arra	15.48	341	P	P	04 35 51.0	+0.1
USA0B				IAmb	IAmb	04 35 52.3	
	comp=Z,16nm,0.8s						
USRK	Ussuriysk Ar.	15.48	341	P	P	04 35 51.5	+0.6
	baz=144,slow=11,SNR=25						
USRK	Ussuriysk Ar.	15.48	341	P	P	04 35 51.4	+0.5
KLR	Kul'dur	20.25	346	P	P	04 36 38.7	+0.2
	comp=Z,4.4nm,0.6s,baz=156,slow=6.8,SNR=19						
SONM	Songino Array	30.83	315	P	P	04 38 12.3	-0.4
	comp=Z,0.5nm,0.4s,baz=125,slow=8.7,SNR=8.5						
SONM	Songino Array	30.83	315	P	P	04 38 12.4	-0.4
SEY	Seymchan	34.37	11	P	P	04 38 43.8	+1.3
	comp=Z,0.4nm,0.3s,baz=219,slow=5.5,SNR=5.1						
CHTO	Chiang Mai	37.84	263	P	P	04 39 11.3	-0.8
CHTO				IAmb	IAmb	04 39 12.5	
	comp=Z,6.3nm,0.6s						
CMAR	Chiang Mai Arr	37.99	262	P	P	04 39 12.8	-0.5
	comp=Z,1.9nm,0.6s,baz=72,slow=5.2,SNR=7.4						
TIXI	Tiksi	42.35	355	P	P	04 39 47.4	-0.3
	comp=Z,1.7nm,0.3s,baz=132,slow=6.6,SNR=4.6						
TIXI	Tiksi	42.35	355	IAmb	IAmb	04 39 48.1	
	comp=Z,2.5nm,0.5s						
MTN	Manton Dam	42.96	191	P	P	04 39 52.7	-0.6
ZALV	Zalesovo Beam	45.62	318	P	P	04 40 12.8	-0.7
	comp=Z,0.4nm,0.3s,baz=103,slow=6.5,SNR=2.4						
KNRA	Kununurra	46.17	194	P	P	04 40 17.8	-0.3
PSI	Prapat	46.38	242	P	P	04 40 19.2	-0.9
	comp=Z,1.8nm,0.4s,baz=140,slow=3.1,SNR=4.6						
RPSI	Rantau Prapat	46.45	242	P	P	04 40 19.2	-1.2
MKAR	Makanchi Array	46.59	308	P	P	04 40 20.7	-0.4
	comp=Z,0.2nm,0.3s,baz=84,slow=9.8,SNR=7.5						
GSI	Gunungsitoli	48.37	242	P	P	04 40 34.5	-0.4
NRIK	Noril'sk	49.17	339	P	P	04 40 40.2	+0.1
	comp=Z,2.0nm,0.3s,baz=114,slow=8.7,SNR=3.9						
FITZ	Fitzroy Crossi	49.22	197	P	P	04 40 41.5	+0.5
WB0	Warramunga Arr	49.38	186	P	P	04 40 42.2	-0.1
WB0				IAmb	IAmb	04 40 43.3	
	comp=Z,6.3nm,0.9s						
WB2	Warramunga Arr	49.55	186	P	P	04 40 43.3	-0.3
WB2				IAmb	IAmb	04 40 44.1	
	comp=Z,6.4nm,0.8s						
WRA	Warramunga Arr	49.55	186	P	P	04 40 43.4	-0.3
	comp=Z,4.4nm,0.5s,baz=0.8,slow=7.9,SNR=83						
WRA	Warramunga Arr	49.55	186	P	P	04 40 43.3	-0.3
AS31	Alice Springs	53.28	186	P	P	04 41 10.5	-0.2
ASAR	Alice Springs	53.28	186	P	P	04 41 10.7	-0.1
	comp=Z,3.0nm,0.8s,baz=14,slow=9.8,SNR=31						
IMAR	Indian Mountai	54.06	28	P	P	04 41 15.4	-0.2
BVAR	Borovoye Array	54.17	316	P	P	04 41 16.6	-0.1
	comp=Z,1.3nm,0.4s,baz=70,slow=13,SNR=11						
IL31		56.84	30	P	P	04 41 35.3	+0.1
IL31				IAmb	IAmb	04 41 38.5	
	comp=Z,17nm,1.9s						
ILAR	Eielson Array	56.84	30	P	P	04 41 35.5	+0.2
	comp=Z,0.6nm,0.6s,baz=262,slow=5.1,SNR=14						
ARU	Arti	60.59	321	P	P	04 41 60.0	-0.8
	comp=Z,0.7nm,0.4s,baz=116,slow=7.6,SNR=4.2						
ARU	Arti	60.59	321	IAmb	IAmb	04 43 37.5	
	comp=Z,32nm,1.9s						
STKA	Stephens Creek	61.30	177	P	P	04 42 05.4	-0.2
	comp=Z,1.5nm,0.4s,baz=10.0,slow=6.5,SNR=3.1						
STKA	Stephens Creek	61.30	177	IAmb	IAmb	04 43 45.0	
	comp=Z,4.4nm,1.6s						
INK	Inuvik	61.88	25	P	P	04 42 09.9	+0.9
	comp=Z,1.9nm,0.3s,baz=275,slow=5.0,SNR=22						
AKTO	Aktyubinsk	62.15	314	P	P	04 42 11.1	-0.1
	comp=Z,0.5nm,0.5s,baz=82,slow=16,SNR=3.5						
ARCES	ARCESS Array B	70.12	340	P	P	04 43 00.6	-0.1
	comp=Z,1.6nm,0.6s,baz=61,slow=6.0,SNR=12						
YKA	Yellowknife Ar	71.22	28	P	P	04 43 07.8	+0.5
	comp=Z,0.9nm,0.6s,baz=298,slow=6.2,SNR=20						
FINES	FINESS Array B	74.32	333	P	P	04 43 24.8	-0.5
	comp=Z,10nm,1.2s,baz=68,slow=7.3,SNR=12						
NB2	NORSAR Subarra	80.11	337	P	P	04 43 56.3	-0.7
	comp=Z,0.4nm,0.4s,baz=44,slow=5.3						
NOA	NORSAR Array B	80.11	337	P	P	04 43 56.3	-0.7
	comp=Z,0.6nm,0.5s,baz=45,slow=4.9,SNR=1.3						
NVAR	Mina Array Bea	81.15	51	P	P	04 44 03.9	+0.8
	comp=Z,0.4nm,0.5s,baz=307,slow=5.9,SNR=3.6						
PDAR	Pinedale Array	84.36	43	P	P	04 44 20.3	+1.0
	comp=Z,1.0nm,1.1s,baz=343,slow=1.5,SNR=3.8						

*IDC **30** 04:45:06.4±8.8, 56°.98S×27°.04W, h116km±68km, mb3.8/4, mb1 3.9/4, mb1mx3.7/19, mbtmp4.2/4, Error ellipse: s-maj=73.5km s-min=12.7km az=9.0*
*NEIC **30** 04:45:09.4±1.9, 56°.9S±0°.2×27°.0W±0°.3, h146km±9km, mb4.2/8, Error ellipse: s-maj=28.1km s-min=16.0km az=213.0*

ISC 30 04:45:09.6±0.7, 56°.9S±0°.1×27°.1W±0°.1, h150km, n16, σ0s68/15, mb4.0/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.93	292	Pn	Pn	04 46 35.7	+0.4
SNAA	Sanae	17.94	155	P	P	04 49 08.0	+0.2
SNAA				IAmb	IAmb	04 49 27.1	
	comp=Z,15nm,1.4s						
PLTB	Pedras Altas	31.11	313	P	P	04 51 12.8	-0.9
QSPA	South Pole Qui	33.34	180	P	P	04 51 33.0	0.0
CPUP	Villa Florida	37.42	312	P	P	04 52 07.0	-0.9
	comp=Z,0.9nm,0.4s,baz=162,slow=6.4,SNR=3.5						
BOSA	Boshof	46.14	75	P	P	04 53 19.1	+0.1
	comp=Z,3.6nm,1.2s,baz=213,slow=8.2,SNR=5.0						
BOSA	Boshof	46.14	75	P	P	04 53 18.8	-0.2
BOSA				IAmb	IAmb	04 53 28.8	
	comp=Z,7.5nm,1.4s						
LBTB	Lobatse	49.22	72	P	P	04 53 41.7	-1.0
LBTB				IAmb	IAmb	04 53 43.1	
	comp=Z,9.9nm,1.4s						
LPAZ	La Paz	50.91	306	P	P	04 53 56.9	+0.8
	comp=Z,1.8nm,0.3s,baz=89,slow=4.9,SNR=14						
LPAZ	La Paz	50.91	306	IAmb	IAmb	04 53 57.2	
	comp=Z,2.2nm,0.5s						
BOAV	Boa Vista	64.99	323	P	P	04 55 33.0	-0.3
TORD	Torodi Ar. Bea	73.78	29	P	P	04 56 28.5	+1.3
	comp=Z,1.6nm,0.8s,baz=199,slow=6.3,SNR=2.6						
YKA	Yellowknife Ar	136.84	317	PKP	PKiKP	05 04 14.2	-0.3
	comp=Z,0.2nm,0.6s,baz=127,slow=2.2,SNR=7.3						
INK	Inuvik	146.49	320	PKPbc	PKPbc	05 04 31.2	-0.2
	comp=Z,1.2nm,0.8s,baz=86,slow=3.5,SNR=7.3						
ILAR	Eielson Array	150.72	310	PKPbc	PKiKP	05 04 43.0	0.0
	comp=Z,0.7nm,0.8s,baz=116,slow=2.1,SNR=8.7						
SONM	Songino Array	150.72	88	PKPbc	PKPbc	05 04 43.0	-0.1
	comp=Z,0.4nm,0.5s,baz=213,slow=2.6,SNR=4.4						

*NEIC **30** 04:56:52.6±2.5, 18°.21N±0°.04×95°.32W±0°.05, h44km±5km, mb4.3/32, Md4.6/56(MEX), Error ellipse: s-maj=7.6km s-min=6.0km az=57.0*
*MEX **30** 04:56:53.4±0.7, 18°.31N×95°.30W, h33km±50km, MD4.6*
*IDC **30** 04:56:54.3±1.1, 18°.13N×95°.13W, h70km±15km, mb3.5/7, mb1 3.7/10, mb1mx3.5/50, mbtmp3.8/10, Error ellipse: s-maj=26.4km s-min=13.9km az=55.0*

ISC 30 04:56:52.5±0.8, 18°.27N±0°.04×95°.29W±0°.03, h50km±10km, n104, σ1s92/137, mb3.9/7, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEUV	Arroyo Zacate	0.74	221	eP	Pn	04 57 06.0	-0.7
NEUV				eS	Sn	04 57 15.3	-1.7
CMIG	Matias Romero	1.24	162	P	Pn	04 57 13.4	0.0
	127nm,0.3s,baz=337,slow=6.8,SNR=3242						
CMIG				S	Sn	04 57 28.2	-0.8
	531nm,0.3s,baz=304,slow=13,SNR=34						
CMIG	Matias Romero	1.24	162		Pn	04 57 13.3	-0.1
CMIG					Sn	04 57 27.8	-1.1
CMIG	Matias Romero	1.24	162	eP	Pn	04 57 13.3	-0.1
CMIG				eS	Sn	04 57 27.8	-1.1
TOIG	Toxpalan	1.69	264	eP	Pn	04 57 19.9	+0.2
TOIG				eS	Sn	04 57 39.0	-1.4
JAUV	Jalcomulco	1.80	307	eP	Pn	04 57 19.9	-1.2
JAUV				eS	Sn	04 57 40.4	-2.5
OXBJ	Oaxaca	1.82	229		Pn	04 57 21.8	+0.3
OXBJ					Sn	04 57 42.3	-1.2
OXBJ	Oaxaca	1.82	229	eP	Pn	04 57 21.8	+0.3
OXBJ				eS	Sn	04 57 42.3	-1.2
VHO	Vista Hermosa	1.82	229	eP	Pn	04 57 22.1	+0.5
VHO				eS	Sn	04 57 42.8	-0.8
HLIG	Huajuapan de L	2.43	260	eP	Pn	04 57 30.0	+0.1
HLIG				eS	Sn	04 57 57.2	-1.4
TGIG		2.55	125		Pn	04 57 32.0	+0.6
TGIG					Sn	04 57 59.9	-1.3
TGIG		2.55	125	eP	Pn	04 57 32.0	+0.6
TGIG				eS	Sn	04 57 59.9	-1.3
HUIG	Huatulco	2.61	198		Pn	04 57 31.7	-0.5
HUIG					Sn	04 57 58.4	-4.3
HUIG	Huatulco	2.61	198	eP	Pn	04 57 31.7	-0.5
HUIG				eS	Sn	04 57 58.4	-4.3
FTIG	Fresnillo de T	2.73	263	eP	Pn	04 57 34.6	+0.7
FTIG				eS	Sn	04 58 04.6	-1.1
PEIG	Puerto Escondi	2.88	218	eP	Pn	04 57 34.8	-1.0
PEIG				eS	Sn	04 58 08.5	-0.7
PPM	Popocatepetl	3.26	285	eP	Pn	04 57 43.9	+2.3
PPM				eS	Sn	04 58 19.6	+0.2
PNIG	Pinotepa	3.29	236		Pn	04 57 39.7	-1.8
PNIG					Sn	04 58 18.8	-0.7
PNIG	Pinotepa	3.29	236	eP	Pn	04 57 39.7	-1.8
PNIG				eS	Sn	04 58 18.8	-0.7
MGIG	Malinaltepec	3.35	253	eP	Pn	04 57 42.4	-0.1
MGIG				eS	Sn	04 58 19.9	-1.2
CCIG	Comitan	3.60	123		Pn	04 57 46.3	+0.3
CCIG					Sn	04 58 27.5	+0.1
CCIG	Comitan	3.60	123	eP	Pn	04 57 46.3	+0.3
CCIG				eS	Sn	04 58 27.5	+0.1
YAIG	Yautepec	3.63	280		Pn	04 57 47.6	+1.3
YAIG					Sn	04 58 27.2	-0.8
YAIG	Yautepec	3.63	280	eP	Pn	04 57 47.6	+1.3
YAIG				eS	Sn	04 58 27.2	-0.8
UNM	Universidad Na	3.83	287	Pn	Pn	04 57 48.4	-0.8
SCIG	Sabancuy	3.95	79		Pn	04 57 46.5	-4.1
SCIG					Sn	04 58 30.4	-5.3
SCIG	Sabancuy	3.95	79	eP	Pn	04 57 46.5	-4.1
SCIG				eS	Sn	04 58 30.4	-5.3
CRIG	Cruz Grande	3.97	248		Pn	04 57 48.9	-1.9
CRIG					Sn	04 58 34.3	-1.8
CRIG	Cruz Grande	3.97	248	eP	Pn	04 57 48.9	-1.9
CRIG				eS	Sn	04 58 34.3	-1.8
PLIG	Platanillo	4.00	272		Pn	04 57 51.9	+0.5
PLIG					Sn	04 58 34.0	-3.1
PLIG	Platanillo	4.00	272	eP	Pn	04 57 51.9	+0.5
PLIG				eS	Sn	04 58 34.0	-3.1
MEIG	Mezcala	4.13	266		Pn	04 57 53.1	-0.1
MEIG					Sn	04 58 37.0	-3.3
MEIG	Mezcala	4.13	266	eP	Pn	04 57 53.1	-0.1
MEIG				eS	Sn	04 58 37.0	-3.3
PAVE	Pavencul	4.27	135	eP	Pn	04 57 54.8	-0.5
PAVE				eS	Sn	04 58 43.9	-0.1
PATR	El Naranjo	4.29	137	eP	Pn	04 57 55.6	+0.1
PATR				eS	Sn	04 58 43.8	-0.6
DAIG	Los Arroyos	4.34	254		Pn	04 57 54.5	-1.5
DAIG					Sn	04 58 42.8	-2.5
DAIG	Los Arroyos	4.34	254	eP	Pn	04 57 54.5	-1.5
DAIG				eS	Sn	04 58 42.8	-2.5
CHUJ	Union Juarez	4.39	136	eP	Pn	04 57 57.0	+0.2
CHUJ				eS	Sn	04 58 47.0	+0.1
THIG		4.43	139		Pn	04 57 57.4	+0.3
THIG					Sn	04 58 48.0	+0.5
THIG		4.43	139	eP	Pn	04 57 57.4	+0.3
THIG				eS	Sn	04 58 48.0	+0.5
HUEH	Huehuetenango	4.67	128		Pn	04 58 00.3	-0.3
ARIG	Puente Sto Nin	4.80	271		Pn	04 58 02.7	+0.4
ARIG					Sn	04 58 52.2	-4.6
ARIG	Puente Sto Nin	4.80	271	eP	Pn	04 58 02.7	+0.4
ARIG				eS	Sn	04 58 52.2	-4.6
CAIG	El Cayaco	4.90	256		Pn	04 58 01.7	-1.9
CAIG					Sn	04 58 56.2	-2.8
CAIG	El Cayaco	4.90	256	eP	Pn	04 58 01.7	-1.9
CAIG				eS	Sn	04 58 56.2	-2.8
PETF	Flores	5.35	104		Pn	04 58 10.0	+0.3
APG	El Apazote	5.65	124	P	Pn	04 58 13.1	-1.1
	7.9nm,0.3s,baz=335,slow=13,SNR=106						
APG				S	Sn	04 59 14.0	-3.9
	16nm,0.3s,baz=113,slow=16,SNR=8.2						
MOIG	Morelia	5.75	285	Pn	Pn	04 58 16.2	+0.7
ZIIG	Zihuatanejo	5.92	265		Pn	04 58 14.4	-3.1
ZIIG					Sn	04 59 20.0	-4.0
ZIIG	Zihuatanejo	5.92	265	eP	Pn	04 58 14.4	-3.1
ZIIG				eS	Sn	04 59 20.0	-4.0
ESQI	Esquipulas	6.80	122	Pn	Pn	04 58 29.1	-0.7
MTO3	Montecristo	6.87	123		Pn	04 58 30.1	-0.8
833A	Chaparral WMA,	10.69	340	Pn	Pn	04 59 24.1	+1.2
833A	Chaparral WMA,	10.69	340	P	Pn	04 59 26.1	+3.1
	baz=159,SNR=22						
833A				S	Sn	05 01 12.6	-8.6
	baz=159						
435B	Jarrell	12.63	351	P	Pn	04 59 52.2	+2.8
	baz=170						
435B				S	Sn	05 01 58.9	-10
	baz=170						
JCT	Junction City	12.83	342	Pn	Pn	04 59 54.1	+2.0
JCT	Junction City	12.83	342	S	Sn	05 02 03.9	-10
	baz=161						
TXAR	Lajitas Array	13.41	327	P	Pn	05 00 04.3	+4.1
	0.1nm,0.3s,baz=143,slow=15,SNR=5.6						
TXAR	Lajitas Array	13.41	327		Pn	05 00 01.5	+1.3
NATX	Nacogdoches	13.44	2	Pn	Pn	04 59 59.7	-0.9
WHTX	Lake Whitney,	13.80	352	P	Pn	05 00 08.0	+2.6
	baz=172,SNR=36						
WHTX				S	Sn	05 02 26.6	-11
	baz=172						
WLAR	White Oak Lake	15.48	7	IAmb	IAmb	05 00 51.1	
	comp=Z,25nm,0.8s						
MIAR	Mount Ida	16.28	5	IAmb	IAmb	05 00 41.8	
	comp=Z,24nm,0.7s						
MIAR	Mount Ida	16.28	5	P	P	05 00 39.4	-0.6
	baz=186,SNR=22						
X40A	Basin Creek Fa	16.30	7	P	P	05 00 39.7	-0.5
	baz=188						
LRAL	Lakeview Retre	16.48	25		Pn	05 00 39.5	-0.7
LRAL	Lakeview Retre	16.48	25	P	Pn	05 00 39.3	-1.0
	baz=209						
WMOK	Wichita Mounta	16.69	350		Pn	05 00 44.1	+1.1

JMA 30 04:59:48.3±0.2,24°.77N×122°.33E,h92km±2km,M2.3
ISC 30 04:59:49.7±1.5,24°.66N±0°.05×122°.38E±0°.03,h87km±9km,
n64,σ0ˢ71/114,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.49**	**264**	*e*P	**Pn**	**05 00 03.8**	**-0.2**
	baz=259						
TWC				*e*S	**Sn**	**05 00 14.4**	**-0.3**
	baz=259						
TWB1	**Santiao Chiao**	**0.50**	**314**	P	**Pn**	**05 00 05.5**	**+1.4**
	baz=305						
TWB1				S	**Sn**	**05 00 14.8**	**0.0**
	baz=305						
NTC	**Toucheng**	**0.54**	**291**	*e*S	**Sn**	**05 00 15.4**	**0.0**
	baz=288						
JYNG	**Yonagunijimaku**	**0.56**	**112**	P	**Pn**	**05 00 04.8**	**+0.2**
JYNG				*e*S	**Sn**	**05 00 16.5**	**+0.8**
EWUT	**Wuta**	**0.59**	**249**	*e*P	**Pn**	**05 00 05.0**	**+0.1**
	baz=245						
EWUT				*e*S	**Sn**	**05 00 16.8**	**+0.5**
	baz=245						
TIPB	**Shuangxi**	**0.59**	**302**	P	**Pn**	**05 00 04.8**	**-0.2**
	baz=295						
TIPB				S	**Sn**	**05 00 16.0**	**-0.4**
	baz=295						
NDS	**Dongshan**	**0.60**	**268**	*e*P	**Pn**	**05 00 05.0**	**-0.1**
	baz=264						
NDS				*e*S	**Sn**	**05 00 16.2**	**-0.3**
	baz=264						
ENA	**Nanau**	**0.63**	**248**	*i* P	**Pn**	**05 00 05.3**	**0.0**
	baz=244						
ENA				S	**Sn**	**05 00 17.3**	**+0.5**
	baz=244						
SXI1	**Grass Mountain**	**0.63**	**313**	P	**Pn**	**05 00 05.0**	**-0.4**
	baz=312						
SXI1				S	**Sn**	**05 00 17.0**	**-0.1**
	baz=312						
TWE	**Neicheng**	**0.65**	**275**	P	**Pn**	**05 00 05.4**	**-0.1**
	baz=274						
TWE				*e*S	**Sn**	**05 00 17.6**	**+0.3**
	baz=274						
NWF	**Wu-fen Shan**	**0.68**	**307**	P	**Pn**	**05 00 05.7**	**-0.1**
	baz=299						
NWF				*e*S	**Sn**	**05 00 17.7**	**-0.2**
	baz=299						
FUSB	**Fushanzhiwuyua**	**0.73**	**278**	P	**Pn**	**05 00 06.2**	**-0.1**
	baz=281						
FUSB				*e*S	**Sn**	**05 00 18.0**	**-0.7**
	baz=281						
ENTT	**Nioudou**	**0.74**	**269**	*e*P	**Pn**	**05 00 06.8**	**+0.4**
	baz=271						
LATG	**Datong**	**0.79**	**261**	*e*P	**Pn**	**05 00 07.1**	**+0.1**
	baz=252						
LATG				*e*S	**Sn**	**05 00 20.3**	**+0.5**
	baz=252						
NDT	**Datong Townshi**	**0.79**	**266**	P	**Pn**	**05 00 07.2**	**+0.3**
	baz=265						
NDT				*e*S	**Sn**	**05 00 20.8**	**+1.0**
	baz=265						
TWA	**Mucha**	**0.79**	**294**	*e*S	**Sn**	**05 00 19.0**	**-0.8**
	baz=285						
NWLT	**Wulai**	**0.81**	**278**	*e*P	**Pn**	**05 00 07.2**	**+0.1**
	baz=282						
NWLT				*e*S	**Sn**	**05 00 20.0**	**-0.1**
	baz=282						
NHDH	**Xindian Distri**	**0.83**	**291**	*e*S	**Sn**	**05 00 19.4**	**-1.1**
	baz=283						
ETL	**Fush Village**	**0.85**	**234**	P	**Pn**	**05 00 07.2**	**-0.4**
	baz=231						
ETL				*e*S	**Sn**	**05 00 21.8**	**+0.8**
	baz=231						
NACB	**Ninganchiao**	**0.86**	**236**	*e*P	**Pn**	**05 00 07.0**	**-0.6**
	baz=228						
NACB				*e*S	**Sn**	**05 00 21.2**	**+0.1**
	baz=228						
YM01	**YM01**	**0.88**	**304**	*e*P	**Pn**	**05 00 07.4**	**-0.5**
	baz=294						
YM01				*e*S	**Sn**	**05 00 20.8**	**-0.7**
	baz=294						
YHNB	**Yeheng**	**0.91**	**271**	P	**Pn**	**05 00 08.3**	**0.0**
	baz=275						
YHNB				*e*S	**Sn**	**05 00 22.2**	**-0.1**
	baz=275						
TWD	**Chiawan**	**0.92**	**231**	*e*P	**Pn**	**05 00 07.8**	**-0.5**
	baz=228						
TWD				*e*S	**Sn**	**05 00 22.7**	**+0.6**
	baz=228						
NSK	**Sanguang**	**0.93**	**271**	P	**Pn**	**05 00 08.4**	**0.0**
	baz=275						
NSK				*e*S	**Sn**	**05 00 22.2**	**-0.3**
	baz=275						
NNSB	**Datong**	**0.94**	**256**	*e*P	**Pn**	**05 00 08.7**	**0.0**
	baz=248						
NNSB				*e*S	**Sn**	**05 00 23.2**	**+0.5**
	baz=248						
NNS	**Nan Shan**	**0.94**	**257**	P	**Pn**	**05 00 07.6**	**-1.1**
	baz=249						
NNS				S	**Sn**	**05 00 22.8**	**-0.1**
	baz=249						
TWS1	**Kuangyinshan**	**0.98**	**297**	*e*S	**Sn**	**05 00 22.9**	**-0.5**
	baz=295						
NTST	**Danshui**	**0.98**	**301**	*e*S	**Sn**	**05 00 22.9**	**-0.5**
	baz=299						
FUSS	**Fushou**	**1.11**	**249**	P	**Pn**	**05 00 10.9**	**+0.1**
	baz=241						
FUSS				*e*S	**Sn**	**05 00 26.4**	**-0.3**
	baz=241						
NCUH	**Zhongli**	**1.13**	**286**	*e*S	**Sn**	**05 00 26.9**	**+0.4**
	baz=276						
WHF	**Hehuan Shan**	**1.14**	**243**	P	**Pn**	**05 00 11.2**	**-0.1**
	baz=240						
WHF				S	**Sn**	**05 00 27.6**	**+0.2**
	baz=240						
NFF	**Wufeng Townshi**	**1.15**	**269**	*e*P	**Pn**	**05 00 10.9**	**-0.2**
	baz=276						
NFF				*e*S	**Sn**	**05 00 26.8**	**-0.3**
	baz=276						
TWT	**Tachien**	**1.17**	**250**	P	**Pn**	**05 00 12.0**	**+0.6**
	baz=241						
TWT				*e*S	**Sn**	**05 00 28.1**	**+0.4**
	baz=241						
TDCB	**Techi**	**1.19**	**250**	*e*P	**Pn**	**05 00 11.9**	**+0.4**
	baz=241						
TDCB				*e*S	**Sn**	**05 00 27.9**	**-0.1**
	baz=241						
ESL	**Shilin**	**1.21**	**226**	*e*P	**Pn**	**05 00 10.8**	**-0.9**
	baz=231						
ESL				*e*S	**Sn**	**05 00 27.0**	**-1.2**
	baz=231						
LIOB	**Emei**	**1.24**	**270**	*e*P	**Pn**	**05 00 12.6**	**+0.4**
	baz=267						
LIOB				*e*S	**Sn**	**05 00 28.8**	**-0.2**
	baz=267						
CHGB	**Renai**	**1.25**	**242**	*e*P	**Pn**	**05 00 12.5**	**+0.1**
	baz=233						
CHGB				*e*S	**Sn**	**05 00 29.3**	**-0.2**
	baz=233						
NSTT	**Nanjuang**	**1.25**	**269**	*e*S	**Sn**	**05 00 28.9**	**-0.3**
	baz=267						
IRIF	**Iriomote-Funau**	**1.27**	**104**	P	**Pn**	**05 00 12.4**	**-0.1**
IRIF				S	**Sn**	**05 00 29.6**	**0.0**
WUSB	**Renai**	**1.33**	**240**	*e*P	**Pn**	**05 00 13.3**	**0.0**
	baz=238						
WUSB				*e*S	**Sn**	**05 00 30.9**	**-0.2**
	baz=238						
WHP	**Taichung City**	**1.36**	**254**	*e*P	**Pn**	**05 00 14.2**	**+0.5**
	baz=252						
WHP				*e*S	**Sn**	**05 00 32.3**	**+0.6**
	baz=252						
VWDT	**VWDT**	**1.45**	**232**	⇑ *i* P	**Pn**	**05 00 14.4**	**-0.3**
	baz=224						
VWDT				*e*S	**Sn**	**05 00 33.4**	**-0.1**
	baz=224						
NMLH	**Miaoli**	**1.45**	**265**	*e*P	**Pn**	**05 00 14.6**	**-0.1**
	baz=263						
NMLH				*e*S	**Sn**	**05 00 33.2**	**-0.4**
	baz=263						
HGSD	**Ruisui**	**1.46**	**217**	P	**Pn**	**05 00 14.3**	**-0.5**
	baz=208						
HGSD				*e*S	**Sn**	**05 00 33.1**	**-0.6**
	baz=208						
WCS	**Beigang Elemen**	**1.47**	**246**	*e*P	**Pn**	**05 00 15.7**	**+0.8**
	baz=239						
WCS				*e*S	**Sn**	**05 00 34.5**	**+0.5**
	baz=239						
NSY	**Sanyi**	**1.50**	**261**	*e*S	**Sn**	**05 00 35.1**	**+0.5**
	baz=259						
TWQ1	**Liyutan**	**1.50**	**258**	*e*S	**Sn**	**05 00 34.3**	**-0.3**
	baz=256						
EHY	**Hungye**	**1.50**	**220**	*e*P	**Pn**	**05 00 14.2**	**-1.1**
	baz=225						
JKRS	**Kuro-shima**	**1.54**	**105**	P	**Pn**	**05 00 16.1**	**+0.2**
JKRS				S	**Sn**	**05 00 36.2**	**+0.5**
SMLT	**Sun Moon Lake**	**1.56**	**240**	P	**Pn**	**05 00 17.2**	**+1.0**
	baz=232						
SMLT				*e*S	**Sn**	**05 00 38.2**	**+2.0**
	baz=232						
SSLB	**Suanglung**	**1.56**	**237**	*e*P	**Pn**	**05 00 16.2**	**0.0**
	baz=231						
SSLB				*e*S	**Sn**	**05 00 38.0**	**+1.7**
	baz=231						
TYC	**Yuchr**	**1.58**	**242**	*e*P	**Pn**	**05 00 17.1**	**+0.7**
	baz=239						
TYC				*e*S	**Sn**	**05 00 37.8**	**+1.3**
	baz=239						
YULB	**Yu-li**	**1.60**	**218**	*e*P	**Pn**	**05 00 15.4**	**-1.3**
	baz=224						
EYUL	**Yuli**	**1.63**	**217**	*e*P	**Pn**	**05 00 17.2**	**+0.2**
	baz=223						
EYUL				*e*S	**Sn**	**05 00 38.5**	**+0.9**
	baz=223						
JIJ	**Ishigaki jima**	**1.63**	**100**	P	**Pn**	**05 00 16.8**	**-0.2**
JIJ				S	**Sn**	**05 00 37.2**	**-0.5**
WJS	**Zhushan**	**1.72**	**241**	*e*P	**Pn**	**05 00 19.1**	**+0.9**
	baz=249						
WJS				*e*S	**Sn**	**05 00 42.0**	**+2.1**
	baz=249						
JISG	**Ishigakijimahi**	**1.76**	**92**	P	**Pn**	**05 00 18.5**	**-0.1**
JISG				*e*S	**Sn**	**05 00 41.1**	**+0.5**
FULB	**Fuli**	**1.76**	**215**	*e*P	**Pn**	**05 00 18.4**	**-0.4**
	baz=222						
FULB				*e*S	**Sn**	**05 00 40.4**	**-0.4**
	baz=222						
ALS	**Alishan**	**1.84**	**232**	*e*P	**Pn**	**05 00 21.0**	**+1.0**
	baz=223						
ALS				*e*S	**Sn**	**05 00 45.0**	**+2.0**
	baz=223						
CHN5	**Tsauling**	**1.88**	**236**	*e*P	**Pn**	**05 00 20.6**	**+0.2**
	baz=244						
CHN5				*e*S	**Sn**	**05 00 45.8**	**+2.1**
	baz=244						
WRL	**Guolierlin Hig**	**1.98**	**248**	*e*P	**Pn**	**05 00 20.8**	**-0.8**
	baz=254						
WRL				*e*S	**Sn**	**05 00 44.9**	**-0.9**
	baz=254						
JTJ	**Tarama**	**2.11**	**90**	*e*S	**Sn**	**05 00 49.5**	**+0.5**
LDUT	**Ludao**	**2.15**	**203**	*e*P	**Pn**	**05 00 22.6**	**-1.2**
	baz=201						
LDUT				*e*S	**Sn**	**05 00 47.9**	**-1.9**
	baz=201						
TWGBT	**Beinan**	**2.19**	**213**	*e*P	**Pn**	**05 00 23.5**	**-0.9**
	baz=211						

IDC 30 05:05:35.3±0.9,4°.18S×126°.36E,h0km,mb4.1/7,
mb1 4.3/10,mb1mx3.9/31,mbtmp4.1/10,ML4.2/3,Error
ellipse: s-maj=27.1km s-min=16.5km az=55.0
DJA 30 05:05:37.8±0.3,4°.5S±3°×12°.6E±°,h10km,M4.6/19,mB5.3/7,
mb4.9/13,MLv4.5/19,Mw(mB)4.7/7
NEIC 30 05:05:41.7±1.7,4°.23S±0°.06×126°.41E±0°.05,h41km±9km,
mb4.4/12,Error ellipse: s-maj=10.2km s-min=5.0km
az=138.0
ISC 30 05:05:40.8±0.5,4°.25S±0°.06×126°.40E±0°.06,h33km,n53,
σ1ˢ25/54,mb4.3/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.87**	**73**	P	**Pn**	**05 06 08.6**	**-1.9**
SANI	**Sanana**	**2.22**	**349**	P	**Pn**	**05 06 13.2**	**-2.2**
MSAI	**Masohi**	**2.67**	**70**	P	**Pn**	**05 06 21.8**	**+0.3**
LBMI	**Labuha**	**3.75**	**17**	P	**Pn**	**05 06 34.9**	**-1.5**
BBSI	**Bau Bau**	**4.01**	**252**	P	**Pn**	**05 06 38.5**	**-1.5**
TNTI	**Ternate**	**5.08**	**11**	P	**Pn**	**05 06 54.6**	**-0.1**
	0.6nm2μm181nm,0.9s						
TNTI	**Ternate**	**5.08**	**11**		**Pn**	**05 06 54.8**	**+0.1**
KMSI	**Cibinong**	**5.37**	**333**	P	**Pn**	**05 06 57.5**	**-1.1**
	1.4nm221nm,0.6s						
APSI	**Ampana**	**5.79**	**305**	P	**Pn**	**05 07 03.9**	**-0.6**
	0.7nm144nm,0.8s						
SWI	**Sorong**	**5.90**	**55**	P	**Pn**	**05 07 05.2**	**-0.8**
	1.0nm3μm108nm,0.7s						
SIJI	**Sorong**	**5.90**	**55**	Pn	**Pn**	**05 07 05.8**	**-0.3**
	32nm,0.3s,baz=242,slow=8.6,SNR=29						
SIJI				Sn	**Sn**	**05 08 12.4**	**-0.2**
	16nm,0.3s,baz=51,slow=22,SNR=15						
FAKI	**Fak Fak**	**5.98**	**77**	P	**Pn**	**05 07 07.6**	**+0.5**
	0.5nm2μm102nm,0.4s						
FAKI	**Fak Fak**	**5.98**	**77**		**Pn**	**05 07 07.2**	**+0.2**
SAUI	**Saumlaki**	**6.12**	**128**	Pn	**Pn**	**05 07 08.9**	**-0.1**
BSSI	**Bau Bau, Buton**	**6.18**	**252**	P	**Pn**	**05 07 09.6**	**-0.2**
	0.1nm2μm27nm,0.5s						
BNSI	**Bone**	**6.28**	**268**	P	**Pn**	**05 07 10.8**	**-0.4**
	0.1nm37nm,0.7s						
BKSI	**Bulukumba**	**6.35**	**260**	P	**Pn**	**05 07 11.9**	**-0.2**
	0.2nm44nm,0.7s						
MRSI	**Marisa**	**6.48**	**316**	P	**Pn**	**05 07 13.4**	**-0.4**
	1.1nm3μm222nm,0.6s						
KAPI	**Kappang**	**6.67**	**263**	Pn	**Pn**	**05 07 14.0**	**-2.6**
	3.9nm,0.3s,baz=165,slow=19,SNR=7.2						
KAPI	**Kappang**	**6.67**	**263**		**Pn**	**05 07 17.6**	**+1.0**
TOLI2	**Tolitoli**	**7.74**	**313**	Pn	**Pn**	**05 07 30.9**	**-0.3**
MPSI	**Mapaga**	**7.94**	**305**	P	**Pn**	**05 07 31.2**	**-2.7**
MTN	**Manton Dam**	**9.73**	**152**	Pn	**Pn**	**05 07 59.3**	**+0.7**
KNRA	**Kununurra**	**11.59**	**169**	Pn	**Pn**	**05 08 23.5**	**-0.5**
MYLDM	**Lahad Datu**	**12.25**	**320**		**Pn**	**05 08 34.3**	**+1.3**
SBUM	**Sibu**	**15.66**	**295**	Pn	**Pn**	**05 09 19.6**	**+0.4**
WB0	**Warramunga Arr**	**17.28**	**154**		**Pn**	**05 09 38.2**	**-1.4**
WB0				IAmb	IAmb	05 09 60.0	
	comp=Z,64nm,1.8s						
WRAB	**Tennant Creek**	**17.41**	**154**	Pn	**Pn**	**05 09 39.7**	**-1.5**
WRAB				IAmb	IAmb	05 09 53.5	
	comp=Z,25nm,1.4s						
WRA	**Warramunga Arr**	**17.41**	**154**	P	**Pn**	**05 09 39.1**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=340,slow=12,SNR=13						
COEN	**Coen**	**19.15**	**121**	P	**P**	**05 10 00.9**	**-0.6**
COEN				IAmb	IAmb	05 10 03.5	
	comp=Z,27nm,0.7s						
AS31	**Alice Springs**	**20.62**	**160**	P	**P**	**05 10 18.7**	**+1.2**
ASAR	**Alice Springs**	**20.62**	**160**	P	**P**	**05 10 17.6**	**+0.1**
	comp=Z,10nm,0.6s,baz=342,slow=12,SNR=47						
ASAR	**Alice Springs**	**20.62**	**160**		**P**	**05 10 18.7**	**+1.2**
CTA	**Charters Tower**	**24.93**	**131**	P	**P**	**05 11 01.1**	**-0.2**
	comp=Z,3.9nm,0.6s,baz=318,slow=9.4,SNR=8.2						
CTAO	**Charters Tower**	**24.93**	**131**	P	**P**	**05 11 02.2**	**+1.0**
CTAO				IAmb	IAmb	05 11 11.5	
	comp=Z,28nm,1.6s						
STKA	**Stephens Creek**	**30.96**	**154**	P	**P**	**05 11 55.8**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=323,slow=18,SNR=1.9						
CMAR	**Chiang Mai Arr**	**35.23**	**311**	P	**P**	**05 12 32.8**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=134,slow=6.4,SNR=2.3						
NJ2	**Nanjing**	**36.81**	**349**	*e*P	**P**	**05 12 47.5**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PZH	**PanZhiHua**	**38.79**	**323**	P	**P**	**05 13 05.5**	**+2.8**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
KWAJ	**Kwajalein Atol**	**43.08**	**72**	P	**P**	**05 13 37.3**	**-0.8**
HHC	**Hu-ho-hao-te**	**46.89**	**345**	*e*P	**P**	**05 14 10.0**	**+1.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,1μm,6.2s						
USA0B	**Ussuriysk Arra**	**48.49**	**5**	P	**P**	**05 14 20.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**48.49**	**5**	P	**P**	**05 14 19.5**	**-0.8**
SONM	**Songino Array**	**54.76**	**344**	P	**P**	**05 15 05.7**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=158,slow=6.5,SNR=4.7						
SONM	**Songino Array**	**54.76**	**344**	P	**P**	**05 15 07.1**	**-0.3**
SONM				IAmb	IAmb	05 15 59.3	
	comp=Z,9.6nm,2.0s						
WMQ	**Urumqi**	**59.17**	**328**	*e*P	**P**	**05 15 41.0**	**+2.4**
WMQ				LR	LR		
	comp=N,3μm,28.8s						
WMQ				LR	LR		
	comp=E,3μm,26.5s						
WMQ				LR	LR		
	comp=Z,3μm,28.9s						
PEA0B	**Petropavlovsk-**	**62.93**	**21**	P	**P**	**05 16 03.7**	**-0.1**
PETK	**Petropavlovsk-**	**62.93**	**21**	P	**P**	**05 16 03.7**	**-0.1**
MK31	**Makanchi Array**	**63.99**	**328**	P	**P**	**05 16 10.2**	**-0.8**
MK31				IAmb	IAmb	05 16 30.0	
	comp=Z,2.1nm,0.9s						
MKAR	**Makanchi Array**	**63.99**	**328**	P	**P**	**05 16 10.1**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=115,slow=8.4,SNR=48						
ZALV	**Zalesovo Beam**	**67.57**	**335**	P	**P**	**05 16 31.8**	**-2.0**
	comp=Z,0.9nm,0.7s,baz=88,slow=4.7,SNR=4.5						
IMAR	**Indian Mountai**	**89.72**	**24**	P	**P**	**05 18 34.3**	**-1.1**
BMAR	**Burnt Mountain**	**93.51**	**23**	P	**P**	**05 18 52.4**	**-0.6**

CRAAG 30 05:06:04.7,35°.60N×0°.89W,Ml2.7
ISC 30 05:06:02.7±1.1,35°.74N±0°.06×0°.93W±0°.06,h14km,n6,
σ0ˢ88/8,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.31**	**91**	P	**Pn**	**05 06 11.7**	**-1.0**
OTSS	**Djebel Tessala**	**0.47**	**167**	P	**Pb**	**05 06 13.0**	**+0.2**
OLHC	**Oulhaca**	**0.63**	**220**	P	**Pn**	**05 06 17.4**	**+0.1**
ODJA	**Bouhanifia**	**0.75**	**122**	P	**Pn**	**05 06 19.5**	**+0.6**
CHAS	**Isla Isabel II**	**1.35**	**246**	P	**Pn**	**05 06 27.1**	**0.0**
CHAS				S	**Sn**	**05 06 43.3**	**-1.4**
CART	**Cartagena**	**1.85**	**358**	P	**Pg**	**05 06 38.7**	**+0.6**
CART				S	**Sb**	**05 06 59.3**	**+0.1**

SFS 30 05:07:10.0,35°.60N×3°.70W,ML3.1,ALBORAN SUR
IDC 30 05:07:10.1±1.2,35°.69N×3°.82W,h0km,mb3.5/4,mb1 3.7/6,
mb1mx3.5/41,mbtmp3.5/6,ML3.2/2,Error ellipse:
s-maj=40.3km s-min=20.5km az=87.0
INMG 30 05:07:11.4±2.0,35°.66N×3°.71W,h7km±8km,MD3.0,ML3.0,
Error ellipse: s-maj=7.6km s-min=3.6km az=85.0
IGIL 30 05:07:12.2,35°.64N×3°.79W,h0km,ML3.0
CNRM 30 05:07:12.5,35°.61N×3°.69W,h26km,ml3.5
LDG 30 05:07:13.4,35°.44N×3°.67W,h30km
ISC 30 05:07:09.9±1.2,35°.69N±0°.03×3°.71W±0°.03,h5km±9km,n74,
σ1ˢ93/117,mb3.7/4,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**201**	P	**Pg**	**05 07 20.4**	**+0.7**
PALE				S	**Sg**	**05 07 27.2**	**+0.8**
CHAS	**Isla Isabel II**	**1.16**	**116**	P	**Pg**	**05 07 30.7**	**-1.5**
CHAS				S	**Sg**	**05 07 44.3**	**-3.0**
AKLM	**AKL**	**1.19**	**186**	P	**Pg**	**05 07 32.0**	**-0.7**
AKLM				S	**Sn**	**05 07 53.5**	**+3.7**
EMAL	**Malaga-Limoner**	**1.21**	**332**	P	**Pb**	**05 07 33.3**	**0.0**
EMAL				S	**Sg**	**05 07 48.4**	**-0.6**
CEU	**Ceuta**	**1.37**	**279**	P	**Pn**	**05 07 33.0**	**-2.5**
CEU				S	**Sb**	**05 07 49.1**	**-4.5**
CHEFC	**Chefchaouen**	**1.45**	**247**	P	**Pn**	**05 07 37.0**	**+0.1**
CHEFC				S	Sg	05 08 11.8	+15
JBK	**JBK**	**1.65**	**145**	P	**Pn**	**05 07 38.1**	**-1.5**
JBK				S	**Sg**	**05 08 03.3**	**+0.4**
CPS	**Cap Spartel**	**1.79**	**274**	P	**Pn**	**05 07 43.0**	**+1.6**
RSA	**Sarsar**	**1.91**	**246**	P	**Pn**	**05 07 44.9**	**+1.9**
SICH	**Sidi Chahed**	**2.06**	**220**	P	**Pn**	**05 07 46.6**	**+1.4**
LCRM	**LCR**	**2.21**	**206**	P	**Pn**	**05 07 47.0**	**-0.4**
LCRM				S	**Sg**	**05 08 22.8**	**+1.7**
IFR	**Ifrane**	**2.46**	**209**	P	**Pn**	**05 07 50.1**	**-0.7**
IFR				S	**Sn**	**05 08 14.0**	**-7.5**
CART	**Cartagena**	**2.88**	**48**	P	**Pn**	**05 07 57.2**	**+0.8**
CART				S	Sn	05 08 20.2	-11
CART	**Cartagena**	**2.88**	**48**	P	**Pn**	**05 07 56.7**	**+0.3**
MD31	**MD31**	**2.95**	**197**	P	**Pn**	**05 07 56.8**	**-0.6**
MDT	**Midelt**	**2.97**	**195**	Pn	**Pn**	**05 07 57.9**	**+0.2**
	1.1nm,0.3s,baz=192,slow=6.0,SNR=16						
MDT				Sn	**Sn**	**05 08 32.5**	**-1.2**
	5.5nm,0.3s,baz=144,slow=8.3,SNR=5.9						
MDT	**Midelt**	**2.97**	**195**	P	**Pn**	**05 07 57.0**	**-0.7**
TDRA	**Tendrara**	**2.99**	**152**	P	**Pn**	**05 07 57.9**	**-0.2**
PVAQ	**Vaqueiros**	**3.65**	**299**	*e*Pn	**Pn**	**05 08 07.4**	**+0.4**
PVAQ				*e*Sn	**Sn**	**05 08 48.4**	**-2.0**
PVAQ				A	A	05 08 52.5	
	40nm,0.3s						
PVAQ	**Vaqueiros**	**3.65**	**299**	P	**Pn**	**05 08 07.3**	**+0.4**
PVAQ				S	**Sn**	**05 08 51.4**	**+1.0**
PBDV	**Barranco-do-Ve**	**3.74**	**296**	*e*Pn	**Pn**	**05 08 08.4**	**+0.2**
PBDV				*e*Sn	**Sn**	**05 08 50.7**	**-1.9**
PBDV				A	A	05 08 56.5	
	28nm,0.5s						
AVE	**Averroes**	**3.88**	**233**	P	**Pn**	**05 08 10.4**	**+0.3**
AVE				S	**Sn**	**05 08 52.5**	**-3.5**
AVE	**Averroes**	**3.88**	**233**	P	**Pn**	**05 08 10.0**	**-0.1**
ESDC	**Sonseca Array**	**3.98**	**357**	Pn	**Pn**	**05 08 14.3**	**+2.8**
	1.5nm,0.3s,baz=178,slow=12,SNR=51						
ESDC				Sn	**Sn**	**05 09 00.8**	**+2.2**
	0.9nm,0.3s,baz=182,slow=17,SNR=5.2						
PCVE	**Castro Verde**	**3.98**	**300**	*e*Pn	**Pn**	**05 08 12.0**	**+0.5**
PCVE				*e*Sn	**Sn**	**05 08 57.1**	**-1.4**
PCVE				A	A	05 09 01.4	
	33nm,0.5s						
PBEJ	**Beja**	**4.06**	**306**	*e*Pn	**Pn**	**05 08 13.6**	**+0.9**
PBEJ				*e*Sn	**Sn**	**05 08 59.6**	**-1.0**
PBEJ				A	A	05 09 09.4	
	11nm,0.3s						
FIGM	**Figuig**	**4.09**	**149**	P	**Pn**	**05 08 13.4**	**+0.2**
GOLM	**Goulmima**	**4.11**	**195**	P	**Pn**	**05 08 14.7**	**+1.2**
MESJ	**Messejana**	**4.21**	**302**	*e*P	**Pn**	**05 08 15.2**	**+0.6**
MESJ				*e*S	**Sn**	**05 09 01.4**	**-2.7**
MESJ				IAML		05 09 06.0	
	comp=E,28nm,0.3s						
MESJ	**Messejana**	**4.21**	**302**	*e*Pn	**Pn**	**05 08 15.2**	**+0.6**
MESJ				*e*Sn	**Sn**	**05 09 02.7**	**-1.4**
MESJ				A	A	05 09 07.0	
	comp=E,23nm,0.3s						
MORF	**Marmelete**	**4.29**	**293**	*e*P	**Pn**	**05 08 16.2**	**+0.4**
MORF				*e*S	**Sn**	**05 09 03.5**	**-2.8**
MORF				IAML		05 09 07.9	
	comp=N,40nm,0.3s						
MORF	**Marmelete**	**4.29**	**293**	*e*Pn	**Pn**	**05 08 16.7**	**+0.8**
MORF				*e*Sn	**Sn**	**05 09 04.2**	**-2.1**
MORF				A	A	05 09 10.0	
	comp=N,20nm,0.2s						
PFVI	**Vila Bisbo**	**4.37**	**291**	*e*Pn	**Pn**	**05 08 18.9**	**+2.1**
PFVI				*e*Sn	**Sn**	**05 09 05.8**	**-2.3**
PFVI				A	A	05 09 17.0	
	comp=N,18nm,0.9s						
PFVI	**Vila Bisbo**	**4.37**	**291**	P	**Pn**	**05 08 18.9**	**+2.

MTE			*e*Sn	**Sn**	**05 09 37.8**	**-0.4**
MTE			A	A	05 09 40.3	
	comp=N,14nm,0.6s					
OUK	**Oukaimeden**	**5.66 219**	P	**Pn**	**05 08 34.3**	**-0.6**
PCAS	**Casmilo, Conde**	**5.77 320**	*e*Pn	**Pn**	**05 08 37.8**	**+1.7**
PCAS			*e*Sn	**Sn**	**05 09 40.8**	**-1.8**
PCAS			A	A	05 09 56.7	
	comp=N,8.8nm,0.7s					
ZGR	**Zagora**	**5.79 197**	P	**Pn**	**05 08 36.6**	**+0.1**
COI	**Coimbra**	**5.84 322**	*e*Pn	**Pn**	**05 08 39.4**	**+2.4**
COI			*e*Sn	**Sn**	**05 09 43.6**	**-0.7**
PVIS	**Viseu**	**6.00 328**	*e*Pn	**Pn**	**05 08 41.4**	**+2.1**
PVIS			*e*Sn	**Sn**	**05 09 47.4**	**-1.0**
PVIS			A	A	05 09 51.8	
	comp=N,12nm,0.5s					
MVO	**Moncorvo**	**6.05 336**	*e*Pn	**Pn**	**05 08 42.4**	**+2.4**
MVO			*e*Sn	**Sn**	**05 09 47.8**	**-1.9**
MVO			A	A	05 10 28.0	
	comp=N,12nm,0.5s					
PVRL	**Vila Real**	**6.40 332**	*e*Pn	**Pn**	**05 08 46.9**	**+2.1**
PVRL			*e*Sn	**Sn**	**05 09 56.3**	**-1.8**
PVRL			A	A	05 10 01.6	
	comp=N,13nm,0.5s					
TTIG	**Tnine Tigouga,**	**6.49 219**	P	**Pn**	**05 08 44.0**	**-2.0**
POLO	**Lamas de Olo**	**6.51 332**	*e*Pn	**Pn**	**05 08 48.9**	**+2.5**
POLO			*e*Sn	**Sn**	**05 09 59.4**	**-1.6**
POLO			A	A	05 10 03.4	
	comp=N,5.6nm,0.5s					
PBRG	**Braganca**	**6.54 340**	*e*Pn	**Pn**	**05 08 49.4**	**+2.6**
PBRG			*e*Sn	**Sn**	**05 10 00.1**	**-1.7**
PBRG			A	A	05 10 52.8	
	comp=N,7.5nm,0.7s					
PTO	**Porto**	**6.65 326**	*e*Pn	**Pn**	**05 08 50.5**	**+2.3**
PTO			*e*Sn	**Sn**	**05 10 02.2**	**-2.2**
PCAB	**Cabril**	**6.89 332**	*e*Sn	**Sn**	**05 10 08.7**	**-1.6**
PCAB			A	A	05 10 22.0	
	comp=N,9.8nm,0.7s					
PGAV	**Gavieira, Arco**	**7.20 332**	*e*Pn	**Pn**	**05 08 58.1**	**+2.3**
PGAV			*e*Sn	**Sn**	**05 10 15.8**	**-2.2**
PGAV			A	A	05 11 04.0	
	comp=N,8.9nm,0.6s					
ETSF	**Etsaut**	**7.60 18**	*e*Pn	**Pn**	**05 09 03.9**	**+2.6**
ETSF	**Etsaut**	**7.60 18**	*e*P	Pn	05 09 08.5	+7.2
ETSF			*e*Sn	**Sn**	**05 10 27.2**	**-0.6**
	comp=N,0.9nm,0.3s					
SJPF	**Ste Jean**	**7.66 14**	*e*Pn	**Pn**	**05 09 04.6**	**+2.6**
SJPF			*e*Sn	**Sn**	**05 10 29.8**	**+0.7**
	comp=N,2.8nm,0.5s					
EPF	**Esparros**	**7.97 22**	*e*Pn	**Pn**	**05 09 08.6**	**+2.3**
CAF	**Calviac**	**10.22 24**	*e*Pn	**Pn**	**05 09 39.5**	**+2.4**
CAF			*e*Sn	**Sn**	**05 11 25.3**	**-6.8**
QUIF	**Quistinic**	**12.22 2**	*e*P	Pn	05 10 11.5	+7.0
SGMF	**Saint Gilles**	**12.58 4**	*e*Pn	**Pn**	**05 10 10.7**	**+1.3**
TORD	**Torodi Ar. Bea**	**22.97 166**	P	**P**	**05 12 17.3**	**+2.0**
	comp=N,4.2nm,1.0s,baz=341,slow=12,SNR=5.5					
MKAR	**Makanchi Array**	**62.55 51**	P	**P**	**05 17 35.3**	**+0.7**
	comp=N,0.4nm,0.6s,baz=276,slow=6.4,SNR=2.8					
YKA	**Yellowknife Ar**	**67.69 332**	P	**P**	**05 18 08.4**	**+0.7**
	comp=N,0.3nm,0.7s,baz=59,slow=6.5,SNR=5.4					
TXAR	**Lajitas Array**	**80.78 299**	P	**P**	**05 19 25.6**	**+0.8**
	comp=N,0.2nm,0.9s,baz=64,slow=6.1,SNR=1.8					

IDC 30 05:30:27.9±5.5, 4°.43S×145°.63E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.3/31, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=194.0km s-min=32.7km az=100.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.94 215**		P	Pn	05 34 51.3	+0.1
	0.1nm,0.3s,baz=41,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.22 210**		P	P	05 35 25.7	-0.5
	0.9nm,0.8s,baz=42,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**75.42 321**		P	P	05 42 13.7	-0.1
	0.8nm,1.0s,baz=104,slow=6.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**143.36 286**		PKP	PKPdf	05 50 05.6	+0.2
	1.2nm,0.9s,baz=88,slow=2.9,SNR=5.2						

*IDC **30** 05:34:24.6±2.4, 24°.23S×66°.95W, h162km±19km, mb3.6/1, mb1 3.1/4, mb1mx3.0/21, mbtmp3.6/4, Error ellipse: s-maj=33.5km s-min=11.7km az=168.0*
*GUC **30** 05:34:27.2±0.5, 24°.06S×67°.49W, h215km±7km, ML3.7*
ISC 30 05:34:24.8±1.0, 24°.18S±0°.07×67°.19W±0°.08, h181km, n15, σ1°27/25, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.22 314**		P	**Pn**	**05 35 06.7**	**+1.9**
	3.1nm,0.3s,baz=140,slow=6.9,SNR=1.9						
LVC				S	**Sn**	**05 35 37.0**	**+1.3**
	4.4nm,0.3s,baz=268,slow=23,SNR=4.8						
LVC	**Limon Verde**	**2.22 314**		*e*P	**Pn**	**05 35 06.3**	**+1.6**
LVC				*e*S	**Sn**	**05 35 36.4**	**+0.7**
PB15	**IPOC Station P**	**2.30 294**		⇑*i*P	**Pn**	**05 35 06.9**	**+1.4**
PB15				*i* S	**Sn**	**05 35 37.1**	**0.0**
PB06	**IPOC Station P**	**2.63 303**		⇑*i*P	**Pn**	**05 35 10.5**	**+1.3**
PB06				*i* S	**Sn**	**05 35 43.7**	**-0.2**
PB06				IAML		05 35 45.4	
	comp=N,223nm,0.1s						
PB10	**IPOC Station P**	**3.15 281**		*e*P	**Pn**	**05 35 16.1**	**+0.8**
PB10				*i* S	**Sn**	**05 35 52.8**	**-1.9**
PB10				IAML		05 35 56.8	
	comp=N,88nm,0.5s						
PB03	**IPOC Station P**	**3.17 311**		⇑*i*P	**Pn**	**05 35 16.8**	**+1.0**
PB03				*e*S	**Sn**	**05 35 53.9**	**-1.5**
AC02	**Maricunga**	**3.17 213**		⇑*e*P	**Pn**	**05 35 16.5**	**+0.4**
AC02				*e*S	**Sn**	**05 35 56.3**	**+0.1**
AC02				IAML		05 36 13.5	
	comp=N,32nm,0.1s						
PB04	**IPOC Station P**	**3.28 303**		⇓*i*P	**Pn**	**05 35 18.0**	**+0.9**
PB04				*i* S	**Sn**	**05 35 56.6**	**-1.3**
PB04				IAML		05 35 59.1	
	comp=N,126nm,0.3s						
PB07	**IPOC Station P**	**3.48 314**		⇑*e*P	**Pn**	**05 35 20.4**	**+0.8**
PB07				*e*S	**Sn**	**05 36 00.5**	**-1.9**
PB07				IAML		05 36 02.4	
	comp=N,122nm,0.2s						
PB02	**IPOC Station P**	**3.78 318**		⇑*e*P	**Pn**	**05 35 24.2**	**+0.9**
PB02				*e*S	**Sn**	**05 36 07.3**	**-1.8**
PB02				IAML		05 36 12.4	
	comp=E,72nm,0.3s						
LPAZ	**La Paz**	**7.90 353**		P	**Pn**	**05 36 18.8**	**+1.4**
	comp=E,0.2nm,0.3s,baz=153,slow=7.7,SNR=5.7						
SIV	**San Ignacio**	**9.96 36**		P	**Pn**	**05 36 42.8**	**-1.2**
	baz=234,slow=10						
BDFB	**Brasília**	**19.91 68**		P	**P**	**05 38 42.4**	**-0.5**
	comp=E,0.2nm,0.3s,baz=242,slow=9.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**76.79 69**		P	**P**	**05 45 56.8**	**-0.1**
	comp=E,1.2nm,0.8s,baz=247,slow=6.6,SNR=1.6						
MKAR	**Makanchi Array**	**146.77 40**		PKPbc	**PKPbc**	**05 53 46.5**	**+1.1**
	comp=E,0.7nm,0.9s,baz=323,slow=2.3,SNR=5.6						

KRSC 30 05:34:58.4±1.1, 53°.78N×159°.12E, h182km±9km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.32 37**		*e*P	Pn	05 35 23.7	+0.9
SDLR	**Sedlovina**	**0.52 196**		*e*P	Pn	05 35 24.6	+0.9
KRER	**Koryakskii**	**0.53 205**		*e*P	Pn	05 35 25.0	+1.2
SMAR	**Somma**	**0.55 200**		*e*P	Pn	05 35 24.9	+1.0
AVH	**Avacha**	**0.56 204**		*e*P	Pn	05 35 25.0	+1.2
KOK	**Koryaka**	**0.57 211**		*e*P	Pn	05 35 24.9	+1.1
UGLR	**Uglovaya**	**0.60 197**		*e*P	Pn	05 35 25.1	+1.1
NLC	**Nalytchevo**	**0.63 167**		*e*P	Pn	05 35 24.9	+1.0
NLC				*e*S	Sn	05 35 44.3	+0.8
GNL	**Ganaly**	**0.70 263**		*e*P	Pn	05 35 24.9	+0.4
GNL				*e*S	Sn	05 35 44.0	-0.6
DALK	**Dalny**	**0.78 196**		*e*P	Pn	05 35 25.7	+0.9
DALK				*e*S	Sn	05 35 45.5	+0.4
PET	**Petropavlovsk**	**0.81 200**		*e*P	Pn	05 35 26.0	+1.0
PET				*e*S	Sn	05 35 45.9	+0.5
SPN	**Mys Shipunski**	**0.87 141**		*e*P	Pn	05 35 25.9	+0.5
SPN				*e*S	Sn	05 35 46.3	+0.2
KRMR	**Karymshinskiy**	**1.12 212**		*e*P	Pn	05 35 28.1	+0.9
KRMR				*e*S	Sn	05 35 50.3	+0.9
GRL	**Gorelyy**	**1.38 207**		*e*P	Pn	05 35 31.1	+1.5
RUS	**Russkaya**	**1.40 195**		*e*P	Pn	05 35 30.1	+0.6
RUS				*e*S	Sn	05 35 53.3	-0.3
MTVR	**Mutnovka**	**1.42 204**		*e*P	Pn	05 35 31.6	+1.7
MTVR				*e*S	Sn	05 35 56.2	+2.0
APC	**Apacha**	**1.46 235**		*e*P	Pn	05 35 31.1	+1.1
APC				*e*S	Sn	05 35 54.9	+0.4
TUMD	**Tumrok D**	**1.61 27**		*e*P	Pn	05 35 32.8	+1.3
TUMR	**Tumrok**	**1.62 21**		*e*P	Pn	05 35 33.3	+1.6
TUMR				*e*S	Sn	05 35 59.4	+1.7
KDTR	**Khodutka, Kamc**	**2.08 198**		*e*P	Pn	05 35 36.6	+0.3
KDTR				*e*S	Sn	05 36 04.4	-1.4
KMNR	**Kamenistaya**	**2.08 18**		*e*P	Pn	05 35 38.3	+1.8
KPT	**Kopyto**	**2.28 16**		*e*P	Pn	05 35 39.9	+1.2
PAU	**Pauzhetka**	**2.71 212**		*e*P	Pn	05 35 44.8	+1.2
KBG	**Krutoberegovo**	**3.23 38**		*e*P	Pn	05 35 50.5	+0.8
KBG				*e*S	Sn	05 36 29.2	-0.7
KBTR	**Krutoberegovo**	**3.23 40**		*e*P	Pn	05 35 50.8	+1.0
KBTR				*e*S	Sn	05 36 29.6	-0.5
BKI	**Bering**	**4.24 68**		*e*S	Sn	05 36 52.9	+0.1

*IDC **30** 05:35:19.1±0.9, 9°.82S×126°.88E, h0km, mb4.0/6, mb1 4.4/11, mb1mx4.0/32, mbtmp4.3/11, ML4.7/3, Error ellipse: s-maj=30.2km s-min=16.2km az=50.0*
*NEIC **30** 05:35:21.1±2.2, 9°.83S±0°.07×126°.81E±0°.06, h10km±1km, mb4.5/11, Error ellipse: s-maj=12.6km s-min=9.6km az=182.0*
*DJA **30** 05:35:25.3±0.3, 10°.S±3°.×12°.7E±°, h44km±9km, M4.7/10, mB5.7/2, mb4.7/10, MLv4.8/10, Mw(mB)5.3/2*
ISC 30 05:35:24.0±0.5, 10°.01S±0°.05×126°.92E±0°.05, h35km, n49, σ1°73/52, mb4.3/12, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.62 275**		P	**Pn**	**05 36 04.5**	**+0.5**
SOEI				S	**Sn**	**05 36 36.1**	**+1.4**
SOEI	**Soe**	**2.62 275**			**Pn**	**05 36 01.4**	**-2.6**
BATI	**Baumata**	**3.21 266**		Pn	**Pn**	**05 36 11.5**	**-0.5**
	43nm,0.3s,baz=164,slow=2.1,SNR=21						
BATI				Sn	**Sn**	**05 36 50.3**	**+1.3**
	57nm,0.3s,baz=84,slow=2.1,SNR=5.5						
BATI	**Baumata**	**3.21 266**		P	**Pn**	**05 36 12.7**	**+0.7**
BATI				S	**Sn**	**05 36 51.0**	**+2.0**
SAUI	**Saumlaki**	**4.78 65**		P	**Pn**	**05 36 35.0**	**+1.4**
SAUI	**Saumlaki**	**4.78 65**		Pn	**Pn**	**05 36 34.7**	**+1.2**
MMRI	**Maumere**	**4.82 286**		P	**Pn**	**05 36 35.4**	**+1.3**
MMRI	**Maumere**	**4.82 286**		Pn	**Pn**	**05 36 30.8**	**-3.3**
MTN	**Manton Dam**	**5.00 125**		Pn	**Pn**	**05 36 38.8**	**+2.2**
KNRA	**Kununurra**	**5.91 162**			**Pn**	**05 36 50.6**	**+1.5**
BBSI	**Bau Bau**	**6.23 316**		P	**Pn**	**05 36 53.9**	**+0.4**
	0.0nm15nm,0.8s						
BASI	**Baing, Sumba**	**6.24 268**		P	**Pn**	**05 36 54.3**	**+0.6**
	1.0nm199nm,1.4s						
WBSI	**Waikabubak, Su**	**7.42 272**		P	**Pn**	**05 37 11.8**	**+1.8**
	0.6nm104nm,0.8s						
FITZ	**Fitzroy Crossi**	**8.13 189**		Pn	**Pn**	**05 37 21.2**	**+1.6**
	baz=31,slow=13						
FITZ				Sn	**Sn**	**05 38 50.5**	**+0.2**
	7.0nm,0.3s,baz=69,slow=22,SNR=7.5						
FAKI	**Fak Fak**	**8.82 37**		P	**Pn**	**05 37 28.3**	**-0.8**
	29nm,0.5s						
FAKI	**Fak Fak**	**8.82 37**		Pn	**Pn**	**05 37 26.8**	**-2.3**
SWI	**Sorong**	**10.07 26**		P	**Pn**	**05 37 44.3**	**-1.9**
	34nm,0.4s						
WB0	**Warramunga Arr**	**12.09 144**			**Pn**	**05 38 13.2**	**-0.7**
WRAB	**Tennant Creek**	**12.20 145**		Pn	**Pn**	**05 38 14.9**	**-0.4**
WRA	**Warramunga Arr**	**12.20 145**		Pn	**Pn**	**05 38 14.8**	**-0.6**
	5.3nm,0.3s,baz=312,slow=15,SNR=90						
WRA				Sn	**Sn**	**05 40 27.4**	**-2.8**
	4.9nm,0.3s,baz=324,slow=22,SNR=12						
MBWA	**Marble Bar**	**13.06 211**		Pn	**Pn**	**05 38 25.4**	**-1.7**
PSA00	**Pilbara Seismi**	**13.35 210**		Pn	**Pn**	**05 38 29.4**	**-1.7**
AS31	**Alice Springs**	**15.13 155**			**Pn**	**05 38 54.7**	**-0.6**
AS31				IAmb	IAmb	05 39 10.4	
	comp=Z,17nm,0.5s						
ASAR	**Alice Springs**	**15.13 155**		Pn	**Pn**	**05 38 54.8**	**-0.4**
	comp=Z,4.7nm,0.3s,baz=324,slow=10,SNR=261						
ASAR				Sn	**Sn**	**05 41 38.2**	**-3.5**
	comp=Z,1.7nm,0.3s,baz=317,slow=20,SNR=8.7						
ASAR	**Alice Springs**	**15.13 155**			**Pn**	**05 38 54.5**	**-0.7**
UGM	**Wanagama**	**16.33 276**		Pn	**Pn**	**05 39 06.3**	**-4.5**
PMG	**Port Moresby**	**19.96 90**		P	**P**	**05 39 54.2**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=291,slow=7.9,SNR=5.9						
PMG	**Port Moresby**	**19.96 90**		IAmb	IAmb	05 40 00.8	
	comp=Z,18nm,0.8s						
FORT	**Forrest**	**20.69 177**		P	Pn	05 40 02.8	-0.8
FORT				IAmb	IAmb	05 40 15.3	
	comp=Z,22nm,0.6s						
CTA	**Charters Tower**	**21.17 120**		P	**P**	**05 40 07.9**	**+1.5**
	comp=Z,9.2nm,1.0s,baz=289,slow=6.3,SNR=4.0						
CTAO	**Charters Tower**	**21.17 120**		P	**P**	**05 40 09.8**	**+3.4**
CTAO				IAmb	IAmb	05 40 14.6	
	comp=Z,24nm,1.0s						
MORW	**Morawa**	**21.52 207**		P	**P**	**05 40 11.8**	**+1.6**
MORW				IAmb	IAmb	05 40 21.3	
	comp=Z,22nm,1.2s						
BBOO	**Buckleboo**	**24.20 161**		P	**P**	**05 40 39.6**	**+2.2**
STKA	**Stephens Creek**	**25.66 150**		P	**P**	**05 40 53.0**	**+2.4**
	comp=Z,4.2nm,0.5s,baz=329,slow=10,SNR=9.5						
STKA	**Stephens Creek**	**25.66 150**		P	**P**	**05 40 52.8**	**+2.2**
CMAR	**Chiang Mai Arr**	**39.53 316**		P	**P**	**05 42 50.6**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=143,slow=7.0,SNR=8.6						
NJ2	**Nanjing**	**42.53 350**		*e*P	**P**	**05 43 17.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PZH	**PanZhiHua**	**43.77 327**		P	**P**	**05 43 27.3**	**+0.7**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,6.2s						
HHC	**Hu-ho-hao-te**	**52.56 345**		*e*P	**P**	**05 44 35.0**	**+0.8**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,1μm,8.8s						
SONM	**Songino Array**	**60.41 344**		P	**P**	**05 45 29.5**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=152,slow=8.4,SNR=3.9						
SONM	**Songino Array**	**60.41 344**		IAmb	IAmb	05 45 35.4	
	comp=Z,1.8nm,1.2s						
WMQ	**Urumqi**	**64.33 329**		*e*P	**P**	**05 45 57.5**	**+1.2**
WMQ				LR	LR		
	comp=N,630nm,25.7s						
WMQ				LR	LR		
	comp=E,790nm,18.7s						
WMQ				LR	LR		
	comp=Z,1μm,18.3s						
MK31	**Makanchi Array**	**69.14 329**		P	**P**	**05 46 25.8**	**-1.0**
MK31				IAmb	IAmb	05 46 26.6	
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**69.14 329**		P	**P**	**05 46 25.8**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=117,slow=7.1,SNR=6.9						
MKAR	**Makanchi Array**	**69.14 329**		P	**P**	**05 46 26.9**	**+0.1**
ZALV	**Zalesovo Beam**	**72.98 336**		P	**P**	**05 46 48.7**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=153,slow=6.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**72.98 336**		P	**P**	**05 46 48.4**	**-1.5**
KURK	**Kurchatov**	**73.55 330**		P	**P**	**05 46 52.8**	**-0.4**
KURK				IAmb	IAmb	05 47 13.5	
	comp=Z,8.1nm,1.4s						
BMAR	**Burnt Mountain**	**98.59 23**		P	**P**	**05 48 59.1**	**+0.2**

*IDC **30** 05:43:02.8±0.7, 16°.69S×69°.26W, h206km±4km, mb3.3/2, mb1 3.2/5, mb1mx3.0/23, mbtmp3.7/5, Error ellipse: s-maj=17.3km s-min=3.4km az=110.0*
ISC 30 05:42:59.8±1.4, 16°.58S±0°.09×69°.7W±0°.1, h189km, n10, σ1°66/16, 4C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.53 79**		P	**Pn**	**05 43 34.9**	**+1.4**
	25nm,0.3s,baz=216,slow=8.8,SNR=674						
LPAZ				S	**Sn**	**05 43 59.7**	**+0.3**
	3.5nm,0.3s,baz=332,slow=12,SNR=9.5						
AP01	**Chacalluta**	**1.88 199**		⇑*i*P	**Pn**	**05 43 36.8**	**+0.5**
AP01				*i* S	**Sn**	**05 44 04.4**	**-0.4**
AP01				IAML		05 44 05.3	
	comp=E,241nm,0.4s						
PB12	**IPOC Station P**	**2.11 197**		⇑*i*P	**Pn**	**05 43 38.9**	**+0.2**
PB12				*i* S	**Sn**	**05 44 07.7**	**-1.5**
PB12				IAML		05 44 09.7	
	comp=N,101nm,0.2s						
GO01	**Chusmiza**	**3.11 171**		⇑*i*P	**Pn**	**05 43 52.4**	**+1.8**
GO01				*i* S	**Sn**	**05 44 32.4**	**+2.0**
GO01				IAML		05 44 38.6	
	comp=N,134nm,0.1s						
PB11	**IPOC Station P**	**3.16 179**		⇑*i*P	**Pn**	**05 43 51.8**	**+0.8**
PB11				*e*S	**Sn**	**05 44 29.3**	**-1.8**
PB11				IAML		05 44 33.9	
	comp=N,96nm,0.3s						
LVC	**Limon Verde**	**6.04 173**		P	**Pn**	**05 44 29.0**	**+1.2**
	comp=N,2.0nm,0.3s,baz=1.2,slow=7.6,SNR=31						
LVC				S	**Sn**	**05 45 34.3**	**-3.0**
	comp=N,3.8nm,0.3s,baz=153,slow=21,SNR=14						
SIV	**San Ignacio**	**8.30 87**		P	**Pn**	**05 44 54.9**	**-2.1**
	comp=N,0.3nm,0.3s,baz=274,slow=9.2,SNR=6.3						
PTGA	**Pitinga**	**18.44 32**		P	**P**	**05 47 00.9**	**-0.3**
	comp=N,0.5nm,0.3s,baz=327,slow=23,SNR=5.4						
PLCA	**Paso Flores**	**24.08 182**		P	**P**	**05 47 59.8**	**+1.9**
	comp=N,1.5nm,0.8s,baz=355,slow=11,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.47 72**		P	**P**	**05 54 28.2**	**-1.1**
	comp=N,0.4nm,0.4s,baz=257,slow=4.4,SNR=4.4						

*VAO **30** 06:00:05.1±1.1, 24°.18S×67°.33W, h214km±11km, mb4.1*
*GUC **30** 06:00:06.6±0.5, 24°.02S×67°.51W, h220km±6km, ML4.1*
*IDC **30** 06:00:06.5±1.7, 23°.89S×67°.02W, h177km±16km, mb3.5/3, mb1 3.7/8, mb1mx3.5/24, mbtmp4.0/8, Error ellipse: s-maj=25.0km s-min=18.1km az=141.0*
ISC 30 06:00:05.0±0.7, 24°.10S±0°.05×67°.20W±0°.06, h200km, n40, σ2°00/55, mb3.7/3, 10C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.16 313**		P	**Pn**	**06 00 45.7**	**+0.1**
	12nm,0.3s,baz=139,slow=7.4,SNR=195						
LVC				S	**Sn**	**06 01 15.3**	**-1.8**
	9.5nm,0.3s,baz=193,slow=2.9,SNR=5.8						
LVC	**Limon Verde**	**2.16 313**		⇑*i*P	**Pn**	**06 00 45.7**	**+0.1**
LVC				*i* S	**Sn**	**06 01 15.6**	**-1.5**
LVC	**Limon Verde**	**2.16 313**		*e*P	**Pn**	**06 00 45.5**	**-0.1**
PB15	**IPOC Station P**	**2.26 293**		⇑*i*P	**Pn**	**06 00 46.5**	**0.0**
PB15				*i* S	**Sn**	**06 01 16.9**	**-1.9**
PB06	**IPOC Station P**	**2.58 302**		⇑*i*P	**Pn**	**06 00 50.1**	**+0.1**
PB06				*i* S	**Sn**	**06 01 23.0**	**-2.1**
PB06				IAML		06 01 25.5	
	comp=N,594nm,0.2s						
PB09	**IPOC Station P**	**2.97 320**		⇓*i*P	**Pn**	**06 00 54.8**	**+0.3**
PB09				*i* S	**Sn**	**06 01 31.9**	**-1.2**
PB14	**IPOC Station P**	**2.97 259**		*e*P	**Pn**	**06 00 53.6**	**-0.9**
PB14				IAML		06 01 32.8	
	comp=E,256nm,0.3s						
PB03	**IPOC Station P**	**3.12 310**		⇑*i*P	**Pn**	**06 00 56.1**	**-0.1**
PB03				*i* S	**Sn**	**06 01 33.5**	**-2.7**
PB03				IAML		06 01 36.5	
	comp=N,269nm,0.1s						
PB10	**IPOC Station P**	**3.13 280**		⇑*i*P	**Pn**	**06 00 55.8**	**-0.3**
PB10				*i* S	**Sn**	**06 01 32.5**	**-3.6**
PB10				IAML		06 01 38.0	
	comp=E,214nm,0.4s						
AC02	**Maricunga**	**3.23 212**		⇑*e*P	**Pn**	**06 00 57.0**	**-0.9**
AC02				*e*S	**Sn**	**06 01 35.7**	**-3.5**
PB04	**IPOC Station P**	**3.23 302**		⇑*e*P	**Pn**	**06 00 57.3**	**-0.3**
PB04				*e*S	**Sn**	**06 01 35.8**	**-2.8**
PB04				IAML		06 01 39.9	
	comp=N,299nm,0.1s						
PB07	**IPOC Station P**	**3.42 313**		⇑*i*P	**Pn**	**06 00 59.8**	**-0.1**
PB07				*i* S	**Sn**	**06 01 39.9**	**-3.0**
PB01	**IPOC Station P**	**3.71 325**		⇑*e*P	**Pn**	**06 01 02.9**	**-0.3**
PB01				*e*S	**Sn**	**06 01 46.0**	**-2.9**
PB02	**IPOC Station P**	**3.72 318**		*e*P	**Pn**	**06 01 03.0**	**-0.4**
PB02				*e*S	**Sn**	**06 01 46.1**	**-3.2**
PB08	**IPOC Station P**	**4.34 335**		*e*P	**Pn**	**06 01 11.9**	**+0.5**
PB08				*i* S	**Sn**	**06 02 02.8**	**-0.8**
GO03	**Copiap**	**4.42 218**		⇑*e*	**Pn**	**06 01 09.6**	**-2.5**
LPAZ	**La Paz**	**7.82 353**		P	**Pn**	**06 01 57.0**	**+0.4**
	comp=N,5.0nm,0.3s,baz=152,slow=5.4,SNR=137						
LPAZ				S	**Sn**	**06 03 24.6**	**-0.7**
	comp=N,0.3nm,0.3s,baz=315,slow=23,SNR=2.7						
LPAZ	**La Paz**	**7.82 353**		*e*P	**Pn**	**06 01 57.6**	**+1.1**
SIV	**San Ignacio**	**9.91 37**		P	**Pn**	**06 02 21.6**	**-1.6**
	comp=N,1.2nm,0.3s,baz=215,slow=13,SNR=26						
SIV				S	**Sn**	**06 04 09.2**	**-4.9**
	baz=280,slow=19,SNR=3.2						
ETMB	**Extrema**	**14.24 4**		*e*P	**P**	**06 03 19.6**	**+0.1**
PDRB	**Porto dos Gac**	**15.91 41**		*e*P	**Pn**	**06 03 38.3**	**-0.1**
PLCA	**Paso Flores**	**16.82 189**		P	**Pn**	**06 03 55.4**	**+6.3**
	comp=N,0.2nm,0.3s,baz=10,slow=10.0,SNR=6.7						
CLDB	**Colider**	**17.05 41**		*e*P	**Pn**	**06 03 51.1**	**-0.9**
VAO	**Valinhos**	**18.59 91**		*e*P	**Pn**	**06 04 07.4**	**-2.6**

ILAR	Eielson Array	63.62	28	P		P	06 11 55.0	+0.5
	0.6nm,0.9s,baz=298,slow=7.9,SNR=5.9							
FINES	FINESS Array B	72.09	330	P		P	06 12 48.2	+0.2
	4.4nm,1.0s,baz=43,slow=6.7,SNR=6.1							
AKASG	Malin Array Be	74.87	319	P		P	06 13 03.6	-0.9
	0.7nm,0.5s,baz=57,slow=6.2,SNR=7.0							
BRTR	Keskin Array B	76.51	308	P		P	06 13 13.9	-0.4
	1.8nm,1.0s,baz=77,slow=2.7,SNR=6.0							
YKA	Yellowknife Ar	77.68	25	P		P	06 13 21.3	+1.1
	1.2nm,0.8s,baz=297,slow=5.4,SNR=15							
NOA	NORSAR Array B	78.52	334	P		P	06 13 24.8	-0.2
	2.0nm,0.8s,baz=48,slow=5.7,SNR=4.0							
GERES	GERESS Array B	84.50	323	P		P	06 13 56.3	-0.7
	0.4nm,0.6s,baz=347,slow=4.2,SNR=3.7							

CNRM 30 06:05:15.3, 35°.55N×3°.80W, h10km, ml1.7, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.35	199	P	Pg	06 05 21.2	-1.0
PALE				S	Sg	06 05 27.1	+0.3
AKLM	AKL	1.04	183	P	Pg	06 05 33.0	-2.2
AKLM				S	Sg	06 05 48.1	-0.6
CHEFC	Chefchaouen	1.33	251	P	Pb	06 05 40.2	-0.2
CHEFC				S	Sg	06 05 58.6	+0.4
JBK	JBK	1.58	140	P	Pb	06 05 44.2	-0.5
JBK				S	Sn	06 06 03.8	-0.3
MD31	MD31	2.79	197	P	Pn	06 06 01.2	+1.1
MDT	Midelt	2.81	194	P	Pn	06 05 59.9	-0.4

*IDC **30** 06:20:07.9±1.0, 59°.88N×153°.16W, h84km±11km, mb3.9/21, mb1 4.0/26, mb1mx3.8/49, mbtmp4.2/26, MS4.4/2, Ms1 4.5/2, ms1mx3.6/95, Error ellipse: s-maj=11.0km s-min=8.7km az=90.0*

*NEIC **30** 06:20:09.6±1.1, 59°.79N±0°.03×153°.02W±0°.07, h111km±3km, Error ellipse: s-maj=5.3km s-min=4.7km az=122.0*

*AEIC **30** 06:20:10±1.4, 59°.77N±0°.03×153°.01W±0°.01, h106km±4km, ML3.8, ML3.9/30(NEIC), Error ellipse: s-maj=4.9km s-min=0.7km az=171.0*

ISC 30 06:20:10.1±0.6, 59°.80N±0°.03×153°.02W±0°.03, h110km±5km, n219, σ0s85/233, mb4.3/21, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.18	216		Pn	06 20 25.1	-0.4
OPT	Oil Point	0.18	216	P	Pn	06 20 25.1	-0.4
	baz=43						
O20K	Slope Mountain	0.35	35		Pn	06 20 25.9	-0.3
O20K					Sn	06 20 38.0	-0.3
O20K	Slope Mountain	0.35	35	P	Pn	06 20 25.9	-0.3
	baz=213						
O20K				S	Sn	06 20 38.0	-0.3
	baz=213						
AU22	Augustine Moun	0.46	202		Pn	06 20 26.2	-0.4
AUL	Augustine Lava	0.47	207		Pn	06 20 26.4	-0.3
AUL					Sn	06 20 38.9	-0.4
AGU	Augustine-Summ	0.49	206		Pn	06 20 26.6	-0.4
AGU					Sn	06 20 39.5	-0.2
AUH	Augustine H	0.49	206		Pn	06 20 26.6	-0.3
AUQ	Augustine Qik'	0.49	204		Pn	06 20 26.6	-0.3
RED	Redoubt Volcan	0.64	11		Pn	06 20 27.5	-0.5
RSO	Redoubt South	0.68	11		Pn	06 20 28.4	-0.1
RDWB	Redoubt West	0.70	7		Pn	06 20 28.1	-0.5
RDWB					Sn	06 20 41.6	-0.9
HOM	Homer	0.71	101		Pn	06 20 28.5	0.0
HOM					Sn	06 20 42.6	+0.2
HOM	Homer	0.71	101	P	Pn	06 20 28.5	0.0
	baz=280						
HOM				S	Sn	06 20 42.6	+0.2
	baz=280						
RDJH	Redoubt Jeurge	0.80	8		Pn	06 20 29.2	-0.3
RDT	Redoubt	0.84	21		Pn	06 20 29.4	-0.3
Q19K	Cape Douglas,	0.93	200		Pn	06 20 30.2	-0.4
Q19K	Cape Douglas,	0.93	200		Sn	06 20 45.1	-0.9
Q19K	Cape Douglas,	0.93	200	IAML		06 20 46.0	
	comp=N,3μm,0.7s						
Q19K				IAML		06 20 46.9	
	comp=E,4μm,0.7s						
Q19K	Cape Douglas,	0.93	200	P	Pn	06 20 30.0	-0.6
	baz=20						
Q19K				S	Sn	06 20 45.1	-0.9
	baz=20						
CNPM	China Poot	0.95	106		Pn	06 20 30.3	-0.4
CNPM					Sn	06 20 45.3	-1.0
BRLK	Bradley Lake	1.08	91		Pn	06 20 31.5	-0.6
BRSE	Bradley Lake S	1.16	92		Pn	06 20 32.3	-0.6
BRSE					Sn	06 20 48.9	-1.3
BRSE	Bradley Lake S	1.16	92	P	Pn	06 20 32.3	-0.6
	baz=272						
BRSE				S	Sn	06 20 48.9	-1.3
	baz=272						
P18K	Big Mountain,	1.19	251		Pn	06 20 32.8	-0.6
P18K	Big Mountain,	1.19	251		Sn	06 20 49.8	-1.2
P18K	Big Mountain,	1.19	251	IAML		06 20 50.0	
	comp=N,448nm,1.0s						
P18K				IAML		06 20 50.1	
	comp=E,454nm,0.8s						
P18K	Big Mountain,	1.19	251	P	Pn	06 20 32.5	-0.9
	baz=70						
P18K				S	Sn	06 20 49.8	-1.2
	baz=70						
N19K	Bonanza Creek	1.25	325		Pn	06 20 33.9	-0.2
N19K	Bonanza Creek	1.25	325	IAML		06 20 51.9	
	comp=E,1μm,0.6s						
N19K				IAML		06 20 52.4	
	comp=N,1μm,0.7s						
N19K	Bonanza Creek	1.25	325	P	Pn	06 20 33.9	-0.2
	baz=145						
CAPN	Captain Cook N	1.35	43		Pn	06 20 36.6	+1.6
CAPN	Captain Cook N	1.35	43	P	Pn	06 20 36.6	+1.6
	baz=224						
SPU	Mount Spurr	1.47	19		Pn	06 20 36.6	+0.1
SPCN	Chakachatna No	1.49	16		Pn	06 20 36.8	+0.1
SPCN					Sn	06 20 56.6	-0.4
SLKM	Skilak Lake	1.57	62		Pn	06 20 37.0	-0.8
SPCG	Spurr Capps Gl	1.58	18		Pn	06 20 37.9	0.0
SPNN	North Nagishla	1.58	6		Pn	06 20 38.0	0.0
SPNN					Sn	06 20 59.6	+0.3
O22K	Cooper Landing	1.79	66		Pn	06 20 40.2	-0.1
O22K	Cooper Landing	1.79	66	P	Pn	06 20 40.2	-0.1
	baz=248						
SVW2	Sparrevohn	1.82	317		Pn	06 20 40.4	-0.3
SEW	Seward	1.82	79	Pn	Pn	06 20 40.4	-0.4
SEW	Seward	1.82	79	P	Pn	06 20 40.0	-0.7
	baz=261						
KABU	Katmai Buttres	1.93	218		Pn	06 20 42.3	+0.1
FIS	Fire Island	1.94	45		Pn	06 20 43.2	+1.0
SUA	Susitna One	2.01	33		Pn	06 20 43.7	+0.4
SUA	Susitna One	2.01	33	P	Pn	06 20 43.7	+0.4
	baz=214						
KDAK	Kodiak Island	2.03	173	P	Pn	06 20 42.4	-1.1
	comp=N,283nm,0.3s,baz=39,slow=8.4,SNR=1977						
KDAK				S	Sn	06 21 07.1	-1.9
	comp=N,235nm,0.3s,baz=170,slow=22,SNR=35						
KDAK	Kodiak Island	2.03	173	Pn	Pn	06 20 42.5	-1.0
RC01	Rabbit Creek A	2.08	50		Pn	06 20 43.9	-0.1
RC01	Rabbit Creek A	2.08	50	P	Pn	06 20 43.9	-0.1
	baz=232						
M19K	Big River Lodg	2.22	343		Pn	06 20 45.3	-0.4
M22K	Willow	2.42	35		Pn	06 20 48.9	+0.5
M22K	Willow	2.42	35	P	Pn	06 20 48.8	+0.4
	baz=217						
L19K	White Mountain	2.55	340	Pn	Pn	06 20 50.1	0.0
L19K				IAML		06 21 21.0	
	comp=E,149nm,0.7s						
L19K	White Mountain	2.55	340	P	Pn	06 20 49.9	-0.2
	baz=159						
PWL	Port Wells	2.56	63		Pn	06 20 49.3	-1.0
PWL	Port Wells	2.56	63	P	Pn	06 20 49.3	-1.0
	baz=247						
OHAK	Old Harbor	2.59	183	Pn	Pn	06 20 49.3	-1.3
OHAK				IAML		06 21 19.3	
	comp=E,486nm,0.3s						
OHAK				IAML		06 21 20.3	
	comp=N,806nm,0.5s						
OHAK	Old Harbor	2.59	183	P	Pn	06 20 49.1	-1.5
	baz=3.0						
PMR	Palmer	2.63	45		Pn	06 20 50.4	-0.7
PMR	Palmer	2.63	45	P	Pn	06 20 50.0	-1.1
	baz=228						
L20K	Farewell, AK	2.72	352		Pn	06 20 52.6	+0.2
L20K	Farewell, AK	2.72	352	P	Pn	06 20 52.6	+0.2
	baz=171						
KNK	Knik Glacier	2.77	52		Pn	06 20 52.0	-1.1
KNK	Knik Glacier	2.77	52	P	Pn	06 20 51.9	-1.1
	baz=236						
GHO	Glory Hole Cre	2.82	44		Pn	06 20 52.7	-1.0
CUT	Chulitna	2.94	26		Pn	06 20 54.8	-0.3
CUT	Chulitna	2.94	26	P	Pn	06 20 54.8	-0.3
	baz=208						
SML	Sawmill	3.06	47		Pn	06 20 55.8	-1.0
SML	Sawmill	3.06	47	P	Pn	06 20 55.7	-1.0
	baz=230						
PPLA	Purkeypile	3.13	7	Pn	Pn	06 20 58.5	+0.6
SII	Sitkinak Islan	3.31	191		Pn	06 20 58.5	-1.5
SII	Sitkinak Islan	3.31	191	P	Pn	06 20 58.5	-1.5
	baz=10						
Q23K	Middleton Isla	3.41	93	Pn	Pn	06 21 00.8	-0.6
Q23K				IAML		06 21 41.4	
	comp=E,431nm,0.4s						
Q23K				IAML		06 21 42.0	
	comp=N,482nm,0.5s						
Q23K	Middleton Isla	3.41	93	P	Pn	06 21 01.2	-0.2
	baz=279						
MID	Middleton Isla	3.42	93	Pn	Pn	06 21 00.9	-0.6
MID				IAML		06 21 41.4	
	comp=E,430nm,0.3s						
MID				IAML		06 21 41.9	
	comp=N,538nm,0.5s						
TT01	Tatalina	3.44	336		Pn	06 21 01.4	-0.3
SCM	Sheep Creek Mo	3.46	51		Pn	06 21 01.4	-0.7
SCM	Sheep Creek Mo	3.46	51	P	Pn	06 21 01.4	-0.7
	baz=236						
TTA	Tatalina	3.46	337	Pn	Pn	06 21 01.7	-0.4
TTA	Tatalina	3.46	337	P	Pn	06 21 01.6	-0.5
	baz=154						
VMT	TAPS Tl Valdez	3.54	66		Pn	06 21 02.8	-0.3
CAST	Castle Rocks	3.66	7		Pn	06 21 04.8	0.0
CAST	Castle Rocks	3.66	7	P	Pn	06 21 04.8	0.0
	baz=187						
EYAK	Cordova Ski Ar	3.71	75		Pn	06 21 05.4	0.0
EYAK	Cordova Ski Ar	3.71	75	P	Pn	06 21 04.2	-1.2
	baz=261						
DIV	Divide	3.83	66		Pn	06 21 07.2	+0.1
KLU	Klutina	3.89	61		Pn	06 21 06.7	-1.1
KLU	Klutina	3.89	61	P	Pn	06 21 06.7	-1.1
	baz=247						
TRF	Thorofare Moun	3.89	18		Pn	06 21 07.6	-0.4
TRF	Thorofare Moun	3.89	18	P	Pn	06 21 07.6	-0.4
	baz=201						
KTH	Kantishna Hill	3.90	14		Pn	06 21 07.5	-0.5
M24K	Tolsona, Glenn	4.06	52		Pn	06 21 10.1	-0.1
M24K				IAML		06 22 06.4	
	comp=E,263nm,0.7s						
M24K	Tolsona, Glenn	4.06	52	P	Pn	06 21 09.6	-0.6
	baz=238						
CHUM	Lake Minchumin	4.11	4		Pn	06 21 10.8	0.0
CHUM	Lake Minchumin	4.11	4	P	Pn	06 21 10.8	0.0
	baz=185						
RND	Reindeer	4.13	27		Pn	06 21 10.6	-0.5
CHIR	Chirikof Islan	4.22	200		Pn	06 21 10.6	-1.8
CHIR	Chirikof Islan	4.22	200	P	Pn	06 21 10.5	-1.8
	baz=18						
PS11	TAPS Pump St11	4.33	55		Pn	06 21 13.2	-0.6
BMRM	Bremner River	4.34	71		Pn	06 21 13.8	-0.1
BMRM	Bremner River	4.34	71	P	Pn	06 21 12.5	-1.4
	baz=258						
KAIM	Kayak Island	4.34	85		Pn	06 21 13.3	-0.5
KAIM	Kayak Island	4.34	85	P	Pn	06 21 13.3	-0.5
	baz=272						
MCK	McKinley	4.40	24	Pn	Pn	06 21 15.0	+0.3
MCK	McKinley	4.40	24	P	Pn	06 21 14.8	+0.1
	baz=208						
BPAW	Bear Paw Mtn.	4.42	12		Pn	06 21 14.2	-0.8
BPAW	Bear Paw Mtn.	4.42	12	P	Pn	06 21 14.2	-0.8
	baz=193						
HMT	Hamilton	4.42	79		Pn	06 21 14.0	-1.0
N25K	Chitina, Valde	4.52	63		Pn	06 21 15.8	-0.6
N25K				IAML		06 22 09.2	
	comp=N,224nm,0.8s						
N25K				IAML		06 22 10.4	
	comp=E,228nm,0.5s						
N25K	Chitina, Valde	4.52	63	P	Pn	06 21 15.7	-0.6
	baz=250						
CHGN	Chignik	4.53	222		Pn	06 21 15.9	-0.5
CHGN	Chignik	4.53	222	IAML		06 22 07.1	
	comp=E,68nm,0.3s						
CHGN				IAML		06 22 07.3	
	comp=N,66nm,0.4s						
CHGN	Chignik	4.53	222	P	Pn	06 21 15.9	-0.5
	baz=37						
NICHA	Nichawak Mount	4.56	81		Pn	06 21 16.0	-0.9
HARP	HAARP	4.62	52		Pn	06 21 17.0	-0.7
HARP	HAARP	4.62	52	P	Pn	06 21 17.0	-0.7
	baz=239						
SUCK	Suckling Hills	4.66	83		Pn	06 21 17.6	-0.6
BWN	Browne	4.70	19		Pn	06 21 18.9	+0.2
GLB	Gilahina Butte	4.83	66		Pn	06 21 19.5	-1.0
PAX	Paxson	4.83	46		Pn	06 21 19.7	-0.8
PAX	Paxon	4.83	46	P	Pn	06 21 19.8	-0.7
	baz=232						
GRIN	Grindle Hills	4.89	80		Pn	06 21 20.9	-0.4
KHIT	Khitrov Hills	4.93	78		Pn	06 21 20.7	-1.2
VRDI	Verde Repeater	4.94	69		Pn	06 21 21.0	-1.2
PS10	TAPS Pump St10	5.02	40		Pn	06 21 23.2	+0.1
SNH	Sunshine Point	5.13	81		Pn	06 21 24.4	-0.1
WAX	Waxell Ridge	5.13	78		Pn	06 21 23.5	-1.1
NEA2	Nenana	5.16	19		Pn	06 21 24.1	-0.8
NEA2	Nenana	5.16	19	P	Pn	06 21 24.1	-0.8
	baz=203						
WRH	Wood River Hil	5.23	24		Pn	06 21 25.0	-0.8
ISLE	Juniper Island	5.39	77		Pn	06 21 27.7	-0.5
KIAG	Kiagna River	5.41	73		Pn	06 21 28.5	0.0
HDA	Harding Lake	5.43	29		Pn	06 21 27.7	-0.9
HDA	Harding Lake	5.43	29	P	Pn	06 21 27.7	-0.9
	baz=214						
BALM	Baldy	5.43	72		Pn	06 21 27.9	-0.8
CCB	Clear Creek Bu	5.44	24		Pn	06 21 27.7	-1.0
MENT	Mentasta	5.47	51		Pn	06 21 27.7	-1.4
BAGL	Bagley Icefiel	5.51	78		Pn	06 21 29.9	+0.3
RIDG	Independent Ri	5.54	41		Pn	06 21 29.6	-0.5
RIDG	Independent Ri	5.54	41	P	Pn	06 21 29.6	-0.5
	baz=228						
MESA	MESA	5.57	81		Pn	06 21 30.3	-0.4
MESA	MESA	5.57	81	P	Pn	06 21 30.3	-0.4
	baz=271						
PS08	TAPS Pump Stn8	5.58	29		Pn	06 21 29.5	-1.0
I23K	Minto, Yukon-K	5.63	16		Pn	06 21 31.2	0.0
I23K	Minto, Yukon-K	5.63	16	P	Pn	06 21 31.2	0.0
	baz=199						
TCOL	CIGO, UAF Yank	5.63	23		Pn	06 21 30.2	-1.0
TCOL	CIGO, UAF Yank	5.63	23	P	Pn	06 21 30.6	-0.6
	baz=208						
COLA	College	5.63	23		Pn	06 21 30.6	-0.6
MDM	Murphy Dome	5.64	21		Pn	06 21 30.6	-0.8
YAH	Yahtse	5.67	79		Pn	06 21 32.3	+0.2
DOT	Dot Lake	5.75	44		Pn	06 21 33.5	+0.6
IL31		5.75	27		Pn	06 21 31.8	-1.0
ILAR	Eielson Array	5.75	27	P	Pn	06 21 31.7	-1.2
	comp=N,4.3nm,0.3s,baz=216,slow=14,SNR=254						
ILAR				S	Sn	06 22 32.5	-4.9
	comp=N,9.1nm,0.3s,baz=216,slow=21,SNR=9.8						
ILAR	Eielson Array	5.75	27	Pn	Pn	06 21 31.5	-1.4
BARN	Barnard Glacie	5.77	72		Pn	06 21 33.5	+0.2
POKR	Poker Plat Res	5.93	23		Pn	06 21 34.9	-0.5
POKR	Poker Plat Res	5.93	23	P	Pn	06 21 34.9	-0.5
	baz=208						
TABL	Table Mountain	5.97	79		Pn	06 21 35.8	-0.3
SCRK	Sand Creek	5.98	42		Pn	06 21 34.7	-1.4
SCRK	Sand Creek	5.98	42	P	Pn	06 21 34.7	-1.4
	baz=229						
M27K	Edge Creek, AK	5.99	60		Pn	06 21 36.3	+0.1
M27K	Edge Creek, AK	5.99	60	P	Pn	06 21 36.3	+0.1
	baz=249						
CHX	Chaix Hills	5.99	82		Pn	06 21 36.4	+0.2
SAMH	Samovar Hills	6.16	82		Pn	06 21 39.2	+0.7
IMAR	Indian Mountai	6.22	357	Pn	Pn	06 21 39.0	-0.2
PS06	TAPS Pump Stn6	6.26	12		Pn	06 21 39.8	0.0
YUK2	White River	6.29	66		Pn	06 21 40.6	+0.4
BCAR	Beaver Creek A	6.31	54	Pn	Pn	06 21 39.6	-0.8
PCA	Pinnacle	6.42	82		Pn	06 21 42.2	+0.2
PINM	Pinnacle	6.42	82	P	Pn	06 21 42.2	+0.1
	baz=273						
BVCY	Beaver Creek	6.45	61		Pn	06 21 42.7	+0.3
BVCY	Beaver Creek	6.45	61	P	Pn	06 21 42.7	+0.3
	baz=251						
YUK3	Moose Creek	6.46	67		Pn	06 21 43.1	+0.4
YUK3	Moose Creek	6.46	67	P	Pn	06 21 43.1	+0.4
	baz=257						
H24K	Noodor Dome	6.50	19		Pn	06 21 42.5	-0.6
H24K	Noodor Dome	6.50	19	P	Pn	06 21 42.5	-0.6
	baz=204						
PRP	Porcupine Dome	6.69	28		Pn	06 21 45.6	-0.1
PRP	Porcupine Dome	6.69	28	P	Pn	06 21 45.6	-0.1
	baz=214						
BCPM	Bancas Point	6.74	83		Pn	06 21 46.1	-0.2
PNL	Peninsula	6.89	85		Pn	06 21 47.7	-0.6
PNL	Peninsula	6.89	85	P	Pn	06 21 47.7	-0.6
	baz=277						
YUK6	Outpost Mounta	7.36	75		Pn	06 21 54.9	0.0
YUK6	Outpost Mounta	7.36	75	P	Pn	06 21 54.9	0.0
	baz=267						
EGAK	Eagle	7.45	43		Pn	06 21 54.5	-1.3
EGAK	Eagle	7.45	43	P	Pn	06 21 54.5	-1.3
	baz=233						
COLD	Coldfoot	7.56	8	Pn	Pn	06 21 57.0	-0.4
YUK5	Granite Creek	7.61	73		Pn	06 21 58.2	0.0
DAWY	Dawson	7.72	51		Pn	06 21 58.8	-0.7
DAWY	Dawson	7.72	51	P	Pn	06 21 58.8	-0.7
	baz=242						
HYT	Haines Junctio	7.77	76		Pn	06 22 00.1	-0.3
HYT	Haines Junctio	7.77	76	P	Pn	06 22 00.1	-0.3
	baz=269						
BESE	Bessie Mountai	9.40	90		Pn	06 22 21.8	-0.6
DLBC	Dease Lake	11.88	87	P	Pn	06 22 56.4	+0.7
	comp=N,1.7nm,0.3s,baz=261,slow=7,3,SNR=40						
DLBC				S	Sn	06 25 05.5	-0.7
	comp=N,1.1nm,0.3s,baz=208,slow=25,SNR=5.9						
INK	Inuvik	12.01	37	P	Pn	06 22 57.1	-0.1
	comp=N,0.2nm,0.3s,baz=235,slow=16,SNR=7.9						
YKA	Yellowknife Ar	18.55	65	P	Pn	06 24 18.4	-0.8
	comp=N,1.7nm,0.3s,baz=276,slow=9.9,SNR=298						
YKA				PcP	PcP	06 28 42.2	+0.2
	comp=N,0.0nm,0.3s,baz=284,slow=1.5,SNR=5.5						
YKA				ScP	ScP	06 32 07.5	+0.5
	comp=N,0.1nm,0.3s,baz=283,slow=2.2,SNR=8.9						
NEW	Newport	23.71	103	P	P	06 25 13.5	+1.8
	comp=N,0.9nm,0.5s,baz=272,slow=16,SNR=5.4						
RES	Resolute Bay	25.48	32	P	P	06 25 27.9	+0.5
	comp=N,0.5nm,0.3s,baz=232,slow=21,SNR=2.8						
YBH	Yreka Blue Hor	25.99	120	P	P	06 25 35.2	+2.8
	comp=N,1.2nm,0.5s,baz=12,slow=5.1,SNR=5.9						
PETK	Petropavlovsk-	27.48	278	P	P	06 25 46.3	+0.8
	comp=N,1.7nm,0.8s,baz=71,slow=13,SNR=6.4						
NVAR	Mina Array Bea	30.63	119	P	P	06 26 16.3	+2.5
	comp=N,0.4nm,0.3s,baz=303,slow=12,SNR=1.4						
PDAR	Pinedale Array	31.36	103	P	P	06 26 21.3	+1.1
	comp=N,0.3nm,0.4s,baz=350,slow=4.0,SNR=5.4						
ULM	Lac du Bonnet	33.11	81	P	P	06 26 35.2	+0.1
	comp=N,3.1nm,0.5s,baz=354,slow=21,SNR=3.4						
SPITS	Spitsbergen Ar	42.12	3	P	P	06 27 49.4	-1.2
	comp=N,4.5nm,0.6s,baz=60,slow=3.4,SNR=26						
NRIK	Noril'sk	44.07	334	P	P	06 28 04.6	-1.7
	comp=N,4.1nm,0.5s,baz=140,slow=4.9,SNR=3.8						
TXAR	Lajitas Array	44.92	110	P	P	06 28 15.2	+1.5
	comp=N,0.3nm,0.4s,baz=302,slow=5.9,SNR=10						
JHJ	Hachijo jima 2	50.68	270	LR	LR	06 47 24.6	
	comp=N,486nm,21.6s,baz=303,slow=32						
ARCES	ARCESS Array B	50.96	1	P	P	06 28 59.2	-0.3
	comp=N,3.9nm,1.0s,baz=6.7,slow=7.7,SNR=6.5						
KSRS	Korea Array	53.21	283	P	P	06 29 17.6	+1.0
	comp=N,2.3nm,0.4s,baz=38,slow=6.8,SNR=8.0						
SONM	Songino Array	54.90	306	P	P	06 29 29.9	+1.0
	comp=N,2.3nm,0.5s,baz=45,slow=6.2,SNR=20						
ZALV	Zalesovo Beam	57.53	324	P	P	06 29 47.5	+0.1
	comp=N,11nm,0.4s,baz=34,slow=6.9,SNR=55						
FINES	FINESS Array B	59.09	1	P	P	06 29 58.6	+0.6
	comp=N,2.4nm,0.9s,baz=353,slow=7.7,SNR=4.6						
ARU	Arti	61.44	341	P	P	06 30 13.8	-0.3
	comp=N,1.9nm,0.2s,baz=30,slow=6.2,SNR=7.8						
BVAR	Borovoye Array	62.24	332	P	P	06 30 19.2	-0.3
	comp=N,3.8nm,0.6s,baz=36,slow=13,SNR=23						
KURBB	Kurchatov Arra	62.30	326	P	P	06 30 19.7	-0.3
	comp=N,2.9nm,0.4s,baz=29,slow=6.6,SNR=25						
MKAR	Makanchi Array	64.58	321	P	P	06 30 34.5	-0.6
	comp=N,2.4nm,0.6s,baz=39,slow=6.9,SNR=55						
AKASG	Malin Array Be	69.84	358	P	P	06 31 06.7	-1.4
	comp=N,0.2nm,0.3s,baz=8.7,slow=6.7,SNR=2.5						
CMAR	Chiang Mai Arr	82.94	295	P	P	06 32 22.4	-0.2
	comp=N,1.0nm,0.3s,baz=1.3,slow=4.1,SNR=1.9						
CMAR				LR	LR	07 14 03.7	
	comp=N,180nm,18.9s,baz=350,slow=39						

*IDC **30** 06:21:42.4±3.9, 20°.28S×177°.28W, h517km±28km, mb3.5/8, mb1 3.7/10, mb1mx3.3/34, mbtmp4.4/10, Error ellipse: s-maj=61.1km s-min=20.3km az=131.0*

ISC 30 06:21:40.7±1.6, 20°.3S±0°.3×177°.1W±0°.2, h500km, n13, σ1s27/13, mb4.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.26	299	P	P	06 23 11.2	+1.0
	6.4nm,0.3s,baz=129,slow=4.3,SNR=38						
DZM	Mont Dzumac	15.44	261	P	P	06 24 57.1	+1.5
	0.7nm,0.3s,baz=94,slow=20,SNR=14						
CTA	Charters Tower	34.34	264	P	P	06 27 44.1	-1.1
	4.7nm,0.6s,baz=90,slow=10,SNR=8.3						
STKA	Stephens Creek	38.61	244	P	P	06 28 20.6	+0.2
	2.9nm,1.0s,baz=73,slow=14,SNR=3.3						
ASAR	Alice Springs

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**2.96**	**220**	*i* P	**Pn**	**06 35 47.1**	**+1.1**
BOSA				*i* Sg	**Sb**	**06 36 30.2**	**+2.1**
POGA	**Pongola**	**3.95**	**105**	*e*P	**Pn**	**06 36 00.3**	**+0.9**
POGA				*e*S	**Sn**	**06 36 45.1**	**-0.9**
POGA				IAML		06 37 08.8	
	comp=Z,13nm,2.2s						
MOPA	**Mopani**	**4.58**	**53**	*e*P	**Pn**	**06 36 09.4**	**+1.3**
MOPA				*e*S	**Sn**	**06 37 00.7**	**-0.8**
MOPA				IAML		06 37 21.1	
	comp=Z,15nm,6.2s						
MATP	**Matopo**	**5.98**	**10**	*i* P	**Pn**	**06 36 31.0**	**+3.5**
MATP				*i* S	**Sn**	**06 37 33.5**	**-2.9**
MATP	**Matopo**	**5.98**	**10**	*i* P	**Pn**	**06 36 31.0**	**+3.5**
MATP				*i* S	**Sn**	**06 37 33.5**	**-2.9**
BLWY	**Bulawayo**	**6.28**	**10**	*i* P	**Pn**	**06 36 33.6**	**+2.0**
BLWY				*i* S	**Sn**	**06 37 39.2**	**-4.5**
BLWY	**Bulawayo**	**6.28**	**10**	*i* P	**Pn**	**06 36 33.6**	**+2.0**
BLWY				*i* S	**Sn**	**06 37 39.2**	**-4.5**
KRI	**Karoi**	**9.69**	**13**	*i* P	Pn	06 37 12.8	-5.7
KRI				*i* S	Sn	06 38 47.5	-20
KRI	**Karoi**	**9.69**	**13**	*i* P	Pn	06 37 12.8	-5.7
KRI				*i* S	Sn	06 38 47.5	-20

*IDC **30** 06:45:16.0±3.4, 18°.95S×177°.87W, h578km±26km, mb2.9/5, mb1 3.1/6, mb1mx2.7/33, mbtmp3.8/6, Error ellipse: s-maj=94.2km s-min=24.1km az=146.0*

ISC 30 06:45:12.0±1.7, 18°.8S±0°.6×177°.9W±0°.4, h532km, n7, σ0°58/7, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.02**	**284**	P	P	06 46 40.6	+7.7
	2.2nm,0.3s,baz=128,slow=22,SNR=20						
STKA	**Stephens Creek**	**38.69**	**242**	P	**P**	**06 51 50.6**	**+0.4**
	4.1nm,1.1s,baz=100,slow=17,SNR=3.3						
WRA	**Warramunga Arr**	**45.00**	**260**	P	**P**	**06 52 40.3**	**+0.1**
	1.0nm,0.7s,baz=94,slow=8.7,SNR=7.7						
ASAR	**Alice Springs**	**45.07**	**255**	P	**P**	**06 52 40.9**	**+0.1**
	2.3nm,0.7s,baz=90,slow=8.6,SNR=27						
ASAR				PcP	**PcP**	**06 54 09.2**	**-1.1**
	0.5nm,0.6s,baz=98,slow=4.4,SNR=6.2						
TXAR	**Lajitas Array**	**86.00**	**57**	P	**P**	**06 56 56.7**	**+0.2**
	0.2nm,0.6s,baz=212,slow=8.1,SNR=3.0						
ILAR	**Eielson Array**	**86.59**	**13**	P	**P**	**06 56 58.5**	**+0.1**
	0.4nm,0.9s,baz=202,slow=6.8,SNR=2.7						
BRTR	**Keskin Array B**	**145.75**	**314**	PKPbc	**PKPbc**	**07 03 51.9**	**-0.1**
	0.9nm,0.9s,baz=90,slow=3.2,SNR=3.4						

*KRSC **30** 06:53:48.2±0.8, 53°.88N×159°.22E, h175km±8km, ML4.5*
*MOS **30** 06:53:48.8±0.9, 53°.95N×158°.85E, h175km, mb4.3/14, Error ellipse: s-maj=10.4km s-min=4.1km az=80.3*
*NEIC **30** 06:53:49.8±1.4, 54°.2N±0°.1×158°.7E±0°.2, h156km±7km, mb4.6/34, Error ellipse: s-maj=18.6km s-min=7.5km az=138.0*
*IDC **30** 06:53:49.7±1.1, 54°.14N×158°.68E, h160km±10km, mb3.7/30, mb1 3.9/32, mb1mx3.8/52, mbtmp4.2/32, Error ellipse: s-maj=13.6km s-min=10.1km az=150.0*

ISC 30 06:53:49.7±0.5, 53°.89N±0°.03×159°.10E±0°.04, h174km±4km, n249, σ1°09/306, mb4.3/79, 11C-26D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.25**	**54**	PN	**Pn**	**06 54 12.7**	**-0.3**
KII				S	**Sn**	**06 54 29.9**	**-1.0**
KII	**Karymskiy**	**0.25**	**54**	*e*P	**Pn**	**06 54 12.7**	**-0.3**
KII				*e*S	**Sn**	**06 54 29.9**	**-1.0**
KRER	**Koryakskii**	**0.62**	**200**	PN	**Pn**	**06 54 14.7**	**+0.1**
KRER				S	**Sn**	**06 54 33.8**	**+0.2**
KRER	**Koryakskii**	**0.62**	**200**	*e*P	**Pn**	**06 54 14.7**	**+0.1**
KRER				*e*S	**Sn**	**06 54 33.8**	**+0.2**
SDLR	**Sedlovina**	**0.63**	**192**	PN	**Pn**	**06 54 14.4**	**-0.1**
SDLR				S	**Sn**	**06 54 33.0**	**-0.5**
SDLR	**Sedlovina**	**0.63**	**192**	*e*P	**Pn**	**06 54 14.4**	**-0.1**
SDLR				*e*S	**Sn**	**06 54 33.0**	**-0.5**
SMAR	**Somma**	**0.66**	**196**	PN	**Pn**	**06 54 14.8**	**0.0**
SMAR				S	**Sn**	**06 54 33.7**	**-0.2**
SMAR	**Somma**	**0.66**	**196**	*e*P	**Pn**	**06 54 14.8**	**0.0**
SMAR				*e*S	**Sn**	**06 54 33.7**	**-0.2**
KOK	**Koryaka**	**0.66**	**205**	PN	**Pn**	**06 54 14.8**	**+0.2**
KOK				S	**Sn**	**06 54 33.8**	**0.0**
KOK	**Koryaka**	**0.66**	**205**	*e*P	**Pn**	**06 54 14.8**	**+0.2**
KOK				*e*S	**Sn**	**06 54 33.8**	**0.0**
AVH	**Avacha**	**0.66**	**199**	PN	**Pn**	**06 54 14.8**	**+0.2**
AVH				S	**Sn**	**06 54 33.6**	**-0.1**
AVH	**Avacha**	**0.66**	**199**	*e*P	**Pn**	**06 54 14.8**	**+0.2**
AVH				*e*S	**Sn**	**06 54 33.6**	**-0.1**
UGLR	**Uglovaya**	**0.70**	**194**	PN	**Pn**	**06 54 15.1**	**+0.2**
UGLR				S	**Sn**	**06 54 33.9**	**-0.3**
UGLR	**Uglovaya**	**0.70**	**194**	*e*P	**Pn**	**06 54 15.1**	**+0.2**
UGLR				*e*S	**Sn**	**06 54 33.9**	**-0.3**
GNL	**Ganaly**	**0.72**	**255**	PN	**Pn**	**06 54 14.5**	**-0.4**
GNL				S	**Sn**	**06 54 33.1**	**-1.2**
GNL	**Ganaly**	**0.72**	**255**	*e*P	**Pn**	**06 54 14.5**	**-0.4**
GNL				*e*S	**Sn**	**06 54 33.1**	**-1.2**
NLC	**Nalytchevo**	**0.73**	**169**	PN	**Pn**	**06 54 14.6**	**-0.3**
NLC				S	**Sn**	**06 54 33.4**	**-0.8**
NLC	**Nalytchevo**	**0.73**	**169**	*e*P	**Pn**	**06 54 14.6**	**-0.3**
NLC				*e*S	**Sn**	**06 54 33.4**	**-0.8**
DALK	**Dalny**	**0.89**	**194**	PN	**Pn**	**06 54 15.7**	**-0.2**
DALK				S	**Sn**	**06 54 35.1**	**-0.9**
DALK	**Dalny**	**0.89**	**194**	*e*P	**Pn**	**06 54 15.7**	**-0.2**
DALK				S	**Sn**	**06 54 35.1**	**-0.9**
PET	**Petropavlovsk**	**0.91**	**197**	⇓*i*PN	**Pn**	**06 54 15.9**	**-0.1**
PET				*i* S	**Sn**	**06 54 35.9**	**-0.4**
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.8s						
PET				smax	smax		
	comp=E,3μm,1.1s						
PET	**Petropavlovsk**	**0.91**	**197**		**Pn**	**06 54 15.9**	**-0.1**
PET	**Petropavlovsk**	**0.91**	**197**	*e*P	**Pn**	**06 54 15.9**	**-0.1**
PET				*e*S	**Sn**	**06 54 35.7**	**-0.6**
SPN	**Mys Shipunski**	**0.97**	**145**	PN	**Pn**	**06 54 15.5**	**-1.0**
SPN				S	**Sn**	**06 54 35.3**	**-1.7**
SPN	**Mys Shipunski**	**0.97**	**145**	*e*P	**Pn**	**06 54 15.5**	**-1.0**
SPN				*e*S	**Sn**	**06 54 35.3**	**-1.7**
PEA0B	**Petropavlovsk-**	**1.15**	**228**	*c*PN	**Pn**	**06 54 17.5**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.15**	**228**	Pn	**Pn**	**06 54 17.6**	**-0.3**
PETK	**Petropavlovsk-**	**1.15**	**228**	P	**Pn**	**06 54 16.6**	**-1.4**
	comp=E,20nm,0.3s,baz=76,slow=30,SNR=233						
PETK				S	**Sn**	**06 54 38.9**	**-0.8**
	comp=E,15nm,0.3s,baz=45,slow=28,SNR=15						
PETK	**Petropavlovsk-**	**1.15**	**228**	Pn	**Pn**	**06 54 16.7**	**-1.3**
KRMR	**Karymshinskiy**	**1.21**	**209**	PN	**Pn**	**06 54 18.4**	**0.0**
KRMR				S	**Sn**	**06 54 40.4**	**-0.2**
KRMR	**Karymshinskiy**	**1.21**	**209**	*e*P	**Pn**	**06 54 18.4**	**0.0**
KRMR				*e*S	**Sn**	**06 54 40.4**	**-0.2**
GRL	**Gorelyy**	**1.48**	**205**	PN	**Pn**	**06 54 21.5**	**+0.5**
GRL				S	**Sn**	**06 54 46.0**	**+0.8**
GRL	**Gorelyy**	**1.48**	**205**	*e*P	**Pn**	**06 54 21.5**	**+0.5**
GRL				*e*S	**Sn**	**06 54 46.0**	**+0.8**
RUS	**Russkaya**	**1.50**	**194**	PN	**Pn**	**06 54 20.7**	**-0.4**
RUS				S	**Sn**	**06 54 43.9**	**-1.4**
RUS	**Russkaya**	**1.50**	**194**	*e*P	**Pn**	**06 54 20.7**	**-0.4**
RUS				*e*S	**Sn**	**06 54 43.9**	**-1.4**
APC	**Apacha**	**1.51**	**231**	PN	**Pn**	**06 54 21.4**	**+0.2**
APC				S	**Sn**	**06 54 45.4**	**-0.1**
APC	**Apacha**	**1.51**	**231**	*e*P	**Pn**	**06 54 21.4**	**+0.2**
APC				*e*S	**Sn**	**06 54 45.4**	**-0.1**
MTVR	**Mutnovka**	**1.52**	**202**	PN	**Pn**	**06 54 21.8**	**+0.4**
MTVR	**Mutnovka**	**1.52**	**202**	*e*P	**Pn**	**06 54 21.8**	**+0.4**
TUMD	**Tumrok D**	**1.52**	**29**	*e*P	**Pn**	**06 54 21.0**	**-0.2**
TUMD				*e*S	**Sn**	**06 54 44.9**	**-0.8**
TUMR	**Tumrok**	**1.52**	**23**	PN	**Pn**	**06 54 21.0**	**-0.4**
TUMR				S	**Sn**	**06 54 44.9**	**-1.1**
TUMR	**Tumrok**	**1.52**	**23**	*e*P	**Pn**	**06 54 21.9**	**+0.5**
TUMR				*e*S	**Sn**	**06 54 46.1**	**+0.1**
KMNR	**Kamenistaya**	**1.98**	**19**	PN	**Pn**	**06 54 26.7**	**+0.6**
KMNR	**Kamenistaya**	**1.98**	**19**	*e*P	**Pn**	**06 54 26.7**	**+0.6**
ESO	**Esso**	**2.05**	**354**	PN	**Pn**	**06 54 29.5**	**+2.7**
ESO	**Esso**	**2.05**	**354**	*e*P	**Pn**	**06 54 29.5**	**+2.7**
KDTR	**Khodutka, Kamc**	**2.18**	**197**	PN	**Pn**	**06 54 26.7**	**-1.5**
KDTR				S	**Sn**	**06 54 55.3**	**-2.8**
KDTR	**Khodutka, Kamc**	**2.18**	**197**	*e*P	**Pn**	**06 54 26.7**	**-1.5**
KDTR				*e*S	**Sn**	**06 54 55.3**	**-2.8**
KPT	**Kopyto**	**2.18**	**17**	PN	**Pn**	**06 54 28.3**	**0.0**
KPT	**Kopyto**	**2.18**	**17**	*e*P	**Pn**	**06 54 28.3**	**0.0**
KIRR	**Kirishev**	**2.19**	**19**	PN	**Pn**	**06 54 28.4**	**-0.1**
KIRR				S	**Sn**	**06 54 57.0**	**-1.6**
KIRR	**Kirishev**	**2.19**	**19**	*e*P	**Pn**	**06 54 28.4**	**-0.1**
KIRR				*e*S	**Sn**	**06 54 57.0**	**-1.6**
KOZ	**Kozyrevsk**	**2.22**	**11**	PN	**Pn**	**06 54 28.7**	**+0.1**
KOZ	**Kozyrevsk**	**2.22**	**11**	*e*P	**Pn**	**06 54 28.7**	**+0.1**
BZWR	**Bezymyannyi-We**	**2.23**	**21**	PN	**Pn**	**06 54 29.1**	**+0.2**
BZWR				S	**Sn**	**06 54 58.6**	**-0.9**
BZWR	**Bezymyannyi-We**	**2.23**	**21**	*e*P	**Pn**	**06 54 29.1**	**+0.2**
BZWR				*e*S	**Sn**	**06 54 58.6**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**2.25**	**23**	PN	**Pn**	**06 54 30.8**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**2.25**	**23**	*e*P	**Pn**	**06 54 30.8**	**+1.7**
ZLN	**Zelenaya**	**2.34**	**24**	PN	**Pn**	**06 54 31.1**	**+0.9**
ZLN	**Zelenaya**	**2.34**	**24**	*e*P	**Pn**	**06 54 31.1**	**+0.9**
LGNR	**Loginova**	**2.38**	**22**	PN	**Pn**	**06 54 31.7**	**+0.9**
LGNR	**Loginova**	**2.38**	**22**	*e*P	**Pn**	**06 54 31.7**	**+0.9**
CIRR	**Tsirk**	**2.42**	**22**	PN	**Pn**	**06 54 32.0**	**+0.9**
CIRR	**Tsirk**	**2.42**	**22**	*e*P	**Pn**	**06 54 32.0**	**+0.9**
KRSR	**Krestovskiy**	**2.48**	**19**	PN	**Pn**	**06 54 31.7**	**-0.1**
KRSR	**Krestovskiy**	**2.48**	**19**	*e*P	**Pn**	**06 54 31.7**	**-0.1**
KLY	**Klyuchi**	**2.58**	**19**	PN	**Pn**	**06 54 33.7**	**+0.8**
KLY	**Klyuchi**	**2.58**	**19**	*e*P	**Pn**	**06 54 33.7**	**+0.8**
PAU	**Pauzhetka**	**2.80**	**211**	PN	**Pn**	**06 54 36.0**	**+0.5**
PAU	**Pauzhetka**	**2.80**	**211**	*e*P	**Pn**	**06 54 36.0**	**+0.5**
BDR	**Baidarnaya**	**2.94**	**23**	PN	**Pn**	**06 54 38.2**	**+0.9**
BDR	**Baidarnaya**	**2.94**	**23**	*e*P	**Pn**	**06 54 38.2**	**+0.9**
SRKR	**Sorokina**	**3.01**	**22**	PN	**Pn**	**06 54 38.8**	**+0.7**
SRKR	**Sorokina**	**3.01**	**22**	*e*P	**Pn**	**06 54 38.8**	**+0.7**
SMKR	**Semkarok**	**3.02**	**26**	PN	**Pn**	**06 54 38.1**	**-0.1**
SMKR	**Semkarok**	**3.02**	**26**	*e*P	**Pn**	**06 54 38.1**	**-0.1**
KBG	**Krutoberegovo**	**3.15**	**40**	PN	**Pn**	**06 54 39.4**	**-0.3**
KBG				S	**Sn**	**06 55 16.1**	**-2.6**
KBG	**Krutoberegovo**	**3.15**	**40**	*e*P	**Pn**	**06 54 39.4**	**-0.3**
KBG				*e*S	**Sn**	**06 55 16.1**	**-2.6**
KBTR	**Krutoberegovo**	**3.16**	**41**	PN	**Pn**	**06 54 39.4**	**-0.4**
KBTR				S	**Sn**	**06 55 17.1**	**-1.9**
KBTR	**Krutoberegovo**	**3.16**	**41**	*e*P	**Pn**	**06 54 39.4**	**-0.4**
KBTR				*e*S	**Sn**	**06 55 17.1**	**-1.9**
SKR	**Severo-Kuril's**	**3.70**	**211**	*e*PN	**Pn**	**06 54 46.6**	**-0.1**
SKR				*e*S	**Sn**	**06 55 31.5**	**+0.3**
SKR				pmax	pmax		
	comp=Z,94nm,0.5s						
SKR				smax	smax		
	comp=E,225nm,0.3s						
SKR				smax	smax		
	comp=N,104nm,0.5s						
SKR	**Severo-Kuril's**	**3.70**	**211**	*e*P	**Pn**	**06 54 46.6**	**-0.1**
SKR				*e*S	**Sn**	**06 55 29.9**	**-1.3**
BKI	**Bering**	**4.21**	**69**	PN	**Pn**	**06 54 53.0**	**-0.1**
BKI	**Bering**	**4.21**	**69**	*e*P	**Pn**	**06 54 53.0**	**-0.1**
BKI				*e*S	**Sn**	**06 55 38.4**	**-4.4**
PALN	**Palana**	**5.23**	**5**	PN	**Pn**	**06 55 06.3**	**-0.1**
PALN	**Palana**	**5.23**	**5**	*e*P	**Pn**	**06 55 06.3**	**-0.1**
OSSR	**Ossora**	**5.80**	**21**	PN	**Pn**	**06 55 13.6**	**-0.2**
OSSR	**Ossora**	**5.80**	**21**	*e*P	**Pn**	**06 55 13.6**	**-0.2**
TILK	**Tilichiki**	**7.60**	**27**	PN	**Pn**	**06 55 36.8**	**-0.7**
TILK	**Tilichiki**	**7.60**	**27**	P	**Pn**	**06 55 36.8**	**-0.7**
YSS	**Yuzh-Sakhalins**	**12.51**	**243**	⇓*e*PN	**Pn**	**06 56 41.3**	**-0.3**
JKA	**Kamikawa-asahi**	**14.56**	**234**		**P**	**06 57 09.1**	**-0.1**
ASAJ	**Asahikawa**	**14.56**	**234**	P	**P**	**06 57 08.6**	**-0.7**
	comp=N,1.3nm,0.3s,baz=75,slow=16,SNR=7.9						
ASAJ	**Asahikawa**	**14.56**	**234**	P	**P**	**06 57 09.1**	**-0.1**
BILL	**Bilibino**	**14.60**	**11**	⇓*e*P	**Pn**	**06 57 07.7**	**0.0**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.6s						
ERM	**Erimo**	**15.93**	**228**	*c*eP	**Pn**	**06 57 22.8**	**-1.4**
YAK	**Yakutsk**	**17.47**	**310**	⇑*e*P	**P**	**06 57 41.2**	**+0.1**
YAK				pmax	pmax		
	comp=Z,23nm,0.7s						
KLR	**Kul'dur**	**17.58**	**266**	P	**P**	**06 57 42.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=61,slow=10,SNR=9.1						
KLR	**Kul'dur**	**17.58**	**266**	⇓*i*P	**Pn**	**06 57 44.0**	**+0.1**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GAMB	**Gambell**	**17.89**	**45**	P	**Pn**	**06 57 47.4**	**0.0**
ZEA	**Zeya**	**18.73**	**282**	*e*P	**P**	**06 57 54.1**	**-0.8**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TNA	**Tin City**	**20.03**	**41**	P	**P**	**06 58 10.6**	**+1.9**
TNA				IAmb	IAmb	06 58 16.5	
	comp=Z,9.0nm,0.8s						
BNX	**BinXian**	**21.87**	**261**	⇓P	**P**	**06 58 27.5**	**-1.0**
BNX				pmax	pmax		
	comp=Z,29nm,0.6s						
BNX				pmax	pmax		
	comp=Z,170nm,4.9s						
TIXI	**Tiksi**	**22.11**	**335**	P	**P**	**06 58 29.1**	**-1.4**
	comp=Z,3.8nm,0.5s,baz=121,slow=12,SNR=9.4						
TIXI	**Tiksi**	**22.11**	**335**	⇓*i*P	**P**	**06 58 30.3**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TIXI	**Tiksi**	**22.11**	**335**	P	**P**	**06 58 31.1**	**+0.5**
MAJO	**Matsushiro**	**22.61**	**228**	P	**P**	**06 58 37.9**	**+2.3**
MAJO				pmax	pmax		
	comp=Z,51nm,1.9s						
MAJO	**Matsushiro**	**22.61**	**228**	P	**P**	**06 58 37.9**	**+2.3**
MAJO				IAmb	IAmb	06 59 30.5	
	comp=Z,51nm,1.9s						
MAT	**Matsushiro**	**22.61**	**228**	P	**P**	**06 58 37.5**	**+1.9**
MJAR	**Matsushiro Arr**	**22.61**	**228**	P	**P**	**06 58 37.2**	**+1.6**
	comp=Z,1.4nm,0.4s,baz=14,slow=12,SNR=5.0						
TTA	**Tatalina**	**24.69**	**51**	P	**P**	**06 58 56.2**	**+1.8**
TTA				pmax	pmax		
	comp=Z,14nm,1.7s						
TTA	**Tatalina**	**24.69**	**51**	P	**P**	**06 58 56.1**	**+1.8**
M19K	**Big River Lodg**	**25.47**	**53**	P	**P**	**06 59 03.6**	**+2.4**
M19K				IAmb	IAmb	06 59 30.1	
	comp=Z,30nm,1.6s						
IMAR	**Indian Mountai**	**25.82**	**44**	P	**P**	**06 59 05.6**	**+1.2**
KSRS	**Korea Array**	**26.99**	**245**	P	**P**	**06 59 16.7**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=39,slow=8.6,SNR=2.9						
COLD	**Coldfoot**	**27.33**	**41**	P	**P**	**06 59 19.1**	**+1.2**
COLA	**College**	**28.26**	**46**	⇑*e*P	**P**	**06 59 26.0**	**-0.1**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.6s						
IL31		**28.68**	**46**	P	**P**	**06 59 31.3**	**+1.5**
IL31				IAmb	IAmb	06 59 37.2	
	comp=Z,17nm,1.9s						
ILAR	**Eielson Array**	**28.68**	**46**	P	**P**	**06 59 30.8**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=258,slow=6.1,SNR=13						
ILAR	**Eielson Array**	**28.68**	**46**	P	**P**	**06 59 31.5**	**+1.6**
ILAR	**Eielson Array**	**28.68**	**46**	P	**P**	**06 59 31.5**	**+1.6**
BMAR	**Burnt Mountain**	**29.51**	**41**	P	**P**	**06 59 39.0**	**+1.8**
BCAR	**Beaver Creek A**	**31.13**	**49**	P	**P**	**06 59 53.9**	**+2.3**
SONM	**Songino Array**	**33.15**	**281**	P	**P**	**07 00 08.4**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=53,slow=8.4,SNR=12						
SONM				PcP	**PcP**	**07 02 48.5**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=83,slow=1.7,SNR=13						
SONM	**Songino Array**	**33.15**	**281**	P	**P**	**07 00 09.0**	**-0.5**
INK	**Inuvik**	**33.60**	**38**	P	**P**	**07 00 13.6**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=293,slow=8.4,SNR=72						
HHC	**Hu-ho-hao-te**	**34.08**	**267**	*e*P	**P**	**07 00 17.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,790nm,8.6s						
NJ2	**Nanjing**	**35.97**	**249**	*e*P	**P**	**07 00 34.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
LZH	**Lanzhou**	**41.77**	**268**	*e*P	**P**	**07 01 22.8**	**+0.9**
LZH				pP	pP	07 01 57.5	-2.2
LZH				pmax	pmax		
	comp=Z,12nm,1.4s						
ZALV	**Zalesovo Beam**	**41.85**	**301**	P	**P**	**07 01 20.1**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=60,slow=8.8,SNR=5.7						
ZALV				PcP	**PcP**	**07 03 14.8**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=94,slow=3.7,SNR=5.1						
GTA	**Gaotai**	**41.94**	**275**	⇓P	**P**	**07 01 22.5**	**-0.7**
GTA				pP	pP	07 01 56.0	-5.1
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DGZ	**Jazzator, Alta**	**42.79**	**295**	⇑*e*P	**P**	**07 01 29.2**	**-0.8**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YKA	**Yellowknife Ar**	**42.98**	**43**	P	**P**	**07 01 32.8**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=300,slow=7.3,SNR=16						
YKA				pP	**pP**	**07 02 10.3**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=301,slow=8.3,SNR=4.0						
YKA				PcP	**PcP**	**07 03 19.4**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=308,slow=3.6,SNR=5.8						
WMQ	**Urumqi**	**46.15**	**288**	*e*P	**P**	**07 01 58.0**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,200nm,3.9s						
SPITS	**Spitsbergen Ar**	**46.25**	**350**	P	**P**	**07 01 55.5**	**-1.3**
	comp=Z,27nm,1.2s,baz=54,slow=8.4,SNR=10						
KURK	**Kurchatov**	**46.81**	**301**	*de*P	**P**	**07 01 59.7**	**-1.8**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KURK	**Kurchatov**	**46.81**	**301**	P	**P**	**07 01 59.9**	**-1.6**
KURK				IAmb	IAmb	07 02 00.1	
	comp=Z,14nm,0.3s						
GOMU	**GeErMu**	**47.03**	**275**	P	**P**	**07 02 02.3**	**-1.5**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MK31	**Makanchi Array**	**47.28**	**294**	P	**P**	**07 02 03.7**	**-1.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**47.28**	**294**	P	**P**	**07 02 03.7**	**-1.5**
MKAR	**Makanchi Array**	**47.28**	**294**	P	**P**	**07 02 03.6**	**-1.6**
	comp=Z,2.1nm,0.5s,baz=56,slow=6.8,SNR=46						
MKAR				PcP	**PcP**	**07 03 33.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=63,slow=3.8,SNR=4.1						
BRVK	**Borovoye**	**49.46**	**307**	*de*P	**P**	**07 02 20.7**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PZH	**PanZhiHua**	**49.92**	**260**	P	**P**	**07 02 26.5**	**+0.8**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
ARCES	**ARCESS Array B**	**52.34**	**341**	P	**P**	**07 02 41.1**	**-1.9**
	comp=Z,3.6nm,0.9s,baz=36,slow=7.1,SNR=9.0						
ARU	**Arti**	**52.41**	**316**	P	**P**	**07 02 42.5**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=32,slow=2.4,SNR=14						
ARU	**Arti**	**52.41**	**316**	*d*P	**P**	**07 02 42.6**	**-1.1**
ARU						07 04 40.7	
ARU				S	**S**	**07 09 56.3**	**+0.6**
ARU				SS	**SS**	**07 13 33.4**	**-1.7**
ARU				pmax	pmax		
	comp=Z,77nm,4.7s						
TARG	**Taragay, Kyrgy**	**53.02**	**292**	P	**P**	**07 02 47.8**	**-1.1**
KDJ	**Kajisay**	**53.09**	**293**	P	**P**	**07 02 48.4**	**-0.8**
KDJ				pmax	pmax		
	comp=Z,171nm,1.8s						
KDJ	**Kajisay**	**53.09**	**293**	P	**P**	**07 02 48.4**	**-0.8**
SUMG	**Summit**	**53.23**	**7**	P	**P**	**07 02 50.3**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,18nm,1.5s						
SUMG	**Summit**	**53.23**	**7**	P	**P**	**07 02 50.3**	**+0.3**
SUMG				IAmb	IAmb	07 04 37.3	
	comp=Z,18nm,1.5s						
BOOM	**Boomskoye usch**	**53.52**	**294**	P	**P**	**07 02 51.2**	**-1.0**
BOOM				pmax	pmax		
	comp=Z,186nm,1.9s						
BOOM	**Boomskoye usch**	**53.52**	**294**	P	**P**	**07 02 51.2**	**-1.0**
AAK	**Ala-Archa**	**54.20**	**295**	⇓*i*P	**P**	**07 02 55.8**	**-1.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa**	**54.20**	**295**	P	**P**	**07 02 56.3**	**-0.8**
AAK				IAmb	IAmb	07 02 56.7	
	comp=Z,3.8nm,0.8s						
KSH	**Kashi**	**55.56**	**291**	P	**P**	**07 03 10.0**	**+3.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	**55.98**	**298**	P	**P**	**07 03 08.1**	**-1.6**
KKAR	**Karatay Array**	**55.98**	**298**	P	**P**	**07 03 08.1**	**-1.6**
ABKAR	**Abkulak array**	**56.83**	**309**	P	**P**	**07 03 14.2**	**-1.3**
ABKAR	**Abkulak array**	**56

MLR	**Muntele Rosu**	**73.26 328**	P	**P**		**07 05 01.3**	**-0.3**
MLR			pmax	pmax			
comp=Z,4.0nm,0.7s							
MLR	**Muntele Rosu**	**73.26 328**	P	**P**		**07 05 01.3**	**-0.3**
MLR			IAmb	IAmb		07 05 02.8	
comp=Z,4.2nm,0.7s							
KHC	**Kasperske Hory**	**73.31 337**	⇓*e*P	**P**		**07 05 01.3**	**-0.5**
KHC			pmax	pmax			
comp=Z,86nm,5.7s							
GERES	**GERESS Array B**	**73.55 337**	P	**P**		**07 05 03.1**	**-0.1**
comp=Z,1.0nm,0.4s,baz=42,slow=6.5,SNR=9.8							
GERES	**GERESS Array B**	**73.55 337**	P	**P**		**07 05 03.4**	**+0.2**
ARR	**Arges**	**73.78 328**	⇓P	**P**		**07 05 05.0**	**+0.4**
CONA	**Conrad Observa**	**73.89 335**	*e*P	**P**		**07 05 05.9**	**+0.7**
comp=Z,1.7nm,0.5s							
GZR	**Gura Zlata**	**74.32 330**	⇓P	**P**		**07 05 07.3**	**-0.4**
GZR	**Gura Zlata**	**74.32 330**	⇓P	**P**		**07 05 07.3**	**-0.4**
BZS	**Buzias**	**74.46 331**	⇑P	**P**		**07 05 07.9**	**-0.5**
BZS	**Buzias**	**74.46 331**	⇑P	**P**		**07 05 07.9**	**-0.5**
ARSA	**Arzberg**	**74.60 335**	*e*P	**P**		**07 05 10.0**	**+0.7**
comp=Z,1.4nm,0.3s							
HERR	**Herculane**	**74.89 330**	⇓P	**P**		**07 05 10.1**	**-0.8**
KBA	**Koelnbreinsper**	**75.29 337**	*i* P	**P**		**07 05 14.2**	**+0.8**
comp=Z,4.8nm,0.5s							
WATA	**Walderalm**	**75.45 338**	*e*P	**P**		**07 05 14.5**	**+0.2**
comp=Z,4.8nm,0.5s							
WTTA	**Wattenberg**	**75.51 338**	*e*P	**P**		**07 05 15.4**	**+0.7**
comp=Z,3.2nm,0.5s							
OBKA	**Obir**	**75.53 336**	*e*P	**P**		**07 05 15.4**	**+0.7**
comp=Z,1.8nm,0.4s							
MOTA	**Moosalm**	**75.55 338**	*e*P	**P**		**07 05 15.3**	**+0.4**
comp=Z,1.1nm,0.3s							
BR131	**Keskin Array S**	**75.63 320**	⇓*e*P	**P**		**07 05 14.6**	**-0.8**
BRTR	**Keskin Array B**	**75.63 320**	P	**P**		**07 05 14.8**	**-0.6**
comp=Z,1.4nm,0.6s,baz=71,slow=3.6,SNR=7.4							
BRTR	**Keskin Array B**	**75.63 320**	P	**P**		**07 05 15.0**	**-0.5**
SQTA	**Sankt Quirin**	**75.64 338**	*e*P	**P**		**07 05 15.9**	**+0.6**
comp=Z,2.2nm,0.4s							
ABTA	**Abfaltersbach**	**75.79 337**	*e*P	**P**		**07 05 16.4**	**+0.2**
comp=Z,3.4nm,0.7s							
FETA	**Feichten**	**75.94 338**	*e*P	**P**		**07 05 17.7**	**+0.6**
comp=Z,2.4nm,0.5s							
DAVOX	**Davos/Dischmat**	**76.35 339**	P	**P**		**07 05 20.0**	**+0.6**
comp=Z,2.5nm,0.5s,baz=336,slow=2.3,SNR=9.9							
DAVOX	**Davos/Dischmat**	**76.35 339**	P	**P**		**07 05 20.0**	**+0.6**
WRA	**Warramunga Arr**	**76.56 204**	P	**P**		**07 05 21.7**	**+1.1**
comp=Z,0.6nm,0.8s,baz=11,slow=6.0,SNR=2.8							
MURB	**Monte Urbino**	**79.08 336**	P	**P**		**07 05 36.4**	**+1.9**
MURB			IAmb	IAmb		07 05 36.6	
comp=Z,10nm,0.6s							
OSSC	**Osservatorio P**	**79.13 337**	P	**P**		**07 05 35.1**	**+0.4**
OSSC			IAmb	IAmb		07 07 44.1	
comp=Z,17nm,1.5s							
NRCA	**Norcia**	**79.33 335**	P	**P**		**07 05 36.4**	**+0.5**
NRCA			IAmb	IAmb		07 05 37.3	
comp=Z,12nm,0.8s							
ASAR	**Alice Springs**	**80.25 203**	P	**P**		**07 05 42.5**	**+1.7**
comp=Z,0.4nm,0.6s,baz=17,slow=4.8,SNR=8.5							
SCTE	**Santa Cesarea**	**80.46 330**	P	**P**		**07 05 41.3**	**-0.5**
ESDC	**Sonseca Array**	**85.67 347**	P	**P**		**07 06 09.3**	**+0.7**
comp=Z,0.8nm,0.8s,baz=360,slow=5.0,SNR=4.4							
PLCA	**Paso Flores**	**144.60 89**	PKP	**PKPdf**		**07 13 06.1**	**+1.3**
comp=Z,0.9nm,0.6s,baz=5.5,slow=6.9,SNR=4.4							

IDC 30 07:11:09.8±1.9, 3°.93S×148°.22E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/30, mbtmp3.7/4, Error ellipse: s-maj=292.7km s-min=26.7km az=123.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.89 219**		P	P	07 15 53.0	-0.9
4.4nm,0.9s,baz=39,slow=11,SNR=19							
ASAR	**Alice Springs**	**24.00 214**		P	P	07 16 27.0	+0.6
1.5nm,0.7s,baz=53,slow=7.8,SNR=15							
ILAR	**Eielson Array**	**83.12 23**		P	P	07 23 36.9	-0.5
0.4nm,0.9s,baz=253,slow=3.9,SNR=2.6							
YKA	**Yellowknife Ar**	**96.79 28**		P	P	07 24 42.7	+0.4
0.2nm,0.9s,baz=276,slow=3.6,SNR=2.2							

NNC 30 07:25:35.7±0.3, 50°.00N×78°.71E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=3.3km s-min=1.6km az=69.0, Suspected Mining explosion.
IDC 30 07:25:37.5±0.8, 50°.06N×78°.79E, h0km, mb1 3.0/3, mb1mx2.9/38, mbtmp3.0/3, ML2.7/3, Error ellipse: s-maj=11.4km s-min=6.0km az=58.0

ISC 30 07:25:37.0±0.9, 50°.17N±0°.03×78°.85E±0°.04, h0km, n30, σ1§12/38, 17C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.47 333**		⇓P	**Pb**	**07 25 47.4**	**-0.7**
KUR07				⇑S	**Sb**	**07 25 55.9**	**+0.3**
KUR14	**Kurchatov Arra**	**0.48 340**		⇑P	**Pb**	**07 25 47.7**	**-0.6**
KUR14				⇑S	**Sb**	**07 25 56.2**	**+0.3**
KUR06	**Kurchatov Arra**	**0.48 334**		⇓P	**Pb**	**07 25 47.7**	**-0.7**
KUR06				⇑S	**Sb**	**07 25 56.4**	**+0.3**
KUR15	**Kurchatov Arra**	**0.49 338**		⇑P	**Pb**	**07 25 47.8**	**-0.6**
KUR15				⇑S	**Sb**	**07 25 56.7**	**+0.5**
KURBB	**Kurchatov Arra**	**0.50 336**		Pg	**Pb**	**07 25 48.1**	**-0.5**
2.1nm,0.3s,baz=166,slow=19,SNR=107							
KURBB				Lg	Lg	07 25 57.5	
9.5nm,0.3s,baz=168,slow=18,SNR=63							
KURBB	**Kurchatov Arra**	**0.50 336**		⇑P	**Pb**	**07 25 48.1**	**-0.5**
23nm,0.5s							
KURBB				⇑S	**Sb**	**07 25 57.2**	**+0.7**
142nm,0.7s							
KUR16	**Kurchatov Arra**	**0.51 334**		⇑P	**Pb**	**07 25 48.2**	**-0.6**
KUR16				⇑S	**Sb**	**07 25 57.1**	**+0.2**
KUR05	**Kurchatov Arra**	**0.52 337**		⇑P	**Pb**	**07 25 48.3**	**-0.6**
KUR05				⇓S	**Sb**	**07 25 57.2**	**+0.2**
KUR17	**Kurchatov Arra**	**0.52 332**		⇑P	**Pb**	**07 25 48.4**	**-0.7**
KUR17				⇓S	**Sb**	**07 25 57.9**	**+0.7**
KUR04	**Kurchatov Arra**	**0.53 338**		⇓P	**Pb**	**07 25 48.8**	**-0.4**
KUR04				⇓S	**Sb**	**07 25 58.0**	**+0.6**
KURK	**Kurchatov**	**0.57 345**		⇑P	**Pb**	**07 25 49.4**	**-0.4**
9.7nm,0.5s							
KURK				⇓S	**Sb**	**07 25 59.8**	**+1.3**
33nm,0.5s							
SEM	**Semipalatinsk**	**0.93 74**		P	**Pn**	**07 25 55.9**	**-1.6**
4.6nm,0.1s							
SEM				S	**Sn**	**07 26 11.2**	**-0.5**
44nm,0.4s							
MAKZ	**Makanchi**	**3.95 147**		⇓Pg	**Pb**	**07 26 45.8**	**-1.8**
0.3nm,0.2s							
MAKZ				⇓Lg	Lg	07 27 35.8	
5.1nm,0.5s							
BRZS	**Berezniki**	**3.98 270**		Pg	**Pb**	**07 26 46.9**	**-1.1**
3.5nm,0.3s							
MK31	**Makanchi Array**	**4.08 145**		⇑Pn	**Pn**	**07 26 40.3**	**-0.3**
0.1nm,0.2s,baz=325,slow=10.0,SNR=23							
MK31				⇑Pg	**Pb**	**07 26 49.5**	**-0.2**
1.1nm,0.5s,baz=326,slow=12,SNR=17							
MK31				⇑Lg	Lg	07 27 41.2	
6.7nm,0.5s,baz=328,slow=26,SNR=18							
MKAR	**Makanchi Array**	**4.08 145**		Pn	**Pn**	**07 26 40.3**	**-0.4**
0.4nm,0.3s,baz=322,slow=10,SNR=27							
MKAR				Pg	**Pb**	**07 26 48.7**	**-1.0**
1.0nm,0.3s,baz=321,slow=15,SNR=23							
MKAR				Lg	Lg	07 27 40.9	
3.4nm,0.3s,baz=328,slow=30,SNR=13							
KAPS	**Kapalarasan**	**4.90 176**		Pg	**Pb**	**07 27 02.9**	**-0.7**
2.3nm,0.5s							
I46RU	**ZALESOVO INFRA**	**5.28 42**		*i*		07 56 20.0	
baz=229,slow=342,SNR=1.7							
ZALV	**Zalesovo Beam**	**5.28 42**		Pn	**Pn**	**07 26 59.9**	**+2.8**
0.9nm,0.3s,baz=233,slow=14,SNR=16							
ZALV				Lg	Lg	07 28 26.9	
0.6nm,0.3s,baz=222,slow=23,SNR=3.7							
DJR	**Jarkent**	**5.87 173**		Lg	Lg	07 28 34.9	
6.0nm,0.6s							
BVA4	**Borovoye Array**	**6.00 302**		⇑Lg	Lg	07 28 43.0	
3.2nm,0.5s							
BVAR	**Borovoye Array**	**6.00 302**		Pn	**Pn**	**07 27 06.8**	**-0.1**
0.2nm,0.3s,baz=146,slow=12,SNR=2.5							
BVAR				Sn	**Sn**	**07 28 16.6**	**+0.3**
1.5nm,0.3s,baz=104,slow=31,SNR=20							
BVAR				Lg	Lg	07 28 48.1	
1.4nm,0.3s,baz=108,slow=32,SNR=5.2							
ARXS	**Arharly**	**6.00 187**		Pg	**Pb**	**07 27 21.8**	**-0.6**
1.4nm,0.6s							
ARXS				Lg	Lg	07 28 38.5	
14nm,0.5s							
BTLS	**Baital**	**6.07 214**		Pg	**Pb**	**07 27 22.5**	**-1.0**
1.3nm,0.4s							
BTLS				Lg	Lg	07 28 39.7	
3.5nm,0.6s							
KTBS	**Karatobe**	**6.63 194**		Pg	**Pb**	**07 27 35.3**	**+2.2**
2.1nm,1.5s							
KRBS	**Karabastau**	**6.83 200**		Pg	**Pb**	**07 27 37.5**	**+1.0**
1.5nm,0.5s							
KRBS				Lg	Lg	07 29 05.5	
5.4nm,0.4s							
PDGK	**Podgornoye**	**6.86 176**		⇓Lg	Lg	07 29 04.8	
7.0nm,0.8s							
ZHN	**Zhinishke**	**7.01 182**		Pg	**Pb**	**07 27 43.1**	**+3.5**
1.5nm,0.2s							
TKM2	**Tokmak 2**	**7.59 198**		⇓Lg	Lg	07 29 27.9	
3.3nm,0.7s							
AAK	**Ala-Archa**	**8.11 203**		Lg	Lg	07 29 51.7	
0.3nm,0.3s,baz=243,slow=22,SNR=5.8							

SFS 30 07:34:27.0, 35°.50N×3°.80W, ML2.7, ALBORAN SUR
CNRM 30 07:34:37.8, 35°.50N×3°.80W, h12km, ml3.2
IGIL 30 07:34:40.6, 35°.51N×3°.84W, h6km

ISC 30 07:34:36.8±1.1, 35°.49N±0°.03×3°.75W±0°.03, h16km±8km, n17, σ1§65/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.31 209**		P	**Pg**	**07 34 43.4**	**0.0**
PALE				S	**Sg**	**07 34 47.8**	**-0.1**
CHAS	**Isla Isabel II**	**1.12 106**		P	**Pn**	**07 34 57.7**	**-0.1**
CHAS				S	**Sg**	**07 35 14.2**	**+1.1**
CHEFC	**Chefchaouen**	**1.35 254**		P	**Pg**	**07 35 02.4**	**-0.4**
CHEFC				S	**Sg**	**07 35 19.2**	**-1.4**
CEU	**Ceuta**	**1.38 288**		P	**Pn**	**07 35 00.6**	**-0.8**
CEU				S	**Sn**	**07 35 14.4**	**-4.9**
EMAL	**Malaga-Limoner**	**1.38 337**		P	**Pg**	**07 35 03.7**	**+0.3**
EMAL				S	**Sg**	**07 35 20.2**	**-1.2**
JBK	**JBK**	**1.51 139**		P	**Pn**	**07 35 03.8**	**+0.4**
JBK				S	**Sb**	**07 35 24.7**	**+1.1**
RSA	**Sarsar**	**1.80 251**		P	**Pb**	**07 35 09.7**	**+0.3**
SICH	**Sidi Chahed**	**1.89 223**		P	**Pb**	**07 35 10.5**	**-0.4**
SICH				S	**Sg**	**07 35 37.6**	**0.0**
LCRM	**LCR**	**2.02 207**		P	**Pb**	**07 35 13.3**	**+0.1**
LCRM				S	**Sb**	**07 35 38.4**	**+0.3**
IFR	**Ifrane**	**2.27 210**		P	**Pn**	**07 35 14.4**	**+0.6**
IFR				S	**Sn**	**07 35 41.4**	**-0.3**
MD31	**MD31**	**2.75 198**		P	**Pn**	**07 35 22.3**	**+2.0**
MDT	**Midelt**	**2.76 195**		P	**Pn**	**07 35 22.7**	**+2.2**
TDRA	**Tendrara**	**2.83 149**		P	**Pb**	**07 35 24.9**	**-2.2**
PVAQ	**Vaqueiros**	**3.72 302**		P	**Pn**	**07 35 35.7**	**+2.1**
PVAQ				S	**Sn**	**07 36 16.8**	**-0.3**
MESJ	**Messejana**	**4.29 304**		*e*P	**Pn**	**07 35 43.6**	**+2.2**
EVO	**Evora**	**4.56 313**		P	**Pn**	**07 35 48.1**	**+2.9**
EVO				S	**Sn**	**07 36 38.2**	**+0.3**
OUK	**Oukaimeden**	**5.49 220**		P	**Pn**	**07 35 59.6**	**+1.4**

IDC 30 07:53:54.9±1.1, 3°.00S×147°.06E, h0km, mb4.0/10, mb1 4.3/10, mb1mx3.8/40, mbtmp4.0/10, Error ellipse: s-maj=42.2km s-min=20.6km az=107.0
NEIC 30 07:53:56.9±1.7, 2°.95S±0°.04×147°.00E±0°.09, h10km±1km, mb4.4/9, Error ellipse: s-maj=15.1km s-min=6.4km az=281.0

ISC 30 07:53:56.4±0.6, 2°.93S±0°.07×147°.0E±0°.1, h10km, n29, σ1§01/28, mb4.1/14, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.96 23**		P	**Pg**	**07 54 12.3**	**-2.6**
MANU				Sg	**Sg**	**07 54 27.8**	**+0.4**
RABL	**Rabaul**	**5.32 104**		Pn	**Pn**	**07 55 17.7**	**+1.8**
PMG	**Port Moresby**	**6.44 178**		Pn	**Pn**	**07 55 30.6**	**-0.7**
COEN	**Coen**	**11.59 199**		Pn	**Pn**	**07 56 41.4**	**-0.7**
WRAB	**Tennant Creek**	**20.93 215**		P	**P**	**07 58 39.0**	**-0.4**
WB2	**Warramunga Arr**	**20.93 215**		P	**P**	**07 58 39.1**	**-0.4**
WRA	**Warramunga Arr**	**20.94 215**		P	**P**	**07 58 39.0**	**-0.6**
24nm,1.1s,baz=40,slow=12,SNR=59							
WRA				PcP	**PcP**	**08 02 47.6**	**0.0**
0.4nm,0.8s,baz=25,slow=2.1,SNR=6.4							
WRA	**Warramunga Arr**	**20.94 215**		P	**P**	**07 58 38.5**	**-1.1**
KNRA	**Kununurra**	**21.97 234**		P	**P**	**07 58 49.5**	**-1.1**
KNRA				IAmb	IAmb	07 58 51.6	
comp=Z,38nm,1.1s							
AS31	**Alice Springs**	**24.19 210**		P	**P**	**07 59 12.5**	**-0.8**
ASAR	**Alice Springs**	**24.19 210**		P	**P**	**07 59 13.4**	**+0.1**
comp=Z,7.3nm,0.9s,baz=40,slow=8.2,SNR=57							
ASAR				PcP	**PcP**	**08 02 54.6**	**+0.5**
comp=Z,0.8nm,0.8s,baz=56,slow=2.4,SNR=5.9							
ASAR	**Alice Springs**	**24.19 210**		P	**P**	**07 59 12.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**25.79 233**		P	**P**	**07 59 27.4**	**-0.4**
comp=Z,10nm,1.0s,baz=79,slow=7.3,SNR=4.2							
H11S3	**WAKE ISLAND Hy 28.80**	**42**		T	T	08 29 59.7	
baz=222,slow=74,SNR=18							
H11S2	**WAKE ISLAND Hy 28.81**	**42**		T	T	08 30 00.3	
baz=222,slow=74,SNR=11							
H11S1	**WAKE ISLAND Hy 28.82**	**42**		T	T	08 30 01.2	
baz=222,slow=74,SNR=11							
SBUM	**Sibu**	**35.16 278**		P	**P**	**08 00 51.3**	**+0.4**
SBUM				IAmb	IAmb	08 00 53.8	
comp=Z,5.9nm,1.3s							
CMAR	**Chiang Mai Arr**	**51.84 296**		P	**P**	**08 03 06.2**	**+0.9**
comp=Z,1.3nm,0.3s,baz=117,slow=7.0,SNR=4.5							
SONM	**Songino Array**	**61.74 330**		P	**P**	**08 04 17.2**	**+1.9**
comp=Z,0.2nm,0.3s,baz=134,slow=4.2,SNR=2.9							
MK31	**Makanchi Array**	**75.14 320**		P	**P**	**08 05 38.6**	**-0.4**
MK31				IAmb	IAmb	08 05 50.1	
comp=Z,1.9nm,1.3s							
MKAR	**Makanchi Array**	**75.14 320**		P	**P**	**08 05 39.4**	**+0.3**
comp=Z,0.8nm,0.8s,baz=126,slow=6.3,SNR=6.9							
ZALV	**Zalesovo Beam**	**76.43 327**		P	**P**	**08 05 46.8**	**+0.7**
comp=Z,0.3nm,0.4s,baz=169,slow=1.5,SNR=2.4							
KURK	**Kurchatov**	**78.76 323**		P	**P**	**08 06 00.0**	**+0.7**
KURK	**Kurchatov**	**78.76 323**		IAmb	IAmb	08 06 05.7	
comp=Z,3.6nm,1.4s							
KURBB	**Kurchatov Arra**	**78.79 323**		P	**P**	**08 06 00.0**	**+0.6**
comp=Z,0.3nm,0.2s,baz=107,slow=5.1,SNR=4.1							
ILAR	**Eielson Array**	**82.68 23**		P	**P**	**08 06 19.1**	**-0.9**
comp=Z,0.3nm,0.8s,baz=246,slow=6.8,SNR=2.2							
QSPA	**South Pole Qui**	**87.02 180**		P	**P**	**08 06 40.7**	**-1.3**
QSPA				IAmb	IAmb	08 06 48.4	
comp=Z,6.8nm,1.5s							
YKA	**Yellowknife Ar**	**96.47 28**		P	**P**	**08 07 26.7**	**+0.9**
comp=Z,0.4nm,0.8s,baz=270,slow=5.1,SNR=5.8							
TORD	**Torodi Ar. Bea**	**144.22 288**		PKP	**PKPab**	**08 13 31.4**	**-0.2**
comp=Z,2.5nm,0.9s,baz=46,slow=3.2,SNR=9.0							

KRSC 30 08:13:52.0±0.7, 53°.60N×158°.92E, h160km±7km, ML3.9
IDC 30 08:13:52.7±0.6, 53°.84N×158°.51E, h149km±7km, mb3.3/14, mb1 3.5/15, mb1mx3.3/53, mbtmp3.8/15, Error ellipse: s-maj=20.2km s-min=14.6km az=157.0

ISC 30 08:13:52.7±0.7, 53°.61N±0°.05×158°.84E±0°.06, h159km±5km, n55, σ1§09/64, mb3.7/14, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRER	**Koryakskii**	**0.31 190**		*e*P	**Pn**	**08 14 15.4**	**+0.8**
SDLR	**Sedlovina**	**0.33 176**		*e*P	**Pn**	**08 14 14.9**	**+0.3**
KOK	**Koryaka**	**0.34 201**		*e*P	**Pn**	**08 14 15.0**	**+0.4**
SMAR	**Somma**	**0.35 184**		*e*P	**Pn**	**08 14 15.4**	**+0.6**
AVH	**Avacha**	**0.35 190**		*e*P	**Pn**	**08 14 15.2**	**+0.6**
UGLR	**Uglovaya**	**0.40 182**		*e*P	**Pn**	**08 14 15.4**	**+0.6**
NLC	**Nalytchevo**	**0.53 146**		*e*P	**Pn**	**08 14 15.4**	**+0.2**
NLC				*e*S	**Sn**	**08 14 33.0**	**+0.7**
GNL	**Ganaly**	**0.54 279**		*e*P	**Pn**	**08 14 15.3**	**-0.1**
GNL				*e*S	**Sn**	**08 14 31.8**	**-0.9**
KII	**Karymskiy**	**0.56 40**		*e*P	**Pn**	**08 14 15.4**	**0.0**
DALK	**Dalny**	**0.58 185**		*e*P	**Pn**	**08 14 15.9**	**+0.4**
DALK				*e*S	**Sn**	**08 14 33.3**	**+0.5**
PET	**Petropavlovsk**	**0.60 191**		*e*P	**Pn**	**08 14 16.0**	**+0.4**
PET				*e*S	**Sn**	**08 14 33.7**	**+0.8**
PETK	**Petropavlovsk-**	**0.85 234**		P	**Pn**	**08 14 16.5**	**-0.7**
13nm,0.3s,baz=68,slow=8.9,SNR=442							
PETK				S	**Sn**	**08 14 35.1**	**-0.8**
4.4nm,0.3s,baz=34,slow=16,SNR=10.0							
SPN	**Mys Shipunski**	**0.87 126**		*e*P	**Pn**	**08 14 16.8**	**-0.5**
SPN				*e*S	**Sn**	**08 14 35.2**	**-0.9**
KRMR	**Karymshinskiy**	**0.89 209**		*e*P	**Pn**	**08 14 17.9**	**+0.4**
KRMR				*e*S	**Sn**	**08 14 37.2**	**+0.8**
GRL	**Gorelyy**	**1.16 204**		*e*P	**Pn**	**08 14 21.1**	**+1.3**
RUS	**Russkaya**	**1.20 190**		*e*P	**Pn**	**08 14 20.3**	**+0.3**
RUS				*e*S	**Sn**	**08 14 41.1**	**+0.2**
MTVR	**Mutnovka**	**1.20 200**		*e*P	**Pn**	**08 14 21.5**	**+1.3**
MTVR				*e*S	**Sn**	**08 14 43.5**	**+2.3**
APC	**Apacha**	**1.22 237**		*e*P	**Pn**	**08 14 21.1**	**+0.9**
APC				*e*S	**Sn**	**08 14 42.6**	**+1.3**
TUMD	**Tumrok D**	**1.84 29**		*e*P	**Pn**	**08 14 26.4**	**-0.1**
TUMR	**Tumrok**	**1.84 24**		*e*P	**Pn**	**08 14 27.2**	**+0.6**
TUMR				*e*S	**Sn**	**08 14 53.9**	**+1.0**
KDTR	**Khodutka, Kamc**	**1.86 195**		*e*P	**Pn**	**08 14 26.9**	**+0.1**
KDTR				*e*S	**Sn**	**08 14 52.4**	**-0.6**
KMNR	**Kamenistaya**	**2.30 20**		*e*P	**Pn**	**08 14 32.3**	**+0.4**
ESO	**Esso**	**2.32 358**		*e*P	**Pn**	**08 14 34.9**	**+2.8**
PAU	**Pauzhetka**	**2.48 211**		*e*P	**Pn**	**08 14 35.4**	**+1.4**
KPT	**Kopyto**	**2.49 18**		*e*P	**Pn**	**08 14 34.7**	**+0.5**
KIRR	**Kirishev**	**2.50 20**		*e*P	**Pn**	**08 14 35.3**	**+0.9**
BZWR	**Bezymyannyi-We**	**2.54 21**		*e*P	**Pn**	**08 14 35.5**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**2.57 24**		*e*P	**Pn**	**08 14 37.8**	**+2.7**
KRSR	**Krestovskiy**	**2.79 20**		*e*P	**Pn**	**08 14 38.4**	**+0.5**
KLY	**Klyuchi**	**2.90 20**		*e*P	**Pn**	**08 14 40.3**	**+1.2**
BDR	**Baidarnaya**	**3.26 24**		*e*P	**Pn**	**08 14 45.1**	**+1.4**
SRKR	**Sorokina**	**3.33 23**		*e*P	**Pn**	**08 14 45.4**	**+0.8**
SMKR	**Semkarok**	**3.34 26**		*e*P	**Pn**	**08 14 45.7**	**+1.0**
SKR	**Severo-Kuril's**	**3.38 211**		*e*P	**Pn**	**08 14 46.3**	**+1.1**
KBG	**Krutoberegovo**	**3.46 38**		*e*P	**Pn**	**08 14 45.9**	**-0.2**
KBTR	**Krutoberegovo**	**3.47 40**		*e*P	**Pn**	**08 14 45.9**	**-0.4**
BKI	**Bering**	**4.46 66**		*e*P	**Pn**	**08 14 58.9**	**-0.2**
ASAJ	**Asahikawa**	**14.27 235**		P	**P**	**08 17 09.3**	**-0.8**
0.7nm,0.3s,baz=67,slow=15,SNR=8.2							
ILAR	**Eielson Array**	**28.99 46**		P	**P**	**08 19 37.5**	**+0.5**
0.2nm,0.7s,baz=268,slow=8.7,SNR=4.0							
SONM	**Songino Array**	**33.06 282**		P	**P**	**08 20 12.4**	**-0.6**
0.7nm,0.8s,baz=90,slow=7.9,SNR=4.2							
INK	**Inuvik**	**33.92 38**		P	**P**	**08 20 20.2**	**+0.2**
0.4nm,0.3s,baz=299,slow=9.1,SNR=18							
H11N2	**WAKE ISLAND Hy 34.38**	**166**		T	T	08 56 16.6	
baz=352,slow=76,SNR=2.9							
H11N3	**WAKE ISLAND Hy 34.40**	**166**		T	T	08 56 32.4	
baz=352,slow=76,SNR=3.4							
H11N1	**WAKE ISLAND Hy 34.40**	**166**		T	T	08 56 39.7	
baz=352,slow=76,SNR=3.6							
YKA	**Yellowknife Ar**	**43.29 43**		P	**P**	**08 21 39.2**	**+1.1**
0.1nm,0.5s,baz=301,slow=7.6,SNR=2.6							
KURBB	**Kurchatov Arra**	**46.92 301**		P	**P**	**08 22 05.5**	**-1.4**
2.0nm,0.4s,baz=59,slow=7.5,SNR=19							
MKAR	**Makanchi Array**	**47.26 295**		P	**P**	**08 22 08.2**	**-1.4**
1.2nm,0.5s,baz=56,slow=6.4,SNR=12							
BVAR	**Borovoye Array**	**49.48 307**		P	**P**	**08 22 24.9**	**-1.6**
1.2nm,0.5s,baz=80,slow=11,SNR=6.2							
ARU	**Arti**	**52.51 316**		P	**P**	**08 22 47.7**	**-1.3**
0.8nm,0.3s,baz=38,slow=6.3,SNR=3.2							
ARCES	**ARCESS Array B**	**52.56 341**		P	**P**	**08 22 47.4**	**-1.8**
7.3nm,1.1s,baz=35,slow=6.9,SNR=2.6							
FINES	**FINESS Array B**	**59.34 336**		P	**P**	**08 23 36.0**	**-1.4**
3.8nm,1.0s,baz=38,slow=7.7,SNR=4.6							
NOA	**NORSAR Array B**	**62.83 343**		P	**P**	**08 24 00.0**	**-0.9**
0.7nm,0.7s,baz=39,slow=7.5,SNR=1.5							
TXAR	**Lajitas Array**	**71.12 66**		P	**P**	**08 24 56.0**	**+2.1**
0.3nm,0.9s,baz=284,slow=5.6,SNR=4.6							
WRA	**Warramunga Arr**	**76.25 204**		P	**P**	**08 25 24.7**	**+1.3**
0.3nm,0.5s,baz=23,slow=5.9,SNR=1.7							
ASAR	**Alice Springs**	**79.93 203**		P	**P**	**08 25 45.2**	**+1.5**
0.3nm,0.5s,baz=15,slow=5.4,SNR=6.0							

**IDC 30 08:23:45.8±1.4, 3°.70S×147°.59E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/37, mbtmp3.8/5, ML1.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/53, Error ellipse: s

PB02 IPOC Station P 1.20 215 Pn **Pn 08 34 07.7 +1.0**
MNMC Minye Minye 1.27 341 **Pn 08 34 08.9 +1.2**
PB09 IPOC Station P 1.46 183 ⇑*i*P **Pn 08 34 11.1 +1.2**
PB09 *i* S **Sn 08 34 31.0 +1.5**
PB09 IAML 08 34 33.3
comp=N,4μm,0.8s
PB09 IPOC Station P 1.46 183 **Pn 08 34 11.7 +1.8**
PB07 IPOC Station P 1.54 206 ⇑*i*P **Pn 08 34 11.5 +0.5**
PB07 *i* S **Sn 08 34 31.9 +0.5**
PB07 IAML 08 34 34.5
comp=N,2μm,0.3s
PB07 IPOC Station P 1.54 206 **Pn 08 34 12.1 +1.2**
PB03 IPOC Station P 1.79 198 ⇑*i*P **Pn 08 34 14.5 +0.4**
PB03 *i* S **Sn 08 34 37.6 +0.6**
PB03 IAML 08 34 40.0
comp=N,2μm,0.3s
PB03 IPOC Station P 1.79 198 Pn **Pn 08 34 15.0 +0.9**
PB16 IPOC Station P 2.02 351 ⇓*i*P **Pn 08 34 19.2 +1.9**
PB16 *i* S **Sn 08 34 45.2 +2.4**
PB16 IAML 08 34 53.0
comp=E,1μm,0.8s
PB16 IPOC Station P 2.02 351 **Pn 08 34 19.2 +1.9**
PB12 IPOC Station P 2.04 327 ⇓*i*P **Pn 08 34 17.5 +0.3**
PB12 *i* S **Sn 08 34 42.6 +0.1**
PB12 IAML 08 34 50.3
comp=E,1μm,0.6s
PB12 IPOC Station P 2.04 327 Pn **Pn 08 34 17.2 +0.1**
PB04 IPOC Station P 2.19 205 *e*P **Pn 08 34 19.8 +0.6**
PB04 IAML 08 34 56.7
comp=N,954nm,0.5s
PB04 IPOC Station P 2.19 205 **Pn 08 34 20.1 +0.8**
AP01 Chacalluta 2.25 330 *e*P **Pn 08 34 20.4 +0.5**
AP01 *i* S **Sn 08 34 48.0 +0.7**
AP01 IAML 08 34 57.7
comp=N,3μm,0.2s
AP01 Chacalluta 2.25 330 **Pn 08 34 20.5 +0.7**
LVC Limon Verde 2.27 174 P **Pn 08 34 22.1 +1.7**
comp=N,81nm,0.3s,baz=30,slow=10,SNR=349
LVC S **Sn 08 34 50.1 +1.7**
comp=N,122nm,0.3s,baz=307,slow=1.4,SNR=7.0
LVC Limon Verde 2.27 174 *e*P **Pn 08 34 22.0 +1.5**
LVC *i* S **Sn 08 34 50.3 +1.9**
LVC Limon Verde 2.27 174 *e*P **Pn 08 34 22.2 +1.7**
LVC Limon Verde 2.27 174 **Pn 08 34 22.5 +2.0**
PB06 IPOC Station P 2.39 189 *e*P **Pn 08 34 22.1 +0.3**
PB06 *i* S **Sn 08 34 50.0 -0.8**
PB06 IAML 08 34 54.7
comp=E,1μm,0.4s
PB06 IPOC Station P 2.39 189 **Pn 08 34 23.6 +1.8**
PB15 IPOC Station P 2.87 186 *e*P **Pn 08 34 29.2 +1.0**
PB15 IPOC Station P 2.87 186 **Pn 08 34 29.3 +1.0**
PB10 IPOC Station P 3.42 202 *e*P **Pn 08 34 34.7 -0.6**
PB10 IAML 08 35 34.6
comp=E,116nm,0.3s
PB10 IPOC Station P 3.42 202 Pn **Pn 08 34 34.8 -0.6**
LPAZ La Paz 4.14 14 P **Pn 08 34 47.6 +2.0**
comp=E,5.9nm,0.3s,baz=188,slow=8.6,SNR=180
LPAZ S **Sn 08 35 33.5 0.0**
comp=E,0.9nm,0.3s,baz=126,slow=13,SNR=4.4
LPAZ La Paz 4.14 14 **Pn 08 34 48.9 +3.2**
AC02 Maricunga 6.47 180 **Pn 08 35 16.7 -0.4**
SIV San Ignacio 8.82 62 P **Pn 08 35 47.0 -1.7**
comp=E,1.5nm,0.3s,baz=255,slow=10,SNR=76
PTLB Pontes e Lacer 10.70 65 *e*P **Pn 08 36 12.9 -1.4**
ETMB Extrema 10.84 16 *e*P **Pn 08 36 15.3 -0.8**
VILB Vilhena 11.29 51 *e*P **Pn 08 36 20.8 -1.5**
VILB Vilhena 11.29 51 Pn **Pn 08 36 23.6 +1.3**
CPUP Villa Florida 12.39 121 P **Pn 08 36 35.5 -1.3**
comp=E,0.1nm,0.3s,baz=296,slow=11,SNR=3.5
CPUP Villa Florida 12.39 121 *e*P **Pn 08 36 36.3 -0.5**
AQDB Aquidauana 12.62 93 *e*P **Pn 08 36 38.3 -1.6**
SALV Santo Antonio 13.54 73 *e*P **Pn 08 36 48.0 -3.9**
PDRB Porto dos Gac 14.76 56 *e*P **Pn 08 37 08.1 +0.4**
CLDB Colider 15.93 56 *e*P **Pn 08 37 23.0 +0.6**
PTGB Pitanga 16.38 109 *e*P **P 08 37 29.7 +0.6**
PCMB Pacaembu 16.76 97 *e*P **P 08 37 33.6 +0.4**
ARAG Araguaiana, MT 17.12 77 *e*P **P 08 37 37.8 +0.6**
CPSB Cacapava Do Su 17.37 128 *e*P **Pn 08 37 40.5 +0.6**
ITRB Iturama 17.68 91 *e*P **P 08 37 43.6 +0.3**
LC01 Cunco 18.65 187 P **P 08 37 54.7 +0.9**
LC01 IAmb IAmb 08 38 16.2
comp=Z,19nm,1.4s
NPGB Novo Progresso 18.80 47 *e*P **P 08 37 54.1 -1.6**
MACA Manacapuru-AM 18.96 27 *e*P **P 08 37 56.7 -0.7**
MACA Manacapuru-AM 18.96 27 P **P 08 37 57.1 -0.4**
MACA IAmb IAmb 08 37 59.3
comp=Z,33nm,1.3s
SNDB Serra Nova Dou 19.05 67 *e*P **P 08 37 58.2 -0.2**
BB19B Bebedouro 19.31 96 *e*P **P 08 38 01.4 +0.1**
IPMB Ipameri, GO 19.92 87 *e*P **P 08 38 07.2 -0.7**
TER01 Tubaro-SC 19.96 118 *e*P **P 08 38 08.7 +0.5**
RCLB Rio Claro- Sao 20.25 100 *e*P **P 08 38 11.1 -0.3**
PLCA Paso Flores 20.37 183 P **P 08 38 13.3 +0.8**
comp=Z,8.7nm,0.9s,baz=1.1,slow=12,SNR=18
PLCA Paso Flores 20.37 183 *e*P Pn 08 38 14.3 -1.2
PLCA Paso Flores 20.37 183 P Pn 08 38 14.5 -0.9
PLCA IAmb IAmb 08 38 15.2
comp=Z,14nm,0.9s
ITTB Itaituba 20.56 41 *e*P **P 08 38 13.2 -1.6**
PET01 Itanhaem-SP 20.62 105 *e*P **P 08 38 15.7 +0.4**
BDFB Brasilia 20.64 80 P **P 08 38 14.5 -1.2**
comp=Z,6.6nm,0.8s,baz=254,slow=11,SNR=7.0
BDFB Brasilia 20.64 80 P **P 08 38 15.3 -0.4**
LL04 Puerto Octay 20.70 187 P **P 08 38 15.1 -0.9**
LL04 IAmb IAmb 08 38 20.8
comp=Z,37nm,1.7s
VAO Valinhos 20.79 101 *e*P **P 08 38 16.5 -0.8**
PTGA Pitinga 21.46 26 P **P 08 38 22.1 -2.3**
comp=Z,1.9nm,0.3s,baz=199,slow=12,SNR=9.8
PEXB Peixe 21.62 71 *e*P **P 08 38 25.7 -0.3**
BSCB Bom Sucesso 22.82 96 *e*P **P 08 38 38.3 -0.3**
PRPB Parauapebas 23.47 56 *e*P **P 08 38 43.5 -1.2**
BOAV Boa Vista 24.13 22 *e*P **P 08 38 50.8 +0.3**
BOAV Boa Vista 24.13 22 P **P 08 38 50.9 +0.3**
DIAM Diamantina, MG 24.13 90 *e*P **P 08 38 51.4 +0.6**
JANB Januaria 24.23 82 *e*P **P 08 38 50.9 -0.7**
SDBA SAO DESIDERIO 24.55 75 *e*P **P 08 38 54.3 -0.2**
SJMB Sao Joao De Ma 26.40 91 *e*P **P 08 39 11.6 +0.3**
NAN01 Guarapari, ES 27.53 90 *e*P **P 08 39 21.3 -0.1**
NBPN Ponto Novo - B 29.40 76 *e*P **P 08 39 38.6 +0.6**
NBLA Lagarto - SE 31.55 78 *e*P **P 08 39 56.8 -0.2**
NBMA Muriti-CE 32.13 71 *e*P **P 08 40 02.2 +0.1**
NBPB Pedra_Branca-C 32.27 67 *e*P **P 08 40 03.4 +0.1**
CVTR Volcan Turrial 33.41 333 P **P 08 40 14.8 +1.2**
NBAN Anadia - AL 33.42 76 *e*P **P 08 40 13.8 +0.5**
TORD Torodi Ar. Bea 77.19 71 P **P 08 45 26.6 -0.7**
comp=Z,1.2nm,0.7s,baz=258,slow=5.7,SNR=5.8
YKA Yellowknife Ar 90.02 341 P **P 08 46 32.4 +0.6**
comp=Z,0.4nm,0.8s,baz=129,slow=4.5,SNR=12
H11S2 WAKE ISLAND Hyl 27.49 278 T T 11 12 29.6
baz=101,slow=74,SNR=34
H11S1 WAKE ISLAND Hyl 27.50 278 T T 11 12 27.8
baz=101,slow=74,SNR=30
H11S3 WAKE ISLAND Hyl 27.51 278 T T 11 12 29.0
baz=101,slow=74,SNR=24
H11N3 WAKE ISLAND Hyl 27.54 280 T T 11 12 34.4
baz=102,slow=74,SNR=9.5
H11N2 WAKE ISLAND Hyl 27.56 280 T T 11 12 31.1
baz=102,slow=74,SNR=6.1
H11N1 WAKE ISLAND Hyl 27.56 280 T T 11 12 33.6
baz=102,slow=74,SNR=6.5

*IDC **30** 08:34:58.8±0.6, 9°73′S×126°82′E, h0km, mb4.3/16, mb1 4.5/19, mb1mx4.3/37, mbtmp4.4/19, ML4.7/2, MS3.9/9, Ms1 3.9/9, ms1mx3.3/66, Error ellipse: s-maj=19.5km s-min=13.9km az=54.0*
*NEIC **30** 08:34:59.8±2.2, 9°92S±0°07×126°85E±0°06, h10km±1km, mb4.7/22, Error ellipse: s-maj=11.5km s-min=9.8km az=179.0*
*DJA **30** 08:35:02.4±1.4, 10°S±3°×12°7E±°, h26km±14km, M5.0/12, mB5.4/5, mb5.0/12, MLv5.0/11, Mw(mB)4.8/5*
ISC 30 08:34:59.7±0.4, 9°94S±0°05×126°85E±0°05, h10km, n124, σ1§88/119, mb4.6/38, MS3.9/7, 2C, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.55**	**274**	P	**Pb**	**08 35 43.8**	**-1.8**
SOEI	**Soe**	**2.55**	**274**		**Pn**	**08 35 41.2**	**-0.1**
SOEI	**Soe**	**2.55**	**274**	P	**Pb**	**08 35 44.2**	**-1.4**
BATI	**Baumata**	**3.15**	**265**	Pn	**Pn**	**08 35 51.6**	**+2.2**
	91nm,0.3s,baz=80,slow=2.3,SNR=25						
BATI				Sn	**Sn**	**08 36 28.8**	**+1.8**
	105nm,0.3s,baz=70,slow=6.1,SNR=4.6						
BATI	**Baumata**	**3.15**	**265**	P	**Pn**	**08 35 52.1**	**+2.7**
BATI				S	**Sn**	**08 36 29.9**	**+2.8**
DRS	**Darwin Rock St**	**4.68**	**122**	P	**Pn**	**08 36 13.5**	**+3.1**
MMRI	**Maumere**	**4.73**	**286**	P	**Pn**	**08 36 12.5**	**+1.3**
MMRI	**Maumere**	**4.73**	**286**		**Pn**	**08 36 11.1**	**-0.1**
MMRI	**Maumere**	**4.73**	**286**	P	**Pn**	**08 36 14.5**	**+3.3**
SAUI	**Saumlaki**	**4.81**	**66**	P	**Pn**	**08 36 14.7**	**+2.5**
SAUI	**Saumlaki**	**4.81**	**66**		**Pn**	**08 36 13.6**	**+1.4**
KNRA	**Kununurra**	**6.00**	**162**		**Pn**	**08 36 28.8**	**+0.2**
KNRA	**Kununurra**	**6.00**	**162**	P	**Pn**	**08 36 30.6**	**+2.1**
KDU	**Kakadu**	**6.15**	**117**	P	**Pn**	**08 36 32.6**	**+1.9**
BASI	**Baing, Sumba**	**6.18**	**267**	P	**Pn**	**08 36 32.7**	**+1.6**
	1.5nm201nm,1.1s						
BSSI	**Bau Bau, Buton**	**7.34**	**300**	P	**Pn**	**08 36 50.0**	**+3.0**
	0.1nm759nm41nm,0.8s						
WBSI	**Waikabubak, Su**	**7.36**	**272**	P	**Pn**	**08 36 48.4**	**+1.1**
	1.3nm125nm,0.8s						
BKSI	**Bulukumba**	**8.09**	**304**	P	**Pn**	**08 36 58.5**	**+1.2**
	34nm,0.8s						
FITZ	**Fitzroy Crossi**	**8.19**	**188**	Pn	**Pn**	**08 37 00.1**	**+1.4**
	baz=27,slow=13						
KAPI	**Kappang**	**8.57**	**304**	LR	LR	08 40 20.0	
	comp=Z,357nm,18.5s,baz=155,slow=38						
FAKI	**Fak Fak**	**8.80**	**38**	P	**Pn**	**08 37 06.6**	**-0.5**
	61nm,0.6s						
FAKI	**Fak Fak**	**8.80**	**38**	Pn	**Pn**	**08 37 05.9**	**-1.1**
SIJI	**Sorong**	**10.03**	**26**	Pn	**Pn**	**08 37 23.4**	**-0.5**
	5.4nm,0.3s,baz=208,slow=11,SNR=8.8						
WB0	**Warramunga Arr**	**12.19**	**144**	Pn	**Pn**	**08 37 51.5**	**-2.0**
WRAB	**Tennant Creek**	**12.29**	**145**		**Pn**	**08 37 53.6**	**-1.3**
WRA	**Warramunga Arr**	**12.29**	**145**	Pn	**Pn**	**08 37 53.3**	**-1.6**
	9.7nm,0.3s,baz=313,slow=15,SNR=214						
WRA				Sn	**Sn**	**08 40 06.0**	**-6.2**
	8.9nm,0.3s,baz=323,slow=22,SNR=12						
WB2	**Warramunga Arr**	**12.30**	**145**	Pn	**Pn**	**08 37 53.1**	**-1.9**
MBWA	**Marble Bar**	**13.09**	**211**	Pn	**Pn**	**08 38 03.5**	**-2.2**
MBWA	**Marble Bar**	**13.09**	**211**	P	**Pn**	**08 38 04.5**	**-1.3**
PSA00	**Pilbara Seismi**	**13.38**	**209**	Pn	**Pn**	**08 38 08.4**	**-1.4**
PSA00	**Pilbara Seismi**	**13.38**	**209**	Pn	**Pn**	**08 38 08.5**	**-1.3**
PSA00	**Pilbara Seismi**	**13.38**	**209**	P	**Pn**	**08 38 08.7**	**-1.1**
WRKA	**Warakurna**	**15.08**	**175**	P	**Pn**	**08 38 32.1**	**-0.8**
AS31	**Alice Springs**	**15.22**	**155**	Pn	**Pn**	**08 38 33.5**	**-1.4**
AS31				IAmb	IAmb	08 38 50.5	
	comp=Z,44nm,0.7s						
ASAR	**Alice Springs**	**15.22**	**155**	Pn	**Pn**	**08 38 33.9**	**-1.0**
	comp=Z,8.5nm,0.3s,baz=323,slow=10,SNR=635						
ASAR				Sn	**Sn**	**08 41 17.8**	**-5.8**
	comp=Z,3.7nm,0.3s,baz=317,slow=20,SNR=7.5						
ASAR				LR	LR	08 45 03.6	
	comp=Z,783nm,20.2s,baz=323,slow=39						
ASAR	**Alice Springs**	**15.22**	**155**	Pn	**Pn**	**08 38 34.1**	**-0.7**
PCJI	**Pacitan**	**15.57**	**275**	P	**Pn**	**08 38 36.1**	**-3.4**
	comp=Z,64nm,0.9s						
UGM	**Wanagama**	**16.25**	**276**	Pn	**Pn**	**08 38 47.9**	**-0.4**
GIRL	**Giralia**	**17.48**	**222**	P	**Pn**	**08 39 04.5**	**+0.8**
MEEK	**Meekatharra**	**18.34**	**204**	P	**Pn**	**08 39 14.4**	**+0.1**
LEM	**Lembang**	**19.27**	**278**	LR	LR	08 47 39.7	
	comp=Z,160nm,19.5s,baz=338,slow=40						
OOD	**Oodnadatta**	**19.61**	**156**	P	**P**	**08 39 28.8**	**+0.5**
KSM	**Kuching**	**20.00**	**304**	P	**P**	**08 39 31.1**	**-1.5**
PMG	**Port Moresby**	**20.03**	**90**	P	Pn	08 39 34.0	-0.7
	comp=Z,7.1nm,0.7s,baz=269,slow=8.1,SNR=2.5						
PMG				LR	LR	08 47 30.9	
	comp=Z,281nm,20.4s,baz=236,slow=38						
PMG	**Port Moresby**	**20.03**	**90**	P	Pn	08 39 37.5	+2.8
PMG	**Port Moresby**	**20.03**	**90**	P	Pn	08 39 37.4	+2.7
FORT	**Forrest**	**20.76**	**177**	P	Pn	08 39 43.0	-0.2
CTA	**Charters Tower**	**21.26**	**121**	P	**P**	**08 39 48.7**	**+2.4**
	comp=Z,32nm,0.9s,baz=297,slow=12,SNR=5.8						
CTA				LR	LR	08 48 26.7	
	comp=Z,452nm,19.1s,baz=303,slow=38						
CTA	**Charters Tower**	**21.26**	**121**	P	**P**	**08 39 49.4**	**+3.1**
CTAO	**Charters Tower**	**21.26**	**121**	P	**P**	**08 39 49.5**	**+3.1**
MULG	**Mulgathing**	**21.32**	**163**	P	**P**	**08 39 49.1**	**+2.2**
MORW	**Morawa**	**21.56**	**207**	P	**P**	**08 39 49.1**	**-0.3**
MORW	**Morawa**	**21.56**	**207**	P	**P**	**08 39 51.1**	**+1.7**
INKA	**Innaminka**	**22.02**	**145**	P	**P**	**08 39 55.0**	**+0.7**
BLDU	**Ballidu**	**22.63**	**203**	P	**P**	**08 40 02.7**	**+1.8**
LCRK	**Leigh Creek**	**22.99**	**154**	P	**P**	**08 40 08.0**	**+3.4**
QLP	**Quilpie**	**23.33**	**137**	P	**P**	**08 40 11.0**	**+2.8**
MUN	**Mundaring**	**24.04**	**203**	P	**P**	**08 40 17.0**	**+2.0**
BBOO	**Buckleboo**	**24.29**	**161**	P	**P**	**08 40 17.8**	**+0.4**
BBOO				IAmb	IAmb	08 40 26.8	
	comp=Z,30nm,0.8s						
BBOO	**Buckleboo**	**24.29**	**161**	P	**P**	**08 40 19.6**	**+2.2**
NAPP	**Napperby**	**25.36**	**157**	P	**P**	**08 40 30.8**	**+3.8**
STKA	**Stephens Creek**	**25.75**	**150**	P	**P**	**08 40 32.7**	**+2.1**
	comp=Z,15nm,0.7s,baz=330,slow=10,SNR=46						
STKA				LR	LR	08 51 22.8	
	comp=Z,372nm,18.5s,baz=283,slow=38						
STKA	**Stephens Creek**	**25.75**	**150**	P	**P**	**08 40 29.0**	**-1.6**
STKA	**Stephens Creek**	**25.75**	**150**	P	**P**	**08 40 33.1**	**+2.5**
HTT	**Hallett**	**25.88**	**156**	P	**P**	**08 40 34.4**	**+2.6**
RK1H	**Rockhampton Ha**	**26.25**	**124**	P	**P**	**08 40 38.2**	**+3.0**
TWOA	**Tennyson Woods**	**27.18**	**159**	P	**P**	**08 40 46.0**	**+2.6**
CMSA	**Cobar Meteorol**	**27.70**	**144**	P	**P**	**08 40 50.7**	**+2.5**
ARPS	**Mount Arapiles**	**29.96**	**155**	P	**P**	**08 41 11.6**	**+3.4**
PSI	**Prapat**	**30.56**	**293**	LR	LR	08 55 27.9	
	comp=Z,146nm,18.1s,baz=108,slow=40						
TOO	**Toolangi**	**32.23**	**152**	P	**P**	**08 41 31.8**	**+3.5**
HNR	**Honiara**	**32.62**	**92**	LR	LR	08 56 09.3	
	comp=Z,98nm,18.1s,baz=146,slow=39						
CM31	**Chiang Mai Arr**	**39.43**	**316**	P	**P**	**08 42 29.9**	**-0.3**
CM31				IAmb	IAmb	08 42 36.5	
	comp=Z,16nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.43**	**316**	P	**P**	**08 42 30.2**	**0.0**
	comp=Z,6.7nm,0.7s,baz=144,slow=6.5,SNR=31						
CMAR	**Chiang Mai Arr**	**39.43**	**316**	P	**P**	**08 42 29.6**	**-0.6**
CHTO	**Chiang Mai**	**39.67**	**316**	P	**P**	**08 42 31.8**	**-0.5**
CHTO				IAmb	IAmb	08 42 38.4	
	comp=Z,15nm,0.8s						
DZM	**Mont Dzumac**	**39.80**	**113**	P	**P**	**08 42 34.2**	**+0.8**
	comp=Z,3.8nm,1.0s,baz=247,slow=18,SNR=3.6						
DZM	**Mont Dzumac**	**39.80**	**113**	P	**P**	**08 42 33.6**	**+0.1**
OUENC	**Ouen Island, N**	**40.23**	**113**	P	**P**	**08 42 36.7**	**-0.2**
OUENC				IAmb	IAmb	08 42 45.6	
	comp=Z,8.9nm,0.8s						
LIFNC	**LIFOU**	**40.30**	**110**	P	**P**	**08 42 37.6**	**+0.1**
PINNC	**Pines Island,**	**40.82**	**113**	P	**P**	**08 42 41.4**	**-0.3**
PINNC				IAmb	IAmb	08 42 50.1	
	comp=Z,19nm,1.0s						
NJ2	**Nanjing**	**42.45**	**350**	*e*P	**P**	**08 42 57.5**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
XAN	**Xi'an**	**46.94**	**340**	P	**P**	**08 43 29.0**	**-1.8**
XAN				pP	sP	08 43 34.3	-0.4
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**47.16**	**1**	P	**P**	**08 43 31.9**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=181,slow=9.5,SNR=4.5						
MAT	**Matsushiro**	**47.46**	**12**	P	**P**	**08 43 32.6**	**-2.1**
MJAR	**Matsushiro Arr**	**47.46**	**12**	P	**P**	**08 43 32.6**	**-2.1**
	comp=Z,2.2nm,0.7s,baz=188,slow=8.1,SNR=6.1						
MJAR	**Matsushiro Arr**	**47.46**	**12**	P	**P**	**08 43 36.1**	**+1.4**
MJAR				IAmb	IAmb	08 44 50.7	
	comp=Z,14nm,1.7s						
HNS	**HongShan**	**48.45**	**347**	⇑P	**P**	**08 43 41.0**	**-1.3**
HNS				pmax	pmax		
	comp=Z,11nm,1.2s						
HHC	**Hu-ho-hao-te**	**52.47**	**345**	*e*P	**P**	**08 44 15.5**	**+2.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,7.0s						
USRK	**Ussuriysk Ar.**	**54.09**	**5**	P	**P**	**08 44 23.8**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=180,slow=7.3,SNR=5.3						
XLT	**XiLinHaoTe**	**54.47**	**350**	*e*P	**P**	**08 44 26.5**	**-1.0**
XLT				pP	pP	08 44 29.8	-0.6
XLT				sP	sP	08 44 32.5	+1.0
XLT				pmax	pmax		
	comp=Z,13nm,0.9s						
XLT				pmax	pmax		
	comp=Z,180nm,4.7s						
GUN	**Gumba**	**54.66**	**315**	*e*P	**P**	**08 44 28.8**	**-0.7**
	comp=Z,9.5nm,0.4s						
PKI	**Pulchoki**	**54.79**	**314**	*e*P	**P**	**08 44 29.6**	**-0.8**
	comp=Z,2.8nm,0.3s						
PKIN	**Phulchoki**	**54.80**	**314**	*e*P	**P**	**08 44 29.3**	**-1.1**
	comp=Z,5.2nm,0.4s						
GTA	**Gaotai**	**55.16**	**335**	*e*P	**P**	**08 44 33.0**	**+0.4**
GTA				pP	sP	08 44 38.0	+1.4
GTA				sP	pP	08 44 41.5	+6.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DANN	**Dangsing**	**56.42**	**314**	*e*P	**P**	**08 44 41.1**	**-1.0**
	comp=Z,28nm,0.7s						
PYUN	**Piuthan**	**56.83**	**313**	*e*P	**P**	**08 44 44.4**	**-0.5**
	comp=Z,49nm,0.8s						
SONM	**Songino Array**	**60.32**	**344**	P	**P**	**08 45 08.2**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=153,slow=8.5,SNR=6.3						
SONM	**Songino Array**	**60.32**	**344**	P	**P**	**08 45 08.5**	**-0.3**
WMQ	**Urumqi**	**64.24**	**330**	*e*P	**P**	**08 45 37.3**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,230nm,3.7s						
WMQ				LR	LR		
	comp=N,610nm,28.8s						
WMQ				LR	LR		
	comp=E,630nm,28.9s						
WMQ				LR	LR		
	comp=Z,240nm,29.3s						
PETK	**Petropavlovsk-**	**68.10**	**19**	P	**P**	**08 46 00.1**	**+0.6**
	comp=Z,3.0nm,0.6s,baz=174,slow=1.5,SNR=9.4						
KSH	**Kashi**	**68.15**	**320**	P	**P**	**08 45 58.5**	**-1.9**
KSH				pP	sP	08 46 05.5	+1.0
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK31	**Makanchi Array**	**69.04**	**329**	P	**P**	**08 46 05.0**	**-0.7**
MKAR	**Makanchi Array**	**69.04**	**329**	P	**P**	**08 46 05.1**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=132,slow=8.2,SNR=21						
MKAR	**Makanchi Array**	**69.04**	**329**	P	**P**	**08 46 04.9**	**-0.8**
VNDA	**Vanda**	**69.94**	**172**	P	**P**	**08 46 11.2**	**+0.5**
KBL	**Kabul**	**70.34**	**312**	P	**P**	**08 46 13.1**	**-1.1**
KBL				IAmb	IAmb	08 46 15.4	
	comp=Z,5.6nm,0.9s						
MA2	**Magadan**	**71.90**	**13**	P	**P**	**08 46 23.3**	**+0.5**
MA2				IAmb	IAmb	08 46 28.2	
	comp=Z,8.1nm,1.1s						
ZAA0	**Zalesovo Array**	**72.89**	**336**	P	**P**	**08 46 27.6**	**-1.2**
ZAA0				IAmb	IAmb	08 46 34.0	
	comp=Z,4.2nm,0.9s						
ZALV	**Zalesovo Beam**	**72.89**	**336**	P	**P**	**08 46 27.5**	**-1.3**
	comp=Z,3.1nm,0.8s,baz=123,slow=5.5,SNR=13						
ZALV	**Zalesovo Beam**	**72.89**	**336**	P	**P**	**08 46 27.4**	**-1.4**
KURBB	**Kurchatov Arra**	**73.44**	**330**	P	**P**	**08 46 31.4**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=140,slow=5.1,SNR=22						
KURK	**Kurchatov**	**73.45**	**330**	P	**P**	**08 46 31.1**	**-1.0**
KURK				IAmb	IAmb	08 46 32.4	
	comp=Z,4.6nm,0.9s						
BVAR	**Borovoye Array**	**78.92**	**329**	P	**P**	**08 47 02.9**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=106,slow=8.2,SNR=5.7						
SYO	**Syowa Base**	**79.81**	**201**	⇑P	P	08 47 20.6	+13
QSPA	**South Pole Qui**	**80.05**	**180**	P	**P**	**08 47 09.4**	**0.0**
TIXI	**Tiksi**	**81.42**	**1**	P	**P**	**08 47 15.4**	**-1.0**
TIXI				IAmb	IAmb	08 50 12.6	
	comp=Z,3.5nm,0.7s						
AKTO	**Aktyubinsk**	**84.51**	**323**	P	**P**	**08 47 32.2**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=114,slow=6.1,SNR=6.3						
AKTO				LR	LR	09 30 05.5	
	comp=Z,115nm,18.1s,baz=89,slow=39						
ILAR	**Eielson Array**	**97.32**	**26**	P	**P**	**08 48 31.4**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=255,slow=4.5,SNR=6.6						
PDAR	**Pinedale Array**	**121.16**	**46**	PKP	**PKiKP**	**08 53 54.6**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=315,slow=0.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**126.25**	**279**	PKP	**PKPdf**	**08 54 03.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=9.9,slow=3.5,SNR=4.2						
CPUP	**Villa Florida**	**143.72**	**174**	PKP	**PKPdf**	**08 54 37.6**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=222,slow=8.4,SNR=3.1						
LPAZ	**La Paz**	**150.02**	**150**	PKPbc	**PKiKP**	**08 54 54.6**	**+1.4**
	comp=Z,4.4nm,0.9s,baz=137,slow=2.9,SNR=13						
SIV	**San Ignacio**	**153.07**	**163**	PKPbc	**PKiKP**	**08 54 59.8**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=271,slow=6.4,SNR=5.2						

NNC 30 08:40:14.7±12.0, 39°00N×73°76E, h0km, mb3.5, mpv3.2, 3C-3D, Error ellipse: s-maj=94.2km s-min=54.2km az=156.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.68**	**9**	⇓Pg	Pb	08 41 17.9	-2.7
	7.0nm,0.8s						
AAK				⇑Lg	Lg	08 42 09.1	
	6.6nm,0.8s						
TKM2	**Tokmak 2**	**4.16**	**19**	⇓Pg	Pg	08 41 35.9	+1.5
	2.5nm,0.6s						
TKM2				⇑Lg	Lg	08 42 31.2	
	7.9nm,1.1s						
KK08	**Karatay Array**	**4.79**	**330**	⇑Pn	Pn	08 41 27.5	-0.6
	1.5nm,0.5s,baz=147,slow=13						
KK08				⇓Sn	Sn	08 42 26.1	+1.8
	4.9nm,0.6s,baz=144,slow=23						
AB31	**Akbulak array**	**14.24**	**321**	P	Pn	08 43 33.1	-4.4
	0.3nm,0.5s,baz=131,slow=13,SNR=8.8						

RSNC 30 08:52:08.3±0.8, 7°74N×73°80W, h24km±4km, ML1.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.69**	**44**	*e*P	Pb	08 52 21

0.5nm,0.5s,baz=158,slow=12,SNR=15
BVAR **Borovoye Array 16.78 358** P Pn 08 57 30.7 +1.2
0.1nm,0.3s,baz=206,slow=9.6,SNR=2.0
AKTO **Aktyubinsk 17.14 330** P P 08 57 35.8 +1.7
0.3nm,0.3s,baz=134,slow=8.7,SNR=5.8
AKTO **Aktyubinsk 17.14 330** ⇓P P 08 57 34.8 +0.8
3.4nm,0.9s
ZALV **Zalesovo Beam 20.01 24** P P 08 58 04.7 -0.7
1.7nm,0.3s,baz=208,slow=10,SNR=13
FINES **FINESS Array B 37.85 326** P P 09 00 48.6 +1.2
1.7nm,0.9s,baz=131,slow=11,SNR=4.0
ARCES **ARCESS Array B 41.48 338** P P 09 01 18.2 +0.7
3.4nm,0.8s,baz=106,slow=8.5,SNR=2.9
NOA **NORSAR Array B 44.75 323** P P 09 01 43.7 -0.2
1.0nm,0.7s,baz=96,slow=7.7,SNR=1.5
TORD **Torodi Ar. Bea 66.01 269** P P 09 04 15.5 -1.5
0.3nm,0.5s,baz=48,slow=6.2,SNR=1.4
YKA **Yellowknife Ar 81.47 3** P P 09 05 46.6 +0.1
0.3nm,0.6s,baz=349,slow=5.3,SNR=11

*IDC **30** 08:58:32.8±1.5, 19°.89S×178°.05W, h594km±16km, mb3.2/9, mb1 3.4/13, mb1mx3.3/31, mbtmp4.2/13, Error ellipse: s-maj=27.4km s-min=14.5km az=141.0*
*NEIC **30** 08:58:32±1.4, 19°.8S±0°.1×178°.0W±0°.2, h587km±8km, mb4.2/12, Error ellipse: s-maj=23.0km s-min=15.0km az=123.0*
*NOU **30** 08:59:13.4, 18°.16S×179°.79W, h302km, MLv2.9/4, Fiji Islands Region*
ISC 30 08:58:33.1±0.7, 19°.8S±0°.1×178°.1W±0°.1, h600km, n40, σ1§07/37, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**3.50**	**330**	P	P	08 59 56.5	+1.1
DGTI	**Dogotuki**	**4.02**	**329**	P	P	08 59 59.6	+0.7
MSVF	**Nonsavu**	**4.19**	**298**	P	P	09 00 01.0	+0.9
	6.4nm,0.3s,baz=150,slow=2.5,SNR=48						
MSVF	**Nonsavu**	**4.19**	**298**	P	P	09 00 00.6	+0.5
MSVF	**Nonsavu**	**4.19**	**298**	P	P	09 00 01.1	+1.0
AFI	**Afiamalu**	**8.38**	**47**	P	P	09 00 35.3	-1.0
	4.5nm,0.3s,baz=288,slow=1.0,SNR=6.5						
AFI	**Afiamalu**	**8.38**	**47**	P	P	09 00 34.0	-2.3
PINNC	**Pines Island,**	**13.80**	**256**	P	P	09 01 28.9	-1.1
DZM	**Mont Dzumac**	**14.65**	**258**	P	P	09 01 39.1	+0.9
	0.4nm,0.3s,baz=115,slow=20,SNR=10.0						
DZM	**Mont Dzumac**	**14.65**	**258**	P	P	09 01 39.2	+1.0
SANVU	**Saraoutou**	**14.67**	**285**	P	P	09 01 37.2	-1.2
OUZ	**Omahuta**	**17.06**	**204**	P	P	09 02 00.8	+0.8
URZ	**Urewera**	**18.90**	**192**	P	P	09 02 14.9	-1.8
	2.7nm,0.3s,baz=276,slow=3.2,SNR=15						
BKZ	**Black Stump Fm**	**19.90**	**192**	P	P	09 02 23.4	-2.4
BKZ				IAmb	IAmb	09 02 51.0	
	comp=Z,9.3nm,1.2s						
CTA	**Charters Tower**	**33.50**	**263**	P	P	09 04 24.9	+0.3
	comp=Z,5.5nm,0.3s,baz=94,slow=10,SNR=16						
CTAO	**Charters Tower**	**33.50**	**263**	P	P	09 04 24.5	-0.2
CTAO				IAmb	IAmb	09 04 25.6	
	comp=Z,7.0nm,0.7s						
COEN	**Coen**	**37.47**	**273**	P	P	09 04 57.5	+0.1
COEN				IAmb	IAmb	09 05 02.6	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**38.05**	**243**	P	P	09 05 02.2	+0.2
	comp=Z,1.0nm,0.9s,baz=85,slow=18,SNR=1.1						
STKA	**Stephens Creek**	**38.05**	**243**	P	P	09 05 02.3	+0.4
BBOO	**Buckleboo**	**42.81**	**243**	P	P	09 05 39.5	-0.2
WB0	**Warramunga Arr**	**44.61**	**262**	P	P	09 05 52.5	-1.3
WB0				IAmb	IAmb	09 06 25.3	
	comp=Z,8.0nm,1.3s						
AS31	**Alice Springs**	**44.62**	**256**	P	P	09 05 53.7	-0.2
ASAR	**Alice Springs**	**44.62**	**256**	P	P	09 05 53.8	-0.1
	comp=Z,2.1nm,0.4s,baz=87,slow=8.3,SNR=56						
WRA	**Warramunga Arr**	**44.63**	**261**	P	P	09 05 53.5	-0.5
	comp=Z,1.0nm,0.3s,baz=97,slow=7.6,SNR=32						
WRA	**Warramunga Arr**	**44.63**	**261**	IAmb	IAmb	09 05 53.6	
	comp=Z,0.2nm,0.8s						
MJAR	**Matsushiro Arr**	**69.58**	**324**	P	P	09 08 43.2	0.0
	comp=Z,1.6nm,0.4s,baz=155,slow=5.3,SNR=6.1						
MJAR	**Matsushiro Arr**	**69.58**	**324**	IAmb	IAmb	09 10 36.6	
	comp=Z,6.1nm,1.4s						
QSPA	**South Pole Qui**	**70.30**	**180**	P	P	09 08 48.6	+1.5
QSPA				IAmb	IAmb	09 10 24.8	
	comp=Z,11nm,1.5s						
PETK	**Petropavlovsk-**	**75.54**	**345**	P	P	09 09 17.4	+0.4
	comp=Z,2.1nm,0.7s,baz=118,slow=5.5,SNR=2.4						
ILAR	**Eielson Array**	**87.62**	**13**	P	P	09 10 18.4	+0.3
	comp=Z,1.1nm,0.8s,baz=215,slow=5.2,SNR=19						
PDAR	**Pinedale Array**	**88.48**	**43**	P	P	09 10 24.3	+1.3
	comp=Z,0.2nm,0.6s,baz=270,slow=3.0,SNR=3.6						
YKA	**Yellowknife Ar**	**95.88**	**25**	P	P	09 10 57.1	+1.1
	comp=Z,0.1nm,0.6s,baz=244,slow=4.7,SNR=2.3						
ARCES	**ARCESS Array B**	**128.19**	**350**	PKP	PKiKP	09 16 32.1	-0.1
	comp=Z,3.2nm,0.9s,baz=99,slow=0.9,SNR=8.2						
AKASG	**Malin Array Be**	**142.34**	**331**	PKhKP	PKPpre	09 16 55.1	
	comp=Z,1.0nm,0.3s,baz=42,slow=4.1,SNR=11						
BRTR	**Keskin Array B**	**146.29**	**313**	PKPbc	PKiKP	09 17 08.4	-1.8
	comp=Z,0.7nm,0.5s,baz=138,slow=4.9,SNR=4.5						
DPC	**Dobruska-Polom**	**147.41**	**343**	*e*PKP	PKPab	09 17 12.6	-1.9
PRU	**Pruhonice**	**148.21**	**344**	*e*PKP	PKiKP	09 17 13.4	-0.2
KHC	**Kasperske Hory**	**149.24**	**345**	*e*PKP	PKiKP	09 17 16.2	+0.4
CKRC	**Cesky Krumlov**	**149.34**	**344**	*e*PKP	PKiKP	09 17 16.3	+0.3
GERES	**GERESS Array B**	**149.47**	**345**	PKPbc	PKiKP	09 17 16.2	-0.2
	comp=Z,0.8nm,0.5s,baz=117,slow=2.1,SNR=4.5						

*ISK **30** 09:03:13.9, 40°.79N×28°.06E, h10km, ML3.5/40*
*THE **30** 09:03:13.9, 40°.85N×28°.05E, h2km±2km, ML3.1/9, Error ellipse: s-maj=3.0km s-min=0.9km az=62.0*
*DDA **30** 09:03:14.0±0.0, 40°.77N×28°.03E, h7km±3km, MW3.5*
*SOF **30** 09:03:18.3, 40°.94N×27°.94E, h2km, MD3.3*
ISC 30 09:03:14.1±1.0, 40°.82N±0°.02×28°.06E±0°.01, h11km±9km, n106, σ1§42/149, 18C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLVT	**Silivri**	**0.42**	**15**	PG	Pb	09 03 23.8	+0.1
SLVT				SG	Sb	09 03 30.7	+0.6
ELBA	**Catalca**	**0.43**	**40**	P	Pb	09 03 23.2	-0.5
ELBA				S	Sb	09 03 29.6	-0.6
TKR	**Tekirdag**	**0.43**	**293**	PG	Pb	09 03 23.0	-0.8
TKR				SG	Sb	09 03 29.9	-0.5
EDC	**Edincik**	**0.50**	**198**	PG	Pg	09 03 23.8	0.0
EDC				SG	Sg	09 03 30.9	+0.6
AVCI	**Avcilar-stanb**	**0.53**	**70**	PG	Pg	09 03 24.9	+0.5
AVCI				SG	Sb	09 03 33.9	+0.8
CTKS	**Kestanelik-??a**	**0.54**	**39**	PG	Pb	09 03 25.2	-0.3
GZKV	**Gazikoy-Tekird**	**0.56**	**263**	PG	Pg	09 03 25.3	+0.3
MAR3	**Marsite Statio**	**0.59**	**263**	PG	Pg	09 03 25.7	+0.2
MAR6	**Marsite Statio**	**0.62**	**259**	PG	Pg	09 03 26.3	+0.2
BGKT	**Bogazkoy**	**0.65**	**56**	PG	Pb	09 03 27.1	-0.3
CTYL	**Yalîkoy Yolu**	**0.68**	**15**	PG	Pb	09 03 27.8	-0.1
SART	**Tekirdag**	**0.68**	**259**	SPECP		09 03 27.0	
SART				P	Pg	09 03 27.4	+0.1
SART				S	Sg	09 03 35.6	-0.6
KNL	**Balıkesir**	**0.68**	**217**	P	Pg	09 03 27.1	-0.3
KNL				*i* AML	AML	09 03 36.0	
	comp=E,940nm,0.4s						
KNL				S	Sg	09 03 36.0	-0.3
KNL				*i* AML	AML	09 03 40.0	
	comp=N,937nm,0.7s						
RKY	**Sarkoy-Tekirda**	**0.69**	**259**	PG	Pg	09 03 27.6	+0.2
ESNK	**Esenk¶y**	**0.72**	**105**	P	Pg	09 03 28.0	0.0
KRBG	**Karabiga-Canak**	**0.72**	**234**	PG	Pg	09 03 27.7	-0.3
YYLC	**Yaylacik**	**0.77**	**132**	SPECP		09 03 29.0	
YYLC				P	Pg	09 03 29.2	+0.2
YYLC				S	Sg	09 03 39.9	+0.9
YYLC				*i* AML	AML	09 03 43.0	
	comp=E,1μm,0.3s						
YYLC				*i* AML	AML	09 03 44.0	
	comp=N,2μm,0.5s						
VIZE	**Kirklareli, Vi**	**0.78**	**348**	SPECP		09 03 29.0	
VIZE				P	Pb	09 03 29.2	-0.5
VIZE				S	Sb	09 03 39.8	-0.5
VIZE				*i* AML	AML	09 03 43.0	
	comp=N,1μm,0.3s						
ISK	**Istanbul-Kandi**	**0.79**	**72**	P	Pg	09 03 29.4	0.0
ISK				S	Sb	09 03 40.5	-0.2
	2μm,0.3s						
ISK	**Istanbul-Kandi**	**0.79**	**72**	PG	Pg	09 03 29.5	0.0
ISK				SG	Sb	09 03 40.8	+0.1
KAVV	**Kandilli-Istan**	**0.79**	**72**	PG	Pg	09 03 29.6	+0.2
GONE	**Gonen-Balikesi**	**0.82**	**201**	PG	Pg	09 03 29.9	-0.1
TRML	**Termal-Yalova**	**0.87**	**104**	PG	Pg	09 03 31.2	+0.3
KURT	**Yalova, Merkez**	**0.90**	**104**	SPECP		09 03 31.0	
KURT				P	Pg	09 03 31.1	-0.4
KURT				P	Pb	09 03 31.5	-0.2
KURT				S	Sb	09 03 44.9	+1.1
KURT				*i* AML	AML	09 03 46.0	
	comp=N,2μm,0.4s						
KURT				*i* AML	AML	09 03 46.0	
	comp=N,2μm,0.4s						
KURT				*i* AML	AML	09 03 46.0	
	comp=E,2μm,0.4s						
PHSR	**Pinarhisar**	**0.91**	**334**	PG	Pn	09 03 32.1	-0.7
GEMT	**Gemlik**	**0.94**	**114**	PG	Pg	09 03 32.6	+0.4
AVDN	**Avdancik/Bursa**	**0.99**	**122**	SPECP		09 03 33.0	
AVDN				P	Pg	09 03 33.3	+0.1
AVDN				S	Sg	09 03 45.9	-0.2
AVDN				*i* AML	AML	09 03 48.0	
	comp=E,646nm,0.3s						
ORLT	**Orhaneli**	**1.00**	**140**	PG	Pg	09 03 33.3	-0.1
YLV	**Yalova**	**1.03**	**104**	PG	Pg	09 03 33.9	0.0
IGD	**Bursa**	**1.03**	**122**	SPECP		09 03 33.0	
IGD				P	Pg	09 03 33.5	-0.4
IGD				S	Sg	09 03 46.8	-0.5
IGD				*i* AML	AML	09 03 48.0	
	comp=E,398nm,0.3s						
IGD				*i* AML	AML	09 03 48.0	
	comp=N,420nm,0.3s						
KESN	**Edirne-Kesan**	**1.05**	**271**	SPECP		09 03 34.0	
KESN				P	Pg	09 03 34.1	-0.2
ULDT	**Uludag**	**1.06**	**129**	SPECP		09 03 34.0	
ULDT				P	Pg	09 03 34.2	-0.3
ULDT				S	Sg	09 03 47.7	-0.7
STBT	**Saitabat**	**1.12**	**127**	SPECP		09 03 34.0	
STBT				P	Pg	09 03 34.9	-0.7
UKOP	**Uzunkopru-Edir**	**1.13**	**286**	PN	Pn	09 03 35.9	+0.1
UKOP				SN	Sn	09 03 52.0	+0.7
BALY	**Balya**	**1.13**	**198**	SPECP	Pg	09 03 35.0	-0.8
BALY				P	Pg	09 03 35.0	-0.8
BALY				S	Sg	09 03 49.8	-0.7
BALY				*i* AML	AML	09 03 52.0	
	comp=E,2μm,0.4s						
ARMN	**Kirklareli, Me**	**1.15**	**336**	SPECP		09 03 35.0	
ARMN				P	Pb	09 03 35.7	-0.3
IZI	**Iznik**	**1.18**	**114**	PN	Pg	09 03 36.7	0.0
ERIK	**Erikli-Kesan**	**1.19**	**263**	PN	Pg	09 03 36.3	-0.6
HRT	**Hereke**	**1.22**	**89**	PN	Pg	09 03 37.3	-0.2
SILT	**Sile**	**1.24**	**74**	PN	Pn	09 03 37.7	+0.3
DURS	**Dursunbey**	**1.26**	**165**	SPECP		09 03 37.0	
DURS				P	Pn	09 03 37.3	-0.4
DURS				S	Sb	09 03 53.0	-1.2
DURS				*i* AML	AML	09 03 55.0	
	comp=N,788nm,0.3s						
DURS				*i* AML	AML	09 03 55.0	
	comp=E,1μm,0.3s						
GELI	**Tayfur-Gelibol**	**1.28**	**251**	PN	Pn	09 03 38.1	+0.1
DST	**Dursunbey**	**1.29**	**160**	PN	Pn	09 03 38.1	0.0
EDRB	**Edirne**	**1.43**	**316**	P	Pn	09 03 39.9	-0.1
EDRB				S	Sn	09 03 58.7	-0.1
	430nm,0.6s						
EDRB	**Edirne**	**1.43**	**316**	PN	Pb	09 03 40.4	-0.4
CAVK	**Edirne/Enez-Ca**	**1.45**	**266**	SPECP		09 03 39.0	
CAVK				P	Pn	09 03 40.0	-0.2
ENEZ	**Enez**	**1.45**	**267**	PN	Pn	09 03 40.7	+0.4
STEP	**BALIKESIR_Sava**	**1.47**	**190**	SPECP		09 03 40.0	
STEP				P	Pn	09 03 40.0	-0.5
STEP				S	Sn	09 04 00.8	+1.0
STEP				*i* AML	AML	09 04 03.0	
	comp=N,3μm,0.5s						
STEP				*i* AML	AML	09 04 03.0	
	comp=E,2μm,1.1s						
CAVI	**Cavuskoy**	**1.49**	**114**	PN	Pn	09 03 41.1	+0.2
BUHA	**Balikesir, Bur**	**1.52**	**210**	SPECP		09 03 40.0	
BUHA				P	Pn	09 03 40.9	-0.4
BUHA				S	Sn	09 04 02.3	+1.3
BUHA				*i* AML	AML	09 04 03.0	
	comp=N,1μm,0.6s						
BILE	**Bilecik/Merkez**	**1.53**	**115**	SPECP		09 03 41.0	
BILE				P	Pn	09 03 41.4	-0.1
BILE				S	Sn	09 04 02.3	+0.8
BILE				*i* AML	AML	09 04 05.0	
	comp=E,228nm,0.3s						
BILE				*i* AML	AML	09 04 07.0	
	comp=N,287nm,0.3s						
ALN	**Alexandroupoli**	**1.53**	**274**	P	Pn	09 03 40.9	-0.5
ALN				S	Sn	09 04 01.5	+0.2
	298nm,0.6s						
ALN	**Alexandroupoli**	**1.53**	**274**	PN	Pn	09 03 41.8	+0.4
ECEA	**Canakkale, Ece**	**1.64**	**242**	SPECP		09 03 44.0	
ECEA				P	Pb	09 03 44.2	-0.1
KAND	**Kocaeli-Kandir**	**1.64**	**80**	P	Pn	09 03 42.9	0.0
EZN	**Ezine**	**1.66**	**234**	P	Pn	09 03 42.4	-0.7
EZN				S	Sb	09 04 06.1	+0.5
	915nm,0.4s						
EZN	**Ezine**	**1.66**	**234**	PN	Pn	09 03 43.4	+0.3
SAUV	**Serdivan-Sakar**	**1.72**	**92**	PN	Pn	09 03 44.6	+0.6
GEYV	**SAKARYA_Geyve**	**1.73**	**100**	SPECP		09 03 44.0	
GEYV				P	Pn	09 03 44.9	+0.7
KAYN	**Sakarya, Kayna**	**1.73**	**84**	P	Pn	09 03 44.1	0.0
KAYN				S	Sn	09 04 06.8	+0.4
TVSB	**Tavsanli**	**1.74**	**141**	PN	Pn	09 03 44.4	0.0
GADA	**Gvkgeada**	**1.77**	**250**	P	Pn	09 03 44.4	-0.2
GADA				S	Sn	09 04 07.2	+0.1
	222nm,0.5s						
GADA	**Gvkgeada**	**1.77**	**250**	PN	Pn	09 03 45.1	+0.5
BOZC	**Bozcaada**	**1.82**	**238**	PN	Pn	09 03 45.9	+0.5
BOZC	**Bozcaada**	**1.82**	**238**	SPECP		09 03 47.0	
BOZC				P	Pb	09 03 47.1	-0.3
BOZC				P	Pb	09 03 47.1	-0.3
BOZC				S	Sn	09 04 09.8	+1.3
BOZC				S	Sb	09 04 09.9	-0.3
BOZC				*i* AML	AML	09 04 13.0	
	comp=N,822nm,0.3s						
BOZC				*i* AML	AML	09 04 13.0	
	comp=E,1μm,0.3s						
SIMA	**Simav-Kutahya**	**1.87**	**158**	PN	Pn	09 03 46.5	+0.3
RDO	**Rodhopi**	**1.94**	**280**	P	Pn	09 03 46.1	-0.9
RDO	**Rodhopi**	**1.94**	**280**	PN	Pn	09 03 47.5	+0.5
AKS	**Akhisar**	**1.95**	**186**	PN	Pn	09 03 47.4	+0.2
SMTH	**Samothraki Isl**	**1.96**	**261**	P	Pn	09 03 46.4	-0.9
SMTH				S	Sb	09 04 13.9	-0.3
	185nm,0.4s						
DKL	**Dikili**	**1.96**	**207**	PN	Pn	09 03 47.7	+0.4
JMB	**Yambol**	**1.98**	**327**	*i* P	Pg	09 03 52.6	+0.5
BORA	**Eskisehir**	**2.05**	**116**	PN	Pn	09 03 49.3	+0.6
GEDZ	**Gediz**	**2.05**	**149**	PN	Pn	09 03 49.1	+0.4
PRK	**Paraskevi**	**2.09**	**222**	P	Pn	09 03 49.6	+0.5
PRK				S	Sn	09 04 15.9	+0.8
	920nm,0.8s						
SRCK	**Saricakaya, Es**	**2.10**	**111**	PN	Pn	09 03 50.1	+0.8
KDZ	**Kurdzhali**	**2.16**	**293**	*i* P	Pg	09 03 55.7	+0.2
DIM	**Dimitrovgrad**	**2.26**	**304**	*e*P	Pg	09 03 56.9	-0.6
SIGR	**SIGRI**	**2.33**	**227**	P	Pn	09 03 53.0	+0.5
SIGR				S	Sn	09 04 22.7	+1.5
	588nm,0.5s						
KULA	**Kula-Manisa**	**2.35**	**168**	P	Pn	09 03 52.8	+0.1
KULA				S	Sn	09 04 23.8	+2.2
LIA	**Limnos Island**	**2.38**	**248**	P	Pn	09 03 52.5	-0.6
LIA				S	Sn	09 04 23.4	+1.0
	232nm,0.8s						
MDUB	**Mudurnu**	**2.41**	**97**	PN	Pn	09 03 54.4	+0.8
PRD	**Provadia**	**2.43**	**348**	*i* P	Pg	09 03 59.4	-1.2
KALB	**Balgarevo**	**2.60**	**6**	⇓P	Pb	09 03 59.5	-1.2
KALB				⇑S	Sg	09 04 38.4	+0.8
KDZE	**Karadeniz Ereo**	**2.60**	**78**	PN	Pn	09 03 57.3	+1.1
RZN	**Rozhen**	**2.67**	**290**	*e*P	Pb	09 04 03.1	+1.1
SGRR	**Singureni**	**3.73**	**336**	⇑P	Pn	09 04 14.8	+3.1
SGRR				⇑S	Sb	09 05 06.8	+1.4
HARR	**Harsova**	**3.87**	**359**	⇓P	Pn	09 04 16.3	+2.7
VTS	**Vitosha**	**4.04**	**298**	⇓P	Pn	09 04 16.5	+0.5
TPGR	**Topolog**	**4.04**	**4**	⇑P	Pn	09 04 19.0	+3.0
ISR	**Istrita**	**4.44**	**346**	⇑P	Pn	09 04 24.6	+3.2
ISR				⇓S	Sb	09 05 24.5	-1.2
NEHR	**Nehoiu**	**4.78**	**345**	⇑P	Pn	09 04 29.3	+3.2
BISRR	**Bisoca**	**4.83**	**349**	⇓P	Pn	09 04 30.6	+3.8
MLR	**Muntele Rosu**	**4.92**	**342**	⇑P	Pn	09 04 30.8	+2.7
VOIR		**5.11**	**335**	⇑P	Pn	09 04 33.5	+2.8
VOIR				⇑S	Sb	09 05 40.3	-4.8
PLOR	**Plostina**	**5.13**	**349**	⇓P	Pn	09 04 34.2	+3.3
VRI	**Vrincioaia**	**5.14**	**350**	⇑P	Pn	09 04 34.3	+3.3
ARR	**Arges**	**5.19**	**332**	⇑P	Pn	09 04 34.2	+2.4
COVR	**Voineasa-Covas**	**5.20**	**346**	⇑P	Pn	09 04 35.3	+3.4
DOPR	**Dopca**	**5.50**	**340**	⇑P	Pn	09 04 38.8	+2.8
DOPR				⇑S	Sb	09 05 50.3	-5.9
OZUR		**5.53**	**343**	⇑P	Pn	09 04 39.7	+3.4
SEV	**Sevastopol'**	**5.56**	**46**	*e*P	Pn	09 04 36.3	-0.5
SEV				Pm		09 04 40.2	
	comp=Z,6.0nm,0.3s						
SEV				*i* S	Sn	09 05 36.6	-4.0
SEV				Sm		09 05 38.9	
	comp=N,4.0nm,0.3s						
SEV				Sm		09 05 38.9	
	comp=E,5.0nm,0.2s						
LOT	**Lotru**	**5.59**	**327**	⇑P	Pn	09 04 40.1	+2.8
TESR	**Tescani**	**5.78**	**350**	⇑P	Pn	09 04 42.9	+3.1
GZR	**Gura Zlata**	**5.99**	**322**	⇑P	Pn	09 04 45.4	+2.6
SUDU	**Sudak**	**6.52**	**49**	*e*P	Pn	09 04 50.4	+0.4
SUDU				Sm		09 04 04.8	
	comp=E,8.0nm,0.4s						
SUDU				Pm		09 04 53.1	
	comp=Z,9.0nm,0.3s						
SUDU				*e*S	Sn	09 06 01.2	-3.1
SUDU				Sm		09 06 04.8	
	comp=N,21nm,0.5s						

IDC 30 09:05:00.3±2.0, 9°.95S×113°.24E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=132.4km s-min=12.8km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.65**	**118**	P	P	09 10 03.1	-0.2
	0.4nm,0.8s,baz=294,slow=13,SNR=2.2						
ASAR	**Alice Springs**	**23.98**	**127**	P	P	09 10 16.8	0.0
	0.5nm,0.5s,baz=304,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**62.88**	**337**	P	P	09 15 28.3	+0.1
	0.3nm,0.5s,baz=145,slow=7.8,SNR=5.3						

IDC 30 09:27:10.3±3.0, 33°.02S×178°.44W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/30, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=72.2km s-min=36.0km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.36**	**213**	Pn	Pn	09 28 46.2	+0.9
	2.9nm,0.3s,baz=259,slow=4.3,SNR=17						
URZ				Sn	Sn	09 29 57.2	-1.5
	2.3nm,0.3s,baz=356,slow=23,SNR=7.3						
ASAR	**Alice Springs**	**42.67**	**270**	P	P	09 35 08.9	-0.1
	0.3nm,0.7s,baz=106,slow=7.8,SNR=4.7						
WRA	**Warramunga Arr**	**43.89**	**275**	P	P	09 35 18.8	-0.1
	0.4nm,0.4s,baz=116,slow=7.6,SNR=8.2						
FINES	**FINESS Array B**	**147.45**	**338**	PKPbc	PKPbc	09 46 54.5	-0.9
	1.8nm,0.7s,baz=40,slow=2.4,SNR=7.0						

*NEIC **30** 09:27:15.9±1.7, 30°.18S±0°.03×71°.63W±0°.03, h23km±5km, mb4.3/10, ML4.2(GUC), Error ellipse: s-maj=4.9km s-min=2.5km az=132.0*
*GUC **30** 09:27:15.1±0.7, 30°.17S×71°.62W, h42km±2km, ML4.2*
*IDC **30** 09:27:22.7±2.9, 29°.70S×71°.33W, h78km±24km, mb3.7/3, mb1 3.8/8, mb1mx3.6/36, mbtmp3.9/8, Error ellipse: s-maj=31.3km s-min=26.5km az=89.0*
ISC 30 09:27:15.7±0.8, 30°.17S±0°.03×71°.59W±0°.05, h31km±5km, n65, σ1§05/83, mb4.0/5, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.40**	**51**	⇑*i*P	Pb	09 27 24.9	+0.3
CO05				*i* S	Sb	09 27 31.2	+0.5
CO05				IAML		09 27 32.1	
	comp=E,35μm,0.4s						
CO05	**La Serena**	**0.40**	**51**		Pb	09 27 25.0	+0.3
CO06	**Fray Jorge**	**0.50**	**184**	⇑*i*P	Pb	09 27 25.7	-0.6
CO06				*i* S	Sb	09 27 33.3	-0.3
CO06				IAML		09 27 33.7	
	comp=E,11μm,0.2s						
CO06	**Fray Jorge**	**0.50**	**184**		Pb	09 27 25.9	-0.4
CO06				Sg	Sb	09 27 33.6	0.0
GO04	**Tololo Observa**	**0.69**	**90**	⇑*e*P	Pb	09 27 28.8	-0.6
GO04				*i* S	Sn	09 27 39.5	+0.2
GO04				IAML		09 27 40.9	
	comp=N,53μm,0.4s						
GO04	**Tololo Observa**	**0.69**	**90**		Pn	09 27 29.8	+0.2
GO04				Sg	Sn	09 27 40.0	+0.7
CO03	**El Pedregal**	**1.03**	**131**	*e*P	Pn	09 27 34.1	+0.1
CO03				*i* S	Sb	09 27 48.1	-0.1
CO03				IAML		09 27 49.8	
	comp=E,8μm,0.4s						
CO03	**El Pedregal**	**1.03**	**131**		Pn	09 27 34.5	+0.5
CO03					Sb	09 27 49.0	+0.8
CO02	**Combarbal**	**1.15**	**154**	*e*P	Pn	09 27 35.7	-0.1
CO02				*i* S	Sb	09 27 51.6	-0.2
CO02				IAML		09 27 54.6	
	comp=N,17μm,0.3s						
CO02	**Combarbal**	**1.15**	**154**		Pn	09 27 36.4	+0.6
CO02					Sb	09 27 52.0	+0.3
LCO	**Las Campanas**	**1.39**	**34**	⇑*i*P	Pn	09 27 39.8	+0.6
LCO				*i* S	Sb	09 27 58.4	-0.4
LCO	**Las Campanas**	**1.39**	**34**		Pn	09 27 39.9	+0.7
LCO				Sn	Sb	09 27 58.8	0.0
AC04	**Llanos de Chal**	**2.01**	**13**	*e*P	Pn	09 27 47.9	+0.4
AC04				*i* S	Sn	09 28 10.9	-0.7
AC04				IAML		09 28 24.8	
	comp=E,2μm,0.7s						
AC04	**Llanos de Chal**	**2.01**	**13**	Pn	Pn	09 27 47.7	+0.2
VA06	**

comp=E,0.9nm,0.3s,baz=211,slow=10,SNR=40
ITAB Concordia 17.32 85 P **Pn 09 31 13.5 -1.7**
ITAB IAmb IAmb 09 31 28.0
comp=Z,28nm,1.2s
VILB Vilhena 20.12 34 P **P 09 31 46.7 -0.4**
VILB IAmb IAmb 09 31 58.3
comp=Z,10nm,0.9s
CZSB Cruzeiro do Su 22.35 357 P **P 09 32 11.1 -0.1**
GO10 Punta Arenas 22.97 179 P **P 09 32 16.9 -0.6**
TBTG Tabatinga, AM 25.89 4 P **P 09 32 45.4 +0.4**
TBTG IAmb IAmb 09 32 45.9
comp=Z,21nm,1.3s
BDFB Brasilia 26.02 61 P **P 09 32 44.8 -1.5**
comp=Z,2.8nm,0.6s,baz=229,slow=7.6,SNR=5.1
PEZE Perez Zeledon, 41.01 342 P **P 09 34 57.1 +1.0**
PEZE IAmb IAmb 09 35 15.7
comp=Z,6.0nm,0.9s
TGUH Tegucigalpa,Un 46.49 339 P **P 09 35 41.4 +1.0**
SJG San Juan 48.29 7 P **P 09 35 54.2 +0.2**
SDDR Presa de Saban 48.87 0 P **P 09 35 59.5 +0.9**
TX31 Lajitas Ar. Si 66.61 330 P **P 09 38 04.0 +0.8**
TXAR Lajitas Array 66.61 330 P **P 09 38 03.2 0.0**
comp=Z,0.6nm,0.7s,baz=148,slow=7.7,SNR=9.1
TXAR Lajitas Array 66.61 330 P **P 09 38 03.8 +0.5**
TORD Torodi Ar. Bea 82.56 70 P **P 09 39 35.6 -0.4**
comp=Z,0.6nm,0.4s,baz=278,slow=5.8,SNR=7.3
ZALV Zalesovo Beam 150.75 29 PKPbc **PKiKP 09 47 04.8 -0.2**
comp=Z,4.4nm,0.7s,baz=288,slow=3.3,SNR=20
ZALV Zalesovo Beam 150.75 29 **PKiKP 09 47 04.8 -0.2**
ZALV PKPab **sPKPdf 09 47 12.1 -0.4**
MKAR Makanchi Array 153.84 43 PKPbc **PKPbc 09 47 09.7 -1.9**
comp=Z,0.4nm,0.7s,baz=283,slow=3.2,SNR=5.0

*IDC **30** 09:27:30.9±0.6, 7°.40N×34°.58W, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.1/50, mbtmp4.2/16, ML3.8/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/79, Error ellipse: s-maj=20.7km s-min=14.6km az=156.0*
*NEIC **30** 09:27:32.4±2.3, 7°.5N±0°.1×34°.50W±0°.05, h10km±1km, mb4.7/17, Error ellipse: s-maj=18.5km s-min=4.6km az=200.0*
ISC 30 09:27:32.0±0.5, 7°.35N±0°.08×34°.52W±0°.07, h12km, n74, σ1§20/65, mb4.4/21, MS3.8/5, 1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NBMO	**Morrinhos-CE**	**11.94**	**208**	*eP*			**Pn**	**09 30 21.8**	**-0.4**
NBCL	**Cascavel-CE**	**12.10**	**198**	*eP*			**Pn**	**09 30 23.6**	**-0.8**
SACV	**Santiago Islan**	**13.10**	**54**				**Pn**	**09 30 35.8**	**-2.3**
RCBR	**Riachuelo**	**13.16**	**186**	Pn			**Pn**	**09 30 39.4**	**+0.4**
NBPS	**Pedro II - PI**	**13.56**	**211**	*eP*			**Pn**	**09 30 43.9**	**-0.6**
NBPB	**Pedra_Branca-C**	**13.77**	**202**	*eP*			**Pn**	**09 30 47.7**	**+0.5**
NBMA	**Muriti-CE**	**15.22**	**196**	*eP*			**Pn**	**09 31 07.1**	**+0.2**
TMAB	**Tom-Au,PA,Br**	**16.64**	**235**	*eP*			**Pn**	**09 31 24.9**	**-0.3**
MDP	**Montagnes des**	**18.15**	**264**	P			**P**	**09 31 45.3**	**+0.8**
	0.3nm,0.3s,baz=71,slow=12,SNR=1.2								
NBPN	**Ponto Novo - B**	**18.94**	**197**	*eP*			**P**	**09 31 53.9**	**+0.8**
MCPB	**Macapa, AP**	**19.10**	**247**	*eP*			**Pn**	**09 31 55.8**	**+0.1**
PRPB	**Parauapebas**	**20.33**	**229**	*eP*			**P**	**09 32 07.8**	**-0.5**
MALB	**Monte Alegre**	**21.72**	**246**	*eP*			**P**	**09 32 24.2**	**+0.9**
SDBA	**SAO DESIDERIO**	**22.18**	**208**	*eP*			**P**	**09 32 29.0**	**+0.8**
ITTB	**Itaituba**	**24.16**	**242**	*eP*			**P**	**09 32 47.5**	**-0.9**
H10N3	**ASCENSION HYDR**	**25.02**	**127**	T			T	09 59 13.5	
	baz=306,slow=75,SNR=64								
H10N2	**ASCENSION HYDR**	**25.03**	**127**	T			T	09 59 13.8	
	baz=306,slow=75,SNR=62								
H10N1	**ASCENSION HYDR**	**25.04**	**127**	T			T	09 59 15.0	
	baz=306,slow=75,SNR=88								
NPGB	**Novo Progresso**	**25.23**	**236**	*eP*			**P**	**09 32 57.0**	**-1.0**
SNDB	**Serra Nova Dou**	**25.44**	**221**	*eP*			**P**	**09 32 60.0**	**+0.1**
H10S3	**ASCENSION HYDR**	**25.57**	**129**	T			T	09 59 51.6	
	baz=306,slow=74,SNR=70								
H10S2	**ASCENSION HYDR**	**25.59**	**129**	T			T	09 59 53.0	
	baz=274,slow=74,SNR=11								
BOAV	**Boa Vista**	**26.37**	**261**	*eP*			**P**	**09 33 08.0**	**-0.4**
BOAV	**Boa Vista**	**26.37**	**261**	P			**P**	**09 33 08.0**	**-0.4**
BOAV				IAmb			IAmb	09 33 10.8	
	comp=Z,7.4nm,0.8s								
BDFB	**Brasilia**	**26.47**	**210**	P			**P**	**09 33 11.1**	**+1.8**
	comp=Z,7.8nm,0.6s,baz=35,slow=11,SNR=11								
BDFB	**Brasilia**	**26.47**	**210**	P			**P**	**09 33 11.2**	**+1.8**
BDFB				IAmb			IAmb	09 33 13.3	
	comp=Z,9.9nm,0.8s								
PTGA	**Pitinga**	**26.62**	**253**	P			**P**	**09 33 10.9**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=95,slow=7.8,SNR=8.5								
DBIC	**Dimbokro**	**29.45**	**89**	P			**P**	**09 33 36.8**	**+0.8**
	comp=Z,4.0nm,0.8s,baz=315,slow=11,SNR=3.6								
DBIC	**Dimbokro**	**29.45**	**89**	P			**P**	**09 33 36.1**	**+0.2**
DBIC				IAmb			IAmb	09 33 39.8	
	comp=Z,6.7nm,0.9s								
PDPR	**Patillas Dam,**	**32.45**	**292**	P			**P**	**09 34 02.2**	**-0.3**
CELP	**Cerrillos**	**32.98**	**292**	P			**P**	**09 34 06.1**	**-1.0**
CELP				IAmb			IAmb	09 34 21.8	
	comp=Z,12nm,1.1s								
BAUV	**El Baul**	**33.22**	**275**	P			**P**	**09 34 09.1**	**-0.1**
SIV	**San Ignacio**	**35.06**	**228**	P			**P**	**09 34 25.7**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=75,slow=8.9,SNR=8.1								
SDV	**Santo Domingo**	**35.78**	**275**	P			**P**	**09 34 31.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**36.07**	**78**	P			**P**	**09 34 35.5**	**+1.6**
	comp=Z,2.8nm,0.7s,baz=271,slow=9.1,SNR=12								
URIC	**Uribia, Colomb**	**37.19**	**280**	P			**P**	**09 34 41.6**	**-1.8**
URIC				IAmb			IAmb	09 35 06.8	
	comp=Z,27nm,1.3s								
PAMC	**Pamplona, Colo**	**37.86**	**272**	*eP*			**P**	**09 34 49.4**	**-0.3**
BARC	**Barichara**	**38.38**	**271**	*eP*			**P**	**09 34 54.9**	**+1.1**
OCAC	**Ocana**	**38.44**	**274**	P			**P**	**09 34 53.2**	**-1.1**
SPBC	**San Pablo de B**	**39.33**	**270**	*eP*			**P**	**09 35 00.6**	**-1.0**
MACC	**Macarena, Meta**	**39.52**	**264**	*eP*			**P**	**09 35 01.6**	**-1.5**
ROSC	**El Rosal**	**39.65**	**269**	P			**P**	**09 35 04.8**	**+0.2**
	comp=Z,16nm,0.7s,baz=86,slow=10,SNR=6.5								
ROSC	**El Rosal**	**39.65**	**269**	P			**P**	**09 35 05.1**	**+0.5**
ROSC				IAmb			IAmb	09 35 06.7	
	comp=Z,15nm,0.7s								
NORC	**Norcasia**	**40.12**	**270**	*eP*			**P**	**09 35 06.5**	**-1.7**
CPUP	**Villa Florida**	**40.14**	**213**	LR			LR	09 51 34.9	
	comp=Z,95nm,18.3s,baz=44,slow=36								
SJCC	**San Jacinto, C**	**40.26**	**277**	P			**P**	**09 35 07.7**	**-1.7**
SJCC				IAmb			IAmb	09 35 24.2	
	comp=Z,19nm,1.4s								
GUY2C	**Guyana, Caldas**	**40.65**	**269**	*eP*			**P**	**09 35 10.8**	**-2.2**
LPAZ	**La Paz**	**40.72**	**235**	P			**P**	**09 35 14.3**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=68,slow=6.6,SNR=12								
LPAZ				LR			LR	09 51 44.1	
	comp=Z,125nm,20.2s,baz=41,slow=36								
LPAZ	**La Paz**	**40.72**	**235**	P			**P**	**09 35 14.9**	**+1.2**
CZSB	**Cruzeiro do Su**	**40.92**	**249**	P			**P**	**09 35 13.8**	**-0.9**
CZSB				IAmb			IAmb	09 35 14.4	
	comp=Z,15nm,0.8s								
PLMC	**San Jos del P**	**41.59**	**269**	*eP*			**P**	**09 35 18.6**	**-1.6**
SOTA	**Rioblanco**	**42.25**	**265**	*eP*			**P**	**09 35 26.0**	**-0.2**
POPC	**Popayan, Colom**	**42.25**	**266**	*eP*			**P**	**09 35 22.1**	**-3.8**
PLTB	**Pedras Altas**	**42.96**	**204**	*eP*			**P**	**09 35 32.0**	**+0.9**
GCUF	**Volcan Galeras**	**43.11**	**264**	*eP*			**P**	**09 35 33.1**	**-0.1**
OTAV	**Otavalo**	**44.37**	**263**	P			**P**	**09 35 44.0**	**+0.7**
ATAH	**Atahualpa**	**46.06**	**253**	LR			LR	09 56 16.8	
	comp=Z,118nm,18.0s,baz=104,slow=38								
NNA	**Nana**	**46.27**	**246**	LR			LR	09 54 59.6	
	comp=Z,145nm,19.8s,baz=31,slow=36								
SCHQ	**Schefferville**	**53.94**	**338**	P			**P**	**09 36 56.8**	**+1.4**
	comp=Z,1.7nm,0.4s,baz=155,slow=6.2,SNR=14								
NOA	**NORSAR Array B**	**63.38**	**23**	LR			LR	10 01 43.1	
	comp=Z,48nm,20.4s,baz=270,slow=32								
MLR	**Muntele Rosu**	**64.26**	**43**	P			**P**	**09 38 07.5**	**+0.2**
MLR				IAmb			IAmb	09 38 12.6	
	comp=Z,7.4nm,1.1s								
WMOK	**Wichita Mounta**	**64.73**	**305**	P			**P**	**09 38 09.6**	**-0.9**
BOSA	**Boshof**	**67.76**	**125**	P			**P**	**09 38 30.5**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=296,slow=8.5,SNR=3.6								
BOSA	**Boshof**	**67.76**	**125**	P			**P**	**09 38 29.5**	**-0.7**
TXAR	**Lajitas Array**	**68.27**	**299**	P			**P**	**09 38 32.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=99,slow=5.4,SNR=7.6								
TXAR	**Lajitas Array**	**68.27**	**299**	P			**P**	**09 38 33.3**	**0.0**
BRTR	**Keskin Array B**	**68.56**	**50**	P			**P**	**09 38 36.4**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=249,slow=3.7,SNR=5.2								
BRTR	**Keskin Array B**	**68.56**	**50**	P			**P**	**09 38 34.6**	**-0.4**
ARCES	**ARCESS Array B**	**72.94**	**19**	P			**P**	**09 39 01.8**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=263,slow=8.4,SNR=4.3								
PDAR	**Pinedale Array**	**74.06**	**312**	P			**P**	**09 39 08.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=105,slow=7.0,SNR=8.1								
PDAR	**Pinedale Array**	**74.06**	**312**	P			**P**	**09 39 09.1**	**+0.7**
YKA	**Yellowknife Ar**	**78.94**	**332**	P			**P**	**09 39 34.8**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=97,slow=5.4,SNR=16								
SYO	**Syowa Base**	**91.19**	**160**	⇓*iP*			**P**	**09 40 33.0**	**-3.5**
ILAR	**Eielson Array**	**92.69**	**337**	P			**P**	**09 40 46.0**	**+2.3**
	comp=Z,0.6nm,0.9s,baz=46,slow=4.5,SNR=5.5								

*IDC **30** 10:01:19.9±1.3, 17°.28N×147°.38E, h0km, mb4.0/13, mb1 4.2/14, mb1mx3.7/65, mbtmp4.1/14, ML4.5/1, Error ellipse: s-maj=29.9km s-min=25.9km az=132.0*
*NEIC **30** 10:01:25.0±1.1, 17°.0N±0°.1×147°.6E±0°.1, h47km±11km, mb4.4/12, Error ellipse: s-maj=22.9km s-min=4.8km az=127.0*
ISC 30 10:01:25.2±1.0, 17°.2N±0°.1×147°.4E±0°.2, h41km, n38, σ0§99/32, mb4.2/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.30**	**215**	Pn			**Pn**	**10 02 28.3**	**+0.2**
	27nm,0.3s,baz=89,slow=1.6,SNR=6.8								
GUMO				Sn			**Sn**	**10 03 17.2**	**+0.2**
	20nm,0.3s,baz=35,slow=22,SNR=2.1								
PATS	**Pohnpei**	**14.79**	**133**	Pn			Pn	10 04 45.5	-6.3
JHJ2	**Mitsune**	**17.30**	**338**				**P**	**10 05 24.7**	**0.0**
H11S3	**WAKE ISLAND Hy**	**18.42**	**83**	T			T	10 24 18.4	
	baz=269,slow=75,SNR=4.7								
H11S1	**WAKE ISLAND Hy**	**18.43**	**83**	T			T	10 24 19.2	
	baz=269,slow=75,SNR=5.8								
H11S2	**WAKE ISLAND Hy**	**18.43**	**83**	T			T	10 24 23.4	
	baz=269,slow=75,SNR=5.3								
H11N1	**WAKE ISLAND Hy**	**18.67**	**79**	T			T	10 24 35.7	
	baz=264,slow=74,SNR=7.2								
H11N2	**WAKE ISLAND Hy**	**18.68**	**79**	T			T	10 24 38.8	
	baz=264,slow=74,SNR=6.2								
H11N3	**WAKE ISLAND Hy**	**18.69**	**79**	T			T	10 24 40.8	
	baz=264,slow=74,SNR=6.1								
INU	**Inuyama**	**20.35**	**335**	P			**P**	**10 05 59.2**	**+1.1**
INU				IAmb			IAmb	10 06 10.6	
	comp=Z,34nm,1.4s								
JGF	**Kuroka**	**20.43**	**336**	P			**P**	**10 06 00.1**	**+1.1**
JGF				IAmb			IAmb	10 06 00.6	
	comp=Z,15nm,1.0s								
MJAR	**Matsushiro Arr**	**20.96**	**339**	P			**P**	**10 06 04.6**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=168,slow=10.0,SNR=12								
MJAR	**Matsushiro Arr**	**20.96**	**339**	P			**P**	**10 06 06.0**	**+1.3**
MAJO	**Matsushiro**	**20.96**	**339**	P			**P**	**10 06 06.0**	**+1.2**
MAJO				IAmb			IAmb	10 06 12.8	
	comp=Z,20nm,1.1s								
MJB9	**Matsu-Tunnel**	**20.96**	**339**	P			**P**	**10 06 06.4**	**+1.6**
MJB9				IAmb			IAmb	10 06 12.8	
	comp=Z,19nm,1.1s								
JSD	**Sado**	**22.30**	**341**	P			**P**	**10 06 20.1**	**+1.0**
YHNB	**Yeheng**	**25.40**	**291**	P			**P**	**10 06 48.9**	**-0.2**
KSRS	**Korea Array**	**26.51**	**324**	P			**P**	**10 06 56.4**	**-2.5**
	comp=Z,0.7nm,0.5s,baz=136,slow=9.0,SNR=2.5								
KLR	**Kul'dur**	**34.42**	**342**	P			**P**	**10 08 08.8**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=142,slow=6.4,SNR=14								
SONM	**Songino Array**	**45.35**	**322**	P			**P**	**10 09 39.0**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=134,slow=8.3,SNR=6.3								
SONM	**Songino Array**	**45.35**	**322**	P			**P**	**10 09 39.2**	**-0.3**
SEY	**Seymchan**	**45.87**	**3**	P			**P**	**10 09 43.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=356,slow=23,SNR=7.4								
CMAR	**Chiang Mai Arr**	**46.04**	**279**	P			**P**	**10 09 46.0**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=69,slow=7.1,SNR=11								
ZALV	**Zalesovo Beam**	**60.22**	**323**	P			**P**	**10 11 27.4**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=117,slow=8.7,SNR=5.2								
ZALV	**Zalesovo Beam**	**60.22**	**323**	P			**P**	**10 11 28.2**	**-0.8**
MK31	**Makanchi Array**	**60.69**	**314**	P			**P**	**10 11 31.5**	**-1.0**
MKAR	**Makanchi Array**	**60.69**	**314**	P			**P**	**10 11 31.9**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=92,slow=7.5,SNR=18								
MKAR	**Makanchi Array**	**60.69**	**314**	P			**P**	**10 11 31.4**	**-1.1**
MAKZ	**Makanchi**	**60.91**	**314**	P			**P**	**10 11 34.0**	**0.0**
MAKZ				IAmb			IAmb	10 11 34.6	
	comp=Z,3.7nm,1.1s								
KURK	**Kurchatov**	**63.49**	**319**	P			**P**	**10 11 51.6**	**+0.5**
KURK				IAmb			IAmb	10 12 03.2	
	comp=Z,8.9nm,1.4s								
NRIK	**Noril'sk**	**63.61**	**340**	P			**P**	**10 11 51.9**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=125,slow=10,SNR=3.8								
INK	**Inuvik**	**70.16**	**23**	P			**P**	**10 12 33.2**	**0.0**
	comp=Z,0.5nm,0.6s,baz=72,slow=3.2,SNR=1.6								
YKA	**Yellowknife Ar**	**78.59**	**28**	P			**P**	**10 13 21.3**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=286,slow=5.7,SNR=6.6								
YKA	**Yellowknife Ar**	**78.59**	**28**	P			**P**	**10 13 21.0**	**-1.4**
ARCES	**ARCESS Array B**	**84.45**	**343**	P			**P**	**10 13 54.9**	**+1.6**
	comp=Z,4.0nm,1.0s,baz=62,slow=6.3,SNR=4.9								
FINES	**FINESS Array B**	**88.95**	**336**	P			**P**	**10 14 15.0**	**-0.3**
	comp=Z,5.2nm,1.1s,baz=85,slow=4.2,SNR=4.9								
FINES	**FINESS Array B**	**88.95**	**336**	P			**P**	**10 14 15.3**	**+0.1**
LPAZ	**La Paz**	**145.99**	**94**	PKPbc			**PKPab**	**10 21 03.3**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=298,slow=2.3,SNR=4.5								

*IDC **30** 10:02:43.6±2.2, 29°.49S×71°.80W, h0km, mb4.2/1, mb1 3.7/4, mb1mx3.6/33, mbtmp3.7/4, ML3.6/3, Error ellipse: s-maj=100.7km s-min=33.6km az=102.0*
*NEIC **30** 10:02:44.5±1.5, 29°.44S±0°.03×71°.97W±0°.05, h10km±1km, ML4.1(GUC), Error ellipse: s-maj=8.5km s-min=4.8km az=247.0*
*GUC **30** 10:02:46.4±0.7, 29°.51S×71°.84W, h42km±3km, ML4.1*
ISC 30 10:02:43.4±1.7, 29°.43S±0°.04×71°.97W±0°.06, h7km±11km, n60, σ1§08/70, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.81**	**128**	⇓*iP*			**Pg**	**10 02 59.7**	**+0.8**
CO05				*i* S			**Sg**	**10 03 08.9**	**-0.4**
CO05				IAML				10 03 09.6	
	comp=N,7μm,0.5s								
CO05	**La Serena**	**0.81**	**128**				**Pg**	**10 02 59.7**	**+0.8**
LCO	**Las Campanas**	**1.19**	**70**	⇓*iP*			**Pb**	**10 03 06.4**	**0.0**
LCO				*i* S			**Sb**	**10 03 22.7**	**+0.7**
LCO	**Las Campanas**	**1.19**	**70**				**Pb**	**10 03 06.5**	**+0.1**
LCO				Sg			**Sb**	**10 03 22.4**	**+0.4**
GO04	**Tololo Observa**	**1.26**	**126**	⇓*iP*			**Pn**	**10 03 07.2**	**-0.4**
GO04				*i* S			**Sb**	**10 03 22.7**	**-1.5**
GO04				IAML				10 03 27.6	
	comp=N,16μm,0.6s								
GO04	**Tololo Observa**	**1.26**	**126**				**Pn**	**10 03 07.3**	**-0.4**
GO04				Sg			**Sb**	**10 03 22.1**	**-2.1**
CO06	**Fray Jorge**	**1.28**	**167**	⇑*iP*			**Pn**	**10 03 07.6**	**-0.1**
CO06				IAML				10 03 29.4	
	comp=E,2μm,0.4s								
CO06	**Fray Jorge**	**1.28**	**167**				**Pn**	**10 03 07.6**	**-0.1**
AC04	**Llanos de Chal**	**1.45**	**33**	⇑*iP*			**Pn**	**10 03 10.5**	**+0.5**
AC04	**Llanos de Chal**	**1.45**	**33**				**Pn**	**10 03 10.6**	**+0.5**
CO03	**El Pedregal**	**1.79**	**142**	⇑*iP*			**Pn**	**10 03 15.3**	**+0.4**
CO03				*i* S			**Sn**	**10 03 37.7**	**-0.2**
CO03				IAML				10 03 41.2	
	comp=E,2μm,0.8s								
CO03	**El Pedregal**	**1.79**	**142**				**Pn**	**10 03 15.2**	**+0.4**
CO02	**Combarbal**	**1.96**	**155**	⇑*iP*			**Pn**	**10 03 18.0**	**+0.9**
CO02				*i* S			**Sn**	**10 03 40.5**	**-1.6**
CO02				IAML				10 03 52.0	
	comp=E,3μm,0.4s								
CO02	**Combarbal**	**1.96**	**155**				**Pn**	**10 03 18.1**	**+0.9**
GO03	**Copiap**	**2.38**	**40**				**Pn**	**10 03 24.1**	**+1.2**
VA06	**Catapilco**	**3.18**	**170**	*eP*			**Pn**	**10 03 34.3**	**+0.6**
VA06				IAML				10 04 29.2	
	comp=N,542nm,0.3s								
VCA	**Vinchina**	**3.37**	**79**	⇑*iP*			**Pb**	**10 03 41.6**	**-1.9**
VCA				*i* S			**Sb**	**10 04 22.3**	**-2.4**
VCA				IAML				10 04 39.6	
	comp=N,655nm,0.6s								
VA03	**San Esteban**	**3.54**	**160**	*eP*			**Pn**	**10 03 41.3**	**+2.4**
VA03				*i* S			**Sn**	**10 04 22.9**	**+1.8**
VA03	**San Esteban**	**3.54**	**160**				**Pn**	**10 03 41.3**	**+2.4**
VA01	**Torpederas**	**3.60**	**176**				**Pn**	**10 03 39.7**	**+0.2**
AC02	**Maricunga**	**3.60**	**45**				**Pn**	**10 03 42.2**	**+2.1**
ROCH	**El Roble**	**3.63**	**167**	*eP*			Pb	10 03 40.6	-7.4
ROCH				*eP*			**Pn**	**10 03 40.1**	**-0.1**
ROCH				*i* S			**Sb**	**10 04 32.5**	**+0.2**
ROCH				IAML				10 04 40.2	
	comp=N,497nm,0.6s								
ROCH				IAML				10 04 48.4	
	comp=N,398nm,0.4s								
ROC1	**El Roble**	**3.63**	**167**				**Pn**	**10 03 40.3**	**0.0**
PEL	**Peldehue**	**3.87**	**164**				**Pn**	**10 03 44.7**	**+1.4**
MT02	**Curacav**	**3.89**	**170**				**Pn**	**10 03 44.0**	**+0.4**
MT05	**Renca**	**4.09**	**165**	Pn			**Pn**	**10 03 46.6**	**+0.2**
VA05	**Santo Domingo**	**4.23**	**176**	*eP*			**Pn**	**10 03 48.1**	**-0.1**
VA05				IAML				10 05 13.1	
	comp=N,223nm,0.6s								
VA05	**Santo Domingo**	**4.23**	**176**	Pn			**Pn**	**10 03 48.4**	**+0.2**
MT09	**Talagante**	**4.42**	**169**	*eP*			**Pn**	**10 03 51.8**	**+0.9**
MT09	**Talagante**	**4.42**	**169**				**Pn**	**10 03 52.1**	**+1.1**
MT01	**Popeta**	**4.47**	**172**				**Pn**	**10 03 52.0**	**+0.5**
LMEL	**Las Melosas**	**4.66**	**162**	Pn			**Pn**	**10 03 56.7**	**+2.4**
PB14	**IPOC Station P**	**4.98**	**17**				**Pn**	**10 03 58.3**	**-0.6**
BO01	**Tunca**	**5.01**	**172**				**Pn**	**10 03 59.5**	**+0.6**
BO02	**Sierra Bellavi**	**5.44**	**170**				**Pn**	**10 04 06.3**	**+1.3**
GO05	**Huala**	**5.57**	**180**	Pn			**Pn**	**10 04 06.3**	**-0.3**
PB10	**IPOC Station P**	**6.03**	**13**	Pn			**Pn**	**10 04 13.8**	**+0.9**
ML02	**Panimavida**	**6.33**	**176**	Pn			**Pn**	**10 04 16.6**	**-0.5**
PB15	**IPOC Station P**	**6.59**	**20**				**Pn**	**10 04 21.2**	**+0.4**
PB06	**IPOC Station P**	**7.03**	**18**	Pn			**Pn**	**10 04 26.3**	**-0.6**
H03N1	**Juan Fernandez**	**7.15**	**234**	Pn			**Pn**	**10 04 28.5**	**+0.3**
	baz=111,slow=18,SNR=21								
H03N1				T			T	10 12 08.1	
	baz=63,slow=72,SNR=1016								
H03N2	**Juan Fernandez**	**7.17**	**234**	Pn			**Pn**	**10 04 28.4**	**+0.1**
	baz=111,slow=18,SNR=13								
H03N2				T			T	10 12 16.7	
	baz=63,slow=72,SNR=758								
H03N3	**Juan Fernandez**	**7.17**	**234**	Pn			**Pn**	**10 04 28.3**	**-0.1**
	baz=111,slow=18,SNR=19								
H03N3				T			T	10 12 07.8	
	baz=63,slow=72,SNR=707								
PB04	**IPOC Station P**	**7.25**	**13**	Pn			**Pn**	**10 04 30.1**	**+0.1**
LVC	**Limon Verde**	**7.33**	**23**	Pn			**Pn**	**10 04 30.6**	**-0.5**
	comp=N,0.7nm,0.3s,baz=192,slow=12,SNR=2.0								
LVC				Sn			**Sn**	**10 05 51.8**	**-3.0**
	comp=N,1.2nm,0.3s,baz=233,slow=20,SNR=1.7								
LVC	**Limon Verde**	**7.33**	**23**				**Pn**	**10 04 31.7**	**+0.6**
PB03	**IPOC Station P**	**7.62**	**16**				**Pn**	**10 04 35.9**	**+0.9**
PB02	**IPOC Station P**	**8.29**	**14**				**Pn**	**10 04 44.2**	**0.0**
LC01	**Cunco**	**9.45**	**180**	Pn			**Pn**	**10 04 59.0**	**-0.9**
PLCA	**Paso Flores**	**11.34**	**174**	Pn			**Pn**	**10 05 25.7**	**-0.1**
	comp=N,0.1nm,0.3s,baz=337,slow=12,SNR=5.9								
PLCA	**Paso Flores**	**11.34**	**174**				**Pn**	**10 05 25.6**	**-0.3**
LL04	**Puerto Octay**	**11.46**	**182**	Pn			**Pn**	**10 05 26.0**	**-1.5**
LPAZ	**La Paz**	**13.55**	**16**	Pn			Pn	10 06 02.0	+5.4
	comp=N,0.3nm,0.3s,baz=204,slow=7.2,SNR=5.5								
SIV	**San Ignacio**	**16.71**	**39**	Pn			**P**	**10 06 40.7**	**+0.1**
	comp=N,0.2nm,0.3s,baz=218,slow=11,SNR=5.7								
TORD	**Torodi Ar. Bea**	**82.62**	**70**	P			**P**	**10 15 08.2**	**+0.5**
	comp=N,1.8nm,0.9s,baz=246,slow=4.5,SNR=5.6								
MCMT	**McKenzie Canyo**	**82.76**	**332**	P			**P**	**10 15 09.1**	**+1.0**
ZALV	**Zalesovo Beam**	**150.25**	**28**	PKPbc			**PKiKP**	**10 22 36.2**	**+0.6**
	comp=N,1.9nm,0.7s,baz=303,slow=2.3,SNR=7.9			

PMG				IAmb	IAmb	10 09 10.0
	comp=Z,17nm,0.8s					
CTA	**Charters Tower**	**24.97**	**131**	P	**P**	**10 09 35.2 +0.8**
	comp=Z,13nm,0.9s,baz=310,slow=10,SNR=11					
CTAO	**Charters Tower**	**24.97**	**131**	P	**P**	**10 09 33.9 -0.5**
CTAO				IAmb	IAmb	10 09 37.4
	comp=Z,22nm,1.1s					
OOD	**Oodnadatta**	**25.08**	**160**	P	**P**	**10 09 35.8 +0.6**
FORT	**Forrest**	**26.48**	**177**	P	**P**	**10 09 48.7 +0.7**
IPM	**Ipoh**	**26.77**	**288**	P	**P**	**10 09 50.4 -0.4**
IPM				IAmb	IAmb	10 09 51.5
	comp=Z,39nm,1.5s					
MULG	**Mulgathing**	**26.93**	**165**	P	**P**	**10 09 52.7 +0.7**
YULB	**Yu-li**	**27.87**	**350**	P	**P**	**10 10 00.8 +0.3**
BBOO	**Buckleboo**	**29.86**	**164**	P	**P**	**10 10 18.0 -0.1**
BBOO				IAmb	IAmb	10 10 38.4
	comp=Z,30nm,1.5s					
RMQ	**Roma**	**30.80**	**138**	P	**P**	**10 10 27.0 +0.4**
STKA	**Stephens Creek**	**31.01**	**154**	P	**P**	**10 10 28.2 0.0**
	comp=Z,1.4nm,0.5s,baz=322,slow=11,SNR=5.0					
STKA	**Stephens Creek**	**31.01**	**154**	P	**P**	**10 10 28.5 +0.2**
STKA	**Stephens Creek**	**31.01**	**154**	P	**P**	**10 10 29.3 +1.0**
HTT	**Hallett**	**31.34**	**160**	P	**P**	**10 10 31.6 +0.4**
EIDS	**Eidsvold**	**31.70**	**134**	P	**P**	**10 10 34.5 0.0**
EIDS				IAmb	IAmb	10 11 00.9
	comp=Z,21nm,1.4s					
CMSA	**Cobar Meteorol**	**32.69**	**149**	P	**P**	**10 10 43.6 +0.6**
CMAR	**Chiang Mai Arr**	**35.20**	**311**	P	**P**	**10 11 05.9 +0.9**
	comp=Z,1.0nm,0.3s,baz=116,slow=8.1,SNR=1.5					
CMAR				LR	LR	10 26 11.5
	comp=Z,48nm,21.2s,baz=120,slow=38					
NJ2	**Nanjing**	**36.76**	**349**	*eP*	**P**	**10 11 20.0 +1.9**
NJ2				pmax	pmax	
	comp=Z,5.0nm,0.5s					
PZH	**PanZhiHua**	**38.74**	**323**	P	**P**	**10 11 37.0 +1.8**
PZH				pmax	pmax	
	comp=Z,8.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,100nm,6.1s					
CD2	**Chengdu**	**41.06**	**330**	P	**P**	**10 11 57.8 +3.5**
XAN	**Xi'an**	**41.46**	**338**	P	**P**	**10 11 57.5 0.0**
XAN				pP	pP	10 12 02.3 -3.4
XAN				pmax	pmax	
	comp=Z,8.0nm,0.7s					
KSRS	**Korea Array**	**41.47**	**2**	P	**P**	**10 11 56.9 -0.5**
	comp=Z,1.7nm,0.7s,baz=176,slow=9.4,SNR=5.3					
MJAR	**Matsushiro Arr**	**42.01**	**14**	P	**P**	**10 12 00.6 -1.3**
	comp=Z,1.9nm,0.7s,baz=185,slow=8.1,SNR=2.8					
DZM	**Mont Dzumac**	**42.66**	**118**	P	**P**	**10 12 09.1 +1.5**
	comp=Z,2.6nm,1.0s,baz=134,slow=5.7,SNR=2.2					
SHL	**Shillong**	**44.68**	**313**	P	**P**	**10 12 24.2 +0.3**
LZH	**Lanzhou**	**45.30**	**334**	*eP*	P	10 12 34.5 +5.9
LZH				pP	sP	10 12 41.0 +0.8
LZH				pmax	pmax	
	comp=Z,16nm,1.4s					
JTM	**Tennabayashi**	**46.74**	**15**	P	**P**	**10 12 39.6 -0.1**
HHC	**Hu-ho-hao-te**	**46.84**	**345**	*eP*	**P**	**10 12 43.0 +2.4**
HHC				S	**S**	**10 19 28.5 -0.6**
HHC				sS	pS	10 19 40.8 +1.1
HHC				pmax	pmax	
	comp=Z,13nm,0.8s					
HHC				pmax	pmax	
	comp=Z,190nm,6.3s					
USA0B	**Ussuriysk Arra**	**48.44**	**5**	P	**P**	**10 12 52.9 0.0**
USA0B				IAmb	IAmb	10 13 00.5
	comp=Z,13nm,1.2s					
USRK	**Ussuriysk Ar.**	**48.44**	**5**	P	**P**	**10 12 52.5 -0.3**
	comp=Z,2.8nm,0.5s,baz=187,slow=7.1,SNR=19					
GTA	**Gaotai**	**49.84**	**333**	*eP*	**P**	**10 13 04.0 +0.2**
GTA				pP	pP	10 13 08.5 -3.8
GTA				sP	sP	10 13 11.5 -4.5
GTA				pmax	pmax	
	comp=Z,2.0nm,1.0s					
GTA				smax	smax	
	comp=N,5.0nm,1.3s					
GTA				smax	smax	
	comp=E,10.0nm,1.1s					
ASAJ	**Asahikawa**	**50.26**	**15**	P	**P**	**10 13 06.4 -0.3**
	comp=E,3.4nm,0.7s,baz=170,slow=10,SNR=6.8					
JKA	**Kamikawa-asahi**	**50.26**	**15**	P	**P**	**10 13 06.3 -0.3**
KLR	**Kul'dur**	**53.42**	**4**	P	**P**	**10 13 28.9 -1.3**
	comp=E,0.6nm,0.5s,baz=329,slow=21,SNR=2.3					
ULN	**Ulaanbaatar**	**54.56**	**344**	P	**P**	**10 13 38.0 -0.7**
ULN				IAmb	IAmb	10 13 43.7
	comp=Z,6.2nm,1.1s					
SONM	**Songino Array**	**54.71**	**344**	P	**P**	**10 13 39.4 -0.4**
	comp=Z,2.4nm,1.0s,baz=150,slow=4.9,SNR=9.1					
SONM	**Songino Array**	**54.71**	**344**	P	**P**	**10 13 40.0 +0.2**
SONM				IAmb	IAmb	10 13 44.3
	comp=Z,4.6nm,1.2s					
RPZ	**Rata Peaks**	**55.63**	**142**	P	**P**	**10 13 46.4 -0.1**
WMQ	**Urumqi**	**59.12**	**328**	*eP*	**P**	**10 14 15.0 +3.9**
WMQ				sP	pP	10 14 21.5 +1.4
WMQ				LR	LR	
	comp=N,540nm,7.7s					
WMQ				LR	LR	
	comp=E,590nm,7.1s					
WMQ				LR	LR	
	comp=Z,83nm,15.9s					
PEA0B	**Petropavlovsk-**	**62.89**	**21**	P	**P**	**10 14 36.8 +0.4**
PETK	**Petropavlovsk-**	**62.89**	**21**	P	**P**	**10 14 36.4 0.0**
	comp=Z,1.4nm,0.5s,baz=183,slow=5.0,SNR=8.9					
PETK	**Petropavlovsk-**	**62.89**	**21**	P	**P**	**10 14 36.2 -0.2**
CASY	**Casey**	**62.96**	**187**	P	**P**	**10 14 36.9 +0.3**
KSH	**Kashi**	**63.55**	**318**	P	**P**	**10 14 46.0 +4.8**
KSH				pP	sP	10 14 52.0 -1.1
KSH				sP	pwP	10 14 53.5 -1.3
KSH				pmax	pmax	
	comp=Z,3.0nm,0.7s					
MK31	**Makanchi Array**	**63.95**	**328**	P	**P**	**10 14 43.3 -0.3**
MK31				IAmb	IAmb	10 14 48.1
	comp=Z,4.2nm,1.1s					
MKAR	**Makanchi Array**	**63.95**	**328**	P	**P**	**10 14 43.0 -0.6**
	comp=Z,2.5nm,0.5s,baz=115,slow=8.3,SNR=21					
MKAR	**Makanchi Array**	**63.95**	**328**	P	**P**	**10 14 43.3 -0.3**
MAKZ	**Makanchi**	**64.12**	**328**	P	**P**	**10 14 44.6 -0.2**
MAKZ				IAmb	IAmb	10 14 49.3
	comp=Z,7.6nm,1.4s					
YAK	**Yakutsk**	**66.09**	**2**	P	**P**	**10 14 57.5 +0.4**
	comp=Z,3.4nm,0.3s,baz=19,slow=1.5,SNR=4.1					
ZALV	**Zalesovo Beam**	**67.52**	**335**	P	**P**	**10 15 04.7 -1.7**
	comp=Z,1.8nm,0.8s,baz=131,slow=6.5,SNR=4.8					
KURK	**Kurchatov**	**68.29**	**330**	P	**P**	**10 15 10.4 -0.9**
KURK				IAmb	IAmb	10 15 15.4
	comp=Z,5.3nm,0.9s					
SEY	**Seymchan**	**69.79**	**12**	P	**P**	**10 15 20.9 +0.5**
	comp=Z,3.4nm,0.6s,baz=205,slow=4.2,SNR=12					
TIXI	**Tiksi**	**75.72**	**1**	P	**P**	**10 15 54.5 -1.0**
	comp=Z,1.9nm,0.4s,baz=174,slow=3.2,SNR=5.0					
TIXI	**Tiksi**	**75.72**	**1**	P	**P**	**10 15 54.7 -0.7**
TIXI				IAmb	IAmb	10 16 08.8
	comp=Z,5.1nm,0.5s					
KBZ	**Khabaz**	**88.18**	**314**	LR	LR	11 02 33.5
	comp=Z,83nm,18.0s,baz=324,slow=40					
ILAR	**Eielson Array**	**92.36**	**25**	P	**P**	**10 17 22.1 +1.5**
	comp=Z,0.2nm,0.4s,baz=297,slow=4.0,SNR=6.3					

*IDC **30** 10:06:54.9±3.8, 16°.98S×70°.72W, h133km±43km, mb2.7/2, mb1 3.1/4, mb1mx3.0/35, mbtmp3.2/4, Error ellipse: s-maj=55.0km s-min=15.5km az=108.0*

ISC 30 10:06:56.0±1.1, 16°.99S±0°.08×70°.6W±0°.1, h150km, n8, σ1°91/7, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.47**	**74**	P	**Pn**	**10 07 37.4**	**0.0**
	5.0nm,0.3s,baz=254,slow=11,SNR=164						
LPAZ				S	**Sn**	**10 08 09.3**	**+0.1**
	0.9nm,0.3s,baz=92,slow=25,SNR=7.0						
LVC	**Limon Verde**	**5.81**	**164**	P	**Pn**	**10 08 21.6**	**+1.1**
	baz=342,slow=12,SNR=6.6						
LVC				S	**Sn**	**10 09 25.1**	**-1.5**
	4.9nm,0.3s,baz=65,slow=23,SNR=19						
H03N1	**Juan Fernandez**	**18.01**	**203**	T	T	10 28 53.5	
	baz=28,slow=73,SNR=4.2						
H03N2	**Juan Fernandez**	**18.01**	**203**	T	T	10 28 51.9	
	baz=28,slow=73,SNR=5.8						
H03N3	**Juan Fernandez**	**18.02**	**203**	T	T	10 28 53.1	
	baz=28,slow=73,SNR=4.2						
TXAR	**Lajitas Array**	**56.03**	**325**	P	**P**	**10 16 18.7**	**-0.7**
	0.1nm,0.4s,baz=128,slow=5.8,SNR=2.0						
YKA	**Yellowknife Ar**	**86.42**	**341**	P	**P**	**10 19 21.5**	**+0.4**
	0.1nm,0.3s,baz=136,slow=4.9,SNR=7.0						
SONM	**Songino Array**	**149.14**	**4**	PKPbc	**PKiKP**	**10 26 28.1**	**+0.1**
	0.1nm,0.4s,baz=358,slow=3.9,SNR=1.8						

IDC 30 10:11:14.8±1.9, 2°.73N×124°.18E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.1/37, mbtmp3.7/3, Error ellipse: s-maj=236.4km s-min=25.0km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.64**	**157**	P	P	10 16 37.4	0.0
	1.5nm,0.8s,baz=335,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.89**	**161**	P	P	10 17 06.8	0.0
	0.2nm,0.4s,baz=343,slow=7.8,SNR=2.6						
MKAR	**Makanchi Array**	**56.96**	**327**	P	P	10 21 02.0	-0.1
	0.4nm,0.3s,baz=119,slow=7.7,SNR=13						

IDC 30 10:25:01.8±2.2, 6°.05S×150°.31E, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.3/29, mbtmp3.2/3, Error ellipse: s-maj=164.2km s-min=31.3km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.77**	**227**	P	P	10 29 45.7	+1.1
	0.6nm,1.0s,baz=52,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**23.58**	**220**	P	P	10 30 13.4	-1.0
	0.2nm,0.5s,baz=56,slow=9.0,SNR=4.8						
ILAR	**Eielson Array**	**84.25**	**23**	P	P	10 37 35.2	+0.2
	0.5nm,0.8s,baz=250,slow=5.4,SNR=4.8						

NOU 30 10:25:04.0, 14°.86S×167°.07E, h71km, MLv4.9/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.60**	**168**	P	Pn	10 25 18.8	+0.9
DVP	**Devils Point**	**3.04**	**160**	P	Pn	10 25 49.8	0.0
RTV	**Rentapao**	**3.19**	**156**	P	Pn	10 25 51.6	-0.3
KOUNC	**Koumac, New Ca**	**6.25**	**205**	P	Pn	10 26 34.1	+0.5
MARNC	**Mare, Loyalty**	**6.65**	**172**	P	Pn	10 26 39.3	+0.2
DZM	**Mont Dzumac**	**7.20**	**185**	P	Pn	10 26 46.1	-0.6
NOUC	**Port Laguerre**	**7.24**	**186**	P	Pn	10 26 47.0	-0.2
ONTNC	**Ouen Toro**	**7.43**	**184**	P	Pn	10 26 49.7	-0.1
OUENC	**Ouen Island, N**	**7.52**	**182**	P	Pn	10 26 50.9	-0.1

NOU 30 10:53:56.6, 17°.71S×168°.10E, h28km, MLv3.8/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.08**	**100**	P	Pb	10 54 03.2	+1.7
DVP	**Devils Point**	**0.08**	**100**	P	Pb	10 54 03.3	+1.8
RTV	**Rentapao**	**0.32**	**105**	P	Pn	10 54 05.2	-0.2
RTV	**Rentapao**	**0.32**	**105**	P	Pn	10 54 05.3	-0.1
SANVU	**Saraoutou**	**2.41**	**339**	P	Pn	10 54 34.2	0.0
LIFNC	**LIFOU**	**3.16**	**195**	P	Pn	10 54 44.0	-0.5
MARNC	**Mare, Loyalty**	**3.75**	**181**	P	Pn	10 54 51.9	-0.7
YATNC	**Mamie plateau,**	**4.47**	**195**	P	Pn	10 55 02.4	-0.2
KOUNC	**Koumac, New Ca**	**4.58**	**231**	P	Pn	10 55 04.2	+0.2
DZM	**Mont Dzumac**	**4.61**	**199**	P	Pn	10 55 05.3	+0.8
OUENC	**Ouen Island, N**	**4.83**	**194**	P	Pn	10 55 07.2	-0.3

*IDC **30** 10:58:37.4±5.0, 36°.45N×71°.07E, h180km±44km, mb2.9/3, mb1 3.0/9, mb1mx2.8/55, mbtmp3.5/9, Error ellipse: s-maj=39.0km s-min=31.7km az=13.0*
*NNC **30** 10:58:43.8±5.0, 36°.98N×70°.74E, h180km±78km, mb2.9, mpv3.8, Error ellipse: s-maj=48.3km s-min=29.4km az=15.0*

ISC 30 10:58:38.8±1.2, 36°.6N±0°.1×70°.9E±0°.1, h188km, n20, σ1°51/24, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.92**	**21**	P	**Pn**	**11 00 06.3**	**+1.1**
	SNR=50						
UCH	**Uchtor**	**6.27**	**26**	P	**Pn**	**11 00 10.6**	**+0.9**
	SNR=16						
EKS2	**Erkin-Say**	**6.44**	**19**	P	**Pn**	**11 00 13.1**	**+1.5**
	SNR=15						
KK08	**Karatay Array**	**6.49**	**357**	⇓P	**Pn**	**11 00 13.5**	**+1.4**
	1.7nm,0.3s						
KK08				⇑S	**Sn**	**11 01 21.8**	**-4.2**
	4.4nm,0.5s						
AAK	**Ala-Archa**	**6.63**	**24**	P	**Pn**	**11 00 15.4**	**+1.2**
	1.7nm,0.3s,baz=204,slow=6.3,SNR=20						
AAK				S	**Sn**	**11 01 28.7**	**-0.9**
	0.4nm,0.3s,baz=329,slow=22,SNR=6.8						
AAK	**Ala-Archa**	**6.63**	**24**	P	**Pn**	**11 00 15.4**	**+1.2**
	SNR=6.8						
AAK	**Ala-Archa**	**6.63**	**24**	⇓P	**Pn**	**11 00 15.3**	**+1.2**
	3.6nm,0.4s						
AAK				⇑S	**Sn**	**11 01 28.9**	**-0.6**
	2.9nm,0.5s						
KBK	**Karagaybulak**	**6.80**	**26**	P	**Pn**	**11 00 18.3**	**+1.9**
	SNR=5.8						
TKM2	**Tokmak 2**	**7.27**	**29**	P	**Pn**	**11 00 23.7**	**+1.1**
	SNR=8.1						
TKM2	**Tokmak 2**	**7.27**	**29**	⇓P	**Pn**	**11 00 22.8**	**+0.2**
	11nm,0.7s						
TKM2				⇑S	**Sn**	**11 01 43.7**	**-1.0**
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**13.25**	**36**	P	**Pn**	**11 01 39.4**	**-0.4**
	0.1nm,0.3s,baz=224,slow=12,SNR=6.2						
AB31	**Akbulak array**	**14.93**	**331**	⇓P	**Pn**	**11 02 00.2**	**-0.3**
	0.3nm,0.4s,baz=143,slow=12,SNR=10						
KURBB	**Kurchatov Arra**	**15.04**	**19**	P	**Pn**	**11 02 00.8**	**-1.0**
	0.0nm,0.3s,baz=204,slow=10,SNR=5.6						
BVAR	**Borovoye Array**	**16.41**	**359**	P	**Pn**	**11 02 19.9**	**+1.5**
	0.4nm,0.3s,baz=140,slow=9.7,SNR=4.9						
AKTO	**Aktyubinsk**	**16.63**	**330**	P	**Pn**	**11 02 23.0**	**+2.0**
	0.2nm,0.3s,baz=112,slow=10,SNR=4.5						
AKTO	**Aktyubinsk**	**16.63**	**330**	⇓P	**Pn**	**11 02 22.5**	**+1.5**
	2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**19.85**	**25**	P	**P**	**11 02 55.8**	**+0.7**
	0.3nm,0.3s,baz=213,slow=10,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**11 09 02.7**	**-0.3**
	0.2nm,0.4s,baz=61,slow=6.6,SNR=1.3						
YKA	**Yellowknife Ar**	**81.13**	**3**	P	**P**	**11 10 33.3**	**+0.5**
	0.0nm,0.3s,baz=350,slow=5.4,SNR=3.8						
ASAR	**Alice Springs**	**84.40**	**125**	P	**P**	**11 10 48.6**	**-1.6**
	0.3nm,0.7s,baz=308,slow=4.7,SNR=5.4						

*IDC **30** 11:11:31.2±0.7, 58°.86S×25°.45W, h0km, mb4.4/6, mb1 4.5/7, mb1mx4.1/27, mbtmp4.4/7, ML4.6/1, Error ellipse: s-maj=33.5km s-min=21.8km az=82.0*
*NEIC **30** 11:11:44.7±0.8, 59°.05S±0°.1×25°.7W±0°.2, h103km±7km, mb4.5/10, Error ellipse: s-maj=20.4km s-min=11.1km az=206.0*

ISC 30 11:11:36.5±0.6, 58°.9S±0°.1×25°.4W±0°.2, h35km, n39, σ0°68/35, mb4.4/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.67**	**302**		Pn	11 13 34.6	+9.0
VNA1	**Neumayer--Stat**	**13.78**	**156**	P	**Pn**	**11 14 48.8**	**-0.1**
VNA3	**Neumayer Olymp**	**13.96**	**159**	P	**Pn**	**11 14 51.0**	**-0.5**
VNA2	**Neumayer--Watz**	**14.17**	**155**	P	**Pn**	**11 14 53.1**	**-1.2**
	baz=311,slow=13						
SNAA	**Sanae**	**15.73**	**153**	P	**Pn**	**11 15 15.1**	**-0.1**
SNAA	**Sanae**	**15.73**	**153**	Pn	**Pn**	**11 15 15.0**	**-0.1**
	2.1nm,0.3s,baz=316,slow=17,SNR=31						
SNAA				Sn	Sn	11 17 53.4	-15
	0.2nm,0.3s,baz=21,slow=19,SNR=1.7						
SNAA	**Sanae**	**15.73**	**153**		**Pn**	**11 15 15.0**	**-0.1**
SNAA				IAmb	IAmb	11 15 33.6	
	comp=Z,28nm,1.5s						
GO08	**Villa O'Higgin**	**29.20**	**270**	P	**P**	**11 17 33.7**	**-0.6**
QSPA	**South Pole Qui**	**31.32**	**180**	P	**P**	**11 17 53.8**	**+0.6**
	comp=Z,3.3nm,0.6s,baz=179,slow=3.0,SNR=35						
QSPA	**South Pole Qui**	**31.32**	**180**	P	**P**	**11 17 54.3**	**+1.1**
QSPA				IAmb	IAmb	11 17 54.6	
	comp=Z,3.2nm,0.6s						
PLCA	**Paso Flores**	**33.51**	**283**	P	**P**	**11 18 12.5**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=123,slow=5.2,SNR=7.8						
PLCA	**Paso Flores**	**33.51**	**283**	P	**P**	**11 18 12.2**	**-0.2**
MT09	**Talagante**	**39.14**	**290**	P	**P**	**11 19 00.7**	**+0.1**
MT09				IAmb	IAmb	11 19 05.9	
	comp=Z,28nm,1.4s						
VNDA	**Vanda**	**43.74**	**182**	P	**P**	**11 19 39.0**	**+1.4**
	comp=Z,7.3nm,1.1s,baz=96,slow=22,SNR=2.4						
VNDA	**Vanda**	**43.74**	**182**	P	**P**	**11 19 38.6**	**+0.9**
VNDA				IAmb	IAmb	11 19 43.6	
	comp=Z,28nm,1.4s						
AC04	**Llanos de Chal**	**43.78**	**294**	P	**P**	**11 19 39.4**	**+0.8**
H10N1	**ASCENSION HYDR**	**51.64**	**14**	T	T	12 16 53.3	
	baz=189						
H10N3	**ASCENSION HYDR**	**51.64**	**14**	T	T	12 16 36.8	
	baz=189,slow=74						
H10N2	**ASCENSION HYDR**	**51.66**	**14**	T	T	12 16 57.9	
	baz=189,slow=74						
TORD	**Torodi Ar. Bea**	**75.13**	**27**	P	**P**	**11 23 15.6**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=199,slow=6.5,SNR=18						
TORD	**Torodi Ar. Bea**	**75.13**	**27**	P	**P**	**11 23 16.1**	**+1.3**
THZ	**Tophouse**	**78.53**	**194**	P	**P**	**11 23 33.8**	**-0.1**
THZ				IAmb	IAmb	11 23 44.9	
	comp=Z,7.3nm,0.9s						
OUZ	**Omahuta**	**84.88**	**196**	P	**P**	**11 24 06.5**	**-0.8**
OUZ				IAmb	IAmb	11 24 07.9	
	comp=Z,5.5nm,1.0s						
STKA	**Stephens Creek**	**88.90**	**169**	P	**P**	**11 24 27.1**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=38,slow=4.0,SNR=3.5						
ASAR	**Alice Springs**	**95.96**	**161**	P	**P**	**11 24 59.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=180,slow=4.4,SNR=12						
ASAR	**Alice Springs**	**95.96**	**161**	P	**P**	**11 24 59.5**	**-0.3**
PDAR	**Pinedale Array**	**122.64**	**300**	PKP	**PKPdf**	**11 30 26.4**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=106,slow=3.1,SNR=3.2						
FINES	**FINESS Array B**	**126.48**	**28**	PKP	**PKPdf**	**11 30 33.9**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=126,slow=2.6,SNR=8.3						
FINES	**FINESS Array B**	**126.48**	**28**		**PKiKP**	**11 30 34.5**	**-0.1**
ARCES	**ARCESS Array B**	**133.26**	**22**	PKP	**PKPdf**	**11 30 46.5**	**-0.3**
	comp=Z,4.0nm,1.0s,baz=244,slow=1.9,SNR=7.4						
ARCES	**ARCESS Array B**	**133.26**	**22**		**PKPdf**	**11 30 46.9**	**+0.1**
MKAR	**Makanchi Array**	**136.85**	**73**	PKP	**PKPdf**	**11 30 54.9**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=259,slow=1.5,SNR=4.6						
MKAR	**Makanchi Array**	**136.85**	**73**		**PKiKP**	**11 30 55.4**	**-0.6**
YKA	**Yellowknife Ar**	**138.91**	**315**	PKhKP	PKPpre	11 30 50.5	
	comp=Z,0.1nm,0.4s,baz=141,slow=2.2,SNR=5.0						
YKA				PKP	**PKPdf**	**11 30 57.1**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=129,slow=2.3,SNR=97						
INK	**Inuvik**	**148.60**	**317**	PKPbc	**PKPbc**	**11 31 17.6**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=78,slow=3.1,SNR=13						
SONM	**Songino Array**	**149.86**	**90**	PKPbc	**PKPbc**	**11 31 21.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=225,slow=2.9,SNR=7.8						
SONM	**Songino Array**	**149.86**	**90**		**PKPbc**	**11 31 21.2**	**-0.7**
ILAR	**Eielson Array**	**152.68**	**307**	PKPbc	**PKPbc**	**11 31 27.4**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=136,slow=1.8,SNR=17						
ILAR	**Eielson Array**	**152.68**	**307**		**PKPbc**	**11 31 27.1**	**-0.7**

*IDC **30** 11:30:01.6±1.8, 34°.14N×135°.50E, h61km±20km, mb3.4/3, mb1 3.6/7, mb1mx3.1/54, mbtmp3.7/7, MS3.7/1, Ms1 3.7/1, ms1mx2.7/44, Error ellipse: s-maj=21.7km s-min=10.6km az=155.0*
*JMA **30** 11:30:01.3±0.1, 34°.23N×135°.60E, h64km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs75.00000°, δ50.00000°, λ-151.00000°. NP2: φs325.00000°, δ68.00000°, λ-44.00000°. Principal axes: T Plg11.0000°, Azm24.0000°; N Plg42.0000°, Azm124.0000°; P Plg46.0000°, Azm282.0000°;*
JMA Felt I J1.

ISC 30 11:30:01.4±0.9, 34°.22N±0°.04×135°.58E±0°.03, h61km±6km, n28, σ0°89/40, mb3.5/3, 6C-9D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.01**	**80**	⇓P	**Pn**	**11 30 11.0**	**+0.5**
JWY				S	**Sn**	**11 30 17.5**	**+0.5**
JNTK	**Naratenkawa**	**0.26**	**78**	⇓P	**Pn**	**11 30 11.6**	**+0.2**
JNTK				S	**Sn**	**11 30 18.6**	**0.0**
JTNC	**Tanabenakahech**	**0.40**	**177**	⇑P	**Pn**	**11 30 12.7**	**+0.2**
JTNC				S	**Sn**	**11 30 20.7**	**+0.3**
JWM	**Minabe**	**0.41**	**207**	⇑P	**Pn**	**11 30 12.8**	**+0.2**
JWM				S	**Sn**	**11 30 20.8**	**+0.2**
JHE	**Heguri**	**0.44**	**11**	⇓P	**Pn**	**11 30 12.8**	**-0.1**
JHE				S	**Sn**	**11 30 20.9**	**-0.3**
JKN2	**Miekihoku**	**0.57**	**88**	⇓P	**Pn**	**11 30 14.2**	**0.0**
JKN2				*e*S	**Sn**	**11 30 23.3**	**-0.2**
JAWN	**Awajishima-nag**	**0.62**	**296**	P	**Pn**	**11 30 15.1**	**+0.3**
JAWN				*e*S	**Sn**	**11 30 24.8**	**+0.2**
TSUJ	**Tsu 2**	**0.85**	**54**	⇑P	**Pn**	**11 30 17.2**	**-0.3**
TSUJ				*e*S	**Sn**	**11 30 28.3**	**-1.1**
JIE	**Ise**	**0.95**	**79**	⇓P	**Pn**	**11 30 18.6**	**-0.2**
JIE				*e*S	**Sn**	**11 30 31.2**	**-0.4**
JKS	**Kasai**	**0.98**	**322**	⇑P	**Pn**	**11 30 19.1**	**-0.1**
JKS				S	**Sn**	**11 30 31.7**	**-0.6**
JAI	**Aioi**	**1.03**	**246**	⇑P	**Pn**	**11 30 20.4**	**+0.5**
JAI				*e*S	**Sn**	**11 30 33.8**	**+0.2**
JWT	**Wachi**	**1.07**	**352**	⇑P	**Pn**	**11 30 20.1**	**-0.3**
TTO1	**TONANKAI O.B.S**	**1.16**	**120**	⇓P	**Pn**	**11 30 21.5**	**+0.2**
TTO1				*e*X		11 30 37.8	
TTO2	**TONANKAI O.B.S**	**1.29**	**111**	⇓P	**Pn**	**11 30 23.2**	**+0.2**
TTO2				*e*X		11 30 40.8	
JAD	**Aida**	**1.37**	**302**	⇓P	**

mb5.1/46, mB5.5/33, MLv5.2/3, Mw(mB)5.0/33, MwMwp5.5/3, Mwp5.6/3
MOS **30** *12:02:46.5±0.9, 3.34S×146.84E, h15km, mb5.1/32, MS5.1/6, Error ellipse: s-maj=11.7km s-min=7.1km az=106.5*
NEIC **30** *12:02:47.6±2.1, 3.14S±0.05×146.98E±0.08, h13km±1km, mb5.1/57, Ms_20 5.2/101, Mwb5.5/23, Error ellipse: s-maj=13.3km s-min=9.3km az=276.0*
GCMT **30** *12:02:51.6±0.1, 3.22S±0.01×147.00E±0.01, h12km, MW5.1/42, Moment Tensor Solution. s58, c72; s142, c258; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.05±.05; $M_{\theta\theta}$=0.77±.04; $M_{\phi\phi}$=-0.71±.04; $M_{r\theta}$=0.26±.14; $M_{\theta\phi}$=2.39±.03; $M_{\phi r}$=0.24±.13; Best double couple: M_0=2.52700×10^{17} NP1:ϕ_s=99.00000°, δ=84.00000°, λ=5.00000°. NP2:ϕ_s=8.00000°, δ=85.00000°, λ=174.00000°. Principal axes: T 2.5740, Plg=8.0000°, Azm=324.0000°; N -0.0950, Plg=82.0000°, Azm=150.0000°; P -2.4790, Plg=1.0000°, Azm=54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 12:02:48.8±0.5, 3.30S±0.04×147.03E±0.04, h19km±1km, h19km:pP-P, n413, σ1s77/368, mb4.9/97, MS5.2/128, 15C-11D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.29**	**15**	Pn	**Pb**	**12 03 08.2**	**-4.3**
RABL	**Rabaul**	**5.20**	**100**	Pn	**Pn**	**12 04 06.8**	**+1.2**
RABL	**Rabaul**	**5.20**	**100**	P	**Pn**	**12 04 08.2**	**+2.6**
PMG	**Port Moresby**	**6.07**	**179**	Pn	**Pn**	**12 04 15.2**	**-2.4**
	7.0nm,0.3s,baz=1.5,slow=7.4,SNR=66						
PMG				LR	LR	12 07 13.1	
	comp=Z,4μm,18.4s,baz=3.0,slow=45						
PMG	**Port Moresby**	**6.07**	**179**	P	**Pn**	**12 04 18.1**	**+0.5**
PMG	**Port Moresby**	**6.07**	**179**	Pn	**Pn**	**12 04 18.1**	**+0.5**
PMG	**Port Moresby**	**6.07**	**179**	P	**Pn**	**12 04 17.2**	**-0.4**
JAY	**Jayapura**	**6.37**	**277**	Pn	**Pn**	**12 04 21.3**	**-0.4**
	0.8nm,0.3s,baz=4.2,slow=5.3,SNR=4.1						
JAY				LR	LR	12 06 29.5	
	comp=Z,16μm,18.5s,baz=79,slow=35						
GENI	**Genyem**	**6.89**	**276**	P	**Pn**	**12 04 31.5**	**+2.6**
	1.3nm8μm5μm171nm,1.0s						
GENI	**Genyem**	**6.89**	**276**	P	**Pn**	**12 04 31.8**	**+2.9**
SMPI	**Sarmi**	**8.41**	**279**	P	Pn	12 04 53.8	+4.0
	7μm3μm123nm,1.1s						
COEN	**Coen**	**11.26**	**200**	Pn	**Pn**	**12 05 29.2**	**+0.5**
COEN	**Coen**	**11.26**	**200**	P	**Pn**	**12 05 29.5**	**+0.7**
HNR	**Honiara**	**14.20**	**116**	Pn	**Pn**	**12 06 10.7**	**+1.6**
	7.9nm,0.3s,baz=170,slow=13,SNR=1.3						
HNR				LR	LR	12 11 39.3	
	comp=Z,7μm,18.8s,baz=286,slow=38						
HNR	**Honiara**	**14.20**	**116**	P	**Pn**	**12 06 11.2**	**+2.1**
HNR	**Honiara**	**14.20**	**116**	Pn	**Pn**	**12 06 11.2**	**+2.1**
FAKI	**Fak Fak**	**14.77**	**271**	P	**Pn**	**12 06 17.5**	**+0.7**
	2μm94nm,1.4s						
FAKI	**Fak Fak**	**14.77**	**271**	Pn	**Pn**	**12 06 16.3**	**-0.5**
FAKI	**Fak Fak**	**14.77**	**271**	P	**Pn**	**12 06 18.3**	**+1.5**
MTSU	**Mount Surprise**	**14.98**	**190**	P	**Pn**	**12 06 20.4**	**+0.7**
	baz=15,SNR=13						
PATS	**Pohnpei**	**15.11**	**48**	Pn	**Pn**	**12 06 18.6**	**-2.7**
SIJI	**Sorong**	**15.94**	**278**	Pn	**Pn**	**12 06 32.7**	**+0.5**
	0.5nm,0.3s,baz=236,slow=23,SNR=2.9						
SIJI				LR	LR	12 13 07.3	
	comp=Z,7μm,18.1s,baz=95,slow=39						
SWI	**Sorong**	**15.95**	**278**	P	**P**	**12 06 35.5**	**-0.3**
	2μm68nm,1.1s						
SAUI	**Saumlaki**	**16.33**	**253**	Pn	**Pn**	**12 06 35.4**	**-1.8**
SAUI				IAmb	IAmb	12 06 59.0	
	comp=Z,314nm,1.4s						
CTA	**Charters Tower**	**16.70**	**183**	Pn	**Pn**	**12 06 42.2**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=359,slow=13,SNR=15						
CTA				LR	LR	12 13 22.0	
	comp=Z,4μm,20.4s,baz=4.0,slow=38						
CTA	**Charters Tower**	**16.70**	**183**	P	**Pn**	**12 06 41.3**	**-0.7**
CTAO	**Charters Tower**	**16.70**	**183**	P	**Pn**	**12 06 42.1**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,59nm,1.2s						
CTAO	**Charters Tower**	**16.70**	**183**		**Pn**	**12 06 42.1**	**+0.2**
CTAO	**Charters Tower**	**16.70**	**183**	P	**Pn**	**12 06 41.0**	**-1.0**
GUMO	**Guam**	**16.91**	**353**	Pn	**P**	**12 06 44.8**	**-1.7**
	comp=Z,5.3nm,0.3s,baz=282,slow=5.7,SNR=2.0						
GUMO				LR	LR	12 13 15.7	
	comp=Z,7μm,18.0s,baz=174,slow=37						
KDU	**Kakadu**	**17.16**	**236**	P	**Pn**	**12 06 46.3**	**-1.4**
	baz=17,SNR=13						
KDU	**Kakadu**	**17.16**	**236**	P	**Pn**	**12 06 47.0**	**-0.7**
MSAI	**Masohi**	**18.07**	**269**	P	**P**	**12 07 00.3**	**+1.0**
	comp=Z,329nmcomp=Z,12nm,0.9s						
MTN	**Manton Dam**	**18.36**	**238**	P	**P**	**12 07 01.7**	**-0.9**
	baz=18,SNR=8.4						
MTN	**Manton Dam**	**18.36**	**238**	P	**P**	**12 07 00.7**	**-1.8**
MTN	**Manton Dam**	**18.36**	**238**	P	**P**	**12 07 01.6**	**-0.9**
QIS	**Mount Isa**	**18.62**	**202**	P	**P**	**12 07 05.8**	**+0.5**
	baz=19,SNR=6.7						
QIS	**Mount Isa**	**18.62**	**202**	P	**P**	**12 07 05.0**	**-0.3**
LBMI	**Labuha**	**19.70**	**277**	P	**Pn**	**12 07 18.9**	**+0.2**
	comp=Z,3μmcomp=Z,122nm,1.3s						
TNTI	**Ternate**	**20.07**	**281**	P	**Pn**	**12 07 23.7**	**+0.6**
	comp=Z,3μmcomp=Z,109nm,1.7s						
TNTI	**Ternate**	**20.07**	**281**		**P**	**12 07 17.9**	**-3.3**
TNTI	**Ternate**	**20.07**	**281**	P	**Pn**	**12 07 25.2**	**+2.1**
	comp=Z,158nm,1.5s						
RK1H	**Rockhampton Ha**	**20.25**	**171**	P	**P**	**12 07 23.6**	**+0.5**
WB0	**Warramunga Arr**	**20.50**	**216**	P	**P**	**12 07 24.8**	**-1.1**
WB0				IAmb	IAmb	12 07 28.4	
	comp=Z,128nm,1.2s						
WR0	**Warramunga Arr**	**20.56**	**215**	P	**P**	**12 07 26.3**	**-0.3**
WRAB	**Tennant Creek**	**20.65**	**216**	*d iP*	**P**	**12 07 26.9**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,248nm,1.3s						
WRAB	**Tennant Creek**	**20.65**	**216**	P	**P**	**12 07 26.7**	**-0.9**
WRAB	**Tennant Creek**	**20.65**	**216**	IAMs_20	IAMs_20	12 15 43.3	
	comp=Z,8μm,18.0s						
WRAB	**Tennant Creek**	**20.65**	**216**	P	**P**	**12 07 27.2**	**-0.4**
WB2	**Warramunga Arr**	**20.66**	**216**	P	**P**	**12 07 27.1**	**-0.5**
WRA	**Warramunga Arr**	**20.67**	**216**	P	**P**	**12 07 25.1**	**-2.6**
	comp=Z,111nm,1.0s,baz=39,slow=11,SNR=113						
WRA				S	Sn	12 11 25.7	+2.8
	comp=Z,1.0nm,1.0s,baz=44,slow=35,SNR=2.2						
WRA				LR	LR	12 15 53.7	
	comp=Z,8μm,18.4s,baz=33,slow=38						
WRA	**Warramunga Arr**	**20.67**	**216**	*i P*	**P**	**12 07 25.1**	**-2.6**
WRA				pmax	pmax		
	comp=Z,112nm,1.0s						
WRA	**Warramunga Arr**	**20.67**	**216**	P	**P**	**12 07 27.0**	**-0.7**
SANI	**Sanana**	**21.06**	**273**	P	**P**	**12 07 31.5**	**-0.5**
	comp=Z,2μmcomp=Z,60nm,1.4s						
KNRA	**Kununurra**	**21.79**	**234**	P	**P**	**12 07 38.5**	**-1.2**
	baz=22,SNR=13						
KNRA	**Kununurra**	**21.79**	**234**	P	**P**	**12 07 38.6**	**-1.2**
KNRA	**Kununurra**	**21.79**	**234**	P	**P**	**12 07 38.6**	**-1.2**
EIDS	**Eidsvold**	**22.29**	**170**	P	**P**	**12 07 45.2**	**+0.1**
	baz=22,SNR=11						
EIDS	**Eidsvold**	**22.29**	**170**	P	**P**	**12 07 44.9**	**-0.2**
EIDS				IAmb	IAmb	12 07 56.5	
	comp=Z,76nm,1.1s						
EIDS	**Eidsvold**	**22.29**	**170**	P	**P**	**12 07 46.1**	**+1.0**
RMQ	**Roma**	**23.11**	**176**	P	**P**	**12 07 54.1**	**+0.3**
	baz=23,SNR=33						
RMQ	**Roma**	**23.11**	**176**	P	**P**	**12 07 54.6**	**+0.8**
SANVU	**Saraoutou**	**23.24**	**123**	P	**P**	**12 07 55.4**	**+0.2**
SANVU	**Saraoutou**	**23.24**	**123**	P	**P**	**12 07 55.7**	**+0.5**
QLP	**Quilpie**	**23.31**	**186**	P	**P**	**12 07 55.1**	**-0.6**
	baz=23,SNR=5.6						
QLP	**Quilpie**	**23.31**	**186**	P	**P**	**12 07 56.4**	**+0.7**
KMSI	**Cibinong**	**23.36**	**279**	P	**P**	**12 07 58.4**	**+2.0**
	comp=Z,178nm,1.0s						
SOEI	**Soe**	**23.50**	**253**	P	**P**	**12 07 58.8**	**+0.9**
	comp=Z,5μmcomp=Z,216nm,1.1s						
SOEI	**Soe**	**23.50**	**253**	P	**P**	**12 07 56.6**	**-1.3**
SOEI	**Soe**	**23.50**	**253**	P	**P**	**12 08 00.6**	**+2.7**
DAV	**Davao City (W)**	**23.76**	**296**	LR	LR	12 17 19.4	
	comp=Z,4μm,18.1s,baz=104,slow=37						
KWAJ	**Kwajalein Atol**	**23.78**	**60**	IAMs_20	IAMs_20	12 15 06.0	
	comp=Z,8μm,21.0s						
AS31	**Alice Springs**	**23.89**	**211**	P	**P**	**12 08 01.1**	**-0.5**
ASAR	**Alice Springs**	**23.90**	**211**	P	**P**	**12 07 59.2**	**-2.4**
	comp=Z,60nm,1.1s,baz=49,slow=8.2,SNR=119						
ASAR				S	**S**	**12 12 22.8**	**+5.7**
	comp=Z,2.6nm,1.0s,baz=34,slow=24,SNR=3.0						
ASAR				LR	LR	12 18 06.4	
	comp=Z,10μm,19.5s,baz=42,slow=39						
ASAR	**Alice Springs**	**23.90**	**211**	P	**P**	**12 08 00.6**	**-0.9**
ASAR	**Alice Springs**	**23.90**	**211**	P	**P**	**12 08 00.6**	**-0.9**
KOUNC	**Koumac, New Ca**	**24.02**	**137**	P	**P**	**12 08 03.7**	**+1.1**
BATI	**Baumata**	**24.19**	**252**	P	**P**	**12 08 04.2**	**-0.1**
	comp=Z,150nm,1.0s,baz=70,slow=1.2,SNR=7.7						
BATI				LR	LR	12 20 11.9	
	comp=Z,4μm,19.0s,baz=80,slow=43						
BATI	**Baumata**	**24.19**	**252**	P	**P**	**12 08 04.7**	**+0.4**
	comp=Z,2μmcomp=Z,88nm,1.0s						
GTOI	**Gorontalo**	**24.33**	**279**	P	**P**	**12 08 07.1**	**+1.5**
	comp=Z,2μmcomp=Z,86nm,1.1s						
INKA	**Innaminka**	**25.04**	**193**	P	**P**	**12 08 13.2**	**+1.3**
DVP	**Devils Point**	**25.21**	**126**	P	**P**	**12 08 15.2**	**+1.6**
MRSI	**Marisa**	**25.36**	**278**	P	**P**	**12 08 14.1**	**-0.9**
	comp=Z,997nmcomp=Z,77nm,1.2s						
APSI	**Ampana**	**25.47**	**275**	P	**P**	**12 08 16.5**	**+0.5**
	comp=Z,1μmcomp=Z,71nm,1.5s						
FITZ	**Fitzroy Crossi**	**25.60**	**233**	P	**P**	**12 08 16.1**	**-1.0**
	comp=Z,83nm,1.1s,baz=50,slow=7.2,SNR=19						
FITZ				LR	LR	12 19 09.7	
	comp=Z,13μm,19.2s,baz=31,slow=38						
LIFNC	**LIFOU**	**26.25**	**133**	P	**P**	**12 08 23.1**	**+0.2**
LIFNC	**LIFOU**	**26.25**	**133**	P	**P**	**12 08 23.5**	**+0.5**
NOUC	**Port Laguerre**	**26.44**	**137**	P	**P**	**12 08 25.0**	**+0.3**
DZM	**Mont Dzumac**	**26.52**	**136**	P	**P**	**12 08 25.6**	**+0.1**
	comp=Z,28nm,1.0s,baz=336,slow=8.4,SNR=16						
DZM				LR	LR	12 17 41.3	
	comp=Z,10μm,20.2s,baz=314,slow=34						
DZM	**Mont Dzumac**	**26.52**	**136**	*eP*	**P**	**12 08 24.3**	**-1.2**
	comp=Z,168nm,1.4s						
DZM				*eS*	**S**	**12 12 52.0**	**-7.1**
	comp=Z,2μm,24.1s						
DZM				*e*LR	LR	12 15 01.7	
	comp=Z,16μm,23.0s						
DZM	**Mont Dzumac**	**26.52**	**136**	P	**P**	**12 08 26.1**	**+0.5**
DZM				IAmb	IAmb	12 08 31.8	
	comp=Z,48nm,1.0s						
DZM	**Mont Dzumac**	**26.52**	**136**	P	**P**	**12 08 25.7**	**+0.2**
TOLI2	**Tolitoli**	**26.60**	**279**	P	**P**	**12 08 23.0**	**-3.2**
TOLI2				IAmb	IAmb	12 08 46.2	
	comp=Z,27nm,0.9s						
OOD	**Oodnadatta**	**26.66**	**203**	P	**P**	**12 08 28.2**	**+1.6**
ONTNC	**Ouen Toro**	**26.68**	**137**	P	**P**	**12 08 27.1**	**+0.2**
ONTNC				IAmb	IAmb	12 08 48.3	
	comp=Z,56nm,1.2s						
ONTNC	**Ouen Toro**	**26.68**	**137**	P	**P**	**12 08 28.7**	**+1.8**
YATNC	**Mamie plateau,**	**26.82**	**136**	P	**P**	**12 08 28.7**	**+0.6**
BNSI	**Bone**	**26.89**	**267**	P	**P**	**12 08 31.9**	**+3.1**
	comp=Z,946nmcomp=Z,63nm,1.1s						
OUENC	**Ouen Island, N**	**27.02**	**136**	P	**P**	**12 08 30.5**	**+0.6**
OUENC	**Ouen Island, N**	**27.02**	**136**	P	**P**	**12 08 32.3**	**+2.4**
TTSI	**Tana Toraja**	**27.17**	**270**	P	**P**	**12 08 33.5**	**+2.1**
	comp=Z,2μmcomp=Z,31nm,1.5s						
KAPI	**Kappang**	**27.26**	**265**	P	**P**	**12 08 30.3**	**-1.9**
	comp=Z,5.2nm,0.2s,baz=236,slow=20,SNR=1.2						
KAPI				LR	LR	12 20 31.5	
	comp=Z,641nm,18.9s,baz=106,slow=39						
MARNC	**Mare, Loyalty**	**27.26**	**133**	P	**P**	**12 08 31.4**	**-0.7**
ARMA	**Armidale**	**27.32**	**171**	P	**P**	**12 08 33.0**	**+0.4**
	baz=27,SNR=9.3						
ARMA	**Armidale**	**27.32**	**171**	P	**P**	**12 08 32.7**	**0.0**
ARMA				IAmb	IAmb	12 08 37.3	
	comp=Z,23nm,0.8s						
ARMA	**Armidale**	**27.32**	**171**	P	**P**	**12 08 33.2**	**+0.5**
MPSI	**Mapaga**	**27.36**	**277**	P	**P**	**12 08 33.1**	**0.0**
	comp=Z,638nmcomp=Z,25nm,1.2s						
CMSA	**Cobar Meteorol**	**28.12**	**182**	P	**P**	**12 08 39.4**	**-0.2**
WRKA	**Warakurna**	**28.15**	**218**	P	**P**	**12 08 39.4**	**-0.7**
	baz=28,SNR=15						
WRKA	**Warakurna**	**28.15**	**218**	P	**P**	**12 08 40.8**	**+0.7**
LCRK	**Leigh Creek**	**28.26**	**196**	P	**P**	**12 08 42.4**	**+1.5**
STKA	**Stephens Creek**	**28.89**	**190**	P	**P**	**12 08 47.2**	**+0.7**
	comp=Z,3.5nm,1.1s,baz=262,slow=10,SNR=3.1						
STKA				LR	LR	12 21 49.0	
	comp=Z,7μm,18.3s,baz=8.2,slow=40						
STKA	**Stephens Creek**	**28.89**	**190**	P	**P**	**12 08 48.1**	**+1.7**
	baz=29,SNR=5.0						
STKA	**Stephens Creek**	**28.89**	**190**	P	**P**	**12 08 46.0**	**-0.4**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
STKA	**Stephens Creek**	**28.89**	**190**	P	**P**	**12 08 46.0**	**-0.4**
STKA	**Stephens Creek**	**28.89**	**190**	P	**P**	**12 08 47.1**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**29.05**	**41**	T	T	12 39 13.3	
	baz=222,slow=74,SNR=60						
H11S2	**WAKE ISLAND Hy**	**29.06**	**41**	T	T	12 39 15.1	
	baz=222,slow=74,SNR=41						
H11S1	**WAKE ISLAND Hy**	**29.07**	**41**	T	T	12 39 11.7	
	baz=222,slow=74,SNR=21						
MULG	**Mulgathing**	**29.51**	**203**	P	**P**	**12 08 52.8**	**+0.7**
MYLDM	**Lahad Datu**	**29.72**	**286**	P	**P**	**12 08 52.9**	**-1.2**
MYLDM				IAMs_20	IAMs_20	12 16 08.9	
	comp=Z,5μm,18.0s						
H11N1	**WAKE ISLAND Hy**	**30.06**	**40**	T	T	12 40 34.2	
	baz=221,slow=76,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**30.08**	**40**	T	T	12 40 31.5	
	baz=221,slow=76,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**30.08**	**40**	T	T	12 40 29.8	
	baz=221,slow=76,SNR=8.3						
NAPP	**Napperby**	**30.87**	**195**	P	**P**	**12 09 05.3**	**+1.3**
WHYH	**Whyalla**	**30.88**	**196**	P	**P**	**12 09 05.6**	**+1.5**
HTT	**Hallett**	**30.92**	**193**	P	**P**	**12 09 04.1**	**-0.4**
	baz=31,SNR=3.9						
TGY	**Tagaytay City**	**31.12**	**304**	LR	LR	12 19 42.7	
	comp=Z,2μm,19.8s,baz=116,slow=33						
CAN	**Canberra**	**31.91**	**177**	IAMs_20	IAMs_20	12 22 18.3	
	comp=Z,6μm,19.0s						
MTKI	**Muara Teweh, K**	**32.20**	**273**	P	**P**	**12 09 16.9**	**+0.9**
	comp=Z,28nm,0.5s						
FORT	**Forrest**	**32.68**	**211**	P	**P**	**12 09 18.7**	**-1.3**
	baz=33,SNR=8.0						
FORT	**Forrest**	**32.68**	**211**	P	**P**	**12 09 19.0**	**-1.0**
FORT	**Forrest**	**32.68**	**211**	P	**P**	**12 09 19.6**	**-0.4**
MSVF	**Nonsavu**	**33.62**	**117**	P	**P**	**12 09 28.8**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=303,slow=22,SNR=2.5						
MSVF				LR	LR	12 21 27.0	
	comp=Z,3μm,22.0s,baz=297,slow=33						
MSVF	**Nonsavu**	**33.62**	**117**	‖*eP*	**P**	**12 09 29.9**	**+1.5**
MSVF				pmax	pmax		
	comp=Z,102nm,4.9s						
ARPS	**Mount Arapiles**	**33.65**	**188**	P	**P**	**12 09 28.8**	**+0.4**
	baz=34,SNR=7.1						
ARPS	**Mount Arapiles**	**33.65**	**188**	P	**P**	**12 09 29.2**	**+0.8**
BRAT	**Ballarat**	**34.21**	**184**	P	**P**	**12 09 34.5**	**+1.3**
DGTI	**Dogotuki**	**34.65**	**114**	P	**P**	**12 09 39.0**	**+1.7**
JOW	**Kunigami**	**35.01**	**330**	LR	LR	12 20 50.8	
	comp=Z,5μm,21.8s,baz=120,slow=31						
SBUM	**Sibu**	**35.26**	**279**	P	**P**	**12 09 39.3**	**-3.3**
MEEK	**Meekatharra**	**35.77**	**227**	P	**P**	**12 09 46.0**	**-0.9**
	baz=36,SNR=8.2						
MEEK	**Meekatharra**	**35.77**	**227**	P	**P**	**12 09 47.8**	**+0.9**
TWG	**Pinlang**	**36.28**	**317**	IAMs_20	IAMs_20	12 25 40.3	
	comp=Z,4μm,18.0s						
YULB	**Yu-li**	**36.51**	**318**	IAMs_20	IAMs_20	12 21 28.7	
	comp=Z,5μm,20.0s						
NACB	**Ninganchiao**	**36.85**	**319**	IAMs_20	IAMs_20	12 21 08.6	
	comp=Z,5μm,21.0s						
JHJ	**Hachijo jima 2**	**36.86**	**350**	LR	LR	12 24 45.9	
	comp=Z,1μm,18.7s,baz=176,slow=36						
TPUB	**Ta-pu**	**36.90**	**317**	IAMs_20	IAMs_20	12 26 16.0	
	comp=Z,4μm,18.0s						
SSLB	**Suanglung**	**37.01**	**318**	IAMs_20	IAMs_20	12 22 25.9	
	comp=Z,5μm,20.0s						
YHNB	**Yeheng**	**37.34**	**320**	IAMs_20	IAMs_20	12 21 49.6	
	comp=Z,5μm,22.0s						
YHNB	**Yeheng**	**37.34**	**320**	P	P	12 10 04.5	+4.1
	comp=Z,80nm,1.2s						
TATO	**Taipei**	**37.48**	**320**	IAMs_20	IAMs_20	12 22 55.1	
	comp=Z,6μm,20.0s						
MORW	**Morawa**	**39.03**	**226**	P	**P**	**12 10 15.6**	**+1.1**
	baz=39,SNR=3.5						
MORW	**Morawa**	**39.03**	**226**	P	**P**	**12 10 13.7**	**-0.8**
MORW				IAmb	IAmb	12 10 16.6	
	comp=Z,61nm,1.2s						
MORW	**Morawa**	**39.03**	**226**	P	**P**	**12 10 14.8**	**+0.3**
KNMB	**Chin-men Tao**	**39.20**	**316**	IAMs_20	IAMs_20	12 27 31.0	
	comp=Z,3μm,18.0s						
JNU	**Nakatsue**	**39.32**	**338**	P	**P**	**12 10 18.9**	**+2.1**
	comp=Z,8.9nm,1.1s,baz=98,slow=19,SNR=1.5						
JNU				LR	LR	12 25 09.6	
	comp=Z,2μm,19.6s,baz=159,slow=34						
KLBR	**Kellerberrin**	**39.38**	**221**	P	**P**	**12 10 16.8**	**-0.5**
	baz=39,SNR=7.1						
KLBR	**Kellerberrin**	**39.38**	**221**	P	**P**	**12 10 16.9**	**-0.5**
LEM	**Lembang**	**39.41**	**263**	LR	LR	12 28 13.2	
	comp=Z,723nm,20.6s,baz=102,slow=39						
TAU	**Tasmania Unive**	**39.44**	**180**	IAMs_20	IAMs_20	12 26 37.5	
	comp=Z,3μm,19.0s						
BLDU	**Ballidu**	**39.47**	**223**	P	**P**	**12 10 18.2**	**0.0**
	baz=39,SNR=6.6						
BLDU	**Ballidu**	**39.47**	**223**	P	**P**	**12 10 19.2**	**+1.0**
INU	**Inuyama**	**39.58**	**347**	P	P	12 10 25.1	+6.2
OUZ	**Omahuta**	**40.19**	**145**	P	**P**	**12 10 24.5**	**+0.5**
OUZ				IAMs_20	IAMs_20	12 25 05.3	
	comp=Z,5μm,20.0s						
MJAR	**Matsushiro Arr**	**40.48**	**349**	P	**P**	**12 10 27.6**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=171,slow=12,SNR=4.3						
MJAR				LR	LR	12 25 44.8	
	comp=Z,2μm,18.5s,baz=154,slow=34						
MJAR	**Matsushiro Arr**	**40.48**	**349**	P	**P**	**12 10 23.0**	**-3.4**
MJAR				pmax	pmax		
	comp=Z,15nm,1.3s						
MJAR	**Matsushiro Arr**	**40.48**	**349**	P	**P**	**12 10 23.0**	**-3.4**
MAJO	**Matsushiro**	**40.48**	**349**	‖*eP*	**P**	**12 10 27.3**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,44nm,1.9s						
MAT	**Matsushiro**	**40.48**	**349**	P	**P**	**12 10 22.3**	**-4.1**
MAT				S	**S**	**12 16 28.6**	**-5.8**
NWAO	**Narrogin (SRO)**	**40.58**	**220**	P	**P**	**12 10 26.7**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,44nm,1.2s						
NWAO				MLR	MLR		
	comp=Z,4μm,21.0s						
NWAO	**Narrogin (SRO)**	**40.58**	**220**	P	**P**	**12 10 26.6**	**-0.6**
NWAO				IAmb	IAmb	12 10 34.6	
	comp=Z,44nm,1.2s						
NWAO	**Narrogin (SRO)**	**40.58**	**220**	IAMs_20	IAMs_20	12 27 32.8	
	comp=Z,4μm,21.0s						
MUN	**Mundaring**	**40.65**	**222**	P	**P**	**12 10 28.7**	**+0.8**
	baz=41,SNR=6.5						
MUN	**Mundaring**	**40.65**	**222**	P	**P**	**12 10 29.0**	**+1.1**
HKPS	**Hong Kong Po S**	**40.98**	**310**	IAMs_20	IAMs_20	12 25 31.4	
	comp=Z,3μm,19.0s						
AFI	**Afiamalu**	**42.00**	**107**	P	**P**	**12 10 38.8**	**-0.5**
	comp=Z,17nm,0.8s,baz=24,slow=22,SNR=2.5						
AFI				LR	LR	12 26 50.8	
	comp=Z,2μm,18.8s,baz=279,slow=34						
SSE	**Sheshan**	**42.15**	**326**	P	**P**	**12 10 41.0**	**+0.8**
SSE				S	**S**	**12 17 01.5**	**+2.3**
SSE				pmax	pmax		
	comp=Z,220nm,4.9s						
SSE				LR	LR		
	comp=Z,910nm,23.0s						
SSE				LR	LR		
	comp=Z,1μm,18.0s						
KASI	**Kota Agung**	**42.46**	**265**	P	**P**	**12 10 43.3**	**+0.3**
	comp=Z,948nmcomp=Z,34nm,1.1s						
MDSI	**Maura Dua**	**42.77**	**267**	P	**P**	**12 10 44.8**	**-0.7**
	comp=Z,471nmcomp=Z,16nm,1.1s						
QIZ	**Qiongzhong**	**42.79**	**303**	P	**P**	**12 10 44.8**	**-0.8**
QIZ				S	**S**	**12 17 07.3**	**-1.7**
QIZ				SS	**SS**	**12 20 18.3**	**-2.1**
QIZ				LR	LR		
	comp=Z,2μm,19.1s						
QIZ				LR	LR		
	comp=Z,2μm,18.6s						
QIZ				LR	LR		
	comp=Z,2μm,20.6s						
HIZ	**Hauiti**	**43.27**	**148**	IAMs_20	IAMs_20	12 27 39.0	
	comp=Z,3μm,19.0s						
NJ2	**Nanjing**	**44.18**	**325**	*eP*	**P**	**12 10 56.5**	**-0.1**
NJ2				pP	**pwP**	**12 11 04.0**	**-0.2**
NJ2				sP	sP	12 11 09.0	+4.8
NJ2				S	**S**	**12 17 30.5**	**+1.5**
NJ2				sS	**sS**	**12 17 39.5**	**+1.5**
NJ2				SS	**SS**	**12 20 39.8**	**-7.6**
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,620nm,4.7s						
NJ2				LR	LR		
	comp=Z,2μm,22.3s						
NJ2				LR	LR		
	comp=Z,2μm,17.5s						
NJ2				LR	LR		
	comp=Z,3μm,20.4s						
KSRS	**Korea Array**	**44.27**	**338**	P	**P**	**12 10 57.1**	**-

YSS	**Yuzh-Sakhalins**	**50.18 356**	*e*P	**P**	**12 11 45.8 +2.7**
YSS			*e**SP	pwP	12 11 57.1 +6.1
YSS			*e*S	**S**	**12 18 54.8 +0.7**
YSS			*e*SS	**SS**	**12 22 31.0 +3.2**
YSS			pmax	pmax	
	comp=Z,10.0nm,0.8s				
YSS			MLR	MLR	
	comp=Z,1μm,14.0s				
YSS			MLR	MLR	
	comp=N,900nm,17.0s				
HNS	**HongShan**	**50.41 326**	⇑P	**P**	**12 11 44.8 -0.3**
HNS			pP	**pwP**	**12 11 51.5 -1.2**
HNS			PP	PP	12 13 47.3 +6.4
HNS			S	**S**	**12 18 55.5 -2.1**
HNS			pmax	pmax	
	comp=N,13nm,1.2s				
HNS			LR	LR	
	comp=N,1μm,21.6s				
HNS			LR	LR	
	comp=N,2μm,21.0s				
HNS			LR	LR	
	comp=N,3μm,19.2s				
KMI	**Kunming**	**51.41 306**	⇑P	**P**	**12 11 54.3 +1.1**
KMI			pmax	pmax	
	comp=N,12nm,0.9s				
BJT	**Baijiatuau**	**51.57 330**	IAMs_20	IAMs_20	12 32 42.9
	comp=Z,2μm,19.0s				
BJI	**Beijing**	**51.59 330**	P	**P**	**12 11 54.3 +0.4**
BJI			S	**S**	**12 19 18.0 +4.2**
BJI			pmax	pmax	
	comp=Z,5.0nm,0.9s				
BJI			pmax	pmax	
	comp=Z,180nm,4.4s				
BJI			LR	LR	
	comp=Z,2μm,21.2s				
BJI			LR	LR	
	comp=Z,1μm,22.2s				
BJI			LR	LR	
	comp=Z,2μm,18.0s				
XAN	**Xi'an**	**51.65 319**	P	**P**	**12 11 54.0 -0.6**
XAN			pP	pwP	12 12 01.0 -1.2
XAN			S	**S**	**12 19 17.0 +1.9**
XAN			SS	**SS**	**12 22 53.3 +1.6**
XAN			pmax	pmax	
	comp=Z,23nm,1.2s				
XAN			pmax	pmax	
	comp=Z,690nm,6.5s				
XAN			LR	LR	
	comp=Z,1μm,18.0s				
XAN			LR	LR	
	comp=Z,820nm,18.6s				
XAN			LR	LR	
	comp=Z,3μm,19.4s				
BNX	**BinXian**	**51.85 343**	⇑P	**P**	**12 11 55.8 +0.1**
BNX			pP	**pwP**	**12 12 03.5 -0.2**
BNX			sP	**sP**	**12 12 07.0 +3.6**
BNX			PP	**PP**	**12 13 55.0 +1.2**
BNX			S	**S**	**12 19 19.8 +2.6**
BNX			sS	sS	12 19 35.3 +9.1
BNX			pmax	pmax	
	comp=Z,18nm,1.2s				
BNX			pmax	pmax	
	comp=Z,590nm,3.5s				
BNX			LR	LR	
	comp=Z,1μm,12.0s				
BNX			LR	LR	
	comp=Z,520nm,6.9s				
BNX			LR	LR	
	comp=Z,4μm,22.2s				
CMAR	**Chiang Mai Arr**	**52.05 296**	P	**P**	**12 11 58.5 +0.8**
	comp=Z,5.7nm,1.0s,baz=112,slow=5.6,SNR=23				
CMAR			LR	LR	12 32 15.4
	comp=Z,356nm,21.8s,baz=120,slow=34				
CMAR	**Chiang Mai Arr**	**52.05 296**	P	**P**	**12 11 56.3 -1.4**
CMAR	**Chiang Mai Arr**	**52.05 296**	P	**P**	**12 11 56.3 -1.4**
CHTO	**Chiang Mai**	**52.16 297**	P	**P**	**12 11 56.7 -1.9**
CHTO			pmax	pmax	
	comp=Z,17nm,1.2s				
CHTO	**Chiang Mai**	**52.16 297**	P	**P**	**12 11 56.7 -1.9**
CHTO			IAmb	IAmb	12 12 05.3
	comp=Z,17nm,1.2s				
PZH	**PanZhiHua**	**52.84 307**	P	**P**	**12 12 03.5 -0.1**
PZH			pmax	pmax	
	comp=Z,10.0nm,0.7s				
PZH			pmax	pmax	
	comp=Z,110nm,6.3s				
CD2	**Chengdu**	**53.45 313**	P	**P**	**12 12 08.3 +0.4**
CD2			S	**S**	**12 19 35.5 -4.3**
CD2			pmax	pmax	
	comp=Z,30nm,1.2s				
CD2			pmax	pmax	
	comp=Z,300nm,5.6s				
CD2			LR	LR	
	comp=Z,2μm,12.9s				
CD2			LR	LR	
	comp=Z,2μm,21.1s				
KLR	**Kul'dur**	**53.97 348**	P	**P**	**12 12 12.3 +1.0**
	comp=Z,3.6nm,1.0s,baz=131,slow=7.4,SNR=6.3				
KLR			LR	LR	12 34 01.4
	comp=Z,716nm,18.7s,baz=159,slow=35				
KLR	**Kul'dur**	**53.97 348**	⇑*e*P	**P**	**12 12 11.8 +0.4**
KLR			pmax	pmax	
	comp=Z,23nm,1.9s				
TYV	**Tymovskoe**	**54.08 357**	*e*P	P	12 12 26.8 +15
TYV			pmax	pmax	
	comp=Z,16nm,1.5s				
TYV			pmax	pmax	
	comp=Z,300nm,3.7s				
HHC	**Hu-ho-hao-te**	**54.58 327**	*e*P	**P**	**12 12 16.0 -0.1**
HHC			PP	**PP**	**12 14 16.8 -1.9**
HHC			S	**S**	**12 19 51.8 -3.0**
HHC			sS	sS	12 20 05.0 +1.1
HHC			SS	**SS**	**12 23 39.5 +1.6**
HHC			pmax	pmax	
	comp=Z,11nm,0.8s				
HHC			pmax	pmax	
	comp=Z,420nm,5.6s				
HHC			LR	LR	
	comp=Z,1μm,17.8s				
HHC			LR	LR	
	comp=Z,2μm,18.4s				
HHC			LR	LR	
	comp=Z,3μm,17.1s				
XLT	**XiLinHaoTe**	**54.59 333**	*e*P	**P**	**12 12 15.8 -0.3**
XLT			pP	pwP	12 12 22.8 +1.1
XLT			sP	sP	12 12 28.0 +4.2
XLT			S	**S**	**12 19 55.0 +0.2**
XLT			pmax	pmax	
	comp=Z,10.0nm,1.2s				
XLT			pmax	pmax	
	comp=Z,450nm,5.1s				
XLT			LR	LR	
	comp=Z,2μm,18.4s				
XLT			LR	LR	
	comp=Z,2μm,21.0s				
XLT			LR	LR	
	comp=Z,3μm,18.1s				
RAR	**Rarotonga**	**54.65 114**	LR	LR	12 32 34.1
	comp=Z,437nm,21.6s,baz=262,slow=33				
BTO	**Baotou**	**55.26 326**	*e*P	**P**	**12 12 22.5 +1.5**
LZH	**Lanzhou**	**56.21 318**	⇓P	**P**	**12 12 29.3 +1.3**
LZH			pP	pwP	12 12 41.3 +7.6
LZH			S	S	12 20 26.3 +9.3
LZH			SS	**SS**	**12 24 10.0 +6.1**
LZH			pmax	pmax	
	comp=Z,18nm,1.4s				
LZH			pmax	pmax	
	comp=Z,610nm,4.9s				
LZH			LR	LR	
	comp=Z,980nm,21.1s				
LZH			LR	LR	
	comp=Z,2μm,20.6s				
LZH			LR	LR	
	comp=Z,2μm,21.8s				
PETK	**Petropavlovsk-**	**56.91 8**	P	**P**	**12 12 33.1 +0.6**
	comp=Z,5.7nm,1.0s,baz=146,slow=8.2,SNR=1.9				
PETK			LR	LR	12 37 41.5
	comp=Z,295nm,18.2s,baz=186,slow=37				
HIA	**Hailar**	**57.45 339**	IAMs_20	IAMs_20	12 35 19.2
	comp=Z,2μm,20.0s				
ZEA	**Zeya**	**59.20 346**	*e*P	**P**	**12 12 48.5 +0.1**
ZEA			*e*S	**S**	**12 20 58.2 +3.1**
ZEA			pmax	pmax	
	comp=E,10.0nm,1.3s				
ZEA			pmax	pmax	
	comp=Z,10.0nm,1.6s				
ZEA			smax	smax	
	comp=E,200nm,8.6s				
SHEM	**Shemya Is, Ala**	**60.31 19**	LR	LR	12 33 11.4
	comp=E,872nm,22.0s,baz=170,slow=30				
GTA	**Gaotai**	**60.71 319**	⇑P	**P**	**12 12 59.8 +0.5**
GTA			pP	pwP	12 13 07.3 +2.2
GTA			sP	sP	12 13 10.5 +3.4
GTA			S	**S**	**12 21 20.8 +5.3**
GTA			SS	**SS**	**12 25 15.3 +0.8**
GTA			pmax	pmax	
	comp=E,5.0nm,1.4s				
GTA			pmax	pmax	
	comp=E,210nm,7.6s				
GTA			LR	LR	
	comp=E,530nm,19.5s				
GTA			LR	LR	
	comp=E,880nm,18.3s				
GTA			LR	LR	
	comp=E,1μm,18.3s				
ULN	**Ulaanbaatar**	**61.78 331**	⇓*i*P	**P**	**12 13 07.2 +0.8**
ULN			pmax	pmax	
	comp=Z,10.0nm,1.0s				
ULN	**Ulaanbaatar**	**61.78 331**	P	**P**	**12 13 06.2 -0.2**
ULN			IAmb	IAmb	12 13 28.1
	comp=Z,19nm,1.3s				
ULN	**Ulaanbaatar**	**61.78 331**	IAMs_20	IAMs_20	12 38 07.9
	comp=Z,2μm,21.0s				
SONM	**Songino Array**	**62.08 330**	P	**P**	**12 13 08.6 +0.2**
	comp=Z,3.9nm,1.0s,baz=146,slow=6.1,SNR=13				
SONM			LR	LR	12 38 41.3
	comp=Z,2μm,21.4s,baz=128,slow=35				
SONM	**Songino Array**	**62.08 330**	P	**P**	**12 13 05.8 -2.7**
SONM			pmax	pmax	
	comp=Z,11nm,1.3s				
SONM	**Songino Array**	**62.08 330**	P	**P**	**12 13 05.8 -2.7**
GOMU	**GeErMu**	**62.54 314**	P	**P**	**12 13 13.0 +1.0**
GOMU			pP	pwP	12 13 17.0 -3.1
GOMU			sP	sP	12 13 20.5 +0.7
GOMU			S	**S**	**12 21 43.0 +3.8**
GOMU			pmax	pmax	
	comp=Z,380nm,4.9s				
GOMU			LR	LR	
	comp=Z,490nm,18.6s				
GOMU			LR	LR	
	comp=Z,2μm,19.2s				
GOMU			LR	LR	
	comp=Z,2μm,19.8s				
MA2	**Magadan**	**62.75 2**	⇑*e*P	**P**	**12 13 12.2 -0.3**
MA2			pmax	pmax	
	comp=Z,13nm,1.8s				
PPT	**Papeete**	**63.66 108**	LR	LR	12 37 11.0
	comp=Z,631nm,20.1s,baz=265,slow=32				
PPT2	**Papeete2**	**63.66 108**	*e*S	S	12 21 43.9 -9.4
	comp=Z,1μm,24.5s				
PPT2			*e*LQ	LQ	12 29 24.0
	comp=Z,3μm,28.2s				
PPT2			*e*LR	LR	12 32 03.0
	comp=Z,1μm,27.2s				
ZAK	**Zakamensk**	**65.30 331**	*e*P	**P**	**12 13 29.3 -0.3**
ZAK			pmax	pmax	
	comp=Z,24nm,1.1s				
CHLP	**Challavanipeta**	**65.64 292**	*e*P	**P**	**12 13 30.6 -1.7**
SEY	**Seymchan**	**66.18 3**	LR	LR	12 45 44.7
	comp=Z,380nm,18.1s,baz=188,slow=39				
SEY	**Seymchan**	**66.18 3**	⇓*e*P	**P**	**12 13 35.0 +0.2**
GUN	**Gumba**	**66.44 302**	*e*P	**P**	**12 13 37.8 +0.1**
YAK	**Yakutsk**	**66.49 351**	LR	LR	12 41 19.3
	comp=Z,483nm,19.8s,baz=179,slow=35				
YAK	**Yakutsk**	**66.49 351**	*e*P	P	12 13 42.4 +5.5
YAK			*e**PP	pwP	12 13 50.9 +6.0
YAK			*e*		12 16 10.0
YAK			*e*PPP	PPP	12 17 39.4
YAK			*e*S	**S**	**12 22 30.4 +4.1**
YAK			*e**SS	SKSac	12 23 02.2 -30
YAK			*e*		12 23 35.2
YAK			*e*SS	**SS**	**12 26 47.6 +4.0**
YAK			pmax	pmax	
	comp=Z,18nm,1.4s				
YAK			pmax	pmax	
	comp=N,10.0nm,1.6s				
YAK			pmax	pmax	
	comp=E,5.0nm,1.4s				
YAK			pmax	pmax	
	comp=Z,66nm,3.0s				
YAK			pmax	pmax	
	comp=N,27nm,3.0s				
YAK			pmax	pmax	
	comp=E,22nm,2.7s				
YAK			smax	smax	
	comp=N,46nm,3.8s				
YAK			smax	smax	
	comp=E,94nm,3.5s				
PKI	**Pulchoki**	**66.74 302**	*e*P	**P**	**12 13 43.2 +3.6**
PKIN	**Phulchoki**	**66.75 302**	*e*P	**P**	**12 13 43.2 +3.6**
	comp=E,124nm,1.6s				
DMN	**Daman**	**67.01 302**	*e*P	**P**	**12 13 45.0 +3.8**
	comp=E,99nm,1.2s				
MOY	**Mondy**	**67.24 331**	*e*P	**P**	**12 13 42.4 +0.4**
MOY			pmax	pmax	
	comp=Z,53nm,2.9s				
KOLN	**Koldanda**	**68.33 301**	*e*P	**P**	**12 13 53.3 +3.8**
DANN	**Dangsing**	**68.36 302**	*e*P	**P**	**12 13 49.4 -0.4**
MYLAV	**Mylavaram**	**68.49 289**	*e*P	**P**	**12 13 50.2 -0.3**
MYLAV			*e*pP	**pP**	**12 13 53.2 -2.9**
SKHT	**Srikalahasti**	**68.86 286**	*e*P	**P**	**12 13 51.2 -1.6**
PYUN	**Piuthan**	**68.94 302**	*e*P	**P**	**12 13 55.1 +1.8**
	comp=Z,78nm,1.3s				
ADKI	**Addanki**	**68.96 288**	*e*P	**P**	**12 13 52.2 -1.2**
NJS	**Nagarjunasagar**	**69.71 289**	*e*P	**P**	**12 13 57.6 -0.4**
RCLA	**Racherla**	**69.86 288**	*e*P	**P**	**12 13 58.2 -0.7**
SRLM	**Srisailam**	**70.03 288**	*e*P	**P**	**12 13 59.1 -0.9**
RPR	**Rampur**	**70.13 291**	*e*P	**P**	**12 13 59.8 -0.8**
WMQ	**Urumqi**	**70.78 319**	*e*P	**P**	**12 14 04.5 +0.3**
WMQ			pP	sP	12 14 08.5 -3.5
WMQ			pmax	pmax	
	comp=Z,26nm,1.5s				
WMQ			pmax	pmax	
	comp=Z,360nm,3.7s				
WMQ			LR	LR	
	comp=Z,650nm,18.9s				
WMQ			LR	LR	
	comp=Z,1μm,28.9s				
WMQ			LR	LR	
	comp=Z,620nm,24.3s				
SRSP	**Sriramsagar**	**71.03 291**	*e*P	**P**	**12 14 04.1 -2.0**
URV	**Uravakonda**	**71.40 287**	*e*P	**P**	**12 14 06.8 -1.6**
BILL	**Bilibino**	**72.45 7**	⇑*e*P	**P**	**12 14 14.8 +1.2**
BILL			*e*		12 16 50.9
BILL			*i* S	**S**	**12 23 38.7 +2.4**
BILL			pmax	pmax	
	comp=Z,14nm,1.9s				
BILL			MLR	MLR	
	comp=Z,267nm,17.0s				
BILL	**Bilibino**	**72.45 7**	P	**P**	**12 14 11.2 -2.4**
BILL			IAmb	IAmb	12 14 28.6
	comp=Z,18nm,1.3s				
KLRI	**Killari**	**72.52 290**	*e*P	**P**	**12 14 13.2 -1.9**
TAOE	**Nuku Hiva Isla**	**72.53 98**	*e*LQ	LQ	12 33 12.2
	comp=Z,1μm,23.4s				
TAOE			*e*LR	LR	12 36 01.6
	comp=Z,822nm,22.3s				
DGZ	**Jazzator, Alta**	**73.47 324**	⇑*e*P	**P**	**12 14 20.0 -0.2**
DGZ			pmax	pmax	
	comp=Z,11nm,1.1s				
VNDA	**Vanda**	**74.59 177**	P	**P**	**12 14 25.2 -0.8**
	comp=Z,2.8nm,0.9s,baz=347,slow=21,SNR=1.3				
VNDA			LR	LR	12 45 10.2
	comp=Z,846nm,19.4s,baz=351,slow=34				
VNDA	**Vanda**	**74.59 177**	P	**P**	**12 14 25.7 -0.4**
VNDA			pmax	pmax	
	comp=Z,24nm,1.3s				
VNDA	**Vanda**	**74.59 177**	P	**P**	**12 14 25.7 -0.4**
VNDA			IAmb	IAmb	12 14 50.1
	comp=Z,24nm,1.3s				
MK31	**Makanchi Array**	**75.45 320**	⇑*e*P	**P**	**12 14 31.4 -0.3**
MK31	**Makanchi Array**	**75.45 320**	P	**P**	**12 14 31.5 -0.1**
MKAR	**Makanchi Array**	**75.45 320**	P	**P**	**12 14 31.7 0.0**
	comp=Z,5.2nm,1.1s,baz=102,slow=6.4,SNR=16				
MKAR			LR	LR	12 47 22.5
	comp=Z,1μm,19.8s,baz=89,slow=36				
MKAR	**Makanchi Array**	**75.45 320**	P	**P**	**12 14 30.6 -1.1**
MKAR	**Makanchi Array**	**75.45 320**	P	**P**	**12 14 30.6 -1.1**
MAKZ	**Makanchi**	**75.66 320**	P	**P**	**12 14 32.8 -0.1**
MAKZ			pmax	pmax	
	comp=Z,32nm,1.5s				
MAKZ			MLR	MLR	
	comp=Z,2μm,19.0s				
MAKZ	**Makanchi**	**75.66 320**	P	**P**	**12 14 32.8 -0.1**
MAKZ			IAmb	IAmb	12 14 40.2
	comp=Z,32nm,1.5s				
MAKZ			IAMs_20	IAMs_20	12 47 06.9
	comp=Z,2μm,19.0s				
TIXI	**Tiksi**	**75.74 354**	LR	LR	12 47 40.7
	comp=Z,279nm,21.4s,baz=186,slow=36				
TIXI	**Tiksi**	**75.74 354**	⇑*e*P	**P**	**12 14 35.3 +2.5**
TIXI			pmax	pmax	
	comp=Z,8.0nm,1.4s				
ANM	**Nome**	**76.16 19**	P	P	12 14 39.6 +4.3
	baz=230				
UZB	**Uzynbulak**	**76.43 316**	*e*P	**P**	**12 14 36.5 -1.0**
UZB			pmax	pmax	
	comp=Z,8.0nm,0.8s				
UZB	**Uzynbulak**	**76.43 316**	*e*P	**P**	**12 14 36.5 -1.0**
	comp=Z,8.2nm,0.8s,baz=316				
ZAA0	**Zalesovo Array**	**76.76 328**	P	**P**	**12 14 38.0 -0.9**
ZALV	**Zalesovo Beam**	**76.76 328**	P	**P**	**12 14 37.8 -1.1**
	comp=Z,2.1nm,0.8s,baz=100,slow=5.0,SNR=9.0				
ZALV			LR	LR	12 46 46.5
	comp=Z,1μm,21.8s,baz=115,slow=34				
SATY	**Saty**	**76.83 315**	*e*P	**P**	**12 14 39.1 -0.6**
SATY	**Saty**	**76.83 315**	*e*P	**P**	**12 14 39.2 -0.6**
	baz=316				
TARG	**Taragay, Kyrgy**	**76.87 314**	P	**P**	**12 14 37.7 -2.6**
TARG			IAmb	IAmb	12 14 56.0
	comp=Z,17nm,1.1s				
P18K	**Big Mountain,**	**77.08 26**	IAMs_20	IAMs_20	12 42 38.4
	comp=Z,1μm,21.0s				
TDK	**Taldyqorghan**	**77.42 317**	*e*P	**P**	**12 14 42.6 -0.2**
TDK			pmax	pmax	
	comp=Z,9.0nm,0.8s				
TDK	**Taldyqorghan**	**77.42 317**	*e*P	**P**	**12 14 42.6 -0.2**
	comp=Z,9.1nm,0.8s,baz=317				
KDAK	**Kodiak Island**	**77.52 28**	LR	LR	12 43 00.9
	comp=Z,909nm,21.6s,baz=260,slow=31				
KSH	**Kashi**	**77.62 311**	P	**P**	**12 14 46.0 +1.8**
KSH			pP	PcP	12 14 55.0 +0.6
KSH			sS	sS	12 24 48.0 +3.2
KSH			SS	**SS**	**12 29 40.0 +4.8**
KSH			pmax	pmax	
	comp=Z,4.0nm,1.2s				
KSH			LR	LR	
	comp=Z,630nm,19.6s				
KSH			LR	LR	
	comp=Z,1μm,19.9s				
KSH			LR	LR	
	comp=Z,1μm,19.2s				
MDOK	**Medeo**	**77.81 315**	*e*P	**P**	**12 14 44.7 -0.6**
MDOK	**Medeo**	**77.81 315**	*e*P	**P**	**12 14 44.8 -0.6**
	baz=315				
TNSS	**Tian-Shan**	**77.85 315**	*i* P	**P**	**12 14 42.6 -3.2**
	baz=315				
O19K	**Port Alsworth**	**77.88 26**	IAMs_20	IAMs_20	12 44 28.5
	comp=Z,1μm,20.0s				
N19K	**Bonanza Creek**	**78.11 25**	IAMs_20	IAMs_20	12 44 49.6
	comp=Z,1μm,18.0s				
NIL	**Nilore**	**78.40 305**	P	**P**	**12 14 47.0 -1.6**
NIL			pmax	pmax	
	comp=Z,25nm,1.1s				
NIL			MLR	MLR	
	comp=Z,900nm,21.0s				
NIL	**Nilore**	**78.40 305**	P	**P**	**12 14 47.0 -1.6**
NIL			IAmb	IAmb	12 14 55.7
	comp=Z,25nm,1.1s				
KUU	**Kurty**	**78.51 316**	*e*P	**P**	**12 14 48.4 -0.6**
KUU			pmax	pmax	
	comp=Z,32nm,1.3s				
KUU	**Kurty**	**78.51 316**	*e*P	**P**	**12 14 48.4 -0.6**
	comp=Z,32nm,1.3s,baz=316				
L19K	**White Mountain**	**78.64 24**	P	**P**	**12 14 49.3 0.0**
L19K			IAmb	IAmb	12 15 17.3
	comp=Z,32nm,1.4s				
L19K			IAMs_20	IAMs_20	12 46 52.5
	comp=Z,2μm,20.0s				
M19K	**Big River Lodg**	**78.69 24**	IAMs_20	IAMs_20	12 45 39.8
	comp=Z,2μm,21.0s				
KURK	**Kurchatov**	**79.08 323**	⇓*i*P	**P**	**12 14 51.6 -0.3**
KURK			pmax	pmax	
	comp=Z,24nm,1.7s				
KURK	**Kurchatov**	**79.08 323**	P	**P**	**12 14 51.4 -0.5**
KURK			IAmb	IAmb	12 15 06.0
	comp=Z,18nm,1.1s				
KURK			IAMs_20	IAMs_20	12 48 32.2
	comp=Z,1μm,20.0s				
KURBB	**Kurchatov Arra**	**79.11 323**	LR	LR	12 48 53.6
	comp=Z,1μm,21.1s,baz=79,slow=35				
AAK	**Ala-Archa**	**79.48 314**	P	**P**	**12 14 54.6 +0.1**
	comp=Z,4.3nm,0.9s,baz=144,slow=5.5,SNR=7.9				
AAK			LR	LR	12 49 42.2
	comp=Z,2μm,21.6s,baz=100,slow=35				
AAK	**Ala-Archa**	**79.48 314**	⇓*e*P	**P**	**12 14 55.2 +0.7**
AAK			pmax	pmax	
	comp=Z,17nm,1.7s				
AAK	**Ala-Archa**	**79.48 314**	P	**P**	**12 14 53.0 -1.5**
SGDS	**Sogindy**	**79.59 315**	*e*P	**P**	**12 14 54.3 -0.6**
	baz=315				
J20K	**Nowinta River**	**79.92 22**	P	**P**	**12 14 58.4 +2.2**
	baz=240				
CAST	**Castle Rocks**	**80.36 23**	P	**P**	**12 14 59.7 +1.1**
	baz=242				
BTLS	**Baital**	**80.40 317**	*e*P	**P**	**12 14 58.6 -0.5**
BTLS	**Baital**	**80.40 317**	*e*P	**P**	**12 14 58.7 -0.5**
	baz=317				
M22K	**Willow**	**80.42 25**	IAMs_20	IAMs_20	12 44 36.5
	comp=Z,948nm,21.0s				
CHUM	**Lake Minchumin**	**80.48 23**	P	**P**	**12 15 00.4 +1.2**
	baz=242				
IMAR	**Indian Mountai**	**80.97 21**	P	**P**	**12 15 00.8 -1.0**
H21K	**Melozitna Rive**	**81.15 21**	P	**P**	**12 15 03.7 +1.0**
	baz=241				
SML	**Sawmill**	**81.21 26**	P	**P**	**12 15 03.9 +0.6**
	baz=246				
I21K	**Tanana**	**81.22 22**	P	**P**	**12 15 04.4 +1.3**
	baz=242				
MLY	**Manley**	**81.62 22**	P	**P**	**12 15 05.8 +0.5**
	baz=243				
MCK	**McKinley**	**81.76 24**	P	**P**	**12 15 05.8 -0.3**
MCK			pmax	pmax	
	comp=Z,37nm,1.4s				
MCK	**McKinley**	**81.76 24**	P	**P**	**12 15 05.8 -0.3**
GAR	**Garm**	**81.78 310**	P	**P**	**12 15 06.0 -0.9**
GAR			IAmb	IAmb	12 15 24.7
	comp=Z,32nm,1.4s				
NEA2	**Nenana**	**82.07 23**	P	**P**	**12 15 08.1 +0.4**
	baz=245				
I23K	**Minto, Yukon-K**	**82.20 22**	IAMs_20	IAMs_20	12 46 15.3
	comp=Z,1μm,20.0s				
KKAR	**Karatay Array**	**82.44 314**	P	**P**	**12 15 09.2 -0.9**
KKAR	**Karatay Array**	**82.44 314**	P	**P**	**12 15 09.2 -0.9**
BRZS	**Berezniki**	**82.52 321**	*e*P	**P**	**12 15 10.7 +0.4**
BRZS	**Berezniki**	**82.52 321**	*e*P	**P**	**12 15 10.7 +0.4**
	baz=321				
IUG	**Iuzhnay**	**82.60 313**	*e*P	**P**	**12 15 11.3 +0.3**
IUG	**Iuzhnay**	**82.60 313**	*e*P	**P**	**12 15 11.4 +0.3**
	baz=313				
COLA	**College**	**82.67 23**	⇓*e*P	**P**	**12 15 10.0 -0.7**
COLA			pmax	pmax	
	comp=Z,9.0nm,1.0s				
COLA	**College**	**82.67 23**	IAMs_20	IAMs_20	12 50 41.6
	comp=Z,2μm,20.0s				
NRIK	**Noril'sk**	**82.73 342**	P	**P**	**12 15 10.8 -0.2**
	comp=Z,12nm,0.9s,baz=104,slow=5.8,SNR=9.7				
NRIK			LR	LR	12 50 05.5
	comp=Z,494nm,21.7s,baz=127,slow=34				
NRIK	**Noril'sk**	**82.73 342**	*de*P	**P**	**12 15 11.1 +0.1**
NRIK			pmax	pmax	
	comp=Z,20nm,1.1s				
NRIK	**Noril'sk**	**82.73 342**	P	**P**	**12 15 11.0 0.0**
NRIK			IAmb	IAmb	12 15 17.8
	comp=Z,24nm,1.2s				
COLD	**Coldfoot**	**82.81 20**	P	**P**	**12 15 11.0 -0.4**
COLD			IAmb	IAmb	12 15 19.3
	comp=Z,11nm,1.1s				
COLD	**Coldfoot**	**82.81 20**	P	**P**	**12 15 12.8 +1.3**
	baz=244				
A21K	**Barrow**	**82.87 16**	P	**P**	**12 15 11.1 -0.5**
A21K	**Barrow**	**82.87 16**	P	**P**	**12 15 13.0 +1.4**
	baz=237				
BRLS	**Borolday**	**82.91 314**	*e*P	**P**	**12 15 12.3 -0.2**
BRLS	**Borolday**	**82.91 314**	*e*P	**P**	**12 15 12.3 -0.2**
	baz=314				
IL31		**83.00 23**	P	**P**	**12 15 11.6 -0.8**

IL31 IAmb IAmb 12 15 26.7
comp=Z,9.0nm,0.9s
ILAR Eielson Array 83.00 23 P **P 12 15 11.6 -0.9**
comp=Z,5.4nm,0.8s,baz=255,slow=5.0,SNR=22
ILAR LR LR 12 50 54.7
comp=Z,446nm,18.7s,baz=258,slow=35
TOLK Toolik Lake Re 83.65 19 IAMs_20 IAMs_20 12 50 24.4
comp=Z,1μm,20.0s
DOT Dot Lake 83.73 25 P **P 12 15 16.1 -0.3**
DOT IAmb IAmb 12 15 36.6
comp=Z,14nm,1.1s
M27K Edge Creek, AK 84.24 26 P **P 12 15 20.3 +1.3**
baz=252
BRVK Borovoye 84.69 324⇑ *eP* **P 12 15 21.9 +0.5**
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK Borovoye 84.69 324 P **P 12 15 21.0 -0.3**
BRVK IAmb IAmb 12 15 26.4
comp=Z,19nm,1.3s
YUK3 Moose Creek 84.70 27 P **P 12 15 25.1 +3.6**
baz=253
MAW Mawson 84.74 203 LR LR 12 52 51.5
comp=Z,458nm,18.0s,baz=73,slow=36
BMAR Burnt Mountain 84.88 21 P **P 12 15 20.9 -1.2**
EGAK Eagle 85.30 24 P P 12 15 29.2 +5.0
baz=252
DAWY Dawson 85.83 25 P **P 12 15 27.6 +0.7**
baz=254
I29M Ogilvie Camp, 86.63 24 P **P 12 15 30.5 -0.3**
I29M IAmb IAmb 12 15 52.0
comp=Z,21nm,1.3s
QSPA South Pole Qui 86.65 180 LR LR 12 55 03.7
comp=Z,908nm,18.2s,baz=4.0,slow=36
QSPA South Pole Qui 86.65 180 P **P 12 15 31.4 +0.4**
EPYK Eagle Plains 87.52 23 P **P 12 15 36.3 +1.2**
baz=256
HRA Herat 87.54 304 P **P 12 15 35.4 -0.8**
DLBC Dease Lake 89.09 31 LR LR 12 47 44.2
comp=Z,1μm,21.9s,baz=296,slow=30
INK Inuvik 89.14 21 LR LR 12 51 05.2
comp=Z,1μm,21.8s,baz=246,slow=32
BBB Bella Bella 89.42 38 LR LR 12 48 10.7
comp=Z,2μm,20.7s,baz=268,slow=30
WSAR Wadi Sarin 89.82 293 LR LR 13 00 40.2
comp=Z,128nm,18.5s,baz=112,slow=39
ABKAR Abkulak array 90.57 319 P **P 12 15 48.5 -1.2**
ABKAR Abkulak array 90.57 319 P **P 12 15 48.4 -1.4**
ABKAR IAmb IAmb 12 15 54.2
comp=Z,13nm,1.4s
GEYT Alibeck 91.15 308 LR LR 12 58 51.0
comp=Z,1μm,20.5s,baz=102,slow=37
ARU Arti 91.87 326 LR LR 12 56 42.9
comp=Z,1μm,21.8s,baz=87,slow=35
ARU Arti 91.87 326 *c iP* **P 12 15 56.4 +0.7**
ARU 12 19 35.9
ARU S **SKSac 12 26 27.9 +0.3**
ARU SS **SS 12 33 01.6 -2.6**
ARU pmax pmax
comp=Z,10.0nm,1.5s
ARU MLR MLR
comp=Z,1μm,17.0s
AKTO Aktyubinsk 91.89 320 LR LR 12 57 07.9
comp=Z,1μm,20.4s,baz=85,slow=36
YBH Yreka Blue Hor 92.36 49 LR LR 12 48 39.6
comp=Z,2μm,21.9s,baz=300,slow=30
E04D Cinebar 92.65 44 IAMs_20 IAMs_20 12 51 09.1
comp=Z,989nm,20.0s
NVAR Mina Array Bea 95.69 52 LR LR 12 52 01.9
comp=Z,1μm,20.6s,baz=272,slow=31
NEW Newport 96.34 42 LR LR 12 53 07.6
comp=Z,624nm,19.9s,baz=278,slow=31
KIRV Kirov 96.78 328 LR LR 13 00 31.0
comp=Z,2μm,20.4s,baz=90,slow=36
YKA Yellowknife Ar 96.78 28 P **P 12 16 18.1 +0.1**
comp=Z,2.6nm,0.8s,baz=274,slow=4.6,SNR=30
YKA LR LR 12 57 51.4
comp=Z,817nm,20.0s,baz=282,slow=34
YKA Yellowknife Ar 96.78 28 *i P* **P 12 16 19.0 +1.0**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 96.78 28 P **P 12 16 16.8 -1.2**
PFO Pinyon Flats O 97.23 57 LR LR 12 52 00.5
comp=Z,1μm,20.8s,baz=284,slow=30
ELK Elko 98.00 49 LR LR 12 58 06.0
comp=Z,651nm,18.1s,baz=268,slow=34
KIV Kislovodsk 102.60 314 *eP* **Pdif 12 16 42.9 -1.7**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,486nm,20.0s
UNM Universidad Na 113.52 70 IAMs_20 IAMs_20 13 00 48.8
comp=Z,904nm,20.0s
CLL Collm 118.69 329 *e*PKPdf **PKiKP 12 21 36.0 +0.3**
CLL Lm MLR 13 13 00.0
comp=N,1μm,21.1s
CLL Lm MLR 13 13 00.0
comp=E,900nm,21.8s
CLL Lm MLR 13 13 00.0
comp=Z,1μm,21.1s
PETF Flores 122.58 72 **PKPdf 12 21 42.4 -1.8**
TGUH Tegucigalpa,Un 125.39 75 IAMs_20 IAMs_20 13 11 35.9
comp=Z,655nm,20.0s
JTS Las Juntas de 127.97 80 IAMs_20 IAMs_20 13 09 06.0
comp=Z,674nm,18.0s
PEL Peldehue 129.16 139 IAMs_20 IAMs_20 13 06 36.8
comp=Z,746nm,21.0s
LPAZ La Paz 140.17 120 PKP **PKPdf 12 22 17.2 -0.9**
comp=Z,3.1nm,1.1s,baz=316,slow=1.4,SNR=5.2
SDV Santo Domingo 142.16 80 PKP **PKPdf 12 22 21.5 +0.3**
comp=Z,3.3nm,0.7s,baz=119,slow=5.6,SNR=6.6
SDV Santo Domingo 142.16 80 IAMs_20 IAMs_20 13 20 00.0
comp=Z,420nm,21.0s
CPUP Villa Florida 142.28 143 PKP **PKPdf 12 22 20.3 -0.6**
comp=Z,2.1nm,0.9s,baz=347,slow=6.1,SNR=2.7
SJG San Juan 144.33 63 IAMs_20 IAMs_20 13 31 47.7
comp=Z,484nm,20.0s
TORD Torodi Ar. Bea 144.37 288 PKP **PKPab 12 22 22.6 -0.4**
comp=Z,4.8nm,1.0s,baz=54,slow=3.4,SNR=14
SIV San Ignacio 146.24 125 PKPbc **PKPdf 12 22 28.6 +0.6**
comp=Z,9.6nm,0.8s,baz=217,slow=2.5,SNR=36
AQDB Aquidauana 147.51 138 **PKPdf 12 22 30.2 +0.1**
VILB Vilhena 148.50 121 PKPdf **PKPdf 12 22 29.4 -2.5**
VILB **PKPbc 12 22 34.5 -0.9**
DBIC Dimbokro 151.80 278 PKPbc **PKPbc 12 22 43.1 -0.4**
comp=Z,15nm,1.0s,baz=116,slow=3.4,SNR=7.1
DBIC Dimbokro 151.80 278 PKIKP **PKPbc 12 22 43.3 -0.1**
DBIC Dimbokro 151.80 278 PKPdf **PKPdf 12 22 32.6 -4.5**
DBIC **PKPbc 12 22 43.3 -0.1**
PTGA Pitinga 152.72 98 PKPbc **PKPbc 12 22 45.4 -0.1**
comp=Z,5.0nm,0.8s,baz=244,slow=6.5,SNR=7.0

IDC 30 12:11:18.2±1.4, 55°.55S×27°.75W, h0km, mb4.3/2, mb1 4.5/2, mb1mx3.6/28, mbtmp4.3/2, Error ellipse: s-maj=107.9km s-min=35.5km az=88.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.71 180**		P	P	12 18 09.6	+0.1
	2.7nm,0.4s,baz=27,slow=1.3,SNR=19						
VNDA	**Vanda**	**47.06 183**		P	P	12 19 50.4	-0.4
	3.0nm,0.8s,baz=184,slow=7.0,SNR=1.6						
YKA	**Yellowknife Ar**	**135.58 319**		PKP	PKPdf	12 30 38.0	-0.8
	0.2nm,0.5s,baz=130,slow=2.4,SNR=12						
ILAR	**Eielson Array**	**149.54 312**		PKPbc	PKPbc	12 31 07.6	-0.3
	0.4nm,0.6s,baz=121,slow=3.3,SNR=6.4						
SONM	**Songino Array**	**151.01 86**		PKPbc	PKPbc	12 31 11.8	-0.3
	0.3nm,0.4s,baz=228,slow=4.0,SNR=4.7						

*CNRM **30** 12:17:46.4, 35°.61N×3°.72W, h21km, ml2.8*
*SFS **30** 12:17:46.0, 35°.57N×3°.84W, ML2.7, ALBORAN SUR*
ISC 30 12:17:44.9±1.6, 35°.59N±0°.03×3°.71W±0°.03, h9km±13km, n14, σ1§31/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.42 207**		P	**Pb**	**12 17 55.0**	**+0.4**
PALE				S	**Sb**	**12 18 01.1**	**0.0**
CHAS	**Isla Isabel II**	**1.12 111**		P	**Pn**	**12 18 06.9**	**0.0**
CHAS				S	**Sb**	**12 18 21.5**	**+0.3**
EMAL	**Malaga-Limoner**	**1.30 334**		P	**Pb**	**12 18 09.7**	**+0.1**
EMAL				S	**Sb**	**12 18 25.8**	**-0.7**
TAF	**Taforalt**	**1.32 126**		P	**Pn**	**12 18 09.8**	**+0.2**
TAF				S	**Sb**	**12 18 27.4**	**+0.5**
SMIR	**Smir Dam**	**1.36 274**		P	**Pn**	**12 18 09.8**	**-0.4**
SMIR				S	**Sb**	**12 18 27.4**	**-0.8**
CHEFC	**Chefchaouen**	**1.42 250**		P	**Pg**	**12 18 12.0**	**-0.1**
CHEFC				S	**Sg**	**12 18 30.5**	**-0.1**
JBK	**JBK**	**1.57 143**		P	**Pn**	**12 18 13.7**	**+0.5**
JBK				S	**Sn**	**12 18 32.7**	**-1.0**
IFR	**Ifrane**	**2.38 210**		P	**Pb**	**12 18 27.1**	**-1.0**
IFR				S	**Sn**	**12 18 53.9**	**+0.1**
MD31	**MD31**	**2.86 198**		P	**Pn**	**12 18 32.2**	**+1.4**
MD31				S	**Sn**	**12 19 06.3**	**+1.0**
MDT	**Midelt**	**2.87 195**		P	**Pn**	**12 18 32.6**	**+1.6**
MDT				S	**Sb**	**12 19 08.3**	**-3.4**
CART	**Cartagena**	**2.95 47**		P	**Pn**	**12 18 33.9**	**+1.9**
CART				S	**Sn**	**12 19 05.8**	**-1.8**
ZHG	**ZHG**	**3.23 229**		P	**Pn**	**12 18 36.7**	**+0.7**
ZHG				S	**Sn**	**12 19 17.0**	**+2.3**
PVAQ	**Vaqueiros**	**3.70 300**		P	**Pn**	**12 18 43.7**	**+1.4**
PVAQ				S	**Sn**	**12 19 25.1**	**-0.9**
EVO	**Evora**	**4.52 312**		P	**Pn**	**12 18 55.4**	**+1.8**
EVO				S	**Sn**	**12 19 45.0**	**-1.3**

*IDC **30** 12:26:43.0±6.1, 18°.90N×145°.33E, h301km±63km, mb3.2/11, mb1 3.6/13, mb1mx3.2/46, mbtmp4.1/13, Error ellipse: s-maj=29.7km s-min=12.7km az=93.0*
*NEIC **30** 12:26:47.4±2.0, 18°.9N±0°.1×145°.4E±0°.2, h343km±9km, mb4.0/22, Error ellipse: s-maj=22.4km s-min=15.3km az=92.0*
ISC 30 12:26:34.0±0.6, 18°.82N±0°.08×145°.5E±0°.1, h214km, n44, σ1§43/44, mb3.9/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**15.12 341**		P	**P**	**12 30 01.8**	**+4.4**
	14nm,0.3s,baz=73,slow=23,SNR=1.8						
JOW	**Kunigami**	**17.73 300**		P	**Pn**	**12 30 29.1**	**+0.9**
	3.9nm,0.3s,baz=119,slow=14,SNR=7.7						
JOW	**Kunigami**	**17.73 300**		P	**Pn**	**12 30 29.4**	**+1.2**
JMM	**Marumori**	**19.41 349**		P	**Pn**	**12 30 46.4**	**-1.5**
JMM				IAmb	IAmb	12 30 51.4	
	comp=Z,20nm,1.2s						
KLR	**Kul'dur**	**32.29 343**		P	**P**	**12 32 41.2**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=163,slow=11,SNR=1.9						
MTN	**Manton Dam**	**34.49 205**		P	**P**	**12 33 04.4**	**+2.4**
KNRA	**Kununurra**	**38.02 207**		P	**P**	**12 33 34.2**	**+2.4**
WB0	**Warramunga Arr**	**39.86 196**		P	**P**	**12 33 48.2**	**+1.2**
WB0				IAmb	IAmb	12 33 49.8	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**40.00 196**		P	**P**	**12 33 49.0**	**+0.7**
WRAB	**Tennant Creek**	**40.03 196**		P	**P**	**12 33 50.0**	**+1.6**
WB2	**Warramunga Arr**	**40.04 196**		P	**P**	**12 33 50.1**	**+1.6**
WB2				IAmb	IAmb	12 33 59.6	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**40.04 196**		P	**P**	**12 33 49.6**	**+1.1**
	comp=Z,2.7nm,0.6s,baz=19,slow=8.9,SNR=45						
WRA	**Warramunga Arr**	**40.04 196**		P	**P**	**12 33 49.7**	**+1.1**
SONM	**Songino Array**	**42.91 321**		P	**P**	**12 34 11.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=122,slow=8.3,SNR=2.4						
AS31	**Alice Springs**	**43.71 195**		P	**P**	**12 34 19.4**	**+1.1**
ASAR	**Alice Springs**	**43.71 195**		P	**P**	**12 34 19.1**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=14,slow=6.1,SNR=24						
ASAR	**Alice Springs**	**43.71 195**		P	**P**	**12 34 19.4**	**+1.2**
DZM	**Mont Dzumac**	**45.53 152**		P	**P**	**12 34 33.1**	**+0.5**
DZM				IAmb	IAmb	12 34 49.0	
	comp=Z,9.2nm,1.4s						
MORW	**Morawa**	**55.44 211**		P	**P**	**12 35 46.4**	**-0.2**
MORW				IAmb	IAmb	12 36 01.9	
	comp=Z,16nm,1.4s						
MKAR	**Makanchi Array**	**58.22 314**		P	**P**	**12 36 05.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=84,slow=11,SNR=5.9						
PPLA	**Purkeypile**	**60.89 28**		P	**P**	**12 36 25.1**	**+1.0**
PPLA				IAmb	IAmb	12 36 42.2	
	comp=Z,14nm,1.5s						
IMAR	**Indian Mountai**	**61.20 24**		P	**P**	**12 36 27.5**	**+1.6**
A21K	**Barrow**	**62.25 18**		P	**P**	**12 36 33.5**	**+0.8**
A21K				IAmb	IAmb	12 36 35.1	
	comp=Z,4.0nm,1.1s						
I23K	**Minto, Yukon-K**	**62.70 26**		P	**P**	**12 36 36.6**	**+0.8**
I23K				IAmb	IAmb	12 36 48.5	
	comp=Z,3.6nm,1.4s						
TOLK	**Toolik Lake Re**	**63.56 22**		P	**P**	**12 36 42.8**	**+1.3**
IL31		**63.63 26**		P	**P**	**12 36 41.4**	**-0.5**
IL31				IAmb	IAmb	12 36 54.6	
	comp=Z,3.2nm,1.4s						
ILAR	**Eielson Array**	**63.63 26**		P	**P**	**12 36 41.0**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=252,slow=5.3,SNR=17						
ILAR	**Eielson Array**	**63.63 26**		P	**P**	**12 36 41.2**	**-0.8**
BKZ	**Black Stump Fm**	**64.58 154**		P	**P**	**12 36 48.5**	**0.0**
DOT	**Dot Lake**	**64.64 28**		P	**P**	**12 36 49.0**	**+0.4**
DOT				IAmb	IAmb	12 36 49.9	
	comp=Z,1.6nm,0.7s						
BMAR	**Burnt Mountain**	**65.09 24**		P	**P**	**12 36 53.1**	**+1.7**
BCAR	**Beaver Creek A**	**65.58 29**		P	**P**	**12 36 55.2**	**+0.6**
INK	**Inuvik**	**69.34 23**		P	**P**	**12 37 18.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=298,slow=9.3,SNR=6.5						
ABKAR	**Abkulak array**	**73.10 317**		P	**P**	**12 37 40.1**	**-0.9**
YKA	**Yellowknife Ar**	**77.98 28**		P	**P**	**12 38 08.5**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=289,slow=5.4,SNR=28						
YKA	**Yellowknife Ar**	**77.98 28**		P	**P**	**12 38 08.0**	**-0.4**
B08A	**Colville Reser**	**79.53 42**		P	**P**	**12 38 17.7**	**+0.6**
B08A				IAmb	IAmb	12 38 44.2	
	comp=Z,2.4nm,1.1s						
K05A	**Summer Lake**	**80.07 48**		P	**P**	**12 38 21.7**	**+1.3**
K05A				IAmb	IAmb	12 38 27.3	
	comp=Z,5.6nm,1.2s						
NVAR	**Mina Array Bea**	**83.24 52**		P	**P**	**12 38 38.3**	**+1.2**
	comp=Z,2.3nm,0.6s,baz=272,slow=5.4,SNR=8.6						
FINES	**FINESS Array B**	**86.68 335**		P	**P**	**12 38 51.6**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=62,slow=4.9,SNR=8.2						
FINES	**FINESS Array B**	**86.68 335**		P	**P**	**12 38 50.9**	**-2.5**
PDAR	**Pinedale Array**	**87.89 45**		P	**P**	**12 39 00.0**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=222,slow=1.2,SNR=2.0						
PDAR	**Pinedale Array**	**87.89 45**		P	**P**	**12 38 59.8**	**-0.1**
VNDA	**Vanda**	**96.62 176**		P	**P**	**12 39 36.2**	**-2.7**

*SOME **30** 12:30:58.7, 43°.63N×69°.70E*
*NNC **30** 12:30:59.8±1.8, 43°.66N×69°.83E, h0km, mb3.6, mpv2.9, Error ellipse: s-maj=12.5km s-min=4.2km az=137.0, Suspected Mining explosion.*
ISC 30 12:30:59.0±2.5, 43°.7N±0°.1×70°.0E±0°.1, h0km, n10, σ1§00/13, 3C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.68 189**		P	**Pn**	**12 31 15.7**	**-0.2**
	0.9nm,0.3s						
BRLS				S	**Sn**	**12 31 28.1**	**+0.9**
	7.7nm,0.6s						
KK09	**Karatay Array**	**0.69 147**		⇑P	**Pb**	**12 31 13.6**	**-0.3**
	1.3nm,0.6s,baz=321,slow=17						
KK09				⇓S	**Sb**	**12 31 24.3**	**+0.3**
	12nm,0.6s,baz=321,slow=33						
IUG	**Iuzhnay**	**1.55 179**		P	**Pn**	**12 31 27.7**	**-0.3**
	115nm,0.6s						
IUG				S	**Sg**	**12 31 48.4**	**-0.5**
	31nm,0.6s						
MRKS	**Merke**	**2.56 111**		Pg	**Pg**	**12 31 49.9**	**+1.8**
	3.5nm,0.7s						
MRKS				Lg	Lg	12 32 26.6	
	6.2nm,0.5s						
AAK	**Ala-Archa**	**3.47 106**		Pg	**Pg**	**12 32 05.1**	**-0.4**
	3.1nm,0.7s						
AAK				Lg	Lg	12 32 53.4	
	8.8nm,0.8s						
KRBS	**Karabastau**	**4.13 88**		Pg	**Pg**	**12 32 18.3**	**+0.1**
	2.3nm,0.7s						
KRBS				Lg	Lg	12 33 16.0	
	5.0nm,0.5s						
TKM2	**Tokmak 2**	**4.17 99**		⇑Pg	**Pg**	**12 32 17.5**	**-1.5**
	4.3nm,0.9s						
TKM2				⇑Lg	Lg	12 33 16.3	
	11nm,0.9s						
KUU	**Kurty**	**4.61 85**		Pg	**Pg**	**12 32 27.2**	**-0.1**
	1.9nm,0.5s						
KUU				Lg	Lg	12 33 30.9	
	4.0nm,0.4s						
KTBS	**Karatobe**	**4.86 88**		Pg	**Pg**	**12 32 31.4**	**-0.7**
	1.6nm,0.7s						
KTBS				Lg	Lg	12 33 38.1	
	6.0nm,0.8s						
ARXS	**Arharly**	**5.69 82**		Pg	**Pg**	**12 32 49.5**	**+1.5**
	1.2nm,0.3s						

*SFS **30** 12:35:00.0, 35°.60N×3°.82W, ML2.1, ALBORAN SUR*
*CNRM **30** 12:35:02.8, 35°.49N×3°.83W, h43km, ml2.3*
ISC 30 12:34:58.9±1.8, 35°.66N±0°.05×3°.73W±0°.04, h15km±13km, n10, σ1§49/17, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.48 202**		P	**Pb**	**12 35 10.1**	**+1.1**
PALE				S	**Sb**	**12 35 17.6**	**+1.7**
CHAS	**Isla Isabel II**	**1.16 114**		P	**Pn**	**12 35 20.6**	**-0.1**
CHAS				S	**Sb**	**12 35 33.8**	**-1.7**
EMAL	**Malaga-Limoner**	**1.24 333**		P	**Pn**	**12 35 22.6**	**+0.9**
EMAL				S	**Sb**	**12 35 38.1**	**+0.4**
SMIR	**Smir Dam**	**1.35 271**		P	**Pn**	**12 35 23.4**	**+0.2**
SMIR				S	**Sn**	**12 35 40.9**	**+0.1**
CEU	**Ceuta**	**1.36 280**		S	**Sb**	**12 35 38.1**	**-3.2**
CEU	**Ceuta**	**1.36 280**		P	**Pn**	**12 35 22.3**	**-1.1**
CHEFC	**Chefchaouen**	**1.43 248**		P	**Pg**	**12 35 26.6**	**+0.2**
CHEFC				S	**Sg**	**12 35 43.5**	**-1.5**
JBK	**JBK**	**1.63 144**		P	**Pn**	**12 35 27.4**	**+0.1**
JBK				S	**Sn**	**12 35 47.6**	**-0.5**
ZHG	**ZHG**	**3.27 228**		P	**Pn**	**12 35 51.0**	**+1.3**
ZHG				S	**Sn**	**12 36 27.0**	**-1.3**
PVAQ	**Vaqueiros**	**3.66 300**		P	**Pn**	**12 35 56.8**	**+1.9**

*CNRM **30** 12:36:09.8, 35°.63N×3°.68W, h21km, ml3.1*
*SFS **30** 12:36:09.0, 35°.50N×3°.80W, ML3.0, ALBORAN SUR*
*IGIL **30** 12:36:11.2, 35°.59N×3°.83W, h0km, ML2.7*
*LDG **30** 12:36:12.0±0.4, 35°.61N×3°.65W, h10km, Ml2.9/5, Error ellipse: s-maj=7.7km s-min=4.9km az=4.0*
ISC 30 12:36:09.5±1.2, 35°.62N±0°.03×3°.71W±0°.03, h15km±9km, n26, σ2§31/42, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.44 206**		P	**Pg**	**12 36 18.3**	**-0.1**
PALE				S	**Sg**	**12 36 24.4**	**0.0**
AKLM	**AKL**	**1.11 187**		P	**Pb**	**12 36 30.9**	**+0.5**
AKLM				S	**Sg**	**12 36 45.3**	**-0.2**
CHAS	**Isla Isabel II**	**1.13 112**		P	**Pb**	**12 36 30.2**	**-0.4**
CHAS				S	**Sg**	**12 36 44.9**	**-1.1**
EMAL	**Malaga-Limoner**	**1.28 333**		P	**Pn**	**12 36 33.0**	**+0.2**
EMAL				S	**Sb**	**12 36 49.1**	**-0.5**
TAF	**Taforalt**	**1.33 127**		P	**Pn**	**12 36 34.0**	**+0.5**
TAF				S	**Sb**	**12 36 50.8**	**-0.1**
SMIR	**Smir Dam**	**1.37 273**		P	**Pn**	**12 36 32.8**	**-1.1**
SMIR				S	**Sb**	**12 36 52.0**	**+0.1**
CHEFC	**Chefchaouen**	**1.43 250**		P	**Pn**	**12 36 35.4**	**+0.4**
CHEFC				S	**Sn**	**12 36 54.0**	**+0.5**
JBK	**JBK**	**1.58 144**		P	**Pn**	**12 36 37.0**	**-0.2**
JBK				S	**Sn**	**12 36 55.8**	**-1.7**
IFR	**Ifrane**	**2.40 210**		P	**Pn**	**12 36 50.3**	**+2.0**
IFR				S	**Sn**	**12 37 14.3**	**-3.3**
MD31	**MD31**	**2.88 198**		P	**Pn**	**12 36 56.6**	**+1.7**
MDT	**Midelt**	**2.89 195**		P	**Pn**	**12 36 55.9**	**+0.8**
CART	**Cartagena**	**2.93 47**		P	**Pn**	**12 36 57.9**	**+2.4**
CART				S	**Sn**	**12 37 29.0**	**-1.5**
CART	**Cartagena**	**2.93 47**		P	**Pn**	**12 36 54.6**	**-0.9**
CART				S	**Sn**	**12 37 29.4**	**-1.1**
ZHG	**ZHG**	**3.25 229**		P	**Pn**	**12 37 00.5**	**+0.5**
PVAQ	**Vaqueiros**	**3.69 300**		P	**Pn**	**12 37 07.0**	**+1.1**
MESJ	**Messejana**	**4.25 303**		*e*P	**Pn**	**12 37 14.3**	**+0.7**
MESJ				*e*S	**Sn**	**12 38 00.5**	**-2.5**
MESJ				IAML		12 38 05.1	
	comp=N,16nm,0.2s						
PFVI	**Vila Bisbo**	**4.40 292**		P	**Pn**	**12 37 17.6**	**+2.0**
EVO	**Evora**	**4.51 311**		P	**Pn**	**12 37 18.9**	**+1.7**
EVO				S	**Sn**	**12 38 07.5**	**-1.8**
UCM	**Universidad Co**	**4.70 4**		P	Pn	12 37 24.7	+4.9
UCM				S	**Sn**	**12 38 18.9**	**+4.9**
ETSF	**Etsaut**	**7.67 18**		*e*Pn	**Pn**	**12 38 00.9**	**+0.2**
ETSF	**Etsaut**	**7.67 18**		*e*P	**Pn**	**12 38 05.0**	**+4.3**
ETSF				*e*Sn	**Sn**	**12 39 24.4**	**-2.9**
	comp=N,0.7nm,0.3s						
SJPF	**Ste Jean**	**7.73 14**		*e*Pn	**Pn**	**12 38 01.2**	**-0.2**
SJPF				*e*Sn	**Sn**	**12 39 25.0**	**-3.6**
	comp=N,0.6nm,0.3s						
EPF	**Esparros**	**8.04 22**		*e*Pn	**Pn**	**12 38 06.6**	**+0.9**
EPF				*e*Sn	**Sn**	**12 39 33.6**	**-2.7**
	comp=N,0.4nm,0.3s						
MTLF	**Montolieu**	**8.97 29**		*e*Pn	**Pn**	**12 38 18.0**	**-0.4**
LMR	**La Mourre**	**11.03 43**		*e*P	Pn	12 38 52.0	+5.5
LMR				*e*Sn	**Sn**	**12 40 43.7**	**-5.8**
	comp=N,0.5nm,0.3s						
PGF	**Pioggiola**	**12.05 51**		*e*P	Pn	12 39 06.0	+5.3
PGF				*e*Sn	**Sn**	**12 41 08.2**	**-6.6**
	comp=N,0.3nm,0.3s						

*IDC **30** 12:37:18.9±0.7, 10°.19N×125°.82E, h79km±6km, mb3.9/17, mb1 4.1/18, mb1mx3.8/61, mbtmp4.3/18, Error ellipse: s-maj=23.4km s-min=8.4km az=78.0*
*MAN **30** 12:37:19.4, 10°.13N×125°.90E, h86km, mb4.4, ML3.3, MS3.1*
*NEIC **30** 12:37:20.6±1.7, 10°.15N±0°.09×125°.7E±0°.1, h88km±6km, mb4.7/31, Error ellipse: s-maj=20.2km s-min=12.2km az=76.0*
ISC 30 12:37:18.9±0.6, 10°.15N±0°.04×125°.93E±0°.05, h77km±4km, n84, σ1§65/96, mb4.6/32, 14C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.41 152**⇑		*e*P	**Pn**	**12 37 32.3**	**+0.7**
GLSP				*e*S	**Sn**	**12 37 41.9**	**+0.9**
SCPH	**Surigao**	**0.57 230**⇑		*i*P	**Pn**	**12 37 33.6**	**+0.6**
SCPH				*i* S	**Sn**	**12 37 43.7**	**+0.3**
MSLP	**Maasin**	**1.05 269**⇑		*e*P	**Pn**	**12 37 39.6**	**+1.1**
MSLP				*e*S	**Sn**	**12 37 54.7**	**+1.6**
BUTP	**Butuan**	**1.21 195**⇓		*i*P	**Pn**	**12 37 41.7**	**+1.2**
BUTP				*i* S	**Sn**	**12 37 58.8**	**+2.2**
BESP	**Borongan**	**1.52 342**⇑		*e*P	**Pn**	**12 37 45.9**	**+1.5**
BESP				*e*S	**Sn**	**12 38 05.3**	**+1.7**
OCLP	**Ormoc**	**1.58 305**⇑		*e*P	**Pn**	**12 37 46.6**	**+1.4**
OCLP				*e*S	**Sn**	**12 38 12.8**	**+7.8**
LLP	**Lapu-Lapu**	**1.94 275**⇑		*i*P	**Pn**	**12 37 51.1**	**+1.2**
LLP				*i* S	**Sn**	**12 38 14.9**	**+1.3**
BIPH	**Bislig**	**2.00 168**⇓		*e*P	**Pn**	**12 37 51.6**	**+0.9**
BIPH				*e*S	**Sn**	**12 38 13.9**	**-1.0**
TBP	**Tagbilaran**	**2.09 258**⇑		*i*P	**Pn**	**12 37 52.8**	**+0.9**
TBP				*i* S	**Sn**	**12 38 17.6**	**+0.5**
BUKP	**Musuan**	**2.41 201**⇓		*i*P	**Pn**	**12 37 57.6**	**+1.3**
BUKP				*i* S	Sn	12 38 37.2	+12
DAV	**Davao City (W)**	**3.08 186**		P	**Pn**	**12 38 07.3**	**+2.0**
	208nm,0.3s,baz=211,slow=1.8,SNR=7.5						
DAV				S	**Sn**	**12 38 43.9**	**+2.8**
	26nm,0.3s,baz=260,slow=21,SNR=1.1						
DAV	**Davao City (W)**	**3.08 186**			**Pn**	**12 38 07.4**	**+2.1**
MATI

WRA	**Warramunga Arr**	**31.03**	**165**	P	**P**	**12 43 27.9**	**-1.6**
	comp=Z,7.0nm,0.6s,baz=345,slow=9.5,SNR=54						
PSA00	**Pilbara Seismi**	**32.09**	**191**	P	**P**	**12 43 38.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**34.33**	**8**	P	**P**	**12 43 59.2**	**+1.2**
	comp=Z,3.0nm,0.7s,baz=152,slow=8.4,SNR=4.9						
USRK	**Ussuriysk Ar.**	**34.33**	**8**	P	**P**	**12 43 59.0**	**+1.0**
AS31	**Alice Springs**	**34.50**	**167**	P	**P**	**12 43 59.0**	**-0.7**
AS31				IAmb	IAmb	12 43 59.5	
	comp=Z,3.8nm,0.4s						
ASAR	**Alice Springs**	**34.50**	**167**	P	**P**	**12 43 58.9**	**-0.9**
	comp=Z,6.8nm,0.4s,baz=349,slow=7.1,SNR=390						
CTAO	**Charters Tower**	**36.10**	**146**	P	**P**	**12 44 14.2**	**+0.6**
CTAO				IAmb	IAmb	12 44 32.3	
	comp=Z,16nm,1.4s						
KLR	**Kul'dur**	**39.26**	**6**	P	**P**	**12 44 40.8**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=182,slow=3.9,SNR=8.5						
MORW	**Morawa**	**40.14**	**193**	P	**P**	**12 44 46.9**	**-0.4**
MORW				IAmb	IAmb	12 44 52.5	
	comp=Z,13nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**40.61**	**72**	T	T	13 28 26.2	
	baz=265,slow=74,SNR=23						
H11N2	**WAKE ISLAND Hy**	**40.62**	**72**	T	T	13 28 27.0	
	baz=265,slow=74,SNR=17						
H11N3	**WAKE ISLAND Hy**	**40.63**	**72**	T	T	13 28 27.7	
	baz=265,slow=74,SNR=24						
FORT	**Forrest**	**40.74**	**177**	P	**P**	**12 44 52.6**	**+0.3**
SONM	**Songino Array**	**41.02**	**340**	P	**P**	**12 44 54.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=160,slow=9.8,SNR=8.6						
SONM	**Songino Array**	**41.02**	**340**	P	**P**	**12 44 53.4**	**-1.2**
NWAO	**Narrogin (SRO)**	**43.63**	**191**	P	**P**	**12 45 16.7**	**+1.0**
NWAO				IAmb	IAmb	12 45 20.4	
	comp=Z,22nm,1.4s						
BBOO	**Buckleboo**	**43.80**	**168**	P	**P**	**12 45 17.4**	**+0.3**
STKA	**Stephens Creek**	**44.40**	**161**	P	**P**	**12 45 21.9**	**0.0**
	comp=Z,3.1nm,0.3s,baz=342,slow=7.7,SNR=23						
STKA	**Stephens Creek**	**44.40**	**161**	P	**P**	**12 45 21.9**	**0.0**
ARMA	**Armidale**	**47.30**	**149**	P	**P**	**12 45 46.0**	**+1.0**
ARMA				IAmb	IAmb	12 46 13.0	
	comp=Z,20nm,1.4s						
CAN	**Canberra**	**50.21**	**155**	P	**P**	**12 46 08.5**	**+1.4**
CAN				IAmb	IAmb	12 46 08.7	
	comp=Z,18nm,1.1s						
TOO	**Toolangi**	**50.89**	**160**	P	**P**	**12 46 14.0**	**+1.8**
TOO				IAmb	IAmb	12 46 22.6	
	comp=Z,28nm,1.4s						
LIFNC	**LIFOU**	**50.93**	**127**	P	**P**	**12 46 14.3**	**+1.7**
DZM	**Mont Dzumac**	**51.03**	**129**	P	**P**	**12 46 14.8**	**+1.2**
	comp=Z,5.4nm,0.6s,baz=269,slow=7.0,SNR=18						
DZM	**Mont Dzumac**	**51.03**	**129**	P	**P**	**12 46 15.1**	**+1.5**
DZM				IAmb	IAmb	12 46 15.6	
	comp=Z,5.8nm,0.7s						
MK31	**Makanchi Array**	**51.92**	**323**	P	**P**	**12 46 19.1**	**-0.8**
MKAR	**Makanchi Array**	**51.92**	**323**	P	**P**	**12 46 18.8**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=123,slow=8.1,SNR=24						
MKAR				pP	**pP**	**12 46 38.8**	**-0.4**
	comp=Z,4.7nm,0.7s,baz=121,slow=8.2,SNR=20						
MKAR	**Makanchi Array**	**51.92**	**323**	P	**P**	**12 46 18.6**	**-1.2**
PINNC	**Pines Island,**	**52.10**	**129**	P	**P**	**12 46 23.2**	**+1.8**
MAKZ	**Makanchi**	**52.11**	**323**	P	**P**	**12 46 20.2**	**-1.0**
ZAA0	**Zalesovo Array**	**54.57**	**332**	P	**P**	**12 46 37.5**	**-1.5**
ZALV	**Zalesovo Beam**	**54.57**	**332**	P	**P**	**12 46 37.5**	**-1.6**
	comp=Z,1.7nm,0.6s,baz=123,slow=7.5,SNR=9.8						
ZALV				pP	**pP**	**12 46 57.4**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=127,slow=9.3,SNR=2.3						
KURK	**Kurchatov**	**55.98**	**326**	P	**P**	**12 46 47.6**	**-1.7**
KURK				IAmb	IAmb	12 47 10.0	
	comp=Z,4.3nm,0.8s						
KKAR	**Karatay Array**	**58.10**	**315**	P	**P**	**12 47 02.7**	**-1.7**
ABKAR	**Akbulak array**	**66.75**	**319**	P	**P**	**12 48 00.3**	**-1.7**
LTZ	**Lake Taylor**	**67.55**	**145**	P	**P**	**12 48 08.1**	**+1.0**
LTZ				IAmb	IAmb	12 48 20.6	
	comp=Z,9.6nm,1.3s						
BKZ	**Black Stump Fm**	**67.91**	**140**	P	**P**	**12 48 10.4**	**+0.9**
BKZ				IAmb	IAmb	12 48 13.7	
	comp=Z,28nm,1.4s						
ARU	**Arti**	**69.14**	**327**	P	**P**	**12 48 14.8**	**-2.0**
ARU				IAmb	IAmb	12 48 15.5	
	comp=Z,6.0nm,0.5s						
IMAR	**Indian Mountai**	**76.85**	**24**	P	**P**	**12 49 03.3**	**+1.1**
CASY	**Casey**	**77.06**	**186**	P	**P**	**12 49 03.1**	**-0.1**
ILAR	**Eielson Array**	**79.69**	**26**	pP	pP	12 49 39.0	+0.8
	comp=Z,0.3nm,0.8s,baz=254,slow=4.8,SNR=2.3						
BMAR	**Burnt Mountain**	**80.51**	**23**	P	**P**	**12 49 24.4**	**+2.1**
BCAR	**Beaver Creek A**	**82.07**	**27**	P	**P**	**12 49 33.2**	**+2.5**
ARCES	**ARCESS Array B**	**84.19**	**340**	P	**P**	**12 49 40.4**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=62,slow=6.9,SNR=5.2						
ARCES	**ARCESS Array B**	**84.19**	**340**	P	**P**	**12 49 41.2**	**-0.2**
ARCES				IAmb	IAmb	12 49 52.5	
	comp=Z,9.9nm,1.2s						
BRTR	**Keskin Array B**	**85.35**	**309**	P	**P**	**12 49 46.7**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=134,slow=48,SNR=3.6						
FINES	**FINESS Array B**	**85.84**	**332**	P	**P**	**12 49 48.2**	**-1.5**
	comp=Z,2.5nm,0.9s,baz=66,slow=3.5,SNR=11						
FINES				pP	**pP**	**12 50 09.7**	**-1.0**
	comp=Z,5.6nm,1.1s,baz=76,slow=5.9,SNR=2.5						
FINES	**FINESS Array B**	**85.84**	**332**	P	**P**	**12 49 48.1**	**-1.7**
AKASG	**Malin Array Be**	**86.44**	**321**	P	**P**	**12 49 50.5**	**-2.5**
	comp=Z,1.1nm,0.6s,baz=64,slow=4.6,SNR=4.2						
AKASG				pP	**pP**	**12 50 12.6**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=61,slow=4.5,SNR=2.6						
BURAR	**Bucovina Array**	**89.71**	**318**	P	**P**	**12 50 07.6**	**-1.2**
VNDA	**Vanda**	**89.85**	**173**	P	**P**	**12 50 09.6**	**+1.1**
YKA	**Yellowknife Ar**	**94.00**	**24**	P	**P**	**12 50 26.6**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=301,slow=4.6,SNR=2.6						
PLCA	**Paso Flores**	**146.23**	**157**	PKPbc	**PKPab**	**12 56 51.7**	**0.0**
	comp=Z,1.4nm,0.6s,baz=224,slow=2.9,SNR=12						
PLCA	**Paso Flores**	**146.23**	**157**		**PKPab**	**12 56 51.5**	**-0.2**

*KRSC **30** 12:57:08.0±0.9, 53°.83N×159°.27E, h173km±8km, ML3.7*
*IDC **30** 12:57:09.7±1.0, 54°.10N×158°.60E, h160km±14km, mb3.1/6, mb1 3.3/6, mb1mx3.0/43, mbtmp3.5/6, Error ellipse: s-maj=32.4km s-min=20.4km az=169.0*
ISC 30 12:57:09.8±0.7, **53°.86N**±0°.05×**159°.16E**±0°.07, **h167**km±6km, **n32**, σ1°**03**/45, **mb3.2**/6, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.25**	**43**	*eP*	**Pn**	**12 57 32.1**	**-0.1**
SDLR	**Sedlovina**	**0.60**	**196**	*eP*	**Pn**	**12 57 33.9**	**+0.2**
KRER	**Koryakskii**	**0.61**	**204**	*eP*	**Pn**	**12 57 34.1**	**+0.3**
SMAR	**Somma**	**0.63**	**200**	*eP*	**Pn**	**12 57 34.2**	**+0.2**
AVH	**Avacha**	**0.65**	**203**	*eP*	**Pn**	**12 57 34.3**	**+0.4**
KOK	**Koryaka**	**0.65**	**209**	*eP*	**Pn**	**12 57 34.2**	**+0.3**
UGLR	**Uglovaya**	**0.68**	**197**	*eP*	**Pn**	**12 57 34.5**	**+0.4**
NLC	**Nalytchevo**	**0.70**	**171**	*eP*	**Pn**	**12 57 34.1**	**+0.1**
NLC				*eS*	**Sn**	**12 57 52.8**	**+0.2**
GNL	**Ganaly**	**0.74**	**258**	*eP*	**Pn**	**12 57 33.8**	**-0.7**
DALK	**Dalny**	**0.86**	**197**	*eP*	**Pn**	**12 57 35.1**	**0.0**
DALK				*eS*	**Sn**	**12 57 54.4**	**-0.1**
PET	**Petropavlovsk**	**0.89**	**200**	*eP*	**Pn**	**12 57 35.4**	**+0.1**
PET				*eS*	**Sn**	**12 57 55.1**	**+0.3**
SPN	**Mys Shipunski**	**0.92**	**146**	*eP*	**Pn**	**12 57 35.1**	**-0.4**
SPN				*eS*	**Sn**	**12 57 54.3**	**-0.9**
PETK	**Petropavlovsk-**	**1.15**	**230**	P	**Pn**	**12 57 36.0**	**-1.5**
	8.7nm,0.3s,baz=65,slow=12,SNR=295						
PETK				S	**Sn**	**12 57 57.5**	**-1.1**
	1.2nm,0.3s,baz=69,slow=17,SNR=1.9						
KRMR	**Karymshinskiy**	**1.20**	**211**	*eP*	**Pn**	**12 57 37.6**	**-0.2**
KRMR				*eS*	**Sn**	**12 57 59.6**	**+0.3**
GRL	**Gorelyy**	**1.46**	**207**	*eP*	**Pn**	**12 57 41.1**	**+0.7**
RUS	**Russkaya**	**1.48**	**196**	*eP*	**Pn**	**12 57 40.2**	**-0.2**
RUS				*eS*	**Sn**	**12 58 03.5**	**-0.5**
MTVR	**Mutnovka**	**1.50**	**204**	*eP*	**Pn**	**12 57 41.4**	**+0.6**
MTVR				*eS*	**Sn**	**12 58 06.0**	**+1.4**
APC	**Apacha**	**1.52**	**233**	*eP*	**Pn**	**12 57 40.9**	**+0.1**
APC				*eS*	**Sn**	**12 58 04.5**	**-0.2**
TUMD	**Tumrok D**	**1.53**	**28**	*eP*	**Pn**	**12 57 40.7**	**-0.2**
TUMD				*eS*	**Sn**	**12 58 05.5**	**+0.5**
TUMR	**Tumrok**	**1.54**	**21**	*eP*	**Pn**	**12 57 41.3**	**+0.2**
TUMR				*eS*	**Sn**	**12 58 05.7**	**+0.4**
KMNR	**Kamenistaya**	**2.00**	**18**	*eP*	**Pn**	**12 57 46.1**	**+0.1**
ESO	**Esso**	**2.09**	**353**	*eP*	**Pn**	**12 57 48.9**	**+2.0**
KDTR	**Khodutka, Kamc**	**2.16**	**198**	*eP*	**Pn**	**12 57 47.1**	**-0.6**
KDTR				*eS*	**Sn**	**12 58 15.8**	**-1.1**
KBG	**Krutoberegovo**	**3.15**	**39**	*eP*	**Pn**	**12 57 59.1**	**-0.4**
KBG				*eS*	**Sn**	**12 58 36.3**	**-2.0**
KBTR	**Krutoberegovo**	**3.16**	**40**	*eP*	**Pn**	**12 57 59.2**	**-0.5**
BKI	**Bering**	**4.19**	**68**	*eS*	**Sn**	**12 59 00.0**	**-2.0**
YKA	**Yellowknife Ar**	**42.98**	**43**	P	**P**	**13 04 52.3**	**+0.5**
	0.2nm,0.4s,baz=300,slow=7.3,SNR=10.0						
MKAR	**Makanchi Array**	**47.33**	**294**	P	**P**	**13 05 23.5**	**-2.9**
	0.3nm,0.5s,baz=52,slow=6.6,SNR=11						
PDAR	**Pinedale Array**	**57.63**	**61**	P	**P**	**13 06 44.5**	**+2.0**
	0.3nm,0.5s,baz=320,slow=3.7,SNR=4.5						
FINES	**FINESS Array B**	**59.19**	**336**	P	**P**	**13 06 50.9**	**-1.7**
	3.4nm,0.9s,baz=50,slow=9.3,SNR=5.1						
TXAR	**Lajitas Array**	**70.84**	**67**	P	**P**	**13 08 10.2**	**+1.9**
	0.2nm,0.3s,baz=304,slow=5.4,SNR=6.2						
ASAR	**Alice Springs**	**80.23**	**203**	P	**P**	**13 09 02.5**	**+0.9**
	0.2nm,0.7s,baz=17,slow=4.8,SNR=1.9						

*IDC **30** 13:21:05.8±0.7, 2°.53S×133°.24E, h0km, mb3.7/13, mb1 3.9/18, mb1mx3.7/44, mbtmp3.8/18, ML3.7/3, MS4.0/17, Ms1 4.0/17, ms1mx3.7/69, Error ellipse: s-maj=26.7km s-min=14.2km az=68.0*
*NEIC **30** 13:21:13.4±2.5, 2°.81S±0°.07×132°.82E±0°.05, h13km±5km, mb4.4/10, Error ellipse: s-maj=11.0km s-min=7.5km az=167.0*
*DJA **30** 13:21:14.3±0.3, 2°S±4°×13°3E±°, h58km±7km, M4.6/11, mB5.0/7, mb4.8/11, MLv4.8/11, Mw(mB)4.3/7*
ISC 30 13:21:07.2±0.5, **2°.54S**±0°.05×**133°.23E**±0°.04, **h10**km, **n58**, σ2°**14**/48, **mb3.8**/15, **MS3.9**/12, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.05**	**249**	P	**Pn**	**13 21 27.9**	**-0.1**
FAKI				S	Sn	13 21 54.9	+12
FAKI	**Fak Fak**	**1.05**	**249**	Pg	**Pn**	**13 21 27.9**	**-0.1**
SIJI	**Sorong**	**2.57**	**310**	Pn	**Pn**	**13 21 46.5**	**-2.5**
	12nm,0.3s,baz=261,slow=22,SNR=34						
SIJI				Sn	**Sb**	**13 22 23.0**	**-2.2**
	86nm,0.3s,baz=158,slow=23,SNR=7.2						
SIJI				LR	LR	13 23 08.6	
	comp=Z,9μm,18.1s,baz=102,slow=48						
SWI	**Sorong**	**2.58**	**310**	P	**Pn**	**13 21 47.1**	**-1.9**
SRPI	**Serui, Papua**	**3.08**	**78**	P	**Pb**	**13 22 01.7**	**-0.4**
SRPI				S	**Sb**	**13 22 35.4**	**-4.4**
BAKI	**Biak**	**3.17**	**65**	P	**Pn**	**13 21 56.6**	**-0.6**
MSAI	**Masohi**	**4.37**	**259**	P	**Pb**	**13 22 23.2**	**-0.9**
AAI	**Ambon**	**5.16**	**257**	P	**Pb**	**13 22 34.3**	**-3.2**
	1.0nm2μm156nm,0.7s						
SMPI	**Sarmi**	**5.50**	**84**	P	Pb	13 22 34.9	-8.5
	0.3nm74nm,0.6s						
LBMI	**Labuha**	**6.03**	**288**	P	**Pn**	**13 22 37.8**	**+1.3**
	0.7nm1μm93nm,0.9s						
SANI	**Sanana**	**7.25**	**274**	P	**Pn**	**13 22 54.6**	**+1.3**
	0.2nm830nm37nm,0.6s						
MTN	**Manton Dam**	**10.45**	**191**	Pn	**Pn**	**13 23 39.0**	**+1.8**
SOEI	**Soe**	**11.43**	**231**	P	Pn	13 24 03.0	+12
	47nm,0.8s						
APSI	**Ampana**	**11.69**	**278**	P	**Pn**	**13 23 57.6**	**+3.4**
	532nm61nm,0.8s						
BATI	**Baumata**	**12.18**	**231**	Pn	**Pn**	**13 24 02.0**	**+1.1**
	1.3nm,0.3s,baz=134,slow=22,SNR=1.7						
BATI				Sn	**Sn**	**13 26 20.4**	**+3.6**
	1.2nm,0.3s,baz=148,slow=19,SNR=1.1						
DAV	**Davao City (W)**	**12.23**	**321**	LR	LR	13 28 50.8	
	comp=Z,563nm,18.7s,baz=156,slow=38						
KAPI	**Kappang**	**13.67**	**259**	Pn	**P**	**13 24 27.6**	**-2.5**
	0.7nm,0.3s,baz=256,slow=22,SNR=3.3						
KAPI	**Kappang**	**13.67**	**259**		**Pn**	**13 24 18.0**	**-3.3**
KNRA	**Kununurra**	**13.78**	**198**	Pn	**Pn**	**13 24 21.7**	**-0.9**
COEN	**Coen**	**15.01**	**140**		**P**	**13 24 43.6**	**-1.4**
COEN				IAmb	IAmb	13 25 09.3	
	comp=Z,18nm,1.1s						
PMG	**Port Moresby**	**15.43**	**117**	Pn	**Pn**	**13 24 45.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=4.5,slow=15,SNR=1.6						
PMG				LR	LR	13 32 30.4	
	comp=Z,1μm,18.6s,baz=315,slow=44						
WB0	**Warramunga Arr**	**17.16**	**176**	Pn	**P**	**13 25 08.2**	**-0.6**
WB0				IAmb	IAmb	13 25 34.1	
	comp=Z,30nm,0.9s						
FITZ	**Fitzroy Crossi**	**17.16**	**205**	P	**Pn**	**13 25 06.6**	**-0.7**
	baz=35,slow=13						
FITZ				S	**Sn**	**13 28 11.5**	**-6.8**
	comp=Z,0.6nm,0.3s,baz=174,slow=9.7,SNR=7.0						
WRAB	**Tennant Creek**	**17.32**	**176**	P	**P**	**13 25 13.2**	**+2.5**
WRAB				IAmb	IAmb	13 25 41.9	
	comp=Z,30nm,0.9s						
WRA	**Warramunga Arr**	**17.33**	**176**	P	**P**	**13 25 10.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=358,slow=12,SNR=8.2						
WRA				S	**Sn**	**13 28 19.0**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=2.4,slow=23,SNR=7.6						
WRA				LR	LR	13 32 55.7	
	comp=Z,1μm,19.0s,baz=4.0,slow=41						
WRA	**Warramunga Arr**	**17.33**	**176**	P	**P**	**13 25 12.4**	**+1.7**
WB2	**Warramunga Arr**	**17.33**	**176**	P	**P**	**13 25 12.8**	**+2.1**
WB2				IAmb	IAmb	13 25 37.9	
	comp=Z,45nm,1.1s						
GUMO	**Guam**	**19.75**	**35**	LR	LR	13 32 51.8	
	comp=Z,218nm,18.5s,baz=250,slow=36						
AS31	**Alice Springs**	**21.01**	**178**	P	**P**	**13 25 53.3**	**+2.2**
AS31				IAmb	IAmb	13 26 09.3	
	comp=Z,16nm,1.1s						
ASAR	**Alice Springs**	**21.01**	**178**	P	**P**	**13 25 52.5**	**+1.3**
	comp=Z,5.0nm,0.8s,baz=6.7,slow=12,SNR=28						
ASAR				S	**S**	**13 29 45.0**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=14,slow=10,SNR=1.5						
ASAR				LR	LR	13 35 19.4	
	comp=Z,875nm,18.9s,baz=1.5,slow=41						
ASAR	**Alice Springs**	**21.01**	**178**	P	**P**	**13 25 53.2**	**+2.1**
CTA	**Charters Tower**	**21.58**	**145**	P	**P**	**13 25 57.5**	**+0.2**
	comp=Z,3.4nm,1.0s,baz=68,slow=6.7,SNR=2.0						
CTA				LR	LR	13 35 09.1	
	comp=Z,590nm,18.5s,baz=319,slow=39						
PSA00	**Pilbara Seismi**	**22.97**	**214**	P	**P**	**13 26 15.3**	**+3.3**
HNR	**Honiara**	**27.42**	**106**	LR	LR	13 38 34.6	
	comp=Z,224nm,18.6s,baz=296,slow=38						
JOW	**Kunigami**	**29.59**	**351**	LR	LR	13 38 04.4	
	comp=Z,215nm,21.3s,baz=82,slow=34						
STKA	**Stephens Creek**	**30.23**	**166**	P	**P**	**13 27 16.8**	**-1.4**
	comp=Z,1.6nm,0.9s,baz=205,slow=16,SNR=1.7						
ARMA	**Armidale**	**32.75**	**150**	P	P	13 27 45.7	+5.2
ARMA				IAmb	IAmb	13 27 53.1	
	comp=Z,8.9nm,1.1s						
KULM	**Kulim**	**33.46**	**283**	P	**P**	**13 27 48.6**	**+1.8**
PSI	**Prapat**	**34.70**	**279**	LR	LR	13 43 57.5	
	comp=Z,156nm,19.2s,baz=131,slow=40						
JHJ	**Hachijo jima 2**	**36.00**	**9**	LR	LR	13 39 30.6	
	comp=Z,224nm,21.3s,baz=92,slow=31						
MJAR	**Matsushiro Arr**	**39.16**	**6**	LR	LR	13 41 37.0	
	comp=Z,150nm,21.0s,baz=178,slow=32						
CMAR	**Chiang Mai Arr**	**39.68**	**303**	P	**P**	**13 28 40.6**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=119,slow=36,SNR=1.8						
MSVF	**Nonsavu**	**46.47**	**112**	LR	LR	13 47 49.9	
	comp=Z,248nm,21.2s,baz=346,slow=34						
KLR	**Kul'dur**	**51.58**	**359**	P	**P**	**13 30 13.8**	**+0.3**
	comp=Z,0.3nm,0.2s,baz=203,slow=9.2,SNR=1.4						
PALK	**Pallekele**	**53.32**	**281**	LR	LR	13 54 58.2	
	comp=Z,121nm,21.7s,baz=192,slow=38						
RAO	**Raoul Island**	**53.42**	**125**	LR	LR	13 52 07.5	
	comp=Z,123nm,21.6s,baz=325,slow=35						
URZ	**Urewera**	**53.56**	**137**	LR	LR	13 54 25.9	
	comp=Z,381nm,18.1s,baz=318,slow=37						
SONM	**Songino Array**	**55.38**	**338**	P	**P**	**13 30 43.5**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=29,slow=38,SNR=1.8						
PETK	**Petropavlovsk-**	**59.13**	**17**	LR	LR	13 55 25.0	
	comp=Z,49nm,21.0s,baz=229,slow=35						
MK31	**Makanchi Array**	**66.39**	**324**	P	P	13 32 03.2	+6.7
MKAR	**Makanchi Array**	**66.39**	**324**	P	**P**	**13 31 55.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=103,slow=6.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**69.12**	**332**	P	**P**	**13 32 13.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=121,slow=6.8,SNR=1.2						
BVAR	**Borovoye Array**	**76.09**	**326**	P	**P**	**13 32 56.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=96,slow=11,SNR=1.3						
AKTO	**Aktyubinsk**	**82.58**	**321**	P	**P**	**13 33 29.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=108,slow=7.2,SNR=1.6						
ARU	**Arti**	**83.68**	**327**	P	**P**	**13 33 37.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=98,slow=15,SNR=2.1						
QSPA	**South Pole Qui**	**87.41**	**180**	P	**P**	**13 33 55.2**	**+0.5**
	comp=Z,1.4nm,1.0s,baz=37,slow=3.7,SNR=2.1						
ILAR	**Eielson Array**	**87.97**	**25**	P	**P**	**13 33 57.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=268,slow=4.5,SNR=3.1						
LPAZ	**La Paz**	**151.79**	**132**	PKPbc	**PKiKP**	**13 41 03.5**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=214,slow=1.9,SNR=2.1						

*SFS **30** 13:25:41.0, 35°.30N×3°.90W, ML2.6, ALBORAN SUR*
*CNRM **30** 13:25:42.1, 35°.48N×3°.82W, h19km, ml2.9*
*IGIL **30** 13:25:42.7, 35°.37N×3°.93W, h0km, ML2.4*
ISC 30 13:25:40.9±1.1, **35°.53N**±0°.04×**3°.81W**±0°.04, **h14**km±9km, **n12**, σ1°**29**/24, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**199**	P	**Pg**	**13 25 48.0**	**+0.2**
PALE				S	**Sg**	**13 25 52.4**	**0.0**
GOG	**Mont Gurugu**	**0.73**	**115**	P	**Pb**	**13 25 56.0**	**+0.5**
GOG				S	**Sn**	**13 26 08.4**	**+0.4**
CHAS	**Isla Isabel II**	**1.18**	**107**	P	**Pb**	**13 26 03.1**	**+0.1**
CHAS				S	**Sb**	**13 26 17.4**	**-0.7**
SMIR	**Smir Dam**	**1.29**	**277**	P	**Pg**	**13 26 05.2**	**-0.6**
SMIR				S	**Sb**	**13 26 21.2**	**-0.2**
CHEFC	**Chefchaouen**	**1.32**	**252**	P	**Pg**	**13 26 06.7**	**+0.3**
CHEFC				S	**Sn**	**13 26 25.1**	**+2.5**
CEU	**Ceuta**	**1.33**	**286**	P	**Pn**	**13 26 03.4**	**-1.7**
CEU				S	**Sb**	**13 26 19.0**	**-3.5**
EMAL	**Malaga-Limoner**	**1.33**	**338**	P	**Pb**	**13 26 06.0**	**+0.3**
EMAL				S	**Sg**	**13 26 23.4**	**-0.4**
TAF	**Taforalt**	**1.35**	**122**	P	**Pn**	**13 26 05.2**	**-0.2**
TAF				S	**Sb**	**13 26 22.8**	**-0.3**
JBK	**JBK**	**1.57**	**139**	P	**Pn**	**13 26 08.4**	**-0.1**
JBK				S	**Sn**	**13 26 27.9**	**-1.0**
IFR	**Ifrane**	**2.29**	**209**	P	**Pn**	**13 26 18.9**	**+0.5**
IFR				S	**Sn**	**13 26 46.3**	**-0.2**
MESJ	**Messejana**	**4.23**	**304**	*eP*	**Pn**	**13 26 46.5**	**+1.6**
MESJ				*eS*	**Sn**	**13 27 33.5**	**-0.7**
MESJ				IAML		13 27 40.7	
	comp=E,8.5nm,0.6s						
EVO	**Evora**	**4.50**	**313**	P	**Pn**	**13 26 51.1**	**+2.4**
EVO				S	**Sn**	**13 27 41.5**	**+0.6**

*CNRM **30** 13:27:56.6, 34°.98N×3°.64W, h3km, ml2.5*
*SFS **30** 13:28:02.0, 35°.40N×3°.80W, ML2.6, ALBORAN SUR*
*IGIL **30** 13:28:04.0, 35°.43N×3°.89W, h0km, ML2.5*
ISC 30 13:28:00.4±0.9, **35°.44N**±0°.04×**3°.74W**±0°.04, **h10**km, **n13**, σ2°**45**/18, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**215**	S	**Sg**	**13 28 08.1**	**-1.7**
GOG	**Mont Gurugu**	**0.65**	**110**	S	**Sg**	**13 28 16.0**	**-5.5**
CHAS	**Isla Isabel II**	**1.10**	**103**	P	**Pn**	**13 28 23.8**	**+1.9**
CHAS				S	**Sn**	**13 28 38.1**	**+0.9**
SMIR	**Smir Dam**	**1.36**	**281**	P	**Pb**	**13 28 26.0**	**+0.1**
CEU	**Ceuta**	**1.40**	**289**	P	**Pn**	**13 28 24.8**	**-1.2**
CEU				S	**Sn**	**13 28 40.5**	**-4.0**
EMAL	**Malaga-Limoner**	**1.43**	**337**	P	**Pg**	**13 28 29.2**	**+1.3**
EMAL				S	**Sg**	**13 28 46.4**	**0.0**
JBK	**JBK**	**1.47**	**138**	S	Sn	13 28 31.0	-15
SICH	**Sidi Chahed**	**1.86**	**225**	S	Sn	13 28 43.0	-13
IFR	**Ifrane**	**2.23**	**211**	P	**Pg**	**13 28 43.9**	**+0.6**
IFR				S	**Sg**	**13 29 14.9**	**+2.7**
PVAQ	**Vaqueiros**	**3.75**	**303**	P	**Pn**	**13 28 59.9**	**+1.5**
MESJ	**Messejana**	**4.32**	**305**	*eP*	**Pn**	**13 29 07.8**	**+1.6**
MESJ				*eS*	**Sn**	**13 29 54.3**	**-2.3**
MESJ				IAML		13 29 57.6	
	comp=N,11nm,0.3s						
MORF	**Marmelete**	**4.38**	**297**	*eP*	**Pn**	**13 29 08.3**	**+1.4**
MORF				*eS*	**

VA03 IAML 13 29 20.6
comp=N,11μm,0.4s
VA03 San Esteban 1.57 72 Pn 13 28 47.2 +0.1
VA03 San Esteban 1.57 72 *eP* **Pn 13 28 47.0 0.0**
VA03 *eS* **Sn 13 29 05.7 -1.6**
VA03 IAML 13 29 11.5
comp=Z,5μm,0.4s
BO04 La Punta 1.61 118 ⇑*iP* **Pn 13 28 47.2 -0.3**
BO04 *eS* **Sn 13 29 07.7 -0.7**
GO05 Huala 1.78 169 *iP* **Pn 13 28 49.1 -0.8**
GO05 Huala 1.78 169 Pn 13 28 49.2 -0.8
GO05 Huala 1.78 169 *eP* **Pn 13 28 49.0 -0.9**
LMEL Las Melosas 1.87 109 *iP* **Pn 13 28 51.6 +0.4**
LMEL *eS* **Sb 13 29 16.4 -0.5**
LMEL IAML 13 29 24.3
comp=N,4μm,0.5s
LMEL Las Melosas 1.87 109 Pn 13 28 51.7 +0.5
BO02 Sierra Bellavi 2.00 141 *iP* **Pn 13 28 53.1 +0.1**
BO02 *eS* **Sn 13 29 17.0 -1.0**
BO02 Sierra Bellavi 2.00 141 Pn 13 28 53.5 +0.5
CO02 Combarbal 2.33 29 *eP* **Pn 13 28 57.6 0.0**
CO02 IAML 13 29 41.3
comp=E,9μm,0.4s
CO02 Combarbal 2.33 29 Pn 13 28 57.5 0.0
CO02 Combarbal 2.33 29 *eP* **Pn 13 28 57.0 -0.5**
CO02 IAML 13 29 41.8
comp=Z,4μm,0.4s
ML02 Panimavida 2.61 164 *eP* **Pb 13 29 05.3 -0.7**
ML02 IAML 13 29 53.7
comp=E,4μm,0.7s
CO06 Fray Jorge 2.64 13 *iP* **Pn 13 29 00.7 -0.9**
CO06 *eS* **Sg 13 29 47.1 +3.2**
CO06 IAML 13 29 54.3
comp=E,1μm,0.4s
CO06 Fray Jorge 2.64 13 Pn 13 29 00.7 -0.9
AUSP Uspallata 2.68 68 *eP* **Pb 13 29 05.0 -2.3**
AUSP *eS* **Sg 13 29 46.2 +0.9**
CO03 El Pedregal 2.78 30 *iP* **Pn 13 29 03.9 +0.3**
CO03 IAML 13 29 54.6
comp=E,2μm,0.7s
CO03 El Pedregal 2.78 30 Pn **Pn 13 29 04.1 +0.4**
CO03 El Pedregal 2.78 30 *eP* Pn 13 28 58.7 -4.9
CO03 *eP* **Pn 13 29 04.0 +0.3**
CO03 *eS* **Sb 13 29 44.7 +1.8**
CO03 IAML 13 29 51.8
comp=Z,1μm,1.1s
ARCO CERRO ARCO 2.88 83 *eP* **Pb 13 29 09.0 -1.6**
ARCO *eP* **Pb 13 29 09.0 -1.6**
ARCO IAML 13 29 53.7
comp=Z,2μm,0.9s
RTLS Leoncito 2.94 61 *eP* **Pb 13 29 09.0 -2.7**
RTLS IAML 13 30 07.9
comp=Z,2μm,1.0s
GO04 Tololo Observa 3.33 23 *iP* **Pn 13 29 11.3 -0.1**
GO04 Tololo Observa 3.33 23 Pn 13 29 11.4 -0.1
GO04 Tololo Observa 3.33 23 *eP* Pn 13 29 05.7 -5.7
GO04 *eP* **Pn 13 29 11.0 -0.4**
GO04 *eS* **Sn 13 29 50.9 -0.2**
CO05 La Serena 3.45 16 Pn 13 29 11.9 -0.9
ACCO Cerro Coronel 3.84 47 *eP* **Pn 13 29 22.0 +3.5**
ACCO *eP* **Pn 13 29 22.2 +3.8**
ACCO *eS* **Sg 13 30 20.7 -1.8**
AROD Rodeo 3.92 39 *eP* **Pn 13 29 22.0 +2.4**
AROD *eS* **Sg 13 30 22.2 -2.9**
LCO Las Campanas 4.45 19 Pn **Pn 13 29 26.2 -0.6**
LCO Las Campanas 4.45 19 *eP* **Pn 13 29 26.0 -0.8**
AVFE Valle Fertil 4.88 59 *eP* **Pn 13 29 35.0 +2.4**
AVFE *eP* **Pn 13 29 35.0 +2.4**
AVFE *eS* **Sb 13 30 49.2 +5.8**
AC04 Llanos de Chal 5.15 12 Pn **Pn 13 29 34.7 -1.4**
AC04 Llanos de Chal 5.15 12 *eP* **Pn 13 29 35.0 -1.1**
AC04 *eS* **Sb 13 30 54.7 +3.7**
ACHE Chepes 5.23 68 *eP* **Pn 13 29 40.0 +2.5**
H03N1 Juan Fernandez 5.51 266 Pn **Pn 13 29 42.4 +1.5**
baz=126,slow=74,SNR=21
H03N1 T T 13 35 27.3
baz=89,slow=74,SNR=30
H03N3 Juan Fernandez 5.53 266 Pn **Pn 13 29 41.8 +0.7**
H03N3 T T 13 35 27.0
baz=89,slow=74,SNR=49
H03S1 Juan Fernandez 5.53 262 Pn **Pn 13 29 41.3 +0.2**
SNR=9.9
H03S3 Juan Fernandez 5.53 262 Pn **Pn 13 29 41.3 +0.2**
SNR=16
H03N2 Juan Fernandez 5.53 266 Pn **Pn 13 29 42.4 +1.2**
baz=136,slow=74,SNR=13
H03N2 T T 13 35 30.0
baz=89,slow=74,SNR=59
H03S2 Juan Fernandez 5.54 262 Pn **Pn 13 29 41.3 0.0**
SNR=16
MRA San Martin 5.62 83 *eP* **Pn 13 29 44.0 +1.2**
MRA *eP* **Pn 13 29 44.2 +1.4**
LC01 Cunco 5.64 176 Pn **Pn 13 29 42.5 -0.4**
LC01 Cunco 5.64 176 *eP* **Pn 13 29 44.0 +1.0**
APLL PUNTA DE LOS L 5.70 62 *eP* **Pn 13 29 40.2 -3.5**
APLL *eP* **Pn 13 29 45.0 +1.2**
APLL *eS* **Sb 13 31 02.2 -4.7**
VCA Vinchina 5.72 39 *eP* **Pn 13 29 46.0 +1.8**
VCA *eS* **Sb 13 31 10.7 +2.9**
GO03 Copiap 5.92 18 Pn **Pn 13 29 45.5 -1.3**
GO03 Copiap 5.92 18 *eP* **Pn 13 29 46.4 -0.4**
ACLC CERRO LA CRUZ 5.97 52 *eP* **Pn 13 29 48.5 +0.8**
ACLC *eS* **Sb 13 31 13.2 -1.7**
TCA Tanti 6.82 76 *eP* **Pn 13 29 54.7 -4.5**
TCA *eP* **Pn 13 29 58.7 -0.5**
AC02 Maricunga 6.97 24 Pn **Pn 13 30 00.9 -0.7**
AC02 Maricunga 6.97 24 *eP* Pn 13 29 50.2 -11
PLCA Paso Flores 7.60 170 Pn **Pn 13 30 10.7 +0.8**
comp=Z,0.7nm,0.3s,baz=334,slow=12,SNR=31
PLCA Lg Lg 13 32 13.6
comp=Z,0.1nm,0.3s,baz=318,slow=22,SNR=2.3
PLCA Paso Flores 7.60 170 *eP* **Pn 13 30 10.7 +0.8**
PLCA Paso Flores 7.60 170 Pn **Pn 13 30 11.3 +1.5**
PB14 IPOC Station P 8.76 12 Pn **Pn 13 30 23.3 -2.7**
PB15 IPOC Station P 10.32 15 Pn **Pn 13 30 45.2 -2.1**
LVC Limon Verde 11.02 17 Pn **Pn 13 30 54.1 -3.0**
comp=Z,0.4nm,0.3s,baz=193,slow=12,SNR=1.4
PB03 IPOC Station P 11.39 12 Pn **Pn 13 31 03.0 +1.0**
PB02 IPOC Station P 12.08 11 Pn **Pn 13 31 13.1 +1.7**
ITQB Itaqui 13.87 79 *eP* **Pn 13 31 34.7 -1.0**
ITQB Itaqui 13.87 79 Pn **Pn 13 31 32.3 -3.3**
MNMC Minye Minye 14.27 11 Pn **Pn 13 31 41.0 -0.6**
CPUP Villa Florida 14.73 66 Pn **Pn 13 31 44.4 -3.0**
comp=Z,0.2nm,0.3s,baz=51,slow=15,SNR=1.8
CPUP Sn Sn 13 34 17.1 -13
comp=Z,0.1nm,0.3s,baz=239,slow=20,SNR=2.1
CPUP LR LR 13 37 50.1
comp=Z,604nm,18.7s,baz=244,slow=39
PB16 IPOC Station P 15.07 10 Pn **Pn 13 31 52.4 -0.2**
PB16 IAmb IAmb 13 32 03.1
comp=Z,25nm,1.2s
LPAZ La Paz 17.31 14 P **Pn 13 32 20.6 -0.8**
comp=Z,0.5nm,0.3s,baz=183,slow=7.8,SNR=13
LPAZ La Paz 17.31 14 *eP* **Pn 13 32 21.9 +0.5**
LPAZ La Paz 17.31 14 Pn **Pn 13 32 18.4 -3.0**
ITAB Concordia 18.44 76 *eP* **Pn 13 32 35.0 +0.3**
AQDB Aquidauana 19.51 53 *eP* **P 13 32 46.7 +0.3**
AQDB Aquidauana 19.51 53 P **P 13 32 44.7 -1.7**
AQDB IAmb IAmb 13 32 49.7
comp=Z,37nm,1.3s
PTGB Pitanga 19.64 70 *eP* **P 13 32 47.9 0.0**
SIV San Ignacio 19.97 33 P **P 13 32 50.4 -1.2**
comp=Z,0.7nm,0.3s,baz=221,slow=12,SNR=29
EFI East Falkland 21.14 155 P **P 13 33 02.4 -1.4**
EFI IAmb IAmb 13 33 29.3
comp=Z,26nm,0.9s
PTLB Pontes e Lacer 21.38 37 *eP* **P 13 33 07.1 +0.4**
USHA Ushuaia 21.75 174 P **P 13 33 12.3 +1.9**
comp=Z,8.9nm,0.8s,baz=4.4,slow=8.3,SNR=2.4
PCMB Pacaembu 21.96 63 *eP* **P 13 33 11.5 -1.5**
SALV Santo Antonio 22.91 45 *eP* **P 13 33 21.9 -1.2**
VILB Vilhena 23.04 32 *eP* **P 13 33 23.4 -1.1**
PET01 Itanhaem-SP 23.66 74 *eP* **P 13 33 30.3 -0.3**
ITRB Iturama 23.78 61 *eP* **P 13 33 31.7 -0.2**
ETMB Extrema 23.99 15 *eP* **P 13 33 35.3 +1.5**
PDRB Porto dos Gac 25.85 37 *eP* **P 13 33 50.9 +0.1**
IPMB Ipameri, GO 26.44 61 *eP* **P 13 33 55.1 -1.1**
BDFB Brasilia 28.12 57 P **P 13 34 10.1 -1.3**
comp=Z,2.2nm,0.5s,baz=231,slow=13,SNR=3.4
BDFB Brasilia 28.12 57 P **P 13 34 08.8 -2.6**
SNDB Serra Nova Dou 28.62 47 *eP* **P 13 34 17.2 +1.5**
NPGB Novo Progresso 30.46 35 *eP* **P 13 34 32.7 +0.8**
PMSA Palmer Station 31.96 173 LR LR 13 46 06.7
comp=Z,260nm,18.2s,baz=146,slow=33
RPN Rapa Nui 32.45 271 LR LR 13 45 15.2
comp=Z,152nm,18.1s,baz=352,slow=31
NAN01 Guarapari, ES 32.69 70 *eP* **P 13 34 51.0 -0.6**
PRPB Paraua pebas 34.11 43 *eP* **P 13 35 02.1 -1.9**
NBPN Ponto Novo - B 36.95 60 *eP* **P 13 35 27.2 -1.3**
BOAV Boa Vista 37.17 20 P **P 13 35 30.0 -0.2**
BOAV IAmb IAmb 13 35 35.6
comp=Z,17nm,1.5s
NBLA Lagado - SE 38.63 63 *eP* **P 13 35 41.1 -1.6**
SNAA Sanae 52.37 158 P **P 13 37 31.3 +0.4**
comp=Z,6.8nm,0.9s,baz=190,slow=19,SNR=5.2
SNAA Sanae 52.37 158 P **P 13 37 31.2 +0.4**
QSPA South Pole Qui 56.98 180 P **P 13 38 05.5 +1.0**
comp=Z,5.8nm,1.0s,baz=162,slow=3.6,SNR=18
QSPA South Pole Qui 56.98 180 P **P 13 38 05.3 +0.8**
TXAR Lajitas Array 68.97 331 P **P 13 39 26.2 +1.7**
comp=Z,0.6nm,0.6s,baz=154,slow=8.7,SNR=9.8
TXAR Lajitas Array 68.97 331 P **P 13 39 20.9 -3.6**
DBIC Dimbokro 75.17 72 P **P 13 40 02.7 +0.8**
comp=Z,5.0nm,0.9s,baz=115,slow=1.2,SNR=4.2
TSUM Tsumeb 79.65 106 P **P 13 40 27.6 +0.4**
comp=Z,2.6nm,0.8s,baz=86,slow=2.0,SNR=2.7
BOSA Boshof 80.63 118 P **P 13 40 33.0 +0.6**
comp=Z,6.9nm,1.1s,baz=319,slow=4.7,SNR=5.6
LBTB Lobatse 82.84 115 P **P 13 40 44.6 +0.6**
comp=Z,6.0nm,0.9s,baz=260,slow=5.1,SNR=7.6
NVAR Mina Array Bea 83.13 325 P **P 13 40 47.6 +2.4**
comp=Z,0.5nm,0.7s,baz=148,slow=5.3,SNR=2.0
TORD Torodi Ar. Bea 84.18 70 P **P 13 40 51.1 +0.3**
comp=Z,4.1nm,0.9s,baz=251,slow=4.6,SNR=12
SEY Seymchan 139.26 330 PKP **PKiKP 13 47 47.6 0.0**
comp=Z,0.2nm,0.3s,baz=180,slow=24,SNR=7.3
BVAR Borovoye Array 146.89 42 PKPbc **PKPab 13 48 02.1 -0.4**
comp=Z,1.2nm,0.7s,baz=9.5,slow=4.5,SNR=7.8
YAK Yakutsk 147.95 341 PKPbc **PKPbc 13 48 03.9 +0.3**
comp=Z,2.3nm,0.5s,baz=231,slow=2.2,SNR=5.2
KURBB Kurchatov Arra 152.49 42 PKP **PKPdf 13 48 07.9 -0.2**
comp=Z,0.1nm,0.2s,baz=90,slow=0.2,SNR=2.1
KURBB PKPbc **PKiKP 13 48 15.9 +0.7**
comp=Z,0.9nm,0.6s,baz=305,slow=3.1,SNR=7.6
ZALV Zalesovo Beam 153.72 31 PKP **PKPdf 13 48 09.1 -0.6**
comp=Z,1.0nm,0.9s,baz=325,slow=2.3,SNR=3.8
ZALV PKPbc **PKiKP 13 48 18.6 +1.0**
comp=Z,1.8nm,0.7s,baz=298,slow=3.2,SNR=8.5
MJAR Matsushiro Arr 154.79 286 PKPab **PKPab 13 48 37.5 +1.8**
comp=Z,0.8nm,0.5s,baz=6.7,slow=10,SNR=1.2
MKAR Makanchi Array 156.45 47 PKPab **PKPab 13 48 43.0 +0.6**
comp=Z,0.8nm,0.6s,baz=277,slow=3.7,SNR=11
SONM Songino Array 165.40 3 PKPab **PKPab 13 49 23.1 +1.7**
comp=Z,0.6nm,0.9s,baz=336,slow=3.3,SNR=3.8
PZH PanZhiHua 171.53 141 PKP **PKPdf 13 48 26.5 -1.7**

*IDC **30** 13:32:11.4±1.1, 35°.55N×4°.13W, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.3/55, mbtmp3.5/7, ML3.5/2, MS3.4/1, Ms1 3.5/1, ms1mx2.9/72 Error ellipse: s-maj=40.4km s-min=14.4km az=94.0*
*CNRM **30** 13:32:11.6, 35°.50N×3°.85W, h12km, ml3.5*
*LDG **30** 13:32:12.5, 35°.22N×3°.57W, h30km*
*SFS **30** 13:32:12.0, 35°.41N×3°.85W, h31km, ML3.1, ALBORAN SUR*
*IGIL **30** 13:32:12.9, 35°.32N×3°.81W, h10km, ML3.2*
*INMG **30** 13:32:12.6±2.1, 35°.54N×3°.82W, h0km±8km, ML3.1, Error ellipse: s-maj=6.7km s-min=5.2km az=76.0*
*CRAAG **30** 13:32:12.0, 35°.34N×3°.87W, Mb3.3*

ISC 30 13:32:13.2±1.1, 35°.52N±0°.03×3°.75W±0°.02, h14km±8km, n73, σ2s 66/124, mb3.5/4, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.34**	**207**	P	**Pg**	**13 32 17.6**	**-2.6**
PALE				S	**Sg**	**13 32 22.1**	**-2.9**
GOG	**Mont Gurugu**	**0.68**	**116**	P	**Pb**	**13 32 25.2**	**-1.8**
GOG				S	**Sg**	**13 32 35.2**	**-0.5**
CHAS	**Isla Isabel II**	**1.13**	**107**	P	**Pn**	**13 32 32.3**	**-2.2**
CHAS				S	**Sb**	**13 32 47.5**	**-1.5**
TAF	**Taforalt**	**1.30**	**122**	P	**Pn**	**13 32 35.0**	**-2.0**
TAF				S	**Sg**	**13 32 57.8**	**+2.6**
SMIR	**Smir Dam**	**1.34**	**277**	P	**Pn**	**13 32 35.0**	**-2.4**
SMIR				S	**Sn**	**13 32 51.3**	**-3.7**
EMAL	**Malaga-Limoner**	**1.35**	**336**	P	**Pn**	**13 32 36.5**	**-1.1**
EMAL				S	**Sb**	**13 32 56.6**	**+1.1**
CHEFC	**Chefchaouen**	**1.36**	**253**	P	**Pn**	**13 32 36.5**	**-1.4**
CHEFC				S	**Sn**	**13 32 54.6**	**-1.2**
JBK	**JBK**	**1.53**	**140**	P	**Pn**	**13 32 38.0**	**-2.2**
JBK				S	**Sg**	**13 33 10.1**	**+7.5**
SICH	**Sidi Chahed**	**1.91**	**223**	P	**Pn**	**13 32 45.1**	**-0.3**
OLHC	**Oulhaca**	**1.92**	**97**	P	**Pn**	**13 32 43.5**	**-2.0**
LCRM	**LCR**	**2.05**	**207**	P	**Pn**	**13 32 48.0**	**+0.6**
LCRM				S	**Sg**	**13 33 25.5**	**+6.4**
IFR	**Ifrane**	**2.30**	**210**	P	**Pn**	**13 32 49.3**	**-1.5**
IFR				S	**Sn**	**13 33 14.5**	**-4.5**
MD31	**MD31**	**2.78**	**198**	P	**Pn**	**13 32 56.4**	**-0.9**
MD31				S	**Sn**	**13 33 29.6**	**-1.0**
MDT	**Midelt**	**2.79**	**195**	**Pn**	**Pn**	**13 32 57.0**	**-0.5**
4.4nm,0.3s,baz=18,slow=16,SNR=18							
MDT				Pg	**Pb**	**13 33 02.9**	**0.0**
15nm,0.3s,baz=138,slow=19,SNR=17							
MDT				Sn	**Sn**	**13 33 27.1**	**-3.9**
8.2nm,0.3s,baz=212,slow=21,SNR=4.6							
MDT	**Midelt**	**2.79**	**195**	P	**Pn**	**13 32 56.5**	**-1.1**
MDT				S	**Sn**	**13 33 28.1**	**-3.0**
CART	**Cartagena**	**3.02**	**46**	P	**Pn**	**13 33 01.0**	**+0.4**
CART				S	**Sn**	**13 33 34.6**	**-2.0**
ZHG	**ZHG**	**3.16**	**230**	P	**Pn**	**13 33 02.0**	**-0.6**
ZHG				S	**Sg**	**13 33 58.7**	**+3.9**
PVAQ	**Vaqueiros**	**3.71**	**302**	*e*Pn	**Pn**	**13 33 08.9**	**-1.1**
PVAQ				*e*Sn	**Sn**	**13 33 49.8**	**-3.7**
PVAQ				A	A	13 33 53.0	
39nm,0.5s							
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**13 33 08.8**	**-1.3**
PVAQ				S	**Sn**	**13 33 49.8**	**-3.7**
PBAR	**Barrancos**	**3.74**	**316**	*e*Sn	**Sn**	**13 33 52.6**	**-1.6**
AVE	**Averroes**	**3.75**	**235**	P	**Pb**	**13 33 19.1**	**-0.2**
AVE				S	**Sb**	**13 34 07.8**	**+3.3**
PBDV	**Barranco-do-Ve**	**3.79**	**298**	*e*Pn	**Pn**	**13 33 10.2**	**-0.9**
PBDV				*e*Sn	**Sn**	**13 33 52.1**	**-3.4**
PBDV				A	A	13 34 00.5	
26nm,0.3s							
PCVE	**Castro Verde**	**4.04**	**303**	*e*Pn	**Pn**	**13 33 13.7**	**-0.9**
PCVE				*e*Sn	**Sn**	**13 33 58.3**	**-3.5**
PCVE				A	A	13 34 02.7	
34nm,0.4s							
PBEJ	**Beja**	**4.14**	**308**	*e*Pn	**Pn**	**13 33 15.9**	**-0.1**
PBEJ				*e*Sn	**Sn**	**13 34 01.9**	**-2.3**
PBEJ				A	A	13 34 06.5	
23nm,0.4s							
ESDC	**Sonseca Array**	**4.15**	**358**	Pn	**Pn**	**13 33 17.7**	**+1.6**
2.1nm,0.3s,baz=178,slow=12,SNR=48							
ESDC				Sn	**Sn**	**13 34 07.4**	**+2.9**
1.3nm,0.3s,baz=182,slow=22,SNR=6.6							
ESDC				Lg	Lg	13 34 21.2	
2.2nm,0.3s,baz=179,slow=29,SNR=4.5							
ESDC				LR	LR	13 35 08.8	
comp=Z,490nm,19.7s,baz=206,slow=43							
MESJ	**Messejana**	**4.27**	**304**	*e*P	**Pn**	**13 33 17.2**	**-0.6**
MESJ				*e*S	**Sn**	**13 34 04.2**	**-3.3**
MESJ				IAML		13 34 10.8	
comp=E,46nm,0.5s							
MESJ	**Messejana**	**4.27**	**304**	*e*Pn	**Pn**	**13 33 17.1**	**-0.6**
MESJ				*e*Sn	**Sn**	**13 34 04.4**	**-3.0**
MESJ				A	A	13 34 10.7	
comp=E,26nm,0.5s							
MORF	**Marmelete**	**4.34**	**296**	*e*P	**Pn**	**13 33 17.7**	**-1.0**
MORF				*e*S	**Sn**	**13 34 05.0**	**-4.0**
MORF				IAML		13 34 10.1	
comp=E,45nm,0.3s							
MORF	**Marmelete**	**4.34**	**296**	*e*Pn	**Pn**	**13 33 17.7**	**-1.0**
MORF				*e*Sn	**Sn**	**13 34 05.9**	**-3.1**
MORF				A	A	13 34 10.2	
comp=E,26nm,0.8s							
PFVI	**Vila Bisbo**	**4.40**	**293**	*e*Pn	**Pn**	**13 33 18.9**	**-0.7**
PFVI				*e*Sn	**Sn**	**13 34 07.3**	**-3.3**
PFVI				A	A	13 34 20.7	
comp=E,25nm,0.8s							
PFVI	**Vila Bisbo**	**4.40**	**293**	P	**Pn**	**13 33 20.2**	**+0.6**
PTEO	**Sao Teotonio**	**4.49**	**298**	*e*Pn	**Pn**	**13 33 20.2**	**-0.5**
PTEO				*e*Sn	**Sn**	**13 34 10.7**	**-2.0**
PTEO				A	A	13 34 19.7	
comp=E,28nm,0.4s							
PESTR	**Estremoz**	**4.53**	**319**	*e*Pn	**Pn**	**13 33 21.5**	**+0.1**
PESTR				*e*Sn	**Sn**	**13 34 11.7**	**-2.2**
PESTR				A	A	13 34 13.7	
comp=E,16nm,0.5s							
PESTR	**Estremoz**	**4.53**	**319**	P	**Pn**	**13 33 21.7**	**+0.3**
EVO	**Evora**	**4.55**	**313**	P	**Pn**	**13 33 21.1**	**-0.4**
EVO				S	**Sn**	**13 34 11.7**	**-2.4**
EVO	**Evora**	**4.55**	**313**	*e*Pn	**Pn**	**13 33 21.3**	**-0.2**
EVO				*e*Sn	**Sn**	**13 34 12.0**	**-2.1**
EVO				A	A	13 34 14.2	
comp=E,48nm,0.3s							
PNCL	**Nicolau / Gran**	**4.62**	**305**	*e*Pn	**Pn**	**13 33 21.6**	**-1.0**
PNCL				*e*Sn	**Sn**	**13 34 12.5**	**-3.6**
PNCL				A	A	13 34 16.2	
comp=E,18nm,0.3s							
UCM	**Universidad Co**	**4.79**	**5**	P	**Pn**	**13 33 26.8**	**+1.8**
UCM				S	**Sn**	**13 34 20.7**	**+0.4**
PMRV	**Marv??o**	**4.86**	**324**	*e*Pn	**Pn**	**13 33 26.3**	**+0.5**
PMRV				*e*Sn	**Sn**	**13 34 20.7**	**-1.2**
PMRV				A	A	13 34 41.4	
comp=E,18nm,0.6s							
PMTG	**Montargil**	**5.03**	**316**	*e*Pn	**Pn**	**13 33 28.0**	**-0.1**
PMTG				*e*Sn	**Sn**	**13 34 23.8**	**-2.2**
PMTG				A	A	13 34 25.7	
comp=E,42nm,0.5s							
PCBR	**Castelo Branco**	**5.23**	**327**	*e*Pn	**Pn**	**13 33 31.4**	**+0.5**
PCBR				*e*Sn	**Sn**	**13 34 29.1**	**-1.8**
PCBR				A	A	13 34 32.9	
comp=E,14nm,0.6s							
PMST	**Lisbon--Monsan**	**5.40**	**308**	*e*Pn	**Pn**	**13 33 33.3**	**+0.1**
PMST				*e*Sn	**Sn**	**13 34 33.4**	**-1.8**
PMAFR	**Mafra**	**5.59**	**309**	*e*Pn	**Pn**	**13 33 35.9**	**0.0**
PMAFR				*e*Sn	**Sn**	**13 34 37.7**	**-2.2**
PMAFR				A	A	13 34 42.6	
comp=E,38nm,0.5s							
PSBE	**So Bento**	**5.65**	**316**	*e*Pn	**Pn**	**13 33 37.0**	**+0.2**
PSBE				*e*Sn	**Sn**	**13 34 38.7**	**-2.8**
PSBE				A	A	13 34 41.2	
comp=E,25nm,0.5s							
MTE	**Manteigas**	**5.72**	**330**	*e*Sn	**Sn**	**13 34 44.6**	**+1.5**
MTE				A	A	13 34 59.5	
comp=E,17nm,0.5s							
PCAS	**Casmilo, Conde**	**5.88**	**322**	*e*Pn	**Pn**	**13 33 41.0**	**+1.1**
PCAS				*e*Sn	**Sn**	**13 34 43.6**	**-3.5**
PCAS				A	A	13 35 18.2	
comp=E,13nm,0.5s							
COI	**Coimbra**	**5.96**	**323**	*e*Sn	**Sn**	**13 34 46.3**	**-2.6**
PVIS	**Viseu**	**6.13**	**329**	*e*Pn	**Pn**	**13 33 44.6**	**+1.3**
PVIS				*e*Sn	**Sn**	**13 34 51.0**	**-2.2**
PVIS				A	A	13 34 54.6	
comp=E,13nm,0.6s							
MVO	**Moncorvo**	**6.20**	**336**	*e*Pn	**Pn**	**13 33 45.5**	**+1.2**
MVO				*e*Sn	**Sn**	**13 34 52.7**	**-2.2**
MVO				A	A	13 35 05.7	
comp=E,19nm,0.5s							
PVRL	**Vila Real**	**6.53**	**333**	*e*Pn	**Pn**	**13 33 50.0**	**+1.1**
PVRL				*e*Sn	**Sn**	**13 34 59.1**	**-4.1**
PVRL				A	A	13 35 07.9	
comp=E,18nm,0.5s							
POLO	**Lamas de Olo**	**6.65**	**333**	*e*Pn	**Pn**	**13 33 51.6**	**+1.1**
POLO				*e*Sn	**Sn**	**13 35 02.0**	**-4.1**
POLO				A	A	13 35 10.4	
comp=E,6.4nm,0.5s							
PBRG	**Braganca**	**6.70**	**340**	*e*Pn	**Pn**	**13 33 52.3**	**+1.2**
PBRG				*e*Sn	**Sn**	**13 35 07.5**	**+0.3**
PBRG				A	A	13 35 08.3	
comp=E,11nm,0.5s							
PTO	**Porto**	**6.78**	**327**	*e*Pn	**Pn**	**13 33 53.3**	**+1.1**
PTO				*e*Sn	**Sn**	**13 35 06.5**	**-2.7**
PCAB	**Cabril**	**7.03**	**333**	*e*Sn	**Sn**	**13 35 11.9**	**-3.4**
PGAV	**Gavieira, Arco**	**7.34**	**333**	*e*Pn	**Pn**	**13 34 00.8**	**+0.8**
PGAV				*e*Sn	**Sn**	**13 35 19.6**	**-3.5**
PGAV				A	A	13 36 00.2	
comp=E,8.0nm,0.5s							
ETSF	**Etsaut**	**7.77**	**18**	*e*P	**Pn**	**13 34 09.2**	**+3.3**
ETSF				*e*Sn	**Sn**	**13 35 26.7**	**-7.0**
comp=E,1.1nm,0.4s							
SJPF	**Ste Jean**	**7.83**	**14**	*e*P	**Pn**	**13 34 09.9**	**+3.3**
SJPF				*e*Sn	**Sn**	**13 35 28.0**	**-7.0**
comp=E,0.5nm,0.2s							
EPF	**Esparros**	**8.14**	**22**	*e*P	**Pn**	**13 34 13.9**	**+3.0**
EPF				*e*Sn	**Sn**	**13 35 35.9**	**-6.8**
comp=E,1.3nm,0.4s							
MTLF	**Montolieu**	**9.07**	**29**	*e*P	**Pn**	**13 34 26.0**	**+2.4**
LFF	**La Frestale**	**10.01**	**19**	*e*P	**Pn**	**13 34 38.9**	**+2.4**
RJF	**Les Rejaudoux**	**10.56**	**21**	*e*P	**Pn**	**13 34 47.9**	**+3.8**
LMR	**La Mourre**	**11.12**	**42**	*e*Pn	**Pn**	**13 34 49.3**	**-2.4**
LMR	**La Mourre**	**11.12**	**42**	*e*P	**Pn**	**13 34 56.4**	**+4.7**
LMR				*e*Sn	Sn	13 36 45.1	-11
comp=E,1.2nm,0.3s							
MFF	**Saint Martin d**	**11.40**	**13**	*e*P	**Pn**	**13 34 58.6**	**+3.1**
PGF	**Pioggiola**	**12.14**	**51**	*e*P	**Pn**	**13 35 08.5**	**+2.8**
PGF				*e*Sn	Sn	13 37 09.6	-11
comp=E,0.8nm,0.3s							
QUIF	**Quistinic**	**12.39**	**2**	*e*Pn	**Pn**	**13 35 06.3**	**-2.8**
ROSF	**Rostrenen**	**12.81**	**1**	*e*P	**Pn**	**13 35 17.6**	**+2.8**
GRR	**Gorron**	**13.04**	**9**	*e*P	**Pn**	**13 35 21.8**	**+4.0**
GERES	**GERESS Array B**	**18.50**	**39**	P	**Pn**	**13 36 32.8**	**+3.8**
baz=237,slow=5.4,SNR=4.1							
TORD	**Torodi Ar. Bea**	**22.81**	**166**	P	**P**	**13 37 16.4**	**+0.7**
comp=E,1.0nm,0.8s,baz=343,slow=12,SNR=2.8							
MKAR	**Makanchi Array**	**62.68**	**50**	P	**P**	**13 42 38.3**	**+0.9**
comp=E,0.4nm,0.9s,baz=287,slow=7.2,SNR=3.2							
YKA	**Yellowknife Ar**	**67.82**	**332**	P	**P**	**13 43 09.8**	**-0.6**
comp=E,0.1nm,0.3s,baz=61,slow=6.1,SNR=4.5							
PDAR	**Pinedale Array**	**76.84**	**313**	P	**P**	**13 44 03.7**	**-1.2**
comp=E,0.3nm,0.6s,baz=87,slow=8.2,SNR=2.5							

IDC 30 13:35:11.7±6.5, 2°.78S×146°.42E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.0/47, mbtmp3.7/3, Error ellipse: s-maj=219.5km s-min=33.6km az=97.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.74**	**214**	P	P	13 39 54.6	+0.5
6.0nm,1.1s,baz=40,slow=12,SNR=9.5							
ASAR	**Alice Springs**	**24.04**	**209**	P	P	13 40 28.4	-0.2
1.4nm,0.8s,baz=42,slow=7.3,SNR=16							
MKAR	**Makanchi Array**	**74.67**	**320**	P	P	13 46 53.2	0.0
0.5nm,0.9s,baz=115,slow=6.5,SNR=3.9							

*IDC **30** 13:46:42.7±4.1, 36°.20N×71°.25E, h85km±27km, mb3.6/13, mb1 3.7/17, mb1mx3.3/73, mb

ULHL Ulahol 6.79 32 P **Pn 13 48 26.0 +2.4**
SNR=7.9
CHMS Chumysh 6.92 21 P **Pn 13 48 27.1 +1.8**
SNR=29
USP Ospenovka 7.10 18 P **Pn 13 48 29.4 +1.7**
SNR=25
GEYT Alibeck 10.71 281 P Pn 13 49 11.1 -5.6
comp=E,0.7nm,0.3s,baz=108,slow=13,SNR=6.5
GEYT S Sn 13 51 00.6 -14
comp=E,0.7nm,0.3s,baz=93,slow=18,SNR=2.4
PYUN Piuthan 12.89 128 *e*P **Pn 13 49 43.4 -2.3**
comp=E,12nm,0.5s
MKAR Makanchi Array 13.04 35 P **Pn 13 49 49.0 +1.7**
comp=E,0.1nm,0.3s,baz=223,slow=14,SNR=9.6
DANN Dangsing 13.22 125 *e*P **Pn 13 49 47.3 -2.8**
comp=E,6.7nm,0.3s
KOLN Koldanda 13.51 127 *e*P **Pn 13 49 51.7 -2.0**
comp=E,7.3nm,0.3s
GKN Gorkha 14.03 124 *e*P **Pn 13 49 58.5 -2.0**
comp=E,27nm,0.5s
DMN Daman 14.61 124 *e*P **Pn 13 50 06.1 -1.8**
comp=E,5.6nm,0.3s
KKN Kakani 14.61 123 *e*P **Pn 13 50 05.6 -2.2**
PKIN Phulchoki 14.82 123 *e*P **Pn 13 50 09.0 -1.6**
comp=E,14nm,0.4s
PKI Pulchoki 14.83 123 *e*P **Pn 13 50 09.3 -1.5**
comp=E,11nm,0.4s
GUN Gumba 14.94 121 *e*P **Pn 13 50 10.5 -1.6**
comp=E,9.6nm,0.4s
KURBB Kurchatov Arra 14.96 18 P **Pn 13 50 10.3 -1.5**
comp=E,0.0nm,0.3s,baz=213,slow=12,SNR=3.0
KURBB Kurchatov Arra 14.96 18 ⇑P **P 13 50 15.4 +0.9**
comp=E,5.2nm,0.6s
AB31 Akbulak array 15.21 330 P **Pn 13 50 12.4 -2.6**
comp=E,1.6nm,0.5s,baz=152,slow=12,SNR=68
BVAR Borovoye Array 16.48 358 P **Pn 13 50 29.1 -1.6**
comp=E,0.8nm,0.3s,baz=122,slow=11,SNR=17
BVAR S **Sn 13 53 26.6 -7.1**
comp=E,0.3nm,0.3s,baz=152,slow=23,SNR=4.2
AKTO Aktyubinsk 16.91 329 P **Pn 13 50 35.8 -0.3**
comp=E,0.7nm,0.3s,baz=148,slow=11,SNR=13
AKTO S Sn 13 53 30.9 -13
comp=E,0.2nm,0.3s,baz=168,slow=23,SNR=3.4
AKTO Aktyubinsk 16.91 329 ⇑P **Pn 13 50 34.8 -1.3**
comp=E,4.2nm,0.7s
ZALV Zalesovo Beam 19.71 24 P **P 13 51 08.2 +1.5**
comp=E,6.0nm,0.3s,baz=207,slow=9.9,SNR=39
GNI Garni 21.22 288 P **P 13 51 22.0 -1.2**
comp=E,1.8nm,0.3s,baz=75,slow=20,SNR=1.6
ARU Arti 21.70 340 P **P 13 51 29.1 +1.1**
comp=E,1.0nm,0.5s,baz=128,slow=10,SNR=6.0
KBZ Khabaz 22.89 297 P **P 13 51 40.2 -0.1**
comp=E,1.1nm,0.5s,baz=113,slow=7.6,SNR=2.2
SONM Songino Array 28.01 55 P **P 13 52 30.2 +3.5**
comp=E,0.3nm,0.5s,baz=277,slow=11,SNR=2.8
AKASG Malin Array Be 33.19 309 P **P 13 53 12.7 +0.6**
comp=E,1.5nm,0.7s,baz=82,slow=6.8,SNR=10.0
FINES FINESS Array B 37.64 326 P **P 13 53 51.1 +1.2**
comp=E,1.4nm,0.6s,baz=124,slow=7.6,SNR=8.9
ARCES ARCESS Array B 41.23 337 P **P 13 54 20.8 +1.1**
comp=E,1.1nm,0.3s,baz=116,slow=9.0,SNR=35
NB2 NORSAR Subarra 44.55 323 P **P 13 54 46.8 +0.2**
comp=Z,0.6nm,0.4s,baz=98,slow=7.9
NOA NORSAR Array B 44.55 323 P **P 13 54 47.2 +0.6**
comp=Z,0.9nm,0.4s,baz=97,slow=7.7,SNR=4.9
TORD Torodi Ar. Bea 66.08 269 P **P 13 57 19.3 -2.3**
comp=Z,0.9nm,0.6s,baz=51,slow=5.9,SNR=5.1
INK Inuvik 73.79 9 P **P 13 58 09.7 +1.9**
comp=Z,0.7nm,0.5s,baz=331,slow=6.1,SNR=12
ILAR Eielson Array 74.62 16 P **P 13 58 13.7 +0.9**
comp=Z,0.3nm,1.0s,baz=303,slow=4.7,SNR=5.7
YKA Yellowknife Ar 81.17 3 P **P 13 58 50.5 +1.5**
comp=Z,0.6nm,0.4s,baz=351,slow=5.4,SNR=49

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*IDC **30** 13:50:29.8±0.5,2°.37S×133°.31E,h0km,mb4.5/25, mb1 4.5/30,mb1mx4.3/49,mbtmp4.5/30,ML4.5/4,MS4.5/44, Ms1 4.5/44,ms1mx4.3/68,Error ellipse: s-maj=17.3km s-min=10.8km az=62.0*
*NEIC **30** 13:50:31.1±2.1,2°.50S±0°.09×133°.35E±0°.07,h10km±1km, mb4.8/26,Error ellipse: s-maj=15.8km s-min=12.5km az=192.0*
*GCMT **30** 13:50:32.0±0.3,2°.34S±0°.01×133°.35E±0°.02,h12km, MW5.2/89,Moment Tensor Solution. s13,c15; s89,c141; Duration: 1s0 Moment tensor: Scale 10^16^Nm; Mrr=0.83±.29; Mθθ=4.25±.23; Mφφ5.08±.28; Mrθ=2.84±.72; Mθφ5.05±.18; Mφr0.47±.70; Best double couple: M0=7.48500×10^16^ NP1:φs=161.00000°,δ70.00000°, λ-167.00000°. NP2:φs=67.00000°,δ78.00000°, λ-20.00000°. Principal axes: T 7.3550, Plg5.0000°, Azm115.0000°; N 0.2580, Plg67.0000°, Azm217.0000°; P -7.6140, Plg22.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **30** 13:50:32.2±0.0,2°.40S×133°.55E,h31km,mb4.6/50, mB5.1/31,Ms4.9/32,Ms7 4.6/34*
*DJA **30** 13:50:34.6±0.2,2°S±3°×13°3E±°,h53km±5km,M4.9/27, mb5.0/27,mB5.3/13,MLv5.2/13,Mw(mB)4.8/13, MwMwp4.9/2,Mwp5.2/2*
ISC 30 13:50:30.8±0.3,2°.46S±0°.04×133°.39E±0°.03,h10km,n186, σ2s**07**/161**,mb4.7**/48**,MS4.5**/52**,1C-3D,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.23**	**248**	P	**Pg**	**13 50 54.4**	**0.0**
FAKI				S	**Sn**	**13 51 12.5**	**+1.8**
FAKI	**Fak Fak**	**1.23**	**248**		**Pg**	**13 50 51.9**	**-0.5**
FAKI	**Fak Fak**	**1.23**	**248**	P	**Pg**	**13 50 57.1**	**+2.7**
SIJI	**Sorong**	**2.65**	**307**	Pn	**Pn**	**13 51 11.9**	**-1.7**
76nm,0.3s,baz=31,slow=3.7,SNR=277
SIJI Sn **Sn 13 51 43.5 -2.3**
271nm,0.3s,baz=110,slow=20,SNR=6.9
SWI Sorong 2.66 307 P **Pn 13 51 11.8 -1.9**
SRPI Serui, Papua 2.91 78 P **Pn 13 51 18.0 +0.9**
SRPI S **Sn 13 51 53.3 +1.1**
BAKI Biak 2.99 65 P **Pb 13 51 20.9 -3.3**
BNDI Bandanaira 4.04 239 P **Pn 13 51 34.6 +1.9**
MSAI Masohi 4.54 259 P **Pn 13 51 41.8 +2.1**
MSAI S **Sn 13 52 31.3 -1.3**
AAI Ambon 5.33 257 P **Pn 13 51 52.3 +1.8**
1.9nm4μm278nm,0.7s
SMPI Sarmi 5.33 85 P **Pn 13 51 52.9 +2.4**
1.0nm3μm307nm,0.8s
LBMI Labuha 6.16 287 P **Pn 13 52 01.1 -0.8**
1.4nm4μm3μm270nm,0.9s
GENI Genyem 6.77 91 P **Pn 13 52 14.1 +3.8**
1.4nm7μm4μm458nm,1.1s
JAY Jayapura 7.31 91 Pn **Pn 13 52 22.4 +4.7**
5.0nm,0.3s,baz=187,slow=15,SNR=5.5
JAY Sn **Sn 13 53 34.1 -6.7**
baz=281,slow=22,SNR=0.9
JAY Jayapura 7.31 91 P **Pn 13 52 19.2 +1.5**
SANI Sanana 7.41 273 P **Pn 13 52 18.1 -1.0**
0.5nm1μm98nm,0.8s
KMSI Cibinong 9.88 288 P Pn 13 53 06.8 +14
KDU Kakadu 10.20 185 P **Pn 13 52 58.3 +0.9**
DRS Darwin Rock St 10.21 194 P **Pn 13 52 58.2 +0.7**
MTN Manton Dam 10.56 192 Pn **Pn 13 53 02.3 +0.1**
MTN Manton Dam 10.56 192 P **Pn 13 53 03.3 +1.0**
GTOI Gorontalo 10.82 286 P **Pn 13 53 07.6 +1.7**
410nm34nm,0.8s
SOEI Soe 11.61 231 P **Pn 13 53 18.2 +1.4**
81nm,0.8s
SOEI Soe 11.61 231 Pn **Pn 13 53 18.6 +1.8**
MRSI Marisa 11.81 284 P Pn 13 53 23.1 +3.6
APSI Ampana 11.84 277 P **Pn 13 53 18.6 -1.2**
969nm103nm,0.9s
DAV Davao City (W) 12.26 321 LR LR 13 58 09.2
comp=Z,2μm,18.8s,baz=132,slow=38
BATI Baumata 12.35 231 Pn **Pn 13 53 26.8 -0.1**
2.5nm,0.3s,baz=241,slow=24,SNR=1.7
BATI Sn **Sn 13 55 40.7 -4.1**
2.4nm,0.3s,baz=159,slow=21,SNR=1.3
BATI Baumata 12.35 231 P **Pn 13 53 27.5 +0.6**
35nm,0.7s
BSSI Bau Bau, Buton 13.37 254 P **Pn 13 53 40.7 -0.1**
42nm,0.9s
BNSI Bone 13.40 261 P **Pn 13 53 41.5 +0.3**
87nm,1.1s
BKSI Bulukumba 13.54 257 P **Pn 13 53 44.4 +1.3**
799nm36nm,1.3s
TTSI Tana Toraja 13.57 267 P **Pn 13 53 45.3 +1.8**
2μm55nm,1.5s

SPSI Sidrap Palu 13.68 263 P **Pn 13 53 44.7 -0.3**
68nm,0.9s
KAPI Kappang 13.84 259 Pn **P 13 53 51.5 -4.1**
2.2nm,0.3s,baz=196,slow=4.8,SNR=7.5
KAPI LR LR 14 00 04.3
comp=Z,795nm,20.9s,baz=113,slow=42
KNRA Kununurra 13.90 199 Pn **Pn 13 53 46.6 -1.4**
KNRA Kununurra 13.90 199 P **Pn 13 53 47.2 -0.8**
COEN Coen 14.97 140 Pn **Pn 13 54 01.0 -1.5**
PMG Port Moresby 15.33 117 Pn **Pn 13 54 08.7 +1.3**
0.8nm,0.3s,baz=324,slow=6.7,SNR=8.8
PMG LR LR 14 02 06.0
comp=Z,4μm,18.4s,baz=312,slow=45
PMG Port Moresby 15.33 117 Pn **Pn 13 54 09.1 +1.7**
PMG IAmb IAmb 13 54 26.0
comp=Z,56nm,1.3s
PMG Port Moresby 15.33 117 P **P 13 54 12.3 +0.1**
comp=Z,31nm,0.8s
MYLDM Lahad Datu 16.70 297 Pn **P 13 54 24.1 -3.4**
MYLDM IAmb IAmb 13 54 46.6
comp=Z,75nm,1.2s
WB0 Warramunga Arr 17.23 177 **Pn 13 54 31.1 -0.6**
WB0 IAmb IAmb 13 54 47.0
comp=Z,124nm,1.3s
FITZ Fitzroy Crossi 17.30 206 P **Pn 13 54 31.6 -1.0**
comp=Z,2.1nm,0.3s,baz=34,slow=9.1,SNR=36
FITZ S Sn 13 57 32.3 -13
comp=Z,1.6nm,0.3s,baz=138,slow=13,SNR=4.9
FITZ LR LR 14 02 44.3
comp=Z,920nm,20.4s,baz=28,slow=42
WRAB Tennant Creek 17.39 177 Pn **Pn 13 54 31.1 -2.6**
WRAB IAmb IAmb 13 54 57.1
comp=Z,68nm,1.1s
WRAB Tennant Creek 17.39 177 P **P 13 54 36.0 +0.9**
WRA Warramunga Arr 17.40 177 P **Pn 13 54 34.4 +0.5**
comp=Z,1.1nm,0.3s,baz=354,slow=13,SNR=24
WRA S Sn 13 57 34.1 -14
comp=Z,0.2nm,0.3s,baz=236,slow=31,SNR=1.8
WRA LR LR 14 02 33.3
comp=Z,5μm,18.6s,baz=352,slow=41
WRA Warramunga Arr 17.40 177 Pn **Pn 13 54 30.5 -3.4**
WB2 Warramunga Arr 17.40 177 Pn **Pn 13 54 32.4 -1.5**
WB2 IAmb IAmb 13 54 47.8
comp=Z,150nm,1.5s
WR0 Warramunga Arr 17.43 176 Pn **Pn 13 54 32.7 -1.5**
WR0 IAmb IAmb 13 54 50.6
comp=Z,105nm,1.1s
MTKI Muara Teweh, K 18.55 274 P Pn 13 54 54.6 +6.5
BBKI Banjar Baru 18.55 266 P Pn 13 54 53.5 +5.4
MTSU Mount Surprise 18.91 146 P **Pn 13 54 54.0 +1.6**
SRBI Singaraja 18.94 252 P **Pn 13 54 57.5 +4.7**
QIS Mount Isa 18.98 162 P **Pn 13 54 55.2 +1.9**
GUMO Guam 19.59 35 LR LR 14 02 00.3
comp=Z,1μm,19.9s,baz=221,slow=35
ABJI Asem Bagus 19.80 254 P **Pn 13 55 06.5 +3.4**
KMMI Kalianget 19.88 256 P Pn 13 55 10.1 +6.0
JAGI Jajag, Banyuwa 20.05 252 P **P 13 55 01.9 -2.5**
comp=Z,69nm,1.1s
JAGI Jajag, Banyuwa 20.05 252 P Pn 13 55 08.7 +2.6
comp=Z,70nm,1.1s
BLJI Banyuglugur 20.40 254 P Pn 13 55 13.4 +3.2
GMJI Gumukmas 20.67 253 P Pn 13 55 20.0 +6.6
AS31 Alice Springs 21.09 179 P **P 13 55 16.0 +0.5**
AS31 IAmb IAmb 13 55 30.2
comp=Z,26nm,0.8s
ASAR Alice Springs 21.09 179 P **P 13 55 17.9 +2.4**
comp=Z,83nm,0.8s,baz=3.9,slow=10,SNR=231
ASAR S **S 13 59 02.2 -8.2**
comp=Z,1.9nm,0.8s,baz=76,slow=25,SNR=2.4
ASAR LR LR 14 04 37.9
comp=Z,4μm,18.9s,baz=5.0,slow=40
ASAR Alice Springs 21.09 179 P **P 13 55 12.3 -3.2**
CTA Charters Tower 21.56 145 P **P 13 55 21.3 +0.7**
comp=Z,6.0nm,0.9s,baz=323,slow=19,SNR=2.5
CTA Charters Tower 21.56 145 P **P 13 55 23.8 +3.2**
CTAO Charters Tower 21.56 145 P **P 13 55 20.2 -0.4**
CTAO Charters Tower 21.56 145 P **P 13 55 24.1 +3.5**
PBKI Pangkalan Bun 21.70 269 P P 13 55 29.3 +7.1
STKI Sintang 22.05 276 P **P 13 55 31.0 +5.0**
MBWA Marble Bar 22.86 215 P **P 13 55 34.0 -0.5**
WRKA Warakurna 22.98 192 P **P 13 55 37.1 +1.4**
PSA00 Pilbara Seismi 23.12 214 P **P 13 55 36.0 -1.3**
OOD Oodnadatta 25.29 175 P **P 13 56 00.5 +3.0**
LEM Lembang 26.05 260 P **P 13 56 04.7 -0.1**
comp=Z,9.4nm,0.5s,baz=119,slow=24,SNR=2.0
LEM LR LR 14 09 22.2
comp=Z,1μm,18.6s,baz=83,slow=44
INKA Innaminka 26.11 165 P **P 13 56 08.1 +3.2**
QLP Quilpie 26.15 158 P **P 13 56 07.7 +2.4**
HNR Honiara 27.29 106 P **P 13 56 17.2 +1.4**
comp=Z,19nm,0.3s,baz=234,slow=9.0,SNR=3.5
HNR LR LR 14 07 42.8
comp=Z,1μm,19.6s,baz=278,slow=38
HNR Honiara 27.29 106 IAmb IAmb 13 56 20.8
comp=Z,79nm,1.0s
EIDS Eidsvold 28.45 145 P **P 13 56 26.7 +0.7**
EIDS IAmb IAmb 13 56 29.4
comp=Z,19nm,1.2s
FORT Forrest 28.61 190 P **P 13 56 28.8 +1.3**
JOW Kunigami 29.54 351 LR LR 14 07 21.7
comp=Z,1μm,20.4s,baz=164,slow=34
STKA Stephens Creek 30.27 166 P **P 13 56 43.5 +1.4**
comp=Z,3.9nm,0.8s,baz=324,slow=8.8,SNR=4.7
STKA Stephens Creek 30.27 166 P **P 13 56 41.8 -0.3**
BBOO Buckleboo 30.30 176 P **P 13 56 40.4 -2.0**
BBOO IAmb IAmb 13 56 42.7
comp=Z,33nm,1.5s
CMSA Cobar Meteorol 31.16 159 P **P 13 56 53.9 +3.9**
QIZ Qiongzhong 31.50 314 P **P 13 56 54.5 +1.4**
QIZ S **S 14 02 04.0 +2.4**
QIZ LR LR
comp=Z,790nm,13.9s
QIZ LR LR
comp=Z,620nm,22.9s
QIZ LR LR
comp=Z,720nm,25.9s
ARMA Armidale 32.74 150 P **P 13 57 03.9 -0.1**
ARMA IAmb IAmb 13 57 15.9
comp=Z,16nm,0.9s
PSI Prapat 34.85 278 LR LR 14 14 27.5
comp=Z,522nm,19.8s,baz=135,slow=41
JNU Nakatsue 35.47 356 P **P 13 57 26.1 -1.4**
comp=Z,28nm,1.1s,baz=212,slow=3.0,SNR=5.0
JNU LR LR 14 11 32.3
comp=Z,689nm,18.9s,baz=179,slow=36
JHJ Hachijo jima 2 35.90 9 LR LR 14 08 49.6
comp=Z,891nm,20.4s,baz=242,slow=31
NJ2 Nanjing 36.99 339 *e*P **P 13 57 42.5 +1.9**
NJ2 S **S 14 03 25.8 -0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,260nm,3.8s
NJ2 LR LR
comp=Z,800nm,16.6s
NJ2 LR LR
comp=Z,1μm,17.1s
NJ2 LR LR
comp=Z,480nm,16.1s
DZM Mont Dzumac 37.56 124 P **P 13 57 46.6 +0.9**
comp=Z,4.0nm,1.0s,baz=6.2,slow=10,SNR=1.8
DZM Mont Dzumac 37.56 124 *e*P P 13 57 50.7 +5.0
comp=Z,13nm,1.0s
DZM Mont Dzumac 37.56 124 *e*LR LR 14 08 12.0
comp=Z,2μm,26.4s
GYA Guiyang 38.64 320 ⇑P **P 13 57 53.5 -1.3**
GYA PP **PnPn 13 59 31.5 +6.1**
GYA S **S 14 03 55.3 +3.7**
GYA pmax pmax
comp=Z,290nm,5.1s
GYA LR LR
comp=Z,730nm,16.2s
MJAR Matsushiro Arr 39.06 6 LR LR 14 13 45.3
comp=Z,501nm,18.2s,baz=182,slow=36
CMAR Chiang Mai Arr 39.77 303 P **P 13 58 03.7 -0.5**
comp=Z,1.4nm,0.6s,baz=127,slow=6.9,SNR=13
KSRS Korea Array 40.03 353 P **P 13 58 05.8 -0.2**
comp=Z,3.4nm,0.9s,baz=176,slow=11,SNR=7.4
KMI Kunming 40.44 315 ⇓P **P 13 58 11.0 +1.1**
KMI pmax pmax
comp=Z,11nm,1.1s
PZH PanZhiHua 41.99 315 P **P 13 58 24.0 +1.4**
PZH pmax pmax
comp=Z,8.0nm,0.1s
PZH pmax pmax
comp=Z,100nm,6.2s

XAN Xi'an 43.00 330 P **P 13 58 31.0 +0.4**
XAN pP sP 13 58 41.0 +6.1
XAN S **S 14 04 59.0 +2.8**
XAN ScS **ScS 14 08 30.3 -1.6**
XAN pmax pmax
comp=Z,13nm,1.1s
XAN pmax pmax
comp=Z,230nm,7.3s
XAN LR LR
comp=Z,380nm,12.6s
XAN LR LR
comp=Z,690nm,14.3s
XAN LR LR
comp=Z,870nm,19.2s
HNS HongShan 43.28 338 ⇓P **P 13 58 33.0 +0.3**
HNS S **S 14 04 58.8 -1.3**
HNS pmax pmax
comp=Z,21nm,1.1s
HNS LR LR
comp=Z,540nm,15.7s
HNS LR LR
comp=Z,910nm,16.6s
HNS LR LR
comp=Z,710nm,17.8s
BJT Baijiatuau 45.13 341 P **P 13 58 49.6 +2.2**
BJI Beijing 45.14 341 P **P 13 58 47.5 -0.1**
BJI pmax pmax
comp=Z,15nm,1.3s
BJI LR LR
comp=Z,520nm,15.3s
BJI LR LR
comp=Z,950nm,21.6s
BJI LR LR
comp=Z,550nm,14.8s
MSVF Nonsavu 46.35 112 P **P 13 58 59.8 +2.2**
comp=Z,9.3nm,0.9s,baz=260,slow=8.9,SNR=6.0
USRK Ussuriysk Ar. 46.47 359 P **P 13 58 59.5 +1.5**
comp=Z,2.8nm,0.6s,baz=166,slow=7.3,SNR=2.9
CN2 Changchun 46.60 352 *e*P **P 13 58 55.0 -4.1**
CN2 S **S 14 05 43.5 -4.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,900nm,20.0s
CN2 LR LR
comp=Z,400nm,17.2s
ASAJ Asahikawa 47.10 9 P **P 13 59 02.8 -0.1**
comp=Z,5.1nm,0.8s,baz=232,slow=12,SNR=14
LZH Lanzhou 47.23 327 *e*P **P 13 59 03.0 -1.4**
LZH pP sP 13 59 14.3 +5.6
LZH sP pP 13 59 20.0 +12
LZH pmax pmax
comp=Z,10.0nm,1.4s
LZH LR LR
comp=Z,690nm,16.8s
LZH LR LR
comp=Z,490nm,16.8s
LZH LR LR
comp=Z,540nm,16.3s
HHC Hu-ho-hao-te 47.48 338 *e*P **P 13 59 07.5 +1.3**
HHC S **S 14 06 02.3 +1.3**
HHC sS sS 14 06 18.0 +12
HHC ScS **ScS 14 08 55.5 -5.0**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,250nm,4.5s
HHC LR LR
comp=Z,380nm,15.9s
HHC LR LR
comp=Z,590nm,16.5s
HHC LR LR
comp=Z,630nm,15.1s
KLR Kul'dur 51.50 359 P **P 13 59 36.4 -0.2**
comp=Z,3.4nm,0.8s,baz=179,slow=7.9,SNR=8.4
GTA Gaotai 51.84 327 ⇓P **P 13 59 40.5 +1.1**
GTA pP sP 13 59 49.8 +6.0
GTA sP pP 13 59 54.3 +12
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,120nm,7.6s
GTA LR LR
comp=Z,230nm,12.7s
GTA LR LR
comp=Z,500nm,19.5s
GTA LR LR
comp=Z,470nm,18.3s
CHLP Challavanipeta 52.82 295 *e*P **P 13 59 46.3 -0.5**
TUWZ Tuamarina 53.20 142 P **P 13 59 47.8 -1.6**
RAO Raoul Island 53.34 125 LR LR 14 21 25.8
comp=Z,657nm,20.3s,baz=302,slow=35
PALK Pallekele 53.46 281 LR LR 14 24 16.9
comp=Z,432nm,21.8s,baz=211,slow=38
URZ Urewera 53.51 137 LR LR 14 22 14.7
comp=Z,2μm,21.0s,baz=315,slow=36
PVM Polavaram 54.67 293 *e*P **P 14 00 00.0 -0.5**
GUN Gumba 54.74 307 *e*P **P 14 00 01.8 +0.6**
comp=Z,19nm,0.8s
AFI Afiamalu 55.32 105 LR LR 14 23 58.9
comp=Z,334nm,18.3s,baz=276,slow=36
SONM Songino Array 55.37 338 P **P 14 00 06.1 +0.9**
comp=Z,1.6nm,0.9s,baz=163,slow=7.6,SNR=11
SONM Songino Array 55.37 338 P **P 14 00 04.7 -0.5**
MYLAV Mylavaram 55.45 292 *e*P **P 14 00 05.3 -0.8**
SKHT Srikalahasti 55.60 288 *e*P **P 14 00 07.2 0.0**
ADKI Addanki 55.84 291 *e*P **P 14 00 09.0 0.0**
KOLN Koldanda 56.51 306 *e*P **P 14 00 13.3 -0.5**
DANN Dangsing 56.62 306 *e*P **P 14 00 13.7 -1.0**
comp=Z,21nm,0.8s
NJS Nagarjunasagar 56.63 292 *e*P **P 14 00 13.9 -0.7**
RCLA Racherla 56.70 290 *e*P **P 14 00 15.5 +0.4**
SRLM Srisailam 56.91 291 *e*P **P 14 00 16.8 +0.2**
PYUN Piuthan 57.14 306 *e*P **P 14 00 17.8 -0.5**
comp=Z,46nm,0.8s
CUPL Choutuppal 57.17 292 *e*P **P 14 00 17.5 -1.0**
HYBB Hyderabad (bro 57.55 292 *e*P **P 14 00 21.1 -0.1**
HYBB *e*S **S 14 08 18.9 -0.4**
SRSP Sriramsagar 58.13 294 *e*P **P 14 00 24.3 -0.8**
URV Uravakonda 58.18 289 *e*P **P 14 00 25.4 -0.2**
PETK Petropavlovsk- 59.01 17 LR LR 14 28 19.5
comp=Z,166nm,18.6s,baz=204,slow=38
KLRI Killari 59.51 293 *e*P **P 14 00 34.0 -0.8**
WMQ Urumqi 61.60 324 *e*P **P 14 00 50.0 +1.4**
WMQ pmax pmax
comp=Z,7.0nm,0.9s
WMQ pmax pmax
comp=Z,96nm,10.1s
WMQ LR LR
comp=Z,830nm,29.7s
WMQ LR LR
comp=Z,1μm,28.1s
WMQ LR LR
comp=Z,320nm,22.3s
YAK Yakutsk 64.38 358 P **P 14 01 07.3 +0.7**
comp=Z,5.9nm,0.5s,baz=8.2,slow=1.0,SNR=4.8
SHEM Shemya Is, Ala 64.74 26 LR LR 14 24 12.6
comp=Z,354nm,21.1s,baz=260,slow=31
MK31 Makanchi Array 66.42 324 P **P 14 01 20.7 +0.4**
MK31 IAmb IAmb 14 01 46.2
comp=Z,4.6nm,0.9s
MKAR Makanchi Array 66.42 324 P **P 14 01 20.9 +0.7**
comp=Z,2.0nm,0.5s,baz=112,slow=7.2,SNR=32
MKAR LR LR 14 31 29.0
comp=Z,325nm,21.8s,baz=110,slow=37
MKAR Makanchi Array 66.42 324 P **P 14 01 20.5 +0.3**
MAKZ Makanchi 66.61 324 P **P 14 01 21.6 +0.1**
SEY Seymchan 66.78 9 P **P 14 01 22.8 +0.6**
comp=Z,8.1nm,1.0s,baz=193,slow=5.1,SNR=20
KSH Kashi 67.10 315 P **P 14 01 27.8 +2.9**
KSH PcP **PcP 14 01 54.5 +1.4**
KSH pmax pmax
comp=Z,5.0nm,0.9s
RAR Rarotonga 67.54 112 LR LR 14 29 29.6
comp=Z,140nm,21.3s,baz=262,slow=35
ZALV Zalesovo Beam 69.12 332 P **P 14 01 36.7 -0.4**
comp=Z,3.4nm,0.6s,baz=122,slow=5.4,SNR=18
ZALV Zalesovo Beam 69.12 332 P **P 14 01 35.8 -1.3**
AAK Ala-Archa 69.39 318 LR LR 14 32 35.4
comp=Z,184nm,21.3s,baz=96,slow=36
KURK Kurchatov 70.52 327 P **P 14 01 46.4 +0.6**
KURK IAmb IAmb 14 02 06.7

comp=Z,6.0nm,0.8s
KURBB **Kurchatov Arra 70.52 326** P **P 14 01 46.2 +0.4**
comp=Z,6.1nm,1.0s,baz=121,slow=5.6,SNR=29
TIXI **Tiksi 74.04 359** P **P 14 02 06.0 -0.4**
comp=Z,3.1nm,0.8s,baz=67,slow=2.3,SNR=1.7
TIXI LR LR 14 34 51.7
comp=Z,325nm,18.9s,baz=198,slow=36
BVAR **Borovoye Array 76.11 326** P **P 14 02 18.3 -0.5**
comp=Z,5.1nm,0.8s,baz=90,slow=10,SNR=21
BRVK **Borovoye 76.19 326** P **P 14 02 18.8 -0.4**
BRVK IAmb IAmb 14 02 21.3
comp=Z,13nm,1.3s
VNDA **Vanda 76.55 174** LR LR 14 35 36.6
comp=Z,1μm,19.4s,baz=354,slow=35
PPT **Papeete 76.90 107** LR LR 14 31 38.5
comp=Z,132nm,21.7s,baz=250,slow=32
PPT2 **Papeete2 76.90 107** *e*LR LR 14 26 21.7
comp=Z,529nm,23.8s
WSAR **Wadi Sarin 77.01 294** LR LR 14 41 53.6
comp=Z,37nm,18.1s,baz=129,slow=40
NRIK **Noril'sk 78.04 345** P **P 14 02 28.7 -0.6**
comp=Z,1.1nm,0.3s,baz=188,slow=21,SNR=2.3
NRIK LR LR 14 37 43.8
comp=Z,625nm,20.4s,baz=140,slow=36
NRIK **Noril'sk 78.04 345** IAmb IAmb 14 02 56.5
comp=Z,14nm,1.4s
GEYT **Alibeck 79.94 309** LR LR 14 40 29.9
comp=Z,134nm,21.4s,baz=102,slow=38
MAW **Mawson 80.38 201** LR LR 14 37 45.2
comp=Z,225nm,18.4s,baz=60,slow=35
ABKAR **Akbulak array 81.12 321** P **P 14 02 45.9 -0.6**
AKTO **Aktyubinsk 82.61 321** P **P 14 02 54.0 -0.3**
comp=Z,2.9nm,0.9s,baz=133,slow=3.5,SNR=10
AKTO LR LR 14 41 42.8
comp=Z,328nm,20.5s,baz=102,slow=37
KDAK **Kodiak Island 83.61 31** P **P 14 02 59.4 +0.1**
comp=Z,5.1nm,0.9s,baz=38,slow=0.8,SNR=4.4
KDAK LR LR 14 35 04.5
comp=Z,450nm,20.6s,baz=244,slow=32
TAOE **Nuku Hiva Isla 86.13 99** *e*LR LR 14 30 43.5
comp=Z,327nm,31.0s
QSPA **South Pole Qui 87.49 180** LR LR 14 44 24.9
comp=Z,496nm,18.2s,baz=12,slow=37
ILAR **Eielson Array 87.83 25** P **P 14 03 19.0 -1.1**
comp=Z,1.0nm,0.6s,baz=258,slow=4.4,SNR=17
ILAR LR LR 14 36 23.1
comp=Z,312nm,21.5s,baz=268,slow=31
GNI **Garni 90.53 310** LR LR 14 50 06.9
comp=Z,47nm,18.1s,baz=87,slow=40
ATD **Arta Tunnel 91.02 281** LR LR 14 44 21.2
comp=Z,134nm,20.1s,baz=123,slow=36
INK **Inuvik 93.41 22** P **P 14 03 44.7 -1.4**
comp=Z,1.6nm,0.9s,baz=237,slow=4.1,SNR=4.4
INK LR LR 14 40 38.8
comp=Z,120nm,20.2s,baz=179,slow=32
KLMR **Klimovskoe 94.03 331** *e*P **P 14 03 48.7 -0.3**
KLMR AMP 14 03 53.0
comp=Z,25nm,1.5s
DLBC **Dease Lake 95.54 32** LR LR 14 44 34.1
comp=Z,243nm,18.4s,baz=336,slow=34
BBB **Bella Bella 97.15 38** LR LR 14 40 09.3
comp=Z,333nm,22.0s,baz=268,slow=31
SPITS **Spitsbergen Ar 97.78 349** LR LR 14 49 16.9
comp=Z,130nm,21.5s,baz=252,slow=36
MMAI **Mount Meron Ar 98.03 303** LR LR 14 55 49.0
comp=Z,119nm,18.8s,baz=250,slow=40
ARCES **ARCESS Array B 98.50 340** LR LR 14 55 04.7
comp=Z,144nm,18.7s,baz=76,slow=39
EIL **Elat 98.55 299** LR LR 14 54 09.3
comp=Z,143nm,19.8s,baz=98,slow=39
BRTR **Keskin Array B 99.07 310** LR LR 14 53 50.0
comp=Z,82nm,20.7s,baz=79,slow=38
YKA **Yellowknife Ar 102.21 26** P **Pdif 14 04 22.6 -3.2**
comp=Z,0.3nm,0.9s,baz=298,slow=7.8,SNR=4.3
PLCA **Paso Flores 131.77 156** PKP **PKiKP 14 09 47.3 +1.5**
comp=Z,2.1nm,1.1s,baz=327,slow=12,SNR=2.2
CPUP **Villa Florida 149.56 161** PKPbc **PKiKP 14 10 22.6 +0.1**
comp=Z,6.5nm,0.9s,baz=225,slow=1.7,SNR=6.2
LPAZ **La Paz 151.73 132** PKPbc **PKiKP 14 10 29.1 +1.1**
comp=Z,6.8nm,1.0s,baz=70,slow=2.2,SNR=12

*KRSC **30** 13:56:00.7±0.9, 53°.78N×159°.05E, h174km±8km, ML4.1*
*MOS **30** 13:56:01.3±0.8, 53°.86N×158°.72E, h170km, mb4.2/5, Error ellipse: s-maj=14.9km s-min=5.2km az=76.0*
*IDC **30** 13:56:02.4±0.6, 54°.00N×158°.57E, h162km±6km, mb3.4/13, mb1 3.5/13, mb1mx3.3/57, mbtmp3.8/13, Error ellipse: s-maj=18.4km s-min=12.1km az=146.0*
ISC 30 13:56:01.8±0.6, 53°.79N±0°.04×159°.00E±0°.05, h171km±5km, n98, σ1§09/136, mb3.8/17, 4C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.36**	**47**	PN	**Pn**	**13 56 25.1**	**0.0**
KII	**Karymskiy**	**0.36**	**47**	P	**Pn**	**13 56 25.1**	**0.0**
KRER	**Koryakskii**	**0.51**	**197**	PN	**Pn**	**13 56 26.4**	**+0.5**
KRER				S	**Sn**	13 56 45.4	+1.1
KRER	**Koryakskii**	**0.51**	**197**	*e*P	**Pn**	**13 56 26.4**	**+0.5**
KRER				*e*S	**Sn**	13 56 45.4	+1.1
SDLR	**Sedlovina**	**0.52**	**188**	PN	**Pn**	**13 56 26.2**	**+0.3**
SDLR				S	**Sn**	13 56 44.6	+0.4
SDLR	**Sedlovina**	**0.52**	**188**	*e*P	**Pn**	**13 56 26.2**	**+0.3**
SDLR				*e*S	**Sn**	13 56 44.6	+0.4
SMAR	**Somma**	**0.54**	**193**	PN	**Pn**	**13 56 26.7**	**+0.6**
SMAR				S	**Sn**	**13 56 44.9**	**+0.3**
SMAR	**Somma**	**0.54**	**193**	*e*P	**Pn**	**13 56 26.7**	**+0.6**
SMAR				*e*S	**Sn**	**13 56 44.9**	**+0.3**
KOK	**Koryaka**	**0.54**	**204**	PN	**Pn**	**13 56 26.6**	**+0.7**
KOK				S	**Sn**	**13 56 45.5**	**+1.1**
KOK	**Koryaka**	**0.54**	**204**	*e*P	**Pn**	**13 56 26.6**	**+0.7**
KOK				*e*S	**Sn**	**13 56 45.5**	**+1.1**
AVH	**Avacha**	**0.55**	**197**	PN	**Pn**	**13 56 26.6**	**+0.7**
AVH				S	**Sn**	**13 56 45.5**	**+1.1**
AVH	**Avacha**	**0.55**	**197**	*e*P	**Pn**	**13 56 26.6**	**+0.7**
AVH				*e*S	**Sn**	**13 56 45.5**	**+1.1**
UGLR	**Uglovaya**	**0.59**	**190**	PN	**Pn**	**13 56 26.9**	**+0.7**
UGLR				S	**Sn**	**13 56 45.4**	**+0.6**
UGLR	**Uglovaya**	**0.59**	**190**	*e*P	**Pn**	**13 56 26.9**	**+0.7**
UGLR				S	**Sn**	**13 56 45.4**	**+0.6**
GNL	**Ganaly**	**0.64**	**262**	PN	**Pn**	**13 56 26.0**	**-0.4**
GNL				S	**Sn**	**13 56 43.7**	**-1.5**
GNL	**Ganaly**	**0.64**	**262**	*e*P	**Pn**	**13 56 26.0**	**-0.4**
GNL				*e*S	**Sn**	**13 56 43.7**	**-1.5**
NLC	**Nalytchevo**	**0.65**	**161**	PN	**Pn**	**13 56 26.7**	**+0.4**
NLC				S	**Sn**	**13 56 45.3**	**+0.2**
NLC	**Nalytchevo**	**0.65**	**161**	*e*P	**Pn**	**13 56 26.7**	**+0.4**
NLC				*e*S	**Sn**	**13 56 45.3**	**+0.2**
DALK	**Dalny**	**0.78**	**191**	PN	**Pn**	**13 56 27.4**	**+0.4**
DALK				S	**Sn**	**13 56 46.5**	**+0.1**
DALK	**Dalny**	**0.78**	**191**	*e*P	**Pn**	**13 56 27.4**	**+0.4**
DALK				*e*S	**Sn**	**13 56 46.5**	**+0.1**
PET	**Petropavlovsk**	**0.80**	**195**	*e*PN	**Pn**	**13 56 27.6**	**+0.4**
PET				*e*S	**Sn**	**13 56 46.8**	**+0.2**
PET				pmax	pmax		
	comp=Z,239nm,0.4s						
PET				smax	smax		
	comp=N,1μm,0.9s						
PET				smax	smax		
	comp=E,897nm,0.8s						
PET	**Petropavlovsk**	**0.80**	**195**	*e*P	**Pn**	**13 56 27.7**	**+0.5**
PET				*e*S	**Sn**	**13 56 46.8**	**+0.2**
SPN	**Mys Shipunski**	**0.93**	**138**	PN	**Pn**	**13 56 28.0**	**-0.1**
SPN				S	**Sn**	**13 56 47.3**	**-0.9**
SPN	**Mys Shipunski**	**0.93**	**138**	*e*P	**Pn**	**13 56 28.0**	**-0.1**
SPN				*e*S	**Sn**	**13 56 47.3**	**-0.9**
PEA0B	**Petropavlovsk-**	**1.03**	**229**	*de*PN	**Pn**	**13 56 28.5**	**-0.4**
PETK	**Petropavlovsk-**	**1.03**	**229**	P	**Pn**	**13 56 27.9**	**-1.1**
	comp=E,6.7nm,0.3s,baz=75,slow=27,SNR=190						
PETK				S	**Sn**	**13 56 49.0**	**-0.7**
	comp=E,4.3nm,0.3s,baz=159,slow=13,SNR=7.3						
KRMR	**Karymshinskiy**	**1.09**	**209**	PN	**Pn**	**13 56 29.8**	**+0.4**
KRMR				S	**Sn**	**13 56 50.6**	**+0.1**
KRMR	**Karymshinskiy**	**1.09**	**209**	*e*P	**Pn**	**13 56 29.8**	**+0.4**
KRMR				*e*S	**Sn**	**13 56 50.6**	**+0.1**
GRL	**Gorelyy**	**1.36**	**205**	PN	**Pn**	**13 56 33.0**	**+1.1**
GRL	**Gorelyy**	**1.36**	**205**	*e*P	**Pn**	**13 56 33.0**	**+1.1**
RUS	**Russkaya**	**1.39**	**192**	PN	**Pn**	**13 56 32.3**	**+0.3**
RUS				S	**Sn**	**13 56 54.8**	**-0.4**
RUS	**Russkaya**	**1.39**	**192**	*e*P	**Pn**	**13 56 32.3**	**+0.3**
RUS				*e*S	**Sn**	**13 56 54.8**	**-0.4**
MTVR	**Mutnovka**	**1.40**	**201**	PN	**Pn**	**13 56 33.3**	**+1.1**
MTVR	**Mutnovka**	**1.40**	**201**	*e*P	**Pn**	**13 56 33.3**	**+1.1**
APC	**Apacha**	**1.40**	**233**	PN	**Pn**	**13 56 32.5**	**+0.4**
APC				S	**Sn**	**13 56 55.7**	**+0.3**
APC	**Apacha**	**1.40**	**233**	*e*P	**Pn**	**13 56 32.5**	**+0.4**
APC				*e*S	**Sn**	**13 56 55.7**	**+0.3**
TUMD	**Tumrok D**	**1.63**	**29**	*e*P	**Pn**	**13 56 34.6**	**+0.3**
TUMD				S	**Sn**	**13 56 59.5**	**-0.1**
TUMR	**Tumrok**	**1.64**	**24**	PN	**Pn**	**13 56 34.6**	**+0.1**
TUMR				S	**Sn**	**13 56 59.5**	**-0.4**
TUMR	**Tumrok**	**1.64**	**24**	*e*P	**Pn**	**13 56 35.2**	**+0.7**
TUMR				*e*S	**Sn**	**13 57 00.3**	**+0.4**
KDTR	**Khodutka, Kamc**	**2.06**	**196**	PN	**Pn**	**13 56 38.8**	**-0.1**
KDTR				S	**Sn**	**13 57 06.3**	**-1.3**
KDTR	**Khodutka, Kamc**	**2.06**	**196**	*e*P	**Pn**	**13 56 38.8**	**-0.1**
KDTR				*e*S	**Sn**	**13 57 06.3**	**-1.3**
KMNR	**Kamenistaya**	**2.10**	**20**	PN	**Pn**	**13 56 40.0**	**+0.6**
KMNR				S	**Sn**	**13 57 09.6**	**+1.0**
KMNR	**Kamenistaya**	**2.10**	**20**	*e*P	**Pn**	**13 56 40.0**	**+0.6**
KMNR				*e*S	**Sn**	**13 57 09.6**	**+1.0**
ESO	**Esso**	**2.15**	**356**	PN	**Pn**	**13 56 42.4**	**+2.5**
ESO	**Esso**	**2.15**	**356**	*e*P	**Pn**	**13 56 42.4**	**+2.5**
KPT	**Kopyto**	**2.29**	**17**	PN	**Pn**	**13 56 41.8**	**+0.2**
KPT	**Kopyto**	**2.29**	**17**	*e*P	**Pn**	**13 56 41.8**	**+0.2**
KOZ	**Kozyrevsk**	**2.33**	**12**	PN	**Pn**	**13 56 41.9**	**0.0**
KOZ	**Kozyrevsk**	**2.33**	**12**	*e*P	**Pn**	**13 56 41.9**	**0.0**
KRSR	**Krestovskiy**	**2.59**	**20**	PN	**Pn**	**13 56 45.6**	**+0.4**
KRSR	**Krestovskiy**	**2.59**	**20**	*e*P	**Pn**	**13 56 45.6**	**+0.4**
PAU	**Pauzhetka**	**2.68**	**211**	PN	**Pn**	**13 56 47.1**	**+0.9**
PAU	**Pauzhetka**	**2.68**	**211**	*e*P	**Pn**	**13 56 47.1**	**+0.9**
KLY	**Klyuchi**	**2.70**	**20**	PN	**Pn**	**13 56 47.8**	**+1.5**
KLY	**Klyuchi**	**2.70**	**20**	*e*P	**Pn**	**13 56 47.8**	**+1.5**
BDR	**Baidarnaya**	**3.06**	**24**	PN	**Pn**	**13 56 52.1**	**+1.3**
BDR	**Baidarnaya**	**3.06**	**24**	*e*P	**Pn**	**13 56 52.1**	**+1.3**
SRKR	**Sorokina**	**3.13**	**23**	PN	**Pn**	**13 56 52.5**	**+0.9**
SRKR	**Sorokina**	**3.13**	**23**	P	**Pn**	**13 56 52.5**	**+0.9**
SMKR	**Semkarok**	**3.13**	**26**	PN	**Pn**	**13 56 53.0**	**+1.3**
SMKR	**Semkarok**	**3.13**	**26**	P	**Pn**	**13 56 53.0**	**+1.3**
KBG	**Krutoberegovo**	**3.26**	**39**	PN	**Pn**	**13 56 53.3**	**+0.1**
KBG				S	**Sn**	**13 57 31.6**	**-1.7**
KBG	**Krutoberegovo**	**3.26**	**39**	*e*P	**Pn**	**13 56 53.3**	**+0.1**
KBG				*e*S	**Sn**	**13 57 31.6**	**-1.7**
KBTR	**Krutoberegovo**	**3.27**	**41**	PN	**Pn**	**13 56 53.3**	**0.0**
KBTR				S	**Sn**	**13 57 31.0**	**-2.5**
KBTR	**Krutoberegovo**	**3.27**	**41**	*e*P	**Pn**	**13 56 53.3**	**0.0**
KBTR				*e*S	**Sn**	**13 57 31.0**	**-2.5**
SKR	**Severo-Kuril's**	**3.58**	**211**	*e*PN	**Pn**	**13 56 58.2**	**+0.9**
SKR				pmax	pmax		
	comp=Z,34nm,0.5s						
SKR	**Severo-Kuril's**	**3.58**	**211**	*e*P	**Pn**	**13 56 58.5**	**+1.2**
BKI	**Bering**	**4.30**	**68**	PN	**Pn**	**13 57 06.7**	**+0.3**
BKI	**Bering**	**4.30**	**68**	*e*P	**Pn**	**13 57 06.7**	**+0.3**
BKI				S	**Sn**	**13 57 53.8**	**-3.2**
PALN	**Palana**	**5.34**	**5**	PN	**Pn**	**13 57 20.2**	**+0.3**
PALN	**Palana**	**5.34**	**5**	P	**Pn**	**13 57 20.2**	**+0.3**
SHEM	**Shemya Is, Ala**	**9.12**	**91**	P	Pn	13 58 20.7	+11
	comp=Z,13nm,0.3s,baz=262,slow=14,SNR=1.5						
SHO	**Shikotan**	**12.74**	**224**	*e*PN	**Pn**	**13 58 54.5**	**-2.4**
SHO				pmax	pmax		
	comp=Z,8.0nm,0.3s						
NMR	**Nemuro--Hokkai**	**13.61**	**225**	*e*P	Pn	13 59 00.8	-7.0
NMR				*e*S	Sn	14 01 24.1	-15
ERM	**Erimo**	**15.82**	**228**↑	*e*P	**P**	**13 59 34.1**	**-1.4**
ZEA	**Zeya**	**18.69**	**283**	*e*P	**Pn**	**14 00 06.1**	**-3.1**
BNX	**BinXian**	**21.79**	**261**	↑P	**P**	**14 00 39.0**	**-1.0**
BNX				pmax	pmax		
	comp=Z,26nm,1.0s						
BNX				pmax	pmax		
	comp=Z,340nm,6.0s						
MJAR	**Matsushiro Arr**	**22.50**	**228**	P	**P**	**14 00 46.9**	**0.0**
	comp=Z,3.6nm,1.0s,baz=21,slow=8.1,SNR=1.9						
KSRS	**Korea Array**	**26.89**	**245**	P	**P**	**14 01 28.1**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=41,slow=8.3,SNR=2.7						
ILAR	**Eielson Array**	**28.80**	**46**	P	**P**	**14 01 44.2**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=269,slow=9.4,SNR=6.5						
SONM	**Songino Array**	**33.11**	**282**	P	**P**	**14 02 20.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=56,slow=8.7,SNR=4.4						
INK	**Inuvik**	**33.72**	**38**	P	**P**	**14 02 28.3**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=289,slow=8.4,SNR=13						
ZALV	**Zalesovo Beam**	**41.85**	**302**	P	**P**	**14 03 32.5**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=55,slow=9.0,SNR=1.7						
DGZ	**Jazzator, Alta**	**42.78**	**295**↓	*e*P	**P**	**14 03 41.7**	**-0.6**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**43.09**	**43**	P	**P**	**14 03 46.4**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=299,slow=7.2,SNR=3.8						
KURK	**Kurchatov**	**46.81**	**301**	*ce*P	**P**	**14 04 12.5**	**-1.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MK31	**Makanchi Array**	**47.27**	**294**↓	*e*P	**P**	**14 04 16.5**	**-1.0**
MKAR	**Makanchi Array**	**47.27**	**294**	P	**P**	**14 04 16.1**	**-1.5**
	comp=Z,2.1nm,0.5s,baz=54,slow=6.9,SNR=18						
MKAR	**Makanchi Array**	**47.27**	**294**	*e*P	**P**	**14 04 16.4**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**54.18**	**295**↓	*e*P	**P**	**14 05 07.8**	**-1.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
FINES	**FINESS Array B**	**59.22**	**336**	P	**P**	**14 05 43.8**	**-0.5**
	comp=Z,14nm,1.3s,baz=43,slow=6.3,SNR=6.2						
FINES	**FINESS Array B**	**59.22**	**336**	*i* P	**P**	**14 05 44.7**	**+0.4**
FINES				pmax	pmax		
	comp=Z,14nm,1.3s						
GEYT	**Alibeck**	**66.16**	**302**	P	**P**	**14 06 29.9**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=53,slow=7.6,SNR=1.7						
TXAR	**Lajitas Array**	**70.96**	**66**	P	**P**	**14 07 02.9**	**+2.3**
	comp=Z,0.7nm,1.0s,baz=299,slow=6.2,SNR=5.5						
WRA	**Warramunga Arr**	**76.45**	**204**	P	**P**	**14 07 34.0**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=24,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**76.45**	**204**	*e*P	**P**	**14 07 34.3**	**+1.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**80.13**	**203**	P	**P**	**14 07 55.0**	**+2.4**
	comp=Z,0.9nm,0.4s,baz=19,slow=5.0,SNR=23						
QSPA	**South Pole Qui**	**143.54**	**180**	PKhKP	PKPpre	14 15 12.8	
	comp=Z,1.8nm,0.8s,baz=1.7,slow=1.4,SNR=9.1						

*IDC **30** 14:10:00.2±1.2, 4°.01N×126°.65E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.5/48, mbtmp3.7/8, Error ellipse: s-maj=111.6km s-min=15.8km az=70.0*
ISC 30 14:10:04.6±1.1, 4°.3N±0°.2×127°.8E±0°.3, h35km, n9, σ2§32/10, mb3.8/8, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.86**	**315**↑	*e*P	**Pn**	**14 11 11.5**	**0.0**
KCP				*i* S	**Sn**	**14 11 48.3**	**+2.6**
FITZ	**Fitzroy Crossi**	**22.33**	**186**	P	**P**	**14 14 56.1**	**-3.3**
	2.0nm,0.5s,baz=21,slow=8.0,SNR=6.6						
WRA	**Warramunga Arr**	**24.89**	**165**	P	**P**	**14 15 25.0**	**+0.7**
	3.9nm,0.8s,baz=343,slow=11,SNR=19						
ASAR	**Alice Springs**	**28.39**	**168**	P	**P**	**14 15 57.0**	**+1.1**
	0.3nm,0.7s,baz=340,slow=6.9,SNR=7.3						
STKA	**Stephens Creek**	**38.26**	**161**	P	**P**	**14 17 24.1**	**+2.5**
	1.6nm,0.5s,baz=324,slow=9.9,SNR=6.1						
SONM	**Songino Array**	**47.16**	**340**	P	**P**	**14 18 33.7**	**0.0**
	0.2nm,0.5s,baz=149,slow=6.7,SNR=1.9						
MKAR	**Makanchi Array**	**57.75**	**325**	P	**P**	**14 19 49.8**	**-2.3**
	0.5nm,0.5s,baz=117,slow=7.8,SNR=11						
ZALV	**Zalesovo Beam**	**60.62**	**332**	P	**P**	**14 20 09.7**	**-2.0**
	0.4nm,0.6s,baz=134,slow=8.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**61.89**	**327**	P	**P**	**14 20 19.0**	**-1.5**
	0.5nm,0.4s,baz=125,slow=6.4,SNR=5.9						

*IDC **30** 14:16:20.4±2.5, 2°.52S×133°.03E, h0km, mb3.7/2, mb1 4.1/5, mb1mx3.6/35, mbtmp4.0/5, ML3.6/3, Error ellipse: s-maj=63.7km s-min=21.8km az=67.0*
ISC 30 14:16:20.9±1.8, 2°.7S±0°.1×133°.0E±0°.2, h10km, n5, σ4§05/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.46**	**316**	Pn	**Pn**	**14 17 00.3**	**-0.9**
	8.8nm,0.3s,baz=114,slow=12,SNR=51						
SIJI				Sn	**Sb**	14 17 32.6	-3.1
	32nm,0.3s,baz=331,slow=22,SNR=7.5						
BATI	**Baumata**	**11.91**	**231**	Pn	**Pn**	**14 19 14.2**	**+3.1**
	0.9nm,0.3s,baz=298,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**17.24**	**176**	P	**Pn**	**14 20 22.9**	**+0.9**
	0.2nm,0.3s,baz=352,slow=12,SNR=8.6						
WRA				S	**Sn**	**14 23 27.3**	**-6.7**
	0.1nm,0.3s,baz=0.2,slow=23,SNR=3.2						
ASAR	**Alice Springs**	**20.91**	**178**	P	**P**	**14 21 06.3**	**+2.5**
	7.5nm,0.9s,baz=1.2,slow=11,SNR=35						
ASAR				S	**S**	**14 24 54.1**	**-3.0**
	1.1nm,0.8s,baz=360,slow=28,SNR=6.1						
MKAR	**Makanchi Array**	**66.33**	**325**	P	**P**	**14 27 10.9**	**+1.0**
	0.2nm,0.6s,baz=119,slow=7.3,SNR=1.6						

RSNC 30 14:36:05.8±0.9, 6°.82N×73°.14W, h147km±5km, ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**192**	*e*P	Pn	14 36 18.4	-7.8
BARC				*e*S	Sn	14 36 34.0	-7.6
BARC				*i*		14 36 37.5	
	comp=Z,11nm,0.4s						
BARC	**Barichara**	**0.23**	**192**	*e*P	Pn	14 36 25.4	-0.7
BARC				*e*S	Sn	14 36 40.8	-0.8
BARC				*i*		14 36 42.0	
	comp=Z,31nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**40**	*e*P	Pn	14 36 21.5	-6.9
PAMC				*e*S	Sn	14 36 38.5	-7.1
PAMC				*i*		14 36 40.7	
	comp=Z,18nm,0.4s						
PAMC	**Pamplona, Colo**	**0.68**	**40**	*e*P	Pn	14 36 28.7	+0.3
PAMC				*e*S	Sn	14 36 45.9	+0.3
PAMC				*i*		14 36 47.7	
	comp=Z,30nm,0.5s						
RUSC	**La Rusia**	**0.92**	**177**	*e*S	Sn	14 36 41.4	-7.4
RUSC	**La Rusia**	**0.92**	**177**	*e*P	Pn	14 36 29.7	-0.5
RUSC				*e*S	Sn	14 36 48.4	-0.4
RUSC				*i*		14 36 49.5	
	comp=Z,21nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	*e*P	Pn	14 36 25.4	-8.2
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	*e*P	Pn	14 36 32.7	-0.8
PTBC				*e*S	Sn	14 36 54.0	-0.7
PTBC				*i*		14 36 55.9	
SPBC	**San Pablo de B**	**1.49**	**219**	*e*S	Sn	14 36 49.7	-7.8
SPBC	**San Pablo de B**	**1.49**	**219**	*e*P	Pn	14 36 34.9	-0.3
SPBC				*e*S	Sn	14 36 57.4	-0.1
SPBC				*i*		14 37 02.7	
	comp=Z,28nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	*e*P	Pn	14 36 38.8	0.0
ZARC				*e*S	Sn	14 37 03.6	-0.6
ZARC				*i*		14 37 10.4	
	comp=Z,20nm,0.3s						
NORC	**Norcasia**	**2.13**	**234**	*e*P	Pn	14 36 42.2	-0.1
NORC				*e*S	Sn	14 37 09.6	-0.8
NORC				*i*		14 37 16.5	
	comp=Z,15nm,0.2s						
SMLC	**San Martn de**	**2.18**	**335**	*e*S	Sn	14 37 03.7	-7.8
SMLC	**San Martn de**	**2.18**	**335**	*e*P	Pn	14 36 42.1	-0.8
SMLC				*e*S	Sn	14 37 11.0	-0.5
SMLC				*i*		14 37 14.1	
	comp=Z,26nm,0.1s						
SOCV	**Socops**	**2.69**	**57**	*e*P	Pn	14 36 47.7	-1.5
SOCV				*e*S	Sn	14 37 19.5	-3.1
GUY2C	**Guyana, Caldas**	**2.73**	**235**	*e*P	Pn	14 36 51.3	+1.3
GUY2C				*e*S	Sn	14 37 24.0	-0.1
GUY2C				*i*		14 37 29.0	
	comp=Z,7.0nm,0.4s						
MOTC	**Monteria, Cord**	**3.17**	**308**	*e*P	Pn	14 36 54.8	-0.5
MOTC				*e*S	Sn	14 37 29.6	-4.0
MOTC				*i*		14 37 34.0	
	comp=Z,5.1nm,0.6s						
ANIL	**Santa Ana**	**3.23**	**224**	*e*P	Pn	14 36 56.9	+0.6
ANIL				*i*		14 37 40.7	
	comp=Z,12nm,0.3s						

*IDC **30** 14:43:17.4±1.3, 7°.81S×105°.77E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.6/50, mbtmp4.0/11, ML4.7/2, MS2.8/3, Ms1 2.9/3, ms1mx2.7/80, Error ellipse: s-maj=39.2km s-min=17.5km az=46.0*
*DJA **30** 14:43:20.2±1.3, 8°.5±3°×10°.6E±°, h18km±12km, M4.6/19, mb4.7/11, mB5.3/5, MLv4.5/19, Mw(mB)4.7/5*
*NEIC **30** 14:43:21.6±1.3, 8°.08S±0°.07×105°.87E±0°.10, h37km±9km, mb4.3/7, Error ellipse: s-maj=14.7km s-min=10.1km az=71.0*
ISC 30 14:43:20.2±3.4, 8°.05S±0°.06×105°.89E±0°.05, h26km±26km, n52, σ1§68/58, mb4.1/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.23**	**33**	P	**Pn**	**14 43 41.2**	**-0.6**
SKJI				S	**Sn**	**14 43 55.4**	**-2.2**
CNJI	**Cibinong**	**1.43**	**59**	P	**Pn**	**14 43 44.5**	**-0.1**
CNJI				S	**Sn**	**14 44 00.8**	**-1.8**
CGJI	**Cibinong**	**1.44**	**352**	P	**Pn**	**14 43 46.3**	**+1.7**
CGJI				S	**Sn**	**14 44 04.0**	**+1.3**
DBJI	**Dramaga**	**1.71**	**30**	P	**Pn**	**14 43 49.9**	**+1.5**
DBJI				S	**Sn**	**14 44 10.2**	**+0.7**
LEM	**Lembang**	**2.10**	**55**	Pn	**Pn**	**14 43 55.5**	**+1.6**
	277nm,0.3s,baz=327,slow=6.5,SNR=192						
LEM				LR	LR	14 44 35.7	

comp=Z,2.6nm,0.8s
ZALV Zalesovo Beam 64.28 346 P P 14 53 52.5 -0.6
comp=Z,0.9nm,0.4s,baz=146,slow=5.6,SNR=6.4
ZALV Zalesovo Beam 64.28 346 P P 14 53 52.4 -0.7
ABKAR Akbulak array 69.75 330 P P 14 54 28.3 +0.4
ABKAR Akbulak array 69.75 330 P P 14 54 28.4 +0.4
ABKAR IAmb IAmb 14 54 29.3
comp=Z,4.1nm,0.8s
BRTR Keskin Array B 81.70 312 P P 14 55 37.5 +0.7
comp=Z,0.3nm,0.4s,baz=146,slow=6.2,SNR=2.7
TXAR Lajitas Array 145.08 49 PKPbc PKPdf 15 02 57.0 +0.7
comp=Z,0.5nm,0.8s,baz=288,slow=1.4,SNR=5.8

IDC 30 14:53:45.5±8.8, 18°.42S×169°.76E, h240km±53km, mb3.1/3, mb1 3.2/4, mb1mx2.8/39, mbtmp3.6/4, Error ellipse: s-maj=123.3km s-min=82.1km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.78**	**220**	P	Pn	14 54 58.3	-0.1
	0.3nm,0.3s,baz=37,slow=20,SNR=6.9						
DZM				S	S	14 55 56.8	+0.5
	0.1nm,0.3s,baz=96,slow=19,SNR=1.0						
STKA	**Stephens Creek**	**28.70**	**237**	P	P	14 59 20.6	0.0
	0.8nm,0.6s,baz=90,slow=13,SNR=3.3						
WRA	**Warramunga Arr**	**33.45**	**262**	P	P	15 00 02.0	-0.3
	0.3nm,0.7s,baz=94,slow=8.9,SNR=4.9						
ASAR	**Alice Springs**	**33.81**	**255**	P	P	15 00 05.5	0.0
	1.5nm,0.5s,baz=81,slow=9.0,SNR=58						

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*IDC **30** 14:54:33.6±1.2, 32°.54N×91°.75E, h0km, mb3.7/8, mb1 3.8/12, mb1mx3.6/64, mbtmp3.7/12, ML3.4/4, MS3.9/2, Ms1 3.9/2, ms1mx2.9/91, Error ellipse: s-maj=34.6km s-min=18.1km az=60.0*
ISC 30 14:54:38.5±0.7, 32°.61N±0°.09×91°.8E±0°.1, h35km, n20, σ0°.89/19, mb3.7/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**6.91**	**229**	*e*P	Pn	14 56 18.4	+0.8
	14nm,0.6s						
KKN	**Kakani**	**7.38**	**231**	*e*P	Pn	14 56 24.8	+0.9
	7.9nm,0.5s						
PKI	**Pulchoki**	**7.44**	**229**	*e*P	Pn	14 56 25.6	+0.7
	15nm,0.4s						
PKIN	**Phulchoki**	**7.45**	**229**	*e*P	Pn	14 56 25.7	+0.8
	13nm,0.4s						
DMN	**Daman**	**7.61**	**231**	*e*P	Pn	14 56 27.9	+0.7
	9.9nm,0.5s						
GKN	**Gorkha**	**7.67**	**235**	*e*P	Pn	14 56 28.2	+0.2
	8.0nm,0.4s						
DANN	**Dangsing**	**8.10**	**240**	*e*P	Pn	14 56 33.9	0.0
	14nm,0.5s						
CMAR	**Chiang Mai Arr**	**15.51**	**154**	Pn	Pn	14 58 12.8	-1.9
	0.1nm,0.3s,baz=341,slow=15,SNR=1.4						
MKAR	**Makanchi Array**	**15.91**	**336**	Pn	Pn	14 58 18.2	-1.4
	0.1nm,0.3s,baz=141,slow=14,SNR=6.0						
AAK	**Ala-Archa**	**16.91**	**311**	Pn	Pn	14 58 31.2	-1.4
	0.1nm,0.3s,baz=63,slow=20,SNR=3.0						
SONM	**Songino Array**	**18.82**	**32**	P	Pn	14 58 56.5	+0.5
	0.2nm,0.3s,baz=216,slow=12,SNR=19						
SONM				LR	LR	15 06 57.7	
	comp=Z,152nm,20.8s,baz=19,slow=39						
KURBB	**Kurchatov Arra**	**20.47**	**335**	P	P	14 59 13.1	0.0
	0.7nm,0.2s,baz=141,slow=12,SNR=1.6						
ZALV	**Zalesovo Beam**	**21.89**	**349**	P	P	14 59 28.3	0.0
	1.8nm,0.6s,baz=172,slow=11,SNR=11						
BVAR	**Borovoye Array**	**25.55**	**328**	P	P	15 00 04.9	+1.1
	0.6nm,0.7s,baz=108,slow=13,SNR=3.9						
KSRS	**Korea Array**	**29.89**	**70**	P	P	15 00 43.0	+0.1
	1.8nm,0.8s,baz=284,slow=9.9,SNR=5.2						
KLR	**Kul'dur**	**34.02**	**49**	P	P	15 01 19.1	+0.2
	0.9nm,0.8s,baz=266,slow=9.0,SNR=5.0						
WRA	**Warramunga Arr**	**66.25**	**136**	P	P	15 05 23.3	+0.1
	0.6nm,0.8s,baz=328,slow=6.8,SNR=2.9						
ASAR	**Alice Springs**	**68.93**	**139**	P	P	15 05 40.5	+0.4
	0.6nm,0.9s,baz=321,slow=6.2,SNR=8.8						
ILAR	**Eielson Array**	**72.76**	**23**	P	P	15 06 03.5	+0.6
	0.7nm,0.7s,baz=303,slow=5.0,SNR=10						
MDT	**Midelt**	**77.84**	**301**	LR	LR	15 47 02.3	
	comp=Z,154nm,19.1s,baz=202,slow=40						

IDC 30 15:02:03.3±2.2, 2°.71N×128°.73E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/41, mbtmp3.5/3, Error ellipse: s-maj=144.0km s-min=24.8km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.18**	**166**	P	P	15 07 12.0	+0.2
	0.5nm,0.4s,baz=346,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.70**	**169**	P	P	15 07 43.9	-0.6
	0.2nm,0.4s,baz=349,slow=7.5,SNR=8.6						
MKAR	**Makanchi Array**	**59.53**	**325**	P	P	15 12 08.8	+0.2
	0.1nm,0.5s,baz=113,slow=8.5,SNR=7.3						

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*SFS **30** 15:03:21.0, 35°.45N×3°.89W, ML2.5, ALBORAN SUR*
*CNRM **30** 15:03:23.3, 35°.49N×3°.83W, h19km, ml2.7*
ISC 30 15:03:22.4±1.3, 35°.50N±0°.04×3°.77W±0°.03, h16km±10km, n17, σ1°.56/29, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**206**	P	Pg	15 03 28.1	-1.0
PALE				S	Sb	15 03 35.4	+0.7
GOG	**Mont Gurugu**	**0.69**	**114**	P	Pg	15 03 36.7	+0.8
GOG				S	Sn	15 03 49.7	+1.7
CHAS	**Isla Isabel II**	**1.14**	**106**	P	Pn	15 03 43.1	-0.6
CHAS				S	Sb	15 03 53.3	-4.9
TAF	**Taforalt**	**1.30**	**121**	P	Pn	15 03 45.8	-0.2
TAF				S	Sg	15 04 05.3	+0.8
SMIR	**Smir Dam**	**1.33**	**278**	P	Pn	15 03 45.1	-1.1
SMIR				S	Sn	15 04 03.0	-0.7
CHEFC	**Chefchaouen**	**1.35**	**253**	P	Pb	15 03 47.8	+0.4
EMAL	**Malaga-Limoner**	**1.37**	**337**	P	Pn	15 03 47.3	+0.5
JBK	**JBK**	**1.53**	**139**	P	Pn	15 03 48.4	-0.8
JBK				S	Sn	15 04 09.3	+0.4
IFR	**Ifrane**	**2.28**	**210**	P	Pn	15 03 59.7	+0.2
IFR				S	Sn	15 04 25.7	-1.6
MD31	**MD31**	**2.76**	**198**	P	Pn	15 04 07.3	+1.3
MD31				S	Sn	15 04 39.6	+0.5
MDT	**Midelt**	**2.77**	**195**	P	Pn	15 04 07.3	+1.1
MDT				S	Sn	15 04 40.1	+0.7
ZHG	**ZHG**	**3.14**	**230**	P	Pn	15 04 13.3	+2.1
PVAQ	**Vaqueiros**	**3.71**	**302**	P	Pn	15 04 18.7	-0.3
PVAQ				S	Sn	15 05 03.0	+0.7
PFVI	**Vila Bisbo**	**4.40**	**293**	P	Pn	15 04 28.8	+0.3
PFVI				S	Sn	15 05 20.1	+0.7
PESTR	**Estremoz**	**4.54**	**319**	P	Pn	15 04 31.3	+0.9
EVO	**Evora**	**4.55**	**313**	P	Pn	15 04 30.0	-0.5
EVO				S	Sn	15 05 20.6	-2.5
UCM	**Universidad Co**	**4.81**	**5**	P	Pn	15 04 37.3	+3.0

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*SOME **30** 15:20:39.6, 39°.55N×73°.65E, h15km*
*KRNET **30** 15:20:40.0±0.1, 39°.48N×73°.51E, h11km, mb3.7*
*NNC **30** 15:20:41.5±1.9, 39°.66N×73°.52E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=14.9km s-min=7.2km az=171.0*
ISC 30 15:20:35.2±1.4, 39°.38N±0°.04×73°.68E±0°.03, h17km±11km, n61, σ1°.62/98, 23C-24D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.65**	**348**	⇓*e*P	Pn	15 20 50.7	+0.8
	baz=59						
SFK				⇓*e*S	Sb	15 20 58.3	+1.2
	baz=59						
OHH	**Osh**	**1.33**	**329**	⇑*i*P	Pg	15 21 02.5	+1.5
	baz=32						
OHH				⇑*i*S	Sg	15 21 19.0	+0.6
	baz=32						
DRK	**Karamyk**	**1.46**	**275**	⇑*i*P	Pg	15 21 05.2	+1.8
	baz=71						
DRK				⇑*i*S	Sg	15 21 23.4	+1.0
	baz=71						
SALK	**Salom-Alik**	**1.50**	**4**	⇑*e*P	Pg	15 21 07.4	+3.2
	baz=10.0						
SALK				⇑*e*S	Sg	15 21 26.2	+2.4
	baz=10.0						
BTK	**Batken**	**2.31**	**288**	⇑*i*P	Pg	15 21 19.2	-0.3
	baz=86						
BTK				⇑*i*S	Sg	15 21 47.8	-1.7
	baz=86						
ARLS	**Aral**	**2.53**	**11**	⇑*i*P	Pg	15 21 23.4	-0.3
	baz=14						
ARLS				⇑*i*S	Sg	15 21 55.2	-1.3
	baz=14						
GAR	**Garm**	**2.64**	**263**	⇓*i*P	Pg	15 21 24.4	-1.5
	baz=60						
GAR				⇓*i*S	Sb	15 21 57.0	+2.7
	baz=60						
ARK	**Arkit**	**2.75**	**332**	⇑*i*P	Pb	15 21 25.3	+1.4
	baz=34						
ARK				⇑*i*S	Sb	15 21 58.5	+1.1
	baz=34						
AML	**Almayashu**	**2.75**	**0**	P	Pg	15 21 27.2	-0.7
	SNR=42						
TRKS	**Terek-Say**	**2.89**	**319**	⇑*i*P	Pb	15 21 26.2	-0.3
	baz=19						
TRKS				⇑*i*S	Sb	15 22 00.2	-1.4
	baz=19						
UCH	**Uchtor**	**2.91**	**12**	P	Pg	15 21 30.0	-1.1
	SNR=34						
UCH	**Uchtor**	**2.91**	**12**	⇓*e*P	Pg	15 21 29.3	-1.8
	baz=15						
UCH				⇓*i*S	Sg	15 22 05.2	-3.7
	baz=15						
EKS2	**Erkin-Say**	**3.28**	**1**	P	Pb	15 21 34.0	+0.9
	SNR=9.1						
EKS2	**Erkin-Say**	**3.28**	**1**	⇓*i*P	Pb	15 21 33.6	+0.6
	baz=4.0						
EKS2				⇓*i*S	Sb	15 22 12.6	-0.1
	baz=4.0						
AAK	**Ala-Archa**	**3.31**	**10**	P	Pb	15 21 35.2	+1.6
	SNR=13						
AAK	**Ala-Archa**	**3.31**	**10**	⇓Pg	Pg	15 21 38.4	-0.3
	14nm,0.6s						
AAK				⇓Lg	Lg	15 22 19.1	
	46nm,0.9s						
AAK	**Ala-Archa**	**3.31**	**10**	⇓*e*P	Pb	15 21 34.4	+0.8
	baz=13						
AAK				⇓*i*S	Sb	15 22 14.0	+0.3
	baz=13						
MRKS	**Merke**	**3.38**	**354**	*e*P	Pb	15 21 36.5	+1.8
	8.4nm,0.7s						
MRKS				*e*S	Sb	15 22 16.6	+1.1
	175nm,1.1s						
MRKS	**Merke**	**3.38**	**354**	Pg	Pg	15 21 38.4	-1.6
	17nm,0.4s						
MRKS				Lg	Lg	15 22 21.1	
	175nm,1.1s						
KBK	**Karagaybulak**	**3.41**	**16**	P	Pb	15 21 37.0	+1.7
	SNR=9.8						
KBK	**Karagaybulak**	**3.41**	**16**	⇑*i*P	Pb	15 21 35.9	+0.6
	baz=18						
KBK				⇑*i*S	Sb	15 22 16.9	+0.3
	baz=18						
ULHL	**Ulahol**	**3.46**	**33**	P	Pg	15 21 42.4	+0.9
	SNR=6.4						
ULHL	**Ulahol**	**3.46**	**33**	⇓*i*P	Pb	15 21 37.1	+0.9
	baz=36						
ULHL				⇓*i*S	Sb	15 22 18.8	+0.8
	baz=36						
FRU1	**Bishkek**	**3.50**	**12**	⇑*i*P	Pb	15 21 37.2	+0.4
	baz=14						
FRU1				⇑*i*S	Sb	15 22 18.9	-0.1
	baz=14						
BOOM	**Boomskoye usch**	**3.55**	**28**	⇓*e*P	Pb	15 21 38.4	+0.8
	baz=31						
BOOM				⇓*i*S	Sb	15 22 20.9	+0.4
	baz=31						
CHGR	**Chuyangaron**	**3.59**	**260**	⇓*i*P	Pb	15 21 37.4	-1.0
	baz=58						
CHGR				⇓*i*S	Sb	15 22 19.8	-1.9
	baz=58						
CHMS	**Chumysh**	**3.71**	**12**	⇑*i*P	Pb	15 21 39.8	-0.4
	baz=15						
CHMS				⇑*i*S	Sb	15 22 23.4	-1.5
	baz=15						
KDJ	**Kajisay**	**3.82**	**43**	⇓*i*P	Pb	15 21 42.8	+0.5
	baz=45						
KDJ				⇓*i*S	Sb	15 22 28.5	+0.1
	baz=45						
IUG	**Iuzhnay**	**3.91**	**316**	*e*P	Pg	15 21 48.3	-1.9
	675nm,0.6s						
IUG				*e*S	Sg	15 22 37.8	-3.1
	64nm,0.9s						
IUG	**Iuzhnay**	**3.91**	**316**	Pg	Pg	15 21 48.3	-1.9
	675nm,0.6s						
IUG				Lg	Lg	15 22 37.8	
	64nm,0.9s						
DZA	**Taraz**	**3.93**	**334**	Pg	Pb	15 21 42.9	-1.2
	38nm,0.1s						
DZA				Lg	Lg	15 22 29.2	
	46nm,0.2s						
USP	**Ospenovka**	**3.93**	**9**	⇓*i*P	Pb	15 21 42.9	-1.2
	baz=11						
USP				⇓*i*S	Sb	15 22 28.8	-2.6
	baz=11						
KST	**Kastek**	**4.04**	**24**	*e*P	Pg	15 21 52.6	-0.1
	14nm,0.8s						
KST				*e*S	Sg	15 22 45.2	+0.1
	31nm,1.0s						
KST	**Kastek**	**4.04**	**24**	Pg	Pg	15 21 52.6	-0.1
	14nm,0.8s						
KST				Lg	Lg	15 22 45.2	
	31nm,1.0s						
CHM	**Chimkent**	**4.26**	**315**	*e*P	Pg	15 21 57.0	+0.2
	4.6nm,0.8s						
CHM				*e*S	Sg	15 22 52.9	+0.8
	168nm,0.4s						
MTBS	**Maitube**	**4.28**	**28**	*e*P	Pg	15 21 55.8	-1.4
	11nm,0.5s						
MTBS				*e*S	Sg	15 22 51.0	-1.7
	10nm,0.5s						
MTBS	**Maitube**	**4.28**	**28**	Pg	Pg	15 21 55.3	-2.0
	11nm,0.5s						
MTBS				Lg	Lg	15 22 51.0	
	10nm,0.5s						
TNSS	**Tian-Shan**	**4.41**	**33**	*e*P	Pg	15 21 58.1	-1.5
	9.4nm,0.7s						
TNSS				*e*S	Sg	15 22 55.3	-1.4
	9.1nm,0.8s						
TNSS	**Tian-Shan**	**4.41**	**33**	Pg	Pg	15 21 58.1	-1.5
	9.4nm,0.7s						
TNSS				Lg	Lg	15 22 55.3	
	9.1nm,0.8s						
KK08	**Karatay Array**	**4.43**	**328**	⇓Pn	Pb	15 21 47.9	-4.6
	2.7nm,0.6s						
KK08				⇓Pg	Pg	15 21 59.2	-0.9
	5.9nm,0.5s						
KK08				⇑Lg	Lg	15 22 53.3	
	10nm,0.6s						
MDOK	**Medeo**	**4.55**	**33**	*e*P	Pg	15 22 01.9	-0.5
	9.4nm,0.8s						
MDOK				*e*S	Sg	15 23 02.1	+0.7
	17nm,0.9s						
MDOK	**Medeo**	**4.55**	**33**	Pg	Pg	15 22 01.9	-0.5
	9.4nm,0.8s						
MDOK				Lg	Lg	15 23 02.1	
	17nm,0.9s						
KRBS	**Karabastau**	**4.56**	**19**	*e*P	Pg	15 22 01.4	-1.2
	6.7nm,0.6s						
KRBS				*e*S	Sg	15 23 00.2	-1.6
	15nm,0.9s						
KRBS	**Karabastau**	**4.56**	**19**	Pg	Pg	15 22 01.4	-1.2
	6.7nm,0.6s						
KRBS				Lg	Lg	15 23 00.2	
	15nm,0.9s						
KOTS	**Kotyrbulak**	**4.64**	**33**	*e*P	Pg	15 22 04.3	+0.3
	12nm,0.6s						
KOTS				*e*S	Sg	15 23 05.3	+1.2
	67nm,0.8s						
KOTS	**Kotyrbulak**	**4.64**	**33**	Pg	Pg	15 22 04.4	+0.3
	12nm,0.6s						
KOTS				Lg	Lg	15 23 05.3	
	67nm,0.8s						
BRLS	**Borolday**	**4.66**	**323**	*e*P	Pg	15 22 01.8	-2.7
	5.5nm,0.4s						
BRLS				*e*S	Sg	15 23 01.0	-3.7
	21nm,0.8s						
KTBS	**Karatobe**	**4.88**	**27**	*e*P	Pg	15 22 07.6	-1.0
	5.3nm,0.8s						
KTBS				*e*S	Sg	15 23 11.4	-0.4
	25nm,0.6s						
KTBS	**Karatobe**	**4.88**	**27**	Pg	Pg	15 22 07.6	-1.0
	5.3nm,0.8s						
KTBS				Lg	Lg	15 23 11.4	
	25nm,0.6s						
KUU	**Kurty**	**4.93**	**23**	*e*P	Pg	15 22 08.3	-1.2
	4.4nm,0.7s						
KUU				*e*S	Sg	15 23 12.2	-1.3
	15nm,0.8s						
KUU	**Kurty**	**4.93**	**23**	Pg	Pg	15 22 08.4	-1.2
	4.4nm,0.7s						
KUU				Lg	Lg	15 23 12.2	
	15nm,0.8s						
ZHN	**Zhinishke**	**5.21**	**42**	*e*P	Pg	15 22 12.5	-2.5
	2.0nm,0.3s						
ZHN				*e*S	Sg	15 23 19.4	-3.0
	14nm,0.7s						
ZHN	**Zhinishke**	**5.21**	**42**	Pg	Pg	15 22 12.5	-2.5
	2.0nm,0.3s						
ZHN				Lg	Lg	15 23 19.4	
	14nm,0.7s						
UZB	**Uzynbulak**	**5.51**	**45**	*e*P	Pg	15 22 18.4	-2.3
	4.6nm,0.6s						
UZB				*e*S	Sg	15 23 30.6	-1.5
	10.0nm,1.3s						
UZB	**Uzynbulak**	**5.51**	**45**	Pg	Pg	15 22 18.4	-2.3
	4.6nm,0.6s						
UZB				Lg	Lg	15 23 30.6	
	10.0nm,1.3s						
ARXS	**Arharly**	**5.74**	**31**	*e*P	Pg	15 22 23.2	-1.8
	6.0nm,0.6s						
ARXS				*e*S	Sg	15 23 37.9	-1.5
	15nm,0.9s						
ARXS	**Arharly**	**5.74**	**31**	Pg	Pg	15 22 23.2	-1.8
	6.0nm,0.6s						
ARXS				Lg	Lg	15 23 37.8	
	15nm,0.9s						
BLB	**Baldybastay**	**5.92**	**36**	*e*P	Pg	15 22 27.5	-1.1
	7.4nm,0.7s						
BLB				*e*S	Sg	15 23 45.1	-0.1
	11nm,0.8s						
BLB	**Baldybastay**	**5.92**	**36**	Pg	Pg	15 22 27.5	-1.1
	7.4nm,0.7s						
BLB				Lg	Lg	15 23 45.1	
	11nm,0.8s						
AB31	**Akbulak array**	**13.91**	**320**	⇑P	Pn	15 23 54.6	+3.1
	0.4nm,0.6s,baz=128,slow=13,SNR=9.6						
AKTO	**Aktyubinsk**	**15.63**	**320**	⇑P	P	15 24 18.0	-0.6
	3.9nm,1.1s						

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*IDC **30** 15:36:31.4±0.8, 21°.33S×69°.48W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.8/30, mbtmp3.7/8, ML4.1/2, MS3.4/2, Ms1 3.5/2, ms1mx2.9/53, Error ellipse: s-maj=31.9km s-min=12.5km az=72.0*
*GUC **30** 15:36:32.0±0.9, 21°.34S×69°.52W, h19km±3km, ML4.1*
ISC 30 15:36:31.9±1.0, 21°.35S±0°.02×69°.53W±0°.04, h9km±7km, n40, σ1°.28/45, mb3.6/6, 2C-9D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.30**	**8**	⇓*i*P	Pg	15 36 38.0	+0.1
PB01				*i* S	Sg	15 36 42.0	0.0
PB02	**IPOC Station P**	**0.34**	**274**	⇑*i*P	Pg	15 36 39.3	+0.6
PB02				*i* S	Sg	15 36 44.0	+0.9
PB07	**IPOC Station P**	**0.50**	**221**	⇓*i*P	Pg	15 36 42.1	+0.5
PB07				*e*S	Sg	15 36 48.7	+0.4
PB07				IAML		15 36 49.5	
	comp=N,12μm,0.2s						
PB09	**IPOC Station P**	**0.52**	**149**	⇓*i*P	Pb	15 36 42.4	-1.0
PB09				*e*S	Sg	15 36 49.3	+0.3
PB03	**IPOC Station P**	**0.73**	**196**	⇓*i*P	Pb	15 36 45.9	-1.0
PB03				*e*S	Sb	15 36 54.9	-2.2
TA01	**Diego Aracena**	**0.98**	**322**	⇑*i*P	Pb	15 36 50.2	-0.9
TA01				*e*S	Sb	15 37 03.5	-0.8
PB04	**IPOC Station P**	**1.14**	**210**	⇓*i*P	Pn	15 36 52.7	-1.5
TA02	**Huaiquique**	**1.21**	**332**	*e*P	Pb	15 36 54.2	-0.7
TA02				*e*S	Sn	15 37 10.2	-1.3
PB08	**IPOC Station P**	**1.25**	**17**	⇓*i*P	Pb	15 36 55.2	-0.7
PB08				*e*S	Sn	15 37 11.2	-1.9
PB06	**IPOC Station P**	**1.35**	**182**	*i* P	Pn	15 36 56.4	-0.7
PB06				*e*S	Sn	15 37 13.3	-2.1
PB06				IAML		15 37 15.8	
	comp=N,4μm,0.7s						
LVC	**Limon Verde**	**1.38**	**155**	Pg	Pb	15 36 57.9	-0.3
	comp=N,60nm,0.3s,baz=333,slow=12,SNR=656						
LVC				Lg	Lg	15 37 15.5	
	comp=N,243nm,0.3s,baz=334,slow=12,SNR=20						
LVC				LR	LR	15 37 47.6	
	comp=N,292nm,21.0s,baz=4.5,slow=55						
PB11	**IPOC Station P**	**1.58**	**356**	⇓*i*P	Pb	15 36 60.0	-1.5
PB11				*e*S	Sb	15 37 20.2	-1.4
PB11				IAML		15 37 26.5	
	comp=N,5μm,0.5s						
GO01	**Chusmiza**	**1.70**	**11**	⇓*i*P	Pb	15 37 02.6	-1.0
GO01				*e*S	Sb	15 37 24.8	-0.5
GO01				IAML		15 37 30.9	
	comp=N,4μm,0.1s						
PB15	**IPOC Station P**	**1.85**	**178**	*e*P	Pb	15 37 04.5	-1.7
PB15				*e*S	Sb	15 37 28.8	-0.7
MNMC	**Minye Minye**	**2.20**	**358**	⇓*i*P	Pb	15 37 10.6	-1.5
MNMC				*e*S	Sb	15 37 39.2	-0.4
MNMC				IAML		15 37 47.8	
	comp=N,5μm,0.5s						
PB10	**IPOC Station P**	**2.35**	**203**	*e*P	Pn	15 37 11.9	+1.1
PB10				*e*S	Sb	15 37 42.5	-1.2
PB10				IAML		15 37 48.6	
	comp=N,1μm,0.5s						
PB12	**IPOC Station P**	**2.82**	**344**	*e*P	Pn	15 37 18.0	+0.7
PB12				*e*S	Sn	15 37 51.9	+0.4
PB16	**IPOC Station P**	**3.00**	**0**	*e*P	Pb	15 37 23.2	-2.6
PB16				*e*S	Sb	15 38 01.4	-1.4
PB16				IAML		15 38 09.9	
	comp=E,439nm,0.5s						
AP01	**Chacalluta**	**3.06**	**345**	*e*P	Pb	15 37 23.1	-3.4
LPAZ	**La Paz**	**5.20**	**15**	Pn	Pn	15 37 55.0	+4.4
	comp=E,1.2nm,0.3s,baz=184,slow=8.0,SNR=20						
LPAZ				Pg	Pg	15 38 07.1	-4.5
	comp=E,2.3nm,0.3s,baz=231,slow=15,SNR=11						
LPAZ				LR	LR	15 40 20.9	
	comp=E,264nm,20.8s,baz=126,slow=44						
SIV	**San Ignacio**	**9.62**	**58**	Pn	Pn	15 38 51.8	+1.1
	comp=E,0.8nm,0.3s,baz=250,slow=14,SNR=8.4						
H03N1	**Juan Fernandez**	**14.64**	**213**	T	T	15 54 19.6	
	baz=36,slow=72,SNR=33						
H03N2	**Juan Fernandez**	**14.65**	**213**	T	T	15 54 23.9	
	baz=36,slow=72,SNR=32						
H03N3	**Juan Fernandez**	**14.65**	**213**	T	T	15 54 22.7	
	baz=36,slow=72,SNR=27						
PLCA	**Paso Flores**	**19.35**	**182**	P	Pn	15 40 59.2	+0.4
	comp=E,0.2nm,0.3s,baz=3.7,slow=12,SNR=10.0						
PTGA	**Pitinga**	**22.52**	**26**	P	P	15 41 31.7	-0.4
	comp=E,2.8nm,0.5s,baz=206,slow=23,SNR=3.2						
MDP	**Montagnes des**	**31.07**	**34**	LR	LR	15 55 52.5	
	comp=E,118nm,18.5s,baz=312,slow=37						
TXAR	**Lajitas Array**	**60.17**	**326**	P	P	15 46 40.9	+0.6
	comp=E,0.2nm,0.7s,baz=151,slow=6.0,SNR=2.4						
PDAR	**Pinedale Array**	**73.69**	**330**	P	P	15 48 07.7	+1.3
	comp=E,0.2nm,0.7s,baz=137,slow=5.8,SNR=0.9						
NVAR	**Mina Array Bea**	**75.02**	**322**	P	P	15 48 16.2	+2.0
	comp=E,0.2nm,0.5s,baz=147,slow=5.2,SNR=2.2						
TORD	**Torodi Ar. Bea**	**77.85**

ISC 30 15:53:54.2±0.7, 18°.85N±0°.08×145°.4E±0°.1, h300km, n32, σ1$47/29, mb3.8/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.25**	**185**	Pn	**Pn**	**15 55 18.1**	**+3.4**
MJAR	**Matsushiro Arr**	**18.72**	**342**	P	**P**	**15 57 50.8**	**-0.7**
	0.0nm,0.3s,baz=161,slow=9.1,SNR=2.3						
JNU	**Nakatsue**	**19.24**	**320**	P	**P**	**15 57 55.4**	**-1.7**
JNU				IAmb	IAmb	15 58 05.5	
	comp=Z,12nm,1.1s						
JMM	**Marumori**	**19.36**	**349**	P	**P**	**15 57 56.2**	**-2.1**
JMM				IAmb	IAmb	15 57 56.5	
	comp=Z,14nm,1.1s						
JHS	**Saijyo**	**19.41**	**328**	P	**P**	**15 57 58.7**	**-0.2**
SSLB	**Suanglung**	**23.25**	**286**	P	**P**	**15 58 36.2**	**+0.5**
MYLDM	**Lahad Datu**	**29.51**	**246**	P	**P**	**15 59 32.6**	**+1.0**
MYLDM				IAmb	IAmb	15 59 38.9	
	comp=Z,8.5nm,1.0s						
COEN	**Coen**	**32.67**	**184**	P	**P**	**15 59 56.7**	**-2.3**
COEN				IAmb	IAmb	15 59 57.8	
	comp=Z,8.5nm,1.1s						
SOEI	**Soe**	**35.22**	**218**	P	**P**	**16 00 19.7**	**-1.4**
MMRI	**Maumere**	**35.58**	**222**	P	**P**	**16 00 22.9**	**-1.0**
SBUM	**Sibu**	**36.30**	**247**	P	P	16 00 28.9	-1.2
CTA	**Charters Tower**	**38.70**	**179**	P	**P**	**16 00 49.0**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=25,slow=17,SNR=1.6						
CTAO	**Charters Tower**	**38.70**	**179**	P	P	16 00 45.8	-4.2
CTAO				IAmb	IAmb	16 00 58.2	
	comp=Z,6.3nm,1.1s						
WB0	**Warramunga Arr**	**39.85**	**196**	P	**P**	**16 00 58.6**	**-0.9**
WB0				IAmb	IAmb	16 00 59.1	
	comp=Z,5.3nm,0.6s						
WR0	**Warramunga Arr**	**40.00**	**196**	P	**P**	**16 00 59.8**	**-0.8**
WR0				IAmb	IAmb	16 01 06.6	
	comp=Z,3.8nm,0.9s						
WRAB	**Tennant Creek**	**40.02**	**196**	P	**P**	**16 00 58.5**	**-2.4**
WRAB				IAmb	IAmb	16 01 00.6	
	comp=Z,10nm,0.6s						
WB2	**Warramunga Arr**	**40.03**	**196**	P	**P**	**16 00 59.9**	**-1.1**
WB2				IAmb	IAmb	16 01 00.7	
	comp=Z,7.8nm,0.6s						
WRA	**Warramunga Arr**	**40.03**	**196**	P	**P**	**16 01 00.0**	**-0.9**
	comp=Z,5.0nm,0.6s,baz=22,slow=9.2,SNR=71						
WRA	**Warramunga Arr**	**40.03**	**196**	P	**P**	**16 00 59.0**	**-1.9**
FITZ	**Fitzroy Crossi**	**41.51**	**209**	P	**P**	**16 01 12.4**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=46,slow=7.4,SNR=11						
AS31	**Alice Springs**	**43.71**	**195**	P	**P**	**16 01 28.6**	**-1.8**
ASAR	**Alice Springs**	**43.71**	**195**	P	**P**	**16 01 29.5**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=18,slow=7.3,SNR=19						
ASAR	**Alice Springs**	**43.71**	**195**	P	P	16 01 27.4	-3.1
DZM	**Mont Dzumac**	**45.60**	**152**	P	**P**	**16 01 45.8**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=301,slow=12,SNR=5.8						
KULM	**Kulim**	**45.60**	**259**	P	**P**	**16 01 46.5**	**+0.9**
PSA00	**Pilbara Seismi**	**47.30**	**213**	P	**P**	**16 01 58.0**	**-0.4**
GSI	**Gunungsitoli**	**49.95**	**255**	P	**P**	**16 02 20.0**	**+1.3**
BBOO	**Buckleboo**	**52.13**	**190**	P	**P**	**16 02 33.7**	**-0.7**
BBOO				IAmb	IAmb	16 02 36.7	
	comp=Z,8.4nm,1.1s						
MKAR	**Makanchi Array**	**58.13**	**314**	P	**P**	**16 03 18.5**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=80,slow=7.9,SNR=1.8						
ILAR	**Eielson Array**	**63.66**	**26**	P	**P**	**16 03 53.0**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=261,slow=4.1,SNR=7.6						
YKA	**Yellowknife Ar**	**78.01**	**28**	P	**P**	**16 05 20.3**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=290,slow=5.4,SNR=6.5						
NVAR	**Mina Array Bea**	**83.30**	**52**	P	**P**	**16 05 49.5**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=262,slow=6.6,SNR=5.2						

*IDC **30** 16:04:09.7±2.7, 2°.46S×133°.20E, h0km, mb3.3/2, mb1 3.7/5, mb1mx3.4/29, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=74.7km s-min=21.7km az=66.0*

ISC 30 16:04:12.9±1.6, 2.74S±0°.10×132°.7E±0°.2, h10km, n5, σ1$60/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.32**	**323**	Pn	**Pn**	**16 04 51.4**	**+0.2**
	10nm,0.3s,baz=130,slow=11,SNR=21						
SIJI				Sn	**Sb**	**16 05 23.4**	**-0.1**
	17nm,0.3s,baz=220,slow=19,SNR=5.8						
FITZ	**Fitzroy Crossi**	**16.74**	**204**	P	**P**	**16 08 12.2**	**+2.2**
	0.3nm,0.3s,baz=34,slow=13,SNR=2.3						
FITZ				S	**Sn**	**16 11 12.7**	**-1.1**
	0.1nm,0.3s,baz=324,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**17.18**	**175**	P	**Pn**	**16 08 12.5**	**-0.7**
	0.1nm,0.3s,baz=357,slow=13,SNR=2.9						
WRA				S	Sn	16 11 15.6	-8.9
	0.1nm,0.3s,baz=354,slow=26,SNR=1.5						
ASAR	**Alice Springs**	**20.84**	**177**	P	**P**	**16 08 56.4**	**+1.4**
	3.6nm,0.9s,baz=1.2,slow=13,SNR=21						
ASAR				S	**S**	**16 12 45.9**	**-1.7**
	0.6nm,0.8s,baz=358,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**66.21**	**325**	P	**P**	**16 15 00.2**	**-0.9**
	0.1nm,0.6s,baz=110,slow=7.8,SNR=1.6						

*IDC **30** 16:22:13.7±0.9, 11°.28S×112°.86E, h0km, mb4.1/11, mb1 4.3/15, mb1mx4.0/34, mbtmp4.2/15, ML3.9/4, MS3.0/2, Ms1 3.1/2, ms1mx2.7/72, Error ellipse: s-maj=30.8km s-min=12.3km az=40.0*

*NEIC **30** 16:22:17.7±2.6, 11°.40S±0°.07×112°.54E±0°.08, h35km±6km, mb4.4/23, Error ellipse: s-maj=11.4km s-min=10.1km az=46.0*

*DJA **30** 16:22:19.5±0.6, 11°.S±5°.×11°.3E±°., h55km±55km, M4.6/16, mb4.6/7, mB5.0/4, MLv4.7/16, Mw(mB)4.4/4*

ISC 30 16:22:17.1±0.5, 11°.38S±0°.05×112°.61E±0°.05, h35km, n84, σ2$13/91, mb4.3/20, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**3.20**	**15**	P	**Pn**	**16 23 04.9**	**0.0**
GMJI				S	**Sn**	**16 23 39.4**	**-2.4**
JAGI	**Jajag, Banyuwa**	**3.27**	**28**	P	**Pn**	**16 23 06.0**	**+0.1**
JAGI				S	**Sn**	**16 23 43.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**3.27**	**28**	Pn	**Pn**	**16 23 06.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.27**	**28**	P	**Pn**	**16 23 06.8**	**+0.9**
PCJI	**Pacitan**	**3.47**	**336**	P	**Pn**	**16 23 05.8**	**-2.9**
IGBI	**Denpasar**	**3.57**	**45**	P	**Pn**	**16 23 10.6**	**+0.6**
DNP	**Denpasar**	**3.71**	**44**	P	**Pn**	**16 23 13.1**	**+1.1**
BLJI	**Banyuglugur**	**3.74**	**15**	P	**Pn**	**16 23 13.7**	**+1.3**
ABJI	**Asem Bagus**	**3.91**	**24**	P	**Pn**	**16 23 16.5**	**+1.8**
UGM	**Wanagama**	**4.01**	**329**	P	**Pn**	**16 23 15.5**	**-0.8**
UGM				S	**Sn**	**16 23 58.5**	**-3.6**
UGM	**Wanagama**	**4.01**	**329**		**Pn**	**16 23 15.4**	**-0.8**
UGM	**Wanagama**	**4.01**	**329**	P	**Pn**	**16 23 15.5**	**-0.8**
SRBI	**Singaraja**	**4.16**	**38**	P	**Pn**	**16 23 19.5**	**+1.3**
SRBI				S	**Sn**	**16 24 04.6**	**-1.0**
YOGI	**Yogyakarta**	**4.21**	**327**	P	**Pn**	**16 23 18.6**	**-0.3**
YOGI				S	**Sn**	**16 24 03.2**	**-3.8**
KMMI	**Kalianget**	**4.51**	**17**	P	**Pn**	**16 23 23.1**	**+0.1**
SMRI	**Semarang**	**4.81**	**333**	P	**Pn**	**16 23 27.2**	**+0.1**
CMJI	**Cimerak**	**5.44**	**311**	P	**Pn**	**16 23 34.5**	**-1.3**
	0.4nm1μm68nm,1.0s						
LEM	**Lembang**	**6.69**	**312**	Pn	Pn	16 23 56.2	+3.1
	4.7nm,0.3s,baz=143,slow=20,SNR=2.3						
LEM				Sn	**Sn**	**16 25 10.0**	**+1.7**
	3.0nm,0.3s,baz=88,slow=18,SNR=4.6						
CNJI	**Cibinong**	**6.75**	**306**	P	**Pn**	**16 23 52.3**	**-1.6**
	0.5nm2μm76nm,1.1s						
XMI	**Christmas Isla**	**6.86**	**277**	P	**Pn**	**16 23 53.4**	**-1.9**
WBSI	**Waikababuk, Su**	**6.89**	**76**	P	**Pn**	**16 23 56.6**	**+0.9**
	0.5nm65nm,1.1s						
XMIS	**Christmas Isla**	**6.89**	**277**	Pn	**Pn**	**16 23 53.5**	**-2.2**
XMIS	**Christmas Isla**	**6.89**	**277**	P	**Pn**	**16 23 53.6**	**-2.2**
CGJI	**Cibinong**	**8.31**	**304**	P	**Pn**	**16 24 15.0**	**-0.3**
	1μm58nm,0.7s						
BSSI	**Bau Bau, Buton**	**9.37**	**57**	P	**Pn**	**16 24 30.5**	**+0.8**
	20nm,1.3s						
KAPI	**Kappang**	**9.48**	**49**	Pn	**Pn**	**16 24 28.5**	**-2.9**
	0.9nm,0.3s,baz=206,slow=9.5,SNR=1.6						
KAPI				Sn	**Sn**	**16 26 10.1**	**-6.6**
	1.5nm,0.3s,baz=257,slow=23,SNR=1.9						
KAPI				LR	LR	16 29 11.1	
	comp=Z,77nm,18.4s,baz=228,slow=45						
MMRI	**Maumere**	**9.87**	**75**	Pn	**Pn**	**16 24 36.7**	**+0.1**
KASI	**Kota Agung**	**9.91**	**305**	P	**Pn**	**16 24 37.1**	**-0.1**
	22nm,0.8s						
BNSI	**Bone**	**10.16**	**48**	P	**Pn**	**16 24 43.2**	**+2.6**
BATI	**Baumata**	**10.92**	**85**	Pn	**Pn**	**16 24 48.8**	**-2.3**
	1.4nm,0.3s,baz=282,slow=12,SNR=1.5						
BATI				Sn	**Sn**	**16 26 47.9**	**-4.2**
	2.9nm,0.3s,baz=246,slow=21,SNR=1.4						
GIRL	**Giralia**	**11.31**	**172**	Pn	**Pn**	**16 24 56.6**	**+0.3**
GIRL	**Giralia**	**11.31**	**172**	P	**Pn**	**16 24 56.2**	**-0.1**
SOEI	**Soe**	**11.57**	**83**	Pn	**Pn**	**16 25 01.8**	**+1.7**
SOEI	**Soe**	**11.57**	**83**	P	**Pn**	**16 25 02.8**	**+2.7**
MNAI	**Manna**	**11.83**	**305**	Pn	**Pn**	**16 25 02.7**	**-0.8**
MBWA	**Marble Bar**	**11.88**	**146**	Pn	**Pn**	**16 25 02.9**	**-1.3**
MBWA	**Marble Bar**	**11.88**	**146**	P	**Pn**	**16 25 02.7**	**-1.4**
PSA00	**Pilbara Seismi**	**12.28**	**147**	Pn	**Pn**	**16 25 07.8**	**-1.7**
PSA00	**Pilbara Seismi**	**12.28**	**147**	P	**Pn**	**16 25 08.1**	**-1.5**
FITZ	**Fitzroy Crossi**	**14.26**	**119**	Pn	**Pn**	**16 25 36.1**	**-0.5**
	0.2nm,0.3s,baz=278,slow=14,SNR=1.2						
FITZ				Sn	Sn	16 28 03.0	-11
	1.4nm,0.3s,baz=0.0,slow=20,SNR=6.2						
TOLI2	**Tolitoli**	**14.83**	**34**	P	**P**	**16 25 50.2**	**+0.4**
MEEK	**Meekatharra**	**16.20**	**160**	P	**P**	**16 26 01.3**	**-3.7**
KNRA	**Kununurra**	**16.27**	**107**	Pn	**P**	**16 26 02.9**	**-2.9**
KNRA				IAmb	IAmb	16 26 33.6	
	comp=Z,45nm,1.4s						
KNRA	**Kununurra**	**16.27**	**107**	P	**P**	**16 26 05.6**	**-0.2**
MYLDM	**Lahad Datu**	**17.47**	**20**		**P**	**16 26 18.6**	**-0.4**
MYLDM				IAmb	IAmb	16 26 21.5	
	comp=Z,29nm,1.2s						
KKM	**Kota Kinabalu**	**17.68**	**12**	Pn	**P**	**16 26 19.5**	**-2.1**
KKM				IAmb	IAmb	16 26 44.9	
	comp=Z,28nm,1.2s						
MORW	**Morawa**	**17.89**	**170**		**P**	**16 26 22.9**	**-0.8**
MORW	**Morawa**	**17.89**	**170**	P	**P**	**16 26 22.9**	**-0.8**
GSI	**Gunungsitoli**	**19.55**	**309**	P	**Pn**	**16 26 41.3**	**-2.2**
GSI				IAmb	IAmb	16 26 49.6	
	comp=Z,40nm,1.1s						
KULM	**Kulim**	**20.39**	**324**	P	Pn	16 26 50.5	-3.0
FAKI	**Fak Fak**	**21.21**	**68**	P	**P**	**16 26 59.9**	**-0.2**
SIJI	**Sorong**	**21.26**	**62**	P	**P**	**16 27 00.7**	**+0.1**
	comp=Z,12nm,0.6s,baz=180,slow=20,SNR=1.7						
WB0	**Warramunga Arr**	**22.56**	**114**	P	**P**	**16 27 16.9**	**+2.4**
WB0				IAmb	IAmb	16 27 25.1	
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**22.57**	**115**	P	**P**	**16 27 15.9**	**+1.3**
	comp=Z,4.7nm,0.6s,baz=283,slow=9.6,SNR=64						
WRA				PcP	**PcP**	**16 31 10.2**	**+2.8**
	comp=Z,0.6nm,0.6s,baz=282,slow=2.2,SNR=3.4						
WRA				S	**S**	**16 31 18.9**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=292,slow=26,SNR=2.6						
WRA	**Warramunga Arr**	**22.57**	**115**	P	**P**	**16 27 16.3**	**+1.7**
WRAB	**Tennant Creek**	**22.57**	**115**	P	**P**	**16 27 16.7**	**+2.0**
WRAB				IAmb	IAmb	16 27 25.4	
	comp=Z,8.8nm,0.8s						
WB2	**Warramunga Arr**	**22.58**	**115**	P	**P**	**16 27 17.2**	**+2.5**
WB2				IAmb	IAmb	16 27 25.4	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**22.75**	**115**	P	**P**	**16 27 19.0**	**+2.5**
WR0				IAmb	IAmb	16 27 19.8	
	comp=Z,10nm,0.7s						
AS31	**Alice Springs**	**23.66**	**124**	P	**P**	**16 27 28.5**	**+2.9**
ASAR	**Alice Springs**	**23.66**	**124**	P	**P**	**16 27 27.6**	**+2.0**
	comp=Z,8.6nm,0.7s,baz=301,slow=9.9,SNR=184						
ASAR				PcP	**PcP**	**16 31 13.0**	**+3.4**
	comp=Z,0.9nm,0.5s,baz=285,slow=1.7,SNR=6.7						
ASAR				S	**S**	**16 31 46.2**	**+8.0**
	comp=Z,0.5nm,0.7s,baz=303,slow=24,SNR=2.3						
ASAR	**Alice Springs**	**23.66**	**124**	P	**P**	**16 27 25.8**	**+0.2**
ASAR					**PcP**	**16 31 13.1**	**+3.4**
FORT	**Forrest**	**24.04**	**146**	P	**P**	**16 27 29.0**	**0.0**
COEN	**Coen**	**29.92**	**98**	P	**P**	**16 28 21.3**	**-0.8**
COEN				IAmb	IAmb	16 28 26.8	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**30.31**	**138**	P	**P**	**16 28 25.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**32.57**	**335**	P	**P**	**16 28 46.8**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=169,slow=8.4,SNR=7.6						
CMAR				LR	LR	16 42 19.1	
	comp=Z,32nm,19.6s,baz=300,slow=37						
CTAO	**Charters Tower**	**33.46**	**109**	P	**P**	**16 28 49.5**	**-3.7**
STKA	**Stephens Creek**	**33.61**	**132**	P	**P**	**16 28 53.2**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=64,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**33.61**	**132**	P	**P**	**16 28 50.9**	**-3.4**
H08S2	**Diego Garcia H**	**39.72**	**272**	T	T	17 11 49.9	
	baz=98,slow=75,SNR=15						
H08S3	**Diego Garcia H**	**39.73**	**272**	T	T	17 11 50.9	
	baz=98,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**39.73**	**272**	T	T	17 11 51.4	
	baz=98,slow=75,SNR=5.9						
MJAR	**Matsushiro Arr**	**53.42**	**26**	P	**P**	**16 31 33.7**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=127,slow=9.7,SNR=1.1						
USRK	**Ussuriysk Ar.**	**58.05**	**16**	P	**P**	**16 32 07.5**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=201,slow=7.1,SNR=4.7						
NIL	**Nilore**	**58.38**	**322**	P	**P**	**16 32 08.7**	**-0.6**
SONM	**Songino Array**	**59.21**	**355**	P	**P**	**16 32 16.5**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=171,slow=8.8,SNR=4.5						
MK31	**Makanchi Array**	**63.95**	**337**	P	**P**	**16 32 48.5**	**+1.7**
MK31				IAmb	IAmb	16 32 57.1	
	comp=Z,2.6nm,0.8s						
MKAR	**Makanchi Array**	**63.95**	**337**	P	**P**	**16 32 48.7**	**+1.9**
	comp=Z,2.9nm,0.6s,baz=148,slow=7.6,SNR=67						
AAK	**Ala-Archa**	**64.09**	**330**	P	P	16 32 50.4	+2.4
AAK				IAmb	IAmb	16 32 51.2	
	comp=Z,7.0nm,1.2s						
ZALV	**Zalesovo Beam**	**69.23**	**343**	P	**P**	**16 33 20.9**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=163,slow=6.8,SNR=8.0						
ZALV	**Zalesovo Beam**	**69.23**	**343**	P	**P**	**16 33 21.0**	**+0.7**
ABKAR	**Akbulak array**	**76.03**	**328**	P	**P**	**16 34 02.1**	**+1.3**
ABKAR				IAmb	IAmb	16 34 11.7	
	comp=Z,4.6nm,0.8s						
QSPA	**South Pole Qui**	**78.63**	**180**	P	**P**	**16 34 17.6**	**+2.3**
QSPA				IAmb	IAmb	16 34 40.8	
	comp=Z,7.1nm,1.4s						
BRTR	**Keskin Array B**	**88.86**	**311**	P	**P**	**16 35 09.3**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=131,slow=5.3,SNR=7.8						
YKA	**Yellowknife Ar**	**118.88**	**23**	PKP	**PKiKP**	**16 41 03.4**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=305,slow=1.7,SNR=6.7						

*DDA **30** 16:27:00.9±0.0, 39°.62N×26°.04E, h13km, ML2.6*
*ISK **30** 16:27:00.7, 39°.63N×26°.02E, h6km, ML2.9/22*
*THE **30** 16:27:01.4, 39°.64N×25°.99E, h10km±1km, ML2.3/10, Error ellipse: s-maj=1.5km s-min=0.7km az=95.0*
*ATH **30** 16:27:01.0, 39°.61N×25°.99E, h29km±5km, ML2.4/13, Error ellipse: s-maj=6.0km s-min=1.1km az=170.0*

ISC 30 16:27:01.0±0.8, 39°.62N±0°.01×26°.02E±0°.02, h15km±6km, n70, σ0$54/113, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.15**	**142**	P	**Pg**	**16 27 04.8**	**-0.1**
KOCA				S	**Sg**	**16 27 07.2**	**-0.3**
KOCA				*i* AML	AML	16 27 08.0	
	comp=N,2μm,0.2s						
BOZC	**Bozcaada**	**0.22**	**7**	PG	**Pg**	**16 27 05.9**	**-0.1**
BOZC				SG	**Sg**	**16 27 09.5**	**+0.2**
BOZC	**Bozcaada**	**0.22**	**7**	P	**Pg**	**16 27 05.9**	**-0.1**
BOZC				S	**Sg**	**16 27 09.5**	**+0.2**
EZN	**Ezine**	**0.31**	**49**	P	**Pg**	**16 27 07.5**	**-0.1**
EZN				S	**Sg**	**16 27 12.1**	**+0.2**
	1μm,0.3s						
EZN	**Ezine**	**0.31**	**49**	PG	**Pg**	**16 27 07.4**	**-0.1**
EZN				SG	**Sg**	**16 27 12.1**	**+0.2**
PRK	**Paraskevi**	**0.42**	**152**	P	**Pb**	**16 27 10.6**	**+0.4**
PRK				S	**Sb**	**16 27 16.7**	**+0.3**
	1μm,0.4s						
PRK	**Paraskevi**	**0.42**	**152**	P	**Pb**	**16 27 10.7**	**+0.4**
PRK				S	**Sb**	**16 27 16.3**	**-0.1**
PRK				AML	AML	16 27 17.0	
	comp=N,2723μm,0.3s						
PRK				AML	AML	16 27 18.0	
	comp=E,2540μm,0.4s						
SIGR	**SIGRI**	**0.43**	**197**	P	**Pg**	**16 27 09.6**	**0.0**
SIGR				S	**Sb**	**16 27 16.1**	**-0.5**
	comp=E,2μm,0.5s						
SIGR	**SIGRI**	**0.43**	**197**	P	**Pg**	**16 27 09.6**	**0.0**
SIGR				S	**Sg**	**16 27 15.7**	**+0.3**
SIGR				AML	AML	16 27 16.7	
	comp=E,2064μm,0.3s						
SIGR				AML	AML	16 27 16.9	
	comp=N,4174μm,0.2s						
SIGR	**SIGRI**	**0.43**	**197**	PG	**Pg**	**16 27 09.6**	**0.0**
SIGR				SG	**Sb**	**16 27 16.2**	**-0.4**
ECEA	**Canakkale, Ece**	**0.44**	**16**	P	**Pg**	**16 27 10.0**	**+0.2**
ECEA				S	**Sb**	**16 27 16.6**	**-0.3**
ECEA				*i* AML	AML	16 27 18.0	
	comp=N,457nm,0.4s						
GOKA	**anakkale-Gk**	**0.57**	**352**	P	**Pg**	**16 27 12.2**	**-0.1**
GOKA				S	**Sg**	**16 27 19.8**	**-0.2**
GOKA				*i* AML	AML	16 27 25.0	
	comp=N,362nm,0.2s						
GADA	**Gvkgeada**	**0.57**	**351**	P	**Pg**	**16 27 12.1**	**-0.2**
GADA				S	**Sg**	**16 27 19.9**	**-0.1**
	comp=N,128nm,0.2s						
GADA	**Gvkgeada**	**0.57**	**351**	PG	**Pg**	**16 27 12.1**	**-0.2**
GADA				SG	**Sg**	**16 27 20.3**	**+0.3**
AYVA	**Ayvalik**	**0.61**	**121**	P	**Pg**	**16 27 12.8**	**-0.2**
AYVA				S	**Sb**	**16 27 21.7**	**0.0**
AYVA				*i* AML	AML	16 27 25.0	
	comp=N,266nm,0.2s						
AYVA				*i* AML	AML	16 27 25.0	
	comp=N,715nm,0.7s						
LIA	**Limnos Island**	**0.70**	**293**	P	**Pb**	**16 27 14.8**	**-0.1**
LIA				S	**Sb**	**16 27 24.1**	**-0.3**
	comp=N,428nm,0.4s						
LIA	**Limnos Island**	**0.70**	**293**	P	**Pb**	**16 27 14.9**	**0.0**
LIA				S	**Sb**	**16 27 24.1**	**-0.3**
LIA				AML	AML	16 27 27.5	
	comp=E,828μm,0.4s						
LIA				AML	AML	16 27 27.9	
	comp=N,873μm,0.3s						
EFSA	**Agios Efstrati**	**0.80**	**264**	P	**Pb**	**16 27 16.7**	**+0.1**
BUHA	**Balikesir, Bur**	**0.83**	**98**	P	**Pg**	**16 27 16.8**	**-0.3**
BUHA				S	**Sg**	**16 27 27.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.85**	**24**	PG	**Pg**	**16 27 17.4**	**-0.1**
GELI				SG	**Sb**	**16 27 29.4**	**+0.7**
DKL	**Dikili**	**0.88**	**128**	PG	**Pg**	**16 27 18.1**	**0.0**
DKL				SG	**Sn**	**16 27 30.9**	**-0.5**
SMTH	**Samothraki Isl**	**0.93**	**336**	P	**Pg**	**16 27 18.7**	**-0.2**
SMTH				S	**Sb**	**16 27 31.8**	**+0.9**
	comp=N,200nm,0.1s						
SMTH	**Samothraki Isl**	**0.93**	**336**	P	**Pg**	**16 27 18.7**	**-0.2**
SMTH				S	**Sg**	**16 27 29.6**	**-1.5**
SMTH				AML	AML	16 27 33.4	
	comp=E,327μm,0.1s						
SMTH				AML	AML	16 27 33.8	
	comp=N,466μm,0.2s						
ZEDA	**zmir-Bergama**	**1.05**	**128**	P	**Pb**	**16 27 20.8**	**-0.1**
ZEDA				S	**Sg**	**16 27 35.3**	**+0.2**
ZEDA				*i* AML	AML	16 27 38.0	
	comp=N,162nm,0.4s						
FOCM	**Foa**	**1.06**	**148**	PG	**Pg**	**16 27 21.5**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.07**	**6**	P	**Pn**	**16 27 21.7**	**+0.2**
CAVK				S	**Sn**	**16 27 36.4**	**+0.2**
CAVK				*i* AML	AML	16 27 43.0	
	comp=N,118nm,0.3s						
ERIK	**Erikli-Kesan**	**1.11**	**20**	PN	**Pb**	**16 27 21.8**	**-0.2**
ENEZ	**Enez**	**1.12**	**5**	PN	**Pg**	**16 27 22.8**	**+0.2**
ENEZ				SN	**Sn**	**16 27 38.7**	**+1.4**
PSRA	**Psara**	**1.14**	**198**	P	**Pn**	**16 27 22.6**	**+0.2**
PSRA				AML	AML	16 27 42.5	
	comp=N,1072μm,0.1s						
PSRA				AML	AML	16 27 42.6	
	comp=E,992μm,0.2s						
CHOS	**Chios island**	**1.23**	**179**	P	**Pn**	**16 27 23.2**	**-0.6**
CHOS				S	**Sg**	**16 27 42.4**	**+1.5**
	comp=E,258nm,0.3s						
CHOS	**Chios island**	**1.23**	**179**	P	**Pn**	**16 27 23.4**	**-0.4**
CHOS				S	**Sb**	**16 27 38.3**	**-1.6**
CHOS				AML	AML	16 27 43.9	
	comp=E,656μm,0.3s						
CHOS				AML	AML	16 27 46.0	
	comp=N,457μm,0.3s						
CHOS	**Chios island**	**1.23**	**179**	PN	**Pg**	**16 27 24.8**	**0.0**
CHOS				SN	**Sg**	**16 27 42.3**	**+1.4**
BALY	**Balya**	**1.24**	**84**	P	**Pn**	**16 27 23.8**	**-0.2**
BALY				S	**Sn**	**16 27 40.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.25**	**52**	PN	**Pb**	**16 27 24.3**	**0.0**
ALN	**Alexandroupoli**	**1.27**	**1**	P	**Pn**	**16 27 24.5**	**+0.2**
ALN				S	**Sn**	**16 27 41.2**	**+0.1**
	comp=N,98nm,0.3s						
ALN	**Alexandroupoli**	**1.27**	**1**	P	**Pn**	**16 27 24.4**	**+0.2**
ALN				S	**Sb**	**16 27 41.0**	**+0.1**
ALN				AML	AML	16 27 43.0	
	comp=E,262μm,0.3s						
ALN				AML	AML	16 27 43.1	
	comp=N,125μm,0.4s						
ALN	**Alexandroupoli**	**1.27**	**1**	PN	**Pb**	**16 27 25.1**	**+0.4**
KESN	**Edirne-Kesan**	**1.30**	**23**	P	**Pn**	**16 27 25.1**	**0.0**
KESN

Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.32; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-0.34; $M_{r\theta}$1.00; $M_{\theta\phi}$-0.13; $M_{\phi r}$0.55; Fault plane solution: $M_0$1.19000×1016 NP1:φs58.00000°, δ83.00000°, λ101.00000°. NP2:φs179.00000°, δ13.00000°, λ31.00000°.

JMA ***30*** *17:23:32.3±0.2, 43.°67N×147.°75E, h9km, M4.5*

JMA Felt I J1.

MOS ***30*** *17:23:32.7±0.9, 43.°96N×147.°89E, h61km, mb5.2/29, Error ellipse: s-maj=5.9km s-min=4.5km az=117.6*

MOS Felt (II) at Goryachiy Plyazh, Malokuril'skoye, Yuzhno-Kuril'sk.

SKHL ***30*** *17:23:33.2±0.2, 43.°90N×148.°00E, h67km±7km, mb5.6/8*

IDC ***30*** *17:23:33.6±0.7, 43.°95N×147.°88E, h53km±6km, mb4.5/42, mb1 4.6/48, mb1mx4.4/76, mbtmp4.7/48, MS3.9/34, Ms1 3.9/34, ms1mx3.6/94, Error ellipse: s-maj=12.4km s-min=8.1km az=165.0*

NEIC ***30*** *17:23:35.2±1.2, 44.°00N±0.°08×147.°8E±0.°1, h66km±5km, mb4.9/176, Error ellipse: s-maj=13.0km s-min=10.2km az=137.0*

BGR ***30*** *17:23:42.9±0.0, 45.°62N×146.°06E, h33km, mb5.1*

ISC 30 17:23:33.6±0.5, 43.°92N±0.°04×147.°92E±0.°04, h58km±3km, h58km:pP-P, n777, σ1φ35/794, mb4.9/241, MS4.1/38, 59C-40D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.79**	**267**	*d i* PN			**Pn**	**17 23 48.0**	**-0.7**
SHO				*i* S			**Sn**	**17 23 59.8**	**-0.1**
SHO				pmax			pmax		
	comp=Z,11μm,0.3s								
SHO				pmax			pmax		
	comp=N,3μm,0.2s								
SHO				pmax			pmax		
	comp=E,6μm,0.3s								
SHO				smax			smax		
	comp=E,25μm,0.3s								
SHO				smax			smax		
	comp=N,55μm,0.5s								
SHO	**Shikotan**	**0.79**	**267**	*i* P			**Pn**	**17 23 48.0**	**-0.7**
SHO				AMB			AMB	17 23 49.1	
	comp=N,11μm,0.3s								
SHO				*i* S			**Sn**	**17 23 59.8**	**-0.1**
SHO				A			A	17 24 00.2	
	comp=N,55μm,0.5s								
SHO				A			A	17 24 00.2	
	comp=N,25μm,0.5s								
KUR	**Kuril'sk**	**1.32**	**358**	*e*PN			**Pn**	**17 23 56.2**	**+0.5**
KUR				*i* S			**Sn**	**17 24 13.3**	**+1.0**
KUR				pmax			pmax		
	comp=Z,2μm,0.4s								
KUR				smax			smax		
	comp=N,9μm,0.3s								
KUR				smax			smax		
	comp=E,6μm,0.2s								
KUR	**Kuril'sk**	**1.32**	**358**	*e*P			**Pn**	**17 23 56.2**	**+0.5**
KUR				AMB			AMB	17 24 00.8	
	comp=E,2μm,0.4s								
KUR				*i* S			**Sn**	**17 24 13.3**	**+1.0**
KUR				A			A	17 24 14.0	
	comp=E,9μm,0.3s								
KUR				A			A	17 24 14.0	
	comp=E,6μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.49**	**275**	*d i* PN			**Pn**	**17 23 57.8**	**-0.2**
YUK				*i* S			**Sn**	**17 24 15.4**	**-1.0**
YUK				pmax			pmax		
	comp=Z,6μm,0.3s								
YUK				pmax			pmax		
	comp=N,586nm,0.1s								
YUK				pmax			pmax		
	comp=E,1μm,0.1s								
YUK				smax			smax		
	comp=N,7μm,0.3s								
YUK				smax			smax		
	comp=E,40μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**1.49**	**275**	*i* P			**Pn**	**17 23 57.8**	**-0.2**
YUK				AMB			AMB	17 23 58.5	
	comp=E,6μm,0.3s								
YUK				*i* S			**Sn**	**17 24 15.4**	**-1.0**
YUK				A			A	17 24 16.7	
	comp=E,7μm,0.6s								
YUK				A			A	17 24 16.7	
	comp=E,40μm,0.6s								
GRPR	**Tuman**	**1.55**	**274**	⇓*i* PN			**Pn**	**17 23 58.6**	**-0.2**
GRPR				*i* S			**Sn**	**17 24 17.0**	**-0.9**
GRPR				pmax			pmax		
	comp=N,1μm,0.4s								
GRPR				pmax			pmax		
	comp=Z,3μm,0.4s								
GRPR				pmax			pmax		
	comp=E,440nm,0.1s								
GRPR				smax			smax		
	comp=E,10μm,0.3s								
GRPR				smax			smax		
	comp=N,22μm,0.2s								
GRPR	**Tuman**	**1.55**	**274**	*i* P			**Pn**	**17 23 58.6**	**-0.2**
GRPR				AMB			AMB	17 23 59.4	
	comp=N,3μm,0.4s								
GRPR				*i* S			**Sn**	**17 24 17.0**	**-0.9**
GRPR				A			A	17 24 19.6	
	comp=N,22μm,0.3s								
GRPR				A			A	17 24 19.6	
	comp=N,10μm,0.3s								
NEM2	**Nemuro 2**	**1.67**	**251**	P			**Pn**	**17 23 59.5**	**-1.0**
NEM2				*e*S			**Sn**	**17 24 18.8**	**-2.0**
NMR	**Nemuro--Hokkai**	**1.68**	**252**	⇓*i* PN			**Pn**	**17 23 59.5**	**-1.1**
NMR				*i* S			**Sn**	**17 24 18.5**	**-2.6**
NMR	**Nemuro--Hokkai**	**1.68**	**252**	*i* P			**Pn**	**17 23 59.5**	**-1.1**
NMR				*i* S			**Sn**	**17 24 18.5**	**-2.6**
GLVR	**Golovnino**	**1.75**	**265**	⇓*i* PN			**Pn**	**17 24 01.5**	**0.0**
GLVR				*i* S			**Sn**	**17 24 22.5**	**-0.1**
GLVR				pmax			pmax		
	comp=Z,9μm,0.3s								
GLVR				pmax			pmax		
	comp=N,932nm,0.2s								
GLVR				pmax			pmax		
	comp=E,701nm,0.2s								
GLVR				smax			smax		
	comp=N,32μm,0.5s								
GLVR				smax			smax		
	comp=E,49μm,0.6s								
GLVR	**Golovnino**	**1.75**	**265**	*i* P			**Pn**	**17 24 01.5**	**0.0**
GLVR				AMB			AMB	17 24 02.5	
	comp=E,9μm,0.3s								
GLVR				*i* S			**Sn**	**17 24 22.5**	**-0.1**
GLVR				A			A	17 24 23.7	
	comp=E,32μm,0.6s								
GLVR				A			A	17 24 23.7	
	comp=E,49μm,0.6s								
RUSJ	**Misakicho**	**1.94**	**276**	⇓*i* PN			**Pn**	**17 24 04.9**	**+0.8**
RUSJ				*i* S			**Sn**	**17 24 29.2**	**+2.0**
JRA	**Rausu**	**2.02**	**272**	P			**Pn**	**17 24 05.6**	**+0.4**
JRA				*e*S			**Sn**	**17 24 29.7**	**+0.4**
JNSB	**Nemuroshibetsu**	**2.11**	**267**	P			**Pn**	**17 24 07.0**	**+0.5**
JNSB				*e*S			**Sn**	**17 24 32.0**	**+0.4**
JKHN	**Kushirohamanak**	**2.17**	**248**	P			**Pn**	**17 24 06.7**	**-0.6**
JKHN				*e*S			**Sn**	**17 24 31.6**	**-1.4**
JNK	**Nakash**	**2.34**	**263**	P			**Pn**	**17 24 09.5**	**-0.1**
JNK				*e*S			**Sn**	**17 24 36.5**	**-0.7**
AKK	**Akkeshi**	**2.41**	**249**	*e*P			**Pn**	**17 24 09.7**	**-0.9**
AKK				*e*S			**Sn**	**17 24 36.9**	**-2.0**
JAK	**Akkeshi**	**2.52**	**250**	P			**Pn**	**17 24 11.2**	**-0.8**
JAK				*e*S			**Sn**	**17 24 39.8**	**-1.7**
JTKR	**Abashiri--Toko**	**2.90**	**272**	P			**Pn**	**17 24 18.3**	**+1.1**
JAR	**Ashorobuto**	**3.08**	**260**	P			**Pn**	**17 24 20.1**	**+0.5**
JAR				*e*S			**Sn**	**17 24 55.3**	**+0.1**
JOB	**Onbets**	**3.14**	**253**	P			**Pn**	**17 24 20.5**	**0.0**
JOB				*e*S			**Sn**	**17 24 56.1**	**-0.7**
JMP	**Maruseppu**	**3.29**	**273**	P			**Pn**	**17 24 24.0**	**+1.4**
JCH	**Churui**	**3.57**	**250**	P			**Pn**	**17 24 25.8**	**-0.6**
JCH				*e*S			**Sn**	**17 25 05.3**	**-2.1**
JTHR	**Tokachihiroo**	**3.75**	**246**	P			**Pn**	**17 24 29.4**	**+0.5**
JKA	**Kamikawa-asahi**	**3.84**	**275**	Pn			**Pn**	**17 24 31.2**	**+1.1**
JKA	**Kamikawa-asahi**	**3.84**	**275**	*e*P			**Pn**	**17 24 31.2**	**+1.1**
ASAJ	**Asahikawa**	**3.84**	**275**	P			**Pn**	**17 24 31.2**	**+1.0**
	comp=E,15nm,0.3s,baz=75,slow=13,SNR=198								
ASAJ				S			Sn	17 25 23.1	+9.1
	comp=E,30nm,0.3s,baz=17,slow=33,SNR=8.7								
ASAJ				LR			LR	17 26 11.0	
	comp=E,1μm,21.7s,baz=126,slow=41								
JFR	**Furan**	**3.94**	**261**	P			**Pn**	**17 24 32.8**	**+1.3**
JFR				*e*S			**Sn**	**17 25 17.6**	**+1.1**
JSE	**Soyaes**	**3.96**	**287**	P			**Pn**	**17 24 33.2**	**+1.5**
JEM	**Erimo**	**3.98**	**243**				**Pn**	**17 24 33.0**	**+1.0**
JEM						Sn	**Sn**	**17 25 13.4**	**-3.9**
ERM	**Erimo**	**3.98**	**243**			PN	**Pn**	**17 24 33.1**	**+1.1**
ERM								17 25 16.2	
ERM	**Erimo**	**3.98**	**243**			Pn	**Pn**	**17 24 33.1**	**+1.1**
ERM						Sn	**Sn**	**17 25 16.2**	**-1.0**
JNBK	**Urakawa-nobuoka**	**4.12**	**248**			P	**Pn**	**17 24 33.4**	**-0.5**
JNBK						*e*S	**Sn**	**17 25 18.6**	**-2.2**
JHR	**Hokuryu**	**4.48**	**270**			P	**Pn**	**17 24 41.4**	**+2.5**
JWK2	**Keihoku**	**4.52**	**290**			P	**Pn**	**17 24 42.7**	**+3.3**
YSS	**Yuzh-Sakhalins**	**4.74**	**312**	κ		*i* PN	**Pn**	**17 24 44.3**	**+2.0**
YSS						*e*S	**Sn**	**17 25 36.1**	**+0.2**
YSS						pmax	pmax		
	comp=Z,200nm,0.6s								
YSS						pmax	pmax		
	comp=Z,200nm,2.3s								
YSS						smax	smax		
	comp=N,90nm,1.0s								
YSS						smax	smax		
	comp=E,230nm,1.0s								
YSS						MLR	MLR		
	comp=Z,900nm,14.0s								
YSS						MLR	MLR		
	comp=E,700nm,16.0s								
YSS	**Yuzh-Sakhalins**	**4.74**	**312**			Pn	**Pn**	**17 24 43.5**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.74**	**312**		*i*	P	**Pn**	**17 24 44.3**	**+2.0**
YSS						*e*S	**Sn**	**17 25 36.1**	**+0.2**
JEW	**Eniwo**	**4.84**	**259**			P	**Pn**	**17 24 45.1**	**+1.4**
JEW						*e*S	**Sn**	**17 25 39.7**	**+1.3**
JEW	**Eniwo**	**4.84**	**259**				**Pn**	**17 24 45.5**	**+1.8**
JEW						Sn	**Sn**	**17 25 36.7**	**-1.7**
JTM	**Tenmabayashi**	**5.96**	**241**			Pn	**Pn**	**17 24 58.9**	**-0.2**
JTM						Sn	**Sn**	**17 25 59.6**	**-6.4**
UGL	**Uglegorsk**	**6.55**	**324**			PN	**Pn**	**17 25 08.4**	**+1.2**
UGL						*e*S	**Sn**	**17 26 21.8**	**+1.3**
UGL						pmax	pmax		
	comp=Z,29nm,0.5s								
UGL						smax	smax		
	comp=E,129nm,0.5s								
UGL						smax	smax		
	comp=N,100nm,0.5s								
UGL	**Uglegorsk**	**6.55**	**324**		*e*	P	**Pn**	**17 25 08.4**	**+1.2**
UGL						AMB	AMB	17 25 10.6	
	comp=N,30nm,0.5s								
UGL					*e*	S	**Sn**	**17 26 21.8**	**+1.3**
UGL						A	A	17 26 25.8	
	comp=N,100nm,0.5s								
UGL						A	A	17 26 25.8	
	comp=N,130nm,0.5s								
TYV	**Tymovskoe**	**7.81**	**335**		*e*	PN	**Pn**	**17 25 27.5**	**+3.1**
TYV						pmax	pmax		
	comp=Z,12nm,0.9s								
TYV						pmax	pmax		
	comp=Z,200nm,5.1s								
TYV	**Tymovskoe**	**7.81**	**335**		*e*	P	**Pn**	**17 25 27.5**	**+3.1**
TYV						AMB	AMB	17 25 28.3	
	comp=Z,10.0nm,0.9s								
TYV						*e*S	**Sn**	**17 26 51.6**	**+0.3**
JMM	**Marumori**	**8.10**	**224**				**Pn**	**17 25 25.5**	**-2.9**
TEY	**Ternei**	**8.17**	**282**	⇑	*e*	PN	Pn	17 25 39.5	+10
TEY					*e*			17 27 04.3	
TEY						pmax	pmax		
	comp=Z,10.0nm,0.8s								
TEY	**Ternei**	**8.17**	**282**		*e*	P	**Pn**	**17 25 32.5**	**+3.2**
TEY						AMB	AMB	17 25 40.4	
	comp=Z,10.0nm,0.8s								
SKR	**Severo-Kuril's**	**8.76**	**37**		*e*	PN	**Pn**	**17 25 38.1**	**+0.7**
SKR						pmax	pmax		
	comp=Z,94nm,0.9s								
SKR	**Severo-Kuril's**	**8.76**	**37**		*e*	P	**Pn**	**17 25 38.1**	**+0.7**
SKR						AMB	AMB	17 25 40.8	
	comp=Z,90nm,0.9s								
SKR						*e*S	**Sn**	**17 27 10.6**	**-4.0**
SKR						A	A	17 27 15.1	
	comp=Z,60nm,0.9s								
SKR						A	A	17 27 15.1	
	comp=Z,50nm,0.9s								
JSD	**Sado**	**9.37**	**234**				**Pn**	**17 25 44.6**	**-1.1**
PAU	**Pauzhetka**	**9.64**	**35**		*e*	P	**Pn**	**17 25 49.2**	**-0.2**
PAU						AMB	AMB	17 25 50.7	
	comp=Z,50nm,0.3s								
PAU						*e*S	**Sn**	**17 27 31.7**	**-4.3**
PAU						A	A	17 27 34.7	
	comp=Z,70nm,0.4s								
PAU						A	A	17 27 34.7	
	comp=Z,80nm,0.4s								
JYT	**Yasato**	**9.69**	**220**			Pn	**Pn**	**17 25 47.5**	**-2.7**
GRNR	**Gornyy**	**10.38**	**315**	⇓	*i*	PN	**Pn**	**17 26 03.4**	**+3.9**
GRNR						*e*S	**Sn**	**17 28 01.3**	**+7.1**
GRNR						pmax	pmax		
	comp=Z,2.0nm,0.9s								
GRNR						smax	smax		
	comp=N,1.0nm,0.6s								
GRNR						MLR	MLR		
	comp=N,160nm,18.0s								
GRNR						MLR	MLR		
	comp=Z,280nm,15.0s								
GRNR	**Gornyy**	**10.38**	**315**		*e*	P	**Pn**	**17 26 03.4**	**+3.9**
MAJO	**Matsushiro**	**10.45**	**228**	*d*	*i*	PN	**Pn**	**17 26 04.1**	**+3.5**
MAJO	**Matsushiro**	**10.45**	**228**			Pn	**Pn**	**17 25 58.3**	**-2.3**
MAT	**Matsushiro**	**10.45**	**228**			P	**Pn**	**17 25 58.5**	**-2.1**
MAT						S	**Sn**	**17 27 48.0**	**-8.2**
MJAR	**Matsushiro Arr**	**10.45**	**228**			P	**Pn**	**17 25 59.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=30,slow=15,SNR=20								
MJAR						S	**Sn**	**17 27 55.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=44,slow=32,SNR=2.1								
MJAR						LR	LR	17 30 20.8	
	comp=Z,177nm,19.6s,baz=46,slow=39								
MJAR	**Matsushiro Arr**	**10.45**	**228**			Pn	**Pn**	**17 25 58.1**	**-2.6**
MJB9	**Matsu-Tunnel**	**10.45**	**229**				**Pn**	**17 25 58.1**	**-2.5**
PEA0B	**Petropavlovsk-**	**11.24**	**32**	*de*		PN	**Pn**	**17 26 11.3**	**0.0**
PEA0B	**Petropavlovsk-**	**11.24**	**32**			Pn	**Pn**	**17 26 09.1**	**-2.2**
PETK	**Petropavlovsk-**	**11.24**	**32**			P	**Pn**	**17 26 09.6**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=208,slow=12,SNR=42								
PETK						LR	LR	17 30 59.2	
	comp=Z,201nm,19.3s,baz=219,slow=40								
USRK	**Ussuriysk Ar.**	**11.47**	**277**			P	**Pn**	**17 26 15.1**	**+0.6**
	baz=90,slow=12,SNR=5.6								
USRK						LR	LR	17 30 46.1	
	comp=Z,381nm,19.5s,baz=74,slow=38								
USRK	**Ussuriysk Ar.**	**11.47**	**277**				**Pn**	**17 26 14.3**	**-0.2**
PET	**Petropavlovsk**	**11.55**	**34**	⇑	*e*	PN	**Pn**	**17 26 13.9**	**-1.6**
PET	**Petropavlovsk**	**11.55**	**34**			Pn	**Pn**	**17 26 12.3**	**-3.2**
PET	**Petropavlovsk**	**11.55**	**34**		*e*	P	**Pn**	**17 26 14.5**	**-1.0**
JGF	**Kuroka**	**11.61**	**228**			Pn	**Pn**	**17 26 15.5**	**-1.0**
INU	**Inuyama**	**11.98**	**228**			Pn	**Pn**	**17 26 20.2**	**-1.3**
MSHR	**Mys Shultsa**	**12.30**	**270**	⇑	*e*	PN	**Pn**	**17 26 28.0**	**+2.2**
MSHR						pmax	pmax		
	comp=Z,70nm,1.2s								
KLR	**Kul'dur**	**12.32**	**301**			P	P	17 26 31.1	-5.2
	comp=Z,0.4nm,0.3s,baz=111,slow=17,SNR=9.9								
KLR						LR	LR	17 31 39.9	
	comp=Z,480nm,18.7s,baz=122,slow=40								
KLR	**Kul'dur**	**12.32**	**301**	⇓	*e*	PN	**Pn**	**17 26 30.6**	**+4.6**
KLR						MLR	MLR		
	comp=Z,336nm,15.0s								
KLR	**Kul'dur**	**12.32**	**301**		*e*	PN	**Pn**	**17 26 27.0**	**+1.0**
JHJ	**Hachijo jima 2**	**12.51**	**213**			LR	LR	17 32 02.0	
	comp=Z,97nm,18.8s,baz=83,slow=41								
MDJ	**Mudanjiang**	**13.16**	**279**			P	**Pn**	**17 26 40.3**	**+2.8**
MDJ						pmax	pmax		
	comp=Z,7.0nm,1.0s								
MDJ						pmax	pmax		
	comp=Z,220nm,6.7s								
BNX	**BinXian**	**14.67**	**284**	⇑		P	**Pn**	**17 26 56.0**	**-1.6**
BNX						pmax	pmax		
	comp=Z,14nm,1.0s								
BNX						pmax	pmax		
	comp=Z,310nm,5.8s								
KBG	**Krutoberegovo**	**15.53**	**32**		*e*	P	**Pn**	**17 27 06.7**	**-1.9**
MA2	**Magadan**	**15.78**	**5**	*d*	*i*	P	**Pn**	**17 27 11.8**	**0.0**
MA2						pmax	pmax		
	comp=Z,58nm,0.7s								
MA2	**Magadan**	**15.78**	**5**			Pn	**Pn**	**17 27 11.3**	**-0.5**
MA2						IAmb	IAmb	17 27 15.4	
	comp=Z,58nm,0.7s								
MA2	**Magadan**	**15.78**	**5**		*e*	P	**Pn**	**17 27 11.8**	**0.0**
CN2	**Changchun**	**16.20**	**277**		*e*	P	**P**	**17 27 18.5**	**-1.0**
CN2						S	**Sn**	**17 30 16.0**	**0.0**
CN2						pmax	pmax		
	comp=Z,10.0nm,1.0s								
CN2						pmax	pmax		
	comp=Z,100nm,3.0s								
CN2						LR	LR		
	comp=Z,200nm,15.0s								
CN2						LR	LR		
	comp=Z,200nm,15.0s								
CN2						LR	LR		
	comp=Z,500nm,17.2s								
KSRS	**Korea Array**	**16.46**	**254**			P	**Pn**	**17 27 18.6**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=63,slow=12,SNR=8.2								
ZEA	**Zeya**	**16.73**	**313**		*e*	P	**P**	**17 27 26.2**	**+1.0**
ZEA					*e*			17 30 24.7	
ZEA						pmax	pmax		
	comp=E,10.0nm,0.6s								
ZEA						pmax	pmax		
	comp=N,10.0nm,1.1s								
ZEA						pmax	pmax		
	comp=Z,10.0nm,1.2s								
ZEA						pmax	pmax		
	comp=Z,100nm,3.4s								
JNU	**Nakatsue**	**17.11**	**237**			P	**Pn**	**17 27 28.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=59,slow=12,SNR=2.5								
SEY	**Seymchan**	**19.23**	**6**	⇓	*i*	P	**P**	**17 27 51.0**	**-1.7**
	comp=Z,3.1nm,0.3s,baz=186,slow=9.4,SNR=62								
SEY						LR	LR	17 35 10.8	
	comp=Z,326nm,21.3s,baz=256,slow=36								
SEY	**Seymchan**	**19.23**	**6**	⇓	*i*	P	**P**	**17 27 52.1**	**-0.5**
HIA	**Hailar**	**20.02**	**295**			P	**P**	**17 28 00.1**	**-1.4**
HIA						pmax	pmax		
	comp=Z,7.0nm,0.7s								
HIA	**Hailar**	**20.02**	**295**			P	**P**	**17 28 00.1**	**-1.4**
YAK	**Yakutsk**	**21.07**	**336**			P	**P**	**17 28 09.8**	**-2.8**
	comp=Z,49nm,0.3s,baz=140,slow=1.0,SNR=106								
YAK						S	**S**	**17 31 56.5**	**-7.1**
	comp=Z,3.3nm,0.4s,baz=89,slow=19,SNR=1.9								
YAK						LR	LR	17 36 14.4	
	comp=Z,314nm,22.0s,baz=89,slow=36								
YAK	**Yakutsk**	**21.07**	**336**	*c*	*i*	P	**P**	**17 28 09.5**	**-3.0**
YAK					*e*			17 28 26.2	
YAK					*e*	S	**S**	**17 31 59.1**	**-4.5**
YAK					*e**	SS	Sn	17 32 16.3	+3.5
YAK					*e*	SS		17 32 23.7	
YAK					*e*	SSS	SSS	17 32 37.2	
YAK						pmax	pmax		
	comp=E,20nm,0.8s								
YAK						pmax	pmax		
	comp=Z,182nm,0.8s								
YAK						pmax	pmax		
	comp=N,14nm,0.9s								
YAK						smax	smax		
	comp=E,45nm,1.3s								
YAK						smax	smax		
	comp=N,38nm,1.4s								
YAK	**Yakutsk**	**21.07**	**336**			P	**P**	**17 28 09.6**	**-2.9**
XLT	**XiLinHaoTe**	**22.87**	**281**		*e*	P	**P**	**17 28 31.3**	**-0.8**
XLT						sP	sP	17 28 48.8	-3.4
XLT						PP	**PnPn**	**17 28 58.3**	**-0.2**
XLT						pmax	pmax		
	comp=N,38nm,0.8s								
XLT						pmax	pmax		
	comp=N,190nm,4.8s								
BJI	**Beijing**	**23.83**	**272**			P	**P**	**17 28 41.0**	**-0.1**
BJI						pmax	pmax		
	comp=N,20nm,0.8s								
BJT	**Baijiatuau**	**23.84**	**272**			P	**P**	**17 28 40.7**	**-0.6**
BJT						pmax	pmax		
	comp=Z,15nm,0.8s								
BJT	**Baijiatuau**	**23.84**	**272**			P	**P**	**17 28 40.7**	**-0.6**
TIA	**Tai'an**	**24.69**	**262**	⇓		P	**P**	**17 28 50.0**	**+1.0**
TIA						pmax	pmax		
	comp=Z,17nm,0.8s								
NJ2	**Nanjing**	**25.65**	**252**		*e*	P	**P**	**17 28 59.0**	**+1.2**
NJ2						pmax	pmax		
	comp=Z,31nm,0.8s								
HNS	**HongShan**	**25.90**	**267**	⇑		P	**P**	**17 29 00.5**	**+0.5**
HNS						pP	**pP**	**17 29 13.0**	**-1.2**
HNS						S	**S**	**17 33 30.5**	**+4.7**
HNS						pmax	pmax		
	comp=Z,11nm,1.2s								
HNS						LR	LR		
	comp=Z,470nm,19.3s								
HNS						LR	LR		
	comp=Z,590nm,21.4s								
HNS						LR	LR		
	comp=Z,160nm,16.5s								
BILL	**Bilibino**	**26.05**	**16**	⇓	*e*	P	**P**	**17 28 59.9**	**-1.1**
BILL					*e*			17 29 38.3	
BILL						pmax	pmax		
	comp=Z,19nm,0.8s								
BILL						MLR	MLR		
	comp=Z,73nm,18.0s								
BILL	**Bilibino**	**26.05**	**16**			P	**P**	**17 29 00.7**	**-0.3**
BILL	**Bilibino**	**26.05**	**16**		*e*	P	**P**	**17 28 59.9**	**-1.1**
HHC	**Hu-ho-hao-te**	**26.89**	**276**		*e*	P	**P**	**17 29 09.3**	**+0.3**
HHC						S	**S**	**17 33 49.0**	**+7.4**
HHC						pmax	pmax		
	comp=Z,20nm,1.0s								
HHC						pmax	pmax		
	comp=Z,180nm,7.1s								
HHC						LR	LR		
	comp=Z,180nm,14.6s								
HHC						LR	LR		
	comp=Z,330nm,14.6s								
HHC						LR	LR		
	comp=Z,310nm,15.9s								
TIY	**Taiyuan**	**27.41**	**269**			P	**P**	**17 29 15.8**	**+2.1**
TIY						pmax	pmax		
	comp=Z,11nm,0.7s								
ULN	**Ulaanbaatar**	**28.48**	**292**	*ce*		P	**P**	**17 29 23.8**	**+0.6**
ULN						pmax	pmax		
	comp=Z,20nm,0.8s								
ULN	**Ulaanbaatar**	**28.48**	**292**			P	**P**	**17 29 23.4**	**+0.3**
ULN						IAmb	IAmb	17 29 24.9	
	comp=Z,18nm,0.8s								
ULN	**Ulaanbaatar**	**28.48**	**292**		*e*	P	**P**	**17 29 23.8**	**+0.6**
LYN	**LuoYang**	**28.82**	**263**	⇓	*i*	P	**P**	**17 29 27.5**	**+1.4**
LYN						pP	pP	17 29 40.5	0.0
LYN						pmax	pmax		
	comp=Z,10.0nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.87**	**141**			T	T	18 00 12.7	
	baz=331,slow=76,SNR=436								
H11N1	**WAKE ISLAND Hy**	**28.88**	**141**			T	T	18 00 13.7	
	baz=331,slow=76,SNR=616								
H11N3	**WAKE ISLAND Hy**	**28.89**	**141**			T	T	18 00 14.0	
	baz=331,slow=76,SNR=485								
SONM	**Songino Array**	**28.92**	**293**			P

baz=250,SNR=18
ANM Nome 33.13 35 P P 17 30 05.4 +1.6
baz=254,SNR=17
ENH Enshi 33.23 259 P P 17 30 04.6 -0.5
ENH IAmb IAmb 17 30 05.6
comp=Z,13nm,0.7s
LZH Lanzhou 34.32 272 ⇑P P 17 30 15.8 +1.2
LZH pP pP 17 30 28.0 -1.1
LZH sP sP 17 30 35.8 -0.1
LZH pmax pmax
comp=Z,40nm,1.6s
LZH pmax pmax
comp=Z,330nm,5.2s
RDOG Red Dog Mine 35.11 30 P P 17 30 21.8 +1.0
baz=252
GTA Gaotai 35.81 280 ⇓P P 17 30 28.5 +1.1
GTA pP pP 17 30 40.3 -1.6
GTA sP sP 17 30 45.5 -3.2
GTA PcP PcP 17 32 55.5 +1.7
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,94nm,6.4s
GTA LR LR
comp=Z,200nm,9.2s
GTA LR LR
comp=Z,190nm,8.0s
GTA LR LR
comp=Z,190nm,8.4s
GCSA Galena City Sc 36.75 36 P P 17 30 36.1 +1.2
baz=263,SNR=5.0
TTA Tatalina 36.95 39 P P 17 30 37.4 +0.7
TTA pmax pmax
comp=Z,9.0nm,0.8s
TTA Tatalina 36.95 39 P P 17 30 37.4 +0.7
TTA IAmb IAmb 17 30 39.7
comp=Z,8.7nm,0.8s
TTA Tatalina 36.95 39 P P 17 30 38.3 +1.5
baz=266,SNR=7.2
CD2 Chengdu 36.97 265 P P 17 30 37.8 +0.5
CD2 pP pP 17 30 50.5 -1.4
CD2 sP sP 17 30 57.3 -1.3
CD2 pmax pmax
comp=Z,50nm,0.8s
P18K Big Mountain, 37.25 45 P P 17 30 40.1 +0.8
baz=271
O18K Koktuh Hills 37.25 44 P P 17 30 39.4 +0.1
O18K IAmb IAmb 17 30 43.0
comp=Z,23nm,1.1s
O18K Koktuh Hills 37.25 44 P P 17 30 40.7 +1.5
baz=271
L19K White Mountain 37.45 40 P P 17 30 40.8 -0.1
L19K IAmb IAmb 17 30 45.5
comp=Z,13nm,1.1s
GYA Guiyang 37.50 256 ⇓P P 17 30 42.0 +0.1
GYA pP pP 17 30 55.5 -1.0
GYA pmax pmax
comp=Z,14nm,1.0s
N19K Bonanza Creek 37.60 43 P P 17 30 43.7 +1.4
N19K IAmb IAmb 17 30 46.5
comp=Z,18nm,1.1s
N19K Bonanza Creek 37.60 43 P P 17 30 44.0 +1.7
baz=270
M19K Big River Lodg 37.66 41 P P 17 30 43.9 +1.3
baz=269
K20K Telida 37.86 39 P P 17 30 45.9 +1.6
baz=267
J20K Nowinta River 37.87 37 P P 17 30 46.0 +1.6
baz=266,SNR=14
L20K Farewell, AK 37.91 40 P P 17 30 46.5 +1.7
baz=269
A21K Barrow 38.16 25 P P 17 30 46.4 -0.2
A21K Barrow 38.16 25 P P 17 30 47.1 +0.4
baz=255,SNR=34
IMAR Indian Mountai 38.19 34 P P 17 30 47.5 +0.4
RSO Redoubt South 38.46 43 P P 17 30 50.3 +0.6
H21K Melozitna Rive 38.55 35 P P 17 30 51.6 +1.5
baz=266
CHUM Lake Minchumin 38.66 38 P P 17 30 52.7 +1.7
baz=268
PPLA Purkeypile 38.70 39 P P 17 30 51.7 +0.2
PPLA IAmb IAmb 17 30 57.6
comp=Z,32nm,1.2s
PPLA Purkeypile 38.70 39 P P 17 30 53.5 +1.9
baz=270
KDAK Kodiak Island 38.73 48 P P 17 30 51.1 -0.5
comp=Z,9.8nm,0.6s,baz=310,slow=7.7,SNR=20
KDAK Kodiak Island 38.73 48 IAmb IAmb 17 30 53.8
comp=Z,44nm,1.4s
KDAK Kodiak Island 38.73 48 P P 17 30 51.7 +0.1
baz=276
CAST Castle Rocks 38.75 38 P P 17 30 53.6 +1.8
baz=269,SNR=16
SPU Mount Spurr 38.78 42 P P 17 30 53.0 +0.9
I21K Tanana 38.86 36 P P 17 30 54.5 +1.8
baz=267
BPAW Bear Paw Mtn. 39.25 37 P P 17 30 57.7 +1.7
baz=269,SNR=8.9
NRIK Noril'sk 39.37 331 P P 17 30 55.0 -1.9
comp=Z,1.5nm,0.4s,baz=88,slow=7.9,SNR=4.5
NRIK PcP **PcP 17 33 04.9 +0.8**
comp=Z,4.8nm,0.6s,baz=99,slow=3.5,SNR=6.6
NRIK LR LR 17 47 55.3
comp=Z,156nm,18.0s,baz=76,slow=37
NRIK Noril'sk 39.37 331 ⇓iP P 17 30 54.4 -2.5
NRIK pmax pmax
comp=Z,7.0nm,1.3s
NRIK Noril'sk 39.37 331 P P 17 30 54.5 -2.5
MLY Manley 39.38 36 P P 17 30 58.8 +1.7
baz=268,SNR=18
TRF Thorofare Moun 39.56 38 P P 17 31 00.1 +1.4
baz=271
CUT Chulitna 39.59 40 P P 17 30 59.6 +0.8
baz=272
COLD Coldfoot 39.71 33 P P 17 30 59.9 +0.1
COLD Coldfoot 39.71 33 P P 17 31 01.1 +1.4
baz=266,SNR=33
RC01 Rabbit Creek A 39.91 42 P P 17 31 02.3 +0.9
baz=274,SNR=6.0
I23K Minto, Yukon-K 39.97 36 P P 17 31 02.8 +0.9
I23K Minto, Yukon-K 39.97 36 P P 17 31 03.5 +1.6
baz=269,SNR=14
TOLK Toolik Lake Re 40.06 30 P P 17 31 02.5 -0.3
TOLK IAmb IAmb 17 31 05.8
comp=Z,18nm,0.8s
TOLK Toolik Lake Re 40.06 30 P P 17 31 04.0 +1.2
baz=265,SNR=21
NEA2 Nenana 40.09 37 P P 17 31 04.4 +1.4
baz=270,SNR=20
MCK McKinley 40.16 38 P P 17 31 03.5 -0.1
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 40.16 38 P P 17 31 03.5 -0.1
MCK IAmb IAmb 17 31 05.4
comp=Z,18nm,1.0s
MCK McKinley 40.16 38 P P 17 31 04.3 +0.8
baz=271,SNR=9.8
PMR Palmer 40.16 41 P P 17 31 04.0 +0.5
PMR pmax pmax
comp=Z,7.0nm,0.8s
PMR Palmer 40.16 41 P P 17 31 04.0 +0.5
PMR Palmer 40.16 41 P P 17 31 04.2 +0.7
baz=274
KNK Knik Glacier 40.50 42 P P 17 31 07.1 +0.7
baz=275,SNR=7.5
SML Sawmill 40.53 41 P P 17 31 07.7 +1.0
baz=274,SNR=14
H24K Noodor Dome 40.59 35 P P 17 31 09.0 +1.9
baz=270
TCOL CIGO, UAF Yank 40.60 36 P P 17 31 07.2 +0.1
TCOL IAmb IAmb 17 31 16.8
comp=Z,21nm,0.9s
TCOL CIGO, UAF Yank 40.60 36 P P 17 31 08.8 +1.7
baz=271
COLA College 40.61 36 *d iP* **P 17 31 08.9 +1.7**
COLA pmax pmax
comp=Z,41nm,1.6s
COLA College 40.61 36 P P 17 31 07.7 +0.5
COLA IAmb IAmb 17 31 16.8
comp=Z,22nm,0.9s
GOMU GeErMu 40.77 278 P P 17 31 09.8 +0.5
GOMU S **S 17 37 12.3 -3.8**
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU pmax pmax
comp=Z,87nm,3.9s
GOMU LR LR
comp=Z,210nm,8.4s
GOMU LR LR
comp=Z,160nm,7.7s
GOMU LR LR
comp=Z,110nm,7.3s
POKR Poker Plat Res 40.78 36 P P 17 31 10.5 +1.8
baz=271,SNR=25
DGZ Jazzator, Alta 40.81 300 *ceP* **P 17 31 10.7 +1.4**
DGZ pmax pmax
comp=Z,18nm,2.1s
PZH PanZhiHua 40.96 261 P P 17 31 12.0 +1.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,6.1s
SCM Sheep Creek Mo 41.00 41 P P 17 31 11.8 +1.2
baz=275
HDA Harding Lake 41.01 37 P P 17 31 11.3 +0.8
baz=272,SNR=20
IL31 41.02 36 P P 17 31 10.8 +0.2
IL31 IAmb IAmb 17 31 14.0
comp=Z,20nm,1.0s
ILAR Eielson Array 41.02 36 P P 17 31 10.8 +0.1
comp=Z,7.0nm,0.6s,baz=268,slow=8.4,SNR=87
ILAR PcP **PcP 17 33 09.3 -0.2**
comp=Z,0.2nm,0.4s,baz=253,slow=2.7,SNR=1.2
ILAR ScP **ScP 17 36 56.8 +2.7**
comp=Z,0.7nm,0.7s,baz=245,slow=5.7,SNR=13
ILAR LR LR 17 50 31.5
comp=Z,57nm,18.3s,baz=265,slow=40
ILAR Eielson Array 41.02 36 P P 17 31 11.0 +0.3
KMI Kunming 41.09 258 ⇑P P 17 31 12.5 +0.5
KMI pP pP 17 31 26.0 -0.7
KMI sP sP 17 31 32.5 -0.9
KMI pmax pmax
comp=Z,18nm,1.2s
KMI LR LR
comp=Z,140nm,9.0s
KMI LR LR
comp=Z,200nm,9.6s
KMI LR LR
comp=Z,230nm,21.3s
ZAA0 Zalesovo Array 41.34 307 P P 17 31 12.8 -0.6
ZALV Zalesovo Beam 41.34 307 P P 17 31 12.6 -0.8
comp=Z,1.6nm,0.3s,baz=90,slow=7.4,SNR=14
ZALV PcP **PcP 17 33 11.2 +0.5**
comp=Z,9.0nm,0.7s,baz=79,slow=2.4,SNR=19
ZALV LR LR 17 47 57.4
comp=Z,137nm,21.0s,baz=96,slow=35
ZALV Zalesovo Beam 41.34 307 *i P* **P 17 31 13.3 -0.1**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 41.34 307 P P 17 31 12.3 -1.0
M24K Tolsona, Glenn 41.52 40 P P 17 31 15.7 +0.9
M24K IAmb IAmb 17 31 46.8
comp=Z,35nm,1.1s
M24K Tolsona, Glenn 41.52 40 P P 17 31 16.6 +1.8
baz=276
PRP Porcupine Dome 41.57 35 P P 17 31 17.0 +1.7
baz=272,SNR=10
J25K Salcha River, 41.68 37 P P 17 31 16.1 0.0
baz=274
KLU Klutina 41.70 41 P P 17 31 17.7 +1.4
baz=277,SNR=14
PAX Paxson 41.76 39 P P 17 31 17.7 +0.8
PAX pmax pmax
comp=Z,5.0nm,0.9s
PAX Paxson 41.76 39 P P 17 31 17.7 +0.8
PAX Paxson 41.76 39 P P 17 31 18.9 +2.1
baz=275
DIV Divide 41.82 42 P P 17 31 18.0 +0.8
DIV IAmb IAmb 17 31 19.5
comp=Z,27nm,1.1s
BMAR Burnt Mountain 41.90 32 P P 17 31 19.3 +1.5
HARP HAARP 41.96 40 P P 17 31 20.0 +1.6
baz=276,SNR=6.8
RIDG Independent Ri 41.98 38 P P 17 31 20.0 +1.4
baz=275,SNR=10.0
DOT Dot Lake 42.33 38 P P 17 31 21.2 -0.1
DOT IAmb IAmb 17 31 23.5
comp=Z,15nm,1.0s
SCRK Sand Creek 42.33 37 P P 17 31 22.2 +0.7
baz=275,SNR=22
BMRM Bremner River 42.40 42 P P 17 31 21.9 -0.1
BMRM IAmb IAmb 17 31 24.7
comp=Z,19nm,0.9s
BMRM Bremner River 42.40 42 P P 17 31 23.4 +1.4
baz=278
WMQ Urumqi 42.55 292 *eP* **P 17 31 24.5 +1.0**
WMQ pmax pmax
comp=Z,40nm,1.1s
WMQ pmax pmax
comp=Z,83nm,3.6s
WMQ LR LR
comp=Z,1μm,28.9s
WMQ LR LR
comp=Z,1μm,27.1s
WMQ LR LR
comp=Z,210nm,25.7s
MENT Mentasta 42.56 39 P P 17 31 24.2 +0.9
L26K Log Cabin Wild 42.72 39 P P 17 31 26.2 +1.7
baz=277,SNR=13
SLVN Son La 42.73 253 P P 17 31 24.0 -1.1
M26K Nabesna, AK 42.96 40 P P 17 31 28.7 +2.2
baz=278
ZSN Zaisan 43.12 298 *eP* **P 17 31 28.1 +0.2**
ZSN Zaisan 43.12 298 *eP* **P 17 31 28.2 +0.2**
baz=298
L27K Beaver Creek, 43.40 39 P P 17 31 32.2 +2.1
baz=278
BCAR Beaver Creek A 43.42 39 P P 17 31 31.1 +0.9
EGAK Eagle 43.47 36 IAmb IAmb 17 31 32.3
comp=Z,16nm,0.8s
EGAK Eagle 43.47 36 P P 17 31 31.2 +0.7
baz=277
M27K Edge Creek, AK 43.48 40 P P 17 31 32.7 +1.8
baz=279
BVCY Beaver Creek 43.94 39 P P 17 31 36.1 +1.7
baz=280,SNR=9.7
YUK3 Moose Creek 44.24 40 P P 17 31 38.2 +1.2
baz=281
DAWY Dawson 44.33 37 P P 17 31 38.7 +1.2
baz=279,SNR=5.5
I29M Ogilvie Camp, 44.59 35 P P 17 31 40.2 +0.7
I29M IAmb IAmb 17 31 42.0
comp=Z,22nm,0.8s
I29M Ogilvie Camp, 44.59 35 P P 17 31 41.0 +1.5
baz=279,SNR=26
MK31 Makanchi Array 45.00 298 P P 17 31 42.9 -0.1
MK31 pmax pmax
comp=Z,27nm,0.8s
MK31 Makanchi Array 45.00 298 P P 17 31 42.9 -0.1
MK31 IAmb IAmb 17 31 44.5
comp=Z,27nm,0.8s
MKAR Makanchi Array 45.00 298 P P 17 31 43.6 +0.6
comp=Z,29nm,0.8s,baz=78,slow=8.5,SNR=228
MKAR PcP **PcP 17 33 23.4 +0.2**
comp=Z,2.6nm,0.7s,baz=66,slow=4.4,SNR=3.1
MKAR LR LR 17 52 06.4
comp=Z,243nm,18.8s,baz=76,slow=38
MKAR Makanchi Array 45.00 298 P P 17 31 42.5 -0.5
SEM Semipalatinsk 45.02 303 *eP* **P 17 31 42.5 -0.8**
SEM pmax pmax
comp=Z,15nm,0.8s
SEM Semipalatinsk 45.02 303 *eP* **P 17 31 42.5 -0.8**
comp=Z,16nm,0.8s,baz=303
EPYK Eagle Plains 45.08 33 P P 17 31 45.1 +1.7
baz=279,SNR=15
YUK4 Talbot Arm 45.18 41 P P 17 31 46.0 +1.5
baz=282
MAKZ Makanchi 45.19 298 P P 17 31 44.4 -0.2
HYT Haines Junctio 45.84 41 P P 17 31 51.8 +2.2
baz=284,SNR=13
KURK Kurchatov 45.90 304 *c iP* **P 17 31 49.9 -0.1**
KURK pmax pmax
comp=Z,57nm,1.7s
KURK Kurchatov 45.90 304 P P 17 31 49.7 -0.3
KURK PcP **PcP 17 33 25.7 -0.5**
KURK Kurchatov 45.90 304 *eP* **P 17 31 49.9 -0.1**
INK Inuvik 45.98 30 P P 17 31 51.8 +1.4
comp=Z,37nm,0.8s,baz=289,slow=7.4,SNR=102
INK Inuvik 45.98 30 P P 17 31 51.9 +1.5
baz=280,SNR=43
KURBB Kurchatov Arra 45.98 304 P P 17 31 50.9 +0.3
comp=Z,20nm,0.8s,baz=74,slow=8.7,SNR=117
KURBB PcP **PcP 17 33 26.8 +0.4**
comp=Z,5.6nm,0.7s,baz=76,slow=3.5,SNR=13
KURBB LR LR 17 52 18.6
comp=Z,134nm,19.8s,baz=81,slow=38
N31M Braeburn, Yuko 46.49 40 P P 17 31 56.8 +2.2
baz=285
M31M Drury Creek, Y 46.94 39 P P 17 31 59.6 +1.6
baz=285,SNR=7.5
FARO Faro, Yukon 47.41 39 P P 17 32 03.5 +1.8
baz=286,SNR=5.5
CHTO Chiang Mai 47.86 255 P P 17 32 06.3 +0.6
CHTO pmax pmax
comp=Z,19nm,0.9s
CHTO Chiang Mai 47.86 255 P P 17 32 06.3 +0.6
CHTO IAmb IAmb 17 32 21.4
comp=Z,19nm,0.9s
A36M Sachs Harbour 47.99 25 P P 17 32 07.3 +1.3
baz=284,SNR=21
CM31 Chiang Mai Arr 48.10 254 P P 17 32 07.6 0.0
CM31 IAmb IAmb 17 32 23.5
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 48.10 254 P P 17 32 08.7 +1.1
comp=Z,3.3nm,0.7s,baz=44,slow=7.4,SNR=40
CMAR pP **pP 17 32 22.6 -0.1**
comp=Z,7.3nm,0.9s,baz=37,slow=7.3,SNR=13
CMAR PcP **PcP 17 33 35.1 +0.6**
comp=Z,1.1nm,0.8s,baz=48,slow=1.3,SNR=2.6
CMAR Chiang Mai Arr 48.10 254 *i P* **P 17 32 08.6 +1.0**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 48.10 254 P P 17 32 07.7 +0.1
CMAR PcP **PcP 17 33 35.5 +1.0**
TDK Taldyqorghan 48.20 297 *eP* **P 17 32 08.7 +0.7**
TDK Taldyqorghan 48.20 297 *eP* **P 17 32 08.7 +0.7**
baz=297
PDGK Podgornoye 48.20 294 P P 17 32 08.2 -0.1
P33M Teslin, Yukon 48.23 41 P P 17 32 09.9 +1.7
baz=288,SNR=6.5
UZB Uzynbulak 48.59 294 *eP* **P 17 32 11.4 +0.2**
UZB pmax pmax
comp=Z,17nm,0.9s
UZB Uzynbulak 48.59 294 *eP* **P 17 32 11.4 +0.2**
comp=Z,17nm,0.9s,baz=294
SHL Shillong 48.60 267 P P 17 32 11.5 -0.1
SHL pmax pmax
comp=Z,22nm,0.9s
SHL Shillong 48.60 267 P P 17 32 11.4 -0.1
SHL IAmb IAmb 17 32 12.4
comp=Z,22nm,0.9s
ZHN Zhinishke 48.97 295 *eP* **P 17 32 14.4 +0.3**
ZHN Zhinishke 48.97 295 *eP* **P 17 32 14.4 +0.3**
baz=295
C36M Paulatuk 49.07 28 P P 17 32 15.4 +1.1
baz=287,SNR=40
BRZS Berezniki 49.70 305 *eP* **P 17 32 19.5 0.0**
BRZS pmax pmax
comp=Z,27nm,0.9s
BRZS Berezniki 49.70 305 *eP* **P 17 32 19.5 0.0**
comp=Z,27nm,0.9s,baz=305
BVAR Borovoye Array 49.83 309 P P 17 32 20.7 +0.3
comp=Z,11nm,0.6s,baz=66,slow=15,SNR=49
BVAR PcP **PcP 17 33 40.8 +0.6**
comp=Z,5.0nm,0.7s,baz=77,slow=7.8,SNR=5.4
BRVK Borovoye 49.87 310 *d iP* **P 17 32 21.3 +0.6**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 49.87 310 P P 17 32 20.6 -0.1
BRVK PcP **PcP 17 33 39.4 -0.9**
BRVK Borovoye 49.87 310 *eP* **P 17 32 21.3 +0.6**
MDOK Medeo 49.88 295 *eP* **P 17 32 21.4 +0.4**
MDOK Medeo 49.88 295 *eP* **P 17 32 21.5 +0.4**
baz=295
AAA Alma-Ata 49.94 295 *eP* **P 17 32 21.8 +0.3**
AAA Alma-Ata 49.94 295 *eP* **P 17 32 21.8 +0.3**
baz=295
AAA Alma-Ata 49.94 295 *eP* **P 17 32 21.8 +0.3**
TNSS Tian-Shan 50.00 295 *eP* **P 17 32 22.8 +0.4**
baz=295
KUU Kurty 50.01 296 *eP* **P 17 32 21.4 -0.5**
KUU pmax pmax
comp=Z,25nm,0.7s
KUU Kurty 50.01 296 *eP* **P 17 32 21.5 -0.5**
comp=Z,25nm,0.7s,baz=296
TARG Taragay, Kyrgy 50.03 293 IAmb IAmb 17 32 30.1
comp=Z,19nm,1.3s
DLBC Dease Lake 50.18 43 P P 17 32 24.8 +1.8
comp=Z,3.1nm,0.7s,baz=271,slow=5.6,SNR=9.6
OTUK Ortayu 50.63 303 P P 17 32 26.7 +0.2
ULHL Ulahol 50.83 295 P P 17 32 29.5 +1.1
SNR=10
BOOM Boomskoye usch 50.91 295 P P 17 32 29.2 +0.3
BOOM pmax pmax
comp=Z,31nm,0.9s
BOOM Boomskoye usch 50.91 295 P P 17 32 29.2 +0.3
BTLS Baital 50.97 299 *eP* **P 17 32 28.7 -0.3**
BTLS pmax pmax
comp=Z,8.0nm,0.9s
BTLS Baital 50.97 299 *eP* **P 17 32 28.8 -0.3**
comp=Z,7.9nm,0.9s,baz=299
SGDS Sogindy 51.32 297 *eP* **P 17 32 32.2 +0.4**
comp=Z,11nm,0.8s,baz=297
KBK Karagaybulak 51.48 296 P P 17 32 34.4 +1.2
SNR=28
USP Ospenovka 51.49 297 P P 17 32 34.1 +1.0
SNR=20
GUN Gumba 51.56 274 *eP* **P 17 32 34.6 +0.4**
comp=Z,102nm,0.8s
AAK Ala-Archa 51.78 296 P P 17 32 36.2 +0.8
comp=Z,7.8nm,0.5s,baz=87,slow=8.1,SNR=36
AAK Ala-Archa 51.78 296 P P 17 32 36.1 +0.8
SNR=15
AAK Ala-Archa 51.78 296 *ceP* **P 17 32 36.1 +0.7**
AAK pmax pmax
comp=Z,26nm,1.3s
AAK Ala-Archa 51.78 296 P P 17 32 35.8 +0.3
AAK Ala-Archa 51.78 296 *eP* **P 17 32 36.1 +0.7**
KKN Kakani 52.06 274 *eP* **P 17 32 38.1 +0.4**
comp=Z,55nm,0.8s
PKI Pulchoki 52.09 274 *eP* **P 17 32 38.4 +0.3**
comp=Z,16nm,0.6s
PKIN Phulchoki 52.10 274 *eP* **P 17 32 38.3 +0.2**
comp=Z,16nm,0.5s
EKS2 Erkin-Say 52.24 296 P P 17 32 39.8 +1.0
SNR=5.6
DMN Daman 52.29 274 *eP* **P 17 32 40.2 +0.7**
comp=Z,69nm,0.7s
KSH Kashi 52.32 292 P P 17 32 44.0 +4.6
KSH pP pP 17 32 57.3 +2.7
KSH pmax pmax
comp=Z,10.0nm,0.9s
GKN Gorkha 52.40 275 *eP* **P 17 32 40.7 +0.5**
comp=Z,21nm,0.3s
AML Almayashu 52.55 296 P P 17 32 42.8 +1.4
SNR=9.6
DANN Dangsing 52.83 275 *eP* **P 17 32 44.5 +1.0**
KOLN Koldanda 53.28 275 *eP* **P 17 32 47.5 +0.7**
SVE Sverdlovsk 53.40 317 *eP* **P 17 32 46.5 -0.4**
SVE pmax pmax
comp=Z,35nm,1.1s
SVE Sverdlovsk 53.40 317 *eP* **P 17 32 46.5 -0.4**
PYUN Piuthan 53.53 276 *eP* **P 17 32 49.0 +0.4**
DZA Taraz 53.70 298 *eP* **P 17 32 50.0 +0.6**
DZA Taraz 53.70 298 *eP* **P 17 32 50.1 +0.6**
baz=297
BBB Bella Bella 53.74 49 LR LR 17 52 46.1
comp=Z,65nm,21.9s,baz=251,slow=33
KKAR Karatay Array 54.12 298 P P 17 32 52.3 -0.2
KKAR Karatay Array 54.12 298 P P 17 32 52.3 -0.2
NOR Nord 54.46 357 *i P* **P 17 32 52.0 -2.3**
NOR IAmb IAmb 17 32 54.2
comp=Z,2.3nm,0.7s
BRLS Boroldoy 54.59 298 *eP* **P 17 32 57.3 +1.4**
BRLS Boroldoy 54.59 298 *eP* **P 17 32 57.4 +1.4**
baz=298
ARU Arti 54.60 317 P P 17 32 55.0 -0.7
comp=Z,5.4nm,0.4s,baz=68,slow=4.1,SNR=57
ARU LR LR 17 58 02.6
comp=Z,192nm,19.6s,baz=21,slow=38
ARU Arti 54.60 317 *c iP* **P 17 32 55.7 0.0**
ARU 17 34 55.5
ARU S **S 17 40 31.6 +0.8**
ARU pmax pmax
comp=Z,26nm,0.7s
ARU Arti 54.60 317 P P 17 32 54.9 -0.7
ARU Arti 54.60 317 *eP* **P 17 32 55.7 0.0**
RES Resolute Bay 54.65 17 LR LR 17 58 51.4
comp=Z,119nm,19.1s,baz=276,slow=39

SPA0 Spitsbergen Ar 54.73 349 *eP* **P 17 32 55.5 -0.9**
IUG Iuzhnay 54.91 297 *eP* **P 17 32 58.7 +0.4**
IUG Iuzhnay 54.91 297 *eP* **P 17 32 58.7 +0.4**
baz=297
DRK Karamyk 55.12 294 P **P 17 32 60.0 -0.1**
DRK IAmb IAmb 17 33 05.5
comp=Z,9.2nm,0.7s
YKA Yellowknife Ar 55.35 34 P **P 17 33 01.8 +0.8**
comp=Z,7.3nm,0.7s,baz=300,slow=6.9,SNR=47
YKA PcP **PcP 17 34 01.6 +0.8**
comp=Z,1.2nm,0.7s,baz=299,slow=3.8,SNR=4.7
YKA Yellowknife Ar 55.35 34 P **P 17 33 01.6 +0.6**
BTK Batken 55.47 295 P **P 17 33 02.2 -0.1**
BTK pmax pmax
comp=Z,9.0nm,0.6s
BTK Batken 55.47 295 P **P 17 33 02.2 -0.1**
BTK IAmb IAmb 17 33 03.8
comp=Z,8.9nm,0.6s
GAR Garm 56.35 294 P **P 17 33 08.1 -0.6**
KULM Kulim 56.52 241 P **P 17 33 10.0 0.0**
KULM IAmb IAmb 17 33 27.5
comp=Z,17nm,1.1s
NIL Nilore 57.27 287 P **P 17 33 15.2 0.0**
NIL pmax pmax
comp=Z,54nm,1.1s
NIL Nilore 57.27 287 P **P 17 33 15.2 0.0**
CHGR Chuyangaron 57.30 294 P **P 17 33 15.3 -0.1**
AB31 Akbulak array 57.39 309 *i* P **P 17 33 16.2 +0.5**
ABKAR Akbulak array 57.39 309 P **P 17 33 15.6 -0.2**
ABKAR Akbulak array 57.39 309 P **P 17 33 15.9 +0.1**
ABKAR IAmb IAmb 17 33 17.3
comp=Z,52nm,0.8s
TULEG Thule 57.57 10 *i* P **P 17 33 14.0 -2.5**
TULEG IAmb IAmb 17 33 16.4
comp=Z,12nm,0.9s
TULEG Thule 57.57 10 P **P 17 33 15.4 -1.2**
SOEI Soe 57.58 208 P **P 17 33 19.4 +1.9**
PRGR Permogore 57.73 327 *eP* **P 17 33 15.3 -2.6**
PRGR pmax pmax
comp=Z,13nm,0.8s
KIRV Kirov 57.80 322 P **P 17 33 17.9 -0.5**
comp=Z,26nm,0.6s,baz=78,slow=3.7,SNR=13
KIRV LR LR 17 59 49.8
comp=Z,228nm,18.2s,baz=53,slow=38
KIRV Kirov 57.80 322 *d P* **P 17 33 18.9 +0.5**
AKTO Aktyubinsk 57.85 311 P **P 17 33 19.0 +0.1**
comp=Z,14nm,0.6s,baz=69,slow=7.7,SNR=57
AKTO LR LR 18 00 50.1
comp=Z,170nm,18.3s,baz=92,slow=39
AKTO Aktyubinsk 57.85 311 P **P 17 33 19.0 +0.1**
NEEM North Greenlan 58.34 5 *i* P **P 17 33 20.4 -1.9**
NEEM IAmb IAmb 17 33 22.3
comp=Z,21nm,0.8s
APA Apatity 58.45 336⇓ *i P* **P 17 33 19.7 -3.2**
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,2μm,13.0s
HAMF Hammerfest 58.93 341 *eP* **P 17 33 25.0 -1.2**
ARA0 ARCESS Array S 59.28 340 *eP* **P 17 33 27.9 -0.7**
ARCES ARCESS Array B 59.28 340 P **P 17 33 27.6 -1.0**
comp=Z,3.0nm,0.3s,baz=54,slow=7.1,SNR=74
ARCES ARCESS Array B 59.28 340 P **P 17 33 27.1 -1.5**
ARCES pmax pmax
comp=Z,83nm,1.9s
ARCES ARCESS Array B 59.28 340 P **P 17 33 27.1 -1.5**
KBL Kabul 59.65 290 P **P 17 33 31.3 -0.7**
KBL pmax pmax
comp=Z,24nm,0.8s
KBL Kabul 59.65 290 P **P 17 33 31.3 -0.7**
KTK1 Kautokeino 60.22 340 *eP* **P 17 33 34.9 -0.2**
JETT Jettan, Norway 60.49 341 *eP* **P 17 33 37.4 +0.5**
B08A Colville Reser 60.53 50 P **P 17 33 38.0 +0.4**
B08A IAmb IAmb 17 33 54.6
comp=Z,21nm,1.7s
KLMR Klimovskoe 60.59 328 *eP* **P 17 33 35.9 -1.7**
KLMR pmax pmax
comp=Z,21nm,0.9s
KLMR Klimovskoe 60.59 328 *eP* **P 17 33 36.0 -1.7**
KLMR AMP 17 33 38.8
comp=Z,21nm,0.9s
TRO Tromso 60.77 342 *eP* **P 17 33 38.0 -0.8**
HOOD Mount Hood Mea 60.92 54 P **P 17 33 41.1 +0.7**
SMRI Semarang 60.99 224 P **P 17 33 43.9 +2.9**
comp=Z,150nm,1.7s
NEW Newport 61.80 49 P **P 17 33 46.4 +0.2**
comp=Z,4.8nm,0.8s,baz=333,slow=4.1,SNR=8.5
NEW LR LR 18 00 29.2
comp=Z,44nm,20.0s,baz=311,slow=36
NEW Newport 61.80 49 P **P 17 33 46.6 +0.4**
NEW pmax pmax
comp=Z,19nm,1.6s
NEW Newport 61.80 49 P **P 17 33 46.5 +0.4**
NEW IAmb IAmb 17 34 26.9
comp=Z,19nm,1.6s
NEW Newport 61.80 49 P **P 17 33 47.2 +1.0**
baz=305
MDSI Maura Dua 62.17 231 P **P 17 33 48.7 -0.2**
MASI Maura Aman, Be 62.19 234 P **P 17 33 49.9 +0.8**
comp=Z,2μmcomp=Z,103nm,0.4s
L04D Klamath Falls 62.30 57 P **P 17 33 51.3 +1.6**
baz=305
J05D Fort Rock, OR 62.33 56 P **P 17 33 51.8 +1.9**
baz=305
YBH Yreka Blue Hor 62.34 58 P **P 17 33 51.1 +1.2**
comp=Z,3.7nm,0.8s,baz=283,slow=6.3,SNR=7.2
UPNV Upernavik 62.40 8 *i* P **P 17 33 47.4 -2.3**
UPNV IAmb IAmb 17 33 49.6
comp=Z,18nm,0.8s
N02D Trinity Center 62.78 58 P **P 17 33 54.7 +1.9**
baz=306
M04C Macdoel 62.84 57 P **P 17 33 54.7 +1.4**
baz=306
STEI Steigen 62.95 342 *eP* **P 17 33 52.3 -1.1**
FAUS Fauske 63.38 341 *eP* **P 17 33 55.4 -0.9**
SUMG Summit 63.72 2 P **P 17 33 58.6 -0.4**
SUMG pmax pmax
comp=Z,45nm,0.9s
SUMG Summit 63.72 2 *i* P **P 17 33 58.0 -1.0**
SUMG Summit 63.72 2 P **P 17 33 58.6 -0.4**
J08A Circle Bar Ran 63.92 54 IAmb IAmb 17 34 22.7
comp=Z,36nm,1.9s
HRA Herat 64.30 294 IAmb IAmb 17 34 05.1
comp=Z,13nm,0.8s
PLID Pearl Lake 64.30 51 P **P 17 34 03.1 +0.1**
PLID IAmb IAmb 17 34 04.6
comp=Z,12nm,1.1s
MSO Missoula 64.39 49 IAmb IAmb 17 34 05.3
comp=Z,14nm,1.1s
MSO Missoula 64.39 49 P **P 17 34 04.3 +0.9**
baz=308,SNR=8.5
KONS Konsvik 64.60 342 *eP* **P 17 34 04.2 0.0**
WRA Warramunga Arr 64.75 194 P **P 17 34 05.2 -0.6**
comp=Z,0.9nm,0.8s,baz=15,slow=6.9,SNR=6.2
WRA Warramunga Arr 64.75 194 *i* P **P 17 34 08.3 +2.5**
WRA pmax pmax
comp=Z,1.0nm,0.8s
GEYT Alibeck 64.84 299 P **P 17 34 07.2 +0.7**
comp=Z,11nm,0.7s,baz=32,slow=2.2,SNR=14
GEYT LR LR 18 05 02.1
comp=Z,134nm,18.6s,baz=74,slow=38
GEYT Alibeck 64.84 299 P **P 17 34 06.7 +0.3**
GEYT IAmb IAmb 17 34 08.1
comp=Z,11nm,0.8s
GYA0B ALIBECK ARRAY 64.84 299 IAmb IAmb 17 34 08.0
comp=Z,12nm,0.8s
FINES FINESS Array B 64.98 333 P **P 17 34 06.5 -0.3**
comp=Z,26nm,0.5s,baz=49,slow=6.0,SNR=224
FFC Flin Flon 65.23 37 P **P 17 34 09.1 +0.5**
FFC pmax pmax
comp=Z,18nm,1.0s
FFC Flin Flon 65.23 37 P **P 17 34 09.1 +0.5**
FFC IAmb IAmb 17 34 10.4
comp=Z,18nm,0.9s
OBN Obninsk 65.51 324 P **P 17 34 10.3 0.0**
comp=Z,2.4nm,0.3s,baz=292,slow=4.7,SNR=5.5
OBN Obninsk 65.51 324⇑ *eP* **P 17 34 10.4 +0.1**
OBN *e* 17 34 43.7
OBN *e* 17 36 30.9
OBN *e*PPP PPP 17 38 08.4
OBN *e*S **SKSac 17 44 04.6 +4.3**
OBN pmax pmax
comp=Z,56nm,1.4s
OBN MLR MLR
comp=Z,272nm,18.0s

OBN Obninsk 65.51 324 P **P 17 34 10.4 +0.1**
OBN Obninsk 65.51 324 *eP* **P 17 34 10.4 +0.1**
HRY Holter Researc 65.61 48 P **P 17 34 11.7 +0.4**
SCO Scoresbysund 65.68 356 *i* P **P 17 34 11.3 +0.1**
SCO IAmb IAmb 17 34 12.2
comp=Z,8.1nm,1.0s
VRH Novokhopyorsk 65.77 319 *eP* **P 17 34 11.4 -0.7**
VRH pmax pmax
comp=Z,60nm,0.8s
EGMT Eagleton 65.88 46 IAmb IAmb 17 34 15.2
comp=Z,18nm,1.0s
HLID Hailey 66.14 52 P **P 17 34 15.3 +0.4**
HLID Hailey 66.14 52 P **P 17 34 16.0 +1.1**
baz=309
LPSR Galich'ya Gora 66.15 321 *eP* **P 17 34 14.4 -0.1**
LPSR pmax pmax
comp=Z,50nm,0.8s
BOZ Bozeman (W) 66.41 49 IAmb IAmb 17 34 18.6
comp=Z,11nm,0.8s
BOZ Bozeman (W) 66.41 49 P **P 17 34 17.5 +1.0**
baz=309,SNR=6.3
NSS Mamsos 66.51 341 *eP* **P 17 34 16.8 +0.2**
VSU Vasula 66.96 331⇑ *eP* **P 17 34 19.8 +0.2**
VSU pmax pmax
comp=Z,64nm,0.9s
VSU Vasula 66.96 331 *eP* **P 17 34 19.2 -0.4**
VSR Storozhevoye 66.97 320 *eP* **P 17 34 19.6 -0.2**
VSR pmax pmax
comp=Z,70nm,1.0s
NVAR Mina Array Bea 67.02 58 P **P 17 34 21.8 +1.2**
comp=Z,9.4nm,0.8s,baz=287,slow=6.9,SNR=61
ICESG Greenland Ices 67.17 3 *i* P **P 17 34 21.1 -0.2**
ICESG IAmb IAmb 17 34 22.3
comp=Z,46nm,0.8s
ELK Elko 67.42 55 P **P 17 34 24.0 +0.8**
comp=Z,1.5nm,0.7s,baz=285,slow=7.1,SNR=6.6
ELK Elko 67.42 55 P **P 17 34 24.0 +0.8**
H17A Grant Village 67.76 49 P **P 17 34 27.0 +1.7**
H17A IAmb IAmb 17 34 29.0
comp=Z,10nm,1.0s
H17A Grant Village 67.76 49 P **P 17 34 28.1 +2.9**
baz=310,SNR=9.3
DZM Mont Dzumac 67.83 161 LR LR 18 00 26.0
comp=Z,78nm,20.6s,baz=14,slow=33
AAL Aland 67.87 335 *eP* **P 17 34 24.3 -1.0**
RLMT Red Lodge 68.00 48 P **P 17 34 28.0 +1.3**
baz=311
SOEG Soedalen 68.20 360 *i* P **P 17 34 26.6 -0.6**
LOHW Long Hollow 68.25 50 P **P 17 34 29.1 +0.8**
LOHW IAmb IAmb 17 34 30.8
comp=Z,21nm,1.8s
DGMT Dagmar 68.40 43 P **P 17 34 29.7 +0.8**
baz=312
CWC Cottonwood Cre 68.40 60 P **P 17 34 30.3 +1.0**
baz=309
ASAR Alice Springs 68.47 194 P **P 17 34 29.8 +0.3**
comp=Z,0.8nm,0.7s,baz=12,slow=6.6,SNR=16
ASAR pP **pP 17 34 44.5 -0.1**
comp=Z,1.7nm,0.6s,baz=14,slow=5.3,SNR=5.6
GRAC Grapevine Rang 68.50 59 P **P 17 34 31.2 +1.5**
baz=309,SNR=8.9
SFJD Kangerlussuaq 68.51 8 P **P 17 34 29.7 +0.5**
comp=Z,9.8nm,0.6s,baz=318,slow=3.3,SNR=8.7
SFJD LR LR 18 04 36.9
comp=Z,69nm,20.0s,baz=14,slow=36
SFJD Kangerlussuaq 68.51 8 P **P 17 34 29.4 +0.2**
SFJD pmax pmax
comp=Z,26nm,1.0s
SFJD Kangerlussuaq 68.51 8 *i* P **P 17 34 27.9 -1.3**
SFJD Kangerlussuaq 68.51 8 P **P 17 34 29.4 +0.2**
SFJD IAmb IAmb 17 34 30.3
comp=Z,26nm,1.0s
R11A Troy Canyon, C 68.73 57 P **P 17 34 31.8 +0.5**
R11A Troy Canyon, C 68.73 57 P **P 17 34 32.2 +0.9**
baz=310,SNR=8.1
FRB Frobisher Bay 68.86 16 P **P 17 34 31.4 0.0**
comp=Z,16nm,0.4s,baz=329,slow=6.9,SNR=72
FRB LR LR 18 07 59.2
comp=Z,100nm,18.5s,baz=338,slow=39
MPMC Manual Prospec 69.01 60 P **P 17 34 34.1 +0.9**
baz=310,SNR=5.6
GOF Gofitskoye 69.14 313⇑ *eP* **P 17 34 35.0 +1.5**
GOF pmax pmax
comp=Z,56nm,0.6s
FURC Furnace Creek, 69.14 59 P **P 17 34 35.1 +1.5**
baz=310,SNR=6.5
DUG Dugway, Tooele 69.20 54 P **P 17 34 35.5 +1.4**
baz=310,SNR=9.3
TPNV Topopah Spring 69.22 58 P **P 17 34 35.4 +1.0**
baz=310
IDID Didziasalis 69.31 328 *eP* **P 17 34 35.5 +1.1**
DOMB Dombas 69.32 341 *eP* **P 17 34 35.3 +0.9**
ISAL Salakas 69.35 329 *eP* **P 17 34 35.8 +1.2**
BW06 Boulder Array 69.38 50 P **P 17 34 35.5 +0.2**
BW06 Boulder Array 69.38 50 P **P 17 34 35.5 +0.2**
baz=311,SNR=6.2
PDAR Pinedale Array 69.38 50 P **P 17 34 36.0 +0.7**
comp=Z,3.6nm,0.8s,baz=282,slow=1.8,SNR=30
DY2G Dye2 69.40 6 *i* P **P 17 34 34.0 -1.0**
DY2G IAmb IAmb 17 34 35.4
comp=Z,18nm,0.7s
IIGN Ignalina 69.48 329 *eP* **P 17 34 36.7 +1.3**
MNK Minsk 69.48 327 *i* P **P 17 34 34.0 -1.4**
MNK *i* *PP **pP 17 34 52.6 +1.3**
MNK *i* 17 37 06.6
MNK *i* PPP PPP 17 38 47.9
MNK *i* S **S 17 43 36.7 -1.5**
MNK *i* *SS **sS 17 44 07.5 +2.5**
MNK *i* SS **SS 17 48 05.0 -0.5**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,60nm,1.1s
MNK pmax pmax
comp=N,36nm,1.5s
MNK MLR MLR
comp=Z,335nm,12.0s
MNK MLR MLR
comp=E,72nm,21.0s
MNK MLR MLR
comp=N,117nm,11.0s
MNK Minsk 69.48 327 *i* P **P 17 34 34.0 -1.4**
comp=E,2.0nm,0.9s
MNK *i* P **P 17 34 34.0 -1.4**
comp=N,36nm,1.5s
MNK *i* P **P 17 34 34.0 -1.4**
comp=Z,60nm,1.1s,baz=42
MNK *i* pP **pP 17 34 52.7 +1.4**
MNK *i* PP **PP 17 37 06.7 -2.3**
MNK *i* PPP PPP 17 38 48.0
MNK *i* S **S 17 43 36.7 -1.5**
MNK *i* sS **sS 17 44 07.6 +2.6**
MNK *i* SS **SS 17 48 04.5 -1.0**
MNK *i* SSS SSS 17 51 22.5
MNK *i* LQ LQ 18 00 17.3
MNK *i* LR LR 18 05 24.0
MNK *i* LRM MLR 18 08 00.6
comp=Z,335nm,12.2s
MNK *i* LRM MLR 18 08 06.4
comp=E,72nm,21.3s
MNK *i* LRM MLR 18 08 19.9
comp=N,117nm,10.9s
NACGM Naroch 69.61 328 *i* P **P 17 34 36.7 +0.5**
NB2 NORSAR Subarra 69.65 339 P **P 17 34 37.0 +0.6**
comp=Z,6.0nm,0.5s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.65 339 P **P 17 34 37.0 +0.6**
baz=31,slow=6.5
NOA NORSAR Array B 69.65 339 P **P 17 34 36.8 +0.4**
comp=Z,12nm,0.5s,baz=32,slow=6.6,SNR=51
NC602 NORSAR Array S 69.82 339 *eP* **P 17 34 37.6 +0.1**
NCK Nalchik 69.88 311⇓ *i P* **P 17 34 39.5 +1.4**
NCK pmax pmax
comp=Z,19nm,0.6s
GSC Goldstone, Bar 69.92 60 P **P 17 34 39.5 +0.9**
baz=310
KVAR Kislovodsk Arr 70.06 312 P **P 17 34 41.5 +2.2**
comp=Z,14nm,0.7s,baz=261,slow=19,SNR=12
KIV Kislovodsk 70.06 312 ⇑P **P 17 34 40.8 +1.4**
KIV Kislovodsk 70.06 312 *eP* **P 17 34 40.6 +1.2**
KIV pmax pmax
comp=Z,55nm,1.0s
KIV MLR MLR
comp=Z,162nm,17.0s
KIV Kislovodsk 70.06 312 P **P 17 34 40.1 +0.8**
KIV Kislovodsk 70.06 312 *eP* **P 17 34 40.6 +1.2**

KBZ Khabaz 70.10 312 P **P 17 34 40.8 +1.4**
comp=Z,25nm,0.8s,baz=72,slow=3.5,SNR=74
KBZ LR LR 18 08 44.4
comp=Z,184nm,18.6s,baz=45,slow=39
KBZ Khabaz 70.10 312 *c i P* **P 17 34 40.5 +1.1**
KBZ pmax pmax
comp=Z,32nm,0.8s
KBZ Khabaz 70.10 312 *eP* **P 17 34 40.5 +1.1**
PABE Paberze 70.19 330 *eP* **P 17 34 40.9 +1.1**
NEY Neytrino 70.52 312⇓ *eP* **P 17 34 43.7 +1.4**
NEY pmax pmax
comp=Z,6.0nm,1.4s
ONI Oni 70.56 311 IAmb IAmb 17 34 46.0
comp=Z,19nm,0.8s
GMRC Granite Mounta 70.97 60 P **P 17 34 46.2 +1.1**
baz=311
ULM Lac du Bonnet 71.03 38 P **P 17 34 44.6 -0.4**
comp=Z,2.6nm,0.4s,baz=303,slow=8.2,SNR=3.2
ULM Lac du Bonnet 71.03 38 IAmb IAmb 17 35 01.2
comp=Z,36nm,1.9s
MDND Maddock 71.05 41 IAmb IAmb 17 34 47.0
comp=Z,21nm,0.8s
K22A Casper 71.12 49 IAmb IAmb 17 34 47.4
comp=Z,27nm,1.6s
K22A Casper 71.12 49 P **P 17 34 46.6 +0.7**
baz=313
PFO Pinyon Flats O 71.23 61 P **P 17 34 46.8 +0.2**
comp=Z,2.7nm,0.8s,baz=333,slow=12,SNR=1.5
KONO Kongsberg 71.26 330 *eP* **P 17 34 47.1 +0.9**
GNI Garni 71.48 308 LR LR 18 10 08.2
comp=Z,64nm,21.2s,baz=32,slow=39
GNI Garni 71.48 308 *c i P* **P 17 34 50.1 +2.0**
GNI pmax pmax
comp=Z,24nm,2.0s
GNI Garni 71.48 308 P **P 17 34 48.3 +0.2**
GNI IAmb IAmb 17 35 17.3
comp=Z,18nm,1.1s
IRM Iron Mountain 71.70 60 P **P 17 34 50.1 +0.7**
baz=311,SNR=5.2
ODD1 Odda 71.77 341 *eP* **P 17 34 49.8 +0.5**
AKASG Malin Array Be 71.77 324 P **P 17 34 49.5 0.0**
comp=Z,8.6nm,0.3s,baz=38,slow=6.0,SNR=174
AKBB Malin Array Si 71.77 324 *c i P* **P 17 34 49.5 +0.1**
AKBB pmax pmax
comp=Z,59nm,0.9s
O20A White River Ci 71.87 52 IAmb IAmb 17 34 54.2
comp=Z,14nm,1.2s
U15A North Rim 71.97 57 P **P 17 34 52.2 +0.9**
U15A IAmb IAmb 17 34 53.6
comp=Z,9.3nm,0.9s
PDMCI Parker Dam,Lak 72.24 59 P **P 17 34 53.8 +1.3**
baz=311
KLNR Kaliningrad 72.24 331⇑ *eP* **P 17 34 52.7 +0.6**
AGMN Agassiz Nation 72.46 39 IAmb IAmb 17 34 54.5
comp=Z,19nm,1.2s
AGMN Agassiz Nation 72.46 39 P **P 17 34 53.7 +0.1**
baz=317
PV10 Paradox Valley 72.59 53 IAmb IAmb 17 34 57.1
comp=Z,18nm,0.8s
HOMB Homborsund 72.74 339 *eP* **P 17 34 56.4 +1.3**
DEL Delary 72.77 335 *i* P **P 17 34 55.0 -0.3**
PV15 Paradox Valley 72.94 53 P **P 17 34 57.1 +0.1**
ISCO Idaho Springs 73.57 50 P **P 17 35 02.1 +1.4**
baz=314
BSD Bornholm Skovb 73.59 334 *eP* **P 17 35 00.3 +0.2**
MVCO Mesa Verde 73.70 54 IAmb IAmb 17 35 03.7
comp=Z,39nm,1.9s
MVCO Mesa Verde 73.70 54 P **P 17 35 02.2 +0.8**
baz=313,SNR=5.3
X16A Lo Mia Camp, P 73.83 58 P **P 17 35 02.7 +0.6**
X16A IAmb IAmb 17 35 04.5
comp=Z,8.1nm,0.8s
SORM Soroca 74.08 323 ⇓P **P 17 35 03.5 +0.4**
S22A 4UR Ranch, Cre 74.30 53 P **P 17 35 06.6 +1.6**
baz=314
SIRT Sirnak 74.60 307 P **P 17 35 07.0 +0.6**
LVV L'vov 74.60 326 *eP* **P 17 35 06.4 +0.3**
PURM Purcari 74.61 321 ⇑P **P 17 35 07.4 +1.2**
OGNE Ogallala 74.72 48 IAmb IAmb 17 35 08.7
comp=Z,26nm,0.8s
OGNE Ogallala 74.72 48 P **P 17 35 08.0 +0.9**
baz=315
MILM Milestii Mici 74.79 322 ⇓P **P 17 35 07.9 +0.6**
SDCO Great Sand Dun 75.06 52 P **P 17 35 10.4 +1.0**
baz=314
VASR Vaslui 75.46 322 ⇑P **P 17 35 12.2 +1.0**
ECSD EROS Data Cent 75.47 43 P **P 17 35 11.2 -0.1**
ECSD IAmb IAmb 17 35 12.6
comp=Z,25nm,1.3s
ECSD EROS Data Cent 75.47 43 P **P 17 35 11.3 0.0**
baz=318,SNR=7.1
TUC Tucson 75.65 59 P **P 17 35 11.8 -0.9**
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 75.65 59 P **P 17 35 11.8 -0.9**
TUC Tucson 75.65 59 P **P 17 35 13.8 +1.2**
baz=313
BUR08 Bucovina Ar. S 75.81 324 IAmb IAmb 17 35 15.7
comp=Z,18nm,0.7s
BIR Birlad 75.82 322 ⇓P **P 17 35 14.7 +1.5**
BURAR Bucovina Array 75.83 324 ⇑P **P 17 35 14.0 +0.7**
OJC Ojcow 75.93 329 IAmb IAmb 17 35 15.7
comp=Z,23nm,0.9s
VLDR Vladesti 75.94 321 ⇑P **P 17 35 14.9 +1.1**
BZK Bozkurt 76.00 315 ⇓P **P 17 35 15.5 +1.2**
BSEG Bad Segeberg 76.00 336 *eP* **P 17 35 15.0 +0.9**
comp=Z,26nm,0.8s,baz=30,slow=5.6
TESR Tescani 76.06 323 ⇑P **P 17 35 15.2 +0.6**
GHRR 76.08 322 ⇑P **P 17 35 16.3 +1.7**
T25A Trinidad 76.10 52 P **P 17 35 16.0 +0.8**
baz=315
TLCR 76.11 320 ⇑P **P 17 35 15.6 +0.7**
UZH Uzhgorod 76.23 326 *eP* **P 17 35 13.4 -2.1**
UZH *i* 17 35 26.2
UZH *i* 17 35 37.0
PANC Panciu 76.34 322 ⇑P **P 17 35 17.9 +1.8**
CRVS Cervenica-Dubn 76.35 327 *eP* **P 17 35 16.6 +0.4**
CRVS Cervenica-Dubn 76.35 327 *eP* **P 17 35 16.6 +0.4**
JURR Jurilovca 76.40 320 ⇑P **P 17 35 17.8 +1.3**
CFR Carcaliu 76.42 321 ⇑P **P 17 35 17.3 +0.7**
ANMO Albuquerque 76.45 54 P **P 17 35 18.0 +0.7**
comp=Z,2.8nm,0.8s,baz=306,slow=8.6,SNR=9.3
ANMO Albuquerque 76.45 54⇓ *eP* **P 17 35 17.6 +0.3**
ANMO pmax pmax
comp=Z,21nm,4.0s
ANMO Albuquerque 76.45 54 P **P 17 35 17.8 +0.6**
ANMO Albuquerque 76.45 54 P **P 17 35 18.3 +1.0**
baz=314
ODBI Odobesti 76.46 322 ⇑P **P 17 35 17.6 +0.7**
BMR Baia Mare 76.50 325 ⇑P **P 17 35 18.3 +1.2**
VRI Vrincioaia 76.53 322 ⇑P **P 17 35 18.3 +1.0**
TRPA Tarpa 76.53 326 ⇑P **P 17 35 18.4 +1.2**
TRPA Tarpa 76.53 326 P **P 17 35 18.2 +1.0**
TPGR Topolog 76.54 320 ⇑P **P 17 35 18.3 +0.9**
PLOR Plostina 76.58 322 ⇑P **P 17 35 18.0 +0.4**
ARCR ARCALIA 76.61 324 ⇑P **P 17 35 19.3 +1.7**
OZUR 76.77 323 ⇑P **P 17 35 20.1 +1.5**
COVR Voineasa-Covas 76.78 322 ⇓P **P 17 35 20.1 +1.4**
BISRR Bisoca 76.78 322 ⇓P **P 17 35 20.4 +1.7**
TIRR Tirgusor 76.85 320 IAmb IAmb 17 35 20.7
comp=Z,23nm,0.9s
HARR Harsova 76.89 321 ⇑P **P 17 35 20.1 +0.8**
LANS Liptovska Anna 76.92 328 *eP* **P 17 35 21.4 +1.9**
LANS pmax pmax
comp=Z,12nm,0.8s
LANS Liptovska Anna 76.92 328 *eP* **P 17 35 21.4 +1.9**
TLBR Topalu 76.95 320 ⇑P **P 17 35 20.9 +1.3**
CHVC Chvalec 76.99 331 *eP* **P 17 35 20.9 +1.1**
DOPR Dopca 77.04 323 ⇑P **P 17 35 21.5 +1.4**
KECS Kecovo 77.07 327 *eP* **P 17 35 21.2 +0.9**
KECS pmax pmax
comp=Z,6.0nm,0.9s
KECS Kecovo 77.07 327 *eP* **P 17 35 21.2 +0.9**
UPC Upice 77.07 331 *eP* **P 17 35 21.2 +1.0**
UPC Upice 77.07 331 *eP* **P 17 35 21.2 +1.0**
DPC Dobruska-Polom 77.09 331 *eP* **P 17 35 21.7 +1.3**
DPC Dobruska-Polom 77.09 331 *eP* **P 17 35 21.7 +1.3**
FLTG Flechtingen 77.11 334 *eP* **P 17 35 20.8 +0.5**
comp=Z,18nm,0.8s,baz=30,slow=5.6
MORC Moravsky Berou 77.13 330 ⇑P **P 17 35 21.6 +1.0**
MORC Moravsky Berou 77.13 330 *eP* **P 17 35 21.3 +0.7**
MORC Moravsky Berou 77.13 330 IAmb IAmb 17 35 23.6
comp=Z,14nm,0.7s
MESR Meseseni 77.15 325 ⇓P **P 17 35 21.3 +0.6**

KRLC Kraliky 77.16 330 *eP* **P 17 35 21.9 +1.1**
KRLC *e* 17 35 29.2
KRLC Kraliky 77.16 330 *eP* **P 17 35 21.9 +1.1**
KRLC *e*PCP **PcP 17 35 29.2 -2.2**
MLR Muntele Rosu 77.17 322 ⇑P **P 17 35 21.6 +0.6**
MLR Muntele Rosu 77.17 322 IAmb IAmb 17 35 24.8
comp=Z,6.9nm,0.7s
ISR Istrita 77.19 322 ⇑P **P 17 35 22.5 +1.5**
CBBR Cluj-Babes-Bol 77.20 324 ⇓P **P 17 35 22.6 +1.6**
CJR Cluj-Napoca 77.22 324 ⇑P **P 17 35 22.7 +1.5**
SCHQ Schefferville 77.28 20 P **P 17 35 21.6 +0.3**
comp=Z,9.4nm,0.8s,baz=341,slow=5.2,SNR=20
SCHQ LR LR 18 12 52.1
comp=Z,99nm,18.5s,baz=56,slow=38
BNN Bunyan 77.30 312 P **P 17 35 22.2 +0.3**
NRDL Niedersach Rie 77.32 335 *eP* **P 17 35 22.5 +1.1**
comp=Z,6.8nm,0.8s,baz=30,slow=5.6
121A Cookes Peak, D 77.34 57 P **P 17 35 23.9 +1.6**
baz=314,SNR=5.3
ICOR Ion Corvin 77.39 320 ⇓P **P 17 35 23.5 +1.4**
CLL Collm 77.42 333 *i* P **P 17 35 22.4 +0.2**
CLL *e**PP **pP 17 35 39.0 +0.8**
CLL pmax pmax
comp=Z,27nm,0.9s
CLL Collm 77.42 333 *i* P **P 17 35 22.4 +0.2**
comp=Z,27nm,0.9s
CLL *e*pP **pP 17 35 39.0 +0.8**
CLL Collm 77.42 333 *eP* **P 17 35 22.3 +0.2**
comp=Z,16nm,0.8s,baz=30,slow=5.6
CLL Collm 77.42 333 IAmb IAmb 17 35 23.4
comp=Z,26nm,0.9s
ASSE Asse, Remlinge 77.46 335 *eP* **P 17 35 22.9 +0.6**
baz=30,slow=5.6
BRG Berggiesshubel 77.48 332 *eP* **P 17 35 22.9 +0.4**
BRG Amp 17 35 24.0
comp=Z,9.1nm,1.0s
BRG Berggiesshubel 77.48 332 *eP* **P 17 35 22.8 +0.4**
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 77.48 332 *eP* **P 17 35 22.7 +0.2**
comp=Z,4.4nm,0.8s,baz=30,slow=5.6
DRGR 77.53 325 ⇓P **P 17 35 24.0 +1.0**
PVCC Panska Ves 77.56 332 *eP* **P 17 35 24.0 +1.1**
PVCC Panska Ves 77.56 332 *eP* **P 17 35 24.0 +1.1**
VOIR 77.60 323 ⇑P **P 17 35 24.4 +1.1**
FBE Freiberg 77.63 333 *eP* **P 17 35 23.7 +0.3**
comp=Z,9.8nm,0.8s,baz=30,slow=5.6
VYHS Vyhne 77.70 328 *eP* **P 17 35 25.0 +1.2**
VYHS pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 77.70 328 *eP* **P 17 35 25.0 +1.2**
PSZ Piszkesteto 77.76 327 ⇑P **P 17 35 25.3 +1.1**
PSZ Piszkesteto 77.76 327 IAmb IAmb 17 35 26.3
comp=Z,16nm,1.0s
PSZ Piszkesteto 77.76 327 P **P 17 35 25.5 +1.3**
KOLL Kolacno 77.80 328 *eP* **P 17 35 25.9 +1.6**
CLZ Clausthal 77.80 335 *eP* **P 17 35 25.2 +0.9**
comp=Z,17nm,0.8s,baz=30,slow=5.6
BR131 Keskin Array S 77.83 314 *ceP* **P 17 35 25.5 +0.7**
BRTR Keskin Array B 77.83 314 P **P 17 35 25.6 +0.7**
comp=Z,4.3nm,0.8s,baz=79,slow=3.3,SNR=28
BRTR Keskin Array B 77.83 314 P **P 17 35 24.9 0.0**
BRTR Keskin Array B 77.83 314 P **P 17 35 24.9 0.0**
ARR Arges 77.84 323 ⇑P **P 17 35 26.3 +1.6**
JAVC Velka Javorina 77.84 329 *eP* **P 17 35 26.4 +1.8**
VRAC Vranov 77.86 330 ⇑P **P 17 35 26.0 +1.3**
VRAC Vranov 77.86 330 LR LR 18 11 44.9
comp=Z,151nm,18.2s,baz=358,slow=37
VRAC Vranov 77.86 330 P **P 17 35 25.4 +0.7**
PRU Pruhonice 78.02 331 *eP* **P 17 35 26.4 +0.9**
PRU Pruhonice 78.02 331 *eP* **P 17 35 26.4 +0.9**
KRUC Moravsky 78.14 330 *eP* **P 17 35 26.8 +0.6**
IBBN Ibbenburen 78.18 336 *eP* **P 17 35 27.1 +0.8**
comp=Z,16nm,0.8s,baz=30,slow=5.6
GTTG Gottingen 78.19 335 *eP* **P 17 35 27.1 +0.7**
comp=Z,15nm,0.8s,baz=30,slow=5.6
BR231 Keskin MP Arra 78.19 315 IAmb IAmb 17 35 29.0
comp=Z,18nm,0.8s
SMOL Smolenice 78.21 329 *eP* **P 17 35 28.1 +1.5**
SMOL pmax pmax
comp=Z,9.0nm,0.9s
SMOL Smolenice 78.21 329 *eP* **P 17 35 28.1 +1.5**
TANN Tannenbergstha 78.36 333 *eP* **P 17 35 27.6 +0.1**
comp=Z,3.6nm,0.7s,baz=30,slow=5.6
WERD Werda 78.39 333 *eP* **P 17 35 28.0 +0.4**
comp=Z,5.4nm,0.8s,baz=30,slow=5.6
MODS Modra-Piesok 78.39 329 *eP* **P 17 35 30.1 +2.5**
MODS pmax pmax
comp=Z,15nm,0.9s
MODS Modra-Piesok 78.39 329 *eP* **P 17 35 30.1 +2.5**
MOX Moxa 78.44 333 *eP* **P 17 35 28.3 +0.4**
comp=Z,6.4nm,0.9s,baz=30,slow=5.6
GUNZ Gunzen 78.45 333 *eP* **P 17 35 28.6 +0.6**
comp=Z,8.2nm,0.8s,baz=30,slow=5.6
SRO Srobarova 78.46 328 *eP* **P 17 35 29.6 +1.6**
SRO Srobarova 78.46 328 *eP* **P 17 35 29.6 +1.6**
PBCC Pribram 78.47 331 *eP* **P 17 35 28.7 +0.7**
SRO2 Moca 78.47 328 *eP* **P 17 35 28.3 +0.2**
SRO2 Moca 78.47 328 *eP* **P 17 35 28.2 +0.2**
WERN Wernitzgruen 78.50 333 *eP* **P 17 35 29.3 +1.0**
comp=Z,9.2nm,0.7s,baz=30,slow=5.6
MDUB Mudurnu 78.52 316 P **P 17 35 28.8 +0.2**
NKC Novy Kostel 78.52 333 *eP* **P 17 35 29.0 +0.7**
NKC Novy Kostel 78.52 333 *eP* **P 17 35 29.0 +0.7**
COPA Copaceanca 78.55 322 ⇓P **P 17 35 28.9 +0.4**
GZR Gura Zlata 78.62 324 ⇓P **P 17 35 29.7 +0.7**
UBBA Unterbreizbach 78.81 334 *eP* **P 17 35 30.7 +1.0**
baz=30,slow=5.6
MANZ Manzenberg 78.85 333 *eP* **P 17 35 30.7 +0.6**
comp=Z,1.6nm,0.8s,baz=30,slow=5.6
BZS Buzias 78.93 325 ⇑P **P 17 35 30.6 +0.1**
ROTZ Rotzenmuhle 79.00 333 *eP* **P 17 35 32.1 +1.1**
comp=Z,176nm,2.4s,baz=30,slow=5.6
KHC Kasperske Hory 79.08 331 *ceP* **P 17 35 32.3 +0.9**
KHC pmax pmax
comp=Z,42nm,0.7s
KHC Kasperske Hory 79.08 331 *eP* **P 17 35 32.1 +0.7**
KHC *ex* x 17 35 46.0
KHC Kasperske Hory 79.08 331 IAmb IAmb 17 35 34.6
comp=Z,19nm,0.7s
BUG Bochum--Univer 79.09 336 *eP* **P 17 35 32.0 +0.6**
comp=Z,15nm,0.8s,baz=30,slow=5.6
CKRC Cesky Krumlov 79.09 331 *eP* **P 17 35 32.0 +0.5**
AMTX Amarillo 79.26 52 P **P 17 35 33.5 +0.8**
AMTX IAmb IAmb 17 38 09.6
comp=Z,20nm,0.8s
AMTX Amarillo 79.26 52 P **P 17 35 34.2 +1.5**
baz=317
GEC2 GERESS Array S 79.28 331 *eP* **P 17 35 33.2 +0.6**
comp=Z,7.4nm,0.7s,baz=30,slow=5.6
GEC2 GERESS Array S 79.28 331 IAmb IAmb 17 35 34.8
comp=Z,8.6nm,0.8s
GERES GERESS Array B 79.28 331 P **P 17 35 33.2 +0.6**
comp=Z,4.1nm,0.4s,baz=40,slow=6.5,SNR=13
GERES LR LR 18 15 57.1
comp=Z,133nm,18.0s,baz=312,slow=40
CONA Conrad Observa 79.28 329 *eP* **P 17 35 33.6 +1.0**
comp=Z,20nm,1.4s
WET Wettzell 79.31 332 *eP* **P 17 35 33.4 +0.7**
comp=Z,16nm,0.8s,baz=30,slow=5.6
MNTX Cornudas Mount 79.37 56 P **P 17 35 34.5 +1.1**
baz=315,SNR=6.9
GRF Grafenberg Arr 79.39 333 *eP* **P 17 35 34.1 +1.0**
comp=Z,25nm,0.7s,baz=30,slow=5.6
GRFO Grafenberg 79.39 333 P **P 17 35 33.8 +0.7**
GRFO pmax pmax
comp=Z,31nm,0.9s
GRFO Grafenberg 79.39 333 P **P 17 35 33.8 +0.7**
MORH Mrgy, Hungar 79.65 327 ⇑P **P 17 35 34.5 0.0**
MORH Mrgy, Hungar 79.65 327 P **P 17 35 34.3 -0.2**
TNS Taunus Mts 79.81 335 *eP* **P 17 35 36.3 +1.0**
comp=Z,9.9nm,0.8s,baz=30,slow=5.6
MOA Molln 79.93 330 *eP* **P 17 35 36.4 +0.4**
comp=Z,4.8nm,0.8s
AHRW Bad Neuenahr-A 79.94 336 *eP* **P 17 35 37.0 +1.0**
comp=Z,13nm,0.9s,baz=30,slow=5.6
ARSA Arzberg 79.98 329 *eP* **P 17 35 36.3 0.0**
comp=Z,3.3nm,0.8s
FRGS Fruska Gora 80.04 326 ⇑P **P 17 35 36.5 -0.2**
BEBN Eben Emael 80.12 337 P **P 17 35 37.4 +0.4**
comp=Z,37nm,0.8s
BTNL Ternell 80.18 336 P **P 17 35 37.9 +0.6**
comp=Z,11nm,1.0s
MEM Membach 80.19 336 ⇑P **P 17 35 38.5 +1.1**
comp=Z,16nm,0.9s
BSTI Sart Tilman 80.34 337 P **P 17 35 39.2 +1.1**
comp=Z,5.5nm,0.7s
RJOB Jochberg 80.54 331 *eP* **P 17 35 40.5 +1.1**
comp=Z,8.7nm,0.8s,baz=30,slow=5.6
BCLA Clavier 80.56 337 P **P 17 35 39.0 -0.4**
comp=Z,13nm,0.9s
VTS Vitosha 80.63 322 ⇑P **P 17 35 41.0 +0.9**
VTS Vitosha 80.63 322 IAmb IAmb 17 35 42.1
comp=Z,15nm,0.9s
SOKA Soboth 80.64 329 *i* P **P 17 35 40.7 +0.7**
comp=Z,13nm,0.8s,SNR=7.5
PERS Pernice 80.64 329 *eP* **P 17 35 40.4 +0.5**
GROS Grobnik 80.65 329 *i* P **P 17 35 40.3 +0.3**
BGES Gesves 80.66 337 P **P 17 35 40.3 +0.5**
comp=Z,15nm,0.9s
FUR Furstenfeldbru 80.69 332 *eP* **P 17 35 40.9 +0.7**
comp=Z,4μm,2.8s,baz=30,slow=5.6
ALN Alexandroupoli 80.70 319 P **P 17 35 40.6 +0.3**
ALN pmax pmax
comp=Z,18nm,1.2s
ALN Alexandroupoli 80.70 319 P **P 17 35 40.5 +0.3**
ALN IAmb IAmb 17 35 42.0
comp=Z,18nm,1.2s
BMRD Maredsous 80.82 337 P **P 17 35 41.4 +0.7**
comp=Z,22nm,0.9s
RCHB Rochefort 80.82 337 P **P 17 35 41.1 +0.4**
comp=Z,11nm,1.0s
KBA Koelnbreinsper 80.91 330 *i* P **P 17 35 42.7 +1.2**
comp=Z,17nm,0.9s,SNR=10
DOBS Dobrina 80.92 329 *eP* **P 17 35 41.2 -0.2**
OBKA Obir 80.96 329 *eP* **P 17 35 41.7 0.0**
comp=Z,5.1nm,0.8s
WMOK Wichita Mounta 80.99 50 P **P 17 35 42.5 +0.5**
baz=318
DOU Dourbes 81.06 337 P **P 17 35 42.3 +0.3**
MYKA Terra Mystica 81.19 330 *eP* **P 17 35 43.3 +0.4**
comp=Z,5.3nm,0.7s
WATA Walderalm 81.31 332 *eP* **P 17 35 44.2 +0.6**
comp=Z,13nm,0.6s
WTTA Wattenberg 81.35 332 *i* P **P 17 35 44.7 +0.8**
comp=Z,14nm,0.5s,SNR=5.2
HDIL Hopedale 81.40 40 P **P 17 35 44.2 +0.2**
baz=322
RETA Reutte 81.46 332 *eP* **P 17 35 45.3 +1.0**
comp=Z,16nm,0.9s
MOTA Moosalm 81.46 332 *eP* **P 17 35 45.0 +0.6**
comp=Z,16nm,0.8s
ABTA Abfaltersbach 81.49 331 *eP* **P 17 35 43.6 -0.9**
comp=Z,6.6nm,1.4s
UBR Ueberruh 81.51 333 *eP* **P 17 35 45.8 +1.2**
comp=Z,4.3nm,0.8s,baz=30,slow=5.6
BFO Black Forest 81.51 334 P **P 17 35 44.6 +0.1**
BFO pmax pmax
comp=Z,15nm,1.1s
BFO Black Forest 81.51 334 *eP* **P 17 35 45.5 +1.0**
comp=Z,7.2nm,0.9s,baz=30,slow=5.6
BFO Black Forest 81.51 334 P **P 17 35 44.6 +0.1**
BFO IAmb IAmb 17 35 45.9
comp=Z,15nm,1.1s
SQTA Sankt Quirin 81.54 332 *i* P **P 17 35 45.4 +0.7**
comp=Z,13nm,0.7s,SNR=5.7
MMAI Mount Meron Ar 81.82 308 LR LR 18 16 25.8
comp=Z,85nm,18.1s,baz=217,slow=39
STAL STALIGIAL 81.84 330 IAmb IAmb 17 35 47.9
comp=Z,12nm,0.7s
FETA Feichten 81.87 332 *eP* **P 17 35 47.2 +0.6**
comp=Z,9.4nm,0.9s
DAVA Damuels 81.93 333 *eP* **P 17 35 47.2 +0.3**
comp=Z,24nm,1.1s
ECH Echery 81.98 335 P **P 17 35 46.6 -0.3**
ECH pmax pmax
comp=Z,12nm,0.9s
ECH Echery 81.98 335 P **P 17 35 46.6 -0.3**
ECH IAmb IAmb 17 35 49.2
comp=Z,12nm,0.9s
TX32 Lajitas Array 82.09 57 IAmb IAmb 17 35 49.7
comp=Z,8.1nm,0.8s
TXAR Lajitas Array 82.09 57 P **P 17 35 48.7 +0.7**
comp=Z,7.7nm,0.7s,baz=298,slow=4.0,SNR=105
TXAR pP **pP 17 36 05.0 +1.1**
comp=Z,1.9nm,0.6s,baz=292,slow=4.3,SNR=5.8
TXAR Lajitas Array 82.09 57 P **P 17 35 47.9 -0.1**
SADO Sadowa 82.27 32 LR LR 18 14 26.9
comp=Z,105nm,18.0s,baz=149,slow=37
CTI Castel Tesino 82.40 331 IAmb IAmb 17 35 49.6
comp=Z,8.9nm,0.7s
CCM Cathedral Cave 82.42 43 P **P 17 35 49.1 -0.3**
CCM pmax pmax
comp=Z,13nm,0.8s
CCM Cathedral Cave 82.42 43 P **P 17 35 49.1 -0.3**
CCM IAmb IAmb 17 35 50.5
comp=Z,13nm,0.8s
CCM Cathedral Cave 82.42 43 P **P 17 35 50.0 +0.5**
baz=321
RAYN Ar Rayn 82.43 295 P **P 17 35 48.8 -1.0**
RAYN pmax pmax
comp=Z,18nm,1.5s
RAYN Ar Rayn 82.43 295 P **P 17 35 48.8 -1.0**
RAYN IAmb IAmb 17 35 51.8
comp=Z,18nm,1.4s
PDG Podgorica 82.51 324 ⇑P **P 17 35 49.9 +0.2**
PDG Podgorica 82.51 324 IAmb IAmb 17 35 50.3
comp=Z,12nm,0.8s
TUE Stuetta 82.82 333 IAmb IAmb 17 35 55.7
comp=Z,15nm,0.7s
U40A Yellville 82.93 45 P **P 17 35 52.3 +0.2**
baz=321,SNR=8.6
FNA Florina 82.93 322 P **P 17 35 51.6 -0.5**
FNA pmax pmax
comp=Z,9.0nm,0.9s
FNA Florina 82.93 322 P **P 17 35 51.6 -0.5**
FNA IAmb IAmb 17 35 53.0
comp=Z,8.6nm,0.9s
KBN Korca 83.32 322 IAmb IAmb 17 35 57.9
comp=Z,12nm,0.7s
O48B Farmland 83.53 38 P **P 17 35 55.6 +0.5**
baz=325
JCT Junction City 83.55 54 P **P 17 35 55.6 +0.1**
JCT pmax pmax
comp=Z,10.0nm,1.0s
JCT Junction City 83.55 54 P **P 17 35 55.6 +0.1**
JCT IAmb IAmb 17 35 56.9
comp=Z,10nm,0.9s
JCT Junction City 83.55 54 P **P 17 35 56.3 +0.8**
baz=318
AGG Agios Georgios 83.92 320 P **P 17 35 55.8 -1.4**
AGG pmax pmax
comp=Z,9.0nm,1.1s
AGG Agios Georgios 83.92 320 P **P 17 35 55.8 -1.4**
MIAR Mount Ida 83.95 47 IAmb IAmb 17 35 59.0
comp=Z,12nm,0.9s
MIAR Mount Ida 83.95 47 P **P 17 35 58.1 +0.8**
baz=320,SNR=7.4
WHAR Wooly Hollow 84.04 46 IAmb IAmb 17 35 59.0
comp=Z,16nm,1.0s
W41B Gary Mavity, V 84.16 46 IAmb IAmb 17 35 59.6
comp=Z,12nm,1.1s
W41B Gary Mavity, V 84.16 46 P **P 17 35 58.7 +0.3**
baz=321
P49A Miami Univ. Ec 84.32 38 P **P 17 35 59.8 +0.7**
baz=325
X40A Basin Creek Fa 84.38 46 P **P 17 36 00.5 +1.0**
baz=321
ACSO Alum Creek Sta 84.50 37 P **P 17 36 00.6 +0.5**
baz=326
NRCA Norcia 84.63 328 P **P 17 36 00.4 -0.3**
WCI Wyandotte Cave 84.66 40 P **P 17 36 01.6 +0.7**
baz=324
M54A Oil Creek Stat 84.82 34 P **P 17 36 02.3 +0.6**
baz=328
ITM Ithomi 85.60 320 P **P 17 36 05.4 -0.2**
ITM IAmb IAmb 17 36 20.2
comp=Z,14nm,0.9s
WVT Waverly 85.61 42 P **P 17 36 06.0 +0.3**
baz=323
SSPA Standing Stone 86.27 33 P **P 17 36 09.6 +0.7**
baz=329
MCWV Mont Chateau 86.31 35 P **P 17 36 10.1 +1.0**
baz=328
O56A Blue Knob Stat 86.31 34 P **P 17 36 09.7 +0.6**
baz=328
SWET Sewanee 87.26 41 P **P 17 36 13.9 0.0**
SWET IAmb IAmb 17 36 14.7
comp=Z,11nm,0.8s
TZTN Tazewell 87.29 39 P **P 17 36 14.7 +0.8**
baz=326
TKL Tuckaleechee C 87.92 40 P **P 17 36 17.4 +0.5**
comp=Z,8.8nm,0.7s,baz=301,slow=1.9,SNR=13
KMSC Kings Mountain 89.46 38 P **P 17 36 24.7 +0.5**
baz=327
KEST Kesra 92.23 327 LR LR 18 21 09.6
comp=Z,122nm,21.2s,baz=320,slow=38
ESDC Sonseca Array 93.00 339 P **P 17 36 40.2 -0.5**
comp=Z,1.9nm,0.9s,baz=18,slow=4.1,SNR=8.0
ESDC Sonseca Array 93.00 339 P **P 17 36 40.0 -0.6**
ESDC IAmb IAmb 17 36 41.3
comp=Z,4.7nm,1.2s
MDT Midelt 99.62 337 LR LR 18 28 31.8
comp=Z,117nm,18.2s,baz=20,slow=39
TORD Torodi Ar. Bea 115.40 323 PKP **PKiKP 17 42 08.2 -0.8**
comp=Z,0.7nm,0.5s,baz=39,slow=2.1,SNR=5.1
DBIC Dimbokro 123.96 327 PKP **PKPdf 17 42 25.2 -0.3**
comp=Z,2.3nm,0.9s,baz=342,slow=4.3,SNR=4.7
ITTB Itaituba 135.43 35 *eP* **PKPdf 17 42 47.8 +0.5**
H03N2 Juan Fernandez 142.41 90 T T 20 22 26.0
baz=304,slow=77,SNR=14
H03N3 Juan Fernandez 142.42 90 T T 20 22 09.8
baz=304,slow=77,SNR=14
H03N1 Juan Fernandez 142.42 90 T T 20 22 09.1
baz=304,slow=77,SNR=12
SIV San Ignacio 142.87 51 PKhKP PKPpre 17 42 56.7
comp=Z,1.2nm,0.7s,baz=304,slow=3.6,SNR=4.6
PTLB Pontes e Lacer 143.48 47 *eP* PKPbc 17 43 00.1 +1.0
SNDB Serra Nova Dou 144.12 33 *eP* PKPbc 17 43 01.6 +0.5
NBRF Rio Formoso - 144.80 5 *eP* PKPbc 17 43 03.5 +0.3
PEXB Peixe 145.36 29 *eP* **PKPab 17 43 05.5 +0.2**
SALV Santo Antonio 145.62 43 *eP* **PKPab 17 43 06.2 0.0**
NBAN Anadia - AL 145.69 7 *eP* **PKPbc 17 43 06.2 +0.1**
NBPN Ponto Novo - B 146.31 14 *eP* **PKPdf 17 43 07.4 +0.6**
SDBA SAO DESIDERIO 146.72 23 *eP* **PKPdf 17 43 07.8 +0.3**
NBLA Lagarto - SE 146.83 10 *eP* **PKPdf 17 43 08.0 +0.3**
BDFB Brasilia 148.73 31 PKPbc **PKPbc 17 43 15.3 +0.6**
comp=Z,6.7nm,0.8s,baz=346,slow=3.6,SNR=8.1
JANB Januaria 149.40 24 *eP* **PKPdf 17 43 12.4 +0.5**
AQDB Aquidauana 149.45 48 *eP* **PKPdf 17 43 12.2 +0.5**
IPMB Ipameri, GO 150.79 33 *eP* **PKPdf 17 43 13.9 -0.1**
PLCA Paso Flores 151.55 97 PKPbc **PKiKP 17 43 22.0 +0.8**
comp=Z,3.8nm,0.8s,baz=267,slow=2.4,SNR=9.7
CPUP Villa Florida 153.06 58 PKPab **PKPab 17 43 35.4 -0.8**
comp=Z,1.1nm,0.6s,baz=320,slow=7.9,SNR=3.5
DUB01 Friburgo-RJ 156.61 25 *eP* **PKPdf 17 43 21.3 -0.9**

*IDC **30** 17:29:51.5±0.6,3.˙02N×127.˙04E,h0km,mb4.2/19,*
mb1 4.3/19,mb1mx4.1/47,mbtmp4.2/19,MS3.9/14,
Ms1 3.9/14,ms1mx3.5/76,Error ellipse: s-maj=31.8km
s-min=10.4km az=78.0
*DJA **30** 17:29:55.0±0.5,3˙N±4˙×12˙7E±˙,h10km,M4.3/13,mb4.5/7,*
mB5.0/2,MLv4.2/13,Mw(mB)4.3/2
*BJI **30** 17:29:57.8±0.0,2.˙96N×126.˙89E,h57km,mb4.4/21,*
mB5.1/16,Ms4.4/7,Ms7 4.2/8
*NEIC **30** 17:29:58.3±1.4,2.˙99N±0.˙05×126.˙95E±0.˙06,h49km±3km,*
mb4.8/73,Error ellipse: s-maj=9.5km s-min=7.8km
az=72.0

ISC 30 17:29:53.4±0.3,3.˙08N±0.˙04×127.˙08E±0.˙05,h10km,n167,
σ1§63/146,mb4.7/61,MS4.0/18,2C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.66**	**291**	P	**Pn**	**17 30 25.1**	**+2.5**
SGSI	**Sangihe**	**1.66**	**291**	P	**Pn**	**17 30 24.5**	**+1.9**
TNTI	**Ternate**	**2.31**	**173**	P	**Pn**	**17 30 34.3**	**+2.8**
TNTI	**Ternate**	**2.31**	**173**		**Pn**	**17 30 32.9**	**+1.4**
TNTI	**Ternate**	**2.31**	**173**	P	**Pn**	**17 30 34.7**	**+3.2**
LBMI	**Labuha**	**3.71**	**174**	P	**Pn**	**17 30 54.3**	**+3.5**
DAV	**Davao City (W)**	**4.24**	**339**	Pn	**Pn**	**17 31 01.6**	**+3.5**
KCP	**Kidapawan**	**4.38**	**333**	*eP*	**Pn**	**17 31 04.7**	**+4.6**
KCP				*i* S	**Sb**	**17 32 05.4**	**+1.9**
GTOI	**Gorontalo**	**4.74**	**239**	P	Pn	17 31 09.9	+5.0
SANI	**Sanana**	**5.21**	**192**	P	**Pn**	**17 31 12.7**	**+1.3**
	0.1nm25nm,1.0s						
SANI	**Sanana**	**5.21**	**192**	P	**Pn**	**17 31 13.1**	**+1.7**
SWI	**Sorong**	**5.72**	**133**	P	**Pn**	**17 31 18.4**	**-0.1**
	0.2nm36nm,0.7s						
SIJI	**Sorong**	**5.73**	**133**	Pn	**Pn**	**17 31 20.9**	**+2.2**
	3.3nm,0.3s,baz=331,slow=11,SNR=13						
SIJI				Sn	**Sn**	**17 32 28.7**	**+4.1**
	0.3nm,0.3s,baz=308,slow=23,SNR=0.9						
SIJI				LR	LR	17 33 40.3	
	comp=Z,1μm,21.5s,baz=268,slow=40						
MRSI	**Marisa**	**5.75**	**243**	P	Pn	17 31 25.0	+6.2
	0.3nm1μm92nm,0.6s						
TOLI2	**Tolitoli**	**6.59**	**253**	Pn	**Pn**	**17 31 30.0**	**-0.4**
TOLI2	**Tolitoli**	**6.59**	**253**	P	**Pn**	**17 31 34.4**	**+4.0**
APSI	**Ampana**	**6.72**	**234**	P	Pn	17 31 37.9	+5.7
	0.3nm1μm75nm,1.3s						
FAKI	**Fak Fak**	**7.88**	**139**	Pn	**Pn**	**17 31 50.6**	**+2.4**
FAKI	**Fak Fak**	**7.88**	**139**	P	Pn	17 31 53.8	+5.6
MYLDM	**Lahad Datu**	**8.81**	**284**	Pn	**Pn**	**17 32 00.9**	**0.0**
SOEI	**Soe**	**13.05**	**192**	Pn	**P**	**17 33 10.7**	**+1.1**
GENI	**Genyem**	**14.24**	**113**	P	**P**	**17 33 21.1**	**-1.6**
SBUM	**Sibu**	**14.86**	**268**	P	**Pn**	**17 33 26.6**	**+3.0**
DRS	**Darwin Rock St**	**15.87**	**166**	P	**Pn**	**17 33 40.0**	**+3.0**
	11nm,0.5s						
MTN	**Manton Dam**	**16.32**	**166**	Pn	**Pn**	**17 33 42.0**	**-0.8**
MTN	**Manton Dam**	**16.32**	**166**	P	**Pn**	**17 33 44.0**	**+1.2**
	29nm,1.5s						
KDU	**Kakadu**	**16.55**	**161**	P	**Pn**	**17 33 48.4**	**+2.6**
KSM	**Kuching**	**16.84**	**265**	P	**Pn**	**17 33 52.6**	**+3.2**
KSM	**Kuching**	**16.84**	**265**	P	**P**	**17 33 55.2**	**+3.7**
	23nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.26**	**228**	P	**Pn**	**17 33 54.9**	**+0.2**
KNRA	**Kununurra**	**18.71**	**175**	P	**P**	**17 34 11.4**	**-0.7**
KNRA				IAmb	IAmb	17 34 22.7	
	comp=Z,119nm,1.8s						
KNRA	**Kununurra**	**18.71**	**175**	P	**Pn**	**17 34 14.7**	**+2.2**
TWG	**Pinlang**	**20.47**	**344**	P	**P**	**17 34 31.9**	**+0.5**
TWG				IAmb	IAmb	17 34 35.4	
	comp=Z,31nm,1.0s						
YULB	**Yu-li**	**20.96**	**345**	P	**P**	**17 34 35.5**	**-1.2**
TPUB	**Ta-pu**	**21.05**	**343**	P	**P**	**17 34 36.7**	**-1.0**
TPUB				IAmb	IAmb	17 34 47.3	
	comp=Z,89nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.09**	**184**	P	**P**	**17 34 37.9**	**-0.3**
	comp=Z,5.8nm,0.6s,baz=16,slow=7.5,SNR=10						
SSLB	**Suanglung**	**21.42**	**344**	P	**P**	**17 34 43.0**	**+1.3**
SSLB				IAmb	IAmb	17 35 18.5	
	comp=Z,46nm,1.4s						
LEM	**Lembang**	**21.78**	**243**	LR	LR	17 44 32.6	
	comp=Z,209nm,21.3s,baz=106,slow=41						
YHNB	**Yeheng**	**22.16**	**346**	P	**P**	**17 34 50.1**	**+0.4**
HKPS	**Hong Kong Po S**	**22.85**	**328**	P	**P**	**17 34 56.7**	**-0.3**
HKPS				IAmb	IAmb	17 35 33.6	
	comp=Z,82nm,1.3s						
KNMB	**Chin-men Tao**	**22.86**	**339**	P	**P**	**17 34 56.7**	**-0.3**
KNMB				IAmb	IAmb	17 35 22.5	
	comp=Z,79nm,1.2s						
JMZ	**Minamidaito 2**	**22.96**	**10**	P	**P**	**17 34 57.5**	**-0.6**
QIZ	**Qiongzhong**	**23.14**	**314**	P	**P**	**17 35 01.0**	**+1.0**
QIZ				S	**S**	**17 39 09.0**	**-2.7**
QIZ				LR	LR		
	comp=Z,490nm,20.6s						
QIZ				LR	LR		
	comp=Z,280nm,23.5s						
QIZ				LR	LR		
	comp=Z,370nm,17.7s						
COEN	**Coen**	**23.27**	**137**	P	**P**	**17 35 00.9**	**-0.4**
PMG	**Port Moresby**	**23.54**	**122**	LR	LR	17 44 19.2	
	comp=Z,180nm,19.4s,baz=302,slow=37						
WB0	**Warramunga Arr**	**23.81**	**163**	P	**P**	**17 35 05.6**	**-1.1**
WB0				IAmb	IAmb	17 35 11.3	
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**23.96**	**163**	P	**P**	**17 35 06.9**	**-1.2**
WRAB				IAmb	IAmb	17 35 17.1	
	comp=Z,23nm,1.0s						
WRA	**Warramunga Arr**	**23.96**	**163**	P	**P**	**17 35 07.3**	**-0.8**
	comp=Z,14nm,0.8s,baz=340,slow=10,SNR=42						
WRA				PcP	**PcP**	**17 38 51.5**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=341,slow=2.3,SNR=2.3						
WRA				S	**S**	**17 39 25.2**	**+0.2**
	comp=Z,1.7nm,1.1s,baz=344,slow=17,SNR=5.3						
WRA				LR	LR	17 45 46.6	
	comp=Z,144nm,19.8s,baz=45,slow=40						
WRA	**Warramunga Arr**	**23.96**	**163**	P	**P**	**17 35 05.8**	**-2.3**
WB2	**Warramunga Arr**	**23.97**	**163**	P	**P**	**17 35 06.8**	**-1.3**
WB2				IAmb	IAmb	17 35 17.1	
	comp=Z,26nm,1.0s						
WR0	**Warramunga Arr**	**24.04**	**163**	P	**P**	**17 35 08.0**	**-0.8**
UBPT	**Khong Chiam**	**24.50**	**301**	P	**P**	**17 35 13.0**	**-0.2**
UBPT				IAmb	IAmb	17 35 15.5	

comp=Z,44nm,1.7s
MBWA Marble Bar 25.14 196 P P 17 35 17.4 -1.4
XMIS Christmas Isla 25.23 237 P P 17 35 17.9 -1.9
XMIS IAmb IAmb 17 35 29.7
comp=Z,48nm,1.1s
PSA00 Pilbara Seismi 25.50 196 P P 17 35 21.9 -0.2
PSA00 Pilbara Seismi 25.50 196 P P 17 35 21.5 -0.6
PSA00 IAmb IAmb 17 35 24.3
comp=Z,52nm,1.6s
RABL Rabaul 26.08 106 P P 17 35 28.8 +1.2
RABL IAmb IAmb 17 35 52.1
comp=Z,28nm,1.1s
AS31 Alice Springs 27.40 166 P P 17 35 37.9 -1.4
ASAR Alice Springs 27.40 166 P P 17 35 39.3 0.0
comp=Z,2.3nm,0.6s,baz=345,slow=6.6,SNR=34
ASAR PcP **PcP 17 38 58.6 +0.3**
comp=Z,0.4nm,0.4s,baz=355,slow=2.0,SNR=3.7
ASAR Alice Springs 27.40 166 P P 17 35 38.1 -1.2
PSI Prapat 28.12 270 LR LR 17 49 35.2
comp=Z,155nm,18.3s,baz=97,slow=42
NJ2 Nanjing 29.84 346 *eP* **P 17 36 03.8 +2.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
JNU Nakatsue 30.10 6 P P 17 36 02.7 -0.5
comp=Z,11nm,1.1s,baz=209,slow=14,SNR=2.7
JNU Nakatsue 30.10 6 P P 17 36 02.8 -0.4
JNU IAmb IAmb 17 36 17.4
comp=Z,33nm,1.3s
JMN Monobe 31.15 11 P P 17 36 11.7 -0.8
JTU Tsushima 31.36 4 P P 17 36 15.3 +1.0
CMAR Chiang Mai Arr 31.50 301 P P 17 36 15.1 -0.7
comp=Z,0.3nm,0.4s,baz=175,slow=25,SNR=3.5
CMAR Chiang Mai Arr 31.50 301 P P 17 36 14.5 -1.3
CHTO Chiang Mai 31.66 302 P P 17 36 16.3 -0.8
ENH Enshi 31.76 330 P P 17 36 17.7 -0.3
ENH IAmb IAmb 17 36 39.3
comp=Z,28nm,1.8s
PZH PanZhiHua 33.65 316 P P 17 36 36.3 +1.6
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.7s
COCO West Island 33.67 243 P P 17 36 31.9 -2.8
FORT Forrest 33.68 178 P P 17 36 32.0 -2.6
FORT IAmb IAmb 17 36 38.3
comp=Z,16nm,0.7s
KSRS Korea Array 34.22 1 P P 17 36 38.7 -0.5
comp=Z,3.2nm,0.9s,baz=172,slow=9.7,SNR=6.5
XAN Xi'an 35.15 333 P P 17 36 50.8 +3.3
XAN pP pwP 17 37 03.3 +11
XAN S S 17 42 12.0 -8.6
XAN pmax pmax
comp=Z,7.0nm,1.4s
XAN LR LR
comp=Z,440nm,17.2s
XAN LR LR
comp=Z,210nm,19.2s
XAN LR LR
comp=Z,380nm,17.2s
HNS HongShan 36.00 343 ⇑P P 17 37 01.0 +6.4
HNS pP pwP 17 37 14.0 +14
HNS sS sS 17 42 55.5 +18
HNS LR LR
comp=Z,530nm,18.1s
HNS LR LR
comp=Z,330nm,17.5s
EIDS Eidsvold 36.62 142 P P 17 37 01.0 +0.9
EIDS IAmb IAmb 17 37 33.2
comp=Z,25nm,1.7s
BBOO Buckleboo 36.69 167 P P 17 36 58.4 -2.3
BBOO IAmb IAmb 17 37 35.6
comp=Z,18nm,1.2s
JMM Marumori 36.83 18 P P 17 37 03.7 +2.0
NWAO Narrogin (SRO) 37.00 194 P P 17 37 04.0 +0.8
NWAO IAmb IAmb 17 37 38.5
comp=Z,44nm,1.6s
STKA Stephens Creek 37.40 159 P P 17 37 05.4 -1.2
comp=Z,7.8nm,0.7s,baz=344,slow=8.5,SNR=13
STKA Stephens Creek 37.40 159 P P 17 37 06.2 -0.4
BJT Baijiatuan 38.08 346 P P 17 37 14.3 +2.0
BJT IAmb IAmb 17 37 16.9
comp=Z,12nm,1.1s
BJI Beijing 38.10 346 P P 17 37 14.5 +2.1
BJI pmax pmax
comp=Z,10.0nm,1.0s
LZH Lanzhou 39.24 330 *eP* P 17 37 30.3 +8.0
LZH pP pwP 17 37 35.0 +7.4
LZH pmax pmax
comp=Z,16nm,1.4s
LZH LR LR
comp=N,280nm,19.0s
LZH LR LR
comp=E,320nm,18.4s
LZH LR LR
comp=Z,290nm,19.0s
HHC Hu-ho-hao-te 40.12 342 *eP* **P 17 37 32.0 +2.5**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,280nm,5.5s
USRK Ussuriysk Ar. 41.18 5 P P 17 37 36.8 -1.3
comp=Z,1.4nm,0.7s,baz=180,slow=7.2,SNR=6.0
USRK Ussuriysk Ar. 41.18 5 P P 17 37 37.5 -0.5
USA0B Ussuriysk Arra 41.18 5 P P 17 37 38.1 0.0
MDJ Mudanjiang 41.43 3 P P 17 37 39.9 -0.2
MDJ IAmb IAmb 17 37 46.0
comp=Z,36nm,1.6s
H11S3 WAKE ISLAND Hy 41.68 65 T T 18 22 17.6
baz=253,slow=74,SNR=15
H11S1 WAKE ISLAND Hy 41.69 65 T T 18 22 15.7
baz=253,slow=74,SNR=7.0
H11S2 WAKE ISLAND Hy 41.69 66 T T 18 22 11.0
baz=253,slow=74,SNR=9.1
XLT XiLinHaoTe 41.80 348 *eP* **P 17 37 45.3 +2.0**
XLT pmax pmax
comp=Z,14nm,1.3s
XLT pmax pmax
comp=Z,220nm,5.2s
H11N1 WAKE ISLAND Hy 42.22 64 T T 18 23 22.6
baz=249
H11N2 WAKE ISLAND Hy 42.23 64 T T 18 23 08.4
baz=249
H11N3 WAKE ISLAND Hy 42.24 64 T T 18 23 30.1
baz=249
BNX BinXian 42.49 0 ⇓P **P 17 37 51.3 +2.5**
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,280nm,4.2s
ASAJ Asahikawa 43.11 16 P P 17 37 53.2 -0.6
comp=Z,8.3nm,0.9s,baz=177,slow=10.0,SNR=3.1
ASAJ LR LR 17 57 27.3
comp=Z,126nm,19.4s,baz=354,slow=38
CHLP Challavanipeta 44.80 293 *eP* **P 17 38 06.5 -1.3**
KLR Kul'dur 46.16 4 P P 17 38 17.1 -1.0
comp=Z,4.4nm,1.1s,baz=188,slow=9.1,SNR=5.4
PALK Pallekele 46.36 277 LR LR 17 58 58.9
comp=Z,115nm,21.0s,baz=199,slow=38
PINNC Pines Island, 46.95 125 P P 17 38 25.9 +1.3
PINNC IAmb IAmb 17 38 41.7
comp=Z,10nm,1.0s
MYLAV Mylavaram 47.59 290 *eP* **P 17 38 28.5 -1.3**
ULN Ulaanbaatar 47.84 342 P P 17 38 32.5 +1.0
ULN IAmb IAmb 17 38 58.1
comp=Z,9.7nm,1.3s
SONM Songino Array 48.02 341 P P 17 38 33.4 +0.6
comp=Z,1.0nm,0.7s,baz=155,slow=9.2,SNR=6.3
SONM LR LR 18 00 36.7
comp=Z,113nm,18.0s,baz=120,slow=38
SONM Songino Array 48.02 341 P P 17 38 33.1 +0.3
ADKI Addanki 48.04 289 *eP* **P 17 38 31.4 -1.9**
NJS Nagarjunasagar 48.80 289 *eP* **P 17 38 37.5 -1.6**
RCLA Racherla 48.94 288 *eP* **P 17 38 38.6 -1.7**
SRLM Srisailam 49.11 289 *eP* P 17 38 39.4 -2.2
TAU Tasmania Unive 49.29 160 P P 17 38 40.6 -1.9
CUPL Choutuppal 49.30 290 *eP* P 17 38 37.5 -5.5
HYBB Hyderabad (bro 49.67 290 *eP* **P 17 38 44.3 -1.6**
SRSP Sriramsagar 50.16 292 *eP* **P 17 38 48.1 -1.5**
URV Uravakonda 50.48 287 *eP* **P 17 38 50.3 -1.8**
KLRI Killari 51.62 291 *eP* **P 17 38 58.8 -1.8**
WMQ Urumqi 53.46 325 *eP* **P 17 39 14.3 +0.4**
WMQ LR LR
comp=Z,240nm,29.2s
WMQ LR LR
comp=Z,2μm,29.1s

WMQ LR LR
comp=Z,150nm,28.8s
HMDM Hanimaadhoo 53.80 276 P P 17 39 14.1 -2.7
PEA0B Petropavlovsk- 55.90 22 P P 17 39 31.2 -0.1
PETK Petropavlovsk- 55.90 22 P P 17 39 32.7 +1.4
comp=Z,2.8nm,0.8s,baz=180,slow=4.3,SNR=6.7
PETK Petropavlovsk- 55.90 22 P P 17 39 31.7 +0.3
MK31 Makanchi Array 58.29 325 P P 17 39 47.5 -0.9
MKAR Makanchi Array 58.29 325 P P 17 39 48.4 0.0
comp=Z,1.6nm,0.7s,baz=118,slow=7.5,SNR=30
MKAR Makanchi Array 58.29 325 P P 17 39 47.5 -0.9
MIDW Midway 58.43 59 P P 17 39 49.1 -0.5
MAKZ Makanchi 58.47 325 P P 17 39 49.5 -0.2
MAKZ IAmb IAmb 17 40 21.9
comp=Z,12nm,1.7s
NIL Nilore 58.60 308 P P 17 39 50.0 -0.9
NIL IAmb IAmb 17 40 23.4
comp=Z,6.6nm,1.1s
YAK Yakutsk 58.85 1 P P 17 39 53.3 +1.4
comp=Z,2.8nm,0.5s,baz=230,slow=0.3,SNR=8.5
YAK Yakutsk 58.85 1 P P 17 39 51.3 -0.6
LBZ Lake Benmore 60.95 146 P P 17 40 07.2 +0.4
AAK Ala-Archa 61.07 318 LR LR 18 08 44.4
comp=Z,149nm,20.3s,baz=99,slow=38
ZAA0 Zalesovo Array 61.32 333 P P 17 40 07.6 -1.5
ZAA0 IAmb IAmb 17 40 37.8
comp=Z,14nm,1.7s
ZALV Zalesovo Beam 61.32 333 P P 17 40 09.2 +0.1
comp=Z,1.9nm,0.7s,baz=141,slow=6.8,SNR=8.4
ZALV LR LR 18 07 49.9
comp=Z,121nm,18.6s,baz=119,slow=37
ZALV Zalesovo Beam 61.32 333 P P 17 40 07.2 -1.9
TUWZ Tuamarina 61.43 141 P P 17 40 07.4 -2.6
KURK Kurchatov 62.48 328 P P 17 40 15.7 -1.2
KURK IAmb IAmb 17 40 19.8
comp=Z,6.0nm,0.8s
GAR Garm 62.62 313 P P 17 40 16.5 -1.8
GAR IAmb IAmb 17 41 00.5
comp=Z,8.8nm,1.1s
KKAR Karatay Array 63.94 317 P P 17 40 26.1 -0.8
BRVK Borovoye 68.13 327 P P 17 40 52.8 -0.7
TIXI Tiksi 68.48 1 LR LR 18 11 58.4
comp=Z,66nm,21.5s,baz=234,slow=37
TIXI Tiksi 68.48 1 P P 17 40 56.2 +0.8
TIXI IAmb IAmb 17 41 10.8
comp=Z,18nm,1.7s
NRIK Noril'sk 71.14 346 P P 17 41 12.4 +0.6
comp=Z,2.1nm,0.6s,baz=127,slow=7.6,SNR=5.1
NRIK Noril'sk 71.14 346 P P 17 41 11.2 -0.6
SOCY Socotra 72.83 282 P P 17 41 19.9 -3.2
ABKAR Akbulak array 72.87 321 P P 17 41 21.3 -1.3
ABKAR Akbulak array 72.87 321 P P 17 41 21.6 -1.0
ABKAR IAmb IAmb 17 41 30.5
comp=Z,5.9nm,1.4s
RAR Rarotonga 75.47 113 LR LR 18 10 09.3
comp=Z,87nm,20.6s,baz=252,slow=32
RAR Rarotonga 75.47 113 P P 17 41 36.6 -1.7
ARU Arti 75.67 328 P P 17 41 38.1 -0.6
ARU IAmb IAmb 17 41 41.7
comp=Z,6.6nm,0.9s
RAYN Ar Rayn 81.06 293 P P 17 42 07.2 -2.2
TTA Tatalina 81.32 27 P P 17 42 10.2 +0.2
TTA IAmb IAmb 17 42 47.1
comp=Z,13nm,1.6s
N19K Bonanza Creek 81.69 29 P P 17 42 11.4 -0.6
N19K IAmb IAmb 17 42 44.8
comp=Z,11nm,1.2s
L19K White Mountain 81.72 28 P P 17 42 12.1 +0.1
L19K IAmb IAmb 17 42 18.3
comp=Z,28nm,1.8s
M19K Big River Lodg 81.89 28 P P 17 42 11.9 -1.0
M19K IAmb IAmb 17 42 36.6
comp=Z,21nm,1.6s
CRZF Crozet Islands 82.09 222 P P 17 42 12.4 -1.8
KDAK Kodiak Island 82.25 32 P P 17 42 13.4 -1.4
KDAK IAmb IAmb 17 42 24.8
comp=Z,24nm,1.3s
VNDA Vanda 82.74 173 P P 17 42 16.2 -0.8
IMAR Indian Mountai 82.79 24 P P 17 42 17.3 -0.2
PPLA Purkeypile 83.05 27 P P 17 42 18.8 -0.2
PPLA IAmb IAmb 17 42 55.8
comp=Z,45nm,1.8s
COLD Coldfoot 84.35 23 P P 17 42 26.3 +0.7
COLD IAmb IAmb 17 42 40.4
comp=Z,16nm,1.6s
ILAR Eielson Array 85.54 25 P P 17 42 31.9 +0.3
comp=Z,0.2nm,0.5s,baz=220,slow=6.9,SNR=5.6
BRTR Keskin Array B 90.70 310 P P 17 42 54.9 -2.1
comp=Z,0.3nm,0.7s,baz=65,slow=4.6,SNR=2.3
ARCES ARCESS Array B 91.18 340 P P 17 42 57.4 -0.9
comp=Z,3.4nm,0.9s,baz=76,slow=7.7,SNR=2.2
SYO Syowa Base 91.95 201⇓*eX* P 17 43 08.4 +6.6
FINES FINESS Array B 92.57 332 LR LR 18 27 14.8
comp=Z,306nm,18.4s,baz=248,slow=37
NOA NORSAR Array B 99.52 334 LR LR 18 32 00.1
comp=Z,91nm,19.1s,baz=65,slow=38

IDC 30 17:35:02.7±2.6, 2°.81N×126°.53E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.1/39, mbtmp3.3/3, Error ellipse: s-maj=238.6km s-min=27.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88**	**162**	P	P	17 40 16.9	-1.2
1.0nm,0.9s,baz=340,slow=10,SNR=5.2							
ASAR	**Alice Springs**	**27.28**	**165**	P	P	17 40 50.5	+1.4
0.2nm,0.4s,baz=345,slow=11,SNR=4.2							
MKAR	**Makanchi Array**	**58.19**	**326**	P	P	17 44 58.4	-0.3
0.1nm,0.5s,baz=119,slow=7.0,SNR=4.1							

*AUST **30** 17:39:12.9±1.1, 35°.95S×149°.07E, h0km, Error ellipse: s-maj=15.3km s-min=8.4km az=124.0*
*NOU **30** 17:39:13.1, 35°.96S×149°.07E, h0km, MLv4.2/17, Near SE Coast of Australia*
*IDC **30** 17:39:16.8±6.2, 35°.71S×148°.66E, h0km, mb2.7/1, mb1 3.3/3, mb1mx2.8/32, mbtmp3.1/3, ML3.3/2, Error ellipse: s-maj=159.2km s-min=52.0km az=33.0*
ISC 30 17:39:13.0±1.1, 35°.96S±0°.03×149°.10E±0°.05, h10km±9km, n41, σ1°59/53, 1C-5D, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUMHS	**Melrose High S**	**0.60**	**359**	⇓P	**Pg**	**17 39 24.8**	**+0.2**
baz=0.5							
AUMHS				S	**Sg**	**17 39 32.5**	**0.0**
baz=0.5							
AUSMG	**Snowy Mountain**	**0.61**	**221**	⇑P	**Pb**	**17 39 26.3**	**+0.6**
baz=0.6							
AUSMG				S	**Sb**	**17 39 35.2**	**+0.7**
baz=0.6							
CAN	**Canberra**	**0.64**	**352**	P	**Pg**	**17 39 26.1**	**+0.7**
AUMTS	**Mt Stromlo**	**0.64**	**352**	⇓P	**Pg**	**17 39 25.9**	**+0.5**
baz=0.6							
AUMTS				S	**Sg**	**17 39 34.5**	**+0.6**
baz=0.6							
CNB	**Canberra Magne**	**0.68**	**18**	⇓P	**Pg**	**17 39 25.1**	**-0.9**
baz=0.6,SNR=461							
CNB				S	**Sg**	**17 39 33.2**	**-1.8**
baz=0.6,SNR=4.1							
CNB	**Canberra Magne**	**0.68**	**18**	P	**Pg**	**17 39 25.4**	**-0.7**
AUSIS	**Research Schoo**	**0.68**	**0**	⇓P	**Pg**	**17 39 25.4**	**-0.7**
baz=0.6							
AUSIS				S	**Sg**	**17 39 34.0**	**-1.0**
baz=0.6							
AUDAR	**Daramalan Coll**	**0.71**	**2**	⇓P	**Pg**	**17 39 26.6**	**-0.1**
baz=0.7							
AUDAR				S	**Sg**	**17 39 36.4**	**+0.5**
baz=0.7							
MILA	**Mila**	**1.09**	**178**	P	**Pg**	**17 39 32.7**	**-1.3**
baz=1.1,SNR=811							
AUUHS	**Ulladulla High**	**1.26**	**62**	P	**Pg**	**17 39 34.1**	**-3.2**
baz=1.3							
SYDH	**Sydney Hard Ro**	**2.57**	**32**	P	**Pn**	**17 39 57.1**	**+2.4**
AUTKS	**The King's Sch**	**2.69**	**37**	P	**Pn**	**17 39 55.5**	**-0.8**
baz=2.7							
RIV	**Riverview**	**2.71**	**39**	P	**Pn**	**17 39 58.8**	**+2.2**
baz=2.7,SNR=14							
RIV				S	**Sn**	**17 40 32.9**	**+3.4**
baz=2.7,SNR=16							
AUKHS	**Kincumber High**	**3.12**	**38**	P	**Pn**	**17 40 02.5**	**+0.3**
baz=3.1							
MGCD	**Mangrove Creek**	**3.20**	**32**	P	**Pn**	**17 40 02.9**	**-0.4**
baz=3.2,SNR=11							
MGCD				S	**Sb**	**17 40 50.1**	**+1.1**
baz=3.2,SNR=8.3							
TOO	**Toolangi**	**3.32**	**240**	P	**Pn**	**17 40 06.8**	**+1.8**
baz=3.3,SNR=19							
TOO	**Toolangi**	**3.32**	**240**	P	**Pn**	**17 40 07.1**	**+2.2**
NTLH	**Newcastle Hard**	**3.73**	**36**	P	**Pn**	**17 40 12.7**	**+2.1**
AUDCS	**Dubbo College**	**3.74**	**354**	P	**Pn**	**17 40 11.4**	**+0.7**
baz=3.7							
BRAT	**Ballarat**	**4.45**	**248**	P	**Pn**	**17 40 22.5**	**+2.1**
GLAD	**Gladstone**	**5.09**	**189**	P	**Pn**	**17 40 29.2**	**-0.1**
CMSA	**Cobar Meteorol**	**5.25**	**326**	P	**Pn**	**17 40 31.3**	**-0.1**
baz=5.2,SNR=36							
CMSA	**Cobar Meteorol**	**5.25**	**326**	P	**Pn**	**17 40 31.6**	**+0.2**
CORO	**Coronation Par**	**5.69**	**195**	P	**Pn**	**17 40 38.6**	**+1.1**
ARMA	**Armidale**	**5.92**	**22**	P	**Pn**	**17 40 42.0**	**+1.3**
baz=5.9,SNR=12							
ARPS	**Mount Arapiles**	**5.92**	**260**	P	**Pn**	**17 40 41.5**	**+0.9**
baz=5.9,SNR=64							
ARPS				S	**Sn**	**17 41 49.3**	**+0.7**
baz=5.9							
ARPS	**Mount Arapiles**	**5.92**	**260**	P	**Pn**	**17 40 41.8**	**+1.1**
TAU	**Tasmania Unive**	**7.08**	**191**	P	**Pn**	**17 40 57.2**	**+0.7**
STKA	**Stephens Creek**	**7.45**	**301**	Pn	**Pn**	**17 41 02.2**	**+0.5**
0.5nm,0.3s,baz=128,slow=13,SNR=9.2							
STKA				Sn	**Sn**	**17 42 22.8**	**-3.5**
0.8nm,0.3s,baz=180,slow=20,SNR=1.7							
STKA	**Stephens Creek**	**7.45**	**301**	P	**Pn**	**17 41 02.5**	**+0.8**
baz=7.4,SNR=6.3							
STKA				S	**Sn**	**17 42 21.8**	**-4.5**
baz=7.4							
STKA	**Stephens Creek**	**7.45**	**301**	P	**Pn**	**17 41 02.7**	**+1.0**
HTT	**Hallett**	**8.76**	**284**	P	**Pn**	**17 41 20.0**	**+0.3**
LCRK	**Leigh Creek**	**10.65**	**298**	P	**Pn**	**17 41 45.2**	**-0.3**
baz=11,SNR=13							
LCRK	**Leigh Creek**	**10.65**	**298**	P	**Pn**	**17 41 45.3**	**-0.3**
INKA	**Innaminka**	**10.84**	**317**	P	**Pn**	**17 41 47.7**	**-0.5**
baz=11,SNR=5.6							
INKA	**Innaminka**	**10.84**	**317**	P	**Pn**	**17 41 47.9**	**-0.3**
BBOO	**Buckleboo**	**11.23**	**282**	P	**Pn**	**17 41 54.5**	**+1.0**
OOD	**Oodnadatta**	**14.00**	**302**	P	**Pn**	**17 42 32.8**	**+1.4**
baz=14,SNR=4.2							
OOD	**Oodnadatta**	**14.00**	**302**	P	**Pn**	**17 42 33.0**	**+1.7**
ASAR	**Alice Springs**	**17.97**	**309**	P	**Pn**	**17 43 22.4**	**-0.6**
0.1nm,0.3s,baz=139,slow=12,SNR=5.3							
ASAR				S	**Sn**	**17 46 39.5**	**-4.0**
0.0nm,0.3s,baz=140,slow=23,SNR=2.7							
WRA	**Warramunga Arr**	**20.57**	**317**	P	**P**	**17 43 52.0**	**+0.1**
0.3nm,0.5s,baz=144,slow=10.0,SNR=1.8							

*IDC **30** 17:55:23.8±4.2, 10°.06S×126°.98E, h56km±44km, mb3.2/4, mb1 3.7/8, mb1mx3.4/30, mbtmp3.7/8, ML4.0/4, MS3.6/1, Ms1 3.6/1, ms1mx2.5/24, Error ellipse: s-maj=40.8km s-min=14.1km az=39.0*
*NEIC **30** 17:55:24.3±3.0, 10°.04S±0°.07×126°.88E±0°.04, h95km±8km, mb4.1/4, Error ellipse: s-maj=10.5km s-min=6.0km az=180.0*
ISC 30 17:55:25.5±0.7, 10°.17S±0°.06×126°.93E±0°.05, h100km, n32, σ2°27/40, mb3.6/5, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.65**	**279**		**Pn**	**17 56 04.8**	**-2.0**
SOEI				Sn	**Sn**	**17 56 35.2**	**-3.3**
SOEI	**Soe**	**2.65**	**279**	P	**Pn**	**17 56 04.9**	**-1.9**
BATI	**Baumata**	**3.21**	**269**	P	**Pn**	**17 56 12.8**	**-1.4**
5.0nm,0.3s,baz=101,slow=10,SNR=11							
BATI				S	**Sn**	**17 56 50.6**	**-1.1**
12nm,0.3s,baz=184,slow=7.6,SNR=4.8							
DRS	**Darwin Rock St**	**4.50**	**120**	P	**Pn**	**17 56 34.2**	**+2.7**
SAUI	**Saumlaki**	**4.83**	**64**	Pn	**Pn**	**17 56 33.6**	**-2.5**
SAUI				Sn	**Sn**	**17 57 30.4**	**-0.5**
MTN	**Manton Dam**	**4.90**	**123**		**Pn**	**17 56 39.9**	**+2.9**
MTN				Sn	**Sn**	**17 57 34.6**	**+2.1**
MTN	**Manton Dam**	**4.90**	**123**	P	**Pn**	**17 56 40.3**	**+3.3**
KNRA	**Kununurra**	**5.76**	**162**	Pn	**Pn**	**17 56 51.4**	**+2.8**
KNRA				Sn	**Sn**	**17 57 56.5**	**+3.2**
KNRA	**Kununurra**	**5.76**	**162**	P	**Pn**	**17 56 51.5**	**+2.9**
KDU	**Kakadu**	**5.99**	**115**	P	**Pn**	**17 56 54.0**	**+2.4**
FITZ	**Fitzroy Crossi**	**7.98**	**189**	P	**Pn**	**17 57 20.2**	**+1.4**
1.9nm,0.3s,baz=26,slow=10,SNR=30							
FITZ				S	**Sn**	**17 58 49.0**	**+1.6**
1.2nm,0.3s,baz=275,slow=22,SNR=3.2							
FAKI	**Fak Fak**	**8.93**	**37**	Pn	**Pn**	**17 57 28.8**	**-3.1**
WB0	**Warramunga Arr**	**11.96**	**144**	Pn	**Pn**	**17 58 12.9**	**+0.2**
WB0					**Sn**	**18 00 18.7**	**-5.5**
WRAB	**Tennant Creek**	**12.06**	**144**		**Pn**	**17 58 14.0**	**-0.1**
WRA	**Warramunga Arr**	**12.06**	**145**	P	**Pn**	**17 58 13.3**	**-0.9**
1.0nm,0.3s,baz=316,slow=14,SNR=48							
WRA				S	**Sn**	**18 00 23.7**	**-3.1**
0.2nm,0.3s,baz=321,slow=25,SNR=2.7							
WB2	**Warramunga Arr**	**12.07**	**144**		**Pn**	**17 58 13.6**	**-0.6**
WB2					**Sn**	**18 00 23.1**	**-3.9**
WR0	**Warramunga Arr**	**12.19**	**144**		**Pn**	**17 58 15.4**	**-0.4**
PSA00	**Pilbara Seismi**	**13.22**	**210**	Pn	**Pn**	**17 58 29.3**	**-0.1**
PSA00	**Pilbara Seismi**	**13.22**	**210**	P	**Pn**	**17 58 29.6**	**+0.2**
WRKA	**Warakurna**	**14.84**	**175**	P	**P**	**17 58 52.7**	**-0.9**
AS31	**Alice Springs**	**14.98**	**154**	P	**P**	**17 58 54.3**	**-0.9**
ASAR	**Alice Springs**	**14.98**	**154**	P	**Pn**	**17 58 53.3**	**+1.2**
0.9nm,0.3s,baz=319,slow=10,SNR=135							
ASAR				S	**Sn**	**18 01 35.0**	**-2.6**
0.2nm,0.3s,baz=313,slow=19,SNR=2.9							
ASAR	**Alice Springs**	**14.98**	**154**	P	**P**	**17 58 54.2**	**-1.0**
QIS	**Mount Isa**	**15.99**	**132**	P	**P**	**17 59 07.8**	**+1.4**
BBOO	**Buckleboo**	**24.05**	**161**	P	**P**	**18 00 32.4**	**+0.9**
BBOO				IAmb	IAmb	18 00 46.3	
comp=Z,44nm,1.5s							
STKA	**Stephens Creek**	**25.52**	**150**	P	**P**	**18 00 47.7**	**+2.9**
comp=Z,1.1nm,0.6s,baz=327,slow=13,SNR=2.3							
STKA	**Stephens Creek**	**25.52**	**150**	P	**P**	**18 00 44.6**	**-0.2**
STKA				IAmb	IAmb	18 01 41.5	
comp=Z,3.1nm,1.5s							
HNR	**Honiara**	**32.54**	**92**	LR	LR	18 14 35.2	
comp=Z,97nm,21.0s,baz=126,slow=35							
CMAR	**Chiang Mai Arr**	**39.65**	**316**	P	**P**	**18 02 50.0**	**+2.1**
comp=Z,0.5nm,0.5s,baz=142,slow=6.7,SNR=6.3							
SONM	**Songino Array**	**60.56**	**344**	P	**P**	**18 05 27.0**	**+1.5**
comp=Z,0.1nm,0.5s,baz=131,slow=6.3,SNR=1.4							
MIDW	**Midway**	**65.98**	**53**	P	**P**	**18 06 02.2**	**+0.6**
MKAR	**Makanchi Array**	**69.28**	**329**	P	**P**	18 06 25.4	+3.4
comp=Z,0.2nm,0.5s,baz=132,slow=7.3,SNR=5.2							

*IDC **30** 18:04:31.2±0.9, 15°.01N×120°.34E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.3/49, mbtmp3.7/6, MS3.7/2, Ms1 3.7/2, ms1mx2.8/88, Error ellipse: s-maj=41.1km s-min=10.0km az=58.0*
*MAN **30** 18:04:34.0, 13°.73N×120°.57E, h105km, mb4.5, ML3.4, MS3.3*
ISC 30 18:04:34.4±0.9, 13°.74N±0°.04×120°.63E±0°.07, h114km±7km, n20, σ0°84/24, mb3.8/6, 4C-7D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.39**	**126**⇓	*eP*	**Pn**	**18 04 50.4**	**-0.7**
PGP				*i S*	**Sn**	**18 05 02.9**	**-0.8**
TGY	**Tagaytay City**	**0.47**	**40**	Pg	**Pn**	**18 04 52.2**	**+0.6**
92nm,0.3s,baz=226,slow=1.2,SNR=16							
TGY				Lg	Lg	18 05 05.8	
117nm,0.3s,baz=268,slow=4.7,SNR=7.0							
TGY	**Tagaytay City**	**0.47**	**40**⇓	*eP*	**Pn**	**18 04 52.5**	**+0.9**
TGY				*i S*	**Sn**	**18 05 06.0**	**+1.4**
MACP	**Maragondon, Ca**	**0.53**	**10**⇓	*iP*	**Pn**	**18 04 52.0**	**+0.1**
MACP				*eS*	**Sn**	**18 05 04.9**	**-0.2**
BOAC	**Boac**	**1.22**	**103**⇓	*iP*	**Pn**	**18 04 58.8**	**+0.7**
BOAC				*i S*	**Sn**	**18 05 14.5**	**-1.7**
SJMP	**San Jose**	**1.35**	**159**⇓	*iP*	**Pn**	**18 05 00.2**	**+0.4**
SJMP				*eS*	**Sn**	**18 05 18.9**	**-0.1**
PCPH	**Palayan**	**1.87**	**14**⇑	*eP*	**Pn**	**18 05 05.9**	**-0.1**
JCNP	**Jose Panganiba**	**2.08**	**74**⇓	*iP*	**Pn**	**18 05 10.0**	**+1.4**
SCZP	**Santa Cruz**	**2.14**	**341**⇑	*eP*	**Pn**	**18 05 09.5**	**+0.2**
SCZP				*eS*	**Sn**	**18 05 36.3**	**+0.2**
SMPP	**San Manuel, Pa**	**2.40**	**1**⇑	*eP*	**Pn**	**18 05 12.7**	**0.0**
SMPP				*eS*	**Sn**	**18 05 41.7**	**-0.4**
ENPP	**El Nido**	**2.77**	**205**⇓	*iP*	**Pn**	**18 05 17.6**	**0.0**
PPR	**Puerto Princes**	**4.35**	**205**⇑	*iP*	**Pn**	**18 05 39.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**21.35**	**286**	P	**P**	**18 09 13.9**	**+1.3**
1.3nm,0.9s,baz=103,slow=7.3,SNR=9.9							
SONM	**Songino Array**	**36.00**	**344**	P	**P**	**18 11 23.7**	**-0.7**
1.0nm,0.6s,baz=159,slow=10,SNR=9.1							
WRA	**Warramunga Arr**	**36.09**	**158**	LR	LR	18 28 09.3	
comp=Z,108nm,20.1s,baz=54,slow=38							

KLR	**Kul'dur**	**36.56**	**12**	P	**P**	**18 11 28.6**	**-0.4**
	1.4nm,1.0s,baz=88,slow=4.2,SNR=3.7						
ASAR	**Alice Springs**	**39.38**	**161**	P	P	18 12 14.4	+21
	0.5nm,1.0s,baz=339,slow=6.7,SNR=2.5						
MKAR	**Makanchi Array**	**45.96**	**324**	P	**P**	**18 12 46.5**	**+0.5**
	1.2nm,0.7s,baz=130,slow=9.1,SNR=15						
ZALV	**Zalesovo Beam**	**48.99**	**333**	P	**P**	**18 13 08.6**	**-0.6**
	0.9nm,0.4s,baz=123,slow=6.5,SNR=5.1						
BBB	**Bella Bella**	**91.78**	**35**	LR	LR	19 05 09.4	
	comp=Z,34nm,18.1s,baz=204,slow=40						

NOU 30 18:26:09.0, 15.44S×167.60E, h107km, MLv4.1/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.38**	**269**	P	Pn	18 26 25.7	+0.9
DVP	**Devils Point**	**2.34**	**166**	P	Pn	18 26 46.5	+0.2
LIFNC	**LIFOU**	**5.32**	**184**	P	Pn	18 27 24.9	-1.2
YATNC	**Mamie plateau,**	**6.62**	**186**	P	Pn	18 27 42.9	-0.8
NOUC	**Port Laguerre**	**6.74**	**190**	P	Pn	18 27 46.4	+1.0
ONTNC	**Ouen Toro**	**6.92**	**189**	P	Pn	18 27 48.2	+0.4
OUENC	**Ouen Island, N**	**6.98**	**186**	P	Pn	18 27 48.8	+0.2
PINNC	**Pines Island,**	**7.14**	**181**	P	Pn	18 27 50.9	+0.1

*IDC **30** 18:27:24.8±1.7, 39.81N×76.88E, h0km, mb3.6/7, mb1 3.6/12, mb1mx3.5/40, mbtmp3.5/12, ML2.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/90, Error ellipse: s-maj=26.6km s-min=20.3km az=166.0*
*KRNET **30** 18:27:31.8±0.1, 40.23N×76.77E, mb4.2*
*SOME **30** 18:27:32.0, 40.37N×76.48E, h10km*
*NNC **30** 18:27:36.4±2.0, 40.44N×76.68E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=14.2km s-min=9.9km az=160.0*

ISC 30 18:27:31.1±1.4, 40.31N±0.04×76.55E±0.03, h13km±9km, n98, σ1§84/142, mb3.7/7, 34C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.88**	**14**	⇓*i*P	**Pb**	**18 28 06.3**	**+0.9**
	baz=10.0						
KDJ				⇓*i*S	**Sg**	**18 28 31.4**	**-0.1**
	baz=10.0						
ULHL	**Ulahol**	**1.94**	**353**	P	**Pg**	**18 28 09.7**	**+1.3**
	SNR=34						
ULHL	**Ulahol**	**1.94**	**353**	⇑*i*P	**Pg**	**18 28 08.1**	**-0.3**
	baz=49						
ULHL				⇑*i*S	**Sg**	**18 28 34.6**	**+0.9**
	baz=49						
BOOM	**Boomskoye usch**	**2.22**	**348**	⇑*i*P	**Pb**	**18 28 12.2**	**+0.9**
	baz=45						
BOOM				⇑*i*S	**Sg**	**18 28 41.8**	**-0.8**
	baz=45						
ARLS	**Aral**	**2.29**	**313**	⇑*i*P	**Pg**	**18 28 13.6**	**-1.3**
	baz=12						
ARLS				⇑*i*S	**Sg**	**18 28 44.6**	**0.0**
	baz=12						
SFK	**Sufi-Kurgan**	**2.35**	**264**	⇑*e*P	**Pb**	**18 28 14.7**	**+1.2**
	baz=66						
SFK				⇑*e*S	**Sg**	**18 28 45.9**	**-0.9**
	baz=66						
UCH	**Uchtor**	**2.45**	**322**	P	**Pg**	**18 28 16.8**	**-1.4**
	SNR=76						
PRZ	**Przheval'sk**	**2.58**	**32**	⇓*i*P	**Pn**	**18 28 15.5**	**+2.8**
	baz=28						
PRZ				⇓*i*S	**Sn**	**18 28 47.3**	**+3.3**
	baz=28						
ANVS	**Anan'yevo**	**2.61**	**18**	⇑*i*P	**Pb**	**18 28 16.7**	**-1.1**
	baz=15						
ANVS				⇑*i*S	**Sb**	**18 28 49.2**	**-0.6**
	baz=15						
KBK	**Karagaybulak**	**2.63**	**333**	P	**Pb**	**18 28 19.0**	**+0.7**
	SNR=7.7						
KBK	**Karagaybulak**	**2.63**	**333**	⇑*i*P	**Pb**	**18 28 18.5**	**+0.3**
	baz=31						
KBK				⇑*i*S	**Sg**	**18 28 52.2**	**-3.5**
	baz=31						
TNSS	**Tian-Shan**	**2.74**	**6**	*e*P	**Pg**	**18 28 23.4**	**-0.2**
	81nm,0.2s						
TNSS				*e*S	**Sg**	**18 29 00.0**	**+0.9**
	56nm,0.6s						
TNSS	**Tian-Shan**	**2.74**	**6**	*e*Pg	**Pg**	**18 28 22.5**	**-1.1**
	baz=3.2						
TNSS				*e*Sn	**Sb**	**18 28 51.5**	**-2.3**
	baz=3.2						
TNSS	**Tian-Shan**	**2.74**	**6**	Pg	**Pg**	**18 28 23.4**	**-0.2**
	81nm,0.2s						
TNSS				Lg	Lg	18 29 00.0	
	56nm,0.6s						
KST	**Kastek**	**2.76**	**351**	*e*P	**Pg**	**18 28 24.3**	**+0.2**
	163nm,0.3s						
KST				*e*S	**Sg**	**18 29 01.6**	**+1.7**
	114nm,0.7s						
KST	**Kastek**	**2.76**	**351**	*i* Pn	**Pn**	**18 28 16.7**	**+1.5**
	baz=348						
KST	**Kastek**	**2.76**	**351**	Pg	**Pg**	**18 28 24.0**	**-0.1**
	163nm,0.3s						
KST				Lg	Lg	18 29 01.6	
	114nm,0.7s						
AAK	**Ala-Archa**	**2.79**	**327**	Pn	**Pb**	**18 28 21.2**	**+0.3**
	12nm,0.3s,baz=131,slow=9.8,SNR=61						
AAK				Pg	**Pg**	**18 28 26.1**	**+1.5**
	18nm,0.3s,baz=139,slow=11,SNR=72						
AAK				Lg	Lg	18 29 04.2	
	18nm,0.3s,baz=271,slow=21,SNR=6.8						
AAK				LR	LR	18 29 44.7	
	comp=Z,120nm,20.1s,baz=216,slow=42						
AAK	**Ala-Archa**	**2.79**	**327**	P	**Pg**	**18 28 25.1**	**+0.6**
	SNR=13						
AAK	**Ala-Archa**	**2.79**	**327**	⇑Pg	**Pg**	**18 28 25.5**	**+0.9**
	44nm,0.5s						
AAK				⇑Lg	Lg	18 29 04.4	
	264nm,1.0s						
AAK	**Ala-Archa**	**2.79**	**327**	⇑*i*P	**Pb**	**18 28 20.6**	**-0.3**
	baz=25						
AAK				⇑*i*S	**Sb**	**18 28 56.5**	**+1.5**
	baz=25						
MTBS	**Maitube**	**2.82**	**358**	*e*P	**Pg**	**18 28 24.6**	**-0.4**
	42nm,0.5s						
MTBS				*e*S	**Sg**	**18 29 03.0**	**+1.4**
	79nm,0.3s						
MTBS	**Maitube**	**2.82**	**358**	*i* Pn	**Pn**	**18 28 17.2**	**+1.3**
	baz=355						
MTBS				*e*Pg	**Pg**	**18 28 24.1**	**-1.0**
	baz=355						
MTBS	**Maitube**	**2.82**	**358**	Pg	**Pg**	**18 28 24.6**	**-0.4**
	42nm,0.5s						
MTBS				Lg	Lg	18 29 03.0	
	79nm,0.3s						
AML	**Almayashu**	**2.82**	**311**	P	**Pb**	**18 28 21.9**	**+0.4**
	SNR=57						
MDOK	**Medeo**	**2.87**	**7**	*e*P	**Pg**	**18 28 24.8**	**-1.4**
	73nm,0.4s						
MDOK				*e*S	**Sg**	**18 29 03.0**	**-0.4**
	149nm,0.3s						
MDOK	**Medeo**	**2.87**	**7**	*e*Pg	**Pg**	**18 28 24.7**	**-1.5**
	baz=4.5						
MDOK	**Medeo**	**2.87**	**7**	⇑Pg	**Pg**	**18 28 30.0**	**+3.9**
	60nm,0.4s						
MDOK				⇑Lg	Lg	18 29 03.7	
	121nm,0.5s						
MDOK	**Medeo**	**2.87**	**7**	Pg	**Pg**	**18 28 24.8**	**-1.4**
	73nm,0.4s						
MDOK				Lg	Lg	18 29 03.0	
	149nm,0.3s						
FRU1	**Bishkek**	**2.88**	**331**	⇑*i*P	**Pb**	**18 28 22.2**	**-0.2**
	baz=29						
FRU1				⇑*i*S	**Sb**	**18 28 58.7**	**+1.1**
	baz=29						
AAA	**Alma-Ata**	**2.91**	**5**	*e*P	**Pg**	**18 28 26.2**	**-0.6**
	55nm,0.4s						
AAA				*e*S	**Sg**	**18 29 04.6**	**+0.1**
	146nm,0.5s						
AAA	**Alma-Ata**	**2.91**	**5**	*e*Pg	**Pg**	**18 28 25.4**	**-1.4**
	baz=2.5						
KNDC	**Almaty**	**2.92**	**6**	⇑Pn	**Pg**	**18 28 25.4**	**-1.7**
	60nm,0.5s						
KNDC				⇓Lg	Lg	18 29 08.1	
	488nm,0.9s						
KOTS	**Kotyrbulak**	**2.95**	**8**	*e*P	**Pg**	**18 28 26.4**	**-1.3**
	43nm,0.3s						
KOTS				*e*S	**Sg**	**18 29 05.5**	**-0.3**
	379nm,0.4s						
KOTS	**Kotyrbulak**	**2.95**	**8**	Pg	**Pg**	**18 28 26.9**	**-0.7**
	43nm,0.3s						
KOTS				Lg	Lg	18 29 05.5	
	379nm,0.4s						
DGS	**Degeres**	**2.98**	**349**	*e*P	**Pg**	**18 28 28.4**	**+0.1**
	121nm,0.3s						
DGS				*e*S	**Sg**	**18 29 08.8**	**+1.9**
	86nm,0.9s						
DGS	**Degeres**	**2.98**	**349**	*e*Pg	**Pg**	**18 28 27.6**	**-0.6**
	baz=346						
DGS	**Degeres**	**2.98**	**349**	Pg	**Pg**	**18 28 28.4**	**+0.1**
	121nm,0.3s						
DGS				Lg	Lg	18 29 08.8	
	86nm,0.9s						
CHMS	**Chumysh**	**3.00**	**334**	P	**Pb**	**18 28 24.0**	**-0.5**
	SNR=12						
CHMS	**Chumysh**	**3.00**	**334**	⇑*i*P	**Pb**	**18 28 23.4**	**-1.1**
	baz=32						
CHMS				⇑*i*S	**Sb**	**18 29 00.9**	**-0.2**
	baz=32						
SATY	**Saty**	**3.08**	**26**	*e*P	**Pb**	**18 28 28.2**	**+2.5**
	25nm,0.2s						
SATY				*e*S	**Sg**	**18 29 08.1**	**-1.9**
	88nm,0.4s						
SATY	**Saty**	**3.08**	**26**	*e*Pg	**Pb**	**18 28 27.7**	**+1.9**
	baz=24						
SATY				*e*Sn	**Sn**	**18 28 58.5**	**+2.2**
	baz=24						
SATY	**Saty**	**3.08**	**26**	Pg	**Pb**	**18 28 28.2**	**+2.5**
	25nm,0.2s						
SATY				Lg	Lg	18 29 08.1	
	88nm,0.4s						
EKS2	**Erkin-Say**	**3.14**	**319**	P	**Pb**	**18 28 26.8**	**0.0**
	SNR=15						
EKS2	**Erkin-Say**	**3.14**	**319**	⇑*i*P	**Pb**	**18 28 25.6**	**-1.2**
	baz=18						
EKS2				⇑*i*S	**Sb**	**18 29 05.0**	**0.0**
	baz=18						
ZHN	**Zhinishke**	**3.18**	**26**	*e*P	**Pg**	**18 28 30.4**	**-1.7**
	51nm,0.2s						
ZHN				*e*S	**Sg**	**18 29 11.6**	**-1.8**
	128nm,0.3s						
ZHN	**Zhinishke**	**3.18**	**26**	*e*Pn	**Pn**	**18 28 22.4**	**+1.4**
	baz=24						
ZHN				*e*Pg	**Pb**	**18 28 29.4**	**+1.8**
	baz=24						
ZHN	**Zhinishke**	**3.18**	**26**	Pg	**Pb**	**18 28 29.5**	**+1.9**
	51nm,0.2s						
ZHN				Lg	Lg	18 29 11.6	
	128nm,0.3s						
USP	**Ospenovka**	**3.33**	**333**	P	**Pb**	**18 28 28.5**	**-1.4**
	SNR=5.9						
USP	**Ospenovka**	**3.33**	**333**	⇓*i*P	**Pb**	**18 28 27.8**	**-2.2**
	baz=31						
USP				⇓*i*S	**Sb**	**18 29 08.6**	**-1.8**
	baz=31						
UZB	**Uzynbulak**	**3.38**	**32**	*e*Pn	**Pn**	**18 28 25.2**	**+1.4**
	baz=30						
UZB				*e*Pg	**Pb**	**18 28 32.7**	**+1.7**
	baz=30						
KURS	**Kuram**	**3.40**	**20**	*e*P	**Pg**	**18 28 34.5**	**-1.7**
	19nm,0.6s						
KURS				*e*S	**Sg**	**18 29 18.8**	**-1.4**
	75nm,0.8s						
KTBS	**Karatobe**	**3.40**	**2**	*e*P	**Pg**	**18 28 34.1**	**-2.1**
	51nm,0.4s						
KTBS				*e*S	**Sg**	**18 29 18.9**	**-1.3**
	98nm,0.7s						
KTBS	**Karatobe**	**3.40**	**2**	Pg	**Pg**	**18 28 34.1**	**-2.1**
	51nm,0.4s						
KTBS				Lg	Lg	18 29 18.9	
	98nm,0.7s						
KRBS	**Karabastau**	**3.44**	**349**	*e*P	**Pg**	**18 28 36.7**	**-0.4**
	117nm,0.5s						
KRBS				*e*S	**Sg**	**18 29 23.6**	**+2.0**
	67nm,0.7s						
KRBS	**Karabastau**	**3.44**	**349**	Pg	**Pg**	**18 28 36.7**	**-0.4**
	117nm,0.5s						
KRBS				Lg	Lg	18 29 23.6	
	67nm,0.7s						
SGDS	**Sogindy**	**3.45**	**336**	*e*P	**Pg**	**18 28 37.3**	**+0.1**
	29nm,0.6s						
SGDS				*e*S	**Sg**	**18 29 23.7**	**+1.9**
	34nm,0.9s						
SGDS	**Sogindy**	**3.45**	**336**	*e*Pn	**Pb**	**18 28 29.0**	**-3.1**
	baz=334						
SGDS				*e*Pg	**Pg**	**18 28 37.1**	**-0.1**
	baz=334						
MRKS	**Merke**	**3.48**	**315**	*e*P	**Pg**	**18 28 38.2**	**+0.4**
	18nm,0.5s						
MRKS				*e*S	**Sg**	**18 29 25.4**	**+2.5**
	66nm,0.3s						
MRKS	**Merke**	**3.48**	**315**	Pg	**Pg**	**18 28 37.5**	**-0.3**
	4.1nm,0.1s						
MRKS				Lg	Lg	18 29 25.4	
	66nm,0.3s						
KUU	**Kurty**	**3.58**	**358**	*e*P	**Pg**	**18 28 39.2**	**-0.5**
	34nm,0.3s						
KUU				*e*S	**Sg**	**18 29 27.3**	**+1.3**
	127nm,0.8s						
KUU	**Kurty**	**3.58**	**358**	*e*Pn	**Pn**	**18 28 29.1**	**+2.7**
	baz=355						
KUU				*e*Pg	**Pg**	**18 28 37.4**	**-2.3**
	baz=355						
KUU	**Kurty**	**3.58**	**358**	Pg	**Pg**	**18 28 39.2**	**-0.5**
	34nm,0.3s						
KUU				Lg	Lg	18 29 27.3	
	127nm,0.8s						
PDGK	**Podgornoye**	**3.73**	**35**	⇑Pg	**Pg**	**18 28 46.7**	**+4.1**
	40nm,0.7s						
PDGK				⇑Lg	Lg	18 29 28.2	
	93nm,0.8s						
DRK	**Karamyk**	**3.75**	**259**	⇑*i*P	**Pn**	**18 28 33.5**	**+4.6**
	baz=60						
DRK				⇑*i*S	**Sb**	**18 29 19.0**	**-3.7**
	baz=60						
ARK	**Arkit**	**3.77**	**295**	⇑*i*P	**Pb**	**18 28 34.5**	**-3.1**
	baz=95						
ARK				⇑*i*S	**Sb**	**18 29 20.5**	**-2.8**
	baz=95						
DJR	**Jarkent**	**4.68**	**30**	*e*P	**Pb**	**18 28 56.1**	**+3.0**
	8.2nm,0.3s						
DJR				*e*S	**Sg**	**18 29 56.0**	**-5.3**
	40nm,0.6s						
DJR	**Jarkent**	**4.68**	**30**	Pg	**Pb**	**18 28 56.8**	**+3.7**
	8.2nm,0.3s						
DJR				Lg	Lg	18 29 56.0	
	40nm,0.6s						
TDK	**Taldyqorghan**	**4.88**	**16**	*e*P	**Pg**	**18 29 01.7**	**-2.9**
	30nm,0.6s						
TDK				*e*S	**Sg**	**18 30 05.8**	**-1.9**
	95nm,0.4s						
TDK	**Taldyqorghan**	**4.88**	**16**	*e*Pg	**Pg**	**18 29 01.4**	**-3.2**
	baz=14						
TDK	**Taldyqorghan**	**4.88**	**16**	Pg	**Pg**	**18 29 01.7**	**-2.9**
	30nm,0.6s						
TDK				Lg	Lg	18 30 05.9	
	95nm,0.4s						
BTLS	**Baital**	**5.07**	**340**	*e*P	**Pg**	**18 29 05.8**	**-2.5**
	15nm,0.6s						
BTLS				*e*S	**Sg**	**18 30 12.4**	**-1.5**
	25nm,0.7s						
BTLS	**Baital**	**5.07**	**340**	*e*Pg	**Pg**	**18 29 05.8**	**-2.5**
	baz=338						
IUG	**Iuzhnay**	**5.24**	**293**	*e*P	**Pg**	**18 29 10.8**	**-0.8**
	138nm,0.3s						
IUG				*e*S	**Sg**	**18 30 21.2**	**+1.7**
	59nm,0.9s						
IUG	**Iuzhnay**	**5.24**	**293**	*e*Pn	**Pn**	**18 28 53.8**	**+4.4**
	baz=292						
IUG				*e*Pg	**Pg**	**18 29 10.6**	**-0.9**
	baz=292						
IUG	**Iuzhnay**	**5.24**	**293**	Pg	**Pg**	**18 29 12.7**	**+1.1**
	160nm,0.3s						
IUG				Lg	Lg	18 30 26.3	
	59nm,0.9s						
KK08	**Karatay Array**	**5.33**	**304**	⇓Pg	Pg	18 29 18.2	+5.1
	18nm,0.8s						
KK08				⇑Lg	Lg	18 30 23.9	
	12nm,0.7s						
KAPS	**Kapalarasan**	**5.38**	**22**	*e*P	**Pg**	**18 29 11.4**	**-2.7**
	8.9nm,0.3s						
KAPS				*e*S	**Sg**	**18 30 21.9**	**-1.9**
	15nm,0.6s						
KAPS	**Kapalarasan**	**5.38**	**22**	Pg	**Pg**	**18 29 11.4**	**-2.7**
	8.9nm,0.3s						
KAPS				Lg	Lg	18 30 21.9	
	15nm,0.6s						
BRLS	**Borolday**	**5.71**	**301**	*e*P	**Pg**	**18 29 19.9**	**-0.6**
	4.1nm,0.5s						
BRLS				*e*S	**Sg**	**18 30 37.0**	**+2.6**
	13nm,0.5s						
BRLS	**Borolday**	**5.71**	**301**	*e*Pg	**Pg**	**18 29 19.6**	**-0.8**
	baz=297						
BRLS	**Borolday**	**5.71**	**301**	Pg	**Pg**	**18 29 19.9**	**-0.6**
	4.1nm,0.5s						
BRLS				Lg	Lg	18 30 37.0	
	13nm,0.5s						
CHCP	**Chirah Chowk**	**7.14**	**203**	P	**Pn**	**18 29 17.7**	**+2.4**
CEP	**Cherat**	**7.46**	**211**	P	**Pn**	**18 29 21.9**	**+2.1**
MK31	**Makanchi Array**	**7.70**	**31**	⇓Pn	**Pn**	**18 29 23.8**	**+0.8**
	1.1nm,0.6s,baz=204,slow=13,SNR=15						
MK31				⇑Pg	Pg	18 29 52.7	-5.8
	2.0nm,0.7s,baz=210,slow=13,SNR=3.7						
MK31				⇑Lg	Lg	18 31 37.5	
	4.2nm,0.8s,baz=215,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**7.70**	**31**	Pn	**Pn**	**18 29 23.3**	**+0.3**
	0.1nm,0.3s,baz=204,slow=13,SNR=9.4						
THW	**Thamme Wali**	**8.44**	**209**	P	**Pn**	**18 29 34.1**	**+1.0**
OTUK	**Ortayu**	**8.48**	**341**	⇓Pg	**Pg**	**18 30 11.6**	**-1.8**
	4.1nm,1.3s						
OTUK				⇓Lg	Lg	18 32 01.3	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**10.40**	**7**	Pn	**Pn**	**18 30 01.0**	**+1.1**
	0.0nm,0.3s,baz=194,slow=11,SNR=2.4						
KURBB				Lg	Lg	18 32 53.9	
	0.1nm,0.3s,baz=190,slow=28,SNR=4.3						
BVAR	**Borovoye Array**	**13.39**	**344**	Pn	**Pn**	**18 30 42.7**	**+2.0**
	0.1nm,0.3s,baz=105,slow=11,SNR=4.0						
BVAR				Lg	Lg	18 34 32.2	
	0.1nm,0.3s,baz=142,slow=24,SNR=4.0						
ZALV	**Zalesovo Beam**	**14.74**	**20**	Pn	**Pn**	**18 30 59.6**	**+0.4**
	0.1nm,0.3s,baz=224,slow=13,SNR=2.0						
SONM	**Songino Array**	**22.62**	**61**	P	**P**	**18 32 28.7**	**-3.0**
	0.6nm,0.8s,baz=256,slow=11,SNR=5.3						
BRTR	**Keskin Array B**	**32.63**	**283**	P	**P**	**18 34 02.2**	**-0.5**
	0.7nm,0.8s,baz=88,slow=9.9,SNR=6.1						
FINES	**FINESS Array B**	**36.96**	**322**	P	**P**	**18 34 39.8**	**+0.1**
	2.5nm,0.9s,baz=118,slow=7.9,SNR=9.6						
ARCES	**ARCESS Array B**	**39.43**	**334**	P	**P**	**18 35 00.5**	**+0.1**
	1.4nm,0.7s,baz=97,slow=8.2,SNR=5.7						
GERES	**GERESS Array B**	**44.41**	**303**	P	**P**	**18 35 41.7**	**+0.3**
	0.6nm,0.5s,baz=108,slow=6.3,SNR=2.6						
ESDC	**Sonseca Array**	**59.53**	**298**	P	**P**	**18 37 32.9**	**-1.4**
	0.3nm,0.5s,baz=54,slow=7.0,SNR=6.1						
YKA	**Yellowknife Ar**	**77.15**	**5**	P	**P**	**18 39 21.1**	**-2.9**
	0.2nm,0.5s,baz=351,slow=5.7,SNR=5.1						

IDC 30 18:39:45.7±3.0, 4.10N×94.42E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.0/36, mbtmp3.2/4, ML3.4/1, Error ellipse: s-maj=115.1km s-min=30.2km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.68**	**106**	Pn	Pn	18 40 58.6	+0.9
	1.7nm,0.3s,baz=337,slow=22,SNR=13						
PSI				Sn	Sn	18 41 42.2	-11
	1.8nm,0.3s,baz=344,slow=12,SNR=4.9						
H08S2	**Diego Garcia H**	**24.79**	**242**	T	T	19 10 47.3	
	baz=62,slow=76,SNR=5.1						
H08S3	**Diego Garcia H**	**24.79**	**242**	T	T	19 10 47.5	
	baz=62,slow=76,SNR=5.9						
H08S1	**Diego Carcia H**	**24.81**	**242**	T	T	19 10 48.6	
	baz=62,slow=76,SNR=5.3						
MKAR	**Makanchi Array**	**43.81**	**348**	P	P	18 47 53.3	-0.1
	0.2nm,0.7s,baz=170,slow=7.3,SNR=1.9						
WRA	**Warramunga Arr**	**45.92**	**123**	P	P	18 48 09.9	-0.7
	0.2nm,0.6s,baz=303,slow=8.8,SNR=1.4						
ASAR	**Alice Springs**	**47.35**	**128**	P	P	18 48 21.9	+0.1
	0.3nm,0.4s,baz=302,slow=7.7,SNR=7.2						

IDC 30 19:30:45.1±8.4, 9.98S×154.70E, h125km±56km, mb3.4/4, mb1 3.6/5, mb1mx3.3/34, mbtmp3.8/5, MS3.2/5, Ms1 3.2/5, ms1mx2.8/32, Error ellipse: s-maj=79.5km s-min=29.7km az=82.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.45**	**274**	P	Pn	19 32 30.8	-0.5
	0.4nm,0.3s,baz=44,slow=4.8,SNR=8.6						
PMG				LR	LR	19 35 05.4	
	comp=Z,80nm,21.7s,baz=132,slow=35						
CTA	**Charters Tower**	**12.94**	**218**	LR	LR	19 37 26.1	
	comp=Z,93nm,20.2s,baz=64,slow=31						
DZM	**Mont Dzumac**	**16.48**	**138**	LR	LR	19 40 02.9	
	comp=Z,124nm,20.0s,baz=358,slow=34						
WRA	**Warramunga Arr**	**22.00**	**241**	P	P	19 35 27.9	-1.6
	1.4nm,0.9s,baz=65,slow=9.6,SNR=5.1						
MSVF	**Nonsavu**	**23.93**	**111**	LR	LR	19 42 25.2	
	comp=Z,84nm,20.6s,baz=58,slow=29						
ASAR	**Alice Springs**	**24.06**	**233**	P	P	19 35 48.9	-0.2
	1.3nm,0.9s,baz=64,slow=8.4,SNR=8.1						
STKA	**Stephens Creek**	**24.94**	**207**	P	P	19 35 57.3	+0.4
	3.3nm,0.7s,baz=23,slow=13,SNR=8.7						
STKA				LR	LR	19 45 53.8	
	comp=Z,68nm,18.4s,baz=24,slow=36						
CMAR	**Chiang Mai Arr**	**61.83**	**297**	P	P	19 40 52.1	+0.6
	0.9nm,0.7s,baz=129,slow=5.7,SNR=9.6						

*ANF **30** 19:31:44.0±0.5, 46.93N×112.40W, h1km, ML4.4/8, Error ellipse: s-maj=5.5km s-min=3.9km az=3.0*
*BUT **30** 19:31:44.5±2.1, 46.95N±0.01×112.42W±0.05, h2km±6km, ML4.3/25, mb4.1/2(NEIC), ML4.0/58(NEIC), Error ellipse: s-maj=5.1km s-min=1.8km az=84.0*
*NEIC **30** 19:31:45.3±1.8, 46.92N±0.03×112.45W±0.05, h8km±6km, Error ellipse: s-maj=5.8km s-min=4.3km az=47.0*
*IDC **30** 19:31:45.3±0.8, 46.91N×112.52W, h0km, mb3.6/1, mb1 3.8/8, mb1mx3.5/56, mbtmp3.5/8, ML3.1/7, MS3.2/3, Ms1 3.1/3, ms1mx2.8/72, Error ellipse: s-maj=12.6km s-min=6.0km az=46.0*

ISC 30 19:31:44.1±1.3, 46.90N±0.03×112.43W±0.03, h1km±10km, n104, σ1§67/121, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRY	**Holter Researc**	**0.45**	**114**	Pg	**Pg**	**19 31 53.1**	**+0.4**
MSO	**Missoula**	**1.04**	**267**	Pg	**Pg**	**19 32 04.5**	**+0.5**
MSO				Sg	**Sg**	**19 32 18.4**	**+1.0**
MSO				IAML		19 32 23.9	
	3μm,0.7s						
MSO	**Missoula**	**1.04**	**267**	P	**Pg**	**19 32 04.4**	**+0.4**
	baz=86,SNR=1000						
MSO				S	**Sg**	**19 32 18.4**	**+1.0**
	baz=86						
LRM	**Limekiln Ridge**	**1.08**	**181**		**Pg**	**19 32 04.8**	**+0.1**
BOZ	**Bozeman (W)**	**1.41**	**157**	Pn	**Pn**	**19 32 11.6**	**+0.5**
BOZ				Sn	**Sn**	**19 32 30.0**	**-0.4**
BOZ				IAML		19 32 33.0	
	2μm,0.7s						
BOZ				IAML		19 32 33.0	
	3μm,0.4s						
BOZ	**Bozeman (W)**	**1.41**	**157**	P	**Pn**	**19 32 11.7**	**+0.7**
	baz=337,SNR=1000						
BOZ

YMR	**Madison River**	**2.45 155**		**Pn**	**19 32 26.6**	**+1.3**
YPWB	**West Boundary**	**2.47 157**		**Pn**	**19 32 27.9**	**+2.2**
PZCI	**Patelzick Cree**	**2.56 178**		**Pn**	**19 32 28.6**	**+1.8**
ICI	**Italian Canyon**	**2.59 188**		**Pn**	**19 32 27.9**	**+0.6**
BCYI	**Bear Canyon**	**2.68 195**	Pn	**Pn**	**19 32 28.5**	**+0.1**
LKWY	**Lake**	**2.73 148**	Pn	**Pn**	**19 32 30.9**	**+1.7**
LKWY			IAML		19 33 22.8	
comp=N,427nm,0.6s						
H17A	**Grant Village**	**2.82 152**	Pn	**Pn**	**19 32 31.1**	**+0.6**
H17A	**Grant Village**	**2.82 152**	Pb	**Pb**	**19 32 34.6**	**-0.7**
baz=333,SNR=80						
H17A			Pg	**Pg**	**19 32 38.5**	**+0.4**
baz=333						
RLMT	**Red Lodge**	**2.83 128**		**Pn**	**19 32 31.6**	**+1.0**
RLMT			IAML		19 33 15.3	
comp=N,906nm,0.5s						
RLMT			IAML		19 33 17.0	
comp=N,750nm,0.3s						
RLMT	**Red Lodge**	**2.83 128**	Pb	**Pn**	**19 32 33.4**	**+2.8**
baz=310,SNR=40						
RLMT			Sb	**Sb**	**19 33 13.2**	**+2.5**
baz=310						
EMI	**Eightmile Cany**	**2.84 187**		**Pn**	**19 32 31.7**	**+0.9**
MCID	**Moose Creek**	**2.85 162**		**Pn**	**19 32 32.4**	**+1.6**
FLWY	**Flagg Ranch**	**3.07 156**		**Pn**	**19 32 34.5**	**+0.7**
FLWY			IAML		19 33 30.8	
comp=N,272nm,0.8s						
PLID	**Pearl Lake**	**3.08 235**	Pn	**Pn**	**19 32 33.8**	**-0.2**
PLID			IAML		19 33 25.0	
comp=N,341nm,0.4s						
PLID			IAML		19 33 27.3	
comp=N,297nm,0.6s						
YHR	**Hawk`s Rest**	**3.24 149**		**Pn**	**19 32 38.8**	**+2.4**
MOOW	**Moose Ponds**	**3.37 159**	Pn	**Pn**	**19 32 39.6**	**+1.7**
FXWY	**Fox Creek**	**3.41 163**	Pn	**Pn**	**19 32 39.9**	**+1.3**
F10A	**Beach Ranch, E**	**3.44 256**		**Pn**	**19 32 39.3**	**+0.4**
F10A			IAML		19 33 39.2	
comp=E,596nm,0.3s						
NEW	**Newport**	**3.46 295**	Pn	**Pn**	**19 32 39.1**	**0.0**
comp=E,6.9nm,0.3s,baz=107,slow=12,SNR=64						
NEW			Pg	**Pb**	**19 32 47.4**	**+1.4**
comp=E,11nm,0.3s,baz=119,slow=15,SNR=15						
NEW			Sn	**Sn**	**19 33 21.4**	**+0.8**
comp=E,21nm,0.3s,baz=319,slow=13,SNR=7.9						
NEW			Lg	Lg	19 33 30.5	
comp=E,47nm,0.3s,baz=196,slow=22,SNR=21						
NEW	**Newport**	**3.46 295**	Pn	**Pn**	**19 32 38.6**	**-0.4**
NEW			IAML		19 33 32.5	
comp=E,479nm,0.7s						
NEW			IAML		19 33 34.1	
comp=E,463nm,0.7s						
NEW	**Newport**	**3.46 295**	P	**Pn**	**19 32 38.6**	**-0.4**
baz=112,SNR=28						
NEW			Sb	**Sb**	**19 33 30.6**	**+2.0**
baz=112						
LOHW	**Long Hollow**	**3.53 158**	Pn	**Pn**	**19 32 41.7**	**+1.5**
LOHW			IAML		19 33 37.9	
comp=E,174nm,0.6s						
HLID	**Hailey**	**3.62 204**	Pn	**Pn**	**19 32 41.8**	**+0.5**
HLID	**Hailey**	**3.62 204**	P	**Pn**	**19 32 42.0**	**+0.6**
baz=22,SNR=38						
HLID			Sb	**Sg**	**19 33 38.7**	**-1.6**
baz=22						
REDW	**Red Top Meadow**	**3.71 162**	Pn	**Pn**	**19 32 42.9**	**+0.3**
REDW			IAML		19 33 46.5	
comp=E,279nm,0.9s						
REDW			IAML		19 33 47.5	
comp=E,264nm,0.8s						
E09A	**Wood Farm, Sta**	**3.95 267**	Pn	**Pn**	**19 32 46.2**	**+0.5**
E09A			IAML		19 33 59.2	
comp=N,232nm,1.0s						
E09A			IAML		19 33 59.6	
comp=E,196nm,0.7s						
BMO	**Blue Mountains**	**3.97 241**		**Pn**	**19 32 45.9**	**-0.3**
BMO			IAML		19 33 55.6	
comp=E,127nm,1.0s						
BMO			IAML		19 34 02.9	
comp=E,120nm,1.4s						
C09A	**Chrisman Ranch**	**4.07 285**	Pn	**Pn**	**19 32 46.4**	**-1.0**
LNOR	**Lincton Mounta**	**4.18 258**		**Pn**	**19 32 50.5**	**+1.6**
MFID	**Camas Ranch**	**4.23 216**		**Pn**	**19 32 49.8**	**+0.1**
LAO	**LASA Array**	**4.27 91**	Pn	**Pn**	**19 32 51.5**	**+1.3**
LAO	**LASA Array**	**4.27 91**	P	**Pn**	**19 32 52.2**	**+2.0**
baz=275,SNR=8.7						
LAO			Sb	**Sb**	**19 33 55.8**	**+3.8**
baz=275						
D08A	**Wollman Farm,**	**4.45 274**	Pn	**Pn**	**19 32 52.0**	**-0.5**
D08A			IAML		19 34 11.3	
comp=E,119nm,0.5s						
D08A			IAML		19 34 13.7	
comp=N,239nm,1.0s						
E08A	**Dider Farm, El**	**4.58 267**		**Pn**	**19 32 53.9**	**-0.5**
E08A			IAML		19 34 16.4	
comp=N,266nm,1.2s						
E08A			IAML		19 34 18.1	
comp=E,140nm,0.9s						
BW06	**Boulder Array**	**4.61 153**		**Pn**	**19 32 54.9**	**-0.1**
PDAR	**Pinedale Array**	**4.61 153**	Pn	**Pn**	**19 32 58.9**	**+3.9**
comp=E,0.8nm,0.3s,baz=357,slow=16,SNR=15						
PDAR			Pg	**Pb**	**19 33 07.3**	**+1.5**
comp=E,1.6nm,0.3s,baz=321,slow=14,SNR=12						
PDAR			Lg	Lg	19 34 11.0	
comp=E,2.7nm,0.3s,baz=358,slow=29,SNR=15						
PDAR			LR	LR	19 35 13.8	
comp=E,83nm,18.4s,baz=348,slow=45						
PDAR	**Pinedale Array**	**4.61 153**	Pn	**Pn**	**19 32 56.0**	**+1.0**
G08A	**Pilot Rock**	**4.82 253**	Pn	**Pn**	**19 32 57.9**	**+0.1**
B08A	**Colville Reser**	**4.89 290**	Pn	**Pn**	**19 32 57.4**	**-1.4**
B08A			IAML		19 34 23.4	
comp=E,156nm,1.0s						
HAWA	**Hanford**	**4.92 267**		**Pn**	**19 32 59.0**	**0.0**
HAWA			IAML		19 34 26.3	
comp=E,190nm,0.9s						
HAWA			IAML		19 34 32.0	
comp=E,91nm,0.8s						
E07A	**Sunnyside**	**5.12 269**	Pn	**Pn**	**19 33 02.2**	**+0.4**
F07A	**Phinny Hill Vi**	**5.28 262**	Pn	**Pn**	**19 33 04.6**	**+0.5**
J08A	**Circle Bar Ran**	**5.55 233**	Pn	**Pn**	**19 33 08.7**	**+0.9**
LTY	**Liberty**	**5.64 277**	Pn	**Pn**	**19 33 08.9**	**-0.1**
I07A	**Izee**	**5.71 243**	Pn	**Pn**	**19 33 11.5**	**+1.4**
DGMT	**Dagmar**	**5.78 71**	Pn	**Pn**	**19 33 11.4**	**+0.5**
DGMT	**Dagmar**	**5.78 71**	P	**Pn**	**19 33 12.2**	**+1.3**
baz=257,SNR=6.3						
DGMT			Sb	**Sb**	**19 34 39.3**	**+4.0**
baz=257						
K22A	**Casper**	**5.97 133**	Pn	**Pn**	**19 33 14.3**	**+0.6**
K22A	**Casper**	**5.97 133**	Pg	**Pg**	**19 33 38.5**	**-0.1**
baz=317						
WVOR	**Wild Horse Val**	**6.28 227**	Pn	**Pn**	**19 33 18.8**	**+0.9**
B06A	**Marblemount**	**6.32 288**	Pn	**Pn**	**19 33 18.0**	**-0.3**
F05D	**White Salmon**	**6.33 264**	Pn	**Pn**	**19 33 18.0**	**-0.4**
G05D	**Wamic, OR**	**6.40 258**	P	**Pn**	**19 33 19.8**	**+0.3**
baz=72						
G05D			S	**Sn**	**19 34 32.7**	**-0.4**
baz=72						
ELK	**Elko**	**6.48 199**	Pn	**Pn**	**19 33 24.0**	**+3.3**
comp=E,0.2nm,0.3s,baz=8.4,slow=14,SNR=5.3						
ELK			Pg	**Pb**	**19 33 40.7**	**+3.1**
comp=E,0.9nm,0.3s,baz=20,slow=16,SNR=10.0						
ELK			Lg	Lg	19 35 04.3	
comp=E,3.3nm,0.3s,baz=301,slow=5.9,SNR=9.4						
ELK	**Elko**	**6.48 199**	Pn	**Pn**	**19 33 21.9**	**+1.2**
RSSD	**Black Hills**	**6.52 112**	Pn	**Pn**	**19 33 20.6**	**-0.7**
RSSD	**Black Hills**	**6.52 112**	P	**Pn**	**19 33 20.9**	**-0.3**
baz=298						
HOOD	**Mount Hood Mea**	**6.60 260**	Pn	**Pn**	**19 33 22.3**	**0.0**
DUG	**Dugway, Tooele**	**6.71 183**	Sb	**Sg**	**19 35 12.6**	**-6.8**
baz=2.2						
I05D	**Terrebonne, OR**	**6.75 251**	P	**Pn**	**19 33 25.9**	**+1.6**
baz=65						
PINE	**Pine Mountain**	**6.75 246**	Pn	**Pn**	**19 33 26.5**	**+2.1**
H04A	**Detroit Lake**	**7.17 256**	Pn	**Pn**	**19 33 28.1**	**-1.9**
J05D	**Fort Rock, OR**	**7.20 243**	P	**Pn**	**19 33 32.3**	**+1.8**
baz=57						
K05A	**Summer Lake**	**7.32 238**	Pn	**Pn**	**19 33 34.4**	**+2.1**
PHWY	**Pilot Hill**	**7.51 136**	Pn	**Pn**	**19 33 36.3**	**+1.4**
H04D	**Lebanon**	**7.60 256**	Pn	**Pn**	**19 33 35.2**	**-0.6**
N23A	**Red Feather La**	**7.61 140**	Pn	**Pn**	**19 33 36.8**	**+0.5**
J04D	**Umpqua Nationa**	**7.76 245**	Pn	**Pn**	**19 33 38.0**	**-0.3**
BUCK	**Buck Mountain**	**7.89 254**	Pn	**Pn**	**19 33 39.7**	**-0.2**
DBO	**Dodson Butte**	**8.54 248**	Pn	**Pn**	**19 33 47.2**	**-1.6**
ISCO	**Idaho Springs**	**8.66 143**	Pn	**Pn**	**19 33 49.2**	**-1.5**
NVAR	**Mina Array Bea**	**9.50 209**	Pn	**Pn**	**19 34 05.6**	**+3.5**
comp=E,0.1nm,0.3s,baz=25,slow=13,SNR=5.4						
NVAR			Lg	Lg	19 36 41.5	
comp=E,0.1nm,0.3s,baz=31,slow=13,SNR=1.9						
FFC	**Flin Flon**	**10.24 36**		**Pn**	**19 34 10.2**	**-1.8**
AGMN	**Agassiz Nation**	**11.28 77**		**Pn**	**19 34 23.9**	**-2.3**
ULM	**Lac du Bonnet**	**11.47 67**	Pn	**Pn**	**19 34 28.9**	**+0.1**
comp=E,0.3nm,0.3s,baz=194,slow=8.6,SNR=1.5						
ULM			Lg	Lg	19 37 36.8	
comp=E,2.4nm,0.3s,baz=25,slow=0.3,SNR=9.4						
ULM			LR	LR	19 39 24.4	
comp=E,121nm,18.7s,baz=186,slow=40						
ULM	**Lac du Bonnet**	**11.47 67**	Pn	**Pn**	**19 34 29.3**	**+0.5**
ECSD	**EROS Data Cent**	**11.58 100**	Pn	**Pn**	**19 34 30.4**	**0.0**
SPMN	**Marine on St.**	**13.73 90**	Pn	**Pn**	**19 34 56.4**	**-3.4**
EYMN	**Ely**	**14.21 78**	Pn	**Pn**	**19 35 08.0**	**+1.6**
YKA	**Yellowknife Ar**	**15.68 356**	Pn	**Pn**	**19 35 20.1**	**-5.8**
comp=E,0.1nm,0.3s,baz=210,slow=12,SNR=4.0						
YKA			Lg	Lg	19 39 47.0	
comp=E,0.2nm,0.3s,baz=172,slow=27,SNR=3.6						
FCAR	**Ozark Folk Cen**	**18.73 119**	P	**P**	**19 36 02.1**	**-2.0**
FCAR			IAmb	IAmb	19 36 11.9	
comp=Z,21nm,1.5s						
TXAR	**Lajitas Array**	**18.82 156**	P	**Pn**	**19 36 07.8**	**+2.3**
comp=Z,0.0nm,0.3s,baz=318,slow=1.7,SNR=4.0						
TXAR			LR	LR	19 43 30.5	
comp=Z,131nm,18.3s,baz=165,slow=37						
I29M	**Ogilvie Camp,**	**23.15 332**	P	**P**	**19 36 51.1**	**-0.5**
I29M			IAmb	IAmb	19 37 06.2	
comp=Z,8.1nm,1.4s						
ILAR	**Eielson Array**	**25.85 326**	P	**P**	**19 37 17.9**	**+1.2**
comp=Z,0.7nm,0.6s,baz=123,slow=7.9,SNR=10						

IDC 30 19:44:28.6±2.4, 15°.44S×175°.87W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.4/43, mbtmp3.9/4, ML3.4/1, MS3.6/3, Ms1 3.6/3, ms1mx2.8/62, Error ellipse: s-maj=388.9km s-min=25.6km az=159.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.24**	**69**	Pn	Pn	19 45 32.5	-2.1
2.4nm,0.3s,baz=323,slow=17,SNR=2.0							
AFI				Sn	Sn	19 46 14.9	-10
2.8nm,0.3s,baz=86,slow=23,SNR=2.2							
AFI				LR	LR	19 46 47.5	
comp=Z,79nm,19.6s,baz=298,slow=33							
JAY	**Jayapura**	**44.66**	**282**	LR	LR	20 10 42.0	
comp=Z,63nm,18.6s,baz=340,slow=35							
WRA	**Warramunga Arr**	**47.52**	**257**	P	P	19 53 05.4	-0.6
0.2nm,0.8s,baz=89,slow=7.7,SNR=5.7							
ASAR	**Alice Springs**	**47.83**	**252**	P	P	19 53 08.4	0.0
0.9nm,0.7s,baz=82,slow=7.8,SNR=13							
FITZ	**Fitzroy Crossi**	**55.87**	**258**	LR	LR	20 13 38.3	
comp=Z,556nm,21.7s,baz=179,slow=31							
TXAR	**Lajitas Array**	**82.62**	**57**	P	P	19 56 55.3	+1.0
0.4nm,0.9s,baz=212,slow=4.4,SNR=4.0							

IDC 30 19:50:42.9±12.0, 22°.57S×176°.85E, h359km±35km, mb2.8/3, mb1 2.9/4, mb1mx2.8/38, mbtmp3.6/4, Error ellipse: s-maj=339.1km s-min=36.5km az=130.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.94**	**13**	P	Pn	19 52 02.5	-0.1
0.6nm,0.3s,baz=137,slow=12,SNR=14							
ASAR	**Alice Springs**	**39.40**	**260**	P	P	19 57 39.9	+0.3
0.2nm,0.5s,baz=96,slow=7.2,SNR=6.9							
WRA	**Warramunga Arr**	**39.61**	**266**	P	P	19 57 40.3	-1.0
0.5nm,0.7s,baz=102,slow=8.6,SNR=2.4							
KSRS	**Korea Array**	**75.39**	**322**	P	P	20 01 48.0	+0.1
0.8nm,0.6s,baz=129,slow=6.4,SNR=4.9							

*NEIC **30** 19:53:15.7±1.7, 21°.92S±0°.06×67°.21W±0°.09, h173km±7km, mb4.4/17, ML4.7(GUC), Error ellipse: s-maj=12.6km s-min=9.1km az=90.0*
*IDC **30** 19:53:15.8±0.9, 21°.88S×67°.17W, h173km±10km, mb3.5/6, mb1 3.7/10, mb1mx3.6/25, mbtmp4.1/10, MS3.7/1, Ms1 3.7/1, ms1mx2.6/44, Error ellipse: s-maj=17.5km s-min=11.9km az=106.0*
*VAO **30** 19:53:17.3±0.4, 21°.86S×67°.32W, h198km±5km, mb4.0*
*SCB **30** 19:53:17.2±1.6, 21°.95S×67°.37W, h173km±15km, ML4.6/4, Error ellipse: s-maj=6.6km s-min=4.5km az=0.0*
*GUC **30** 19:53:17.3±0.7, 21°.99S×67°.42W, h198km±7km, ML4.7*

ISC 30 19:53:15.7±0.6, 21°.92S±0°.04×67°.28W±0°.05, h182km±6km, n129, σ1§44/152, mb4.3/13, 8C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.66**	**99**	P	**Pn**	**19 53 51.7**	**+1.8**
LVC	**Limon Verde**	**1.66**	**245**	P	**Pn**	**19 53 51.1**	**+1.3**
39nm,0.3s,baz=1.6,slow=6.0,SNR=568							
LVC				S	**Sn**	**19 54 16.8**	**+0.6**
114nm,0.3s,baz=238,slow=21,SNR=110							
LVC	**Limon Verde**	**1.66**	**245**	*eP*	**Pn**	**19 53 50.5**	**+0.7**
LVC				*i* S	**Sn**	**19 54 16.6**	**+0.5**
LVC	**Limon Verde**	**1.66**	**245**	*eP*	**Pn**	**19 53 51.3**	**+1.5**
LVC	**Limon Verde**	**1.66**	**245**	P	**Pn**	**19 53 51.1**	**+1.3**
MOCB	**Mochara**	**1.66**	**67**	P	**Pn**	**19 53 51.9**	**+1.9**
PB09	**IPOC Station P**	**1.83**	**273**	⇑*iP*	**Pn**	**19 53 52.8**	**+1.4**
PB09				*i* S	**Sn**	**19 54 19.8**	**+1.0**
PB09	**IPOC Station P**	**1.83**	**273**		**Pn**	**19 53 52.7**	**+1.4**
PB09	**IPOC Station P**	**1.83**	**273**	P	**Pn**	**19 53 52.8**	**+1.4**
PB09				S	**Sn**	**19 54 18.5**	**-0.3**
PB09				IAML		19 54 25.3	
537nm,0.4s							
PB01	**IPOC Station P**	**2.23**	**292**	⇑*iP*	**Pn**	**19 53 56.4**	**+0.8**
PB01				*i* S	**Sn**	**19 54 26.7**	**+0.1**
PB01				IAML		19 54 27.8	
comp=N,3μm,0.4s							
PB01	**IPOC Station P**	**2.23**	**292**		**Pn**	**19 53 56.4**	**+0.8**
PB01	**IPOC Station P**	**2.23**	**292**	P	**Pn**	**19 53 56.6**	**+1.0**
PB01				S	**Sn**	**19 54 25.7**	**-0.8**
PB01				IAML		19 54 27.7	
comp=N,3μm,0.3s							
PB06	**IPOC Station P**	**2.26**	**249**	⇓*iP*	**Pn**	**19 53 56.6**	**+0.6**
PB06				*i* S	**Sn**	**19 54 26.4**	**-0.9**
PB06				IAML		19 54 29.1	
comp=E,2μm,0.2s							
PB06	**IPOC Station P**	**2.26**	**249**		**Pn**	**19 53 56.5**	**+0.6**
PB06				Sn	**Sn**	**19 54 26.8**	**-0.5**
PB03	**IPOC Station P**	**2.30**	**266**	⇑*iP*	**Pn**	**19 53 56.8**	**+0.4**
PB03				*i* S	**Sn**	**19 54 26.9**	**-1.1**
PB03				IAML		19 54 29.0	
comp=E,3μm,0.1s							
PB03	**IPOC Station P**	**2.30**	**266**		**Pn**	**19 53 56.7**	**+0.2**
PB03	**IPOC Station P**	**2.30**	**266**	P	**Pn**	**19 53 57.0**	**+0.6**
PB15	**IPOC Station P**	**2.40**	**237**	⇓*iP*	**Pn**	**19 53 58.4**	**+0.8**
PB15				*i* S	**Sn**	**19 54 30.3**	**+0.1**
PB15	**IPOC Station P**	**2.40**	**237**		**Pn**	**19 53 58.3**	**+0.8**
PB15	**IPOC Station P**	**2.40**	**237**	P	**Pn**	**19 53 58.6**	**+1.0**
PB15				S	**Sn**	**19 54 28.4**	**-1.8**
PB15				IAML		19 54 32.7	
comp=E,7μm,0.3s							
PB07	**IPOC Station P**	**2.43**	**274**	*eP*	**Pn**	**19 53 58.3**	**+0.4**
PB07				*i* S	**Sn**	**19 54 29.6**	**-1.1**
PB07				IAML		19 54 31.4	
comp=E,4μm,0.4s							
PB07	**IPOC Station P**	**2.43**	**274**		**Pn**	**19 53 58.1**	**+0.1**
PB07	**IPOC Station P**	**2.43**	**274**	P	**Pn**	**19 53 58.9**	**+1.0**
PB07				S	**Sn**	**19 54 28.3**	**-2.4**
PB07				IAML		19 54 30.8	
comp=E,3μm,0.3s							
PB08	**IPOC Station P**	**2.49**	**315**	⇑*iP*	**Pn**	**19 54 00.7**	**+1.8**
PB08				*i* S	**Sn**	**19 54 33.4**	**+1.1**
PB08	**IPOC Station P**	**2.49**	**315**		**Pn**	**19 54 00.5**	**+1.6**
PB08	**IPOC Station P**	**2.49**	**315**	P	**Pn**	**19 54 00.9**	**+2.1**
PB02	**IPOC Station P**	**2.51**	**283**	⇑*iP*	**Pn**	**19 53 59.1**	**+0.4**
PB02				*i* S	**Sn**	**19 54 31.3**	**-0.9**
PB02				IAML		19 54 32.9	
comp=E,3μm,0.4s							
PB02	**IPOC Station P**	**2.51**	**283**	Pn	**Pn**	**19 53 58.8**	**+0.1**
PB02	**IPOC Station P**	**2.51**	**283**	P	**Pn**	**19 53 59.5**	**+0.8**
PB04	**IPOC Station P**	**2.69**	**261**	*eP*	**Pn**	**19 54 01.3**	**+0.4**
PB04				*i* S	**Sn**	**19 54 34.5**	**-1.7**
PB04	**IPOC Station P**	**2.69**	**261**		**Pn**	**19 54 01.3**	**+0.4**
PB04	**IPOC Station P**	**2.69**	**261**	P	**Pn**	**19 54 01.8**	**+0.8**
GO01	**Chusmiza**	**2.87**	**321**	⇑*iP*	**Pn**	**19 54 04.8**	**+1.3**
GO01				*i* S	**Sn**	**19 54 41.6**	**+1.2**
GO01	**Chusmiza**	**2.87**	**321**		**Pn**	**19 54 04.7**	**+1.3**
TA01	**Diego Aracena**	**3.02**	**296**	*i* P	**Pn**	**19 54 04.6**	**-0.2**
TA01				*i* S	**Sn**	**19 54 40.6**	**-2.4**
TA01				IAML		19 54 42.2	
comp=E,657nm,0.2s							
TA01	**Diego Aracena**	**3.02**	**296**	Pn	**Pn**	**19 54 04.7**	**-0.1**
PB11	**IPOC Station P**	**3.09**	**314**	⇑*iP*	**Pn**	**19 54 06.0**	**+0.3**
PB11				*i* S	**Sn**	**19 54 43.3**	**-1.4**
PB11				IAML		19 54 45.2	
comp=N,1μm,0.3s							
PB11	**IPOC Station P**	**3.09**	**314**	Pn	**Pn**	**19 54 06.0**	**+0.3**
PB11	**IPOC Station P**	**3.09**	**314**	P	**Pn**	**19 54 06.2**	**+0.4**
TA02	**Huaiquique**	**3.13**	**301**	*eP*	**Pn**	**19 54 05.7**	**-0.3**
TA02	**Huaiquique**	**3.13**	**301**		**Pn**	**19 54 05.8**	**-0.3**
PB10	**IPOC Station P**	**3.42**	**242**	*i* P	**Pn**	**19 54 09.4**	**-0.1**
PB10				*i* S	**Sn**	**19 54 48.9**	**-2.8**
PB10	**IPOC Station P**	**3.42**	**242**	Pn	**Pn**	**19 54 09.4**	**-0.1**
PB10	**IPOC Station P**	**3.42**	**242**	P	**Pn**	**19 54 09.5**	**-0.1**
PB14	**IPOC Station P**	**3.94**	**226**	Pn	**Pn**	**19 54 16.2**	**-0.2**
PB16	**IPOC Station P**	**4.13**	**329**	⇑*iP*	**Pn**	**19 54 20.6**	**+1.4**
PB16				*i* S	**Sn**	**19 55 08.2**	**-0.6**
PB16	**IPOC Station P**	**4.13**	**329**	Pn	**Pn**	**19 54 20.4**	**+1.2**
PB16	**IPOC Station P**	**4.13**	**329**	P	**Pn**	**19 54 20.8**	**+1.6**
PB12	**IPOC Station P**	**4.36**	**318**	*eP*	**Pn**	**19 54 20.3**	**-1.4**
PB12				*i* S	**Sn**	**19 55 08.6**	**-4.6**
PB12	**IPOC Station P**	**4.36**	**318**	Pn	**Pn**	**19 54 20.2**	**-1.4**
AP01	**Chacalluta**	**4.55**	**320**	Pn	**Pn**	**19 54 23.0**	**-1.0**
BBOE	**La Paz, Chanca**	**5.12**	**352**	P	**Pn**	**19 54 33.0**	**+1.1**
AC02	**Maricunga**	**5.18**	**199**	Pn	**Pn**	**19 54 32.6**	**+0.1**
BBOD	**La Paz, Gloria**	**5.40**	**346**	P	**Pn**	**19 54 37.2**	**+1.7**
LPAZ	**La Paz**	**5.66**	**352**	P	**Pn**	**19 54 40.5**	**+1.6**
comp=N,2.4nm,0.3s,baz=133,slow=4.6,SNR=50							
LPAZ				S	**Sn**	**19 55 43.9**	**-0.4**
comp=N,1.6nm,0.3s,baz=70,slow=23,SNR=6.5							
LPAZ	**La Paz**	**5.66**	**352**	*eP*	**Pn**	**19 54 41.2**	**+2.2**
LPAZ	**La Paz**	**5.66**	**352**	P	**Pn**	**19 54 40.9**	**+2.0**
GO03	**Copiap**	**6.26**	**205**	Pn	**Pn**	**19 54 44.0**	**-2.2**
AC04	**Llanos de Chal**	**7.14**	**208**	Pn	**Pn**	**19 54 54.1**	**-3.6**
LCO	**Las Campanas**	**7.71**	**203**	Pn	**Pn**	**19 55 03.1**	**-2.3**
SIV	**San Ignacio**	**8.32**	**46**	P	**Pn**	**19 55 11.5**	**-1.8**
comp=N,25nm,0.3s,baz=248,slow=9.2,SNR=182							
SIV				S	**Sn**	**19 56 40.4**	**-6.2**
comp=N,1.4nm,0.3s,baz=155,slow=21,SNR=2.3							
CO05	**La Serena**	**8.73**	**203**	Pn	**Pn**	**19 55 14.8**	**-3.8**
GO04	**Tololo Observa**	**8.81**	**200**	Pn	**Pn**	**19 55 17.6**	**-2.3**
CO03	**El Pedregal**	**9.40**	**198**	Pn	**Pn**	**19 55 24.7**	**-2.7**
CO06	**Fray Jorge**	**9.56**	**203**	Pn	**Pn**	**19 55 26.8**	**-2.6**
CO02	**Combarbal**	**9.83**	**199**	Pn	**Pn**	**19 55 29.2**	**-3.9**
PTLB	**Pontes e Lacer**	**10.04**	**52**	*eP*	**Pn**	**19 55 34.3**	**-1.6**
PTLB	**Pontes e Lacer**	**10.04**	**52**	Pn	**Pn**	**19 55 34.3**	**-1.6**
CPUP	**Villa Florida**	**10.09**	**118**	P	**Pn**	**19 55 36.1**	**-0.3**
comp=N,0.3nm,0.3s,baz=290,slow=8.4,SNR=3.2							
VILB	**Vilhena**	**11.18**	**38**	*eP*	**Pn**	**19 55 51.3**	**+0.6**
VILB	**Vilhena**	**11.18**	**38**	Pn	**Pn**	**19 55 50.5**	**-0.3**
VA03	**San Esteban**	**11.19**	**194**		**Pn**	**19 55 49.7**	**-1.0**
ROC1	**El Roble**	**11.50**	**196**	Pn	**Pn**	**19 55 54.5**	**-0.5**
MT02	**Curacav**	**11.80**	**196**	Pn	**Pn**	**19 55 56.1**	**-2.4**
ETMB	**Extrema**	**12.07**	**5**	*eP*	**Pn**	**19 56 03.1**	**+0.9**
ETMB	**Extrema**	**12.07**	**5**	Pn	**Pn**	**19 56 02.4**	**+0.3**
MT09	**Talagante**	**12.26**	**195**	Pn	**Pn**	**19 56 02.2**	**-2.3**
PTGB	**Pitanga**	**14.25**	**104**	*eP*	**P**	**19 56 33.2**	**+1.5**
PDRB	**Porto dos Gac**	**14.38**	**46**	*eP*	**P**	**19 56 33.0**	**-0.1**
ITAB	**Concordia**	**14.76**	**114**	*eP*	**P**	**19 56 38.3**	**+1.2**
ITAB	**Concordia**	**14.76**	**114**		**P**	**19 56 37.0**	**-0.2**
PCMB	**Pacaembu**	**14.89**	**92**	*eP*	**P**	**19 56 39.4**	**+0.7**
CPSB	**Cacapava Do Su**	**15.02**	**127**	*eP*	**P**	**19 56 41.0**	**+1.0**
CLDB	**Colider**	**15.54**	**47**	*eP*	**P**	**19 56 46.8**	**+0.9**
PLTB	**Pedras Altas**	**15.64**	**132**	*eP*	**P**	**19 56 47.2**	**+0.3**
PLTB	**Pedras Altas**	**15.64**	**132**	P	**Pn**	**19 56 44.9**	**-1.7**
TIJ01	**Guaruva-PR**	**17.09**	**105**	*eP*	**Pn**	**19 57 04.1**	**0.0**
TER01	**Tubaro-SC**	**17.68**	**116**	*eP*	**Pn**	**19 57 10.5**	**-0.6**
SNDB	**Serra Nova Dou**	**18.19**	**60**	*eP*	**P**	**19 57 15.2**	**+0.2**
IPMB	**Ipameri, GO**	**18.34**	**81**	*eP*	**P**	**19 57 17.7**	**+1.0**
PET01	**Itan

σ0997/13, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.62**	**220**	P	**Pg**	**20 01 16.6**	**+0.4**
PALE				S	**Sg**	**20 01 24.1**	**-0.5**
CHAS	**Isla Isabel II**	**0.97**	**121**	P	**Pg**	**20 01 23.5**	**+0.8**
CHAS				S	**Sn**	**20 01 35.9**	**-0.1**
JBK	**JBK**	**1.54**	**152**	P	**Pb**	**20 01 30.9**	**-1.0**
JBK				S	**Sn**	**20 01 49.8**	**-0.3**
SMIR	**Smir Dam**	**1.57**	**270**	P	**Pn**	**20 01 30.3**	**-0.5**
SMIR				S	**Sb**	**20 01 53.1**	**+1.2**
LCRM	**LCR**	**2.32**	**210**	S	**Sb**	**20 02 14.5**	**+1.0**
MD31	**MD31**	**3.02**	**201**	P	**Pn**	**20 01 51.1**	**+0.3**
MD31				S	**Sn**	**20 02 25.0**	**-1.6**
MDT	**Midelt**	**3.03**	**199**	P	**Pn**	**20 01 51.0**	**0.0**
MDT				S	**Sn**	**20 02 27.9**	**+1.0**

*IDC **30** 20:08:42.5±11.0, 12°.38S×166°.39E, h111km±120km, mb3.3/6, mb1 3.6/7, mb1mx3.3/38, mbtmp3.6/7, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=88.3km s-min=30.5km az=159.0*

ISC 30 20:08:36.6±1.0, **12°.08S**±0°.10×**166°.3E**±0°.2, **h50km, n8,** σ1§**07/8, mb3.5/6, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Domt Dzumac**	**9.94**	**179**	P	**Pn**	**20 10 58.2**	**+1.2**
	0.4nm,0.3s,baz=316,slow=23,SNR=12						
DZM				S	**Sn**	**20 12 45.9**	**-1.3**
	0.2nm,0.3s,baz=133,slow=15,SNR=2.3						
PMG	**Port Moresby**	**18.99**	**276**	LR	LR	20 18 45.3	
	comp=Z,46nm,20.8s,baz=144,slow=32						
WRA	**Warramunga Arr**	**31.66**	**252**	P	**P**	**20 14 54.8**	**-0.6**
	0.3nm,0.9s,baz=84,slow=8.9,SNR=1.7						
ASAR	**Alice Springs**	**32.83**	**245**	P	**P**	**20 15 05.5**	**-0.2**
	0.3nm,0.5s,baz=70,slow=9.5,SNR=6.3						
CMAR	**Chiang Mai Arr**	**73.02**	**294**	P	**P**	**20 20 02.8**	**+1.0**
	0.4nm,0.6s,baz=117,slow=5.4,SNR=4.4						
ILAR	**Eielson Array**	**84.31**	**18**	P	**P**	**20 21 03.2**	**+0.4**
	0.5nm,0.8s,baz=253,slow=5.1,SNR=6.1						
MKAR	**Makanchi Array**	**94.64**	**317**	P	**P**	**20 21 51.6**	**-0.7**
	0.5nm,0.7s,baz=77,slow=5.8,SNR=5.7						
YKA	**Yellowknife Ar**	**95.64**	**27**	P	**P**	**20 21 55.6**	**-0.8**
	0.1nm,0.5s,baz=256,slow=5.3,SNR=1.8						

*NORS **30** 20:10:32.7±0.0, 43°.06N×44°.01E, h5km, MPVA3.9*
*DRS **30** 20:10:33.9±0.0, 42°.94N×43°.90E, h16km*
*TIF **30** 20:10:33.1, 43°.12N×44°.12E, h7km±2km*
*IASPEI **30** 20:10:34.2±0.9, 43°.09N±0°.02×44°.03E±0°.02, h5km±6km, Error ellipse: s-maj=3.1km s-min=2.7km az=173.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*MOS **30** 20:10:34.8±0.0, 43°.08N×44°.03E, h2km, MPVA3.7*

ISC 30 20:10:34.2±0.8, **43°.09N**±0°.02×**44°.03E**±0°.01, **h8km**±5km, **n55,** σ1§**10**/109, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORR	**Kora**	**0.02**	**93**	*i* Pg	**Pg**	**20 10 34.8**	**-1.1**
KORR				*e*Sg	**Sg**	**20 10 36.1**	**-0.8**
ARNR	**Ardon**	**0.20**	**63**	*i* Pg	**Pg**	**20 10 38.5**	**+0.1**
ARNR				*e*Sg	**Sg**	**20 10 42.7**	**+1.4**
LSNR	**Lesken**	**0.24**	**321**	*e*Pg	**Pg**	**20 10 39.8**	**+0.7**
LSNR				*e*Sg	**Sb**	**20 10 44.6**	**+2.1**
STDR	**Stavd-Durt**	**0.28**	**4**	*e*Pg	**Pg**	**20 10 40.5**	**+0.6**
STDR				*e*Sg	**Sg**	**20 10 45.1**	**+1.5**
ZEI	**Tsey**	**0.32**	**198**	*i* Pg	**Pg**	**20 10 40.5**	**0.0**
ZEI				*e*Sg	**Sg**	**20 10 45.1**	**+0.4**
LACR	**Lac**	**0.32**	**143**	*i* Pg	**Pg**	**20 10 40.8**	**+0.1**
LACR				*e*Sg	**Sb**	**20 10 46.1**	**-1.5**
DIGR	**Digorskoe uzhe**	**0.38**	**241**	*i* Pg	**Pg**	**20 10 41.7**	**0.0**
DIGR				*e*Sg	**Sg**	**20 10 47.5**	**+0.7**
BTKR	**Batakoyurt**	**0.47**	**52**	*e*Pg	**Pb**	**20 10 44.2**	**-0.5**
BTKR				*e*Sg	**Sb**	**20 10 52.6**	**+0.8**
VLKR	**Vladikavkaz**	**0.47**	**95**	*e*Pg	**Pb**	**20 10 44.7**	**0.0**
VLKR				*e*Sg	**Sb**	**20 10 51.2**	**-0.7**
NCK	**Nalchik**	**0.52**	**322**	*e*Pg	**Pb**	**20 10 45.7**	**+0.1**
NCK				*e*Sg	**Sb**	**20 10 54.8**	**+1.6**
KMGR	**Komgaron**	**0.61**	**93**	*e*Pg	**Pb**	**20 10 47.0**	**-0.1**
KMGR				*e*Sg	**Sb**	**20 10 55.3**	**-0.6**
PNSH	**Pansheti**	**0.62**	**136**	P	**Pg**	**20 10 45.7**	**-0.5**
PNSH				S	**Sg**	**20 10 54.3**	**-0.1**
ONI	**Oni**	**0.66**	**221**	P	**Pb**	**20 10 48.2**	**+0.3**
ONI				S	**Sb**	**20 10 58.2**	**+1.1**
ONI	**Oni**	**0.66**	**221**	*e*Pg	**Pb**	**20 10 48.2**	**+0.3**
ONI				*e*Sg	**Sb**	**20 10 57.9**	**+0.7**
PRTR	**Priterechnaya**	**0.69**	**15**	*e*Pg	**Pn**	**20 10 49.9**	**-0.3**
PRTR				*e*Sg	**Sn**	**20 11 02.6**	**+1.5**
TRKR	**Terskaya**	**0.81**	**38**	*e*Pg	**Pn**	**20 10 52.0**	**0.0**
TRKR				*e*Sg	**Sn**	**20 11 04.4**	**+0.3**
KBTC	**Kuba-Taba**	**0.86**	**328**	*e*Pg	**Pb**	**20 10 51.8**	**+0.4**
KBTC				*i* Sg	**Sn**	**20 11 05.8**	**+0.5**
NEY	**Neytrino**	**0.97**	**280**	*e*Pg	**Pg**	**20 10 52.6**	**-0.3**
NEY				*e*Sg	**Sb**	**20 11 05.8**	**-0.7**
KBZ	**Khabaz**	**1.05**	**308**	*e*Pg	**Pg**	**20 10 54.0**	**-0.3**
KBZ				*e*Sg	**Sn**	**20 11 09.6**	**-0.3**
TKB	**Tkibuli**	**1.06**	**227**	P	**Pb**	**20 10 54.8**	**0.0**
TKB				S	**Sn**	**20 11 11.7**	**+1.4**
TKB	**Tkibuli**	**1.06**	**227**	*e*Pg	**Pb**	**20 10 54.8**	**0.0**
TKB				*e*Sg	**Sn**	**20 11 11.7**	**+1.4**
PYA1	**Pyatigorsk**	**1.19**	**325**	*i* Pg	**Pg**	**20 10 56.9**	**-0.1**
PYA1				*e*Sg	**Sn**	**20 11 13.9**	**+0.4**
SHA1	**Shidzhatmaz**	**1.20**	**303**	*e*Pg	**Pb**	**20 10 57.2**	**0.0**
SHA1				*e*Sg	**Sn**	**20 11 13.8**	**-0.1**
BEYR	**Belyy Ugol+**	**1.28**	**317**	*i* Pg	**Pg**	**20 10 58.7**	**0.0**
BEYR				*e*Sg	**Sn**	**20 11 16.5**	**+0.8**
GROC	**Groznyy**	**1.29**	**84**	*e*Pg	**Pg**	**20 10 59.8**	**+0.8**
GROC				*e*Sg	**Sn**	**20 11 19.0**	**+3.0**
KIV0	**Kislovodsk Arr**	**1.30**	**312**	*e*Pg	**Pn**	**20 10 58.8**	**0.0**
KIV0				*i* Sg	**Sn**	**20 11 17.4**	**+0.9**
KIV	**Kislovodsk**	**1.31**	**312**	*i* Pg	**Pn**	**20 10 58.8**	**0.0**
KIV				*e*Sg	**Sn**	**20 11 16.8**	**+0.2**
BRNG	**Burnasheti**	**1.47**	**186**	P	**Pg**	**20 11 03.2**	**+0.8**
BRNG				S	**Sg**	**20 11 25.4**	**+3.9**
BTNK	**Botanikuri**	**1.51**	**158**	P	**Pn**	**20 11 01.1**	**-0.4**
BTNK				S	**Sg**	**20 11 22.1**	**-0.7**
DVE	**Vedeno**	**1.54**	**94**	*e*Pg	**Pg**	**20 11 03.6**	**-0.1**
DVE				*e*Sg	**Sg**	**20 11 23.6**	**-0.1**
TRLG	**Trialeti**	**1.55**	**178**	P	**Pg**	**20 11 03.6**	**-0.3**
TRLG				S	**Sg**	**20 11 24.6**	**+0.7**
TRLG	**Trialeti**	**1.55**	**178**	*e*Pg	**Pg**	**20 11 03.6**	**-0.3**
TRLG				*e*Sg	**Sg**	**20 11 24.6**	**+0.7**
ABS	**Abastumani**	**1.61**	**215**	P	**Pg**	**20 11 04.5**	**-0.6**
ABS				S	**Sg**	**20 11 28.3**	**+2.4**
BTLR	**Botlikh**	**1.66**	**104**	*e*Pg	**Pg**	**20 11 07.5**	**+1.5**
BTLR				*e*Sg	**Sg**	**20 11 27.8**	**+0.2**
DMNI	**Dmanisi**	**1.76**	**176**	P	**Pb**	**20 11 06.8**	**0.0**
DMNI				S	**Sg**	**20 11 31.1**	**+0.3**
BGD	**Bogdanovka**	**1.85**	**190**	P	**Pg**	**20 11 09.4**	**-0.2**
BGD				S	**Sg**	**20 11 35.2**	**+1.6**
BGD	**Bogdanovka**	**1.85**	**190**	*e*Pg	**Pg**	**20 11 09.4**	**-0.2**
BGD				*e*Sg	**Sg**	**20 11 35.2**	**+1.6**
ALER	**Alexandrovskoy**	**1.86**	**335**	*e*Pg	**Pb**	**20 11 08.8**	**+0.4**
ALER				*e*Sg	**Sg**	**20 11 33.5**	**-0.5**
DLMR	**Dylym**	**1.90**	**90**	*e*Pg	**Pg**	**20 11 10.4**	**-0.3**
DLMR				*e*Sg	**Sg**	**20 11 34.4**	**-0.9**
XNZR	**Khunzakh**	**2.04**	**105**	*e*Pg	**Pb**	**20 11 11.2**	**-0.3**
XNZR				*e*Sg	**Sb**	**20 11 37.2**	**+0.1**
DBC	**Dubki**	**2.05**	**91**	*e*Pg	**Pb**	**20 11 11.9**	**+0.2**
DBC				*e*Sg	**Sg**	**20 11 39.0**	**-1.0**
UNCR	**Uncukul**	**2.06**	**99**	*e*Pg	**Pg**	**20 11 12.6**	**-1.1**
UNCR				*e*Sg	**Sb**	**20 11 38.6**	**+1.0**
GOF	**Gofitskoye**	**2.10**	**340**	*e*Pg	**Pb**	**20 11 11.9**	**-0.5**
GOF				*e*Sg	**Sb**	**20 11 39.4**	**+0.8**
KRNR	**Karanay**	**2.12**	**96**	*e*Pg	**Pn**	**20 11 11.0**	**+0.9**
KRNR				*e*Sg	**Sb**	**20 11 38.8**	**-0.7**
NVNR	**Nevinnomyssk**	**2.14**	**316**	*e*Pn	**Pg**	**20 11 14.2**	**-1.0**
NVNR				*e*Sn	**Sg**	**20 11 42.9**	**0.0**
ARKR	**Arakani**	**2.23**	**102**	*e*Pg	**Pb**	**20 11 14.2**	**-0.5**
ARKR				*e*Sg	**Sb**	**20 11 43.1**	**+0.6**
GNBR	**Gunib**	**2.27**	**107**	*e*Pn	**Pb**	**20 11 15.2**	**-0.2**
GNBR				*e*Sn	**Sb**	**20 11 42.9**	**-0.7**
AHMR	**Akhmetovskaya**	**2.42**	**297**	*e*Pn	**Pg**	**20 11 19.3**	**-1.3**
AHMR				*e*Sn	**Sg**	**20 11 50.0**	**-1.9**
KMKR	**Kumukh**	**2.46**	**112**	*e*Pn	**Pb**	**20 11 17.3**	**-1.4**
KMKR				*e*Sn	**Sb**	**20 11 47.3**	**-1.8**
SGKR	**Sergokala**	**2.74**	**102**	*e*Pn	**Pb**	**20 11 22.9**	**-0.5**
SGKR				*e*Sn	**Sb**	**20 11 56.0**	**-1.2**
URKR	**Urkarakh**	**2.81**	**108**	*e*Pn	**Pb**	**20 11 25.1**	**+0.4**
URKR				*e*Sn	**Sb**	**20 11 57.0**	**-2.2**
RPOR	**Krasnaya Polya**	**2.81**	**284**	*e*Pn	**Pb**	**20 11 23.2**	**-1.4**
RPOR				*e*Sn	**Sb**	**20 11 56.4**	**-2.8**
GNI	**Garni**	**2.98**	**170**	*e*Pn	**Pb**	**20 11 24.7**	**-2.9**
GUZR	**Guzeripl'**	**2.99**	**289**	*e*Pn	**Pb**	**20 11 25.4**	**-2.3**
GUZR				*e*Sn	**Sb**	**20 12 04.4**	**+0.1**
GOYR	**Goytkh**	**3.57**	**291**	*e*Pn	**Pg**	**20 11 43.5**	**+0.9**
GOYR				*e*Sn	**Sg**	**20 12 26.6**	**-2.3**

*SVSA **30** 20:32:44.9±1.4, 36°.95N×22°.37W, h10km, ML3.7(INMG), Error ellipse: s-maj=19.1km s-min=13.3km az=4.0*
*INMG **30** 20:32:50.0±3.5, 36°.69N×22°.64W, h10km, ML3.4, Error ellipse: s-maj=70.9km s-min=8.3km az=34.0*

ISC 30 20:32:33.8±1.1, **37°.4N**±0°.1×**22°.16W**±0°.05, **h10km, n28,** σ1§**34**/30, **Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**2.35**	**262**	*e*S	**Sn**	**20 33 40.2**	**-1.1**
PSMN				A	A	20 33 46.7	
	78nm,0.2s						
PSMA	**Santa Maria**	**2.40**	**262**	*e*P	**Pb**	**20 33 18.1**	**+1.1**
PSMA				*e*S	**Sn**	**20 33 41.0**	**-1.6**
PSMA				A	A	20 33 45.0	
	107nm,0.2s						
CMLA	**Cha da Macela**	**2.71**	**280**	*e*P	**Pb**	**20 33 22.6**	**+0.3**
CMLA				*e*S	**Sn**	**20 33 51.9**	**+1.7**
CMLA				A	A	20 33 55.8	
	64nm,0.4s						
GRON	**Grota Negra**	**2.72**	**280**	*e*P	**Pb**	**20 33 22.1**	**-0.4**
GRON				*e*S	**Sn**	**20 33 49.0**	**-1.5**
GRON				A	A	20 33 52.4	
	67nm,0.4s						
PSET	**Sete Cidades**	**2.87**	**281**	*e*P	**Pb**	**20 33 25.3**	**+0.2**
PSET				*e*S	**Sn**	**20 33 56.4**	**+2.1**
PMOZ	**Porto Moniz, M**	**6.07**	**137**	*e*P	Pn	20 34 11.7	+8.0
PMAR	**Madeira**	**6.30**	**135**	*e*P	Pn	20 34 14.6	+7.7
PMAR				*e*S	**Sn**	**20 35 18.9**	**-0.2**
PMAR				A	A	20 35 22.7	
	34nm,0.3s						
FUL	**Funchal**	**6.37**	**136**	*e*P	Pn	20 34 15.6	+7.9
PMPS	**Porto Santo**	**6.41**	**130**	*e*P	Pn	20 34 15.4	+7.3
PMPS				*e*S	**Sn**	**20 35 19.6**	**-1.7**
PMAFR	**Mafra**	**10.27**	**77**	S	**Sn**	**20 36 58.1**	**+1.9**
PMAFR				A	A	20 37 02.2	
	17nm,0.4s						
PMST	**Lisbon--Monsan**	**10.33**	**78**	*e*S	**Sn**	**20 36 59.5**	**+1.8**
PMST				A	A	20 37 04.3	
	26nm,0.9s						
PNCL	**Nicolau / Gran**	**10.82**	**82**	*e*S	**Sn**	**20 37 08.0**	**-1.8**
PNCL				A	A	20 37 13.2	
	10nm,0.5s						
PCAS	**Casmilo, Conde**	**11.01**	**72**	S	**Sn**	**20 37 15.6**	**+1.1**
PCAS				A	A	20 37 17.6	
	5.6nm,0.5s						
MESJ	**Messejana**	**11.07**	**83**	*e*S	**Sn**	**20 37 16.6**	**+0.7**
MESJ				A	A	20 37 24.9	
	7.1nm,0.7s						
PMTG	**Montargil**	**11.10**	**77**	*e*S	**Sn**	**20 37 16.6**	**0.0**
PMTG				A	A	20 37 21.3	
	5.6nm,0.7s						
PCVE	**Castro Verde**	**11.22**	**84**	*e*S	**Sn**	**20 37 20.1**	**+0.4**
PCVE				A	A	20 37 25.6	
	4.4nm,0.7s						
EVO	**Evora**	**11.23**	**80**	*e*S	**Sn**	**20 37 19.0**	**-0.9**
EVO				A	A	20 37 26.1	
	6.0nm,0.6s						
PBDV	**Barranco-do-Ve**	**11.33**	**86**	*e*S	**Sn**	**20 37 24.0**	**+1.6**
PBDV				A	A	20 37 36.7	
	4.8nm,0.4s						
PBEJ	**Beja**	**11.35**	**82**	*e*S	**Sn**	**20 37 21.3**	**-1.4**
PBEJ				A	A	20 37 24.1	
	5.5nm,0.5s						
PVAQ	**Vaqueiros**	**11.49**	**85**	*e*S	**Sn**	**20 37 26.2**	**0.0**
PVAQ				A	A	20 37 30.3	
	3.4nm,0.6s						
PESTR	**Estremoz**	**11.58**	**78**	*e*S	**Sn**	**20 37 26.9**	**-1.5**
PESTR				A	A	20 37 31.6	
	5.7nm,0.5s						
PVIS	**Viseu**	**11.59**	**69**	*e*S	**Sn**	**20 37 29.3**	**+0.6**
PVIS				A	A	20 37 35.5	
	4.2nm,0.6s						
PGAV	**Gavieira, Arco**	**11.65**	**62**	*e*S	**Sn**	**20 37 27.9**	**-2.4**
PMRV	**Marv??o**	**11.77**	**75**	*e*S	**Sn**	**20 37 32.9**	**-0.3**
PMRV				A	A	20 37 34.8	
	5.8nm,0.4s						
MTE	**Manteigas**	**11.79**	**71**	*e*S	**Sn**	**20 37 34.3**	**+0.6**
MTE				A	A	20 37 55.7	
	6.3nm,0.6s						
POLO	**Lamas de Olo**	**11.82**	**66**	*e*S	**Sn**	**20 37 34.3**	**-0.1**
POLO				A	A	20 37 36.0	
	1.7nm,0.5s						
MVO	**Moncorvo**	**12.33**	**67**	*e*S	**Sn**	**20 37 44.7**	**-2.1**
MVO				A	A	20 37 53.1	
	6.1nm,0.6s						
PBRG	**Braganca**	**12.70**	**65**	S	**Sn**	**20 37 56.3**	**+0.5**

*IDC **30** 20:32:58.5±0.6, 2°.91N×126°.79E, h0km, mb4.1/17, mb1 4.1/18, mb1mx3.9/51, mbtmp4.1/18, ML3.7/1, MS4.0/16, Ms1 4.0/16, ms1mx3.6/75, Error ellipse: s-maj=32.2km s-min=12.8km az=71.0*
*DJA **30** 20:32:59.3±0.4, 3°.N±3°.×12°.8E±°., h10km, M4.3/10, mb4.4/10, mB5.1/3, MLv4.2/10, Mw(mB)4.5/3*
*NEIC **30** 20:33:00.6±1.9, 2°.99N±0°.08×127°.01E±0°.09, h10km±1km, mb4.5/28, Error ellipse: s-maj=17.1km s-min=11.0km az=51.0*

ISC 30 20:33:00.6±0.4, **2°.97N**±0°.05×**127°.06E**±0°.06, **h10km, n87,** σ1§**54/72, mb4.3/32, MS4.1/16, 1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.69**	**295**	P	**Pg**	**20 33 36.3**	**+3.3**
SGSI				S	Sg	20 34 03.8	+8.9
TNTI	**Ternate**	**2.21**	**172**	P	**Pb**	**20 33 40.2**	**-0.4**
TNTI				S	**Sg**	**20 34 12.0**	**+0.5**
TNTI	**Ternate**	**2.21**	**172**		**Pn**	**20 33 37.8**	**+0.5**
LBMI	**Labuha**	**3.61**	**173**	P	**Pn**	**20 33 59.5**	**+2.9**
KMSI	**Cibinong**	**3.89**	**232**	P	**Pb**	**20 34 07.9**	**-1.5**
KCP	**Kidapawan**	**4.47**	**334**	*e*P	**Pn**	**20 34 10.2**	**+1.7**
GTOI	**Gorontalo**	**4.67**	**240**	P	Pb	20 34 16.7	-5.9
	0.1nm16nm,1.2s						
SANI	**Sanana**	**5.10**	**192**	P	**Pn**	**20 34 16.3**	**-0.8**
SIJI	**Sorong**	**5.67**	**132**	Pn	**Pn**	**20 34 28.0**	**+2.9**
	2.0nm,0.3s,baz=343,slow=12,SNR=7.9						
SIJI				Sn	**Sn**	**20 35 31.9**	**+1.6**
	0.2nm,0.3s,baz=92,slow=23,SNR=1.8						
MRSI	**Marisa**	**5.69**	**244**	P	Pn	20 34 30.0	+4.8
	0.2nm616nm54nm,1.4s						
TOLI2	**Tolitoli**	**6.54**	**254**		**Pn**	**20 34 35.9**	**-1.1**
APSI	**Ampana**	**6.65**	**235**	P	Pn	20 34 45.3	+6.9
	0.2nm805nm74nm,1.2s						
FAKI	**Fak Fak**	**7.82**	**138**	Pn	**Pn**	**20 34 55.7**	**+1.2**
MYLDM	**Lahad Datu**	**8.82**	**285**	Pn	**Pn**	**20 35 08.8**	**+0.6**
JAY	**Jayapura**	**14.69**	**112**	LR	LR	20 41 23.4	
	comp=Z,411nm,18.8s,baz=286,slow=34						
SBUM	**Sibu**	**14.84**	**268**		**Pn**	**20 36 32.1**	**+1.5**
STKI	**Sintang**	**15.84**	**260**	P	**P**	**20 36 53.2**	**+5.5**
	3µm18nm,1.7s						
MTN	**Manton Dam**	**16.22**	**166**		**P**	**20 36 50.9**	**-1.0**
MTN				IAmb	IAmb	20 37 02.1	
	comp=Z,37nm,1.5s						
KSM	**Kuching**	**16.81**	**265**		**P**	**20 36 56.9**	**-1.6**
KNRA	**Kununurra**	**18.61**	**175**	P	**P**	**20 37 17.7**	**-0.5**
KNRA				IAmb	IAmb	20 37 27.0	
	comp=Z,46nm,1.2s						
TPUB	**Ta-pu**	**21.15**	**343**	P	**P**	**20 37 46.5**	**+0.5**
QIZ	**Qiongzhong**	**23.20**	**315**	P	**P**	**20 38 06.5**	**-1.4**
QIZ				S	**S**	**20 42 24.0**	**+4.0**
QIZ				LR	LR		
	comp=N,430nm,19.1s						
QIZ				LR	LR		
	comp=E,310nm,19.9s						
QIZ				LR	LR		
	comp=Z,310nm,22.3s						
PMG	**Port Moresby**	**23.50**	**122**	LR	LR	20 48 56.2	
	comp=Z,281nm,18.2s,baz=301,slow=40						
KLSI		**23.58**	**251**	P	P	20 38 21.3	+10
WB0	**Warramunga Arr**	**23.72**	**163**	P	**P**	**20 38 11.0**	**-2.0**
WB0				IAmb	IAmb	20 38 16.2	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**23.87**	**163**	P	**P**	**20 38 12.8**	**-1.6**
	comp=Z,3.0nm,0.4s,baz=342,slow=10,SNR=25						
WRA	**Warramunga Arr**	**23.87**	**163**	P	**P**	**20 38 12.3**	**-2.1**
UBPT	**Khong Chiam**	**24.54**	**301**		**P**	**20 38 20.9**	**+0.2**
MBWA	**Marble Bar**	**25.03**	**196**	P	**P**	**20 38 24.9**	**-0.2**
MBWA				IAmb	IAmb	20 38 27.2	
	comp=Z,13nm,1.5s						
PSA00	**Pilbara Seismi**	**25.39**	**196**	P	**P**	**20 38 27.8**	**-0.5**
AS31	**Alice Springs**	**27.30**	**166**	P	**P**	**20 38 45.2**	**-0.5**
ASAR	**Alice Springs**	**27.30**	**166**	P	**P**	**20 38 44.7**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=351,slow=7.1,SNR=16						
ASAR				PcP	**PcP**	**20 42 06.2**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=3.8,slow=2.0,SNR=5.7						
ASAR	**Alice Springs**	**27.30**	**166**	P	**P**	**20 38 45.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.54**	**301**	P	**P**	**20 39 22.4**	**-0.9**
	comp=Z,0.4nm,0.2s,baz=130,slow=8.2,SNR=4.5						
FORT	**Forrest**	**33.58**	**178**	P	**P**	**20 39 41.5**	**+0.6**
PZH	**PanZhiHua**	**33.72**	**316**	P	**P**	**20 39 43.5**	**+1.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
KSRS	**Korea Array**	**34.33**	**1**	P	**P**	**20 39 47.4**	**0.0**
	comp=Z,2.1nm,0.9s,baz=178,slow=12,SNR=5.0						
MJAR	**Matsushiro Arr**	**34.95**	**16**	P	**P**	**20 39 53.9**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=181,slow=11,SNR=4.4						
MJAR				LR	LR	20 53 37.3	
	comp=Z,334nm,21.8s,baz=200,slow=35						
XAN	**Xi'an**	**35.24**	**333**	P	P	20 40 01.3	+5.9
XAN				pP	pwP	20 40 08.3	+7.6
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
EIDS	**Eidsvold**	**36.55**	**142**	P	**P**	**20 40 06.7**	**-0.1**
EIDS				IAmb	IAmb	20 40 13.9	
	comp=Z,18nm,1.4s						
BBOO	**Buckleboo**	**36.59**	**167**	P	**P**	**20 40 07.0**	**+0.1**
BBOO				IAmb	IAmb	20 40 26.4	
	comp=Z,19nm,1.4s						
NWAO	**Narrogin (SRO)**	**36.90**	**194**	P	**P**	**20 40 09.1**	**-0.4**
NWAO				IAmb	IAmb	20 40 13.8	
	comp=Z,19nm,1.3s						
JMM	**Marumori**	**36.94**	**18**	P	**P**	**20 40 09.5**	**-0.4**
STKA	**Stephens Creek**	**37.31**	**159**	P	**P**	**20 40 12.9**	**-0.1**
	comp=Z,7.2nm,0.9s,baz=327,slow=11,SNR=10.0						
STKA				LR	LR	20 58 43.0	
	comp=Z,159nm,18.2s,baz=348,slow=41						
STKA	**Stephens Creek**	**37.31**	**159**	P	**P**	**20 40 12.4**	**-0.7**
BJT	**Baijiatuau**	**38.18**	**346**	P	**P**	**20 40 18.7**	**-1.6**
BJT				IAmb	IAmb	20 40 24.2	
	comp=Z,5.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**40.22**	**342**	*e*P	**P**	**20 40 38.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.6s						
SHL	**Shillong**	**40.59**	**307**	P	**P**	**20 40 39.5**	**-1.5**
SHL				IAmb	IAmb	20 40 44.0	
	comp=Z,4.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**41.29**	**5**	P	**P**	**20 40 46.4**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=178,slow=5.5,SNR=4.5						
USRK	**Ussuriysk Ar.**	**41.29**	**5**	P	**P**	**20 40 45.1**	**-1.1**
MDJ	**Mudanjiang**	**41.53**	**3**	P	**P**	**20 40 46.7**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**41.74**	**65**	T	T	21 25 29.6	
	baz=253,slow=74,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**41.75**	**65**	T	T	21 25 21.4	
	baz=253,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**41.75**	**65**	T	T	21 25 22.3	
	baz=253,slow=74,SNR=5.0						
KLR	**Kul'dur**	**46.26**	**4**	P	**P**	**20 41 25.3**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=190,slow=3.0,SNR=6.8						
ULN	**Ulaanbaatar**	**47.94**	**342**	P	**P**	**20 41 38.4**	**-1.1**
ULN				IAmb	IAmb	20 41 48.4	
	comp=Z,5.4nm,1.3s						
SONM	**Songino Array**	**48.12**	**341**	P	**P**	**20 41 40.3**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=156,slow=8.7,SNR=6.0						
SONM				LR	LR	21 04 12.6	
	comp=Z,208nm,18.9s,baz=140,slow=39					

s-maj=104.3km s-min=22.1km az=6.0

ISC 30 20:41:17.9±1.0, 54°.0N±0°.2×158°.6E±0°.2, h167km, n6, σ0.42/7, mb3.2/5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.07**	**212**	P	**Pn**	**20 41 44.4**	**-0.4**
	2.4nm,0.3s,baz=71,slow=14,SNR=119						
PETK				S	**Sn**	**20 42 06.0**	**+0.5**
	0.9nm,0.3s,baz=112,slow=43,SNR=2.7						
KURBB	**Kurchatov Arra**	**46.61**	**300**	P	**P**	**20 49 28.9**	**+0.1**
	0.3nm,0.4s,baz=58,slow=7.5,SNR=5.1						
MKAR	**Makanchi Array**	**46.98**	**294**	P	**P**	**20 49 31.7**	**-0.1**
	0.3nm,0.5s,baz=57,slow=8.0,SNR=7.1						
PDAR	**Pinedale Array**	**57.82**	**60**	P	**P**	**20 50 51.5**	**-0.3**
	0.3nm,0.7s,baz=328,slow=3.2,SNR=4.4						
FINES	**FINESS Array B**	**58.92**	**336**	P	**P**	**20 50 58.8**	**0.0**
	3.2nm,0.9s,baz=223,slow=4.7,SNR=2.1						
TXAR	**Lajitas Array**	**71.06**	**66**	P	**P**	**20 52 18.1**	**+0.4**
	0.1nm,0.4s,baz=285,slow=4.4,SNR=4.4						

WEL 30 20:47:03.5±1.2, 34°.S±25°.×18°.0E±3°.4, h291km±35km, M3.9/4, mB4.4/1, ML4.1/9, MLv3.9/4, Mw(mB)3.6/1, Error ellipse: s-maj=0.1km s-min=0.0km az=123.6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.42**	**194**	P	Pn	20 48 12.5	-1.4
WMGZ				S	S	20 49 11.2	+1.0
HAZ	**Te Kaha**	**4.51**	**200**	P	Pn	20 48 13.8	-1.1
HAZ				S	S	20 49 14.4	+2.2
PUZ	**Puketiti**	**4.69**	**195**	P	Pn	20 48 17.3	+0.3
PUZ				S	S	20 49 15.6	-0.5
RUGZ	**Raukumara Rang**	**4.74**	**200**	P	Pn	20 48 17.9	+0.2
RUGZ				S	S	20 49 15.2	-2.0
TWGZ	**Tauwhareparae**	**4.86**	**197**	P	Pn	20 48 20.6	+1.6
TWGZ				S	S	20 49 20.8	+1.3
CNGZ	**Carnagh Statio**	**5.10**	**194**	P	Pn	20 48 23.2	+1.4
RIGZ	**Rimuhau**	**5.41**	**197**	P	Pn	20 48 25.5	0.0
RIGZ				S	S	20 49 30.8	-0.6
MUGZ	**Murupara**	**5.50**	**205**	P	Pn	20 48 26.0	-0.5
RTZ	**Ruatahuna**	**5.55**	**203**	P	Pn	20 48 25.8	-1.4
RTZ				S	S	20 49 34.9	+0.4
MTHZ	**Maungataniwha**	**5.81**	**203**	P	Pn	20 48 31.1	+0.8
MTHZ				S	S	20 49 40.8	+0.7
NMHZ	**Naumai**	**6.04**	**202**	P	Pn	20 48 32.6	-0.5
NTVZ	**North Tongarir**	**6.46**	**210**	P	Pn	20 48 39.1	+0.9
KWHZ	**Kaweka Forest**	**6.47**	**204**	P	Pn	20 48 37.3	-0.9
KWHZ				S	S	20 49 54.9	+0.4

*KRNET **30** 20:53:53.2±0.1, 42°.09N×78°.75E, h14km, mb2.9*
*SOME **30** 20:53:54.4, 42°.13N×78°.70E, h10km*
*NNC **30** 20:53:56.1±1.4, 42°.22N×78°.76E, h0km, mb3.3, mpv3.3, Error ellipse: s-maj=9.3km s-min=5.0km az=156.0*

ISC 30 20:53:53.4±1.5, 42°.08N±0°.04×78°.71E±0°.04, h7km±10km, n48, σ1.9/22/82, 16C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.46**	**330**	⇑*i*P	**Pg**	**20 54 02.7**	**+0.3**
	baz=28						
PRZ				⇑*i*S	**Sg**	**20 54 09.7**	**+1.2**
	baz=28						
TARG	**Taragay, Kyrgy**	**0.76**	**243**	⇑*i*P	**Pg**	**20 54 08.4**	**+0.4**
	baz=44						
TARG				⇑*i*S	**Sg**	**20 54 19.2**	**+1.3**
	baz=44						
SATY	**Saty**	**1.00**	**347**	*e*P	**Pg**	**20 54 12.8**	**+0.1**
	8.1nm,0.1s						
SATY				*e*S	**Sb**	**20 54 25.7**	**-1.0**
	25nm,0.1s						
SATY	**Saty**	**1.00**	**347**	P	**Pg**	**20 54 12.8**	**+0.1**
	8.1nm,0.1s						
SATY				S	**Sb**	**20 54 25.7**	**-1.0**
	25nm,0.1s						
ANVS	**Anan'yevo**	**1.04**	**313**	⇑*i*P	**Pb**	**20 54 13.3**	**-0.6**
	baz=12						
ANVS				⇑*i*S	**Sn**	**20 54 28.1**	**-1.5**
	baz=12						
UZB	**Uzynbulak**	**1.09**	**12**	*e*P	**Pb**	**20 54 13.7**	**-1.0**
	8.3nm,0.2s						
UZB				*e*S	**Sb**	**20 54 27.5**	**-1.7**
	12nm,0.1s						
UZB	**Uzynbulak**	**1.09**	**12**	P	**Pb**	**20 54 13.7**	**-1.0**
	8.3nm,0.2s						
UZB				S	**Sb**	**20 54 27.5**	**-1.7**
	12nm,0.1s						
ZHN	**Zhinishke**	**1.11**	**350**	*e*P	**Pg**	**20 54 14.7**	**+0.1**
	16nm,0.1s						
ZHN				*e*S	**Sb**	**20 54 28.8**	**-0.8**
	55nm,0.2s						
ZHN	**Zhinishke**	**1.11**	**350**	P	**Pg**	**20 54 14.7**	**+0.1**
	16nm,0.1s						
ZHN				S	**Sb**	**20 54 28.8**	**-0.8**
	55nm,0.2s						
KDJ	**Kajisay**	**1.14**	**273**	⇑*i*P	**Pg**	**20 54 15.7**	**+0.5**
	baz=73						
KDJ				⇑*i*S	**Sn**	**20 54 31.4**	**-0.5**
	baz=73						
PDGK	**Podgornoye**	**1.38**	**25**	⇓P	**Pb**	**20 54 18.5**	**-1.0**
	1.2nm,0.3s						
PDGK				⇑S	**Sb**	**20 54 36.0**	**-1.4**
	8.9nm,0.3s						
TNSS	**Tian-Shan**	**1.61**	**307**	*e*P	**Pg**	**20 54 24.6**	**+0.2**
	3.3nm,0.1s						
TNSS				*e*S	**Sg**	**20 54 45.6**	**+0.3**
	15nm,0.1s						
TNSS	**Tian-Shan**	**1.61**	**307**	P	**Pg**	**20 54 24.6**	**+0.2**
	3.3nm,0.1s						
TNSS				S	**Sg**	**20 54 45.6**	**+0.3**
	15nm,0.1s						
MDOK	**Medeo**	**1.64**	**312**	*e*P	**Pg**	**20 54 24.8**	**+0.1**
	6.1nm,0.1s						
MDOK				*e*S	**Sg**	**20 54 46.2**	**+0.3**
	46nm,0.3s						
MDOK	**Medeo**	**1.64**	**312**	P	**Pg**	**20 54 25.3**	**+0.6**
	1.1nm,0.2s						
MDOK				S	**Sg**	**20 54 46.1**	**+0.2**
	7.2nm,0.3s						
MDOK	**Medeo**	**1.64**	**312**	Pg	**Pg**	**20 54 24.8**	**+0.1**
	6.1nm,0.1s						
MDOK				Lg	Lg	20 54 46.2	
	46nm,0.3s						
KOTS	**Kotyrbulak**	**1.65**	**315**	*e*P	**Pg**	**20 54 25.0**	**0.0**
	9.8nm,0.1s						
KOTS				*e*S	**Sg**	**20 54 46.9**	**+0.6**
	45nm,0.1s						
KOTS	**Kotyrbulak**	**1.65**	**315**	P	**Pg**	**20 54 25.0**	**0.0**
	9.8nm,0.1s						
KOTS				S	**Sg**	**20 54 46.9**	**+0.6**
	45nm,0.1s						
KNDC	**Almaty**	**1.72**	**312**	⇓P	Pg	20 54 32.7	+6.4
	2.9nm,0.3s						
KNDC				⇑S	**Sg**	**20 54 49.6**	**+1.1**
	19nm,0.3s						
AAA	**Alma-Ata**	**1.74**	**311**	*e*P	**Pg**	**20 54 27.3**	**+0.6**
	8.6nm,0.1s						
AAA				*e*S	**Sg**	**20 54 50.4**	**+1.2**
	50nm,0.2s						
AAA	**Alma-Ata**	**1.74**	**311**	P	**Pg**	**20 54 27.3**	**+0.6**
	8.6nm,0.1s						
AAA				S	**Sg**	**20 54 50.4**	**+1.2**
	50nm,0.2s						
ULHL	**Ulahol**	**1.84**	**276**	⇓*i*P	**Pb**	**20 54 27.9**	**+0.4**
	baz=76						
ULHL				⇓*i*S	**Sg**	**20 54 53.1**	**+0.6**
	baz=76						
MTBS	**Maitube**	**1.98**	**303**	*e*P	**Pg**	**20 54 30.9**	**-0.5**
	5.3nm,0.2s						
MTBS				*e*S	**Sg**	**20 54 57.1**	**0.0**
	48nm,0.2s						
MTBS	**Maitube**	**1.98**	**303**	Pg	**Pg**	**20 54 30.9**	**-0.5**
	5.3nm,0.2s						
MTBS				Lg	Lg	20 54 57.1	
	48nm,0.2s						
BLB	**Baldybastay**	**2.02**	**355**	*e*P	**Pg**	**20 54 31.1**	**-1.0**
	84nm,0.1s						
BLB				*e*S	**Sg**	**20 54 57.1**	**-1.2**
	32nm,0.2s						
BLB	**Baldybastay**	**2.02**	**355**	Pg	**Pg**	**20 54 31.1**	**-1.0**
	84nm,0.1s						
BLB				Lg	Lg	20 54 57.1	
	32nm,0.2s						
BOOM	**Boomskoye usch**	**2.10**	**282**	⇓*i*P	**Pb**	**20 54 31.8**	**0.0**
	baz=82						
BOOM				⇓*i*S	**Sg**	**20 54 59.9**	**-0.8**
	baz=82						
KTBS	**Karatobe**	**2.21**	**318**	*e*P	**Pg**	**20 54 35.6**	**0.0**
	9.0nm,0.2s						
KTBS				*e*S	**Sg**	**20 55 05.0**	**+0.7**
	117nm,0.5s						
KTBS	**Karatobe**	**2.21**	**318**	Pg	**Pg**	**20 54 35.6**	**0.0**
	9.0nm,0.2s						
KTBS				Lg	Lg	20 55 05.0	
	117nm,0.5s						
ARXS	**Arharly**	**2.23**	**343**	*e*P	**Pg**	**20 54 35.2**	**-0.8**
	24nm,0.3s						
ARXS				*e*S	**Sg**	**20 55 04.2**	**-0.8**
	27nm,0.3s						
ARXS	**Arharly**	**2.23**	**343**	Pg	**Pg**	**20 54 35.2**	**-0.8**
	24nm,0.3s						
ARXS				Lg	Lg	20 55 04.1	
	27nm,0.3s						
KST	**Kastek**	**2.25**	**296**	*e*P	**Pg**	**20 54 36.2**	**-0.1**
	11nm,0.2s						
KST				*e*S	**Sg**	**20 55 05.7**	**+0.2**
	65nm,0.4s						
KST	**Kastek**	**2.25**	**296**	Pg	**Pg**	**20 54 36.2**	**-0.1**
	11nm,0.2s						
KST				Lg	Lg	20 55 05.7	
	65nm,0.4s						
DJR	**Jarkent**	**2.39**	**19**	*e*P	**Pg**	**20 54 37.4**	**-1.6**
	5.6nm,0.1s						
DJR				*e*S	**Sg**	**20 55 08.0**	**-2.0**
	87nm,0.3s						
DJR	**Jarkent**	**2.39**	**19**	Pg	**Pg**	**20 54 37.4**	**-1.6**
	5.6nm,0.1s						
DJR				Lg	Lg	20 55 08.0	
	87nm,0.3s						
DGS	**Degeres**	**2.46**	**299**	*e*P	**Pg**	**20 54 39.7**	**-0.7**
	6.4nm,0.3s						
DGS				*e*S	**Sg**	**20 55 11.9**	**-0.4**
	49nm,0.5s						
DGS	**Degeres**	**2.46**	**299**	Pg	**Pg**	**20 54 39.7**	**-0.7**
	6.4nm,0.3s						
DGS				Lg	Lg	20 55 11.9	
	49nm,0.5s						
KUU	**Kurty**	**2.51**	**317**	*e*P	**Pb**	**20 54 40.0**	**+1.1**
	2.3nm,0.2s						
KUU				*e*S	**Sg**	**20 55 12.5**	**-1.5**
	24nm,0.4s						
KUU	**Kurty**	**2.51**	**317**	Pg	**Pb**	**20 54 39.9**	**+1.1**
	2.3nm,0.2s						
KUU				Lg	Lg	20 55 12.5	
	24nm,0.4s						
KRBS	**Karabastau**	**2.75**	**307**	*e*P	**Pb**	**20 54 44.0**	**+1.0**
	6.6nm,0.2s						
KRBS				*e*S	**Sg**	**20 55 19.9**	**-1.9**
	50nm,0.5s						
KRBS	**Karabastau**	**2.75**	**307**	Pg	**Pb**	**20 54 44.0**	**+1.0**
	6.6nm,0.2s						
KRBS				Lg	Lg	20 55 19.8	
	50nm,0.5s						
KBK	**Karagaybulak**	**2.85**	**283**	⇓*e*P	**Pb**	**20 54 42.1**	**-2.5**
	baz=83						
KBK				⇓*i*S	**Sb**	**20 55 18.0**	**-1.7**
	baz=83						
AAK	**Ala-Archa**	**3.17**	**282**	⇑Pg	**Pb**	**20 54 50.4**	**+0.2**
	1.5nm,0.5s						
AAK				⇓Lg	Lg	20 55 32.1	
	6.5nm,0.4s						
AAK	**Ala-Archa**	**3.17**	**282**	⇑*i*P	**Pb**	**20 54 46.7**	**-3.5**
	baz=81						
AAK				⇑*i*S	**Sb**	**20 55 26.0**	**-3.1**
	baz=81						
KAPS	**Kapalarasan**	**3.24**	**8**	*e*P	**Pb**	**20 54 51.7**	**+0.4**
	4.1nm,0.3s						
KAPS				*e*S	**Sb**	**20 55 33.2**	**+2.3**
	11nm,0.3s						
KAPS	**Kapalarasan**	**3.24**	**8**	Pg	**Pb**	**20 54 51.7**	**+0.4**
	4.1nm,0.3s						
KAPS				Lg	Lg	20 55 33.2	
	11nm,0.3s						
MK31	**Makanchi Array**	**5.37**	**27**	⇑Pn	**Pn**	**20 55 17.3**	**+3.5**
	0.1nm,0.2s,baz=206,slow=13,SNR=17						
MK31				⇓Sn	**Sn**	**20 56 18.0**	**+2.0**
	0.2nm,0.3s,baz=210,slow=26,SNR=5.0						
MK31				⇑Lg	Lg	20 56 37.7	
	0.3nm,0.3s,baz=204,slow=27,SNR=4.6						
KK08	**Karatay Array**	**6.15**	**282**	⇓Pg	**Pg**	**20 55 48.6**	**-2.6**
	0.2nm,0.3s						
KK08				⇑Lg	Lg	20 57 05.3	
	0.9nm,0.6s						

*THE **30** 21:16:47.2, 38°.57N×20°.50E, h8km±2km, ML2.5/11, Error ellipse: s-maj=3.0km s-min=0.5km az=18.0*
*ATH **30** 21:16:47.6, 38°.56N×20°.58E, h10km±2km, ML2.3/4, Error ellipse: s-maj=2.2km s-min=0.8km az=292.0*

ISC 30 21:16:45.8±0.8, 38°.58N±0°.02×20°.48E±0°.03, h16km±5km, n34, σ1.9/17/61, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.13**	**35**	P	**Pb**	**21 16 50.0**	**0.0**
DRAG				S	**Sg**	**21 16 52.1**	**-0.1**
	9μm,0.4s						
DRAG	**Dragano-Lefkad**	**0.13**	**35**	P	**Pb**	**21 16 50.0**	**0.0**
DRAG				S	**Sg**	**21 16 52.3**	**+0.1**
FSK	**Fiskardo**	**0.14**	**151**	P	**Pb**	**21 16 50.0**	**0.0**
FSK				S	**Sg**	**21 16 51.9**	**-0.3**
	7μm,0.3s						
FSK	**Fiskardo**	**0.14**	**151**	P	**Pb**	**21 16 50.0**	**0.0**
FSK				S	**Sg**	**21 16 51.9**	**-0.3**
FSK				AML	AML	21 16 52.4	
	comp=N,15443μm,0.3s						
FSK				AML	AML	21 16 52.5	
	comp=E,11865μm,0.3s						
EVGI	**Lefkada island**	**0.14**	**73**	P	**Pg**	**21 16 49.8**	**-0.1**
EVGI				S	**Sg**	**21 16 51.8**	**-0.7**
	comp=E,10μm,0.2s						
EVGI	**Lefkada island**	**0.14**	**73**	P	**Pg**	**21 16 49.7**	**-0.1**
EVGI				S	**Sg**	**21 16 52.1**	**-0.4**
NYDR	**Nydri-Lefkada**	**0.22**	**52**	P	**Pb**	**21 16 51.1**	**-0.3**
NYDR				S	**Sg**	**21 16 54.3**	**0.0**
NYDR	**Nydri-Lefkada**	**0.22**	**52**	P	**Pb**	**21 16 51.2**	**-0.2**
NYDR				S	**Sg**	**21 16 54.4**	**+0.1**
LKD2	**Lefkada island**	**0.25**	**34**	P	**Pb**	**21 16 52.1**	**+0.1**
LKD2				S	**Sg**	**21 16 56.4**	**+1.1**
	comp=E,782nm,0.4s						
LKD2	**Lefkada island**	**0.25**	**34**	P	**Pb**	**21 16 52.2**	**+0.2**
LKD2				S	**Sg**	**21 16 56.6**	**+1.2**
LKD2				AML	AML	21 16 57.0	
	comp=E,1427μm,0.4s						
LKD2				AML	AML	21 16 58.4	
	comp=N,1643μm,0.3s						
TSLK	**Tsoukalades, L**	**0.28**	**29**	P	**Pb**	**21 16 53.0**	**+0.5**
TSLK				S	**Sb**	**21 16 57.5**	**+0.5**
	comp=N,798nm,0.4s						
TSLK	**Tsoukalades, L**	**0.28**	**29**	P	**Pb**	**21 16 53.0**	**+0.5**
TSLK				S	**Sb**	**21 16 57.9**	**+0.8**
TSLK				AML	AML	21 17 00.3	
	comp=E,1441μm,0.3s						
TSLK				AML	AML	21 17 03.0	
	comp=N,1920μm,0.5s						
DMLN	**Damoulianata-K**	**0.35**	**194**	P	**Pb**	**21 16 54.0**	**+0.4**
DMLN				S	**Sb**	**21 17 00.1**	**+1.2**
	comp=N,1μm,0.5s						
DMLN	**Damoulianata-K**	**0.35**	**194**	P	**Pb**	**21 16 54.0**	**+0.4**
LXRA	**Lixouri, Kepha**	**0.38**	**185**	P	**Pb**	**21 16 54.4**	**+0.3**
LXRA				S	**Sb**	**21 17 01.0**	**+1.2**
KEF3	**Kipouria, Keph**	**0.39**	**195**	P	**Pb**	**21 16 54.2**	**-0.1**
KEF3				S	**Sb**	**21 17 00.4**	**+0.4**
	comp=N,1μm,0.3s						
KEF3	**Kipouria, Keph**	**0.39**	**195**	P	**Pb**	**21 16 54.1**	**-0.1**
KEF3				S	**Sb**	**21 17 00.6**	**+0.6**
VLS	**Valsamata**	**0.41**	**168**	P	**Pb**	**21 16 54.4**	**-0.3**
VLS				S	**Sb**	**21 17 00.9**	**+0.2**
	comp=N,758nm,0.3s						
VLS	**Valsamata**	**0.41**	**168**	P	**Pb**	**21 16 54.5**	**-0.3**
VLS				S	**Sb**	**21 17 01.1**	**+0.4**
VLS				AML	AML	21 17 01.3	
	comp=E,1202μm,0.4s						
VLS				AML	AML	21 17 01.5	
	comp=N,1818μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.47**	**170**	P	**Pb**	**21 16 55.6**	**-0.1**
PSDA				S	**Sb**	**21 17 02.9**	**+0.5**
	comp=N,95nm,0.3s						
PSDA	**Pessada-Kefalo**	**0.47**	**170**	P	**Pb**	**21 16 55.6**	**-0.1**
PSDA				S	**Sb**	**21 17 03.0**	**+0.6**
LTHK	**Lithakia**	**0.91**	**162**	P	**Pb**	**21 17 03.0**	**-0.2**
RLS	**Riolos of Patr**	**0.94**	**123**	P	**Pn**	**21 17 03.8**	**-0.5**
RLS				S	**Sn**	**21 17 18.1**	**+0.8**
	comp=N,125nm,0.4s						
RLS	**Riolos of Patr**	**0.94**	**123**	P	**Pn**	**21 17 03.8**	**-0.5**
ANX	**Ano Chora**	**1.13**	**89**	P	**Pn**	**21 17 07.5**	**+0.4**
DRO	**Drossia**	**1.15**	**122**	P	**Pn**	**21 17 07.6**	**+0.3**
DRO				S	**Sn**	**21 17 26.1**	**+3.4**
	comp=N,368nm,0.4s						
DRO	**Drossia**	**1.15**	**122**	P	**Pn**	**21 17 07.7**	**+0.4**
KEK	**Kerkira**	**1.25**	**335**	P	**Pg**	**21 17 12.3**	**+2.3**
KLV	**Kalavryta, Ach**	**1.42**	**112**	P	**Pg**	**21 17 11.7**	**-1.5**
STON	**Ston**	**4.78**	**335**	*e*Pn	**Pn**	**21 17 56.8**	**-0.3**
STON				Sn	**Sn**	**21 18 48.3**	**-3.8**
LSTV	**Lastovo**	**5.00**	**328**	*e*Pn	**Pn**	**21 18 01.1**	**+1.0**
LSTV				Sn	**Sn**	**21 18 55.1**	**-2.3**
MAKA	**Makarska**	**5.38**	**332**	*e*Pn	**Pn**	**21 18 05.2**	**-0.2**
MAKA				Sn	**Sn**	**21 19 03.7**	**-3.3**
HVAR	**Hvar**	**5.52**	**328**	*e*Pn	**Pn**	**21 18 08.7**	**+1.4**
HVAR				Sn	**Sn**	**21 19 08.5**	**-1.8**
RICI	**Ricice**	**5.52**	**334**	*e*Pn	**Pn**	**21 18 08.0**	**+0.6**
RICI				Sn	**Sn**	**21 19 07.3**	**-3.3**

*NEIC **30** 21:22:14.9±2.0, 24°.4S±0°.1×179°.9W±0°.2, h499km±8km, mb4.5/30, Error ellipse: s-maj=22.2km s-min=16.0km az=62.0*
*IDC **30** 21:22:15.0±1.0, 24°.34S×179°.97E, h496km±10km, mb3.4/8, mb1 3.6/11, mb1mx3.5/25, mbtmp4.3/11, Error ellipse: s-maj=17.0km s-min=12.6km az=84.0*

ISC 30 21:22:15.4±0.5, 24°.36S±0°.06×179°.93W±0°.08, h505km, n102, σ1.9/29/107, mb4.4/25, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.20**	**160**	P	**P**	**21 23 44.7**	**+0.4**
	104nm,0.3s,baz=18,slow=20,SNR=3.3						
RAO				S	**S**	**21 24 56.6**	**-0.4**
	51nm,0.3s,baz=102,slow=20,SNR=1.7						
RAO	**Raoul Island**	**5.20**	**160**	P	**P**	**21 23 43.8**	**-0.5**
MSVF	**Nonsavu**	**6.85**	**344**	P	**P**	**21 24 00.1**	**-0.4**
	6.4nm,0.3s,baz=216,slow=5.8,SNR=32						
MSVF				S	**S**	**21 25 25.7**	**-0.7**
	baz=198,slow=20,SNR=3.8						
MSVF	**Nonsavu**	**6.85**	**344**		**P**	**21 24 00.5**	**0.0**
MARNC	**Mare, Loyalty**	**11.46**	**282**	P	**P**	**21 24 48.9**	**+0.6**
PINNC	**Pines Island,**	**11.71**	**276**	P	**P**	**21 24 52.4**	**+1.5**
OUENC	**Ouen Island, N**	**12.30**	**276**	P	**P**	**21 24 58.8**	**+1.7**
LIFNC	**LIFOU**	**12.38**	**284**	P	**P**	**21 24 57.9**	**-0.1**
ONTNC	**Ouen Toro**	**12.68**	**277**	P	**P**	**21 25 02.3**	**+1.2**
DZM	**Mont Dzumac**	**12.73**	**278**	P	**P**	**21 25 03.0**	**+1.1**
	1.1nm,0.3s,baz=87,slow=16,SNR=29						
DZM	**Mont Dzumac**	**12.73**	**278**	P	**P**	**21 25 03.7**	**+1.9**
AFI	**Afiamalu**	**12.93**	**38**	P	**P**	**21 25 03.1**	**-0.8**
	1.1nm,0.3s,baz=235,slow=16,SNR=1.6						
URZ	**Urewera**	**14.09**	**190**	P	**P**	**21 25 14.1**	**-1.6**
	3.5nm,0.3s,baz=5.1,slow=2.2,SNR=17						
URZ				S	**S**	**21 27 43.6**	**-0.9**
	1.7nm,0.3s,baz=63,slow=23,SNR=12						
URZ	**Urewera**	**14.09**	**190**	P	**P**	**21 25 14.0**	**-1.8**
TLZ	**Tolley Road**	**14.46**	**194**	P	**P**	**21 25 23.6**	**+4.0**
MTHZ	**Maungataniwha**	**14.71**	**190**	P	**P**	**21 25 22.5**	**+0.2**
HIZ	**Hauiti**	**14.79**	**196**	P	**P**	**21 25 28.5**	**+5.3**
NMHZ	**Naumai**	**14.96**	**190**	P	**P**	**21 25 25.8**	**+0.8**
SANVU	**Saraoutou**	**14.99**	**304**	P	**P**	**21 25 24.6**	**-0.9**
SANVU				IAmb	IAmb	21 25 31.6	
	comp=Z,22nm,1.1s						
BKZ	**Black Stump Fm**	**15.07**	**191**	P	**P**	**21 25 25.9**	**-0.2**
BKZ	**Black Stump Fm**	**15.07**	**191**	P	**P**	**21 25 24.1**	**-2.1**
TMVZ	**Te Maari**	**15.17**	**193**	P	**P**	**21 25 27.0**	**-0.2**
TWVZ	**Taurewa**	**15.19**	**194**	P	**P**	**21 25 28.6**	**+1.2**
ETVZ	**East Tongariro**	**15.19**	**193**	P	**P**	**21 25 26.7**	**-0.8**
WTVZ	**West Tongariro**	**15.20**	**193**	P	**P**	**21 25 27.1**	**-0.4**
NNVZ	**North Ngauruho**	**15.21**	**193**	P	**P**	**21 25 31.7**	**+4.0**
OTVZ	**Oturere**	**15.23**	**193**	P	**P**	**21 25 26.0**	**-1.8**
NGZ	**Ngauruhoe**	**15.25**	**193**	P	**P**	**21 25 29.2**	**+1.1**
SNVZ	**South Ngauruho**	**15.26**	**193**	P	**P**	**21 25 28.0**	**-0.1**
MCHZ	**McNeill Hill**	**15.31**	**190**	P	**P**	**21 25 27.9**	**-0.7**
TUVZ	**Tukino**	**15.33**	**193**	P	**P**	**21 25 29.2**	**+0.3**
KWHZ	**Kaweka Forest**	**15.34**	**191**	P	**P**	**21 25 27.8**	**-1.1**
WNVZ	**Wahianoa**	**15.40**	**193**	P	**P**	**21 25 28.8**	**-0.9**
MOVZ	**Moawhango**	**15.45**	**193**	P	**P**	**21 25 30.0**	**0.0**
BHHZ	**Black Hill Sta**	**15.46**	**192**	P	**P**	**21 25 28.4**	**-1.8**
KRHZ	**Kereru**	**15.56**	**191**	P	**P**	**21 25 29.5**	**-1.7**
KAHZ	**Kahuranaki**	**15.63**	**189**	P	**P**	**21 25 31.4**	**-0.5**
PKE	**Pukeiti**	**15.66**	**198**	P	**P**	**21 25 35.6**	**+3.3**
PNHZ	**Pukenui**	**15.85**	**191**	P	**P**	**21 25 32.9**	**-1.3**
PXZ	**Pawanui**	**15.86**	**189**	P	**P**	**21 25 33.2**	**-1.1**
TSZ	**Takapari Road**	**16.04**	**191**	P	**P**	**21 25 35.6**	**-0.5**
DVHZ	**Dannevirke**	**16.23**	**191**	P	**P**	**21 25 37.4**	**-0.8**
ANWZ	**Angora Road**	**16.34**	**190**	P	**P**	**21 25 38.5**	**-0.8**
BFZ	**Birch Farm**	**16.59**	**190**	P	**P**	**21 25 40.6**	**-1.2**
MRZ	**Mangatainoka R**	**16.69**	**192**	P	**P**	**21 25 40.8**	**-2.0**
OGWZ	**Otaki Gorge**	**16.92**	**193**	P	**P**	**21 25 43.0**	**-2.2**
HOWZ	**Holdsworth Sta**	**16.93**	**192**	P	**P**	**21 25 44.2**	**-1.1**
KIW	**Kapiti Island**	**17.02**	**193**	P	**P**	**21 25 44.4**	**-1.8**
TMWZ	**Te Maipa**	**17.07**	**191**	P	**P**	**21 25 44.7**	**-1.9**
CAW	**Cannon Point**	**17.22**	**193**	P	**P**	**21 25 46.7**	**-1.4**
SNZO	**South Karori**	**17.49**	**194**	P	**P**	**21 25 49.0**	**-1.6**
PLWZ	**Palliser**	**17.63**	**192**	P	**P**	**21 25 50.9**	**-1.0**
TUWZ	**Tuamarina**	**17.78**	**195**	P	**P**	**21 25 52.1**	**-1.1**
TUWZ	**Tuamarina**	**17.78**	**195**	P	**P**	**21 25 51.1**	**-2.2**
ARMA	**Armidale**	**25.93**	**250**	P	**P**	**21 27 07.4**	**+0.5**
EIDS	**Eidsvold**	**26.30**	**262**	P	**P**	**21 27 10.4**	**+0.2**
EIDS		

KKM IAmb IAmb 21 32 54.5
comp=Z,24nm,1.2s
KSM Kuching 72.25 280 P **P** **21 32 49.4 -0.1**
KSM IAmb IAmb 21 32 50.4
comp=Z,6.7nm,0.6s
MJAR Matsushiro Arr 72.31 326 P **P** **21 32 48.4 -0.9**
comp=Z,1.9nm,0.8s,baz=164,slow=6.7,SNR=5.7
SMAI San Martin Ant 75.66 159 P **P** **21 33 08.3 +0.4**
KSRS Korea Array 76.64 320 P **P** **21 33 24.9 +0.4**
comp=Z,1.2nm,0.7s,baz=131,slow=5.9,SNR=5.4
USRK Ussuriysk Ar. 81.18 327 P **P** **21 33 38.2 +0.5**
comp=Z,1.7nm,0.7s,baz=126,slow=3.2,SNR=2.4
SNAA Sanae 84.21 179 P **P** **21 33 52.0 -0.8**
SNAA Sanae 84.21 179 **21 33 52.1 -0.8**
SNAA IAmb IAmb 21 34 02.6
comp=Z,6.8nm,1.2s
VNA3 Neumayer Olymp 84.42 177 P **P** **21 33 53.2 -0.6**
VNA2 Neumayer--Watz 84.84 178 P **P** **21 33 55.2 -0.6**
baz=191,slow=3.6
L19K White Mountain 88.55 11 P **P** **21 34 13.8 +0.5**
L19K IAmb IAmb 21 34 25.9
comp=Z,11nm,1.5s
TXAR Lajitas Array 90.62 58 P **P** **21 34 24.6 +0.8**
comp=Z,1.0nm,0.8s,baz=214,slow=6.5,SNR=15
HHC Hu-ho-hao-te 90.78 315 *e*P **P** **21 34 26.0 +1.6**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,150nm,6.9s
PZH PanZhiHua 90.95 299 P **P** **21 34 24.3 -1.2**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,5.0s
LZH Lanzhou 93.70 308 *e*P **P** **21 34 39.0 +1.0**
LZH pP pwP 21 36 35.8 +1.4
LZH pmax pmax
comp=Z,6.0nm,1.3s
FINES FINESS Array B 138.90 341 PKhKP PKPpre 21 40 33.2
comp=Z,6.3nm,1.1s,baz=15,slow=5.8,SNR=4.4
FINES SKP 21 43 30.8
comp=Z,2.0nm,0.5s,baz=45,slow=4.5,SNR=16
AKASG Malin Array Be 145.39 327 PKPbc **PKPdf** **21 40 55.4 +0.2**
comp=Z,0.8nm,0.4s,baz=47,slow=4.6,SNR=7.4
AKASG SKPbc **SKiKP** **21 43 47.3 -0.1**
comp=Z,0.9nm,0.5s,baz=39,slow=2.4,SNR=5.8
BRTR Keskin Array B 147.90 307 PKPbc **PKPbc** **21 41 03.5 -0.2**
comp=Z,1.1nm,0.6s,baz=102,slow=3.8,SNR=2.6
BRTR Keskin Array B 147.90 307 **PKPbc** **21 41 03.1 -0.6**
BRTR PKPab **PKPab** **21 41 08.4 +0.3**
CLL Collm 151.31 343 *e*PKPbc **PKiKP** **21 41 16.0 +4.4**
TORD Torodi Ar. Bea 168.75 188 PKPab **PKPab** **21 42 38.1 -0.3**
comp=Z,0.7nm,0.5s,baz=178,slow=3.4,SNR=5.8

*IDC **30** 21:40:27.3±1.3, 16°.60S×175°.61W, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.8/38, mbtmp3.8/6, ML3.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/52, Error ellipse: s-maj=73.7km s-min=23.5km az=157.0*
ISC 30 21:40:31.5±1.0, 16°.3S±0°.2×175°.4W±0°.1, h35km, n11, σ2°.39/8, mb3.6/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.26**	**56**	Pn	**Pn**	**21 41 35.8**	**+1.8**
	5.2nm,0.3s,baz=49,slow=15,SNR=7.0						
AFI				Sn	**Sn**	**21 42 19.1**	**-3.5**
	8.8nm,0.3s,baz=76,slow=22,SNR=6.7						
MSVF	**Nonsavu**	**6.39**	**256**	LR	LR	21 43 42.5	
	comp=Z,54nm,20.5s,baz=360,slow=32						
RAR	**Rarotonga**	**15.61**	**111**	Pn	**Pn**	**21 44 08.4**	**-0.4**
	1.6nm,0.3s,baz=112,slow=5.4,SNR=1.6						
DZM	**Mont Dzumac**	**18.04**	**249**	P	P	21 44 48.6	+8.7
	0.1nm,0.3s,baz=59,slow=22,SNR=5.6						
HNR	**Honiara**	**24.94**	**283**	LR	LR	21 53 37.0	
	comp=Z,86nm,18.3s,baz=67,slow=32						
WRA	**Warramunga Arr**	**47.73**	**258**	P	**P**	**21 49 03.5**	**-1.9**
	0.7nm,0.9s,baz=88,slow=6.3,SNR=2.3						
ASAR	**Alice Springs**	**47.97**	**253**	P	**P**	**21 49 07.0**	**-0.3**
	0.5nm,0.7s,baz=89,slow=8.0,SNR=6.0						
NVAR	**Mina Array Bea**	**76.32**	**43**	P	P	21 52 22.2	+4.9
	0.6nm,0.8s,baz=243,slow=7.9,SNR=4.2						
PDAR	**Pinedale Array**	**84.25**	**42**	P	**P**	**21 53 02.7**	**+2.8**
	0.4nm,0.8s,baz=241,slow=5.0,SNR=2.4						
BRTR	**Keskin Array B**	**145.59**	**318**	PKPbc	**PKPdf**	**22 00 05.3**	**-1.2**
	1.0nm,0.9s,baz=75,slow=1.4,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.58**	**307**	PKPbc	**PKPab**	**22 00 14.6**	**-0.3**
	0.8nm,0.6s,baz=69,slow=2.8,SNR=5.3						

IDC 30 21:46:34.7±1.3, 2°.81N×126°.68E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/46, mbtmp3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/74, Error ellipse: s-maj=142.3km s-min=18.6km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**23.74**	**121**	LR	LR	22 01 41.0	
	comp=Z,61nm,18.3s,baz=332,slow=38						
WRA	**Warramunga Arr**	**23.83**	**162**	P	P	21 51 49.4	-0.3
	3.5nm,0.9s,baz=343,slow=10.0,SNR=17						
ASAR	**Alice Springs**	**27.24**	**165**	P	P	21 52 20.2	-0.6
	0.5nm,0.7s,baz=341,slow=6.0,SNR=8.2						
STKA	**Stephens Creek**	**37.29**	**159**	P	P	21 53 48.7	0.0
	2.8nm,0.8s,baz=333,slow=7.1,SNR=5.6						
SONM	**Songino Array**	**48.15**	**342**	P	P	21 55 18.1	+1.3
	0.3nm,0.5s,baz=153,slow=9.1,SNR=2.5						
MKAR	**Makanchi Array**	**58.28**	**326**	P	P	21 56 31.0	-0.4
	0.3nm,0.5s,baz=127,slow=7.9,SNR=11						

*TIR **30** 21:47:52.3, 42°.72N×18°.22E, h11km±2km, Md4.0, Ml3.9*
*PDG **30** 21:47:54.7±0.3, 42°.52N×18°.44E, h4km, MD3.3/12, ML3.2/11, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*LDG **30** 21:47:55.0±0.1, 42°.53N×18°.41E, h2km, Ml3.5/9, Error ellipse: s-maj=3.5km s-min=2.5km az=24.0*
*RHSSO **30** 21:47:55.4±0.2, 42°.52N×18°.44E, h2km±1km, ML3.5/18*
*THE **30** 21:47:55.9, 42°.39N×18°.06E, h19km±24km, ML3.1/5, Error ellipse: s-maj=29.1km s-min=2.2km az=312.0*
*SKO **30** 21:47:56.2, 42°.52N×18°.46E, h0km*
*PRU **30** 21:47:57.6±0.0, 42°.57N×18°.50E, h0km*
*IDC **30** 21:48:00.7±1.5, 42°.53N×18°.28E, h62km±18km, mb3.4/5, mb1 3.5/15, mb1mx3.3/43, mbtmp3.6/15, Error ellipse: s-maj=14.0km s-min=11.7km az=105.0*
ISC 30 21:47:54.6±0.8, 42°.50N±0°.02×18°.39E±0°.02, h7km±6km, n179, σ1°.88/312, mb3.7/5, 48C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCY	**Herceg Novi**	**0.10**	**125**	*e*Pg	**Pg**	**21 47 56.8**	**-0.1**
HCY				*e*Sg	**Sg**	**21 47 58.4**	**+0.1**
HCY	**Herceg Novi**	**0.10**	**125**	*e*Pg	**Pg**	**21 47 56.7**	**-0.1**
HCY				*i* Sg	**Sg**	**21 47 57.9**	**-0.4**
TREB	**Trebinje**	**0.21**	**353**	*e*Pg	**Pg**	**21 47 59.0**	**+0.1**
TREB				*e*Sg	**Sg**	**21 48 02.6**	**+0.8**
CEME	**Cevo**	**0.40**	**84**	*e*Pg	**Pg**	**21 48 01.3**	**-1.0**
CEME				*i* Sg	**Sg**	**21 48 06.6**	**-0.9**
BRY	**Bratogost**	**0.41**	**16**	*e*Pg	**Pg**	**21 48 02.0**	**-0.7**
BRY				*e*Sg	**Sg**	**21 48 09.0**	**+0.8**
BRY	**Bratogost**	**0.41**	**16**	⇓*i*Pg	**Pg**	**21 48 02.1**	**-0.7**
BRY				*i* Sg	**Sg**	**21 48 08.0**	**-0.2**
BUM	**Brajici-Budva**	**0.43**	**118**	*e*Pg	**Pg**	**21 48 02.2**	**-0.7**
BUM				*i* Sg	**Sg**	**21 48 08.4**	**-0.1**
NKME	**Niksic**	**0.49**	**58**	⇑*i*Pg	**Pg**	**21 48 03.1**	**-1.1**
NKME				*i* Sg	**Sg**	**21 48 10.0**	**-0.6**
NKY	**Niksic**	**0.54**	**55**	⇑*i*Pg	**Pg**	**21 48 04.0**	**-1.1**
NKY				*i* Sg	**Sg**	**21 48 11.7**	**-0.6**
STON	**Ston**	**0.63**	**306**	⇑*i*Pg	**Pg**	**21 48 06.2**	**-0.5**
STON				*e*Sg	**Sg**	**21 48 16.2**	**+1.4**
STON	**Ston**	**0.63**	**306**	*e*Pg	**Pg**	**21 48 06.0**	**-0.6**
STON				Sg	**Sg**	**21 48 15.4**	**+0.5**
PDG	**Podgorica**	**0.65**	**96**	⇑P	**Pg**	**21 48 06.2**	**-0.8**
PDG				⇑S	**Sb**	**21 48 16.8**	**-0.7**
PDG	**Podgorica**	**0.65**	**96**	⇓*i*Pg	**Pg**	**21 48 05.9**	**-1.1**
PDG				*e*Sg	**Sg**	**21 48 15.5**	**0.0**
PDG	**Podgorica**	**0.65**	**96**	⇓*i*Pg	**Pg**	**21 48 06.0**	**-1.1**
PDG				*e*Sg	**Sb**	**21 48 16.6**	**-0.9**
TTG	**Podgorica**	**0.65**	**96**	⇓*i*Pg	**Pg**	**21 48 06.0**	**-1.1**
TTG				*i* Sg	**Sg**	**21 48 15.5**	**0.0**
DRME	**Dracevica, Mon**	**0.67**	**118**	*e*Pg	**Pg**	**21 48 07.2**	**-0.3**
DRME				*e*Sg	**Sg**	**21 48 16.7**	**+0.5**
DRME	**Dracevica, Mon**	**0.67**	**118**	⇓*i*Pg	**Pg**	**21 48 06.8**	**-0.7**
DRME				*i* Sg	**Sg**	**21 48 16.8**	**+0.5**
ULC	**Ulcinj**	**0.83**	**130**	⇓*i*Pg	**Pg**	**21 48 09.8**	**-0.8**
ULC	**Ulcinj**	**0.83**	**130**	⇓*i*Pg	**Pg**	**21 48 09.8**	**-0.8**
ULC				*i* Sg	**Sb**	**21 48 22.6**	**-0.3**
KOME	**Kolasin**	**0.90**	**67**	*e*Pg	**Pg**	**21 48 10.3**	**-1.6**
KOME				*i* Sg	**Sg**	**21 48 23.9**	**+0.2**
PLE	**Pljevlja**	**1.11**	**41**	⇑*i*Pg	**Pg**	**21 48 14.4**	**-1.5**
PLE				*i* Sg	**Sb**	**21 48 31.0**	**+0.1**
LSTV	**Lastovo**	**1.14**	**284**	*e*Pg	**Pg**	**21 48 16.5**	**+0.1**
LSTV				Sg	**Sn**	**21 48 32.9**	**+0.1**
PVY	**Plav**	**1.17**	**85**	⇑*i*Pg	**Pg**	**21 48 15.5**	**-1.5**
PVY				*i* Sg	**Sb**	**21 48 32.9**	**+0.3**
BEY	**Berane**	**1.17**	**71**	*i* Pg	**Pg**	**21 48 15.5**	**-1.6**
IVA	**Berane**	**1.17**	**71**	⇓*i*Pg	**Pg**	**21 48 15.5**	**-1.6**
IVA				*i* Sg	**Sb**	**21 48 33.0**	**+0.3**
BCI	**Bajram Curri**	**1.25**	**96**	P	**Pg**	**21 48 17.3**	**-1.3**
baz=103							
BCI				S	**Sn**	**21 48 36.5**	**+0.8**
baz=103							
BCI				AMP			
comp=N,7.0nm,0.4s,baz=103							
MAKA	**Makarska**	**1.27**	**308**	*e*Pg	**Pb**	**21 48 19.4**	**+0.4**
MAKA				Sg	**Sn**	**21 48 37.3**	**+1.1**
RUDO	**Rudo**	**1.33**	**33**	*e*Pg	**Pn**	**21 48 17.8**	**-1.8**
RUDO				*e*Sg	**Sg**	**21 48 35.8**	**-1.5**
RICI	**Ricice**	**1.35**	**318**	*e*Pn	**Pn**	**21 48 20.4**	**+0.4**
RICI				Sg	**Sn**	**21 48 39.4**	**+1.2**
BBLS	**Lazići**	**1.55**	**28**	⇑*i*Pn	**Pb**	**21 48 23.6**	**-0.2**
BBLS				*e*Sn	**Sg**	**21 48 44.0**	**-0.5**
HVAR	**Hvar**	**1.58**	**296**	*e*Pn	**Pn**	**21 48 23.3**	**+0.3**
HVAR				Sn	**Sg**	**21 48 45.5**	**+0.2**
TIR	**Tirane**	**1.60**	**136**	P	**Pn**	**21 48 24.1**	**+0.8**
TIR				S	**Sg**	**21 48 46.3**	**+0.4**
comp=N,505nm,0.6s							
TIR	**Tirane**	**1.60**	**136**	*i* Pg	**Pg**	**21 48 25.3**	**0.0**
TIR	**Tirane**	**1.60**	**136**	P	**Pb**	**21 48 24.5**	**+0.1**
baz=137							
TIR				S	**Sg**	**21 48 47.5**	**+1.6**
baz=137							
TIR				AMP			
comp=N,2.0nm,0.5s,baz=137							
PHP	**Peshkopia**	**1.73**	**117**	P	**Pb**	**21 48 26.4**	**-0.4**
PHP				S	**Sg**	**21 48 51.4**	**+1.1**
PHP	**Peshkopia**	**1.73**	**117**	P	**Pb**	**21 48 26.6**	**-0.3**
baz=121							
PHP				S	**Sg**	**21 48 50.6**	**+0.2**
baz=121							
PHP				AMP			
comp=N,3.6nm,0.6s,baz=121							
DIVS	**Divibare**	**1.98**	**36**	⇑*i*Pn	**Pn**	**21 48 29.7**	**+1.0**
DIVS				*e*Sn	**Sn**	**21 48 54.2**	**+0.4**
NOCI	**Noci**	**1.98**	**210**	P	**Pn**	**21 48 27.8**	**-0.9**
baz=205							
NOCI				AMP			
comp=E,2.7nm,0.4s,baz=205							
KIJV	**Kijevo**	**2.08**	**317**	*e*Pn	**Pn**	**21 48 31.7**	**+1.7**
KIJV				Sn	**Sb**	**21 48 59.2**	**+0.2**
MGRS	**Mrkonjic Grad**	**2.13**	**334**	*e*Pn	**Pn**	**21 48 32.3**	**+1.5**
MGRS				*e*Sn	**Sb**	**21 48 59.5**	**-0.9**
TEKS	**Tekeris**	**2.21**	**22**	⇑*i*Pn	**Pn**	**21 48 32.1**	**+0.3**
TEKS				*e*Sn	**Sn**	**21 49 00.2**	**+0.9**
DOB	**Doboj**	**2.24**	**355**	*e*Pn	**Pn**	**21 48 33.7**	**+1.6**
DOB				*e*Sn	**Sn**	**21 49 01.1**	**+1.1**
MATE	**Matera**	**2.24**	**215**	⇓P	**Pn**	**21 48 31.6**	**-0.6**
MATE				⇑S	**Sn**	**21 48 58.8**	**-1.3**
OHR	**Ohrid**	**2.28**	**127**	*i* Pn	**Pb**	**21 48 35.0**	**-1.1**
OHR				*e*Sg	**Sg**	**21 49 11.5**	**+3.8**
comp=N,124nm,0.6s							
OHR				*e*Sg	Sb	21 49 17.9	+13
comp=E,239nm,0.9s							
OHR				*e*Lg	Lg	21 49 25.7	
comp=N,124nm,0.6s							
ZIRJ	**Zirje**	**2.32**	**301**	*e*Pn	**Pn**	**21 48 34.4**	**+1.2**
ZIRJ				Sn	**Sb**	**21 49 04.4**	**-1.2**
SKO	**Skopje**	**2.33**	**102**	*i* Pn	**Pb**	**21 48 35.7**	**-1.2**
SKO				*e*Sg	**Sg**	**21 49 09.2**	**-0.2**
BLJ	**Bijeljina**	**2.37**	**15**	*e*Pn	**Pn**	**21 48 34.0**	**+0.1**
BLJ				*e*Sn	**Sn**	**21 49 02.6**	**-0.6**
MORI	**Morici**	**2.39**	**306**	*e*Pn	**Pn**	**21 48 36.0**	**+1.8**
MORI				Sn	**Sb**	**21 49 06.4**	**-1.2**
BLY	**Banja Luka**	**2.41**	**339**	*e*Pn	**Pn**	**21 48 36.6**	**+2.1**
BLY				*e*Sn	**Sn**	**21 49 06.0**	**+1.7**
BARS	**Barje**	**2.55**	**82**	*e*Pn	**Pn**	**21 48 38.4**	**+2.0**
BARS				*e*Sg	**Sb**	**21 49 10.6**	**-1.6**
KBN	**Korca**	**2.60**	**135**	P	**Pn**	**21 48 39.1**	**+1.9**
baz=136							
KBN				AMP			
comp=E,0.6nm,0.6s,baz=136							
BOVS	**Bovan**	**2.68**	**64**	⇑P	**Pn**	**21 48 39.0**	**+0.8**
BOVS				⇑S	**Sb**	**21 49 13.5**	**-2.6**
MRAK	**Mrakovica**	**2.73**	**337**	*e*Pn	**Pn**	**21 48 40.6**	**+1.6**
MRAK				*e*Sn	**Sn**	**21 49 13.2**	**+0.9**
PRIJ	**Prijedor**	**2.75**	**334**	*e*Pn	**Pn**	**21 48 40.9**	**+1.7**
PRIJ				*e*Sn	**Sn**	**21 49 14.1**	**+1.4**
UDBI	**Udbina**	**2.78**	**318**	*e*Pn	**Pn**	**21 48 41.1**	**+1.5**
UDBI				Sn	**Sb**	**21 49 16.8**	**-2.3**
FNA	**Florina**	**2.82**	**126**	P	**Pn**	**21 48 41.9**	**+1.7**
FNA				S	**Sn**	**21 49 16.8**	**+2.2**
comp=E,280nm,0.5s							
FNA	**Florina**	**2.82**	**126**	P	**Pn**	**21 48 42.0**	**+1.7**
baz=128							
FRGS	**Fruska Gora**	**2.85**	**21**	⇑P	**Pn**	**21 48 40.1**	**-0.5**
FRGS				⇑S	**Sn**	**21 49 16.3**	**+1.2**
FRGS	**Fruska Gora**	**2.85**	**21**	*e*Sn	**Sn**	**21 49 16.1**	**+1.0**
DUGI	**Dugi Otok**	**2.85**	**303**	*e*Pn	**Pn**	**21 48 41.7**	**+1.1**
DUGI				Sn	**Sn**	**21 49 17.1**	**+1.9**
SRN	**Sarande**	**2.89**	**155**	P	**Pn**	**21 48 41.0**	**0.0**
baz=154							
SRN				AMP			
comp=E,0.3nm,0.5s,baz=154							
NEST	**Nestorio**	**2.89**	**135**	P	**Pn**	**21 48 43.0**	**+1.8**
NEST				S	**Sn**	**21 49 18.0**	**+1.7**
comp=E,88nm,0.6s							
STIP	**Stip**	**2.94**	**105**	*i* Pn	**Pb**	**21 48 45.7**	**-1.7**
A252A	**Venje**	**2.96**	**353**	*e*Pn	**Pn**	**21 48 43.6**	**+1.5**
A252A				Sn	**Sn**	**21 49 19.6**	**+1.8**
KEK	**Kerkira**	**2.98**	**159**	P	**Pn**	**21 48 41.9**	**-0.5**
KEK				S	**Sn**	**21 49 17.5**	**-1.0**
comp=E,95nm,0.3s							
A251A	**Rujevac**	**3.04**	**330**	*e*Pn	**Pn**	**21 48 44.9**	**+1.8**
A251A				Sn	**Sn**	**21 49 21.6**	**+1.8**
PLIT	**Plitvice**	**3.11**	**321**	*e*Pn	**Pn**	**21 48 45.4**	**+1.3**
PLIT				Sn	**Sn**	**21 49 24.7**	**+3.1**
NVLJ	**Novalja**	**3.28**	**310**	*e*Pn	**Pn**	**21 48 47.1**	**+0.6**
NVLJ				Sn	**Sn**	**21 49 27.3**	**+1.5**
IGT	**Igoumenitsa**	**3.31**	**153**	P	**Pn**	**21 48 46.9**	**0.0**
IGT				S	**Sn**	**21 49 26.9**	**+0.3**
comp=E,82nm,0.3s							
MDVR	**Moldovita**	**3.32**	**46**	⇑P	**Pn**	**21 48 47.9**	**+0.9**
MDVR				⇑S	**Sn**	**21 49 28.0**	**+1.2**
MOSL	**Moslavina**	**3.32**	**340**	*e*Pn	**Pn**	**21 48 48.5**	**+1.4**
MOSL				Sn	**Sn**	**21 49 29.5**	**+2.6**
BLKB	**Belogradchik**	**3.33**	**69**	⇑S	**Sn**	**21 49 29.1**	**+1.9**
VAY	**Valandovo**	**3.34**	**109**	*i* Pn	**Pn**	**21 48 47.3**	**+0.1**
VAY				*e*Sg	**Sg**	**21 49 41.8**	**0.0**
comp=N,46nm,0.8s							
GRG	**Griva**	**3.38**	**116**	P	**Pn**	**21 48 49.5**	**+1.6**
RABC	**Rab**	**3.45**	**312**	*e*Pn	**Pn**	**21 48 50.0**	**+1.2**
RABC				Sn	**Sn**	**21 49 32.2**	**+2.4**
BANR	**Banloc**	**3.50**	**34**	⇓S	**Sn**	**21 49 32.7**	**+1.7**
TIP	**Timpagrande**	**3.54**	**201**	⇓P	**Pn**	**21 48 49.7**	**-0.5**
TIP				⇑S	**Sn**	**21 49 32.4**	**0.0**
VTS	**Vitosha**	**3.58**	**87**	⇑P	**Pn**	**21 48 52.2**	**+1.4**
VTS				⇑S	**Sn**	**21 49 36.3**	**+2.9**
KOVH	**Kovagotottos**	**3.59**	**357**	PN	**Pn**	**21 48 51.5**	**+0.7**
KOVH				SN	**Sn**	**21 49 34.2**	**+0.8**
AQU	**L'Aquila**	**3.69**	**269**	*e*Pn	**Pn**	**21 48 54.0**	**+1.8**
AQU				*e*Sn	**Sn**	**21 49 36.8**	**+0.8**
MORH	**Mrgy, Hungar**	**3.71**	**3**	⇓P	**Pn**	**21 48 53.3**	**+0.8**
MORH				⇑S	**Sn**	**21 49 36.9**	**+0.5**
MORH	**Mrgy, Hungar**	**3.71**	**3**	⇑*i*Pn	**Pn**	**21 48 53.3**	**+0.8**
MORH				*e*Sn	**Sn**	**21 49 36.8**	**+0.3**
MORH	**Mrgy, Hungar**	**3.71**	**3**	PN	**Pn**	**21 48 53.5**	**+1.1**
MORH				SN	**Sn**	**21 49 37.0**	**+0.5**
ZAG	**Zagreb**	**3.74**	**333**	*e*Pn	**Pn**	**21 48 53.6**	**+0.8**
ZAG				*e*Sn	**Sn**	**21 49 37.8**	**+0.6**
OZLJ	**Ozalj**	**3.76**	**327**	*e*Pn	**Pn**	**21 48 54.5**	**+1.5**
OZLJ				Sn	**Sn**	**21 49 40.4**	**+2.9**
PUNG	**Punghina**	**3.76**	**60**	⇓P	**Pn**	**21 48 54.2**	**+1.2**
PUNG				⇓S	**Sn**	**21 49 38.8**	**+1.3**
HERR	**Herculane**	**3.77**	**50**	⇑P	**Pn**	**21 48 54.2**	**+1.0**
HERR				⇓S	**Sn**	**21 49 38.8**	**+1.1**
RMGR	**Halanga-Turnu**	**3.80**	**54**	⇑P	**Pn**	**21 48 54.3**	**+0.7**
RMGR				⇑S	**Sn**	**21 49 40.9**	**+2.4**
PTJ	**Puntijarka**	**3.82**	**334**	*e*Pn	**Pn**	**21 48 54.5**	**+0.6**
PTJ				Sn	**Sn**	**21 49 40.9**	**+1.6**
KALN	**Kalnik**	**3.88**	**340**	*e*Pn	**Pn**	**21 48 56.2**	**+1.4**
KALN				Sn	**Sn**	**21 49 42.6**	**+2.0**
BZS	**Buzias**	**3.89**	**36**	⇑P	**Pn**	**21 48 56.0**	**+1.2**
BZS				⇑S	**Sn**	**21 49 41.8**	**+1.1**
CRES	**Cresnjev**	**3.93**	**329**	*e*Pn	**Pn**	**21 48 56.6**	**+1.1**
CRES				*e*Sn	**Sn**	**21 49 42.6**	**+0.7**
SMRN	**Sveta Marina**	**3.98**	**311**	*e*Pn	**Pn**	**21 48 57.2**	**+1.2**
SMRN				Sn	**Sn**	**21 49 44.4**	**+1.6**
RIY	**Rijeka**	**3.99**	**316**	⇑*i*Pn	**Pn**	**21 48 57.6**	**+1.4**
RIY				*e*Sn	**Sn**	**21 49 44.5**	**+1.3**
RIY	**Rijeka**	**3.99**	**316**	*e*Pn	**Pn**	**21 48 57.5**	**+1.4**
RIY				Sn	**Sn**	**21 49 45.8**	**+2.6**
LOBO	**Lobor**	**4.01**	**336**	*e*Pn	**Pn**	**21 48 57.2**	**+0.7**
LOBO				Sn	**Sn**	**21 49 45.2**	**+1.4**
SRE	**Strehaia**	**4.11**	**57**	⇓P	**Pn**	**21 48 58.9**	**+1.0**
BEHE	**Becsehely**	**4.13**	**344**	*e*Pn	**Pn**	**21 48 59.2**	**+1.0**
BRJN	**Brijuni**	**4.13**	**307**	*e*Pn	**Pn**	**21 48 58.4**	**+0.3**
BRJN				Sn	**Sn**	**21 49 48.5**	**+1.8**
GZR	**Gura Zlata**	**4.29**	**46**	⇑P	**Pn**	**21 49 01.5**	**+1.1**
GZR				⇑S	**Sn**	**21 49 51.6**	**+0.8**
CEY	**Cerknica**	**4.31**	**320**	*e*Pn	**Pn**	**21 49 02.0**	**+1.3**
CEY				*e*Sn	**Sn**	**21 49 51.4**	**+0.2**
TIH	**Tihany**	**4.41**	**356**	PN	**Pn**	**21 49 03.1**	**+1.1**
TIH				SN	**Sn**	**21 49 56.2**	**+2.6**
LJU	**Ljubljana**	**4.50**	**323**	*e*Pn	**Pn**	**21 49 04.6**	**+1.4**
LJU				*e*Sn	**Sn**	**21 49 55.5**	**-0.2**
MPLH	**Magyarpolny**	**4.71**	**353**	SN	**Sn**	**21 50 02.2**	**+1.3**
SOKA	**Soboth**	**4.81**	**331**	Pn	**Pn**	**21 49 10.1**	**+2.5**
comp=N,11nm,0.5s,SNR=5.3							
SOKA				*e*Sn	**Sn**	**21 50 05.1**	**+1.5**
comp=N,20nm,0.8s							
OBKA	**Obir**	**4.86**	**327**	*e*Pn	**Pn**	**21 49 11.4**	**+3.2**
comp=N,0.5nm,0.1s							
OBKA				*e*Sn	**Sn**	**21 50 09.9**	**+5.2**
comp=N,21nm,0.7s							
CSKK	**Cskako**	**4.86**	**359**	SN	**Sn**	**21 50 02.3**	**-2.4**
LOT	**Lotru**	**4.87**	**51**	⇓P	**Pn**	**21 49 09.7**	**+1.2**
LOT				⇑S	**Sn**	**21 50 06.4**	**+1.2**
ARSA	**Arzberg**	**5.16**	**338**	Pn	**Pn**	**21 49 14.4**	**+2.1**
comp=N,25nm,0.4s,SNR=49							
ARSA				*e*Sn	**Sn**	**21 50 13.4**	**+1.1**
comp=N,4.9nm,0.6s							
HUMR	**Humele**	**5.20**	**65**	⇓P	**Pn**	**21 49 14.2**	**+1.3**
HUMR				⇑S	**Sn**	**21 50 14.6**	**+1.4**
SRO2	**Moca**	**5.26**	**0**	*e*PN	**Pn**	**21 49 16.0**	**+2.4**
SRO2				*e*SN	**Sn**	**21 50 18.3**	**+3.8**
DRGR		**5.28**	**34**	⇑P	**Pn**	**21 49 14.7**	**+0.7**
DRGR				⇓S	**Sn**	**21 50 15.7**	**+0.5**
SRO	**Srobarova**	**5.31**	**359**	*e*SN	**Sn**	**21 50 19.0**	**+3.2**
MYKA	**Terra Mystica**	**5.34**	**322**	*e*Pn	**Pn**	**21 49 16.0**	**+1.1**
comp=N,2.5nm,0.3s							
MYKA				*e*Sn	**Sn**	**21 50 17.7**	**+1.1**
comp=N,3.7nm,0.6s							
ARR	**Arges**	**5.34**	**55**	⇑P	**Pn**	**21 49 16.2**	**+1.3**
ARR				⇓S	**Sn**	**21 50 19.3**	**+2.6**
PSZ	**Piszkesteto**	**5.52**	**11**	⇓P	**Pn**	**21 49 17.4**	**+0.1**
PSZ				⇑S	**Sn**	**21 50 22.2**	**+1.1**
PSZ	**Piszkesteto**	**5.52**	**11**	PN	**Pn**	**21 49 18.0**	**+0.7**
PSZ				SN	**Sn**	**21 50 20.8**	**-0.2**
VOIR		**5.63**	**56**	⇑P	**Pn**	**21 49 19.9**	**+1.0**
VOIR				⇑S	**Sn**	**21 50 26.5**	**+2.7**
CONA	**Conrad Observa**	**5.71**	**343**	*e*Pn	**Pn**	**21 49 23.0**	**+3.1**
comp=N,1.5nm,0.3s							
CONA				*e*Sn	**Sn**	**21 50 27.2**	**+1.4**
comp=N,11nm,0.7s							
ZST	**Bratislava**	**5.76**	**351**	*e*PN	**Pn**	**21 49 23.7**	**+3.1**
ZST				*e*SN	**Sn**	**21 50 26.9**	**-0.1**
SGRR	**Singureni**	**5.79**	**70**	⇑P	**Pn**	**21 49 22.3

comp=N,0.2nm,0.3s,baz=282,slow=20,SNR=1.0
IDI S Sn 21 51 33.2 -8.7
comp=N,0.7nm,0.3s,baz=72,slow=18,SNR=5.8
LPG La Plagne 8.90 294 *e*Pn **Pn 21 50 02.8 -1.2**
LPG *e*Sn **Sn 21 51 38.0 -6.7**
comp=N,7.9nm,0.7s
LPL La Plagne 8.92 294 *e*P **Pn 21 50 07.9 +3.8**
LPL *e*Sn **Sn 21 51 38.2 -6.8**
comp=N,3.8nm,0.4s
ORIF Oris-en-Rattie 9.38 289 *e*Pn **Pn 21 50 09.3 -0.9**
ORIF Oris-en-Rattie 9.38 289 *e*P Pn 21 50 15.2 +5.0
ORIF *e*Sn **Sn 21 51 48.4 -7.5**
comp=N,3.6nm,0.7s
SMRF Simiane la Rot 9.47 283 *e*Pn **Pn 21 50 10.0 -1.5**
SMRF Simiane la Rot 9.47 283 *e*P **Pn 21 50 15.5 +4.0**
CABF La Chapelle 9.69 299 *e*Pn **Pn 21 50 12.6 -1.9**
HINF Hinteralfeld 9.72 307 *e*Pn **Pn 21 50 12.6 -2.3**
CDF Champ du Feu 9.79 311 *e*Pn **Pn 21 50 14.8 -1.0**
HAU Haudompre 10.11 307 *e*Pn **Pn 21 50 16.6 -3.6**
SMF Signal de Mont 11.17 297 *e*Pn **Pn 21 50 32.4 -2.3**
SMF *e*Sn **Sn 21 52 32.4 -7.4**
comp=N,1.1nm,0.3s
LOR Lormes 11.35 300 *e*Pn **Pn 21 50 35.1 -2.1**
baz=136
LOR *e*Sn Sn 21 52 35.4 -8.9
comp=N,2.6nm,0.4s
SSF Saint Saulge 11.51 298 *e*Pn **Pn 21 50 36.7 -2.7**
AVF Avril sur Loir 11.53 297 *e*Pn **Pn 21 50 38.0 -1.7**
AVF *e*Sn Sn 21 52 39.8 -8.9
comp=N,0.8nm,0.3s
BRTR Keskin Array B 11.84 98 P **Pn 21 50 47.9 +3.9**
comp=N,0.1nm,0.3s,baz=290,slow=14,SNR=1.9
TCF Toulx Ste Croi 12.17 294 *e*Pn **Pn 21 50 46.9 -1.5**
MMAI Mount Meron Ar 16.43 120 P **Pn 21 51 47.3 +1.5**
comp=N,0.2nm,0.3s,baz=324,slow=14,SNR=1.9
HFS Hagfors 17.89 352 P **Pn 21 52 03.7 0.0**
comp=N,0.1nm,0.3s,baz=181,slow=13,SNR=1.2
NOA NORSAR Array B 19.07 349 P **P 21 52 16.4 -1.0**
comp=N,0.0nm,0.3s,baz=165,slow=10,SNR=2.0
FINES FINESS Array B 19.52 11 P **P 21 52 21.9 -0.4**
comp=N,0.3nm,0.3s,baz=183,slow=9.3,SNR=9.6
ARCES ARCESS Array B 27.35 5 P **P 21 53 37.7 -2.2**
comp=N,3.3nm,0.9s,baz=192,slow=8.1,SNR=5.0
TORD Torodi Ar. Bea 32.63 211 P **P 21 54 26.6 -0.6**
comp=N,0.8nm,0.9s,baz=22,slow=9.6,SNR=2.3
ZALV Zalesovo Beam 44.13 51 P **P 21 56 04.6 +1.1**
comp=N,0.6nm,0.5s,baz=286,slow=10,SNR=2.8
MKAR Makanchi Array 44.55 62 P **P 21 56 06.7 -0.3**
comp=N,0.3nm,0.5s,baz=276,slow=7.7,SNR=11
SONM Songino Array 59.02 52 P **P 21 57 54.8 -0.3**
comp=N,0.4nm,0.7s,baz=268,slow=4.3,SNR=4.0

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*TAP **30** 21:53:23.8, 24°.81N×122°.44E, h16km, ML2.8, C*
*JMA **30** 21:53:24.6±0.1, 24°.71N×122°.42E, h10km±2km, M2.4*
ISC 30 21:53:24.0±1.0, 24°.77N±0°.03×122°.43E±0°.02, h11km±9km, n53, σ0s42/98, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.47**	**301**	P	**Pg**	**21 53 33.3**	**+0.1**
	baz=296						
TWB1				*e*S	**Sg**	**21 53 39.4**	**-0.1**
	baz=296						
TWC	**Suao**	**0.55**	**254**	P	**Pg**	**21 53 34.4**	**-0.4**
	baz=257						
TWC				*e*S	**Sg**	**21 53 41.5**	**-0.6**
	baz=257						
NTC	**Toucheng**	**0.55**	**279**	P	**Pb**	**21 53 36.0**	**+0.2**
	baz=274						
NTC				*e*S	**Sb**	**21 53 43.9**	**+0.3**
	baz=274						
JYNG	**Yonagunijimaku**	**0.56**	**124**	P	**Pg**	**21 53 35.1**	**+0.1**
JYNG				S	**Sg**	**21 53 42.6**	**+0.2**
TIPB	**Shuangxi**	**0.59**	**290**	P	**Pg**	**21 53 35.8**	**+0.3**
	baz=286						
TIPB				*e*S	**Sb**	**21 53 44.6**	**-0.1**
	baz=286						
SXI1	**Grass Mountain**	**0.60**	**303**	P	**Pg**	**21 53 36.1**	**+0.4**
	baz=299						
SXI1				*e*S	**Sb**	**21 53 44.9**	**-0.3**
	baz=299						
YOJ	**Yonaguni jima**	**0.61**	**120**	P	**Pg**	**21 53 36.0**	**+0.2**
YOJ				S	**Sg**	**21 53 43.7**	**-0.2**
YOJ	**Yonaguni jima**	**0.61**	**120**	P	**Pg**	**21 53 36.1**	**+0.2**
	baz=114						
YOJ				*e*S	**Sg**	**21 53 44.0**	**+0.1**
	baz=114						
ILA	**Ilan**	**0.62**	**270**	*e*S	**Sb**	**21 53 45.7**	**+0.1**
	baz=265						
NWF	**Wu-fen Shan**	**0.66**	**297**	P	**Pb**	**21 53 37.5**	**-0.2**
	baz=293						
NWF				*e*S	**Sb**	**21 53 46.9**	**-0.1**
	baz=293						
WFSB	**Wu-fen Shan**	**0.66**	**297**	*e*P	**Pg**	**21 53 37.4**	**+0.5**
	baz=293						
WFSB				*e*S	**Sb**	**21 53 46.5**	**-0.4**
	baz=293						
EWUT	**Wuta**	**0.68**	**242**	P	**Pb**	**21 53 37.6**	**-0.2**
	baz=247						
EWUT				*e*S	**Sb**	**21 53 47.3**	**+0.2**
	baz=247						
TWE	**Neicheng**	**0.70**	**266**	P	**Pg**	**21 53 37.2**	**-0.4**
	baz=262						
TWE				*e*S	**Sb**	**21 53 47.6**	**-0.2**
	baz=262						
ENA	**Nanau**	**0.71**	**242**	P	**Pg**	**21 53 38.1**	**+0.2**
	baz=246						
ENA				*e*S	**Sg**	**21 53 47.2**	**0.0**
	baz=246						
FUSB	**Fushanzhiwuyua**	**0.77**	**270**	P	**Pb**	**21 53 39.3**	**-0.1**
	baz=266						
FUSB				*e*S	**Sg**	**21 53 49.2**	**+0.2**
	baz=266						
ENTT	**Nioudou**	**0.80**	**261**	*e*P	**Pb**	**21 53 40.3**	**+0.4**
	baz=245						
ENTT				*e*S	**Sb**	**21 53 50.4**	**-0.3**
	baz=245						
TWA	**Mucha**	**0.80**	**286**	*e*P	**Pg**	**21 53 39.8**	**+0.3**
	baz=282						
TWA				*e*S	**Sg**	**21 53 50.4**	**+0.4**
	baz=282						
NWLT	**Wulai**	**0.84**	**271**	*e*P	**Pg**	**21 53 40.5**	**+0.2**
	baz=267						
NWLT				*e*S	**Sg**	**21 53 51.4**	**0.0**
	baz=267						
NHDH	**Xindian Distri**	**0.85**	**283**	P	**Pb**	**21 53 40.8**	**0.0**
	baz=280						
NHDH				*e*S	**Sb**	**21 53 52.4**	**+0.3**
	baz=280						
NDT	**Datong Townshi**	**0.85**	**259**	*e*P	**Pg**	**21 53 40.7**	**+0.2**
	baz=242						
NDT				*e*S	**Sb**	**21 53 52.4**	**+0.1**
	baz=242						
LATG	**Datong**	**0.86**	**255**	*e*P	**Pg**	**21 53 40.3**	**-0.2**
	baz=251						
LATG				*e*S	**Sb**	**21 53 52.1**	**-0.4**
	baz=251						
YM01	**YM01**	**0.87**	**296**	*e*P	**Pb**	**21 53 41.1**	**0.0**
	baz=292						
YM01				*e*S	**Sg**	**21 53 52.1**	**0.0**
	baz=292						
YM08	**YM08**	**0.87**	**299**	*e*P	**Pg**	**21 53 40.3**	**-0.5**
	baz=295						
YM08				*e*S	**Sg**	**21 53 52.0**	**-0.3**
	baz=295						
TATO	**Taipei**	**0.88**	**284**	*e*P	**Pg**	**21 53 40.8**	**-0.3**
	baz=280						
TATO				*e*S	**Sg**	**21 53 52.5**	**0.0**
	baz=280						
TWY	**Chenhua**	**0.91**	**304**	*e*P	**Pn**	**21 53 42.4**	**-0.3**
	baz=301						
TWY				*e*S	**Sg**	**21 53 53.6**	**+0.2**
	baz=301						
ANP	**Anpu**	**0.93**	**297**	*e*P	**Pb**	**21 53 42.5**	**+0.4**
	baz=294						
ETL	**Fush Village**	**0.95**	**231**	*e*P	**Pb**	**21 53 42.7**	**+0.1**
	baz=239						
ETL				*e*S	**Sb**	**21 53 55.0**	**-0.2**
	baz=239						
NACB	**Ninganchiao**	**0.96**	**232**	*e*P	**Pb**	**21 53 42.2**	**-0.6**
	baz=240						
NACB				*e*S	**Sg**	**21 53 55.0**	**-0.1**
	baz=240						
YHNB	**Yeheng**	**0.96**	**264**	*e*P	**Pg**	**21 53 42.7**	**+0.1**
	baz=261						
YHNB				*e*S	**Sg**	**21 53 53.5**	**-1.8**
	baz=261						
NSK	**Sanguang**	**0.98**	**265**	P	**Pg**	**21 53 43.2**	**+0.3**
	baz=261						
NSK				*e*S	**Sg**	**21 53 55.8**	**+0.1**
	baz=261						
NNSB	**Datong**	**1.01**	**251**	*e*P	**Pg**	**21 53 43.7**	**+0.1**
	baz=248						
NNSB				*e*S	**Sg**	**21 53 56.9**	**+0.1**
	baz=248						
NNS	**Nan Shan**	**1.02**	**252**	*e*P	**Pg**	**21 53 43.8**	**+0.2**
	baz=248						
NNS				*e*S	**Sg**	**21 53 57.5**	**+0.5**
	baz=248						
TWD	**Chiawan**	**1.02**	**228**	*e*P	**Pb**	**21 53 42.9**	**-0.8**
	baz=233						
ETM	**Tongmen**	**1.17**	**227**	*e*P	**Pg**	**21 53 47.1**	**+0.6**
	baz=207						
FUSS	**Fushou**	**1.20**	**245**	P	**Pn**	**21 53 47.0**	**0.0**
	baz=242						
FUSS				*e*S	**Sg**	**21 54 02.6**	**-0.1**
	baz=242						
NFF	**Wufeng Townshi**	**1.20**	**264**	*e*P	**Pn**	**21 53 46.5**	**-0.3**
	baz=279						
WHF	**Hehuan Shan**	**1.23**	**240**	P	**Pg**	**21 53 47.8**	**+0.1**
	baz=247						
WHF				*e*S	**Sn**	**21 54 04.8**	**+0.4**
	baz=247						
IRIF	**Iriomote-Funau**	**1.26**	**110**	P	**Pb**	**21 53 47.7**	**0.0**
IRIF				S	**Sb**	**21 54 03.2**	**-0.7**
LIOB	**Emei**	**1.29**	**265**	*e*P	**Pn**	**21 53 47.9**	**-0.1**
	baz=262						
ESL	**Shilin**	**1.32**	**224**	*e*P	**Pg**	**21 53 49.3**	**0.0**
	baz=206						
ESL				*e*S	**Sg**	**21 54 07.4**	**+1.0**
	baz=206						
CHGB	**Renai**	**1.35**	**239**	*e*P	**Pg**	**21 53 49.7**	**-0.2**
	baz=245						
CHGB				*e*S	**Sg**	**21 54 07.2**	**-0.3**
	baz=245						
WUSB	**Renai**	**1.43**	**237**	*e*P	**Pb**	**21 53 50.9**	**+0.2**
	baz=243						
WUSB				*e*S	**Sg**	**21 54 09.7**	**-0.3**
	baz=243						
HATJ	**Hateruma jima**	**1.44**	**119**	P	**Pb**	**21 53 50.8**	**0.0**
HATJ				*e*S	**Sn**	**21 54 08.7**	**-0.2**
WHP	**Taichung City**	**1.44**	**250**	*e*P	**Pg**	**21 53 52.3**	**+0.6**
	baz=248						
WHP				*e*S	**Sb**	**21 54 09.6**	**+0.4**
	baz=248						
JKRS	**Kuro-shima**	**1.53**	**110**	P	**Pb**	**21 53 52.9**	**+0.5**
JKRS				S	**Sn**	**21 54 11.4**	**+0.2**
VWDT	**VWDT**	**1.55**	**230**	*e*P	**Pb**	**21 53 52.8**	**0.0**
	baz=211						
VWDT				*e*S	**Sb**	**21 54 11.9**	**-0.5**
	baz=211						
HGSD	**Ruisui**	**1.57**	**216**	*e*P	**Pn**	**21 53 51.9**	**+0.1**
	baz=200						
JIJ	**Ishigaki jima**	**1.61**	**104**	P	**Pn**	**21 53 52.7**	**+0.3**
JIJ				S	**Sn**	**21 54 13.2**	**+0.1**
SMLT	**Sun Moon Lake**	**1.65**	**238**	*e*P	**Pg**	**21 53 55.4**	**-0.4**
	baz=242						
SMLT				*e*S	**Sg**	**21 54 18.9**	**+1.7**
	baz=242						
SSLB	**Suanglung**	**1.67**	**234**	*e*P	**Pb**	**21 53 54.5**	**-0.2**
	baz=243						
SSLB				*e*S	**Sb**	**21 54 16.0**	**+0.3**
	baz=243						
TYC	**Yuchr**	**1.67**	**239**	*e*P	**Pg**	**21 53 55.5**	**-0.6**
	baz=224						
YULB	**Yu-li**	**1.72**	**217**	*e*P	**Pn**	**21 53 54.0**	**+0.1**
	baz=216						
YULB				*e*S	**Sb**	**21 54 16.4**	**-0.8**
	baz=216						
JISG	**Ishigakijimahi**	**1.72**	**96**	P	**Pb**	**21 53 55.0**	**-0.6**
JISG				*e*S	**Sb**	**21 54 17.0**	**-0.2**

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*NEIC **30** 22:07:36.5±1.7, 5°.0S±0°.1×101°.39E±0°.07, h10km±2km, mb4.1/9, Error ellipse: s-maj=20.0km s-min=11.0km az=196.0*
*DJA **30** 22:07:41.4±0.6, 5°S±4°×10°2E±°, h10km, M4.0/12, mb4.3/3, MLv3.9/12*
*IDC **30** 22:07:50.1±8.3, 4°.45S×102°.23E, h112km±58km, mb3.4/7, mb1 3.5/8, mb1mx3.3/41, mbtmp3.8/8, MS3.4/2, Ms1 3.4/2, ms1mx2.7/41, Error ellipse: s-maj=137.8km s-min=16.6km az=58.0*
ISC 30 22:07:38.8±0.8, 5°.03S±0°.09×101°.39E±0°.09, h32km, n44, σ1s34/38, mb3.9/10, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.70**	**67**	P	**Pn**	**22 08 05.6**	**-0.7**
MNAI				S	**Sn**	**22 08 26.2**	**-0.8**
MNAI	**Manna**	**1.70**	**67**	Pn	**Pn**	**22 08 05.0**	**-1.3**
MNAI				Sn	**Sn**	**22 08 26.7**	**-0.3**
MASI	**Maura Aman, Be**	**2.06**	**24**	P	**Pn**	**22 08 12.7**	**+1.4**
LHSI	**Lahat**	**2.44**	**61**	P	**Pn**	**22 08 19.0**	**+2.5**
LWLI	**Liwa**	**2.66**	**90**	P	**Pn**	**22 08 22.5**	**+2.8**
MDSI	**Maura Dua**	**2.84**	**79**	P	**Pn**	**22 08 21.8**	**-0.1**
KRJI	**Kerinci**	**2.92**	**2**	P	**Pb**	**22 08 31.2**	**+0.9**
KASI	**Kota Agung**	**3.14**	**99**	P	**Pn**	**22 08 25.7**	**-0.4**
KLSI		**3.35**	**84**	P	**Pn**	**22 08 29.1**	**+0.1**
CGJI	**Cibinong**	**4.56**	**110**	P	**Pn**	**22 08 44.8**	**-0.9**
DSRI	**Dabo**	**5.53**	**35**	P	**Pn**	**22 09 00.5**	**+1.5**
	0.1nm18nm,1.1s						
LEM	**Lembang**	**6.45**	**106**	P	**Pn**	**22 09 15.8**	**+3.9**
	2.9nm,0.3s,baz=330,slow=20,SNR=2.7						
LEM	**Lembang**	**6.45**	**106**	P	**Pn**	**22 09 12.6**	**+0.8**
GSI	**Gunungsitoli**	**7.35**	**329**	Pn	**Pn**	**22 09 22.0**	**-2.1**
PSI	**Prapat**	**8.16**	**342**	LR	LR	22 13 14.4	
	comp=Z,75nm,18.9s,baz=83,slow=41						
UGM	**Wanagama**	**9.52**	**108**	Pn	**Pn**	**22 09 52.6**	**-1.3**
JAGI	**Jajag, Banyuwa**	**13.13**	**106**	Pn	**Pn**	**22 10 43.4**	**+0.1**
UBPT	**Khong Chiam**	**20.58**	**11**	P	**P**	**22 12 13.6**	**-1.7**
UBPT				IAmb	IAmb	22 12 37.5	
	comp=Z,14nm,1.2s						
CMAR	**Chiang Mai Arr**	**23.46**	**354**	P	**P**	**22 12 44.2**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=191,slow=9.1,SNR=4.1						
H08S2	**Diego Garcia H**	**28.83**	**263**	T	T	22 43 42.5	
	baz=86,slow=76,SNR=296						
H08S3	**Diego Garcia H**	**28.84**	**263**	T	T	22 43 42.3	
	baz=86,slow=76,SNR=379						
H08S1	**Diego Garcia H**	**28.85**	**263**	T	T	22 43 40.7	
	baz=86,slow=76,SNR=244						
H01W3	**Cape Leeuwin H**	**31.96**	**160**	T	T	22 47 33.6	
	baz=336,slow=76						
H01W2	**Cape Leeuwin H**	**31.98**	**160**	T	T	22 47 34.4	
	baz=336,slow=76						
H01W1	**Cape Leeuwin H**	**31.98**	**160**	T	T	22 47 34.1	
	baz=336,slow=76						
WRA	**Warramunga Arr**	**35.32**	**118**	P	**P**	**22 14 29.1**	**-2.3**
	comp=Z,0.5nm,0.6s,baz=293,slow=8.5,SNR=2.1						
WRA	**Warramunga Arr**	**35.32**	**118**	P	**P**	**22 14 30.8**	**-0.6**
WB2	**Warramunga Arr**	**35.33**	**118**	P	**P**	**22 14 31.7**	**+0.2**
WB2				IAmb	IAmb	22 14 52.4	
	comp=Z,4.9nm,1.1s						
AS31	**Alice Springs**	**36.39**	**124**		**P**	**22 14 40.4**	**-0.2**
ASAR	**Alice Springs**	**36.39**	**124**	P	**P**	**22 14 40.5**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=303,slow=8.0,SNR=11						
STKA	**Stephens Creek**	**46.13**	**130**	P	**P**	**22 16 01.9**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=336,slow=18,SNR=2.2						
STKA	**Stephens Creek**	**46.13**	**130**	P	**P**	**22 16 01.4**	**+1.0**
STKA				IAmb	IAmb	22 16 10.8	
	comp=Z,1.5nm,1.4s						
SONM	**Songino Array**	**52.83**	**4**	P	**P**	**22 16 50.5**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=178,slow=9.9,SNR=5.3						
MK31	**Makanchi Array**	**54.30**	**344**	P	**P**	**22 17 02.5**	**+0.4**
MK31				IAmb	IAmb	22 17 03.7	
	comp=Z,1.3nm,0.9s						
MKAR	**Makanchi Array**	**54.30**	**344**	P	**P**	**22 17 02.4**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=146,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**54.30**	**344**	P	**P**	**22 17 02.5**	**+0.5**
OPO	**Ambohidratompo**	**54.52**	**251**	LR	LR	22 37 32.0	
	comp=Z,94nm,18.9s,baz=2.5,slow=32						
KURK	**Kurchatov**	**58.89**	**343**		**P**	**22 17 35.0**	**+0.5**
ZALV	**Zalesovo Beam**	**60.39**	**349**	P	**P**	**22 17 44.0**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=152,slow=6.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**60.39**	**349**	P	**P**	**22 17 44.7**	**-0.1**
ABKAR	**Akbulak array**	**64.94**	**331**	P	**P**	**22 18 15.5**	**+0.2**
ABKAR	**Akbulak array**	**64.94**	**331**	P	**P**	**22 18 15.4**	**+0.1**
ABKAR				IAmb	IAmb	22 18 25.3	
	comp=Z,2.5nm,1.1s						
BURAR	**Bucovina Array**	**84.43**	**319**	P	**P**	**22 20 09.5**	**+1.0**
BURAR				IAmb	IAmb	22 20 11.4	
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**146.15**	**42**	PKP	**PKPdf**	**22 27 16.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=291,slow=0.8,SNR=7.0						

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*NEIC **30** 22:20:58.2±0.5, 18°.96N±0°.06×67°.4W±0°.1, h28km±9km, Error ellipse: s-maj=17.4km s-min=3.0km az=62.0*
*RSPR **30** 22:21:01.5, 18°.88N×67°.33W, h9km±1km, MD2.5/3*
*OSPL **30** 22:21:03.1±0.3, 18°.77N×67°.34W, h22km±4km, ML1.8*
ISC 30 22:21:00.8±2.3, 18°.9N±0°.1×67°.29W±0°.08, h27km, n17, σ0s55/19, 3C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.44**	**158**	‖ *e*P	**Pb**	**22 21 10.2**	**0.0**
AGPR	**Aguadilla, PR**	**0.44**	**158**	*e*S	**Sb**	**22 21 17.4**	**+0.8**
AGPR	**Aguadilla, PR**	**0.44**	**158**		**Pb**	**22 21 10.1**	**0.0**
AGPR					**Sb**	**22 21 17.3**	**+0.8**
AGPR				IAML		22 21 17.9	
	comp=E,62nm,0.2s						
AGPR				IAML		22 21 21.7	
	comp=N,74nm,1.2s						
AGPR	**Aguadilla, PR**	**0.44**	**158**	*i* P	**Pb**	**22 21 10.3**	**+0.2**
AGPR				*e*S	**Sb**	**22 21 15.7**	**-0.8**
AGPR				IAML		22 21 18.1	
	comp=Z,75nm,1.7s						
IDE	**Isla Desecheo**	**0.52**	**200**	‖ *e*P	**Pb**	**22 21 11.3**	**-0.2**
LSP	**Las Mesas**	**0.72**	**165**	‖ *e*P	**Pb**	**22 21 14.9**	**0.0**
LSP	**Las Mesas**	**0.72**	**165**	*e*S	**Sb**	**22 21 25.8**	**+1.3**
AOPR	**Arecibo Observ**	**0.73**	**136**	Pg	**Pb**	**22 21 14.5**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.88**	**169**	‖ *e*P	**Pn**	**22 21 17.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.88**	**169**	*e*S	**Sb**	**22 21 29.1**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.88**	**169**		**Pn**	**22 21 17.1**	**-0.4**
CRPR					**Sb**	**22 21 29.1**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.88**	**169**	IAML		22 21 43.2	
	comp=E,30nm,2.1s						
CRPR				IAML		22 21 48.6	
	comp=N,29nm,1.7s						
CRPR	**Cabo Rojo, PR**	**0.88**	**169**	*i* P	**Pn**	**22 21 17.1**	**-0.4**
CRPR				IAML		22 21 32.8	
	comp=Z,38nm,1.1s						
MLPR	**Magueyes Islan**	**0.93**	**166**	*e*S	**Sb**	**22 21 30.1**	**-0.3**
MLPR	**Magueyes Islan**	**0.93**	**166**		**Sb**	**22 21 30.1**	**-0.3**
CELP	**Cerrillos**	**1.04**	**140**	Pg	**Pn**	**22 21 20.1**	**+0.4**
PCDR	**Punta Cana, DR**	**1.10**	**251**	*i* P	**Pn**	**22 21 20.6**	**+0.1**
PCDR				IAML		22 21 38.9	
	comp=Z,50nm,2.0s						

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*IDC **30** 22:23:50.5±0.5, 6°.95S×155°.18E, h0km, mb4.8/17, mb1 4.9/19, mb1mx4.8/27, mbtmp4.8/19, ML3.2/2, MS4.0/50, Ms1 4.0/50, ms1mx4.0/64, Error ellipse: s-maj=16.2km s-min=14.6km az=100.0*
*BJI **30** 22:23:50.0±0.0, 7°.00S×155°.20E, h10km, mb4.8/55, mB5.2/33, Ms4.8/8, Ms7 4.4/8*
*MOS **30** 22:23:52.2±0.9, 6°.94S×155°.08E, h16km, mb5.0/18, Error ellipse: s-maj=9.3km s-min=7.7km az=96.4*
*NEIC **30** 22:23:53.3±1.5, 6°.96S±0°.08×155°.16E±0°.07, h10km±1km, mb5.1/75, Error ellipse: s-maj=14.2km s-min=11.0km az=216.0*
*GCMT **30** 22:23:59.3±0.3, 7°.13S±0°.02×155°.05E±0°.03, h19km±1km, MW5.0/74, Moment Tensor Solution. s17,c19; s74,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=3.09±.26; $M_{\theta\theta}$=-2.44±.16; $M_{\phi\phi}$=0.65±.14; $M_{r\theta}$=1.24±.31; $M_{r\phi}$=1.11±.10; $M_{\theta\phi}$=-1.87±.40; Best double couple: M_0=3.75700×10^{16} NP1:ϕs282.00000°, δ30.00000°, λ63.00000°. NP2: ϕs132.00000°, δ63.00000°, λ105.00000°. Principal axes: T 3.9510, Plg68.0000°, Azm71.0000°; N -0.3910, Plg13.0000°, Azm305.0000°; P -3.5630, Plg17.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **30** 22:24:07.1±0.5, 7°S±3°×15°5E±°, h108km±5km, M4.8/24, mB5.2/10, mb4.8/24, MLv5.3/3, Mw(mB)4.6/10*
ISC 30 22:23:52.6±0.3, 6°.97S±0°.05×155°.20E±0°.05, h10km, n349, σ1s03/334, mb5.1/94, MS4.1/52, 16C-11D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.09**	**312**	Pn	**Pn**	**22 24 55.9**	**+0.6**
KRVT	**Keravat (AS076**	**4.12**	**310**	Pn	**Pn**	**22 24 56.4**	**+0.7**
KRVT				Sn	**Sn**	**22 25 45.0**	**+1.1**
	baz=143,slow=20						
HNR	**Honiara**	**5.30**	**118**	Pn	**Pn**	**22 25 14.1**	**+2.2**
	baz=127,slow=20,SNR=2.0						
HNR				Sn	**Sb**	**22 26 26.1**	**-2.9**
	11nm,0.3s,baz=213,slow=15,SNR=2.1						
HNR				LR	LR	22 27 24.4	
	comp=Z,4μm,21.5s,baz=278,slow=40						
HNR	**Honiara**	**5.30**	**118**	P	**Pn**	**22 25 13.5**	**+1.6**
HNR	**Honiara**	**5.30**	**118**	Pn	**Pn**	**22 25 13.5**	**+1.6**
PMG	**Port Moresby**	**8.31**	**253**	Pn	**Pn**	**22 25 54.2**	**+0.9**
	3.5nm,0.3s,baz=53,slow=10,SNR=27						
PMG				Sn	**Sn**	**22 27 28.1**	**+0.8**
	1.3nm,0.3s,baz=100,slow=19,SNR=7.7						
PMG				LR	LR	22 28 53.8	
	comp=Z,2μm,20.6s,baz=55,slow=36						
PMG	**Port Moresby**	**8.31**	**253**	*de*P	**Pn**	**22 25 54.1**	**+0.8**
PMG				pmax	pmax		
	comp=Z,71nm,0.8s						
PMG	**Port Moresby**	**8.31**	**253**	Pn	**Pn**	**22 25 53.7**	**+0.5**
COEN	**Coen**	**13.70**	**239**	Pn	**Pn**	**22 27 06.7**	**-0.4**
PATS	**Pohnpei**	**14.07**	**13**	Pn	**Pn**	**22 27 08.7**	**-3.4**
CTA	**Charters Tower**	**15.66**	**213**	Pn	**Pn**	**22 27 33.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=21,slow=14,SNR=5.1						
CTA				LR	LR	22 33 06.3	
	comp=Z,799nm,18.1s,baz=30,slow=36						
CTAO	**Charters Tower**	**15.66**	**213**	P	**Pn**	**22 27 32.1**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,34nm,1.1s						
CTAO	**Charters Tower**	**15.66**	**213**		**Pn**	**22 27 32.1**	**-1.4**
SMPI	**Sarmi**	**17.16**	**286**	P	**P**	**22 27 54.1**	**-0.2**
	comp=Z,29nm,1.5s						
DZM	**Mont Dzumac**	**18.52**	**145**	P	**Pn**	**22 28 12.0**	**+2.4**
	comp=Z,0.6nm,0.3s,baz=356,slow=12,SNR=17						
DZM				LR	LR	22 34 36.6	
	comp=Z,753nm,19.4s,baz=272,slow=35						
DZM	**Mont Dzumac**	**18.52**	**145**	*e*P	**Pn**	**22 28 12.4**	**+2.8**
	comp=Z,58nm,1.1s						
DZM				*e*LQ	LQ	22 31 44.0	
	comp=Z,3μm,32.5s						
DZM				*e*LR	LR	22 32 39.3	
	comp=Z,814nm,22.8s			

MSVF Nonsavu 24.72 118 P **P 22 29 15.0 +0.6**
comp=Z,37nm,1.0s,baz=285,slow=8.5,SNR=22
MSVF LR LR 22 37 36.1
comp=Z,322nm,21.6s,baz=115,slow=33
MSVF Nonsavu 24.72 118 *de*P **P 22 29 16.2 +1.8**
MSVF pmax pmax
comp=Z,67nm,1.1s
MSVF Nonsavu 24.72 118 P **P 22 29 15.1 +0.6**
MSVF IAmb IAmb 22 29 28.2
comp=Z,89nm,1.1s
AS31 Alice Springs 26.33 229 P **P 22 29 28.1 -0.8**
ASAR Alice Springs 26.34 229 P **P 22 29 28.2 -0.7**
comp=Z,6.8nm,0.8s,baz=61,slow=8.7,SNR=66
ASAR PcP **PcP 22 32 54.4 -0.7**
comp=Z,1.2nm,0.7s,baz=72,slow=2.8,SNR=3.3
ASAR ScP **ScP 22 36 34.0 -1.3**
comp=Z,3.1nm,1.1s,baz=51,slow=3.5,SNR=7.2
ASAR LR LR 22 39 19.7
comp=Z,402nm,19.2s,baz=120,slow=35
ASAR Alice Springs 26.34 229 P **P 22 29 28.1 -0.9**
ASAR Alice Springs 26.34 229 P **P 22 29 28.1 -0.9**
ASAR **ScP 22 36 34.8 -0.5**
KNRA Kununurra 27.29 249 P **P 22 29 38.4 +0.8**
KNRA IAmb IAmb 22 30 21.1
comp=Z,32nm,0.8s
STKA Stephens Creek 27.84 205 P **P 22 29 41.2 -1.1**
comp=Z,16nm,0.8s,baz=8.3,slow=11,SNR=21
STKA ScP **ScP 22 36 38.3 -1.2**
comp=Z,8.0nm,1.1s,baz=39,slow=4.8,SNR=6.7
STKA LR LR 22 40 09.7
comp=Z,544nm,21.1s,baz=28,slow=35
STKA Stephens Creek 27.84 205 P **P 22 29 41.5 -0.8**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 27.84 205 P **P 22 29 41.5 -0.8**
STKA **ScP 22 36 39.5 -0.1**
LBMI Labuha 28.33 282 P **P 22 29 48.4 +1.5**
comp=Z,826nmcomp=Z,74nm,1.0s
BBOO Buckleboo 31.26 212 P **P 22 30 11.6 -1.1**
BBOO IAmb IAmb 22 31 02.9
comp=Z,58nm,1.9s
BATI Baumata 31.33 262 LR LR 22 45 18.6
comp=Z,706nm,18.5s,baz=108,slow=41
DAV Davao City (W) 32.67 295 LR LR 22 43 50.8
comp=Z,101nm,18.2s,baz=114,slow=37
AFI Afiamalu 33.17 105 LR LR 22 42 49.9
comp=Z,492nm,18.0s,baz=288,slow=34
RAO Raoul Island 33.66 135 LR LR 22 41 26.1
comp=Z,169nm,21.3s,baz=314,slow=31
FORT Forrest 34.74 224 P **P 22 30 42.3 -0.8**
FORT IAmb IAmb 22 30 58.1
comp=Z,33nm,0.9s
TOLI2 Tolitoli 35.27 282 P **P 22 30 47.4 -0.5**
KAPI Kappang 35.30 271 LR LR 22 47 02.9
comp=Z,63nm,20.8s,baz=132,slow=40
MPSI Mapaga 35.95 280 P **P 22 30 51.9 -1.9**
comp=Z,21nm,0.8s
URZ Urewera 36.93 151 LR LR 22 45 43.6
comp=Z,245nm,18.8s,baz=344,slow=36
MBWA Marble Bar 37.06 244 P **P 22 31 02.1 -1.1**
PSA00 Pilbara Seismi 37.09 243 P **P 22 31 02.1 -1.2**
PSA00 IAmb IAmb 22 32 23.3
comp=Z,43nm,1.6s
BKZ Black Stump Fm 37.36 152 P **P 22 31 06.8 +1.3**
THZ Tophouse 38.05 158 P **P 22 31 11.2 -0.1**
KKM Kota Kinabalu 40.99 287 P **P 22 31 37.3 +1.0**
KKM IAmb IAmb 22 32 40.9
comp=Z,47nm,1.4s
JHJ Hachijo jima 2 42.48 341 LR LR 22 50 24.8
comp=Z,64nm,18.6s,baz=115,slow=38
JOW Kunigami 42.55 323 LR LR 22 48 41.4
comp=Z,124nm,20.6s,baz=124,slow=35
MORW Morawa 42.93 234 P **P 22 31 51.7 -0.2**
MORW IAmb IAmb 22 32 39.3
comp=Z,52nm,1.6s
YULB Yu-li 44.81 313 P **P 22 32 07.1 +0.1**
YULB IAmb IAmb 22 32 38.3
comp=Z,44nm,1.1s
TPUB Ta-pu 45.24 313 P **P 22 32 10.3 -0.1**
SSLB Suanglung 45.30 314 P **P 22 32 11.3 +0.4**
KSM Kuching 45.57 279 P **P 22 32 13.6 +0.4**
KSM IAmb IAmb 22 32 43.7
comp=Z,22nm,1.3s
RAR Rarotonga 45.73 113 LR LR 22 47 27.0
comp=Z,207nm,19.1s,baz=238,slow=31
JNU Nakatsue 46.09 331 P **P 22 32 16.7 -0.3**
JNU IAmb IAmb 22 34 00.9
comp=Z,32nm,1.3s
MJAR Matsushiro Arr 46.13 341 P **P 22 32 15.8 -1.5**
comp=Z,0.3nm,0.4s,baz=166,slow=8.5,SNR=1.3
MJAR LR LR 22 53 11.0
comp=Z,49nm,18.1s,baz=171,slow=38
LEM Lembang 47.22 267 LR LR 22 55 53.0
comp=Z,87nm,19.1s,baz=90,slow=41
TJN Taejon 50.41 331 ⇑*e*P **P 22 32 52.0 +1.7**
KSRS Korea Array 51.01 332 P **P 22 32 54.2 -0.6**
comp=Z,2.3nm,0.8s,baz=142,slow=7.3,SNR=6.8
KSRS LR LR 22 51 31.7
comp=Z,76nm,20.9s,baz=135,slow=33
QIZ Qiongzhong 51.62 301 P **P 22 32 58.8 -0.9**
QIZ S **S 22 40 21.8 +0.7**
QIZ LR LR
comp=Z,380nm,26.3s
QIZ LR LR
comp=Z,340nm,21.6s
QIZ Qiongzhong 51.62 301 P **P 22 33 00.8 +1.0**
NJ2 Nanjing 52.02 320 *e*P **P 22 33 05.3 +2.8**
NJ2 pmax pmax
comp=Z,12nm,0.5s
ASAJ Asahikawa 52.11 349 LR LR 22 53 47.5
comp=Z,152nm,20.0s,baz=172,slow=34
GULI GuiLin 54.12 308 ⇑P **P 22 33 18.5 +0.4**
PPT Papeete 54.81 107 LR LR 22 53 51.4
comp=Z,106nm,19.4s,baz=176,slow=33
YSS Yuzh-Sakhalins 54.82 350 *e*P P 22 33 30.1 +7.4
USRK Ussuriysk Ar. 55.08 340 P **P 22 33 22.4 -2.3**
comp=Z,3.8nm,0.9s,baz=144,slow=7.2,SNR=6.1
USRK Ussuriysk Ar. 55.08 340 P **P 22 33 24.1 -0.6**
USRK Ussuriysk Ar. 55.08 340 P **P 22 33 24.1 -0.6**
IPM Ipoh 55.25 280 P **P 22 33 25.7 -0.9**
IPM IAmb IAmb 22 33 38.2
comp=Z,22nm,1.3s
KULM Kulim 55.78 281 P **P 22 33 29.7 -0.7**
KULM IAmb IAmb 22 34 20.2
comp=Z,16nm,1.1s
PSI Prapat 56.99 278 LR LR 23 03 42.9
comp=Z,60nm,18.3s,baz=126,slow=42
CN2 Changchun 57.26 335 *e*P **P 22 33 40.0 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
ENH Enshi 57.37 313 P **P 22 33 41.0 -0.4**
ENH IAmb IAmb 22 34 01.4
comp=Z,18nm,0.9s
GYA Guiyang 57.60 307 ⇓*i*P **P 22 33 44.5 +1.3**
GYA pmax pmax
comp=Z,16nm,0.9s
GYA pmax pmax
comp=Z,210nm,4.3s
SLVN Son La 57.65 301 P **P 22 33 44.5 +0.9**
SLVN IAmb IAmb 22 33 55.4
comp=Z,15nm,1.2s
BNX BinXian 58.07 337 ⇑P **P 22 33 45.5 -0.5**
BNX pmax pmax
comp=Z,14nm,1.2s
BNX pmax pmax
comp=Z,240nm,4.0s
HNS HongShan 58.11 322 ⇑P **P 22 33 46.3 -0.1**
HNS pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 59.61 342 LR LR 23 01 13.0
comp=Z,62nm,19.5s,baz=187,slow=38
KLR Kul'dur 59.61 342 ⇑*e*P **P 22 33 56.5 -0.1**
KLR pmax pmax
comp=Z,16nm,1.5s
XAN Xi'an 59.83 316 P **P 22 33 58.5 0.0**
XAN pmax pmax
comp=Z,8.0nm,0.6s
PEA0B Petropavlovsk- 59.89 2 P **P 22 33 58.8 +0.4**
PEA0B pmax pmax
comp=Z,65nm,1.3s
PEA0B Petropavlovsk- 59.89 2 P **P 22 33 58.8 +0.4**
PETK Petropavlovsk- 59.89 2 P **P 22 33 58.4 -0.1**
comp=Z,20nm,0.9s,baz=178,slow=8.9,SNR=16
PETK LR LR 22 56 32.8
comp=Z,91nm,21.1s,baz=168,slow=33
PETK Petropavlovsk- 59.89 2 P **P 22 33 59.0 +0.5**

PETK Petropavlovsk- 59.89 2 P **P 22 33 59.0 +0.5**
KMI Kunming 60.17 304 ⇑P **P 22 34 02.5 +1.3**
KMI pP pwP 22 34 07.8 +1.6
KMI pmax pmax
comp=Z,22nm,1.1s
CM31 Chiang Mai Arr 60.95 295 P **P 22 34 07.1 +0.6**
CMAR Chiang Mai Arr 60.95 295 P **P 22 34 07.5 +1.0**
comp=Z,21nm,0.8s,baz=121,slow=5.1,SNR=123
CMAR LR LR 22 59 25.6
comp=Z,67nm,20.8s,baz=125,slow=35
CMAR PKP2bc 23 03 33.6
comp=Z,0.7nm,0.3s,baz=295,slow=4.9,SNR=6.9
CMAR Chiang Mai Arr 60.95 295 *i* P **P 22 34 07.5 +1.0**
CMAR pmax pmax
comp=Z,23nm,0.8s
CMAR Chiang Mai Arr 60.95 295 P **P 22 34 07.3 +0.9**
CHTO Chiang Mai 61.07 296 P **P 22 34 07.2 0.0**
CHTO pmax pmax
comp=Z,29nm,1.3s
CHTO Chiang Mai 61.07 296 P **P 22 34 07.2 0.0**
CHTO IAmb IAmb 22 34 18.9
comp=Z,29nm,1.3s
PZH PanZhiHua 61.56 305 P **P 22 34 10.8 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,6.4s
XLT XiLinHaoTe 61.74 329 *e*P **P 22 34 11.0 -0.4**
XLT pP sP 22 34 15.5 +0.5
XLT sP pwP 22 34 19.3 +2.7
XLT pmax pmax
comp=Z,23nm,0.8s
XLT pmax pmax
comp=Z,200nm,4.1s
CD2 Chengdu 61.95 310 P **P 22 34 13.8 +0.8**
CD2 pP sP 22 34 18.0 +1.3
CD2 pmax pmax
comp=Z,40nm,0.7s
HHC Hu-ho-hao-te 62.19 324 *e*P **P 22 34 17.0 +2.5**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.5s
HIA Hailar 63.99 335 P **P 22 34 25.7 -0.5**
HIA pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 63.99 335 P **P 22 34 25.7 -0.5**
HIA IAmb IAmb 22 34 27.0
comp=Z,9.9nm,0.8s
LZH Lanzhou 64.44 315 ⇓P **P 22 34 31.3 +1.7**
LZH pP pwP 22 34 35.8 +1.1
LZH pmax pmax
comp=Z,18nm,1.6s
LZH pmax pmax
comp=Z,170nm,5.4s
LZH LR LR
comp=Z,260nm,16.3s
LZH LR LR
comp=Z,260nm,16.8s
LZH LR LR
comp=Z,280nm,17.9s
ZEA Zeya 64.92 342 *e*P **P 22 34 32.9 +0.8**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
MA2 Magadan 66.43 358 *c i*P **P 22 34 41.5 -0.3**
MA2 pmax pmax
comp=Z,14nm,1.0s
MA2 Magadan 66.43 358 P **P 22 34 42.0 +0.2**
MA2 IAmb IAmb 22 34 42.8
comp=Z,11nm,0.8s
GTA Gaotai 68.86 317 ⇑P **P 22 34 59.5 +1.8**
GTA pP pwP 22 35 03.8 +1.0
GTA sP sP 22 35 07.0 +5.6
GTA pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 69.09 328 *c i*P **P 22 34 59.2 +0.2**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 69.09 328 P **P 22 34 58.8 -0.3**
ULN IAmb IAmb 22 35 00.5
comp=Z,8.8nm,0.9s
SONM Songino Array 69.43 327 P **P 22 35 00.8 -0.2**
comp=Z,8.0nm,0.8s,baz=133,slow=6.1,SNR=48
SONM PKPPKP **P'P'df 23 03 10.3 +1.8**
comp=Z,0.3nm,0.6s,baz=315,slow=0.8,SNR=3.6
SONM Songino Array 69.43 327 P **P 22 35 01.2 +0.1**
SONM pmax pmax
comp=Z,9.0nm,0.9s
SONM Songino Array 69.43 327 P **P 22 35 01.2 +0.1**
SONM IAmb IAmb 22 35 02.4
comp=Z,9.2nm,0.9s
SHL Shillong 69.46 300 P **P 22 35 01.6 -0.2**
SHL pmax pmax
comp=Z,34nm,0.9s
SHL Shillong 69.46 300 P **P 22 35 01.6 -0.2**
SEY Seymchan 69.74 359 ⇓*i*P **P 22 35 03.2 +0.7**
VNDA Vanda 70.60 178 LR LR 23 01 34.4
comp=Z,92nm,18.6s,baz=198,slow=32
GOMU GeErMu 70.98 312 P **P 22 35 14.3 +3.2**
GOMU pP pwP 22 35 18.3 +2.1
GOMU sP sP 22 35 22.0 +7.2
GOMU pmax pmax
comp=Z,75nm,5.0s
YAK Yakutsk 71.58 348 LR LR 23 06 41.1
comp=Z,47nm,19.0s,baz=166,slow=36
YAK Yakutsk 71.58 348 *c i*P **P 22 35 14.5 +0.8**
YAK pmax pmax
comp=Z,11nm,1.0s
YAK Yakutsk 71.58 348 P **P 22 35 13.9 +0.2**
YAK IAmb IAmb 22 35 15.8
comp=Z,18nm,1.0s
ZAK Zakamensk 72.58 328 *e*P **P 22 35 19.7 -0.4**
ZAK pmax pmax
comp=Z,16nm,1.0s
MOY Mondy 74.50 328 *e*P **P 22 35 31.3 -0.1**
CHLP Challavanipeta 74.55 291 *e*P **P 22 35 32.9 +0.8**
BILL Biiibino 75.25 4 ⇓*i*P **P 22 35 35.9 +0.7**
BILL *e* 22 38 20.8
BILL *e*SS SS 22 50 11.8 +7.8
BILL pmax pmax
comp=Z,24nm,0.9s
BILL MLR MLR
comp=Z,95nm,18.0s
BILL Biiibino 75.25 4 P **P 22 35 35.9 +0.7**
BILL IAmb IAmb 22 35 37.1
comp=Z,22nm,0.9s
GUN Gumba 75.28 301 *e*P **P 22 35 36.8 +0.1**
comp=Z,84nm,0.8s
PKI Pulchoki 75.58 301 *e*P **P 22 35 38.4 -0.1**
comp=Z,48nm,1.0s
PKIN Phulchoki 75.60 301 *e*P **P 22 35 38.3 -0.2**
comp=Z,40nm,1.0s
PALK Pallekele 75.63 279 LR LR 23 12 10.1
comp=Z,54nm,19.4s,baz=251,slow=38
KKN Kakani 75.75 301 *e*P **P 22 35 39.5 +0.2**
comp=Z,39nm,0.8s
DMN Daman 75.85 301 *e*P **P 22 35 40.3 +0.4**
comp=Z,102nm,0.9s
GKN Gorkha 76.36 301 *e*P **P 22 35 42.6 -0.1**
comp=Z,94nm,1.0s
KDAK Kodiak Island 77.06 26 LR LR 23 07 37.5
comp=Z,76nm,19.1s,baz=228,slow=34
KDAK Kodiak Island 77.06 26 P **P 22 35 45.8 0.0**
KDAK pmax pmax
comp=Z,85nm,1.7s
KDAK Kodiak Island 77.06 26 P **P 22 35 45.8 0.0**
ANM Nome 77.15 16 P **P 22 35 47.5 +1.3**
baz=220,SNR=6.5
KOLN Koldanda 77.18 300 *e*P **P 22 35 47.1 -0.3**
comp=Z,53nm,0.9s
DANN Dangsing 77.20 301 *e*P **P 22 35 47.1 -0.5**
comp=Z,38nm,0.8s
TNA Tin City 77.25 15 P **P 22 35 47.4 +0.8**
baz=218
Q19K Cape Douglas, 77.31 24 P **P 22 35 47.2 +0.1**
Q19K Cape Douglas, 77.31 24 P **P 22 35 48.0 +0.8**
baz=232
MYLAV Mylavaram 77.37 289 *e*P **P 22 35 48.9 +0.5**
SKHT Srikalahasti 77.69 286 *e*P **P 22 35 50.8 +0.7**
PYUN Piuthan 77.79 301 *e*P **P 22 35 50.4 -0.4**
comp=Z,56nm,1.0s
ADKI Addanki 77.82 288 *e*P **P 22 35 50.5 -0.4**
ILSW Iliamna Southw 78.15 24 P **P 22 35 52.1 +0.1**

NJS Nagarjunasagar 78.58 288 *e*P **P 22 35 55.5 +0.4**
RCLA Racherla 78.71 287 *e*P **P 22 35 55.3 -0.5**
M19K Big River Lodg 78.86 22 P **P 22 35 57.4 +1.7**
baz=231
L19K White Mountain 78.86 21 P **P 22 35 56.9 +1.1**
L19K IAmb IAmb 22 35 58.2
comp=Z,31nm,0.8s
L19K White Mountain 78.86 21 P **P 22 35 57.5 +1.7**
baz=231
SRLM Srisailam 78.89 288 *e*P **P 22 35 56.5 -0.3**
TTA Tatalina 78.93 21 P **P 22 35 56.7 +0.5**
TTA pmax pmax
comp=Z,13nm,0.9s
TTA Tatalina 78.93 21 P **P 22 35 56.7 +0.5**
TTA IAmb IAmb 22 35 58.3
comp=Z,13nm,0.9s
TTA Tatalina 78.93 21 P **P 22 35 57.5 +1.3**
baz=230,SNR=6.3
WMQ Urumqi 78.94 317 *e*P **P 22 35 59.3 +2.6**
WMQ LR LR
comp=Z,650nm,22.9s
WMQ LR LR
comp=Z,580nm,27.3s
WMQ LR LR
comp=Z,94nm,20.1s
BRSE Bradley Lake S 78.99 25 P **P 22 35 57.3 +0.8**
baz=235
RPR Rampur 79.03 291 *e*P **P 22 35 57.2 -0.4**
CUPL Choutuppal 79.08 289 *e*P **P 22 35 58.2 +0.3**
L20K Farewell, AK 79.41 22 P **P 22 36 00.0 +1.3**
baz=232
HYBB Hyderabad (bro 79.45 289 *e*P **P 22 35 59.1 -0.8**
GCSA Galena City Sc 79.84 19 P **P 22 36 02.2 +1.3**
baz=228
K20K Telida 79.89 21 P **P 22 36 02.7 +1.4**
baz=231,SNR=9.9
SRSP Sriramsagar 79.93 291 *e*P **P 22 36 02.0 -0.5**
SUA Susitna One 79.98 23 P **P 22 36 02.2 +0.3**
baz=235
RC01 Rabbit Creek A 80.17 24 P **P 22 36 03.3 +0.5**
baz=236,SNR=9.1
URV Uravakonda 80.23 286 *e*P **P 22 36 03.7 -0.5**
PPLA Purkeypile 80.28 22 P **P 22 36 03.7 +0.1**
PPLA IAmb IAmb 22 36 23.1
comp=Z,43nm,1.5s
PPLA Purkeypile 80.28 22 P **P 22 36 04.1 +0.5**
baz=233
TIXI Tiksi 80.36 352 LR LR 23 14 21.1
comp=Z,37nm,18.0s,baz=234,slow=38
TIXI Tiksi 80.36 352 ⇑*e*P **P 22 36 02.6 -1.0**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
J20K Nowinta River 80.38 20 P **P 22 36 05.3 +1.4**
baz=231
M22K Willow 80.39 23 P **P 22 36 04.2 +0.2**
baz=235
RDOG Red Dog Mine 80.45 15 P **P 22 36 05.6 +1.4**
baz=222
PWL Port Wells 80.61 24 P **P 22 36 06.3 +1.1**
baz=237,SNR=14
CAST Castle Rocks 80.63 21 P **P 22 36 05.3 0.0**
baz=233,SNR=22
PMR Palmer 80.69 24 P **P 22 36 06.0 +0.5**
baz=236,SNR=7.2
CHUM Lake Minchumin 80.83 21 P **P 22 36 07.5 +1.2**
baz=233
KNK Knik Glacier 80.86 24 P **P 22 36 07.4 +0.8**
baz=237,SNR=5.5
SML Sawmill 81.13 24 P **P 22 36 09.0 +1.0**
baz=237,SNR=15
DGZ Jazzator, Alta 81.25 323 ⇑*e*P **P 22 36 08.5 -0.6**
DGZ pmax pmax
comp=Z,8.0nm,1.8s
TRF Thorofare Moun 81.30 22 P **P 22 36 09.0 -0.1**
baz=235,SNR=14
KLRI Killari 81.40 289 *e*P **P 22 36 10.2 -0.2**
BPAW Bear Paw Mtn. 81.43 21 P **P 22 36 09.2 -0.4**
baz=234,SNR=6.9
SCM Sheep Creek Mo 81.54 24 P **P 22 36 11.4 +1.1**
baz=238,SNR=6.3
IMAR Indian Mountai 81.64 19 P **P 22 36 11.5 +0.9**
I21K Tanana 81.73 20 P **P 22 36 12.2 +1.2**
baz=233,SNR=26
H21K Melozitna Rive 81.75 19 P **P 22 36 12.3 +1.1**
baz=232,SNR=9.4
KLU Klutina 81.94 25 P **P 22 36 13.5 +1.1**
baz=239,SNR=9.1
MCK McKinley 81.96 22 P **P 22 36 12.2 -0.2**
MCK pmax pmax
comp=Z,52nm,0.8s
MCK McKinley 81.96 22 P **P 22 36 12.2 -0.2**
MCK McKinley 81.96 22 P **P 22 36 12.3 -0.1**
baz=236,SNR=36
MLY Manley 82.06 20 P **P 22 36 13.5 +0.6**
baz=234,SNR=17
M24K Tolsona, Glenn 82.15 24 P **P 22 36 14.9 +1.4**
M24K Tolsona, Glenn 82.15 24 P **P 22 36 14.8 +1.4**
baz=239,SNR=7.5
NEA2 Nenana 82.40 21 P **P 22 36 14.5 -0.1**
baz=236,SNR=14
N25K Chitina, Valde 82.54 25 P **P 22 36 16.8 +1.2**
N25K Chitina, Valde 82.54 25 P **P 22 36 16.5 +0.9**
baz=240,SNR=9.0
I23K Minto, Yukon-K 82.61 21 P **P 22 36 16.0 +0.3**
I23K Minto, Yukon-K 82.61 21 P **P 22 36 15.9 +0.3**
baz=236,SNR=6.3
HARP HAARP 82.71 24 P **P 22 36 17.4 +1.1**
baz=240
PAX Paxson 82.88 23 P **P 22 36 18.2 +0.9**
PAX pmax pmax
comp=Z,23nm,1.7s
PAX Paxson 82.88 23 P **P 22 36 18.2 +0.9**
PAX IAmb IAmb 22 36 37.7
comp=Z,23nm,1.7s
PAX Paxson 82.88 23 P **P 22 36 17.7 +0.5**
baz=239
TCOL CIGO, UAF Yank 82.98 21 P **P 22 36 17.6 -0.1**
TCOL CIGO, UAF Yank 82.98 21 P **P 22 36 17.6 -0.1**
baz=237
COLA College 82.99 21 *c i*P **P 22 36 17.3 -0.3**
COLA pmax pmax
comp=Z,29nm,0.9s
COLA College 82.99 21 P **P 22 36 17.5 -0.2**
QSPA South Pole Qui 83.00 180 P **P 22 36 18.6 +0.6**
QSPA IAmb IAmb 22 36 31.5
comp=Z,24nm,0.9s
HDA Harding Lake 83.07 22 P **P 22 36 18.1 0.0**
baz=238,SNR=11
POKR Poker Plat Res 83.27 21 P **P 22 36 18.4 -0.7**
baz=237
IL31 83.28 21 P **P 22 36 18.4 -0.7**
IL31 IAmb IAmb 22 36 19.7
comp=Z,14nm,0.8s
ILAR Eielson Array 83.28 21 P **P 22 36 18.5 -0.7**
comp=Z,11nm,0.8s,baz=250,slow=5.5,SNR=79
ILAR LR LR 23 08 27.5
comp=Z,180nm,20.7s,baz=256,slow=32
H24K Noodor Dome 83.51 20 P **P 22 36 21.3 +0.9**
baz=237
RIDG Independent Ri 83.51 23 P **P 22 36 21.1 +0.7**
baz=240,SNR=16
MK31 Makanchi Array 83.52 319 ⇑*e*P **P 22 36 20.4 -0.5**
MK31 Makanchi Array 83.52 319 P **P 22 36 20.5 -0.3**
MKAR Makanchi Array 83.52 319 P **P 22 36 20.3 -0.6**
comp=Z,3.5nm,0.7s,baz=102,slow=5.6,SNR=53
MKAR PKKP **PKKPbc 22 54 40.3 -1.0**
comp=Z,0.6nm,0.9s,baz=239,slow=2.1,SNR=4.2
MKAR Makanchi Array 83.52 319 *i* P **P 22 36 20.7 -0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 83.52 319 P **P 22 36 20.5 -0.4**
COLD Coldfoot 83.53 19 P **P 22 36 21.5 +1.1**
baz=234,SNR=5.9
M26K Nabesna, AK 83.59 24 P **P 22 36 22.5 +1.6**
baz=242
PINM Pinnacle 83.72 27 P **P 22 36 23.0 +1.3**
baz=244
MAKZ Makanchi 83.73 319 P **P 22 36 21.5 -0.4**
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ Makanchi 83.73 319 P **P 22 36 21.5 -0.4**
MAKZ IAmb IAmb 22 36 42.2
comp=Z,11nm,1.1s
L26K Log Cabin Wild 83.75 24 P **P 22 36 23.0 +1.3**
baz=241,SNR=7.5
J25K Salcha River, 83.75 22 P **P 22 36 21.9 +0.1**

J25K	**Salcha River,**	**83.75**	**22**	P	**P**	**22 36 22.2**	**+0.5**
	baz=239,SNR=24						
DOT	**Dot Lake**	**83.77**	**23**	P	**P**	**22 36 22.1**	**+0.4**
SCRK	**Sand Creek**	**83.96**	**23**	P	**P**	**22 36 23.6**	**+0.8**
	baz=241,SNR=14						
M27K	**Edge Creek, AK**	**84.03**	**25**	P	**P**	**22 36 24.9**	**+1.6**
	baz=243						
ZAA0	**Zalesovo Array**	**84.27**	**326**	P	**P**	**22 36 23.4**	**-1.1**
ZALV	**Zalesovo Beam**	**84.27**	**326**	P	**P**	**22 36 22.5**	**-2.0**
	comp=Z,3.3nm,0.7s,baz=112,slow=6.1,SNR=12						
ZALV	**Zalesovo Beam**	**84.27**	**326**	P	**P**	**22 36 23.3**	**-1.2**
ZALV	**Zalesovo Beam**	**84.27**	**326**	P	**P**	**22 36 23.3**	**-1.2**
A21K	**Barrow**	**84.32**	**14**	P	**P**	**22 36 25.1**	**+0.8**
	baz=228						
YUK3	**Moose Creek**	**84.36**	**26**	P	**P**	**22 36 26.0**	**+0.9**
	baz=244,SNR=8.5						
L27K	**Beaver Creek,**	**84.37**	**24**	P	**P**	**22 36 26.2**	**+1.3**
	baz=243						
J26L	**Joseph Creek**	**84.38**	**22**	P	**P**	**22 36 25.9**	**+0.9**
	baz=241						
BCAR	**Beaver Creek A**	**84.39**	**24**	P	**P**	**22 36 25.7**	**+0.7**
BVCY	**Beaver Creek**	**84.48**	**25**	P	**P**	**22 36 26.9**	**+1.5**
	baz=244,SNR=9.2						
MAW	**Mawson**	**84.49**	**203**	LR	LR	23 10 49.2	
	comp=Z,149nm,20.0s,baz=205,slow=33						
TOLK	**Toolik Lake Re**	**84.54**	**18**	P	**P**	**22 36 26.6**	**+0.9**
TOLK				IAmb	IAmb	22 36 27.7	
	comp=Z,14nm,0.8s						
TOLK	**Toolik Lake Re**	**84.54**	**18**	P	**P**	**22 36 26.8**	**+1.1**
	baz=235,SNR=13						
YUK6	**Outpost Mounta**	**84.93**	**27**	P	**P**	**22 36 29.0**	**+1.1**
	baz=246						
YUK4	**Talbot Arm**	**84.97**	**26**	P	**P**	**22 36 30.1**	**+2.0**
	baz=246,SNR=6.8						
HYT	**Haines Junctio**	**85.27**	**27**	P	**P**	**22 36 31.2**	**+1.6**
	baz=247,SNR=12						
EGAK	**Eagle**	**85.42**	**23**	P	**P**	**22 36 30.7**	**+0.6**
EGAK				IAmb	IAmb	22 36 32.2	
	comp=Z,22nm,0.8s						
EGAK	**Eagle**	**85.42**	**23**	P	**P**	**22 36 31.3**	**+1.3**
	baz=243,SNR=15						
BMAR	**Burnt Mountain**	**85.47**	**20**	P	**P**	**22 36 31.6**	**+1.3**
DAWY	**Dawson**	**85.80**	**24**	P	**P**	**22 36 33.6**	**+1.6**
	baz=245,SNR=12						
KSH	**Kashi**	**86.15**	**310**	P	**P**	**22 36 36.0**	**+1.6**
KSH				pP	pwP	22 36 41.5	+2.0
KSH				sP	sP	22 36 43.8	+5.6
KSH				PP	**PP**	**22 39 57.8**	**+2.8**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.5s						
N31M	**Braeburn, Yuko**	**86.29**	**27**	P	**P**	**22 36 36.3**	**+1.8**
	baz=248,SNR=10						
J29M	**Klondike Camp**	**86.43**	**23**	P	**P**	**22 36 37.4**	**+2.2**
	baz=246,SNR=11						
I29M	**Ogilvie Camp,**	**86.76**	**23**	P	**P**	**22 36 37.5**	**+0.7**
I29M	**Ogilvie Camp,**	**86.76**	**23**	P	**P**	**22 36 37.8**	**+1.1**
	baz=246,SNR=8.2						
BOOM	**Boomskoye usch**	**86.81**	**313**	P	**P**	**22 36 37.3**	**-0.3**
BOOM				pmax	pmax		
	comp=Z,15nm,1.4s						
BOOM	**Boomskoye usch**	**86.81**	**313**	P	**P**	**22 36 37.3**	**-0.3**
BOOM				IAmb	IAmb	22 37 47.7	
	comp=Z,15nm,1.4s						
KURK	**Kurchatov**	**86.94**	**322⇑**	*e*P	**P**	**22 36 36.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,2.0s						
KURK	**Kurchatov**	**86.94**	**322**	P	**P**	**22 36 36.5**	**-1.3**
KURBB	**Kurchatov Arra**	**86.97**	**322**	LR	LR	23 14 36.8	
	comp=Z,77nm,20.9s,baz=74,slow=35						
MAYO	**Mayo, Yukon**	**87.03**	**25**	P	**P**	**22 36 40.1**	**+2.0**
	baz=248						
M31M	**Drury Creek, Y**	**87.17**	**26**	P	**P**	**22 36 39.6**	**+0.8**
	baz=249,SNR=6.8						
BBB	**Bella Bella**	**87.38**	**37**	LR	LR	23 12 58.9	
	comp=Z,206nm,18.1s,baz=251,slow=34						
FARO	**Faro, Yukon**	**87.63**	**26**	P	**P**	**22 36 41.7**	**+0.7**
	baz=250,SNR=5.8						
EPYK	**Eagle Plains**	**87.77**	**22**	P	**P**	**22 36 42.9**	**+1.3**
	baz=247,SNR=51						
AAK	**Ala-Archa**	**87.88**	**313⇑**	*e*P	**P**	**22 36 41.5**	**-1.3**
AAK				pmax	pmax		
	comp=Z,9.0nm,2.0s						
AAK	**Ala-Archa**	**87.88**	**313**	P	**P**	**22 36 42.3**	**-0.6**
AAK				IAmb	IAmb	22 40 03.7	
	comp=Z,15nm,1.9s						
DLBC	**Dease Lake**	**88.02**	**31**	LR	LR	23 14 49.4	
	comp=Z,107nm,18.3s,baz=320,slow=35						
MMPY	**Sheldon Lake,**	**88.68**	**26**	P	**P**	**22 36 47.3**	**+1.3**
	baz=252						
YBH	**Yreka Blue Hor**	**88.73**	**48**	LR	LR	23 13 40.4	
	comp=Z,183nm,18.3s,baz=252,slow=34						
NRIK	**Noril'sk**	**88.78**	**341**	P	**P**	**22 36 44.7**	**-1.5**
	comp=Z,2.2nm,0.6s,baz=146,slow=2.4,SNR=5.1						
NRIK				LR	LR	23 18 41.8	
	comp=Z,66nm,18.3s,baz=6.5,slow=37						
NRIK	**Noril'sk**	**88.78**	**341**	‖*i*P	**P**	**22 36 45.1**	**-1.1**
NRIK				pmax	pmax		
	comp=Z,13nm,2.4s						
NRIK	**Noril'sk**	**88.78**	**341**	P	**P**	**22 36 44.8**	**-1.5**
INK	**Inuvik**	**89.63**	**21**	LR	LR	23 14 44.9	
	comp=Z,126nm,19.4s,baz=232,slow=34						
INK	**Inuvik**	**89.63**	**21**	P	**P**	**22 36 51.0**	**+0.8**
	baz=250,SNR=12						
J05D	**Fort Rock, OR**	**90.07**	**47**	P	**P**	**22 36 54.5**	**+1.4**
	baz=260						
KBL	**Kabul**	**90.75**	**305**	P	**P**	**22 36 55.1**	**-1.5**
KBL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBL	**Kabul**	**90.75**	**305**	P	**P**	**22 36 55.1**	**-1.5**
MWC	**Mount Wilson**	**91.19**	**56**	P	**P**	**22 36 59.8**	**+1.2**
MWC				pmax	pmax		
	comp=Z,15nm,1.0s						
MWC	**Mount Wilson**	**91.19**	**56**	P	**P**	**22 36 59.8**	**+1.2**
MWC				IAmb	IAmb	22 37 04.3	
	comp=Z,15nm,0.9s						
CWC	**Cottonwood Cre**	**91.47**	**54**	P	**P**	**22 37 01.4**	**+1.6**
	baz=262						
NVAR	**Mina Array Bea**	**91.55**	**52**	P	**P**	**22 36 60.0**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=252,slow=6.6,SNR=20						
NVAR				LR	LR	23 13 12.5	
	comp=Z,153nm,18.8s,baz=260,slow=32						
NVAR	**Mina Array Bea**	**91.55**	**52**	P	**P**	**22 37 01.4**	**+1.2**
NV11	**Mina Array Sit**	**91.67**	**52**	P	**P**	**22 37 01.8**	**+1.1**
NV11				IAmb	IAmb	22 37 07.4	
	comp=Z,10nm,1.2s						
RPN	**Rapa Nui**	**91.70**	**117**	LR	LR	23 10 19.2	
	comp=Z,119nm,21.2s,baz=326,slow=30						
PFO	**Pinyon Flats O**	**92.44**	**57**	LR	LR	23 14 09.1	
	comp=Z,180nm,18.0s,baz=206,slow=33						
BRVK	**Borovoye**	**92.47**	**323‖**	*e*P	**P**	**22 37 05.5**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,14nm,3.7s						
C36M	**Paulatuk**	**93.21**	**21**	P	**P**	**22 37 07.3**	**+0.5**
	baz=259,SNR=13						
A36M	**Sachs Harbour**	**93.36**	**18**	P	**P**	**22 37 07.6**	**+0.1**
	baz=258,SNR=11						
NEW	**Newport**	**93.61**	**42**	LR	LR	23 12 01.8	
	comp=Z,262nm,21.5s,baz=266,slow=31						
R11A	**Troy Canyon, C**	**93.66**	**52**	P	**P**	**22 37 11.2**	**+1.3**
	baz=264						
ELK	**Elko**	**94.17**	**50**	LR	LR	23 13 53.1	
	comp=Z,118nm,20.3s,baz=248,slow=32						
YKA	**Yellowknife Ar**	**96.22**	**28**	P	**P**	**22 37 20.9**	**+0.1**
	comp=Z,7.8nm,0.9s,baz=263,slow=4.6,SNR=66						
YKA				LR	LR	23 22 27.1	
	comp=Z,75nm,18.7s,baz=310,slow=36						
YKA	**Yellowknife Ar**	**96.22**	**28**	P	**P**	**22 37 20.8**	**0.0**
YKA	**Yellowknife Ar**	**96.22**	**28**	P	**P**	**22 37 20.8**	**0.0**
LPIG	**La Paz**	**96.90**	**67**	LR	LR	23 13 52.7	
	comp=Z,214nm,20.2s,baz=242,slow=31						
PDAR	**Pinedale Array**	**98.54**	**48**	P	**P**	**22 37 31.4**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=230,slow=2.5,SNR=11						
PDAR				LR	LR	23 19 39.2	
	comp=Z,65nm,18.2s,baz=266,slow=34						
ARU	**Arti**	**99.44**	**326**	LR	LR	23 26 44.5	
	comp=Z,100nm,18.0s,baz=124,slow=38						
MNK	**Minsk**	**116.68**	**329**	*i* PKIKP	**PKPdf**	**22 42 35.7**	**-1.3**
MNK				*i*		22 43 42.3	
MNK				*i*		22 46 11.8	
MNK				*i*		22 49 48.5	
MNK				*i* SS	SS	22 59 49.1	-1.2
MNK				*i* SSS	SSS	23 04 07.7	
MNK				pmax	pmax		
	comp=E,4.0nm,1.5s						
MNK				pmax	pmax		
	comp=N,12nm,1.0s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,38nm,13.0s						
MNK				MLR	MLR		
	comp=N,164nm,7.0s						
MNK				MLR	MLR		
	comp=Z,176nm,9.0s						
MNK	**Minsk**	**116.68**	**329**	*i* PKP	**PKPdf**	**22 42 35.7**	**-1.3**
	comp=E,4.0nm,1.5s						
MNK				*i* PKP	**PKPdf**	**22 42 35.7**	**-1.3**
	comp=N,12nm,1.0s						
MNK				*i* PKP	**PKPdf**	**22 42 35.7**	**-1.3**
	comp=Z,6.0nm,0.8s,baz=62						
MNK				*i* PP	**PP**	**22 43 42.4**	**-2.1**
MNK				*i* PPP	PPP	22 46 09.8	
MNK				*i* SKP		22 46 10.2	
MNK				*i* PKS	**PKSdf**	**22 46 11.8**	**-1.7**
MNK				*i* SKS	**SKSdf**	**22 49 48.5**	**-0.7**
MNK				*i* SS	**SS**	**22 59 49.2**	**-1.1**
MNK				*i* SSS	SSS	23 04 07.8	
MNK				*i* LR	LR	23 30 30.5	
MNK				*i* LRM	MLR	23 33 14.8	
	comp=E,38nm,12.9s						
MNK				*i* LRM	MLR	23 33 18.7	
	comp=N,164nm,7.1s						
MNK				*i* LRM	MLR	23 33 23.2	
	comp=Z,176nm,8.7s						
AKASG	**Malin Array Be**	**117.64**	**324**	PKIKP	**PKPdf**	**22 42 37.6**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=66,slow=2.2,SNR=6.6						
AKASG	**Malin Array Be**	**117.64**	**324**	PKIKP	**PKPdf**	**22 42 38.5**	**-0.5**
AKASG	**Malin Array Be**	**117.64**	**324**	PKPdf	**PKPdf**	**22 42 38.5**	**-0.5**
AKBB	**Malin Array Si**	**117.64**	**324⇑**	*i*PKIKP	**PKPdf**	**22 42 38.9**	**-0.1**
BR131	**Keskin Array S**	**118.52**	**312**	‖*i*PKIKP	**PKPdf**	**22 42 40.3**	**-1.0**
BRTR	**Keskin Array B**	**118.52**	**312**	PKP	**PKPdf**	**22 42 40.1**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=128,slow=2.0,SNR=5.7						
VTS	**Vitosha**	**124.84**	**318**	PKIKP	**PKPdf**	**22 42 52.7**	**-0.6**
VTS	**Vitosha**	**124.84**	**318**		**PKPdf**	**22 42 52.7**	**-0.6**
DPC	**Dobruska-Polom**	**124.86**	**329**	*e*PKIKP	**PKPdf**	**22 42 53.2**	**+0.2**
DPC	**Dobruska-Polom**	**124.86**	**329**	*e*PKPDF	**PKPdf**	**22 42 53.2**	**+0.2**
CLL	**Collm**	**125.89**	**332**	*e*PKIKP	**PKPdf**	**22 42 55.0**	**+0.2**
CLL	**Collm**	**125.89**	**332**	*e*PKPdf	**PKPdf**	**22 42 55.0**	**+0.2**
CKRC	**Cesky Krumlov**	**126.84**	**329**	*e*PKPDF	**PKPdf**	**22 42 57.1**	**+0.3**
FNA	**Florina**	**126.90**	**317**	PKIKP	**PKPdf**	**22 42 56.6**	**-0.6**
FNA	**Florina**	**126.90**	**317**	PKPdf	**PKPdf**	**22 42 56.6**	**-0.6**
KHC	**Kasperske Hory**	**127.02**	**329**	*e*PKIKP	**PKPdf**	**22 42 57.6**	**+0.5**
KHC	**Kasperske Hory**	**127.02**	**329**	*e*PKPDF	**PKPdf**	**22 42 57.6**	**+0.5**
GERES	**GERESS Array B**	**127.14**	**329**	PKP	**PKPdf**	**22 42 56.7**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=92,slow=2.4,SNR=3.5						
PB11	**IPOC Station P**	**128.48**	**122**	PKPdf	**PKPdf**	**22 43 01.0**	**0.0**
PB08	**IPOC Station P**	**128.73**	**123**		**PKPdf**	**22 43 01.0**	**-0.7**
ZARC	**Zaragoza, Cauc**	**130.36**	**86**	PKPdf	**PKPdf**	**22 43 03.8**	**-0.7**
LPAZ	**La Paz**	**131.29**	**119**	PKP	**PKPdf**	**22 43 07.0**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=333,slow=0.7,SNR=6.4						
CPUP	**Villa Florida**	**134.26**	**138**	PKP	**PKPdf**	**22 43 11.5**	**0.0**
	comp=Z,2.5nm,0.8s,baz=194,slow=1.5,SNR=5.5						
ETMB	**Extrema**	**135.51**	**112**		**PKPdf**	**22 43 13.2**	**-0.9**
ESDC	**Sonseca Array**	**142.44**	**333**	PKhKP	PKPpre	22 43 22.9	
	comp=Z,0.9nm,0.9s,baz=34,slow=3.2,SNR=3.7						
PSBE	**So Bento**	**144.54**	**338**	*e*PKPdf	**PKPdf**	**22 43 29.8**	**-0.1**
PESTR	**Estremoz**	**144.65**	**336**	*e*PKPbc	PKPbc	22 43 29.6	+0.8
PMTG	**Montargil**	**144.72**	**337**	*e*PKPbc	**PKPab**	**22 43 29.0**	**+0.2**
EVO	**Evora**	**145.10**	**337**	*e*PKPbc	**PKPdf**	**22 43 31.3**	**+0.5**
PBEJ	**Beja**	**145.48**	**336**	*e*PKPbc	**PKPab**	**22 43 32.4**	**+0.7**
PNCL	**Nicolau / Gran**	**145.67**	**337**	*e*PKPdf	**PKPab**	**22 43 33.5**	**+1.2**
MESJ	**Messejana**	**145.78**	**336**	*e*PKPdf	**PKPdf**	**22 43 31.5**	**-0.5**
PCVE	**Castro Verde**	**145.89**	**336**	*e*PKPdf	**PKPab**	**22 43 33.7**	**+0.5**
PTEO	**Sao Teotonio**	**146.24**	**337**	*e*PKPdf	**PKPbc**	**22 43 34.5**	**+0.7**
BDFB	**Brasilia**	**147.85**	**134**	PKPbc	**PKPbc**	**22 43 38.6**	**-0.5**
	comp=Z,19nm,0.8s,baz=198,slow=4.4,SNR=27						
BDFB	**Brasilia**	**147.85**	**134**	PKP2	**PKPdf**	**22 43 37.8**	**+1.6**
BDFB	**Brasilia**	**147.85**	**134**		**PKPdf**	**22 43 37.8**	**+1.6**
TORD	**Torodi Ar. Bea**	**153.21**	**285**	PKP	**PKPdf**	**22 43 42.2**	**-2.2**
	comp=Z,1.3nm,0.9s,baz=350,slow=1.9,SNR=4.5						
TORD				PKPbc	**PKPbc**	**22 43 51.0**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=4.7,slow=2.4,SNR=19						

*OSPL **30** 22:36:42.9±0.3, 18°.91N×67°.34W, h21km±5km, ML2.2*
*NEIC **30** 22:36:43.4±1.3, 18°.79N±0°.04×67°.38W±0°.03, h30km±9km, Error ellipse: s-maj=6.8km s-min=3.4km az=209.0*
*RSPR **30** 22:36:43.5, 18°.86N×67°.37W, h10km±1km, MD2.9/10*
ISC 30 22:36:44.0±1.4, 18°.78N±0°.07×67°.32W±0°.04, h27km, n47, σ0^{s}92/48, 6C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.37**	**147⇑**	*e*P	**Pb**	**22 36 52.3**	**0.0**
AGPR	**Aguadilla, PR**	**0.37**	**147**	*e*S	**Sb**	**22 36 58.9**	**+1.0**
AGPR	**Aguadilla, PR**	**0.37**	**147**		**Pb**	**22 36 52.3**	**0.0**
AGPR					**Sb**	**22 36 58.9**	**+1.0**
AGPR	**Aguadilla, PR**	**0.37**	**147**	IAML		22 36 59.7	
	comp=E,225nm,0.4s						
AGPR				IAML		22 37 00.3	
	comp=N,175nm,0.2s						
AGPR	**Aguadilla, PR**	**0.37**	**147**	*i* P	**Pb**	**22 36 52.0**	**-0.3**
AGPR				*e*S	**Sb**	**22 36 58.8**	**+0.9**
AGPR				IAML		22 37 00.9	
	comp=Z,207nm,0.1s						
IDE	**Isla Desecheo**	**0.42**	**200⇑**	*e*P	**Pb**	**22 36 52.9**	**-0.2**
IDE	**Isla Desecheo**	**0.42**	**200**	*e*S	**Sb**	**22 37 00.7**	**+1.6**
LSP	**Las Mesas**	**0.64**	**159‖**	*e*P	**Pb**	**22 36 56.7**	**0.0**
LSP	**Las Mesas**	**0.64**	**159**	*e*S	**Sb**	**22 37 06.9**	**+1.5**
AOPR	**Arecibo Observ**	**0.69**	**129⇑**	*e*P	**Pb**	**22 36 56.7**	**-0.9**
AOPR	**Arecibo Observ**	**0.69**	**129**	*e*S	**Sb**	**22 37 08.2**	**+1.4**
AOPR	**Arecibo Observ**	**0.69**	**129**		**Pb**	**22 36 56.7**	**-0.9**
AOPR					**Sb**	**22 37 08.2**	**+1.4**
AOPR	**Arecibo Observ**	**0.69**	**129**	IAML		22 37 21.1	
	comp=N,60nm,0.2s						
UUPR	**Utuado, UPR, P**	**0.78**	**132‖**	*e*P	**Pn**	**22 36 58.4**	**-0.9**
UUPR	**Utuado, UPR, P**	**0.78**	**132**	*e*S	**Sb**	**22 37 10.0**	**+0.8**
UUPR	**Utuado, UPR, P**	**0.78**	**132**		**Pn**	**22 36 58.4**	**-0.9**
UUPR					**Sb**	**22 37 10.0**	**+0.8**
CRPR	**Cabo Rojo, PR**	**0.80**	**165⇑**	*e*P	**Pn**	**22 36 59.0**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.80**	**165**	*e*S	**Sb**	**22 37 09.6**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.80**	**165**		**Pn**	**22 36 59.0**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.80**	**165**	IAML		22 37 11.7	
	comp=N,36nm,0.3s						
CRPR				IAML		22 37 12.8	
	comp=E,37nm,0.4s						
CRPR	**Cabo Rojo, PR**	**0.80**	**165**	*i* P	**Pn**	**22 36 59.0**	**-0.5**
CRPR				IAML		22 37 15.2	
	comp=Z,48nm,0.2s						
EMPR	**Esperanza - Ma**	**0.81**	**112⇑**	*e*P	**Pn**	**22 36 59.1**	**-0.6**
EMPR	**Esperanza - Ma**	**0.81**	**112**	*e*S	**Sb**	**22 37 11.3**	**+1.2**
EMPR	**Esperanza - Ma**	**0.81**	**112**		**Pn**	**22 36 59.1**	**-0.6**
EMPR					**Sb**	**22 37 11.3**	**+1.2**
EMPR	**Esperanza - Ma**	**0.81**	**112**	IAML		22 37 14.4	
	comp=E,90nm,1.0s						
EMPR				IAML		22 37 19.6	
	comp=N,86nm,1.0s						
MLPR	**Magueyes Islan**	**0.85**	**162‖**	*e*P	**Pn**	**22 36 58.7**	**-1.6**
MLPR	**Magueyes Islan**	**0.85**	**162**	*e*S	**Sb**	**22 37 11.3**	**+0.1**
MLPR	**Magueyes Islan**	**0.85**	**162**		**Pn**	**22 36 58.7**	**-1.6**
MLPR					**Sb**	**22 37 11.3**	**+0.1**
MLPR	**Magueyes Islan**	**0.85**	**162**	IAML		22 37 12.4	
	comp=E,41nm,0.5s						
CELP	**Cerrillos**	**1.00**	**135⇑**	*e*P	**Pn**	**22 37 01.2**	**-1.0**
CELP	**Cerrillos**	**1.00**	**135**	*e*S	**Sn**	**22 37 16.5**	**+1.0**
CELP	**Cerrillos**	**1.00**	**135**		**Pn**	**22 37 01.2**	**-1.0**
CELP					**Sn**	**22 37 16.5**	**+1.0**
CELP	**Cerrillos**	**1.00**	**135**	IAML		22 37 24.0	
	comp=N,36nm,0.3s						
OBIP	**Obispado Ponce**	**1.00**	**137‖**	*e*P	**Pn**	**22 37 01.7**	**-0.6**
OBIP	**Obispado Ponce**	**1.00**	**137**	*e*S	**Sn**	**22 37 16.0**	**+0.4**
OBIP	**Obispado Ponce**	**1.00**	**137**		**Pn**	**22 37 01.7**	**-0.6**
OBIP					**Sn**	**22 37 16.0**	**+0.4**
PCDR	**Punta Cana, DR**	**1.04**	**255**	Pg	**Pn**	**22 37 01.6**	**-1.2**
PCDR				IAML		22 37 34.7	
	comp=E,46nm,2.0s						
PCDR	**Punta Cana, DR**	**1.04**	**255**	*i* P	**Pn**	**22 37 01.0**	**-1.8**
GCPR	**Guaynabo City**	**1.27**	**112‖**	*e*P	**Pn**	**22 37 05.5**	**-0.5**
GCPR	**Guaynabo City**	**1.27**	**112**		**Pn**	**22 37 05.5**	**-0.5**
SJG	**San Juan**	**1.30**	**121**	Pn	**Pn**	**22 37 06.1**	**-0.3**
SJG				IAML		22 37 30.8	
	comp=E,30nm,0.3s						
SJG				IAML		22 37 31.1	
	comp=E,26nm,0.3s						
PDPR	**Patillas Dam,**	**1.45**	**121**	Pn	**Pn**	**22 37 07.6**	**-0.9**
PDPR				IAML		22 37 36.1	
	comp=E,34nm,0.5s						
CBYP	**Canovanas**	**1.48**	**110**	*e*S	**Sn**	**22 37 27.1**	**-0.4**
CBYP	**Canovanas**	**1.48**	**110**		**Sn**	**22 37 27.1**	**-0.4**
CBYP	**Canovanas**	**1.48**	**110**	Pn	**Pn**	**22 37 08.2**	**-0.8**
CBYP	**Canovanas**	**1.48**	**110**	IAML		22 37 33.8	
	comp=E,111nm,0.2s						
CBYP				IAML		22 37 35.3	
	comp=N,84nm,0.2s						
DR12	**Loma Pena Alta**	**1.95**	**271**	Pn	**Pn**	**22 37 16.2**	**+0.8**

*IDC **30** 22:49:37.0±1.5, 39°.84N×19°.87E, h0km, mb3.7/5, mb1 3.7/10, mb1mx3.4/50, mbtmp3.6/10, ML3.1/4, MS3.9/2, Ms1 3.9/2, ms1mx2.8/96, Error ellipse: s-maj=22.8km s-min=19.9km az=4.0*
*TIR **30** 22:49:39.4, 39°.94N×19°.99E, h15km, Md3.6, Ml3.5*
*PDG **30** 22:49:40.2±0.7, 39°.93N×19°.93E, h13km±1km, ML3.3/11, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*
*THE **30** 22:49:41.0, 39°.93N×20°.02E, h0km±2km, ML3.3/14, Error ellipse: s-maj=2.2km s-min=0.8km az=267.0*
*ATH **30** 22:49:41.1, 39°.90N×20°.04E, h9km±2km, ML3.3/17, Error ellipse: s-maj=2.5km s-min=1.1km az=229.0*
ISC 30 22:49:40.3±0.7, 39°.92N±0°.02×19°.97E±0°.02, h15km±4km, n151, σ1^{s}49/229, mb3.8/4, 18C-12D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.05**	**152**	P	**Pg**	**22 49 42.7**	**-0.4**
SRN				S	**Sg**	**22 49 44.4**	**-0.5**
	44μm,0.3s						
SRN	**Sarande**	**0.05**	**152**	P	**Pg**	**22 49 42.7**	**-0.4**
	baz=173						
SRN				S	**Sg**	**22 49 44.5**	**-0.5**
	baz=173						
SRN				AMP			
	comp=N,177nm,0.4s,baz=173						
KASA	**Kassiopi**	**0.18**	**189**	P	**Pg**	**22 49 44.5**	**-0.1**
KASA				S	**Sg**	**22 49 48.0**	**+0.5**
KASA				AML	AML	22 49 50.1	
	comp=N,32262μm,0.3s						
KASA				AML	AML	22 49 50.5	
	comp=E,43000μm,0.5s						
KEK	**Kerkira**	**0.25**	**212**	P	**Pg**	**22 49 45.9**	**+0.2**
KEK				S	**Sb**	**22 49 50.6**	**-0.1**
	comp=E,10μm,0.5s						
KEK	**Kerkira**	**0.25**	**212**	P	**Pg**	**22 49 45.9**	**+0.2**
KEK				S	**Sb**	**22 49 50.9**	**+0.2**
KEK				AML	AML	22 49 53.8	
	comp=N,19180μm,0.4s						
KEK				AML	AML	22 49 57.4	
	comp=E,15022μm,0.5s						
IGT	**Igoumenitsa**	**0.48**	**144**	P	**Pg**	**22 49 49.4**	**-0.5**
IGT				S	**Sb**	**22 49 57.3**	**-0.1**
	comp=E,4μm,0.3s						
IGT	**Igoumenitsa**	**0.48**	**144**	P	**Pg**	**22 49 49.4**	**-0.5**
IGT				S	**Sg**	**22 49 55.2**	**-1.1**
IGT				AML	AML	22 50 00.3	
	comp=E,7483μm,0.3s						
IGT				AML	AML	22 50 04.2	
	comp=N,7654μm,0.4s						
IGT	**Igoumenitsa**	**0.48**	**144**	P	**Pg**	**22 49 49.2**	**-0.7**
	baz=147						
IGT				S	**Sb**	**22 49 57.0**	**-0.3**
	baz=147						
LSK	**Leskovik**	**0.53**	**65**	P	**Pg**	**22 49 49.6**	**-1.3**
LSK				S	**Sg**	**22 49 57.4**	**-0.6**
	comp=N,4μm,0.6s						
LSK	**Leskovik**	**0.53**	**65**	P	**Pg**	**22 49 49.6**	**-1.3**
	baz=65						
LSK				S	**Sg**	**22 49 57.5**	**-0.6**
	baz=65						
LSK				AMP			
	comp=E,13nm,0.4s,baz=65						
JAN	**Janina**	**0.73**	**111**	P	**Pg**	**22 49 52.7**	**-1.8**
JAN				S	**Sb**	**22 50 04.1**	**-0.5**
	comp=E,4μm,0.6s						
JAN	**Janina**	**0.73**	**111**	P	**Pg**	**22 49 53.3**	**-1.3**
JAN				S	**Sg**	**22 50 02.5**	**-1.6**
JAN				AML	AML	22 50 05.6	
	comp=E,7839μm,0.4s						
JAN				AML	AML	22 50 06.2	
	comp=N,7023μm,0.4s						
PENT	**Pentalofos**	**0.94**	**73**	P	**Pg**	**22 49 57.5**	**-1.0**
PENT	**Pentalofos**	**0.94**	**73**	P	**Pg**	**22 49

KZN S **Sg** **22 50 28.0 +1.5**
comp=E,805nm,0.5s
KZN Kozani 1.43 74 P **Pb** **22 50 06.9 +0.1**
KZN AML AML 22 50 30.7
comp=E,2154μm,0.5s
KZN AML AML 22 50 31.6
comp=N,1056μm,0.5s
FSK Fiskardo 1.53 162 P **Pb** **22 50 08.3 -0.2**
FSK S **Sg** **22 50 30.7 +1.0**
comp=N,730nm,0.8s
FSK Fiskardo 1.53 162 P **Pb** **22 50 08.2 -0.2**
FSK AML AML 22 50 34.5
comp=N,1131μm,0.4s
FSK AML AML 22 50 37.9
comp=E,1633μm,0.5s
THL Klokotos Trika 1.62 102 P **Pg** **22 50 10.9 -0.5**
THL S **Sg** **22 50 32.1 -0.3**
comp=E,478nm,0.7s
THL Klokotos Trika 1.62 102 P **Pb** **22 50 09.9 +0.1**
THL AML AML 22 50 35.7
comp=E,912μm,0.7s
THL AML AML 22 50 39.7
comp=N,1033μm,0.6s
DMLN Damoulianata-K 1.71 169 P **Pn** **22 50 10.2 +0.6**
DMLN Damoulianata-K 1.71 169 P **Pn** **22 50 10.2 +0.6**
EVR Evrytania 1.74 125 P **Pg** **22 50 12.9 -0.9**
EVR Evrytania 1.74 125 P **Pb** **22 50 12.6 +0.5**
EVR AML AML 22 50 41.5
comp=N,1103μm,0.7s
EVR AML AML 22 50 45.1
comp=E,1007μm,0.6s
KEF3 Kipouria, Keph 1.74 170 P **Pn** **22 50 10.4 +0.4**
KEF3 Kipouria, Keph 1.74 170 P **Pn** **22 50 10.2 +0.2**
TYRN Tyrnavos 1.76 96 P **Pb** **22 50 12.4 +0.2**
TYRN S **Sg** **22 50 35.7 -1.1**
comp=E,560nm,0.5s
PHP Peshkopia 1.79 11 P **Pb** **22 50 13.1 +0.2**
PHP Peshkopia 1.79 11 P **Pb** **22 50 13.2 +0.2**
baz=10.0
PHP S **Sg** **22 50 37.8 -0.3**
baz=10.0
PHP AMP
comp=N,2.2nm,1.0s,baz=10.0
VLS Valsamata 1.81 164 P **Pn** **22 50 11.9 +0.9**
VLS Valsamata 1.81 164 P **Pn** **22 50 12.2 +1.3**
VLS AML AML 22 50 42.7
comp=E,939μm,0.4s
VLS AML AML 22 50 46.3
comp=N,1437μm,0.4s
PSDA Pessada-Kefalo 1.87 165 P **Pn** **22 50 12.5 +0.7**
MAKR Makrakomi, Fth 1.91 118 P **Pb** **22 50 15.1 +0.3**
LIT Litokhoron 1.94 84 P **Pb** **22 50 15.2 -0.2**
LIT Litokhoron 1.94 84 P **Pb** **22 50 15.0 -0.4**
LIT AML AML 22 50 47.6
comp=N,730μm,0.6s
LIT AML AML 22 50 48.8
comp=E,1001μm,0.4s
ANX Ano Chora 2.02 131 P **Pb** **22 50 16.3 -0.4**
AGG Agios Georgios 2.04 115 P **Pb** **22 50 16.5 -0.5**
AGG AML AML 22 50 51.3
comp=N,753μm,0.7s
AGG AML AML 22 50 52.3
comp=E,767μm,0.4s
ULC Ulcinj 2.11 345 ⇓*i*Pn **Pn** **22 50 16.2 +1.1**
ULC *i* Sn **Sn** **22 50 43.1 +2.0**
GRG Griva 2.12 60 P **Pb** **22 50 17.6 -0.9**
SKO Skopje 2.33 28 *e*Pn **Pb** **22 50 20.5 -1.5**
SKO *e*Sg **Sg** **22 50 54.0 -1.2**
DRME Dracevica, Mon 2.34 346 *e*Pn **Pn** **22 50 19.4 +1.2**
DRME Dracevica, Mon 2.34 346 ⇑*i*Pn **Pn** **22 50 19.5 +1.2**
DRME *i* Sn **Sn** **22 50 48.6 +1.9**
VAY Valandovo 2.42 54 *e*Pn **Pn** **22 50 21.7 +2.3**
VAY *e*Sg **Sb** **22 50 53.5 +0.3**
BCI Bajram Curri 2.44 2 P **Pb** **22 50 22.3 -1.6**
baz=1.0
BCI AMP
comp=E,baz=1.0
STIP Stip 2.44 43 *e*Pn **Pb** **22 50 23.7 -0.2**
BUM Brajici-Budva 2.51 341 ⇑*i*Pn **Pn** **22 50 21.7 +1.1**
BUM *i* Sn **Sn** **22 50 52.8 +1.8**
PDG Podgorica 2.56 348 ⇑P **Pn** **22 50 19.8 -1.5**
PDG ⇑S **Sn** **22 50 50.0 -2.2**
PDG Podgorica 2.56 348 *e*Pn **Pn** **22 50 22.4 +1.1**
TTG Podgorica 2.56 348 ⇓*i*Pn **Pn** **22 50 22.6 +1.3**
TTG *i* Sn **Sn** **22 50 54.0 +1.8**
TIP Timpagrande 2.59 254 ⇓P **Pn** **22 50 23.3 +1.5**
TIP ⇓S **Sn** **22 50 55.8 +2.7**
MATE Matera 2.60 287 ⇑P **Pn** **22 50 22.3 +0.5**
MATE ⇓S **Sn** **22 50 52.6 -0.5**
PVY Plav 2.67 360 ⇑*i*Pn **Pn** **22 50 24.1 +1.2**
PVY *i* Sn **Sn** **22 50 56.7 +1.7**
CEME Cevo 2.74 343 ⇓*i*Pn **Pn** **22 50 24.6 +0.8**
CEME *i* Sn **Sn** **22 50 58.4 +1.8**
HCY Herceg Novi 2.76 337 *e*Pn **Pn** **22 50 23.8 -0.2**
HCY Herceg Novi 2.76 337 *e*Pn **Pn** **22 50 24.4 +0.4**
HCY *i* Sn **Sn** **22 50 58.7 +1.7**
NKME Niksic 2.94 345 ⇑*i*Pn **Pn** **22 50 27.8 +1.2**
NKME *i* Sn **Sn** **22 51 03.3 +1.7**
KOME Kolasin 2.94 353 ⇑*i*Pn **Pn** **22 50 27.9 +1.3**
KOME *i* Sn **Sn** **22 51 03.4 +1.6**
IVA Berane 2.95 359 ⇓*i*Pn **Pn** **22 50 28.0 +1.3**
IVA *i* Sn **Sn** **22 51 03.5 +1.7**
TREB Trebinje 3.04 337 *e*Pn **Pn** **22 50 27.9 0.0**
BRY Bratogost 3.16 341 *e*Pn **Pn** **22 50 31.3 +1.6**
BRY Bratogost 3.16 341 ⇓*i*Pn **Pn** **22 50 30.9 +1.2**
BRY *i* Sn **Sn** **22 51 08.7 +1.4**
STON Ston 3.40 331 *e*Pn **Pn** **22 50 32.6 -0.2**
STON Ston 3.40 331 *e*Pn **Pn** **22 50 32.6 -0.2**
STON Sn **Sn** **22 51 10.8 -2.1**
PLE Pljevlja 3.43 353 *e*Pn **Pn** **22 50 34.7 +1.3**
PLE *i* Sn **Sn** **22 51 15.4 +1.6**
VTS Vitosha 3.65 41 ⇑P **Pn** **22 50 38.1 +1.8**
VTS ⇑S **Sn** **22 51 20.4 +1.2**
LSTV Lastovo 3.67 322 *e*Pn **Pn** **22 50 36.6 +0.2**
LSTV Sn **Sn** **22 51 17.2 -2.2**
RUDO Rudo 3.72 353 *e*Pn **Pn** **22 50 37.8 +0.6**
BBLS Lazići 3.96 354 *e*Pn **Pn** **22 50 41.2 +0.6**
MAKA Makarska 4.02 328 *e*Pn **Pn** **22 50 41.6 +0.2**
MAKA Sn **Sn** **22 51 26.3 -1.9**
RICI Ricice 4.15 330 *e*Pn **Pn** **22 50 43.6 +0.5**
RICI Sn **Sn** **22 51 30.2 -1.2**
DIVS Divibare 4.17 0 *e*Pn **Pn** **22 50 44.5 +1.0**
HVAR Hvar 4.19 322 *e*Pn **Pn** **22 50 43.2 -0.5**
HVAR Sn **Sn** **22 51 29.8 -2.5**
BLKB Belogradchik 4.21 28 ⇓S **Sn** **22 51 33.9 +0.9**
KIJV Kijevo 4.87 328 *e*Pn **Pn** **22 50 54.0 +1.0**
KIJV Sn **Sn** **22 51 47.4 -1.7**
ZIRJ Zirje 4.93 320 *e*Pn **Pn** **22 50 54.1 +0.3**
ZIRJ Sn **Sn** **22 51 47.9 -2.8**
MGRS Mrkonjic Grad 4.97 335 *e*Pn **Pn** **22 50 54.6 +0.1**
VAE Valguarnera 4.99 242 Pn **Pn** **22 50 52.4 -2.3**
comp=E,0.4nm,0.3s,baz=26,slow=22,SNR=1.2
VAE Sn **Sn** **22 51 52.2 +0.1**
comp=E,0.6nm,0.3s,baz=332,slow=15,SNR=1.9
MDVR Moldovita 5.02 14 ⇑S **Sn** **22 51 52.1 -0.9**
MORI Morici 5.06 322 *e*Pn **Pn** **22 50 56.3 +0.7**
MORI Sn **Sn** **22 51 52.2 -1.6**
FRGS Fruska Gora 5.23 359 ⇑P **Pn** **22 50 57.7 -0.3**
FRGS ⇓S **Sn** **22 51 56.0 -2.0**
FRGS Fruska Gora 5.23 359 *e*Pn **Pn** **22 50 56.7 -1.3**
BLY Banja Luka 5.25 338 *e*Pn **Pn** **22 50 59.4 +1.3**
HERR Herculane 5.27 19 ⇑P **Pn** **22 50 59.4 +0.8**
DUGI Dugi Otok 5.47 320 *e*Pn **Pn** **22 51 01.3 0.0**
DUGI Sn **Sn** **22 52 00.8 -3.1**
UDBI Udbina 5.56 327 *e*Pn **Pn** **22 51 03.6 +1.0**
UDBI Sn **Sn** **22 52 04.0 -2.2**
MRAK Mrakovica 5.57 337 *e*Pn **Pn** **22 51 02.1 -0.6**
A252A Venje 5.73 345 *e*Pn **Pn** **22 51 05.2 +0.4**
A252A Sn **Sn** **22 52 08.8 -1.4**
BZS Buzias 5.82 11 ⇑P **Pn** **22 51 05.2 -0.8**
BZS ⇓S **Sn** **22 52 11.1 -1.3**
GZR Gura Zlata 5.84 20 ⇑P **Pn** **22 51 06.7 +0.3**
GZR ⇑S **Sn** **22 52 12.6 -0.6**
A251A Rujevac 5.88 333 *e*Pn **Pn** **22 51 08.3 +1.1**
A251A Sn **Sn** **22 52 12.7 -1.2**
PLIT Plitvice 5.90 328 *e*Pn **Pn** **22 51 08.3 +1.1**
PLIT Sn **Sn** **22 52 13.0 -1.6**
NVLJ Novalja 5.98 322 *e*Pn **Pn** **22 51 09.1 +0.8**
NVLJ Sn **Sn** **22 52 13.7 -2.8**
IDI Anoyia 6.05 138 Pn **Pn** **22 51 08.0 -1.4**
comp=E,1.0nm,0.3s,baz=318,slow=15,SNR=1.7
IDI Sn **Sn** **22 52 11.8 -6.6**
comp=E,3.0nm,0.3s,baz=124,slow=5.2,SNR=11
RABC Rab 6.17 323 *e*Pn **Pn** **22 51 11.0 +0.2**
RABC Sn **Sn** **22 52 17.7 -3.3**
ARR Arges 6.43 31 ⇑P **Pn** **22 51 16.4 +1.8**
SMRN Sveta Marina 6.67 322 *e*Pn **Pn** **22 51 18.0 +0.2**
SMRN Sn **Sn** **22 52 30.2 -3.3**
RIY Rijeka 6.74 325 *e*Pn Pn 22 51 11.4 -7.3
RIY Rijeka 6.74 325 *e*Pn **Pn** **22 51 19.4 +0.7**
RIY Sn **Sn** **22 52 32.9 -2.4**
CRES Cresnjev 6.76 332 *e*Pn **Pn** **22 51 19.3 +0.3**
BRJN Brijuni 6.78 319 *e*Pn **Pn** **22 51 19.0 -0.1**
BRJN Sn **Sn** **22 52 33.5 -2.6**
MLR Muntele Rosu 7.09 36 Pn **Pn** **22 51 26.3 +2.7**
comp=E,0.2nm,0.3s,baz=191,slow=13,SNR=5.8
CEY Cerknica 7.09 327 *e*Pn **Pn** **22 51 23.9 +0.3**
DRGR 7.15 15 ⇓P **Pn** **22 51 25.0 +0.7**
DRGR ⇑S **Sn** **22 52 44.5 -0.9**
OBKA Obir 7.68 331 *e*Pn **Pn** **22 51 32.3 +0.6**
comp=E,0.1nm,0.1s
OBKA *e*Sn **Sn** **22 52 56.0 -2.4**
comp=E,8.8nm,0.7s
ARSA Arzberg 8.00 338 *e*Pn **Pn** **22 51 36.0 0.0**
comp=E,1.0nm,0.4s
ARSA *e*Sn **Sn** **22 53 03.2 -3.0**
comp=E,1.0nm,0.5s
MYKA Terra Mystica 8.14 328 *e*Pn **Pn** **22 51 36.0 -1.9**
comp=E,1.1nm,0.3s
MYKA *e*Sn **Sn** **22 53 09.8 +0.2**
comp=E,1.4nm,0.3s
KBA Koelnbreinsper 8.62 328 *e*Pn **Pn** **22 51 45.8 +1.2**
comp=E,0.4nm,0.3s
KBA *e*Sn **Sn** **22 53 18.5 -3.0**
comp=E,1.8nm,0.5s
ABTA Abfaltersbach 8.72 324 *e*Pn **Pn** **22 51 47.1 +1.2**
comp=E,0.5nm,0.2s
ABTA *e*Sn **Sn** **22 53 19.6 -4.3**
comp=E,2.3nm,0.4s
WTTA Wattenberg 9.50 323 *e*Pn **Pn** **22 51 58.3 +1.6**
comp=E,0.7nm,0.2s
WTTA *e*Sn **Sn** **22 53 38.0 -5.3**
comp=E,8.2nm,0.6s
WATA Walderalm 9.58 323 *e*Pn **Pn** **22 51 58.6 +0.8**
comp=E,0.6nm,0.4s
SQTA Sankt Quirin 9.67 322 *e*Pn **Pn** **22 52 00.2 +1.2**
comp=E,1.3nm,0.4s
SQTA *e*Sn **Sn** **22 53 44.6 -2.7**
comp=E,3.3nm,0.6s
FETA Feichten 9.76 320 *e*Pn **Pn** **22 52 03.7 +3.4**
comp=E,1.1nm,0.5s
FETA *e*Sn **Sn** **22 53 48.2 -1.5**
comp=E,1.9nm,0.7s
MOTA Moosalm 9.81 322 *e*Pn **Pn** **22 52 01.2 +0.3**
comp=E,1.3nm,0.5s
MOTA *e*Sn **Sn** **22 53 48.4 -2.4**
comp=E,3.8nm,0.7s
GERES GERESS Array B 9.98 335 Pn **Pn** **22 52 02.9 -0.3**
baz=151,slow=12,SNR=1.5
DAVOX Davos/Dischmat 10.04 316 Pn **Pn** **22 52 03.8 -0.3**
comp=E,0.2nm,0.3s,baz=139,slow=20,SNR=1.4
DAVOX Sn **Sn** **22 53 52.6 -4.0**
comp=E,0.1nm,0.3s,baz=288,slow=19,SNR=1.3
RETA Reutte 10.07 322 *e*Pn **Pn** **22 52 03.7 -0.7**
comp=E,0.3nm,0.3s
RETA *e*Sn **Sn** **22 53 55.0 -2.2**
comp=E,2.3nm,0.6s
MMAI Mount Meron Ar 14.19 114 Pn **Pn** **22 53 04.5 +3.6**
comp=E,0.4nm,0.3s,baz=292,slow=15,SNR=2.9
HFS Hagfors 20.61 351 P **P** **22 54 18.4 -0.3**
comp=E,4.0nm,1.0s,baz=174,slow=17,SNR=1.5
NB2 NORSAR Subarra 21.82 349 P **P** **22 54 32.2 +0.4**
comp=Z,0.7nm,0.6s,baz=160,slow=11
NOA NORSAR Array B 21.82 349 P **P** **22 54 31.2 -0.6**
comp=Z,0.6nm,0.6s,baz=153,slow=9.8,SNR=3.7
FINES FINESS Array B 21.87 8 P **P** **22 54 31.3 -0.9**
comp=Z,2.5nm,0.8s,baz=179,slow=11,SNR=8.1
AAK Ala-Archa 40.47 68 LR LR 23 21 02.0
comp=Z,78nm,18.2s,baz=78,slow=46
MKAR Makanchi Array 44.77 60 P **P** **22 57 52.7 -0.5**
comp=Z,1.1nm,0.6s,baz=280,slow=7.9,SNR=17
ZALV Zalesovo Beam 44.86 49 P **P** **22 57 53.2 -0.6**
comp=Z,1.1nm,0.6s,baz=287,slow=8.4,SNR=5.1
LBTB Lobatse 64.81 174 LR LR 23 31 32.6
comp=Z,130nm,18.3s,baz=146,slow=39

*IDC **30** 22:53:11.7±0.8, 4°.14S×142°.78E, h74km±8km, mb3.6/6, mb1 3.9/9, mb1mx3.6/36, mbtmp4.0/9, MS3.2/3, Ms1 3.2/3, ms1mx2.8/49, Error ellipse: s-maj=22.0km s-min=9.6km az=44.0*
*NEIC **30** 22:53:13.3±1.7, 4°.1S±0°.1×142°.74E±0°.06, h88km±9km, mb4.3/13, Error ellipse: s-maj=17.0km s-min=6.5km az=199.0*
ISC 30 22:53:13.1±0.6, 4°.16S±0°.06×142°.74E±0°.07, h100km, n33, σ2S27/38, mb4.1/13, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**		**2.03 243**	P	**Pn**	**22 53 52.9**	**-0.8**
	23nm,0.3s,baz=147,slow=9.7,SNR=80						
JAY				S	**Sn**	**22 54 23.7**	**-1.1**
	61nm,0.3s,baz=209,slow=22,SNR=8.6						
PMG	**Port Moresby**		**6.82 140**	P	**Pn**	**22 54 50.4**	**-0.1**
	2.8nm,0.3s,baz=333,slow=9.4,SNR=6.5						
PMG				S	**Sn**	**22 56 05.3**	**-1.4**
	1.3nm,0.3s,baz=307,slow=20,SNR=2.1						
PMG	**Port Moresby**		**6.82 140**		**Pn**	**22 54 50.1**	**-0.4**
COEN	**Coen**		**9.75 178**	Pn	**Pn**	**22 55 32.5**	**+2.0**
FAKI	**Fak Fak**		**10.54 276**	Pn	**Pn**	**22 55 42.6**	**+1.3**
MTN	**Manton Dam**		**14.36 232**		**Pn**	**22 56 31.5**	**-0.2**
WB0	**Warramunga Arr**		**17.52 207**	P	**P**	**22 57 10.9**	**+0.1**
WB2	**Warramunga Arr**		**17.70 207**	P	**P**	**22 57 13.0**	**+0.2**
WB2				IAmb	IAmb	22 57 37.7	
	comp=Z,36nm,1.4s						
WRA	**Warramunga Arr**		**17.70 207**	P	**P**	**22 57 12.7**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=20,slow=12,SNR=32						
WRA				S	**Sn**	**23 00 22.4**	**-8.3**
	comp=Z,0.2nm,0.3s,baz=21,slow=21,SNR=3.8						
WRA				LR	LR	23 04 34.4	
	comp=Z,96nm,18.7s,baz=31,slow=38						
WRA	**Warramunga Arr**		**17.70 207**	P	**P**	**22 57 11.9**	**-1.0**
KNRA	**Kununurra**		**17.89 229**	P	**Pn**	**22 57 16.4**	**+0.8**
SOEI	**Soe**		**19.16 252**	P	**P**	**22 57 29.4**	**+0.5**
BATI	**Baumata**		**19.85 251**	P	**Pn**	**22 57 40.1**	**+1.3**
	comp=Z,4.1nm,0.3s,baz=219,slow=9.1,SNR=3.5						
AS31	**Alice Springs**		**21.19 203**	P	**P**	**22 57 50.6**	**-0.1**
ASAR	**Alice Springs**		**21.19 203**	P	**P**	**22 57 51.5**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=32,slow=11,SNR=26						
ASAR				S	**S**	**23 01 39.2**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=18,slow=27,SNR=1.4						
ASAR				LR	LR	23 06 43.5	
	comp=Z,107nm,19.0s,baz=340,slow=38						
ASAR	**Alice Springs**		**21.19 203**	P	**P**	**22 57 50.8**	**+0.1**
FITZ	**Fitzroy Crossi**		**21.73 229**	P	**P**	**22 57 56.9**	**+0.5**
	comp=Z,9.0nm,0.9s,baz=58,slow=12,SNR=4.2						
FITZ				S	**S**	**23 01 51.3**	**+0.1**
	baz=94,slow=14						
TOLI2	**Tolitoli**		**22.56 283**	P	**P**	**22 58 06.0**	**+0.8**
TOLI2				IAmb	IAmb	22 58 26.8	
	comp=Z,7.3nm,0.7s						
EIDS	**Eidsvold**		**22.56 160**	P	**P**	**22 58 05.8**	**+0.6**
EIDS				IAmb	IAmb	22 58 32.9	
	comp=Z,15nm,1.4s						
KAPI	**Kappang**		**22.93 267**	LR	LR	23 08 01.6	
	comp=Z,32nm,18.8s,baz=142,slow=39						
PSA00	**Pilbara Seismi**		**28.17 230**	P	**P**	**22 58 58.2**	**+2.0**
PSA00				IAmb	IAmb	22 59 08.0	
	comp=Z,18nm,1.4s						
DZM	**Mont Dzumac**		**29.07 130**	P	**P**	**22 59 05.5**	**+1.1**
	comp=Z,4.0nm,0.7s,baz=161,slow=22,SNR=20						
DZM	**Mont Dzumac**		**29.07 130**	P	**P**	**22 59 05.8**	**+1.4**
DZM				IAmb	IAmb	22 59 06.9	
	comp=Z,20nm,1.5s						
OUENC	**Ouen Island, N**		**29.57 130**	P	**P**	**22 59 09.5**	**+0.8**
OUENC				IAmb	IAmb	22 59 11.1	
	comp=Z,3.0nm,0.6s						
MORW	**Morawa**		**35.43 223**	P	**P**	**23 00 02.1**	**+2.4**
MKAR	**Makanchi Array**		**73.40 321**	P	**P**	**23 04 36.9**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=111,slow=7.5,SNR=4.9						
MKAR				pP	**pP**	**23 04 55.6**	**-4.4**
	comp=Z,0.7nm,0.6s,baz=101,slow=7.9,SNR=6.5						
MKAR	**Makanchi Array**		**73.40 321**	P	**P**	**23 04 34.6**	**+0.2**
ZALV	**Zalesovo Beam**		**75.22 329**	pP	pP	23 05 05.8	-4.7
	comp=Z,0.6nm,0.5s,baz=96,slow=6.4,SNR=3.1						
KURBB	**Kurchatov Arra**		**77.24 324**	pP	pP	23 05 16.7	-5.3
	comp=Z,0.3nm,0.4s,baz=113,slow=4.7,SNR=2.4						
BVAR	**Borovoye Array**		**82.80 325**	P	**P**	**23 05 27.2**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=69,slow=9.6,SNR=2.8						
BVAR				pP	**pP**	**23 05 47.8**	**-4.5**
	comp=Z,0.6nm,0.6s,baz=94,slow=8.8,SNR=3.2						
ILAR	**Eielson Array**		**85.50 24**	P	**P**	**23 05 39.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=232,slow=4.4,SNR=3.1						
ILAR				pP	**pP**	**23 06 00.8**	**-4.9**
	comp=Z,1.1nm,0.8s,baz=256,slow=4.8,SNR=6.2						
QSPA	**South Pole Qui**		**85.80 180**	P	**P**	**23 05 43.2**	**+1.9**
QSPA				IAmb	IAmb	23 05 53.9	
	comp=Z,7.0nm,1.4s						
BMAR	**Burnt Mountain**		**87.24 22**		**P**	**23 05 50.5**	**+2.4**

IDC 30 23:20:43.4±2.2, 1°.59S×142°.52E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.2/33, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=47.6km s-min=27.7km az=106.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**		**2.03 243**	Pn	Pn	23 21 18.2	-0.7
	2.9nm,0.3s,baz=107,slow=3.2,SNR=8.7						
JAY				Sn	Sb	23 21 47.5	+0.5
	3.4nm,0.3s,baz=295,slow=19,SNR=2.4						
WRA	**Warramunga Arr**		**19.91 203**	P	P	23 25 17.3	+0.5
	0.2nm,0.3s,baz=27,slow=11,SNR=13						
ASAR	**Alice Springs**		**23.48 200**	P	P	23 25 54.9	-0.1
	0.4nm,0.7s,baz=28,slow=11,SNR=8.9						
MKAR	**Makanchi Array**		**71.28 321**	P	P	23 32 04.8	0.0
	0.7nm,0.8s,baz=122,slow=7.2,SNR=6.9						

*DJA **30** 23:25:13.7±0.3, 3°.N±2°.×9°.7E±°, h10km, M4.1/10, mb3.9/2, MLv4.2/10*
*NEIC **30** 23:25:13.4±2.0, 3°.18N±0°.06×96°.93E±0°.10, h44km±8km, mb4.2/21, Error ellipse: s-maj=14.3km s-min=7.1km az=72.0*
*IDC **30** 23:25:14.1±4.9, 3°.30N×97°.05E, h60km±39km, mb3.6/8, mb1 3.7/9, mb1mx3.4/41, mbtmp3.9/9, MS3.1/2, Ms1 3.2/2, ms1mx2.8/77, Error ellipse: s-maj=66.3km s-min=16.9km az=56.0*
ISC 30 23:25:15.2±0.9, 3°.17N±0°.04×96°.99E±0°.05, h72km±9km, n53, σ1S84/59, mb4.2/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCSI	**Kotacane, Aceh**		**0.86 66**	P	**Pn**	**23 25 28.2**	**-3.9**
SNSI	**Sinabang, Aceh**		**1.00 221**	P	**Pn**	**23 25 33.2**	**-0.7**
SNSI				S	**Sn**	**23 25 50.0**	**+2.2**
TSI	**Tuntungan**		**1.61 78**	P	**Pn**	**23 25 39.5**	**-2.2**
TSI				S	**Sn**	**23 26 03.0**	**+1.3**
GSI	**Gunungsitoli**		**1.95 162**	P	**Pn**	**23 25 44.5**	**-1.7**
GSI	**Gunungsitoli**		**1.95 162**		**Pn**	**23 25 44.5**	**-1.7**
GSI				Sn	**Sn**	**23 26 05.8**	**-4.0**
PSI	**Prapat**		**1.97 101**	P	**Pn**	**23 25 45.9**	**-0.7**
	8.8nm,0.3s,baz=312,slow=8.6,SNR=50						
PSI				S	**Sn**	**23 26 14.1**	**+3.6**
	15nm,0.3s,baz=157,slow=5.7,SNR=4.8						
PSI				LR	LR	23 26 42.8	
	comp=Z,245nm,18.4s,baz=282,slow=45						
RPSI	**Rantau Prapat**		**1.99 104**		**Pn**	**23 25 45.9**	**-0.9**
LHMI	**Lhok Sumawe**		**2.04 359**	P	**Pn**	**23 25 45.9**	**-1.6**
LHMI				S	**Sn**	**23 26 16.4**	**+4.3**
LHMI	**Lhok Sumawe**		**2.04 359**		**Pn**	**23 25 45.8**	**-1.8**
MNSI	**Mandailing Nat**		**3.50 132**	P	**Pn**	**23 26 09.7**	**+2.4**
KULM	**Kulim**		**4.21 60**		**Pn**	**23 26 14.3**	**-2.7**
IPM	**Ipoh**		**4.23 72**		**Pn**	**23 26 14.9**	**-2.4**
SISI	**Saibi**		**4.94 155**	P	**Pn**	**23 26 26.0**	**-0.9**
PPI	**Padang Panjang**		**4.96 137**	P	**Pn**	**23 26 31.0**	**+3.8**
SRIT	**Nakonsritamara**		**5.98 26**		**Pn**	**23 26 40.3**	**-0.9**
MDSI	**Maura Dua**		**10.46 137**	P	**Pn**	**23 27 41.1**	**-1.4**
	5.6nm,1.1s						
KLSI			**10.99 135**	P	**Pn**	**23 27 50.8**	**+1.1**
UBPT	**Khong Chiam**		**14.65 34**	Pn	**Pn**	**23 28 39.5**	**+0.7**
CMAR	**Chiang Mai Arr**		**15.31 7**	P	**Pn**	**23 28 44.9**	**-2.4**
	baz=2.9,slow=25,SNR=1.5						
CMAR				LR	LR	23 34 55.0	
	comp=Z,48nm,19.8s,baz=180,slow=38						
PALK	**Pallekele**		**16.72 285**	LR	LR	23 35 12.2	
	comp=Z,74nm,18.5s,baz=253,slow=36						
MYLDM	**Lahad Datu**		**21.55 84**	P	**P**	**23 29 59.6**	**+0.7**
KOHI	**KOHIMA**		**22.59 353**	*i* x	**P**	**23 30 06.9**	**-3.1**
SHL	**Shillong**		**22.80 348**	*i* x	**P**	**23 30 09.0**	**-3.3**
SHL	**Shillong**		**22.80 348**	P	**P**	**23 30 08.8**	**-3.5**
SHL				IAmb	IAmb	23 30 10.5	
	comp=Z,6.1nm,0.9s						
DRK	**Karamyk**		**42.77 331**	P	**P**	**23 33 06.2**	**+0.1**
GAR	**Garm**		**43.14 329**	P	**P**	**23 33 08.0**	**-0.9**
GAR				IAmb	IAmb	23 33 35.5	
	comp=Z,3.6nm,0.9s						
WB0	**Warramunga Arr**		**43.24 123**	P	**P**	**23 33 10.0**	**+0.2**
WB0				IAmb	IAmb	23 33 27.7	
	comp=Z,9.4nm,1.3s						
WRA	**Warramunga Arr**		**43.27 124**	P	**P**	**23 33 10.5**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=302,slow=9.1,SNR=8.5						
WRA				PcP	**PcP**	**23 34 58.8**	**+0.7**
	comp=Z,0.5nm,1.0s,baz=315,slow=2.5,SNR=1.5						
WRA	**Warramunga Arr**		**43.27 124**	P	**P**	**23 33 10.6**	**+0.5**
BOOM	**Boomskoye usch**		**43.43 337**	P	**P**	**23 33 11.3**	**+0.1**
BOOM				IAmb	IAmb	23 33 15.6	
	comp=Z,5.7nm,1.1s						
BTK	**Batken**		**43.70 331**	P	**P**	**23 33 13.5**	**+0.3**
BTK				IAmb	IAmb	23 33 17.4	
	comp=Z,3.2nm,0.9s						
AAK	**Ala-Archa**		**44.12 336**	P	**P**	**23 33 17.9**	**+1.1**
AS31	**Alice Springs**		**44.76 129**	P	**P**	**23 33 21.8**	**-0.2**
ASAR	**Alice Springs**		**44.76 129**	P	**P**	**23 33 21.2**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=301,slow=7.7,SNR=10						
SONM	**Songino Array**		**45.23 9**	P	**P**	**23 33 24.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=179,slow=9.3,SNR=3.1						
SONM				PcP	**PcP**	**23 35 04.5**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=158,slow=4.2,SNR=2.0						
MK31	**Makanchi Array**		**45.29 346**	P	**P**	**23 33 24.6**	**-1.1**
MKAR	**Makanchi Array**		**45.29 346**	P	**P**	**23 33 24.6**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=157,slow=9.0,SNR=12						
KKAR	**Karatay Array**		**46.21 333**	P	**P**	**23 33 32.5**	**-0.6**
COEN	**Coen**		**48.86 112**	P	**P**	**23 33 56.0**	**+2.0**
KURK	**Kurchatov**		**49.85 345**	P	**P**	**23 34 01.0**	**+0.1**
KURK				IAmb	IAmb	23 34 07.5	
	comp=Z,2.4nm,1.0s						
ZAA0	**Zalesovo Array**		**51.59 351**	P	**P**	**23 34 13.5**	**-0.5**
ZAA0				IAmb	IAmb	23 34 15.6	
	comp=Z,3.1nm,1.1s						
ZALV	**Zalesovo Beam**		**51.59 351**	P	**P**	**23 34 12.7**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=168,slow=6.5,SNR=9.8						
ZALV	**Zalesovo Beam**		**51.59 351**	P	**P**	**23 34 13.1**	**-0.9**
RAYN	**Ar Rayn**		**53.66 297**	P	**P**	**23 34 29.5**	**-0.4**
RAYN				IAmb	IAmb	23 34 36.4	
	comp=Z,6.1nm,1.4s		

GCMT ***30*** *23:46:47.4±0.2,2.91S±0.01×147.12E±0.02,h12km, MW5.0/101,Moment Tensor Solution. s30,c37; s101,c161; Duration: 0 Moment tensor: Scale 1016Nm; Mrr3.80±.13; Mθθ-5.11±.09; Mφφ1.31±.13; Mrθ-1.29±.35; Mθφ-1.18±.10; Mφr0.27±.51; Best double couple: M=4.76900×1016 NP1:φs68.00000°,δ39.00000°, λ73.00000°. NP2:φs270.00000°,δ53.00000°,λ103.00000°. Principal axes: T 4.0560, Plg77.0000°, Azm226.0000°; N 1.4250, Plg11.0000°, Azm82.0000°; P -5.4820, Plg8.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 23:46:44.4±1.2,2.91S±0.04×147.14E±0.05,h12km±7km, n494,σ1§36/470,mb5.2/147,MS4.5/68,21C-15D, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.89**	**15**		**Pg**	**23 46 59.8**	**-1.8**
RABL	**Rabaul**	**5.17**	**104**	Pn	**Pn**	**23 48 00.8**	**-1.0**
RABL	**Rabaul**	**5.17**	**104**	P	**Pn**	**23 48 04.5**	**+2.7**
JAY	**Jayapura**	**6.44**	**273**	Pn	**Pn**	**23 48 19.7**	**+0.5**
	1.4nm,0.3s,baz=287,slow=20,SNR=8.2						
JAY				LR	LR	23 50 31.0	
	comp=Z,2μm,21.0s,baz=114,slow=35						
JAY	**Jayapura**	**6.44**	**273**	P	**Pn**	**23 48 21.1**	**+1.9**
	0.2nm64nm,0.9s						
PMG	**Port Moresby**	**6.46**	**180**	Pn	**Pn**	**23 48 18.8**	**-0.6**
	4.6nm,0.3s,baz=8.1,slow=8.1,SNR=27						
PMG				LR	LR	23 50 52.1	
	comp=Z,9μm,18.2s,baz=360,slow=39						
PMG	**Port Moresby**	**6.46**	**180**	*d*P	**Pn**	**23 48 18.5**	**-0.9**
PMG				pmax	pmax		
	comp=Z,137nm,1.0s						
PMG	**Port Moresby**	**6.46**	**180**	Pn	**Pn**	**23 48 18.2**	**-1.2**
PMG	**Port Moresby**	**6.46**	**180**	P	**Pn**	**23 48 19.3**	**-0.1**
GENI	**Genyem**	**6.97**	**272**	P	**Pn**	**23 48 29.1**	**+2.6**
	comp=Z,1.2nmcomp=Z,5μmcomp=Z,344nm,1.7s						
GENI	**Genyem**	**6.97**	**272**	P	**Pn**	**23 48 29.4**	**+2.9**
SMPI	**Sarmi**	**8.47**	**276**	P	**Pn**	**23 48 50.1**	**+3.0**
	comp=Z,178nm,1.2s						
SRPI	**Serui, Papua**	**10.94**	**275**	P	**Pn**	**23 49 22.6**	**+1.6**
	comp=Z,8μmcomp=Z,65nm,0.4s						
COEN	**Coen**	**11.65**	**199**	Pn	**Pn**	**23 49 30.9**	**+0.1**
COEN	**Coen**	**11.65**	**199**	P	**Pn**	**23 49 31.8**	**+1.0**
HNR	**Honiara**	**14.28**	**118**	LR	LR	23 55 25.9	
	comp=Z,1μm,19.4s,baz=294,slow=37						
FAKI	**Fak Fak**	**14.87**	**270**	Pn	**Pn**	**23 50 15.8**	**+1.0**
MTSU	**Mount Surprise**	**15.38**	**190**	P	**Pn**	**23 50 22.1**	**+0.5**
	baz=15,SNR=34						
MTSU	**Mount Surprise**	**15.38**	**190**	P	**Pn**	**23 50 22.5**	**+0.9**
SIJI	**Sorong**	**15.99**	**277**	Pn	**Pn**	**23 50 30.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=60,slow=13,SNR=2.5						
SWI	**Sorong**	**16.00**	**277**	P	**P**	**23 50 34.7**	**+1.6**
	comp=Z,2μmcomp=Z,75nm,1.0s						
GUMO	**Guam**	**16.55**	**352**	LR	LR	23 55 36.0	
	comp=Z,2μm,19.4s,baz=165,slow=32						
CTA	**Charters Tower**	**17.10**	**183**	P	**Pn**	**23 50 43.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=356,slow=12,SNR=21						
CTA				LR	LR	23 56 54.3	
	comp=Z,2μm,21.2s,baz=2.5,slow=36						
CTA	**Charters Tower**	**17.10**	**183**	P	**P**	**23 50 44.5**	**-0.7**
CTAO	**Charters Tower**	**17.10**	**183**	P	**Pn**	**23 50 44.0**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,52nm,1.1s						
CTAO	**Charters Tower**	**17.10**	**183**	P	**Pn**	**23 50 44.0**	**+0.5**
CTAO	**Charters Tower**	**17.10**	**183**	P	**Pn**	**23 50 44.3**	**+0.8**
KDU	**Kakadu**	**17.46**	**235**	P	**Pn**	**23 50 47.5**	**-0.6**
	baz=17,SNR=10						
KDU	**Kakadu**	**17.46**	**235**	P	**Pn**	**23 50 47.7**	**-0.4**
DRS	**Darwin Rock St**	**18.65**	**239**	P	**Pn**	**23 51 03.6**	**+0.9**
	comp=Z,67nm,1.1s						
MTN	**Manton Dam**	**18.66**	**237**	P	**P**	**23 51 02.0**	**-0.6**
	baz=18,SNR=4.3						
MTN	**Manton Dam**	**18.66**	**237**	P	**P**	**23 51 01.8**	**-0.7**
MTN	**Manton Dam**	**18.66**	**237**	P	**P**	**23 51 01.9**	**-0.6**
QIS	**Mount Isa**	**19.02**	**202**	P	**P**	**23 51 06.2**	**-0.3**
	baz=19,SNR=23						
QIS	**Mount Isa**	**19.02**	**202**	P	**Pn**	**23 51 07.5**	**+0.3**
SARN	**Sarigan**	**19.53**	**356**	P	**Pn**	**23 51 14.9**	**+1.6**
LBMI	**Labuha**	**19.76**	**276**	P	**Pn**	**23 51 19.4**	**+3.3**
	comp=Z,1μmcomp=Z,54nm,1.0s						
TNTI	**Ternate**	**20.10**	**280**	P	**P**	**23 51 17.9**	**-0.4**
RK1H	**Rockhampton Ha**	**20.62**	**171**	P	Pn	23 51 25.0	-1.1
	comp=Z,41nm,0.9s						
WB0	**Warramunga Arr**	**20.87**	**216**	P	**P**	**23 51 25.8**	**-0.8**
WB0				IAmb	IAmb	23 51 30.5	
	comp=Z,158nm,1.1s						
WR0	**Warramunga Arr**	**20.94**	**215**	P	**P**	**23 51 26.6**	**-0.8**
WR0				IAmb	IAmb	23 51 28.4	
	comp=Z,207nm,1.0s						
WRAB	**Tennant Creek**	**21.03**	**215**	*d*P	**P**	**23 51 27.3**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,283nm,1.3s						
WRAB	**Tennant Creek**	**21.03**	**215**	P	**P**	**23 51 26.9**	**-1.4**
WRAB				IAmb	IAmb	23 51 32.1	
	comp=Z,189nm,0.9s						
WRAB	**Tennant Creek**	**21.03**	**215**	P	**P**	**23 51 28.4**	**+0.1**
WRA	**Warramunga Arr**	**21.04**	**215**	P	**P**	**23 51 27.0**	**-1.5**
	comp=Z,149nm,1.0s,baz=39,slow=11,SNR=54						
WRA				PcP	**PcP**	**23 55 35.2**	**-0.2**
	comp=Z,7.4nm,0.7s,baz=29,slow=2.2,SNR=16						
WRA				LR	LR	00 00 17.8	
	comp=Z,2μm,18.6s,baz=36,slow=39						
WRA	**Warramunga Arr**	**21.04**	**215**	P	**P**	**23 51 27.4**	**-1.1**
WRA				pmax	pmax		
	comp=Z,21nm,1.0s						
WRA	**Warramunga Arr**	**21.04**	**215**	P	**P**	**23 51 27.4**	**-1.1**
SANI	**Sanana**	**21.15**	**272**	P	**P**	**23 51 30.3**	**+0.6**
	comp=Z,1μmcomp=Z,89nm,1.1s						
SANI	**Sanana**	**21.15**	**272**	P	**P**	**23 51 31.8**	**+2.1**
KNRA	**Kununurra**	**22.10**	**234**	P	**P**	**23 51 39.0**	**-0.8**
	baz=22,SNR=12						
KNRA	**Kununurra**	**22.10**	**234**	P	**P**	**23 51 38.9**	**-1.0**
KNRA				IAmb	IAmb	23 51 42.3	
	comp=Z,178nm,1.2s						
KNRA	**Kununurra**	**22.10**	**234**	P	**P**	**23 51 39.8**	**-0.1**
EIDS	**Eidsvold**	**22.65**	**171**	P	**P**	**23 51 46.0**	**+0.3**
	baz=23,SNR=6.1						
EIDS	**Eidsvold**	**22.65**	**171**	P	**P**	**23 51 45.4**	**-0.3**
EIDS				IAmb	IAmb	23 51 54.0	
	comp=Z,90nm,1.6s						
EIDS	**Eidsvold**	**22.65**	**171**	P	**P**	**23 51 45.8**	**+0.1**
SANVU	**Saraoutou**	**23.37**	**123**	P	**P**	**23 51 51.7**	**-1.4**
SANVU				IAmb	IAmb	23 51 55.8	
	comp=Z,78nm,1.1s						
SANVU	**Saraoutou**	**23.37**	**123**	P	**P**	**23 51 57.2**	**+4.0**
KMSI	**Cibinong**	**23.41**	**278**	P	**P**	**23 51 59.3**	**+5.7**
	comp=Z,176nm,1.1s						
RMQ	**Roma**	**23.49**	**176**	P	**P**	**23 51 54.7**	**+0.4**
	baz=23,SNR=18						
RMQ	**Roma**	**23.49**	**176**	P	**P**	**23 51 56.1**	**+1.7**
DAV	**Davao City (W)**	**23.69**	**295**	LR	LR	00 01 04.1	
	comp=Z,367nm,18.1s,baz=98,slow=36						
DAV	**Davao City (W)**	**23.69**	**295**	P	**P**	**23 51 56.9**	**+0.5**
QLP	**Quilpie**	**23.70**	**186**	P	**P**	**23 51 56.6**	**+0.2**
	baz=24,SNR=3.9						
QLP	**Quilpie**	**23.70**	**186**	P	**P**	**23 51 58.7**	**+2.3**
SOEI	**Soe**	**23.71**	**252**	P	**P**	**23 51 59.3**	**+2.5**
	comp=Z,2μmcomp=Z,192nm,1.0s						
SOEI	**Soe**	**23.71**	**252**	P	**P**	**23 51 56.5**	**-0.3**
SOEI	**Soe**	**23.71**	**252**	P	**P**	**23 51 57.4**	**+0.6**
KOUNC	**Koumac, New Ca**	**24.23**	**138**	P	**P**	**23 52 02.5**	**+1.1**
AS31	**Alice Springs**	**24.28**	**211**	P	**P**	**23 52 01.7**	**-0.2**
ASAR	**Alice Springs**	**24.28**	**211**	P	**P**	**23 52 01.8**	**-0.2**
	comp=Z,44nm,0.8s,baz=40,slow=7.7,SNR=290						
ASAR				PcP	**PcP**	**23 55 42.0**	**0.0**
	comp=Z,5.8nm,0.9s,baz=38,slow=2.7,SNR=8.2						
ASAR				LR	LR	00 02 35.1	
	comp=Z,914nm,18.0s,baz=44,slow=39						
ASAR	**Alice Springs**	**24.28**	**211**	P	**P**	**23 52 01.5**	**-0.5**
ASAR						23 55 41.8	
ASAR	**Alice Springs**	**24.28**	**211**	P	**P**	**23 52 01.5**	**-0.5**
ASAR					**PcP**	**23 55 41.8**	**-0.3**
BATI	**Baumata**	**24.41**	**252**	P	**P**	**23 52 03.0**	**-0.2**
	comp=Z,67nm,0.8s,baz=189,slow=5.5,SNR=5.5						
BATI	**Baumata**	**24.41**	**252**	P	**P**	**23 52 02.0**	**-1.2**
	comp=Z,56nm,0.9s						
MRSI	**Marisa**	**25.41**	**277**	P	**P**	**23 52 12.2**	**0.0**
	comp=Z,98nm,1.0s						
INKA	**Innaminka**	**25.44**	**193**	P	**P**	**23 52 13.8**	**+1.5**
APSI	**Ampana**	**25.55**	**274**	P	**P**	**23 52 11.7**	**-1.8**
FITZ	**Fitzroy Crossi**	**25.92**	**233**	P	**P**	**23 52 15.8**	**-1.0**
	comp=Z,48nm,0.8s,baz=30,slow=14						
LIFNC	**LIFOU**	**26.44**	**134**	P	**P**	**23 52 20.7**	**-0.7**
LIFNC	**LIFOU**	**26.44**	**134**	P	**P**	**23 52 23.7**	**+2.2**
	comp=Z,94nm,1.3s						
TOLI2	**Tolitoli**	**26.65**	**278**	P	**P**	**23 52 23.5**	**0.0**
TOLI2				IAmb	IAmb	23 52 28.5	
	comp=Z,38nm,0.9s						
TOLI2	**Tolitoli**	**26.65**	**278**	P	**P**	**23 52 27.4**	**+3.9**
NOUC	**Port Laguerre**	**26.65**	**137**	P	**P**	**23 52 25.6**	**+2.2**
DZM	**Mont Dzumac**	**26.73**	**137**	P	**P**	**23 52 23.2**	**-1.0**
	comp=Z,7.9nm,1.1s,baz=338,slow=8.1,SNR=13						
DZM				LR	LR	00 01 23.6	
	comp=Z,2μm,21.4s,baz=290,slow=33						
DZM	**Mont Dzumac**	**26.73**	**137**	*e*P	**P**	**23 52 24.9**	**+0.7**
	comp=Z,92nm,1.4s						
DZM				*e*LR	LR	23 59 32.3	
	comp=Z,3μm,24.2s						
DZM	**Mont Dzumac**	**26.73**	**137**	P	**P**	**23 52 22.9**	**-1.3**
DZM				IAmb	IAmb	23 52 36.9	
	comp=Z,55nm,1.4s						
DZM	**Mont Dzumac**	**26.73**	**137**	P	**P**	**23 52 26.1**	**+1.9**
ONTNC	**Ouen Toro**	**26.89**	**137**	P	**P**	**23 52 24.7**	**-0.8**
BNSI	**Bone**	**27.02**	**266**	P	**P**	**23 52 28.7**	**+1.9**
	comp=Z,28nm,1.2s						
YATNC	**Mamie plateau,**	**27.03**	**136**	P	**P**	**23 52 28.9**	**+2.1**
OOD	**Oodnadatta**	**27.06**	**203**	P	**P**	**23 52 27.0**	**+0.1**
OUENC	**Ouen Island, N**	**27.23**	**137**	P	**P**	**23 52 27.6**	**-1.1**
OUENC	**Ouen Island, N**	**27.23**	**137**	P	**P**	**23 52 30.3**	**+1.7**
TTSI	**Tana Toraja**	**27.28**	**269**	P	**P**	**23 52 34.3**	**+5.1**
	comp=Z,18nm,1.3s						
SPSI	**Sidrap Palu**	**27.34**	**267**	P	P	23 52 44.2	+15
BASI	**Baing, Sumba**	**27.35**	**253**	P	**P**	**23 52 30.6**	**+0.8**
	comp=Z,126nm,1.1s						
KAPI	**Kappang**	**27.40**	**265**	LR	LR	00 06 09.9	
	comp=Z,153nm,18.3s,baz=98,slow=43						
MPSI	**Mapaga**	**27.42**	**276**	P	**P**	**23 52 30.0**	**-0.4**
	comp=Z,540nmcomp=Z,26nm,1.0s						
ARMA	**Armidale**	**27.69**	**172**	P	**P**	**23 52 32.8**	**+0.1**
	baz=28,SNR=5.5						
ARMA	**Armidale**	**27.69**	**172**	P	**P**	**23 52 31.7**	**-1.0**
ARMA				IAmb	IAmb	23 52 42.1	
	comp=Z,62nm,1.6s						
ARMA	**Armidale**	**27.69**	**172**	P	**P**	**23 52 34.4**	**+1.7**
CMSA	**Cobar Meteorol**	**28.51**	**183**	P	**P**	**23 52 42.4**	**+2.5**
	comp=Z,16nm,1.1s						
WRKA	**Warakurna**	**28.52**	**218**	P	**P**	**23 52 39.2**	**-0.9**
	baz=28,SNR=13						
WRKA	**Warakurna**	**28.52**	**218**	P	**P**	**23 52 41.2**	**+1.0**
LCRK	**Leigh Creek**	**28.66**	**196**	P	**P**	**23 52 42.6**	**+1.3**
H11S3	**WAKE ISLAND Hy**	**28.69**	**41**	T	T	00 22 54.7	
	baz=222,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.70**	**41**	T	T	00 22 53.6	
	baz=222,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.71**	**41**	T	T	00 22 50.6	
	baz=222,slow=74						
STKA	**Stephens Creek**	**29.28**	**190**	P	**P**	**23 52 45.6**	**-1.2**
	comp=Z,3.7nm,0.9s,baz=348,slow=12,SNR=5.3						
STKA				LR	LR	00 04 52.2	
	comp=Z,927nm,19.5s,baz=6.7,slow=37						
STKA	**Stephens Creek**	**29.28**	**190**	P	**P**	**23 52 47.0**	**+0.1**
	baz=29,SNR=4.1						
STKA	**Stephens Creek**	**29.28**	**190**	P	**P**	**23 52 46.4**	**-0.4**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
STKA	**Stephens Creek**	**29.28**	**190**	P	**P**	**23 52 46.4**	**-0.4**
STKA	**Stephens Creek**	**29.28**	**190**	P	**P**	**23 52 48.5**	**+1.7**
H11N1	**WAKE ISLAND Hy**	**29.70**	**40**	T	T	00 24 04.1	
	baz=222,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.71**	**40**	T	T	00 24 05.2	
	baz=222,slow=76						
H11N2	**WAKE ISLAND Hy**	**29.72**	**40**	T	T	00 24 05.7	
	baz=222,slow=76						
MYLDM	**Lahad Datu**	**29.72**	**286**	P	**P**	**23 52 50.4**	**-0.5**
MYLDM				IAmb	IAmb	23 52 54.9	
	comp=Z,40nm,1.2s						
MULG	**Mulgathing**	**29.91**	**203**	P	**P**	**23 52 52.1**	**-0.3**
NAPP	**Napperby**	**31.27**	**195**	P	**P**	**23 53 04.5**	**+0.1**
	comp=Z,24nm,0.8s						
WHYH	**Whyalla**	**31.28**	**196**	P	**P**	**23 53 06.3**	**+1.9**
	comp=Z,16nm,0.9s						
BBOO	**Buckleboo**	**31.51**	**198**	P	**P**	**23 53 05.8**	**-0.6**
	baz=31,SNR=5.7						
BBOO	**Buckleboo**	**31.51**	**198**	P	**P**	**23 53 05.1**	**-1.3**
BBOO				IAmb	IAmb	23 53 07.9	
	comp=Z,24nm,1.1s						
BBOO	**Buckleboo**	**31.51**	**198**	P	**P**	**23 53 07.9**	**+1.4**
	comp=Z,21nm,1.0s						
KKM	**Kota Kinabalu**	**32.14**	**286**	P	**P**	**23 53 11.6**	**-0.8**
KKM				IAmb	IAmb	23 53 14.1	
	comp=Z,50nm,1.2s						
KKM	**Kota Kinabalu**	**32.14**	**286**	P	**P**	**23 53 15.2**	**+2.8**
	comp=Z,42nm,1.4s						
BBKI	**Banjar Baru**	**32.25**	**268**	P	**P**	**23 53 13.7**	**+0.4**
	comp=Z,25nm,1.0s						
MBWA	**Maile Bar**	**32.26**	**234**	P	**P**	**23 53 11.3**	**-1.9**
CAN	**Canberra**	**32.30**	**177**	P	**P**	**23 53 12.3**	**-1.1**
CAN				pmax	pmax		
	comp=Z,93nm,1.8s						
CAN	**Canberra**	**32.30**	**177**	P	**P**	**23 53 12.3**	**-1.1**
CAN				IAmb	IAmb	23 54 12.8	
	comp=Z,93nm,1.8s						
CNB	**Canberra Magne**	**32.31**	**177**	P	**P**	**23 53 16.5**	**+2.9**
PSA00	**Pilbara Seismi**	**32.38**	**233**	P	**P**	**23 53 12.7**	**-1.5**
FORT	**Forrest**	**33.07**	**211**	P	**P**	**23 53 19.5**	**-0.7**
	baz=33,SNR=13						
FORT	**Forrest**	**33.07**	**211**	P	**P**	**23 53 19.3**	**-0.9**
FORT				IAmb	IAmb	23 53 20.4	
	comp=Z,42nm,0.7s						
FORT	**Forrest**	**33.07**	**211**	P	**P**	**23 53 20.9**	**+0.7**
MSVF	**Nonsavu**	**33.70**	**118**	LR	LR	00 05 25.5	
	comp=Z,282nm,20.6s,baz=336,slow=33						
ARPS	**Mount Arapiles**	**34.05**	**188**	P	**P**	**23 53 29.2**	**+0.6**
	baz=34,SNR=7.3						
ARPS	**Mount Arapiles**	**34.05**	**188**	P	**P**	**23 53 29.3**	**+0.7**
DGTI	**Dogotuki**	**34.71**	**115**	P	**P**	**23 53 37.0**	**+2.3**
JOW	**Kunigami**	**34.73**	**330**	LR	LR	00 04 50.0	
	comp=Z,950nm,20.9s,baz=134,slow=31						
SBUM	**Sibu**	**35.31**	**278**	P	**P**	**23 53 39.0**	**-0.8**
STKI	**Sintang**	**35.77**	**274**	P	**P**	**23 53 44.3**	**+0.5**
MEEK	**Meekatharra**	**36.11**	**226**	P	**P**	**23 53 45.7**	**-0.9**
	baz=36,SNR=9.6						
MEEK	**Meekatharra**	**36.11**	**226**	P	**P**	**23 53 47.2**	**+0.6**
YULB	**Yu-li**	**36.30**	**317**	P	**P**	**23 53 47.3**	**-0.9**
JHJ	**Hachijo jima 2**	**36.50**	**350**	LR	LR	00 08 52.5	
	comp=Z,400nm,18.3s,baz=160,slow=36						
NACB	**Ninganchiao**	**36.63**	**319**	P	**P**	**23 53 50.5**	**-0.6**
YOGI	**Yogyakarta**	**36.99**	**261**	P	**P**	**23 53 53.6**	**-0.7**
	comp=Z,151nm,1.5s						
KSM	**Kuching**	**37.07**	**276**	P	**P**	**23 53 54.3**	**-0.7**
KSM	**Kuching**	**37.07**	**276**	P	**P**	**23 53 57.5**	**+2.5**
YHNB	**Yeheng**	**37.12**	**319**	P	**P**	**23 53 56.0**	**+0.7**
YHNB	**Yeheng**	**37.12**	**319**	P	**P**	**23 53 57.2**	**+1.9**
GIRL	**Giralia**	**37.44**	**236**	P	**P**	**23 53 57.0**	**-1.0**
	baz=37,SNR=4.0						
GIRL	**Giralia**	**37.44**	**236**	P	**P**	**23 53 57.9**	**-0.1**
GIRL	**Giralia**	**37.44**	**236**	P	**P**	**23 53 59.4**	**+1.4**
JNU	**Nakatsue**	**39.00**	**338**	LR	LR	00 09 08.0	
	comp=Z,450nm,19.3s,baz=145,slow=34						
JNU	**Nakatsue**	**39.00**	**338**		**P**	**23 54 11.0**	**0.0**
JNU				IAmb	IAmb	23 54 12.4	
	comp=Z,46nm,1.2s						
INU	**Inuyama**	**39.22**	**347**	P	**P**	**23 54 11.8**	**-0.9**
INU				IAmb	IAmb	23 54 14.8	
	comp=Z,132nm,1.6s						
INU	**Inuyama**	**39.22**	**347**	P	**P**	**23 54 14.4**	**+1.6**
	comp=Z,46nm,1.5s						
MORW	**Morawa**	**39.37**	**225**	P	**P**	**23 54 12.6**	**-1.6**
	baz=39,SNR=5.1						
MORW	**Morawa**	**39.37**	**225**	P	**P**	**23 54 12.8**	**-1.3**
MORW	**Morawa**	**39.37**	**225**	P	**P**	**23 54 15.6**	**+1.4**
	comp=Z,26nm,0.9s						
JGF	**Kuroka**	**39.39**	**347**	P	**P**	**23 54 13.6**	**-0.6**
LEM	**Lembang**	**39.56**	**263**	LR	LR	00 13 49.8	
	comp=Z,125nm,18.1s,baz=41,slow=41						
KLBR	**Kellerberrin**	**39.74**	**221**	P	**P**	**23 54 15.7**	**-1.5**
	baz=40,SNR=5.2						
BLDU	**Ballidu**	**39.83**	**223**	P	**P**	**23 54 16.8**	**-1.2**
	baz=40,SNR=4.8						
MJAR	**Matsushiro Arr**	**40.12**	**349**	P	**P**	**23 54 18.0**	**-2.3**
	comp=Z,10nm,1.1s,baz=168,slow=4.8,SNR=9.8						
MJAR				LR	LR	00 10 07.7	
	comp=Z,757nm,18.0s,baz=168,slow=35						
MJAR	**Matsushiro Arr**	**40.12**	**349**	P	**P**	**23 54 18.6**	**-1.7**
MJAR				pmax	pmax		
	comp=Z,49nm,1.8s						
MJAR	**Matsushiro Arr**	**40.12**	**349**	P	**P**	**23 54 18.6**	**-1.7**
MAJO	**Matsushiro**	**40.12**	**349**	⇓*i*P	**P**	**23 54 19.3**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,40nm,1.4s						
MAJO	**Matsushiro**	**40.12**	**349**	P	**P**	**23 54 19.3**	**-1.0**
MAJO				IAmb	IAmb	23 54 20.9	
	comp=Z,99nm,1.9s						
MAJO	**Matsushiro**	**40.12**	**349**	P	**P**	**23 54 22.4**	**+2.1**
	comp=Z,22nm,1.6s						
MAT	**Matsushiro**	**40.12**	**349**	P	**P**	**23 54 17.5**	**-2.8**
MAT				S	**S**	**00 00 24.6**	**-2.0**
MJB9	**Matsu-Tunnel**	**40.13**	**349**	P	**P**	**23 54 19.0**	**-1.4**
MJB9				IAmb	IAmb	23 54 20.9	
	comp=Z,98nm,1.9s						
SKJI	**Sukabumi**	**40.62**	**263**	P	P	23 54 39.6	+15
AFI	**Afiamalu**	**42.01**	**108**	LR	LR	00 10 24.0	
	comp=Z,220nm,18.3s,baz=252,slow=34						
RAO	**Raoul Island**	**42.27**	**132**	LR	LR	00 09 06.2	
	comp=Z,359nm,22.0s,baz=310,slow=32						
KASI	**Kota Agung**	**42.60**	**265**	P	**P**	**23 54 42.3**	**+1.3**
	comp=Z,43nm,1.0s						
QIZ	**Qiongzhong**	**42.67**	**302**	P	**P**	**23 54 42.5**	**+1.0**
QIZ				S	**S**	**00 01 05.3**	**+0.4**
QIZ				LR	LR		
	comp=Z,380nm,23.1s						
QIZ				LR	LR		
	comp=Z,290nm,27.9s						
QIZ				LR	LR		
	comp=Z,410nm,24.0s						
MDSI	**Maura Dua**	**42.89**	**267**	P	**P**	**23 54 41.8**	**-1.6**
	comp=Z,280nmcomp=Z,28nm,1.1s						
LWLI	**Liwa**	**43.02**	**266**	P	**P**	**23 54 45.5**	**+0.9**
	comp=Z,67μmcomp=Z,52nm,0.9s						
TJN	**Taejon**	**43.22**	**337**	⇑*e*P	**P**	**23 54 46.7**	**+1.1**
LHSI	**Lahat**	**43.55**	**268**	P	**P**	**23 54 51.1**	**+2.4**
	comp=Z,4μmcomp=Z,51nm,1.1s						
JTM	**Tenmabayashi**	**43.84**	**353**	P	**P**	**23 54 51.2**	**+0.6**
NJ2	**Nanjing**	**43.93**	**325**	*e*P	**P**	**23 54 53.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,22nm,1.1s						
KSRS	**Korea Array**	**43.95**	**338**	P	**P**	**23 54 50.9**	**-0.6**
	comp=Z,17nm,1.2s,baz=152,slow=10.0,SNR=18						
KSRS				LR	LR	00 11 12.3	
	comp=Z,571nm,20.3s,baz=150,slow=33						
KSAR	**Wonju Array Be**	**43.95**	**338**	P	**P**	**23 54 51.1**	**-0.4**
KSAR	**Wonju Array Be**	**43.95**	**338**	P	**P**	**23 54 51.1**	**-0.4**
KS19	**Wonju Array Si**	**44.01**	**338**	P	**P**	**23 54 51.4**	**-0.7**
URZ	**Urewera**	**44.59**	**146**	LR	LR	00 11 39.9	
	comp=Z,908nm,20.1s,baz=320,slow=34						
URZ	**Urewera**	**44.59**	**146**	P	**P**	**23 54 56.7**	**0.0**
MASI	**Maura Aman, Be**	**44.83**	**268**	P	**P**	**23 54 58.4**	**-0.7**
	comp=Z,82nm,0.8s						
BKZ	**Black Stump Fm**	**44.89**	**147**	P	**P**	**23 54 59.1**	**-0.1**
BKZ				IAmb	IAmb	23 55 02.2	
	comp=Z,27nm,1.1s						
BKZ	**Black Stump Fm**	**44.89**	**147**	P	**P**	**23 55 02.0**	**+2.9**
	comp=Z,104nm,2.5s						
UBPT	**Khong Chiam**	**45.02**	**295**	P	**P**	**23 54 60.0**	**-0.5**
UBPT				IAmb	IAmb	23 55 03.5	
	comp=Z,29nm,1.3s						
TUWZ	**Tuamarina**	**45.29**	**151**	P	**P**	**23 55 01.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**45.48**	**152**	P	**P**	**23 55 03.1**	**-0.6**
LTZ	**Lake Taylor**	**45.59**	**154**	P	**P**	**23 55 03.8**	**-0.8**
LTZ				IAmb	IAmb	23 55 13.9	
	comp=Z,51nm,1.5s						
WHN	**Wuhan**	**45.66**	**319**	⇓P	**P**	**23 55 06.0**	**+0.7**
RPZ	**Rata Peaks**	**45.84**	**156**	P	**P**	**23 55 06.7**	**+0.2**
RPZ				IAmb	IAmb	23 55 10.6	
	comp=Z,43nm,1.2s						
BFZ	**Birch Farm**	**45.87**	**149**	P	**P**	**23 55 06.3**	**-0.4**
BFZ				IAmb	IAmb	23 55 49.6	
	comp=Z,61nm,1.4s						
BKNI	**Bangkinang**	**46.19**	**273**	P	**P**	**23 55 09.5**	**-0.3**
	comp=Z,2μmcomp=Z,142nm,1.0s						
BKNI	**Bangkinang**	**46.19**	**273**	P	**P**	**23 55 08.8**	**-0.9**
BKNI	**Bangkinang**	**46.19**	**273**	P	**P**	**23 55 11.1**	**+1.3**
	comp=Z,144nm,1.0s						
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KMI pP sP 23 55 56.5 +2.7
KMI sP pP 23 56 00.0 +7.6
KMI pmax pmax
comp=Z,22nm,1.5s
KMI LR LR
comp=Z,220nm,16.1s
KMI LR LR
comp=Z,270nm,26.0s
KMI LR LR
comp=Z,310nm,29.1s
BJT Baijiatuau 51.29 330 P **P 23 55 48.1 -0.4**
BJT pmax pmax
comp=Z,32nm,1.4s
BJT Baijiatuau 51.29 330 P **P 23 55 48.1 -0.4**
BJT IAmb IAmb 23 55 51.0
comp=Z,32nm,1.4s
BJI Beijing 51.30 330 P **P 23 55 48.5 -0.1**
BJI pmax pmax
comp=Z,15nm,1.4s
BJI pmax pmax
comp=Z,290nm,5.3s
BJI LR LR
comp=Z,340nm,15.9s
BJI LR LR
comp=Z,210nm,13.9s
XAN Xi'an 51.43 319 P **P 23 55 50.0 +0.3**
XAN S **S 00 03 10.5 +0.9**
XAN SS **SS 00 06 43.0 -2.8**
XAN pmax pmax
comp=Z,73nm,1.5s
XAN pmax pmax
comp=Z,310nm,3.9s
XAN LR LR
comp=Z,440nm,17.9s
XAN LR LR
comp=Z,310nm,22.0s
XAN LR LR
comp=Z,470nm,18.5s
BNX BinXian 51.51 342 ⇓P **P 23 55 50.5 +0.4**
BNX pmax pmax
comp=Z,140nm,1.3s
BNX pmax pmax
comp=Z,340nm,3.5s
TIY Taiyuan 51.65 325 *e*P **P 23 55 51.0 -0.4**
TIY S **S 00 03 19.3 +6.7**
TIY LR LR
comp=Z,130nm,9.8s
TIY LR LR
comp=Z,380nm,12.7s
TIY LR LR
comp=Z,380nm,20.4s
CM31 Chiang Mai Arr 51.97 296 P **P 23 55 54.3 +0.3**
CM31 IAmb IAmb 23 55 57.6
comp=Z,25nm,1.1s
CMAR Chiang Mai Arr 51.97 296 P **P 23 55 54.5 +0.5**
comp=Z,12nm,0.9s,baz=119,slow=5.8,SNR=37
CMAR LR LR 00 20 17.7
comp=Z,63nm,18.0s,baz=105,slow=39
CMAR Chiang Mai Arr 51.97 296 P **P 23 55 54.0 0.0**
CMAR 23 57 06.3
CMAR Chiang Mai Arr 51.97 296 P **P 23 55 54.0 0.0**
CMAR PcP **PcP 23 57 06.3 -0.2**
CHTO Chiang Mai 52.09 296 P **P 23 55 54.6 -0.3**
CHTO pmax pmax
comp=Z,22nm,1.3s
CHTO Chiang Mai 52.09 296 P **P 23 55 54.6 -0.3**
CHTO Chiang Mai 52.09 296 P **P 23 55 56.4 +1.5**
comp=Z,8.9nm,1.4s
PZH PanZhiHua 52.69 307 ⇓P **P 23 56 00.5 +1.1**
PZH S **S 00 03 28.0 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,140nm,6.6s
PZH LR LR
comp=Z,780nm,19.6s
PZH LR LR
comp=Z,640nm,19.8s
PZH LR LR
comp=Z,720nm,20.0s
CD2 Chengdu 53.26 313 ⇑P **P 23 56 04.3 +0.8**
CD2 S **S 00 03 37.0 +2.1**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,140nm,4.9s
CD2 LR LR
comp=Z,420nm,19.6s
CD2 LR LR
comp=Z,370nm,21.5s
KLR Kul'dur 53.62 348 LR LR 00 18 15.2
comp=Z,192nm,18.2s,baz=182,slow=35
KLR Kul'dur 53.62 348*c i*P **P 23 56 05.9 +0.3**
KLR pmax pmax
comp=Z,54nm,1.5s
XLT XiLinHaoTe 54.29 333 ⇑*i*P **P 23 56 11.0 +0.2**
XLT S **S 00 03 48.0 -0.5**
XLT pmax pmax
comp=Z,45nm,1.3s
XLT LR LR
comp=Z,530nm,17.0s
XLT LR LR
comp=Z,610nm,16.5s
XLT LR LR
comp=Z,930nm,20.2s
HHC Hu-ho-hao-te 54.31 327 *e*P **P 23 56 11.5 +0.5**
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,120nm,5.0s
HHC LR LR
comp=Z,400nm,17.1s
HHC LR LR
comp=Z,420nm,16.5s
HHC LR LR
comp=Z,810nm,17.1s
RAR Rarotonga 54.70 114 LR LR 00 17 17.3
comp=Z,46nm,20.8s,baz=242,slow=34
BTO Baotou 54.99 326 *e*P **P 23 56 17.3 +1.3**
BTO LR LR
comp=Z,1μm,8.4s
BTO LR LR
comp=Z,1μm,14.3s
LZH Lanzhou 56.00 318 ⇑P **P 23 56 25.0 +1.6**
LZH pP sP 23 56 30.8 +2.6
LZH sP pP 23 56 33.8 +7.0
LZH pmax pmax
comp=Z,77nm,1.5s
LZH pmax pmax
comp=Z,160nm,5.4s
LZH LR LR
comp=Z,190nm,17.3s
LZH LR LR
comp=Z,300nm,17.3s
LZH LR LR
comp=Z,420nm,18.4s
PEA0B Petropavlovsk- 56.52 8⇑*i*P **P 23 56 26.8 +0.3**
PEA0B Petropavlovsk- 56.52 8 P **P 23 56 27.0 +0.5**
PETK Petropavlovsk- 56.52 8 P **P 23 56 26.6 0.0**
comp=Z,13nm,0.7s,baz=159,slow=6.5,SNR=27
PETK LR LR 00 16 21.2
comp=Z,640nm,21.9s,baz=192,slow=32
PETK Petropavlovsk- 56.52 8 P **P 23 56 26.4 -0.1**
PETK Petropavlovsk- 56.52 8 P **P 23 56 26.4 -0.1**
PET Petropavlovsk 56.57 8⇑*e*P **P 23 56 27.0 +0.2**
PET pmax pmax
comp=Z,40nm,1.3s
HIA Hailar 57.13 339 P **P 23 56 31.1 +0.1**
HIA pmax pmax
comp=Z,58nm,1.5s
HIA Hailar 57.13 339 P **P 23 56 31.1 +0.1**
HIA IAmb IAmb 23 56 32.8
comp=Z,58nm,1.5s
KIP Kipapa 58.84 63⇑*e*P **P 23 56 43.8 +0.4**
KIP pmax pmax
comp=Z,268nm,2.5s
ZEA Zeya 58.84 346 *e*P **P 23 56 44.0 +1.1**
ZEA *e* 23 56 56.0
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,20nm,1.3s
SHEM Shemya Is, Ala 59.91 19 LR LR 00 18 24.5
comp=Z,353nm,21.8s,baz=284,slow=32
GTA Gaotai 60.49 319 ⇑P **P 23 56 56.0 +1.3**
GTA pmax pmax
comp=Z,23nm,1.4s
GTA pmax pmax
comp=Z,180nm,4.8s
GTA LR LR
comp=Z,220nm,11.9s
GTA LR LR
comp=Z,240nm,10.4s
GTA LR LR
comp=Z,250nm,16.3s
SHL Shillong 60.50 301 P **P 23 56 54.6 -0.5**
SHL pmax pmax
comp=Z,21nm,1.0s
SHL Shillong 60.50 301 P **P 23 56 54.6 -0.5**
SHL IAmb IAmb 23 56 57.6
comp=Z,21nm,1.0s
ULN Ulaanbaatar 61.49 330*c i*P **P 23 57 02.6 +1.2**
ULN pmax pmax
comp=Z,52nm,1.7s
ULN Ulaanbaatar 61.49 330 P **P 23 57 01.7 +0.3**
CIT Chita 61.67 337 *e*P **P 23 57 03.6 +1.2**
CIT *e* 23 57 08.8
CIT *e* 23 57 43.0
CIT pmax pmax
comp=Z,86nm,1.8s
SONM Songino Array 61.80 330 P **P 23 57 03.8 +0.4**
comp=Z,6.6nm,0.8s,baz=143,slow=5.5,SNR=38
SONM LR LR 00 23 38.2
comp=Z,396nm,20.5s,baz=114,slow=36
SONM PKP2bc 00 26 21.6
comp=Z,1.6nm,1.1s,baz=260,slow=1.1,SNR=5.7
SONM Songino Array 61.80 330 P **P 23 57 04.2 +0.8**
SONM pmax pmax
comp=Z,49nm,1.5s
SONM Songino Array 61.80 330 P **P 23 57 04.2 +0.8**
SONM IAmb IAmb 23 57 06.6
comp=Z,49nm,1.5s
GOMU GeErMu 62.35 314 P **P 23 57 08.5 +0.9**
GOMU S **S 00 05 26.5 -8.0**
GOMU pmax pmax
comp=Z,9.0nm,0.9s
GOMU pmax pmax
comp=Z,140nm,4.4s
GOMU LR LR
comp=Z,150nm,15.4s
GOMU LR LR
comp=Z,250nm,15.9s
GOMU LR LR
comp=Z,210nm,14.4s
MA2 Magadan 62.36 2*c i*P **P 23 57 06.8 0.0**
MA2 pmax pmax
comp=Z,24nm,1.3s
MA2 Magadan 62.36 2 P **P 23 57 06.7 0.0**
MA2 IAmb IAmb 23 57 08.3
comp=Z,29nm,1.3s
LSA Lhasa 62.53 306 P **P 23 57 10.5 +1.4**
LSA pmax pmax
comp=Z,44nm,1.4s
ZAK Zakamensk 65.02 331 *e*P **P 23 57 24.4 -0.2**
ZAK pmax pmax
comp=Z,43nm,1.2s
CHLP Challavanipeta 65.60 292 *e*P **P 23 57 28.9 0.0**
SEY Seymchan 65.79 3 LR LR 00 29 02.3
comp=Z,256nm,18.0s,baz=209,slow=39
SEY Seymchan 65.79 3⇑*e*P **P 23 57 29.7 +0.5**
YAK Yakutsk 66.13 351 LR LR 00 25 34.3
comp=Z,144nm,19.0s,baz=113,slow=35
YAK Yakutsk 66.13 351 *e*P **P 23 57 31.3 -0.1**
YAK pmax pmax
comp=Z,34nm,1.1s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK Yakutsk 66.13 351 P **P 23 57 31.1 -0.3**
GUN Gumba 66.33 302 *e*P **P 23 57 34.5 +0.6**
comp=E,163nm,1.2s
PKI Pulchoki 66.63 302 *e*P **P 23 57 35.9 +0.1**
comp=E,97nm,1.2s
PKIN Phulchoki 66.64 302 *e*P **P 23 57 35.9 +0.1**
comp=E,65nm,1.1s
KKN Kakani 66.80 302 *e*P **P 23 57 37.1 +0.4**
comp=E,85nm,1.0s
DMN Daman 66.90 302 *e*P **P 23 57 37.9 +0.5**
comp=E,141nm,1.0s
MOY Mondy 66.95 331 *e*P **P 23 57 38.1 +1.0**
MOY pmax pmax
comp=Z,85nm,2.0s
GKN Gorkha 67.41 302 *e*P **P 23 57 40.6 +0.1**
comp=Z,114nm,1.1s
PVM Polavaram 67.62 290 *e*P **P 23 57 41.4 -0.4**
KOLN Koldanda 68.22 301 *e*P **P 23 57 46.1 +0.4**
comp=Z,96nm,1.0s
DANN Dangsing 68.25 302 *e*P **P 23 57 45.8 -0.2**
comp=Z,122nm,1.2s
MYLAV Mylavaram 68.47 289 *e*P **P 23 57 47.2 0.0**
PYUN Piuthan 68.83 302 *e*P **P 23 57 49.6 +0.1**
comp=Z,86nm,1.0s
SKHT Srikalahasti 68.86 286 *e*P **P 23 57 47.9 -1.7**
ADKI Addanki 68.94 288 *e*P **P 23 57 50.5 +0.4**
NJS Nagarjunasagar 69.69 289 *e*P **P 23 57 54.5 -0.3**
RCLA Racherla 69.84 288 *e*P **P 23 57 55.5 -0.3**
SRLM Srisailam 70.01 288 *e*P **P 23 57 56.4 -0.3**
RPR Rampur 70.09 291 *e*P **P 23 57 56.9 -0.3**
CUPL Choutuppal 70.17 289 *e*P **P 23 57 57.8 0.0**
HYBB Hyderabad (bro 70.54 289 *e*P **P 23 57 59.7 -0.4**
WMQ Urumqi 70.56 319 *e*P **P 23 58 00.8 +1.1**
WMQ sP sP 23 58 11.0 +6.3
WMQ PcP **PcP 23 58 23.0 +2.1**
WMQ pmax pmax
comp=Z,34nm,1.5s
WMQ pmax pmax
comp=Z,76nm,3.8s
WMQ LR LR
comp=Z,710nm,9.5s
WMQ LR LR
comp=Z,890nm,6.7s
WMQ LR LR
comp=Z,94nm,14.7s
SRSP Sriramsagar 70.99 291 *e*P **P 23 58 02.5 -0.2**
URV Uravakonda 71.39 287 *e*P **P 23 58 04.7 -0.5**
BILL Bilibino 72.05 7*d i*P **P 23 58 08.8 +0.7**
BILL *e* 00 00 51.6
BILL *i* S **S 00 07 36.9 +7.4**
BILL pmax pmax
comp=Z,17nm,1.3s
BILL Bilibino 72.05 7 P **P 23 58 07.9 -0.2**
KLRI Killari 72.48 290 *e*P **P 23 58 11.1 -0.7**
DGZ Jazzator, Alta 73.22 324*e*P **P 23 58 16.1 +0.5**
DGZ pmax pmax
comp=Z,28nm,1.3s
ZSN Zaisan 73.84 321 *e*P **P 23 58 18.4 -0.7**
ZSN Zaisan 73.84 321 *e*P **P 23 58 18.5 -0.7**
baz=321
VNDA Vanda 74.97 177 P **P 23 58 24.2 -1.0**
comp=Z,2.7nm,0.8s,baz=11,slow=5.2,SNR=3.6
VNDA LR LR 00 27 58.1
comp=Z,216nm,19.6s,baz=360,slow=33
MK31 Makanchi Array 75.22 320⇓*i*P **P 23 58 27.1 -0.2**
MK31 Makanchi Array 75.22 320 P **P 23 58 27.3 0.0**
MKAR Makanchi Array 75.22 320 P **P 23 58 27.1 -0.1**
comp=Z,7.9nm,0.9s,baz=106,slow=7.2,SNR=51
MKAR LR LR 00 31 21.4
comp=Z,207nm,19.3s,baz=78,slow=36
MKAR Makanchi Array 75.22 320 *i* P **P 23 58 27.7 +0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 75.22 320 P **P 23 58 27.5 +0.3**
TIXI Tiksi 75.37 354 LR LR 00 29 58.4
comp=Z,120nm,21.8s,baz=190,slow=34
TIXI Tiksi 75.37 354⇓*i*P **P 23 58 27.0 -0.5**
TIXI pmax pmax
comp=Z,10.0nm,1.4s
TIXI Tiksi 75.37 354 P **P 23 58 25.8 -1.7**
MAKZ Makanchi 75.43 320 P **P 23 58 28.4 -0.1**
MAKZ pmax pmax
comp=Z,61nm,1.7s
MAKZ Makanchi 75.43 320 P **P 23 58 28.4 -0.1**
MAKZ IAmb IAmb 23 58 30.1
comp=Z,61nm,1.6s
ANM Nome 75.76 19 P **P 23 58 31.6 +1.7**
baz=229
UZB Uzynbulak 76.23 316 *e*P **P 23 58 32.8 -0.4**
UZB pmax pmax
comp=Z,49nm,1.8s
UZB Uzynbulak 76.23 316 *e*P **P 23 58 32.8 -0.4**
comp=Z,49nm,1.8s,baz=316
PRZ Przheval'sk 76.47 315 P **P 23 58 34.5 -0.2**
PRZ pmax pmax
comp=Z,102nm,1.3s
PRZ Przheval'sk 76.47 315 P **P 23 58 34.5 -0.2**
ZAA0 Zalesovo Array 76.49 327 P **P 23 58 33.0 -1.2**
ZALV Zalesovo Beam 76.49 327 P **P 23 58 33.5 -0.8**
comp=Z,3.2nm,0.8s,baz=104,slow=6.3,SNR=17
ZALV LR LR 00 31 38.4
comp=Z,266nm,21.6s,baz=111,slow=35
ZALV Zalesovo Beam 76.49 327 P **P 23 58 33.0 -1.2**
SATY Saty 76.63 315 *e*P **P 23 58 33.8 -1.7**
SATY pmax pmax
comp=Z,19nm,1.3s
SATY Saty 76.63 315 *e*P **P 23 58 33.8 -1.7**
comp=Z,19nm,1.3s,baz=315
ZHN Zhinishke 76.64 316 *e*P **P 23 58 34.7 -0.9**
ZHN Zhinishke 76.64 316 *e*P **P 23 58 34.7 -0.9**
baz=316
TARG Taragay, Kyrgy 76.68 314 P **P 23 58 36.4 +0.3**
TARG IAmb IAmb 23 58 38.6
comp=Z,34nm,1.5s
KDAK Kodiak Island 77.13 29 LR LR 00 26 57.9
comp=Z,137nm,21.2s,baz=260,slow=31
TDK Taldyqorghan 77.20 317 *e*P **P 23 58 37.6 -0.9**
TDK pmax pmax
comp=Z,63nm,1.7s
TDK Taldyqorghan 77.20 317 *e*P **P 23 58 37.7 -0.9**
comp=Z,63nm,1.7s,baz=317
KSH Kashi 77.44 311 P **P 23 58 41.5 +1.4**
KSH pmax pmax
comp=Z,16nm,1.4s
MDOK Medeo 77.61 315 *e*P **P 23 58 39.9 -1.1**
MDOK Medeo 77.61 315 *e*P **P 23 58 40.0 -1.1**
baz=315
TNSS Tian-Shan 77.65 315 *e*P **P 23 58 40.5 -1.1**
baz=315
AAA Alma-Ata 77.72 315 *e*P **P 23 58 41.2 -0.3**
AAA Alma-Ata 77.72 315 *e*P **P 23 58 41.2 -0.3**
baz=315
BOOM Boomskoye usch 78.22 314 P **P 23 58 44.3 -0.2**
BOOM pmax pmax
comp=Z,45nm,1.6s
BOOM Boomskoye usch 78.22 314 P **P 23 58 44.3 -0.2**
BOOM IAmb IAmb 23 58 46.6
comp=Z,45nm,1.6s
L19K White Mountain 78.25 24 P **P 23 58 43.9 -0.1**
L19K IAmb IAmb 00 01 31.5
comp=Z,22nm,1.1s
L19K White Mountain 78.25 24 P **P 23 58 45.5 +1.5**
baz=240
KUU Kurty 78.31 316 *e*P **P 23 58 43.8 -0.9**
KUU pmax pmax
comp=Z,69nm,1.6s
KUU Kurty 78.31 316 *e*P **P 23 58 43.9 -0.9**
comp=Z,69nm,1.6s,baz=316
TKM2 Tokmak 2 78.58 315 P **P 23 58 47.3 +0.8**
SNR=12
RDOG Red Dog Mine 78.77 17 P **P 23 58 48.4 +1.6**
baz=231
L20K Farewell, AK 78.79 24 P **P 23 58 48.1 +1.1**
baz=241
KURK Kurchatov 78.84 323*c i*P **P 23 58 46.9 -0.5**
KURK pmax pmax
comp=Z,38nm,1.3s
KURK Kurchatov 78.84 323 P **P 23 58 46.6 -0.8**
KURK IAmb IAmb 23 58 48.7
comp=Z,40nm,1.2s
KURBB Kurchatov Arra 78.86 323 LR LR 00 33 23.7
comp=Z,235nm,19.5s,baz=87,slow=36
KBK Karagaybulak 78.97 314 P **P 23 58 49.4 +0.8**
SNR=5.9
K20K Telida 79.15 23 P **P 23 58 50.4 +1.5**
baz=240,SNR=6.5
UCH Uchtor 79.18 314 P **P 23 58 51.5 +1.4**
SNR=12
CHMS Chumysh 79.20 315 P **P 23 58 50.2 +0.5**
SNR=7.8
FRU1 Bishkek 79.24 314 P **P 23 58 50.0 0.0**
FRU1 pmax pmax
comp=Z,10.0nm,0.9s
FRU1 Bishkek 79.24 314 P **P 23 58 50.0 0.0**
AAK Ala-Archa 79.29 314 LR LR 00 33 22.5
comp=Z,318nm,21.7s,baz=100,slow=35
AAK Ala-Archa 79.29 314 P **P 23 58 51.2 +0.8**
SNR=6.6
AAK Ala-Archa 79.29 314*c i*P **P 23 58 51.0 +0.6**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK Ala-Archa 79.29 314 P **P 23 58 50.8 +0.4**
AAK IAmb IAmb 23 58 52.4
comp=Z,40nm,1.9s
SGDS Sogindy 79.39 315 *e*P **P 23 58 49.9 -0.9**
comp=Z,23nm,1.8s,baz=315
USP Ospenovka 79.44 315 P **P 23 58 51.7 +0.7**
SNR=10
J20K Nowinta River 79.52 22 P **P 23 58 52.4 +1.4**
baz=240,SNR=9.1
AML Almayashu 79.75 314 P **P 23 58 54.5 +1.3**
SNR=12
EKS2 Erkin-Say 79.81 314 P **P 23 58 54.1 +1.0**
SNR=6.4
RC01 Rabbit Creek A 79.90 26 P **P 23 58 53.7 +0.6**
baz=245
CAST Castle Rocks 79.96 23 P **P 23 58 53.6 +0.2**
baz=242,SNR=7.3
M22K Willow 80.02 25 P **P 23 58 52.5 -1.2**
BTLS Baital 80.19 316 *e*P **P 23 58 54.0 -1.0**
BTLS pmax pmax
comp=Z,16nm,1.6s
BTLS Baital 80.19 316 *e*P **P 23 58 54.0 -1.0**
comp=Z,16nm,1.6s,baz=316
CUT Chulitna 80.24 25 P **P 23 58 55.7 +0.9**
baz=244
PMR Palmer 80.38 26 P **P 23 58 54.3 -1.3**
PMR pmax pmax
comp=Z,118nm,0.5s
PMR Palmer 80.38 26 P **P 23 58 54.3 -1.3**
IMAR Indian Mountai 80.57 21 P **P 23 58 55.9 -0.7**
DRK Karamyk 80.58 311 P **P 23 58 57.0 -0.6**
DRK IAmb IAmb 23 59 00.7
comp=Z,32nm,1.4s
BPAW Bear Paw Mtn. 80.71 23 P **P 23 58 58.2 +0.8**
baz=243
H21K Melozitna Rive 80.75 21 P **P 23 58 58.6 +1.1**
baz=241
SML Sawmill 80.82 26 P **P 23 58 58.5 +0.4**
baz=246
I21K Tanana 80.83 22 P **P 23 58 59.2 +1.2**
baz=242
MLY Manley 81.22 22 P **P 23 59 00.8 +0.7**
baz=243,SNR=7.5
SCM Sheep Creek Mo 81.26 26 P **P 23 59 01.0 +0.6**
baz=247
MCK McKinley 81.36 24 P **P 23 59 00.1 -0.8**
MCK pmax pmax
comp=Z,97nm,0.7s
MCK McKinley 81.36 24 P **P 23 59 00.1 -0.8**
MCK McKinley 81.36 24 P **P 23 59 01.0 +0.1**
baz=245,SNR=10
BTK Batken 81.43 311 P **P 23 59 01.2 -0.6**
BTK pmax pmax
comp=Z,79nm,1.9s
BTK Batken 81.43 311 P **P 23 59 01.2 -0.6**
BTK IAmb IAmb 23 59 04.6
comp=Z,79nm,1.9s
DZA Taraz 81.62 314 *e*P **P 23 59 01.8 -0.9**
DZA Taraz 81.62 314 *e*P **P 23 59 01.9 -0.9**
baz=314
NEA2 Nenana 81.67 23 P **P 23 59 02.2 -0.3**
baz=245,SNR=7.5
I23K Minto, Yukon-K 81.80 22 P **P 23 59 04.1 +1.0**
baz=244
KBL Kabul 81.86 305 P **P 23 59 03.5 -0.9**
KBL pmax pmax
comp=Z,19nm,1.6s
KBL Kabul 81.86 305 P **P 23 59 03.5 -0.9**
KKAR Karatay Array 82.25 314 P **P 23 59 06.0 0.0**
KKAR Karatay Array 82.25 314 P **P 23 59 06.0 0.0**
TCOL CIGO, UAF Yank 82.26 23 P **P 23 59 05.1 -0.5**
COLA College 82.27 23⇓*i*P **P 23 59 05.3 -0.2**
COLA pmax pmax
comp=Z,24nm,1.5s
BRZS Berezniki 82.29 321 *e*P **P 23 59 04.9 -1.1**
BRZS pmax pmax
comp=Z,16nm,1.8s
BRZS Berezniki 82.29 321 *e*P **P 23 59 05.0 -1.1**

comp=Z,16nm,1.8s,baz=321
NRIK Noril'sk 82.40 342 P **P 23 59 05.7 -0.4**
comp=Z,18nm,0.9s,baz=127,slow=5.6,SNR=19
NRIK LR LR 00 34 02.3
comp=Z,123nm,22.0s,baz=114,slow=34
NRIK Noril'sk 82.40 342*c iP* **P 23 59 06.2 +0.1**
NRIK pmax pmax
comp=Z,36nm,1.1s
NRIK Noril'sk 82.40 342 P **P 23 59 06.0 -0.1**
NRIK IAmb IAmb 23 59 07.5
comp=Z,32nm,1.1s
COLD Coldfoot 82.41 20 P **P 23 59 07.6 +1.4**
baz=244
IUG Iuzhnay 82.41 313 *eP* **P 23 59 06.1 -0.9**
IUG Iuzhnay 82.41 313 *eP* **P 23 59 06.2 -0.9**
baz=313
CHGR Chuyangaron 82.44 309 P **P 23 59 06.1 -1.2**
CHGR IAmb IAmb 23 59 21.8
comp=Z,26nm,1.0s
A21K Barrow 82.47 16 P **P 23 59 06.8 +0.3**
A21K IAmb IAmb 23 59 09.4
comp=Z,52nm,1.4s
A21K Barrow 82.47 16 P **P 23 59 07.7 +1.2**
baz=237
IL31 82.61 23 P **P 23 59 06.6 -0.7**
ILAR Eielson Array 82.61 23 P **P 23 59 06.2 -1.1**
comp=Z,7.0nm,1.2s,baz=268,slow=4.7,SNR=23
ILAR LR LR 00 32 43.5
comp=Z,247nm,19.8s,baz=273,slow=33
ILAR Eielson Array 82.61 23 P **P 23 59 06.4 -1.0**
ILAR Eielson Array 82.61 23 P **P 23 59 06.4 -1.0**
H24K Noodor Dome 82.65 22 P **P 23 59 09.1 +1.4**
baz=246
BRLS Borolday 82.72 314 *eP* **P 23 59 08.3 -0.2**
BRLS Borolday 82.72 314 *eP* **P 23 59 08.3 -0.2**
baz=314
TAS Tashkent 82.81 312 P **P 23 59 09.3 +0.4**
TAS pmax pmax
comp=Z,162nm,1.8s
TAS Tashkent 82.81 312 P **P 23 59 09.3 +0.4**
RIDG Independent Ri 83.04 25 P **P 23 59 09.6 -0.1**
baz=249,SNR=6.8
J25K Salcha River, 83.15 24 P **P 23 59 10.2 -0.1**
J25K Salcha River, 83.15 24 P **P 23 59 10.4 +0.2**
baz=248,SNR=15
TOLK Toolik Lake Re 83.25 19 P **P 23 59 11.7 +1.0**
baz=244
J26L Joseph Creek 83.84 24 P **P 23 59 15.1 +1.3**
baz=250
M27K Edge Creek, AK 83.85 26 P **P 23 59 14.4 +0.4**
baz=252
L27K Beaver Creek, 84.09 26 P **P 23 59 16.2 +1.1**
baz=252
BCAR Beaver Creek A 84.11 26 P **P 23 59 15.6 +0.4**
BRVK Borovoye 84.44 324⇑*eP* **P 23 59 16.8 -0.2**
BRVK pmax pmax
comp=Z,36nm,1.7s
BRVK Borovoye 84.44 324 P **P 23 59 16.8 -0.2**
BRVK IAmb IAmb 23 59 18.3
comp=Z,32nm,1.4s
BMAR Burnt Mountain 84.48 21 P **P 23 59 18.0 +1.0**
EGAK Eagle 84.91 24 P **P 23 59 19.7 +0.5**
EGAK IAmb IAmb 23 59 21.2
comp=Z,32nm,1.4s
EGAK Eagle 84.91 24 P **P 23 59 20.6 +1.5**
baz=252,SNR=7.1
MAW Mawson 85.14 202 LR LR 00 36 56.7
comp=Z,214nm,18.0s,baz=72,slow=35
DAWY Dawson 85.43 25 P **P 23 59 23.7 +1.8**
baz=254,SNR=17
J29M Klondike Camp 86.03 25 P **P 23 59 26.5 +1.7**
baz=255
I29M Ogilvie Camp, 86.23 24 P **P 23 59 26.6 +0.8**
baz=255,SNR=17
N31M Braeburn, Yuko 86.39 28 P **P 23 59 28.0 +1.3**
baz=257,SNR=6.2
QSPA South Pole Qui 87.04 180 LR LR 00 36 26.9
comp=Z,213nm,21.3s,baz=326,slow=34
QSPA South Pole Qui 87.04 180 P **P 23 59 28.9 -1.0**
QSPA IAmb IAmb 23 59 31.8
comp=Z,19nm,1.1s
EPYK Eagle Plains 87.12 23 P **P 23 59 31.0 +0.9**
baz=256
M31M Drury Creek, Y 87.19 27 P **P 23 59 31.8 +1.3**
baz=258
HRA Herat 87.41 304 P **P 23 59 31.7 -0.7**
P33M Teslin, Yukon 87.56 29 P **P 23 59 34.0 +1.6**
baz=260
FARO Faro, Yukon 87.67 27 P **P 23 59 34.2 +1.3**
baz=259,SNR=5.4
MMPY Sheldon Lake, 88.70 27 P **P 23 59 39.0 +1.3**
baz=261
DLBC Dease Lake 88.70 31 LR LR 00 31 29.1
comp=Z,179nm,20.8s,baz=318,slow=30
INK Inuvik 88.75 21 LR LR 00 37 05.9
comp=Z,225nm,18.9s,baz=242,slow=34
INK Inuvik 88.75 21 P **P 23 59 38.1 +0.4**
baz=259
BBB Bella Bella 89.05 38 LR LR 00 31 03.1
comp=Z,194nm,21.2s,baz=264,slow=30
ABKAR Akbulak array 90.35 319 P **P 23 59 44.4 -1.3**
ABKAR Akbulak array 90.35 319 P **P 23 59 44.1 -1.5**
ABKAR IAmb IAmb 23 59 47.0
comp=Z,6.3nm,1.1s
GEYT Alibeck 91.00 308 LR LR 00 42 31.6
comp=Z,140nm,21.8s,baz=97,slow=37
ARU Arti 91.61 326 LR LR 00 42 36.0
comp=Z,280nm,19.4s,baz=86,slow=37
ARU Arti 91.61 326*c iP* **P 23 59 51.8 +0.4**
ARU 00 03 30.8
ARU S **SKSac 00 10 23.0 -0.9**
ARU SP **SPn 00 12 03.7 +3.0**
ARU SS **SS 00 16 56.8 -1.2**
ARU pmax pmax
comp=Z,8.0nm,1.2s
AKTO Aktyubinsk 91.66 320 LR LR 00 43 58.2
comp=Z,192nm,18.1s,baz=52,slow=38
A36M Sachs Harbour 92.00 18 P **P 23 59 53.3 +0.5**
baz=267
YBH Yreka Blue Hor 92.03 48 LR LR 00 32 14.6
comp=Z,215nm,21.8s,baz=277,slow=30
C36M Paulatuk 92.27 21 P **P 23 59 54.3 +0.1**
baz=268
M04C Macdoel 92.68 48 P **P 23 59 59.9 +3.0**
baz=268
B08A Colville Reser 94.51 42 P **P 00 00 04.3 -0.7**
NVAR Mina Array Bea 95.37 52 P **P 00 00 09.4 0.0**
comp=Z,1.0nm,0.9s,baz=247,slow=6.3,SNR=7.3
NVAR LR LR 00 34 14.1
comp=Z,122nm,21.8s,baz=274,slow=30
NVAR Mina Array Bea 95.37 52 P **P 00 00 09.3 -0.2**
NV11 Mina Array Sit 95.48 52 P **P 00 00 09.4 -0.4**
NV11 IAmb IAmb 00 00 12.2
comp=Z,16nm,1.6s
BMO Blue Mountains 95.98 45 P **P 00 00 11.9 0.0**
BMO pmax pmax
comp=Z,9.0nm,1.3s
BMO Blue Mountains 95.98 45 P **P 00 00 11.9 0.0**
BMO IAmb IAmb 00 00 14.7
comp=Z,9.2nm,1.2s
NEW Newport 95.98 42 P **P 00 00 11.8 0.0**
NEW pmax pmax
comp=Z,21nm,1.5s
NEW Newport 95.98 42 P **P 00 00 11.8 0.0**
NEW IAmb IAmb 00 00 14.1
comp=Z,21nm,1.5s
YKA Yellowknife Ar 96.39 28 P **P 00 00 13.2 0.0**
comp=Z,7.2nm,1.1s,baz=274,slow=4.7,SNR=41
YKA PP **PP 00 04 04.9 -1.8**
comp=Z,0.3nm,0.7s,baz=271,slow=7.4,SNR=5.1
YKA PKKP **PKKPbc 00 16 55.9 -5.1**
comp=Z,0.3nm,0.7s,baz=91,slow=2.7,SNR=5.5
YKA LR LR 00 40 49.5
comp=Z,138nm,20.4s,baz=278,slow=34
YKA Yellowknife Ar 96.39 28 *i P* **P 00 00 13.6 +0.4**
YKA pmax pmax
comp=Z,7.0nm,1.1s
YKA Yellowknife Ar 96.39 28 P **P 00 00 12.8 -0.3**
KIRV Kirov 96.50 329 LR LR 00 46 23.0
comp=Z,429nm,18.4s,baz=87,slow=37
PLID Pearl Lake 96.90 45 P **P 00 00 16.3 0.0**
PLID IAmb IAmb 00 00 25.6
comp=Z,12nm,1.6s
ELK Elko 97.67 49 LR LR 00 41 12.0
comp=Z,49nm,18.0s,baz=258,slow=34
RES Resolute Bay 99.97 14 LR LR 00 46 27.7
comp=Z,148nm,19.7s,baz=294,slow=36
APA Apatity 101.58 339⇓*iP* **Pdif 00 00 28.9 -7.4**
APA pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 101.73 47 PP **PP 00 04 45.9 -2.5**
comp=Z,0.8nm,1.0s,baz=270,slow=7.4,SNR=5.4
TXAR Lajitas Array 108.14 60 PKKP 00 16 38.5
comp=Z,0.8nm,1.0s,baz=171,slow=6.4,SNR=4.2
AKASG Malin Array Be 109.65 323 PP **PP 00 05 45.8 -0.4**
comp=Z,0.1nm,0.2s,baz=61,slow=5.5,SNR=6.0
CPUP Villa Florida 142.52 142 PKhKP PKPpre 00 06 12.0
comp=Z,3.2nm,0.9s,baz=212,slow=5.0,SNR=6.0
TORD Torodi Ar. Bea 144.35 289 PKP **PKPab 00 06 19.6 -0.2**
comp=Z,26nm,0.9s,baz=59,slow=3.4,SNR=63
ETMB Extrema 144.45 111 PKPdf **PKPab 00 06 19.6 -0.6**
BAUV El Baul 144.52 79 PKPdf **PKPab 00 06 19.5 -1.0**
AQDB Aquidauana 147.72 137 **PKPbc 00 06 29.4 -0.7**
PTLB Pontes e Lacer 148.24 126 **PKPbc 00 06 30.4 -1.2**
VILB Vilhena 148.61 121 **PKPbc 00 06 31.8 -0.9**
KIC Kosan Boka 151.77 278 *e*PKIKP **PKPbc 00 06 39.8 -0.5**
comp=Z,37nm,0.9s
DBIC Dimbokro 151.85 279 PKPbc **PKPbc 00 06 39.6 -0.9**
comp=Z,20nm,0.8s,baz=85,slow=2.0,SNR=22
TIC Toumodi 152.01 279 *e*PKIKP **PKPbc 00 06 40.1 -0.8**
LIC Lamto 152.06 278 *e*PKIKP **PKPbc 00 06 40.3 -0.7**
comp=Z,100nm,1.1s

IDC 30 23:56:54.4±1.3, 15°.65N×108°.39E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/44, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=45.0km s-min=19.3km az=44.0, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.46**	**288**	Pn	Pn	23 59 10.4	-1.7
	0.4nm,0.3s,baz=112,slow=12,SNR=5.3						
CMAR				Sn	Sn	00 00 59.5	+0.3
	0.2nm,0.3s,baz=102,slow=23,SNR=2.1						
CMAR				Lg	Lg	00 01 54.8	
	0.1nm,0.3s,baz=100,slow=31,SNR=5.5						
MKAR	**Makanchi Array**	**37.89**	**331**	P	P	00 04 13.7	+0.4
	0.2nm,0.6s,baz=124,slow=7.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.42**	**339**	P	P	00 04 51.1	+0.4
	1.0nm,0.7s,baz=142,slow=7.3,SNR=5.0						
WRA	**Warramunga Arr**	**43.61**	**143**	P	P	00 05 00.1	-0.7
	0.6nm,0.9s,baz=329,slow=8.9,SNR=2.2						
ASAR	**Alice Springs**	**46.36**	**147**	P	P	00 05 22.6	-0.1
	0.3nm,0.4s,baz=326,slow=7.9,SNR=5.6						

*SOME **31** 00:07:03.6, 40°.95N×74°.10E, h5km*
*KRNET **31** 00:07:04.8±0.1, 40°.94N×74°.05E, h16km, mb3.0*
*KNET **31** 00:07:05.8±0.8, 41°.00N×74°.01E, h22km±8km, ml2.6, Error ellipse: s-maj=7.6km s-min=4.7km az=121.0*
*NNC **31** 00:07:06.4±2.0, 41°.01N×73°.96E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=15.0km s-min=9.7km az=168.0*

ISC 31 00:07:05.2±0.9, 40°.96N±0°.02×73°.96E±0°.02, h12km±7km, n61, σ1°39/99, 38C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.14**	**232**⇑	*eP*	**Pg**	**00 07 09.0**	**+0.3**
SALK	baz=51			⇑*eS*	**Sg**	**00 07 11.5**	**+0.3**
	baz=51						
ARLS	**Aral**	**0.94**	**17**⇑	*iP*	**Pg**	**00 07 22.0**	**-1.4**
ARLS	baz=13			⇑*iS*	**Sg**	**00 07 35.0**	**-0.6**
	baz=13						
OHH	**Osh**	**0.99**	**244**⇓	*iP*	**Pg**	**00 07 24.1**	**-0.3**
OHH	baz=47			⇓*iS*	**Sn**	**00 07 38.6**	**-0.6**
	baz=47						
SFK	**Sufi-Kurgan**	**1.01**	**200**⇑	*eP*	**Pg**	**00 07 23.8**	**-1.0**
SFK	baz=4.0			⇑*eS*	**Sg**	**00 07 37.9**	**-0.1**
	baz=4.0						
AML	**Almayashu**	**1.18**	**350**	⇓P	**Pg**	**00 07 27.4**	**-0.7**
AML	17nm,0.2s,SNR=22			⇓S	**Sn**	**00 07 44.0**	**-0.3**
	132nm,0.5s						
UCH	**Uchtor**	**1.33**	**18**	⇑P	**Pn**	**00 07 29.4**	**-0.7**
UCH	5.0nm,0.1s,SNR=42			⇓S	**Sg**	**00 07 47.9**	**-0.3**
	82nm,0.3s						
UCH	**Uchtor**	**1.33**	**18**⇑	*iP*	**Pn**	**00 07 29.5**	**-0.7**
UCH	baz=15			⇑*iS*	**Sb**	**00 07 47.6**	**0.0**
	baz=15						
EKS2	**Erkin-Say**	**1.70**	**355**	⇑P	**Pb**	**00 07 36.6**	**0.0**
	5.8nm,0.3s,SNR=15						
EKS2	**Erkin-Say**	**1.70**	**355**	⇓*iP*	**Pb**	**00 07 36.4**	**-0.2**
EKS2	baz=53			⇓*iS*	**Sg**	**00 07 59.8**	**-0.2**
	baz=53						
ARK	**Arkit**	**1.72**	**300**⇑	*iP*	**Pg**	**00 07 37.6**	**-0.6**
ARK	baz=99			⇑*iS*	**Sg**	**00 08 01.6**	**+1.0**
	baz=99						
AAK	**Ala-Archa**	**1.72**	**13**	⇓P	**Pb**	**00 07 36.8**	**-0.1**
AAK	5.8nm,0.2s,SNR=11			⇑S	**Sg**	**00 08 00.3**	**-0.3**
	25nm,0.3s						
AAK	**Ala-Archa**	**1.72**	**13**	⇓P	**Pb**	**00 07 36.9**	**-0.1**
AAK	3.6nm,0.3s			⇓S	**Sg**	**00 07 59.5**	**-1.1**
	49nm,0.8s						
AAK	**Ala-Archa**	**1.72**	**13**⇓	*iP*	**Pb**	**00 07 36.3**	**-0.6**
AAK	baz=11			⇓*iS*	**Sg**	**00 07 59.7**	**-0.9**
	baz=11						
KBK	**Karagaybulak**	**1.85**	**23**	⇓P	**Pb**	**00 07 39.3**	**+0.2**
KBK	14nm,0.1s,SNR=49			⇑S	**Sg**	**00 08 04.0**	**-0.7**
	96nm,0.3s						
KBK	**Karagaybulak**	**1.85**	**23**⇑	*iP*	**Pb**	**00 07 38.3**	**-0.8**
KBK	baz=21			⇑*iS*	**Sb**	**00 08 02.9**	**+0.7**
	baz=21						
MRKS	**Merke**	**1.86**	**343**	*eP*	**Pg**	**00 07 40.1**	**-0.9**
MRKS	25nm,0.5s			*eS*	**Sg**	**00 08 06.8**	**+1.7**
	37nm,0.4s						
MRKS	**Merke**	**1.86**	**343**	Pg	**Pg**	**00 07 40.1**	**-0.9**
MRKS	25nm,0.5s			Lg	Lg	00 08 06.9	
	37nm,0.4s						
CHMS	**Chumysh**	**2.12**	**16**⇑	*iP*	**Pb**	**00 07 42.4**	**-1.2**
CHMS	baz=14			⇑*iS*	**Sb**	**00 08 09.8**	**-0.1**
	baz=14						
BOOM	**Boomskoye usch**	**2.13**	**44**⇑	*iP*	**Pn**	**00 07 42.3**	**+1.5**
BOOM	baz=42			⇑*iS*	**Sb**	**00 08 09.3**	**-1.0**
	baz=42						
ULHL	**Ulahol**	**2.14**	**52**	⇑P	**Pn**	**00 07 42.2**	**+1.2**
ULHL	17nm,0.3s,SNR=70			⇑S	**Sb**	**00 08 11.2**	**+0.6**
	22nm,0.3s						
ULHL	**Ulahol**	**2.14**	**52**⇑	*iP*	**Pn**	**00 07 42.3**	**+1.3**
ULHL	baz=51			⇑*iS*	**Sn**	**00 08 09.2**	**+1.6**
	baz=51						
TRKS	**Terek-Say**	**2.20**	**286**⇑	*iP*	**Pb**	**00 07 43.9**	**-1.2**
TRKS	baz=84			⇑*iS*	**Sb**	**00 08 12.5**	**+0.1**
	baz=84						
DRK	**Karamyk**	**2.22**	**229**⇑	*iP*	**Pb**	**00 07 44.2**	**-1.3**
DRK	baz=30			⇑*iS*	**Sb**	**00 08 13.0**	**-0.1**
	baz=30						
USP	**Ospenovka**	**2.34**	**10**⇓	*iP*	**Pb**	**00 07 45.7**	**-1.7**
USP	baz=8.0			⇓*iS*	**Sb**	**00 08 15.2**	**-1.0**
	baz=8.0						
SGDS	**Sogindy**	**2.54**	**11**	*eP*	**Pb**	**00 07 51.1**	**+0.3**
SGDS	4.6nm,0.0s			*eS*	**Sg**	**00 08 25.0**	**-1.8**
	21nm,0.1s						
KST	**Kastek**	**2.56**	**35**	*eP*	**Pb**	**00 07 51.3**	**+0.1**
KST	21nm,0.4s			*eS*	**Sg**	**00 08 26.5**	**-0.9**
	61nm,0.5s						
KST	**Kastek**	**2.56**	**35**	Pg	**Pb**	**00 07 51.3**	**+0.1**
KST	21nm,0.4s			Lg	Lg	00 08 26.5	
	61nm,0.5s						
BTK	**Batken**	**2.56**	**250**⇓	*iP*	**Pb**	**00 07 49.4**	**-1.8**
BTK	baz=51			⇓*iS*	**Sb**	**00 08 21.8**	**-0.9**
	baz=51						
DGS	**Degeres**	**2.65**	**30**	*eP*	**Pb**	**00 07 52.9**	**+0.2**
DGS	23nm,0.6s			*eS*	**Sg**	**00 08 28.9**	**-1.4**
	39nm,0.6s						
DGS	**Degeres**	**2.65**	**30**	Pg	**Pb**	**00 07 52.9**	**+0.2**
DGS	23nm,0.6s			Lg	Lg	00 08 28.9	
	39nm,0.6s						
KDJ	**Kajisay**	**2.68**	**63**⇑	*eP*	**Pn**	**00 07 49.8**	**+1.3**
KDJ	baz=62			⇑*iS*	**Sn**	**00 08 22.3**	**+1.3**
	baz=62						
MTBS	**Maitube**	**2.84**	**40**	*eP*	**Pb**	**00 07 55.9**	**0.0**
MTBS	13nm,0.3s			*eS*	**Sg**	**00 08 33.9**	**-2.5**
	38nm,0.4s						
MTBS	**Maitube**	**2.84**	**40**	Pg	**Pb**	**00 07 55.9**	**0.0**
MTBS	13nm,0.3s			Lg	Lg	00 08 33.9	
	38nm,0.4s						
TARG	**Taragay, Kyrgy**	**2.99**	**74**⇓	*eP*	**Pn**	**00 07 54.0**	**+1.1**
TARG	baz=73			⇓*iS*	**Sn**	**00 08 29.3**	**+0.3**
	baz=73						
KRBS	**Karabastau**	**3.01**	**24**	*eP*	**Pb**	**00 07 59.2**	**+0.4**
KRBS	11nm,0.3s			*eS*	**Sg**	**00 08 39.6**	**-2.4**
	45nm,0.5s						
KRBS	**Karabastau**	**3.01**	**24**	Pg	**Pb**	**00 07 59.2**	**+0.4**
KRBS	11nm,0.3s			Lg	Lg	00 08 39.6	
	45nm,0.5s						
TNSS	**Tian-Shan**	**3.04**	**46**	*eP*	**Pb**	**00 07 59.3**	**-0.3**
TNSS	13nm,0.4s			*eS*	**Sb**	**00 08 39.4**	**+2.6**
	14nm,0.4s						
TNSS	**Tian-Shan**	**3.04**	**46**	Pg	**Pb**	**00 07 59.3**	**-0.3**
TNSS	13nm,0.4s			Lg	Lg	00 08 39.4	
	14nm,0.4s						
KNDC	**Almaty**	**3.17**	**44**	⇑Pn	**Pb**	**00 08 01.2**	**-0.5**
KNDC	31nm,0.9s			⇓Lg	Lg	00 08 47.9	
	62nm,0.6s						
IUG	**Iuzhnay**	**3.18**	**293**	*eP*	**Pg**	**00 08 04.4**	**-1.8**
IUG	106nm,0.1s			*eS*	**Sg**	**00 08 48.1**	**+0.8**
	75nm,0.7s						
IUG	**Iuzhnay**	**3.18**	**293**	Pg	**Pg**	**00 08 04.4**	**-1.8**
IUG	249nm,0.7s			Lg	Lg	00 08 48.1	
	75nm,0.7s						
MDOK	**Medeo**	**3.18**	**45**	*eP*	**Pb**	**00 08 01.6**	**-0.2**
MDOK	5.9nm,0.4s			*eS*	**Sb**	**00 08 43.6**	**+3.0**
	22nm,0.6s						
MDOK	**Medeo**	**3.18**	**45**	⇓Pn	**Pb**	**00 08 01.1**	**-0.7**
MDOK	8.8nm,0.8s			⇓Lg	Lg	00 08 48.9	
	24nm,0.7s						
MDOK	**Medeo**	**3.18**	**45**	Pg	**Pb**	**00 08 01.6**	**-0.2**
MDOK	5.9nm,0.4s			Lg	Lg	00 08 43.6	
	22nm,0.6s						
KOTS	**Kotyrbulak**	**3.26**	**45**	*eP*	**Pb**	**00 08 03.5**	**+0.3**
KOTS	8.8nm,0.4s			*eS*	**Sg**	**00 08 47.2**	**-2.9**
	39nm,0.6s						
KOTS	**Kotyrbulak**	**3.26**	**45**	Pg	**Pb**	**00 08 03.5**	**+0.3**
KOTS	8.8nm,0.4s			Lg	Lg	00 08 47.2	
	39nm,0.6s						
ANVS	**Anan'yevo**	**3.31**	**55**⇑	*iP*	**Pn**	**00 07 58.6**	**+1.5**
ANVS	baz=55			⇑*iS*	**Sn**	**00 08 37.4**	**+0.9**
	baz=55						
KK02	**Karatay Array**	**3.34**	**311**	⇑Pg	**Pb**	**00 08 05.1**	**+0.6**
KK02	2.0nm,0.5s,baz=128,slow=17			⇓Lg	Lg	00 08 48.0	
	8.6nm,0.6s,baz=138,slow=28						
KTBS	**Karatobe**	**3.41**	**35**	*eP*	**Pb**	**00 08 05.8**	**+0.2**
KTBS	2.5nm,0.4s			*eS*	**Sg**	**00 08 50.9**	**-3.8**
	30nm,0.6s						
KTBS	**Karatobe**	**3.41**	**35**	Pg	**Pb**	**00 08 05.8**	**+0.2**
KTBS	2.5nm,0.4s			Lg	Lg	00 08 50.9	
	30nm,0.6s						
KUU	**Kurty**	**3.42**	**30**	*eP*	**Pb**	**00 08 05.8**	**0.0**
KUU	2.8nm,0.4s			*eS*	**Sb**	**00 08 50.7**	**+3.5**
	31nm,0.5s						
KUU	**Kurty**	**3.42**	**30**	Pg	**Pb**	**00 08 05.8**	**0.0**
KUU	2.8nm,0.3s			Lg	Lg	00 08 50.7	
	31nm,0.5s						
BRLS	**Borolday**	**3.70**	**305**	*eP*	**Pb**	**00 08 12.9**	**+2.3**
BRLS	4.2nm,0.6s			*eS*	**Sg**	**00 09 02.8**	**-1.4**
	11nm,0.6s						
BRLS	**Borolday**	**3.70**	**305**	Pg	**Pb**	**00 08 12.9**	**+2.3**
BRLS	4.2nm,0.6s			Lg	Lg	00 09 02.8	
	11nm,0.6s						
SATY	**Saty**	**3.92**	**56**	*eP*	**Pb**	**00 08 14.9**	**+0.6**
SATY	6.6nm,0.5s			*eS*	**Sb**	**00 09 06.3**	**+4.5**
	7.6nm,0.6s						
SATY	**Saty**	**3.92**	**56**	Pg	**Pb**	**00 08 14.9**	**+0.6**
SATY	6.6nm,0.5s			Lg	Lg	00 09 06.3	
	7.6nm,0.6s						
BTLS	**Baital**	**4.08**	**1**	*eP*	**Pb**	**00 08 19.5**	**+2.5**
BTLS	1.0nm,0.5s			*eS*	**Sg**	**00 09 13.1**	**-3.0**
	4.4nm,0.4s						
BTLS	**Baital**	**4.08**	**1**	Pg	**Pb**	**00 08 19.5**	**+2.5**
BTLS	1.0nm,0.5s			Lg	Lg	00 09 12.9	
	4.4nm,0.4s						
PDGK	**Podgornoye**	**4.74**	**58**	⇑Pg	**Pg**	**00 08 33.4**	**-2.7**
PDGK	3.3nm,0.6s			⇑Lg	Lg	00 09 39.0	
	8.0nm,0.8s						
OTUK	**Ortayu**	**7.37**	**352**	⇑Lg	Lg	00 10 57.0	
	8.1nm,1.2s						
MK31	**Makanchi Array**	**8.37**	**43**	⇓Pn	Pn	00 09 12.5	+6.1
MK31	0.2nm,0.5s,baz=223,slow=15,SNR=4.2			⇑Lg	Lg	00 11 34.2	
	0.7nm,0.7s						

IDC 31 00:15:34.7±10.0, 23°.74S×176°.90W, h138km±76km, mb3.0/2, mb1 3.4/3, mb1mx3.2/24, mbtmp3.7/3, Error ellipse: s-maj=86.4km s-min=50.0km az=126.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.62**	**321**	P	Pn	00 17 22.7	-0.4
	2.4nm,0.3s,baz=107,slow=14,SNR=16						
MSVF				S	Sn	00 18 48.9	+0.8
	0.3nm,0.3s,baz=300,slow=23,SNR=1.1						
ASAR	**Alice Springs**	**44.86**	**260**	P	P	00 23 35.6	0.0
	0.4nm,0.7s,baz=97,slow=8.3,SNR=2.8						
WRA	**Warramunga Arr**	**45.25**	**265**	P	P	00 23 38.4	-0.4
	0.5nm,0.7s,baz=101,slow=8.3,SNR=3.5						
AKASG	**Malin Array Be**	**146.32**	**330**	PKPbc	PKPdf	00 34 58.3	+0.7
	0.5nm,0.4s,baz=46,slow=4.1,SNR=5.7						

*CNRM **31** 00:23:37.5, 35°.58N×3°.72W, h16km, ml3.4*
*SFS **31** 00:23:38.0, 35°.55N×3°.82W, ML2.6, ALBORAN SUR*
*IGIL **31** 00:23:40.4, 35°.55N×3°.82W, h0km, ML2.4*
*CRAAG **31** 00:23:41.0, 35°.73N×3°.68W, Ml2.5*

ISC 31 00:23:38.4±1.1, 35°.54N±0°.03×3°.74W±0°.03, h23km±12km, n19, σ1°59/30, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**207**	P	**Pb**	**00 23 45.8**	**-0.4**
PALE				S	**Sb**	**00 23 50.5**	**-1.1**
CHAS	**Isla Isabel II**	**1.13**	**108**	*eP*	**Pn**	**00 23 58.7**	**0.0**
CHAS				*eS*	**Sb**	**00 24 12.9**	**-0.4**

EMAL	**Malaga-Limoner**	**1.34 336**	*e*P	**Pb**	**00 24 03.3**	**+0.5**
EMAL			*e*S	**Sb**	**00 24 21.3**	**+1.7**
SMIR	**Smir Dam**	**1.35 277**	P	**Pn**	**00 24 00.7**	**-1.0**
SMIR			S	**Sb**	**00 24 21.5**	**+1.8**
CEU	**Ceuta**	**1.38 286**	*e*P	**Pn**	**00 23 59.0**	**-3.1**
CEU			*e*S	**Sn**	**00 24 15.3**	**-4.3**
CHEFC	**Chefchaouen**	**1.38 252**	P	**Pb**	**00 24 03.4**	**-0.1**
CHEFC			S	**Sb**	**00 24 21.1**	**+0.3**
JBK	**JBK**	**1.54 141**	P	**Pn**	**00 24 04.3**	**-0.2**
JBK			S	**Sb**	**00 24 25.9**	**+0.5**
LCRM	**LCR**	**2.07 207**	P	**Pn**	**00 24 12.9**	**+1.1**
IFR	**Ifrane**	**2.32 210**	*e*P	**Pn**	**00 24 15.9**	**+0.6**
IFR			*e*S	**Sn**	**00 24 43.1**	**-0.1**
MD31	**MD31**	**2.80 198**	P	**Pn**	**00 24 23.0**	**+1.3**
MDT	**Midelt**	**2.81 195**	P	**Pn**	**00 24 24.6**	**+2.7**
CART	**Cartagena**	**3.00 46**	P	**Pn**	**00 24 24.5**	**0.0**
CART			S	**Sn**	**00 24 58.4**	**-1.4**
ZHG	**ZHG**	**3.18 230**	P	**Pn**	**00 24 29.3**	**+2.2**
PVAQ	**Vaqueiros**	**3.71 301**	P	**Pn**	**00 24 35.2**	**+1.0**
PVAQ			S	**Sn**	**00 25 16.5**	**-0.6**
MESJ	**Messejana**	**4.27 304**	*e*P	**Pn**	**00 24 43.8**	**+1.9**
MESJ			*e*S	**Sn**	**00 25 30.2**	**-0.8**
MESJ			IAML		00 25 42.7	
	comp=N,8.0nm,0.5s					
PFVI	**Vila Bisbo**	**4.41 293**	P	**Pn**	**00 24 45.2**	**+1.4**
PESTR	**Estremoz**	**4.53 318**	P	**Pn**	**00 24 46.6**	**+1.1**
TZRR	**Tazzarine**	**4.98 198**	P	**Pn**	**00 24 53.1**	**+1.3**
TTIG	**Tnine Tigouga,**	**6.35 220**	P	**Pn**	**00 25 09.8**	**-0.9**

IDC 31 00:44:00.9±6.9, 16°.90S×176°.90W, h0km, mb3.7/2, mb1 4.0/2, mb1mx2.9/37, mbtmp3.7/2, Error ellipse: s-maj=339.7km s-min=55.5km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.24**	**258**	P	P	00 52 28.2	-0.1
	0.3nm,0.5s,baz=94,slow=6.8,SNR=6.5						
ASAR	**Alice Springs**	**46.46**	**253**	P	P	00 52 29.8	-0.3
	1.8nm,0.6s,baz=87,slow=8.6,SNR=35						
GERES	**GERESS Array B**	**146.99**	**347**	PKPbc	PKPbc	01 03 45.0	-0.7
	0.2nm,0.4s,baz=4.3,slow=3.9,SNR=1.4						

*DDA **31** 00:50:51.6±0.0, 36°.56N×25°.38E, h6km±4km, MW3.9, Hypocentre not reviewed by the ISC*
*IDC **31** 00:50:52.9±1.3, 36°.73N×25°.52E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/44, mbtmp3.7/9, ML2.8/2, Error ellipse: s-maj=38.1km s-min=18.9km az=153.0*
*ISK **31** 00:50:53.4, 36°.65N×25°.61E, h8km, ML3.6/27*
*ATH **31** 00:50:54.3, 36°.59N×25°.67E, h27km, ML3.6/20, Error ellipse: s-maj=1.3km s-min=0.7km az=227.0*
*NEIC **31** 00:50:55.6±1.7, 36°.56N±0°.04×25°.69E±0°.01, h10km±1km, Error ellipse: s-maj=6.0km s-min=2.9km az=172.0*
*THE **31** 00:50:55.7, 36°.58N×25°.67E, h12km, ML3.8/8, Error ellipse: s-maj=0.9km s-min=0.3km az=263.0*
*GII **31** 00:51:01.5±0.0, 36°.12N×26°.17E, h12km, mb4.0/1, MD3.8/1*

ISC 31 00:50:56.2±0.7, 36°.54N±0°.03×25°.66E±0°.02, h28km±5km, n199, σ1§55/235, mb3.9/11, 11C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBO	**Columbo, Santo**	**0.21**	**251**	P	**Pb**	**00 51 00.6**	**-1.7**
CMBO				S	**Sb**	**00 51 04.3**	**-2.2**
	32μm,0.6s						
CMBO	**Columbo, Santo**	**0.21**	**251**	P	**Pb**	**00 51 00.7**	**-1.6**
CMBO				S	**Sb**	**00 51 04.8**	**-1.7**
CMBO				AML	AML	00 51 05.7	
	comp=N,83963μm,0.2s						
CMBO				AML	AML	00 51 05.8	
	comp=E,43177μm,0.3s						
CMBO	**Columbo, Santo**	**0.21**	**251**		**Pb**	**00 51 00.6**	**-1.7**
CMBO					**Sb**	**00 51 04.3**	**-2.2**
THT2	**Imerovigli**	**0.22**	**241**	P	**Pb**	**00 51 00.8**	**-1.6**
THT2				S	**Sb**	**00 51 04.8**	**-1.8**
	comp=E,14μm,0.3s						
THT2	**Imerovigli**	**0.22**	**241**	P	**Pb**	**00 51 00.8**	**-1.6**
THT2				S	**Sb**	**00 51 05.4**	**-1.2**
THT2				AML	AML	00 51 06.2	
	comp=E,81381μm,0.2s						
THT2				AML	AML	00 51 11.7	
	comp=N,83286μm,0.5s						
THT2	**Imerovigli**	**0.22**	**241**		**Pb**	**00 51 00.8**	**-1.6**
THT2					**Sb**	**00 51 04.8**	**-1.8**
SAP4	**Santorini-Oia**	**0.24**	**254**	P	**Pb**	**00 51 01.1**	**-1.5**
SAP4				S	**Sb**	**00 51 05.6**	**-1.4**
	comp=N,35μm,0.4s						
SAP4	**Santorini-Oia**	**0.24**	**254**	P	**Pb**	**00 51 01.1**	**-1.5**
SAP4				S	**Sb**	**00 51 05.7**	**-1.4**
SAP4	**Santorini-Oia**	**0.24**	**254**		**Pb**	**00 51 01.1**	**-1.5**
SAP4					**Sb**	**00 51 05.6**	**-1.4**
SNT5	**Nea Kammeni, S**	**0.25**	**237**	P	**Pb**	**00 51 01.4**	**-1.4**
SNT5				S	**Sb**	**00 51 06.2**	**-1.1**
MHLO	**Agia Marina, M**	**1.02**	**279**	P	**Pb**	**00 51 14.9**	**-0.3**
MHLO				S	**Sn**	**00 51 28.7**	**+0.7**
	comp=N,12μm,0.5s						
MHLO	**Agia Marina, M**	**1.02**	**279**	P	**Pb**	**00 51 14.9**	**-0.3**
MHLO				AML	AML	00 51 33.4	
	comp=E,22870μm,0.5s						
MHLO				AML	AML	00 51 35.7	
	comp=N,23844μm,0.5s						
MHLO	**Agia Marina, M**	**1.02**	**279**		**Pb**	**00 51 14.9**	**-0.3**
MHLO					**Sn**	**00 51 28.7**	**+0.7**
TNSA	**Tinos**	**1.07**	**339**	P	**Pn**	**00 51 14.2**	**-1.1**
TNSA				AML	AML	00 51 29.6	
	comp=N,10016μm,0.3s						
TNSA				AML	AML	00 51 30.3	
	comp=E,4788μm,0.3s						
KOSK	**Kos Island**	**1.08**	**78**	P	**Pn**	**00 51 15.2**	**-0.2**
KOSK				S	**Sb**	**00 51 30.1**	**+0.1**
	comp=E,3μm,0.4s						
KOSK	**Kos Island**	**1.08**	**78**	PN	**Pn**	**00 51 15.2**	**-0.2**
KOSK				SN	**Sb**	**00 51 30.9**	**+0.9**
KOSK	**Kos Island**	**1.08**	**78**		**Pn**	**00 51 15.2**	**-0.2**
KOSK					**Sb**	**00 51 30.1**	**+0.1**
NISR	**Nisiros**	**1.19**	**86**	P	**Pb**	**00 51 17.5**	**-0.5**
NISR				S	**Sb**	**00 51 33.5**	**+0.6**
	comp=E,6μm,0.3s						
NISR	**Nisiros**	**1.19**	**86**	P	**Pb**	**00 51 17.4**	**-0.5**
NISR				AML	AML	00 51 37.9	
	comp=E,15482μm,0.2s						
NISR				AML	AML	00 51 38.0	
	comp=N,7924μm,0.5s						
NISR	**Nisiros**	**1.19**	**86**		**Pb**	**00 51 17.5**	**-0.5**
NISR					**Sb**	**00 51 33.5**	**+0.6**
NIS1	**Nisyros Isl.**	**1.23**	**87**	P	**Pb**	**00 51 17.9**	**-0.8**
NIS1				S	**Sb**	**00 51 34.2**	**+0.1**
	comp=N,4μm,0.5s						
NIS1	**Nisyros Isl.**	**1.23**	**87**	P	**Pb**	**00 51 17.9**	**-0.8**
NIS1				AML	AML	00 51 41.5	
	comp=N,8621μm,0.4s						
NIS1				AML	AML	00 51 45.3	
	comp=E,8753μm,0.5s						
NIS1	**Nisyros Isl.**	**1.23**	**87**	PN	**Pb**	**00 51 18.3**	**-0.4**
NIS1	**Nisyros Isl.**	**1.23**	**87**		**Pb**	**00 51 17.9**	**-0.8**
NIS1					**Sb**	**00 51 34.2**	**+0.1**
NPS	**Neapolis**	**1.27**	**182**	P	**Pn**	**00 51 18.2**	**+0.1**
NPS				S	**Sb**	**00 51 36.1**	**+0.6**
	comp=E,3μm,0.3s						
NPS	**Neapolis**	**1.27**	**182**	P	**Pn**	**00 51 18.2**	**+0.1**
NPS				AML	AML	00 51 40.6	
	comp=E,7933μm,0.3s						
NPS				AML	AML	00 51 40.8	
	comp=N,5141μm,0.3s						
NPS	**Neapolis**	**1.27**	**182**		**Pn**	**00 51 18.2**	**+0.1**
NPS					**Sb**	**00 51 36.1**	**+0.6**
HRKL	**Herakleio**	**1.31**	**200**	P	**Pn**	**00 51 19.1**	**+0.6**
HRKL	**Herakleio**	**1.31**	**200**	PN	**Pn**	**00 51 19.1**	**+0.6**
KSTL	**Kastelli Herak**	**1.32**	**201**	P	**Pb**	**00 51 19.4**	**-0.9**
IDI	**Anoyia**	**1.40**	**207**	P	**Pn**	**00 51 20.1**	**+0.3**
IDI	**Anoyia**	**1.40**	**207**	P	**Pn**	**00 51 20.1**	**+0.3**
IDI				AML	AML	00 51 44.0	
	comp=N,4233μm,0.4s						
IDI				AML	AML	00 51 45.1	
	comp=E,4678μm,0.4s						
BODT	**Bodrum**	**1.43**	**68**	P	**Pn**	**00 51 19.4**	**-0.8**
BODT	**Bodrum**	**1.43**	**68**	PN	**Pn**	**00 51 19.7**	**-0.5**
BODT				SN	**Sb**	**00 51 40.0**	**+0.1**
YKAV	**Yalikavak-Bodr**	**1.43**	**65**	PN	**Pn**	**00 51 20.3**	**+0.1**
ZKR	**Zakros**	**1.49**	**162**	P	**Pb**	**00 51 22.1**	**-1.1**
ZKR	**Zakros**	**1.49**	**162**	P	**Pb**	**00 51 22.2**	**-1.1**
ZKR				AML	AML	00 51 45.3	
	comp=E,4186μm,0.6s						
ZKR				AML	AML	00 51 49.1	
	comp=N,1643μm,0.4s						
ZKR	**Zakros**	**1.49**	**162**	PN	**Pb**	**00 51 22.2**	**-1.1**
ZKR				SN	**Sb**	**00 51 44.8**	**+3.0**
SMG	**Samos**	**1.50**	**39**	P	**Pn**	**00 51 20.1**	**-1.1**
SMG	**Samos**	**1.50**	**39**	P	**Pn**	**00 51 20.1**	**-1.1**
SMG				AML	AML	00 51 45.7	
	comp=N,3172μm,0.5s						
SMG				AML	AML	00 51 47.6	
	comp=E,3248μm,0.3s						
FRMA	**Ierapetra Chan**	**1.52**	**178**	P	**Pb**	**00 51 22.6**	**-1.1**
DAT	**Datca**	**1.56**	**82**	P	**Pn**	**00 51 21.5**	**-0.6**
DAT	**Datca**	**1.56**	**82**	PN	**Pn**	**00 51 21.7**	**-0.4**
DAT	**Datca**	**1.56**	**82**	SPECP		00 51 21.0	
DAT				P		00 51 21.8	
DAT				S		00 51 42.8	
DDIM	**Aydin, Didim**	**1.56**	**54**	SPECP		00 51 21.0	
DDIM				P		00 51 21.6	
DDIM				S		00 51 44.8	
TMBK	**Timbaki Herakl**	**1.63**	**207**	P	**Pn**	**00 51 24.0**	**+1.0**
VAM	**Vamos**	**1.64**	**227**	P	**Pn**	**00 51 23.6**	**+0.5**
VAM				S	**Sb**	**00 51 45.4**	**-0.5**
VAM	**Vamos**	**1.64**	**227**	P	**Pn**	**00 51 23.8**	**+0.7**
VAM				AML	AML	00 51 53.1	
	comp=E,2574μm,0.4s						
VAM				AML	AML	00 51 55.1	
	comp=N,2636μm,0.6s						
GCAM	**G?zelcaml?**	**1.71**	**47**	PN	**Pn**	**00 51 23.7**	**-0.4**
GCAM	**G?zelcaml?**	**1.71**	**47**	SPECP		00 51 23.0	
GCAM				P		00 51 23.6	
GCAM				S		00 51 49.6	
IMMV	**Iera Moni Meta**	**1.73**	**232**	P	**Pn**	**00 51 25.1**	**+0.7**
IMMV	**Iera Moni Meta**	**1.73**	**232**	P	**Pn**	**00 51 25.4**	**+1.0**
IMMV				AML	AML	00 52 04.8	
	comp=N,1838μm,0.8s						
IMMV				AML	AML	00 52 05.3	
	comp=E,2035μm,0.5s						
IMMV	**Iera Moni Meta**	**1.73**	**232**	PN	**Pn**	**00 51 25.4**	**+1.0**
KARY	**Karystos**	**1.78**	**327**	P	**Pn**	**00 51 24.6**	**-0.4**
KARY	**Karystos**	**1.78**	**327**	P	**Pn**	**00 51 24.7**	**-0.3**
ZEYE	**Izmir, Urla-Ze**	**1.82**	**21**	SPECP		00 51 23.0	
ZEYE				P		00 51 23.8	
ZEYE				S		00 51 51.3	
MLSB	**Milas**	**1.86**	**65**	PN	**Pn**	**00 51 25.9**	**-0.3**
CHOS	**Chios island**	**1.87**	**10**	P	**Pn**	**00 51 25.3**	**-1.1**
CHOS	**Chios island**	**1.87**	**10**	P	**Pn**	**00 51 25.3**	**-1.1**
CHOS	**Chios island**	**1.87**	**10**	PN	**Pn**	**00 51 25.5**	**-0.9**
URLA	**Izmir**	**1.96**	**22**	PN	**Pn**	**00 51 26.4**	**-1.2**
URLA	**Izmir**	**1.96**	**22**	SPECP		00 51 25.0	
URLA				P		00 51 25.5	
URLA				S		00 51 57.3	
VLY	**Voula,Athens**	**1.98**	**312**	P	**Pn**	**00 51 27.8**	**-0.1**
VLY				AML	AML	00 52 01.4	
	comp=E,1982μm,0.4s						
VLY				AML	AML	00 52 03.1	
	comp=N,1867μm,0.4s						
PSRA	**Psara**	**2.00**	**358**	P	**Pn**	**00 51 27.8**	**-0.3**
ARG	**Arkhangelos**	**2.02**	**98**	P	**Pn**	**00 51 28.9**	**+0.6**
ARG	**Arkhangelos**	**2.02**	**98**	P	**Pn**	**00 51 28.9**	**+0.6**
ARG				AML	AML	00 52 05.6	
	comp=E,1120μm,0.5s						
ARG				AML	AML	00 52 05.7	
	comp=N,792μm,0.4s						
ARG	**Arkhangelos**	**2.02**	**98**	PN	**Pn**	**00 51 28.9**	**+0.6**
ANKY	**Antikythira Is**	**2.02**	**251**	P	**Pn**	**00 51 29.1**	**+0.8**
ANKY	**Antikythira Is**	**2.02**	**251**	P	**Pn**	**00 51 29.0**	**+0.6**
ANKY				AML	AML	00 52 05.4	
	comp=E,1187μm,0.6s						
ANKY				AML	AML	00 52 06.1	
	comp=N,1092μm,0.5s						
DION	**Dionisos Attik**	**2.06**	**319**	P	**Pn**	**00 51 29.1**	**+0.2**
DION	**Dionisos Attik**	**2.06**	**319**	P	**Pn**	**00 51 29.0**	**0.0**
KNDR	**Palaiochora Ch**	**2.06**	**231**	P	**Pb**	**00 51 30.9**	**-2.0**
KNDR	**Palaiochora Ch**	**2.06**	**231**	PN	**Pn**	**00 51 30.8**	**+1.9**
ATHU	**Athens Univers**	**2.06**	**314**	P	**Pn**	**00 51 29.0**	**0.0**
ATHU	**Athens Univers**	**2.06**	**314**	P	**Pn**	**00 51 29.0**	**0.0**
PTL	**Penteli**	**2.08**	**317**	P	**Pn**	**00 51 29.2**	**+0.1**
PTL	**Penteli**	**2.08**	**317**	P	**Pn**	**00 51 29.3**	**+0.1**
PTL				AML	AML	00 52 01.4	
	comp=E,960μm,0.5s						
PTL				AML	AML	00 52 04.2	
	comp=N,1162μm,0.5s						
TURN	**Turunc**	**2.09**	**83**	PN	**Pn**	**00 51 30.4**	**+1.1**
TURN	**Turunc**	**2.09**	**83**	SPECP		00 51 29.0	
TURN				P		00 51 29.6	
ATH	**Athens Observa**	**2.11**	**313**	P	**Pn**	**00 51 29.8**	**+0.3**
ATH				AML	AML	00 52 04.3	
	comp=N,2285μm,0.5s						
ATH				AML	AML	00 52 09.2	
	comp=E,1485μm,0.5s						
KTHA	**Kythira Island**	**2.11**	**263**	P	**Pn**	**00 51 30.5**	**+0.8**
KTHA	**Kythira Island**	**2.11**	**263**	P	**Pn**	**00 51 30.5**	**+0.8**
KTHA				AML	AML	00 52 07.0	
	comp=N,892μm,0.4s						
KTHA				AML	AML	00 52 13.6	
	comp=E,1725μm,0.6s						
GVD	**Gavdhos**	**2.12**	**217**	P	**Pb**	**00 51 32.2**	**-1.8**
GVD	**Gavdhos**	**2.12**	**217**	PN	**Pn**	**00 51 31.4**	**+1.6**
KTHR	**Kythira**	**2.16**	**263**	P	**Pn**	**00 51 31.3**	**+1.0**
KRND	**KRANIDI**	**2.18**	**293**	P	**Pn**	**00 51 30.8**	**+0.3**
KRND	**KRANIDI**	**2.18**	**293**	P	**Pn**	**00 51 30.9**	**+0.4**
YER	**Yerkesik**	**2.19**	**73**	PN	**Pn**	**00 51 31.2**	**+0.5**
VLI	**Veliai**	**2.20**	**275**	P	**Pn**	**00 51 31.5**	**+0.7**
VLI	**Veliai**	**2.20**	**275**	P	**Pn**	**00 51 31.4**	**+0.6**
VLI				AML	AML	00 52 10.5	
	comp=N,521μm,0.4s						
VLI				AML	AML	00 52 13.6	
	comp=E,724μm,0.5s						
MULA	**Mugla, Merkez-**	**2.25**	**71**	P		00 51 37.0	
MULA				S		00 52 05.1	
EPID	**Epidavros**	**2.30**	**299**	P	**Pn**	**00 51 32.8**	**+0.6**
EPID	**Epidavros**	**2.30**	**299**	P	**Pn**	**00 51 32.7**	**+0.5**
KYMI	**Kymi, Euboea I**	**2.43**	**330**	P	**Pn**	**00 51 33.8**	**-0.2**
KYMI	**Kymi, Euboea I**	**2.43**	**330**	P	**Pn**	**00 51 33.6**	**-0.4**
VILL	**Villia**	**2.48**	**312**	P	**Pn**	**00 51 35.0**	**+0.4**
SKY	**Skiros Island**	**2.49**	**340**	P	**Pn**	**00 51 34.8**	**0.0**
VIL2	**Platees**	**2.53**	**312**	P	**Pn**	**00 51 35.0**	**-0.4**
LTK	**Loutraki**	**2.61**	**305**	P	**Pn**	**00 51 37.0**	**+0.5**
LTK	**Loutraki**	**2.61**	**305**	P	**Pn**	**00 51 37.0**	**+0.5**
ZEDA	**zmir-Bergama**	**2.67**	**24**	SPECP		00 51 35.0	
ZEDA				P		00 51 35.3	
SIGR	**SIGRI**	**2.67**	**3**	P	**Pn**	**00 51 36.4**	**-0.9**
SIGR	**SIGRI**	**2.67**	**3**	P	**Pn**	**00 51 36.2**	**-1.1**
SIGR	**SIGRI**	**2.67**	**3**	PN	**Pn**	**00 51 36.4**	**-0.9**
PRK	**Paraskevi**	**2.75**	**10**	P	**Pn**	**00 51 38.3**	**0.0**
PRK	**Paraskevi**	**2.75**	**10**	P	**Pn**	**00 51 38.3**	**0.0**
PRK				AML	AML	00 52 33.7	
	comp=E,831μm,1.0s						
PRK				AML	AML	00 52 37.9	
	comp=N,696μm,1.1s						
FETY	**Fethiye**	**2.76**	**87**	PN	**Pn**	**00 51 39.6**	**+1.1**
FETY	**Fethiye**	**2.76**	**87**	SPECP		00 51 40.0	
FETY				P		00 51 40.1	
TAVA	**DENIZLI_Tavas**	**2.77**	**69**	SPECP		00 51 39.0	
TAVA				P		00 51 39.7	
AYVA	**Ayvalik**	**2.88**	**16**	SPECP		00 51 38.0	
AYVA				P		00 51 38.4	
AKHS	**Akhisar**	**2.89**	**36**	P		00 51 47.5	
KOCA	**Canakkale, Ayv**	**2.98**	**7**	SPECP		00 51 40.0	
KOCA				P		00 51 40.4	
KOCA				S		00 52 14.8	
LKR	**Lokris**	**2.98**	**316**	P	**Pn**	**00 51 41.9**	**+0.3**
CAEL	**Denizli, Camel**	**3.00**	**78**	SPECP		00 51 45.0	
CAEL				P		00 51 45.4	
ATAL	**Atalanti**	**3.00**	**317**	P	**Pn**	**00 51 42.3**	**+0.5**
ATAL	**Atalanti**	**3.00**	**317**	P	**Pn**	**00 51 41.9**	**+0.1**
ITM	**Ithomi**	**3.06**	**283**	P	**Pn**	**00 51 44.6**	**+1.9**
ITM	**Ithomi**	**3.06**	**283**	PN	**Pn**	**00 51 42.9**	**+0.2**
ITM	**Ithomi**	**3.06**	**283**		**Pn**	**00 51 44.6**	**+1.9**
KULA	**Kula-Manisa**	**3.10**	**50**	PN	**Pn**	**00 51 43.7**	**+0.5**
BUHA	**Balikesir, Bur**	**3.16**	**20**	P		00 51 42.9	
PYL	**PYLOS**	**3.17**	**278**	P	**Pn**	**00 51 46.4**	**+2.3**
KLV	**Kalavryta, Ach**	**3.17**	**299**	P	**Pn**	**00 51 45.2**	**+1.0**
UZP	**Denizli**	**3.17**	**61**	P		00 51 55.7	
KSL	**Kastellorizon**	**3.19**	**96**	P	**Pn**	**00 51 46.2**	**+1.8**
AKAS	**Kas**	**3.20**	**94**	PN	**Pn**	**00 51 46.6**	**+1.9**
AKAS	**Kas**	**3.20**	**94**		**Pn**	**00 51 46.9**	**+2.2**
AKAS	**Kas**	**3.20**	**94**	SPECP		00 51 46.0	
AKAS				P		00 51 46.7	
GOLH	**Golhisar**	**3.21**	**76**	P		00 51 48.1	
GOLH				S		00 52 38.8	
STEP	**BALIKESIR_Sava**	**3.27**	**29**	P		00 51 53.2	
BOZC	**Bozcaada**	**3.31**	**5**	P		00 51 44.4	
EZN	**Ezine**	**3.32**	**9**	P	**Pn**	**00 51 45.3**	**-0.9**
NEO	**Neokhori**	**3.37**	**326**	P	**Pn**	**00 51 47.1**	**+0.2**
LIA	**Limnos Island**	**3.37**	**354**	P	**Pn**	**00 51 46.1**	**-0.8**
TRIZ	**Trizonia**	**3.38**	**304**	P	**Pn**	**00 51 48.4**	**+1.3**
LAKA	**Lakka**	**3.39**	**301**	P	**Pn**	**00 51 48.3**	**+1.1**
SERG	**Sergoula**	**3.42**	**304**	P	**Pn**	**00 51 48.6**	**+1.0**
ELL	**Elmali**	**3.42**	**85**	PN	**Pn**	**00 51 49.3**	**+1.5**
ELL	**Elmali**	**3.42**	**85**	Pn	**Pn**	**00 51 50.7**	**+2.9**
XOR	**Xorichti**	**3.43**	**326**	P	**Pn**	**00 51 48.0**	**+0.2**
USAK	**Uak-Merkez**	**3.44**	**50**	P		00 51 47.6	
DRO	**Drossia**	**3.45**	**295**	P	**Pn**	**00 51 49.9**	**+1.8**
DEMI	**Demirci**	**3.48**	**43**	P		00 51 59.8	
EFP	**Efpalio**	**3.53**	**303**	P	**Pn**	**00 51 50.4**	**+1.4**
BALY	**Balya**	**3.55**	**25**	P		00 51 49.3	
ANX	**Ano Chora**	**3.61**	**306**	P	**Pn**	**00 51 51.6**	**+1.4**
AGG	**Agios Georgios**	**3.62**	**314**	P	**Pn**	**00 51 51.6**	**+1.2**
AGG	**Agios Georgios**	**3.62**	**314**	PN	**Pn**	**00 51 50.1**	**-0.3**
AGG	**Agios Georgios**	**3.62**	**314**	Pn	**Pn**	**00 51 51.5**	**+1.2**
GOKA	**anakkale-Gk**	**3.65**	**3**	P		00 51 50.3	
PAIG	**Paliouri**	**3.72**	**336**	P	**Pn**	**00 51 51.8**	**0.0**
MAKR	**Makrakomi, Fth**	**3.73**	**313**	P	**Pn**	**00 51 53.8**	**+1.9**
DURS	**Dursunbey**	**3.78**	**35**	P		00 51 52.1	
AKUM	**Antalya-Kumluc**	**3.78**	**92**	SPECP		00 51 54.0	
AKUM				P		00 51 54.6	
KORT	**Korkueli**	**3.80**	**82**	PN	**Pn**	**00 51 54.4**	**+1.5**
EVR	**Evrytania**	**3.87**	**309**	P	**Pn**	**00 51 54.5**	**+0.7**
SMTH	**Samothraki Isl**	**3.93**	**359**	P	**Pn**	**00 51 53.5**	**-1.1**
CAVK	**Edirne/Enez-Ca**	**4.17**	**5**	P		00 51 56.8	
THL	**Klokotos Trika**	**4.17**	**318**	P	**Pn**	**00 51 59.0**	**+1.1**
TVSB	**Tavsanli**	**4.18**	**45**	PN	**Pn**	**00 51 58.9**	**+0.8**
SART	**Tekirdag**	**4.31**	**16**	SPECP		00 51 58.0	
SART				P		00 51 58.7	
LIT	**Litokhoron**	**4.34**	**326**	P	**Pn**	**00 52 00.7**	**+0.5**
LIT	**Litokhoron**	**4.34**	**326**		**Pn**	**00 52 00.8**	**+0.5**
KESN	**Edirne-Kesan**	**4.35**	**10**	SPECP		00 51 58.0	
KESN				P		00 51 58.7	
ALN	**Alexandroupoli**	**4.36**	**4**	P	**Pn**	**00 51 59.9**	**-0.6**
ALN	**Alexandroupoli**	**4.36**	**4**		**Pn**	**00 51 59.7**	**-0.8**
SHUT	**Suhut-Afyon**	**4.38**	**61**	PN	**Pn**	**00 52 02.3**	**+1.4**
KEPZ	**Antalya-Kepez**	**4.79**	**84**	P		00 52 10.0	
BORA	**Eskisehir**	**5.04**	**47**		**Pn**	**00 52 10.5**	**+0.6**
GAZI	**Gazipasa**	**5.38**	**91**	P		00 52 14.1	
GAZI				S		00 53 13.4	
FNA	**Florina**	**5.40**	**323**	Pn	**Pn**	**00 52 16.4**	**+1.5**
KBN	**Korca**	**5.58**	**318**		**Pn**	**00 52 19.1**	**+1.7**
ERMK	**Ermenek**	**5.84**	**87**	SPECP		00 52 22.0	
ERMK				P		00 52 22.3	
ERMK				S		00 53 29.0	
KKBE	**Karaman, Kazim**	**5.88**	**81**	SPECP		00 52 23.0	
KKBE				P		00 52 23.8	
KKBE				S		00 53 31.8	
SAHE	**Sakarya_HENDEK**	**5.92**	**42**	P		00 52 45.1	
LEF	**Lefka**	**6.04**	**101**	⇑P	Pb	00 52 33.0	-7.7
VTS	**Vitosha**	**6.35**	**344**	⇑P	**Pn**	**00 52 29.1**	**+1.0**
VTS				⇑S	**Sn**	**00 53 37.6**	**-2.1**
VTS	**Vitosha**	**6.35**	**344**		**Pn**	**00 52 28.7**	**+0.7**
CSS	**Mathiatis**	**6.43**	**102**	Pn	**Pn**	**00 52 29.2**	**+0.1**
SCTE	**Santa Cesarea**	**6.66**	**304**	Pn	**Pn**	**00 52 33.5**	**+1.4**
BR131	**Keskin Array S**	**7.05**	**61**	Pn	**Pn**	**00 52 39.4**	**+1.8**
BRTR	**Keskin Array B**	**7.05**	**61**	Pn	**Pn**	**00 52 39.9**	**+2.3**
	comp=N,0.2nm,0.3s,baz=244,slow=16,SNR=12						
BRTR	**Keskin Array B**	**7.05**	**61**	Pn	**Pn**	**00 52 39.0**	**+1.4**
TIP	**Timpagrande**	**7.52**	**293**	⇑P	**Pn**	**00 52 45.0**	**+1.1**
TIP				⇑S	**Sn**	**00 54 09.0**	**+0.8**
TIP	**Timpagrande**	**7.52**	**293**	Pn	**Pn**	**00 52 45.0**	**+1.1**
PDG	**Podgorica**	**7.69**	**322**	⇑P	**Pn**	**00 52 46.6**	**+0.4**
PDG	**Podgorica**	**7.69**	**322**	Pn	**Pn**	**00 52 47.6**	**+1.4**
MATE	**Matera**	**8.12**	**303**	⇑P	**Pn**	**00 52 52.6**	**+0.5**
MATE				⇑S	**Sn**	**00 54 21.7**	**-1.2**
HNTI	**Hanita**	**8.55**	**111**	Pn	**Pn**	**00 52 58.4**	**+0.3**
HNTI				Sn	**Sn**	**00 54 29.5**	**-4.1**
OFRI	**`Ofer**	**8.

WRA	**Warramunga Arr**	**14.46**	**155**	Pn	Pn	00 56 38.3	-1.0
	0.1nm,0.3s,baz=333,slow=13,SNR=1.4						
WRA				Sn	Sn	00 59 03.4	-17
	0.1nm,0.3s,baz=333,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**17.70**	**161**	P	P	00 57 21.9	-0.4
	0.1nm,0.3s,baz=338,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**66.94**	**328**	P	P	01 04 07.7	0.0
	0.3nm,0.8s,baz=142,slow=7.3,SNR=1.8						

*IDC **31** 00:54:45.5±1.8, 34°.75N×138°.46E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/44, mbtmp3.4/3, Error ellipse: s-maj=77.0km s-min=20.1km az=83.0*
*JMA **31** 00:54:47.9±0.1, 35°.66N×140°.17E, h62km±2km, M2.7*
ISC 31 00:54:47.8±1.0, 35°.62N±0°.04×140°.18E±0°.05, h68km±9km, n21, σ0°60/28, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.20**	**175**	P	**Pn**	**00 54 58.5**	**+0.3**
JSMT	**Sammumatsuo**	**0.22**	**83**	P	**Pn**	**00 54 58.0**	**-0.2**
JIHU	**Itakohorinouch**	**0.45**	**39**	P	**Pn**	**00 54 59.8**	**-0.1**
BSO3	**Boso 3**	**0.86**	**162**	P	**Pn**	**00 55 04.3**	**+0.1**
JOD2	**Odawara 2**	**0.96**	**249**	P	**Pn**	**00 55 05.6**	**-0.1**
JOD2				S	**Sn**	**00 55 18.7**	**-0.3**
JAG	**Ashikaga**	**1.00**	**324**	P	**Pn**	**00 55 05.8**	**-0.4**
JAG				S	**Sn**	**00 55 19.0**	**-0.8**
JIM2	**Oshima 3**	**1.09**	**215**	P	**Pn**	**00 55 06.6**	**-0.7**
JIM2				S	**Sn**	**00 55 21.6**	**-0.3**
JRY	**Ryogami san**	**1.11**	**291**	P	**Pn**	**00 55 08.1**	**+0.4**
BSO1	**Boso 1**	**1.16**	**146**	P	**Pn**	**00 55 07.9**	**+0.1**
BSO1				S	**Sn**	**00 55 24.2**	**+1.5**
JFNN	**Fujinakano**	**1.29**	**251**	P	**Pn**	**00 55 10.2**	**+0.3**
JFNN				S	**Sn**	**00 55 27.2**	**+0.7**
JYN	**Shimob**	**1.34**	**265**	P	**Pn**	**00 55 10.8**	**+0.2**
JYN				S	**Sn**	**00 55 28.2**	**+0.4**
JKT	**Katashina**	**1.37**	**327**	P	**Pn**	**00 55 11.1**	**0.0**
JKT				S	**Sn**	**00 55 28.2**	**-0.4**
JIZS	**Izushimoda**	**1.39**	**230**	P	**Pn**	**00 55 11.1**	**-0.2**
JIZS				S	**Sn**	**00 55 28.7**	**-0.2**
MJAR	**Matsushiro Arr**	**1.84**	**301**	Pn	**Pn**	**00 55 17.7**	**+0.3**
	2.4nm,0.3s,baz=179,slow=2.6,SNR=68						
MJAR				Sn	**Sn**	**00 55 40.6**	**+0.9**
	1.7nm,0.3s,baz=130,slow=21,SNR=3.5						
MAT	**Matsushiro**	**1.85**	**301**	P	**Pn**	**00 55 17.9**	**+0.6**
MAT				*e*S	**Sn**	**00 55 40.4**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	01 30 23.9	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**28.35**	**117**	T	T	01 30 28.2	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	01 30 27.7	
	baz=308						
MKAR	**Makanchi Array**	**44.04**	**303**	P	**P**	**01 02 49.5**	**+0.7**
	0.3nm,0.6s,baz=82,slow=10.0,SNR=4.2						
WRA	**Warramunga Arr**	**55.53**	**187**	P	**P**	**01 04 15.0**	**-1.1**
	0.3nm,0.4s,baz=1.2,slow=7.7,SNR=6.5						
ASAR	**Alice Springs**	**59.26**	**187**	P	**P**	**01 04 41.7**	**-0.6**
	0.3nm,0.8s,baz=17,slow=11,SNR=2.2						

*IDC **31** 00:58:06.3±1.6, 59°.55N×153°.79W, h106km±23km, mb3.4/4, mb1 3.4/8, mb1mx3.1/43, mbtmp3.7/8, Error ellipse: s-maj=26.4km s-min=17.1km az=107.0*
*NEIC **31** 00:58:07.5±1.4, 59°.62N±0°.03×153°.52W±0°.04, h120km±4km, Error ellipse: s-maj=5.1km s-min=1.8km az=209.0*
*AEIC **31** 00:58:08±1.8, 59°.59N±0°.03×153°.50W±0°.05, h115km±3km, ML3.4, mb3.8/2(NEIC), ML3.4/36(NEIC), Error ellipse: s-maj=5.2km s-min=1.7km az=223.0*
ISC 31 00:58:07.7±0.7, 59°.62N±0°.04×153°.42W±0°.04, h123km±5km, n165, σ0°93/170, mb3.8/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.10**	**69**		**Pn**	**00 58 24.2**	**-0.3**
AUL	**Augustine Lava**	**0.23**	**182**		**Pn**	**00 58 24.6**	**-0.2**
AUL					**Sn**	**00 58 37.1**	**-0.6**
AU22	**Augustine Moun**	**0.25**	**173**		**Pn**	**00 58 24.6**	**-0.2**
AU22					**Sn**	**00 58 37.0**	**-0.7**
AGU	**Augustine-Summ**	**0.26**	**182**		**Pn**	**00 58 24.7**	**-0.3**
AUQ	**Augustine Qik'**	**0.26**	**180**		**Pn**	**00 58 24.8**	**-0.2**
ILSW	**Iliamna Southw**	**0.39**	**21**		**Pn**	**00 58 25.0**	**-0.5**
ILSW	**Iliamna Southw**	**0.39**	**21**		**Sn**	**00 58 38.1**	**-1.0**
ILSW	**Iliamna Southw**	**0.39**	**21**	IAML		00 58 26.4	
	comp=E,218nm,0.6s						
O20K	**Slope Mountain**	**0.61**	**40**		**Pn**	**00 58 26.8**	**0.0**
O20K					**Sn**	**00 58 40.9**	**-0.3**
Q19K	**Cape Douglas,**	**0.70**	**190**		**Pn**	**00 58 27.0**	**-0.4**
Q19K					**Sn**	**00 58 41.4**	**-0.9**
Q19K	**Cape Douglas,**	**0.70**	**190**	IAML		00 58 42.3	
	comp=N,856nm,0.8s						
O19K	**Port Alsworth**	**0.74**	**322**		**Pn**	**00 58 27.1**	**-0.4**
O19K					**Sn**	**00 58 41.6**	**-1.1**
O19K	**Port Alsworth**	**0.74**	**322**	IAML		00 58 42.3	
	comp=E,3μm,0.5s						
O19K				IAML		00 58 42.4	
	comp=N,3μm,0.5s						
RED	**Redoubt Volcan**	**0.87**	**22**		**Pn**	**00 58 28.7**	**-0.1**
RED					**Sn**	**00 58 43.9**	**-0.9**
HOM	**Homer**	**0.90**	**87**		**Pn**	**00 58 29.5**	**+0.5**
HOM					**Sn**	**00 58 45.8**	**+0.7**
RSO	**Redoubt South**	**0.91**	**21**		**Pn**	**00 58 29.4**	**0.0**
RDWB	**Redoubt West**	**0.92**	**18**		**Pn**	**00 58 29.2**	**-0.2**
RDWB					**Sn**	**00 58 45.3**	**-0.6**
O18K	**Koktuh Hills**	**0.94**	**285**		**Pn**	**00 58 28.6**	**-0.7**
O18K					**Sn**	**00 58 44.2**	**-1.6**
P18K	**Big Mountain,**	**0.95**	**257**		**Pn**	**00 58 28.6**	**-0.9**
NCT	**North Crescent**	**0.98**	**14**		**Pn**	**00 58 29.8**	**-0.1**
DFR	**Drift River**	**1.04**	**20**		**Pn**	**00 58 30.5**	**0.0**
RDT	**Redoubt**	**1.09**	**27**		**Pn**	**00 58 30.9**	**0.0**
CNPM	**China Poot**	**1.11**	**94**		**Pn**	**00 58 31.1**	**0.0**
CNPM					**Sn**	**00 58 48.5**	**-0.4**
BRLK	**Bradley Lake**	**1.29**	**82**		**Pn**	**00 58 32.6**	**-0.3**
N19K	**Bonanza Creek**	**1.31**	**337**		**Pn**	**00 58 33.1**	**-0.2**
N19K					**Sn**	**00 58 51.7**	**-1.1**
N19K	**Bonanza Creek**	**1.31**	**337**	IAML		00 58 52.3	
	comp=E,391nm,0.7s						
BRSE	**Bradley Lake S**	**1.36**	**84**		**Pn**	**00 58 33.6**	**-0.1**
CAPN	**Captain Cook N**	**1.62**	**43**		**Pn**	**00 58 38.4**	**+1.8**
KABU	**Katmai Buttres**	**1.66**	**216**		**Pn**	**00 58 37.0**	**-0.2**
KABU					**Sn**	**00 58 58.7**	**-1.1**
SPCR	**Spurr Chakacha**	**1.70**	**20**		**Pn**	**00 58 37.9**	**+0.3**
SPU	**Mount Spurr**	**1.71**	**23**		**Pn**	**00 58 38.0**	**+0.2**
SPCN	**Chakachatna No**	**1.73**	**20**		**Pn**	**00 58 38.4**	**+0.5**
SPBG	**Spurr Blockage**	**1.73**	**17**		**Pn**	**00 58 38.6**	**+0.6**
SPNN	**North Nagishla**	**1.79**	**11**		**Pn**	**00 58 39.2**	**+0.3**
SPCG	**Spurr Capps Gl**	**1.82**	**22**		**Pn**	**00 58 39.5**	**+0.3**
SLKM	**Skilak Lake**	**1.83**	**59**		**Pn**	**00 58 39.0**	**-0.2**
CAHL	**Cahill**	**1.85**	**213**		**Pn**	**00 58 39.3**	**-0.2**
KDAK	**Kodiak Island**	**1.89**	**166**	P	**Pn**	**00 58 38.7**	**-1.2**
	comp=E,17nm,0.3s,baz=342,slow=17,SNR=436						
KDAK				S	**Sn**	**00 59 01.6**	**-2.9**
	comp=E,94nm,0.3s,baz=224,slow=23,SNR=42						
KDAK	**Kodiak Island**	**1.89**	**166**	IAML		00 59 03.0	
	comp=E,513nm,0.3s						
KDAK				IAML		00 59 04.0	
	comp=E,683nm,0.4s						
STLK	**Strandline Lak**	**2.04**	**22**		**Pn**	**00 58 42.3**	**+0.4**
O22K	**Cooper Landing**	**2.05**	**63**		**Pn**	**00 58 42.1**	**+0.3**
SEW	**Seward**	**2.06**	**75**		**Pn**	**00 58 42.0**	**+0.1**
FIS	**Fire Island**	**2.21**	**45**		**Pn**	**00 58 45.3**	**+1.5**
SUA	**Susitna One**	**2.27**	**34**		**Pn**	**00 58 45.5**	**+0.7**
M19K	**Big River Lodg**	**2.34**	**349**		**Pn**	**00 58 45.5**	**0.0**
RC01	**Rabbit Creek A**	**2.35**	**49**		**Pn**	**00 58 45.7**	**+0.1**
OHAK	**Old Harbor**	**2.40**	**178**		**Pn**	**00 58 44.8**	**-1.5**
OHAK	**Old Harbor**	**2.40**	**178**	IAML		00 59 13.5	
	comp=E,309nm,0.5s						
L19K	**White Mountain**	**2.67**	**345**		**Pn**	**00 58 49.6**	**-0.1**
L19K	**White Mountain**	**2.67**	**345**	IAML		00 59 23.8	
	comp=E,44nm,1.4s						
L19K				IAML		00 59 28.6	
	comp=N,50nm,1.8s						
M22K	**Willow**	**2.69**	**36**		**Pn**	**00 58 50.5**	**+0.7**
PWL	**Port Wells**	**2.82**	**62**		**Pn**	**00 58 51.1**	**-0.6**
L20K	**Farewell, AK**	**2.88**	**356**		**Pn**	**00 58 52.8**	**+0.3**
PMR	**Palmer**	**2.90**	**45**		**Pn**	**00 58 51.9**	**-0.7**
PMR	**Palmer**	**2.90**	**45**	IAML		00 59 27.6	
	comp=E,124nm,0.3s						
PMR				IAML		00 59 27.9	
	comp=N,174nm,0.2s						
KNK	**Knik Glacier**	**3.04**	**52**		**Pn**	**00 58 54.0**	**-0.6**
GHO	**Glory Hole Cre**	**3.09**	**44**		**Pn**	**00 58 54.5**	**-0.7**
SII	**Sitkinak Islan**	**3.09**	**188**		**Pn**	**00 58 53.6**	**-1.6**
CUT	**Chulitna**	**3.19**	**27**		**Pn**	**00 58 57.2**	**+0.8**
SML	**Sawmill**	**3.33**	**46**		**Pn**	**00 58 57.6**	**-0.7**
PPLA	**Purkeypile**	**3.34**	**10**		**Pn**	**00 58 59.9**	**+1.3**
GLI	**Glacier Island**	**3.40**	**65**		**Pn**	**00 58 57.8**	**-1.4**
TTA	**Tatalina**	**3.55**	**340**		**Pn**	**00 59 00.9**	**-0.4**
TTA	**Tatalina**	**3.55**	**340**	IAML		00 59 43.5	
	comp=E,22nm,1.5s						
Q23K	**Middleton Isla**	**3.60**	**90**		**Pn**	**00 59 02.0**	**+0.1**
MID	**Middleton Isla**	**3.61**	**90**		**Pn**	**00 59 02.1**	**+0.1**
MID	**Middleton Isla**	**3.61**	**90**	IAML		01 00 18.5	
	comp=E,175nm,2.5s						
SCM	**Sheep Creek Mo**	**3.73**	**51**		**Pn**	**00 59 03.0**	**-0.6**
K20K	**Telida**	**3.77**	**356**		**Pn**	**00 59 04.3**	**+0.2**
CAST	**Castle Rocks**	**3.87**	**9**		**Pn**	**00 59 05.9**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.95**	**73**		**Pn**	**00 59 05.9**	**-0.6**
DIV	**Divide**	**4.09**	**65**		**Pn**	**00 59 07.1**	**-1.3**
KTH	**Kantishna Hill**	**4.13**	**16**		**Pn**	**00 59 08.7**	**-0.2**
TRF	**Thorofare Moun**	**4.13**	**20**		**Pn**	**00 59 08.7**	**-0.3**
KLU	**Klutina**	**4.15**	**60**		**Pn**	**00 59 08.8**	**-0.5**
CHGN	**Chignik**	**4.26**	**221**	Pn	**Pn**	**00 59 10.2**	**-0.4**
CHGN				IAML		01 00 08.4	
	comp=N,66nm,0.1s						
CHGN				IAML		01 00 49.1	
	comp=E,59nm,0.1s						
CHUM	**Lake Minchumin**	**4.31**	**6**		**Pn**	**00 59 11.9**	**+0.6**
M24K	**Tolsona, Glenn**	**4.33**	**52**		**Pn**	**00 59 11.8**	**+0.1**
M24K	**Tolsona, Glenn**	**4.33**	**52**	IAML		01 00 12.9	
	comp=N,96nm,0.5s						
RND	**Reindeer**	**4.38**	**28**		**Pn**	**00 59 11.9**	**-0.5**
GOAT	**Goat Mountain**	**4.46**	**74**		**Pn**	**00 59 12.8**	**-0.5**
KAIM	**Kayak Island**	**4.56**	**82**		**Pn**	**00 59 15.3**	**+0.7**
BMRM	**Bremner River**	**4.59**	**69**		**Pn**	**00 59 14.5**	**-0.6**
J20K	**Nowinta River**	**4.59**	**356**		**Pn**	**00 59 15.3**	**+0.3**
PS11	**TAPS Pump St11**	**4.60**	**54**		**Pn**	**00 59 14.9**	**-0.3**
BPAW	**Bear Paw Mtn.**	**4.64**	**13**		**Pn**	**00 59 15.1**	**-0.6**
MCK	**McKinley**	**4.65**	**25**		**Pn**	**00 59 15.7**	**-0.1**
HMT	**Hamilton**	**4.66**	**77**		**Pn**	**00 59 16.2**	**+0.3**
N25K	**Chitina, Valde**	**4.78**	**62**		**Pn**	**00 59 17.3**	**-0.4**
NICHA	**Nichawak Mount**	**4.79**	**78**		**Pn**	**00 59 18.2**	**+0.4**
HARP	**HAARP**	**4.89**	**52**		**Pn**	**00 59 19.1**	**0.0**
BERG	**Berg Lake**	**4.94**	**77**		**Pn**	**00 59 19.6**	**-0.1**
BWN	**Browne**	**4.94**	**21**		**Pn**	**00 59 19.8**	**+0.1**
GLB	**Gilahina Butte**	**5.08**	**65**		**Pn**	**00 59 21.2**	**-0.6**
PAX	**Paxson**	**5.10**	**45**		**Pn**	**00 59 21.8**	**-0.1**
GRIN	**Grindle Hills**	**5.12**	**78**		**Pn**	**00 59 22.5**	**+0.3**
KHIT	**Khitrov Hills**	**5.17**	**76**		**Pn**	**00 59 22.2**	**-0.6**
VRDI	**Verde Repeater**	**5.20**	**68**		**Pn**	**00 59 22.8**	**-0.5**
PS10	**TAPS Pump St10**	**5.29**	**41**		**Pn**	**00 59 25.2**	**+0.8**
WAX	**Waxell Ridge**	**5.36**	**76**		**Pn**	**00 59 25.8**	**+0.3**
NEA2	**Nenana**	**5.39**	**20**		**Pn**	**00 59 25.1**	**-0.7**
WRH	**Wood River Hil**	**5.48**	**25**		**Pn**	**00 59 26.0**	**-0.9**
MLY	**Manley**	**5.58**	**12**		**Pn**	**00 59 27.3**	**-1.0**
I21K	**Tanana**	**5.62**	**6**		**Pn**	**00 59 28.7**	**-0.1**
ISLE	**Juniper Island**	**5.63**	**75**		**Pn**	**00 59 29.6**	**+0.5**
KIAG	**Kiagna River**	**5.66**	**72**		**Pn**	**00 59 29.4**	**-0.1**
BALM	**Baldy**	**5.68**	**71**		**Pn**	**00 59 29.5**	**-0.3**
HDA	**Harding Lake**	**5.69**	**30**		**Pn**	**00 59 29.0**	**-0.8**
CCB	**Clear Creek Bu**	**5.69**	**25**		**Pn**	**00 59 28.8**	**-1.0**
SDPT	**Sand Point**	**5.73**	**225**		**Pn**	**00 59 29.0**	**-1.3**
MENT	**Mentasta**	**5.74**	**50**		**Pn**	**00 59 29.7**	**-0.8**
BAGL	**Bagley Icefiel**	**5.74**	**76**		**Pn**	**00 59 31.5**	**+1.0**
MESA	**MESA**	**5.80**	**79**		**Pn**	**00 59 32.4**	**+0.9**
RIDG	**Independent Ri**	**5.81**	**41**		**Pn**	**00 59 31.4**	**-0.1**
I23K	**Minto, Yukon-K**	**5.86**	**17**		**Pn**	**00 59 31.3**	**-0.7**
COLA	**College**	**5.88**	**24**		**Pn**	**00 59 31.7**	**-0.6**
MDM	**Murphy Dome**	**5.88**	**22**		**Pn**	**00 59 31.6**	**-0.8**
YAH	**Yahtse**	**5.91**	**78**		**Pn**	**00 59 33.3**	**+0.4**
IL31		**6.01**	**28**		**Pn**	**00 59 33.4**	**-0.6**
ILAR	**Eielson Array**	**6.01**	**28**	P	**Pn**	**00 59 33.4**	**-0.6**
	comp=N,3.7nm,0.3s,baz=215,slow=14,SNR=145						
ILAR				S	**Sn**	**01 00 36.2**	**-5.2**
	comp=N,2.7nm,0.3s,baz=166,slow=13,SNR=4.6						
BARN	**Barnard Glacie**	**6.01**	**71**		**Pn**	**00 59 35.1**	**+0.7**
DOT	**Dot Lake**	**6.02**	**44**		**Pn**	**00 59 34.0**	**-0.3**
H21K	**Melozitna Rive**	**6.07**	**2**		**Pn**	**00 59 35.1**	**+0.2**
POKR	**Poker Plat Res**	**6.18**	**24**		**Pn**	**00 59 36.1**	**-0.3**
TABL	**Table Mountain**	**6.21**	**77**		**Pn**	**00 59 37.9**	**+0.9**
CHX	**Chaix Hills**	**6.22**	**81**		**Pn**	**00 59 38.1**	**+1.1**
M27K	**Edge Creek, AK**	**6.25**	**59**		**Pn**	**00 59 38.0**	**+0.5**
SCRK	**Sand Creek**	**6.25**	**42**		**Pn**	**00 59 36.5**	**-1.0**
J25K	**Salcha River,**	**6.27**	**34**		**Pn**	**00 59 37.1**	**-0.6**
IM03		**6.39**	**359**		**Pn**	**00 59 39.6**	**+0.5**
IMAR	**Indian Mountai**	**6.39**	**359**	Pn	**Pn**	**00 59 39.6**	**+0.4**
YUK2	**White River**	**6.54**	**65**		**Pn**	**00 59 41.5**	**+0.1**
L27K	**Beaver Creek,**	**6.56**	**53**		**Pn**	**00 59 40.8**	**-0.7**
BC03		**6.58**	**53**		**Pn**	**00 59 41.6**	**-0.1**
BCAR	**Beaver Creek A**	**6.58**	**53**	Pn	**Pn**	**00 59 41.6**	**-0.2**
PCA	**Pinnacle**	**6.65**	**80**		**Pn**	**00 59 44.1**	**+1.3**
BVCY	**Beaver Creek**	**6.71**	**60**		**Pn**	**00 59 44.6**	**+1.0**
YUK3	**Moose Creek**	**6.72**	**66**		**Pn**	**00 59 44.2**	**+0.4**
H24K	**Noodor Dome**	**6.74**	**20**		**Pn**	**00 59 43.0**	**-0.9**
PRP	**Porcupine Dome**	**6.95**	**28**		**Pn**	**00 59 46.7**	**-0.2**
YUK8	**Steele Glacier**	**6.96**	**70**		**Pn**	**00 59 48.7**	**+1.5**
PNL	**Peninsula**	**7.11**	**84**		**Pn**	**00 59 49.1**	**+0.2**
EGAK	**Eagle**	**7.71**	**43**		**Pn**	**00 59 56.2**	**-0.8**
COLD	**Coldfoot**	**7.77**	**9**	Pn	**Pn**	**00 59 57.9**	**0.0**
DAWY	**Dawson**	**7.99**	**50**		**Pn**	**01 00 00.8**	**0.0**
AKUT	**Akutan**	**8.71**	**236**	Pn	**Pn**	**01 00 12.0**	**+1.5**
BMAR	**Burnt Mountain**	**8.77**	**23**	Pn	**Pn**	**01 00 09.6**	**-1.7**
TNA	**Tin City**	**8.95**	**318**	Pn	**Pn**	**01 00 15.4**	**+1.8**
SKAG	**Skagway**	**9.19**	**83**	Pn	**Pn**	**01 00 19.1**	**+2.2**
TOLK	**Toolik Lake Re**	**9.21**	**9**	Pn	**Pn**	**01 00 17.9**	**+0.6**
UNV	**Unalaska Valle**	**9.22**	**237**	Pn	**Pn**	**01 00 16.3**	**-1.1**
BESE	**Bessie Mountai**	**9.61**	**88**	Pn	**Pn**	**01 00 24.9**	**+2.2**
SIT	**Sitka**	**9.85**	**97**	Pn	**Pn**	**01 00 27.4**	**+1.6**
CRAG	**Craig**	**11.65**	**102**	Pn	**Pn**	**01 00 49.5**	**-0.4**
DLBC	**Dease Lake**	**12.09**	**85**	P	**Pn**	**01 00 58.6**	**+2.8**
	comp=N,1.0nm,0.3s,baz=273,slow=7.1,SNR=15						
DLBC				S	**Sn**	**01 03 07.8**	**-0.9**
	comp=N,0.1nm,0.3s,baz=270,slow=15,SNR=1.5						
INK	**Inuvik**	**12.27**	**37**	P	**Pn**	**01 01 00.5**	**+2.5**
	comp=N,0.2nm,0.3s,baz=246,slow=12,SNR=5.3						
YKA	**Yellowknife Ar**	**18.80**	**65**	P	**Pn**	**01 02 18.9**	**-0.1**
	comp=N,0.1nm,0.3s,baz=277,slow=10.0,SNR=8.5						
YKA				PcP	**PcP**	**01 06 39.4**	**+0.9**
	comp=N,0.0nm,0.3s,baz=281,slow=1.7,SNR=4.7						
YKA	**Yellowknife Ar**	**18.80**	**65**	P	**P**	**01 02 18.1**	**+0.9**
SONM	**Songino Array**	**54.84**	**306**	P	**P**	**01 07 25.4**	**+0.6**
	comp=N,1.2nm,0.6s,baz=46,slow=6.0,SNR=9.8						
SONM	**Songino Array**	**54.84**	**306**	P	**P**	**01 07 25.6**	**+0.8**
SONM				IAmb	IAmb	01 07 26.4	
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**57.56**	**323**	P	**P**	**01 07 43.7**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=32,slow=7.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**57.56**	**323**	P	**P**	**01 07 43.8**	**+0.1**
BRVK	**Borovoye**	**62.30**	**332**	P	**P**	**01 08 16.5**	**+0.3**
BRVK				IAmb	IAmb	01 08 31.9	
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**62.31**	**332**	P	**P**	**01 08 15.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=50,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**64.60**	**321**	P	**P**	**01 08 30.4**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=28,slow=6.5,SNR=1.3						

*HEL **31** 01:06:40.5, 67°.91N×19°.99E, h0km, ML1.7, Explosion*
*UPP **31** 01:06:41.7±0.1, 67°.85N×20°.21E, h0km, ML2.5, Explosion*
ISC 31 01:06:41.2±0.9, 67°.88N±0°.03×20°.18E±0°.03, h10km, n23, σ0°84/34, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**37**	P	**Pg**	**01 06 44.2**	**+0.4**
KUA				S	**Sg**	**01 06 45.6**	**0.0**
KUA	**Kurravaara**	**0.10**	**37**	*i* P	**Pg**	**01 06 44.2**	**+0.4**
KUA				*i* S	**Sg**	**01 06 45.6**	**0.0**
KOVU	**Salmi**	**0.35**	**359**	P	**Pb**	**01 06 49.0**	**-0.6**
KOVU				S	**Sb**	**01 06 54.0**	**-1.1**
KOVU	**Salmi**	**0.35**	**359**	*i* P	**Pb**	**01 06 49.0**	**-0.6**
KOVU				*i* S	**Sb**	**01 06 54.0**	**-1.1**
NIKU	**Nikkaluokta**	**0.43**	**269**	P	**Pb**	**01 06 50.3**	**-0.7**
NIKU	**Nikkaluokta**	**0.43**	**269**	*i* P	**Pb**	**01 06 50.3**	**-0.7**
LANU	**Lannavaara**	**0.70**	**75**	P	**Pb**	**01 06 54.9**	**-0.7**
LANU	**Lannavaara**	**0.70**	**75**	*e*P	**Pb**	**01 06 54.8**	**-0.8**
	baz=262						
LANU				*e*S	**Sg**	**01 07 04.2**	**+0.2**
SALU	**Saltoluokta**	**0.81**	**233**	P	**Pb**	**01 06 56.8**	**-0.6**
SALU	**Saltoluokta**	**0.81**	**233**	*i* P	**Pb**	**01 06 56.8**	**-0.6**
MASU	**Masugnsbyn**	**0.81**	**120**	P	**Pg**	**01 06 56.6**	**-0.2**
MASU	**Masugnsbyn**	**0.81**	**120**	*i* P	**Pg**	**01 06 56.6**	**-0.2**
KIF	**Kilpisjarvi**	**1.16**	**11**	*e*P	**Pn**	**01 07 04.8**	**+1.4**
KIF	**Kilpisjarvi**	**1.16**	**11**	*e*PB	**Pn**	**01 07 04.3**	**+0.9**
KIF				MSG		01 07 16.3	
	comp=Z,6.3nm,0.2s						
KIF				*e*SB	**Sn**	**01 07 20.1**	**+0.9**
HEF	**Hetta**	**1.41**	**66**	*e*PG	**Pg**	**01 07 07.5**	**-0.7**
	baz=250						
HEF				MSG		01 07 24.3	
	comp=Z,7.6nm,0.2s						
HEF				*e*SB	**Sg**	**01 07 26.4**	**-0.1**
KLF	**Kolari**	**1.59**	**112**	*e*PG	**Pb**	**01 07 10.4**	**-0.2**
KLF				*e*SN	**Sg**	**01 07 31.4**	**-0.8**
HARU	**Harads**	**1.75**	**169**	P	**Pb**	**01 07 12.9**	**-0.4**
HARU	**Harads**	**1.75**	**169**	*e*P	**Pb**	**01 07 12.9**	**-0.4**
TOF	**Tornio**	**2.43**	**136**	*e*PB	**Pb**	**01 07 23.7**	**-1.2**
	baz=315						
TOF				*e*SB	**Sb**	**01 07 54.2**	**-0.7**
TOF				MSG		01 07 54.6	
	comp=Z,2.7nm,0.2s						
ARA0	**ARCESS Array S**	**2.56**	**47**	*e*P	**Pb**	**01 07 25.8**	**-1.4**
ARA0				*e*S	**Sn**	**01 07 54.9**	**+1.0**
RNF	**Rovaniemi**	**2.60**	**117**	*e*PB	**Pb**	**01 07 26.3**	**-1.5**
	baz=305						
RNF				*e*SB	**Sb**	**01 07 59.9**	**+0.1**
KEV	**Kevo**	**3.12**	**50**	*e*PB	**Pb**	**01 07 35.7**	**-0.9**
KEV				MSG		01 08 13.0	
	comp=Z,1.5nm,0.2s						
KU6	**Riekki**	**4.25**	**111**	*e*PG	**Pb**	**01 07 57.5**	**+1.6**

IDC 31 01:22:36.2±6.3, 21°.14N×122°.34E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/42, mbtmp3.2/3, Error ellipse: s-maj=478.4km s-min=31.1km az=61.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.28**	**318**	P	P	01 30 23.2	-0.1
	0.2nm,0.5s,baz=100,slow=9.1,SNR=2.2						
WRA	**Warramunga Arr**	**42.48**	**163**	P	P	01 30 33.4	+0.1
	0.3nm,0.7s,baz=344,slow=8.8,SNR=1.6						
ASAR	**Alice Springs**	**45.93**	**165**	P	P	01 31 00.7	-0.3
	0.2nm,0.6s,baz=346,slow=7.4,SNR=2.9						

TAP 31 01:23:10.0, 21°.42N×120°.90E, h81km, ML2.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.48**	**360**	*e*P	Pn	01 23 23.9	+0.2
	baz=354						
TSEB				*e*S	Sn	01 23 33.7	-0.1
	baz=354						
TWKBT	**Hengchun**	**0.53**	**351**	*e*S	Sn	01 23 34.7	+0.1
	baz=350						
TWK1	**Hengchun**

```
      baz=11
YULB  Yu-li          2.00  10  eP        Pn        01 23 43.7 +1.7
      baz=10.0
YULB                           eS        Sn        01 24 08.9 +2.6
      baz=10.0
ICHU  Yijhu          2.02 344  eS        Sn        01 24 07.3 +0.6
      baz=343
CHN5  Tsauling       2.18 355  eP        Pn        01 23 45.8 +1.3
      baz=354
CHN5                           eS        Sn        01 24 11.8 +1.0
      baz=354
WSL   Shuilin Townsh 2.19 344  eP        Pn        01 23 45.5 +1.0
      baz=343
WSL                            eS        Sn        01 24 10.4 -0.3
      baz=343
WDLH  Douliu         2.29 352  eS        Sn        01 24 13.3 +0.2
      baz=351
WTK   Tuku           2.31 348  eS        Sn        01 24 14.2 +0.5
      baz=348
VWDT  VWDT           2.34   5  eS        Sn        01 24 14.9 +0.6
      baz=5.0
SSLB  Suanglung      2.36   1  eP        Pn        01 23 48.0 +1.2
      baz=1.0
SSLB                           eS        Sn        01 24 15.7 +0.8
      baz=1.0
TYC   Yuchr          2.48 359  eS        Sn        01 24 19.0 +1.4
      baz=359
WRL   Guolierlin Hig 2.52 349  eP        Pn        01 23 49.6 +0.7
      baz=348
WRL                            eS        Sn        01 24 18.9 +0.2
      baz=348
WUSB  Renai          2.57   4  eP        Pn        01 23 50.5 +0.7
      baz=4.0
WUSB                           eS        Sn        01 24 21.4 +1.2
      baz=4.0
```

*IDC **31** 01:31:15.4±1.0, 35°.66N×3°.51W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.4/50, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=28.6km s-min=12.7km az=98.0*
*SFS **31** 01:31:16.0, 35°.65N×3°.59W, ML3.2, ALBORAN SUR*
*CNRM **31** 01:31:17.1, 35°.67N×3°.46W, h22km, ml3.5*
*CRAAG **31** 01:31:17.2, 35°.74N×3°.46W, Ml3.0*
*INMG **31** 01:31:18.8±1.9, 35°.71N×3°.38W, h15km±15km, ML3.0, Error ellipse: s-maj=14.6km s-min=3.6km az=75.0*
*IGIL **31** 01:31:18.3, 35°.65N×3°.60W, h0km, ML3.0*
*LDG **31** 01:31:20.2, 35°.50N×3°.51W, h30km*

ISC 31 01:31:18.5±1.3, 35°.65N±0°.03×3°.45W±0°.03, h24km±12km, n62, σ1§53/94, mb3.8/5, Strait of Gibraltar

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Code  Station Name     Δ°   AZ°   Phase ID          Time      Res
                                  Op      ISC       h m s     ISC
PALE  Palemas        0.59 223     P       Pb        01 31 28.8 -1.4
PALE                              S       Sb        01 31 36.8 -1.4
CHAS  Isla Isabel II 0.95 119     eP      Pn        01 31 35.0 -1.4
CHAS                              eS      Sb        01 31 47.7 -0.9
AKLM  AKL            1.19 197     P       Pb        01 31 42.0 +1.6
AKLM                              S       Sb        01 32 00.8 +5.4
EMAL  Malaga-Limoner 1.36 325     eP      Pn        01 31 40.8 -1.2
EMAL                              eS      Sn        01 31 58.2 -1.1
JBK   JBK            1.50 151     P       Pn        01 31 42.8 -1.3
JBK                               S       Sn        01 31 01.6 -1.5
SMIR  Smir Dam       1.57 272     P       Pn        01 31 43.0 -1.9
CHEFC Chefchaouen    1.64 251     P       Pn        01 31 45.2 -0.6
CHEFC                             S       Sn        01 32 05.7 -0.6
LCRM  LCR            2.28 211     P       Pn        01 31 54.5 -0.3
LCRM                              S       Sb        01 32 25.4 -1.4
IFR   Ifrane         2.54 213     eP      Pn        01 31 57.1 -1.3
IFR                               eS      Sn        01 32 26.7 -2.0
CART  Cartagena      2.76  45     P       Pn        01 31 60.0 -1.2
CART                              S       Sn        01 32 32.8 -1.0
MD31  MD31           2.98 202     P       Pn        01 32 04.3 -0.1
MD31                              S       Sn        01 32 39.3 -0.1
MDT   Midelt         2.99 199     Pn      Pn        01 32 04.3 -0.2
      2.4nm,0.3s,baz=358,slow=3.7,SNR=37
MDT                               Sn      Sn        01 32 39.8 +0.2
      10.0nm,0.3s,baz=216,slow=19,SNR=5.0
MDT                               Lg      Lg        01 32 50.7
      7.1nm,0.3s,baz=41,slow=13,SNR=4.6
MDT   Midelt         2.99 199     P       Pn        01 32 04.2 -0.3
MDT                               S       Sn        01 32 39.9 +0.2
PVAQ  Vaqueiros      3.85 298     ePn     Pn        01 32 15.6 -0.7
PVAQ                              eSn     Sn        01 33 01.4 +0.6
PVAQ                              A       A         01 33 14.8
      22nm,0.5s
PVAQ  Vaqueiros      3.85 298     P       Pn        01 32 15.5 -0.7
PBDV  Barranco-do-Ve 3.94 295     ePn     Pn        01 32 16.8 -0.8
PBDV                              eSn     Sn        01 32 59.8 -3.3
PBDV                              A       A         01 33 07.4
      23nm,0.7s
FIGM  Figuig         3.95 152     P       Pn        01 32 18.4 +0.6
ESDC  Sonseca Array  4.04 354     Pn      Pn        01 32 20.5 +1.7
      2.2nm,0.3s,baz=178,slow=12,SNR=33
ESDC                              Sn      Sn        01 33 06.4 +1.0
      1.2nm,0.3s,baz=172,slow=28,SNR=4.2
ESDC                              Lg      Lg        01 33 22.8
      1.9nm,0.3s,baz=177,slow=30,SNR=5.1
GOLM  Goulmima       4.13 198     P       Pn        01 32 20.8 +0.6
PCVE  Castro Verde   4.18 300     ePn     Pn        01 32 20.1 -0.7
PCVE                              eSn     Sn        01 33 08.3 -0.7
PCVE                              A       A         01 33 11.3
      19nm,0.5s
PBEJ  Beja           4.26 305     ePn     Pn        01 32 21.3 -0.6
PBEJ                              eSn     Sn        01 33 10.6 -0.3
PBEJ                              A       A         01 33 16.8
      10nm,0.4s
MESJ  Messejana      4.41 301     eP      Pn        01 32 23.2 -0.7
MESJ                              eS      Sn        01 33 10.3 -4.2
MESJ                              IAML              01 33 21.9
      comp=N,28nm,0.5s
MESJ  Messejana      4.41 301     ePn     Pn        01 32 23.4 -0.5
MESJ                              eSn     Sn        01 33 14.3 -0.2
MESJ                              A       A         01 33 21.1
      comp=N,16nm,0.4s
MORF  Marmelete      4.50 293     eSn     Sn        01 33 16.7 -0.2
MORF                              A       A         01 33 25.1
      comp=N,12nm,0.4s
PFVI  Vila Bisbo     4.58 290     eSn     Sn        01 33 17.4 -1.4
PFVI                              A       A         01 33 46.8
      comp=N,16nm,0.7s
PFVI  Vila Bisbo     4.58 290     P       Pn        01 32 24.1 -2.2
PESTR Estremoz       4.60 315     ePn     Pn        01 32 26.9 +0.3
PESTR                             eSn     Sn        01 33 19.9 +0.6
PESTR                             A       A         01 33 55.2
      comp=N,18nm,0.6s
PESTR Estremoz       4.60 315     P       Pn        01 32 26.9 +0.3
EVO   Evora          4.64 310     ePn     Pn        01 32 27.1  0.0
EVO                               eSn     Sn        01 33 19.7 -0.6
EVO                               A       A         01 33 25.6
      comp=N,24nm,0.4s
PTEO  Sao Teotonio   4.64 296     ePn     Pn        01 32 27.6 +0.5
PTEO                              eSn     Sn        01 33 20.6 +0.3
PTEO                              A       A         01 33 31.1
      comp=N,17nm,0.5s
PNCL  Nicolau / Gran 4.75 303     ePn     Pn        01 32 28.1 -0.5
PNCL                              eSn     Sn        01 33 21.6 -1.4
PNCL                              A       A         01 33 35.6
      comp=N,9.9nm,0.4s
PMRV  Marv??o        4.90 321     ePn     Pn        01 32 31.2 +0.5
PMRV                              eSn     Sn        01 33 27.4 +0.8
PMRV                              A       A         01 33 55.9
      comp=N,19nm,0.7s
PMTG  Montargil      5.11 313     ePn     Pn        01 32 33.8 +0.3
PMTG                              eSn     Sn        01 33 30.4 -1.3
PMTG                              A       A         01 34 05.0
      comp=N,15nm,0.5s
TZRR  Tazzarine      5.17 201     P       Pn        01 32 34.6 +0.2
PCBR  Castelo Branco 5.26 324     ePn     Pn        01 32 36.7 +1.1
PCBR                              eSn     Sn        01 33 34.3 -1.1
PCBR                              A       A         01 33 36.5
      comp=N,11nm,0.6s
PMST  Lisbon--Monsan 5.51 306     ePn     Pn        01 32 39.4 +0.3
PMAFR Mafra          5.70 307     ePn     Pn        01 32 42.0 +0.4
PSBE  So Bento       5.73 314     ePn     Pn        01 32 42.6 +0.5
PSBE                              eSn     Sn        01 33 46.0 -1.2
PSBE                              A       A         01 34 30.0
      comp=N,17nm,0.6s
MTE   Manteigas      5.74 327     ePn     Pn        01 32 43.3 +1.1
MTE                               eSn     Sn        01 33 47.7 +0.4
MTE                               A       A         01 34 25.3
      comp=N,25nm,0.7s
COI   Coimbra        6.00 321     ePn     Pn        01 32 45.9 +0.1
PVIS  Viseu          6.15 327     ePn     Pn        01 32 48.5 +0.6
PVIS                              eSn     Sn        01 33 57.7 +0.3
PVIS                              A       A         01 34 06.3
      comp=N,9.5nm,0.7s
MVO   Moncorvo       6.18 334     ePn     Pn        01 32 49.4 +1.1
MVO                               eSn     Sn        01 33 58.0 -0.2
MVO                               A       A         01 34 40.6
      comp=N,17nm,0.6s
PVRL  Vila Real      6.54 330     ePn     Pn        01 32 54.0 +0.8
TTIG  Tnine Tigouga, 6.59 221     P       Pn        01 32 51.8 -2.2
POLO  Lamas de Olo   6.65 331     ePn     Pn        01 32 55.6 +0.8
PBRG  Braganca       6.66 338     ePn     Pn        01 32 55.7 +0.8
PBRG                              eSn     Sn        01 34 11.0 +1.0
PBRG                              A       A         01 35 04.1
      comp=N,12nm,0.7s
PTO   Porto          6.81 325     ePn     Pn        01 32 57.3 +0.5
PTO                               eSn     Sn        01 34 05.9 -7.7
ETSF  Etsaut         7.58  16     ePn     Pn        01 33 08.5 +1.0
ETSF  Etsaut         7.58  16     eP      Pn        01 33 14.3 +6.8
SJPF  Ste Jean       7.65  12     ePn     Pn        01 33 10.0 +1.6
SJPF  Ste Jean       7.65  12     eP      Pn        01 33 15.1 +6.7
SJPF                              eSn     Sn        01 34 31.6 -2.7
      comp=N,1.2nm,0.4s
EPF   Esparros       7.93  21     ePn     Pn        01 33 14.2 +1.9
EPF                               eSn     Sn        01 34 38.2 -3.1
      comp=N,0.7nm,0.2s
MTLF  Montolieu      8.84  28     ePn     Pn        01 33 25.4 +0.7
LASF  Ste Croix     10.11  31     ePn     Pn        01 33 42.4 +0.2
CAF   Calviac       10.17  23     ePn     Pn        01 33 43.6 +0.6
QUIF  Quistinic     12.26   1     ePn     Pn        01 34 11.7 +0.2
SGMF  Saint Gilles  12.61   3     ePn     Pn        01 34 17.0 +0.7
TORD  Torodi Ar. Bea 22.88 167    P       P         01 36 20.8 +0.4
      comp=N,0.5nm,0.7s,baz=349,slow=11,SNR=1.5
HFS   Hagfors       26.89  19     P       P         01 36 57.6 +0.3
      comp=N,3.9nm,0.9s,baz=246,slow=9.0,SNR=1.9
MKAR  Makanchi Array 62.41 51     P       P         01 41 40.1 +0.7
      comp=N,0.5nm,0.7s,baz=313,slow=5.4,SNR=6.6
YKA   Yellowknife Ar 67.82 332    P       P         01 42 15.3 +1.2
      comp=N,0.6nm,0.6s,baz=58,slow=6.3,SNR=15
PDAR  Pinedale Array 76.93 313    P       P         01 43 08.6 -0.6
      comp=N,0.3nm,0.8s,baz=70,slow=7.8,SNR=2.3
```

*IDC **31** 01:54:49.0±6.9, 0°.27N×122°.17E, h196km±71km, mb3.2/5, mb1 3.3/6, mb1mx2.8/47, mbtmp3.8/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/21, Error ellipse: s-maj=88.1km s-min=16.0km az=66.0*
*DJA **31** 01:54:51.2±0.6, 0°N±4°×12°2E±°, h163km±5km, M3.5/6, MLv3.5/6*

ISC 31 01:54:48.2±0.8, 0°34N±0°08×122°07E±0°06, h186km±6km, n12, σ1§21/18, mb3.6/5, Minahassa Peninsula, Sulawesi

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Code  Station Name     Δ°   AZ°   Phase ID          Time      Res
                                  Op      ISC       h m s     ISC
MRSI  Marisa         0.19 318     P       Pn        01 55 13.1 +0.3
MRSI                              S       Sn        01 55 30.0 -1.8
GTOI  Gorontalo      0.99  73     P       Pn        01 55 16.8 +0.3
GTOI                              S       Sn        01 55 38.4 +0.2
APSI  Ampana         1.31 199     P       Pn        01 55 20.1 +1.1
APSI                              S       Sn        01 55 42.5 -0.5
KMSI  Cibinong       1.93  83     P       Pn        01 55 26.5 +1.5
KMSI                              S       Sn        01 55 54.9 +1.5
MPSI  Mapaga         2.17 270     P       Pn        01 55 29.0 +1.5
MPSI                              S       Sn        01 55 57.9 -0.1
TTSI  Tana Toraja    4.04 214     P       Pn        01 55 52.0 +1.9
FITZ  Fitzroy Crossi 18.66 169    P       P         01 58 51.4 -0.8
      baz=342,slow=6.4
WRA   Warramunga Arr 23.47 150    P       P         01 59 39.8 -1.4
      1.0nm,0.5s,baz=325,slow=11,SNR=13
ASAR  Alice Springs  26.49 155    P       P         02 00 07.7 -0.8
      0.3nm,0.6s,baz=334,slow=9.8,SNR=6.3
ASAR                              PcP     PcP       02 03 27.6 -1.0
      0.3nm,0.3s,baz=345,slow=2.2,SNR=7.1
ASAR                              LR      LR        02 14 27.0
      comp=Z,36nm,18.0s,baz=176,slow=45
SONM  Songino Array  49.23 346    P       P         02 03 18.3 +0.4
      1.3nm,0.7s,baz=164,slow=9.3,SNR=13
MKAR  Makanchi Array 57.84 329    P       P         02 04 21.2 +0.8
      0.8nm,0.4s,baz=128,slow=8.5,SNR=25
ZALV  Zalesovo Beam  61.62 336    P       P         02 04 45.4 -0.5
      0.4nm,0.3s,baz=123,slow=5.3,SNR=1.3
```

*VIE **31** 01:58:54.9±1.8, 51°.56N×16°.35E, h0km, mb2.7/4, ml2.8/5, Error ellipse: s-maj=19.9km s-min=10.3km az=28.0 70 km NW of Wroclaw Suspected Mining induced.*
*IPEC **31** 01:58:56.9±0.3, 51°.47N×16°.25E, h1km, ML2.2/3, Error ellipse: s-maj=2.1km s-min=1.1km az=38.0*
*PRU **31** 01:58:57.9±0.0, 51°.46N×16°.14E, h0km*
*IDC **31** 01:58:57.5±0.9, 51°.43N×16°.05E, h0km, mb1 3.3/6, mb1mx3.1/43, mbtmp3.2/6, ML2.5/6, Error ellipse: s-maj=15.1km s-min=8.8km az=114.0*

ISC 31 01:58:56.0±0.9, 51°52N±0°.04×16°18E±0°.03, h0km, n36, σ0§80/61, Poland

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Code  Station Name     Δ°   AZ°   Phase ID          Time      Res
                                  Op      ISC       h m s     ISC
KSP   Ksiaz          0.68 174     ePg     Pg        01 59 09.2 +0.1
KSP                               eSg     Sg        01 59 17.7 -0.2
CHVC  Chvalec        0.94 185     ePG     Pg        01 59 13.9 -0.1
CHVC                              eSG     Sg        01 59 25.5 -0.6
      comp=Z,37nm,0.6s
OSTC  Ostas          0.97 179     ePG     Pg        01 59 14.7 +0.2
OSTC                              eSG     Sg        01 59 26.6 -0.4
      comp=Z,44nm,0.5s
UPC   Upice          1.02 186     ePG     Pg        01 59 15.2 -0.4
UPC                               eSG     Sg        01 59 28.0 -0.8
      comp=Z,88nm,0.5s
DPC   Dobruska-Polom 1.18 176     ePG     Pg        01 59 18.1 -0.4
DPC                               eSG     Sg        01 59 32.6 -1.2
      comp=Z,50nm,0.7s
PVCC  Panska Ves     1.42 226     ePG     Pb        01 59 23.2 -0.2
PVCC                              eSG     Sb        01 59 42.1  0.0
      comp=Z,101nm,0.5s
KRLC  Kraliky        1.50 165     ePG     Pn        01 59 24.1 -0.1
KRLC                              eSG     Sg        01 59 43.2 -0.9
      comp=Z,37nm,0.7s
BRG   Berggiesshubel 1.55 246     Pg      Pg        01 59 26.0 +0.3
BRG                               Sg      Sg        01 59 46.5 +0.7
BRG                               Amp               01 59 49.7
      comp=Z,32nm,0.5s
PRU   Pruhonice      1.85 215     ePG     Pb        01 59 30.4 -0.4
PRU                               eSG     Sb        01 59 54.5  0.0
      comp=Z,39nm,0.6s
MORC  Moravsky Berou 1.95 153     ePn     Pn        01 59 30.0 -0.4
      baz=335
MORC                              eSg     Sn        01 59 56.1 +0.5
      comp=Z,15nm,0.3s,baz=335
CLL   Collm          2.00 265     ePg     Pg        01 59 35.0 +0.7
CLL                               eSg     Sg        02 00 01.0 +0.8
      comp=Z,17nm,0.6s
OKC   Ostrava-Krasne 2.10 143     ePG     Pb        01 59 35.1 +0.1
OKC                               eSG     Sb        02 00 01.8 +0.2
      comp=Z,24nm,0.5s
VRAC  Vranov         2.23 173     Pn      Pn        01 59 34.7 +0.5
      comp=Z,1.5nm,0.3s,baz=345,slow=16,SNR=6.4
VRAC                              Lg      Lg        02 00 05.2
      comp=Z,1.8nm,0.3s,baz=75,slow=20,SNR=8.7
VRAC  Vranov         2.23 173     ePn     Pn        01 59 34.4 +0.1
      baz=354
VRAC                              eSg     Sb        02 00 04.9  -0.5
      comp=Z,13nm,0.4s,baz=354
PBCC  Pribram        2.31 218     ePG     Pb        01 59 38.7 +0.2
PBCC                              eSG     Sb        02 00 08.6 +1.1
KRUC  Moravsky       2.47 177     ePn     Pn        01 59 37.6 +0.1
      baz=358
KRUC  Moravsky       2.47 177     ePg     Pb        01 59 41.1  -0.1
      baz=358
KRUC                              eSg     Sb        02 00 12.5 +0.4
      comp=Z,11nm,0.4s,baz=358
OJC   Ojcow          2.64 118     ePg     Pg        01 59 46.5  0.0
OJC                               eSg     Sg        02 00 21.3 +0.6
NKC   Novy Kostel    2.69 243     ePG     Pb        01 59 45.9 +0.8
NKC                               eSG     Sg        02 00 22.9 +0.4
      comp=Z,19nm,0.5s
KHC   Kasperske Hory 2.92 216     ePN     Pn        01 59 43.9 +0.2
KHC                               ePG     Pb        01 59 49.1 +0.2
KHC                               eSG     Sg        02 00 28.3  -1.4
      comp=Z,10.0nm,0.5s
CKRC  Cesky Krumlov  2.96 205     ePN     Pn        01 59 44.8 +0.5
CKRC                              ePG     Pb        01 59 50.7 +1.1
CKRC                              eSG     Sg        02 00 29.0  -2.1
      comp=Z,11nm,0.5s
GERES GERESS Array B 3.12 212     Pn      Pn        01 59 45.9  -0.6
      comp=Z,0.5nm,0.3s,baz=34,slow=13,SNR=12
GERES                             Pg      Pb        01 59 52.9 +0.6
      comp=Z,2.1nm,0.3s,baz=34,slow=17,SNR=24
GERES                             Lg      Lg        02 00 32.0
      comp=Z,1.6nm,0.3s,baz=32,slow=28,SNR=4.9
SMOL  Smolenice      3.12 165     eSG     Sg        02 00 37.8 +1.7
LANS  Liptovska Anna 3.17 137     ePG     Pg        01 59 57.7 +0.9
MODS  Modra-Piesok   3.23 167     ePG     Pg        01 59 59.0 +1.1
MODS                              eSG     Sg        02 00 41.2 +1.5
NIE   Niedzica       3.37 127     eP      Pg        02 00 00.5  -0.1
NIE                               eSg     Sg        02 00 44.9 +0.6
VYHS  Vyhne          3.48 149     ePG     Pg        02 00 04.7 +2.0
VYHS                              eSG     Sg        02 00 47.9 +0.1
CONA  Conrad Observa 3.60 183     ePn     Pn        01 59 52.3  -0.9
      comp=Z,0.6nm,0.3s
MOA   Molln          3.88 199     ePn     Pn        01 59 57.4 +0.4
      comp=Z,0.6nm,0.2s
ARSA  Arzberg        4.30 186     ePn     Pn        02 00 02.5  -0.2
      comp=Z,0.6nm,0.5s
KBA   Koelnbreinsper 4.82 204     ePn     Pn        02 00 10.7 +0.8
      comp=Z,1.2nm,0.4s
WTTA  Wattenberg     5.19 217     Pn      Pn        02 00 15.9 +0.9
      comp=Z,1.0nm,0.4s
DAVOX Davos/Dischmat 6.29 223     Pn      Pn        02 00 28.5  -1.7
      comp=Z,0.1nm,0.3s,baz=52,slow=16,SNR=1.2
DAVOX                             Lg      Lg        02 02 12.3
      comp=Z,0.1nm,0.3s,baz=358,slow=23,SNR=1.6
AKASG Malin Array Be 8.25  91     Pn      Pn        02 00 56.1  -0.8
      comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=3.6
HFS   Hagfors        8.74 352     Pn      Pn        02 01 02.3  -1.3
      comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=1.7
FINES FINESS Array B 11.33  25     Pn      Pn        02 01 38.1  -0.9
      comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=1.7
```

*INET **31** 02:04:29.7±1.0, 12°.84N×87°.03W, h15km±6km, MW3.7*

ISC 31 02:04:28.3±1.8, 12°94N±0°.09×87°01W±0°.04, h4km±17km, n18, σ1§09/27, Near coast of Nicaragua

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Code  Station Name     Δ°   AZ°   Phase ID          Time      Res
                                  Op      ISC       h m s     ISC
CRIN  San Cristobal  0.25 189     eP      Pg        02 04 33.1  0.0
CNGN  Cerro Negro    0.54 145     eP      Pg        02 04 39.3 +0.6
MOMN  Momotombo      0.70 139     eP      Pg        02 04 42.3 +0.5
LCND  La Caada       0.93 293     eP      Pb        02 04 46.2  -0.8
LCND                              eS      Sb        02 04 59.0  -0.7
LCND                              eS      Sb        02 04 59.0  -0.7
LCND                              IAML              02 05 01.0
      comp=Z,2μm,0.4s
HUEN                 1.02 126     eP      Pb        02 04 47.8  -0.7
MATN  Matagalpa      1.06  91     eP      Pb        02 04 49.0  -0.2
TGUH  Tegucigalpa,Un 1.14 347     eP      Pn        02 04 51.3 +0.2
TGUH  Tegucigalpa,Un 1.14 347     eP      Pn        02 04 51.2 +0.2
PACA  Pacayal        1.38 292     eP      Pn        02 04 54.2  -0.3
PACA                              eS      Sn        02 05 13.3 +0.1
BOAB  BOACO BROADBAN .40 110      eP      Pn        02 04 53.6  -1.0
PQSS  Presa 15 de Se 1.65 294     eP      Pn        02 04 58.0  -0.1
PQSS                              IAML              02 05 25.0
      comp=Z,40nm,0.2s
SCLA  Alcaldia de Sa 1.83 294     eP      Pn        02 05 00.0  -0.6
SCLA                              eS      Sb        02 05 27.1 +1.3
SCLA                              IAML              02 05 35.7
      comp=Z,70nm,0.5s
ACON  Acoyapa        2.04 118     eP      Pn        02 05 04.1 +0.7
SJTE  Alcalda de S   2.06 289     eP      Pn        02 05 04.8 +1.1
SJTE                              eS      Sb        02 05 33.2 +1.0
JAYA  Jayaque - finc 2.48 287     eP      Pn        02 05 11.1 +1.5
JAYA                              eS      Sb        02 05 42.6  -1.8
JAYA                              IAML              02 05 45.5
      comp=Z,185nm,0.3s
TACO  Tacachico      2.50 294     eP      Pn        02 05 11.7 +1.9
TACO                              eS      Sb        02 05 46.1 +1.2
CEVE  Cerro Verde    2.69 289     eP      Pb        02 05 15.8  -1.4
CEVE                              eS      Sb        02 05 51.1 +0.4
CEVE                              IAML              02 05 56.9
      comp=Z,235nm,0.4s
NUBE  Las Nubes      2.86 290     eP      Pn        02 05 16.6 +1.8
NUBE                              eS      Sb        02 05 53.8  -1.6
```

IDC 31 02:11:32.1±4.5, 2°50S×150°26E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/22, mbtmp3.2/3, Error ellipse: s-maj=139.9km s-min=36.8km az=103.0, New Ireland region

```
Code  Station Name     Δ°   AZ°   Phase ID          Time      Res
                                  Op      ISC       h m s     ISC
WRA   Warramunga Arr 23.29 221     P       P         02 16 41.7  -0.1
      0.6nm,0.9s,baz=51,slow=10,SNR=4.7
ASAR  Alice Springs  26.33 216     P       P         02 17 11.2 +1.3
      0.6nm,1.0s,baz=49,slow=8.9,SNR=4.1
MKAR  Makanchi Array 76.93 319     P       P         02 23 25.7  -0.9
      0.2nm,0.6s,baz=98,slow=4.4,SNR=2.1
```

*INET **31** 02:16:49.2±0.8, 12°.86N×87°.16W, h15km±4km, MW3.1*
*SNET **31** 02:16:52.8±0.4, 12°.93N×87°.32W, h73km±28km, ML2.5*

ISC 31 02:16:50.2±1.2, 12°87N±0°.10×87°06W±0°.06, h17km±12km, n6, σ0§49/9, Near coast of Nicaragua

```
Code  Station Name     Δ°   AZ°   Phase ID          Time      Res
                                  Op      ISC       h m s     ISC
CRIN  San Cristobal  0.17 177     eP      Pg        02 16 54.6  0.0
CNGN  Cerro Negro    0.51 136     eP      Pb        02 17 01.0 +0.2
CNCH  Conchagua      0.86 298     eP      Pn        02 17 07.5  -0.2
CNCH                              eS      Sg        02 17 18.7 +0.3
LCND  La Caada       0.92 299     eP      Pb        02 17 07.7  -0.1
LCND                              eS      Sb        02 17 19.1  -0.6
LCND                              IAML              02 17 23.3
      comp=Z,140nm,0.4s
MATN  Matagalpa      1.11  87     eP      Pb        02 17 10.5  -0.5
TGUH  Tegucigalpa,Un 1.20 350     eP      Pn        02 17 12.8 +0.4
TGUH                              eS      Sn        02 17 28.8 +0.4
```

*INET **31** 02:20:25.7±0.6, 12°.87N×87°.06W, h5km±3km, MW3.6*
*SNET **31** 02:20:28.6±1.6, 13°.03N×87°.16W, h0km±16km, ML2.8*

ISC 31 02:20:26.2±0.9, 12°88N±0°.06×87°01W±0°.04, h13km, n15, σ1§24/19, Near coast of Nicaragua

```
Code  Station Name     Δ°   AZ°   Phase ID          Time      Res
                                  Op      ISC       h m s     ISC
CRIN  San Cristobal  0.19 194     eP      Pg        02 20 30.3  -0.2
CRIN                              eS      Sg        02 20 33.6 +0.1
CNGN  Cerro Negro    0.48 142     eP      Pg        02 20 36.1 +0.4
LCND  La Caada       0.96 296     eP      Pb        02 20 42.8  -1.9
LCND                              eS      Sg        02 20 55.9  -1.5
LCND                              eS      Sb        02 20 57.0  -0.4
LCND                              IAML              02 20 59.7
      comp=Z,854nm,0.4s
HUEN                 0.98 124     eP      Pb        02 20 44.6  -0.4
MATN  Matagalpa      1.05  87     eP      Pb        02 20 46.0  -0.4
TGUH  Tegucigalpa,Un 1.20 347     eP      Pb        02 20 48.1  -0.7
TGUH  Tegucigalpa,Un 1.20 347     eP      Pb        02 20 48.1  -0.7
BOAB  BOACO BROADBAN .38 108      eP      Pn        02 20 50.3  -0.8
PQSS  Presa 15 de Se 1.68 296     eP      Pn        02 20 55.6 +0.3
PAVA  Las Pavas      2.05 294     eP      Pb        02 21 02.4  -1.1
SJTE  Alcalda de S   2.08 291     eP      Pn        02 21 01.9 +1.0
SJTE                              IAML              02 21 31.6
      comp=Z,30nm,0.3s
JAYA  Jayaque - finc 2.50 288     eP      Pn        02 21 07.7 +0.9
JAYA                              eS      Sn        02 21 38.3 +1.1
TACO  Tacachico      2.53 296     eP      Pn        02 21 08.8 +1.8
MTO3  Montecristo    2.74 304     eP      Pn        02 21 12.6 +2.5
NUBE  Las Nubes      2.88 291     eP      Pn        02 21 13.7 +1.7
```

*PGC **31** 02:32:21.5±6.2, 50°.76N×130°.48W, h10km, MLSn3.2/29, Mw3.9/30, Mw3.9/29, 216km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **31** 02:32:24.5±1.8, 50°.81N×129.91W, h0km, mb3.5/1, mb1 3.7/7, mb1mx3.3/49, mbtmp3.3/7, ML3.2/6, MS3.3/3, Ms1 3.3/3, ms1mx2.8/54, Error ellipse: s-maj=24.3km s-min=11.4km az=74.0*

ISC 31 02:32:21.4±2.8, 50°76N±0°.05×130°34W±0°.06, h2km±18km, n72, σ1§94/80, Vancouver Island region

```
Code  Station Name     Δ°   AZ°   Phase ID          Time      Res
                                  Op      ISC       h m s     ISC
HOLB  Holberg        1.41  94     Pn      Pb        02 32 46.1  -1.9
HOLB                              Sn      Sg        02 33 04.3  -2.4
HG4B  Hotspring      1.63 341     Pn      Pn        02 32 47.6  -3.4
HG4B                              Sn      Sn        02 33 06.5  -6.0
```

47C-14D, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.84**	**99**	Pn	**Pn**	**02 32 52.3**	**-1.7**
PACB				Sn	**Sn**	**02 33 13.8**	**-4.0**
PHC	**Port Hardy**	**1.85**	**90**	Pn	**Pn**	**02 32 52.8**	**-1.3**
PHC				Sn	**Sn**	**02 33 15.1**	**-2.8**
BBB	**Bella Bella**	**2.00**	**43**	Pn	**Pn**	**02 32 55.6**	**-0.5**
	14nm,0.3s,baz=225,slow=14,SNR=78						
BBB				Sn	**Sn**	**02 33 17.6**	**-4.0**
	87nm,0.3s,baz=141,slow=19,SNR=21						
BBB	**Bella Bella**	**2.00**	**43**	Pn	**Pn**	**02 32 55.2**	**-0.8**
BBB				Sn	**Sn**	**02 33 17.6**	**-4.0**
BNB	**Barry Inlet**	**2.02**	**335**	Pn	**Pn**	**02 32 53.2**	**-3.2**
MAYB	**Maynard**	**2.05**	**99**	Pn	**Pn**	**02 32 55.6**	**-1.4**
MAYB				Sn	**Sn**	**02 33 20.2**	**-3.0**
TLCB	**Telegraph Cove**	**2.24**	**94**	Pn	**Pn**	**02 32 58.4**	**-1.1**
TLCB				Sn	**Sn**	**02 33 25.3**	**-2.4**
EDB	**Eliza Dome**	**2.25**	**112**	Pn	**Pn**	**02 32 57.5**	**-2.1**
WOSB	**Woss**	**2.48**	**102**	Pn	**Pn**	**02 33 02.0**	**-0.8**
BUTB	**Butedale**	**2.59**	**26**	Pn	**Pn**	**02 33 03.2**	**-1.0**
BNKB	**Banks Island**	**2.59**	**6**	Pn	**Pn**	**02 33 02.0**	**-2.3**
MOBC	**Moresby Island**	**2.59**	**338**	Pn	**Pn**	**02 33 01.4**	**-2.9**
NCRB	**Newcastle Ridg**	**2.76**	**96**	Pn	**Pn**	**02 33 05.4**	**-1.3**
DIB	**Dawson Inlet,**	**2.78**	**333**	Pn	Pn	02 33 01.3	-5.5
GDR	**Gold River**	**2.93**	**108**	Pn	**Pn**	**02 33 07.5**	**-1.5**
HWKB	**Hawksbury Isla**	**2.94**	**14**	Pn	**Pn**	**02 33 07.3**	**-1.8**
GRNB	**Grenville Isla**	**3.10**	**4**	Pn	**Pn**	**02 33 09.6**	**-1.7**
SPLB	**Strathcona Par**	**3.13**	**104**	Pn	**Pn**	**02 33 10.5**	**-1.1**
CBB	**Campbell River**	**3.27**	**101**	Pn	**Pn**	**02 33 12.9**	**-0.6**
CBB				Sn	**Sn**	**02 33 50.5**	**-2.4**
TOFB	**Tofino**	**3.28**	**118**	Pn	**Pn**	**02 33 11.9**	**-1.9**
BTB	**Buttle Lake**	**3.36**	**111**	Pn	**Pn**	**02 33 13.9**	**-1.1**
KITB	**Kitimat**	**3.49**	**17**	Pn	**Pn**	**02 33 15.5**	**-1.0**
KITB				Sn	**Sn**	**02 33 55.7**	**-2.6**
RUBB	**Prince Rupert**	**3.58**	**1**	Pn	**Pn**	**02 33 16.4**	**-1.4**
B928	**Bamfield**	**3.88**	**118**	Pn	**Pn**	**02 33 21.3**	**-0.7**
B927	**Port Alberni**	**3.89**	**111**	Pn	**Pn**	**02 33 20.6**	**-1.4**
TXB	**Texada**	**3.94**	**103**	Pn	**Pn**	**02 33 22.3**	**-0.5**
MGB	**Mount Grey**	**4.05**	**114**	Pn	**Pn**	**02 33 23.3**	**-1.2**
SHB	**Sechelt**	**4.32**	**103**	Pn	**Pn**	**02 33 27.7**	**-0.3**
NLLB	**Nanaimo Lost L**	**4.38**	**108**	Pn	**Pn**	**02 33 27.6**	**-1.2**
PFB	**Port Renfrew**	**4.41**	**117**	Pn	**Pn**	**02 33 28.6**	**-0.7**
UBRB	**Upper Baezaeko**	**4.43**	**59**	Pn	**Pn**	**02 33 30.8**	**+1.1**
UBRB				Sn	**Sn**	**02 34 22.2**	**+0.4**
OCP	**Olym-Cheeka Pk**	**4.46**	**121**	Pn	**Pn**	**02 33 29.4**	**-0.6**
CLRS	**Cowichan Lake**	**4.47**	**113**	Pn	**Pn**	**02 33 29.3**	**-0.7**
WPB	**Watts Point**	**4.71**	**101**	Pn	**Pn**	**02 33 33.5**	**+0.1**
BIB	**Bowen Island**	**4.73**	**104**	Pn	**Pn**	**02 33 32.7**	**-0.9**
OBC	**Olympics--Boni**	**4.91**	**121**	Pn	**Pn**	**02 33 36.0**	**-0.2**
B009	**North Saanich**	**4.95**	**113**	Pn	**Pn**	**02 33 36.6**	**+0.1**
B011	**North Saanich**	**4.95**	**113**	Pn	**Pn**	**02 33 36.0**	**-0.6**
STW	**Striped Peak**	**5.07**	**118**	Pn	**Pn**	**02 33 38.0**	**-0.4**
HNBB	**Haney**	**5.22**	**103**	Pn	**Pn**	**02 33 41.1**	**+0.7**
FSB	**Fort Saint Jam**	**5.22**	**42**	Pn	**Pn**	**02 33 40.8**	**+0.3**
FSB				Sn	**Sn**	**02 34 39.1**	**-2.2**
FSJB	**Fort St James**	**5.23**	**42**	Pn	**Pn**	**02 33 40.8**	**+0.3**
FSJB				Sn	**Sn**	**02 34 38.8**	**-2.5**
LLLB	**Lillooet**	**5.38**	**88**	Pn	**Pn**	**02 33 43.0**	**+0.4**
VDB	**Vedder Mountai**	**5.60**	**105**	Pn	**Pn**	**02 33 46.3**	**+0.7**
A05A	**Maple Falls**	**5.62**	**105**	Pn	**Pn**	**02 33 47.6**	**+1.8**
CMW	**Cultus Mountai**	**5.83**	**110**	Pn	**Pn**	**02 33 50.1**	**+1.1**
JCW	**Jim Creek**	**6.05**	**112**	Pn	**Pn**	**02 33 52.5**	**+0.6**
B06A	**Marblemount**	**6.17**	**108**	Pn	**Pn**	**02 33 54.5**	**+1.0**
GPW	**Glacier Peak**	**6.56**	**110**	Pn	**Pn**	**02 33 59.9**	**+0.9**
FMW	**Mount Fremont**	**6.88**	**120**	Pn	**Pn**	**02 34 04.5**	**+1.1**
BMBC	**Bull Mountain**	**7.22**	**40**	Pn	**Pn**	**02 34 08.6**	**+0.7**
BMBC				Sn	**Sn**	**02 35 29.9**	**-0.5**
B08A	**Colville Reser**	**7.55**	**104**	Pn	**Pn**	**02 34 12.3**	**-0.1**
NBC4	**NorthernBC 4**	**7.62**	**46**	Pn	**Pn**	**02 34 13.6**	**+0.2**
NBC4				Sn	**Sn**	**02 35 37.6**	**-2.6**
DLBC	**Dease Lake**	**7.70**	**1**	Pn	**Pn**	**02 34 16.9**	**+2.5**
	0.1nm,0.3s,baz=176,slow=18,SNR=1.6						
DLBC				Sn	**Sn**	**02 35 43.9**	**+1.7**
	0.1nm,0.3s,baz=90,slow=26,SNR=1.5						
DLBC				Lg	Lg	02 36 26.7	
	0.1nm,0.3s,baz=131,slow=20,SNR=2.9						
BDMTA	**Bald Mountain**	**8.03**	**55**	Pn	**Pn**	**02 34 20.9**	**+1.9**
NBC5	**NorthernBC 5**	**8.13**	**31**	Pn	**Pn**	**02 34 21.4**	**+1.0**
NBC5				Sn	**Sn**	**02 35 51.5**	**-1.3**
NEW	**Newport**	**8.96**	**101**	Pn	**Pn**	**02 34 31.4**	**-0.3**
	0.2nm,0.3s,baz=306,slow=17,SNR=1.7						
NEW				LR	LR	02 37 22.9	
	comp=Z,59nm,19.9s,baz=306,slow=34						
YKA	**Yellowknife Ar**	**14.55**	**30**	Pn	**Pn**	**02 35 45.6**	**-2.4**
	0.1nm,0.3s,baz=222,slow=12,SNR=6.5						
YKA				Sn	Sn	02 38 22.5	-7.2
	0.1nm,0.3s,baz=300,slow=16,SNR=4.7						
KDAK	**Kodiak Island**	**14.73**	**307**	LR	LR	02 39 55.7	
	comp=Z,140nm,18.8s,baz=194,slow=30						
NVAR	**Mina Array Bea**	**14.99**	**141**	Pn	**Pn**	**02 35 57.6**	**+3.3**
	0.1nm,0.3s,baz=319,slow=11,SNR=2.5						
PDAR	**Pinedale Array**	**16.29**	**111**	Pn	**Pn**	**02 36 14.1**	**+2.7**
	0.1nm,0.3s,baz=316,slow=12,SNR=15						
ILAR	**Eielson Array**	**16.50**	**335**	Pn	**P**	**02 36 19.1**	**+2.7**
	0.1nm,0.3s,baz=141,slow=12,SNR=4.8						
TXAR	**Lajitas Array**	**29.30**	**127**	P	**P**	**02 38 26.7**	**+1.6**
	0.6nm,1.1s,baz=303,slow=8.2,SNR=3.2						
TKL	**Tuckaleechee C**	**36.50**	**96**	LR	LR	02 54 31.3	
	comp=Z,157nm,19.8s,baz=335,slow=37						
H11N2	**WAKE ISLAND Hy**	**57.79**	**262**	T	T	03 44 41.7	
	baz=42,slow=76,SNR=315						
H11N3	**WAKE ISLAND Hy**	**57.79**	**262**	T	T	03 44 43.6	
	baz=42,slow=76,SNR=420						
H11N1	**WAKE ISLAND Hy**	**57.80**	**262**	T	T	03 44 40.1	
	baz=42,slow=76,SNR=164						
H11S1	**WAKE ISLAND Hy**	**58.82**	**261**	T	T	03 46 09.0	
	baz=40,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**58.83**	**261**	T	T	03 45 59.1	
	baz=40,slow=74,SNR=16						
H11S3	**WAKE ISLAND Hy**	**58.84**	**261**	T	T	03 45 56.8	
	baz=40,slow=74,SNR=12						

BJI ***31*** *02:49:59.3±0.0,3˙.10S×147˙.65E, h5km, mb5.4/88, mB5.8/72, Ms5.4/96, Ms7 5.3/90*

IDC ***31*** *02:50:03.1±0.3,2˙.93S×147˙.15E, h0km, mb5.3/39, mb1 5.3/43, mb1mx5.2/55, mbtmp5.2/43, ML4.1/3, MS5.0/60, Ms1 5.0/60, ms1mx5.0/64, Error ellipse: s-maj=12.9km s-min=9.3km az=80.0*

MOS ***31*** *02:50:03.8±0.9,2˙.95S×147˙.04E, h14km, mb5.9/56, MS5.1/23, Error ellipse: s-maj=8.4km s-min=4.7km az=104.3*

NEIC ***31*** *02:50:04.5,2˙.89S×147˙.12E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.08; Mθθ-1.99; Mφφ0.92; Mrθ0.26; Mθφ-0.64; Mφr-1.02; Fault plane solution: Mo2.12000×10^17^ NP1:ϕs113.21000°, δ60.53000°, λ143.75000°. NP2:ϕs223.05000°, δ59.01000°, λ35.02000°. Principal axes: T 2.1192, Plg45.0000°, Azm78.0000°; N 0.0094, Plg45.0000°, Azm259.0000°; P -2.1286, Plg1.0000°, Azm168.0000°;*

NEIC ***31*** *02:50:06.0±2.2,2˙.87S±0˙.05×147˙.14E±0˙.06, h10km±1km, mb5.6/194, Ms_20 5.2/99, Mwb5.5/23, Mww5.7 Error ellipse: s-maj=10.8km s-min=8.1km az=105.0*

DJA ***31*** *02:50:06.3±0.2,3˚S±2˚×14˚7E±˚, h10km, M5.5/70, mB6.0/61, mb5.4/70, MLv5.7/4, Mw(mB)5.6/61, MwMwp5.3/19, Mwp5.5/19*

GCMT ***31*** *02:50:08.0±0.1,2˙.98S×147˙.01E, h12km, MW5.6/153, Moment Tensor Solution. s109,c187; s153,c314; Duration: 1s5 Moment tensor: Scale 10^17^Nm; Mrr2.52±.03; Mθθ-2.91±.03; Mφφ0.39±.03; Mrθ0.29±.08; Mθφ-0.74±.03; Mφr-0.87±.09; Best double couple: Mo2.97600×10^17^ NP1:ϕs238.00000°, δ48.00000°, λ60.00000°. NP2:ϕs98.00000°, δ50.00000°, λ119.00000°. Principal axes: T 2.8810, Plg69.0000°, Azm75.0000°; N 0.1970, Plg21.0000°, Azm259.0000°; P -3.0700, Plg1.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***31*** *02:50:09,2˙.77S×146˙.93E, h12km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^17^Nm; Mrr3.33; Mθθ-2.66; Mφφ-0.67; Mrθ2.15; Mθφ-0.39; Mφr-0.59; Fault plane solution: Mo3.80000×10^17^ NP1: ϕs252.00000°, δ29.00000°, λ71.00000°. NP2:ϕs93.00000°, δ63.00000°, λ100.00000°. Principal axes: T 4.1195, Plg70.0000°, Azm25.0000°; N -0.7508, Plg9.0000°, Azm269.0000°; P -3.3686, Plg17.0000°, Azm176.0000°;*

ISC 31 02:50:06.2±0.4, 2˙.97S±0˙.03×147˙.20E±0˙.03, h17km±2km, h17km:pP-P, n854, σ1s82/859, mb5.5/234, MS5.2/146,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.94**	**10**		**Pb**	**02 50 21.2**	**-2.8**
KRVT	**Keravat (AS076**	**5.00**	**106**	Pn	**Pn**	**02 51 20.5**	**+0.1**
	baz=217,slow=20						
KRVT				Sn	Sn	02 52 07.1	-11
	baz=180,slow=20						
RABL	**Rabaul**	**5.10**	**104**	Pn	**Pn**	**02 51 22.4**	**+0.5**
RABL	**Rabaul**	**5.10**	**104**	P	**Pn**	**02 51 25.9**	**+4.0**
PMG	**Port Moresby**	**6.39**	**180**	Pn	**Pn**	**02 51 39.5**	**-0.1**
	9.0nm,0.3s,baz=347,slow=9.0,SNR=36						
PMG				LR	LR	02 54 14.0	
	comp=Z,38μm,20.0s,baz=359,slow=39						
PMG	**Port Moresby**	**6.39**	**180**	*d* P	**Pn**	**02 51 39.2**	**-0.4**
PMG				pmax	pmax		
	comp=Z,506nm,1.7s						
PMG	**Port Moresby**	**6.39**	**180**	P	**Pn**	**02 51 40.1**	**+0.5**
	comp=Z,2.8nmcomp=Z,32μmcomp=Z,6μmcomp=Z,494nm,1.4s						
PMG	**Port Moresby**	**6.39**	**180**	Pn	**Pn**	**02 51 39.4**	**-0.2**
PMG	**Port Moresby**	**6.39**	**180**	P	**Pn**	**02 51 39.8**	**+0.2**
JAY	**Jayapura**	**6.50**	**274**	Pn	**Pn**	**02 51 40.0**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=88,slow=1.8,SNR=23						
JAY				LR	LR	02 53 56.5	
	comp=Z,13μm,18.4s,baz=108,slow=36						
GENI	**Genyem**	**7.03**	**273**	P	**Pn**	**02 51 49.9**	**+1.5**
	comp=Z,7.8nmcomp=Z,8μmcomp=Z,32μmcomp=Z,1μm,2.0s						
SMPI	**Sarmi**	**8.54**	**276**	P	**Pn**	**02 52 11.8**	**+2.8**
	comp=Z,6μmcomp=Z,10μmcomp=Z,620nm,1.4s						
COEN	**Coen**	**11.61**	**200**	Pn	**Pn**	**02 52 51.6**	**+0.3**
COEN	**Coen**	**11.61**	**200**	P	**Pn**	**02 52 52.1**	**+0.8**
HNR	**Honiara**	**14.20**	**117**	LR	LR	02 58 57.0	
	comp=Z,7μm,19.2s,baz=290,slow=37						
PATS	**Pohnpei**	**14.77**	**49**	Pn	**Pn**	**02 53 31.7**	**-2.7**
PATS	**Pohnpei**	**14.77**	**49**	P	**P**	**02 53 39.0**	**-1.3**
FAKI	**Fak Fak**	**14.93**	**270**	P	**Pn**	**02 53 36.7**	**+0.1**
	comp=Z,3μmcomp=Z,5μmcomp=Z,185nm,1.8s						
FAKI	**Fak Fak**	**14.93**	**270**	Pn	**Pn**	**02 53 35.4**	**-1.2**
FAKI	**Fak Fak**	**14.93**	**270**	P	**Pn**	**02 53 36.7**	**+0.1**
MTSU	**Mount Surprise**	**15.33**	**190**	P	**Pn**	**02 53 43.7**	**+1.8**
	baz=15,SNR=148						
MTSU	**Mount Surprise**	**15.33**	**190**	P	**Pn**	**02 53 42.7**	**+0.8**
SIJI	**Sorong**	**16.06**	**277**	Pn	**Pn**	**02 53 49.8**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=100,slow=11,SNR=11						
SIJI				LR	LR	02 59 15.6	
	comp=Z,3μm,19.1s,baz=142,slow=34						
SIJI	**Sorong**	**16.06**	**277**	P	**Pn**	**02 53 52.8**	**+1.4**
	comp=Z,2μmcomp=Z,105nm,1.5s						
SWI	**Sorong**	**16.07**	**277**	P	**Pn**	**02 53 52.6**	**+1.2**
	comp=Z,4μmcomp=Z,178nm,1.3s						
SAUI	**Saumlaki**	**16.58**	**252**	Pn	**Pn**	**02 53 55.7**	**-2.4**
SAUI				IAmb	IAmb	02 54 07.0	
	comp=Z,499nm,1.0s						
GUMO	**Guam**	**16.62**	**352**	LR	LR	03 00 07.4	
	comp=Z,7μm,18.7s,baz=181,slow=36						
GUMO	**Guam**	**16.62**	**352**	P	**P**	**02 54 00.2**	**-0.6**
CTA	**Charters Tower**	**17.04**	**183**	P	**Pn**	**02 54 03.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=360,slow=12,SNR=33						
CTA				LR	LR	03 00 15.8	
	comp=Z,8μm,20.9s,baz=1.0,slow=36						
CTAO	**Charters Tower**	**17.04**	**183**	P	**Pn**	**02 54 03.1**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,342nm,1.4s						
CTAO	**Charters Tower**	**17.04**	**183**	Pn	**Pn**	**02 54 03.1**	**-0.7**
CTAO	**Charters Tower**	**17.04**	**183**	P	**P**	**02 54 05.1**	**-0.4**
BNDI	**Bandanaira**	**17.32**	**264**	P	**Pn**	**02 54 07.6**	**+0.2**
KDU	**Kakadu**	**17.48**	**236**	P	**Pn**	**02 54 07.1**	**-2.1**
	baz=17,SNR=42						
KDU	**Kakadu**	**17.48**	**236**	P	**Pn**	**02 54 07.5**	**-1.7**
DRS	**Darwin Rock St**	**18.67**	**239**	P	**Pn**	**02 54 24.0**	**+0.1**
MTN	**Manton Dam**	**18.67**	**237**	P	**P**	**02 54 22.2**	**-1.4**
	baz=19,SNR=8.9						
MTN	**Manton Dam**	**18.67**	**237**	P	**P**	**02 54 22.9**	**-0.7**
MTN				IAmb	IAmb	02 54 24.9	
	comp=Z,323nm,1.2s						
MTN	**Manton Dam**	**18.67**	**237**	P	**P**	**02 54 23.0**	**-0.6**
KRAI	**Karang Ratu**	**18.78**	**268**	P	**Pn**	**02 54 25.7**	**+0.4**
	comp=Z,10μmcomp=Z,131nm,2.3s						
QIS	**Mount Isa**	**18.98**	**202**	P	**P**	**02 54 26.8**	**-0.1**
	baz=19,SNR=67						
QIS	**Mount Isa**	**18.98**	**202**	P	**P**	**02 54 27.1**	**+0.2**
AAI	**Ambon**	**18.98**	**267**	P	**P**	**02 54 27.3**	**+0.3**
	comp=Z,5μmcomp=Z,6μmcomp=Z,219nm,2.7s						
LBMI	**Labuha**	**19.82**	**276**	P	**Pn**	**02 54 44.2**	**+6.4**
TNTI	**Ternate**	**20.17**	**280**	P	Pn	02 54 49.7	+7.8
TNTI	**Ternate**	**20.17**	**280**	P	**P**	**02 54 37.2**	**-2.8**
TNTI				IAmb	IAmb	02 54 51.5	
	comp=Z,352nm,1.4s						
TNTI	**Ternate**	**20.17**	**280**	P	Pn	02 54 41.0	-0.9
RK1H	**Rockhampton Ha**	**20.54**	**171**	P	Pn	02 54 45.8	-0.4
WB0	**Warramunga Arr**	**20.86**	**216**	P	**P**	**02 54 46.0**	**-1.4**
WR0	**Warramunga Arr**	**20.92**	**215**	P	**P**	**02 54 47.2**	**-0.9**
WRAB	**Tennant Creek**	**21.01**	**216**	*d* P	**P**	**02 54 48.1**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,2μm,1.7s						
WRAB				MLR	MLR		
	comp=Z,8μm,16.0s						
WRAB	**Tennant Creek**	**21.01**	**216**	P	**P**	**02 54 48.1**	**-1.0**
WRAB	**Tennant Creek**	**21.01**	**216**	IAMs_20	IAMs_20	03 04 18.2	
	comp=Z,8μm,22.0s						
WRAB	**Tennant Creek**	**21.01**	**216**	P	**P**	**02 54 48.2**	**-0.9**
WB2	**Warramunga Arr**	**21.02**	**216**	P	**P**	**02 54 48.0**	**-1.1**
WRA	**Warramunga Arr**	**21.02**	**216**	P	**P**	**02 54 48.4**	**-0.8**
	comp=Z,334nm,0.9s,baz=40,slow=9.9,SNR=138						
WRA				S	**S**	**02 58 41.5**	**-1.4**
	comp=Z,5.3nm,1.1s,baz=37,slow=15,SNR=2.7						
WRA				PcP	**PcP**	**02 58 56.4**	**+0.2**
	comp=Z,13nm,0.7s,baz=29,slow=2.2,SNR=26						
WRA				LR	LR	03 03 40.4	
	comp=Z,7μm,19.2s,baz=31,slow=39						
WRA	**Warramunga Arr**	**21.02**	**216**	P	**P**	**02 54 47.4**	**-1.8**
WRA				pmax	pmax		
	comp=Z,114nm,1.2s						
WRA	**Warramunga Arr**	**21.02**	**216**	P	**P**	**02 54 47.4**	**-1.8**
SANI	**Sanana**	**21.21**	**272**	P	**P**	**02 54 54.1**	**+2.9**
	comp=Z,3μmcomp=Z,4μmcomp=Z,210nm,1.2s						
SANI	**Sanana**	**21.21**	**272**	P	**P**	**02 54 50.5**	**-0.8**
KNRA	**Kununurra**	**22.11**	**234**	P	**P**	**02 54 59.4**	**-1.4**
	baz=22,SNR=31						
KNRA	**Kununurra**	**22.11**	**234**	P	**P**	**02 54 59.5**	**-1.4**
KNRA	**Kununurra**	**22.11**	**234**	P	**P**	**02 54 59.8**	**-1.1**
EIDS	**Eidsvold**	**22.58**	**171**	P	**P**	**02 55 07.0**	**+1.2**
	baz=23,SNR=18						
EIDS	**Eidsvold**	**22.58**	**171**	P	**P**	**02 55 06.6**	**+0.8**
EIDS				IAmb	IAmb	02 55 16.1	
	comp=Z,385nm,1.5s						
EIDS	**Eidsvold**	**22.58**	**171**	P	**P**	**02 55 06.9**	**+1.1**
SANVU	**Saraoutou**	**23.28**	**123**	P	**P**	**02 55 13.0**	**-0.2**
SANVU				IAmb	IAmb	02 55 15.6	
	comp=Z,400nm,1.3s						
SANVU	**Saraoutou**	**23.28**	**123**	P	**P**	**02 55 13.8**	**+0.6**
RMQ	**Roma**	**23.43**	**176**	P	**P**	**02 55 16.0**	**+1.4**
	baz=24,SNR=7.9						
RMQ	**Roma**	**23.43**	**176**	P	**P**	**02 55 15.9**	**+1.4**
KMSI	**Cibinong**	**23.47**	**278**	P	**P**	**02 55 16.9**	**+1.7**
	comp=Z,5μmcomp=Z,476nm,1.2s						
KWAJ	**Kwajalein Atol**	**23.48**	**60**	P	**P**	**02 55 14.1**	**-1.1**
KWAJ				pmax	pmax		
	comp=Z,617nm,1.5s						
KWAJ	**Kwajalein Atol**	**23.48**	**60**	P	**P**	**02 55 14.1**	**-1.1**
QLP	**Quilpie**	**23.65**	**187**	P	**P**	**02 55 17.8**	**+1.0**
	baz=24,SNR=39						
QLP	**Quilpie**	**23.65**	**187**	P	**P**	**02 55 17.7**	**+1.0**
SOEI	**Soe**	**23.75**	**252**	P	**P**	**02 55 19.1**	**+1.0**
	comp=Z,4μmcomp=Z,10μmcomp=Z,362nm,1.2s						
SOEI	**Soe**	**23.75**	**252**	P	**P**	**02 55 17.1**	**-0.9**
SOEI	**Soe**	**23.75**	**252**	P	**P**	**02 55 19.0**	**+1.0**
DAV	**Davao City (W)**	**23.77**	**295**	P	**P**	**02 55 17.9**	**-0.2**
	comp=Z,130nm,0.3s,baz=8.6,slow=7.0,SNR=2.2						
DAV				LR	LR	03 04 25.6	
	comp=Z,3μm,18.4s,baz=100,slow=36						
KOUNC	**Koumac, New Ca**	**24.14**	**138**	P	**P**	**02 55 24.3**	**+2.9**
ASAR	**Alice Springs**	**24.26**	**211**	P	**P**	**02 55 22.1**	**-0.5**
	comp=Z,119nm,1.0s,baz=43,slow=7.7,SNR=268						
ASAR				PcP	**PcP**	**02 59 02.6**	**-0.1**
	comp=Z,13nm,0.9s,baz=47,slow=2.1,SNR=8.4						
ASAR				S	**S**	**02 59 46.1**	**+5.4**
	comp=Z,8.9nm,1.2s,baz=27,slow=17,SNR=4.4						
ASAR				LR	LR	03 04 51.8	
	comp=Z,5μm,20.4s,baz=46,slow=37						
ASAR	**Alice Springs**	**24.26**	**211**	P	**P**	**02 55 22.0**	**-0.6**
BATI	**Baumata**	**24.44**	**252**	P	**P**	**02 55 23.9**	**-0.4**
	comp=Z,159nm,0.9s,baz=144,slow=5.6,SNR=13						
BATI				LR	LR	03 06 01.5	
	comp=Z,2μm,20.9s,baz=102,slow=39						
BATI	**Baumata**	**24.44**	**252**	P	**P**	**02 55 26.3**	**+1.9**
	comp=Z,3μmcomp=Z,226nm,1.5s						
GTOI	**Gorontalo**	**24.44**	**278**	P	**P**	**02 55 25.5**	**+1.2**
	comp=Z,3μmcomp=Z,198nm,1.4s						
INKA	**Innaminka**	**25.39**	**193**	P	**P**	**02 55 33.1**	**+0.4**
MMRI	**Maumere**	**25.45**	**256**	P	**P**	**02 55 31.0**	**-2.4**
MMRI				IAmb	IAmb	02 55 39.0	
	comp=Z,89nm,0.9s						
MRSI	**Marisa**	**25.48**	**277**	P	**P**	**02 55 34.6**	**+0.9**
	comp=Z,2μmcomp=Z,148nm,1.2s						
KKSI	**Kolaka, Sulawe**	**25.52**	**267**	P	**P**	**02 55 38.0**	**+3.9**
	comp=Z,2μmcomp=Z,61nm,2.7s						
APSI	**Ampana**	**25.61**	**274**	P	**P**	**02 55 36.1**	**+1.1**
	comp=Z,3μmcomp=Z,289nm,1.4s						
FITZ	**Fitzroy Crossi**	**25.93**	**233**	P	**P**	**02 55 36.9**	**-0.8**
	comp=Z,291nm,1.3s,baz=58,slow=13						
TARA	**Tarawa**	**26.07**	**81**	P	**P**	**02 55 39.1**	**0.0**
PAGZ	**Pagadian**	**26.08**	**294**	*i* P	**P**	**02 55 38.7**	**-0.4**
LIFNC	**LIFOU**	**26.35**	**134**	P	**P**	**02 55 42.1**	**+0.5**
LIFNC				IAmb	IAmb	02 55 46.2	
	comp=Z,333nm,1.3s						
LIFNC	**LIFOU**	**26.35**	**134**	P	**P**	**02 55 43.6**	**+2.1**
NOUC	**Port Laguerre**	**26.57**	**137**	P	**P**	**02 55 45.4**	**+1.9**
DZM	**Mont Dzumac**	**26.64**	**137**	P	**P**	**02 55 45.0**	**+0.8**
	comp=Z,11nm,0.8s,baz=345,slow=8.5,SNR=28						
DZM				LR	LR	03 04 55.7	
	comp=Z,11μm,20.3s,baz=313,slow=33						
DZM	**Mont Dzumac**	**26.64**	**137**	*e* P	**P**	**02 55 45.9**	**+1.6**
	comp=Z,209nm,1.8s						
DZM				*e* S	**S**	**03 00 17.4**	**-1.4**
	comp=Z,2μm,24.1s						
DZM				*e* LR	LR	03 02 27.9	
	comp=Z,17μm,24.1s						
DZM	**Mont Dzumac**	**26.64**	**137**	IAmb	IAmb	02 56 00.8	
	comp=Z,121nm,1.5s						
DZM	**Mont Dzumac**	**26.64**	**137**	P	**P**	**02 55 45.1**	**+0.8**
TOLI2	**Tolitoli**	**26.72**	**278**	P	**P**	**02 55 43.5**	**-1.5**
TOLI2				IAmb	IAmb	02 55 51.6	
	comp=Z,127nm,1.1s						
TOLI2	**Tolitoli**	**26.72**	**278**	P	**P**	**02 55 43.8**	**-1.1**
BSSI	**Bau Bau, Buton**	**26.80**	**262**	P	**P**	**02 55 51.2**	**+5.5**
YATNC	**Mamie plateau,**	**26.94**	**136**	P	**P**	**02 55 48.0**	**+1.2**
OOD	**Oodnadatta**	**27.02**	**203**	P	**P**	**02 55 47.0**	**-0.5**
BNSI	**Bone**	**27.07**	**266**	P	**P**	**02 55 52.7**	**+4.6**
	comp=Z,3μmcomp=Z,180nm,2.0s						
BKSI	**Bulukumba**	**27.10**	**264**	P	**P**	**02 55 50.5**	**+2.1**
	comp=Z,2μmcomp=Z,96nm,1.6s						
OUENC	**Ouen Island, N**	**27.15**	**137**	P	**P**	**02 55 49.5**	**+0.8**
OUENC	**Ouen Island, N**	**27.15**	**137**	P	**P**	**02 55 50.3**	**+1.6**
TTSI	**Tana Toraja**	**27.34**	**269**	P	**P**	**02 55 55.5**	**+4.9**
MARNC	**Mare, Loyalty**	**27.37**	**134**	P	**P**	**02 55 50.7**	**0.0**
MARNC	**Mare, Loyalty**	**27.37**	**134**	P	**P**	**02 55 53.6**	**+2.9**
BASI	**Baing, Sumba**	**27.39**	**253**	P	**P**	**02 55 54.9**	**+3.9**
	comp=Z,5μmcomp=Z,467nm,1.3s						
SPSI	**Sid

ARPS	**Mount Arapiles**	**33.99 188**	P	**P**	**02 56 50.2 +1.2**
	baz=34,SNR=8.1				
ARPS	**Mount Arapiles**	**33.99 188**	P	**P**	**02 56 49.9 +0.9**
TOO	**Toolangi**	**34.47 182**	P	**P**	**02 56 56.6 +3.4**
	baz=35,SNR=3.9				
TOO	**Toolangi**	**34.47 182**	P	**P**	**02 56 52.5 -0.7**
TOO			pmax	pmax	
	comp=Z,84nm,1.5s				
TOO	**Toolangi**	**34.47 182**	P	**P**	**02 56 52.5 -0.7**
TOO			IAmb	IAmb	02 56 57.2
	comp=Z,84nm,1.4s				
BRAT	**Ballarat**	**34.54 185**	P	**P**	**02 56 55.6 +1.9**
DGTI	**Dogotuki**	**34.63 115**	P	**P**	**02 56 56.9 +2.1**
JOW	**Kunigami**	**34.81 330**	LR	LR	03 08 00.9
	comp=Z,5μm,21.9s,baz=132,slow=31				
JOW	**Kunigami**	**34.81 330**	IAmb	IAmb	02 56 59.8
	comp=Z,58nm,1.1s				
JOW	**Kunigami**	**34.81 330**	P	**P**	**02 56 57.9 +1.6**
SBUM	**Sibu**	**35.38 278**	P	**P**	**02 57 01.6 +0.3**
	comp=Z,930nmcomp=Z,43nm,1.8s				
SBUM	**Sibu**	**35.38 278**	P	**P**	**02 57 00.1 -1.2**
SBUM	**Sibu**	**35.38 278**	P	**P**	**02 57 02.0 +0.7**
STKI	**Sintang**	**35.83 274**	P	**P**	**02 57 05.8 +0.6**
	comp=Z,36nm,1.5s				
YOJ	**Yonaguni jima**	**36.01 321**	P	**P**	**02 57 07.7 +1.2**
MEEK	**Meekatharra**	**36.11 227**	P	**P**	**02 57 06.5 -1.0**
	baz=36,SNR=18				
MEEK	**Meekatharra**	**36.11 227**	P	**P**	**02 57 07.1 -0.4**
YULB	**Yu-li**	**36.38 317**	IAMs_20	IAMs_20	03 08 41.0
	comp=Z,5μm,20.0s				
JHJ	**Hachijo jima 2**	**36.58 350**	LR	LR	03 12 05.0
	comp=Z,2μm,18.7s,baz=168,slow=36				
NACB	**Ninganchiao**	**36.72 319**	P	**P**	**02 57 11.6 -1.0**
NACB			IAMs_20	IAMs_20	03 08 42.9
	comp=Z,4μm,20.0s				
TPUB	**Ta-pu**	**36.78 317**	IAMs_20	IAMs_20	03 08 23.5
	comp=Z,4μm,22.0s				
SSLB	**Suanglung**	**36.88 318**	IAmb	IAmb	02 57 20.6
	comp=Z,88nm,1.2s				
SSLB			IAMs_20	IAMs_20	03 08 56.2
	comp=Z,5μm,20.0s				
SSLB	**Suanglung**	**36.88 318**	P	**P**	**02 57 14.5 +0.4**
KSM	**Kuching**	**37.14 276**	P	**P**	**02 57 16.5 +0.1**
	comp=Z,1μmcomp=Z,73nm,2.1s				
KSM	**Kuching**	**37.14 276**	IAmb	IAmb	02 57 20.4
	comp=Z,140nm,1.4s				
KSM	**Kuching**	**37.14 276**	P	**P**	**02 57 16.0 -0.4**
KSM	**Kuching**	**37.14 276**	P	**P**	**02 57 15.8 -0.6**
YHNB	**Yeheng**	**37.21 319**	IAMs_20	IAMs_20	03 09 00.7
	comp=Z,4μm,21.0s				
YHNB	**Yeheng**	**37.21 319**	P	**P**	**02 57 18.3 +1.4**
TATO	**Taipei**	**37.34 320**	P	**P**	**02 57 17.4 -0.5**
GIRL	**Giralia**	**37.46 236**	P	**P**	**02 57 20.0 +1.1**
	baz=37,SNR=5.2				
GIRL	**Giralia**	**37.46 236**	P	**P**	**02 57 18.2 -0.8**
GIRL	**Giralia**	**37.46 236**	P	**P**	**02 57 20.6 +1.6**
JMN	**Monobe**	**38.61 342**	P	**P**	**02 57 28.3 -0.2**
JNU	**Nakatsue**	**39.08 338**	P	**P**	**02 57 32.8 +0.3**
	comp=Z,59nm,1.0s,baz=147,slow=5.4,SNR=17				
JNU			LR	LR	03 12 19.6
	comp=Z,2μm,20.0s,baz=164,slow=34				
JNU	**Nakatsue**	**39.08 338**	IAmb	IAmb	02 57 33.8
	comp=Z,178nm,1.3s				
JNU	**Nakatsue**	**39.08 338**	P	**P**	**02 57 33.0 +0.5**
KNMB	**Chin-men Tao**	**39.09 316**	IAmb	IAmb	02 57 34.4
	comp=Z,372nm,1.5s				
QZH	**Quanzhou**	**39.26 317**⇑	*i*P	**P**	**02 57 34.3 +0.3**
QZH			PP	**PnPn**	**02 59 06.3 -0.7**
QZH			S	**S**	**03 03 36.5 +2.4**
QZH			pmax	pmax	
	comp=Z,99nm,1.4s				
QZH			pmax	pmax	
	comp=Z,710nm,5.9s				
QZH			LR	LR	
	comp=Z,1μm,15.2s				
QZH			LR	LR	
	comp=Z,920nm,15.6s				
QZH			LR	LR	
	comp=Z,2μm,17.5s				
INU	**Inuyama**	**39.30 347**	P	**P**	**02 57 33.1 -1.1**
INU			IAmb	IAmb	02 57 37.2
	comp=Z,177nm,1.4s				
INU	**Inuyama**	**39.30 347**	P	**P**	**02 57 34.3 +0.1**
MORW	**Morawa**	**39.37 226**	P	**P**	**02 57 34.0 -1.0**
	baz=39,SNR=9.7				
MORW	**Morawa**	**39.37 226**	P	**P**	**02 57 35.5 +0.5**
JGF	**Kuroka**	**39.47 347**	IAmb	IAmb	02 57 44.5
	comp=Z,130nm,1.5s				
JYT	**Yasato**	**39.54 351**	P	**P**	**02 57 36.6 +0.3**
LEM	**Lembang**	**39.61 263**	LR	LR	03 15 34.8
	comp=Z,563nm,18.1s,baz=50,slow=39				
KLBR	**Kellerberrin**	**39.73 221**	P	**P**	**02 57 36.3 -1.7**
	baz=40,SNR=6.5				
KLBR	**Kellerberrin**	**39.73 221**	P	**P**	**02 57 37.0 -1.0**
TAU	**Tasmania Unive**	**39.76 180**	P	**P**	**02 57 39.7 +1.7**
TAU			pmax	pmax	
	comp=Z,61nm,1.2s				
TAU			MLR	MLR	
	comp=Z,5μm,21.0s				
TAU	**Tasmania Unive**	**39.76 180**	P	**P**	**02 57 39.7 +1.7**
BLDU	**Ballidu**	**39.82 223**	P	**P**	**02 57 37.6 -1.1**
	baz=40,SNR=5.1				
BLDU	**Ballidu**	**39.82 223**	P	**P**	**02 57 38.3 -0.5**
JHS	**Saijyo**	**40.02 342**	P	**P**	**02 57 38.6 -1.7**
CNJI	**Cibinong**	**40.12 262**	P	**P**	**02 57 44.1 +2.6**
	comp=Z,5μmcomp=Z,199nm,1.9s				
MJAR	**Matsushiro Arr**	**40.20 349**	P	**P**	**02 57 40.4 -1.3**
	comp=Z,27nm,1.0s,baz=172,slow=5.6,SNR=27				
MJAR			LR	LR	03 12 45.3
	comp=Z,2μm,18.5s,baz=168,slow=34				
MAJO	**Matsushiro**	**40.20 349***c*	*i*P	**P**	**02 57 40.2 -1.6**
MAJO			pmax	pmax	
	comp=Z,281nm,1.9s				
MAJO			MLR	MLR	
	comp=Z,2μm,16.0s				
MAJO	**Matsushiro**	**40.20 349**	P	**P**	**02 57 40.6 -1.2**
MAJO			IAmb	IAmb	02 57 46.0
	comp=Z,125nm,1.4s				
MAJO	**Matsushiro**	**40.20 349**	IAMs_20	IAMs_20	03 13 17.9
	comp=Z,4μm,18.0s				
MAJO	**Matsushiro**	**40.20 349**	P	**P**	**02 57 41.4 -0.4**
MAT	**Matsushiro**	**40.20 349**	P	**P**	**02 57 39.6 -2.2**
MAT			S	**S**	**03 03 47.2 -0.8**
MJB9	**Matsu-Tunnel**	**40.20 349**	IAmb	IAmb	02 57 46.0
	comp=Z,125nm,1.4s				
OUZ	**Omahuta**	**40.36 146**	P	**P**	**02 57 44.0 +0.9**
OUZ			IAMs_20	IAMs_20	03 12 31.4
	comp=Z,4μm,20.0s				
HKPS	**Hong Kong Po S**	**40.90 309**	IAMs_20	IAMs_20	03 11 56.1
	comp=Z,2μm,19.0s				
MUN	**Mundaring**	**41.00 222**	P	**P**	**02 57 48.8 +0.4**
	baz=41,SNR=3.3				
MUN	**Mundaring**	**41.00 222**	P	**P**	**02 57 49.9 +1.4**
PPBI	**Pangkal Pinang**	**41.03 270**	P	**P**	**02 57 49.9 +0.9**
	comp=Z,30nm,0.6s				
JMM	**Marumori**	**41.07 352**	IAmb	IAmb	02 57 49.6
	comp=Z,140nm,1.4s				
DLV	**T Lat**	**41.23 292**	P	**P**	**02 57 49.9 -1.0**
DLV			IAmb	IAmb	02 57 55.4
	comp=Z,187nm,1.5s				
DLV	**T Lat**	**41.23 292**	P	**P**	**02 57 51.0 +0.2**
CGJI	**Cibinong**	**41.51 263**	P	**P**	**02 57 55.0 +2.1**
	comp=Z,59nm,1.9s				
XMIS	**Christmas Isla**	**41.89 258**	P	**P**	**02 57 56.9 +0.8**
XMIS			IAmb	IAmb	02 58 00.5
	comp=Z,218nm,1.5s				
AFI	**Afiamalu**	**41.93 107**	P	**P**	**02 57 57.7 +1.2**
AFI			pmax	pmax	
	comp=Z,134nm,1.3s				
AFI	**Afiamalu**	**41.93 107**	P	**P**	**02 57 57.7 +1.2**
AFI			IAmb	IAmb	02 57 59.6
	comp=Z,134nm,1.3s				
AFI	**Afiamalu**	**41.93 107**	P	**P**	**02 57 58.8 +2.3**
SSE	**Sheshan**	**41.98 326**	P	**P**	**02 57 57.0 +0.6**
SSE			S	**S**	**03 04 17.5 +3.0**
SSE			pmax	pmax	
	comp=Z,48nm,1.8s				
SSE			pmax	pmax	
	comp=Z,690nm,5.3s				
SSE			LR	LR	
	comp=Z,1μm,16.5s				
SSE			LR	LR	
	comp=Z,1μm,16.7s				
RAO	**Raoul Island**	**42.19 132**	LR	LR	03 13 26.6
	comp=Z,1μm,19.4s,baz=318,slow=33				
KLSI		**42.40 266**	P	**P**	**02 58 04.4 +4.2**
	comp=Z,12nm,1.7s				
KASI	**Kota Agung**	**42.65 265**	P	**P**	**02 58 01.1 -1.1**
	comp=Z,1μmcomp=Z,101nm,1.1s				
DSRI	**Dabo**	**42.67 273**	P	**P**	**02 58 06.7 +4.3**
	comp=Z,29nm,1.3s				
QIZ	**Qiongzhong**	**42.75 302**	P	**P**	**02 58 03.8 +0.8**
QIZ			sP	**pP**	**02 58 07.3 -0.6**
QIZ			PP	**PP**	**02 59 42.0 -0.3**
QIZ			S	**S**	**03 04 25.5 -0.9**
QIZ			SS	**SS**	**03 07 39.5 +2.0**
QIZ			pmax	pmax	
	comp=Z,110nm,1.2s				
QIZ			LR	LR	
	comp=Z,1μm,15.2s				
QIZ			LR	LR	
	comp=Z,2μm,16.7s				
QIZ			LR	LR	
	comp=Z,2μm,23.1s				
QIZ	**Qiongzhong**	**42.75 302**	IAMs_20	IAMs_20	03 12 17.0
	comp=Z,3μm,22.0s				
QIZ	**Qiongzhong**	**42.75 302**	IAmb	IAmb	02 58 08.3
	comp=Z,190nm,1.4s				
QIZ	**Qiongzhong**	**42.75 302**	P	**P**	**02 58 03.7 +0.8**
MDSI	**Maura Dua**	**42.95 267**	P	**P**	**02 58 03.4 -1.3**
LWLI	**Liwa**	**43.08 266**	P	P	02 58 12.0 +6.2
TJN	**Taejon**	**43.30 336**⇓	*e*P	**P**	**02 58 07.5 +0.4**
TJN	**Taejon**	**43.30 336**	P	**P**	**02 58 08.1 +1.0**
HIZ	**Hauiti**	**43.46 148**	IAmb	IAmb	02 58 12.4
	comp=Z,157nm,1.4s				
HIZ			IAMs_20	IAMs_20	03 14 55.4
	comp=Z,4μm,19.0s				
MYKOM	**Kota Tinggi**	**43.59 276**	P	**P**	**02 58 10.8 +0.9**
MYKOM	**Kota Tinggi**	**43.59 276**	P	**P**	**02 58 08.6 -1.3**
LHSI	**Lahat**	**43.60 268**	P	**P**	**02 58 11.9 +2.0**
	comp=Z,6μmcomp=Z,91nm,1.1s				
BTDF	**Bukit Timah Da**	**43.62 275**	P	**P**	**02 58 14.5 +4.4**
	comp=Z,563nmcomp=Z,22nm,1.1s				
JTM	**Tenmabayashi**	**43.91 353**	IAmb	IAmb	02 58 14.1
	comp=Z,205nm,1.5s				
NJ2	**Nanjing**	**44.02 325**⇑	*i*P	**P**	**02 58 13.0 0.0**
NJ2			pP	**pP**	**02 58 18.0 -0.3**
NJ2			sP	**sP**	**02 58 19.5 -0.2**
NJ2			S	**S**	**03 04 48.8 +4.3**
NJ2			ScS	**ScS**	**03 08 12.3 +0.8**
NJ2			pmax	pmax	
	comp=Z,79nm,1.8s				
NJ2			pmax	pmax	
	comp=Z,1μm,3.6s				
NJ2			LR	LR	
	comp=Z,2μm,22.7s				
NJ2			LR	LR	
	comp=Z,2μm,20.0s				
NJ2			LR	LR	
	comp=Z,3μm,21.2s				
KSRS	**Korea Array**	**44.03 338**	P	**P**	**02 58 12.3 -0.6**
	comp=Z,32nm,1.0s,baz=153,slow=9.4,SNR=49				
KSRS			PcP	**PcP**	**02 59 59.6 +1.3**
	comp=Z,5.5nm,1.0s,baz=161,slow=3.4,SNR=6.1				
KSRS			LR	LR	03 14 34.0
	comp=Z,3μm,20.3s,baz=150,slow=33				
KSAR	**Wonju Array Be**	**44.03 338**	P	**P**	**02 58 12.7 -0.3**
KSAR	**Wonju Array Be**	**44.03 338**	P	**P**	**02 58 12.7 -0.3**
QRZ	**Quartz Range**	**44.06 152**	P	**P**	**02 58 15.3 +2.0**
QRZ			IAmb	IAmb	02 58 20.6
	comp=Z,82nm,1.4s				
QRZ			IAMs_20	IAMs_20	03 15 23.4
	comp=Z,2μm,20.0s				
URZ	**Urewera**	**44.50 146**	P	**P**	**02 58 17.3 +0.5**
	comp=Z,30nm,1.0s,baz=18,slow=5.3,SNR=7.8				
URZ			LR	LR	03 15 01.6
	comp=Z,4μm,19.9s,baz=320,slow=34				
INCN	**Inchon**	**44.55 337**	P	**P**	**02 58 17.3 +0.1**
INCN			pmax	pmax	
	comp=Z,69nm,1.4s				
INCN	**Inchon**	**44.55 337**	P	**P**	**02 58 17.3 +0.1**
INCN	**Inchon**	**44.55 337**	IAMs_20	IAMs_20	03 13 26.1
	comp=Z,3μm,22.0s				
INCN	**Inchon**	**44.55 337**	P	**P**	**02 58 18.9 +1.7**
NNZ	**Nelson**	**44.77 152**	IAMs_20	IAMs_20	03 17 21.1
	comp=Z,2μm,18.0s				
BKZ	**Black Stump Fm**	**44.81 147**	IAMs_20	IAMs_20	03 15 24.1
	comp=Z,3μm,20.0s				
BKZ	**Black Stump Fm**	**44.81 147**	P	**P**	**02 58 20.9 +1.6**
MASI	**Maura Aman, Be**	**44.89 269**	P	**P**	**02 58 20.6 +0.3**
	comp=Z,3μmcomp=Z,209nm,1.3s				
ERM	**Erimo**	**44.93 356***ce*	P	**P**	**02 58 20.6 +0.5**
ERM			pmax	pmax	
	comp=Z,102nm,1.2s				
ERM			MLR	MLR	
	comp=Z,1μm,18.0s				
ERM	**Erimo**	**44.93 356**	IAMs_20	IAMs_20	03 14 03.1
	comp=Z,4μm,21.0s				
THZ	**Tophouse**	**44.98 153**	IAMs_20	IAMs_20	03 16 15.6
	comp=Z,2μm,19.0s				
FOZ	**Fox Glacier**	**45.10 157**	IAMs_20	IAMs_20	03 15 49.0
	comp=Z,2μm,19.0s				
UBPT	**Khong Chiam**	**45.10 295**	P	**P**	**02 58 22.9 +1.0**
	comp=Z,3μmcomp=Z,111nm,2.2s				
UBPT	**Khong Chiam**	**45.10 295**	P	**P**	**02 58 21.5 -0.4**
JRMM	**Jerantut**	**45.21 278**	P	**P**	**02 58 23.0 +0.2**
CNSH	**ChangSha**	**45.22 316**	⇑P	**P**	**02 58 23.5 +0.8**
CNSH			S	**S**	**03 05 04.0 +1.9**
CNSH			SS	**SS**	**03 08 23.5 -1.7**
CNSH			pmax	pmax	
	comp=Z,99nm,1.3s				
CNSH			LR	LR	
	comp=Z,1μm,22.0s				
CNSH			LR	LR	
	comp=Z,2μm,24.5s				
CNSH			LR	LR	
	comp=Z,3μm,22.7s				
HJU	**Haeju**	**45.40 336**	P	**P**	**02 58 23.9 0.0**
GULI	**GuiLin**	**45.44 310**	⇓P	**P**	**02 58 25.5 +1.1**
GULI			S	S	03 05 14.5 +9.1
GULI			pmax	pmax	
	comp=Z,70nm,1.6s				
GULI			LR	LR	
	comp=Z,2μm,17.9s				
GULI			LR	LR	
	comp=Z,2μm,20.6s				
GULI			LR	LR	
	comp=Z,3μm,21.7s				
SNZO	**South Karori**	**45.48 151**	IAMs_20	IAMs_20	03 18 35.8
	comp=Z,2μm,18.0s				
LTZ	**Lake Taylor**	**45.51 154**	IAMs_20	IAMs_20	03 18 47.7
	comp=Z,3μm,18.0s				
KRJI	**Kerinci**	**45.70 270**	P	**P**	**02 58 31.0 +4.2**
WHN	**Wuhan**	**45.75 319**⇑	*i*P	**P**	**02 58 28.5 +1.7**
WHN			pP	**pP**	**02 58 32.3 +0.5**
WHN			S	**S**	**03 05 14.8 +5.1**
WHN			pmax	pmax	
	comp=Z,690nm,1.4s				
WHN			pmax	pmax	
	comp=Z,3μm,3.6s				
WHN			LR	LR	
	comp=Z,2μm,10.7s				
WHN			LR	LR	
	comp=Z,4μm,13.8s				
WHN			LR	LR	
	comp=Z,8μm,20.6s				
RPZ	**Rata Peaks**	**45.75 156**	P	**P**	**02 58 27.6 +0.9**
RPZ			IAmb	IAmb	02 58 30.0
	comp=Z,70nm,1.2s				
RPZ			IAMs_20	IAMs_20	03 14 37.0
	comp=Z,3μm,20.0s				
BFZ	**Birch Farm**	**45.78 149**	P	**P**	**02 58 28.5 +1.6**
KHZ	**Kahutara**	**45.78 153**	IAMs_20	IAMs_20	03 16 49.9
	comp=Z,2μm,18.0s				
OXZ	**Oxford**	**45.85 155**	IAMs_20	IAMs_20	03 16 47.5
	comp=Z,2μm,20.0s				
LBZ	**Lake Benmore**	**45.96 157**	IAMs_20	IAMs_20	03 16 27.6
	comp=Z,2μm,20.0s				
PYAG	**Pyongyang**	**46.25 337**	P	**P**	**02 58 31.1 +0.5**
PYAG			sP	sP	02 58 50.4 +13
PYAG			S	**S**	**03 05 20.9 +4.2**
PYAG			AmB		
	comp=Z,2μm,3.6s				
PYAG			AMS	AMS	
	comp=N,268nm,8.8s				
PYAG			AMS	AMS	
	comp=E,153nm,5.1s				
PYAG			AMS	AMS	
	comp=Z,33nm,1.1s				
BKNI	**Bangkinang**	**46.26 273**	P	**P**	**02 58 31.6 +0.5**
	comp=Z,4μmcomp=Z,202nm,1.1s				
BKNI	**Bangkinang**	**46.26 273**	P	**P**	**02 58 30.6 -0.5**
BKNI	**Bangkinang**	**46.26 273**	P	**P**	**02 58 31.2 +0.1**
HHU	**Hamhung**	**46.35 339**	P	**P**	**02 58 31.1 -0.3**
HHU			pP	**sP**	**02 58 43.1 +4.9**
HHU			S	**S**	**03 05 21.7 +3.6**
HHU			AmB		
	comp=Z,1μm,1.7s				
HHU			AMS	AMS	
	comp=N,2μm,11.2s				
HHU			AMS	AMS	
	comp=E,468nm,2.4s				
HHU			AMS	AMS	
	comp=Z,846nm,4.3s				
WHZ	**Wether Hill Ro**	**46.44 160**	P	**P**	**02 58 32.7 +0.6**
ODZ	**Otahua Downs**	**46.70 157**	IAMs_20	IAMs_20	03 16 50.1
	comp=Z,2μm,19.0s				
IPM	**Ipoh**	**46.73 279**	P	**P**	**02 58 35.1 +0.2**
	comp=Z,948nmcomp=Z,46nm,1.4s				
IPM	**Ipoh**	**46.73 279**	IAmb	IAmb	02 58 39.5
	comp=Z,54nm,1.2s				
IPM	**Ipoh**	**46.73 279**	P	**P**	**02 58 35.0 +0.2**
IPM	**Ipoh**	**46.73 279**	P	**P**	**02 58 34.4 -0.4**
JKA	**Kamikawa-asahi**	**47.06 355**	P	**P**	**02 58 36.8 -0.1**
ASAJ	**Asahikawa**	**47.06 355**	P	**P**	**02 58 36.0 -0.9**
	comp=Z,141nm,1.2s,baz=231,slow=12,SNR=16				
ASAJ			LR	LR	03 17 42.6
	comp=Z,1μm,20.3s,baz=166,slow=35				
ASAJ	**Asahikawa**	**47.06 355**	P	**P**	**02 58 36.8 -0.1**
ASAJ			pmax	pmax	
	comp=Z,193nm,1.2s				
CHBT	**CHBT**	**47.21 290**	P	**P**	**02 58 42.6 +4.1**
	comp=Z,3μmcomp=Z,709nmcomp=Z,39nm,0.5s				
KULM	**Kulim**	**47.22 280**	P	**P**	**02 58 38.9 +0.3**
	comp=Z,900nmcomp=Z,48nm,2.0s				
KULM	**Kulim**	**47.22 280**	P	**P**	**02 58 37.3 -1.4**
KULM			IAmb	IAmb	02 58 44.8
	comp=Z,55nm,1.3s				
KULM	**Kulim**	**47.22 280**	P	**P**	**02 58 39.0 +0.3**
MSHR	**Mys Shultsa**	**47.61 344**⇑	*e*P	**P**	**02 58 41.6 +0.4**
MSHR			pmax	pmax	
	comp=Z,277nm,2.5s				
MSHR			MLR	MLR	
	comp=Z,669nm,17.0s				
SUJ	**Sinuiju**	**47.66 336**	P	**P**	**02 58 41.5 -0.1**
SUJ			sP	sP	02 58 59.9 +11
SUJ			S	**S**	**03 05 41.2 +4.6**
SUJ			AmB		
	comp=Z,1μm,2.2s				
SUJ			AMS	AMS	
	comp=N,100nm,3.4s				
SUJ			AMS	AMS	
	comp=E,272nm,9.3s				
SUJ			AMS	AMS	
	comp=Z,46nm,1.6s				
MNSI	**Mandailing Nat**	**47.75 274**	P	**P**	**02 58 45.6 +2.8**
	comp=Z,2μmcomp=Z,44nm,1.3s				
DL2	**Dalian**	**47.88 333**⇑	*i*P	**P**	**02 58 44.5 +1.1**
DL2			S	**S**	**03 05 44.5 +4.6**
DL2			pmax	pmax	
	comp=Z,160nm,1.3s				
DL2			pmax	pmax	
	comp=Z,1μm,4.8s				
DL2			LR	LR	
	comp=Z,2μm,20.1s				
DL2			LR	LR	
	comp=Z,2μm,20.3s				
DL2			LR	LR	
	comp=Z,3μm,20.0s				
VLA	**Vladivostok**	**47.92 345***c*	*i*P	**P**	**02 58 43.8 +0.3**
VLA			pmax	pmax	
	comp=Z,313nm,1.4s				
VLA			MLR	MLR	
	comp=Z,785nm,17.0s				
KUR	**Kuril'sk**	**48.00 1***d*	*i*P	**P**	**02 58 45.5 +1.4**
KUR			*e*S	**S**	**03 05 48.2 +6.9**
KUR			pmax	pmax	
	comp=Z,2μm,2.0s				
KUR			pmax	pmax	
	comp=N,1μm,2.4s				
KUR			pmax	pmax	
	comp=N,183nm,1.4s				
KUR			pmax	pmax	
	comp=Z,659nm,1.4s				
KUR			pmax	pmax	
	comp=E,86nm,1.2s				
TIA	**Tai'an**	**48.04 327** ⇑	P	**P**	**02 58 44.0 -0.7**
TIA			PP	**PP**	**03 00 36.5 -0.5**
TIA			S	**S**	**03 05 39.3 -3.0**
TIA			pmax	pmax	
	comp=E,87nm,1.4s				
TIA			pmax	pmax	
	comp=E,880nm,3.8s				
TIA			LR	LR	
	comp=E,2μm,20.6s				
TIA			LR	LR	
	comp=E,2μm,21.1s				
TIA			LR	LR	
	comp=E,3μm,22.4s				
SISI	**Saibi**	**48.10 271**	P	**P**	**02 58 46.8 +1.3**
TRSI	**Tarutung**	**48.48 275**	P	P	02 58 58.6 +10
PSI	**Prapat**	**48.59 276**	LR	LR	03 21 20.4
	comp=E,326nm,18.3s,baz=109,slow=39				
PSI	**Prapat**	**48.59 276**	P	**P**	**02 58 48.4 -1.1**
	comp=E,730nmcomp=E,35nm,1.8s				
TEY	**Ternei**	**48.73 350**⇑	*e*P	**P**	**02 58 49.0 -0.7**
TEY			*e*		03 00 42.3
TEY			*e*		03 05 54.1
TEY			pmax	pmax	
	comp=Z,20nm,1.5s				
TEY			pmax	pmax	
	comp=N,100nm,7.2s				
TEY			pmax	pmax	
	comp=Z,100nm,6.6s				
SLVN	**Son La**	**48.77 302**	IAmb	IAmb	02 58 53.2
	comp=Z,86nm,1.5s				
ENH	**Enshi**	**48.88 315**	P	**P**	**02 58 51.3 0.0**
ENH			IAMs_20	IAMs_20	03 15 51.7
	comp=Z,3μm,22.0s				
GYA	**Guiyang**	**48.88 309**⇓	*i*P	**P**	**02 58 52.8 +1.3**
GYA			pP	pP	02 58 56.5 0.0
GYA			PcP	**PcP**	**03 00 17.0 +1.1**
GYA			PP	**PP**	**03 00 43.0 -2.0**
GYA			S	**S**	**03 05 58.0 +3.2**
GYA			ScS	**ScS**	**03 08 45.3 +1.5**
GYA			SS	**SS**	**03 09 26.8 +1.0**
GYA			pmax	pmax	
	comp=Z,46nm,1.5s				
GYA			pmax	pmax	
	comp=Z,820nm,4.1s				
GYA			LR	LR	
	comp=Z,1μm,18.6s				
GYA			LR	LR	
	comp=Z,710nm,14.0s				
GYA			LR	LR	
	comp=Z,1μm,17.9s				
USA0B	**Ussuriysk Arra**	**48.90 346**	IAmb	IAmb	02 58 54.0
	comp=Z,99nm,1.1s				
USRK	**Ussuriysk Ar.**	**48.90 346**	P	**P**	**02 58 50.9 -0.2**
	comp=Z,42nm,0.8s,baz=173,slow=8.0,SNR=61				
USRK			LR	LR	03 17 50.7
	comp=Z,1μm,19.3s,baz=141,slow=34				
USRK	**Ussuriysk Ar.**	**48.90 346**	P	**P**	**02 58 51.1 0.0**
USRK	**Ussuriysk Ar.**	**48.90 346**	P	**P**	**02 58 51.1 0.0**
SNY	**Shenyang**	**49.49 337**	⇓P	**P**	**02 58 56.3 +0.7**
SNY			S	**S**	**03 06 07.5 +5.1**
SNY			pmax	pmax	
	comp=Z,180nm,2.4s				
SNY			pmax	pmax	
	comp=Z,2μm,2.7s				
SNY			LR	LR	
	comp=Z,2μm,16.3s				
SNY			LR	LR	
	comp=Z,2μm,17.1s				
SNY			LR	LR	
	comp=Z,4μm,32.4s				
LYN	**LuoYang**	**49.58 322**⇑	*i*P	**P**	**02 58 55.8 -0.7**
LYN			PP	**PP**	**03 00 48.0 -3.1**
LYN			S	**S**	**03 06 06.0 +1.9**
LYN			pmax	pmax	
	comp=Z,70nm,1.8s				
LYN			pmax	pmax	
	comp=Z,620nm,5.9s				
LYN			LR	LR	
	comp=Z,2μm,18.2s				
LYN			LR	LR	
	comp=Z,2μm,18.8s				
LYN			LR	LR	

comp=Z,3μm,21.9s
GSI Gunungsitoli 49.79 274 P **P 02 58 58.2 -0.3**
comp=Z,124nm,1.4s
GSI Gunungsitoli 49.79 274 P **P 02 58 56.1 -2.4**
GSI Gunungsitoli 49.79 274 P **P 02 58 57.5 -1.0**
KCSI Kotacane, Aceh 49.82 277 P **P 02 58 58.6 -0.1**
comp=Z,1μmcomp=Z,39nm,1.2s
YSS Yuzh-Sakhalins 49.87 356 *ce*P **P 02 58 58.1 -0.4**
YSS *e**SP **pP 02 59 03.6 +0.1**
YSS *e*S **S 03 06 02.7 -4.9**
YSS *e*PS PKiKP 03 06 17.1 -48
YSS *e*SS **SS 03 09 41.0 +0.3**
YSS pmax pmax
comp=Z,100nm,1.3s
YSS pmax pmax
comp=Z,1μm,4.8s
YSS pmax pmax
comp=N,500nm,3.3s
YSS smax smax
comp=N,700nm,9.9s
YSS MLR MLR
comp=Z,2μm,17.0s
YSS MLR MLR
comp=N,2μm,18.0s
YSS Yuzh-Sakhalins 49.87 356 P **P 02 58 57.9 -0.6**
YSS IAMs_20 IAMs_20 03 20 16.5
comp=Z,2μm,18.0s
YSS Yuzh-Sakhalins 49.87 356 P **P 02 58 59.5 +1.0**
MDJ Mudanjiang 49.93 344 P **P 02 58 59.5 +0.5**
MDJ S **S 03 06 14.3 +5.7**
MDJ pmax pmax
comp=Z,88nm,1.3s
MDJ pmax pmax
comp=Z,2μm,5.6s
MDJ LR LR
comp=Z,1μm,16.7s
MDJ LR LR
comp=Z,990nm,19.6s
MDJ LR LR
comp=Z,4μm,24.5s
MDJ Mudanjiang 49.93 344 P **P 02 58 58.9 -0.1**
MDJ IAmb IAmb 02 59 00.8
comp=Z,134nm,1.3s
MDJ Mudanjiang 49.93 344 P **P 02 58 59.7 +0.7**
HNS HongShan 50.23 326 ⇑P **P 02 59 01.0 -0.4**
HNS PcP **PcP 03 00 21.5 +1.1**
HNS PP **PP 03 00 56.5 -0.4**
HNS S **S 03 06 11.5 -1.5**
HNS pmax pmax
comp=Z,150nm,1.7s
HNS pmax pmax
comp=Z,1μm,4.1s
HNS LR LR
comp=Z,970nm,23.0s
HNS LR LR
comp=Z,2μm,22.2s
HNS LR LR
comp=Z,3μm,21.8s
CN2 Changchun 50.50 340 *e*P **P 02 59 02.3 -1.0**
CN2 *e*S S 03 06 07.3 -9.3
CN2 SS **SS 03 09 48.0 -2.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,1μm,3.0s
CN2 LR LR
comp=Z,3μm,22.0s
CN2 LR LR
comp=Z,2μm,22.0s
CN2 LR LR
comp=Z,3μm,19.2s
SRDT SRDT 50.65 291 P **P 02 59 06.0 +1.0**
comp=Z,2μmcomp=Z,141nm,1.9s
COCO West Island 50.67 257 P **P 02 59 06.1 +0.9**
COCO pmax pmax
comp=Z,143nm,1.3s
COCO West Island 50.67 257 P **P 02 59 06.0 +0.9**
COCO IAmb IAmb 02 59 06.7
comp=Z,143nm,1.2s
LHMI Lhok Sumawe 50.85 279 P **P 02 59 10.4 +3.9**
comp=Z,4μmcomp=Z,181nm,1.6s
LHMI Lhok Sumawe 50.85 279 P **P 02 59 06.2 -0.4**
LHMI Lhok Sumawe 50.85 279 P **P 02 59 07.1 +0.6**
KMI Kunming 51.36 306 ⇑P **P 02 59 11.5 +1.1**
KMI pP pP 02 59 15.5 0.0
KMI PcP **PcP 03 00 25.0 -0.2**
KMI S **S 03 06 33.5 +3.9**
KMI SS **SS 03 10 06.5 +0.9**
KMI pmax pmax
comp=Z,64nm,1.5s
KMI pmax pmax
comp=Z,530nm,3.5s
KMI LR LR
comp=Z,670nm,16.8s
KMI LR LR
comp=Z,1μm,22.2s
KMI LR LR
comp=Z,2μm,24.0s
BJT Baijiatuau 51.38 330 P **P 02 59 09.9 -0.1**
BJT pmax pmax
comp=Z,75nm,1.3s
BJT Baijiatuau 51.38 330 P **P 02 59 09.9 -0.1**
BJT IAmb IAmb 02 59 12.5
comp=Z,75nm,1.3s
BJT Baijiatuau 51.38 330 IAMs_20 IAMs_20 03 19 54.4
comp=Z,3μm,20.0s
BJI Beijing 51.39 330 P **P 02 59 10.0 -0.1**
BJI pP **pP 02 59 14.5 -0.6**
BJI sP **sP 02 59 16.8 -0.1**
BJI PP **PP 03 01 07.3 -0.1**
BJI S **S 03 06 27.5 -1.5**
BJI sS **pS 03 06 36.0 +0.8**
BJI pmax pmax
comp=Z,69nm,2.3s
BJI pmax pmax
comp=Z,1μm,5.3s
BJI LR LR
comp=Z,1μm,21.3s
BJI LR LR
comp=Z,2μm,19.4s
BJI LR LR
comp=Z,3μm,19.0s
XAN Xi'an 51.52 319 P **P 02 59 10.5 -0.7**
XAN pP pP 02 59 13.8 -2.4
XAN S **S 03 06 28.0 -3.1**
XAN sS sS 03 06 43.8 +3.9
XAN ScS **ScS 03 08 53.5 -7.8**
XAN SS **SS 03 10 07.8 +0.4**
XAN pmax pmax
comp=Z,230nm,1.7s
XAN pmax pmax
comp=Z,2μm,3.7s
XAN LR LR
comp=Z,1μm,18.6s
XAN LR LR
comp=Z,830nm,18.6s
XAN LR LR
comp=Z,2μm,19.9s
BNX BinXian 51.59 342 ⇓P **P 02 59 11.3 -0.2**
BNX sP **pP 02 59 15.3 -1.2**
BNX PP **PP 03 01 06.5 -2.6**
BNX S **S 03 06 29.5 -2.1**
BNX sS **pS 03 06 36.5 -1.3**
BNX pmax pmax
comp=Z,650nm,1.5s
BNX pmax pmax
comp=Z,2μm,3.8s
BNX LR LR
comp=Z,2μm,18.4s
BNX LR LR
comp=Z,1μm,12.4s
BNX LR LR
comp=Z,6μm,28.0s
TIY Taiyuan 51.74 325 ⇑P **P 02 59 12.8 -0.1**
TIY S **S 03 06 37.8 +3.7**
TIY SS **SS 03 10 08.8 -2.1**
TIY pmax pmax
comp=Z,38nm,1.4s
TIY pmax pmax
comp=Z,610nm,4.7s
TIY LR LR
comp=Z,1μm,14.6s
TIY LR LR
comp=Z,1μm,14.0s
TIY LR LR
comp=Z,2μm,22.5s

UGL Uglegorsk 52.03 356 ⇓*i*P **P 02 59 15.7 +1.0**
UGL *e*S **S 03 06 45.2 +7.7**
UGL pmax pmax
comp=Z,110nm,1.3s
UGL smax smax
comp=N,3μm,17.0s
CM31 Chiang Mai Arr 52.05 296 P **P 02 59 15.5 +0.1**
CM31 IAmb IAmb 02 59 21.4
comp=Z,185nm,1.4s
CMAR Chiang Mai Arr 52.05 296 P **P 02 59 16.1 +0.7**
comp=Z,25nm,1.0s,baz=113,slow=5.6,SNR=76
CMAR PcP **PcP 03 00 28.3 +0.7**
comp=Z,15nm,1.1s,baz=114,slow=2.0,SNR=5.0
CMAR LR LR 03 20 08.9
comp=Z,465nm,21.1s,baz=120,slow=35
CMMT Chiang Mai 52.16 297 P **P 02 59 17.2 +0.9**
comp=Z,1μmcomp=Z,72nm,1.9s
CHTO Chiang Mai 52.17 297 P **P 02 59 16.7 +0.4**
CHTO 03 00 28.1
CHTO pmax pmax
comp=Z,104nm,1.5s
CHTO Chiang Mai 52.17 297 P **P 02 59 17.3 +0.9**
comp=Z,896nmcomp=Z,820nmcomp=Z,44nm,1.9s
CHTO Chiang Mai 52.17 297 P **P 02 59 16.6 +0.4**
CHTO IAmb IAmb 02 59 18.4
comp=Z,104nm,1.5s
CHTO PcP **PcP 03 00 28.1 0.0**
CHTO Chiang Mai 52.17 297 P **P 02 59 17.2 +0.9**
PZH PanZhiHua 52.78 307 P **P 02 59 20.5 -0.4**
PZH pP **pP 02 59 25.5 -0.4**
PZH sP **sP 02 59 27.5 -0.5**
PZH S **S 03 06 50.5 +1.7**
PZH SS **SS 03 10 24.3 -3.5**
PZH pmax pmax
comp=Z,40nm,1.7s
PZH pmax pmax
comp=Z,330nm,6.1s
PZH LR LR
comp=Z,4μm,18.6s
PZH LR LR
comp=Z,4μm,18.8s
PZH LR LR
comp=Z,4μm,19.2s
CD2 Chengdu 53.35 313 ⇑P **P 02 59 25.0 +0.1**
CD2 sP pP 02 59 29.8 -0.2
CD2 S **S 03 07 00.3 +4.0**
CD2 ScS **ScS 03 09 14.3 +0.1**
CD2 SS **SS 03 10 37.8 +1.2**
CD2 pmax pmax
comp=Z,120nm,0.5s
CD2 pmax pmax
comp=Z,830nm,3.2s
CD2 LR LR
comp=Z,2μm,16.7s
CD2 LR LR
comp=Z,2μm,17.2s
KLR Kul'dur 53.69 347 P **P 02 59 26.2 -0.8**
comp=Z,46nm,1.0s,baz=153,slow=7.3,SNR=64
KLR LR LR 03 21 36.4
comp=Z,880nm,18.1s,baz=174,slow=35
KLR Kul'dur 53.69 347 *c i*P **P 02 59 26.5 -0.5**
KLR pmax pmax
comp=Z,177nm,1.5s
KLR MLR MLR
comp=Z,481nm,15.0s
TYV Tymovskoe 53.77 356 *e*P **P 02 59 28.2 +0.7**
TYV *e*S **S 03 07 06.5 +5.3**
TYV pmax pmax
comp=Z,60nm,1.3s
TYV pmax pmax
comp=Z,1μm,5.8s
TYV smax smax
comp=N,8.0nm,1.8s
TYV smax smax
comp=N,1μm,8.8s
TYV smax smax
comp=E,400nm,8.8s
SKR Severo-Kuril's 53.99 7 *e*P **P 02 59 29.6 +0.5**
SKR *e*S **S 03 07 06.8 +2.6**
SKR *e*SS **SS 03 10 44.3 -1.6**
SKR *e*SSS SSS 03 12 41.8
SKR pmax pmax
comp=Z,60nm,1.2s
SKR pmax pmax
comp=Z,400nm,5.8s
SKR MLR MLR
comp=Z,900nm,16.0s
SKR MLR MLR
comp=Z,600nm,16.0s
GRNR Gornyy 54.33 352 ⇑*i*P **P 02 59 31.7 +0.1**
GRNR pmax pmax
comp=Z,30nm,1.2s
XLT XiLinHaoTe 54.38 333 ⇑*i*P **P 02 59 31.8 -0.4**
XLT pP pP 02 59 36.0 -1.2
XLT sP sP 02 59 38.8 -0.3
XLT PcP **PcP 03 00 36.0 0.0**
XLT S **S 03 07 12.0 +2.1**
XLT SS **SS 03 10 51.8 -0.6**
XLT pmax pmax
comp=Z,170nm,1.4s
XLT pmax pmax
comp=Z,2μm,3.6s
XLT LR LR
comp=Z,2μm,19.6s
XLT LR LR
comp=Z,2μm,20.2s
XLT LR LR
comp=Z,4μm,19.0s
HHC Hu-ho-hao-te 54.40 327 ⇑P **P 02 59 32.5 0.0**
HHC pP pP 02 59 37.5 0.0
HHC S **S 03 07 12.5 +2.2**
HHC SS **SS 03 10 52.5 -0.4**
HHC pmax pmax
comp=Z,97nm,1.2s
HHC pmax pmax
comp=Z,750nm,4.7s
HHC pmax pmax
comp=Z,2μm,19.6s
HHC LR LR
comp=Z,2μm,19.6s
HHC LR LR
comp=Z,4μm,20.6s
RAR Rarotonga 54.62 114 LR LR 03 20 57.7
comp=Z,157nm,19.5s,baz=271,slow=34
BTO Baotou 55.08 326 *e*P **P 02 59 38.0 +0.6**
BTO S **S 03 07 22.3 +2.8**
BTO LR LR
comp=Z,7μm,23.0s
BTO LR LR
comp=Z,7μm,16.9s
LZH Lanzhou 56.08 318 ⇑P **P 02 59 45.5 +0.7**
LZH pP pP 02 59 49.5 -0.4
LZH S **S 03 07 37.0 +3.8**
LZH SS **SS 03 11 22.5 +2.7**
LZH pmax pmax
comp=Z,130nm,1.6s
LZH pmax pmax
comp=Z,770nm,5.4s
LZH LR LR
comp=Z,1μm,20.1s
LZH LR LR
comp=Z,1μm,19.5s
LZH LR LR
comp=Z,2μm,19.5s
NKL Nikolayevsk 56.19 355 *e*P **P 02 59 44.4 -0.5**
NKL *e*S **S 03 07 39.2 +5.7**
NKL pmax pmax
comp=E,11nm,1.0s
NKL pmax pmax
comp=N,2μm,1.3s
NKL pmax pmax
comp=Z,70nm,1.5s
PEA0B Petropavlovsk- 56.57 8 P **P 02 59 47.3 -0.4**
PEA0B pmax pmax
comp=Z,167nm,1.4s
PEA0B Petropavlovsk- 56.57 8 P **P 02 59 47.3 -0.4**
PEA0B IAmb IAmb 02 59 50.7
comp=Z,167nm,1.4s
PETK Petropavlovsk- 56.57 8 P **P 02 59 47.4 -0.4**
comp=Z,26nm,0.6s,baz=163,slow=7.0,SNR=52
PETK LR LR 03 19 43.0
comp=Z,3μm,21.9s,baz=192,slow=32
PETK Petropavlovsk- 56.57 8 P **P 02 59 47.8 +0.1**
PETK Petropavlovsk- 56.57 8 P **P 02 59 47.8 +0.1**
PET Petropavlovsk 56.62 8 *e*P **P 02 59 48.6 +0.6**
PET *e*S **S 03 07 37.7 -1.6**

PET pmax pmax
comp=Z,72nm,1.5s
PET pmax pmax
comp=Z,700nm,16.1s
PET MLR MLR
comp=Z,2μm,19.0s
PET MLR MLR
comp=Z,2μm,17.0s
PET Petropavlovsk 56.62 8 IAMs_20 IAMs_20 03 18 43.8
comp=Z,2μm,22.0s
HIA Hailar 57.21 339 P **P 02 59 52.5 +0.1**
HIA pmax pmax
comp=Z,198nm,1.5s
HIA MLR MLR
comp=Z,2μm,18.0s
HIA Hailar 57.21 339 P **P 02 59 52.5 +0.1**
HIA Hailar 57.21 339 IAMs_20 IAMs_20 03 24 56.7
comp=Z,2μm,18.0s
KIP Kipapa 58.81 63 ⇓*i*P **P 03 00 06.1 +2.0**
KIP pmax pmax
comp=Z,308nm,1.7s
KIP MLR MLR
comp=Z,467nm,15.0s
KIP Kipapa 58.81 63 P **P 03 00 05.1 +1.0**
KIP IAmb IAmb 03 00 33.7
comp=Z,111nm,1.3s
KIP Kipapa 58.81 63 P **P 03 00 06.8 +2.7**
KIP Kipapa 58.81 63 P **P 03 00 06.6 +2.5**
ZEA Zeya 58.92 346 *ce*P **P 03 00 04.2 0.0**
ZEA *e* 03 00 04.8
ZEA *e*S **S 03 08 15.4 +6.0**
ZEA pmax pmax
comp=N,40nm,1.3s
ZEA pmax pmax
comp=Z,60nm,1.5s
ZEA pmax pmax
comp=E,100nm,2.3s
ZEA pmax pmax
comp=N,300nm,7.5s
ZEA pmax pmax
comp=Z,600nm,8.0s
ZEA pmax pmax
comp=E,100nm,8.9s
ZEA pmax pmax
comp=Z,200nm,5.9s
ZEA smax smax
comp=E,300nm,14.3s
ZEA smax smax
comp=N,600nm,12.7s
SHEM Shemya Is, Ala 59.95 19 LR LR 03 21 46.0
comp=N,2μm,21.7s,baz=248,slow=32
GTA Gaotai 60.58 319 ⇑P **P 03 00 16.5 +0.4**
GTA pP pP 03 00 21.0 -0.2
GTA sP sP 03 00 23.5 +0.5
GTA S **S 03 08 33.8 +2.2**
GTA sS sS 03 08 45.3 +5.3
GTA SS **SS 03 12 29.5 -0.7**
GTA pmax pmax
comp=N,95nm,1.4s
GTA pmax pmax
comp=N,2μm,6.0s
GTA LR LR
comp=N,560nm,19.5s
GTA LR LR
comp=N,730nm,19.1s
GTA LR LR
comp=N,940nm,19.9s
SHL Shillong 60.58 302 ⇑*i*P **P 03 00 14.9 -1.5**
HMH Humu'ula Sheep 60.58 66 P **P 03 00 18.1 +1.4**
ULN Ulaanbaatar 61.58 330 *c i*P **P 03 00 23.2 +0.4**
ULN pmax pmax
comp=Z,313nm,2.5s
ULN MLR MLR
comp=Z,1μm,16.0s
ULN Ulaanbaatar 61.58 330 P **P 03 00 23.6 +0.8**
comp=Z,10μmcomp=Z,434nm,1.5s
ULN Ulaanbaatar 61.58 330 P **P 03 00 23.2 +0.4**
ULN Ulaanbaatar 61.58 330 IAMs_20 IAMs_20 03 26 37.1
comp=Z,2μm,19.0s
SONM Songino Array 61.88 330 P **P 03 00 24.5 -0.3**
comp=Z,67nm,1.2s,baz=144,slow=5.9,SNR=116
SONM PcP **PcP 03 01 05.1 -0.5**
comp=Z,12nm,1.1s,baz=140,slow=3.8,SNR=5.4
SONM LR LR 03 25 52.3
comp=Z,2μm,21.8s,baz=126,slow=35
SONM PKP2bc 03 29 42.0
comp=Z,3.6nm,1.2s,baz=304,slow=1.6,SNR=11
SONM Songino Array 61.88 330 P **P 03 00 24.8 0.0**
SONM pmax pmax
comp=Z,139nm,1.5s
SONM Songino Array 61.88 330 P **P 03 00 24.8 0.0**
MA2 Magadan 62.42 2 *c i*P **P 03 00 27.4 -0.6**
MA2 pmax pmax
comp=Z,183nm,2.5s
MA2 MLR MLR
comp=Z,1μm,17.0s
MA2 Magadan 62.42 2 P **P 03 00 27.6 -0.4**
MA2 IAmb IAmb 03 00 32.6
comp=Z,56nm,1.2s
MA2 Magadan 62.42 2 P **P 03 00 27.9 -0.1**
GOMU GeErMu 62.44 314 P **P 03 00 29.5 +0.5**
GOMU sP sP 03 00 36.8 +0.9
GOMU S **S 03 09 00.5 +4.7**
GOMU SS **SS 03 12 59.5 -0.4**
GOMU pmax pmax
comp=Z,35nm,1.3s
GOMU pmax pmax
comp=Z,680nm,4.0s
GOMU LR LR
comp=Z,760nm,17.6s
GOMU LR LR
comp=Z,1μm,17.1s
GOMU LR LR
comp=Z,2μm,17.2s
LSA Lhasa 62.62 306 P **P 03 00 32.0 +1.5**
LSA pmax pmax
comp=Z,150nm,1.6s
ADK Adak 62.64 24 P **P 03 00 30.4 +0.8**
ADK pmax pmax
comp=Z,189nm,1.4s
ADK Adak 62.64 24 P **P 03 00 30.4 +0.8**
ADK Adak 62.64 24 P **P 03 00 31.4 +1.8**
PPT Papeete 63.60 108 LR LR 03 26 21.5
comp=Z,245nm,18.1s,baz=266,slow=34
PPT2 Papeete2 63.60 108 *e*S **S 03 09 05.6 -4.8**
comp=Z,1μm,29.8s
PPT2 *e*LQ LQ 03 16 49.6
comp=Z,1μm,24.8s
PPT2 *e*LR LR 03 19 26.8
comp=Z,1μm,25.2s
PMOR Pomariorio Ree 65.01 105 *e*P **P 03 00 47.9 +2.0**
comp=Z,209nm,1.3s
ZAK Zakamensk 65.10 331 *e*P **P 03 00 46.1 +0.1**
ZAK pmax pmax
comp=Z,159nm,1.3s
BOK Bokaro 65.26 298 ⇑*i*P **P 03 00 47.1 -0.3**
VAH Vaihoa 65.28 105 *e*P **P 03 00 49.4 +1.8**
comp=Z,59nm,1.2s
CHLP Challavanipeta 65.67 292 *e*P **P 03 00 49.8 -0.4**
SEY Seymchan 65.85 3 P **P 03 00 50.1 -0.3**
comp=Z,43nm,1.1s,baz=180,slow=4.9,SNR=68
SEY LR LR 03 32 42.2
comp=Z,1μm,18.0s,baz=190,slow=39
SEY Seymchan 65.85 3 *c i*P **P 03 00 50.8 +0.4**
IRK Irkutsk 65.86 333 *e*P **P 03 00 51.6 +0.9**
IRK pmax pmax
comp=Z,239nm,0.4s
BOD Bodaibo 66.19 341 *e*P **P 03 00 52.3 -0.4**
BOD pmax pmax
comp=Z,78nm,1.6s
VIS Vishakhapatnam 66.19 291 ⇑*i*P **P 03 00 52.1 -1.4**
VIS IAmb IAmb 03 00 58.9
comp=Z,48nm,1.1s
YAK Yakutsk 66.20 351 LR LR 03 29 05.9
comp=Z,784nm,18.3s,baz=124,slow=35
YAK Yakutsk 66.20 351 *c i*P **P 03 00 52.9 +0.2**
YAK *e* 03 01 22.5
YAK *e*PPP PPP 03 04 54.1
YAK *e*S **S 03 09 42.9 +2.3**
YAK *e**SS sS 03 10 05.4 +16
YAK *e*SS **SS 03 13 56.8 -0.1**
YAK pmax pmax
comp=Z,87nm,0.9s
YAK pmax pmax
comp=N,42nm,1.0s
YAK pmax pmax

comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,197nm,3.0s
YAK pmax pmax
comp=N,138nm,3.0s
YAK pmax pmax
comp=E,54nm,3.1s
YAK smax smax
comp=E,220nm,4.6s
YAK smax smax
comp=N,83nm,4.4s
YAK Yakutsk 66.20 351 P **P 03 00 52.9 +0.2**
YAK IAMs_20 IAMs_20 03 29 04.2
comp=Z,1µm,18.0s
GUN Gumba 66.41 302 *e*P **P 03 00 54.9 -0.3**
comp=Z,947nm,1.3s
PKI Pulchoki 66.71 302 *e*P **P 03 00 56.5 -0.6**
comp=Z,589nm,1.5s
PKIN Phulchoki 66.72 302 *e*P **P 03 00 56.5 -0.6**
comp=Z,504nm,1.5s
KKN Kakani 66.88 302 *e*P **P 03 00 57.6 -0.5**
comp=Z,802nm,1.7s
DMN Daman 66.98 302 *e*P **P 03 00 58.6 -0.1**
comp=Z,818nm,1.3s
MOY Mondy 67.04 331 *e*P **P 03 00 58.6 +0.2**
MOY pmax pmax
comp=Z,320nm,2.6s
PALK Pallekele 67.13 279 LR LR 03 32 41.5
comp=Z,202nm,18.1s,baz=194,slow=38
GKN Gorkha 67.49 302 *e*P **P 03 01 01.4 -0.4**
comp=Z,785nm,1.5s
PVM Polavaram 67.70 290 *e*P **P 03 01 01.6 -1.5**
CASY Casey 68.21 195 IAMs_20 IAMs_20 03 29 14.1
comp=Z,1µm,18.0s
KOLN Koldanda 68.31 301 *e*P **P 03 01 06.6 -0.5**
comp=Z,611nm,1.5s
DANN Dangsing 68.33 302 *e*P **P 03 01 06.5 -0.8**
comp=Z,924nm,1.6s
MYLAV Mylavaram 68.54 289 *e*P **P 03 01 07.2 -1.2**
PYUN Piuthan 68.92 302 *e*P **P 03 01 10.1 -0.8**
comp=Z,500nm,1.3s
ADKI Addanki 69.02 288 *e*P **P 03 01 10.4 -1.0**
NJS Nagarjunasagar 69.76 289 *e*P **P 03 01 13.9 -2.1**
RCLA Racherla 69.92 288 *e*P **P 03 01 16.0 -1.0**
SRLM Srisailam 70.08 288 *e*P **P 03 01 16.7 -1.4**
CUPL Choutuppal 70.25 289 *e*P **P 03 01 18.1 -1.0**
HYB Hyderabad 70.62 290 *e*P **P 03 01 19.9 -1.4**
WMQ Urumqi 70.65 319 ⇓P **P 03 01 22.5 +1.4**
WMQ sP sP 03 01 32.8 +4.8
WMQ pmax pmax
comp=Z,130nm,1.3s
WMQ pmax pmax
comp=Z,1µm,3.7s
WMQ LR LR
comp=Z,1µm,17.3s
WMQ LR LR
comp=Z,820nm,23.9s
WMQ LR LR
comp=Z,690nm,22.3s
SRSP Sriramsagar 71.07 291 *e*P **P 03 01 21.9 -2.1**
URV Uravakonda 71.46 287 *e*P **P 03 01 24.7 -1.7**
BILL Bilibino 72.11 7 *d i*P **P 03 01 29.6 +0.3**
BILL *i*S S 03 10 40.3 -10
BILL pmax pmax
comp=Z,40nm,1.3s
BILL MLR MLR
comp=Z,491nm,18.0s
BILL Bilibino 72.11 7 P **P 03 01 29.5 +0.3**
BILL IAmb IAmb 03 01 31.7
comp=Z,122nm,1.5s
TAOE Nuku Hiva Isla 72.42 98 *e*S **S 03 10 52.0 -4.0**
comp=Z,202nm,24.5s
TAOE *e*LQ LQ 03 20 28.8
comp=Z,3µm,33.3s
TAOE *e*LR LR 03 23 27.4
comp=Z,580nm,22.1s
KLRI Killari 72.56 290 *e*P **P 03 01 30.7 -2.4**
BHPL Bhopal 72.70 295 *i*P **P 03 01 32.3 -1.4**
GAMB Gambell 73.25 18 P **P 03 01 37.2 +1.1**
baz=223,SNR=7.1
DGZ Jazzator, Alta 73.30 324 *c i*P **P 03 01 36.7 -0.2**
DGZ pmax pmax
comp=Z,111nm,1.4s
DGZ MLR MLR
comp=Z,1µm,18.0s
DDI Dehra Dun 73.65 303 ⇑*i*P **P 03 01 38.2 -1.1**
ZSN Zaisan 73.92 321 *e*P **P 03 01 39.0 -1.5**
ZSN *e*S **S 03 11 11.6 -0.2**
ZSN pmax pmax
comp=Z,212nm,2.9s
ZSN Zaisan 73.92 321 *e*P **P 03 01 39.0 -1.5**
comp=Z,212nm,2.9s,baz=321
ZSN *e*S **S 03 11 11.6 -0.2**
baz=321
SMLA Simla 74.58 303 ⇑*i*P **P 03 01 43.1 -1.4**
VNDA Vanda 74.90 177 P **P 03 01 45.6 0.0**
comp=Z,4.8nm,1.0s,baz=324,slow=11,SNR=5.2
VNDA LR LR 03 31 10.6
comp=Z,907nm,20.6s,baz=355,slow=33
VNDA Vanda 74.90 177 P **P 03 01 45.6 0.0**
VNDA pmax pmax
comp=Z,20nm,1.2s
VNDA Vanda 74.90 177 IAmb IAmb 03 01 47.1
comp=Z,20nm,1.1s
POO Poona 75.21 290 *e*x x 03 01 45.0
MK31 Makanchi Array 75.31 320 P **P 03 01 48.3 -0.3**
MK31 Makanchi Array 75.31 320 P **P 03 01 48.3 -0.3**
MK31 IAmb IAmb 03 01 50.4
comp=Z,97nm,1.4s
MKAR Makanchi Array 75.31 320 P **P 03 01 48.4 -0.2**
comp=Z,26nm,1.0s,baz=107,slow=6.7,SNR=107
MKAR PP **PP 03 04 36.7 -0.7**
comp=Z,5.3nm,1.2s,baz=97,slow=7.4,SNR=4.2
MKAR LR LR 03 34 52.8
comp=Z,1µm,19.3s,baz=85,slow=36
TIXI Tiksi 75.44 354 P **P 03 01 47.9 -0.8**
comp=Z,8.0nm,0.9s,baz=142,slow=8.9,SNR=17
TIXI LR LR 03 41 22.5
comp=Z,461nm,18.1s,baz=168,slow=41
TIXI Tiksi 75.44 354 *c e*P **P 03 01 48.0 -0.7**
TIXI pmax pmax
comp=Z,43nm,1.5s
TIXI Tiksi 75.44 354 P **P 03 01 48.0 -0.7**
TIXI IAmb IAmb 03 01 52.7
comp=Z,51nm,1.4s
TIXI IAMs_20 IAMs_20 03 32 24.4
comp=Z,1µm,22.0s
MAKZ Makanchi 75.52 320 P **P 03 01 49.2 -0.6**
MAKZ pmax pmax
comp=Z,181nm,1.5s
MAKZ MLR MLR
comp=Z,2µm,21.0s
MAKZ Makanchi 75.52 320 P **P 03 01 49.2 -0.6**
MAKZ IAmb IAmb 03 01 51.5
comp=Z,181nm,1.5s
MAKZ IAMs_20 IAMs_20 03 34 39.5
comp=Z,2µm,21.0s
DHRM DHARAMSHALA 75.55 304 *i*P **P 03 01 49.0 -1.4**
TNA Tin City 75.67 18 P **P 03 01 50.8 +0.7**
baz=227,SNR=7.9
ANM Nome 75.80 19 P **P 03 01 51.8 +0.8**
baz=229,SNR=20
UZB Uzynbulak 76.31 316 *e*P **P 03 01 52.9 -1.6**
UZB *e*S **S 03 11 39.5 +0.7**
UZB pmax pmax
comp=Z,300nm,2.9s
UZB Uzynbulak 76.31 316 *e*P **P 03 01 53.0 -1.6**
comp=Z,300nm,2.9s,baz=316
UZB *e*S **S 03 11 39.6 +0.7**
baz=316
ZALV Zalesovo Beam 76.58 327 P **P 03 01 54.1 -1.4**
comp=Z,18nm,1.0s,baz=106,slow=5.3,SNR=43
ZALV PP **PP 03 04 48.2 +0.3**
comp=Z,2.1nm,1.0s,baz=116,slow=6.6,SNR=2.8
ZALV LR LR 03 34 59.4
comp=Z,1µm,21.4s,baz=114,slow=35
ZALV Zalesovo Beam 76.58 327 P **P 03 01 54.0 -1.6**
P18K Big Mountain, 76.72 26 IAMs_20 IAMs_20 03 31 20.2
comp=Z,1µm,20.0s
ZHN Zhinishke 76.73 316 *e*P **P 03 01 55.8 -1.0**
ZHN Zhinishke 76.73 316 *e*P **P 03 01 55.8 -1.0**
baz=316
TARG Taragay, Kyrgy 76.77 314 IAmb IAmb 03 02 03.7
comp=Z,154nm,1.4s
O18K Koktuh Hills 76.96 26 IAMs_20 IAMs_20 03 29 43.0
comp=Z,1µm,22.0s

KDAK Kodiak Island 77.16 28 LR LR 03 30 30.2
comp=Z,862nm,21.4s,baz=265,slow=32
KDAK Kodiak Island 77.16 28 IAMs_20 IAMs_20 03 32 54.2
comp=Z,1µm,22.0s
Q19K Cape Douglas, 77.20 27 IAMs_20 IAMs_20 03 30 48.1
comp=Z,1µm,21.0s
TDK Taldyqorghan 77.29 317 *e*P **P 03 01 58.5 -1.3**
TDK *e*S **S 03 11 49.3 +0.1**
TDK pmax pmax
comp=Z,374nm,2.1s
TDK Taldyqorghan 77.29 317 *e*P **P 03 01 58.6 -1.3**
comp=Z,374nm,2.1s,baz=317
TDK *e*S **S 03 11 49.4 +0.1**
baz=317
ARXS Arharly 77.45 316 *i*P **P 03 02 01.4 +0.6**
ARXS pmax pmax
comp=Z,34nm,1.5s
O19K Port Alsworth 77.52 26 IAMs_20 IAMs_20 03 32 28.2
comp=Z,2µm,20.0s
KSH Kashi 77.53 311 P **P 03 02 03.0 +1.6**
KSH pP sP 03 02 07.5 -0.9
KSH sP PcP 03 02 10.5 -1.2
KSH S **S 03 11 51.8 -0.4**
KSH sS sS 03 12 01.8 +0.9
KSH SKS **SKSac 03 12 11.3 -3.0**
KSH SS **SS 03 16 56.0 +4.3**
KSH pmax pmax
comp=Z,86nm,2.0s
KSH pmax pmax
comp=Z,1µm,3.0s
KSH LR LR
comp=Z,810nm,18.2s
KSH LR LR
comp=Z,1µm,17.9s
KSH LR LR
comp=Z,1µm,22.0s
MDOK Medeo 77.70 315 *e*P **P 03 02 01.2 -1.1**
MDOK *e*S **S 03 11 53.9 -0.1**
MDOK Medeo 77.70 315 *e*P **P 03 02 01.3 -1.1**
baz=315
MDOK *e*S **S 03 11 53.9 -0.1**
baz=315
TNSS Tian-Shan 77.74 315 *e*P **P 03 02 01.6 -1.3**
baz=315
N19K Bonanza Creek 77.75 25 IAMs_20 IAMs_20 03 31 37.2
comp=Z,1µm,20.0s
N19K Bonanza Creek 77.75 25 P **P 03 02 03.8 +1.7**
baz=240
AAA Alma-Ata 77.81 315 *e*P **P 03 02 02.2 -0.6**
AAA Alma-Ata 77.81 315 *e*P **P 03 02 02.3 -0.6**
baz=315
ULHL Ulahol 78.03 314 P **P 03 02 05.6 +1.4**
SNR=8.6
TTA Tatalina 78.20 23 P **P 03 02 06.4 +1.8**
baz=239,SNR=6.9
L19K White Mountain 78.28 24 IAMs_20 IAMs_20 03 32 07.1
comp=Z,2µm,22.0s
L19K White Mountain 78.28 24 P **P 03 02 06.7 +1.7**
baz=240,SNR=14
BOOM Boomskoye usch 78.31 314 P **P 03 02 06.4 +0.6**
BOOM pmax pmax
comp=Z,165nm,1.4s
BOOM Boomskoye usch 78.31 314 P **P 03 02 06.4 +0.6**
BOOM IAmb IAmb 03 02 11.6
comp=Z,165nm,1.4s
M19K Big River Lodg 78.33 24 IAMs_20 IAMs_20 03 35 07.5
comp=Z,1µm,20.0s
M19K Big River Lodg 78.33 24 P **P 03 02 07.6 +2.4**
baz=240
KUU Kurty 78.40 316 *e*P **P 03 02 04.2 -1.8**
KUU *e*S **S 03 11 57.8 -3.4**
KUU pmax pmax
comp=Z,524nm,2.5s
KUU Kurty 78.40 316 *e*P **P 03 02 04.2 -1.8**
comp=Z,524nm,2.5s,baz=316
KUU *e*S **S 03 11 57.9 -3.4**
baz=316
RDOG Red Dog Mine 78.81 17 P **P 03 02 09.8 +2.1**
baz=231
L20K Farewell, AK 78.82 24 P **P 03 02 10.3 +2.4**
baz=241
KURK Kurchatov 78.92 323 *c i*P **P 03 02 07.9 -0.8**
KURK pmax pmax
comp=Z,136nm,1.3s
KURK MLR MLR
comp=Z,1µm,19.0s
KURK Kurchatov 78.92 323 P **P 03 02 08.0 -0.8**
KURK IAmb IAmb 03 02 10.0
comp=Z,154nm,1.3s
KURK Kurchatov 78.92 323 IAMs_20 IAMs_20 03 36 11.5
comp=Z,2µm,20.0s
KURBB Kurchatov Arra 78.95 323 P **P 03 02 07.8 -1.0**
comp=Z,34nm,1.1s,baz=104,slow=5.2,SNR=24
KURBB LR LR 03 36 24.9
comp=Z,1µm,20.4s,baz=80,slow=35
KURBB Kurchatov Arra 78.95 323 P **P 03 02 07.7 -1.1**
KBK Karagaybulak 79.06 314 P **P 03 02 11.2 +1.3**
SNR=21
K20K Telida 79.18 23 P **P 03 02 12.1 +2.2**
baz=240,SNR=16
UCH Uchtor 79.27 314 P **P 03 02 11.8 +0.4**
SNR=52
CHMS Chumysh 79.28 315 P **P 03 02 12.0 +1.0**
SNR=33
FRU1 Bishkek 79.32 314 IAmb IAmb 03 02 13.3
comp=Z,88nm,1.2s
AAK Ala-Archa 79.38 314 P **P 03 02 10.6 -1.0**
comp=Z,30nm,1.2s,baz=104,slow=5.8,SNR=35
AAK LR LR 03 36 54.8
comp=Z,2µm,21.6s,baz=101,slow=35
AAK Ala-Archa 79.38 314 P **P 03 02 12.9 +1.3**
SNR=19
AAK Ala-Archa 79.38 314 *c i*P **P 03 02 11.7 +0.1**
AAK pmax pmax
comp=Z,126nm,2.5s
AAK Ala-Archa 79.38 314 P **P 03 02 11.7 +0.1**
AAK IAmb IAmb 03 02 33.8
comp=Z,62nm,1.4s
SGDS Sogindy 79.48 315 *e*P **P 03 02 09.7 -2.3**
comp=Z,56nm,1.8s,baz=315
USP Osenovka 79.53 315 P **P 03 02 12.2 -0.1**
SNR=34
J20K Nowinta River 79.56 22 P **P 03 02 14.2 +2.3**
baz=240
SEW Seward 79.64 27 IAmb IAmb 03 02 15.8
comp=Z,114nm,1.5s
SEW Seward 79.64 27 P **P 03 02 14.4 +2.0**
baz=245,SNR=7.0
SUA Susitna One 79.66 26 P **P 03 02 14.4 +1.8**
baz=244
PPLA Purkeypile 79.71 24 P **P 03 02 14.6 +1.6**
baz=242,SNR=9.6
BHUJ Bhuj 79.75 294 ⇑*i*P **P 03 02 12.9 -0.9**
AML Almayashu 79.83 314 P **P 03 02 16.1 +1.7**
SNR=39
EKS2 Erkin-Say 79.90 314 P **P 03 02 15.9 +1.5**
SNR=26
RC01 Rabbit Creek A 79.93 26 P **P 03 02 15.6 +1.6**
baz=245,SNR=7.7
CAST Castle Rocks 80.00 23 P **P 03 02 15.4 +1.0**
baz=242,SNR=25
M22K Willow 80.06 25 IAmb IAmb 03 02 17.0
comp=Z,201nm,1.5s
M22K IAMs_20 IAMs_20 03 31 09.1
comp=Z,1µm,22.0s
M22K Willow 80.06 25 P **P 03 02 16.3 +1.7**
baz=244
CHUM Lake Minchumin 80.12 23 P **P 03 02 16.4 +1.4**
baz=242,SNR=22
CUT Chulitna 80.28 25 P **P 03 02 16.8 +1.0**
baz=244,SNR=7.8
BTLS Baital 80.28 316 *e*P **P 03 02 14.5 -1.7**
BTLS pmax pmax
comp=Z,196nm,2.9s
BTLS Baital 80.28 316 *e*P **P 03 02 14.5 -1.7**
comp=Z,196nm,2.9s,baz=316
PMR Palmer 80.41 26 P **P 03 02 18.0 +1.5**
baz=245,SNR=0.0
PWL Port Wells 80.46 27 P **P 03 02 18.8 +1.9**
baz=246,SNR=6.1
KNK Knik Glacier 80.63 26 P **P 03 02 19.5 +1.7**
baz=246,SNR=5.7
DRK Karamyk 80.66 311 IAmb IAmb 03 02 25.7
comp=Z,105nm,1.5s
TRF Thorofare Moun 80.73 24 P **P 03 02 19.3 +0.9**
baz=244,SNR=8.2
BPAW Bear Paw Mtn. 80.74 23 P **P 03 02 19.6 +1.2**

baz=243,SNR=14
H21K Melozitna Rive 80.79 21 P **P 03 02 20.3 +1.8**
baz=241,SNR=15
SML Sawmill 80.85 26 P **P 03 02 20.5 +1.5**
baz=246,SNR=7.4
I21K Tanana 80.86 22 P **P 03 02 20.9 +2.0**
baz=242
MLY Manley 81.26 22 P **P 03 02 22.5 +1.4**
baz=243,SNR=28
SCM Sheep Creek Mo 81.30 26 P **P 03 02 23.1 +1.6**
baz=247,SNR=5.4
MCK McKinley 81.40 24 P **P 03 02 22.3 +0.5**
baz=245,SNR=39
BTK Batken 81.52 311 P **P 03 02 23.0 -0.1**
BTK pmax pmax
comp=Z,84nm,1.5s
BTK Batken 81.52 311 P **P 03 02 23.0 -0.1**
BTK IAmb IAmb 03 02 32.4
comp=Z,84nm,1.4s
GAR Garm 81.70 310 IAmb IAmb 03 02 37.2
comp=Z,146nm,1.5s
DZA Taraz 81.70 314 *e*P **P 03 02 22.5 -1.4**
DZA Taraz 81.70 314 *e*P **P 03 02 22.6 -1.4**
baz=314
NEA2 Nenana 81.71 23 P **P 03 02 24.4 +1.0**
baz=245,SNR=21
DIV Divide 81.72 27 IAmb IAmb 03 02 27.2
comp=Z,72nm,1.4s
KLU Klutina 81.78 26 P **P 03 02 25.6 +1.6**
baz=248
I23K Minto, Yukon-K 81.84 22 P **P 03 02 25.2 +1.2**
baz=245,SNR=17
M24K Tolsona, Glenn 81.90 26 IAmb IAmb 03 02 49.9
comp=Z,56nm,1.4s
M24K Tolsona, Glenn 81.90 26 P **P 03 02 26.8 +2.2**
baz=248
KBL Kabul 81.94 305 P **P 03 02 25.2 -0.4**
KBL pmax pmax
comp=Z,53nm,1.5s
KBL Kabul 81.94 305 P **P 03 02 25.2 -0.4**
KBL IAmb IAmb 03 02 26.1
comp=Z,53nm,1.4s
BMRM Bremner River 82.19 27 IAmb IAmb 03 02 31.1
comp=Z,52nm,1.4s
BMRM Bremner River 82.19 27 P **P 03 02 27.2 +1.1**
baz=250,SNR=9.8
TCOL CIGO, UAF Yank 82.30 23 P **P 03 02 26.8 +0.3**
baz=246,SNR=8.3
COLA College 82.30 23 *c i*P **P 03 02 25.9 -0.6**
COLA pmax pmax
comp=Z,97nm,1.7s
COLA College 82.30 23 P **P 03 02 26.2 -0.3**
COLA IAmb IAmb 03 02 33.9
comp=Z,44nm,1.4s
BRZS Berezniki 82.37 321 *e*P **P 03 02 25.2 -2.0**
BRZS pmax pmax
comp=Z,207nm,3.2s
BRZS Berezniki 82.37 321 *e*P **P 03 02 25.3 -2.0**
comp=Z,206nm,3.2s,baz=321
N25K Chitina, Valde 82.42 27 IAMs_20 IAMs_20 03 31 26.7
comp=Z,1µm,22.0s
N25K Chitina, Valde 82.42 27 P **P 03 02 29.0 +1.7**
baz=249,SNR=6.0
COLD Coldfoot 82.45 20 P **P 03 02 28.5 +1.2**
baz=244,SNR=34
HARP HAARP 82.45 26 P **P 03 02 29.0 +1.6**
baz=249
HDA Harding Lake 82.47 24 P **P 03 02 27.1 -0.4**
baz=247,SNR=9.3
NRIK Noril'sk 82.47 342 P **P 03 02 26.4 -0.9**
comp=Z,59nm,1.0s,baz=119,slow=5.8,SNR=60
NRIK LR LR 03 40 17.4
comp=Z,666nm,18.2s,baz=114,slow=37
NRIK Noril'sk 82.47 342 *c i*P **P 03 02 26.7 -0.6**
NRIK pmax pmax
comp=Z,153nm,1.3s
NRIK MLR MLR
comp=Z,1µm,18.0s
IUG Iuzhnay 82.50 313 *e*P **P 03 02 27.0 -1.2**
IUG Iuzhnay 82.50 313 *e*P **P 03 02 27.0 -1.2**
baz=313
A21K Barrow 82.52 16 IAMs_20 IAMs_20 03 40 13.6
comp=Z,978nm,19.0s
A21K Barrow 82.52 16 P **P 03 02 28.2 +0.7**
baz=237,SNR=46
PAX Paxson 82.53 25 P **P 03 02 28.1 +0.2**
baz=248,SNR=11
POKR Poker Plat Res 82.56 23 P **P 03 02 28.2 +0.3**
baz=246,SNR=7.9
IL31 82.64 23 IAmb IAmb 03 02 30.1
comp=Z,60nm,1.4s
ILAR Eielson Array 82.64 23 P **P 03 02 27.3 -1.0**
comp=Z,20nm,1.1s,baz=257,slow=4.6,SNR=53
ILAR LR LR 03 36 05.4
comp=Z,1µm,20.6s,baz=260,slow=33
H24K Noodor Dome 82.69 22 P **P 03 02 29.4 +0.7**
baz=246
BRLS Borolday 82.81 314 *e*P **P 03 02 28.3 -1.4**
BRLS pmax pmax
comp=Z,63nm,2.9s
BRLS Borolday 82.81 314 *e*P **P 03 02 28.4 -1.4**
comp=Z,63nm,2.9s,baz=314
TAS Tashkent 82.89 312 P **P 03 02 30.4 +0.2**
TAS pmax pmax
comp=Z,212nm,1.3s
TAS Tashkent 82.89 312 P **P 03 02 30.4 +0.2**
RIDG Independent Ri 83.08 25 P **P 03 02 31.6 +0.9**
baz=249,SNR=19
J25K Salcha River, 83.18 24 IAmb IAmb 03 02 34.6
comp=Z,31nm,1.1s
J25K Salcha River, 83.18 24 P **P 03 02 31.5 +0.3**
baz=248,SNR=50
TOLK Toolik Lake Re 83.29 19 IAmb IAmb 03 02 35.7
comp=Z,94nm,1.5s
TOLK IAMs_20 IAMs_20 03 36 41.2
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 83.29 19 P **P 03 02 32.7 +1.1**
baz=244,SNR=23
DOT Dot Lake 83.37 25 IAmb IAmb 03 02 41.5
comp=Z,36nm,1.4s
M26K Nabesna, AK 83.40 26 P **P 03 02 33.2 +0.8**
baz=251
L26K Log Cabin Wild 83.46 25 P **P 03 02 33.6 +1.0**
baz=250
SCRK Sand Creek 83.52 24 P **P 03 02 34.1 +1.0**
baz=250,SNR=14
J26L Joseph Creek 83.87 24 P **P 03 02 35.6 +0.8**
baz=250
M27K Edge Creek, AK 83.88 26 P **P 03 02 36.1 +1.2**
baz=252
L27K Beaver Creek, 84.12 26 P **P 03 02 37.3 +1.2**
baz=252
YUK3 Moose Creek 84.34 27 P **P 03 02 38.1 +0.8**
baz=253,SNR=13
BVCY Beaver Creek 84.35 26 P **P 03 02 38.3 +1.1**
baz=253,SNR=6.7
BVAR Borovoye Array 84.46 324 P **P 03 02 37.1 -0.8**
comp=Z,11nm,0.6s,baz=90,slow=10,SNR=73
BRVK Borovoye 84.53 324 *c i*P **P 03 02 37.2 -1.0**
BRVK pmax pmax
comp=Z,227nm,2.5s
BRVK MLR MLR
comp=Z,1µm,17.0s
BRVK Borovoye 84.53 324 P **P 03 02 38.2 0.0**
BRVK Borovoye 84.53 324 IAMs_20 IAMs_20 03 40 04.7
comp=Z,1µm,20.0s
EGAK Eagle 84.94 24 P **P 03 02 40.7 +0.6**
baz=252,SNR=25
YUK4 Talbot Arm 85.05 28 P **P 03 02 42.8 +1.8**
baz=255
YUK6 Outpost Mounta 85.08 28 P **P 03 02 42.5 +1.3**
baz=255,SNR=5.5
MAW Mawson 85.10 203 LR LR 03 40 09.0
comp=Z,1µm,18.6s,baz=76,slow=35
HYT Haines Junctio 85.45 28 P **P 03 02 43.5 +0.6**
baz=256,SNR=14
DAWY Dawson 85.46 25 P **P 03 02 43.6 +0.8**
baz=254,SNR=51
SIT Sitka 85.69 32 P **P 03 02 44.7 +0.8**
baz=258
J29M Klondike Camp 86.06 25 IAmb IAmb 03 02 50.0
comp=Z,102nm,1.4s
J29M Klondike Camp 86.06 25 P **P 03 02 46.9 +1.1**
baz=255,SNR=12
SKAG Skagway 86.20 30 IAmb IAmb 03 02 52.4
comp=Z,68nm,1.5s
SKAG Skagway 86.20 30 P **P 03 02 48.1 +1.7**
baz=258,SNR=8.7

M30M	Minto, Yukon	86.21	27	P		P	03 02 47.4	+0.9
	baz=256							
BESE	Bessie Mountai	86.25	31	IAmb		IAmb	03 02 52.8	
	comp=Z,46nm,1.5s							
I29M	Ogilvie Camp,	86.27	24	P		P	03 02 47.4	+0.7
I29M				IAmb		IAmb	03 02 50.0	
	comp=Z,117nm,1.4s							
I29M	Ogilvie Camp,	86.27	24	P		P	03 02 47.4	+0.7
	baz=255,SNR=16							
N31M	Braeburn, Yuko	86.42	28	P		P	03 02 48.1	+0.5
	baz=257,SNR=17							
MAYO	Mayo, Yukon	86.85	26	P		P	03 02 51.6	+2.0
	baz=257,SNR=9.6							
QSPA	South Pole Qui	86.97	180	P		P	03 02 49.4	-0.9
	comp=Z,27nm,1.0s,baz=333,slow=2.4,SNR=28							
QSPA				LR		LR	03 39 48.9	
	comp=Z,1μm,21.9s,baz=4.0,slow=34							
QSPA	South Pole Qui	86.97	180	P		P	03 02 49.5	-0.8
QSPA				IAmb		IAmb	03 02 54.8	
	comp=Z,37nm,1.1s							
EPYK	Eagle Plains	87.15	23	P		P	03 02 52.0	+1.0
	baz=256,SNR=32							
WRAK	Wrangell Islan	87.18	33	IAmb		IAmb	03 02 55.3	
	comp=Z,103nm,1.4s							
WRAK	Wrangell Islan	87.18	33	P		P	03 02 53.6	+2.3
	baz=260,SNR=5.8							
M31M	Drury Creek, Y	87.22	27	P		P	03 02 52.3	+0.9
	baz=258,SNR=19							
P33M	Teslin, Yukon	87.59	29	P		P	03 02 54.2	+0.9
	baz=260,SNR=9.7							
FARO	Faro, Yukon	87.70	27	P		P	03 02 54.6	+0.8
	baz=259,SNR=20							
DLBC	Dease Lake	88.73	31	P		P	03 02 58.2	-0.6
	comp=Z,33nm,1.2s,baz=285,slow=2.7,SNR=15							
DLBC				LR		LR	03 34 41.1	
	comp=Z,1μm,21.8s,baz=320,slow=30							
INK	Inuvik	88.78	21	P		P	03 02 58.1	-0.6
	comp=Z,41nm,1.2s,baz=264,slow=5.8,SNR=37							
INK				LR		LR	03 38 14.2	
	comp=Z,1μm,21.9s,baz=248,slow=33							
INK	Inuvik	88.78	21	P		P	03 02 59.5	+0.8
	baz=259							
BBB	Bella Bella	89.07	38	LR		LR	03 34 25.0	
	comp=Z,1μm,21.6s,baz=266,slow=30							
WSAR	Wadi Sarin	89.84	293	P		P	03 03 04.4	-0.3
	comp=Z,38nm,1.1s,baz=95,slow=5.7,SNR=4.6							
AB31	Akbulak array	90.44	319	*i P*		P	03 03 04.0	-2.9
ABKAR	Akbulak array	90.44	319	P		P	03 03 04.7	-2.1
SVE	Sverdlovsk	90.58	327	*e*P		P	03 03 06.0	-1.3
SVE				pmax		pmax		
	comp=Z,33nm,1.8s							
SVE				MLR		MLR		
	comp=Z,3μm,22.0s							
GEYT	Alibeck	91.08	308	P		P	03 03 08.8	-1.5
	comp=Z,11nm,1.1s,baz=216,slow=6.9,SNR=4.1							
GEYT				LR		LR	03 46 03.8	
	comp=Z,1μm,20.4s,baz=90,slow=37							
GEYT	Alibeck	91.08	308	IAmb		IAmb	03 03 13.8	
	comp=Z,34nm,1.4s							
GYA0B	ALIBECK ARRAY	91.08	308	IAmb		IAmb	03 03 13.8	
	comp=Z,31nm,1.2s							
ARU	Arti	91.70	326	P		P	03 03 10.2	-2.4
	comp=Z,6.5nm,1.2s,baz=93,slow=4.7,SNR=10.0							
ARU				PP		PP	03 06 49.2	-1.9
	comp=Z,0.8nm,0.6s,baz=106,slow=6.6,SNR=4.2							
ARU				LR		LR	03 44 04.5	
	comp=Z,2μm,21.8s,baz=91,slow=35							
ARU	Arti	91.70	326	*c i P*		P	03 03 10.7	-1.9
ARU							03 06 48.9	
ARU				S		SKSac	03 13 42.9	-1.6
ARU				pmax		pmax		
	comp=Z,26nm,1.4s							
ARU				MLR		MLR		
	comp=Z,2μm,22.0s							
ARU	Arti	91.70	326	P		P	03 03 10.5	-2.0
ARU				IAmb		IAmb	03 03 12.0	
	comp=Z,30nm,1.3s							
AKTO	Aktyubinsk	91.75	320	P		P	03 03 11.2	-1.8
	comp=Z,3.5nm,1.0s,baz=77,slow=4.8,SNR=9.1							
AKTO				PP		PP	03 06 48.7	-3.0
	comp=Z,1.5nm,1.0s,baz=67,slow=8.4,SNR=3.9							
AKTO				LR		LR	03 44 19.3	
	comp=Z,1μm,20.4s,baz=83,slow=36							
D03D	Eldon	91.98	43	P		P	03 03 16.8	+2.7
	baz=268							
N02D	Trinity Center	92.00	49	P		P	03 03 16.5	+2.1
	baz=268,SNR=6.2							
YBH	Yreka Blue Hor	92.03	48	LR		LR	03 35 58.4	
	comp=Z,1μm,22.0s,baz=273,slow=30							
A36M	Sachs Harbour	92.05	18	P		P	03 03 14.6	+0.8
	baz=267							
UOSS	Minazif	92.14	295	P		P	03 03 13.8	-1.6
C36M	Paulatuk	92.31	21	P		P	03 03 15.6	+0.5
	baz=268							
WRGLY	Wrigley	92.34	27	P		P	03 03 16.6	+1.2
	baz=268							
B05A	Bryant	92.67	42	P		P	03 03 20.3	+3.0
	baz=269,SNR=6.1							
HOOD	Mount Hood Mea	92.91	45	P		P	03 03 18.9	+0.3
HOOD				IAmb		IAmb	03 03 30.4	
	comp=Z,56nm,1.5s							
F05D	White Salmon	93.05	44	IAmb		IAmb	03 03 50.0	
	comp=Z,21nm,1.3s							
B06A	Marblemount	93.08	42	IAmb		IAmb	03 03 22.8	
	comp=Z,65nm,1.5s							
J05D	Fort Rock, OR	93.16	47	P		P	03 03 22.3	+2.5
	baz=269,SNR=6.0							
PINE	Pine Mountain	93.39	46	IAmb		IAmb	03 03 25.3	
	comp=Z,26nm,1.3s							
K05A	Summer Lake	93.40	48	IAmb		IAmb	03 03 47.4	
	comp=Z,22nm,1.5s							
LTY	Liberty	93.61	43	IAmb		IAmb	03 03 45.2	
	comp=Z,31nm,1.5s							
F07A	Phinny Hill Vi	94.12	44	P		P	03 03 25.5	+1.6
E07A	Sunnyside	94.17	44	IAmb		IAmb	03 03 29.2	
	comp=Z,54nm,1.5s							
HAWA	Hanford	94.39	44	P		P	03 03 26.3	+1.0
HAWA				IAmb		IAmb	03 03 30.2	
	comp=Z,46nm,1.4s							
J08A	Circle Bar Ran	95.18	47	P		P	03 03 30.6	+1.5
C09A	Chrisman Ranch	95.23	42	IAmb		IAmb	03 03 32.8	
	comp=Z,34nm,1.3s							
E09A	Wood Farm, Sta	95.35	44	IAmb		IAmb	03 03 34.5	
	comp=Z,54nm,1.3s							
NVAR	Mina Array Bea	95.36	52	P		P	03 03 29.3	-0.8
	comp=Z,3.1nm,1.0s,baz=249,slow=6.1,SNR=18							
NVAR				PP		PP	03 07 21.2	+0.5
	comp=Z,1.6nm,1.0s,baz=258,slow=8.2,SNR=5.7							
NVAR				LR		LR	03 37 35.4	
	comp=Z,1μm,21.8s,baz=264,slow=30							
NEW	Newport	95.99	42	IAmb		IAmb	03 03 36.2	
	comp=Z,57nm,1.5s							
NEW	Newport	95.99	42	P		P	03 03 34.4	+1.8
	baz=272,SNR=15							
YKA	Yellowknife Ar	96.42	28	P		P	03 03 34.0	-0.1
	comp=Z,33nm,1.2s,baz=275,slow=4.5,SNR=87							
YKA				PP		PP	03 07 25.5	-2.3
	comp=Z,2.8nm,1.1s,baz=277,slow=7.4,SNR=5.6							
YKA				PKKPbc		PKKPbc	03 20 18.4	-3.2
	comp=Z,0.7nm,0.9s,baz=93,slow=2.7,SNR=7.5							
YKA				LR		LR	03 44 11.3	
	comp=Z,648nm,19.8s,baz=286,slow=34							
YKA	Yellowknife Ar	96.42	28	*c*e*P*		P	03 03 34.9	+0.8
YKA				pmax		pmax		
	comp=Z,33nm,1.2s							
KIRV	Kirov	96.59	329	PP		PP	03 07 29.7	+0.5
	comp=Z,3.0nm,0.5s,baz=90,slow=4.2,SNR=6.1							
KIRV				LR		LR	03 48 39.9	
	comp=Z,2μm,19.4s,baz=82,slow=36							
KIRV	Kirov	96.59	329	*e*P		P	03 03 34.0	-0.9
GSC	Goldstone, Bar	96.60	55	P		P	03 03 35.7	0.0
GSC				pmax		pmax		
	comp=Z,15nm,1.5s							
GSC	Goldstone, Bar	96.60	55	P		P	03 03 35.7	0.0
PFO	Pinyon Flats O	96.92	57	LR		LR	03 38 49.6	
	comp=Z,643nm,21.5s,baz=256,slow=30							
TPNV	Topopah Spring	97.02	53	P		Pdif	03 03 39.6	+1.8
	baz=272,SNR=5.3							
MFID	Camas Ranch	97.10	47	IAmb		IAmb	03 03 45.7	
	comp=Z,15nm,1.4s							
ELK	Elko	97.67	49	LR		LR	03 38 41.5	
	comp=Z,364nm,21.9s,baz=264,slow=30							
ELK	Elko	97.67	49	P		Pdif	03 03 41.5	+0.9
ELK				pmax		pmax		
	comp=Z,5.0nm,1.5s							
ELK	Elko	97.67	49	P		Pdif	03 03 41.5	+0.8
PRGR	Permogore	98.10	332	*e*P		P	03 03 39.1	-2.6
PRGR				pmax		pmax		
	comp=Z,21nm,1.5s							
HLID	Hailey	98.12	47	P		Pdif	03 03 44.2	+1.6
	baz=274							
SFX	San Felipe	98.34	59	P		Pdif	03 03 44.1	+0.6
SFX				IAmb		IAmb	03 03 46.5	
	comp=Z,30nm,1.5s							
HRY	Holter Researc	99.68	43	Pdif		Pdif	03 03 49.4	0.0
BOZ	Bozeman (W)	99.94	44	P		Pdif	03 03 52.6	+2.1
BOZ				pmax		pmax		
	comp=Z,6.0nm,1.3s							
BOZ	Bozeman (W)	99.94	44	Pdif		Pdif	03 03 52.6	+2.1
BOZ	Bozeman (W)	99.94	44	Pdiff		Pdif	03 03 52.4	+1.9
	baz=276,SNR=6.7							
RES	Resolute Bay	100.01	14	LR		LR	03 49 00.7	
	comp=Z,397nm,20.1s,baz=296,slow=35							
QLMT	Earthquake Lak	100.16	45	Pdif		Pdif	03 03 53.9	+2.3
GROC	Groznyy	100.34	313	*e*P		Pdif	03 03 49.4	-2.8
GROC				*e*			03 07 56.1	
GROC				*e*S		SKSac	03 14 27.9	-2.7
GROC				pmax		pmax		
	comp=Z,11nm,0.9s							
KLMR	Klimovskoe	101.15	332	*e*P		Pdif	03 03 52.4	-2.9
KLMR				*e*SS		SS	03 22 26.1	-6.7
KLMR				pmax		pmax		
	comp=Z,37nm,1.3s							
KLMR	Klimovskoe	101.15	332	*e*P		Pdif	03 03 52.5	-2.9
KLMR				AMP			03 03 58.4	
	comp=Z,37nm,1.3s							
KLMR				*e*PP		PP	03 07 58.5	-5.4
KLMR				*e*SS		SS	03 22 26.2	-6.6
KLMR				*e*SS		SS	03 22 26.2	-6.6
KLMR				LQ		LQ	03 40 54.7	
KLMR				LQ		LQ	03 40 54.7	
KLMR				LR		LR	03 45 07.9	
GNI	Garni	101.43	310	PP		PP	03 08 08.1	+1.1
	comp=Z,4.0nm,0.8s,baz=153,slow=7.8,SNR=4.8							
APA	Apatity	101.67	339	*i P*		Pdif	03 03 55.5	-2.0
APA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
PDAR	Pinedale Array	101.73	47	P		Pdif	03 03 58.2	-0.5
	comp=Z,1.1nm,1.0s,baz=208,slow=1.7,SNR=3.0							
PDAR				PP		PP	03 08 10.2	+0.9
	comp=Z,0.4nm,0.9s,baz=267,slow=5.5,SNR=6.1							
NCK	Nalchik	101.90	314	*e P*		Pdif	03 03 59.3	+0.2
NCK				pmax		pmax		
	comp=Z,38nm,2.5s							
GOF	Gofitskoye	102.09	315	*e*P		Pdif	03 04 00.2	+0.3
KBZ	Khabaz	102.38	314	PP		PP	03 08 14.0	+0.3
	comp=Z,6.2nm,1.2s,baz=64,slow=9.3,SNR=7.1							
KBZ	Khabaz	102.38	314	*i P*		Pdif	03 03 59.7	-1.5
KBZ				pmax		pmax		
	comp=Z,13nm,1.8s							
KIV	Kislovodsk	102.50	314	*e*P		Pdif	03 04 01.3	-0.6
KIV				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,750nm,20.0s							
OBN	Obninsk	104.14	326	PP		PKiKP	03 08 26.1	+0.4
	comp=Z,1.5nm,0.4s,baz=158,slow=4.5,SNR=3.6							
ANMO	Albuquerque	105.09	55	PP		PKiKP	03 08 34.3	+5.9
	comp=Z,0.8nm,0.6s,baz=280,slow=7.2,SNR=5.5							
ANMO	Albuquerque	105.09	55	PKiKP		PKiKP	03 08 34.1	+5.7
	baz=277							
RSSD	Black Hills	105.50	45	PKiKP		PKiKP	03 08 36.2	+7.3
	baz=281							
FINES	FINESS Array B	107.05	335	Pdiff		Pdif	03 04 17.6	-3.9
	comp=Z,1.6nm,0.6s,baz=149,slow=4.4,SNR=5.6							
TXAR	Lajitas Array	108.12	60	PP		PP	03 08 58.5	+1.7
	comp=Z,1.4nm,1.1s,baz=267,slow=5.0,SNR=6.9							
TXAR				PKKP		PKKPab	03 19 59.9	+0.4
	comp=Z,1.8nm,1.1s,baz=116,slow=5.7,SNR=6.2							
MNK	Minsk	109.09	327	*i P*		Pdif	03 04 29.6	-1.2
MNK				*i*			03 15 40.9	
MNK				*i* PS		PS	03 18 23.8	-5.8
MNK				*i* SS		SS	03 24 17.9	-3.6
MNK				*i* SSS		SSS	03 28 22.7	
MNK				pmax		pmax		
	comp=N,17nm,1.1s							
MNK				pmax		pmax		
	comp=E,2.0nm,1.1s							
MNK				pmax		pmax		
	comp=Z,10.0nm,1.1s							
MNK				MLR		MLR		
	comp=E,200nm,19.0s							
MNK				MLR		MLR		
	comp=Z,2μm,19.0s							
MNK				MLR		MLR		
	comp=N,652nm,22.0s							
MNK	Minsk	109.09	327	*i P*		Pdif	03 04 29.7	-1.1
	comp=E,2.0nm,1.1s							
MNK				*i P*		Pdif	03 04 29.7	-1.1
	comp=N,17nm,1.1s							
MNK				*i P*		Pdif	03 04 29.7	-1.1
	comp=Z,10.0nm,1.1s,baz=69							
MNK				*i* PP		PP	03 08 56.8	-6.1
MNK				*i* PPP		PPP	03 11 14.5	
MNK				*i* SKS		SKSdf	03 15 41.0	-5.2
MNK				*i* PS		PS	03 18 23.8	-5.8
MNK				*i* SS		SS	03 24 17.9	-3.6
MNK				*i* SSS		SSS	03 28 22.7	
MNK				*i* LR		LR	03 48 39.2	
MNK				*i* LRM		MLR	03 55 01.2	
	comp=E,200nm,19.1s							
MNK				*i* LRM		MLR	03 55 06.3	
	comp=Z,2μm,19.2s							
MNK				*i* LRM		MLR	03 55 07.0	
	comp=N,652nm,22.4s							
AKASG	Malin Array Be	109.73	323	PKKPbc		PKKPbc	03 19 38.8	-2.9
	comp=N,0.5nm,0.5s,baz=270,slow=2.8,SNR=4.5							
BRTR	Keskin Array B	109.92	311	Pdiff		Pdif	03 04 35.2	+0.1
	comp=N,0.4nm,0.9s,baz=42,slow=2.3,SNR=3.9							
BRTR				PKiKP		PKiKP	03 08 37.8	+0.6
	comp=N,2.1nm,1.1s,baz=90,slow=1.4,SNR=6.7							
BRTR				PP		PP	03 09 10.2	+0.5
	comp=N,2.9nm,1.0s,baz=123,slow=4.6,SNR=6.9							
BRTR				PKKPbc		PKKPbc	03 19 40.2	-0.8
	comp=N,1.1nm,1.1s,baz=221,slow=1.1,SNR=4.1							
SFJD	Kangerlussuaq	114.90	8	*i P*		Pdif	03 05 03.0	+6.6
MATP	Matopo	115.59	246	PKP		PKPdf	03 08 46.6	-1.9
	comp=N,2.3nm,0.8s,baz=231,slow=21,SNR=4.3							
BOSA	Boshof	116.10	236	PKP		PKPdf	03 08 48.3	-1.0
	comp=N,3.4nm,1.0s,baz=167,slow=3.2,SNR=5.2							
VTS	Vitosha	116.53	317	PKiKP		PKPdf	03 08 49.1	-0.6
VTS	Vitosha	116.53	317	PKPdf		PKPdf	03 08 49.1	-0.6
LSZ	Lusaka	117.00	251	PKP		PKPdf	03 08 51.0	-0.3
	comp=N,2.8nm,0.4s,baz=68,slow=2.2,SNR=8.0							
LSZ	Lusaka	117.00	251	PKiKP		PKiKP	03 08 51.5	+0.2
LSZ	Lusaka	117.00	251			PKiKP	03 08 51.5	+0.2
DPC	Dobruska-Polom	117.27	327	*e*PKiKP		PKPdf	03 08 45.3	-5.5
PRU	Pruhonice	118.43	327	*e*PKiKP		PKPdf	03 08 52.5	-0.5
PRU	Pruhonice	118.43	327	*e*PKPDF		PKPdf	03 08 52.5	-0.5
CLL	Collm	118.50	329	*e*PKiKP		PKPdf	03 08 51.0	-2.0
CLL				*e*			03 10 10.0	
CLL				MLR		MLR		
	comp=Z,2μm,21.3s							
CLL	Collm	118.50	329	*e*PKiKP		PKiKP	03 08 55.0	+1.9
CLL				*e*PP		PP	03 10 10.0	+0.5
CLL				*e*PS		PS	03 19 54.0	-2.6
CLL				*e*PPS		PPS	03 21 24.0	
CLL				*e*SS		SS	03 26 36.0	+10
CLL				*e*SSS		SSS	03 30 42.0	
CLL				Lm		MLR	04 01 00.0	
	comp=Z,2μm,21.3s							
FNA	Florina	118.51	316	PKiKP		PKPdf	03 08 53.3	-0.2
FNA	Florina	118.51	316			PKPdf	03 08 53.3	-0.2
CONA	Conrad Observa	118.80	325	*e*P		PKiKP	03 08 54.5	+0.6
	comp=Z,7.8nm,1.4s							
CKRC	Cesky Krumlov	119.20	326	*e*PKPDF		PKPdf	03 08 54.0	-0.5
ARSA	Arzberg	119.35	324	*e*P		PKPdf	03 08 54.5	-0.3
	comp=Z,5.1nm,1.3s							
KHC	Kasperske Hory	119.43	327	*e*PKiKP		PKPdf	03 08 54.9	-0.1
KHC	Kasperske Hory	119.43	327	*e*PKPDF		PKPdf	03 08 54.9	-0.1
KHC	Kasperske Hory	119.43	327			PKPdf	03 08 54.6	-0.4
GERES	GERESS Array B	119.52	327	PKP		PKPdf	03 08 55.2	0.0
	comp=Z,0.6nm,0.7s,baz=142,slow=5.0,SNR=4.0							
GERES	GERESS Array B	119.52	327	PKiKP		PKPdf	03 08 54.5	-0.7
GERES	GERESS Array B	119.52	327	PKPdf		PKPdf	03 08 54.5	-0.7
SOKA	Soboth	119.93	324	*e*P		PKiKP	03 09 00.7	+4.6
	comp=Z,9.1nm,1.2s							
COYC	Coyhaique	120.42	149	PKPdf		PKPdf	03 08 56.7	-0.2
ABTA	Abfaltersbach	121.36	325	*e*P		PKPdf	03 08 57.9	-0.9
	comp=Z,11nm,1.1s							
STAL	STALIGIAL	121.51	325	PKPdf		PKPdf	03 08 58.0	-1.0
WATA	Walderalm	121.55	326	*e*P		PKiKP	03 08 59.5	+0.1
	comp=Z,8.2nm,1.1s							
WTTA	Wattenberg	121.56	326	*e*P		PKPdf	03 08 59.3	-0.1
	comp=Z,12nm,1.3s							
SQTA	Sankt Quirin	121.82	326	*e*P		PKPdf	03 08 59.0	-0.7
	comp=Z,12nm,1.3s							
FETA	Feichten	122.20	326	*e*P		PKPdf	03 09 00.0	-0.5
	comp=Z,9.6nm,1.2s							
EKA	Eskdalemuir Ar	122.56	340	PKP		PKPdf	03 09 00.2	-0.5
	comp=Z,4.0nm,0.9s,baz=12,slow=3.6,SNR=2.6							
BSTI	Sart Tilman	122.61	332	PKP		PKPdf	03 08 60.0	-1.0
DAVOX	Davos/Dischmat	122.82	326	PKP		PKPdf	03 09 00.6	-1.1
	comp=Z,4.3nm,0.8s,baz=235,slow=4.5,SNR=5.5							
WLF	Walferdange	122.94	331	PKP		PKPdf	03 09 01.2	-0.4
TUE	Stuetta	123.30	326	PKPdf		PKPdf	03 09 01.8	-0.9
PLCA	Paso Flores	124.51	146	PKP		PKPdf	03 09 05.2	+0.1
	comp=Z,7.0nm,0.9s,baz=241,slow=1.9,SNR=13							
LC01	Cunco	124.94	143	PKPdf		PKPdf	03 09 05.8	-0.1
CLTB	Caltabellotta	125.61	315	PKPdf		PKPdf	03 09 06.5	-0.7
TSUM	Tsumeb	125.80	244	PKP		PKPdf	03 09 07.8	-0.4
	comp=Z,12nm,1.1s,baz=79,slow=3.4,SNR=7.3							
TSUM	Tsumeb	125.80	244	PKPdf		PKPdf	03 09 08.0	-0.1
BO02	Sierra Bellavi	128.21	140	PKPdf		PKiKP	03 09 12.9	0.0
RIMA	Rio Macho	128.86	80	PKPdf		PKPdf	03 09 13.4	-0.8
KEST	Kesra	129.23	315	PKP		PKiKP	03 09 14.9	0.0
	comp=Z,12nm,1.1s,baz=29,slow=15,SNR=5.6							
PEL	Peldehue	129.29	138	PKIKP		PKPdf	03 09 13.3	-1.1
PEL	Peldehue	129.29	138			PKPdf	03 09 13.3	-1.1
BCIP	Isla Barro Col	132.86	80	IAMs_20		IAMs_20	04 13 58.2	
	comp=Z,335nm,19.0s							
AC02	Maricunga	134.09	133	PKPdf		PKiKP	03 09 25.3	-0.2
ESDC	Sonseca Array	135.07	328	PP		PP	03 12 02.6	+3.3
	comp=Z,1.8nm,1.1s,baz=46,slow=6.4,SNR=4.5							
PB07	IPOC Station P	136.20	126	PKPdf		PKPdf	03 09 28.1	+0.3
LVC	Limon Verde	136.54	128	*e*P		PKPdf	03 09 27.9	-0.8
PB11	IPOC Station P	137.33	124	PKPdf		PKPdf	03 09 30.5	+0.5
MNMC	Minye Minye	137.67	123			PKPdf	03 09 30.4	-0.3
ROSC	El Rosal	138.54	86	PKP		PKPdf	03 09 31.9	-0.8
	comp=Z,2.5nm,0.3s,baz=155,slow=9.3,SNR=3.9							
CZSB	Cruzeiro do Su	138.80	105	*e*P		PKPdf	03 09 31.2	-1.4
CZSB	Cruzeiro do Su	138.80	105	PKPdf		PKPdf	03 09 32.1	-0.5
LPAZ	La Paz	140.19	120	PKhKP		PKPpre	03 09 28.6	
	comp=Z,4.5nm,1.0s,baz=217,slow=4.5,SNR=9.2							
PLTB	Pedras Altas	140.19	152	*e*P		PKPdf	03 09 33.3	-1.4
ITQB	Itaqui	140.33	147	*e*P		PKPdf	03 09 32.0	-3.0
CPSB	Cacapava Do Su	141.40	151	*e*P		PKPdf	03 09 35.1	-1.8
SDV	Santo Domingo	141.94	79	PKPdf		PKPdf	03 09 35.4	-3.2
CPUP	Villa Florida	142.43	142	PKhKP		PKPpre	03 09 33.5	
	comp=Z,10nm,1.1s,baz=240,slow=4.2,SNR=8.2							
CPUP	Villa Florida	142.43	142	PKIKP		PKPdf	03 09 38.2	-0.7
CPUP	Villa Florida	142.43	142	PKPdf		PKPdf	03 09 38.2	-0.7
OBIP	Obispado Ponce	143.65	63	PKPdf		PKPbc	03 09 38.5	-0.1
SJG	San Juan	144.03	63	PKIKP		PKPbc	03 09 40.0	+0.3
SJG	San Juan	144.03	63			PKPbc	03 09 40.0	+0.2
ETMB	Extrema	144.38	111	*e*P		PKPbc	03 09 41.3	+0.4
ETMB	Extrema	144.38	111	PKPdf		PKPab	03 09 40.7	0.0
TORD	Torodi Ar. Bea	144.43	288	PKP		PKPab	03 09 40.4	-0.5
	comp=Z,74nm,1.1s,baz=61,slow=2.5,SNR=138							
TORD				PP		PP	03 13 02.0	+3.5
	comp=Z,4.2nm,1.2s,baz=45,slow=2.3,SNR=4.7							
TORD	Torodi Ar. Bea	144.43	288			PKPbc	03 09 41.3	+0.2
ITAB	Concordia	144.65	149	*e*P		PKPab	03 09 41.0	-0.3
ITAB	Concordia	144.65	149	PKPdf		PKPbc	03 09 42.1	+0.6
TER01	Tubaro-SC	144.97	154	*e*P		PKPab	03 09 41.6	-0.8
PTGB	Pitanga	146.72	147	*e*P		PKPdf	03 09 46.6	+0.1
SMRT	St. Maarten	146.77	61	PKPbc		PKPbc	03 09 47.7	-0.6
AQDB	Aquidauana	147.63	137	*e*P		PKPdf	03 09 46.0	-2.0
AQDB	Aquidauana	147.63	137			PKPbc	03 09 49.4	-1.2
TIJ01	Guaruva-PR	147.78	152	*e*P		PKPdf	03 09 46.1	-2.1
PTLB	Pontes e Lacer	148.15	126	*e*P		PKPdf	03 09 49.7	+0.8
PTLB	Pontes e Lacer	148.15	126			PKPdf	03 09 50.3	+1.4
VILB	Vilhena	148.53	121	*e*P		PKPdf	03 09 50.3	+0.7
VILB	Vilhena	148.53	121			PKPbc	03 09 51.6	-1.6
FRTB	Fartura	149.16	149	*e*P		PKPdf	03 09 48.1	-2.4
PET01	Itanhaem-SP	149.46	153	*e*P		PKPdf	03 09 46.9	-4.0
PCMB	Pacaembu	149.62	144	*e*P		PKPdf	03

EWUT	**Wuta**	**0.69 227**	P		**Pb**	**02 51 52.0**	**+0.3**
	baz=219						
EWUT			S		**Sg**	**02 52 00.3**	**+0.1**
	baz=219						
FUSB	**Fushanzhiwuyua**	**0.70 257**	P		**Pg**	**02 51 51.4**	**+0.1**
	baz=253						
FUSB			S		**Sg**	**02 52 00.7**	**+0.2**
	baz=253						
YM01	**YM01**	**0.73 288**	P		**Pb**	**02 51 52.4**	**+0.1**
	baz=285						
YM01			S		**Sb**	**02 52 01.8**	**-0.6**
	baz=285						
JYNG	**Yonagunijimaku**	**0.73 130**	P		**Pg**	**02 51 50.8**	**-1.0**
JYNG			S		**Sg**	**02 52 01.5**	**+0.1**
ENA	**Nanau**	**0.73 228**	P		**Pb**	**02 51 52.6**	**+0.2**
	baz=220						
ENA			*e*S		**Sg**	**02 52 00.8**	**-0.6**
	baz=220						
PCYT	**Pengchaiyu**	**0.74 341**	P		**Pb**	**02 51 52.3**	**-0.3**
	baz=342						
PCYT			*e*S		**Sg**	**02 52 01.8**	**0.0**
	baz=342						
ENTT	**Nioudou**	**0.75 248**	*e*P		**Pb**	**02 51 53.2**	**+0.4**
	baz=254						
ENTT			*e*S		**Sb**	**02 52 02.6**	**-0.4**
	baz=254						
TWY	**Chenhua**	**0.75 298**	P		**Pb**	**02 51 52.5**	**-0.3**
	baz=296						
TWY			*e*S		**Sb**	**02 52 02.8**	**-0.2**
	baz=296						
NWLT	**Wulai**	**0.77 259**	P		**Pb**	**02 51 52.9**	**-0.2**
	baz=256						
NWLT			*e*S		**Sg**	**02 52 02.5**	**-0.1**
	baz=256						
YOJ	**Yonaguni jima**	**0.77 127**	P		**Pg**	**02 51 51.9**	**-0.7**
YOJ			S		**Sg**	**02 52 02.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.77 127**	*e*P		**Pg**	**02 51 52.8**	**+0.2**
	baz=119						
YOJ			*e*S		**Sg**	**02 52 02.8**	**+0.1**
	baz=119						
NDT	**Datong Townshi**	**0.81 247**	*e*P		**Pb**	**02 51 54.0**	**+0.3**
	baz=253						
NDT			*e*S		**Sg**	**02 52 04.0**	**0.0**
	baz=253						
LATG	**Datong**	**0.83 242**	*e*P		**Pb**	**02 51 54.2**	**0.0**
	baz=231						
LATG			*e*S		**Sg**	**02 52 04.6**	**0.0**
	baz=231						
TWS1	**Kuangyinshan**	**0.85 282**	*e*P		**Pn**	**02 51 55.1**	**-0.4**
	baz=280						
TWS1			*e*S		**Sb**	**02 52 05.5**	**-0.3**
	baz=280						
YHNB	**Yeheng**	**0.91 254**	*e*P		**Pg**	**02 51 55.1**	**-0.2**
	baz=251						
YHNB			*e*S		**Sg**	**02 52 06.3**	**-0.7**
	baz=251						
NSK	**Sanguang**	**0.92 255**	*e*P		**Pb**	**02 51 55.6**	**-0.1**
	baz=252						
NSK			*e*S		**Sg**	**02 52 06.9**	**-0.6**
	baz=252						
NNSB	**Datong**	**0.99 241**	*e*P		**Pg**	**02 51 56.7**	**-0.2**
	baz=231						
NNSB			*e*S		**Sg**	**02 52 09.9**	**0.0**
	baz=231						
NNS	**Nan Shan**	**1.00 241**	*e*P		**Pg**	**02 51 57.0**	**0.0**
	baz=231						
NNS			*e*S		**Sg**	**02 52 09.8**	**-0.2**
	baz=231						
ETL	**Fush Village**	**1.00 221**	*e*P		**Pg**	**02 51 56.9**	**-0.1**
	baz=218						
ETL			*e*S		**Sg**	**02 52 09.7**	**-0.3**
	baz=218						
NACB	**Ninganchiao**	**1.00 222**	P		**Pg**	**02 51 57.0**	**-0.1**
	baz=211						
NACB			S		**Sg**	**02 52 09.6**	**-0.6**
	baz=211						
TWD	**Chiawan**	**1.07 219**	*e*P		**Pg**	**02 51 58.4**	**0.0**
	baz=217						
TWD			*e*S		**Sg**	**02 52 12.0**	**-0.4**
	baz=217						
NFF	**Wufeng Townshi**	**1.14 256**	*e*P		**Pb**	**02 51 59.2**	**-0.3**
	baz=264						
NFF			*e*S		**Sb**	**02 52 13.3**	**-1.0**
	baz=264						
FUSS	**Fushou**	**1.20 236**	*e*P		**Pg**	**02 52 01.0**	**+0.2**
	baz=228						
FUSS			*e*S		**Sn**	**02 52 17.2**	**+0.3**
	baz=228						
LIOB	**Emei**	**1.23 257**	*e*P		**Pn**	**02 52 00.4**	**-0.4**
	baz=255						
LIOB			*e*S		**Sn**	**02 52 17.8**	**+0.5**
	baz=255						
WHF	**Hehuan Shan**	**1.24 232**	*e*P		**Pg**	**02 52 02.0**	**+0.3**
	baz=230						
WHF			*e*S		**Sg**	**02 52 18.1**	**+0.2**
	baz=230						
NSTT	**Nanjuang**	**1.25 257**	*e*P		**Pg**	**02 52 01.6**	**-0.1**
	baz=254						
NSTT			*e*S		**Sb**	**02 52 16.9**	**-0.4**
	baz=254						
TWT	**Tachien**	**1.25 238**	*e*P		**Pg**	**02 52 01.6**	**-0.1**
	baz=230						
TWT			*e*S		**Sb**	**02 52 17.2**	**-0.2**
	baz=230						
TDCB	**Techi**	**1.26 238**	*e*P		**Pb**	**02 52 01.5**	**0.0**
	baz=230						
TDCB			*e*S		**Sn**	**02 52 18.8**	**+0.5**
	baz=230						
CHGB	**Renai**	**1.36 231**	*e*P		**Pg**	**02 52 04.0**	**+0.1**
	baz=230						
CHGB			*e*S		**Sg**	**02 52 21.6**	**0.0**
	baz=230						
IRIF	**Iriomote-Funau**	**1.40 114**	*e*S		**Sn**	**02 52 21.6**	**+0.1**
WHP	**Taichung City**	**1.42 243**	*e*P		**Pg**	**02 52 05.3**	**+0.4**
	baz=255						
WHP			*e*S		**Sn**	**02 52 22.2**	**+0.2**
	baz=255						
WUSB	**Renai**	**1.45 230**	*e*P		**Pb**	**02 52 05.0**	**+0.3**
	baz=229						
WUSB			*e*S		**Sn**	**02 52 22.6**	**-0.3**
	baz=229						
WCS	**Beigang Elemen**	**1.56 237**	*e*P		**Pg**	**02 52 07.0**	**-0.5**
	baz=224						
WCS			*e*S		**Sg**	**02 52 27.2**	**-0.6**
	baz=224						
VWDT	**VWDT**	**1.59 223**	*e*P		**Pb**	**02 52 06.5**	**-0.6**
	baz=227						
VWDT			*e*S		**Sb**	**02 52 27.2**	**0.0**
	baz=227						
HGSD	**Ruisui**	**1.65 210**	*e*P		**Pb**	**02 52 07.4**	**-0.6**
	baz=194						
HGSD			*e*S		**Sn**	**02 52 28.3**	**+0.6**
	baz=194						
JKRS	**Kuro-shima**	**1.67 114**	*e*S		**Sb**	**02 52 30.1**	**+0.6**
TYC	**Yuchr**	**1.69 233**	*e*P		**Pg**	**02 52 09.5**	**-0.6**
	baz=232						
TYC			*e*S		**Sg**	**02 52 31.1**	**-0.8**
	baz=232						
SSLB	**Suanglung**	**1.69 228**	*e*P		**Pb**	**02 52 09.4**	**+0.6**
	baz=228						
SSLB			*e*S		**Sb**	**02 52 29.6**	**-0.5**
	baz=228						
JIJ	**Ishigaki jima**	**1.74 108**	*e*S		**Sn**	**02 52 30.6**	**+0.7**
YULB	**Yu-li**	**1.79 212**	*e*P		**Pn**	**02 52 08.0**	**-0.6**
	baz=210						
YULB			*e*S		**Sn**	**02 52 30.5**	**-0.8**
	baz=210						
YUS	**Yu-Shan**	**1.91 222**	*e*P		**Pn**	**02 52 11.6**	**+1.1**
	baz=204						
YUS			*e*S		**Sn**	**02 52 35.7**	**+1.0**
	baz=204						
ALS	**Alishan**	**1.98 225**	*e*P		**Pb**	**02 52 13.4**	**-0.5**
	baz=211						
ALS			*e*S		**Sn**	**02 52 35.5**	**-0.8**
	baz=211						
CHN5	**Tsauling**	**2.01 229**	*e*P		**Pb**	**02 52 13.3**	**-0.9**
	baz=227						
CHN5			*e*S		**Sb**	**02 52 39.1**	**-0.1**
	baz=227						
ELDTW	**Lidau**	**2.10 215**	*e*P		**Pn**	**02 52 14.4**	**+1.5**
	baz=213						
ELDTW			*e*S		**Sn**	**02 52 39.0**	**-0.1**
	baz=213						
TPUB	**Ta-pu**	**2.24 224**	*e*P		**Pn**	**02 52 15.6**	**+0.8**
	baz=208						
TPUB			*e*S		**Sb**	**02 52 44.8**	**-1.2**
	baz=208						
TWK	**Hsinying**	**2.36 226**	*e*P		**Pn**	**02 52 17.8**	**+1.4**
	baz=207						
TWK			*e*S		**Sn**	**02 52 47.4**	**+2.1**
	baz=207						
CHN1	**Nanshi**	**2.39 224**	*e*P		**Pn**	**02 52 18.4**	**+1.6**
	baz=206						
CHN1			*e*S		**Sb**	**02 52 49.0**	**-1.2**
	baz=206						
XPSS	**Dashiqiu**	**2.78 316**	*e*P		**Pn**	**02 52 23.9**	**+1.9**
	baz=313						
XPSS			*e*S		**Sn**	**02 52 53.1**	**-2.5**
	baz=313						

DDA ***31*** *03:09:45.1±0.0,41°.35N×44°.02E,h7km±3km,ML2.4,*
Hypocentre not reviewed by the ISC
ISK ***31*** *03:09:45.7,41°.28N×43°.97E,h6km,ML2.5/7*
TIF ***31*** *03:09:45.3,41°.28N×43°.99E,h17km*
NORS ***31*** *03:09:46.6±0.0,41°.44N×43°.98E,h4km,MPVA3.3*
ISC 31 03:09:46.5±1.0,**41°.29N**±0°.02×**43°.97E**±0°.02,**h8**km±8km,
n32,σ1º**02**/60,**Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.17**	**75**	P	**Pg**	**03 09 50.0**	**-0.1**
DMNI				S	**Sg**	**03 09 52.9**	**+0.3**
TRLG	**Trialeti**	**0.27**	**22**	P	**Pg**	**03 09 51.7**	**-0.3**
TRLG				S	**Sg**	**03 09 55.9**	**+0.2**
BGD	**Bogdanovka**	**0.28**	**266**	P	**Pg**	**03 09 52.4**	**+0.3**
BGD				S	**Sb**	**03 09 56.9**	**-2.0**
BRNG	**Burnasheti**	**0.35**	**343**	P	**Pg**	**03 09 53.7**	**+0.2**
BRNG				S	**Sb**	**03 09 59.6**	**-1.4**
AKH	**Akhalkalaki**	**0.38**	**289**	P	**Pg**	**03 09 53.9**	**-0.1**
AKH				S	**Sg**	**03 09 59.5**	**+0.6**
AKH	**Akhalkalaki**	**0.38**	**289**	PG	**Pg**	**03 09 53.9**	**-0.1**
AKH				SG	**Sg**	**03 09 59.6**	**+0.6**
EAK	**Akyaka**	**0.66**	**205**	P		03 09 58.6	
BTNK	**Botanikuri**	**0.74**	**57**	P	**Pg**	**03 09 57.5**	**-3.3**
BTNK				S	**Sg**	**03 10 07.8**	**-2.6**
BTNK	**Botanikuri**	**0.74**	**57**	P		03 09 57.5	
BTNK				S		03 10 07.7	
BTNK				*i* AML		03 10 09.0	
	comp=E,196nm,0.2s						
KARS	**Kars**	**0.94**	**226**	PG	**Pg**	**03 10 03.9**	**-0.7**
KARS				SG	**Sb**	**03 10 17.6**	**-0.3**
EPOS	**Posof**	**0.96**	**284**	P		03 10 04.3	
DIGO	**Kars**	**0.98**	**208**	P		03 10 04.1	
DIGO				S		03 10 16.9	
DIGO				*i* AML		03 10 19.0	
	comp=N,66nm,0.4s						
DIGO				*i* AML		03 10 25.0	
	comp=E,93nm,0.4s						
ABS	**Abastumani**	**0.99**	**299**	P	**Pg**	**03 10 04.8**	**-0.7**
ABS				S	**Sb**	**03 10 18.8**	**-0.4**
GNI	**Garni**	**1.28**	**152**	PN	**Pg**	**03 10 10.6**	**-0.4**
GNI				SN	**Sb**	**03 10 28.2**	**+0.6**
TKB	**Tkibuli**	**1.29**	**326**	P	**Pg**	**03 10 10.3**	**-1.0**
TKB				S	**Sb**	**03 10 27.7**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.32**	**171**	PN	**Pg**	**03 10 10.3**	**-1.5**
TASB				SN	**Sn**	**03 10 29.6**	**+0.5**
ONI	**Oni**	**1.36**	**344**	P	**Pn**	**03 10 11.1**	**-0.8**
ONI				S	**Sn**	**03 10 30.6**	**+0.4**
ONI	**Oni**	**1.36**	**344**	*e*Pg	**Pb**	**03 10 12.1**	**-0.1**
ONI				*e*Sg	**Sn**	**03 10 30.6**	**+0.5**
IGDI	**IGDIR**	**1.42**	**177**	P		03 10 11.8	
IGDI				S		03 10 30.2	
SENK	**Senkaya-Erzuru**	**1.42**	**240**	PN	**Pn**	**03 10 12.8**	**-0.1**
PNSH	**Pansheti**	**1.43**	**20**	P	**Pn**	**03 10 12.4**	**-0.6**
PNSH				S	**Sg**	**03 10 32.0**	**-0.6**
ZEI	**Tsey**	**1.50**	**358**	*e*Pg	**Pn**	**03 10 13.9**	**0.0**
ZEI				*e*Sg	**Sn**	**03 10 34.3**	**+0.4**
LACR	**Lac**	**1.56**	**9**	*i* Pg	**Pn**	**03 10 14.9**	**+0.2**
LACR				*e*Sg	**Sg**	**03 10 36.0**	**-0.7**
DAGI	**Agillar**	**1.56**	**263**	P		03 10 14.8	
DAGI				S		03 10 35.9	
KOTA	**Agri, Merkez-K**	**1.59**	**202**	P		03 10 16.0	
DIGR	**Digorskoe uzhe**	**1.64**	**350**	*e*Pg	**Pn**	**03 10 16.3**	**+0.5**
DIGR				*e*Sg	**Sg**	**03 10 39.1**	**-0.1**
DDEM	**Demirkent**	**1.72**	**258**	P		03 10 17.7	
DDEM				S		03 10 39.8	
DDEM				*i* AML		03 10 42.0	
	comp=E,67nm,0.3s						
DDEM				*i* AML		03 10 44.0	
	comp=N,84nm,0.3s						
DBOC	**Borcka**	**1.73**	**273**	P		03 10 17.6	
DBOC				S		03 10 40.4	
DBAD	**Bademkaya**	**1.74**	**262**	P		03 10 17.6	
DBAD				S		03 10 40.2	
DBAD				*i* AML		03 10 43.0	
	comp=E,42nm,0.7s						
DBAD				*i* AML		03 10 45.0	
	comp=N,39nm,0.7s						
KORR	**Kora**	**1.80**	**2**	*i* Pg	**Pg**	**03 10 20.6**	**-0.4**
KORR				*e*Sg	**Sg**	**03 10 45.3**	**+0.9**
EATA	**Eleskirt**	**1.81**	**219**	P		03 10 19.8	
AGRB	**Hanur-Agry**	**1.86**	**204**	PN	**Pn**	**03 10 19.1**	**+0.2**
KMGR	**Komgaron**	**1.89**	**20**	*e*Pg	**Pg**	**03 10 21.9**	**-0.9**
KMGR				*e*Sg	**Sg**	**03 11 49.5**	**+2.2**
LSNR	**Lesken**	**1.99**	**357**	*e*Pg	**Pg**	**03 10 23.6**	**-1.2**
LSNR				*e*Sg	**Sg**	**03 10 50.0**	**-0.5**
HOMI	**Horasan**	**2.00**	**232**	P		03 10 23.5	
KOPR	**Koprukoy-ERZUR**	**2.06**	**232**	PN	**Pn**	**03 10 22.0**	**+0.3**
STDR	**Stavd-Durt**	**2.08**	**2**	*e*Pg	**Pg**	**03 10 26.0**	**-0.5**
STDR				*e*Sg	**Sg**	**03 10 55.5**	**+2.1**
NEY	**Neytrino**	**2.17**	**335**	*e*Pg	**Pg**	**03 10 26.6**	**-1.5**
NEY				*e*Sg	**Sb**	**03 10 53.8**	**+0.6**
BTLR	**Botlikh**	**2.17**	**50**	*e*Pg	**Pb**	**03 10 25.7**	**-0.4**
BTLR				*e*Sg	**Sb**	**03 10 53.9**	**+0.6**
DVE	**Vedeno**	**2.32**	**43**	*e*Pg	**Pb**	**03 10 28.7**	**+0.1**
DVE				*e*Sg	**Sb**	**03 10 58.9**	**+1.5**
GROC	**Groznyy**	**2.35**	**35**	*e*Pg	**Pg**	**03 10 31.1**	**-0.4**
GROC				*e*Sg	**Sg**	**03 11 02.3**	**+0.3**
EJDE	**Erzurum, Palan**	**2.50**	**235**	PN	**Pn**	**03 10 28.0**	**+0.2**
GNBR	**Gunib**	**2.50**	**63**	*e*Pn	**Pb**	**03 10 31.8**	**+0.2**
GNBR				*e*Sn	**Sb**	**03 11 04.2**	**+1.7**
AKT	**Akhty**	**2.84**	**85**	*e*Pn	**Pn**	**03 10 34.3**	**+2.1**
AKT				*e*Sn	**Sb**	**03 11 12.2**	**-0.3**

JMA ***31*** *03:40:50.2±0.5,24°.82N×127°.94E,h73km,M2.8*
IDC ***31*** *03:40:51.5±4.0,24°.88N×128°.13E,h54km±41km,mb3.3/3,*
mb1 3.4/3,mb1mx2.8/45,mbtmp3.5/3,Error ellipse:
s-maj=51.2km s-min=27.0km az=85.0
ISC 31 03:40:47.2±2.1,**24°.83N**±0°.07×**128°.02E**±0°.06,**h16**km±13km,
n14,σ1º**45**/24,**mb3.5**/3,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.32**	**351**	P	**Pg**	**03 41 13.6**	**+0.9**
JNTH	**Nagotoyohara**	**1.68**	**0**	P	**Pb**	**03 41 18.1**	**+0.4**
JNTH				*e*S	**Sb**	**03 41 38.3**	**-0.3**
JKE	**Kume jima 2**	**1.86**	**323**	P	**Pb**	**03 41 20.0**	**-0.8**
JKE				*e*S	**Sn**	**03 41 41.7**	**+0.2**
JAGN	**Aguni-jima**	**1.88**	**338**	P	**Pb**	**03 41 21.0**	**-0.2**
JAGN				S	**Sb**	**03 41 43.6**	**-0.9**
JOW	**Kunigami**	**2.00**	**7**	P	**Pb**	**03 41 22.9**	**-0.3**
	6.7nm,0.3s,baz=128,slow=25,SNR=38						
JOW				S	**Sn**	**03 41 45.7**	**+0.6**
	3.1nm,0.3s,baz=110,slow=23,SNR=1.7						
JOW	**Kunigami**	**2.00**	**7**	P	**Pb**	**03 41 23.0**	**-0.3**
JOW				S	**Sb**	**03 41 47.0**	**-1.0**
JYRO	**Yoronjima**	**2.22**	**10**	P	**Pb**	**03 41 25.9**	**-1.0**
JYRO				S	**Sn**	**03 41 51.8**	**+1.5**
JOKE	**Okinoerabujima**	**2.57**	**11**	P	**Pb**	**03 41 31.0**	**-1.8**
JOKE				*e*S	**Sb**	**03 42 01.5**	**-2.7**
JTK	**Tokunoshima**	**3.06**	**16**	P	**Pb**	**03 41 38.7**	**-2.5**
JTK				*e*S	**Sn**	**03 42 14.4**	**+3.3**
JMZ	**Minamidaito 2**	**3.06**	**71**	P	**Pn**	**03 41 35.7**	**+0.9**
JMZ				*e*S	**Sn**	**03 42 11.0**	**-0.1**
JKDJ	**Kitadaitoujima**	**3.17**	**69**	P	**Pn**	**03 41 37.6**	**+1.3**
JKDJ				*e*S	**Sn**	**03 42 15.7**	**+2.0**
PETK	**Petropavlovsk-**	**35.99**	**31**	P	**P**	**03 47 46.3**	**-0.9**
	5.9nm,1.1s,baz=238,slow=9.9,SNR=1.9						
MKAR	**Makanchi Array**	**42.33**	**313**	P	**P**	**03 48 40.5**	**+0.1**
	0.1nm,0.6s,baz=81,slow=9.5,SNR=1.4						
WRA	**Warramunga Arr**	**44.93**	**172**	P	**P**	**03 49 01.1**	**-0.3**
	0.3nm,0.5s,baz=352,slow=9.0,SNR=5.4						

JMA ***31*** *04:06:14.4,40°.00N×142°.41E,h22km±1km,M4.4*
JMA Felt I J1.
NIED ***31*** *04:06:14.4,40°.00N×142°.41E,h22km,MW4.3,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}=0.08; $M_{\theta\theta}$=1.99; $M_{\phi\phi}$=-1.92; $M_{r\theta}$=1.08; $M_{\theta\phi}$=1.41; $M_{\phi r}$=-0.71;
Fault plane solution: M_0=2.74000×10^{15} NP1:
ϕ_s=297.00000°,δ87.00000°,λ-28.00000°. NP2:ϕ_s=28.00000°,
δ62.00000°,λ-177.00000°.
IDC ***31*** *04:06:19.5±2.2,39°.97N×142°.24E,h44km±21km,mb3.3/11,*
mb1 3.5/15,mb1mx3.3/37,mbtmp3.6/15,ML3.4/3,MS3.6/10,
Ms1 3.6/10,ms1mx3.3/44 Error ellipse: s-maj=25.2km
s-min=12.9km az=112.0
ISC 31 04:06:16.5±0.8,**39°.99N**±0°.03×**142°.30E**±0°.08,**h22**km±4km,
n41,σ1º**80**/39,**mb3.6**/13,**MS3.6**/5,**2C-7D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.34**	**261**	⇓P	**Pb**	**04 06 23.1**	**-0.8**
JTH				S	**Sb**	**04 06 29.3**	**+0.5**
JKEN	**Kujiedanarisaw**	**0.50**	**296**	P	**Pb**	**04 06 25.6**	**-1.0**
JKEN				S	**Sb**	**04 06 33.4**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.56**	**222**	⇓P	**Pb**	**04 06 26.2**	**-1.4**
MIYJ				S	**Sb**	**04 06 34.5**	**-0.7**
JANG	**Nango**	**0.71**	**303**	⇑P	**Pb**	**04 06 28.8**	**-1.5**
JANG				S	**Sb**	**04 06 38.8**	**-0.8**
JKZ	**Kuzumaki**	**0.74**	**270**	⇓P	**Pb**	**04 06 30.0**	**-0.8**
JKZ				S	**Sb**	**04 06 41.2**	**+0.6**
JOM	**Ohasama**	**0.93**	**237**	⇓P	**Pb**	**04 06 32.8**	**-1.2**
JOM				S	**Sb**	**04 06 46.2**	**+0.3**
OFUJ	**Ofunato**	**1.03**	**208**	⇓P	**Pn**	**04 06 33.7**	**-2.0**
OFUJ				S	**Sb**	**04 06 47.9**	**-0.9**
JTM	**Tenmabayashi**	**1.23**	**311**	⇑P	**Pn**	**04 06 37.4**	**-1.0**
JTM				S	**Sn**	**04 06 53.8**	**-0.6**
JAH	**Hinai**	**1.29**	**279**	⇓P	**Pb**	**04 06 39.1**	**-1.0**
JAH				S	**Sb**	**04 06 57.2**	**+1.0**
JMK	**Ichinoseki**	**1.33**	**219**	⇓P	**Pn**	**04 06 38.9**	**-0.9**
JMK				S	**Sb**	**04 06 56.9**	**-0.5**
ASAJ	**Asahikawa**	**4.13**	**3**	P	**Pn**	**04 07 19.9**	**+1.7**
	2.1nm,0.3s,baz=211,slow=7.8,SNR=10						
ASAJ				S	**Sn**	**04 08 07.9**	**+2.0**
	7.9nm,0.3s,baz=225,slow=11,SNR=6.0						
ASAJ				LR	LR	04 09 25.4	
	comp=Z,1μm,20.6s,baz=155,slow=45						
MJAR	**Matsushiro Arr**	**4.71**	**224**	P	**Pn**	**04 07 29.5**	**+3.1**
	1.2nm,0.3s,baz=37,slow=13,SNR=36						
MJAR				S	Sn	04 08 10.8	-10
	0.7nm,0.3s,baz=32,slow=12,SNR=5.2						
MAT	**Matsushiro**	**4.71**	**224**	P	**Pn**	**04 07 29.5**	**+3.1**
MAT				*e*S	**Sn**	**04 08 26.6**	**+6.2**
JHJ	**Hachijo jima 2**	**7.15**	**197**	LR	LR	04 10 27.2	
	comp=Z,182nm,19.8s,baz=51,slow=35						
USRK	**Ussuriysk Ar.**	**8.74**	**302**	P	**Pn**	**04 08 21.4**	**-0.1**
	baz=92,slow=13,SNR=2.6						
KSRS	**Korea Array**	**11.51**	**262**	P	**Pn**	**04 09 01.3**	**+1.7**
	0.4nm,0.3s,baz=74,slow=13,SNR=1.8						
KSRS				LR	LR	04 13 16.8	
	comp=Z,250nm,18.8s,baz=75,slow=36						
KLR	**Kul'dur**	**11.90**	**324**	LR	LR	04 13 38.9	
	comp=Z,323nm,19.1s,baz=39,slow=37						
JOW	**Kunigami**	**17.56**	**226**	LR	LR	04 18 07.9	
	comp=Z,172nm,18.2s,baz=76,slow=40						
YAK	**Yakutsk**	**23.37**	**345**	LR	LR	04 21 52.7	
	comp=Z,203nm,18.8s,baz=262,slow=40						
SEY	**Seymchan**	**23.76**	**11**	P	**P**	**04 11 27.0**	**-0.1**
	0.4nm,0.4s,baz=185,slow=23,SNR=1.8						
GUMO	**Guam**	**26.40**	**174**	LR	LR	04 21 55.1	
	comp=Z,68nm,20.6s,baz=318,slow=36						
SONM	**Songino Array**	**26.84**	**299**	P	**P**	**04 11 54.6**	**-0.8**
	0.2nm,0.6s,baz=55,slow=47,SNR=1.4						
H11N2	**WAKE ISLAND Hy**	**29.21**	**127**	T	T	04 43 00.4	
	baz=319,slow=75,SNR=1109						
H11N1	**WAKE ISLAND Hy**	**29.22**	**127**	T	T	04 42 54.8	
	baz=319,slow=75,SNR=1008						
H11N3	**WAKE ISLAND Hy**	**29.23**	**127**	T	T	04 42 55.6	
	baz=319,slow=75,SNR=1674						
H11S1	**WAKE ISLAND Hy**	**30.02**	**128**	T	T	04 44 03.5	
	baz=321,slow=76,SNR=166						
H11S3	**WAKE ISLAND Hy**	**30.02**	**128**	T	T	04 43 56.1	
	baz=321,slow=76,SNR=80						
H11S2	**WAKE ISLAND Hy**	**30.03**	**128**	T	T	04 44 08.2	
	baz=321,slow=76,SNR=143						
ZALV	**Zalesovo Beam**	**40.49**	**310**	P	**P**	**04 13 53.2**	**-0.3**
	0.8nm,0.4s,baz=86,slow=11,SNR=2.5						
CMAR	**Chiang Mai Arr**	**42.97**	**253**	P	**P**	**04 14 13.6**	**-0.6**
	1.1nm,0.4s,baz=36,slow=7.8,SNR=1.5						
CMAR				LR	LR	04 33 59.7	
	comp=Z,62nm,18.4s,baz=15,slow=39						
MKAR	**Makanchi Array**	**43.20**	**300**	P	**P**	**04 14 15.8**	**+0.1**
	0.5nm,0.8s,baz=87,slow=9.7,SNR=5.4						
KDAK	**Kodiak Island**	**44.46**	**44**	LR	LR	04 32 55.7	
	comp=Z,83nm,19.6s,baz=290,slow=36						
ILAR	**Eielson Array**	**46.64**	**34**	P	**P**	**04 14 43.6**	**+0.7**
	0.6nm,0.9s,baz=266,slow=5.8,SNR=2.4						
INK	**Inuvik**	**51.45**	**28**	P		04 15 23.5	+4.0
	0.3nm,0.3s,baz=107,slow=8.9,SNR=1.8						
ARU	**Arti**	**54.63**	**317**	LR	LR	04 41 35.3	
	comp=Z,192nm,20.7s,baz=315,slow=39						
RES	**Resolute Bay**	**59.57**	**15**	P	**P**	**04 16 20.0**	**+2.1**
	0.4nm,0.4s,baz=342,slow=3.2,SNR=2.9						
WRA	**Warramunga Arr**	**60.08**	**189**	P	**P**	**04 16 21.6**	**-0.4**
	0.7nm,0.6s,baz=7.3,slow=7.1,SNR=9.2						
YKA	**Yellowknife Ar**	**60.91**	**31**	P	**P**	**04 16 26.7**	**-0.5**
	0.5nm,1.1s,baz=300,slow=6.3,SNR=2.1						
ASAR	**Alice Springs**	**63.81**	**189**	P	**P**	**04 16 46.2**	**-0.8**
	0.2nm,0.5s,baz=359,slow=6.3,SNR=5.4						
FINES	**FINESS Array B**	**66.53**	**332**	P	**P**	**04 17 00.0**	**-4.2**
	1.9nm,0.9s,baz=254,slow=14,SNR=1.6						
AKASG	**Malin Array Be**	**72.39**	**322**	P	**P**	**04 17 41.8**	**+1.1**
	0.1nm,0.3s,baz=44,slow=6.4,SNR=2.9

comp=N,50nm,0.5s
DHRM DHARAMSHALA 7.17 293 *e*P **Pn 04 20 13.5 +2.9**
DHRM IAML 04 21 40.5
comp=E,63nm,0.6s
DHRM IAML 04 21 41.0
comp=N,63nm,0.7s
SHL Shillong 8.03 119 *e*P **Pn 04 20 21.3 -1.1**
SHL Shillong 8.03 119 Pn **Pn 04 20 21.2 -1.2**
BHPL Bhopal 8.78 225 *e*P **Pn 04 20 32.9 +0.4**
THW Thamme Wali 11.02 289 P **Pn 04 21 03.9 +0.6**
CHLP Challavanipeta 11.13 180 *e*Pn **Pn 04 21 05.0 +0.2**
CEP Cherat 11.17 295 P **Pn 04 21 07.2 +1.9**
RPR Rampur 11.64 203 *e*Pn **Pn 04 21 11.8 +0.1**
KSH Kashi 11.87 328 P **Pn 04 21 16.3 +1.4**
KSH sP 04 21 24.0
KSH S **Sn 04 23 23.5 -4.4**
KSH pmax pmax
comp=N,7.0nm,0.9s
SRSP Sriramsagar 11.93 207 *e*Pn **Pn 04 21 15.2 -0.5**
PVM Polavaram 12.59 191 *ep*Pn **Pn 04 21 26.8 +2.1**
CUPL Choutuppal 13.22 202 *e*Pn **Pn 04 21 32.8 -0.5**
HYBB Hyderabad (bro 13.23 204 *e*Pn **Pn 04 21 33.5 0.0**
HYBB *e*Sn **Sn 04 24 02.2 +0.9**
MYLAV Mylavaram 13.27 195 *e*Pn **Pn 04 21 33.7 -0.3**
KBL Kabul 13.65 295 Pn **Pn 04 21 40.2 +0.9**
NJS Nagarjunasagar 13.80 200 *e*Pn **Pn 04 21 40.0 -1.2**
ADKI Addanki 14.30 196 *e*Pn **Pn 04 21 48.0 0.0**
SRLM Srisailam 14.35 201 *e*Pn **Pn 04 21 48.8 -0.1**
WMQ Urumqi 14.39 11 *e*P **Pn 04 21 51.0 +1.7**
POO Poona 14.52 222 *e*P P 04 22 13.0 +15
GAR Garm 14.68 313 Pn 04 21 54.8 +1.5
RCLA Racherla 14.94 200 *e*Pn **Pn 04 21 57.2 +0.4**
BTK Batken 15.01 317 Pn **Pn 04 21 58.3 +0.5**
BTK IAmb IAmb 04 22 11.0
comp=Z,15nm,0.8s
AAK Ala-Archa 15.06 332 Pn **P 04 22 01.9 -2.0**
baz=164,slow=11,SNR=1.7
AAK Ala-Archa 15.06 332 Pn **Pn 04 21 59.3 +0.8**
AAK IAmb IAmb 04 22 12.9
comp=Z,8.4nm,1.1s
FRU1 Bishkek 15.14 332 Pn **Pn 04 22 01.1 +1.5**
FRU1 IAmb IAmb 04 22 12.1
comp=Z,28nm,1.0s
CHGR Chuyangaron 15.25 310 Pn **Pn 04 22 00.6 -0.4**
PZH PanZhiHua 15.89 97 P **Pn 04 22 08.8 -0.6**
PZH pmax pmax
comp=Z,10.0nm,1.0s
URV Uravakonda 15.97 205 *e*Pn **Pn 04 22 10.6 +0.1**
MK31 Makanchi Array 17.14 356 Pn 04 22 26.1 +0.9
MKAR Makanchi Array 17.14 356 P **P 04 22 27.3 +0.5**
comp=Z,0.3nm,0.3s,baz=177,slow=11,SNR=47
MKAR Makanchi Array 17.14 356 Pn 04 22 25.8 +0.7
KMI Kunming 17.16 101 ⇑P **P 04 22 28.0 +0.5**
KMI pmax pmax
comp=Z,12nm,0.8s
MAKZ Makanchi 17.17 355 P 04 22 26.7 -0.5
KKAR Karatay Array 17.26 325 Pn **Pn 04 22 26.9 +0.2**
CHTO Chiang Mai 17.31 125 Pn **Pn 04 22 23.7 -3.7**
CMAR Chiang Mai Arr 17.55 126 P **Pn 04 22 30.7 +0.3**
comp=Z,0.5nm,0.3s,baz=306,slow=12,SNR=5.7
KURBB Kurchatov Arra 21.33 350 P **P 04 23 13.2 +0.6**
comp=Z,8.1nm,0.9s,baz=171,slow=9.9,SNR=64
KURK Kurchatov 21.40 350 P **P 04 23 13.2 -0.2**
KURK IAmb IAmb 04 23 14.8
comp=Z,11nm,0.9s
XAN Xi'an 21.50 72 P **P 04 23 16.3 +1.6**
XAN pP pP 04 23 19.3 +2.4
XAN pmax pmax
comp=Z,8.0nm,1.0s
ZAA0 Zalesovo Array 24.25 1 P **P 04 23 41.6 -1.0**
ZALV Zalesovo Beam 24.25 1 P **P 04 23 43.2 +0.5**
comp=Z,1.2nm,0.6s,baz=188,slow=8.8,SNR=7.9
ZALV Zalesovo Beam 24.25 1 P **P 04 23 41.6 -1.0**
HHC Hu-ho-hao-te 24.93 56 *e*P **P 04 23 47.0 -2.2**
HHC pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 24.96 37 P **P 04 23 50.9 +1.5**
comp=Z,3.2nm,0.9s,baz=224,slow=10,SNR=21
SONM Songino Array 24.96 37 P **P 04 23 49.5 +0.1**
SONM IAmb IAmb 04 23 51.9
comp=Z,2.1nm,0.9s
ULN Ulaanbaatar 25.33 38 P **P 04 23 52.5 -0.3**
ULN IAmb IAmb 04 23 54.7
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 25.40 340 P **P 04 23 54.3 +1.2**
comp=Z,2.5nm,0.9s,baz=112,slow=11,SNR=9.2
BRVK Borovoye 25.46 340 P **P 04 23 53.3 -0.4**
BRVK IAmb IAmb 04 23 57.8
comp=Z,7.1nm,1.2s
ABKAR Akbulak array 26.82 324 P **P 04 24 06.5 +0.5**
KBZ Khabaz 35.51 305 P **P 04 25 23.9 +1.3**
comp=Z,2.0nm,0.9s,baz=122,slow=11,SNR=4.6
NRIK Noril'sk 39.74 2 P **P 04 25 59.5 +1.4**
comp=Z,1.9nm,0.5s,baz=210,slow=8.9,SNR=4.7
BRTR Keskin Array B 42.19 298 P **P 04 26 20.4 +1.4**
comp=Z,0.6nm,0.8s,baz=128,slow=8.1,SNR=4.8
ELL Elmali 45.38 294 P 04 26 44.7 +0.1
AKASG Malin Array Be 45.68 313 P **P 04 26 46.6 0.0**
comp=Z,1.4nm,0.6s,baz=80,slow=7.3,SNR=7.1
AKASG Malin Array Be 45.68 313 IAmb IAmb 04 27 12.3
comp=Z,2.8nm,1.4s
FINES FINESS Array B 49.19 327 P **P 04 27 14.0 +0.3**
comp=Z,3.5nm,0.7s,baz=97,slow=7.9,SNR=14
ARCES ARCESS Array B 51.63 337 P **P 04 27 31.6 -0.5**
comp=Z,5.7nm,0.9s,baz=94,slow=4.0,SNR=8.1
HFS Hagfors 55.06 325 P **P 04 27 57.8 +0.3**
comp=Z,8.0nm,0.9s,baz=140,slow=4.7,SNR=4.3
GERES GERESS Array B 55.75 311 P **P 04 28 02.7 -0.1**
comp=Z,0.4nm,0.7s,baz=35,slow=12,SNR=1.5
NB2 NORSAR Subarra 56.28 326 P **P 04 28 05.9 -0.4**
comp=Z,20nm,1.4s,baz=89,slow=7.4
NOA NORSAR Array B 56.28 326 P **P 04 28 06.1 -0.2**
comp=Z,2.4nm,0.9s,baz=89,slow=7.0,SNR=4.5
KEST Kesra 61.79 297 P **P 04 28 45.4 +0.4**
comp=Z,4.4nm,1.1s,baz=2.8,slow=3.8,SNR=4.2
KEST Kesra 61.79 297 IAmb IAmb 04 28 48.2
comp=Z,7.5nm,1.1s
WRA Warramunga Arr 69.11 129 P **P 04 29 31.4 -1.0**
comp=Z,2.8nm,0.7s,baz=325,slow=6.5,SNR=29
ESDC Sonseca Array 70.37 305 P **P 04 29 39.8 -0.2**
comp=Z,0.8nm,0.9s,baz=72,slow=6.1,SNR=4.1
ASAR Alice Springs 71.44 132 P **P 04 29 45.4 -1.3**
comp=Z,1.1nm,0.7s,baz=314,slow=6.2,SNR=17
TORD Torodi Ar. Bea 77.09 278 P **P 04 30 19.7 -0.2**
comp=Z,0.9nm,0.5s,baz=60,slow=4.3,SNR=7.3
TORD Torodi Ar. Bea 77.09 278 IAmb IAmb 04 30 23.2
comp=Z,24nm,0.9s
YKA Yellowknife Ar 86.92 9 P **P 04 31 09.4 -1.2**
comp=Z,0.2nm,0.7s,baz=339,slow=4.6,SNR=4.6

NEIC ***31*** *04:25:58.1±1.7, 46°.8N±0°.1×150°.54E±0°.04, h146km±6km, mb4.6/59, Error ellipse: s-maj=16.4km s-min=1.9km az=169.0*
MOS ***31*** *04:25:58.9±1.0, 46°.81N×150°.59E, h169km, mb4.4/30, Error ellipse: s-maj=8.7km s-min=5.4km az=90.8*
IDC ***31*** *04:26:00.6±2.4, 46°.82N×150°.56E, h170km±20km, mb4.1/43, mb1 4.1/47, mb1mx4.0/72, mbtmp4.5/47, Error ellipse: s-maj=13.0km s-min=8.2km az=179.0*
SKHL ***31*** *04:27:00.0±0.5, 46°.60N×150°.90E, h167km±8km, mb5.1/7, mbv5.0/2, msha5.7/7*

ISC 31 04:25:58.5±0.4, 46°.78N±0°.05×150°.72E±0°.05, h150km, n299, σ1s48/288, mb4.5/110, 59C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.52**	**233**	*c i* PN	**Pn**	**04 26 43.9**	**+4.1**
KUR				*i* S	**Sn**	**04 27 16.5**	**+4.9**
KUR				pmax	pmax		
comp=E,71nm,0.5s							
KUR				pmax	pmax		
comp=Z,815nm,0.5s							
KUR				pmax	pmax		
comp=N,154nm,0.4s							
KUR				pmax	pmax		
comp=Z,2μm,1.2s							
KUR				smax	smax		
comp=N,741nm,0.6s							
KUR				smax	smax		
comp=E,477nm,0.7s							
KUR				smax	smax		
comp=N,3μm,2.6s							
KUR				smax	smax		
comp=E,2μm,2.4s							
KUR				MLR	MLR		
comp=Z,1μm,4.0s							
KUR				MLR	MLR		
comp=N,449nm,2.0s							
KUR				MLR	MLR		
comp=E,1μm,3.0s							
KUR	**Kuril'sk**	**2.52**	**233**	*i* P	**Pn**	**04 26 42.5**	**+2.7**
KUR				AMB	AMB	04 26 44.6	
comp=E,820nm,0.5s							
KUR				AMB	AMB	04 26 44.7	
comp=E,2μm,1.2s							
KUR				*i* S	**Sn**	**04 27 16.3**	**+4.7**
KUR				A	A	04 27 19.9	
comp=E,740nm,0.6s							
KUR				A	A	04 27 19.9	
comp=E,500nm,0.6s							
SHO	**Shikotan**	**4.00**	**225**	⇑*i* PN	**Pn**	**04 26 59.3**	**+0.7**
SHO				*e*S	**Sn**	**04 27 43.5**	**-1.9**
SHO				pmax	pmax		
comp=N,42nm,0.3s							
SHO				pmax	pmax		
comp=Z,96nm,0.3s							
SHO				pmax	pmax		
comp=E,50nm,0.4s							
SHO				smax	smax		
comp=E,262nm,0.4s							
SHO				smax	smax		
comp=N,224nm,0.3s							
SHO	**Shikotan**	**4.00**	**225**	*i* P	**Pn**	**04 26 59.3**	**+0.7**
SHO				AMB	AMB	04 27 01.9	
comp=N,40nm,0.3s							
SHO				AMB	AMB	04 27 01.9	
comp=N,100nm,0.3s							
SHO				*e*S	**Sn**	**04 27 43.7**	**-1.7**
SHO				A	A	04 27 45.5	
comp=N,220nm,0.4s							
SHO				A	A	04 27 45.5	
comp=N,260nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.38**	**233**	⇓*i* PN	**Pn**	**04 27 06.4**	**+2.7**
YUK				*e*S	**Sn**	**04 27 57.1**	**+2.7**
YUK				smax	smax		
comp=E,274nm,0.4s							
YUK				smax	smax		
comp=N,230nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**4.38**	**233**	*i* P	**Pn**	**04 27 06.3**	**+2.6**
YUK				AMB	AMB	04 27 07.0	
comp=N,460nm,0.5s							
YUK				*e*S	**Sn**	**04 27 57.9**	**+3.5**
YUK				A	A	04 28 02.3	
comp=N,230nm,0.3s							
YUK				A	A	04 28 02.3	
comp=N,270nm,0.3s							
GRPR	**Tuman**	**4.46**	**233**	⇓*i* PN	**Pn**	**04 27 07.4**	**+2.7**
GRPR				*e*S	**Sn**	**04 27 59.2**	**+2.9**
GRPR				smax	smax		
comp=N,266nm,0.4s							
GRPR				smax	smax		
comp=E,228nm,0.4s							
GRPR	**Tuman**	**4.46**	**233**	*i* P	**Pn**	**04 27 07.4**	**+2.7**
GRPR				*e*S	**Sn**	**04 27 59.2**	**+2.9**
GRPR				A	A	04 28 02.2	
comp=E,270nm,0.4s							
GRPR				A	A	04 28 02.2	
comp=E,230nm,0.4s							
RUSJ	**Misakicho**	**4.69**	**237**	*e*PN	Pn	04 27 12.7	+5.0
NMR	**Nemuro--Hokkai**	**4.91**	**228**	*e*PN	**Pn**	**04 27 10.6**	**-0.1**
NMR				*e*S	**Sn**	**04 28 03.8**	**-3.1**
NMR	**Nemuro--Hokkai**	**4.91**	**228**	*e*P	**Pn**	**04 27 10.5**	**-0.1**
NMR				*e*rx	rx	04 28 03.8	
SKR	**Severo-Kuril's**	**5.29**	**40**	*e*PN	**Pn**	**04 27 18.4**	**+2.7**
SKR				*e*S	**Sn**	**04 28 17.0**	**+1.0**
SKR				pmax	pmax		
comp=Z,91nm,0.5s							
SKR				smax	smax		
comp=N,39nm,0.3s							
SKR				smax	smax		
comp=E,200nm,0.4s							
SKR	**Severo-Kuril's**	**5.29**	**40**	*e*P	**Pn**	**04 27 18.0**	**+2.3**
SKR				AMB	AMB	04 27 19.8	
comp=E,90nm,0.5s							
SKR				*e*S	**Sn**	**04 28 18.4**	**+2.4**
SKR				A	A	04 28 19.3	
comp=E,40nm,0.3s							
SKR				A	A	04 28 19.3	
comp=E,200nm,0.3s							
YSS	**Yuzh-Sakhalins**	**5.47**	**275**	⇑*i* PN	Pn	04 27 23.3	+5.3
YSS				pmax	pmax		
comp=Z,30nm,0.7s							
YSS				MLR	MLR		
comp=Z,400nm,16.0s							
YSS				MLR	MLR		
comp=E,200nm,13.0s							
YSS	**Yuzh-Sakhalins**	**5.47**	**275**	Pn	**Pn**	**04 27 15.7**	**-2.3**
YSS	**Yuzh-Sakhalins**	**5.47**	**275**	*e*P	Pn	04 27 23.3	+5.3
YSS				AMB	AMB	04 27 24.0	
comp=E,30nm,0.6s							
PAU	**Pauzhetka**	**6.17**	**38**	*e*P	**Pn**	**04 27 29.6**	**+2.4**
PAU				AMB	AMB	04 27 30.2	
comp=E,80nm,0.4s							
PAU				*e*S	**Sn**	**04 28 38.0**	**+1.3**
PAU				A	A	04 28 39.3	
comp=E,240nm,0.3s							
PAU				A	A	04 28 39.3	
comp=E,210nm,0.3s							
TYV	**Tymovskoe**	**6.71**	**310**	*e*PN	Pn	04 27 47.7	+13
TYV				pmax	pmax		
comp=Z,16nm,1.1s							
TYV				pmax	pmax		
comp=Z,100nm,4.4s							
TYV	**Tymovskoe**	**6.71**	**310**	*e*P	Pn	04 27 40.5	+5.9
TYV				AMB	AMB	04 27 49.3	
comp=Z,20nm,0.6s							
TYV				AMB	AMB	04 27 51.3	
comp=Z,100nm,4.4s							
TYV				*e*S	**Sn**	**04 28 58.7**	**+8.8**
TYV				A	A	04 29 03.1	
comp=Z,10.0nm,0.5s							
TYV				A	A	04 29 03.1	
comp=Z,10.0nm,0.5s							
PEA0B	**Petropavlovsk-**	**7.77**	**33**	⇑*e*PN	**Pn**	**04 27 50.9**	**+2.2**
PETK	**Petropavlovsk-**	**7.77**	**33**	P	**Pn**	**04 27 50.5**	**+1.8**
comp=Z,1.9nm,0.3s,baz=203,slow=14,SNR=18							
PETK	**Petropavlovsk-**	**7.77**	**33**	Pn	**Pn**	**04 27 48.7**	**0.0**
PET	**Petropavlovsk**	**8.08**	**36**	*e*PN	**Pn**	**04 27 53.8**	**+1.0**
PET				*e*S	**Sn**	**04 29 21.6**	**-1.0**
PET				pmax	pmax		
comp=Z,48nm,1.2s							
PET	**Petropavlovsk**	**8.08**	**36**	Pn	**Pn**	**04 27 52.7**	**-0.1**
PET	**Petropavlovsk**	**8.08**	**36**	*e*P	**Pn**	**04 27 54.0**	**+1.2**
OKH	**Okha**	**8.42**	**326**	*e*P	Pn	04 28 03.5	+6.2
MA2	**Magadan**	**12.82**	**0**	⇓*e*PN	**Pn**	**04 28 56.8**	**+1.7**
MA2				pmax	pmax		
comp=Z,5.0nm,0.8s							
MA2	**Magadan**	**12.82**	**0**	*e*P	**Pn**	**04 28 56.8**	**+1.7**
KLR	**Kul'dur**	**12.94**	**288**	P	**Pn**	**04 28 58.4**	**+1.7**
comp=Z,0.1nm,0.3s,baz=102,slow=13,SNR=4.7							
KLR	**Kul'dur**	**12.94**	**288**	⇓*e*PN	**Pn**	**04 29 00.0**	**+3.3**
KLR				pmax	pmax		
comp=Z,5.0nm,0.9s							
KLR	**Kul'dur**	**12.94**	**288**	*e*P	**Pn**	**04 29 00.0**	**+3.3**
USRK	**Ussuriysk Ar.**	**13.39**	**266**	P	**Pn**	**04 29 04.3**	**+1.7**
baz=78,slow=14,SNR=2.3							
MSHR	**Mys Shultsa**	**14.53**	**260**	*ce*P	**P**	**04 29 20.1**	**+0.8**
MSHR				pmax	pmax		
comp=Z,76nm,1.7s							
SEY	**Seymchan**	**16.22**	**3**	P	**Pn**	**04 29 39.0**	**+1.4**
comp=Z,0.7nm,0.3s,baz=174,slow=8.8,SNR=14							
SEY	**Seymchan**	**16.22**	**3**	⇑*e*P	**Pn**	**04 29 39.3**	**+1.7**
SEY	**Seymchan**	**16.22**	**3**	*e*P	**Pn**	**04 29 39.3**	**+1.7**
ZEA	**Zeya**	**16.50**	**304**	*e*P	**Pn**	**04 29 44.3**	**+3.3**
ZEA				pmax	pmax		
comp=E,10.0nm,0.9s							
ZEA				pmax	pmax		
comp=N,10.0nm,0.4s							
ZEA				pmax	pmax		
comp=Z,10.0nm,1.2s							
ZEA	**Zeya**	**16.50**	**304**	*e*P	**Pn**	**04 29 43.4**	**+2.4**
YAK	**Yakutsk**	**19.44**	**329**	P	**P**	**04 30 13.4**	**+0.4**
comp=Z,0.3nm,0.3s,baz=116,slow=3.8,SNR=11							
YAK	**Yakutsk**	**19.44**	**329**	*e*P	**P**	**04 30 13.9**	**+0.9**
YAK				pmax	pmax		
comp=Z,29nm,0.8s							
YAK				pmax	pmax		
comp=N,8.0nm,1.0s							
YAK				pmax	pmax		
comp=E,9.0nm,1.1s							
YAK	**Yakutsk**	**19.44**	**329**	P	**P**	**04 30 14.6**	**+1.6**
YAK	**Yakutsk**	**19.44**	**329**	*e*P	**P**	**04 30 13.9**	**+0.9**
BILL	**Bilibino**	**22.77**	**15**	*i* P	**P**	**04 30 47.8**	**+0.2**
BILL				pmax	pmax		
comp=Z,3.0nm,0.5s							
BILL	**Bilibino**	**22.77**	**15**	*e*P	**P**	**04 30 47.8**	**+0.2**
BOD	**Bodaibo**	**24.71**	**310**	*e*P	**P**	**04 31 04.2**	**-1.2**
BOD				pmax	pmax		
comp=Z,7.0nm,2.2s							
TIK	**Tiksi**	**26.98**	**345**	*e*P	**P**	**04 31 24.5**	**-1.2**
TIXI	**Tiksi**	**27.00**	**345**	P	**P**	**04 31 24.6**	**-1.3**
comp=Z,4.1nm,0.4s,baz=138,slow=8.7,SNR=20							
TIXI	**Tiksi**	**27.00**	**345**	⇑*e*P	**P**	**04 31 24.5**	**-1.3**
TIXI				pmax	pmax		
comp=Z,17nm,2.5s							
TIXI	**Tiksi**	**27.00**	**345**	P	**P**	**04 31 23.4**	**-2.4**
TNA	**Tin City**	**28.94**	**35**	P	**P**	**04 31 42.9**	**-0.2**
ULN	**Ulaanbaatar**	**29.33**	**288**	⇑*e*P	**P**	**04 31 46.9**	**-0.1**
ULN				pmax	pmax		
comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**29.33**	**288**	P	**P**	**04 31 46.0**	**-1.0**
ULN	**Ulaanbaatar**	**29.33**	**288**	*e*P	**P**	**04 31 46.9**	**-0.1**
SONM	**Songino Array**	**29.77**	**289**	P	**P**	**04 31 50.2**	**-0.7**
comp=Z,0.7nm,0.7s,baz=70,slow=6.8,SNR=5.9							
SONM				PcP	**PcP**	**04 34 50.1**	**-0.5**
comp=Z,0.5nm,0.5s,baz=154,slow=1.8,SNR=4.3							
SONM	**Songino Array**	**29.77**	**289**	P	**P**	**04 31 49.4**	**-1.5**
SONM				pmax	pmax		
comp=Z,3.0nm,1.3s							
SONM	**Songino Array**	**29.77**	**289**	P	**P**	**04 31 49.4**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**30.05**	**148**	T	T	05 02 57.4	
baz=319,slow=75,SNR=488							
H11N1	**WAKE ISLAND Hy**	**30.07**	**148**	T	T	05 02 53.5	
baz=319,slow=75,SNR=499							
H11N3	**WAKE ISLAND Hy**	**30.07**	**148**	T	T	05 02 54.9	
baz=319,slow=75,SNR=661							
H11S1	**WAKE ISLAND Hy**	**31.11**	**150**	T	T	05 04 08.2	
baz=321,slow=76,SNR=112							
H11S3	**WAKE ISLAND Hy**	**31.12**	**150**	T	T	05 04 09.8	
baz=321,slow=76,SNR=75							
H11S2	**WAKE ISLAND Hy**	**31.13**	**150**	T	T	05 03 52.0	
baz=321,slow=76,SNR=121							
ZAK	**Zakamensk**	**31.17**	**294**	*e*P	**P**	**04 32 02.1**	**-1.0**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.2s							
ZAK	**Zakamensk**	**31.17**	**294**	*e*P	**P**	**04 32 02.1**	**-1.0**
XAN	**Xi'an**	**33.88**	**263**	P	**P**	**04 32 27.5**	**+0.7**
XAN				pmax	pmax		
comp=Z,9.0nm,0.8s							
IMAR	**Indian Mountai**	**34.72**	**36**	P	**P**	**04 32 34.4**	**+0.8**
A21K	**Barrow**	**34.72**	**27**	P	**P**	**04 32 34.1**	**+0.6**
SPU	**Mount Spurr**	**35.34**	**45**	P	**P**	**04 32 39.8**	**+0.7**
KDAK	**Kodiak Island**	**35.36**	**51**	P	**P**	**04 32 38.8**	**-0.4**
comp=Z,4.6nm,0.3s,baz=314,slow=2.6,SNR=5.7							
COLD	**Coldfoot**	**36.24**	**34**	P	**P**	**04 32 47.2**	**+0.6**
COLD				IAmb	IAmb	04 32 48.2	
comp=Z,7.9nm,0.5s							
TOLK	**Toolik Lake Re**	**36.59**	**32**	P	**P**	**04 32 49.9**	**+0.3**
TOLK				IAmb	IAmb	04 32 51.8	
comp=Z,10nm,0.8s							
MCK	**McKinley**	**36.70**	**40**	P	**P**	**04 32 50.4**	**-0.1**
MCK				pmax	pmax		
comp=Z,7.0nm,0.8s							
MCK	**McKinley**	**36.70**	**40**	P	**P**	**04 32 50.4**	**-0.1**
MCK				IAmb	IAmb	04 32 52.1	
comp=Z,7.2nm,0.8s							
TCOL	**CIGO, UAF Yank**	**37.13**	**38**	P	**P**	**04 32 54.6**	**+0.5**
COLA	**College**	**37.14**	**38**	*c i* P	**P**	**04 32 55.4**	**+1.2**
COLA				pmax	pmax		
comp=Z,24nm,0.6s							
GTA	**Gaotai**	**37.34**	**278**	*e*P	**P**	**04 32 56.8**	**+0.4**
GTA				pmax	pmax		
comp=Z,6.0nm,1.1s							
ILAR	**Eielson Array**	**37.55**	**39**	P	**P**	**04 32 58.1**	**+0.4**
comp=Z,5.2nm,0.5s,baz=266,slow=7.1,SNR=69							
ILAR	**Eielson Array**	**37.55**	**39**	P	**P**	**04 32 57.6**	**-0.1**
NRIK	**Noril'sk**	**37.89**	**329**	P	**P**	**04 32 59.0**	**-1.5**
comp=Z,1.0nm,0.3s,baz=116,slow=4.6,SNR=4.8							
NRIK	**Noril'sk**	**37.89**	**329**	⇑*i* P	**P**	**04 33 00.6**	**+0.2**
NRIK				pmax	pmax		
comp=Z,12nm,1.5s							
J25K	**Salcha River,**	**38.21**	**39**	P	**P**	**04 33 02.4**	**-1.0**
J25K				IAmb	IAmb	04 33 04.5	
comp=Z,8.1nm,0.6s							
BMAR	**Burnt Mountain**	**38.42**	**34**	P	**P**	**04 33 06.4**	**+1.4**
EGAK	**Eagle**	**40.00**	**38**	P	**P**	**04 33 17.5**	**-0.6**
DGZ	**Jazzator, Alta**	**41.15**	**298**	⇓*i* P	**P**	**04 33 28.1**	**+0.2**
DGZ				pmax	pmax		
comp=Z,2.0nm,0.7s							
ZAA0	**Zalesovo Array**	**41.26**	**305**	P	**P**	**04 33 27.5**	**-1.0**
ZALV	**Zalesovo Beam**	**41.26**	**305**	P	**P**	**04 33 26.9**	**-1.6**
comp=Z,0.7nm,0.4s,baz=76,slow=5.6,SNR=5.4							
ZALV				PcP	**PcP**	**04 35 23.8**	**-0.5**
comp=Z,3.6nm,0.6s,baz=79,slow=3.1,SNR=11							
ZALV	**Zalesovo Beam**	**41.26**	**305**	*i* P	**P**	**04 33 27.2**	**-1.3**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**42.51**	**32**	P	**P**	**04 33 39.7**	**+1.3**
comp=Z,6.7nm,0.5s,baz=295,slow=7.0,SNR=28							
MK31	**Makanchi Array**	**45.46**	**296**	P	**P**	**04 34 01.0**	**-1.3**
MK31				pmax	pmax		
comp=Z,4.0nm,0.9s							
MK31	**Makanchi Array**	**45.46**	**296**	P	**P**	**04 34 01.0**	**-1.3**
MKAR	**Makanchi Array**	**45.46**	**296**	P	**P**	**04 34 01.5**	**-0.8**
comp=Z,4.1nm,0.9s,baz=68,slow=8.0,SNR=29							
MKAR				PcP	**PcP**	**04 35 38.1**	**-0.5**
comp=Z,1.5nm,0.6s,baz=234,slow=4.0,SNR=7.4							
MKAR	**Makanchi Array**	**45.46**	**296**	P	**P**	**04 34 00.7**	**-1.6**
MAKZ	**Makanchi**	**45.65**	**296**	P	**P**	**04 34 02.2**	**-1.6**
MAKZ				pmax	pmax		
comp=Z,5.0nm,1.0s							
MAKZ	**Makanchi**	**45.65**	**296**	P	**P**	**04 34 02.2**	**-1.6**
KURK	**Kurchatov**	**45.97**	**303**	*c i* P	**P**	**04 34 04.5**	**-1.7**
KURK				pmax	pmax		
comp=Z,8.0nm,1.3s							
KURK	**Kurchatov**	**45.97**	**303**	P	**P**	**04 34 03.7**	**-2.5**
KURK	**Kurchatov**	**45.97**	**303**	*e*P	**P**	**04 34 04.5**	**-1.7**
DLBC	**Dease Lake**	**46.75**	**45**	P	**P**	**04 34 14.3**	**+2.1**
comp=Z,5.5nm,0.9s,baz=298,slow=11,SNR=8.4							
BRVK	**Borovoye**	**49.60**	**309**	⇑*e*P	**P**	**04 34 32.9**	**-1.2**
BRVK				pmax	pmax		
comp=Z,19nm,4.1s							
BRVK	**Borovoye**	**49.60**	**309**	*e*P	**P**	**04 34 32.9**	**-1.2**
SHL	**Shillong**	**50.73**	**267**	P	**P**	**04 34 42.3**	**-0.9**
SHL				pmax	pmax		
comp=Z,19nm,1.0s							
SHL	**Shillong**	**50.73**	**267**	P	**P**	**04 34 42.3**	**-0.9**
YKA	**Yellowknife Ar**	**51.88**	**36**	P	**P**	**04 34 51.7**	**+0.8**
comp=Z,8.0nm,0.6s,baz=298,slow=7.0,SNR=63							
YKA				PcP	**PcP**	**04 36 01.1**	**-0.5**
comp=Z,0.7nm,0.6s,baz=305,slow=3.8,SNR=5.0							
SPITS	**Spitsbergen Ar**	**52.29**	**349**	P	**P**	**04 34 52.6**	**-1.2**
comp=Z,15nm,1.0s,baz=66,slow=8.3,SNR=10							
AAK	**Ala-Archa**	**52.34**	**295**	⇑*e*P	**P**	**04 34 54.2**	**-0.7**
AAK				pmax	pmax		
comp=Z,3.0nm,0.9s							
AAK	**Ala-Archa**	**52.34**	**295**	*e*P	**P**	**04 34 54.2**	**-0.7**
KSH	**Kashi**	**53.12**	**291**	P	**P**	**04 35 05.3**	**+4.7**
KSH				pmax	pmax		
comp=Z,3.0nm,0.7s				

DANN Dangsing 54.53 275 *eP* **P 04 35 12.1 +0.9**
comp=Z,54nm,0.6s
KKAR Karatay Array 54.54 298 P **P 04 35 09.3 -1.4**
KKAR Karatay Array 54.54 298 P **P 04 35 09.3 -1.4**
KOLN Koldanda 55.01 275 *eP* **P 04 35 15.1 +0.5**
comp=Z,53nm,0.8s
PYUN Piuthan 55.22 276 *eP* **P 04 35 16.5 +0.4**
NEEM North Greenlan 55.31 6 *iP* **P 04 35 14.6 -1.5**
NEEM IAmb IAmb 04 35 15.8
comp=Z,8.6nm,1.0s
GAR Garm 57.01 294 P **P 04 35 27.7 -0.8**
ABKAR Akbulak array 57.14 309 P **P 04 35 27.3 -1.7**
ARCES ARCESS Array B 57.28 340 P **P 04 35 27.7 -2.1**
comp=Z,3.7nm,0.7s,baz=44,slow=7.2,SNR=10
AKTO Aktyubinsk 57.47 311 P **P 04 35 30.1 -1.4**
comp=Z,0.6nm,0.4s,baz=48,slow=10,SNR=3.6
NEW Newport 58.46 52 P **P 04 35 38.2 -0.2**
comp=Z,2.4nm,0.4s,baz=328,slow=4.2,SNR=7.4
YBH Yreka Blue Hor 59.17 60 P **P 04 35 44.1 +0.6**
comp=Z,1.3nm,0.6s,baz=333,slow=3.7,SNR=6.1
KBL Kabul 60.52 290 P **P 04 35 51.5 -1.4**
KBL pmax pmax
comp=Z,6.0nm,0.9s
KBL Kabul 60.52 290 P **P 04 35 51.5 -1.4**
KBL IAmb IAmb 04 35 53.4
comp=Z,5.7nm,0.8s
SUMG Summit 60.78 3 P **P 04 35 54.8 +0.5**
SUMG pmax pmax
comp=Z,44nm,0.9s
SUMG Summit 60.78 3 *iP* **P 04 35 53.4 -0.9**
SUMG IAmb IAmb 04 35 55.1
comp=Z,30nm,0.8s
SUMG Summit 60.78 3 P **P 04 35 54.8 +0.5**
PLID Pearl Lake 61.00 54 P **P 04 35 55.9 -0.2**
PLID IAmb IAmb 04 35 57.9
comp=Z,7.2nm,0.8s
FFC Flin Flon 61.77 39 P **P 04 36 00.7 0.0**
FFC pmax pmax
comp=Z,11nm,1.1s
FFC Flin Flon 61.77 39 P **P 04 36 00.7 0.0**
FFC IAmb IAmb 04 36 02.1
comp=Z,11nm,1.1s
LRM Limekiln Ridge 62.48 52 P **P 04 36 06.5 +0.6**
BOZ Bozeman (W) 63.06 51 P **P 04 36 09.6 -0.1**
BOZ pmax pmax
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 63.06 51 P **P 04 36 09.6 -0.1**
BOZ IAmb IAmb 04 36 11.2
comp=Z,6.8nm,0.7s
ILULI Ilulissat 63.21 9 *iP* **P 04 36 09.5 -0.6**
ILULI IAmb IAmb 04 36 09.7
comp=Z,17nm,0.6s
FINES FINESS Array B 63.30 334 P **P 04 36 09.2 -1.5**
comp=Z,3.1nm,0.4s,baz=36,slow=6.7,SNR=59
NVAR Mina Array Bea 63.87 61 P **P 04 36 15.8 +0.7**
comp=Z,2.6nm,0.6s,baz=296,slow=7.4,SNR=21
ICESG Greenland Ices 64.20 4 *iP* **P 04 36 15.3 -1.6**
ICESG IAmb IAmb 04 36 17.6
comp=Z,31nm,0.6s
OBN Obninsk 64.34 324 *iP* **P 04 36 16.5 -1.2**
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 64.34 324 *eP* **P 04 36 16.5 -1.2**
GEYT Alibeck 65.17 299 P **P 04 36 23.2 -0.2**
comp=Z,3.2nm,0.7s,baz=328,slow=11,SNR=3.8
GEYT Alibeck 65.17 299 IAmb IAmb 04 36 24.6
comp=Z,3.5nm,0.8s
PD31 Pinedale Array 66.05 53 P **P 04 36 29.8 +0.5**
PD31 IAmb IAmb 04 36 30.3
comp=Z,5.0nm,0.6s
PDAR Pinedale Array 66.05 53 P **P 04 36 29.5 +0.3**
comp=Z,4.2nm,0.6s,baz=276,slow=1.2,SNR=40
PDAR Pinedale Array 66.05 53 P **P 04 36 29.2 0.0**
DY2G Dye2 66.33 7 *iP* **P 04 36 30.0 -0.6**
DY2G IAmb IAmb 04 36 30.7
comp=Z,8.5nm,0.8s
NB2 NORSAR Subarra 67.66 340 P **P 04 36 37.6 -1.2**
comp=Z,4.0nm,0.7s,baz=28,slow=6.5
NOA NORSAR Array B 67.66 340 P **P 04 36 37.9 -1.0**
comp=Z,5.8nm,0.6s,baz=29,slow=6.6,SNR=25
HFS Hagfors 67.84 338 P **P 04 36 38.6 -1.3**
comp=Z,5.9nm,0.5s,baz=45,slow=4.2,SNR=45
WR0 Warramunga Arr 68.01 196 P **P 04 36 41.1 -0.3**
WR0 IAmb IAmb 04 36 44.8
comp=Z,12nm,1.1s
NACGM Naroch 68.20 329 *iP* P 04 36 34.6 -7.7
BORG Borgarnes 68.64 356 P **P 04 36 46.1 +1.3**
comp=Z,15nm,0.7s,baz=36,slow=4.5,SNR=7.9
KIV Kislovodsk 69.59 313 *eP* **P 04 36 49.4 -1.8**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 69.59 313 *eP* **P 04 36 49.4 -1.8**
KBZ Khabaz 69.64 313 P **P 04 36 50.7 -0.6**
comp=Z,6.2nm,0.9s,baz=87,slow=1.6,SNR=15
KBZ Khabaz 69.64 313 *ceP* **P 04 36 51.6 +0.3**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 69.64 313 *eP* **P 04 36 51.6 +0.3**
DZM Mont Dzumac 69.98 164 P **P 04 36 54.0 +0.3**
comp=Z,4.5nm,0.9s,baz=301,slow=22,SNR=5.2
DZM Mont Dzumac 69.98 164 IAmb IAmb 04 36 55.4
comp=Z,5.9nm,1.0s
AKASG Malin Array Be 70.59 325 P **P 04 36 55.5 -1.5**
comp=Z,2.8nm,0.4s,baz=35,slow=6.2,SNR=21
AKASG Malin Array Be 70.59 325 IAmb IAmb 04 36 57.8
comp=Z,4.0nm,1.4s
AKBB Malin Array Si 70.59 325 ⇓*eP* **P 04 36 56.3 -0.7**
AKBB pmax pmax
comp=Z,6.0nm,0.6s
AKH Akhalkalaki 71.00 311 ⇑P **P 04 36 59.7 -0.2**
GNI Garni 71.25 309 P **P 04 37 01.2 -0.2**
comp=Z,2.6nm,0.6s,baz=282,slow=6.6,SNR=3.3
GNI Garni 71.25 309 IAmb IAmb 04 37 03.7
comp=Z,20nm,1.5s
AS31 Alice Springs 71.74 196 P **P 04 37 05.0 +0.8**
ASAR Alice Springs 71.74 196 P **P 04 37 03.9 -0.3**
comp=Z,2.3nm,0.8s,baz=12,slow=6.4,SNR=14
SORM Soroca 72.97 324 ⇓P **P 04 37 09.9 -1.3**
SORM Soroca 72.97 324 ⇓P **P 04 37 09.9 -1.3**
ANMO Albuquerque 73.21 57 P **P 04 37 12.7 -0.4**
comp=Z,1.1nm,0.6s,baz=310,slow=9.4,SNR=5.2
LVV L'vov 73.30 327 *eP* **P 04 37 13.3 +0.2**
MILM Milestii Mici 73.75 323 ⇑P **P 04 37 14.8 -1.0**
MILM Milestii Mici 73.75 323 ⇑P **P 04 37 14.8 -1.0**
SCHQ Schefferville 73.91 22 P **P 04 37 16.4 -0.2**
comp=Z,4.8nm,0.5s,baz=342,slow=5.8,SNR=38
319A Douglas 74.08 61 P **P 04 37 18.3 +0.1**
319A IAmb IAmb 04 37 19.4
comp=Z,7.4nm,0.9s
OJC Ojcow 74.49 330 IAmb IAmb 04 37 21.1
comp=Z,6.7nm,0.8s
BUR08 Bucovina Ar. S 74.63 325 IAmb IAmb 04 37 22.3
comp=Z,7.4nm,0.7s
BURAR Bucovina Array 74.64 325 ⇓P **P 04 37 20.7 -0.4**
BURAR Bucovina Array 74.64 325 ⇓P **P 04 37 20.7 -0.4**
BURAR Bucovina Array 74.64 325 IAmb IAmb 04 37 22.3
comp=Z,7.3nm,0.7s
VLDR Vladesti 74.91 322 ⇑P **P 04 37 22.2 -0.3**
TESR Tescani 74.97 324 ⇑P **P 04 37 22.0 -0.9**
TLCR 75.13 322 ⇑P **P 04 37 24.7 +0.9**
TLCR 75.13 322 ⇑P **P 04 37 24.7 +0.9**
TRPA Tarpa 75.25 327 ⇑P **P 04 37 24.4 0.0**
PANC Panciu 75.28 323 ⇑P **P 04 37 24.6 -0.1**
CFR Carcaliu 75.42 322 ⇑P **P 04 37 25.7 +0.2**
CFR Carcaliu 75.42 322 ⇑P **P 04 37 25.7 +0.2**
PLOR Plostina 75.50 323 ⇑P **P 04 37 28.5 +2.5**
PLOR Plostina 75.50 323 ⇑P **P 04 37 28.5 +2.5**
DPC Dobruska-Polom 75.54 332 *eP* **P 04 37 25.3 -0.9**
DPC Dobruska-Polom 75.54 332 *eP* **P 04 37 25.3 -0.9**
TPGR Topolog 75.56 322 ⇑P **P 04 37 26.0 -0.3**
MORC Moravsky Berou 75.63 331 ⇑P **P 04 37 26.2 -0.5**
MORC Moravsky Berou 75.63 331 ⇑P **P 04 37 26.2 -0.5**
MORC Moravsky Berou 75.63 331 *eP* **P 04 37 26.0 -0.7**
OZUR 75.65 324 ⇑P **P 04 37 27.2 +0.3**
COVR Voineasa-Covas 75.69 324 ⇑P **P 04 37 28.1 +1.0**
CLL Collm 75.74 334 *iP* **P 04 37 26.9 -0.3**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 75.74 334 *iP* **P 04 37 26.9 -0.3**
comp=Z,8.0nm,0.9s
HARR Harsova 75.90 322 ⇑P **P 04 37 28.7 +0.5**
HARR Harsova 75.90 322 ⇑P **P 04 37 28.7 +0.5**
EKA Eskdalemuir Ar 75.91 345 P **P 04 37 27.9 -0.2**
comp=Z,2.6nm,0.4s,baz=20,slow=5.0,SNR=37
CJR Cluj-Napoca 76.02 326 ⇑P **P 04 37 28.9 0.0**
CJR Cluj-Napoca 76.02 326 ⇑P **P 04 37 28.9 0.0**
MLR Muntele Rosu 76.08 323 ⇑P **P 04 37 29.5 +0.1**
MLR Muntele Rosu 76.08 323 ⇑P **P 04 37 29.5 +0.1**
comp=Z,4.0nm,0.5s,baz=288,slow=4.0,SNR=17
MLR Muntele Rosu 76.08 323 IAmb IAmb 04 37 31.8
comp=Z,7.0nm,0.7s
DRGR 76.29 326 ⇑P **P 04 37 29.8 -0.7**
DRGR 76.29 326 ⇑P **P 04 37 29.8 -0.7**
VRAC Vranov 76.35 331 ⇑P **P 04 37 30.7 0.0**
VRAC Vranov 76.35 331 P **P 04 37 30.3 -0.4**
comp=Z,3.0nm,0.6s,baz=2.1,slow=3.1,SNR=7.1
VRAC Vranov 76.35 331 ⇑P **P 04 37 30.7 0.0**
VRAC Vranov 76.35 331 *eP* **P 04 37 30.2 -0.5**
PSZ Piszkesteto 76.39 328 ⇑P **P 04 37 31.6 +0.5**
PSZ Piszkesteto 76.39 328 ⇑P **P 04 37 31.6 +0.5**
ICOR Ion Corvin 76.42 322 ⇑P **P 04 37 31.8 +0.6**
PRU Pruhonice 76.42 333 *eP* **P 04 37 30.3 -0.8**
PRU Pruhonice 76.42 333 *eP* **P 04 37 30.3 -0.8**
VOIR 76.49 324 ⇓P **P 04 37 31.8 +0.1**
VOIR 76.49 324 ⇓P **P 04 37 31.8 +0.1**
KRUC Moravsky 76.63 331 *eP* **P 04 37 31.9 -0.4**
ARR Arges 76.71 324 ⇑P **P 04 37 34.1 +1.1**
BNN Bunyan 76.82 313 IAmb IAmb 04 37 34.9
comp=Z,9.6nm,0.8s
LOT Lotru 76.99 325 ⇑P **P 04 37 37.2 +2.7**
BR131 Keskin Array S 77.23 315 P **P 04 37 35.4 -0.6**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 77.23 315 **P 04 37 35.4 -0.6**
BRTR Keskin Array B 77.23 315 P **P 04 37 35.7 -0.3**
comp=Z,1.7nm,0.8s,baz=84,slow=3.8,SNR=8.6
GZR Gura Zlata 77.43 325 ⇑P **P 04 37 36.2 -0.7**
GZR Gura Zlata 77.43 325 ⇑P **P 04 37 36.2 -0.7**
KHC Kasperske Hory 77.48 333 *eP* **P 04 37 34.9 -2.2**
KHC Kasperske Hory 77.48 333 *eP* **P 04 37 34.9 -2.2**
COPA Copaceanca 77.49 323 ⇑P **P 04 37 36.2 -0.9**
CKRC Cesky Krumlov 77.52 332 *eP* **P 04 37 36.2 -1.1**
ANTO Ankara 77.52 316 P **P 04 37 37.1 -0.5**
ANTO pmax pmax
comp=Z,6.0nm,0.7s
ANTO Ankara 77.52 316 P **P 04 37 37.1 -0.5**
ANTO IAmb IAmb 04 37 38.9
comp=Z,5.6nm,0.7s
BZS Buzias 77.69 326 ⇑P **P 04 37 38.2 0.0**
BZS Buzias 77.69 326 ⇑P **P 04 37 38.2 0.0**
GERES GERESS Array B 77.69 333 P **P 04 37 37.7 -0.6**
comp=Z,2.1nm,0.6s,baz=50,slow=6.0,SNR=12
CONA Conrad Observa 77.79 331 *iP* **P 04 37 38.9 +0.1**
comp=Z,4.8nm,0.6s,SNR=7.9
VLAD Vladila 77.93 324 ⇑P **P 04 37 39.6 0.0**
HERR Herculane 78.00 325 ⇑P **P 04 37 38.9 -1.0**
MOA Molln 78.38 332 *iP* **P 04 37 42.6 +0.5**
comp=Z,3.3nm,0.8s
ARSA Arzberg 78.49 331 *iP* **P 04 37 42.6 0.0**
comp=Z,1.1nm,0.5s
FRGS Fruska Gora 78.76 327 ⇑P **P 04 37 42.8 -1.4**
TX31 Lajitas Ar. Si 78.90 59 P **P 04 37 45.2 -0.1**
TX31 IAmb IAmb 04 37 45.9
comp=Z,9.4nm,0.7s
TX31 Lajitas Ar. Si 78.90 59 IAmb IAmb 04 37 46.0
comp=Z,9.4nm,0.7s
TXAR Lajitas Array 78.90 59 P **P 04 37 45.5 +0.2**
comp=Z,2.8nm,0.5s,baz=299,slow=4.0,SNR=31
TXAR Lajitas Array 78.90 59 P **P 04 37 44.8 -0.5**
BOVS Bovan 79.32 325 ⇑P **P 04 37 46.1 -1.2**
KBA Koelnbreinsper 79.36 332 *iP* **P 04 37 47.7 +0.1**
comp=Z,14nm,0.8s
OBKA Obir 79.47 331 *iP* **P 04 37 47.8 -0.2**
comp=Z,4.6nm,0.9s
VTS Vitosha 79.55 323 ⇑P **P 04 37 48.8 +0.1**
VTS Vitosha 79.55 323 ⇑P **P 04 37 48.8 +0.1**
VTS Vitosha 79.55 323 IAmb IAmb 04 37 49.8
comp=Z,12nm,0.7s
WATA Walderalm 79.69 333 *iP* **P 04 37 49.1 -0.3**
comp=Z,7.0nm,0.5s,SNR=14
WTTA Wattenberg 79.74 333 *iP* **P 04 37 49.6 -0.1**
comp=Z,12nm,0.5s,SNR=22
RETA Reutte 79.81 334 *iP* **P 04 37 50.2 +0.3**
comp=Z,3.5nm,0.7s
MOTA Moosalm 79.83 333 *iP* **P 04 37 50.2 0.0**
comp=Z,16nm,1.1s
SQTA Sankt Quirin 79.91 333 *iP* **P 04 37 50.8 +0.3**
comp=Z,5.3nm,0.7s
FETA Feichten 80.24 333 *iP* **P 04 37 52.0 -0.3**
comp=Z,5.7nm,1.0s
JCT Junction City 80.28 56 P **P 04 37 52.0 -0.7**
JCT pmax pmax
comp=Z,7.0nm,0.9s
JCT Junction City 80.28 56 P **P 04 37 52.0 -0.7**
JCT IAmb IAmb 04 37 53.1
comp=Z,6.7nm,0.9s
MIAR Mount Ida 80.56 49 P **P 04 37 53.4 -0.7**
MIAR pmax pmax
comp=Z,10.0nm,1.1s
MIAR Mount Ida 80.56 49 P **P 04 37 53.4 -0.7**
MIAR IAmb IAmb 04 37 54.6
comp=Z,9.7nm,1.1s
DAVOX Davos/Dischmat 80.71 334 P **P 04 37 54.5 -0.4**
comp=Z,5.7nm,0.6s,baz=356,slow=2.8,SNR=19
CSS Mathiatis 81.10 312 IAmb IAmb 04 37 57.5
comp=Z,6.5nm,0.6s
TUE Stuetta 81.15 334 IAmb IAmb 04 37 58.1
comp=Z,9.5nm,0.8s
PDG Podgorica 81.30 326 ⇓P **P 04 37 57.0 -0.7**
ASF Jabal al Asfar 81.40 308 P **P 04 37 58.7 0.0**
comp=Z,2.0nm,0.8s,baz=69,slow=4.0,SNR=5.4
TEOL Teolo 81.42 332 P **P 04 37 58.0 -0.4**
MMAI Mount Meron Ar 81.55 310 P **P 04 38 00.1 +0.7**
comp=Z,3.1nm,0.5s,baz=36,slow=7.2,SNR=14
FNA Florina 81.85 324 IAmb IAmb 04 38 01.2
comp=Z,6.8nm,0.7s
KBN Korca 82.22 324 IAmb IAmb 04 38 02.9
comp=Z,8.1nm,0.8s
AGG Agios Georgios 82.93 322 P **P 04 38 04.5 -1.9**
AGG pmax pmax
comp=Z,7.0nm,1.0s
AGG Agios Georgios 82.93 322 P **P 04 38 04.5 -1.9**
AGG IAmb IAmb 04 38 05.2
comp=Z,6.8nm,1.0s
RAYN Ar Rayn 82.95 297 P **P 04 38 06.7 -0.1**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 82.95 297 P **P 04 38 06.7 -0.1**
EIL Elat 84.39 308 P **P 04 38 13.8 -0.2**
comp=Z,8.2nm,0.7s,baz=44,slow=4.2,SNR=8.3
IDI Anoyia 84.92 318 P **P 04 38 14.7 -1.9**
comp=Z,7.5nm,0.6s,baz=3.1,slow=5.7,SNR=12
TIP Timpagrande 85.06 326 ⇑P **P 04 38 16.9 -0.3**
KEST Kesra 90.83 329 P **P 04 38 44.6 -0.2**
comp=Z,5.1nm,0.9s,baz=314,slow=3.9,SNR=5.8
ESDC Sonseca Array 91.01 341 P **P 04 38 44.8 -0.8**
comp=Z,0.4nm,0.5s,baz=0.1,slow=3.6,SNR=6.3
TORD Torodi Ar. Bea 114.20 327 PKP **PKiKP 04 44 18.1 -2.2**
comp=Z,0.3nm,0.4s,baz=10,slow=1.8,SNR=4.8
LPAZ La Paz 135.77 60 PKP **PKPdf 04 45 03.0 +0.9**
comp=Z,1.1nm,0.8s,baz=156,slow=4.9,SNR=3.8
LPAZ La Paz 135.77 60 PKIKP **PKPdf 04 45 03.0 +0.9**
H03N2 Juan Fernandez 140.40 89 T T 07 21 32.9
H03N1 Juan Fernandez 140.41 89 T T 07 21 34.0
baz=309,slow=74,SNR=5.2
H03N3 Juan Fernandez 140.41 89 T T 07 21 32.3
baz=80,slow=74,SNR=1.2
BDFB Brasília 145.26 33 PKPbc **PKPdf 04 45 17.8 -0.8**
comp=Z,2.8nm,0.5s,baz=309,slow=3.0,SNR=9.1
PLCA Paso Flores 149.85 94 PKPbc **PKPbc 04 45 28.9 -1.5**
comp=Z,2.8nm,0.6s,baz=263,slow=2.8,SNR=13
CPUP Villa Florida 149.86 57 PKPbc **PKPdf 04 45 28.7 +2.9**
comp=Z,1.5nm,0.5s,baz=358,slow=2.8,SNR=4.8

*IDC **31** 04:26:13.4±1.6,39°.93N×142°.82E,h0km,mb3.9/4, mb1 3.9/8,mb1mx3.4/74,mbtmp3.9/8,ML3.0/4,MS3.4/4, Ms1 3.4/4,ms1mx2.9/96,Error ellipse: s-maj=40.0km s-min=19.8km az=78.0*
*JMA **31** 04:26:15.8,39°.99N×142°.41E,h23km±1km,M4.2*
JMA Felt II J1.
*NIED **31** 04:26:15.8,39°.99N×142°.41E,h23km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}0.03; $M_{\theta\theta}$0.44; $M_{\phi\phi}$-0.47; $M_{r\theta}$0.36; $M_{\phi\phi}$0.99; $M_{\phi r}$-0.06; Fault plane solution: $M_0$1.15000×10^15^ NP1: ϕ_s103.00000°,δ88.00000°,λ19.00000°. NP2:ϕ_s12.00000°, δ71.00000°,λ178.00000°.*
*NEIC **31** 04:26:17.3±1.3,39°.98N±0°.07×142°.7E±0°.2,h21km±9km, mb4.3/3 Error ellipse: s-maj=21.7km s-min=9.9km az=100.0*
ISC 31 04:26:16.8±1.0,39°.99N±0°.03×142°.35E±0°.06,h10km,n32, σ2§00/44,mb4.1/7,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.38**	**263**	⇓P	**Pg**	**04 26 24.5**	**+0.3**
JTH				S	**Sb**	**04 26 30.8**	**-0.6**
JKEN	**Kujiedanarisaw**	**0.54**	**294**	P	**Pg**	**04 26 27.0**	**-0.2**
JKEN				S	**Sb**	**04 26 34.7**	**-1.4**
MIYJ	**Miyakonagasawa**	**0.58**	**225**	⇓P	**Pg**	**04 26 27.5**	**-0.5**
MIYJ				S	**Sg**	**04 26 35.8**	**+0.2**
JANG	**Nango**	**0.75**	**301**	P	**Pg**	**04 26 30.2**	**-1.0**
JANG				S	**Sb**	**04 26 40.1**	**-2.0**
JKZ	**Kuzumaki**	**0.78**	**270**	⇓P	**Pg**	**04 26 31.4**	**-0.5**
JKZ				S	**Sb**	**04 26 42.4**	**-0.8**
JOM	**Ohasama**	**0.96**	**238**	⇓P	**Pg**	**04 26 34.1**	**-1.2**
JOM				S	**Sg**	**04 26 47.3**	**-0.5**
OFUJ	**Ofunato**	**1.05**	**210**	⇓P	**Pg**	**04 26 34.9**	**-2.0**
OFUJ				S	**Sg**	**04 26 49.1**	**-1.4**
JTM	**Tenmabayashi**	**1.26**	**310**	⇑P	**Pb**	**04 26 38.7**	**-2.0**
JTM				S	**Sb**	**04 26 55.1**	**-1.9**
JAH	**Hinai**	**1.33**	**279**	P	**Pn**	**04 26 40.0**	**-1.4**
JAH				S	**Sn**	**04 26 58.5**	**-0.7**
JMK	**Ichinoseki**	**1.35**	**221**	P	**Pn**	**04 26 40.1**	**-1.6**
JMK				S	**Sb**	**04 26 58.4**	**-1.2**
JMM	**Marumori**	**2.44**	**210**	Pn	**Pn**	**04 26 59.2**	**+2.5**
JSD	**Sado**	**3.73**	**240**	Pn	**Pn**	**04 27 17.0**	**+2.6**
ASAJ	**Asahikawa**	**4.13**	**2**	Pn	**Pn**	**04 27 20.1**	**+0.2**
1.6nm,0.3s,baz=219,slow=9.9,SNR=8.6							
ASAJ				Sn	**Sn**	**04 28 10.2**	**+1.9**
4.2nm,0.3s,baz=335,slow=33,SNR=1.4							
JKA	**Kamikawa-asahi**	**4.13**	**3**		**Pn**	**04 27 20.1**	**+0.2**
JKA					**Sn**	**04 28 10.2**	**+1.9**
MAJO	**Matsushiro**	**4.74**	**225**	Pn	**Pn**	**04 27 29.8**	**+1.5**
MAT	**Matsushiro**	**4.74**	**225**	P	**Pn**	**04 27 30.3**	**+2.0**
MAT				*e*S	**Sn**	**04 28 28.3**	**+5.0**
MJAR	**Matsushiro Arr**	**4.74**	**225**	Pn	**Pn**	**04 27 30.3**	**+2.0**
1.0nm,0.3s,baz=24,slow=6.7,SNR=30							
MJAR				Sn	**Sb**	**04 28 33.6**	**-3.4**
baz=231,slow=31,SNR=1.5							
MJAR				LR	LR	04 29 32.2	
comp=Z,240nm,18.8s,baz=12,slow=40							
MJAR	**Matsushiro Arr**	**4.74**	**225**	Pn	**Pn**	**04 27 29.9**	**+1.6**
MJB9	**Matsu-Tunnel**	**4.74**	**225**		**Pn**	**04 27 30.3**	**+2.0**
JGF	**Kuroka**	**5.90**	**224**	Pn	**Pn**	**04 27 48.4**	**+4.2**
INU	**Inuyama**	**6.27**	**224**	Pn	**Pn**	**04 27 51.9**	**+2.6**
USRK	**Ussuriysk Ar.**	**8.78**	**302**	Pn	**Pn**	**04 28 25.9**	**+2.3**
baz=145,slow=33,SNR=3.1							
KSRS	**Korea Array**	**11.55**	**262**	Pn	**Pn**	**04 29 05.6**	**+3.9**
0.1nm,0.3s,baz=348,slow=36,SNR=2.3							
KSRS				LR	LR	04 32 59.2	
comp=Z,50nm,18.9s,baz=335,slow=34							
JOW	**Kunigami**	**17.58**	**226**	LR	LR	04 36 45.7	
comp=Z,94nm,18.8s,baz=1.5,slow=36							
ZAA0	**Zalesovo Array**	**40.53**	**310**	P	**P**	**04 33 57.9**	**+2.2**
ZAA0				IAmb	IAmb	04 34 00.1	
comp=Z,2.4nm,0.5s							
ZALV	**Zalesovo Beam**	**40.53**	**310**	P	**P**	**04 33 56.2**	**+0.4**
comp=Z,3.0nm,0.6s,baz=64,slow=9.8,SNR=9.7							
MKAR	**Makanchi Array**	**43.24**	**300**	P	**P**	**04 34 18.4**	**+0.4**
comp=Z,1.5nm,0.8s,baz=82,slow=8.4,SNR=6.8							
KURK	**Kurchatov**	**44.74**	**306**	P	**P**	**04 34 31.9**	**+1.9**
KURK				IAmb	IAmb	04 34 35.6	
comp=Z,5.3nm,0.8s							
BRVK	**Borovoye**	**49.22**	**311**	P	**P**	**04 35 05.3**	**+0.2**
BRVK				IAmb	IAmb	04 35 19.3	
comp=Z,2.9nm,0.8s							
WRA	**Warramunga Arr**	**60.09**	**189**	P	**P**	**04 36 22.0**	**-2.1**
comp=Z,0.7nm,0.5s,baz=7.0,slow=7.0,SNR=14							
YKA	**Yellowknife Ar**	**60.90**	**31**	LR	LR	05 05 13.9	
comp=Z,158nm,20.4s,baz=72,slow=38							
ASAR	**Alice Springs**	**63.81**	**189**	P	**P**	**04 36 47.7**	**-1.5**
comp=Z,0.5nm,0.6s,baz=310,slow=38,SNR=3.5							

*IDC **31** 04:27:24.5±2.0,51°.86N×179°.96W,h0km,mb4.0/7, mb1 4.4/8,mb1mx3.7/79,mbtmp4.1/8,ML4.8/1,Error ellipse: s-maj=45.0km s-min=29.4km az=12.0*
*NEIC **31** 04:28:08.6±1.2,52°.7N±0°.2×176°.2W±0°.1,h240km±12km, mb4.3/10,ML3.6(AEIC),Error ellipse: s-maj=30.0km s-min=6.4km az=163.0*
*AEIC **31** 04:28:09±0.9,52°.7N±0°.2×176°.2W±0°.1,h238km±7km, Error ellipse: s-maj=28.2km s-min=11.1km az=169.0*
ISC 31 04:28:08.6±0.9,52°.7N±0°.2×176°.24W±0°.08,h250km,n41, σ1§02/41,mb3.8/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTD	**Great Sitkin T**	**0.65**	**175**		**Pn**	**04 28 40.8**	**-1.3**
GSMY	**Great Sitkin M**	**0.67**	**170**		**Pn**	**04 28 40.8**	**-1.3**
GSIG	**Igitkin Island**	**0.74**	**165**		**Pn**	**04 28 41.0**	**-1.4**
ADAG	**Mount Adagdak**	**0.75**	**197**		**Pn**	**04 28 41.5**	**-0.9**
ADK	**Adak**	**0.86**	**199**	Pn	**Pn**	**04 28 41.5**	**-1.3**
KICM	**Kanaga Island**	**0.97**	**217**		**Pn**	**04 28 43.0**	**-0.5**
KIWB	**Kanaga Island**	**1.01**	**214**	Pn	**Pn**	**04 28 42.2**	**-1.5**
KIMD	**Kanaga Island**	**1.12**	**213**		**Pn**	**04 28 43.4**	**-0.9**
TAPA	**Tanaga Point A**	**1.31**	**228**		**Pn**	**04 28 44.8**	**-0.8**
TAFP	**Tanaga Falls P**	**1.33**	**234**		**Pn**	**04 28 44.8**	**-0.9**
ATKA	**Atka Island**	**1.35**	**111**		**Pn**	**04 28 44.2**	**-1.6**
KOFP	**Korovin Flat P**	**1.38**	**107**		**Pn**	**04 28 45.0**	**-1.0**
TAFL	**Tanaga Flats**	**1.39**	**228**		**Pn**	**04 28 45.4**	**-0.7**
TASE	**Tanaga Southea**	**1.40**	**233**		**Pn**	**04 28 45.8**	**-0.5**
GAEA	**Gareloi East**	**1.79**	**240**		**Pn**	**04 28 48.7**	**-0.5**
GALAA	**Gareloi Lava P**	**1.81**	**240**		**Pn**	**04 28 48.3**	**-1.1**
UNV	**Unalaska Valle**	**5.96**	**75**	Pn	**Pn**	**04 29 36.1**	**+0.1**
OHAK	**Old Harbor**	**13.92**	**62**	Pn	**Pn**	**04 31 14.5**	**-0.8**
KDAK	**Kodiak Island**	**14.39**	**60**	Pn	**Pn**	**04 31 19.6**	**-1.4**
3.6nm,0.3s,baz=290,slow=2.8,SNR=62							
KDAK	**Kodiak Island**	**14.39**	**60**	P	**Pn**	**04 31 19.6**	**-1.4**
SPU	**Mount Spurr**	**15.61**	**48**	P	**P**	**04 31 35.3**	**+0.5**
PPLA	**Purkeypile**	**16.28**	**42**	P	**P**	**04 31 42.8**	**+0.5**
PPLA				IAmb	IAmb	04 31 49.5	
comp=Z,12nm,0.7s							
IMAR	**Indian Mountai**	**17.43**	**32**	P	**P**	**04 31 55.1**	**+0.6**
MCK	**McKinley**	**17.97**	**41**	P	**P**	**04 32 01.2**	**+0.7**
MCK				IAmb	IAmb	04 32 18.6	
comp=Z,4.5nm,1.0s							
N25K	**Chitina, Valde**	**19.16**	**50**	P	**P**	**04 32 14.3**	**+0.9**
ILAR	**Eielson Array**	**19.22**	**40**	P	**P**	**04 32 11.5**	**-2.4**
comp=Z,0.9nm,0.6s,baz=240,slow=8.9,SNR=15							
DOT	**Dot Lake**	**19.96**	**44**	P	**P**	**04 32 21.4**	**-0.3**
DOT				IAmb	IAmb	04 32 23.6	
comp=Z,10.0nm,0.8s							
INK	**Inuvik**	**25.47**	**36**	P	**P**	**04 33 13.4**	**0.0**
comp=Z,0.9nm,0.3s,baz=241,slow=9.7,SNR=11							
INK	**Inuvik**	**25.47**	**36**	P	**P**	**04 33 13.4**	**0.0**
YAK	**Yakutsk**	**29.76**	**310**	P	**P**	**04 33 51.3**	**-0.3**
YKA	**Yellowknife Ar**	**33.18**	**48**	P	**P**	**04 34 21.5**	**+0.1**
comp=Z,3.1nm,0.7s,baz=276,slow=9.6,SNR=73							
YBH	**Yreka Blue Hor**	**37.16**	**85**	P	**P**	**04 34 57.1**	**+1.5**
comp=Z,2.2nm,0.7s,baz=328,slow=7.2,SNR=7.8							
YBH	**Yreka Blue Hor**	**37.16**	**85**	P	**P**	**04 34 57.1**	**+1.5**
NVAR	**Mina Array Bea**	**41.85**	**86**	P	**P**	**04 35 35.9**	**+1.6**
comp=Z,1.7nm,0.7s,baz=299,slow=7.5,SNR=16							
PDAR	**Pinedale Array

PBRG				A	A	04 39 08.9
	40nm,0.5s					
PGAV	**Gavieira, Arco**	**2.19**	**207**	*e*Pn	**Pn**	**04 38 32.1 +0.8**
PGAV				*e*Sn	**Sn**	**04 38 55.8 -2.7**
PGAV				*e*Sg	**Sg**	**04 39 04.4 -0.7**
PGAV				A	A	04 39 08.7
	105nm,0.5s					
PCAB	**Cabril**	**2.35**	**201**	*e*Pn	**Pn**	**04 38 34.3 +0.8**
PCAB				*e*Sn	**Sn**	**04 39 00.6 -1.8**
PCAB				*e*Sg	**Sg**	**04 39 10.2 -0.1**
PCAB				A	A	04 39 13.0
	78nm,0.4s					
POLO	**Lamas de Olo**	**2.62**	**194**	*e*Pn	**Pn**	**04 38 38.6 +1.3**
POLO				*e*Sg	**Sg**	**04 39 17.9 -1.2**
POLO				A	A	04 39 21.3
	15nm,0.7s					
PVRL	**Vila Real**	**2.71**	**193**	*e*Pn	**Pn**	**04 38 40.3 +2.0**
PVRL				*e*Sg	**Sg**	**04 39 21.7 0.0**
PVRL				A	A	04 39 26.4
	50nm,0.2s					
MVO	**Moncorvo**	**2.76**	**182**	*e*Pn	**Pn**	**04 38 40.7 +1.7**
MVO				*e*Sn	**Sn**	**04 39 11.1 -1.3**
MVO				*e*Sg	**Sg**	**04 39 21.7 -1.5**
MVO				A	A	04 39 33.8
	48nm,0.4s					
PTO	**Porto**	**3.04**	**205**	*e*Pn	**Pn**	**04 38 44.7 +1.8**
PTO				*e*Sg	**Sg**	**04 39 33.0 +0.5**
PTO				A	A	04 39 34.4
	28nm,0.3s					
PVIS	**Viseu**	**3.28**	**193**	*e*Pn	**Pn**	**04 38 47.4 +1.1**
PVIS				*e*Sn	**Sn**	**04 39 23.9 -1.5**
PVIS				*e*Sg	**Sg**	**04 39 37.5 -2.6**
PVIS				A	A	04 39 43.3
	26nm,0.1s					
MTE	**Manteigas**	**3.55**	**188**	*e*Pn	**Pn**	**04 38 51.6 +1.7**
MTE				*e*Sn	**Sn**	**04 39 28.5 -3.5**
MTE				*e*Sg	**Sg**	**04 39 48.1 -0.6**
MTE				A	A	04 39 52.4
	23nm,0.4s					
PCAS	**Casmilo, Conde**	**4.04**	**197**	*e*Pn	**Pn**	**04 38 58.6 +2.0**
PCAS				*e*Sg	**Sg**	**04 40 03.9 -0.5**
PCAS				A	A	04 40 11.7
	15nm,0.5s					
PCBR	**Castelo Branco**	**4.10**	**186**	*e*Pn	**Pn**	**04 38 58.9 +1.5**
PCBR				*e*Sn	**Sn**	**04 39 42.4 -3.0**
PCBR				*e*Sg	**Sg**	**04 40 06.4 +0.1**
PCBR				A	A	04 40 15.4
	11nm,0.5s					
SJPF	**Ste Jean**	**4.22**	**99**	*e*Pn	**Pn**	**04 39 03.1 +3.9**
SJPF				*e*Sn	**Sn**	**04 39 50.1 +1.6**
	4.4nm,0.2s					
PMRV	**Marv??o**	**4.50**	**185**	*e*Pn	**Pn**	**04 39 04.6 +1.6**
PMRV				*e*Sn	**Sn**	**04 39 54.1 -1.3**
PMRV				*e*Sg	**Sg**	**04 40 18.7 -0.6**
PMRV				A	A	04 40 28.4
	13nm,0.5s					
PSBE	**So Bento**	**4.62**	**198**	*e*Pn	**Pn**	**04 39 06.7 +2.1**
PSBE				*e*Sn	**Sn**	**04 39 56.5 -1.8**
PSBE				*e*Sg	**Sg**	**04 40 23.7 +0.7**
PSBE				A	A	04 40 36.9
	10nm,0.8s					
ETSF	**Etsaut**	**4.75**	**100**	*e*Pn	**Pn**	**04 39 10.3 +3.9**
ETSF	**Etsaut**	**4.75**	**100**	*e*P	Pn	04 39 13.1 +6.7
ETSF				*e*Sn	**Sn**	**04 40 03.5 +1.9**
	5.4nm,0.3s					
QUIF	**Quistinic**	**4.78**	**32**	*e*Pn	**Pn**	**04 39 09.3 +2.6**
QUIF				*e*Sn	**Sn**	**04 40 00.8 -1.3**
	7.1nm,0.2s					
PMTG	**Montargil**	**4.95**	**192**	*e*Pn	**Pn**	**04 39 10.5 +1.5**
PMTG				*e*Sn	**Sn**	**04 40 03.1 -3.2**
PMTG				*e*Sg	**Sg**	**04 40 32.8 -0.7**
PMTG				A	A	04 40 46.7
	5.3nm,0.7s					
PESTR	**Estremoz**	**5.07**	**186**	*e*Pn	**Pn**	**04 39 12.7 +1.9**
PESTR				*e*Sn	**Sn**	**04 40 06.8 -2.7**
PESTR				*e*Sg	**Sg**	**04 40 36.4 -1.2**
PESTR				A	A	04 40 52.6
	6.3nm,0.5s					
ROSF	**Rostrenen**	**5.09**	**29**	*e*Pn	**Pn**	**04 39 13.6 +2.5**
ROSF				*e*Sn	**Sn**	**04 40 07.2 -2.7**
	3.8nm,0.2s					
SGMF	**Saint Gilles**	**5.29**	**34**	*e*Pn	**Pn**	**04 39 16.3 +2.5**
SGMF				*e*Sn	**Sn**	**04 40 13.6 -1.2**
	1.4nm,0.2s					
EPF	**Esparros**	**5.36**	**97**	*e*Pn	**Pn**	**04 39 18.8 +4.0**
EPF				*e*Sn	**Sn**	**04 40 17.5 +0.9**
	2.5nm,0.2s					
EVO	**Evora**	**5.45**	**189**	*e*Pn	**Pn**	**04 39 18.3 +2.4**
EVO				*e*Sg	**Sg**	**04 40 49.9 +0.4**
EVO				A	A	04 40 52.0
	5.8nm,0.7s					
MFF	**Saint Martin d**	**5.49**	**58**	*e*Pn	**Pn**	**04 39 19.5 +3.1**
MFF				*e*Sn	**Sn**	**04 40 18.9 -0.7**
	8.0nm,0.3s					
LFF	**La Frestale**	**5.58**	**77**	*e*Pn	**Pn**	**04 39 21.5 +3.7**
LFF				*e*Sn	**Sn**	**04 40 22.6 +0.6**
	7.0nm,0.4s					
PNCL	**Nicolau / Gran**	**5.93**	**192**	*e*Pn	**Pn**	**04 39 24.3 +1.7**
PNCL				*e*Sn	**Sn**	**04 40 27.6 -2.9**
PNCL				A	A	04 41 41.4
	4.6nm,0.7s					
GRR	**Gorron**	**6.14**	**41**	*e*Pn	**Pn**	**04 39 28.1 +2.7**
GRR				*e*Sn	**Sn**	**04 40 30.9 -4.8**
	6.4nm,0.3s					
MESJ	**Messejana**	**6.15**	**190**	*e*Pn	**Pn**	**04 39 27.3 +1.7**
MESJ				*e*Sn	**Sn**	**04 40 32.8 -3.3**
MESJ				A	A	04 41 15.1
	3.6nm,0.6s					
RJF	**Les Rejaudoux**	**6.18**	**74**	*e*Pn	**Pn**	**04 39 29.2 +3.1**
RJF				*e*Sn	**Sn**	**04 40 34.4 -2.4**
	11nm,0.3s					
CAF	**Calviac**	**6.52**	**78**	*e*Pn	**Pn**	**04 39 33.7 +3.0**
CAF				*e*Sn	**Sn**	**04 40 44.0 -1.0**
	1.7nm,0.2s					
PVAQ	**Vaqueiros**	**6.54**	**186**	*e*Sg	**Sg**	**04 41 19.0 -5.6**
PVAQ				A	A	04 41 35.4
	5.5nm,0.7s					
FLN	**La Foliniere**	**6.58**	**40**	*e*Pn	**Pn**	**04 39 34.0 +2.5**
	baz=222					
FLN				*e*Sn	**Sn**	**04 40 42.7 -3.8**
	2.4nm,0.2s,baz=214					
LDF	**La Druitiere**	**6.64**	**43**	*e*Pn	**Pn**	**04 39 35.2 +2.9**
LDF				*e*Sn	**Sn**	**04 40 42.6 -5.3**
	3.4nm,0.3s					
MTLF	**Montolieu**	**6.66**	**92**	*e*Pn	**Pn**	**04 39 36.2 +3.6**
MTLF				*e*Sn	**Sn**	**04 40 47.3 -1.2**
	2.0nm,0.2s					
TCF	**Toulx Ste Croi**	**6.88**	**67**	*e*Pn	**Pn**	**04 39 38.9 +3.2**
TCF				*e*Sn	**Sn**	**04 40 50.4 -3.7**
	9.4nm,0.3s					
BGF	**Bois d'Agland**	**7.38**	**66**	*e*Pn	**Pn**	**04 39 45.7 +3.2**
BGF				*e*Sn	**Sn**	**04 41 03.2 -3.1**
	11nm,0.4s					
HYF	**Humbligny**	**7.50**	**60**	*e*Pn	**Pn**	**04 39 45.8 +1.7**
HYF				*e*Sn	**Sn**	**04 41 07.3 -1.8**
LASF	**Ste Croix**	**7.78**	**85**	*e*Pn	**Pn**	**04 39 51.4 +3.4**
LASF				*e*Sn	**Sn**	**04 41 14.7 -1.4**
	4.9nm,0.3s					
AVF	**Avril sur Loir**	**7.79**	**65**	*e*Pn	**Pn**	**04 39 50.8 +2.8**
AVF				*e*Sn	**Sn**	**04 41 11.1 -5.1**
	1.8nm,0.3s					
SSF	**Saint Saulge**	**7.97**	**63**	*e*Pn	**Pn**	**04 39 53.4 +2.8**
SSF				*e*Sn	**Sn**	**04 41 15.9 -4.9**
	2.3nm,0.2s					
SMF	**Signal de Mont**	**8.07**	**67**	*e*Pn	**Pn**	**04 39 55.5 +3.6**
SMF				*e*Sn	**Sn**	**04 41 18.5 -4.6**
	0.6nm,0.2s					
LOR	**Lormes**	**8.27**	**62**	*e*Pn	**Pn**	**04 39 57.3 +2.6**
	baz=252					
LOR				*e*Sn	**Sn**	**04 41 23.6 -4.5**
	2.4nm,0.4s					
VIVF	**Saint-Julien-l**	**8.36**	**80**	*e*Pn	**Pn**	**04 39 59.4 +3.4**
VIVF				*e*Sn	**Sn**	**04 41 28.0 -2.4**
	2.6nm,0.4s					
SMRF	**Simiane la Rot**	**9.02**	**85**	*e*Pn	**Pn**	**04 40 08.6 +3.6**
ORIF	**Oris-en-Rattie**	**9.22**	**79**	*e*Pn	**Pn**	**04 40 12.2 +4.4**
SFTF	**Sexfontaines**	**9.35**	**59**	*e*Pn	**Pn**	**04 40 11.6 +2.1**
	baz=233					
SFTF				*e*Sn	Sn	04 41 48.2 -6.5
	0.8nm,0.2s					
MEZF	**Maizieres J'vi**	**9.48**	**57**	*e*Pn	**Pn**	**04 40 14.2 +3.0**
	baz=240					
MEZF				*e*Sn	**Sn**	**04 41 55.6 -2.2**
	0.4nm,0.2s					
CABF	**La Chapelle**	**9.56**	**69**	*e*Pn	**Pn**	**04 40 14.0 +1.5**
SAVF	**Savonnieres en**	**9.57**	**56**	*e*Pn	**Pn**	**04 40 15.3 +2.8**
	baz=238					
SAVF				*e*Sn	**Sn**	**04 41 56.4 -3.6**
	1.1nm,0.3s					
LMR	**La Mourre**	**9.76**	**89**	*e*P	Pn	04 40 21.7 +6.6
BAIF	**Baives**	**9.77**	**47**	*e*Pn	**Pn**	**04 40 17.8 +2.6**
BAIF				*e*Sn	Sn	04 41 58.5 -6.4
	1.1nm,0.3s					
PAGF	**Fort de Pagny**	**9.91**	**58**	*e*Pn	**Pn**	**04 40 19.0 +1.8**
	baz=238					
HAU	**Haudompre**	**10.10**	**62**	*e*Pn	**Pn**	**04 40 21.7 +1.9**
HAU				*e*Sn	**Sn**	**04 42 09.6 -3.5**
	1.8nm,0.3s					
GIVF	**Givet**	**10.12**	**48**	*e*Pn	**Pn**	**04 40 23.1 +3.1**
GIVF				*e*Sn	Sn	04 42 06.0 -7.6
	2.3nm,0.3s					

*IDC **31** 04:39:46.1±1.1,29°.53N×84°.17E,h0km,mb3.7/9,*
mb1 3.9/11,mb1mx3.6/62,mbtmp3.8/11,ML4.2/2,Error
ellipse: s-maj=37.0km s-min=17.3km az=56.0
*NEIC **31** 04:39:48.2±1.3,29°.6N±0°.1×84°.3E±0°.1,h10km±1km,*
mb4.1/11,Error ellipse: s-maj=28.9km s-min=8.0km
az=221.0
*NDI **31** 04:39:51.8±3.2,29°.60N×84°.23E,h10km,ML3.4,*
mb4.1(NEIC)

ISC 31 04:39:48.2±0.6,29°.72N±0°.07×84°.41E±0°.06,h10km,n28,
σ1§50/29,mb3.9/13,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOK	**Bokaro**	**6.05**	**167**	*e*P	**Pn**	**04 41 19.8**	**+2.0**
BOK				*e*S	**Sn**	**04 42 25.6**	**-1.5**
NDI	**New Delhi**	**6.37**	**262**	*e*P	**Pb**	**04 41 38.0**	**-1.3**
NDI				*e*S	**Sb**	**04 43 01.0**	**+5.4**
SMLA	**Simla**	**6.41**	**284**	*e*P	**Pn**	**04 41 22.7**	**0.0**
SMLA				*i* x	x	04 41 43.6	
SMLA				*e*S	**Sn**	**04 42 34.9**	**-1.0**
SMLA				IAML		04 42 35.6	
	comp=E,41nm,0.7s						
SHL	**Shillong**	**7.81**	**120**	Pn	**Pn**	**04 41 42.5**	**+0.3**
BHPL	**Bhopal**	**8.99**	**226**	*e*P	**Pn**	**04 41 57.0**	**-1.2**
BHPL				*e*S	Sn	04 43 30.1	-10
BHPL				IAML		04 44 38.1	
	comp=E,19nm,1.2s						
BHPL				IAML		04 44 38.6	
	comp=N,20nm,0.6s						
AAK	**Ala-Archa**	**15.16**	**331**	Pn	**P**	**04 43 27.4**	**-0.2**
	comp=N,0.1nm,0.3s,baz=139,slow=23,SNR=2.5						
AAK	**Ala-Archa**	**15.16**	**331**	IAmb	IAmb	04 43 33.4	
	comp=Z,3.0nm,1.0s						
CHGR	**Chuyangaron**	**15.43**	**309**	Pn	**Pn**	**04 43 24.2**	**-1.9**
MK31	**Makanchi Array**	**17.12**	**355**	Pn	**Pn**	**04 43 47.6**	**0.0**
MKAR	**Makanchi Array**	**17.12**	**355**	P	**P**	**04 43 50.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=186,slow=10,SNR=18						
MKAR	**Makanchi Array**	**17.12**	**355**	P	**P**	**04 43 50.4**	**+1.1**
MAKZ	**Makanchi**	**17.16**	**354**	Pn	**Pn**	**04 43 48.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.35**	**127**	P	**P**	**04 43 51.9**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=306,slow=13,SNR=4.7						
KURBB	**Kurchatov Array**	**21.34**	**350**	P	**P**	**04 44 35.5**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=170,slow=10.0,SNR=25						
KURK	**Kurchatov**	**21.42**	**350**	P	**P**	**04 44 36.4**	**+0.3**
KURK				IAmb	IAmb	04 44 37.5	
	comp=Z,4.7nm,0.9s						
ENH	**Enshi**	**21.72**	**82**	P	**P**	**04 44 40.0**	**+0.4**
ENH				IAmb	IAmb	04 44 52.0	
	comp=Z,16nm,1.3s						
ZAA0	**Zalesovo Array**	**24.21**	**1**	P	**P**	**04 45 05.5**	**+0.6**
ZAA0				IAmb	IAmb	04 45 18.8	
	comp=Z,7.7nm,1.6s						
ZALV	**Zalesovo Beam**	**24.21**	**1**	P	**P**	**04 45 07.1**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=187,slow=12,SNR=4.6						
SONM	**Songino Array**	**24.77**	**37**	P	**P**	**04 45 12.1**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=221,slow=9.8,SNR=7.2						
SONM	**Songino Array**	**24.77**	**37**	IAmb	IAmb	04 46 07.3	
	comp=Z,5.8nm,1.8s						
BVAR	**Borovoye Array**	**25.46**	**340**	P	**P**	**04 45 16.0**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=115,slow=13,SNR=4.8						
ABKAR	**Akbulak array**	**26.95**	**323**	P	**P**	**04 45 30.1**	**+0.4**
ABKAR				IAmb	IAmb	04 45 47.9	
	comp=Z,13nm,2.0s						
MARD	**Mardin**	**36.90**	**294**	P	**P**	**04 46 56.2**	**-1.1**
BRTR	**Keskin Array B**	**42.42**	**298**	P	**P**	**04 47 42.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=118,slow=16,SNR=2.9						
FINES	**FINESS Array B**	**49.30**	**327**	P	**P**	**04 48 36.2**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=123,slow=9.4,SNR=5.3						
HFS	**Hagfors**	**55.19**	**325**	P	**P**	**04 49 20.5**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=140,slow=9.5,SNR=1.7						
WRA	**Warramunga Arr**	**68.93**	**130**	P	**P**	**04 50 53.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=322,slow=6.3,SNR=8.3						
ASAR	**Alice Springs**	**71.27**	**133**	P	**P**	**04 51 07.5**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=316,slow=6.7,SNR=6.1						

IDC 31 04:54:19.2±8.1,3°.04S×146°.93E,h0km,mb3.7/3,
mb1 4.0/3,mb1mx3.6/27,mbtmp3.8/3,Error ellipse:
s-maj=274.1km s-min=35.4km az=98.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.82**	**215**	P	P	04 59 02.6	+0.1
	5.6nm,1.0s,baz=39,slow=12,SNR=14						
ASAR	**Alice Springs**	**24.07**	**210**	P	P	04 59 36.4	-0.1
	1.8nm,0.9s,baz=39,slow=7.4,SNR=13						
MKAR	**Makanchi Array**	**75.19**	**320**	P	P	05 06 03.8	+0.1
	0.5nm,0.9s,baz=117,slow=0.6,SNR=2.5						

*IDC **31** 04:54:50.2±1.0,35°.65N×4°.03W,h0km,mb3.7/7,*
mb1 3.9/11,mb1mx3.6/43,mbtmp3.7/11,ML3.5/4,Error
ellipse: s-maj=27.5km s-min=14.0km az=99.0
*MDD **31** 04:54:50.6±0.7,35°.67N×3°.78W,h0km,mbLg3.6/10,Error*
ellipse: s-maj=6.6km s-min=4.3km az=52.0
*CNRM **31** 04:54:51.0,35°.67N×3°.41W,h0km,ml4.0*
*SFS **31** 04:54:50.0,35°.66N×3°.78W,ML3.6,ALBORAN SUR*
*IGIL **31** 04:54:51.7,35°.67N×3°.78W,h0km,ML3.3*
*INMG **31** 04:54:51.2±2.0,35°.68N×3°.72W,h6km±8km,MD3.4,ML3.4,*
Error ellipse: s-maj=7.3km s-min=3.7km az=85.0
*CRAAG **31** 04:54:51.4,35°.74N×3°.66W,Ml3.5*
*LDG **31** 04:54:52.6±0.3,35°.70N×3°.54W,h10km,Ml3.3/5,Error*
ellipse: s-maj=6.3km s-min=4.1km az=175.0

ISC 31 04:54:49.9±1.1,35°.66N±0°.02×3°.72W±0°.02,h5km±8km,
n113,σ2§11/163,mb3.8/7,2C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.48**	**202**	P	**Pg**	**04 55 00.1**	**+1.0**
PALE	**Palemas**	**0.48**	**202**	P	**Pg**	**04 55 00.0**	**+1.0**
PALE				S	**Sg**	**04 55 06.3**	**+1.1**
EMEL	**Melilla**	**0.72**	**120**	Pg	**Pb**	**04 55 05.1**	**+0.2**
	2μm,0.3s,SNR=86						
EMEL				Lg	Lg	04 55 14.1	
	18μm,0.2s,SNR=24						
AKLM	**AKL**	**1.15**	**186**	P	**Pg**	**04 55 12.0**	**0.0**
AKLM	**AKL**	**1.15**	**186**	P	**Pg**	**04 55 11.7**	**-0.3**
AKLM				S	**Sg**	**04 55 26.6**	**-0.3**
CHAS	**Isla Isabel II**	**1.16**	**114**	*e*P	**Pg**	**04 55 10.9**	**-1.2**
CHAS				*e*S	**Sg**	**04 55 24.8**	**-2.3**
ELGU	**Los Guajares,**	**1.21**	**4**	Pg	**Pg**	**04 55 13.3**	**+0.1**
	SNR=7.9						
ELGU				Lg	Lg	04 55 29.4	
	2μm,0.3s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.24**	**333**	*e*P	**Pb**	**04 55 13.4**	**-0.4**
EMAL				*e*S	**Sg**	**04 55 28.6**	**-1.2**
EMIJ	**Mijas**	**1.24**	**317**	Pg	**Pg**	**04 55 13.1**	**-0.7**
	SNR=7.9						
EMIJ				Lg	Lg	04 55 28.5	
	3μm,0.5s,SNR=7.9						
SMIR	**Smir Dam**	**1.35**	**271**	P	**Pn**	**04 55 15.0**	**-0.4**
SMIR	**Smir Dam**	**1.35**	**271**	P	**Pn**	**04 55 15.0**	**-0.4**
CEU	**Ceuta**	**1.36**	**281**	*e*P	**Pn**	**04 55 12.1**	**-3.4**
CEU				*e*S	**Sb**	**04 55 27.7**	**-5.9**
ECEU	**Ceuta**	**1.37**	**281**	Pg	**Pn**	**04 55 13.7**	**-1.9**
	43nm,0.3s,SNR=37						
ECEU				Lg	Lg	04 55 30.3	
	177nm,0.1s,SNR=15						
EBER	**Berja**	**1.41**	**28**	Pg	**Pn**	**04 55 16.1**	**-0.3**
	SNR=7.9						
EBER				Lg	Lg	04 55 35.5	
	284nm,0.3s,SNR=7.9						
CHEFC	**Chefchaouen**	**1.43**	**248**	P	**Pb**	**04 55 17.0**	**-0.2**
CHEFC	**Chefchaouen**	**1.43**	**248**	P	**Pn**	**04 55 16.4**	**-0.2**
EGOR	**Sierra Gorda,**	**1.48**	**348**	Pg	**Pb**	**04 55 18.1**	**+0.1**
	SNR=7.9						
EGOR				Lg	Lg	04 55 38.0	
	385nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**1.56**	**8**	Pg	**Pb**	**04 55 19.4**	**+0.1**
	SNR=7.9						
EQUE				Lg	Lg	04 55 39.8	
	388nm,0.7s,SNR=7.9						
JBK	**JBK**	**1.62**	**144**	P	**Pn**	**04 55 17.9**	**-1.5**
JBK				S	**Sn**	**04 55 36.7**	**-4.0**
JBK	**JBK**	**1.62**	**144**	P	**Pn**	**04 55 19.0**	**-0.4**
ENIJ	**Nijar**	**1.79**	**43**	Pg	**Pn**	**04 55 20.6**	**-0.9**
	SNR=7.9						
ENIJ				Lg	Lg	04 55 44.3	
	301nm,0.3s,SNR=7.9						
SICH	**Sidi Chahed**	**2.03**	**221**	S	Sn	04 55 33.0	-18
LCRM	**LCR**	**2.18**	**206**	P	**Pb**	**04 55 30.0**	**+0.1**
LCRM	**LCR**	**2.18**	**206**	P	**Pn**	**04 55 26.7**	**-0.2**
LCRM				S	**Sn**	**04 55 53.2**	**-1.2**
LCRM	**LCR**	**2.18**	**206**	P	**Pg**	**04 55 32.0**	**+0.3**
EQES	**Quesada**	**2.20**	**14**	Pg	**Pb**	**04 55 30.6**	**+0.3**
	SNR=7.9						
EQES				Lg	Lg	04 55 59.3	
	468nm,0.5s,SNR=7.9						
IFR	**Ifrane**	**2.43**	**209**	*e*P	**Pn**	**04 55 29.6**	**-0.8**
IFR				*e*S	**Sn**	**04 55 57.1**	**-3.5**
ARNO	**Arenosillo**	**2.82**	**301**	*e*P	**Pn**	**04 55 37.0**	**+1.4**
ARNO				*e*S	**Sn**	**04 56 10.7**	**+0.7**
CART	**Cartagena**	**2.91**	**48**	P	**Pn**	**04 55 37.7**	**+0.8**
CART	**Cartagena**	**2.91**	**48**	P	**Pn**	**04 55 36.5**	**-0.3**
CART				S	**Sn**	**04 56 09.2**	**-3.0**
CART	**Cartagena**	**2.91**	**48**	P	**Pn**	**04 55 36.5**	**-0.3**
MD31	**MD31**	**2.92**	**197**	P	**Pn**	**04 55 37.0**	**0.0**
MD31				S	**Sn**	**04 56 10.4**	**-2.0**
MDT	**Midelt**	**2.93**	**195**	Pn	**Pn**	**04 55 36.9**	**-0.4**
	1.6nm,0.3s,baz=172,slow=10.0,SNR=40						
MDT				Sn	**Sn**	**04 56 10.9**	**-1.9**
	10nm,0.3s,baz=217,slow=22,SNR=6.2						
MDT				Lg	Lg	04 56 22.2	
	21nm,0.3s,baz=124,slow=18,SNR=5.1						
MDT	**Midelt**	**2.93**	**195**	P	**Pn**	**04 55 37.6**	**+0.4**
MDT	**Midelt**	**2.93**	**195**	P	**Pn**	**04 55 37.6**	**+0.4**
MDT				S	**Sn**	**04 56 11.2**	**-1.6**
MDT	**Midelt**	**2.93**	**195**	P	**Pb**	**04 55 41.3**	**-1.4**
ODJA	**Bouhanifia**	**2.93**	**95**	P	**Pg**	**04 55 45.0**	**-1.1**
PBAR	**Barrancos**	**3.66**	**314**	*e*Pn	**Pn**	**04 55 48.4**	**+1.3**
PBAR				*e*Sn	**Sn**	**04 56 28.4**	**-2.2**
PBAR				A	A	04 56 36.2	
	57nm,0.5s						
PVAQ	**Vaqueiros**	**3.66**	**300**	*e*Pn	**Pn**	**04 55 47.2**	**+0.1**
PVAQ				*e*Sn	**Sn**	**04 56 28.5**	**-2.2**
PVAQ				A	A	04 56 30.7	
	65nm,0.6s						
PVAQ	**Vaqueiros**	**3.66**	**300**	P	**Pn**	**04 55 47.1**	**-0.1**
PVAQ	**Vaqueiros**	**3.66**	**300**	P	**Pn**	**04 55 47.1**	**-0.1**
PVAQ				S	**Sn**	**04 56 28.4**	**-2.2**
PBDV	**Barranco-do-Ve**	**3.74**	**296**	*e*Pn	**Pn**	**04 55 48.4**	**+0.1**
PBDV				*e*Sn	**Sn**	**04 56 29.9**	**-2.9**
PBDV				A	A	04 56 32.5	
	40nm,0.6s						
AVE	**Averroes**	**3.85**	**233**	*e*P	**Pn**	**04 55 49.4**	**-0.5**
AVE				*e*S	**Sn**	**04 56 32.7**	**-2.8**
AVE	**Averroes**	**3.85**	**233**	P	**Pn**	**04 55 49.8**	**0.0**
AVE	**Averroes**	**3.85**	**233**	P	**Pn**	**04 55 49.8**	**0.0**
PAB	**San Pablo**	**3.91**	**353**	P	**Pn**	**04 55 52.7**	**+2.0**
PCVE	**Castro Verde**	**3.99**	**301**	*e*Pn	**Pn**	**04 55 51.8**	**+0.1**
PCVE				*e*Sn	**Sn**	**04 56 36.0**	**-2.9**
PCVE				A	A	04 56 39.9	
	67nm,0.5s						
ESDC	**Sonseca Array**	**4.01**	**357**	Pn	**Pn**	**04 55 53.5**	**+1.5**
	3.4nm,0.3s,baz=182,slow=12,SNR=116						
ESDC				Sn	**Sn**	**04 56 38.4**	**-1.1**
	2.0nm,0.3s,baz=184,slow=17,SNR=4.6						
ESDC				Lg	Lg	04 56 53.0	
	4.1nm,0.3s,baz=314,slow=32,SNR=1.7						
FIGM	**Figuig**	**4.07**	**149**	P	**Pn**	**04 55 52.3**	**-0.5**
FIGM	**Figuig**	**4.07**	**149**	P	**Pn**	**04 55 54.0**	**+1.1**
PBEJ	**Beja**	**4.08**	**307**	*e*Pn	**Pn**	**04 55 53.2**	**+0.3**
PBEJ				*e*Sn	**Sn**	**04 56 39.1**	**-1.9**
PBEJ				A	A	04 56 47.5	
	29nm,0.4s						
MESJ	**Messejana**	**4.22**	**302**	*e*P	**Pn**	**04 55 54.8**	**0.0**
MESJ				*e*S	**Sn**	**04 56 40.6**	**-3.8**
MESJ				IAML		04 56 46.8	
	comp=N,45nm,0.3s						
MESJ	**Messejana**	**4.22**	**302**	*e*Pn	**Pn**	**04 55 55.0**	**+0.2**
MESJ				*e*Sn	**Sn**	**04 56 42.3**	**-2.1**
MESJ				A	A	04 56 54.5	
	comp=N,36nm,0.5s						
MORF	**Marmelete**	**4.30**	**294**	*e*P	**Pn**	**04 55 55.7**	**-0.3**
MORF				*e*S	**Sn**	**04 56 42.6**	**-3.9**
MORF				IAML		04 56 53.1	
	comp=N,81nm,0.3s						
MORF	**Marmelete**	**4.30**	**294**	*e*Pn	**Pn**	**04 55 56.1**	**+0.1**
MORF				*e*Sn	**Sn**	**04 56 44.4**	**-2.1**
MORF				A	A	04 56 56.0	
	comp=N,38nm,0.2s						
PFVI	**Vila Bisbo**	**4.37**	**291**	*e*Pn	**Pn**	**04 55 56.8**	**-0.2**
PFVI		

PVIS				*e*Sn	**Sn**	**04 57 27.0**	**-2.0**
PVIS				A	A	04 57 40.7	
	comp=N,30nm,0.6s						
MVO	**Moncorvo**	**6.08**	**336**	*e*Pn	**Pn**	**04 56 22.3**	**+1.8**
MVO				*e*Sn	**Sn**	**04 57 30.4**	**0.0**
MVO				A	A	04 58 14.6	
	comp=N,34nm,0.6s						
PVRL	**Vila Real**	**6.42**	**332**	*e*Pn	**Pn**	**04 56 26.8**	**+1.6**
PVRL				*e*Sn	**Sn**	**04 57 36.2**	**-2.7**
PVRL				A	A	04 57 37.8	
	comp=N,41nm,0.5s						
TTIG	**Tnine Tigouga,**	**6.46**	**219**	P	**Pn**	**04 56 22.7**	**-3.0**
POLO	**Lamas de Olo**	**6.54**	**332**	*e*Pn	**Pn**	**04 56 28.6**	**+1.8**
POLO				*e*Sn	**Sn**	**04 57 39.2**	**-2.5**
POLO				A	A	04 57 51.0	
	comp=N,8.7nm,0.5s						
PBRG	**Braganca**	**6.58**	**340**	*e*Pn	**Pn**	**04 56 29.3**	**+2.1**
PBRG				*e*Sn	**Sn**	**04 57 40.3**	**-2.3**
PBRG				A	A	04 57 44.4	
	comp=N,12nm,0.7s						
PTO	**Porto**	**6.68**	**326**	*e*Pn	**Pn**	**04 56 29.9**	**+1.3**
PTO				*e*Sn	**Sn**	**04 57 41.7**	**-3.3**
PTO				A	A	04 57 46.4	
	comp=N,28nm,0.4s						
PCAB	**Cabril**	**6.92**	**332**	*e*Pn	**Pn**	**04 56 33.7**	**+1.8**
PCAB				*e*Sn	**Sn**	**04 57 47.5**	**-3.5**
PCAB				A	A	04 57 53.2	
	comp=N,24nm,0.6s						
PGAV	**Gavieira, Arco**	**7.23**	**332**	*e*Pn	**Pn**	**04 56 38.0**	**+1.7**
PGAV				*e*Sn	**Sn**	**04 57 55.5**	**-3.2**
PGAV				A	A	04 58 08.3	
	comp=N,17nm,0.5s						
ETSF	**Etsaut**	**7.63**	**18**	*e*P	**Pn**	**04 56 44.4**	**+2.6**
ETSF				*e*Sn	**Sn**	**04 58 00.8**	**-7.9**
	comp=N,3.1nm,0.4s						
SJPF	**Ste Jean**	**7.69**	**14**	*e*P	**Pn**	**04 56 45.0**	**+2.5**
SJPF				*e*Sn	**Sn**	**04 58 02.2**	**-7.8**
	comp=N,7.7nm,0.6s						
EPF	**Esparros**	**8.00**	**22**	*e*P	**Pn**	**04 56 49.2**	**+2.3**
EPF				*e*Sn	**Sn**	**04 58 11.3**	**-6.5**
	comp=N,1.9nm,0.5s						
MTLF	**Montolieu**	**8.94**	**29**	*e*P	**Pn**	**04 57 04.1**	**+4.5**
LFF	**La Frestale**	**9.87**	**19**	*e*Pn	**Pn**	**04 57 12.4**	**0.0**
LASF	**Ste Croix**	**10.22**	**32**	*e*P	**Pn**	**04 57 19.6**	**+2.4**
RJF	**Les Rejaudoux**	**10.42**	**21**	*e*Pn	**Pn**	**04 57 18.9**	**-1.1**
KEST	**Kesra**	**10.63**	**86**	Pn	Pn	04 57 28.8	+5.9
	comp=N,0.3nm,0.3s,baz=272,slow=6.9,SNR=4.9						
LMR	**La Mourre**	**11.00**	**43**	*e*P	**Pn**	**04 57 31.4**	**+3.5**
LMR				*e*Sn	Sn	04 59 21.3	-10
	comp=N,0.4nm,0.3s						
MFF	**Saint Martin d**	**11.26**	**13**	*e*Pn	**Pn**	**04 57 30.3**	**-1.1**
TCF	**Toulx Ste Croi**	**11.52**	**21**	*e*Pn	**Pn**	**04 57 32.7**	**-2.3**
PGF	**Pioggiola**	**12.03**	**51**	*e*P	**Pn**	**04 57 45.8**	**+3.7**
PGF				*e*Sn	Sn	04 59 46.8	-10
	comp=N,1.5nm,0.3s						
QUIF	**Quistinic**	**12.26**	**2**	*e*Pn	**Pn**	**04 57 44.5**	**-0.5**
SMF	**Signal de Mont**	**12.36**	**25**	*e*Pn	**Pn**	**04 57 44.9**	**-1.5**
SSF	**Saint Saulge**	**12.61**	**23**	*e*Pn	**Pn**	**04 57 48.7**	**-1.2**
SGMF	**Saint Gilles**	**12.62**	**4**	*e*Pn	**Pn**	**04 57 48.9**	**-1.0**
ROSF	**Rostrenen**	**12.67**	**1**	*e*Pn	**Pn**	**04 57 49.1**	**-1.6**
LDF	**La Druitiere**	**13.20**	**11**	*e*Pn	**Pn**	**04 57 56.7**	**-1.1**
FLN	**La Foliniere**	**13.31**	**9**	*e*Pn	**Pn**	**04 57 59.5**	**+0.1**
	baz=193						
GERES	**GERESS Array B**	**18.38**	**39**	P	**P**	**04 59 09.6**	**+4.0**
	comp=N,0.1nm,0.3s,baz=225,slow=11,SNR=3.4						
CLL	**Collm**	**19.72**	**32**	*e*P	**Pn**	**04 59 23.0**	**+1.5**
TORD	**Torodi Ar. Bea**	**22.94**	**166**	P	**P**	**04 59 57.2**	**+2.2**
	comp=N,1.8nm,0.7s,baz=342,slow=13,SNR=7.1						
MLR	**Muntele Rosu**	**24.46**	**57**	P	**P**	**05 00 12.9**	**+3.1**
	comp=N,1.8nm,0.8s,baz=157,slow=19,SNR=3.2						
NOA	**NORSAR Array B**	**27.13**	**16**	P	**P**	**05 00 37.3**	**+3.6**
	comp=N,0.6nm,0.8s,baz=353,slow=6.4,SNR=3.9						
FINES	**FINESS Array B**	**31.95**	**27**	P	**P**	**05 01 19.4**	**+3.2**
	comp=N,3.1nm,1.0s,baz=228,slow=4.9,SNR=1.5						
SCHQ	**Schefferville**	**46.65**	**315**	P	**P**	**05 03 19.3**	**+0.2**
	comp=N,1.8nm,1.0s,baz=190,slow=15,SNR=1.6						
MKAR	**Makanchi Array**	**62.57**	**51**	P	**P**	**05 05 15.4**	**+0.6**
	comp=N,0.9nm,0.7s,baz=292,slow=5.8,SNR=12						
YKA	**Yellowknife Ar**	**67.71**	**332**	P	**P**	**05 05 47.5**	**-0.4**
	comp=N,0.1nm,0.5s,baz=60,slow=6.2,SNR=4.3						

IDC 31 05:02:36.8±1.5, 1°.80N×128°.62E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/31, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=82.1km s-min=22.3km az=62.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.75**	**135**	Pn	Pn	05 03 36.0	+0.1
	8.4nm,0.3s,baz=345,slow=22,SNR=12						
WRA	**Warramunga Arr**	**22.33**	**166**	P	P	05 07 35.8	-0.5
	0.7nm,0.5s,baz=346,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.83**	**169**	P	P	05 08 10.3	+0.3
	0.6nm,0.8s,baz=354,slow=13,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**40.83**	**63**	T	T	05 53 53.5	
	baz=251,slow=74,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**40.85**	**64**	T	T	05 53 46.9	
	baz=317,slow=74,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**40.85**	**63**	T	T	05 53 54.0	
H11N1	**WAKE ISLAND Hy**	**41.43**	**62**	T	T	05 54 34.9	
	baz=248,slow=76,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**41.44**	**62**	T	T	05 54 38.6	
	baz=248,slow=76,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**41.45**	**62**	T	T	05 54 41.5	
	baz=248,slow=76,SNR=6.4						
MKAR	**Makanchi Array**	**60.21**	**325**	P	P	05 12 46.7	0.0
	0.3nm,0.3s,baz=115,slow=9.1,SNR=13						

*CNRM **31** 05:24:45.4, 35°.57N×3°.75W, h21km, ml3.1*
*IDC **31** 05:24:46.3±1.3, 35°.47N×3°.92W, h0km, mb3.1/3, mb1 3.1/5, mb1mx3.1/47, mbtmp3.0/5, ML2.5/2, Error ellipse: s-maj=41.4km s-min=14.0km az=96.0*
ISC 31 05:24:45.0±1.4, 35°.54N±0°.03×3°.74W±0°.03, h2km±10km, n19, σ2°03/31, mb3.2/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**207**	P	**Pg**	**05 24 52.9**	**+0.9**
PALE				S	**Sg**	**05 24 57.4**	**+0.6**
AKLM	**AKL**	**1.04**	**186**	P	**Pg**	**05 25 05.2**	**+0.3**
AKLM				S	**Sg**	**05 25 18.0**	**-0.3**
CHAS	**Isla Isabel II**	**1.12**	**108**	*e*P	**Pb**	**05 25 05.9**	**-1.3**
CHAS				*e*S	**Sg**	**05 25 20.1**	**-1.1**
SMIR	**Smir Dam**	**1.35**	**276**	P	**Pn**	**05 25 08.0**	**-2.9**
SMIR				S	**Sb**	**05 25 26.3**	**-2.4**
CHEFC	**Chefchaouen**	**1.38**	**252**	P	**Pn**	**05 25 10.5**	**-0.9**
JBK	**JBK**	**1.54**	**141**	P	**Pn**	**05 25 11.9**	**-1.8**
JBK				S	**Sn**	**05 25 31.4**	**-3.0**
SICH	**Sidi Chahed**	**1.94**	**223**	P	**Pn**	**05 25 18.2**	**-0.8**
SICH				S	**Sb**	**05 25 45.0**	**-0.7**
LCRM	**LCR**	**2.07**	**207**	P	**Pb**	**05 25 22.9**	**-0.5**
LCRM				S	**Sn**	**05 25 46.0**	**-1.4**
MD31	**MD31**	**2.80**	**198**	P	**Pn**	**05 25 30.9**	**-0.1**
MD31				S	**Sn**	**05 26 02.9**	**-2.5**
MDT	**Midelt**	**2.82**	**195**	Pn	**Pn**	**05 25 29.4**	**-1.8**
	0.5nm,0.3s,baz=317,slow=19,SNR=3.5						
MDT				Lg	Lg	05 26 11.3	
	4.2nm,0.3s,baz=76,slow=20,SNR=5.7						
MDT	**Midelt**	**2.82**	**195**	P	**Pn**	**05 25 32.1**	**+1.0**
MDT				S	**Sn**	**05 26 04.4**	**-1.3**
TDRA	**Tendrara**	**2.87**	**150**	P	**Pn**	**05 25 31.3**	**-0.6**
CART	**Cartagena**	**3.00**	**46**	P	**Pn**	**05 25 31.9**	**-1.7**
CART				S	**Sn**	**05 26 06.1**	**-4.0**
PVAQ	**Vaqueiros**	**3.71**	**301**	P	**Pn**	**05 25 42.3**	**-1.0**
PVAQ				S	**Sn**	**05 26 23.2**	**-4.4**
ESDC	**Sonseca Array**	**4.13**	**358**	Pn	**Pn**	**05 25 50.7**	**+1.5**
	0.2nm,0.3s,baz=176,slow=11,SNR=8.8						
ESDC				Sn	**Sn**	**05 26 37.5**	**-0.5**
	0.2nm,0.3s,baz=191,slow=14,SNR=2.0						
ESDC				Lg	Lg	05 26 56.0	
	0.4nm,0.3s,baz=176,slow=27,SNR=1.6						
PESTR	**Estremoz**	**4.53**	**318**	P	**Pn**	**05 25 53.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**22.83**	**166**	P	**P**	**05 29 51.0**	**+1.5**
	0.5nm,0.8s,baz=323,slow=9.1,SNR=1.9						
MKAR	**Makanchi Array**	**62.66**	**51**	P	**P**	**05 35 14.5**	**+3.5**
	0.2nm,0.8s,baz=271,slow=7.6,SNR=2.2						
YKA	**Yellowknife Ar**	**67.81**	**332**	P	**P**	**05 35 46.6**	**+2.5**
	0.1nm,0.6s,baz=60,slow=6.5,SNR=2.3						

*TEH **31** 05:44:00.8, 36°.06N×45°.45E, h4km, ML3.2*
*ISN **31** 05:44:00.0±1.3, 36°.23N×45°.73E, h19km±26km, ML3.0*

*AZER **31** 05:44:09.8±4.3, 35°.98N×45°.51E, h10km, Error ellipse: s-maj=35.0km s-min=23.9km az=51.0, Hypocentre not reviewed by the ISC*
ISC 31 05:44:01.7±0.8, 36°.05N±0°.02×45°.51E±0°.04, h10km, n29, σ2°02/40, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.65**	**10**	*e*Pg	**Pb**	**05 44 15.3**	**-0.5**
MAHB				*e*Sg	**Sb**	**05 44 24.9**	**0.0**
MAHB				*e*		05 44 28.8	
	comp=Z,19μm,0.4s						
IKRK	**Kirkuk**	**1.23**	**234**	*e*Pg	**Pg**	**05 44 26.0**	**0.0**
IKRK				*e*Sg	**Sn**	**05 44 43.0**	**+0.7**
IKRK				AML	AML	05 44 54.1	
	comp=N,324nm,0.5s						
IKRK				AML	AML	05 44 57.0	
	comp=E,233nm,0.2s						
IDHR	**Dehrash**	**1.57**	**155**	*e*Pg	**Pn**	**05 44 29.8**	**-0.6**
IDHR				*e*		05 44 57.5	
	comp=Z,7μm,0.3s						
IAZR	**Azarshahr**	**1.58**	**12**	*e*Pg	**Pg**	**05 44 32.3**	**-0.4**
IAZR				*e*		05 44 58.9	
	comp=Z,8μm,0.6s						
IBST	**Bostanabad**	**1.90**	**34**	*e*Pn	**Pb**	**05 44 36.0**	**-1.1**
IGHG	**Ghaleghazi**	**1.97**	**155**	*e*Pn	**Pb**	**05 44 37.2**	**-1.2**
IGHG				*e*		05 45 10.1	
	comp=Z,4μm,0.5s						
ISHB	**Shabestar**	**2.15**	**1**	*e*Pn	**Pb**	**05 44 40.4**	**-1.1**
ISHB				*e*		05 45 16.1	
	comp=Z,2μm,0.3s						
KER	**Kermanshah**	**2.16**	**143**	*e*Pn	**Pn**	**05 44 39.8**	**+1.4**
KCHF	**Cheshme Sefid,**	**2.21**	**146**	*e*Pn	**Pn**	**05 44 40.6**	**+1.5**
KCHF				*e*		05 45 19.7	
	comp=Z,3μm,0.4s						
ISRB	**Sarab**	**2.39**	**44**	*e*Pn	**Pb**	**05 44 44.2**	**-1.3**
ISRB				*e*		05 45 19.5	
	comp=Z,644nm,0.3s						
IALM	**Almabolaq**	**2.47**	**120**	*e*Pn	**Pb**	**05 44 45.3**	**-1.6**
IHRS	**Heris**	**2.48**	**28**	*e*Pn	**Pb**	**05 44 46.6**	**-0.5**
IBZA	**Bozab**	**2.50**	**131**	*e*Pn	**Pn**	**05 44 45.0**	**+1.8**
IBZA				*e*		05 45 27.3	
	comp=Z,924nm,0.6s						
IMRD	**Marand**	**2.58**	**2**	*e*Pn	**Pb**	**05 44 47.1**	**-1.7**
IMRD				*e*		05 45 45.3	
	comp=Z,965nm,0.7s						
BHD	**Baghdad**	**3.01**	**199**	*e*Pn	**Pn**	**05 44 50.0**	**0.0**
BHD				*e*Sn	**Sn**	**05 45 28.0**	**+1.8**
IBDR	**Badra**	**3.02**	**174**	*e*Pn	**Pn**	**05 44 50.0**	**-0.2**
IBDR				*e*Sn	**Sn**	**05 45 27.0**	**+0.5**
HSAM	**Samen**	**3.14**	**127**	*e*Pn	**Pn**	**05 44 53.6**	**+1.6**
IDOB	**Doab**	**3.17**	**137**	*e*Pn	**Pn**	**05 44 53.7**	**+1.3**
HAGD	**Aghdareh**	**3.19**	**113**	*e*Pn	**Pn**	**05 44 55.0**	**+2.3**
IKFM	**Kafar-mosalman**	**3.20**	**144**	*e*Pn	**Pn**	**05 44 54.2**	**+1.6**
IKFM				*e*		05 45 00.7	
	comp=Z,1μm,0.2s						
IRAZ	**Razeghan**	**3.62**	**100**	*e*	**Pg**	**05 45 10.5**	**-1.1**
	comp=Z,496nm,0.5s						

*NEIC **31** 05:53:10.3±1.0, 19°.15N±0°.08×146°.2E±0°.2, h89km±8km, mb4.4/25, Error ellipse: s-maj=24.7km s-min=11.6km az=87.0*
*IDC **31** 05:53:10.1±3.1, 19°.11N×146°.17E, h92km±29km, mb3.7/16, mb1 3.9/18, mb1mx3.6/41, mbtmp4.1/18, MS3.6/5, Ms1 3.6/5, ms1mx2.9/85, Error ellipse: s-maj=21.8km s-min=12.0km az=77.0*
ISC 31 05:53:12.0±0.5, 19°.07N±0°.06×146°.1E±0°.1, h109km, n64, σ0°70/55, mb4.2/27, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.58**	**193**	P	**Pn**	**05 54 32.0**	**-0.6**
	32nm,0.3s,baz=112,slow=3.8,SNR=11						
GUMO				S	**Sn**	**05 55 35.0**	**-0.4**
	6.2nm,0.3s,baz=3.8,slow=19,SNR=1.2						
GUMO	**Guam**	**5.58**	**193**	Pn	**Pn**	**05 54 31.4**	**-1.2**
JOW	**Kunigami**	**18.15**	**298**	LR	LR	06 02 18.6	
	comp=Z,67nm,19.7s,baz=126,slow=30						
JGF	**Kuroka**	**18.20**	**337**	P	**P**	**05 57 15.9**	**-0.5**
JMN	**Monobe**	**18.24**	**326**	P	**P**	**05 57 16.3**	**-0.5**
JMN				IAmb	IAmb	05 57 24.3	
	comp=Z,23nm,1.1s						
MJAR	**Matsushiro Arr**	**18.75**	**340**	P	**P**	**05 57 20.4**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=158,slow=9.9,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**19.48**	**88**	T	T	06 18 28.5	
	baz=275,slow=74,SNR=24						
H11S1	**WAKE ISLAND Hy**	**19.50**	**88**	T	T	06 18 29.9	
	baz=275,slow=74,SNR=20						
H11S2	**WAKE ISLAND Hy**	**19.50**	**88**	T	T	06 18 26.8	
	baz=275,slow=74,SNR=27						
H11N1	**WAKE ISLAND Hy**	**19.61**	**85**	T	T	06 18 58.8	
	baz=274,slow=75,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**19.61**	**85**	T	T	06 18 58.2	
	baz=274,slow=75,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**19.63**	**85**	T	T	06 19 03.6	
	baz=274,slow=75,SNR=6.8						
KSRS	**Korea Array**	**24.26**	**323**	P	**P**	**05 58 18.5**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=148,slow=9.6,SNR=16						
ASAJ	**Asahikawa**	**25.15**	**354**	LR	LR	06 07 41.2	
	comp=Z,36nm,20.8s,baz=90,slow=35						
COEN	**Coen**	**32.94**	**185**	P	**P**	**05 59 35.9**	**-0.4**
MTN	**Manton Dam**	**34.98**	**206**	P	**P**	**05 59 54.0**	**0.0**
KNRA	**Kununurra**	**38.52**	**207**	P	**P**	**06 00 25.4**	**+1.4**
WB0	**Warramunga Arr**	**40.27**	**197**	P	**P**	**06 00 38.3**	**-0.1**
WB0				IAmb	IAmb	06 00 55.8	
	comp=Z,4.8nm,1.1s						
WR0	**Warramunga Arr**	**40.41**	**197**	P	**P**	**06 00 39.6**	**0.0**
WR0				IAmb	IAmb	06 00 45.9	
	comp=Z,13nm,1.4s						
WRAB	**Tennant Creek**	**40.44**	**197**	P	**P**	**06 00 40.9**	**+1.1**
WRAB				IAmb	IAmb	06 00 43.7	
	comp=Z,10nm,1.2s						
WB2	**Warramunga Arr**	**40.45**	**197**	P	**P**	**06 00 40.6**	**+0.7**
WB2				IAmb	IAmb	06 00 42.0	
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**40.45**	**197**	P	**P**	**06 00 39.3**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=23,slow=8.6,SNR=22						
WRA	**Warramunga Arr**	**40.45**	**197**	P	**P**	**06 00 40.2**	**+0.3**
SONM	**Songino Array**	**43.11**	**321**	P	**P**	**06 01 00.9**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=120,slow=6.3,SNR=20						
ASAR	**Alice Springs**	**44.11**	**196**	P	**P**	**06 01 09.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=15,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**44.11**	**196**	P	**P**	**06 01 10.1**	**+0.4**
EIDS	**Eidsvold**	**44.43**	**174**	P	**P**	**06 01 11.9**	**-0.2**
EIDS				IAmb	IAmb	06 01 15.8	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**44.57**	**277**	P	**P**	**06 01 15.1**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=63,slow=7.0,SNR=8.0						
DZM	**Mont Dzumac**	**45.46**	**153**	P	**P**	**06 01 20.9**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=297,slow=4.9,SNR=11						
DZM	**Mont Dzumac**	**45.46**	**153**	P	**P**	**06 01 20.4**	**0.0**
DZM				IAmb	IAmb	06 01 49.8	
	comp=Z,6.8nm,1.2s						
ARMA	**Armidale**	**49.48**	**174**	P	**P**	**06 01 51.9**	**+0.5**
ARMA				IAmb	IAmb	06 01 52.4	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**50.84**	**185**	P	**P**	**06 02 01.3**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=336,slow=11,SNR=3.9						
STKA				LR	LR	06 24 40.2	
	comp=Z,68nm,18.2s,baz=22,slow=37						
STKA	**Stephens Creek**	**50.84**	**185**	P	**P**	**06 02 01.6**	**+0.1**
BBOO	**Buckleboo**	**52.47**	**191**	P	**P**	**06 02 14.1**	**+0.4**
ZAA0	**Zalesovo Array**	**57.97**	**322**	P	**P**	**06 02 52.4**	**-0.5**
ZAA0				IAmb	IAmb	06 02 56.0	
	comp=Z,2.6nm,0.9s						
ZALV	**Zalesovo Beam**	**57.97**	**322**	P	**P**	**06 02 52.3**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=106,slow=8.9,SNR=12						
ZALV	**Zalesovo Beam**	**57.97**	**322**	P	**P**	**06 02 52.4**	**-0.5**
MK31	**Makanchi Array**	**58.50**	**314**	P	**P**	**06 02 56.8**	**-0.1**
MKAR	**Makanchi Array**	**58.50**	**314**	P	**P**	**06 02 56.8**	**0.0**
	comp=Z,1.0nm,0.6s,baz=90,slow=8.9,SNR=15						
MKAR	**Makanchi Array**	**58.50**	**314**	P	**P**	**06 02 56.9**	**+0.1**
KURK	**Kurchatov**	**61.27**	**318**	P	**P**	**06 03 15.7**	**0.0**
KURK				IAmb	IAmb	06 03 39.3	
	comp=Z,3.4nm,1.0s						
NRIK	**Noril'sk**	**61.41**	**340**	P	**P**	**06 03 16.8**	**+0.6**
	comp=Z,1.9nm,0.4s,baz=122,slow=7.5,SNR=4.6						
TOLK	**Toolik Lake Re**	**63.11**	**22**	P	**P**	**06 03 27.2**	**-0.5**
ILAR	**Eielson Array**	**63.14**	**26**	P	**P**	**06 03 26.4**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=250,slow=5.4,SNR=6.0						
ILAR	**Eielson Array**	**63.14**	**26**	P	**P**	**06 03 27.7**	**-0.3**
BKZ	**Black Stump Fm**	**64.52**	**154**	P	**P**	**06 03 37.8**	**+0.5**
BKZ				IAmb	IAmb	06 03 41.1	
	comp=Z,10nm,1.2s						
BMAR	**Burnt Mountain**	**64.62**	**24**	P	**P**	**06 03 38.8**	**+1.1**
BCAR	**Beaver Creek A**	**65.07**	**29**	P	**P**	**06 03 41.3**	**+0.6**
BRVK	**Borovoye**	**66.51**	**320**	P	**P**	**06 03 50.1**	**+0.2**
BRVK				IAmb	IAmb	06 03 50.8	
	comp=Z,5.8nm,1.1s						
KKAR	**Karatay Array**	**66.84**	**310**	P	**P**	**06 03 52.8**	**+0.5**
INK	**Inuvik**	**68.88**	**23**	P	**P**	**06 04 04.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=259,slow=1.5,SNR=3.5						
PPT	**Papeete**	**72.92**	**116**	LR	LR	06 32 01.0	
	comp=Z,126nm,18.2s,baz=20,slow=32						
ARU	**Arti**	**73.00**	**325**	P	**P**	**06 04 29.8**	**+0.1**
ARU				IAmb	IAmb	06 04 29.9	
	comp=Z,3.3nm,0.8s						
ABKAR	**Akbulak array**	**73.34**	**317**	P	**P**	**06 04 31.8**	**-0.1**
ABKAR	**Akbulak array**	**73.34**	**317**	P	**P**	**06 04 31.6**	**-0.2**
YKA	**Yellowknife Ar**	**77.48**	**28**	P	**P**	**06 04 54.9**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=287,slow=5.5,SNR=8.4						
YKA	**Yellowknife Ar**	**77.48**	**28**	P	**P**	**06 04 54.2**	**-1.0**
YBH	**Yreka Blue Hor**	**78.41**	**50**	LR	LR	06 35 30.6	
	comp=Z,81nm,19.8s,baz=314,slow=32						
ARCES	**ARCESS Array B**	**82.27**	**342**	P	**P**	**06 05 21.4**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=66,slow=7.2,SNR=11						
ARCES	**ARCESS Array B**	**82.27**	**342**	P	**P**	**06 05 20.8**	**-0.2**
NVAR	**Mina Array Bea**	**82.60**	**52**	P	**P**	**06 05 24.6**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=285,slow=5.7,SNR=3.7						
FIA1	**FINESS Array S**	**86.72**	**335**	P	**P**	**06 05 42.7**	**-0.8**
FINES	**FINESS Array B**	**86.72**	**335**	P	**P**	**06 05 42.5**	**-0.9**
	comp=Z,1.9nm,0.4s,baz=71,slow=4.7,SNR=54						
FINES	**FINESS Array B**	**86.72**	**335**	P	**P**	**06 05 42.7**	**-0.7**

*IDC **31** 06:03:49.7±0.7, 52°.86S×27°.59E, h0km, mb4.2/10, mb1 4.2/10, mb1mx3.9/29, mbtmp4.2/10, MS3.6/7, Ms1 3.5/7, ms1mx3.2/58, Error ellipse: s-maj=29.3km s-min=16.9km az=81.0*
ISC 31 06:03:51.7±0.8, 52°.9S±0°.1×27°.6E±0°.2, h13km, n15, σ0°74/12, mb4.2/10, MS3.5/7, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**21.06**	**344**	P	**P**	**06 08 36.8**	**+1.3**
	4.8nm,0.7s,baz=182,slow=10,SNR=2.2						
SUR				LR	LR	06 15 33.3	
	comp=Z,30nm,19.7s,baz=166,slow=33						
SNAA	**Sanae**	**23.11**	**204**	P	**P**	**06 08 58.2**	**+1.3**
	9.2nm,0.9s,baz=51,slow=21,SNR=11						
SNAA				LR	LR	06 15 08.0	
	comp=Z,164nm,20.8s,baz=49,slow=29						
BOSA	**Boshof**	**24.29**	**355**	LR	LR	06 16 50.3	
	comp=Z,119nm,19.5s,baz=188,slow=32						
MATP	**Matopo**	**32.39**	**2**	P	**P**	**06 10 21.3**	**+0.2**
	2.2nm,0.6s,baz=176,slow=15,SNR=7.9						
TSUM	**Tsumeb**	**34.49**	**343**	P	**P**	**06 10 39.3**	**-0.2**
	2.0nm,0.6s,baz=211,slow=4.8,SNR=4.2						
TSUM				LR	LR	06 23 19.6	
	comp=Z,80nm,18.0s,baz=148,slow=34						
QSPA	**South Pole Qui**	**37.35**	**180**	P	**P**	**06 11 03.5**	**-0.1**
	1.4nm,0.5s,baz=180,slow=0.5,SNR=15						
QSPA				LR	LR	06 26 34.8	
	comp=Z,113nm,18.8s,baz=224,slow=36						
MBAR	**Mbarara**	**52.15**	**4**	LR	LR	06 34 10.6	
	comp=Z,95nm,18.2s,baz=146,slow=35						
DBIC	**Dimbokro**	**65.40**	**324**	P	**P**	**06 14 33.2**	**-0.6**
	3.6nm,0.9s,baz=132,slow=5.5,SNR=2.5						
CPUP	**Villa Florida**	**66.50**	**257**	P	**P**	**06 14 40.2**	**-0.7**
	3.7nm,0.8s,baz=118,slow=5.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**69.42**	**333**	P	**P**	**06 14 59.4**	**+0.1**
	1.4nm,0.6s,baz=174,slow=4.7,SNR=9.3						
LEM	**Lembang**	**78.56**	**86**	LR	LR	06 42 34.7	
	comp=Z,50nm,19.4s,baz=203,slow=30						
ASAR	**Alice Springs**	**80.71**	**117**	P	**P**	**06 16 04.9**	**+0.3**
	1.4nm,

STEP	BALIKESIR_Sava	1.22	38	SPECP			06 15 53.0
STEP				P			06 15 53.4
MLSB	Milas	1.40	144	PN	Pn	06 15 56.5	-0.4
BODT	Bodrum	1.43	161	P	Pn	06 15 56.8	-0.6
BODT	Bodrum	1.43	161	PN	Pn	06 15 57.0	-0.4
EZN	Ezine	1.44	347	P	Pn	06 15 56.8	-0.6
EZN				S	Sn	06 16 15.5	-0.5
	comp=E,752nm,0.6s						
EZN	Ezine	1.44	347	PN	Pn	06 15 56.8	-0.6
BALY	Balya	1.48	27	SPECP			06 15 57.0
BALY				P			06 15 57.3
BALY				S			06 16 19.0
KULA	Kula-Manisa	1.51	86	P	Pb	06 15 59.9	+0.2
KULA				S	Sb	06 16 19.6	+0.9
KULA	Kula-Manisa	1.51	86	PN	Pn	06 15 58.3	-0.2
BOZC	Bozcaada	1.51	339	PN	Pn	06 15 58.1	-0.4
TNSA	Tinos	1.53	235	P	Pn	06 15 58.1	-0.6
DEMI	Demirci	1.66	68	SPECP			06 15 59.0
DEMI				P			06 15 59.7
ECEA	Canakkale, Ece	1.68	345	SPECP			06 16 00.0
ECEA				P			06 16 00.8
KOSK	Kos Island	1.68	173	PN	Pn	06 16 01.1	+0.3
MULA	Mugla, Merkez-	1.71	133	SPECP			06 16 00.0
MULA				P			06 16 00.9
YER	Yerkesik	1.78	136	P	Pn	06 16 02.0	-0.2
YER	Yerkesik	1.78	136	PN	Pn	06 16 02.2	0.0
GONE	Gonen-Balikesi	1.78	24	PN	Pn	06 16 02.1	0.0
DURS	Dursunbey	1.79	48	SPECP			06 16 01.0
DURS				P			06 16 01.9
DURS				S			06 16 24.0
USAK	Uak-Merkez	1.81	80	SPECP			06 16 02.0
USAK				P			06 16 02.5
USAK				S			06 16 28.0
DAT	Datca	1.82	158	P	Pn	06 16 02.1	-0.7
DAT	Datca	1.82	158	PN	Pn	06 16 02.3	-0.5
DAT	Datca	1.82	158	SPECP			06 16 01.0
DAT				P			06 16 01.9
KARY	Karystos	1.86	258	P	Pn	06 16 02.9	-0.3
SIMA	Simav-Kutahya	1.87	69	PN	Pn	06 16 03.4	-0.1
GOKA	anakkale-Gk	1.88	340	SPECP			06 16 03.0
GOKA				P			06 16 03.2
DST	Dursunbey	1.88	51	PN	Pn	06 16 03.5	-0.1
GADA	Gvkgeada	1.88	340	P	Pn	06 16 03.2	-0.3
GADA	Gvkgeada	1.88	340	PN	Pn	06 16 03.4	-0.1
LIA	Limnos Island	1.91	321	P	Pn	06 16 04.0	+0.1
KNL	Balıkesir	1.94	18	SPECP			06 16 03.0
KNL				P			06 16 03.9
KNL				S			06 16 33.4
TAVA	DENIZLI_Tavas	1.97	118	SPECP			06 16 04.0
TAVA				P			06 16 04.6
GELI	Tayfur-Gelibol	1.98	354	PN	Pn	06 16 04.9	0.0
KRBG	Karabiga-Canak	2.01	12	PN	Pn	06 16 04.8	-0.5
TURN	Turunc	2.04	144	PN	Pn	06 16 05.4	-0.3
TURN	Turunc	2.04	144	SPECP			06 16 04.0
TURN				P			06 16 04.8
EDC	Edincik	2.11	24	PN	Pn	06 16 06.7	0.0
PASA	Karahalli, USA	2.16	91	SPECP			06 16 07.0
PASA				P			06 16 07.7
GEDZ	Gediz	2.18	73	PN	Pn	06 16 07.9	+0.2
DALY	Dalyan (Mula)	2.21	136	PN	Pn	06 16 08.4	+0.3
DION	Dionisos Attik	2.24	262	P	Pn	06 16 08.4	-0.1
ERIK	Erikli-Kesan	2.25	356	PN	Pn	06 16 08.6	0.0
RKY	Sarkoy-Tekirda	2.28	8	PN	Pn	06 16 09.3	+0.1
SART	Tekirdag	2.29	8	SPECP			06 16 08.0
SART				P			06 16 08.6
CAVK	Edirne/Enez-Ca	2.31	349	SPECP			06 16 09.0
CAVK				P			06 16 09.2
MAR6	Marsite Statio	2.31	10	PN	Pn	06 16 09.6	+0.1
ENEZ	Enez	2.35	349	PN	Pn	06 16 10.3	+0.3
MAR3	Marsite Statio	2.35	10	PN	Pn	06 16 09.8	-0.3
TVSB	Tavsanli	2.35	63	PN	Pn	06 16 10.4	+0.2
GZKV	Gazikoy-Tekird	2.36	11	PN	Pn	06 16 09.9	-0.3
KESN	Edirne-Kesan	2.40	359	SPECP			06 16 10.0
KESN				P			06 16 10.5
CAEL	Denizli, Camel	2.42	122	SPECP			06 16 12.0
CAEL				P			06 16 12.6
YYLC	Yaylacik	2.47	40	SPECP			06 16 12.0
YYLC				P			06 16 12.7
CAME	Cameli-Denizli	2.51	125	PN	Pn	06 16 12.8	+0.4
ALN	Alexandroupoli	2.53	348	P	Pn	06 16 12.2	-0.2
ALN	Alexandroupoli	2.53	348	PN	Pn	06 16 12.3	-0.2
ALN	Alexandroupoli	2.53	348	Pn	Pn	06 16 12.1	-0.4
GOLH	Golhisar	2.53	117	SPECP			06 16 13.0
GOLH				P			06 16 13.5
ULDT	Uludag	2.53	47	SPECP			06 16 17.0
ULDT				P			06 16 17.1
FETY	Fethiye	2.58	133	P	Pn	06 16 14.2	+1.0
FETY	Fethiye	2.58	133	PN	Pn	06 16 13.9	+0.7
FETY	Fethiye	2.58	133	SPECP			06 16 14.0
FETY				P			06 16 14.3
STBT	Saitabat	2.59	48	P			06 16 12.7
AVDN	Avdancik/Bursa	2.65	44	P			06 16 13.3
IGD	Bursa	2.65	45	SPECP			06 16 13.0
IGD				P			06 16 13.4
KZIL	AFYON_Kizioren	2.68	93	SPECP			06 16 14.0
KZIL				P			06 16 14.8
THAS	Thassos island	2.68	325	P	Pn	06 16 14.2	-0.3
ANDZ	Kutahya, Merke	2.69	65	SPECP			06 16 15.0
ANDZ				P			06 16 15.2
BRDR	BURDUR-Merkez	2.72	105	SPECP			06 16 15.0
BRDR				P			06 16 15.7
RDO	Rodhopi	2.87	342	P	Pn	06 16 17.4	+0.2
ELL	Elmali	3.02	123	Pn	Pn	06 16 20.1	+0.7
ISP	Isparta	3.04	100	Pn	Pn	06 16 17.6	-2.1
AKAS	Kas	3.16	133	Pn	Pn	06 16 19.8	-1.5
BORA	Eskisehir	3.23	62	Pn	Pn	06 16 21.5	-0.7
KDZ	Kurdzhali	3.38	343	P	Pn	06 16 24.0	-0.1
EDRB	Edirne	3.42	0	P	Pn	06 16 24.2	-0.5
AGG	Agios Georgios	3.50	281	Pn	Pn	06 16 25.0	-0.9
RZN	Rozhen	3.61	335	eP	Pn	06 16 27.6	+0.1
LIT	Litokhoron	3.70	298	Pn	Pn	06 16 28.1	-0.5
MMB	Musomiste	3.92	325	eP	Pn	06 16 31.9	+0.3
ITM	Ithomi	4.01	253	Pn	Pn	06 16 32.1	-0.7
JMB	Yambol	4.04	358	eP	Pn	06 16 34.3	+1.1
VAY	Valandovo	4.32	313	*i* Pn	Pn	06 16 36.3	-0.8
VAY				eSg	Sg	06 17 52.0	+1.3
KKB	Krupnik	4.43	322	eP	Pn	06 16 39.7	+1.0
STIP	Stip	4.78	314	*i* Pn	Pn	06 16 43.4	0.0
VTS	Vitosha	4.97	329	⇓P	Pn	06 16 47.3	+1.2
VTS	Vitosha	4.97	329	Pn	Pn	06 16 46.5	+0.4
VTS	Vitosha	4.97	329	eP	Pn	06 16 47.3	+1.2
BRTR	Keskin Array B	5.52	74	Pn	Pn	06 16 51.6	-2.1
BR131	Keskin Array S	5.52	74	Pn	Pn	06 16 53.9	+0.1
ICOR	Ion Corvin	5.74	8	⇓P	Pn	06 16 57.1	+0.5
CSS	Mathiatis	6.32	121	Pn	Pn	06 17 04.2	-0.4
CFR	Carcaliu	6.83	8	⇓P	Pn	06 17 11.1	-0.4
MLR	Muntele Rosu	7.08	355	⇓P	Pn	06 17 16.8	+1.6
MLR	Muntele Rosu	7.08	355	Pn	Pn	06 17 16.2	+1.1
ARR	Arges	7.11	348	⇑P	Pn	06 17 17.5	+2.0
VOIR		7.12	350	⇓P	Pn	06 17 15.5	-0.1
HERR	Herculane	7.22	335	⇓P	Pn	06 17 15.5	-1.3
MDVR	Moldovita	7.38	331	⇓P	Pn	06 17 19.6	+0.5
GZR	Gura Zlata	7.56	338	⇑P	Pn	06 17 21.7	0.0
MILM	Milestii Mici	8.62	10	⇑P	Pn	06 17 35.8	-0.3
BUR08	Bucovina Ar. S	9.28	354	Pn	Pn	06 17 46.7	+1.4

NEIC ***31*** *06:35:49.8±1.2, 6°.1N±0°.1×127°.3E±0°.1, h131km±8km, mb4.4/19, Error ellipse: s-maj=20.5km s-min=13.9km az=221.0*
MAN ***31*** *06:35:50.4, 6°.08N×127°.26E, h84km, mb4.4, ML3.3, MS3.1*
IDC ***31*** *06:35:50.6±2.5, 6°.00N×127°.06E, h141km±22km, mb3.6/9, mb1 3.7/9, mb1mx3.3/38, mbtmp4.0/9, Error ellipse: s-maj=58.6km s-min=12.6km az=69.0*

ISC 31 06:35:49.8±1.1, 6°.06N±0°.06×127°.1E±0°.1, h137km±9km, n41, σ1°01/46, mb4.2/20, 8D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.21	317	⇓eP	Pn	06 36 15.8	+0.3
MATI				eS	Sn	06 36 33.8	-1.2
DDMP	Don Marcelino,	1.38	272	⇓eP	Pn	06 36 16.9	-0.2
DDMP				eS	Sn	06 36 36.5	-1.4
DAV	Davao City (W)	1.81	304	P	Pn	06 36 23.3	+1.3
	53nm,0.3s,baz=129,slow=2.4,SNR=5.0						
DAV				S	Sn	06 36 48.1	+1.6
	56nm,0.3s,baz=97,slow=23,SNR=12						
DAV	Davao City (W)	1.81	304		Pn	06 36 23.0	+1.1
GSPH	General Santos	2.13	271	⇓*i*P	Pn	06 36 24.8	-1.2
KCP	Kidapawan	2.21	296	⇓*i*P	Pn	06 36 27.0	+0.3
KCP				*i* S	Sn	06 36 56.4	+1.3
BIPH	Bislig	2.24	341	⇓*i*P	Pn	06 36 27.9	+0.8
BIPH				*i* S	Sn	06 36 55.6	-0.1
BUKP	Musuan	2.71	312	⇓*i*P	Pn	06 36 32.5	-0.5
BUTP	Butuan	3.24	333	⇓eP	Pn	06 36 47.1	+7.3
GLSP	General Luna,	3.83	346	⇓eP	Pn	06 36 48.4	+0.9
GLSP				eS	Sn	06 37 29.2	-3.0
KNRA	Kununurra	21.66	176	P	P	06 40 29.9	+0.4
KNRA				IAmb	IAmb	06 40 31.3	
	comp=Z,12nm,0.8s						
FITZ	Fitzroy Crossi	24.04	183	P	P	06 40 52.7	+0.3
	comp=Z,2.3nm,0.5s,baz=45,slow=8.8,SNR=1.7						
WRAB	Tennant Creek	26.79	165	P	P	06 41 17.6	+0.3
WRAB				IAmb	IAmb	06 41 26.0	
	comp=Z,12nm,1.2s						
WRA	Warramunga Arr	26.80	165	P	P	06 41 17.0	-0.3
	comp=Z,1.2nm,0.3s,baz=344,slow=11,SNR=17						
WRA	Warramunga Arr	26.80	165	P	P	06 41 16.3	-1.1
WB2	Warramunga Arr	26.80	165	P	P	06 41 17.2	-0.1
WB2				IAmb	IAmb	06 41 32.4	
	comp=Z,12nm,1.4s						
WR0	Warramunga Arr	26.87	164	P	P	06 41 17.6	-0.4
WR0				IAmb	IAmb	06 41 26.3	
	comp=Z,9.5nm,1.4s						
MBWA	Marble Bar	27.99	195	P	P	06 41 28.5	+0.6
PSA00	Pilbara Seismi	28.36	194	P	P	06 41 32.0	+0.8
PSA00				IAmb	IAmb	06 41 46.1	
	comp=Z,14nm,1.4s						
AS31	Alice Springs	30.28	168	P	P	06 41 48.6	+0.4
ASAR	Alice Springs	30.28	168	P	P	06 41 48.0	-0.2
	comp=Z,1.0nm,0.3s,baz=340,slow=7.1,SNR=42						
ASAR	Alice Springs	30.28	168	P	P	06 41 47.5	-0.7
FORT	Forrest	36.64	179	P	P	06 42 43.6	+0.5
SHL	Shillong	38.84	304	P	P	06 43 02.0	0.0
SHL				IAmb	IAmb	06 43 02.7	
	comp=Z,6.1nm,0.7s						
BBOO	Buckleboo	39.58	168	P	P	06 43 08.1	+0.3
BBOO				IAmb	IAmb	06 43 36.3	
	comp=Z,12nm,1.5s						
STKA	Stephens Creek	40.18	161	P	P	06 43 13.3	+0.5
	comp=Z,0.5nm,0.3s,baz=205,slow=21,SNR=1.4						
PETK	Petropavlovsk-	53.16	23	P	P	06 44 52.0	-1.4
MK31	Makanchi Array	55.88	324	P	P	06 45 14.4	+1.1
MKAR	Makanchi Array	55.88	324	P	P	06 45 14.3	+1.0
	comp=Z,1.2nm,0.4s,baz=116,slow=7.1,SNR=37						
ZALV	Zalesovo Beam	58.70	332	P	P	06 45 33.7	+0.8
	comp=Z,0.7nm,0.5s,baz=108,slow=7.7,SNR=2.9						
KURK	Kurchatov	60.00	327	P	P	06 45 43.0	+1.1
KURK				IAmb	IAmb	06 45 43.5	
	comp=Z,3.0nm,0.7s						
GAR	Garm	60.64	312	P	P	06 45 44.6	-2.1
GAR				IAmb	IAmb	06 45 47.8	
	comp=Z,6.1nm,1.0s						
KKAR	Karatay Array	61.80	316	P	P	06 45 55.1	+0.8
DCZ	Deep Cove	62.53	149	P	P	06 45 58.4	-0.5
BRVK	Borovoye	65.66	326	P	P	06 46 20.0	+0.7
BRVK				IAmb	IAmb	06 46 21.1	
	comp=Z,3.2nm,0.9s						
ABKAR	Akbulak array	70.60	320	P	P	06 46 51.1	+0.8
RAYN	Ar Rayn	79.92	293	P	P	06 47 43.9	-0.2
RAYN				IAmb	IAmb	06 47 45.7	
	comp=Z,3.7nm,1.1s						
ILAR	Eielson Array	82.86	26	P	P	06 47 59.7	+0.9
	comp=Z,0.2nm,0.5s,baz=244,slow=5.0,SNR=5.2						
ARCES	ARCESS Array B	88.41	340	P	P	06 48 25.4	-0.7
	comp=Z,3.5nm,1.0s,baz=67,slow=3.2,SNR=4.0						
CSS	Mathiatis	89.65	305	P	P	06 48 31.7	-0.9
FINES	FINESS Array B	89.97	332	P	P	06 48 33.0	-0.5
	comp=Z,1.6nm,0.8s,baz=29,slow=4.4,SNR=4.8						

TAP ***31*** *06:49:22.9, 23°.79N×122°.54E, h34km±1km, ML3.4, D*
JMA ***31*** *06:49:23.2±0.2, 23°.87N×122°.46E, h21km, M2.7*

ISC 31 06:49:22.1±1.2, 23°.77N±0°.03×122°.51E±0°.02, h24km±13km, n87, σ0°76/140, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.79	31	P	Pn	06 49 37.1	-0.6
JYNG				eS	Sb	06 49 46.4	-1.0
YOJ	Yonaguni jima	0.83	34	P	Pn	06 49 37.8	-0.5
YOJ				S	Sb	06 49 47.5	-1.0
YOJ	Yonaguni jima	0.83	34	P	Pn	06 49 37.8	-0.5
	baz=32						
YOJ				eS	Sn	06 49 49.0	-0.7
	baz=32						
TEYL	Yanliau Villag	0.84	277	P	Pb	06 49 38.0	0.0
	baz=277						
TEYL				eS	Sn	06 49 50.5	+0.5
	baz=277						
HWA	Hwalien	0.85	284	eS	Sn	06 49 50.7	+0.3
	baz=272						
TWD	Chiawan	0.89	290	P	Pb	06 49 38.2	-0.6
	baz=277						
TWD				S	Sb	06 49 50.0	-0.3
	baz=277						
NACB	Ninganchiao	0.93	296	P	Pb	06 49 38.9	-0.6
	baz=283						
NACB				S	Sb	06 49 51.1	-0.3
	baz=283						
EWUT	Wuta	0.94	315	P	Pn	06 49 39.8	-0.1
	baz=312						
EWUT				S	Sn	06 49 53.8	+1.1
	baz=312						
ETM	Tongmen	0.95	282	eP	Pn	06 49 39.0	-1.0
	baz=272						
ENA	Nanau	0.96	313	P	Pb	06 49 40.5	+0.4
	baz=310						
ENA				S	Sn	06 49 55.0	+2.0
	baz=310						
ESL	Shilin	0.98	273	P	Pn	06 49 39.2	-1.3
	baz=271						
EGFH	Guangfu	0.99	264	P	Pn	06 49 40.4	-0.3
	baz=263						
TWC	Suao	1.03	324	*i* P	Pb	06 49 41.1	-0.2
	baz=322						
TWC				eS	Sn	06 49 54.5	-0.3
	baz=322						
HGSD	Ruisui	1.03	255	P	Pn	06 49 40.5	-0.6
	baz=253						
HGSD				S	Sb	06 49 53.6	-0.9
	baz=253						
EHY	Hungye	1.12	257	P	Pn	06 49 42.2	-0.2
	baz=254						
EHY				S	Sn	06 49 56.8	-0.2
	baz=254						
EYUL	Yuli	1.17	249	P	Pn	06 49 43.0	-0.1
	baz=239						
EYUL				S	Sn	06 49 58.1	-0.1
	baz=239						
YULB	Yu-li	1.17	251	P	Pn	06 49 43.1	0.0
	baz=250						
YULB				S	Sn	06 49 57.9	-0.5
	baz=250						
LATG	Datong	1.18	310	P	Pb	06 49 43.5	-0.3
	baz=308						
WHF	Hehuan Shan	1.20	288	*i* P	Pn	06 49 43.4	-0.4
	baz=275						
WHF				eS	Sn	06 49 59.4	-0.1
	baz=275						
TWE	Neicheng	1.22	321	P	Pb	06 49 44.0	-0.5
	baz=319						
ENTT	Nioudou	1.22	315	P	Pb	06 49 44.5	0.0
	baz=302						
NNSB	Datong	1.22	303	P	Pb	06 49 44.3	-0.3
	baz=292						
HATJ	Hateruma jima	1.22	76	P	Pb	06 49 45.6	+1.1
HATJ				eS	Sb	06 50 02.3	+2.4
NDT	Datong Townshi	1.23	312	P	Pb	06 49 44.5	-0.1
	baz=310						
NNS	Nan Shan	1.23	303	P	Pb	06 49 44.4	-0.4
	baz=300						
NNS				eS	Sb	06 50 00.4	+0.1
	baz=300						
NTC	Toucheng	1.24	330	P	Pb	06 49 45.2	+0.3
	baz=328						
NTC				eS	Sb	06 50 02.0	+1.5
	baz=328						
CHKT	Chengkung	1.25	238	P	Pn	06 49 43.3	-0.8
	baz=227						
CHKT				S	Sn	06 49 58.2	-1.9
	baz=227						
FUSS	Fushou	1.25	292	P	Pn	06 49 44.3	0.0
	baz=290						
FUSS				eS	Sn	06 50 00.4	-0.2
	baz=290						
IRIF	Iriomote-Funau	1.25	63	P	Pb	06 49 45.6	+0.6
IRIF				eS	Sb	06 50 01.8	+1.1
FULB	Fuli	1.25	243	*i* P	Pn	06 49 43.9	-0.3
	baz=233						
FULB				S	Sn	06 50 00.0	-0.3
	baz=233						
VWDT	VWDT	1.25	269	P	Pn	06 49 44.3	+0.1
	baz=267						
VWDT				S	Sn	06 50 00.0	-0.3
	baz=267						
CHGB	Renai	1.25	283	P	Pn	06 49 44.4	0.0
	baz=273						
CHGB				eS	Sn	06 50 01.0	+0.3
	baz=273						
WUSB	Renai	1.29	280	P	Pn	06 49 44.7	-0.1
	baz=277						
WUSB				S	Sn	06 50 01.7	+0.3
	baz=277						
FUSB	Fushanzhiwuyua	1.29	320	P	Pb	06 49 45.7	-0.1
	baz=306						
FUSB				eS	Sb	06 50 03.0	+1.0
	baz=306						
TWT	Tachien	1.31	292	eP	Pb	06 49 46.2	+0.1
	baz=289						
TWT				eS	Sb	06 50 02.8	+0.2
	baz=289						
TWB1	Santiao Chiao	1.32	339	P	Pb	06 49 45.7	-0.5
	baz=337						
TDCB	Techi	1.32	291	P	Pn	06 49 45.7	+0.4
	baz=281						
TIPB	Shuangxi	1.35	333	P	Pb	06 49 46.2	-0.5
	baz=330						
TIPB				eS	Sb	06 50 03.6	+0.1
	baz=330						
NWLT	Wulai	1.36	318	P	Pb	06 49 46.9	0.0
	baz=316						
EDH	Donghe	1.36	234	P	Pn	06 49 45.1	-0.6
	baz=226						
EDH				S	Sn	06 50 01.2	-1.8
	baz=226						
YHNB	Yeheng	1.37	311	P	Pb	06 49 46.3	-0.7
	baz=309						
NSK	Sanguang	1.38	311	P	Pb	06 49 46.9	-0.5
	baz=308						
NSK				eS	Sb	06 50 04.2	-0.4
	baz=308						
SSLB	Suanglung	1.42	271	P	Pn	06 49 47.1	+0.6
	baz=268						
SSLB				eS	Sn	06 50 05.1	+0.5
	baz=268						
SXI1	Grass Mountain	1.44	336	P	Pb	06 49 47.2	-1.1
	baz=334						
SXI1				eS	Sb	06 50 05.8	-0.4
	baz=334						
JKRS	Kuro-shima	1.45	71	P	Pb	06 49 48.8	+0.4
JKRS				eS	Sb	06 50 07.8	+1.4
NWF	Wu-fen Shan	1.45	333	P	Pb	06 49 47.9	-0.7
	baz=331						
LDUT	Ludao	1.45	221	P	Pn	06 49 46.1	-0.8
	baz=221						
YUS	Yu-Shan	1.45	259	P	Pn	06 49 47.6	+0.2
	baz=257						
YUS				eS	Sn	06 50 06.2	+0.2
	baz=257						
TWA	Mucha	1.47	325	P	Pb	06 49 49.0	+0.3
	baz=339						
SMLT	Sun Moon Lake	1.48	275	*i* P	Pn	06 49 48.0	+0.6
	baz=272						
SMLT				eS	Sb	06 50 07.8	+0.4
	baz=272						
ELDTW	Lidau	1.49	247	P	Pn	06 49 47.4	-0.1
	baz=245						
ELDTW				eS	Sn	06 50 05.8	-0.4
	baz=245						
WCS	Beigang Elemen	1.49	281	P	Pn	06 49 48.0	+0.6
	baz=273						
WCS				eS	Sn	06 50 06.9	+0.8
	baz=273						
WHP	Taichung City	1.51	290	P	Pb	06 49 49.3	-0.3
	baz=279						
TYC	Yuchr	1.52	275	P	Pn	06 49 48.5	+0.7
	baz=273						
TYC				eS	Sn	06 50 07.3	+0.4
	baz=273						
NFF	Wufeng Townshi	1.53	304	P	Pb	06 49 49.3	-0.6
	baz=302						
ALS	Alishan	1.58	261	P	Pn	06 49 50.0	+1.0
	baz=258						
ALS				S	Sn	06 50 10.5	+1.6
	baz=258						
JIJ	Ishigaki jima	1.61	68	P	Pb	06 49 50.6	-0.5
JIJ				eS	Sb	06 50 09.5	-1.5
YM01	YM01	1.61	328	eP	Pb	06 49 50.5	-0.8
	baz=342						
LIOB	Emei	1.62	303	P	Pb	06 49 51.0	-0.3
	baz=314						
NSTT	Nanjuang	1.62	302	eP	Pb	06 49 50.9	-0.5
	baz=313						
TWGBT	Beinan	1.62	234	P	Pn	06 49 49.1	-0.1
	baz=225						
TWGBT				eS	Sn	06 50 08.7	-0.7
	baz=225						
TWG	Pinlang	1.62	235	eS	Sn	06 50 09.2	-0.3
	baz=225						
WJS	Zhushan	1.63	272	P	Pb	06 49 51.3	-0.3
	baz=265						
WNT	Mingjian	1.67	274	P	Pb	06 49 52.0	-0.2
	baz=271						
WNT				S	Sb	06 50 13.1	+0.2
	baz=271						
CHN5	Tsauling	1.69	264	P	Pb	06 49 51.9	-0.7
	baz=263						
TWQ1	Liyutan	1.69	290	P	Pb	06 49 52.0	-0.5
	baz=288						
TWQ1				eS	Sb	06 50 13.9	+0.6
	baz=288						
TCU	Taichung	1.72	283	eP	Pb	06 49 53.2	+0.2
	baz=280						
TCU				eS	Sb	06 50 15.6	+1.5
	baz=280						
NSY	Sanyi	1.72	292	P	Pb	06 49 53.0	-0.1
	baz=290						
NMLH	Miaoli	1.74	296	eP	Pb	06 49 52.9	-0.6
	baz=293						
NMLH				eS	Sb	06 50 16.3	+1.4
	baz=293						
TPUB	Ta-pu	1.79	255	P	Pb	06 49 53.8	-0.4
	baz=247						
TPUB				S	Sb	06 50 16.3	+0.1
	baz=247						
CHN4	Tsaushan	1.81	257	P	Pb	06 49 54.2	-0.3
	baz=255						
WTP	Ta-pu	1.82	254	P	Pb	06 49 54.3	-0.4
	baz=251						
WTP				eS	Sb	06 50 17.3	+0.2
	baz=251						
JISG	Ishigakijimahi	1.83	63	P	Pb	06 49 53.5	-1.5
JISG				S	Sn	06 50 14.5	-0.2
SLGT	Liugui	1.88	246	eS	Sb	06 50 18.5	-0.3
	baz=239						
CHN1	Nanshi	1.91	253	P	Pn	06 49 54.9	+1.6
	baz=250						
CHN1				eS	Sb	06 50 19.9	+0.1
	baz=250						
TWK	Hsinying	1.92	255	P	Pn	06 49 55.3	+1.8
	baz=253						
TWK				eS	Sb	06 50 19.9	-0.1
	baz=253

*IDC **31** 07:07:55.5±0.9,2.'11N×128.'98E,h0km,mb3.6/8, mb1 3.9/10,mb1mx3.5/54,mbtmp3.7/10,ML3.5/2,MS3.0/2, Ms1 3.0/2,ms1mx2.5/70,Error ellipse: s-maj=42.0km s-min=15.9km az=84.0*

ISC 31 07:08:00.8±0.8,2.°02N±0.°09×129.°1E±0.°1,h40km,n18, σ1§42/12,mb3.8/8,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.61**	**143**	Pn	**Pn**	**07 08 54.2**	**-0.1**
	3.5nm,0.3s,baz=306,slow=17,SNR=9.1						
SIJI				Sn	**Sn**	**07 09 33.3**	**-2.5**
	2.0nm,0.3s,baz=311,slow=20,SNR=3.7						
KAPI	**Kappang**	**11.64**	**233**	Pn	**Pn**	**07 10 43.9**	**-0.6**
	0.3nm,0.3s,baz=103,slow=12,SNR=2.3						
KAPI				LR	LR	07 16 24.5	
	comp=Z,35nm,19.4s,baz=346,slow=44						
FITZ	**Fitzroy Crossi**	**20.27**	**189**	P	**P**	**07 12 34.1**	**+1.0**
	3.6nm,1.1s,baz=13,slow=14,SNR=1.6						
WRA	**Warramunga Arr**	**22.43**	**167**	P	**P**	**07 12 56.9**	**+0.6**
	1.4nm,0.8s,baz=346,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**25.96**	**170**	P	**P**	**07 13 30.5**	**+0.7**
	0.5nm,0.8s,baz=354,slow=7.1,SNR=7.0						
KSRS	**Korea Array**	**35.28**	**358**	P	**P**	**07 14 50.0**	**-1.8**
	1.2nm,0.7s,baz=245,slow=15,SNR=2.9						
MJAR	**Matsushiro Arr**	**35.38**	**13**	P	**P**	**07 14 53.4**	**+0.6**
	2.1nm,0.8s,baz=185,slow=9.3,SNR=5.5						
STKA	**Stephens Creek**	**35.74**	**162**	P	**P**	**07 14 57.0**	**+1.0**
	1.4nm,0.6s,baz=296,slow=18,SNR=1.6						
H11S3	**WAKE ISLAND Hy 40.33**		**63**	T	T	07 58 28.0	
	baz=250,slow=75,SNR=7.7						
H11S2	**WAKE ISLAND Hy 40.35**		**64**	T	T	07 58 26.4	
	baz=250,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy 40.35**		**63**	T	T	07 58 25.7	
	baz=250,slow=75,SNR=6.0						
H11N1	**WAKE ISLAND Hy 40.93**		**62**	T	T	07 59 24.9	
	baz=250,slow=75						
H11N2	**WAKE ISLAND Hy 40.94**		**62**	T	T	07 59 18.5	
	baz=250						
H11N3	**WAKE ISLAND Hy 40.95**		**62**	T	T	07 59 19.1	
	baz=250,slow=75						
ASAJ	**Asahikawa**	**43.60**	**14**	LR	LR	07 34 57.7	
	comp=Z,43nm,18.5s,baz=120,slow=37						
SONM	**Songino Array**	**49.67**	**340**	P	**P**	**07 16 47.2**	**-1.6**
	0.1nm,0.4s,baz=140,slow=7.6,SNR=2.2						
ILAR	**Eielson Array**	**85.64**	**25**	P	**P**	**07 20 36.4**	**+1.4**
	0.3nm,0.8s,baz=247,slow=4.9,SNR=2.1						
ARCES	**ARCESS Array B**	**92.85**	**340**	P	**P**	**07 21 09.7**	**+0.7**
	3.8nm,0.9s,baz=72,slow=12,SNR=2.6						

*NNC **31** 07:16:32.2±0.8,49.°98N×78.°73E,h2km±10km,mb3.3, mpv3.0,Error ellipse: s-maj=7.7km s-min=5.9km az=58.0, Suspected Mining explosion.*

*IDC **31** 07:16:33.6±1.2,50.°05N×78.°72E,h0km,mb1 2.9/3, mb1mx2.8/56,mbtmp2.9/3,ML2.6/3,Error ellipse: s-maj=10.5km s-min=8.3km az=51.0*

ISC 31 07:16:34.0±0.8,50.°11N±0.°05×78.°74E±0.°04,h0km,n17, σ1§45/22,12C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.54**	**345**	Pg	**Pg**	**07 16 44.6**	**+0.3**
	3.5nm,0.3s,baz=167,slow=19,SNR=218						
KURBB				Lg	Lg	07 16 53.5	
	3.4nm,0.3s,baz=168,slow=32,SNR=20						
KURBB	**Kurchatov Arra**	**0.54**	**345**	⇑P	**Pg**	**07 16 44.7**	**+0.5**
	17nm,0.3s						
KURBB				⇑S	**Sb**	**07 16 55.2**	**+0.7**
	46nm,0.4s						
KURK	**Kurchatov**	**0.62**	**353**	⇑P	**Pg**	**07 16 46.0**	**+0.1**
	6.9nm,0.3s						
KURK				⇑S	**Sb**	**07 16 56.7**	**-0.1**
	17nm,0.4s						
SEM	**Semipalatinsk**	**1.01**	**72**	P	**Pg**	**07 16 53.3**	**-0.1**
	6.5nm,0.3s						
SEM				S	**Sb**	**07 17 08.2**	**-0.4**
	23nm,0.1s						
BRZS	**Berezniki**	**3.91**	**271**	Pg	**Pb**	**07 17 45.0**	**+1.2**
	2.8nm,0.3s						
BRZS				Lg	Lg	07 18 36.9	
	2.6nm,0.4s						
MAKZ	**Makanchi**	**3.94**	**146**	⇑Pg	**Pn**	**07 17 38.8**	**+3.1**
	2.0nm,0.7s						
MAKZ				⇑Lg	Lg	07 18 32.9	
	10nm,0.7s						
MK31	**Makanchi Array**	**4.07**	**143**	⇓Pn	**Pn**	**07 17 36.8**	**-0.8**
	0.2nm,0.3s,baz=160,slow=26,SNR=4.4						
MK31				⇑Pg	**Pb**	**07 17 45.0**	**-1.5**
	1.7nm,0.6s,baz=326,slow=16,SNR=8.4						
MK31				⇑Lg	Lg	07 18 38.9	
	9.4nm,0.6s,baz=331,slow=27,SNR=11						
MKAR	**Makanchi Array**	**4.07**	**143**	Pn	**Pn**	**07 17 36.8**	**-0.7**
	0.4nm,0.3s,baz=328,slow=11,SNR=7.8						
MKAR				Lg	Lg	07 18 36.4	
	2.5nm,0.3s,baz=334,slow=28,SNR=12						
OTUK	**Ortayu**	**4.59**	**249**	⇓Pn	**Pn**	**07 17 43.4**	**-1.3**
	1.3nm,0.3s						
OTUK				⇑Pg	**Pb**	**07 17 55.2**	**-0.2**
	1.1nm,0.5s						
OTUK				⇑Lg	Lg	07 18 56.8	
	2.7nm,0.5s						
KAPS	**Kapalarasan**	**4.84**	**175**	Pg	**Pb**	**07 18 00.3**	**+0.6**
	1.2nm,0.3s						
KAPS				Lg	Lg	07 19 02.6	
	8.7nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.37**	**42**	*i*		07 51 00.0	
	baz=218,slow=308,SNR=2.2						
ZALV	**Zalesovo Beam**	**5.37**	**42**	Pn	**Pn**	**07 17 57.2**	**+1.9**
	1.0nm,0.3s,baz=231,slow=14,SNR=13						
ZALV				Lg	Lg	07 19 22.3	
	0.4nm,0.3s,baz=222,slow=30,SNR=4.3						
DJR	**Jarkent**	**5.82**	**173**	Pg	**Pb**	**07 18 17.6**	**+1.2**
	1.5nm,1.0s						
DJR				Lg	Lg	07 19 32.5	
	3.8nm,0.5s						
BVAR	**Borovoye Array**	**5.97**	**303**	Pn	**Pn**	**07 18 04.0**	**+0.4**
	0.2nm,0.3s,baz=93,slow=18,SNR=2.9						
BVAR				Sn	**Sn**	**07 19 09.0**	**-3.7**
	0.3nm,0.3s,baz=107,slow=29,SNR=2.6						
BVAR				Lg	Lg	07 19 38.6	
	0.3nm,0.3s,baz=107,slow=33,SNR=2.2						
BRVK	**Borovoye**	**6.04**	**303**	⇑Pn	**Pn**	**07 18 04.3**	**-0.3**
	0.4nm,0.5s						
BRVK				⇓Sn	**Sn**	**07 19 13.4**	**-1.0**
	2.5nm,0.6s						
BRVK				⇑Lg	Lg	07 19 48.1	
	3.4nm,1.1s						
KUU	**Kurty**	**6.43**	**196**	Pg	**Pb**	**07 18 28.3**	**+1.6**
	0.9nm,0.8s						
KUU				Lg	Lg	07 19 50.4	
	4.8nm,0.5s						
AAK	**Ala-Archa**	**8.03**	**203**	Lg	Lg	07 20 43.8	
	0.1nm,0.3s,baz=302,slow=20,SNR=3.7						

*ARE **31** 07:41:47±3.7,8.°22S±0.°07×74.°37W±0.°06,h191km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=53.0*

*IDC **31** 07:41:49.9±0.4,8.°27S×74.°23W,h152km±2km,mb4.4/24, mb1 4.6/31,mb1mx4.5/36,mbtmp4.9/31,Error ellipse: s-maj=10.6km s-min=8.3km az=49.0*

*BJI **31** 07:41:49.9±0.0,8.°13S×74.°48W,h156km,mB5.0/4*

*NEIC **31** 07:41:50.7±1.4,8.°36S±0.°04×74.°26W±0.°04,h157km±6km, mb5.0/235,ML5.4(ARE),Error ellipse: s-maj=8.2km s-min=2.8km az=218.0*

*GCMT **31** 07:41:51.0±0.2,8.°25S±0.°01×74.°29W±0.°01,h161km±1km, MW5.3/133,Moment Tensor Solution. s93,c120; s133,c211; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.03±.02; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$-0.07±.03; $M_{r\theta}$0.19±.01; $M_{\theta\phi}$-0.34±.02; $M_{\phi r}$-1.25±.02; Best double couple: $M_0$1.31100×10^{17} NP1:ϕ_s82.00000°,δ15.00000°, λ179.00000°. NP2:ϕ_s172.00000°,δ90.00000°,λ75.00000°. Principal axes: T 1.3390, Plg43.0000°, Azm67.0000°; N -0.0560, Plg15.0000°, Azm172.0000°; P -1.2840, Plg43.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*VAO **31** 07:41:51.9±0.7,8.°39S×74.°14W,h167km±5km,mbR5.1*

ISC 31 07:41:49.8±0.3,8.°27S±0.°04×74.°31W±0.°04,h157km±2km, h157km:pP-P,n535,σ1§66/488,mb5.0/150,4C-3D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.68**	**72**	*eP*	**Pn**	**07 42 23.6**	**+1.9**
CZSB	**Cruzeiro do Su**	**1.68**	**72**	P	**Pn**	**07 42 23.7**	**+1.9**
CZSB				Sn	**Sn**	**07 42 49.4**	**+3.1**
ATAH	**Atahualpa**	**4.20**	**285**	P	**Pn**	**07 42 53.3**	**+0.1**
	668nm,0.3s,baz=76,slow=4.8,SNR=1792						
ATAH				S	**Sn**	**07 43 38.7**	**-3.8**
	713nm,0.3s,baz=126,slow=23,SNR=5.6						
NNA	**Nana**	**4.46**	**214**	P	**Pn**	**07 42 56.0**	**-0.3**
	291nm,0.3s,baz=36,slow=8.6,SNR=266						
NNA				S	**Sn**	**07 43 46.0**	**-2.1**
	643nm,0.3s,baz=276,slow=16,SNR=16						
NNA	**Nana**	**4.46**	**214**		**Pn**	**07 42 56.7**	**+0.4**
NNA				Sn	**Sn**	**07 43 45.1**	**-3.1**
ETMB	**Extrema**	**8.15**	**102**	*eP*	**Pn**	**07 43 43.6**	**-1.6**
ETMB	**Extrema**	**8.15**	**102**	Pn	**Pn**	**07 43 43.8**	**-1.4**
OTAV	**Otavalo**	**9.40**	**334**	*eP*	**Pn**	**07 44 01.8**	**-0.5**
OTAV	**Otavalo**	**9.40**	**334**		**Pn**	**07 44 03.0**	**+0.7**
CUSE	**Cuicocha Este**	**9.44**	**334**	*eP*	**Pn**	**07 44 03.3**	**+0.5**
PAC1	**Pacto, Paraso**	**9.58**	**332**	*eP*	**Pn**	**07 44 05.8**	**+1.4**
CMBC	**Cumbal**	**9.79**	**339**	*eP*	**Pn**	**07 44 07.3**	**-0.2**
FLOC	**Florencia**	**9.87**	**352**	*eP*	**Pn**	**07 44 08.8**	**+0.6**
GCUF	**Volcan Galeras**	**9.90**	**342**	*eP*	**Pn**	**07 44 07.8**	**-1.2**
LPAZ	**La Paz**	**10.00**	**143**	P	**Pn**	**07 44 09.3**	**-1.0**
	1.0nm,0.3s,baz=319,slow=11,SNR=40						
LPAZ				S	**Sn**	**07 45 58.8**	**-2.7**
	2.3nm,0.3s,baz=116,slow=15,SNR=1.4						
LPAZ	**La Paz**	**10.00**	**143**	*eP*	**Pn**	**07 44 09.3**	**-1.0**
LPAZ	**La Paz**	**10.00**	**143**	Pn	**Pn**	**07 44 09.2**	**-1.1**
SOTA	**Rioblanco**	**10.58**	**347**	*eP*	**Pn**	**07 44 17.0**	**-1.0**
PCON	**Cinco Dias**	**10.73**	**349**	*eP*	**Pn**	**07 44 20.3**	**+0.4**
BETC	**Betania**	**10.93**	**354**	*eP*	**Pn**	**07 44 23.3**	**+1.1**
TUMC	**Tumaco**	**10.95**	**336**		**Pn**	**07 44 23.4**	**+1.2**
POPC	**Popayan, Colom**	**10.99**	**348**	*eP*	**Pn**	**07 44 20.2**	**-2.9**
PB12	**IPOC Station P**	**10.99**	**160**	Pn	**Pn**	**07 44 20.4**	**-2.4**
PRAC	**Prado**	**11.91**	**357**	*eP*	**Pn**	**07 44 35.5**	**+0.5**
ORTC	**Ortega, Tolima**	**12.13**	**356**	*eP*	**Pn**	**07 44 37.6**	**-0.1**
VILC	**Villavicencio,**	**12.31**	**3**	*eP*	**Pn**	**07 44 40.0**	**-0.2**
YOTC	**Yotoco, Valle**	**12.34**	**350**	*eP*	**Pn**	**07 44 41.1**	**+0.7**
PTGC	**Puerto Gaitan,**	**12.57**	**10**	*eP*	**Pn**	**07 44 40.6**	**-2.8**
ANIL	**Santa Ana**	**12.72**	**355**	*eP*	**P**	**07 44 50.2**	**-0.4**
CHIC	**Chingaza**	**12.82**	**3**	*eP*	**Pn**	**07 44 47.2**	**+0.2**
ROSC	**El Rosal**	**13.02**	**360**	P	**Pn**	**07 44 51.0**	**+1.5**
	2.3nm,0.3s,baz=279,slow=4.0,SNR=8.3						
ROSC				S	**S**	**07 47 20.9**	**-4.7**
	3.9nm,0.3s,baz=204,slow=22,SNR=1.1						
ROSC	**El Rosal**	**13.02**	**360**		**P**	**07 44 51.9**	**-2.2**
PLMC	**San Jos del P**	**13.23**	**351**	*eP*	**Pn**	**07 44 51.7**	**-0.2**
GUY2C	**Guyana, Caldas**	**13.44**	**355**	*eP*	**Pn**	**07 44 55.7**	**+0.7**
NORC	**Norcasia**	**13.75**	**358**	*eP*	**Pn**	**07 44 59.7**	**+1.2**
SPBC	**San Pablo de B**	**13.83**	**1**	*eP*	**Pn**	**07 45 00.4**	**+0.9**
RUSC	**La Rusia**	**14.12**	**5**	*eP*	**Pn**	**07 45 03.1**	**-0.4**
CBOC	**Ciudad Bolivar**	**14.14**	**353**	*eP*	**Pn**	**07 45 04.0**	**+0.5**
MACA	**Manacapuru-AM**	**14.47**	**70**	Pn	**Pn**	**07 45 06.1**	**-1.4**
VILB	**Vilhena**	**14.63**	**110**	*eP*	**Pn**	**07 45 09.7**	**+0.3**
VILB	**Vilhena**	**14.63**	**110**		**Pn**	**07 45 09.8**	**+0.3**
PTBC	**PUERTO BERRIO,**	**14.71**	**359**	*eP*	**Pn**	**07 45 09.5**	**-1.0**
BARC	**Barichara**	**14.80**	**4**	*eP*	**P**	**07 45 13.7**	**-0.1**
TAMC	**Tame, Arauca**	**14.82**	**10**	*eP*	**Pn**	**07 45 12.3**	**+0.5**
SIV	**San Ignacio**	**15.04**	**122**	P	**Pn**	**07 45 15.4**	**+0.8**
	5.6nm,0.3s,baz=280,slow=8.7,SNR=9.6						
SIV				S	Sn	07 47 50.3	-12
	2.6nm,0.3s,baz=268,slow=16,SNR=1.1						
DBBC	**Dabeiba**	**15.30**	**353**	*eP*	**P**	**07 45 20.6**	**+1.6**
PAMC	**Pamplona, Colo**	**15.59**	**6**	*eP*	**P**	**07 45 23.8**	**+1.2**
ZARC	**Zaragoza, Cauc**	**15.66**	**358**	*eP*	**Pn**	**07 45 21.9**	**-0.3**
ZARC	**Zaragoza, Cauc**	**15.66**	**358**		**P**	**07 45 24.7**	**+1.7**
PTAC	**Punta Ardita,**	**15.70**	**347**	*eP*	**Pn**	**07 45 17.4**	**-5.3**
ELOV	**Elorza**	**15.91**	**18**	*eP*	**Pn**	**07 45 24.1**	**-1.1**
UREC	**San Jos de Ur**	**15.96**	**356**	*eP*	**Pn**	**07 45 25.3**	**-0.5**
PTGA	**Pitinga**	**16.13**	**63**	P	**P**	**07 45 28.5**	**+0.3**
	19nm,0.3s,baz=247,slow=16,SNR=125						
PTGA				S	S	07 48 14.4	-13
	2.2nm,0.3s,baz=341,slow=22,SNR=1.5						
OCAC	**Ocana**	**16.43**	**3**	*eP*	**Pn**	**07 45 32.6**	**+0.9**
OCAC	**Ocana**	**16.43**	**3**	P	**Pn**	**07 45 32.5**	**+0.9**
OCAC				IAmb	IAmb	07 45 39.2	
	comp=Z,43nm,0.4s						
SOCV	**Socops**	**16.80**	**12**	*eP*	**P**	**07 45 35.5**	**0.0**
SMLC	**San Martn de**	**16.96**	**1**	*eP*	**P**	**07 45 36.6**	**-0.6**
MOTC	**Monteria, Cord**	**16.99**	**355**	*eP*	**P**	**07 45 37.1**	**-0.5**
MOTC	**Monteria, Cord**	**16.99**	**355**	P	**Pn**	**07 45 39.3**	**+1.0**
MOTC				IAmb	IAmb	07 45 55.2	
	comp=Z,48nm,0.6s						
UPD2	**Meteti**	**17.11**	**347**	*eP*	**P**	**07 45 36.6**	**-2.2**
BOAV	**Boa Vista**	**17.36**	**53**	*eP*	**Pn**	**07 45 42.8**	**+0.1**
BOAV	**Boa Vista**	**17.36**	**53**		**Pn**	**07 45 43.8**	**+1.1**
BOAV				IAmb	IAmb	07 45 45.0	
	comp=Z,75nm,0.7s						
SDV	**Santo Domingo**	**17.43**	**12**	P	**Pn**	**07 45 43.9**	**+0.2**
	comp=Z,12nm,0.3s,baz=106,slow=4.0,SNR=63						
SDV				S	**S**	**07 48 47.2**	**-9.1**
	comp=Z,0.5nm,0.3s,baz=70,slow=23,SNR=0.8						
SDV	**Santo Domingo**	**17.43**	**12**	*eP*	**P**	**07 45 40.0**	**-2.6**
SDV	**Santo Domingo**	**17.43**	**12**	*eP*	**Pn**	**07 45 44.0**	**+0.2**
SDV	**Santo Domingo**	**17.43**	**12**	P	**Pn**	**07 45 43.6**	**-0.2**
SDV				IAmb	IAmb	07 45 47.1	
	comp=Z,80nm,1.1s						
PAYG	**Puerto Ayora**	**17.61**	**295**	*eP*	**Pn**	**07 45 46.6**	**+0.8**
PAYG	**Puerto Ayora**	**17.61**	**295**	P	**Pn**	**07 45 46.5**	**+0.8**
LL1C	**La Loma 1 Cana**	**17.71**	**2**	*eP*	**Pn**	**07 45 47.6**	**+0.7**
LL5C	**La Loma 5 El P**	**17.91**	**2**	*eP*	**P**	**07 45 47.1**	**-0.6**
LL6C	**La Loma 6 Bece**	**17.91**	**3**	*eP*	**P**	**07 45 45.6**	**-2.2**
ARGC	**Ariguani, Magd**	**18.00**	**0**	*eP*	**Pn**	**07 45 50.6**	**+0.2**
SJCC	**San Jacinto, C**	**18.06**	**357**	*eP*	**P**	**07 45 49.7**	**+0.2**
SJCC	**San Jacinto, C**	**18.06**	**357**	P	**Pn**	**07 45 51.2**	**+0.1**
BCIP	**Isla Barro Col**	**18.17**	**342**	P	**Pn**	**07 45 53.4**	**+1.0**
BCIP				IAmb	IAmb	07 46 21.8	
	comp=Z,94nm,1.1s						
BAUV	**El Baul**	**18.20**	**20**	*eP*	**Pn**	**07 45 52.2**	**-0.6**
BAUV	**El Baul**	**18.20**	**20**	P	**Pn**	**07 45 52.1**	**-0.6**
CLDB	**Colider**	**18.44**	**100**	*eP*	**P**	**07 45 53.2**	**-0.4**
CDITO	**Canoas**	**18.78**	**333**	P	**Pn**	**07 45 59.5**	**+0.1**
CDITO				IAmb	IAmb	07 46 04.1	
	comp=Z,89nm,1.1s						
NPGB	**Novo Progresso**	**18.83**	**88**	*eP*	**P**	**07 45 57.8**	**0.0**
ITTB	**Itaituba**	**18.86**	**79**	*eP*	**P**	**07 45 59.2**	**+1.0**
BRU2	**Volcan**	**18.89**	**334**	*eP*	**P**	**07 45 59.0**	**+0.5**
BRU2	**Volcan**	**18.89**	**334**	P	**Pn**	**07 46 01.5**	**+0.5**
CRJC	**Cerrejon, Guaj**	**19.21**	**4**	*eP*	**P**	**07 46 00.1**	**-1.9**
DABV	**Dabajuro**	**19.41**	**11**	*eP*	**P**	**07 46 03.0**	**-1.0**
DRK0	**Durika**	**19.55**	**333**	P	**Pn**	**07 46 07.4**	**-1.4**
DRK0				IAmb	IAmb	07 46 23.1	
	comp=Z,91nm,1.0s						
SRBA	**San Rafael, Bu**	**19.58**	**332**	P	**Pn**	**07 46 08.1**	**-0.9**
SRBA				IAmb	IAmb	07 46 10.2	
	comp=Z,81nm,1.1s						
PEZE	**Perez Zeledon,**	**19.86**	**332**	P	**P**	**07 46 10.5**	**+1.5**
PEZE				IAmb	IAmb	07 46 27.1	
	comp=Z,43nm,1.0s						
URIC	**Uribia, Colomb**	**19.97**	**7**	P	**P**	**07 46 08.5**	**-1.6**
BIRV	**Birongo**	**20.27**	**23**	P	**P**	**07 46 14.2**	**+0.9**
RIMA	**Rio Macho**	**20.28**	**332**	P	**P**	**07 46 14.9**	**+1.3**
RIMA				IAmb	IAmb	07 46 22.0	
	comp=Z,42nm,1.0s						
CVTR	**Volcan Turrial**	**20.46**	**332**	P	Pn	07 46 18.8	-0.9
CVTR				IAmb	IAmb	07 46 20.3	
	comp=Z,78nm,1.0s						
JACO	**JACO, Garabito**	**20.58**	**330**	P	**P**	**07 46 18.0**	**+1.5**
JACO				IAmb	IAmb	07 46 23.0	
	comp=Z,98nm,1.1s						
PCRV	**Puerto La Cruz**	**20.70**	**28**	P	**P**	**07 46 18.6**	**+0.7**
	comp=Z,48nm,0.6s,baz=197,slow=10.0,SNR=22						
PCRV				S	**S**	**07 49 58.2**	**-2.5**
	comp=Z,7.5nm,0.9s,baz=166,slow=19,SNR=0.7						
CAO2	**Cobano, Puntar**	**20.82**	**329**	IAmb	IAmb	07 46 25.6	
	comp=Z,42nm,0.9s						
MALB	**Monte Alegre**	**20.95**	**73**	*eP*	**P**	**07 46 19.9**	**-0.8**
AUA1	**Aruba**	**21.07**	**12**	P	**P**	**07 46 22.1**	**+0.3**
JTS	**Las Juntas de**	**21.26**	**330**	P	**P**	**07 46 25.0**	**+1.1**
	comp=Z,31nm,1.0s						
JTS	**Las Juntas de**	**21.26**	**330**	P	**P**	**07 46 22.6**	**-1.3**
JTS				IAmb	IAmb	07 46 29.2	
	comp=Z,59nm,1.2s						
DUNO	**Dulce Nombre,**	**21.36**	**328**	P	**P**	**07 46 26.0**	**+1.0**
COVE	**Coope Vega, Sa**	**21.37**	**332**	P	**P**	**07 46 26.3**	**+1.3**
ORTG	**Ortega, Santa**	**21.58**	**329**	P	**P**	**07 46 29.3**	**+1.9**
ORTG				IAmb	IAmb	07 46 49.6	
	comp=Z,44nm,1.1s						
ESPN	**Las Esperanzas**	**22.62**	**334**	IAmb	IAmb	07 47 03.7	
	comp=Z,45nm,1.1s						
TRN	**Trinidad (W)**	**22.76**	**35**	*eP*	**P**	**07 46 39.4**	**+0.5**
ACON	**Acoyapa**	**22.82**	**332**	IAmb	IAmb	07 46 42.7	
	comp=Z,48nm,1.2s						
SNDB	**Serra Nova Dou**	**22.95**	**101**	*eP*	**P**	**07 46 40.0**	**-0.7**
BOAB	**BOACO BROADBAND**	**23.47**	**331**	IAmb	IAmb	07 47 09.8	
	comp=Z,71nm,1.1s						
MCPB	**Macapa, AP**	**23.53**	**72**	*eP*	**P**	**07 46 46.1**	**+0.2**
GRFF	**Grenada Fort F**	**23.74**	**32**	*eP*	**P**	**07 46 48.8**	**+0.9**
TOSP	**Speyside**	**23.78**	**35**	*eP*	**P**	**07 46 49.2**	**+1.0**
GRGR	**Grenville**	**23.86**	**32**	*eP*	**P**	**07 46 48.7**	**-0.2**
GRGR	**Grenville**	**23.86**	**32**	P	**P**	**07 46 49.1**	**+0.2**
MATN	**Matagalpa**	**24.01**	**331**	P	**P**	**07 46 52.5**	**+2.1**
CPUP	**Villa Florida**	**24.15**	**140**	P	**P**	**07 46 50.6**	**-0.9**
	comp=Z,13nm,0.8s,baz=342,slow=6.6,SNR=4.6						
CPUP	**Villa Florida**	**24.15**	**140**	P	**P**	**07 46 50.6**	**-0.9**
CPUP				IAmb	IAmb	07 46 56.4	
	comp=Z,29nm,1.1s						
GCMP	**Grenada, Carri**	**24.27**	**32**	*eP*	**P**	**07 46 51.0**	**-1.7**
CRIN	**San Cristobal**	**24.37**	**329**	IAmb	IAmb	07 47 17.5	
	comp=Z,86nm,1.1s						
PRPB	**Parauapebas**	**24.39**	**87**	*eP*	**P**	**07 46 53.3**	**-0.6**
SVB	**Belmont**	**25.02**	**31**	*eP*	**P**	**07 46 58.8**	**-0.8**
SVV	**Soufriere Volc**	**25.08**	**31**	*eP*	**P**	**07 46 59.5**	**-0.6**
MDP	**Montagnes des**	**25.37**	**59**	P	**P**	**07 47 01.9**	**-0.8**
	comp=Z,40nm,1.1s,baz=238,slow=7.4,SNR=15						
MDP				S	S	07 51 33.2	+16
	comp=Z,18nm,1.1s,baz=291,slow=9.0,SNR=1.3						
MCLT	**Moule a Chique**	**25.55**	**31**	*eP*	**P**	**07 47 02.2**	**-2.1**
TGUH	**Tegucigalpa,Un**	**25.64**	**330**	IAmb	IAmb	07 47 18.0	
	comp=Z,30nm,1.1s						
SLBI	**Saint Lucia, B**	**25.80**	**31**	*eP*	**P**	**07 47 05.1**	**-1.4**
BBGH	**Gun Hill**	**25.83**	**35**	*eP*	**P**	**07 47 09.1**	**+2.3**
PEXB	**Peixe**	**25.88**	**101**	*eP*	**P**	**07 47 07.1**	**-0.2**
BIM	**Bigot**	**26.17**	**30**	*eP*	**P**	**07 47 07.6**	**-2.3**
MPOM	**Morne Pois Mar**	**26.22**	**31**	*eP*	**P**	**07 47 08.5**	**-1.7**
ZAM	**Aeronautique**	**26.24**	**30**	*eP*	**P**	**07 47 09.7**	**-0.7**
LPMF	**Morne Lapointe**	**26.27**	**30**	*eP*	**P**	**07 47 09.0**	**-1.8**
FDF	**Fort de France**	**26.32**	**30**	*e*	P	07 46 58.2	-13
PML	**Morne Lenard**	**26.34**	**30**	*eP*	**P**	**07 47 09.9**	**-1.5**
PCM	**Pelee Case Pet**	**26.36**	**30**	*eP*	**P**	**07 47 10.2**	**-1.3**
GBMF	**Grand Be**	**26.36**	**30**	*eP*	**P**	**07 47 10.6**	**-1.1**
SNET	**Serv Nac Est T**	**26.36**	**326**	P	**P**	**07 47 13.6**	**+1.9**
SVN	**Savane Anatole**	**26.40**	**30**	*eP*	**P**	**07 47 11.5**	**-0.4**
SMTB	**Santa Maria do**	**26.43**	**93**	*eP*	**P**	**07 47 11.3**	**-1.0**
BDFB	**Brasilia**	**26.73**	**108**	P	**P**	**07 47 14.6**	**-0.5**
	comp=Z,10nm,0.5s,baz=266,slow=7.7,SNR=28						
BDFB				pP	**pP**	**07 47 47.3**	**-0.5**
	comp=Z,21nm,0.5s,baz=273,slow=12,SNR=8.9						
BDFB				S	S	07 51 54.9	+15
	comp=Z,5.5nm,0.9s,baz=6.6,slow=13,SNR=2.1						
TMAB	**Tom-Au,PA,Br**	**26.74**	**79**	*eP*	**P**	**07 47 15.5**	**+0.4**
DSLB	**Salisbury**	**26.79**	**29**	*eP*	**P**	**07 47 15.9**	**+0.4**
PTGB	**Pitanga**	**26.81**	**130**	*eP*	**P**	**07 47 14.6**	**-1.0**
ITQB	**Itaqui**	**27.00**	**144**	*eP*	**P**	**07 47 17.0**	**-0.2**
MTO3	**Montecristo**	**27.02**	**326**	IAmb	IAmb	07 47 21.3	
	comp=Z,45nm,1.3s						
ESQI	**Esquipulas**	**27.14**	**327**	IAmb	IAmb

TXAR **Lajitas Array** 46.87 324 P P 07 50 05.7 +1.2
comp=Z,8.0nm,0.6s,baz=150,slow=8.6,SNR=109
TXAR pP pP 07 50 39.6 -0.1
comp=Z,7.2nm,0.7s,baz=147,slow=8.4,SNR=9.6
TXAR ScP ScP 07 55 14.0 0.0
comp=Z,0.2nm,0.6s,baz=130,slow=3.6,SNR=2.7
TXAR S S 07 56 41.4 -2.1
comp=Z,0.2nm,0.7s,baz=28,slow=2.5,SNR=1.5
TX31 **Lajitas Ar. Si** 46.87 324 IAmb IAmb 07 50 07.3
comp=Z,54nm,0.9s
W39A **Magazine** 46.98 338 P P 07 50 06.3 +1.2
baz=153
SLBS **Sierra La Lagu** 47.12 313 P P 07 50 08.9 +2.4
ABTX **Abilene, Hawle** 47.29 331 P P 07 50 09.0 +1.4
ABTX IAmb IAmb 07 50 10.6
comp=Z,49nm,1.0s
ABTX **Abilene, Hawle** 47.29 331 P P 07 50 09.8 +2.2
baz=145,SNR=8.8
WCI **Wyandotte Cave** 47.59 347 P P 07 50 09.7 0.0
WCI **Wyandotte Cave** 47.59 347 P P 07 50 09.7 0.0
baz=164
U40A **Yellville** 47.69 340 P P 07 50 10.8 +0.3
baz=155
MCWV **Mont Chateau** 47.96 354 IAmb IAmb 07 50 24.5
comp=Z,21nm,0.5s
MCWV **Mont Chateau** 47.96 354 P P 07 50 14.3 +1.8
baz=173
MVL **Millersville** 48.06 358 IAmb IAmb 07 50 16.7
comp=Z,78nm,1.5s
P52A **Corning** 48.20 352 P P 07 50 15.1 +0.7
baz=170
MGMO **Mountain Grove** 48.21 341 IAmb IAmb 07 50 17.0
comp=Z,28nm,1.4s
PAGS **Pennsylvania G** 48.30 358 IAmb IAmb 07 50 17.7
comp=Z,67nm,1.3s
TUL1 **Leonard** 48.37 337 IAmb IAmb 07 50 34.1
comp=Z,20nm,0.7s
TUL1 **Leonard** 48.37 337 P P 07 50 16.8 +0.9
baz=151
FVM **French Village** 48.41 343 IAmb IAmb 07 50 31.1
comp=Z,32nm,0.7s
O56A **Blue Knob Stat** 48.45 356 IAmb IAmb 07 50 19.2
comp=Z,25nm,1.0s
O56A **Blue Knob Stat** 48.45 356 P P 07 50 18.4 +2.0
baz=174,SNR=5.2
WMOK **Wichita Mounta** 48.63 333 P P 07 50 19.0 +1.2
baz=147
CCM **Cathedral Cave** 48.72 342 P P 07 50 18.3 -0.1
CCM **Cathedral Cave** 48.72 342 P P 07 50 18.2 -0.2
baz=158
SSPA **Standing Stone** 48.77 356 P P 07 50 19.9 +1.1
SSPA IAmb IAmb 07 50 21.5
comp=Z,49nm,1.4s
SSPA **Standing Stone** 48.77 356 P P 07 50 20.5 +1.7
baz=175
ACSO **Alum Creek Sta** 48.91 351 IAmb IAmb 07 50 21.1
comp=Z,13nm,0.7s
ACSO **Alum Creek Sta** 48.91 351 P P 07 50 20.4 +0.5
baz=169
OK029 **Liberty Lake** 48.95 335 IAmb IAmb 07 50 22.4
comp=Z,17nm,0.7s
N59A **State Game Lan** 48.96 359 IAmb IAmb 07 50 22.9
comp=Z,29nm,1.1s
N59A **State Game Lan** 48.96 359 P P 07 50 21.7 +1.5
baz=178
PAL **Palisades** 49.03 0 P P 07 50 21.8 +1.1
baz=180
N54A **Moraine State** 49.26 354 P P 07 50 24.1 +1.6
baz=173,SNR=6.1
O48B **Farmland** 49.31 349 P P 07 50 22.8 -0.1
baz=166
MNTX **Cornudas Mount** 49.61 325 IAmb IAmb 07 50 27.7
comp=Z,46nm,1.4s
MNTX **Cornudas Mount** 49.61 325 P P 07 50 26.8 +1.4
baz=138,SNR=17
M54A **Oil Creek Stat** 49.77 355 IAmb IAmb 07 50 28.6
comp=Z,47nm,1.2s
M54A **Oil Creek Stat** 49.77 355 P P 07 50 27.6 +1.2
baz=173,SNR=5.3
SFIN **Lafayette** 49.82 347 P P 07 50 25.8 -0.9
baz=163,SNR=6.0
MSTX **Muleshoe** 49.93 329 IAmb IAmb 07 50 31.4
comp=Z,27nm,1.0s
MSTX **Muleshoe** 49.93 329 P P 07 50 29.3 +1.4
baz=142
KAN17 **Caldwell West** 50.15 335 IAmb IAmb 07 50 31.8
comp=Z,21nm,0.6s
BINY **Binghamton** 50.24 358 P P 07 50 31.7 +1.8
baz=178,SNR=10
ERPA **Erie** 50.41 355 IAmb IAmb 07 50 32.9
comp=Z,36nm,1.1s
ERPA **Erie** 50.41 355 P P 07 50 31.8 +0.7
baz=173
HDIL **Hopedale** 50.51 345 P P 07 50 31.7 -0.2
baz=161
WVNY **West Valley, N** 50.58 356 IAmb IAmb 07 50 34.8
comp=Z,37nm,1.1s
MMNY **Mt. Morris Dam** 50.86 357 IAmb IAmb 07 50 36.6
comp=Z,46nm,1.2s
SRIG **Santa Rosalia** 50.99 315 IAmb IAmb 07 50 38.8
comp=Z,32nm,1.0s
KSU1 **Kansas State U** 51.48 338 IAmb IAmb 07 50 56.0
comp=Z,24nm,0.7s
KSU1 **Kansas State U** 51.48 338 P P 07 50 39.7 +0.5
baz=151,SNR=7.3
121A **Cookes Peak, D** 51.61 324 IAmb IAmb 07 50 43.9
comp=Z,39nm,1.1s
121A **Cookes Peak, D** 51.61 324 P P 07 50 43.1 +2.5
baz=136,SNR=13
NCB **Newcomb** 51.99 0 P P 07 50 43.6 +0.6
PECO **Prince Edward** 52.01 358 P P 07 50 43.9 +0.9
PECO IAmb IAmb 07 50 45.0
comp=Z,56nm,1.2s
BNM **Barren Site** 52.13 326 P P 07 50 46.1 +1.6
DELO **Deloro Mine** 52.62 357 IAmb IAmb 07 50 49.4
comp=Z,38nm,1.1s
ANMO **Albuquerque** 52.63 327 P P 07 50 49.1 +1.1
ANMO IAmb IAmb 07 50 50.8
comp=Z,23nm,1.1s
ANMO **Albuquerque** 52.63 327 P P 07 50 49.9 +1.8
baz=139
LONY **Lake Ozonia** 52.64 360 IAmb IAmb 07 50 56.5
comp=Z,11nm,0.7s
LONY **Lake Ozonia** 52.64 360 P P 07 50 49.0 +1.3
baz=180
FRNY **Flat Rock** 52.86 1 P P 07 50 50.1 +0.9
FRNY IAmb IAmb 07 50 52.2
comp=Z,44nm,1.2s
JFWS **Jewell Farm** 52.97 345 IAmb IAmb 07 51 03.4
comp=Z,18nm,0.5s
JFWS **Jewell Farm** 52.97 345 P P 07 50 49.8 -0.3
baz=160
T25A **Trinidad** 53.24 330 IAmb IAmb 07 50 55.5
comp=Z,36nm,1.2s
T25A **Trinidad** 53.24 330 P P 07 50 54.6 +2.1
baz=142,SNR=18
TUC **Tucson** 53.27 321 P P 07 50 53.7 +1.0
TUC IAmb IAmb 07 50 55.3
comp=Z,17nm,0.9s
TUC **Tucson** 53.27 321 P P 07 50 54.4 +1.7
baz=133
PKME **Peaks-Kenny Pk** 53.48 4 P P 07 50 54.5 +0.7
PKME IAmb IAmb 07 50 56.0
comp=Z,35nm,1.0s
PKME **Peaks-Kenny Pk** 53.48 4 P P 07 50 55.6 +1.9
baz=186
KSCO **Kaye Shedlock'** 53.89 333 IAmb IAmb 07 51 00.4
comp=Z,16nm,1.1s
BGNE **Belgrade** 54.06 338 P P 07 50 59.1 +0.9
baz=150
SDCO **Great Sand Dun** 54.26 330 IAmb IAmb 07 51 02.9
comp=Z,25nm,1.1s
SDCO **Great Sand Dun** 54.26 330 P P 07 51 02.0 +2.0
baz=141,SNR=18
X18A **Snowflake** 54.30 324 IAmb IAmb 07 51 03.3
comp=Z,28nm,1.0s
214A **Organ Pipe Nat** 54.32 319 P P 07 51 01.8 +1.5
214A **Organ Pipe Nat** 54.32 319 P P 07 51 02.6 +2.3
baz=131,SNR=23
W18A **Petrified Fore** 54.59 324 P P 07 51 03.2 +0.9
W18A **Petrified Fore** 54.59 324 P P 07 51 04.4 +2.0
baz=135,SNR=13
S22A **4UR Ranch, Cre** 54.93 329 IAmb IAmb 07 51 07.7
comp=Z,18nm,1.1s
S22A **4UR Ranch, Cre** 54.93 329 P P 07 51 06.7 +1.8
baz=140,SNR=18
Q24A **Divide** 55.03 331 P P 07 51 07.0 +1.4
baz=142

X16A **Lo Mia Camp, P** 55.11 323 IAmb IAmb 07 51 09.2
comp=Z,22nm,0.9s
MVCO **Mesa Verde** 55.41 327 IAmb IAmb 07 51 10.9
comp=Z,31nm,1.3s
MVCO **Mesa Verde** 55.41 327 P P 07 51 10.0 +1.7
baz=138,SNR=8.8
ECSD **EROS Data Cent** 55.57 341 P P 07 51 08.9 0.0
baz=153,SNR=5.3
Y14A **Wickenburg** 55.74 321 IAmb IAmb 07 51 13.3
comp=Z,15nm,1.0s
SPMN **Marine on St.** 55.78 344 IAmb IAmb 07 51 11.2
comp=Z,17nm,0.8s
SPMN **Marine on St.** 55.78 344 P P 07 51 10.4 -0.1
baz=158,SNR=7.0
WUAZ **Wupatki** 55.83 324 P P 07 51 13.7 +2.6
baz=134
ISCO **Idaho Springs** 55.91 331 P P 07 51 13.6 +1.7
baz=142,SNR=7.7
SMCO **Snowmass** 56.10 330 IAmb IAmb 07 51 16.2
comp=Z,23nm,1.4s
GLA **Glamis** 56.33 319 P P 07 51 16.8 +2.2
baz=130
PV07 **Paradox Valley** 56.40 328 IAmb IAmb 07 51 18.0
comp=Z,26nm,1.3s
PV10 **Paradox Valley** 56.56 328 IAmb IAmb 07 51 19.3
comp=Z,28nm,1.3s
PV23 **Carpenter Ridg** 56.60 328 IAmb IAmb 07 51 20.4
comp=Z,11nm,1.0s
PDMCI **Parker Dam,Lak** 56.70 321 P P 07 51 19.3 +2.3
baz=131,SNR=5.3
N23A **Red Feather La** 56.93 332 P P 07 51 20.5 +1.5
baz=142
U15A **North Rim** 56.99 324 IAmb IAmb 07 51 22.8
comp=Z,21nm,1.0s
W13A **Hualapai Mount** 57.06 322 IAmb IAmb 07 51 23.2
comp=Z,38nm,1.2s
BC3 **Big Chuckawall** 57.12 319 P P 07 51 22.3 +2.1
baz=129,SNR=20
IRM **Iron Mountain** 57.24 320 P P 07 51 23.2 +2.2
baz=130,SNR=46
O20A **White River Ci** 57.46 329 P P 07 51 24.0 +1.4
baz=139,SNR=7.1
BELC **Belle Mtn. Jos** 57.69 319 P P 07 51 26.5 +2.3
baz=129
TPFO **Pinon Flats** 57.74 319 P P 07 51 27.1 +2.5
baz=128,SNR=10
PFO **Pinyon Flats O** 57.74 319 P P 07 51 26.1 +1.5
PFO IAmb IAmb 07 51 27.7
comp=Z,27nm,1.1s
PFO **Pinyon Flats O** 57.74 319 P P 07 51 26.7 +2.1
baz=128,SNR=8.2
GMRC **Granite Mounta** 57.96 320 P P 07 51 28.3 +2.2
baz=130,SNR=19
EYMN **Ely** 58.00 346 P P 07 51 25.5 -0.5
baz=160
RWWY **Rawlins** 58.14 331 IAmb IAmb 07 51 30.2
comp=Z,35nm,1.4s
MURC **Murrieta** 58.22 318 P P 07 51 30.3 +2.5
baz=128,SNR=7.6
HEC **Hector,Ludlow** 58.42 320 P P 07 51 32.0 +2.7
baz=129,SNR=13
K22A **Casper** 58.57 333 P P 07 51 31.5 +1.2
baz=142
RSSD **Black Hills** 58.67 335 P P 07 51 32.5 +1.5
RSSD **Black Hills** 58.67 335 P P 07 51 33.7 +2.7
baz=145
GSC **Goldstone, Bar** 59.02 320 IAmb IAmb 07 51 36.5
comp=Z,21nm,1.1s
GSC **Goldstone, Bar** 59.02 320 P P 07 51 36.0 +2.5
baz=129,SNR=7.0
SHOC **Shoshone, Teco** 59.06 321 P P 07 51 35.6 +2.1
baz=130,SNR=10
DECC **Green Verdugo** 59.37 318 P P 07 51 37.9 +2.1
baz=127
AGMN **Agassiz Nation** 59.44 343 IAmb IAmb 07 51 36.6
comp=Z,7.7nm,0.7s
AGMN **Agassiz Nation** 59.44 343 P P 07 51 35.8 -0.2
baz=155,SNR=6.2
EDW2 **Edwards Air Fo** 59.52 319 P P 07 51 39.1 +2.2
baz=128,SNR=5.7
TPNV **Topopah Spring** 59.71 322 P P 07 51 40.6 +2.4
baz=130,SNR=26
FURC **Furnace Creek,** 59.79 321 P P 07 51 40.9 +2.4
baz=129,SNR=19
DUG **Dugway, Tooele** 59.90 327 P P 07 51 40.7 +1.3
DUG IAmb IAmb 07 51 42.5
comp=Z,36nm,1.1s
DUG **Dugway, Tooele** 59.90 327 P P 07 51 41.6 +2.1
baz=135,SNR=26
MPMC **Manual Prospec** 59.92 320 P P 07 51 41.3 +1.6
baz=129,SNR=11
BW06 **Boulder Array** 60.09 331 P P 07 51 41.4 +0.6
BW06 **Boulder Array** 60.09 331 P P 07 51 41.6 +0.8
baz=139,SNR=7.1
PD31 **Pinedale Array** 60.09 331 P P 07 51 41.5 +0.7
PDAR **Pinedale Array** 60.09 331 P P 07 51 40.8 0.0
comp=Z,1.1nm,0.5s,baz=132,slow=6.6,SNR=15
PDAR pP pP 07 52 16.4 -1.3
comp=Z,4.1nm,0.9s,baz=145,slow=5.4,SNR=4.1
PDAR S S 07 59 38.1 -3.6
comp=Z,0.1nm,0.4s,baz=356,slow=31,SNR=1.4
PDAR **Pinedale Array** 60.09 331 P P 07 51 41.1 +0.3
MDND **Maddock** 60.19 341 P P 07 51 42.7 +1.7
baz=151,SNR=5.6
R11A **Troy Canyon, C** 60.22 323 IAmb IAmb 07 51 45.0
comp=Z,16nm,1.1s
R11A **Troy Canyon, C** 60.22 323 P P 07 51 44.0 +2.3
baz=131,SNR=22
ISA **Isabella, Lake** 60.31 319 P P 07 51 43.6 +1.4
ISA IAmb IAmb 07 51 45.2
comp=Z,12nm,0.9s
ISA **Isabella, Lake** 60.31 319 P P 07 51 44.3 +2.0
baz=128,SNR=7.9
GRAC **Grapevine Rang** 60.43 321 P P 07 51 45.3 +2.3
baz=129,SNR=6.2
CWC **Cottonwood Cre** 60.53 320 P P 07 51 45.8 +1.9
baz=128
VES **Vestal, Richgr** 60.81 319 P P 07 51 47.6 +2.0
baz=127,SNR=15
AHID **Auburn Hatcher** 60.85 330 P P 07 51 46.3 +0.4
TIN **Tinemaha, Big** 61.01 321 P P 07 51 49.6 +2.6
baz=128,SNR=5.1
SMMC **Simmler** 61.10 318 P P 07 51 50.1 +2.6
baz=126
REDW **Red Top Meadow** 61.17 330 P P 07 51 48.4 +0.3
ULM **Lac du Bonnet** 61.22 344 P P 07 51 48.1 +0.1
comp=Z,7.1nm,0.7s,baz=149,slow=5.8,SNR=6.6
ULM pP pP 07 52 24.1 -0.8
comp=Z,11nm,0.8s,baz=154,slow=6.4,SNR=4.3
ULM S S 07 59 47.2 -8.1
comp=Z,1.8nm,0.6s,baz=86,slow=1.1,SNR=1.9
ULM **Lac du Bonnet** 61.22 344 IAmb IAmb 07 52 01.2
comp=Z,15nm,0.7s
ELK **Elko** 61.62 326 P P 07 51 51.7 +0.6
FLWY **Flagg Ranch** 61.63 331 IAmb IAmb 07 51 54.6
comp=Z,11nm,0.8s
MLAC **Mammoth, Mammo** 61.74 321 P P 07 51 54.7 +2.6
baz=128
H17A **Grant Village** 61.80 331 P P 07 51 54.9 +2.6
baz=138
NV11 **Mina Array Sit** 61.82 322 IAmb IAmb 07 51 55.2
comp=Z,13nm,1.1s
LKWY **Lake** 61.85 331 IAmb IAmb 07 51 56.3
comp=Z,7.5nm,0.6s
NVAR **Mina Array Bea** 61.91 322 P P 07 51 54.2 +1.0
comp=Z,5.0nm,0.9s,baz=139,slow=7.1,SNR=36
NVAR pP pP 07 52 30.1 -0.1
comp=Z,3.9nm,0.8s,baz=134,slow=7.2,SNR=4.2
DGMT **Dagmar** 62.32 338 IAmb IAmb 07 52 12.8
comp=Z,18nm,0.6s
DGMT **Dagmar** 62.32 338 P P 07 51 56.8 +1.4
baz=146
HLID **Hailey** 63.11 328 P P 07 52 02.5 +1.6
baz=134,SNR=9.5
SCHQ **Schefferville** 63.17 5 P P 07 52 01.6 +0.7
comp=Z,27nm,0.9s,baz=194,slow=5.0,SNR=30
SCHQ pP PcP 07 52 37.4 +0.4
comp=Z,14nm,0.9s,baz=177,slow=2.7,SNR=3.9
SCHQ **Schefferville** 63.17 5 P P 07 52 01.6 +0.7
BOZ **Bozeman (W)** 63.20 332 P P 07 52 02.3 +0.9
BOZ **Bozeman (W)** 63.20 332 P P 07 52 02.5 +1.1
baz=138,SNR=12
MCMT **McKenzie Canyo** 63.22 330 P P 07 52 03.3 +1.6
MFID **Camas Ranch** 63.75 327 IAmb IAmb 07 52 08.7
comp=Z,25nm,1.0s
EGMT **Eagleton** 64.19 334 IAmb IAmb 07 52 26.4
comp=Z,9.0nm,0.8s
EGMT **Eagleton** 64.19 334 P P 07 52 09.2 +1.5

baz=140,SNR=5.9
WVOR **Wild Horse Val** 64.65 325 IAmb IAmb 07 52 13.4
comp=Z,22nm,1.4s
TAOE **Nuku Hiva Isla** 65.02 264 eLR LR 08 12 01.4
comp=Z,353nm,23.1s
MSO **Missoula** 65.19 331 IAmb IAmb 07 52 17.9
comp=Z,24nm,1.3s
MSO **Missoula** 65.19 331 P P 07 52 15.9 +1.6
baz=136,SNR=12
M04C **Macdoel** 66.11 323 P P 07 52 21.8 +1.5
baz=127,SNR=6.2
I07A **Izee** 66.19 326 IAmb IAmb 07 52 23.9
comp=Z,14nm,0.7s
F10A **Beach Ranch, E** 66.22 329 IAmb IAmb 07 52 25.8
comp=Z,15nm,1.2s
M02C **Callahan** 66.49 322 P P 07 52 24.1 +1.4
baz=126
L04D **Klamath Falls** 66.64 323 P P 07 52 25.0 +1.2
baz=127
J05D **Fort Rock, OR** 66.67 324 P P 07 52 25.6 +1.7
baz=128
KHMM **Horse Mountain** 66.72 321 IAmb IAmb 07 52 28.6
comp=Z,14nm,0.8s
FFC **Flin Flon** 66.91 343 P P 07 52 25.8 +0.8
J04D **Umpqua Nationa** 67.15 324 P P 07 52 29.5 +2.5
baz=127
I05D **Terrebonne, OR** 67.38 325 P P 07 52 30.4 +2.1
baz=128
NEW **Newport** 67.73 331 P P 07 52 31.7 +1.3
baz=134
K02D **Willamette Mer** 67.74 323 P P 07 52 32.1 +1.5
baz=126
PMOZ **Porto Moniz, M** 67.95 50 eP P 07 52 32.6 +0.5
comp=Z,238nm,1.3s
DBIC **Dimbokro** 70.82 80 P P 07 52 49.2 -0.8
comp=Z,25nm,0.5s,baz=270,slow=4.9,SNR=49
DBIC pP pP 07 53 27.1 -0.9
comp=Z,9.1nm,0.6s,baz=277,slow=3.6,SNR=3.2
DBIC **Dimbokro** 70.82 80 P P 07 52 49.3 -0.7
PPT2 **Papeete2** 73.56 254 eS S 08 02 24.8 +0.7
comp=Z,170nm,24.2s
PPT2 **Papeete2** 73.56 254 eLR LR 08 16 02.0
comp=Z,577nm,27.5s
PFVI **Vila Bisbo** 75.98 49 eP P 07 53 21.3 +1.6
MORF **Marmelete** 76.17 48 eP P 07 53 22.7 +1.8
comp=Z,83nm,1.3s
MORF epP pP 07 54 01.2 +1.8
SNAA **Sanae** 76.41 162 P P 07 53 22.0 +0.3
comp=Z,12nm,1.1s,baz=294,slow=5.2,SNR=4.6
SNAA **Sanae** 76.41 162 P P 07 53 22.8 +1.1
PNCL **Nicolau / Gran** 76.56 48 eP P 07 53 24.4 +1.4
comp=Z,66nm,1.3s
MESJ **Messejana** 76.69 48 eP P 07 53 25.2 +1.5
comp=Z,41nm,1.6s
PCVE **Castro Verde** 76.74 48 eP P 07 53 25.4 +1.4
comp=Z,47nm,2.0s
PSBE **So Bento** 76.89 46 eP P 07 53 25.9 +1.0
comp=Z,85nm,1.7s
PVAQ **Vaqueiros** 76.90 49 eP P 07 53 26.1 +1.2
PBEJ **Beja** 77.01 48 eP P 07 53 26.9 +1.3
YKA **Yellowknife Ar** 77.06 342 P P 07 53 25.4 +0.2
comp=Z,3.2nm,0.7s,baz=139,slow=6.2,SNR=78
YKA pP pP 07 54 04.2 +0.4
comp=Z,5.3nm,0.8s,baz=137,slow=6.3,SNR=3.6
EVO **Evora** 77.09 47 eP P 07 53 26.8 +0.8
comp=Z,46nm,1.7s
PMTG **Montargil** 77.14 47 eP P 07 53 26.6 +0.4
comp=Z,51nm,1.3s
PCAS **Casmilo, Conde** 77.31 46 eP P 07 53 28.0 +0.8
COI **Coimbra** 77.43 46 eP P 07 53 29.1 +1.3
PESTR **Estremoz** 77.52 47 eP P 07 53 29.3 +0.9
comp=Z,68nm,1.5s
PESTR **Estremoz** 77.52 47 P P 07 53 28.7 +0.3
PTO **Porto** 77.65 45 eP P 07 53 29.7 +0.7
comp=Z,109nm,1.6s
PMRV **Marv??o** 77.87 47 eP P 07 53 30.8 +0.5
PCBR **Castelo Branco** 77.96 46 eP P 07 53 31.1 +0.3
PVIS **Viseu** 77.99 45 eP P 07 53 31.5 +0.5
comp=Z,74nm,1.8s
MTE **Manteigas** 78.12 46 eP P 07 53 32.3 +0.6
comp=Z,61nm,1.7s
PGAV **Gavieira, Arco** 78.20 44 eP P 07 53 32.7 +0.5
POLO **Lamas de Olo** 78.30 45 eP P 07 53 33.3 +0.5
POLO epP pP 07 54 12.5 +1.0
PVRL **Vila Real** 78.32 45 eP P 07 53 33.5 +0.7
TORD **Torodi Ar. Bea** 78.41 75 P P 07 53 32.9 -0.9
comp=Z,22nm,0.6s,baz=284,slow=5.6,SNR=114
TORD pP pP 07 54 11.5 -1.0
comp=Z,4.6nm,0.6s,baz=283,slow=5.8,SNR=2.0
TORD **Torodi Ar. Bea** 78.41 75 P P 07 53 32.9 -0.9
MVO **Moncorvo** 78.76 45 eP P 07 53 36.1 +0.9
comp=Z,57nm,2.0s
PBRG **Braganca** 79.19 45 eP P 07 53 38.4 +0.8
PAB **San Pablo** 80.12 48 P P 07 53 43.1 +0.5
PAB IAmb IAmb 07 53 44.9
comp=Z,24nm,0.8s
ESDC **Sonseca Array** 80.44 47 P P 07 53 45.0 +0.7
comp=Z,12nm,0.9s,baz=254,slow=5.9,SNR=41
ESDC pP pP 07 54 22.6 -0.6
comp=Z,3.5nm,0.9s,baz=254,slow=8.1,SNR=3.0
ESDC **Sonseca Array** 80.44 47 IAmb IAmb 07 53 46.8
comp=Z,26nm,1.2s
ESBB **Sonseca Array** 80.44 47 IAmb IAmb 07 53 46.8
comp=Z,30nm,1.2s
QSPA **South Pole Qui** 81.84 180 P P 07 53 52.4 +1.1
QSPA IAmb IAmb 07 53 54.4
comp=Z,22nm,0.9s
FARO **Faro, Yukon** 83.55 336 P P 07 54 01.6 +1.5
baz=121
SUMG **Summit** 83.95 10 P P 07 54 03.0 +0.7
TULEG **Thule** 84.72 1 P P 07 54 06.8 +1.2
TULEG IAmb IAmb 07 54 07.9
comp=Z,28nm,1.0s
A36M **Sachs Harbour** 86.66 346 P P 07 54 15.8 +0.6
baz=130
INK **Inuvik** 86.80 341 P P 07 54 17.1 +1.1
baz=122
I29M **Ogilvie Camp,** 87.00 338 P P 07 54 18.4 +1.3
baz=117
M27K **Edge Creek, AK** 87.14 334 P P 07 54 19.4 +1.5
baz=114
CLF **Chambon-Foret** 87.22 41 P P 07 54 19.2 +0.7
L27K **Beaver Creek,** 87.41 335 P P 07 54 20.8 +1.8
baz=114
EGAK **Eagle** 87.84 337 P P 07 54 21.9 +0.9
EGAK IAmb IAmb 07 54 36.7
comp=Z,8.9nm,0.9s
EGAK **Eagle** 87.84 337 P P 07 54 22.1 +1.1
baz=114
L26K **Log Cabin Wild** 88.03 335 P P 07 54 23.2 +1.2
baz=112
N25K **Chitina, Valde** 88.04 333 P P 07 54 24.1 +1.9
N25K IAmb IAmb 07 54 39.5
comp=Z,14nm,1.5s
DIV **Divide** 88.40 333 IAmb IAmb 07 54 26.0
comp=Z,11nm,0.9s
KLU **Klutina** 88.60 333 P P 07 54 25.7 +1.0
baz=110
SCRK **Sand Creek** 88.65 336 P P 07 54 26.3 +1.2
baz=112
J26L **Joseph Creek** 88.68 336 P P 07 54 26.1 +1.0
baz=112
PAX **Paxson** 88.91 334 P P 07 54 27.1 +0.9
baz=110
M24K **Tolsona, Glenn** 88.92 333 P P 07 54 28.0 +1.7
M24K IAmb IAmb 07 54 28.6
comp=Z,13nm,0.8s
M24K **Tolsona, Glenn** 88.92 333 P P 07 54 27.7 +1.4
baz=110
RIDG **Independent Ri** 88.92 335 P P 07 54 27.7 +1.4
baz=111
DOU **Dourbes** 89.23 39 ⇑P P 07 54 27.8 -0.1
comp=Z,12nm,1.0s
SCM **Sheep Creek Mo** 89.34 333 P P 07 54 29.7 +1.4
baz=109
BMRD **Maredsous** 89.39 39 P P 07 54 29.2 +0.6
J25K **Salcha River,** 89.45 336 IAmb IAmb 07 54 30.6
comp=Z,5.8nm,0.7s
J25K **Salcha River,** 89.45 336 P P 07 54 30.0 +1.3
baz=111
BGES **Gesves** 89.61 39 ⇓P P 07 54 30.1 +0.4
comp=Z,12nm,0.6s
RCHB **Rochefort** 89.64 39 P P 07 54 30.4 +0.6
KEST **Kesra** 89.66 54 P P 07 54 30.7 +0.3
comp=Z,9.9nm,0.8s,baz=261,slow=5.7,SNR=10.0
BCLA **Clavier** 89.75 39 P P 07 54 31.4 +1.1
SML **Sawmill** 89.79 333 P P 07 54 31.6 +1.3

baz=108
SUR Sutherland 89.92 123 P **P 07 54 33.3 +1.4**
comp=Z,7.7nm,1.0s,baz=291,slow=17,SNR=2.2
ILAR Eielson Array 90.11 336 P **P 07 54 32.3 +0.6**
comp=Z,1.5nm,0.8s,baz=143,slow=3.0,SNR=14
ILAR pP **pP 07 55 11.3 0.0**
comp=Z,5.7nm,0.9s,baz=130,slow=3.4,SNR=8.9
WLF Walferdange 90.12 40 ⇑P **P 07 54 32.6 +0.6**
comp=Z,15nm,1.3s
BHOU Houvegnez 90.17 39 P **P 07 54 32.6 +0.3**
comp=Z,10nm,1.3s
MEM Membach 90.23 39 P **P 07 54 32.9 +0.4**
POKR Poker Plat Res 90.45 336 P **P 07 54 34.7 +1.4**
baz=109
COLA College 90.54 336 P **P 07 54 35.0 +1.4**
COLA IAmb IAmb 07 54 36.0
comp=Z,10.0nm,0.9s
TCOL CIGO, UAF Yank 90.54 336 IAmb IAmb 07 54 36.0
comp=Z,9.0nm,0.9s
TCOL CIGO, UAF Yank 90.54 336 P **P 07 54 35.5 +1.8**
baz=108
SYO Syowa Base 90.65 161⇓*e*P **P 07 54 33.2 -1.0**
H24K Noodor Dome 90.85 337 P **P 07 54 36.3 +1.1**
baz=108
NEA2 Nenana 90.95 335 P **P 07 54 36.6 +1.0**
baz=107
I23K Minto, Yukon-K 91.23 336 P **P 07 54 37.9 +1.1**
baz=107
TUE Stuetta 91.59 43 IAmb IAmb 07 54 41.0
comp=Z,14nm,1.0s
BPAW Bear Paw Mtn. 91.61 335 P **P 07 54 39.6 +0.9**
baz=106
CAST Castle Rocks 91.91 334 P **P 07 54 40.6 +0.5**
baz=105
FETA Feichten 92.62 43 *e*P **P 07 54 44.6 +0.7**
comp=Z,13nm,1.6s
MOTA Moosalm 92.92 43 *e*P **P 07 54 44.9 -0.4**
comp=Z,19nm,1.2s
SQTA Sankt Quirin 92.97 43 *e*P **P 07 54 45.6 +0.1**
comp=Z,8.8nm,0.8s
CTI Castel Tesino 93.09 44 P **P 07 54 46.3 +0.2**
WATA Walderalm 93.24 43 *i* P **P 07 54 47.2 +0.5**
comp=Z,2.7nm,0.4s
WTTA Wattenberg 93.27 43 *e*P **P 07 54 47.5 +0.6**
comp=Z,2.2nm,0.5s,SNR=5.9
ABTA Abfaltersbach 93.78 43 *i* P **P 07 54 50.0 +0.7**
comp=Z,24nm,1.2s
BOSA Boshof 94.39 120 P **P 07 54 54.4 +1.8**
comp=Z,2.2nm,0.9s,baz=270,slow=1.0,SNR=1.3
MYKA Terra Mystica 94.54 44 *e*P **P 07 54 53.0 -0.4**
comp=Z,19nm,1.6s
CLL Collm 94.71 39 *e*P **P 07 54 53.0 -0.2**
CLL *e*pP **pP 07 55 31.0 -1.9**
CLL *e*PP **PP 07 58 45.0 +1.3**
GERES GERESS Array B 94.85 41 P **P 07 54 54.9 +0.9**
comp=Z,1.7nm,0.8s,baz=186,slow=5.2,SNR=5.5
NB2 NORSAR Subarra 95.00 29 P **P 07 54 56.2 +1.8**
comp=Z,2.5nm,0.8s,baz=262,slow=4.8
NOA NORSAR Array B 95.00 29 P **P 07 54 55.0 +0.6**
comp=Z,4.1nm,1.1s,baz=259,slow=4.5,SNR=5.1
MOA Molln 95.11 43 *e*P **P 07 54 55.3 +0.1**
comp=Z,9.8nm,1.0s,SNR=4.4
OBKA Obir 95.15 44 *e*P **P 07 54 56.0 +0.6**
comp=Z,2.9nm,0.7s
ARSA Arzberg 95.89 43 *e*P **P 07 54 58.3 -0.4**
comp=Z,4.9nm,1.1s,SNR=4.7
CONA Conrad Observa 96.19 43 *i* P **P 07 55 00.6 +0.4**
comp=Z,20nm,1.5s
CHVC Chvalec 96.55 40 *e*P **P 07 55 03.3 +1.6**
KRUC Moravsky 96.64 41 *e*P **P 07 55 03.1 +1.0**
OSTC Ostas 96.65 40 *e*P **P 07 55 03.4 +1.3**
DPC Dobruska-Polom 96.70 40 *e*P **P 07 55 02.7 +0.3**
VRAC Vranov 96.79 41 *e*P **P 07 55 02.7 -0.1**
MODS Modra-Piesok 97.17 42 *e*PDIFF Pdif 07 55 06.8 +2.3
MORC Moravsky Berou 97.44 41 *e*P Pdif 07 55 07.1 +1.3
MORC Moravsky Berou 97.44 41 IAmb IAmb 07 55 08.3
comp=Z,10.0nm,1.2s
JAVC Velka Javorina 97.46 42 *e*P Pdif 07 55 06.4 +0.5
VYHS Vyhne 98.21 42 *e*PDIFF Pdif 07 55 10.8 +1.6
MNK Minsk 103.77 36 *i* P **Pdif 07 55 28.9 -4.8**
comp=E,3.0nm,1.0s
MNK *i* P **Pdif 07 55 28.9 -4.8**
comp=N,21nm,0.8s
MNK *i* P **Pdif 07 55 28.9 -4.8**
comp=Z,7.0nm,0.6s,baz=95
MNK *i* pP **pPdif 07 56 17.1 +3.6**
MNK *i* PP **PKiKP 07 59 46.2 -4.7**
MNK *i* PPP PPP 08 01 58.5
MNK *i* SKS **SKSac 08 05 56.9 -1.7**
MNK *i* sS 08 08 13.6
MNK *i* SS **SS 08 14 20.9 -5.6**
MNK *i* SSS SSS 08 18 18.0
MNK *i* LRM MLR 08 41 52.7
comp=Z,89nm,8.9s
MNK *i* LRM MLR 08 42 10.0
comp=N,431nm,19.8s
MNK *i* LRM MLR 08 42 29.8
comp=E,34nm,14.7s
KBZ Khabaz 115.24 45 PKP **PKPdf 08 00 14.4 +1.6**
comp=E,2.0nm,1.0s,baz=312,slow=4.9,SNR=3.6
STKA Stephens Creek 127.37 219 PKP **PKiKP 08 00 37.4 +0.3**
comp=E,3.7nm,0.7s,baz=75,slow=3.5,SNR=12
STKA pPKP **pPKPdf 08 01 18.1 0.0**
comp=E,2.7nm,0.6s,baz=215,slow=0.4,SNR=3.5
GEYT Alibeck 127.99 48 PKP **PKiKP 08 00 39.5 +1.4**
comp=E,0.5nm,0.4s,baz=288,slow=15,SNR=1.9
CTA Charters Tower 131.14 234 PKP **PKPdf 08 00 44.4 +0.4**
comp=E,2.8nm,0.5s,baz=34,slow=0.4,SNR=4.4
CTA pPKP **pPKPdf 08 01 25.4 -0.1**
comp=E,6.4nm,1.1s,baz=307,slow=18,SNR=3.3
CTA SKPbc **SKPbc 08 03 54.3 -0.1**
comp=E,3.4nm,0.9s,baz=45,slow=2.9,SNR=3.6
ZALV Zalesovo Beam 131.44 16 PKP **PKiKP 08 00 45.4 +0.8**
comp=E,6.5nm,0.9s,baz=298,slow=3.2,SNR=29
ZALV pPKP **pPKPdf 08 01 24.4 -0.6**
comp=E,8.2nm,0.9s,baz=302,slow=2.8,SNR=4.3
ZALV SKPbc **SKPab 08 03 55.6 +0.7**
comp=E,2.3nm,0.7s,baz=317,slow=4.3,SNR=3.9
MKAR Makanchi Array 136.71 23 PKhKP PKPpre 08 00 46.6
comp=E,0.3nm,0.7s,baz=241,slow=1.2,SNR=3.5
MKAR PKP **PKPdf 08 00 53.9 +0.2**
comp=E,2.4nm,0.8s,baz=332,slow=1.8,SNR=18
MKAR pPKP pPKPdf 08 01 34.8 -0.4
comp=E,2.3nm,0.8s,baz=322,slow=2.0,SNR=5.4
MKAR SKPbc **SKPbc 08 04 13.1 +1.1**
comp=E,2.3nm,0.9s,baz=338,slow=2.6,SNR=4.8
USRK Ussuriysk Ar. 137.51 332 SKPbc **SKPbc 08 04 15.8 +1.5**
comp=E,5.4nm,0.9s,baz=60,slow=1.6,SNR=6.5
ASAR Alice Springs 137.96 220 PKhKP PKPpre 08 00 48.5
comp=E,0.4nm,0.4s,baz=140,slow=2.0,SNR=11
ASAR PKP **PKiKP 08 00 58.0 -0.8**
comp=E,4.6nm,0.8s,baz=130,slow=2.1,SNR=5.9
ASAR pPKP pPKPdf 08 01 38.1 -0.1
comp=E,3.2nm,0.8s,baz=144,slow=2.4,SNR=4.5
ASAR SKPbc **SKPbc 08 04 16.3 -0.1**
comp=E,2.6nm,1.1s,baz=126,slow=3.4,SNR=4.4
KSH Kashi 139.06 36 PKP **PKPdf 08 00 59.3 +0.9**
MJAR Matsushiro Arr 139.18 319 PKhKP PKPpre 08 00 49.8
comp=E,0.3nm,0.3s,baz=93,slow=2.6,SNR=1.5
MJAR PKP **PKPdf 08 00 59.5 +0.9**
comp=E,1.9nm,0.6s,baz=86,slow=1.0,SNR=5.9
MJAR SKPbc **SKPbc 08 04 19.8 +0.5**
comp=E,20nm,0.9s,baz=7.8,slow=0.4,SNR=28
WRA Warramunga Arr 140.24 225 PKhKP PKPpre 08 00 55.1
comp=E,2.5nm,0.9s,baz=128,slow=1.9,SNR=8.1
WRA PKP **PKPdf 08 01 01.8 +0.8**
comp=E,5.5nm,0.6s,baz=124,slow=2.2,SNR=22
WRA pPKP pPKPdf 08 01 41.3 -1.1
comp=E,2.8nm,0.8s,baz=121,slow=2.0,SNR=3.4
WRA SKPbc **SKPbc 08 04 21.5 -1.2**
comp=E,1.8nm,0.9s,baz=132,slow=2.7,SNR=3.1
SONM Songino Array 140.56 359 PKhKP PKPpre 08 00 55.0
comp=E,0.5nm,0.7s,baz=356,slow=4.1,SNR=2.7
SONM pPKP pPKPdf 08 01 39.5 -2.9
comp=E,1.3nm,0.8s,baz=356,slow=0.5,SNR=3.0
WMQ Urumqi 141.25 21 *e*PKP **PKPdf 08 01 02.8 +0.6**
XLT XiLinHaoTe 143.36 347 *e*PKP PKPbc 08 01 03.8 +0.3
KSRS Korea Array 144.64 329 PKP PKPbc 08 01 07.4 0.0
comp=E,4.4nm,0.8s,baz=36,slow=2.4,SNR=14
KSRS pPKP pPKPdf 08 01 47.5 -2.3
comp=E,1.5nm,0.6s,baz=50,slow=3.6,SNR=1.8
KSRS SKPbc **SKiKP 08 04 33.8 +0.2**
comp=E,0.9nm,0.6s,baz=19,slow=1.6,SNR=3.3
HHC Hu-ho-hao-te 147.13 352 *e*PKPbc **PKPbc 08 01 15.0 +0.1**
FITZ Fitzroy Crossi 147.22 217 PKPbc **PKPbc 08 01 16.2 +0.6**
comp=E,27nm,0.9s,baz=180,slow=2.3,SNR=12
FITZ pPKPbc **pPKPdf 08 01 55.2 +0.5**
comp=E,34nm,1.0s,baz=203,slow=2.6,SNR=7.5
FITZ SKP 08 04 34.1
comp=E,2.8nm,1.0s,baz=135,slow=8.9,SNR=3.1
BTO Baotou 147.56 354 *e*PKPbc **PKPdf 08 01 14.5 +1.3**
GTA Gaotai 148.54 9 ⇑PKPbc **PKPbc 08 01 17.3 -1.4**
HNS HongShan 149.87 346 ⇓P **PKiKP 08 01 23.3 +0.6**
HNS pmax pmax
comp=Z,12nm,1.1s
KLRI Killari 150.09 68 *e*PKPdf PKPdf 08 01 09.9 -7.9
KLRI *e*PKPab **PKPbc 08 01 21.1 -2.0**
HYBB Hyderabad (bro 152.06 68 *e*PKPdf **PKPdf 08 01 13.2 -7.7**
HYBB *e*PKPbc PKPbc 08 01 19.3 -8.3
HYBB *e*PKPab **PKiKP 08 01 28.8 +0.9**
LZH Lanzhou 152.26 3 *e*PKPbc **PKPdf 08 01 24.3 +3.5**
LZH pPKP pPKPbc 08 02 06.5 -2.5
LZH sPKP 08 02 16.5
RPR Rampur 152.31 65 *e*PKPdf PKPdf 08 01 12.6 -8.5
CUPL Choutuppal 152.43 68 *e*PKPab **PKiKP 08 01 29.4 +0.8**
RCLA Racherla 152.90 72 *e*PKPdf PKPdf 08 01 13.3 -8.7
NJS Nagarjunasagar 152.98 70 *e*PKPdf PKPdf 08 01 13.0 -9.2
LYN LuoYang 153.11 348 ⇑PKPbc **PKPdf 08 01 19.3 -2.6**
NJ2 Nanjing 153.35 334 *e*PKPbc **PKPdf 08 01 23.3 +1.0**
ADKI Addanki 153.77 71 *e*PKPdf **PKPdf 08 01 15.7 -7.6**
ADKI *e*PKPab **PKiKP 08 01 36.6 +5.2**
SKHT Srikalahasti 153.94 76 *e*PKPdf PKPdf 08 01 15.0 -8.6
MYLAV Mylavaram 154.16 69 *e*PKPdf PKPdf 08 01 15.4 -8.4
XAN Xi'an 154.18 354 PKPbc **PKPab 08 01 43.8 -2.2**
XAN sPKP 08 02 39.8
BATI Baumata 154.37 225 PKPab **PKPab 08 01 49.4 +2.0**
comp=Z,61nm,0.8s,baz=69,slow=8.6,SNR=2.6
CHLP Challavanipeta 156.65 62 *e*PKPdf PKPdf 08 01 19.0 -8.1
CD2 Chengdu 157.40 4 PKP **PKPdf 08 01 27.0 -0.9**
PZH PanZhiHua 161.48 11 PKP **PKPdf 08 01 32.8 0.0**
CMAR Chiang Mai Arr 167.93 32 PKP **PKPdf 08 01 39.2 +0.8**
comp=Z,0.8nm,0.4s,baz=288,slow=1.6,SNR=8.4
CMAR pPKP **pPKPdf 08 02 20.3 +0.1**
comp=Z,0.9nm,0.4s,baz=326,slow=1.6,SNR=1.3
CMAR PKPab **PKPab 08 02 48.1 +1.8**
comp=Z,1.1nm,0.4s,baz=326,slow=5.5,SNR=7.9
CMAR Chiang Mai Arr 167.93 32 PKPdf **PKPdf 08 01 38.7 +0.3**
CMAR PKPab **PKPab 08 02 48.0 +1.8**

*SJA **31** 07:42:49.7±1.0, 21°.93S×68°.36W, h150km±5km, ML4.5, MW4.4*
*IDC **31** 07:42:50.8±1.0, 21°.88S×68°.08W, h110km±10km, mb4.6/3, mb1 4.5/6, mb1mx4. 1/29, mbtmp4.7/6, MS3.8/2, Ms1 3.9/2, ms1mx3.1/56, Error ellipse: s-maj=26.6km s-min=14.5km az=115.0*
*NEIC **31** 07:42:50.3±1.6, 21°.93S±0°.05×68°.10W±0°.07, h116km±6km, mb4.8/14, Mwr4.6/36, ML4.5(GUC), Error ellipse: s-maj=10.2km s-min=7.3km az=102.0*
*NEIC **31** 07:42:50.4, 21°.93S×68°.08W, h118km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$0.76; $M_{r\theta}$0.31; $M_{\theta\phi}$0.57; $M_{\phi r}$-0.43; Fault plane solution: $M_0$1.02000×10^{16} NP1:ϕ_s240.86000°, δ52.54000°, λ-24.69000°. NP2:ϕ_s346.48000°, δ70.64000°, λ-139.86000°. Principal axes: T 1.0539, Plg11.0000°, Azm110.0000°; N -0.0769, Plg46.0000°, Azm8.0000°; P -0.9770, Plg42.0000°, Azm210.0000°;*
*GUC **31** 07:42:51.8±0.7, 21°.95S×68°.27W, h122km±5km, ML4.5*
ISC 31 07:42:50.4±0.6, 21°.91S±0°.03×68°.21W±0°.05, h124km±6km, n108, σ1§59/138, mb4.8/6, 14C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.95**	**223**	P	**Pn**	**07 43 13.5**	**+0.8**
	354nm,0.3s,baz=37,slow=5.6,SNR=2926						
LVC				S	**Sn**	**07 43 29.9**	**+0.2**
	420nm,0.3s,baz=233,slow=18,SNR=58						
LVC	**Limon Verde**	**0.95**	**223**	*e*P	**Pn**	**07 43 12.8**	**+0.1**
LVC				*i* S	**Sn**	**07 43 29.8**	**+0.1**
LVC	**Limon Verde**	**0.95**	**223**	*e*P	**Pn**	**07 43 13.6**	**+0.8**
LVC				*e*S	**Sn**	**07 43 31.5**	**+1.8**
PB09	**IPOC Station P**	**0.96**	**276**	⇑*i*P	**Pn**	**07 43 13.4**	**+0.8**
PB09				*i* S	**Sn**	**07 43 29.8**	**+0.3**
PB09				IAML		07 43 32.8	
comp=E,6μm,0.6s							
PB09	**IPOC Station P**	**0.96**	**276**		**Pn**	**07 43 13.3**	**+0.7**
PB09				Sn	**Sn**	**07 43 29.7**	**+0.3**
PB09	**IPOC Station P**	**0.96**	**276**	*e*P	**Pn**	**07 43 13.6**	**+1.0**
PB09				*e*S	**Sn**	**07 43 32.0**	**+2.5**
PB09				IAML		07 43 33.3	
comp=Z,4μm,0.6s							
PB03	**IPOC Station P**	**1.44**	**264**	⇑*i*P	**Pn**	**07 43 17.4**	**-0.2**
PB03				*i* S	**Sn**	**07 43 37.4**	**-0.9**
PB03				IAML		07 43 40.1	
comp=N,7μm,0.4s							
PB03	**IPOC Station P**	**1.44**	**264**	Pn	**Pn**	**07 43 17.7**	**+0.1**
PB03				Sn	**Sn**	**07 43 37.1**	**-1.2**
PB03	**IPOC Station P**	**1.44**	**264**	*e*P	**Pn**	**07 43 13.6**	**-4.0**
PB03				*e*P		07 43 17.8	
PB03				*e*S	**Sn**	**07 43 38.7**	**+0.5**
PB03				IAML		07 43 39.4	
comp=Z,3μm,0.4s							
PB03				*e*S		07 43 40.0	
PB01	**IPOC Station P**	**1.47**	**306**	⇑*i*P	**Pn**	**07 43 18.0**	**+0.1**
PB01				*i* S	**Sn**	**07 43 38.6**	**-0.1**
PB01				IAML		07 43 40.6	
comp=E,4μm,0.4s							
PB01	**IPOC Station P**	**1.47**	**306**	Pn	**Pn**	**07 43 18.1**	**+0.2**
PB01	**IPOC Station P**	**1.47**	**306**	*e*P	**Pn**	**07 43 13.6**	**-4.2**
PB01				*e*P		07 43 18.1	
PB01				*e*S	**Sn**	**07 43 39.6**	**+0.9**
PB01				*e*S		07 43 40.0	
PB01				*e*S		07 43 41.5	
PB01				IAML		07 43 41.6	
comp=Z,3μm,0.2s							
PB06	**IPOC Station P**	**1.49**	**237**	⇑*i*P	**Pn**	**07 43 18.7**	**+0.5**
PB06				*i* S	**Sn**	**07 43 39.3**	**0.0**
PB06				IAML		07 43 45.4	
comp=N,11μm,0.8s							
PB06	**IPOC Station P**	**1.49**	**237**	Pn	**Pn**	**07 43 18.9**	**+0.7**
PB06	**IPOC Station P**	**1.49**	**237**	*e*P	**Pn**	**07 43 13.6**	**-4.6**
PB06				*e*P		07 43 18.7	
PB06				*e*S	**Sn**	**07 43 40.2**	**+0.9**
PB06				IAML		07 43 42.2	
comp=Z,5μm,0.9s							
PB07	**IPOC Station P**	**1.57**	**276**	⇑*i*P	**Pn**	**07 43 19.1**	**0.0**
PB07				*i* S	**Sn**	**07 43 40.7**	**-0.2**
PB07				IAML		07 43 42.3	
comp=N,7μm,0.3s							
PB07	**IPOC Station P**	**1.57**	**276**	Pn	**Pn**	**07 43 19.3**	**+0.2**
PB07	**IPOC Station P**	**1.57**	**276**	*e*P	Pn	07 43 13.6	-5.5
PB07				*e*P		07 43 19.2	
PB07				*e*S	**Sn**	**07 43 41.2**	**+0.3**
PB07				IAML		07 43 44.7	
comp=Z,4μm,0.4s							
PB02	**IPOC Station P**	**1.67**	**290**	⇑*i*P	**Pn**	**07 43 20.1**	**-0.1**
PB02				IAML		07 43 47.0	
comp=N,6μm,0.3s							
PB02	**IPOC Station P**	**1.67**	**290**	Pn	**Pn**	**07 43 20.5**	**+0.2**
PB02	**IPOC Station P**	**1.67**	**290**	*e*P	**Pn**	**07 43 20.2**	**-0.1**
PB02				*e*S	**Sn**	**07 43 43.8**	**+0.8**
PB02				IAML		07 43 46.1	
comp=Z,4μm,0.2s							
PB02				*e*S		07 43 46.3	
PB15	**IPOC Station P**	**1.74**	**222**	⇑*i*P	**Pn**	**07 43 22.1**	**+0.9**
PB15				*i* S	**Sn**	**07 43 45.5**	**+0.8**
PB15	**IPOC Station P**	**1.74**	**222**	Pn	**Pn**	**07 43 22.5**	**+1.3**
PB15	**IPOC Station P**	**1.74**	**222**	*e*P	**Pn**	**07 43 22.1**	**+0.9**
PB15				*e*S	**Sn**	**07 43 46.1**	**+1.5**
PB15				IAML		07 43 50.2	
comp=Z,14μm,0.2s							
PB04	**IPOC Station P**	**1.85**	**256**	⇑*i*P	**Pn**	**07 43 22.3**	**-0.1**
PB04				*i* S	**Sn**	**07 43 45.6**	**-1.2**
PB04				IAML		07 43 53.8	
comp=N,7μm,0.5s							
PB04	**IPOC Station P**	**1.85**	**256**	Pn	**Pn**	**07 43 22.4**	**0.0**
PB04	**IPOC Station P**	**1.85**	**256**	*e*P	**Pn**	**07 43 22.3**	**-0.1**
PB04				*e*S	**Sn**	**07 43 46.4**	**-0.4**
PB04				IAML		07 43 53.8	
comp=Z,3μm,0.2s							
PB08	**IPOC Station P**	**1.96**	**333**	⇑*i*P	**Pn**	**07 43 25.6**	**+1.5**
PB08				*i* S	**Sn**	**07 43 51.2**	**+1.4**
PB08				IAML		07 43 53.5	
comp=E,4μm,0.2s							
PB08	**IPOC Station P**	**1.96**	**333**	Pn	**Pn**	**07 43 25.6**	**+1.5**
PB08	**IPOC Station P**	**1.96**	**333**	*e*P	**Pn**	**07 43 25.0**	**+0.9**
PB08				*e*S	**Sn**	**07 43 51.8**	**+2.1**
PB08				IAML		07 43 53.9	
comp=Z,2μm,0.4s							
TA01	**Diego Aracena**	**2.27**	**306**	⇑*i*P	**Pn**	**07 43 27.0**	**-0.5**
TA01				*i* S	**Sn**	**07 43 55.2**	**-0.7**
TA01				IAML		07 43 55.9	
comp=E,3μm,0.2s							
TA01	**Diego Aracena**	**2.27**	**306**		**Pn**	**07 43 27.2**	**-0.3**
TA01	**Diego Aracena**	**2.27**	**306**	*e*P	**Pn**	**07 43 27.0**	**-0.5**
TA01				*e*S	**Sn**	**07 43 56.5**	**+0.6**
TA01				IAML		07 43 57.0	
comp=Z,2μm,0.8s							
GO01	**Chusmiza**	**2.41**	**337**	⇑*i*P	**Pn**	**07 43 30.7**	**+0.9**
GO01				*i* S	**Sn**	**07 44 01.5**	**+1.7**
GO01				IAML		07 44 04.0	
comp=N,4μm,0.4s							
GO01	**Chusmiza**	**2.41**	**337**		**Pn**	**07 43 31.1**	**+1.4**
GO01	**Chusmiza**	**2.41**	**337**	*e*P	**Pn**	**07 43 30.6**	**+0.9**
GO01				*e*S	**Sn**	**07 44 02.6**	**+2.8**
TA02	**Huaiquique**	**2.42**	**312**	*e*P	**Pn**	**07 43 28.9**	**-0.5**
TA02				*i* S	**Sn**	**07 43 58.5**	**-0.8**
TA02	**Huaiquique**	**2.42**	**312**	Pn	**Pn**	**07 43 28.7**	**-0.7**
TA02	**Huaiquique**	**2.42**	**312**	*e*P	**Pn**	**07 43 29.1**	**-0.3**
TA02				*e*S	**Sn**	**07 43 59.6**	**+0.3**
TA02				IAML		07 44 05.5	
comp=Z,2μm,0.3s							
YJA	**Yavi**	**2.52**	**97**	*e*P	**Pn**	**07 43 29.1**	**-1.9**
YJA				*e*P		07 43 34.9	
YJA				*e*S	Sn	07 44 12.2	+10
PB11	**IPOC Station P**	**2.53**	**327**	⇑*i*P	**Pn**	**07 43 30.9**	**0.0**
PB11				*i* S	**Sn**	**07 44 01.2**	**-0.8**
PB11				IAML		07 44 03.5	
comp=N,4μm,0.5s							
PB11	**IPOC Station P**	**2.53**	**327**	Pn	**Pn**	**07 43 31.0**	**0.0**
PB11	**IPOC Station P**	**2.53**	**327**	*e*P	**Pn**	**07 43 31.1**	**+0.2**
PB11				*e*S	**Sn**	**07 44 01.8**	**-0.2**
PB11				IAML		07 44 06.7	
comp=Z,2μm,0.6s							
PB10	**IPOC Station P**	**2.69**	**233**	*e*P	**Pn**	**07 43 32.4**	**-0.5**
PB10				IAML		07 44 16.4	
comp=E,2μm,0.1s							
PB10	**IPOC Station P**	**2.69**	**233**	Pn	**Pn**	**07 43 33.5**	**+0.7**
PB10	**IPOC Station P**	**2.69**	**233**	*e*P	**Pn**	**07 43 29.1**	**-3.7**
PB10				*e*P		07 43 32.7	
PB10				*e*S	**Sn**	**07 44 04.5**	**-1.0**
PB10				IAML		07 44 17.5	
comp=Z,984nm,0.5s							
HJA	**Humahuaca**	**2.90**	**117**	*e*P	**Pn**	**07 43 33.6**	**-2.2**
HJA				*e*P		07 43 39.1	
PB14	**IPOC Station P**	**3.38**	**216**	IAML		07 44 32.2	
comp=N,555nm,0.6s							
PB14	**IPOC Station P**	**3.38**	**216**	Pn	**Pn**	**07 43 41.4**	**-0.7**
PB14	**IPOC Station P**	**3.38**	**216**	*e*P	**Pn**	**07 43 39.6**	**-2.5**
PB14				*e*P		07 43 41.5	
PB14				*e*P		07 43 43.8	
PB14				*e*P		07 43 46.3	
PB14				*e*S	**Sn**	**07 44 20.7**	**-1.2**
PB14				IAML		07 44 31.5	
comp=Z,1μm,0.3s							
SLA	**San Lorenzo**	**3.75**	**139**	*e*S	**Sn**	**07 44 33.6**	**+3.1**
PB16	**IPOC Station P**	**3.76**	**341**	⇑*i*P	**Pn**	**07 43 48.1**	**+0.7**
PB16	**IPOC Station P**	**3.76**	**341**	Pn	**Pn**	**07 43 48.3**	**+0.9**
PB16	**IPOC Station P**	**3.76**	**341**	*e*P	**Pn**	**07 43 48.0**	**+0.6**
PB16				*e*S	Sn	07 44 22.1	-9.3
PB16				*e*S		07 44 32.1	
PB16				*e*S		07 44 33.6	
PB12	**IPOC Station P**	**3.83**	**328**	⇑*i*P	**Pn**	**07 43 46.2**	**-1.8**
PB12	**IPOC Station P**	**3.83**	**328**	Pn	**Pn**	**07 43 46.7**	**-1.3**
PB12	**IPOC Station P**	**3.83**	**328**	*e*S	**Sn**	**07 44 30.6**	**-1.9**
PB12				IAML		07 44 57.4	
comp=Z,479nm,0.6s							
AP01	**Chacalluta**	**4.05**	**330**		**Pn**	**07 43 50.4**	**-0.3**
AP01	**Chacalluta**	**4.05**	**330**	*e*P	**Pn**	**07 43 51.0**	**+0.3**
AP01				IAML		07 44 50.4	
comp=Z,1μm,1.0s							
AC02	**Maricunga**	**4.98**	**190**	⇓*i*P	**Pn**	**07 44 04.1**	**+0.4**
AC02	**Maricunga**	**4.98**	**190**		**Pn**	**07 44 04.2**	**+0.6**
AC02	**Maricunga**	**4.98**	**190**	*e*P	**Pn**	**07 44 04.0**	**+0.4**
AC02				IAML		07 45 43.0	
comp=Z,219nm,0.7s							
LPAZ	**La Paz**	**5.59**	**1**	S	**Sn**	**07 45 09.6**	**-5.8**
comp=Z,3.8nm,0.3s,baz=359,slow=23,SNR=3.7							
LPAZ				LR	LR	07 46 41.3	
comp=Z,871nm,19.4s,baz=332,slow=41							
GO03	**Copiap**	**5.95**	**198**		**Pn**	**07 44 14.3**	**-2.0**
AC04	**Llanos de Chal**	**6.79**	**202**		**Pn**	**07 44 23.8**	**-3.7**
GO04	**Tololo Observa**	**8.55**	**195**	Pn	**Pn**	**07 44 49.4**	**-2.2**
SIV	**San Ignacio**	**8.96**	**50**	P	**Pn**	**07 44 55.1**	**-1.8**
comp=Z,9.9nm,0.3s,baz=245,slow=9.4,SNR=136							
SIV				S	Sn	07 46 23.0	-13
comp=Z,1.4nm,0.3s,baz=310,slow=11,SNR=4.5							
CO02	**Combarbal**	**9.59**	**194**	Pn	**Pn**	**07 45 01.1**	**-4.3**
PTLB	**Pontes e Lacer**	**10.73**	**55**	Pn	**Pn**	**07 45 19.2**	**-1.5**
CPUP	**Villa Florida**	**10.87**	**116**	P	**Pn**	**07 45 22.1**	**-0.5**
comp=Z,0.4nm,0.3s,baz=294,slow=14,SNR=15							
CPUP	**Villa Florida**	**10.87**	**116**	Pn	**Pn**	**07 45 21.3**	**-1.2**
VA03	**San Esteban**	**11.01**	**190**		**Pn**	**07 45 22.9**	**-1.6**
ROC1	**El Roble**	**11.30**	**192**		**Pn**	**07 45 28.7**	**+0.2**
PEL	**Peldehue**	**11.41**	**191**		**Pn**	**07 45 28.1**	**-1.6**
MT02	**Curacav**	**11.60**	**192**	Pn	**Pn**	**07 45 31.5**	**-0.7**
AQDB	**Aquidauana**	**11.76**	**85**	Pn	**Pn**	**07 45 32.4**	**-2.0**
LMEL	**Las Melosas**	**12.03**	**188**		**Pn**	**07 45 38.3**	**+0.4**
BO01	**Tunca**	**12.69**	**191**		**Pn**	**07 45 44.7**	**-1.8**
ITQB	**Itaqui**	**12.98**	**129**		**Pn**	**07 45 48.9**	**-1.3**
BO02	**Sierra Bellavi**	**13.04**	**189**	Pn	**Pn**	**07 45 51.7**	**+0.7**
GO05	**Huala**	**13.46**	**193**	Pn	**Pn**	**07 45 56.4**	**0.0**
ML02	**Panimavida**	**14.09**	**191**	Pn	**Pn**	**07 46 04.3**	**-0.1**
ITAB	**Concordia**	**15.56**	**113**	P	**Pn**	**07 46 23.6**	**+0.6**
ITAB				IAmb	IAmb	07 46 26.7	
comp=Z,108nm,1.4s							
PLTB	**Pedras Altas**	**16.30**	**130**		**Pn**	**07 46 31.7**	**-0.5**
PLTB				IAmb	IAmb	07 46 35.0	
comp=Z,30nm,0.9s							
LC01	**Cunco**	**17.23**	**190**	P	**P**	**07 46 42.8**	**-0.1**
PLCA	**Paso Flores**	**18.87**	**186**	P	**Pn**	**07 47 02.2**	**-0.8**
comp=Z,0.6nm,0.3s,baz=356,slow=12,SNR=27							
PLCA				S	**Sn**	**07 50 32.8**	**-2.3**
baz=5.6,slow=17,SNR=1.1							
PLCA	**Paso Flores**	**

mb1 3.7/4, mb1mx3.2/55, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=36.6km s-min=28.4km az=56.0

ISC 31 07:55:06.0±0.9, 1°.35S±0°.06×127°.81E±0°.05, h10km, n8, σ2§81/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.77**	**336**	P	**Pg**	**07 55 19.9**	**-1.0**
LBMI				S	**Sb**	**07 55 31.1**	**-1.0**
SANI	**Sanana**	**1.95**	**249**	P	**Pg**	**07 55 41.6**	**-1.9**
KRAI	**Karang Ratu**	**2.04**	**163**	P	**Pb**	**07 55 40.9**	**-2.3**
KRAI				S	Sn	07 55 50.8	-15
MSAI	**Masohi**	**2.28**	**151**	P	**Pn**	**07 55 42.0**	**-1.7**
SIJI	**Sorong**	**3.48**	**82**	Pn	**Pg**	**07 56 11.0**	**-1.8**
	2.3nm,0.3s,baz=279,slow=19,SNR=4.3						
SIJI				Sn	**Sg**	**07 56 58.2**	**+0.1**
	0.6nm,0.3s,baz=270,slow=20,SNR=1.1						
WRA	**Warramunga Arr**	**19.55**	**161**	P	**Pn**	**07 59 39.2**	**+3.9**
	0.1nm,0.3s,baz=342,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**22.96**	**166**	P	**P**	**08 00 15.5**	**+4.7**
	0.9nm,0.7s,baz=344,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**62.34**	**326**	P	**P**	**08 05 29.6**	**+0.8**
	0.8nm,0.9s,baz=139,slow=6.8,SNR=2.6						

IDC 31 08:07:38.9±3.7, 11°.54S×112°.82E, h0km, mb3.0/3, mb1 3.4/4, mb1mx2.8/61, mbtmp3.3/4, ML3.7/1, Error ellipse: s-maj=180.3km s-min=27.1km az=44.0

DJA 31 08:08:09.9±0.6, 8°.S±8°.×11°.4E±°, h82km±7km, M3.0/9, MLv3.0/9

ISC 31 08:07:41.0±1.1, 11°.29S±0°.10×113°.13E±0°.07, h10km, n20, σ2§66/17, mb2.9/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.98**	**20**	P	**Pn**	**08 08 26.6**	**-1.7**
JAGI				S	Sn	08 08 39.9	-24
GMJI	**Gumukmas**	**3.01**	**6**	P	**Pn**	**08 08 25.5**	**-3.3**
GMJI				S	Sn	08 08 52.6	-12
IGBI	**Denpasar**	**3.16**	**39**	P	**Pb**	**08 08 39.4**	**+2.2**
KRKI	**Karangkates**	**3.18**	**348**	P	**Pn**	**08 08 30.5**	**-0.6**
KRKI				S	Sn	08 08 46.0	-23
BYJI	**Banyuwangi**	**3.29**	**22**	P	**Pn**	**08 08 30.5**	**-2.0**
BYJI				S	Sn	08 08 57.9	-14
DNP	**Denpasar**	**3.31**	**38**	P	**Pb**	**08 08 41.2**	**+1.5**
RTBI	**Rangdo, Negare**	**3.33**	**33**	P	**Pn**	**08 08 31.9**	**-1.3**
BLJI	**Banyuglugur**	**3.55**	**7**	P	Pn	08 08 23.9	-12
BLJI				S	Sn	08 09 09.8	-8.5
PCJI	**Pacitan**	**3.63**	**328**	P	**Pb**	**08 08 46.2**	**+0.9**
ABJI	**Asem Bagus**	**3.64**	**17**	P	Pn	08 08 25.3	-12
KHKI	**Kahang-Kahang**	**3.79**	**40**	P	**Pn**	**08 08 43.5**	**+4.0**
KLNI	**Mataram**	**4.08**	**46**	P	**Pb**	**08 08 50.3**	**-2.6**
UGM	**Wanagama**	**4.23**	**322**	P	**Pb**	**08 08 55.5**	**0.0**
FITZ	**Fitzroy Crossi**	**13.86**	**121**	Pn	**Pn**	**08 11 00.1**	**+2.4**
	0.3nm,0.3s,baz=302,slow=6.4,SNR=7.2						
FITZ				Sn	**Sn**	**08 13 25.6**	**-6.1**
	0.2nm,0.3s,baz=13,slow=22,SNR=7.5						
WRA	**Warramunga Arr**	**22.14**	**115**	P	**P**	**08 12 39.0**	**+1.9**
	0.3nm,0.8s,baz=289,slow=12,SNR=1.5						
WRA				S	**S**	**08 16 41.9**	**+0.7**
	0.4nm,1.1s,baz=281,slow=24,SNR=1.7						
ASAR	**Alice Springs**	**23.28**	**125**	P	**P**	**08 12 48.5**	**-0.6**
	0.1nm,0.3s,baz=302,slow=8.7,SNR=4.4						
H08S2	**Diego Garcia H**	**40.23**	**271**	T	T	08 58 33.3	
	baz=95						
H08S3	**Diego Garcia H**	**40.24**	**272**	T	T	08 58 25.1	
	baz=95						
H08S1	**Diego Carcia H**	**40.24**	**271**	T	T	08 58 24.3	
	baz=95						
MKAR	**Makanchi Array**	**64.07**	**337**	P	**P**	**08 18 15.6**	**+0.5**
	0.1nm,0.4s,baz=154,slow=7.1,SNR=4.3						

IDC 31 08:07:53.6±2.2, 37°.08N×56°.17E, h0km, mb2.8/3, mb1 3.4/6, mb1mx3.1/63, mbtmp3.3/6, ML3.3/3, Error ellipse: s-maj=26.5km s-min=12.8km az=3.0

TEH 31 08:07:54.9, 37°.03N×56°.38E, h9km, ML3.6

ISC 31 08:07:55.0±0.8, 37°.06N±0°.04×56°.37E±0°.03, h10km, n48, σ2§19/49, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.64**	**340**	*e*Pg	**Pg**	**08 08 07.1**	**-0.4**
IMND	**Minoodasht**	**0.79**	**285**	*e*Sg	**Sg**	**08 08 22.6**	**+2.0**
IMND				*e*Pg	**Pg**	**08 08 09.5**	**-0.8**
BJRD	**Bojnurd**	**1.05**	**52**	*e*Pn	**Pg**	**08 08 14.9**	**-0.3**
SHRO	**Shahrood**	**1.10**	**195**	*e*Pg	**Pg**	**08 08 14.7**	**-1.5**
SBZV	**Sabzevar**	**1.20**	**123**	*e*Pg	**Pb**	**08 08 17.0**	**-1.0**
ISFR	**Sfrayin**	**1.31**	**90**	*e*Pg	**Pn**	**08 08 19.8**	**+0.2**
GEYT	**Alibeck**	**1.64**	**57**	Pg	**Pn**	**08 08 26.2**	**+2.2**
	40nm,0.3s,baz=239,slow=17,SNR=200						
GEYT				Lg	Lg	08 08 48.0	
	17nm,0.3s,baz=242,slow=32,SNR=7.3						
GEYT				LR	LR	08 09 19.7	
	comp=Z,113nm,19.5s,baz=34,slow=49						
IAKL	**Akhelmad**	**1.97**	**103**	*e*Pn	**Pn**	**08 08 30.4**	**+1.6**
IAKL				*e*		08 09 02.2	
	comp=Z,2μm,0.5s						
IGLO	**Ghaloghah**	**2.11**	**256**	*e*Pn	**Pn**	**08 08 32.4**	**+1.8**
IGLO				*e*		08 09 20.0	
	comp=Z,8μm,0.7s						
IPAY	**Payeh**	**2.20**	**105**	*e*Pn	**Pn**	**08 08 33.6**	**+1.8**
IPAY				*e*		08 08 35.0	
	comp=Z,2μm,0.2s						
IANJ	**Anjilo**	**2.54**	**232**	*e*Pn	**Pn**	**08 08 39.1**	**+2.6**
IANJ				*e*		08 09 18.9	
	comp=Z,2μm,0.6s						
IKRD	**Kardeh**	**2.54**	**95**	*e*Pn	**Pn**	**08 08 38.9**	**+2.4**
IKRD				*e*		08 09 33.2	
	comp=Z,2μm,0.6s						
IMOG	**Moghan**	**2.57**	**111**	*e*Pn	**Pn**	**08 08 38.9**	**+1.8**
ISHM	**Shahmirzad**	**2.77**	**244**	*e*Pn	**Pn**	**08 08 42.9**	**+3.1**
ISHM				*e*		08 09 33.7	
	comp=Z,4μm,0.6s						
IMYA	**Miami**	**3.09**	**102**	*e*Pn	**Pn**	**08 08 46.4**	**+2.4**
TNSJ	**Nastanj**	**3.09**	**176**	*e*Pn	**Pn**	**08 08 45.7**	**+1.7**
TNSJ				*e*		08 09 46.7	
	comp=Z,3μm,0.6s						
ILAS	**Lasjerd**	**3.22**	**240**	*e*Pn	**Pn**	**08 08 48.7**	**+2.8**
ILAS				*e*		08 09 52.6	
	comp=Z,1μm,0.4s						
IPRN	**Peran**	**3.34**	**257**	*e*Pn	**Pn**	**08 08 49.8**	**+2.4**
IPRN				*e*		08 09 48.9	
	comp=Z,2μm,0.6s						
JRKH	**Jarkhoshk**	**3.41**	**108**	*e*Pn	**Pn**	**08 08 50.2**	**+1.8**
TABS	**Tabas**	**3.46**	**170**	*e*Pn	**Pn**	**08 08 51.0**	**+2.0**
TKDS	**Koohdasht(Taba**	**3.49**	**170**	*e*Pn	**Pn**	**08 08 51.0**	**+1.5**
TKDS				*e*		08 10 01.7	
	comp=Z,666nm,1.3s						
DAMV	**Damavand**	**3.82**	**249**	*e*Pn	**Pn**	**08 08 57.9**	**+3.7**
TPRV	**Parvadeh(Tabas**	**4.03**	**176**	*e*Pn	**Pn**	**08 08 58.6**	**+1.7**
TPRV				*e*		08 10 11.9	
	comp=Z,837nm,1.0s						
AFRZ	**Afriz**	**4.22**	**148**	*e*Pn	**Pn**	**08 09 01.4**	**+1.8**
IVRN	**Varamin**	**4.29**	**243**	*e*Pn	**Pn**	**08 09 01.5**	**+1.1**
ISFB	**Sefidab**	**4.31**	**232**	*e*		08 09 18.3	
	comp=Z,302nm,0.4s						
ISFB				*e*Pn	**Pn**	**08 09 02.5**	**+1.8**
ANAR	**Anarak**	**4.42**	**210**	*e*Pn	**Pn**	**08 09 03.9**	**+1.6**
ITEG	**Tejag**	**4.59**	**154**	*e*Pn	**Pn**	**08 09 06.3**	**+1.6**
KRSH	**Karshahi**	**4.62**	**229**	*e*Pn	**Pn**	**08 09 06.6**	**+1.5**
QALM	**Alamut, Qazvin**	**4.63**	**264**	*e*Pn	**Pn**	**08 09 07.2**	**+1.9**
SHRT	**Shahrakht**	**4.68**	**136**	*e*Pn	**Pn**	**08 09 07.4**	**+1.6**
IMON	**Monand**	**4.71**	**144**	*e*		08 09 13.0	
	comp=Z,377nm,0.2s						
IMON				*e*Pn	**Pn**	**08 09 08.2**	**+1.8**
YZKH	**Yazd**	**4.88**	**198**	*e*Pn	**Pn**	**08 09 11.5**	**+2.9**
NASN	**Na'in**	**5.16**	**216**	*e*Pn	**Pn**	**08 09 14.0**	**+1.4**
JIR1	**Jirandeh**	**5.27**	**268**	*e*Pn	**Pn**	**08 09 15.1**	**+1.1**
IZEF	**Zefreh**	**5.31**	**220**	*e*Pn	**Pn**	**08 09 17.3**	**+2.6**
IKLH	**Kolahrood**	**5.41**	**228**	*e*Pn	**Pn**	**08 09 19.3**	**+3.3**
IRAZ	**Razeghan**	**5.46**	**254**	*e*Pn	**Pn**	**08 09 18.6**	**+2.0**
BSRN	**Basiran**	**5.57**	**155**	*e*Pn	**Pn**	**08 09 19.8**	**+1.7**
ZNJK	**Zanjan**	**6.17**	**269**	*e*Pn	**Pn**	**08 09 28.3**	**+1.9**
IRAM	**Ramesheh**	**6.18**	**213**	*e*Pn	**Pn**	**08 09 28.9**	**+2.3**
KHGB	**Koh Gabri**	**6.67**	**179**	*e*Pn	**Pn**	**08 09 35.0**	**+1.8**
KBZ	**Khabaz**	**12.23**	**307**	Pn	**Pn**	**08 10 48.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=122,slow=9.5,SNR=2.9						
KBZ				Sn	**Sn**	**08 12 59.4**	**-6.2**
	comp=Z,0.1nm,0.3s,baz=119,slow=19,SNR=1.6						
AKTO	**Aktyubinsk**	**13.43**	**5**	Pn	Pn	08 11 01.7	-3.8
	comp=Z,0.2nm,0.3s,baz=181,slow=14,SNR=2.6						
BVAR	**Borovoye Array**	**18.73**	**27**	P	**P**	**08 12 15.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=191,slow=6.8,SNR=8.7						
KURBB	**Kurchatov Arra**	**20.86**	**42**	P	**P**	**08 12 39.1**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=240,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**21.52**	**55**	P	**P**	**08 12 46.0**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=253,slow=12,SNR=2.6						
AKASG	**Malin Array Be**	**23.68**	**314**	P	**P**	**08 13 05.1**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=119,slow=11,SNR=1.5						

IDC 31 08:30:28.6±1.8, 3°.96S×142°.18E, h124km±20km, mb3.0/3, mb1 3.4/6, mb1mx3.1/36, mbtmp3.6/6, Error ellipse: s-maj=29.0km s-min=19.1km az=70.0

ISC 31 08:30:28.3±1.1, 4°.0S±0°.1×142°.2E±0°.2, h109km, n6, σ1§60/7, mb3.5/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.13**	**315**	P	**Pn**	**08 31 04.2**	**+1.2**
	5.4nm,0.3s,baz=174,slow=8.7,SNR=14						
JAY				S	**Sn**	**08 31 29.7**	**+0.1**
	8.2nm,0.3s,baz=198,slow=19,SNR=5.9						
PMG	**Port Moresby**	**7.25**	**138**	P	**Pn**	**08 32 13.1**	**+1.4**
	1.9nm,0.3s,baz=9.7,slow=4.1,SNR=5.5						
WRA	**Warramunga Arr**	**17.59**	**205**	P	**P**	**08 34 24.7**	**-1.6**
	0.3nm,0.3s,baz=26,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.12**	**202**	P	**P**	**08 35 03.4**	**-1.1**
	0.2nm,0.5s,baz=31,slow=11,SNR=6.7						
FITZ	**Fitzroy Crossi**	**21.43**	**228**	P	**P**	**08 35 08.2**	**+0.3**
	1.7nm,0.5s,baz=74,slow=7.4						
ILAR	**Eielson Array**	**85.58**	**24**	P	**P**	**08 42 52.5**	**-1.7**
	0.5nm,1.0s,baz=246,slow=6.5,SNR=2.4						

DJA 31 08:34:57.7±0.7, 11°.N±7°.×12°.7E±°, h10km, M5.9/10, mB6.5/2, mb4.9/10, MLv6.4/1, Mw(mB)6.2/2

IDC 31 08:35:00.3±0.5, 10°.69N×126°.78E, h0km, mb4.1/23, mb1 4.2/26, mb1mx4.2/40, mbtmp4.1/26, ML3.9/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/81, Error ellipse: s-maj=22.9km s-min=10.8km az=81.0

MAN 31 08:35:02.2, 10°.80N×126°.93E, h16km, mb4.8, ML3.7, MS3.6

NEIC 31 08:35:04.5±1.3, 10°.68N±0°.09×126°.69E±0°.06, h18km±5km, mb4.6/25, Error ellipse: s-maj=13.5km s-min=6.9km az=204.0

ISC 31 08:35:02.3±0.4, 10°.73N±0°.05×126°.86E±0°.06, h10km, n83, σ1§30/85, mb4.3/37, 6C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**1.18**	**218⇑**	*e*P	**Pn**	**08 35 23.8**	**-1.1**
GLSP				*e*S	Sn	08 36 04.5	+23
BESP	**Borongan**	**1.64**	**302⇑**	*e*P	**Pn**	**08 35 30.9**	**-0.3**
BESP				*i* S	Sg	08 36 11.4	+16
SCPH	**Surigao**	**1.64**	**235**	*e*P	**Pn**	**08 35 31.8**	**+0.5**
SCPH				*e*S	**Sn**	**08 35 50.3**	**-2.1**
MSLP	**Maasin**	**2.05**	**254⇑**	*e*P	**Pn**	**08 35 38.0**	**+1.1**
BUTP	**Butuan**	**2.13**	**215⇑**	*e*P	**Pn**	**08 35 38.7**	**+0.7**
BUTP				*i* S	Sn	08 35 39.7	-25
OCLP	**Ormoc**	**2.23**	**279⇓**	*e*P	**Pb**	**08 35 41.7**	**-1.0**
LLP	**Lapu-Lapu**	**2.87**	**262**	*e*P	**Pn**	**08 35 49.2**	**+1.0**
LLP				*e*S	**Sn**	**08 36 25.9**	**+3.0**
TBP	**Tagbilaran**	**3.12**	**251**	*e*P	**Pn**	**08 35 53.4**	**+1.7**
BUKP	**Musuan**	**3.34**	**212⇑**	*i*P	**Pn**	**08 35 54.5**	**-0.2**
DAV	**Davao City (W)**	**3.85**	**199**	Pn	**Pn**	**08 36 01.5**	**-0.1**
KCP	**Kidapawan**	**4.09**	**205⇑**	*e*P	**Pn**	**08 36 07.8**	**+2.9**
RCP	**Roxas**	**4.12**	**282⇓**	*e*P	**Pn**	**08 36 07.5**	**+2.2**
SGSI	**Sangihe**	**7.12**	**191**	P	Pn	08 36 53.6	+7.0
	6.8nm11μm362nm,0.4s						
GAMI	**Galela, Maluku**	**8.88**	**174**	P	**Pn**	**08 37 13.7**	**+2.9**
	123nm,0.6s						
TNTI	**Ternate**	**9.90**	**177**	Pn	**Pn**	**08 37 24.7**	**-0.2**
SIJI	**Sorong**	**12.33**	**159**	Pn	**Pn**	**08 37 58.3**	**+0.3**
	2.0nm,0.3s,baz=343,slow=19,SNR=2.2						
SANI	**Sanana**	**12.72**	**184**	P	**Pn**	**08 37 59.4**	**-4.0**
TTSI	**Tana Toraja**	**15.37**	**207**	P	**P**	**08 38 44.0**	**-0.2**
	40nm,0.9s						
JOW	**Kunigami**	**16.08**	**5**	Pn	**Pn**	**08 38 49.0**	**+0.4**
	1.4nm,0.3s,baz=180,slow=20,SNR=5.1						
SPSI	**Sidrap Palu**	**16.21**	**206**	P	**P**	**08 38 56.0**	**+2.5**
	35nm,1.0s						
BNSI	**Bone**	**16.46**	**204**	P	**Pn**	**08 38 51.4**	**-2.2**
SBUM	**Sibu**	**16.69**	**242**	P	**P**	**08 39 00.4**	**+1.5**
	10nm,0.8s						
SBUM	**Sibu**	**16.69**	**242**	Pn	**Pn**	**08 38 54.3**	**-2.2**
KAPI	**Kappang**	**17.16**	**205**	P	**Pn**	**08 39 00.3**	**-2.1**
	0.1nm,0.3s,baz=60,slow=20,SNR=1.7						
STKI	**Sintang**	**18.60**	**236**	P	**Pn**	**08 39 22.7**	**+2.5**
	24nm,0.7s						
BATI	**Baumata**	**21.04**	**189**	P	**P**	**08 39 46.3**	**-0.2**
	63nm,0.8s,baz=270,slow=8.1,SNR=3.1						
MTN	**Manton Dam**	**23.80**	**170**	P	**P**	**08 40 15.8**	**+0.4**
MTN				IAmb	IAmb	08 40 18.2	
	comp=Z,19nm,0.8s						
PPBI	**Pangkal Pinang**	**24.27**	**239**	P	**P**	**08 40 20.9**	**+0.9**
	comp=Z,30μmcomp=Z,68nm,1.0s						
LEM	**Lembang**	**25.90**	**229**	P	**P**	**08 40 35.6**	**+0.6**
	comp=Z,25nm,0.7s,baz=330,slow=22,SNR=2.5						
KNRA	**Kununurra**	**26.30**	**176**	P	**P**	**08 40 38.5**	**+0.3**
KNRA				IAmb	IAmb	08 40 52.1	
	comp=Z,35nm,1.3s						
KSRS	**Korea Array**	**26.63**	**2**	P	**P**	**08 40 41.3**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=179,slow=10,SNR=3.6						
KSRS				LR	LR	08 52 57.2	
	comp=Z,30nm,18.5s,baz=15,slow=40						
MJAR	**Matsushiro Arr**	**27.68**	**20**	P	**P**	**08 40 49.4**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=170,slow=9.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**28.06**	**289**	P	**P**	**08 40 52.8**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=93,slow=7.0,SNR=6.3						
FITZ	**Fitzroy Crossi**	**28.67**	**182**	P	**P**	**08 40 57.9**	**-1.6**
	comp=Z,2.3nm,0.6s,baz=13,slow=14,SNR=2.2						
WB0	**Warramunga Arr**	**31.20**	**166**	P	**P**	**08 41 21.1**	**-0.8**
WB0				IAmb	IAmb	08 41 24.4	
	comp=Z,8.6nm,1.2s						
WRA	**Warramunga Arr**	**31.35**	**166**	P	**P**	**08 41 21.7**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=348,slow=9.2,SNR=6.8						
WRA				PcP	**PcP**	**08 44 16.4**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=343,slow=2.9,SNR=6.4						
WB2	**Warramunga Arr**	**31.36**	**166**	P	**P**	**08 41 22.5**	**-0.8**
WB2				IAmb	IAmb	08 41 49.4	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**31.42**	**166**	P	**P**	**08 41 23.5**	**-0.4**
WR0				IAmb	IAmb	08 41 36.9	
	comp=Z,14nm,1.4s						
PSA00	**Pilbara Seismi**	**32.83**	**192**	P	**P**	**08 41 36.0**	**-0.2**
USRK	**Ussuriysk Ar.**	**33.65**	**7**	P	**P**	**08 41 44.0**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=201,slow=12,SNR=2.8						
AS31	**Alice Springs**	**34.87**	**169**	P	**P**	**08 41 53.9**	**-0.2**
ASAR	**Alice Springs**	**34.87**	**169**	P	**P**	**08 41 53.5**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=354,slow=6.6,SNR=24						
ASAR				PcP	**PcP**	**08 44 27.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=344,slow=2.6,SNR=11						
CTA	**Charters Tower**	**36.09**	**148**	P	**P**	**08 42 04.6**	**0.0**
	comp=Z,2.6nm,0.9s,baz=341,slow=9.5,SNR=1.7						
CTAO	**Charters Tower**	**36.09**	**148**	P	**P**	**08 42 04.5**	**0.0**
CTAO				IAmb	IAmb	08 42 18.1	
	comp=Z,17nm,1.5s						
SHL	**Shillong**	**36.23**	**299**	P	**P**	**08 42 04.6**	**-1.3**
SHL				IAmb	IAmb	08 42 06.4	
	comp=Z,8.7nm,0.8s						
COCO	**West Island**	**37.52**	**233**	P	**P**	**08 42 18.6**	**+1.8**
	comp=Z,0.2nm,1.2s						
KLR	**Kul'dur**	**38.60**	**5**	P	**P**	**08 42 25.4**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=163,slow=7.0,SNR=4.2						
SONM	**Songino Array**	**40.80**	**339**	P	**P**	**08 42 41.9**	**-2.1**
	comp=Z,0.7nm,0.9s,baz=155,slow=11,SNR=5.3						
SONM	**Songino Array**	**40.80**	**339**	P	**P**	**08 42 44.2**	**+0.2**
FORT	**Forrest**	**41.28**	**178**	P	**P**	**08 42 48.8**	**+0.8**
BBOO	**Buckleboo**	**44.17**	**169**	P	**P**	**08 43 11.3**	**-0.2**
BBOO				IAmb	IAmb	08 43 13.2	
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	**44.37**	**192**	P	**P**	**08 43 12.4**	**-0.6**
STKA	**Stephens Creek**	**44.65**	**162**	P	**P**	**08 43 13.7**	**-1.6**
	comp=Z,4.0nm,0.6s,baz=335,slow=8.3,SNR=12						
STKA	**Stephens Creek**	**44.65**	**162**	P	**P**	**08 43 15.8**	**+0.5**
PETK	**Petropavlovsk-**	**48.99**	**24**	P	**P**	**08 43 49.9**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=199,slow=2.7,SNR=2.8						
PETK	**Petropavlovsk-**	**48.99**	**24**	P	**P**	**08 43 50.9**	**+1.8**
TOO	**Toolangi**	**51.12**	**161**	P	**P**	**08 44 06.8**	**+1.4**
MK31	**Makanchi Array**	**52.02**	**322**	P	**P**	**08 44 12.1**	**0.0**
MKAR	**Makanchi Array**	**52.02**	**322**	P	**P**	**08 44 12.4**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=113,slow=7.6,SNR=20						
MKAR	**Makanchi Array**	**52.02**	**322**	P	**P**	**08 44 13.1**	**+1.0**
MAKZ	**Makanchi**	**52.22**	**322**	P	**P**	**08 44 13.7**	**+0.2**
MAKZ				IAmb	IAmb	08 44 16.1	
	comp=Z,4.8nm,1.1s						
ZALV	**Zalesovo Beam**	**54.51**	**331**	P	**P**	**08 44 31.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=128,slow=6.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**54.51**	**331**	P	**P**	**08 44 30.5**	**+0.3**
KURK	**Kurchatov**	**56.02**	**325**	P	**P**	**08 44 42.3**	**+1.1**
KURK				IAmb	IAmb	08 44 46.5	
	comp=Z,9.0nm,0.9s						
KKAR	**Karatay Array**	**58.35**	**314**	P	**P**	**08 44 57.6**	**-0.2**
TIXI	**Tiksi**	**60.89**	**1**	P	**P**	**08 45 15.1**	**+0.3**
TIXI				IAmb	IAmb	08 45 16.9	
	comp=Z,10nm,1.4s						
NRIK	**Noril'sk**	**63.72**	**345**	P	**P**	**08 45 33.6**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=175,slow=12,SNR=1.9						
ABKAR	**Abkulak array**	**66.91**	**319**	P	**P**	**08 45 55.4**	**+0.5**
BKZ	**Black Stump Fm**	**67.76**	**140**	P	**P**	**08 46 01.4**	**+1.0**
IMAR	**Indian Mountai**	**75.95**	**24**	P	**P**	**08 46 50.3**	**+1.1**
CASY	**Casey**	**77.73**	**187**	P	**P**	**08 46 59.6**	**+0.5**
KBZ	**Khabaz**	**78.33**	**313**	P	**P**	**08 47 02.2**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=90,slow=2.0,SNR=3.7						
ILAR	**Eielson Array**	**78.78**	**26**	P	**P**	**08 47 04.6**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=225,slow=5.0,SNR=4.3						
BRTR	**Keskin Array B**	**85.69**	**309**	P	**P**	**08 47 39.9**	**-2.1**
	comp=Z,0.8nm,0.7s,baz=118,slow=3.3,SNR=4.9						
BRTR	**Keskin Array B**	**85.69**	**309**	P	**P**	**08 47 40.6**	**-1.4**
FINES	**FINESS Array B**	**85.77**	**332**	P	**P**	**08 47 40.9**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=111,slow=4.3,SNR=8.9						
FINES	**FINESS Array B**	**85.77**	**332**	P	**P**	**08 47 41.4**	**-0.3**
AKASG	**Malin Array Be**	**86.58**	**321**	P	**P**	**08 47 44.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=66,slow=4.3,SNR=4.5						
AKASG	**Malin Array Be**	**86.58**	**321**	IAmb	IAmb	08 47 49.6	
	comp=Z,2.1nm,1.3s						
BURAR	**Bucovina Array**	**89.89**	**318**	P	**P**	**08 48 02.6**	**+0.7**
BURAR				IAmb	IAmb	08 48 04.0	
	comp=Z,2.5nm,1.0s						
BUR08	**Bucovina Ar. S**	**89.89**	**319**	P	**P**	**08 48 02.6**	**+0.7**
BUR08				IAmb	IAmb	08 48 03.5	
	comp=Z,3.1nm,1.1s						
YKA	**Yellowknife Ar**	**93.11**	**24**	P	**P**	**08 48 16.8**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=299,slow=4.9,SNR=5.5						
PLCA	**Paso Flores**	**146.39**	**156**	PKPbc	**PKPab**	**08 54 44.3**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=172,slow=7.5,SNR=4.6						

IDC 31 08:44:42.8±3.0, 41°.67N×127°.16E, h0km, mb1 3.0/3, mb1mx2.8/49, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=40.7km s-min=15.9km az=108.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**4.25**	**172**	Pn	Pn	08 45 48.2	-0.5
	0.3nm,0.3s,baz=351,slow=14,SNR=2.2						
KSRS				Pg	Pb	08 46 01.0	+2.6
	1.2nm,0.3s,baz=351,slow=18,SNR=11						
KSRS				Lg	Lg	08 46 58.3	
	3.5nm,0.3s,baz=353,slow=29,SNR=13						
I45RU	**USSURIYSK INFR**	**4.35**	**53**	*i*		09 10 10.0	
	baz=232,slow=328,SNR=4.0						
USRK	**Ussuriysk Ar.**	**4.36**	**53**	Pn	Pn	08 45 51.2	+1.1
	baz=240,slow=14,SNR=8.0						
USRK				Pg	Pb	08 46 02.2	+2.1
	baz=234,slow=15,SNR=5.1						
USRK				Lg	Lg	08 47 01.0	
	baz=236,slow=28,SNR=7.7						

SNR=148
AAK Ala-Archa 3.00 8*ce*PN Pb 08 56 20.8 -1.1
AAK pmax pmax
comp=Z,187nm,0.7s
AAK Ala-Archa 3.00 8 ⇑Pg Pg 08 56 24.7 -0.7
AAK ⇑Lg Lg 08 57 06.2
comp=Z,226nm,0.6s
AAK Ala-Archa 3.00 8⇓*i*P Pb 08 56 20.1 -1.8
AAK ⇓*i*S Sn 08 56 55.0 +2.3
baz=12
MNAS Manas 3.03 339 *i* PN Pn 08 56 18.8 +2.3
MNAS Manas 3.03 339⇑*i*P Pn 08 56 18.8 +2.3
baz=43
MNAS ⇑*i*S Sn 08 56 52.8 -0.4
baz=43
KBK Karagaybulak 3.09 14 P Pb 08 56 22.3 -1.0
SNR=234
KBK Karagaybulak 3.09 14 *i* PN Pb 08 56 21.4 -1.9
KBK Karagaybulak 3.09 14⇑*i*P Pb 08 56 21.4 -1.9
baz=18
KBK ⇑*i*S Sn 08 56 57.1 +2.3
baz=18
ULHL Ulahol 3.12 33 P Pb 08 56 22.8 -1.0
SNR=26
ULHL Ulahol 3.12 33 *i* PN Pb 08 56 22.7 -1.1
ULHL *i* S Sb 08 56 59.8 -2.4
ULHL Ulahol 3.12 33⇑*i*P Pb 08 56 22.7 -1.1
baz=38
ULHL ⇑*i*S Sb 08 56 59.8 -2.4
baz=38
MRKS Merke 3.13 350 *e*P Pb 08 56 25.8 +1.8
comp=Z,129nm,0.1s
MRKS *e*S Sg 08 57 05.7 -2.7
MRKS Merke 3.13 350 Pg Pb 08 56 24.9 +0.9
comp=Z,200nm,0.6s
MRKS Lg Lg 08 57 05.7
comp=Z,283nm,0.3s
FRU1 Bishkek 3.19 9 PN Pb 08 56 24.2 -0.8
FRU1 Bishkek 3.19 9⇑*i*P Pb 08 56 22.8 -2.2
baz=13
FRU1 ⇑*i*S Sn 08 56 59.3 +2.2
baz=13
FRU1 Bishkek 3.19 9 Pb 08 56 24.2 -0.8
BOOM Boomskoye usch 3.21 27 PN Pb 08 56 24.2 -1.2
BOOM Boomskoye usch 3.21 27⇓*i*P Pb 08 56 23.6 -1.7
baz=32
BOOM ⇓*i*S Sb 08 57 01.5 -3.3
baz=32
BOOM Boomskoye usch 3.21 27 Pb 08 56 24.1 -1.2
CHMS Chumysh 3.39 10 P Pb 08 56 26.1 -2.3
SNR=42
CHMS Chumysh 3.39 10 *e*PN Pb 08 56 25.1 -3.3
CHMS Chumysh 3.39 10⇑*i*P Pb 08 56 25.1 -3.3
baz=14
CHMS ⇑*i*S Sn 08 57 03.8 +1.8
baz=14
KDJ Kajisay 3.48 44 PN Pn 08 56 26.4 +3.6
KDJ Kajisay 3.48 44⇑*i*P Pb 08 56 28.3 -1.7
baz=48
KDJ ⇑*i*S Sb 08 57 09.7 -3.0
baz=48
KDJ Kajisay 3.48 44 Pn 08 56 26.4 +3.6
TKM2 Tokmak 2 3.49 20 P Pb 08 56 27.7 -2.5
SNR=60
TKM2 Tokmak 2 3.49 20 *e*PN Pb 08 56 27.4 -2.8
TKM2 Tokmak 2 3.49 20 ⇑Pn Pb 08 56 28.2 -2.0
comp=Z,44nm,0.4s
TKM2 ⇓Pg Pg 08 56 39.1 +4.4
comp=Z,83nm,0.7s
TKM2 ⇑Lg Lg 08 57 21.7
comp=Z,98nm,0.6s
TKM2 Tokmak 2 3.49 20⇑*i*P Pb 08 56 27.4 -2.8
baz=24
TKM2 ⇑*i*S Sn 08 57 07.6 +2.9
baz=24
TARG Taragay, Kyrgy 3.59 54 *e*PN Pb 08 56 30.4 -1.6
TARG *i* S Sb 08 57 13.6 -2.5
TARG Taragay, Kyrgy 3.59 54⇑*e*P Pb 08 56 30.4 -1.6
baz=57
TARG ⇑*i*S Sb 08 57 13.6 -2.5
baz=57
TARG Taragay, Kyrgy 3.59 54 Pb 08 56 29.5 -2.5
USP Ospenovka 3.63 6 P Pb 08 56 29.4 -3.0
SNR=18
USP Ospenovka 3.63 6 *e*PN Pn 08 56 27.9 +3.2
USP Ospenovka 3.63 6⇑*e*P Pn 08 56 27.9 +3.2
baz=10.0
USP ⇑*i*S Sn 08 57 09.6 +1.7
baz=10.0
KST Kastek 3.71 24 *e*P Pb 08 56 35.7 +1.8
comp=Z,70nm,0.1s
KST *e*S Sb 08 57 20.7 +1.6
comp=Z,198nm,0.2s
KST Kastek 3.71 24 Pg Pb 08 56 36.6 +2.7
comp=Z,76nm,1.0s
KST Lg Lg 08 57 25.4
comp=Z,198nm,0.6s
DZA Taraz 3.78 330 *e*PN Pn 08 56 28.1 +1.3
DZA *e* 08 56 39.6
DZA Taraz 3.78 330 *e*P Pb 08 56 35.1 0.0
comp=Z,54nm,0.1s
DZA *e*S Sb 08 57 20.3 -0.9
comp=Z,415nm,0.1s
DZA Taraz 3.78 330 *e*Pn Pn 08 56 28.1 +1.3
baz=331
DZA *e*Pg Pg 08 56 39.6 -0.7
baz=331
SGDS Sogindy 3.83 8 *e*P Pg 08 56 41.0 -0.2
comp=Z,87nm,0.4s
SGDS *e*S Sg 08 57 31.6 +0.9
comp=Z,116nm,0.2s
SGDS Sogindy 3.83 8 *e*Pg Pg 08 56 40.9 -0.2
baz=7.1
DGS Degeres 3.83 20 *e*P Pg 08 56 41.1 -0.2
comp=Z,106nm,0.7s
DGS *e*S Sg 08 57 31.6 +0.6
comp=Z,173nm,0.1s
DGS Degeres 3.83 20 Pg Pg 08 56 40.1 -1.2
comp=Z,88nm,0.5s
DGS Lg Lg 08 57 31.6
comp=Z,211nm,0.8s
CHGR Chuyangaron 3.85 256 Pn 08 56 28.6 +0.8
IUG Iuzhnay 3.87 311 *e*PN Pg 08 56 39.9 -2.0
IUG *e* 08 57 17.6
IUG Iuzhnay 3.87 311 *e*P Pg 08 56 40.8 -1.1
comp=Z,2μm,0.4s
IUG *e*S Sg 08 57 30.0 -2.1
comp=Z,479nm,0.5s
IUG Iuzhnay 3.87 311 *e*Pg Pg 08 56 40.0 -2.0
baz=314
IUG *e*Sn Sn 08 57 17.6 +3.8
baz=314
IUG Iuzhnay 3.87 311 Pg Pb 08 56 38.5 +1.9
comp=Z,3μm,0.6s
IUG Lg Lg 08 57 28.8
comp=Z,479nm,0.5s
TAS Tashkent 3.91 297 PN Pn 08 56 28.6 0.0
TAS Tashkent 3.91 297 Pn 08 56 28.6 0.0
IZV Izvestkoviy 3.93 30 *e*P Pg 08 56 43.3 +0.2
comp=Z,135nm,0.5s
IZV *e*S Sg 08 57 35.7 +1.8
comp=Z,268nm,0.2s
IZV Izvestkoviy 3.93 30 Pg Pg 08 56 42.3 -0.8
comp=Z,135nm,0.5s
IZV Lg Lg 08 57 35.7
comp=Z,270nm,0.8s
MTBS Maitube 3.94 28 *e*P Pg 08 56 43.3 0.0
comp=Z,46nm,0.2s
MTBS *e*S Sg 08 57 36.0 +1.6
comp=Z,231nm,0.2s
MTBS Maitube 3.94 28 Pg Pg 08 56 42.7 -0.6
comp=Z,85nm,0.8s
MTBS Lg Lg 08 57 36.0
comp=Z,236nm,0.6s
TNSS Tian-Shan 4.06 33 *e*P Pg 08 56 46.1 +0.4
comp=Z,38nm,0.5s
TNSS *e*S Sg 08 57 40.0 +1.6
comp=Z,59nm,0.2s
TNSS Tian-Shan 4.06 33 *e*Pg Pg 08 56 44.7 -1.0
baz=31
TNSS Tian-Shan 4.06 33 Pg Pg 08 56 44.9 -0.8
comp=Z,34nm,0.6s
TNSS Lg Lg 08 57 40.0
comp=Z,72nm,0.9s

AAA Alma-Ata 4.19 31 *e*PN Pg 08 56 46.9 -1.2
AAA Alma-Ata 4.19 31 *e*Pg Pg 08 56 46.9 -1.2
baz=30
ANVS Anan'yevo 4.20 41 *i* PN Pb 08 56 38.3 -4.0
ANVS *i* S Sn 08 57 26.7 +4.5
ANVS Anan'yevo 4.20 41⇓*i*P Pb 08 56 38.3 -4.0
baz=44
ANVS ⇓*i*S Sn 08 57 26.7 +4.5
baz=44
MDOK Medeo 4.21 33 *e*PN Pg 08 56 46.9 -1.5
MDOK Medeo 4.21 33 *e*P Pg 08 56 48.1 -0.3
comp=Z,54nm,0.1s
MDOK *e*S Sg 08 57 44.1 +1.2
comp=Z,85nm,0.2s
MDOK Medeo 4.21 33 *e*Pg Pg 08 56 46.9 -1.5
baz=31
MDOK Medeo 4.21 33 Pn Pb 08 56 38.1 -4.3
comp=Z,16nm,0.5s
MDOK ⇑Pg Pg 08 56 48.1 -0.3
comp=Z,57nm,0.5s
MDOK ⇑Lg Lg 08 57 46.9
comp=Z,85nm,0.6s
MDOK Medeo 4.21 33 Pg Pg 08 56 47.3 -1.2
comp=Z,54nm,0.7s
MDOK Lg Lg 08 57 44.1
comp=Z,156nm,0.9s
KNDC Almaty 4.22 32 PN Pg 08 56 48.0 -0.7
KNDC Almaty 4.22 32 ⇓Pn Pb 08 56 38.3 -4.3
comp=Z,46nm,0.6s
KNDC ⇓Pg Pg 08 56 48.2 -0.5
comp=Z,205nm,0.6s
KNDC ⇓Lg Lg 08 57 47.4
comp=Z,792nm,0.8s
KOTS Kotyrbulak 4.29 33 *e*P Pg 08 56 50.5 +0.4
comp=Z,70nm,0.1s
KOTS *e*S Sg 08 57 47.1 +1.4
comp=Z,248nm,0.2s
KOTS Kotyrbulak 4.29 33 Pg Pg 08 56 49.2 -0.9
comp=Z,73nm,0.5s
KOTS Lg Lg 08 57 47.1
comp=Z,248nm,0.6s
KK02 Karatay Array 4.30 324 ⇑Pn Pn 08 56 36.4 +2.5
comp=Z,10nm,0.3s
KK02 ⇓Pg Pb 08 56 46.6 +2.7
comp=Z,41nm,0.6s
KK02 ⇓Sn Sn 08 57 29.6 +5.2
comp=Z,69nm,0.5s
KK02 ⇓Lg Lg 08 57 47.0
comp=Z,109nm,0.5s
KKAR Karatay Array 4.30 324 PN Pn 08 56 36.0 +2.1
KKAR Karatay Array 4.30 324 Pn 08 56 36.0 +2.1
PRZ Przheval'sk 4.39 49 PN Pn 08 56 40.1 +4.7
PRZ Przheval'sk 4.39 49 Pn 08 56 40.0 +4.7
KTBS Karatobe 4.54 26 *e*P Pg 08 56 54.3 -0.4
comp=Z,40nm,0.2s
KTBS *e*S Sg 08 57 54.2 +0.7
comp=Z,181nm,0.2s
KTBS Karatobe 4.54 26 Pg Pg 08 56 53.1 -1.7
comp=Z,40nm,0.6s
KTBS Lg Lg 08 57 54.3
comp=Z,278nm,0.8s
BRLS Borolday 4.57 319 *e*P Pb 08 56 51.2 +2.7
comp=Z,44nm,0.0s
BRLS *e*S Sb 08 57 48.2 +4.4
comp=Z,65nm,0.2s
BRLS Borolday 4.57 319 *e*Pg Pb 08 56 51.4 +2.9
comp=Z,16nm,0.4s,baz=318
BRLS Borolday 4.57 319 Pg Pb 08 56 50.0 +1.5
comp=Z,67nm,0.5s
BRLS Lg Lg 08 57 48.3
comp=Z,170nm,0.5s
KUU Kurty 4.59 22 *e*P Pg 08 56 55.2 -0.6
comp=Z,36nm,0.5s
KUU *e*S Sg 08 57 55.0 -0.3
comp=Z,109nm,0.7s
KUU Kurty 4.59 22 Pg Pg 08 56 53.3 -2.5
comp=Z,51nm,0.7s
KUU Lg Lg 08 57 54.5
comp=Z,109nm,0.8s
SATY Saty 4.78 43 *e*P Pg 08 56 59.3 -0.1
comp=Z,48nm,0.1s
SATY *e*S Sg 08 58 03.1 +1.8
comp=Z,116nm,1.0s
SATY Saty 4.78 43 *e*Pg Pg 08 56 57.2 -2.2
comp=Z,10nm,0.6s,baz=41
SATY Saty 4.78 43 Pg Pg 08 56 58.2 -1.1
comp=Z,49nm,0.7s
SATY Lg Lg 08 58 03.1
comp=Z,116nm,1.0s
ZHN Zhinishke 4.87 42 *e*P Pg 08 57 01.0 -0.1
comp=Z,18nm,0.1s
ZHN *e*S Sg 08 58 06.4 +2.3
comp=Z,44nm,0.3s
KURS Kuram 4.97 38 *e*P Pg 08 57 03.2 +0.3
comp=Z,26nm,0.7s
KURS *e*S Sg 08 58 08.8 +1.4
comp=Z,60nm,0.5s
UZB Uzynbulak 5.17 46 *e*P Pg 08 57 06.3 -0.5
comp=Z,16nm,0.1s
UZB *e*S Sg 08 58 15.3 +1.4
comp=Z,42nm,0.7s
UZB Uzynbulak 5.17 46 *e*Pg Pg 08 57 04.6 -2.2
comp=Z,5.8nm,0.9s,baz=44
UZB Uzynbulak 5.17 46 Pg Pg 08 57 05.6 -1.2
comp=Z,33nm,0.7s
UZB Lg Lg 08 58 15.3
comp=Z,43nm,0.7s
BTLS Baital 5.38 1 *e*P Pg 08 57 09.4 -1.5
comp=Z,24nm,0.2s
BTLS *e*S Sg 08 58 20.2 -0.3
comp=Z,35nm,0.1s
BTLS Baital 5.38 1 *e*Pg Pg 08 57 09.3 -1.5
comp=Z,5.5nm,0.5s,baz=0.8
BTLS Baital 5.38 1 Pg Pg 08 57 08.5 -2.3
comp=Z,24nm,0.5s
BTLS Lg Lg 08 58 20.2
comp=Z,35nm,0.6s
ARXS Arharly 5.39 31 *e*P Pg 08 57 09.9 -1.2
comp=Z,44nm,0.2s
ARXS *e*S Sg 08 58 20.8 -0.2
comp=Z,133nm,0.2s
PDGK Podgornoye 5.55 47 PN Pn 08 56 55.9 +4.8
PDGK Podgornoye 5.55 47 ⇓Pn Pn 08 56 55.9 +4.8
comp=Z,9.1nm,0.6s
PDGK ⇓Pg Pg 08 57 12.6 -1.5
comp=Z,21nm,0.6s
PDGK ⇑Lg Lg 08 58 28.0
comp=Z,107nm,1.0s
CHCP Chirah Chowk 6.01 185 P Pn 08 57 01.2 +3.8
CEP Cherat 6.05 196 P Pn 08 57 00.8 +2.8
CEP S Sn 08 58 14.0 +6.3
TDK Taldyqorghan 6.28 30 *e*Pg Pg 08 57 25.4 -2.6
baz=29
KBL Kabul 6.43 219 PN Pn 08 57 03.8 +0.4
KBL Kabul 6.43 219 Pn 08 57 03.8 +0.4
KAPS Kapalarasan 6.90 34 *e*P Pg 08 57 38.0 -2.0
comp=Z,7.3nm,0.3s
KAPS *e*S Sg 08 59 10.5 +1.2
comp=Z,32nm,0.6s
THW Thamme Wali 7.08 195 P Pn 08 57 14.5 +2.5
DHRM DHARAMSHALA 7.64 165 *e*P Pn 08 57 21.9 +2.0
DHRM *e*S Sn 08 58 48.0 +1.1
DHRM IAML 08 58 54.4
comp=E,112nm,0.2s
DHRM IAML 08 58 58.1
comp=N,153nm,1.1s
OTUK Ortayu 8.66 353 ⇑Pn Pn 08 57 36.6 +2.9
comp=N,6.1nm,0.9s
OTUK ⇑Lg Lg 09 00 02.1
comp=N,66nm,0.9s
SMLA Simla 8.91 162 *e*P Pn 08 57 38.0 +0.9
SMLA *e*S Sn 08 59 15.0 -2.8
SMLA IAML 08 59 22.7
comp=N,58nm,0.6s
SMLA IAML 08 59 23.0
comp=E,78nm,0.9s
MAKZ Makanchi 9.24 37 ⇑P Pn 08 57 44.8 +3.1
comp=E,3.7nm,1.1s
MK31 Makanchi Array 9.38 38 *i* P Pn 08 57 45.2 +1.7
MK31 Makanchi Array 9.38 38 ⇓P Pn 08 57 47.7 +4.1
comp=E,3.0nm,0.6s,baz=211,slow=15,SNR=7.0
MK31 Makanchi Array 9.38 38 Pn Pn 08 57 46.7 +3.2
MKAR Makanchi Array 9.38 38 Pn Pn 08 57 47.9 +4.4
comp=E,0.1nm,0.3s,baz=216,slow=15,SNR=4.4
MKAR Lg Lg 09 00 20.4
comp=E,0.2nm,0.3s,baz=276,slow=36,SNR=1.9
MKAR Makanchi Array 9.38 38 Pn Pn 08 57 46.5 +3.0

HRA Herat 10.73 244 Pn Pn 08 58 01.1 -1.1
WMQ Urumqi 11.08 64 *e*P Pn 08 58 10.5 +3.5
WMQ pP 08 58 14.5
WMQ pmax pmax
comp=E,15nm,0.9s
KURBB Kurchatov Arra 11.43 15 Pn Pn 08 58 13.8 +2.3
comp=E,0.1nm,0.3s,baz=206,slow=13,SNR=5.4
KURBB Sn Sn 09 00 22.9 +3.4
comp=E,0.0nm,0.3s,baz=125,slow=34,SNR=1.6
KURBB Lg Lg 09 01 29.1
comp=E,0.1nm,0.3s,baz=208,slow=30,SNR=6.7
KURBB Kurchatov Arra 11.43 15 ⇑Pn Pn 08 58 18.0 +6.5
comp=E,3.9nm,0.8s
KURBB ⇑Lg Lg 09 01 36.6
comp=E,54nm,1.0s
KURK Kurchatov 11.54 15*ce*P Pn 08 58 18.3 +5.3
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 11.54 15 ⇓Pn Pn 08 58 19.0 +6.0
KURK ⇑Lg Lg 09 01 39.0
comp=Z,3.9nm,1.1s
KURK
comp=Z,62nm,1.1s
KURK Kurchatov 11.54 15 Pn 08 58 15.7 +2.7
GEYT Alibeck 12.47 267 Pn Pn 08 58 22.8 -3.1
comp=Z,0.6nm,0.3s,baz=75,slow=14,SNR=8.0
GEYT Sn Sn 09 00 38.6 -6.6
comp=Z,0.7nm,0.3s,baz=352,slow=28,SNR=2.3
GEYT Alibeck 12.47 267 Pn 08 58 25.8 -0.2
GYA0B ALIBECK ARRAY 12.47 267 ⇓P Pn 08 58 25.5 -0.5
GYA0B ALIBECK ARRAY 12.47 267 Pn Pn 08 58 26.2 +0.3
BVAR Borovoye Array 13.59 351 Pn Pn 08 58 41.4 +0.3
comp=Z,0.8nm,0.3s,baz=138,slow=14,SNR=22
BVAR Sn Sn 09 01 10.7 -1.7
comp=Z,0.2nm,0.3s,baz=146,slow=27,SNR=2.1
BVAR Lg Lg 09 02 38.8
comp=Z,0.4nm,0.3s,baz=150,slow=28,SNR=2.6
BRVK Borovoye 13.64 351 *i* P Pn 08 58 43.5 +1.8
BRVK Borovoye 13.64 351 ⇓P Pn 08 58 41.6 -0.1
comp=Z,7.6nm,0.7s
BRVK Borovoye 13.64 351 Pn 08 58 42.5 +0.8
AB31 Akbulak array 13.84 318 ⇓Pn Pn 08 58 43.1 -1.3
comp=Z,4.5nm,0.7s,baz=125,slow=13,SNR=74
AB31 ⇓Sn Sn 09 01 18.7 +0.4
comp=Z,1.1nm,0.4s,baz=126,slow=25,SNR=4.1
ABKAR Akbulak array 13.84 318 Pn 08 58 43.7 -0.7
DGZ Jazzator, Alta 13.87 39 *i* P Pn 08 58 47.5 +2.5
AKTO Aktyubinsk 15.54 319 Pn Pn 08 59 07.3 -0.2
comp=Z,0.3nm,0.3s,baz=129,slow=15,SNR=9.8
AKTO Sn Sn 09 01 53.6 -6.4
comp=Z,0.2nm,0.3s,baz=221,slow=22,SNR=2.1
AKTO LR LR 09 05 26.7
comp=Z,141nm,20.2s,baz=213,slow=38
AKTO Aktyubinsk 15.54 319 ⇑Pn Pn 08 59 07.6 +0.1
comp=Z,13nm,0.9s
AKTO ⇑Sn Sn 09 01 59.7 -0.4
comp=Z,5.3nm,0.8s
ZAA0 Zalesovo Array 16.09 24 ⇑P P 08 59 17.0 -0.9
comp=Z,1.1nm,1.0s
ZAA0 Zalesovo Array 16.09 24 P 08 59 17.9 -0.1
ZALV Zalesovo Beam 16.09 24 Pn P 08 59 17.4 -0.5
comp=Z,0.7nm,0.3s,baz=214,slow=12,SNR=11
ZALV Lg Lg 09 04 01.3
comp=Z,0.1nm,0.3s,baz=95,slow=18,SNR=1.1
ZALV LR LR 09 05 48.5
comp=Z,131nm,19.8s,baz=306,slow=38
ZALV Zalesovo Beam 16.09 24 *i* P P 08 59 19.8 +1.9
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 16.09 24 P 08 59 16.2 -1.7
BHPL Bhopal 16.63 169 *e*P P 08 59 23.5 -0.7
GOMU GeErMu 16.82 95 P P 08 59 28.5 +1.9
GOMU sP sP 08 59 36.0 +5.6
GOMU pmax pmax
comp=Z,5.0nm,0.8s
SVE Sverdlovsk 19.27 337 *e*P Pn 08 59 54.7 +0.7
ARU Arti 19.60 334 P P 08 59 57.0 +0.4
comp=Z,0.0nm,0.3s,baz=117,slow=16,SNR=6.1
ARU Lg Lg 09 05 45.4
comp=Z,0.0nm,0.3s,baz=279,slow=23,SNR=1.6
ARU Arti 19.60 334*c* *i*P P 08 59 57.2 +0.6
ARU S Sn 09 03 39.2 +1.1
ARU pmax pmax
comp=Z,48nm,4.8s
ARU Arti 19.60 334 P P 08 59 56.5 -0.1
GTA Gaotai 19.94 82 *e*P Pn 09 00 03.3 +1.0
GTA pP sP 09 00 07.5 +3.0
GTA sP pP 09 00 10.8 +7.5
GTA pmax pmax
comp=Z,2.0nm,1.0s
SHL Shillong 20.58 128 P P 09 00 08.1 +0.3
SHL pmax pmax
comp=Z,10.0nm,0.9s
SHL Shillong 20.58 128 P P 09 00 08.1 +0.3
SHL IAmb IAmb 09 00 18.8
comp=Z,10nm,0.9s
WSAR Wadi Sarin 20.89 223 P P 09 00 07.3 -3.6
comp=Z,7.9nm,0.7s,baz=33,slow=5.1,SNR=2.7
UOSS Minazif 20.92 231 P P 09 00 11.1 -0.1
UOSS IAmb IAmb 09 00 17.1
comp=Z,36nm,1.5s
SRSP Sriramsagar 21.01 168 *e*P P 09 00 13.9 +1.7
RPR Rampur 21.24 166 *e*P P 09 00 15.8 +1.1
GROC Groznyy 21.36 289 *e*P P 09 00 16.0 +0.2
GROC *e* 09 00 36.6
GROC pmax pmax
comp=Z,11nm,0.5s
GROC MLR MLR
comp=Z,234nm,8.0s
KLRI Killari 21.64 173⇓*e*P P 09 00 19.0 0.0
MOKO MOKOCHONG 21.72 122 *e*P P 09 00 20.2 +0.2
MOKO IAmb IAmb 09 00 24.2
comp=Z,18nm,0.7s
GNI Garni 22.37 281 P P 09 00 26.5 -0.4
comp=Z,5.0nm,0.6s,baz=80,slow=3.6,SNR=2.4
GNI Garni 22.37 281 P P 09 00 26.7 -0.2
GNI pmax pmax
comp=Z,14nm,1.0s
GNI Garni 22.37 281 P P 09 00 26.7 -0.2
GNI IAmb IAmb 09 00 34.3
comp=Z,14nm,0.9s
HYBB Hyderabad (bro 22.52 168 *e*P P 09 00 29.5 +1.0
HYB Hyderabad 22.52 168 *e*P P 09 00 27.0 -1.5
HYB IAmb IAmb 09 00 30.2
comp=Z,16nm,0.2s
CUPL Choutuppal 22.70 168 *e*P P 09 00 31.2 +0.9
CHLP Challavanipeta 22.82 155 *e*P P 09 00 33.0 +1.3
ONI Oni 23.09 287 P P 09 00 35.2 +0.8
ONI pmax pmax
comp=Z,15nm,0.6s
ONI Oni 23.09 287 P P 09 00 35.2 +0.8
ONI IAmb IAmb 09 00 41.8
comp=Z,15nm,0.6s
KBZ Khabaz 23.46 290 P P 09 00 38.2 +0.2
comp=Z,1.9nm,0.9s,baz=170,slow=5.8,SNR=3.5
KBZ Khabaz 23.46 290 *i* P P 09 00 39.7 +1.7
KBZ pmax pmax
comp=Z,6.0nm,0.9s
NJS Nagarjunasagar 23.49 167 *e*P P 09 00 40.5 +2.0
MYLAV Mylavaram 23.56 164 *e*P P 09 00 40.5 +1.3
KVAR Kislovodsk Arr 23.61 291 P P 09 00 38.0 -1.6
comp=Z,1.5nm,0.4s,baz=126,slow=14,SNR=1.5
KIV Kislovodsk 23.61 291 *e*P P 09 00 41.2 +1.6
KIV *e*S S 09 04 57.4 +2.8
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 23.61 291 P P 09 00 40.5 +0.9
KIV IAmb IAmb 09 00 57.6
comp=Z,12nm,1.0s
LZH Lanzhou 23.82 89 *e*P P 09 00 47.0 +5.2
LZH pmax pmax
comp=Z,15nm,1.5s
SRLM Srisailam 23.87 168 *e*P P 09 00 42.6 +0.5
RCLA Racherla 24.51 168 *e*P P 09 00 50.0 +1.9
KIRV Kirov 24.58 328 P P 09 00 50.5 +2.1
comp=Z,8.6nm,0.6s,baz=36,slow=4.1,SNR=4.7
KIRV Kirov 24.58 328*ce*P P 09 00 51.2 +2.8
SIRT Sirnak 24.66 275 P P 09 00 49.4 -0.1
SONM Songino Array 24.68 60 P P 09 00 51.0 +1.3
comp=Z,1.6nm,0.9s,baz=266,slow=11,SNR=7.9
SONM Songino Array 24.68 60 P P 09 00 51.3 +1.6
SONM pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 24.68 60 P P 09 00 51.3 +1.6
URV Uravakonda 24.79 172 *e*P P 09 00 51.0 +0.3
ULN Ulaanbaatar 25.13 60*ce*P P 09 00 53.8 +0.1

ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 25.13 60 P P 09 00 54.8 +1.1
CMAR Chiang Mai Arr 30.22 127 P P 09 01 37.4 -1.9
comp=Z,0.8nm,0.3s,baz=334,slow=10.0,SNR=1.2
BR131 Keskin Array S 30.83 283 P P 09 01 44.5 -0.2
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 30.83 283 P P 09 01 44.5 -0.2
BR131 IAmb IAmb 09 01 51.3
comp=Z,5.1nm,0.9s
BRTR Keskin Array B 30.83 283 P P 09 01 44.6 -0.3
comp=Z,2.2nm,0.8s,baz=92,slow=6.2,SNR=14
BRTR Keskin Array B 30.83 283 *eP* **P 09 01 45.2 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 30.83 283 P P 09 01 44.8 0.0
AKASG Malin Array Be 32.92 305 P P 09 02 01.9 -0.9
comp=Z,0.4nm,0.5s,baz=79,slow=8.2,SNR=6.9
AKASG Malin Array Be 32.92 305 *eP* **P 09 02 04.3 +1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
MNK Minsk 34.03 311 *i P* P 09 02 01.8 -11
MNK *i* PPP PPP 09 03 27.2
MNK *i* S S 09 07 28.2 -10
MNK *i* SS **SnSn 09 09 38.5 -5.7**
MNK pmax pmax
comp=Z,11nm,0.6s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,24nm,0.7s
MNK MLR MLR
comp=E,8.0nm,8.0s
MNK MLR MLR
comp=Z,38nm,8.0s
MNK MLR MLR
comp=N,90nm,13.0s
MNK Minsk 34.03 311 *i P* P 09 02 01.9 -11
comp=E,2.0nm,0.7s
MNK *i P* P 09 02 01.9 -11
comp=N,24nm,0.7s
MNK *i P* P 09 02 01.9 -11
comp=Z,11nm,0.6s,baz=276
MNK *i* PP **PnPn 09 03 15.7 -10**
MNK *i* PPP PPP 09 03 27.3
MNK *i* S S 09 07 28.2 -10
MNK *i* SS **SnSn 09 09 38.6 -5.6**
MNK *i* SSS SSS 09 09 54.4
MNK *i* LR LR 09 15 58.6
MNK *i* LRM MLR 09 17 06.1
comp=E,8.0nm,8.3s
MNK *i* LRM MLR 09 17 09.9
comp=Z,38nm,8.3s
MNK *i* LRM MLR 09 17 13.2
comp=N,90nm,12.8s
MLR Muntele Rosu 35.39 296 P P 09 02 25.1 +0.6
MLR pmax pmax
comp=Z,8.0nm,1.0s
MLR Muntele Rosu 35.39 296 P P 09 02 25.1 +0.6
MLR IAmb IAmb 09 02 33.3
comp=Z,7.6nm,1.0s
FIA1 FINESS Array S 36.26 323 P P 09 02 33.1 +1.5
FIA1 IAmb IAmb 09 02 51.5
comp=Z,8.8nm,1.1s
FINES FINESS Array B 36.26 323 P P 09 02 31.2 -0.4
comp=Z,2.2nm,0.4s,baz=91,slow=8.4,SNR=47
FINES LR LR 09 17 41.3
comp=Z,275nm,18.1s,baz=288,slow=37
FINES FINESS Array B 36.26 323 P P 09 02 32.1 +0.5
FINES FINESS Array B 36.26 323 P P 09 02 32.1 +0.5
ARCES ARCESS Array B 39.18 335 P P 09 02 55.6 -0.5
comp=Z,2.1nm,0.5s,baz=105,slow=8.9,SNR=16
ARCES ARCESS Array B 39.18 335 P P 09 02 57.2 +1.0
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 39.18 335 P P 09 02 57.2 +1.0
DIVS Divibare 39.81 295 P P 09 03 01.9 0.0
ITM Ithomi 40.36 284 P P 09 03 05.0 -1.4
ITM IAmb IAmb 09 03 19.6
comp=Z,11nm,1.1s
VRAC Vranov 41.13 303 LR LR 09 24 46.3
comp=Z,149nm,21.7s,baz=346,slow=43
DPC Dobruska-Polom 41.15 305 *eP* **P 09 03 12.5 -0.4**
DPC Dobruska-Polom 41.15 305 *eP* **P 09 03 12.5 -0.4**
KLR Kul'dur 41.44 57 P P 09 03 16.3 +1.1
comp=Z,0.3nm,0.3s,baz=234,slow=8.7,SNR=2.0
TIXI Tiksi 41.97 23 P P 09 03 19.7 +0.5
comp=Z,1.7nm,0.4s,baz=270,slow=6.1,SNR=8.3
TIXI Tiksi 41.97 23 *ceP* **P 09 03 22.8 +3.6**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
TIXI Tiksi 41.97 23 P P 09 03 20.1 +0.8
TIXI IAmb IAmb 09 03 24.5
comp=Z,4.1nm,1.1s
HFS Hagfors 42.09 320 P P 09 03 19.6 -0.8
comp=Z,2.5nm,0.5s,baz=102,slow=11,SNR=15
PRU Pruhonice 42.34 304 *eP* **P 09 03 22.8 +0.3**
PRU Pruhonice 42.34 304 *eP* **P 09 03 22.8 +0.3**
CKRC Cesky Krumlov 42.70 303 *eP* **P 09 03 27.5 +2.0**
GERES GERESS Array B 43.08 303 P P 09 03 28.7 -0.1
comp=Z,1.5nm,0.6s,baz=62,slow=6.8,SNR=9.5
GERES GERESS Array B 43.08 303 *eP* **P 09 03 29.3 +0.6**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 43.08 303 P P 09 03 29.6 +0.9
CLL Collm 43.10 307 *eP* **P 09 03 26.0 -2.6**
CLL Collm 43.10 307 *eP* **P 09 03 26.0 -2.6**
KHC Kasperske Hory 43.11 303 *eP* **P 09 03 28.4 -0.4**
KHC Kasperske Hory 43.11 303 *eP* **P 09 03 28.4 -0.4**
NB2 NORSAR Subarra 43.33 321 P P 09 03 29.9 -0.5
comp=Z,1.0nm,0.6s,baz=92,slow=8.6
NOA NORSAR Array B 43.33 321 P P 09 03 29.8 -0.6
comp=Z,1.3nm,0.6s,baz=91,slow=7.8,SNR=6.3
GSI Gunungsitoli 43.83 145 P P 09 03 35.3 +0.4
SPITS Spitsbergen Ar 44.98 346 P P 09 03 44.3 +0.9
comp=Z,10nm,0.9s,baz=158,slow=14,SNR=1.7
MJAR Matsushiro Arr 49.70 72 P P 09 04 21.5 +0.7
comp=Z,0.6nm,0.4s,baz=219,slow=3.1,SNR=1.8
LODK Lodwar 50.20 234 P P 09 04 24.9 +0.1
LODK IAmb IAmb 09 04 26.4
comp=Z,4.5nm,1.0s
EKA Eskdalemuir Ar 51.67 315 P P 09 04 34.8 -0.6
comp=Z,5.7nm,1.1s,baz=92,slow=8.2,SNR=4.8
BILL Bilibino 54.75 27 *i P* **P 09 04 59.4 +1.6**
BILL *i* 09 06 05.4
BILL pmax pmax
comp=Z,9.0nm,1.9s
BILL MLR MLR
comp=Z,59nm,16.0s
MBAR Mbarara 56.22 235 LR LR 09 32 41.1
comp=Z,65nm,19.4s,baz=3.5,slow=40
ESDC Sonseca Array 58.06 297 P P 09 05 20.8 -1.1
comp=Z,1.3nm,0.9s,baz=54,slow=7.0,SNR=6.1
TOLK Toolik Lake Re 67.27 16 P P 09 06 24.5 +1.6
TOLK IAmb IAmb 09 06 26.3
comp=Z,5.8nm,1.3s
TORD Torodi Ar. Bea 68.10 269 P P 09 06 26.5 -2.4
comp=Z,1.9nm,0.5s,baz=47,slow=5.7,SNR=23
TORD Torodi Ar. Bea 68.10 269 P P 09 06 27.4 -1.5
TORD IAmb IAmb 09 06 30.5
comp=Z,2.0nm,1.0s
IMAR Indian Mountai 68.45 19 P P 09 06 30.1 -0.2
BMAR Burnt Mountain 69.31 15 P P 09 06 36.8 +1.0
INK Inuvik 70.40 10 P P 09 06 41.2 -1.0
comp=Z,0.9nm,0.6s,baz=298,slow=5.1,SNR=6.2
ILAR Eielson Array 71.10 17 P P 09 06 45.4 -1.2
comp=Z,1.0nm,0.9s,baz=327,slow=4.4,SNR=10
ILAR Eielson Array 71.10 17 *eP* **P 09 06 45.7 -0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
BCAR Beaver Creek A 73.71 16 P P 09 07 03.1 +0.8
JAY Jayapura 73.94 107 LR LR 09 44 24.0
comp=Z,25nm,18.0s,baz=350,slow=40
PSA00 Pilbara Seismi 74.48 136 P P 09 07 07.3 +0.1
PSA00 IAmb IAmb 09 07 30.4
comp=Z,13nm,1.4s
KNRA Kununurra 75.06 125 P P 09 07 11.1 +0.4
DBIC Dimbokro 77.16 268 P P 09 07 21.2 -1.5
comp=Z,3.0nm,0.8s,baz=66,slow=10.0,SNR=2.2
YKA Yellowknife Ar 77.96 4 P P 09 07 26.0 -0.5
comp=Z,0.6nm,0.6s,baz=348,slow=5.5,SNR=18
YKA Yellowknife Ar 77.96 4 *eP* **P 09 07 26.3 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 77.96 4 P P 09 07 26.7 +0.2
LBTB Lobatse 78.57 224 P P 09 07 30.0 -0.4
LBTB pmax pmax
comp=Z,13nm,1.3s
LBTB Lobatse 78.57 224 P P 09 07 30.0 -0.4
MORW Morawa 78.80 143 P P 09 07 31.0 -0.5
BOSA Boshof 81.65 222 P P 09 07 45.6 -1.4
comp=Z,2.9nm,0.9s,baz=27,slow=14,SNR=2.6
BOSA Boshof 81.65 222 P P 09 07 46.9 -0.1
BOSA pmax pmax
comp=Z,9.0nm,1.3s
BOSA Boshof 81.65 222 P P 09 07 46.9 -0.1
BOSA IAmb IAmb 09 07 47.4
comp=Z,9.3nm,1.3s
WB0 Warramunga Arr 81.67 124 P P 09 07 46.8 -0.4
WB0 IAmb IAmb 09 08 11.1
comp=Z,7.1nm,1.3s
WRA Warramunga Arr 81.77 124 P P 09 07 46.4 -1.3
comp=Z,2.5nm,0.6s,baz=324,slow=4.9,SNR=17
WRA Warramunga Arr 81.77 124 *eP* **P 09 07 46.7 -1.0**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 81.77 124 P P 09 07 47.3 -0.4
WRAB Tennant Creek 81.77 124 P P 09 07 47.5 -0.2
WRAB pmax pmax
comp=Z,14nm,1.5s
WRAB Tennant Creek 81.77 124 P P 09 07 47.5 -0.2
WB2 Warramunga Arr 81.77 124 P P 09 07 47.3 -0.4
WR0 Warramunga Arr 81.91 124 P P 09 07 47.9 -0.5
WR0 IAmb IAmb 09 08 00.6
comp=Z,7.5nm,1.2s
ASAR Alice Springs 84.23 127 P P 09 07 59.0 -1.4
comp=Z,1.5nm,0.6s,baz=316,slow=5.0,SNR=16
ASAR Alice Springs 84.23 127 P P 09 08 00.1 -0.3
ASAR Alice Springs 84.23 127 P P 09 08 00.1 -0.3
PLCA Paso Flores 152.97 256 PKPbc **PKPbc 09 15 25.2 -0.7**
comp=Z,0.8nm,0.8s,baz=357,slow=2.2,SNR=1.4

*TUL **31** 08:56:46.4±1.4,36°.39N±0°.02×96°.72W±0°.01,h7km±6km, ML3.5,mb_Lg3.3/42(NEIC), Error ellipse: s-maj=2.6km s-min=1.2km az=198.0*
*NEIC **31** 08:56:46.4±0.9,36°.40N±0°.02×96°.74W±0°.04,h5km±2km, Error ellipse: s-maj=6.3km s-min=3.0km az=73.0*
*ANF **31** 08:56:46.6±1.0,36°.35N×96°.72W,h0km±5km,ML4.2/10, Error ellipse: s-maj=8.0km s-min=3.9km az=0.0*
*IDC **31** 08:56:47.5±1.8,36°.53N×97°.09W,h0km,mb3.0/2, mb1 3.4/5,mb1mx3.3/48,mbtmp3.1/5,ML3.2/3,Error ellipse: s-maj=30.1km s-min=10.7km az=108.0*
ISC 31 08:56:46.1±1.1,36.40N±0°.03×96.72W±0°.03,h9km±8km, n82,σ1°21/87,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK034	**N. Norfolk Rd.**	**0.39**	**179**	Pg	**Pg**	**08 56 54.0**	**+0.3**
OK034				Sg	**Sg**	**08 56 59.4**	**+0.4**
OK033	**Mehan**	**0.40**	**206**	Pg	**Pg**	**08 56 54.2**	**+0.3**
OK033				Sg	**Sg**	**08 56 59.5**	**+0.4**
OK031	**S. Brethren Rd**	**0.46**	**192**	Pg	**Pg**	**08 56 55.3**	**+0.3**
OK031				Sg	**Sg**	**08 57 01.4**	**+0.4**
OK030	**Cody Creek RV**	**0.47**	**186**	Pg	**Pg**	**08 56 55.6**	**+0.2**
OK030				Sg	**Sg**	**08 57 02.0**	**+0.4**
OK029	**Liberty Lake**	**0.85**	**225**	Pg	**Pg**	**08 57 02.5**	**+0.1**
KAN13	**South Haven SW**	**0.86**	**315**	Pg	**Pg**	**08 57 02.9**	**+0.2**
KAN13				Sg	**Sg**	**08 57 14.4**	**+0.5**
TUL1	**Leonard**	**0.90**	**123**	Pg	**Pg**	**08 57 03.4**	**0.0**
TUL1	**Leonard**	**0.90**	**123**	P	**Pg**	**08 57 03.4**	**0.0**
baz=303							
TUL1				S	**Sg**	**08 57 15.0**	**-0.1**
baz=303							
OK025	**Westminster Rd**	**0.96**	**212**		**Pg**	**08 57 04.2**	**-0.3**
OK025				Sg	**Sg**	**08 57 17.5**	**+0.5**
KAN17	**Caldwell West**	**1.05**	**308**	Pg	**Pg**	**08 57 06.4**	**0.0**
KAN17				Sg	**Sg**	**08 57 20.4**	**+0.3**
KAN01	**Argonia South**	**1.12**	**312**		**Pg**	**08 57 07.6**	**-0.1**
KAN14	**Manchester OK**	**1.14**	**299**		**Pg**	**08 57 07.9**	**-0.1**
KAN14				Sg	**Sg**	**08 57 23.1**	**+0.2**
KAN05	**Bluff City Nor**	**1.16**	**308**	Pg	**Pg**	**08 57 08.6**	**+0.2**
KAN05				Sg	**Sg**	**08 57 23.7**	**+0.1**
KAN06	**Argonia West S**	**1.24**	**313**		**Pg**	**08 57 09.9**	**-0.1**
KAN06				Sg	**Sg**	**08 57 26.7**	**+0.6**
OK032	**Salt Plains WL**	**1.26**	**289**		**Pg**	**08 57 10.1**	**-0.3**
OK032				Sn	**Sg**	**08 57 27.1**	**+0.3**
KAN08	**Anthony NE Sta**	**1.30**	**310**	Pn	**Pn**	**08 57 11.0**	**+0.5**
KAN10	**Anthony SW Sta**	**1.32**	**304**		**Pn**	**08 57 11.1**	**+0.3**
KAN12	**Harper NE Stat**	**1.36**	**312**	Pn	**Pn**	**08 57 11.6**	**+0.2**
OK035	**E0210 Rd and N**	**1.63**	**281**		**Pn**	**08 57 15.6**	**+0.6**
HHAR	**Hobbs**	**2.25**	**92**	Pn	**Pn**	**08 57 24.3**	**+0.6**
WMOK	**Wichita Mounta**	**2.36**	**226**		**Pn**	**08 57 25.9**	**+0.8**
WMOK	**Wichita Mounta**	**2.36**	**226**	P	**Pn**	**08 57 26.4**	**+1.3**
baz=45							
WMOK				S	**Sn**	**08 57 57.0**	**+2.7**
baz=45							
W39A	**Magazine**	**2.67**	**116**	S	**Sn**	**08 58 05.5**	**+3.5**
baz=298							
KSU1	**Kansas State U**	**2.70**	**2**	Pn	**Pn**	**08 57 30.8**	**+1.1**
U40A	**Yellville**	**3.12**	**90**	P	**Pn**	**08 57 36.8**	**+1.2**
baz=272							
U40A				S	**Sn**	**08 58 15.3**	**+2.2**
baz=272							
MIAR	**Mount Ida**	**3.17**	**125**	Pn	**Pn**	**08 57 36.9**	**+0.7**
MIAR				IAmb_Lg		08 58 32.4	
comp=Z,74nm,0.8s							
MIAR	**Mount Ida**	**3.17**	**125**	P	**Pn**	**08 57 37.7**	**+1.6**
baz=307							
MIAR				S	**Sn**	**08 58 16.5**	**+2.4**
baz=307							
CBKS	**Cedar Bluff**	**3.40**	**316**		**Pn**	**08 57 39.8**	**+0.4**
CBKS	**Cedar Bluff**	**3.40**	**316**	Sb	**Sg**	**08 58 32.8**	**-2.4**
baz=134							
MGMO	**Mountain Grove**	**3.65**	**77**		**Pn**	**08 57 43.9**	**+1.0**
MGMO				IAmb_Lg		08 58 43.8	
comp=Z,53nm,0.9s							
X40A	**Basin Creek Fa**	**3.71**	**120**	P	**Pn**	**08 57 45.2**	**+1.6**
baz=302							
X40A				Sb	**Sg**	**08 58 42.4**	**-2.7**
baz=302							
FCAR	**Ozark Folk Cen**	**3.76**	**96**		**Pn**	**08 57 44.9**	**+0.6**
WHAR	**Wooly Hollow**	**3.77**	**106**	Pn	**Pn**	**08 57 45.8**	**+1.3**
WHAR				IAmb_Lg		08 58 47.9	
comp=Z,102nm,1.0s							
W41B	**Gary Mavity, V**	**3.84**	**107**		**Pn**	**08 57 45.2**	**-0.2**
W41B	**Gary Mavity, V**	**3.84**	**107**	P	**Pn**	**08 57 46.7**	**+1.2**
baz=290							
W41B				S	**Sn**	**08 58 32.6**	**+1.9**
baz=290							
WLAR	**White Oak Lake**	**4.01**	**131**	Pn	**Pn**	**08 57 48.2**	**+0.3**
WLAR				IAmb_Lg		08 59 00.7	
comp=Z,42nm,0.7s							
AMTX	**Amarillo**	**4.31**	**251**	IAmb_Lg		08 59 13.1	
comp=Z,54nm,0.7s							
WHTX	**Lake Whitney,**	**4.44**	**188**		**Pn**	**08 57 54.7**	**+1.0**
WHTX	**Lake Whitney,**	**4.44**	**188**	P	**Pn**	**08 57 54.3**	**+0.6**
baz=7.7							
ABTX	**Abilene, Hawle**	**4.47**	**213**	IAmb_Lg		08 59 10.3	
comp=Z,85nm,1.3s							
Z41A	**Richland Creek**	**4.50**	**133**	S	**Sn**	**08 58 45.7**	**-1.2**
baz=315							
LCAR	**Lake Charles**	**4.51**	**93**	Pn	**Pn**	**08 57 56.0**	**+1.3**
CCM	**Cathedral Cave**	**4.67**	**68**	Pn	**Pn**	**08 57 57.9**	**+1.0**
CCM				IAmb_Lg		08 59 18.9	
comp=Z,49nm,0.8s							
CCAR	**Cane Creek**	**4.75**	**120**	IAmb_Lg		08 59 23.9	
comp=Z,67nm,0.9s							
PBMO	**Poplar Bluff**	**5.08**	**84**	Pn	**Pn**	**08 58 03.5**	**+1.0**
PBMO				IAmb_Lg		08 59 37.2	
comp=Z,64nm,0.9s							
BGNE	**Belgrade**	**5.12**	**348**	IAmb_Lg		08 59 33.5	
comp=Z,53nm,0.8s							
FVM	**French Village**	**5.27**	**71**	Pn	**Pn**	**08 58 06.2**	**+1.1**
KSCO	**Kaye Shedlock'**	**5.36**	**301**	IAmb_Lg		08 59 48.1	
comp=Z,53nm,0.7s							
435B	**Jarrell**	**5.65**	**188**	IAmb_Lg		08 59 57.9	
comp=Z,32nm,0.7s							
435B	**Jarrell**	**5.65**	**188**	P	**Pn**	**08 58 10.4**	**+0.1**
baz=7.1							
OGNE	**Ogallala**	**6.15**	**319**	IAmb_Lg		09 00 11.5	
comp=Z,45nm,0.8s							
T25A	**Trinidad**	**6.21**	**279**	IAmb_Lg		09 00 07.8	
comp=Z,50nm,0.8s							
OXF	**Oxford**	**6.26**	**105**	Pn	**Pn**	**08 58 18.2**	**-0.5**
JCT	**Junction City**	**6.44**	**204**	Pn	**Pn**	**08 58 21.4**	**+0.1**
JCT				IAmb_Lg		09 00 23.2	
comp=Z,40nm,0.8s							
SDCO	**Great Sand Dun**	**7.14**	**283**		**Pn**	**08 58 30.9**	**-0.2**
HDIL	**Hopedale**	**7.15**	**52**	Pn	**Pn**	**08 58 31.1**	**+0.1**
Q24A	**Divide**	**7.16**	**293**	IAmb_Lg		09 00 46.2	
comp=Z,25nm,0.8s							
PLAL	**Pickwick Lake**	**7.18**	**99**	Pn	**Pn**	**08 58 31.7**	**+0.4**
OLIL	**Olney**	**7.23**	**69**	Pn	**Pn**	**08 58 33.0**	**+0.9**
ECSD	**EROS Data Cent**	**7.33**	**1**	Pn	**Pn**	**08 58 33.7**	**+0.4**
JFWS	**Jewell Farm**	**8.20**	**36**	Pn	**Pn**	**08 58 45.3**	**0.0**
JFWS				IAmb_Lg		09 01 12.7	
comp=Z,21nm,0.7s							
833A	**Chaparral WMA,**	**8.36**	**196**	Pn	**Pn**	**08 58 47.8**	**+0.2**
N23A	**Red Feather La**	**8.49**	**305**	IAmb_Lg		09 01 21.8	
comp=Z,35nm,0.7s							
BLO	**Bloomington**	**8.54**	**68**	Pn	**Pn**	**08 58 50.3**	**+0.3**
SFIN	**Lafayette**	**8.54**	**59**	Pn	**Pn**	**08 58 49.1**	**-0.8**
SFIN				IAmb_Lg		09 01 17.8	
comp=Z,34nm,0.7s							
MNTX	**Cornudas Mount**	**8.58**	**239**	Pn	**Pn**	**08 58 51.0**	**+0.4**
LRAL	**Lakeview Retre**	**8.68**	**110**	Pn	**Pn**	**08 58 52.2**	**+0.3**
L44A	**Lake County Fo**	**8.94**	**47**	IAmb_Lg		09 01 30.5	
comp=Z,41nm,0.9s							
TXAR	**Lajitas Array**	**9.15**	**222**	Pn	**Pn**	**08 58 57.8**	**-0.7**
comp=Z,0.1nm,0.3s,baz=46,slow=10,SNR=7.1							
TXAR				Sn	**Sn**	**09 00 36.6**	**-5.1**
comp=Z,0.3nm,0.3s,baz=41,slow=17,SNR=1.6							
TXAR				Lg	Lg	09 01 27.0	
comp=Z,0.7nm,0.3s,baz=37,slow=27,SNR=4.2							
SPMN	**Marine on St.**	**9.30**	**17**	Pn	**Pn**	**08 58 60.0**	**-0.5**
RSSD	**Black Hills**	**9.52**	**326**	Pn	**Pn**	**08 59 04.9**	**+1.3**
RSSD				IAmb_Lg		09 01 52.1	
comp=Z,19nm,1.1s							
K22A	**Casper**	**9.81**	**313**	IAmb_Lg		09 02 23.1	
comp=Z,19nm,1.0s							
CPCT	**Cooper Cave**	**9.94**	**92**	Pn	**Pn**	**08 59 10.4**	**+1.2**
TKL	**Tuckaleechee C**	**10.52**	**90**	Pn	**Pn**	**08 59 17.3**	**+0.2**
TZTN	**Tazewell**	**10.61**	**85**	Pn	**Pn**	**08 59 18.7**	**+0.2**
W18A	**Petrified Fore**	**10.65**	**267**	Pn	**Pn**	**08 59 18.1**	**-1.0**
COWI	**Conover**	**11.24**	**28**	Pn	**Pn**	**08 59 26.6**	**-0.4**
PDAR	**Pinedale Array**	**11.76**	**307**	Pn	**Pn**	**08 59 32.1**	**-2.2**
comp=Z,0.1nm,0.3s,baz=113,slow=15,SNR=2.1							
PDAR				Lg	Lg	09 02 45.7	
comp=Z,0.1nm,0.3s,baz=115,slow=15,SNR=1.7							
EYMN	**Ely**	**12.17**	**17**	Pn	**Pn**	**08 59 37.5**	**-2.1**
ULM	**Lac du Bonnet**	**13.86**	**2**	Pn	**Pn**	08 59 57.3	-5.4
comp=Z,0.4nm,0.3s,baz=183,slow=17,SNR=1.5							
ULM				Sn	Sn	09 02 24.9	-12
comp=Z,0.4nm,0.3s,baz=117,slow=9.6,SNR=1.8							
ULM				Lg	Lg	09 03 53.5	
comp=Z,0.2nm,0.3s,baz=207,slow=16,SNR=1.4							
YKA	**Yellowknife Ar**	**28.38**	**343**	P	**P**	**09 02 41.7**	**+1.2**
comp=Z,0.1nm,0.7s,baz=142,slow=8.3,SNR=5.2							
ILAR	**Eielson Array**	**40.95**	**330**	P	**P**	**09 04 30.8**	**+2.0**
comp=Z,0.2nm,0.8s,baz=110,slow=7.8,SNR=2.4							

*IDC **31** 08:57:16.3±1.7,5°.14S×134°.06E,h0km,mb4.0/2, mb1 4.2/7,mb1mx3.7/35,mbtmp4.1/7,ML3.1/4,MS3.3/1, Ms1 3.3/1,ms1mx2.6/60,Error ellipse: s-maj=49.7km s-min=22.6km az=65.0*
ISC 31 08:57:20.2±1.1,5.23S±0°.10×134°.0E±0°.1,h28km,n7, σ1°22/8,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.11**	**328**	Pn	**Pn**	**08 58 34.9**	**-0.1**
2.2nm,0.3s,baz=139,slow=18,SNR=9.3							
SIJI				Sn	Sn	08 59 25.2	-7.9
8.6nm,0.3s,baz=142,slow=20,SNR=5.7							
BATI	**Baumata**	**11.36**	**244**	Pn	**Pn**	**09 00 01.7**	**+1.0**
3.7nm,0.3s,baz=105,slow=8.3,SNR=2.2							
BATI				Sn	**Sn**	**09 02 06.3**	**-0.4**
3.1nm,0.3s,baz=309,slow=20,SNR=1.4							
WRA	**Warramunga Arr**	**14.63**	**179**	Pn	**Pn**	**09 00 44.1**	**-1.3**
0.0nm,0.3s,baz=2.5,slow=13,SNR=0.9							
WRA				Sn	Sn	09 03 14.5	-12
0.1nm,0.3s,baz=346,slow=24,SNR=1.6							
ASAR	**Alice Springs**	**18.33**	**180**	P	**Pn**	**09 01 33.6**	**+1.1**
0.4nm,0.3s,baz=7.6,slow=12,SNR=34							
ASAR				S	Sn	09 04 44.0	-13
baz=342,slow=8.9,SNR=1.7							
CTA	**Charters Tower**	**18.99**	**142**	P	**Pn**	**09 01 40.9**	**+0.3**
0.1nm,0.3s,baz=308,slow=12,SNR=1.8							
CTA				LR	LR	09 09 41.8	
comp=Z,75nm,18.2s,baz=311,slow=39							
CMAR	**Chiang Mai Arr**	**41.80**	**305**	P	**P**	**09 05 06.2**	**-1.5**
1.6nm,0.3s,baz=151,slow=5.8,SNR=2.5							
MKAR	**Makanchi Array**	**69.00**	**325**	P	**P**	**09 08 24.2**	**+1.1**
0.6nm,0.6s,baz=107,slow=7.3,SNR=4.7							

IDC 31 09:16:50.2±1.4,3°.27S×146°.84E,h0km±3km,mb3.9/4, mb1 4.1/5,mb1mx3.7/37,mbtmp3.9/5,ML1.5/1,MS3.5/3, Ms1 3.5/3,ms1mx2.8/62,Error ellipse: s-maj=90.6km s-min=24.1km az=115.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.10**	**177**	Pn	Pn	09 18 21.5	-0.2
0.7nm,0.3s,baz=333,slow=9.0,SNR=2.6							
WRA	**Warramunga Arr**	**20.58**	**215**	P	P	09 21 31.0	+0.1
6.1nm,0.8s,baz=40,slow=11,SNR=12							
ASAR	**Alice Springs**	**23.82**	**211**	P	P	09 22 05.1	-0.1
2.7nm,0.8s,baz=36,slow=8.3,SNR=12							
DZM	**Mont Dzumac**	**26.67**	**136**	LR	LR	09 30 16.0	
comp=Z,115nm,18.6s,baz=330,slow=30							
H11S3	**WAKE ISLAND Hy**	**29.15**	**41**	T	T	09 53 16.9	
baz=223,slow=76,SNR=6.8							
H11S2	**WAKE ISLAND Hy**	**29.16**	**41**	T	T	09 53 16.3	
baz=223,slow=76,SNR=5.1							
H11S1	**WAKE ISLAND Hy**	**29.17**	**41**	T	T	09 53 16.0	
baz=223,slow=76,SNR=3.2							
JOW	**Kunigami**	**34.90**	**330**	LR	LR	09 34 57.2	
comp=Z,47nm,20.5s,baz=54,slow=31							
URZ	**Urewera**	**44.45**	**145**	LR	LR	09 41 27.6	
comp=Z,108nm,20.8s,baz=30,slow=33							
ILAR	**Eielson Array**	**83.05**	**23**	P	P	09 29 17.3	-0.1
0.6nm,0.8s,baz=249,slow=5.8,SNR=5.0							
YKA	**Yellowknife Ar**	**96.84**	**28**	P	P	09 30 23.0	0.0
0.3nm,0.9s,baz=268,slow=4.1,SNR=4.1							

SSNC 31 09:31:19.1±0.6,19°.77N×75°.98W,h18km±3km,MD2.4, ML0.8,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.35**	**50**	*eP*	Pg	09 31 25.4	-1.1
RCC				*eS*	Sg	09 31 30.7	-0.9
RCC				IAML		09 31 34.1	
comp=E,2.9nm,0.1s							
RCC				IAML		09 31 34.4	
comp=N,4.2nm,0.1s							
RCC	**Rio Carpintero**	**0.35**	**50**	*eP*	Pg	09 31 26.1	-0.4
RCC				*eS*	Sg	09 31 30.7	-0.9
RCC				IAML		09 31 32.2	
comp=E,3.7nm,0.1s							
RCC				IAML		09 31 34.3	
comp=N,4.2nm,0.1s							
LMGC	**Las Mercedes**	**1.00**	**287**	*eP*	Pb	09 31 35.4	-2.6
LMGC				*eS*	Sb	09 31 48.1	-2.7
LMGC				IAML		09 31 50.5	
comp=E,3.4nm,0.1s							
LMGC				IAML		09 31 50.6	
comp=N,5.1nm,0.1s							
LMGC	**Las Mercedes**	**1.00**	**287**	*eP*	Pb	09 31 35.4	-2.6
LMGC				*eS*	Sb	09 31 47.8	-3.1
LMGC				IAML		09 31 50.6	
comp=N,5.2nm,0.1s							
LMGC				IAML		09 31 51.1	
comp=E,3.3nm,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.26**	**20**	Pn	**Pn**	**09 56 32.0**	**+4.4**
	0.6nm,0.3s,baz=188,slow=15,SNR=1.8						
BORG				Sn	**Sn**	**09 58 53.0**	**-1.7**
	0.4nm,0.3s,baz=22,slow=19,SNR=1.5						
BORG				LR	LR	09 59 25.3	
	comp=Z,132nm,18.1s,baz=347,slow=27						
BORG	**Borgarnes**	**13.26**	**20**	Pn	**P**	**09 56 33.2**	**-4.3**
ESK	**Eskdalemuir**	**17.03**	**70**	Pn	**Pn**	**09 57 17.6**	**0.0**
ESK				IAmb	IAmb	09 57 22.5	
	comp=Z,56nm,1.2s						
SFJD	**Kangerlussuaq**	**17.03**	**335**	P	**P**	**09 57 19.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=144,slow=9.4,SNR=2.2						
SFJD				LR	LR	10 01 50.4	
	comp=Z,78nm,18.4s,baz=148,slow=30						
SFJD	**Kangerlussuaq**	**17.03**	**335**		**Pn**	**09 57 16.9**	**-0.7**
EKA	**Eskdalemuir Ar**	**17.05**	**70**	Pn	**P**	**09 57 20.6**	**+0.9**
	baz=274,slow=8.7,SNR=15						
EKA				LR	LR	10 03 28.1	
	comp=Z,288nm,18.0s,baz=344,slow=35						
SUMG	**Summit**	**20.16**	**354**	P	**P**	**09 57 53.7**	**-0.4**
SCHQ	**Schefferville**	**20.63**	**290**	P	**P**	**09 57 57.9**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=78,slow=12,SNR=9.3						
SCHQ				LR	LR	10 04 45.2	
	comp=Z,133nm,18.9s,baz=66,slow=33						
SCHQ	**Schefferville**	**20.63**	**290**	P	**P**	**09 57 57.1**	**-1.7**
FRB	**Frobisher Bay**	**21.90**	**315**	P	**P**	**09 58 12.3**	**0.0**
	comp=Z,2.6nm,0.7s,baz=103,slow=10,SNR=6.8						
ESBB	**Sonseca Array**	**23.15**	**113**	P	**P**	**09 58 25.9**	**0.0**
ESBB				IAmb	IAmb	09 58 27.5	
	comp=Z,23nm,1.4s						
ESDC	**Sonseca Array**	**23.15**	**113**	P	**P**	**09 58 25.6**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=305,slow=8.9,SNR=5.1						
ESDC				LR	LR	10 05 50.7	
	comp=Z,161nm,18.0s,baz=344,slow=32						
NOA	**NORSAR Array B**	**24.59**	**53**	P	**P**	**09 58 41.1**	**+1.6**
	comp=Z,2.2nm,0.9s,baz=274,slow=10,SNR=3.4						
NOA				LR	LR	10 07 14.8	
	comp=Z,181nm,18.4s,baz=275,slow=34						
SENIN	**Lac Senin/Sane**	**25.98**	**88**	P	**P**	**09 58 54.7**	**+2.3**
SENIN				IAmb	IAmb	09 58 56.2	
	comp=Z,12nm,1.1s						
GRF	**Grafenberg Arr**	**26.90**	**79**	*eP*	**P**	**09 59 01.7**	**+1.2**
	comp=Z,11nm,1.2s,baz=293,slow=8.3						
DAVOX	**Davos/Dischmat**	**27.35**	**86**	P	**P**	**09 59 06.6**	**+1.9**
	comp=Z,5.5nm,0.8s,baz=276,slow=9.6,SNR=6.8						
DAVOX				LR	LR	10 08 12.3	
	comp=Z,87nm,19.3s,baz=269,slow=32						
CLL	**Collm**	**27.35**	**75**	*e*Px	Px	09 59 04.0	
CLL				*e*PP	**PnPn**	**09 59 55.0**	**+6.7**
RETA	**Reutte**	**27.56**	**84**	*eP*	**P**	**09 59 08.1**	**+1.6**
	comp=Z,14nm,1.2s						
MOTA	**Moosalm**	**27.83**	**84**	*eP*	**P**	**09 59 10.7**	**+1.7**
	comp=Z,16nm,1.3s						
MDT	**Midelt**	**27.95**	**124**	LR	LR	10 08 13.0	
	comp=Z,106nm,18.7s,baz=359,slow=32						
SQTA	**Sankt Quirin**	**27.95**	**84**	*eP*	**P**	**09 59 11.3**	**+1.3**
	comp=Z,6.4nm,1.0s						
WATA	**Walderalm**	**28.12**	**83**	*eP*	**P**	**09 59 13.2**	**+1.7**
	comp=Z,8.0nm,1.2s						
WTTA	**Wattenberg**	**28.19**	**83**	*eP*	**P**	**09 59 13.6**	**+1.4**
	comp=Z,7.4nm,1.1s						
GEC2	**GERESS Array S**	**28.73**	**79**	P	**P**	**09 59 17.6**	**+0.7**
GEC2				IAmb	IAmb	09 59 19.1	
	comp=Z,5.8nm,1.0s						
GERES	**GERESS Array B**	**28.73**	**79**	P	**P**	**09 59 18.0**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=294,slow=8.5,SNR=11						
GERES				LR	LR	10 09 52.0	
	comp=Z,123nm,19.7s,baz=316,slow=34						
GERES	**GERESS Array B**	**28.73**	**79**	P	**P**	**09 59 17.6**	**+0.7**
KBA	**Koelnbreinsper**	**29.30**	**83**	P	**P**	**09 59 23.7**	**+1.6**
	comp=Z,7.7nm,1.2s						
MYKA	**Terra Mystica**	**29.70**	**83**	*eP*	**P**	**09 59 26.7**	**+1.3**
	comp=Z,2.7nm,0.5s						
VRAC	**Vranov**	**30.25**	**77**	LR	LR	10 11 06.5	
	comp=Z,100nm,18.3s,baz=340,slow=35						
OBKA	**Obir**	**30.30**	**83**	*eP*	**P**	**09 59 32.0**	**+1.1**
	comp=Z,10nm,0.9s						
SOKA	**Soboth**	**30.52**	**82**	*eP*	**P**	**09 59 33.8**	**+1.1**
	comp=Z,7.7nm,1.3s						
ARCES	**ARCESS Array B**	**30.91**	**35**	P	**P**	**09 59 36.8**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=246,slow=7.0,SNR=5.1						
ARCES				LR	LR	10 09 15.7	
	comp=Z,219nm,18.5s,baz=252,slow=31						
ARCES	**ARCESS Array B**	**30.91**	**35**	P	**P**	**09 59 36.3**	**+0.5**
SADO	**Sadowa**	**31.65**	**275**	LR	LR	10 11 57.5	
	comp=Z,130nm,18.1s,baz=31,slow=36						
FINES	**FINESS Array B**	**31.70**	**51**	P	**P**	**09 59 44.1**	**+1.3**
	comp=Z,2.8nm,1.0s,baz=286,slow=10.0,SNR=1.5						
FINES				LR	LR	10 11 16.3	
	comp=Z,205nm,18.6s,baz=274,slow=34						
FINES	**FINESS Array B**	**31.70**	**51**	P	**P**	**09 59 44.8**	**+2.0**
LANS	**Liptovska Anna**	**32.02**	**75**	*eP*	**P**	**09 59 49.0**	**+3.1**
PSZ	**Piszkesteto**	**32.84**	**77**		**P**	**09 59 55.5**	**+2.4**
RES	**Resolute Bay**	**33.04**	**334**	P	**P**	**09 59 55.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=97,slow=12,SNR=4.3						
KEST	**Kesra**	**33.53**	**104**	LR	LR	10 13 20.8	
	comp=Z,150nm,18.2s,baz=310,slow=36						
MNK	**Minsk**	**34.61**	**63**	*i* P	**P**	**10 00 07.8**	**-0.5**
	comp=E,1.0nm,0.7s						
MNK				*i* P	**P**	**10 00 07.8**	**-0.5**
	comp=N,16nm,0.7s						
MNK				*i* P	**P**	**10 00 07.8**	**-0.5**
	comp=Z,9.0nm,0.8s,baz=292						
MNK				*i* PP	**PnPn**	**10 01 21.2**	**-2.4**
MNK				*i* PPP	PPP	10 01 33.2	
MNK				*i* S	**S**	**10 05 29.7**	**-7.3**
MNK				*i* SS	**SnSn**	**10 07 39.4**	**-9.2**
MNK				*i* SS	**SnSn**	**10 07 39.4**	**-9.2**
MNK				*i* LQ	LQ	10 11 25.1	
MNK				*i* LR	LR	10 13 09.8	
MNK				*i* LRM	MLR	10 14 32.2	
	comp=N,661nm,19.2s						
MNK				*i* LRM	MLR	10 14 36.1	
	comp=E,46nm,18.5s						
MNK				*i* LRM	MLR	10 14 41.8	
	comp=Z,102nm,11.5s						
BURAR	**Bucovina Array**	**36.12**	**75**	P	**P**	**10 00 23.3**	**+1.8**
AKASG	**Malin Array Be**	**36.95**	**68**	P	**P**	**10 00 29.1**	**+0.6**
	comp=Z,0.2nm,0.2s,baz=298,slow=8.6,SNR=7.7						
AKASG				LR	LR	10 15 58.0	
	comp=Z,156nm,18.3s,baz=345,slow=37						
AKASG	**Malin Array Be**	**36.95**	**68**	P	**P**	**10 00 29.4**	**+0.9**
AKBB	**Malin Array Si**	**36.95**	**68**	P	**P**	**10 00 28.7**	**+0.3**
AKBB				IAmb	IAmb	10 00 38.0	
	comp=Z,10.0nm,1.2s						
MLR	**Muntele Rosu**	**37.65**	**77**	LR	LR	10 15 37.8	
	comp=Z,83nm,18.1s,baz=317,slow=35						
KLMR	**Klimovskoe**	**38.12**	**49**	*eP*	**P**	**10 00 37.1**	**-1.1**
KLMR				AMP		10 00 42.6	
	comp=Z,28nm,1.5s						
ULM	**Lac du Bonnet**	**38.75**	**293**	LR	LR	10 14 35.4	
	comp=Z,108nm,19.7s,baz=57,slow=33						
TKL	**Tuckaleechee C**	**39.95**	**266**	LR	LR	10 16 53.5	
	comp=Z,157nm,19.3s,baz=60,slow=36						
YKA	**Yellowknife Ar**	**42.39**	**317**	P	**P**	**10 01 13.3**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=63,slow=8.6,SNR=7.5						
YKA				PcP	**PcP**	**10 03 05.8**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=61,slow=3.8,SNR=1.8						
YKA	**Yellowknife Ar**	**42.39**	**317**	P	**P**	**10 01 14.3**	**+0.8**
KIRV	**Kirov**	**43.62**	**49**	LR	LR	10 18 45.6	
	comp=Z,217nm,18.3s,baz=307,slow=35						
BR131	**Keskin Array S**	**45.63**	**79**	P	**P**	**10 01 41.6**	**+1.6**
BRTR	**Keskin Array B**	**45.63**	**79**	P	**P**	**10 01 41.8**	**+1.8**
	comp=Z,4.0nm,0.8s,baz=299,slow=6.6,SNR=22						
BRTR				LR	LR	10 24 16.1	
	comp=Z,54nm,18.0s,baz=326,slow=41						
BRTR	**Keskin Array B**	**45.63**	**79**	P	**P**	**10 01 42.2**	**+2.2**
INK	**Inuvik**	**46.30**	**330**	LR	LR	10 19 06.0	
	comp=Z,131nm,19.4s,baz=78,slow=33						
BNN	**Bunyan**	**47.50**	**79**	P	**P**	**10 01 55.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**47.69**	**133**	P	**P**	**10 01 55.5**	**-0.7**
	comp=Z,2.7nm,1.0s,baz=330,slow=7.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**47.69**	**133**	P	**P**	**10 01 54.5**	**-1.6**
TORD				IAmb	IAmb	10 02 07.5	
	comp=Z,3.6nm,1.1s						
KBZ	**Khabaz**	**48.54**	**69**	P	**P**	**10 02 04.6**	**+2.1**
	comp=Z,1.6nm,0.9s,baz=353,slow=6.5,SNR=4.2						
KBZ				LR	LR	10 22 16.1	
	comp=Z,45nm,18.1s,baz=320,slow=36						
ARU	**Arti**	**48.94**	**47**	LR	LR	10 20 44.7	
	comp=Z,93nm,18.4s,baz=304,slow=34						
ARU	**Arti**	**48.94**	**47**	P	**P**	**10 02 06.7**	**+1.3**
ARU				IAmb	IAmb	10 02 08.0	
	comp=Z,6.9nm,1.0s						
BMAR	**Burnt Mountain**	**50.11**	**332**	P	**P**	**10 02 15.1**	**+0.8**
MDP	**Montagnes des**	**50.42**	**207**	LR	LR	10 19 50.3	
	comp=Z,54nm,20.3s,baz=126,slow=32						
PD31	**Pinedale Array**	**50.75**	**292**	P	**P**	**10 02 18.1**	**-1.6**
PD31				IAmb	IAmb	10 02 27.8	
	comp=Z,1.8nm,0.9s						
PDAR	**Pinedale Array**	**50.75**	**292**	P	**P**	**10 02 18.5**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=65,slow=6.2,SNR=15						
PDAR				LR	LR	10 22 24.9	
	comp=Z,110nm,19.1s,baz=32,slow=34						
PDAR	**Pinedale Array**	**50.75**	**292**	P	**P**	**10 02 18.1**	**-1.6**
BW06	**Boulder Array**	**50.75**	**292**	P	**P**	**10 02 18.1**	**-1.6**
BW06				IAmb	IAmb	10 02 27.8	
	comp=Z,1.9nm,0.9s						
DBIC	**Dimbokro**	**50.95**	**144**	LR	LR	10 21 00.3	
	comp=Z,74nm,21.1s,baz=6.0,slow=33						
GNI	**Garni**	**51.88**	**71**	LR	LR	10 25 39.0	
	comp=Z,87nm,18.3s,baz=324,slow=37						
AKTO	**Aktyubinsk**	**52.38**	**54**	LR	LR	10 23 22.3	
	comp=Z,165nm,18.6s,baz=329,slow=34						
BAUV	**El Baul**	**52.53**	**227**	P	**P**	**10 02 30.3**	**-2.7**
ILAR	**Eielson Array**	**52.65**	**331**	P	**P**	**10 02 33.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=37,slow=4.7,SNR=2.0						
ILAR				LR	LR	10 24 15.5	
	comp=Z,93nm,20.0s,baz=61,slow=35						
EIL	**Elat**	**53.21**	**88**	LR	LR	10 28 28.0	
	comp=Z,40nm,18.6s,baz=284,slow=40						
IMAR	**Indian Mountai**	**53.67**	**334**	P	**P**	**10 02 41.4**	**+0.7**
ABKAR	**Akbulak array**	**54.09**	**54**	P	**P**	**10 02 44.7**	**+0.6**
ABKAR				IAmb	IAmb	10 02 45.7	
	comp=Z,2.7nm,1.1s						
BBB	**Bella Bella**	**54.22**	**311**	LR	LR	10 23 06.6	
	comp=Z,102nm,20.3s,baz=352,slow=33						
TIXI	**Tiksi**	**55.22**	**7**	P	**P**	**10 02 53.7**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=333,slow=6.8,SNR=1.8						
ELK	**Elko**	**55.28**	**293**	LR	LR	10 25 12.2	
	comp=Z,105nm,19.0s,baz=44,slow=35						
BVAR	**Borovoye Array**	**56.36**	**45**	P	**P**	**10 03 02.1**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=350,slow=8.0,SNR=13						
TXAR	**Lajitas Array**	**56.42**	**275**	P	**P**	**10 03 00.3**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=54,slow=8.2,SNR=2.5						
PTGA	**Pitinga**	**58.19**	**214**	LR	LR	10 26 03.9	
	comp=Z,30nm,18.2s,baz=82,slow=34						
NV11	**Mina Array Sit**	**58.50**	**293**	P	**P**	**10 03 14.6**	**-1.3**
NV11				IAmb	IAmb	10 03 30.7	
	comp=Z,3.2nm,1.1s						
NVAR	**Mina Array Bea**	**58.59**	**293**	P	**P**	**10 03 16.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=62,slow=6.2,SNR=2.7						
NVAR	**Mina Array Bea**	**58.59**	**293**	P	**P**	**10 03 15.2**	**-1.3**
ROSC	**El Rosal**	**59.04**	**232**	LR	LR	10 25 33.0	
	comp=Z,65nm,21.5s,baz=32,slow=33						
APG	**El Apazote**	**59.27**	**254**	LR	LR	10 27 36.9	
	comp=Z,82nm,20.8s,baz=303,slow=35						
JTS	**Las Juntas de**	**59.93**	**245**	LR	LR	10 25 13.8	
	comp=Z,50nm,21.1s,slow=32						
KURBB	**Kurchatov Arra**	**61.56**	**43**	P	**P**	**10 03 37.5**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=321,slow=7.3,SNR=9.1						
AAK	**Ala-Archa**	**65.89**	**51**	LR	LR	10 33 47.9	
	comp=Z,115nm,18.0s,baz=332,slow=37						
MK31	**Makanchi Array**	**66.11**	**43**	P	**P**	**10 04 07.4**	**+0.8**
MK31				IAmb	IAmb	10 04 08.5	
	comp=Z,3.8nm,1.2s						
MKAR	**Makanchi Array**	**66.11**	**43**	P	**P**	**10 04 07.7**	**+1.2**
	comp=Z,2.7nm,1.1s,baz=327,slow=5.8,SNR=12						
MKAR	**Makanchi Array**	**66.11**	**43**	P	**P**	**10 04 07.8**	**+1.3**
WSAR	**Wadi Sarin**	**72.18**	**75**	LR	LR	10 38 28.8	
	comp=Z,32nm,18.1s,baz=270,slow=38						
SONM	**Songino Array**	**73.74**	**28**	P	**P**	**10 04 55.2**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=343,slow=4.6,SNR=5.1						
SONM				LR	LR	10 40 39.0	
	comp=Z,82nm,18.8s,baz=197,slow=38						
SONM	**Songino Array**	**73.74**	**28**	P	**P**	**10 04 54.3**	**+0.8**
SONM				IAmb	IAmb	10 05 05.9	
	comp=Z,4.7nm,1.3s						
PETK	**Petropavlovsk-**	**74.27**	**354**	LR	LR	10 38 00.5	
	comp=Z,48nm,19.1s,baz=74,slow=36						
NNA	**Nana**	**75.05**	**226**	LR	LR	10 35 11.7	
	comp=Z,29nm,21.9s,baz=78,slow=34						
KLR	**Kul'dur**	**77.51**	**11**	LR	LR	10 38 54.6	
	comp=Z,59nm,18.1s,baz=354,slow=35						
LBTB	**Lobatse**	**92.12**	**130**	LR	LR	10 46 16.1	
	comp=Z,89nm,18.4s,baz=162,slow=34						
BOSA	**Boshof**	**95.04**	**132**	LR	LR	10 50 25.7	
	comp=Z,76nm,18.3s,baz=192,slow=36						
CMAR	**Chiang Mai Arr**	**97.37**	**46**	LR	LR	10 53 08.5	
	comp=Z,32nm,18.1s,baz=130,slow=37						
WRA	**Warramunga Arr**	**145.62**	**23**	PKPbc	**PKPab**	**10 12 59.1**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=340,slow=2.6,SNR=4.3						
ASAR	**Alice Springs**	**149.07**	**26**	PKPbc	**PKiKP**	**10 13 08.6**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=2.6,slow=2.2,SNR=8.1						
ASAR	**Alice Springs**	**149.07**	**26**	PKPdf	**PKPdf**	**10 13 02.6**	**-1.0**
ASAR					**PKiKP**	**10 13 09.5**	**+0.5**

GUC 31 10:07:00.1±0.5, 29°.72S×71°.99W, h35km±5km, ML3.9, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.68**	**107**	⇓*iP*	Pn	10 07 12.9	-0.4
CO05				*i* S	Sn	10 07 22.7	-0.1
CO05				IAML		10 07 23.6	
	comp=E,8μm,0.4s						
CO06	**Fray Jorge**	**1.00**	**162**	⇑*iP*	Pn	10 07 18.2	+0.5
CO06				*i* S	Sb	10 07 31.3	-0.6
GO04	**Tololo Observa**	**1.13**	**114**	⇓*iP*	Pb	10 07 20.5	-0.8
GO04				*i* S	Sb	10 07 35.7	-0.1
LCO	**Las Campanas**	**1.33**	**58**	⇓*iP*	Pn	10 07 23.2	+0.8
LCO				*i* S	Sb	10 07 41.2	-0.4
CO02	**Combarbal**	**1.71**	**150**	⇑*iP*	Pb	10 07 29.5	-1.5
CO02				*i* S	Sb	10 07 51.4	-0.8
CO02				IAML		10 07 58.4	
	comp=E,2μm,0.2s						
AC04	**Llanos de Chal**	**1.71**	**28**	⇑*iP*	Pn	10 07 27.5	+0.1
GO03	**Copiap**	**2.62**	**36**	*eP*	Pn	10 07 40.9	+0.9
GO03				IAML		10 08 29.2	
	comp=N,342nm,0.4s						
VA06	**Catapilco**	**2.89**	**168**	*eP*	Pn	10 07 45.4	+1.7
VA06				IAML		10 08 45.9	
	comp=E,375nm,0.5s						
VA03	**San Esteban**	**3.27**	**158**	*eP*	Pn	10 07 51.4	+2.3
VA03				IAML		10 08 51.7	
	comp=E,378nm,0.7s						
ROCH	**El Roble**	**3.35**	**166**	*eP*	Pb	10 07 52.0	-6.9
ROCH				*eP*	Pn	10 07 51.4	+1.2
ROCH				IAML		10 08 55.9	
	comp=N,198nm,0.3s						
ROCH				IAML		10 08 56.9	
	comp=N,285nm,0.6s						
PEL	**Peldehue**	**3.59**	**162**	*eP*	Pn	10 07 56.5	+3.1
PEL				IAML		10 09 00.8	
	comp=E,132nm,0.2s						
MT02	**Curacav**	**3.60**	**169**	*eP*	Pn	10 07 55.4	+1.9
AC02	**Maricunga**	**3.83**	**42**	*eP*	Pn	10 07 59.0	+2.1
MT09	**Talagante**	**4.13**	**168**	*eP*	Pn	10 08 03.0	+2.1
BO01	**Tunca**	**4.72**	**171**	*eP*	Pn	10 08 10.4	+1.6

*FUNV **31** 10:10:00.4, 7°.47N×72°.19W, h27km, MW3.1*
*RSNC **31** 10:10:01.1±1.4, 7°.57N×72°.01W, h0km±4km, ML2.1*

ISC 31 10:09:59.7±1.2, 7°.52N±0°.03×72°.09W±0°.03, h19km±11km, n17, σ2°.30/33, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.41**	**328**	*eP*	**Pb**	**10 10 09.4**	**+0.8**
CAPV				*eS*	**Sb**	**10 10 16.1**	**+1.5**
PAMC	**Pamplona, Colo**	**0.63**	**254**	⇑*iP*g	**Pb**	**10 10 11.9**	**-0.3**
PAMC				*eS*	**Sb**	**10 10 20.7**	**-0.1**
TAMC	**Tame, Arauca**	**1.11**	**164**	*eP*g	**Pb**	**10 10 20.1**	**-0.3**
TAMC				*eP*	**Pg**	**10 10 21.4**	**0.0**
TAMC				*i*		10 10 37.5	
	comp=Z,25nm,0.4s						
TAMC				*eS*	**Sn**	**10 10 38.2**	**+2.9**
OCAC	**Ocana**	**1.41**	**301**	*i P*	**Pg**	**10 10 27.6**	**+0.7**
OCAC				*eS*	**Sg**	**10 10 47.1**	**+1.7**
OCAC				*i*		10 10 53.1	
	comp=Z,101nm,0.3s						
BARC	**Barichara**	**1.42**	**230**	*eP*	**Pg**	**10 10 27.7**	**+0.6**
BARC				*i*		10 10 57.5	
	comp=Z,11nm,0.4s						
SOCV	**Socops**	**1.44**	**58**	*eP*	**Pn**	**10 10 24.3**	**-0.6**
SOCV				*eS*	**Sn**	**10 10 44.2**	**+0.8**
SOCV	**Socops**	**1.44**	**58**	*eP*	**Pn**	**10 10 24.4**	**-0.5**
SOCV				*eS*	**Sb**	**10 10 44.8**	**+0.7**
RUSC	**La Rusia**	**1.89**	**211**	*eP*	**Pg**	**10 10 34.5**	**-1.6**
RUSC				*eS*	**Sg**	**10 10 59.9**	**-0.8**
RUSC				*i*		10 11 06.4	
	comp=Z,6.6nm,0.5s						
SDV	**Santo Domingo**	**1.98**	**47**	*eP*	**Pb**	**10 10 35.4**	**+0.1**
SDV				*eS*	**Sb**	**10 11 01.9**	**+2.1**
SMLC	**San Martn de**	**2.34**	**303**	*eP*	**Pb**	**10 10 41.6**	**+0.4**
SMLC				*eS*	**Sg**	**10 11 13.4**	**-1.5**
SMLC				*i*		10 11 17.2	
	comp=Z,12nm,0.3s						
ZARC	**Zaragoza, Cauc**	**2.74**	**270**	*i P*	**Pb**	**10 10 46.9**	**-1.2**
ZARC				*eS*	**Sb**	**10 11 22.7**	**+1.3**
SIQV	**Siquisique**	**3.84**	**36**	*eP*	**Pn**	**10 10 57.9**	**0.0**
SIQV				*eS*	**Sn**	**10 11 40.5**	**-2.1**
BAUV	**El Baul**	**4.25**	**70**	*eP*	**Pn**	**10 11 03.3**	**-0.2**
BAUV				*eS*	**Sn**	**10 11 50.3**	**-2.5**
MAPV	**Macapo**	**4.27**	**57**	*eP*	**Pn**	**10 11 03.8**	**+0.1**
MAPV				*eS*	**Sn**	**10 11 51.0**	**-2.1**
BENV	**Beln**	**5.06**	**61**	*eP*	**Pn**	**10 11 14.8**	**0.0**
BENV				*eS*	**Sn**	**10 12 09.4**	**-3.5**
CACV	**CAICARA DEL OR**	**5.51**	**89**	*eP*	Pn	10 11 27.6	+6.8
CACV				*eS*	**Sn**	**10 12 31.9**	**+8.3**
BIRV	**Birongo**	**6.46**	**63**	*eP*	**Pn**	**10 11 33.5**	**-0.4**
BIRV				*eS*	**Sn**	**10 12 41.9**	**-5.3**

IDC 31 10:13:02.9±7.2, 23°.29S×178°.08W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.2/32, mbtmp4.0/2, Error ellipse: s-maj=294.3km s-min=59.0km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.88**	**260**	P	P	10 21 11.5	0.0
	0.6nm,0.4s,baz=95,slow=8.6,SNR=28						
WRA	**Warramunga Arr**	**44.21**	**265**	P	P	10 21 14.0	-0.2
	1.0nm,0.3s,baz=103,slow=8.2,SNR=30						
AKASG	**Malin Array Be**	**145.39**	**329**	PKPbc	PKPbc	10 32 41.7	-0.8
	0.4nm,0.3s,baz=45,slow=3.9,SNR=5.3						

*PGC **31** 10:21:12.0±6.8, 49°.65N×129°.38W, h10km, MLSn2.9/26, Mw3.5/25, Mw3.6/26, 182km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **31** 10:21:13.6±2.4, 49°.79N×129°.16W, h0km, mb3.5/3, mb1 3.7/9, mb1mx3.3/69, mbtmp3.4/9, ML3.3/5, MS3.3/2, Ms1 3.3/2, ms1mx2.8/52, Error ellipse: s-maj=38.1km s-min=11.3km az=71.0*

ISC 31 10:21:14.4±3.5, 49°.80N±0°.05×129°.15W±0°.07, h13km±24km, n61, σ1°.39/68, mb3.3/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.06**	**37**	P	**Pb**	**10 21 33.7**	**-0.9**
HOLB				S	**Sb**	**10 21 49.1**	**+0.6**
PACB	**Port Alice, BC**	**1.24**	**59**	Pn	**Pn**	**10 21 35.6**	**-1.7**
PACB				Sn	**Sb**	**10 21 52.9**	**-0.5**
EDB	**Eliza Dome**	**1.31**	**86**	Pn	**Pn**	**10 21 35.9**	**-2.5**
MAYB	**Maynard**	**1.41**	**64**	Pn	**Pn**	**10 21 38.5**	**-1.4**
PHC	**Port Hardy**	**1.43**	**50**	Pn	**Pn**	**10 21 38.8**	**-1.1**
TLCB	**Telegraph Cove**	**1.66**	**62**	Pn	**Pn**	**10 21 42.4**	**-0.8**
TLCB				Sn	**Sn**	**10 22 04.6**	**+0.2**
WOSB	**Woss**	**1.70**	**77**	Pn	**Pn**	**10 21 42.6**	**-1.2**
GDR	**Gold River**	**2.02**	**89**	Pn	**Pn**	**10 21 46.4**	**-1.7**
NCRB	**Newcastle Ridg**	**2.08**	**72**	Pn	**Pn**	**10 21 48.5**	**-0.6**
SPLB	**Strathcona Par**	**2.26**	**86**	Pn	**Pn**	**10 21 49.7**	**-1.8**
BTB	**Buttle Lake**	**2.38**	**97**	Pn	**Pn**	**10 21 51.0**	**-2.3**
BTB				Sn	**Sn**	**10 22 21.1**	**-1.3**
CBB	**Campbell River**	**2.46**	**83**	Pn	**Pn**	**10 21 53.0**	**-1.1**
CBB				Sn	**Sn**	**10 22 22.4**	**-1.6**
BBB	**Bella Bella**	**2.47**	**15**	Pn	**Pn**	**10 21 54.0**	**-0.4**
	4.1nm,0.3s,baz=202,slow=9.2,SNR=22						
BBB				Sn	**Sn**	**10 22 23.7**	**-0.7**
	4.5nm,0.3s,baz=271,slow=21,SNR=6.4						
BBB	**Bella Bella**	**2.47**	**15**	Pn	**Pn**	**10 21 53.4**	**-1.0**
BBB				Sn	**Sn**	**10 22 23.2**	**-1.1**
B928	**Bamfield**	**

OUZ IAmb IAmb 10 33 25.3
comp=Z,22nm,1.3s
CTAO Charters Tower 33.50 260 P **P 10 35 10.1 +0.5**
COEN Coen 37.07 270 P **P 10 35 39.8 +0.7**
COEN IAmb IAmb 10 35 53.6
comp=Z,21nm,1.5s
STKA Stephens Creek 38.83 241 P **P 10 35 53.6 +0.4**
comp=Z,0.8nm,0.4s,baz=68,slow=11,SNR=3.9
STKA Stephens Creek 38.83 241 P **P 10 35 53.0 -0.2**
BBOO Buckleboo 43.61 241 P **P 10 36 30.9 0.0**
BBOO IAmb IAmb 10 36 58.6
comp=Z,15nm,1.4s
WR0 Warramunga Arr 44.50 259 P **P 10 36 37.8 -0.1**
WR0 IAmb IAmb 10 36 47.8
comp=Z,9.6nm,1.3s
WB0 Warramunga Arr 44.65 259 P **P 10 36 38.5 -0.6**
WB2 Warramunga Arr 44.68 259 P **P 10 36 38.7 -0.5**
WB2 IAmb IAmb 10 36 41.4
comp=Z,18nm,1.4s
WRAB Tennant Creek 44.68 259 P **P 10 36 38.8 -0.4**
WRAB IAmb IAmb 10 36 41.5
comp=Z,12nm,1.4s
WRA Warramunga Arr 44.69 259 P **P 10 36 39.3 0.0**
comp=Z,2.1nm,0.5s,baz=94,slow=6.9,SNR=65
WRA Warramunga Arr 44.69 259 P **P 10 36 38.6 -0.8**
AS31 Alice Springs 44.89 254 P **P 10 36 40.6 -0.2**
AS31 IAmb IAmb 10 36 41.6
comp=Z,4.5nm,0.7s
ASAR Alice Springs 44.89 254 P **P 10 36 41.0 +0.1**
comp=Z,16nm,0.6s,baz=88,slow=8.0,SNR=403
ASAR PcP **PcP 10 38 10.0 +0.7**
comp=Z,0.4nm,0.7s,baz=100,slow=4.8,SNR=3.1
ASAR Alice Springs 44.89 254 P **P 10 36 40.4 -0.4**
MTN Manton Dam 48.78 268 P **P 10 37 10.6 +0.5**
FORT Forrest 50.18 244 P **P 10 37 19.9 -0.3**
FORT IAmb IAmb 10 37 44.3
comp=Z,24nm,1.2s
KNRA Kununurra 50.51 264 P **P 10 37 22.7 0.0**
PSA00 Pilbara Seismi 58.00 255 P **P 10 38 14.4 -0.6**
PSA00 IAmb IAmb 10 38 24.4
comp=Z,29nm,1.2s
VNDA Vanda 60.91 185 P **P 10 38 34.1 +0.7**
VNDA IAmb IAmb 10 38 52.1
comp=Z,36nm,1.4s
MJAR Matsushiro Arr 67.51 323 P **P 10 39 17.1 +1.4**
comp=Z,0.9nm,0.5s,baz=140,slow=5.9,SNR=2.4
QSPA South Pole Qui 72.62 180 P **P 10 39 46.3 +0.7**
ILAR Eielson Array 85.44 13 P **P 10 40 53.2 +0.4**
comp=Z,0.2nm,0.5s,baz=222,slow=5.6,SNR=6.7
ILAR Eielson Array 85.44 13 P **P 10 40 54.0 +1.2**
BMAR Burnt Mountain 88.21 12 P **P 10 41 06.8 +1.0**
SNAA Sanae 91.07 179 P **P 10 41 18.6 -0.6**
BRTR Keskin Array B 144.43 315 PKP **PKPab 10 47 49.0 +0.9**
comp=Z,0.7nm,0.7s,baz=134,slow=3.6,SNR=4.3
BRTR Keskin Array B 144.43 315 **PKPab 10 47 48.4 +0.3**
GERES GERESS Array B 147.15 345 PKPbc **PKiKP 10 47 56.6 0.0**
comp=Z,0.5nm,0.6s,baz=29,slow=3.0,SNR=4.5
DAVOX Davos/Dischmat 149.94 349 PKPbc **PKiKP 10 48 03.6 +1.1**
comp=Z,2.3nm,0.7s,baz=189,slow=13,SNR=2.5

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*IDC **31** 10:34:07.7±0.9, 35°.41N×3°.93W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.6/40, mbtmp3.7/8, ML3.3/2, MS3.9/2, Ms1 3.9/2, ms1mx2.9/95, Error ellipse: s-maj=35.1km s-min=16.7km az=90.0*
*CNRM **31** 10:34:07.8, 35°.56N×3°.76W, h24km, ml3.9*
*SFS **31** 10:34:08.0, 35°.55N×3°.85W, ML3.0, ALBORAN SUR*
*CRAAG **31** 10:34:10.3, 35°.70N×3°.63W, Ml3.0*
*LDG **31** 10:34:11.4, 35°.42N×3°.52W, h30km*
ISC 31 10:34:08.1±1.1, 35°.57N±0°.03×3°.77W±0°.03, h16km±7km, n43, σ2s67/61, mb3.9/5, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**201**	P	**Pg**	**10 34 15.4**	**-0.5**
PALE				S	**Sg**	**10 34 19.6**	**-1.6**
GOG	**Mont Gurugu**	**0.72**	**119**	P	**Pg**	**10 34 21.8**	**-0.5**
GOG				S	**Sg**	**10 34 31.0**	**-0.9**
AKLM	**AKL**	**1.06**	**184**	P	**Pb**	**10 34 27.4**	**-0.7**
AKLM				S	**Sn**	**10 34 43.7**	**+0.8**
CHAS	**Isla Isabel II**	**1.16**	**109**	*e*P	**Pb**	**10 34 28.4**	**-1.4**
CHAS				*e*S	**Sb**	**10 34 42.6**	**-2.0**
EMAL	**Malaga-Limoner**	**1.30**	**336**	*e*P	**Pn**	**10 34 31.6**	**-0.1**
EMAL				*e*S	**Sn**	**10 34 48.6**	**-0.1**
SMIR	**Smir Dam**	**1.31**	**275**	P	**Pn**	**10 34 29.7**	**-2.1**
CEU	**Ceuta**	**1.34**	**285**	*e*P	**Pn**	**10 34 30.3**	**-1.9**
CEU				*e*S	**Sb**	**10 34 44.6**	**-5.2**
TAF	**Taforalt**	**1.34**	**124**	P	**Pn**	**10 34 31.1**	**-1.1**
TAF				S	**Sb**	**10 34 49.3**	**-0.6**
CHEFC	**Chefchaouen**	**1.36**	**251**	P	**Pb**	**10 34 33.1**	**-0.2**
CHEFC				S	Sg	10 35 00.5	+8.4
JBK	**JBK**	**1.58**	**141**	P	**Pn**	**10 34 34.3**	**-1.4**
JBK				S	**Sn**	**10 34 52.9**	**-2.9**
SICH	**Sidi Chahed**	**1.94**	**221**	P	**Pn**	**10 34 41.2**	**+0.8**
SICH				S	**Sb**	**10 35 06.0**	**-1.0**
OLHC	**Oulhaca**	**1.95**	**99**	P	**Pn**	**10 34 38.9**	**-1.7**
LCRM	**LCR**	**2.08**	**206**	P	**Pn**	**10 34 42.8**	**+0.3**
LCRM				S	**Sg**	**10 35 21.0**	**+5.8**
IFR	**Ifrane**	**2.33**	**209**	*e*P	**Pn**	**10 34 44.9**	**-1.1**
IFR				*e*S	**Sn**	**10 35 12.6**	**-1.9**
OTSS	**Djebel Tessala**	**2.45**	**96**	P	**Pn**	**10 34 47.7**	**+0.2**
MD31	**MD31**	**2.82**	**197**	P	**Pn**	**10 34 53.1**	**+0.5**
MD31				S	**Sn**	**10 35 24.6**	**-1.6**
MDT	**Midelt**	**2.84**	**194**	Pn	**Pn**	**10 34 52.9**	**+0.1**
5.7nm,0.3s,baz=170,slow=20,SNR=120							
MDT				Sn	**Sn**	**10 35 25.5**	**-1.2**
24nm,0.3s,baz=24,slow=6.0,SNR=8.8							
MDT	**Midelt**	**2.84**	**194**	P	**Pn**	**10 34 52.7**	**-0.1**
MDT				S	**Sn**	**10 35 26.5**	**-0.2**
CART	**Cartagena**	**3.00**	**47**	P	**Pn**	**10 34 55.0**	**0.0**
CART				S	**Sn**	**10 35 27.6**	**-3.0**
ZHG	**ZHG**	**3.18**	**229**	P	**Pn**	**10 34 57.5**	**0.0**
ZHG				S	**Sn**	**10 35 32.7**	**-2.4**
PVAQ	**Vaqueiros**	**3.67**	**301**	P	**Pn**	**10 35 06.7**	**+2.6**
PVAQ				S	**Sn**	**10 35 45.4**	**-1.7**
AVE	**Averroes**	**3.77**	**234**	*e*P	**Pn**	**10 35 06.4**	**+0.9**
AVE				*e*S	**Sn**	**10 35 42.7**	**-6.8**
FIGM	**Figuig**	**4.01**	**148**	P	**Pn**	**10 35 09.4**	**+0.3**
ESDC	**Sonseca Array**	**4.10**	**358**	Pn	**Pn**	**10 35 13.6**	**+3.4**
0.9nm,0.3s,baz=177,slow=12,SNR=20							
ESDC				Sn	**Sb**	**10 36 06.1**	**-3.1**
0.8nm,0.3s,baz=185,slow=22,SNR=5.1							
OUZM	**OUZ**	**5.28**	**209**	P	**Pn**	**10 35 27.1**	**+0.7**
ZGR	**Zagora**	**5.65**	**196**	P	**Pn**	**10 35 30.2**	**-1.4**
TTIG	**Tnine Tigouga,**	**6.36**	**219**	P	**Pn**	**10 35 39.9**	**-1.4**
ETSF	**Etsaut**	**7.73**	**18**	*e*P	Pn	10 36 04.9	+4.9
ETSF				*e*Sn	**Sn**	**10 37 23.6**	**-3.6**
2.2nm,0.5s							
SJPF	**Ste Jean**	**7.79**	**14**	*e*P	**Pn**	**10 36 05.3**	**+4.6**
SJPF				*e*Sn	**Sn**	**10 37 25.3**	**-3.2**
1.2nm,0.3s							
EPF	**Esparros**	**8.10**	**22**	*e*P	Pn	10 36 10.0	+4.9
EPF				*e*Sn	**Sn**	**10 37 33.9**	**-2.4**
1.3nm,0.4s							
MTLF	**Montolieu**	**9.03**	**29**	*e*Pn	Pn	10 36 23.9	+6.1
LFF	**La Frestale**	**9.97**	**19**	*e*Pn	**Pn**	**10 36 30.8**	**+0.2**
LFF				*e*Sn	**Sn**	**10 38 14.9**	**-7.2**
3.2nm,0.4s							
MFF	**Saint Martin d**	**11.35**	**13**	*e*Sn	**Sn**	**10 38 50.6**	**-5.4**
BGF	**Bois d'Agland**	**12.05**	**22**	*e*Pn	**Pn**	**10 36 59.7**	**+0.6**
ROSF	**Rostrenen**	**12.76**	**2**	*e*Sn	**Sn**	**10 39 25.2**	**-5.2**
GERES	**GERESS Array B**	**18.47**	**39**	P	**Pn**	**10 38 27.0**	**+3.6**
baz=211,slow=7.4,SNR=2.0							
TORD	**Torodi Ar. Bea**	**22.86**	**166**	P	**P**	**10 39 11.5**	**+0.7**
2.4nm,0.9s,baz=347,slow=10,SNR=3.8							
KIRV	**Kirov**	**41.48**	**39**	LR	LR	10 59 21.9	
comp=Z,158nm,21.6s,baz=297,slow=36							
MKAR	**Makanchi Array**	**62.66**	**51**	P	**P**	**10 44 35.8**	**+4.0**
0.6nm,0.7s,baz=297,slow=5.3,SNR=6.0							
YKA	**Yellowknife Ar**	**67.77**	**332**	P	**P**	**10 45 07.7**	**+3.1**
0.6nm,0.6s,baz=59,slow=6.4,SNR=9.7							
BOSA	**Boshof**	**69.46**	**153**	P	**P**	**10 45 16.9**	**+1.1**
1.7nm,0.8s,baz=350,slow=6.9,SNR=4.2							
PDAR	**Pinedale Array**	**76.79**	**313**	P	**P**	**10 46 01.1**	**+1.9**
0.4nm,0.8s,baz=86,slow=7.6,SNR=4.1							
NEW	**Newport**	**77.59**	**321**	LR	LR	11 17 43.2	
comp=Z,78nm,18.4s,baz=168,slow=34							

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*IDC **31** 10:49:24.0±1.6, 36°.59N×22°.70E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.6/44, mbtmp3.8/9, ML2.7/2, Error ellipse: s-maj=36.4km s-min=18.3km az=32.0*

*ATH **31** 10:49:26.7, 36°.07N×22°.23E, h14km±3km, ML3.4/5, Error ellipse: s-maj=3.7km s-min=1.6km az=77.0*
*THE **31** 10:49:26.3, 36°.06N×22°.23E, h11km±1km, ML3.4/6, Error ellipse: s-maj=1.9km s-min=0.8km az=49.0*
ISC 31 10:49:22.6±1.5, 35°.97N±0°.05×22°.21E±0°.05, h16km±9km, n44, σ1s91/55, mb3.9/7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHR	**Kythira**	**0.70**	**65**	P	**Pn**	**10 49 38.9**	**+1.0**
KTHR				S	**Sb**	**10 49 48.1**	**+2.1**
4μm,0.5s							
KTHA	**Kythira Island**	**0.74**	**67**	P	**Pn**	**10 49 40.0**	**+1.5**
KTHA				S	**Sb**	**10 49 49.7**	**+2.5**
5μm,0.8s							
KTHA	**Kythira Island**	**0.74**	**67**	P	**Pn**	**10 49 40.0**	**+1.5**
KTHA				S	**Sb**	**10 49 49.5**	**+2.3**
KTHA				AML	AML	10 49 49.9	
comp=N,6098μm,0.6s							
KTHA				AML	AML	10 49 50.5	
comp=E,11325μm,0.5s							
ANKY	**Antikythira Is**	**0.89**	**96**	P	**Pn**	**10 49 43.7**	**+3.2**
ANKY				S	**Sn**	**10 49 56.0**	**+3.0**
comp=E,2μm,0.8s							
ANKY	**Antikythira Is**	**0.89**	**96**	P	**Pn**	**10 49 43.6**	**+3.2**
ANKY				S	**Sn**	**10 49 54.8**	**+1.7**
ANKY				AML	AML	10 49 57.8	
comp=N,4999μm,0.5s							
ANKY				AML	AML	10 50 03.7	
comp=E,3068μm,1.2s							
VLI	**Velíai**	**0.95**	**38**	P	**Pn**	**10 49 42.3**	**+1.0**
VLI				S	**Sn**	**10 49 55.5**	**+0.9**
comp=E,8μm,0.7s							
VLI	**Velíai**	**0.95**	**38**	P	**Pn**	**10 49 42.3**	**+1.0**
VLI				S	**Sn**	**10 49 55.6**	**+1.1**
VLI				AML	AML	10 49 56.5	
comp=E,23058μm,0.8s							
VLI				AML	AML	10 49 58.4	
comp=N,8738μm,0.6s							
MNVA	**Monemvasia**	**0.98**	**43**	P	**Pn**	**10 49 43.6**	**+1.9**
MNVA				S	**Sb**	**10 49 55.6**	**+1.8**
MNVA				AML	AML	10 49 56.4	
comp=E,3992μm,0.6s							
MNVA				AML	AML	10 49 57.1	
comp=N,3862μm,0.5s							
PYL	**PYLOS**	**1.00**	**338**	P	**Pn**	**10 49 43.9**	**+1.8**
PYL				S	**Sn**	**10 49 57.0**	**+1.2**
PYL	**PYLOS**	**1.00**	**338**	P	**Pn**	**10 49 43.8**	**+1.8**
ITM	**Ithomi**	**1.23**	**349**	P	**Pg**	**10 49 47.3**	**+0.9**
ITM				S	**Sn**	**10 50 04.4**	**+2.9**
comp=N,885nm,0.4s							
ITM	**Ithomi**	**1.23**	**349**	P	**Pg**	**10 49 47.1**	**+0.7**
ITM				AML	AML	10 50 09.6	
comp=N,2154μm,0.3s							
ITM				AML	AML	10 50 18.9	
comp=E,1337μm,0.7s							
IMMV	**Iera Moni Meta**	**1.52**	**109**	P	**Pg**	**10 49 52.5**	**+0.6**
IMMV	**Iera Moni Meta**	**1.52**	**109**	P	**Pg**	**10 49 52.5**	**+0.6**
KRND	**KRANIDI**	**1.60**	**28**	P	**Pb**	**10 49 51.5**	**-0.3**
KRND				S	**Sb**	**10 50 13.5**	**+1.7**
comp=E,985nm,1.0s							
VAM	**Vamos**	**1.71**	**109**	P	**Pb**	**10 49 54.9**	**+1.2**
KLV	**Kalavryta, Ach**	**2.07**	**359**	P	**Pb**	**10 50 00.3**	**+0.4**
IDI	**Anoyia**	**2.28**	**107**	Pn	**Pb**	**10 50 02.5**	**-1.0**
comp=E,1.5nm,0.3s,baz=293,slow=17,SNR=17							
IDI				Sn	**Sb**	**10 50 31.7**	**+0.2**
comp=E,9.0nm,0.3s,baz=92,slow=24,SNR=6.6							
PTL	**Penteli**	**2.46**	**32**	P	**Pn**	**10 50 04.3**	**+2.2**
STIP	**Stip**	**5.72**	**360**	*i* Pn	**Pn**	**10 50 50.2**	**+3.4**
VAE	**Valguarnera**	**6.44**	**286**	Sn	**Sn**	**10 52 15.4**	**+5.3**
comp=E,1.0nm,0.3s,baz=340,slow=14,SNR=3.5							
STON	**Ston**	**7.73**	**335**	*e*Pn	**Pn**	**10 51 12.9**	**-1.5**
STON				Sn	Sn	10 52 26.7	-15
LSTV	**Lastovo**	**7.94**	**330**	*e*Pn	**Pn**	**10 51 16.3**	**-1.0**
LSTV				Sn	Sn	10 52 33.3	-14
MAKA	**Makarska**	**8.33**	**333**	*e*Pn	**Pn**	**10 51 21.6**	**-1.1**
HVAR	**Hvar**	**8.46**	**330**	*e*Pn	**Pn**	**10 51 23.3**	**-1.2**
HVAR				Sn	Sn	10 52 45.1	-15
RICI	**Ricice**	**8.47**	**334**	*e*Pn	**Pn**	**10 51 22.9**	**-1.8**
RICI				Sn	Sn	10 52 46.6	-13
KLJV	**Kijevo**	**9.18**	**333**	*e*Pn	**Pn**	**10 51 32.9**	**-1.4**
KLJV				Sn	Sn	10 53 03.5	-14
ZIRJ	**Zirje**	**9.19**	**329**	*e*Pn	**Pn**	**10 51 33.0**	**-1.4**
ZIRJ				Sn	Sn	10 53 03.6	-14
MORI	**Morici**	**9.33**	**330**	*e*Pn	**Pn**	**10 51 35.3**	**-1.1**
MORI				Sn	Sn	10 53 06.7	-14
DUGI	**Dugi Otok**	**9.71**	**328**	*e*Pn	**Pn**	**10 51 41.1**	**-0.5**
DUGI				Sn	Sn	10 53 17.4	-13
BRTR	**Keskin Array B**	**9.78**	**64**	Pn	**Pn**	**10 51 44.1**	**+1.4**
comp=E,0.1nm,0.3s,baz=251,slow=10.0,SNR=1.4							
UDBI	**Udbina**	**9.86**	**332**	*e*Pn	**Pn**	**10 51 42.8**	**-1.0**
UDBI				Sn	Sn	10 53 20.2	-14
A252A	**Venje**	**10.02**	**342**	*e*Pn	**Pn**	**10 51 43.6**	**-2.2**
A252A				Sn	Sn	10 53 22.6	-15
NVLJ	**Novalja**	**10.25**	**329**	*e*Pn	**Pn**	**10 51 48.5**	**-0.5**
NVLJ				Sn	Sn	10 53 30.3	-13
AKASG	**Malin Array Be**	**15.57**	**17**	Pn	**Pn**	**10 52 58.3**	**-3.1**
comp=E,0.1nm,0.3s,baz=209,slow=12,SNR=1.9							
KBZ	**Khabaz**	**17.64**	**58**	Pn	**Pn**	**10 53 25.2**	**-2.4**
comp=E,0.0nm,0.3s,baz=235,slow=19,SNR=2.1							
ESDC	**Sonseca Array**	**20.98**	**288**	P	Pn	10 54 11.2	+3.4
comp=E,0.4nm,0.7s,baz=88,slow=12,SNR=1.6							
HFS	**Hagfors**	**24.80**	**350**	P	**P**	**10 54 42.5**	**-1.2**
comp=E,1.9nm,0.7s,baz=134,slow=11,SNR=8.2							
FINES	**FINESS Array B**	**25.61**	**4**	P	**P**	**10 54 49.5**	**-1.5**
comp=E,1.8nm,0.8s,baz=165,slow=7.9,SNR=5.7							
EKA	**Eskdalemuir Ar**	**26.01**	**326**	P	**P**	**10 54 56.5**	**+1.8**
comp=E,1.6nm,0.5s,baz=124,slow=9.7,SNR=8.6							
ARCES	**ARCESS Array B**	**33.67**	**2**	P	**P**	**10 56 01.2**	**-1.2**
comp=E,3.1nm,0.9s,baz=205,slow=5.4,SNR=7.3							
MKAR	**Makanchi Array**	**45.34**	**57**	P	**P**	**10 57 38.2**	**-1.7**
comp=E,1.4nm,0.3s,baz=268,slow=7.8,SNR=16							
ZALV	**Zalesovo Beam**	**46.19**	**47**	P	**P**	**10 57 44.4**	**-2.1**
comp=E,0.8nm,0.3s,baz=273,slow=11,SNR=5.1							
YKA	**Yellowknife Ar**	**75.92**	**341**	P	**P**	**11 01 08.1**	**-0.1**
comp=E,0.2nm,0.7s,baz=36,slow=5.0,SNR=4.5							

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*SOME **31** 10:57:02.5, 38°.63N×76°.55E, h10km*
*NNC **31** 10:57:07.6±2.1, 38°.82N×76°.75E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=15.3km s-min=11.3km az=138.0*
ISC 31 10:56:54.4±2.9, 38°.4N±0°.1×76°.68E±0°.06, h10km, n46, σ1s56/65, 8C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**3.89**	**355**	P	**Pg**	**10 58 09.4**	**+0.4**
SNR=5.6							
UCH	**Uchtor**	**4.20**	**338**	P	**Pg**	**10 58 16.1**	**+1.2**
SNR=12							
AML	**Almayashu**	**4.40**	**330**	P	**Pg**	**10 58 20.4**	**+1.6**
SNR=6.4							
KBK	**Karagaybulak**	**4.49**	**343**	P	**Pg**	**10 58 21.5**	**+1.2**
SNR=8.4							
AAK	**Ala-Archa**	**4.58**	**339**	⇑Pg	**Pg**	**10 58 22.7**	**+0.5**
4.7nm,0.7s							
AAK				⇓Lg	Lg	10 59 20.3	
19nm,0.7s							
TKM2	**Tokmak 2**	**4.63**	**350**	P	**Pg**	**10 58 21.6**	**-1.5**
SNR=12							
TKM2	**Tokmak 2**	**4.63**	**350**	⇓Pg	**Pg**	**10 58 24.3**	**+1.2**
11nm,0.7s							
TKM2				⇑Lg	Lg	10 59 21.2	
21nm,0.7s							
IZV	**Izvestkoviy**	**4.67**	**359**	*e*P	**Pg**	**10 58 25.2**	**+1.4**
5.4nm,0.1s							
IZV				*e*S	**Sg**	**10 59 25.0**	**+0.6**
12nm,0.2s							
IZV	**Izvestkoviy**	**4.67**	**359**	Pg	**Pg**	**10 58 25.2**	**+1.4**
6.1nm,0.5s							
IZV				Lg	Lg	10 59 25.0	
13nm,0.8s							
TNSS	**Tian-Shan**	**4.68**	**2**	*e*P	**Pg**	**10 58 23.2**	**-0.7**
4.2nm,0.2s							
TNSS				*e*S	**Sg**	**10 59 21.5**	**-3.1**
5.2nm,0.2s							
TNSS	**Tian-Shan**	**4.68**	**2**	Pg	**Pg**	**10 58 23.2**	**-0.7**
4.3nm,0.5s							
TNSS				Lg	Lg	10 59 21.5	
9.0nm,0.7s							
KST	**Kastek**	**4.71**	**354**	*e*P	**Pg**	**10 58 25.4**	**+0.8**
3.9nm,0.2s							
KST				*e*S	**Sg**	**10 59 25.4**	**-0.2**
17nm,0.0s							
KST	**Kastek**	**4.71**	**354**	Pg	**Pg**	**10 58 25.4**	**+0.8**
6.2nm,0.5s							
KST				Lg	Lg	10 59 25.4	
17nm,0.7s							
MTBS	**Maitube**	**4.77**	**358**	*e*P	**Pg**	**10 58 25.7**	**0.0**
2.4nm,0.1s							
MTBS				*e*S	**Sg**	**10 59 25.9**	**-1.5**
9.2nm,0.1s							
MTBS	**Maitube**	**4.77**	**358**	Pg	**Pg**	**10 58 25.7**	**0.0**
2.8nm,0.4s							
MTBS				Lg	Lg	10 59 25.9	
8.8nm,0.6s							
MDOK	**Medeo**	**4.81**	**3**	*e*P	**Pg**	**10 58 27.3**	**+0.9**
7.9nm,0.4s							
MDOK				*e*S	**Sg**	**10 59 28.6**	**0.0**
12nm,0.7s							
MDOK	**Medeo**	**4.81**	**3**	Pg	**Pg**	**10 58 25.7**	**-0.7**
7.3nm,0.6s							
MDOK				Lg	Lg	10 59 25.2	
24nm,0.6s							
MDOK	**Medeo**	**4.81**	**3**	Pg	**Pg**	**10 58 27.3**	**+0.9**
7.9nm,0.4s							
MDOK				Lg	Lg	10 59 28.6	
12nm,0.7s							
KNDC	**Almaty**	**4.86**	**3**	⇑Pg	**Pg**	**10 58 29.9**	**+2.5**
16nm,0.3s							
KNDC				⇑Lg	Lg	10 59 25.9	
46nm,0.6s							
SATY	**Saty**	**4.87**	**15**	*e*P	**Pg**	**10 58 28.2**	**+0.5**
2.8nm,0.1s							
SATY				*e*S	**Sg**	**10 59 30.3**	**-0.6**
9.6nm,0.5s							
SATY	**Saty**	**4.87**	**15**	Pg	**Pg**	**10 58 28.2**	**+0.5**
5.9nm,0.6s							
SATY				Lg	Lg	10 59 30.3	
9.6nm,0.5s							
KOTS	**Kotyrbulak**	**4.88**	**4**	*e*P	**Pg**	**10 58 26.9**	**-0.9**
6.1nm,0.2s							
KOTS				*e*S	**Sg**	**10 59 28.0**	**-3.1**
27nm,0.1s							
KOTS	**Kotyrbulak**	**4.88**	**4**	Pg	**Pg**	**10 58 26.9**	**-0.9**
9.3nm,0.5s							
KOTS				Lg	Lg	10 59 28.0	
52nm,0.8s							
DGS	**Degeres**	**4.92**	**352**	*e*P	**Pb**	**10 58 24.6**	**+3.8**
1.9nm,0.3s							
DGS				*e*S	**Sb**	**10 59 23.5**	**+3.4**
5.8nm,0.1s							
UZB	**Uzynbulak**	**5.10**	**20**	*e*P	**Pg**	**10 58 32.4**	**+0.2**
2.3nm,0.1s							
UZB				*e*S	**Sg**	**10 59 37.4**	**-0.8**
6.7nm,0.0s							
UZB	**Uzynbulak**	**5.10**	**20**	Pg	**Pg**	**10 58 32.3**	**+0.2**
2.4nm,0.2s							
UZB				Lg	Lg	10 59 37.4	
6.1nm,0.6s							
MRKS	**Merke**	**5.11**	**330**	*e*P	**Pg**	**10 58 33.7**	**+1.5**
4.0nm,0.4s							
MRKS				*e*S	**Sg**	**10 59 39.5**	**+1.2**
18nm,0.1s							
MRKS	**Merke**	**5.11**	**330**	Pg	**Pg**	**10 58 33.7**	**+1.5**
4.7nm,0.6s							
MRKS				Lg	Lg	10 59 39.5	
20nm,0.7s							
KURS	**Kuram**	**5.25**	**12**	*e*P	**Pg**	**10 58 35.0**	**+0.1**
6.4nm,0.3s							
KURS				*e*S	**Sg**	**10 59 41.6**	**-1.1**
13nm,0.3s							
KURS	**Kuram**	**5.25**	**12**	Pg	**Pg**	**10 58 35.0**	**+0.1**
6.5nm,0.5s							
KURS				Lg	Lg	10 59 41.6	
12nm,0.6s							
SGDS	**Sogindy**	**5.32**	**344**	*e*P	**Pg**	**10 58 36.4**	**+0.2**
1.8nm,0.2s							
SGDS				*e*S	**Sg**	**10 59 43.5**	**-1.6**
8.4nm,0.6s							
KTBS	**Karatobe**	**5.35**	**0**	*e*P	**Pg**	**10 58 36.4**	**-0.3**
3.0nm,0.2s							
KTBS				*e*S	**Sg**	**10 59 44.3**	**-1.7**
8.5nm,0.4s							
KTBS	**Karatobe**	**5.35**	**0**	Pg	**Pg**	**10 58 36.4**	**-0.3**
3.1nm,0.4s							
KTBS				Lg	Lg	10 59 44.3	
8.5nm,0.4s							
PDGK	**Podgornoye**	**5.40**	**22**	⇑Pg	**Pg**	**10 58 36.9**	**-0.9**
7.3nm,0.6s							
PDGK				⇑Lg	Lg	10 59 44.9	
12nm,0.7s							
KUU	**Kurty**	**5.53**	**357**	*e*P	**Pg**	**10 58 39.6**	**-0.8**
1.9nm,0.0s							
KUU				*e*S	**Sg**	**10 59 49.5**	**-2.5**
10nm,0.2s							
KUU	**Kurty**	**5.53**	**357**	Pg	**Pg**	**10 58 39.6**	**-0.8**
2.1nm,0.1s							
KUU				Lg	Lg	10 59 49.5	
15nm,0.9s							
BLB	**Baldybastay**	**5.89**	**13**	*e*P	**Pg**	**10 58 46.8**	**-0.4**
2.6nm,0.2s							
BLB				*e*S	**Sg**	**11 00 01.9**	**-1.5**
12nm,0.1s							
BLB	**Baldybastay**	**5.89**	**13**	Pg	**Pg**	**10 58 46.8**	**-0.4**
5.4nm,0.5s							
BLB				Lg	Lg	11 00 01.9	
12nm,0.6s							
ARXS	**Arharly**	**5.91**	**8**	*e*P	**Pg**	**10 58 47.0**	**-0.6**
4.4nm,0.1s							
ARXS				*e*S	**Sg**	**11 00 02.5**	**-1.6**
8.2nm,0.2s							
ARXS	**Arharly**	**5.91**	**8**	Pg	**Pg**	**10 58 46.9**	**-0.6**
6.2nm,0.8s							
ARXS				Lg	Lg	11 00 02.5	
6.2nm,0.7s							
IUG	**Iuzhnay**	**6.33**	**309**	*e*P	**Pg**	**10 58 55.5**	**-0.2**
37nm,0.0s							
IUG				*e*S	**Sg**	**11 00 16.6**	**-1.1**
13nm,0.4s							
IUG	**Iuzhnay**	**6.33**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.50**	**179**	P	**Pn**	**11 06 20.6**	**-3.0**
SOEI	**Soe**	**1.50**	**179**	Pn	**Pn**	**11 06 20.5**	**-3.0**
MMRI	**Maumere**	**2.01**	**259**	P	**Pn**	**11 06 25.2**	**-3.2**
MMRI	**Maumere**	**2.01**	**259**	Pn	**Pn**	**11 06 25.0**	**-3.3**
BATI	**Baumata**	**2.03**	**196**	P	**Pn**	**11 06 26.6**	**-2.0**
	245nm,0.3s,baz=34,slow=3.1,SNR=158						
BATI				S	**Sn**	**11 06 55.8**	**-3.1**
	232nm,0.3s,baz=25,slow=9.6,SNR=9.5						
BATI	**Baumata**	**2.03**	**196**	P	**Pn**	**11 06 26.6**	**-2.0**
BBSI	**Bau Bau**	**3.20**	**329**	P	**Pn**	**11 06 37.4**	**-4.4**
BASI	**Baing, Sumba**	**4.11**	**241**	P	**Pn**	**11 06 52.5**	**-0.4**
WSI	**Waingapu**	**4.14**	**250**	P	**Pn**	**11 06 53.1**	**-0.1**
BSSI	**Bau Bau, Buton**	**4.26**	**299**	P	**Pn**	**11 06 52.3**	**-2.5**
LBFI	**Labuhan Bajo,**	**4.30**	**267**	P	**Pn**	**11 06 54.1**	**-1.2**
KKSI	**Kolaka, Sulawe**	**4.79**	**327**	P	**Pn**	**11 06 57.9**	**-3.7**
WBSI	**Waikabubak, Su**	**4.98**	**253**	P	**Pn**	**11 07 03.7**	**-0.3**
BKSI	**Bulukumba**	**5.01**	**305**	P	**Pn**	**11 07 01.3**	**-3.0**
KAPI	**Kappang**	**5.49**	**306**	P	**Pn**	**11 07 08.6**	**-1.9**
	1.6nm,0.3s,baz=199,slow=16,SNR=3.2						
DRS	**Darwin Rock St**	**7.76**	**123**	P	**Pn**	**11 07 37.3**	**-2.6**
MTN	**Manton Dam**	**8.18**	**125**	Pn	**Pn**	**11 07 43.2**	**-2.2**
MTN	**Manton Dam**	**8.18**	**125**	P	**Pn**	**11 07 43.1**	**-2.2**
KNRA	**Kununurra**	**8.61**	**149**	Pn	**Pn**	**11 07 49.0**	**-1.9**
KNRA	**Kununurra**	**8.61**	**149**	P	**Pn**	**11 07 48.2**	**-2.8**
KDU	**Kakadu**	**9.22**	**119**	P	Pn	11 07 55.7	-3.3
FAKI	**Fak Fak**	**9.57**	**57**	Pn	Pn	11 08 00.1	-3.4
FAKI	**Fak Fak**	**9.57**	**57**	P	**Pn**	**11 08 01.2**	**-2.3**
FITZ	**Fitzroy Crossi**	**9.89**	**172**	P	**Pn**	**11 08 04.4**	**-3.1**
	1.6nm,0.3s,baz=1.5,slow=8.7,SNR=20						
FITZ				S	**Sn**	**11 09 50.8**	**-7.4**
	8.9nm,0.3s,baz=109,slow=12,SNR=12						
TOLI2	**Tolitoli**	**9.91**	**340**	Pn	**Pn**	**11 08 06.2**	**-1.7**
JAGI	**Jajag, Banyuwa**	**9.98**	**268**		**Pn**	**11 08 07.0**	**-1.8**
JAGI	**Jajag, Banyuwa**	**9.98**	**268**	P	**Pn**	**11 08 06.8**	**-2.0**
MBWA	**Marble Bar**	**13.55**	**198**		**P**	**11 08 57.3**	**+0.7**
MBWA	**Marble Bar**	**13.55**	**198**	P	**Pn**	**11 08 54.0**	**-0.2**
UGM	**Wanagama**	**13.58**	**270**	Pn	**Pn**	**11 08 52.0**	**-2.6**
UGM	**Wanagama**	**13.58**	**270**	P	**Pn**	**11 08 52.7**	**-1.9**
PSA00	**Pilbara Seismi**	**13.91**	**197**	Pn	**Pn**	**11 08 57.3**	**-1.2**
WRA	**Warramunga Arr**	**15.20**	**141**	P	**Pn**	**11 09 12.3**	**-2.1**
	1.3nm,0.3s,baz=317,slow=12,SNR=24						
WRA				S	S	11 11 51.0	-12
	2.0nm,0.3s,baz=311,slow=24,SNR=15						
WRAB	**Tennant Creek**	**15.20**	**141**	P	**Pn**	**11 09 13.6**	**-0.8**
SBUM	**Sibu**	**16.01**	**311**		**Pn**	**11 09 23.3**	**-1.0**
KSM	**Kuching**	**16.91**	**304**	P	**P**	**11 09 33.0**	**-0.8**
KSM				IAmb	IAmb	11 09 38.3	
	comp=Z,26nm,1.3s						
WRKA	**Warakurna**	**17.14**	**167**	P	**Pn**	**11 09 38.0**	**+0.2**
AS31	**Alice Springs**	**17.91**	**150**		**P**	**11 09 46.2**	**+1.5**
AS31				IAmb	IAmb	11 09 48.8	
	comp=Z,7.9nm,0.7s						
ASAR	**Alice Springs**	**17.92**	**150**	P	**P**	**11 09 46.4**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=326,slow=11,SNR=114						
ASAR				S	**S**	**11 12 59.9**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=318,slow=21,SNR=27						
XMIS	**Christmas Isla**	**18.47**	**262**	P	**P**	**11 09 49.9**	**-0.9**
MEEK	**Meekatharra**	**19.05**	**196**	P	**P**	**11 09 58.4**	**+1.4**
QIS	**Mount Isa**	**19.25**	**131**	P	**P**	**11 10 00.7**	**+1.5**
COEN	**Coen**	**19.43**	**109**	P	**P**	**11 10 01.2**	**+0.1**
COEN				IAmb	IAmb	11 10 12.7	
	comp=Z,13nm,0.7s						
COEN	**Coen**	**19.43**	**109**	P	**P**	**11 10 01.3**	**+0.1**
MTSU	**Mount Surprise**	**21.86**	**119**	P	**P**	**11 10 27.3**	**+0.5**
MORW	**Morawa**	**22.10**	**199**	P	**P**	**11 10 29.7**	**+0.7**
MORW				IAmb	IAmb	11 10 30.1	
	comp=Z,13nm,0.7s						
MORW	**Morawa**	**22.10**	**199**	P	**P**	**11 10 29.4**	**+0.5**
OOD	**Oodnadatta**	**22.25**	**152**	P	**P**	**11 10 31.5**	**+1.1**
FORT	**Forrest**	**22.70**	**171**	P	**P**	**11 10 35.4**	**+1.0**
FORT	**Forrest**	**22.70**	**171**	P	**P**	**11 10 35.4**	**+1.0**
BLDU	**Ballidu**	**23.34**	**197**	P	**P**	**11 10 41.4**	**+1.2**
MULG	**Mulgathing**	**23.77**	**159**	P	**P**	**11 10 45.7**	**+1.6**
CTA	**Charters Tower**	**24.34**	**121**	P	**P**	**11 10 52.5**	**+3.1**
	comp=Z,2.2nm,0.5s,baz=302,slow=11,SNR=6.3						
CTAO	**Charters Tower**	**24.34**	**121**	P	**P**	**11 10 51.3**	**+1.9**
CTAO				IAmb	IAmb	11 11 03.1	
	comp=Z,16nm,1.4s						
INKA	**Innaminka**	**24.89**	**143**	P	**P**	**11 10 56.4**	**+2.1**
LCRK	**Leigh Creek**	**25.67**	**151**	P	**P**	**11 11 03.0**	**+1.7**
BBOO	**Buckleboo**	**26.79**	**157**	P	**P**	**11 11 12.4**	**+1.2**
BBOO				IAmb	IAmb	11 11 13.1	
	comp=Z,15nm,0.7s						
BBOO	**Buckleboo**	**26.79**	**157**	P	**P**	**11 11 12.5**	**+1.2**
GSI	**Gunungsitoli**	**28.22**	**288**	P	**P**	**11 11 25.7**	**+1.4**
	comp=Z,19nm,1.1s						
HTT	**Hallett**	**28.50**	**154**	P	**P**	**11 11 28.9**	**+2.3**
STKA	**Stephens Creek**	**28.52**	**148**	P	**P**	**11 11 28.1**	**+1.3**
	comp=Z,4.6nm,0.8s,baz=312,slow=11,SNR=12						
STKA	**Stephens Creek**	**28.52**	**148**	P	**P**	**11 11 28.0**	**+1.3**
CMSA	**Cobar Meteorol**	**30.60**	**142**	P	**P**	**11 11 47.4**	**+2.3**
ARPS	**Mount Arapiles**	**32.60**	**153**	P	**P**	**11 12 04.9**	**+2.5**
TOO	**Toolangi**	**34.97**	**150**	P	**P**	**11 12 24.9**	**+1.9**
TOO				IAmb	IAmb	11 12 29.8	
	comp=Z,25nm,1.4s						
CAN	**Canberra**	**35.22**	**144**	P	**P**	**11 12 27.6**	**+2.5**
CAN				IAmb	IAmb	11 12 36.1	
	comp=Z,34nm,1.5s						
CAN	**Canberra**	**35.22**	**144**	P	**P**	**11 12 27.8**	**+2.7**
CMAR	**Chiang Mai Arr**	**36.43**	**317**	P	**P**	**11 12 34.7**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=130,slow=8.7,SNR=5.7						
NJ2	**Nanjing**	**40.40**	**353**	*eP*	**P**	**11 13 10.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PZH	**PanZhiHua**	**40.87**	**328**	P	**P**	**11 13 14.5**	**+2.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
HHC	**Hu-ho-hao-te**	**50.23**	**347**	*eP*	**P**	**11 14 28.5**	**+2.9**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
WHZ	**Wether Hill Ro**	**53.01**	**143**	P	**P**	**11 14 47.9**	**+1.9**
WHZ				IAmb	IAmb	11 15 16.9	
	comp=Z,12nm,1.3s						
SONM	**Songino Array**	**58.03**	**346**	P	**P**	**11 15 22.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=211,slow=5.0,SNR=1.6						
WMQ	**Urumqi**	**61.49**	**331**	*eP*	**P**	**11 15 47.3**	**+1.9**
NIUE	**Niue**	**64.57**	**107**	P	**P**	**11 16 05.1**	**-0.9**
MK31	**Makanchi Array**	**66.28**	**330**	P	**P**	**11 16 16.4**	**-0.1**
MKAR	**Makanchi Array**	**66.28**	**330**	P	**P**	**11 16 16.3**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=131,slow=7.3,SNR=32						
MKAR	**Makanchi Array**	**66.28**	**330**	P	**P**	**11 16 16.2**	**-0.3**
BOOM	**Boomskoye usch**	**66.97**	**323**	P	**P**	**11 16 20.8**	**-0.3**
BOOM				IAmb	IAmb	11 16 46.6	
	comp=Z,5.9nm,1.4s						
PEA0B	**Petropavlovsk-**	**67.41**	**21**	P	**P**	**11 16 23.9**	**+0.4**
AAK	**Ala-Archa**	**67.92**	**323**	P	**P**	**11 16 26.8**	**-0.3**
ZALV	**Zalesovo Beam**	**70.30**	**337**	P	**P**	**11 16 40.0**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=144,slow=5.4,SNR=5.9						
ZALV	**Zalesovo Beam**	**70.30**	**337**	P	**P**	**11 16 40.1**	**-1.1**
KKAR	**Karatay Array**	**70.61**	**321**	P	**P**	**11 16 42.7**	**-0.8**
VNDA	**Vanda**	**71.96**	**172**	P	**P**	**11 16 52.5**	**+1.6**
BRVK	**Borovoye**	**76.23**	**330**	P	**P**	**11 17 15.0**	**-1.0**
ABKAR	**Akbulak array**	**80.00**	**323**	P	**P**	**11 17 36.3**	**-0.4**
QSPA	**South Pole Qui**	**81.74**	**180**	P	**P**	**11 17 47.0**	**+1.1**
QSPA				IAmb	IAmb	11 17 49.6	
	comp=Z,5.2nm,1.4s						
SNAA	**Sanae**	**93.07**	**195**	P	**P**	**11 18 41.5**	**+1.1**
SNAA				IAmb	IAmb	11 18 46.5	
	comp=Z,8.6nm,1.2s						
LPAZ	**La Paz**	**152.72**	**153**	PKPbc	**PKPbc**	**11 25 23.7**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=55,slow=4.6,SNR=5.7						
LPAZ	**La Paz**	**152.72**	**153**		**PKPbc**	**11 25 23.2**	**-1.3**

*IDC **31** 11:20:41.5±0.7, 52°.83N×160°.64E, h0km, mb3.7/12, mb1 4.0/13, mb1mx3.8/46, mbtmp3.8/13, ML3.8/1, MS3.6/4, Ms1 3.6/4, ms1mx2.9/93, Error ellipse: s-maj=21.8km s-min=14.6km az=159.0*

*MOS **31** 11:20:43.1±0.9, 52°.63N×160°.78E, h20km, mb4.2/3, Error ellipse: s-maj=7.7km s-min=4.8km az=104.0*

*KRSC **31** 11:20:43.6±1.4, 52°.71N×160°.68E, h28km±18km, ML4.4*

*NEIC **31** 11:20:47.0±0.8, 52°.8N±0°.2×160°.6E±0°.1, h38km±9km, mb4.1/8, Error ellipse: s-maj=24.4km s-min=10.8km az=187.0*

ISC 31 11:20:43.7±1.4, 52°.69N±0°.03×160°.53E±0°.04, h15km±8km,

n116, σ1§27/149, mb4.0/16, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.51**	**323**	PN	**Pb**	**11 20 55.3**	**+0.8**
SPN				S	**Sb**	**11 21 02.6**	**+0.9**
SPN	**Mys Shipunski**	**0.51**	**323**	*eP*	**Pb**	**11 20 55.3**	**+0.8**
SPN				*eS*	**Sb**	**11 21 02.6**	**+0.9**
NLC	**Nalytchevo**	**0.87**	**305**	PN	**Pn**	**11 21 01.2**	**-0.1**
NLC				S	**Sn**	**11 21 12.6**	**-1.1**
NLC	**Nalytchevo**	**0.87**	**305**	*eP*	**Pn**	**11 21 01.2**	**-0.1**
NLC				*eS*	**Sn**	**11 21 12.6**	**-1.1**
DALK	**Dalny**	**1.13**	**288**	PN	**Pg**	**11 21 05.6**	**0.0**
DALK				S	**Sn**	**11 21 21.2**	**+1.0**
DALK	**Dalny**	**1.13**	**288**	*eP*	**Pg**	**11 21 05.6**	**0.0**
DALK				*eS*	**Sn**	**11 21 21.2**	**+1.0**
UGLR	**Uglovaya**	**1.16**	**298**	PN	**Pg**	**11 21 06.2**	**+0.1**
UGLR				S	**Sn**	**11 21 20.7**	**-0.4**
UGLR	**Uglovaya**	**1.16**	**298**	*eP*	**Pg**	**11 21 06.2**	**+0.1**
UGLR				*eS*	**Sn**	**11 21 20.7**	**-0.4**
SDLR	**Sedlovina**	**1.16**	**301**	PN	**Pg**	**11 21 06.0**	**-0.1**
SDLR				S	**Sn**	**11 21 20.3**	**-0.8**
SDLR	**Sedlovina**	**1.16**	**301**	*eP*	**Pg**	**11 21 06.0**	**-0.1**
SDLR				*eS*	**Sn**	**11 21 20.3**	**-0.8**
PET	**Petropavlovsk**	**1.19**	**287**	*ePN*	**Pg**	**11 21 06.6**	**0.0**
PET				*eS*	**Sg**	**11 21 22.5**	**+0.4**
PET				smax	smax		
	comp=E,2μm,0.8s						
PET				smax	smax		
	comp=N,2μm,0.5s						
PET	**Petropavlovsk**	**1.19**	**287**		**Pg**	**11 21 06.7**	**0.0**
PET	**Petropavlovsk**	**1.19**	**287**	*eP*	**Pg**	**11 21 06.7**	**0.0**
PET				*eS*	**Sg**	**11 21 22.7**	**+0.6**
SMAR	**Somma**	**1.20**	**300**	PN	**Pg**	**11 21 06.5**	**-0.3**
SMAR				S	**Sg**	**11 21 24.0**	**+1.6**
SMAR	**Somma**	**1.20**	**300**	*eP*	**Pg**	**11 21 06.5**	**-0.3**
SMAR				*eS*	**Sg**	**11 21 24.0**	**+1.6**
AVH	**Avacha**	**1.23**	**299**	PN	**Pg**	**11 21 07.3**	**-0.1**
AVH				S	**Sg**	**11 21 24.2**	**+0.7**
AVH	**Avacha**	**1.23**	**299**	*eP*	**Pg**	**11 21 07.3**	**-0.1**
AVH				*eS*	**Sg**	**11 21 24.2**	**+0.7**
KRER	**Koryakskii**	**1.24**	**301**	PN	**Pg**	**11 21 07.6**	**-0.1**
KRER				S	**Sg**	**11 21 23.2**	**-0.7**
KRER	**Koryakskii**	**1.24**	**301**	*eP*	**Pg**	**11 21 07.6**	**-0.1**
KRER				*eS*	**Sg**	**11 21 23.2**	**-0.7**
RUS	**Russkaya**	**1.26**	**259**	PN	**Pg**	**11 21 08.1**	**+0.1**
RUS				S	**Sg**	**11 21 25.5**	**+1.2**
RUS	**Russkaya**	**1.26**	**259**	*eP*	**Pg**	**11 21 08.1**	**+0.1**
RUS				*eS*	**Sg**	**11 21 25.5**	**+1.2**
KOK	**Koryaka**	**1.30**	**299**	PN	**Pg**	**11 21 08.2**	**-0.5**
KOK				S	**Sg**	**11 21 26.5**	**+0.9**
KOK	**Koryaka**	**1.30**	**299**	*eP*	**Pg**	**11 21 08.2**	**-0.5**
KOK				*eS*	**Sg**	**11 21 26.5**	**+0.9**
MTVR	**Mutnovka**	**1.45**	**263**	PN	**Pg**	**11 21 11.2**	**-0.4**
MTVR				S	**Sg**	**11 21 31.2**	**+0.8**
MTVR	**Mutnovka**	**1.45**	**263**	*eP*	**Pg**	**11 21 11.2**	**-0.4**
MTVR				*eS*	**Sg**	**11 21 31.2**	**+0.8**
KRMR	**Karymshinskiy**	**1.47**	**277**	PN	**Pg**	**11 21 11.3**	**-0.6**
KRMR				S	**Sg**	**11 21 31.1**	**+0.1**
KRMR	**Karymshinskiy**	**1.47**	**277**	*eP*	**Pg**	**11 21 11.3**	**-0.6**
KRMR				*eS*	**Sg**	**11 21 31.1**	**+0.1**
KII	**Karymskiy**	**1.50**	**335**	PN	**Pn**	**11 21 10.5**	**+0.4**
KII				S	**Sn**	**11 21 29.8**	**+0.3**
KII	**Karymskiy**	**1.50**	**335**	*eP*	**Pn**	**11 21 10.5**	**+0.4**
KII				*eS*	**Sn**	**11 21 29.8**	**+0.3**
GRL	**Gorelyy**	**1.50**	**266**	PN	**Pg**	**11 21 12.4**	**-0.3**
GRL	**Gorelyy**	**1.50**	**266**	*eP*	**Pg**	**11 21 12.4**	**-0.3**
KDTR	**Khodutka, Kamc**	**1.75**	**241**	PN	**Pg**	**11 21 15.5**	**-1.7**
KDTR				S	**Sg**	**11 21 38.0**	**-1.9**
KDTR	**Khodutka, Kamc**	**1.75**	**241**	*eP*	**Pg**	**11 21 15.5**	**-1.7**
KDTR				*eS*	**Sg**	**11 21 38.0**	**-1.9**
PEA0B	**Petropavlovsk-**	**1.77**	**285**	PN	**Pb**	**11 21 15.9**	**+0.1**
PEA0B	**Petropavlovsk-**	**1.77**	**285**		**Pb**	**11 21 15.9**	**+0.1**
PETK	**Petropavlovsk-**	**1.77**	**285**	Pn	**Pb**	**11 21 15.5**	**-0.3**
	comp=N,40nm,0.3s,baz=104,slow=17,SNR=63						
PETK				Sn	**Sg**	**11 21 38.9**	**-1.7**
	comp=N,56nm,0.3s,baz=83,slow=22,SNR=5.2						
PETK				LR	LR	11 22 04.6	
	comp=N,262nm,18.4s,baz=106,slow=46						
PETK	**Petropavlovsk-**	**1.77**	**285**		**Pb**	**11 21 15.7**	**-0.1**
GNL	**Ganaly**	**1.86**	**304**	PN	**Pb**	**11 21 17.3**	**-0.1**
GNL				S	**Sb**	**11 21 39.2**	**-1.3**
GNL	**Ganaly**	**1.86**	**304**	*eP*	**Pb**	**11 21 17.3**	**-0.1**
GNL				*eS*	**Sb**	**11 21 39.2**	**-1.3**
APC	**Apacha**	**2.06**	**278**	PN	**Pb**	**11 21 20.7**	**-0.1**
APC				S	**Sg**	**11 21 47.0**	**-3.0**
APC	**Apacha**	**2.06**	**278**	*eP*	**Pb**	**11 21 20.7**	**-0.1**
APC				*eS*	**Sg**	**11 21 47.0**	**-3.0**
TUMD	**Tumrok D**	**2.52**	**358**	*eP*	**Pn**	**11 21 24.2**	**0.0**
TUMD				*eS*	**Sn**	**11 21 53.0**	**-1.6**
PAU	**Pauzhetka**	**2.60**	**243**	PN	**Pb**	**11 21 28.5**	**-1.5**
PAU				S	**Sb**	**11 22 01.1**	**-0.6**
PAU	**Pauzhetka**	**2.60**	**243**	*eP*	**Pb**	**11 21 28.5**	**-1.5**
PAU				*eS*	**Sb**	**11 22 01.1**	**-0.6**
TUMR	**Tumrok**	**2.61**	**355**	PN	**Pn**	**11 21 26.7**	**+1.2**
TUMR				S	**Sn**	**11 21 57.0**	**+0.1**
TUMR	**Tumrok**	**2.61**	**355**	*eP*	**Pn**	**11 21 26.7**	**+1.2**
TUMR				*eS*	**Sn**	**11 21 57.0**	**+0.1**
KMNR	**Kamenistaya**	**3.08**	**357**	PN	**Pn**	**11 21 34.6**	**+2.7**
KMNR	**Kamenistaya**	**3.08**	**357**	*eP*	**Pn**	**11 21 34.6**	**+2.7**
KPT	**Kopyto**	**3.29**	**357**	PN	**Pn**	**11 21 37.5**	**+2.7**
KPT	**Kopyto**	**3.29**	**357**	*eP*	**Pn**	**11 21 37.5**	**+2.7**
KOZ	**Kozyrevsk**	**3.40**	**354**	PN	**Pn**	**11 21 38.3**	**+2.1**
KOZ	**Kozyrevsk**	**3.40**	**354**	*eP*	**Pn**	**11 21 38.3**	**+2.1**
SKR	**Severo-Kuril's**	**3.40**	**236**	*ePN*	**Pn**	**11 21 38.6**	**+2.4**
SKR				*eS*	**Sn**	**11 22 18.5**	**+2.3**
SKR				pmax	pmax		
	comp=Z,27nm,0.4s						
SKR				smax	smax		
	comp=E,359nm,0.6s						
SKR				smax	smax		
	comp=N,185nm,0.4s						
SKR	**Severo-Kuril's**	**3.40**	**236**	*eP*	**Pn**	**11 21 38.2**	**+2.0**
SKR				*eS*	**Sn**	**11 22 18.0**	**+1.8**
ESO	**Esso**	**3.42**	**342**	PN	**Pb**	**11 21 41.0**	**-2.9**
ESO	**Esso**	**3.42**	**342**	*eP*	**Pb**	**11 21 41.0**	**-2.9**
KRSR	**Krestovskiy**	**3.54**	**0**	PN	**Pn**	**11 21 40.1**	**+1.9**
KRSR	**Krestovskiy**	**3.54**	**0**	*eP*	**Pn**	**11 21 40.1**	**+1.9**
KLY	**Klyuchi**	**3.63**	**1**	PN	**Pn**	**11 21 40.4**	**+1.0**
KLY	**Klyuchi**	**3.63**	**1**	*eP*	**Pn**	**11 21 40.4**	**+1.0**
KBTR	**Krutoberegovo**	**3.77**	**20**	PN	**Pn**	**11 21 42.8**	**+1.5**
KBTR				S	**Sn**	**11 22 27.1**	**+1.7**
KBTR	**Krutoberegovo**	**3.77**	**20**	*eP*	**Pn**	**11 21 42.8**	**+1.5**
KBTR				*eS*	**Sn**	**11 22 27.1**	**+1.7**
KBG	**Krutoberegovo**	**3.79**	**19**	PN	**Pn**	**11 21 44.4**	**+2.8**
KBG	**Krutoberegovo**	**3.79**	**19**	*eP*	**Pn**	**11 21 44.4**	**+2.8**
BDR	**Baidarnaya**	**3.91**	**6**	PN	**Pn**	**11 21 44.7**	**+1.4**
BDR	**Baidarnaya**	**3.91**	**6**	*eP*	**Pn**	**11 21 44.7**	**+1.4**
SMKR	**Semkarok**	**3.94**	**8**	PN	**Pn**	**11 21 45.0**	**+1.3**
SMKR	**Semkarok**	**3.94**	**8**	*eP*	**Pn**	**11 21 45.0**	**+1.3**
SRKR	**Sorokina**	**3.99**	**5**	PN	**Pn**	**11 21 46.3**	**+1.9**
SRKR	**Sorokina**	**3.99**	**5**	*eP*	**Pn**	**11 21 46.3**	**+1.9**
SHEM	**Shemya Is, Ala**	**8.24**	**84**	LR	LR	11 24 48.5	
	comp=N,12nm,21.9s,baz=294,slow=30						
ASAJ	**Asahikawa**	**14.64**	**241**	Pn	**Pn**	**11 24 12.1**	**+1.9**
	comp=N,0.6nm,0.3s,baz=70,slow=16,SNR=8.0						
KLR	**Kul'dur**	**18.40**	**271**	LR	LR	11 31 24.7	
	comp=N,61nm,19.8s,baz=272,slow=35						
YAK	**Yakutsk**	**18.91**	**312**	LR	LR	11 32 37.8	
	comp=N,49nm,18.2s,baz=270,slow=38						
MJAR	**Matsushiro Arr**	**22.51**	**233**	P	**P**	**11 25 45.5**	**+2.9**
	comp=N,3.0nm,0.7s,baz=21,slow=11,SNR=8.8						
IMAR	**Indian Mountai**	**26.13**	**42**	P	**P**	**11 26 15.9**	**-0.9**
TOLK	**Toolik Lake Re**	**28.13**	**36**	P	**P**	**11 26 33.9**	**-0.8**
TOLK				IAmb	IAmb	11 26 47.1	
	comp=Z,4.5nm,1.4s						
ILAR	**Eielson Array**	**28.91**	**45**	P	**P**	**11 26 40.7**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=268,slow=7.0,SNR=1.7						
BMAR	**Burnt Mountain**	**29.89**	**39**	P	**P**	**11 26 49.7**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**33.26**	**169**	T	T	12 03 41.5	
	baz=351,slow=75,SNR=128						
H11N3	**WAKE ISLAND Hy**	**33.28**	**169**	T	T	12 03 42.5	
	baz=351,slow=75,SNR=95						
H11N1	**WAKE ISLAND Hy**	**33.28**	**169**	T	T	12 03 43.1	
	baz=351,slow=75,SNR=102						
H11S1	**WAKE ISLAND Hy**	**34.45**	**170**	T	T	12 05 10.6	
	baz=351,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**34.46**	**170**	T	T	12 05 11.4	
	baz=351,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**34.47**	**170**	T	T	12 05 10.5	
	baz=351,slow=76,SNR=10						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**43.28**	**42**	P	**P**	**11 28 43.1**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=300,slow=7.2,SNR=4.4						
MK31	**Makanchi Array**	**48.57**	**296**	P	**P**	**11 29 25.9**	**-0.3**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MK31	**Makanchi Array**	**48.57**	**296**	P	**P**	**11 29 25.9**	**-0.3**
MK31				IAmb	IAmb	11 29 30.2	
	comp=Z,2.5nm,1.4s						
MKAR	**Makanchi Array**	**48.57**	**296**	P	**P**	**11 29 25.1**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=54,slow=6.9,SNR=8.2						
MKAR	**Makanchi Array**	**48.57**	**296**	P	**P**	**11 29 25.5**	**-0.7**
ARCES	**ARCESS Array B**	**53.76**	**342**	P	**P**	**11 30 04.0**	**-0.8**
	comp=Z,4.4nm,1.0s,baz=48,slow=9.8,SNR=3.6						
ARCES	**ARCESS Array B**	**53.76**	**342**	P	**P**	**11 30 04.0**	**-0.8**
ARCES	**ARCESS Array B**	**53.76**	**342**	P	**P**	**11 30 04.0**	**-0.8**
SUMG	**Summit**	**54.33**	**7**	P	**P**	**11 30 09.1**	**-0.3**
SUMG				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SUMG	**Summit**	**54.33**	**7**	P	**P**	**11 30 09.1**	**-0.3**
NVAR	**Mina Array Bea**	**55.63**	**70**	P	**P**	**11 30 19.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=297,slow=8.1,SNR=4.3						
KKAR	**Karatay Array**	**57.31**	**300**	P	**P**	**11 30 32.5**	**+1.8**
KKAR	**Karatay Array**	**57.31**	**300**	P	**P**	**11 30 32.5**	**+1.8**
PDAR	**Pinedale Array**	**57.49**	**61**	P	**P**	**11 30 31.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=325,slow=2.3,SNR=5.6						
PDAR	**Pinedale Array**	**57.49**	**61**	P	**P**	**11 30 31.4**	**-0.9**
FINES	**FINESS Array B**	**60.60**	**337**	P	**P**	**11 30 53.1**	**0.0**
	comp=Z,1.3nm,0.6s,baz=34,slow=9.2,SNR=10						
AKASG	**Malin Array Be**	**69.10**	**329**	P	**P**	**11 31 47.5**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=31,slow=6.8,SNR=7.3						
AKASG	**Malin Array Be**	**69.10**	**329**	P	**P**	**11 31 48.7**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**69.10**	**329**	P	**P**	**11 31 48.7**	**+0.1**
KVAR	**Kislovodsk Arr**	**69.91**	**317**	LR	LR	12 06 30.0	
	comp=Z,101nm,18.4s,baz=108,slow=39						
TX31	**Lajitas Ar. Si**	**70.55**	**67**	P	**P**	**11 31 57.4**	**-0.7**
TX31				IAmb	IAmb	11 31 58.3	
	comp=Z,3.6nm,0.8s						
TXAR	**Lajitas Array**	**70.55**	**67**	P	**P**	**11 31 57.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=294,slow=4.0,SNR=11						
TXAR	**Lajitas Array**	**70.55**	**67**	P	**P**	**11 31 57.0**	**-1.1**
LPIG	**La Paz**	**70.71**	**75**	LR	LR	11 58 18.1	
	comp=Z,179nm,18.7s,baz=116,slow=32						
**BUR

FORT	Forrest	46.43 250	P		P	11 42 35.5	-1.3
WRKA	Warakurna	47.01 258	P		P	11 42 40.4	-0.8
MTN	Manton Dam	47.72 275	P		P	11 42 45.6	-1.0
MTN			IAmb		IAmb	11 43 00.0	
	comp=Z,28nm,1.4s						
KNRA	Kununurra	48.93 270	P		P	11 42 55.2	-0.4
FITZ	Fitzroy Crossi	51.05 266	P		P	11 43 10.8	-0.4
	comp=Z,14nm,0.8s,baz=111,slow=6.7,SNR=22						
SIJI	Sorong	52.76 289	P		P	11 43 23.1	-0.4
	comp=Z,45nm,1.0s,baz=109,slow=6.2,SNR=8.9						
PSA00	Pilbara Seismi	55.35 260	P		P	11 43 41.2	-0.6
MBWA	Marble Bar	55.56 260	P		P	11 43 42.2	-1.0
MBWA			IAmb		IAmb	11 43 54.5	
	comp=Z,55nm,1.4s						
MORW	Morawa	57.00 250	P		P	11 43 52.2	-0.9
MORW			IAmb		IAmb	11 44 19.9	
	comp=Z,47nm,1.5s						
QSPA	South Pole Qui	65.89 180	P		P	11 44 51.2	+0.4
	comp=Z,3.7nm,1.1s,baz=0.0,slow=3.0,SNR=11						
QSPA	South Pole Qui	65.89 180	P		P	11 44 51.0	+0.1
UGM	Wanagama	68.35 271	P		P	11 45 04.8	-1.9
JOW	Kunigami	71.37 312	P		P	11 45 24.5	+0.1
	comp=Z,9.2nm,0.6s,baz=107,slow=11,SNR=2.5						
MJAR	Matsushiro Arr	72.28 326	P		P	11 45 29.7	+0.1
	comp=Z,3.9nm,0.8s,baz=156,slow=6.0,SNR=9.8						
KSM	Kuching	72.39 280	P		P	11 45 31.2	+0.5
KSM			IAmb		IAmb	11 45 31.6	
	comp=Z,27nm,1.3s						
ASAJ	Asahikawa	76.24 333	P		P	11 45 52.7	+1.0
	comp=Z,8.2nm,0.8s,baz=117,slow=6.8,SNR=4.9						
KSRS	Korea Array	78.63 320	P		P	11 46 05.3	+0.5
	comp=Z,2.2nm,0.7s,baz=131,slow=6.1,SNR=7.5						
PEA0B	Petropavlovsk-	79.44 346	P		P	11 46 09.6	+0.8
PEA0B			IAmb		IAmb	11 46 14.3	
	comp=Z,35nm,1.3s						
PETK	Petropavlovsk-	79.44 346	P		P	11 46 08.9	+0.1
	comp=Z,2.3nm,0.6s,baz=120,slow=7.8,SNR=11						
PETK	Petropavlovsk-	79.44 346	P		P	11 46 08.3	-0.5
USRK	Ussuriysk Ar.	81.14 327	P		P	11 46 18.8	+0.9
	comp=Z,3.1nm,0.8s,baz=108,slow=9.3,SNR=2.4						
GSC	Goldstone, Bar	83.95 47	P		P	11 46 30.2	-2.2
SNAA	Sanae	84.37 179	P		P	11 46 33.7	-0.2
SNAA			IAmb		IAmb	11 46 58.4	
	comp=Z,15nm,1.5s						
SEY	Seymchan	89.61 348	P		P	11 46 59.0	+0.5
	baz=146,slow=6.8						
CMAR	Chiang Mai Arr	89.85 290	P		P	11 47 01.8	+1.1
	comp=Z,2.2nm,0.8s,baz=138,slow=3.1,SNR=12						
TXAR	Lajitas Array	90.38 58	P		P	11 47 04.6	+1.5
	comp=Z,1.2nm,0.7s,baz=211,slow=6.0,SNR=7.0						
TXAR	Lajitas Array	90.38 58	P		P	11 47 03.7	+0.7
ILAR	Eielson Array	92.26 13	P		P	11 47 10.3	-0.5
	comp=Z,0.4nm,0.7s,baz=222,slow=5.8,SNR=5.9						
MKAR	Makanchi Array	112.53 313	PKiKP		PKiKP	11 52 33.0	-1.0
	comp=Z,0.3nm,0.5s,baz=201,slow=0.6,SNR=4.4						
MKAR			PP		PP	11 53 33.5	+2.9
	comp=Z,0.2nm,0.4s,baz=119,slow=7.9,SNR=5.5						
KURBB	Kurchatov Arra	115.62 316	PKP		PKPdf	11 52 38.6	-1.2
	comp=Z,0.6nm,0.6s,baz=91,slow=2.1,SNR=7.3						
BVAR	Borovoye Array	120.82 319	PKP		PKPdf	11 52 49.2	-0.6
	comp=Z,1.0nm,0.4s,baz=72,slow=5.0,SNR=9.2						
ARU	Arti	127.26 324	PKP		PKPdf	11 53 01.6	-0.3
	comp=Z,1.1nm,0.4s,baz=188,slow=17,SNR=4.7						
ARCES	ARCESS Array B	132.22 348	PKP		PKPdf	11 53 10.3	-0.7
	comp=Z,3.8nm,1.0s,baz=336,slow=2.7,SNR=5.3						
FINES	FINESS Array B	138.80 341	PKhKP		PKPpre	11 53 14.3	
	comp=Z,8.2nm,1.2s,baz=30,slow=4.6,SNR=5.1						
FINES			PKP		PKPdf	11 53 24.4	+1.0
	comp=Z,2.4nm,0.8s,baz=78,slow=1.4,SNR=7.3						
FINES			SKPbc		SKPbc	11 56 09.9	0.0
	comp=Z,1.6nm,0.8s,baz=56,slow=4.8,SNR=5.6						
FINES	FINESS Array B	138.80 341			PKPdf	11 53 23.9	+0.5
NOA	NORSAR Array B	142.41 351	PKhKP		PKPpre	11 53 24.6	
	comp=Z,1.3nm,0.9s,baz=15,slow=4.5,SNR=3.7						
HFS	Hagfors	142.88 349	PKhKP		PKPpre	11 53 27.8	
	comp=Z,4.9nm,0.4s,baz=66,slow=3.6,SNR=37						
AKASG	Malin Array Be	145.35 327	PKPbc		PKPdf	11 53 35.6	+0.3
	comp=Z,3.1nm,0.5s,baz=46,slow=4.1,SNR=23						
AKASG			SKPbc		SKPbc	11 56 26.5	0.0
	comp=Z,0.1nm,0.3s,baz=47,slow=2.8,SNR=6.7						
AKASG	Malin Array Be	145.35 327			PKPdf	11 53 35.9	+0.6
AKBB	Malin Array Si	145.35 327			PKPdf	11 53 35.3	0.0
BRTR	Keskin Array B	147.95 307	PKPbc		PKPbc	11 53 43.6	-0.5
	comp=Z,2.3nm,0.8s,baz=141,slow=4.7,SNR=13						
BRTR			PKPab		PKPab	11 53 48.5	-0.1
	comp=Z,2.7nm,0.7s,baz=101,slow=3.6,SNR=12						
BRTR	Keskin Array B	147.95 307			PKPbc	11 53 43.5	-0.6
BRTR			PKPab		PKPab	11 53 49.2	+0.7
MMAI	Mount Meron Ar	148.04 294	PKPbc		PKPbc	11 53 45.2	+0.8
	comp=Z,8.7nm,0.5s,baz=64,slow=3.4,SNR=5.7						
EKA	Eskdalemuir Ar	148.80 4	PKPbc		PKPbc	11 53 45.1	-0.3
	comp=Z,2.9nm,1.0s,baz=3.4,slow=4.2,SNR=3.8						
EKA			PKPab		PKPab	11 53 50.5	-0.8
	comp=Z,2.3nm,1.1s,baz=322,slow=2.7,SNR=1.6						
EKA			SKPbc		SKPbc	11 56 33.8	-0.1
	comp=Z,0.8nm,0.6s,baz=191,slow=2.7,SNR=3.5						
CLL	Collm	151.21 343	*i* PKPbc		PKPbc	11 53 51.2	0.0
	comp=Z,9.0nm,0.8s						
VRAC	Vranov	151.85 337	PKPab		PKPab	11 54 05.0	+0.7
	comp=Z,2.7nm,0.6s,baz=285,slow=1.8,SNR=4.9						
DAVOX	Davos/Dischmat	156.18 343	PKPab		PKPab	11 54 23.9	+0.8
	comp=Z,1.6nm,0.6s,baz=314,slow=2.1,SNR=4.5						

*NNC **31** 11:35:50.9±3.6, 33°.24N×68°.74E, h0km, mb4.2, Error ellipse: s-maj=55.0km s-min=30.0km az=109.0*
*IDC **31** 11:35:50.9±2.9, 33°.47N×68°.29E, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.4/68, mbtmp3.5/9, ML3.4/4, Error ellipse: s-maj=71.0km s-min=22.3km az=88.0*

ISC 31 11:35:56.6±1.7, 33°.35N±0°.08×68°.6E±0°.2, h35km, n17, σ1§71/21, mb3.6/5, 4C-2D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	9.86	8	⇑P	Pn	11 38 14.4	-1.5
	2.5nm,0.7s						
KK02				⇓S	Sn	11 40 09.3	+4.0
	2.4nm,0.7s						
AAK	Ala-Archa	10.39	25	Pn	Pn	11 38 22.0	-1.2
	1.0nm,0.3s,baz=218,slow=9.9,SNR=13						
AAK				Sn	Sn	11 40 17.4	-1.0
	0.1nm,0.3s,baz=300,slow=20,SNR=2.0						
AAK	Ala-Archa	10.39	25	⇑P	Pn	11 38 21.6	-1.6
	5.9nm,0.8s						
AAK				⇓S	Sn	11 40 20.2	+1.8
	5.7nm,0.8s						
TKM2	Tokmak 2	11.04	28	⇑P	Pn	11 38 31.5	-0.8
	2.9nm,0.6s						
TKM2				⇑S	Sn	11 40 36.2	+1.7
	2.5nm,0.9s						
PYUN	Piuthan	13.47	109	*e*P	Pn	11 39 05.4	-0.1
KKN	Kakani	15.43	107	*e*P	Pn	11 39 30.9	-1.0
	35nm,0.6s						
PKIN	Phulchoki	15.61	107	*e*P	Pn	11 39 32.9	-1.4
	27nm,0.6s						
PKI	Pulchoki	15.62	107	*e*P	Pn	11 39 33.0	-1.6
	25nm,0.6s						
GUN	Gumba	15.86	105	*e*P	Pn	11 39 35.9	-1.7
	5.1nm,0.4s						
MKAR	Makanchi Array	17.02	34	Pn	Pn	11 39 50.4	-1.5
	0.1nm,0.3s,baz=206,slow=8.0,SNR=6.3						
KURBB	Kurchatov Arra	18.76	20	P	P	11 40 10.9	-1.6
	0.1nm,0.3s,baz=208,slow=10,SNR=5.5						
BVAR	Borovoye Array	19.71	3	P	P	11 40 21.7	-1.2
	0.2nm,0.3s,baz=123,slow=5.3,SNR=3.7						
ZALV	Zalesovo Beam	23.61	24	P	P	11 41 02.4	-1.8
	2.6nm,0.9s,baz=224,slow=10,SNR=6.7						
CMAR	Chiang Mai Arr	30.96	111	P	P	11 42 12.3	+1.7
	0.4nm,0.4s,baz=293,slow=8.7,SNR=1.7						
SONM	Songino Array	31.82	52	P	P	11 42 19.0	+1.0
	0.3nm,0.6s,baz=257,slow=8.5,SNR=2.5						
WRA	Warramunga Arr	82.10	120	P	P	11 48 14.6	+0.8
	0.4nm,0.7s,baz=326,slow=4.9,SNR=3.1						
ASAR	Alice Springs	84.16	123	P	P	11 48 25.3	+0.9
	0.4nm,0.8s,baz=309,slow=4.9,SNR=2.1						

*UPA **31** 11:38:34.7±1.4, 8°.70N×82°.81W, h4km±1km, MW4.9, Fault plane solution: NP1:φs95.00000°, δ59.00000°, λ46.00000°.*
*NEIC **31** 11:38:36.0±2.0, 8°.78N×0°.06×82°.81W±0°.05, h11km±4km, mb4.8/74, ML5.2(UCR), Error ellipse: s-maj=9.3km s-min=5.9km az=203.0*
*UCR **31** 11:38:35.4±1.7, 8°.64N×82°.81W, h14km±3km, MW5.5, mb4.8(NEIC), Fault plane solution: NP1:φs290.40000°, δ82.36000°, λ-6.47000°.*
*GCMT **31** 11:38:40.2±0.2, 8°.72N±0°.01×82°.80W±0°.01, h27km, MW5.1/109, Moment Tensor Solution. s44,c54; s109,c160; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.13±.15; Mθθ2.08±.12; Mφφ-2.22±.14; Mrθ1.00±.21; Mrφ4.28±.11; Mθφ-0.07±.22; Best double couple: Mo4.89500×10^16 NP1:φs13.00000°, δ78.00000°, λ178.00000°. NP2:φs104.00000°, δ88.00000°, λ12.00000°. Principal axes: T 4.8610, Plg10.0000°, Azm329.0000°; N 0.0600, Plg78.0000°, Azm114.0000°; P -4.9280, Plg7.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **31** 11:38:41.7±1.5, 8°.61N×83°.02W, h60km±15km, mb4.0/17, mb1 4.2/22, mb1mx4.0/50, mbtmp4.4/22, MS4.1/36, Ms1 4.1/36, ms1mx4.0/65 Error ellipse: s-maj=21.1km s-min=8.9km az=49.0*

ISC 31 11:38:36.1±0.7, 8.72N±0°.02×82°.81W±0°.02, h13km±4km, n345, σ1§72/382, mb4.7/43, MS4.1/34, 51C-20D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.14	59	⇓*e*P	Pg	11 38 39.8	+0.1
BRU2				*e*S	Sb	11 38 43.5	-0.2
BRU2	Volcan	0.14	59	⇓*i*P	Pg	11 38 39.8	+0.1
BRU2	Volcan	0.14	59	Pg	Pg	11 38 39.6	0.0
BRU2				Sg	Sg	11 38 40.2	-2.0
BRU2	Volcan	0.14	59	*e*P	Pg	11 38 38.9	-0.7
BRU2				*e*S	Sg	11 38 42.0	-0.2
CDITO	Canoas	0.16	203	⇓*e*P	Pg	11 38 39.0	-0.8
CDITO	Canoas	0.16	203	Pg	Pg	11 38 39.1	-0.8
CDITO	Canoas	0.16	203	⇓*i*P	Pg	11 38 39.1	-0.8
CDITO				*e*S	Sg	11 38 42.1	-0.5
EDSV	San Vito	0.19	301	⇑*e*P	Pg	11 38 41.2	+0.8
EDSV				*e*S	Sb	11 38 46.8	+1.6
BC3P	Paso Ancho	0.22	65	⇓*i*P	Pg	11 38 40.7	-0.2
BC3P				*e*S	Sg	11 38 44.8	+0.6
BCO2	Palmira	0.28	91	⇓*i*P	Pg	11 38 41.5	-0.5
BCO2				*e*S	Sg	11 38 46.5	+0.6
CCOL	Caracol de Cor	0.35	207	⇓*e*P	Pg	11 38 42.0	-1.2
CCOL	Caracol de Cor	0.35	207	⇓*i*P	Pg	11 38 42.0	-1.2
CCOL				*e*S	Sg	11 38 48.2	+0.2
LNBQ3	Los Naranjos,	0.37	80	⇓*i*P	Pg	11 38 42.5	-1.1
PNPB	Parque Naciona	0.42	265	*e*S	Sg	11 38 49.7	-0.3
DVD	David	0.46	129	⇓*i*P	Pg	11 38 43.5	-1.6
DVD				*e*S	Sg	11 38 52.0	+0.7
LOMA3	Las Lomas, Chi	0.51	125	⇑*i*P	Pg	11 38 44.3	-1.7
PTJ1	Puerto Jimnez	0.52	249	⇓*e*P	Pg	11 38 44.9	-1.4
PTJ1				*e*S	Sg	11 38 53.4	+0.2
PTJ1	Puerto Jimnez	0.52	249	⇓*i*P	Pg	11 38 45.0	-1.4
PTJ1				*e*S	Sg	11 38 53.5	+0.2
CHIR3	Chiriqui UPA,	0.58	125	⇑*i*P	Pg	11 38 45.5	-1.9
CHIR3				*e*S	Sg	11 38 55.5	+0.4
PIRO	Carate, Puerto	0.61	239	⇓*e*P	Pg	11 38 46.0	-2.0
PIRO	Carate, Puerto	0.61	239	⇓*i*P	Pg	11 38 46.0	-2.0
PIRO				⇓*i*P	Pg	11 38 46.0	-2.0
EDBA	Buenos Aires	0.63	314	⇑*e*P	Pg	11 38 48.8	+0.3
EDPN	Palmar Norte	0.68	290	*e*P	Pg	11 38 48.0	-1.4
DRK0	Durika	0.69	321	⇑*e*P	Pg	11 38 49.0	-0.5
DRK0	Durika	0.69	321	⇑*i*P	Pg	11 38 49.0	-0.5
DRK0				*e*S	Sb	11 38 59.8	+0.2
CHGR2	Aguacate	0.69	72	⇓*e*P	Pg	11 38 47.6	-2.0
CHGR2				*e*S	Sg	11 38 57.5	-1.2
SRBA	San Rafael, Bu	0.74	313	⇑*e*P	Pg	11 38 49.6	-0.9
SRBA				*e*S	Sb	11 39 00.9	-0.2
SRBA	San Rafael, Bu	0.74	313		Pg	11 38 49.8	-0.8
SRBA				Sg	Sg	11 39 00.5	+0.2
CNI2	El Empalme, Bo	0.77	26	⇓*i*P	Pg	11 38 50.2	-0.9
CNI2				*e*S	Sb	11 39 01.7	-0.2
PEZE	Perez Zeledon,	1.08	307	⇑*e*P	Pb	11 38 54.6	-2.1
PEZE	Perez Zeledon,	1.08	307		Pb	11 38 54.8	-2.0
PEZE				Sg	Sb	11 39 09.7	-1.1
REME3	Remedios, Chir	1.09	117	⇑*i*P	Pb	11 38 53.8	-3.0
REME3				*e*S	Sb	11 39 10.4	-0.6
EDDO	Dominical	1.17	297	*e*P	Pn	11 38 55.5	-2.7
CDM	Cerro de Muert	1.25	311	⇑*e*P	Pn	11 38 57.8	-2.0
CDM	Cerro de Muert	1.25	311	⇑*i*P	Pn	11 38 57.8	-2.0
CDM				*e*S	Sb	11 39 15.0	-1.2
MRVA	Moravia de Chi	1.26	330	⇑*e*P	Pn	11 38 58.4	-1.2
RIMA	Rio Macho	1.47	315	⇑*e*P	Pn	11 39 00.8	-1.7
RIMA	Rio Macho	1.47	315		Pn	11 39 00.8	-1.7
BATAN	Batan	1.48	338	⇑*e*P	Pn	11 39 02.1	-0.3
BATAN	Batan	1.48	338		Pn	11 39 02.3	-0.2
BATAN	Batan	1.48	338	⇑*i*P	Pn	11 39 02.2	-0.3
BATAN				*e*S	Sn	11 39 21.3	-0.4
VTCV	VTCV, Calle Va	1.54	324	⇑*e*P	Pn	11 39 03.2	-0.4
LCR2	La Lucha 2	1.55	311	⇑*e*P	Pn	11 39 01.9	-1.8
RAFA	San Farael, Vo	1.57	321	⇑*e*P	Pn	11 39 04.7	+0.5
CVTR	Volcan Turrial	1.59	324	⇑*e*P	Pn	11 39 04.0	-0.5
CVTR	Volcan Turrial	1.59	324		Pn	11 39 04.1	-0.3
VTUC	Crater, Volcan	1.60	324	⇑*e*P	Pn	11 39 04.0	-0.5
VTUN	Crater Central	1.60	324	⇑*e*P	Pn	11 39 04.1	-0.4
OCM	Ochomogo	1.63	316	⇑*e*P	Pn	11 39 03.7	-1.1
SJS	Escuela Geolog	1.72	315	⇑*e*P	Pn	11 39 05.3	-0.7
RSUS3	Rio de Jesus,	1.79	114	*e*P	Pn	11 39 05.1	-1.7
HDC3	Heredia 3	1.81	315	⇑*e*P	Pn	11 39 06.4	-0.7
HDC	Heredia	1.81	315	⇑*e*P	Pn	11 39 06.6	-0.5
HDC	Heredia	1.81	315		Pn	11 39 06.0	-1.1
HDC	Heredia	1.81	315	⇑*i*P	Pn	11 39 06.4	-0.8
HDC				*e*S	Sb	11 39 30.9	-0.9
GMAL	Guarumal, Vera	1.83	121	⇑*e*P	Pn	11 39 03.4	-3.9
GMAL	Guarumal, Vera	1.83	121	*e*P	Pn	11 39 05.6	-1.7
GMAL				*e*S	Sn	11 39 29.6	-0.8
RIFO	Rio Frio, Sara	1.93	325	⇑*e*P	Pn	11 39 08.4	-0.3
CALO3	Calobre, Verag	1.99	101	⇑*i*P	Pn	11 39 08.7	-0.8
CALO3				*e*S	Sn	11 39 34.7	+0.4
CRPO	Crater poas	2.02	316	⇑*e*P	Pn	11 39 09.7	-0.6
JACO	JACO, Garabito	2.05	297	⇑*e*P	Pn	11 39 09.2	-1.2
JACO	JACO, Garabito	2.05	297		Pn	11 39 09.0	-1.3
MARI3	Mariato, Verag	2.09	121	⇑*i*P	Pn	11 39 09.6	-1.4
SRA1	San Ramn	2.13	309	*e*P	Pn	11 39 10.4	-1.2
CRIS3	El Cristo, Coc	2.22	102	⇓*e*P	Pn	11 39 11.4	-1.2
CRIS3				*e*S	Sn	11 39 40.1	+0.1
PESE3	Pese, Herrera	2.32	110	*e*P	Pn	11 39 12.4	-1.7
PESE3				*e*S	Sn	11 39 42.5	0.0
LAFE	Finca La Fe, P	2.34	298	⇑*e*P	Pn	11 39 13.3	-1.0
CACAO	El Cacao, Vera	2.37	125	*e*P	Pn	11 39 11.9	-2.8
CACAO				*e*S	Sn	11 39 43.7	0.0
CACAO	El Cacao, Vera	2.37	125	⇑*i*P	Pn	11 39 12.8	-1.9
CACAO				*i*S	Sn	11 39 43.7	0.0
CAO2	Cobano, Puntar	2.46	293	*e*P	Pn	11 39 14.6	-1.5
CAO2	Cobano, Puntar	2.46	293		Pn	11 39 14.7	-1.4
PNME	Penonome	2.47	95	*e*P	Pn	11 39 15.9	-0.2
CHIT3	Chitre	2.49	108	*e*P	Pn	11 39 14.9	-1.4
CHIT3				*e*S	Sn	11 39 47.4	+0.7
FORC	Fortuna	2.52	313	*e*P	Pn	11 39 17.2	+0.3
COVE	Coope Vega, Sa	2.53	322	⇑*e*P	Pn	11 39 16.5	-0.5
COVE	Coope Vega, Sa	2.53	322		Pn	11 39 16.1	-0.9
CASO	Castillo	2.55	312	*e*P	Pn	11 39 17.4	+0.1
CEDE	Laguna Cedeo	2.56	313	*e*P	Pn	11 39 17.8	+0.4
CEDE				⇓*e*P	Pn	11 39 17.9	+0.4
JTS	Las Juntas de	2.62	307	P	Pn	11 39 19.1	+0.8
JTS				S	Sn	11 39 51.5	+1.4
JTS				LR	LR	11 40 14.8	
	comp=Z,2μm,19.2s,slow=37						
JTS	Las Juntas de	2.62	307	⇑*e*P	Pn	11 39 17.8	-0.5
JTS	Las Juntas de	2.62	307	Pn	Pn	11 39 18.1	-0.2
JTS	Las Juntas de	2.62	307	⇑*e*P	Pn	11 39 18.4	0.0
VTON	El Valle, Cocl	2.67	92	*e*P	Pn	11 39 18.8	-0.2
VTON				*e*S	Sn	11 39 52.1	+0.9
AZU	Azuero	2.67	110	*e*P	Pn	11 39 17.4	-1.5
AZU	Azuero	2.67	110	*i*P	Pn	11 39 18.6	-0.3
AZU				*e*S	Sn	11 39 51.6	+0.3
AZU	Azuero	2.67	110	⇑*e*P	Pn	11 39 17.3	-1.6
AZU				*i*S	Sn	11 39 51.4	+0.1
TOSI3	Tonosi	2.69	119	⇑*i*P	Pn	11 39 19.1	0.0
PCRI3	Pocri, Los San	2.87	111	⇑*e*P	Pn	11 39 21.0	-0.6
INDI	Punta indio, G	2.89	293	*e*P	Pn	11 39 21.5	-0.4
ACAL	Aguas Claras	2.90	311	*e*P	Pn	11 39 22.4	+0.2
ACHO3	Achotines, Los	2.92	116	*e*P	Pn	11 39 21.4	-0.9
ACHO3				*e*S	Sn	11 39 57.3	0.0
ZANG	Zanguenga, Cho	2.92	85	*e*P	Pn	11 39 21.2	-1.1
MLIR	Monte Lirio	2.96	80	*e*P	Pn	11 39 22.6	-0.4
BCIP	Isla Barro Col	2.97	81	*e*P	Pn	11 39 22.4	-0.7
BCIP				*e*S	Sn	11 39 57.2	-1.4
BCIP	Isla Barro Col	2.97	81		Pn	11 39 21.9	-1.1
BCIP	Isla Barro Col	2.97	81	*e*P	Pn	11 39 22.1	-0.9
DUNO	Dulce Nombre,	2.97	297		Pn	11 39 22.5	-0.5
CUI	Cuipilapa	3.01	310	*e*P	Pn	11 39 24.2	+0.5
GRZA	Playa Garza	3.03	293	*e*P	Pn	11 39 23.3	-0.5
COLC	Colonia	3.05	309	*e*P	Pn	11 39 24.9	+0.7
HORNC	Hornillas	3.06	310	⇑*i*P	Pn	11 39 24.6	+0.3
GUAI	GUAI	3.08	300	*e*P	Pn	11 39 23.9	-0.5
ORTG	Ortega, Santa	3.08	302		Pn	11 39 23.7	-0.9
VMAR	Armenia, Volca	3.08	313	*e*P	Pn	11 39 26.0	+1.4
GAMB1	Gamboa	3.09	82	⇓*i*P	Pn	11 39 25.1	+0.5
GAMB1				*i*S	Sn	11 40 00.3	-1.2
GUAB	Guayabo de Bag	3.09	310	*e*P	Pn	11 39 25.6	+0.8
ARRA3	Arraijan, Pana	3.12	85	*i*P	Pn	11 39 25.4	+0.2
ARRA3				*e*S	Sn	11 40 22.2	-0.2
SAJU	San Juanillo,	3.16	295	*e*P	Pn	11 39 25.7	0.0
MFS3	Miraflores	3.19	85	*e*P	Pn	11 39 25.7	-0.3
MFS3				*e*S	Sn	11 40 03.5	-0.5
MAD3	Madden Dam	3.19	81	*i*P	Pn	11 39 26.0	-0.1
MAD3				*e*S	Sn	11 40 04.4	+0.4
GPS2	Hotel Rincn d	3.22	309	*e*P	Pn	11 39 26.8	+0.3
TABO3	Taboga, Panama	3.22	89	*e*P	Pn	11 39 25.8	-0.7
TABO3				*e*S	Sn	11 40 04.8	+0.1
UPA	Univ. de Panam	3.25	85	⇑*i*P	Pn	11 39 26.4	-0.4
UPA				*e*S	Sn	11 40 05.0	-0.4
LAPC	Finca la Perla	3.29	308	*e*P	Pn	11 39 27.8	+0.4
GB1A	Borinquen Arri	3.29	309	*e*P	Pn	11 39 28.0	+0.5
HZTE	Horizontes, Gu	3.38	306	⇑*e*P	Pn	11 39 29.2	+0.5
HZTE	Horizontes, Gu	3.38	306		Pn	11 39 28.9	+0.2
CHPO	Chepo, Panama	3.68	83	⇑*i*P	Pn	11 39 32.5	-0.3
CHPO				*e*S	Sn	11 40 16.1	0.0
ESPN	Las Esperanzas	3.75	337	⇑*e*P	Pn	11 39 33.3	-0.4
ESPN	Las Esperanzas	3.75	337		Pn	11 39 33.3	-0.4
CNTA3	Canitas, Panam	3.90	82	⇑*i*P	Pn	11 39 35.5	-0.4
CNTA3				*e*S	Sn	11 40 21.9	+0.2
ACON	Acoyapa	3.98	324	⇑*e*P	Pn	11 39 36.2	-0.7
ACON	Acoyapa	3.98	324		Pn	11 39 36.2	-0.7
BOAB	BOACO BROADBAN	4.65	323		Pn	11 39 45.4	-0.7
UPD2	Meteti	4.74	92	⇑*i*P	Pn	11 39 47.7	+0.3
UPD2				*e*S	Sg	11 41 04.1	-4.4
UPD2	Meteti	4.74	92	⇑*i*P	Pn	11 39 47.1	-0.3
UPD2				⇑*i*P	Pn	11 39 47.8	+0.3
PRVC	Isla de Provid	4.84	17	*e*P	Pn	11 39 47.7	-1.0
PRVC				*e*S	Sn	11 40 42.6	-2.0
PRVC	Isla de Provid	4.84	17		Pn	11 39 47.8	-0.9
MATN	Matagalpa	5.18	324		Pn	11 39 52.9	-0.6
CNGN	Cerro Negro	5.36	315		Pn	11 39 56.6	+0.7
CAPC	Capurgana	5.40	91	*e*P	Pn	11 39 56.1	-0.4
CAPC				*e*S	Sn	11 41 00.8	+2.3
CRIN	San Cristobal	5.74	314		Pn	11 40 01.6	+0.4
SOLC	Bahia Solano	5.90	114	*e*P	Pn	11 40 01.8	-1.5
DBBC	Dabeiba	6.75	104	*e*P	Pn	11 40 14.6	-0.5
DBBC				*e*S	Sn	11 41 40.

comp=Z,548nm,20.0s,baz=286,slow=37
ETMB Extrema 24.74 138 P P 11 43 56.2 -1.4
833A Chaparral WMA, 24.99 323 P P 11 43 58.7 -1.0
833A IAmb IAmb 11 44 17.4
comp=Z,22nm,1.1s
MACA Manacapuru-AM 25.02 117 *e*P **P 11 44 02.1 +1.9**
NATX Nacogdoches 25.43 336 P P 11 44 03.6 -0.2
NATX IAmb IAmb 11 44 20.6
comp=Z,30nm,0.9s
435B Jarrell 25.92 330 P P 11 44 07.6 -0.6
Z41A Richland Creek 26.10 341 P P 11 44 09.0 -0.8
Z41A IAmb IAmb 11 44 27.7
comp=Z,29nm,0.9s
SWET Sewanee 26.52 354 P P 11 44 12.5 -1.1
SWET IAmb IAmb 11 44 29.5
comp=Z,26nm,1.1s
TKL Tuckaleechee C 26.82 358 P P 11 44 18.1 +1.8
comp=Z,6.4nm,0.9s,baz=175,slow=11,SNR=3.6
TKL LR LR 11 55 45.6
comp=Z,277nm,18.2s,baz=186,slow=38
TKL Tuckaleechee C 26.82 358 P P 11 44 15.5 -0.8
TKL IAmb IAmb 11 44 35.6
comp=Z,36nm,1.4s
MIAR Mount Ida 27.54 341 P P 11 44 21.7 -1.0
MIAR IAmb IAmb 11 44 36.4
comp=Z,18nm,1.1s
W41B Gary Mavity, V 27.71 343 P P 11 44 23.0 -1.2
W41B IAmb IAmb 11 44 44.1
comp=Z,16nm,1.0s
WHAR Wooly Hollow 27.83 343 P P 11 44 24.4 -0.9
WHAR IAmb IAmb 11 44 39.0
comp=Z,20nm,1.0s
LCAR Lake Charles 28.26 346 P P 11 44 28.3 -0.9
FCAR Ozark Folk Cen 28.34 344 P P 11 44 28.4 -1.6
FCAR IAmb IAmb 11 44 29.6
comp=Z,21nm,1.3s
TXAR Lajitas Array 28.35 319 P P 11 44 30.6 +0.4
comp=Z,0.5nm,0.8s,baz=134,slow=7.7,SNR=3.2
TXAR Lajitas Array 28.35 319 P P 11 44 27.4 -2.8
LPAZ La Paz 28.79 150 P P 11 44 34.1 -0.7
comp=Z,3.3nm,1.0s,baz=340,slow=9.2,SNR=5.8
LPAZ LR LR 11 58 09.5
comp=Z,237nm,20.5s,baz=311,slow=41
LPAZ La Paz 28.79 150 *e*P **P 11 44 33.9 -0.8**
TUL1 Leonard 29.54 338 P P 11 44 38.9 -1.7
TUL1 IAmb IAmb 11 44 45.8
comp=Z,12nm,0.8s
WCI Wyandotte Cave 29.54 354 P P 11 44 40.0 -0.6
WCI IAmb IAmb 11 45 01.9
comp=Z,21nm,1.1s
MGMO Mountain Grove 29.57 345 P P 11 44 39.5 -1.4
MGMO IAmb IAmb 11 44 40.9
comp=Z,31nm,1.2s
PB16 IPOC Station P 29.92 154 P P 11 44 44.7 0.0
FVM French Village 29.93 348 P P 11 44 43.0 -1.0
FVM IAmb IAmb 11 45 07.1
comp=Z,18nm,1.2s
ITTB Itaituba 29.97 115 *e*P **P 11 44 46.7 +2.1**
MDP Montagnes des 30.16 95 P P 11 44 49.4 +3.1
comp=Z,22nm,0.8s,baz=270,slow=8.0,SNR=4.7
MDP LR LR 11 57 31.0
comp=Z,385nm,18.2s,baz=297,slow=37
CCM Cathedral Cave 30.18 347 P P 11 44 44.6 -1.6
CCM IAmb IAmb 11 45 02.0
comp=Z,17nm,0.9s
MALB Monte Alegre 30.33 109 *e*P **P 11 44 50.5 +2.7**
MNMC Minye Minye 30.59 155 P P 11 44 49.9 -0.5
VILB Vilhena 31.12 134 *e*P **P 11 44 57.5 +2.7**
PB11 IPOC Station P 31.13 156 P P 11 44 53.8 -1.2
GO01 Chusmiza 31.24 155 P P 11 44 56.8 +0.5
PB01 IPOC Station P 32.35 156 P P 11 45 04.8 -0.8
PB01 IAmb IAmb 11 45 07.1
comp=Z,18nm,1.1s
SIV San Ignacio 32.65 139 LR LR 12 00 08.5
comp=Z,208nm,18.2s,baz=310,slow=39
KSU1 Kansas State U 32.68 340 P P 11 45 06.5 -1.7
PDRB Porto dos Gac 32.88 127 *e*P **P 11 45 12.6 +2.4**
CLDB Colider 33.19 125 *e*P **P 11 45 16.1 +3.1**
ANMO Albuquerque 33.92 324 LR LR 12 03 11.8
comp=Z,279nm,18.5s,baz=134,slow=43
LVC Limon Verde 33.99 157 P P 11 45 19.9 -0.2
comp=Z,5.2nm,0.9s,baz=336,slow=5.9,SNR=5.7
LVC Limon Verde 33.99 157 *e*P **P 11 45 21.0 +0.8**
LVC Limon Verde 33.99 157 P P 11 45 19.7 -0.5
LVC IAmb IAmb 11 45 21.8
comp=Z,23nm,1.4s
SDCO Great Sand Dun 35.43 328 P P 11 45 31.7 -0.7
SADO Sadowa 36.05 4 LR LR 12 01 19.0
comp=Z,244nm,18.1s,baz=192,slow=38
PRPB Parauapebas 36.07 113 *e*P **P 11 45 40.3 +2.4**
SALV Santo Antonio 36.33 132 *e*P **P 11 45 43.0 +3.0**
OGNE Ogallala 36.34 335 P P 11 45 39.6 -0.5
MVCO Mesa Verde 36.68 325 P P 11 45 42.6 -0.5
ECSD EROS Data Cent 36.90 343 P P 11 45 42.4 -2.2
SPMN Marine on St. 37.38 348 P P 11 45 46.4 -2.3
SNDB Serra Nova Dou 37.48 123 *e*P **P 11 45 52.1 +2.2**
PV13 Radium Mtn., P 37.52 325 P P 11 45 49.6 -0.7
AC02 Maricunga 37.76 160 P P 11 45 53.0 +0.3
AC02 IAmb IAmb 11 45 59.6
comp=Z,16nm,1.0s
SUSD Miller 38.25 341 P P 11 45 53.4 -2.6
SMTB Santa Maria do 39.19 116 *e*P **P 11 46 06.3 +1.9**
AQDB Aquidauana 39.41 138 P P 11 46 04.5 -1.5
K22A Casper 39.69 332 P P 11 46 07.1 -1.2
RSSD Black Hills 39.81 336 P P 11 46 09.1 -0.3
PEXB Peixe 40.06 121 *e*P **P 11 46 13.9 +2.3**
AGMN Agassiz Nation 40.95 347 P P 11 46 16.3 -2.2
CO03 El Pedregal 41.02 164 P P 11 46 18.3 -1.1
CO03 IAmb IAmb 11 46 26.8
comp=Z,28nm,1.1s
PDAR Pinedale Array 41.23 330 P P 11 46 20.1 -1.2
comp=Z,0.4nm,0.5s,baz=127,slow=9.4,SNR=4.9
PDAR LR LR 12 07 04.5
comp=Z,153nm,19.2s,baz=137,slow=41
PDAR Pinedale Array 41.23 330 P P 11 46 18.8 -2.4
MDND Maddock 41.51 343 P P 11 46 21.6 -1.5
H03N2 Juan Fernandez 42.09 175 T T 12 30 55.8
baz=354,slow=76,SNR=10
H03N1 Juan Fernandez 42.09 175 T T 12 30 52.3
baz=354,slow=76,SNR=14
H03N3 Juan Fernandez 42.11 175 T T 12 31 02.9
baz=354,slow=76,SNR=20
BDFB Brasilia 42.12 125 P P 11 46 29.5 +0.8
comp=Z,7.7nm,0.8s,baz=283,slow=8.3,SNR=9.7
BDFB LR LR 12 04 19.8
comp=Z,580nm,19.9s,baz=315,slow=36
BDFB Brasilia 42.12 125 P P 11 46 28.5 -0.1
BDFB IAmb IAmb 11 46 35.1
comp=Z,20nm,1.2s
REDW Red Top Meadow 42.32 329 P P 11 46 29.3 -0.8
REDW IAmb IAmb 11 46 38.7
comp=Z,20nm,1.3s
CPUP Villa Florida 42.74 145 LR LR 12 06 06.9
comp=Z,104nm,18.2s,baz=317,slow=38
ULM Lac du Bonnet 42.80 348 P P 11 46 31.0 -2.5
comp=Z,15nm,0.9s,baz=146,slow=6.2,SNR=6.9
ULM LR LR 12 05 34.1
comp=Z,223nm,18.1s,baz=141,slow=38
ULM Lac du Bonnet 42.80 348 P P 11 46 31.0 -2.5
ULM IAmb IAmb 11 46 38.1
comp=Z,15nm,0.8s
ELK Elko 42.95 323 LR LR 12 07 51.7
comp=Z,204nm,18.3s,baz=139,slow=41
ELK Elko 42.95 323 P P 11 46 35.2 0.0
IPMB Ipameri, GO 43.26 128 *e*P **P 11 46 39.8 +2.0**
NV11 Mina Array Sit 43.40 319 P P 11 46 36.8 -2.0
NVAR Mina Array Bea 43.50 319 P P 11 46 39.9 +0.2
comp=Z,0.6nm,0.7s,baz=133,slow=6.5,SNR=6.3
NVAR LR LR 12 06 11.2
comp=Z,389nm,20.0s,baz=141,slow=38
DGMT Dagmar 43.52 339 P P 11 46 38.4 -1.1
DGMT IAmb IAmb 11 46 55.2
comp=Z,16nm,1.0s
RPN Rapa Nui 43.95 215 LR LR 12 00 11.8
comp=Z,188nm,19.8s,baz=46,slow=30
HLID Hailey 44.31 327 P P 11 46 45.6 -0.5
BOZ Bozeman (W) 44.32 331 P P 11 46 45.6 -0.6
MCMT McKenzie Canyo 44.37 329 P P 11 46 45.8 -0.9
DLMT Dillon 44.62 330 P P 11 46 48.2 -0.3
DLMT IAmb IAmb 11 47 00.2
comp=Z,17nm,1.4s
MFID Camas Ranch 44.99 326 P P 11 46 50.5 -1.0
FRTB Fartura 45.53 135 *e*P **P 11 46 57.4 +1.5**
ITQB Itaqui 45.74 148 P P 11 46 57.0 -0.4
WVOR Wild Horse Val 46.00 323 P P 11 46 58.3 -1.2
WVOR IAmb IAmb 11 47 06.7
comp=Z,13nm,0.9s
MSO Missoula 46.32 331 P P 11 47 00.2 -1.8
DIAM Diamantina, MG 47.04 125 *e*P **P 11 47 10.2 +2.2**
SCHQ Schefferville 47.72 12 LR LR 12 09 56.6
comp=Z,239nm,19.0s,baz=198,slow=39
YBH Yreka Blue Hor 48.12 320 LR LR 12 11 30.0
comp=Z,312nm,18.9s,baz=144,slow=41
FFC Flin Flon 48.36 345 P P 11 47 16.2 -1.4
FFC IAmb IAmb 11 47 25.9
comp=Z,7.4nm,1.0s
NEW Newport 48.88 330 LR LR 12 10 06.4
comp=Z,203nm,21.6s,baz=137,slow=39
NBIT Itapeh - BA 49.00 118 *e*P **P 11 47 25.2 +2.2**
NBAN Anadia - AL 49.81 110 *e*P **P 11 47 31.1 +1.9**
PLCA Paso Flores 50.49 168 P P 11 47 33.4 -0.7
comp=Z,3.1nm,0.8s,baz=335,slow=8.0,SNR=9.7
PLCA Paso Flores 50.49 168 P P 11 47 33.4 -0.7
PLCA IAmb IAmb 11 47 41.4
comp=Z,12nm,0.8s
FRB Frobisher Bay 55.87 8 LR LR 12 13 19.4
comp=Z,348nm,18.8s,baz=198,slow=37
BBB Bella Bella 56.85 328 LR LR 12 14 51.4
comp=Z,131nm,19.5s,baz=134,slow=38
YKA Yellowknife Ar 58.43 343 P P 11 48 29.8 -1.6
comp=Z,2.9nm,0.8s,baz=138,slow=7.1,SNR=54
YKA Yellowknife Ar 58.43 343 P P 11 48 30.0 -1.4
SFJD Kangerlussuaq 62.14 14 LR LR 12 15 49.8
comp=Z,346nm,21.3s,baz=219,slow=36
I29M Ogilvie Camp, 68.19 338 P P 11 49 35.4 -0.7
I29M IAmb IAmb 11 49 45.1
comp=Z,13nm,1.2s
BCAR Beaver Creek A 68.52 335 P P 11 49 38.0 -0.2
SUMG Summit 69.11 13 *i* P P 11 49 51.0 +8.9
IL31 71.25 336 P P 11 49 54.1 -0.8
IL31 IAmb IAmb 11 50 15.3
comp=Z,7.3nm,1.1s
ILAR Eielson Array 71.25 336 P P 11 49 54.4 -0.6
comp=Z,1.3nm,0.5s,baz=111,slow=4.1,SNR=34
ILAR Eielson Array 71.25 336 P P 11 49 53.1 -1.9
MCK McKinley 71.76 335 P P 11 49 57.0 -1.1
MDT Midelt 75.44 58 LR LR 12 17 54.9
comp=Z,80nm,21.1s,baz=320,slow=31
ESDC Sonseca Array 75.91 51 P P 11 50 22.5 -0.5
comp=Z,1.3nm,0.9s,baz=289,slow=5.5,SNR=4.8
ESDC LR LR 12 18 45.0
comp=Z,153nm,20.1s,baz=286,slow=32
ESDC Sonseca Array 75.91 51 P P 11 50 21.2 -1.8
ESDC IAmb IAmb 11 50 40.4
comp=Z,11nm,1.4s
TORD Torodi Ar. Bea 82.75 78 P P 11 51 00.8 +0.2
comp=Z,0.7nm,0.9s,baz=275,slow=5.8,SNR=1.6
TORD Torodi Ar. Bea 82.75 78 P P 11 50 58.3 -2.3
SPITS Spitsbergen Ar 83.40 12 LR LR 12 28 47.1
comp=Z,217nm,21.0s,baz=30,slow=36
NOA NORSAR Array B 84.38 29 P P 11 51 10.0 +1.8
comp=Z,1.3nm,0.9s,baz=284,slow=5.1,SNR=3.6
NOA LR LR 12 26 02.8
comp=Z,65nm,20.5s,baz=355,slow=34
DAVOX Davos/Dischmat 85.55 44 LR LR 12 24 09.9
comp=Z,112nm,19.9s,baz=266,slow=32
GERES GERESS Array B 87.76 41 LR LR 12 25 31.3
comp=Z,127nm,19.5s,baz=278,slow=32
ARCES ARCESS Array B 88.18 20 P P 11 51 27.9 +1.3
comp=Z,4.1nm,1.0s,baz=328,slow=1.9,SNR=4.1
VRAC Vranov 89.53 40 LR LR 12 27 38.5
comp=Z,196nm,19.1s,baz=326,slow=33
SHEM Shemya Is, Ala 90.95 324 LR LR 12 36 31.5
comp=Z,49nm,18.3s,baz=324,slow=38
AFI Afiamalu 91.07 256 LR LR 12 25 57.8
comp=Z,59nm,18.3s,baz=88,slow=31
MNK Minsk 94.67 33 *i* P **P 11 52 01.0 +4.0**
comp=E,3.0nm,0.8s
MNK *i* P **P 11 52 01.0 +4.0**
comp=N,14nm,0.7s
MNK *i* P **P 11 52 01.0 +4.0**
comp=Z,16nm,0.7s,baz=112
MNK *i* PP **PP 11 55 48.8 +4.0**
MNK *i* PPP PPP 11 57 50.3
MNK *i* S **SKSac 12 02 36.2 +3.9**
MNK *i* PS **PS 12 04 31.7 +4.7**
MNK *i* SS **SS 12 09 38.8 +6.1**
MNK *i* SSS SSS 12 13 20.8
MNK *i* LQ LQ 12 28 30.2
MNK *i* LR LR 12 33 55.7
MNK *i* LRM MLR 12 35 28.9
comp=N,103nm,9.3s
MNK *i* LRM MLR 12 35 28.9
comp=Z,97nm,8.9s
MNK *i* LRM MLR 12 35 33.0
comp=E,24nm,10.9s
SNAA Sanae 95.08 162 P P 11 51 57.8 -0.8
SNAA IAmb IAmb 11 52 14.1
comp=Z,6.4nm,1.1s
AKASG Malin Array Be 96.87 36 LR LR 12 34 08.9
comp=Z,88nm,19.3s,baz=334,slow=34
TIXI Tiksi 97.10 350 LR LR 12 39 15.5
comp=Z,116nm,19.9s,baz=344,slow=37
SEY Seymchan 97.13 338 LR LR 12 43 03.7
comp=Z,155nm,18.2s,baz=356,slow=40
QSPA South Pole Qui 98.72 180 P P 11 52 13.3 -1.9
PETK Petropavlovsk- 99.97 328 LR LR 12 35 56.3
comp=Z,43nm,21.8s,baz=56,slow=34
SONM Songino Array 123.10 353 PKP PKPdf 11 57 31.3 -1.6
comp=Z,0.1nm,0.3s,baz=132,slow=0.9,SNR=1.9
WMQ Urumqi 127.00 9 *e*P **PKPdf 11 57 40.5 0.0**
WMQ pmax pmax
comp=Z,170nm,3.9s
HHC Hu-ho-hao-te 128.92 346 *e*P **PKPdf 11 57 38.0 -6.3**
NJ2 Nanjing 134.47 334 *e*P **PKPdf 11 57 55.3 +0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ASAR Alice Springs 141.88 243 PKhKP PKPpre 11 58 02.5
comp=Z,0.5nm,0.6s,baz=122,slow=3.9,SNR=11
ASAR PKP **PKPdf 11 58 06.8 -1.9**
comp=Z,1.7nm,0.7s,baz=111,slow=3.1,SNR=10
ASAR Alice Springs 141.88 243 PKPdf 11 58 07.7 -1.0
WRA Warramunga Arr 142.41 249 PKhKP PKPpre 11 58 04.7
comp=Z,1.1nm,0.9s,baz=94,slow=2.9,SNR=4.9
WRA PKP **PKPdf 11 58 09.2 -0.5**
comp=Z,2.3nm,0.7s,baz=94,slow=3.0,SNR=16
WRA Warramunga Arr 142.41 249 PKPdf 11 58 08.3 -1.4
PZH PanZhiHua 144.71 353 PKP PKPab 11 58 11.3 -1.1
KMI Kunming 145.93 351 ⇑PKPbc **PKPdf 11 58 15.5 -0.5**
KMI sPKP 11 58 26.5
FITZ Fitzroy Crossi 150.84 248 PKPab **PKPab 11 58 34.7 -1.9**
baz=117,slow=2.3
CMAR Chiang Mai Arr 152.94 356 PKPbc **PKPbc 11 58 33.1 -1.2**
comp=Z,0.9nm,0.5s,baz=330,slow=3.1,SNR=7.8

IDC ***31*** *11:41:12.3±1.2, 3°.05S×147°.18E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.6/53, mbtmp4.0/9, ML1.2/1, MS3.5/5, Ms1 3.5/5, ms1mx2.9/59, Error ellipse: s-maj=43.2km s-min=20.6km az=99.0*

ISC 31 11:41:17.8±1.0, 3°.1S±0°.1×147°.1E±0°.3, h35km, n17, σ1°56/13, mb3.9/7, MS3.5/3, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.28**	**180**	Pn	**Pn**	**11 42 47.7**	**-0.2**
0.3nm,0.3s,baz=259,slow=14,SNR=3.9							
GUMO	**Guam**	**16.72**	**352**	LR	LR	11 51 23.1	
comp=Z,41nm,19.4s,baz=120,slow=37							
CTA	**Charters Tower**	**16.92**	**183**	LR	LR	11 51 08.2	
comp=Z,84nm,19.5s,baz=314,slow=35							
WRA	**Warramunga Arr**	**20.90**	**216**	P	**P**	**11 45 56.8**	**-0.6**
23nm,1.1s,baz=39,slow=12,SNR=41							
WRA				PcP	**PcP**	**11 50 05.0**	**+0.1**
1.2nm,0.8s,baz=35,slow=2.2,SNR=5.9							
ASAR	**Alice Springs**	**24.14**	**211**	P	**P**	**11 46 30.6**	**-0.1**
7.8nm,1.0s,baz=42,slow=8.2,SNR=37							
ASAR				PcP	**PcP**	**11 50 11.4**	**0.0**
0.9nm,0.8s,baz=6.2,slow=2.9,SNR=6.4							
ASAR				ScP	**ScP**	**11 53 51.8**	**+4.3**
0.5nm,0.9s,baz=29,slow=4.4,SNR=3.3							
FITZ	**Fitzroy Crossi**	**25.82**	**233**	P	**P**	**11 46 46.1**	**+0.2**
6.8nm,1.1s,baz=93,slow=9.3							
FITZ				LR	LR	11 57 13.7	
comp=Z,137nm,19.5s,baz=175,slow=37							
H11S3	**WAKE ISLAND Hy**	**28.81**	**41**	T	T	12 17 17.7	
baz=222,slow=74,SNR=24							
H11S2	**WAKE ISLAND Hy**	**28.82**	**41**	T	T	12 17 17.3	
baz=222,slow=74,SNR=9.6							
H11S1	**WAKE ISLAND Hy**	**28.83**	**41**	T	T	12 17 19.4	
baz=222,slow=74,SNR=9.0							
STKA	**Stephens Creek**	**29.11**	**190**	LR	LR	12 00 29.7	
comp=Z,72nm,18.6s,baz=24,slow=40							
CMAR	**Chiang Mai Arr**	**52.05**	**296**	P	**P**	**11 50 24.8**	**+0.2**
0.4nm,0.3s,baz=91,slow=4.3,SNR=4.4							
SONM	**Songino Array**	**61.95**	**330**	P	**P**	**11 51 34.2**	**-0.1**
0.2nm,0.3s,baz=145,slow=5.3,SNR=2.1							
MKAR	**Makanchi Array**	**75.36**	**320**	P	**P**	**11 52 57.8**	**0.0**
0.7nm,0.9s,baz=116,slow=7.0,SNR=5.4							
BVAR	**Borovoye Array**	**84.52**	**324**	P	**P**	**11 53 47.0**	**-0.1**
0.7nm,0.8s,baz=79,slow=11,SNR=3.9							
YKA	**Yellowknife Ar**	**96.54**	**28**	P	**P**	**11 54 43.5**	**0.0**
0.5nm,0.9s,baz=270,slow=4.0,SNR=4.8							
KIRV	**Kirov**	**96.65**	**328**	LR	LR	12 41 09.0	
comp=Z,136nm,18.4s,baz=314,slow=37							
TORD	**Torodi Ar. Bea**	**144.41**	**288**	PKP	**PKPdf**	**12 00 49.2**	**-2.2**
2.3nm,0.8s,baz=67,slow=3.6,SNR=7.9							

IDC ***31*** *11:41:37.7±2.5, 0°.60S×128°.72E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.0/58, mbtmp3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/67, Error ellipse: s-maj=247.0km s-min=27.3km az=71.0*

ISC 31 11:41:39.0±1.3, 0°.6S±0°.2×128°.9E±0°.2, h10km, n5, σ0°44/5, mb3.8/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**7.48**	**100**	P	**Pn**	**11 43 28.3**	**0.0**
ASAR	**Alice Springs**	**23.48**	**168**	P	**P**	**11 46 49.1**	**0.0**
1.3nm,1.0s,baz=348,slow=9.8,SNR=5.5							
ASAR				LR	LR	11 56 19.5	
comp=Z,26nm,19.5s,baz=98,slow=38							
SONM	**Songino Array**	**52.02**	**341**	P	**P**	**11 50 48.8**	**-0.1**
0.9nm,1.1s,baz=159,slow=7.5,SNR=4.1							
MKAR	**Makanchi Array**	**62.28**	**326**	P	**P**	**11 52 01.0**	**-0.4**
0.7nm,0.5s,baz=125,slow=8.6,SNR=13							
KURBB	**Kurchatov Arra**	**66.48**	**328**	P	**P**	**11 52 29.3**	**+0.5**
0.4nm,0.5s,baz=130,slow=6.6,SNR=5.0							

EAF ***31*** *11:47:17.6±1.1, 15°.81S×29°.29E, h0km±52km, MD4.1*

BUL 31 11:47:17.6±1.1, 15°.81S×29°.29E, h0km±52km, MD4.5, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI	**Karoi**	**1.07**	**163**	*i* P	Pn	11 47 47.6	+7.6
KRI				*i* Sg	Sn	11 48 11.3	+16
KRI	**Karoi**	**1.07**	**163**	*i* P	Pn	11 47 47.6	+7.6
KRI				*i* Sg	Sn	11 48 11.3	+16
BLWY	**Bulawayo**	**4.36**	**188**	*i* P	Pn	11 48 24.8	-0.4
BLWY				*i* Sg	Sb	11 49 32.2	+3.8
BLWY	**Bulawayo**	**4.36**	**188**	*i* P	Pn	11 48 24.8	-0.4
BLWY				*i* Sg	Sb	11 49 32.2	+3.8
MATP	**Matopo**	**4.66**	**189**	*i* P	Pn	11 48 28.9	-0.5
MATP				*i* Sg	Sg	11 49 42.7	-4.6
MATP	**Matopo**	**4.66**	**189**	*i* P	Pn	11 48 28.9	-0.5
MATP				*i* Sg	Sg	11 49 42.7	-4.6

JMA ***31*** *11:56:02.8, 39°.99N×142°.40E, h23km±1km, M3.6*
NIED ***31*** *11:56:02.9, 39°.99N×142°.40E, h23km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-0.20; Mθθ1.51; Mφφ-1.31; Mrθ0.06; Mθφ2.47; Mφr-0.43; Fault plane solution: M0 2.88000×10^14 NP1:φs15.00000°, δ86.00000°, λ-172.00000°. NP2:φs285.00000°, δ82.00000°, λ-4.00000°.*
IDC ***31*** *11:56:08.6±2.7, 40°.00N×142°.91E, h70km±23km, mb3.1/6, mb1 3.2/9, mb1mx2.8/71, mbtmp3.4/9 Error ellipse: s-maj=37.4km s-min=16.5km az=94.0*

ISC 31 11:56:02.5±1.8, 39°.93N±0°.03×142°.33E±0°.07, h4km±11km, n26, σ1°41/30, mb3.5/6, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.36**	**272**	⇓P	**Pb**	**11 56 11.5**	**0.0**
JTH				S	**Sb**	**11 56 17.4**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.53**	**229**	⇓P	**Pb**	**11 56 14.5**	**+0.1**
MIYJ				S	**Sb**	**11 56 22.6**	**+0.3**
JKEN	**Kujiedanarisaw**	**0.55**	**300**	⇑P	**Pg**	**11 56 13.8**	**+0.6**
JKEN				S	**Sg**	**11 56 21.6**	**+1.2**
JANG	**Nango**	**0.77**	**306**	⇑P	**Pg**	**11 56 17.1**	**-0.2**
JANG				S	**Sg**	**11 56 27.1**	**-0.2**
JKZ	**Kuzumaki**	**0.77**	**274**	⇑P	**Pb**	**11 56 18.4**	**-0.2**
JKZ				S	**Sb**	**11 56 28.9**	**-0.5**
JOM	**Ohasama**	**0.92**	**241**	P	**Pb**	**11 56 21.1**	**0.0**
JOM				S	**Sb**	**11 56 34.1**	**+0.4**
OFUJ	**Ofunato**	**0.99**	**211**	⇓P	**Pg**	**11 56 21.9**	**+0.4**
OFUJ				S	**Sb**	**11 56 35.8**	**+0.2**
JTM	**Tenmabayashi**	**1.29**	**312**	⇑P	**Pn**	**11 56 25.6**	**-1.7**
JTM				S	**Sb**	**11 56 41.9**	**-2.4**
JMK	**Ichinoseki**	**1.30**	**222**	P	**Pn**	**11 56 27.3**	**-0.1**
JMK				S	**Sg**	**11 56 45.0**	**+0.6**
JAH	**Hinai**	**1.33**	**282**	⇑P	**Pn**	**11 56 27.3**	**-0.5**
JAH				S	**Sb**	**11 56 45.2**	**-0.1**
ASAJ	**Asahikawa**	**4.19**	**3**	P	**Pn**	**11 57 08.8**	**+1.6**
0.8nm,0.3s,baz=199,slow=13,SNR=2.1							
ASAJ				S	**Sn**	**11 57 56.9**	**+0.4**
1.3nm,0.3s,baz=76,slow=19,SNR=1.6							
MJAR	**Matsushiro Arr**	**4.69**	**225**	P	**Pb**	**11 57 21.3**	**-4.0**
0.3nm,0.3s,baz=33,slow=14,SNR=23							
MAT	**Matsushiro**	**4.69**	**225**	P	Pn	11 57 19.2	+5.2
MAT				*e*S	**Sn**	**11 58 11.1**	**+2.2**
KSRS	**Korea Array**	**11.53**	**262**	P	Pn	11 58 57.1	+9.2
0.2nm,0.3s,baz=72,slow=14,SNR=2.2							
SONM	**Songino Array**	**26.89**	**299**	P	**P**	**12 01 47.8**	**+3.3**
0.3nm,0.7s,baz=90,slow=9.1,SNR=2.0							
H11N2	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	12 32 37.9	
baz=319,slow=75,SNR=185							
H11N1	**WAKE ISLAND Hy**	**29.16**	**127**	T	T	12 32 39.0	
baz=319,slow=75,SNR=118							
H11N3	**WAKE ISLAND Hy**	**29.17**	**126**	T	T	12 32 41.0	
baz=319,slow=75,SNR=219							
H11S1	**WAKE ISLAND Hy**	**29.96**	**128**	T	T	12 33 35.0	
baz=321,slow=76,SNR=25							
H11S3	**WAKE ISLAND Hy**	**29.96**	**128**	T	T	12 33 29.0	
baz=321,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**29.97**	**128**	T	T	12 33 40.9	
baz=321,slow=76,SNR=23							
ZALV	**Zalesovo Beam**	**40.55**	**310**	P	**P**	**12 03 42.2**	**-0.5**
0.6nm,0.5s,baz=81,slow=8.9,SNR=2.9							
MKAR	**Makanchi Array**	**43.25**	**300**	P	**P**	**12 04 05.5**	**+0.6**
0.3nm,0.6s,baz=81,slow=8.9,SNR=2.2							
KURBB	**Kurchatov Arra**	**44.84**	**306**	P	**P**	**12 04 17.1**	**-0.4**
0.5nm,0.7s,baz=79,slow=8.5,SNR=4.3							
WRA	**Warramunga Arr**	**60.02**	**189**	P	**P**	**12 06 09.3**	**-1.1**
0.3nm,0.5s,baz=7.7,slow=6.7,SNR=2.1							
ASAR	**Alice Springs**	**63.75**	**189**	P	**P**	**12 06 33.8**	**-1.7**
0.2nm,0.7s,baz=359,slow=6.2,SNR=1.8							

IDC 31 12:08:08.7±5.1, 44°.59N×150°.49E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.2/56, mbtmp3.6/4, Error ellipse: s-maj=177.1km s-min=42.0km az=7.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.32**	**298**	P	P	12 16 35.8	-0.2
0.5nm,0.7s,baz=69,slow=7.0,SNR=6.1							
FINES	**FINESS Array B**	**65.19**	**334**	P	P	12 18 51.1	-0.1
3.0nm,1.0s,baz=36,slow=12,SNR=2.3							
AKASG	**Malin Array Be**	**72.29**	**325**	P	P	12 19 36.0	+0.4
0.1nm,0.3s,baz=34,slow=5.6,SNR=1.9							
TXAR	**Lajitas Array**	**80.17**	**58**	P	P	12 20 21.0	0.0
0.2nm,0.6s,baz=295,slow=5.6,SNR=3.5							

IDC ***31*** *12:09:20.9±1.2, 64°.26S×176°.55E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/23, mbtmp4.3/3, MS3.7/13, Ms1 3.7/13, ms1mx3.5/41, Error ellipse: s-maj=55.3km s-min=26.2km az=62.0*
NEIC ***31*** *12:09:23.1±1.2, 64°.3S±0°.2×176°.5E±0°.4, h10km±5km, mb4.4/8, Error ellipse: s-maj=28.5km s-min=20.7km az=220.0*

ISC 31 12:09:22.4±1.0, 64°.2S±0°.1×176°.7E±0°.2, h10km, n44, σ0°60/20, mb4.4/6, MS3.8/13, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**25.92**	**180**	P	**P**	**12 14 54.3**	**-0.1**
5.3nm,0.9s,baz=16,slow=2.4,SNR=14							

QSPA South Pole Qui 25.92 180 P P 12 14 54.4 -0.1
QSPA IAmb IAmb 12 14 56.5
comp=Z,7.5nm,1.0s
CASY Casey 26.64 236 P P 12 15 00.2 -0.4
STKA Stephens Creek 38.97 309 LR LR 12 31 25.6
comp=Z,72nm,18.2s,baz=198,slow=34
STKA Stephens Creek 38.97 309 P P 12 16 47.8 -0.7
MAW Mawson 40.30 213 P P 12 16 59.1 0.0
MAW IAmb IAmb 12 17 17.9
comp=Z,33nm,1.2s
DZM Mont Dzumac 42.63 346 LR LR 12 34 26.8
comp=Z,100nm,18.3s,baz=216,slow=35
PMSA Palmer Station 43.91 147 LR LR 12 32 56.3
comp=Z,119nm,18.3s,baz=139,slow=32
H01W1 Cape Leeuwin H 47.30 277 T T 13 08 43.6
baz=148,slow=76,SNR=14
H01W2 Cape Leeuwin H 47.31 277 T T 13 08 43.9
baz=148,slow=76,SNR=21
H01W3 Cape Leeuwin H 47.32 277 T T 13 08 44.8
baz=148,slow=76,SNR=16
CTA Charters Tower 48.55 321 LR LR 12 35 29.8
comp=Z,48nm,19.8s,baz=132,slow=32
AS31 Alice Springs 49.18 305 P P 12 18 10.2 -0.2
AS31 IAmb IAmb 12 18 13.9
comp=Z,1.2nm,0.9s
ASAR Alice Springs 49.18 305 P P 12 18 10.8 +0.5
comp=Z,3.9nm,0.9s,baz=155,slow=7.4,SNR=31
ASAR Alice Springs 49.18 305 P P 12 18 11.7 +1.3
WB2 Warramunga Arr 52.45 307 P P 12 18 35.2 +0.3
WB2 IAmb IAmb 12 18 37.7
comp=Z,7.9nm,1.1s
WRA Warramunga Arr 52.45 307 P P 12 18 34.7 -0.3
comp=Z,6.3nm,1.2s,baz=160,slow=6.2,SNR=14
WRA LR LR 12 38 13.2
comp=Z,114nm,21.2s,baz=102,slow=33
WRA Warramunga Arr 52.45 307 P P 12 18 35.7 +0.7
HNR Honiara 55.93 340 LR LR 12 39 07.0
comp=Z,90nm,21.5s,baz=181,slow=32
PMG Port Moresby 58.53 325 LR LR 12 40 11.3
comp=Z,60nm,21.9s,baz=137,slow=32
H03S2 Juan Fernandez 65.95 118 T T 13 32 24.6
baz=206,SNR=12
H03S1 Juan Fernandez 65.95 118 T T 13 32 26.0
baz=206,SNR=12
H03S3 Juan Fernandez 65.97 118 T T 13 32 26.3
baz=206,SNR=13
H03N3 Juan Fernandez 66.29 118 T T 13 32 49.5
baz=213,slow=72,SNR=17
H03N2 Juan Fernandez 66.30 118 T T 13 32 44.9
baz=213,slow=72,SNR=37
H03N1 Juan Fernandez 66.31 118 T T 13 32 47.7
baz=213,slow=72,SNR=16
LVC Limon Verde 79.85 121 LR LR 12 49 14.1
comp=Z,41nm,18.1s,baz=200,slow=30
CPUP Villa Florida 80.47 133 LR LR 12 52 14.9
comp=Z,61nm,18.3s,baz=218,slow=32
GUMO Guam 81.25 329 LR LR 12 52 28.8
comp=Z,28nm,19.4s,baz=291,slow=32
BOSA Boshof 84.83 205 P P 12 21 57.1 +0.1
LPAZ La Paz 85.90 119 LR LR 12 50 48.0
comp=Z,43nm,20.8s,baz=201,slow=29
NNA Nana 86.34 110 LR LR 12 52 34.7
comp=Z,39nm,19.3s,baz=189,slow=30
H08S2 Diego Garcia H 89.28 254 T T 14 01 19.7
baz=154,slow=76,SNR=7.2
H08S1 Diego Carcia H 89.29 254 T T 14 01 15.6
baz=154,slow=76,SNR=5.4
H08S3 Diego Garcia H 89.30 254 T T 14 01 20.7
baz=154,slow=76,SNR=7.7
ATAH Atahualpa 90.07 107 LR LR 12 53 43.6
comp=Z,87nm,19.7s,baz=224,slow=30
ILAR Eielson Array 131.39 20 PKP PKPdf 12 28 33.5 +0.4
comp=Z,1.0nm,0.9s,baz=268,slow=1.9,SNR=7.6
ILAR Eielson Array 131.39 20 PKiKP 12 28 34.0 -0.1
NRIK Noril'sk 146.93 319 PKPbc PKPab 12 29 04.3 -0.3
comp=Z,3.4nm,0.9s,baz=150,slow=1.9,SNR=4.8
NRIK Noril'sk 146.93 319 PKPab 12 29 04.9 +0.2
KBZ Khabaz 147.02 254 PKPbc PKPdf 12 29 02.9 +0.8
comp=Z,4.3nm,0.9s,baz=147,slow=2.8,SNR=13
BRTR Keskin Array B 147.37 239 PKPbc PKPdf 12 29 03.7 +0.7
comp=Z,5.1nm,0.9s,baz=157,slow=4.9,SNR=21
SCHQ Schefferville 147.81 76 PKPbc PKPbc 12 29 05.0 -1.1
comp=Z,4.3nm,0.9s,baz=272,slow=8.2,SNR=3.8
SCHQ Schefferville 147.81 76 PKPbc 12 29 05.8 -0.3

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*IDC **31** 12:19:47.8±4.7, 42°.84N×146°.55E, h0km, mb3.8/3, mb1 3.7/4, mb1mx3.4/28, mbtmp3.7/4, ML3.2/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/92, Error ellipse: s-maj=132.1km s-min=49.7km az=6.0*
*JMA **31** 12:19:51.6±0.2, 42°.71N×146°.21E, h36km±3km, M3.3*
*MOS **31** 12:19:53.4±1.4, 42°.79N×146°.11E, h44km, mb4.0/1, Error ellipse: s-maj=24.9km s-min=10.2km az=100.6*
*SKHL **31** 12:19:53.2±0.7, 42°.70N×146°.10E, h49km±3km, mb4.5/5*
ISC 31 12:19:51.9±1.6, **42°.72N**±0°.07×**146°.15E**±0°.04, **h18**km±4km, **n34**, σ1§**38**/48, **mb3.5**/3, **2C-1D, Off southeast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.71**	**335**	P		**Pg**	**12 20 05.6 -0.2**
NEM2				*e*S		**Sg**	**12 20 15.8 +0.5**
NMR	**Nemuro--Hokkai**	**0.72**	**335**	⇑*i*PN		**Pg**	**12 20 05.6 -0.4**
NMR				*e*S		**Sg**	**12 20 16.4 +0.8**
NMR	**Nemuro--Hokkai**	**0.72**	**335**	*i* P		**Pg**	**12 20 05.6 -0.4**
NMR				*e*S		**Sg**	**12 20 15.2 -0.4**
JKHN	**Kushirohamanak**	**0.81**	**297**	P		**Pb**	**12 20 07.3 -0.1**
JKHN				*e*S		**Sg**	**12 20 19.0 +0.5**
AKK	**Akkeshi**	**1.00**	**288**	*e*P		**Pb**	**12 20 10.1 -0.6**
AKK				*e*S		**Sb**	**12 20 20.9 -2.6**
JAK	**Akkeshi**	**1.10**	**285**	P		**Pn**	**12 20 11.5 -0.8**
JAK				*e*S		**Sb**	**12 20 26.5 +0.2**
GLVR	**Golovnino**	**1.12**	**336**	*e*PN		**Pn**	**12 20 11.9 -0.6**
GLVR				*e*S		**Sb**	**12 20 27.5 +0.7**
GLVR				pmax		pmax	
	comp=Z,365nm,0.1s						
GLVR				smax		smax	
	comp=N,2μm,0.3s						
GLVR				smax		smax	
	comp=E,2μm,0.2s						
GLVR	**Golovnino**	**1.12**	**336**	*e*P		**Pn**	**12 20 11.9 -0.6**
GLVR				AMB		AMB	12 20 12.4
	comp=E,370nm,0.3s						
GLVR				*e*S		**Sb**	**12 20 27.5 +0.7**
GLVR				A		A	12 20 28.8
	comp=E,340nm,0.3s						
GLVR				A		A	12 20 28.8
	comp=E,280nm,0.3s						
SHO	**Shikotan**	**1.25**	**23**	⇑*i*PN		**Pn**	**12 20 14.0 -0.4**
SHO				*e*S		**Sn**	**12 20 31.7 +0.9**
SHO				pmax		pmax	
	comp=Z,152nm,0.4s						
SHO				pmax		pmax	
	comp=N,73nm,0.3s						
SHO				pmax		pmax	
	comp=E,75nm,0.3s						
SHO				smax		smax	
	comp=N,326nm,0.2s						
SHO				smax		smax	
	comp=E,258nm,0.5s						
SHO	**Shikotan**	**1.25**	**23**	*i* P		**Pn**	**12 20 14.0 -0.4**
SHO				AMB		AMB	12 20 14.9
	comp=E,150nm,0.3s						
SHO				*e*S		**Sb**	**12 20 29.7 -1.0**
SHO				A		A	12 20 33.3
	comp=E,330nm,0.3s						
SHO				A		A	12 20 33.3
	comp=E,260nm,0.3s						
GRPR	**Tuman**	**1.30**	**348**	*e*PN		**Pn**	**12 20 14.0 -1.1**
GRPR				*e*S		**Sn**	**12 20 32.1 +0.1**
GRPR				pmax		pmax	
	comp=N,108nm,0.1s						
GRPR				pmax		pmax	
	comp=E,84nm,0.1s						
GRPR				pmax		pmax	
	comp=Z,186nm,0.1s						
GRPR				smax		smax	
	comp=E,277nm,0.4s						
GRPR				smax		smax	
	comp=N,555nm,0.2s						
GRPR	**Tuman**	**1.30**	**348**	*e*P		**Pn**	**12 20 14.0 -1.1**
GRPR				AMB		AMB	12 20 16.4
	comp=N,110nm,0.4s						
GRPR				AMB		AMB	12 20 16.4
	comp=N,280nm,0.4s						
GRPR				AMB		AMB	12 20 16.4
	comp=N,190nm,0.4s						
GRPR				*e*S		**Sn**	**12 20 32.1 +0.1**
GRPR				A		A	12 20 32.9
	comp=N,560nm,0.3s						
GRPR				A		A	12 20 32.9
	comp=N,280nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.33**	**351**	⇓*i*PN		**Pn**	**12 20 14.8 -0.7**
YUK				*e*S		**Sb**	**12 20 34.3 +1.4**
YUK				pmax		pmax	
	comp=Z,286nm,0.2s						
YUK				pmax		pmax	
	comp=N,91nm,0.1s						
YUK				pmax		pmax	
	comp=E,95nm,0.2s						
YUK				smax		smax	
	comp=E,266nm,0.4s						
YUK				smax		smax	
	comp=N,356nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.33**	**351**	*i* P		**Pn**	**12 20 14.8 -0.7**
YUK				AMB		AMB	12 20 16.0
	comp=N,160nm,0.2s						
YUK				*e*S		**Sn**	**12 20 30.0 -2.7**
YUK				A		A	12 20 36.9
	comp=N,300nm,0.3s						
YUK				A		A	12 20 36.9
	comp=N,310nm,0.3s						
JNK	**Nakash**	**1.36**	**310**	P		**Pn**	**12 20 15.0 -0.9**
JNK				*e*S		**Sn**	**12 20 32.4 -1.0**
JRA	**Rausu**	**1.43**	**329**	P		**Pn**	**12 20 16.6 -0.2**
RUSJ	**Misakicho**	**1.53**	**335**	*e*PN		**Pn**	**12 20 18.3 +0.1**
RUSJ				*e*S		**Sn**	**12 20 39.4 +1.7**
JAR	**Ashorobuto**	**1.84**	**289**	P		**Pn**	**12 20 22.2 -0.3**
JAR				*e*S		**Sn**	**12 20 44.8 -0.4**
JTKR	**Abashiri--Toko**	**2.06**	**308**	P		**Pn**	**12 20 26.0 +0.5**
JTKR				*e*S		**Sn**	**12 20 51.8 +1.2**
KUR	**Kuril'sk**	**2.80**	**26**	PN		**Pn**	**12 20 38.4 +2.7**
KUR				S		**Sn**	**12 21 11.7 +2.7**
KUR	**Kuril'sk**	**2.80**	**26**	*e*P		**Pn**	**12 20 36.8 +1.1**
KUR				AMB		AMB	12 20 39.4
	comp=N,20nm,0.3s						
KUR				*e*S		**Sn**	**12 21 06.6 -2.4**
KUR				A		A	12 21 13.1
	comp=N,50nm,0.5s						
KUR				A		A	12 21 13.1
	comp=N,60nm,0.5s						
JKA	**Kamikawa-asahi**	**2.94**	**300**	*e*P		**Pn**	**12 20 40.3 +2.7**
ASAJ	**Asahikawa**	**2.94**	**300**	Pn		**Pn**	**12 20 40.3 +2.7**
	comp=N,2.0nm,0.3s,baz=108,slow=13,SNR=23						
ASAJ				Sn		**Sn**	**12 21 16.0 +3.6**
	comp=N,2.4nm,0.3s,baz=81,slow=30,SNR=6.1						
YSS	**Yuzh-Sakhalins**	**4.87**	**331**	*e*P		**Pn**	**12 21 03.4 -0.8**
MJAR	**Matsushiro Arr**	**8.69**	**227**	LR		LR	12 25 20.9
	comp=N,22nm,20.2s,baz=155,slow=37						
SONM	**Songino Array**	**29.21**	**294**	P		**P**	**12 25 43.6 +0.1**
	comp=N,0.5nm,0.5s,baz=74,slow=7.6,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.83**	**136**	T		T	12 56 41.8
	baz=328,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.84**	**136**	T		T	12 56 42.7
	baz=328,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**28.85**	**136**	T		T	12 56 42.9
	baz=328,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**29.77**	**138**	T		T	12 57 55.2
	baz=329,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.77**	**138**	T		T	12 57 56.5
	baz=329,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**29.78**	**138**	T		T	12 57 57.3
	baz=329,slow=76,SNR=14						
MKAR	**Makanchi Array**	**44.42**	**298**	P		**P**	**12 28 01.5 +0.1**
	comp=N,0.1nm,0.5s,baz=78,slow=8.7,SNR=4.4						
FINES	**FINESS Array B**	**65.46**	**333**	P		**P**	**12 30 32.4 -0.8**
	comp=N,4.5nm,1.0s,baz=40,slow=11,SNR=3.5						

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*UPA **31** 12:20:07.3±0.9, 8°.66N×82°.78W, h18km±1km, MW3.9, Fault plane solution: NP1:φs305.10000°, δ80.61000°, λ-3.45000°.*
*NEIC **31** 12:20:08.2±2.6, 8°.68N±0°.10×82°.86W±0°.02, h17km±6km, ML4.3(UCR), Error ellipse: s-maj=14.5km s-min=2.4km az=178.0*
*UCR **31** 12:20:09.3±1.9, 8°.64N×82°.94W, h19km±6km, MW4.4, mb4.3(NEIC)*
ISC 31 12:20:07.7±0.9, **8°.65N**±0°.03×**82°.80W**±0°.02, **h19**km±2km, **n46**, σ0§**95**/65, **4C-9D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**0.10**	**225**	Pg		**Pg**	**12 20 11.7 +0.2**
CDITO				Sg		**Sg**	**12 20 15.4 +1.4**
CDITO	**Canoas**	**0.10**	**225**	⇓*i*P		**Pg**	**12 20 11.5 0.0**
CDITO				*e*S		**Sg**	**12 20 14.3 +0.2**
BRU2	**Volcan**	**0.18**	**36**	Pg		**Pg**	**12 20 12.6 -0.1**
BRU2				Sg		**Sg**	**12 20 16.1 +0.1**
BRU2	**Volcan**	**0.18**	**36**	⇓*i*P		**Pg**	**12 20 12.5 -0.1**
BRU2				*e*S		**Sg**	**12 20 16.6 +0.6**
EDSV	**San Vito**	**0.24**	**316**	*e*P		**Pg**	**12 20 13.9 +0.5**
EDSV				*e*S		**Sg**	**12 20 19.5 +2.1**
BC3P	**Paso Ancho**	**0.25**	**48**	⇓*i*P		**Pb**	**12 20 13.5 -0.1**
BC3P				*e*S		**Sb**	**12 20 17.7 +0.2**
BCO2	**Palmira**	**0.28**	**75**	⇓*i*P		**Pb**	**12 20 14.2 +0.1**
BCO2				*e*P		**Pb**	**12 20 14.2 +0.1**
BCO2				*e*S		**Sg**	**12 20 19.2 +0.7**
DVD	**David**	**0.40**	**121**	⇓*i*P		**Pg**	**12 20 16.1 0.0**
DVD				*e*S		**Sg**	**12 20 22.0 +0.3**
PTPM	**Petroterminale**	**0.45**	**190**	⇑*i*P		**Pg**	**12 20 16.6 -0.3**
PTPM				*e*S		**Sb**	**12 20 24.7 +1.4**
PTJ1	**Puerto Jimnez**	**0.51**	**258**	⇓*i*P		**Pb**	**12 20 17.2 -0.8**
PTJ1				*e*S		**Sg**	**12 20 25.6 +0.7**
PIRO	**Carate, Puerto**	**0.58**	**246**	*e*P		**Pb**	**12 20 18.5 -0.7**
PIRO	**Carate, Puerto**	**0.58**	**246**	⇓*i*P		**Pb**	**12 20 18.5 -0.7**
CHGR2	**Aguacate**	**0.71**	**66**	*e*P		**Pb**	**12 20 20.2 -1.3**
CHGR2				*e*S		**Sb**	**12 20 29.6 -1.3**
DRK0	**Durika**	**0.75**	**324**	⇑*i*P		**Pb**	**12 20 21.7 -0.6**
DRK0				*e*S		**Sb**	**12 20 32.4 0.0**
SRBA	**San Rafael, Bu**	**0.80**	**317**	*e*P		**Pb**	**12 20 22.5 -0.7**
SRBA	**San Rafael, Bu**	**0.80**	**317**			**Pb**	**12 20 22.4 -0.7**
SRBA				Sn		**Sb**	**12 20 33.5 -0.2**
REME3	**Remedios, Chir**	**1.04**	**113**	⇓*e*P		**Pb**	**12 20 26.5 -0.7**
PEZE	**Perez Zeledon,**	**1.13**	**310**	*e*P		**Pn**	**12 20 27.5 -1.2**
PEZE	**Perez Zeledon,**	**1.13**	**310**	Pn		**Pn**	**12 20 27.4 -1.2**
EDDO	**Dominical**	**1.21**	**300**	*e*P		**Pn**	**12 20 29.5 -0.2**
RIMA	**Rio Macho**	**1.53**	**317**	*e*P		**Pn**	**12 20 33.7 -0.5**
RIMA	**Rio Macho**	**1.53**	**317**	Pn		**Pn**	**12 20 33.8 -0.5**
RIMA				Sn		**Sn**	**12 20 53.3 -0.4**
BATAN	**Batan**	**1.55**	**339**	Pn		**Pb**	**12 20 35.4 -0.5**
BATAN	**Batan**	**1.55**	**339**	*e*P		**Pn**	**12 20 33.7 -0.7**
BATAN				*e*S		**Sn**	**12 20 53.7 -0.3**
LCR2	**La Lucha 2**	**1.61**	**313**	*e*P		**Pn**	**12 20 34.6 -0.7**
CVTR	**Volcan Turrial**	**1.66**	**325**	Pn		**Pn**	**12 20 37.0 +0.8**
GMAL	**Guarumal, Vera**	**1.78**	**119**	⇑*e*P		**Pn**	**12 20 36.5 -1.0**
GMAL				*e*S		**Sn**	**12 21 00.1 +0.4**
HDC	**Heredia**	**1.87**	**316**	*e*P		**Pn**	**12 20 39.4 +0.5**
HDC	**Heredia**	**1.87**	**316**	Pn		**Pn**	**12 20 39.4 +0.5**
HDC	**Heredia**	**1.87**	**316**	⇑*e*P		**Pn**	**12 20 39.5 +0.7**
HDC				*e*S		**Sb**	**12 21 03.3 -1.2**
JACO	**JACO, Garabito**	**2.10**	**299**	*e*P		**Pn**	**12 20 41.9 +0.1**
JACO	**JACO, Garabito**	**2.10**	**299**	Pn		**Pn**	**12 20 42.0 +0.2**
SRA1	**San Ramn**	**2.19**	**311**	*e*P		**Pn**	**12 20 43.9 +0.7**
CACAO	**El Cacao, Vera**	**2.31**	**124**	⇓*i*P		**Pn**	**12 20 46.4 +1.5**
CACAO				*e*S		**Sb**	**12 21 16.4 -0.7**
COVE	**Coope Vega, Sa**	**2.60**	**323**	*e*P		**Pn**	**12 20 51.0 +2.3**
COVE	**Coope Vega, Sa**	**2.60**	**323**	Pn		**Pn**	**12 20 47.7 -1.0**
JTS	**Las Juntas de**	**2.68**	**308**	Pn		**Pn**	**12 20 51.1 +1.2**
BCIP	**Isla Barro Col**	**2.97**	**80**	Pn		**Pn**	**12 20 54.3 +0.4**
ORTG	**Ortega, Santa**	**3.13**	**303**	Pn		**Pn**	**12 20 58.0 +1.9**
HZTE	**Horizontes, Gu**	**3.44**	**307**			**Pn**	**12 21 01.7 +1.4**
ESPN	**Las Esperanzas**	**3.82**	**337**			**Pn**	**12 21 07.8 +2.2**
BOAB	**BOACO BROADBAN**	**4.71**	**324**			**Pn**	**12 21 17.5 -0.4**
PRVC	**Isla de Provid**	**4.91**	**17**	Pn		**Pn**	**12 21 20.7 +0.1**
MATN	**Matagalpa**	**5.25**	**324**	Pn		**Pn**	**12 21 23.9 -1.5**
SJCC	**San Jacinto, C**	**7.62**	**80**	Pn		**Pn**	**12 21 59.9 +1.9**
MTO3	**Montecristo**	**8.60**	**312**	Pn		**Pn**	**12 22 12.8 +1.3**

IDC 31 12:20:59.1±2.5, **4°.00N**×**127°.09E, h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.3**/26, **mbtmp3.3**/3, **Error ellipse: s-maj=199.6km s-min=29.2km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.84**	**164**	P		P	12 26 23.5 +0.1
	1.6nm,1.0s,baz=344,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**28.29**	**167**	P		P	12 26 54.3 -0.2
	0.3nm,0.8s,baz=342,slow=10,SNR=1.1						
MKAR	**Makanchi Array**	**57.54**	**325**	P		P	12 30 50.5 -0.1
	0.3nm,0.7s,baz=114,slow=8.9,SNR=3.8						

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*IDC **31** 12:50:58.8±1.9, 37°.08N×30°.71E, h115km±21km, mb3.6/6, mb1 3.5/9, mb1mx3.2/45, mbtmp3.8/9, Error ellipse: s-maj=27.5km s-min=22.9km az=34.0*
*ISK **31** 12:50:59.4, 37°.20N×30°.81E, h111km±1km, ML3.2/18*
*DDA **31** 12:50:59.5±0.0, 36°.97N×30°.98E, h7km±6km, ML2.9, Hypocentre not reviewed by the ISC*
*THE **31** 12:51:01.2, 37°.25N×30°.69E, h2km±3km, ML2.8/1, Error ellipse: s-maj=6.1km s-min=1.6km az=84.0*
*NIC **31** 12:51:02.3±0.0, 36°.73N×30°.85E, h119km±4km, Ml3.7/7*
*HLW **31** 12:51:05.4, 36°.50N×30°.60E, h25km±22km, Md4.2, Ml4.1*
*GII **31** 12:51:05.2±0.4, 36°.80N×31°.21E, h108km, Mm3.5/3*
ISC 31 12:50:58.9±0.8, **37°.08N**±0°.04×**30°.87E**±0°.03, **h116**km±6km, **n70**, σ1§**61**/100, **mb3.9**/7, **1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**0.25**	**224**	PG		**Pn**	**12 51 15.7 +0.6**
SUTC	**Sutluce-Ispart**	**0.41**	**15**	PG		**Pn**	**12 51 15.7 -0.3**
SUTC				SG		**Sn**	**12 51 27.7 -1.2**
KORT	**Korkueli**	**0.42**	**259**	PG		**Pn**	**12 51 16.7 +0.6**
BCK	**Bucak**	**0.44**	**330**	PG		**Pn**	**12 51 15.9 -0.2**
BCK				SG		**Sn**	**12 51 27.6 -1.5**
KEMT	**Kemer-ANTALYA**	**0.54**	**208**	PG		**Pn**	**12 51 17.9 +1.3**
SEDI	**Konya, Seydise**	**0.80**	**62**	P			12 51 19.3
SEDI				S			12 51 33.8
SEYD	**Seydisehir-KON**	**0.84**	**67**	PG		**Pn**	**12 51 19.9 +0.8**
SEYD				SG		**Sn**	**12 51 34.5 +0.1**
ELL	**Elmali**	**0.84**	**247**	PG		**Pn**	**12 51 20.8 +1.6**
ELL	**Elmali**	**0.84**	**247**	P		**Pn**	**12 51 21.2 +2.0**
ELL				S		**Sn**	**12 51 38.4 +4.0**
BRDR	**BURDUR-Merkez**	**0.89**	**314**	P			12 51 19.1
BRDR				S			12 51 34.0
BRDR				*i* AML			12 51 34.0
	comp=N,189nm,0.9s						
BRDR				*i* AML			12 51 34.0
	comp=E,206nm,0.5s						
BAGO	**Egridir - ISPA**	**0.91**	**356**	P			12 51 19.6
BAGO				S			12 51 34.8
BAGO				*i* AML			12 51 35.0
	comp=N,270nm,0.6s						
BAGO				*i* AML			12 51 35.0
	comp=E,603nm,0.5s						
BASM	**Basmaki-Afyon**	**1.06**	**322**	PG		**Pn**	**12 51 20.7 -0.6**
DEMR	**Demre-Antalya**	**1.15**	**223**	PN		**Pn**	**12 51 23.7 +1.7**
DOGA	**KONYA_Doganhis**	**1.20**	**32**	P			12 51 23.3
DOGA				S			12 51 39.9
DOGA				*i* AML			12 51 41.0
	comp=N,667nm,0.5s						
DOGA				*i* AML			12 51 41.0
	comp=E,767nm,0.4s						
YVAC	**Isparta, Yalva**	**1.22**	**14**	P			12 51 23.0
YVAC				S			12 51 40.5
YVAC				*i* AML			12 51 41.0
	comp=N,341nm,0.4s						
YVAC				*i* AML			12 51 41.0
	comp=E,386nm,0.5s						
CAME	**Cameli-Denizli**	**1.26**	**264**	PN		**Pn**	**12 51 24.4 +0.9**
HDMB	**Hadim**	**1.30**	**95**	PN		**Pn**	**12 51 25.4 +1.5**
KZIL	**AFYON_Kizioren**	**1.31**	**334**	P			12 51 23.5
KZIL				S			12 51 42.0
AKAS	**Kas**	**1.32**	**231**	PN		**Pn**	**12 51 25.1 +0.9**
KMER	**Konya-Meram**	**1.38**	**60**	P			12 51 25.9
KMER				S			12 51 45.3
KMER				*i* AML			12 51 47.0
	comp=E,175nm,0.6s						
KMER				*i* AML			12 51 47.0
	comp=N,167nm,0.3s						
KSL	**Kastellorizon**	**1.39**	**229**	P		**Pn**	**12 51 26.0 +1.2**
KSL				S		**Sn**	**12 51 45.3 +0.9**
	300nm,0.5s						
KSL	**Kastellorizon**	**1.39**	**229**	⇓*i*P		**Pn**	**12 51 25.9 +1.2**
KSL				S		**Sn**	**12 51 45.5 +1.1**
KSL				AML	AML		12 51 47.4
	0.5nm,0.4s						
KSL				AML	AML		12 51 47.4
	0.5nm,0.4s						
KSL				AML	AML		12 51 55.7
	0.7nm,0.6s						
KSL				AML	AML		12 51 55.7
	0.7nm,0.6s						
KONT	**Konya--Tatoy**	**1.47**	**53**	PN		**Pn**	**12 51 26.3 +0.6**
KONT	**Konya--Tatoy**	**1.47**	**53**	P			12 51 26.7
KONT				*i* AML			12 51 48.0
	comp=E,128nm,0.4s						
KONT				*i* AML			12 51 48.0
	comp=N,110nm,0.5s						
SHUT	**Suhut-Afyon**	**1.49**	**350**	PN		**Pn**	**12 51 25.7 -0.4**
FETY	**Fethiye**	**1.50**	**253**	P		**Pn**	**12 51 26.6 +0.5**
FETY				S		**Sn**	**12 51 46.0 -0.7**
FETY	**Fethiye**	**1.50**	**253**	PN		**Pn**	**12 51 26.6 +0.5**
LADK	**Ladik-KONYA**	**1.63**	**46**	PN		**Pn**	**12 51 27.9 +0.2**
KHL	**Karahalli**	**1.64**	**320**	PN		**Pn**	**12 51 27.2 -0.6**
KDHN	**Kadinhani**	**1.75**	**34**	P			12 51 29.0
KDHN				S			12 51 51.0
BOZY	**Bozyazi-Mersin**	**1.95**	**119**	PN		**Pn**	**12 51 34.1 +2.6**
YER	**Yerkesik**	**2.07**	**272**	P		**Pn**	**12 51 33.4 +0.3**
YER				S		**Sn**	**12 51 57.7 -1.5**
KULA	**Kula-Manisa**	**2.26**	**310**	P		**Pn**	**12 51 35.3 -0.2**
KULA				S		**Sn**	**12 52 00.6 -3.0**
ARG	**Arkhangelos**	**2.37**	**249**	PN		**Pn**	**12 51 37.9 +1.1**
AKMS	**Akamas**	**2.38**	**150**	P		**Pn**	**12 51 38.1 +1.1**
AKMS				S		**Sn**	**12 52 05.1 -1.0**
AKMS				AML	AML		12 52 07.2
	1.1nm,0.3s						
AKMS				AML	AML		12 52 07.2
	1.1nm,0.3s						
AKMS				AML	AML		12 52 10.3
	1.0nm,0.3s						
AKMS				AML	AML		12 52 10.3
	1.0nm,0.3s						
ALFC	**Alefka**	**2.38**	**143**	P		**Pn**	**12 51 36.9 0.0**
ALFC				S		**Sn**	**12 52 04.7 -1.5**
ALFC				AML	AML		12 52 07.8
	1.2nm,0.3s						
ALFC				AML	AML		12 52 07.8
	1.2nm,0.3s						
ALFC				AML	AML		12 52 10.0
	1.4nm,0.2s						
ALFC				AML	AML		12 52 10.0
	1.4nm,0.2s						
AUSIV	**SIVRIHISAR**	**2.41**	**12**	PN		**Pn**	**12 51 37.2 -0.3**
DAT	**Datca**	**2.66**	**263**	P		**Pn**	**12 51 41.2 +0.5**
DAT				S		**Sn**	**12 52 13.9 +1

OSC1			AML	AML	12 52 39.9	
	0.1nm,0.1s					
OSC2	**CSNet OBS 4**	**4.16 164**	P	**Pn**	**12 52 00.9**	**+0.4**
OSC2			S	**Sn**	**12 52 45.9**	**-2.3**
IDI	**Anoyia**	**5.16 251**	P	**Pn**	**12 52 12.5**	**-1.5**
	0.8nm,0.3s,baz=48,slow=19,SNR=2.2					
IDI			S	**Sn**	**12 53 07.4**	**-4.9**
	1.3nm,0.3s,baz=77,slow=22,SNR=9.1					
MMA0B	**Mount Meron ar**	**5.50 136**	Pn	**Pn**	**12 52 19.8**	**+1.2**
MMA0B			Sn	**Sn**	**12 53 18.4**	**-2.3**
MMAI	**Mount Meron Ar**	**5.50 136**	P	**Pn**	**12 52 19.8**	**+1.1**
	4.0nm,0.3s,baz=320,slow=11,SNR=11					
MMAI			S	**Sn**	**12 53 18.2**	**-2.5**
	10nm,0.3s,baz=306,slow=26,SNR=11					
GEM	**Giv'at Ha'Em**	**5.51 133**	Pn	**Pn**	**12 52 19.3**	**+0.7**
GEM			Sn	**Sn**	**12 53 18.4**	**-2.3**
NATI	**Neve Ativ**	**5.51 132**	Pn	**Pn**	**12 52 19.8**	**+1.1**
NATI			Sn	**Sn**	**12 53 19.0**	**-1.8**
MMLI	**Mount Malkishu**	**5.96 140**	Pn	**Pn**	**12 52 26.3**	**+1.6**
MMLI			Sn	**Sn**	**12 53 29.5**	**-2.2**
HMDT	**Nahal Hemdat**	**6.16 140**	Pn	**Pn**	**12 52 29.3**	**+1.9**
HMDT			Sn	**Sn**	**12 53 34.5**	**-2.0**
DSI	**Dead Sea**	**6.64 145**	Pn	**Pn**	**12 52 35.7**	**+1.7**
DSI			Sn	**Sn**	**12 53 45.7**	**-2.6**
YTIR	**Yattir**	**6.70 147**	Pn	**Pn**	**12 52 36.6**	**+1.8**
YTIR			Sn	**Sn**	**12 53 47.9**	**-1.9**
ASF	**Jabal al Asfar**	**6.97 133**	S	**Sn**	**12 53 55.8**	**-0.6**
	0.3nm,0.3s,baz=4.8,slow=12,SNR=2.0					
HMYD	**Mayadein**	**7.26 180**	P	**Pn**	**12 52 42.1**	**-0.3**
	baz=178					
SLUM	**Salum**	**7.28 222**	P	**Pn**	**12 52 42.6**	**0.0**
	baz=224					
SLUM			S	Sn	12 53 53.5	-10
	baz=224					
SUZ	**Suez**	**7.40 167**	P	**Pn**	**12 52 46.7**	**+2.4**
	baz=163					
HNAT	**Natroun**	**7.43 182**	P	**Pn**	**12 52 45.2**	**+0.5**
	baz=179					
GLL	**Jalalah**	**7.51 174**	P	**Pn**	**12 52 45.5**	**-0.4**
	baz=172					
PRNI	**Paran**	**7.54 152**	Pn	**Pn**	**12 52 47.9**	**+1.7**
PRNI			Sn	**Sn**	**12 54 07.4**	**-2.7**
KRMI	**Paran Flat**	**7.65 154**	Pn	**Pn**	**12 52 49.9**	**+2.2**
HRFI	**Mount Harif**	**7.84 152**	Pn	**Pn**	**12 52 52.5**	**+2.3**
HRFI			Sn	**Sn**	**12 54 14.6**	**-2.7**
RYAN	**Fayoum**	**7.99 184**	P	**Pn**	**12 52 52.3**	**0.0**
	baz=183					
RYAN			S	Sn	12 54 10.0	-11
	baz=183					
MBRI	**Mt Berech**	**8.01 154**	Pn	**Pn**	**12 52 54.6**	**+2.0**
MBRI			Sn	**Sn**	**12 54 20.9**	**-0.8**
EIL	**Elat**	**8.14 154**	S	**Sn**	**12 54 19.6**	**-5.1**
	0.6nm,0.3s,baz=66,slow=22,SNR=1.7					
EIL	**Elat**	**8.14 154**	Pn	**Pn**	**12 52 56.4**	**+2.1**
EIL			Sn	**Sn**	**12 54 22.4**	**-2.2**
SWA2		**9.04 212**	P	**Pn**	**12 53 06.3**	**-0.1**
	baz=213					
AKASG	**Malin Array Be**	**13.67 356**	P	**P**	**12 54 11.7**	**-0.8**
	0.4nm,0.3s,baz=174,slow=9.4,SNR=6.5					
FINES	**FINESS Array B**	**24.57 354**	P	**P**	**12 56 07.7**	**0.0**
	1.9nm,0.8s,baz=162,slow=13,SNR=4.3					
EKA	**Eskdalemuir Ar**	**29.38 319**	P	P	12 56 45.0	-5.8
	4.8nm,1.1s,baz=104,slow=8.1,SNR=3.6					
ARCES	**ARCESS Array B**	**32.65 357**	P	**P**	**12 57 18.8**	**-0.6**
	2.5nm,1.0s,baz=171,slow=8.6,SNR=5.0					
MKAR	**Makanchi Array**	**38.84 59**	P	**P**	**12 58 13.8**	**+1.2**
	1.7nm,0.6s,baz=273,slow=7.8,SNR=26					
ZALV	**Zalesovo Beam**	**40.32 48**	P	**P**	**12 58 25.2**	**+0.5**
	0.8nm,0.4s,baz=271,slow=9.3,SNR=5.0					
SONM	**Songino Array**	**54.67 53**	P	**P**	**13 00 16.9**	**+1.0**
	0.8nm,0.6s,baz=285,slow=7.8,SNR=6.4					
CMAR	**Chiang Mai Arr**	**61.81 87**	P	**P**	**13 01 05.8**	**0.0**
	0.7nm,0.7s,baz=293,slow=7.6,SNR=5.1					

*NEIC **31** 12:52:19.0±0.6, 53°.5N±0°.1×163°.7W±0°.1, h37km±82km, Error ellipse: s-maj=20.7km s-min=4.9km az=147.0*

AEIC 31 12:52:19±1.1, 53°.42N±0°.04×163°.72W±0°.09, h42km±10km, ML2.9, ML3.5/6(NEIC), Error ellipse: s-maj=8.9km s-min=3.7km az=59.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.18**	**335**		Pn	12 52 38.4	-0.7
BRPK	**Brown Peak**	**1.23**	**359**		Pn	12 52 38.9	-0.8
WECS	**Westdahl Cape**	**1.28**	**331**		Pn	12 52 40.0	-0.4
SSLS	**Shishaldin Sou**	**1.31**	**353**		Pn	12 52 40.1	-0.7
ISLZ	**Isanotski Laza**	**1.31**	**0**		Pn	12 52 39.7	-1.2
AKSA	**Akutan Strait**	**1.38**	**302**		Pn	12 52 41.3	-0.4
SSLN	**Shishaldin Nor**	**1.41**	**353**		Pn	12 52 42.0	-0.2
AKUT	**Akutan**	**1.42**	**301**		Pn	12 52 42.2	0.0
AKUT	**Akutan**	**1.42**	**301**	IAML		12 53 17.6	
	comp=N,142nm,2.3s						
ISNN	**Isanotski Nort**	**1.42**	**359**		Pn	12 52 42.3	0.0
FALS	**False Pass**	**1.45**	**7**		Pn	12 52 42.0	-0.7
AKBBA	**Akutan Broad B**	**1.48**	**298**		Pn	12 52 41.8	-1.3
AKMO	**Akutan Morgan**	**1.52**	**297**		Pn	12 52 43.5	-0.2
UNV	**Unalaska Valle**	**1.71**	**286**		Pn	12 52 46.1	-0.2
MSW	**Makushin Switc**	**1.89**	**287**		Pn	12 52 48.8	0.0
SDPT	**Sand Point**	**2.71**	**43**		Pn	12 52 59.3	-0.7
SDPT	**Sand Point**	**2.71**	**43**	IAML		12 53 30.5	
	comp=N,152nm,4.9s						
SDPT				IAML		12 54 42.9	
	comp=E,168nm,3.4s						
NIKH	**Nikolski High**	**3.12**	**264**	Pn	Pn	12 53 06.8	+1.2
CLES	**Cleveland East**	**3.77**	**263**	Pn	Pn	12 53 13.2	-1.3
CLES				IAML		12 55 18.0	
	comp=E,650nm,1.3s						
OHAK	**Old Harbor**	**7.07**	**53**	Pn	Pn	12 53 59.5	-0.2

*EAF **31** 13:29:20.6±2.1, 26°.09S×29°.07E, h0km±28km, MD4.5*

BUL 31 13:29:20.6±2.1, 26°.09S×29°.07E, h0km±28km, MD5.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.32**	**288**	*i* P	Pn	13 30 15.1	+1.2
LBTB				*i* Sg	Sb	13 31 03.9	+2.5
LBTB	**Lobatse**	**3.32**	**288**	*i* P	Pn	13 30 15.1	+1.2
LBTB				*i* Sg	Sb	13 31 03.9	+2.5
BOSA	**Boshof**	**4.22**	**233**	*i* P	Pn	13 30 26.7	+0.3
BOSA				*i* Sg	Sb	13 31 30.1	+2.6
BOSA	**Boshof**	**4.22**	**233**	*i* P	Pn	13 30 26.7	+0.3
BOSA				*i* Sg	Sb	13 31 30.1	+2.6
MATP	**Matopo**	**5.66**	**355**	*i* P	Pn	13 30 46.0	-0.2
MATP				*i* S	Sn	13 31 46.5	-5.5
MATP	**Matopo**	**5.66**	**355**	*i* P	Pn	13 30 46.0	-0.2
MATP				*i* S	Sn	13 31 46.5	-5.5
BLWY	**Bulawayo**	**5.94**	**356**	*i* P	Pn	13 30 48.4	-1.6
BLWY				*i* S	Sn	13 31 52.6	-6.2
BLWY	**Bulawayo**	**5.94**	**356**	*i* P	Pn	13 30 48.4	-1.6
BLWY				*i* S	Sn	13 31 52.6	-6.2
KRI	**Karoi**	**9.23**	**3**	*i* P	Pn	13 31 26.2	-9.0
KRI				*i* S	Sn	13 32 57.0	-23
KRI	**Karoi**	**9.23**	**3**	*i* P	Pn	13 31 26.2	-9.0
KRI				*i* S	Sn	13 32 57.0	-23

*IDC **31** 13:47:30.9±3.5, 21°.62N×143°.04E, h314km±32km, mb3.3/16, mb1 3.6/19, mb1mx3.4/44, mbtmp4.1/19, Error ellipse: s-maj=17.6km s-min=14.9km az=123.0*
*NEIC **31** 13:47:31.3±1.3, 21°.70N±0°.10×143°.0E±0°.1, h307km±7km, mb4.1/44, Error ellipse: s-maj=19.3km s-min=14.4km az=93.0*

ISC 31 13:47:30.7±0.5, 21°.62N±0°.07×143°.0E±0°.1, h311km, n81, σ0.9 64/83, mb4.0/34, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.50**	**352**	Pn	**Pn**	**13 48 54.0**	**-0.3**
GUMO	**Guam**	**8.18**	**167**	Pn	**P**	**13 49 30.8**	**-0.6**
JHJ2	**Mitsune**	**11.79**	**347**		**Pn**	**13 50 10.0**	**-0.4**
JHJ	**Hachijo jima 2**	**11.80**	**347**	P	**Pn**	**13 50 10.1**	**-0.5**
	14nm,0.3s,baz=73,slow=19,SNR=7.6						
JMN	**Monobe**	**14.51**	**328**	P	**P**	**13 50 41.4**	**-0.5**
INU	**Inuyama**	**14.65**	**340**	P	**P**	**13 50 43.1**	**-0.2**
JYT	**Yasato**	**14.76**	**351**	P	**Pn**	**13 50 45.4**	**-0.4**
JGF	**Kuroka**	**14.78**	**342**	P	**P**	**13 50 44.5**	**-0.2**
MJAR	**Matsushiro Arr**	**15.44**	**345**	P	**P**	**13 50 51.2**	**-0.8**
	0.3nm,0.3s,baz=170,slow=5.7,SNR=16						
MJAR	**Matsushiro Arr**	**15.44**	**345**	P	**P**	**13 50 51.7**	**-0.3**
MAJO	**Matsushiro**	**15.45**	**345**	P	**P**	**13 50 52.1**	**+0.1**
MAJO				IAmb	IAmb	13 50 55.7	
	comp=Z,7.2nm,0.6s						
MJB9	**Matsu-Tunnel**	**15.45**	**345**	P	**P**	**13 50 52.0**	**0.0**
MJB9				IAmb	IAmb	13 50 55.7	
	comp=Z,13nm,1.2s						
JNU	**Nakatsue**	**15.71**	**319**	P	**P**	**13 50 55.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=74,slow=18,SNR=1.0						
JNU				S	S	13 53 32.7	-12
	comp=Z,0.4nm,0.3s,baz=217,slow=9.1,SNR=1.8						
JNU	**Nakatsue**	**15.71**	**319**	P	**P**	**13 50 54.9**	**-0.2**
JNU				IAmb	IAmb	13 51 20.5	
	comp=Z,18nm,1.1s						
JHS	**Saijyo**	**15.91**	**329**	P	**Pn**	**13 50 59.0**	**-0.3**
JMM	**Marumori**	**16.30**	**354**	P	**Pn**	**13 51 03.1**	**-0.6**
JSD	**Sado**	**16.87**	**347**	P	**P**	**13 51 07.4**	**0.0**
KSRS	**Korea Array**	**20.48**	**324**	P	**P**	**13 51 46.3**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=151,slow=9.1,SNR=8.1						
USRK	**Ussuriysk Ar.**	**24.30**	**340**	P	**P**	**13 52 21.4**	**+0.9**
KLR	**Kul'dur**	**28.97**	**345**	P	**P**	**13 53 01.8**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=167,slow=10,SNR=7.1						
SONM	**Songino Array**	**39.30**	**321**	P	**P**	**13 54 29.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=132,slow=6.0,SNR=2.3						
CHTO	**Chiang Mai**	**41.35**	**274**	P	**P**	**13 54 47.8**	**+0.5**
CM31	**Chiang Mai Arr**	**41.43**	**274**	P	**P**	**13 54 48.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**41.43**	**274**	P	**P**	**13 54 48.8**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=82,slow=6.3,SNR=15						
KULM	**Kulim**	**44.10**	**255**	P	**P**	**13 55 10.4**	**+1.2**
KULM				IAmb	IAmb	13 55 10.8	
	comp=Z,19nm,1.3s						
ASAR	**Alice Springs**	**45.88**	**192**	P	**P**	**13 55 22.1**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=14,slow=12,SNR=8.0						
GSI	**Gunungsitoli**	**48.63**	**252**	P	**P**	**13 55 44.5**	**+0.3**
GSI				IAmb	IAmb	13 56 00.4	
	comp=Z,19nm,1.1s						
UNV	**Unalaska Valle**	**49.76**	**37**	P	**P**	**13 55 52.8**	**+0.7**
TIXI	**Tiksi**	**50.71**	**354**	P	**P**	**13 55 58.4**	**-0.5**
ZALV	**Zalesovo Beam**	**54.17**	**322**	P	**P**	**13 56 24.2**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=116,slow=7.3,SNR=4.9						
ZALV				PcP	**PcP**	**13 57 23.9**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=115,slow=4.0,SNR=8.5						
ZALV	**Zalesovo Beam**	**54.17**	**322**	P	**P**	**13 56 24.6**	**+0.1**
MK31	**Makanchi Array**	**54.63**	**313**	P	**P**	**13 56 28.1**	**+0.2**
MKAR	**Makanchi Array**	**54.63**	**313**	P	**P**	**13 56 27.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=90,slow=9.2,SNR=9.4						
MKAR				PcP	**PcP**	**13 57 26.4**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=74,slow=4.8,SNR=6.3						
MAKZ	**Makanchi**	**54.85**	**313**	P	**P**	**13 56 29.7**	**+0.2**
KURK	**Kurchatov**	**57.42**	**317**	P	**P**	**13 56 47.3**	**-0.1**
TTA	**Tatalina**	**57.84**	**28**	P	**P**	**13 56 50.8**	**+0.6**
TTA				IAmb	IAmb	13 57 01.1	
	comp=Z,4.2nm,1.3s						
TOO	**Toolangi**	**58.92**	**178**	P	**P**	**13 56 58.3**	**+0.5**
TOO				IAmb	IAmb	13 56 58.7	
	comp=Z,13nm,1.3s						
BOOM	**Boomskoye usch**	**59.03**	**307**	P	**P**	**13 56 58.6**	**-0.2**
IMAR	**Indian Mountai**	**59.62**	**25**	P	**P**	**13 57 03.1**	**+0.9**
SEW	**Seward**	**60.31**	**32**	P	**P**	**13 57 07.4**	**+0.4**
A21K	**Barrow**	**60.33**	**19**	P	**P**	**13 57 07.4**	**+0.6**
A21K				IAmb	IAmb	13 57 10.0	
	comp=Z,2.4nm,0.8s						
PMR	**Palmer**	**60.69**	**31**	P	**P**	**13 57 09.3**	**-0.2**
PMR				IAmb	IAmb	13 57 36.2	
	comp=Z,13nm,1.5s						
MCK	**McKinley**	**61.13**	**28**	P	**P**	**13 57 12.7**	**+0.3**
MCK				IAmb	IAmb	13 57 15.8	
	comp=Z,13nm,1.5s						
I23K	**Minto, Yukon-K**	**61.20**	**26**	P	**P**	**13 57 13.5**	**+0.7**
Q23K	**Middleton Isla**	**61.80**	**33**	P	**P**	**13 57 17.1**	**+0.3**
MID	**Middleton Isla**	**61.80**	**33**	P	**P**	**13 57 17.1**	**+0.2**
TOLK	**Toolik Lake Re**	**61.85**	**23**	P	**P**	**13 57 18.6**	**+1.4**
IL31		**62.17**	**27**	P	**P**	**13 57 18.2**	**-1.0**
IL31				IAmb	IAmb	13 57 18.9	
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**62.17**	**27**	P	**P**	**13 57 18.5**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=260,slow=5.2,SNR=16						
ILAR	**Eielson Array**	**62.17**	**27**	P	**P**	**13 57 18.0**	**-1.3**
PAX	**Paxson**	**62.57**	**29**	P	**P**	**13 57 22.3**	**+0.3**
PAX				IAmb	IAmb	13 57 41.1	
	comp=Z,5.7nm,1.5s						
BRVK	**Borovoye**	**62.69**	**320**	P	**P**	**13 57 23.1**	**+0.2**
BRVK				IAmb	IAmb	13 57 23.9	
	comp=Z,2.8nm,0.6s						
BMRM	**Bremner River**	**62.79**	**32**	P	**P**	**13 57 24.2**	**+0.7**
BMRM				IAmb	IAmb	13 57 48.9	
	comp=Z,10nm,1.3s						
J25K	**Salcha River,**	**62.80**	**27**	P	**P**	**13 57 22.4**	**-1.1**
J25K				IAmb	IAmb	13 57 24.1	
	comp=Z,5.3nm,1.4s						
N25K	**Chitina, Valde**	**62.84**	**31**	P	**P**	**13 57 24.9**	**+1.0**
N25K				IAmb	IAmb	13 57 45.5	
	comp=Z,6.7nm,1.4s						
KKAR	**Karatay Array**	**62.98**	**308**	P	**P**	**13 57 25.4**	**+0.4**
DOT	**Dot Lake**	**63.27**	**29**	P	**P**	**13 57 26.5**	**0.0**
DOT				IAmb	IAmb	13 57 34.3	
	comp=Z,4.7nm,1.2s						
BMAR	**Burnt Mountain**	**63.48**	**24**	P	**P**	**13 57 29.2**	**+1.4**
BCAR	**Beaver Creek A**	**64.25**	**29**	P	**P**	**13 57 33.4**	**+0.5**
EGAK	**Eagle**	**64.62**	**27**	P	**P**	**13 57 34.9**	**-0.3**
EGAK				IAmb	IAmb	13 57 35.8	
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**67.69**	**24**	P	**P**	**13 57 54.5**	**0.0**
	comp=Z,0.9nm,0.5s,baz=293,slow=5.8,SNR=9.6						
ARU	**Arti**	**69.23**	**324**	P	**P**	**13 58 04.0**	**-0.2**
ARU				IAmb	IAmb	13 58 04.1	
	comp=Z,2.5nm,0.8s						
WRAK	**Wrangell Islan**	**69.33**	**36**	P	**P**	**13 58 04.4**	**-0.4**
ABKAR	**Akbulak array**	**69.50**	**316**	P	**P**	**13 58 05.7**	**-0.3**
ABKAR				IAmb	IAmb	13 58 06.5	
	comp=Z,3.0nm,0.6s						
SPB2	**Spitsbergen Ar**	**75.88**	**350**	P	**P**	**13 58 43.8**	**+1.0**
NLWA	**Neilton Lookou**	**76.44**	**44**	P	**P**	**13 58 48.1**	**+1.5**
YKA	**Yellowknife Ar**	**76.59**	**28**	P	**P**	**13 58 47.0**	**0.0**
	comp=Z,2.3nm,0.6s,baz=291,slow=5.8,SNR=49						
YKA	**Yellowknife Ar**	**76.59**	**28**	P	**P**	**13 58 46.4**	**-0.7**
DBO	**Dodson Butte**	**78.16**	**48**	P	**P**	**13 58 57.0**	**+0.8**
ARCES	**ARCESS Array B**	**78.94**	**341**	P	**P**	**13 58 59.6**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=78,slow=8.1,SNR=13						
B08A	**Colville Reser**	**79.03**	**42**	P	**P**	**13 59 00.8**	**+0.1**
B08A				IAmb	IAmb	13 59 01.0	
	comp=Z,8.0nm,1.5s						
PINE	**Pine Mountain**	**79.53**	**47**	P	**P**	**13 59 04.5**	**+0.8**
PINE				IAmb	IAmb	13 59 06.0	
	comp=Z,5.3nm,1.2s						
K05A	**Summer Lake**	**79.92**	**48**	P	**P**	**13 59 06.5**	**+0.6**
KBZ	**Khabaz**	**82.31**	**314**	P	**P**	**13 59 17.7**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=109,slow=2.3,SNR=6.3						
FINES	**FINESS Array B**	**83.18**	**334**	P	**P**	**13 59 21.1**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=69,slow=4.6,SNR=30						
NVAR	**Mina Array Bea**	**83.31**	**51**	P	**P**	**13 59 24.3**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=271,slow=5.8,SNR=11						
HRY	**Holter Researc**	**84.35**	**42**	P	**P**	**13 59 28.9**	**+0.4**
PDAR	**Pinedale Array**	**87.55**	**45**	P	**P**	**13 59 44.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=140,slow=1.9,SNR=5.1						
NOA	**NORSAR Array B**	**88.96**	**339**	P	**P**	**13 59 48.9**	**-1.3**
	comp=Z,1.3nm,1.0s,baz=59,slow=12,SNR=2.4						
PLCA	**Paso Flores**	**145.82**	**132**	PKPbc	**PKPbc**	**14 06 34.0**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=239,slow=5.1,SNR=7.5						
LPAZ	**La Paz**	**150.10**	**85**	PKPbc	**PKPbc**	**14 06 45.8**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=38,slow=12,SNR=6.6						

*IDC **31** 14:29:13.7±2.1, 1°.51N×99°.07W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/30, mbtmp3.8/5, Error ellipse: s-maj=311.6km s-min=33.4km az=83.0*
*NEIC **31** 14:29:14.4±0.4, 1°.4N±0°.2×98°.8W±0°.1, h9km±7km, mb4.6/2, Error ellipse: s-maj=29.9km s-min=14.3km az=200.0*

ISC 31 14:29:15.0±1.3, 1°.5N±0°.2×98°.7W±0°.2, h10km, n9, σ0.5 48/8, mb3.8/6, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**8.66**	**105**	Pn	**Pn**	**14 31 20.4**	**-0.2**
TXAR	**Lajitas Array**	**28.05**	**351**	P	**P**	**14 35 07.0**	**+0.3**
	0.4nm,0.9s,baz=164,slow=8.9,SNR=2.6						
CLTN	**Cedars of Leba**	**36.23**	**17**	P	**P**	**14 36 18.6**	**+0.4**
CLTN				IAmb	IAmb	14 36 19.3	
	comp=Z,4.3nm,0.8s						
PDAR	**Pinedale Array**	**42.19**	**348**	P	**P**	**14 37 08.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=164,slow=8.5,SNR=7.4						
YKA	**Yellowknife Ar**	**61.97**	**352**	P	**P**	**14 39 35.0**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=162,slow=6.5,SNR=7.5						
YKA	**Yellowknife Ar**	**61.97**	**352**	P	**P**	**14 39 35.0**	**+0.1**
ILAR	**Eielson Array**	**71.97**	**340**	P	**P**	**14 40 37.6**	**-0.9**
	comp=Z,0.9nm,1.0s,baz=174,slow=4.2,SNR=4.8						
QSPA	**South Pole Qui**	**91.56**	**180**	P	**P**	**14 42 22.3**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=136,slow=10.0,SNR=5.2						
QSPA	**South Pole Qui**	**91.56**	**180**	IAmb	IAmb	14 42 45.3	
	comp=Z,7.2nm,1.3s						

*IDC **31** 14:33:08.9±0.5, 59°.66S×26°.25W, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.3/35, mbtmp4.5/15, ML4.9/1, MS3.7/10, Ms1 3.7/10, ms1mx3.3/45, Error ellipse: s-maj=24.3km s-min=15.1km az=45.0*
*NEIC **31** 14:33:10.9±1.5, 59°.7S±0°.1×26°.2W±0°.2, h10km±1km, mb4.8/61, Error ellipse: s-maj=19.2km s-min=15.4km az=194.0*

ISC 31 14:33:10.5±0.4, 59°.74S±0°.07×26°.30W±0°.08, h10km, n136, σ1.8 12/122, mb4.7/41, MS3.7/10, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.79**	**310**		**Pn**	**14 35 06.1**	**+2.3**
ORCD	**Orcadas**	**9.22**	**256**	Pn	**Pn**	**14 35 21.2**	**-2.1**
VNA1	**Neumayer--Stat**	**13.23**	**153**	P	**Pn**	**14 36 18.3**	**+0.2**
VNA3	**Neumayer Olymp**	**13.37**	**156**	P	**Pn**	**14 36 19.4**	**-0.6**
VNA2	**Neumayer--Watz**	**13.63**	**153**	P	**Pn**	**14 36 23.2**	**-0.3**
	baz=312,slow=16						
VNA2				S	Sn	14 38 42.4	-12
	baz=322,slow=20						
ESPZ	**Base Esperanza**	**14.98**	**243**	Pn	**Pn**	**14 36 41.3**	**-0.7**
SNAA	**Sanae**	**15.21**	**151**	P	**Pn**	**14 36 44.9**	**-0.2**
SNAA				S	Sn	14 39 22.0	-11
SNAA	**Sanae**	**15.21**	**151**	Pn	**Pn**	**14 36 45.0**	**-0.2**
	4.9nm,0.3s,baz=317,slow=16,SNR=75						
SNAA				Sn	Sn	14 39 20.1	-13
	0.3nm,0.3s,baz=241,slow=19,SNR=1.7						
SNAA	**Sanae**	**15.21**	**151**		**Pn**	**14 36 44.8**	**-0.3**
SNAA				IAmb	IAmb	14 36 48.0	
	comp=Z,16nm,0.5s						
EFI	**East Falkland**	**19.47**	**280**		**Pn**	**14 37 38.6**	**+0.3**
EFI				IAmb	IAmb	14 38 05.0	
	comp=Z,41nm,1.1s						
DSPA	**Despedida**	**23.35**	**266**	P	**P**	**14 38 19.4**	**+0.7**
MG02	**Cerro Sombrero**	**24.46**	**267**	P	**P**	**14 38 29.0**	**-0.2**
MG05	**Puerto Natales**	**26.75**	**267**	P	**P**	**14 38 49.8**	**-0.1**
SYO	**Syowa Base**	**28.49**	**136**	*es*P	sP	14 39 08.2	-0.8
GO08	**Villa O'Higgin**	**28.76**	**272**	P	**P**	**14 39 08.8**	**+0.8**
QSPA	**South Pole Qui**	**30.50**	**180**	P	**P**	**14 39 25.9**	**+2.5**
	comp=Z,4.5nm,0.6s,baz=223,slow=0.8,SNR=58						
QSPA	**South Pole Qui**	**30.50**	**180**	P	**P**	**14 39 25.4**	**+2.0**
PLCA	**Paso Flores**	**33.26**	**285**	P	**P**	**14 39 48.4**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=150,slow=6.4,SNR=16						
PLCA	**Paso Flores**	**33.26**	**285**	*e*P	**P**	**14 39 48.4**	**+0.6**
PLCA	**Paso Flores**	**33.26**	**285**	P	**P**	**14 39 48.3**	**+0.6**
PLTB	**Pedras Altas**	**33.38**	**315**	*e*P	**P**	**14 39 50.5**	**+1.7**
PLTB	**Pedras Altas**	**33.38**	**315**	P	**P**	**14 39 48.7**	**-0.1**
PLTB				IAmb	IAmb	14 40 06.5	
	comp=Z,15nm,1.3s						
LL04	**Puerto Octay**	**34.04**	**283**	P	**P**	**14 39 54.8**	**+0.4**
LL04				IAmb	IAmb	14 39 58.1	
	comp=Z,11nm,1.3s						
CPSB	**Cacapava Do Su**	**34.55**	**316**	*e*P	**P**	**14 40 02.9**	**+3.9**
TER01	**Tubaro-SC**	**34.87**	**323**	*e*P	**P**	**14 40 04.0**	**+2.2**
LC01	**Cunco**	**35.33**	**285**	P	**P**	**14 40 05.5**	**-0.1**
LC01				IAmb	IAmb	14 40 11.2	
	comp=Z,24nm,1.4s						
ITQB	**Itaqui**	**36.38**	**312**	*e*P	**P**	**14 40 15.7**	**+1.1**
PET01	**Itanhaem-SP**	**38.35**	**328**	*e*P	**P**	**14 40 33.7**	**+2.3**
GO05	**Huala**	**38.45**	**289**	P	**P**	**14 40 32.1**	**-0.1**
GO05				IAmb	IAmb	14 40 48.5	
	comp=Z,30nm,1.1s						
BO01	**Tunca**	**38.55**	**291**	P	**P**	**14 40 33.0**	**0.0**

SIV	**San Ignacio**	**50.49**	**315**	P	**P**	**14 42 07.7**	**-0.9**
	comp=Z,3.9nm,0.5s,baz=170,slow=7.8,SNR=24						
MNMC	**Minye Minye**	**50.99**	**303**	P	**P**	**14 42 12.8**	**+0.1**
SNDB	**Serra Nova Dou**	**51.18**	**328**	*e*P	**P**	**14 42 13.6**	**-0.1**
TSUM	**Tsumeb**	**51.18**	**57**	P	**P**	**14 42 14.7**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=175,slow=8.6,SNR=3.9						
TSUM				LR	LR	15 00 31.0	
	comp=Z,68nm,19.1s,baz=149,slow=32						
TSUM	**Tsumeb**	**51.18**	**57**	P	**P**	**14 42 14.7**	**+0.8**
H10S2	**ASCENSION HYDR**	**51.43**	**15**	T	T	15 37 49.0	
	baz=187,slow=74,SNR=5.5						
H10S3	**ASCENSION HYDR**	**51.44**	**15**	T	T	15 37 49.3	
	baz=33,slow=74,SNR=11						
PB16	**IPOC Station P**	**51.66**	**304**	P	**P**	**14 42 18.1**	**+0.1**
PB12	**IPOC Station P**	**51.76**	**303**	P	**P**	**14 42 18.1**	**-0.1**
H10N1	**ASCENSION HYDR**	**52.55**	**15**	T	T	15 39 16.4	
	baz=190						
H10N3	**ASCENSION HYDR**	**52.55**	**15**	T	T	15 39 12.6	
	baz=190,slow=74,SNR=7.1						
H10N2	**ASCENSION HYDR**	**52.57**	**15**	T	T	15 39 14.5	
	baz=190,slow=74,SNR=7.0						
LPAZ	**La Paz**	**52.93**	**307**	P	**P**	**14 42 27.5**	**0.0**
	comp=Z,1.9nm,0.4s,baz=93,slow=5.7,SNR=11						
LPAZ	**La Paz**	**52.93**	**307**	*e*P	**P**	**14 42 27.9**	**+0.5**
LPAZ	**La Paz**	**52.93**	**307**	P	**P**	**14 42 25.7**	**-1.8**
VILB	**Vilhena**	**53.00**	**317**	P	**P**	**14 42 26.4**	**-0.9**
VILB				IAmb	IAmb	14 42 26.9	
	comp=Z,8.6nm,0.6s						
PDRB	**Porto dos Gac**	**53.11**	**322**	*e*P	**P**	**14 42 26.9**	**-1.2**
SMTB	**Santa Maria do**	**53.25**	**333**	*e*P	**P**	**14 42 28.1**	**-1.0**
CLDB	**Colider**	**53.52**	**323**	*e*P	**P**	**14 42 29.1**	**-2.0**
NPGB	**Novo Progresso**	**57.01**	**325**	*e*P	**P**	**14 42 54.9**	**-1.4**
ETMB	**Extrema**	**58.07**	**312**	*e*P	**P**	**14 43 02.6**	**-1.1**
ETMB	**Extrema**	**58.07**	**312**	P	**P**	**14 43 02.6**	**-1.1**
LSZ	**Lusaka**	**59.36**	**66**	LR	LR	15 05 40.2	
	comp=Z,50nm,19.7s,baz=166,slow=33						
LSZ	**Lusaka**	**59.36**	**66**	P	**P**	**14 43 12.9**	**0.0**
LSZ				IAmb	IAmb	14 43 14.2	
	comp=Z,7.0nm,0.9s						
ITTB	**Itaituba**	**59.67**	**325**	*e*P	**P**	**14 43 13.7**	**-1.2**
NNA	**Nana**	**60.47**	**300**	P	**P**	**14 43 20.8**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=196,slow=10.0,SNR=1.9						
MALB	**Monte Alegre**	**61.66**	**328**	*e*P	**P**	**14 43 27.1**	**-1.2**
MCPB	**Macapa, AP**	**62.52**	**331**	*e*P	**P**	**14 43 33.8**	**-0.4**
ATAH	**Atahualpa**	**65.47**	**301**	LR	LR	15 15 55.1	
	comp=Z,29nm,18.1s,baz=97,slow=39						
BOAV	**Boa Vista**	**67.50**	**323**	*e*P	**P**	**14 44 04.5**	**-2.0**
BOAV	**Boa Vista**	**67.50**	**323**	P	**P**	**14 44 04.0**	**-2.6**
BOAV				IAmb	IAmb	14 44 14.2	
	comp=Z,8.4nm,1.4s						
OTAV	**Otavalo**	**72.11**	**304**	P	**P**	**14 44 34.5**	**-1.0**
OTAV				IAmb	IAmb	14 44 40.2	
	comp=Z,8.3nm,1.5s						
MBAR	**Mbarara**	**73.47**	**61**	LR	LR	15 13 42.7	
	comp=Z,65nm,19.0s,baz=146,slow=33						
KMBO	**Kilima Mbogo**	**75.97**	**67**	LR	LR	15 15 52.2	
	comp=Z,89nm,18.7s,baz=102,slow=34						
TORD	**Torodi Ar. Bea**	**76.07**	**28**	P	**P**	**14 44 58.2**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=199,slow=6.1,SNR=25						
TORD	**Torodi Ar. Bea**	**76.07**	**28**	P	**P**	**14 44 57.9**	**-0.1**
PCRV	**Puerto La Cruz**	**76.13**	**321**	P	**P**	**14 44 58.1**	**-0.3**
	comp=Z,3.9nm,0.5s,baz=92,slow=7.7,SNR=2.6						
SDV	**Santo Domingo**	**76.96**	**315**	P	**P**	**14 45 01.5**	**-1.8**
	comp=Z,3.4nm,0.5s,baz=324,slow=3.6,SNR=4.3						
ZARC	**Zaragoza, Cauc**	**77.25**	**310**	P	**P**	**14 45 03.6**	**-1.2**
TAU	**Tasmania Unive**	**77.57**	**175**	P	**P**	**14 45 06.6**	**+0.3**
STKA	**Stephens Creek**	**88.17**	**170**	P	**P**	**14 46 01.9**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=332,slow=22,SNR=6.7						
STKA	**Stephens Creek**	**88.17**	**170**	IAmb	IAmb	14 46 03.0	
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**95.32**	**162**	P	**P**	**14 46 34.5**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=182,slow=4.0,SNR=34						
ASAR				LR	LR	15 25 53.9	
	comp=Z,58nm,21.0s,baz=184,slow=33						
SCHQ	**Schefferville**	**118.72**	**335**	PKP	**PKPdf**	**14 51 56.0**	**-1.5**
	comp=Z,2.6nm,1.0s,baz=195,slow=9.3,SNR=1.6						
PDAR	**Pinedale Array**	**122.65**	**300**	PKP	**PKPdf**	**14 52 04.0**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=145,slow=6.4,SNR=1.7						
NVAR	**Mina Array Bea**	**123.20**	**290**	PKP	**PKPdf**	**14 52 05.9**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=142,slow=3.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**123.28**	**112**	PKP	**PKPdf**	**14 52 06.8**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=230,slow=3.8,SNR=16						
CMAR	**Chiang Mai Arr**	**123.28**	**112**		**PKPdf**	**14 52 05.7**	**-1.6**
FINES	**FINESS Array B**	**127.42**	**29**	PKP	**PKPdf**	**14 52 13.4**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=162,slow=2.9,SNR=16						
AKTO	**Aktyubinsk**	**129.11**	**55**	PKP	**PKPdf**	**14 52 16.9**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=218,slow=2.9,SNR=6.3						
AAK	**Ala-Archa**	**130.69**	**73**	PKP	**PKiKP**	**14 52 21.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=245,slow=4.2,SNR=5.8						
ARCES	**ARCESS Array B**	**134.19**	**23**	PKP	**PKPdf**	**14 52 25.8**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=205,slow=1.8,SNR=16						
ARCES	**ARCESS Array B**	**134.19**	**23**		**PKPdf**	**14 52 26.6**	**+0.1**
BVAR	**Borovoye Array**	**136.29**	**60**	PKP	**PKiKP**	**14 52 32.2**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=46,slow=4.3,SNR=7.8						
KURBB	**Kurchatov Arra**	**138.36**	**68**	PKhKP	PKPpre	14 52 27.4	
	comp=Z,0.2nm,0.5s,baz=232,slow=2.8,SNR=5.4						
KURBB				PKP	**PKPdf**	**14 52 35.2**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=244,slow=2.6,SNR=5.1						
YKA	**Yellowknife Ar**	**139.18**	**315**	PKP	**PKPdf**	**14 52 34.9**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=130,slow=2.3,SNR=20						
YKA				SKPbc	**SKPbc**	**14 56 10.6**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=125,slow=3.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**143.45**	**68**	PKhKP	PKPpre	14 52 39.9	
	comp=Z,1.6nm,0.4s,baz=232,slow=4.3,SNR=10						
ZALV	**Zalesovo Beam**	**143.45**	**68**		PKPpre	14 52 39.7	
SONM	**Songino Array**	**150.29**	**92**	PKPbc	**PKPbc**	**14 53 00.7**	**-0.2**
	comp=Z,7.5nm,0.7s,baz=219,slow=3.1,SNR=49						
KSRS	**Korea Array**	**152.26**	**132**	PKPbc	**PKPbc**	**14 53 04.9**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=195,slow=2.6,SNR=4.7						
ILAR	**Eielson Array**	**152.81**	**306**	PKPbc	**PKPbc**	**14 53 04.8**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=328,slow=1.0,SNR=22						

NNC 31 14:47:13.8±4.2, 42°.89N×87°.93E, h0km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=30.0km s-min=23.6km az=114.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.60**	**316**	Pn	Pn	14 48 39.5	+1.2
	0.6nm,0.4s,baz=130,slow=14,SNR=50						
MK31				⇓Sn	Sn	14 49 45.0	+1.7
	1.1nm,0.5s						
MK31				⇓Lg	Lg	14 50 15.8	
	1.8nm,0.5s,baz=129,slow=27,SNR=4.6						
MAKZ	**Makanchi**	**5.77**	**315**	⇑Pn	Pn	14 48 41.3	+0.7
	0.6nm,0.6s						
MAKZ				⇑Sn	Sn	14 49 47.6	+0.1
	0.8nm,0.4s						
MAKZ				⇓Lg	Lg	14 50 18.2	
	2.4nm,0.6s						
PDGK	**Podgornoye**	**6.20**	**277**	⇑Pn	Pn	14 48 46.0	-0.7
	4.8nm,0.4s						
PDGK				⇓Sn	Sn	14 49 58.4	+0.2
	3.6nm,0.4s						
PDGK				⇑Lg	Lg	14 50 30.3	
	6.2nm,0.7s						

NNC 31 14:52:06.7±6.3, 36°.58N×71°.76E, h0km, mb3.6, mpv3.3, 1C-4D, Error ellipse: s-maj=48.0km s-min=45.4km az=3.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.40**	**18**	Pn	Pn	14 53 41.6	-0.9
	2.9nm,1.0s						
AAK				Sn	Sn	14 54 56.6	+0.3
	5.0nm,1.1s						
KK02	**Karatay Array**	**6.58**	**352**	⇓Pn	Pn	14 53 47.0	+2.2
	1.3nm,0.5s,baz=170,slow=12						
KK02				⇓Sn	Sn	14 55 02.8	+2.3
	1.4nm,0.5s						
KK02				⇓Lg	Lg	14 55 31.6	
	2.0nm,0.7s,baz=174,slow=32						
TKM2	**Tokmak 2**	**6.99**	**24**	⇑Pn	Pn	14 53 49.3	-1.2
	1.1nm,0.7s						
TKM2				⇓Lg	Lg	14 55 48.6	
	3.0nm,1.0s						

*IDC **31** 14:59:24.3±3.5, 57°.51N×150°.04W, h0km, mb3.9/1, mb1 3.8/3, mb1mx3.0/52, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=61.5km s-min=26.1km az=160.0*
*NEIC **31** 14:59:31.1±1.1, 58°.13N±0°.04×150°.6W±0°.1, h30km±9km, Error ellipse: s-maj=10.0km s-min=1.8km az=124.0*

*AEIC **31** 14:59:32±1.2, 58°.13N±0°.06×150°.6W±0°.1, h47km±6km, ML3.0, ML3.2/26(NEIC), Error ellipse: s-maj=10.1km s-min=5.7km az=141.0*

ISC 31 14:59:30.5±1.1, 58°.18N±0°.07×150°.64W±0°.05, h23km, n91, σ0:90/87, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.11**	**250**	Pn	**Pb**	**14 59 51.0**	**0.0**
	8.9nm,0.3s,baz=100,slow=5.9,SNR=76						
KDAK				Sn	**Sb**	**15 00 04.9**	**-0.1**
	28nm,0.3s,baz=113,slow=23,SNR=7.2						
KDAK	**Kodiak Island**	**1.11**	**250**	IAML		15 00 17.9	
	402nm,0.6s						
KDAK				IAML		15 00 18.9	
	477nm,0.7s						
CNPM	**China Poot**	**1.38**	**347**		**Pn**	**14 59 55.2**	**+0.9**
CNPM					**Sn**	**15 00 12.3**	**+0.4**
BRSE	**Bradley Lake S**	**1.56**	**358**		**Pn**	**14 59 57.5**	**+0.7**
BRSE					**Sn**	**15 00 18.4**	**+2.0**
HOM	**Homer**	**1.57**	**341**		**Pn**	**14 59 58.2**	**+1.3**
BRLK	**Bradley Lake**	**1.59**	**355**		**Pn**	**14 59 57.8**	**+0.5**
OHAK	**Old Harbor**	**1.72**	**237**		**Pn**	**14 59 58.6**	**-0.3**
Q19K	**Cape Douglas,**	**1.74**	**297**		**Pn**	**15 00 00.1**	**+0.8**
Q19K	**Cape Douglas,**	**1.74**	**297**	IAML		15 00 29.5	
	comp=N,317nm,0.8s						
AUL	**Augustine Lava**	**1.89**	**311**		**Pn**	**15 00 02.6**	**+1.3**
OPT	**Oil Point**	**2.00**	**319**		**Pn**	**15 00 04.2**	**+1.4**
SEW	**Seward**	**2.02**	**17**		**Pn**	**15 00 03.2**	**+0.1**
O20K	**Slope Mountain**	**2.16**	**333**		**Pn**	**15 00 06.2**	**+1.0**
ILSW	**Iliamna Southw**	**2.22**	**325**		**Pn**	**15 00 06.5**	**+0.6**
ILSW	**Iliamna Southw**	**2.22**	**325**	IAML		15 00 49.5	
	comp=N,115nm,0.9s						
ILSW				IAML		15 00 50.2	
	comp=E,150nm,0.8s						
SLKM	**Skilak Lake**	**2.34**	**5**		**Pn**	**15 00 07.8**	**+0.3**
O22K	**Cooper Landing**	**2.35**	**11**		**Pn**	**15 00 08.2**	**+0.6**
RED	**Redoubt Volcan**	**2.50**	**335**		**Pn**	**15 00 10.0**	**+0.3**
RSO	**Redoubt South**	**2.53**	**335**		**Pn**	**15 00 10.7**	**+0.4**
RDT	**Redoubt**	**2.56**	**340**		**Pn**	**15 00 10.8**	**+0.1**
RDWB	**Redoubt West**	**2.57**	**335**		**Pn**	**15 00 11.1**	**+0.2**
CAPN	**Captain Cook N**	**2.61**	**354**		**Pn**	**15 00 13.0**	**+1.9**
DFR	**Drift River**	**2.63**	**337**		**Pn**	**15 00 11.8**	**+0.2**
NCT	**North Crescent**	**2.66**	**335**		**Pn**	**15 00 12.3**	**+0.3**
O19K	**Port Alsworth**	**2.77**	**318**		**Pn**	**15 00 13.8**	**+0.5**
O18K	**Koktuh Hills**	**2.90**	**307**		**Pn**	**15 00 15.6**	**+0.4**
O18K	**Koktuh Hills**	**2.90**	**307**	IAML		15 01 05.6	
	comp=E,78nm,2.5s						
PWL	**Port Wells**	**2.93**	**23**		**Pn**	**15 00 16.1**	**+0.5**
RC01	**Rabbit Creek A**	**2.95**	**9**		**Pn**	**15 00 16.4**	**+0.5**
SPU	**Mount Spurr**	**3.09**	**347**		**Pn**	**15 00 18.1**	**+0.2**
SPCR	**Spurr Chakacha**	**3.13**	**346**		**Pn**	**15 00 18.9**	**+0.5**
SPCG	**Spurr Capps Gl**	**3.19**	**348**		**Pn**	**15 00 20.1**	**+0.8**
SPBG	**Spurr Blockage**	**3.21**	**345**		**Pn**	**15 00 20.3**	**+0.8**
GLI	**Glacier Island**	**3.25**	**32**		**Pn**	**15 00 20.2**	**+0.2**
N19K	**Bonanza Creek**	**3.29**	**325**		**Pn**	**15 00 21.0**	**+0.4**
N19K	**Bonanza Creek**	**3.29**	**325**	IAML		15 01 18.8	
	comp=E,37nm,0.8s						
FID	**Port Fidalgo**	**3.33**	**38**		**Pn**	**15 00 21.2**	**0.0**
KNK	**Knik Glacier**	**3.42**	**18**		**Pn**	**15 00 22.8**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.45**	**44**		**Pn**	**15 00 23.2**	**+0.5**
PMR	**Palmer**	**3.50**	**12**		**Pn**	**15 00 23.8**	**+0.4**
PMR	**Palmer**	**3.50**	**12**	IAML		15 01 29.7	
	comp=N,32nm,0.8s						
JPK	**Jack Peak**	**3.54**	**34**		**Pn**	**15 00 24.2**	**+0.3**
M22K	**Willow**	**3.59**	**4**	Pn	**Pn**	**15 00 25.6**	**+1.0**
M22K				IAML		15 01 43.3	
	comp=E,94nm,0.9s						
SML	**Sawmill**	**3.81**	**17**		**Pn**	**15 00 28.6**	**+0.8**
DIV	**Divide**	**3.85**	**38**		**Pn**	**15 00 28.7**	**+0.4**
SCM	**Sheep Creek Mo**	**4.02**	**23**		**Pn**	**15 00 31.9**	**+1.3**
KLU	**Klutina**	**4.08**	**34**		**Pn**	**15 00 32.3**	**+0.8**
BMRM	**Bremner River**	**4.15**	**45**		**Pn**	**15 00 33.2**	**+0.9**
M19K	**Big River Lodg**	**4.18**	**335**		**Pn**	**15 00 32.9**	**+0.2**
M19K				IAML		15 01 22.6	
	comp=N,23nm,4.0s						
M19K				IAML		15 01 47.3	
	comp=E,28nm,3.2s						
M24K	**Tolsona, Glenn**	**4.52**	**28**		**Pn**	**15 00 39.3**	**+1.8**
L19K	**White Mountain**	**4.53**	**334**		**Pn**	**15 00 37.8**	**+0.2**
L19K	**White Mountain**	**4.53**	**334**	IAML		15 01 54.9	
	comp=E,24nm,2.8s						
L19K				IAML		15 02 10.5	
	comp=N,25nm,3.0s						
N25K	**Chitina, Valde**	**4.58**	**39**		**Pn**	**15 00 39.1**	**+0.7**
N25K	**Chitina, Valde**	**4.58**	**39**	IAML		15 01 36.7	
	comp=N,15nm,4.6s						
GLB	**Gilahina Butte**	**4.75**	**44**		**Pn**	**15 00 41.4**	**+0.8**
VRDI	**Verde Repeater**	**4.75**	**47**		**Pn**	**15 00 41.2**	**+0.5**
PPLA	**Purkeypile**	**4.79**	**351**	Pn	**Pn**	**15 00 41.9**	**+0.6**
ISLE	**Juniper Island**	**4.88**	**57**		**Pn**	**15 00 44.1**	**+1.5**
KIAG	**Kiagna River**	**5.03**	**53**		**Pn**	**15 00 45.5**	**+1.0**
BALM	**Baldy**	**5.09**	**52**		**Pn**	**15 00 46.5**	**+1.1**
CHX	**Chaix Hills**	**5.25**	**65**		**Pn**	**15 00 48.8**	**+1.2**
TRF	**Thorofare Moun**	**5.29**	**2**		**Pn**	**15 00 48.9**	**+0.8**
RND	**Reindeer**	**5.31**	**9**		**Pn**	**15 00 49.0**	**+0.6**
KTH	**Kantishna Hill**	**5.39**	**359**		**Pn**	**15 00 50.4**	**+0.9**
PAX	**Paxson**	**5.43**	**26**		**Pn**	**15 00 51.5**	**+1.5**
TTA	**Tatalina**	**5.45**	**333**	Pn	**Pn**	**15 00 50.2**	**-0.1**
MCK	**McKinley**	**5.63**	**8**		**Pn**	**15 00 53.9**	**+1.3**
PCA	**Pinnacle**	**5.68**	**66**	Pn	**Pn**	**15 00 54.6**	**+1.2**
CHUM	**Lake Minchumin**	**5.78**	**353**		**Pn**	**15 00 54.9**	**+0.3**
MENT	**Mentasta**	**5.86**	**33**		**Pn**	**15 00 56.2**	**+0.3**
BPAW	**Bear Paw Mtn.**	**5.94**	**359**		**Pn**	**15 00 56.5**	**-0.4**
J20K	**Nowinta River**	**6.25**	**346**		**Pn**	**15 01 01.7**	**+0.6**
BCAR	**Beaver Creek A**	**6.55**	**38**	Pn	**Pn**	**15 01 06.8**	**+1.4**
CCB	**Clear Creek Bu**	**6.63**	**11**		**Pn**	**15 01 06.3**	**0.0**
TCOL	**CIGO, UAF Yank**	**6.84**	**10**		**Pn**	**15 01 09.8**	**+0.5**
COLA	**College**	**6.84**	**10**		**Pn**	**15 01 10.1**	**+0.8**
IL31		**6.85**	**14**		**Pn**	**15 01 09.7**	**+0.4**
ILAR	**Eielson Array**	**6.85**	**14**	Pn	**Pn**	**15 01 09.8**	**+0.5**
	comp=N,0.8nm,0.3s,baz=198,slow=14,SNR=32						
ILAR				Sn	**Sn**	**15 02 22.9**	**-3.6**
	baz=190,slow=14,SNR=1.2						
ILAR	**Eielson Array**	**6.85**	**14**	Pn	**Pn**	**15 01 09.6**	**+0.3**
J25K	**Salcha River,**	**6.93**	**19**		**Pn**	**15 01 11.0**	**+0.5**
I23K	**Minto, Yukon-K**	**7.01**	**4**		**Pn**	**15 01 12.0**	**+0.4**
PRP	**Porcupine Dome**	**7.14**	**16**		**Pn**	**15 01 21.8**	**0.0**
IMAR	**Indian Mountai**	**7.96**	**351**	Pn	**Pn**	**15 01 24.1**	**-0.6**
EGAK	**Eagle**	**8.01**	**30**	Pn	**Pn**	**15 01 26.5**	**+1.2**
SKAG	**Skagway**	**8.05**	**74**	Pn	**Pn**	**15 01 26.6**	**+0.8**
COLD	**Coldfoot**	**9.08**	**1**	Pn	**Pn**	**15 01 40.9**	**+0.9**
BMAR	**Burnt Mountain**	**9.68**	**14**	Pn	**Pn**	**15 01 48.3**	**+0.1**
TOLK	**Toolik Lake Re**	**10.51**	**2**	Pn	**Pn**	**15 02 00.7**	**+1.1**
A21K	**Barrow**	**13.43**	**352**	Pn	**Pn**	**15 02 38.7**	**-0.5**
YKA	**Yellowknife Ar**	**18.18**	**61**	P	**Pn**	**15 03 39.6**	**-1.4**
	comp=N,0.1nm,0.3s,baz=274,slow=12,SNR=6.4						
FINES	**FINESS Array B**	**60.68**	**2**	P	**P**	**15 09 39.7**	**+0.6**
	comp=N,0.7nm,0.5s,baz=358,slow=9.7,SNR=10						

NOU 31 15:28:41.1, 14°.91S×167°.32E, h77km, mb3.5/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.55**	**192**	P	Pn	15 28 56.1	+1.1
DVP	**Devils Point**	**2.92**	**164**	P	Pn	15 29 25.5	+0.2
YATNC	**Mamie plateau,**	**7.12**	**183**	P	Pn	15 30 22.4	-0.3
	8.8nm,0.8s						
DZM	**Mont Dzumac**	**7.17**	**187**	P	Pn	15 30 23.5	+0.1
	6.5nm,2.8s						
PINNC	**Pines Island,**	**7.66**	**179**	P	Pn	15 30 30.2	+0.2

*EAF **31** 15:36:06.9±0.7, 21°.39S×25°.58E, h0km±6km, MD4.0*

BUL 31 15:36:06.9±0.7, 21°.39S×25°.58E, h0km±6km, MD4.4, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	**Bulawayo**	**3.10**	**67**	*i* P	Pn	15 36 57.0	-0.2
BLWY				*i* Sg	Sb	15 37 43.0	+1.7
BLWY	**Bulawayo**	**3.10**	**67**	*i* P	Pn	15 36 57.0	-0.2
BLWY				*i* Sg	Sb	15 37 43.0	+1.7
LBTB	**Lobatse**	**3.61**	**180**	*i* P	Pn	15 37 03.9	-0.3
LBTB				*i* Sg	Sb	15 37 58.8	+2.7
LBTB	**Lobatse**	**3.61**	**180**	*i* P	Pn	15 37 03.9	-0.3
LBTB				*i* Sg	Sb	15 37 58.8	+2.7
KRI	**Karoi**	**5.92**	**41**	*i* P	Pn	15 37 33.1	-3.0
KRI				*i* S	Sn	15 38 36.2	-8.6
KRI	**Karoi**	**5.92**	**41**	*i* P	Pn	15 37 33.1	-3.0
KRI				*i* S	Sn	15 38 36.2	-8.6
BOSA	**Boshof**	**7.20**	**182**	*i* P	Pn	15 37 51.7	-1.9
BOSA				*i* S	Sn	15 39 09.7	-6.5
BOSA	**Boshof**	**7.20**	**182**	*i* P	Pn	15 37 51.7	-1.9
BOSA				*i* S	Sn	15 39 09.7	-6.5

*ATH **31** 16:01:46.3, 40°.71N×21°.20E, h22km±3km, ML2.7/3, Error ellipse: s-maj=4.4km s-min=1.4km az=320.0*
*SKO **31** 16:01:47.2, 40°.74N×21°.23E, h15km*
*THE **31** 16:01:47.0, 40°.70N×21°.18E, h10km±1km, ML2.3/11, Error ellipse: s-maj=1.3km s-min=0.8km az=203.0*

ISC 31 16:01:47.1±0.8, 40°.67N±0°.02×21°.20E±0°.02, h15km±6km, n41, σ1:39/73, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.17**	**49**	P	**Pg**	**16 01 51.2**	**-0.2**
FNA				S	**Sb**	**16 01 54.4**	**-1.0**
	3μm,0.4s						
FNA	**Florina**	**0.17**	**49**	P	**Pg**	**16 01 51.3**	**-0.2**
FNA				S	**Sb**	**16 01 54.5**	**-0.8**
FNA				AML	AML	16 01 54.9	
	comp=E,6660μm,0.4s						
FNA				AML	AML	16 01 56.4	
	comp=N,6678μm,0.4s						
FNA	**Florina**	**0.17**	**49**	*i* Pg	**Pg**	**16 01 51.3**	**-0.2**
FNA				*i* Sg	**Sb**	**16 01 54.6**	**-0.8**
NEST	**Nestorio**	**0.28**	**205**	P	**Pg**	**16 01 52.8**	**-0.3**
NEST				S	**Sg**	**16 01 58.1**	**+0.8**
	comp=N,4μm,0.3s						
NEST	**Nestorio**	**0.28**	**205**	P	**Pg**	**16 01 52.9**	**-0.3**
NEST				S	**Sg**	**16 01 58.0**	**+0.8**
NEST				AML	AML	16 01 58.3	
	comp=E,12527μm,0.3s						
NEST				AML	AML	16 01 58.8	
	comp=N,6269μm,0.4s						
KBN	**Korca**	**0.32**	**262**	P	**Pg**	**16 01 53.1**	**-0.7**
KBN				S	**Sg**	**16 01 57.7**	**-0.7**
	comp=N,792nm,0.3s						
PENT	**Pentalofos**	**0.48**	**186**	P	**Pg**	**16 01 56.5**	**-0.2**
PENT				S	**Sb**	**16 02 04.6**	**+0.5**
	comp=N,378nm,0.9s						
PENT	**Pentalofos**	**0.48**	**186**	P	**Pg**	**16 01 56.4**	**-0.3**
PENT				S	**Sg**	**16 02 04.5**	**+1.4**
OHR	**Ohrid**	**0.54**	**325**	*i* Pg	**Pg**	**16 01 56.9**	**-0.8**
OHR				*i* Sg	**Sb**	**16 02 06.1**	**+0.3**
OHR				*e*Lg	Lg	16 02 06.8	
	comp=N,378nm,0.4s						
KZN	**Kozani**	**0.56**	**130**	P	**Pg**	**16 01 57.9**	**-0.4**
KZN				S	**Sg**	**16 02 06.2**	**+0.4**
	comp=N,302nm,0.6s						
KZN	**Kozani**	**0.56**	**130**	P	**Pg**	**16 01 57.9**	**-0.4**
KZN				S	**Sg**	**16 02 06.0**	**+0.1**
KZN				AML	AML	16 02 07.9	
	comp=E,612μm,0.4s						
KZN				AML	AML	16 02 08.1	
	comp=N,565μm,0.5s						
LSK	**Leskovik**	**0.69**	**222**	P	**Pg**	**16 01 59.9**	**-0.8**
LSK				S	**Sg**	**16 02 10.3**	**+0.4**
	comp=N,325nm,0.5s						
KPRO	**Kipourio**	**0.73**	**170**	P	**Pg**	**16 02 01.0**	**-0.3**
KPRO				S	**Sn**	**16 02 13.5**	**-0.2**
	comp=N,325nm,0.5s						
KPRO	**Kipourio**	**0.73**	**170**	P	**Pg**	**16 02 01.0**	**-0.3**
GRG	**Griva**	**0.95**	**72**	P	**Pb**	**16 02 04.8**	**-0.5**
GRG				S	**Sn**	**16 02 19.9**	**+0.6**
	comp=N,75nm,0.5s						
GRG	**Griva**	**0.95**	**72**	*i* Pg	**Pg**	**16 02 05.3**	**-0.3**

	baz=322					
NDT			*i* S	Sn	16 06 03.0	+0.2
	baz=322					
HWA	**Hwalien**	**0.38 206**	*i* P	Pn	16 05 55.6	0.0
	baz=199					
NNSB	**Datong**	**0.38 286**	P	Pn	16 05 55.2	-0.6
NNSB	baz=287		S	Sn	16 06 02.7	-0.4
	baz=287					
NNS	**Nan Shan**	**0.40 288**	P	Pn	16 05 55.6	-0.4
NNS	baz=289		S	Sn	16 06 03.3	0.0
	baz=289					
TWE	**Neicheng**	**0.41 345**	*i* P	Pn	16 05 56.0	-0.1
TWE	baz=351		S	Sn	16 06 04.4	+1.0
	baz=351					
ETM	**Tongmen**	**0.44 217**	*e*P	Pn	16 05 55.1	-1.3
ETM	baz=213		S	Sn	16 06 04.4	+0.4
	baz=213					
FUSB	**Fushanzhiwuyua**	**0.47 337**	P	Pn	16 05 56.6	-0.2
FUSB	baz=341		S	Sn	16 06 05.0	+0.2
	baz=341					
TEYL	**Yanliau Villag**	**0.48 201**	P	Pn	16 05 56.4	-0.4
TEYL	baz=197		*e*S	Sn	16 06 05.7	+1.0
	baz=197					
FUSS	**Fushou**	**0.50 262**	P	Pn	16 05 56.8	-0.5
FUSS	baz=261		S	Sn	16 06 05.0	-0.5
	baz=261					
WHF	**Hehuan Shan**	**0.51 250**	P	Pn	16 05 57.0	-0.6
WHF	baz=247		S	Sn	16 06 05.1	-0.8
	baz=247					
YHNB	**Yeheng**	**0.51 313**	P	Pn	16 05 56.8	-0.4
YHNB	baz=315		S	Sn	16 06 05.4	-0.1
	baz=315					
NWLT	**Wulai**	**0.52 330**	P	Pn	16 05 56.9	-0.5
NWLT	baz=334		S	Sn	16 06 05.7	+0.1
	baz=334					
NSK	**Sanguang**	**0.53 312**	*i* P	Pn	16 05 56.9	-0.5
NSK	baz=315		S	Sn	16 06 05.5	-0.3
	baz=315					
NTC	**Toucheng**	**0.53 4**	P	Pn	16 05 57.7	+0.3
NTC	baz=8.0		S	Sn	16 06 06.9	+1.1
	baz=8.0					
TWT	**Tachien**	**0.56 263**	*i* P	Pn	16 05 57.9	-0.1
TWT	baz=262		S	Sn	16 06 06.7	0.0
	baz=262					
TDCB	**Techi**	**0.58 263**	P	Pn	16 05 57.9	-0.2
TDCB	baz=262		S	Sn	16 06 06.6	-0.4
	baz=262					
ESL	**Shilin**	**0.60 213**	*e*P	Pn	16 05 56.6	-1.7
ESL	baz=208		*e*S	Sn	16 06 06.0	-1.3
	baz=208					
CHGB	**Renai**	**0.62 245**	P	Pn	16 05 58.2	-0.5
CHGB	baz=243		S	Sn	16 06 07.4	-0.6
	baz=243					
TIPB	**Shuangxi**	**0.65 3**	P	Pn	16 05 59.3	+0.4
TIPB	baz=6.0		S	Sn	16 06 09.9	+1.5
	baz=6.0					
NHDH	**Xindian Distri**	**0.68 340**	*i* P	Pn	16 05 58.7	-0.6
NHDH	baz=342		*i* S	Sn	16 06 09.5	+0.4
	baz=342					
TWA	**Mucha**	**0.68 344**	*i* P	Pn	16 05 59.1	-0.2
TWA	baz=347		S	Sn	16 06 10.3	+1.1
	baz=347					
NFF	**Wufeng Townshi**	**0.68 297**	P	Pn	16 05 59.3	-0.1
NFF	baz=298		S	Sn	16 06 09.8	+0.6
	baz=298					
WUSB	**Renai**	**0.69 242**	P	Pn	16 05 59.0	-0.6
WUSB	baz=240		S	Sn	16 06 09.3	-0.2
	baz=240					
TATO	**Taipei**	**0.71 337**	*i* P	Pn	16 05 59.0	-0.7
TATO	baz=340		S	Sn	16 06 10.0	+0.4
	baz=340					
TWB1	**Santiao Chiao**	**0.71 15**	P	Pn	16 06 00.0	+0.4
TWB1	baz=18		S	Sn	16 06 10.9	+1.3
	baz=18					
EGFH	**Guangfu**	**0.73 207**	P	Pn	16 05 59.5	-0.4
EGFH	baz=204		*e*S	Sn	16 06 08.9	-1.2
	baz=204					
NWF	**Wu-fen Shan**	**0.75 360**	*i* P	Pn	16 06 00.3	+0.1
NWF	baz=2.0		*i* S	Sn	16 06 11.6	+0.9
	baz=2.0					
WFSB	**Wu-fen Shan**	**0.75 360**	*i* P	Pn	16 06 00.3	+0.1
WFSB	baz=2.0		*i* S	Sn	16 06 11.7	+1.1
	baz=2.0					
WHP	**Taichung City**	**0.77 267**	P	Pn	16 06 00.8	+0.3
WHP	baz=266		S	Sn	16 06 11.4	+0.2
	baz=266					
LIOB	**Emei**	**0.77 295**	*i* P	Pn	16 06 00.1	-0.4
LIOB	baz=296		S	Sn	16 06 11.4	+0.2
	baz=296					
SXI1	**Grass Mountain**	**0.77 6**	P	Pn	16 06 01.0	+0.4
SXI1	baz=8.0		S	Sn	16 06 13.1	+1.8
	baz=8.0					
NSTT	**Nanjuang**	**0.78 294**	P	Pn	16 06 00.7	+0.1
NSTT	baz=294		S	Sn	16 06 11.6	+0.2
	baz=294					
NTY	**Taoyuan**	**0.81 327**	P	Pn	16 06 00.7	-0.3
NTY	baz=328		S	Sn	16 06 13.0	+0.9
	baz=328					
VWDT	**VWDT**	**0.82 226**	P	Pn	16 06 00.6	-0.4
VWDT	baz=224		S	Sn	16 06 12.1	-0.1
	baz=224					
WPL	**Puli Township**	**0.82 248**	P	Pn	16 06 00.3	-0.8
WPL	baz=247		S	Sn	16 06 12.2	-0.1
	baz=247					
HSN1	**Hsinchu**	**0.83 303**	P	Pn	16 06 01.1	-0.2
HSN1	baz=304		S	Sn	16 06 12.6	-0.1
	baz=304					
DPDB	**Guoxing**	**0.84 250**	P	Pn	16 06 01.4	0.0
WCS	**Beigang Elemen**	**0.84 252**	P	Pn	16 06 01.4	+0.1
	baz=250					
WCS			S	Sn	16 06 13.3	+0.5
	baz=250					
YM01	**YM01**	**0.84 347**	P	Pn	16 06 00.9	-0.6
	baz=348					
NCU	**National Centr**	**0.85 320**	P	Pn	16 06 00.9	-0.5
NCU	baz=322		S	Sn	16 06 13.7	+0.7
	baz=322					
NCUH	**Zhongli**	**0.85 320**	P	Pn	16 06 00.9	-0.6
NCUH	baz=321		S	Sn	16 06 12.9	0.0
	baz=321					
TWS1	**Kuangyinshan**	**0.85 337**	*i* P	Pn	16 06 00.9	-0.5
TWS1	baz=339		S	Sn	16 06 13.3	+0.4
	baz=339					
SBCB	**Hsinchu**	**0.87 303**	P	Pn	16 06 01.4	-0.3
SBCB	baz=304		S	Sn	16 06 14.0	+0.6
	baz=304					
YM08	**YM08**	**0.88 348**	*e*P	Pn	16 06 00.9	-1.0
YM08	baz=350		*e*S	Sn	16 06 13.5	-0.3
	baz=350					
HGSD	**Ruisui**	**0.89 202**	P	Pn	16 06 01.8	-0.2
HGSD	baz=199		S	Sn	16 06 14.2	+0.3
	baz=199					
NTST	**Danshui**	**0.89 340**	P	Pn	16 06 01.6	-0.5
NTST	baz=342		S	Sn	16 06 14.4	+0.3
	baz=342					
EHY	**Hungye**	**0.92 208**	P	Pn	16 06 01.9	-0.4
	baz=205					
SMLT	**Sun Moon Lake**	**0.92 242**	P	Pn	16 06 03.1	+0.6
SMLT	baz=240		*e*S	Sn	16 06 16.8	+2.0
	baz=240					
TWQ1	**Liyutan**	**0.93 272**	*i* P	Pn	16 06 02.3	-0.2
TWQ1	baz=271		*e*S	Sn	16 06 14.5	-0.3
	baz=271					
SSLB	**Suanglung**	**0.93 235**	P	Pn	16 06 03.0	+0.5
SSLB	baz=233		S	Sn	16 06 15.6	+0.7
	baz=233					
NMLH	**Miaoli**	**0.93 284**	P	Pn	16 06 02.1	-0.5
NMLH	baz=283		S	Sn	16 06 14.7	-0.3
	baz=283					
TYC	**Yuchr**	**0.94 244**	*i* P	Pn	16 06 03.0	+0.3
TYC	baz=242		S	Sn	16 06 16.0	+0.8
	baz=242					
YULB	**Yu-li**	**1.03 206**	*e*P	Pn	16 06 02.1	-1.8
YULB	baz=203		*e*S	Sn	16 06 16.1	-1.1
	baz=203					
TCU	**Taichung**	**1.03 261**	P	Pn	16 06 03.9	+0.1
TCU	baz=259		*e*S	Sn	16 06 18.4	+1.1
	baz=259					
WWF	**Wufeng**	**1.03 255**	P	Pn	16 06 04.2	+0.3
WWF	baz=253		*e*S	Sn	16 06 19.0	+1.7
	baz=253					
EYUL	**Yuli**	**1.06 204**	P	Pn	16 06 04.5	+0.2
EYUL	baz=201		S	Sn	16 06 18.2	+0.2
	baz=201					
TWF1	**Yuli**	**1.06 205**	P	Pn	16 06 04.3	0.0
TWF1	baz=202		S	Sn	16 06 18.3	+0.2
	baz=202					
JYNG	**Yonagunijimaku**	**1.06 83**	P	Pn	16 06 04.0	-0.3
JYNG			S	Sn	16 06 18.1	0.0
WJS	**Zhushan**	**1.09 243**	P	Pn	16 06 05.3	+0.6
WJS	baz=241		*e*S	Sn	16 06 20.1	+1.4
	baz=241					
WNT1	**Nantou City**	**1.09 248**	P	Pn	16 06 05.2	+0.5
WNT1	baz=247		*e*S	Sn	16 06 20.7	+1.9
	baz=247					
WNT	**Mingjian**	**1.10 247**	*i* P	Pn	16 06 05.1	+0.2
WNT	baz=245		*e*S	Sn	16 06 20.7	+1.8
	baz=245					
YOJ	**Yonaguni jima**	**1.12 83**	*e*P	Pn	16 06 04.9	-0.3
YOJ	baz=82		*e*S	Sn	16 06 20.2	+0.7
	baz=82					
FULB	**Fuli**	**1.21 202**	P	Pn	16 06 06.0	-0.3
FULB	baz=200		S	Sn	16 06 21.9	+0.3
	baz=200					
ALS	**Alishan**	**1.21 228**	*i* P	Pn	16 06 06.9	+0.3
ALS	baz=226		*e*S	Sn	16 06 22.9	+0.9
	baz=226					
CHN5	**Tsauling**	**1.24 235**	*i* P	Pn	16 06 07.1	+0.2
CHN5	baz=233		*e*S	Sn	16 06 24.1	+1.5
	baz=233					
WGK	**Gukeng**	**1.29 241**	P	Pn	16 06 08.0	+0.7
WGK	baz=239		*e*S	Sn	16 06 25.3	+1.8
	baz=239					
WDLH	**Douliu**	**1.30 241**	P	Pn	16 06 08.0	+0.4
WDLH	baz=240		*e*S	Sn	16 06 25.6	+1.7
	baz=240					
ELDTW	**Lidau**	**1.33 212**	*e*P	Pn	16 06 06.9	-1.2
ELDTW	baz=210		S	Sn	16 06 24.1	-0.6
	baz=210					
WRL	**Guolierlin Hig**	**1.35 252**	P	Pn	16 06 07.5	-0.8
WRL	baz=251		S	Sn	16 06 24.5	-0.6
	baz=251					
WTK	**Tuku**	**1.43 244**	P	Pn	16 06 09.1	-0.2
WTK	baz=243		S	Sn	16 06 27.2	+0.3
	baz=243					
CHN4	**Tsaushan**	**1.46 229**	*e*P	Pn	16 06 10.5	+0.7
CHN4	baz=227		*e*S	Sn	16 06 30.3	+2.6
	baz=227					
TPUB	**Ta-pu**	**1.47 226**	P	Pn	16 06 10.2	+0.4
TPUB	baz=225		*e*S	Sn	16 06 29.7	+1.7
	baz=225					
WTP	**Ta-pu**	**1.52 225**	P	Pn	16 06 11.0	+0.5
WTP	baz=223		*e*S	Sn	16 06 31.0	+1.8
	baz=223					
TWK	**Hsinying**	**1.59 229**	P	Pn	16 06 12.0	+0.5
TWK	baz=227		*e*S	Sn	16 06 32.5	+1.6
	baz=227					
CHN1	**Nanshi**	**1.61 226**	P	Pn	16 06 12.9	+1.0
CHN1	baz=224		*e*S	Sn	16 06 34.0	+2.4
	baz=224					
TWG	**Pinlang**	**1.63 204**	*i* P	Pn	16 06 12.1	0.0
	baz=202					
TWGBT	**Beinan**	**1.63 204**	P	Pn	16 06 11.9	-0.2
	baz=202					
WSL	**Shuilin Townsh**	**1.63 241**	P	Pn	16 06 11.7	-0.4
WSL	baz=240		S	Sn	16 06 32.2	+0.2
	baz=240					
SGST	**Jiashian**	**1.66 222**	P	Pn	16 06 11.9	-0.5
SGST	baz=220		*e*S	Sn	16 06 33.8	+1.2
	baz=220					
LDUT	**Ludao**	**1.67 190**	*e*S	Sn	16 06 32.0	-0.7
	baz=188					
ICHU	**Yijhu**	**1.68 236**	P	Pn	16 06 13.3	+0.6
ICHU	baz=234		*e*S	Sn	16 06 34.5	+1.4
	baz=234					
SLGT	**Liugui**	**1.69 219**	P	Pn	16 06 13.6	+0.7
SLGT	baz=217		*e*S	Sn	16 06 35.0	+1.7
	baz=217					
IRIF	**Iriomote-Funau**	**1.77 89**	P	Pn	16 06 13.4	-0.6
IRIF			S	Sn	16 06 34.8	-0.6
MASBT	**Mashibuluo**	**2.00 212**	*e*P	Pn	16 06 18.6	+1.4
MASBT	baz=211		*e*S	Sn	16 06 43.4	+2.4
	baz=211					
JKRS	**Kuro-shima**	**2.03 92**	*e*S	Sn	16 06 42.1	+0.4
JIJ	**Ishigaki jima**	**2.15 88**	P	Pn	16 06 18.7	-0.5
JIJ			S	Sn	16 06 43.7	-0.9
PNG	**Penghu**	**2.17 250**	*e*P	Pn	16 06 19.3	-0.2
PNG	baz=249		*e*S	Sn	16 06 44.2	-1.0
	baz=249					
PHUB	**P'eng-hu**	**2.18 249**	*e*P	Pn	16 06 17.8	-1.7
PHUB	baz=247		*e*S	Sn	16 06 42.8	-2.6
	baz=247					
SLIU	**Shizi**	**2.28 204**	*e*P	Pn	16 06 21.9	+0.8
	baz=202					
JISG	**Ishigakijimahi**	**2.31 83**	P	Pn	16 06 20.5	-0.9
JISG			*e*S	Sn	16 06 48.3	-0.4
MATB	**Ma-tsu**	**2.47 318**	*e*P	Pn	16 06 22.1	-1.4
	baz=317					
PTMZ	**Houxiangcun**	**2.53 287**	*e*P	Pn	16 06 22.6	-1.8
	baz=286					
JTJ	**Tarama**	**2.67 83**	*e*S	Sn	16 06 57.6	0.0

IDC 31 16:12:49.9±2.0, 3°.06N×126°.26E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/58, mbtmp3.4/4, Error ellipse: s-maj=197.1km s-min=22.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.20**	**161**	P	P	16 18 07.1	-1.3
	0.8nm,0.6s,baz=340,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**27.59**	**165**	P	P	16 18 40.8	+1.7
	0.4nm,1.0s,baz=343,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**57.83**	**326**	P	P	16 22 42.2	-1.1
	0.3nm,0.6s,baz=122,slow=8.2,SNR=4.7						
KURBB	**Kurchatov Arra**	**62.04**	**328**	P	P	16 23 12.9	+0.7
	0.3nm,0.6s,baz=128,slow=6.6,SNR=3.1						

IDC 31 16:15:43.5±5.1, 1°.50N×100°.96E, h135km±87km, mb2.9/3, mb1 3.0/4, mb1mx2.7/66, mbtmp3.2/4, Error ellipse: s-maj=209.6km s-min=25.2km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.41**	**303**	P	Pn	16 16 23.2	+0.3
	1.3nm,0.3s,baz=155,slow=13,SNR=5.7						
PSI				S	Sn	16 16 52.2	-0.9
	0.5nm,0.3s,baz=4.2,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**39.06**	**125**	P	P	16 22 57.1	-0.4
	0.3nm,0.8s,baz=299,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**40.64**	**130**	P	P	16 23 10.6	0.0
	0.5nm,1.0s,baz=307,slow=7.3,SNR=4.3						
MKAR	**Makanchi Array**	**47.97**	**343**	P	P	16 24 08.5	0.0
	0.1nm,0.3s,baz=161,slow=7.7,SNR=2.2						

*NEIC **31** 16:20:42.8±1.6, 2°.87S±0°.04×147°.21E±0°.07, h10km±1km, mb4.8/25, Error ellipse: s-maj=12.6km s-min=6.7km az=98.0*

*BJI **31** 16:20:42.0±0.0, 2°.83S×147°.20E, h4km, mb4.6/44, mB5.2/24, Ms4.7/8, Ms7 4.5/8*

*IDC **31** 16:20:42.6±0.6, 3°.00S×147°.14E, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.2/47, mbtmp4.3/16, ML3.4/2, MS4.2/46, Ms1 4.2/46, ms1mx4.2/59, Error ellipse: s-maj=19.5km s-min=14.2km az=81.0*

*DJA **31** 16:20:44.5±0.3, 3°.S±3°×14°.7E±°, h10km, M4.6/29, mB5.2/18, mb4.5/29, MLv4.8/5, Mw(mB)4.5/18*

*GCMT **31** 16:20:46.8±0.2, 2°.98S±0°.01×147°.23E±0°.02, h12km, MW4.9/89, Moment Tensor Solution. s16,c21; s89,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.25±.08; $M_{\theta\theta}$-2.37±.06; $M_{\phi\phi}$0.12±.09; $M_{r\theta}$-1.14±.23; $M_{\theta\phi}$1.58±.06; $M_{\phi r}$-0.23±.29; Best double couple: $M_0$2.98400×10^{16} NP1:ϕ_s138.00000°, δ40.00000°, λ124.00000°. NP2: ϕ_s277.00000°, δ58.00000°, λ65.00000°. Principal axes: T 2.6750, Plg67.0000°, Azm138.0000°; N 0.6230, Plg21.0000°, Azm291.0000°; P -3.2940, Plg10.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 16:20:43.9±0.4, 2°.93S±0°.05×147°.29E±0°.07, h10km, n156, σ2S41/122, mb4.7/42, MS4.3/46, 2C-2D, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.89**	**5**		**Pg**	**16 20 58.9**	**-2.2**
MANU				Sg	**Sg**	**16 21 08.7**	**-3.9**
KRVT	**Keravat (AS076**	**4.92**	**106**	Pn	**Pn**	**16 22 00.4**	**+2.4**
RABL	**Rabaul**	**5.03**	**105**	Pn	**Pn**	**16 21 59.3**	**-0.1**
RABL	**Rabaul**	**5.03**	**105**	P	Pn	16 22 05.1	+5.7
PMG	**Port Moresby**	**6.43**	**181**	Pn	**Pn**	**16 22 17.4**	**-1.3**
	1.0nm,0.3s,baz=52,slow=3.9,SNR=9.7						
PMG				LR	LR	16 24 48.8	
	comp=Z,4μm,18.1s,baz=2.0,slow=39						
PMG	**Port Moresby**	**6.43**	**181**	P	**Pn**	**16 22 19.0**	**+0.3**
	0.6nm1μm58nm,1.5s						
PMG	**Port Moresby**	**6.43**	**181**	Pn	**Pn**	**16 22 17.2**	**-1.6**
PMG	**Port Moresby**	**6.43**	**181**	P	**Pn**	**16 22 19.5**	**+0.7**
PMG	**Port Moresby**	**6.43**	**181**	P	**Pn**	**16 22 19.4**	**+0.7**
JAY	**Jayapura**	**6.59**	**273**	Pn	**Pn**	**16 22 19.2**	**-1.7**
	0.4nm,0.3s,baz=344,slow=18,SNR=9.7						
JAY				LR	LR	16 24 22.8	
	comp=Z,1μm,19.7s,baz=82,slow=34						
JAY	**Jayapura**	**6.59**	**273**	P	**Pn**	**16 22 22.4**	**+1.5**
	0.2nm733nm44nm,1.4s						
GENI	**Genyem**	**7.12**	**273**	P	**Pn**	**16 22 29.7**	**+1.5**
	1.3nm5μm322nm,1.4s						
GENI	**Genyem**	**7.12**	**273**	P	**Pn**	**16 22 30.4**	**+2.2**
SMPI	**Sarmi**	**8.62**	**276**	P	**Pn**	**16 22 50.6**	**+1.8**
	2μm126nm,1.4s						
COEN	**Coen**	**11.68**	**200**	Pn	**Pn**	**16 23 29.0**	**-1.8**
COEN	**Coen**	**11.68**	**200**	P	**Pn**	**16 23 32.7**	**+1.9**
SIJI	**Sorong**	**16.14**	**277**	Pn	**P**	**16 24 32.7**	**-1.7**
	0.2nm,0.3s,baz=104,slow=14,SNR=5.1						
SIJI				LR	LR	16 30 08.1	
	comp=Z,663nm,18.3s,baz=102,slow=35						
SIJI	**Sorong**	**16.14**	**277**	P	**P**	**16 24 34.0**	**-0.4**
	14nm,1.2s						
SWI	**Sorong**	**16.15**	**277**	P	**P**	**16 24 34.7**	**+0.3**
	30nm,1.1s						
GUMO	**Guam**	**16.59**	**352**	LR	LR	16 29 26.8	
	comp=Z,1μm,21.6s,baz=180,slow=32						
SAUI	**Saumlaki**	**16.68**	**252**	P	**P**	**16 24 42.5**	**+2.2**
	143nm,1.5s						
CTA	**Charters Tower**	**17.08**	**183**	P	**Pn**	**16 24 42.6**	**-0.4**
	0.2nm,0.3s,baz=348,slow=11,SNR=8.7						
CTA				LR	LR	16 30 40.1	
	comp=Z,1μm,20.9s,baz=3.0,slow=35						
CTA	**Charters Tower**	**17.08**	**183**	P	**P**	**16 24 45.9**	**+1.2**
CTAO	**Charters Tower**	**17.08**	**183**	Pn	**Pn**	**16 24 41.0**	**-1.9**
CTAO	**Charters Tower**	**17.08**	**183**	P	**P**	**16 24 45.8**	**+1.1**
MSAI	**Masohi**	**18.34**	**268**	P	**P**	**16 24 58.0**	**-0.7**
	3.9nm,0.7s						
DRS	**Darwin Rock St**	**18.77**	**239**	P	**Pn**	**16 25 03.6**	**-0.2**
MTN	**Manton Dam**	**18.77**	**237**		**P**	**16 25 00.5**	**-2.9**
MTN				IAmb	IAmb	16 25 04.2	
	comp=Z,101nm,1.4s						
MTN	**Manton Dam**	**18.77**	**237**	P	**Pn**	**16 25 03.5**	**-0.4**
KRAI	**Karang Ratu**	**18.87**	**268**	P	**Pn**	**16 25 06.8**	**+1.7**
	comp=Z,844nmcomp=Z,20nm,1.4s						
QIS	**Mount Isa**	**19.05**	**203**	P	**Pn**	**16 25 07.4**	**+0.2**
AAI	**Ambon**	**19.08**	**267**	P	**Pn**	**16 25 07.0**	**-0.6**
	comp=Z,2μmcomp=Z,40nm,1.8s						
LBMI	**Labuha**	**19.91**	**276**	P	**Pn**	**16 25 18.9**	**+1.4**
	comp=Z,40nm,1.4s						
TNTI	**Ternate**	**20.25**	**280**	P	Pn	16 25 21.6	0.0
	comp=Z,1000nmcomp=Z,38nm,1.4s						
RK1H	**Rockhampton Ha**	**20.57**	**172**	P	Pn	16 25 25.4	+0.2
WB0	**Warramunga Arr**	**20.94**	**216**	P	**P**	**16 25 24.7**	**-2.4**
WR0	**Warramunga Arr**	**21.00**	**215**	P	**P**	**16 25 25.8**	**-2.0**
WRAB	**Tennant Creek**	**21.09**	**216**	P	**P**	**16 25 26.4**	**-2.4**
WRAB	**Tennant Creek**	**21.09**	**216**	P	**P**	**16 25 27.4**	**-1.3**
WB2	**Warramunga Arr**	**21.10**	**216**	P	**P**	**16 25 26.2**	**-2.6**
WRA	**Warramunga Arr**	**21.11**	**216**	P	**P**	**16 25 26.6**	**-2.3**
	comp=Z,102nm,1.2s,baz=39,slow=12,SNR=102						
WRA				PcP	**PcP**	**16 29 34.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=25,slow=2.1,SNR=9.2						
WRA				LR	LR	16 34 28.8	
	comp=Z,2μm,18.4s,baz=47,slow=39						
WRA	**Warramunga Arr**	**21.11**	**216**	P	**P**	**16 25 26.6**	**-2.3**
SANI	**Sanana**	**21.30**	**272**	P	**P**	**16 25 30.9**	**-0.1**
	comp=Z,747nmcomp=Z,40nm,1.3s						
SANI	**Sanana**	**21.30**	**272**	P	**P**	**16 25 31.4**	**+0.4**
KNRA	**Kununurra**	**22.21**	**234**	P	**P**	**16 25 37.8**	**-2.9**
KNRA	**Kununurra**	**22.21**	**234**	P	**P**	**16 25 39.2**	**-1.5**
EIDS	**Eidsvold**	**22.60**	**171**	P	**P**	**16 25 44.9**	**0.0**
EIDS				IAmb	IAmb	16 25 55.1	
	comp=Z,38nm,1.4s						
EIDS	**Eidsvold**	**22.60**	**171**	P	**P**	**16 25 45.3**	**+0.4**
SANVU	**Saraoutou**	**23.23**	**124**	P	**P**	**16 25 51.7**	**+0.2**
SANVU				IAmb	IAmb	16 25 55.1	
	comp=Z,28nm,0.9s						
RMQ	**Roma**	**23.46**	**177**	P	**P**	**16 25 55.2**	**+1.5**
QLP	**Quilpie**	**23.70**	**187**	P	**P**	**16 25 57.6**	**+1.6**
DAV	**Davao City (W)**	**23.84**	**295**	LR	LR	16 34 30.4	
	comp=Z,240nm,18.4s,baz=127,slow=35						
SOEI	**Soe**	**23.85**	**252**	P	**P**	**16 25 54.8**	**-3.0**
SOEI				IAmb	IAmb	16 26 23.9	
	comp=Z,111nm,1.2s						
AS31	**Alice Springs**	**24.34**	**211**	P	**P**	**16 26 00.3**	**-1.9**
AS31				IAmb	IAmb	16 26 04.7	
	comp=Z,27nm,1.5s						

ASAR Alice Springs 24.34 211 P **P 16 26 01.2 -0.9**
comp=Z,17nm,0.9s,baz=41,slow=7.0,SNR=87
ASAR PcP **PcP 16 29 42.5 +0.5**
comp=Z,0.7nm,0.8s,baz=41,slow=2.7,SNR=4.1
ASAR LR LR 16 36 02.0
comp=Z,2μm,18.2s,baz=44,slow=38
ASAR Alice Springs 24.34 211 P **P 16 26 00.5 -1.7**
GTOI Gorontalo 24.53 278 P **P 16 26 04.8 +0.9**
comp=Z,513nmcomp=Z,20nm,1.3s
BATI Baumata 24.54 252 P **P 16 26 04.1 0.0**
comp=Z,30nm,0.9s,baz=109,slow=18,SNR=4.3
INKA Innaminka 25.45 194 P **P 16 26 13.4 +1.3**
FITZ Fitzroy Crossi 26.02 233 P **P 16 26 15.7 -1.7**
comp=Z,42nm,1.1s,baz=59,slow=18,SNR=17
FITZ LR LR 16 37 15.0
comp=Z,2μm,19.6s,baz=54,slow=38
NOUC Port Laguerre 26.53 137 P **P 16 26 24.4 +2.4**
DZM Mont Dzumac 26.61 137 P **P 16 26 23.3 +0.5**
comp=Z,7.9nm,1.1s,baz=345,slow=10,SNR=7.3
DZM Mont Dzumac 26.61 137 *e*P **P 16 26 21.4 -1.4**
comp=Z,47nm,1.7s
DZM *e*LR LR 16 33 03.0
comp=Z,726nm,24.6s
DZM Mont Dzumac 26.61 137 P **P 16 26 21.4 -1.4**
DZM IAmb IAmb 16 26 28.3
comp=Z,26nm,1.4s
DZM Mont Dzumac 26.61 137 P **P 16 26 25.3 +2.5**
ONTNC Ouen Toro 26.78 138 P **P 16 26 22.7 -1.5**
ONTNC IAmb IAmb 16 26 28.3
comp=Z,22nm,1.2s
OOD Oodnadatta 27.09 203 P **P 16 26 26.7 -0.3**
KAPI Kappang 27.55 265 LR LR 16 39 07.9
comp=Z,128nm,19.3s,baz=100,slow=40
ARMA Armidale 27.64 172 P **P 16 26 34.3 +2.3**
WRKA Warakurna 28.59 218 P **P 16 26 40.5 0.0**
H11S3 WAKE ISLAND Hy 28.61 41 T T 16 56 47.6
baz=223,slow=75,SNR=59
H11S2 WAKE ISLAND Hy 28.62 41 T T 16 56 48.5
baz=223,slow=75,SNR=43
H11S1 WAKE ISLAND Hy 28.63 41 T T 16 56 49.2
baz=223,slow=75,SNR=41
STKA Stephens Creek 29.28 190 P **P 16 26 46.5 0.0**
comp=Z,2.5nm,0.9s,baz=1.3,slow=10,SNR=5.6
STKA LR LR 16 39 08.8
comp=Z,869nm,19.2s,baz=11,slow=38
STKA Stephens Creek 29.28 190 P **P 16 26 45.4 -1.1**
STKA Stephens Creek 29.28 190 P **P 16 26 47.1 +0.6**
H11N1 WAKE ISLAND Hy 29.62 40 T T 16 58 04.9
baz=221,slow=76,SNR=7.0
H11N3 WAKE ISLAND Hy 29.64 40 T T 16 58 05.3
baz=221,slow=76,SNR=9.5
H11N2 WAKE ISLAND Hy 29.64 40 T T 16 58 02.2
baz=221,slow=76,SNR=15
MYLDM Lahad Datu 29.87 286 P **P 16 26 49.5 -2.4**
MYLDM IAmb IAmb 16 27 18.6
comp=Z,29nm,1.3s
MULG Mulgathing 29.95 203 P **P 16 26 52.3 -0.1**
BBOO Buckleboo 31.53 198 P **P 16 27 04.4 -2.0**
BBOO IAmb IAmb 16 27 08.3
comp=Z,25nm,1.4s
FORT Forrest 33.12 211 P **P 16 27 18.2 -2.1**
MSVF Nonsavu 33.56 118 LR LR 16 40 50.6
comp=Z,251nm,19.3s,baz=296,slow=36
JOW Kunigami 34.83 329 LR LR 16 39 11.0
comp=Z,351nm,19.8s,baz=166,slow=32
SBUM Sibu 35.46 278 P **P 16 27 37.7 -3.2**
JHJ Hachijo jima 2 36.55 349 LR LR 16 42 54.5
comp=Z,172nm,18.4s,baz=136,slow=36
MJAR Matsushiro Arr 40.18 349 LR LR 16 44 09.1
comp=Z,468nm,18.5s,baz=167,slow=35
AFI Afiamalu 41.86 108 LR LR 16 44 16.9
comp=Z,186nm,18.2s,baz=280,slow=34
KSRS Korea Array 44.03 338 LR LR 16 45 03.4
comp=Z,302nm,21.1s,baz=150,slow=33
NJ2 Nanjing 44.03 324 *e*P **P 16 28 52.5 +0.5**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
URZ Urewera 44.48 146 LR LR 16 48 07.5
comp=Z,261nm,18.3s,baz=316,slow=37
BSWZ Blackbirch Sta 45.38 152 P **P 16 29 02.0 -0.7**
WHN Wuhan 45.78 319 ⇑P **P 16 29 08.0 +2.1**
ASAJ Asahikawa 47.03 355 LR LR 16 48 22.1
comp=Z,147nm,20.2s,baz=191,slow=35
PSI Prapat 48.68 276 LR LR 16 51 30.8
comp=Z,81nm,18.8s,baz=120,slow=38
USRK Ussuriysk Ar. 48.89 345 LR LR 16 48 49.7
comp=Z,158nm,19.1s,baz=142,slow=34
HNS HongShan 50.25 326 ⇑P **P 16 29 40.8 +0.4**
HNS pmax pmax
comp=Z,8.0nm,1.3s
KMI Kunming 51.41 306 ⇓P **P 16 29 52.3 +2.6**
KMI pmax pmax
comp=Z,12nm,1.4s
KMI LR LR
comp=Z,180nm,17.5s
KMI LR LR
comp=Z,240nm,15.8s
KMI LR LR
comp=Z,180nm,14.5s
XAN Xi'an 51.55 319 P **P 16 29 50.5 +0.2**
XAN pP sP 16 29 54.3 +0.1
XAN pmax pmax
comp=Z,18nm,1.4s
XAN pmax pmax
comp=Z,300nm,5.0s
BNX BinXian 51.58 342 ⇓P **P 16 29 51.5 +1.2**
BNX pmax pmax
comp=Z,28nm,1.3s
BNX pmax pmax
comp=Z,89nm,4.9s
CMAR Chiang Mai Arr 52.12 296 P **P 16 29 55.3 +0.5**
comp=Z,2.0nm,0.9s,baz=107,slow=5.4,SNR=16
CMAR PcP **PcP 16 31 08.2 +1.5**
comp=Z,0.3nm,0.3s,baz=121,slow=1.3,SNR=5.6
CMAR LR LR 16 52 39.7
comp=Z,38nm,18.1s,baz=90,slow=37
CMAR Chiang Mai Arr 52.12 296 P **P 16 29 53.6 -1.2**
CMMT Chiang Mai 52.23 296 P **P 16 29 56.9 +1.3**
comp=Z,5.2nm,1.6s
CHTO Chiang Mai 52.23 296 P **P 16 29 57.0 +1.3**
comp=Z,3.1nm,1.7s
PZH PanZhiHua 52.83 307 P **P 16 30 00.5 +0.4**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,130nm,6.4s
CD2 Chengdu 53.39 312 *e*P **P 16 30 03.0 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KLR Kul'dur 53.67 347 LR LR 16 52 25.1
comp=Z,94nm,18.6s,baz=158,slow=35
XLT XiLinHaoTe 54.38 333 *e*P **P 16 30 12.5 +1.3**
XLT S **S 16 37 52.5 +2.9**
XLT pmax pmax
comp=Z,10.0nm,2.0s
XLT pmax pmax
comp=Z,230nm,5.7s
XLT LR LR
comp=Z,260nm,14.7s
XLT LR LR
comp=Z,300nm,15.2s
XLT LR LR
comp=Z,490nm,16.8s
HHC Hu-ho-hao-te 54.41 327 *e*P **P 16 30 09.0 -2.5**
HHC sP pP 16 30 15.0 +0.7
HHC S **S 16 37 41.8 -8.3**
HHC sS sS 16 37 55.0 +0.1
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,91nm,5.6s
HHC LR LR
comp=Z,220nm,17.4s
HHC LR LR
comp=Z,220nm,15.6s
HHC LR LR
comp=Z,380nm,18.0s
RAR Rarotonga 54.56 114 LR LR 16 50 29.7
comp=Z,46nm,20.3s,baz=222,slow=33
PETK Petropavlovsk- 56.52 8 P **P 16 30 27.8 +1.5**
comp=Z,3.0nm,0.9s,baz=183,slow=4.5,SNR=7.5
PETK LR LR 16 50 21.8
comp=Z,520nm,21.9s,baz=190,slow=31
SHEM Shemya Is, Ala 59.89 18 LR LR 16 52 13.0
comp=Z,289nm,21.8s,baz=256,slow=32
GTA Gaotai 60.60 319 *e*P **P 16 30 56.0 +0.8**

GTA pP sP 16 31 00.3 +1.2
GTA sP pP 16 31 03.0 +5.0
GTA pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 61.59 330 P **P 16 31 01.9 +0.2**
comp=Z,27nm,2.5s
ULN Ulaanbaatar 61.59 330 P **P 16 30 59.0 -2.8**
SONM Songino Array 61.90 330 P **P 16 31 04.0 +0.3**
comp=Z,1.4nm,0.9s,baz=132,slow=4.7,SNR=8.2
SONM LR LR 16 57 39.9
comp=Z,196nm,21.0s,baz=100,slow=36
GOMU GeErMu 62.47 314 P **P 16 31 09.3 +1.1**
GOMU pP sP 16 31 12.5 +0.4
GOMU sP pP 16 31 17.0 +6.0
GOMU pmax pmax
comp=Z,3.0nm,1.0s
GOMU pmax pmax
comp=Z,100nm,3.5s
PPT Papeete 63.53 108 LR LR 16 54 47.6
comp=Z,135nm,19.0s,baz=340,slow=32
SEY Seymchan 65.81 3 LR LR 17 00 09.7
comp=Z,197nm,19.1s,baz=198,slow=36
YAK Yakutsk 66.17 351 LR LR 16 59 54.4
comp=Z,116nm,18.6s,baz=116,slow=36
YAK Yakutsk 66.17 351 P **P 16 31 29.6 -1.8**
YAK IAmb IAmb 16 31 30.7
comp=Z,6.9nm,0.5s
WMQ Urumqi 70.68 319 *e*P **P 16 32 01.5 +1.3**
WMQ pmax pmax
comp=Z,11nm,0.9s
VNDA Vanda 74.94 177 LR LR 17 03 15.4
comp=Z,187nm,18.6s,baz=345,slow=34
MK31 Makanchi Array 75.34 320 P **P 16 32 26.0 -1.6**
MKAR Makanchi Array 75.34 320 P **P 16 32 26.6 -1.0**
comp=Z,2.2nm,1.1s,baz=99,slow=7.5,SNR=8.4
MKAR Makanchi Array 75.34 320 P **P 16 32 25.7 -1.9**
TIXI Tiksi 75.41 354 LR LR 17 03 02.3
comp=Z,119nm,22.0s,baz=200,slow=34
ZALV Zalesovo Beam 76.59 327 LR LR 17 05 28.5
comp=Z,186nm,21.7s,baz=90,slow=35
KDAK Kodiak Island 77.08 28 LR LR 17 00 24.3
comp=Z,209nm,22.0s,baz=268,slow=31
KSH Kashi 77.57 311 P **P 16 32 43.5 +2.9**
KSH pmax pmax
comp=Z,5.0nm,1.5s
KURK Kurchatov 78.95 323 P **P 16 32 46.0 -1.8**
KURK IAmb IAmb 16 32 51.0
comp=Z,12nm,1.4s
KURBB Kurchatov Arra 78.97 323 P **P 16 32 47.6 -0.3**
comp=Z,2.3nm,1.1s,baz=94,slow=5.5,SNR=8.0
AAK Ala-Archa 79.42 314 P **P 16 32 50.3 -0.5**
comp=Z,0.4nm,0.4s,baz=209,slow=11,SNR=4.5
KKAR Karatay Array 82.37 314 P **P 16 33 03.8 -2.5**
NRIK Noril'sk 82.47 342 P **P 16 33 06.1 -0.1**
comp=Z,1.9nm,0.7s,baz=106,slow=6.2,SNR=4.8
NRIK Noril'sk 82.47 342 IAmb IAmb 16 33 22.2
comp=Z,10nm,1.5s
ILAR Eielson Array 82.57 23 LR LR 17 06 43.4
comp=Z,221nm,19.3s,baz=275,slow=33
BVAR Borovoye Array 84.48 324 P **P 16 33 17.2 +0.3**
comp=Z,1.1nm,0.8s,baz=111,slow=8.3,SNR=6.7
MAW Mawson 85.17 203 LR LR 17 11 05.1
comp=Z,188nm,18.1s,baz=68,slow=36
QSPA South Pole Qui 87.01 180 LR LR 17 10 23.5
comp=Z,204nm,21.5s,baz=339,slow=34
QSPA South Pole Qui 87.01 180 P **P 16 33 26.6 -2.8**
QSPA IAmb IAmb 16 33 30.1
comp=Z,11nm,1.4s
INK Inuvik 88.71 21 LR LR 17 09 14.4
comp=Z,323nm,20.9s,baz=238,slow=33
BBB Bella Bella 88.98 38 LR LR 17 07 08.7
comp=Z,274nm,19.8s,baz=271,slow=31
ARU Arti 91.72 326 LR LR 17 16 37.4
comp=Z,108nm,19.7s,baz=82,slow=37
AKTO Aktyubinsk 91.77 320 LR LR 17 15 08.1
comp=Z,105nm,20.3s,baz=35,slow=36
YBH Yreka Blue Hor 91.93 48 LR LR 17 07 49.7
comp=Z,295nm,20.3s,baz=286,slow=31
NVAR Mina Array Bea 95.27 52 LR LR 17 08 24.1
comp=Z,253nm,21.3s,baz=282,slow=30
YKA Yellowknife Ar 96.34 28 LR LR 17 14 39.3
comp=Z,128nm,19.2s,baz=286,slow=34
KIRV Kirov 96.60 329 LR LR 17 20 33.9
comp=Z,198nm,18.4s,baz=46,slow=37
PFO Pinyon Flats O 96.82 57 LR LR 17 09 48.6
comp=Z,193nm,20.8s,baz=248,slow=30
MNK Minsk 109.11 327 *i* P **Pdif 16 35 15.3 +5.5**
comp=E,3.0nm,1.1s
MNK *i* P **Pdif 16 35 15.3 +5.5**
comp=N,18nm,0.9s
MNK *i* P **Pdif 16 35 15.3 +5.5**
comp=Z,10.0nm,0.9s,baz=247
MNK *i* PP PP 16 39 50.5 +8.6
MNK *i* PPP PPP 16 42 08.2
MNK *i* SKS **SKSdf 16 46 35.0 +9.0**
MNK *i* PS **PS 16 49 17.4 +8.8**
MNK *i* SS **SS 16 55 10.2 +8.9**
MNK *i* SSS SSS 16 59 16.0
MNK *i* LQ LQ 17 18 36.6
MNK *i* LQ LQ 17 18 36.6
MNK *i* LR LR 17 22 09.8
MNK *i* LRM MLR 17 25 48.9
comp=E,27nm,17.2s
MNK *i* LRM MLR 17 25 48.9
comp=N,146nm,17.2s
MNK *i* LRM MLR 17 25 52.1
comp=Z,220nm,15.3s
TORD Torodi Ar. Bea 144.50 289 PKP **PKPab 16 40 20.1 0.0**
comp=Z,14nm,1.2s,baz=64,slow=3.1,SNR=21
TORD Torodi Ar. Bea 144.50 289 **PKPab 16 40 19.3 -0.8**
SIV San Ignacio 146.24 125 PKPbc **PKPdf 16 40 25.8 +1.1**
comp=Z,9.3nm,1.1s,baz=227,slow=3.1,SNR=23
DBIC Dimbokro 152.00 279 PKPbc **PKPbc 16 40 39.0 -1.6**
comp=Z,6.8nm,0.9s,baz=106,slow=2.3,SNR=5.7

NNC ***31*** *16:23:36.5±8.1,33°.13N×69°.00E,h0km,mb4.1,Error ellipse: s-maj=123.0km s-min=66.9km az=108.0*
IDC ***31*** *16:23:37.7±3.9,33°.46N×68°.29E,h0km,mb3.4/2, mb1 3.4/6,mb1mx3.2/67,mbtmp3.3/6,ML3.1/4,MS3.7/1, Ms1 3.7/1,ms1mx2.7/68,Error ellipse: s-maj=118.9km s-min=30.8km az=90.0*

ISC 31 16:23:41.5±1.4,33°.5N±0°.1×68°.0E±0°.2,h35km,n13, σ1°.06/13,5C-4D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK02	**Karatay Array**	**9.79**	**11**	⇓P	**Pn**	**16 26 00.3**	**+0.6**
	2.5nm,0.9s						
KK02				⇑S	Sn	16 27 57.7	+9.4
	1.9nm,0.8s						
AAK	**Ala-Archa**	**10.45**	**27**	Pn	**Pn**	**16 26 08.9**	**0.0**
	0.4nm,0.3s,baz=187,slow=6.3,SNR=12						
AAK	**Ala-Archa**	**10.45**	**27**	⇑P	**Pn**	**16 26 08.7**	**-0.2**
	3.1nm,0.7s						
AAK				⇓S	**Sn**	**16 28 04.6**	**-0.2**
	3.6nm,0.8s						
TKM2	**Tokmak 2**	**11.13**	**30**	⇓P	**Pn**	**16 26 16.5**	**-1.7**
	5.3nm,1.1s						
TKM2				⇓S	**Sn**	**16 28 22.7**	**+1.1**
	3.3nm,1.1s						
MKAR	**Makanchi Array**	**17.15**	**35**	P	**P**	**16 27 39.3**	**-0.4**
	0.0nm,0.3s,baz=217,slow=6.7,SNR=2.7						
KURBB	**Kurchatov Arra**	**18.77**	**21**	P	**P**	**16 27 57.3**	**-0.2**
	0.0nm,0.3s,baz=209,slow=9.7,SNR=3.1						
BVAR	**Borovoye Array**	**19.59**	**4**	P	**Pn**	**16 28 08.1**	**+0.2**
	0.1nm,0.3s,baz=146,slow=10,SNR=1.1						
ZALV	**Zalesovo Beam**	**23.66**	**25**	P	**P**	**16 28 50.2**	**+0.7**
	1.0nm,0.6s,baz=229,slow=11,SNR=5.4						
MLR	**Muntele Rosu**	**34.23**	**303**	⇑P	P	16 30 30.9	+7.0
DOPR	**Dopca**	**34.67**	**304**	⇑P	**P**	**16 30 28.6**	**+1.0**
BURAR	**Bucovina Array**	**34.98**	**307**	⇑P	**P**	**16 30 28.3**	**-2.1**
MBAR	**Mbarara**	**48.77**	**234**	LR	LR	16 55 21.4	
	comp=Z,91nm,20.3s,baz=316,slow=39						
ASAR	**Alice Springs**	**84.62**	**123**	P	**P**	**16 36 12.2**	**+0.6**
	0.2nm,0.7s,baz=306,slow=4.8,SNR=5.9						

CRAAG ***31*** *16:24:53.0,35°.60N×3°.77W,Mb4.9*
BJI ***31*** *16:25:24.4±0.0,36°.53N×3°.33W,h10km,mb4.3/19, mB5.1/12,Ms4.8/2,Ms7 4.5/2*
IDC ***31*** *16:25:25.9±0.4,36°.63N×3°.21W,h0km,mb4.3/31, mb1 4.4/36,mb1mx4.2/73,mbtmp4.3/36,ML4.0/5,MS3.8/19, Ms1 3.8/19,ms1mx3.5/95,Error ellipse: s-maj=12.3km s-min=10.5km az=153.0*
MDD ***31*** *16:25:27.6±0.3,36°.57N×3°.09W,h0km,mbLg4.7/47,Error ellipse: s-maj=2.9km s-min=2.6km az=142.0,sentido ampliamente en zona epicentral.*
NEIC ***31*** *16:25:27.4±1.1,36°.59N±0°.06×3°.05W±0°.06,h10km±1km, mb4.9/107,Error ellipse: s-maj=10.4km s-min=8.2km az=155.0*
IGIL ***31*** *16:25:27.6,36°.58N×3°.09W,h0km*
CNRM ***31*** *16:25:27.9,36°.62N×3°.11W,h34km,ml4.4*
MED_RC ***31*** *16:25:28.0±2.0,36°.51N×3°.05W,h18km±2km,MW4.6/22, Moment Tensor Solution.Mantle waves: s22,c29; Duration: 1s2 Moment tensor: Scale 1016Nm; Mrr0.15±.06; Mθθ-0.69±.06; Mφφ0.54±.04; Mrθ0.26±.13; Mθφ-0.16±.04; Mφr0.61±.15; Best double couple: M0 0.92000×1016 NP1φs40.00000°,δ82.00000°, λ45.00000°. NP2φs302.00000°,δ46.00000°,λ169.00000°. Principal axes: T 0.9800, Plg36.0000°, Azm271.0000°; N -0.1300, Plg45.0000°, Azm48.0000°; P -0.8600, Plg23.0000°, Azm163.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
INMG ***31*** *16:25:28.0±1.6,36°.57N×3°.10W,h6km±2km,MD4.0,ML4.6 Error ellipse: s-maj=2.3km s-min=1.8km az=136.0*
LDG ***31*** *16:25:29.6±0.1,36°.55N×3°.13W,h10km,Ml4.5/26,Error ellipse: s-maj=2.7km s-min=2.0km az=154.0*

ISC 31 16:25:26.4±1.0,36°.59N±0°.02×3°.12W±0°.02,h5km±6km, n498,σ2°.02/588,mb4.8/85,MS3.8/16,23C-9D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.36**	**31**	⇓Pg	**Pg**	**16 25 34.2**	**+0.9**
	1μm,0.2s,SNR=18						
EBER				Lg	Lg	16 25 38.8	
	45μm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**0.49**	**304**	Pg	**Pb**	**16 25 37.3**	**-0.2**
	15μm,0.2s,SNR=7.9						
ELGU				Lg	Lg	16 25 44.3	
	160μm,0.3s,SNR=7.9						
EALB	**Alboran**	**0.66**	**174**	⇓Pg	**Pg**	**16 25 39.7**	**+0.7**
	784nm,0.1s,SNR=18						
EALB				Lg	Lg	16 25 48.2	
	35μm,0.4s,SNR=7.9						
EQUE	**Quentar**	**0.66**	**337**	⇓Pg	**Pb**	**16 25 40.5**	**0.0**
	4μm,0.2s,SNR=18						
EQUE				Lg	Lg	16 25 49.1	
	46μm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**0.82**	**63**	⇑Pg	**Pg**	**16 25 41.9**	**-0.3**
	286nm,0.3s,SNR=18						
ENIJ				Lg	Lg	16 25 53.1	
	23μm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**0.95**	**303**	Pg	**Pg**	**16 25 45.1**	**+0.6**
	291nm,0.1s,SNR=7.9						
EGOR				Lg	Lg	16 25 58.9	
	14μm,0.4s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.06**	**279**	⇑*i*P	**Pg**	**16 25 45.0**	**-1.7**
EMAL				*e*S	**Sg**	**16 25 57.5**	**-3.1**
EQES	**Quesada**	**1.21**	**2**	⇓Pg	**Pn**	**16 25 50.5**	**+0.5**
	176nm,0.1s,SNR=18						
EQES				Lg	Lg	16 26 07.1	
	5μm,0.2s,SNR=7.9						
EMEL	**Melilla**	**1.30**	**174**	Pg	**Pn**	**16 25 49.6**	**-1.5**
	434nm,0.1s,SNR=7.9						
EMEL				Lg	Lg	16 26 04.5	
	4μm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.33**	**269**	⇑Pg	**Pn**	**16 25 48.5**	**-3.1**
	SNR=18						
EMIJ				Lg	Lg	16 26 09.9	
	6μm,0.6s,SNR=7.9						
GOG	**Mont Gurugu**	**1.37**	**176**	P	**Pn**	**16 25 50.1**	**-2.2**
GOG				S	**Sb**	**16 26 06.8**	**-3.6**
CHAS	**Isla Isabel II**	**1.52**	**158**	⇓*i*P	**Pn**	**16 25 51.6**	**-2.5**
CHAS				*e*S	**Sg**	**16 26 14.8**	**-0.2**
PALE	**Palemas**	**1.53**	**206**	P	**Pn**	**16 25 53.0**	**-1.3**
PALE				S	**Sn**	**16 26 13.9**	**-0.6**
TLOR	**Lorca, Murcia**	**1.56**	**47**	Pg	**Pn**	**16 25 55.1**	**+0.3**
	241nm,0.1s,SNR=7.9						
TLOR				Lg	Lg	16 26 17.3	
	15μm,0.8s,SNR=7.9						
CEU	**Ceuta**	**1.95**	**250**	⇑*i*P	**Pn**	**16 25 57.1**	**-2.9**
CEU				*e*S	**Sn**	**16 26 22.5**	**-2.3**
ECEU	**Ceuta**	**1.95**	**250**	Pn	**Pn**	**16 25 58.2**	**-1.9**
	SNR=7.9						
ECEU				Pg	**Pb**	**16 26 03.1**	**+0.8**
	SNR=7.9						
ECEU				Lg	Lg	16 26 29.2	
	2μm,0.6s,SNR=7.9						
EMUR	**La Murta**	**1.95**	**50**	Pn	**Pn**	**16 25 59.8**	**-0.4**
	4.4nm,0.1s,SNR=7.9						
EMUR				Pg	**Pg**	**16 26 03.8**	**0.0**
	82nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**16 26 23.0**	**-2.1**
	112nm,0.3s,SNR=7.9						
EMUR				Lg	Lg	16 26 30.1	
	2μm,0.7s,SNR=7.9						
EADA	**Adamuz**	**1.95**	**324**	Pn	**Pn**	**16 26 01.1**	**+1.0**
	1.9nm,0.2s,SNR=7.9						
EADA				Pg	**Pg**	**16 26 04.9**	**+1.1**
	505nm,0.3s,SNR=7.9						
EADA				Sn	**Sb**	**16 26 26.6**	**-0.5**
	247nm,0.2s,SNR=7.9						
EADA				Lg	Lg	16 26 31.6	
	4μm,0.3s,SNR=7.9						
CART	**Cartagena**	**1.96**	**59**	⇑*i*P	**Pn**	**16 25 57.9**	**-2.4**
CART				*e*S	**Sn**	**16 26 22.3**	**-3.0**
CART	**Cartagena**	**1.96**	**59**	Pn	**Pn**	**16 25 57.9**	**-2.4**
CART	**Cartagena**	**1.96**	**59**	P	**Pn**	**16 25 58.1**	**-2.1**
CART				S	**Sn**	**16 26 21.9**	**-3.3**
SMIR	**Smir Dam**	**2.04**	**244**	P	**Pn**	**16 26 00.3**	**-1.1**
SMIR				S	**Sn**	**16 26 24.8**	**-2.5**
AKLM	**AKL**	**2.17**	**196**	P	**Pn**	**16 26 02.7**	**-0.5**
AKLM				S	**Sn**	**16 26 27.4**	**-3.0**
USTO	**Oran**	**2.25**	**112**	P	**Pn**	**16 26 02.0**	**-2.2**
OTSS	**Djebel Tessala**	**2.30**	**124**	P	**Pn**	**16 26 03.0**	**-2.0**
JBK	**JBK**	**2.30**	**168**	P	**Pn**	**16 26 03.6**	**-1.5**
CHEFC	**Chefchaouen**	**2.33**	**231**	P	**Pn**	**16 26 06.5**	**+1.0**
ECAB	**El Cabril**	**2.35**	**310**	Pn	**Pn**	**16 26 05.7**	**0.0**
	SNR=7.9						
ECAB				Pg	**Pg**	**16 26 11.8**	**+0.3**
	SNR=7.9						
ECAB				Sn	**Sn**	**16 26 33.3**	**-1.7**
	61nm,0.2s,SNR=7.9						
ECAB				Lg	Lg	16 26 42.1	
	3μm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**2.40**	**31**	Pn	**Pn**	**16 26 07.2**	**+0.8**
	19nm,0.2s,SNR=7.9						
ETOB				Pg	**Pb**	**16 26 10.6**	**+0.5**
	SNR=7.9						
ETOB				Lg	Lg	16 26 44.0	
	4μm,0.8s,SNR=7.9						
SFS	**San Fernando**	**2.49**	**268**	⇑*i*P	**Pn**	**16 26 09.2**	**+1.7**
SFS				*e*S	**Sg**	**16 26 47.6**	**+1.4**
SFS	**San Fernando**	**2.49**	**268**		**Pn**	**16 26 08.5**	**+1.0**
ODJA	**Bouhanifia**	**2.72**	**117**	P	**Pn**	**16 26 08.0**	**-2.7**
AFON	**Font Roja**	**2.91**	**44**	Pn	**Pn**	**16 26 14.5**	**+1.1**
	4.5nm,0.1s,SNR=7.9						
AFON				Pg	**Pg**	**16 26 21.6**	**-0.5**
	SNR=7.9						
AFON				Sn	**Sn**	**16 26 46.0**	**-2.8**
	21nm,0.2s,SNR=7.9						
AFON				Lg	Lg	16 27 00.3	
	2μm,0.9s,SNR=7.9						
ARNO	**Arenosillo**	**2.94**	**281**	⇑*i*P	**Pn**	**16 26 14.6**	**+0.9**
ARNO				*e*S	**Sb**	**16 26 54.0**	**-1.4**
OJBR	**Djebel Berber**	**2.98**	**109**	P	**Pn**	**16 26 11.0**	**-3.4**
EMIN	**Mina Concepcio**	**3.07**	**294**	Pn	**Pn**	**16 26 15.0**	**-0.5**
	73nm,0.1s,SNR=7.9						
EMIN				Pg	**Pg**	**16 26 24.8**	**-0.4**
	226nm,0.5s,SNR=7.9						
EMIN				Sn	**Sn**	**16 26 53.1**	**+0.6**
	47nm,0.2s,SNR=7.9						
EMIN				Lg	Lg	16 27 07.3	
	1μm,0.7s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**3.09**	**99**	P	Pn	16 26 10.0	-5.8
PAB	**San Pablo**	**3.10**	**342**	Pn	**Pn**	**16 26 16.9**	**+0.9**
PAB	**San Pablo**	**3.10**	**342**	Pn	**Pn**	**16 26 17.6**	**+1.6**
	19nm,0.2s,SNR=7.9						
PAB				Pg	**Pg**	**16 26 24.8**	**-1.0**
	SNR=7.9						
PAB				Sn	**Sn**	**16 26 53.1**	**-0.4**
	SNR=7.9						
PAB				Lg	Lg	16 27 07.6	
	5μm,0.8s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.12**	**47**	Pn	**Pn**	**16 26 17.1**	**+0.8**

9.0nm,0.2s,SNR=7.9
EBEN2 Sn **Sn 16 26 52.7 -1.2**
21nm,0.3s,SNR=7.9
EBEN2 Lg Lg 16 27 07.4
2µm,0.9s,SNR=7.9
ESDC Sonseca Array 3.15 348 Pn **Pn 16 26 17.0 +0.4**
12nm,0.3s,baz=170,slow=12,SNR=186
ESDC Lg Lg 16 27 07.1
217nm,0.3s,baz=162,slow=27,SNR=2.1
ESDC Sonseca Array 3.15 348 Pn **Pn 16 26 17.4 +0.8**
ESDC Sonseca Array 3.15 348 Pn **Pn 16 26 18.3 +1.7**
14nm,0.2s,baz=171,slow=12,SNR=7.9
ESDC Pg **Pg 16 26 27.0 +0.4**
baz=167,slow=17,SNR=7.9
ESDC Sn **Sn 16 26 55.1 +0.5**
19nm,0.1s,baz=33,slow=53,SNR=7.9
ESDC Lg Lg 16 27 09.3
1µm,0.4s,baz=164,slow=26,SNR=7.9
ESBB Sonseca Array 3.15 348 Pn Pn 16 26 17.7 +1.1
ECHE Chera 3.44 29 Pn **Pn 16 26 22.2 +1.5**
SNR=7.9
ECHE Pg **Pg 16 26 31.7 -0.6**
SNR=7.9
ECHE Lg Lg 16 27 18.1
2µm,1.1s,SNR=7.9
EANR 'Aïn N'Sour 3.47 99 P **Pn 16 26 19.7 -1.4**
IFR Ifrane 3.48 209 ⇑*i*P **Pn 16 26 21.8 +0.4**
IFR *e*S **Sn 16 26 59.9 -3.2**
PBAR Barrancos 3.50 298 *e*Pn **Pn 16 26 22.2 +0.8**
EGRO El Granado 3.61 286 Pn **Pn 16 26 22.5 -0.4**
82nm,0.2s,SNR=7.9
EGRO Sn **Sn 16 27 06.3 +0.3**
69nm,0.2s,SNR=7.9
EGRO Lg Lg 16 27 27.5
645nm,0.5s,SNR=7.9
ECHA Ech Chlef 3.65 96 P **Pn 16 26 21.9 -1.5**
TDRA Tendrara 3.66 165 P **Pn 16 26 23.1 -0.7**
UCM Universidad Co 3.71 359 ⇑*i*P **Pn 16 26 25.9 +1.6**
UCM *e*S **Sn 16 27 03.4 -5.1**
EBNR Beni Rached 3.76 93 P **Pn 16 26 26.1 +1.0**
EBAD Badajoz 3.77 306 Pn **Pn 16 26 24.9 -0.1**
20nm,0.1s,SNR=7.9
EBAD Pg **Pg 16 26 38.1 -0.4**
SNR=7.9
EBAD Lg Lg 16 27 29.9
1µm,0.8s,SNR=7.9
PVAQ Vaqueiros 3.77 284 *e*Pn **Pn 16 26 24.5 -0.6**
PVAQ Vaqueiros 3.77 284 Pn **Pn 16 26 24.3 -0.8**
PVAQ Vaqueiros 3.77 284 P **Pn 16 26 25.8 +0.7**
MD31 MD31 3.96 200 P **Pn 16 26 28.8 +1.0**
MDT Midelt 3.96 198 Pn **Pn 16 26 28.4 +0.5**
10nm,0.3s,baz=159,slow=5.0,SNR=10
MDT Sn **Sn 16 27 12.4 -2.4**
30nm,0.3s,baz=70,slow=17,SNR=8.0
MDT LR LR 16 27 37.4
comp=Z,219nm,20.6s,baz=43,slow=33
MDT Midelt 3.96 198 P **Pn 16 26 28.2 +0.3**
PBEJ Beja 4.04 292 *e*Pn **Pn 16 26 29.1 +0.2**
PBEJ *e*Sg **Sg 16 27 33.5 -2.7**
PBEJ A A 16 27 44.4
400nm,0.6s
PCVE Castro Verde 4.07 286 *e*Pn **Pn 16 26 28.7 -0.5**
GUD Guadarrama 4.12 349 Pn **Pn 16 26 31.4 +1.3**
14nm,0.2s,SNR=7.9
GUD Pg **Pg 16 26 43.0 -2.3**
214nm,0.6s,SNR=7.9
GUD Lg Lg 16 27 39.7
2µm,0.7s,SNR=7.9
PESTR Estremoz 4.21 304 *e*Pn **Pn 16 26 30.8 -0.4**
PESTR *e*Sg **Sg 16 27 38.4 -3.1**
PESTR A A 16 27 56.7
873nm,0.6s
PESTR Estremoz 4.21 304 Pn **Pn 16 26 31.2 0.0**
PESTR Estremoz 4.21 304 P **Pn 16 26 31.5 +0.3**
MESJ Messejana 4.26 289 *e*P **Pn 16 26 32.0 +0.2**
MESJ Messejana 4.26 289 *e*Pn **Pn 16 26 31.6 -0.2**
ZHG ZHG 4.27 224 P **Pn 16 26 32.0 -0.1**
EIBI Ibiza 4.29 54 Pn **Pn 16 26 31.7 -0.6**
12nm,0.1s,SNR=7.9
EIBI Sn **Sn 16 27 17.7 -5.0**
1.1nm,0.3s,SNR=7.9
EMOS Mosqueruela 4.30 28 Pn **Pn 16 26 33.7 +1.1**
0.6nm,0.1s,SNR=7.9
EMOS Pg **Pg 16 26 47.2 -1.6**
SNR=7.9
EMOS Sn **Sn 16 27 22.0 -1.2**
8.6nm,0.4s,SNR=7.9
EMOS Lg Lg 16 27 45.1
2µm,2.4s,SNR=7.9
ETOR Torete 4.30 11 Pn **Pn 16 26 34.2 +1.7**
15nm,0.1s,SNR=7.9
ETOR Pg **Pg 16 26 50.0 +1.3**
629nm,0.5s,SNR=7.9
ETOR Lg Lg 16 27 45.4
3µm,0.7s,SNR=7.9
EVO Evora 4.34 298 ⇑*i*P **Pn 16 26 32.9 -0.2**
EVO *e*S **Sn 16 27 22.6 -1.4**
EVO Evora 4.34 298 *e*Pn **Pn 16 26 32.8 -0.2**
EVO *e*Sn **Sn 16 27 22.9 -1.1**
EVO *e*Sg **Sg 16 27 45.1 -0.7**
EVO A A 16 28 01.9
569nm,0.7s
PMRV Marv??o 4.40 311 *e*Pn **Pn 16 26 34.6 +0.8**
PMRV Marv??o 4.40 311 *e*Pg **Pb 16 26 45.4 +1.2**
PMRV *e*Sn **Sn 16 27 24.2 -1.3**
PMRV *e*Sg **Sg 16 27 45.6 -2.1**
PMRV A A 16 28 00.0
908nm,0.6s
MORF Marmelete 4.49 281 *e*P **Pn 16 26 35.2 +0.2**
MORF Marmelete 4.49 281 *e*Pn **Pn 16 26 35.0 0.0**
PNCL Nicolau / Gran 4.57 291 *e*Pn **Pn 16 26 35.8 -0.3**
PNCL *e*Sg **Sg 16 27 52.2 -0.8**
PNCL A A 16 28 06.2
252nm,0.7s
PTEO Sao Teotonio 4.58 284 *e*Pn **Pn 16 26 36.0 -0.3**
PTEO *e*Sn **Sn 16 27 27.0 -2.8**
PTEO A A 16 28 18.6
587nm,0.6s
PFVI Vila Bisbo 4.61 278 *e*Pn **Pn 16 26 36.5 -0.1**
PFVI Vila Bisbo 4.61 278 Pn **Pn 16 26 36.2 -0.4**
PFVI Vila Bisbo 4.61 278 P **Pn 16 26 36.7 +0.1**
PFVI Vila Bisbo 4.61 278 Pn **Pn 16 26 36.5 -0.1**
143nm,0.2s,SNR=7.9
PFVI Sn **Sn 16 27 29.9 -0.6**
55nm,0.1s,SNR=7.9
PFVI Lg Lg 16 27 52.9
1µm,1.1s,SNR=7.9
FIGM Figuig 4.71 160 P **Pn 16 26 38.1 0.0**
PCBR Castelo Branco 4.72 315 *e*Pn **Pn 16 26 39.3 +1.1**
PCBR *e*Sn **Sn 16 27 32.7 -0.6**
PCBR *e*Sg **Sg 16 27 55.1 -2.8**
PCBR A A 16 28 04.2
720nm,0.6s
PMTG Montargil 4.74 303 *e*Pn **Pn 16 26 38.6 +0.2**
PMTG *e*Sn **Sn 16 27 30.3 -3.4**
PMTG *e*Sg **Sg 16 27 55.5 -2.9**
PMTG A A 16 28 15.0
674nm,0.7s
AVE Averroes 4.82 228 ⇑*i*P **Pn 16 26 39.8 +0.2**
AVE *e*S **Sn 16 27 32.6 -3.2**
ERTA Horta de San J 5.12 31 Pn **Pn 16 26 45.9 +2.1**
2.5nm,0.1s,SNR=7.9
ERTA Sn **Sn 16 27 41.3 -2.0**
SNR=7.9
ERTA Lg Lg 16 28 11.3
2µm,1.9s,SNR=7.9
MTE Manteigas 5.14 319 *e*Pn **Pn 16 26 45.2 +1.1**
MTE *e*Sn **Sn 16 27 44.4 +0.5**
MTE *e*Sg **Sg 16 28 09.4 -2.2**
MTE A A 16 28 23.7
1µm,0.6s
MTE Manteigas 5.14 319 Pn **Pn 16 26 43.9 -0.2**
LIS Lisbon 5.23 296 *e*P **Pn 16 26 45.4 +0.2**
LIS Lisbon 5.23 296 *e*Pn **Pn 16 26 45.7 +0.5**
LIS *e*Sn **Sn 16 27 46.7 +0.8**
LIS A A 16 28 45.8
412nm,0.8s
INMG Instituto de M 5.24 296 *e*Pn **Pn 16 26 46.2 +0.9**
PMST Lisbon--Monsan 5.26 296 *e*Pn **Pn 16 26 46.2 +0.6**
PMST *e*Sg **Sg 16 28 15.4 0.0**
PMST A A 16 28 25.8
396nm,0.6s
PSBE So Bento 5.34 305 *e*Pn **Pn 16 26 47.3 +0.5**
PSBE *e*Sg **Sg 16 28 17.9 0.0**
PSBE A A 16 28 34.8

814nm,0.7s
PMAFR Mafra 5.42 298 *e*Pn **Pn 16 26 48.2 +0.4**
PMAFR *e*Sn **Sn 16 27 49.2 -1.4**
PMAFR *e*Sg **Sg 16 28 22.6 +2.2**
PMAFR A A 16 28 38.3
564nm,0.7s
PMAFR Mafra 5.42 298 Pn **Pn 16 26 48.5 +0.7**
91nm,0.2s,SNR=7.9
PMAFR Sn **Sn 16 27 49.4 -1.2**
48nm,0.2s,SNR=7.9
PMAFR Lg Lg 16 28 24.8
4µm,0.9s,SNR=7.9
PCAS Casmilo, Conde 5.46 311 *e*Pn **Pn 16 26 48.9 +0.6**
PCAS *e*Sn **Sn 16 27 50.9 -0.6**
PCAS *e*Sg **Sg 16 28 20.0 -1.6**
PCAS A A 16 28 25.7
799nm,0.7s
MVO Moncorvo 5.49 327 *e*Pn **Pn 16 26 50.0 +1.2**
MVO *e*Sn **Sn 16 27 52.7 +0.4**
MVO *e*Sg **Sg 16 28 21.4 -1.2**
MVO A A 16 28 32.0
881nm,0.6s
MVO Moncorvo 5.49 327 Pn **Pn 16 26 50.2 +1.4**
61nm,0.2s,SNR=7.9
MVO Sn **Sn 16 27 50.5 -1.9**
45nm,0.2s,SNR=7.9
MVO Lg Lg 16 28 21.7
4µm,1.2s,SNR=7.9
COI Coimbra 5.50 313 *e*Pn **Pn 16 26 49.8 +0.9**
COI *e*Sn **Sn 16 27 52.1 -0.5**
COI *e*Sg **Sg 16 28 22.0 -1.1**
COI A A 16 28 41.9
922nm,0.7s
COI Coimbra 5.50 313 Pn **Pn 16 26 49.3 +0.4**
PVIS Viseu 5.56 319 *e*Pn **Pn 16 26 50.6 +0.9**
PVIS *e*Sn **Sn 16 27 54.0 0.0**
PVIS *e*Sg **Sg 16 28 22.9 -1.9**
PVIS A A 16 28 33.2
344nm,0.6s
ETOS Mallorca 5.65 54 Pn **Pn 16 26 51.8 +0.8**
0.1nm,0.3s,SNR=7.9
ETOS Sn **Sn 16 27 53.5 -2.7**
2.6nm,0.2s,SNR=7.9
SRHM Skhour des Reh 5.70 225 P **Pn 16 26 51.5 -0.2**
EPOB Poblet 5.77 33 Pn **Pn 16 26 53.6 +0.9**
0.4nm,0.1s,SNR=7.9
EPOB Sn **Sn 16 27 58.0 -1.3**
1.4nm,0.2s,SNR=7.9
EPOB Lg Lg 16 28 25.8
209nm,1.1s,SNR=7.9
PVRL Vila Real 5.89 324 *e*Pn **Pn 16 26 55.5 +1.2**
PVRL *e*Sn **Sn 16 28 02.6 +0.4**
PVRL *e*Sg **Sg 16 28 32.7 -2.7**
PVRL A A 16 28 41.4
594nm,0.7s
PBRG Braganca 5.91 333 *e*Pn **Pn 16 26 55.9 +1.3**
PBRG *e*Sn **Sn 16 28 02.8 0.0**
PBRG *e*Sg **Sg 16 28 34.3 -1.9**
PBRG A A 16 28 41.7
346nm,0.8s
POLO Lamas de Olo 6.00 324 *e*Pn **Pn 16 26 57.2 +1.3**
POLO *e*Sn **Sn 16 28 01.9 -3.1**
POLO *e*Sg **Sg 16 28 38.8 -0.3**
POLO A A 16 28 43.8
240nm,0.7s
PTO Porto 6.24 318 *e*Pn **Pn 16 27 00.0 +1.0**
PTO *e*Sn **Sn 16 28 09.3 -1.3**
PTO *e*Sg **Sg 16 28 42.5 -4.0**
PTO A A 16 28 54.6
526nm,0.7s
EARA Aranguren 6.28 10 Pn **Pn 16 27 01.9 +2.2**
0.8nm,0.2s,SNR=7.9
EARA Pg **Pg 16 27 23.5 -3.2**
SNR=7.9
EARA Lg Lg 16 28 49.8
2µm,1.7s,SNR=7.9
PCAB Cabril 6.37 325 *e*Pn **Pn 16 27 02.2 +1.3**
PCAB *e*Sg **Sg 16 28 46.5 -4.5**
PCAB A A 16 29 02.6
595nm,0.6s
OUZM OUZ 6.43 209 P **Pn 16 27 02.8 +1.0**
EORO Oroz-Betelu 6.44 12 Pn **Pn 16 27 03.5 +1.6**
2.2nm,0.2s,SNR=7.9
EORO Lg Lg 16 28 54.7
1µm,1.2s,SNR=7.9
ELOB Lobios 6.51 325 Pn **Pn 16 27 04.0 +1.1**
2.9nm,0.4s,SNR=7.9
ELOB Sn **Sn 16 28 12.1 -5.5**
26nm,0.2s,SNR=7.9
ELOB Lg Lg 16 28 54.1
2µm,1.1s,SNR=7.9
ETSF Etsaut 6.60 17 *e*Pn **Pn 16 27 05.5 +1.4**
ETSF Etsaut 6.60 17 *e*P Pn 16 27 11.7 +7.6
ETSF *e*Sn **Sn 16 28 13.4 -6.3**
ETSF *e*Sg **Sg 16 28 57.7 -0.5**
716nm,1.3s
ELAN Lanestosa 6.63 358 Pn **Pn 16 27 05.6 +1.1**
4.9nm,0.2s,SNR=7.9
ELAN Sn **Sn 16 28 20.4 -0.1**
3.4nm,0.2s,SNR=7.9
ELAN Lg Lg 16 29 00.9
2µm,1.8s,SNR=7.9
CSOR Sort 6.64 28 Pn **Pn 16 27 05.1 +0.4**
3.7nm,0.2s,SNR=7.9
CSOR Lg Lg 16 29 03.0
1µm,2.2s,SNR=7.9
OUK Oukaimeden 6.66 218 P **Pn 16 27 04.4 -0.8**
SJPF Ste Jean 6.67 12 *e*Pn **Pn 16 27 06.3 +1.3**
SJPF Ste Jean 6.67 12 *e*P Pn 16 27 10.5 +5.5
SJPF *e*Sn **Sn 16 28 19.2 -2.2**
SJPF *e*Sg **Sg 16 28 58.4 -2.1**
286nm,0.8s
MAHO Mahon 6.68 58 ⇑*i*P **Pn 16 27 05.1 0.0**
MAHO *e*S **Sn 16 28 17.5 -4.1**
PGAV Gavieira, Arco 6.69 325 *e*Pn **Pn 16 27 06.2 +0.9**
PGAV *e*Sg **Sg 16 28 56.2 -4.8**
PGAV A A 16 29 09.6
445nm,0.7s
CFON Fontmartina 6.73 38 Pn **Pn 16 27 06.4 +0.5**
3.8nm,0.2s,SNR=7.9
EALK Alkurruntz 6.73 10 Pn **Pn 16 27 08.4 +2.5**
9.1nm,0.4s,SNR=7.9
EALK Lg Lg 16 29 04.6
3µm,1.1s,SNR=7.9
ATE Arette 6.75 15 Pn **Pn 16 27 08.6 +2.5**
1.5nm,0.2s,SNR=7.9
ATE Sn **Sn 16 28 18.8 -4.4**
2.4nm,0.3s,SNR=7.9
ATE Lg Lg 16 29 04.7
320nm,1.1s,SNR=7.9
EARI Arriondas 6.89 347 Pn **Pn 16 27 09.8 +1.8**
2.7nm,0.2s,SNR=7.9
EARI Lg Lg 16 29 08.3
3µm,1.5s,SNR=7.9
EPF Esparros 6.96 21 *e*Pn **Pn 16 27 10.1 +1.1**
EPF Esparros 6.96 21 *e*P Pn 16 27 15.3 +6.3
EPF *e*Sn **Sn 16 28 25.9 -2.6**
EPF *e*Sg **Sg 16 29 06.5 -3.2**
228nm,0.7s
CLLI Llivia 7.07 32 Pn **Pn 16 27 12.4 +1.8**
0.5nm,0.2s,SNR=7.9
CLLI Lg Lg 16 29 12.1
256nm,1.6s,SNR=7.9
EAH EAH 7.28 229 P **Pn 16 27 13.1 -0.3**
EAGO Agolada(Pontev 7.29 330 Pn **Pn 16 27 15.4 +1.9**
5.6nm,0.2s,SNR=7.9
EAGO Sn **Sn 16 28 34.0 -2.6**
5.5nm,0.2s,SNR=7.9
EAGO Lg Lg 16 29 18.1
1µm,1.0s,SNR=7.9
EPON Pontenova 7.40 337 Pn **Pn 16 27 16.9 +1.9**
6.4nm,0.2s,SNR=7.9
EPON Sn **Sn 16 28 37.0 -2.4**
4.5nm,0.2s,SNR=7.9
EPON Lg Lg 16 29 22.3
2µm,1.7s,SNR=7.9
EJON La Jonquera 7.47 37 Pn **Pn 16 27 17.4 +1.4**
0.1nm,0.3s,SNR=4.0
EJON Lg Lg 16 29 27.7
645nm,2.4s,SNR=7.9
TTIG Tnine Tigouga, 7.49 218 P **Pn 16 27 13.7 -2.6**
SJAF Saint Jean de 7.49 36 Pn **Pn 16 27 17.0 +0.8**
SNR=7.9
SJAF Lg Lg 16 29 30.5
117nm,1.4s,SNR=7.9
EMAZ Mazaricos 7.78 326 Pn **Pn 16 27 22.2 +1.9**

7.1nm,0.2s,SNR=7.9
EMAZ Sn **Sn 16 28 45.2 -3.5**
7.7nm,0.2s,SNR=7.9
EMAZ Lg Lg 16 29 35.5
2µm,1.4s,SNR=7.9
MTLF Montolieu 7.89 30 *e*Pn Pn 16 27 27.1 +5.4
MTLF *e*Sg **Sg 16 29 37.2 -2.2**
5.8nm,0.3s
LFF La Frestale 8.84 18 *e*Pn **Pn 16 27 35.9 +1.3**
LFF La Frestale 8.84 18 *e*P Pn 16 27 40.8 +6.2
LFF *e*Sn **Sn 16 29 10.8 -3.8**
LFF *e*Sg **Sg 16 30 05.4 -4.4**
110nm,0.9s
LASF Ste Croix 9.18 33 *e*Pn **Pn 16 27 42.6 +3.3**
LASF *e*Sn **Sn 16 29 17.1 -5.9**
LASF *e*Sg 16 30 16.0
75nm,1.1s
CAF Calviac 9.20 24 *e*Pn **Pn 16 27 40.9 +1.2**
CAF *e*Sn **Sn 16 29 19.6 -4.1**
7.7nm,0.4s
CAF *e*Sg 16 30 15.9
62nm,0.9s
RJF Les Rejaudoux 9.38 20 *e*Pn **Pn 16 27 43.2 +1.1**
RJF *e*Sn **Sn 16 29 23.8 -4.2**
RJF *e*Sg 16 30 22.4
51nm,0.8s
SMRF Simiane la Rot 9.92 39 *e*Pn **Pn 16 27 50.8 +1.2**
SMRF Simiane la Rot 9.92 39 *e*P Pn 16 27 56.1 +6.5
SMRF *e*Sg Sg 16 30 38.5
LMR La Mourre 9.99 45 *e*Pn **Pn 16 27 51.6 +1.1**
LMR La Mourre 9.99 45 *e*P Pn 16 27 56.0 +5.5
LMR *e*Sn Sn 16 29 33.3 -10
KEST Kesra 10.12 91 Pn **Pn 16 27 52.6 +0.3**
1.5nm,0.3s,baz=268,slow=1.8,SNR=15
KEST Kesra 10.12 91 Pn 16 27 51.6 -0.7
VIVF Saint-Julien-l 10.15 33 *e*Pn **Pn 16 27 54.1 +1.4**
VIVF Saint-Julien-l 10.15 33 *e*P Pn 16 27 59.5 +6.8
VIVF *e*Sn **Sn 16 29 43.6 -3.3**
VIVF *e*Sg 16 30 48.5
26nm,0.8s
MFF Saint Martin d 10.24 12 *e*Pn **Pn 16 27 54.6 +0.6**
MFF *e*Sn **Sn 16 29 43.8 -5.3**
MFF *e*Sg 16 30 48.7
74nm,1.1s
VSL Villasalto 10.28 70 Pn **Pn 16 27 53.8 -0.7**
TCF Toulx Ste Croi 10.48 21 *e*Pn **Pn 16 27 57.9 +0.7**
TCF *e*Sn **Sn 16 29 48.9 -6.0**
TCF *e*Sg 16 30 56.1
312nm,1.7s
ORIF Oris-en-Rattie 10.75 37 *e*Pn **Pn 16 28 02.3 +1.3**
ORIF Oris-en-Rattie 10.75 37 *e*P Pn 16 28 07.8 +6.8
SBF Sospel 10.85 45 *e*Pn **Pn 16 28 03.4 +1.1**
SBF Sospel 10.85 45 *e*P Pn 16 28 09.1 +6.8
BGF Bois d'Agland 10.91 22 *e*Pn **Pn 16 28 04.7 +1.6**
BGF *e*Sn **Sn 16 29 58.6 -6.8**
BGF *e*Sg 16 31 08.8
84nm,1.1s
MBDF Montbardon 11.06 40 *e*Pn **Pn 16 28 06.3 +1.0**
MBDF Montbardon 11.06 40 *e*P Pn 16 28 12.1 +6.8
MBDF *e*Sn **Sn 16 30 03.5 -5.8**
0.7nm,0.2s
PGF Pioggiola 11.08 54 *e*Pn **Pn 16 28 06.1 +0.6**
PGF *e*Sn **Sn 16 30 04.2 -5.6**
AVF Avril sur Loir 11.27 23 *e*Pn **Pn 16 28 09.6 +1.6**
AVF *e*Sn **Sn 16 30 08.3 -6.1**
AVF *e*Sg 16 31 20.5
146nm,1.5s
SMF Signal de Mont 11.31 25 *e*Pn **Pn 16 28 09.7 +1.2**
SMF *e*Sn **Sn 16 30 08.6 -6.7**
SMF *e*Sg 16 31 20.5
QUIF Quistinic 11.32 360 *e*Pn **Pn 16 28 09.2 +0.6**
QUIF *e*Sn **Sn 16 30 10.0 -5.4**
81nm,1.1s
HYF Humbligny 11.49 20 *e*Pn **Pn 16 28 11.3 +0.3**
SSF Saint Saulge 11.56 23 *e*Pn **Pn 16 28 13.6 +1.6**
SSF Saint Saulge 11.56 23 *e*P Pn 16 28 18.0 +6.0
SSF *e*Sn **Sn 16 30 14.7 -6.8**
SSF *e*Sg 16 31 29.5
158nm,1.6s
LPG La Plagne 11.60 37 *e*Pn **Pn 16 28 12.8 +0.1**
LPG La Plagne 11.60 37 *e*P Pn 16 28 19.6 +6.9
LPL La Plagne 11.60 37 *e*Pn **Pn 16 28 13.4 +0.7**
LPL La Plagne 11.60 37 *e*P Pn 16 28 19.3 +6.6
LPL *e*Sn **Sn 16 30 16.2 -6.5**
0.3nm,0.3s
SGMF Saint Gilles 11.66 2 *e*Pn **Pn 16 28 13.2 -0.1**
SGMF *e*Sn **Sn 16 30 18.1 -5.7**
ROSF Rostrenen 11.74 360 *e*Pn **Pn 16 28 14.6 +0.2**
ROSF *e*Sn **Sn 16 30 19.1 -6.6**
74nm,0.9s
LOR Lormes 11.86 24 *e*P Pn 16 28 22.5 +6.4
baz=206
LOR *e*Sn **Sn 16 30 23.7 -5.0**
LOR *e*Sg 16 31 40.9
84nm,1.4s
GRR Gorron 11.90 7 *e*Pn **Pn 16 28 16.3 -0.3**
GRR *e*Sn **Sn 16 30 21.2 -8.6**
22nm,0.7s
CABF La Chapelle 12.14 32 *e*P Pn 16 28 25.9 +5.9
CABF *e*Sn **Sn 16 30 28.0 -7.8**
CABF *e*Sg 16 31 51.5
116nm,1.4s
LDF La Druitiere 12.19 9 *e*Pn **Pn 16 28 21.1 +0.5**
LDF La Druitiere 12.19 9 *e*P Pn 16 28 25.6 +5.0
LDF *e*Sn **Sn 16 30 29.5 -7.4**
16nm,0.7s
LDF *e*Sg 16 31 48.0
FLN La Foliniere 12.31 8 *e*Pn **Pn 16 28 23.6 +1.3**
baz=203
FLN *e*Sg 16 31 50.5
SFTF Sexfontaines 13.07 25 *e*Pn **Pn 16 28 32.9 +0.4**
SFTF *e*Sn **Sn 16 30 50.1 -8.1**
SFTF *e*Sg Sg 16 32 16.9
34nm,0.9s
MEZF Maizieres J'vi 13.33 24 *e*Pn **Pn 16 28 35.5 -0.6**
MEZF *e*Sn **Sn 16 30 56.9 -7.7**
MEZF *e*Sg Sg 16 32 29.0
HAU Haudompre 13.37 29 *e*Sg Sg 16 32 28.8
HINF Hinteralfeld 13.42 30 *e*Pn **Pn 16 28 36.6 -0.8**
HINF *e*Sg Sg 16 32 31.3
SAVF Savonnieres en 13.45 24 *e*Pn **Pn 16 28 37.4 -0.4**
SAVF *e*Sn **Sn 16 30 58.9 -8.7**
SAVF *e*Sg Sg 16 32 30.4
PAGF Fort de Pagny 13.60 26 *e*Pn **Pn 16 28 40.0 +0.2**
baz=205
PAGF *e*Sg Sg 16 32 35.0
NRCA Norcia 13.96 59 Pn **Pn 16 28 46.0 +1.2**
VAE Valguarnera 14.04 81 LR LR 16 34 01.7
comp=Z,386nm,18.7s,baz=158,slow=37
DAVOX Davos/Dischmat 14.05 40 LR LR 16 34 14.1
comp=Z,669nm,19.9s,baz=230,slow=38
CDF Champ du Feu 14.06 30 *e*Pn **Pn 16 28 46.7 +0.4**
CDF *e*Sn **Sn 16 31 14.2 -8.5**
CDF *e*Sg 16 32 51.0
TEOL Teolo 14.18 47 Pn **Pn 16 28 48.5 +0.8**
BAIF Baives 14.47 19 *e*Pn **Pn 16 28 52.9 +1.3**
BAIF Baives 14.47 19 *e*P **P 16 28 57.7 -0.8**
BAIF *e*Sg 16 33 02.7
52nm,1.3s
DOU Dourbes 14.60 20 x x 16 29 05.3
FETA Feichten 14.65 40 *e*P **P 16 29 02.6 +1.8**
11nm,1.4s
GIVF Givet 14.67 21 *e*Pn **Pn 16 28 55.3 +0.8**
GIVF *e*Sg 16 33 08.5
WLF Walferdange 14.70 24 x x 16 29 07.5
BMRD Maredsous 14.84 20 x x 16 29 07.2
RCHB Rochefort 14.84 21 x x 16 29 07.2
BGES Gesves 15.00 21 x x 16 29 08.6
SQTA Sankt Quirin 15.03 41 *e*P **P 16 29 07.7 +2.7**
3.3nm,0.7s
MOTA Moosalm 15.05 40 *e*P **P 16 29 05.9 +0.6**
7.4nm,1.0s
BCLA Clavier 15.10 21 P **P 16 29 05.2 -0.4**
WTTA Wattenberg 15.28 41 *e*P **P 16 29 09.7 +1.9**
18nm,1.2s
WATA Walderalm 15.29 41 *e*P **P 16 29 10.2 +2.3**
9.6nm,1.2s
BSTI Sart Tilman 15.32 21 x x 16 29 13.0
ABTA Abfaltersbach 15.44 44 *e*P **P 16 29 13.3 +3.7**
11nm,1.3s
BTNL Ternell 15.49 23 x x 16 29 14.6
KBA Koelnbreinsper 16.10 44 *e*P **P 16 29 19.6 +2.6**
9.5nm,1.3s

SOKA Soboth 16.86 48 P P 16 29 32.2 +6.9
7.8nm,0.9s
GERES GERESS Array B 17.35 40 P P 16 29 30.1 -0.6
0.1nm,0.3s,baz=220,slow=10,SNR=2.8
ARSA Arzberg 17.45 47 eP P 16 29 34.1 +2.5
5.5nm,0.9s
KHC Kasperske Hory 17.47 39 eP P 16 29 36.7 +4.8
CKRC Cesky Krumlov 17.65 41 eP P 16 29 39.3 +5.4
EKA Eskdalemuir Ar 18.74 360 P Pn 16 29 47.0 +0.8
baz=179,slow=13,SNR=6.5
EKA LR LR 16 37 53.5
comp=Z,322nm,20.2s,baz=207,slow=40
MORH Mrgy, Hungar 18.89 53 ⇑P Pn 16 29 48.4 +0.3
MODS Modra-Piesok 19.04 45 eP Pn 16 29 53.9 +4.0
KBN Korca 19.10 71 P 16 29 49.8 -0.1
VRAC Vranov 19.16 42 LR LR 16 37 14.0
comp=Z,319nm,19.3s,baz=248,slow=37
DPC Dobruska-Polom 19.62 39 eP Pn 16 30 00.6 +3.7
VYHS Vyhne 20.00 47 eP Pn 16 30 04.0 +2.6
MDVR Moldovita 20.47 59 ⇓P Pn 16 30 06.6 -0.5
BZS Buzias 20.64 56 ⇑P Pn 16 30 09.1 +0.2
LANS Liptovska Anna 20.68 46 ePN Pn 16 30 09.6 +0.2
SIRR Siria 20.87 55 ⇑P Pn 16 30 10.4 -1.2
HERR Herculane 20.98 59 ⇑P Pn 16 30 13.4 +0.4
VTS Vitosha 21.13 65 ⇑P P 16 30 14.1 +1.9
DRGR 21.73 54 ⇑P P 16 30 19.8 +1.4
CRVS Cervenica-Dubn 21.73 48 ePN P 16 30 21.4 +3.0
TRPA Tarpa 22.08 51 ⇑P P 16 30 20.1 -2.0
ARR Arges 22.62 59 ⇑P P 16 30 30.1 +2.0
IDI Anoyia 22.69 85 P P 16 30 30.3 +1.5
91nm,1.0s,baz=290,slow=10,SNR=21
IDI LR LR 16 40 13.1
comp=Z,76nm,18.8s,baz=280,slow=39
VOIR 22.93 59 ⇑P P 16 30 31.1 -0.2
MLR Muntele Rosu 23.55 59 P P 16 30 38.8 +1.1
6.9nm,1.0s,baz=238,slow=9.6,SNR=8.0
MLR LR LR 16 39 57.3
comp=Z,297nm,19.7s,baz=302,slow=37
MLR Muntele Rosu 23.55 59 P P 16 30 37.1 -0.6
MLR IAmb IAmb 16 30 51.5
comp=Z,28nm,1.1s
BUR08 Bucovina Ar. S 23.60 53 P P 16 30 37.5 -0.6
BURAR Bucovina Array 23.61 53 P P 16 30 38.0 -0.1
TORD Torodi Ar. Bea 23.74 168 P P 16 30 39.4 -0.2
comp=Z,11nm,0.9s,baz=344,slow=10.0,SNR=36
TORD Torodi Ar. Bea 23.74 168 P P 16 30 38.8 -0.8
TORD IAmb IAmb 16 30 46.6
comp=Z,22nm,1.0s
COVR Voineasa-Covas 23.80 58 ⇓P P 16 30 41.1 +1.1
PLOR Plostina 24.11 58 ⇓P P 16 30 42.3 -0.7
VRI Vrincioaia 24.17 58 ⇑P P 16 30 41.9 -1.5
SORM Soroca 25.78 54 ⇑P P 16 30 53.7 -4.3
HFS Hagfors 25.92 19 LR LR 16 43 04.0
comp=Z,398nm,20.8s,baz=180,slow=41
NOA NORSAR Array B 26.10 16 LR LR 16 43 47.9
comp=Z,278nm,18.3s,baz=190,slow=42
AKASG Malin Array Be 27.07 48 P P 16 31 08.4 -1.2
comp=Z,1.2nm,0.6s,baz=244,slow=9.8,SNR=6.0
AKASG PcP PcP 16 34 31.0 +0.5
comp=Z,0.4nm,0.6s,baz=258,slow=2.7,SNR=7.4
AKASG LR LR 16 41 52.9
comp=Z,120nm,18.7s,baz=264,slow=36
MNK Minsk 27.81 40 *i* P P 16 31 17.7 +1.5
comp=E,4.0nm,1.1s
MNK *i* P P 16 31 17.7 +1.5
comp=N,22nm,1.2s
MNK *i* P P 16 31 17.7 +1.5
comp=Z,7.0nm,0.9s,baz=63
MNK *i* PP PnPn 16 32 03.4 +1.3
MNK *i* PPP PPP 16 32 11.6
MNK *i* PcP PcP 16 34 34.0 +1.8
MNK *i* S S 16 36 00.8 +1.3
MNK *i* SS SnSn 16 37 14.5 +2.7
MNK *i* SSS SSS 16 37 28.7
MNK *i* LQ LQ 16 40 05.4
MNK *i* LR LR 16 42 16.7
MNK *i* LRM MLR 16 43 16.2
comp=N,160nm,16.1s
MNK *i* LRM MLR 16 43 18.1
comp=Z,172nm,12.9s
MNK *i* LRM MLR 16 43 21.4
comp=E,31nm,15.5s
BRTR Keskin Array B 28.95 72 PcP PcP 16 34 38.0 +2.4
comp=E,0.4nm,0.8s,baz=319,slow=4.9,SNR=3.5
DBIC Dimbokro 29.83 183 LR LR 16 44 57.4
comp=E,209nm,18.0s,baz=17,slow=39
DBIC Dimbokro 29.83 183 P P 16 31 33.9 -0.5
BORG Borgarnes 30.22 345 LR LR 16 43 24.2
comp=E,76nm,19.2s,baz=134,slow=36
FINES FINESS Array B 30.89 27 P P 16 31 45.7 +2.2
comp=E,3.8nm,0.9s,baz=213,slow=14,SNR=4.0
MMAI Mount Meron Ar 31.69 85 P P 16 31 52.4 +1.5
comp=E,2.6nm,0.7s,baz=299,slow=10,SNR=4.2
MMAI LR LR 16 46 28.5
comp=E,43nm,18.1s,baz=62,slow=40
KBZ Khabaz 35.51 64 P P 16 32 25.7 +1.7
comp=E,1.4nm,0.9s,baz=276,slow=14,SNR=2.9
KBZ LR LR 16 48 14.1
comp=E,100nm,18.1s,baz=308,slow=38
KLMR Klimovskoe 36.16 34 eP P 16 32 27.9 -1.4
KLMR AMP 16 32 32.8
comp=Z,14nm,1.3s
KLMR *e*ScP ScP 16 38 38.6 -3.1
ARCES ARCESS Array B 36.48 16 P P 16 32 32.1 +0.1
comp=Z,0.9nm,0.6s,baz=207,slow=5.2,SNR=7.5
ARCES PcP PcP 16 34 53.4 -2.3
comp=Z,2.0nm,0.9s,baz=236,slow=1.6,SNR=4.2
SFJD Kangerlussuaq 40.58 334 LR LR 16 46 49.2
comp=Z,116nm,18.1s,baz=113,slow=32
ARU Arti 45.12 44 P P 16 33 42.8 -0.6
comp=Z,1.7nm,0.5s,baz=230,slow=6.0,SNR=8.5
ARU Arti 45.12 44 P P 16 33 42.3 -1.1
ARU IAmb IAmb 16 33 46.3
comp=Z,6.5nm,0.6s
AKTO Aktyubinsk 45.19 52 P P 16 33 44.6 +0.5
comp=Z,1.5nm,0.7s,baz=302,slow=7.8,SNR=4.9
SCHQ Schefferville 46.34 314 P P 16 33 51.6 -1.5
comp=Z,3.9nm,0.8s,baz=80,slow=8.4,SNR=5.1
SCHQ Schefferville 46.34 314 P P 16 33 52.3 -0.8
ABKAR Akbulak array 46.59 54 P P 16 33 54.2 -0.8
KKAR Karatay Array 55.23 59 P P 16 35 00.0 -0.3
CHGR Chuyangaron 55.87 64 P P 16 35 05.3 +0.2
CHGR IAmb IAmb 16 35 09.4
comp=Z,15nm,0.8s
BTK Batken 56.54 62 P P 16 35 09.8 0.0
GAR Garm 56.58 63 P P 16 35 10.0 -0.1
CUPR Culebra, Puert 57.16 269 P P 16 35 14.9 +0.6
CUPR IAmb IAmb 16 35 16.3
comp=Z,10nm,0.8s
GCPR Guaynabo City 57.80 270 P P 16 35 19.7 +0.8
GCPR IAmb IAmb 16 35 23.9
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 57.86 48 P P 16 35 17.9 -0.9
comp=Z,4.8nm,0.8s,baz=293,slow=7.9,SNR=12
KURK Kurchatov 57.88 48 P P 16 35 19.6 +0.7
KURK IAmb IAmb 16 35 22.2
comp=Z,10nm,1.3s
PDPR Patillas Dam, 57.90 269 P P 16 35 20.5 +0.9
AAK Ala-Archa 58.13 58 P P 16 35 21.1 0.0
AOPR Arecibo Observ 58.32 270 P P 16 35 22.8 +0.2
NBPN Ponto Novo - B 58.68 224 eP P 16 35 25.9 +0.9
TSUM Tsumeb 58.84 157 LR LR 17 01 50.5
comp=Z,142nm,18.4s,baz=327,slow=37
ZALV Zalesovo Beam 60.27 43 P P 16 35 34.9 -0.6
comp=Z,0.7nm,0.4s,baz=293,slow=5.0,SNR=5.0
ZALV Zalesovo Beam 60.27 43 P P 16 35 34.4 -1.2
P52A Corning 60.29 299 P P 16 35 37.0 +1.1
baz=65
KSH Kashi 60.40 61 P P 16 35 36.8 0.0
KSH pP sP 16 35 41.0 +2.1
KSH pmax pmax
comp=Z,6.0nm,1.4s
ACSO Alum Creek Sta 60.64 300 P P 16 35 38.4 +0.1
ACSO IAmb IAmb 16 35 43.9
comp=Z,11nm,0.8s
ACSO Alum Creek Sta 60.64 300 P P 16 35 39.5 +1.2
baz=65
MALB Monte Alegre 60.95 243 eP P 16 35 41.9 +1.3
PRPB Paraua pebas 60.96 236 eP P 16 35 42.3 +1.6
MAKZ Makanchi 61.41 51 P P 16 35 42.6 -0.8
SMTB Santa Maria do 61.53 232 eP P 16 35 46.4 +1.8
MK31 Makanchi Array 61.61 51 P P 16 35 43.7 -1.1
MKAR Makanchi Array 61.61 51 P P 16 35 44.1 -0.7
comp=Z,1.7nm,0.7s,baz=292,slow=5.9,SNR=12
MKAR Makanchi Array 61.61 51 P P 16 35 43.9 -0.9

NBIT Itapeh - BA 61.65 221 eP P 16 35 49.3 +4.1
RGRS Roger Stewart 61.81 292 P P 16 35 43.7 -2.6
O48B Farmland 62.13 301 P P 16 35 48.9 +0.5
baz=64
P49A Miami Univ. Ec 62.14 300 P P 16 35 48.5 0.0
baz=64
SDBA SAO DESIDERIO 62.64 227 eP P 16 35 53.0 +1.0
BOAV Boa Vista 62.75 251 eP P 16 35 54.2 +1.4
BOAV Boa Vista 62.75 251 P P 16 35 52.9 +0.1
EYMN Ely 62.95 311 P P 16 35 53.7 0.0
EYMN IAmb IAmb 16 35 56.2
comp=Z,7.3nm,1.0s
TKL Tuckaleechee C 63.20 296 P P 16 35 54.6 -1.0
comp=Z,6.0nm,1.0s,baz=109,slow=7.3,SNR=4.4
TKL Tuckaleechee C 63.20 296 P P 16 35 56.6 +1.0
TKL IAmb IAmb 16 35 56.8
comp=Z,13nm,1.2s
ITTB Itaituba 63.74 242 eP P 16 36 00.6 +1.3
WCI Wyandotte Cave 63.83 299 P P 16 35 59.3 -0.4
WCI IAmb IAmb 16 36 01.0
comp=Z,6.4nm,0.9s
CPCT Cooper Cave 63.83 296 P P 16 35 59.9 +0.1
CPCT IAmb IAmb 16 36 05.5
comp=Z,7.5nm,0.9s
PTGA Pitinga 64.37 248 P P 16 36 03.4 -0.1
comp=Z,14nm,0.9s,baz=47,slow=8.8,SNR=12
JANB Januaria 64.41 225 eP P 16 36 04.9 +1.2
PEXB Peixe 64.46 230 eP P 16 36 05.3 +1.3
A36M Sachs Harbour 64.47 343 P P 16 36 05.2 +1.9
baz=49
BAUV El Baul 64.61 262 P P 16 36 05.3 +0.1
NPGB Novo Progresso 65.36 240 eP P 16 36 10.8 +0.8
WMQ Urumqi 66.34 52 eP P 16 36 17.8 +1.7
PLAL Pickwick Lake 66.62 297 P P 16 36 17.9 0.0
DIAM Diamantina, MG 66.69 222 eP P 16 36 21.5 +3.0
SDV Santo Domingo 66.72 264 P P 16 36 19.1 +0.2
comp=Z,17nm,0.8s,baz=79,slow=5.9,SNR=10
SDV Santo Domingo 66.72 264 eP P 16 36 20.1 +1.2
SDV Santo Domingo 66.72 264 P P 16 36 19.2 +0.2
LRAL Lakeview Retre 66.79 295 P P 16 36 19.5 +0.5
baz=60
FVM French Village 66.82 301 P P 16 36 18.2 -0.9
FVM IAmb IAmb 16 36 19.5
comp=Z,7.8nm,0.9s
BDFB Brasilia 67.03 228 P P 16 36 21.1 +0.4
comp=Z,5.2nm,0.8s,baz=36,slow=6.8,SNR=5.6
BDFB Brasilia 67.03 228 P P 16 36 20.1 -0.6
BDFB IAmb IAmb 16 36 26.1
comp=Z,16nm,1.4s
YKA Yellowknife Ar 67.12 332 P P 16 36 20.5 -0.1
comp=Z,0.7nm,0.5s,baz=59,slow=6.3,SNR=14
CCM Cathedral Cave 67.35 301 P P 16 36 21.3 -1.2
CCM IAmb IAmb 16 36 27.7
comp=Z,6.2nm,0.8s
CCM Cathedral Cave 67.35 301 P P 16 36 21.9 -0.5
baz=60
ECSD EROS Data Cent 68.08 309 P P 16 36 26.5 -0.5
ECSD EROS Data Cent 68.08 309 P P 16 36 26.9 -0.1
baz=60
LCAR Lake Charles 68.27 299 P P 16 36 27.0 -1.2
MSEY Mahe Island 68.29 114 P P 16 36 26.9 -1.8
MGMO Mountain Grove 68.50 301 P P 16 36 29.0 -0.7
MGMO IAmb IAmb 16 36 30.4
comp=Z,8.7nm,0.9s
IPMB Ipameri, GO 68.98 226 eP P 16 36 33.8 +0.9
U40A Yellville 69.31 300 P P 16 36 34.8 0.0
baz=59
WHAR Wooly Hollow 69.45 299 P P 16 36 35.2 -0.5
WHAR IAmb IAmb 16 36 42.8
comp=Z,12nm,1.3s
W41B Gary Mavity, V 69.49 299 P P 16 36 35.8 -0.1
W41B Gary Mavity, V 69.49 299 P P 16 36 35.6 -0.3
baz=59
PDRB Porto dos Gac 69.57 237 eP P 16 36 38.1 +1.5
HHAR Hobbs 70.10 301 P P 16 36 39.1 -0.6
HHAR IAmb IAmb 16 36 44.9
comp=Z,10.0nm,0.7s
BOSA Boshof 70.14 154 P P 16 36 42.2 +2.3
comp=Z,1.4nm,0.7s,baz=346,slow=8.3,SNR=4.4
X40A Basin Creek Fa 70.25 299 P P 16 36 40.3 -0.3
baz=59
KSU1 Kansas State U 70.44 304 P P 16 36 41.5 -0.2
KSU1 IAmb IAmb 16 36 47.0
comp=Z,8.6nm,0.8s
W39A Magazine 70.55 300 P P 16 36 42.4 0.0
baz=58
A21K Barrow 70.74 351 P P 16 36 43.8 +0.8
A21K IAmb IAmb 16 36 47.9
comp=Z,5.3nm,0.8s
A21K Barrow 70.74 351 P P 16 36 44.0 +1.1
baz=22
MIAR Mount Ida 70.75 299 P P 16 36 43.4 -0.2
MIAR Mount Ida 70.75 299 P P 16 36 43.6 0.0
baz=58
MOTC Monteria, Cord 70.81 267 P P 16 36 44.1 -0.2
ZARC Zaragoza, Cauc 70.92 265 P P 16 36 44.4 -0.5
PYUN Piuthan 70.95 69 eP P 16 36 45.0 -0.3
comp=Z,35nm,0.7s
DANN Dangsing 71.40 68 eP P 16 36 48.3 +0.2
comp=Z,52nm,0.9s
TUL1 Leonard 71.57 301 P P 16 36 48.6 +0.1
TUL1 IAmb IAmb 16 36 53.0
comp=Z,18nm,1.2s
TUL1 Leonard 71.57 301 P P 16 36 49.0 +0.4
baz=58
ITRB Iturama 71.59 227 eP P 16 36 51.2 +2.4
TOLK Toolik Lake Re 72.15 348 P P 16 36 52.3 +0.7
TOLK IAmb IAmb 16 36 57.2
comp=Z,5.8nm,0.9s
TOLK Toolik Lake Re 72.15 348 P P 16 36 52.5 +0.9
baz=28
GKN Gorkha 72.24 68 eP P 16 36 54.6 +1.7
comp=Z,35nm,1.0s
OK031 S. Brethren Rd 72.27 302 P P 16 36 52.9 +0.1
BMAR Burnt Mountain 72.27 345 P P 16 36 53.7 +1.4
RSSD Black Hills 72.42 312 P P 16 36 54.3 +0.5
I29M Ogilvie Camp, 72.57 342 P P 16 36 54.5 +0.4
I29M Ogilvie Camp, 72.57 342 P P 16 36 55.6 +1.5
baz=36
PKIN Phulchoki 73.03 68 eP P 16 36 59.7 +1.9
comp=Z,11nm,0.7s
PKI Pulchoki 73.05 68 eP P 16 37 00.7 +2.7
GUN Gumba 73.21 68 eP P 16 37 01.9 +2.9
EGMT Eagleton 73.42 318 P P 16 36 59.6 +0.1
EGMT IAmb IAmb 16 37 07.9
comp=Z,18nm,1.3s
EGMT Eagleton 73.42 318 P P 16 37 00.4 +0.8
baz=53
FARO Faro, Yukon 73.68 338 P P 16 37 02.5 +1.8
baz=40
DAWY Dawson 73.90 342 P P 16 37 03.5 +1.5
baz=35
PTLB Pontes e Lacer 73.94 236 P P 16 37 02.7 -0.1
M31M Drury Creek, Y 74.01 338 P P 16 37 04.7 +2.1
baz=39
PRP Porcupine Dome 74.11 345 P P 16 37 04.4 +1.1
baz=31
M30M Minto, Yukon 74.41 340 P P 16 37 06.5 +1.5
baz=37
J26L Joseph Creek 74.54 343 P P 16 37 06.6 +0.8
baz=32
K22A Casper 74.75 312 P P 16 37 07.7 +0.2
baz=54
PHWY Pilot Hill 74.89 310 P P 16 37 08.8 +0.3
PHWY IAmb IAmb 16 37 10.1
comp=Z,6.7nm,0.7s
N31M Braeburn, Yuko 74.98 339 P P 16 37 09.3 +0.9
baz=38
ETMB Extrema 75.03 245 P P 16 37 10.0 +0.8
ILAR Eielson Array 75.04 345 P P 16 37 09.3 +0.7
comp=Z,0.3nm,0.6s,baz=18,slow=6.1,SNR=3.3
P33M Teslin, Yukon 75.07 337 P P 16 37 10.0 +1.1
baz=40
SONM Songino Array 75.08 41 P P 16 37 11.3 +2.0
comp=Z,0.6nm,0.8s,baz=301,slow=6.8,SNR=4.9
SCRK Sand Creek 75.09 343 P P 16 37 09.4 +0.4
baz=32
I23K Minto, Yukon-K 75.22 346 P P 16 37 13.2 +3.7
baz=28
IMAR Indian Mountai 75.25 348 P P 16 37 10.6 +0.8
BCAR Beaver Creek A 75.33 342 P P 16 37 11.3 +1.0
L27K Beaver Creek, 75.34 342 P P 16 37 11.9 +1.5
baz=33
HDA Harding Lake 75.37 345 P P 16 37 11.3 +0.8
baz=29

DLBC Dease Lake 75.49 334 P P 16 37 12.2 +0.9
comp=Z,6.1nm,0.8s,baz=44,slow=4.6,SNR=6.2
RWWY Rawlins 75.73 311 P P 16 37 13.5 +0.2
RWWY IAmb IAmb 16 37 22.0
comp=Z,15nm,1.1s
ISCO Idaho Springs 75.86 309 P P 16 37 14.0 -0.1
ISCO Idaho Springs 75.86 309 P P 16 37 14.5 +0.4
baz=54
BOZ Bozeman (W) 75.92 317 P P 16 37 14.3 +0.1
BOZ Bozeman (W) 75.92 317 P P 16 37 15.1 +1.0
baz=52
M27K Edge Creek, AK 75.95 342 P P 16 37 15.9 +1.9
baz=33
JTMT Jette 76.00 320 P P 16 37 14.3 -0.3
JTMT IAmb IAmb 16 37 19.4
comp=Z,9.2nm,1.0s
YUK3 Moose Creek 76.06 341 P P 16 37 16.7 +1.9
baz=34
YUK6 Outpost Mounta 76.17 339 P P 16 37 17.3 +1.9
baz=36
M26K Nabesna, AK 76.19 342 P P 16 37 15.7 +0.4
baz=32
MSO Missoula 76.40 319 P P 16 37 16.6 -0.2
MSO IAmb IAmb 16 37 21.5
comp=Z,9.6nm,1.1s
MSO Missoula 76.40 319 P P 16 37 17.2 +0.3
baz=51
PD31 Pinedale Array 76.47 313 P P 16 37 16.7 -0.8
PD31 IAmb IAmb 16 37 21.8
comp=Z,6.1nm,0.8s
PDAR Pinedale Array 76.47 313 P P 16 37 17.2 -0.3
comp=Z,3.8nm,0.7s,baz=61,slow=7.0,SNR=17
PDAR Pinedale Array 76.47 313 P P 16 37 16.9 -0.6
BW06 Boulder Array 76.47 313 P P 16 37 16.8 -0.7
BW06 IAmb IAmb 16 37 21.8
comp=Z,6.6nm,0.8s
BW06 Boulder Array 76.47 313 P P 16 37 17.4 -0.1
baz=52,SNR=9.5
T25A Trinidad 76.65 306 P P 16 37 19.4 +0.9
baz=54
BOAB BOACO BROADBAN 76.75 276 P P 16 37 18.9 -0.3
REDW Red Top Meadow 76.86 314 P P 16 37 18.9 -0.7
REDW IAmb IAmb 16 37 25.2
comp=Z,9.8nm,1.4s
SDCO Great Sand Dun 77.00 307 P P 16 37 20.7 +0.1
SDCO IAmb IAmb 16 37 25.1
comp=Z,5.7nm,0.9s
SDCO Great Sand Dun 77.00 307 P P 16 37 21.0 +0.4
baz=54
NEW Newport 77.12 321 P P 16 37 19.3 -1.5
comp=Z,4.6nm,0.8s,baz=69,slow=3.7,SNR=11
NEW Newport 77.12 321 P P 16 37 20.2 -0.6
NEW IAmb IAmb 16 37 25.4
comp=Z,7.9nm,0.9s
NEW Newport 77.12 321 P P 16 37 20.9 +0.1
baz=49
JCT Junction City 77.36 299 P P 16 37 22.0 -0.4
JCT IAmb IAmb 16 37 27.5
comp=Z,12nm,0.9s
JCT Junction City 77.36 299 P P 16 37 23.2 +0.7
baz=55
TNA Tin City 77.49 354 P P 16 37 22.9 +0.5
TNA IAmb IAmb 16 37 37.5
comp=Z,12nm,1.5s
BCYI Bear Canyon 77.71 316 P P 16 37 24.8 +0.4
PPLA Purkeypile 77.79 346 P P 16 37 23.6 -0.8
PPLA IAmb IAmb 16 37 40.4
comp=Z,16nm,1.4s
S22A 4UR Ranch, Cre 77.84 308 P P 16 37 25.4 +0.1
S22A IAmb IAmb 16 37 30.8
comp=Z,12nm,1.1s
S22A 4UR Ranch, Cre 77.84 308 P P 16 37 26.3 +1.0
baz=53
OTAV Otavalo 78.10 261 P P 16 37 26.8 -0.4
OTAV IAmb IAmb 16 37 29.3
comp=Z,16nm,1.4s
B08A Colville Reser 78.16 322 P P 16 37 26.8 +0.2
B08A IAmb IAmb 16 37 31.6
comp=Z,14nm,1.1s
833A Chaparral WMA, 78.31 297 P P 16 37 27.8 +0.1
833A Chaparral WMA, 78.31 297 P P 16 37 28.6 +0.9
baz=55
TTA Tatalina 78.46 348 P P 16 37 28.6 +0.6
CZSB Cruzeiro do Su 78.53 251 P P 16 37 29.0 0.0
PV07 Paradox Valley 78.56 309 P P 16 37 29.0 -0.2
PV07 IAmb IAmb 16 37 34.4
comp=Z,14nm,1.2s
PLID Pearl Lake 78.62 318 P P 16 37 28.5 -1.0
F10A Beach Ranch, E 78.69 320 P P 16 37 29.1 -0.5
F10A IAmb IAmb 16 37 35.5
comp=Z,8.9nm,0.7s
HLID Hailey 78.75 316 P P 16 37 31.4 +1.3
baz=50
PV11 David Mesa, Pa 78.79 309 P P 16 37 30.5 0.0
PV13 Radium Mtn., P 78.84 309 P P 16 37 31.1 +0.3
PV13 IAmb IAmb 16 37 35.9
comp=Z,16nm,1.0s
PV10 Paradox Valley 78.84 310 P P 16 37 31.0 +0.2
APG El Apazote 79.12 281 P P 16 37 32.1 -0.4
comp=Z,20nm,1.0s,baz=87,slow=23,SNR=14
M19K Big River Lodg 79.12 347 P P 16 37 32.0 +0.4
M19K IAmb IAmb 16 37 36.1
comp=Z,6.2nm,0.8s
MVCO Mesa Verde 79.22 308 P P 16 37 34.1 +1.2
baz=52
ANMO Albuquerque 79.28 306 P P 16 37 33.4 +0.2
ANMO Albuquerque 79.28 306 P P 16 37 34.1 +0.9
baz=53
BMO Blue Mountains 79.47 319 P P 16 37 33.5 -0.4
BMO IAmb IAmb 16 37 39.2
comp=Z,14nm,0.8s
MFID Camas Ranch 79.62 317 P P 16 37 34.9 +0.1
MFID IAmb IAmb 16 37 40.8
comp=Z,12nm,1.2s
CCIG Comitan 79.71 283 P P 16 37 35.1 -0.6
CCIG IAmb IAmb 16 37 39.8
comp=Z,16nm,1.0s
DUG Dugway, Tooele 79.99 313 P P 16 37 37.1 +0.2
DUG IAmb IAmb 16 37 42.0
comp=Z,8.3nm,0.8s
DUG Dugway, Tooele 79.99 313 P P 16 37 37.7 +0.8
baz=50,SNR=10.0
G08A Pilot Rock 80.05 320 P P 16 37 36.5 -0.6
D03D Eldon 80.56 323 P P 16 37 41.2 +1.6
baz=45
TXAR Lajitas Array 80.75 300 P P 16 37 42.0 +0.9
comp=Z,3.5nm,0.8s,baz=74,slow=6.1,SNR=31
TX32 Lajitas Array 80.75 300 P P 16 37 41.1 0.0
CPUP Villa Florida 80.76 228 P P 16 37 41.8 +1.0
comp=Z,2.1nm,0.8s,baz=35,slow=0.7,SNR=3.4
PALK Pallekele 80.76 88 LR LR 17 16 21.0
comp=Z,49nm,19.3s,baz=292,slow=38
ELK Elko 81.04 315 LR LR 17 09 52.2
comp=Z,132nm,19.9s,baz=244,slow=33
ELK Elko 81.04 315 P P 16 37 43.0 +0.4
ELK IAmb IAmb 16 37 48.4
comp=Z,9.7nm,0.8s
J08A Circle Bar Ran 81.10 318 P P 16 37 43.2 +0.5
G05D Wamic, OR 81.29 321 P P 16 37 45.0 +1.4
baz=46
121A Cookes Peak, D 81.63 304 P P 16 37 45.4 -0.5
121A Cookes Peak, D 81.63 304 P P 16 37 47.8 +2.0
baz=52
WVOR Wild Horse Val 81.81 318 P P 16 37 46.5 -0.1
WVOR IAmb IAmb 16 37 52.3
comp=Z,11nm,0.9s
I05D Terrebonne, OR 81.93 320 P P 16 37 48.8 +1.7
baz=46
U15A North Rim 82.08 310 P P 16 37 48.2 -0.1
H04A Detroit Lake 82.12 321 P P 16 37 48.2 +0.2
HHC Hu-ho-hao-te 82.43 44 eP P 16 37 49.5 -0.3
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.3s
J05D Fort Rock, OR 82.61 319 P P 16 37 52.6 +1.8
baz=46
R11A Troy Canyon, C 82.82 313 P P 16 37 52.4 +0.4
R11A Troy Canyon, C 82.82 313 P P 16 37 52.9 +0.9
baz=48,SNR=34
K05A Summer Lake 82.82 319 P P 16 37 52.3 +0.4
X16A Lo Mia Camp, P 82.83 308 P P 16 37 52.2 +0.1
TUC Tucson 83.75 306 P P 16 37 57.0 +0.2
TUC Tucson 83.75 306 P P 16 37 58.2 +1.5
baz=50
W13A Hualapai Mount 83.93 310 P P 16 37 57.7 -0.1

W13A IAmb IAmb 16 38 03.2
comp=Z,8.0nm,0.9s
M04C Macdoel 83.98 319 P **P 16 37 59.1 +1.2**
baz=45
Y14A Wickenburg 84.13 308 P **P 16 37 59.3 +0.6**
TPNV Topopah Spring 84.14 312 P **P 16 37 58.8 0.0**
TPNV Topopah Spring 84.14 312 P **P 16 37 59.7 +0.9**
baz=48,SNR=6.2
NV11 Mina Array Sit 84.26 314 P **P 16 37 58.6 -0.7**
K02D Willamette Mer 84.29 320 P **P 16 38 00.6 +1.3**
baz=44
NVAR Mina Array Bea 84.35 314 P **P 16 38 00.6 +0.7**
comp=Z,2.4nm,0.9s,baz=54,slow=5.2,SNR=13
NVAR Mina Array Bea 84.35 314 P **P 16 37 59.3 -0.6**
YBH Yreka Blue Hor 84.48 319 P **P 16 38 00.1 -0.2**
comp=Z,4.5nm,0.8s,baz=310,slow=20,SNR=7.1
PDMCI Parker Dam,Lak 84.61 309 P **P 16 38 02.9 +1.9**
baz=49
L02E Cave Junction 84.64 320 P **P 16 38 02.0 +0.9**
baz=44
M02C Callahan 84.80 319 P **P 16 38 02.3 +0.4**
baz=44
FURC Furnace Creek, 84.83 312 P **P 16 38 04.2 +2.1**
baz=48
TUQ Turquoise Moun 84.96 311 P **P 16 38 04.6 +1.7**
baz=48
N02D Trinity Center 85.02 319 P **P 16 38 03.5 +0.5**
baz=44
GMRC Granite Mounta 85.23 310 P **P 16 38 05.7 +1.4**
baz=48
214A Organ Pipe Nat 85.29 307 P **P 16 38 06.2 +1.7**
baz=49
IRM Iron Mountain 85.33 310 P **P 16 38 06.1 +1.4**
baz=48
MPMC Manual Prospec 85.48 312 P **P 16 38 07.4 +1.8**
baz=47
PZH PanZhiHua 85.50 60 P **P 16 38 05.8 0.0**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.5s
CWC Cottonwood Cre 85.57 313 P **P 16 38 07.4 +1.4**
baz=47
HEC Hector,Ludlow 85.61 311 P **P 16 38 08.0 +1.9**
baz=48
ISA Isabella, Lake 86.34 312 P **P 16 38 11.0 +1.3**
ISA IAmb IAmb 16 38 16.0
comp=Z,8.8nm,0.8s
ISA Isabella, Lake 86.34 312 P **P 16 38 11.6 +1.9**
baz=47,SNR=8.7
PFO Pinyon Flats O 86.50 310 P **P 16 38 12.1 +1.5**
PFO IAmb IAmb 16 38 17.4
comp=Z,11nm,1.1s
KMI Kunming 87.06 61 ⇓P **P 16 38 12.5 -1.1**
KMI pmax pmax
comp=Z,7.0nm,1.1s
KMI LR LR
comp=Z,180nm,17.5s
KMI LR LR
comp=Z,240nm,15.8s
KMI LR LR
comp=Z,180nm,14.5s
CMAR Chiang Mai Arr 88.45 68 P **P 16 38 21.3 +1.3**
comp=Z,1.4nm,0.9s,baz=309,slow=6.0,SNR=11
NJ2 Nanjing 92.78 46 *eP* **P 16 38 39.8 -0.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
KSRS Korea Array 93.50 37 LR LR 17 25 45.5
comp=Z,52nm,19.2s,baz=20,slow=39
WRA Warramunga Arr 139.38 78 PKP **PKiKP 16 44 57.1 -0.3**
comp=Z,1.0nm,1.0s,baz=311,slow=1.7,SNR=4.6
ASAR Alice Springs 140.97 83 PKhKP PKPpre 16 44 50.8
comp=Z,0.4nm,0.5s,baz=297,slow=2.7,SNR=8.1
ASAR PKP pPKPdf 16 44 59.9 +0.3
comp=Z,1.2nm,0.8s,baz=341,slow=1.9,SNR=6.8
CTA Charters Tower 148.60 67 PKPbc **PKiKP 16 45 16.5 +0.2**
comp=Z,10nm,1.0s,baz=236,slow=2.5,SNR=8.4
STKA Stephens Creek 150.56 91 PKPbc **PKiKP 16 45 19.9 -0.1**
comp=Z,14nm,0.8s,baz=324,slow=4.4,SNR=27
STKA Stephens Creek 150.56 91 **PKPbc 16 45 18.9 -0.4**

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*IDC **31** 16:31:14.8±2.3,3.°07S×147.°77E±0.°4, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/28, mbtmp4.0/5, ML1.2/1, Error ellipse: s-maj=76.8km s-min=28.3km az=98.0*

ISC 31 16:31:17.1±2.1,3.°1S±0.°2×147.°6E±0.°4, h10km, n6, σ0.58/7, mb4.0/4, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.31**	**184**	Pn	**Pn**	**16 32 50.0**	**-0.3**
	0.3nm,0.3s,baz=347,slow=9.0,SNR=2.8						
WRA	**Warramunga Arr**	**21.17**	**217**	P	**P**	**16 36 02.4**	**-0.3**
	5.4nm,0.8s,baz=41,slow=12,SNR=28						
WRA				PcP	**PcP**	**16 40 09.4**	**+0.8**
	0.3nm,0.6s,baz=32,slow=2.1,SNR=6.0						
ASAR	**Alice Springs**	**24.37**	**212**	P	**P**	**16 36 36.0**	**+0.4**
	2.8nm,0.8s,baz=44,slow=6.8,SNR=32						
FITZ	**Fitzroy Crossi**	**26.17**	**234**	P	**P**	**16 36 52.3**	**+0.4**
	6.7nm,1.1s,baz=89,slow=15,SNR=2.8						
MKAR	**Makanchi Array**	**75.62**	**320**	P	**P**	**16 43 02.0**	**-0.4**
	0.5nm,0.9s,baz=122,slow=4.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**144.81**	**288**	PKPbc	**PKPab**	**16 50 54.1**	**-0.3**
	1.2nm,0.8s,baz=49,slow=3.4,SNR=4.1						

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*MDD **31** 16:38:19.9±0.7,35.°49N×3.°83W, h0km, mbLg2.7/8, Error ellipse: s-maj=6.7km s-min=4.1km az=26.0*
*CNRM **31** 16:38:19.7,35.°52N×3.°75W, h26km, ml3.0*
*IDC **31** 16:38:20.3±1.5,35.°39N×3.°87W, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.1/48, mbtmp3.1/4, ML2.9/2, Error ellipse: s-maj=57.0km s-min=23.0km az=101.0*

ISC 31 16:38:18.8±0.7,35.°53N±0.°02×3.°75W±0.°03, h10km, n29, σ1.44/42, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**206**	P	**Pb**	**16 38 26.6**	**-0.5**
PALE				S	**Sb**	**16 38 31.4**	**-1.4**
EMEL	**Melilla**	**0.69**	**109**	Pg	**Pn**	**16 38 33.7**	**-0.8**
	774nm,0.1s,SNR=59						
EMEL				Lg	Lg	16 38 42.8	
	3μm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**0.69**	**117**	P	**Pb**	**16 38 33.3**	**+0.4**
GOG				S	**Sb**	**16 38 42.4**	**-0.1**
EALB	**Alboran**	**0.71**	**55**	Pg	**Pn**	**16 38 34.6**	**-0.2**
	105nm,0.1s,SNR=159						
EALB				Lg	Lg	16 38 45.1	
	348nm,0.1s,SNR=17						
AKLM	**AKL**	**1.02**	**185**	P	**Pn**	**16 38 38.7**	**-0.5**
AKLM				S	**Sg**	**16 38 51.3**	**-0.5**
EMIJ	**Mijas**	**1.32**	**321**	Pg	**Pg**	**16 38 43.9**	**-0.2**
	1.2nm,0.2s,SNR=20						
EMIJ				Lg	Lg	16 39 02.3	
	21nm,0.1s,SNR=14						
ELGU	**Los Guajares,**	**1.34**	**4**	Pg	**Pg**	**16 38 44.1**	**-0.3**
	2.4nm,0.1s,SNR=7.9						
ELGU				Lg	Lg	16 39 03.6	
	82nm,0.2s,SNR=7.9						
SMIR	**Smir Dam**	**1.34**	**277**	P	**Pn**	**16 38 41.3**	**-2.2**
SMIR				S	**Sb**	**16 38 59.2**	**-1.9**
CHEFC	**Chefchaouen**	**1.37**	**252**	P	**Pb**	**16 38 44.2**	**-0.3**
CHEFC				S	**Sb**	**16 39 01.2**	**-0.9**
ECEU	**Ceuta**	**1.37**	**286**	Pg	**Pn**	**16 38 43.3**	**-0.7**
	1.9nm,0.2s,SNR=12						
ECEU				Lg	Lg	16 39 02.2	
	6.6nm,0.2s,SNR=8.1						
EBER	**Berja**	**1.53**	**27**	Pg	**Pb**	**16 38 46.7**	**-0.6**
	4.1nm,0.2s,SNR=7.9						
EBER				Lg	Lg	16 39 10.7	
	23nm,0.2s,SNR=7.9						
JBK	**JBK**	**1.54**	**141**	P	**Pn**	**16 38 45.5**	**-0.9**
JBK				S	**Sn**	**16 39 03.4**	**-3.2**
EGOR	**Sierra Gorda,**	**1.60**	**350**	Pg	**Pg**	**16 38 49.1**	**-0.4**
	1.2nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	16 39 12.2	
	11nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.69**	**8**	Pn	**Pg**	**16 38 51.0**	**-0.1**
	2.4nm,0.2s,SNR=15						
EQUE				Sn	**Sg**	**16 39 12.9**	**-0.2**
	9.9nm,0.2s,SNR=6.2						
LCRM	**LCR**	**2.06**	**207**	P	**Pb**	**16 38 55.7**	**-0.6**
LCRM				S	**Sn**	**16 39 19.3**	**0.0**
EQES	**Quesada**	**2.33**	**13**	Pn	**Pb**	**16 38 59.5**	**-1.4**
	3.2nm,0.1s,SNR=31						
EQES				Sn	**Sb**	**16 39 29.1**	**-0.8**
	17nm,0.1s,SNR=8.5						
EQES				Lg	Lg	16 39 37.6	
	41nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**2.71**	**346**	Pn	**Pb**	**16 39 04.7**	**-2.7**
	0.3nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**16 39 10.3**	**-0.4**
	SNR=7.9						
EADA				Sn	**Sn**	**16 39 36.6**	**+1.3**
	1.2nm,0.1s,SNR=7.9						
EADA				Lg	Lg	16 39 50.4	
	12nm,0.4s,SNR=7.9						
MD31	**MD31**	**2.79**	**198**	P	**Pn**	**16 39 04.0**	**+0.5**
MDT	**Midelt**	**2.80**	**195**	Pn	**Pn**	**16 39 03.7**	**0.0**
	0.7nm,0.3s,baz=181,slow=8.3,SNR=28						
MDT				Sn	**Sn**	**16 39 37.9**	**+0.2**
	2.6nm,0.3s,baz=30,slow=22,SNR=8.7						
MDT	**Midelt**	**2.80**	**195**	P	**Pn**	**16 39 05.7**	**+1.9**
TDRA	**Tendrara**	**2.87**	**150**	P	**Pn**	**16 39 04.3**	**-0.4**
CART	**Cartagena**	**3.02**	**46**	P	**Pn**	**16 39 04.9**	**-1.6**
CART				S	**Sn**	**16 39 40.4**	**-2.3**
ZHG	**ZHG**	**3.17**	**230**	P	**Pn**	**16 39 08.4**	**-0.4**
PVAQ	**Vaqueiros**	**3.70**	**301**	P	**Pn**	**16 39 16.8**	**+0.8**
PVAQ				S	**Sn**	**16 39 58.9**	**-0.8**
FIGM	**Figuig**	**3.97**	**148**	P	**Pn**	**16 39 19.9**	**0.0**
ESDC	**Sonseca Array**	**4.14**	**358**	Pn	**Pn**	**16 39 24.7**	**+2.6**
	0.6nm,0.3s,baz=180,slow=12,SNR=24						
PESTR	**Estremoz**	**4.53**	**318**	P	**Pn**	**16 39 29.2**	**+1.8**
MKAR	**Makanchi Array**	**62.67**	**50**	P	**P**	**16 48 48.0**	**+4.4**
	0.3nm,0.9s,baz=300,slow=3.2,SNR=1.9						
YKA	**Yellowknife Ar**	**67.81**	**332**	P	P	16 49 21.2	+4.6
	0.2nm,0.6s,baz=62,slow=6.3,SNR=2.7						

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*TRN **31** 16:42:04.7, 16.°10N×61.°47W, h122km, MD4.3*
TRN Felt in Guadeloupe MMI IV; Antigua IV, III.
*IDC **31** 16:42:06.0±0.7, 16.°00N×61.°66W, h118km±6km, mb4.2/26, mb1 4.4/30, mb1mx4.2/51, mbtmp4.6/30, MS3.5/9, Ms1 3.5/9, ms1mx3.1/84, Error ellipse: s-maj=10.0km s-min=7.7km az=96.0*
*NEIC **31** 16:42:06.3±1.5, 16.°05N±0.°04×61.°62W±0.°06, h115km±3km, mb4.8/243, Md4.8(TRN), Error ellipse: s-maj=9.1km s-min=5.6km az=80.0*

ISC 31 16:42:05.8±0.4, 16.°05N±0.°03×61.°56W±0.°04, h119km±3km, h120km; pP-P, n627, σ1.916/682, mb4.8/145, 10C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBE	**Ff, Capester**	**0.05**	**298**	*eP*	**Pn**	**16 42 22.7**	**+0.6**
CBE				*eS*	**Sn**	**16 42 35.7**	**+1.4**
CBE	**Ff, Capester**	**0.05**	**298**	Pn	**Pn**	**16 42 22.6**	**+0.6**
CBE				Sn	**Sn**	**16 42 33.1**	**-1.2**
TDBA	**Terre de Bas,**	**0.21**	**199**	*i* P	**Pn**	**16 42 23.2**	**+0.9**
TDBA				*eS*	**Sn**	**16 42 35.7**	**+0.9**
TDBA	**Terre de Bas,**	**0.21**	**199**	Pn	**Pn**	**16 42 23.1**	**+0.8**
TDBA				Sn	**Sn**	**16 42 34.1**	**-0.6**
TBG	**Guadaloupe-3**	**0.21**	**202**	*i* P	**Pn**	**16 42 23.2**	**+0.9**
MAGL	**Barre de l'île**	**0.29**	**110**	*i* P	**Pn**	**16 42 23.1**	**+0.6**
MAGL				*eS*	**Sn**	**16 42 35.5**	**+0.3**
MAGL	**Barre de l'île**	**0.29**	**110**	Pn	**Pn**	**16 42 22.7**	**+0.2**
MAGL				Sn	**Sn**	**16 42 34.7**	**-0.4**
GDHS	**Morne Mazeau,**	**0.30**	**319**	Pn	**Pn**	**16 42 23.3**	**+0.7**
ABD	**La Joyeuse, An**	**0.43**	**10**	*i* P	**Pn**	**16 42 23.6**	**+0.4**
ABD				*eS*	**Sn**	**16 42 36.4**	**0.0**
ABD	**La Joyeuse, An**	**0.43**	**10**	Pn	**Pn**	**16 42 23.0**	**-0.2**
ABD				Sn	**Sn**	**16 42 35.4**	**-0.9**
MDCT	**Cottage Hill,**	**0.44**	**167**	*eP*	**Pn**	**16 42 24.1**	**+0.8**
MDCT				*eS*	**Sn**	**16 42 37.5**	**+1.1**
MDVC	**Dominica, Viel**	**0.46**	**160**	*eP*	**Pn**	**16 42 24.0**	**+0.6**
MDVC				*eS*	**Sn**	**16 42 37.2**	**+0.6**
GDSD	**La Dsirade Is**	**0.55**	**61**	Pn	**Pn**	**16 42 23.8**	**-0.1**
GDSD				Sn	**Sn**	**16 42 36.3**	**-1.3**
H05N1	**Guadeloupe/Mar**	**0.56**	**61**	P	**Pn**	**16 42 23.9**	**0.0**
H05N1				S	**Sn**	**16 42 37.1**	**-0.6**
DSLB	**Salisbury**	**0.62**	**167**	*eP*	**Pn**	**16 42 25.7**	**+1.2**
DSLB				*eS*	**Sn**	**16 42 40.8**	**+2.3**
MDN	**Morne-Daniel**	**0.74**	**167**	*eP*	**Pn**	**16 42 26.5**	**+1.1**
MDN				*eS*	**Sn**	**16 42 42.6**	**+2.5**
DLPL	**La Plaine**	**0.77**	**157**	*eP*	**Pn**	**16 42 26.6**	**+0.9**
DLPL				*eS*	**Sn**	**16 42 41.7**	**+1.0**
DLPL	**La Plaine**	**0.77**	**157**		**Pn**	**16 42 26.6**	**+0.9**
DLPL				Sn	**Sn**	**16 42 40.7**	**+0.1**
ANBD	**Bethesda, Anti**	**1.01**	**349**	*i* P	**Pn**	**16 42 28.1**	**+0.3**
ANBD				*eS*	**Sn**	**16 42 43.6**	**-0.9**
SVN	**Savane Anatole**	**1.26**	**162**	*eP*	**Pn**	**16 42 31.1**	**+0.6**
SVN	**Savane Anatole**	**1.26**	**162**		**Pn**	**16 42 30.9**	**+0.5**
SVN				Sn	**Sn**	**16 42 47.9**	**-1.3**
PCM	**Pelee Case Pet**	**1.27**	**164**	*eP*	**Pn**	**16 42 31.1**	**+0.5**
PCM	**Pelee Case Pet**	**1.27**	**164**	*eP*	**Pn**	**16 42 31.6**	**+1.0**
BAMF	**Morne Balai**	**1.29**	**162**	*eP*	**Pn**	**16 42 31.5**	**+0.6**
GBMF	**Grand Be**	**1.30**	**163**	*eP*	**Pn**	**16 42 31.4**	**+0.5**
PML	**Morne Lenard**	**1.31**	**164**	*eP*	**Pn**	**16 42 31.5**	**+0.5**
FDF	**Fort de France**	**1.37**	**163**	*i* P	**Pn**	**16 42 32.1**	**+0.4**
FDF				*eS*	**Sn**	**16 42 52.1**	**+0.8**
FDF	**Fort de France**	**1.37**	**163**		**Pn**	**16 42 32.1**	**+0.4**
ILAM	**Ilet Lapin Mar**	**1.43**	**152**	*i* P	**Pn**	**16 42 32.6**	**+0.3**
ILAM				*eS*	**Sn**	**16 42 52.2**	**-0.3**
ILAM	**Ilet Lapin Mar**	**1.43**	**152**		**Pn**	**16 42 32.6**	**+0.3**
NVBH	**Bath Hotel, Ne**	**1.47**	**317**	*eP*	**Pn**	**16 42 34.9**	**+2.2**
NVDO	**Nevis, Disaste**	**1.47**	**317**	*eP*	**Pn**	**16 42 33.7**	**+1.0**
NVDO				*eS*	**Sn**	**16 42 53.9**	**+0.7**
NVRH	**Round Hill, Ne**	**1.50**	**319**	*eP*	**Pn**	**16 42 35.2**	**+2.1**
ZAM	**Aeronautique**	**1.56**	**161**	*eP*	**Pn**	**16 42 34.2**	**+0.4**
LPMF	**Morne Lapointe**	**1.57**	**158**	*eP*	**Pn**	**16 42 34.2**	**+0.2**
TRMF	**Trois Ilets**	**1.58**	**162**	*eP*	**Pn**	**16 42 34.8**	**+0.7**
BIM	**Bigot**	**1.59**	**163**	*i* P	**Pn**	**16 42 35.2**	**+0.9**
BIM				*eS*	**Sn**	**16 42 57.2**	**+1.2**
BIM	**Bigot**	**1.59**	**163**		**Pn**	**16 42 35.2**	**+0.9**
MVM	**Montagne Vaucl**	**1.62**	**156**	*eP*	**Pn**	**16 42 35.0**	**+0.4**
ANWB	**Willy Bob**	**1.63**	**353**	*i* P	**Pn**	**16 42 34.3**	**-0.3**
ANWB				*eS*	**Sn**	**16 42 55.0**	**-1.6**
ANWB	**Willy Bob**	**1.63**	**353**		**Pn**	**16 42 34.3**	**-0.3**
SKOC	**St. Kitts, UWI**	**1.67**	**318**	*eP*	**Pn**	**16 42 36.3**	**+1.2**
SKOC				*eS*	**Sn**	**16 42 59.8**	**+2.3**
SKI	**Saint Kitts**	**1.70**	**319**	*eP*	**Pn**	**16 42 36.7**	**+1.2**
SKI				*eS*	**Sn**	**16 43 00.0**	**+1.7**
SKI	**Saint Kitts**	**1.70**	**319**		**Pn**	**16 42 36.0**	**+0.4**
MPOM	**Morne Pois Mar**	**1.73**	**157**	*i* P	**Pn**	**16 42 36.0**	**+0.1**
MPOM				*eS*	**Sn**	**16 42 58.7**	**-0.2**
MPOM	**Morne Pois Mar**	**1.73**	**157**		**Pn**	**16 42 36.0**	**+0.1**
H05S1	**Guadeloupe/Mar**	**1.76**	**156**	P	**Pn**	**16 42 36.8**	**+0.6**
H05S1				S	**Sn**	**16 42 59.7**	**+0.3**
SEUS	**St. Eustatius**	**1.98**	**317**	*eP*	**Pn**	**16 42 39.5**	**+0.6**
SEUS				*eS*	**Sn**	**16 43 05.0**	**+0.8**
SEUS	**St. Eustatius**	**1.98**	**317**		**Pn**	**16 42 39.3**	**+0.5**
SLBI	**Saint Lucia, B**	**2.09**	**164**	*i* P	**Pn**	**16 42 40.8**	**+0.5**
SLBI				*eS*	**Sn**	**16 43 07.0**	**+0.3**
SLCP	**Castries, St.**	**2.10**	**165**	*eP*	**Pn**	**16 42 40.9**	**+0.5**
SLCP				*eS*	**Sn**	**16 43 08.0**	**+1.0**
MCLT	**Moule a Chique**	**2.40**	**165**	*eP*	**Pn**	**16 42 44.2**	**0.0**
MCLT				*eS*	**Sn**	**16 43 14.4**	**+0.5**
MCLT	**Moule a Chique**	**2.40**	**165**	Pn	**Pn**	**16 42 43.9**	**-0.4**
SMRT	**St. Maarten**	**2.46**	**324**	*i* P	**Pn**	**16 42 44.9**	**-0.2**
SMRT	**St. Maarten**	**2.46**	**324**	Pn	**Pn**	**16 42 44.7**	**-0.3**
SVB	**Belmont**	**2.78**	**174**	*i* P	**Pn**	**16 42 49.8**	**+0.6**
SVB				*eS*	**Sn**	**16 43 23.9**	**+1.3**
SVB	**Belmont**	**2.78**	**174**		**Pn**	**16 42 49.7**	**+0.5**
BCHC	**Barbados, Cave**	**3.45**	**147**	*eP*	**Pn**	**16 42 59.6**	**+1.7**
BCHC				*eS*	**Sn**	**16 43 38.2**	**-0.1**
BBGH	**Gun Hill**	**3.48**	**146**	*eP*	**Pn**	**16 42 59.4**	**+1.0**
BBGH				*eS*	**Sn**	**16 43 37.4**	**-1.6**
BBGH	**Gun Hill**	**3.48**	**146**		**Pn**	**16 42 59.3**	**+0.9**
CDVI	**St. Croix**	**3.50**	**299**	*i* P	**Pn**	**16 42 58.8**	**+0.2**
CDVI	**St. Croix**	**3.50**	**299**	Pn	**Pn**	**16 42 58.9**	**+0.2**
GCMP	**Grenada, Carri**	**3.54**	**178**	*i* P	**Pn**	**16 42 59.7**	**+0.5**
GCMP				*eS*	**Sn**	**16 43 40.9**	**+0.3**
BBSP	**Saint Philip**	**3.57**	**145**	*eP*	**Pn**	**16 43 01.3**	**+1.7**
BBSP				*eS*	**Sn**	**16 43 40.5**	**-0.6**
GRGR	**Grenville**	**3.89**	**181**	*i* P	**Pn**	**16 43 04.6**	**+0.7**
GRGR				*eS*	**Sn**	**16 43 49.3**	**+0.3**
GRGR	**Grenville**	**3.89**	**181**	Pn	**Pn**	**16 43 04.6**	**+0.7**
STVI	**Saint Thomas**	**3.97**	**306**	Pn	**Pn**	**16 43 04.7**	**-0.1**
GRFF	**Grenada Fort F**	**3.98**	**182**	*eP*	**Pn**	**16 43 05.4**	**+0.3**
GRFF	**Grenada Fort F**	**3.98**	**182**	*eS*	**Sn**	**16 43 51.1**	**+0.1**
CUPR	**Culebra, Puert**	**4.21**	**303**	Pn	**Pn**	**16 43 08.6**	**+0.5**
CBYP	**Canovanas**	**4.66**	**299**		**Pn**	**16 43 14.6**	**+0.4**
PDPR	**Patillas Dam,**	**4.69**	**295**	Pn	**Pn**	**16 43 14.7**	**+0.1**
TOSP	**Speyside**	**4.83**	**168**	*eP*	**Pn**	**16 43 16.9**	**+0.5**
TOSP	**Speyside**	**4.83**	**168**	Pn	**Pn**	**16 43 16.7**	**+0.3**
SJG	**San Juan**	**4.84**	**296**	*eP*	**Pn**	**16 43 16.9**	**+0.3**
SJG	**San Juan**	**4.84**	**296**		**Pn**	**16 43 16.9**	**+0.3**
GCPR	**Guaynabo City**	**4.87**	**298**		**Pn**	**16 43 17.7**	**+0.8**
BOT	**Bacolet**	**4.92**	**170**	*eP*	**Pn**	**16 43 18.2**	**+0.5**
ICMP	**Isla Caja de M**	**5.09**	**292**	Pn	**Pn**	**16 43 20.1**	**+0.2**
CELP	**Cerrillos**	**5.20**	**294**		**Pn**	**16 43 21.6**	**+0.1**
OBIP	**Obispado Ponce**	**5.21**	**293**	Pn	**Pn**	**16 43 21.6**	**0.0**
EMPR	**Esperanza - Ma**	**5.32**	**298**		**Pn**	**16 43 22.6**	**-0.4**
TRN	**Trinidad (W)**	**5.37**	**178**	*eP*	**Pn**	**16 43 24.6**	**+0.9**
TRN	**Trinidad (W)**	**5.37**	**178**	*eS*	**Sn**	**16 44 22.7**	**-1.8**
AOPR	**Arecibo Observ**	**5.46**	**295**	*eP*	**Pn**	**16 43 25.5**	**+0.5**
AOPR	**Arecibo Observ**	**5.46**	**295**		**Pn**	**16 43 25.5**	**+0.5**
MLPR	**Magueyes Islan**	**5.58**	**291**	Pn	**Pn**	**16 43 25.4**	**-1.1**
CRPR	**Cabo Rojo, PR**	**5.65**	**291**		**Pn**	**16 43 27.4**	**-0.1**
TPP	**Pointe-a-Pierr**	**5.70**	**179**	*eP*	**Pn**	**16 43 28.2**	**+0.1**
PRSN	**Puerto Rico Se**	**5.75**	**293**		**Pn**	**16 43 29.3**	**+0.5**
AGPR	**Aguadilla, PR**	**5.82**	**295**		**Pn**	**16 43 30.1**	**+0.4**
PCRV	**Puerto La Cruz**	**6.56**	**208**	P	**Pn**	**16 43 40.1**	**+0.3**
	1.9nm,0.3s,baz=75,slow=0.9,SNR=9.6						
PCDR	**Punta Cana, DR**	**6.96**	**292**		**Pn**	**16 43 45.5**	**+0.4**
BIRV	**Birongo**	**7.19**	**220**		**Pn**	**16 43 48.3**	**0.0**
DR12	**Loma Pena Alta**	**7.94**	**291**		**Pn**	**16 43 58.4**	**-0.2**
SC01	**Santiago de lo**	**9.36**	**292**		**Pn**	**16 44 16.7**	**-0.9**
BAUV	**El Baul**	**9.48**	**223**	Pn	**Pn**	**16 44 19.2**	**-0.1**
SDDR	**Presa de Saban**	**9.72**	**289**	*eP*	**Pn**	**16 44 21.8**	**-0.8**
SDDR	**Presa de Saban**	**9.72**	**289**		**Pn**	**16 44 22.1**	**-0.6**
GRTK	**Grand Turk**	**10.56**	**302**	Pn	**Pn**	**16 44 29.7**	**-4.1**
URIC	**Uribia, Colomb**	**11.01**	**248**	Pn	**Pn**	**16 44 35.5**	**-4.4**
SDV	**Santo Domingo**	**11.36**	**232**	P	**Pn**	**16 44 45.6**	**+0.8**
	1.5nm,0.3s,baz=73,slow=7.5,SNR=25						
SDV				LR	LR	16 49 46.4	
	comp=Z,116nm,19.1s,baz=68,slow=41						
SDV	**Santo Domingo**	**11.36**	**232**	*eP*	**Pn**	**16 44 45.6**	**+0.8**
SDV	**Santo Domingo**	**11.36**	**232**	*eP*	**Pn**	**16 44 47.1**	**+2.4**
GTBY	**Guantanamo Bay**	**13.45**	**289**	Pn	**Pn**	**16 45 07.7**	**-4.2**
BOAV	**Boa Vista**	**13.61**	**176**		**Pn**	**16 45 10.0**	**-4.0**
OCAC	**Ocana**	**13.86**	**237**	*eP*	**Pn**	**16 45 18.1**	**+0.7**
OCAC	**Ocana**	**13.86**	**237**		**Pn**	**16 45 16.6**	**-0.8**
MDP	**Montagnes des**	**13.96**	**140**	P	**Pn**	**16 45 14.6**	**-4.0**
	3.5nm,0.3s,baz=330,slow=15,SNR=54						
SMLC	**San Martn de**	**14.17**	**241**	*eP*	**Pn**	**16 45 20.0**	**-1.3**
SJCC	**San Jacinto, C**	**14.61**	**247**	*eP*	**P**	**16 45 28.4**	**-1.5**
SJCC	**San Jacinto, C**	**14.61**	**247**		**Pn**	**16 45 25.8**	**-1.0**
SJCC				P	**P**	**16 45 29.8**	**-0.1**
BARC	**Barichara**	**14.76**	**232**	*i* P	**P**	**16 45 33.0**	**+1.2**
MTDJ	**Mount Denham**	**15.42**	**280**	Pn	**Pn**	**16 45 35.4**	**-1.7**
MTDJ				IAmb	IAmb	16 45 41.5	
	comp=Z,39nm,0.7s						
ZARC	**Zaragoza, Cauc**	**15.54**	**238**	*eP*	**Pn**	**16 45 36.8**	**-1.7**
ZARC	**Zaragoza, Cauc**	**15.54**	**238**	Pn	**Pn**	**16 45 36.3**	**-2.2**
ZARC				IAmb	IAmb	16 45 43.6	
	comp=Z,33nm,0.6s						
MOTC	**Monteria, Cord**	**15.54**	**244**	*eP*	**Pn**	**16 45 37.7**	**-0.9**
MOTC	**Monteria, Cord**	**15.54**	**244**		**Pn**	**16 45 38.0**	**-0.5**
MOTC				IAmb	IAmb	16 45 41.4	
	comp=Z,20nm,0.5s						
PTBC	**PUERTO BERRIO,**	**15.77**	**235**	*eP*	**Pn**	**16 45 41.4**	**0.0**
UREC	**San Jos de Ur**	**15.95**	**240**	*eP*	**P**	**16 45 44.2**	**-0.7**
CHIC	**Chingaza**	**16.48**	**228**	*eP*	**P**	**16 45 52.6**	**+1.5**
BBSR	**BB Station**	**16.50**	**351**	Pn	**Pn**	**16 45 48.3**	**-1.8**
BBSR				IAmb	IAmb	16 45 52.0	
	comp=Z,76nm,1.1s						
PTGA	**Pitinga**	**16.75**	**174**	P	**Pn**	**16 45 53.1**	**-0.2**
	comp=Z,6.3nm,0.3s,baz=356,slow=15,SNR=73						
ROSC	**El Rosal**	**16.76**	**230**	P	**P**	**16 45 54.0**	**-0.1**
	comp=Z,9.8nm,0.3s,baz=68,slow=4.6,SNR=30						
ROSC	**El Rosal**	**16.76**	**230**	Pn	**Pn**	**16 45 52.1**	**-1.8**
ROSC				IAmb	IAmb	16 46 02.3	
	comp=Z,86nm,0.7s						
HELC	**Santa Helena**	**16.83**	**236**	*eP*	**Pn**	**16 45 51.6**	**-3.1**
DBBC	**Dabeiba**	**16.91**	**240**	*eP*	**P**	**16 45 56.3**	**+0.8**
GUY2C	**Guyana, Caldas**	**17.30**	**233**	*eP*	**P**	**16 46 00.0**	**-0.1**
CBOC	**Ciudad Bolivar**	**17.41**	**236**	*eP*	**P**	**16 46 00.0**	**-1.1**

PAL Palisades 27.07 339 P P 16 47 37.4 +0.3
PAL IAmb IAmb 16 48 04.6
comp=Z,24nm,1.1s
MVL Millersville 27.12 135 P P 16 47 37.9 +0.4
MVL IAmb IAmb 16 47 39.5
comp=Z,23nm,0.9s
LUPA Lehigh Univers 27.24 337 P P 16 47 39.3 +0.6
LUPA IAmb IAmb 16 47 40.9
comp=Z,27nm,0.8s
TRNY Table Rock, Ra 27.30 339 P P 16 47 39.7 +0.5
TRNY IAmb IAmb 16 48 06.8
comp=Z,28nm,1.3s
CLDB Colider 27.35 168 *eP* **P 16 47 41.2 +1.4**
ODNJ Ogdensburg 27.38 338 P P 16 47 39.9 0.0
ODNJ IAmb IAmb 16 47 41.7
comp=Z,16nm,0.9s
KSCT Kent School, K 27.58 340 P P 16 47 42.1 +0.6
KSCT IAmb IAmb 16 48 10.3
comp=Z,40nm,1.5s
N59A State Game Lan 27.67 336 P P 16 47 43.2 +0.7
N59A State Game Lan 27.67 336 P P 16 47 43.4 +0.9
baz=150
TKL Tuckaleechee C 27.83 319 P P 16 47 44.1 +0.1
comp=Z,13nm,0.8s,baz=132,slow=11,SNR=21
TKL LR LR 16 58 44.5
comp=Z,71nm,21.1s,baz=97,slow=36
TKL Tuckaleechee C 27.83 319 P P 16 47 43.9 0.0
TKL IAmb IAmb 16 47 46.0
comp=Z,12nm,0.8s
APG El Apazote 27.86 272 P P 16 47 43.5 -1.2
comp=Z,3.9nm,0.7s,baz=267,slow=23,SNR=7.5
PDRB Porto dos Gac 27.89 170 *eP* **P 16 47 46.0 +1.3**
CPCT Cooper Cave 28.18 318 P P 16 47 47.6 +0.5
CPCT IAmb IAmb 16 47 48.7
comp=Z,18nm,0.7s
KSPA Keystone Colle 28.22 337 P P 16 47 48.3 +0.9
TZTN Tazewell 28.25 320 P P 16 47 48.2 +0.5
TZTN IAmb IAmb 16 47 49.5
comp=Z,19nm,0.8s
TZTN Tazewell 28.25 320 P P 16 47 48.6 +0.9
baz=131,SNR=6.9
SSPA Standing Stone 28.30 333 P P 16 47 48.8 +0.8
SSPA IAmb IAmb 16 47 49.8
comp=Z,15nm,0.7s
SSPA Standing Stone 28.30 333 P P 16 47 49.5 +1.4
baz=145
O56A Blue Knob Stat 28.30 332 P P 16 47 49.2 +1.1
O56A IAmb IAmb 16 47 50.6
comp=Z,28nm,0.8s
O56A Blue Knob Stat 28.30 332 P P 16 47 49.8 +1.6
baz=144,SNR=9.4
SMTB Santa Maria do 28.35 150 *eP* **P 16 47 50.5 +1.7**
FPAL Fort Paine 28.37 315 P P 16 47 49.4 +0.6
FPAL IAmb IAmb 16 47 50.5
comp=Z,21nm,1.1s
MCWV Mont Chateau 28.43 329 P P 16 47 50.8 +1.6
baz=141
ATAH Atahualpa 28.43 217 P P 16 47 49.6 -0.3
comp=Z,95nm,0.9s,baz=16,slow=6.1,SNR=29
NBPS Pedro II - PI 28.44 134 *eP* **P 16 47 50.9 +1.2**
LRAL Lakeview Retre 28.54 311 P P 16 47 50.9 +0.6
LRAL Lakeview Retre 28.54 311 P P 16 47 51.3 +1.0
baz=120
VILB Vilhena 28.85 177 *eP* **P 16 47 55.1 +1.9**
VILB Vilhena 28.85 177 P P 16 47 54.5 +1.3
BINY Binghamton 28.86 337 P P 16 47 54.3 +1.2
BINY IAmb IAmb 16 47 55.5
comp=Z,33nm,1.1s
BINY Binghamton 28.86 337 P P 16 47 54.5 +1.5
baz=150
SWET Sewanee 28.97 316 P P 16 47 54.4 +0.3
SWET IAmb IAmb 16 47 55.9
comp=Z,20nm,1.1s
LBNH Lisbon 29.44 345 P P 16 48 00.1 +2.0
baz=160
N54A Moraine State 29.51 331 P P 16 47 59.5 +0.7
N54A IAmb IAmb 16 48 01.2
comp=Z,32nm,1.1s
N54A Moraine State 29.51 331 P P 16 48 00.2 +1.4
baz=142,SNR=7.6
O53A New Philadelph 29.55 329 P P 16 48 00.4 +1.2
baz=139,SNR=7.7
P52A Corning 29.57 327 P P 16 48 00.3 +1.0
baz=137
SNDB Serra Nova Dou 29.64 159 *eP* **P 16 48 01.8 +1.7**
M54A Oil Creek Stat 29.80 332 P P 16 48 02.0 +0.7
M54A IAmb IAmb 16 48 03.4
comp=Z,36nm,1.1s
M54A Oil Creek Stat 29.80 332 P P 16 48 02.6 +1.3
baz=143,SNR=5.7
MMNY Mt. Morris Dam 30.05 336 P P 16 48 04.0 +0.5
MMNY IAmb IAmb 16 48 05.5
comp=Z,46nm,1.4s
WVNY West Valley, N 30.07 334 P P 16 48 04.8 +1.1
M53A Wt Miller and 30.21 331 P P 16 48 06.0 +1.0
baz=142,SNR=5.4
PLAL Pickwick Lake 30.31 313 P P 16 48 06.7 +0.7
PLAL IAmb IAmb 16 48 07.8
comp=Z,28nm,0.8s
ERPA Erie 30.43 332 P P 16 48 07.8 +0.9
ERPA Erie 30.43 332 P P 16 48 08.3 +1.4
baz=143
FRNY Flat Rock 30.44 343 P P 16 48 07.6 +0.7
FRNY IAmb IAmb 16 48 09.2
comp=Z,12nm,0.8s
ACSO Alum Creek Sta 30.46 327 P P 16 48 07.7 +0.6
ACSO IAmb IAmb 16 48 08.7
comp=Z,16nm,0.7s
ACSO Alum Creek Sta 30.46 327 P P 16 48 08.4 +1.2
baz=136,SNR=7.0
LONY Lake Ozonia 30.54 342 P P 16 48 08.0 +0.2
LONY IAmb IAmb 16 48 11.2
comp=Z,14nm,1.1s
LONY Lake Ozonia 30.54 342 P P 16 48 09.0 +1.2
baz=155
NBPB Pedra Branca-C 30.55 133 *eP* **P 16 48 10.4 +2.1**
NBCL Cascavel-CE 30.59 129 *eP* **P 16 48 10.1 +1.5**
MEDO Medina 30.63 335 P P 16 48 09.3 +0.6
WVT Waverly 30.76 316 P P 16 48 10.0 +0.1
WVT IAmb IAmb 16 48 11.2
comp=Z,20nm,0.7s
WVT Waverly 30.76 316 P P 16 48 10.5 +0.6
baz=124
PEXB Peixe 30.90 154 *eP* **P 16 48 13.3 +2.1**
P49A Miami Univ. Ec 30.92 324 P P 16 48 12.3 +1.0
baz=133,SNR=17
WCI Wyandotte Cave 31.01 320 P P 16 48 12.4 +0.4
WCI IAmb IAmb 16 48 14.1
comp=Z,37nm,0.9s
WCI Wyandotte Cave 31.01 320 P P 16 48 13.6 +1.5
baz=129
OXF Oxford 31.02 312 P P 16 48 12.2 0.0
OXF Oxford 31.02 312 P P 16 48 12.9 +0.7
baz=120
PTLB Pontes e Lacer 31.39 176 *eP* **P 16 48 16.7 +1.2**
PTLB Pontes e Lacer 31.39 176 P P 16 48 15.0 -0.5
PTLB IAmb IAmb 16 48 17.6
comp=Z,30nm,0.7s
DELO Deloro Mine 31.46 338 P P 16 48 16.4 +0.4
DELO IAmb IAmb 16 48 17.8
comp=Z,14nm,0.9s
UTMT University of 31.58 315 P P 16 48 17.1 +0.1
O48B Farmland 31.66 324 P P 16 48 18.5 +0.7
baz=133
NNA Nana 31.69 209 P P 16 48 17.1 -1.2
comp=Z,24nm,0.8s,baz=359,slow=9.2,SNR=12
NNA Nana 31.69 209 P P 16 48 17.2 -1.1
NNA IAmb IAmb 16 48 18.2
comp=Z,24nm,0.8s
BLO Bloomington 31.74 321 P P 16 48 19.2 +0.7
SIV San Ignacio 31.84 179 P P 16 48 19.6 +0.1
comp=Z,49nm,0.6s,baz=6.5,slow=7.9,SNR=168
SIV LR LR 17 01 30.8
comp=Z,94nm,21.9s,baz=110,slow=37
SALV Santo Antonio 32.27 169 *eP* **P 16 48 24.6 +1.3**
AAM Ann Arbor 32.31 329 P P 16 48 24.0 +0.6
AAM Ann Arbor 32.31 329 P P 16 48 24.5 +1.1
baz=138
NBMA Muriti-CE 32.41 134 *eP* **P 16 48 26.6 +2.0**
OLIL Olney 32.44 319 P P 16 48 25.0 +0.5
SDBA SAO DESIDERIO 32.73 149 *eP* **P 16 48 28.7 +1.3**
LPAZ La Paz 32.78 192 P P 16 48 27.1 -1.3
comp=Z,7.5nm,0.7s,baz=4.9,slow=7.5,SNR=26
LPAZ PcP **PcP 16 51 10.9 -0.3**
comp=Z,2.0nm,0.6s,baz=0.0,slow=6.1,SNR=3.3
LPAZ LR LR 17 03 25.1
comp=Z,63nm,20.4s,baz=30,slow=39
LPAZ La Paz 32.78 192 *eP* **P 16 48 27.1 -1.3**
LPAZ La Paz 32.78 192 P P 16 48 26.6 -1.8
LPAZ IAmb IAmb 16 48 30.0
comp=Z,9.0nm,0.8s
SFIN Lafayette 32.85 323 P P 16 48 28.7 +0.5
SFIN Lafayette 32.85 323 P P 16 48 29.3 +1.1
baz=130,SNR=9.8
PBMO Poplar Bluff 32.88 314 P P 16 48 27.7 -0.7
PBMO IAmb IAmb 16 48 30.0
comp=Z,26nm,0.9s
LCAR Lake Charles 33.02 313 P P 16 48 29.8 +0.1
W41B Gary Mavity, V 33.39 311 P P 16 48 32.9 0.0
W41B Gary Mavity, V 33.39 311 P P 16 48 33.7 +0.8
baz=117,SNR=17
RCBR Riachuelo 33.43 129 *eP* **P 16 48 36.5 +3.0**
WHAR Wooly Hollow 33.47 311 P P 16 48 33.6 0.0
WHAR IAmb IAmb 16 48 35.1
comp=Z,27nm,0.9s
FVM French Village 33.51 316 P P 16 48 34.1 +0.1
FVM IAmb IAmb 16 48 35.2
comp=Z,19nm,0.6s
X40A Basin Creek Fa 33.52 309 P P 16 48 35.2 +1.1
baz=116,SNR=27
FCAR Ozark Folk Cen 33.63 312 P P 16 48 34.7 -0.2
FCAR IAmb IAmb 16 48 36.2
comp=Z,28nm,0.9s
NBPN Ponto Novo - B 34.08 140 *eP* **P 16 48 40.8 +1.7**
PP1B Ponte de Pedra 34.08 169 *eP* **P 16 48 40.8 +1.8**
CCM Cathedral Cave 34.10 316 P P 16 48 39.0 0.0
CCM IAmb IAmb 16 48 40.1
comp=Z,22nm,0.8s
CCM Cathedral Cave 34.10 316 P P 16 48 39.4 +0.4
baz=122
MIAR Mount Ida 34.10 309 P P 16 48 39.1 +0.1
MIAR Mount Ida 34.10 309 P P 16 48 39.5 +0.5
baz=115,SNR=6.0
BDFB Brasilia 34.21 156 P P 16 48 41.2 +0.9
comp=Z,9.6nm,0.7s,baz=321,slow=9.0,SNR=18
BDFB PcP **PcP 16 51 14.8 +0.2**
comp=Z,2.3nm,0.6s,baz=245,slow=1.9,SNR=3.8
BDFB Brasilia 34.21 156 P P 16 48 40.9 +0.6
BDFB IAmb IAmb 16 48 43.0
comp=Z,11nm,0.8s
HDIL Hopedale 34.27 321 P P 16 48 40.0 -0.5
HDIL Hopedale 34.27 321 P P 16 48 41.3 +0.8
baz=128,SNR=5.0
MGMO Mountain Grove 34.34 314 P P 16 48 41.0 -0.1
MGMO IAmb IAmb 16 48 42.9
comp=Z,20nm,0.9s
U40A Yellville 34.37 312 P P 16 48 41.8 +0.4
baz=118,SNR=10
L44A Lake County Fo 34.49 324 P P 16 48 42.8 +0.5
L44A Lake County Fo 34.49 324 P P 16 48 43.4 +1.1
baz=131,SNR=8.7
W39A Magazine 34.53 310 P P 16 48 44.2 +1.5
baz=115,SNR=18
GLMI Grayling 34.65 331 P P 16 48 44.2 +0.4
GLMI Grayling 34.65 331 P P 16 48 45.2 +1.5
baz=139,SNR=5.3
PB16 IPOC Station P 35.05 193 P P 16 48 45.2 -2.7
PB16 IAmb IAmb 16 48 45.9
comp=Z,12nm,0.7s
PB16 **PcP 16 51 18.1 +0.5**
HHAR Hobbs 35.11 311 P P 16 48 48.1 +0.3
JANB Januaria 35.29 150 *eP* **P 16 48 51.2 +1.6**
PB12 IPOC Station P 35.51 194 P P 16 48 47.0 -4.4
PB12 IAmb IAmb 16 48 48.6
comp=Z,14nm,0.6s
NBLA Lagarto - SE 35.71 137 *eP* **P 16 48 54.2 +1.1**
NBAN Anadia - AL 35.77 134 *eP* **P 16 48 55.5 +1.9**
MNMC Minye Minye 35.84 193 P P 16 48 51.2 -3.2
MNMC **PcP 16 51 20.2 +0.7**
WHTX Lake Whitney, 36.22 303 P P 16 48 56.9 -0.4
WHTX IAmb IAmb 16 48 58.3
comp=Z,13nm,0.8s
WHTX Lake Whitney, 36.22 303 P P 16 48 57.7 +0.4
baz=108
GO01 Chusmiza 36.28 192 P P 16 48 55.4 -3.0
IPMB Ipameri, GO 36.28 158 *eP* **P 16 48 59.5 +1.5**
JFWS Jewell Farm 36.28 323 P P 16 48 57.8 +0.1
JFWS IAmb IAmb 16 48 59.1
comp=Z,20nm,0.8s
JFWS Jewell Farm 36.28 323 P P 16 48 58.3 +0.6
baz=129,SNR=7.4
TUL1 Leonard 36.31 310 P P 16 48 58.1 0.0
TUL1 Leonard 36.31 310 P P 16 48 58.6 +0.6
baz=114,SNR=13
PB11 IPOC Station P 36.46 193 P P 16 48 56.1 -3.4
PB11 **PcP 16 51 21.2 0.0**
GDU01 Guandu, BA 36.70 142 *eP* **P 16 49 03.3 +1.7**
PB08 IPOC Station P 36.73 192 P P 16 48 59.2 -2.9
AQDB Aquidauana 36.75 171 *eP* **P 16 49 03.4 +1.6**
AQDB Aquidauana 36.75 171 P P 16 49 02.5 +0.7
AQDB IAmb IAmb 16 49 04.5
comp=Z,20nm,0.9s
OK034 N. Norfolk Rd. 37.04 309 P P 16 49 04.0 -0.2
OK030 Cody Creek RV 37.06 309 P P 16 49 04.2 -0.2
OK031 S. Brethren Rd 37.11 309 P P 16 49 04.8 0.0
ITRB Iturama 37.20 162 *eP* **P 16 49 06.6 +1.0**
OK033 Mehan 37.22 309 P P 16 49 05.9 +0.2
OK025 Westminster Rd 37.34 308 P P 16 49 06.8 0.0
OK025 IAmb IAmb 16 49 07.6
comp=Z,21nm,0.7s
SCIA State Center 37.46 320 P P 16 49 08.1 +0.4
SCIA State Center 37.46 320 P P 16 49 08.3 +0.6
baz=124
PB01 IPOC Station P 37.67 192 P P 16 49 06.5 -3.2
PB01 IAmb IAmb 16 49 07.6
comp=Z,22nm,0.7s
NBIT Itapeh - BA 37.75 144 *eP* **P 16 49 12.2 +1.8**
JCT Junction City 37.76 299 P P 16 49 09.9 -0.5
JCT IAmb IAmb 16 49 11.5
comp=Z,13nm,0.8s
JCT Junction City 37.76 299 P P 16 49 10.1 -0.2
baz=104,SNR=7.8
COWI Conover 37.78 328 P P 16 49 10.8 +0.5
COWI IAmb IAmb 16 49 12.2
comp=Z,13nm,0.9s
KAN13 South Haven SW 38.00 310 P P 16 49 12.7 +0.4
PB02 IPOC Station P 38.02 193 P P 16 49 09.9 -2.8
CMC01 Camacan, BA 38.05 144 *eP* **P 16 49 14.8 +2.0**
WMOK Wichita Mounta 38.15 306 P P 16 49 13.4 -0.2
baz=110
ABTX Abilene, Hawle 38.18 303 P P 16 49 13.6 -0.3
ABTX IAmb IAmb 16 49 14.6
comp=Z,16nm,0.8s
ABTX Abilene, Hawle 38.18 303 P P 16 49 13.7 -0.2
baz=106,SNR=9.5
KSU1 Kansas State U 38.27 314 P P 16 49 13.8 -0.7
KSU1 Kansas State U 38.27 314 P P 16 49 14.1 -0.4
baz=117,SNR=5.5
KAN14 Manchester OK 38.34 310 P P 16 49 14.6 -0.5
PB09 IPOC Station P 38.35 192 P P 16 49 13.2 -2.3
PB09 IAmb IAmb 16 49 14.6
comp=Z,9.8nm,0.7s
DIAM Diamantina, MG 38.41 152 *eP* **P 16 49 17.3 +1.3**
PB07 IPOC Station P 38.42 193 P P 16 49 12.9 -3.2
PB03 IPOC Station P 38.70 192 P P 16 49 15.3 -3.1
PB03 IAmb IAmb 16 49 17.4
comp=Z,9.5nm,0.6s
PCMB Pacaembu 38.76 165 *eP* **P 16 49 20.4 +1.6**
GUA01 Guaratinga, BA 38.88 146 *eP* **P 16 49 21.5 +1.7**
SCHQ Schefferville 38.92 355 P P 16 49 21.1 +1.4
comp=Z,16nm,0.5s,baz=177,slow=7.0,SNR=91
SCHQ LR LR 17 03 53.6
comp=Z,31nm,21.6s,baz=157,slow=34
SCHQ Schefferville 38.92 355 P P 16 49 21.1 +1.4
SCHQ IAmb IAmb 16 49 21.6
comp=Z,20nm,0.6s
PB04 IPOC Station P 39.06 193 P P 16 49 18.1 -3.3
PB04 IAmb IAmb 16 49 19.0
comp=Z,6.8nm,0.6s
LVC Limon Verde 39.09 191 LR LR 17 07 38.4
comp=Z,74nm,18.3s,baz=336,slow=39
LVC Limon Verde 39.09 191 *eP* **P 16 49 19.3 -2.5**
LVC Limon Verde 39.09 191 P P 16 49 19.3 -2.5
SPMN Marine on St. 39.16 325 P P 16 49 21.6 -0.3
SPMN IAmb IAmb 16 49 22.9
comp=Z,20nm,0.8s
SPMN Marine on St. 39.16 325 P P 16 49 22.3 +0.4
baz=128,SNR=8.1
PB06 IPOC Station P 39.30 192 P P 16 49 20.4 -3.1
PB06 IAmb IAmb 16 49 21.3
comp=Z,21nm,0.6s
NAN01 Guarapari, ES 39.75 147 *eP* **P 16 49 28.4 +1.4**
PB15 IPOC Station P 39.77 191 P P 16 49 24.5 -2.8
PB15 IAmb IAmb 16 49 25.5
comp=Z,10nm,0.8s
SJMB Sao Joao De Ma 39.94 149 *eP* **P 16 49 30.9 +2.3**
EYMN Ely 40.22 329 P P 16 49 30.5 -0.1
EYMN IAmb IAmb 16 49 32.9
comp=Z,22nm,1.4s
EYMN Ely 40.22 329 P P 16 49 31.0 +0.4
baz=132
PB10 IPOC Station P 40.29 193 P P 16 49 28.3 -3.0
PB10 IAmb IAmb 16 49 29.3
comp=Z,13nm,0.8s
BSCB Bom Sucesso 40.34 155 *eP* **P 16 49 32.9 +1.0**
CBKS Cedar Bluff 40.36 312 P P 16 49 31.6 -0.3
CBKS IAmb IAmb 16 49 33.0
comp=Z,27nm,0.8s
CBKS Cedar Bluff 40.36 312 P P 16 49 32.2 +0.3
baz=114
BGNE Belgrade 40.38 316 P P 16 49 31.8 -0.2
BGNE Belgrade 40.38 316 P P 16 49 32.4 +0.4
baz=118
AMTX Amarillo 40.45 305 P P 16 49 32.5 -0.4
ECSD EROS Data Cent 40.55 320 P P 16 49 33.2 -0.2
ECSD IAmb IAmb 16 49 34.5
comp=Z,22nm,0.8s
ECSD EROS Data Cent 40.55 320 P P 16 49 33.7 +0.3
baz=122,SNR=24
RCLB Rio Claro- Sao 40.62 160 *eP* **P 16 49 35.5 +1.3**
TXAR Lajitas Array 40.81 296 P P 16 49 36.0 +0.1
comp=Z,1.5nm,0.6s,baz=121,slow=7.7,SNR=35
TXAR PcP **PcP 16 51 35.9 +1.1**
comp=Z,1.7nm,0.8s,baz=126,slow=5.9,SNR=3.9
TXAR ScP **ScP 16 55 13.5 0.0**
comp=Z,0.6nm,0.8s,baz=116,slow=5.9,SNR=4.6
TXAR Lajitas Array 40.81 296 P P 16 49 35.5 -0.4
TX31 Lajitas Ar. Si 40.82 296 P P 16 49 35.6 -0.3
TX31 IAmb IAmb 16 49 43.4
comp=Z,6.4nm,0.6s
TX32 Lajitas Array 40.82 296 P P 16 49 35.3 -0.6
FRTB Fartura 40.87 163 *eP* **P 16 49 37.6 +1.4**
MSTX Muleshoe 41.06 304 P P 16 49 37.5 -0.4
MSTX IAmb IAmb 16 49 38.6
comp=Z,15nm,0.7s
MSTX Muleshoe 41.06 304 P P 16 49 38.1 +0.1
baz=106,SNR=6.9
PTGB Pitanga 41.56 167 *eP* **P 16 49 42.4 +0.5**
ALF01 Guarapari-ES 41.79 150 *eP* **P 16 49 44.2 +0.5**
PARB Paraibuna 42.13 158 *eP* **P 16 49 47.8 +1.3**
DUB01 Friburgo-RJ 42.30 153 *eP* **P 16 49 49.0 +1.1**
CPUP Villa Florida 42.32 174 P P 16 49 47.4 -0.6
comp=Z,12nm,0.6s,baz=358,slow=7.2,SNR=25
CPUP PcP **PcP 16 51 40.1 +0.6**
comp=Z,4.1nm,0.9s,baz=353,slow=4.8,SNR=3.2
CPUP LR LR 17 07 23.2
comp=Z,22nm,21.4s,baz=295,slow=36
CPUP Villa Florida 42.32 174 *eP* **P 16 49 47.4 -0.6**
CPUP Villa Florida 42.32 174 P P 16 49 47.0 -0.9
CPUP IAmb IAmb 16 49 48.5
comp=Z,16nm,0.8s
SUSD Miller 42.36 320 P P 16 49 47.9 -0.2
SUSD Miller 42.36 320 P P 16 49 48.5 +0.3
baz=120,SNR=5.5
CAM01 Campos-RJ 42.40 152 *eP* **P 16 49 49.7 +1.1**
PET01 Itanhaem-SP 42.45 161 *eP* **P 16 49 50.3 +1.3**
MNTX Cornudas Mount 42.69 299 P P 16 49 50.7 -0.4
MNTX IAmb IAmb 16 49 52.2
comp=Z,6.7nm,0.5s
MNTX Cornudas Mount 42.69 299 P P 16 49 51.4 +0.3
baz=101,SNR=10
AGMN Agassiz Nation 42.70 326 P P 16 49 50.5 -0.4
AGMN IAmb IAmb 16 49 51.5
comp=Z,21nm,0.7s
AGMN Agassiz Nation 42.70 326 P P 16 49 50.9 +0.1
baz=127,SNR=24
OGNE Ogallala 42.82 314 P P 16 49 52.0 -0.1
OGNE IAmb IAmb 16 49 53.2
comp=Z,27nm,1.1s
OGNE Ogallala 42.82 314 P P 16 49 52.4 +0.4
baz=114
T25A Trinidad 43.24 308 P P 16 49 55.6 0.0
T25A IAmb IAmb 16 49 56.4
comp=Z,6.1nm,0.6s
T25A Trinidad 43.24 308 P P 16 49 56.1 +0.5
baz=108,SNR=7.0
AC02 Maricunga 43.26 190 P P 16 49 54.5 -1.6
ULM Lac du Bonnet 43.90 329 P P 16 50 00.1 -0.4
comp=Z,15nm,0.5s,baz=131,slow=8.6,SNR=17
ULM pP **pP 16 50 27.3 -0.1**
comp=Z,6.5nm,0.5s,baz=130,slow=9.9,SNR=3.9
ULM Lac du Bonnet 43.90 329 P P 16 49 59.9 -0.6
ULM IAmb IAmb 16 50 00.5
comp=Z,18nm,0.5s
ULM **pP 16 50 27.2 -0.1**
ITAB Concordia 43.99 168 *eP* **P 16 50 01.9 +0.5**
GO03 Copiap 44.19 191 P P 16 50 00.3 -2.7
GO03 IAmb IAmb 16 50 01.4
comp=Z,13nm,0.9s
BNM Barren Site 44.22 303 P P 16 50 03.9 +0.4
SDCO Great Sand Dun 44.25 308 P P 16 50 03.6 -0.1
SDCO Great Sand Dun 44.25 308 P P 16 50 04.2 +0.4
baz=107,SNR=11
ANMO Albuquerque 44.26 304 P P 16 50 03.9 +0.1
ANMO Albuquerque 44.26 304 P P 16 50 04.4 +0.6
baz=104
MDND Maddock 44.51 324 P P 16 50 05.1 -0.3
MDND IAmb IAmb 16 50 06.3
comp=Z,28nm,0.9s
MDND Maddock 44.51 324 P P 16 50 05.7 +0.3
baz=122
121A Cookes Peak, D 44.85 300 P P 16 50 10.1 +1.6
baz=100,SNR=5.4
AC04 Llanos de Chal 44.94 192 P P 16 50 06.5 -2.4
AC04 IAmb IAmb 16 50 09.4
comp=Z,19nm,1.2s
ISCO Idaho Springs 44.96 311 P P 16 50 08.1 -1.4
ISCO Idaho Springs 44.96 311 P P 16 50 10.1 +0.7
baz=109,SNR=5.8
S22A 4UR Ranch, Cre 45.26 308 P P 16 50 12.5 +0.7
baz=106
PHWY Pilot Hill 45.36 313 P P 16 50 12.2 -0.3
RSSD Black Hills 45.46 317 P P 16 50 13.3 +0.1
RSSD Black Hills 45.46 317 P P 16 50 14.2 +1.0
baz=114
ITQB Itaqui 45.70 174 *eP* **P 16 50 14.4 -0.5**
ITQB Itaqui 45.70 174 P P 16 50 13.9 -0.9
ITQB IAmb IAmb 16 50 15.5
comp=Z,25nm,0.8s
319A Douglas 45.92 298 P P 16 50 16.8 -0.1
319A IAmb IAmb 16 50 19.6
comp=Z,13nm,0.9s
TER01 Tubaro-SC 45.92 165 *eP* **P 16 50 17.8 +1.1**
MVCO Mesa Verde 46.40 306 P P 16 50 22.8 +2.1
baz=104
NRS Narsarsuaq 46.52 11 P P 16 50 22.4 +1.5
NRS IAmb IAmb 16 50 23.4
comp=Z,26nm,0.9s
K22A Casper 46.58 314 P P 16 50 22.6 +0.7
baz=111
PV15 Paradox Valley 46.67 308 P P 16 50 22.6 -0.2
RWWY Rawlins 46.73 313 P P 16 50 23.4 +0.2
GO04 Tololo Observa 46.81 191 P P 16 50 21.8 -2.0
CPSB Cacapava Do Su 46.84 170 *eP* **P 16 50 23.5 -0.3**
PV13 Radium Mtn., P 46.88 308 P P 16 50 24.9 +0.5
W18A Petrified Fore 46.92 303 P P 16 50 25.1 +0.4
W18A IAmb IAmb 16 50 26.5
comp=Z,7.5nm,0.7s
W18A Petrified Fore 46.92 303 P P 16 50 25.5 +0.8
baz=101
TUC Tucson 47.32 299 P P 16 50 28.8 +1.1
baz=98
CO06 Fray Jorge 47.45 192 P P 16 50 26.8 -1.7
DGMT Dagmar 47.48 322 P P 16 50 28.5 -0.2
DGMT Dagmar 47.48 322 P P 16 50 29.7 +1.1
baz=118,SNR=6.7
CO02 Combarbal 47.85 191 P P 16 50 29.8 -1.9
CO02 IAmb IAmb 16 50 45.5
comp=Z,20nm,1.1s
PLTB Pedras Altas 48.15 171 *eP* **P 16 50 34.6 +0.7**
PLTB Pedras Altas 48.15 171 P P 16 50 33.2 -0.7
PLTB IAmb IAmb 16 50 34.6
comp=Z,22nm,1.4s
WUAZ Wupatki 48.31 303 P P 16 50 35.5 0.0

WUAZ IAmb IAmb 16 50 38.1
comp=Z,11nm,0.8s
WUAZ Wupatki 48.31 303 P **P 16 50 36.9 +1.4**
baz=100
BW06 Boulder Array 48.72 313 P **P 16 50 38.7 +0.1**
BW06 IAmb IAmb 16 50 39.9
comp=Z,9.4nm,0.9s
BW06 Boulder Array 48.72 313 P **P 16 50 39.1 +0.5**
baz=108,SNR=15
PD31 Pinedale Array 48.72 313 P **P 16 50 38.6 0.0**
PD31 IAmb IAmb 16 50 39.9
comp=Z,8.5nm,0.9s
PDAR Pinedale Array 48.72 313 P **P 16 50 39.0 +0.4**
comp=Z,5.6nm,0.5s,baz=119,slow=10,SNR=71
PDAR pP **pP 16 51 07.2 +1.2**
comp=Z,3.2nm,0.6s,baz=122,slow=10,SNR=3.7
PDAR ScP **ScP 16 55 45.0 -1.0**
comp=Z,0.4nm,0.7s,baz=94,slow=5.0,SNR=3.3
PDAR LR LR 17 11 58.4
comp=Z,163nm,21.7s,baz=281,slow=37
PDAR Pinedale Array 48.72 313 P **P 16 50 38.7 +0.1**
U15A North Rim 49.21 304 P **P 16 50 41.8 -0.6**
VA03 San Esteban 49.29 190 P **P 16 50 41.6 -1.1**
RLMT Red Lodge 49.30 316 P **P 16 50 43.4 +0.5**
RLMT IAmb IAmb 16 50 44.8
comp=Z,12nm,1.0s
RLMT Red Lodge 49.30 316 P **P 16 50 43.9 +1.0**
baz=110,SNR=10
FFC Flin Flon 49.58 330 P **P 16 50 43.9 -0.7**
ROC1 El Roble 49.58 190 P **P 16 50 42.0 -3.1**
ROC1 IAmb IAmb 16 50 43.2
comp=Z,18nm,1.0s
LOHW Long Hollow 49.71 314 P **P 16 50 46.0 -0.1**
LOHW IAmb IAmb 16 50 47.5
comp=Z,11nm,1.4s
AHID Auburn Hatcher 49.81 313 P **P 16 50 46.3 -0.5**
AHID IAmb IAmb 16 50 48.1
comp=Z,6.6nm,0.8s
REDW Red Top Meadow 49.81 314 P **P 16 50 46.6 -0.2**
MOOW Moose Ponds 49.85 314 P **P 16 50 46.7 -0.4**
MT02 Curacav 49.88 191 P **P 16 50 45.3 -1.8**
MT02 IAmb IAmb 16 50 47.0
comp=Z,12nm,0.9s
MT05 Renca 49.94 190 P **P 16 50 45.7 -1.9**
MT09 Talagante 50.35 190 P **P 16 50 49.1 -1.7**
MT09 IAmb IAmb 16 50 50.2
comp=Z,28nm,1.3s
DUG Dugway, Tooele 50.39 309 P **P 16 50 51.2 +0.1**
DUG Dugway, Tooele 50.39 309 P **P 16 50 52.2 +1.1**
baz=103,SNR=5.9
EGMT Eagleton 50.66 320 P **P 16 50 53.5 +0.5**
EGMT IAmb IAmb 16 50 55.0
comp=Z,12nm,0.9s
EGMT Eagleton 50.66 320 P **P 16 50 54.5 +1.5**
baz=112,SNR=5.5
BO01 Tunca 50.97 190 P **P 16 50 53.5 -1.8**
BOZ Bozeman (W) 51.03 316 P **P 16 50 55.5 -0.3**
BOZ Bozeman (W) 51.03 316 P **P 16 50 56.4 +0.5**
baz=109
IRM Iron Mountain 51.18 301 P **P 16 50 58.5 +1.4**
baz=97
BO02 Sierra Bellavi 51.31 190 P **P 16 50 56.9 -1.0**
PNCL Nicolau / Gran 51.32 54 *eP* **P 16 51 00.3 +2.3**
HRY Holter Researc 51.52 317 P **P 16 50 59.7 +0.2**
MCMT McKenzie Canyo 51.61 315 P **P 16 51 00.0 -0.4**
LRM Limekiln Ridge 51.64 316 P **P 16 50 59.5 -1.1**
GO05 Huala 51.72 191 P **P 16 50 59.2 -1.6**
GO05 IAmb IAmb 16 51 00.2
comp=Z,19nm,0.8s
PMTG Montargil 51.73 53 *eP* **P 16 51 02.6 +1.6**
PBEJ Beja 51.82 54 *eP* **P 16 51 03.7 +2.0**
BCYI Bear Canyon 51.85 314 P **P 16 51 02.4 +0.3**
R11A Troy Canyon, C 52.13 306 P **P 16 51 03.4 -0.9**
R11A Troy Canyon, C 52.13 306 P **P 16 51 05.1 +0.9**
baz=100
H10N3 ASCENSION HYDR 52.29 114 T T 17 46 27.6
baz=296,slow=75,SNR=392
H10N2 ASCENSION HYDR 52.29 114 T T 17 46 28.1
baz=296,slow=75,SNR=438
H10N1 ASCENSION HYDR 52.31 114 T T 17 46 29.2
baz=296,slow=75,SNR=517
ELK Elko 52.31 309 P **P 16 51 05.6 0.0**
HLID Hailey 52.35 313 P **P 16 51 06.3 +0.5**
HLID Hailey 52.35 313 P **P 16 51 06.6 +0.8**
baz=105,SNR=5.3
ML02 Panimavida 52.37 190 P **P 16 51 04.5 -1.1**
TPNV Topopah Spring 52.43 304 P **P 16 51 07.5 +1.1**
TPNV Topopah Spring 52.43 304 P **P 16 51 07.9 +1.4**
baz=98
H10S3 ASCENSION HYDR 52.66 115 T T 17 47 56.2
baz=285,slow=74,SNR=328
H10S2 ASCENSION HYDR 52.67 115 T T 17 47 49.7
baz=295,slow=74,SNR=86
JTMT Jette 53.43 318 P **P 16 51 13.6 0.0**
PLID Pearl Lake 53.84 314 P **P 16 51 16.4 -0.3**
NV11 Mina Array Sit 54.14 306 P **P 16 51 19.0 +0.1**
NV11 IAmb IAmb 16 51 22.4
comp=Z,8.9nm,1.2s
NVAR Mina Array Bea 54.25 306 P **P 16 51 20.5 +0.7**
comp=Z,2.8nm,0.6s,baz=94,slow=7.5,SNR=34
NVAR PcP **PcP 16 52 23.6 +1.0**
comp=Z,1.5nm,0.7s,baz=112,slow=5.5,SNR=4.2
NVAR Mina Array Bea 54.25 306 P **P 16 51 19.6 -0.2**
BMO Blue Mountains 54.68 314 P **P 16 51 22.1 -0.6**
SNCC San Nicolas Is 54.73 300 P **P 16 51 22.0 -1.1**
ICESG Greenland Ices 54.78 9 *i* P **P 16 51 22.3 -0.9**
ICESG IAmb IAmb 16 51 25.1
comp=Z,5.8nm,0.6s
F10A Beach Ranch, E 54.89 315 P **P 16 51 23.3 -0.8**
ESDC Sonseca Array 55.09 53 P **P 16 51 27.5 +1.9**
comp=Z,1.4nm,0.7s,baz=272,slow=7.4,SNR=13
J08A Circle Bar Ran 55.19 312 P **P 16 51 26.1 -0.2**
NEW Newport 55.41 318 P **P 16 51 27.6 -0.1**
NEW IAmb IAmb 16 51 29.2
comp=Z,11nm,0.8s
NEW Newport 55.41 318 P **P 16 51 28.0 +0.3**
baz=106,SNR=10
LC01 Cunco 55.50 190 P **P 16 51 26.7 -1.6**
G08A Pilot Rock 55.92 314 P **P 16 51 31.3 -0.3**
I07A Izee 56.06 313 P **P 16 51 32.7 +0.1**
DBIC Dimbokro 56.22 93 P **P 16 51 35.2 +1.2**
comp=Z,7.3nm,0.7s,baz=291,slow=6.4,SNR=10.0
DBIC Dimbokro 56.22 93 P **P 16 51 34.8 +0.8**
DBIC IAmb IAmb 16 51 36.1
comp=Z,11nm,0.8s
K05A Summer Lake 56.83 311 P **P 16 51 39.0 +0.8**
K05A IAmb IAmb 16 51 55.8
comp=Z,20nm,1.3s
B08A Colville Reser 56.86 318 P **P 16 51 37.0 -1.1**
PLCA Paso Flores 57.10 188 P **P 16 51 39.4 -0.4**
comp=Z,9.1nm,0.7s,baz=5.8,slow=8.4,SNR=28
PLCA PcP **PcP 16 52 33.6 +0.4**
comp=Z,2.3nm,0.8s,baz=32,slow=5.2,SNR=3.5
PLCA Paso Flores 57.10 188 *eP* **P 16 51 39.5 -0.2**
PLCA Paso Flores 57.10 188 P **P 16 51 38.9 -0.9**
PLCA IAmb IAmb 16 51 40.2
comp=Z,12nm,0.8s
LL04 Puerto Octay 57.55 190 P **P 16 51 41.4 -1.5**
LL04 IAmb IAmb 16 51 42.1
comp=Z,6.9nm,0.7s
J04D Umpqua Nationa 57.79 311 P **P 16 51 45.2 +0.3**
J04D IAmb IAmb 16 51 51.5
comp=Z,21nm,1.1s
J04D Umpqua Nationa 57.79 311 P **P 16 51 45.4 +0.5**
baz=98
H04A Detroit Lake 58.06 313 P **P 16 51 46.8 +0.2**
H04A IAmb IAmb 16 51 47.9
comp=Z,16nm,1.2s
SUMG Summit 58.10 8 *eP* **P 16 51 44.1 -2.7**
SUMG IAmb IAmb 16 51 48.7
comp=Z,4.7nm,0.8s
SUMG Summit 58.10 8 P **P 16 51 47.7 +0.9**
SUMG IAmb IAmb 16 51 49.6
comp=Z,26nm,1.3s
KMRM Mail Ridge 58.62 308 P **P 16 51 51.0 +0.4**
KSXB Camp Six Broad 58.91 309 P **P 16 51 52.7 +0.1**
EKA Eskdalemuir Ar 59.12 35 P **P 16 51 54.9 +1.3**
comp=Z,1.7nm,0.5s,baz=259,slow=7.0,SNR=14
YKA Yellowknife Ar 59.22 334 P **P 16 51 54.0 -0.1**
comp=Z,10nm,0.7s,baz=106,slow=7.4,SNR=192
YKA pP **pP 16 52 22.1 -0.6**
comp=Z,4.0nm,0.7s,baz=109,slow=7.3,SNR=4.8
YKA Yellowknife Ar 59.22 334 P **P 16 51 53.8 -0.4**
E03A Lebam 59.31 315 P **P 16 51 55.5 +0.4**
RADR Rader Ridge 59.45 315 P **P 16 51 56.7 +0.5**

B04A Port Angeles 59.52 317 P **P 16 51 57.0 +0.4**
NLWA Neilton Lookou 59.66 316 P **P 16 51 57.8 +0.3**
TORD Torodi Ar. Bea 61.08 84 P **P 16 52 08.4 +0.7**
comp=Z,4.1nm,0.6s,baz=284,slow=5.8,SNR=17
TORD Torodi Ar. Bea 61.08 84 P **P 16 52 06.9 -0.8**
NEEM North Greenlan 61.65 3 *i* P **P 16 52 10.8 -0.1**
NEEM IAmb IAmb 16 52 12.2
comp=Z,6.3nm,0.4s
DAG Danmarks Havn 64.56 10 *i* P **P 16 52 29.5 -0.2**
DAG IAmb IAmb 16 52 30.8
comp=Z,2.1nm,0.7s
C36M Paulatuk 65.52 340 P **P 16 52 35.0 -1.0**
baz=110
DAVOX Davos/Dischmat 65.80 46 P **P 16 52 40.5 +2.0**
comp=Z,2.9nm,0.6s,baz=219,slow=9.2,SNR=5.9
FETA Feichten 66.39 45 *eP* **P 16 52 43.7 +1.4**
comp=Z,2.6nm,0.6s
SQTA Sankt Quirin 66.73 45 *eP* **P 16 52 45.5 +1.2**
comp=Z,2.1nm,0.4s
A36M Sachs Harbour 66.81 342 P **P 16 52 44.2 0.0**
baz=110,SNR=8.3
P33M Teslin, Yukon 66.90 329 P **P 16 52 46.3 +1.1**
baz=98
WATA Walderalm 66.98 45 *eP* **P 16 52 47.8 +1.9**
comp=Z,1.0nm,0.3s
WTTA Wattenberg 67.02 45 *i* P **P 16 52 47.8 +1.6**
comp=Z,1.1nm,0.4s
FARO Faro, Yukon 67.45 331 P **P 16 52 49.8 +1.3**
baz=99,SNR=6.4
ABTA Abfaltersbach 67.61 46 *eP* **P 16 52 51.4 +1.5**
comp=Z,2.8nm,0.8s
MURB Monte Urbino 67.66 49 P **P 16 52 50.2 0.0**
MURB IAmb IAmb 16 52 53.4
comp=Z,33nm,1.4s
NB2 NORSAR Subarra 67.76 30 P **P 16 52 52.1 +1.6**
comp=Z,1.0nm,0.7s,baz=263,slow=6.5
NOA NORSAR Array B 67.76 30 P **P 16 52 52.1 +1.6**
comp=Z,0.8nm,0.6s,baz=264,slow=6.7,SNR=3.8
M31M Drury Creek, Y 67.93 331 P **P 16 52 53.2 +1.8**
baz=98,SNR=10
CLL Collm 68.01 41 *eP* **P 16 52 53.0 +0.9**
SKAG Skagway 68.07 328 P **P 16 52 52.8 +0.5**
KBA Koelnbreinsper 68.18 45 *eP* **P 16 52 54.6 +1.0**
comp=Z,2.2nm,0.7s
MYKA Terra Mystica 68.39 46 *eP* **P 16 52 55.8 +1.1**
comp=Z,0.9nm,0.2s
GERES GERESS Array B 68.42 43 P **P 16 52 55.7 +0.8**
comp=Z,0.7nm,0.6s,baz=284,slow=5.4,SNR=6.6
GERES GERESS Array B 68.42 43 P **P 16 52 55.6 +0.7**
N31M Braeburn, Yuko 68.50 330 P **P 16 52 56.4 +1.3**
baz=96
INK Inuvik 68.55 338 P **P 16 52 54.7 -0.4**
comp=Z,5.9nm,0.6s,baz=82,slow=5.4,SNR=37
INK Inuvik 68.55 338 P **P 16 52 55.3 +0.1**
baz=101,SNR=9.3
MOA Molln 68.80 44 *eP* **P 16 52 57.9 +0.7**
comp=Z,1.1nm,0.5s
OBKA Obir 69.02 46 *eP* **P 16 52 59.6 +0.9**
comp=Z,1.5nm,0.5s
M30M Minto, Yukon 69.08 331 P **P 16 52 59.6 +0.9**
baz=96
YUK4 Talbot Arm 69.86 330 P **P 16 53 04.7 +1.0**
baz=94
I29M Ogilvie Camp, 70.01 334 P **P 16 53 03.5 -0.8**
I29M Ogilvie Camp, 70.01 334 P **P 16 53 04.6 +0.3**
baz=95
DAWY Dawson 70.37 333 P **P 16 53 07.6 +1.1**
baz=94,SNR=7.0
EGAK Eagle 71.18 334 P **P 16 53 11.9 +0.6**
EGAK Eagle 71.18 334 P **P 16 53 11.7 +0.3**
baz=92
BCAR Beaver Creek A 71.40 332 P **P 16 53 13.6 +0.8**
L27K Beaver Creek, 71.42 332 P **P 16 53 14.2 +1.3**
baz=91
M27K Edge Creek, AK 71.43 331 P **P 16 53 14.3 +1.2**
baz=91
L26K Log Cabin Wild 72.11 332 P **P 16 53 18.5 +1.5**
baz=90
J26L Joseph Creek 72.21 333 P **P 16 53 18.2 +0.6**
baz=90
MENT Mentasta 72.28 332 P **P 16 53 19.2 +1.1**
MENT IAmb IAmb 16 53 20.2
comp=Z,11nm,0.6s
SCTE Santa Cesarea 72.31 52 P **P 16 53 19.4 +0.8**
SCRK Sand Creek 72.39 333 P **P 16 53 19.5 +0.7**
baz=90
DOT Dot Lake 72.43 332 P **P 16 53 19.4 +0.5**
BMAR Burnt Mountain 72.63 336 P **P 16 53 20.0 -0.1**
N25K Chitina, Valde 72.72 330 P **P 16 53 21.8 +1.1**
N25K Chitina, Valde 72.72 330 P **P 16 53 21.9 +1.1**
baz=88
BMRM Bremner River 72.74 330 P **P 16 53 21.6 +0.7**
BMRM IAmb IAmb 16 53 22.5
comp=Z,8.6nm,0.6s
BMRM Bremner River 72.74 330 P **P 16 53 21.8 +0.9**
baz=88
J25K Salcha River, 72.99 333 P **P 16 53 22.5 +0.2**
J25K Salcha River, 72.99 333 P **P 16 53 22.3 +0.1**
baz=89
PRP Porcupine Dome 73.03 334 P **P 16 53 23.0 +0.5**
baz=89,SNR=7.5
PAX Paxson 73.08 332 P **P 16 53 23.6 +0.7**
PAX Paxson 73.08 332 P **P 16 53 23.8 +1.0**
baz=88
HOPE Hope Point 73.25 165 P **P 16 53 24.4 +0.8**
KLU Klutina 73.36 330 P **P 16 53 25.3 +0.8**
baz=87
M24K Tolsona, Glenn 73.45 331 P **P 16 53 25.7 +0.7**
M24K IAmb IAmb 16 53 50.9
comp=Z,17nm,1.2s
IL31 73.63 334 P **P 16 53 25.8 0.0**
ILAR Eielson Array 73.63 334 P **P 16 53 25.9 0.0**
comp=Z,1.8nm,0.4s,baz=80,slow=5.5,SNR=68
ILAR Eielson Array 73.63 334 P **P 16 53 25.4 -0.5**
H24K Noodor Dome 73.99 335 P **P 16 53 28.8 +0.8**
baz=87
ARCES ARCESS Array B 74.07 21 P **P 16 53 29.0 +0.6**
comp=Z,3.0nm,0.8s,baz=258,slow=5.5,SNR=9.2
ARCES ARCESS Array B 74.07 21 P **P 16 53 29.0 +0.6**
ARCES IAmb IAmb 16 53 35.0
comp=Z,24nm,1.4s
TOLK Toolik Lake Re 74.46 338 P **P 16 53 31.1 +0.3**
TOLK Toolik Lake Re 74.46 338 P **P 16 53 31.2 +0.4**
baz=86
NEA2 Nenana 74.58 333 P **P 16 53 31.7 +0.3**
baz=85,SNR=5.3
MCK McKinley 74.59 333 P **P 16 53 31.6 +0.1**
MCK McKinley 74.59 333 P **P 16 53 32.0 +0.4**
baz=85
I23K Minto, Yukon-K 74.66 334 P **P 16 53 32.0 +0.2**
I23K Minto, Yukon-K 74.66 334 P **P 16 53 32.1 +0.3**
baz=85
PMR Palmer 74.88 330 P **P 16 53 33.4 +0.2**
FINES FINESS Array B 74.93 30 P **P 16 53 34.4 +0.9**
comp=Z,2.2nm,0.6s,baz=276,slow=4.0,SNR=24
FIA1 FINESS Array S 74.93 30 P **P 16 53 34.6 +1.1**
FIA1 IAmb IAmb 16 53 45.4
comp=Z,14nm,1.2s
TRF Thorofare Moun 75.22 332 P **P 16 53 36.2 +0.8**
baz=84,SNR=11
MLY Manley 75.25 334 P **P 16 53 35.5 +0.1**
baz=84
BPAW Bear Paw Mtn. 75.46 333 P **P 16 53 36.7 +0.1**
baz=83
CAST Castle Rocks 76.03 332 P **P 16 53 39.7 -0.1**
baz=82
H21K Melozitna Rive 76.03 335 P **P 16 53 40.1 +0.4**
baz=82
CHUM Lake Minchumin 76.07 333 P **P 16 53 40.1 +0.2**
baz=82
PPLA Purkeypile 76.15 332 P **P 16 53 40.5 -0.1**
PPLA IAmb IAmb 16 53 43.6
comp=Z,17nm,1.4s
BUR08 Bucovina Ar. S 76.17 44 P **P 16 53 42.2 +1.2**
BURAR Bucovina Array 76.18 44 P **P 16 53 42.4 +1.3**
SPU Mount Spurr 76.33 330 P **P 16 53 41.9 +0.3**
IMAR Indian Mountai 76.37 335 P **P 16 53 41.9 +0.3**
A21K Barrow 76.54 341 P **P 16 53 44.1 +1.7**
MNK Minsk 76.79 37 *i* P **P 16 53 40.7 -3.4**
comp=E,1.0nm,0.8s
MNK *i* P **P 16 53 40.7 -3.4**
comp=N,14nm,0.9s
MNK *i* P **P 16 53 40.7 -3.4**
comp=Z,7.0nm,0.9s,baz=99
MNK *i* pP **pP 16 54 10.9 -3.2**
MNK *i* PP **PP 16 56 34.6 -3.6**

MNK *i* PPP PPP 16 58 22.0
MNK *i* S **S 17 03 17.5 -4.2**
MNK *i* sS **sS 17 04 11.0 +0.7**
MNK *i* SS **SS 17 08 17.7 -2.0**
MNK *i* SSS SSS 17 11 37.2
MNK *i* LRM MLR 17 29 59.8
comp=E,26nm,17.9s
MNK *i* LRM MLR 17 30 04.7
comp=Z,152nm,14.7s
MNK *i* LRM MLR 17 30 19.9
comp=N,190nm,16.8s
J20K Nowinta River 76.82 333 P **P 16 53 44.5 +0.3**
baz=81
M19K Big River Lodg 77.32 331 P **P 16 53 47.4 +0.3**
M19K IAmb IAmb 16 53 53.9
comp=Z,24nm,1.5s
M19K Big River Lodg 77.32 331 P **P 16 53 47.6 +0.6**
baz=80
L19K White Mountain 77.48 331 P **P 16 53 47.9 -0.1**
L19K White Mountain 77.48 331 P **P 16 53 48.2 +0.2**
baz=80
ORCD Orcadas 77.71 172 P **P 16 53 49.4 +0.5**
TTA Tatalina 77.87 332 P **P 16 53 50.2 0.0**
O18K Koktuh Hills 78.09 329 P **P 16 53 51.7 +0.3**
AKASG Malin Array Be 78.25 41 P **P 16 53 52.4 0.0**
comp=Z,0.5nm,0.6s,baz=278,slow=4.5,SNR=4.2
AKASG LR LR 17 24 50.6
comp=Z,131nm,21.8s,baz=358,slow=33
ESPZ Base Esperanza 79.27 178 P **P 16 53 58.5 +1.1**
TNA Tin City 82.12 336 P **P 16 54 14.4 +1.6**
TNA Tin City 82.12 336 P **P 16 54 14.8 +2.0**
baz=69
BRTR Keskin Array B 83.82 51 P **P 16 54 22.6 +0.2**
comp=Z,1.1nm,0.8s,baz=286,slow=5.3,SNR=6.1
BRTR pP **pP 16 54 52.8 0.0**
comp=Z,1.0nm,0.8s,baz=264,slow=4.2,SNR=3.8
MJAR Matsushiro Arr 124.46 341 PKP **PKPdf 17 00 50.5 -0.9**
comp=Z,1.9nm,0.6s,baz=42,slow=0.8,SNR=8.2
KSRS Korea Array 126.04 351 PKP **PKPdf 17 00 54.6 +0.3**
comp=Z,0.8nm,0.7s,baz=24,slow=3.5,SNR=2.1
DZM Mont Dzumac 134.37 255 PKP **PKiKP 17 01 11.9 -0.1**
comp=Z,3.2nm,0.7s,baz=122,slow=7.9,SNR=6.5
PZH PanZhiHua 134.70 21 PKP **PKPdf 17 01 10.8 -0.4**
CMAR Chiang Mai Arr 140.71 30 PKhKP PKPpre 17 01 16.6
comp=Z,0.3nm,0.6s,baz=306,slow=6.3,SNR=4.8
PMG Port Moresby 151.24 280 PKPbc **PKPbc 17 01 46.0 -0.2**
comp=Z,4.4nm,1.0s,baz=41,slow=15,SNR=3.1
CTA Charters Tower 153.27 257 PKPbc **PKPbc 17 01 50.1 -0.5**
comp=Z,4.8nm,0.7s,baz=56,slow=0.8,SNR=8.9
STKA Stephens Creek 153.70 229 PKP **PKPdf 17 01 42.9 -0.4**
comp=Z,1.3nm,0.6s,baz=74,slow=9.2,SNR=3.1
STKA PKPbc **PKPbc 17 01 51.4 +0.1**
comp=Z,3.7nm,0.6s,baz=31,slow=2.3,SNR=9.0
ASAR Alice Springs 163.60 240 PKP **PKPdf 17 01 55.0 -0.4**
comp=Z,1.8nm,1.0s,baz=86,slow=0.8,SNR=10
ASAR PKPab **PKPab 17 02 46.8 -0.9**
comp=Z,1.5nm,0.7s,baz=117,slow=4.1,SNR=6.5
WRA Warramunga Arr 164.39 253 PKP **PKPdf 17 01 55.7 -0.4**
comp=Z,2.4nm,1.0s,baz=75,slow=0.6,SNR=13
WRA PKPab **PKPab 17 02 50.5 -0.7**
comp=Z,2.2nm,0.8s,baz=99,slow=4.3,SNR=9.3

TAP ***31*** *16:49:48.4,24°.70N×122°.12E,h66km,ML3.6,B*
JMA ***31*** *16:49:48.1±0.1,24°.72N×122°.12E,h67km±2km,M3.1*
ISC 31 16:49:49.1±1.2,24°.68N±0°.02×122°.16E±0°.02,h60km±6km,
n124,σ1°05/230,Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TWC	**Suao**	**0.29**	**256**	*i* P	**Pn**	**16 49 59.0**	**-0.1**
TWC	baz=248			S	**Sn**	**16 50 06.5**	**+0.2**
NTC	**Toucheng**	**0.35**	**300**	P	**Pn**	**16 49 59.2**	**-0.3**
NTC	baz=299			S	**Sn**	**16 50 06.2**	**-0.9**
TWB1	**Santiao Chiao**	**0.36**	**334**	*i* P	**Pn**	**16 49 59.4**	**-0.3**
TWB1	baz=344			*i* S	**Sn**	**16 50 07.2**	**-0.2**
ILA	**Ilan**	**0.38**	**283**	*e*P	**Pn**	**16 50 00.1**	**+0.2**
ILA	baz=287			S	**Sn**	**16 50 08.5**	**+0.8**
TIPB	**Shuangxi**	**0.42**	**314**	*i* P	**Pn**	**16 50 00.0**	**-0.2**
TIPB	baz=319			*i* S	**Sn**	**16 50 07.9**	**-0.5**
EWUT	**Wuta**	**0.42**	**236**	P	**Pn**	**16 50 00.4**	**+0.2**
EWUT	baz=230			S	**Sn**	**16 50 08.8**	**+0.5**
TWE	**Neicheng**	**0.45**	**275**	*i* P	**Pn**	**16 50 00.5**	**0.0**
TWE	baz=275			S	**Sn**	**16 50 08.9**	**+0.1**
ENA	**Nanau**	**0.46**	**237**	*i* P	**Pn**	**16 50 00.9**	**+0.3**
ENA	baz=231			S	**Sn**	**16 50 09.8**	**+0.9**
SXI1	**Grass Mountain**	**0.48**	**328**	*i* P	**Pn**	**16 50 00.6**	**-0.4**
SXI1	baz=330			S	**Sn**	**16 50 09.2**	**-0.4**
NWF	**Wu-fen Shan**	**0.52**	**318**	*i* P	**Pn**	**16 50 01.1**	**-0.3**
NWF	baz=312			S	**Sn**	**16 50 10.0**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.53**	**279**	*i* P	**Pn**	**16 50 01.3**	**-0.1**
FUSB	baz=281			S	**Sn**	**16 50 09.7**	**-0.7**
ENTT	**Nioudou**	**0.54**	**266**	*i* P	**Pn**	**16 50 01.7**	**+0.2**
ENTT	baz=264			S	**Sn**	**16 50 10.9**	**+0.4**
NDT	**Datong Townshi**	**0.59**	**262**	P	**Pn**	**16 50 02.4**	**+0.3**
NDT	baz=261			S	**Sn**	**16 50 13.0**	**+1.4**
LATG	**Datong**	**0.60**	**256**	P	**Pn**	**16 50 02.7**	**+0.5**
LATG	baz=251			S	**Sn**	**16 50 12.4**	**+0.6**
TWA	**Mucha**	**0.60**	**300**	P	**Pn**	**16 50 01.8**	**-0.4**
TWA	baz=292			S	**Sn**	**16 50 10.9**	**-0.8**
NWLT	**Wulai**	**0.61**	**279**	P	**Pn**	**16 50 02.0**	**-0.3**
NWLT	baz=285			S	**Sn**	**16 50 10.6**	**-1.3**
NHDH	**Xindian Distri**	**0.64**	**296**	P	**Pn**	**16 50 02.2**	**-0.4**
NHDH	baz=295			S	**Sn**	**16 50 11.6**	**-0.9**
TAP	**Taipei**	**0.69**	**301**	P	**Pn**	**16 50 02.7**	**-0.5**
TAP	baz=301			S	**Sn**	**16 50 12.6**	**-1.0**
YM01	**YM01**	**0.71**	**311**	P	**Pn**	**16 50 02.9**	**-0.6**
YM01	baz=311			S	**Sn**	**16 50 12.9**	**-1.1**
YHNB	**Yeheng**	**0.71**	**269**	P	**Pn**	**16 50 03.7**	**+0.2**
YHNB	baz=272			S	**Sn**	**16 50 14.7**	**+0.5**
ETL	**Fush Village**	**0.71**	**223**	*e*P	**Pn**	**16 50 03.2**	**-0.3**
ETL	baz=210			*e*S	**Sn**	**16 50 14.3**	**+0.2**
NACB	**Ninganchiao**	**0.72**	**226**	P	**Pn**	**16 50 03.2**	**-0.4**
NACB	baz=213			*e*S	**Sn**	**16 50 14.5**	**+0.3**
NSK	**Sanguang**	**0.73**	**270**	P	**Pn**	**16 50 03.7**	**0.0**
NSK	baz=272			S	**Sn**	**16 50 14.4**	**-0.1**
JYNG	**Yonagunijimaku**	**0.75**	**108**	P	**Pn**	**16 50 04.2**	**+0.3**
JYNG				S	**Sn**	**16 50 15.7**	**+0.9**
NNSB	**Datong**	**0.75**	**251**	P	**Pn**	**16 50 04.2**	**+0.2**
NNSB	baz=240			*e*S	**Sn**	**16 50 15.6**	**+0.5**

	baz=240					
NNS	**Nan Shan**	**0.76 252**	P		**Pn**	**16 50 04.3 +0.2**
	baz=241					
NNS			*e*S		**Sn**	**16 50 15.6 +0.4**
	baz=241					
ANP	**Anpu**	**0.77 311**	P		**Pn**	**16 50 03.3 -1.0**
	baz=304					
ANP			*e*S		**Sn**	**16 50 13.9 -1.5**
	baz=304					
TWY	**Chenhua**	**0.78 319**	P		**Pn**	**16 50 04.0 -0.3**
	baz=321					
TWY			S		**Sn**	**16 50 15.3 -0.2**
	baz=321					
TWD	**Chiawan**	**0.79 221**	*e*P		**Pn**	**16 50 04.3 -0.1**
	baz=208					
TWD			*e*S		**Sn**	**16 50 17.1 +1.4**
	baz=208					
TWS1	**Kuangyinshan**	**0.79 302**	P		**Pn**	**16 50 04.0 -0.4**
	baz=307					
TWS1			S		**Sn**	**16 50 15.3 -0.5**
	baz=307					
NTST	**Danshui**	**0.81 307**	P		**Pn**	**16 50 04.2 -0.4**
	baz=307					
NTST			*e*S		**Sn**	**16 50 15.4 -0.6**
	baz=307					
YOJ	**Yonaguni jima**	**0.81 106**	P		**Pn**	**16 50 04.8 +0.2**
YOJ			*e*S		**Sn**	**16 50 16.8 +0.7**
YOJ	**Yonaguni jima**	**0.81 106**	P		**Pn**	**16 50 04.6 0.0**
	baz=101					
YOJ			*e*S		**Sn**	**16 50 16.7 +0.7**
	baz=101					
HWA	**Hwalien**	**0.87 216**	*e*P		**Pn**	**16 50 04.9 -0.5**
	baz=203					
HWA			*e*S		**Sn**	**16 50 18.6 +1.2**
	baz=203					
NCU	**National Centr**	**0.93 288**	*e*P		**Pn**	**16 50 05.8 -0.5**
	baz=286					
NCU			*e*S		**Sn**	**16 50 18.6 -0.3**
	baz=286					
NCUH	**Zhongli**	**0.93 288**	*e*P		**Pn**	**16 50 06.0 -0.2**
	baz=286					
NCUH			*e*S		**Sn**	**16 50 18.3 -0.6**
	baz=286					
FUSS	**Fushou**	**0.94 243**	*e*P		**Pn**	**16 50 06.8 +0.2**
	baz=233					
FUSS			*e*S		**Sn**	**16 50 19.9 +0.4**
	baz=233					
PCYT	**Pengchaiyu**	**0.95 355**	*e*P		**Pn**	**16 50 06.1 -0.4**
	baz=351					
PCYT			*e*S		**Sn**	**16 50 18.7 -0.5**
	baz=351					
NFF	**Wufeng Townshi**	**0.95 267**	P		**Pn**	**16 50 06.5 0.0**
	baz=272					
NFF			S		**Sn**	**16 50 19.4 0.0**
	baz=272					
WHF	**Hehuan Shan**	**0.98 237**	P		**Pn**	**16 50 07.2 0.0**
	baz=233					
WHF			*e*S		**Sn**	**16 50 21.1 +0.6**
	baz=233					
TWT	**Tachien**	**0.99 245**	*e*P		**Pn**	**16 50 08.8 +1.6**
	baz=232					
TWT			*e*S		**Sn**	**16 50 21.4 +0.8**
	baz=232					
TDCB	**Techi**	**1.01 245**	*e*P		**Pn**	**16 50 08.3 +0.9**
	baz=234					
TDCB			*e*S		**Sn**	**16 50 21.1 +0.2**
	baz=234					
LIOB	**Emei**	**1.04 268**	P		**Pn**	**16 50 07.7 0.0**
	baz=274					
LIOB			S		**Sn**	**16 50 21.8 +0.3**
	baz=274					
NSTT	**Nanjuang**	**1.06 267**	P		**Pn**	**16 50 07.8 -0.1**
	baz=273					
NSTT			S		**Sn**	**16 50 21.6 -0.2**
	baz=273					
SBCB	**Hsinchu**	**1.07 276**	P		**Pn**	**16 50 08.0 -0.1**
	baz=273					
SBCB			*e*S		**Sn**	**16 50 22.4 +0.2**
	baz=273					
ESL	**Shilin**	**1.09 218**	*e*P		**Pn**	**16 50 07.4 -1.0**
	baz=224					
HSN	**Hsinchu**	**1.09 277**	*e*P		**Pn**	**16 50 07.9 -0.4**
	baz=276					
HSN			*e*S		**Sn**	**16 50 22.0 -0.6**
	baz=276					
CHGB	**Renai**	**1.09 236**	*e*P		**Pn**	**16 50 08.7 +0.1**
	baz=223					
CHGB			*e*S		**Sn**	**16 50 23.6 +0.6**
	baz=223					
WUSB	**Renai**	**1.17 234**	P		**Pn**	**16 50 09.6 0.0**
	baz=231					
WUSB			*e*S		**Sn**	**16 50 24.6 -0.2**
	baz=231					
WHP	**Taichung City**	**1.18 250**	*e*P		**Pn**	**16 50 10.3 +0.8**
	baz=247					
WHP			*e*S		**Sn**	**16 50 25.6 +0.9**
	baz=247					
EGFH	**Guangfu**	**1.21 214**	*e*P		**Pn**	**16 50 09.5 -0.4**
	baz=220					
EGFH			*e*S		**Sn**	**16 50 26.3 +0.9**
	baz=220					
NMLH	**Miaoli**	**1.25 264**	*e*P		**Pn**	**16 50 10.5 +0.1**
	baz=269					
NMLH			*e*S		**Sn**	**16 50 26.5 0.0**
	baz=269					
WCS	**Beigang Elemen**	**1.30 242**	*e*P		**Pn**	**16 50 11.7 +0.6**
	baz=230					
WCS			*e*S		**Sn**	**16 50 28.0 +0.5**
	baz=230					
NSY	**Sanyi**	**1.30 259**	*e*P		**Pn**	**16 50 11.3 +0.2**
	baz=255					
NSY			*e*S		**Sn**	**16 50 28.4 +0.7**
	baz=255					
TWQ1	**Liyutan**	**1.31 256**	P		**Pn**	**16 50 11.4 +0.2**
	baz=252					
TWQ1			S		**Sn**	**16 50 28.6 +0.9**
	baz=252					
VWDT	**VWDT**	**1.31 225**	*e*P		**Pn**	**16 50 11.2 0.0**
	baz=214					
VWDT			*e*S		**Sn**	**16 50 27.6 -0.2**
	baz=214					
HGSD	**Ruisui**	**1.36 210**	*e*P		**Pn**	**16 50 12.0 0.0**
	baz=216					
HGSD			*e*S		**Sn**	**16 50 28.7 -0.3**
	baz=216					
EHY	**Hungye**	**1.40 213**	*e*P		**Pn**	**16 50 12.5 0.0**
	baz=210					
EHY			*e*S		**Sn**	**16 50 27.8 -2.2**
	baz=210					
SMLT	**Sun Moon Lake**	**1.40 236**	P		**Pn**	**16 50 13.6 +1.0**
	baz=232					
SMLT			*e*S		**Sn**	**16 50 32.5 +2.4**
	baz=232					
SSLB	**Suanglung**	**1.42 231**	P		**Pn**	**16 50 13.6 +0.9**
	baz=221					
SSLB			S		**Sn**	**16 50 32.1 +1.7**
	baz=221					
TYC	**Yuchr**	**1.42 237**	P		**Pn**	**16 50 13.4 +0.7**
	baz=233					
TYC			S		**Sn**	**16 50 32.1 +1.8**
	baz=233					
WDJ	**Dajia District**	**1.42 257**	*e*P		**Pn**	**16 50 12.4 -0.3**
	baz=253					
WDJ			*e*S		**Sn**	**16 50 30.6 +0.1**
	baz=253					
TCU	**Taichung**	**1.45 249**	*e*P		**Pn**	**16 50 13.2 +0.1**
	baz=245					
TCU			*e*S		**Sn**	**16 50 31.9 +0.6**
	baz=245					
IRIF	**Iriomote-Funau**	**1.47 103**	P		**Pn**	**16 50 13.2 -0.2**
IRIF			*e*S		**Sn**	**16 50 32.4 +0.8**
YULB	**Yu-li**	**1.51 212**	*e*P		**Pn**	**16 50 12.5 -1.4**
	baz=216					
YULB			*e*S		**Sn**	**16 50 30.8 -1.8**
	baz=216					
EYUL	**Yuli**	**1.54 210**	*e*P		**Pn**	**16 50 14.0 -0.2**
	baz=216					
EYUL			*e*S		**Sn**	**16 50 33.7 +0.4**
	baz=216					
WJS	**Zhushan**	**1.56 237**	*e*P		**Pn**	**16 50 15.8 +1.1**
	baz=245					
WJS			*e*S		**Sn**	**16 50 35.2 +1.3**
	baz=245					
WNT	**Mingjian**	**1.57 240**	*e*P		**Pn**	**16 50 14.7 0.0**
	baz=248					
WNT			*e*S		**Sn**	**16 50 35.0 +1.0**
	baz=248					
WCHH	**Zhanghua**	**1.58 248**	*e*S		**Sn**	**16 50 34.6 +0.3**
	baz=244					
HATJ	**Hateruma jima**	**1.62 112**	P		**Pn**	**16 50 16.1 +0.7**
FULB	**Fuli**	**1.68 208**	*e*P		**Pn**	**16 50 15.8 -0.4**
	baz=214					
FULB			*e*S		**Sn**	**16 50 36.3 -0.4**
	baz=214					
ALS	**Alishan**	**1.70 227**	*e*P		**Pn**	**16 50 17.8 +1.0**
	baz=215					
ALS			*e*S		**Sn**	**16 50 39.9 +2.2**
	baz=215					
CHN5	**Tsauling**	**1.73 232**	*e*P		**Pn**	**16 50 17.9 +0.9**
	baz=239					
CHN5			*e*S		**Sn**	**16 50 38.8 +0.7**
	baz=239					
CHKT	**Chengkung**	**1.74 205**	*e*S		**Sn**	**16 50 35.1 -2.9**
	baz=193					
JKRS	**Kuro-shima**	**1.74 104**	P		**Pn**	**16 50 17.3 +0.3**
JKRS			S		**Sn**	**16 50 39.3 +1.1**
WDLH	**Douliu**	**1.78 237**	*e*P		**Pn**	**16 50 17.7 +0.1**
	baz=244					
WDLH			*e*S		**Sn**	**16 50 39.9 +0.7**
	baz=244					
WRL	**Guolierlin Hig**	**1.80 245**	*e*P		**Pn**	**16 50 17.4 -0.5**
	baz=241					
WRL			*e*S		**Sn**	**16 50 38.7 -1.0**
	baz=241					
ELDTW	**Lidau**	**1.82 215**	*e*P		**Pn**	**16 50 18.9 +0.7**
	baz=212					
ELDTW			*e*S		**Sn**	**16 50 39.3 -0.9**
	baz=212					
JIJ	**Ishigaki jima**	**1.83 100**	P		**Pn**	**16 50 18.0 -0.3**
JIJ			*e*S		**Sn**	**16 50 40.5 +0.1**
EDH	**Donghe**	**1.87 205**	*e*P		**Pn**	**16 50 16.9 -1.9**
	baz=195					
EDH			*e*S		**Sn**	**16 50 38.7 -2.7**
	baz=195					
WTK	**Tuku**	**1.90 239**	*e*P		**Pn**	**16 50 19.1 0.0**
	baz=235					
WTK			*e*S		**Sn**	**16 50 41.9 -0.1**
	baz=235					
WTCT	**Ta-ch'eng**	**1.90 245**	*e*S		**Sn**	**16 50 41.8 -0.2**
	baz=241					
CHN2	**Minshiung**	**1.92 234**	*e*S		**Sn**	**16 50 43.9 +1.4**
	baz=241					
JISG	**Ishigakijimahi**	**1.96 92**	P		**Pn**	**16 50 20.0 0.0**
JISG			*e*S		**Sn**	**16 50 44.5 +1.0**
TPUB	**Ta-pu**	**1.96 226**	*e*P		**Pn**	**16 50 20.5 +0.4**
	baz=234					
TPUB			*e*S		**Sn**	**16 50 45.8 +2.1**
	baz=234					
CHY	**Chiayi**	**1.98 234**	*e*P		**Pn**	**16 50 20.7 +0.5**
	baz=241					
CHY			*e*S		**Sn**	**16 50 43.7 -0.2**
	baz=241					
LONT	**Longtian**	**2.00 208**	*e*P		**Pn**	**16 50 19.9 -0.7**
	baz=198					
LONT			*e*S		**Sn**	**16 50 43.0 -1.6**
	baz=198					
WTP	**Ta-pu**	**2.01 225**	*e*P		**Pn**	**16 50 21.5 +0.8**
	baz=233					
WTP			*e*S		**Sn**	**16 50 47.1 +2.3**
	baz=233					
WSF	**Szhu**	**2.05 240**	*e*S		**Sn**	**16 50 45.4 -0.3**
	baz=236					
TWK	**Hsinying**	**2.08 228**	*e*P		**Pn**	**16 50 22.5 +0.8**
	baz=237					
TWK			*e*S		**Sn**	**16 50 49.5 +3.0**
	baz=237					
LDUT	**Ludao**	**2.10 198**	*e*P		**Pn**	**16 50 19.3 -2.6**
	baz=189					
LDUT			*e*S		**Sn**	**16 50 43.0 -3.9**
	baz=189					
TWG	**Pinlang**	**2.10 209**	*e*P		**Pn**	**16 50 19.6 -2.4**
	baz=199					
TWG			*e*S		**Sn**	**16 50 45.9 -1.1**
	baz=199					
TWGBT	**Beinan**	**2.10 208**	*e*P		**Pn**	**16 50 20.5 -1.5**
	baz=199					
TWGBT			*e*S		**Sn**	**16 50 45.4 -1.7**
	baz=199					
SNST	**Tainan City**	**2.11 227**	*e*S		**Sn**	**16 50 49.1 +2.0**
	baz=235					
CHN1	**Nanshi**	**2.11 225**	*e*P		**Pn**	**16 50 22.4 +0.3**
	baz=234					
CHN1			*e*S		**Sn**	**16 50 49.4 +2.2**
	baz=234					
WSL	**Shuilin Townsh**	**2.11 237**	*e*P		**Pn**	**16 50 21.5 -0.5**
	baz=243					
WSL			*e*S		**Sn**	**16 50 47.0 -0.2**
	baz=243					
TTN	**Taitung**	**2.13 206**	*e*S		**Sn**	**16 50 48.2 +0.5**
	baz=203					
SGST	**Jiashian**	**2.15 223**	*e*S		**Sn**	**16 50 49.3 +1.1**
	baz=219					
ICHU	**Yijhu**	**2.17 233**	*e*P		**Pn**	**16 50 23.6 +0.8**
	baz=229					
ICHU			*e*S		**Sn**	**16 50 48.6 +0.1**
	baz=229					
SLGT	**Liugui**	**2.18 220**	*e*P		**Pn**	**16 50 24.5 +1.5**
	baz=209					
SLGT			*e*S		**Sn**	**16 50 50.0 +1.1**
	baz=209					
CHN8	**Yiju**	**2.22 234**	*e*S		**Sn**	**16 50 50.7 +0.8**
	baz=230					
JTJ	**Tarama**	**2.31 90**	P		**Pn**	**16 50 25.8 +1.0**
ECL	**Taimali**	**2.35 208**	*e*P		**Pn**	**16 50 24.2 -1.1**
	baz=200					
ECL			*e*S		**Sn**	**16 50 50.8 -2.3**
	baz=200					
SSD	**Sandimen**	**2.38 216**	*e*P		**Pn**	**16 50 27.1 +1.3**
	baz=214					
SSD			*e*S		**Sn**	**16 50 55.0 +1.1**
	baz=214					
TSMG	**Majia**	**2.41 216**	*e*P		**Pn**	**16 50 27.9 +1.8**
	baz=213					
TSMG			*e*S		**Sn**	**16 50 56.0 +1.5**
	baz=213					
MATB	**Ma-tsu**	**2.48 307**	*e*P		**Pn**	**16 50 27.3 +0.2**
	baz=311					
MATB			*e*S		**Sn**	**16 50 56.0 -0.2**
	baz=311					
MASBT	**Mashibuluo**	**2.49 215**	*e*P		**Pn**	**16 50 27.3 0.0**
	baz=212					
MASBT			*e*S		**Sn**	**16 50 57.5 +1.0**
	baz=212					
EAST	**Anshuo**	**2.59 208**	*e*P		**Pn**	**16 50 28.5 -0.1**
	baz=201					
EAST			*e*S		**Sn**	**16 50 58.0 -0.9**
	baz=201					
TAWH	**Dawu Township**	**2.61 207**	*e*P		**Pn**	**16 50 29.4 +0.5**
	baz=201					
TAWH			*e*S		**Sn**	**16 50 56.2 -3.1**
	baz=201					
PHUB	**P'eng-hu**	**2.64 244**	*e*P		**Pn**	**16 50 27.3 -1.9**
	baz=240					
PHUB			*e*S		**Sn**	**16 50 57.4 -2.7**
	baz=240					
LAY	**Lan-yu**	**2.69 192**	*e*S		**Sn**	**16 50 59.0 -2.4**
	baz=190					
SCZT	**Fangliau**	**2.70 212**	*e*P		**Pn**	**16 50 31.2 +1.1**
	baz=222					
SCZT			*e*S		**Sn**	**16 51 02.1 +0.5**
	baz=222					
LYUB	**Lan-yu**	**2.72 191**	*e*P		**Pn**	**16 50 28.9 -1.4**
	baz=189					
LYUB			*e*S		**Sn**	**16 50 59.1 -3.0**
	baz=189					
SLIU	**Shizi**	**2.75 207**	*e*P		**Pn**	**16 50 31.2 +0.4**
	baz=199					
SLIU			*e*S		**Sn**	**16 51 02.9 -0.1**
	baz=199					
PTMZ	**Houxiangcun**	**2.79 278**	*e*P		**Pn**	**16 50 31.5 +0.2**
	baz=274					
PTMZ			*e*S		**Sn**	**16 51 03.4 -0.3**
	baz=274					
LYJJ	**Jianjiangzhen**	**2.86 311**	*e*P		**Pn**	**16 50 32.5 +0.3**
	baz=309					
XPSS	**Dashiqiu**	**2.86 322**	*e*P		**Pn**	**16 50 32.5 +0.3**
	baz=320					
VCHM	**Qimei**	**2.90 240**	*e*S		**Sn**	**16 51 04.6 -1.9**
	baz=236					
HEN	**Hengchun**	**2.97 206**	*e*S		**Sn**	**16 51 07.9 -0.3**
	baz=217					
MHZQ	**Yeshan**	**3.16 297**	*e*P		**Pn**	**16 50 36.9 +0.5**
	baz=293					
MHZQ			*e*S		**Sn**	**16 51 13.1 +0.1**
	baz=293					
KNM	**Kinmen**	**3.40 266**	*e*P		**Pn**	**16 50 42.0 +2.3**
	baz=262					
KNM			*e*S		**Sn**	**16 51 21.6 +2.7**
	baz=262					
KNMB	**Chin-men Tao**	**3.44 267**	*e*P		**Pn**	**16 50 40.0 -0.2**
	baz=252					
KNMB			*e*S		**Sn**	**16 51 19.3 -0.5**
	baz=252					
AXDP	**Jialang**	**3.81 274**	*e*P		**Pn**	**16 50 45.9 +0.5**
	baz=269					
AXDP			*e*S		**Sn**	**16 51 28.1 -0.9**
	baz=269					
SXFK	**Yanhouchang**	**4.42 294**	*e*P		**Pn**	**16 50 54.2 +0.5**
	baz=292					

IDC 31 16:52:45.4±2.5, 2°.68S×135°.70E, h0^{km}, mb3.3/2, mb1 3.6/3, mb1mx3.0/43, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=118.1km s-min=13.2km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.21**	**184**	P	Pn	16 56 45.9	-1.5
	0.1nm,0.3s,baz=6.3,slow=13,SNR=2.0						
ASAR	**Alice Springs**	**20.93**	**185**	P	P	16 57 29.9	0.0
	0.4nm,0.4s,baz=8.2,slow=12,SNR=18						
MKAR	**Makanchi Array**	**67.95**	**323**	P	P	17 03 46.2	-0.1
	0.4nm,0.7s,baz=113,slow=7.5,SNR=4.2						

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*GUC **31** 16:59:15.7±0.7, 20°.15S×69°.31W, h86^{km}±2^{km}, ML3.2*
*IDC **31** 16:59:17.4±1.8, 20°.16S×68°.93W, h118^{km}±23^{km}, mb3.3/1, mb1 3.3/4, mb1mx3.0/28, mbtmp3.5/4, Error ellipse: s-maj=57.1km s-min=15.8km az=103.0*

ISC 31 16:59:15.1±1.0, 20°.15S±0°.03×69°.38W±0°.06, h86^{km}±7^{km}, n23, σ1^{s}36/37, 3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.21**	**88**	⇓*i*P	**Pn**	**16 59 28.4**	**+0.2**
PB08				*e*S	**Sn**	**16 59 38.3**	**+0.4**
PB08				IAML		16 59 39.2	
	comp=E,1μm,0.2s						
PB11	**IPOC Station P**	**0.46**	**326**	⇓*i*P	**Pn**	**16 59 29.8**	**+0.4**
PB11				*e*S	**Sn**	**16 59 41.3**	**+1.3**
GO01	**Chusmiza**	**0.51**	**20**	⇓*i*P	**Pn**	**16 59 30.2**	**0.0**
GO01				*e*S	**Sn**	**16 59 41.7**	**+0.5**
TA02	**Huaiquique**	**0.72**	**260**	*e*P	**Pn**	**16 59 32.1**	**+0.7**
TA02				*e*S	**Sn**	**16 59 44.8**	**+1.2**
TA01	**Diego Aracena**	**0.86**	**241**	*e*P	**Pn**	**16 59 33.2**	**+0.3**
TA01				*e*S	**Sn**	**16 59 46.8**	**+0.5**
PB01	**IPOC Station P**	**0.90**	**186**	*e*P	**Pn**	**16 59 33.5**	**0.0**
PB01				*i* S	**Sn**	**16 59 47.6**	**+0.4**
PB01				IAML		16 59 48.9	
	comp=N,2μm,0.3s						
MNMC	**Minye Minye**	**1.03**	**349**	*e*P	**Pn**	**16 59 35.6**	**+0.4**
MNMC				*e*S	**Sn**	**16 59 51.4**	**+1.1**
PB02	**IPOC Station P**	**1.26**	**202**	*e*P	**Pn**	**16 59 38.4**	**+0.5**
PB02				*e*S	**Sn**	**16 59 54.9**	**0.0**
PB02				IAML		17 00 00.6	
	comp=E,958nm,0.3s						
PB07	**IPOC Station P**	**1.64**	**197**	*e*P	**Pn**	**16 59 43.3**	**+0.6**
PB07				*e*S	**Sn**	**17 00 04.0**	**+0.4**
PB07				IAML		17 00 09.8	
	comp=N,328nm,0.3s						
PB09	**IPOC Station P**	**1.65**	**176**	*e*P	**Pn**	**16 59 43.3**	**+0.5**
PB09				*e*S	**Sn**	**17 00 03.8**	**+0.1**
PB09				IAML		17 00 12.3	
	comp=E,149nm,0.3s						
PB12	**IPOC Station P**	**1.77**	**329**	*e*P	**Pn**	**16 59 44.4**	**+0.1**
PB12				*e*S	**Sn**	**17 00 04.6**	**-1.8**
PB12				IAML		17 00 11.1	
	comp=N,485nm,0.2s						
PB16	**IPOC Station P**	**1.81**	**356**	*e*P	**Pn**	**16 59 46.7**	**+1.5**
PB16				*e*S	**Sn**	**17 00 10.2**	**+2.2**
PB16				IAML		17 00 17.1	
	comp=N,149nm,0.5s						
PB03	**IPOC Station P**	**1.92**	**190**	*e*P	**Pn**	**16 59 46.5**	**+0.1**
PB03				IAML		17 00 18.2	
	comp=E,164nm,0.2s						
AP01	**Chacalluta**	**1.99**	**333**	*e*P	**Pn**	**16 59 48.1**	**+1.0**
AP01				*e*S	**Sn**	**17 00 13.0**	**+1.6**
PB04	**IPOC Station P**	**2.29**	**198**	*e*P	**Pn**	**16 59 51.8**	**+0.6**
PB04				IAML		17 00 31.9	
	comp=E,135nm,0.2s						
LVC	**Limon Verde**	**2.49**	**170**	P	**Pn**	**16 59 56.0**	**+1.9**
	comp=E,6.4nm,0.3s,baz=350,slow=9.5,SNR=55						
LVC				S	**Sn**	**17 00 27.5**	**+3.6**
	comp=E,16nm,0.3s,baz=105,slow=19,SNR=13						
LVC	**Limon Verde**	**2.49**	**170**	*e*P	**Pn**	**16 59 55.3**	**+1.2**
PB06	**IPOC Station P**	**2.55**	**184**	*e*P	**Pn**	**16 59 53.0**	**-1.8**
PB06				IAML		17 00 33.0	
	comp=E,102nm,0.3s						
PB15	**IPOC Station P**	**3.05**	**182**	*e*P	**Pn**	**17 00 02.7**	**+1.2**
LPAZ	**La Paz**	**4.02**	**17**	P	**Pn**	**17 00 16.9**	**+1.9**
	comp=E,0.5nm,0.3s,baz=190,slow=5.2,SNR=11						
SIV	**San Ignacio**	**8.92**	**64**	P	**Pn**	**17 01 18.1**	**-3.1**
	comp=E,0.5nm,0.3s,baz=278,slow=10,SNR=7.3						
YKA	**Yellowknife Ar**	**89.77**	**341**	P	**P**	**17 12 02.7**	**-0.8**
	comp=E,0.4nm,0.8s,baz=143,slow=4.2,SNR=5.5						
MKAR	**Makanchi Array**	**144.79**	**34**	PKP	**PKPab**	**17 18 39.5**	**-1.6**
	comp=E,0.2nm,0.8s,baz=319,slow=0.6,SNR=1.7						

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*IDC **31** 17:01:49.4±1.4, 4°.72N×124°.70E, h0^{km}, mb3.4/3, mb1 3.6/3, mb1mx2.9/53, mbtmp3.4/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/43, Error ellipse: s-maj=143.7km s-min=13.9km az=64.0*
*MAN **31** 17:01:58.4, 5°.51N×125°.91E, h118^{km}, mb4.4, ML3.3, MS3.1*

ISC 31 17:01:59.0±1.4, 5°.3N±0°.1×125°.7E±0°.3, h100^{km}, n8, σ1^{s}21/8, mb3.2/3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.09**	**316**	⇑*e*P	**Pn**	**17 02 20.6**	**0.0**
GSPH				*e*S	**Sn**	**17 02 36.5**	**-0.2**
DAV	**Davao City (W)**	**1.77**	**356**	LR	LR	17 03 51.6	
	comp=Z,74nm,18.5s,baz=130,slow=49						
KCP	**Kidapawan**	**1.81**	**340**	⇓*i*P	**Pn**	**17 02 28.4**	**-0.9**
KCP				*i* S	**Sn**	**17 02 52.2**	**+0.1**
CTBH	**Cotabato--PC H**	**2.40**	**323**	⇑*e*P	**Pn**	**17 02 35.2**	**-1.6**
GUMO	**Guam**	**20.61**	**65**	LR	LR	17 14 05.6	
	comp=Z,36nm,21.9s,baz=104,slow=34						
WRA	**Warramunga Arr**	**26.48**	**162**	P	**P**	**17 07 26.8**	**-0.2**
	0.2nm,0.3s,baz=338,slow=10,SNR=12						
ASAR	**Alice Springs**	**29.88**	**165**	P	**P**	**17 07 56.6**	**-0.7**
	0.3nm,0.5s,baz=338,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**55.69**	**325**	P	**P**	**17 11 26.9**	**+1.9**
	0.4nm,0.7s,baz=120,slow=5.7,SNR=4.1						

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*IDC **31** 17:10:35.6±4.8, 36°.94N×71°.39E, h100^{km}±51^{km}, mb3.2/1, mb1 3.2/7, mb1mx2.9/52, mbtmp3.6/7, Error ellipse: s-maj=50.3km s-min=25.4km az=145.0*
*NNC **31** 17:10:39.8±4.7, 37°.30N×71°.15E, h171^{km}±63^{km}, mb3.1, mpv4.0, Error ellipse: s-maj=41.4km s-min=26.4km az=20.0*

ISC 31 17:10:36.1±1.3, 37°.07N±0°.10×71°.14E±0°.09, h100^{km}, n19, σ1^{s}90/25, 8C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.43**	**21**	P	**Pn**	**17 11 56.3**	**+1.4**
	SNR=41						
UCH	**Uchtor**	**5.77**	**26**	P	**Pn**	**17 12 01.4**	**+1.7**
	SNR=9.9						
EKS2	**Erkin-Say**	**5.94**	**19**	P	**Pn**	**17 12 03.8**	**+2.2**
	SNR=18						
KK02	**Karatay Array**	**6.04**	**356**	⇑P	**Pn**	**17 12 04.4**	**+1.5**
	11nm,0.4s,baz=180,slow=13						
KK02				⇑S	**Sn**	**17 13 12.2**	**+1.5**
	3.9nm,0.7s,baz=178,slow=22						
AAK	**Ala-Archa**	**6.13**	**24**	P	**Pn**	**17 12 06.3**	**+2.0**
	4.2nm,0.3s,baz=186,slow=6.0,SNR=87						
AAK				S	**Sn**	**17 13 13.0**	**+0.1**
	0.7nm,0.3s,baz=347,slow=21,SNR=9.3						
AAK	**Ala-Archa**	**6.13**	**24**	P	**Pn**	**17 12 06.2**	**+1.9**
	SNR=19						
AAK	**Ala-Archa**	**6.13**	**24**	P	**Pn**	**17 12 06.0**	**+1.8**
	7.1nm,0.4s						
AAK				⇑S	**Sn**	**17 13 13.1**	**+0.1**
	4.0nm,0.7s						
CHMS	**Chumysh**	**6.54**	**24**	P	**Pn**	**17 12 11.3**	**+1.6**

SNR=15
USP Ospenovka 6.70 22 P **Pn 17 12 13.1 +1.3**
SNR=8.4
TKM2 Tokmak 2 6.77 29 P **Pn 17 12 13.9 +0.9**
SNR=11
TKM2 Tokmak 2 6.77 29 ⇑P **Pn 17 12 13.8 +0.9**
4.1nm,0.5s
TKM2 ⇑S **Sn 17 13 27.7 -1.0**
2.9nm,0.9s
GEYT Alibeck 10.38 279 P **Pn 17 13 03.2 +1.2**
0.3nm,0.3s,baz=128,slow=12,SNR=1.6
MKAR Makanchi Array 12.77 37 P **Pn 17 13 32.6 -1.2**
0.1nm,0.3s,baz=228,slow=14,SNR=7.2
AB31 Akbulak array 14.64 330 ⇑P **Pn 17 13 57.3 -0.7**
1.1nm,0.5s,baz=137,slow=12,SNR=55
AB31 ⇑S **Sn 17 16 35.3 -4.1**
0.7nm,0.6s,baz=164,slow=22,SNR=7.7
BVAR Borovoye Array 15.96 358 P **Pn 17 14 14.7 +0.1**
0.2nm,0.3s,baz=139,slow=12,SNR=4.7
AKTO Aktyubinsk 16.34 329 P **P 17 14 23.2 +2.7**
0.3nm,0.3s,baz=119,slow=22,SNR=5.0
AKTO Aktyubinsk 16.34 329 ⇓P **Pn 17 14 16.9 -2.5**
1.4nm,0.8s
AKTO ⇑S **Sn 17 17 17.4 -3.0**
0.6nm,0.7s
ZALV Zalesovo Beam 19.35 25 P **P 17 14 54.0 +0.6**
0.3nm,0.3s,baz=216,slow=9.5,SNR=5.1
ASAR Alice Springs 84.49 125 P **P 17 22 56.0 -1.9**
0.4nm,0.9s,baz=308,slow=4.1,SNR=4.1

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*IDC **31** 17:14:25.2±2.0, 7°.15S×155°.24E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/34, mbtmp3.6/5, Error ellipse: s-maj=49.4km s-min=28.9km az=118.0*
ISC 31 17:14:31.3±1.7, 7°.1S±0°.2×155°.2E±0°.2, h41km, n6, σ0§45/6, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** baz=180,slow=20	**4.19**	**312**	Pn	**Pn**	**17 15 32.6**	**-0.2**
WRA	**Warramunga Arr** 1.8nm,0.8s,baz=60,slow=9.9,SNR=7.9	**23.88**	**236**	P	**P**	**17 19 41.7**	**+0.3**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=60,slow=9.8,SNR=6.2	**26.21**	**229**	P	**P**	**17 20 02.0**	**-0.5**
CMAR	**Chiang Mai Arr** 0.8nm,0.7s,baz=121,slow=5.0,SNR=8.4	**60.99**	**296**	P	**P**	**17 24 41.5**	**+0.4**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=249,slow=5.4,SNR=2.1	**83.43**	**21**	P	**P**	**17 26 54.2**	**0.0**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=95,slow=6.3,SNR=2.6	**83.61**	**319**	P	**P**	**17 26 55.4**	**-0.1**

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*IDC **31** 17:17:51.1±0.6, 29°.97S×179°.10W, h289km±6km, mb3.5/5, mb1 3.6/8, mb1mx3.4/29, mbtmp4.2/8, Error ellipse: s-maj=21.9km s-min=14.9km az=135.0*
ISC 31 17:17:51.4±0.7, 30°.01S±0°.09×179°.0W±0°.1, h300km, n18, σ1§10/20, mb3.8/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 279nm,0.3s,baz=94,slow=22,SNR=8.9	**1.22**	**52**	P	**Pn**	**17 18 32.7**	**-0.2**
RAO	149nm,0.3s,baz=103,slow=23,SNR=6.3			S	**S**	**17 19 03.8**	**-2.2**
URZ	**Urewera** 1.3nm,0.3s,baz=271,slow=4.4,SNR=16	**8.83**	**200**	P	**Pn**	**17 19 55.9**	**+0.9**
URZ	5.3nm,0.3s,baz=16,slow=20,SNR=14			S	**S**	**17 21 33.0**	**-2.6**
MSVF	**Nonsavu** 1.1nm,0.3s,baz=262,slow=23,SNR=12	**12.51**	**347**	P	**Pn**	**17 20 39.7**	**-0.7**
DZM	**Mont Dzumac** 1.2nm,0.3s,baz=136,slow=12,SNR=26	**15.27**	**298**	P	**Pn**	**17 21 12.4**	**-0.7**
CTA	**Charters Tower** 1.6nm,0.6s,baz=111,slow=13,SNR=1.8	**32.87**	**279**	P	**P**	**17 23 58.3**	**+0.3**
STKA	**Stephens Creek** 1.1nm,0.3s,baz=103,slow=9.0,SNR=7.0	**33.71**	**257**	P	**P**	**17 24 06.0**	**+0.9**
ASAR	**Alice Springs** 1.1nm,0.5s,baz=105,slow=7.0,SNR=37	**42.25**	**267**	P	**P**	**17 25 15.2**	**-1.0**
WRA	**Warramunga Arr** 2.0nm,0.5s,baz=110,slow=8.0,SNR=50	**43.20**	**272**	P	**P**	**17 25 23.4**	**-0.4**
PETK	**Petropavlovsk-** 2.6nm,0.6s,baz=102,slow=6.8,SNR=9.3	**85.22**	**346**	P	**P**	**17 29 55.0**	**+0.9**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=224,slow=1.6,SNR=12	**116.85**	**310**	PKP	**PKPdf**	**17 36 00.1**	**-0.1**
ARCES	**ARCESS Array B** 3.2nm,0.9s,baz=57,slow=2.0,SNR=9.8	**138.02**	**347**	PKhKP	PKPpre	17 36 32.2	
ARCES	1.2nm,0.5s,baz=87,slow=2.6,SNR=9.5			PKP	**PKiKP**	**17 36 42.2**	**+0.4**
KBZ	**Khabaz** 2.6nm,1.0s,baz=168,slow=4.1,SNR=8.7	**144.17**	**304**	PKP	**PKPdf**	**17 36 51.2**	**-0.2**
FINES	**FINESS Array B** 5.7nm,0.3s,baz=49,slow=4.2,SNR=121	**144.48**	**339**	PKP	**PKPab**	**17 36 50.7**	**0.0**
NB2	**NORSAR Subarra** comp=Z,1.4nm,0.5s,baz=13,slow=2.6	**148.23**	**351**	PKP	**PKPbc**	**17 37 01.9**	**+0.4**
NOA	**NORSAR Array B** comp=Z,1.5nm,0.5s,baz=17,slow=4.2,SNR=7.1	**148.23**	**351**	PKPbc	**PKPbc**	**17 37 01.7**	**+0.1**
AKASG	**Malin Array Be** comp=Z,1.7nm,0.4s,baz=48,slow=2.9,SNR=29	**150.46**	**322**	PKPbc	**PKPbc**	**17 37 07.6**	**+0.4**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.4s,baz=140,slow=4.2,SNR=8.1	**151.64**	**299**	PKPbc	**PKPbc**	**17 37 10.8**	**+0.2**
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.6s,baz=188,slow=3.2,SNR=5.5	**163.21**	**182**	PKPab	**PKPab**	**17 38 12.5**	**+1.9**

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*CNRM **31** 17:27:14.9, 35°.55N×3°.77W, h17km, ml2.5*
ISC 31 17:27:12.7±1.7, 35°.58N±0°.05×3°.66W±0°.04, h6km±12km, n10, σ0§98/20, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.43**	**212**	P	**Pb**	**17 27 22.2**	**-0.5**
PALE				S	**Sg**	**17 27 27.2**	**+0.6**
GOG	**Mont Gurugu**	**0.65**	**123**	P	**Pn**	**17 27 28.5**	**0.0**
GOG				S	**Sn**	**17 27 38.3**	**-0.8**
AKLM	**AKL**	**1.08**	**189**	P	**Pn**	**17 27 34.3**	**-0.2**
AKLM				S	**Sg**	**17 27 47.9**	**+0.4**
CHAS	**Isla Isabel II**	**1.08**	**111**	*e*P	**Pn**	**17 27 34.9**	**+0.5**
CHAS				*e*S	**Sb**	**17 27 48.7**	**+0.6**
SMIR	**Smir Dam**	**1.40**	**275**	P	**Pn**	**17 27 38.1**	**-0.7**
SMIR				S	**Sg**	**17 27 57.5**	**-0.3**
CHEFC	**Chefchaouen**	**1.45**	**251**	P	**Pg**	**17 27 40.1**	**-0.4**
CHEFC				S	**Sn**	**17 27 57.8**	**-1.1**
MD31	**MD31**	**2.86**	**199**	P	**Pn**	**17 27 59.8**	**+0.9**
MD31				S	**Sn**	**17 28 32.6**	**-1.0**
MDT	**Midelt**	**2.87**	**196**	P	**Pn**	**17 27 59.3**	**+0.2**
MDT				S	**Sn**	**17 28 33.4**	**-0.6**
ZHG	**ZHG**	**3.25**	**230**	P	**Pn**	**17 28 05.1**	**+0.8**
ZHG				S	**Sn**	**17 28 45.5**	**+2.1**
PVAQ	**Vaqueiros**	**3.74**	**300**	P	**Pn**	**17 28 12.7**	**+1.8**
PVAQ				S	**Sn**	**17 28 54.4**	**-0.9**

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*NEIC **31** 17:38:60.0±1.3, 63°.26S±0°.08×169°.2E±0°.3, h10km±1km, mb5.6/74, Ms_20 5.9/258, Mwb6.0/32, Mww6.1, Error ellipse: s-maj=21.2km s-min=13.6km az=82.0*
*IDC **31** 17:38:59.2±0.4, 63°.35S×169°.30E, h0km, mb4.8/9, mb1 5.1/10, mb1mx4.8/17, mbtmp4.9/10, ML5.0/1, MS5.7/47, Ms1 5.7/47, ms1mx5.6/49, Error ellipse: s-maj=25.6km s-min=16.1km az=57.0*
*MOS **31** 17:39:00.7±1.6, 63°.34S×169°.41E, h12km, mb5.5/18, MS5.8/12, Error ellipse: s-maj=33.3km s-min=9.8km az=95.9*
*BJI **31** 17:39:00.0±0.0, 63°.30S×169°.60E, h10km, mb5.5/3, mB6.0/24, Ms5.9/36, Ms7 5.6/35*
*NEIC **31** 17:39:01, 63°.26S×169°.09E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr=0.04; Mθθ1.18; Mφφ-1.14; Mrθ-0.10; Mrφ-0.11; Mθφ0.03; Fault plane solution: M0 1.17000×10^18^ NP1:φs227.63000°, δ85.56000°, λ177.67000°. NP2:φs317.81000°, δ87.67000°, λ4.45000°. Principal axes: T 1.1951, Plg5.0000°, Azm183.0000°; N -0.0524, Plg85.0000°, Azm345.0000°; P -1.1426, Plg1.0000°, Azm93.0000°;*
*GCMT **31** 17:39:03.0±0.1, 63°.14S×169°.70E, h12km, MW6.0/150, Moment Tensor Solution. s145,c292; s150,c486; Duration: 2§4 Moment tensor: Scale 10^18^Nm; Mrr=0.16±.01; Mθθ1.28±.01; Mφφ-1.12±.01; Mrθ-0.36±.02; Mrφ-0.11±.01; Mθφ-0.10±.02; Best double couple: M0 1.25400×10^18^ NP1:φs318.00000°, δ76.00000°, λ4.00000°. NP2:φs227.00000°, δ86.00000°, λ166.00000°. Principal axes: T 1.3670, Plg13.0000°, Azm182.0000°; N -0.2250, Plg75.0000°, Azm32.0000°; P -1.1410, Plg7.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **31** 17:39:05, 63°.09S×169°.82E, h22km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^18^Nm; Mrr0.15; Mθθ1.35; Mφφ-1.50; Mrθ-0.58; Mθφ0.07; Mφr0.49; Fault plane solution: M0 1.62000×10^18^ NP1: φs223.00000°, δ62.00000°, λ175.00000°. NP2: φs315.00000°, δ86.00000°, λ28.00000°. Principal axes: T 1.5910, Plg23.0000°, Azm183.0000°; N 0.0638, Plg61.0000°, Azm323.0000°; P -1.6548, Plg17.0000°, Azm85.0000°;*
ISC 31 17:39:01.4±0.2, 63°.28S±0°.05×169°.72E±0°.06, h10km, n796, σ2§03/628, mb5.6/110, MS5.9/191, 99C-52D, Fault plane solution: NP1:φs311.69238°, δ58.40376°, λ-1.95877°. NP2:φs42.71892°, δ88.33169°, λ-148.38881°. Principal axes: T Plg20.4805°, Azm172.7215°; N Plg58.3494°, Azm45.4271°; P Plg23.0205°, Azm271.8528°; Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 6.7nm,0.3s,baz=8.7,slow=11,SNR=103	**14.52**	**187**	Pn	**Pn**	**17 42 25.6**	**-0.9**
VNDA	comp=Z,7μm,21.1s,baz=15,slow=28			LR	LR	17 45 50.6	
VNDA	**Vanda**	**14.52**	**187**	Pn	**Pn**	**17 42 26.5**	**-0.1**
SBA	**Scott Base**	**14.68**	**182**	P	**Pn**	**17 42 27.9**	**-0.7**
SBA	**Scott Base**	**14.68**	**182**		**Pn**	**17 42 27.9**	**-0.7**
WHZ	**Wether Hill Ro**	**17.45**	**356**	Pn	**Pn**	**17 43 02.2**	**-2.4**
DCZ	**Deep Cove**	**17.91**	**354**	P	**Pn**	**17 43 09.3**	**-0.9**
MLZ	**Mavora Lakes**	**17.97**	**356**	P	**Pn**	**17 43 09.5**	**-1.6**
ODZ	**Otahua Downs**	**18.28**	**2**	⇓P	**P**	**17 43 14.5**	**-0.5**
ODZ	**Otahua Downs**	**18.28**	**2**	P	**P**	**17 43 13.9**	**-1.0**
ODZ	**Otahua Downs**	**18.28**	**2**	P	**P**	**17 43 14.5**	**-0.5**
WKZ	**Wanaka**	**18.49**	**358**	P	**P**	**17 43 16.8**	**-0.5**
WKZ	comp=Z,593nm,1.4s			IAmb	IAmb	17 43 49.5	
LBZ	**Lake Benmore**	**18.93**	**1**	P	**P**	**17 43 23.0**	**+0.8**
LBZ	comp=Z,682nm,1.5s			IAmb	IAmb	17 43 31.1	
RPZ	**Rata Peaks**	**19.62**	**3**		**P**	**17 43 30.4**	**+0.8**
RPZ	comp=Z,496nm,1.6s			IAmb	IAmb	17 43 40.5	
MQZ	**McQueen's Vall**	**19.68**	**6**		**P**	**17 43 30.4**	**+0.1**
OXZ	**Oxford**	**20.04**	**5**	P	**P**	**17 43 34.6**	**+0.4**
OXZ	comp=Z,376nm,1.4s			IAmb	IAmb	17 43 40.8	
OXZ	comp=Z,42μm,19.0s			IAMs_20	IAMs_20	17 49 50.0	
LTZ	**Lake Taylor** comp=Z,46μm,18.0s	**20.59**	**5**	IAMs_20	IAMs_20	17 50 53.7	
KHZ	**Kahutara**	**21.02**	**8**	⇑P	**P**	**17 43 45.6**	**+0.8**
KHZ	**Kahutara** comp=Z,46μm,20.0s	**21.02**	**8**	IAMs_20	IAMs_20	17 50 20.3	
THZ	**Tophouse** comp=Z,44μm,22.0s	**21.64**	**6**	IAMs_20	IAMs_20	17 50 20.4	
SNZO	**South Karori**	**22.20**	**10**	⇑P	**P**	**17 43 56.3**	**-1.2**
SNZO	**South Karori** comp=Z,48μm,19.0s	**22.20**	**10**	IAMs_20	IAMs_20	17 51 51.6	
NNZ	**Nelson** comp=Z,42μm,21.0s	**22.20**	**7**	IAMs_20	IAMs_20	17 50 47.6	
QRZ	**Quartz Range**	**22.55**	**6**	P	**P**	**17 44 00.9**	**-0.3**
QRZ	comp=Z,46μm,18.0s			IAMs_20	IAMs_20	17 51 56.6	
BFZ	**Birch Farm** comp=Z,41μm,20.0s	**22.96**	**13**	IAMs_20	IAMs_20	17 51 13.4	
BFZ	**Birch Farm**	**22.96**	**13**	P	**P**	**17 44 05.4**	**-0.2**
BKZ	**Black Stump Fm** comp=Z,31μm,20.0s	**24.49**	**13**	IAMs_20	IAMs_20	17 52 33.7	
BKZ	**Black Stump Fm**	**24.49**	**13**	P	**P**	**17 44 21.2**	**+0.7**
MOO	**Moorlands** baz=24,SNR=3.8	**24.66**	**317**	P	**P**	**17 44 21.4**	**-0.5**
MOO	**Moorlands**	**24.66**	**317**	P	**P**	**17 44 22.0**	**+0.1**
HIZ	**Hauiti** comp=Z,40μm,18.0s	**24.99**	**10**	IAMs_20	IAMs_20	17 53 49.7	
URZ	**Urewera** comp=Z,83nm,1.2s,baz=209,slow=5.0,SNR=9.8	**25.45**	**14**	P	**P**	**17 44 29.6**	**+0.6**
URZ	comp=Z,28μm,21.6s,baz=184,slow=33			LR	LR	17 52 54.5	
URZ	**Urewera** comp=Z,27μm,20.0s	**25.45**	**14**	⇑P	**P**	**17 44 29.1**	**0.0**
URZ	**Urewera**	**25.45**	**14**	IAMs_20	IAMs_20	17 53 04.2	
CORO	**Coronation Par**	**25.57**	**318**	P	**P**	**17 44 31.3**	**+1.2**
MXZ	**Matakaoa Point** comp=Z,26μm,18.0s	**26.27**	**16**	IAMs_20	IAMs_20	17 55 40.3	
QSPA	**South Pole Qui** comp=Z,27μm,20.2s,baz=30,slow=33	**26.81**	**180**	LR	LR	17 53 48.5	
QSPA	**South Pole Qui**	**26.81**	**180**	P	**P**	**17 44 40.2**	**-1.3**
QSPA	comp=Z,282nm,1.6s			IAmb	IAmb	17 44 55.9	
QSPA	**South Pole Qui** comp=Z,27μm,20.0s	**26.81**	**180**	IAMs_20	IAMs_20	17 53 36.8	
OUZ	**Omahuta** comp=Z,32μm,19.0s	**28.19**	**7**	IAMs_20	IAMs_20	17 56 02.0	
TOO	**Toolangi**	**29.64**	**319**	P	**P**	**17 45 07.8**	**+1.1**
BRAT	**Ballarat**	**30.14**	**316**	P	**P**	**17 45 10.9**	**-0.1**
CNB	**Canberra Magne** baz=30,SNR=3.9	**30.69**	**326**	P	**P**	**17 45 14.1**	**-1.9**
CNB	**Canberra Magne**	**30.69**	**326**	P	**P**	**17 45 17.9**	**+1.9**
ARPS	**Mount Arapiles**	**31.52**	**314**	P	**P**	**17 45 22.9**	**-0.3**
TWOA	**Tennyson Woods**	**34.18**	**311**	P	**P**	**17 45 48.8**	**+2.3**
NFK	**Norfolk Island**	**34.26**	**357**	P	**P**	**17 45 49.0**	**+1.7**
ARMA	**Armidale**	**34.86**	**332**	P	**P**	**17 45 53.3**	**+0.8**
RAO	**Raoul Island** comp=Z,5μm,20.8s,baz=182,slow=32	**34.96**	**19**	LR	LR	17 57 57.7	
RAO	**Raoul Island**	**34.96**	**19**	P	**P**	**17 45 50.0**	**-3.3**
RAO	comp=Z,1μm,1.6s			pmax	pmax		
RAO	comp=Z,14μm,20.0s			MLR	MLR		
RAO	**Raoul Island**	**34.96**	**19**	P	**P**	**17 45 50.0**	**-3.3**
CMSA	**Cobar Meteorol** baz=35,SNR=9.5	**35.23**	**323**	P	**P**	**17 45 55.7**	**+0.2**
CMSA	**Cobar Meteorol**	**35.23**	**323**	P	**P**	**17 45 55.8**	**+0.2**
HTT	**Hallett**	**35.53**	**313**	P	**P**	**17 45 58.4**	**+0.2**
NAPP	**Napperby**	**36.01**	**312**	P	**P**	**17 46 03.8**	**+1.5**
STKA	**Stephens Creek** comp=Z,15nm,1.1s,baz=136,slow=8.4,SNR=12	**36.10**	**317**	P	**P**	**17 46 01.8**	**-1.3**
STKA	comp=Z,4.6nm,0.8s,baz=133,slow=4.3,SNR=3.8			PcP	**PcP**	**17 48 29.7**	**+0.9**
STKA	comp=Z,15μm,18.6s,baz=151,slow=33			LR	LR	17 58 45.6	
STKA	**Stephens Creek** baz=36,SNR=9.5	**36.10**	**317**	P	**P**	**17 46 02.8**	**-0.3**
STKA	**Stephens Creek**	**36.10**	**317**	P	**P**	**17 46 02.1**	**-1.0**
STKA	comp=Z,35nm,1.8s			pmax	pmax		
STKA	**Stephens Creek**	**36.10**	**317**	P	**P**	**17 46 02.1**	**-1.0**
STKA	**Stephens Creek**	**36.10**	**317**	P	**P**	**17 46 03.3**	**+0.2**
WHYH	**Whyalla**	**36.34**	**311**	P	**P**	**17 46 06.5**	**+1.4**
BBOO	**Buckleboo** baz=37,SNR=11	**37.07**	**309**	P	**P**	**17 46 10.4**	**-0.9**
BBOO	**Buckleboo**	**37.07**	**309**	P	**P**	17 46 06.4	-5.0
BBOO	comp=Z,106nm,1.2s			IAmb	IAmb	17 46 17.9	
BBOO	**Buckleboo**	**37.07**	**309**	P	**P**	**17 46 11.0**	**-0.3**
LCRK	**Leigh Creek**	**38.50**	**314**	P	**P**	**17 46 23.8**	**+0.4**
RMQ	**Roma** baz=39,SNR=12	**39.28**	**330**	P	**P**	**17 46 29.9**	**-0.1**
RMQ	**Roma**	**39.28**	**330**	P	**P**	**17 46 31.0**	**+0.9**
MAW	**Mawson** comp=Z,26μm,19.9s,baz=134,slow=36	**39.31**	**215**	LR	LR	18 02 37.6	
MAW	**Mawson**	**39.31**	**215**	P	**P**	**17 46 27.1**	**-2.7**
MAW	comp=Z,58nm,1.5s			pmax	pmax		
MAW	**Mawson**	**39.31**	**215**	P	**P**	**17 46 27.1**	**-2.7**
EIDS	**Eidsvold** baz=40,SNR=7.1	**39.86**	**333**	P	**P**	**17 46 35.3**	**+0.5**
EIDS	**Eidsvold**	**39.86**	**333**	⇑P	**P**	**17 46 34.9**	**+0.1**
EIDS	**Eidsvold**	**39.86**	**333**	P	**P**	**17 46 31.1**	**-3.8**
EIDS	**Eidsvold**	**39.86**	**333**	P	**P**	**17 46 35.2**	**+0.4**
MULG	**Mulgathing**	**40.07**	**308**	P	**P**	**17 46 35.7**	**-0.9**
INKA	**Innaminka**	**40.22**	**318**	P	**P**	**17 46 37.6**	**-0.2**
QLP	**Quilpie**	**40.32**	**323**	P	**P**	**17 46 39.6**	**+0.9**
PINNC	**Pines Island,**	**40.68**	**357**	P	**P**	**17 46 39.5**	**-2.1**
PINNC	comp=Z,110nm,1.1s			IAmb	IAmb	17 46 47.4	
PINNC	**Pines Island,**	**40.68**	**357**	P	**P**	**17 46 42.2**	**+0.6**
OUENC	**Ouen Island, N**	**40.89**	**356**	P	**P**	**17 46 40.5**	**-2.9**
OUENC	**Ouen Island, N**	**40.89**	**356**	P	**P**	**17 46 43.9**	**+0.6**
ONTNC	**Ouen Toro**	**41.01**	**355**	P	**P**	**17 46 42.0**	**-2.4**
ONTNC	comp=Z,186nm,1.3s			IAmb	IAmb	17 46 52.8	
ONTNC	**Ouen Toro** comp=Z,111nm,1.2s	**41.01**	**355**	P	**P**	**17 46 45.0**	**+0.6**
NOUC	**Port Laguerre**	**41.22**	**355**	P	**P**	**17 46 46.9**	**+0.8**
YATNC	**Mamie plateau,** comp=Z,53nm,1.1s	**41.24**	**356**	P	**P**	**17 46 48.0**	**+1.7**
DZM	**Mont Dzumac** comp=Z,11μm,18.9s,baz=168,slow=36	**41.25**	**355**	LR	LR	18 03 28.5	
DZM	**Mont Dzumac** comp=Z,242nm,1.2s	**41.25**	**355**	*e*P	**P**	**17 46 46.4**	**0.0**
DZM	comp=Z,4μm,23.8s			*e*S	**S**	**17 53 00.5**	**+0.4**
DZM	comp=Z,8μm,28.2s			*e*LQ	LQ	17 56 21.0	
DZM	comp=Z,26μm,24.4s			*e*LR	LR	17 58 05.9	
DZM	**Mont Dzumac**	**41.25**	**355**	⇑P	**P**	**17 46 45.9**	**-0.6**
DZM	**Mont Dzumac**	**41.25**	**355**	P	**P**	**17 46 44.4**	**-2.1**
DZM	**Mont Dzumac**	**41.25**	**355**	P	**P**	**17 46 47.5**	**+1.1**
OOD	**Oodnadatta**	**41.78**	**312**	P	**P**	**17 46 49.6**	**-1.1**
MARNC	**Mare, Loyalty**	**41.79**	**358**	P	**P**	**17 46 49.0**	**-1.7**
MARNC	**Mare, Loyalty**	**41.79**	**358**	P	**P**	**17 46 50.9**	**+0.2**
FORT	**Forrest**	**41.85**	**301**	P	**P**	**17 46 47.1**	**-4.1**
FORT	**Forrest**	**41.85**	**301**	P	**P**	**17 46 49.3**	**-1.9**
RK1H	**Rockhampton Ha**	**41.90**	**333**	P	**P**	**17 46 53.2**	**+1.5**
LIFNC	**LIFOU**	**42.51**	**357**	P	**P**	**17 46 55.7**	**-0.9**
LIFNC	comp=Z,140nm,1.1s			IAmb	IAmb	17 47 01.6	
LIFNC	comp=Z,13μm,20.0s			IAMs_20	IAMs_20	18 01 59.0	
LIFNC	**LIFOU**	**42.51**	**357**	P	**P**	**17 46 57.1**	**+0.5**
SMAI	**San Martin Ant**	**42.75**	**152**	P	**P**	**17 46 58.4**	**+0.3**
KOUNC	**Koumac, New Ca**	**42.86**	**353**	⇓P	**P**	**17 46 57.6**	**-1.9**
KOUNC	**Koumac, New Ca**	**42.86**	**353**	P	**P**	**17 47 00.6**	**+1.1**
SYO	**Syowa Base**	**43.36**	**204**⇑	*ep*P	pP	17 47 03.2	-2.2
SYO	**Syowa Base**	**43.36**	**204**⇓	*es*P	sP	17 47 04.4	-2.0
H01W1	**Cape Leeuwin H** baz=147,slow=76,SNR=1401	**44.10**	**283**	T	T	18 34 33.5	
H01W2	**Cape Leeuwin H** baz=147,slow=76,SNR=1799	**44.11**	**283**	T	T	18 34 24.8	
H01W3	**Cape Leeuwin H** baz=147,slow=76,SNR=1547	**44.12**	**283**	T	T	18 34 34.8	
SNAA	**Sanae**	**45.22**	**183**	P	**P**	**17 47 16.7**	**-1.4**
SNAA	**Sanae** comp=Z,26μm,18.8s,baz=184,slow=35	**45.22**	**183**	LR	LR	18 05 23.7	
SNAA	**Sanae**	**45.22**	**183**	*ce*P	**P**	**17 47 16.8**	**-1.2**
SNAA	comp=Z,7μm,1.7s			pmax	pmax		
SNAA	**Sanae**	**45.22**	**183**	⇑P	**P**	**17 47 16.2**	**-1.8**
SNAA	**Sanae**	**45.22**	**183**	P	**P**	**17 47 16.4**	**-1.6**
NVL	**N'lazarevskaya**	**45.35**	**190**	⇓*i*P	P	17 47 32.2	+13
NVL				*i* PPP	PPP	17 49 06.2	
NVL				*i* S	**S**	**17 54 04.8**	**+5.8**
NVL	comp=Z,110nm,1.2s			pmax	pmax		
NVL	comp=N,14μm,17.0s			MLR	MLR		
NVL	comp=E,11μm,17.0s			MLR	MLR		
NVL	comp=Z,120μm,17.0s			MLR	MLR		
MUN	**Mundaring**	**45.69**	**287**	P	**P**	**17 47 24.4**	**+2.3**
VNA3	**Neumayer Olymp**	**45.75**	**180**	P	**P**	**17 47 20.8**	**-1.3**
MSVF	**Nonsavu** comp=Z,14μm,18.0s,baz=203,slow=34	**45.87**	**11**	LR	LR	18 04 53.2	
MSVF	**Nonsavu**	**45.87**	**11**	*i* P	**P**	**17 47 23.7**	**+0.1**
MSVF	comp=Z,62nm,1.4s			pmax	pmax		
MSVF	**Nonsavu**	**45.87**	**11**	P	**P**	**17 47 22.2**	**-1.5**
MSVF	comp=Z,14μm,19.0s			IAMs_20	IAMs_20	18 03 56.3	
MSVF	**Nonsavu**	**45.87**	**11**	P	**P**	**17 47 23.8**	**+0.1**
CTA	**Charters Tower** comp=Z,11μm,18.8s,baz=156,slow=33	**46.03**	**329**	LR	LR	18 04 15.0	
CTA	**Charters Tower**	**46.03**	**329**	P	**P**	**17 47 25.9**	**+1.1**
CTAO	**Charters Tower**	**46.03**	**329**	P	**P**	**17 47 23.2**	**-1.7**
CTAO	comp=Z,101nm,1.4s			pmax	pmax		
CTAO	comp=Z,12μm,19.0s			MLR	MLR		
CTAO	**Charters Tower**	**46.03**	**329**	⇑P	**P**	**17 47 25.1**	**+0.2**
CTAO	**Charters Tower**	**46.03**	**329**	P	**P**	**17 47 23.2**	**-1.7**
CTAO	comp=Z,101nm,1.4s			IAmb	IAmb	17 47 43.8	
CTAO	**Charters Tower** comp=Z,12μm,19.0s	**46.03**	**329**	IAMs_20	IAMs_20	18 03 43.1	
CTAO	**Charters Tower**	**46.03**	**329**	P	**P**	**17 47 25.6**	**+0.8**
VNA2	**Neumayer--Watz** baz=176,slow=7.3	**46.05**	**181**	P	**P**	**17 47 23.1**	**-1.5**
ASAR	**Alice Springs** comp=Z,31nm,1.2s,baz=158,slow=7.6,SNR=33	**46.20**	**312**	P	**P**	**17 47 23.9**	**-2.3**
ASAR	comp=Z,2.7nm,0.9s,baz=147,slow=3.9,SNR=1.1			PcP	**PcP**	**17 48 58.5**	**-3.4**
ASAR	comp=Z,5μm,18.1s,baz=154,slow=35			LR	LR	18 06 00.1	
ASAR	**Alice Springs**	**46.20**	**312**	P	**P**	**17 47 23.7**	**-2.6**
ASAR				PcP	**PcP**	**17 48 59.3**	**-2.5**
AS31	**Alice Springs**	**46.20**	**312**	P	**P**	**17 47 24.1**	**-2.2**
PMSA	**Palmer Station** comp=Z,8μm,19.7s,baz=220,slow=32	**46.26**	**151**	LR	LR	18 03 38.4	
PMSA	**Palmer Station** comp=Z,10μm,18.0s	**46.26**	**151**	IAMs_20	IAMs_20	18 05 07.9	
VNA1	**Neumayer--Stat**	**46.34**	**181**	P	**P**	**17 47 25.7**	**-1.0**
BLDU	**Ballidu**	**46.65**	**289**	P	**P**	**17 47 30.5**	**+0.9**
RAR	**Rarotonga** comp=Z,4μm,18.8s,baz=197,slow=31	**46.82**	**41**	LR	LR	18 03 35.5	
WRKA	**Warakurna** baz=46,SNR=23	**46.93**	**305**	P	**P**	**17 47 29.7**	**-2.3**
WRKA	**Warakurna**	**46.93**	**305**	⇑P	**P**	**17 47 30.0**	**-1.9**
WRKA	**Warakurna**	**46.93**	**305**	P	**P**	**17 47 30.8**	**-1.1**
TAVE	**Taveuni**	**47.08**	**14**	P	**P**	**17 47 32.8**	**-0.3**
QIS	**Mount Isa** baz=47,SNR=6.8	**47.33**	**320**	P	**P**	**17 47 33.4**	**-1.6**
QIS	**Mount Isa**	**47.33**	**320**	P	**P**	**17 47 34.2**	**-0.8**
DGTI	**Dogotuki**	**47.45**	**13**	P	**P**	**17 47 38.7**	**+2.8**
SANVU	**Saraoutou**	**47.81**	**357**	⇑P	**P**	**17 47 37.8**	**-1.0**
SANVU	**Saraoutou**	**47.81**	**357**	P	**P**

comp=Z,18nm,0.3s
PPT2 Papeete2 53.50 51 *e*S **S 17 55 57.2 +2.7**
comp=Z,4μm,26.8s
PPT2 *e*LQ LQ 18 01 02.5
comp=Z,15μm,24.0s
PPT2 *e*LR LR 18 03 35.2
comp=Z,10μm,25.8s,baz=201
PPT2 Papeete2 53.50 51 *e*T T 18 45 46.0
comp=Z,48nm,0.3s
PPTF Pamatai, Papee 53.51 51 P **P 17 48 21.4 -0.5**
PPT Papeete 53.52 51 LR LR 18 05 52.5
comp=Z,4μm,18.6s,baz=206,slow=30
TIAR Tiarei 53.61 51 *e*T T 18 45 53.7
comp=Z,6.3nm,0.2s
MBWA Marble Bar 53.74 298 P **P 17 48 26.2 +2.7**
MEH Mehetia 53.77 52 *e*T T 18 46 06.2
comp=Z,56nm,0.3s
USHA Ushuaia 53.88 143 LR LR 18 06 41.0
comp=Z,6μm,20.6s,baz=206,slow=31
HNR Honiara 54.21 348 LR LR 18 08 13.8
comp=Z,6μm,19.9s,baz=166,slow=32
FITZ Fitzroy Crossi 54.25 305 LR LR 18 08 36.6
comp=Z,5μm,19.4s,baz=160,slow=33
PTCN Pitcairn Islan 54.57 75 IAMs_20 IAMs_20 18 05 22.7
comp=Z,10μm,21.0s
MG04 Isla Riesco 54.72 139 P **P 17 48 29.0 -1.2**
FUNA Funafuti 55.08 11 IAMs_20 IAMs_20 18 06 34.3
comp=Z,13μm,22.0s
KNRA Kununurra 55.36 310 P **P 17 48 33.6 -1.6**
baz=55,SNR=10.0
KNRA Kununurra 55.36 310 P **P 17 48 32.2 -3.1**
KNRA Kununurra 55.36 310 P **P 17 48 34.4 -0.9**
PMG Port Moresby 56.17 333 LR LR 18 08 37.8
comp=Z,7μm,20.4s,baz=164,slow=32
PMG Port Moresby 56.17 333 *ce*P **P 17 48 40.2 -0.8**
PMG pmax pmax
comp=Z,121nm,1.7s
PMG Port Moresby 56.17 333 ⇑P **P 17 48 41.6 +0.5**
PMG Port Moresby 56.17 333 P **P 17 48 40.0 -1.0**
comp=Z,2μmcomp=Z,76nm,1.4s
PMG Port Moresby 56.17 333 P **P 17 48 39.0 -2.0**
PMG IAmb IAmb 17 48 59.8
comp=Z,85nm,1.1s
PMG Port Moresby 56.17 333 IAMs_20 IAMs_20 18 08 05.1
comp=Z,8μm,20.0s
PMG Port Moresby 56.17 333 P **P 17 48 40.7 -0.3**
VAH Vaihoa 56.37 52 *e*T T 18 49 16.5
comp=Z,343nm,0.2s
KDU Kakadu 56.92 315 P **P 17 48 44.6 -1.8**
baz=57,SNR=4.3
KDU Kakadu 56.92 315 ⇑P **P 17 48 45.7 -0.7**
KDU Kakadu 56.92 315 P **P 17 48 44.5 -1.9**
MTN Manton Dam 57.20 314 P **P 17 48 44.9 -3.5**
MTN IAmb IAmb 17 48 54.1
comp=Z,138nm,1.6s
MTN Manton Dam 57.20 314 P **P 17 48 46.5 -1.9**
DRS Darwin Rock St 57.67 314 P **P 17 48 52.5 +0.8**
EFI East Falkland 59.41 148 *ce*P **P 17 49 03.8 +0.4**
EFI pmax pmax
comp=Z,186nm,1.7s
RABL Rabaul 60.35 340 P **P 17 49 09.6 -0.7**
RABL Rabaul 60.35 340 P **P 17 49 10.7 +0.4**
COYC Coyhaique 61.00 135 P **P 17 49 13.9 -0.5**
COYC IAmb IAmb 17 49 22.6
comp=Z,47nm,1.1s
COYC Coyhaique 61.00 135 IAMs_20 IAMs_20 18 10 42.1
comp=Z,6μm,18.0s
HOPE Hope Point 61.01 163 IAMs_20 IAMs_20 18 14 20.7
comp=Z,8μm,19.0s
SAUI Saumlaki 61.72 316 IAMs_20 IAMs_20 18 12 18.5
comp=Z,10μm,18.0s
RPN Rapa Nui 62.10 95 LR LR 18 11 03.5
comp=Z,5μm,18.3s,baz=215,slow=31
BATI Baumata 62.23 307 LR LR 18 15 52.9
comp=Z,3μm,18.4s,baz=175,slow=36
BATI Baumata 62.23 307 P **P 17 49 21.3 -1.8**
comp=Z,52nm,1.3s
SOEI Soe 62.44 308 ⇑P **P 17 49 27.9 +3.3**
SOEI Soe 62.44 308 P **P 17 49 25.3 +0.7**
comp=Z,4μmcomp=Z,177nm,1.2s
SOEI Soe 62.44 308 IAMs_20 IAMs_20 18 15 18.7
comp=Z,9μm,19.0s
SOEI Soe 62.44 308 P **P 17 49 25.8 +1.2**
BASI Baing, Sumba 63.36 304 P **P 17 49 32.3 +1.7**
comp=Z,144nm,1.3s
JAY Jayapura 64.29 327 LR LR 18 14 39.6
comp=Z,5μm,20.8s,baz=148,slow=33
TARA Tarawa 64.52 4 IAMs_20 IAMs_20 18 14 57.3
comp=Z,6μm,18.0s
LL03 Petrohue 64.85 132 P **P 17 49 40.1 0.0**
TAOE Nuku Hiva Isla 64.99 57 *e*S **S 17 58 25.0 +1.8**
comp=Z,3μm,26.7s
TAOE *e*LQ LQ 18 06 01.8
comp=Z,17μm,31.4s
TAOE *e*LR LR 18 08 58.0
comp=Z,7μm,25.5s
PLCA Paso Flores 65.83 134 P **P 17 49 45.5 -1.0**
comp=Z,17nm,0.9s,baz=219,slow=7.1,SNR=8.7
PLCA LR LR 18 12 20.4
comp=Z,5μm,19.7s,baz=213,slow=30
PLCA Paso Flores 65.83 134 ⇑P **P 17 49 47.9 +1.4**
PLCA Paso Flores 65.83 134 P **P 17 49 45.6 -1.0**
PLCA IAmb IAmb 17 49 54.5
comp=Z,51nm,1.1s
AAI Ambon 66.75 314 P **P 17 49 52.5 -0.1**
comp=Z,1μmcomp=Z,37nm,1.5s
BBSI Bau Bau 67.00 308 P **P 17 49 55.9 +1.7**
comp=Z,122nmcomp=Z,6.8nm,1.1s
KRAI Karang Ratu 67.03 314 P **P 17 49 54.1 -0.3**
comp=Z,1μmcomp=Z,37nm,1.4s
LC01 Cunco 67.04 132 P **P 17 49 53.4 -0.9**
LC01 IAmb IAmb 17 50 01.4
comp=Z,54nm,1.1s
BSSI Bau Bau, Buton 67.15 305 P **P 17 49 55.6 +0.5**
comp=Z,1μmcomp=Z,1μmcomp=Z,54nm,1.2s
SRBI Singaraja 67.39 299 P **P 17 49 58.0 +1.4**
comp=Z,72nm,1.4s
GMJI Gumukmas 67.92 297 P **P 17 50 01.9 +1.9**
comp=Z,124nm,1.3s
ABJI Asem Bagus 68.04 298 P **P 17 50 03.7 +3.0**
comp=Z,3μmcomp=Z,89nm,1.4s
BKSI Bulukumba 68.04 305 P **P 17 50 01.0 +0.2**
comp=Z,872nmcomp=Z,29nm,1.2s
BLJI Banyuglugur 68.34 298 P **P 17 50 04.5 +1.9**
comp=Z,1μmcomp=Z,44nm,1.5s
SIJI Sorong 68.44 318 LR LR 18 20 04.5
comp=Z,4μm,19.3s,baz=161,slow=36
SIJI Sorong 68.44 318 P **P 17 50 03.0 -0.3**
comp=Z,867nmcomp=Z,28nm,1.3s
SWI Sorong 68.45 318 P **P 17 50 03.2 -0.1**
comp=Z,2μmcomp=Z,50nm,1.7s
KAPI Kappang 68.46 305 LR LR 18 20 04.7
comp=Z,3μm,18.0s,baz=174,slow=36
KAPI Kappang 68.46 305 P **P 17 50 03.9 +0.5**
comp=Z,1μmcomp=Z,24nm,1.4s
KKSI Kolaka, Sulawe 68.55 307 P **P 17 50 03.0 -0.9**
SANI Sanana 69.01 312 P **P 17 50 05.6 -1.2**
comp=Z,1μmcomp=Z,39nm,1.1s
SANI Sanana 69.01 312 P **P 17 50 05.8 -1.0**
H03S2 Juan Fernandez 69.06 124 T T 19 06 06.4
SNR=317
H03S1 Juan Fernandez 69.06 124 T T 19 06 02.2
SNR=312
H03S3 Juan Fernandez 69.08 124 T T 19 06 02.3
SNR=273
H03N2 Juan Fernandez 69.41 124 T T 19 06 34.5
SNR=86
SPSI Sidrap Palu 69.42 305 P **P 17 50 09.8 +0.4**
comp=Z,2μmcomp=Z,2μmcomp=Z,48nm,1.2s
UGM Wanagama 69.43 295 IAMs_20 IAMs_20 18 16 07.1
comp=Z,9μm,20.0s
XMAS Kiritimati 69.64 35 IAMs_20 IAMs_20 18 15 39.9
comp=Z,9μm,21.0s
LBMI Labuha 69.84 314 P **P 17 50 10.9 -1.0**
comp=Z,1μmcomp=Z,2μmcomp=Z,71nm,1.3s
SMRI Semarang 70.25 295 IAMs_20 IAMs_20 18 16 12.7
comp=Z,9μm,21.0s
TTSI Tana Toraja 70.25 306 P **P 17 50 15.4 +0.9**
comp=Z,1μmcomp=Z,1μmcomp=Z,34nm,1.1s
CTJI Waduk Cacaban 70.80 294 P **P 17 50 17.7 -0.2**
comp=Z,3μmcomp=Z,47nm,1.2s
MMSI Mamuju 70.92 305 P **P 17 50 19.9 +1.3**
comp=Z,461nmcomp=Z,19nm,1.5s
BO02 Sierra Bellavi 71.13 131 P **P 17 50 19.5 -0.3**
BO01 Tunca 71.39 130 P **P 17 50 21.4 +0.1**
BO01 IAmb IAmb 17 50 28.7
comp=Z,67nm,1.1s

KBKI Kotabaru 71.39 302 P **P 17 50 22.0 +0.6**
comp=Z,629nmcomp=Z,38nm,1.0s
APSI Ampana 71.57 308 P **P 17 50 24.2 +1.7**
comp=Z,877nmcomp=Z,40nm,1.5s
LEM Lembang 71.62 292 LR LR 18 17 04.8
comp=Z,9μm,20.9s,baz=156,slow=32
LEM Lembang 71.62 292 P **P 17 50 23.7 +0.7**
comp=Z,1μmcomp=Z,86nm,1.4s
BBKI Banjar Baru 71.75 301 P **P 17 50 24.9 +1.3**
comp=Z,61nm,1.2s
KWAJ Kwajalein Atol 71.89 358 IAMs_20 IAMs_20 18 16 02.9
comp=Z,9μm,22.0s
LMEL Las Melosas 72.18 131 P **P 17 50 25.7 -0.5**
LMEL IAmb IAmb 17 50 35.7
comp=Z,64nm,1.2s
DBJI Dramaga 72.23 292 P **P 17 50 27.6 +1.1**
comp=Z,34μmcomp=Z,130nm,1.4s
MT02 Curacav 72.40 130 P **P 17 50 27.3 -0.1**
MT02 IAmb IAmb 17 50 36.4
comp=Z,62nm,1.1s
MT05 Renca 72.41 130 P **P 17 50 26.5 -0.9**
CGJI Cibinong 72.62 291 P **P 17 50 30.8 +2.0**
comp=Z,125nm,1.2s
PEL Peldehue 72.66 130 P **P 17 50 28.4 -0.5**
PEL pmax pmax
comp=Z,72nm,1.1s
PEL MLR MLR
comp=Z,4μm,19.0s
PEL Peldehue 72.66 130 P **P 17 50 28.4 -0.5**
PEL IAmb IAmb 17 50 36.0
comp=Z,72nm,1.1s
MNI Manado 72.67 312 P **P 17 50 29.1 0.0**
comp=Z,1μmcomp=Z,42nm,1.1s
VA03 San Esteban 73.05 130 P **P 17 50 29.8 -1.5**
VA03 IAmb IAmb 17 50 38.3
comp=Z,82nm,1.1s
MPSI Mapaga 73.36 307 P **P 17 50 30.8 -2.3**
comp=Z,2μmcomp=Z,1μmcomp=Z,53nm,1.3s
PBKI Pangkalan Bun 73.69 298 P **P 17 50 35.2 +0.1**
comp=Z,3μmcomp=Z,234nm,1.2s
BLSI Bandar Lampung 73.93 291 P **P 17 50 38.0 +1.5**
comp=Z,1μmcomp=Z,48nm,0.4s
MTKI Muara Teweh, K 74.04 302 P **P 17 50 36.8 -0.4**
comp=Z,923nmcomp=Z,1μmcomp=Z,27nm,1.4s
CO02 Combarbal 74.31 129 P **P 17 50 39.2 +0.4**
LWLI Liwa 74.75 290 P **P 17 50 43.3 +1.9**
comp=Z,113nm,0.9s
CO03 El Pedregal 74.75 129 P **P 17 50 41.0 -0.4**
CO03 IAmb IAmb 17 50 48.4
comp=Z,87nm,1.1s
KLSI 74.75 291 P **P 17 50 42.8 +1.5**
comp=Z,577nmcomp=Z,26nm,1.3s
MDSI Maura Dua 75.17 290 P **P 17 50 45.5 +1.8**
comp=Z,1μmcomp=Z,672nmcomp=Z,25nm,1.2s
LHSI Lahat 76.04 290 P **P 17 50 49.5 +0.8**
comp=Z,2μmcomp=Z,51nm,1.0s
STKI Sintang 76.30 299 P **P 17 50 50.8 +0.7**
comp=Z,58nm,1.3s
PMBI Palembang 76.32 291 P **P 17 50 52.3 +2.0**
PMBI Palembang 76.32 291 IAMs_20 IAMs_20 18 18 31.9
comp=Z,8μm,22.0s
PMBI Palembang 76.32 291 P **P 17 50 52.4 +2.1**
LCO Las Campanas 76.41 128 P **P 17 50 51.8 +0.7**
LCO pmax pmax
comp=Z,66nm,1.1s
LCO MLR MLR
comp=Z,3μm,18.0s
LCO Las Campanas 76.41 128 ⇓P **P 17 50 52.0 +0.9**
LCO Las Campanas 76.41 128 P **P 17 50 51.8 +0.7**
LCO IAmb IAmb 17 50 58.0
comp=Z,66nm,1.1s
MASI Maura Aman, Be 77.20 289 P **P 17 50 57.3 +1.9**
comp=Z,3μmcomp=Z,127nm,1.4s
DAV Davao City (W) 77.71 315 LR LR 18 27 47.2
comp=Z,2μm,18.1s,baz=139,slow=38
GO03 Copiap 77.87 128 P **P 17 50 58.2 -0.8**
GO03 IAmb IAmb 17 51 06.4
comp=Z,54nm,1.1s
JMBI JAMBI 77.97 291 P **P 17 51 00.9 +1.4**
comp=Z,65nm,0.4s
KSM Kuching 78.04 298 P **P 17 51 01.8 +1.9**
comp=Z,1μmcomp=Z,40nm,1.2s
KSM Kuching 78.04 298 P **P 17 50 57.1 -2.9**
KSM IAmb IAmb 17 51 10.8
comp=Z,55nm,1.2s
KSM Kuching 78.04 298 P **P 17 50 58.7 -1.2**
SBUM Sibu 78.18 301 ⇓P **P 17 51 02.8 +2.1**
SBUM Sibu 78.18 301 P **P 17 51 02.0 +1.3**
comp=Z,654nmcomp=Z,21nm,1.6s
MYLDM Lahad Datu 78.34 308 ⇑P P 17 51 07.1 +5.5
MYLDM Lahad Datu 78.34 308 P **P 17 51 03.8 +2.2**
comp=Z,3μmcomp=Z,65nm,1.3s
KRJI Kerinci 78.48 289 P **P 17 51 03.9 +1.4**
comp=Z,26μmcomp=Z,300nm,1.2s
PLTB Pedras Altas 79.21 143 P **P 17 51 06.1 -0.2**
PLTB IAmb IAmb 17 51 10.3
comp=Z,84nm,1.4s
RGRI Rengat 79.67 290 P **P 17 51 09.8 +0.9**
KKM Kota Kinabalu 79.97 306 P **P 17 51 11.8 +1.2**
comp=Z,1μmcomp=Z,62nm,1.3s
KKM Kota Kinabalu 79.97 306 P **P 17 51 11.8 +1.2**
ITQB Itaqui 80.34 140 P **P 17 51 11.8 -0.6**
ITQB IAmb IAmb 17 51 16.5
comp=Z,111nm,1.4s
PPI Padang Panjang 80.40 288 P **P 17 51 12.4 -0.5**
comp=Z,299nmcomp=Z,15nm,1.3s
BKNI Bangkinang 80.83 289 P **P 17 51 15.8 +0.6**
comp=Z,1μmcomp=Z,100nm,1.0s
BKNI Bangkinang 80.83 289 P **P 17 51 16.3 +1.1**
MYKOM Kota Tinggi 80.96 293 P **P 17 51 18.2 +2.4**
comp=Z,1μmcomp=Z,59nm,1.3s
MYKOM Kota Tinggi 80.96 293 IAMs_20 IAMs_20 18 21 51.4
comp=Z,7μm,22.0s
SUR Sutherland 81.50 206 LR LR 18 25 51.2
comp=Z,17μm,19.0s,baz=168,slow=35
SUR Sutherland 81.50 206 *e*P **P 17 51 16.6 -2.2**
SUR IAmb IAmb 17 51 24.2
comp=Z,2μm,3.6s
SUR Sutherland 81.50 206 ⇓P **P 17 51 17.7 -1.1**
SUR Sutherland 81.50 206 P **P 17 51 16.8 -2.0**
MNSI Mandailing Nat 81.88 288 P **P 17 51 20.2 -0.5**
comp=Z,1μmcomp=Z,33nm,1.2s
PB15 IPOC Station P 82.16 127 P **P 17 51 21.9 -0.6**
PB15 IAmb IAmb 17 51 30.1
comp=Z,90nm,1.2s
LVC Limon Verde 82.91 127 LR LR 18 21 12.8
comp=Z,3μm,19.7s,baz=199,slow=30
LVC Limon Verde 82.91 127 P **P 17 51 25.9 -0.6**
LVC pmax pmax
comp=Z,90nm,1.2s
LVC MLR MLR
comp=Z,3μm,20.0s
LVC Limon Verde 82.91 127 ⇑P **P 17 51 29.6 +3.0**
LVC Limon Verde 82.91 127 P **P 17 51 25.9 -0.6**
PB03 IPOC Station P 83.11 126 P **P 17 51 26.9 -0.5**
PB03 IAmb IAmb 17 51 34.9
comp=Z,75nm,1.3s
GSI Gunungsitoli 83.20 287 ⇑P **P 17 51 28.9 +1.3**
GSI Gunungsitoli 83.20 287 P **P 17 51 28.6 +1.0**
comp=Z,2μmcomp=Z,67nm,1.2s
GSI Gunungsitoli 83.20 287 P **P 17 51 24.4 -3.2**
GSI Gunungsitoli 83.20 287 P **P 17 51 30.5 +2.9**
TRSI Tarutung 83.25 288 P **P 17 51 30.5 +2.5**
CPUP Villa Florida 83.28 139 P **P 17 51 28.2 +0.2**
comp=Z,37nm,1.3s,baz=205,slow=4.8,SNR=12
CPUP LR LR 18 26 02.5
comp=Z,4μm,18.4s,baz=197,slow=34
CPUP Villa Florida 83.28 139 ⇓P **P 17 51 27.4 -0.6**
CPUP ⇑P **pP 17 51 29.7 -0.9**
CPUP ⇓P **sP 17 51 30.7 -0.8**
CPUP Villa Florida 83.28 139 P **P 17 51 27.6 -0.3**
CPUP IAmb IAmb 17 51 31.9
comp=Z,74nm,1.5s
PB07 IPOC Station P 83.36 126 P **P 17 51 28.2 -0.5**
POGA Pongola 83.76 217 *e*P **P 17 51 27.8 -2.6**
POGA IAmb IAmb 17 51 41.4
comp=Z,60nm,1.6s
SNKL Senekal, Frees 83.89 213 *e*P **P 17 51 29.2 -2.1**
SNKL IAmb IAmb 17 51 40.3
comp=Z,54nm,1.2s
PSI Prapat 83.96 288 LR LR 18 22 46.6
comp=Z,5μm,21.5s,baz=140,slow=31
PSI Prapat 83.96 288 P **P 17 51 31.0 -0.6**
comp=Z,391nmcomp=Z,9.3nm,1.2s
BOSA Boshof 84.17 211 P **P 17 51 29.5 -3.2**
comp=Z,8.3nm,0.9s,baz=158,slow=6.4,SNR=11

BOSA LR LR 18 26 06.9
comp=Z,6μm,20.4s,baz=170,slow=34
BOSA Boshof 84.17 211 *e*P **P 17 51 30.6 -2.1**
BOSA IAmb IAmb 17 51 37.8
comp=Z,23nm,1.0s
BOSA Boshof 84.17 211 P **P 17 51 30.7 -2.0**
BOSA pmax pmax
comp=Z,20nm,1.0s
BOSA Boshof 84.17 211 ⇑P **P 17 51 30.9 -1.8**
BOSA Boshof 84.17 211 P **P 17 51 30.7 -2.0**
TA01 Diego Aracena 84.31 125 P **P 17 51 32.7 -0.6**
TA01 IAmb IAmb 17 51 40.9
comp=Z,42nm,1.3s
IPM Ipoh 84.57 291 P **P 17 51 36.1 +1.5**
comp=Z,708nmcomp=Z,20nm,1.9s
IPM Ipoh 84.57 291 P **P 17 51 36.4 +1.8**
TSI Tuntungan 84.74 288 P **P 17 51 35.5 +0.1**
comp=Z,105nm,1.2s
KEIM Keimoes 85.03 207 *e*P **P 17 51 34.1 -2.8**
KEIM IAmb IAmb 17 51 45.8
comp=Z,17nm,1.2s
KCSI Kotacane, Aceh 85.10 288 P **P 17 51 36.1 -1.2**
comp=Z,1μmcomp=Z,55nm,1.3s
UPI Upington 85.30 208 *e*P **P 17 51 36.6 -1.7**
UPI IAmb IAmb 17 51 48.9
comp=Z,19nm,1.1s
KULM Kulim 85.46 291 ⇓P **P 17 51 38.5 -0.6**
KULM Kulim 85.46 291 P **P 17 51 37.8 -1.2**
comp=Z,1μmcomp=Z,72nm,1.3s
KULM Kulim 85.46 291 P **P 17 51 35.3 -3.7**
KULM IAMs_20 IAMs_20 18 23 24.4
comp=Z,5μm,22.0s
CRLN Carolina, Mapu 85.49 216 *e*P **P 17 51 43.1 +3.7**
TGY Tagaytay City 85.81 313 LR LR 18 28 30.8
comp=Z,773nm,21.9s,baz=130,slow=35
MNMC Minye Minye 85.84 125 P **P 17 51 40.6 -0.7**
MNMC IAmb IAmb 17 51 54.1
comp=Z,56nm,1.2s
H08S2 Diego Garcia H 86.47 260 T T 19 27 28.2
baz=153,slow=76,SNR=2576
H08S1 Diego Carcia H 86.48 260 T T 19 27 41.1
baz=153,slow=76,SNR=696
H08S3 Diego Garcia H 86.49 260 T T 19 27 40.7
baz=153,slow=76,SNR=3057
ABPO Ambohimpanom 86.61 233 IAMs_20 IAMs_20 18 33 57.0
comp=Z,3μm,18.0s
DGAR Diego Garcia 86.70 260 *i* P **P 17 51 45.5 +0.3**
DGAR pmax pmax
comp=Z,78nm,1.0s
DGAR Diego Garcia 86.70 260 IAMs_20 IAMs_20 18 22 34.0
comp=Z,5μm,19.0s
LHMI Lhok Sumawe 86.98 288 IAMs_20 IAMs_20 18 25 12.6
comp=Z,5μm,20.0s
MOPA Mopani 87.48 218 *e*P **P 17 51 47.0 -1.9**
MOPA IAmb IAmb 17 51 55.6
comp=Z,1.7nm,0.9s
LBTB Lobatse 87.55 212 LR LR 18 30 01.3
comp=Z,4μm,18.8s,baz=166,slow=35
LBTB Lobatse 87.55 212 *e*P **P 17 51 47.0 -2.4**
LBTB IAmb IAmb 17 52 04.4
comp=Z,68nm,2.0s
KIP Kipapa 88.15 30 *i* P **P 17 51 51.9 0.0**
KIP pmax pmax
comp=Z,40nm,1.2s
LPAZ La Paz 88.99 126 P **P 17 51 55.0 -1.9**
comp=Z,35nm,1.2s,baz=171,slow=2.4,SNR=15
LPAZ LR LR 18 22 56.9
comp=Z,2μm,20.6s,baz=200,slow=30
LPAZ La Paz 88.99 126 P **P 17 51 54.7 -2.3**
LPAZ IAmb IAmb 17 52 16.1
comp=Z,38nm,1.1s
AQDB Aquidauana 89.27 138 P **P 17 51 55.8 -1.7**
NNA Nana 89.53 116 LR LR 18 22 35.7
comp=Z,4μm,20.9s,baz=207,slow=29
NNA Nana 89.53 116 IAMs_20 IAMs_20 18 22 33.5
comp=Z,5μm,22.0s
MATP Matopo 91.20 216 LR LR 18 29 59.3
comp=Z,3μm,19.7s,baz=163,slow=34
SIV San Ignacio 91.76 132 LR LR 18 27 28.5
comp=Z,2μm,21.7s,baz=192,slow=32
UBPT Khong Chiam 92.53 300 P **P 17 52 16.1 +3.7**
PTLB Pontes e Lacer 92.91 133 P **P 17 52 13.7 -0.7**
PTLB IAmb IAmb 17 52 18.4
comp=Z,41nm,1.7s
ATAH Atahualpa 93.28 113 LR LR 18 25 15.8
comp=Z,6μm,19.0s,baz=208,slow=30
KAAM Kaadhehdhoo 93.47 264 IAMs_20 IAMs_20 18 26 57.6
comp=Z,3μm,18.0s
PAYG Puerto Ayora 93.90 99 IAMs_20 IAMs_20 18 24 35.5
comp=Z,5μm,21.0s
SRDT SRDT 94.25 294 P **P 17 52 21.3 +0.9**
comp=Z,26nm,1.2s
QIZ Qiongzhong 94.27 305 P **P 17 52 21.0 +0.6**
QIZ S **S 18 03 35.3 +3.7**
QIZ SS **SS 18 09 54.5 +1.1**
QIZ LR LR
comp=Z,1μm,16.9s
QIZ LR LR
comp=Z,2μm,19.2s
QIZ LR LR
comp=Z,2μm,18.2s
TSUM Tsumeb 94.94 206 LR LR 18 32 08.4
comp=Z,22μm,21.9s,baz=170,slow=34
YHNB Yeheng 95.56 317 IAMs_20 IAMs_20 18 32 28.1
comp=Z,4μm,22.0s
JOW Kunigami 95.61 324 LR LR 18 33 46.7
comp=Z,1μm,21.0s,baz=173,slow=34
PALK Pallekele 96.00 274 LR LR 18 28 03.3
comp=Z,5μm,19.9s,baz=250,slow=31
PALK Pallekele 96.00 274 IAMs_20 IAMs_20 18 27 51.8
comp=Z,5μm,20.0s
BDFB Brasilia 96.05 144 LR LR 18 33 46.6
comp=Z,2μm,18.8s,baz=181,slow=34
LSZ Lusaka 96.20 217 LR LR 18 34 52.7
comp=Z,4μm,18.3s,baz=172,slow=35
LSZ Lusaka 96.20 217 IAMs_20 IAMs_20 18 32 32.1
comp=Z,5μm,21.0s
CMAR Chiang Mai Arr 98.01 295 P **P 17 52 37.2 -0.3**
comp=Z,1.3nm,1.0s,baz=191,slow=4.3,SNR=11
CMAR LR LR 18 34 15.4
comp=Z,3μm,19.9s,baz=170,slow=34
CMAR Chiang Mai Arr 98.01 295 P **P 17 52 34.9 -2.6**
CMMT Chiang Mai 98.33 295 P Pdif 17 52 39.4 +0.5
comp=Z,334nmcomp=Z,8.9nm,1.4s
CHTO Chiang Mai 98.33 295 P Pdif 17 52 39.9 +1.0
CHTO Chiang Mai 98.33 295 P Pdif 17 52 41.2 +2.3
SLVN Son La 98.62 301 IAMs_20 IAMs_20 18 34 07.7
comp=Z,4μm,21.0s
HMDM Hanimaadhoo 98.95 267 IAMs_20 IAMs_20 18 28 56.9
comp=Z,3μm,20.0s
JHJ Hachijo jima 2 98.99 335 LR LR 18 35 53.2
comp=Z,1μm,18.7s,baz=136,slow=34
SSE Sheshan 101.63 319 P **Pdif 17 52 51.0 -2.3**
SSE S **Sdif 18 04 25.3 -8.4**
SSE SS **SS 18 11 33.5 -3.3**
SSE pmax pmax
comp=Z,9.0nm,1.4s
SSE pmax pmax
comp=Z,160nm,4.5s
SSE LR LR
comp=Z,460nm,19.9s
H06E1 SOCORRO T-PHASE 101.91 72 T T 19 46 44.6
SNR=35
GYA Guiyang 102.22 305 ⇓*i*P **Pdif 17 53 00.8 +4.6**
GYA PP **PP 17 57 10.0 +1.3**
GYA S **Sdif 18 04 41.3 +2.1**
GYA pmax pmax
comp=Z,370nm,4.4s
GYA LR LR
comp=Z,2μm,22.7s
GYA LR LR
comp=Z,1μm,25.2s
GYA LR LR
comp=Z,3μm,22.1s
KMI Kunming 102.50 301 ⇑P **Pdif 17 53 02.0 +4.4**
KMI PP **PKiKP 17 57 15.3 -3.5**
KMI S **Sdif 18 04 45.5 +3.7**
KMI SS **SS 18 11 47.8 -1.5**
KMI LR LR
comp=Z,1μm,22.4s
KMI LR LR
comp=Z,2μm,19.7s
KMI LR LR
comp=Z,2μm,22.4s
MAJO Matsushiro 102.62 334 *i* P **Pdif 17 52 56.0 -1.6**
MAJO pmax pmax

comp=Z,8.0nm,1.1s
BELO BELONIA 105.40 291 *e*P PKiKP 17 57 45.6 +22
BELO *i* x x 18 29 15.4
HDC Heredia 106.14 100 IAMs_20 IAMs_20 18 31 24.7
comp=Z,4μm,20.0s
SLBS Sierra La Lagu 106.66 71 IAMs_20 IAMs_20 18 35 50.1
comp=Z,3μm,19.0s
KMBO Kilima Mbogo 106.72 230 IAMs_20 IAMs_20 18 43 42.2
comp=Z,3μm,19.0s
MOKO MOKOCHONG 106.84 295 *e*P PKiKP 17 57 35.1 +8.4
MOKO *ex* x 18 06 57.7
ERM Erimo 107.07 340 IAMs_20 IAMs_20 18 36 53.4
comp=Z,3μm,21.0s
BCIP Isla Barro Col 107.28 104 IAMs_20 IAMs_20 18 30 59.9
comp=Z,4μm,22.0s
CD2 Chengdu 107.32 305 Pdif **Pdif 17 53 18.0 -0.7**
CD2 PP **PP 17 57 45.5 -0.9**
CD2 S **Sdif 18 05 25.3 +3.9**
CD2 SS **SS 18 12 57.8 +2.9**
CD2 AMB AMB
comp=Z,230nm,5.8s
CD2 LR LR
comp=Z,220nm,19.1s
CD2 LR LR
comp=Z,1μm,19.1s
CD2 LR LR
comp=Z,2μm,20.6s
UNM Universidad Na 107.56 82 IAMs_20 IAMs_20 18 33 15.0
comp=Z,3μm,19.0s
XAN Xi'an 108.29 310 Pdif **Pdif 17 53 21.3 -1.6**
XAN S **Sdif 18 05 29.5 +0.2**
XAN SS **SS 18 13 04.5 -3.6**
XAN LR LR
comp=Z,2μm,22.0s
XAN LR LR
comp=Z,2μm,19.2s
XAN LR LR
comp=Z,4μm,22.0s
RCBR Riachuelo 108.39 153 IAMs_20 IAMs_20 18 43 52.0
comp=Z,3μm,18.0s
DL2 Dalian 108.80 322 *e*Pdif **Pdif 17 53 25.8 +0.8**
DL2 PP **PP 17 57 59.5 +2.4**
DL2 SS SS 18 13 17.3 +2.5
DL2 AMB AMB
comp=Z,250nm,9.4s
DL2 LR LR
comp=Z,630nm,23.0s
DL2 LR LR
comp=Z,1μm,19.8s
DL2 LR LR
comp=Z,2μm,21.0s
MBAR Mbarara 109.37 224 IAMs_20 IAMs_20 18 47 08.9
comp=Z,3μm,18.0s
HNS HongShan 109.45 316 ⇑Pdif **Pdif 17 53 31.5 +3.6**
HNS PP **PP 17 58 03.0 +1.2**
HNS SS SS 18 13 26.0 +2.5
HNS LR LR
comp=Z,1μm,20.3s
HNS LR LR
comp=Z,1μm,20.8s
HNS LR LR
comp=Z,2μm,19.6s
LZH Lanzhou 111.93 307 *e*PKP PKiKP 17 57 44.8 +8.9
LZH sPKP 17 57 55.0
LZH PP **PP 17 58 20.8 +0.9**
LZH Lanzhou 111.93 307 SS SS 18 14 04.5 +7.4
LZH AMB AMB
comp=Z,140nm,4.9s
LZH LR LR
comp=N,1μm,19.5s
LZH LR LR
comp=E,1μm,20.6s
LZH LR LR
comp=Z,2μm,21.1s
SOCY Socotra 112.27 252 IAMs_20 IAMs_20 18 33 32.7
comp=Z,3μm,22.0s
CN2 Changchun 112.39 327 *e*PKP **PKiKP 17 57 37.3 +1.0**
CN2 PP **PP 17 58 25.8 +2.9**
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,1μm,22.0s
CN2 LR LR
comp=Z,900nm,22.0s
CN2 LR LR
comp=Z,2μm,21.3s
PASC Pasadena Art C 112.55 59 IAMs_20 IAMs_20 18 39 22.3
comp=Z,3μm,18.0s
PFO Pinyon Flats O 112.73 60 IAMs_20 IAMs_20 18 36 00.2
comp=Z,3μm,18.0s
HHC Hu-ho-hao-te 113.59 315 *e*PKP **PKiKP 17 57 35.5 -3.4**
HHC PP **PP 17 58 30.0 -1.7**
HHC AMB AMB
comp=Z,260nm,10.2s
HHC LR LR
comp=Z,2μm,21.4s
HHC LR LR
comp=Z,830nm,19.1s
HHC LR LR
comp=Z,3μm,20.7s
TUC Tucson 113.87 66 IAMs_20 IAMs_20 18 34 27.8
comp=Z,3μm,20.0s
XLT XiLinHaoTe 115.00 320 *e*PKP **PKiKP 17 57 45.5 +4.0**
XLT SS SS 18 14 41.8 +4.4
XLT AMB AMB
comp=Z,690nm,8.1s
XLT LR LR
comp=Z,1μm,18.9s
XLT LR LR
comp=Z,890nm,19.0s
XLT LR LR
comp=Z,1μm,18.1s
GOMU GeErMu 115.42 300 PKP **PKiKP 17 57 43.0 +0.1**
GOMU sPKP 17 57 50.5
GOMU SKS **SKSdf 18 04 47.5 -7.4**
GOMU LR LR
comp=Z,1μm,23.1s
GOMU LR LR
comp=Z,650nm,23.7s
GOMU LR LR
comp=Z,2μm,24.1s
FURI Furi 115.49 236 IAMs_20 IAMs_20 18 50 11.3
comp=Z,2μm,18.0s
MNTX Cornudas Mount 115.61 70 IAMs_20 IAMs_20 18 36 58.9
comp=Z,3μm,19.0s
KLR Kul'dur 116.10 333*c i*PKIKP **PKiKP 17 57 44.7 +1.4**
NVAR Mina Array Bea 116.25 56 PKP **PKiKP 17 57 45.2 +0.9**
comp=Z,1.4nm,0.9s,baz=193,slow=5.7,SNR=8.0
NVAR PKKPbc **PKKPab 18 08 16.6 +0.7**
comp=Z,1.8nm,1.1s,baz=304,slow=1.9,SNR=5.5
MTDJ Mount Denham 116.32 102 IAMs_20 IAMs_20 18 35 52.6
comp=Z,3μm,22.0s
GTA Gaotai 116.34 306 PKP **PKiKP 17 57 44.8 +0.5**
GTA PP **PP 17 58 57.3 +6.2**
GTA AMB AMB
comp=Z,180nm,6.0s
GTA LR LR
comp=Z,1μm,21.9s
GTA LR LR
comp=Z,850nm,18.7s
GTA LR LR
comp=Z,2μm,22.3s
WUAZ Wupatki 116.42 63 IAMs_20 IAMs_20 18 41 44.1
comp=Z,3μm,18.0s
435B Jarrell 118.20 77 IAMs_20 IAMs_20 18 40 22.8
comp=Z,3μm,19.0s
GTBY Guantanamo Bay 118.89 103 IAMs_20 IAMs_20 18 39 12.4
comp=Z,2μm,19.0s
MVCO Mesa Verde 119.05 65 IAMs_20 IAMs_20 18 39 06.8
comp=Z,3μm,19.0s
MVCO Mesa Verde 119.05 65 P **PKiKP 17 57 53.2 +3.4**
baz=211
J04D Umpqua Nationa 119.08 51 IAMs_20 IAMs_20 18 40 55.7
comp=Z,3μm,18.0s
WVOR Wild Horse Val 119.62 54 IAMs_20 IAMs_20 18 44 59.2
comp=Z,3μm,18.0s
DUG Dugway, Tooele 119.89 60 IAMs_20 IAMs_20 18 42 58.7
comp=Z,3μm,18.0s
FDF Fort de France 120.10 120 IAMs_20 IAMs_20 18 43 23.2
comp=Z,2μm,19.0s
S22A 4UR Ranch, Cre 120.19 66 P **PKiKP 17 57 54.4 +2.3**
baz=211
NATX Nacogdoches 120.33 79 IAMs_20 IAMs_20 18 40 53.1
comp=Z,2μm,18.0s
G03D McMinnville, O 120.41 49 P **PKiKP 17 57 55.8 +4.0**
baz=209
SDCO Great Sand Dun 120.74 67 IAMs_20 IAMs_20 18 39 05.7
comp=Z,3μm,21.0s
SDCO Great Sand Dun 120.74 67 P **PKiKP 17 57 55.1 +2.0**
baz=212
WMOK Wichita Mounta 121.05 74 IAMs_20 IAMs_20 18 43 01.0
comp=Z,3μm,19.0s
ULN Ulaanbaatar 121.31 316*c i*PKIKP **PKPdf 17 57 52.7 -0.9**
ULN pmax pmax
comp=Z,6.0nm,1.3s
SMCO Snowmass 121.35 65 IAMs_20 IAMs_20 18 39 56.7
comp=Z,3μm,20.0s
SONM Songino Array 121.49 315 PKP **PKPdf 17 57 53.6 -0.3**
comp=Z,0.5nm,0.8s,baz=101,slow=3.0,SNR=4.4
MFID Camas Ranch 121.51 55 IAMs_20 IAMs_20 18 44 06.2
comp=Z,2μm,19.0s
E04D Cinebar 121.82 49 IAMs_20 IAMs_20 18 52 11.2
comp=Z,3μm,18.0s
NLWA Neilton Lookou 122.11 47 IAMs_20 IAMs_20 18 43 00.8
comp=Z,3μm,20.0s
BMO Blue Mountains 122.20 53 IAMs_20 IAMs_20 18 46 51.3
comp=Z,2μm,18.0s
SMRT St. Maarten 122.33 116 IAMs_20 IAMs_20 18 45 48.6
comp=Z,2μm,18.0s
OK025 Westminster Rd 122.39 75 IAMs_20 IAMs_20 18 39 45.6
comp=Z,3μm,21.0s
ISCO Idaho Springs 122.44 65 IAMs_20 IAMs_20 18 40 07.4
comp=Z,3μm,20.0s
ISCO Idaho Springs 122.44 65 P **PKiKP 17 57 58.7 +2.3**
baz=212
OK029 Liberty Lake 122.52 74 IAMs_20 IAMs_20 18 44 49.0
comp=Z,3μm,18.0s
HAWA Hanford 122.73 51 IAMs_20 IAMs_20 18 48 17.1
comp=Z,3μm,18.0s
AHID Auburn Hatcher 122.75 59 IAMs_20 IAMs_20 18 45 58.4
comp=Z,2μm,19.0s
PLID Pearl Lake 122.88 54 IAMs_20 IAMs_20 18 51 11.6
comp=Z,3μm,18.0s
OK030 Cody Creek RV 122.92 75 IAMs_20 IAMs_20 18 45 06.7
comp=Z,3μm,19.0s
OK033 Mehan 122.95 75 IAMs_20 IAMs_20 18 45 05.5
comp=Z,3μm,18.0s
OK034 N. Norfolk Rd. 123.02 75 IAMs_20 IAMs_20 18 44 19.3
comp=Z,3μm,19.0s
OK032 Salt Plains WL 123.04 73 IAMs_20 IAMs_20 18 41 53.7
comp=Z,3μm,19.0s
DWPF Disney Wildern 123.17 93 IAMs_20 IAMs_20 18 40 28.3
comp=Z,2μm,22.0s
BRAL Brewton 123.24 86 IAMs_20 IAMs_20 18 42 22.2
comp=Z,2μm,21.0s
TUL1 Leonard 123.34 76 IAMs_20 IAMs_20 18 50 27.8
comp=Z,2μm,18.0s
REDW Red Top Meadow 123.35 59 IAMs_20 IAMs_20 18 49 32.3
comp=Z,3μm,18.0s
BW06 Boulder Array 123.36 60 IAMs_20 IAMs_20 18 45 23.5
comp=Z,3μm,19.0s
BW06 Boulder Array 123.36 60 P **PKiKP 17 58 00.6 +2.6**
baz=212
PDAR Pinedale Array 123.36 60 PKP **PKiKP 17 57 58.8 +0.8**
comp=Z,4.8nm,1.2s,baz=202,slow=1.6,SNR=14
DBIC Dimbokro 123.36 186 PKP **PKiKP 17 57 59.0 +0.4**
comp=Z,7.7nm,1.2s,baz=188,slow=4.2,SNR=3.5
RWWY Rawlins 123.38 63 IAMs_20 IAMs_20 18 52 02.3
comp=Z,2μm,18.0s
MA2 Magadan 123.38 349 IAMs_20 IAMs_20 18 44 27.0
comp=Z,3μm,21.0s
W39A Magazine 123.62 78 P **PKiKP 17 58 01.0 +2.5**
baz=213
LOHW Long Hollow 123.66 59 IAMs_20 IAMs_20 18 49 41.5
comp=Z,2μm,18.0s
PHWY Pilot Hill 123.77 65 IAMs_20 IAMs_20 18 42 30.6
comp=Z,3μm,19.0s
CBKS Cedar Bluff 124.07 71 IAMs_20 IAMs_20 18 41 18.9
comp=Z,4μm,20.0s
H02S1 DAWSON INLET T 124.59 38 T T 20 15 02.7
SNR=9.7
ZAK Zakamensk 124.72 314 *e*PKIKP **PKPdf 17 57 57.7 -2.2**
ZAK *e* 17 59 54.5
ZAK pmax pmax
comp=Z,13nm,1.5s
ZAK pmax pmax
comp=Z,5.0nm,1.3s
WMQ Urumqi 124.75 299 PKP **PKPdf 17 57 59.5 -0.7**
WMQ PP **PP 17 59 47.5 -1.1**
WMQ AMB AMB
comp=Z,190nm,5.7s
WMQ LR LR
comp=Z,990nm,21.9s
WMQ LR LR
comp=Z,930nm,14.7s
WMQ LR LR
comp=Z,1μm,21.9s
BOZ Bozeman (W) 124.94 57 P **PKiKP 17 58 03.0 +2.0**
baz=213
U40A Yellville 125.01 78 P **PKiKP 17 58 01.8 +0.6**
baz=213
MSO Missoula 125.11 55 IAMs_20 IAMs_20 18 56 51.6
comp=Z,3μm,18.0s
MSO Missoula 125.11 55 P **PKiKP 17 58 02.8 +1.7**
baz=213
NEW Newport 125.18 51 PKP **PKiKP 17 58 01.8 +0.6**
comp=Z,8.5nm,1.1s,baz=224,slow=2.2,SNR=8.2
NEW Newport 125.18 51 IAMs_20 IAMs_20 18 51 22.0
comp=Z,3μm,18.0s
NEW Newport 125.18 51 P **PKiKP 17 58 02.1 +1.0**
baz=212
P18K Big Mountain, 125.24 21 IAMs_20 IAMs_20 18 44 40.4
comp=Z,3μm,20.0s
O18K Koktuh Hills 125.68 21 IAMs_20 IAMs_20 18 45 23.1
comp=Z,3μm,20.0s
RAYN Ar Rayn 125.97 250 IAMs_20 IAMs_20 18 46 44.7
comp=Z,2μm,18.0s
KSH Kashi 126.03 287 PKP **PKiKP 17 58 03.5 +0.2**
KSH LR LR
comp=Z,2μm,22.7s
KSH LR LR
comp=Z,1μm,19.6s
KSH LR LR
comp=Z,2μm,27.5s
O19K Port Alsworth 126.15 21 IAMs_20 IAMs_20 18 45 36.5
comp=Z,3μm,20.0s
MOY Mondy 126.56 314 *e*PKIKP **PKPdf 17 58 03.5 +0.1**
MOY pmax pmax
comp=Z,32nm,1.8s
SEY Seymchan 126.57 350 PKP **PKiKP 17 58 03.5 +0.1**
comp=Z,3.4nm,1.1s,baz=81,slow=4.2,SNR=7.7
SEY Seymchan 126.57 350 *i* PKIKP **PKiKP 17 58 04.0 +0.6**
RSSD Black Hills 126.69 64 IAMs_20 IAMs_20 18 48 26.0
comp=Z,2μm,19.0s
RSSD Black Hills 126.69 64 P **PKiKP 17 58 05.3 +0.7**
baz=214
WVT Waverly 127.05 82 IAMs_20 IAMs_20 18 45 15.2
comp=Z,2μm,19.0s
CCM Cathedral Cave 127.13 78 IAMs_20 IAMs_20 18 45 33.2
comp=Z,2μm,21.0s
WRAK Wrangell Islan 127.46 36 IAMs_20 IAMs_20 18 44 17.1
comp=Z,3μm,20.0s
GAMB Gambell 127.50 10 P **PKiKP 17 58 09.0 +3.8**
baz=191
EGMT Eagleton 127.68 57 IAMs_20 IAMs_20 18 46 21.5
comp=Z,2μm,19.0s
EGMT Eagleton 127.68 57 P **PKiKP 17 58 10.1 +3.9**
baz=214
UZB Uzynbulak 127.72 292 *e*PKIKP **PKPdf 17 58 05.0 -1.0**
UZB *e* 18 00 05.9
UZB Uzynbulak 127.72 292 *e*PKP **PKPdf 17 58 05.1 -1.0**
baz=293
UZB *e*PP **PP 18 00 05.9 -2.5**
baz=293
SATY Saty 127.91 292 *e*PKIKP **PKPdf 17 58 05.4 -0.9**
SATY *e* 18 00 07.5
SATY Saty 127.91 292 *e*PKP **PKPdf 17 58 05.5 -0.9**
baz=292
SATY *e*PP **PP 18 00 07.6 -2.1**
baz=292
LAO LASA Array 127.94 60 IAMs_20 IAMs_20 18 52 37.7
comp=Z,3μm,18.0s
BOD Bodaibo 128.11 326 *e*PKIKP **PKPdf 17 58 05.5 -0.5**
BOD pmax pmax
comp=Z,16nm,1.8s
TNSS Tian-Shan 128.51 291 *e*PKP **PKPdf 17 58 07.0 -0.8**
baz=291
MDOK Medeo 128.57 291 *e*PKIKP **PKPdf 17 58 07.3 -0.3**
MDOK Medeo 128.57 291 *e*PKP **PKPdf 17 58 07.3 -0.3**
baz=291
YAK Yakutsk 128.57 337 *e*PKIKP **PKPdf 17 58 06.3 -0.4**
YAK *e* 18 00 12.9
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,1.0nm,0.9s
YAK pmax pmax
comp=Z,56nm,2.3s
YAK pmax pmax
comp=N,36nm,2.2s
YAK pmax pmax
comp=E,36nm,2.8s
YAK Yakutsk 128.57 337 IAMs_20 IAMs_20 18 54 24.8
comp=Z,2μm,20.0s
ZSN Zaisan 128.87 300 *e*PKIKP **PKPdf 17 58 07.7 -0.1**
ZSN Zaisan 128.87 300 *e*PKP **PKPdf 17 58 07.8 -0.1**
baz=300
AAK Ala-Archa 129.22 288*c i*PKIKP **PKPdf 17 58 07.0 -1.9**
AAK pmax pmax
comp=Z,8.0nm,1.3s
TORD Torodi Ar. Bea 129.22 195 PKP **PKPdf 17 58 08.8 -0.7**
comp=Z,23nm,1.1s,baz=287,slow=0.2,SNR=19
MK31 Makanchi Array 129.36 297 *i* PKIKP **PKPdf 17 58 08.9 +0.1**
MKAR Makanchi Array 129.36 297 PKP **PKPdf 17 58 08.4 -0.5**
comp=Z,6.1nm,1.1s,baz=111,slow=2.7,SNR=12
M24K Tolsona, Glenn 129.39 25 IAMs_20 IAMs_20 18 44 35.5
comp=Z,3μm,22.0s
ECSD EROS Data Cent 129.45 70 IAMs_20 IAMs_20 18 46 12.4
comp=Z,2μm,20.0s
ECSD EROS Data Cent 129.45 70 P **PKPdf 17 58 09.4 +0.3**
baz=216
KUU Kurty 129.46 291 *e*PKIKP **PKPdf 17 58 08.6 -0.5**
KUU Kurty 129.46 291 *e*PKP **PKPdf 17 58 08.7 -0.5**
baz=291
WCI Wyandotte Cave 129.47 82 P **PKiKP 17 58 10.1 +0.1**
baz=215
TDK Taldyqorghan 129.49 293 *e*PKIKP **PKPdf 17 58 08.8 -0.3**
TDK Taldyqorghan 129.49 293 *e*PKP **PKPdf 17 58 08.8 -0.3**
baz=294
TNA Tin City 129.58 12 P **PKiKP 17 58 09.5 +0.2**
baz=193
DGZ Jazzator, Alta 129.72 303 *i* PKIKP **PKPdf 17 58 09.6 0.0**
SGDS Sogindy 129.83 289 *e*PKP **PKPdf 17 58 09.5 -0.4**
baz=290
HDIL Hopedale 130.04 78 IAMs_20 IAMs_20 18 48 56.3
comp=Z,2μm,19.0s
DGMT Dagmar 130.18 60 IAMs_20 IAMs_20 18 54 09.2
comp=Z,2μm,18.0s
M26K Nabesna, AK 130.28 27 P **PKiKP 17 58 11.9 +1.0**
baz=206
MCK McKinley 130.38 23 P **PKiKP 17 58 12.5 +1.4**
baz=203
M27K Edge Creek, AK 130.47 27 P **PKiKP 17 58 13.4 +2.0**
baz=207
P33M Teslin, Yukon 130.65 34 P **PKiKP 17 58 13.9 +2.1**
baz=210
IUG Iuzhnay 130.76 285 *e*PP PP 18 00 25.7 -2.5
baz=285
DZA Taraz 130.80 286 *e*PKIKP **PKPdf 17 58 11.1 -0.6**
DZA Taraz 130.80 286 *e*PKP **PKPdf 17 58 11.2 -0.6**
baz=287
BILL Bilibino 131.05 358⇑*i*PKIKP **PKiKP 17 58 12.2 -0.1**
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL MLR MLR
comp=Z,1μm,19.0s
BCAR Beaver Creek A 131.13 27 PKPdf **PKPdf 17 58 12.2 +0.5**
RIDG Independent Ri 131.13 25 P **PKiKP 17 58 13.2 +0.6**
baz=206
BLA Blacksburg 131.28 88 IAMs_20 IAMs_20 18 58 44.2
comp=Z,2μm,19.0s
HDA Harding Lake 131.35 23 P **PKiKP 17 58 14.0 +1.0**
baz=205
BTLS Baital 131.36 290 *e*PKIKP **PKPdf 17 58 12.4 -0.2**
BTLS Baital 131.36 290 *e*PKP **PKPdf 17 58 12.5 -0.2**
baz=290
SCRK Sand Creek 131.51 25 P **PKiKP 17 58 13.9 +0.5**
baz=206
JFWS Jewell Farm 131.53 75 IAMs_20 IAMs_20 18 49 35.6
comp=Z,2μm,19.0s
H21K Melozitna Rive 131.53 20 P **PKiKP 17 58 13.3 0.0**
baz=202
I23K Minto, Yukon-K 131.61 22 IAMs_20 IAMs_20 18 57 07.9
comp=Z,3μm,19.0s
COLA College 131.62 23 *i* PKIKP **PKiKP 17 58 13.8 +0.4**
O48B Farmland 131.64 81 P **PKiKP 17 58 14.3 0.0**
baz=216
ILAR Eielson Array 131.69 23 PKP **PKPdf 17 58 10.9 -1.8**
comp=Z,6.5nm,1.0s,baz=248,slow=3.0,SNR=18
J25K Salcha River, 131.82 24 IAMs_20 IAMs_20 18 48 23.8
comp=Z,3μm,20.0s
L44A Lake County Fo 131.97 78 IAMs_20 IAMs_20 18 52 05.2
comp=Z,2μm,19.0s
J26L Joseph Creek 132.06 25 P **PKiKP 17 58 14.4 -0.1**
baz=207
FARO Faro, Yukon 132.27 32 P **PKiKP 17 58 15.9 +0.9**
baz=211
H24K Noodor Dome 132.50 22 P **PKiKP 17 58 16.7 +1.4**
baz=205
ACSO Alum Creek Sta 132.59 83 IAMs_20 IAMs_20 18 53 30.9
comp=Z,2μm,19.0s
ACSO Alum Creek Sta 132.59 83 P **PKPdf 17 58 15.8 +0.7**
baz=216
J29M Klondike Camp 133.10 28 IAMs_20 IAMs_20 18 46 56.1
comp=Z,3μm,21.0s
O53A New Philadelph 133.40 85 P **PKiKP 17 58 17.9 0.0**
baz=216
AGMN Agassiz Nation 133.41 66 IAMs_20 IAMs_20 18 46 31.0
comp=Z,2μm,21.0s
KURK Kurchatov 133.95 298*c i*PKIKP **PKPdf 17 58 15.5 -1.8**
KURK pmax pmax
comp=Z,16nm,2.5s
AAM Ann Arbor 133.95 81 IAMs_20 IAMs_20 18 50 19.9
comp=Z,2μm,20.0s
ZALV Zalesovo Beam 134.08 305 PKP **PKiKP 17 58 18.4 -0.4**
comp=Z,2.1nm,1.0s,baz=164,slow=1.1,SNR=5.9
TOLK Toolik Lake Re 134.78 20 IAMs_20 IAMs_20 18 52 44.5
comp=Z,3μm,20.0s
TOLK Toolik Lake Re 134.78 20 P **PKPdf 17 58 19.2 +0.8**
baz=205
BRZS Berezniki 135.81 293 *e*PKIKP **PKPdf 17 58 19.5 -1.4**
BRZS Berezniki 135.81 293 *e*PKP **PKPdf 17 58 19.5 -1.4**
baz=294
FFC Flin Flon 135.96 57 IAMs_20 IAMs_20 18 50 46.5
comp=Z,3μm,21.0s
A21K Barrow 136.32 15 IAMs_20 IAMs_20 18 51 45.4
comp=Z,3μm,22.0s
GHAJ Ghor Haditha 136.94 244 IAMs_20 IAMs_20 19 06 17.6
comp=Z,3μm,20.0s
PAL Palisades 137.31 90 IAMs_20 IAMs_20 19 00 00.7
comp=Z,2μm,18.0s
INK Inuvik 137.38 27 P **PKiKP 17 58 25.2 +0.2**
baz=214
TIXI Tiksi 137.54 342 *i* PKIKP **PKPdf 17 58 23.2 -0.2**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI Tiksi 137.54 342 IAMs_20 IAMs_20 18 52 42.1
comp=Z,2μm,22.0s
YKA Yellowknife Ar 137.57 42 PKhKP PKPpre 17 58 12.4
comp=Z,0.4nm,0.8s,baz=216,slow=3.5,SNR=3.8
YKA PKP **PKPdf 17 58 23.4 -0.3**
comp=Z,4.7nm,1.1s,baz=210,slow=2.9,SNR=12
YLE Yale 138.00 91 IAMs_20 IAMs_20 18 51 03.8
comp=Z,2μm,20.0s
BRVK Borovoye 139.10 295 *i* PKIKP **PKPdf 17 58 26.1 -0.7**
GNI Garni 140.49 261*c i*PKIKP **PKPdf 17 58 28.9 -1.1**
GNI pmax pmax
comp=Z,22nm,1.7s
GNI Garni 140.49 261 IAMs_20 IAMs_20 18 53 41.1
comp=Z,2μm,21.0s
MAK Makhachkala 141.50 266 *e*P **Pdif 17 55 44.1 -6.2**
MAK *i* 17 58 29.5
MAK pmax pmax
comp=Z,80nm,1.5s
AKH Akhalkalaki 142.06 261 ⇓P **PKiKP 17 58 37.0 +1.3**
GROC Groznyy 142.46 265 *e*PKIKP **PKPdf 17 58 33.1 -0.1**
GROC *e* 18 01 40.3
GROC pmax pmax
comp=Z,38nm,1.3s
ZEI Tsey 142.98 263 *e*PKIKP **PKiKP 17 58 36.1 -1.5**
ZEI pmax pmax
comp=Z,42nm,0.8s
CHVG Ch'k'valeri 143.74 261 ⇑P **PKPdf 17 58 34.3 -1.2**
CHVG Ch'k'valeri 143.74 261 ⇑PKIKP **PKPdf 17 58 34.3 -1.2**
KBZ Khabaz 144.18 263 PKP **PKPab 17 58 32.6 -1.3**
comp=Z,30nm,1.0s,baz=165,slow=2.3,SNR=37
KBZ Khabaz 144.18 263 *i* PKIKP **PKPdf 17 58 35.9 -0.3**
SHA1 Shidzhatmaz 144.29 262 *i* PKIKP **PKPab 17 58 34.2 -0.5**
NRIK Noril'sk 144.30 323 PKP **PKPab 17 58 32.6 -1.0**
comp=Z,14nm,1.1s,baz=128,slow=3.5,SNR=16

NRIK	Noril'sk	144.30 323	*i* PKIKP	PKPab	17 58 33.0	-0.7
NRIK			pmax	pmax		
comp=Z,75nm,1.4s						
NPS	Neapolis	144.32 235	P	PKPab	17 58 33.9	-0.9
KIV	Kislovodsk	144.45 263	⇓P	PKPbc	17 58 35.3	-0.1
KIV	Kislovodsk	144.45 263	*e*PKHKP	PKPpre	17 58 30.5	
KIV			*i*		17 58 34.2	
KIV			*e*SSS	SSS	18 25 57.2	
KIV			pmax	pmax		
comp=Z,232nm,1.1s						
KIV			MLR	MLR		
comp=Z,1μm,24.0s						
IDI	Anoyia	144.62 234	P	PKPab	17 58 32.7	-3.3
DAT	Datca	144.87 239	P	PKPab	17 58 33.4	-3.5
BRTR	Keskin Array B	144.98 249	PKP	PKPab	17 58 34.5	-2.8
comp=Z,38nm,0.9s,baz=160,slow=5.1,SNR=44						
BRTR	Keskin Array B	144.98 249	PKIKP	PKPab	17 58 35.4	-1.8
BRTR	Keskin Array B	144.98 249	PKPdf	PKPab	17 58 35.4	-1.8
BR131	Keskin Array S	144.98 249	PKIKP	PKPab	17 58 35.5	-1.8
BR131	Keskin Array S	144.98 249	PKPdf	PKPab	17 58 35.5	-1.8
GOF	Gofitskoye	145.15 264	⇑*e*PKIKP	PKPdf	17 58 39.2	+1.3
GOF			pmax	pmax		
comp=Z,116nm,1.1s						
BODT	Bodrum	145.27 239	P	PKPbc	17 58 34.7	-3.4
SOC	Sochi	145.48 259	*e*PKIKP	PKPbc	17 58 37.3	-1.3
SOC			*i*		17 58 41.8	
SOC			*e*		18 01 56.3	
SOC			*e*SS	SS	18 20 46.7	-4.7
SOC			*e*SSS	SSS	18 26 20.5	
SOC			pmax	pmax		
comp=Z,37nm,1.1s						
SOC			pmax	pmax		
comp=Z,78nm,1.0s						
SVE	Sverdlovsk	145.72 293	*e*PKIKP	PKPab	17 58 39.0	-0.3
ARU	Arti	146.34 291	*i* PKP2	PKPdf	17 58 39.8	+0.3
VLI	Veliai	146.60 233	P	PKiKP	17 58 47.8	+2.8
BZK	Bozkurt	146.67 251	⇑P	PKPab	17 58 42.8	-0.5
ZGR	Zagora	146.69 187	P	PKPab	17 58 43.0	-1.0
TTIG	Tnine Tigouga,	147.23 183	P	PKiKP	17 58 50.0	+3.3
VLY	Voula,Athens	147.29 235	P	PKPbc	17 58 43.5	-0.6
TZRR	Tazzarine	147.35 188	P	PKPbc	17 58 45.0	+0.4
PTL	Penteli	147.44 235	P	PKPbc	17 58 44.9	+0.3
OUZM	OUZ	147.54 186	P	PKiKP	17 58 47.1	-0.2
OUK	Oukaimeden	147.88 184	P	PKPab	17 58 51.0	+2.1
MAKR	Makrakomi, Fth	148.93 234	P	PKPbc	17 58 48.6	+0.2
SRHM	Skhour des Reh	149.13 184	P	PKPab	17 58 56.0	+2.4
PAIG	Paliouri	149.15 237	P	PKiKP	17 58 50.7	+0.6
PMOZ	Porto Moniz, M	149.21 169	*e*LR	LR	18 48 49.3	
comp=Z,995nm,24.0s						
MDT	Midelt	149.30 189	P	PKPab	17 58 53.5	-0.8
OUR	Ouranopolis	149.39 238	P	PKPab	17 58 52.7	-1.6
THL	Klokotos Trika	149.46 234	P	PKPdf	17 58 46.8	+1.6
RDO	Rodhopi	149.49 241	P	PKPbc	17 58 48.5	-1.2
LIT	Litokhoron	149.75 236	P	PKPab	17 58 54.6	-1.2
KEST	Kesra	149.89 213	PKPbc	PKPbc	17 58 49.5	-1.5
comp=Z,28nm,1.2s,baz=193,slow=9.2,SNR=6.2						
KDZ	Kurdzhali	149.96 241	P	PKPbc	17 58 49.0	-1.9
LCRM	LCR	150.19 189	P	PKPab	17 58 57.0	-1.0
VRH	Novokhopyorsk	150.28 271	*e*PKIKP	PKPbc	17 58 50.1	-1.2
VRH			pmax	pmax		
comp=Z,80nm,1.1s						
PRD	Provadia	150.46 245	P	PKPbc	17 58 50.0	-2.0
MANR	Mangalia	150.48 247	⇑P	PKPbc	17 58 49.2	-2.7
MMB	Musomiste	150.57 239	P	PKPbc	17 58 50.0	-2.4
RES	Resolute Bay	150.60 33	PKPbc	PKPbc	17 58 49.6	-1.8
comp=Z,16nm,1.0s,baz=239,slow=3.2,SNR=9.7						
JBK	JBK	150.63 193	P	PKPab	17 58 57.0	-2.9
SCHQ	Schefferville	150.66 80	PKPbc	PKPbc	17 58 50.2	-1.9
comp=Z,6.0nm,1.1s,baz=251,slow=11,SNR=2.9						
EFOR	EFORIE	150.68 248	⇑P	PKPbc	17 58 50.5	-1.9
VAY	Valandovo	150.78 237	*i* P	PKPbc	17 58 50.9	-2.0
ABSA	Djebel Ababsia	150.85 210	P	PKiKP	17 58 55.5	+1.6
TIP	Timpagrande	150.95 227	⇑P	PKPbc	17 58 51.1	-2.3
KKB	Krupnik	151.06 238	P	PKPdf	17 58 49.0	+1.3
SZH	Strazhica	151.12 243	P	PKPdf	17 58 49.0	+1.3
CKFL	Kef-Lekhel	151.14 209	P	PKiKP	17 58 56.3	+1.8
CMAH	Djebel Manchou	151.20 211	P	PKiKP	17 58 54.7	+0.1
VORD	Divnogorie	151.21 268	*e*PKIKP	PKPbc	17 58 53.2	-0.3
VORD			pmax	pmax		
comp=Z,50nm,1.0s						
STIP	Stip	151.25 237	*i* P	PKPdf	17 58 50.4	+2.4
OHR	Ohrid	151.26 234	*i* P	PKPbc	17 58 51.2	-2.8
TLBR	Topalu	151.30 247	⇓P	PKiKP	17 58 53.8	-0.6
TPGR	Topolog	151.40 248	⇓P	PKiKP	17 58 54.7	+0.1
DFRA	Djebel Bou Aff	151.46 208	P	PKPab	17 58 58.8	-4.3
HARR	Harsova	151.47 247	⇑P	PKiKP	17 58 54.4	-0.4
HARR	Harsova	151.47 247	⇑PKIKP	PKiKP	17 58 54.4	-0.4
TLCR		151.49 249	⇓P	PKiKP	17 58 54.8	0.0
TLCR		151.49 249	⇓PKIKP	PKiKP	17 58 54.8	0.0
KIRV	Kirov	151.56 288	*c i* PKIKP	PKPbc	17 58 52.9	-1.1
VTS	Vitosha	151.64 239	⇑P	PKPbc	17 58 52.4	-2.6
VTS	Vitosha	151.64 239	⇑PKIKP	PKPbc	17 58 52.4	-2.6
VTS	Vitosha	151.64 239	P	PKPbc	17 58 52.0	-3.0
AMRR	Amara	151.65 247	⇓P	PKiKP	17 58 55.9	+0.8
AMRR	Amara	151.65 247	⇓PKIKP	PKiKP	17 58 55.9	+0.8
VORR	Voronezh	151.74 269	*e*PKIKP	PKPbc	17 58 53.7	-1.0
VORR			pmax	pmax		
comp=Z,119nm,1.2s						
LEHL	Lehliu	151.75 246	⇑P	PKiKP	17 58 55.7	+0.4
SKO	Skopje	151.77 236	*i* P	PKPdf	17 58 51.3	+2.5
CFR	Carcaliu	151.77 248	⇑P	PKPbc	17 58 52.2	-2.8
CFR	Carcaliu	151.77 248	⇑PKIKP	PKPbc	17 58 52.2	-2.8
TIR	Tirane	151.81 233	⇑P	PKiKP	17 58 56.3	+0.7
TIR	Tirane	151.81 233	⇑PKIKP	PKiKP	17 58 56.3	+0.7
PHP	Peshkopia	151.89 234	P	PKiKP	17 58 57.8	+2.0
SGRR	Singureni	151.89 244	⇑P	PKiKP	17 58 55.4	-0.2
PGOR	Pogoanele	152.03 247	⇑P	PKiKP	17 58 58.9	+3.0
PURM	Purcari	152.11 252	⇑P	PKiKP	17 58 56.2	+0.2
COPA	Copaceanca	152.12 243	⇑P	PKPdf	17 58 51.4	+2.2
TATR	Tatarca	152.15 249	⇓P	PKiKP	17 58 56.7	+0.6
SCHL	Schela	152.16 248	⇑P	PKiKP	17 58 56.8	+0.7
IZVR	Izvoarele	152.22 248	⇓P	PKiKP	17 58 59.8	+3.6
SCTR	Scanteiesti	152.23 249	⇑P	PKiKP	17 58 58.9	+2.6
SLCR	Slobozia Conac	152.26 248	⇑P	PKPab	17 59 01.5	-4.5
MATE	Matera	152.29 228	⇑P	PKPdf	17 58 51.9	+2.4
VLDR	Vladesti	152.33 249	⇑P	PKPdf	17 58 52.4	+3.0
VLAD	Vladila	152.34 242	⇓P	PKiKP	17 58 56.3	-0.2
ISR	Istrita	152.39 246	⇑P	PKPbc	17 58 54.8	-1.7
ISR	Istrita	152.39 246	⇑PKIKP	PKPbc	17 58 54.8	-1.7
VARL	Varlezi	152.47 249	⇑P	PKiKP	17 58 59.2	+2.4
LPSR	Galich'ya Gora	152.50 270	*e*PKIKP	PKiKP	17 58 57.0	+0.4
LPSR			pmax	pmax		
comp=Z,50nm,1.1s						
HUMR	Humele	152.55 244	⇑P	PKPbc	17 58 54.8	-2.0
BISRR	Bisoca	152.67 247	⇑P	PKiKP	17 58 57.4	0.0
ODBI	Odobesti	152.70 248	⇑P	PKiKP	17 58 58.9	+1.6
NEHR	Nehoiu	152.74 246	⇓P	PKiKP	17 58 58.0	+0.6
PANC	Panciu	152.75 248	⇓P	PKPab	17 59 02.5	-5.6
BAIL	Bailesti	152.78 241	⇑P	PKiKP	17 58 58.1	+0.6
GHRR		152.79 249	⇑P	PKiKP	17 58 57.2	-0.3
STFAR	Stefanesti-Arg	152.83 244	⇓P	PKiKP	17 59 01.9	+4.3
MILM	Milestii Mici	152.87 251	⇓P	PKPbc	17 58 54.2	-3.1
MILM	Milestii Mici	152.87 251	*e*PKP	PKPdf	17 58 52.0	+1.8
comp=Z,170nm,1.2s						
MILM			*e*L	L	18 40 19.0	
comp=Z,3μm,64.0s						
MILM			*e*LR	LR	19 09 34.0	
comp=Z,2μm,22.5s						
MILM	Milestii Mici	152.87 251	*e*PKIKP	PKPdf	17 58 52.0	+1.8
MILM			*i*		17 58 56.0	
MILM			pmax	pmax		
comp=Z,170nm,1.2s						
VRI	Vrincioaia	152.92 247	⇓P	PKPbc	17 58 57.1	-0.5
VRI	Vrincioaia	152.92 247	⇓PKIKP	PKPbc	17 58 57.1	-0.5
PLOR	Plostina	152.94 247	⇓P	PKiKP	17 59 01.5	+3.7
MLR	Muntele Rosu	152.94 246	⇑P	PKPdf	17 58 51.8	+1.3
MLR			⇑P	PKPdf	17 58 53.7	+3.2
MLR	Muntele Rosu	152.94 246	⇑PKIKP	PKPdf	17 58 53.7	+3.2
PDG	Podgorica	152.97 233	⇑P	PKiKP	17 58 59.4	+1.5
VASR	Vaslui	153.08 250	⇓P	PKiKP	17 58 59.2	+1.2
BOVS	Bovan	153.09 238	⇓P	PKiKP	17 59 00.9	+2.7
COVR	Voineasa-Covas	153.12 247	⇓P	PKPdf	17 58 50.8	+0.1
VOIR		153.26 245	⇑P	PKPdf	17 58 52.5	+1.6
VOIR		153.26 245	⇑PKIKP	PKPdf	17 58 52.5	+1.6
SRE	Strehaia	153.37 241	⇑P	PKiKP	17 59 01.0	+2.3
ARR	Arges	153.38 244	⇑P	PKPbc	17 58 54.9	-3.8
TESR	Tescani	153.46 248	⇓P	PKiKP	17 59 01.9	+3.1
OZUR		153.49 247	⇑P	PKiKP	17 58 59.9	+1.0
DOPR	Dopca	153.55 246	⇑P	PKPbc	17 58 55.1	-3.8
IAS	Iasi	153.62 250	⇑P	PKiKP	17 58 59.1	0.0
IAS	Iasi	153.62 250	⇑PKIKP	PKiKP	17 58 59.1	0.0
LOT	Lotru	153.79 243	⇑P	PKPbc	17 58 57.3	-2.3
HERR	Herculane	153.86 241	⇑P	PKPbc	17 58 58.8	-0.8
SORM	Soroca	154.00 253	⇑P	PKiKP	17 58 59.8	0.0
SORM	Soroca	154.00 253	⇑PKIKP	PKiKP	17 58 59.8	0.0
PVAQ	Vaqueiros	154.05 185	*e*LQ	LQ	18 40 44.9	
PVAQ	Vaqueiros	154.05 185	*e*LR	LR	18 52 29.5	
comp=Z,2μm,20.0s						
MDVR	Moldovita	154.06 240	⇑P	PKiKP	17 59 03.4	+3.2
GZR	Gura Zlata	154.15 242	⇑P	PKPdf	17 58 55.6	+3.4
GZR	Gura Zlata	154.15 242	⇑PKIKP	PKPdf	17 58 55.6	+3.4
DEV	Deva	154.50 243	⇑P	PKPdf	17 58 54.4	+1.9
DEV	Deva	154.50 243	⇑PKIKP	PKPdf	17 58 54.4	+1.9
PRGR	Permogore	154.78 292	*i* PKIKP	PKPbc	17 59 00.1	-0.9
PRGR			pmax	pmax		
comp=Z,3.0nm,0.5s						
ARCR	ARCALIA	154.88 246	⇑P	PKPdf	17 58 56.9	+3.8
BURAR	Bucovina Array	154.94 248	⇑P	PKPdf	17 58 54.9	+1.6
BURAR	Bucovina Array	154.94 248	⇑PKIKP	PKPdf	17 58 54.9	+1.6
FRGS	Fruska Gora	155.10 237	⇑P		17 59 03.1	
EVO	Evora	155.18 184	*e*PKP	PKPdf	17 59 00.7	+7.0
OBN	Obninsk	155.19 273	*i* PKIKP	PKPdf	17 58 52.7	-0.4
OBN			*i*		17 59 18.7	
OBN			*i*		18 02 56.4	
OBN			pmax	pmax		
comp=Z,22nm,0.9s						
SIRR	Siria	155.31 241	⇓P	PKPdf	17 59 04.7	+11
DRGR		155.31 244	⇓P	PKPdf	17 58 53.9	+0.2
DRGR		155.31 244	⇓PKIKP	PKPdf	17 58 53.9	+0.2
AKASG	Malin Array Be	155.53 258	PKP	PKPdf	17 58 54.2	+0.4
comp=Z,2.9nm,1.1s,baz=84,slow=0.8,SNR=11						
AKASG			PKPab	PKPab	17 59 19.1	-0.7
comp=Z,18nm,1.0s,baz=131,slow=3.4,SNR=17						
BMR	Baia Mare	155.70 246	⇓P	PKPdf	17 58 57.0	+2.9
BMR	Baia Mare	155.70 246	⇓PKIKP	PKPdf	17 58 57.0	+2.9
PMRV	Marv??o	156.05 186	*e*PKP	PKPdf	17 58 56.0	+1.1
PMRV	Marv??o	156.05 186	*e*LQ	LQ	18 43 03.9	
PMRV	Marv??o	156.05 186	*e*LR	LR	18 53 53.6	
comp=Z,2μm,20.0s						
ESDC	Sonseca Array	156.06 192	PKP	PKPdf	17 58 55.1	+0.1
comp=Z,5.4nm,1.1s,baz=4.9,slow=0.8,SNR=12						
ESDC			PKPab	PKPab	17 59 21.9	-0.5
comp=Z,7.8nm,0.9s,baz=180,slow=4.6,SNR=8.6						
MORH	Mrgy, Hungar	156.44 237	⇑P	PKPdf	17 58 54.8	-0.3
TRPA	Tarpa	156.45 245	⇓P	PKPdf	17 58 57.5	+2.5
PCBR	Castelo Branco	156.47 185	*e*PKP	PKPdf	17 58 58.1	+2.7
PCAS	Casmilo, Conde	156.71 183	*e*PKP	PKPdf	17 59 00.6	+4.9
KLMR	Klimovskoe	157.02 287	*e*PKIKP	PKPdf	17 58 54.7	-0.7
KLMR			*e*SS	SS	18 22 58.0	-0.9
KLMR			pmax	pmax		
comp=Z,23nm,1.3s						
KLMR	Klimovskoe	157.02 287	*e*PKPdf	PKPdf	17 58 54.7	-0.7
KLMR			AMP		17 59 12.1	
comp=Z,23nm,1.3s						
KLMR			*e*SS	SS	18 22 58.1	-0.8
KLMR			*e*SS	SS	18 22 58.1	-0.8
KLMR			LQ	LQ	18 53 43.0	
KLMR			LQ	LQ	18 53 43.0	
KLMR			LR	LR	19 07 26.0	
MTE	Manteigas	157.03 185	*e*PKP	PKPdf	17 59 01.0	+4.8
MTE	Manteigas	157.03 185	*e*LR	LR	18 53 47.9	
comp=Z,2μm,20.0s						
LVV	L'vov	157.14 250	*e*PKIKP	PKPdf	17 58 56.9	+1.0
PSZ	Piszkesteto	157.35 241	⇓P	PKPdf	17 59 01.8	+5.4
PSZ	Piszkesteto	157.35 241	⇓PKIKP	PKPdf	17 59 01.8	+5.4
CRVS	Cervenica-Dubn	157.50 245	*e*PKP2	PKPab	17 59 31.2	+2.8
CRVS	Cervenica-Dubn	157.50 245	*e*PKP	PKPab	17 59 31.2	+2.8
MVO	Moncorvo	157.77 187	*e*LR	LR	18 55 10.2	
comp=Z,2μm,26.0s						
SOKA	Soboth	158.16 232	P	PKPdf	17 58 58.7	+1.3
comp=Z,16nm,1.4s						
OBKA	Obir	158.19 231	*e*P	PKPdf	17 58 59.6	+2.1
comp=Z,19nm,1.6s						
VYHS	Vyhne	158.24 241	*e*PKP2	PKPab	17 59 33.1	+1.5
VYHS	Vyhne	158.24 241	*e*PKP	PKPab	17 59 33.1	+1.5
ARSA	Arzberg	158.47 234	*e*P	PKPdf	17 58 59.9	+2.2
comp=Z,9.1nm,1.3s						
LANS	Liptovska Anna	158.51 243	*e*PKP2	PKPab	17 59 34.2	+1.4
LANS	Liptovska Anna	158.51 243	*e*PKP	PKPab	17 59 34.2	+1.4
PGAV	Gavieira, Arco	158.62 184	*e*LR	LR	18 54 39.5	
comp=Z,4μm,20.0s						
MNK	Minsk	158.72 263	*i* PKIKP	PKPdf	17 59 06.0	+8.3
MNK			*i*		18 03 22.4	
MNK			*i* PPP	PPP	18 06 59.1	
MNK			pmax	pmax		
comp=E,3.0nm,0.9s						
MNK			pmax	pmax		
comp=Z,13nm,1.0s						
MNK			pmax	pmax		
comp=N,15nm,0.9s						
MNK			pmax	pmax		
comp=N,2μm,23.0s						
MNK			pmax	pmax		
comp=E,198nm,25.0s						
MNK			pmax	pmax		
comp=Z,2μm,21.0s						
MNK	Minsk	158.72 263	*i* PKP	PKPdf	17 59 06.1	+8.4
comp=E,3.0nm,0.9s						
MNK			*i* PKP	PKPdf	17 59 06.1	+8.4
comp=N,15nm,0.8s						
MNK			*i* PKP	PKPdf	17 59 06.1	+8.4
comp=Z,13nm,1.0s,baz=309						
MNK			*i* PP	PP	18 03 22.4	+7.6
MNK			*i* SKS	SKSdf	18 06 12.0	+9.3
MNK			*i* PPP	PPP	18 06 59.1	
MNK			*i* SKKS	SKKSdf	18 14 38.8	+11
MNK			*i* SS	SS	18 23 24.7	+7.6
MNK			*i* SSS	SSS	18 29 29.6	
MNK			*i* LR	LR	19 02 54.6	
MNK			*i* LRM	MLR	19 16 11.3	
comp=N,2μm,23.2s						
MNK			*i* LRM	MLR	19 16 13.8	
comp=E,198nm,24.5s						
MNK			*i* LRM	MLR	19 16 39.6	
comp=Z,2μm,20.6s						
MODS	Modra-Piesok	158.75 238	*e*PKP2	PKPab	17 59 34.2	+0.4
MODS	Modra-Piesok	158.75 238	*e*PKP	PKPab	17 59 34.2	+0.4
CONA	Conrad Observa	158.91 235	*e*P	PKPdf	17 58 59.4	+1.1
comp=Z,6.3nm,1.4s						
JAVC	Velka Javorina	158.99 240	*e*PKP	PKPdf	17 59 00.9	+2.6
JAVC			*e*		17 59 38.2	
KBA	Koelnbreinsper	159.10 230	*e*P	PKPdf	17 59 01.1	+2.4
comp=Z,7.8nm,1.5s						
NACGM	Naroch	159.47 263	*i* PKP	PKPdf	17 59 10.3	+12
KRUC	Moravsky	159.65 238	*e*PKP	PKPdf	17 59 00.6	+1.6
KRUC			*e*		17 59 38.7	
VRAC	Vranov	159.77 239	*e*PKP	PKPdf	17 58 59.4	+0.3
VRAC			*e*		17 59 38.8	
MORC	Moravsky Berou	159.77 241	*e*PKP	PKPdf	17 58 54.3	-4.9
WTTA	Wattenberg	159.84 228	*e*P	PKPdf	17 59 01.0	+1.4
comp=Z,17nm,1.6s						
FETA	Feichten	159.93 226	P	PKPdf	17 59 01.1	+1.5
comp=Z,12nm,1.5s						
SQTA	Sankt Quirin	159.95 227	*e*P	PKPdf	17 59 01.1	+1.5
comp=Z,16nm,1.2s						
MOTA	Moosalm	160.09 227	P	PKPdf	17 59 02.3	+2.5
comp=Z,12nm,1.3s						
TREC	Trest	160.18 237	AMS	AMS	19 24 10.0	
comp=Z,3μm,21.9s						
CKRC	Cesky Krumlov	160.23 234	*e*PKPDF	PKPdf	17 59 00.1	+0.4
KRLC	Kraliky	160.31 240	AMS	AMS	19 21 50.0	
comp=Z,3μm,21.6s						
RETA	Reutte	160.33 226	*e*P	PKPdf	17 59 01.7	+1.8
comp=Z,7.4nm,1.2s						
DAVA	Damuels	160.43 224	*e*P	PKPdf	17 59 03.0	+2.8
comp=Z,19nm,1.2s						
GERES	GERESS Array B	160.47 233	PKP	PKPdf	17 59 00.5	+0.5
comp=Z,0.9nm,0.8s,baz=132,slow=2.0,SNR=5.1						
GERES			PKPab	PKPab	17 59 39.2	-2.2
comp=Z,1.5nm,1.0s,baz=180,slow=2.0,SNR=2.4						
DPC	Dobruska-Polom	160.71 240	*e*PKIKP	PKPdf	17 59 07.4	+7.2
DPC			MLR	MLR		
comp=Z,3μm,24.7s						
DPC	Dobruska-Polom	160.71 240	*e*pPKP	PKPdf	17 59 07.4	+7.2
DPC			*e*PKPAB	pPKPab	17 59 43.4	-1.6
DPC			AMS	AMS	19 16 50.0	
comp=Z,3μm,24.7s						
KHC	Kasperske Hory	160.76 234	*e*PKIKP	PKPdf	17 59 03.0	+2.7
KHC			*e*		17 59 43.0	
KHC			MLR	MLR		
comp=Z,4μm,21.9s						
KHC	Kasperske Hory	160.76 234	*e*PKPDF	PKPdf	17 59 03.0	+2.7
KHC			*e*PKPAB	PKPab	17 59 43.0	+0.4
KHC			AMS	AMS	19 20 50.0	
comp=Z,4μm,21.9s						
OSTC	Ostas	160.91 240	*e*PKPAB	PKPab	17 59 43.8	+0.6
OSTC			AMS	AMS	19 18 20.0	
comp=Z,4μm,22.0s						
UPC	Upice	160.95 240	*e*PKP2	PKPab	17 59 44.8	+1.5
UPC			MLR	MLR		
comp=Z,4μm,21.7s						
UPC	Upice	160.95 240	*e*PKPAB	PKPab	17 59 44.8	+1.5
UPC			AMS	AMS	19 18 20.0	
comp=Z,4μm,21.7s						
CHVC	Chvalec	161.00 240	*e*pPKP	pPKPdf	17 59 07.8	+4.6
CHVC			*e*PKPAB	pPKPab	17 59 44.6	-1.6
CHVC			AMS	AMS	19 18 30.0	
comp=Z,4μm,25.4s						
PRU	Pruhonice	161.10 237	*e*PKP2	PKPab	17 59 45.4	+1.4
PRU			MLR	MLR		
comp=Z,4μm,21.4s						
PRU	Pruhonice	161.10 237	*e*PKPAB	PKPab	17 59 45.4	+1.4
PRU			AMS	AMS	19 20 30.0	
comp=Z,4μm,21.4s						
PVCC	Panska Ves	161.53 238	AMS	AMS	19 18 40.0	
comp=Z,3μm,19.9s						
APA	Apatity	161.65 303	⇓*i* PKIKP	PKPdf	17 58 56.0	-4.6
APA			pmax	pmax		
comp=Z,9.0nm,1.1s						
BRG	Berggiesshubel	162.04 237	*e*PKP	PKPdf	17 59 01.0	-0.5
BRG			Amp		17 59 04.8	
comp=Z,11nm,1.4s						
BRG			*e*x	x	17 59 50.9	
BRG			Amp		17 59 59.7	
comp=Z,31nm,1.7s						
BRG	Berggiesshubel	162.04 237	*e*PKIKP	PKPdf	17 59 01.0	-0.5
BRG			pmax	pmax		
comp=Z,11nm,1.4s						
BRG			pmax	pmax		
comp=Z,31nm,1.7s						
GRF	Grafenberg Arr	162.07 231	*e*P	PKPab	17 59 52.4	+4.1
comp=Z,18nm,1.3s,baz=144,slow=5.1						
NKC	Novy Kostel	162.08 234	AMS	AMS	19 15 40.0	
comp=Z,3μm,22.9s						
CLL	Collm	162.75 237	*e*PKIKP	PKPdf	17 59 04.0	+1.8
CLL			*i*		17 59 48.9	
CLL			pmax	pmax		
comp=Z,8.0nm,1.0s						
CLL			pmax	pmax		
comp=Z,31nm,2.0s						
CLL			pmax	pmax		
comp=Z,41nm,1.7s						
CLL			MLR	MLR		
comp=Z,2μm,19.7s						
CLL	Collm	162.75 237	*e*PKPdf	PKPdf	17 59 04.0	+1.8
comp=Z,8.0nm,1.0s						
CLL			*e*PKPdif	sPKPdf	17 59 25.0	+19
comp=Z,31nm,2.0s						
CLL			*i* PKPab	PKPab	17 59 48.9	-2.2
comp=Z,41nm,1.7s						
CLL			*e*(SKSP)		18 13 42.0	
CLL			*e*PPS	PPS	18 17 06.0	
CLL			*e*x	x	18 19 30.0	
CLL			*e*SS	SS	18 23 55.0	-4.1
CLL			*e*(PSS)		18 25 18.0	
CLL			*e*x	x	18 26 12.0	
CLL			*e*SSrev		18 29 30.0	
CLL			*e*SSS	SSS	18 30 36.0	
CLL			*e*SSSS		18 34 42.0	
CLL			*e*SSSrev		18 37 46.0	
CLL			*e*x	x	18 41 48.0	
CLL			*e*x	x	18 45 06.0	
CLL			*i* x	x	18 59 59.8	
CLL			LmH		19 15 00.0	
comp=N,3μm,21.6s						
CLL			LmH		19 15 00.0	
comp=E,2μm,21.8s						
CLL			LmV		19 24 00.0	
comp=Z,2μm,19.7s						
ARCES	ARCESS Array B	164.57 309	PKPab	PKPab	17 59 59.5	+0.7
comp=Z,7.6nm,1.0s,baz=135,slow=0.5,SNR=3.7						

MAN 31 17:41:53.4, 7°.89N×126°.74E, h1km, mb4.4, ML3.2, MS3.0, 5C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.48	308	⇑*i* P	Pb	17 42 04.9	+0.2
BIPH				*i* S	Sb	17 42 13.9	+1.8
MATI	Mati	1.05	207	⇑*e* P	Pg	17 42 13.8	+0.2
MATI				*e*S	Sn	17 42 30.1	-0.6
BUTP	Butuan	1.54	314	⇓*e* P	Pn	17 42 21.9	-0.2
BUTP				*e*S	Sg	17 42 45.9	+2.9
KCP	Kidapawan	1.85	242	⇓*e* P	Pb	17 42 27.9	-0.3
GLSP	General Luna,	1.98	342	⇓*e* P	Pb	17 42 29.4	-0.9
GLSP				*e*S	Sg	17 42 56.4	-0.7
DDMP	Don Marcelino,	2.04	210	⇑*e* P	Pn	17 42 29.9	+0.9
DDMP				*e*S	Sb	17 42 57.4	+0.1
CTBH	Cotabato--PC H	2.56	255	⇑*e* P	Pn	17 42 37.0	+0.9
MSLP	Maasin	2.90	320	⇑*i* P	Pn	17 42 40.4	-0.4

**IDC 31 17:49:52.9±3.0, 63°.24S×168°.32E, h0km, mb3.6/2, mb1 4.2

*NOU **31** 18:43:04.8, 17°.03S×168°.18E, h217km, mb5.0/75, Vanuatu Islands*
*IDC **31** 18:43:05.1±1.5, 17°.06S×168°.26E, h231km±13km, mb4.2/22, mb1 4.3/25, mb1mx4.0/44, mbtmp4.8/25, Error ellipse: s-maj=12.1km s-min=10.7km az=175.0*
*BGR **31** 18:43:06.8±0.0, 16°.97S×168°.07E, h224km*
ISC 31 18:43:01.9±0.3, 17°.00S±0°.05×168°.24E±0°.06, h200km, n297, σ1§52/306, mb4.9/97, 32C-24D, Fault plane solution: NP1:φ≈56.24542°, δ38.93483°, λ69.12881°. **NP2:**φ≈262.35828°, δ54.04141°, λ106.05740°. **Principal axes:** T Plg74.8499°, Azm220.8077°; N Plg12.9377°, Azm72.7652°; P Plg7.7481°, Azm340.9740°; **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.72**	**184**	P	Pn	18 43 34.9	+4.9
RTV	**Rentapao**	**0.81**	**167**	P	**Pn**	**18 43 35.1**	**+4.6**
SANVU	**Saraoutou**	**1.83**	**327**		**Pn**	**18 43 41.5**	**+2.7**
SANVU	**Saraoutou**	**1.83**	**327**	P	Pn	18 43 43.8	+5.0
LIFNC	**LIFOU**	**3.88**	**194**	Pn	**Pn**	**18 44 03.4**	**+1.3**
LIFNC	**LIFOU**	**3.88**	**194**	P	**Pn**	**18 44 04.6**	**+2.5**
MARNC	**Mare, Loyalty**	**4.46**	**182**	Pn	**Pn**	**18 44 10.9**	**+1.4**
MARNC	**Mare, Loyalty**	**4.46**	**182**	P	**Pn**	**18 44 11.5**	**+2.0**
YATNC	**Mamie plateau,**	**5.19**	**194**	P	**Pn**	**18 44 20.6**	**+1.8**
DZM	**Mont Dzumac**	**5.32**	**198**	P	**Pn**	**18 44 23.5**	**+3.0**
18nm,0.3s,baz=51,slow=17,SNR=324							
DZM	**Mont Dzumac**	**5.32**	**198**	Pn	**Pn**	**18 44 23.1**	**+2.6**
DZM	**Mont Dzumac**	**5.32**	**198**	P	**Pn**	**18 44 23.9**	**+3.4**
NOUC	**Port Laguerre**	**5.39**	**199**	P	**Pn**	**18 44 24.9**	**+3.6**
ONTNC	**Ouen Toro**	**5.54**	**197**	Pn	**Pn**	**18 44 26.4**	**+3.1**
ONTNC	**Ouen Toro**	**5.54**	**197**	P	**Pn**	**18 44 26.8**	**+3.5**
OUENC	**Ouen Island, N**	**5.55**	**193**	Pn	**Pn**	**18 44 26.1**	**+2.7**
OUENC	**Ouen Island, N**	**5.55**	**193**	P	**Pn**	**18 44 26.5**	**+3.1**
PINNC	**Pines Island,**	**5.63**	**187**	Pn	**Pn**	**18 44 26.5**	**+2.0**
PINNC	**Pines Island,**	**5.63**	**187**	P	**Pn**	**18 44 26.8**	**+2.4**
MSVF	**Nonsavu**	**9.40**	**96**	P	**Pn**	**18 45 16.5**	**+3.0**
0.6nm,0.3s,baz=260,slow=9.3,SNR=26							
MSVF	**Nonsavu**	**9.40**	**96**	Pn	**Pn**	**18 45 16.6**	**+3.2**
MSVF	**Nonsavu**	**9.40**	**96**	P	**Pn**	**18 45 18.1**	**+4.6**
HNR	**Honiara**	**11.03**	**312**	P	**P**	**18 45 38.3**	**-2.5**
5.2nm,0.3s,baz=264,slow=4.5,SNR=3.5							
HNR	**Honiara**	**11.03**	**312**		**Pn**	**18 45 34.3**	**-0.2**
DGTI	**Dogotuki**	**11.04**	**88**	P	**P**	**18 45 38.7**	**-2.3**
RK1H	**Rockhampton Ha**	**17.82**	**246**	P	**Pn**	**18 46 58.1**	**+0.2**
40nm,0.7s							
EIDS	**Eidsvold**	**18.02**	**240**		**Pn**	**18 47 00.5**	**+0.3**
EIDS				IAmb	IAmb	18 47 01.3	
comp=Z,27nm,0.7s							
EIDS	**Eidsvold**	**18.02**	**240**	P	**Pn**	**18 47 00.8**	**+0.5**
OUZ	**Omahuta**	**18.77**	**166**	P	**Pn**	**18 47 08.4**	**-0.4**
OUZ	**Omahuta**	**18.77**	**166**	P	**Pn**	**18 47 08.6**	**-0.3**
ARMA	**Armidale**	**20.21**	**226**	P	**P**	**18 47 23.4**	**+1.8**
ARMA				IAmb	IAmb	18 47 26.9	
comp=Z,27nm,0.8s							
ARMA	**Armidale**	**20.21**	**226**	P	**P**	**18 47 23.8**	**+2.1**
RABL	**Rabaul**	**20.26**	**307**	P	**P**	**18 47 24.5**	**+2.2**
RABL				IAmb	IAmb	18 47 30.6	
comp=Z,29nm,0.6s							
RABL	**Rabaul**	**20.26**	**307**	P	Pn	18 47 25.4	-1.7
KRVT	**Keravat (AS076**	**20.29**	**307**	P	Pn	18 47 25.8	-1.7
RMQ	**Roma**	**20.39**	**239**	P	**P**	**18 47 24.8**	**+1.3**
comp=Z,57nm,0.8s							
CTA	**Charters Tower**	**21.07**	**258**	P	**P**	**18 47 31.6**	**+0.9**
comp=Z,48nm,0.7s,baz=84,slow=11,SNR=91							
CTAO	**Charters Tower**	**21.07**	**258**	P	**P**	**18 47 31.6**	**+0.9**
CTAO	**Charters Tower**	**21.07**	**258**	P	**P**	**18 47 32.2**	**+1.4**
PMG	**Port Moresby**	**21.85**	**288**	P	**P**	**18 47 39.9**	**+1.0**
comp=Z,34nm,1.0s,baz=102,slow=6.1,SNR=23							
PMG	**Port Moresby**	**21.85**	**288**	P	**P**	**18 47 39.5**	**+0.7**
comp=Z,62nm,1.2s							
PMG	**Port Moresby**	**21.85**	**288**	P	**P**	**18 47 39.7**	**+0.9**
PMG				IAmb	IAmb	18 47 40.5	
comp=Z,40nm,0.9s							
PMG	**Port Moresby**	**21.85**	**288**	P	**P**	**18 47 40.2**	**+1.4**
PMG	**Port Moresby**	**21.85**	**288**	P	**P**	**18 47 39.8**	**+1.0**
HIZ	**Hauiti**	**22.21**	**166**	P	**P**	**18 47 43.9**	**+1.9**
HIZ	**Hauiti**	**22.21**	**166**	P	**P**	**18 47 42.9**	**+0.9**
MGCD	**Mangrove Creek**	**22.33**	**221**	P	**P**	**18 47 45.6**	**+2.4**
URZ	**Urewera**	**22.57**	**162**	P	**P**	**18 47 46.0**	**+0.7**
comp=Z,38nm,0.6s,baz=312,slow=2.2,SNR=27							
URZ	**Urewera**	**22.57**	**162**	P	**P**	**18 47 46.2**	**+1.0**
URZ	**Urewera**	**22.57**	**162**	P	**P**	**18 47 46.5**	**+1.2**
MTSU	**Mount Surprise**	**22.83**	**264**	P	**P**	**18 47 49.7**	**+1.8**
BKZ	**Black Stump Fm**	**23.23**	**164**	P	**P**	**18 47 52.1**	**+0.8**
QRZ	**Quartz Range**	**24.03**	**172**	P	**P**	**18 47 59.7**	**+1.2**
QRZ				IAmb	IAmb	18 48 01.1	
comp=Z,35nm,1.0s							
QRZ	**Quartz Range**	**24.03**	**172**	P	**P**	**18 47 59.9**	**+1.3**
QLP	**Quilpie**	**24.20**	**243**	P	**P**	**18 48 01.4**	**+1.1**
COEN	**Coen**	**24.34**	**274**	P	**P**	**18 48 01.8**	**+0.2**
COEN				IAmb	IAmb	18 48 04.8	
comp=Z,24nm,0.8s							
COEN	**Coen**	**24.34**	**274**	P	**P**	**18 48 01.8**	**+0.2**
comp=Z,34nm,1.0s							
BFZ	**Birch Farm**	**24.60**	**165**	P	**P**	**18 48 03.4**	**-0.2**
BFZ				IAmb	IAmb	18 48 12.0	
comp=Z,27nm,0.7s							
BFZ	**Birch Farm**	**24.60**	**165**	P	**P**	**18 48 04.7**	**+1.0**
CNB	**Canberra Magne**	**24.82**	**219**	P	**P**	**18 48 07.2**	**+1.4**
THZ	**Tophouse**	**25.00**	**172**	P	**P**	**18 48 07.4**	**0.0**
CAN	**Canberra**	**25.04**	**220**	P	**P**	**18 48 08.3**	**+0.4**
CAN	**Canberra**	**25.04**	**220**	P	**P**	**18 48 08.6**	**+0.8**
comp=Z,32nm,2.0s							
CMSA	**Cobar Meteorol**	**25.07**	**231**	P	**P**	**18 48 08.7**	**+0.6**
LTZ	**Lake Taylor**	**25.93**	**173**	P	**P**	**18 48 16.3**	**+0.6**
LTZ				IAmb	IAmb	18 48 16.8	
comp=Z,20nm,0.7s							
OXZ	**Oxford**	**26.44**	**174**	P	**P**	**18 48 20.1**	**-0.2**
OXZ				IAmb	IAmb	18 48 21.8	
comp=Z,19nm,0.8s							
QIS	**Mount Isa**	**27.32**	**258**	P	**P**	**18 48 30.5**	**+2.1**
INKA	**Innaminka**	**27.52**	**242**	P	**P**	**18 48 30.7**	**+0.7**
comp=Z,52nm,0.7s							
STKA	**Stephens Creek**	**28.32**	**234**	P	**P**	**18 48 38.0**	**+0.9**
comp=Z,41nm,0.7s,baz=57,slow=7.7,SNR=88							
STKA				PcP	**PcP**	**18 51 44.4**	**-0.5**
comp=Z,6.9nm,0.9s,baz=98,slow=5.1,SNR=5.5							
STKA	**Stephens Creek**	**28.32**	**234**	P	**P**	**18 48 38.0**	**+0.9**
STKA				PcP	**PcP**	**18 51 44.5**	**-0.5**
STKA	**Stephens Creek**	**28.32**	**234**	P	**P**	**18 48 38.4**	**+1.3**
DCZ	**Deep Cove**	**28.40**	**182**	P	**P**	**18 48 37.0**	**-0.6**
DCZ				IAmb	IAmb	18 48 41.8	
comp=Z,26nm,1.2s							
TOO	**Toolangi**	**28.65**	**220**	P	**P**	**18 48 40.4**	**+0.4**
TOO				IAmb	IAmb	18 48 41.7	
comp=Z,17nm,0.9s							
TOO	**Toolangi**	**28.65**	**220**	P	**P**	**18 48 41.2**	**+1.2**
GLAD	**Gladstone**	**29.59**	**212**	P	**P**	**18 48 48.9**	**+0.7**
comp=Z,24nm,0.8s							
LCRK	**Leigh Creek**	**30.46**	**238**	P	**P**	**18 48 56.6**	**+0.6**
ARPS	**Mount Arapiles**	**30.53**	**225**	P	**P**	**18 48 58.7**	**+2.2**
comp=Z,21nm,1.0s							
HTT	**Hallett**	**31.02**	**233**	P	**P**	**18 49 01.8**	**+0.8**
TAU	**Tasmania Unive**	**31.37**	**210**	P	**P**	**18 49 04.0**	**+0.2**
TAU				IAmb	IAmb	18 49 22.1	
comp=Z,16nm,0.9s							
NAPP	**Napperby**	**31.51**	**234**	P	**P**	**18 49 05.7**	**+0.5**
comp=Z,50nm,0.8s							
OOD	**Oodnadatta**	**31.86**	**245**	P	**P**	**18 49 09.5**	**+1.2**
WHYH	**Whyalla**	**31.89**	**234**	P	**P**	**18 49 08.8**	**+0.3**
comp=Z,105nm,0.7s							
TWOA	**Tennyson Woods**	**31.96**	**230**	P	**P**	**18 49 09.4**	**+0.3**
comp=Z,41nm,0.7s							
WR0	**Warramunga Arr**	**32.06**	**259**	P	**P**	**18 49 09.4**	**-0.8**
WB0	**Warramunga Arr**	**32.20**	**260**	P	**P**	**18 49 11.0**	**-0.5**
WB0				IAmb	IAmb	18 49 12.9	
comp=Z,21nm,0.7s							
WB2	**Warramunga Arr**	**32.24**	**259**	P	**P**	**18 49 10.8**	**-1.0**
WRAB	**Tennant Creek**	**32.24**	**259**	P	**P**	**18 49 10.8**	**-1.0**
WRAB	**Tennant Creek**	**32.24**	**259**	P	**P**	**18 49 12.6**	**+0.8**
WRA	**Warramunga Arr**	**32.25**	**259**	P	**P**	**18 49 10.9**	**-1.0**
comp=Z,10nm,0.7s,baz=90,slow=8.9,SNR=38							
WRA				PcP	**PcP**	**18 51 54.9**	**-0.6**
comp=Z,4.8nm,0.7s,baz=87,slow=3.1,SNR=10							
WRA	**Warramunga Arr**	**32.25**	**259**	P	**P**	**18 49 09.7**	**-2.2**
AS31	**Alice Springs**	**32.81**	**253**	P	**P**	**18 49 16.5**	**-0.2**
ASAR	**Alice Springs**	**32.81**	**253**	P	**P**	**18 49 16.4**	**-0.4**
comp=Z,131nm,0.7s,baz=79,slow=9.0,SNR=3139							
ASAR				PcP	**PcP**	**18 51 55.8**	**-1.2**
comp=Z,3.2nm,0.7s,baz=96,slow=3.1,SNR=5.9							
ASAR				ScP	**ScP**	**18 55 20.2**	**-1.9**
comp=Z,1.7nm,0.8s,baz=98,slow=3.3,SNR=6.6							
BBOO	**Buckleboo**	**33.00**	**235**	P	**P**	**18 49 18.4**	**+0.2**
BBOO	**Buckleboo**	**33.00**	**235**	P	**P**	**18 49 18.8**	**+0.6**
MULG	**Mulgathing**	**33.85**	**241**	P	**P**	**18 49 25.7**	**+0.1**
MTN	**Manton Dam**	**36.05**	**271**	P	**P**	**18 49 44.2**	**-0.4**
MTN				IAmb	IAmb	18 49 45.3	
comp=Z,29nm,0.9s							
KNRA	**Kununurra**	**37.86**	**266**	P	**P**	**18 49 59.5**	**-0.2**
KNRA	**Kununurra**	**37.86**	**266**	P	**P**	**18 49 59.0**	**-0.8**
comp=Z,152nm,0.8s							
FAKI	**Fak Fak**	**38.01**	**288**	P	**P**	**18 50 00.7**	**-0.4**
FAKI	**Fak Fak**	**38.01**	**288**	P	**P**	**18 50 01.4**	**+0.3**
WRKA	**Warakurna**	**38.02**	**251**	P	**P**	**18 50 01.3**	**+0.2**
FORT	**Forrest**	**39.00**	**242**	P	**P**	**18 50 09.2**	**+0.2**
FORT	**Forrest**	**39.00**	**242**	P	**P**	**18 50 09.3**	**+0.2**
JOHN	**Johnston Islan**	**40.05**	**34**	P	**P**	**18 50 20.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**40.56**	**262**	P	**P**	**18 50 22.4**	**+0.3**
comp=Z,108nm,0.7s,baz=94,slow=7.2,SNR=140							
KRAI	**Karang Ratu**	**41.40**	**285**	P	**P**	**18 50 29.1**	**+0.1**
comp=Z,65nm,1.0s							
AAI	**Ambon**	**41.44**	**284**	P	**P**	**18 50 28.7**	**-0.7**
comp=Z,73nm,0.9s							
LBMI	**Labuha**	**43.26**	**288**	P	**P**	**18 50 44.9**	**+0.8**
comp=Z,23nm,1.0s							
SOEI	**Soe**	**43.30**	**274**	P	**P**	**18 50 45.6**	**+1.1**
comp=Z,72nm,1.0s							
SOEI	**Soe**	**43.30**	**274**	P	**P**	**18 50 45.0**	**+0.5**
SOEI				IAmb	IAmb	18 50 46.5	
comp=Z,78nm,1.1s							
SOEI	**Soe**	**43.30**	**274**	P	**P**	**18 50 45.2**	**+0.7**
comp=Z,72nm,1.0s							
BATI	**Baumata**	**43.77**	**273**	P	**P**	**18 50 49.6**	**+1.4**
comp=Z,174nm,0.8s,baz=148,slow=1.9,SNR=12							
BATI	**Baumata**	**43.77**	**273**	P	**P**	**18 50 49.8**	**+1.7**
comp=Z,123nm,0.9s							
SANI	**Sanana**	**44.10**	**285**	P	**P**	**18 50 50.8**	**+0.1**
comp=Z,43nm,0.7s							
SANI	**Sanana**	**44.10**	**285**	P	**P**	**18 50 52.0**	**+1.3**
PSA00	**Pilbara Seismi**	**45.76**	**256**	P	**P**	**18 51 03.5**	**-0.2**
PSA00	**Pilbara Seismi**	**45.76**	**256**	P	**P**	**18 51 03.5**	**-0.2**
PSA00	**Pilbara Seismi**	**45.76**	**256**	P	**P**	**18 51 03.6**	**-0.2**
comp=Z,32nm,1.5s							
MBWA	**Marble Bar**	**45.89**	**257**	P	**P**	**18 51 04.7**	**-0.1**
MBWA	**Marble Bar**	**45.89**	**257**	P	**P**	**18 51 05.4**	**+0.6**
MEEK	**Meekatharra**	**46.81**	**249**	P	**P**	**18 51 12.3**	**+0.4**
KKSI	**Kolaka, Sulawe**	**47.40**	**280**	P	**P**	**18 51 16.9**	**+0.3**
comp=Z,55nm,1.0s							
LBFI	**Labuhan Bajo,**	**47.81**	**274**	P	**P**	**18 51 19.7**	**0.0**
comp=Z,53nm,1.3s							
KLBR	**Kellerberrin**	**47.85**	**243**	P	**P**	**18 51 19.3**	**-0.5**
NWAO	**Narrogin (SRO)**	**48.43**	**241**	P	**P**	**18 51 23.1**	**-1.1**
NWAO				IAmb	IAmb	18 51 24.1	
comp=Z,48nm,0.8s							
NWAO	**Narrogin (SRO)**	**48.43**	**241**	P	**P**	**18 51 23.7**	**-0.5**
BKSI	**Bulukumba**	**48.48**	**278**	P	**P**	**18 51 24.8**	**0.0**
comp=Z,37nm,0.8s							
BLDU	**Baliidu**	**48.67**	**244**	P	**P**	**18 51 27.2**	**+1.1**
BNSI	**Bone**	**48.78**	**279**	P	**P**	**18 51 27.8**	**+0.7**
comp=Z,36nm,1.2s							
RKGY	**Rocky Gully**	**48.84**	**239**	P	**P**	**18 51 27.6**	**+0.3**
comp=Z,79nm,1.1s							
KAPI	**Kappang**	**48.92**	**278**	P	**P**	**18 51 28.8**	**+0.6**
comp=Z,28nm,0.8s,baz=149,slow=14,SNR=16							
KAPI	**Kappang**	**48.92**	**278**	P	**P**	**18 51 28.9**	**+0.7**
comp=Z,71nm,1.2s							
KAPI	**Kappang**	**48.92**	**278**	P	**P**	**18 51 27.1**	**-1.1**
KAPI				IAmb	IAmb	18 51 29.9	
comp=Z,49nm,0.8s							
MORW	**Morawa**	**49.16**	**246**	P	**P**	**18 51 29.3**	**-0.6**
MORW				IAmb	IAmb	18 51 29.9	
comp=Z,24nm,0.8s							
MORW	**Morawa**	**49.16**	**246**	P	**P**	**18 51 29.0**	**-0.9**
comp=Z,39nm,2.3s							
MUN	**Mundaring**	**49.20**	**242**	P	**P**	**18 51 30.8**	**+0.7**
MMSI	**Mamuju**	**50.47**	**281**	P	**P**	**18 51 40.5**	**+0.6**
comp=Z,9.3nm,0.8s							
MPSI	**Mapaga**	**50.63**	**285**	P	**P**	**18 51 40.9**	**-0.2**
comp=Z,55nm,0.9s							
MLOA	**Mauna Loa Obse**	**50.82**	**46**	P	**P**	**18 51 41.8**	**-1.0**
MLOA				IAmb	IAmb	18 51 46.6	
comp=Z,25nm,0.9s							
KLNI	**Mataram**	**51.45**	**273**	P	**P**	**18 51 46.8**	**-0.4**
comp=Z,35nm,0.9s							
IGBI	**Denpasar**	**52.25**	**272**	P	**P**	**18 51 53.5**	**+0.4**
comp=Z,157nm,0.7s							
KBKI	**Kotabaru**	**52.86**	**279**	P	**P**	**18 51 57.9**	**+0.4**
comp=Z,24nm,1.2s							
JAGI	**Jajag, Banyuwa**	**53.29**	**272**	P	**P**	**18 51 59.8**	**-0.9**
comp=Z,69nm,0.8s							
JAGI	**Jajag, Banyuwa**	**53.29**	**272**	P	**P**	**18 51 59.5**	**-1.2**
JAGI	**Jajag, Banyuwa**	**53.29**	**272**	P	**P**	**18 51 59.8**	**-0.9**
PCJI	**Pacitan**	**56.21**	**271**	P	**P**	**18 52 22.1**	**+0.5**
comp=Z,91nm,0.8s							
KKM	**Kota Kinabalu**	**56.28**	**290**	P	**P**	**18 52 21.6**	**-0.6**
KKM				IAmb	IAmb	18 52 31.2	
comp=Z,18nm,1.1s							
UGM	**Wanagama**	**56.91**	**272**	P	**P**	**18 52 26.1**	**-0.5**
UGM	**Wanagama**	**56.91**	**272**	P	**P**	**18 52 26.9**	**+0.3**
JOW	**Kunigami**	**58.34**	**318**	P	**P**	**18 52 36.9**	**+0.6**
comp=Z,14nm,0.9s,baz=193,slow=2.7,SNR=4.0							
CTJI	**Waduk Cacaban**	**58.42**	**272**	P	**P**	**18 52 37.7**	**+0.5**
comp=Z,59nm,0.9s							
KSM	**Kuching**	**59.97**	**282**	P	**P**	**18 52 47.9**	**+0.1**
comp=Z,43nm,0.8s							
KSM	**Kuching**	**59.97**	**282**	P	**P**	**18 52 48.4**	**+0.6**
LEM	**Lembang**	**59.97**	**272**	P	**P**	**18 52 48.6**	**+0.6**
comp=Z,68nm,0.7s,baz=34,slow=5.5,SNR=19							
LEM	**Lembang**	**59.97**	**272**	P	**P**	**18 52 48.4**	**+0.4**
comp=Z,53nm,1.0s							
CNJI	**Cibinong**	**60.31**	**271**	P	**P**	**18 52 48.8**	**-1.3**
comp=Z,85nm,0.8s							
MJAR	**Matsushiro Arr**	**60.34**	**332**	P	**P**	**18 52 49.4**	**-0.4**
comp=Z,3.4nm,0.9s,baz=161,slow=7.7,SNR=5.9							
CBJI	**Citeko**	**60.81**	**272**	P	**P**	**18 52 52.4**	**-1.1**
comp=Z,90nm,0.9s							
TPUB	**Ta-pu**	**61.39**	**309**	P	**P**	**18 52 56.5**	**-0.7**
TPUB				IAmb	IAmb	18 52 57.9	
comp=Z,40nm,1.0s							
TPUB	**Ta-pu**	**61.39**	**309**	P	**P**	**18 52 56.8**	**-0.4**
SSLB	**Suanglung**	**61.44**	**310**	P	**P**	**18 52 56.7**	**-0.8**
SSLB				IAmb	IAmb	18 52 58.2	
comp=Z,20nm,0.8s							
SSLB	**Suanglung**	**61.44**	**310**	P	**P**	**18 52 58.1**	**+0.6**
YHNB	**Yeheng**	**61.66**	**311**	P	**P**	**18 52 59.5**	**+0.5**
comp=Z,113nm,0.9s							
CGJI	**Cibinong**	**61.87**	**272**	P	**P**	**18 52 59.6**	**-0.9**
comp=Z,82nm,0.8s							
KASI	**Kota Agung**	**63.31**	**272**	P	**P**	**18 53 08.8**	**-1.3**
comp=Z,33nm,1.0s							
MDSI	**Maura Dua**	**63.90**	**273**	P	**P**	**18 53 12.3**	**-1.7**
comp=Z,7.7nm,1.4s							
KSRS	**Korea Array**	**66.13**	**326**	P	**P**	**18 53 28.4**	**+0.6**
comp=Z,1.3nm,0.8s,baz=146,slow=5.5,SNR=3.6							
MYKOM	**Kota Tinggi**	**66.14**	**280**	P	**P**	**18 53 26.9**	**-1.6**
MYKOM				IAmb	IAmb	18 53 28.9	
comp=Z,17nm,1.0s							
NJ2	**Nanjing**	**67.94**	**316**	⇑*iP*	**P**	**18 53 39.3**	**0.0**
NJ2				pmax	pmax		
comp=Z,27nm,1.0s							
UBPT	**Khong Chiam**	**69.73**	**294**	P	**P**	**18 53 50.2**	**-0.5**
MNSI	**Mandailing Nat**	**69.87**	**277**	P	**P**	**18 53 51.0**	**-0.6**
comp=Z,35nm,0.9s							
WHN	**Wuhan**	**70.15**	**312**	⇑P	**P**	**18 53 53.5**	**+0.6**
WHN				pmax	pmax		
comp=Z,94nm,1.2s							
KULM	**Kulim**	**70.33**	**282**	P	**P**	**18 53 54.2**	**-0.2**
comp=Z,20nm,0.9s							
KULM	**Kulim**	**70.33**	**282**	P	**P**	**18 53 53.9**	**-0.5**
KULM				IAmb	IAmb	18 53 55.0	
comp=Z,14nm,0.9s							
MDJ	**Mudanjiang**	**70.71**	**332**	P	**P**	**18 53 56.8**	**+0.8**
MDJ				pmax	pmax		
comp=Z,14nm,1.1s							
MDJ				pmax	pmax		
comp=Z,620nm,6.9s							
RPSI	**Rantau Prapat**	**71.09**	**279**	P	**P**	**18 53 57.6**	**-1.4**
PSI	**Prapat**	**71.12**	**279**	P	**P**	**18 53 57.6**	**-1.7**
comp=Z,9.4nm,0.9s,baz=126,slow=6.5,SNR=7.4							
PSI	**Prapat**	**71.12**	**279**	P	**P**	**18 53 58.2**	**-1.2**
comp=Z,7.0nm,1.1s							
TIA	**Tai'an**	**71.64**	**318**	⇑P	**P**	**18 54 02.0**	**+0.1**
TIA				pmax	pmax		
comp=Z,20nm,0.9s							
GSI	**Gunungsitoli**	**71.93**	**277**	P	**P**	**18 54 04.1**	**+0.1**
GSI	**Gunungsitoli**	**71.93**	**277**	P	**P**	**18 54 02.9**	**-1.2**
GSI				IAmb	IAmb	18 54 04.9	
comp=Z,26nm,0.9s							
CN2	**Changchun**	**72.06**	**329**	*eP*	**P**	**18 54 04.8**	**+0.7**
CN2				pmax	pmax		
comp=Z,10.0nm,1.0s							
BNX	**BinXian**	**72.57**	**331**	⇓P	**P**	**18 54 07.0**	**-0.1**
BNX				pmax	pmax		
comp=Z,23nm,0.8s							
BNX				pmax	pmax		
comp=Z,350nm,8.1s							
QSPA	**South Pole Qui**	**73.04**	**180**	P	**P**	**18 54 09.6**	**-0.3**
KLR	**Kul'dur**	**73.45**	**336**	P	**P**	**18 54 12.9**	**+0.7**
comp=Z,2.6nm,0.9s,baz=85,slow=5.3,SNR=6.1							
LYN	**LuoYang**	**73.72**	**315**	⇑*iP*	**P**	**18 54 15.0**	**+0.9**
LYN				pmax	pmax		
comp=Z,40nm,1.0s							
GYA	**Guiyang**	**73.77**	**305**	⇑P	**P**	**18 54 15.0**	**+0.3**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
HNS	**HongShan**	**73.91**	**318**	⇑P	**P**	**18 54 16.0**	**+0.9**
HNS				pmax	pmax		
comp=Z,32nm,1.1s							
BJI	**Beijing**	**74.61**	**321**	P	**P**	**18 54 20.0**	**+0.9**
BJI				pmax	pmax		
comp=Z,11nm,0.7s							
BJI				LR	LR		
comp=Z,550nm,18.7s							
BJI				LR	LR		
comp=Z,420nm,17.7s							
BJI				LR	LR		
comp=Z,510nm,21.0s							
TIY	**Taiyuan**	**75.55**	**317**	⇓P	**P**	**18 54 26.0**	**+1.3**
TIY				pmax	pmax		
comp=Z,13nm,0.6s							
XAN	**Xi'an**	**75.90**	**313**	P	**P**	**18 54 27.3**	**+0.6**
XAN				pP	pP	18 55 20.0	+5.4
XAN				pmax	pmax		
comp=Z,37nm,0.8s							
KMI	**Kunming**	**76.29**	**302**	⇑P	**P**	**18 54 30.3**	**+1.0**
KMI				pmax	pmax		
comp=Z,33nm,1.0s							
CMAR	**Chiang Mai Arr**	**76.72**	**294**	P	**P**	**18 54 32.6**	**+1.1**
comp=Z,6.4nm,0.9s,baz=129,slow=4.2,SNR=56							
CMAR	**Chiang Mai Arr**	**76.72**	**294**	P	**P**	**18 54 31.8**	**+0.3**
XLT	**XiLinHaoTe**	**77.08**	**324**	⇑*iP*	**P**	**18 54 34.0**	**+0.9**
XLT				pmax	pmax		
comp=Z,32nm,0.8s							
PZH	**PanZhiHua**	**77.70**	**303**	P	**P**	**18 54 38.8**	**+1.8**
PZH				pmax	pmax		
comp=Z,6.0nm,0.9s							
PZH				pmax	pmax		
comp=Z,100nm,5.3s							
HHC	**Hu-ho-hao-te**	**77.91**	**320**	*eP*	**P**	**18 54 39.3**	**+1.5**
HHC				pmax	pmax		
comp=Z,14nm,1.4s							
HHC				pmax	pmax		
comp=Z,500nm,8.4s							
CD2	**Chengdu**	**78.12**	**308**	*eP*	**P**	**18 54 39.0**	**-0.2**
LZH	**Lanzhou**	**80.53**	**312**	*eP*	**P**	**18 54 53.5**	**+1.3**
LZH				sP	sP	18 56 09.3	+7.4
LZH				pmax	pmax		
comp=Z,26nm,1.5s							
SEY	**Seymchan**	**80.64**	**353**	P	**P**	**18 54 51.7**	**-0.2**
comp=Z,5.2nm,0.8s,baz=143,slow=7.0,SNR=24							
YAK	**Yakutsk**	**84.46**	**343**	P	**P**	**18 55 11.9**	**+0.3**
comp=Z,9.4nm,0.7s,baz=302,slow=0.9,SNR=20							
YAK	**Yakutsk**	**84.46**	**343**	P	**P**	**18 55 11.2**	**-0.4**
YAK				IAmb	IAmb	18 55 12.5	
comp=Z,24nm,0.8s							
ULN	**Ulaanbaatar**	**84.51**	**324**	P	**P**	**18 55 12.7**	**+0.3**
ULN				IAmb	IAmb	18 55 14.0	
comp=Z,17nm,0.9s							
SONM	**Songino Array**	**84.86**	**323**	P	**P**	**18 55 14.7**	**+0.4**
comp=Z,8.4nm,0.9s,baz=160,slow=6.4,SNR=44							
SONM	**Songino Array**	**84.

	comp=Z,1.5nm,1.1s,baz=60,slow=4.9,SNR=5.1					
SORM	Soroca	134.90 322	⇓P	PKPdf	19 01 56.0	-1.0
CFR	Carcaliu	136.44 319	⇓P	PKPdf	19 02 00.0	+0.1
BURAR	Bucovina Array	136.98 323	⇑P	PKPdf	19 02 02.1	+1.1
TRPA	Tarpa	138.18 326	⇓P	PKPdf	19 02 02.1	-0.9
ARR	Arges	138.51 321	⇓P	PKPdf	19 02 04.4	+0.5
GZR	Gura Zlata	139.60 322	⇑P	PKPdf	19 02 02.8	-3.1
OSTC	Ostas	139.71 332	*e*PKP	PKPdf	19 02 06.6	+0.8
DPC	Dobruska-Polom	139.81 332	*e*PKP	PKPdf	19 02 01.9	-4.2
BZS	Buzias	140.15 323	⇑P	PKPdf	19 02 02.2	-4.5
FLTG	Flechtingen	140.35 338	*e*PKPbc	PKiKP	19 02 08.9	-0.5
	baz=41,slow=1.8					
CLL	Collm	140.49 336	*i* PKiKP	PKiKP	19 02 09.1	-0.7
	comp=Z,5.0nm,0.7s					
CLL			*e*PP	PP	19 05 07.0	-0.7
CLL	Collm	140.49 336	*e*PKPbc	PKiKP	19 02 09.1	-0.7
	baz=41,slow=1.8					
NRDL	Niedersach Rie	140.61 339	*e*PKPbc	PKiKP	19 02 10.2	+0.3
	baz=41,slow=1.8					
FBE	Freiberg	140.65 335	*e*PKPdf	PKPdf	19 02 05.4	-2.1
	baz=41,slow=1.8					
FBE			*e*PKPbc	PKiKP	19 02 10.1	-0.1
	baz=41,slow=1.8					
MODS	Modra-Piesok	140.74 329	*e*PKP	PKiKP	19 02 09.6	-0.9
VTS	Vitosha	140.77 318	⇑P	PKPdf	19 02 08.0	-0.2
PRU	Pruhonice	140.86 333	*e*PKP	PKPdf	19 02 07.3	-0.6
CLZ	Clausthal	141.06 338	*e*PKPbc	PKiKP	19 02 11.2	+0.2
	baz=41,slow=1.8					
MORH	Mrgy, Hungar	141.46 326	⇓P	PKPdf	19 02 03.1	-6.0
GUNZ	Gunzen	141.50 335	*e*PKPdf	PKPdf	19 02 07.5	-1.6
	baz=41,slow=1.8					
GUNZ			*e*PKPbc	PKiKP	19 02 11.7	-0.2
	baz=41,slow=1.8					
WERN	Wernitzgruen	141.54 335	*e*PKPbc	PKiKP	19 02 11.9	-0.2
	baz=41,slow=1.8					
CONA	Conrad Observa	141.74 330	*e*P	PKPdf	19 02 08.7	-1.0
	comp=Z,6.4nm,0.7s					
CONA			*i* P	PKiKP	19 02 12.3	-0.3
	comp=Z,4.5nm,0.7s					
CKRC	Cesky Krumlov	141.82 332	*e*PKP	PKPdf	19 02 04.0	-5.7
CKRC			*ex*	x	19 02 10.9	
KHC	Kasperske Hory	141.92 333	*e*PKP	PKPdf	19 02 01.9	-8.0
KHC			*ex*	x	19 02 08.5	
UBBA	Unterbreizbach	142.03 338	*e*PKPdf	PKPdf	19 02 09.2	-0.6
	baz=41,slow=1.8					
GERES	GERESS Array B	142.08 332	PKhKP	PKPpre	19 02 05.2	
	comp=Z,2.0nm,0.8s,baz=49,slow=2.5,SNR=11					
GERES			PKP	PKPdf	19 02 10.0	-0.3
	comp=Z,1.7nm,0.6s,baz=98,slow=1.8,SNR=9.2					
ARSA	Arzberg	142.38 329	*e*P	PKPdf	19 02 07.1	-3.6
	comp=Z,1.2nm,0.6s					
MOA	Molln	142.55 331	*e*P	PKPdf	19 02 07.5	-3.5
	comp=Z,7.1nm,0.7s					
SOKA	Soboth	143.01 329	*e*P	PKPdf	19 02 08.6	-3.4
	comp=Z,13nm,1.0s,SNR=5.3					
RJOB	Jochberg	143.31 332	*e*PKPdf	PKPbc	19 02 11.3	+1.2
	baz=41,slow=1.8					
PDG	Podgorica	143.36 320	⇓P	PKPab	19 02 09.7	+0.6
OBKA	Obir	143.37 329	*i* P	PKPbc	19 02 10.2	-0.1
	comp=Z,12nm,0.9s					
KBA	Koelnbreinsper	143.54 331	*e*P	PKPab	19 02 09.7	-0.2
	comp=Z,5.2nm,0.6s,SNR=6.2					
MYKA	Terra Mystica	143.72 330	*i* P	PKPab	19 02 10.1	-0.4
	comp=Z,8.5nm,0.5s					
GBAS	Gorenja Brezov	143.83 329	*i* PKPbc	PKPab	19 02 11.1	+0.2
GBRS	Gornja Briga	143.92 328	*i* PKPbc	PKPab	19 02 11.7	+0.5
VOJS	Vojsko	144.04 329	*i* PKPbc	PKPab	19 02 11.3	-0.4
WATA	Walderalm	144.15 333	*i* P	PKPab	19 02 11.9	-0.3
	comp=Z,8.4nm,0.8s					
ITM	Ithomi	144.17 311	PKPdf	PKPab	19 02 12.6	+0.1
ABTA	Abfaltersbach	144.17 331	*e*P	PKPab	19 02 11.6	-0.6
	comp=Z,37nm,0.7s,SNR=13					
WTTA	Wattenberg	144.18 332	*e*P	PKPab	19 02 12.4	+0.1
	comp=Z,14nm,0.9s					
WLF	Walferdange	144.34 340	*e*PKPdf	PKPdf	19 02 13.8	-0.3
	baz=41,slow=1.8					
WLF	Walferdange	144.34 340	PKPdf	PKPdf	19 02 13.8	-0.3
MOTA	Moosalm	144.35 333	*i* P	PKPab	19 02 12.9	-0.1
	comp=Z,30nm,0.8s,SNR=13					
RETA	Reutte	144.39 334	*e*P	PKPab	19 02 12.9	-0.1
	comp=Z,14nm,0.7s,SNR=6.0					
SQTA	Sankt Quirin	144.40 333	*e*P	PKPab	19 02 13.2	+0.1
	comp=Z,32nm,0.7s,SNR=10					
STAL	STALIGIAL	144.44 330	PKPdf	PKPab	19 02 12.7	-0.5
UBR	Ueberruh	144.51 334	*e*PKPdf	PKPab	19 02 13.6	+0.2
	baz=41,slow=1.8					
BFO	Black Forest	144.69 337	*e*PKPdf	PKPab	19 02 14.1	0.0
	baz=41,slow=1.8					
BFO	Black Forest	144.69 337	PKPdf	PKPab	19 02 14.2	+0.1
FETA	Feichten	144.76 333	*e*P	PKPab	19 02 14.6	0.0
	comp=Z,41nm,0.7s,SNR=16					
DAVA	Damuels	144.92 334	*e*P	PKPbc	19 02 15.0	-0.1
	comp=Z,42nm,0.7s,SNR=10					
CTI	Castel Tesino	145.09 331		PKPbc	19 02 15.6	+0.1
SCTE	Santa Cesarea	145.16 317	PKPdf	PKPbc	19 02 15.9	+0.2
TEOL	Teolo	145.59 330	PKPdf	PKPbc	19 02 17.0	0.0
SGRT	San Giovanni R	145.87 322	PKPbc	PKPbc	19 02 17.9	-0.1
MATE	Matera	145.95 320	⇓P	PKPbc	19 02 18.2	+0.1
NRCA	Norcia	146.66 326	PKPbc	PKPbc	19 02 20.4	+0.1
SENIN	Lac Senin/Sane	146.71 336	PKPbc	PKPbc	19 02 20.6	+0.1
TIP	Timpagrande	146.75 317	⇓P	PKPbc	19 02 21.0	+0.3
TIP	Timpagrande	146.75 317	PKPbc	PKPbc	19 02 20.9	+0.2
KEST	Kesra	153.53 319	PKPbc	PKPbc	19 02 36.8	-0.4
	comp=Z,7.2nm,0.9s,baz=329,slow=3.3,SNR=4.8					
KEST			PKPab	PKPab	19 02 51.2	+0.9
	comp=Z,11nm,1.0s,baz=261,slow=4.3,SNR=5.3					
ESDC	Sonseca Array	156.41 345	PKPab	PKPab	19 03 01.6	-0.8
	comp=Z,0.8nm,0.6s,baz=11,slow=4.0,SNR=8.0					
TORD	Torodi Ar. Bea	166.45 255	PKP	PKPdf	19 02 42.0	-2.1
	comp=Z,2.2nm,0.9s,baz=42,slow=0.7,SNR=8.2					
TORD			PKPab	PKPab	19 03 45.9	-1.3
	comp=Z,3.4nm,0.7s,baz=100,slow=3.7,SNR=15					
TORD	Torodi Ar. Bea	166.45 255	PKPdf	PKPdf	19 02 40.0	-4.1

*IDC **31** 18:53:09.9±3.6, 23°.62S×179°.98W, h569km±36km, mb3.0/5, mb1 3.3/5, mb1mx3.1/20, mbtmp4.0/5 Error ellipse: s-maj=61.2km s-min=16.7km az=155.0*

ISC 31 18:53:06.9±1.6, 23°.9S±0°.5×179°.8W±0°.3, h550km, n22, σ1°08/23, mb3.6/5, 5C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.21	261	P	P	19 00 13.1	+0.9
	0.9nm,0.6s,baz=94,slow=7.2,SNR=22						
ASAR				PcP	pwP	19 01 54.3	-0.2
	0.5nm,0.6s,baz=98,slow=5.5,SNR=4.2						
ASAR				S	S	19 05 52.5	-0.6
	0.5nm,0.6s,baz=98,slow=14,SNR=7.5						
WRA	Warramunga Arr	42.58	266	P	P	19 00 15.4	+0.2
	1.3nm,0.4s,baz=94,slow=8.4,SNR=84						
WRA				PcP	PcP	19 01 54.2	-0.6
	1.2nm,0.9s,baz=89,slow=3.6,SNR=5.3						
PETK	Petropavlovsk-	79.11	346	P	P	19 04 13.9	-0.4
	1.9nm,0.6s,baz=116,slow=6.9,SNR=8.4						
NVAR	Mina Array Bea	84.61	44	P	P	19 04 44.0	+1.0
	0.2nm,0.5s,baz=235,slow=5.7,SNR=3.6						
CMAR	Chiang Mai Arr	89.68	290	P	P	19 05 08.2	+1.2
	0.8nm,0.9s,baz=129,slow=2.7,SNR=7.2						
MKAR	Makanchi Array	112.26	313	PKiKP	PKiKP	19 10 40.2	-0.1
	0.2nm,0.4s,baz=128,slow=0.6,SNR=8.7						
ARCES	ARCESS Array B	131.90	348	PKP	PKPdf	19 11 17.6	+0.5
	5.5nm,1.0s,baz=349,slow=1.2,SNR=8.8						
FINES	FINESS Array B	138.47	342	PKP	PKPdf	19 11 30.4	+0.8
	0.6nm,0.3s,baz=88,slow=4.8,SNR=5.0						
NB2	NORSAR Subarra	142.08	351	PKP	PKPdf	19 11 32.0	-4.2
	comp=Z,0.3nm,0.4s,baz=5.5,slow=4.1						
NOA	NORSAR Array B	142.08	351	PKhKP	PKPpre	19 11 32.6	
	comp=Z,1.0nm,0.9s,baz=12,slow=1.6,SNR=3.9						
HFS	Hagfors	142.55	349	PKhKP	PKPpre	19 11 33.7	
	comp=Z,4.6nm,0.3s,baz=54,slow=3.2,SNR=50						
AKASG	Malin Array Be	145.04	327	PKP	PKPdf	19 11 42.0	+0.4
	comp=Z,2.1nm,0.5s,baz=46,slow=4.4,SNR=25						
SORM	Soroca	147.08	324	⇑P	PKPbc	19 11 48.1	0.0
BRTR	Keskin Array B	147.70	307	PKPbc	PKPbc	19 11 49.9	-0.4
	comp=Z,1.7nm,0.6s,baz=145,slow=5.2,SNR=6.3						
EKA	Eskdalemuir Ar	148.48	4	PKPbc	PKPbc	19 11 51.6	+0.1
	comp=Z,0.6nm,0.3s,baz=344,slow=2.6,SNR=14						
BURAR	Bucovina Array	149.04	326	⇑P	PKiKP	19 11 54.7	+0.5
TRPA	Tarpa	149.99	329	⇓P	PKiKP	19 11 56.0	+0.1
ARR	Arges	150.80	323	⇑P	PKPbc	19 11 57.4	-0.1
DRGR		150.86	327	⇑P	PKiKP	19 11 57.9	0.0
GZR	Gura Zlata	151.78	325	⇓P	PKiKP	19 12 00.0	+0.2
BZS	Buzias	152.22	327	⇑P	PKiKP	19 12 00.9	+0.2
GERES	GERESS Array B	152.89	340	PKPbc	PKPbc	19 12 01.8	-0.2
	comp=Z,0.4nm,0.4s,baz=38,slow=2.4,SNR=4.7						

*MOS **31** 18:53:26.7±0.8, 53°.83N×158°.75E, h172km, mb4.3/1, Error ellipse: s-maj=13.8km s-min=5.0km az=79.1*
*KRSC **31** 18:53:26.2±0.8, 53°.76N×159°.06E, h175km±9km, ML4.1*
*IDC **31** 18:53:27.5±1.0, 53°.96N×158°.61E, h161km±9km, mb3.5/21, mb1 3.6/23, mb1mx3.6/41, mbtmp3.9/23, Error ellipse: s-maj=14.6km s-min=11.4km az=153.0*

ISC 31 18:53:27.4±0.6, 53°.75N±0°.03×159°.05E±0°.05, h171km±4km, n109, σ1°02/153, mb3.7/26, 1C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.37	40	PN	Pn	18 53 50.8	+0.1
KII	Karymskiy	0.37	40	*e*P	Pn	18 53 50.8	+0.1
KRER	Koryakskii	0.48	202	PN	Pn	18 53 51.9	+0.6
KRER				S	Sn	18 54 10.6	+1.0
KRER	Koryakskii	0.48	202	*e*P	Pn	18 53 51.9	+0.6
KRER				*e*S	Sn	18 54 10.6	+1.0
SDLR	Sedlovina	0.48	192	PN	Pn	18 53 51.7	+0.4
SDLR	Sedlovina	0.48	192	*e*P	Pn	18 53 51.7	+0.4
SMAR	Somma	0.51	197	PN	Pn	18 53 52.1	+0.6
SMAR				S	Sn	18 54 09.6	-0.3
SMAR	Somma	0.51	197	*e*P	Pn	18 53 52.1	+0.6
SMAR				*e*S	Sn	18 54 09.6	-0.3
AVH	Avacha	0.52	201	PN	Pn	18 53 51.9	+0.5
AVH	Avacha	0.52	201	*e*P	Pn	18 53 51.9	+0.5
KOK	Koryaka	0.52	208	PN	Pn	18 53 51.9	+0.5
KOK	Koryaka	0.52	208	*e*P	Pn	18 53 51.9	+0.5
UGLR	Uglovaya	0.56	194	PN	Pn	18 53 52.2	+0.6
UGLR	Uglovaya	0.56	194	*e*P	Pn	18 53 52.2	+0.6
NLC	Nalytchevo	0.61	163	PN	Pn	18 53 51.9	+0.3
NLC				S	Sn	18 54 10.7	+0.5
NLC	Nalytchevo	0.61	163	*e*P	Pn	18 53 51.9	+0.3
NLC				*e*S	Sn	18 54 10.7	+0.5
GNL	Ganaly	0.66	266	PN	Pn	18 53 51.4	-0.6
GNL				S	Sn	18 54 09.6	-1.4
GNL	Ganaly	0.66	266	*e*P	Pn	18 53 51.4	-0.6
GNL				*e*S	Sn	18 54 09.6	-1.4
DALK	Dalny	0.74	194	PN	Pn	18 53 52.8	+0.4
DALK				S	Sn	18 54 11.8	+0.3
DALK	Dalny	0.74	194	*e*P	Pn	18 53 52.8	+0.4
DALK				*e*S	Sn	18 54 11.8	+0.3
PET	Petropavlovsk	0.77	198	*k i*PN	Pn	18 53 52.9	+0.4
PET				*i* S	Sn	18 54 12.3	+0.5
PET				pmax	pmax		
	comp=Z,2μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.9s						
PET				smax	smax		
	comp=E,724nm,0.8s						
PET	Petropavlovsk	0.77	198	*e*P	Pn	18 53 52.9	+0.4
PET				*e*S	Sn	18 54 12.1	+0.3
PET	Petropavlovsk	0.77	198	P	P	18 53 52.9	+0.1
SPN	Mys Shipunski	0.88	138	PN	Pn	18 53 53.3	0.0
SPN				S	Sn	18 54 12.6	-0.5
SPN	Mys Shipunski	0.88	138	*e*P	Pn	18 53 53.3	0.0
SPN				*e*S	Sn	18 54 12.6	-0.5
PEA0B	Petropavlovsk-	1.03	232	*ce*PN	Pn	18 53 54.1	-0.3
PEA0B	Petropavlovsk-	1.03	232	P	P	18 53 54.2	+0.2
PETK	Petropavlovsk-	1.03	232	P	Pn	18 53 53.2	-1.2
	comp=E,36nm,0.3s,baz=74,slow=9.7,SNR=486						
PETK				S	Sn	18 54 14.2	-1.0
	comp=E,4.9nm,0.3s,baz=69,slow=20,SNR=2.9						
PETK	Petropavlovsk-	1.03	232	P	P	18 53 53.4	-0.6
KRMR	Karymshinskiy	1.07	211	PN	Pn	18 53 55.0	+0.2
KRMR				S	Sn	18 54 16.1	+0.3
KRMR	Karymshinskiy	1.07	211	*e*P	Pn	18 53 55.0	+0.2
KRMR				*e*S	Sn	18 54 16.1	+0.3
GRL	Gorelyy	1.34	206	PN	Pn	18 53 58.2	+1.0
GRL				S	Sn	18 54 20.8	+0.7
GRL	Gorelyy	1.34	206	*e*P	Pn	18 53 58.2	+1.0
GRL				*e*S	Sn	18 54 20.8	+0.7
RUS	Russkaya	1.36	194	PN	Pn	18 53 57.3	+0.1
RUS				S	Sn	18 54 19.7	-0.5
RUS	Russkaya	1.36	194	*e*P	Pn	18 53 57.3	+0.1
RUS				*e*S	Sn	18 54 19.7	-0.5
MTVR	Mutnovka	1.37	203	PN	Pn	18 53 58.5	+0.9
MTVR				S	Sn	18 54 21.3	+0.6
MTVR	Mutnovka	1.37	203	*e*P	Pn	18 53 58.5	+0.9
MTVR				*e*S	Sn	18 54 21.3	+0.6
APC	Apacha	1.40	235	PN	Pn	18 53 57.8	+0.2
APC				S	Sn	18 54 20.9	0.0
APC	Apacha	1.40	235	*e*P	Pn	18 53 57.8	+0.2
APC				*e*S	Sn	18 54 20.9	0.0
TUMD	Tumrok D	1.66	28	*e*P	Pn	18 53 59.9	-0.2
TUMD				*e*S	Sn	18 54 26.0	+0.5
TUMR	Tumrok	1.66	22	PN	Pn	18 54 01.1	+0.8
TUMR				S	Sn	18 54 26.4	+0.5
TUMR	Tumrok	1.66	22	*e*P	Pn	18 54 01.1	+0.8
TUMR				*e*S	Sn	18 54 26.4	+0.5
KDTR	Khodutka, Kamc	2.03	197	PN	Pn	18 54 03.9	-0.3
KDTR				S	Sn	18 54 31.2	-1.4
KDTR	Khodutka, Kamc	2.03	197	*e*P	Pn	18 54 03.9	-0.3
KDTR				*e*S	Sn	18 54 31.2	-1.4
KMNR	Kamenistaya	2.12	18	PN	Pn	18 54 06.0	+0.7
KMNR				S	Sn	18 54 36.1	+1.4
KMNR	Kamenistaya	2.12	18	*e*P	Pn	18 54 06.0	+0.7
KMNR				*e*S	Sn	18 54 36.1	+1.4
ESO	Esso	2.19	355	PN	Pn	18 54 08.8	+2.9
ESO	Esso	2.19	355	*e*P	Pn	18 54 08.8	+2.9
KPT	Kopyto	2.32	17	PN	Pn	18 54 07.7	+0.2
KPT	Kopyto	2.32	17	*e*P	Pn	18 54 07.7	+0.2
KIRR	Kirishev	2.33	18	PN	Pn	18 54 07.9	+0.2
KIRR	Kirishev	2.33	18	*e*P	Pn	18 54 07.9	+0.2
KOZ	Kozyrevsk	2.36	11	PN	Pn	18 54 07.9	0.0
KOZ				S	Sn	18 54 40.0	+0.6
KOZ	Kozyrevsk	2.36	11	*e*P	Pn	18 54 07.9	0.0
KOZ				*e*S	Sn	18 54 40.0	+0.6
BZWR	Bezymyannyi-We	2.37	20	PN	Pn	18 54 08.8	+0.6
BZWR	Bezymyannyi-We	2.37	20	*e*P	Pn	18 54 08.8	+0.6
KRSR	Krestovskiy	2.62	19	PN	Pn	18 54 11.1	+0.1
KRSR	Krestovskiy	2.62	19	*e*P	Pn	18 54 11.1	+0.1
PAU	Pauzhetka	2.66	212	PN	Pn	18 54 12.2	+0.7
PAU	Pauzhetka	2.66	212	*e*P	Pn	18 54 12.2	+0.7
KLY	Klyuchi	2.73	19	PN	Pn	18 54 13.2	+1.0
KLY				S	Sn	18 54 49.0	+1.9
KLY	Klyuchi	2.73	19	*e*P	Pn	18 54 13.2	+1.0
KLY				*e*S	Sn	18 54 49.0	+1.9
BDR	Baidarnaya	3.08	23	PN	Pn	18 54 17.7	+1.1
BDR	Baidarnaya	3.08	23	*e*P	Pn	18 54 17.7	+1.1
SRKR	Sorokina	3.15	22	PN	Pn	18 54 18.1	+0.6
SRKR	Sorokina	3.15	22	*e*P	Pn	18 54 18.1	+0.6
SMKR	Semkarok	3.16	25	PN	Pn	18 54 18.6	+1.0
SMKR	Semkarok	3.16	25	*e*P	Pn	18 54 18.6	+1.0
KBG	Krutoberegovo	3.28	39	PN	Pn	18 54 19.1	+0.2
KBG				S	Sn	18 54 57.2	-1.9
KBG	Krutoberegovo	3.28	39	*e*P	Pn	18 54 19.1	+0.2
KBG				*e*S	Sn	18 54 57.2	-1.9
KBTR	Krutoberegovo	3.29	40	PN	Pn	18 54 19.3	+0.3
KBTR				S	Sn	18 54 57.2	-2.2
KBTR	Krutoberegovo	3.29	40	*e*P	Pn	18 54 19.3	+0.3
KBTR				*e*S	Sn	18 54 57.2	-2.2
SKR	Severo-Kuril's	3.56	212	*e*PN	Pn	18 54 23.5	+0.9
SKR				*e*S	Sn	18 55 07.1	+1.5
SKR				pmax	pmax		
	comp=Z,60nm,0.4s						
SKR				smax	smax		
	comp=N,207nm,0.5s						
SKR				smax	smax		
	comp=E,210nm,0.5s						
SKR	Severo-Kuril's	3.56	212	*e*P	Pn	18 54 23.4	+0.9
SKR				*e*S	Sn	18 55 06.4	+0.8
BKI	Bering	4.29	67	PN	Pn	18 54 32.0	+0.1
BKI	Bering	4.29	67	*e*P	Pn	18 54 32.0	+0.1
BKI				*e*S	Sn	18 55 18.9	-3.4
PALN	Palana	5.38	5	PN	Pn	18 54 46.3	+0.4
PALN	Palana	5.38	5	*e*P	Pn	18 54 46.3	+0.4
YAK	Yakutsk	17.53	310	P	P	18 57 17.9	-1.7
	comp=E,0.1nm,0.3s,baz=48,slow=2.1,SNR=10						
YAK	Yakutsk	17.53	310	*e*P	P	18 57 17.8	-1.9
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
KLR	Kul'dur	17.54	266	P	P	18 57 20.0	+0.2
	comp=E,0.2nm,0.3s,baz=90,slow=9.7,SNR=6.5						
ZEA	Zeya	18.73	283	*e*P	P	18 57 31.5	-1.3
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TIXI	Tiksi	22.22	335	P	P	18 58 08.3	-1.2
	comp=Z,1.9nm,0.4s,baz=142,slow=6.5,SNR=13						
MJAR	Matsushiro Arr	22.49	228	P	P	18 58 12.9	+0.5
	comp=Z,1.1nm,0.5s,baz=26,slow=8.7,SNR=5.3						
BOD	Bodaibo	25.28	298	*e*P	P	18 58 35.7	-1.9
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s						
ILAR	Eielson Array	28.80	46	P	P	18 59 10.2	+1.3
	comp=Z,0.5nm,0.6s,baz=277,slow=5.7,SNR=8.6						
SONM	Songino Array	33.15	282	P	P	18 59 46.5	-0.8
	comp=Z,0.5nm,0.4s,baz=65,slow=8.3,SNR=5.5						
SONM				PcP	PcP	19 02 26.1	+0.1
	comp=Z,0.4nm,0.5s,baz=76,slow=0.8,SNR=5.7						
ZALV	Zalesovo Beam	41.89	302	P	P	19 00 58.5	-2.0
	comp=Z,0.9nm,0.5s,baz=56,slow=5.6,SNR=5.4						
YKA	Yellowknife Ar	43.10	43	P	P	19 01 10.8	+0.8
	comp=Z,0.5nm,0.4s,baz=301,slow=8.1,SNR=13						
MKAR	Makanchi Array	47.31	295	P	P	19 01 41.5	-1.9
	comp=Z,4.0nm,0.5s,baz=54,slow=6.7,SNR=75						
CMAR	Chiang Mai Arr	57.71	257	P	P	19 03 00.1	-0.1
	comp=Z,0.5nm,0.7s,baz=23,slow=6.8,SNR=5.5						
PDAR	Pinedale Array	57.75	61	P	P	19 03 03.4	+3.0
	comp=Z,0.8nm,0.5s,baz=322,slow=2.0,SNR=14						
FINES	FINESS Array B	59.26	336	P	P	19 03 09.7	-0.5
	comp=Z,1.1nm,0.3s,baz=36,slow=6.9,SNR=14						
NOA	NORSAR Array B	62.73	343	P	P	19 03 32.8	-0.9
	comp=Z,0.5nm,0.5s,baz=25,slow=6.6,SNR=4.6						
SCHQ	Schefferville	65.35	27	P	P	19 03 50.8	0.0
	comp=Z,3.1nm,1.0s,baz=0.0,slow=10,SNR=2.3						
AKASG	Malin Array Be	67.72	328	P	P	19 04 04.2	-1.6
	comp=Z,0.3nm,0.3s,baz=30,slow=6.5,SNR=6.2						
KBZ	Khabaz	68.62	316	P	P	19 04 10.5	-1.1
	comp=Z,1.1nm,0.6s,baz=92,slow=5.6,SNR=6.8						
TXAR	Lajitas Array	70.95	66	P	P	19 04 28.2	+2.0
	comp=Z,0.5nm,0.5s,baz=297,slow=5.2,SNR=11						
GERES	GERESS Array B	73.66	337	P	P	19 04 41.0	-0.9
	comp=Z,0.6nm,0.5s,baz=28,slow=6.0,SNR=5.0						
GERES	GERESS Array B	73.66	337	P	P	19 04 41.0	-0.9
CONA	Conrad Observa	74.00	335	*i* P	P	19 04 44.3	+0.4
	comp=Z,1.5nm,0.6s						
MOA	Molln	74.46	336	*e*P	P	19 04 46.5	0.0
	comp=Z,1.0nm,0.5s						
SOKA	Soboth	75.37	335	*e*P	P	19 04 51.9	+0.1
	comp=Z,1.5nm,0.4s						
KBA	Koelnbreinsper	75.40	337	*e*P	P	19 04 52.4	+0.3
	comp=Z,3.0nm,0.6s						
BRTR	Keskin Array B	75.71	320	P	P	19 04 52.6	-1.3
	comp=Z,0.9nm,0.7s,baz=58,slow=3.3,SNR=4.5						
WRA	Warramunga Arr	76.42	204	P	P	19 04 59.0	+1.2
	comp=Z,0.3nm,0.4s,baz=25,slow=6.3,SNR=5.6						
DAVOX	Davos/Dischmat	76.47	339	P	P	19 04 58.1	0.0
	comp=Z,1.7nm,0.6s,baz=314,slow=1.4,SNR=5.1						
ASAR	Alice Springs	80.11	203	P	P	19 05 20.2	+2.2
	comp=Z,0.5nm,0.4s,baz=18,slow=5.0,SNR=14						
ESDC	Sonseca Array	85.80	347	P	P	19 05 48.0	+0.7
	comp=Z,0.7nm,0.6s,baz=356,slow=4.5,SNR=8.5						

*CNRM **31** 19:05:03.3, 35°.54N×3°.75W, h24km, ml3.3*
*IDC **31** 19:05:04.3±1.2, 35°.38N×3°.63W, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/38, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=45.1km s-min=19.9km az=95.0*
*IGIL **31** 19:05:05.9, 35°.50N×3°.78W, h6km, ML2.7*

ISC 31 19:05:03.6±1.4, 35°.52N±0°.04×3°.75W±0°.04, h9km±10km, n21, σ2°05/33, mb3.6/3, Strait of Gibraltar

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

PAVE	**Pavencul**	**2.31**	**105**	*eP*	**Pn**	**19 45 56.5**	**+0.8**
PAVE				*eS*	**Sn**	**19 46 22.9**	**-0.2**
THIG		**2.33**	**113**	*eP*	**Pn**	**19 45 56.0**	**+0.3**
THIG				*eS*	**Sn**	**19 46 21.8**	**-1.3**
VHO	**Vista Hermosa**	**2.49**	**300**	*eP*	**Pn**	**19 46 00.7**	**+2.6**
VHO				*eS*	**Sn**	**19 46 28.7**	**+1.4**
PEIG	**Puerto Escondi**	**2.56**	**274**	*eP*	**Pn**	**19 45 58.6**	**-0.3**
PEIG				*eS*	**Sn**	**19 46 26.8**	**-2.2**
STG3	**Santiaguito 3,**	**3.03**	**111**	*eP*	**Pn**	**19 46 06.9**	**+1.5**
FUG	**Fuego 3**	**3.78**	**111**	*eP*	**Pn**	**19 46 18.6**	**+2.9**
APG	**El Apazote**	**3.97**	**101**	P	**Pn**	**19 46 18.9**	**+0.6**
	7.4nm,0.3s,baz=298,slow=8.8,SNR=81						
APG				S	**Sn**	**19 47 03.6**	**-0.1**
	31nm,0.3s,baz=88,slow=20,SNR=12						
NBG	**Las Nubes**	**4.18**	**107**	*eP*	**Pn**	**19 46 24.4**	**+3.0**
MRL	**Marmol**	**4.69**	**98**	*eP*	**Pn**	**19 46 29.1**	**+0.8**
TXAR	**Lajitas Array**	**15.88**	**329**	P	**Pn**	**19 49 00.9**	**+0.9**
	0.1nm,0.3s,baz=155,slow=15,SNR=3.7						
ANMO	**Albuquerque**	**21.86**	**333**	P	**P**	**19 50 09.4**	**+1.2**
	1.4nm,0.9s,baz=146,slow=12,SNR=4.0						
TKL	**Tuckaleechee C**	**21.95**	**24**	LR	LR	20 00 44.2	
	comp=Z,376nm,18.3s,baz=36,slow=42						
NVAR	**Mina Array Bea**	**30.75**	**322**	P	**P**	**19 51 32.0**	**+1.7**
	1.8nm,1.0s,baz=139,slow=11,SNR=6.8						
SCHQ	**Schefferville**	**44.41**	**23**	LR	LR	20 14 18.2	
	comp=Z,198nm,18.3s,baz=170,slow=39						
YKA	**Yellowknife Ar**	**48.73**	**348**	P	**P**	**19 53 58.1**	**-0.6**
	2.0nm,0.9s,baz=151,slow=7.3,SNR=16						
BDFB	**Brasilia**	**55.52**	**122**	P	**P**	**19 54 49.1**	**-0.9**
	3.4nm,0.9s,baz=343,slow=7.6,SNR=3.9						
INK	**Inuvik**	**58.03**	**344**	P	**P**	**19 55 06.0**	**-0.7**
	1.8nm,0.8s,baz=134,slow=7.3,SNR=5.8						
ILAR	**Eielson Array**	**60.23**	**337**	P	**P**	**19 55 21.6**	**-0.5**
	0.6nm,1.0s,baz=170,slow=4.4,SNR=4.1						
ARCES	**ARCESS Array B**	**85.16**	**18**	P	**P**	**19 57 48.5**	**-1.4**
	3.1nm,1.0s,baz=326,slow=4.7,SNR=3.7						
HFS	**Hagfors**	**85.17**	**29**	LR	LR	20 34 11.2	
	comp=Z,100nm,20.6s,baz=336,slow=34						
PETK	**Petropavlovsk-**	**87.78**	**325**	LR	LR	20 37 09.2	
	comp=Z,140nm,20.9s,baz=153,slow=35						

IDC 31 20:03:16.4±2.0,21°.84N×94°.18E,h0km,mb3.4/2,
mb1 3.5/3,mb1mx3.2/37,mbtmp3.2/3,ML3.2/1,Error
ellipse: s-maj=63.9km s-min=22.1km az=50.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.60**	**126**	Pn	Pn	20 04 42.8	+1.7
	0.2nm,0.3s,baz=302,slow=13,SNR=1.8						
CMAR				Lg	Lg	20 06 14.8	
	0.4nm,0.3s,baz=308,slow=28,SNR=4.2						
MKAR	**Makanchi Array**	**26.70**	**342**	P	P	20 08 57.6	+0.3
	0.3nm,0.5s,baz=152,slow=9.0,SNR=5.1						
WRA	**Warramunga Arr**	**57.14**	**134**	P	P	20 13 04.4	-0.9
	0.4nm,0.8s,baz=321,slow=7.6,SNR=4.5						

*IDC **31** 20:06:06.7±1.7,30°.74S×178°.09W,h0km,mb4.4/4,*
mb1 4.5/5,mb1mx4.1/23,mbtmp4.3/5,ML3.1/1,Error
ellipse: s-maj=51.7km s-min=22.8km az=127.0
*NEIC **31** 20:06:06.0±1.9,30°.86S±0°.06×177°.7W±0°.2,h10km±2km,*
mb4.4/8,Error ellipse: s-maj=25.0km s-min=10.9km
az=90.0
ISC 31 20:06:07.3±1.4,30°.8S±0°.1×178°.0W±0°.2,h10km,n20,
σ1973/21,mb4.5/7,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.54**	**2**	Pn	**Pn**	**20 06 34.5**	**-0.2**
	182nm,0.3s,baz=57,slow=18,SNR=5.4						
RAO				Sn	**Sn**	**20 06 51.2**	**-3.5**
	729nm,0.3s,baz=128,slow=20,SNR=10						
URZ	**Urewera**	**8.48**	**207**	Pn	**Pn**	**20 08 09.3**	**-0.9**
	0.2nm,0.3s,baz=330,slow=23,SNR=0.9						
URZ				Sn	**Sn**	**20 09 43.1**	**-2.9**
	0.7nm,0.3s,baz=177,slow=16,SNR=6.9						
CTAO	**Charters Tower**	**33.89**	**280**	P	**P**	**20 12 51.5**	**+1.0**
CTAO				IAmb	IAmb	20 12 54.7	
	comp=Z,6.7nm,0.8s						
STKA	**Stephens Creek**	**34.42**	**257**	P	**P**	**20 12 56.9**	**+1.9**
	comp=Z,6.8nm,0.7s,baz=99,slow=11,SNR=19						
STKA	**Stephens Creek**	**34.42**	**257**	P	**P**	**20 12 56.5**	**+1.6**
STKA				IAmb	IAmb	20 12 57.9	
	comp=Z,1.6nm,0.7s						
AS31	**Alice Springs**	**43.12**	**267**	P	**P**	**20 14 06.0**	**-2.0**
ASAR	**Alice Springs**	**43.12**	**267**	P	**P**	**20 14 07.6**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=103,slow=7.3,SNR=29						
ASAR	**Alice Springs**	**43.12**	**267**	P	**P**	**20 14 07.7**	**-0.3**
WR0	**Warramunga Arr**	**43.96**	**273**	pP	pP	20 14 15.3	-1.8
WB2	**Warramunga Arr**	**44.13**	**273**	P	**P**	**20 14 15.9**	**-0.3**
WB2				IAmb	IAmb	20 14 18.6	
	comp=Z,6.0nm,0.8s						
WRAB	**Tennant Creek**	**44.14**	**273**	P	**P**	**20 14 16.5**	**+0.3**
WRA	**Warramunga Arr**	**44.14**	**273**	P	**P**	**20 14 14.9**	**-1.4**
	comp=Z,3.3nm,0.6s,baz=111,slow=7.9,SNR=25						
WRA	**Warramunga Arr**	**44.14**	**273**	P	**P**	**20 14 15.4**	**-0.9**
WB0	**Warramunga Arr**	**44.17**	**273**	P	**P**	**20 14 16.1**	**-0.4**
WB0				IAmb	IAmb	20 14 19.2	
	comp=Z,5.4nm,0.7s						
KNRA	**Kununurra**	**50.76**	**275**	P	**P**	**20 15 06.4**	**-1.4**
PETK	**Petropavlovsk-**	**86.20**	**346**	P	**P**	**20 18 50.2**	**+1.8**
	comp=Z,3.4nm,0.8s,baz=123,slow=8.5,SNR=5.6						
MKAR	**Makanchi Array**	**118.05**	**310**	PKP	**PKiKP**	**20 24 55.8**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=151,slow=0.8,SNR=6.3						
FINES	**FINESS Array B**	**145.52**	**340**	PKPbc	**PKPdf**	**20 25 43.6**	**-1.4**
	comp=Z,3.4nm,0.5s,baz=64,slow=3.6,SNR=28						
AKASG	**Malin Array Be**	**151.63**	**322**	PKPbc	**PKPbc**	**20 26 00.1**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=47,slow=3.0,SNR=4.7						
BRTR	**Keskin Array B**	**152.81**	**298**	PKPbc	**PKiKP**	**20 26 07.3**	**+2.4**
	comp=Z,0.8nm,0.5s,baz=150,slow=5.3,SNR=6.0						

*IDC **31** 20:41:14.5±2.7,30°.77S×72°.65W,h0km,mb3.9/1,*
mb1 3.8/3,mb1mx3.6/29,mbtmp3.7/3,ML3.7/2,Error
ellipse: s-maj=107.8km s-min=38.5km az=101.0
*GUC **31** 20:41:18.4±0.6,30°.66S×72°.44W,h25km,ML3.3*
ISC 31 20:41:16.7±2.3,30°.72S±0°.04×72°.52W±0°.10,h17km±11km,
n21,σ1930/32,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.77**	**87**	*eP*	**Pg**	**20 41 31.9**	**+0.3**
CO06				*eS*	**Sg**	**20 41 41.8**	**0.0**
CO06				IAML		20 41 44.2	
	comp=N,1μm,0.4s						
CO06	**Fray Jorge**	**0.77**	**87**	*eP*	**Pg**	**20 41 31.1**	**-0.5**
CO06				*eS*	**Sg**	**20 41 41.3**	**-0.5**
CO06				IAML		20 41 44.2	
	comp=N,1μm,0.4s						
CO05	**La Serena**	**1.37**	**55**	*eP*	**Pn**	**20 41 39.8**	**-1.3**
CO05				*eS*	**Sn**	**20 41 57.1**	**-1.7**
CO05				IAML		20 41 58.1	
	comp=N,508nm,0.2s						
CO05	**La Serena**	**1.37**	**55**	*eP*	**Pn**	**20 41 40.3**	**-0.8**
CO05				*eS*	**Sn**	**20 41 57.1**	**-1.7**
CO05				IAML		20 41 58.1	
	comp=N,508nm,0.2s						
CO02	**Combarbal**	**1.39**	**111**	*eP*	**Pn**	**20 41 42.2**	**+0.7**
CO02				*eS*	**Sn**	**20 41 59.1**	**-0.6**
CO02	**Combarbal**	**1.39**	**111**	*eP*	**Pn**	**20 41 42.2**	**+0.7**
CO02				*eS*	**Sn**	**20 41 59.2**	**-0.4**
GO04	**Tololo Observa**	**1.58**	**70**	*eP*	**Pn**	**20 41 44.4**	**+0.1**
GO04				*eS*	**Sn**	**20 42 04.2**	**-0.3**
VA06	**Catapilco**	**2.11**	**151**	*eP*	**Pn**	**20 41 51.4**	**+0.1**
VA06				*eS*	**Sn**	**20 42 13.4**	**-3.8**
VA06				IAML		20 42 17.4	
	comp=N,427nm,0.2s						
VA06	**Catapilco**	**2.11**	**151**	*eP*	**Pn**	**20 41 51.4**	**+0.1**
VA06				*eS*	**Sn**	**20 42 15.9**	**-1.3**
VA06				IAML		20 42 17.4	
	comp=N,427nm,0.2s						
LCO	**Las Campanas**	**2.33**	**43⇑**	*eP*	**Pn**	**20 41 54.1**	**-0.4**
LCO				*eS*	**Sn**	**20 42 21.7**	**-1.1**
ROCH	**El Roble**	**2.59**	**151**	*eP*	**Pn**	**20 41 58.3**	**+0.2**
ROCH				*eS*	**Sn**	**20 42 26.9**	**-2.4**
ROCH				*eS*		20 42 27.2	
ROCH				IAML		20 42 29.6	
	comp=N,129nm,0.1s						
ROCH				IAML		20 42 33.5	
	comp=N,166nm,0.4s						
VA03	**San Esteban**	**2.64**	**141**	*eP*	**Pn**	**20 41 60.0**	**+1.3**
VA03				*eS*	**Sn**	**20 42 31.1**	**+0.7**
VA03				IAML		20 42 33.4	
	comp=E,283nm,0.2s						
PEL	**Peldehue**	**2.88**	**148**	*eP*	**Pn**	**20 42 02.9**	**+1.0**
PEL				*eS*	**Sn**	**20 42 35.1**	**-1.1**
PEL				IAML		20 42 38.7	
	comp=N,128nm,0.3s						
H03N1	**Juan Fernandez**	**6.06**	**242**	T	T	20 48 53.1	
	baz=73,slow=72,SNR=30						
H03N2	**Juan Fernandez**	**6.08**	**242**	T	T	20 48 50.5	
	baz=73,slow=72,SNR=25						
H03N3	**Juan Fernandez**	**6.08**	**242**	T	T	20 48 40.7	
	baz=73,slow=72,SNR=28						
PLCA	**Paso Flores**	**10.12**	**171**	Pn	**Pn**	**20 43 40.6**	**-0.7**
	comp=N,0.1nm,0.3s,baz=340,slow=11,SNR=6.9						
SIV	**San Ignacio**	**18.02**	**38**	P	**Pn**	**20 45 27.6**	**+1.1**
	comp=N,0.2nm,0.3s,baz=228,slow=12,SNR=7.8						
TORD	**Torodi Ar. Bea**	**83.50**	**71**	P	**P**	**20 53 45.0**	**+1.0**
	comp=N,0.6nm,0.5s,baz=252,slow=3.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**151.61**	**29**	PKPbc	**PKPbc**	**21 01 10.4**	**+0.8**
	comp=N,1.0nm,0.5s,baz=302,slow=3.7,SNR=5.9						

*UCR **31** 20:48:02.2±1.0,13°.27N×89°.61W,h56km±5km,ML4.0,*
mb3.8(NEIC)
*IDC **31** 20:48:02.9±2.8,13°.78N×89°.01W,h70km±24km,mb3.5/9,*
mb1 3.8/10,mb1mx3.5/47,mbtmp3.8/10,MS3.3/1,
Ms1 3.3/1,ms1mx2.5/49,Error ellipse: s-maj=36.1km
s-min=20.5km az=61.0
*NEIC **31** 20:48:02.5±1.6,13°.40N±0°.08×89°.52W±0°.09,h91km±10km,*
mb3.8/3,Md4.0(SNET),Error ellipse: s-maj=15.6km
s-min=8.9km az=49.0
*INET **31** 20:48:02.4±1.1,13°.19N×89°.60W,h30km±999km,ML3.8*
*SNET **31** 20:48:02.1±0.9,13°.27N×89°.60W,h55km±4km,ML4.0*
*GCG **31** 20:48:03.4±0.3,13°.34N×89°.65W,h26km±62km,MD4.0*
ISC 31 20:48:00.5±0.7,13°.30N±0°.05×89°.57W±0°.04,h62km±4km,
n121,σ2826/182,mb4.0/8,2C-9D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.30**	**53⇓**	*eP*	**Pn**	**20 48 12.3**	**+1.4**
LALI				IAML		20 48 13.1	
	comp=Z,5μm,0.4s						
LALI				*eS*	**Sn**	**20 48 19.6**	**+1.2**
LALI	**Alcalda de L**	**0.30**	**53⇓**	*eP*	**Pn**	**20 48 12.3**	**+1.4**
LALI				IAML		20 48 13.1	
	comp=Z,5μm,0.4s						
LALI				*eS*	**Sn**	**20 48 19.6**	**+1.2**
JAYA	**Jayaque - finc**	**0.37**	**19**	*eP*	**Pn**	**20 48 13.1**	**+1.4**
JAYA				*eS*	**Sn**	**20 48 21.1**	**+1.5**
JAYA				IAML		20 48 22.5	
	comp=Z,9μm,0.2s						
JAYA	**Jayaque - finc**	**0.37**	**19**	*eP*	**Pn**	**20 48 13.1**	**+1.4**
JAYA				*eS*	**Sn**	**20 48 21.1**	**+1.5**
JAYA				IAML		20 48 22.5	
	comp=Z,9μm,0.2s						
ITCA	**Escuela Especi**	**0.47**	**38**	*eP*	**Pn**	**20 48 14.1**	**+1.6**
ITCA				*eS*	**Sn**	**20 48 23.0**	**+1.9**
ITCA	**Escuela Especi**	**0.47**	**38**	*eP*	**Pn**	**20 48 14.1**	**+1.6**
ITCA				*eS*	**Sn**	**20 48 23.0**	**+1.9**
MAGS	**Ministerio de**	**0.47**	**36**	*eP*	**Pn**	**20 48 14.1**	**+1.6**
MAGS				*eS*	**Sn**	**20 48 23.2**	**+2.0**
MAGS				IAML		20 48 31.0	
	comp=Z,11μm,0.4s						
SNET	**Serv Nac Est T**	**0.50**	**41**	*eP*	**Pn**	**20 48 14.5**	**+1.6**
SNET				IAML		20 48 15.6	
	comp=Z,9μm,0.3s						
SNET				*eS*	**Sn**	**20 48 23.8**	**+2.0**
SNET	**Serv Nac Est T**	**0.50**	**41**	Pn	**Pn**	**20 48 14.0**	**+1.2**
SNET	**Serv Nac Est T**	**0.50**	**41**	*eP*	**Pn**	**20 48 14.5**	**+1.6**
SNET				IAML		20 48 15.6	
	comp=Z,9μm,0.3s						
SNET				*eS*	**Sn**	**20 48 23.8**	**+2.0**
BOQS	**Boqueron**	**0.51**	**33⇓**	*eP*	**Pn**	**20 48 15.0**	**+1.9**
BOQS				*eS*	**Sn**	**20 48 25.1**	**+2.9**
BOQS	**Boqueron**	**0.51**	**33⇓**	*eP*	**Pn**	**20 48 15.0**	**+1.9**
BOQS				*eS*	**Sn**	**20 48 25.1**	**+2.9**
UEES	**Universidad Ev**	**0.52**	**38**	*eP*	**Pn**	**20 48 14.7**	**+1.7**
UEES				IAML		20 48 15.7	
	comp=Z,9μm,0.4s						
UEES				*eS*	**Sn**	**20 48 24.6**	**+2.5**
UEES	**Universidad Ev**	**0.52**	**38**	*eP*	**Pn**	**20 48 14.7**	**+1.7**
UEES				IAML		20 48 15.7	
	comp=Z,9μm,0.4s						
UEES				*eS*	**Sn**	**20 48 24.6**	**+2.5**
CEVE	**Cerro Verde**	**0.53**	**354**	*eP*	**Pn**	**20 48 14.9**	**+1.7**
CEVE				*eS*	**Sn**	**20 48 25.1**	**+2.6**
CEVE				IAML		20 48 32.1	
	comp=Z,15μm,0.3s						
CEVE	**Cerro Verde**	**0.53**	**354**	*eP*	**Pn**	**20 48 14.9**	**+1.7**
CEVE				*eS*	**Sn**	**20 48 25.1**	**+2.6**
CEVE				IAML		20 48 32.1	
	comp=Z,15μm,0.3s						
CEDA	**San Andres**	**0.53**	**19**	*eP*	**Pn**	**20 48 14.6**	**+1.6**
CEDA				*eS*	**Sn**	**20 48 24.9**	**+2.8**
CEDA				IAML		20 48 32.0	
	comp=Z,6μm,0.4s						
CEDA	**San Andres**	**0.53**	**19**	*eP*	**Pn**	**20 48 14.6**	**+1.6**
CEDA				*eS*	**Sn**	**20 48 24.9**	**+2.8**
CEDA				IAML		20 48 32.0	
	comp=Z,6μm,0.4s						
UTEC	**Universidad Te**	**0.53**	**42**	*eP*	**Pn**	**20 48 15.1**	**+2.0**
UTEC	**Universidad Te**	**0.53**	**42**	*eP*	**Pn**	**20 48 15.1**	**+2.0**
SBLS	**San Blas**	**0.54**	**354**	*eP*	**Pn**	**20 48 15.0**	**+1.6**
SBLS	**San Blas**	**0.54**	**354**	*eP*	**Pn**	**20 48 15.0**	**+1.6**
OPAM	**Oficina de Pla**	**0.55**	**42**	*eP*	**Pn**	**20 48 15.1**	**+1.9**
OPAM				*eS*	**Sn**	**20 48 25.3**	**+2.8**
OPAM	**Oficina de Pla**	**0.55**	**42**	*eP*	**Pn**	**20 48 15.1**	**+1.9**
OPAM				*eS*	**Sn**	**20 48 25.3**	**+2.8**
UESS	**Universidad de**	**0.55**	**41**	*eP*	**Pn**	**20 48 15.2**	**+1.9**
UESS				IAML		20 48 16.1	
	comp=Z,6μm,0.3s						
UESS				*eS*	**Sn**	**20 48 25.2**	**+2.6**
UESS	**Universidad de**	**0.55**	**41**	*eP*	**Pn**	**20 48 15.2**	**+1.9**
UESS				IAML		20 48 16.1	
	comp=Z,6μm,0.3s						
UESS				*eS*	**Sn**	**20 48 25.2**	**+2.6**
IGN	**Direccin Gen**	**0.56**	**44**	*eP*	**Pn**	**20 48 15.4**	**+1.9**
IGN	**Direccin Gen**	**0.56**	**44**	*eP*	**Pn**	**20 48 15.4**	**+1.9**
SNJE	**San Jose**	**0.56**	**356**	*eP*	**Pn**	**20 48 15.2**	**+1.6**
SNJE	**San Jose**	**0.56**	**356**	*eP*	**Pn**	**20 48 15.2**	**+1.6**
UDBS	**Universidad Do**	**0.57**	**44**	*eP*	**Pn**	**20 48 15.6**	**+2.0**
UDBS	**Universidad Do**	**0.57**	**44**	*eP*	**Pn**	**20 48 15.6**	**+2.0**
LFRS	**El Faro**	**0.59**	**57**	*eP*	**Pn**	**20 48 15.4**	**+1.7**
LFRS	**El Faro**	**0.59**	**57**	*eP*	**Pn**	**20 48 15.4**	**+1.7**
RTR	**El Retiro**	**0.60**	**353**	*eP*	**Pn**	**20 48 15.8**	**+1.9**
RTR	**El Retiro**	**0.60**	**353**	*eP*	**Pn**	**20 48 15.8**	**+1.9**
LFU	**La Fuente**	**0.63**	**45⇑**	*eP*	**Pn**	**20 48 16.4**	**+2.2**
LFU				*eS*	**Sn**	**20 48 27.5**	**+3.4**
LFU	**La Fuente**	**0.63**	**45⇑**	*eP*	**Pn**	**20 48 16.4**	**+2.2**
LFU				*eS*	**Sn**	**20 48 27.5**	**+3.4**
SJTE	**Alcalda de S**	**0.63**	**60⇓**	*eP*	**Pn**	**20 48 16.0**	**+1.8**
SJTE				*eS*	**Sn**	**20 48 27.0**	**+2.8**
SJTE				IAML		20 48 29.6	
	comp=Z,3μm,0.4s						
SJTE	**Alcalda de S**	**0.63**	**60⇓**	*eP*	**Pn**	**20 48 16.0**	**+1.8**
SJTE				*eS*	**Sn**	**20 48 27.0**	**+2.8**
SJTE				IAML		20 48 29.6	
	comp=Z,3μm,0.4s						
NUBE	**Las Nubes**	**0.63**	**341⇓**	*eP*	**Pn**	**20 48 15.8**	**+1.6**
NUBE				*eS*	**Sn**	**20 48 26.3**	**+2.0**
NUBE				IAML		20 48 28.7	
	comp=Z,8μm,0.2s						
NUBE	**Las Nubes**	**0.63**	**341⇓**	*eP*	**Pn**	**20 48 15.8**	**+1.6**
NUBE				*eS*	**Sn**	**20 48 26.3**	**+2.0**
NUBE				IAML		20 48 28.7	
	comp=Z,8μm,0.2s						
LBRS	**Las Brisas**	**0.67**	**50**	*eP*	**Pn**	**20 48 17.0**	**+2.4**
LBRS	**Las Brisas**	**0.67**	**50**	*eP*	**Pn**	**20 48 17.0**	**+2.4**
UNIC	**Universidad Ca**	**0.68**	**2**	*eP*	**Pn**	**20 48 16.6**	**+1.9**
UNIC				*eS*	**Sn**	**20 48 28.0**	**+2.9**
UNIC	**Universidad Ca**	**0.68**	**2**	*eP*	**Pn**	**20 48 16.6**	**+1.9**
UNIC				*eS*	**Sn**	**20 48 28.0**	**+2.9**
TACO	**Tacachico**	**0.70**	**18**	*eP*	**Pn**	**20 48 16.6**	**+1.7**
TACO				*eS*	**Sn**	**20 48 27.7**	**+2.3**
TACO	**Tacachico**	**0.70**	**18**	*eP*	**Pn**	**20 48 16.6**	**+1.7**
TACO				*eS*	**Sn**	**20 48 27.7**	**+2.3**
PAVA	**Las Pavas**	**0.74**	**56**	*eP*	**Pn**	**20 48 17.9**	**+2.4**
PAVA				IAML		20 48 18.8	
	comp=Z,5μm,0.4s						
PAVA				*eS*	**Sn**	**20 48 29.7**	**+3.2**
PAVA	**Las Pavas**	**0.74**	**56**	*eP*	**Pn**	**20 48 17.9**	**+2.4**
PAVA				IAML		20 48 18.8	
	comp=Z,5μm,0.4s						
PAVA				*eS*	**Sn**	**20 48 29.7**	**+3.2**
SLOZ	**Alcaldia de Sa**	**0.75**	**344⇓**	*eP*	**Pn**	**20 48 17.5**	**+1.9**
SLOZ				*eS*	**Sn**	**20 48 29.3**	**+2.7**
SLOZ				IAML		20 48 36.2	
	comp=Z,4μm,0.4s						
TECO	**Alcaldia de Te**	**0.80**	**73**	*eP*	**Pn**	**20 48 17.6**	**+1.5**
TECO				*eS*	**Sn**	**20 48 30.2**	**+2.5**
TECO	**Alcaldia de Te**	**0.80**	**73**	*eP*	**Pn**	**20 48 17.6**	**+1.5**
TECO				*eS*	**Sn**	**20 48 30.2**	**+2.5**
UESV	**Universidad de**	**0.83**	**66**	*eP*	**Pn**	**20 48 18.8**	**+2.3**
UESV				*eS*	**Sn**	**20 48 31.2**	**+2.9**
UESV	**Universidad de**	**0.83**	**66**	*eP*	**Pn**	**20 48 18.8**	**+2.3**
UESV				*eS*	**Sn**	**20 48 31.2**	**+2.9**
SCLA	**Alcaldia de Sa**	**0.91**	**64**	*eP*	**Pn**	**20 48 19.4**	**+1.9**
SCLA	**Alcaldia de Sa**	**0.91**	**64**	*eP*	**Pn**	**20 48 19.4**	**+1.9**
COEB	**Comit de Eme**	**1.03**	**79**	*eP*	**Pn**	**20 48 20.7**	**+1.6**
COEB				*eS*	**Sn**	**20 48 35.5**	**+2.5**
COEB	**Comit de Eme**	**1.03**	**79**	*eP*	**Pn**	**20 48 20.6**	**+1.5**
COEB				*eS*	**Sn**	**20 48 35.3**	**+2.4**
COEB	**Comit de Eme**	**1.03**	**79**	*eP*	**Pn**	**20 48 20.7**	**+1.6**
COEB				*eS*	**Sn**	**20 48 35.5**	**+2.5**
PQSS	**Presa 15 de Se**	**1.03**	**72**	*eP*	**Pn**	**20 48 20.9**	**+1.8**
PQSS	**Presa 15 de Se**	**1.03**	**72**	*eP*	**Pn**	**20 48 20.9**	**+1.8**
LLGN	**La Laguna**	**1.05**	**35**	*eP*	**Pn**	**20 48 21.2**	**+1.8**
LLGN	**La Laguna**	**1.05**	**35**	*eP*	**Pn**	**20 48 21.2**	**+1.8**
MTO3	**Montecristo**	**1.11**	**11**	*eP*	**Pn**	**20 48 22.2**	**+1.9**
MTO3				*eS*	**Sn**	**20 48 38.1**	**+3.2**
MTO3	**Montecristo**	**1.11**	**11**	Pn	**Pn**	**20 48 22.2**	**+1.9**
MTO3	**Montecristo**	**1.11**	**11**	*eP*	**Pn**	**20 48 22.2**	**+1.9**
MTO3				*eS*	**Sn**	**20 48 38.1**	**+3.2**
PACA	**Pacayal**	**1.22**	**82**	*eP*	**Pn**	**20 48 24.0**	**+2.3**
PACA	**Pacayal**	**1.22**	**82**	*eP*	**Pn**	**20 48 24.0**	**+2.3**
LCY	**Lacayo**	**1.25**	**84**	*eP*	**Pn**	**20 48 24.2**	**+2.1**
LCY				*eS*	**Sn**	**20 48 41.3**	**+3.3**
LCY	**Lacayo**	**1.25**	**84**	*eP*	**Pn**	**20 48 24.2**	**+2.1**
LCY				*eS*	**Sn**	**20 48 41.3**	**+3.3**
ESQI	**Esquipulas**	**1.27**	**10**		**Pn**	**20 48 24.6**	**+2.3**
ESQI	**Esquipulas**	**1.27**	**10**	*eP*	**Pn**	**20 48 24.6**	**+2.3**
PCG	**Pacaya**	**1.48**	**317**	*eP*	**Pn**	**20 48 28.0**	**+2.8**
PCG				*eS*	**Sn**	**20 48 48.9**	**+5.1**
LCND	**La Caada**	**1.64**	**90**	*eP*	**Pn**	**20 48 29.0**	**+1.9**
LCND				*eS*	**Sn**	**20 48 50.6**	**+3.4**
LCND				IAML		20 48 52.0	
	comp=Z,908nm,0.5s						
LCND	**La Caada**	**1.64**	**90**	*eP*	**Pn**	**20 48 29.0**	**+1.9**
LCND				*eS*	**Sn**	**20 48 50.6**	**+3.4**
LCND				IAML		20 48 52.0	
	comp=Z,908nm,0.5s						
FUG	**Fuego 3**	**1.68**	**313**	*eP*	**Pn**	**20 48 30.5**	**+2.6**
FUG				*eS*	**Sn**	**20 48 53.1**	**+4.6**
CNCH	**Conchagua**	**1.69**	**91**	*eP*	**Pn**	**20 48 29.8**	**+1.8**
CNCH				*eS*	**Sn**	**20 48 52.3**	**+3.6**
CNCH	**Conchagua**	**1.69**	**91**	*eP*	**Pn**	**20 48 29.8**	**+1.8**
CNCH				*eS*	**Sn**	**20 48 52.3**	**+3.6**
MRL	**Marmol**	**1.77**	**356**	*eP*	**Pn**	**20 48 32.6**	**+3.4**
MRL				*eS*	**Sn**	**20 48 55.3**	**+4.5**
APG	**El Apazote**	**1.90**	**333**	P	**Pn**	**20 48 32.6**	**+1.7**
	comp=Z,7.8nm,0.3s,baz=128,slow=9.2,SNR=76						
APG				S	**Sn**	**20 48 54.2**	**+0.3**
	comp=Z,17nm,0.3s,baz=152,slow=13,SNR=13						
TGUH	**Tegucigalpa,Un**	**2.35**	**71**		**Pn**	**20 48 38.9**	**+1.9**
STG3	**Santiaguito 3,**	**2.39**	**306**	*eP*	**Pn**	**20 48 40.5**	**+2.9**
STG3				*eS*	**Sn**	**20 49 06.8**	**+0.9**
CRIN	**San Cristobal**	**2.53**	**103**		**Pn**	**20 48 41.5**	**+2.2**
CRIN	**San Cristobal**	**2.53**	**103**	*eP*	**Pn**	**20 48 41.2**	**+1.9**
CRIN				*eS*	**Sn**	**20 49 11.7**	**+2.7**
CNGN	**C

0.9nm,0.5s

*IDC **31** 21:12:13.0±1.0, 63°.21S×169°.46E, h0km, mb4.1/5, mb1 4.4/6, mb1mx3.9/33, mbtmp4.1/6, ML3.4/1, MS3.9/27, Ms1 3.9/27, ms1mx3.8/49, Error ellipse: s-maj=54.1km s-min=22.2km az=55.0*
*NEIC **31** 21:12:14.1±1.7, 63°.26S±0°.08×169°.4E±0°.5, h10km±1km, mb4.6/12, Error ellipse: s-maj=36.1km s-min=9.0km az=73.0*
ISC 31 21:12:14.3±0.7, 63°.20S±0°.09×169°.5E±0°.2, h10km, n65, σ0°.85/25, mb4.5/9, MS4.0/26, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.60**	**187**	Pn	**Pn**	**21 15 41.0**	**+0.6**
	0.2nm,0.3s,baz=28,slow=16,SNR=5.9						
VNDA				LR	LR	21 20 01.6	
	comp=Z,876nm,21.9s,baz=12,slow=32						
VNDA	**Vanda**	**14.60**	**187**		**Pn**	**21 15 39.2**	**-1.2**
DCZ	**Deep Cove**	**17.82**	**355**	P	**P**	**21 16 23.0**	**+0.2**
DCZ				IAmb	IAmb	21 16 34.1	
	comp=Z,26nm,1.0s						
ODZ	**Otahua Downs**	**18.20**	**3**		**P**	**21 16 27.3**	**+0.3**
URZ	**Urewera**	**25.39**	**14**	LR	LR	21 25 58.2	
	comp=Z,387nm,21.6s,baz=183,slow=32						
QSPA	**South Pole Qui**	**26.89**	**180**	P	**P**	**21 17 55.3**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=288,slow=2.7,SNR=4.8						
QSPA				LR	LR	21 27 09.3	
	comp=Z,396nm,18.4s,baz=35,slow=33						
QSPA	**South Pole Qui**	**26.89**	**180**	P	**P**	**21 17 53.8**	**-1.3**
OUZ	**Omahuta**	**28.12**	**7**	P	**P**	**21 18 05.2**	**-0.8**
STKA	**Stephens Creek**	**35.97**	**317**	LR	LR	21 32 07.5	
	comp=Z,191nm,18.0s,baz=188,slow=33						
DZM	**Mont Dzumac**	**41.16**	**356**	LR	LR	21 33 42.3	
	comp=Z,194nm,22.0s,baz=224,slow=31						
DZM	**Mont Dzumac**	**41.16**	**356**	*e*P	P	21 20 07.6	+9.0
	comp=Z,14nm,1.4s						
DZM	**Mont Dzumac**	**41.16**	**356**	*e*LR	LR	21 31 15.2	
	comp=Z,312nm,24.1s						
H01W1	**Cape Leeuwin H**	**43.99**	**283**	T	T	22 07 32.1	
	baz=147,slow=76,SNR=84						
H01W2	**Cape Leeuwin H**	**43.99**	**283**	T	T	22 07 32.4	
	baz=147,slow=76,SNR=97						
H01W3	**Cape Leeuwin H**	**44.00**	**283**	T	T	22 07 34.5	
	baz=147,slow=76,SNR=85						
SNAA	**Sanae**	**45.30**	**183**	LR	LR	21 37 28.7	
	comp=Z,421nm,19.5s,baz=168,slow=34						
SNAA	**Sanae**	**45.30**	**183**	P	**P**	**21 20 32.1**	**+0.6**
SNAA				IAmb	IAmb	21 20 35.9	
	comp=Z,9.6nm,1.3s						
MSVF	**Nonsavu**	**45.80**	**11**	LR	LR	21 37 58.7	
	comp=Z,187nm,18.2s,baz=154,slow=34						
CTA	**Charters Tower**	**45.90**	**329**	LR	LR	21 36 40.3	
	comp=Z,160nm,18.5s,baz=152,slow=32						
ASAR	**Alice Springs**	**46.07**	**312**	P	**P**	**21 20 38.5**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=156,slow=6.6,SNR=17						
ASAR	**Alice Springs**	**46.07**	**312**	P	**P**	**21 20 38.2**	**+0.1**
AS31	**Alice Springs**	**46.07**	**312**	P	**P**	**21 20 37.3**	**-0.9**
WB2	**Warramunga Arr**	**49.39**	**314**	P	**P**	**21 21 02.7**	**-1.1**
WB2				IAmb	IAmb	21 21 04.2	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**49.39**	**314**	P	**P**	**21 21 04.8**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=161,slow=6.9,SNR=2.2						
WB0	**Warramunga Arr**	**49.54**	**315**	P	**P**	**21 21 06.1**	**+1.1**
WB0				IAmb	IAmb	21 21 24.1	
	comp=Z,13nm,1.3s						
AFI	**Afiamalu**	**50.96**	**24**	LR	LR	21 39 03.5	
	comp=Z,34nm,20.9s,baz=122,slow=32						
PAE	**Paea**	**53.46**	**51**	*e*T	T	22 19 09.7	
	comp=Z,3.8nm,0.2s						
PPT2	**Papeete2**	**53.53**	**51**	*e*T	T	22 19 10.8	
	comp=Z,5.8nm,0.3s						
PPT	**Papeete**	**53.55**	**51**	LR	LR	21 40 36.0	
	comp=Z,84nm,18.5s,baz=164,slow=32						
HNR	**Honiara**	**54.11**	**348**	LR	LR	21 39 52.6	
	comp=Z,65nm,21.7s,baz=155,slow=31						
KNRA	**Kununurra**	**55.23**	**310**	P	**P**	**21 21 48.0**	**+0.7**
PMG	**Port Moresby**	**56.05**	**333**	LR	LR	21 42 11.8	
	comp=Z,89nm,19.8s,baz=145,slow=32						
VAH	**Vaihoa**	**56.39**	**52**	*e*T	T	22 22 46.7	
	comp=Z,85nm,0.3s						
RPN	**Rapa Nui**	**62.21**	**95**	LR	LR	21 43 14.7	
	comp=Z,106nm,20.2s,baz=256,slow=30						
GO07	**Milladeo Hill,**	**62.80**	**133**	P	**P**	**21 22 39.9**	**+0.4**
PLCA	**Paso Flores**	**65.96**	**134**	P	**P**	**21 23 01.1**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=247,slow=4.4,SNR=6.2						
PLCA	**Paso Flores**	**65.96**	**134**	P	**P**	**21 23 01.1**	**+0.8**
PLCA				IAmb	IAmb	21 23 05.8	
	comp=Z,6.0nm,1.1s						
SIJI	**Sorong**	**68.31**	**318**	LR	LR	21 53 08.6	
	comp=Z,63nm,18.4s,baz=224,slow=36						
KAPI	**Kappang**	**68.33**	**305**	LR	LR	21 53 07.5	
	comp=Z,54nm,18.2s,baz=181,slow=36						
H03S2	**Juan Fernandez**	**69.19**	**124**	T	T	22 39 11.4	
	SNR=28						
H03S1	**Juan Fernandez**	**69.19**	**124**	T	T	22 39 12.7	
	SNR=23						
H03S3	**Juan Fernandez**	**69.21**	**124**	T	T	22 39 12.2	
	SNR=27						
LEM	**Lembang**	**71.49**	**293**	LR	LR	21 49 44.7	
	comp=Z,100nm,20.9s,baz=196,slow=32						
SUR	**Sutherland**	**81.53**	**206**	LR	LR	21 58 51.8	
	comp=Z,198nm,19.1s,baz=174,slow=34						
PSI	**Prapat**	**83.84**	**289**	LR	LR	21 56 49.6	
	comp=Z,54nm,20.3s,baz=144,slow=32						
BOSA	**Boshof**	**84.19**	**211**	LR	LR	21 59 16.9	
	comp=Z,130nm,19.7s,baz=182,slow=34						
H08S2	**Diego Garcia H**	**86.39**	**260**	T	T	23 00 35.3	
	baz=153,slow=76,SNR=127						
H08S1	**Diego Garcia H**	**86.40**	**260**	T	T	23 00 38.5	
	baz=153,slow=76,SNR=79						
H08S3	**Diego Garcia H**	**86.41**	**260**	T	T	23 00 35.3	
	baz=153,slow=76,SNR=227						
LBTB	**Lobatse**	**87.57**	**212**	LR	LR	22 02 51.1	
	comp=Z,87nm,18.3s,baz=173,slow=35						
LPAZ	**La Paz**	**89.12**	**126**	P	**P**	**21 25 11.2**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=164,slow=6.3,SNR=6.2						
LPAZ	**La Paz**	**89.12**	**126**	P	**P**	**21 25 09.9**	**-0.6**
LPAZ				IAmb	IAmb	21 25 29.2	
	comp=Z,3.0nm,1.1s						
NNA	**Nana**	**89.66**	**116**	LR	LR	21 57 37.7	
	comp=Z,74nm,18.0s,baz=218,slow=30						
ATAH	**Atahualpa**	**93.40**	**113**	LR	LR	21 58 38.8	
	comp=Z,72nm,18.7s,baz=232,slow=30						
TSUM	**Tsumeb**	**94.97**	**207**	LR	LR	22 05 18.4	
	comp=Z,234nm,21.5s,baz=162,slow=34						
JOW	**Kunigami**	**95.48**	**324**	LR	LR	22 11 14.5	
	comp=Z,9.6nm,18.3s,baz=141,slow=37						
PALK	**Pallekele**	**95.89**	**274**	LR	LR	22 01 14.6	
	comp=Z,70nm,19.8s,baz=275,slow=31						
CMAR	**Chiang Mai Arr**	**97.89**	**295**	LR	LR	22 07 27.0	
	comp=Z,35nm,20.0s,baz=175,slow=34						
JHJ	**Hachijo jima 2**	**98.88**	**335**	LR	LR	22 07 19.4	
	comp=Z,30nm,18.4s,baz=86,slow=33						
H06S1	**SOCORRO T**	**101.92**	**72**	T	T	23 19 36.6	
	SNR=11						
TORD	**Torodi Ar. Bea**	**129.28**	**195**	PKP	**PKPdf**	**21 31 22.3**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=228,slow=0.4,SNR=4.6						
YKA	**Yellowknife Ar**	**137.57**	**42**	PKP	**PKPdf**	**21 31 35.0**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=198,slow=2.4,SNR=3.8						
YKA	**Yellowknife Ar**	**137.57**	**42**		**PKPdf**	**21 31 37.2**	**+0.6**
KBZ	**Khabaz**	**144.09**	**263**	PKP	**PKPab**	**21 31 47.4**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=101,slow=2.4,SNR=7.2						
BRTR	**Keskin Array B**	**144.91**	**249**	PKP	**PKPbc**	**21 31 49.4**	**-0.7**
	comp=Z,5.1nm,0.8s,baz=160,slow=3.9,SNR=17						

*IDC **31** 21:16:32.7±2.6, 43°.05N×105°.07W, h0km, mb2.7/1, mb1 3.5/3, mb1mx2.9/50, mbtmp3.2/3, ML3.2/2, MS3.2/4, Ms1 3.1/4, ms1mx3.0/11, Error ellipse: s-maj=48.8km s-min=11.5km az=159.0*
*NEIC **31** 21:16:32.8±1.9, 43°.87N±0°.06×105°.48W±0°.04, h0km±2km, ML3.6/44, Error ellipse: s-maj=9.7km s-min=3.8km az=345.0*
ISC 31 21:16:31.8±1.1, 43°.88N±0°.07×105°.41W±0°.06, h0km, n51, σ1°.15/48, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**76**		**Pn**	**21 16 53.3**	**-0.3**
RSSD				Sg	**Sn**	**21 17 08.7**	**-0.1**
K22A	**Casper**	**1.47**	**214**		**Pn**	**21 16 59.8**	**+0.1**
K22A				Sn	**Sn**	**21 17 19.4**	**-0.4**
RWWY	**Rawlins**	**2.56**	**212**		**Pn**	**21 17 16.6**	**+1.8**
RWWY				IAML		21 17 57.4	
	393nm,0.8s						
PHWY	**Pilot Hill**	**2.57**	**181**		**Pn**	**21 17 15.0**	**0.0**
PHWY				IAML		21 17 55.3	
	193nm,0.5s						
PHWY				IAML		21 18 50.5	
	208nm,3.4s						
N23A	**Red Feather La**	**3.01**	**188**		**Pn**	**21 17 21.9**	**+0.9**
N23A				IAML		21 18 05.5	
	comp=N,216nm,0.5s						
BW06	**Boulder Array**	**3.22**	**251**	Pn	**Pn**	**21 17 23.9**	**0.0**
PD31	**Pinedale Array**	**3.22**	**251**	Pn	**Pn**	**21 17 25.2**	**+1.3**
PDAR	**Pinedale Array**	**3.22**	**251**	Pn	**Pb**	**21 17 29.1**	**-1.0**
	comp=N,2.8nm,0.3s,baz=92,slow=15,SNR=63						
PDAR				Lg	Lg	21 18 15.9	
	comp=N,21nm,0.3s,baz=83,slow=31,SNR=7.3						
PDAR				LR	LR	21 18 49.4	
	comp=N,82nm,20.4s,baz=86,slow=41						
PDAR	**Pinedale Array**	**3.22**	**251**	Pn	**Pn**	**21 17 23.5**	**-0.4**
GCMT	**Greycliff**	**3.58**	**304**	Pn	**Pn**	**21 17 28.9**	**+0.1**
LKWY	**Lake**	**3.65**	**283**		**Pn**	**21 17 31.8**	**+2.0**
LKWY				IAML		21 17 56.1	
	comp=N,115nm,0.5s						
LKWY				IAML		21 18 00.1	
	comp=N,128nm,0.6s						
LOHW	**Long Hollow**	**3.77**	**268**		**Pn**	**21 17 33.2**	**+1.8**
OGNE	**Ogallala**	**3.85**	**138**		**Pn**	**21 17 33.6**	**+1.2**
MOOW	**Moose Ponds**	**3.86**	**270**	Pn	**Pn**	**21 17 33.8**	**+1.2**
SNOW	**Snow King Moun**	**3.90**	**266**	Pn	**Pn**	**21 17 33.9**	**+0.7**
SNOW				IAML		21 18 59.5	
	comp=N,148nm,1.9s						
SNOW				IAML		21 19 06.3	
	comp=N,131nm,1.4s						
REDW	**Red Top Meadow**	**3.98**	**264**	Pn	**Pn**	**21 17 34.5**	**+0.2**
REDW				IAML		21 19 00.0	
	comp=N,133nm,1.4s						
REDW				IAML		21 19 08.7	
	comp=N,121nm,1.2s						
ISCO	**Idaho Springs**	**4.08**	**182**		**Pn**	**21 17 36.1**	**+0.4**
ISCO				IAML		21 19 44.7	
	comp=N,85nm,3.8s						
O20A	**White River Ci**	**4.29**	**210**		**Pn**	**21 17 40.3**	**+1.8**
AHID	**Auburn Hatcher**	**4.30**	**257**	Pn	**Pn**	**21 17 37.4**	**-1.2**
AHID				IAML		21 19 00.5	
	comp=N,71nm,1.2s						
AHID				IAML		21 19 20.6	
	comp=N,62nm,1.1s						
ECR	**Eagle Creek**	**4.42**	**261**	Pn	**Pn**	**21 17 39.5**	**-0.8**
SUSD	**Miller**	**4.68**	**81**	Pn	**Pn**	**21 17 44.8**	**+1.1**
BOZ	**Bozeman (W)**	**4.75**	**293**	Pn	**Pn**	**21 17 43.7**	**-1.1**
BOZ				IAML		21 19 12.8	
	comp=N,38nm,3.1s						
BOZ				IAML		21 20 43.0	
	comp=N,34nm,5.0s						
SMCO	**Snowmass**	**4.84**	**195**	Pn	**Pn**	**21 17 47.1**	**+0.9**
SMCO				IAML		21 20 48.2	
	comp=N,53nm,3.7s						
SMCO				IAML		21 20 55.5	
	comp=N,54nm,3.2s						
Q24A	**Divide**	**4.91**	**178**	Pn	**Pn**	**21 17 47.3**	**+0.2**
Q24A				IAML		21 20 16.0	
	comp=E,44nm,3.6s						
Q24A				IAML		21 20 16.9	
	comp=N,47nm,3.6s						
EGMT	**Eagleton**	**5.13**	**325**	Pn	**Pn**	**21 17 51.0**	**+1.0**
KSCO	**Kaye Shedlock'**	**5.29**	**156**	Pn	**Pn**	**21 17 51.4**	**-0.8**
DLMT	**Dillon**	**5.34**	**289**	Pn	**Pn**	**21 17 54.1**	**+1.3**
DLMT				IAML		21 19 40.4	
	comp=N,38nm,3.1s						
DLMT				IAML		21 20 10.4	
	comp=N,38nm,3.0s						
HRY	**Holter Researc**	**5.34**	**304**	Pn	**Pn**	**21 17 52.9**	**0.0**
LRM	**Limekiln Ridge**	**5.37**	**294**	Pn	**Pn**	**21 17 51.2**	**-2.2**
MCMT	**McKenzie Canyo**	**5.42**	**283**	Pn	**Pn**	**21 17 54.3**	**+0.3**
MDND	**Maddock**	**5.67**	**44**	Pn	**Pn**	**21 17 57.8**	**+0.5**
BCYI	**Bear Canyon**	**5.77**	**277**		**Pn**	**21 17 57.3**	**-1.6**
PV15	**Paradox Valley**	**6.00**	**204**	Pn	**Pn**	**21 18 02.8**	**+0.8**
SDCO	**Great Sand Dun**	**6.13**	**181**	Pn	**Pn**	**21 18 03.4**	**-0.4**
PV11	**David Mesa, Pa**	**6.16**	**206**		**Pn**	**21 18 06.2**	**+2.1**
S22A	**4UR Ranch, Cre**	**6.22**	**190**	Pn	**Pn**	**21 18 06.4**	**+1.3**
PV13	**Radium Mtn., P**	**6.27**	**205**		**Pn**	**21 18 07.9**	**+2.2**
ECSD	**EROS Data Cent**	**6.37**	**88**	Pn	**Pn**	**21 18 09.0**	**+2.1**
CBKS	**Cedar Bluff**	**6.62**	**138**	Pn	**Pn**	**21 18 09.9**	**-0.4**
DUG	**Dugway, Tooele**	**6.62**	**239**	Pn	**Pn**	**21 18 09.9**	**-0.6**
T25A	**Trinidad**	**6.77**	**173**	Pn	**Pn**	**21 18 12.3**	**-0.3**
MVCO	**Mesa Verde**	**7.06**	**200**	Pn	**Pn**	**21 18 16.1**	**-0.5**
KSU1	**Kansas State U**	**8.15**	**123**	Pn	**Pn**	**21 18 31.9**	**+0.6**
KAN10	**Anthony SW Sta**	**8.75**	**138**	Pn	**Pn**	**21 18 41.2**	**+1.7**
KAN06	**Argonia West S**	**8.76**	**137**	Pn	**Pn**	**21 18 38.8**	**-1.0**
KAN01	**Argonia South**	**8.89**	**136**	Pn	**Pn**	**21 18 41.3**	**-0.1**
I10CA	**LAC DU BONNET**	**9.00**	**42**	*i*		22 12 50.0	
	baz=223,slow=324,SNR=4.2						
ULM	**Lac du Bonnet**	**9.11**	**42**	Pn	Pn	21 18 49.0	+4.7
	comp=N,0.5nm,0.3s,baz=229,slow=11,SNR=3.4						
ULM				Lg	Lg	21 21 27.1	
	comp=N,0.4nm,0.3s,baz=316,slow=17,SNR=3.8						
ULM				LR	LR	21 22 40.2	
	comp=N,269nm,21.7s,baz=180,slow=38						
NEW	**Newport**	**9.25**	**302**	LR	LR	21 22 59.2	
	comp=N,230nm,21.4s,baz=123,slow=39						
I56US	**NEWPORT INFRAS**	**9.25**	**302**	*i*		22 12 15.0	
	baz=118,slow=322,SNR=15						
YKA	**Yellowknife Ar**	**19.41**	**347**	P	Pn	21 21 09.7	+9.4
	comp=N,0.1nm,0.3s,baz=157,slow=9.2,SNR=5.2						
YKA				LR	LR	21 29 53.0	
	comp=N,76nm,20.3s,baz=140,slow=40						

*IDC **31** 21:56:40.9±2.1, 19°.35N×108°.98W, h0km, mb3.6/6, mb1 4.0/9, mb1mx3.8/30, mbtmp3.7/9, ML3.6/3, MS3.4/6, Ms1 3.4/6, ms1mx3.0/60, Error ellipse: s-maj=39.6km s-min=20.3km az=137.0*
*NEIC **31** 21:56:42.5±1.8, 19°.43N±0°.08×109°.12W±0°.03, h10km±1km, mb4.0/9, Md4.3/7(MEX), Error ellipse: s-maj=13.3km s-min=4.0km az=346.0*
*MEX **31** 21:56:42.2±0.4, 18°.73N×108°.61W, h15km, MD4.3*
ISC 31 21:56:44.1±0.9, 19°.4N±0°.1×109°.07W±0°.07, h26km, n38, σ1°.27/34, mb3.5/5, MS3.2/3, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E		**1.85**	**251**		**Pn**	**21 57 15.1**	**+0.8**
H06E					**Sn**	**21 57 38.4**	**+1.5**
H06E		**1.85**	**251**	*e*P	**Pn**	**21 57 15.1**	**+0.8**
H06E				*e*S	**Sn**	**21 57 38.4**	**+1.5**
H06E1	**SOCORRO T-PHAS**	**1.86**	**251**	Pn	**Pn**	**21 57 14.8**	**+0.4**
	SNR=363						
H06E1				T	T	21 59 15.5	
	SNR=7.6						
H06N	**Isla Socorro**	**1.89**	**254**	*e*P	Pb	21 57 26.4	+8.3
H06S1	**SOCORRO T**	**1.90**	**250**	Pn	**Pn**	**21 57 15.3**	**+0.4**
	SNR=80						
H06S1				T	T	21 59 18.1	
	SNR=5.3						
H06S		**1.91**	**250**		**Pn**	**21 57 15.1**	**+0.2**
H06S					**Sn**	**21 57 37.4**	**-0.7**
H06S		**1.91**	**250**	*e*P	**Pn**	**21 57 15.1**	**+0.2**
H06S				*e*S	**Sn**	**21 57 37.4**	**-0.7**
CJM	**Chamela**	**3.80**	**88**	*e*P	Pn	21 57 33.0	-8.0
CJM				*e*S	Sn	21 58 12.0	-13
SLBS	**Sierra La Lagu**	**4.35**	**349**		**Pn**	**21 57 48.3**	**-0.4**
LPIG	**La Paz**	**4.83**	**346**	Pn	**Pn**	**21 57 54.3**	**-0.8**
	6.8nm,0.3s,baz=62,slow=22,SNR=6.3						
ZAIG	**Zacatecas**	**6.94**	**60**		**Pn**	**21 58 24.0**	**-0.4**
MOIG	**Morelia**	**7.44**	**86**	Pn	**Pn**	**21 58 30.9**	**-0.3**
TX31	**Lajitas Ar. Si**	**11.05**	**25**		**Pn**	**21 59 22.7**	**+2.0**
TX32	**Lajitas Array**	**11.05**	**25**		**Pn**	**21 59 22.7**	**+2.0**
TXAR	**Lajitas Array**	**11.05**	**25**	Pn	**Pn**	**21 59 21.3**	**+0.6**
	0.1nm,0.3s,baz=194,slow=14,SNR=12						
319A	**Douglas**	**11.94**	**359**	Pn	**Pn**	**21 59 32.0**	**-0.7**
CMIG	**Matias Romero**	**13.67**	**97**	Pn	**Pn**	**21 59 55.9**	**-0.5**
	0.2nm,0.3s,baz=280,slow=9.3,SNR=4.9						
CMIG				LR	LR	22 04 48.1	
	comp=Z,121nm,18.7s,baz=226,slow=36						
X18A	**Snowflake**	**15.10**	**357**	Pn	**Pn**	**22 00 15.7**	**-0.2**
X18A				IAmb	IAmb	22 00 20.0	
	comp=Z,10nm,1.1s						
PFO	**Pinyon Flats O**	**15.62**	**337**	LR	LR	22 05 42.0	
	comp=Z,174nm,19.5s,baz=200,slow=34						
ANMO	**Albuquerque**	**15.67**	**8**	LR	LR	22 05 10.0	
	comp=Z,64nm,18.8s,baz=195,slow=32						
MVCO	**Mesa Verde**	**17.76**	**1**	P	**Pn**	**22 00 46.4**	**-3.5**
SMCO	**Snowmass**	**19.80**	**5**	P	**P**	**22 01 13.0**	**0.0**
SMCO				IAmb	IAmb	22 01 21.2	
	comp=Z,10nm,1.4s						
KAN05	**Bluff City Nor**	**20.19**	**27**	P	**P**	**22 01 16.3**	**-0.6**
NV11	**Mina Array Sit**	**20.55**	**339**	P	**P**	**22 01 19.4**	**-1.6**
NV11				IAmb	IAmb	22 01 27.9	
	comp=Z,9.1nm,1.2s						
NVAR	**Mina Array Bea**	**20.60**	**339**	P	Pn	22 01 23.7	-0.2
	comp=Z,2.7nm,0.8s,baz=175,slow=12,SNR=15						
NVAR				LR	LR	22 08 27.7	
	comp=Z,79nm,18.9s,baz=128,slow=34						
NVAR	**Mina Array Bea**	**20.60**	**339**	P	**P**	**22 01 19.7**	**-1.8**
O20A	**White River Ci**	**20.69**	**2**	P	**P**	**22 01 23.4**	**+0.9**
O20A				IAmb	IAmb	22 01 28.7	
	comp=Z,7.0nm,0.8s						
CBKS	**Cedar Bluff**	**20.98**	**21**	P	**P**	**22 01 25.1**	**-0.3**
DUG	**Dugway, Tooele**	**20.98**	**352**	P	**P**	**22 01 27.2**	**+1.6**
DUG				IAmb	IAmb	22 01 32.3	
	comp=Z,8.9nm,1.4s						
ELK	**Elko**	**21.93**	**347**	P	**P**	**22 01 37.9**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=151,slow=8.2,SNR=6.2						
ELK				LR	LR	22 10 20.9	
	comp=Z,97nm,18.9s,baz=204,slow=37						
PDAR	**Pinedale Array**	**23.31**	**359**	P	**P**	**22 01 51.6**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=163,slow=9.7,SNR=9.4						
MOOW	**Moose Ponds**	**24.33**	**357**	P	**P**	**22 01 59.3**	**-0.7**
YKA	**Yellowknife Ar**	**43.24**	**356**	P	**P**	**22 04 42.8**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=172,slow=7.9,SNR=17						
YKA				LR	LR	22 23 38.9	
	comp=Z,93nm,19.1s,baz=26,slow=37						
INK	**Inuvik**	**51.26**	**349**	P	**P**	**22 05 46.2**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=120,slow=8.0,SNR=5.4						
ILAR	**Eielson Array**	**51.85**	**340**	P	**P**	**22 05 51.6**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=145,slow=6.7,SNR=9.0						
H03N2	**Juan Fernandez**	**59.89**	**151**	T	T	23 12 08.3	
	baz=329,slow=77,SNR=17						
H03N1	**Juan Fernandez**	**59.90**	**151**	T	T	23 12 06.2	
	baz=329,slow=77,SNR=19						
H03N3	**Juan Fernandez**	**59.91**	**151**	T	T	23 12 08.8	
	baz=329,slow=77,SNR=22						

*IDC **31** 22:13:53.5±1.3, 19°.48N×66°.67W, h0km, mb3.7/6, mb1 4.1/8, mb1mx3.7/34, mbtmp3.8/8, ML3.3/2, Error ellipse: s-maj=30.9km s-min=28.0km az=75.0*
*NEIC **31** 22:13:54.7±1.3, 18°.92N±0°.06×67°.58W±0°.04, h23km±7km, Error ellipse: s-maj=9.0km s-min=5.0km az=193.0*
*OSPL **31** 22:13:55.0±1.2, 18°.97N×67°.60W, h0km±999km, ML3.8*
*RSPR **31** 22:13:55.3, 18°.95N×67°.70W, h24km±15km, MD3.8/19*
ISC 31 22:13:54.6±0.7, 18°.91N±0°.05×67°.63W±0°.03, h27km, n82, σ0°.90/87, mb3.8/6, 14C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.54**	**164**	‖*e*P	**Pb**	**22 14 05.5**	**-0.2**
IDE	**Isla Desecheo**	**0.54**	**164**	*e*S	**Sb**	**22 14 13.0**	**-0.1**
AGPR	**Aguadilla, PR**	**0.66**	**132**	‖*e*P	**Pb**	**22 14 07.6**	**0.0**
AGPR	**Aguadilla, PR**	**0.66**	**132**	*e*S	**Sb**	**22 14 16.4**	**0.0**
AGPR	**Aguadilla, PR**	**0.66**	**132**		**Pb**	**22 14 07.6**	**0.0**
AGPR					Pn	22 14 16.4	+8.1
AGPR	**Aguadilla, PR**	**0.66**	**132**	IAML		22 14 16.8	
	comp=N,7μm,0.2s						
AGPR	**Aguadilla, PR**	**0.66**	**132**	*i* P	**Pb**	**22 14 06.8**	**-0.8**
AGPR				*e*S	**Sb**	**22 14 15.7**	**-0.7**
AGPR				IAML		22 14 17.5	
	comp=Z,5μm,0.2s						
PCDR	**Punta Cana, DR**	**0.81**	**241**	Pn	**Pn**	**22 14 10.7**	**+0.3**
PCDR	**Punta Cana, DR**	**0.81**	**241**	*i* P	**Pn**	**22 14 10.6**	**+0.3**
PCDR				*e*S	**Sn**	**22 14 21.8**	**+0.3**
PCDR				IAML		22 14 24.1	
	comp=Z,2μm,0.3s						
PRSN	**Puerto Rico Se**	**0.83**	**146**		**Pb**	**22 14 10.0**	**-0.4**
LSP	**Las Mesas**	**0.89**	**145**	‖*e*P	**Pn**	**22 14 11.3**	**-0.2**
LSP	**Las Mesas**	**0.89**	**145**	*e*S	**Sn**	**22 14 23.4**	**-0.2**
AOPR	**Arecibo Observ**	**1.00**	**124**	‖*e*P	**Pn**	**22 14 12.7**	**-0.3**
AOPR	**Arecibo Observ**	**1.00**	**124**	*e*S	**Sb**	**22 14 25.8**	**-0.4**
AOPR	**Arecibo Observ**	**1.00**	**124**		**Pn**	**22 14 12.7**	**-0.3**
AOPR					**Sb**	**22 14 25.8**	**-0.4**
AOPR	**Arecibo Observ**	**1.00**	**124**	IAML		22 14 26.3	
	comp=N,4μm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.02**	**151**	‖*e*P	**Pn**	**22 14 12.5**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.02**	**151**	*e*S	**Sn**	**22 14 26.4**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.02**	**151**		**Pn**	**22 14 12.5**	**-0.7**
CRPR					**Sn**	**22 14 26.4**	**-0.4**
CRPR	**Cab

CDVI St. Croix 2.95 113 Pn 22 14 41.9 +2.1
CDVI Sn 22 15 16.1 +1.8
SC01 Santiago de lo 2.98 280 Pn **Pn 22 14 38.6 -1.5**
SDDR Presa de Saban 3.46 272 Pn **Pn 22 14 48.0 +1.2**
SDDR IAML 22 15 49.3
comp=E,485nm,0.7s
SDDR IAML 22 15 52.9
comp=E,360nm,1.0s
PCRV Puerto La Cruz 9.15 161 Pn Pn 22 16 10.7 +5.6
comp=E,1.0nm,0.3s,baz=305,slow=2.2,SNR=1.5
BAUV El Baul 9.91 182 Pn **Pn 22 16 16.5 +1.0**
SDV Santo Domingo 10.38 197 Pn Pn 22 16 35.4 +13
comp=E,0.7nm,0.3s,baz=54,slow=12,SNR=3.7
BOAV Boa Vista 17.83 156 P 22 18 02.2 +0.8
TXAR Lajitas Array 34.37 294 P P 22 20 47.0 +7.4
comp=E,0.6nm,0.7s,baz=108,slow=8.7,SNR=6.0
NVAR Mina Array Bea 47.89 305 P P 22 22 39.0 +8.1
comp=E,0.6nm,0.5s,baz=88,slow=6.7,SNR=6.9
YKA Yellowknife Ar 54.18 335 P **P 22 23 19.5 +2.0**
comp=E,0.7nm,0.5s,baz=112,slow=7.5,SNR=14
ESDC Sonseca Array 58.06 55 P **P 22 23 42.8 -2.9**
comp=E,0.4nm,1.0s,baz=259,slow=6.6,SNR=2.0
ILAR Eielson Array 68.49 333 P **P 22 24 55.5 +1.3**
comp=E,0.3nm,0.8s,baz=99,slow=5.6,SNR=1.8
ARCES ARCESS Array B 73.54 21 P **P 22 25 21.7 -3.1**
comp=E,3.6nm,0.9s,baz=270,slow=4.1,SNR=3.5

STR ***31*** *22:43:57.7±0.5, 47°.N±2°×1°.0E±°, h7km±3km, MLv3.7/6, preliminary*
ZUR ***31*** *22:43:58.6, 47°.12N×10°.10E, h-1km±1km, MLh3.5/101, Error ellipse: s-maj=2.6km s-min=0.6km az=270.0*
VIE ***31*** *22:43:58.4±0.2, 47°.11N×10°.11E, h12km±2km, mb2.9/21, ml3.6/21, Error ellipse: s-maj=1.2km s-min=0.9km az=179.0 felt 5 ems98 at Kloesterle / Vorarlberg 3 km SSW of Langen am Arlberg*
PRU ***31*** *22:43:58.7±0.0, 47°.29N×10°.01E, h0km*
GEN ***31*** *22:43:59.3, 46°.99N×10°.13E, h-3km, Ml3.5*
BGR ***31*** *22:43:60.0±0.2, 47°.14N×10°.12E, h5km, ML3.5/14, Error ellipse: s-maj=6.7km s-min=3.3km az=173.0*
ROM ***31*** *22:43:59.4±0.2, 47°.100N±0°.008×10°.070E±0°.005, h11km±1km, ML3.4/21, Error ellipse: s-maj=0.7km s-min=0.5km az=356.0*
BNS ***31*** *22:44:00.9±0.4, 47°.04N×9°.99E, h10km, ML3.1*
LDG ***31*** *22:44:00.0±0.1, 47°.17N×10°.12E, h6km, Md3.5/1, Ml3.5/41, Error ellipse: s-maj=2.3km s-min=1.9km az=177.0*
ISC 31 22:43:58.5±0.8, 47°.14N±0°.01×10°.088E±0°.010, h12km±6km, n413, σ1§54/673, 49C-80D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVA	**Damuels**	**0.20**	**316**	⇓Pg	**Pg**	**22 44 03.3**	**+0.2**
	15nm,SNR=105						
DAVA				⇓Pg	**Pg**	**22 44 03.3**	**+0.2**
DAVA				Sg	**Sg**	**22 44 06.7**	**+0.4**
DAVA	**Damuels**	**0.20**	**316**	*i* Pg	**Pg**	**22 44 03.3**	**+0.2**
	255nm,0.1s,SNR=561						
DAVA				*e*Sg	**Sg**	**22 44 06.8**	**+0.6**
	910nm,0.1s						
DAVA	**Damuels**	**0.20**	**316**	*e*Pg	**Pg**	**22 44 03.3**	**+0.2**
DAVA				*e*Sg	**Sg**	**22 44 06.9**	**+0.7**
OBER	**Oberstdorf**	**0.30**	**27**	*e*Pg	**Pg**	**22 44 05.2**	**+0.4**
OBER				Sg	**Sb**	**22 44 10.7**	**-0.2**
STRW	**Triesenberg, W**	**0.37**	**267**	⇑Pg	**Pg**	**22 44 05.9**	**0.0**
STRW				⇑Pg	**Pg**	**22 44 05.9**	**0.0**
	11nm,SNR=74						
SCUC	**Scuol-Clozza**	**0.37**	**156**	⇓Pg	**Pg**	**22 44 06.0**	**0.0**
SCUC				⇓Pg	**Pg**	**22 44 06.0**	**0.0**
	34nm,SNR=299						
SCUC				Sg	**Sg**	**22 44 10.8**	**-0.1**
DAVOX	**Davos/Dischmat**	**0.39**	**202**	⇓Pg	**Pg**	**22 44 06.3**	**0.0**
DAVOX				⇓Pg	**Pg**	**22 44 06.3**	**0.0**
	9.5nm,SNR=113						
DAVOX				Sg	**Sg**	**22 44 11.4**	**0.0**
DAVOX	**Davos/Dischmat**	**0.39**	**202**	P	**Pg**	**22 44 06.3**	**0.0**
DAVOX				S	**Sg**	**22 44 11.4**	**0.0**
DAVOX				AML	AML		
	comp=N,7385μm,0.5s						
DAVOX				AML	AML		
	comp=E,8710μm,0.4s						
DAVOX	**Davos/Dischmat**	**0.39**	**202**	P	**Pg**	**22 44 06.3**	**0.0**
DAVOX				S	**Sg**	**22 44 11.6**	**+0.1**
SBUH	**Buchs, Hochsch**	**0.42**	**275**	⇑Pg	**Pg**	**22 44 07.3**	**+0.5**
SBUH				⇑Pg	**Pg**	**22 44 07.3**	**+0.5**
	comp=E,23nm,SNR=81						
SBUA2	**Buchs, Altendo**	**0.42**	**273**	Pg	**Pg**	**22 44 07.1**	**+0.2**
SBUA2				Pg	**Pg**	**22 44 07.1**	**+0.2**
	comp=E,15nm,SNR=100						
LIENZ	**Kamor/St.Gall**	**0.43**	**291**	⇓Pg	**Pg**	**22 44 07.7**	**+0.5**
LIENZ				⇓Pg	**Pg**	**22 44 07.7**	**+0.5**
	comp=E,7.0nm,SNR=53						
LIENZ				Sg	**Sb**	**22 44 15.0**	**+0.2**
LIENZ	**Kamor/St.Gall**	**0.43**	**291**	Pg	**Pb**	**22 44 07.8**	**-0.4**
LIENZ				Sg	**Sb**	**22 44 15.1**	**+0.2**
SZER	**Zernez**	**0.44**	**179**	⇓Pg	**Pg**	**22 44 07.3**	**0.0**
	comp=E,9.5nm,SNR=57						
SZER				⇓Pg	**Pg**	**22 44 07.3**	**0.0**
SZER				Sg	**Sg**	**22 44 13.2**	**0.0**
SBUB	**Buchserberg Ma**	**0.45**	**271**	Pg	**Pg**	**22 44 07.7**	**+0.3**
SBUB				Pg	**Pg**	**22 44 07.7**	**+0.3**
	comp=E,13nm,SNR=54						
SBUB	**Buchserberg Ma**	**0.45**	**271**	⇑Pg	**Pg**	**22 44 07.7**	**+0.3**
	comp=E,13nm,SNR=54						
SBUB				⇑Pg	**Pg**	**22 44 07.7**	**+0.3**
FETA	**Feichten**	**0.45**	**105**	⇑Pg	**Pg**	**22 44 07.2**	**-0.3**
	comp=E,5.1nm,SNR=76						
FETA				⇑Pg	**Pg**	**22 44 07.2**	**-0.3**
FETA				Sg	**Sg**	**22 44 13.6**	**+0.1**
FETA	**Feichten**	**0.45**	**105**	*i* Pg	**Pg**	**22 44 07.2**	**-0.3**
	comp=E,36nm,0.1s,SNR=89						
FETA				*e*Sg	**Sg**	**22 44 13.5**	**-0.1**
	comp=E,200nm,0.2s						
SCUG	**Chur Gewerbesc**	**0.48**	**234**	⇑Pg	**Pg**	**22 44 07.9**	**0.0**
SCUG				⇑Pg	**Pg**	**22 44 07.9**	**0.0**
	comp=E,9.9nm,SNR=96						
PLONS	**Plons/SG**	**0.49**	**260**	⇑Pg	**Pg**	**22 44 08.2**	**+0.1**
	comp=E,7.6nm,SNR=87						
PLONS				⇑Pg	**Pg**	**22 44 08.2**	**+0.1**
PLONS	**Plons/SG**	**0.49**	**260**	P	**Pg**	**22 44 08.4**	**+0.2**
PLONS				S	**Sb**	**22 44 16.0**	**-0.4**
PLONS				AML	AML		
	comp=E,2480μm,0.7s						
PLONS				AML	AML		
	comp=N,3890μm,0.5s						
PLONS				AML	AML		
	comp=N,3890μm,0.5s						
PLONS				AML	AML		
	comp=E,2480μm,0.7s						
PLONS	**Plons/SG**	**0.49**	**260**	*e*Pg	**Pg**	**22 44 08.3**	**+0.1**
PLONS				*e*Sg	**Sb**	**22 44 16.1**	**-0.2**
SGT05	**Eggersriet**	**0.53**	**305**	⇓Pg	**Pb**	**22 44 10.2**	**+0.5**
	comp=E,12nm,SNR=106						
SGT05				⇓Pg	**Pb**	**22 44 10.2**	**+0.5**
SGT05				Sg	**Sb**	**22 44 18.9**	**+1.5**
STSP	**Tschierv**	**0.54**	**162**	⇓Pg	**Pg**	**22 44 09.1**	**0.0**
STSP				⇓Pg	**Pg**	**22 44 09.1**	**0.0**
	comp=E,7.3nm,SNR=56						
UBR	**Ueberruh**	**0.54**	**1**	⇓Pg	**Pb**	**22 44 10.7**	**+0.6**
UBR				⇓Pg	**Pb**	**22 44 10.7**	**+0.6**
	comp=E,7.1nm,SNR=74						
UBR	**Ueberruh**	**0.54**	**1**	*e*Pg	**Pb**	**22 44 10.6**	**+0.6**
UBR				*e*Sg	**Sb**	**22 44 19.5**	**+1.6**
SGT04	**Schlatt-Haslen**	**0.55**	**293**	⇓Pg	**Pb**	**22 44 10.2**	**+0.1**
	comp=E,13nm,SNR=162						
SGT04				⇓Pg	**Pb**	**22 44 10.2**	**+0.1**
SGT04				Sg	**Sb**	**22 44 19.0**	**+1.0**
STGK	**St. Gallen Klo**	**0.56**	**301**	⇓Pg	**Pb**	**22 44 10.8**	**+0.5**
STGK				⇓Pg	**Pb**	**22 44 10.8**	**+0.5**
	comp=E,7.2nm,SNR=37						
RETA	**Reutte**	**0.58**	**52**	Pg	**Pg**	**22 44 09.6**	**-0.2**
RETA				Pg	**Pg**	**22 44 09.6**	**-0.2**
	comp=E,3.8nm,SNR=40						
RETA	**Reutte**	**0.58**	**52**	*e*Pg	**Pg**	**22 44 09.5**	**-0.2**
	comp=E,86nm,0.3s,SNR=42						
RETA				*e*Sg	**Sb**	**22 44 18.6**	**-0.2**
	comp=E,470nm,0.3s						
RETA	**Reutte**	**0.58**	**52**	Pg	**Pg**	**22 44 09.9**	**+0.2**
RETA				Sg	**Sb**	**22 44 19.6**	**+0.8**
SARE	**Arbon, Evangel**	**0.58**	**310**	⇓Pg	**Pb**	**22 44 11.3**	**+0.6**
	comp=E,6.7nm,SNR=27						
SARE				⇓Pg	**Pb**	**22 44 11.3**	**+0.6**
SVAM	**Vaz, Muldain**	**0.59**	**221**	⇑Pg	**Pg**	**22 44 09.8**	**-0.2**
SVAM				⇑Pg	**Pg**	**22 44 09.8**	**-0.2**
	comp=E,3.5nm,SNR=28						
SVAM				Sg	**Sg**	**22 44 17.7**	**-0.1**
SGT00	**Sennhlsen**	**0.60**	**299**	⇓Pg	**Pb**	**22 44 11.5**	**+0.4**
SGT00				⇓Pg	**Pb**	**22 44 11.5**	**+0.4**
	comp=E,16nm,SNR=47						
MOSI	**Grossmontoni**	**0.61**	**149**	⇓Pg	**Pg**	**22 44 10.5**	**0.0**
MOSI				⇓Pg	**Pg**	**22 44 10.5**	**0.0**
	comp=E,20nm,SNR=170						
MOSI				Sg	**Sb**	**22 44 19.2**	**-0.6**
MOSI	**Grossmontoni**	**0.61**	**149**	P	**Pg**	**22 44 10.5**	**0.0**
MOSI				S	**Sg**	**22 44 19.1**	**+0.6**
MOSI				AML	AML		
	comp=N,11850μm,0.9s						
MOSI				AML	AML		
	comp=E,8895μm,0.3s						
SCEL	**Celerina**	**0.65**	**194**	⇓Pg	**Pg**	**22 44 11.1**	**-0.1**
	comp=E,5.2nm,SNR=38						
SCEL				⇓Pg	**Pg**	**22 44 11.1**	**-0.1**
ROMAN	**Romanshorn, Fo**	**0.67**	**310**	⇓Pg	**Pb**	**22 44 12.7**	**+0.6**
	comp=E,3.1nm,SNR=24						
ROMAN				⇓Pg	**Pb**	**22 44 12.7**	**+0.6**
ROMAN				Sg	**Sn**	**22 44 23.0**	**-1.3**
ROMAN	**Romanshorn, Fo**	**0.67**	**310**	⇓Pg	**Pb**	**22 44 12.7**	**+0.6**
ROMAN				Sg	**Sn**	**22 44 22.9**	**-1.3**
ZUGS	**Zugspitze, Sch**	**0.67**	**65**	*e*Pn	**Pg**	**22 44 11.6**	**0.0**
BRMO	**Bormio**	**0.69**	**163**	⇓Pg	**Pg**	**22 44 11.4**	**-0.5**
BRMO				⇓Pg	**Pg**	**22 44 11.4**	**-0.5**
	comp=E,1.6nm,SNR=29						
BRMO	**Bormio**	**0.69**	**163**	P	**Pg**	**22 44 11.5**	**-0.5**
BRMO				S	**Sg**	**22 44 20.9**	**-0.1**
BRMO				AML	AML		
	comp=E,950μm,0.5s						
BRMO				AML	AML		
	comp=N,1129μm,1.1s						
BRMO	**Bormio**	**0.69**	**163**	P	**Pg**	**22 44 11.5**	**-0.5**
BRMO				S	**Sg**	**22 44 20.8**	**-0.3**
MOTA	**Moosalm**	**0.72**	**73**	*e*Pg	**Pg**	**22 44 11.4**	**-1.1**
	comp=N,33nm,0.3s,SNR=43						
MOTA				*e*Sg	**Sb**	**22 44 22.9**	**-0.2**
	comp=N,251nm,0.3s						
PANIX	**Pigniu (Panix)**	**0.74**	**245**	⇑Pg	**Pg**	**22 44 12.5**	**-0.4**
PANIX				⇑Pg	**Pg**	**22 44 12.5**	**-0.4**
	comp=N,1.3nm,SNR=16						
SQTA	**Sankt Quirin**	**0.77**	**83**	*e*Pg	**Pg**	**22 44 12.4**	**-1.0**
	comp=N,63nm,0.2s,SNR=79						
SQTA				*e*Sg	**Sg**	**22 44 23.0**	**-0.5**
	comp=N,455nm,0.3s						
SLTM2	**Linthal, Matt**	**0.77**	**254**	⇑Pg	**Pg**	**22 44 13.4**	**-0.1**
	comp=N,4.9nm,SNR=42						
SLTM2				⇑Pg	**Pg**	**22 44 13.4**	**-0.1**
PART	**Garmisch-Parte**	**0.78**	**62**	*e*Pg	**Pg**	**22 44 10.3**	**-3.4**
PART				*e*Sg	**Sg**	**22 44 23.5**	**-0.5**
VDL	**Val di Lei**	**0.79**	**214**	⇑Pg	**Pg**	**22 44 13.4**	**-0.4**
	comp=N,3.0nm,SNR=43						
VDL				⇑Pg	**Pg**	**22 44 13.4**	**-0.4**
VDL	**Val di Lei**	**0.79**	**214**	P	**Pg**	**22 44 13.4**	**-0.4**
VDL				S	**Sg**	**22 44 24.0**	**-0.2**
LLS	**Linth-Limmern**	**0.80**	**249**	Pg	**Pg**	**22 44 13.4**	**-0.5**
CARE	**Lago del Cares**	**0.83**	**149**	⇓*e*Pg	**Pg**	**22 44 14.1**	**-0.4**
CARE				*e*S	**Sg**	**22 44 25.2**	**-0.2**
CARE	**Lago del Cares**	**0.83**	**149**	P	**Pg**	**22 44 14.2**	**-0.4**
CARE				S	**Sg**	**22 44 25.2**	**-0.2**
TUE	**Stuetta**	**0.84**	**218**	⇑Pg	**Pg**	**22 44 14.2**	**-0.5**
TUE				⇑Pg	**Pg**	**22 44 14.2**	**-0.5**
	comp=N,2.5nm,SNR=23						
TUE	**Stuetta**	**0.84**	**218**	⇑P	**Pg**	**22 44 14.2**	**-0.5**
TUE				S	**Sg**	**22 44 25.6**	**-0.2**
TUE				AML	AML		
	comp=N,974μm,0.5s						
TUE				AML	AML		
	comp=E,1110μm,0.5s						
TUE				AML	AML		
	comp=E,900μm,0.5s						
TUE				AML	AML		
	comp=N,1300μm,0.5s						
TUE				AML	AML		
	comp=N,976μm,0.5s						
TUE				AML	AML		
	comp=E,900μm,0.5s						
TUE	**Stuetta**	**0.84**	**218**	P	**Pg**	**22 44 14.2**	**-0.5**
TUE				S	**Sg**	**22 44 25.1**	**-0.7**
WEIN	**Weingarten**	**0.84**	**298**	⇓Pg	**Pn**	**22 44 16.0**	**-0.3**
WEIN				⇓Pg	**Pn**	**22 44 16.0**	**-0.3**
	comp=E,8.6nm,SNR=75						
WILA	**Wila**	**0.85**	**289**	⇓Pg	**Pn**	**22 44 16.0**	**-0.4**
WILA				⇓Pg	**Pn**	**22 44 16.0**	**-0.4**
	comp=E,4.0nm,SNR=40						
WILA	**Wila**	**0.85**	**289**	*e*Pg	**Pn**	**22 44 16.0**	**-0.4**
WILA				PmP		22 44 18.2	
WILA				*e*Sg	**Sn**	**22 44 28.4**	**-0.4**
WILA				SmS		22 44 32.0	
WALHA	**Wallhausen, DE**	**0.90**	**314**	⇓Pg	**Pn**	**22 44 17.1**	**+0.1**
WALHA	**Wallhausen, DE**	**0.90**	**314**	Pg	**Pn**	**22 44 17.1**	**+0.1**
WALHA				PmP		22 44 18.7	
WALHA				SmS		22 44 33.1	
ROSI	**Rosskopf**	**0.93**	**103**	Pg	**Pg**	**22 44 15.8**	**-0.7**
ROSI	**Rosskopf**	**0.93**	**103**	Pg	**Pg**	**22 44 16.0**	**-0.5**
ROSI				Pg	**Pg**	**22 44 16.0**	**-0.5**
	comp=E,4.0nm,SNR=47						
ROSI	**Rosskopf**	**0.93**	**103**	P	**Pg**	**22 44 16.3**	**-0.1**
ROSI				AML	AML		
	comp=N,3705μm,0.4s						
ROSI				AML	AML		
	comp=E,3260μm,0.5s						
ABSI	**Aberstueckl**	**0.94**	**115**	⇑Pg	**Pg**	**22 44 16.3**	**-0.4**
	comp=E,3.0nm,SNR=31						
ABSI				⇑Pg	**Pg**	**22 44 16.3**	**-0.4**
ABSI	**Aberstueckl**	**0.94**	**115**	P	**Pg**	**22 44 16.7**	**+0.1**
ABSI				S	**Sb**	**22 44 29.8**	**+0.5**
ABSI				AML	AML		
	comp=E,4080μm,0.3s						
ABSI				AML	AML		
	comp=N,2695μm,0.6s						
SISB	**Singen-Schiene**	**0.94**	**306**	Pg	**Pn**	**22 44 17.9**	**+0.4**
STEIN	**Stein am Rhein**	**0.98**	**303**	⇓Pg	**Pn**	**22 44 18.7**	**+0.5**
OZOL	**Ozolo**	**0.99**	**138**	*e*Pg	**Pg**	**22 44 17.4**	**-0.2**
OZOL				*e*Sg	**Sg**	**22 44 30.5**	**0.0**
MUO	**Muotathal**	**1.01**	**261**	⇑Pg	**Pg**	**22 44 18.0**	**0.0**
APPI	**Appiano**	**1.02**	**130**	⇓P	**Pg**	**22 44 18.1**	**-0.2**
APPI				S	**Sg**	**22 44 31.6**	**0.0**
APPI				AML	AML		
	comp=E,1825μm,0.3s						
APPI				AML	AML		
	comp=N,2880μm,0.3s						
APPI				AML	AML		
	comp=N,2885μm,0.3s						
APPI				AML	AML		
	comp=E,1820μm,0.3s						
WATA	**Walderalm**	**1.03**	**78**	*e*Pg	**Pg**	**22 44 18.2**	**-0.2**
	comp=E,3.7nm,0.1s,SNR=88						
STIEG	**Stiegenhof Hun**	**1.04**	**291**	⇓Pg	**Pn**	**22 44 19.4**	**+0.4**
ZUR	**Degenried**	**1.05**	**283**	Pg	**Pn**	**22 44 19.7**	**+0.6**
ZUR	**Degenried**	**1.05**	**283**	Sg	**Sn**	**22 44 34.3**	**+0.5**
BOSI	**Bolzano**	**1.06**	**127**	Pg	**Pb**	**22 44 18.9**	**0.0**
BOSI	**Bolzano**	**1.06**	**127**	Pg	**Pb**	**22 44 18.8**	**0.0**
	comp=E,4.9nm,SNR=32						
BOSI				Pg	**Pb**	**22 44 18.8**	**0.0**
BOSI	**Bolzano**	**1.06**	**127**	P	**Pb**	**22 44 18.9**	**0.0**
BOSI				S	**Sg**	**22 44 32.9**	**+0.1**
BOSI				AML	AML		
	comp=N,3385μm,0.5s						
BOSI				AML	AML		
	comp=E,2740μm,0.5s						
WTTA	**Wattenberg**	**1.06**	**83**	Pg	**Pb**	**22 44 18.9**	**-0.1**
WTTA	**Wattenberg**	**1.06**	**83**	⇓Pg	**Pb**	**22 44 18.9**	**-0.1**
	comp=E,2.9nm,SNR=31						
WTTA				⇓Pg	**Pb**	**22 44 18.9**	**-0.1**
WTTA	**Wattenberg**	**1.06**	**83**	*e*Pg	**Pb**	**22 44 18.9**	**-0.1**
	comp=E,19nm,0.3s,SNR=142						
WTTA	**Wattenberg**	**1.06**	**83**	P	**Pg**	**22 44 19.1**	**0.0**
WTTA				AML	AML		
	comp=N,1545μm,0.6s						
WTTA				AML	AML		
	comp=E,1160μm,0.4s						
WTTA	**Wattenberg**	**1.06**	**83**	*e*Pg	**Pg**	**22 44 19.0**	**0.0**
NALPS	**Val Nalps**	**1.07**	**240**	⇑Pg	**Pb**	**22 44 18.6**	**-0.5**
TRULL	**Truellikon**	**1.08**	**299**	⇓Pg	**Pn**	**22 44 20.3**	**+0.8**
KOSI	**Kohlern**	**1.11**	**127**	⇓Pg	**Pb**	**22 44 19.8**	**0.0**
KOSI				⇓Pg	**Pb**	**22 44 19.8**	**0.0**
	comp=E,1.4nm,SNR=19						
KOSI	**Kohlern**	**1.11**	**127**	P	**Pb**	**22 44 19.8**	**0.0**
KOSI				S	**Sb**	**22 44 34.3**	**0.0**
KOSI				AML	AML		
	comp=N,1755μm,0.7s						
KOSI				AML	AML		
	comp=E,1640μm,0.8s						
FLACH	**Flaach**	**1.12**	**293**	Pg	**Pg**	**22 44 21.0**	**+0.9**
MABI	**Malga Bissina**	**1.12**	**165**	⇓Pg	**Pb**	**22 44 19.4**	**-0.6**
MABI				⇓Pg	**Pb**	**22 44 19.4**	**-0.6**
	comp=E,2.3nm,SNR=34						
MABI	**Malga Bissina**	**1.12**	**165**	P	**Pb**	**22 44 19.4**	**-0.6**
MABI				S	**Sb**	**22 44 33.8**	**-0.8**
MABI				AML	AML		
	comp=E,645μm,0.4s						
MABI				AML	AML		
	comp=E,644μm,0.4s						
MABI				AML	AML		
	comp=N,706μm,0.3s						
MABI	**Malga Bissina**	**1.12**	**165**	P	**Pb**	**22 44 19.5**	**-0.6**
MABI				S	**Sn**	**22 44 35.8**	**+0.1**
EMING	**Emmingen-Lipti**	**1.13**	**312**	⇓Pg	**Pg**	**22 44 21.1**	**+0.8**
EMING	**Emmingen-Lipti**	**1.13**	**312**	Pg	**Pg**	**22 44 21.8**	**+1.5**
EMING				PmP		22 44 22.1	
EMING				Sg	**Sn**	**22 44 38.2**	**+2.5**
GUT	**Gutenstein**	**1.14**	**325**	⇓Pg	**Pg**	**22 44 21.3**	**+0.8**
GUT				⇓Pg	**Pg**	**22 44 21.3**	**+0.8**
	comp=N,3.0nm,SNR=22						
GUT				PmP		22 44 22.0	
GUT	**Gutenstein**	**1.14**	**325**	Pn	**Pg**	**22 44 21.3**	**+0.8**
GUT	**Gutenstein**	**1.14**	**325**	Sn	**Sn**	**22 44 37.3**	**+1.4**
GUT	**Gutenstein**	**1.14**	**325**	Pg	**Pg**	**22 44 22.1**	**+1.6**
GUT				Sg	**Sn**	**22 44 38.3**	**+2.3**
BNALP	**Bannalp**	**1.17**	**257**	⇑Pg	**Pb**	**22 44 20.8**	**0.0**
BNALP	**Bannalp**	**1.17**	**257**	P	**Pb**	**22 44 20.8**	**0.0**
BNALP				AML	AML		
	comp=N,1325μm,0.4s						
BNALP				AML	AML		
	comp=E,1260μm,0.5s						
FUSIO	**Fusio**	**1.19**	**236**	⇑Pg	**Pb**	**22 44 21.0**	**-0.2**
FUSIO	**Fusio**	**1.19**	**236**	P	**Pb**	**22 44 20.7**	**-0.4**
FUSIO				AML	AML		
	comp=E,1195μm,0.4s						
FUSIO				AML	AML		
	comp=N,1130μm,0.5s						
FUSIO				AML	AML		
	comp=E,1195μm,0.4s						
FUSIO				AML	AML		
	comp=N,1130μm,0.6s						
FUSIO	**Fusio**	**1.19**	**236**	P	**Pb**	**22 44 21.0**	**-0.2**
FUSIO				S	**Sg**	**22 44 37.1**	**+0.1**
BRES	**Bressanone**	**1.21**	**111**	P	**Pb**	**22 44 21.4**	**-0.1**
GAGG	**Gaggia**	**1.21**	**150**	P	**Pn**	**22 44 21.2**	**-0.2**
GAGG				S	**Sg**	**22 44 37.4**	**-0.2**
GAGG				AML	AML		
	comp=N,910μm,0.5s						
GAGG				AML	AML		
	comp=N,913μm,0.5s						
GAGG				AML	AML		
	comp=E,1165μm,0.6s						
GAGG				AML	AML		
	comp=E,902μm,0.5s						
GAGG				AML	AML		
	comp=N,1165μm,0.6s						
GAGG	**Gaggia**	**1.21**	**150**	P	**Pn**	**22 44 21.3**	**-0.2**
GAGG				S	**Sb**	**22 44 37.3**	**+0.1**
HAMIK	**Hmikon, Dlik**	**1.24**	**276**	Pg	**Pg**	**22 44 23.1**	**+0.7**
SLE	**Schleitheim**	**1.25**	**301**	⇓Pg	**Pg**	**22 44 23.0**	**+0.4**
SLE	**Schleitheim**	**1.25**	**301**	Pn	**Pg**	**22 44 23.0**	**+0.4**
SLE	**Schleitheim**	**1.25**	**301**	Sn	**Sg**	**22 44 40.5**	**+1.7**
SLE	**Schleitheim**	**1.25**	**301**	*e*Pn	**Pg**	**22 44 23.0**	**+0.4**
SLE				Pg	**Pb**	**22 44 23.1**	**+1.0**
SLE				Sg	**Sg**	**22 44 41.0**	**+2.2**
FUR	**Furstenfeldbru**	**1.30**	**38**	*e*Pn	**Pg**	**22 44 24.3**	**+0.7**
ACHB	**Acheberg**	**1.32**	**290**	⇓Pg	**Pg**	**22 44 24.1**	**+0.1**
GRIMS	**Grimsel Gerste**	**1.34**	**246**	⇑Pg	**Pb**	**22 44 23.8**	**+0.1**
BAG8	**Bagolino**	**1.34**	**169**	P	**Pb**	**22 44 23.8**	**+0.2**
BAG8				S	**Sg**	**22 44 42.7**	**+1.0**
METMA	**Mettma DE**	**1.37**	**295**	Pg	**Pb**	**22 44 24.6**	**+0.4**
METMA	**Mettma DE**	**1.37**	**295**	Pn	**Pg**	**22 44 25.9**	**+1.0**
METMA				Sn	**Sg**	**22 44 44.6**	**+1.9**
RISI	**Rein**	**1.37**	**97**	Pg	**Pb**	**22 44 24.1**	**-0.2**
RISI				Pg	**Pb**	**22 44 24.1**	**-0.2**
	comp=N,7.0nm,SNR=94						
RISI	**Rein**	**1.37**	**97**	P	**Pb**	**22 44 24.4**	**+0.1**
RISI				AML	AML		
	comp=N,10155μm,0.4s						
RISI				AML	AML		
	comp=E,3525μm,1.0s						
ZONE	**Zone**	**1.38**	**179**	P	**Pb**	**22 44 24.1**	**-0.1**
ZONE				S	**Sn**	**22 44 41.9**	**+0.2**
ZONE				AML	AML		
	comp=E,288μm,0.3s						
ZONE				AML	AML		
	comp=N,1305μm,0.4s						
ZONE				AML	AML		
	comp=E,1335μm,0.5s						
ZONE				AML	AML		
	comp=N,354μm,0.4s						
HASLI	**Hasliberg/Brie**	**1.38**	**255**	⇑Pg	**Pb**	**22 44 24.5**	**+0.1**
MDI	**Monti di Nese**	**1.39**	**191**	⇑Pg	**Pg**	**22 44 25.0**	**-0.2**
MDI	**Monti di Nese**	**1.39**	**191**	⇓Pg	**Pb**	**22 44 24.7**	**+0.3**
MDI				⇓Pg	**Pb**	**22 44 24.7**	**+0.3**
	comp=N,1.0nm,SNR=14						
MDI	**Monti di Nese**	**1.39**	**191**	P	**Pb**	**22 44 24.5**	**+0.1**
MDI				AML	AML		
	comp=E,1910μm,0.4s						
MDI				AML	AML		
	comp=N,1125μm,1.0s						
MDI				AML	AML		
	comp=N,1280μm,1.0s						
MDI	

FIESA	Fiescheralp	1.53 243	⇑Pg	Pb	22 44 27.2 +0.2
CTI	Castel Tesino	1.53 135	P	Pb	22 44 26.9 -0.1
CTI			S	Sb	22 44 46.4 +0.1
CTI			AML	AML	
	comp=E,1710µm,0.4s				
CTI			AML	AML	
	comp=N,1780µm,0.3s				
CTI	Castel Tesino	1.53 135	P	Pb	22 44 27.2 +0.3
CTI			S	Sg	22 44 47.5 -0.3
MERA	Merate	1.54 198	P	Pn	22 44 26.4 +0.6
TUBL	Tuebingen-Lenn	1.54 334	⇓*i*Pn	Pb	22 44 26.8 -0.2
TUBL			PmP		22 44 29.3
TUBL			Sn	Sn	22 44 46.0 +0.3
TUBL			SmS		22 44 50.3
SALO	Salr	1.55 169	Pg	Pb	22 44 27.5 +0.3
SALO	Salr	1.55 169	P	Pb	22 44 27.1 -0.1
SALO			S	Sb	22 44 47.4 +0.7
SALO			AML	AML	
	comp=E,690µm,0.5s				
SALO			AML	AML	
	comp=N,850µm,0.7s				
SALO			AML	AML	
	comp=E,690µm,0.5s				
SALO	Salr	1.55 169	P	Pb	22 44 27.6 +0.4
VARE	Varese	1.56 216	P	Pb	22 44 27.0 -0.4
VARE			AML	AML	
	comp=E,1230µm,0.6s				
VARE			AML	AML	
	comp=N,1610µm,0.9s				
VARE	Varese	1.56 216	P	Pg	22 44 28.5 0.0
VARE			S	Sg	22 44 49.7 +0.9
FELD	Feldberg im Sc	1.59 298	⇓Pg	Pb	22 44 27.7 -0.3
	comp=N,1.4nm,SNR=21				
FELD			⇓Pg	Pb	22 44 27.7 -0.3
FELD			PmP		22 44 29.8
FELD	Feldberg im Sc	1.59 298	Pn	Pb	22 44 27.7 -0.3
FELD			PmP		22 44 29.8
FELD			Sn	Sg	22 44 51.0 +1.2
AGOR	Agordo	1.60 122	⇓Pg	Pb	22 44 28.4 +0.5
AGOR	Agordo	1.60 122	⇓Pn	Pb	22 44 28.4 +0.5
	comp=N,1.3nm,SNR=18				
AGOR			⇓Pn	Pb	22 44 28.4 +0.5
AGOR	Agordo	1.60 122	P	Pb	22 44 28.2 +0.2
AGOR			AML	AML	
	comp=E,854µm,0.3s				
AGOR			AML	AML	
	comp=N,926µm,0.4s				
AGOR			AML	AML	
	comp=E,854µm,0.3s				
NORI	Noerdlinger Ri	1.62 13	*e*Pn	Pn	22 44 27.5 +0.5
ROVR	Rover Verones	1.64 155	P	Pb	22 44 28.6 -0.2
ROVR			S	Sb	22 44 49.8 +0.3
ROVR			AML	AML	
	comp=E,338µm,0.4s				
ROVR			AML	AML	
	comp=E,894µm,0.4s				
ROVR			AML	AML	
	comp=N,396µm,1.5s				
ROVR			AML	AML	
	comp=N,1006µm,1.5s				
BALST	Balsthal	1.64 278	⇓Pn	Pb	22 44 28.5 -0.2
BALST	Balsthal	1.64 278	Pn	Pb	22 44 28.5 -0.2
BALST	Balsthal	1.64 278	Sn	Sg	22 44 50.7 -0.7
BALST	Balsthal	1.64 278	*e*Pn	Pb	22 44 28.6 -0.2
BALST			Pg	Pg	22 44 30.7 +0.7
BALST			*e*Sg	Sg	22 44 52.9 +1.5
KIZ	Kirchzarten	1.68 300	⇓Pn	Pn	22 44 28.7 +0.9
KIZ			PmP		22 44 31.2
KIZ	Kirchzarten	1.68 300	Pn	Pn	22 44 28.6 +0.9
KIZ	Kirchzarten	1.68 300	Sn	Sb	22 44 51.0 +0.4
KIZ	Kirchzarten	1.68 300	Pn	Pn	22 44 28.7 +0.9
KIZ			Pg	Pg	22 44 31.2 +0.4
KIZ			Sg	Sg	22 44 53.5 +0.8
BFO	Black Forest	1.68 316	⇓Pn	Pb	22 44 28.8 -0.6
BFO	Black Forest	1.68 316	*e*Pn	Pb	22 44 28.8 -0.6
BFO			PmP		22 44 32.4
SIMPL	Simplonpass	1.68 238	Pg	Pb	22 44 29.8 +0.3
SIMPL	Simplonpass	1.68 238	P	Pb	22 44 30.1 +0.6
SIMPL			S	Sg	22 44 54.1 +1.4
ENDD	Endenburg	1.70 291	Pn	Pb	22 44 29.0 -0.7
ENDD			Pg	Pg	22 44 31.5 +0.4
ENDD			Sg	Sg	22 44 53.9 +0.8
ABTA	Abfaltersbach	1.71 102	*e*Pg	Pg	22 44 30.8 -0.4
	comp=N,93nm,0.4s,SNR=68				
CGRP	Cima Grappa	1.73 136	⇓Pn	Pb	22 44 30.6 +0.3
CGRP	Cima Grappa	1.73 136	P	Pb	22 44 30.2 0.0
CGRP			AML	AML	
	comp=N,1605µm,0.6s				
CGRP			AML	AML	
	comp=E,1615µm,0.6s				
FBB	Freiburg im Br	1.74 301	Sg	Sg	22 44 56.0 +1.4
LAUCH	Lauchernalp	1.75 246	⇑Pg	Pb	22 44 31.3 +0.6
LAUCH	Lauchernalp	1.75 246	P	Pg	22 44 31.5 -0.6
LAUCH			S	Sg	22 44 57.1 +2.4
WIMIS	Wimmis	1.75 255	Pg	Pb	22 44 30.8 +0.2
LBG	Lerchenberg	1.76 331	⇓*i*Pn	Pn	22 44 29.8 +1.0
LBG			Sn	Sn	22 44 51.0 -0.1
VARN	Col Varnada, M	1.80 129	P	Pb	22 44 31.9 +0.5
VARN			AML	AML	
	comp=E,3635µm,1.6s				
VARN			AML	AML	
	comp=N,2515µm,1.5s				
EMBD	Embd, Matterta	1.81 240	Sn	Sb	22 44 54.4 +0.2
EMBD	Embd, Matterta	1.81 240	Pn	Pn	22 44 30.3 +0.7
EMBD	Embd, Matterta	1.81 240	P	Pg	22 44 33.1 -0.1
EMBD			S	Sg	22 44 58.6 +2.0
CIMO	Cimolais	1.82 116	AML	AML	
	comp=E,730µm,0.6s				
CIMO			AML	AML	
	comp=N,666µm,0.7s				
LKBD2	Leukerbad 2	1.85 246	Pg	Pb	22 44 32.6 +0.3
LKBD2			PmP		22 44 34.8
LKBD	Leukerbad	1.85 247	Pg	Pb	22 44 32.6 +0.3
LKBD			PmP		22 44 34.8
WOLEN	Wohlen bei Ber	1.86 267	Pn	Pb	22 44 31.7 -0.8
WOLEN			PmP		22 44 34.6
OPP	Oppenau	1.87 317	Pn	Pn	22 44 31.3 +1.0
OPP			Sn	Sn	22 44 53.7 -0.2
OPP	Oppenau	1.87 317	⇓Pn	Pn	22 44 31.4 +1.0
OPP			Sn	Sn	22 44 53.8 -0.1
CTL8	Castelleone	1.88 187	⇑P	Pg	22 44 36.1 +1.6
CTL8	Castelleone	1.88 187	P	Pg	22 44 36.1 +1.6
CTL8			S	Sg	22 45 04.3 +5.5
VOGT	Vogtsburg - To	1.89 301	Sn	Sn	22 44 54.6 +0.2
VOGT	Vogtsburg - To	1.89 301	Pn	Pn	22 44 31.7 +1.1
VOGT	Vogtsburg - To	1.89 301	Pn	Pn	22 44 31.8 +1.2
FVI	Forni Avoltri	1.93 105	⇓P	Pg	22 44 35.9 +0.5
FVI			AML	AML	
	comp=N,430µm,0.4s				
FVI			AML	AML	
	comp=E,430µm,0.6s				
VANNI	Vissoie, Val d	1.95 242	Pg	Pb	22 44 34.5 +0.4
BOURR	Bourrignon	1.96 279	Pn	Pn	22 44 32.9 +1.2
BOURR	Bourrignon	1.96 279	Pn	Pn	22 44 32.9 +1.2
BOURR	Bourrignon	1.96 279	Sn	Sb	22 44 58.2 -0.5
MTI02	Mont Terri, (H	2.00 278	⇓Pn	Pn	22 44 33.4 +1.2
STAL	STALIGIAL	2.01 115	⇑P	Pg	22 44 36.5 -0.5
STAL			AML	AML	
	comp=E,1480µm,0.3s				
STAL			AML	AML	
	comp=N,1975µm,1.3s				
STAL			AML	AML	
	comp=N,2130µm,0.3s				
STAL			AML	AML	
	comp=E,1850µm,0.3s				
CLUD	Cludinico	2.04 109	⇑P	Pg	22 44 36.9 -0.7
CLUD			AML	AML	
	comp=E,873µm,0.7s				
CLUD			AML	AML	
	comp=N,1565µm,0.8s				
ZOU	Zoufplan	2.06 105	P	Pg	22 44 37.9 -0.2
ZOU			AML	AML	
	comp=N,1725µm,0.8s				
ZOU			AML	AML	
	comp=E,1110µm,0.6s				
SENIN	Lac Senin/Sane	2.07 249	Pn	Pb	22 44 35.4 -0.8
GRC1	Grafenberg Arr	2.09 27	Pn	Pn	22 44 33.5 +0.1
GRC1			Sn	Sg	22 45 05.7 -0.1
BRET	Bretten	2.10 334	Pn	Pn	22 44 34.5 +1.1
BRET			Sn	Sn	22 44 59.1 -0.3
DIX	Grande Dixence	2.13 241	Pn	Pb	22 44 37.2 0.0
DIX	Grande Dixence	2.13 241	Sn	Sb	22 45 02.8 -0.9
DIX	Grande Dixence	2.13 241	Pn	Pb	22 44 37.1 0.0
DIX	Grande Dixence	2.13 241	P	Pn	22 44 35.3 +1.2
DIX			AML	AML	
	comp=E,494µm,0.5s				
DIX			AML	AML	
	comp=N,346µm,0.4s				
TORNY	Torny/Romont	2.17 261	Sn	Sn	22 45 02.5 +1.0
TORNY	Torny/Romont	2.17 261	Pn	Pn	22 44 36.2 +1.7
MPRI	Monte Prat	2.19 113	⇑P	Pg	22 44 39.7 -0.7
MPRI			AML	AML	
	comp=N,2065µm,0.5s				
MPRI			AML	AML	
	comp=E,984µm,0.5s				
KBA	Koelnbreinsper	2.23 90	*e*Pn	Pb	22 44 38.7 -0.1
	comp=E,118nm,0.4s,SNR=90				
KBA			*e*X		22 45 08.9
KBA	Koelnbreinsper	2.23 90	*e*Pn	Pb	22 44 38.7 -0.1
GRYON	Gryon	2.23 248	Pn	Pb	22 44 37.4 -1.5
SIND	Sindeldorf	2.23 352	Pn	Pn	22 44 35.7 +0.3
SIND			Sn	Sn	22 45 03.5 +0.7
WLS	Welschbruch	2.24 306	Pn	Pn	22 44 36.4 +0.9
WLS			Sn	Sn	22 45 04.3 +1.2
WLS	Welschbruch	2.24 306	Pn	Pn	22 44 36.8 +1.2
ECH	Echery	2.25 300	⇓Pn	Pn	22 44 36.6 +1.0
ECH	Echery	2.25 300	Pn	Pn	22 44 36.6 +1.0
ECH			Sn	Sn	22 45 03.5 +0.1
ECH	Echery	2.25 300	⇓Pn	Pn	22 44 36.6 +1.0
ECH			Pg	Pg	22 44 42.1 +0.3
CDF	Champ du Feu	2.29 305	*e*Pn	Pn	22 44 37.2 +1.1
CDF	Champ du Feu	2.29 305	*e*Pg	Pg	22 44 42.6 +0.3
CDF			*e*Sn	Sn	22 45 04.3 +0.1
CDF			*e*Sg	Sg	22 45 12.4 +0.5
	comp=E,156nm,0.5s				
HINF	Hinteralfeld	2.30 288	*e*Pn	Pn	22 44 37.2 +1.0
HINF	Hinteralfeld	2.30 288	*e*Pg	Pg	22 44 43.0 +0.5
HINF			*e*Sg	Sg	22 45 12.2 -0.1
	comp=E,193nm,0.4s				
AIGLE	Aigle	2.30 251	⇑Pn	Pn	22 44 38.1 +1.8
AIGLE	Aigle	2.30 251	Pn	Pn	22 44 38.0 +1.8
AIGLE	Aigle	2.30 251	Sn	Sn	22 45 05.7 +1.2
SUBF	Surbourg	2.33 321	Pn	Pn	22 44 37.6 +1.0
SUBF	Surbourg	2.33 321	Sn	Sn	22 45 05.0 -0.1
CHMF	Charmoille	2.35 274	Pn	Pn	22 44 38.2 +1.2
CHMF			Sn	Sn	22 45 07.0 +1.3
CHMF	Charmoille	2.35 274	Pg	Pg	22 44 43.2 -0.3
CHMF			Sg	Sg	22 45 15.1 +1.2
PTCC	Patocco-Chiusa	2.36 107	⇓P	Pb	22 44 41.9 +0.9
PTCC			S	Sg	22 45 15.0 +0.6
PTCC			AML	AML	
	comp=N,475µm,1.2s				
PTCC			AML	AML	
	comp=E,702µm,0.6s				
GRB2	Grafenberg Arr	2.38 26	Pn	Pn	22 44 37.6 +0.2
GRB2			Pg	Pg	22 44 44.3 +0.2
GRB2			Sg	Sg	22 45 15.6 +0.5
RONF	Ronchamp	2.41 285	Pn	Pn	22 44 38.9 +1.2
RONF			Sn	Sn	22 45 07.4 +0.3
ACOM	Acomizza, Ital	2.42 103	⇑P	Pb	22 44 42.2 +0.1
ACOM			AML	AML	
	comp=N,1042µm,0.8s				
ACOM			AML	AML	
	comp=E,783µm,0.4s				
BRANT	Les Verrieres	2.48 267	Pn	Pn	22 44 40.0 +1.2
MYKA	Terra Mystica	2.49 100	*e*Pg	Pb	22 44 42.8 -0.5
	comp=E,29nm,0.4s,SNR=22				
PEB	Petersbachel	2.50 321	Pn	Pn	22 44 40.4 +1.4
PEB			Sg	Sg	22 45 21.1 +2.3
MRGE	Morge	2.50 238	Pn	Pb	22 44 42.5 -1.0
SWS	Schrieshein-Wi	2.52 339	Pn	Pn	22 44 40.2 +0.9
GRF	Grafenberg Arr	2.67 16	*e*Pn	Pn	22 44 41.3 0.0
GRF			*e*Sg	Sg	22 45 24.3 +0.2
HAU	Haudompre	2.68 290	*e*Pn	Pn	22 44 42.5 +1.0
HAU	Haudompre	2.68 290	*e*Pg	Pg	22 44 50.1 +0.3
HAU			*e*Sn	Sn	22 45 14.2 +0.4
HAU			*e*Sg	Sg	22 45 24.2 -0.3
	comp=E,457nm,0.6s				
SABO	M.te Sabotino	2.69 114	⇑P	Pb	22 44 45.5 -1.0
SABO			AML	AML	
	comp=N,752µm,0.9s				
SABO			AML	AML	
	comp=E,526µm,0.5s				
WET	Wettzell	2.74 42	*e*Pn	Pn	22 44 43.1 +0.7
CABF	La Chapelle	2.79 261	*e*Pn	Pn	22 44 44.3 +1.2
CABF	La Chapelle	2.79 261	*e*Pg	Pg	22 44 51.6 -0.5
CABF			*e*Sg	Sg	22 45 27.6 -0.7
	comp=E,79nm,0.4s				
RSL	Roselend	2.80 240	Pn	Pn	22 44 44.3 +1.0
LPG	La Plagne	2.83 236	*e*P	Pb	22 44 47.4 -1.8
LPG	La Plagne	2.83 236	*e*Pg	Pg	22 44 52.5 -0.4
LPG			*e*Sn	Sn	22 45 16.9 -1.2
LPG			*e*Sg	Sg	22 45 29.1 -0.5
	comp=E,44nm,0.4s				
LPL	La Plagne	2.83 236	*e*P	Pb	22 44 47.3 -1.9
LPL	La Plagne	2.83 236	*e*Pg	Pg	22 44 52.4 -0.4
LPL			*e*Sn	Sn	22 45 16.7 -1.3
LPL			*e*Sg	Sg	22 45 28.8 -0.8
	comp=E,48nm,0.3s				
IMS	Imsbach	2.86 330	Pn	Pn	22 44 45.1 +1.2
IMS			Pg	Pg	22 44 54.6 +1.4
MOA	Molln	2.92 74	*e*Pn	Pn	22 44 46.6 +1.8
	comp=E,2.2nm,0.1s,SNR=11				
MOA	Molln	2.92 74	*e*Pn	Pn	22 44 46.9 +2.1
GEC2	GERESS Array S	2.97 54	*e*Pn	Pn	22 44 46.7 +1.2
KHC	Kasperske Hory	3.07 48	*e*PN	Pn	22 44 47.9 +1.1
KHC			*e*PG	Pb	22 44 54.3 +1.2
KHC			*e*SN	Sn	22 45 23.4 -0.2
KHC			*e*SG	Sg	22 45 35.5 -1.7
	comp=E,147nm,0.5s				
KHC	Kasperske Hory	3.07 48	*e*Pn	Pn	22 44 48.0 +1.1
WBG	Bieber	3.08 351	Pn	Pn	22 44 47.8 +0.9
OBKA	Obir	3.13 100	*e*Pn	Pn	22 44 50.8 +3.0
	comp=E,2.7nm,0.2s				
OBKA	Obir	3.13 100	*e*Pn	Pn	22 44 50.7 +3.0
DUP	Duppenweiler	3.17 317	Pn	Pn	22 44 50.4 +2.2
ABH	Alteburg	3.22 329	Pn	Pn	22 44 50.0 +1.0
ABH	Alteburg	3.22 329	Sn	Sn	22 45 26.1 -1.2
ABH	Alteburg	3.22 329	Pn	Pn	22 44 50.7 +1.7
PAGF	Fort de Pagny	3.26 297	*e*Pn	Pn	22 44 51.3 +1.8
PAGF	Fort de Pagny	3.26 297	*e*Pg	Pg	22 45 00.8 -0.2
	baz=118				
PAGF			*e*Sn	Sn	22 45 27.2 -1.0
PAGF			*e*Sg	Sg	22 45 42.5 -0.7
	comp=E,239nm,0.7s				
TNS	Taunus Mts	3.27 341	*e*Pn	Pn	22 44 51.1 +1.4
CKRC	Cesky Krumlov	3.30 58	*e*PN	Pn	22 44 51.1 +1.1
CKRC			*e*PG	Pb	22 44 57.6 +0.7
CKRC			*e*SN	Sn	22 45 29.4 +0.3
CKRC			*e*SG	Sg	22 45 43.3 -1.1
CKRC	Cesky Krumlov	3.30 58	*e*Pn	Pn	22 44 51.4 +1.4
OG35	Corcelles	3.30 252	Pn	Pn	22 44 51.2 +1.1
MBDF	Montbardon	3.34 225	*e*Pn	Pn	22 44 52.0 +1.3
MBDF	Montbardon	3.34 225	*e*P	Pn	22 44 53.9 +3.2
MBDF			*e*Sn	Sn	22 45 29.3 -1.1
MBDF			*e*Sg	Sg	22 45 43.5 -2.3
	comp=E,64nm,0.6s				
RIVT	Riveris	3.39 321	Pn	Pn	22 44 53.5 +2.2
OGSM	Saint Maurice	3.40 245	Pn	Pn	22 44 52.2 +0.8
OGSM			Sn	Sn	22 45 30.6 -1.1
SOKA	Soboth	3.42 96	*e*Pn	Pn	22 44 54.6 +2.9
	comp=E,2.1nm,0.2s				
PII	Pisa	3.43 175	⇑P	Pb	22 44 56.0 -3.2
PII			AML	AML	
	comp=E,183µm,0.8s				
PII			AML	AML	
	comp=N,170µm,1.6s				
SFI	Santa Sofia	3.46 158	P	Pn	22 44 55.7 +3.4
NKC	Novy Kostel	3.47 26	*e*PN	Pn	22 44 52.9 +0.6
NKC			*e*SN	Sn	22 45 31.9 -1.4
NKC			*e*SG	Sg	22 45 48.2 -1.7
	comp=N,201nm,0.4s				
NKC	Novy Kostel	3.47 26	*e*Pn	Pn	22 44 52.5 +0.2
FACH	Fachingen	3.51 337	Pn	Pn	22 44 54.3 +1.5
SMRN	Sveta Marina	3.52 125	*e*Pn	Pn	22 44 55.6 +2.6
SMRN			Sn	Sn	22 45 36.8 +2.1
BGG	Burgeitz	3.57 330	*e*Pn	Pn	22 44 55.8 +2.1
SFTF	Sexfontaines	3.58 289	*e*Pn	Pn	22 44 55.5 +1.7
	baz=110				
SFTF	Sexfontaines	3.58 289	*e*Pg	Pg	22 45 05.5 -1.5
	baz=109				
SFTF			*e*Sn	Sn	22 45 35.7 -0.2
SFTF			*e*Sg	Sg	22 45 52.5 -0.8
	comp=N,81nm,0.6s				
KOE	Koeppel	3.64 336	*e*Pn	Pn	22 44 57.3 +2.6
WLF	Walferdange	3.64 315	Pn	Pn	22 44 54.9 +0.2
WLF	Walferdange	3.64 315	Sn	Sn	22 45 36.5 -1.0
WLF	Walferdange	3.64 315	*e*Pn	Pn	22 44 57.3 +2.6
PBCC	Pribram	3.64 44	*e*PN	Pn	22 44 55.0 +0.3
PBCC			*e*SN	Sn	22 45 37.0 -0.6
PBCC			*e*SG	Sg	22 45 52.5 -2.9
MOX	Moxa	3.65 15	*e*Pn	Pn	22 44 53.8 -1.0
SAVF	Savonnieres en	3.65 296	*e*Pn	Pn	22 44 56.4 +1.6
	baz=120				
SAVF	Savonnieres en	3.65 296	*e*Pg	Pg	22 45 08.0 -0.5
	baz=118				
SAVF			*e*Sn	Sn	22 45 37.3 -0.5
SAVF			*e*Sg	Sg	22 45 54.7 -1.1
	comp=N,125nm,0.7s				
OGAG	Argentiere	3.66 224	Pn	Pn	22 44 52.4 -2.6
OGAG			Sn	Sn	22 45 31.3 -6.8
MEZF	Maizieres J'vi	3.66 294	*e*Pn	Pn	22 44 57.0 +2.1
	baz=115				
MEZF	Maizieres J'vi	3.66 294	*e*Pg	Pg	22 45 07.9 -0.6
	baz=114				
MEZF			*e*Sn	Sn	22 45 37.5 -0.4
MEZF			*e*Sg	Sg	22 45 54.6 -1.3
	comp=N,85nm,0.6s				
ORIF	Oris-en-Rattie	3.68 234	*e*Pn	Pn	22 44 56.8 +1.5
ORIF	Oris-en-Rattie	3.68 234	*e*P	Pn	22 44 59.1 +3.8
ORIF	Oris-en-Rattie	3.68 234	*e*Pg	Pg	22 45 07.7 -1.2
ORIF			*e*Sn	Sn	22 45 37.1 -1.5
ORIF			*e*Sg	Sg	22 45 54.8 -1.8
	comp=N,96nm,0.8s				
CPGN	Carpegna, Ital	3.69 154	S	Sg	22 45 59.0 +2.1
ARSA	Arzberg	3.71 86	*i* Pn	Pn	22 44 57.7 +2.0
	comp=N,3.9nm,0.3s,SNR=7.7				
ARSA	Arzberg	3.71 86	P	Pg	22 45 08.2 -1.4
ARSA	Arzberg	3.71 86	*e*Pn	Pn	22 44 57.6 +2.0
CSNT	Castellina Chi	3.76 167	⇑P	Pn	22 45 00.1 +3.8
SBF	Sospel	3.77 211	*e*Pn	Pn	22 44 57.2 +0.7
SBF	Sospel	3.77 211	*e*P	Pn	22 45 00.2 +3.7
SBF			*e*Sn	Sn	22 45 39.2 -1.6
	comp=N,73nm,0.4s				
HILG	Hillesheim	3.88 326	*e*Pn	Pn	22 45 00.0 +2.0
HILG			*e*Sn	Sn	22 45 44.9 +1.5
	comp=N,44nm,0.7s				
APEC	Apecchio	3.94 154	S	Sn	22 45 46.0 +1.1
CONA	Conrad Observa	3.99 76	*i* Pn	Pn	22 45 01.3 +1.7
	comp=N,4.6nm,0.2s				
OZLJ	Ozalj	4.02 110	*e*Pn	Pn	22 45 02.1 +2.2
OZLJ			Sn	Sn	22 45 47.3 +0.4
RABC	Rab	4.05 124	*e*Pn	Pn	22 45 02.5 +2.2
RABC			Sn	Sn	22 45 49.2 +1.6
STB	Steinbach	4.07 329	*e*Pn	Pn	22 45 02.3 +1.8
PRU	Pruhonice	4.11 44	*e*PN	Pn	22 45 00.8 -0.3
PRU			*e*PG	Pb	22 45 11.9 +1.2
PRU			*e*SG	Sg	22 46 07.9 -2.5
	comp=N,62nm,0.5s				
PRU	Pruhonice	4.11 44	*e*Pn	Pn	22 45 02.1 +1.0
TREC	Trest	4.21 57	*e*PN	Pn	22 45 04.0 +1.6
TREC			*e*SN	Sn	22 45 50.9 -0.6
TREC			*e*SG	Sg	22 46 11.2 -2.3
	comp=N,51nm,0.5s				
NVLJ	Novalja	4.22 126	*i* Pn	Pn	22 45 05.5 +2.9
NVLJ			Sn	Sn	22 45 53.3 +1.5
LOBO	Lobor	4.24 101	*e*Pn	Pn	22 45 03.6 +0.7
LOBO			Sn	Sn	22 45 51.3 -0.8
LOR	Lormes	4.25 274	*e*Pn	Pn	22 45 04.9 +1.9
	baz=102				
LOR	Lormes	4.25 274	*e*Pg	Pg	22 45 18.8 -1.1
	baz=94				
LOR			*e*Sn	Sn	22 45 51.9 -0.6
LOR			*e*Sg	Sg	22 46 12.5 -2.4
	comp=N,26nm,0.3s				
LOR	Lormes	4.25 274	Pn	Pn	22 45 04.2 +1.2
HOBG	Hohbusch	4.25 336	*e*Pn	Pn	22 45 05.2 +2.1
HOBG			*e*Sn	Sn	22 45 50.0 -2.6
	comp=N,45nm,0.7s				
FOSV	Fossato di Vic	4.28 153	P	Pn	22 45 07.8 +4.3
KLL	Kalltalsperre	4.30 326	*e*Pn	Pn	22 45 05.7 +1.9
SMF	Signal de Mont	4.31 266	*e*Pn	Pn	22 45 05.0 +1.1
SMF	Signal de Mont	4.31 266	*e*Pg	Pg	22 45 19.5 -1.6
SMF			*e*Sn	Sn	22 45 51.4 -2.7
SMF			*e*Sg	Sg	22 46 14.8 -2.1
	comp=N,32nm,0.4s				
DREG	Dreilaegerbach	4.35 326	*e*Pn	Pn	22 45 06.5 +2.1
VIVF	Saint-Julien-l	4.41 241	*e*Pn	Pn	22 45 06.3 +1.0
VIVF			*e*Sn	Sn	22 45 54.3 -2.3
	comp=N,9.3nm,0.2s				
VIVF			*e*Sg	Sg	22 46 18.5 -1.6
	comp=N,5.0nm,0.2s				
SOP	Sopron	4.43 81	PN	Pn	22 45 07.2 +1.7
SMRF	Simiane la Rot	4.48 227	*e*Pn	Pn	22 45 06.8 +0.6
SMRF	Simiane la Rot	4.48 227	*e*P	Pn	22 45 09.1 +2.9
SMRF			*e*Sn	Sn	22 45 55.9 -2.3
	comp=N,14nm,0.8s				
SSF	Saint Saulge	4.50 271	*e*Pn	Pn	22 45 07.6 +1.2
SSF	Saint Saulge	4.50 271	*e*Pg	Pg	22 45 23.8 -0.8
SSF			*e*Sn	Sn	22 45 56.1 -2.5
SSF			*e*Sg	Sg	22 46 20.6 -2.2
	comp=N,58nm,0.8s				
PVCC	Panska Ves	4.50 39	*e*SG	Sg	22 46 20.1 -2.9
	comp=N,119nm,0.9s				
BRG	Berggiesshubel	4.52 33	Pn	Pn	22 45 09.8 +3.1
BRG			Amp		22 45 14.6
	comp=Z,4.1nm,0.7s				
BRG	Berggiesshubel	4.52 33	Pg	Pg	22 45 23.6 -1.4
BRG			Sg	Sg	22 46 19.6 -3.9
BRG			Amp		22 46 28.6
	comp=Z,43nm,0.7s				
LMR	La Mourre	4.57 215	*e*Pn	Pn	22 45 10.7 +3.3
LMR			*e*Sn	Sn	22 45 58.4 -2.0
	comp=Z,31nm,0.5s				
GIVF	Givet	4.58 312	*e*Pn	Pn	22 45 09.7 +2.1
GIVF			*e*Sn	Sn	22 45 58.8 -1.9
GIVF			*e*Sg	Sg	22 46 23.4 -2.1
	comp=Z,32nm,0.6s				
CLL	Collm	4.59 24	*e*Pn	Pn	22 45 08.0 +0.3
CLL			*e*Pg	Pg	22 45 28.0 +1.6
CLL			*e*Sn	Sn	22 45 55.0 -5.9
CLL			*e*Sg	Sg	22 46 24.0 -1.8
	comp=Z,66nm,0.6s				
AVF	Avril sur Loir	4.62 268	*e*Pn	Pn	22 45 09.2 +1.0
AVF	Avril sur Loir	4.62 268	*e*Pg	Pg	22 45 25.8 -1.3
AVF			*e*Sg	Sg	22 46 25.2 -1.7
	comp=Z,54nm,1.0s				
BEHE	Becsehely	4.64 96	PN	Pn	22 45 11.6 +3.2
KRUC	Moravsky	4.64 63	*e*PN	Pn	22 45 09.4 +1.0
KRUC			*e*PG	Pg	22 45 24.8 -2.6
KRUC			*e*SN	Sn	22 46 01.2 -1.0
KRUC			*e*SG	Sg	22 46 22.5 -5.0
PGF	Pioggiola	4.66 190	*e*Pn	Pn	22 45 08.0 -0.7
PGF	Pioggiola	4.66 190	*e*P	Pn	22 45 12.1 +3.4
PGF			*e*Sn	Sn	22 46 00.0 -2.7
	comp=Z,6.4nm,0.4s				
DOU	Dourbes	4.69 311	Pn	Pn	22 45 09.9 +0.8
DOU			Sn	Sn	22 46 00.9 -2.6
DUGI	Dugi Otok	4.70 130	*e*Pn	Pn	22 45 12.2 +3.0
DUGI			Sn	Sn	22 46

SMOL				eSG	Sg	22 46 45.6	+2.4
UPC	**Upice**	5.16	47	ePN	Pn	22 45 16.4	+0.8
UPC				eSN	Sn	22 46 12.5	-2.6
UPC				eSG	Sg	22 46 42.2	-2.0
	comp=Z,84nm,0.8s						
DPC	**Dobruska-Polom**	5.23	50	ePN	Pn	22 45 17.3	+0.8
DPC				eSN	Sn	22 46 14.5	-2.2
DPC				eSG	Sg	22 46 42.8	-3.4
	comp=Z,46nm,0.8s						
CHVC	**Chvalec**	5.24	47	ePN	Pn	22 45 16.9	+0.3
CHVC				eSG	Sg	22 46 42.9	-3.6
	comp=Z,98nm,0.9s						
ZIRJ	**Zirje**	5.24	130	ePn	Pn	22 45 19.4	+2.8
ZIRJ				Sn	Sn	22 46 18.5	+1.6
OSTC	**Ostas**	5.30	48	ePN	Pn	22 45 18.7	+1.3
OSTC				eSG	Sg	22 46 45.6	-2.8
	comp=Z,60nm,0.9s						
KRLC	**Kraliky**	5.32	54	ePN	Pn	22 45 18.4	+0.6
KRLC				eSN	Sn	22 46 18.3	-0.8
KRLC				eSG	Sg	22 46 46.4	-2.9
	comp=Z,45nm,0.6s						
LASF	**Ste Croix**	5.34	237	ePn	Pn	22 45 19.2	+1.2
LASF				eSn	Sn	22 46 16.2	-3.2
	comp=Z,8.3nm,0.3s						
TIH	**Tihany**	5.34	90	PN	Pn	22 45 19.0	+0.9
JAVC	**Velka Javorina**	5.37	69	ePN	Pn	22 45 20.2	+1.7
JAVC	**Velka Javorina**	5.37	69	ePn	Pn	22 45 20.6	+2.1
KIJV	**Kijevo**	5.43	123	ePn	Pn	22 45 21.9	+2.6
KIJV				Sn	Sn	22 46 23.3	+1.6
TCF	**Toulx Ste Croi**	5.49	264	ePn	Pn	22 45 21.2	+1.2
TCF	**Toulx Ste Croi**	5.49	264	ePg	Pg	22 45 41.0	-2.5
TCF				eSn	Sn	22 46 20.1	-2.9
TCF				eSg	Sg	22 46 51.6	-2.9
	comp=Z,22nm,0.5s						
MORC	**Moravsky Berou**	5.62	59	⇑P	Pn	22 45 22.9	+1.0
MORC	**Moravsky Berou**	5.62	59	ePN	Pn	22 45 22.7	+0.8
MORC				eSN	Sn	22 46 25.2	-1.1
MORC				eSG	Sg	22 46 54.0	-4.7
MORC	**Moravsky Berou**	5.62	59	ePn	Pn	22 45 22.8	+1.0
A252A	**Venje**	5.64	105	ePn	Pn	22 45 23.5	+1.3
A252A				Sn	Sn	22 46 25.4	-1.4
KOLL	**Kolacno**	5.78	73	ePN	Pn	22 45 25.0	+1.0
HVAR	**Hvar**	5.99	129	ePn	Pn	22 45 29.7	+2.7
HVAR				Sn	Sn	22 46 36.5	+1.0
OKC	**Ostrava-Krasne**	6.00	60	ePN	Pn	22 45 27.5	+0.5
OKC				eSN	Sn	22 46 33.8	-1.8
OKC				eSG	Sg	22 47 09.0	-2.0
	comp=Z,62nm,0.8s						
OKC	**Ostrava-Krasne**	6.00	60	ePn	Pn	22 45 26.9	-0.2
CAF	**Calviac**	6.01	251	ePn	Pn	22 45 28.1	+0.9
CAF				eSg	Sg	22 47 08.4	-2.9
	comp=Z,28nm,0.8s						
VYHS	**Vyhne**	6.05	74	ePN	Pn	22 45 28.4	+0.7
VYHS				eSG	Sg	22 47 13.1	+0.6
RICI	**Ricice**	6.16	124	ePn	Pn	22 45 32.4	+3.1
RICI				Sn	Sn	22 46 40.1	+0.4
CERA	**Filignano**	6.21	152	P	Pn	22 45 31.7	+1.6
RJF	**Les Rejaudoux**	6.22	256	ePn	Pn	22 45 30.4	+0.2
RJF				eSg	Sg	22 47 15.0	-3.2
	comp=Z,26nm,0.8s						
MAKA	**Makarska**	6.23	126	ePn	Pn	22 45 33.1	+2.9
MAKA				Sn	Sn	22 46 42.2	+0.9
LSTV	**Lastovo**	6.51	130	ePn	Pn	22 45 36.1	+2.1
LSTV				Sn	Sn	22 46 49.6	+1.4
LANS	**Liptovska Anna**	6.59	69	ePN	Pn	22 45 36.9	+1.7
PSZ	**Piszkesteto**	6.69	80	⇓P	Pn	22 45 38.1	+1.5
PSZ	**Piszkesteto**	6.69	80	PN	Pn	22 45 37.8	+1.2
MTLF	**Montolieu**	6.73	239	ePn	Pn	22 45 38.0	+0.9
MTLF	**Montolieu**	6.73	239	ePg	Pg	22 46 03.3	-4.0
MTLF				eSn	Sn	22 46 50.1	-3.5
	comp=Z,1.4nm,0.3s						
MTLF				eSg	Sg	22 47 28.9	-5.5
LFF	**La Frestale**	6.87	255	ePn	Pn	22 45 39.5	+0.5
LFF	**La Frestale**	6.87	255	ePg	Pg	22 46 06.7	-3.2
LFF				eSg	Sg	22 47 34.8	-4.0
	comp=Z,33nm,0.9s						
STON	**Ston**	6.88	126	ePn	Pn	22 45 41.3	+2.2
STON				Sn	Sn	22 46 58.1	+0.9
LDF	**La Druitiere**	7.02	286	ePn	Pn	22 45 41.8	+0.7
LDF				eSn	Sn	22 46 57.8	-3.0
LDF				eSg	Sg	22 47 40.1	-3.6
	comp=Z,6.9nm,0.4s						
MFF	**Saint Martin d**	7.04	269	ePn	Pn	22 45 41.9	+0.6
MFF				eSg	Sg	22 47 39.9	-4.3
	comp=Z,13nm,0.7s						
FRGS	**Fruska Gora**	7.04	103	⇑P	Pn	22 45 42.8	+1.5
FLN	**La Foliniere**	7.28	287	ePn	Pn	22 45 46.1	+1.4
	baz=108						
FLN	**La Foliniere**	7.28	287	ePg	Pg	22 46 14.6	-3.3
	baz=114						
FLN				eSn	Sn	22 47 04.0	-3.2
FLN				eSg	Sg	22 47 48.0	-4.1
	comp=Z,7.7nm,0.5s						
GRR	**Gorron**	7.48	284	ePn	Pn	22 45 48.6	+1.2
GRR				eSn	Sn	22 47 08.4	-3.7
GRR				eSg	Sg	22 47 55.5	-3.0
	comp=Z,12nm,0.6s						
EPF	**Esparros**	8.03	243	ePn	Pn	22 45 55.4	+0.5
EPF	**Esparros**	8.03	243	ePg	Pg	22 46 27.8	-4.3
BZS	**Buzias**	8.12	97	⇑P	Pn	22 45 58.4	+2.3
SGMF	**Saint Gilles**	8.61	282	ePn	Pn	22 46 02.8	0.0
SGMF	**Saint Gilles**	8.61	282	eP	Pn	22 46 10.2	+7.4
SGMF				eSn	Sn	22 47 35.3	-4.4
	comp=Z,1.5nm,0.2s						
DRGR		8.64	88	⇑P	Pn	22 46 05.1	+1.7
QUIF	**Quistinic**	9.01	280	ePn	Pn	22 46 08.7	+0.4
QUIF	**Quistinic**	9.01	280	eP	Pn	22 46 14.4	+6.1
ROSF	**Rostrenen**	9.09	282	ePn	Pn	22 46 09.5	+0.1
ROSF				eSn	Sn	22 47 47.3	-4.2
ROSF				eSg		22 48 44.7	
	comp=Z,7.2nm,0.6s						

*IDC **31** 23:01:42.7±1.3, 63°.25S×169°.01E, h0km, mb4.3/4, mb1 4.5/5, mb1mx4.0/36, mbtmp4.3/5, ML4.0/1, MS4.3/7, Ms1 4.3/7, ms1mx4.0/39, Error ellipse: s-maj=63.1km s-min=29.3km az=69.0*

*NEIC **31** 23:01:45.2±1.2, 63°.32S±0°.05×168°.5E±0°.3, h10km±1km, mb4.6/18, Error ellipse: s-maj=26.1km s-min=8.5km az=270.0*

*GCMT **31** 23:01:45.2±0.3, 63°.34S±0°.02×169°.14E±0°.04, h21km±2km, MW5.1/83, Moment Tensor Solution. s20,c24; s83,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.20±.25; $M_{\theta\theta}$4.15±.21; $M_{\phi\phi}$-4.34±.20; $M_{r\theta}$-4.27±.65; $M_{\phi\phi}$0.12±.16; $M_{\phi r}$1.68±.41; Best double couple: $M_0$6.07500×10^{16} NP1:ϕ_s218.00000°, δ46.00000°, λ174.00000°. NP2: ϕ_s312.00000°, δ86.00000°, λ44.00000°. Principal axes: T 6.9360, Plg33.0000°, Azm185.0000°; N -1.7170, Plg46.0000°, Azm317.0000°; P -5.2130, Plg26.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 23:01:44.7±0.7, 63°.28S±0°.07×168°.7E±0°.2, h10km, n49, σ1§13/29, mb4.6/7, MS4.3/7, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	10.12	326	Pn	**Pn**	23 04 10.4	+0.5
VNDA	**Vanda**	14.47	186	Pn	**Pn**	23 05 09.3	+0.2
	0.7nm,0.3s,baz=27,slow=14,SNR=19						
VNDA				Sn	**Sn**	23 07 50.8	+1.5
	baz=62,slow=10,SNR=2.1						
VNDA	**Vanda**	14.47	186		**Pn**	23 05 08.9	-0.2
DCZ	**Deep Cove**	17.88	357	P	**P**	23 05 55.4	+1.6
ODZ	**Otahua Downs**	18.31	5	P	**P**	23 06 00.3	+1.6
LBZ	**Lake Benmore**	18.95	3	P	**P**	23 06 07.0	+1.2
LBZ				IAmb	IAmb	23 06 16.6	
	comp=Z,44nm,1.3s						
RPZ	**Rata Peaks**	19.66	5	P	**P**	23 06 14.9	+1.5
RPZ				IAmb	IAmb	23 06 29.7	
	comp=Z,27nm,1.1s						
FOZ	**Fox Glacier**	19.80	3	P	**P**	23 06 15.6	+0.7
FOZ				IAmb	IAmb	23 06 21.6	
	comp=Z,35nm,1.5s						
OXZ	**Oxford**	20.09	7	P	**P**	23 06 19.2	+1.1
LTZ	**Lake Taylor**	20.65	8	P	**P**	23 06 26.2	+2.0
LTZ				IAmb	IAmb	23 06 37.0	
	comp=Z,32nm,1.3s						
THZ	**Tophouse**	21.70	9	P	**P**	23 06 36.8	+1.2
THZ				IAmb	IAmb	23 06 40.1	
	comp=Z,33nm,1.3s						
PLWZ	**Palliser**	22.09	13	P	**P**	23 06 40.6	+0.8
NNZ	**Nelson**	22.28	9	P	**P**	23 06 41.7	0.0
NNZ				IAmb	IAmb	23 06 43.7	
	comp=Z,49nm,1.2s						
SNZO	**South Karori**	22.30	12	P	**P**	23 06 42.4	+0.5
QRZ	**Quartz Range**	22.61	8	P	**P**	23 06 43.4	-1.9
QRZ				IAmb	IAmb	23 06 46.4	
	comp=Z,26nm,1.1s						
BKZ	**Black Stump Fm**	24.61	15	P	**P**	23 07 05.2	+0.3
BKZ				IAmb	IAmb	23 07 16.6	
	comp=Z,25nm,1.4s						
URZ	**Urewera**	25.57	16	LR	LR	23 16 09.7	
	comp=Z,784nm,20.5s,baz=180,slow=34						
URZ	**Urewera**	25.57	16	P	**P**	23 07 14.7	+1.2
QSPA	**South Pole Qui**	26.80	180	P	**P**	23 07 24.6	-0.1
	comp=Z,4.8nm,1.0s,baz=31,slow=2.1,SNR=6.0						
QSPA	**South Pole Qui**	26.80	180	P	**P**	23 07 23.8	-0.9
QSPA				IAmb	IAmb	23 07 40.9	
	comp=Z,13nm,1.4s						
DZM	**Mont Dzumac**	41.22	357	P	**P**	23 09 29.2	-0.4
H01W1	**Cape Leeuwin H**	43.63	284	T	T	23 57 00.3	
	baz=147,slow=76,SNR=251						
H01W2	**Cape Leeuwin H**	43.64	284	T	T	23 57 00.5	
	baz=147,slow=76,SNR=233						
H01W3	**Cape Leeuwin H**	43.65	284	T	T	23 57 01.5	
	baz=147,slow=76,SNR=260						
ASAR	**Alice Springs**	45.85	313	P	**P**	23 10 07.3	+0.5
	comp=Z,1.7nm,0.8s,baz=134,slow=6.6,SNR=2.8						
PMSA	**Palmer Station**	46.48	152	LR	LR	23 27 59.6	
	comp=Z,272nm,18.2s,baz=166,slow=34						
MORW	**Morawa**	47.82	290	P	**P**	23 10 21.7	-0.5
GO08	**Vila O'Higgin**	58.61	137	P	**P**	23 11 42.0	+0.7
RPN	**Rapa Nui**	62.58	96	LR	LR	23 32 17.9	
	comp=Z,164nm,19.6s,baz=238,slow=29						
H03S2	**Juan Fernandez**	69.46	125	T	T	00 28 53.8	
	baz=204						
H03S1	**Juan Fernandez**	69.46	125	T	T	00 28 41.4	
	baz=204						
H03S3	**Juan Fernandez**	69.47	125	T	T	00 28 40.6	
	baz=204						
H03N3	**Juan Fernandez**	69.80	125	T	T	00 29 25.1	
	baz=219,slow=72						
H03N2	**Juan Fernandez**	69.81	125	T	T	00 29 18.7	
	baz=219,slow=72						
H03N1	**Juan Fernandez**	69.82	125	T	T	00 29 30.3	
	baz=219,slow=72						
SUR	**Sutherland**	81.28	207	LR	LR	23 48 48.5	
	comp=Z,455nm,18.5s,baz=200,slow=35						
LVC	**Limon Verde**	83.28	128	LR	LR	23 43 56.0	
	comp=Z,112nm,18.5s,baz=226,slow=30						
BOSA	**Boshof**	83.92	212	LR	LR	23 48 24.8	
	comp=Z,149nm,21.0s,baz=196,slow=33						
H08S2	**Diego Garcia H**	86.00	261	T	T	00 50 12.4	
	baz=153,slow=76,SNR=113						
H08S1	**Diego Carcia H**	86.00	261	T	T	00 50 13.3	
	baz=153,slow=76,SNR=58						
H08S3	**Diego Garcia H**	86.02	261	T	T	00 50 07.2	
	baz=153,slow=76,SNR=149						
LBTB	**Lobatse**	87.28	213	LR	LR	23 52 40.0	
	comp=Z,160nm,18.3s,baz=179,slow=35						
LPAZ	**La Paz**	89.38	127	P	**P**	23 14 42.4	+0.3
	comp=Z,0.8nm,0.7s,baz=207,slow=4.5,SNR=2.7						
LPAZ	**La Paz**	89.38	127	P	**P**	23 14 42.2	+0.1
LPAZ				IAmb	IAmb	23 14 48.7	
	comp=Z,7.5nm,1.5s						
CMAR	**Chiang Mai Arr**	97.58	296	P	Pdif	23 15 20.6	+1.7
	comp=Z,1.1nm,0.4s,baz=115,slow=5.1,SNR=1.7						
ILAR	**Eielson Array**	131.89	24	PKP	**PKPdf**	23 20 54.9	-1.5
	comp=Z,0.1nm,0.7s,baz=243,slow=4.0,SNR=2.9						
YKA	**Yellowknife Ar**	137.90	42	PKP	**PKPdf**	23 21 05.9	-1.7
	comp=Z,0.2nm,0.8s,baz=187,slow=1.5,SNR=3.7						
KBZ	**Khabaz**	143.70	264	PKP	PKPab	23 21 15.9	+0.4
	comp=Z,1.6nm,0.8s,baz=71,slow=2.3,SNR=3.5						
BRTR	**Keskin Array B**	144.53	250	PKP	**PKPab**	23 21 17.6	-1.3
	comp=Z,3.1nm,1.0s,baz=156,slow=5.3,SNR=9.6						

*NEIC **31** 23:02:17.5±1.4, 2°.98S±0°.06×147°.7E±0°.2, h10km±2km, mb4.3/8, Error ellipse: s-maj=28.4km s-min=5.4km az=252.0*

*IDC **31** 23:02:18.7±5.1, 3°.08S×147°.15E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.5/37, mbtmp3.9/4, Error ellipse: s-maj=149.6km s-min=34.8km az=100.0*

ISC 31 23:02:19.4±0.9, 3°.0S±0°.1×147°.7E±0°.1, h32km, n21, σ1§19/15, mb4.2/8, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	0.99	339		**Pn**	23 02 36.4	-0.8
HNR	**Honiara**	13.73	118	Pn	**Pn**	23 05 31.0	-1.1
WB0	**Warramunga Arr**	21.17	217	P	**P**	23 07 02.0	-0.3
WR0	**Warramunga Arr**	21.23	216		**P**	23 07 03.4	+0.5
WR0				IAmb	IAmb	23 07 09.6	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	21.32	217	P	**P**	23 07 03.7	-0.2
WRAB				IAmb	IAmb	23 07 04.3	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	21.33	217	P	**P**	23 07 02.9	-1.1
WB2				IAmb	IAmb	23 07 06.2	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	21.34	217	P	**P**	23 07 03.0	-1.1
	comp=Z,5.7nm,1.0s,baz=40,slow=12,SNR=14						
WRA	**Warramunga Arr**	21.34	217	P	**P**	23 07 03.2	-0.8
ASAR	**Alice Springs**	24.53	212	P	**P**	23 07 36.6	+0.2
	comp=Z,3.0nm,0.9s,baz=39,slow=7.4,SNR=19						
ASAR	**Alice Springs**	24.53	212	P	**P**	23 07 36.4	0.0
FITZ	**Fitzroy Crossi**	26.35	234	P	**P**	23 07 52.3	-0.6
	comp=Z,7.7nm,1.1s,baz=50,slow=7.9						
H11S3	**WAKE ISLAND Hy**	28.35	40	T	T	23 38 24.0	
	baz=213,slow=75						
H11S2	**WAKE ISLAND Hy**	28.36	41	T	T	23 38 24.6	
	baz=213,slow=75						
H11S1	**WAKE ISLAND Hy**	28.37	40	T	T	23 38 25.6	
	baz=213,slow=75						
H11N1	**WAKE ISLAND Hy**	29.37	39	T	T	23 39 57.2	
	baz=227						
H11N3	**WAKE ISLAND Hy**	29.39	39	T	T	23 39 41.3	
	baz=227						
H11N2	**WAKE ISLAND Hy**	29.39	39	T	T	23 39 41.1	
	baz=227						
MYLDM	**Lahad Datu**	30.30	285	P	**P**	23 08 26.4	-1.7
BBOO	**Buckleboo**	31.64	199	P	**P**	23 08 40.7	+1.0
BBOO				IAmb	IAmb	23 08 57.0	
	comp=Z,6.1nm,1.1s						
PPTF	**Pamatai, Papee**	63.11	108	P	**P**	23 12 45.1	+0.5
MKAR	**Makanchi Array**	75.65	320	P	**P**	23 14 04.3	+2.7
	comp=Z,0.4nm,1.0s,baz=98,slow=7.6,SNR=2.7						

*NEIC **31** 23:03:28.4±2.0, 7°.17S±0°.04×155°.14E±0°.05, h10km±1km, mb4.5/26, Error ellipse: s-maj=8.5km s-min=5.9km az=69.0*

*IDC **31** 23:03:33.5±2.2, 6°.90S×154°.99E, h60km±19km, mb4.2/16, mb1 4.3/21, mb1mx4.1/44, mbtmp4.5/21, MS3.9/5, Ms1 3.9/5, ms1mx3.3/64, Error ellipse: s-maj=15.3km s-min=13.7km az=38.0*

*DJA **31** 23:03:37.3±0.6, 7°.5±5°.15±5°.1, h61km±7km, M4.6/13, mB4.7/4, mb4.5/13, MLv4.9/3, Mw(mB)4.0/4*

ISC 31 23:03:32.3±0.4, 7°.03S±0°.06×155°.07E±0°.06, h50km, n80, σ1§33/81, mb4.6/38, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	4.04	314	Pn	**Pn**	23 04 34.8	+3.1
RABL				Sn		23 05 32.7	+15
KRVT	**Keravat (AS076**	4.06	312	P	**Pn**	23 04 32.8	+0.8
KRVT				S	**Sn**	23 05 18.6	+0.3
HNR	**Honiara**	5.38	117	P	**Pn**	23 04 54.1	+4.0
	10nm,0.3s,baz=25,slow=1.1,SNR=2.2						
HNR				S	Sn	23 05 59.7	+9.0
	baz=285,slow=14,SNR=1.2						
HNR				LR	LR	23 07 01.0	
	comp=Z,1μm,19.5s,baz=274,slow=38						
HNR	**Honiara**	5.38	117	Pn	**Pn**	23 04 48.6	-1.4
PMG	**Port Moresby**	8.18	253	P	**Pn**	23 05 29.5	+1.1
	5.9nm,0.3s,baz=48,slow=13,SNR=8.5						
PMG				S	**Sn**	23 07 01.8	+2.1
	5.1nm,0.3s,baz=94,slow=17,SNR=9.0						
PMG				LR	LR	23 08 37.5	
	comp=Z,551nm,19.6s,baz=36,slow=37						
PMG	**Port Moresby**	8.18	253	P	**Pn**	23 05 29.6	+1.1
	0.3nm38nm,0.6s						
PMG	**Port Moresby**	8.18	253	Pn	**Pn**	23 05 26.8	-1.7
PMG					**Sn**	23 07 01.2	+1.6
COEN	**Coen**	13.57	239	Pn	**Pn**	23 06 40.3	-1.9
JAY	**Jayapura**	15.00	287	P	**Pn**	23 06 59.7	-1.7
	1.0nm,0.3s,baz=106,slow=15,SNR=1.8						
CTA	**Charters Tower**	15.55	213	P	**Pn**	23 07 09.3	+0.9
	0.4nm,0.3s,baz=32,slow=14,SNR=3.8						
CTA				LR	LR	23 13 25.5	
	comp=Z,412nm,18.2s,baz=77,slow=38						
CTAO	**Charters Tower**	15.55	213		**Pn**	23 07 06.1	-2.3
CTAO				IAmb	IAmb	23 07 21.8	
	comp=Z,11nm,1.0s						
LIFNC	**LIFOU**	18.04	140		**P**	23 07 36.2	-3.3
LIFNC				IAmb	IAmb	23 07 47.4	
	comp=Z,19nm,0.8s						
DZM	**Mont Dzumac**	18.55	145	P	**Pn**	23 07 47.5	+1.8
	comp=Z,0.4nm,0.3s,baz=327,slow=11,SNR=11						
DZM	**Mont Dzumac**	18.55	145		**P**	23 07 43.9	-1.2
EIDS	**Eidsvold**	18.63	191	P	**P**	23 07 43.1	-2.8
ONTNC	**Ouen Toro**	18.74	145	P	**P**	23 07 47.0	-0.1
OUENC	**Ouen Island, N**	19.05	145	P	**P**	23 07 50.2	-0.2
ARMA	**Armidale**	23.49	187	P	**P**	23 08 36.9	-1.0
ARMA				IAmb	IAmb	23 08 44.4	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	23.71	235	P	**P**	23 08 39.5	-0.4
WR0				IAmb	IAmb	23 08 45.5	
	comp=Z,27nm,1.1s						
WB0	**Warramunga Arr**	23.73	236	P	**P**	23 08 40.0	-0.1
WB0				IAmb	IAmb	23 08 46.8	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	23.85	235	P	**P**	23 08 41.0	-0.2
WRAB				IAmb	IAmb	23 08 55.4	
	comp=Z,9.9nm,0.8s						
WB2	**Warramunga Arr**	23.85	235	P	**P**	23 08 41.4	+0.2
WB2				IAmb	IAmb	23 08 46.9	
	comp=Z,18nm,1.1s						
WRA	**Warramunga Arr**	23.86	235	P	**P**	23 08 40.8	-0.5
	comp=Z,5.7nm,0.7s,baz=61,slow=9.8,SNR=34						
WRA				PcP	**PcP**	23 12 24.6	+1.1
	comp=Z,1.3nm,0.6s,baz=50,slow=2.0,SNR=4.8						
WRA				LR	LR	23 17 32.5	
	comp=Z,145nm,19.1s,baz=48,slow=35						
WRA	**Warramunga Arr**	23.86	235	P	**P**	23 08 40.5	-0.8
SIJI	**Sorong**	24.52	283	P	**P**	23 08 45.0	-2.3
	comp=Z,7.7nm,0.5s,baz=85,slow=12,SNR=1.5						
SIJI	**Sorong**	24.52	283	P	**P**	23 08 49.2	+1.9
	comp=Z,28nm,1.0s						
SWI	**Sorong**	24.52	283	P	**P**	23 08 49.0	+1.6
	comp=Z,66nm,1.0s						
MSVF	**Nonsavu**	24.80	118	P	**P**	23 08 50.6	+0.7
	comp=Z,12nm,0.2s,baz=294,slow=6.1,SNR=36						
MSVF	**Nonsavu**	24.80	118	P	**P**	23 08 50.0	+0.1
AS31	**Alice Springs**	26.21	229	P	**P**	23 09 02.4	-0.2
ASAR	**Alice Springs**	26.21	229	P	**P**	23 09 02.5	-0.1
	comp=Z,3.6nm,0.7s,baz=58,slow=9.9,SNR=14						
ASAR				PcP	**PcP**	23 12 29.5	+0.8
	comp=Z,0.6nm,0.6s,baz=52,slow=2.9,SNR=2.4						
ASAR	**Alice Springs**	26.21	229	P	**P**	23 09 01.4	-1.3
KNRA	**Kununurra**	27.16	249	P	**P**	23 09 12.1	+0.8
STKA	**Stephens Creek**	27.74	205	P	**P**	23 09 16.7	+0.5
	comp=Z,3.5nm,0.4s,baz=37,slow=15,SNR=12						
STKA				LR	LR	23 21 00.1	
	comp=Z,444nm,19.2s,baz=152,slow=38						
STKA	**Stephens Creek**	27.74	205	P	**P**	23 09 17.4	+1.2
STKA				IAmb	IAmb	23 09 26.0	
	comp=Z,2.7nm,0.8s						
WAKE	**Wake Island**	28.53	23	P	**P**	23 09 23.9	+0.6
SOEI	**Soe**	30.59	263	P	**P**	23 09 42.6	+0.7
FITZ	**Fitzroy Crossi**	30.71	246	P	**P**	23 09 42.7	-0.1
	comp=Z,2.9nm,0.6s						
MBWA	**Marble Bar**	36.93	244	P	**P**	23 10 37.8	+1.0
MBWA				IAmb	IAmb	23 10 55.7	
	comp=Z,10nm,1.0s						
PETK	**Petropavlovsk-**	59.95	2	P	**P**	23 13 33.3	+0.1
	comp=Z,2.5nm,0.7s,baz=200,slow=7.5,SNR=1.9						
KMI	**Kunming**	60.10	304	⇑P	P	23 13 41.0	+5.9
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
CM31	**Chiang Mai Arr**	60.87	296	P	**P**	23 13 41.4	+1.2
CM31				IAmb	IAmb	23 13 51.5	
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	60.87	296	P	**P**	23 13 41.1	+0.9
	comp=Z,6.9nm,0.7s,baz=122,slow=5.3,SNR=41						
CMAR	**Chiang Mai Arr**	60.87	296	P	**P**	23 13 41.8	+1.6
CHTO	**Chiang Mai**	60.99	296	P	**P**	23 13 42.5	+1.4
CHTO				IAmb	IAmb	23 13 54.9	
	comp=Z,5.5nm,0.9s						
PZH	**PanZhiHua**	61.50	305	P	P	23 13 52.3	+7.8
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
HHC	**Hu-ho-hao-te**	62.

comp=Z,1.9nm,0.7s,baz=55,slow=2.3,SNR=7.0

*IDC **31** 23:05:05.0±0.8, 6°85S×155°11E, h0km, mb4.0/12, mb1 4.2/13, mb1mx3.9/39, mbtmp4.0/13, ML3.7/1, Error ellipse: s-maj=29.6km s-min=19.9km az=114.0*

ISC 31 23:05:11.0±0.7, 6°9S±0°1×155°1E±0°1, h41km, n18, σ1°02/16, mb4.0/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.22**	**252**	Sn	**Sn**	**23 08 39.4**	**+0.1**
	1.6nm,0.3s,baz=118,slow=21,SNR=1.1						
CTA	**Charters Tower**	**15.63**	**212**	Pn	**Pn**	**23 08 46.9**	**-1.7**
	0.2nm,0.3s,baz=305,slow=11,SNR=1.1						
WRA	**Warramunga Arr**	**23.92**	**235**	P	**P**	**23 10 22.2**	**+0.7**
	1.4nm,0.6s,baz=57,slow=8.9,SNR=1.3						
WRA				PcP	**PcP**	**23 14 04.5**	**+1.0**
	0.2nm,0.5s,baz=60,slow=3.3,SNR=1.3						
MSVF	**Nonsavu**	**24.84**	**118**	P	**P**	**23 10 29.1**	**-0.8**
	2.4nm,0.4s,baz=310,slow=7.9,SNR=1.0						
ASAR	**Alice Springs**	**26.28**	**228**	P	**P**	**23 10 42.8**	**0.0**
	0.5nm,0.5s,baz=59,slow=9.4,SNR=1.1						
H11S3	**WAKE ISLAND Hy**	**27.74**	**24**	T	T	23 39 15.8	
	baz=211						
H11S2	**WAKE ISLAND Hy**	**27.74**	**24**	T	T	23 39 17.1	
	baz=211						
H11S1	**WAKE ISLAND Hy**	**27.76**	**24**	T	T	23 39 10.7	
	baz=211						
STKA	**Stephens Creek**	**27.83**	**205**	P	**P**	**23 10 58.5**	**+1.9**
	2.0nm,0.6s,baz=29,slow=14,SNR=2.8						
PETK	**Petropavlovsk-**	**59.85**	**2**	P	**P**	**23 15 13.4**	**+1.1**
	2.3nm,0.9s,baz=191,slow=12,SNR=1.7						
SONM	**Songino Array**	**69.33**	**327**	P	**P**	**23 16 13.7**	**-0.7**
	0.3nm,0.3s,baz=133,slow=6.1,SNR=2.4						
QSPA	**South Pole Qui**	**83.04**	**180**	P	**P**	**23 17 32.1**	**0.0**
	2.1nm,1.0s,baz=347,slow=2.0,SNR=1.5						
ILAR	**Eielson Array**	**83.29**	**21**	P	**P**	**23 17 32.2**	**-0.9**
	0.5nm,0.3s,baz=244,slow=5.5,SNR=8.1						
MKAR	**Makanchi Array**	**83.41**	**319**	P	**P**	**23 17 34.3**	**0.0**
	0.5nm,0.6s,baz=96,slow=7.1,SNR=1.4						
ZALV	**Zalesovo Beam**	**84.18**	**326**	P	**P**	**23 17 36.7**	**-1.2**
	0.5nm,0.5s,baz=128,slow=6.4,SNR=1.9						
NVAR	**Mina Array Bea**	**91.62**	**52**	P	**P**	**23 18 15.1**	**+0.7**
	0.2nm,0.5s,baz=179,slow=14,SNR=1.7						
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**23 18 34.8**	**+0.1**
	0.3nm,0.4s,baz=264,slow=4.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**153.09**	**285**	PKPbc	**PKPbc**	**23 25 05.0**	**-0.3**
	0.4nm,0.4s,baz=41,slow=2.0,SNR=4.2						

*NEIC **31** 23:21:21.4±1.2, 17°4S±0°2×178°7W±0°1, h572km±13km, mb4.4/10, Error ellipse: s-maj=25.4km s-min=13.9km az=148.0*

*IDC **31** 23:21:23.5±1.6, 17°28S×179°01W, h583km±18km, mb2.9/8, mb1 3.2/10, mb1mx3.1/28, mbtmp3.9/10, Error ellipse: s-maj=34.3km s-min=16.9km az=149.0*

ISC 31 23:21:23.5±0.6, 17°5S±0°1×178°9W±0°1, h600km, n34, σ1°37/32, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.92**	**265**	P	**P**	**23 22 40.2**	**-2.0**
	5.0nm,0.3s,baz=103,slow=3.4,SNR=62						
MSVF				S	**S**	**23 23 46.9**	**+0.5**
	baz=190,slow=22,SNR=1.1						
MSVF	**Nonsavu**	**2.92**	**265**	P	**P**	**23 22 40.0**	**-2.3**
AFI	**Afiamalu**	**7.72**	**64**	P	P	23 23 14.9	-5.4
NIUE	**Niue**	**8.67**	**102**		P	23 23 22.2	-7.0
RAO	**Raoul Island**	**11.75**	**176**	P	**P**	**23 23 57.3**	**-2.3**
SANVU	**Saraoutou**	**13.48**	**277**	P	**P**	**23 24 15.4**	**-1.9**
LIFNC	**LIFOU**	**13.50**	**254**	P	**P**	**23 24 17.5**	**+0.1**
OUENC	**Ouen Island, N**	**14.28**	**248**		**P**	**23 24 22.4**	**-2.6**
DZM	**Mont Dzumac**	**14.53**	**249**	P	**P**	**23 24 29.1**	**+1.6**
	0.6nm,0.3s,baz=113,slow=23,SNR=7.9						
DZM	**Mont Dzumac**	**14.53**	**249**	P	**P**	**23 24 28.4**	**+0.9**
OUZ	**Omahuta**	**18.89**	**199**	P	**P**	**23 25 06.4**	**-0.6**
OUZ				IAmb	IAmb	23 25 07.9	
	comp=Z,14nm,1.0s						
URZ	**Urewera**	**21.00**	**189**	P	**P**	**23 25 28.4**	**+2.5**
	comp=Z,3.2nm,0.6s,baz=29,slow=21,SNR=1.9						
URZ	**Urewera**	**21.00**	**189**	P	**P**	**23 25 26.6**	**+0.6**
URZ				IAmb	IAmb	23 25 42.9	
	comp=Z,16nm,1.2s						
ARMA	**Armidale**	**29.75**	**239**	P	**P**	**23 26 43.5**	**+0.3**
ARMA				IAmb	IAmb	23 26 44.5	
	comp=Z,7.9nm,0.8s						
CTA	**Charters Tower**	**33.06**	**260**	P	**P**	**23 27 11.6**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=46,slow=8.5,SNR=1.8						
TOO	**Toolangi**	**37.08**	**230**	P	**P**	**23 27 45.1**	**+0.7**
TOO				IAmb	IAmb	23 27 45.4	
	comp=Z,5.4nm,0.8s						
STKA	**Stephens Creek**	**38.43**	**241**	P	**P**	**23 27 56.2**	**+0.9**
	comp=Z,3.5nm,0.4s,baz=97,slow=11,SNR=8.3						
STKA	**Stephens Creek**	**38.43**	**241**	IAmb	IAmb	23 27 56.5	
	comp=Z,0.8nm,0.6s						
BBOO	**Buckleboo**	**43.21**	**241**	P	**P**	**23 28 33.5**	**+0.3**
RSD	**Rainshed**	**43.43**	**33**	P	**P**	**23 28 32.4**	**-2.7**
WRA	**Warramunga Arr**	**44.25**	**259**	P	**P**	**23 28 41.7**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=91,slow=6.9,SNR=31						
AS31	**Alice Springs**	**44.46**	**254**	P	**P**	**23 28 43.7**	**+0.7**
AS31				IAmb	IAmb	23 28 44.2	
	comp=Z,6.3nm,0.7s						
ASAR	**Alice Springs**	**44.46**	**254**	P	**P**	**23 28 43.7**	**+0.7**
	comp=Z,22nm,0.6s,baz=89,slow=8.2,SNR=303						
FORT	**Forrest**	**49.77**	**244**	P	**P**	**23 29 22.6**	**0.0**
PSA00	**Pilbara Seismi**	**57.56**	**255**	P	**P**	**23 30 18.4**	**+0.8**
MBWA	**Marble Bar**	**57.73**	**256**	P	**P**	**23 30 19.4**	**+0.7**
MBWA				IAmb	IAmb	23 30 23.1	
	comp=Z,16nm,1.1s						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**23 32 30.6**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=229,slow=8.2,SNR=2.0						
ILAR	**Eielson Array**	**85.58**	**13**	P	**P**	**23 32 59.7**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=226,slow=5.4,SNR=1.3						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**23 33 03.9**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=269,slow=8.3,SNR=3.4						
PDAR	**Pinedale Array**	**87.36**	**44**	P	**P**	**23 33 09.1**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=225,slow=1.9,SNR=3.8						
PDAR	**Pinedale Array**	**87.36**	**44**	P	**P**	**23 33 07.9**	**-0.3**
ARCES	**ARCESS Array B**	**125.81**	**350**	PKP	**PKPdf**	**23 39 17.6**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=357,slow=6.3,SNR=1.6						
BRTR	**Keskin Array B**	**144.15**	**315**	PKP	**PKPab**	**23 39 53.7**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=93,slow=1.7,SNR=6.7						
GERES	**GERESS Array B**	**147.08**	**345**	PKPbc	**PKPbc**	**23 40 00.8**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=22,slow=3.2,SNR=2.6						

*IDC **31** 23:23:42.9±0.4, 6°81S×155°07E, h0km, mb4.8/21, mb1 4.9/25, mb1mx4.9/32, mbtmp4.8/25, ML3.8/4, MS4.7/56, Ms1 4.7/56, ms1mx4.7/61, Error ellipse: s-maj=14.6km s-min=12.5km az=62.0*

*BJI **31** 23:23:43.4±0.0, 6°79S×155°05E, h5km, mb4.9/62, mB5.3/46, Ms5.0/52, Ms7 4.8/56*

*MOS **31** 23:23:44.6±1.1, 6°80S×155°00E, h16km, mb5.0/19, MS4.8/6, Error ellipse: s-maj=9.9km s-min=7.6km az=89.1*

*NEIC **31** 23:23:46.5±2.9, 6°92S±0°07×155°15E±0°07, h10km±1km, mb5.3/97, Error ellipse: s-maj=13.1km s-min=11.0km az=29.0*

*GCMT **31** 23:23:50.5±0.1, 7°15S±0°01×155°00E±0°01, h21km, MW5.5/145, Moment Tensor Solution. s145,c255; s138,c252; Duration: 1s4 Moment tensor: Scale 10^17 Nm; M_{rr}1.61±.03; $M_{\theta\theta}$-1.07±.02; $M_{\phi\phi}$-0.54±.02; $M_{r\theta}$1.13±.04; $M_{\theta\phi}$0.91±.02; $M_{\phi r}$-1.09±.04; Best double couple: M=2.30100×10^17 NP1:ϕ_s301.00000°, δ24.00000°, λ80.00000°. NP2:ϕ_s132.00000°, δ67.00000°, λ94.00000°. Principal axes: T 2.2360, Plg68.0000°, Azm50.0000°; N 0.1250, Plg4.0000°, Azm310.0000°; P -2.3650, Plg21.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **31** 23:23:51.7±0.6, 7°S±4°×15°5E±°, h47km±5km, M5.3/39, mb5.2/39, mB5.7/25, MLv6.1/1, Mw(mB)5.2/25, MwMwp5.3/8, Mwp5.5/8*

ISC 31 23:23:47.9±0.5, 6°89S±0°04×155°15E±0°04, h27km±3km, n453, σ2°00/446, mb5.2/126, MS4.8/83, 16C-5D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.01**	**312**	Pn	**Pn**	**23 24 49.6**	**+2.0**
RABL	**Rabaul**	**4.01**	**312**	P	Pn	23 24 53.0	+5.4
KRVT	**Keravat (AS076**	**4.04**	**309**	Pn	**Pn**	**23 24 49.4**	**+1.4**
KRVT				Sn	**Sn**	**23 25 35.8**	**+1.3**
PMG	**Port Moresby**	**8.30**	**252**	Pn	**Pn**	**23 25 45.6**	**-0.9**
	8.2nm,0.3s,baz=49,slow=10,SNR=26						
PMG				Sn	**Sn**	**23 27 19.9**	**+0.4**
	14nm,0.3s,baz=37,slow=20,SNR=7.7						
PMG				LR	LR	23 28 55.6	
	comp=Z,10μm,20.0s,baz=54,slow=38						
PMG	**Port Moresby**	**8.30**	**252**	P	**Pn**	**23 25 46.6**	**0.0**
PMG						23 27 19.9	
PMG	**Port Moresby**	**8.30**	**252**	P	**Pn**	**23 25 45.7**	**-0.9**
	13μm3μm185nm,0.8s						
PMG	**Port Moresby**	**8.30**	**252**	Pn	**Pn**	**23 25 46.6**	**0.0**
PMG	**Port Moresby**	**8.30**	**252**	P	**Pn**	**23 25 46.3**	**-0.3**
PMG	**Port Moresby**	**8.30**	**252**	P	**Pn**	**23 25 46.4**	**-0.2**
MANU	**Manus Island**	**9.14**	**301**		**Pn**	**23 25 59.1**	**+1.0**
COEN	**Coen**	**13.71**	**238**	Pn	**Pn**	**23 26 59.5**	**-1.2**
COEN	**Coen**	**13.71**	**238**	P	**Pn**	**23 26 59.9**	**-0.8**
PATS	**Pohnpei**	**14.00**	**13**	Pn	**Pn**	**23 27 06.4**	**+1.7**
SANVU	**Saraoutou**	**14.55**	**127**	Pn	**Pn**	**23 27 12.9**	**+0.8**
SANVU	**Saraoutou**	**14.55**	**127**	P	**P**	**23 27 18.2**	**-0.2**
JAY	**Jayapura**	**15.04**	**286**	Pn	**Pn**	**23 27 16.1**	**-2.8**
	0.6nm,0.3s,baz=90,slow=20,SNR=1.4						
JAY				LR	LR	23 34 11.5	
	comp=Z,5μm,18.1s,baz=86,slow=42						
JAY	**Jayapura**	**15.04**	**286**	P	**Pn**	**23 27 19.7**	**+0.9**
	25nm,1.0s						
MTSU	**Mount Surprise**	**15.38**	**222**	P	**Pn**	**23 27 22.9**	**-0.3**
	baz=15,SNR=20						
MTSU	**Mount Surprise**	**15.38**	**222**	P	**Pn**	**23 27 23.9**	**+0.7**
CTA	**Charters Tower**	**15.70**	**212**	Pn	**Pn**	**23 27 26.6**	**-0.9**
	0.5nm,0.3s,baz=28,slow=13,SNR=13						
CTA				Sn	**Sn**	**23 30 22.9**	**+2.1**
	0.1nm,0.3s,baz=13,slow=17,SNR=1.4						
CTA				LR	LR	23 32 60.0	
	comp=Z,6μm,18.4s,baz=10,slow=35						
CTA	**Charters Tower**	**15.70**	**212**	P	**Pn**	**23 27 27.5**	**0.0**
CTAO	**Charters Tower**	**15.70**	**212**	P	**Pn**	**23 27 26.5**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,64nm,1.2s						
CTAO	**Charters Tower**	**15.70**	**212**	Pn	**Pn**	**23 27 26.5**	**-0.9**
CTAO	**Charters Tower**	**15.70**	**212**	P	**Pn**	**23 27 27.5**	**0.0**
KOUNC	**Koumac, New Ca**	**16.21**	**148**	P	**P**	**23 27 40.2**	**+3.4**
RK1H	**Rockhampton Ha**	**17.00**	**195**	P	**P**	**23 27 46.0**	**+0.4**
	comp=Z,52nm,1.0s						
SMPI	**Sarmi**	**17.10**	**286**	P	**P**	**23 27 48.3**	**+1.5**
	comp=Z,71nm,1.4s						
LIFNC	**LIFOU**	**18.10**	**141**		**Pn**	**23 27 56.6**	**-0.9**
LIFNC				IAmb	IAmb	23 28 06.5	
	comp=Z,344nm,1.9s						
LIFNC	**LIFOU**	**18.10**	**141**	P	**P**	**23 28 01.8**	**+4.1**
NOUC	**Port Laguerre**	**18.56**	**146**	P	**Pn**	**23 28 05.7**	**+2.6**
DZM	**Mont Dzumac**	**18.61**	**145**	P	**Pn**	**23 28 04.8**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=326,slow=11,SNR=39						
DZM				S	**S**	**23 31 37.1**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=330,slow=20,SNR=1.0						
DZM				LR	LR	23 34 32.0	
	comp=Z,4μm,19.9s,baz=298,slow=35						
DZM	**Mont Dzumac**	**18.61**	**145**	*e*LR	LR	23 32 02.7	
	comp=Z,5μm,22.6s						
DZM	**Mont Dzumac**	**18.61**	**145**	P	**Pn**	**23 28 04.2**	**+0.3**
DZM	**Mont Dzumac**	**18.61**	**145**	P	**Pn**	**23 28 06.3**	**+2.4**
EIDS	**Eidsvold**	**18.78**	**192**	P	**P**	**23 28 05.2**	**0.0**
	baz=19,SNR=7.4						
EIDS	**Eidsvold**	**18.78**	**192**		**P**	**23 28 04.4**	**-0.8**
EIDS	**Eidsvold**	**18.78**	**192**	P	**Pn**	**23 28 05.9**	**+0.1**
ONTNC	**Ouen Toro**	**18.80**	**146**	P	**Pn**	**23 28 06.1**	**0.0**
ONTNC	**Ouen Toro**	**18.80**	**146**	P	**Pn**	**23 28 11.9**	**+5.8**
YATNC	**Mamie plateau,**	**18.86**	**144**	P	**Pn**	**23 28 09.1**	**+2.3**
MARNC	**Mare, Loyalty**	**19.11**	**141**	P	**Pn**	**23 28 10.9**	**+1.0**
MARNC	**Mare, Loyalty**	**19.11**	**141**	P	**Pn**	**23 28 12.7**	**+2.9**
OUENC	**Ouen Island, N**	**19.11**	**145**	P	**Pn**	**23 28 09.5**	**-0.3**
OUENC	**Ouen Island, N**	**19.11**	**145**	P	**Pn**	**23 28 11.3**	**+1.5**
PINNC	**Pines Island,**	**19.61**	**144**	P	**Pn**	**23 28 15.2**	**-0.6**
PINNC	**Pines Island,**	**19.61**	**144**	P	**Pn**	**23 28 19.4**	**+3.6**
QIS	**Mount Isa**	**20.29**	**226**	P	**P**	**23 28 21.0**	**-0.7**
	baz=20,SNR=26						
QIS	**Mount Isa**	**20.29**	**226**	P	**P**	**23 28 22.6**	**+0.8**
RMQ	**Roma**	**20.41**	**197**	P	**P**	**23 28 23.5**	**+0.5**
	baz=20,SNR=44						
RMQ	**Roma**	**20.41**	**197**	P	Pn	23 28 24.7	-0.6
QLP	**Quilpie**	**22.17**	**207**	P	**P**	**23 28 40.9**	**-1.1**
	baz=22,SNR=31						
QLP	**Quilpie**	**22.17**	**207**	P	**P**	**23 28 42.2**	**+0.2**
GUMO	**Guam**	**22.77**	**333**	LR	LR	23 37 18.1	
	comp=Z,387nm,18.8s,baz=143,slow=36						
KDU	**Kakadu**	**23.07**	**254**	P	**P**	**23 28 50.4**	**-1.2**
	baz=23,SNR=15						
KDU	**Kakadu**	**23.07**	**254**	P	**P**	**23 28 52.3**	**+0.7**
FAKI	**Fak Fak**	**23.16**	**279**	P	**P**	**23 28 54.1**	**+1.6**
	comp=Z,3μmcomp=Z,2μmcomp=Z,58nm,1.2s						
FAKI	**Fak Fak**	**23.16**	**279**	P	**P**	**23 28 52.9**	**+0.4**
FAKI				IAmb	IAmb	23 29 25.7	
	comp=Z,143nm,1.3s						
ARMA	**Armidale**	**23.64**	**188**	P	**P**	**23 28 57.8**	**+0.6**
	baz=24,SNR=13						
ARMA	**Armidale**	**23.64**	**188**	P	**P**	**23 28 57.5**	**+0.4**
ARMA	**Armidale**	**23.64**	**188**	P	**P**	**23 28 59.5**	**+2.3**
SAUI	**Saumlaki**	**23.68**	**266**	P	**P**	**23 29 00.4**	**+2.8**
	comp=Z,10μmcomp=Z,268nm,1.2s						
SAUI	**Saumlaki**	**23.68**	**266**	P	**P**	**23 28 58.2**	**+0.6**
SAUI	**Saumlaki**	**23.68**	**266**	P	**P**	**23 29 00.1**	**+2.5**
WR0	**Warramunga Arr**	**23.85**	**235**	P	**P**	**23 28 58.2**	**-1.0**
WR0				IAmb	IAmb	23 28 59.8	
	comp=Z,110nm,0.8s						
WB0	**Warramunga Arr**	**23.87**	**236**	P	**P**	**23 28 58.2**	**-1.2**
WB0				IAmb	IAmb	23 29 04.8	
	comp=Z,89nm,0.9s						
FUNA	**Funafuti**	**23.88**	**95**	P	**P**	**23 28 58.9**	**-0.7**
FUNA				IAmb	IAmb	23 29 26.8	
	comp=Z,78nm,0.8s						
WRAB	**Tennant Creek**	**23.99**	**235**	*ce*P	**P**	**23 28 59.7**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,179nm,1.7s						
WRAB	**Tennant Creek**	**23.99**	**235**	P	**P**	**23 28 59.6**	**-0.9**
WRAB				IAmb	IAmb	23 29 01.0	
	comp=Z,78nm,0.8s						
WB2	**Warramunga Arr**	**23.99**	**235**	P	**P**	**23 28 59.5**	**-1.1**
WRA	**Warramunga Arr**	**24.00**	**235**	P	**P**	**23 28 59.0**	**-1.7**
	comp=Z,56nm,0.7s,baz=60,slow=9.7,SNR=163						
WRA				PcP	**PcP**	**23 32 41.8**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=54,slow=2.0,SNR=4.1						
WRA				S	**S**	**23 33 15.6**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=60,slow=12,SNR=5.0						
WRA				ScP	**ScP**	**23 36 21.8**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=59,slow=2.8,SNR=2.5						
WRA				LR	LR	23 37 51.0	
	comp=Z,3μm,21.1s,baz=58,slow=35						
WRA	**Warramunga Arr**	**24.00**	**235**	*ce*P	**P**	**23 28 58.7**	**-2.0**
WRA				pmax	pmax		
	comp=Z,56nm,0.7s						
WRA	**Warramunga Arr**	**24.00**	**235**	P	**P**	**23 28 59.5**	**-1.1**
MTN	**Manton Dam**	**24.38**	**254**	P	**P**	**23 29 01.5**	**-2.7**
	baz=24,SNR=7.0						
MTN	**Manton Dam**	**24.38**	**254**	P	**P**	**23 29 04.4**	**+0.2**
MTN	**Manton Dam**	**24.38**	**254**	P	**P**	**23 29 05.3**	**+1.1**
SIJI	**Sorong**	**24.56**	**283**	P	**P**	**23 29 03.9**	**-1.9**
	comp=Z,53nm,0.7s,baz=56,slow=7.8,SNR=13						
SIJI				S	**S**	**23 33 29.2**	**+3.9**
	comp=Z,2.9nm,0.4s,baz=95,slow=19,SNR=1.6						
SIJI	**Sorong**	**24.56**	**283**	P	**P**	**23 29 04.9**	**-1.0**
	comp=Z,3μmcomp=Z,70nm,0.9s						
SWI	**Sorong**	**24.57**	**283**	P	**P**	**23 29 05.2**	**-0.7**
	comp=Z,2μmcomp=Z,129nm,0.9s						
MSVF	**Nonsavu**	**24.79**	**118**	P	**P**	**23 29 08.2**	**+0.2**
	comp=Z,37nm,1.1s,baz=194,slow=4.8,SNR=12						
MSVF				LR	LR	23 38 15.9	
	comp=Z,2μm,19.1s,baz=303,slow=35						
MSVF	**Nonsavu**	**24.79**	**118**	*i* P	**P**	**23 29 07.8**	**-0.2**
MSVF				pmax	pmax		
	comp=Z,75nm,1.0s						
MSVF	**Nonsavu**	**24.79**	**118**	P	**P**	**23 29 07.8**	**-0.2**
MSVF				IAmb	IAmb	23 29 24.4	
	comp=Z,101nm,1.0s						
INKA	**Innaminka**	**24.83**	**212**	P	**P**	**23 29 08.6**	**+0.5**
CMSA	**Cobar Meteorol**	**26.07**	**199**	P	**P**	**23 29 19.9**	**+0.6**
	baz=26,SNR=62						
CMSA	**Cobar Meteorol**	**26.07**	**199**	P	**P**	**23 29 20.7**	**+1.4**
TAVE	**Taveuni**	**26.26**	**114**	P	P	23 29 29.5	+8.3
	comp=Z,49nm,0.7s						
AS31	**Alice Springs**	**26.36**	**228**	P	**P**	**23 29 20.8**	**-1.3**
ASAR	**Alice Springs**	**26.36**	**228**	P	**P**	**23 29 20.4**	**-1.7**
	comp=Z,20nm,0.7s,baz=60,slow=8.6,SNR=56						
ASAR				PcP	**PcP**	**23 32 45.8**	**-1.9**
	comp=Z,1.9nm,0.7s,baz=43,slow=4.3,SNR=2.7						
ASAR				S	**S**	**23 33 55.8**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=62,slow=27,SNR=2.1						
ASAR				ScP	**ScP**	**23 36 27.1**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=57,slow=3.8,SNR=2.8						
ASAR				LR	LR	23 39 12.4	
	comp=Z,3μm,19.4s,baz=114,slow=35						
ASAR	**Alice Springs**	**26.36**	**228**	P	**P**	**23 29 20.2**	**-1.9**
ASAR	**Alice Springs**	**26.36**	**228**	P	**P**	**23 29 20.2**	**-1.9**
MGCD	**Mangrove Creek**	**26.45**	**188**	P	**P**	**23 29 23.9**	**+1.1**
	baz=26,SNR=6.5						
KNRA	**Kununurra**	**27.28**	**249**	P	**P**	**23 29 28.6**	**-1.8**
	baz=27,SNR=10						
KNRA	**Kununurra**	**27.28**	**249**	P	**P**	**23 29 31.1**	**+0.7**
STKA	**Stephens Creek**	**27.89**	**205**	P	**P**	**23 29 34.5**	**-1.2**
	comp=Z,19nm,0.6s,baz=18,slow=11,SNR=17						
STKA				S	**S**	**23 34 16.1**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=45,slow=19,SNR=1.1						
STKA				ScP	**ScP**	**23 36 30.9**	**+0.5**
	comp=Z,9.8nm,1.0s,baz=333,slow=2.3,SNR=6.3						
STKA				LR	LR	23 40 45.3	
	comp=Z,4μm,18.6s,baz=22,slow=37						
STKA	**Stephens Creek**	**27.89**	**205**	P	**P**	**23 29 35.0**	**-0.8**
	baz=28,SNR=38						
STKA	**Stephens Creek**	**27.89**	**205**	P	**P**	**23 29 34.6**	**-1.2**
STKA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
STKA	**Stephens Creek**	**27.89**	**205**	P	**P**	**23 29 34.6**	**-1.2**
LBMI	**Labuha**	**28.27**	**282**	P	**P**	**23 29 39.8**	**+0.5**
	comp=Z,1μmcomp=Z,3μmcomp=Z,101nm,1.1s						
TNTI	**Ternate**	**28.75**	**284**	P	**P**	**23 29 43.5**	**-0.1**
TNTI				IAmb	IAmb	23 29 57.6	
	comp=Z,65nm,1.1s						
CAN	**Canberra**	**28.85**	**190**	P	**P**	**23 29 44.4**	**+0.1**
CAN				pmax	pmax		
	comp=Z,101nm,1.8s						
CAN	**Canberra**	**28.85**	**190**	P	**P**	**23 29 44.4**	**+0.1**
CAN				IAmb	IAmb	23 29 50.5	
	comp=Z,101nm,1.8s						
SANI	**Sanana**	**29.46**	**278**	P	**P**	**23 29 51.5**	**+1.6**
	comp=Z,34nm,0.8s						
HTT	**Hallett**	**30.39**	**208**	P	**P**	**23 29 57.7**	**-0.3**
	baz=30,SNR=3.3						
BATI	**Baumata**	**31.30**	**262**	LR	LR	23 45 10.4	
	comp=Z,5μm,18.6s,baz=114,slow=41						
BBOO	**Buckleboo**	**31.30**	**212**	P	**P**	**23 30 04.4**	**-1.5**
	baz=31,SNR=12						
BBOO	**Buckleboo**	**31.30**	**212**	P	**P**	**23 30 04.6**	**-1.4**
BBOO				IAmb	IAmb	23 30 10.2	
	comp=Z,35nm,1.1s						
WRKA	**Warakurna**	**31.39**	**232**	P	**P**	**23 30 05.2**	**-1.6**
	baz=31,SNR=17						
KMSI	**Cibinong**	**31.98**	**282**	P	**P**	**23 30 14.2**	**+2.1**
ARPS	**Mount Arapiles**	**32.13**	**200**	P	**P**	**23 30 13.5**	**+0.4**
	baz=32,SNR=11						
DAV	**Davao City (W)**	**32.60**	**295**	LR	LR	23 41 26.2	
	comp=Z,511nm,21.4s,baz=102,slow=33						
GTOI	**Gorontalo**	**32.93**	**282**	P	**P**	**23 30 22.4**	**+1.9**
	comp=Z,278nmcomp=Z,21nm,0.7s						
AFI	**Afiamalu**	**33.23**	**105**	P	**P**	**23 30 23.3**	**+0.1**
	comp=Z,25nm,0.7s,baz=225,slow=4.3,SNR=3.6						
AFI				LR	LR	23 42 44.1	
	comp=Z,3μm,18.2s,baz=288,slow=34						
AFI	**Afiamalu**	**33.23**	**105**	P	**P**	**23 30 23.3**	**+0.1**
AFI				pmax	pmax		
	comp=Z,43nm,0.9s						
AFI	**Afiamalu**	**33.23**	**105**	IAmb	IAmb	23 30 50.0	
	comp=Z,43nm,0.9s						
RAO	**Raoul Island**	**33.74**	**135**	LR	LR	23 40 18.6	
	comp=Z,538nm,19.9s,baz=160,slow=29						
APSI	**Ampana**	**33.94**	**279**	P	**P**	**23 30 31.2**	**+2.0**
	comp=Z,632nmcomp=Z,41nm,1.2s						
BSSI	**Bau Bau, Buton**	**34.44**	**269**	P	**P**	**23 30 34.4**	**+0.7**
	comp=Z,1μmcomp=Z,76nm,1.3s						
FORT	**Forrest**	**34.

comp=Z,502nm,21.8s,baz=160,slow=32
QIZ Qiongzhong 51.55 301 P P 23 32 52.0 0.0
QIZ S **S 23 40 14.0 +2.8**
QIZ LR LR
comp=Z,620nm,20.0s
QIZ LR LR
comp=Z,1μm,19.0s
QIZ LR LR
comp=Z,1μm,19.6s
NJ2 Nanjing 51.94 320 *e*P **P 23 32 57.3 +2.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
ASAJ Asahikawa 52.03 349 LR LR 23 53 37.7
comp=Z,840nm,20.0s,baz=158,slow=35
RGRI Rengat 53.08 275 P **P 23 33 06.0 +2.5**
comp=Z,153nm,0.4s
GULI GuiLin 54.04 308 ⇑P **P 23 33 09.5 -0.8**
GULI pmax pmax
comp=Z,50nm,1.1s
GULI LR LR
comp=Z,620nm,23.9s
GULI LR LR
comp=Z,760nm,24.9s
GULI LR LR
comp=Z,1μm,20.1s
BKNI Bangkinang 54.46 275 P **P 23 33 16.0 +2.0**
comp=Z,5μmcomp=Z,124nm,0.5s
BKNI Bangkinang 54.46 275 P 23 33 16.0 +2.4
YSS Yuzh-Sakhalins 54.73 350 *e*P **P 23 33 15.0 +0.1**
YSS *e**SP **sP 23 33 26.4 0.0**
YSS *e* 23 34 17.5
YSS *e* 23 35 23.4
YSS *e*S **S 23 40 55.3 +1.7**
YSS *e*SSS SSS 23 46 32.8
YSS pmax pmax
comp=Z,300nm,6.9s
YSS MLR MLR
comp=Z,700nm,15.0s
YSS MLR MLR
comp=N,400nm,16.0s
YSS MLR MLR
comp=E,300nm,15.0s
PPT Papeete 54.88 107 LR LR 23 52 51.0
comp=E,682nm,19.5s,baz=266,slow=32
PPT2 Papeete2 54.88 107 *e*LQ LQ 23 46 36.7
comp=E,2μm,27.5s
PPT2 *e*LR LR 23 48 57.7
comp=E,644nm,20.8s,baz=274
PPI Padang Panjang 54.98 274 P **P 23 33 15.3 -2.1**
comp=E,302nmcomp=E,35nm,0.9s
USRK Ussuriysk Ar. 54.99 340 P **P 23 33 15.9 -0.9**
comp=E,2.6nm,0.9s,baz=162,slow=6.1,SNR=3.3
USRK LR LR 23 52 59.8
comp=E,327nm,21.8s,baz=147,slow=32
DL2 Dalian 55.17 328 P **P 23 33 19.5 +1.3**
DL2 S **S 23 41 06.8 +7.0**
DL2 pmax pmax
comp=E,24nm,1.3s
DL2 pmax pmax
comp=E,280nm,6.2s
DL2 LR LR
comp=E,610nm,15.6s
DL2 LR LR
comp=E,520nm,16.3s
DL2 LR LR
comp=E,690nm,17.5s
TIA Tai'an 55.78 323 *e*P **P 23 33 20.8 -1.9**
TIA S **S 23 41 01.5 -6.7**
TIA pmax pmax
comp=E,13nm,1.2s
TIA LR LR
comp=E,580nm,18.6s
TIA LR LR
comp=E,360nm,16.2s
TIA LR LR
comp=E,730nm,16.7s
MNSI Mandailing Nat 55.97 276 P **P 23 33 23.1 -1.4**
MDJ Mudanjiang 56.21 338 P P 23 33 30.5 +4.9
MDJ sP pP 23 33 35.0 +1.1
MDJ S **S 23 41 21.0 +7.5**
MDJ pmax pmax
comp=E,10.0nm,1.4s
MDJ pmax pmax
comp=E,240nm,5.5s
MDJ LR LR
comp=E,400nm,14.6s
MDJ LR LR
comp=E,300nm,16.9s
MDJ LR LR
comp=E,540nm,17.2s
SNY Shenyang 56.43 332 ⇑P P 23 33 32.5 +5.3
SNY pmax pmax
comp=E,6.0nm,0.3s
SNY pmax pmax
comp=E,190nm,5.3s
SNY LR LR
comp=E,390nm,15.5s
SNY LR LR
comp=E,310nm,15.5s
SNY LR LR
comp=E,680nm,14.3s
PSI Prapat 56.94 278 LR LR 00 01 47.9
comp=E,231nm,20.3s,baz=132,slow=40
CN2 Changchun 57.17 335 *e*P **P 23 33 33.8 +1.4**
CN2 *e*S **S 23 41 21.0 -5.2**
CN2 pmax pmax
comp=E,10.0nm,1.2s
CN2 LR LR
comp=E,500nm,22.0s
CN2 LR LR
comp=E,600nm,22.0s
CN2 LR LR
comp=E,600nm,21.3s
SKR Severo-Kuril's 57.35 1 *e*P P 23 33 28.4 -5.1
SKR *e*S **S 23 41 35.8 +7.5**
SKR MLR MLR
comp=Z,500nm,17.0s
SKR MLR MLR
comp=Z,1μm,17.0s
GYA Guiyang 57.52 307 ⇓*i*P **P 23 33 35.3 -0.1**
GYA pP pP 23 33 41.8 -0.9
GYA S **S 23 41 35.5 +3.8**
GYA ScS **ScS 23 43 23.5 -0.1**
GYA pmax pmax
comp=Z,22nm,1.0s
GYA pmax pmax
comp=Z,360nm,4.8s
GYA LR LR
comp=Z,960nm,21.9s
SLVN Son La 57.57 301 P **P 23 33 35.7 -0.1**
LYN LuoYang 57.65 319 ⇑P **P 23 33 35.3 -0.7**
LYN pP pP 23 33 45.5 +1.1
LYN S **S 23 41 29.0 -3.9**
LYN pmax pmax
comp=Z,10.0nm,0.9s
LYN pmax pmax
comp=Z,230nm,7.1s
LYN LR LR
comp=Z,790nm,17.7s
LYN LR LR
comp=Z,700nm,18.6s
LYN LR LR
comp=Z,970nm,17.6s
BNX BinXian 57.98 337 ⇑P **P 23 33 36.8 -1.3**
BNX pmax pmax
comp=Z,32nm,1.3s
BNX pmax pmax
comp=Z,370nm,5.4s
HNS HongShan 58.02 322 ⇑P **P 23 33 37.0 -1.6**
HNS *e*S **S 23 41 36.8 -0.8**
HNS pmax pmax
comp=Z,17nm,1.2s
HNS LR LR
comp=Z,530nm,15.4s
HNS LR LR
comp=Z,650nm,17.9s
HNS LR LR
comp=Z,560nm,17.1s
GSI Gunungsitoli 58.03 276 P **P 23 33 40.5 +1.4**
KLR Kul'dur 59.52 342 LR LR 23 57 50.3
comp=Z,240nm,22.0s,baz=154,slow=34
KLR Kul'dur 59.52 342*ce*P **P 23 33 47.6 -1.2**
KLR pmax pmax
comp=Z,14nm,1.5s
TIY Taiyuan 59.61 321 ⇓P **P 23 33 52.5 +2.8**
TIY pmax pmax
comp=Z,180nm,4.9s
TIY LR LR
comp=Z,480nm,12.3s
TIY LR LR
comp=Z,480nm,14.7s
TIY LR LR
comp=Z,620nm,19.4s
PET Petropavlovsk 59.76 2 *e*P **P 23 33 51.8 +1.5**
PET 23 48 21.7
PET pmax pmax
comp=Z,32nm,0.6s
PET pmax pmax
comp=Z,400nm,13.2s
PET MLR MLR
comp=Z,900nm,20.0s
PET MLR MLR
comp=Z,1μm,20.0s
PEA0B Petropavlovsk- 59.81 2*ce*P **P 23 33 51.6 +0.9**
PEA0B Petropavlovsk- 59.81 2 P **P 23 33 52.3 +1.6**
PETK Petropavlovsk- 59.81 2 P **P 23 33 50.1 -0.6**
comp=Z,7.6nm,0.7s,baz=167,slow=6.8,SNR=8.1
PETK LR LR 23 55 41.2
comp=Z,610nm,21.7s,baz=175,slow=32
PETK Petropavlovsk- 59.81 2 P **P 23 33 51.5 +0.8**
PETK Petropavlovsk- 59.81 2 P **P 23 33 51.5 +0.8**
KMI Kunming 60.09 304 ⇑P **P 23 33 53.5 0.0**
KMI sP pP 23 34 00.5 -0.3
KMI PcP **PcP 23 34 42.0 +2.8**
KMI S **S 23 42 08.0 +2.6**
KMI sS pS 23 42 17.0 +2.4
KMI pmax pmax
comp=Z,40nm,1.2s
KMI pmax pmax
comp=Z,280nm,3.7s
KMI LR LR
comp=Z,360nm,15.8s
KMI LR LR
comp=Z,530nm,21.7s
KMI LR LR
comp=Z,740nm,20.7s
CM31 Chiang Mai Arr 60.88 295 P **P 23 34 00.1 +1.4**
CMAR Chiang Mai Arr 60.88 295 P **P 23 33 58.9 +0.1**
comp=Z,32nm,1.1s,baz=113,slow=4.9,SNR=51
CMAR LR LR 23 59 05.1
comp=Z,394nm,21.0s,baz=130,slow=35
CMAR Chiang Mai Arr 60.88 295 P **P 23 33 58.3 -0.4**
CMAR Chiang Mai Arr 60.88 295 P **P 23 33 58.3 -0.4**
CHTO Chiang Mai 61.00 296 P **P 23 33 59.9 +0.4**
CHTO pmax pmax
comp=Z,28nm,1.1s
CHTO Chiang Mai 61.00 296 P **P 23 33 59.9 +0.4**
CHTO IAmb IAmb 23 34 42.1
comp=Z,28nm,1.1s
PZH PanZhiHua 61.48 305 ⇓P **P 23 34 02.0 -0.8**
PZH pP **pP 23 34 09.5 -0.6**
PZH S **S 23 42 21.8 -1.2**
PZH SS **SS 23 46 26.8 +2.3**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,150nm,5.7s
PZH LR LR
comp=Z,880nm,16.3s
PZH LR LR
comp=Z,830nm,17.5s
PZH LR LR
comp=Z,770nm,18.1s
SHEM Shemya Is, Ala 61.55 13 LR LR 23 59 34.6
comp=Z,742nm,19.1s,baz=174,slow=35
XLT XiLinHaoTe 61.65 329 *e*P **P 23 34 01.8 -1.8**
XLT sP pP 23 34 10.0 -1.9
XLT S **S 23 42 25.5 +1.1**
XLT sS pS 23 42 37.5 +2.9
XLT pmax pmax
comp=Z,19nm,1.1s
XLT pmax pmax
comp=Z,250nm,5.7s
XLT LR LR
comp=Z,530nm,16.4s
XLT LR LR
comp=Z,560nm,18.9s
XLT LR LR
comp=Z,690nm,17.7s
CD2 Chengdu 61.87 310 P **P 23 34 05.0 -0.2**
CD2 S **S 23 42 30.3 +2.7**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 LR LR
comp=Z,880nm,22.6s
CD2 LR LR
comp=Z,780nm,19.6s
HHC Hu-ho-hao-te 62.11 324 *e*P **P 23 34 08.5 +1.8**
HHC sP pP 23 34 17.5 +2.4
HHC S **S 23 42 36.8 +6.5**
HHC sS pS 23 42 42.8 +2.3
HHC pmax pmax
comp=Z,4.0nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.6s
HHC LR LR
comp=Z,440nm,15.4s
HHC LR LR
comp=Z,470nm,15.9s
HHC LR LR
comp=Z,680nm,18.8s
TAOE Nuku Hiva Isla 64.05 96 *e*LR LR 23 53 14.3
comp=Z,1μm,22.1s
LZH Lanzhou 64.36 315 *e*P **P 23 34 22.8 +1.0**
LZH sP pP 23 34 31.0 +0.8
LZH PcP **PcP 23 34 53.5 -2.7**
LZH S **S 23 43 00.5 +1.8**
LZH sS pS 23 43 11.0 +2.3
LZH pmax pmax
comp=Z,24nm,1.5s
LZH pmax pmax
comp=Z,290nm,5.4s
LZH LR LR
comp=Z,610nm,18.4s
LZH LR LR
comp=Z,580nm,20.6s
LZH LR LR
comp=Z,760nm,19.5s
ZEA Zeya 64.83 342 *e*P **P 23 34 23.6 -0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 66.35 358*ce*P **P 23 34 33.4 -0.6**
MA2 pmax pmax
comp=Z,15nm,1.0s
MA2 Magadan 66.35 358 P **P 23 34 33.2 -0.8**
MA2 IAmb IAmb 23 34 50.2
comp=Z,18nm,0.8s
GTA Gaotai 68.78 317 ⇓P **P 23 34 50.8 +0.9**
GTA pP pP 23 34 55.3 -3.1
GTA sP sP 23 34 58.8 -2.1
GTA S **S 23 43 51.0 -1.1**
GTA SS **SS 23 48 19.0 +1.4**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,280nm,8.0s
GTA LR LR
comp=Z,260nm,15.1s
GTA LR LR
comp=Z,290nm,19.9s
GTA LR LR
comp=Z,300nm,18.7s
ULN Ulaanbaatar 69.00 328*ce*P **P 23 34 48.8 -2.4**
ULN pmax pmax
comp=Z,15nm,1.3s
ULN Ulaanbaatar 69.00 328 P **P 23 34 50.7 -0.5**
ULN IAmb IAmb 23 35 34.2
comp=Z,68nm,1.9s
SONM Songino Array 69.34 327 P **P 23 34 52.2 -1.0**
comp=Z,12nm,1.1s,baz=137,slow=5.0,SNR=34
SONM LR LR 00 06 16.0
comp=Z,373nm,18.0s,baz=112,slow=37
SONM Songino Array 69.34 327 P **P 23 34 52.6 -0.6**
SONM pmax pmax
comp=Z,26nm,1.4s
SONM Songino Array 69.34 327 P **P 23 34 52.6 -0.6**
SONM IAmb IAmb 23 35 36.8
comp=Z,26nm,1.4s
SHL Shillong 69.38 300 P **P 23 34 53.3 -0.7**
SHL pmax pmax
comp=Z,43nm,0.8s
SHL Shillong 69.38 300 P **P 23 34 53.3 -0.7**
SEY Seymchan 69.66 359 LR LR 00 01 26.7
comp=Z,305nm,21.8s,baz=186,slow=32
SEY Seymchan 69.66 359 *i* P **P 23 34 56.0 +1.3**
VNDA Vanda 70.68 178 P **P 23 35 01.9 +1.0**
comp=Z,6.9nm,0.9s,baz=331,slow=8.7,SNR=4.5
VNDA LR LR 00 00 21.5
comp=Z,366nm,21.0s,baz=2.5,slow=31
GOMU GeErMu 70.89 312 P **P 23 35 08.0 +4.7**
GOMU sP sP 23 35 15.0 +0.6
GOMU S **S 23 44 18.0 +0.4**
GOMU pmax pmax
comp=Z,6.0nm,1.3s
GOMU pmax pmax
comp=Z,180nm,5.7s
GOMU LR LR
comp=Z,410nm,18.4s
GOMU LR LR
comp=Z,310nm,18.6s
GOMU LR LR
comp=Z,320nm,17.9s
LSA Lhasa 71.35 304 P **P 23 35 05.0 -1.3**
LSA pmax pmax
comp=Z,74nm,1.3s
YAK Yakutsk 71.49 348 LR LR 00 06 33.0
comp=Z,258nm,19.1s,baz=118,slow=36
YAK Yakutsk 71.49 348 *e*P **P 23 35 05.2 -0.7**
YAK *e**PP **sP 23 35 22.3 +5.6**
YAK *e* 23 37 48.8
YAK *e*PPP PPP 23 39 25.3
YAK *e*S **S 23 44 23.6 +0.9**
YAK *e* 23 45 05.4
YAK *e*SS **SS 23 48 54.0 -4.2**
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK pmax pmax
comp=Z,83nm,3.3s
YAK pmax pmax
comp=N,37nm,2.5s
YAK pmax pmax
comp=E,25nm,3.0s
YAK smax smax
comp=E,126nm,4.3s
YAK smax smax
comp=N,169nm,4.8s
YAK MLR MLR
comp=Z,371nm,16.0s
YAK MLR MLR
comp=N,669nm,17.0s
ZAK Zakamensk 72.49 328 *e*P **P 23 35 10.8 -1.5**
ZAK pmax pmax
comp=Z,23nm,1.1s
BOD Bodaibo 72.58 338 *e*P **P 23 35 08.7 -3.8**
BOD pmax pmax
comp=Z,8.0nm,1.4s
MOY Mondy 74.41 328 *e*P **P 23 35 22.5 -1.1**
MOY pmax pmax
comp=Z,35nm,1.3s
CHLP Challavanipeta 74.48 291 *e*P **P 23 35 25.1 +0.6**
BILL Bilibino 75.17 4 ⇑*i*P **P 23 35 26.0 -1.5**
BILL *i* 23 35 33.1
BILL *i* S **S 23 45 06.5 +2.3**
BILL pmax pmax
comp=Z,34nm,1.3s
BILL MLR MLR
comp=Z,487nm,17.0s
BILL Bilibino 75.17 4 P **P 23 35 26.9 -0.6**
BILL IAmb IAmb 23 35 29.2
comp=Z,24nm,1.0s
GUN Gumba 75.20 301 *e*P **P 23 35 28.0 -1.0**
comp=Z,133nm,0.8s
PKI Pulchoki 75.51 301 *e*P **P 23 35 29.3 -1.4**
comp=Z,74nm,1.1s
PKIN Phulchoki 75.52 301 *e*P **P 23 35 29.2 -1.5**
PALK Pallekele 75.58 279 LR LR 00 13 12.0
comp=Z,286nm,19.2s,baz=219,slow=39
KKN Kakani 75.68 301 *e*P **P 23 35 30.3 -1.3**
comp=Z,48nm,0.8s
DMN Daman 75.78 301 *e*P **P 23 35 31.2 -1.0**
comp=Z,165nm,1.1s
GKN Gorkha 76.28 301 *e*P **P 23 35 33.6 -1.3**
comp=Z,119nm,1.1s
PVM Polavaram 76.48 290 *e*P **P 23 35 36.6 +0.7**
KDAK Kodiak Island 77.01 26 LR LR 00 07 18.3
comp=Z,372nm,18.4s,baz=254,slow=34
ANM Nome 77.09 16 P **P 23 35 39.0 +0.5**
baz=220
KOLN Koldanda 77.11 300 *e*P **P 23 35 38.2 -1.5**
DANN Dangsing 77.12 301 *e*P **P 23 35 38.2 -1.6**
MYLAV Mylavaram 77.31 289 *e*P **P 23 35 41.6 +0.9**
SKHT Srikalahasti 77.62 286 *e*P **P 23 35 43.5 +1.0**
SKHT *e*sP **pP 23 35 47.8 -2.4**
PYUN Piuthan 77.71 301 *e*P **P 23 35 41.3 -1.8**
comp=Z,97nm,1.1s
ADKI Addanki 77.76 288 *e*sP P 23 35 48.4 +5.1
NJS Nagarjunasagar 78.52 288 *e*P **P 23 35 48.4 +0.9**
RCLA Racherla 78.65 287 *e*P **P 23 35 48.6 +0.4**
RCLA *e*pP **PcP 23 35 52.3 -4.8**
RCLA *e*S **S 23 45 46.7 +2.6**
M19K Big River Lodg 78.80 22 IAmb IAmb 23 36 34.3
comp=Z,46nm,1.1s
M19K Big River Lodg 78.80 22 P **P 23 35 48.7 +0.6**
baz=231
L19K White Mountain 78.81 21 P **P 23 35 48.4 +0.2**
L19K IAmb IAmb 23 36 34.0
comp=Z,53nm,1.2s
L19K White Mountain 78.81 21 P **P 23 35 48.3 +0.2**
baz=231,SNR=6.6
SRLM Srisailam 78.83 288 *e*P **P 23 35 50.0 +0.8**
WMQ Urumqi 78.86 317 *e*P **P 23 35 50.0 +1.1**
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ LR LR
comp=Z,610nm,20.5s
WMQ LR LR
comp=Z,300nm,20.5s
TTA Tatalina 78.87 21 P **P 23 35 48.8 +0.2**
TTA pmax pmax
comp=Z,31nm,1.4s
TTA Tatalina 78.87 21 P **P 23 35 48.8 +0.2**
TTA IAmb IAmb 23 35 50.6
comp=Z,30nm,1.4s
TTA Tatalina 78.87 21 P **P 23 35 48.6 +0.1**
baz=230
HYBB Hyderabad (bro 79.39 289 *e*P **P 23 35 53.0 +0.8**
HYBB *e*S **S 23 45 54.7 +2.7**
GCSA Galena City Sc 79.78 19 P **P 23 35 53.3 0.0**
baz=228,SNR=5.5
K20K Telida 79.83 21 P **P 23 35 53.4 -0.3**
baz=231
SRSP Sriramsagar 79.86 291 *e*P **P 23 35 55.4 +0.6**
SUA Susitna One 79.92 23 P **P 23 35 54.5 +0.2**
baz=235
RC01 Rabbit Creek A 80.11 24 P **P 23 35 55.1 -0.1**
baz=236
URV Uravakonda 80.17 286 *e*P **P 23 35 57.5 +1.0**
TIXI Tiksi 80.28 352 LR LR 00 10 12.6
comp=Z,193nm,20.3s,baz=172,slow=35
TIXI Tiksi 80.28 352*ce*P **P 23 35 57.1 +1.2**
TIXI pmax pmax
comp=Z,11nm,2.5s
J20K Nowinta River 80.31 20 P **P 23 35 56.7 +0.4**
baz=231,SNR=7.0
M22K Willow 80.33 23 P **P 23 35 56.3 0.0**
baz=235
RDOG Red Dog Mine 80.38 15 P **P 23 35 56.8 +0.2**
baz=222
PWL Port Wells 80.55 24 P **P 23 35 57.4 -0.2**
baz=237,SNR=15
CAST Castle Rocks 80.57 21 P **P 23 35 56.8 -0.9**
baz=233,SNR=12
PMR Palmer 80.63 24 IAmb IAmb 23 36 42.2
comp=Z,37nm,1.2s
PMR Palmer 80.63 24 P **P 23 35 57.5 -0.5**
baz=236,SNR=6.6
CUT Chulitna 80.65 23 P **P 23 35 56.8 -1.3**
baz=235
CHUM Lake Minchumin 80.77 21 P **P 23 35 58.6 0.0**
baz=233,SNR=9.9
SML Sawmill 81.07 24 P **P 23 36 00.0 -0.4**
baz=237,SNR=9.3
GLI Glacier Island 81.08 25 P **P 23 35 60.0 -0.4**
baz=238

DGZ	Jazzator, Alta	81.16 323	*i* P		P	23 36 00.9	-0.4
DGZ			pmax		pmax		
comp=Z,5.0nm,1.2s							
TRF	Thorofare Moun	81.25 22	P		P	23 36 00.4	-1.1
baz=235							
BPAW	Bear Paw Mtn.	81.37 21	P		P	23 35 59.6	-2.3
baz=234							
SCM	Sheep Creek Mo	81.49 24	P		P	23 36 02.3	-0.4
baz=238							
I21K	Tanana	81.67 20	P		P	23 36 03.4	0.0
baz=233							
H21K	Melozitna Rive	81.69 19	P		P	23 36 03.4	-0.2
baz=232							
DIV	Divide	81.76 25	IAmb	IAmb		23 36 06.1	
comp=Z,19nm,0.9s							
KLU	Klutina	81.88 25	P		P	23 36 04.8	+0.1
baz=239,SNR=13							
MCK	McKinley	81.91 22	P		P	23 36 03.6	-1.1
baz=236,SNR=19							
MLY	Manley	82.00 20	P		P	23 36 04.7	-0.6
baz=234,SNR=8.5							
M24K	Tolsona, Glenn	82.09 24	P		P	23 36 06.0	+0.2
baz=239,SNR=9.1							
BMRM	Bremner River	82.17 25	P		P	23 36 06.3	+0.1
baz=240							
NEA2	Nenana	82.34 21	P		P	23 36 05.8	-1.2
baz=236,SNR=6.9							
N25K	Chitina, Valde	82.49 25	P		P	23 36 08.1	+0.2
baz=240,SNR=9.6							
I23K	Minto, Yukon-K	82.55 21	IAmb	IAmb		23 36 28.9	
comp=Z,28nm,1.6s							
I23K	Minto, Yukon-K	82.55 21	P		P	23 36 06.8	-1.2
baz=236							
HARP	HAARP	82.65 24	P		P	23 36 09.1	+0.4
baz=240							
NDI	New Delhi	82.80 300	*e*P		P	23 36 09.0	-1.2
PAX	Paxson	82.82 23	P		P	23 36 09.5	-0.2
baz=239							
TCOL	CIGO, UAF Yank	82.93 21	IAmb	IAmb		23 36 54.1	
comp=Z,32nm,1.1s							
TCOL	CIGO, UAF Yank	82.93 21	P		P	23 36 09.1	-0.9
baz=237							
COLA	College	82.93 21	P		P	23 36 08.7	-1.3
COLA			pmax		pmax		
comp=Z,30nm,1.1s							
COLA	College	82.93 21	P		P	23 36 08.7	-1.3
COLA			IAmb	IAmb		23 36 54.1	
comp=Z,30nm,1.1s							
COLA	College	82.93 21	P		P	23 36 09.0	-1.0
baz=237							
MESA	MESA	82.94 27	P		P	23 36 12.2	+1.7
baz=243							
HDA	Harding Lake	83.01 22	P		P	23 36 09.6	-0.9
baz=238,SNR=9.1							
QSPA	South Pole Qui	83.08 180	LR	LR		00 10 27.2	
comp=Z,340nm,18.0s,baz=6.0,slow=34							
QSPA	South Pole Qui	83.08 180	P		P	23 36 10.8	-0.3
IL31		83.22 21	IAmb	IAmb		23 36 53.0	
comp=Z,22nm,1.2s							
ILAR	Eielson Array	83.22 21	P		P	23 36 10.0	-1.6
comp=Z,6.4nm,0.7s,baz=256,slow=4.2,SNR=32							
ILAR			LR	LR		00 11 15.0	
comp=Z,1μm,19.7s,baz=242,slow=34							
MK31	Makanchi Array	83.43 319	*i* P		P	23 36 12.2	-0.9
MK31	Makanchi Array	83.43 319	IAmb	IAmb		23 36 33.2	
comp=Z,14nm,0.9s							
MKAR	Makanchi Array	83.43 319	P		P	23 36 11.5	-1.6
comp=Z,3.9nm,0.8s,baz=103,slow=5.5,SNR=23							
MKAR			LR	LR		00 14 58.1	
comp=Z,370nm,19.4s,baz=103,slow=37							
H24K	Noodor Dome	83.45 20	P		P	23 36 12.4	-0.4
baz=237							
RIDG	Independent Ri	83.45 23	P		P	23 36 12.5	-0.3
baz=240,SNR=9.5							
COLD	Coldfoot	83.47 19	IAmb	IAmb		23 36 56.1	
comp=Z,43nm,1.5s							
COLD	Coldfoot	83.47 19	P		P	23 36 12.5	-0.2
baz=235							
MENT	Mentasta	83.50 24	IAmb	IAmb		23 36 57.3	
comp=Z,18nm,1.1s							
M26K	Nabesna, AK	83.53 24	P		P	23 36 13.3	0.0
baz=242							
MAKZ	Makanchi	83.64 319	P		P	23 36 12.8	-1.4
MAKZ			pmax		pmax		
comp=Z,24nm,0.9s							
MAKZ	Makanchi	83.64 319	P		P	23 36 12.8	-1.4
MAKZ			IAmb	IAmb		23 36 34.3	
comp=Z,24nm,0.9s							
PINM	Pinnacle	83.67 27	P		P	23 36 14.2	+0.1
baz=244							
L26K	Log Cabin Wild	83.69 24	P		P	23 36 14.3	+0.3
baz=241,SNR=7.8							
J25K	Salcha River,	83.70 22	P		P	23 36 13.2	-0.9
baz=239,SNR=20							
DOT	Dot Lake	83.71 23	IAmb	IAmb		23 36 15.9	
comp=Z,22nm,0.8s							
SCRK	Sand Creek	83.90 23	P		P	23 36 14.3	-1.0
baz=241,SNR=9.7							
M27K	Edge Creek, AK	83.97 25	P		P	23 36 16.1	+0.5
baz=243							
ZALV	Zalesovo Beam	84.19 326	P		P	23 36 14.2	-2.5
comp=Z,2.0nm,0.6s,baz=110,slow=6.5,SNR=11							
ZALV			LR	LR		00 14 03.6	
comp=Z,268nm,20.8s,baz=115,slow=36							
ZALV	Zalesovo Beam	84.19 326	*i* P		P	23 36 14.1	-2.6
ZALV			pmax		pmax		
comp=Z,2.0nm,0.6s							
A21K	Barrow	84.25 14	P		P	23 36 16.1	-0.6
baz=228							
YUK3	Moose Creek	84.31 26	P		P	23 36 17.6	+0.1
baz=244,SNR=12							
J26L	Joseph Creek	84.32 22	P		P	23 36 16.8	-0.5
baz=241							
L27K	Beaver Creek,	84.32 24	P		P	23 36 17.2	0.0
baz=243							
BVCY	Beaver Creek	84.42 25	P		P	23 36 18.4	+0.6
baz=244							
TOLK	Toolik Lake Re	84.48 18	IAmb	IAmb		23 36 54.7	
comp=Z,15nm,0.8s							
TOLK	Toolik Lake Re	84.48 18	P		P	23 36 18.0	+0.1
baz=235							
MAW	Mawson	84.55 203	LR	LR		00 11 21.1	
comp=Z,385nm,19.4s,baz=70,slow=34							
YUK6	Outpost Mounta	84.88 27	P		P	23 36 21.2	+0.8
baz=246,SNR=6.7							
YUK4	Talbot Arm	84.91 26	P		P	23 36 21.6	+1.1
baz=246							
TARG	Taragay, Kyrgy	85.20 313	IAmb	IAmb		23 37 11.0	
comp=Z,16nm,1.0s							
HYT	Haines Junctio	85.21 27	P		P	23 36 22.6	+0.6
baz=247,SNR=25							
EGAK	Eagle	85.36 23	IAmb	IAmb		23 37 07.4	
comp=Z,27nm,1.0s							
EGAK	Eagle	85.36 23	P		P	23 36 22.6	+0.2
baz=243							
SKAG	Skagway	85.70 29	IAmb	IAmb		23 36 54.3	
comp=Z,22nm,1.2s							
SKAG	Skagway	85.70 29	P		P	23 36 25.8	+1.6
baz=249							
DAWY	Dawson	85.74 24	P		P	23 36 24.9	+0.5
baz=245,SNR=15							
KSH	Kashi	86.07 310	P		P	23 36 27.8	+1.1
KSH			pP		pP	23 36 33.5	-1.3
KSH			sP		sP	23 36 34.8	-3.1
KSH			S		S	23 47 01.8	+2.2
KSH			sS		ScS	23 47 08.3	-0.3
KSH			pmax		pmax		
comp=Z,13nm,1.1s							
KSH			LR		LR		
comp=Z,310nm,14.8s							
KSH			LR		LR		
comp=Z,270nm,17.2s							
KSH			LR		LR		
comp=Z,440nm,16.8s							
M30M	Minto, Yukon	86.21 25	P		P	23 36 27.0	+0.2
baz=247							
N31M	Braeburn, Yuko	86.24 27	P		P	23 36 27.6	+0.7
baz=248,SNR=16							
WHY	Whitehorse	86.35 28	P		P	23 36 28.0	+0.4
baz=249							
J29M	Klondike Camp	86.37 24	P		P	23 36 29.8	+2.2
baz=246,SNR=6.8							
I29M	Ogilvie Camp,	86.71 23	IAmb	IAmb		23 37 13.8	
comp=Z,40nm,1.1s							
I29M	Ogilvie Camp,	86.71 23	P		P	23 36 28.7	-0.4
baz=246,SNR=19							
KURK	Kurchatov	86.85 322	*ce*P		P	23 36 29.0	-1.1
KURK			pmax		pmax		
comp=Z,6.0nm,2.5s							
KURK	Kurchatov	86.85 322	P		P	23 36 29.0	-1.1
KURK			IAmb	IAmb		23 37 12.2	
comp=Z,32nm,1.9s							
KURBB	Kurchatov Arra	86.88 322	LR	LR		00 14 27.3	
comp=Z,284nm,21.8s,baz=85,slow=35							
NIL	Nilore	87.08 304	P		P	23 36 30.2	-1.5
NIL			pmax		pmax		
comp=Z,15nm,1.0s							
NIL	Nilore	87.08 304	P		P	23 36 30.2	-1.5
NIL			IAmb	IAmb		23 36 57.8	
comp=Z,15nm,0.9s							
M31M	Drury Creek, Y	87.11 26	P		P	23 36 31.0	-0.1
baz=250,SNR=10							
P33M	Teslin, Yukon	87.16 28	P		P	23 36 31.3	-0.1
baz=251							
BBB	Bella Bella	87.34 37	LR	LR		00 12 23.7	
comp=Z,1μm,18.1s,baz=265,slow=33							
FARO	Faro, Yukon	87.58 26	P		P	23 36 33.1	-0.3
baz=250,SNR=10							
AAK	Ala-Archa	87.80 313	LR	LR		00 16 15.9	
comp=Z,316nm,21.5s,baz=103,slow=36							
AAK	Ala-Archa	87.80 313	*i* P		P	23 36 35.5	+0.4
AAK			pmax		pmax		
comp=Z,2.0nm,1.0s							
AAK	Ala-Archa	87.80 313	P		P	23 36 36.8	+1.7
AAK			IAmb	IAmb		23 37 05.9	
comp=Z,17nm,1.5s							
DLBC	Dease Lake	87.97 31	LR	LR		00 14 14.9	
comp=Z,573nm,18.1s,baz=262,slow=34							
MMPY	Sheldon Lake,	88.62 26	P		P	23 36 38.7	+0.3
baz=252,SNR=6.5							
NRIK	Noril'sk	88.69 341	P		P	23 36 36.4	-2.1
comp=Z,3.0nm,0.8s,baz=112,slow=4.4,SNR=5.4							
NRIK			LR	LR		00 18 32.3	
comp=Z,248nm,18.6s,baz=102,slow=37							
NRIK	Noril'sk	88.69 341	*ce*P		P	23 36 37.1	-1.4
NRIK			pmax		pmax		
comp=Z,7.0nm,1.1s							
YBH	Yreka Blue Hor	88.70 48	LR	LR		00 09 21.9	
comp=Z,1μm,21.3s,baz=276,slow=31							
INK	Inuvik	89.57 21	LR	LR		00 14 04.8	
comp=Z,1μm,20.4s,baz=238,slow=34							
INK	Inuvik	89.57 21	P		P	23 36 42.0	-0.6
baz=250							
BTK	Batken	90.07 310	IAmb	IAmb		23 37 23.3	
comp=Z,21nm,1.3s							
KBL	Kabul	90.67 305	P		P	23 36 46.6	-2.2
KBL			pmax		pmax		
comp=Z,6.0nm,0.9s							
KBL	Kabul	90.67 305	P		P	23 36 46.6	-2.2
NVAR	Mina Array Bea	91.53 52	P		P	23 36 52.7	-0.1
comp=Z,2.2nm,0.7s,baz=249,slow=6.6,SNR=16							
NVAR			LR	LR		00 13 05.2	
comp=Z,700nm,19.6s,baz=272,slow=32							
NVAR	Mina Array Bea	91.53 52	P		P	23 36 54.3	+1.6
NV11	Mina Array Sit	91.65 52	P		P	23 36 53.4	+0.2
NV11			IAmb	IAmb		23 37 32.6	
comp=Z,17nm,1.2s							
RPN	Rapa Nui	91.77 117	LR	LR		00 10 03.3	
comp=Z,709nm,21.5s,baz=244,slow=30							
PFO	Pinyon Flats O	92.43 57	LR	LR		00 14 29.3	
comp=Z,935nm,18.1s,baz=256,slow=33							
C36M	Paulatuk	93.15 21	P		P	23 36 58.5	-0.7
baz=259							
A36M	Sachs Harbour	93.30 18	P		P	23 36 59.2	-0.7
baz=258							
NEW	Newport	93.58 42	LR	LR		00 16 51.1	
comp=Z,2μm,18.0s,baz=262,slow=34							
R11A	Troy Canyon, C	93.65 52	P		P	23 37 03.5	+1.0
R11A			IAmb	IAmb		23 37 36.9	
comp=Z,22nm,1.8s							
R11A	Troy Canyon, C	93.65 52	P		P	23 37 02.7	+0.2
baz=264,SNR=5.7							
ELK	Elko	94.15 50	LR	LR		00 13 55.9	
comp=Z,749nm,20.2s,baz=280,slow=32							
YKA	Yellowknife Ar	96.17 28	P		P	23 37 12.6	-0.6
comp=Z,7.8nm,0.9s,baz=267,slow=4.7,SNR=44							
YKA			LR	LR		00 23 01.6	
comp=Z,263nm,18.1s,baz=292,slow=37							
LPIG	La Paz	96.90 67	LR	LR		00 14 06.2	
comp=Z,1μm,20.1s,baz=250,slow=31							
PDAR	Pinedale Array	98.52 48	P		P	23 37 23.7	-0.9
comp=Z,1.0nm,0.8s,baz=200,slow=1.8,SNR=8.1							
PDAR			LR	LR		00 18 13.4	
comp=Z,329nm,19.3s,baz=286,slow=33							
ARU	Arti	99.35 326	LR	LR		00 25 26.6	
comp=Z,395nm,19.2s,baz=88,slow=37							
GEYT	Alibeck	99.74 307	LR	LR		00 24 07.4	
comp=Z,365nm,21.6s,baz=120,slow=36							
AKTO	Aktyubinsk	99.82 320	LR	LR		00 21 56.3	
comp=Z,184nm,21.9s,baz=83,slow=35							
APA	Apatity	108.10 340	||*i* P		Pdif	23 38 16.9	+11
APA			pmax		pmax		
comp=Z,13nm,0.7s							
APA			MLR	MLR			
comp=Z,1μm,23.0s							
KIV	Kislovodsk	110.89 314	*i* PKIKP		PKiKP	23 42 15.4	-3.6
KIV			pmax		pmax		
comp=Z,3.0nm,1.0s							
OBN	Obninsk	111.75 327	*i* PKIKP		PKiKP	23 42 19.9	-0.2
OBN			pmax		pmax		
comp=Z,3.0nm,0.9s							
MNK	Minsk	116.59 329	*i* P		Pdif	23 38 40.3	-4.1
MNK			*i*			23 49 34.3	
MNK			*i* PS		PS	23 53 11.1	-8.7
MNK			*i* SS		SS	23 59 34.8	-5.5
MNK			*i* SSS		SSS	00 04 01.4	
MNK			pmax		pmax		
comp=E,2.0nm,0.7s							
MNK			pmax		pmax		
comp=E,6.0nm,0.7s							
MNK			pmax		pmax		
comp=N,9.0nm,1.0s							
MNK			MLR	MLR			
comp=E,58nm,20.0s							
MNK			MLR	MLR			
comp=Z,190nm,18.0s							
MNK			MLR	MLR			
comp=N,348nm,20.0s							
MNK	Minsk	116.59 329	*i* P		Pdif	23 38 40.3	-4.0
comp=E,2.0nm,0.7s							
MNK			*i* P		Pdif	23 38 40.3	-4.0
comp=N,9.0nm,1.0s							
MNK			*i* P		Pdif	23 38 40.3	-4.0
comp=Z,6.0nm,0.7s,baz=62							
MNK			*i* PKP		PKPdf	23 42 22.2	-7.2
MNK			*i* PP		PP	23 43 28.4	-8.2
MNK			*i* PPP		PPP	23 45 56.0	
MNK			*i* SKS		SKSdf	23 49 34.3	-5.4
MNK			*i* PS		PS	23 53 11.1	-8.7
MNK			*i* SS		SS	23 59 34.8	-5.4
MNK			*i* SSS		SSS	00 04 01.4	
MNK			*i* LR		LR	00 29 23.7	
MNK			*i* LRM		MLR	00 31 48.4	
comp=E,58nm,19.6s							
MNK			*i* LRM		MLR	00 32 08.7	
comp=N,348nm,20.2s							
MNK			*i* LRM		MLR	00 32 08.7	
comp=Z,190nm,18.1s							
PLCA	Paso Flores	116.70 142	PKP		PKPdf	23 42 29.5	-0.8
comp=Z,1.0nm,0.6s,baz=230,slow=1.1,SNR=4.7							
AKASG	Malin Array Be	117.55 324	PKP		PKPdf	23 42 29.6	-1.8
comp=Z,1.0nm,0.6s,baz=54,slow=2.2,SNR=5.4							
AKASG	Malin Array Be	117.55 324	PKIKP		PKPdf	23 42 30.2	-1.2
AKASG	Malin Array Be	117.55 324	PKPdf		PKPdf	23 42 30.1	-1.2
BRTR	Keskin Array B	118.44 312	PKP		PKPdf	23 42 31.8	-1.9
comp=Z,0.6nm,0.7s,baz=127,slow=3.7,SNR=3.8							
BOSA	Boshof	120.21 231	PKP		PKPdf	23 42 36.7	-0.7
comp=Z,1.7nm,0.7s,baz=102,slow=4.5,SNR=4.3							
LBTB	Lobatse	121.57 235	PKP		PKPdf	23 42 39.0	-1.1
comp=Z,3.1nm,0.9s,baz=117,slow=4.5							
SCHQ	Schefferville	121.62 27	PKP		PKPdf	23 42 38.1	-1.1
comp=Z,2.7nm,0.9s,baz=22,slow=5.4,SNR=3.6							
VTS	Vitosha	124.75 318	PKIKP		PKPdf	23 42 44.7	-1.0
VTS	Vitosha	124.75 318	PKPdf		PKPdf	23 42 44.7	-1.0
BRG	Berggiesshubel	125.63 331	Amp			23 43 00.3	
comp=Z,8.7nm,1.3s							
BRG	Berggiesshubel	125.63 331	*e*PKIKP		PKiKP	23 42 54.2	+6.9
BRG			pmax		pmax		
comp=Z,9.0nm,1.3s							
BRG	Berggiesshubel	125.63 331	*e*PKP		PKiKP	23 42 54.3	+6.9
CLL	Collm	125.80 332	*e*PKIKP		PKPdf	23 42 47.0	-0.2
CLL	Collm	125.80 332	*e*PKPdf		PKPdf	23 42 47.0	-0.2
CLL	Collm	125.80 332	Lm		MLR	00 39 00.0	
comp=Z,300nm,21.0s							
DIVS	Divibare	126.15 321			PKiKP	23 42 48.9	+0.2
IDI	Anoyia	126.41 309	PKP		PKPdf	23 42 48.6	-0.4
comp=Z,12nm,0.9s,baz=27,slow=4.5,SNR=1.6							
CKRC	Cesky Krumlov	126.75 329	*e*PKPDF		PKiKP	23 42 56.4	+6.7
FNA	Florina	126.81 317	PKIKP		PKPdf	23 42 49.3	-0.3
FNA	Florina	126.81 317			PKPdf	23 42 49.3	-0.3
KHC	Kasperske Hory	126.93 329	PKIKP		PKPdf	23 42 48.3	-1.2
KHC	Kasperske Hory	126.93 329	*e*PKPDF		PKiKP	23 42 50.2	+0.2
KHC	Kasperske Hory	126.93 329			PKPdf	23 42 48.3	-1.2
GERES	GERESS Array B	127.05 329	PKP		PKPdf	23 42 49.2	-0.7
comp=Z,1.1nm,0.7s,baz=29,slow=3.0,SNR=7.7							
LVC	Limon Verde	127.86 126	PKP		PKPdf	23 42 52.5	-0.1
comp=Z,3.6nm,0.7s,baz=245,slow=7.4,SNR=3.5							
PB11	IPOC Station P	128.56 122	PKPdf		PKPdf	23 42 52.6	-1.1
DAVOX	Davos/Dischmat	130.35 329	PKP		PKPdf	23 42 55.7	-0.6
comp=Z,1.5nm,0.6s,baz=315,slow=5.7							
ROSC	El Rosal	130.76 90	PKP		PKPdf	23 42 58.5	+0.2
comp=Z,4.0nm,0.5s,baz=250,slow=24,SNR=1.6							
LPAZ	La Paz	131.37 119	PKP		PKPdf	23 42 59.0	-0.6
comp=Z,2.5nm,0.6s,baz=290,slow=4.1,SNR=8.0							
LPAZ			SKPbc		SKPab	23 46 26.3	+2.8
comp=Z,1.6nm,0.8s,baz=280,slow=6.1,SNR=3.8							
CPUP	Villa Florida	134.35 138	PKP		PKPdf	23 43 03.1	-1.1
comp=Z,3.0nm,0.8s,baz=295,slow=1.1,SNR=4.4							
SDV	Santo Domingo	134.62 84	PKPdf		PKPdf	23 43 05.7	+0.4
SIV	San Ignacio	137.53 123	PKhKP		PKPpre	23 42 58.7	
comp=Z,1.0nm,0.8s,baz=253,slow=5.0,SNR=3.7							
SIV			PKP		PKPdf	23 43 09.3	-1.2
comp=Z,2.9nm,0.7s,baz=218,slow=2.1,SNR=9.5							
SIV			SKPbc		SKPbc	23 46 42.6	+0.2
comp=Z,1.5nm,0.9s,baz=236,slow=7.3,SNR=4.5							
PTLB	Pontes e Lacer	139.42 123	PKPdf		PKPdf	23 43 12.9	-0.9
ESDC	Sonseca Array	142.35 333	PKP		PKPdf	23 43 15.8	-2.8
comp=Z,0.6nm,0.8s,baz=17,slow=3.3,SNR=4.9							
PCBR	Castelo Branco	143.68 337	*e*PKP		PKPbc	23 43 18.0	-0.3
PMRV	Marv??o	144.00 337	*e*PKP		PKPab	23 43 18.8	0.0
PTGA	Pitinga	144.15 101	PKP		PKPab	23 43 19.3	-0.8
comp=Z,10nm,0.7s,baz=278,slow=4.7,SNR=3.0							
BOAV	Boa Vista	144.17 95			PKPab	23 43 19.1	-1.1
PSBE	So Bento	144.46 338	*e*PKP		PKPdf	23 43 21.7	-0.6
PMTG	Montargil	144.63 337	*e*PKP		PKPdf	23 43 22.9	+0.4
EVO	Evora	145.02 337	*e*PKP		PKPdf	23 43 24.2	+1.0
LIS	Lisbon	145.29 336	*e*PKP		PKiKP	23 43 26.9	-0.7
PBEJ	Beja /	145.39 336	*e*PKP		PKPab	23 43 24.7	+0.8
PNCL	Nicolau / Gran	145.58 337	*e*PKP		PKPbc	23 43 24.3	0.0
MESJ	Messejana	145.69 336	*e*PKP		PKPab	23 43 25.3	+0.3
PCVE	Castro Verde	145.80 336	*e*PKP		PKPdf	23 43 21.6	-3.0
PVAQ	Vaqueiros	145.86 335	*e*PKP		PKPdf	23 43 24.3	-0.4
BDFB	Brasilia	147.94 134	PKPbc		PKPdf	23 43 29.6	+0.7
comp=Z,13nm,0.6s,baz=218,slow=2.6,SNR=24							
BDFB	Brasilia	147.94 134	PKP2		PKPdf	23 43 30.1	+1.2
BDFB	Brasilia	147.94 134			PKPdf	23 43 30.1	+1.2
MDT	Midelt	148.08 327	PKPbc		PKPbc	23 43 31.0	-0.9
comp=Z,10nm,1.0s,baz=42,slow=3.9,SNR=9.7							
TORD	Torodi Ar. Bea	153.15 285	PKP		PKPdf	23 43 36.2	-0.7
comp=Z,1.5nm,1.0s,baz=357,slow=2.1,SNR=4.2							
TORD			PKPbc		PKPbc	23 43 43.2	-1.1
comp=Z,7.1nm,0.9s,baz=63,slow=1.9,SNR=13							
TORD	Torodi Ar. Bea	153.15 285			PKPdf	23 43 37.2	+0.3

JMA ***31*** *23:37:27.1±0.4, 26°.00N×125°.54E, h12km±5km, M3.4*
IDC ***31*** *23:37:34.2±4.2, 26°.59N×125°.52E, h49km±44km, mb3.4/5, mb1 3.5/6, mb1mx3.2/47, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=44.4km s-min=21.8km az=70.0*

ISC 31 23:37:26.1±3.3, 26°.00N±0°.07×125°.52E±0°.07, h10km±23km, n18, σ0°77/23, mb3.5/5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	1.10	193	P	Pn	23 37 47.5	0.0
JIKM				*e*S	Sb	23 38 02.1	+0.5
JKE	Kume jima 2	1.18	74	P	Pn	23 37 48.6	0.0
JKE				*e*S	Sb	23 38 03.3	-0.6
JIRB	Irabujima	1.21	195	P	Pn	23 37 49.0	0.0
JIRB				*e*S	Sb	23 38 05.1	+0.4
JOGS	Gusukube	1.24	185	P	Pn	23 37 49.9	+0.5
JOGS				*e*S	Sb	23 38 05.9	+0.3
JMJ2	Miyako jima3	1.27	188	P	Pn	23 37 50.5	+0.7
JMJ2				S	Sn	23 38 06.8	0.0
JTJ	Tarama	1.54	209	P	Pn	23 37 54.9	+1.3
JTJ				*e*S	Sn	23 38 13.2	-0.5
JAGN	Aguni-jima	1.65	69	P	Pn	23 37 56.3	+1.2
JISG	Ishigakijimahi	1.79	218	P	Pn	23 37 57.7	+0.8
JIJ	Ishigaki jima	2.06	218	P	Pn	23 38 02.1	+1.5
JKRS	Kuro-shima	2.23	218	P	Pb	23 38 05.5	-0.9
JIH	Iheya	2.42	64	P	Pb	23 38 10.4	+0.7
JOW	Kunigami	2.60	71	P	Pb	23 38 12.2	-0.6
3.1nm,0.3s,baz=287,slow=17,SNR=2.6							
JOW				S	Sn	23 38 40.3	+0.5
7.7nm,0.3s,baz=242,slow=13,SNR=4.8							
JOW	Kunigami	2.60	71	P	Pb	23 38 12.0	-0.8
MKAR	Makanchi Array	39.89	313	P	P	23 44 59.9	-0.1
0.6nm,0.5s,baz=106,slow=8.3,SNR=3.6							
ZALV	Zalesovo Beam	40.98	324	P	P	23 45 08.0	-0.9
0.4nm,0.4s,baz=134,slow=7.5,SNR=2.8							
WRA	Warramunga Arr	46.47	169	P	P	23 46 00.5	+7.2
0.6nm,0.6s,baz=350,slow=8.6,SNR=5.2							
ASAR	Alice Springs	50.04	170	P	P	23 46 28.8	+7.8
0.4nm,0.5s,baz=357,slow=9.5,SNR=8.1							
YKA	Yellowknife Ar	79.74	24	P	P	23 49 33.8	-0.1
0.4nm,0.8s,baz=306,slow=5.1,SNR=5.8							

ASRS 31 23:38:37.4±0.7, 47°N±5°×9°3E±°, h9km, MLh3.7/7, Error ellipse: s-maj=9.8km s-min=4.7km az=6.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	Kungurtug, Tuv	4.09	39	Pn	Pn	23 39 37.4	-2.8
KNGR				Pg	Pb	23 39 48.2	-1.4
KNGR				Sg	Sg	23 40 52.7	+4.0
CUR	Chagan-Uzun	4.29	309	Pn	Pn	23 39 43.7	+0.7
CUR				Sg	Sg	23 40 59.1	+3.9
DGZ	Jazzator, Alta	4.60	301	Pn	Pn	23 39 47.5	+0.3
DGZ				Pg	Pb	23 39 57.5	-0.8
DGZ		

VYHS	**Vyhne**	**1.68 183**	*e*PN	**Pn**	**23 42 14.8**	**+0.8**
VYHS			*e*SN	**Sg**	**23 42 37.6**	**+0.3**
VYHS			*e*LG	Lg	23 42 40.0	
DPC	**Dobruska-Polom**	**1.72 277**	*e*PG	**Pn**	**23 42 14.3**	**-0.4**
DPC			*e*SG	**Sb**	**23 42 38.5**	**+0.4**
comp=Z,11nm,0.6s						
VRAC	**Vranov**	**1.78 242**	⇑P	**Pn**	**23 42 15.9**	**+0.5**
VRAC			⇑S	**Sb**	**23 42 39.9**	**+0.2**
VRAC	**Vranov**	**1.78 242**	⇑PKHKP	**Pn**	**23 42 15.9**	**+0.5**
VRAC	**Vranov**	**1.78 242**	*e*Pn	**Pn**	**23 42 15.9**	**+0.5**
baz=59						
VRAC			*e*Sg	**Sb**	**23 42 39.6**	**-0.1**
6.6nm,0.4s,baz=59						
OSTC	**Ostas**	**1.82 283**	*e*PG	**Pn**	**23 42 15.5**	**-0.5**
OSTC			*e*SG	**Sg**	**23 42 41.7**	**-0.1**
comp=Z,7.1nm,0.9s						
KSP	**Ksiaz**	**1.85 292**	*e*Pg	**Pb**	**23 42 18.4**	**+0.3**
KSP			*e*Sg	**Sg**	**23 42 42.6**	**-0.1**
CHVC	**Chvalec**	**1.93 284**	*e*PG	**Pn**	**23 42 17.3**	**-0.2**
CHVC			*e*SG	**Sb**	**23 42 43.8**	**-0.2**
UPC	**Upice**	**1.94 281**	*e*SG	**Sg**	**23 42 45.6**	**0.0**
SMOL	**Smolenice**	**1.95 212**	*e*PKHKP	**Pn**	**23 42 18.1**	**+0.4**
SMOL	**Smolenice**	**1.95 212**	*e*PN	**Pn**	**23 42 18.1**	**+0.4**
KRUC	**Moravsky**	**2.02 238**	*e*Pn	**Pn**	**23 42 19.4**	**+0.8**
baz=55						
KRUC			*e*Sg	**Sb**	**23 42 47.4**	**+0.8**
3.2nm,0.3s,baz=55						
KRUC	**Moravsky**	**2.02 238**	*e*PN	**Pn**	**23 42 19.5**	**+0.8**
KRUC			*e*SG	**Sb**	**23 42 47.5**	**+0.8**
CRVS	**Cervenica-Dubn**	**2.05 127**	*e*PN	**Pg**	**23 42 23.3**	**+0.6**
MODS	**Modra-Piesok**	**2.12 213**	*e*SG	**Sg**	**23 42 52.5**	**+1.1**
PSZ	**Piszkesteto**	**2.33 165**	⇑P	**Pn**	**23 42 21.2**	**-1.8**
TREC	**Trest**	**2.44 250**	*e*SG	**Sb**	**23 42 59.5**	**+0.9**
comp=Z,2.3nm,0.4s						
PRU	**Pruhonice**	**2.87 268**	*e*SG	**Sg**	**23 43 14.1**	**-1.5**
comp=Z,5.9nm,0.7s						
TRPA	**Tarpa**	**3.10 130**	⇑P	**Pn**	**23 42 31.4**	**-2.1**
CKRC	**Cesky Krumlov**	**3.34 248**	*e*SG	**Sg**	**23 43 28.9**	**-1.6**
KHC	**Kasperske Hory**	**3.67 256**	*e*PN	**Pn**	**23 42 41.7**	**+0.3**
KHC			*e*SG	**Sg**	**23 43 39.0**	**-2.1**
comp=Z,4.4nm,0.6s						
DRGR		**4.19 142**	⇓P	**Pn**	**23 42 47.1**	**-1.5**
DRGR		**4.19 142**	⇓PKIKP	**Pn**	**23 42 47.1**	**-1.5**
SIRR	**Siria**	**4.29 154**	⇓P	**Pn**	**23 42 48.6**	**-1.4**
BZS	**Buzias**	**4.88 158**	⇓P	**Pn**	**23 42 55.7**	**-2.4**

*IDC **31** 23:47:08.3±0.7, 37°.72N×22°.03E, h0km, mb3.8/14, mb1 3.9/24, mb1mx3.8/46, mbtmp3.8/24, ML3.5/10, Error ellipse: s-maj=16.6km s-min=13.6km az=16.0*
*THE **31** 23:47:09.7, 37°.72N×21°.99E, h6km±1km, ML3.6/14, Error ellipse: s-maj=1.0km s-min=0.5km az=342.0*
*ATH **31** 23:47:09.5, 37°.72N×21°.99E, h14km±1km, ML3.6/20, Error ellipse: s-maj=1.6km s-min=0.7km az=293.0*
*NEIC **31** 23:47:11.2±2.0, 37°.71N±0°.04×21°.98E±0°.01, h10km±1km, mb4.0/15, ML3.6(THE), Error ellipse: s-maj=6.7km s-min=2.9km az=191.0*
*DDA **31** 23:47:12.9±0.0, 37°.86N×22°.24E, h7km±3km, MW3.9, Hypocentre not reviewed by the ISC*
*ISK **31** 23:47:13.0, 37°.86N×22°.19E, h69km, ML3.5/33*
ISC 31 23:47:09.7±0.9, **37°.71N**±0°.02×**22°.00E**±0°.02, **h8**km±6km, **n242**, σ1°.19/276, **mb4.0**/19, **5C-6D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DRO	**Drossia**	**0.33**	**316**	P	**Pg**	**23 47 15.9**		**-0.3**
DRO				S	**Sg**	**23 47 21.4**		**+0.7**
41μm,0.4s								
DRO	**Drossia**	**0.33**	**316**	P	**Pg**	**23 47 16.0**		**-0.2**
DRO				S	**Sg**	**23 47 20.9**		**+0.2**
DRO				AML	AML	23 47 25.2		
comp=E,92075μm,0.4s								
DRO				AML	AML	23 47 25.7		
comp=N,71094μm,0.4s								
KLV	**Kalavryta, Ach**	**0.35**	**19**	P	**Pg**	**23 47 16.3**		**-0.3**
KLV				S	**Sg**	**23 47 21.6**		**+0.4**
KLV	**Kalavryta, Ach**	**0.35**	**19**	P	**Pg**	**23 47 16.3**		**-0.3**
KLV				S	**Sg**	**23 47 22.4**		**+1.2**
KLV				AML	AML	23 47 26.4		
comp=N,10586μm,0.5s								
KLV				AML	AML	23 47 26.6		
comp=E,7519μm,0.2s								
LAKA	**Lakka**	**0.53**	**358**	P	**Pg**	**23 47 19.2**		**-0.6**
LAKA				S	**Sg**	**23 47 26.9**		**+0.2**
comp=E,15μm,0.7s								
LAKA	**Lakka**	**0.53**	**358**	P	**Pg**	**23 47 19.3**		**-0.6**
LAKA				S	**Sg**	**23 47 27.0**		**+0.2**
LAKA				AML	AML	23 47 30.2		
comp=N,33898μm,0.4s								
LAKA				AML	AML	23 47 31.7		
comp=E,25729μm,0.4s								
ITM	**Ithomi**	**0.54**	**187**	P	**Pg**	**23 47 19.9**		**-0.2**
ITM				S	**Sg**	**23 47 27.8**		**+0.7**
comp=E,6μm,0.3s								
ITM	**Ithomi**	**0.54**	**187**	P	**Pg**	**23 47 20.0**		**-0.1**
ITM				S	**Sg**	**23 47 27.2**		**+0.1**
ITM				AML	AML	23 47 29.2		
comp=N,9578μm,0.3s								
ITM				AML	AML	23 47 29.6		
comp=E,11980μm,0.2s								
ITM	**Ithomi**	**0.54**	**187**	Pg	**Pg**	**23 47 20.2**		**+0.1**
ITM					**Sg**	**23 47 28.1**		**+1.0**
RLS	**Riolos of Patr**	**0.55**	**309**	P	**Pg**	**23 47 19.3**		**-0.9**
RLS				S	**Sg**	**23 47 27.3**		**-0.1**
comp=E,7μm,0.5s								
RLS	**Riolos of Patr**	**0.55**	**309**	P	**Pg**	**23 47 19.3**		**-0.9**
RLS				S	**Sg**	**23 47 27.3**		**-0.1**
RLS				AML	AML	23 47 31.2		
comp=E,14458μm,0.4s								
RLS				AML	AML	23 47 31.5		
comp=N,12380μm,0.4s								
ALIK	**Aliki, Aigiali**	**0.55**	**9**	P	**Pg**	**23 47 20.1**		**-0.3**
ALIK				S	**Sg**	**23 47 28.4**		**+0.8**
UPR	**University Cam**	**0.59**	**343**	P	**Pg**	**23 47 20.9**		**-0.3**
UPR				S	**Sb**	**23 47 30.3**		**-0.6**
THAL	**Thalero**	**0.61**	**58**	P	**Pg**	**23 47 21.1**		**-0.4**
THAL				S	**Sg**	**23 47 30.5**		**+1.0**
comp=N,25μm,0.5s								
THAL	**Thalero**	**0.61**	**58**	P	**Pg**	**23 47 21.2**		**-0.3**
THAL				AML	AML	23 47 35.9		
comp=E,52044μm,0.3s								
THAL				AML	AML	23 47 40.1		
comp=N,38564μm,0.6s								
TRIZ	**Trizonia**	**0.65**	**5**	P	**Pg**	**23 47 21.7**		**-0.6**
TRIZ				S	**Sb**	**23 47 32.0**		**-0.6**
TRIZ	**Trizonia**	**0.65**	**5**	P	**Pg**	**23 47 21.7**		**-0.6**
VTN	**Vitineika**	**0.68**	**288**	P	**Pb**	**23 47 23.1**		**-0.7**
VTN	**Vitineika**	**0.68**	**288**	P	**Pg**	**23 47 22.9**		**+0.1**
SERG	**Sergoula**	**0.70**	**3**	P	**Pg**	**23 47 22.4**		**-0.8**
SERG				S	**Sb**	**23 47 33.0**		**-1.0**
comp=N,3μm,0.3s								
SERG	**Sergoula**	**0.70**	**3**	P	**Pg**	**23 47 22.6**		**-0.5**
SERG				S	**Sg**	**23 47 32.8**		**+0.5**
SERG				AML	AML	23 47 35.1		
comp=N,7827μm,0.3s								
SERG				AML	AML	23 47 35.7		
comp=E,8425μm,0.4s								
EFP	**Efpalio**	**0.72**	**354**	P	**Pg**	**23 47 22.9**		**-0.5**
EFP				S	**Sb**	**23 47 34.5**		**0.0**
comp=E,3μm,0.4s								
EFP	**Efpalio**	**0.72**	**354**	P	**Pg**	**23 47 23.0**		**-0.5**
EFP				AML	AML	23 47 38.8		
comp=N,6264μm,0.5s								
EFP				AML	AML	23 47 39.9		
comp=E,4761μm,0.3s								
LTK	**Loutraki**	**0.82**	**68**	P	**Pg**	**23 47 24.9**		**-0.6**
LTK				S	**Sg**	**23 47 37.0**		**+0.8**
comp=E,4μm,0.6s								
LTK	**Loutraki**	**0.82**	**68**	P	**Pg**	**23 47 25.0**		**-0.6**
LTK				S	**Sg**	**23 47 36.8**		**+0.6**
LTK				AML	AML	23 47 44.7		
comp=N,7741μm,0.7s								
LTK				AML	AML	23 47 46.2		
comp=E,7841μm,0.5s								
PYL	**PYLOS**	**0.84**	**194**	P	**Pg**	**23 47 25.1**		**-0.8**
PYL	**PYLOS**	**0.84**	**194**	P	**Pg**	**23 47 25.3**		**-0.6**
DLFA	**Delphi**	**0.86**	**27**	P	**Pg**	**23 47 24.9**		**-1.2**
ANX	**Ano Chora**	**0.88**	**356**	P	**Pg**	**23 47 25.8**		**-0.8**
ANX				S	**Sn**	**23 47 40.0**		**-1.6**
comp=E,6μm,0.6s								
ANX	**Ano Chora**	**0.88**	**356**	P	**Pg**	**23 47 25.9**		**-0.8**
ANX				S	**Sg**	**23 47 37.7**		**-0.3**
ANX				AML	AML	23 47 44.2		
comp=N,14457μm,0.6s								
ANX				AML	AML	23 47 46.0		
comp=E,7182μm,0.4s								
EPID	**Epidavros**	**0.89**	**96**	P	**Pg**	**23 47 26.1**		**-0.7**
EPID	**Epidavros**	**0.89**	**96**	P	**Pg**	**23 47 26.2**		**-0.6**
LTHK	**Lithakia**	**0.93**	**270**	P	**Pg**	**23 47 27.1**		**-0.4**
LTHK	**Lithakia**	**0.93**	**270**	P	**Pg**	**23 47 27.1**		**-0.4**
KRND	**KRANIDI**	**0.97**	**110**	P	**Pg**	**23 47 27.7**		**-0.6**
KRND				S	**Sn**	**23 47 43.3**		**-0.3**
comp=E,5μm,0.4s								
KRND	**KRANIDI**	**0.97**	**110**	P	**Pg**	**23 47 27.9**		**-0.4**
KRND				AML	AML	23 47 47.3		
comp=N,8785μm,0.5s								
KRND				AML	AML	23 47 48.3		
comp=E,9629μm,0.4s								
VIL2	**Platees**	**1.11**	**63**	P	**Pb**	**23 47 30.1**		**-1.2**
VILL	**Villia**	**1.13**	**66**	P	**Pb**	**23 47 30.4**		**-1.1**
VILL				S	**Sn**	**23 47 47.6**		**0.0**
comp=E,4μm,0.7s								
PSDA	**Pessada-Kefalo**	**1.19**	**290**	P	**Pb**	**23 47 31.1**		**-1.4**
EVR	**Evrytania**	**1.21**	**353**	P	**Pb**	**23 47 31.9**		**-1.1**
EVR	**Evrytania**	**1.21**	**353**	P	**Pb**	**23 47 31.8**		**-1.1**
EVR				AML	AML	23 47 56.4		
comp=E,2690μm,0.8s								
EVR				AML	AML	23 48 00.7		
comp=N,3215μm,0.6s								
VLS	**Valsamata**	**1.21**	**293**	P	**Pb**	**23 47 31.2**		**-1.7**
VLS	**Valsamata**	**1.21**	**293**	P	**Pb**	**23 47 31.0**		**-1.8**
VLS				AML	AML	23 48 00.0		
comp=N,4261μm,0.4s								
VLS				AML	AML	23 48 00.8		
comp=E,3211μm,0.6s								
LKR	**Lokris**	**1.22**	**40**	P	**Pn**	**23 47 31.6**		**-1.5**
LKR				S	**Sn**	**23 47 50.2**		**+0.4**
comp=E,3μm,0.6s								
LKR	**Lokris**	**1.22**	**40**	P	**Pn**	**23 47 31.5**		**-1.6**
LKR				AML	AML	23 47 51.4		
comp=E,5858μm,0.4s								
LKR				AML	AML	23 47 54.3		
comp=N,4400μm,0.5s								
VLI	**Veliai**	**1.24**	**143**	P	**Pn**	**23 47 32.8**		**-0.6**
VLI				S	**Sn**	**23 47 51.6**		**+1.3**
comp=N,4μm,0.7s								
VLI	**Veliai**	**1.24**	**143**	P	**Pn**	**23 47 33.0**		**-0.4**
VLI				AML	AML	23 47 57.8		
comp=N,7083μm,0.7s								
VLI				AML	AML	23 47 58.2		
comp=E,9127μm,0.8s								
ATAL	**Atalanti**	**1.26**	**39**	P	**Pn**	**23 47 32.4**		**-1.3**
ATAL				S	**Sg**	**23 47 50.4**		**+0.1**
comp=E,1μm,1.0s								
ATAL	**Atalanti**	**1.26**	**39**	P	**Pn**	**23 47 32.4**		**-1.3**
ATAL				AML	AML	23 47 52.5		
comp=E,3987μm,0.6s								
ATAL				AML	AML	23 47 58.1		
comp=N,4021μm,0.9s								
ARGA	**Argostoli. Kep**	**1.29**	**291**	P	**Pb**	**23 47 33.8**		**-0.5**
MAKR	**Makrakomi, Fth**	**1.30**	**4**	P	**Pb**	**23 47 34.2**		**-0.2**
MAKR	**Makrakomi, Fth**	**1.30**	**4**	P	**Pn**	**23 47 33.6**		**-0.7**
MAKR				AML	AML	23 47 59.1		
comp=N,1410μm,0.6s								
MAKR				AML	AML	23 48 02.5		
comp=E,1446μm,0.8s								
AGG	**Agios Georgios**	**1.33**	**11**	P	**Pn**	**23 47 33.6**		**-1.1**
AGG	**Agios Georgios**	**1.33**	**11**	P	**Pn**	**23 47 33.0**		**-1.6**
AGG				AML	AML	23 48 00.1		
comp=N,1417μm,0.5s								
AGG				AML	AML	23 48 04.4		
comp=E,1485μm,0.4s								
AGG	**Agios Georgios**	**1.33**	**11**	PN	**Pn**	**23 47 34.0**		**-0.7**
AGG	**Agios Georgios**	**1.33**	**11**	Pn	**Pb**	**23 47 34.7**		**-0.3**
AGG	**Agios Georgios**	**1.33**	**11**	SPECP		23 47 34.0		
AGG				P		23 47 34.3		
AGG				S		23 47 52.0		
FSK	**Fiskardo**	**1.36**	**304**	P	**Pn**	**23 47 34.3**		**-0.7**
ATH	**Athens Observa**	**1.38**	**79**	P	**Pn**	**23 47 35.4**		**+0.1**
ATH	**Athens Observa**	**1.38**	**79**	P	**Pn**	**23 47 35.4**		**+0.1**
ATH				AML	AML	23 47 58.2		
comp=E,4376μm,0.4s								
ATH				AML	AML	23 47 58.7		
comp=N,4509μm,0.4s								
DMLN	**Damoulianata-K**	**1.39**	**293**	P	**Pn**	**23 47 35.0**		**-0.5**
EVGI	**Lefkada island**	**1.40**	**311**	P	**Pn**	**23 47 34.6**		**-0.9**
EVGI	**Lefkada island**	**1.40**	**311**	P	**Pn**	**23 47 34.3**		**-1.2**
KEF3	**Kipouria, Keph**	**1.40**	**291**	P	**Pn**	**23 47 34.6**		**-0.9**
KEF3	**Kipouria, Keph**	**1.40**	**291**	P	**Pn**	**23 47 34.3**		**-1.2**
VLY	**Voula,Athens**	**1.43**	**84**	P	**Pn**	**23 47 35.8**		**-0.1**
VLY	**Voula,Athens**	**1.43**	**84**	P	**Pn**	**23 47 35.8**		**-0.1**
ATHU	**Athens Univers**	**1.43**	**79**	P	**Pn**	**23 47 35.9**		**-0.1**
ATHU	**Athens Univers**	**1.43**	**79**	P	**Pn**	**23 47 35.9**		**-0.1**
NYDR	**Nydri-Lefkada**	**1.43**	**315**	P	**Pn**	**23 47 35.1**		**-0.9**
DRAG	**Dragano-Lefkad**	**1.48**	**311**	P	**Pn**	**23 47 36.0**		**-0.8**
LKD2	**Lefkada island**	**1.51**	**316**	P	**Pn**	**23 47 36.6**		**-0.5**
PTL	**Penteli**	**1.51**	**77**	P	**Pn**	**23 47 37.1**		**0.0**
PTL	**Penteli**	**1.51**	**77**	P	**Pn**	**23 47 37.1**		**0.0**
PTL				S	**Sn**	**23 47 56.6**		**-0.4**
PTL				AML	AML	23 48 00.9		
comp=E,3720μm,0.4s								
PTL				AML	AML	23 48 02.8		
comp=N,3520μm,0.5s								
TSLK	**Tsoukalades, L**	**1.54**	**317**	P	**Pn**	**23 47 37.2**		**-0.2**
TSLK	**Tsoukalades, L**	**1.54**	**317**	P	**Pn**	**23 47 36.8**		**-0.6**
DION	**Dionisos Attik**	**1.57**	**76**	P	**Pn**	**23 47 38.0**		**+0.1**
DION	**Dionisos Attik**	**1.57**	**76**	P	**Pn**	**23 47 38.0**		**+0.1**
THL	**Klokotos Trika**	**1.85**	**0**	P	**Pn**	**23 47 41.5**		**-0.2**
THL	**Klokotos Trika**	**1.85**	**0**	P	**Pn**	**23 47 41.3**		**-0.4**
NEO	**Neokhori**	**1.85**	**31**	P	**Pn**	**23 47 41.8**		**-0.1**
KYMI	**Kymi, Euboea I**	**1.89**	**60**	P	**Pn**	**23 47 42.2**		**-0.1**
KYMI	**Kymi, Euboea I**	**1.89**	**60**	P	**Pn**	**23 47 42.3**		**-0.1**
XOR	**Xorichti**	**1.89**	**29**	P	**Pn**	**23 47 42.2**		**-0.2**
XOR	**Xorichti**	**1.89**	**29**	P	**Pn**	**23 47 42.4**		**0.0**
KARY	**Karystos**	**1.95**	**80**	P	**Pn**	**23 47 43.3**		**+0.2**
KARY	**Karystos**	**1.95**	**80**	P	**Pn**	**23 47 43.3**		**+0.2**
ANKY	**Antikythira Is**	**2.12**	**150**	P	**Pb**	**23 47 47.4**		**-1.0**
LIT	**Litokhoron**	**2.41**	**9**	Pn	**Pn**	**23 47 50.6**		**+1.1**
LIT	**Litokhoron**	**2.41**	**9**	SPECP		23 47 50.0		
LIT				P		23 47 50.6		
LIT				S		23 48 25.2		
PAIG	**Paliouri**	**2.57**	**30**	P	**Pn**	**23 47 51.0**		**-0.6**
IMMV	**Iera Moni Meta**	**2.75**	**144**	PN	**Pn**	**23 47 56.0**		**+1.8**
IMMV				SN	**Sn**	**23 48 29.6**		**+1.9**
KNDR	**Palaiochora Ch**	**2.82**	**151**	PN	**Pb**	**23 47 58.2**		**-2.1**
HORT	**Hortiatis**	**3.00**	**16**	PN	**Pn**	**23 47 57.7**		**0.0**
OUR	**Ouranopolis**	**3.04**	**30**	PN	**Pn**	**23 47 57.8**		**-0.2**
KBN	**Korca**	**3.06**	**342**		**Pn**	**23 48 01.0**		**+2.6**
FNA	**Florina**	**3.10**	**351**	PN	**Pn**	**23 48 00.3**		**+1.2**
FNA	**Florina**	**3.10**	**351**	Pn	**Pn**	**23 48 00.2**		**+1.2**
FNA	**Florina**	**3.10**	**351**	SPECP		23 48 01.0		
FNA				P		23 48 01.3		
FNA				S		23 48 38.9		
GRG	**Griva**	**3.25**	**5**	PN	**Pn**	**23 48 02.1**		**+1.0**
CHOS	**Chios island**	**3.27**	**77**	PN	**Pn**	**23 48 01.4**		**+0.1**
GVD	**Gavdhos**	**3.33**	**149**	PN	**Pb**	**23 48 05.7**		**-3.3**
IDI	**Anoyia**	**3.36**	**135**	Pn	**Pn**	**23 48 02.3**		**-0.2**
comp=N,10nm,0.3s,baz=262,slow=9.0,SNR=44								
IDI				Sn	**Sn**	**23 48 42.6**		**0.0**
comp=N,7.1nm,0.3s,baz=278,slow=20,SNR=2.2								
SIGR	**SIGRI**	**3.37**	**63**	PN	**Pn**	**23 48 02.4**		**-0.3**
HRKL	**Herakleio**	**3.46**	**133**	PN	**Pn**	**23 48 06.2**		**+2.3**
KNT	**Kendrikon**	**3.51**	**11**	PN	**Pn**	**23 48 05.3**		**+0.7**
OHR	**Ohrid**	**3.52**	**345**	*i* Pn	**Pn**	**23 48 08.1**		**+3.3**
ZEYE	**Izmir, Urla-Ze**	**3.59**	**80**	SPECP		23 48 06.0		
ZEYE				P		23 48 06.1		
ZEYE				S		23 49 03.6		
ZEYE				*i* AML		23 49 08.0		
comp=N,67nm,1.1s								
SCTE	**Santa Cesarea**	**3.63**	**312**	Pn	**Pn**	**23 48 07.1**		**+0.9**
VAY	**Valandovo**	**3.63**	**7**	*i* Pn	**Pn**	**23 48 08.4**		**+2.2**
URLA	**Izmir**	**3.68**	**79**	PN	**Pn**	**23 48 07.5**		**+0.5**
URLA	**Izmir**	**3.68**	**79**	SPECP		23 48 07.0		
URLA				P		23 48 07.5		
URLA				S		23 49 03.2		
URLA				*i* AML		23 49 18.0		
comp=N,108nm,1.4s								
URLA				*i* AML		23 49 18.0		
comp=N,85nm,1.1s								
KOCA	**Canakkale, Ayv**	**3.70**	**60**	P		23 48 06.6		
KOCA				S		23 48 51.5		
KOCA				*i* AML		23 48 52.0		
comp=N,69nm,1.3s								
KOCA				*i* AML		23 49 11.0		
comp=N,77nm,2.0s								
KOCA				*i* AML		23 49 21.0		
comp=N,56nm,1.1s								
BOZC	**Bozcaada**	**3.81**	**55**	PN	**Pn**	**23 48 08.4**		**-0.3**
BOZC	**Bozcaada**	**3.81**	**55**	SPECP		23 48 07.0		
BOZC				P		23 48 07.2		
BOZC				*i* AML		23 49 05.0		
comp=N,52nm,1.3s								
BOZC				*i* AML		23 49 46.0		
comp=N,58nm,1.1s								
BOZC				*i* AML		23 49 53.0		
comp=N,77nm,1.6s								
GADA	**Gvkgeada**	**3.92**	**50**	PN	**Pn**	**23 48 09.8**		**-0.3**
GADA	**Gvkgeada**	**3.92**	**50**	P		23 48 10.1		
GADA				*i* AML		23 50 20.0		
comp=N,50nm,1.6s								
GOKA	**anakkale-Gk**	**3.92**	**50**	P		23 48 10.1		
GOKA				S		23 48 53.7		
GOKA				*i* AML		23 48 54.0		
comp=N,53nm,1.3s								
GOKA				*i* AML		23 49 44.0		
comp=N,67nm,1.7s								
STIP	**Stip**	**3.98**	**2**	*i* Pn	**Pn**	**23 48 13.6**		**+2.6**
EZN	**Ezine**	**3.98**	**57**	PN	**Pn**	**23 48 10.8**		**-0.2**
EZN	**Ezine**	**3.98**	**57**	SPECP		23 48 07.0		
EZN				P		23 48 07.6		
TIR	**Tirane**	**3.99**	**336**	⇓P	**Pn**	**23 48 13.0**		**+1.8**
TIR	**Tirane**	**3.99**	**336**		**Pn**	**23 48 12.7**		**+1.6**
AYVA	**Ayvalik**	**4.00**	**65**	SPECP		23 48 10.0		
AYVA				P		23 48 10.5		
AYVA				*i* AML		23 48 59.0		
comp=N,47nm,0.6s								
DKL	**Dikili**	**4.08**	**69**	PN	**Pn**	**23 48 12.4**		**0.0**
DKL	**Dikili**	**4.08**	**69**	P		23 48 12.8		
MMB	**Musomiste**	**4.09**	**18**	P	**Pn**	**23 48 13.0**		**+0.4**
GCAM	**G?zelcaml?**	**4.15**	**89**	PN	**Pn**	**23 48 14.2**		**+0.9**
GCAM	**G?zelcaml?**	**4.15**	**89**	P		23 48 13.8		
DDIM	**Aydin, Didim**	**4.17**	**92**	P		23 48 15.3		
DDIM				*i* AML		23 49 15.0		
comp=N,78nm,1.1s								
DDIM				*i* AML		23 49 47.0		
comp=N,93nm,1.1s								
DDIM				*i* AML		23 50 28.0		
comp=N,97nm,1.3s								
ZEDA	**zmir-Bergama**	**4.18**	**71**	P		23 48 12.6		
KKB	**Krupnik**	**4.23**	**11**	P	**Pn**	**23 48 17.0**		**+2.5**
ZKR	**Zakros**	**4.28**	**126**	PN	**Pn**	**23 48 17.4**		**+2.3**
BODT	**Bodrum**	**4.28**	**97**	PN	**Pn**	**23 48 16.3**		**+1.2**
BODT	**Bodrum**	**4.28**	**97**	SPECP		23 48 16.0		
BODT				P		23 48 16.5		
BUHA	**Balikesir, Bur**	**4.36**	**64**	SPECP		23 48 16.0		
BUHA				P		23 48 16.1		
TIP	**Timpagrande**	**4.37**	**291**	⇓P	**Pn**	**23 48 18.0**		**+1.5**
TIP	**Timpagrande**	**4.37**	**291**	Pn	**Pn**	**23 48 17.8**		**+1.3**
RDO	**Rodhopi**	**4.38**	**38**	PN	**Pn**	**23 48 16.0**		**-0.6**
GELI	**Tayfur-Gelibol**	**4.39**	**51**	PN	**Pn**	**23 48 16.8**		**+0.1**
ENEZ	**Enez**	**4.41**	**46**	PN	**Pn**	**23 48 16.7**		**-0.3**
ALN	**Alexandroupoli**	**4.46**	**43**	PN	**Pn**	**23 48 16.9**		**-0.8**
ALN	**Alexandroupoli**	**4.46**	**43**	Pn	**Pn**	**23 48 17.4**		**-0.3**
ALN	**Alexandroupoli**	**4.46**	**43**	P		23 48 17.0		
ALN				S		23 49 06.7		
RZN	**Rozhen**	**4.49**	**27**	P	**Pn**	**23 48 18.0**		**-0.2**
DAT	**Datca**	**4.56**	**101**	PN	**Pn**	**23 48 20.3**		**+1.2**
ERIK	**Erikli-Kesan**	**4.58**	**48**	PN	**Pn**	**23 48 18.4**		**-0.9**
ERIK	**Erikli-Kesan**	**4.58**	**48**	P		23 48 18.5		
MLSB	**Milas**	**4.61**	**93**	PN	**Pn**	**23 48 20.7**		**+1.0**
MLSB	**Milas**	**4.61**	**93**	P		23 48 20.9		
AKHS	**Akhisar**	**4.72**	**74**	P		23 48 22.0		
KDZ	**Kurdzhali**	**4.73**	**33**	P	**Pn**	**23 48 20.0**		**-1.4**
KESN	**Edirne-Kesan**	**4.78**	**48**	P		23 48 21.5		
BALY	**Balya**	**4.83**	**64**	SPECP		23 48 23.0		
BALY				P		23 48 23.9		
PLD	**Plovdiv**	**4.85**	**24**	PN	**Pn**	**23 48 23.8**		**+0.8**
CEL	**Celeste**	**4.86**	**278**	Pn	**Pn**	**23 48 23.1**		**-0.1**
KRBG	**Karabiga-Canak**	**4.91**	**55**	PN	**Pn**	**23 48 23.9**		**+0.1**
KRBG	**Karabiga-Canak**	**4.91**	**55**	P		23 48 24.1		
KRBG				S		23 49 18.5		
UKOP	**Uzunkopru-Edir**	**4.95**	**45**	PN	**Pn**	**23 48 24.5**		**+0.2**
DRME	**Dracevica, Mon**	**4.96**	**335**	*e*Pn	**Pn**	**23 48 25.0**		**+0.4**
VTS	**Vitosha**	**4.99**	**11**	⇑P	**Pn**	**23 48

GERES	**GERESS Array B**	**12.65**	**334**	Pn	**Pn**	**23 50 10.1**	**+0.1**
	comp=N,0.1nm,0.3s,baz=161,slow=17,SNR=1.8						
DAVOX	**Davos/Dischmat**	**12.74**	**319**	Pn	**Pn**	**23 50 11.4**	**0.0**
	comp=N,0.1nm,0.3s,baz=155,slow=18,SNR=1.4						
DAVOX				Sn	**Sn**	**23 52 34.1**	**+0.6**
	comp=N,0.2nm,0.3s,baz=135,slow=20,SNR=2.4						
TUE	**Stuetta**	**12.83**	**317**	Pn	**Pn**	**23 50 13.8**	**+1.2**
GHAJ	**Ghor Haditha**	**12.88**	**116**	Pn	**Pn**	**23 50 14.3**	**+1.2**
EIL	**Elat**	**13.43**	**123**	Pn	**Pn**	**23 50 19.1**	**-1.5**
	comp=N,0.3nm,0.3s,baz=229,slow=17,SNR=1.9						
SENIN	**Lac Senin/Sane**	**13.91**	**313**	Pn	**Pn**	**23 50 29.4**	**+2.0**
CLL	**Collm**	**15.01**	**338**	Pn	**Pn**	**23 50 43.2**	**+1.1**
CLL				IAmb	IAmb	23 50 50.8	
	comp=Z,3.3nm,0.9s						
ECH	**Echery**	**15.08**	**319**	Pn	**Pn**	**23 50 44.2**	**+1.2**
SSB	**Saint Sauveur**	**15.09**	**306**	Pn	**Pn**	**23 50 44.6**	**+1.4**
SSB				IAmb	IAmb	23 50 54.5	
	comp=Z,8.0nm,1.1s						
KBZ	**Khabaz**	**16.92**	**63**	Pn	**P**	**23 51 10.3**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=227,slow=18,SNR=1.1						
ONI	**Oni**	**17.09**	**67**	P	**P**	**23 51 13.8**	**+3.0**
ESBB	**Sonseca Array**	**20.34**	**284**	P	**P**	**23 51 47.0**	**+0.5**
ESDC	**Sonseca Array**	**20.34**	**284**	P	**P**	**23 51 46.2**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=76,slow=11,SNR=7.8						
ESDC	**Sonseca Array**	**20.34**	**284**	P	**P**	**23 51 47.0**	**+0.4**
PAB	**San Pablo**	**20.65**	**283**	P	**P**	**23 51 50.4**	**+0.5**
HFS	**Hagfors**	**23.06**	**349**	P	**P**	**23 52 14.3**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=159,slow=9.4,SNR=9.9						
FINES	**FINESS Array B**	**23.89**	**5**	P	**P**	**23 52 21.7**	**-1.8**
	comp=Z,3.2nm,1.0s,baz=174,slow=11,SNR=4.7						
FINES				PcP	**PcP**	**23 56 06.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=180,slow=3.8,SNR=4.7						
NB2	**NORSAR Subarra**	**24.32**	**347**	P	**P**	**23 52 26.4**	**-1.2**
	comp=Z,8.7nm,1.0s,baz=151,slow=10						
NOA	**NORSAR Array B**	**24.32**	**347**	P	**P**	**23 52 27.1**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=159,slow=10.0,SNR=7.8						
EKA	**Eskdalemuir Ar**	**24.49**	**324**	P	**P**	**23 52 29.9**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=126,slow=9.7,SNR=8.2						
ESK	**Eskdalemuir**	**24.50**	**324**	P	**P**	**23 52 29.4**	**+0.1**
ESK				IAmb	IAmb	23 52 40.5	
	comp=Z,3.4nm,0.8s						
ABKAR	**Akbulak array**	**29.54**	**55**	P	**P**	**23 53 15.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**30.44**	**222**	P	**P**	**23 53 22.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=32,slow=8.7,SNR=5.0						
ARCES	**ARCESS Array B**	**31.94**	**2**	P	**P**	**23 53 35.6**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=188,slow=8.3,SNR=5.8						
KEV	**Kevo**	**32.22**	**3**	P	**P**	**23 53 38.8**	**+0.8**
BRVK	**Borovoye**	**36.46**	**49**	P	**P**	**23 54 15.2**	**+0.3**
BRVK				IAmb	IAmb	23 54 19.5	
	comp=Z,3.5nm,1.1s						
KKAR	**Karatay Array**	**36.91**	**66**	P	**P**	**23 54 18.8**	**-0.1**
DBIC	**Dimbokro**	**39.37**	**225**	P	**P**	**23 54 38.6**	**-1.2**
DBIC				IAmb	IAmb	23 54 47.7	
	comp=Z,3.5nm,0.9s						
BOOM	**Boomskoye usch**	**40.95**	**66**	P	**P**	**23 54 53.6**	**+0.6**
BOOM				IAmb	IAmb	23 54 55.9	
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**44.55**	**58**	P	**P**	**23 55 21.1**	**-0.9**
MK31				IAmb	IAmb	23 55 29.8	
	comp=Z,1.1nm,1.1s						
MKAR	**Makanchi Array**	**44.55**	**58**	P	**P**	**23 55 21.1**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=271,slow=7.4,SNR=14						
MKAR				PcP	**PcP**	**23 57 04.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=274,slow=4.2,SNR=2.4						
MKAR	**Makanchi Array**	**44.55**	**58**	P	**P**	**23 55 21.7**	**-0.2**
ZAA0	**Zalesovo Array**	**45.13**	**48**	P	**P**	**23 55 25.8**	**-0.6**
ZAA0				IAmb	IAmb	23 55 29.1	
	comp=Z,2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**45.13**	**48**	P	**P**	**23 55 25.9**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=271,slow=8.9,SNR=14						
ZALV	**Zalesovo Beam**	**45.13**	**48**	P	**P**	**23 55 26.2**	**-0.2**
NRS	**Narsarsuaq**	**47.13**	**322**	P	**P**	**23 55 45.7**	**+3.7**
SFJD	**Kangerlussuaq**	**49.22**	**330**	P	**P**	**23 55 58.0**	**-0.1**
SCHQ	**Schefferville**	**59.59**	**318**	P	**P**	**23 57 13.3**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=77,slow=3.9,SNR=9.4						
SCHQ	**Schefferville**	**59.59**	**318**	IAmb	IAmb	23 57 32.6	
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**59.84**	**51**	P	**P**	**23 57 15.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=276,slow=7.9,SNR=4.8						
YKA	**Yellowknife Ar**	**74.22**	**341**	P	**P**	**23 58 46.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=31,slow=5.4,SNR=11						
ILAR	**Eielson Array**	**77.47**	**355**	P	**P**	**23 59 05.9**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=1.0,slow=3.9,SNR=6.3						
PDAR	**Pinedale Array**	**88.59**	**327**	P	**P**	**00 00 03.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=48,slow=1.3,SNR=2.4						
WRA	**Warramunga Arr**	**119.34**	**93**	PKP	**PKPdf**	**00 05 58.8**	**-1.2**
	comp=Z,0.8nm,1.0s,baz=324,slow=2.0,SNR=2.6						
ASAR	**Alice Springs**	**120.95**	**97**	PKP	**PKPdf**	**00 06 02.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=294,slow=1.4,SNR=5.4						

*IDC **31** 23:57:32.5±1.5, 15.48S×173.13W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.5/28, mbtmp4.0/5, ML3.6/1, Error ellipse: s-maj=57.2km s-min=21.7km az=134.0*

ISC 31 23:57:36.7±1.2, 15.5S±0.3×173.1W±0.3, h29km, n8, σ0s46/6, mb4.0/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**40**	Pn	**Pn**	**23 58 09.2**	**+0.1**
	22nm,0.3s,baz=247,slow=15,SNR=2.1						
AFI				Sn	**Sn**	**23 58 33.4**	**-0.1**
	92nm,0.3s,baz=211,slow=23,SNR=8.6						
URZ	**Urewera**	**24.27**	**199**	P	**P**	**00 02 51.2**	**-0.2**
	4.2nm,0.5s,baz=27,slow=4.5,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**39.18**	**329**	T	T	00 46 01.2	
	baz=145						
H11S3	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	00 46 48.8	
	baz=145						
H11S1	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	00 46 07.6	
	baz=145						
STKA	**Stephens Creek**	**44.24**	**240**	P	**P**	**00 05 44.0**	**+0.3**
	0.7nm,0.5s,baz=88,slow=9.5,SNR=4.2						
WRA	**Warramunga Arr**	**50.10**	**257**	P	**P**	**00 06 29.0**	**-0.6**
	0.5nm,0.6s,baz=92,slow=6.7,SNR=6.5						
ASAR	**Alice Springs**	**50.35**	**252**	P	**P**	**00 06 31.8**	**+0.3**
	2.1nm,0.7s,baz=84,slow=8.7,SNR=18						

ISC Computed Locations for January 2016

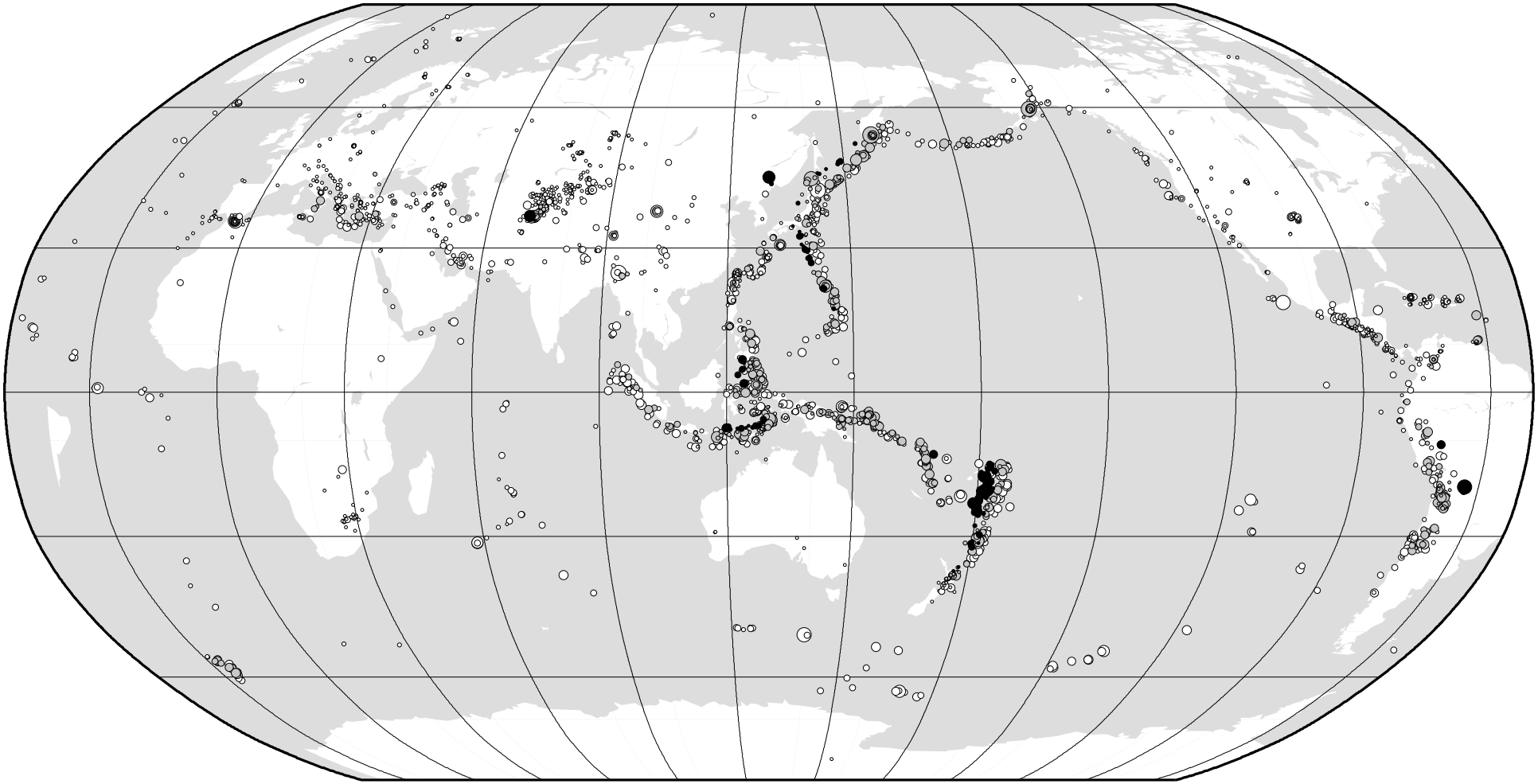

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

3184 Events